Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*IDC **01** 00:04:51.9±0.9, 0°.28S×132°.49E, h0km, mb4.1/7, mb1 4.3/10, mb1mx3.9/39, mbtmp4.1/10, ML4.3/3, MS3.3/4, Ms1 3.3/4, ms1mx2.9/35, Error ellipse: s-maj=15.8km s-min=14.1km az=102.0*
*DJA **01** 00:04:53.7±0.6, 0°S±6°×13°2E±°, h10km, M4.4/12, mB4.8/3, mb4.8/6, MLv4.2/12, Mw(mB)4.0/3*
*NEIC **01** 00:04:56.8±2.7, 0°.33S±0°.03×132°.28E±0°.08, h43km±8km, mb4.6/22, Error ellipse: s-maj=11.5km s-min=2.0km az=105.0*
ISC 01 00:04:55.8±0.6**, 0°.34S**±0°.06×**132°.35E**±0°.06**, h33km, n50,** σ**2s.19**/48**, mb4.4**/15**, MS3.2**/3**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	Sorong	1.21	244	Pg	Pn	00 05 16.7	+0.3
	58nm,0.3s,baz=56,slow=14,SNR=38						
SIJI				Lg	Lg	00 05 35.4	
	103nm,0.3s,baz=198,slow=20,SNR=15						
RKPI	Ransiki, Papua	2.16	123	Pg	Pb	00 05 34.0	-0.4
FAKI	Fak Fak	2.56	182	P	Pn	00 05 37.0	+1.9
FAKI				S	Sn	00 06 09.3	+4.1
FAKI	Fak Fak	2.56	182		Pn	00 05 36.9	+1.8
SRPI	Serui, Papua	4.17	111	P	Pn	00 05 56.8	-0.4
MSAI	Masohi	4.54	229	P	Pn	00 06 04.3	+2.0
BNDI	Bandanaira	4.82	210	P	Pn	00 06 08.2	+2.0
LBMI	Labuha	4.86	267	P	Pn	00 06 08.4	+1.7
AAI	Ambon	5.32	231	P	Pn	00 06 14.5	+1.4
	0.6nm2μm180nm,0.7s						
SANI	Sanana	6.59	255	P	Pn	00 06 31.5	+1.1
	0.1nm510nm19nm,0.7s						
SAUI	Saumlaki	7.66	188	Pn	Pn	00 06 45.6	+0.4
MTN	Manton Dam	12.48	186		Pn	00 07 50.6	-0.6
BATI	Baumata	13.07	221	Pn	Pn	00 08 01.4	+2.1
	3.7nm,0.3s,baz=34,slow=3.6,SNR=4.3						
KNRA	Kununurra	15.64	193		Pn	00 08 33.3	-0.7
KNRA				IAmb	IAmb	00 08 36.5	
	comp=Z,39nm,0.6s						
COEN	Coen	17.25	142	Pn	Pn	00 08 54.4	-0.1
FITZ	Fitzroy Crossi	18.84	200	P	P	00 09 12.6	-0.5
	comp=Z,0.3nm,0.3s,baz=21,slow=11,SNR=2.2						
FITZ				S	Sn	00 12 38.0	-5.8
	comp=Z,0.2nm,0.3s,baz=260,slow=18,SNR=2.9						
FITZ				LR	LR	00 18 52.6	
	comp=Z,41nm,19.2s,baz=354,slow=44						
FITZ	Fitzroy Crossi	18.84	200	P	P	00 09 11.8	-1.3
WB0	Warramunga Arr	19.41	174	P	P	00 09 19.8	+0.4
WB0				IAmb	IAmb	00 09 39.2	
	comp=Z,16nm,1.2s						
WRA	Warramunga Arr	19.58	174	P	P	00 09 22.0	+0.8
	comp=Z,1.1nm,0.3s,baz=355,slow=12,SNR=16						
WRA				S	S	00 12 53.0	-7.6
	comp=Z,0.4nm,0.3s,baz=358,slow=22,SNR=5.7						
WB2	Warramunga Arr	19.58	174	P	P	00 09 21.5	+0.2
WR0	Warramunga Arr	19.61	174	P	P	00 09 21.0	-0.6
WR0				IAmb	IAmb	00 09 23.4	
	comp=Z,9.8nm,0.8s						
JAGI	Jajag, Banyuwa	19.85	246	P	P	00 09 22.8	-1.5
JAGI				IAmb	IAmb	00 09 30.8	
	comp=Z,45nm,1.1s						
AS31	Alice Springs	23.23	176	P	P	00 10 01.2	+0.8
AS31				IAmb	IAmb	00 10 04.0	
	comp=Z,4.7nm,0.6s						
ASAR	Alice Springs	23.23	176	P	P	00 10 01.5	+1.1
	comp=Z,17nm,0.8s,baz=354,slow=9.9,SNR=47						
ASAR				S	S	00 14 16.6	+6.2
	comp=Z,2.4nm,0.9s,baz=2.3,slow=26,SNR=7.7						
CTA	Charters Tower	23.88	146	P	P	00 10 07.7	+1.1
	comp=Z,3.5nm,0.6s,baz=315,slow=14,SNR=2.5						
FORT	Forrest	30.54	187	P	P	00 11 06.6	+0.2
FORT				IAmb	IAmb	00 11 11.9	
	comp=Z,21nm,0.8s						
KULM	Kulim	32.15	280	P	P	00 11 19.7	-1.1
KULM				IAmb	IAmb	00 11 27.6	
	comp=Z,5.3nm,0.8s						
STKA	Stephens Creek	32.56	165	P	P	00 11 25.1	+1.0
	comp=Z,2.8nm,0.8s,baz=345,slow=10,SNR=5.9						
STKA	Stephens Creek	32.56	165	P	P	00 11 24.3	+0.2
JNU	Nakatsue	33.31	358	LR	LR	00 23 25.3	
	comp=Z,36nm,19.9s,baz=201,slow=34						
JNU	Nakatsue	33.31	358	P	P	00 11 31.9	+1.1
JNU				IAmb	IAmb	00 11 35.8	
	comp=Z,14nm,1.5s						
RPSI	Rantau Prapat	33.55	275	P	P	00 11 32.0	-1.1
RPSI				IAmb	IAmb	00 11 35.2	
	comp=Z,6.0nm,0.9s						
JHJ	Hachijo jima 2	34.01	11	LR	LR	00 22 25.2	
	comp=Z,112nm,18.7s,baz=321,slow=31						
KSRS	Korea Array	37.83	354	LR	LR	00 25 36.1	
	comp=Z,39nm,20.3s,baz=162,slow=33						
H11N1	WAKE ISLAND Hy	39.28	58	T	T	00 54 05.3	
	baz=246,slow=75,SNR=10						
H11N2	WAKE ISLAND Hy	39.29	58	T	T	00 54 08.3	
	baz=246,slow=75,SNR=8.5						
H11N3	WAKE ISLAND Hy	39.30	58	T	T	00 54 08.5	
	baz=246,slow=75,SNR=11						
QRZ	Quartz Range	54.29	143	P	P	00 14 18.1	-0.9
RPZ	Rata Peaks	55.25	147	P	P	00 14 27.1	+1.2
RPZ				IAmb	IAmb	00 14 30.4	
	comp=Z,22nm,1.2s						
ODZ	Otahua Downs	55.90	148	P	P	00 14 28.9	-1.6
PET	Petropavlovsk	57.53	18	P	P	00 14 41.3	-0.6
PET				IAmb	IAmb	00 14 43.1	
	comp=Z,26nm,1.4s						
MKAR	Makanchi Array	64.10	324	P	P	00 15 28.5	+1.7
	comp=Z,0.8nm,0.7s,baz=113,slow=8.3,SNR=8.8						
ZALV	Zalesovo Beam	66.78	332	P	P	00 15 45.7	+1.8
	comp=Z,0.6nm,0.5s,baz=123,slow=8.0,SNR=4.6						
KURK	Kurchatov	68.19	326	P	P	00 15 50.9	-2.0
KURK				IAmb	IAmb	00 16 04.7	
	comp=Z,2.7nm,0.8s						
VNDA	Vanda	78.75	174	P	P	00 16 56.2	+1.6
	comp=Z,0.9nm,0.6s,baz=320,slow=5.5,SNR=5.6						
VNDA	Vanda	78.75	174	P	P	00 16 54.7	+0.1
RC01	Rabbit Creek A	84.46	29	P	P	00 17 23.4	-1.7
ILAR	Eielson Array	86.36	25	P	P	00 17 34.0	-0.4
	comp=Z,0.5nm,0.8s,baz=251,slow=5.4,SNR=4.5						
RIDG	Independent Ri	87.11	26	P	P	00 17 38.7	+0.5
WAX	Waxell Ridge	87.72	30	P	P	00 17 38.7	-2.6

WBNET 01 00:07:22.4, 50°.24N×12°.45E, h8km, Ml0.1, 7C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.00	190	⇑P	Pg	00 07 24.0	+0.1
NKC				S	Sg	00 07 25.1	+0.2
LBCW	Luby	0.04	320	⇑P	Pg	00 07 24.2	+0.1
LBCW				S	Sg	00 07 25.5	+0.3
VAC	Vackov	0.05	268	⇑P	Pg	00 07 24.2	+0.1
VAC				S	Sg	00 07 25.4	0.0
STCW	Studenec	0.05	64	⇑P	Pg	00 07 24.2	+0.1
STCW				S	Sg	00 07 25.4	-0.1
KVC	Kvetna	0.05	126	⇓P	Pg	00 07 24.2	0.0
KVC				S	Sg	00 07 25.4	-0.1
POCW	Potky	0.08	350	⇑P	Pg	00 07 24.8	+0.2
POCW				S	Sg	00 07 26.4	+0.2
SKC	Skalna	0.09	220	⇓P	Pg	00 07 24.6	0.0
SKC				S	Sg	00 07 26.2	0.0
KACW	Kaceov	0.10	155	⇓P	Pg	00 07 24.9	+0.1
KACW				S	Sg	00 07 26.6	+0.1
KRCW	Kraslice	0.11	29	⇑P	Pg	00 07 25.0	+0.1
KRCW				S	Sg	00 07 26.8	+0.1
ZHC	Zelena Hora	0.19	208	⇑P	Pg	00 07 26.3	0.0
ZHC				S	Sg	00 07 28.9	0.0

WBNET 01 00:07:34.5, 50°.24N×12°.45E, h8km, Ml0.0, 6C-2D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.01	166	⇑P	Pg	00 07 36.1	+0.1
NKC				S	Sg	00 07 37.1	+0.2
LBCW	Luby	0.04	322	⇑P	Pg	00 07 36.3	+0.2
LBCW				S	Sg	00 07 37.6	+0.3
VAC	Vackov	0.04	267	⇓P	Pg	00 07 36.3	+0.1
VAC				S	Sg	00 07 37.4	+0.1
STCW	Studenec	0.05	66	⇑P	Pg	00 07 36.3	+0.1
STCW				S	Sg	00 07 37.5	0.0
POCW	Potky	0.08	352	⇑P	Pg	00 07 36.9	+0.2
POCW				S	Sg	00 07 38.4	+0.2
SKC	Skalna	0.09	219	S	Sg	00 07 38.2	0.0
KACW	Kaceov	0.10	154	⇓P	Pg	00 07 37.0	+0.1
KACW				S	Sg	00 07 38.8	+0.1
KRCW	Kraslice	0.11	30	⇑P	Pg	00 07 37.1	+0.1
KRCW				S	Sg	00 07 38.9	+0.1
ZHC	Zelena Hora	0.19	208	⇑P	Pg	00 07 38.4	0.0
ZHC				S	Sg	00 07 41.0	0.0

*VIE **01** 00:08:04.1±0.4, 50°.18N×12°.44E, h11km, mb1.6/1, ml2.2/3, Error ellipse: s-maj=9.4km s-min=3.4km az=54.0 6 km SSW of Klingenthal*
*BGR **01** 00:08:04.9±0.2, 50°.23N×12°.45E, h11km±1km, ML2.0/5, Error ellipse: s-maj=2.2km s-min=1.1km az=100.0*
*WBNET **01** 00:08:05.3, 50°.24N×12°.45E, h9km, Ml1.8*
PRU 01 00:08:05.7±0.0**, 50°.24N×12°.52E, h0km, 8C-2D, West Bohemia Swarm, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STCW	Studenec	0.02	359	⇑P	Pg	00 08 07.2	+1.1
STCW				S	Sg	00 08 08.4	+2.0
KVC	Kvetna	0.03	185	⇓P	Pg	00 08 07.1	+0.8
KVC				S	Sg	00 08 08.3	+1.6
NKC	Novy Kostel	0.05	262	ePG	Pg	00 08 06.9	+0.3
NKC				eSG	Sg	00 08 07.9	+0.7
	comp=Z,769nm,0.2s						
NKC	Novy Kostel	0.05	262	ePg	Pg	00 08 06.9	+0.4
NKC				eSg	Sg	00 08 08.0	+0.9
NKC	Novy Kostel	0.05	262	⇑P	Pg	00 08 06.9	+0.4
NKC				S	Sg	00 08 08.0	+0.8
LBCW	Luby	0.07	290	⇑P	Pg	00 08 07.1	0.0
LBCW				S	Sg	00 08 08.5	+0.4
KRCW	Kraslice	0.09	4	⇑P	Pg	00 08 08.0	+0.5
KRCW				S	Sg	00 08 09.8	+1.1
VAC	Vackov	0.09	267	⇑P	Pg	00 08 07.1	-0.3
VAC				S	Sg	00 08 08.4	-0.3
KACW	Kaceov	0.10	181	⇓P	Pg	00 08 07.8	+0.3
KACW				S	Sg	00 08 09.6	+0.8
POCW	Potky	0.10	323	⇑P	Pg	00 08 07.7	+0.1
POCW				S	Sg	00 08 09.3	+0.4
WERN	Wernitzgruen	0.10	297	ePg	Pg	00 08 07.5	-0.2
WERN				eSg	Sg	00 08 09.0	-0.1
SKC	Skalna	0.12	236	⇑P	Pg	00 08 07.6	-0.5
SKC				S	Sg	00 08 09.1	-0.5
ROHR	Rohrbach	0.13	268	ePg	Pg	00 08 07.5	-0.6
ROHR				eSg	Sg	00 08 09.1	-0.8
GUNZ	Gunzen	0.17	316	ePg	Pg	00 08 08.7	-0.3
GUNZ				eSg	Sg	00 08 10.8	-0.4
TANN	Tannenbergstha	0.18	348	ePg	Pg	00 08 09.1	-0.1
TANN				eSg	Sg	00 08 11.5	0.0
MULD	Muldenberg	0.19	337	ePg	Pg	00 08 09.1	-0.2
MULD				eSg	Sg	00 08 11.5	-0.2
ZHC	Zelena Hora	0.22	219	⇑P	Pg	00 08 09.2	-0.6
ZHC				S	Sg	00 08 11.8	-0.8
TRIB	Obertriebel	0.27	295	ePg	Pg	00 08 09.9	-0.9
TRIB				eSg	Sg	00 08 13.1	-1.2
PLN	Plauen	0.34	317	ePg	Pg	00 08 11.4	-0.8
PLN				eSg	Sg	00 08 15.6	-0.9
MANZ	Manzenberg	0.37	226	ePg	Pg	00 08 11.7	-1.0
MANZ				eSg	Sg	00 08 16.0	-1.4
SCHF	Schoenfels	0.44	350	ePg	Pg	00 08 13.8	-0.4
SCHF				eSg	Sg	00 08 19.9	-0.1
ROTZ	Rotzenmuhle	0.52	203	ePg	Pg	00 08 14.6	-0.9
ROTZ				eSg	Sg	00 08 21.2	-1.0
MOX	Moxa	0.71	305	ePg	Pg	00 08 18.1	-1.2
MOX				eSg	Sg	00 08 26.7	-1.6
FBE	Freiberg	0.86	38	ePg	Pg	00 08 22.4	+0.1
FBE				eSg	Sg	00 08 33.7	+0.2
GRF	Grafenberg Arr	1.00	237	ePg	Pg	00 08 23.4	-1.5
GRF				eSg	Sg	00 08 35.8	-2.0
PBCC	Pribram	1.10	120	ePG	Pg	00 08 25.9	-0.9
PBCC				eSG	Sg	00 08 40.8	-0.3
BRG	Berggiesshubel	1.11	55	ePg	Pg	00 08 26.8	-0.1
BRG				eSg	Sg	00 08 41.2	-0.1
CLL	Collm	1.11	16	i Pg	Pg	00 08 27.3	+0.3
CLL				i		00 08 29.0	
CLL				i		00 08 30.5	
CLL				i Sg	Sg	00 08 42.1	+0.7
	comp=Z,11nm,0.4s						
WET	Wettzell	1.12	168	ePn	Pg	00 08 26.3	-0.9
WET				eSg	Sg	00 08 40.4	-1.3
PRA	Prague	1.24	97	eSG	Sg	00 08 45.5	-0.1
KHC	Kasperske Hory	1.31	148	ePG	Pg	00 08 29.7	-1.0
KHC				eSG	Sg	00 08 46.8	-0.8
	comp=Z,9.5nm,0.3s						
PRU	Pruhonice	1.33	100	ePG	Pg	00 08 30.3	-0.8
PRU				eSG	Sg	00 08 48.1	-0.2
	comp=Z,10nm,0.2s						
PVCC	Panska Ves	1.34	77	eSG	Sg	00 08 49.1	+0.3
	comp=Z,15nm,0.2s						
GOPC	GO Pecny, Ondr	1.50	102	eSG	Sn	00 08 54.2	+0.1
	comp=Z,6.7nm,0.2s						
GEC2	GERESS Array S	1.59	151	ePg	Pn	00 08 34.9	-0.3
GEC2				eSn	Sn	00 08 51.6	-5.0
GEC2				eSg	Sb	00 08 55.7	-1.1
TREC	Trest	2.14	115	eSG	Sb	00 09 12.5	0.0
	comp=Z,3.0nm,0.4s						
UPC	Upice	2.25	82	eSG	Sb	00 09 16.5	+0.9
	comp=Z,3.0nm,0.4s						
DPC	Dobruska-Polom	2.44	86	eSG	Sb	00 09 21.9	+0.8
MOA	Molln	2.65	154	Pn	Pn	00 08 45.7	-4.1
	comp=Z,0.2nm,0.1s						
MOA				Sg	Sb	00 09 27.7	+0.5
	comp=Z,0.5nm,0.1s						
KRUC	Moravsky	2.78	114	eSG	Sg	00 09 33.3	-1.7
VRAC	Vranov	2.80	108	eSG	Sg	00 09 33.6	-2.0
CONA	Conrad Observa	3.19	135	Sg	Sg	00 09 46.8	-1.4
	comp=Z,3.3nm,0.4s						

*PRU **01** 00:08:20.6±0.0, 50°.25N×12°.43E, h7km, West Bohemia Swarm*
WBNET 01 00:08:20.8, 50°.24N×12°.44E, h9km, Ml1.7, 7C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.00	139	ePG	Pg	00 08 22.3	0.0
NKC				eSG	Sg	00 08 23.4	0.0
NKC	Novy Kostel	0.00	139	⇑P	Pg	00 08 22.4	+0.1
NKC				S	Sg	00 08 23.5	+0.1
LBCW	Luby	0.04	325	⇑P	Pg	00 08 22.7	+0.1
LBCW				S	Sg	00 08 24.0	+0.2
VAC	Vackov	0.04	269	⇓P	Pg	00 08 22.6	+0.1
VAC				S	Sg	00 08 23.8	0.0
STCW	Studenec	0.05	65	⇑P	Pg	00 08 22.7	0.0
STCW				S	Sg	00 08 23.9	-0.2
KVC	Kvetna	0.06	123	⇓P	Pg	00 08 22.6	0.0
KVC				S	Sg	00 08 23.9	-0.2
POCW	Potky	0.09	353	⇑P	Pg	00 08 23.2	+0.2
POCW				S	Sg	00 08 24.9	+0.1
SKC	Skalna	0.09	219	⇑P	Pg	00 08 23.1	+0.1
SKC				S	Sg	00 08 24.6	0.0
KACW	Kaceov	0.10	153	⇓P	Pg	00 08 23.4	+0.1
KACW				S	Sg	00 08 25.1	+0.1
KRCW	Kraslice	0.11	30	⇑P	Pg	00 08 23.5	+0.1
KRCW				S	Sg	00 08 25.3	-0.1
ZHC	Zelena Hora	0.19	208	⇑P	Pg	00 08 24.7	+0.1
ZHC				S	Sg	00 08 27.3	0.0
CLL	Collm	1.13	18	i Sg	Sn	00 08 58.2	-0.3
PBCC	Pribram	1.14	118	eSG	Sg	00 08 56.9	-0.6
KHC	Kasperske Hory	1.33	146	eSG	Sb	00 09 02.8	-0.3
	comp=Z,3.8nm,0.4s						
PRU	Pruhonice	1.37	100	eSG	Sn	00 09 04.5	+0.1
	comp=Z,5.2nm,0.2s						
PVCC	Panska Ves	1.39	77	eSG	Sg	00 09 05.6	+0.1
	comp=Z,9.1nm,0.3s						
GOPC	GO Pecny, Ondr	1.54	101	eSG	Sg	00 09 09.8	-0.6
	comp=Z,3.6nm,0.2s						

*MAN **01** 00:14:07.6, 10°.22N×126°.22E, h14km, mb5.0, ML3.9, MS3.9*
*IDC **01** 00:14:13.4±2.7, 10°.20N×126°.45E, h90km±25km, mb3.6/11, mb1 3.8/12, mb1mx3.5/46, mbtmp4.0/12, MS3.0/2, Ms1 3.1/2, ms1mx2.6/32, Error ellipse: s-maj=31.1km s-min=14.5km az=79.0*
ISC 01 00:14:05.2±2.3**, 10°.23N**±0°.04×**126°.34E**±0°.06**, h14km**±15km**, n35,** σ**1s.92**/41**, mb4.0**/11**, 4C-1D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	Surigao	0.94	242	⇓eP	Pb	00 14 23.1	-0.2
SCPH				eS	Sb	00 14 34.6	-1.1
MSLP	Maasin	1.46	267	eP	Pn	00 14 31.8	+0.7
MSLP				eS	Sn	00 14 51.0	+1.0
LLP	Lapu-Lapu	2.33	272	eP	Pn	00 14 45.5	+2.3
LLP				eS	Sn	00 15 14.5	+2.8
CGP	Cagayan de Oro	2.39	223	⇑iP	Pn	00 14 45.4	+1.5
CGP				i S	Sn	00 15 14.0	+0.9
TBP	Tagbilaran	2.50	258	eP	Pn	00 14 47.4	+2.1
TBP				i S	Sn	00 15 17.7	+2.1
BUKP	Musuan	2.65	208	eP	Pn	00 14 49.8	+2.3
BUKP				eS	Sn	00 15 21.7	+2.2
CNP	Catarman	2.80	324	eP	Pn	00 14 51.7	+2.1
CNP				eS	Sn	00 15 25.2	+2.0
DAV	Davao City (W)	3.22	193	P	Pb	00 15 02.4	+0.2
	60nm,0.3s,baz=214,slow=4.6,SNR=4.0						
DAV				S	Sb	00 15 40.7	-0.6
	24nm,0.3s,baz=129,slow=22,SNR=4.4						
DAV				LR	LR	00 16 30.4	
	comp=Z,282nm,20.0s,baz=98,slow=42						
KCP	Kidapawan	3.42	201	⇑iP	Pn	00 15 00.7	+2.4
KCP				i S	Sn	00 15 41.9	+3.2
CTBH	Cotabato--PC H	3.63	215	⇑iP	Pn	00 15 03.7	+2.7
CNOP	Candoni, Negro	3.66	264	eP	Pn	00 15 02.7	+1.3
CNOP				eS	Sn	00 15 41.3	-3.1
GUIM	Jordan	3.71	277	eP	Pn	00 15 03.2	+1.1
GUIM				eS	Sn	00 15 28.6	-17
PAGZ	Pagadian	3.75	231	eP	Pn	00 15 04.0	+1.3
PAGZ				eS	Sn	00 15 48.4	+1.7
RCP	Roxas	3.77	291	⇑eP	Pn	00 15 06.5	+3.6
PVCP	Virac	3.97	328	eP	Pn	00 15 09.1	+3.3
PVCP				eS	Sg	00 16 11.8	-1.1
DDMP	Don Marcelino,	4.14	189	eP	Pn	00 15 11.8	+3.8
SMPP	San Manuel, Pa	8.06	318	eP	Pn	00 16 03.9	+2.0
KSRS	Korea Array	27.15	3	P	P	00 19 47.3	-0.6
	0.5nm,0.5s,baz=182,slow=9.4,SNR=2.3						
CMAR	Chiang Mai Arr	27.74	290	P	P	00 19 54.0	+0.4
	0.7nm,0.3s,baz=91,slow=8.1,SNR=1.3						
CMAR				LR	LR	00 31 18.7	
	comp=Z,19nm,18.4s,baz=215,slow=37						
FITZ	Fitzroy Crossi	28.15	181	P	P	00 19 56.5	-0.6
	3.3nm,0.9s,baz=355,slow=8.4,SNR=7.6						
WRA	Warramunga Arr	31.00	165	P	P	00 20 21.4	-1.0
	0.4nm,0.6s,baz=345,slow=8.9,SNR=4.5						
ASAR	Alice Springs	34.49	168	P	P	00 20 51.9	-1.1
	0.4nm,0.3s,baz=354,slow=7.2,SNR=11						
H11S3	WAKE ISLAND Hy	39.87	73	T	T	01 04 29.6	
	baz=262,slow=70,SNR=17						
H11S1	WAKE ISLAND Hy	39.88	73	T	T	01 04 35.2	
	baz=262,slow=70,SNR=11						
H11S2	WAKE ISLAND Hy	39.89	73	T	T	01 04 31.3	
	baz=262,slow=70,SNR=15						
H11N1	WAKE ISLAND Hy	40.21	72	T	T	01 04 59.8	
	baz=264,slow=75,SNR=98						
H11N2	WAKE ISLAND Hy	40.22	72	T	T	01 04 59.6	
	baz=264,slow=75,SNR=55						
H11N3	WAKE ISLAND Hy	40.23	72	T	T	01 05 01.3	
	baz=264,slow=75,SNR=70						
STKA	Stephens Creek	44.34	161	P	P	00 22 14.4	-0.6
	1.3nm,0.4s,baz=342,slow=8.0,SNR=7.0						
PETK	Petropavlovsk-	49.65	24	P	P	00 22 55.7	-0.6
	1.0nm,0.5s,baz=198,slow=4.6,SNR=8.2						
MKAR	Makanchi Array	52.10	323	P	P	00 23 14.7	-0.2
	0.4nm,0.4s,baz=131,slow=5.5,SNR=7.7						
FINES	FINESS Array B	85.96	332	P	P	00 26 44.2	-0.6
	0.5nm,0.5s,baz=59,slow=4.2,SNR=7.0						
MAW	Mawson	89.68	200	P	P	00 27 01.7	-0.6
	0.5nm,0.5s,baz=11,slow=5.2,SNR=1.7						
YKA	Yellowknife Ar	93.77	24	P	P	00 27 21.4	-0.2
	0.4nm,0.6s,baz=297,slow=4.7,SNR=4.4						
TORD	Torodi Ar. Bea	120.34	292	PKP	PKiKP	00 32 56.5	-0.7
	0.2nm,0.4s,baz=63,slow=1.3,SNR=5.5						

WBNET 01 00:29:03.8, 50°.24N×12°.44E, h8km, Ml1.4, 6C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.01	127	⇑P	Pg	00 29 05.4	+0.1
NKC				S	Sg	00 29 06.5	+0.1
LBCW	Luby	0.04	327	⇓P	Pg	00 29 05.6	+0.1
LBCW				S	Sg	00 29 06.9	+0.2
VAC	Vackov	0.04	269	⇓P	Pg	00 29 05.6	+0.1
VAC				S	Sg	00 29 06.8	0.0
STCW	Studenec	0.06	65	⇑P	Pg	00 29 05.7	0.0
STCW				S	Sg	00 29 06.8	-0.2
KVC	Kvetna	0.06	123	⇓P	Pg	00 29 05.6	0.0
KVC				S	Sg	00 29 06.8	-0.2
SKC	Skalna	0.08	218	⇑P	Pg	00 29 06.0	+0.1
SKC				S	Sg	00 29 07.6	0.0
POCW	Potky	0.09	353	⇑P	Pg	00 29 06.2	+0.2
POCW				S	Sg	00 29 07.8	+0.1
KACW	Kaceov	0.10	152	⇓P	Pg	00 29 06.4	+0.1
KACW				S	Sg	00 29 08.1	+0.1
KRCW	Kraslice	0.11	31	⇑P	Pg	00 29 06.5	0.0
KRCW				S	Sg	00 29 08.3	0.0
ZHC	Zelena Hora	0.19	207	⇑P	Pg	00 29 07.7	+0.1
ZHC				S	Sg	00 29 10.3	0.0

*WBNET **01** 00:29:39.8, 50°.24N×12°.44E, h8km, Ml2.2*
*LDG **01** 00:29:39.2±0.2, 50°.28N×12°.46E, h10km, Ml2.9/4, Error ellipse: s-maj=7.5km s-min=4.1km az=145.0*
*VIE **01** 00:29:39.1±0.4, 50°.21N×12°.45E, h11km, mb1.9/2, ml2.7/5, Error ellipse: s-maj=10.5km s-min=4.1km az=62.0 2 km SSW of Klingenthal*
*CLL **01** 00:29:40.2±0.3, 50°.24N×12°.44E, h7km±1km, ML2.5/9*
BGR 01 00:29:39.4±0.2**, 50°.23N×12°.45E, h10km**±1km**, ML2.6**/5**, 3C-2D, Error ellipse: s-maj=2.2km s-min=1.1km az=101.0, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.00	342	ePG	Pg	00 29 41.2	-0.1
NKC				eSG	Sg	00 29 42.2	-0.4
	comp=Z,2μm,0.2s						
NKC	Novy Kostel	0.00	342	i Pg	Pg	00 29 41.4	+0.1
NKC				i Sg	Sg	00 29 42.5	-0.2
NKC	Novy Kostel	0.00	342	⇑P	Pg	00 29 41.4	+0.1
NKC				S	Sg	00 29 42.5	-0.2
LBCW	Luby	0.04	326	P	Pg	00 29 41.6	+0.1
LBCW				S	Sg	00 29 42.9	-0.1
VAC	Vackov	0.05	278	⇓P	Pg	00 29 41.6	+0.1
VAC				S	Sg	00 29 42.8	-0.3
KVC	Kvetna	0.05	119	P	Pg	00 29 41.6	+0.1
KVC				S	Sg	00 29 42.8	-0.2
STCW	Studenec	0.05	56	P	Pg	00 29 41.7	+0.1
STCW				S	Sg	00 29 42.9	-0.3
WERN	Wernitzgruen	0.07	321	i Pg	Pg	00 29 42.0	+0.1
WERN				i Sg	Sg	00 29 43.4	-0.2
	4μm,0.2s						
SKC	Skalna	0.08	224	⇑P	Pg	00 29 42.1	+0.2
SKC				S	Sg	00 29 43.6	0.0
ROHR	Rohrbach	0.09	274	i Pg	Pg	00 29 42.0	+0.1
ROHR				i Sg	Sg	00 29 43.5	-0.3
	3μm,0.1s						
POCW	Potky	0.09	351	P	Pg	00 29 42.2	+0.1
POCW				S	Sg	00 29 43.8	-0.2
KACW	Kaceov	0.10	153	⇓P	Pg	00 29 42.4	+0.3
KACW				S	Sg	00 29 44.1	+0.2
KRCW	Kraslice	0.12	27	⇑P	Pg	00 29 42.5	+0.1
KRCW				S	Sg	00 29 44.2	-0.2
GUNZ	Gunzen	0.15	331	i Pg	Pg	00 29 43.1	+0.2
GUNZ				i Sg	Sg	00 29 45.2	-0.1
	974nm,0.2s						
MULD	Muldenberg	0.18	351	i Pg	Pg	00 29 43.5	+0.1
MULD				i Sg	Sg	00 29 46.0	-0.3
	1μm,0.3s						
TANN	Tannenbergstha	0.19	2	i Pg	Pg	00 29 43.5	+0.1
TANN				i Sg	Sg	00 29 46.0	-0.3
	810nm,0.2s						
VIEL	Selb-Vielitz	0.23	259	i Pg	Pg	00 29 44.3	+0.2
VIEL				i Sg	Sg	00 29 47.4	0.0
TRIB	Obertriebel	0.23	302	i Pg	Pg	00 29 44.4	+0.1
TRIB				i Sg	Sg	00 29 47.5	-0.1
	258nm,0.2s						
PLN	Plauen	0.32	324	i Pg	Pg	00 29 45.9	+0.1
PLN				i Sg	Sg	00 29 50.0	0.0
	331nm,0.2s						
MANZ	Manzenberg	0.33	222	ePg	Pg	00 29 46.2	+0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MANZ				eSg	Sg	00 29 50.5	+0.2
SCHF	**Schoenfels**	**0.45**	**356**	i Pg	Pg	00 29 48.3	+0.1
SCHF				i Sg	Sg	00 29 54.3	+0.1
	871nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.49**	**342**	i Pg	Pg	00 29 48.9	0.0
GRZ1				i Sg	Sg	00 29 55.0	-0.3
	187nm,0.2s						
ROTZ	**Rotzenmuhle**	**0.49**	**199**	ePg	Pg	00 29 49.2	+0.2
ROTZ				eSg	Sg	00 29 55.8	+0.4
ZEU	**Talsperre Zeul**	**0.54**	**326**	i Pg	Pg	00 29 49.9	0.0
ZEU				eSg	Sg	00 29 57.2	+0.2
MLFH	**Mildenfurth**	**0.61**	**337**	i Pg	Pg	00 29 51.2	0.0
MLFH				i Sg	Sg	00 29 59.0	-0.3
MOX	**Moxa**	**0.68**	**308**	ePg	Pg	00 29 52.5	0.0
MOX				eSg	Sg	00 30 01.4	+0.1
FBE	**Freiberg**	**0.90**	**39**	ePg	Pg	00 29 56.9	+0.1
FBE				eSg	Sg	00 30 08.3	-0.2
GRF	**Grafenberg Arr**	**0.96**	**236**	ePg	Pg	00 29 57.9	+0.1
GRF				eSg	Sg	00 30 10.3	0.0
WET	**Wettzell**	**1.12**	**165**	ePn	Pb	00 30 00.7	-0.1
WET				eSg	Sb	00 30 15.1	-0.4
CLL	**Collm**	**1.14**	**18**	i Pg	Pn	00 30 01.9	+0.6
CLL				i		00 30 03.8	
CLL				i		00 30 04.8	
CLL				i Sg	Sn	00 30 16.5	-0.4
	comp=Z,64nm,0.8s						
PBCC	**Pribram**	**1.14**	**118**	eSG	Sb	00 30 15.4	-0.5
	comp=Z,27nm,0.7s						
BRG	**Berggiesshubel**	**1.15**	**55**	PG	Pn	00 30 04.3	+2.8
BRG				SG	Sb	00 30 16.1	-0.2
	comp=Z,48nm,0.2s						
BRG	**Berggiesshubel**	**1.15**	**55**	ePg	Pb	00 30 01.3	0.0
BRG				eSg	Sg	00 30 16.4	-0.1
PRA	**Prague**	**1.29**	**96**	eSG	Sb	00 30 20.0	-0.2
KHC	**Kasperske Hory**	**1.32**	**146**	ePG	Pn	00 30 03.8	-0.1
KHC				eSG	Sb	00 30 20.4	-0.8
	comp=Z,31nm,0.4s						
PRU	**Pruhonice**	**1.37**	**99**	ePG	Pn	00 30 04.7	+0.2
PRU				eSG	Sb	00 30 22.2	-0.3
	comp=Z,19nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**77**	eSG	Sb	00 30 23.5	+0.3
	comp=Z,52nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	eSG	Sb	00 30 27.7	+0.2
	comp=Z,14nm,0.2s						
GEC2	**GERESS Array S**	**1.61**	**149**	ePg	Pb	00 30 09.2	0.0
GEC2				eSg	Sb	00 30 29.5	0.0
UPC	**Upice**	**2.30**	**82**	eSG	Sb	00 30 51.1	+1.8
	comp=Z,22nm,0.7s						
CHVC	**Chvalec**	**2.33**	**80**	eSG	Sg	00 30 53.0	-1.4
	comp=Z,12nm,0.5s						
DPC	**Dobruska-Polom**	**2.49**	**86**	eSG	Sb	00 30 56.4	+1.6
	comp=Z,11nm,0.5s						
MOA	**Molln**	**2.66**	**153**	Pn	Pn	00 30 23.2	+0.9
	comp=Z,0.2nm,0.1s						
MOA				Sg	Sg	00 31 03.5	-1.5
	comp=Z,6.2nm,0.3s						
KRLC	**Kraliky**	**2.79**	**92**	eSG	Sg	00 31 07.2	-1.8
	comp=Z,11nm,0.8s						
KRUC	**Moravsky**	**2.82**	**113**	ePN	Pn	00 30 24.7	+0.3
KRUC				eSG	Sb	00 31 07.0	+2.7
VRAC	**Vranov**	**2.84**	**107**	ePN	Pn	00 30 24.9	+0.2
VRAC				eSG	Sb	00 31 07.2	+2.3
WTTA	**Wattenberg**	**3.02**	**191**	Pn	Pn	00 30 26.8	-0.5
	comp=Z,1.1nm,0.3s						
CONA	**Conrad Observa**	**3.21**	**134**	ePn	Pn	00 30 32.3	+2.3
	comp=Z,0.1nm,0.2s						
CONA				Pg	Pg	00 30 39.5	-1.4
	comp=Z,2.2nm,0.4s						
CONA				Sg	Sg	00 31 22.0	-0.6
	comp=Z,4.4nm,0.3s						
MORC	**Moravsky Berou**	**3.32**	**96**	eSG	Sg	00 31 23.3	-2.6
ARSA	**Arzberg**	**3.61**	**145**	Pg	Pg	00 30 46.2	-2.3
	comp=Z,0.8nm,0.3s						
ARSA				Sg	Sg	00 31 32.7	-2.5
	comp=Z,6.1nm,0.6s						
MODS	**Modra-Piesok**	**3.66**	**119**	eSG	Sg	00 31 34.7	-2.3
CDF	**Champ du Feu**	**3.84**	**244**	ePn	Pn	00 30 37.7	-0.9
CDF	**Champ du Feu**	**3.84**	**244**	ePg	Pb	00 30 49.9	+2.6
CDF				eSn	Sn	00 31 21.0	-2.8
CDF				eSg	Sg	00 31 41.6	-1.1
	comp=Z,5.9nm,0.3s						
HINF	**Hinteralfeld**	**4.40**	**239**	ePn	Pn	00 30 44.9	-1.4
HINF	**Hinteralfeld**	**4.40**	**239**	ePg	Pg	00 31 01.5	-2.2
HINF				eSn	Sn	00 31 34.2	-3.4
HINF				eSg	Sg	00 31 57.1	-3.6
	comp=Z,5.7nm,0.4s						
HAU	**Haudompre**	**4.58**	**243**	ePn	Pn	00 30 47.6	-1.1
HAU	**Haudompre**	**4.58**	**243**	ePg	Pg	00 31 04.3	-2.9
HAU				eSn	Sn	00 31 38.7	-3.3
HAU				eSg	Sg	00 32 05.2	-1.3
	comp=Z,4.8nm,0.3s						
LOR	**Lormes**	**6.41**	**246**	ePn	Pn	00 31 12.1	-1.6
LOR	**Lormes**	**6.41**	**246**	ePg	Pg	00 31 37.7	-4.3
	baz=71						
LOR				eSg	Sg	00 33 00.4	-4.5
	comp=Z,1.1nm,0.2s						

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*IDC **01** 00:34:09.9±2.4, 36°.28N×142°.27E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/29, mbtmp3.5/4, ML2.6/1, Error ellipse: s-maj=56.6km s-min=32.8km az=48.0*

*JMA **01** 00:34:14.0±0.2, 36°.15N×142°.01E, h69km, M3.1*

ISC 01 00:34:14.3±1.4**, 36°.17N**±0°.06×**141°.96E**±0°.09**, h23**km**, n22,** σ**0s.98**/19**, mb3.6**/3**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.01**	**243**	P	**Pb**	**00 34 33.2**	**+0.2**
CHOJ				S	**Sn**	**00 34 47.2**	**+0.8**
JHYU	**Hitachinakayam**	**1.12**	**279**	P	**Pn**	**00 34 35.0**	**+0.5**
JIHU	**Itakohorinouch**	**1.18**	**260**	P	**Pb**	**00 34 36.1**	**+0.2**
JHO	**Hitachi**	**1.20**	**292**	P	**Pn**	**00 34 35.8**	**+0.1**
ONAJ	**Iwakimizuishiy**	**1.31**	**315**	P	**Pn**	**00 34 37.1**	**-0.2**
JFK	**Kawauchi**	**1.48**	**324**	P	**Pn**	**00 34 39.3**	**-0.2**
BSO1	**Boso 1**	**1.71**	**208**	P	**Pn**	**00 34 41.9**	**-0.3**
BSO3	**Boso 3**	**1.81**	**221**	P	**Pn**	**00 34 43.8**	**+0.1**
JFT	**Otama**	**1.87**	**316**	P	**Pn**	**00 34 45.8**	**+0.9**
JAG	**Ashikaga**	**2.04**	**278**	P	**Pn**	**00 34 47.5**	**+0.3**
JRY	**Ryogami san**	**2.48**	**267**	P	**Pn**	**00 34 53.7**	**+0.4**
MJAR	**Matsushiro Arr**	**3.05**	**278**	Pn	**Pn**	**00 35 02.5**	**+1.4**
	0.6nm,0.3s,baz=87,slow=10.0,SNR=41						
MJAR				Sn	**Sb**	**00 35 42.9**	**-1.7**
	0.3nm,0.3s,baz=11,slow=16,SNR=5.2						
MAT	**Matsushiro**	**3.05**	**278**	P	**Pn**	**00 35 03.0**	**+1.9**
MAT				eS	**Sb**	**00 35 42.7**	**-2.0**
H11N2	**WAKE ISLAND Hy**	**27.34**	**120**	T	T	01 08 31.3	
	baz=312,SNR=10						
H11N1	**WAKE ISLAND Hy**	**27.34**	**120**	T	T	01 08 30.8	
	baz=312						
H11N3	**WAKE ISLAND Hy**	**27.35**	**120**	T	T	01 08 30.3	
	baz=312						
H11S1	**WAKE ISLAND Hy**	**28.03**	**122**	T	T	01 09 24.0	
	baz=314,SNR=7.9						
H11S3	**WAKE ISLAND Hy**	**28.03**	**122**	T	T	01 09 21.6	
	baz=314						
H11S2	**WAKE ISLAND Hy**	**28.04**	**122**	T	T	01 09 22.2	
	baz=314						
ZALV	**Zalesovo Beam**	**42.82**	**313**	P	**P**	**00 42 09.4**	**-0.7**
	0.3nm,0.3s,baz=102,slow=7.2,SNR=2.1						
MKAR	**Makanchi Array**	**44.95**	**303**	P	**P**	**00 42 28.2**	**+0.7**
	0.6nm,0.7s,baz=81,slow=8.9,SNR=6.5						
WRA	**Warramunga Arr**	**56.27**	**189**	P	**P**	**00 43 53.0**	**0.0**
	0.4nm,0.6s,baz=0.5,slow=7.1,SNR=2.5						

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*NEIC **01** 00:50:10.3±1.8, 25°.85S±0°.09×178°.3E±0°.1, h637km±8km, mb4.3/33, Error ellipse: s-maj=17.2km s-min=12.7km az=106.0*

*IDC **01** 00:50:11.9±4.4, 25°.89S×178°.21E, h643km±47km, mb3.2/5, mb1 3.4/7, mb1mx3.0/31, mbtmp4.3/7, Error ellipse: s-maj=45.1km s-min=18.9km az=59.0*

ISC 01 00:50:09.9±0.5**, 25°.83S**±0°.09×**178°.32E**±0°.09**, h631**km**, n64,** σ**1s.06**/63**, mb4.2**/13**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.77**	**136**	P	**P**	**00 51 44.5**	**+1.5**
MSVF	**Nonsavu**	**8.06**	**358**	P	**P**	**00 52 10.9**	**-0.3**
OUZ	**Omahuta**	**10.21**	**202**	P	**P**	**00 52 32.1**	**+0.9**
DZM	**Mont Dzumac**	**11.48**	**287**	P	**P**	**00 52 45.3**	**+1.3**
	1.2nm,0.3s,baz=128,slow=9.5,SNR=12						
DZM	**Mont Dzumac**	**11.48**	**287**	P	**P**	**00 52 44.1**	**+0.1**
HIZ	**Hauiti**	**12.98**	**192**	P	**P**	**00 52 57.4**	**-0.4**
BKZ	**Black Stump Fm**	**13.39**	**186**	P	**P**	**00 52 58.9**	**-2.9**
BFZ	**Birch Farm**	**14.91**	**186**	P	**P**	**00 53 13.3**	**-2.5**
SNZO	**South Karori**	**15.73**	**190**	P	**P**	**00 53 22.8**	**-0.4**
SNZO				IAmb	IAmb	00 53 28.0	
	comp=Z,38nm,1.1s						
MSWZ	**Moikau Station**	**15.75**	**189**	P	**P**	**00 53 22.1**	**-1.4**
BHW	**Baring Head**	**15.80**	**190**	P	**P**	**00 53 22.9**	**-1.0**
NNZ	**Nelson**	**15.88**	**194**	P	**P**	**00 53 24.6**	**-0.1**
PLWZ	**Palliser**	**15.90**	**188**	P	**P**	**00 53 23.8**	**-1.1**
TUWZ	**Tuamarina**	**15.98**	**192**	P	**P**	**00 53 24.8**	**-0.7**
CMWZ	**Cape Campbell**	**16.24**	**191**	P	**P**	**00 53 27.6**	**-0.3**
BSWZ	**Blackbirch Sta**	**16.27**	**192**	P	**P**	**00 53 28.4**	**+0.2**
THZ	**Tophouse**	**16.51**	**194**	P	**P**	**00 53 30.5**	**+0.1**
THZ				IAmb	IAmb	00 53 33.1	
	comp=Z,18nm,0.7s						
KHZ	**Kahutara**	**17.01**	**192**	P	**P**	**00 53 33.7**	**-1.2**
KHZ				IAmb	IAmb	00 53 35.8	
	comp=Z,16nm,0.7s						
LTZ	**Lake Taylor**	**17.62**	**195**	P	**P**	**00 53 39.6**	**-1.0**
OXZ	**Oxford**	**18.19**	**195**	P	**P**	**00 53 45.0**	**-0.8**
OXZ				IAmb	IAmb	00 53 45.9	
	comp=Z,22nm,0.9s						
MQZ	**McQueen's Vall**	**18.42**	**193**	P	**P**	**00 53 46.9**	**-0.9**
MQZ				IAmb	IAmb	00 54 00.7	
	comp=Z,16nm,1.1s						
RPZ	**Rata Peaks**	**18.80**	**197**	P	**P**	**00 53 52.3**	**+1.1**
	comp=Z,2.0nm,0.3s,baz=23,slow=4.6,SNR=9.3						
RPZ	**Rata Peaks**	**18.80**	**197**	P	**P**	**00 53 51.9**	**+0.6**
RPZ				IAmb	IAmb	00 53 55.0	
	comp=Z,12nm,1.0s						
FOZ	**Fox Glacier**	**18.98**	**199**	P	**P**	**00 53 51.5**	**-1.2**
FOZ				IAmb	IAmb	00 54 06.6	
	comp=Z,19nm,0.9s						
LBZ	**Lake Benmore**	**19.65**	**198**	P	**P**	**00 53 56.7**	**-2.2**
LBZ				IAmb	IAmb	00 54 09.6	
	comp=Z,11nm,1.1s						
ODZ	**Otahua Downs**	**20.15**	**196**	P	**P**	**00 54 03.4**	**0.0**
WKZ	**Wanaka**	**20.39**	**199**	P	**P**	**00 54 04.3**	**-1.3**
WKZ				IAmb	IAmb	00 54 23.0	
	comp=Z,19nm,1.0s						
RAR	**Rarotonga**	**20.60**	**82**	P	**P**	**00 54 09.6**	**+1.8**
MLZ	**Mavora Lakes**	**21.15**	**200**	P	**P**	**00 54 12.2**	**-0.2**
MLZ				IAmb	IAmb	00 54 13.6	
	comp=Z,16nm,1.2s						
DCZ	**Deep Cove**	**21.55**	**202**	P	**P**	**00 54 14.9**	**-0.9**
DCZ				IAmb	IAmb	00 54 19.7	
	comp=Z,9.1nm,1.0s						
ARMA	**Armidale**	**23.95**	**253**	P	**P**	**00 54 37.0**	**-0.5**
EIDS	**Eidsvold**	**24.55**	**265**	P	**P**	**00 54 43.2**	**+0.4**
EIDS				IAmb	IAmb	00 54 44.3	
	comp=Z,6.2nm,0.7s						
KNTN	**Kanton**	**24.84**	**24**	P	**P**	**00 54 45.8**	**+0.4**
CTAO	**Charters Tower**	**30.02**	**274**	P	**P**	**00 55 30.8**	**+0.3**
STKA	**Stephens Creek**	**32.62**	**251**	P	**P**	**00 55 53.0**	**+0.7**
	comp=Z,1.5nm,0.4s,baz=90,slow=7.6,SNR=3.0						
STKA	**Stephens Creek**	**32.62**	**251**	P	**P**	**00 55 52.2**	**0.0**
COEN	**Coen**	**34.98**	**283**	P	**P**	**00 56 11.8**	**-0.3**
COEN				IAmb	IAmb	00 56 14.4	
	comp=Z,5.9nm,0.8s						
BBOO	**Buckleboo**	**37.31**	**249**	P	**P**	**00 56 30.6**	**-0.3**
AS31	**Alice Springs**	**40.25**	**263**		**P**	**00 56 55.4**	**+0.7**
ASAR	**Alice Springs**	**40.25**	**263**	P	**P**	**00 56 55.2**	**+0.5**
	comp=Z,4.2nm,0.5s,baz=92,slow=7.3,SNR=91						
ASAR				PcP	**PcP**	**00 58 42.9**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=110,slow=4.4,SNR=2.0						
WB2	**Warramunga Arr**	**40.79**	**269**	P	**P**	**00 56 59.1**	**+0.1**
WB2				IAmb	IAmb	00 56 59.8	
	comp=Z,7.5nm,1.0s						
WRA	**Warramunga Arr**	**40.80**	**269**	P	**P**	**00 56 59.2**	**+0.2**
	comp=Z,3.2nm,0.4s,baz=104,slow=7.6,SNR=20						
WB0	**Warramunga Arr**	**40.80**	**269**	P	**P**	**00 56 59.1**	**+0.1**
WB0				IAmb	IAmb	00 56 59.9	
	comp=Z,5.9nm,0.8s						
FORT	**Forrest**	**44.23**	**252**	P	**P**	**00 57 24.5**	**-1.0**
FORT				IAmb	IAmb	00 57 25.4	
	comp=Z,9.2nm,0.7s						
KNRA	**Kununurra**	**47.19**	**272**	P	**P**	**00 57 48.3**	**+0.2**
KNRA				IAmb	IAmb	00 57 57.4	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**49.19**	**268**	P	**P**	**00 58 02.7**	**-0.1**
MORW	**Morawa**	**54.80**	**252**	P	**P**	**00 58 42.6**	**0.0**
QSPA	**South Pole Qui**	**64.26**	**180**	P	**P**	**00 59 45.5**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=278,slow=1.2,SNR=28						
QSPA	**South Pole Qui**	**64.26**	**180**	IAmb	IAmb	00 59 46.4	
	comp=Z,1.1nm,0.7s						
MJAR	**Matsushiro Arr**	**72.65**	**327**	P	**P**	**01 00 36.1**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=141,slow=6.0,SNR=2.2						
ATKA	**Atka Island**	**77.97**	**5**	P	**P**	**01 01 04.5**	**+0.2**
CNBA	**Chernabura Isl**	**82.54**	**13**	P	**P**	**01 01 27.8**	**0.0**
SNAA	**Sanae**	**82.76**	**180**	P	**P**	**01 01 28.8**	**-0.3**
RSO	**Redoubt South**	**89.17**	**14**	P	**P**	**01 02 00.3**	**+0.7**
SEW	**Seward**	**89.61**	**15**	P	**P**	**01 02 01.0**	**-0.4**
CRAG	**Craig**	**90.95**	**25**	P	**P**	**01 02 03.7**	**-4.0**
SC01	**Santiago de lo**	**116.58**	**80**		**PKPdf**	**01 07 43.8**	**-0.6**
ARCES	**ARCESS Array B**	**133.44**	**347**	PKP	**PKPdf**	**01 08 15.3**	**+0.2**
	comp=Z,1.5nm,1.0s,baz=47,slow=2.3,SNR=4.6						
FINES	**FINESS Array B**	**139.75**	**340**	PKhKP	PKPpre	01 08 20.2	
	comp=Z,0.7nm,0.6s,baz=66,slow=4.6,SNR=6.4						
NB2	**NORSAR Subarra**	**143.72**	**349**	PKP	**PKPdf**	**01 08 34.2**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**143.72**	**349**	PKP	**PKPdf**	**01 08 34.0**	**0.0**
	comp=Z,1.5nm,0.8s,baz=23,slow=2.6,SNR=7.9						
AKASG	**Malin Array Be**	**145.71**	**325**	PKPbc	**PKPbc**	**01 08 39.9**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=49,slow=4.1,SNR=4.4						
BRTR	**Keskin Array B**	**147.45**	**304**	PKPbc	**PKiKP**	**01 08 45.3**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=136,slow=4.2,SNR=4.6						
CLL	**Collm**	**152.20**	**340**	ePKPbc	**PKiKP**	**01 08 57.0**	**+1.6**

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*SKO **01** 01:02:16.4, 40°.97N×20°.14E, h7km*

*TIR **01** 01:02:16.9, 41°.07N×20°.24E, h10km, Md2.7/5*

ISC 01 01:02:17.2±1.9**, 41°.0N**±0°.1×**20°.19E**±0°.07**, h14**km±10km**, n6,** σ**1s.11**/11**, Albania**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.41**	**323**	i PG	**Pg**	**01 02 24.8**	**-0.5**
TIR				i SG	**Sg**	**01 02 31.5**	**+0.7**
OHR	**Ohrid**	**0.47**	**79**	i Pg	**Pg**	**01 02 26.4**	**-0.2**
OHR				i Sg	**Sg**	**01 02 33.6**	**+0.6**
OHR				eLg	Lg	01 02 33.6	
	comp=N,228nm,0.4s						
OHR				eLg	Lg	01 02 34.2	
	comp=E,137nm,0.5s						
PHP	**Peshkopia**	**0.69**	**16**	i PG	Pb	01 02 28.8	-2.2
PHP				i SG	**Sb**	**01 02 39.0**	**-1.4**
FNA	**Florina**	**0.93**	**104**	i PG	**Pb**	**01 02 34.9**	**-0.3**
FNA				i SG	**Sn**	**01 02 48.6**	**-0.5**
PUK	**Puka**	**1.04**	**348**	i PG	**Pb**	**01 02 35.9**	**-1.1**
PUK				i SG	**Sb**	**01 02 51.8**	**+1.2**
BCI	**Bajram Curri**	**1.34**	**356**	i PN	**Pn**	**01 02 42.3**	**+0.7**
BCI				i SN	**Sb**	**01 03 00.7**	**+1.4**

TRN 01 01:04:49.6, 17°.20N×60°.24W, h40km, MD4.0, Leeward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABD	**La Joyeuse, An**	**1.39**	**239**	eP	Pn	01 05 13.8	+1.3
ABD				eS	Sn	01 05 32.3	+2.6
ANWB	**Willy Bob**	**1.55**	**288**	eP	Pn	01 05 15.5	+0.9
ANWB				eS	Sn	01 05 34.8	+1.3
MAGL	**Barre de l'ile**	**1.59**	**219**	eP	Pn	01 05 16.2	+1.0
MAGL				eS	Sn	01 05 34.8	+0.2
CBE	**Ff, Capester**	**1.72**	**230**	eP	Pn	01 05 18.7	+1.6
CBE				eS	Sn	01 05 40.0	+2.1
TDBA	**Terre de Bas,**	**1.89**	**225**	eP	Pn	01 05 21.6	+2.2
TDBA				eS	Sn	01 05 43.9	+1.9
MLYT	**Lee's Yard**	**1.92**	**256**	eP	Pn	01 05 22.1	+2.3
MLYT				eS	Sn	01 05 45.7	+2.9
SKI	**Saint Kitts**	**2.39**	**274**	eP	Pn	01 05 28.4	+2.1
SKI				eS	Sn	01 05 55.7	+1.4
ILAM	**Ilet Lapin Mar**	**2.48**	**194**	eP	Pn	01 05 29.4	+1.9
ILAM				eS	Sn	01 05 56.6	0.0
PCM	**Pelee Case Pet**	**2.54**	**202**	eP	Pn	01 05 30.9	+2.5
FDF	**Fort de France**	**2.60**	**200**	eP	Pn	01 05 31.1	+2.0
FDF				eS	Sn	01 05 59.0	-0.5
BIM	**Bigot**	**2.78**	**197**	eP	Pn	01 05 34.0	+2.3
BIM				eS	Sn	01 06 05.2	+1.2
MPOM	**Morne Pois Mar**	**2.80**	**192**	eP	Pn	01 05 33.2	+1.3
MPOM				eS	Sn	01 06 04.3	-0.1
SLBI	**Saint Lucia, B**	**3.23**	**193**	eP	Pn	01 05 39.4	+1.6
SLBI				eS	Sn	01 06 14.9	-0.2
SLAC	**Saint Lucia, A**	**3.34**	**191**	eP	Pn	01 05 41.5	+2.2
SLAC				eS	Sn	01 06 18.5	+0.7
SLB	**Belfond**	**3.44**	**193**	eP	Pn	01 05 42.2	+1.5
SLB				eS	Sn	01 06 21.6	+1.4
MCLT	**Moule a Chique**	**3.53**	**191**	eS	Sn	01 06 22.8	+0.3
SVCV	**St. Vincent, C**	**4.00**	**193**	eP	Pn	01 05 50.5	+2.1
SVCV	**St. Vincent, C**	**4.00**	**193**	eS	Sn	01 06 35.6	+1.6
SVB	**Belmont**	**4.02**	**194**	eP	Pn	01 05 51.6	+2.9
SVB				eS	Sn	01 06 36.0	+1.4

WBNET 01 01:11:30.1, 50°.24N×12°.44E, h8km, Ml0.6, 7C-2D, Germany

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**139**	⇑P	Pg	01 11 31.6	+0.1
NKC				S	Sg	01 11 32.6	+0.1
LBCW	**Luby**	**0.04**	**325**	⇑P	Pg	01 11 31.8	+0.1
LBCW				S	Sg	01 11 33.1	+0.2
VAC	**Vackov**	**0.04**	**269**	⇓P	Pg	01 11 31.8	+0.1
VAC				S	Sg	01 11 33.0	0.0
STCW	**Studenec**	**0.05**	**65**	⇑P	Pg	01 11 31.9	0.0
STCW				S	Sg	01 11 33.1	-0.1
KVC	**Kvetna**	**0.06**	**123**	S	Sg	01 11 33.0	-0.1
POCW	**Potky**	**0.09**	**353**	⇑P	Pg	01 11 32.5	+0.2
POCW				S	Sg	01 11 34.0	+0.2
SKC	**Skalna**	**0.09**	**219**	⇑P	Pg	01 11 32.3	+0.1
SKC				S	Sg	01 11 33.8	0.0
KACW	**Kaceov**	**0.10**	**153**	⇓P	Pg	01 11 32.6	+0.1
KACW				S	Sg	01 11 34.3	+0.1
KRCW	**Kraslice**	**0.11**	**30**	⇑P	Pg	01 11 32.7	+0.1
KRCW				S	Sg	01 11 34.4	0.0
ZHC	**Zelena Hora**	**0.19**	**208**	⇑P	Pg	01 11 34.0	+0.1
ZHC				S	Sg	01 11 36.6	+0.1

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*NEIC **01** 01:11:32.4±1.3, 9°.28N±0°.08×126°.5E±0°.2, h10km±1km, mb4.1/10, Error ellipse: s-maj=26.2km s-min=13.0km az=90.0*

*MAN **01** 01:11:36.0, 9°.33N×126°.67E, h98km, mb5.3, ML4.2, MS4.4*

*IDC **01** 01:11:38.5±2.8, 9°.23N×126°.62E, h60km±27km, mb3.7/16, mb1 3.8/18, mb1mx3.7/37, mbtmp4.0/18, ML4.1/2, Error ellipse: s-maj=29.9km s-min=13.1km az=85.0*

ISC 01 01:11:35.7±1.6**, 9°.34N**±0°.04×**126°.78E**±0°.06**, h32**km±12km**, n52,** σ**1s.77**/64**, mb4.1**/18**, 7C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.22**	**200**	⇑eP	Pb	01 12 04.8	+6.5
BIPH				eS	**Sb**	**01 12 17.7**	**+4.0**
SCPH	**Surigao**	**1.35**	**289**	⇑eP	**Pn**	**01 11 58.0**	**-0.3**
SCPH				eS	**Sn**	**01 12 16.6**	**+1.5**
MSLP	**Maasin**	**2.05**	**293**	eP	**Pn**	**01 12 09.2**	**+1.2**
MSLP				eS	**Sn**	**01 12 34.7**	**+2.2**
BUKP	**Musuan**	**2.23**	**230**	eP	**Pn**	**01 12 11.3**	**+0.7**
BUKP				eS	**Sn**	**01 12 39.7**	**+2.6**
CGP	**Cagayan de Oro**	**2.24**	**247**	⇑iP	**Pn**	**01 12 11.0**	**+0.4**
CGP				i S	**Sn**	**01 12 37.0**	**-0.2**
MATI	**Mati**	**2.44**	**192**	eP	Pn	01 12 08.8	-4.5
MATI				eS	**Sn**	**01 12 41.7**	**-0.3**
DAV	**Davao City (W)**	**2.55**	**208**	P	**Pn**	**01 12 16.3**	**+1.4**
	57nm,0.3s,baz=60,slow=14,SNR=2.4						
DAV				S	**Sn**	**01 12 47.0**	**+2.2**
	141nm,0.3s,baz=322,slow=22,SNR=7.5						
DMPH	**Davao City--Mi**	**2.57**	**209**	⇑eP	**Pb**	**01 12 21.1**	**-0.1**
DMPH				eS	**Sb**	**01 12 51.5**	**-0.9**
KCP	**Kidapawan**	**2.86**	**216**	⇑iP	**Pn**	**01 12 19.9**	**+0.7**
KCP				i S	**Sn**	**01 12 56.5**	**+4.0**
TBP	**Tagbilaran**	**2.90**	**277**	i P	**Pn**	**01 12 20.9**	**+1.2**
TBP				i S	**Sn**	**01 12 55.5**	**+2.0**
LLP	**Lapu-Lapu**	**2.94**	**290**	eP	**Pn**	**01 12 21.6**	**+1.4**
LLP				eS	**Sn**	**01 12 59.4**	**+5.0**
CTBH	**Cotabato--PC H**	**3.27**	**230**	⇑iP	**Pn**	**01 12 26.2**	**+1.3**
DDMP	**Don Marcelino,**	**3.38**	**198**	eP	**Pn**	**01 12 27.0**	**+0.6**
DDMP				eS	**Sn**	**01 13 06.7**	**+1.3**
SNPH	**Sibulan**	**3.50**	**270**	⇓eP	**Pn**	**01 12 30.8**	**+2.8**
SNPH				eS	**Sn**	**01 13 10.0**	**+1.7**
PAGZ	**Pagadian**	**3.67**	**246**	eP	**Pn**	**01 12 30.4**	**+0.1**
PAGZ				eS	**Sn**	**01 13 11.6**	**-1.0**
GSPH	**General Santos**	**3.71**	**209**	⇑iP	**Pb**	**01 12 36.9**	**-3.7**
CNP	**Catarman**	**3.77**	**327**	eP	**Pn**	**01 12 32.3**	**+0.6**
CNP				eS	**Sn**	**01 13 13.4**	**-1.6**
CNOP	**Candoni, Negro**	**4.11**	**277**	eP	**Pn**	**01 12 36.1**	**-0.2**
CNOP				eS	**Sn**	**01 13 19.2**	**-4.2**
RCP	**Roxas**	**4.54**	**299**	⇓eP	**Pn**	**01 12 45.1**	**+2.9**
PVCP	**Virac**	**4.95**	**329**	eP	**Pn**	**01 12 48.9**	**+1.0**
PVCP				eS	**Sn**	**01 13 45.3**	**+1.3**
TNTI	**Ternate**	**8.53**	**176**	Pn	**Pn**	**01 13 36.0**	**-1.1**
SMPP	**San Manuel, Pa**	**9.01**	**319**	eP	**Pn**	**01 13 42.9**	**-0.7**
SIJI	**Sorong**	**11.08**	**156**	P	**Pn**	**01 14 13.9**	**+1.8**
	1.3nm,0.3s,baz=328,slow=18,SNR=2.6						
SBUM	**Sibu**	**16.01**	**246**		**Pn**	**01 15 17.6**	**-1.1**
JNU	**Nakatsue**	**23.97**	**8**	P	**P**	**01 16 48.2**	**+0.9**
	8.8nm,0.9s,baz=203,slow=1.5,SNR=8.0						
JNU	**Nakatsue**	**23.97**	**8**	P	**P**	**01 16 48.8**	**+1.5**
KNRA	**Kununurra**	**24.93**	**175**	P	**P**	**01 16 55.6**	**-0.6**
FITZ	**Fitzroy Crossi**	**27.29**	**182**	P	**P**	**01 17 16.3**	**-1.2**
	5.0nm,0.8s,baz=12,slow=8.8,SNR=11						
MJAR	**Matsushiro Arr**	**29.00**	**19**	P	**P**	**01 17 32.6**	**0.0**
	1.0nm,0.9s,baz=195,slow=8.8,SNR=5.8						
WRA	**Warramunga Arr**	**30.04**	**166**	P	**P**	**01 17 40.0**	**-2.0**
	0.7nm,0.6s,baz=346,slow=9.5,SNR=3.8						
ASAR	**Alice Springs**	**33.54**	**168**	P	**P**	**01 18 11.8**	**-0.9**
	0.3nm,0.5s,baz=354,slow=6.7,SNR=11						
ASAR				PcP	**PcP**	**01 20 53.0**	**-0.1**
	0.4nm,0.6s,baz=353,slow=3.1,SNR=2.4						
USRK	**Ussuriysk Ar.**	**35.02**	**7**	P	**P**	**01 18 27.2**	**+1.8**
	3.1nm,0.8s,baz=182,slow=7.1,SNR=7.1						
H11N1	**WAKE ISLAND Hy**	**40.08**	**71**	T	T	02 02 48.6	
	baz=262						
H11N2	**WAKE ISLAND Hy**	**40.09**	**70**	T	T	02 02 47.2	
	baz=262						
H11N3	**WAKE ISLAND Hy**	**40.10**	**71**	T	T	02 02 49.5	
	baz=262						
STKA	**Stephens Creek**	**43.37**	**162**	P	**P**	**01 19 35.1**	**-0.1**
	1.1nm,0.5s,baz=350,slow=7.9,SNR=2.2						
STKA	**Stephens Creek**	**43.37**	**162**	IAmb	IAmb	01 20 12.2	
	comp=Z,4.9nm,1.9s						
PETK	**Petropavlovsk-**	**50.28**	**24**	P	**P**	**01 20 31.3**	**+2.3**
	comp=Z,1.5nm,0.7s,baz=192,slow=5.9,SNR=4.5						
MK31	**Makanchi Array**	**53.07**	**323**	P	**P**	**01 20 49.0**	**-0.9**
MK31				IAmb	IAmb	01 20 50.4	
	comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	**53.07**	**323**	P	**P**	**01 20 49.6**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=122,slow=8.0,SNR=18						
NIL	**Nilore**	**54.67**	**305**	P	**P**	**01 21 00.5**	**-1.5**
ZALV	**Zalesovo Beam**	**55.68**	**331**	P	**P**	**01 21 07.8**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=137,slow=7.8,SNR=2.8						
KURK	**Kurchatov**	**57.11**	**326**		**P**	**01 21 18.5**	**-0.5**
KURK				IAmb	IAmb	01 21 19.0	
	comp=Z,3.4nm,0.9s						
TIXI	**Tiksi**	**62.27**	**1**	P	**P**	**01 21 54.4**	**+0.2**
NRIK	**Noril'sk**	**65.03**	**346**	P	**P**	**01 22 12.5**	**0.0**
	comp=Z,2.0nm,0.5s,baz=134,slow=8.4,SNR=4.3						
IL31		**80.05**	**26**	P	**P**	**01 23 40.2**	**-1.7**
ILAR	**Eielson Array**	**80.05**	**26**	P	**P**	**01 23 41.7**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=250,slow=4.7,SNR=2.6						
ARCES	**ARCESS Array B**	**85.23**	**340**	P	**P**	**01 24 08.8**	**0.0**
	comp=Z,1.0nm,0.6s,baz=73,slow=6.9,SNR=8.7						
BRTR	**Keskin Array B**	**86.51**	**310**	P	**P**	**01 24 15.3**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=97,slow=3.0,SNR=2.0						
FINES	**FINESS Array B**	**86.94**	**332**	P	**P**	**01 24 17.0**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=92,slow=5.1,SNR=11						
YKA	**Yellowknife Ar**	**94.39**	**24**	P	**P**	**01 24 53.9**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=289,slow=4.4,SNR=5.1						
TORD	**Torodi Ar. Bea**	**121.07**	**291**	PKP	**PKPdf**	**01 30 24.8**	**-1.5**
	comp=Z,0.7nm,1.1s,baz=80,slow=3.4,SNR=1.2						

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*PRU **01** 01:12:01.6±0.0, 50°.24N×12°.52E, h0km, West Bohemia Swarm*

WBNET 01 01:12:00.9, 50°.24N×12°.45E, h9km, Ml1.7, 8C-2D, Germany

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**157**	ePG	Pg	01 12 02.5	0.0
NKC				eSG	Sg	01 12 03.5	-0.1
	comp=Z,548nm,0.2s						
NKC	**Novy Kostel**	**0.00**	**157**	⇑P	Pg	01 12 02.6	+0.1
NKC				S	Sg	01 12 03.7	+0.1
LBCW	**Luby**	**0.04**	**324**	⇑P	Pg	01 12 02.8	+0.1

LBCW				S	Sg	01 12 04.1	+0.2
VAC	**Vackov**	**0.04**	**269**	⇑P	Pg	01 12 02.8	+0.1
VAC				S	Sg	01 12 04.0	0.0
STCW	**Studenec**	**0.05**	**64**	⇑P	Pg	01 12 02.9	0.0
STCW				S	Sg	01 12 04.1	-0.2
KVC	**Kvetna**	**0.05**	**124**	⇓P	Pg	01 12 02.8	0.0
KVC				S	Sg	01 12 04.0	-0.1
POCW	**Potky**	**0.09**	**352**	⇑P	Pg	01 12 03.4	+0.1
POCW				S	Sg	01 12 05.0	+0.1
SKC	**Skalna**	**0.09**	**219**	⇑P	Pg	01 12 03.2	+0.1
SKC				S	Sg	01 12 04.8	0.0
KACW	**Kaceov**	**0.10**	**154**	⇓P	Pg	01 12 03.5	+0.1
KACW				S	Sg	01 12 05.3	+0.1
KRCW	**Kraslice**	**0.11**	**29**	⇑P	Pg	01 12 03.6	+0.1
KRCW				S	Sg	01 12 05.4	0.0
ZHC	**Zelena Hora**	**0.19**	**208**	⇑P	Pg	01 12 04.9	+0.1
CLL	**Collm**	**1.13**	**18**	*i* Pg	Pn	01 12 23.2	+0.2
CLL				*i*		01 12 24.9	
CLL				*i*		01 12 26.2	
CLL				*i* Sg	Sb	01 12 37.8	+0.3
	comp=Z,10.0nm,0.4s						
PBCC	**Pribram**	**1.14**	**118**	*e*PG	Pg	01 12 21.7	-1.1
PBCC				*e*SG	Sg	01 12 36.5	-1.2
	comp=Z,3.7nm,0.5s						
KHC	**Kasperske Hory**	**1.33**	**146**	*e*PG	Pn	01 12 25.5	-0.2
KHC				*e*SG	Sb	01 12 42.6	-0.6
	comp=Z,7.9nm,0.3s						
PRU	**Pruhonice**	**1.37**	**100**	*e*PG	Pn	01 12 25.9	-0.4
PRU				*e*SG	Sb	01 12 43.8	-0.6
	comp=Z,8.2nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**77**	*e*SG	Sb	01 12 44.7	-0.2
	comp=Z,13nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	Sb	01 12 49.5	+0.1
UPC	**Upice**	**2.30**	**82**	*e*SG	Sb	01 13 12.3	+1.2
CHVC	**Chvalec**	**2.33**	**80**	*e*SG	Sg	01 13 14.3	-1.6
	comp=Z,1.8nm,0.4s						
OSTC	**Ostas**	**2.43**	**81**	*e*SG	Sb	01 13 16.8	+1.8
DPC	**Dobruska-Polom**	**2.49**	**86**	*e*SG	Sb	01 13 17.8	+1.2
	comp=Z,1.5nm,0.3s						
KRUC	**Moravsky**	**2.82**	**113**	*e*SG	Sb	01 13 28.6	+2.4
VRAC	**Vranov**	**2.84**	**107**	*e*SG	Sb	01 13 28.8	+2.0

*BEO **01** 02:19:40.9±0.6, 41°.04N×20°.23E, h4km±2km, ML2.1/13*
*ATH **01** 02:19:40.7, 41°.19N×20°.30E, h15km±1km, ML2.1/4, Error ellipse: s-maj=2.3km s-min=1.1km az=219.0*
*SKO **01** 02:19:40.7, 41°.16N×20°.28E, h15km*
*TIR **01** 02:19:40.7, 41°.15N×20°.28E, h8km, Md2.8/6*
*THE **01** 02:19:42.0, 41°.15N×20°.28E, h0km±4km, ML2.0/3, Error ellipse: s-maj=4.5km s-min=1.2km az=5.0*
ISC 01 02:19:40.9±1.1**, 41°.15N**±0°.02×**20°.29E**±0°.02**, h4**km±10km**, n47, σ1§28**/80**, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.38**	**302**	*e*Pg	**Pg**	**02 19 47.8**	**-0.3**
TIR				*e*Sg	**Sb**	**02 19 54.5**	**-1.8**
TIR	**Tirane**	**0.38**	**302**	P	**Pg**	**02 19 47.8**	**-0.3**
TIR				S	**Sb**	**02 19 54.2**	**-2.1**
TIR	**Tirane**	**0.38**	**302**	*i* PG	**Pg**	**02 19 48.2**	**0.0**
TIR				*i* SG	**Sb**	**02 19 54.9**	**-1.4**
TIR	**Tirane**	**0.38**	**302**	P	**Pg**	**02 19 48.1**	**0.0**
TIR				S	**Sg**	**02 19 53.5**	**+0.4**
TIR				AML	AML	02 19 55.9	
	comp=E,1662µm,0.2s						
TIR				AML	AML	02 19 58.0	
	comp=N,1442µm,0.6s						
OHR	**Ohrid**	**0.39**	**96**	*i* Pg	**Pb**	**02 19 49.7**	**-0.7**
OHR				*i* Sg	**Sb**	**02 19 56.8**	**0.0**
OHR				*e*Lg	Lg	02 19 56.9	
	comp=N,439nm,0.5s						
OHR				*e*Lg	Lg	02 19 57.4	
	comp=E,377nm,0.5s						
PHP	**Peshkopia**	**0.55**	**12**	P	**Pb**	**02 19 52.3**	**-0.7**
PHP				S	**Sb**	**02 20 02.1**	**+0.8**
PHP	**Peshkopia**	**0.55**	**12**	*i* PG	**Pb**	**02 19 52.4**	**-0.7**
PHP				*i* SG	**Sb**	**02 20 01.4**	**+0.1**
FNA	**Florina**	**0.90**	**114**	P	**Pg**	**02 19 58.3**	**+0.1**
FNA				S	**Sn**	**02 20 12.6**	**-1.3**
	comp=E,145nm,0.4s						
FNA	**Florina**	**0.90**	**114**	P	**Pg**	**02 19 58.1**	**-0.1**
FNA				S	**Sg**	**02 20 10.2**	**+0.3**
FNA				AML	AML	02 20 16.1	
	comp=N,326µm,0.5s						
FNA				AML	AML	02 20 18.5	
	comp=E,276µm,0.3s						
VLO	**Vlora**	**0.91**	**222**	P	**Pn**	**02 19 59.9**	**-0.5**
VLO	**Vlora**	**0.91**	**222**	*i* PG	**Pn**	**02 20 00.2**	**-0.3**
VLO				*i* SG	**Sn**	**02 20 13.0**	**-0.9**
NEST	**Nestorio**	**0.94**	**142**	P	**Pg**	**02 19 58.8**	**-0.1**
NEST				S	**Sn**	**02 20 13.7**	**-1.1**
	comp=E,58nm,0.4s						
NEST	**Nestorio**	**0.94**	**142**	P	**Pg**	**02 19 58.8**	**-0.1**
NEST				AML	AML	02 20 17.7	
	comp=N,106µm,0.4s						
NEST				AML	AML	02 20 18.6	
	comp=E,126µm,0.4s						
PUK	**Puka**	**0.94**	**342**	*i* PG	**Pn**	**02 20 00.2**	**-0.7**
PUK				*i* SG	**Sn**	**02 20 14.5**	**-0.4**
SKO	**Skopje**	**1.19**	**46**	*e*Pg	**Pn**	**02 20 04.6**	**+0.2**
SKO				*e*Sg	**Sn**	**02 20 22.0**	**+1.0**
BCI	**Bajram Curri**	**1.23**	**352**	*i* PN	**Pg**	**02 20 05.0**	**+0.6**
BCI				*i* SN	**Sn**	**02 20 23.8**	**+1.9**
SRN	**Sarande**	**1.29**	**190**	P	**Pg**	**02 20 05.4**	**-0.2**
SRN				S	**Sn**	**02 20 26.0**	**+2.7**
SRN	**Sarande**	**1.29**	**190**	*i* PN	**Pg**	**02 20 06.5**	**+0.9**
SRN				*i* SN	**Sn**	**02 20 25.7**	**+2.4**
KZN	**Kozani**	**1.41**	**126**	P	**Pb**	**02 20 07.4**	**-0.3**
KZN				AML	AML	02 20 38.3	
	comp=N,91µm,0.5s						
KZN				AML	AML	02 20 39.1	
	comp=E,115µm,0.6s						
KPRO	**Kipourio**	**1.45**	**145**	P	**Pg**	**02 20 08.5**	**-0.2**
KEK	**Kerkira**	**1.48**	**195**	P	**Pg**	**02 20 09.1**	**-0.2**
KEK				S	**Sg**	**02 20 30.5**	**+1.9**
	comp=E,42nm,0.6s						
KEK	**Kerkira**	**1.48**	**195**	P	**Pg**	**02 20 09.3**	**0.0**
PDG	**Podgorica**	**1.49**	**329**	*e*Pg	**Pb**	**02 20 08.5**	**-0.7**
PDG				*e*Sg	**Sg**	**02 20 30.7**	**+1.8**
JAN	**Janina**	**1.55**	**164**	P	**Pg**	**02 20 10.4**	**-0.3**
GRG	**Griva**	**1.61**	**96**	P	**Pb**	**02 20 10.7**	**-0.5**
IGT	**Igoumenitsa**	**1.62**	**179**	P	**Pb**	**02 20 11.1**	**-0.2**
VAY	**Valandovo**	**1.73**	**84**	*e*Pg	**Pb**	**02 20 12.1**	**-1.1**
VAY				*e*Sg	**Sg**	**02 20 37.4**	**+0.9**
KNT	**Kendrikon**	**1.97**	**89**	P	**Pn**	**02 20 15.5**	**+0.5**
THL	**Klokotos Trika**	**2.06**	**140**	P	**Pb**	**02 20 17.7**	**-1.2**
BOSS	**Bosilegrad**	**2.12**	**50**	*e*Pn	**Pb**	**02 20 18.2**	**-1.7**
BOSS				*e*Sn	**Sb**	**02 20 45.5**	**-1.0**
SJES	**Sjenica**	**2.12**	**354**	*e*Pn	**Pb**	**02 20 19.5**	**-0.5**
SJES				*e*Sn	**Sb**	**02 20 47.2**	**+0.5**
TREB	**Trebinje**	**2.13**	**318**	*e*Pn	**Pn**	**02 20 17.2**	**-0.1**
TREB				*e*Sn	**Sb**	**02 20 46.4**	**-0.4**
SELS	**Selova**	**2.16**	**16**	*e*Pn	**Pn**	**02 20 18.5**	**+0.8**
SELS				*e*Sn	**Sb**	**02 20 47.6**	**0.0**
DBRK	**Dubrovnik**	**2.20**	**314**	*e*Pn	**Pn**	**02 20 18.7**	**+0.5**
DBRK				Sn	**Sb**	**02 20 47.6**	**-1.3**
IVAS	**Ivanjica**	**2.43**	**358**	*e*Pn	**Pn**	**02 20 22.5**	**+1.1**
IVAS				*e*Sn	**Sb**	**02 20 54.4**	**-1.0**
STON	**Ston**	**2.58**	**313**	*e*Pn	**Pn**	**02 20 24.0**	**+0.5**
STON				Sn	**Sb**	**02 20 57.6**	**-2.2**
AGG	**Agios Georgios**	**2.64**	**143**	P	**Pn**	**02 20 25.1**	**+0.8**
VTS	**Vitosha**	**2.64**	**55**	*e*Pn	**Pb**	**02 20 26.3**	**-2.6**
VTS				*e*Sn	**Sn**	**02 20 58.2**	**+1.2**
ZAPS	**Zavoj**	**2.75**	**39**	*e*Pn	**Pb**	**02 20 28.1**	**-2.4**
ZAPS				*e*Sn	**Sb**	**02 21 01.5**	**-3.0**
GRUS	**Gruza**	**2.75**	**6**	*e*Pn	**Pn**	**02 20 27.6**	**+1.8**
BBLS	**Lazići**	**2.79**	**347**	*e*Pn	**Pn**	**02 20 27.0**	**+0.6**
BBLS				*e*Sn	**Sb**	**02 21 03.5**	**-2.4**
DIVS	**Divibare**	**2.95**	**356**	*e*Pn	**Pn**	**02 20 30.6**	**+2.0**
DIVS				*e*Sn	**Sb**	**02 21 06.9**	**-3.7**
ZAGS	**Zajecar**	**3.02**	**28**	*e*Pn	**Pn**	**02 20 31.1**	**+1.6**
RICI	**Ricice**	**3.31**	**316**	*e*Pn	**Pn**	**02 20 33.9**	**+0.4**
RICI				Sn	**Sn**	**02 21 14.7**	**+1.4**
KIJV	**Kijevo**	**4.04**	**316**	*e*Pn	**Pn**	**02 20 44.0**	**+0.5**
KIJV				Sn	**Sn**	**02 21 33.7**	**+2.4**
ZIRJ	**Zirje**	**4.25**	**308**	*e*Pn	**Pn**	**02 20 47.4**	**+1.1**
ZIRJ				Sn	**Sn**	**02 21 36.8**	**+0.4**
MORI	**Morici**	**4.34**	**310**	*e*Pn	**Pn**	**02 20 48.4**	**+0.8**

*VAO **01** 02:37:27.2±1.1, 11°.03N×73°.09W, h10km, mb5.0*
*CAR **01** 02:37:32.9±4.5, 10°.35N±0°.06×73°.14W±0°.06, h14km±3km, Error ellipse: s-maj=0.0km s-min=0.0km az=153.0*
*RSNC **01** 02:37:35.5±1.3, 10°.34N×72°.86W, h4km±8km, ML4.7, Mw4.7*
*BJI **01** 02:37:35.0±0.0, 10°.40N×72°.70W, h22km, Ms4.7/1, Ms7 4.6/1*
*NEIC **01** 02:37:35.5±1.9, 10°.31N±0°.05×72°.79W±0°.02, h24km±3km, mb4.9/346, Mwr4.6(CAR), Error ellipse: s-maj=8.0km s-min=3.2km az=190.0*
*UNK **01** 02:37:35.8, 10°.31N×72°.79W, h26km*
*UPA **01** 02:37:37.4±2.4, 10°.73N×72°.97W, h125km±40km, MW5.4*
*IDC **01** 02:37:38.7±1.2, 10°.24N×72°.80W, h50km±12km, mb4.3/25, mb1 4.5/32, mb1mx4.4/36, mbtmp4.6/32, ML4.1/7, MS3.9/24, Ms1 3.9/24, ms1mx3.8/38, Error ellipse: s-maj=11.6km s-min=8.8km az=34.0*
*JSN **01** 02:39:22.9±2.8, 17°.10N×76°.65W, h2km±142km*
ISC 01 02:37:34.2±0.4**, 10°.33N**±0°.03×**72°.87W**±0°.03**, h15**km±2km**, h15**km**:pP-P, n780, σ1§74**/776**, mb4.9**/195**, MS3.9**/18**, 13C-9D, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARGC	**Ariguani, Magd**	**1.44**	**251**	⇑*i*P	**Pb**	**02 38 01.0**	**+0.3**
ARGC				*e*Pg	Pg	02 38 08.3	+6.5
ARGC				*e*S	**Sg**	**02 38 20.2**	**-0.4**
ARGC				*i*		02 38 24.0	
	comp=Z,6µm,0.2s						
SMRC	**Santa Marta, M**	**1.57**	**302**	*e*P	**Pn**	**02 38 01.2**	**-0.2**
SMRC				*e*S	**Sn**	**02 38 20.0**	**-1.5**
SMRC				*i*		02 38 27.6	
	comp=Z,12µm,0.5s						
URIC	**Uribia, Colomb**	**1.61**	**32**	⇑*e*P	**Pn**	**02 38 02.8**	**+0.7**
URIC				*e*S	**Sb**	**02 38 24.4**	**+0.7**
URIC				*i*		02 38 27.2	
	comp=Z,27µm,0.4s						
URIC	**Uribia, Colomb**	**1.61**	**32**		**Pn**	**02 38 02.8**	**+0.7**
SMLC	**San Martn de**	**1.93**	**218**	*e*P	**Pn**	**02 38 06.9**	**+0.4**
SMLC				*i*		02 38 36.9	
	comp=Z,12µm,0.2s						
OCAC	**Ocana**	**2.13**	**192**	*e*P	**Pn**	**02 38 10.4**	**+1.0**
OCAC				*e*S	**Sb**	**02 38 39.0**	**+0.2**
OCAC				*i*		02 38 44.0	
	comp=Z,17µm,0.4s						
DABV	**Dabajuro**	**2.27**	**75**	*e*P	**Pn**	**02 38 12.4**	**+1.2**
DABV				*e*S	**Sb**	**02 38 41.6**	**-1.3**
SJCC	**San Jacinto, C**	**2.32**	**259**	⇑*e*P	**Pn**	**02 38 14.0**	**+2.2**
SJCC				*e*S	**Sb**	**02 38 42.6**	**-1.6**
SJCC				*i*		02 38 48.9	
	comp=Z,2µm,0.6s						
SJCC	**San Jacinto, C**	**2.32**	**259**	⇑*i*P	**Pb**	**02 38 15.0**	**-0.7**
SJCC				*e*S	**Sb**	**02 38 43.2**	**-1.0**
SDV	**Santo Domingo**	**2.63**	**123**	P	**Pn**	**02 38 17.5**	**+1.1**
	comp=Z,169nm,0.3s,baz=311,slow=7.3,SNR=975						
SDV				S	**Sn**	**02 38 48.1**	**0.0**
	comp=Z,332nm,0.3s,baz=322,slow=7.3,SNR=6.2						
SDV				LR	LR	02 39 44.5	
	comp=Z,6µm,18.6s,baz=276,slow=50						
SDV	**Santo Domingo**	**2.63**	**123**	⇓*i*P	**Pn**	**02 38 17.5**	**+1.1**
SDV				*e*S	**Sn**	**02 38 47.3**	**-0.8**
SDV	**Santo Domingo**	**2.63**	**123**	*e*P	**Pn**	**02 38 17.4**	**+1.1**
SDV	**Santo Domingo**	**2.63**	**123**	*e*P	**Pn**	**02 38 17.4**	**+1.1**
SOCV	**Socops**	**2.85**	**136**	⇓*i*P	**Pn**	**02 38 20.4**	**+1.3**
SOCV				*e*S	**Sn**	**02 38 55.1**	**+1.9**
PAMC	**Pamplona, Colo**	**2.98**	**177**	*e*P	**Pn**	**02 38 21.9**	**+0.6**
PAMC				*e*S	**Sn**	**02 38 59.4**	**+2.3**
PAMC				*i*		02 39 11.0	
	comp=Z,2µm,0.2s						
BRRC	**Barranca, Sant**	**3.31**	**195**	*e*P	**Pn**	**02 38 26.5**	**+1.0**
BRRC				*e*S	**Sn**	**02 39 07.7**	**+3.0**
BRRC				*i*		02 39 26.7	
	comp=Z,1µm,0.4s						
ZARC	**Zaragoza, Cauc**	**3.44**	**215**	*e*P	**Pn**	**02 38 27.6**	**+0.3**
ZARC				*e*S	**Sn**	**02 39 09.4**	**+1.5**
ZARC				*i*		02 39 32.0	
	comp=Z,2µm,0.6s						
UREC	**San Jos de Ur**	**3.67**	**226**	*e*P	**Pn**	**02 38 32.0**	**+1.5**
UREC				*e*S	**Sn**	**02 39 16.4**	**+2.8**
UREC				*i*		02 39 37.3	
	comp=Z,856nm,0.8s						
BARC	**Barichara**	**3.73**	**185**	*e*P	**Pn**	**02 38 32.9**	**+1.4**
BARC				*e*S	**Sn**	**02 39 18.1**	**+2.8**
BARC				*i*		02 39 44.4	
	comp=Z,2µm,0.5s						
LCBC	**Los crdobas,**	**3.75**	**247**	⇑*i*P	**Pn**	**02 38 33.7**	**+2.2**
LCBC				*e*S	**Sn**	**02 39 18.1**	**+2.7**
LCBC				*i*		02 39 27.8	
	comp=Z,774nm,0.6s						
TAMC	**Tame, Arauca**	**4.02**	**165**	*e*P	**Pn**	**02 38 36.5**	**+1.3**
TAMC				*e*S	**Sn**	**02 39 24.3**	**+2.2**
TAMC				*i*		02 39 54.2	
	comp=Z,1µm,0.5s						
PTBC	**PUERTO BERRIO,**	**4.08**	**203**	*e*P	**Pn**	**02 38 36.8**	**+0.7**
PTBC				*e*S	**Sn**	**02 39 25.3**	**+1.6**
PTBC				*i*		02 39 49.6	
	comp=Z,1µm,0.6s						
HATO	**Hato, Curacao**	**4.25**	**64**		**Pn**	**02 38 39.6**	**+1.1**
RUSC	**La Rusia**	**4.42**	**183**	*e*P	**Pn**	**02 38 42.3**	**+1.2**
RUSC				*e*S	**Sb**	**02 39 49.7**	**+4.6**
RUSC				*i*		02 40 02.5	
	comp=Z,1µm,0.8s						
RUSC	**La Rusia**	**4.42**	**183**	Pn	**Pn**	**02 38 42.4**	**+1.2**
CAPC	**Capurgana**	**4.73**	**249**	*e*P	**Pn**	**02 38 45.2**	**+0.1**
CAPC				*e*S	**Sn**	**02 39 38.0**	**-1.7**
CAP2	**Capurgana**	**4.74**	**250**	*i* P	**Pn**	**02 38 45.2**	**+0.1**
CAP2				*e*S	**Sn**	**02 39 37.5**	**-2.3**
SPBC	**San Pablo de B**	**4.80**	**194**	*e*P	**Pn**	**02 38 47.2**	**+1.1**
SPBC				*e*S	**Sn**	**02 39 43.0**	**+1.5**
SPBC				*i*		02 40 10.8	
	comp=Z,421nm,0.4s						
HELC	**Santa Helena**	**4.89**	**213**	*e*P	**Pn**	**02 38 50.9**	**+3.4**
HELC				*e*S	**Sn**	**02 39 50.8**	**+6.8**
HELC				*i*		02 40 11.1	
	comp=Z,742nm,0.7s						
HELC	**Santa Helena**	**4.89**	**213**	⇑*e*P	**Pn**	**02 38 50.7**	**+3.2**
HELC				*e*S	**Sn**	**02 39 50.1**	**+6.1**
NORC	**Norcasia**	**5.14**	**203**	*e*P	**Pn**	**02 38 53.0**	**+2.3**
NORC				*e*S	**Sn**	**02 39 51.7**	**+1.9**
NORC				*i*		02 40 23.4	
	comp=Z,584nm,0.7s						
UPD2	**Meteti**	**5.38**	**251**	*e*P	**Pn**	**02 38 55.0**	**+1.1**
UPD2				*e*S	**Sn**	**02 39 54.4**	**-1.2**
CBOC	**Ciudad Bolivar**	**5.42**	**215**	*e*P	**Pn**	**02 38 57.6**	**+2.9**
CBOC				*e*S	**Sb**	**02 40 10.2**	**-3.6**
CBOC				*i*		02 40 41.6	
	comp=Z,241nm,0.7s						
CTAB	**Cerro Tablazo,**	**5.45**	**194**	*e*P	**Pn**	**02 38 58.0**	**+2.7**
CTAB				*e*S	**Sn**	**02 40 02.2**	**+4.2**
CTAB				*i*		02 40 19.0	
	comp=Z,523nm,0.6s						
ROSC	**El Rosal**	**5.64**	**195**	P	**Pn**	**02 39 00.6**	**+2.7**
	comp=Z,19nm,0.3s,baz=27,slow=6.8,SNR=57						
ROSC				S	**Sn**	**02 40 08.8**	**+6.0**
	comp=Z,48nm,0.3s,baz=322,slow=22,SNR=12						
ROSC				LR	LR	02 41 22.7	
	comp=Z,2µm,21.6s,baz=328,slow=40						
ROSC	**El Rosal**	**5.64**	**195**	*e*P	**Pn**	**02 39 00.1**	**+2.1**
ROSC				*e*S	**Sn**	**02 40 04.8**	**+2.0**
ROSC				*i*		02 40 47.3	
	comp=Z,452nm,0.7s						
ROSC	**El Rosal**	**5.64**	**195**	Pn	**Pn**	**02 39 00.1**	**+2.1**
GUY2C	**Guyana, Caldas**	**5.65**	**206**	*e*P	**Pn**	**02 39 01.3**	**+3.2**
GUY2C				*e*S	**Sb**	**02 40 15.8**	**-4.7**
GUY2C				*i*		02 40 35.3	
	comp=Z,418nm,0.7s						
CHIC	**Chingaza**	**5.73**	**189**	*e*P	**Pn**	**02 39 01.9**	**+2.7**
CHIC				*e*S	**Sn**	**02 40 08.3**	**+3.4**
CHIC				*i*		02 40 46.1	
	comp=Z,306nm,0.6s						
CVER	**Cruz Verde, Cu**	**5.90**	**192**	*e*P	**Pn**	**02 39 05.1**	**+3.6**
CVER				*e*S	**Sn**	**02 40 11.6**	**+2.5**
RREF	**El Recreo**	**5.93**	**205**	*e*P	**Pn**	**02 39 05.2**	**+3.1**
RREF				*e*S	**Sn**	**02 40 11.5**	**+1.4**
RREF				*i*		02 40 48.2	
	comp=Z,447nm,0.6s						
CNTA3	**Canitas, Panam**	**6.04**	**260**	*e*P	**Pn**	**02 39 03.5**	**+0.5**
PTGC	**Puerto Gaitan,**	**6.14**	**173**	*e*P	**Pn**	**02 39 03.6**	**-0.8**
PTGC				*e*S	**Sn**	**02 40 11.7**	**-2.7**
PTGC				*i*		02 40 55.5	
	comp=Z,501nm,0.5s						
TOLC	**Tolima**	**6.21**	**203**	*e*P	**Pn**	**02 39 08.5**	**+2.8**
TOLC				*e*S	**Sn**	**02 40 16.7**	**+0.2**
TOLC				*i*		02 41 08.1	
	comp=Z,847nm,0.6s						
VILC	**Villavicencio,**	**6.24**	**188**	*e*P	**Pn**	**02 39 07.5**	**+1.7**
VILC				*e*S	**Sn**	**02 40 14.3**	**-2.7**
VILC				*i*		02 40 42.0	
	comp=Z,444nm,0.4s						
CHPO	**Chepo, Panama**	**6.26**	**260**	*e*P	**Pn**	**02 39 06.9**	**+0.8**
CHPO				*e*S	Sn	02 40 07.5	-10
ANIL	**Santa Ana**	**6.33**	**204**	*e*P	**Pn**	**02 39 09.2**	**+2.0**
ANIL				*e*S	**Sn**	**02 40 17.5**	**-1.9**
ANIL				*e*S	**Sn**	**02 40 17.5**	**-1.9**
ANIL				*i*		02 40 32.1	
	comp=Z,493nm,0.5s						
ANIL				*i*		02 40 32.1	
	comp=Z,493nm,0.5s						
PLMC	**San Jos del P**	**6.37**	**212**	*e*P	**Pn**	**02 39 10.1**	**+2.5**
PLMC				*e*P	**Pn**	**02 39 10.1**	**+2.5**
PLMC				*i*		02 40 54.9	
	comp=Z,182nm,0.6s						
PLMC				*i*		02 40 54.9	
	comp=Z,182nm,0.6s						
UPA	**Univ. de Panam**	**6.71**	**259**	*e*P	**Pn**	**02 39 10.6**	**-1.6**
UPA				*e*S	**Sn**	**02 40 24.9**	**-3.5**
ORTC	**Ortega, Tolima**	**6.80**	**200**	*e*P	**Pn**	**02 39 15.8**	**+2.2**
ORTC				*e*P	**Pn**	**02 39 15.8**	**+2.2**
ORTC				*e*S	**Sn**	**02 40 29.6**	**-1.2**
ORTC				*e*S	**Sn**	**02 40 29.6**	**-1.2**
ORTC				*i*		02 41 05.7	
	comp=Z,270nm,0.6s						
ORTC				*i*		02 41 05.7	
	comp=Z,270nm,0.6s						
PRAC	**Prado**	**6.88**	**197**	*e*P	**Pn**	**02 39 16.3**	**+1.7**
PRAC				*e*P	**Pn**	**02 39 16.3**	**+1.7**
PRAC				*e*S	**Sn**	**02 40 33.8**	**+1.1**
PRAC				*e*S	**Sn**	**02 40 33.8**	**+1.1**
PRAC				*i*		02 41 24.9	
	comp=Z,307nm,0.6s						
PRAC				*i*		02 41 24.9	
	comp=Z,307nm,0.6s						
BCIP	**Isla Barro Col**	**6.97**	**261**	*e*P	**Pn**	**02 39 16.8**	**+1.0**
BCIP				*e*P	**Pn**	**02 39 16.8**	**+1.0**
BCIP				*e*S	**Sn**	**02 40 33.7**	**-1.0**
BCIP				*e*S	**Sn**	**02 40 33.7**	**-1.0**
BCIP	**Isla Barro Col**	**6.97**	**261**	*e*P	**Pn**	**02 39 17.2**	**+1.4**
BCIP				*e*S	**Sn**	**02 40 28.9**	**-5.9**
BCIP	**Isla Barro Col**	**6.97**	**261**		**Pn**	**02 39 16.6**	**+0.8**
ZANG	**Zanguenga, Cho**	**7.03**	**259**	*e*P	**Pn**	**02 39 17.1**	**+0.4**
ZANG				*e*S	**Sn**	**02 40 32.2**	**-4.3**
YOTC	**Yotoco, Valle**	**7.19**	**209**	*e*P	**Pn**	**02 39 21.1**	**+2.2**
YOTC				*e*P	**Pn**	**02 39 21.1**	**+2.2**
YOTC				*e*S	**Sn**	**02 40 45.1**	**+4.6**
YOTC				*e*S	**Sn**	**02 40 45.1**	**+4.6**
YOTC				*i*		02 41 35.2	
	comp=Z,92nm,0.8s						
YOTC				*i*		02 41 35.2	
	comp=Z,92nm,0.8s						
MALC	**Bahia Malaga**	**7.69**	**216**	*e*P	**Pn**	**02 39 27.3**	**+1.6**
MALC				*e*P	**Pn**	**02 39 27.3**	**+1.6**
MALC				*e*S	**Sn**	**02 40 55.1**	**+2.6**
MALC				*e*S	**Sn**	**02 40 55.1**	**+2.6**
MALC				*i*		02 41 42.3	
	comp=Z,58nm,0.6s						
MALC				*i*		02 41 42.3	
	comp=Z,58nm,0.6s						
AZU	**Azuero**	**7.74**	**252**	*e*P	**Pn**	**02 39 26.8**	**+0.4**
AZU				*e*S	**Sn**	**02 40 51.6**	**-2.2**
GUVC	**San Jose del G**	**7.74**	**178**	*e*P	**Pn**	**02 39 25.9**	**-0.6**
GUVC				*e*P	**Pn**	**02 39 25.9**	**-0.6**
GUVC				*e*S	**Sn**	**02 40 50.0**	**-3.9**
GUVC				*e*S	**Sn**	**02 40 50.0**	**-3.9**
GUVC				*i*		02 41 01.7	
	comp=Z,220nm,0.3s						
GUVC				*i*		02 41 01.7	
	comp=Z,220nm,0.3s						
BETC	**Betania**	**8.02**	**199**	*e*P	**Pn**	**02 39 30.9**	**+0.6**
BETC				*e*P	**Pn**	**02 39 30.9**	**+0.6**
BETC				*e*S	**Sn**	**02 41 03.9**	**+3.0**
BETC				*e*S	**Sn**	**02 41 03.9**	**+3.0**
PCRV	**Puerto La Cruz**	**8.10**	**90**	P	**Pn**	**02 39 33.9**	**+2.5**
	comp=Z,16nm,0.3s,baz=222,slow=3.8,SNR=28						
PCRV				S	**Sn**	**02 41 02.4**	**-0.5**
	comp=Z,14nm,0.3s,baz=98,slow=23,SNR=3.2						
PLCV	**Puerto La Cruz**	**8.15**	**90**		**Pn**	**02 39 33.9**	**+1.9**
PLCV					**Sn**	**02 41 02.4**	**-1.6**
MACC	**Macarena, Meta**	**8.19**	**187**	*e*P	**Pn**	**02 39 31.8**	**-0.8**
MACC				*e*P	**Pn**	**02 39 31.8**	**-0.8**
MACC				*e*S	**Sn**	**02 41 03.5**	**-1.5**
MACC				*e*S	**Sn**	**02 41 03.5**	**-1.5**
MACC				*i*		02 41 51.6	
	comp=Z,198nm,0.6s						
MACC				*i*		02 41 51.6	
	comp=Z,198nm,0.6s						
BANI	**BANI**	**8.37**	**17**		**Pn**	**02 39 34.8**	**-0.3**
CMJ	**Castle Mountai**	**8.47**	**337**	*i* P	Pn	02 39 42.3	+5.9
HOJ	**Hope**	**8.50**	**334**	*i* P	**Pn**	**02 39 39.2**	**+2.4**
GARC	**Garzon, Huila**	**8.50**	**198**	*e*P	**Pn**	**02 39 39.6**	**+2.4**
GARC				*e*P	**Pn**	**02 39 39.6**	**+2.4**
GARC				*i*		02 41 20.6	
	comp=Z,62nm,0.4s						
GARC				*i*		02 41 20.6	
	comp=Z,62nm,0.4s						
GWJ	**Greenwich**	**8.55**	**335**	*i* P	**Pn**	**02 39 40.2**	**+2.5**
STH	**Stony Hill**	**8.59**	**334**	*i* P	**Pn**	**02 39 40.0**	**+1.9**
PCON	**Cinco Dias**	**8.69**	**204**	*e*P	**Pn**	**02 39 42.6**	**+2.6**
PCON				*e*P	**Pn**	**02 39 42.6**	**+2.6**
PCON				*e*S	**Sn**	**02 41 18.2**	**+0.1**
PCON				*e*S	**Sn**	**02 41 18.2**	**+0.1**
PCON				*i*		02 42 00.0	
	comp=Z,53nm,0.6s						
PCON				*i*		02 42 00.0	
	comp=Z,53nm,0.6s						
SDDR	**Presa de Saban**	**8.73**	**10**	Pn	**Pn**	**02 39 41.4**	**+1.3**
MCJ	**Malvern**	**8.87**	**329**	*i* P	**Pn**	**02 39 45.7**	**+3.7**
SOTA	**Rioblanco**	**8.95**	**205**	*e*P	**Pn**	**02 39 45.4**	**+1.9**
SOTA				*e*P	**Pn**	**02 39 45.4**	**+1.9**
SOTA				*e*S	**Sn**	**02 41 22.8**	**-1.6**
SOTA				*e*S	**Sn**	**02 41 22.8**	**-1.6**
CVJ	**Coleyville**	**9.05**	**331**	*i* P	**Pn**	**02 39 46.8**	**+2.3**
MTDJ	**Mount Denham**	**9.05**	**331**	Pn	**Pn**	**02 39 45.5**	**+1.0**
DR12	**Loma Pena Alta**	**9.06**	**21**		**Pn**	**02 39 43.2**	**-1.3**
BBJ	**Bamboo Saint A**	**9.06**	**332**	*i* P	Pn	02 39 50.4	+5.8
SC01	**Santiago de lo**	**9.27**	**13**		**Pn**	**02 39 49.0**	**+1.6**
BBAC	**Balboa, Cauca**	**9.33**	**208**	*e*P	**Pn**	**02 39 50.0**	**+1.5**
BBAC				*e*P	**Pn**	**02 39 50.0**	**+1.5**
BBAC				*e*S	**Sn**	**02 41 29.7**	**-3.6**
BBAC				*e*S	**Sn**	**02 41 29.7**	**-3.6**
CRPR	**Cabo Rojo, PR**	**9.45**	**36**		**Pn**	**02 39 48.9**	**-1.0**
MLPR	**Magueyes Islan**	**9.46**	**36**	Pn	**Pn**	**02 39 47.3**	**-2.7**
MPR	**Mayaguez**	**9.60**	**35**		**Pn**	**02 39 49.5**	**-2.4**
ICMP	**Isla Caja de M**	**9.70**	**39**	Pn	**Pn**	**02 39 53.0**	**-0.3**
OBIP	**Obispado Ponce**	**9.78**	**38**	Pn	**Pn**	**02 39 52.1**	**-2.2**
GTBY	**Guantanamo Bay**	**9.78**	**347**	Pn	**Pn**	**02 39 53.8**	**-0.6**
AGPR	**Aguadilla, PR**	**9.82**	**34**	Pn	**Pn**	**02 39 52.5**	**-2.4**
AOPR	**Arecibo Observ**	**9.93**	**36**	Pn	**Pn**	**02 39 54.2**	**-2.2**
IGPR	**InterUniversit**	**10.03**	**40**		**Pn**	**02 39 55.9**	**-1.9**
SJG	**San Juan**	**10.11**	**39**	P	**Pn**	**02 39 56.0**	**-2.9**
	comp=Z,9.0nm,0.3s,baz=203,slow=12,SNR=16						
SJG				S	**Sn**	**02 41 45.4**	**-6.6**
	comp=Z,13nm,0.3s,baz=53,slow=23,SNR=5.6						
SJG				LR	LR	02 43 54.5	
	comp=Z,206nm,20.4s,baz=226,slow=37						
SJG	**San Juan**	**10.11**	**39**		**Pn**	**02 39 56.3**	**-2.5**
PDPR	**Patillas Dam,**	**10.12**	**40**		**Pn**	**02 39 56.1**	**-2.9**
EMPR	**Esperanza - Ma**	**10.16**	**36**	Pn	**Pn**	**02 40 01.0**	**+1.4**
GCPR	**Guaynabo City**	**10.30**	**39**		**Pn**	**02 39 59.2**	**-2.3**
HUMP	**Col San Antoni**	**10.32**	**40**		**Pn**	**02 39 58.8**	**-3.0**
CBYP	**Canovanas**	**10.41**	**40**		**Pn**	**02 40 00.1**	**-3.0**
MTP	**Monte Pirata**	**10.48**	**42**	Pn	**Pn**	**02 40 00.7**	**-3.3**
STVI	**Saint Thomas**	**11.06**	**43**		**Pn**	**02 40 08.7**	**-3.2**
ESPN	**Las Esperanzas**	**11.36**	**280**		**Pn**	**02 40 16.1**	**0.0**
JTS	**Las Juntas de**	**11.89**	**271**	P	**Pn**	**02 40 25.6**	**+2.2**
	comp=Z,1.3nm,0.3s,baz=139,slow=11,SNR=5.6						
JTS				S	**Sn**	**02 42 32.5**	**-3.4**
	comp=Z,0.7nm,0.3s,baz=343,slow=19,SNR=2.0						
JTS				LR	LR	02 45 04.4	
	comp=Z,348nm,20.6s,baz=141,slow=37						
JTS	**Las Juntas de**	**11.89**	**271**	Pn	**Pn**	**02 40 24.4**	**+1.1**
ACON	**Acoyapa**	**12.18**	**279**		**Pn**	**02 40 27.5**	**+0.2**
MATN	**Matagalpa**	**13.05**	**283**		**Pn**	**02 40 39.5**	**+0.3**
TGUH	**Tegucigalpa,Un**	**14.56**	**286**	Pn	**Pn**	**02 40 59.5**	**-0.4**
SNET	**Serv Nac Est T**	**16.35**	**283**	Pn	**P**	**02 41 25.2**	**-1.1**
MTO3	**Montecristo**	**16.61**	**286**	Pn	**Pn**	**02 41 27.3**	**+0.4**

PTGA Pitinga 16.90 130 P Pn 02 41 29.1 -1.2
comp=Z,1.1nm,0.3s,baz=316,slow=14,SNR=13
PTGA S Sn 02 44 38.5 +0.5
comp=Z,0.5nm,0.3s,baz=270,slow=20,SNR=1.9
PTGA Pitinga 16.90 130 Pn 02 41 27.2 -3.2
PTGA IAmb IAmb 02 41 46.1
comp=Z,141nm,1.8s
TEIG Tepich 17.81 305 P P 02 41 44.8 +2.5
comp=Z,0.8nm,0.3s,baz=139,slow=15,SNR=4.2
TEIG LR LR 02 48 39.9
comp=Z,410nm,19.1s,baz=50,slow=37
TEIG Tepich 17.81 305 IAmb IAmb 02 41 53.5
comp=Z,35nm,0.9s
MACA Manacapuru-AM 18.08 137 *e*P P 02 41 46.1 +0.7
MACA Manacapuru-AM 18.08 137 *e*P P 02 41 46.1 +0.7
ATAH Atahualpa 18.21 198 P P 02 41 47.7 +0.6
comp=Z,1.0nm,0.3s,baz=18,slow=10,SNR=6.8
ATAH LR LR 02 49 53.1
comp=Z,438nm,20.4s,baz=23,slow=40
DWPF Disney Wildern 19.43 337 P Pn 02 42 02.5 +1.2
baz=154
DWPF Disney Wildern 19.43 337 P P 02 41 59.9 -0.1
DWPF IAmb IAmb 02 42 03.2
comp=Z,50nm,0.8s
CCIG Comitan 19.65 290 P P 02 42 03.4 +0.5
MDP Montagnes des 20.70 103 P P 02 42 14.5 +0.4
comp=Z,70nm,1.0s,baz=281,slow=10,SNR=8.6
MDP LR LR 02 50 41.9
comp=Z,263nm,21.6s,baz=279,slow=38
656A Willston 20.98 336 IAmb IAmb 02 42 29.4
comp=Z,66nm,1.0s
SAML Samuel 21.45 153 P P 02 42 20.8 -1.3
SAML IAmb IAmb 02 42 35.7
comp=Z,60nm,0.9s
456A Hilliard 22.00 339 P P 02 42 29.5 +1.6
MALB Monte Alegre 22.12 122 *e*P P 02 42 28.8 -0.6
MALB Monte Alegre 22.12 122 *e*P P 02 42 28.8 -0.6
CMIG Matias Romero 22.40 290 P P 02 42 35.2 +2.8
comp=Z,11nm,0.8s,baz=98,slow=12,SNR=13
NNA Nana 22.52 190 P P 02 42 33.0 -0.7
comp=Z,18nm,0.9s,baz=355,slow=8.9,SNR=4.5
NNA LR LR 02 52 43.6
comp=Z,570nm,20.5s,baz=317,slow=40
NNA Nana 22.52 190 IAmb IAmb 02 42 40.0
comp=Z,133nm,1.8s
TIGA Tifton 23.23 336 P P 02 42 43.2 +2.3
baz=152
TIGA Tifton 23.23 336 IAmb IAmb 02 42 53.4
comp=Z,51nm,1.1s
255A Hazlehurst 23.25 339 P P 02 42 41.5 +0.4
Z58A St. Stephen 23.77 345 P P 02 42 47.9 +1.8
baz=163
352A Blakely 23.83 334 P P 02 42 47.0 +0.3
Z57A Bowman 23.96 344 P P 02 42 50.6 +2.6
baz=161
154A Montrose 24.10 338 IAmb IAmb 02 42 52.7
comp=Z,45nm,0.8s
Y59A Loris 24.18 348 P P 02 42 51.6 +1.6
baz=165
Y58A Scranton 24.28 346 P P 02 42 52.9 +2.0
baz=163
NPGB Novo Progresso 24.54 134 *e*P P 02 42 52.2 -1.3
NPGB *e*S S 02 47 20.0 +6.2
NPGB Novo Progresso 24.54 134 *e*P P 02 42 52.2 -1.3
NPGB *e*S S 02 47 20.0 +6.2
X59A McDuffie Farm, 24.69 349 P P 02 42 56.1 +1.5
baz=166
152A Waverly Hall 24.77 336 IAmb IAmb 02 43 07.3
comp=Z,27nm,0.7s
Y55A Saluda 24.90 342 P P 02 42 58.7 +2.1
baz=158,SNR=8.6
GOGA Godfrey 24.95 339 P P 02 42 59.2 +2.2
baz=155,SNR=9.4
GOGA Godfrey 24.95 339 IAmb IAmb 02 43 06.0
comp=Z,24nm,0.9s
X56A White Oak 25.18 344 P P 02 43 01.6 +2.5
baz=161,SNR=5.5
CNNC Cliffs of the 25.21 350 P P 02 43 02.6 +3.3
baz=168
CNNC Cliffs of the 25.21 350 P P 02 42 58.8 -0.5
CNNC IAmb IAmb 02 43 10.1
comp=Z,32nm,0.9s
HODGE Hodges 25.29 342 IAmb IAmb 02 43 03.1
comp=Z,30nm,0.9s
X55A Gracelyn & Ava 25.33 343 P P 02 43 02.6 +2.2
baz=159
W57A Gilead 25.55 346 P P 02 43 03.9 +1.6
baz=164
X54A Belton 25.62 342 P P 02 43 05.2 +2.1
baz=158,SNR=9.2
W56A Indian Trail 25.67 345 P P 02 43 05.0 +1.5
baz=162
V59A Middlesex 25.78 350 P P 02 43 05.9 +1.4
baz=168
KMSC Kings Mountain 25.87 344 P P 02 43 09.4 +4.0
baz=161
KMSC Kings Mountain 25.87 344 P P 02 43 06.5 +1.1
W54A Cherokee Point 26.06 342 P P 02 43 09.5 +2.3
baz=159,SNR=5.4
LRAL Lakeview Retre 26.07 332 P P 02 43 09.5 +2.3
baz=147,SNR=9.8
V57A Coltrane Farms 26.20 347 P P 02 43 10.2 +1.9
baz=164
BG3 Lake Jocassee 26.21 341 P P 02 43 10.2 +1.7
U58A Oxford 26.45 350 P P 02 43 11.9 +1.3
baz=167
X51A Calhoun 26.49 337 P P 02 43 11.3 +0.3
Y49A Blount Mountai 26.50 334 IAmb IAmb 02 43 22.6
comp=Z,28nm,0.8s
V55A Taylorsville 26.51 345 P P 02 43 13.3 +2.1
baz=161
V55A Taylorsville 26.51 345 P P 02 43 10.3 -0.8
W52A Murphy 26.63 339 P P 02 43 13.4 +1.1
W52A IAmb IAmb 02 43 23.6
comp=Z,32nm,1.1s
U57A Blanch 26.63 348 P P 02 43 13.2 +0.9
baz=166
V54A Nebo 26.64 343 P P 02 43 14.5 +2.2
baz=160
T59A Double "B" Far 26.86 352 P P 02 43 15.3 +1.1
baz=170
T59A Double "B" Far 26.86 352 P P 02 43 11.9 -2.4
LPAZ La Paz 26.86 170 P P 02 43 14.3 -0.8
comp=Z,1.4nm,0.4s,baz=342,slow=5.6,SNR=7.6
LPAZ LR LR 02 54 58.9
comp=Z,976nm,19.0s,baz=340,slow=39
LPAZ La Paz 26.86 170 P P 02 43 14.8 -0.4
LPAZ La Paz 26.86 170 *e*P P 02 43 14.7 -0.4
LPAZ La Paz 26.86 170 *e*P P 02 43 14.7 -0.4
T58A Grand View Acr 26.98 350 P P 02 43 16.8 +1.4
baz=168,SNR=5.3
U55A TA2, Sparta 27.09 345 P P 02 43 21.9 +5.5
baz=162,SNR=19
TKL Tuckaleechee C 27.09 340 P P 02 43 17.4 +1.0
comp=Z,5.4nm,1.1s,baz=164,slow=8.6,SNR=4.1
TKL LR LR 02 54 41.4
comp=Z,639nm,20.0s,baz=150,slow=38
TKL Tuckaleechee C 27.09 340 P P 02 43 17.5 +1.0
CPCT Cooper Cave 27.16 339 IAmb IAmb 02 43 30.9
comp=Z,24nm,1.1s
T57A Hurt 27.17 349 P P 02 43 18.4 +1.4
baz=166
T57A Hurt 27.17 349 P P 02 43 17.4 +0.4
X48A Hartselle 27.28 334 IAmb IAmb 02 43 31.1
comp=Z,20nm,0.8s
U54A Nelsons Funny 27.30 344 P P 02 43 20.8 +2.5
baz=160
U54A Nelsons Funny 27.30 344 IAmb IAmb 02 43 32.2
comp=Z,28nm,1.1s
V51A Loudon 27.42 339 IAmb IAmb 02 43 31.7
comp=Z,23nm,0.9s
SWET Sewanee 27.48 336 P P 02 43 20.4 +0.4
S59A Mechanicsville 27.60 352 P P 02 43 22.2 +1.3
baz=170
BLA Blacksburg 27.61 347 P P 02 43 22.9 +1.8
baz=164
BLA Blacksburg 27.61 347 P P 02 43 18.8 -2.3
T54A Tazewell 27.75 345 P P 02 43 24.1 +1.8
baz=161
TZTN Tazewell 27.83 341 P P 02 43 24.4 +1.4
baz=157
S57A Dark Hollow, R 27.85 350 P P 02 43 24.5 +1.3
baz=167
T53A Wise 27.93 343 P P 02 43 26.1 +2.1
baz=159
R59A King George, V 28.01 353 P P 02 43 26.1 +1.5
baz=171

PRPB Parauapebas 28.21 125 *e*P P 02 43 25.7 -1.0
PRPB Parauapebas 28.21 125 *e*P P 02 43 25.7 -1.0
R58A Rapidan 28.22 351 P P 02 43 28.3 +1.8
baz=169
V48A Smith Brothers 28.29 336 IAmb IAmb 02 43 40.7
comp=Z,18nm,0.9s
CLTN Cedars of Leba 28.40 337 IAmb IAmb 02 43 41.8
comp=Z,15nm,0.9s
SIV San Ignacio 28.64 156 P P 02 43 29.4 -1.0
comp=Z,10.0nm,0.8s,baz=347,slow=8.8,SNR=49
W45A Hickory Valley 28.84 331 P P 02 43 31.1 -0.9
HKT Hockley 28.97 316 P P 02 43 33.9 +0.7
PTLB Pontes e Lacer 29.00 152 *e*P P 02 43 34.5 +0.9
PTLB Pontes e Lacer 29.00 152 *e*P P 02 43 34.5 +0.9
WVT Waverly 29.05 335 P P 02 43 35.1 +1.3
baz=148
WVT Waverly 29.05 335 P P 02 43 34.5 +0.6
Q55A Buckhannon 29.26 348 P P 02 43 36.7 +1.0
baz=165
Q54A Coxs Mills 29.40 347 P P 02 43 38.8 +1.8
baz=164
Q53A Leroy 29.44 346 P P 02 43 39.4 +2.0
baz=162
P56A Dayton Farm, R 29.53 351 P P 02 43 40.7 +2.5
baz=168,SNR=5.1
MCWV Mont Chateau 29.86 349 P P 02 43 43.5 +2.5
baz=166
O58A Lewisberry 29.89 354 P P 02 43 43.7 +2.5
baz=172
P54A Burton 29.93 348 P P 02 43 43.6 +2.0
baz=165
P53A Whipple 30.01 347 P P 02 43 44.3 +2.0
baz=163
O56A Blue Knob Stat 30.24 351 P P 02 43 47.0 +2.6
baz=169
O56A Blue Knob Stat 30.24 351 IAmb IAmb 02 43 47.7
comp=Z,13nm,0.8s
WCI Wyandotte Cave 30.28 339 P P 02 43 46.3 +1.5
baz=153
WCI Wyandotte Cave 30.28 339 P P 02 43 45.2 +0.4
O55A Ligonier 30.30 350 P P 02 43 47.2 +2.3
baz=167
N61A South Mountain 30.32 358 P P 02 43 47.1 +2.0
baz=177
P52A Corning 30.32 346 P P 02 43 47.1 +2.0
baz=162
W41B Gary Mavity, V 30.39 327 P P 02 43 47.7 +2.0
baz=140
O54A Avella 30.46 349 P P 02 43 48.7 +2.3
baz=165
WHAR Wooly Hollow 30.50 328 P P 02 43 47.3 +0.6
SSPA Standing Stone 30.50 352 P P 02 43 49.0 +2.3
baz=170
PAL Palisades 30.56 358 P P 02 43 48.5 +1.4
baz=178
N59A State Game Lan 30.57 356 P P 02 43 49.5 +2.2
baz=174
N59A State Game Lan 30.57 356 P P 02 43 48.9 +1.6
N59A IAmb IAmb 02 43 50.3
comp=Z,13nm,0.8s
N57A Milroy 30.58 353 P P 02 43 49.1 +1.8
baz=171
MIAR Mount Ida 30.64 325 P P 02 43 50.1 +2.1
baz=137,SNR=5.4
833A Chaparral WMA, 30.65 309 P P 02 43 49.2 +1.1
baz=120
435B Jarrell 30.68 315 P P 02 43 50.6 +2.2
baz=126
O53A New Philadelph 30.70 347 P P 02 43 50.4 +1.9
baz=164
P50A Jamestown 30.74 343 P P 02 43 50.7 +1.9
baz=158
N55A Marion Center 30.80 351 P P 02 43 51.7 +2.3
baz=168
N56A West Decatur 30.84 352 P P 02 43 51.6 +1.9
baz=169
M60A Port Jervis 30.91 357 P P 02 43 51.9 +1.6
baz=176
O51A Pataskala 30.92 345 P P 02 43 52.5 +2.0
baz=161
ZAIG Zacatecas 30.96 297 IAmb IAmb 02 43 55.1
comp=Z,24nm,1.2s
S44A Carbondale 30.98 334 IAmb IAmb 02 43 59.2
comp=Z,17nm,0.9s
SIUC Southern Illin 30.98 334 P P 02 43 52.2 +1.3
SIUC IAmb IAmb 02 43 53.4
comp=Z,22nm,0.9s
M58A Price's Panora 31.08 355 P P 02 43 54.0 +2.3
baz=173
P48A Milroy 31.09 341 P P 02 43 52.8 +0.8
P48A IAmb IAmb 02 43 59.8
comp=Z,19nm,1.4s
ACSO Alum Creek Sta 31.10 345 P P 02 43 53.7 +1.7
baz=160
M57A Sunshine Farm, 31.11 354 P P 02 43 54.1 +2.1
baz=172
SALV Santo Antonio 31.12 147 *e*P P 02 43 52.0 -0.4
SALV Santo Antonio 31.12 147 *e*P P 02 43 52.0 -0.4
N54A Moraine State 31.15 350 P P 02 43 54.6 +2.1
baz=166
N53A Lisbon 31.16 348 P P 02 43 54.7 +2.2
baz=165
M59A Waymart 31.17 356 P P 02 43 54.2 +1.6
baz=175
O50A Cable 31.19 344 P P 02 43 55.1 +2.3
baz=159
BLO Bloomington 31.20 339 IAmb IAmb 02 43 55.7
comp=Z,42nm,1.6s
KSPA Keystone Colle 31.20 356 P P 02 43 53.7 +0.8
KSPA IAmb IAmb 02 43 55.6
comp=Z,18nm,0.9s
W39A Magazine 31.23 326 P P 02 43 55.1 +1.9
baz=137,SNR=7.6
T42A Van Buren 31.26 331 IAmb IAmb 02 44 05.4
comp=Z,27nm,1.6s
N52A McGinn's Farm, 31.34 347 P P 02 43 56.1 +2.0
baz=163
M56A Emporium 31.38 352 P P 02 43 56.6 +2.1
baz=170
OLIL Olney 31.39 337 P P 02 43 55.9 +1.3
O49A Covington 31.43 343 IAmb IAmb 02 43 57.6
comp=Z,22nm,1.2s
M55A Ridgway 31.44 351 P P 02 43 56.9 +1.9
baz=169
ROSB Rosrio 31.49 113 *e*P P 02 43 54.0 -1.7
ROSB Rosrio 31.49 113 *e*P P 02 43 54.0 -1.7
L60A Shokan 31.55 358 P P 02 43 57.5 +1.5
baz=177
SMTB Santa Maria do 31.57 126 *e*P P 02 43 56.0 -0.5
SMTB Santa Maria do 31.57 126 *e*P P 02 43 56.0 -0.5
U40A Yellville 31.61 328 P P 02 43 58.1 +1.6
baz=140,SNR=12
U40A Yellville 31.61 328 P P 02 43 57.7 +1.2
U40A IAmb IAmb 02 44 29.2
comp=Z,24nm,1.1s
M54A Oil Creek Stat 31.62 350 P P 02 43 58.8 +2.2
baz=167
M54A Oil Creek Stat 31.62 350 IAmb IAmb 02 43 59.7
comp=Z,20nm,1.1s
L58A Harry Jones Me 31.70 356 P P 02 43 58.9 +1.7
baz=174
X37A Clayton 31.71 323 IAmb IAmb 02 44 00.0
comp=Z,20nm,1.4s
O48A Farmland 31.73 342 P P 02 43 59.0 +1.4
baz=156
L57A Andrews Acres 31.74 354 P P 02 43 59.7 +2.2
baz=172
L61A Hillsdale 1, H 31.74 359 P P 02 43 59.6 +2.0
baz=179
P46A Rosedale 31.84 339 P P 02 43 58.8 +0.3
BINY Binghamton 31.86 356 P P 02 44 00.7 +2.0
baz=174
MGMO Mountain Grove 31.93 330 IAmb IAmb 02 44 01.8
comp=Z,13nm,1.2s
L56A Greenwood 31.95 353 P P 02 43 58.9 -0.6
baz=171
L56A Greenwood 31.95 353 P P 02 43 58.6 -0.8
L56A IAmb IAmb 02 44 02.2
comp=Z,10nm,0.8s
L61B Northampton 31.99 0 P P 02 44 01.1 +1.3
baz=180
N49A Columbus Grove 32.06 344 P P 02 44 01.4 +1.0
N49A IAmb IAmb 02 44 09.9
comp=Z,14nm,1.0s
JCT Junction City 32.08 313 P P 02 44 01.2 +0.3
L55A Hinsdale 32.10 352 P P 02 44 02.9 +2.1
baz=170

CCM Cathedral Cave 32.16 332 P P 02 44 02.7 +1.4
baz=144
CCM Cathedral Cave 32.16 332 P P 02 44 02.4 +1.1
CCM IAmb IAmb 02 44 03.6
comp=Z,14nm,1.0s
N48A Decatur 32.25 343 P P 02 44 03.8 +1.7
baz=157
ERPA Erie 32.27 350 P P 02 44 04.4 +2.2
baz=167
L54A Sinclairville 32.28 351 P P 02 44 04.4 +2.0
baz=168
WVNY West Valley, N 32.34 352 IAmb IAmb 02 44 05.8
comp=Z,17nm,0.9s
K58A Earlville 32.40 356 P P 02 44 04.9 +1.6
baz=175
K57A Scipio Center 32.43 355 P P 02 44 05.3 +1.7
baz=173
N47A Urbana 32.47 342 P P 02 44 03.7 -0.3
SFIN Lafayette 32.47 340 P P 02 44 05.9 +1.9
baz=153
K56A Middlesex 32.47 354 P P 02 44 05.8 +1.8
baz=172
P43A Skaggs, Pawnee 32.73 336 P P 02 44 07.0 +0.6
P43A pP pP 02 44 12.7 +1.0
J60A Lant Hill Farm 32.79 359 P P 02 44 09.2 +2.4
baz=179
R40A Maddies Statio 32.83 331 IAmb IAmb 02 44 18.8
comp=Z,23nm,1.5s
TUL1 Leonard 32.88 324 P P 02 44 09.3 +1.6
baz=135
TUL1 Leonard 32.88 324 IAmb IAmb 02 44 09.6
comp=Z,11nm,0.9s
J61A Chester 32.89 0 P P 02 44 10.0 +2.3
baz=180
J56A Wolcott 33.00 355 P P 02 44 09.7 +1.1
baz=173
J56A Wolcott 33.00 355 IAmb IAmb 02 44 11.1
comp=Z,19nm,1.2s
K52A Tillsonburg 33.04 349 P P 02 44 10.8 +1.8
baz=166
PEXB Peixe 33.06 132 *e*P P 02 44 08.3 -1.1
PEXB Peixe 33.06 132 *e*P P 02 44 08.3 -1.1
J57A Williamstown 33.06 356 P P 02 44 10.8 +1.6
baz=174,SNR=6.1
J57A Williamstown 33.06 356 IAmb IAmb 02 44 11.6
comp=Z,15nm,0.9s
J55A Hilton 33.09 353 P P 02 44 11.1 +1.7
baz=171
J55A Hilton 33.09 353 IAmb IAmb 02 44 11.7
comp=Z,14nm,0.8s
ABTX Abilene, Hawle 33.18 316 P P 02 44 11.7 +1.3
baz=126,SNR=7.4
ABTX Abilene, Hawle 33.18 316 P P 02 44 10.8 +0.4
ARAG Araguaiana, MT 33.23 141 *e*P P 02 44 10.2 -0.7
ARAG Araguaiana, MT 33.23 141 *e*P P 02 44 10.2 -0.7
I58A Old Forge 33.28 357 P P 02 44 12.9 +1.8
baz=176,SNR=5.6
I59A Olmsteadville 33.35 359 P P 02 44 13.7 +2.0
baz=178
HDIL Hopedale 33.43 337 P P 02 44 13.0 +0.6
baz=150
J52A Paris 33.45 350 P P 02 44 14.4 +1.9
baz=166
I64A Boothbay 33.58 4 P P 02 44 15.8 +2.2
baz=186
K49A Clarkson 33.62 346 P P 02 44 15.7 +1.7
baz=161
I63A Otisfield 33.65 3 P P 02 44 16.5 +2.2
baz=184
PECO Prince Edward 33.67 355 IAmb IAmb 02 44 16.5
comp=Z,9.7nm,0.9s
P40A Paris 33.72 333 IAmb IAmb 02 44 16.6
comp=Z,10.0nm,0.9s
LBNH Lisbon 33.79 1 P P 02 44 17.8 +2.3
baz=182
K48A Perry 33.81 345 P P 02 44 17.2 +1.5
baz=160
WMOK Wichita Mounta 33.90 320 P P 02 44 16.9 +0.2
baz=130,SNR=5.1
WMOK Wichita Mounta 33.90 320 P P 02 44 15.5 -1.2
K47A Vermontville 33.91 344 P P 02 44 18.0 +1.4
baz=158
H58A Gabriels 33.98 358 P P 02 44 18.4 +1.2
baz=178
I55A Frankford 34.01 354 P P 02 44 18.7 +1.2
baz=171
H61A Lyndonville 34.09 1 P P 02 44 19.8 +1.7
baz=182
I51A Listowel 34.09 349 P P 02 44 19.7 +1.6
baz=166,SNR=8.9
J49A Marlette 34.09 347 P P 02 44 19.4 +1.3
baz=162
H60A Morristown 34.10 0 P P 02 44 20.3 +2.1
baz=180
J48A Bridge Port 34.19 346 P P 02 44 20.5 +1.5
baz=161
H56A Elgin 34.26 356 P P 02 44 21.4 +1.8
baz=174,SNR=7.3
H55A Tweed 34.30 355 P P 02 44 21.4 +1.5
baz=172,SNR=5.5
DELO Deloro Mine 34.30 354 P P 02 44 20.2 +0.2
H64A Troy 34.33 5 P P 02 44 22.4 +2.3
baz=186
TXAR Lajitas Array 34.42 308 P P 02 44 22.6 +1.3
comp=Z,3.6nm,0.7s,baz=130,slow=8.6,SNR=46
TXAR PcP PcP 02 46 57.3 +0.4
comp=Z,2.0nm,0.9s,baz=132,slow=5.4,SNR=4.4
TXAR ScP ScP 02 50 37.9 -3.8
comp=Z,0.3nm,0.7s,baz=120,slow=5.3,SNR=1.4
TX31 Lajitas Ar. Si 34.42 308 P P 02 44 22.0 +0.7
TX31 IAmb IAmb 02 44 23.2
comp=Z,15nm,0.8s
H53A Bobcaygeon 34.47 353 P P 02 44 22.9 +1.5
baz=170
P38A Dawn 34.48 331 P P 02 44 21.2 -0.4
I49A Point Hope 34.58 347 P P 02 44 23.8 +1.5
baz=162
G59A Clarenceville 34.62 360 P P 02 44 24.2 +1.6
baz=179
G60A Masonville 34.64 1 P P 02 44 24.9 +2.0
baz=181
H66A Whiting 34.66 7 P P 02 44 23.9 +0.9
baz=190
G57A Newington 34.69 357 P P 02 44 25.0 +1.7
baz=176,SNR=6.6
H52A Wyevale 34.72 351 P P 02 44 25.0 +1.5
baz=168,SNR=5.4
J46A Howard City 34.72 344 P P 02 44 25.1 +1.5
baz=158
SADO Sadowa 34.73 352 P P 02 44 24.5 +0.8
SADO IAmb IAmb 02 44 25.9
comp=Z,24nm,1.2s
G63A Kingsbury 34.77 4 P P 02 44 26.6 +2.6
baz=186
PLVO Plevna 34.77 355 IAmb IAmb 02 44 26.4
comp=Z,16nm,1.1s
G62A West of Eustis 34.82 3 P P 02 44 26.5 +2.1
baz=184,SNR=5.4
G62A West of Eustis 34.82 3 P P 02 44 26.8 +2.3
G61A St-Isidore-de- 34.84 2 P P 02 44 26.4 +1.7
baz=182
PKME Peaks-Kenny Pk 34.94 4 P P 02 44 27.4 +1.9
baz=186
G55A Calabogie 34.95 355 P P 02 44 26.9 +1.3
baz=173,SNR=5.2
G64A Maxfield 34.97 5 P P 02 44 27.5 +1.8
baz=187
I48A Sherman Twp 35.01 346 P P 02 44 27.6 +1.5
baz=161
G53A Haliburton 35.02 353 P P 02 44 27.4 +1.2
baz=170,SNR=5.1
G65A Princeton 35.04 7 P P 02 44 28.5 +2.2
baz=189
GGN Saint George 35.05 7 P P 02 44 28.6 +2.3
G54A Lake Saint Pet 35.23 354 P P 02 44 29.4 +1.5
baz=171,SNR=8.3
F63A Nahmakanta, Br 35.39 5 P P 02 44 31.0 +1.6
baz=186
L40A Anamosa 35.47 336 IAmb IAmb 02 44 37.2
comp=Z,11nm,0.7s
H47A Mio 35.52 346 P P 02 44 32.8 +2.4
baz=160
F60A Warwick 35.52 1 P P 02 44 31.8 +1.4
baz=181
F61A St Evariste 35.55 2 P P 02 44 32.4 +1.6
baz=183
F64A Sherman 35.62 5 P P 02 44 32.9 +1.7
baz=188

KSU1 **Kansas State U** 35.63 327 P P 02 44 32.3 +0.8
baz=137
KSU1 **Kansas State U** 35.63 327 IAmb IAmb 02 44 32.7
comp=Z,15nm,0.9s
BDFB **Brasilia** 35.66 136 P P 02 44 31.3 -0.8
comp=Z,3.8nm,0.6s,baz=292,slow=12,SNR=8.9
BDFB **Brasilia** 35.66 136 P P 02 44 30.6 -1.6
BDFB IAmb IAmb 02 44 43.6
comp=Z,15nm,0.8s
F52A **Sundridge** 35.77 352 P P 02 44 33.9 +1.3
baz=169,SNR=5.8
ALGO **Algonquin Park** 35.77 354 P P 02 44 33.8 +1.3
baz=171,SNR=8.8
JFWS **Jewell Farm** 35.83 338 P P 02 44 34.1 +1.0
baz=150,SNR=11
JFWS **Jewell Farm** 35.83 338 P P 02 44 33.3 +0.1
AMTX **Amarillo** 35.88 317 P P 02 44 35.7 +1.9
baz=126
AMTX **Amarillo** 35.88 317 IAmb IAmb 02 44 36.9
comp=Z,13nm,0.9s
E58A **La Victoria** 35.91 360 P P 02 44 35.8 +1.9
baz=179
E57A **Chemin Saint G** 35.97 358 P P 02 44 36.0 +1.7
baz=178,SNR=12
G47A **Hillman** 35.98 347 P P 02 44 36.2 +1.8
baz=161,SNR=5.3
F51A **Arnstein** 35.98 352 P P 02 44 35.5 +1.2
baz=168
H45A **Beulah** 36.01 344 P P 02 44 35.6 +1.0
baz=158
E55A **Montcerf-Lytto** 36.10 356 P P 02 44 37.2 +1.8
baz=175
MSTX **Muleshoe** 36.10 315 P P 02 44 36.9 +1.1
baz=124,SNR=11
MSTX **Muleshoe** 36.10 315 P P 02 44 36.0 +0.3
MSTX IAmb IAmb 02 44 37.8
comp=Z,23nm,1.0s
E56A **St. Veronique** 36.13 357 P P 02 44 37.0 +1.3
baz=176
E53A **Dumoine, Ponti** 36.15 354 P P 02 44 37.3 +1.5
baz=172,SNR=5.6
E54A **Lac Daplat, Po** 36.16 355 P P 02 44 37.1 +1.1
baz=173
E63A **Oxbow** 36.16 5 P P 02 44 37.6 +1.6
baz=187
E52A **Mattawa** 36.16 353 P P 02 44 37.1 +1.1
baz=170,SNR=8.9
F49A **Sandfield** 36.17 349 P P 02 44 37.0 +1.0
baz=164
I42A **Draeger Farm,** 36.21 340 P P 02 44 37.0 +0.6
I42A IAmb IAmb 02 44 37.9
comp=Z,16nm,0.7s
E64A **Bridgewater** 36.22 6 P P 02 44 38.3 +1.9
baz=188,SNR=5.4
E62A **Clayton Lake** 36.27 4 P P 02 44 38.9 +2.0
baz=185
G45A **Suttons Bay** 36.29 345 P P 02 44 38.6 +1.5
baz=158
G45A **Suttons Bay** 36.29 345 IAmb IAmb 02 44 39.4
comp=Z,25nm,1.1s
R32A **Long Quarter,** 36.30 325 IAmb IAmb 02 44 39.0
comp=Z,20nm,1.1s
F48A **Evansville** 36.34 348 P P 02 44 38.7 +1.2
baz=164
D60A **Saint Jean D'O** 36.49 2 P P 02 44 40.3 +1.6
baz=183
E51A **G1948 Merrick** 36.51 352 P P 02 44 40.6 +1.6
baz=169,SNR=9.1
D57A **Chemin Vers le** 36.57 359 P P 02 44 41.0 +1.6
baz=178
E50A **Wahnapitae** 36.59 351 P P 02 44 40.9 +1.3
baz=167,SNR=7.2
K38A **Parkersburg** 36.59 335 IAmb IAmb 02 44 41.0
comp=Z,16nm,0.8s
D56A **ZEC Mazanza, M** 36.62 358 P P 02 44 41.4 +1.5
baz=177,SNR=6.2
D55A **Sainte-Anne-du** 36.63 357 P P 02 44 41.4 +1.4
baz=176,SNR=7.5
D58A **Chemin du LacG** 36.64 360 P P 02 44 41.6 +1.6
baz=180
D62A **Allapoint, All** 36.77 4 P P 02 44 42.9 +1.8
baz=186,SNR=5.5
D62A **Allapoint, All** 36.77 4 IAmb IAmb 02 44 43.9
comp=Z,17nm,1.0s
D63A **Stockholm** 36.80 5 P P 02 44 43.1 +1.7
baz=188
D61A **St Aubert, Com** 36.81 3 P P 02 44 43.6 +2.1
baz=184
D52A **ZEK Kipawa Sen** 36.82 354 P P 02 44 43.2 +1.6
baz=171
MNTX **Cornudas Mount** 36.82 310 P P 02 44 43.4 +1.6
baz=118,SNR=16
MNTX **Cornudas Mount** 36.82 310 P P 02 44 42.5 +0.6
D54A **Lac Fusel, La** 36.83 356 P P 02 44 42.9 +1.2
baz=174,SNR=12
D53A **Lac Vacive, Po** 36.85 354 P P 02 44 43.5 +1.7
baz=172,SNR=6.0
D53A **Lac Vacive, Po** 36.85 354 P P 02 44 42.7 +0.9
D53A IAmb IAmb 02 44 44.3
comp=Z,12nm,0.9s
F45A **CMU Biological** 36.85 345 P P 02 44 43.4 +1.5
baz=159
E48A **Lockeyer** 36.88 349 P P 02 44 43.7 +1.6
baz=165,SNR=8.3
D51A **Lot 18 Range I** 37.05 353 P P 02 44 45.2 +1.7
baz=169
E47A **Iron Bridge** 37.07 348 P P 02 44 45.3 +1.6
baz=163,SNR=5.3
CBKS **Cedar Bluff** 37.16 324 P P 02 44 45.9 +1.3
baz=133
CBKS **Cedar Bluff** 37.16 324 P P 02 44 45.1 +0.5
CBKS IAmb IAmb 02 44 46.3
comp=Z,30nm,1.1s
D50A **G1974 Best Tow** 37.18 352 P P 02 44 45.7 +1.1
baz=168
E46A **Sault Ste Mari** 37.21 347 IAmb IAmb 02 44 47.3
comp=Z,18nm,0.8s
IPMB **Ipameri, GO** 37.21 139 *eP* P 02 44 44.0 -1.3
IPMB **Ipameri, GO** 37.21 139 *eP* P 02 44 44.0 -1.3
BATG **Bathurst New B** 37.27 8 P P 02 44 47.3 +1.9
BATG IAmb IAmb 02 44 48.0
comp=Z,20nm,1.0s
D48A **Paudash Townsh** 37.49 350 P P 02 44 48.7 +1.4
baz=165,SNR=13
D49A **Beulah Townshi** 37.51 350 P P 02 44 49.2 +1.7
baz=166,SNR=5.1
D47A **Chapleau** 37.61 349 P P 02 44 49.5 +1.2
baz=163
D46A **Sault St. Mari** 37.65 347 P P 02 44 49.8 +1.2
baz=162
JANB **Januaria** 37.91 131 *eP* P 02 44 50.0 -1.3
JANB **Januaria** 37.91 131 *eP* P 02 44 50.0 -1.3
PCMB **Pacaembu** 38.18 146 *eP* P 02 44 53.3 0.0
PCMB **Pacaembu** 38.18 146 *eP* P 02 44 53.3 0.0
COWI **Conover** 38.25 342 IAmb IAmb 02 44 55.8
comp=Z,18nm,0.8s
LSQQ **Lebel-sur-Quev** 38.75 356 P P 02 44 59.1 +1.2
baz=173
SPMN **Marine on St.** 38.76 337 P P 02 44 58.2 +0.2
baz=148
D41A **Chassel** 38.95 343 IAmb IAmb 02 45 02.1
comp=Z,23nm,0.9s
T25A **Trinidad** 38.99 318 P P 02 45 03.1 +2.8
baz=125,SNR=7.5
121A **Cookes Peak, D** 39.02 310 P P 02 45 03.1 +2.5
baz=117,SNR=9.8
ECSD **EROS Data Cent** 39.13 332 P P 02 45 00.2 -1.0
baz=141
ECSD **EROS Data Cent** 39.13 332 P P 02 44 59.5 -1.6
ANMO **Albuquerque** 39.19 314 P P 02 45 04.0 +2.0
baz=121
ANMO **Albuquerque** 39.19 314 P P 02 45 02.4 +0.4
K31A **O'Neill** 39.32 329 P P 02 45 02.2 -0.5
K31A IAmb IAmb 02 45 05.4
comp=Z,24nm,0.8s
CHGQ **Chibougamau** 39.47 358 P P 02 45 05.4 +1.5
baz=178
E38A **The Farm, Brul** 39.49 340 IAmb IAmb 02 45 06.0
comp=Z,19nm,1.0s
MATQ **Matagami** 39.50 355 P P 02 45 05.4 +1.3
baz=172,SNR=11
319A **Douglas** 39.68 307 IAmb IAmb 02 45 09.6
comp=Z,31nm,1.0s
SDCO **Great Sand Dun** 40.04 318 P P 02 45 11.5 +2.3
baz=124,SNR=28
RCBR **Riachuelo** 40.16 112 P P 02 45 09.1 -1.1
FRTB **Fartura** 40.50 146 *eP* P 02 45 12.4 -0.4
FRTB **Fartura** 40.50 146 *eP* P 02 45 12.4 -0.4
Q24A **Divide** 40.52 320 P P 02 45 15.4 +2.3
baz=126
EYMN **Ely** 40.64 341 P P 02 45 14.5 +0.8
baz=151,SNR=20
EYMN **Ely** 40.64 341 P P 02 45 13.7 +0.1
EYMN IAmb IAmb 02 45 15.3
comp=Z,24nm,0.8s
GDU01 **Guandu, BA** 40.77 125 *eP* P 02 45 14.0 -1.1
GDU01 **Guandu, BA** 40.77 125 *eP* P 02 45 14.0 -1.1
DRLN **Deer Lake** 40.86 15 P P 02 45 15.3 -0.1
DRLN IAmb IAmb 02 45 17.0
comp=Z,19nm,0.8s
S22A **4UR Ranch, Cre** 40.92 317 P P 02 45 19.2 +2.7
baz=123,SNR=26
TUC **Tucson** 41.22 308 P P 02 45 20.6 +1.9
baz=114
TUC **Tucson** 41.22 308 P P 02 45 20.7 +1.9
ISCO **Idaho Springs** 41.30 321 P P 02 45 21.4 +1.8
baz=126
X18A **Snowflake** 41.52 311 IAmb IAmb 02 45 25.2
comp=Z,35nm,1.2s
W18A **Petrified Fore** 41.63 312 P P 02 45 24.6 +2.4
baz=117,SNR=6.4
W18A **Petrified Fore** 41.63 312 IAmb IAmb 02 45 25.8
comp=Z,40nm,1.1s
VAO **Valinhos** 41.73 143 *eP* P 02 45 21.6 -1.3
VAO **Valinhos** 41.73 143 *eP* P 02 45 21.6 -1.3
B35A **Bob, Littlefor** 41.75 339 IAmb IAmb 02 45 24.3
comp=Z,17nm,0.9s
MVCO **Mesa Verde** 41.77 316 P P 02 45 25.2 +1.9
baz=121,SNR=10
PV01 **Paradox Valley** 42.29 317 IAmb IAmb 02 45 31.5
comp=Z,31nm,1.2s
PV02 **Paradox Valley** 42.44 317 IAmb IAmb 02 45 32.6
comp=Z,33nm,1.0s
AGMN **Agassiz Nation** 42.48 337 P P 02 45 29.4 +0.7
baz=145,SNR=10.0
AGMN **Agassiz Nation** 42.48 337 P P 02 45 29.1 +0.4
AGMN IAmb IAmb 02 45 30.3
comp=Z,22nm,1.2s
PV07 **Paradox Valley** 42.50 317 IAmb IAmb 02 45 32.9
comp=Z,33nm,1.1s
PET01 **Itanhaem-SP** 42.53 144 *eP* P 02 45 28.7 -0.7
PET01 **Itanhaem-SP** 42.53 144 *eP* P 02 45 28.7 -0.7
PV03 **Paradox Valley** 42.54 317 IAmb IAmb 02 45 33.2
comp=Z,28nm,1.1s
PV18 **Skein Mesa, Pa** 42.58 317 P P 02 45 32.6 +2.7
PV18 IAmb IAmb 02 45 33.4
comp=Z,22nm,1.1s
PV11 **David Mesa, Pa** 42.58 317 IAmb IAmb 02 45 33.5
comp=Z,35nm,1.2s
PV05 **Paradox Valley** 42.62 316 IAmb IAmb 02 45 33.2
comp=Z,24nm,0.9s
PV17 **East Wray Mesa** 42.63 317 P P 02 45 32.1 +1.8
PV22 **Blue Mesa, Par** 42.65 317 IAmb IAmb 02 45 33.9
comp=Z,29nm,1.0s
PV04 **Paradox Valley** 42.65 317 IAmb IAmb 02 45 34.1
comp=Z,36nm,1.4s
214A **Organ Pipe Nat** 42.68 306 P P 02 45 32.8 +2.1
baz=111,SNR=12
214A **Organ Pipe Nat** 42.68 306 IAmb IAmb 02 45 33.7
comp=Z,21nm,1.1s
PV21 **Cone Mtn., Par** 42.79 317 IAmb IAmb 02 45 34.9
comp=Z,23nm,1.1s
WUAZ **Wupatki** 43.01 312 P P 02 45 35.9 +2.4
baz=116,SNR=16
WUAZ **Wupatki** 43.01 312 P P 02 45 35.3 +1.9
WUAZ IAmb IAmb 02 45 36.9
comp=Z,24nm,0.9s
RSSD **Black Hills** 43.11 327 P P 02 45 35.1 +1.0
baz=132
RSSD **Black Hills** 43.11 327 P P 02 45 34.7 +0.6
O20A **White River Ci** 43.15 320 P P 02 45 37.1 +2.5
baz=124,SNR=10
K22A **Casper** 43.56 324 P P 02 45 38.8 +1.0
baz=128
Y14A **Wickenburg** 43.58 309 IAmb IAmb 02 45 40.9
comp=Z,17nm,0.8s
U15A **North Rim** 44.08 313 IAmb IAmb 02 45 45.8
comp=Z,27nm,1.0s
ULM **Lac du Bonnet** 44.10 339 P P 02 45 42.0 +0.2
comp=Z,19nm,0.8s,baz=141,slow=8.3,SNR=17
ULM LR LR 03 05 06.8
comp=Z,491nm,19.1s,baz=159,slow=37
ULM **Lac du Bonnet** 44.10 339 IAmb IAmb 02 45 42.9
comp=Z,26nm,0.9s
PDMCI **Parker Dam,Lak** 44.59 309 P P 02 45 47.9 +2.0
baz=112
SCHQ **Schefferville** 44.64 5 P P 02 45 47.1 +1.1
comp=Z,11nm,0.6s,baz=195,slow=6.8,SNR=33
SCHQ LR LR 03 05 54.0
comp=Z,92nm,18.0s,baz=194,slow=38
SCHQ **Schefferville** 44.64 5 P P 02 45 46.8 +0.8
SCHQ IAmb IAmb 02 45 54.9
comp=Z,22nm,1.0s
GLA **Glamis** 44.66 307 P P 02 45 48.7 +2.2
baz=111,SNR=8.6
GLA **Glamis** 44.66 307 P P 02 45 47.9 +1.3
Y12C **Blythe** 44.67 308 P P 02 45 48.9 +2.3
baz=112,SNR=6.4
Y12C **Blythe** 44.67 308 IAmb IAmb 02 45 49.6
comp=Z,14nm,0.9s
W13A **Hualapai Mount** 44.70 310 IAmb IAmb 02 45 50.6
comp=Z,16nm,1.1s
KNB **Kanab** 44.72 313 P P 02 45 50.0 +2.8
BO02 **Sierra Bellavi** 44.92 178 P P 02 45 47.1 -1.5
BO02 IAmb IAmb 02 46 37.9
comp=Z,12nm,0.8s
MSU **Marysvale** 44.94 315 P P 02 45 51.3 +2.3
SZCU **Shurtz Canyon** 45.16 314 P P 02 45 51.9 +1.2
IRM **Iron Mountain** 45.30 308 P P 02 45 53.7 +2.0
baz=111,SNR=9.8
CCUT **Cedar City** 45.34 313 P P 02 45 54.2 +2.1
BC3 **Big Chuckawall** 45.36 308 P P 02 45 54.1 +1.9
baz=111
SWSC **Sam W. Stewart** 45.39 306 P P 02 45 54.1 +1.8
baz=110
BW06 **Boulder Array** 45.44 322 P P 02 45 54.0 +1.2
baz=124,SNR=11
BW06 **Boulder Array** 45.44 322 IAmb IAmb 02 45 55.1
comp=Z,15nm,1.1s
PD31 **Pinedale Array** 45.44 322 IAmb IAmb 02 45 55.1
comp=Z,14nm,1.1s
PDAR **Pinedale Array** 45.44 322 P P 02 45 53.9 +1.0
comp=Z,7.1nm,0.8s,baz=116,slow=10,SNR=42
PDAR PcP PcP 02 47 31.6 -0.3
comp=Z,2.2nm,0.5s,baz=120,slow=5.3,SNR=6.0
PDAR LR LR 03 07 21.8
comp=Z,94nm,19.6s,baz=131,slow=39
MONP2 **Monument Peak** 45.87 306 P P 02 45 58.4 +2.0
baz=109
BELC **Belle Mtn. Jos** 45.91 308 P P 02 45 58.0 +1.4
baz=111
GMRC **Granite Mounta** 45.93 309 P P 02 45 58.9 +2.1
baz=112,SNR=6.9
HWUT **Hardware Ranch** 46.07 319 IAmb IAmb 02 46 19.6
comp=Z,12nm,0.9s
PFO **Pinon Flats O** 46.14 307 LR LR 03 09 08.3
comp=Z,90nm,18.1s,baz=138,slow=41
DUG **Dugway, Tooele** 46.18 317 P P 02 46 00.9 +2.3
baz=119,SNR=17
DUG **Dugway, Tooele** 46.18 317 IAmb IAmb 02 46 02.0
comp=Z,19nm,1.1s
SHPR **Sheep Range** 46.21 311 P P 02 45 59.8 +0.9
SHPR IAmb IAmb 02 46 02.4
comp=Z,18nm,1.1s
TUQ **Tunuoise Moun** 46.37 310 P P 02 46 02.4 +2.2
baz=112
HEC **Hector,Ludlow** 46.46 309 P P 02 46 03.5 +2.6
baz=111,SNR=5.2
RLMT **Red Lodge** 46.64 325 P P 02 46 03.4 +1.1
baz=127
BGU **Big Grassy Mou** 46.68 318 P P 02 46 03.3 +0.7
TPAW **Teton Pass** 46.69 322 IAmb IAmb 02 46 05.4
comp=Z,15nm,0.9s
SHOC **Shoshone, Teco** 46.81 310 P P 02 46 05.8 +2.3
baz=112
FXWY **Fox Creek** 46.82 322 IAmb IAmb 02 46 06.2
comp=Z,14nm,0.8s
GSC **Goldstone, Bar** 46.99 309 P P 02 46 07.1 +2.1
baz=111,SNR=13
GSC **Goldstone, Bar** 46.99 309 P P 02 46 06.1 +1.0
TPNV **Topopah Spring** 47.19 311 P P 02 46 09.1 +2.4
baz=113,SNR=17
R11A **Troy Canyon, C** 47.27 313 P P 02 46 09.4 +2.2
baz=115,SNR=27
R11A **Troy Canyon, C** 47.27 313 P P 02 46 08.2 +0.9
R11A IAmb IAmb 02 46 10.4
comp=Z,13nm,0.9s
FURC **Furnace Creek,** 47.46 311 P P 02 46 10.8 +2.3
baz=112,SNR=12
LRMC **Laurel Mtn Rad** 47.72 309 P P 02 46 12.8 +2.0
baz=110
EDW2 **Edwards Air Fo** 47.76 308 P P 02 46 12.5 +1.5
baz=110,SNR=8.5
MPMC **Manual Prospec** 47.78 310 P P 02 46 12.8 +1.5
baz=111,SNR=7.7
DECC **Green Verdugo** 47.82 307 P P 02 46 13.6 +2.2
baz=109
BOZ **Bozeman (W)** 48.27 324 P P 02 46 15.4 +0.5
CWC **Cottonwood Cre** 48.36 310 P P 02 46 17.6 +1.9
baz=111
ISA **Isabella, Lake** 48.39 309 P P 02 46 17.8 +1.9
baz=110,SNR=5.2
ISA **Isabella, Lake** 48.39 309 IAmb IAmb 02 46 18.7
comp=Z,11nm,1.1s
ARVC **Arvin** 48.49 308 P P 02 46 18.7 +2.1
baz=109
EGMT **Eagleton** 48.67 328 P P 02 46 19.3 +1.5
baz=128,SNR=13
VES **Vestal, Richgr** 48.92 309 P P 02 46 22.3 +2.5
baz=110,SNR=10
NV11 **Mina Array Sit** 49.15 312 IAmb IAmb 02 46 24.6
comp=Z,12nm,1.2s
NVAR **Mina Array Bea** 49.26 312 P P 02 46 24.0 +1.3
comp=Z,4.4nm,0.7s,baz=117,slow=6.9,SNR=24
NVAR PcP PcP 02 47 46.4 +0.8
comp=Z,2.5nm,0.7s,baz=137,slow=4.0,SNR=5.1
NVAR LR LR 03 12 18.9
comp=Z,98nm,18.2s,baz=83,slow=42
KVN **Kaiserville** 49.35 313 IAmb IAmb 02 46 25.9
comp=Z,14nm,0.9s
OMMB **Old Mammoth Mi** 49.47 311 P P 02 46 25.7 +1.3
OMMB IAmb IAmb 02 46 27.5
comp=Z,13nm,1.4s
RYN **Ryan** 49.49 313 IAmb IAmb 02 46 26.9
comp=Z,9.5nm,1.1s
MDPB **Devils Postpil** 49.54 311 IAmb IAmb 02 46 27.8
comp=Z,11nm,1.0s
MFID **Camas Ranch** 49.70 319 P P 02 46 27.7 +1.9
MFID IAmb IAmb 02 46 29.9
comp=Z,9.6nm,0.8s
FFC **Flin Flon** 49.92 338 P P 02 46 26.7 -0.5
FFC IAmb IAmb 02 46 35.0
comp=Z,23nm,1.4s
WAKR **Walker** 50.11 312 IAmb IAmb 02 46 32.2
comp=Z,11nm,1.1s
MSO **Missoula** 50.29 324 P P 02 46 31.6 +1.4
baz=123,SNR=5.9
PNTR **Pine Nut** 50.45 313 P P 02 46 32.5 +0.8
VCNR **Virginia City** 50.56 313 IAmb IAmb 02 46 44.1
comp=Z,21nm,1.0s
PLCA **Paso Flores** 50.85 178 P P 02 46 35.4 +0.9
comp=Z,3.3nm,0.9s,baz=2.3,slow=13,SNR=3.7
PLCA **Paso Flores** 50.85 178 IAmb IAmb 02 47 10.3
comp=Z,29nm,1.6s
JTMT **Jette** 50.98 325 IAmb IAmb 02 46 38.3
comp=Z,17nm,1.0s
WVOR **Wild Horse Val** 51.10 317 IAmb IAmb 02 46 39.8
comp=Z,31nm,1.6s
J08A **Circle Bar Ran** 51.39 318 IAmb IAmb 02 46 40.8
comp=Z,18nm,1.4s
AFDM **Forest Hills D** 51.39 312 P P 02 46 39.1 +0.5
F10A **Beach Ranch, E** 51.80 322 IAmb IAmb 02 46 47.1
comp=Z,13nm,0.8s
MOD **Modoc Plateau** 52.01 316 IAmb IAmb 02 46 45.1
comp=Z,19nm,1.4s
O03E **Paynes Creek** 52.47 313 P P 02 46 47.3 +0.7
baz=111
G08A **Pilot Rock** 52.56 320 IAmb IAmb 02 46 49.6
comp=Z,21nm,1.0s
E09A **Wood Farm, Sta** 52.62 322 IAmb IAmb 02 46 49.8
comp=Z,20nm,1.0s
K05A **Summer Lake** 52.74 317 P P 02 46 50.6 +1.8
K05A IAmb IAmb 02 47 15.7
comp=Z,16nm,1.2s
NEW **Newport** 52.88 324 P P 02 46 50.3 +0.8
baz=121,SNR=5.3
NEW **Newport** 52.88 324 LR LR 03 11 11.8
comp=Z,108nm,19.8s,baz=145,slow=38
NEW **Newport** 52.88 324 P P 02 46 50.1 +0.6
NEW IAmb IAmb 02 46 51.4
comp=Z,20nm,1.4s
M04C **Macdoel** 53.03 315 P P 02 46 52.4 +1.6
baz=112,SNR=5.2
J05D **Fort Rock, OR** 53.19 317 P P 02 46 54.2 +2.2
baz=113,SNR=8.8
PINE **Pine Mountain** 53.20 318 P P 02 46 53.0 +0.9
L04D **Klamath Falls** 53.51 315 P P 02 46 55.6 +1.2
baz=112,SNR=5.2
YBH **Yreka Blue Hor** 53.62 315 LR LR 03 14 19.2
comp=Z,62nm,18.0s,baz=142,slow=41
YBH **Yreka Blue Hor** 53.62 315 IAmb IAmb 02 46 55.8
comp=Z,11nm,0.9s
I05D **Terrebonne, OR** 53.68 318 P P 02 46 56.4 +0.9
baz=114
J04D **Umpqua Nationa** 53.76 317 P P 02 46 57.8 +1.5
baz=112,SNR=8.8
KMRM **Mail Ridge** 53.81 313 P P 02 46 57.5 +1.0
G05D **Wamic, OR** 54.04 319 P P 02 47 00.5 +2.4
baz=114
H04A **Detroit Lake** 54.38 318 P P 02 47 00.9 +0.3
F05D **White Salmon** 54.40 320 P P 02 47 02.9 +2.2
baz=115
H04D **Lebanon** 54.67 318 P P 02 47 04.3 +1.6
baz=113
I03D **Drain, OR** 54.77 317 P P 02 47 04.8 +1.5
baz=112
LON **Longmire** 54.98 321 IAmb IAmb 02 47 07.2
comp=Z,10.0nm,0.9s
D03D **Eldon** 56.10 321 P P 02 47 13.8 +0.9
baz=114
YKA **Yellowknife Ar** 60.08 339 P P 02 47 40.8 +0.3
comp=Z,8.2nm,0.8s,baz=131,slow=7.6,SNR=70
YKA LR LR 03 14 55.6
comp=Z,291nm,18.6s,baz=0.0,slow=37
MORF **Marmelete** 63.33 53 *eP* P 02 48 04.2 +1.2
comp=Z,62nm,1.8s
MORF *epP* **sP** 02 48 10.5 -0.4
PNCL **Nicolau / Gran** 63.53 53 *epP* **pP** 02 48 11.4 +1.4
PNCL A A 02 48 32.8
comp=Z,41nm,1.5s
MESJ **Messejana** 63.74 53 *eP* P 02 48 06.9 +1.3
MESJ *epP* **sP** 02 48 13.3 -0.2
PCAS **Casmilo, Conde** 63.84 50 *eP* P 02 48 06.8 +0.6
PCVE **Castro Verde** 63.86 53 *eP* P 02 48 00.9 -5.5
comp=Z,44nm,1.8s
PCVE *epP* sP 02 48 14.5 +0.2
PBDV **Barranco-do-Ve** 63.89 54 *epP* pP 02 48 14.5 +2.1
PMTG **Montargil** 63.90 52 *eP* P 02 48 07.1 +0.5
comp=Z,38nm,1.8s
PMTG *epP* **sP** 02 48 13.8 -0.8
EVO **Evora** 63.99 52 *eP* P 02 48 07.9 +0.7
comp=Z,27nm,2.2s
EVO *epP* **sP** 02 48 14.6 -0.6
PBEJ **Beja** 64.04 53 *eP* P 02 48 05.9 -1.7
comp=Z,29nm,1.6s
PBEJ *epP* **sP** 02 48 15.1 -0.4
PGAV **Gavieira, Arco** 64.31 48 *eP* P 02 48 09.5 +0.1
comp=Z,33nm,1.4s
PGAV *epP* **sP** 02 48 16.6 -0.7
DLBC **Dease Lake** 64.39 331 IAmb IAmb 02 48 18.3
comp=Z,10.0nm,0.9s
PVIS **Viseu** 64.39 50 *eP* P 02 48 10.3 +0.4
PVIS *epP* **sP** 02 48 17.2 -0.6
PCBR **Castelo Branco** 64.58 51 *eP* P 02 48 11.4 +0.3
comp=Z,28nm,1.8s
PMRV **Marv??o** 64.59 51 *eP* P 02 48 10.3 -0.9
PMRV *epP* **sP** 02 48 18.4 -0.7
MTE **Manteigas** 64.61 50 *epP* pP 02 48 18.4 +1.3
PVRL **Vila Real** 64.61 49 *eP* P 02 48 11.8 +0.5
PVRL *epP* **sP** 02 48 18.8 -0.5
MVO **Moncorvo** 65.11 49 *eP* P 02 48 14.0 -0.6
comp=Z,26nm,1.9s
MVO *epP* **sP** 02 48 22.1 -0.4
SUMG **Summit** 65.51 11 *i* P P 02 48 17.0 0.0
comp=Z,46nm,0.8s
SUMG **Summit** 65.51 11 P P 02 48 16.3 -0.7
TULEG **Thule** 66.22 1 P P 02 48 20.8 -0.2
TIC **Toumodi** 67.11 87 *eP* P 02 48 26.2 -1.6
LIC **Lamto** 67.16 88 *eP* P 02 48 27.1 -1.0
comp=Z,25nm,0.6s

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
ESDC	Sonseca Array	67.25	51	P	P	02 48 28.4	0.0
	comp=Z,2.2nm,0.7s,baz=266,slow=6.6,SNR=27						
ESDC				LR	LR	03 11 15.3	
	comp=Z,21nm,21.5s,baz=140,slow=30						
DBIC	Dimbokro	67.26	87	P	P	02 48 27.6	-1.2
	comp=Z,4.7nm,0.8s,baz=276,slow=5.3,SNR=6.2						
KIC	Kosan Boka	67.42	87	eP	P	02 48 28.4	-1.4
	comp=Z,21nm,0.7s						
A36M	Sachs Harbour	69.13	345	P	P	02 48 39.8	+0.4
	baz=123						
INK	Inuvik	69.83	340	IAmb	IAmb	02 48 53.6	
	comp=Z,25nm,1.9s						
ESK	Eskdalemuir	70.02	35	P	P	02 48 44.8	-0.4
ESK				IAmb	IAmb	02 48 46.3	
	comp=Z,8.1nm,0.7s						
EPYK	Eagle Plains	70.25	337	P	P	02 48 47.3	+0.8
	baz=110,SNR=5.3						
EPYK	Eagle Plains	70.25	337	P	P	02 48 46.7	+0.2
EGAK	Eagle	71.52	335	IAmb	IAmb	02 49 04.1	
	comp=Z,18nm,1.6s						
GLB	Gilahina Butte	71.90	331	IAmb	IAmb	02 49 06.0	
	comp=Z,15nm,1.1s						
DAG	Danmarks Havn	72.19	11	i P	P	02 48 57.0	-1.0
	comp=Z,5.6nm,0.9s						
DOT	Dot Lake	72.48	334	IAmb	IAmb	02 49 09.0	
	comp=Z,12nm,1.0s						
SCRK	Sand Creek	72.52	334	IAmb	IAmb	02 49 09.2	
	comp=Z,16nm,1.2s						
TOA0	Torodi Ar. Sit	72.82	79	IAmb	IAmb	02 49 08.9	
	comp=Z,10nm,0.7s						
TORD	Torodi Ar. Bea	72.82	79	P	P	02 49 01.9	-1.0
	comp=Z,3.8nm,0.5s,baz=290,slow=6.5,SNR=131						
TORD				LR	LR	03 19 35.0	
	comp=Z,63nm,21.4s,baz=145,slow=35						
HDA	Harding Lake	73.87	334	P	P	02 49 08.8	+0.6
	baz=100						
IL31		73.91	335	P	P	02 49 08.9	+0.5
IL31				IAmb	IAmb	02 49 42.8	
	comp=Z,28nm,2.0s						
ILAR	Eielson Array	73.91	335	P	P	02 49 08.6	+0.2
	comp=Z,1.0nm,0.6s,baz=106,slow=4.4,SNR=9.9						
ILAR				LR	LR	03 23 23.8	
	comp=Z,249nm,19.1s,baz=119,slow=37						
SNF	Seneffe	73.93	40	P	P	02 49 08.6	-0.1
SNF				x	x	02 49 15.0	
SNF				PcP	PcP	02 49 23.1	-1.1
DOU	Dourbes	74.10	41	P	P	02 49 09.7	-0.1
BMRD	Maredsous	74.22	41	P	P	02 49 10.8	+0.3
MEM	Membach	75.03	40	P	P	02 49 15.6	+0.4
WLF	Walferdange	75.09	41	P	P	02 49 14.7	-0.9
	comp=Z,14nm,1.4s						
WLF				pP	pP	02 49 16.2	-5.2
WLF				x	x	02 49 23.1	
WLF				PcP	PcP	02 49 27.8	-1.4
WLF	Walferdange	75.09	41	P	P	02 49 15.5	-0.1
WLF				IAmb	IAmb	02 49 17.3	
	comp=Z,18nm,1.1s						
NOR	Nord	75.12	7	i P	P	02 49 14.9	-0.3
	comp=Z,3.8nm,0.9s						
TRF	Thorofare Moun	75.19	333	IAmb	IAmb	02 49 28.3	
	comp=Z,12nm,0.7s						
BNI	Bardonecchia	75.39	46	P	P	02 49 17.2	-0.4
BNI				IAmb	IAmb	02 49 27.0	
	comp=Z,12nm,1.2s						
TAM	Tamanrasset	75.44	69	P	P	02 49 18.9	+0.6
TAM				IAmb	IAmb	02 49 26.6	
	comp=Z,9.4nm,0.8s						
KTH	Kantishna Hill	75.49	333	IAmb	IAmb	02 49 19.8	
	comp=Z,16nm,1.0s						
BPAW	Bear Paw Mtn.	75.58	334	IAmb	IAmb	02 49 19.9	
	comp=Z,14nm,1.0s						
TOLK	Toolik Lake Re	75.60	338	P	P	02 49 18.9	+0.7
	baz=99						
TOLK	Toolik Lake Re	75.60	338	IAmb	IAmb	02 49 26.9	
	comp=Z,18nm,1.6s						
ECH	Echery	75.73	43	IAmb	IAmb	02 49 20.6	
	comp=Z,9.6nm,1.0s						
PPLA	Purkeypile	76.00	332	P	P	02 49 20.9	+0.2
BFO	Black Forest	76.51	43	P	P	02 49 22.9	-0.9
MUD	Monsted U'grnd	77.06	34	i P	P	02 49 26.7	+0.1
	comp=Z,27nm,1.0s						
DOMB	Dombas	77.16	29	eP	P	02 49 27.3	+0.1
KONO	Kongsberg	77.35	31	eP	P	02 49 28.7	+0.5
DAVA	Damuels	77.58	44	i P	P	02 49 30.7	+0.7
	comp=Z,18nm,0.8s,SNR=11						
TTA	Tatalina	77.75	332	IAmb	IAmb	02 49 32.0	
	comp=Z,8.5nm,1.0s						
TBLU	Trondheim	77.75	27	eP	P	02 49 32.0	+1.7
KEST	Kesra	77.76	56	P	P	02 49 31.5	+0.4
	comp=Z,3.1nm,0.6s,baz=215,slow=2.9,SNR=9.3						
NBO00	NORSAR Array S	77.95	30	P	P	02 49 31.8	+0.2
SALO	Salr	78.09	45	P	P	02 49 31.7	-1.0
NB2	NORSAR Subarra	78.17	30	P	P	02 49 33.6	+0.8
	comp=Z,12nm,0.7s,baz=270,slow=5.9						
NB2	NORSAR Subarra	78.17	30	P	P	02 49 33.6	+0.8
	baz=270,slow=5.9						
NOA	NORSAR Array B	78.17	30	P	P	02 49 33.8	+1.0
	comp=Z,12nm,0.8s,baz=271,slow=5.7,SNR=52						
NOA				LR	LR	03 20 21.9	
	comp=Z,19nm,21.1s,baz=270,slow=33						
FETA	Feichten	78.17	44	eP	P	02 49 34.0	+0.7
	comp=Z,7.8nm,0.7s,SNR=13						
RETA	Reutte	78.17	44	i P	P	02 49 33.7	+0.6
	comp=Z,4.3nm,0.7s,SNR=7.1						
NC303	NORSAR Array S	78.24	29	IAmb	IAmb	02 49 34.8	
	comp=Z,14nm,0.8s						
NC602	NORSAR Array S	78.33	30	eP	P	02 49 34.7	+1.1
MOTA	Moosalm	78.41	44	i P	P	02 49 34.9	+0.3
	comp=Z,3.9nm,0.6s						
SQTA	Sankt Quirin	78.49	44	i P	P	02 49 35.5	+0.5
	comp=Z,4.4nm,0.6s,SNR=6.8						
NSS	Namsos	78.52	26	eP	P	02 49 35.2	+0.6
WATA	Walderalm	78.73	44	eP	P	02 49 36.5	+0.2
	comp=Z,6.3nm,1.2s						
WTTA	Wattenberg	78.77	44	eP	P	02 49 37.1	+0.4
	comp=Z,6.6nm,0.8s						
CTI	Castel Tesino	78.85	45	P	P	02 49 36.1	-0.8
CTI				IAmb	IAmb	02 49 38.0	
	comp=Z,13nm,0.7s						
KONS	Konsvik	79.00	24	eP	P	02 49 37.5	+0.4
LOF	Lofoten	79.14	22	eP	P	02 49 38.3	+0.4
CIMO	Cimolais	79.38	45	IAmb	IAmb	02 49 40.8	
	comp=Z,12nm,0.7s						
ABTA	Abfaltersbach	79.40	44	eP	P	02 49 40.4	+0.4
	comp=Z,11nm,0.8s,SNR=6.4						
CLL	Collm	79.44	40	i P	P	02 49 41.4	+1.5
	comp=Z,5.0nm,1.0s						
CLL				epP	pP	02 49 47.0	+1.2
CLL	Collm	79.44	40	ePg	PKiKP	02 55 13.0	+0.7
CLL				i		02 55 15.0	
CLL	Collm	79.44	40	P	P	02 49 40.2	+0.2
ZOU	Zoufplan	79.73	44	IAmb	IAmb	02 49 58.1	
	comp=Z,27nm,1.6s						
STEI	Steigen	79.79	23	eP	P	02 49 41.9	+0.4
SPA0	Spitsbergen Ar	79.80	12	eP	P	02 49 42.0	+0.5
KBA	Koelnbreinsper	79.95	44	eP	P	02 49 43.4	+0.4
	comp=Z,6.4nm,1.0s						
KHC	Kasperske Hory	79.95	42	eP	P	02 49 43.4	+0.6
KHC				epP	pP	02 49 49.5	+0.8
GEC2	GERESS Array S	80.06	42	IAmb	IAmb	02 49 44.7	
	comp=Z,7.3nm,0.8s						
GERES	GERESS Array B	80.06	42	P	P	02 49 43.9	+0.4
	comp=Z,6.2nm,0.7s,baz=267,slow=4.2,SNR=66						
BRG	Berggiesshubel	80.06	40	eP	P	02 49 44.0	+0.6
	comp=Z,6.2nm,1.0s						
PRED	Cave del Predi	80.15	44	IAmb	IAmb	02 49 45.3	
	comp=Z,11nm,0.8s						
PBCC	Pribram	80.19	41	eP	P	02 49 45.2	+1.2
MYKA	Terra Mystica	80.19	44	i P	P	02 49 44.5	+0.3
	comp=Z,7.3nm,0.7s						
BSD	Bornholm Skovb	80.34	36	i P	P	02 49 45.2	+0.5
	comp=Z,11nm,0.8s						
PVCC	Panska Ves	80.49	40	eP	P	02 49 46.5	+0.9
MOA	Molln	80.51	43	eP	P	02 49 46.1	+0.2
	comp=Z,2.8nm,0.6s						
PRU	Pruhonice	80.51	41	eP	P	02 49 46.5	+0.7
BJO1	Bjornoya	80.62	16	eP	P	02 49 46.4	+0.6
OBKA	Obir	80.82	44	eP	P	02 49 47.7	0.0
	comp=Z,7.0nm,0.9s						
RIY	Rijeka	80.89	46	P	P	02 49 48.5	+0.7
TRO	Tromso	81.02	21	eP	P	02 49 48.9	+0.8
UPC	Upice	81.41	40	eP	P	02 49 51.7	+1.2
ARSA	Arzberg	81.42	44	eP	P	02 49 50.8	+0.1
	comp=Z,3.1nm,0.6s						
OSTC	Ostas	81.53	40	eP	P	02 49 52.0	+0.8
KSP	Ksiaz	81.55	40	eP	P	02 49 52.3	+1.0
CONA	Conrad Observa	81.57	43	eP	P	02 49 52.2	+0.6
	comp=Z,7.3nm,0.9s,SNR=5.6						
DPC	Dobruska-Polom	81.62	40	eP	P	02 49 52.8	+1.1
KRUC	Moravsky	81.80	42	eP	P	02 49 52.9	+0.2
GKP	Gorka Klasztor	81.87	37	eP	P	02 49 54.5	+1.6
VRAC	Vranov	81.91	41	⇓P	P	02 49 54.5	+1.3
VRAC	Vranov	81.91	41	eP	P	02 49 53.7	+0.5
KRLC	Kraliky	81.94	41	eP	P	02 49 54.5	+1.1
ZST	Bratislava	82.37	42	eP	P	02 49 55.7	+0.1
MODS	Modra-Piesok	82.46	42	eP	P	02 49 56.1	-0.1
MORC	Moravsky Berou	82.47	41	⇓P	P	02 49 56.4	+0.2
MORC	Moravsky Berou	82.47	41	eP	P	02 49 57.0	+0.8
HAMF	Hammerfest	82.50	20	eP	P	02 49 56.2	+0.3
KTK1	Kautokeino	82.61	21	eP	P	02 49 57.2	+0.7
JAVC	Velka Javorina	82.66	42	eP	P	02 49 58.9	+1.6
OKC	Ostrava-Krasne	82.85	41	eP	P	02 49 59.3	+1.2
RICI	Ricice	82.98	47	P	P	02 49 59.5	+0.5
TIP	Timpagrande	83.27	52	⇓P	P	02 50 00.6	-0.1
TIP	Timpagrande	83.27	52	IAmb	IAmb	02 50 12.6	
	comp=Z,8.0nm,0.9s						
ARCES	ARCESS Array B	83.31	21	P	P	02 50 00.3	+0.1
	comp=Z,5.2nm,0.8s,baz=305,slow=4.3,SNR=16						
ARE0	ARCESS Array S	83.31	21	eP	P	02 50 00.3	+0.2
VYHS	Vyhne	83.48	42	eP	P	02 50 02.4	+1.0
OJC	Ojcow	83.85	40	eP	P	02 50 04.5	+1.3
OJC	Ojcow	83.85	40	P	P	02 50 03.2	-0.1
OJC				IAmb	IAmb	02 50 05.5	
	comp=Z,9.1nm,1.0s						
SLIT	Slitere, Latvi	84.11	33	eP	P	02 50 04.8	+0.5
PBUR	Paburge	84.19	34	eP	P	02 50 11.9	+7.0
PSZ	Piszkesteto	84.26	42	P	P	02 50 05.8	+0.3
PSZ				IAmb	IAmb	02 50 15.1	
	comp=Z,9.3nm,1.1s						
NIE	Niedzica	84.29	41	eP	P	02 50 07.8	+2.2
FIA1	FINESS Array S	85.25	28	P	P	02 50 09.9	-0.2
FIA1				IAmb	IAmb	02 50 11.5	
	comp=Z,5.9nm,0.9s						
FINES	FINESS Array B	85.25	28	P	P	02 50 10.4	+0.3
	comp=Z,4.2nm,0.9s,baz=279,slow=2.7,SNR=14						
PABE	Paberze	85.42	35	eP	P	02 50 11.9	+0.9
SIRR	Siria	85.73	44	⇓P	P	02 50 14.1	+1.2
KWP	Kalwaria Pacla	85.80	40	eP	P	02 50 15.3	+2.2
BZS	Buzias	85.82	45	⇑P	P	02 50 15.1	+1.8
TRPA	Tarpa	85.97	42	⇓P	P	02 50 15.3	+1.3
VSU	Vasula	86.25	31	eP	P	02 50 15.6	+0.5
DRGR		86.34	43	⇓P	P	02 50 17.1	+1.2
HERR	Herculane	86.51	45	⇑P	P	02 50 17.3	+0.6
ISAL	Salakas	86.60	34	eP	P	02 50 17.8	+0.9
IIGN	Ignalina	86.70	34	eP	P	02 50 18.1	+0.7
LVZ	Lovozero	86.97	21	P	P	02 50 18.5	0.0
VTS	Vitosha	87.53	47	⇑P	P	02 50 23.1	+1.1
BURAR	Bucovina Array	87.84	42	⇑P	P	02 50 25.1	+1.8
BIZ	Bicaz	88.59	43	⇓P	P	02 50 28.6	+2.0
MLR	Muntele Rosu	88.82	44	⇑P	P	02 50 29.3	+1.4
AKASG	Malin Array Be	89.63	38	P	P	02 50 30.8	-0.6
	comp=Z,0.6nm,0.5s,baz=284,slow=4.7,SNR=2.5						
SORM	Soroca	89.77	41	⇑P	P	02 50 33.2	+1.1
MILM	Milestii Mici	90.39	42	⇑P	P	02 50 36.1	+1.0
BILL	Bilibino	91.42	341	P	P	02 50 39.5	+0.1
VNA3	Neumayer Olymp	91.44	163	P	P	02 50 39.6	+0.2
VNA1	Neumayer--Stat	91.57	162	P	P	02 50 37.3	-2.6
KLMR	Klimovskoe	91.61	27	eP	P	02 50 39.6	-0.8
KLMR				AMP		02 50 41.6	
	comp=Z,20nm,1.2s						
VNA2	Neumayer--Watz	91.95	163	P	P	02 50 40.7	-1.0
OBN	Obninsk	92.42	33	P	P	02 50 43.9	-0.4
SNAA	Sanae	93.60	163	P	P	02 50 49.2	-0.2
SNAA	Sanae	93.60	163	P	P	02 50 48.2	-1.2
SNAA				IAmb	IAmb	02 50 57.8	
	comp=Z,4.3nm,0.8s						
BR131	Keskin Array S	95.86	48	P	P	02 50 59.9	-0.8
BR131				IAmb	IAmb	02 51 01.6	
	comp=Z,3.0nm,0.8s						
BRTR	Keskin Array B	95.86	48	P	P	02 51 00.8	+0.1
	comp=Z,2.6nm,0.7s,baz=266,slow=3.8,SNR=16						
BRTR				LR	LR	03 34 38.2	
	comp=Z,13nm,18.1s,baz=202,slow=36						
NRIK	Noril'sk	99.35	7	LR	LR	03 39 07.0	
	comp=Z,43nm,18.5s,baz=358,slow=37						
MKAR	Makanchi Array	118.95	19	PKP	PKPdf	02 56 21.4	-1.0
	comp=Z,0.4nm,0.4s,baz=297,slow=2.8,SNR=9.5						
WMQ	Urumqi	123.28	17	ePKP	PKPdf	02 56 30.5	-0.4
MJAR	Matsushiro Arr	124.96	330	PKP	PKPdf	02 56 34.0	-0.4
	comp=Z,0.4nm,0.6s,baz=46,slow=1.9,SNR=2.3						
KSRS	Korea Array	128.62	339	PKP	PKPdf	02 56 40.3	-0.9
	comp=Z,1.7nm,1.0s,baz=27,slow=1.6,SNR=8.7						
HHC	Hu-ho-hao-te	128.91	356	ePKP	PKiKP	02 56 43.0	+0.5
GTA	Gaotai	130.04	7	ePKP	PKPdf	02 56 41.9	-2.2
GTA				sPKP		02 56 49.9	
LZH	Lanzhou	133.73	4	ePKP	PKPdf	02 56 46.6	-4.6
LZH				sPKP		02 57 00.5	
NJ2	Nanjing	136.39	346	ePKP	PKPdf	02 56 56.5	+0.5
CD2	Chengdu	138.87	4	PKP	PKPdf	02 56 59.0	-1.7
STKA	Stephens Creek	141.62	231	PKP	PKPdf	02 57 05.7	+0.1
	comp=Z,2.9nm,0.8s,baz=146,slow=3.2,SNR=6.4						
STKA	Stephens Creek	141.62	231	PKPdf	PKPdf	02 57 05.3	-0.2
GYA	Guiyang	143.43	1	ePKP	PKPbc	02 57 06.5	+0.3
BBOO	Buckleboo	145.22	226		PKPbc	02 57 11.2	-0.3
SLVN	Son La	148.37	6		PKPbc	02 57 21.3	+0.3
CMAR	Chiang Mai Arr	150.27	16	PKP	PKPdf	02 57 20.3	-0.3
	comp=Z,0.6nm,0.3s,baz=328,slow=3.2,SNR=8.2						
CMAR				PKPbc	PKPbc	02 57 25.5	-0.3
	comp=Z,11nm,1.1s,baz=316,slow=2.8,SNR=23						
AS31	Alice Springs	151.24	239		PKPdf	02 57 21.8	-0.3
AS31					PKPbc	02 57 27.7	-0.2
AS31				PKPab	pPKPbc	02 57 34.8	+0.7
ASAR	Alice Springs	151.24	239	PKP	PKPdf	02 57 22.1	0.0
	comp=Z,3.1nm,0.8s,baz=107,slow=1.8,SNR=31						
ASAR				PKPbc	PKPbc	02 57 27.6	-0.4
	comp=Z,18nm,0.8s,baz=112,slow=2.3,SNR=73						
ASAR				PKPab	pPKPbc	02 57 34.9	+0.8
	comp=Z,31nm,0.9s,baz=116,slow=2.7,SNR=28						
FORT	Forrest	151.85	221		PKPbc	02 57 28.6	-0.5
WR0	Warramunga Arr	151.91	247		PKPbc	02 57 29.6	0.0
WB2	Warramunga Arr	152.08	247		PKPbc	02 57 29.8	-0.2
WB0	Warramunga Arr	152.09	247		PKPbc	02 57 29.9	-0.1
WRA	Warramunga Arr	152.09	247	PKP	PKPdf	02 57 22.3	-1.1
	comp=Z,3.0nm,0.9s,baz=89,slow=1.2,SNR=15						
WRA				PKPbc	pPKPdf	02 57 29.6	+0.1
	comp=Z,22nm,0.8s,baz=98,slow=1.8,SNR=65						
WRA				PKPab	pPKPbc	02 57 37.1	+1.0
	comp=Z,24nm,0.5s,baz=104,slow=2.7,SNR=29						

KRSC 01 02:50:05.5±1.9, 52°.06N×154°.58E, h620km±25km, ML4.1, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
APC	Apacha	1.80	60	eP	P	02 51 20.4	-0.3
ASAK	Asacha	2.07	80	eP	P	02 51 23.4	+1.5
GRL	Gorelyy	2.20	76	eP	P	02 51 24.4	+1.9
RUS	Russkaya	2.44	80	eP	P	02 51 24.5	+1.1
RUS				eS	S	02 52 26.3	-0.9
DALK	Dalny	2.73	67	eS	S	02 52 29.9	+0.3
KOK	Koryaka	2.76	62	eP	P	02 51 26.5	+1.5
KRX	Arik	2.79	61	eP	P	02 51 26.3	+1.1
AVH	Avacha	2.80	63	eP	P	02 51 26.8	+1.6
UGLR	Uglovaya	2.83	64	eP	P	02 51 27.4	+2.0
SDLR	Sedlovina	2.89	63	eP	P	02 51 27.1	+1.4
SPN	Mys Shipunski	3.48	70	eP	P	02 51 30.5	+1.6
SPN				eS	S	02 52 34.3	-3.0
KZV	Kizimen	4.57	46	eP	P	02 51 39.8	+3.4
TUMR	Tumrok	4.62	44	eP	P	02 51 38.6	+1.9
TUMR				eS	S	02 52 51.1	-0.5
SRDR	Sredinnyy	5.22	33	eP	P	02 51 41.9	+0.7
KBTR	Krutoberegovo	6.38	46	eP	P	02 51 51.2	+0.6

WBNET 01 02:54:11.2, 50°.23N×12°.44E, h9km, Ml0.7, 5C-5D, Germany

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.01	31	⇑P	Pg	02 54 12.9	+0.1
NKC				S	Sg	02 54 14.0	0.0
LBCW	Luby	0.04	331	⇓P	Pg	02 54 13.2	+0.1
LBCW				S	Sg	02 54 14.5	+0.2
VAC	Vackov	0.04	279	⇓P	Pg	02 54 13.1	+0.1
VAC				S	Sg	02 54 14.3	0.0
KVC	Kvetna	0.05	117	⇑P	Pg	02 54 13.1	-0.1
KVC				S	Sg	02 54 14.2	-0.2
STCW	Studenec	0.06	58	⇑P	Pg	02 54 13.2	0.0
STCW				S	Sg	02 54 14.4	-0.2
SKC	Skalna	0.08	222	⇓P	Pg	02 54 13.5	+0.1
SKC				S	Sg	02 54 15.0	0.0
POCW	Potky	0.09	353	⇓P	Pg	02 54 13.8	+0.2
POCW				S	Sg	02 54 15.4	+0.1
KACW	Kaceov	0.10	151	⇑P	Pg	02 54 13.7	+0.1
KACW				S	Sg	02 54 15.4	0.0
KRCW	Kraslice	0.12	28	⇑P	Pg	02 54 14.1	+0.1
KRCW				S	Sg	02 54 15.9	0.0
ZHC	Zelena Hora	0.18	209	⇓P	Pg	02 54 15.1	+0.1
CLL	Collm	1.14	18	i Sg	Sn	02 54 48.8	-0.3

PRU 01 02:54:51.6±0.0, 50°.23N×12°.52E, h0km, West Bohemia Swarm
WBNET 01 02:54:51.3, 50°.24N×12°.45E, h8km, Ml1.3, 7C-3D, Germany

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.01	181	ePG	Pg	02 54 52.7	0.0
NKC				eSG	Sg	02 54 53.7	0.0
	comp=Z,195nm,0.3s						
NKC	Novy Kostel	0.01	181	⇑P	Pg	02 54 52.9	+0.1
NKC				S	Sg	02 54 53.9	+0.2
LBCW	Luby	0.04	319	⇑P	Pg	02 54 53.0	+0.1
LBCW				S	Sg	02 54 54.3	+0.2
VAC	Vackov	0.05	265	⇓P	Pg	02 54 53.0	+0.1
VAC				S	Sg	02 54 54.2	0.0
STCW	Studenec	0.05	66	⇑P	Pg	02 54 53.1	+0.1
STCW				S	Sg	02 54 54.3	0.0
KVC	Kvetna	0.05	127	⇓P	Pg	02 54 53.1	0.0
KVC				S	Sg	02 54 54.3	-0.1
POCW	Potky	0.08	351	⇑P	Pg	02 54 53.6	+0.2
POCW				S	Sg	02 54 55.2	+0.2
SKC	Skalna	0.09	219	⇑P	Pg	02 54 53.5	0.0
SKC				S	Sg	02 54 55.1	0.0
KACW	Kaceov	0.10	155	⇓P	Pg	02 54 53.8	+0.1
KACW				S	Sg	02 54 55.6	+0.1
KRCW	Kraslice	0.11	30	⇑P	Pg	02 54 53.9	+0.1
KRCW				S	Sg	02 54 55.6	0.0
ZHC	Zelena Hora	0.19	208	⇑P	Pg	02 54 55.2	0.0
ZHC				S	Sg	02 54 57.8	0.0
PBCC	Pribram	1.14	118	ePG	Pg	02 55 12.1	-1.1
PBCC				eSG	Sg	02 55 26.9	-1.1
	comp=Z,1.5nm,0.5s						
KHC	Kasperske Hory	1.33	146	ePG	Pn	02 55 14.6	-1.6
KHC				eSG	Sb	02 55 31.7	-2.0
	comp=Z,2.3nm,0.2s						
PRU	Pruhonice	1.37	100	ePG	Pn	02 55 15.8	-0.9
PRU				eSG	Sb	02 55 34.2	-0.6
	comp=Z,5.1nm,0.5s						
PVCC	Panska Ves	1.39	77	eSG	Sb	02 55 34.9	-0.4
	comp=Z,5.3nm,0.2s						
GOPC	GO Pecny, Ondr	1.54	101	eSG	Sb	02 55 39.8	+0.1
DPC	Dobruska-Polom	2.49	86	eSG	Sb	02 56 07.9	+0.9

IDC 01 03:01:22.3±1.2, 62°.77S×145°.52E, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.0/21, mbtmp4.2/4, MS3.7/6, Ms1 3.7/6, ms1mx3.4/32, Error ellipse: s-maj=87.1km s-min=19.5km az=86.0
NEIC 01 03:01:23.6±1.3, 62°.78S±0°.08×145°.3E±0°.4, h10km±1km, mb4.6/10, Error ellipse: s-maj=31.2km s-min=8.2km az=69.0
ISC 01 03:01:23.1±0.9, 62°.9S±0°.1×145°.5E±0°.2, h10km, n32, σ1s.40/23, mb4.5/8, MS3.6/5, South of Australia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CASY	Casey	15.28	242	Pn	Pn	03 04 57.3	-1.1
CASY				Sn	Sn	03 07 36.4	-11
VNDA	Vanda	15.61	167	Pn	Pn	03 04 60.0	-2.9
	1.2nm,0.3s,baz=328,slow=12,SNR=66						
VNDA				Sn	Sn	03 07 42.0	-14
	0.1nm,0.3s,baz=328,slow=9.5,SNR=2.7						
VNDA				LR	LR	03 11 31.5	
	comp=Z,199nm,18.2s,baz=6.0,slow=39						
VNDA	Vanda	15.61	167	Pn	Pn	03 04 59.5	-3.3
VNDA				IAmb	IAmb	03 05 07.9	
	comp=Z,19nm,0.7s						
VNDA				Sn	Sn	03 07 44.5	-11
QSPA	South Pole Qui	27.22	180	P	P	03 07 08.5	+1.6
	comp=Z,8.9nm,0.9s,baz=352,slow=5.3,SNR=19						
QSPA				LR	LR	03 18 33.3	
	comp=Z,150nm,19.3s,baz=20,slow=38						
QSPA	South Pole Qui	27.22	180	P	P	03 07 08.1	+1.2
QSPA				IAmb	IAmb	03 07 30.0	
	comp=Z,13nm,0.9s						
STKA	Stephens Creek	31.10	354	LR	LR	03 18 01.2	
	comp=Z,128nm,18.2s,baz=205,slow=32						
MAW	Mawson	32.51	225	LR	LR	03 20 57.8	
	comp=Z,108nm,19.1s,baz=68,slow=36						
FORT	Forrest	34.01	332	P	P	03 08 06.2	-0.6
FORT				IAmb	IAmb	03 08 32.9	
	comp=Z,15nm,1.1s						
H01W1	Cape Leeuwin H	34.12	310	T	T	03 43 57.0	
	baz=155,slow=76,SNR=9.0						
H01W2	Cape Leeuwin H	34.12	310	T	T	03 44 01.2	
	baz=155,slow=76,SNR=11						
H01W3	Cape Leeuwin H	34.13	310	T	T	03 44 01.3	
	baz=155,slow=76,SNR=9.1						
NWAO	Narrogin (SRO)	34.88	316	P	P	03 08 13.6	-0.8
MORW	Morawa	38.83	317	P	P	03 08 46.9	-1.1
MORW				IAmb	IAmb	03 08 58.6	
	comp=Z,24nm,1.4s						
ASAR	Alice Springs	39.95	343	P	P	03 08 57.6	+0.1
	comp=Z,2.1nm,0.9s,baz=168,slow=8.2,SNR=14						
ASAR				LR	LR	03 23 14.6	
	comp=Z,62nm,18.6s,baz=153,slow=33						
WB2	Warramunga Arr	43.57	345	P	P	03 09 26.8	-0.3
WB2				IAmb	IAmb	03 09 35.5	
	comp=Z,5.9nm,0.7s						
WRA	Warramunga Arr	43.57	345	P	P	03 09 26.7	-0.4
	comp=Z,3.0nm,0.7s,baz=170,slow=7.1,SNR=25						
WRAB	Tennant Creek	43.58	345	P	P	03 09 27.0	-0.1
WRAB				IAmb	IAmb	03 09 46.2	
	comp=Z,9.2nm,1.1s						
SNAA	Sanae	43.99	194	P	P	03 09 31.6	+1.6
SNAA	Sanae	43.99	194	P	P	03 09 31.3	+1.3
	comp=Z,2.2nm,0.9s,baz=159,slow=7.7,SNR=12						
SNAA	Sanae	43.99	194	P	P	03 09 31.4	+1.5
VNA3	Neumayer Olymp	45.07	191	P	P	03 09 39.9	+1.3
VNA1	Neumayer--Stat	45.52	192	P	P	03 09 43.6	+1.5
RAR	Rarotonga	55.46	68	LR	LR	03 29 28.1	
	comp=Z,198nm,21.5s,baz=234,slow=30						
H08S2	Diego Garcia H	75.52	282	T	T	04 35 56.6	
	baz=153,slow=76,SNR=27						
H08S1	Diego Carcia H	75.53	282	T	T	04 35 56.7	
	baz=153,slow=76,SNR=18						
H08S3	Diego Garcia H	75.54	282	T	T	04 35 57.7	
	baz=153,slow=76,SNR=21						
LBTB	Lobatse	80.44	233	P	P	03 13 35.7	+0.8
AKASG	Malin Array Be	144.59	280	PKP	PKPab	03 20 57.2	+0.1
	comp=Z,0.5nm,0.5s,baz=122,slow=2.4,SNR=1.7						
YKA	Yellowknife Ar	145.44	54	PKPbc	PKPdf	03 20 59.6	0.0
	comp=Z,0.1nm,0.4s,baz=220,slow=2.8,SNR=2.4						
GERES	GERESS Array B	150.36	265	PKPbc	PKPbc	03 21 13.9	+0.4
	comp=Z,0.4nm,0.6s,baz=130,slow=4.0,SNR=5.8						
ESDC	Sonseca Array	150.46	233	PKPbc	PKiKP	03 21 15.2	+0.5
	comp=Z,0.8nm,0.8s,baz=135,slow=1.5,SNR=7.7						
FINES	FINESS Array B	152.58	295	PKPbc	PKiKP	03 21 19.1	+0.8
	comp=Z,1.3nm,0.8s,baz=205,slow=2.6,SNR=2.5						

NEIC 01 03:15:20.1±2.8, 19°.7S±0°.1×173°.07W±0°.10, h10km±1km, mb4.0/1, Error ellipse: s-maj=24.6km s-min=11.3km az=210.0
IDC 01 03:15:24.4±3.7, 18°.06S×174°.22W, h0km, mb4.2/4, mb1 4.5/4, mb1mx3.9/33, mbtmp4.2/4, Error ellipse: s-maj=170.5km s-min=33.6km az=144.0
ISC 01 03:15:21.9±0.9, 19°.7S±0°.2×172°.94W±0°.09, h26km, n9, σ1s.65/11, mb4.4/5, Tonga Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NIUE	Niue	2.91	79	Pn	Pn	03 16 07.4	+0.8
NIUE				Sn	Sn	03 16 39.2	-1.5
AFI	Afiamalu	5.84	11	Pn	Pn	03 16 47.6	+0.6
CTA	Charters Tower	38.31	262	P	P	03 22 38.5	-2.3
	3.2nm,0.5s,baz=96,slow=9.2,SNR=3.7						
AS31	Alice Springs	49.33	255	P	P	03 24 09.3	-0.1
AS31				IAmb	IAmb	03 24 11.2	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,1.1nm,0.7s						
ASAR	Alice Springs	49.33	255	P	P	03 24 10.1	+0.7
	comp=Z,5.1nm,0.7s,baz=93,slow=7.9,SNR=66						
ASAR				PcP	PcP	03 25 35.2	+3.3
	comp=Z,0.7nm,0.7s,baz=100,slow=3.7,SNR=4.2						
WRA	Warramunga Arr	49.42	260	P	P	03 24 09.6	-0.5
	comp=Z,2.0nm,0.3s,baz=97,slow=7.6,SNR=17						
ILAR	Eielson Array	86.54	11	P	P	03 28 01.6	-0.7
	comp=Z,0.6nm,0.8s,baz=218,slow=5.7,SNR=5.1						
CLL	Collm	148.09	353	*e*PKPbc	PKPab	03 35 08.0	+0.1
BRTR	Keskin Array B	149.66	317	PKPbc	PKiKP	03 35 11.7	+0.9
	comp=Z,0.9nm,0.7s,baz=20,slow=1.7,SNR=6.4						

RSNC 01 03:22:10.8±1.2, 4°.08N×76°.73W, h89km±8km, ML1.6, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOTC	Yotoco, Valle	0.39	105	*e*P	Pn	03 22 24.0	-0.8
YOTC				*e*S	Sn	03 22 35.1	-0.1
YOTC				*i*		03 22 36.1	
	comp=Z,14nm,0.4s						
YOTC	Yotoco, Valle	0.39	105	*e*P	Pn	03 22 24.1	-0.7
YOTC				*e*S	Sn	03 22 35.3	+0.1
YOTC				*i*		03 22 36.1	
	comp=Z,14nm,0.4s						
MALC	Bahia Malaga	0.61	264	*e*P	Pn	03 22 26.5	+0.1
MALC				*i*		03 22 26.8	
	comp=Z,23nm,0.7s						
MALC				*e*S	Sn	03 22 37.9	0.0
MALC	Bahia Malaga	0.61	264	*e*P	Pn	03 22 26.5	+0.2
MALC				*i*		03 22 27.2	
	comp=Z,23nm,0.7s						
MALC				*e*S	Sn	03 22 39.0	+1.1
PLMC	San Jos del P	0.93	28	*e*P	Pn	03 22 29.0	-0.7
PLMC				*e*S	Sn	03 22 42.9	-0.9
PLMC	San Jos del P	0.93	28	*e*P	Pn	03 22 28.8	-0.9
PLMC				*e*S	Sn	03 22 43.2	-0.6
ORTC	Ortega, Tolima	1.49	97	*e*P	Pn	03 22 36.3	-0.1
ORTC				*e*S	Sn	03 22 55.8	+0.1
ORTC				*i*		03 22 58.7	
	comp=Z,2.8nm,0.2s						
ORTC	Ortega, Tolima	1.49	97	*e*P	Pn	03 22 36.2	-0.1
ORTC				*e*S	Sn	03 22 54.2	-1.4
ORTC				*i*		03 22 58.7	
	comp=Z,2.8nm,0.2s						
ORTC				*i*		03 22 58.8	
	comp=E,6.3nm,0.2s						
TOLC	Tolima	1.49	70	*e*P	Pn	03 22 36.9	+0.2
GUY2C	Guyana, Caldas	1.77	50	*e*P	Pn	03 22 41.1	+0.7
GUY2C				*e*S	Sn	03 23 02.4	-0.3
GUY2C				*i*		03 23 07.9	
	comp=Z,5.0nm,0.6s						
CBOC	Ciudad Bolivar	1.91	22	*e*P	Pn	03 22 41.9	-0.1
CBOC				*i*		03 22 43.0	
	comp=Z,1.8nm,0.2s						
BBAC	Balboa, Cauca	2.11	194	*e*P	Pn	03 22 44.4	-0.3
BBAC				*e*S	Sn	03 23 09.3	-1.2
BBAC				*i*		03 23 13.9	
	comp=Z,3.2nm,0.2s						

*IDC **01** 03:27:32.7±0.4, 13°.22S×167°.04E, h166km±3km, mb4.4/28, mb1 4.5/32, mb1mx4.5/42, mbtmp4.9/32, MS3.6/10, Ms1 3.6/10, ms1mx3.3/40, Error ellipse: s-maj=9.8km s-min=7.8km az=129.0*

*BJI **01** 03:27:33.7±0.0, 13°.14S×166°.85E, h177km, mB4.7/21, mb4.7/38*

*NEIC **01** 03:27:33.5±1.3, 13°.22S±0°.08×167°.01E±0°.08, h176km±4km, mb4.7/75, Error ellipse: s-maj=12.0km s-min=11.4km az=88.0*

*UNK **01** 03:27:33.5, 13°.22S×167°.01E, h176km*

*GCMT **01** 03:27:34.5±0.2, 13°.13S±0°.02×166°.91E±0°.02, h186km±2km, MW5.0/112, Moment Tensor Solution. s43,c47; s112,c149; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.19±.13; $M_{\theta\theta}$-1.07±.16; $M_{\phi\phi}$-2.12±.17; $M_{r\theta}$-0.69±.12; $M_{\theta\phi}$-1.59±.16; $M_{\phi r}$-3.41±.13; Best double couple: $M_0$4.74400×10^{16} NP1:ϕ_s51.00000°, δ24.00000°, λ120.00000°. NP2:ϕ_s199.00000°, δ69.00000°, λ77.00000°. Principal axes: T 4.8580, Plg64.0000°, Azm88.0000°; N -0.2270, Plg12.0000°, Azm203.0000°; P -4.6300, Plg23.0000°, Azm298.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 03:27:33.2±0.4, 13°.22S±0°.04×167°.03E±0°.05, h172km±2km, h172km:pP-P, n378, σ1°.03/448, mb4.7/77, 19C-6D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	7.90	298	P	Pn	03 29 26.9	+1.6
	32nm,0.3s,baz=168,slow=1.1,SNR=14						
HNR				LR	LR	03 32 40.9	
	comp=Z,346nm,18.4s,baz=154,slow=39						
HNR	Honiara	7.90	298	Pn	Pn	03 29 25.6	+0.3
DZM	Mont Dzumac	8.82	184	P	Pn	03 29 38.1	+0.7
	9.2nm,0.3s,baz=336,slow=4.7,SNR=117						
DZM				S	Sn	03 31 17.4	+1.6
	3.6nm,0.3s,baz=139,slow=20,SNR=2.0						
DZM	Mont Dzumac	8.82	184	Pn	Pn	03 29 38.1	+0.7
DZM				Sn	Sn	03 31 16.7	+0.9
MSVF	Nonsavu	11.53	114	Pn	Pn	03 30 14.2	+1.2
FUNA	Funafuti	12.83	70	Pn	Pn	03 30 31.1	+1.6
RABL	Rabaul	17.20	300	P	P	03 31 22.0	-0.4
KRVT	Keravat (AS076	17.26	300	P	Pn	03 31 23.7	-0.5
	5.0nm,0.3s,baz=278,slow=12,SNR=6.8						
KRVT				LR	LR	03 38 06.7	
	comp=Z,216nm,21.9s,baz=108,slow=37						
EIDS	Eidsvold	19.28	229	P	P	03 31 43.7	-1.2
EIDS				IAmb	IAmb	03 31 51.8	
	comp=Z,14nm,0.7s						
PMG	Port Moresby	19.85	279	P	P	03 31 52.0	+0.9
	comp=Z,2.7nm,0.3s,baz=85,slow=7.1,SNR=20						
PMG	Port Moresby	19.85	279	P	P	03 31 51.3	+0.2
AFI	Afiamalu	20.61	94	P	P	03 32 00.3	+0.9
CTA	Charters Tower	21.03	248	P	P	03 32 04.5	+0.7
	comp=Z,22nm,0.8s,baz=78,slow=13,SNR=19						
CTA				ScP	ScP	03 39 24.6	+0.1
	comp=Z,4.1nm,0.7s,baz=90,slow=1.0,SNR=3.0						
CTA				LR	LR	03 39 36.1	
	comp=Z,231nm,20.5s,baz=53,slow=34						
CTAO	Charters Tower	21.03	248	P	P	03 32 03.9	+0.2
CTAO				IAmb	IAmb	03 32 07.1	
	comp=Z,43nm,0.9s						
GLKZ	Green Lake	21.21	141	P	P	03 32 09.5	+4.0
ARMA	Armidale	22.25	217	P	P	03 32 16.0	-0.3
ARMA				IAmb	IAmb	03 32 19.2	
	comp=Z,30nm,1.0s						
NIUE	Niue	22.88	108	P	P	03 32 22.4	+0.4
COEN	Coen	23.20	265	P	P	03 32 24.7	-0.3
MKAZ	Moumakai	24.87	164	P	P	03 32 41.3	+1.3
MXZ	Matakaoa Point	26.25	159	P	P	03 32 52.8	+0.4
HAZ	Te Kaha	26.25	160	P	P	03 32 53.3	+1.0
HAZ				S	S	03 37 12.7	+0.8
RUGZ	Raukumara Rang	26.40	161	P	P	03 32 54.3	+0.4
RUGZ				S	S	03 37 11.1	-3.5
PKGZ	Pakihiroa	26.46	160	P	P	03 32 54.6	+0.2
URZ	Urewera	26.50	162	P	P	03 32 54.6	0.0
URZ				S	S	03 37 15.7	-0.2
WMGZ	Waiomatatini S	26.52	160	P	P	03 32 54.4	-0.4
MUGZ	Murupara	26.60	163	P	P	03 32 56.4	+0.9
PUZ	Puketiti	26.69	160	P	P	03 32 55.4	-1.0
TWVZ	Taurewa	26.80	165	P	P	03 32 58.5	+1.0
WTVZ	West Tongariro	26.88	165	P	P	03 33 00.4	+2.2
TKGZ	Te Karaka	26.89	161	P	P	03 32 59.0	+0.9
MTHZ	Maungataniwha	26.97	163	P	P	03 32 58.3	-0.5
MTHZ				S	S	03 37 21.2	-2.2
FWVZ	Far West T-bar	27.00	165	P	P	03 33 01.2	+1.8
WHVZ	Whangaehu Hut	27.04	165	P	P	03 33 01.9	+2.2
TUVZ	Tukino	27.04	165	P	P	03 33 00.9	+1.3
CNGZ	Carnagh Statio	27.05	160	P	P	03 33 00.2	+0.7
SNGZ	Shannon Statio	27.05	162	P	P	03 33 00.4	+0.9
RAHZ	Arahi	27.10	163	P	P	03 33 00.0	0.0
RAHZ				S	S	03 37 24.6	-0.8
BKZ	Black Stump Fm	27.16	164	P	P	03 33 00.7	0.0
NMHZ	Naumai	27.19	163	P	P	03 33 01.5	+0.6
MCHZ	McNeill Hill	27.48	164	P	P	03 33 04.6	+1.2
MCHZ				S	S	03 37 30.9	-0.4
JAY	Jayapura	28.12	290	P	P	03 33 09.2	-0.3
	comp=Z,12nm,0.8s,baz=93,slow=2.7,SNR=7.1						
JAY	Jayapura	28.12	290	P	P	03 33 09.8	+0.3
	comp=Z,9.8nm,0.9s						
BFZ	Birch Farm	28.52	165	P	P	03 33 11.8	-0.8
TUWZ	Tuamarina	28.74	169	P	P	03 33 14.8	+0.3
THZ	Tophouse	28.89	171	P	P	03 33 16.1	+0.2
STKA	Stephens Creek	29.81	227	P	P	03 33 25.1	+1.0
	comp=Z,35nm,0.6s,baz=49,slow=9.2,SNR=161						
STKA				pP	pP	03 33 59.0	0.0
	comp=Z,6.4nm,0.6s,baz=47,slow=8.2,SNR=2.6						
STKA				PcP	PcP	03 36 23.1	-0.2
	comp=Z,13nm,0.7s,baz=73,slow=3.0,SNR=9.9						
STKA				ScP	ScP	03 39 50.1	+0.8
	comp=Z,2.3nm,0.6s,baz=68,slow=5.5,SNR=5.9						
STKA				LR	LR	03 44 20.9	
	comp=Z,162nm,18.9s,baz=41,slow=34						
STKA	Stephens Creek	29.81	227	P	P	03 33 24.9	+0.8
STKA				IAmb	IAmb	03 33 25.9	
	comp=Z,6.9nm,0.6s						
STKA	Stephens Creek	29.81	227		PcP	03 36 23.7	+0.3
SMPI	Sarmi	30.16	289	P	P	03 33 27.7	+0.3
	comp=Z,704nmcomp=Z,80nm,1.0s						
RPZ	Rata Peaks	30.58	174	P	P	03 33 31.1	+0.3
	comp=Z,32nm,0.7s,baz=293,slow=1.0,SNR=21						
MQZ	McQueen's Vall	30.76	172	IAmb	IAmb	03 33 33.1	
	comp=Z,27nm,0.7s						
TOO	Toolangi	30.94	215	IAmb	IAmb	03 33 35.9	
	comp=Z,20nm,0.8s						
WR0	Warramunga Arr	31.81	253	IAmb	IAmb	03 33 42.2	
	comp=Z,18nm,1.1s						
WR0				ScP	ScP	03 39 57.2	+1.0
WB0	Warramunga Arr	31.92	254	P	P	03 33 42.1	-0.7
WB0				IAmb	IAmb	03 33 43.2	
	comp=Z,22nm,0.8s						
WB2	Warramunga Arr	31.98	254		P	03 33 41.4	-2.0
WB2				IAmb	IAmb	03 33 43.8	
	comp=Z,15nm,0.9s						
WRA	Warramunga Arr	32.00	254	P	P	03 33 42.8	-0.7
	comp=Z,9.3nm,0.7s,baz=82,slow=8.8,SNR=41						
WRA				pP	pP	03 34 17.6	-1.1
	comp=Z,7.6nm,0.8s,baz=85,slow=8.7,SNR=6.2						
WRA				PcP	PcP	03 36 29.1	-0.3
	comp=Z,2.6nm,0.9s,baz=81,slow=2.8,SNR=4.8						
WRA				ScP	ScP	03 39 57.2	+0.3
	comp=Z,12nm,1.0s,baz=83,slow=3.5,SNR=24						
WRA				PKiKP	PKiKP	03 43 55.6	-2.0
	comp=Z,0.8nm,0.5s,baz=10,slow=0.5,SNR=10						
WRA				LR	LR	03 46 17.9	
	comp=Z,104nm,18.9s,baz=105,slow=35						
AS31	Alice Springs	33.02	247	ScP	ScP	03 40 00.8	+0.5
ASAR	Alice Springs	33.02	247	P	P	03 33 52.0	-0.5
	comp=Z,6.0nm,0.6s,baz=74,slow=9.0,SNR=96						
ASAR				pP	pP	03 34 27.9	+0.4
	comp=Z,6.3nm,0.8s,baz=76,slow=9.6,SNR=3.6						
ASAR				PcP	PcP	03 36 32.1	-0.2
	comp=Z,4.3nm,0.9s,baz=78,slow=3.7,SNR=10						
ASAR				S	S	03 38 56.1	-2.3
	comp=Z,1.4nm,0.8s,baz=73,slow=16,SNR=4.4						
ASAR				ScP	ScP	03 40 00.5	+0.2
	comp=Z,9.3nm,0.8s,baz=84,slow=3.4,SNR=35						
ASAR				PKiKP	PKiKP	03 43 56.5	-1.8
	comp=Z,0.5nm,0.5s,baz=104,slow=1.4,SNR=9.0						
ASAR				LR	LR	03 47 14.3	
	comp=Z,179nm,18.7s,baz=80,slow=36						
TAU	Tasmania Unive	34.13	206	P	P	03 34 01.8	+0.1
TAU				IAmb	IAmb	03 34 03.5	
	comp=Z,21nm,0.8s						
BBOO	Buckleboo	34.34	230	P	P	03 34 03.7	+0.1
BBOO				IAmb	IAmb	03 34 04.8	
	comp=Z,16nm,0.6s						
MTN	Manton Dam	34.95	266	IAmb	IAmb	03 34 12.7	
	comp=Z,20nm,0.9s						
KNRA	Kununurra	37.10	261	P	P	03 34 27.6	+0.3
SIJI	Sorong	37.48	286	P	P	03 34 30.9	+0.3
	comp=Z,31nm,0.9s,baz=87,slow=6.0,SNR=26						
SIJI				LR	LR	03 50 22.9	
	comp=Z,92nm,20.2s,baz=206,slow=36						
FITZ	Fitzroy Crossi	40.09	258	P	P	03 34 52.4	+0.1
	comp=Z,4.4nm,0.5s,baz=103,slow=8.2,SNR=14						
FITZ				PcP	PcP	03 36 53.8	+0.2
	comp=Z,3.3nm,0.7s,baz=0.0,slow=1.0,SNR=1.8						
FITZ	Fitzroy Crossi	40.09	258	P	P	03 34 52.6	+0.4
FITZ				IAmb	IAmb	03 34 52.9	
	comp=Z,18nm,1.1s						
NLAI	Namlea	40.68	281	P	P	03 34 58.3	+1.1
	comp=Z,753nmcomp=Z,70nm,0.9s						
SANI	Sanana	42.09	282	P	P	03 35 08.9	+0.3
	comp=Z,717nmcomp=Z,39nm,1.0s						
EDFI	Ende, Flores	44.68	271	P	P	03 35 30.3	+0.8
	comp=Z,17nm,1.2s						
PSA00	Pilbara Seismi	45.64	253	P	P	03 35 37.8	+0.9
PSA00				IAmb	IAmb	03 35 38.4	
	comp=Z,18nm,1.0s						
DAV	Davao City (W)	45.84	294	LR	LR	03 53 50.0	
	comp=Z,33nm,21.5s,baz=158,slow=34						
KCP	Kidapawan	46.25	293	⇑*i*P	P	03 35 42.2	+0.4
BNSI	Bone	47.12	276	P	P	03 35 49.8	+1.3
	comp=Z,53nm,0.9s						
KAPI	Kappang	47.32	275	P	P	03 35 51.0	+1.0
KAPI				IAmb	IAmb	03 35 51.6	
	comp=Z,20nm,1.0s						
MPSI	Mapaga	48.61	282	P	P	03 35 59.8	-0.1
	comp=Z,1μmcomp=Z,51nm,0.8s						
NWAO	Narrogin (SRO)	49.33	238	P	P	03 36 05.0	-0.2
	comp=Z,12nm,0.4s,baz=85,slow=6.4,SNR=21						
NWAO	Narrogin (SRO)	49.33	238	IAmb	IAmb	03 36 05.3	
	comp=Z,13nm,0.6s						
KKM	Kota Kinabalu	53.97	288	P	P	03 36 40.5	+0.6
KKM				IAmb	IAmb	03 36 41.9	
	comp=Z,25nm,0.9s						
MJAR	Matsushiro Arr	56.47	332	P	P	03 36 57.4	+0.1
	comp=Z,3.1nm,0.8s,baz=160,slow=7.9,SNR=16						
MJAR				ScP	ScP	03 41 36.2	+0.9
	comp=Z,1.6nm,0.9s,baz=148,slow=4.9,SNR=6.7						
MAJO	Matsushiro	56.47	332	P	P	03 36 58.0	+0.7
MAT	Matsushiro	56.47	332	P	P	03 36 57.4	+0.1
MJB9	Matsu-Tunnel	56.48	332	P	P	03 36 58.0	+0.7
KSM	Kuching	58.10	280	P	P	03 37 09.5	+0.3
TPUB	Ta-pu	58.12	308	P	P	03 37 09.2	+0.1
TPUB				IAmb	IAmb	03 37 09.5	
	comp=Z,8.6nm,0.7s						
LEM	Lembang	58.74	270	P	P	03 37 14.6	+0.8
	comp=Z,18nm,0.5s,baz=3.3,slow=6.2,SNR=4.3						
KSRS	Korea Array	62.37	325	P	P	03 37 38.0	+0.4
	comp=Z,0.9nm,0.6s,baz=135,slow=7.2,SNR=4.3						
KSRS				pP	PcP	03 38 16.3	+0.7
	comp=Z,2.3nm,0.8s,baz=140,slow=6.5,SNR=5.7						
VNDA	Vanda	64.35	181	P	P	03 37 50.8	+0.7
	comp=Z,6.0nm,0.6s,baz=349,slow=6.8,SNR=46						
VNDA	Vanda	64.35	181	P	P	03 37 50.6	+0.5
VNDA				IAmb	IAmb	03 37 52.0	
	comp=Z,10nm,0.9s						
NJ2	Nanjing	64.44	315	*e*P	P	03 37 52.7	+1.3
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CASY	Casey	64.83	202	P	P	03 37 53.0	-0.3
CASY				IAmb	IAmb	03 37 53.5	
	comp=Z,10nm,0.6s						
PEA0B	Petropavlovsk-	66.55	354	IAmb	IAmb	03 38 06.0	
	comp=Z,19nm,0.9s						
PETK	Petropavlovsk-	66.55	354	P	P	03 38 05.2	+0.7
	comp=Z,14nm,0.8s,baz=158,slow=8.9,SNR=23						
PETK				LR	LR	04 01 58.3	
	comp=Z,32nm,22.0s,baz=242,slow=31						
CN2	Changchun	68.24	329	*e*P	P	03 38 19.7	+4.4
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
GYA	Guiyang	70.67	304	*e*P	P	03 38 30.4	-0.4
GYA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	Xi'an	72.51	312	P	P	03 38 42.0	+0.5
XAN				pmax	pmax		
	comp=Z,8.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,57nm,3.5s						
XAN				LR	LR		
	comp=Z,120nm,17.4s						
XAN				LR	LR		
	comp=Z,100nm,17.3s						
XAN				LR	LR		
	comp=Z,100nm,20.6s						
MA2	Magadan	73.73	351	P	P	03 38 47.7	-0.3
MA2				IAmb	IAmb	03 38 49.3	
	comp=Z,14nm,0.8s						
CMAR	Chiang Mai Arr	74.13	294	P	P	03 38 52.5	+1.3
	comp=Z,1.5nm,0.9s,baz=129,slow=4.2,SNR=8.4						
CMAR				pP	pP	03 39 32.2	+0.4
	comp=Z,2.5nm,0.7s,baz=124,slow=4.8,SNR=4.2						
CMAR				LR	LR	04 09 21.3	
	comp=Z,20nm,21.6s,baz=215,slow=34						
HHC	Hu-ho-hao-te	74.29	320	*e*P	P	03 38 52.2	+0.3
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,34nm,7.4s						
CD2	Chengdu	74.91	307	*e*P	P	03 38 56.0	+0.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
QSPA	South Pole Qui	76.80	180	P	P	03 39 06.0	+0.3
	comp=Z,32nm,0.6s,baz=309,slow=0.5,SNR=267						
QSPA	South Pole Qui	76.80	180	P	P	03 39 05.8	+0.1
LZH	Lanzhou	77.14	312	*e*P	P	03 39 07.0	-1.2
LZH				pP	pP	03 39 49.9	+0.3
LZH				pmax	pmax		
	comp=Z,18nm,1.1s						
LZH				pmax	pmax		
	comp=Z,130nm,4.3s						
BILL	Bilibino	81.04	360	P	P	03 39 28.6	+0.1
BILL				IAmb	IAmb	03 39 29.1	
	comp=Z,17nm,0.7s						
SONM	Songino Array	81.15	324	P	P	03 39 30.1	+0.5
	comp=Z,1.9nm,0.8s,baz=124,slow=9.2,SNR=4.3						
GTA	Gaotai	81.46	314	*e*P	P	03 39 32.4	+0.9
GTA				pP	pP	03 40 12.9	-0.4
GTA				sP	sP	03 40 32.3	+1.1
GTA				S	S	03 49 30.7	+1.9
GTA				sS	sS	03 50 44.4	+5.9
GTA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,38nm,7.3s						
GTA				LR	LR		
	comp=Z,60nm,18.4s						
GTA				LR	LR		
	comp=Z,180nm,20.3s						
GTA				LR	LR		
	comp=Z,75nm,17.5s						
MAW	Mawson	83.19	202	P	P	03 39 40.1	+0.3
	comp=Z,10.0nm,0.5s,baz=116,slow=5.4,SNR=44						
MAW	Mawson	83.19	202	P	P	03 39 39.9	+0.2
TRF	Thorofare Moun	83.19	18	IAmb	IAmb	03 39 39.2	
	comp=Z,9.5nm,0.8s						
BPAW	Bear Paw Mtn.	83.47	17	P	P	03 39 40.7	-0.5
MCK	McKinley	83.80	18	P	P	03 39 42.4	-0.5
MCK				IAmb	IAmb	03 39 43.9	
	comp=Z,34nm,1.0s						
O02D	Mt. Diablo Mer	83.86	46	P	P	03 39 44.4	+0.6
	baz=247						
GLB	Gilahina Butte	83.88	21	IAmb	IAmb	03 39 44.6	
	comp=Z,9.3nm,0.7s						
N02D	Trinity Center	84.23	46	P	P	03 39 46.7	+1.0
	baz=247						
M02C	Callahan	84.29	45	P	P	03 39 46.6	+0.6
	baz=247						
YBH	Yreka Blue Hor	84.52	45	P	P	03 39 47.3	+0.2
	comp=Z,4.5nm,0.7s,baz=154,slow=3.2,SNR=12						
ORV	Oroville	84.54	47	P	P	03 39 46.9	-0.3
ORV					pwP	03 40 32.6	+0.7
WRH	Wood River Hil	84.60	18	P	P	03 39 46.0	-0.8
WRH				IAmb	IAmb	03 39 46.4	
	comp=Z,17nm,0.6s						
WRH				pP	pP	03 40 29.3	+0.6
O03E	Paynes Creek	84.61	47	P	P	03 39 47.5	0.0
	baz=248						
TLY	Talaya	84.62	326	P	P	03 39 47.1	-0.2
TLY				IAmb	IAmb	03 39 48.3	
	comp=Z,8.0nm,0.9s						
CMB	Columbia Colle	84.80	49	P	P	03 39 47.8	-0.7
CMB					pwP	03 40 33.2	+0.1
TCOL	CIGO, UAF Yank	84.96	18	P	P	03 39 48.5	-0.1
	baz=224						
COLA	College	84.96	18	P	P	03 39 47.5	-1.1
COLA				IAmb	IAmb	03 39 48.8	
	comp=Z,29nm,1.1s						
L04D	Klamath Falls	84.99	45	P	P	03 39 50.1	+0.6
	baz=247						
VES	Vestal, Richgr	85.00	52	P	P	03 39 49.5	-0.1
	baz=250						
RIDG	Independent Ri	85.09	19	IAmb	IAmb	03 39 50.9	
	comp=Z,12nm,0.9s						
ILAR	Eielson Array	85.17	18	P	P	03 39 48.6	-1.1
	comp=Z,11nm,0.6s,baz=239,slow=5.2,SNR=68						
ILAR				pP	pP	03 40 31.9	+0.2
	comp=Z,16nm,0.9s,baz=231,slow=6.2,SNR=10						
ILAR				PKKP	PKKPdf	03 57 53.3	+2.8
	comp=Z,0.8nm,0.6s,baz=346,slow=2.1,SNR=9.4						
POKR	Poker Plat Res	85.26	18	P	P	03 39 49.4	-0.7
	baz=224						
DOT	Dot Lake	85.28	20	IAmb	IAmb	03 39 51.8	
	comp=Z,8.9nm,0.7s						
DOT				pP	pP	03 40 34.0	+1.6
ISA	Isabella, Lake	85.41	52	P	P	03 39 52.2	+0.6
	baz=250						
J04D	Umpqua Nationa	85.52	44	P	P	03 39 53.1	+1.0
	baz=247						
EDW2	Edwards Air Fo	85.52	53	P	P	03 39 53.0	+0.8
	baz=251						
G03D	McMinnville, O	85.53	42	P	P	03 39 52.4	+0.5
	baz=246						
I04A	Tendick Farm,	85.53	43	P	P	03 39 51.6	-0.5
	baz=247						
SCRK	Sand Creek	85.53	20	P	P	03 39 50.8	-0.8
SCRK				IAmb	IAmb	03 39 52.1	
	comp=Z,8.8nm,0.7s						
SCRK				pP	pwP	03 40 35.0	-1.2
BFSC	Mount Baldy Ra	85.57	53	P	P	03 39 52.4	-0.1
	baz=251						
H04D	Lebanon	85.60	42	P	P	03 39 53.5	+1.2
	baz=247						
HYT	Haines Junctio	85.85	24	P	P	03 39 52.3	-1.0
HYT				IAmb	IAmb	03 39 54.0	
	comp=Z,12nm,1.2s						
CWC	Cottonwood Cre	85.97	51	P	P	03 39 54.6	+0.1
	baz=250						
H04A	Detroit Lake	86.02	42	IAmb	IAmb	03 39 55.4	
	comp=Z,5.3nm,0.6s						
MONP2	Monument Peak	86.11	55	P	P	03 39 55.3	-0.1
	baz=252						
J05D	Fort Rock, OR	86.12	44	P	P	03 39 55.3	+0.1
	baz=248						
IKP	In-Ko-Pah, Jac	86.29	55	P	P	03 39 56.5	+0.4
	baz=252						
PFO	Pinyon Flats O	86.31	54	P	P	03 39 56.6	+0.4
	baz=252						
PFO	Pinyon Flats O	86.31	54	P	P	03 39 56.2	0.0
	comp=Z,2.0nm,0.5s,baz=194,slow=1.8,SNR=4.9						
PFO	Pinyon Flats O	86.31	54	IAmb	IAmb	03 39 57.4	
	comp=Z,2.7nm,0.8s						
TPFO	Pinon Flats	86.31	54	P	P	03 39 57.1	+0.8
	baz=252						
I05D	Terrebonne, OR	86.45	43	P	P	03 39 57.0	+0.5
	baz=248						
NVAR	Mina Array Bea	86.47	49	P	P	03 39 57.2	+0.2
	comp=Z,2.4nm,0.7s,baz=235,slow=8.3,SNR=13						
NVAR				pP	pwP	03 40 40.6	-1.5
	comp=Z,3.2nm,0.8s,baz=244,slow=8.4,SNR=6.4						
E04D	Cinebar	86.51	41	P	P	03 39 57.4	+0.7
	baz=247						
D03D	Eldon	86.57	40	P	P	03 39 57.3	+0.3
	baz=246						
BELC	Belle Mtn. Jos	86.80	54	P	P	03 39 58.6	0.0
	baz=252						
F05D	White Salmon	86.96	42	P	P	03 39 59.5	+0.6
	baz=248						
TOLK	Toolik Lake Re	87.26	15	P	P	03 40 00.5	+0.6
	baz=222						
TOLK	Toolik Lake Re	87.26	15	IAmb	IAmb	03 40 01.1	
	comp=Z,7.7nm,0.7s						
A04D	Lummi Island	87.28	39	P	P	03 40 00.6	+0.3
	baz=246						
GMRC	Granite Mounta	87.31	54	P	P	03 40 01.2	+0.2
	baz=252						
GLA	Glamis	87.44	55	P	P	03 40 01.2	-0.3
	baz=252						
IRM	Iron Mountain	87.52	54	P	P	03 40 02.4	+0.5
	baz=252						
TPNV	Topopah Spring	87.53	51	P	P	03 40 02.1	0.0
	baz=252						
DLBC	Dease Lake	87.73	28	P	P	03 40 01.9	-0.4
	comp=Z,4.0nm,1.0s,baz=221,slow=7.7,SNR=4.0						
DLBC				pP	pP	03 40 43.6	-1.0
	comp=Z,5.3nm,1.0s,baz=197,slow=14,SNR=3.0						
Y12C	Blythe	87.89	55	P	P	03 40 03.8	+0.1
	baz=253						
PDMCI	Parker Dam,Lak	88.36	54	P	P	03 40 06.1	+0.3

baz=253
G08A Pilot Rock 88.38 43 P P 03 40 05.0 -0.8
TIXI Tiksi 88.46 349 P P 03 40 05.0 -0.4
R11A Troy Canyon, C 88.47 50 P P 03 40 06.1 -0.4
baz=252
EPYK Eagle Plains 89.42 20 IAmb IAmb 03 40 15.8
comp=Z,5.3nm,0.9s
ELK Elko 89.46 48 P P 03 40 11.5 +0.4
comp=Z,2.7nm,0.8s,baz=199,slow=3.4,SNR=6.6
ELK Elko 89.46 48 P P 03 40 10.0 -1.1
F10A Beach Ranch, E 89.75 43 IAmb IAmb 03 40 12.9
comp=Z,6.5nm,0.8s
F10A pP pP 03 40 55.8 +1.3
SYO Syowa Base 90.07 197⇓eP P 03 40 11.1 -2.1
SYO Syowa Base 90.07 197⇓eX P 03 40 20.0 +6.8
NEW Newport 90.57 40 P P 03 40 16.0 +0.1
baz=251
NEW Newport 90.57 40 P P 03 40 16.2 +0.3
comp=Z,2.4nm,0.7s,baz=208,slow=4.1,SNR=5.1
NEW pP pP 03 40 58.9 +0.7
comp=Z,4.5nm,0.9s,baz=218,slow=4.2,SNR=4.5
WMQ Urumqi 91.51 315 eP P 03 40 21.4 +1.0
WMQ pmax pmax
comp=Z,24nm,0.7s
WMQ pmax pmax
comp=Z,76nm,5.1s
PDAR Pinedale Array 94.10 47 PKKPbc PKKPbc 03 57 32.9 -2.3
comp=Z,0.4nm,0.6s,baz=46,slow=8.5,SNR=4.0
SNAA Sanae 95.03 183 P P 03 40 35.2 -0.9
SNAA Sanae 95.03 183 P P 03 40 35.4 -0.8
SNAA IAmb IAmb 03 40 37.9
comp=Z,5.8nm,0.9s
VNA3 Neumayer Olymp 95.71 181 P P 03 40 38.0 -1.1
TXAR Lajitas Array 95.77 61 PKKPbc PKKPbc 03 57 29.4 -0.5
comp=Z,0.2nm,0.6s,baz=84,slow=3.8,SNR=4.2
MK31 Makanchi Array 95.96 317 P P 03 40 40.8 +0.2
MK31 IAmb IAmb 03 40 42.7
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 95.96 317 P P 03 40 40.1 -0.6
comp=Z,2.3nm,0.6s,baz=96,slow=6.5,SNR=13
MKAR pP pP 03 41 21.7 -1.8
comp=Z,1.8nm,0.7s,baz=100,slow=6.7,SNR=4.2
MKAR PKiKP PKiKP 03 45 18.4 -0.4
comp=Z,0.4nm,0.4s,baz=217,slow=2.8,SNR=2.4
MKAR PKKPbc PKKPbc 03 57 27.6 -2.5
comp=Z,0.7nm,0.6s,baz=285,slow=1.5,SNR=7.2
VNA2 Neumayer--Watz 95.97 182 P P 03 40 39.9 -0.4
baz=176,slow=3.8
ZALV Zalesovo Beam 96.05 324 P P 03 40 39.8 -1.0
comp=Z,2.4nm,0.7s,baz=108,slow=4.8,SNR=9.9
ZALV pP pP 03 41 21.0 -2.6
comp=Z,0.7nm,0.4s,baz=138,slow=6.8,SNR=2.0
ZALV PKiKP PKiKP 03 45 19.7 +1.1
comp=Z,0.5nm,0.3s,baz=225,slow=1.2,SNR=2.3
VNA1 Neumayer--Stat 96.27 182 P P 03 40 41.3 -0.3
YKA Yellowknife Ar 96.32 27 P P 03 40 40.5 -1.4
comp=Z,1.6nm,0.5s,baz=254,slow=4.7,SNR=22
YKA pP pP 03 41 23.0 -1.4
comp=Z,2.5nm,0.8s,baz=246,slow=4.8,SNR=7.9
YKA PKKPbc PKKPbc 03 57 25.6 -4.1
comp=Z,0.5nm,0.6s,baz=90,slow=2.9,SNR=8.9
NRIK Noril'sk 98.59 339 P P 03 40 51.2 -0.7
comp=Z,4.0nm,0.8s,baz=111,slow=4.3,SNR=5.5
ARU Arti 111.12 326 PKiKP PKiKP 03 45 46.0 0.0
comp=Z,1.4nm,0.5s,baz=90,slow=1.0,SNR=3.3
AKTO Aktyubinsk 112.19 319 PKiKP PKiKP 03 45 47.8 -0.5
comp=Z,1.7nm,0.7s,baz=135,slow=1.4,SNR=3.9
GEYT Alibeck 112.87 306 PKiKP PKiKP 03 45 49.6 -0.5
comp=Z,2.0nm,0.8s,baz=195,slow=11,SNR=3.6
SPITS Spitsbergen Ar 113.42 354 PKiKP PKiKP 03 45 49.4 -0.6
comp=Z,5.0nm,0.7s,baz=69,slow=4.8,SNR=3.3
LPAZ La Paz 118.10 117 PKP PKPdf 03 46 01.0 -0.4
comp=Z,0.8nm,0.5s,baz=74,slow=2.2,SNR=5.9
HAMF Hammerfest 118.34 347 ePKPdf PKPdf 03 45 58.6 -0.9
ARCES ARCESS Array B 118.74 346 PKP PKPdf 03 45 59.9 -0.5
comp=Z,20nm,0.5s,baz=76,slow=1.9,SNR=251
ARCES PKKPbc PKKPab 03 56 15.8 -3.1
comp=Z,2.0nm,0.6s,baz=220,slow=1.8,SNR=16
ARE0 ARCESS Array S 118.74 346 PKPdf 03 45 59.8 -0.6
ARE0 ARCESS Array S 118.74 346 ePKPdf PKPdf 03 45 59.7 -0.7
SUMG Summit 118.79 9 PKPdf PKPdf 03 46 00.4 -0.5
KLMR Klimovskoe 119.24 334 ePKPdf PKPdf 03 45 59.5 -2.0
KLMR AMP 03 46 01.4
comp=Z,6.0nm,0.6s
KTK1 Kautokeino 119.68 346 ePKPdf PKPdf 03 46 01.2 -0.9
TRO Tromso 120.16 348 ePKPdf PKPdf 03 46 01.8 -1.2
TRO ePP PP 03 47 30.4 +0.1
SCHQ Schefferville 121.17 33 PKP PKPdf 03 46 04.1 -1.3
comp=Z,1.3nm,0.5s,baz=245,slow=2.9,SNR=4.3
SCHQ PKKPbc PKKPab 03 56 08.1 -0.5
comp=Z,1.7nm,0.6s,baz=105,slow=6.2,SNR=5.6
N2IH Innhavet 122.15 348 ePKPdf PKPdf 03 46 06.2 -0.7
N2VI Vinje 122.20 348 ePKPdf PKPdf 03 46 06.3 -0.7
STEI Steigen 122.33 348 ePKPdf PKPdf 03 46 06.5 -0.7
STEI ePP PP 03 47 47.0 +2.0
LOF Lofoten 122.49 349 ePKPdf PKPdf 03 46 06.6 -1.0
N2TV T¥rnvik 122.66 348 ePKPdf PKPdf 03 46 07.1 -0.8
N2VA Vr¸y 123.06 349 ePKPdf PKPdf 03 46 07.7 -1.0
N2RO R¸st 123.30 349 ePKPdf PKPdf 03 46 08.5 -0.6
PQI Presque Isle 123.30 42 PKPdf PKPdf 03 46 07.7 -2.0
NBB05 Inndyr 123.33 348 ePKPdf PKPdf 03 46 09.2 0.0
RAYN Ar Rayn 123.89 290 PKPdf PKiKP 03 46 11.8 -0.1
KONS Konsvik 123.98 348 ePKPdf PKPdf 03 46 09.8 -0.6
FIA1 FINESS Array S 124.24 339 PKPdf PKPdf 03 46 10.3 -0.8
FINES FINESS Array B 124.24 339 PKP PKPdf 03 46 10.6 -0.5
comp=Z,6.1nm,0.5s,baz=28,slow=2.3,SNR=87
FINES PKKPbc PKKPab 03 55 55.9 +0.7
comp=Z,1.5nm,0.9s,baz=270,slow=0.2,SNR=4.3
SIV San Ignacio 124.28 120 PKP PKPdf 03 46 11.6 -1.0
comp=Z,1.5nm,0.4s,baz=253,slow=8.0,SNR=15
SUR Sutherland 124.31 215 PKPdf PKPdf 03 46 12.4 -0.1
BOSA Boshof 124.36 221 PKP PKPdf 03 46 12.1 -0.5
comp=Z,8.6nm,0.8s,baz=136,slow=4.0,SNR=12
BOSA Boshof 124.36 221 PKPdf PKPdf 03 46 12.2 -0.3
BATG Bathurst New B 124.38 41 PKPdf PKPdf 03 46 10.4 -1.4
NSS Namsos 125.93 347 ePKPdf PKPdf 03 46 13.8 -0.5
NSS epPKPdf pPKPdf 03 47 02.0 +3.3
NSS ePP PP 03 48 10.2 +1.0
VSU Vasula 125.95 335 eP PKPdf 03 46 14.6 +0.2
ISAL Salakas 128.05 333 eP PKiKP 03 46 20.1 +1.0
IIGN Ignalina 128.14 333 eP PKiKP 03 46 20.1 +0.7
MOL Molde 128.59 348 ePKPdf PKPdf 03 46 19.6 +0.2
DOMB Dombas 128.75 347 ePKPdf PKPdf 03 46 19.7 -0.1
DOMB ePP PP 03 48 29.3 +1.5
NC303 NORSAR Array S 128.92 345 PKPdf 03 46 20.0 0.0
PABE Paberze 129.03 334 eP PKPdf 03 46 20.6 +0.2
AKN Aaknes 129.06 348 ePKPdf PKiKP 03 46 20.9 -0.2
NB201 NORSAR Array S 129.09 345 PKPdf PKPdf 03 46 20.2 -0.3
NB2 NORSAR Subarra129.12 345 PKPdf PKPdf 03 46 19.7 -0.8
comp=Z,2.9nm,0.5s,baz=31,slow=1.9
NB2 NORSAR Subarra129.12 345 PKPdf PKPdf 03 46 19.7 -0.8
baz=31,slow=1.9
NOA NORSAR Array B 129.12 345 PKP PKPdf 03 46 20.4 -0.1
comp=Z,5.3nm,0.6s,baz=32,slow=2.0,SNR=43
HFS Hagfors 129.22 343 PKP PKPdf 03 46 19.9 -0.7
comp=Z,8.1nm,0.7s,baz=103,slow=4.7,SNR=36
HFS SKPbc SKPbc 03 49 26.5 +0.5
comp=Z,5.1nm,0.8s,baz=28,slow=3.5,SNR=10
NBO00 NORSAR Array S 129.23 345 PKPdf 03 46 20.8 +0.1
NC602 NORSAR Array S 129.29 345 PKPdf 03 46 20.3 -0.5
NC602 NORSAR Array S 129.29 345 ePKPdf PKPdf 03 46 20.6 -0.2
AKASG Malin Array Be 129.36 326 PKP PKPdf 03 46 20.7 -0.5
comp=Z,3.6nm,0.7s,baz=64,slow=2.0,SNR=12
AKASG SKPbc SKPbc 03 49 27.3 +0.5
comp=Z,1.1nm,0.5s,baz=48,slow=4.3,SNR=8.2
AKBB Malin Array Si 129.36 326 PKPdf PKPdf 03 46 20.6 -0.6
NAO01 NORSAR Array S 129.37 345 PKPdf 03 46 21.0 +0.1
SKAR Skarslia 130.13 346 ePKPdf PKPdf 03 46 22.8 +0.3
SKAR ePP PP 03 48 36.8 0.0
KONO Kongsberg 130.73 345 ePKPdf PKPdf 03 46 23.7 +0.2
ASF Jabal al Asfar 130.75 301 SKPbc SKPab 03 49 33.8 +0.9
comp=Z,10nm,1.1s,baz=43,slow=3.0,SNR=7.1
ASK Askoy 130.97 348 ePKPdf PKiKP 03 46 24.6 -0.3
BRTR Keskin Array B 131.35 312 PKP PKPdf 03 46 25.1 -0.5
comp=Z,1.1nm,0.7s,baz=150,slow=1.9,SNR=7.0
BRTR SKPbc SKPab 03 49 35.6 +0.3
comp=Z,6.7nm,0.7s,baz=84,slow=3.5,SNR=32
PTGA Pitinga 131.40 103 SKPbc SKPab 03 49 36.4 +0.3
comp=Z,1.4nm,0.6s,baz=78,slow=20,SNR=1.9
BLS5 Blasjo 131.67 347 ePKPdf PKiKP 03 46 26.0 -0.4
MMAI Mount Meron Ar 131.82 303 SKPbc SKPbc 03 49 36.9 +0.4
comp=Z,8.2nm,0.9s,baz=19,slow=5.3,SNR=5.2
HOMB Homborsund 132.21 345 eP PKiKP 03 46 27.1 -0.3
SNART Snartemo 132.47 346 ePKPdf PKiKP 03 46 27.9 0.0
CFR Carcaliu 132.82 321 ⇑P PKPdf 03 46 28.3 +0.4

EIL Elat 132.84 298 SKPbc SKPbc 03 49 40.4 +0.3
comp=Z,10nm,1.1s,baz=221,slow=8.1,SNR=4.1
BIZ Bicaz 133.12 324 ⇑P PKiKP 03 46 29.3 -0.4
HARR Harsova 133.18 320 ⇑P PKPdf 03 46 28.7 +0.1
BURAR Bucovina Array 133.25 325 ⇑P PKiKP 03 46 30.4 +0.3
VRI Vrincioaia 133.32 322 ⇓P PKPdf 03 46 28.4 -0.6
MLR Muntele Rosu 133.99 322 PKP PKiKP 03 46 31.0 -0.6
comp=Z,2.1nm,0.6s,baz=305,slow=10,SNR=4.0
MLR Muntele Rosu 133.99 322 ⇑P PKiKP 03 46 31.3 -0.3
KOLS Kolonicke sedl 134.05 328 ePKP PKiKP 03 46 31.6 +0.1
TRPA Tarpa 134.41 327 ⇑P PKPdf 03 46 30.0 -0.8
VOIR 134.55 323 ⇑P PKiKP 03 46 32.6 -0.2
CJR Cluj-Napoca 134.68 325 ⇑P PKiKP 03 46 33.0 +0.1
ARR Arges 134.84 323 ⇑P PKiKP 03 46 32.9 -0.4
BDFB Brasilia 135.01 129 PKP PKPdf 03 46 32.1 -0.9
comp=Z,3.9nm,0.7s,baz=251,slow=7.3,SNR=6.0
SKMB Sankelmark Bun 135.03 342 eSKPbc SKPbc 03 49 48.3 +2.0
baz=35,slow=2.8
DRGR 135.12 325 ⇑P PKPdf 03 46 32.3 -0.1
LOT Lotru 135.30 323 ⇑P PKPdf 03 46 33.5 +0.7
ELND Elena 135.34 319 ⇑P PKiKP 03 46 33.7 -0.6
RUE Ruedersdorf 135.37 337 eP PKPdf 03 46 32.9 +0.5
RUE Ruedersdorf 135.37 337 ePKPdf PKPdf 03 46 32.6 +0.2
baz=37,slow=1.9
RUE eSKPbc SKPbc 03 49 49.5 +2.0
baz=35,slow=2.8
BSEG Bad Segeberg 135.41 341 ePKPdf PKPdf 03 46 32.7 +0.2
baz=37,slow=1.9
BSEG eSKPbc SKPbc 03 49 49.3 +1.7
baz=35,slow=2.8
OKC Ostrava-Krasne 135.48 331 ePKPDF PKPdf 03 46 32.9 +0.1
MORC Moravsky Berou 135.80 332 ⇓P PKPdf 03 46 33.8 +0.4
MORC Moravsky Berou 135.80 332 ePKP PKPdf 03 46 33.4 -0.1
MORC e 03 49 50.5
OSTC Ostas 135.84 333 eSKP 03 49 51.2
CHVC Chvalec 135.88 334 ePKPDF PKPdf 03 46 33.6 0.0
CHVC eSKP 03 49 51.1
PLVB Pleven 135.90 320 ⇑P PKPdf 03 46 34.3 +0.5
GZR Gura Zlata 135.90 324 ⇑P PKPdf 03 46 33.9 +0.1
TSUM Tsumeb 135.91 224 PKPdf PKPdf 03 46 34.0 -0.7
KRLC Kraliky 135.94 333 eSG PKPdf 03 46 33.9 +0.2
KRLC Kraliky 135.94 333 ePKPDF PKPdf 03 46 33.8 +0.1
KRLC eSKP 03 49 51.1
DPC Dobruska-Polom 135.94 333 eSKP 03 49 51.6
UPC Upice 135.96 334 eSKP 03 49 51.6
SIRR Siria 136.02 325 ⇓P PKPdf 03 46 34.6 +0.7
SRE Strehaia 136.07 323 ⇓P PKPdf 03 46 32.7 -1.4
VYHS Vyhne 136.07 330 ePKP PKPdf 03 46 33.8 -0.2
JAVC Velka Javorina 136.39 331 ePKP PKPdf 03 46 35.4 +0.8
JAVC e 03 49 53.5
HERR Herculane 136.41 323 ⇑P PKPdf 03 46 33.2 -1.5
BRG Berggiesshubel 136.55 335 ePKP PKPdf 03 46 34.7 -0.1
comp=Z,9.2nm,0.9s
BRG Berggiesshubel 136.55 335 ePKPdf PKPdf 03 46 34.5 -0.3
baz=37,slow=1.9
BRG eSKPbc SKPbc 03 49 52.9 +1.6
baz=35,slow=2.8
PVCC Panska Ves 136.56 335 ePKPDF PKiKP 03 46 36.6 +0.1
PVCC eSKP 03 49 53.6
VRAC Vranov 136.57 332 PKP PKPdf 03 46 34.1 -0.7
comp=Z,1.5nm,0.3s,baz=180,slow=3.0,SNR=5.0
VRAC SKPbc SKPbc 03 49 52.8 +1.5
comp=Z,6.3nm,1.0s,baz=81,slow=3.9,SNR=12
VRAC Vranov 136.57 332 ⇑P PKPdf 03 46 34.9 0.0
CLL Collm 136.59 336 i pPP 03 49 59.8
comp=Z,7.0nm,0.9s
CLL Collm 136.59 336 ePKPpre PKPpre 03 46 26.0
CLL Collm 136.59 336 i PKPdf PKPdf 03 46 35.3 +0.5
comp=Z,9.0nm,0.9s
CLL Collm 136.59 336 i SKPdf SKPdf 03 49 54.0 +0.3
comp=Z,12nm,1.0s
NRDL Niedersach Rie 136.69 340 ePKPdf PKPdf 03 46 34.9 +0.1
baz=37,slow=1.9
NRDL eSKPbc SKPbc 03 49 53.3 +1.8
baz=35,slow=2.8
RETH Rethem/Aller, 136.73 340 eSKPbc SKPbc 03 49 53.3 +1.7
baz=35,slow=2.8
FBE Freiberg 136.75 336 ePKPdf PKPdf 03 46 35.4 +0.3
baz=37,slow=1.9
FBE eSKPbc SKPbc 03 49 53.5 +1.7
baz=35,slow=2.8
ASSE Asse, Remlinge 136.79 339 ePKPdf PKPdf 03 46 35.1 0.0
baz=37,slow=1.9
ASSE eSKPbc SKPbc 03 49 53.7 +1.9
baz=35,slow=2.8
KRUC Moravsky 136.84 332 eSG PKPdf 03 46 32.5 -2.8
KRUC Moravsky 136.84 332 ePKP PKPdf 03 46 35.1 -0.2
KRUC e 03 49 53.4
MDVR Moldovita 136.87 324 ⇑P PKPdf 03 46 35.1 -0.5
GOPC GO Pecny, Ondr 136.93 334 eSKP SKPdf 03 49 54.4 0.0
PRU Pruhonice 136.98 334 ePKPDF PKPdf 03 46 36.3 +0.7
PRU eSKP SKPdf 03 49 54.4 -0.1
CLZ Clausthal 137.14 339 ePKPdf PKPdf 03 46 36.1 +0.2
baz=37,slow=1.9
CLZ eSKPbc SKPbc 03 49 54.8 +1.8
baz=35,slow=2.8
NEUB Neuenburg 137.14 337 eSKPbc SKPbc 03 49 54.8 +1.8
baz=35,slow=2.8
VTS Vitosha 137.17 320 ⇑P PKPdf 03 46 36.7 +0.4
EKA Eskdalemuir Ar 137.29 352 PKhKP PKPpre 03 46 25.2
comp=Z,0.8nm,0.7s,baz=6.0,slow=3.3,SNR=4.2
EKA PKP PKPdf 03 46 35.1 -0.8
comp=Z,1.2nm,0.6s,baz=8.6,slow=1.6,SNR=12
EKA SKPbc SKPbc 03 49 53.9 +0.7
comp=Z,6.3nm,1.1s,baz=355,slow=2.8,SNR=7.8
PBCC Pribram 137.44 334 ePKPDF PKPdf 03 46 37.2 +0.7
PBCC eSKP SKPdf 03 49 55.6 +0.3
TANN Tannenbergstha 137.50 336 eSKPbc SKPbc 03 49 56.0 +1.8
baz=35,slow=2.8
GTTG Gottingen 137.52 339 eSKPbc SKPbc 03 49 55.8 +1.7
baz=35,slow=2.8
PLN Plauen 137.57 336 eSKPbc SKPbc 03 49 56.0 +1.8
baz=35,slow=2.8
GUNZ Gunzen 137.60 336 ePKPdf PKPdf 03 46 36.6 -0.1
baz=37,slow=1.9
GUNZ eSKPbc SKPbc 03 49 56.2 +1.8
baz=35,slow=2.8
IBBN Ibbenburen 137.61 341 eSKPbc SKPbc 03 49 56.1 +1.8
baz=35,slow=2.8
WERN Wernitzgruen 137.64 336 ePKPdf PKPdf 03 46 36.7 -0.2
baz=37,slow=1.9
WERN eSKPbc SKPbc 03 49 56.5 +2.0
baz=35,slow=2.8
MOX Moxa 137.65 337 ePKPdf PKPdf 03 46 36.0 -0.8
baz=37,slow=1.9
MOX eSKPbc SKPbc 03 49 55.8 +1.3
baz=35,slow=2.8
CONA Conrad Observa 137.90 331 ePKPdf PKPdf 03 46 37.3 -0.1
comp=Z,5.4nm,0.6s
CONA eSKPdf SKPdf 03 49 56.4 +0.1
comp=Z,13nm,1.2s,SNR=8.7
MANZ Manzenberg 137.98 336 ePKPdf PKPdf 03 46 37.2 -0.2
baz=37,slow=1.9
MANZ eSKPbc SKPbc 03 49 57.3 +1.8
baz=35,slow=2.8
KHC Kasperske Hory 138.04 334 ePKPDF PKPdf 03 46 37.7 +0.1
KHC eSKP SKPdf 03 49 57.7 +1.3
UBBA Unterbreizbach 138.11 338 eSKPbc SKPbc 03 49 57.4 +1.8
baz=35,slow=2.8
ROTZ Rotzenmuhle 138.12 336 eSKPbc SKPbc 03 49 57.5 +1.7
baz=35,slow=2.8
GEC2 GERESS Array S 138.20 334 ePKPdf PKPdf 03 46 37.4 -0.6
baz=37,slow=1.9
GEC2 eSKPbc SKPbc 03 49 57.9 +1.6
baz=35,slow=2.8
GERES GERESS Array B 138.20 334 PKhKP PKPpre 03 46 29.7
comp=Z,0.5nm,0.4s,baz=22,slow=4.3,SNR=4.6
GERES PKP PKPdf 03 46 37.9 -0.1
comp=Z,3.9nm,0.9s,baz=48,slow=2.0,SNR=12
GERES SKPbc SKPbc 03 49 57.6 +1.3
comp=Z,9.2nm,0.9s,baz=31,slow=3.1,SNR=38
WET Wettzell 138.32 334 ePKPdf PKPdf 03 46 37.8 -0.3
baz=37,slow=1.9
WET eSKPbc SKPbc 03 49 58.3 +1.8
baz=35,slow=2.8
BUG Bochum--Univer 138.51 341 eSKPbc SKPbc 03 49 58.5 +1.6
baz=35,slow=2.8
ARSA Arzberg 138.54 331 ePKPdf PKPdf 03 46 37.8 -0.8
comp=Z,5.7nm,1.2s
GRF Grafenberg Arr 138.56 336 ePKPdf PKPdf 03 46 38.0 -0.5
baz=37,slow=1.9
GRF eSKPbc SKiKP 03 49 58.9 -1.8
baz=35,slow=2.8
MOA Molln 138.69 332 ePKPdf PKPdf 03 46 38.2 -0.6
comp=Z,2.9nm,0.5s

MOA eSKPdf SKPdf 03 49 59.0 +1.4
comp=Z,2.8nm,0.8s
TNS Taunus Mts 139.16 339 ePKPdf PKPdf 03 46 39.2 -0.4
baz=37,slow=1.9
TNS eSKPbc SKPbc 03 50 00.3 +1.4
baz=35,slow=2.8
SOKA Soboth 139.19 330 ePKPdf PKPdf 03 46 39.9 0.0
comp=Z,7.3nm,1.3s
SOKA eSKPbc SKPbc 03 50 00.0 +1.0
comp=Z,5.1nm,1.0s
FNA Florina 139.32 319 PKPdf PKPdf 03 46 40.0 -0.3
AHRW Bad Neuenahr-A 139.35 340 ePKPdf PKPdf 03 46 39.5 -0.4
baz=37,slow=1.9
AHRW eSKPbc SKiKP 03 50 00.9 -1.4
baz=35,slow=2.8
RJOB Jochberg 139.44 333 eSKPbc SKPbc 03 50 00.8 +1.1
baz=35,slow=2.8
OBKA Obir 139.54 331 eSKPbc SKPbc 03 50 00.4 +0.3
comp=Z,6.1nm,1.1s
MEM Membach 139.63 341 PKiKP PKiKP 03 46 41.8 -1.0
KBA Koelnbreinsper 139.69 332 ePKiKP PKPdf 03 46 41.5 +0.6
comp=Z,8.7nm,1.4s
KBA eSKPbc SKPbc 03 50 00.9 +0.4
comp=Z,6.1nm,0.9s
BSTI Sart Tilman 139.79 342 PKiKP PKiKP 03 46 42.8 -0.3
MYKA Terra Mystica 139.88 331 eSKPbc SKPbc 03 50 01.5 +0.5
comp=Z,3.0nm,0.6s
SNF Seneffe 140.24 343 PKiKP PKiKP 03 46 43.9 -0.1
SNF Seneffe 140.24 343 PKPdf PKPdf 03 46 40.8 -0.7
WATA Walderalm 140.27 334 ePKPdf PKPdf 03 46 39.5 -2.4
comp=Z,5.6nm,0.9s
WATA eSKPbc SKPbc 03 50 02.5 +0.5
comp=Z,3.3nm,0.6s
BMRD Maredsous 140.28 342 PKiKP PKiKP 03 46 43.6 -0.5
BMRD Maredsous 140.28 342 PKPdf PKPdf 03 46 41.4 -0.2
WTTA Wattenberg 140.30 334 i PKPdf PKPdf 03 46 39.3 -2.7
comp=Z,9.3nm,1.2s
WTTA eSKPbc SKPbc 03 50 02.8 +0.6
comp=Z,7.2nm,0.9s
ABTA Abfaltersbach 140.31 332 ePKPdf PKPdf 03 46 40.9 -1.0
comp=Z,11nm,1.2s
ABTA eSKPbc SKPbc 03 50 02.6 +0.5
comp=Z,5.1nm,0.8s
WLF Walferdange 140.41 340 PKiKP PKiKP 03 46 44.5 0.0
WLF Walferdange 140.41 340 ePKPdf PKPdf 03 46 42.1 +0.2
baz=37,slow=1.9
WLF eSKPbc SKiKP 03 50 04.0 -0.5
baz=35,slow=2.8
MOTA Moosalm 140.47 334 ePKPdf PKPdf 03 46 39.6 -2.6
comp=Z,6.5nm,0.8s
MOTA eSKPbc SKPbc 03 50 03.1 +0.5
comp=Z,6.1nm,0.8s
RETA Reutte 140.50 335 ePKPdf PKPdf 03 46 39.0 -3.2
comp=Z,4.3nm,1.2s
RETA eSKPbc SKPbc 03 50 03.2 +0.7
comp=Z,3.1nm,0.8s
DOU Dourbes 140.52 342 PKiKP PKiKP 03 46 44.3 -0.4
SQTA Sankt Quirin 140.52 334 ePKPdf PKPdf 03 46 39.1 -3.2
comp=Z,5.7nm,0.8s
SQTA eSKPbc SKPbc 03 50 03.5 +0.8
comp=Z,6.9nm,0.7s,SNR=5.2
UBR Ueberruh 140.62 335 ePKPdf PKPdf 03 46 42.8 +0.4
baz=37,slow=1.9
UBR eSKPbc SKPbc 03 50 03.8 +1.0
baz=35,slow=2.8
BFO Black Forest 140.78 337 PKPdf PKPdf 03 46 40.5 -2.2
BFO Black Forest 140.78 337 eSKPbc SKiKP 03 50 04.3 -1.1
baz=35,slow=2.8
FETA Feichten 140.88 334 ePKPdf PKPdf 03 46 40.2 -2.8
comp=Z,8.1nm,1.0s
FETA eSKPbc SKPbc 03 50 04.5 +0.9
comp=Z,6.5nm,0.8s
DAVA Damuels 141.03 335 ePKPdf PKPdf 03 46 41.1 -2.1
comp=Z,2.3nm,0.5s
DAVA eSKPbc SKPbc 03 50 04.8 +0.7
comp=Z,4.6nm,1.0s
DAVOX Davos/Dischmat 141.43 335 PKhKP PKPpre 03 46 38.6
comp=Z,2.0nm,0.4s,baz=205,slow=5.9,SNR=11
DAVOX SKPbc SKiKP 03 50 06.4 -0.6
comp=Z,7.1nm,0.7s,baz=80,slow=0.9,SNR=12
SENIN Lac Senin/Sane 142.81 337 PKPdf PKPdf 03 46 45.3 -1.2
BNI Bardonecchia 144.14 336 PKPdf PKPbc 03 46 47.6 +0.2
VAE Valguarnera 145.65 320 PKPbc PKPab 03 46 52.7 0.0
comp=Z,6.0nm,0.8s,baz=219,slow=2.6,SNR=3.1
KEST Kesra 149.90 322 PKP PKPdf 03 46 58.9 +0.3
comp=Z,15nm,0.6s,baz=321,slow=5.3,SNR=5.4
KEST PKPbc PKPbc 03 47 03.2 -0.4
comp=Z,15nm,0.6s,baz=162,slow=0.3,SNR=42
RCBR Riachuelo 150.39 128 PKPbc PKPbc 03 47 05.1 -0.3
comp=Z,24nm,1.1s,baz=198,slow=1.8,SNR=4.0
PBRG Braganca 151.01 350 ePKPbc PKPbc 03 47 06.0 0.0
PBRG Braganca 151.01 350 ePKPab PKPab 03 47 12.8 -1.2
PGAV Gavieira, Arco 151.07 353 ePKPbc PKPbc 03 47 06.4 +0.2
PCAB Cabril 151.29 352 ePKPbc PKiKP 03 47 06.9 -0.2
PVRL Vila Real 151.68 352 ePKPbc PKiKP 03 47 08.1 +0.1
MVO Moncorvo 151.68 351 ePKPbc PKiKP 03 47 08.1 +0.1
PVIS Viseu 152.25 352 ePKPbc PKPbc 03 47 09.0 +0.1
ESDC Sonseca Array 152.48 345 PKP PKPdf 03 47 02.2 -0.2
comp=Z,1.1nm,0.9s,baz=327,slow=2.2,SNR=6.8
ESDC PKPbc PKPbc 03 47 09.5 0.0
comp=Z,12nm,0.8s,baz=5.2,slow=4.2,SNR=72
ESDC PKPab PKPab 03 47 20.5 +0.2
comp=Z,3.9nm,0.7s,baz=5.1,slow=5.1,SNR=7.6
MTE Manteigas 152.51 351 ePKPbc PKiKP 03 47 09.8 +0.1
MTE Manteigas 152.51 351 PKPdf PKPdf 03 47 02.0 -0.5
MTE PKPbc PKPbc 03 47 08.5 -1.0
PAB San Pablo 152.70 345 PKPbc 03 47 09.1 -0.9
PCAS Casmilo, Conde 152.99 352 ePKPbc PKPbc 03 47 10.5 0.0
PCBR Castelo Branco 153.05 351 ePKPbc PKiKP 03 47 10.7 -0.1
PMRV Marv??o 153.44 350 ePKPbc PKiKP 03 47 11.7 +0.1
PMTG Montargil 153.92 352 ePKPbc PKPbc 03 47 12.3 -0.2
PBEJ Beja 154.88 350 ePKPab PKPab 03 47 31.7 +1.3
TORD Torodi Ar. Bea 165.72 271 PKP PKPdf 03 47 17.6 -0.7
comp=Z,4.0nm,0.8s,baz=22,slow=1.4,SNR=15
TORD PKPab PKPab 03 48 18.2 -0.3
comp=Z,2.9nm,0.7s,baz=82,slow=4.9,SNR=10
TORD pPKPab pPKPab 03 49 01.3 -0.4
comp=Z,3.5nm,0.9s,baz=73,slow=5.0,SNR=6.3

RSNC 01 03:28:48.0±0.7, 10.̊54N×73.̊06W, h106km±13km, ML2.1,
Northern Colombia

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res ISC
SMRC Santa Marta, M 1.30 299 eS Sn 03 29 29.9 -0.7
SMRC Santa Marta, M 1.30 299 eS Sn 03 29 30.6 0.0
ARGC Ariguani, Magd 1.35 240 eP Pn 03 29 12.3 -0.5
ARGC eS Sn 03 29 31.4 -0.2
ARGC i 03 29 32.5
comp=Z,11nm,0.4s
ARGC Ariguani, Magd 1.35 240 eP Pn 03 29 12.3 -0.5
ARGC eS Sn 03 29 31.9 +0.3
ARGC i 03 29 32.4
comp=Z,11nm,0.4s
URIC Uribia, Colomb 1.56 42 eP Pn 03 29 15.0 -0.3
URIC eS Sn 03 29 35.6 -0.4
URIC i 03 29 37.2
comp=Z,16nm,0.4s
SMLC San Martn de 2.00 210 eP Pn 03 29 20.0 -0.8
SMLC eS Sn 03 29 45.8 0.0
SMLC i 03 29 47.0
comp=Z,22nm,0.3s
SMLC San Martn de 2.00 210 eP Pn 03 29 20.4 -0.4
SMLC eS Sn 03 29 45.6 -0.2
SJCC San Jacinto, C 2.18 253 eP Pn 03 29 26.5 +3.3
SJCC i 03 29 27.2
comp=Z,2.9nm,0.1s
SJCC eS Sn 03 29 53.2 +3.1
SJCC San Jacinto, C 2.18 253 eP Pn 03 29 26.7 +3.5
SJCC i 03 29 27.2
comp=Z,2.9nm,0.1s
SJCC eS Sn 03 29 52.0 +1.8
OCAC Ocana 2.30 186 eP Pn 03 29 24.3 -0.6
OCAC eS Sn 03 29 52.2 -0.9
OCAC i 03 29 56.1
comp=Z,21nm,0.3s
OCAC Ocana 2.30 186 eP Pn 03 29 24.7 -0.2
OCAC eS Sn 03 29 51.6 -1.4
OCAC i 03 29 56.0
comp=Z,21nm,0.3s
SOCV Socops 3.12 136 eP Pn 03 29 34.9 -0.7

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*NEIC **01** 03:35:21.7±1.4, 40.̊47N±0.̊06×104.̊61W±0.̊06, h1km±7km,*

mb_Lg3.4/132, ML3.6/50, Mwr3.2/8(SLM), Error ellipse: s-maj=8.1km s-min=6.4km az=198.0, Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}-6.81; $M_{\theta\theta}$0.30; $M_{\phi\phi}$6.51; $M_{r\theta}$-1.08; $M_{\theta\phi}$-1.99; $M_{\phi r}$-1.30; Fault plane solution: $M_0$7.16000×10^{13} NP1:ϕ_s152.00000°, δ42.00000°, λ-107.00000°. NP2:ϕ_s355.00000°, δ50.00000°, λ-75.00000°. Principal axes: T 7.1585, Plg4.0000°, Azm74.0000°; N -0.0007, Plg11.0000°, Azm165.0000°; P -7.1578, Plg78.0000°, Azm326.0000°;

*UNK **01** 03:35:21.7, 40.°47N×104.°61W, h1km*

*IDC **01** 03:35:22.6±1.2, 40.°62N×104.°83W, h0km, mb3.5/1, mb1 3.7/5, mb1mx3.4/71, mbtmp3.4/5, ML3.3/4, Error ellipse: s-maj=13.0km s-min=11.1km az=35.0*

*ANF **01** 03:35:22.5±0.4, 40.°43N×104.°68W, h8km, ML4.0/15, Error ellipse: s-maj=4.2km s-min=3.4km az=152.0*

ISC 01 03:35:21.7±1.2**, 40.°49N**±0.°02×**104.°61W**±0.°03**, h5**km±10km**, n158, σ1.s78**/182**, Colorado**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ISCO	Idaho Springs	1.03	229	P	Pg	03 35 40.5	-1.0
	baz=49,SNR=145						
ISCO				S	Sg	03 35 53.1	-1.8
	baz=49						
ISCO	Idaho Springs	1.03	229	Pg	Pg	03 35 40.5	-1.0
ISCO				Sg	Sg	03 35 53.0	-1.9
PHWY	Pilot Hill	1.04	322		Pg	03 35 41.6	-0.1
PHWY				Sg	Sg	03 35 54.8	-0.4
N23A	Red Feather La	1.09	292	P	Pg	03 35 42.4	-0.4
	baz=112,SNR=218						
N23A				S	Sg	03 35 56.2	-0.8
	baz=112						
N23A	Red Feather La	1.09	292		Pg	03 35 42.4	-0.4
Q24A	Divide	1.58	196	P	Pn	03 35 50.2	-0.5
	baz=15						
Q24A				S	Sg	03 36 10.2	-2.2
	baz=15						
OGNE	Ogallala	2.01	76	P	Pn	03 35 57.8	+1.4
	baz=257,SNR=252						
OGNE				S	Sn	03 36 23.7	+1.7
	baz=257						
OGNE	Ogallala	2.01	76	Pn	Pn	03 35 57.8	+1.4
OGNE				IAmb_Lg		03 36 30.3	
	comp=Z,252nm,0.8s						
KSCO	Kaye Shedlock'	2.12	133	P	Pn	03 35 59.2	+1.2
	baz=314,SNR=69						
KSCO				S	Sb	03 36 27.2	-0.2
	baz=314						
KSCO	Kaye Shedlock'	2.12	133		Pn	03 35 59.3	+1.3
RWWY	Rawlins	2.31	302	Pn	Pn	03 36 02.1	+1.5
K22A	Casper	2.60	327	P	Pb	03 36 07.3	-1.6
	baz=146,SNR=90						
K22A				S	Sn	03 36 39.8	+3.2
	baz=146						
K22A	Casper	2.60	327		Pn	03 36 06.2	+1.6
O20A	White River Ci	2.80	264	P	Pn	03 36 10.0	+2.6
	baz=82,SNR=168						
O20A				Sb	Sg	03 36 50.1	-1.7
	baz=82						
O20A	White River Ci	2.80	264	Pn	Pn	03 36 09.0	+1.5
O20A				IAML		03 36 51.8	
	comp=E,215nm,0.5s						
O20A				IAML		03 37 00.2	
	comp=N,213nm,0.8s						
SDCO	Great Sand Dun	2.82	195	P	Pn	03 36 08.9	+1.1
	baz=14,SNR=63						
SDCO				Sb	Sb	03 36 48.2	+0.4
	baz=14						
SDCO	Great Sand Dun	2.82	195	Pn	Pn	03 36 08.4	+0.6
S22A	4UR Ranch, Cre	3.24	213	P	Pn	03 36 14.5	+1.0
	baz=32,SNR=16						
S22A				Sb	Sb	03 37 02.0	+2.3
	baz=32						
T25A	Trinidad	3.35	177	P	Pn	03 36 16.3	+1.4
	baz=357,SNR=14						
T25A				Sb	Sb	03 37 03.6	+0.9
	baz=357						
RSSD	Black Hills	3.66	6	P	Pn	03 36 21.1	+1.9
	baz=187						
RSSD	Black Hills	3.66	6	Pn	Pn	03 36 20.9	+1.7
RSSD				IAML		03 37 32.2	
	comp=N,123nm,0.7s						
PV15	Paradox Valley	3.69	236		Pn	03 36 21.2	+1.5
PV15				IAML		03 37 20.9	
	comp=N,107nm,0.5s						
PV15				IAML		03 37 24.3	
	comp=E,160nm,0.8s						
PV07	Paradox Valley	3.74	238	Pn	Pn	03 36 21.7	+1.4
PV07				IAML		03 37 26.9	
	comp=E,68nm,0.6s						
PV22	Blue Mesa, Par	3.77	240		Pn	03 36 22.4	+1.6
PV22				IAML		03 37 21.9	
	comp=E,69nm,0.9s						
PV22				IAML		03 37 21.9	
	comp=N,65nm,0.5s						
RDMU	Red Mountain	3.78	273		Pn	03 36 23.6	+2.7
PV01	Paradox Valley	3.87	234		Pn	03 36 24.6	+2.4
PV01				IAML		03 37 27.4	
	comp=E,84nm,0.6s						
CBKS	Cedar Bluff	4.11	112	P	Pn	03 36 26.5	+1.2
	baz=295,SNR=6.4						
CBKS				Sn	Sn	03 37 15.4	+1.5
	baz=295						
CBKS				Sb	Sb	03 37 28.1	+3.4
	baz=295						
CBKS	Cedar Bluff	4.11	112	Pn	Pn	03 36 26.6	+1.2
BW06	Boulder Array	4.35	303	P	Pn	03 36 30.5	+1.7
	baz=120						
BW06				Sn	Sn	03 37 21.9	+1.8
	baz=120						
BW06				Sb	Sb	03 37 36.8	+5.0
	baz=120						
BW06	Boulder Array	4.35	303		Pn	03 36 30.6	+1.7
BW06				IAML		03 37 44.5	
	comp=E,49nm,0.7s						
BW06				IAML		03 37 48.3	
	comp=N,58nm,0.6s						
PD31	Pinedale Array	4.35	303		Pn	03 36 30.2	+1.4
PDAR	Pinedale Array	4.35	303	Pn	Pn	03 36 30.4	+1.6
	comp=N,1.9nm,0.3s,baz=119,slow=14,SNR=15						
PDAR				Pg	Pb	03 36 40.6	+1.8
	comp=N,4.4nm,0.3s,baz=112,slow=17,SNR=13						
PDAR				Sn	Sn	03 37 19.4	-0.7
	comp=N,4.6nm,0.3s,baz=121,slow=24,SNR=3.6						
PDAR				Lg	Lg	03 37 33.9	
	comp=N,3.9nm,0.3s,baz=116,slow=28,SNR=4.1						
MVCO	Mesa Verde	4.46	224	Pn	Pn	03 36 32.5	+2.1
	baz=42						
MVCO				Pg	Pg	03 36 44.9	-2.3
	baz=42						
MVCO	Mesa Verde	4.46	224	Pn	Pn	03 36 32.3	+2.0
MVCO				IAML		03 37 57.6	
	comp=N,42nm,0.8s						
MVCO				IAML		03 37 58.7	
	comp=N,44nm,0.9s						
K31A	O'Neill	4.88	62	Pn	Pn	03 36 37.5	+1.6
BGNE	Belgrade	4.98	77	Pn	Pn	03 36 38.2	+1.0
	baz=261						
BGNE				Pb	Pb	03 36 51.7	+2.3
	baz=261						
BGNE				S	Sn	03 37 35.5	+0.4
	baz=261						
BGNE	Belgrade	4.98	77	Pn	Pn	03 36 37.9	+0.8
R32A	Long Quarter,	5.01	112	Pn	Pn	03 36 38.3	+0.7
R32A				IAmb_Lg		03 38 09.3	
	comp=Z,78nm,0.8s						
TCUT	Toone Canyon	5.20	279		Pn	03 36 39.0	-1.4
JLU	Jordanelle	5.21	273	Pn	Pn	03 36 41.0	+0.3
Q16A	Castle Valley	5.30	255		Pn	03 36 41.7	0.0
AHID	Auburn Hatcher	5.37	297	Pn	Pn	03 36 41.7	-1.0
HWUT	Hardware Ranch	5.38	284		Pn	03 36 43.3	+0.4
HWUT				IAML		03 38 18.0	
	comp=Z,54nm,0.8s						
CTU	Camp Tracy	5.44	274	Pn	Pn	03 36 42.8	-0.9
N33A	J Bar K, Exete	5.45	85	Pn	Pn	03 36 43.3	-0.4
SNOW	Snow King Moun	5.46	305	Pn	Pn	03 36 43.5	-0.5
REDW	Red Top Meadow	5.47	304		Pn	03 36 45.5	+1.3
TPAW	Teton Pass	5.60	304	Pn	Pn	03 36 47.2	+1.2
ANMO	Albuquerque	5.72	195	Pn	Pn	03 36 49.0	+1.4
	baz=14						
ANMO				Pb	Pb	03 37 04.0	+1.8
	baz=14						
ANMO	Albuquerque	5.72	195	Pn	Pn	03 36 49.3	+1.7
	comp=Z,0.3nm,0.3s,baz=9.7,slow=15,SNR=7.6						
ANMO				Pg	Pb	03 37 03.9	+1.8
	comp=Z,0.4nm,0.3s,baz=16,slow=16,SNR=7.3						
ANMO				Lg	Lg	03 38 19.9	
	comp=Z,1.0nm,0.3s,baz=120,slow=24,SNR=7.7						
ANMO	Albuquerque	5.72	195	IAmb_Lg		03 38 22.6	
	comp=Z,8.3nm,1.0s						
ANMO				IAmb_Lg		03 38 22.7	
	comp=Z,8.4nm,1.0s						
FXWY	Fox Creek	5.72	305	Pn	Pn	03 36 47.6	0.0
NLU	North Lily Min	5.74	267	Pn	Pn	03 36 46.0	-1.8
SUSD	Miller	5.75	45	P	Pn	03 36 49.7	+1.9
	baz=228						
SUSD				S	Sn	03 37 55.0	+0.8
	baz=228						
SUSD	Miller	5.75	45		Pn	03 36 47.9	+0.1
RLMT	Red Lodge	5.76	325	Sb	Sb	03 38 17.2	+4.9
	baz=142						
RLMT	Red Lodge	5.76	325	Pn	Pn	03 36 47.0	-1.1
FLWY	Flagg Ranch	5.77	310	Pn	Pn	03 36 48.1	-0.2
IMW	Indian Meadow	5.81	308	Pn	Pn	03 36 48.5	-0.3
H17A	Grant Village	5.89	313	Pn	Pn	03 36 50.3	+0.3
YMP	Mirror Lake Pl	5.90	318	Pn	Pn	03 36 48.9	-1.2
YPP	Pitchstone Pla	5.95	312	Pn	Pn	03 36 52.0	+1.3
U32A	Winter Ranch,	6.01	131	Pn	Pn	03 36 51.2	-0.2
U32A					LR	03 38 35.6	
U32A				IAmb_Lg		03 38 41.2	
	comp=Z,84nm,0.8s						
YNE	Yellowstone No	6.02	320		Pn	03 36 51.8	+0.1
AMTX	Amarillo	6.05	157	Sb	Sb	03 38 27.2	+6.6
	baz=338						
AMTX	Amarillo	6.05	157	Pn	Pn	03 36 52.3	+0.3
AMTX				IAmb_Lg		03 38 38.5	
	comp=Z,44nm,0.8s						
MSU	Marysvale	6.18	254	Pn	Pn	03 36 52.3	-1.5
DUG	Dugway, Tooele	6.28	270	Pn	Pn	03 36 54.7	-0.4
YMR	Madison River	6.28	314	Pn	Pn	03 36 57.2	+1.9
HVU	Hansel Valley	6.30	284	Pn	Pn	03 36 55.2	-0.3
LAO	LASA Array	6.31	350	P	Pn	03 36 57.6	+2.1
	baz=169						
LAO				Sb	Sg	03 38 37.0	-7.3
	baz=169						
LAO	LASA Array	6.31	350	Pn	Pn	03 36 57.2	+1.7
LAO				IAmb_Lg		03 38 54.9	
	comp=Z,46nm,1.0s						
KSU1	Kansas State U	6.31	100	P	Pn	03 36 57.5	+2.0
	baz=285						
KSU1	Kansas State U	6.31	100	Pn	Pn	03 36 55.6	+0.1
KSU1				IAmb_Lg		03 38 48.7	
	comp=Z,72nm,0.9s						
TCRU	Three Creeks R	6.34	255	Pn	Pn	03 36 55.8	-0.3
MTPU	Mount Pierson	6.37	250		Pn	03 36 57.7	+1.1
BGU	Big Grassy Mou	6.42	277	Pn	Pn	03 36 58.0	+0.9
BGU					LR	03 38 49.0	
YHB	Horse Butte	6.46	313	Pn	Pn	03 36 57.6	-0.2
GCMT	Greycliff	6.46	327	Pn	Pn	03 36 58.7	+1.0
BNM	Barren Site	6.53	195	Pn	Pn	03 36 58.4	-0.3
MSTX	Muleshoe	6.67	167	Pn	Pn	03 36 59.5	-0.9
E28A	Huff	6.72	24	Pn	Pn	03 37 01.2	+0.2
E28A				IAmb_Lg		03 39 02.2	
	comp=Z,89nm,1.1s						
PKCU	Pink Cliffs	6.73	246	Pn	Pn	03 37 01.5	+0.1
ECSD	EROS Data Cent	6.77	59	P	Pn	03 37 02.0	+0.2
	baz=244,SNR=9.1						
ECSD				S	Sn	03 38 17.3	-2.0
	baz=244						
N35A	Tabor	6.83	84	Pn	Pn	03 37 03.5	+1.0
SZCU	Shurtz Canyon	7.20	249	Pn	Pn	03 37 09.2	+1.2
BOZ	Bozeman (W)	7.25	317	Pn	Pn	03 37 08.6	+0.2
U15A	North Rim	7.26	239	Pn	Pn	03 37 07.8	-1.0
T35A	Sooner Cattle	7.26	117		Pn	03 37 09.3	+0.7
WUAZ	Wupatki	7.29	229	P	Pn	03 37 11.9	+2.9
	baz=45						
WUAZ	Wupatki	7.29	229	Pn	Pn	03 37 09.4	+0.4
KNB	Kanab	7.29	244	Pn	Pn	03 37 08.8	-0.3
X18A	Snowflake	7.30	217	Pn	Pn	03 37 08.6	-0.7
WMOK	Wichita Mounta	7.37	139	P	Pn	03 37 09.7	-0.3
	baz=323,SNR=5.4						
WMOK				S	Sn	03 38 32.3	-1.8
	baz=323						
WMOK	Wichita Mounta	7.37	139	IAmb_Lg		03 39 25.1	
	comp=Z,41nm,0.9s						
PSUT	Pine Spring	7.41	258	Pn	Pn	03 37 11.0	+0.2
CCUT	Cedar City	7.42	250	Pn	Pn	03 37 12.1	+1.2
MCMT	McKenzie Canyo	7.46	308	Pn	Pn	03 37 10.8	-0.7
LCMT	Little Creek M	7.59	246	Pn	Pn	03 37 12.8	-0.3
OKCFA	Oklahoma City	7.59	130	IAmb_Lg		03 39 37.4	
	comp=Z,33nm,0.7s						
FNO	Franklin	7.73	130	Pn	Pn	03 37 15.5	+0.6
X34A	Smith Ranch, M	7.96	135	Pn	Pn	03 37 18.8	+0.6
X34A				IAmb_Lg		03 39 48.5	
	comp=Z,43nm,0.7s						
DGMT	Dagmar	7.99	2	Pn	Pn	03 37 19.7	+1.2
ELK	Elko	8.09	275	Pn	Pn	03 37 20.2	+0.1
F33A	5 Mile Ranch,	8.09	46	IAmb_Lg		03 39 42.4	
	comp=Z,36nm,0.9s						
W35A	Tecumseh	8.11	129		Pn	03 37 19.5	-0.7
X16A	Lo Mia Camp, P	8.13	224	Pn	Pn	03 37 20.2	-0.5
MDND	Maddock	8.19	24	S	Sn	03 38 51.0	-3.1
	baz=208						
MDND	Maddock	8.19	24	Pn	Pn	03 37 22.0	+0.7
MDND				IAmb_Lg		03 39 45.4	
	comp=Z,40nm,0.8s						
TUL1	Leonard	8.31	121	P	Pn	03 37 23.6	+0.7
	baz=306						
TUL1				S	Sn	03 38 52.9	-4.2
	baz=306						
TUL1	Leonard	8.31	121	Pn	Pn	03 37 22.5	-0.4
TUL1					LR	03 39 41.3	
121A	Cookes Peak, D	8.34	199	Pn	Pn	03 37 22.2	-1.3
EGMT	Eagleton	8.39	336	Pn	Pn	03 37 25.2	+1.1
P38A	Dawn	8.54	92	Pn	Pn	03 37 26.1	+0.1
P38A				IAmb_Lg		03 40 07.1	
	comp=Z,36nm,0.9s						
D32A	Dogwood Acres,	8.62	37	Pn	Pn	03 37 26.7	-0.3
D32A				IAmb_Lg		03 40 01.9	
	comp=Z,29nm,0.8s						
N38A	Joes South For	8.65	84	Pn	Pn	03 37 27.8	+0.2
SCIA	State Center	8.71	77	P	Pn	03 37 28.8	+0.5
	baz=264						
SCIA				S	Sn	03 39 03.2	-3.7
	baz=264						
SCIA	State Center	8.71	77		Pn	03 37 29.1	+0.7
SCIA				IAmb_Lg		03 40 16.2	
	comp=Z,46nm,0.8s						
R11A	Troy Canyon, C	8.76	259	Pn	Pn	03 37 30.3	+1.1
MNTX	Cornudas Mount	8.79	184	Pn	Pn	03 37 30.7	+1.2
ABTX	Abilene, Hawle	8.80	151	Pn	Pn	03 37 29.4	-0.3
MFID	Camas Ranch	8.86	293	Pn	Pn	03 37 31.4	+0.9
U38A	Gravette	8.98	113	IAmb_Lg		03 40 15.4	
	comp=Z,37nm,0.8s						
I37A	Lemond, Waseca	9.03	63	Pn	Pn	03 37 33.0	+0.3
I37A				IAmb_Lg		03 40 16.8	
	comp=Z,42nm,1.0s						
W13A	Hualapai Mount	9.10	237	Pn	Pn	03 37 34.6	+0.6
W13A					LR	03 40 09.1	
K38A	Parkersburg	9.13	72	Pn	Pn	03 37 34.4	+0.3
K38A				IAmb_Lg		03 40 32.6	
	comp=Z,35nm,1.1s						
SHPR	Sheep Range	9.18	248	Pn	Pn	03 37 35.4	+0.5
Z35A	Perchaven, San	9.25	138	IAmb_Lg		03 40 20.5	
	comp=Z,28nm,1.1s						
MSO	Missoula	9.27	316	Pn	Pn	03 37 35.5	-0.5
MSO					LR	03 40 16.2	
Y14A	Wickenburg	9.35	228	Pn	Pn	03 37 37.2	0.0
P40A	Paris	9.69	92	Pn	Pn	03 37 40.8	-0.9
P40A				IAmb_Lg		03 40 44.4	
	comp=Z,41nm,0.9s						
F36A	Milaca	9.71	53	Pn	Pn	03 37 42.0	-0.1
F36A				IAmb_Lg		03 40 36.9	
	comp=Z,24nm,0.9s						
R40A	Maddies Statio	9.80	99	IAmb_Lg		03 40 39.6	
	comp=Z,40nm,0.8s						
AGMN	Agassiz Nation	10.00	36	P	Pn	03 37 45.8	-0.2
	baz=222						
AGMN	Agassiz Nation	10.00	36	Pn	Pn	03 37 46.2	+0.2
W39A	Magazine	10.05	118	Pn	Pn	03 37 46.5	-0.3
U40A	Yellville	10.10	110	P	Pn	03 37 47.2	-0.3
	baz=298						
U40A				S	Sn	03 39 36.7	-4.5
	baz=298						
U40A	Yellville	10.10	110	Pn	Pn	03 37 47.4	0.0
MGMO	Mountain Grove	10.19	105	Pn	Pn	03 37 49.1	+0.5
L40A	Anamosa	10.20	77	Pn	Pn	03 37 48.2	-0.5
WHTX	Lake Whitney,	10.25	144	Pn	Pn	03 37 48.5	-1.0
MIAR	Mount Ida	10.57	121	P	Pn	03 37 53.7	-0.2
	baz=307						
MIAR				S	Sn	03 39 47.5	-5.3
	baz=307						
CCM	Cathedral Cave	10.64	99	P	Pn	03 37 54.0	-0.8
	baz=287						
CCM				S	Sn	03 39 47.8	-6.6
	baz=287						
CCM	Cathedral Cave	10.64	99	Pn	Pn	03 37 54.4	-0.4
JCT	Junction City	10.72	157	Pn	Pn	03 37 54.6	-1.4
I40A	Norwalk	10.92	67		Pn	03 37 57.9	-0.8
JFWS	Jewell Farm	11.01	73	S	Sn	03 39 54.9	-8.4
	baz=262						
JFWS	Jewell Farm	11.01	73	Pn	Pn	03 37 57.7	-2.1
TX31	Lajitas Ar. Si	11.15	176	Pn	Pn	03 38 00.7	-1.2
TXAR	Lajitas Array	11.15	176	Pn	Pn	03 38 06.7	+4.7
	comp=Z,0.0nm,0.3s,baz=351,slow=11,SNR=2.6						
TXAR				Pg		03 38 48.2	
	comp=Z,0.2nm,0.3s,baz=357,slow=14,SNR=4.5						
TXAR				Lg	Lg	03 41 06.5	
	comp=Z,0.2nm,0.3s,baz=349,slow=27,SNR=3.4						
L42A	Oliver, Polo	11.35	77	Pn	Pn	03 38 03.9	-0.6
WLAR	White Oak Lake	11.41	123	Pn	Pn	03 38 05.8	+0.4
ULM	Lac du Bonnet	11.53	29	Pn	Pn	03 38 05.0	-1.9
	comp=Z,0.6nm,0.3s,baz=218,slow=12,SNR=1.8						
ULM				Sn	Sn	03 40 06.5	-9.4
	comp=Z,0.5nm,0.3s,baz=155,slow=6.2,SNR=1.8						
ULM				Lg	Lg	03 41 19.1	
	comp=Z,0.6nm,0.3s,baz=117,slow=21,SNR=1.7						
G40A	Rib Lake	11.60	61	Pn	Pn	03 38 07.3	-0.6
HDIL	Hopedale	11.66	85	Pn	Pn	03 38 07.6	-1.1
EYMN	Ely	11.99	47	Pn	Pn	03 38 12.5	-0.8
I42A	Draeger Farm,	12.13	69	Pn	Pn	03 38 12.8	-2.3
YKA	Yellowknife Ar	22.85	348	P	P	03 40 26.5	+1.0
	comp=Z,1.0nm,0.6s,baz=159,slow=9.9,SNR=10						

*NEIC **01** 03:40:03.2±1.1, 8.°2S±0.°1×158.°6E±0.°1, h106km±4km, mb4.2/9, Error ellipse: s-maj=21.9km s-min=16.1km az=223.0*

*IDC **01** 03:40:03.1±0.6, 8.°17S×158.°50E, h101km±6km, mb3.9/16, mb1 4.1/16, mb1mx3.9/39, mbtmp4.2/16, MS3.3/2, Ms1 3.3/2, ms1mx2.7/34, Error ellipse: s-maj=14.4km s-min=8.5km az=43.0*

ISC 01 03:40:03.0±0.5**, 8.°11S**±0.°08×**158.°57E**±0.°08**, h100**km**, n39, σ1.s08**/39**, mb4.2**/20**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	1.89	134	P	Pn	03 40 34.5	+0.3
	229nm,0.3s,baz=229,slow=5.3,SNR=50						
HNR				S	Sn	03 40 58.8	+0.9
	571nm,0.3s,baz=35,slow=22,SNR=33						
HNR	Honiara	1.89	134		Pn	03 40 33.6	-0.6
RABL	Rabaul	7.47	301		Sn	03 43 14.4	+1.9
KRVT	Keravat (AS076	7.52	300	S	Sn	03 43 14.5	+0.6
	12nm,0.3s,baz=198,slow=19,SNR=1.9						
DZM	Mont Dzumac	15.81	152	P	P	03 43 43.6	+1.6
	0.2nm,0.3s,baz=286,slow=20,SNR=1.6						
DZM	Mont Dzumac	15.81	152	IAmb	IAmb	03 43 46.5	
	comp=Z,79nm,2.0s						
CTA	Charters Tower	16.85	224	P	P	03 43 56.5	+3.2
	comp=Z,0.3nm,0.3s,baz=42,slow=11,SNR=2.3						
WR0	Warramunga Arr	26.07	241	P	P	03 45 25.9	-1.6
WB0	Warramunga Arr	26.13	241	P	P	03 45 26.4	-1.6
WB0				IAmb	IAmb	03 45 28.1	
	comp=Z,7.8nm,0.8s						
WB2	Warramunga Arr	26.23	241	P	P	03 45 27.8	-1.1
WB2				IAmb	IAmb	03 45 29.1	
	comp=Z,7.3nm,0.7s						
WRA	Warramunga Arr	26.24	241	P	P	03 45 28.3	-0.7
	comp=Z,7.9nm,0.5s,baz=66,slow=8.9,SNR=41						
WRA				pP	pP	03 45 50.2	-1.0
	comp=Z,1.2nm,0.4s,baz=64,slow=9.3,SNR=4.0						
WRA				PcP	PcP	03 48 52.8	-0.6
	comp=Z,0.1nm,0.6s,baz=61,slow=3.1,SNR=43						
H11S3	WAKE ISLAND Hy	27.62	17	T	T	04 14 12.0	
	baz=198,slow=76,SNR=68						
H11S2	WAKE ISLAND Hy	27.62	17	T	T	04 14 13.1	
	baz=198,slow=76,SNR=75						
H11S1	WAKE ISLAND Hy	27.64	17	T	T	04 14 23.3	
	baz=198,slow=76,SNR=56						
AS31	Alice Springs	28.24	234	P	P	03 45 45.8	-1.1
AS31				IAmb	IAmb	03 45 46.1	
	comp=Z,1.4nm,0.5s						
ASAR	Alice Springs	28.24	234	P	P	03 45 45.6	-1.3
	comp=Z,2.9nm,0.7s,baz=63,slow=9.2,SNR=20						
ASAR				PcP	PcP	03 48 57.5	-0.7
	comp=Z,0.3nm,0.5s,baz=66,slow=2.7,SNR=1.9						
STKA	Stephens Creek	28.44	211	P	P	03 45 48.4	-0.1
	comp=Z,3.2nm,0.3s,baz=46,slow=14,SNR=14						
STKA				LR	LR	03 57 07.3	
	comp=Z,49nm,19.1s,baz=197,slow=36						
STKA	Stephens Creek	28.44	211	P	P	03 45 48.6	+0.1
H11N1	WAKE ISLAND Hy	28.84	16	T	T	04 16 04.9	
	baz=196,slow=76,SNR=34						
H11N3	WAKE ISLAND Hy	28.85	16	T	T	04 16 04.0	
	baz=196,slow=76,SNR=33						
H11N2	WAKE ISLAND Hy	28.86	16	T	T	04 16 05.4	
	baz=196,slow=76,SNR=37						
MJAR	Matsushiro Arr	48.36	338	P	P	03 48 32.9	-1.8
	comp=Z,0.5nm,0.5s,baz=142,slow=7.9,SNR=2.6						
KSRS	Korea Array	53.63	330	P	P	03 49 14.5	+0.3
	comp=Z,0.5nm,0.5s,baz=138,slow=7.5,SNR=5.1						
USRK	Ussuriysk Ar.	57.35	338	P	P	03 49 41.6	+0.8
	comp=Z,2.7nm,0.8s,baz=165,slow=9.1,SNR=5.9						
KLR	Kul'dur	61.75	340	P	P	03 50 11.4	+0.5
	comp=Z,0.7nm,0.4s,baz=171,slow=4.0,SNR=3.6						
CMAR	Chiang Mai Arr	64.46	295	P	P	03 50 29.2	-0.3
	comp=Z,1.0nm,0.8s,baz=125,slow=4.6,SNR=6.1						
VNDA	Vanda	69.40	179	P	P	03 50 59.6	-0.1
	comp=Z,1.4nm,0.8s,baz=341,slow=5.0,SNR=6.9						
VNDA				pP	pwP	03 51 24.9	-1.7
	comp=Z,1.8nm,0.8s,baz=345,slow=7.9,SNR=5.2						
VNDA				LR	LR	04 16 04.7	
	comp=Z,33nm,21.6s,baz=173,slow=31						
SONM	Songino Array	72.21	326	P	P	03 51 17.9	+0.6
	comp=Z,2.9nm,0.6s,baz=146,slow=5.9,SNR=6.2						
ILAR	Eielson Array	83.14	21	P	P	03 52 17.9	+0.4
	comp=Z,0.4nm,0.6s,baz=274,slow=5.2,SNR=5.2						
ILAR				pP	pwP	03 52 44.7	+1.1
	comp=Z,0.3nm,0.5s,baz=240,slow=5.1,SNR=2.6						
MK31	Makanchi Array	86.59	318	P	P	03 52 34.5	-0.8
MKAR	Makanchi Array	86.59	318	P	P	03 52 35.5	+0.2
	comp=Z,5.8nm,0.5s,baz=98,slow=5.9,SNR=50						
MKAR				pP	pP	03 53 01.7	+0.8
	comp=Z,1.0nm,0.7s,baz=100,slow=6.3,SNR=3.0						
MAKZ	Makanchi	86.80	318	P	P	03 52 35.5	-0.8
ZAA0	Zalesovo Array	87.09	325	P	P	03 52 37.2	-0.3
ZAA0				IAmb	IAmb	03 52 37.5	
	comp=Z,2.0nm,0.7s						
ZALV	Zalesovo Beam	87.09	325	P	P	03 52 37.2	-0.3
	comp=Z,1.6nm,0.5s,baz=107,slow=5.4,SNR=6.9						
NVAR	Mina Array Bea	89.64	51	P	P	03 52 50.7	+0.4
	comp=Z,1.8nm,1.0s,baz=251,slow=4.5,SNR=6.0						
BVAR	Borovoye Array	95.32	323	P	P	03 53 15.0	-0.8
	comp=Z,2.3nm,0.5s,baz=93,slow=5.9,SNR=11						
YKA	Yellowknife Ar	95.66	28	P	P	03 53 17.1	-0.1
	comp=Z,0.5nm,0.8s,baz=249,slow=4.3,SNR=5.4						
BDFB	Brasilia	144.64	132	PKP	PKPab	03 59 27.2	-0.8
	comp=Z,2.2nm,0.6s,baz=245,slow=3.1,SNR=6.9						
ESDC	Sonseca Array	144.89	336	PKP	PKPab	03 59 28.3	+0.1
	comp=Z,2.7nm,0.9s,baz=19,slow=3.1,SNR=12						

WBNET 01 03:44:18.3, 50.°23N×12.°45E, h9km, Ml1.1, 6C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.00	358	⇑P	Pg	03 44 20.1	+0.1
NKC				S	Sg	03 44 21.2	+0.1
LBCW	Luby	0.04	326	⇓P	Pg	03 44 20.3	+0.1
LBCW				S	Sg	03 44 21.7	+0.2
VAC	Vackov	0.05	276	⇓P	Pg	03 44 20.3	+0.1
VAC				S	Sg	03 44 21.5	0.0
KVC	Kvetna	0.05	120	⇑P	Pg	03 44 20.2	-0.1
KVC				S	Sg	03 44 21.4	-0.2
STCW	Studenec	0.05	59	⇑P	Pg	03 44 20.3	0.0
STCW				S	Sg	03 44 21.6	-0.2
SKC	Skalna	0.08	222	⇑P	Pg	03 44 20.6	0.0
SKC				S	Sg	03 44 22.2	0.0
POCW	Potky	0.09	351	⇓P	Pg	03 44 20.9	+0.1
POCW				S	Sg	03 44 22.6	+0.1

KACW	Kaceov	0.10	153	⇓P	Pg	03 44 20.8	+0.1
KACW				S	Sg	03 44 22.6	0.0
KRCW	Kraslice	0.11	28	⇑P	Pg	03 44 21.1	0.0
KRCW				S	Sg	03 44 23.0	-0.1
ZHC	Zelena Hora	0.18	209	⇑P	Pg	03 44 22.2	0.0
ZHC				S	Sg	03 44 24.8	-0.1
CLL	Collm	1.13	18	*i*	Pn	03 44 42.6	+2.3
CLL				*i* Sg	Sn	03 44 55.7	-0.3

*PRU **01** 03:45:05.5±0.0, 50°.22N×12°.50E, h1km, West Bohemia Swarm*

WBNET 01 03:45:05.3, 50°.23N×12°.45E, h8km, Ml1.7, 6C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.00	358	*e*PG	Pg	03 45 06.6	-0.2
NKC				*e*SG	Sg	03 45 07.7	-0.1
	comp=Z,371nm,0.2s						
NKC	Novy Kostel	0.00	358	⇓P	Pg	03 45 06.9	+0.1
NKC				S	Sg	03 45 07.9	+0.1
LBCW	Luby	0.04	326	⇓P	Pg	03 45 07.1	+0.1
LBCW				S	Sg	03 45 08.4	+0.2
VAC	Vackov	0.05	276	⇓P	Pg	03 45 07.1	+0.1
VAC				S	Sg	03 45 08.3	0.0
KVC	Kvetna	0.05	120	⇑P	Pg	03 45 07.1	0.0
KVC				S	Sg	03 45 08.2	-0.2
STCW	Studenec	0.05	59	⇑P	Pg	03 45 07.2	0.0
STCW				S	Sg	03 45 08.3	-0.1
SKC	Skalna	0.08	222	⇑P	Pg	03 45 07.5	+0.1
SKC				S	Sg	03 45 09.0	0.0
POCW	Potky	0.09	351	⇓P	Pg	03 45 07.8	+0.2
POCW				S	Sg	03 45 09.4	+0.1
KACW	Kaceov	0.10	153	⇑P	Pg	03 45 07.8	+0.1
KACW				S	Sg	03 45 09.4	+0.1
KRCW	Kraslice	0.11	28	⇑P	Pg	03 45 08.0	+0.1
KRCW				S	Sg	03 45 09.8	0.0
ZHC	Zelena Hora	0.18	209	⇑P	Pg	03 45 09.2	+0.1
ZHC				S	Sg	03 45 11.7	0.0
CLL	Collm	1.13	18	*i* Pg	Pn	03 45 27.4	-0.1
CLL				*i*		03 45 30.5	
CLL				*i* Sg	Sb	03 45 42.3	+0.2
	comp=Z,7.0nm,0.3s						
CLL				*i*		03 45 45.9	
PBCC	Pribram	1.14	118	*e*PG	Pg	03 45 24.9	-2.2
PBCC				*e*SG	Sg	03 45 40.5	-1.4
	comp=Z,3.0nm,0.3s						
KHC	Kasperske Hory	1.32	146	*e*PG	Pn	03 45 29.2	-0.9
KHC				*e*SG	Sb	03 45 46.7	-0.8
	comp=Z,3.0nm,0.2s						
PRU	Pruhonice	1.37	99	*e*PG	Pn	03 45 30.3	-0.4
PRU				*e*SG	Sb	03 45 48.3	-0.5
	comp=Z,5.3nm,0.2s						
PVCC	Panska Ves	1.39	77	*e*SG	Sn	03 45 49.6	+0.1
	comp=Z,13nm,0.2s						
GOPC	GO Pecny, Ondr	1.54	101	*e*SG	Sb	03 45 53.7	-0.1
UPC	Upice	2.30	82	*e*SG	Sb	03 46 16.8	+1.2
CHVC	Chvalec	2.33	80	*e*SG	Sg	03 46 18.7	-1.6
	comp=Z,2.0nm,0.5s						
DPC	Dobruska-Polom	2.49	86	*e*SG	Sb	03 46 22.0	+1.0
	comp=Z,2.1nm,0.5s						

*CAR **01** 03:51:32±2.2, 10°.14N±0°.07×67°.92W±0°.08, h5km±4km, Mwr3.4, Error ellipse: s-maj=11.1km s-min=8.8km az=118.0*

*NEIC **01** 03:51:33.1±2.4, 10°.10N±0°.05×67°.90W±0°.07, h19km±8km, Error ellipse: s-maj=11.7km s-min=2.7km az=124.0*

ISC 01 03:51:31.4±1.3, 10°.13N±0°.08×67°.83W±0°.09, h6km, n27, σ1s.28/28, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATO	Hato, Curacao	2.32	332	Pn	Pn	03 52 10.1	0.0
HATO				Sn	Sn	03 52 37.4	-1.6
SDV	Santo Domingo	3.02	246	*i*	Sg	03 53 09.0	+0.4
	comp=Z,42nm,0.6s						
SDV	Santo Domingo	3.02	246		Pn	03 52 19.4	-0.6
SDV	Santo Domingo	3.02	246	*e*P	Pn	03 52 19.8	-0.3
SDV	Santo Domingo	3.02	246	*e*S	Sn	03 52 56.8	+0.1
GRGR	Grenville	6.38	71	Pn	Pn	03 53 07.9	+1.8
RUSC	La Rusia	6.69	231		Pn	03 53 10.2	-0.4
SVB	Belmont	7.16	63	Pn	Pn	03 53 17.1	+0.3
PTBC	PUERTO BERRIO,	7.46	242	*e*P	Pn	03 53 18.9	-1.9
MLPR	Magueyes Islan	7.83	6	Pn	Pn	03 53 26.5	+0.6
CRPR	Cabo Rojo, PR	7.86	5	Pn	Pn	03 53 26.7	+0.3
OBIP	Obispado Ponce	7.96	8	Pn	Pn	03 53 27.3	-0.4
FDF	Fort de France	7.97	54	Pn	Pn	03 53 28.7	+0.8
CHIC	Chingaza	8.00	227	*e*P	Pn	03 53 27.2	-1.4
MPR	Mayaguez	8.06	5	Pn	Pn	03 53 29.8	+0.6
MTP	Monte Pirata	8.23	15	Pn	Pn	03 53 30.3	-1.1
ROSC	El Rosal	8.30	231		Pn	03 53 33.3	+0.5
AGPR	Aguadilla, PR	8.32	5	Pn	Pn	03 53 35.5	+2.9
SDD	Santo Domingo	8.52	347	Pn	Pn	03 53 38.0	+2.6
DR12	Loma Pena Alta	8.74	350	Pn	Pn	03 53 38.1	-0.4
GUY2C	Guyana, Caldas	8.91	237	*e*P	Pn	03 53 40.4	-0.8
RREF	El Recreo	9.08	236	*e*P	Pn	03 53 43.0	-0.6
CBOC	Ciudad Bolivar	9.14	243	*e*P	Pn	03 53 44.0	-0.1
TOLC	Tolima	9.24	234	*e*P	Pn	03 53 45.7	+0.1
ANIL	Santa Ana	9.36	234	*e*P	Pn	03 53 45.7	-1.5
SDDR	Presa de Saban	9.42	340	Pn	Pn	03 53 50.2	+2.5
PRAC	Prado	9.46	228	*e*P	Pn	03 53 47.5	-0.9

RSNC 01 03:51:32.3±1.1, 10°.21N×73°.39W, h146km±15km, ML2.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARGC	Ariguani, Magd	0.91	247	*e*P	Pn	03 51 54.6	-1.3
ARGC				*e*S	Sn	03 52 13.7	-0.1
ARGC				*i*		03 52 17.9	
	comp=Z,27nm,0.2s						
SMLC	San Martn de	1.56	206	*e*P	Pn	03 52 02.3	+0.1
SMLC				*e*S	Sn	03 52 24.6	-0.4
SMLC				*i*		03 52 30.3	
	comp=Z,83nm,0.3s						
SJCC	San Jacinto, C	1.79	260	*e*P	Pn	03 52 08.9	+4.2
SJCC				*i*		03 52 09.4	
	comp=Z,9.4nm,0.6s						
SJCC				*e*S	Sn	03 52 36.1	+6.5
OCAC	Ocana	1.96	178	*e*P	Pn	03 52 06.6	-0.3
OCAC				*e*S	Sn	03 52 32.5	-1.0
OCAC				*i*		03 52 35.9	
	comp=Z,36nm,0.2s						

*IDC **01** 03:58:43.3±3.0, 27°.64S×177°.65W, h77km±28km, mb3.6/8, mb1 4.0/8, mb1mx3.7/28, mbtmp3.9/8, Error ellipse: s-maj=27.4km s-min=26.0km az=170.0*

*NEIC **01** 03:58:43.9±1.4, 27°.68S±0°.06×177°.6W±0°.2, h83km±8km, mb4.2/2, Error ellipse: s-maj=31.4km s-min=8.6km az=97.0*

ISC 01 03:58:45.6±0.7, 27°.82S±0°.10×177°.6W±0°.2, h100km, n27, σ0s.76/19, mb3.9/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.45	189	P	Pn	03 59 10.3	-1.0
	766nm,0.3s,baz=23,slow=1.3,SNR=75						
RAO				S	Sn	03 59 30.4	-0.2
	1μm,0.3s,baz=68,slow=23,SNR=22						
ASAR	Alice Springs	43.62	264	P	P	04 06 40.1	-0.2
	0.9nm,0.7s,baz=106,slow=7.9,SNR=7.5						
WRA	Warramunga Arr	44.38	269	P	P	04 06 45.6	-0.7
	1.5nm,0.7s,baz=106,slow=7.9,SNR=4.0						
VNDA	Vanda	50.69	186	P	P	04 07 35.5	+1.2
	0.3nm,0.4s,baz=6.4,slow=5.3,SNR=1.2						
MJAR	Matsushiro Arr	76.31	325	P	P	04 10 23.0	-0.6
	2.1nm,0.7s,baz=137,slow=5.6,SNR=10						
MAJO	Matsushiro	76.31	325	P	P	04 10 24.1	+0.6
MJB9	Matsu-Tunnel	76.32	325	P	P	04 10 23.6	0.0
MJB9				IAmb	IAmb	04 10 27.1	
	comp=Z,2.5nm,0.7s						
H03S2	Juan Fernandez	81.63	124	T	T	05 41 12.8	
	baz=240,slow=74,SNR=6.8						
H03S1	Juan Fernandez	81.64	124	T	T	05 41 16.7	
	baz=240,slow=74,SNR=8.9						
H03S3	Juan Fernandez	81.65	124	T	T	05 40 59.7	
	baz=240,slow=74,SNR=9.6						
H03N3	Juan Fernandez	81.81	123	T	T	05 41 09.2	
	baz=245,slow=73,SNR=4.5						
H03N2	Juan Fernandez	81.81	123	T	T	05 41 21.1	
	baz=245,slow=73,SNR=3.4						
H03N1	Juan Fernandez	81.83	123	T	T	05 41 33.7	
	baz=245,slow=73,SNR=7.3						
NVAR	Mina Array Bea	86.14	43	P	P	04 11 15.2	-0.5
	comp=Z,0.8nm,0.8s,baz=206,slow=7.7,SNR=4.7						
TXAR	Lajitas Array	90.73	57	P	P	04 11 36.7	-0.9
	comp=Z,0.3nm,0.9s,baz=203,slow=8.2,SNR=3.9						
PDAR	Pinedale Array	94.05	43	P	P	04 11 51.8	-1.0
	comp=Z,0.3nm,0.3s,baz=226,slow=4.8,SNR=2.3						
ILAR	Eielson Array	95.35	13	P	P	04 11 58.6	+0.7
	comp=Z,0.4nm,0.9s,baz=216,slow=6.3,SNR=2.9						
H10N3	ASCENSION HYDR	140.98	153	T	T	06 55 29.7	
	baz=204,slow=75,SNR=4.9						
H10N1	ASCENSION HYDR	140.99	153	T	T	06 55 32.5	
	baz=204,slow=75,SNR=6.1						
H10N2	ASCENSION HYDR	141.00	153	T	T	06 55 32.8	
	baz=204,slow=75,SNR=4.5						
FINES	FINESS Array B	142.82	341	PKhKP	PKPpre	04 18 03.2	
	comp=Z,0.7nm,0.6s,baz=70,slow=2.6,SNR=7.1						
NB2	NORSAR Subarra	146.25	352	PKP	PKPab	04 18 15.3	+0.4
	comp=Z,1.5nm,0.8s,baz=18,slow=2.8						
NOA	NORSAR Array B	146.25	352	PKPbc	PKPdf	04 18 12.6	-0.1
	comp=Z,0.8nm,0.7s,baz=16,slow=2.8,SNR=5.7						
AKASG	Malin Array Be	149.40	326	PKPbc	PKPbc	04 18 22.7	+0.1
	comp=Z,1.9nm,0.6s,baz=41,slow=3.3,SNR=8.2						
BRTR	Keskin Array B	151.56	303	PKPbc	PKPbc	04 18 28.4	0.0
	comp=Z,0.8nm,0.8s,baz=119,slow=4.4,SNR=4.6						
GERES	GERESS Array B	157.25	340	PKPab	PKPab	04 19 01.3	+0.4
	comp=Z,0.2nm,0.5s,baz=47,slow=5.9,SNR=4.0						
TORD	Torodi Ar. Bea	165.39	177	PKP	PKPdf	04 18 39.7	+0.6
	comp=Z,0.3nm,0.7s,baz=202,slow=1.6,SNR=1.6						
TORD				PKPab	PKPab	04 19 38.7	+1.5
	comp=Z,0.3nm,0.6s,baz=150,slow=4.0,SNR=2.4						

*INET **01** 04:08:12.4, 12°.12N×88°.01W, h20km, ML4.3*

*UCR **01** 04:08:13.6±1.8, 12°.03N×87°.90W, h9km±13km, MD4.4, ML3.6, mb4.3(NEIC)*

*SNET **01** 04:08:14.7±0.7, 12°.10N×87°.85W, h9km±6km, ML3.7*

*IDC **01** 04:08:17.7±5.0, 12°.44N×87°.42W, h33km±43km, mb3.7/8, mb1 4.0/11, mb1mx3.7/43, mbtmp3.9/11, ML3.1/3, MS3.5/9, Ms1 3.5/9, ms1mx3.1/44, Error ellipse: s-maj=52.5km s-min=19.3km az=38.0*

*NEIC **01** 04:08:18.7±1.5, 12°.26N±0°.06×87°.61W±0°.06, h50km±8km, mb4.3/73, Error ellipse: s-maj=9.8km s-min=6.2km az=224.0*

ISC 01 04:08:15.8±1.4, 12°.13N±0°.05×87°.76W±0°.04, h30km±10km, n129, σ1s.23/132, mb4.3/32, MS3.5/5, 1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	0.90	51	*e*P	Pb	04 08 32.6	-0.3
CRIN				*e*S	Sn	04 08 49.6	+5.1
CRIN	San Cristobal	0.90	51		Pn	04 08 32.8	+0.3
CRIN				Sn	Sb	04 08 41.9	-2.7
LCND	La Caada	1.18	354	*e*P	Pn	04 08 36.4	0.0
LCND				*e*S	Sb	04 08 52.7	+0.2
LCND				IAML		04 08 56.8	
	comp=Z,2μm,0.4s						
LCND	La Caada	1.18	354	*e*P	Pn	04 08 36.4	0.0
LCND				*e*S	Sb	04 08 52.7	+0.2
LCND				IAML		04 08 56.8	
	comp=Z,2μm,0.4s						
JUCU	Jucuar¡n	1.21	337	*e*P	Pn	04 08 36.4	-0.5
JUCU				*e*S	Sb	04 08 53.6	+0.1
JUCU	Jucuar¡n	1.21	337	*e*P	Pn	04 08 36.4	-0.5
JUCU				*e*S	Sb	04 08 53.6	+0.1
ALJI	Alcalda de J	1.43	327	*e*P	Pn	04 08 39.9	+0.1
ALJI				*e*S	Sb	04 08 58.8	-0.8
ALJI	Alcalda de J	1.43	327	*e*P	Pn	04 08 39.9	+0.1
ALJI				*e*S	Sb	04 08 58.8	-0.8
COEB	Comit de Eme	1.55	331	*e*P	Pn	04 08 41.5	-0.1
COEB				*e*S	Sb	04 09 03.6	+0.3
COEB				IAML		04 09 13.8	
	comp=Z,559nm,0.3s						
COEB	Comit de Eme	1.55	331	*e*P	Pn	04 08 41.5	-0.1
COEB				*e*S	Sb	04 09 03.6	+0.3
COEB				IAML		04 09 13.8	
	comp=Z,559nm,0.3s						
FAGO	Alcalda de S	1.59	348	*e*P	Pn	04 08 42.9	+0.8
FAGO				*e*S	Sb	04 09 04.7	+0.3
FAGO	Alcalda de S	1.59	348	*e*P	Pn	04 08 42.9	+0.8
FAGO				*e*S	Sb	04 09 04.7	+0.3
MATN	Matagalpa	1.96	66	⇓*e*P	Pn	04 08 47.1	-0.1
MATN				*e*S	Sb	04 09 15.0	-0.1
MATN	Matagalpa	1.96	66		Pn	04 08 47.5	+0.3
OPAM	Oficina de Pla	2.10	318	*e*S	Sb	04 09 16.5	-2.7
OPAM	Oficina de Pla	2.10	318	*e*S	Sb	04 09 16.5	-2.7
SNET	Serv Nac Est T	2.11	317	Pn	Pn	04 08 50.2	+1.0
UEES	Universidad Ev	2.13	318	IAML		04 09 28.5	
	comp=Z,301nm,0.4s						
UEES	Universidad Ev	2.13	318	IAML		04 09 28.5	
	comp=Z,301nm,0.4s						
CEVE	Cerro Verde	2.48	313	IAML		04 09 36.0	
	comp=Z,499nm,0.4s						
CEVE	Cerro Verde	2.48	313	IAML		04 09 36.0	
	comp=Z,499nm,0.4s						
ACON	Acoyapa	2.54	93		Pn	04 08 54.9	-0.2
GB1A	Borinquen Arri	2.66	119	*e*P	Pn	04 08 58.7	+1.9
MTO3	Montecristo	2.74	326		Pn	04 08 58.9	+0.9
CUI	Cuipilapa	2.94	120	*i* P	Pn	04 09 01.0	+0.4
PLVR	Palo Verde	2.96	127	*e*P	Pn	04 09 01.3	+0.4
ACAL	Aguas Claras	3.06	119	*i* P	Pn	04 09 02.6	+0.3
JTS	Las Juntas de	3.31	123	Pn	Pn	04 09 06.0	+0.3
	comp=Z,3.4nm,0.3s,baz=10,slow=2.4,SNR=29						
JTS				Sn	Sn	04 09 44.3	+0.3
	comp=Z,12nm,0.3s,baz=49,slow=6.6,SNR=6.5						
JTS				LR	LR	04 10 47.9	
	comp=Z,1μm,18.3s,baz=25,slow=46						
JTS	Las Juntas de	3.31	123	*e*P	Pn	04 09 06.6	+0.9
JTS	Las Juntas de	3.31	123	Pn	Pn	04 09 06.5	+0.9
ESPN	Las Esperanzas	3.39	89	*e*P	Pn	04 09 08.1	+1.4
ESPN	Las Esperanzas	3.39	89		Pn	04 09 07.5	+0.8
ARE1	Arenal 1	3.42	119	*e*P	Pn	04 09 08.4	+1.2
LCR2	La Lucha 2	4.39	122	*e*P	Pn	04 09 22.0	+1.3
TEIG	Tepich	8.06	357	LR	LR	04 13 38.5	
	comp=Z,219nm,21.7s,baz=230,slow=41						
BCIP	Isla Barro Col	8.33	110	Pn	Pn	04 10 17.3	+2.6
CMIG	Matias Romero	8.47	306	Pn	Pn	04 10 19.6	+2.9
	comp=Z,0.3nm,0.3s,baz=152,slow=7.6,SNR=4.1						
CMIG				LR	LR	04 14 03.4	
	comp=Z,284nm,20.8s,baz=117,slow=40						
GUY2C	Guyana, Caldas	14.04	118	*e*P	Pn	04 11 34.3	+1.0
PTBC	PUERTO BERRIO,	14.25	112	*e*P	P	04 11 41.7	-1.1
BBAC	Balboa, Cauca	14.47	133	*e*P	P	04 11 45.6	+0.2
ORTC	Ortega, Tolima	14.84	122	*e*P	P	04 11 49.6	+0.3
SOTA	Rioblanco	14.86	131	*e*P	Pn	04 11 46.9	+2.4
CRUC	La Cruz	15.00	134	*e*P	Pn	04 11 48.2	+2.0
ROSC	El Rosal	15.13	117	Pn	Pn	04 11 47.9	-0.1
ROSC				IAmb	IAmb	04 11 56.2	
	comp=Z,15nm,0.9s						
MACC	Macarena, Meta	16.99	125	*e*P	P	04 12 13.9	+0.8
SDV	Santo Domingo	17.15	99	Pn	Pn	04 12 11.5	-2.2
	comp=Z,0.2nm,0.3s,baz=330,slow=16,SNR=1.9						
SDV				LR	LR	04 20 46.2	
	comp=Z,86nm,19.1s,baz=211,slow=44						
SDV	Santo Domingo	17.15	99		Pn	04 12 11.8	-1.8
ZAIG	Zacatecas	17.63	309	P	P	04 12 19.9	-0.5
HKT	Hockley	19.25	338	P	Pn	04 12 40.1	+1.1
344A	Westbrook Farm	19.42	352	P	P	04 12 39.3	-0.5
344A				IAmb	IAmb	04 12 44.1	
	comp=Z,26nm,1.1s						
NATX	Nacogdoches	20.54	343	P	P	04 12 52.8	+0.8
NATX				IAmb	IAmb	04 12 55.1	
	comp=Z,15nm,0.9s						
152A	Waverly Hall	20.63	7	P	P	04 12 53.6	+0.7
152A				IAmb	IAmb	04 12 56.5	
	comp=Z,15nm,1.1s						
237A	Washetta, Mont	21.12	341	P	P	04 12 59.3	+1.1
237A				IAmb	IAmb	04 13 04.3	
	comp=Z,23nm,1.1s						
JCT	Junction City	21.40	330	P	P	04 13 02.0	+0.7
GOGA	Godfrey	21.54	10	P	P	04 13 03.8	+1.1
GOGA				IAmb	IAmb	04 13 06.4	
	comp=Z,8.1nm,0.8s						
WHTX	Lake Whitney,	21.69	337	P	P	04 13 04.9	+0.5
PDPR	Patillas Dam,	21.78	72	P	P	04 13 05.0	-0.5
PDPR				IAmb	IAmb	04 13 11.8	
	comp=Z,18nm,1.2s						
TXAR	Lajitas Array	22.63	322	P	P	04 13 15.6	+1.0
	comp=Z,13nm,0.9s,baz=138,slow=9.6,SNR=57						
TX31	Lajitas Ar. Si	22.63	322	P	P	04 13 15.7	+1.1
TX32	Lajitas Array	22.63	322	P	P	04 13 15.7	+1.1
TX32				IAmb	IAmb	04 13 17.8	
	comp=Z,14nm,0.9s						
Z35A	Perchaven, San	22.82	339	P	P	04 13 17.1	+0.7
UALR	University of	22.92	350	P	P	04 13 18.5	+1.0
UALR				IAmb	IAmb	04 13 19.1	
	comp=Z,10nm,1.2s						
MIAR	Mount Ida	22.93	348	P	P	04 13 17.9	+0.4
MIAR				IAmb	IAmb	04 13 20.6	
	comp=Z,9.8nm,1.0s						
ABTX	Abilene, Hawle	23.13	334	P	P	04 13 19.9	+0.2
ABTX				IAmb	IAmb	04 13 21.7	
	comp=Z,15nm,1.0s						
HBAR	Harrisburg	23.47	354	P	P	04 13 23.1	+0.2
LPAR	Lepanto	23.48	355	P	P	04 13 22.4	-0.6
FCAR	Ozark Folk Cen	23.98	351	P	P	04 13 27.6	-0.2
X34A	Smith Ranch, M	24.17	339	P	P	04 13 30.2	+0.6
W35A	Tecumseh	24.36	342	P	P	04 13 31.5	+0.1
U40A	Yellville	24.55	350	P	P	04 13 33.3	+0.2
FNO	Franklin	24.63	341	P	P	04 13 34.4	+0.6
WMOK	Wichita Mounta	24.63	338	P	P	04 13 33.0	-0.9
HHAR	Hobbs	24.68	348	P	P	04 13 33.3	-1.0
T47A	Sharon Grove	24.76	1	P	P	04 13 33.4	-1.5
TUL1	Leonard	24.76	344	P	P	04 13 34.9	0.0
U38A	Gravette	24.93	347	P	P	04 13 35.3	-1.2
U38A				IAmb	IAmb	04 13 37.2	
	comp=Z,7.1nm,1.1s						
MNTX	Cornudas Mount	25.35	323	P	P	04 13 41.3	+0.9
MSTX	Muleshoe	25.69	330	P	P	04 13 44.0	+0.4
AMTX	Amarillo	25.94	333	P	P	04 13 41.8	-4.0
121A	Cookes Peak, D	27.39	321	P	P	04 14 00.1	+1.2
121A				IAmb	IAmb	04 14 05.1	
	comp=Z,7.4nm,1.1s						
BNM	Barren Site	27.85	325	P	P	04 14 06.9	+3.7
P38A	Dawn	27.86	350	P	P	04 14 01.8	-1.1
P38A				IAmb	IAmb	04 14 04.3	
	comp=Z,4.9nm,0.7s						
KSU1	Kansas State U	27.99	345	P	P	04 14 04.2	+0.1
KSU1				IAmb	IAmb	04 14 04.6	
	comp=Z,9.9nm,1.2s						
ACSO	Alum Creek Sta	28.31	8	P	P	04 14 05.5	-1.3
ACSO				IAmb	IAmb	04 14 23.2	
	comp=Z,12nm,1.3s						
ANMO	Albuquerque	28.35	326	P	P	04 14 09.1	+1.5
	comp=Z,0.4nm,0.4s,baz=157,slow=12,SNR=3.2						
ANMO	Albuquerque	28.35	326	IAmb	IAmb	04 14 11.4	
	comp=Z,1.7nm,1.1s						
N35A	Tabor	29.45	348	P	P	04 14 16.1	-0.9
N35A				IAmb	IAmb	04 14 17.0	
	comp=Z,8.3nm,0.8s						
SDCO	Great Sand Dun	30.04	331	P	P	04 14 22.9	+0.3
K38A	Parkersburg	30.71	353	P	P	04 14 28.0	-0.2
K38A				IAmb	IAmb	04 14 28.1	
	comp=Z,5.2nm,0.9s						
ISCO	Idaho Springs	31.76	333	P	P	04 14 36.9	-0.9
K31A	O'Neill	31.85	345	P	P	04 14 38.4	+0.1
PV02	Paradox Valley	32.01	328	P	P	04 14 40.6	+0.7
PV02				IAmb	IAmb	04 14 43.2	
	comp=Z,7.0nm,1.0s						
PV13	Radium Mtn., P	32.01	328		PcP	04 17 28.8	-0.7
PV03	Paradox Valley	32.10	328	P	P	04 14 42.2	+1.4
PV03				IAmb	IAmb	04 14 43.8	
	comp=Z,3.2nm,0.8s						
PV11	David Mesa, Pa	32.15	328	P	P	04 14 42.6	+1.5
PV11				IAmb	IAmb	04 14 43.7	
	comp=Z,4.0nm,0.8s						
PV17	East Wray Mesa	32.18	328	P	P	04 14 42.4	+1.0
PV17				IAmb	IAmb	04 14 44.2	
	comp=Z,5.0nm,0.8s						
SAML	Samuel	32.18	129	P	P	04 14 40.2	-1.1
ECSD	EROS Data Cent	32.40	348	P	P	04 14 41.9	-1.2
O20A	White River Ci	33.23	331	P	P	04 14 49.9	-0.7
O20A				IAmb	IAmb	04 14 54.8	
	comp=Z,5.1nm,0.8s						
P17A	Butcher Ranch,	33.99	327	P	P	04 14 58.0	+0.8
RWWY	Rawlins	34.00	334	P	P	04 14 56.2	-1.1
LPAZ	La Paz	34.27	145	LR	LR	04 28 41.8	
	comp=Z,84nm,19.3s,baz=316,slow=36						
F33A	5 Mile Ranch,	34.37	349	P	P	04 14 58.8	-1.4
BW06	Boulder Array	35.91	332	P	P	04 15 13.4	-0.4
BW06				IAmb	IAmb	04 15 20.9	
	comp=Z,3.2nm,1.2s						
PD31	Pinedale Array	35.91	332	P	P	04 15 13.4	-0.4
PDAR	Pinedale Array	35.91	332	P	P	04 15 13.7	0.0
	comp=Z,0.7nm,0.5s,baz=138,slow=11,SNR=6.8						
PDAR				LR	LR	04 32 18.2	
	comp=Z,36nm,18.6s,baz=131,slow=40						
HWUT	Hardware Ranch	35.99	329	P	P	04 15 14.8	+0.4
HWUT				IAmb	IAmb	04 15 17.0	
	comp=Z,4.9nm,0.9s						
AGMN	Agassiz Nation	36.68	351	P	P	04 15 18.4	-1.5
MDND	Maddock	36.96	347	P	P	04 15 21.6	-0.8
REDW	Red Top Meadow	36.97	332	P	P	04 15 23.0	+0.2
SNOW	Snow King Moun	37.00	332	P	P	04 15 23.2	+0.1
TPAW	Teton Pass	37.11	332	P	P	04 15 25.0	+1.0
FLWY	Flagg Ranch	37.46	332	P	P	04 15 26.8	-0.1
FLWY				IAmb	IAmb	04 15 29.7	
	comp=Z,6.1nm,1.1s						
NVAR	Mina Array Bea	37.74	319	P	P	04 15 32.1	+2.7
	comp=Z,0.3nm,0.7s,baz=134,slow=6.4,SNR=2.4						
ULM	Lac du Bonnet	38.59	352	P	P	04 15 34.4	-1.7
	comp=Z,3.4nm,0.7s,baz=176,slow=6.4,SNR=3.7						
ULM	Lac du Bonnet	38.59	352	IAmb	IAmb	04 15 34.6	
	comp=Z,6.6nm,1.1s						
MCMT	McKenzie Canyo	39.02	331	P	P	04 15 42.1	+2.0
LRM	Limekiln Ridge	39.59	333	P	P	04 15 45.1	+0.2
EGMT	Eagleton	40.23	337	P	P	04 15 50.0	+0.1
EGMT				IAmb	IAmb	04 15 51.5	
	comp=Z,6.4nm,1.1s						
MSO	Missoula	41.03	333	P	P	04 15 56.7	+0.1
MSO				IAmb	IAmb	04 15 58.7	
	comp=Z,5.7nm,1.1s						
YBH	Yreka Blue Hor	42.40	321	LR	LR	04 35 16.6	
	comp=Z,52nm,20.7s,baz=148,slow=38						
SCHQ	Schefferville	45.67	17	P	P	04 16 33.1	-0.6
	comp=Z,2.3nm,0.7s,baz=222,slow=8.5,SNR=7.7						
SCHQ	Schefferville	45.67	17	IAmb	IAmb	04 16 33.9	
	comp=Z,5.3nm,1.1s						
FRB	Frobisher Bay	53.29	11	LR	LR	04 41 21.9	
	comp=Z,76nm,18.8s,baz=190,slow=38						
YKA	Yellowknife Ar	53.84	345	P	P	04 17 34.4	-1.4
	comp=Z,0.6nm,0.8s,baz=140,slow=8.0,SNR=8.4						
ILAR	Eielson Array	66.19	336	P	P	04 19 00.4	-0.1
	comp=Z,0.4nm,0.8s,baz=116,slow=4.1,SNR=3.2						
KDAK	Kodiak Island	66.47	328	LR	LR	04 48 44.2	
	comp=Z,43nm,19.4s,baz=130,slow=37						
WMQ	Urumqi	124.17	4	*e*P	PKPdf	04 27 11.4	-0.6
CMAR	Chiang Mai Arr	148.89	348	PKP	PKPdf	04 27 58.2	+0.4
	comp=Z,0.5nm,0.3s,baz=250,slow=2.7,SNR=1.8						
CMAR				PKPbc	PKPbc	04 28 01.6	-0.1
	comp=Z,0.6nm,0.3s,baz=0.0,slow=3.7,SNR=4.1						

TRN 01 04:08:58.9, 17°.18N×60°.25W, h41km, MD3.6, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABD	La Joyeuse, An	1.38	239	*e*P	Pn	04 09 22.9	+1.3
ABD				*e*S	Sn	04 09 42.0	+3.5
ANWB	Willy Bob	1.54	288	*e*P	Pn	04 09 24.5	+0.7
ANWB				*e*S	Sn	04 09 43.8	+1.2
MAGL	Barre de l'ile	1.57	219	*e*P	Pn	04 09 25.2	+0.9
MAGL				*e*S	Sn	04 09 44.6	+1.1
CBE	Ff, Capester	1.71	230	*e*P	Pn	04 09 27.8	+1.6
CBE				*e*S	Sn	04 09 49.4	+2.6
TDBA	Terre de Bas,	1.88	225	*e*P	Pn	04 09 30.9	+2.5
TDBA				*e*S	Sn	04 09 55.4	+4.5
MLYT	Lee's Yard	1.91	256	*e*P	Pn	04 09 31.6	+2.6
SKI	Saint Kitts	2.38	274	*e*P	Pn	04 09 37.3	+1.9
SKI				*e*S	Sn	04 10 04.6	+1.3
ILAM	Ilet Lapin Mar	2.47	194	*e*P	Pn	04 09 38.7	+2.1
ILAM				*e*S	Sn	04 10 07.0	+1.5
PML	Morne Lenard	2.55	201	*e*P	Pn	04 09 41.0	+3.2
BIM	Bigot	2.77	197	*e*P	Pn	04 09 42.9	+2.2
BIM				*e*S	Sn	04 10 14.4	+1.4
MPOM	Morne Pois Mar	2.79	192	*e*P	Pn	04 09 42.4	+1.4
MPOM				*e*S	Sn	04 10 13.6	+0.3

*ATA **01** 04:20:52.5±1.1, 38°.75N×43°.27E, h10km±15km, ML2.6, MW3.5*

*DDA **01** 04:20:52.5, 38.°76N×43.°26E, h7km±2km, ML2.6*
*ISK **01** 04:20:53.1, 38.°74N×43.°27E, h8km, ML2.5/8*
ISC 01 04:20:53.1±0.9, **38.°77N**±0.°02×**43.°30E**±0.°03, **h13**km±10km, **n22**, σ**0.s55**/32, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VANB	Van	0.18	158	PG	Pb	04 20 58.7	+0.3
VANB				SG	Sb	04 21 02.6	+0.6
TVAN	Van	0.25	161	eP	Pg	04 20 58.4	-0.2
TVAN				eS	Sg	04 21 03.0	+0.6
TVAN				IAML		04 21 03.5	
	comp=Z,1μm,0.3s						
TVAN	Van	0.25	161	i P	Pg	04 20 58.3	-0.3
TVAN				i S	Sg	04 21 02.4	+0.1
TVAN				IAML		04 21 03.0	
	comp=N,3μm,0.6s						
TVAN				IAML		04 21 04.0	
	comp=E,2μm,0.3s						
ERCV	ERCIS-VAN	0.25	6	PG	Pb	04 20 59.4	-0.3
ERCV				SG	Sb	04 21 04.1	+0.1
VMUR	Van-Muradiye	0.31	43	i P	Pg	04 20 59.2	-0.3
VMUR				i S	Sg	04 21 04.5	+0.7
VMUR				IAML		04 21 06.0	
	comp=E,752nm,0.3s						
VMUR				IAML		04 21 06.0	
	comp=N,791nm,0.4s						
GEVA	Gevas	0.49	203	eP	Pg	04 21 02.8	-0.1
GEVA	Gevas	0.49	203	i P	Pg	04 21 02.3	-0.6
AKDM	Akdamar-Van	0.51	210	PG	Pg	04 21 02.9	-0.2
CLDR	Caldiran	0.61	52	PG	Pb	04 21 05.9	+0.2
CLDR	Caldiran	0.61	52	i S	Sg	04 21 12.8	-0.4
MLAZ	Malazgirt-MUS	0.69	303	PG	Pb	04 21 07.1	-0.1
TUTA	Tutak	0.74	329	eP	Pg	04 21 07.8	+0.3
TUTA				eS	Sb	04 21 18.5	+0.5
TUTA				IAML		04 21 19.9	
	comp=Z,133nm,0.5s						
TUTA	Tutak	0.74	329	i P	Pg	04 21 07.3	-0.2
TUTA				i S	Sg	04 21 17.0	-0.3
TUTA				IAML		04 21 19.0	
	comp=N,152nm,0.3s						
AGRB	Hanur-Agry	0.84	343	PG	Pg	04 21 09.5	0.0
BASK	Baskale_VAN	0.90	142	eP	Pb	04 21 09.8	-0.9
BLIS	Bitlis-Merkez	0.99	250	eP	Pb	04 21 11.8	-0.4
BLIS				eS	Sg	04 21 25.4	0.0
BLIS	Bitlis-Merkez	0.99	250	i P	Pb	04 21 11.4	-0.9
BLIS				i S	Sb	04 21 24.5	-0.8
BLIS				IAML		04 21 27.0	
	comp=N,95nm,0.5s						
GURO	Guroymak-BITLI	1.02	258	PG	Pb	04 21 12.2	-0.4
SRTM	Siirt_Merkez	1.33	235	i P	Pb	04 21 18.1	+0.2
SRTM				i S	Sg	04 21 37.9	+1.8
MUSM	Mu-Merkez	1.40	269	i P	Pb	04 21 19.2	0.0
CUKT	Cukurca	1.54	171	PN	Pb	04 21 21.3	-0.2
CUKT	Cukurca	1.54	171	i P	Pg	04 21 22.7	0.0

*IDC **01** 04:32:53.6±3.5, 39.°29N×74.°50E, h0km, mb3.8/4, mb1 3.8/7, mb1mx3.5/55, mbtmp3.8/7, ML3.6/3, MS2.7/2, Ms1 2.7/2, ms1mx2.3/36, Error ellipse: s-maj=73.2km s-min=19.4km az=109.0*
*KRNET **01** 04:32:58.1±0.1, 39.°62N×74.°00E, mb4.1*
*BJI **01** 04:32:58.0±0.0, 39.°80N×73.°73E, h8km, ML3.5/4*
*SOME **01** 04:33:01.6, 39.°78N×74.°00E, h5km*
*NNC **01** 04:33:03.9±1.4, 39.°87N×73.°94E, h2km±6km, mb4.5, mpv4.2, Error ellipse: s-maj=10.7km s-min=5.2km az=0.0*
ISC 01 04:32:57.6±0.9, **39.°71N**±0.°04×**73.°87E**±0.°02, **h3**km±6km, **n88**, σ**2.s28**/133, **mb3.8**/4, **26C-32D**, **Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KSH	Kashi	1.64	96	Pg	Pn	04 33 23.3	-4.1
KSH				Sg	Sn	04 33 40.9	-8.1
ARSB	Arslanbob	1.75	337	⇑iP	Pg	04 33 33.4	+2.3
	baz=36						
ARSB				⇑iS	Sg	04 33 58.8	+5.1
	baz=36						
ARLS	Aral	2.17	9	⇓iP	Pg	04 33 38.8	-0.5
	baz=6.0						
ARLS				⇓iS	Sg	04 34 08.7	+1.2
	baz=6.0						
BTK	Batken	2.37	279	⇓iP	Pg	04 33 42.2	-0.9
	baz=81						
BTK				⇓iS	Sg	04 34 14.4	+0.6
	baz=81						
AML	Almayashu	2.42	357	⇑iP	Pg	04 33 42.6	-1.4
	baz=55						
AML				⇑iS	Sg	04 34 15.5	+0.1
	baz=55						
AML	Almayashu	2.42	357	P	Pg	04 33 42.8	-1.1
	SNR=91						
ARK	Arkit	2.54	326	⇑iP	Pg	04 33 44.4	-1.8
	baz=25						
ARK				⇑iS	Sg	04 34 18.1	-1.0
	baz=25						
UCH	Uchtor	2.56	11	⇓iP	Pb	04 33 44.4	0.0
	baz=8.0						
UCH				⇓iS	Sg	04 34 18.1	-1.8
	baz=8.0						
UCH	Uchtor	2.56	11	P	Pg	04 33 45.1	-1.5
	SNR=53						
KZA	Kyzart	2.58	23	⇓iP	Pb	04 33 44.0	-0.8
	baz=21						
KZA				⇓iS	Sb	04 34 17.7	+0.5
	baz=21						
KZA	Kyzart	2.58	23	P	Pb	04 33 45.3	+0.5
	SNR=44						
GAR	Garm	2.84	257	⇑iP	Pb	04 33 48.1	-1.0
	baz=59						
GAR				⇑iS	Sg	04 34 24.9	-4.1
	baz=59						
EKS2	Erkin-Say	2.95	359	⇓iP	Pb	04 33 49.6	-1.2
	baz=57						
EKS2				⇓iS	Sg	04 34 27.6	-4.7
	baz=57						
EKS2	Erkin-Say	2.95	359	P	Pb	04 33 50.6	-0.3
	SNR=31						
AAK	Ala-Archa	2.96	9	Pn	Pb	04 33 50.8	-0.2
	9.1nm,0.3s,baz=174,slow=11,SNR=41						
AAK				Sn	Sg	04 34 32.1	-0.6
	17nm,0.3s,baz=339,slow=15,SNR=12						
AAK				LR	LR	04 35 15.6	
	comp=Z,97nm,18.6s,baz=165,slow=42						
AAK	Ala-Archa	2.96	9	⇓iP	Pb	04 33 49.8	-1.3
	baz=7.0						
AAK				⇓iS	Sb	04 34 27.4	-0.4
	baz=7.0						
AAK	Ala-Archa	2.96	9	P	Pb	04 33 50.9	-0.2
	SNR=31						
KBK	Karagaybulak	3.05	15	⇓iP	Pb	04 33 50.6	-2.1
	baz=13						
KBK				⇓iS	Sb	04 34 29.3	-1.1
	baz=13						
KBK	Karagaybulak	3.05	15	P	Pb	04 33 52.6	-0.1
	SNR=43						
MRKS	Merke	3.07	351	eP	Pg	04 33 55.9	-0.5
	98nm,0.5s						
MRKS				eS	Sg	04 34 34.3	-1.9
	85nm,0.6s						
MRKS	Merke	3.07	351	Pg	Pg	04 33 55.9	-0.5
	98nm,0.5s						
MRKS				Lg	Lg	04 34 34.1	
	184nm,0.4s						
ULHL	Ulahol	3.10	35	⇓iP	Pb	04 33 50.6	-2.9
	baz=32						
ULHL				⇓iS	Sb	04 34 29.3	-2.6
	baz=32						
FRU1	Bishkek	3.15	10	⇑iP	Pb	04 33 52.0	-2.2
	baz=8.0						
FRU1				⇑iS	Sb	04 34 31.6	-1.5
	baz=8.0						
BOOM	Boomskoye usch	3.19	29	⇑iP	Pb	04 33 51.9	-3.0
	baz=26						
BOOM				⇑iS	Sb	04 34 31.5	-2.7
	baz=26						
CHMS	Chumysh	3.35	11	P	Pb	04 33 56.7	-0.9
	SNR=8.7						
TKM2	Tokmak 2	3.46	22	⇓eP	Pb	04 33 56.0	-3.6
	baz=19						
TKM2				⇓iS	Sb	04 34 38.4	-3.8
	baz=19						
TKM2	Tokmak 2	3.46	22	P	Pb	04 33 57.1	-2.6
	SNR=24						
KDJ	Kajisay	3.48	45	⇑iP	Pn	04 33 55.5	+2.7
	baz=43						
KDJ				⇑eS	Sn	04 34 37.8	+3.1
	baz=43						
USP	Ospenovka	3.58	7	⇑iP	Pb	04 33 58.1	-3.5
	baz=6.0						
USP				⇑iS	Sb	04 34 42.2	-3.4
	baz=6.0						
USP	Ospenovka	3.58	7	P	Pb	04 33 59.9	-1.7
	SNR=8.0						
KST	Kastek	3.68	25	eP	Pg	04 34 09.2	+1.1
	50nm,0.7s						
KST				eS	Sg	04 34 57.4	+1.6
	90nm,0.8s						
KST	Kastek	3.68	25	Pg	Pg	04 34 09.2	+1.1
	50nm,0.7s						
KST				Lg	Lg	04 34 56.5	
	87nm,0.6s						
DZA	Taraz	3.71	330	eP	Pg	04 34 11.1	+2.5
	80nm,0.4s						
DZA				eS	Sg	04 34 59.8	+3.1
	420nm,0.6s						
DZA	Taraz	3.71	330	Pg	Pg	04 34 11.1	+2.5
	80nm,0.4s						
DZA				Lg	Lg	04 34 59.8	
	420nm,0.6s						
SGDS	Sogindy	3.78	8	Pg	Pg	04 34 08.5	-1.5
	102nm,0.5s						
SGDS				Lg	Lg	04 34 55.5	
	68nm,0.9s						
IUG	Iuzhnay	3.79	311	eP	Pg	04 34 12.3	+2.1
	10.0nm,0.5s						
IUG				eS	Sg	04 35 02.6	+3.3
	245nm,0.6s						
IUG	Iuzhnay	3.79	311	Pg	Pg	04 34 12.1	+1.9
	18nm,0.6s						
IUG				Lg	Lg	04 35 01.7	
	343nm,1.2s						
DGS	Degeres	3.81	21	eP	Pg	04 34 10.1	-0.4
	29nm,0.5s						
DGS				eS	Sg	04 34 57.9	-1.9
	80nm,0.6s						
DGS	Degeres	3.81	21	Pg	Pg	04 34 11.9	+1.5
	45nm,0.6s						
DGS				Lg	Lg	04 35 01.1	
	80nm,0.6s						
CHGR	Chuyangaron	3.81	255	⇓iP	Pb	04 34 01.2	-4.3
	baz=57						
CHGR				⇓iS	Sb	04 34 47.8	-4.3
	baz=57						
TAS	Tashkent	3.84	296	⇓iP	Pb	04 34 02.7	-3.3
	baz=97						
TAS				⇓iS	Sb	04 34 49.7	-3.2
	baz=97						
IZV	Izvestkoviy	3.91	31	eP	Pg	04 34 14.2	+1.7
	34nm,0.6s						
IZV				eS	Sg	04 35 05.1	+1.9
	78nm,0.9s						
IZV	Izvestkoviy	3.91	31	Pg	Pg	04 34 14.2	+1.7
	34nm,0.6s						
IZV				Lg	Lg	04 35 05.1	
	78nm,0.9s						
MTBS	Maitube	3.92	29	eP	Pg	04 34 12.6	-0.1
	18nm,0.6s						
MTBS				eS	Sg	04 35 03.3	-0.1
	47nm,0.6s						
TNSS	Tian-Shan	4.05	34	eP	Pg	04 34 15.2	+0.1
	36nm,0.6s						
TNSS				eS	Sg	04 35 07.4	-0.2
	67nm,1.0s						
TNSS	Tian-Shan	4.05	34	Pg	Pg	04 34 15.2	+0.1
	36nm,0.6s						
TNSS				Lg	Lg	04 35 07.4	
	67nm,1.0s						
AAA	Alma-Ata	4.18	32	eP	Pg	04 34 17.3	-0.2
	14nm,0.1s						
AAA				eS	Sg	04 35 11.1	-0.6
	36nm,0.6s						
AAA	Alma-Ata	4.18	32	Pg	Pg	04 34 17.4	-0.2
	39nm,0.4s						
AAA				Lg	Lg	04 35 11.2	
	48nm,0.6s						
MDOK	Medeo	4.20	34	eP	Pg	04 34 17.4	-0.5
	28nm,0.5s						
MDOK				eS	Sg	04 35 11.7	-0.6
	61nm,1.3s						
MDOK	Medeo	4.20	34	⇓Pn	Pb	04 34 07.2	-4.9
	7.3nm,0.6s						
MDOK				⇓Pg	Pg	04 34 15.7	-2.3
	21nm,0.5s						
MDOK				⇑Lg	Lg	04 35 13.9	
	153nm,1.2s						
KNDC	Almaty	4.21	33	⇑Pn	Pn	04 34 06.7	+4.1
	17nm,0.4s						
KNDC				⇓Pg	Pg	04 34 16.0	-2.1
	26nm,0.4s						
KNDC				⇓Lg	Lg	04 35 13.9	
	187nm,0.7s						
KRBS	Karabastau	4.21	18	eP	Pg	04 34 16.5	-1.6
	17nm,0.4s						
KRBS				eS	Sg	04 35 09.7	-2.9
	25nm,0.6s						
KRBS	Karabastau	4.21	18	Pg	Pg	04 34 16.5	-1.6
	16nm,0.4s						
KRBS				Lg	Lg	04 35 09.7	
	25nm,0.6s						
KK31	Karatay Array	4.23	324	⇑Pn	Pb	04 34 07.5	-5.0
	1.5nm,0.3s,baz=130,slow=14,SNR=52						
KK31				⇓Pg	Pg	04 34 18.0	-0.5
	7.8nm,0.4s,baz=149,slow=18,SNR=22						
KK31				⇓Sn	Sb	04 34 58.8	-5.2
	37nm,0.6s,baz=134,slow=22,SNR=3.5						
KK31				⇑Lg	Lg	04 35 14.8	
	30nm,0.5s,baz=132,slow=30,SNR=2.6						
KOTS	Kotyrbulak	4.28	34	eP	Pg	04 34 19.9	+0.3
	82nm,0.5s						
KOTS				eS	Sg	04 35 15.7	+0.6
	310nm,0.8s						
KOTS	Kotyrbulak	4.28	34	Pg	Pg	04 34 19.8	+0.3
	82nm,0.5s						
KOTS				Lg	Lg	04 35 15.7	
	310nm,0.8s						
PRZ	Przheval'sk	4.40	50	⇑iP	Pn	04 34 08.5	+3.0
	baz=48						
PRZ				⇑iS	Sn	04 34 59.8	+2.4
	baz=48						
BRLS	Borolday	4.50	319	eP	Pg	04 34 24.2	+0.6
	26nm,0.8s						
BRLS				eS	Sg	04 35 22.3	+0.4
	101nm,0.6s						
BRLS	Borolday	4.50	319	Pg	Pg	04 34 24.2	+0.6
	26nm,0.8s						
BRLS				Lg	Lg	04 35 22.3	
	101nm,0.6s						
KTBS	Karatobe	4.52	27	eP	Pg	04 34 24.6	+0.5
	17nm,0.6s						
KTBS				eS	Sg	04 35 23.4	+0.7
	80nm,0.5s						
KTBS	Karatobe	4.52	27	Pg	Pg	04 34 24.4	+0.3
KTBS				Lg	Lg	04 35 22.9	
KUU	Kurty	4.57	23	eP	Pg	04 34 24.5	-0.6
	10nm,0.5s						
KUU				eS	Sg	04 35 23.4	-0.9
	46nm,0.6s						
CHKK	Chushkaly	4.75	28	eP	Pg	04 34 28.2	-0.4
	17nm,0.8s						
CHKK				eS	Sg	04 35 30.2	+0.1
	32nm,0.5s						
SATY	Saty	4.78	44	eP	Pg	04 34 27.6	-1.5
	26nm,0.6s						
SATY				eS	Sg	04 35 28.1	-2.9
	86nm,1.4s						
KURS	Kuram	4.96	39	eP	Pg	04 34 31.2	-1.4
	14nm,0.8s						
KURS				eS	Sg	04 35 34.5	-2.4
	31nm,1.4s						
UZB	Uzynbulak	5.17	47	eP	Pg	04 34 35.3	-1.4
	15nm,0.7s						
UZB				eS	Sg	04 35 42.3	-1.4
	36nm,1.0s						
ARXS	Arharly	5.38	32	eP	Pg	04 34 38.9	-1.7
	38nm,0.7s						
ARXS				eS	Sg	04 35 47.8	-2.4
	41nm,0.5s						
ARXS	Arharly	5.38	32	Pg	Pg	04 34 38.8	-1.7
	38nm,0.7s						
ARXS				Lg	Lg	04 35 47.8	
	41nm,0.5s						
MNBS	Baschi	5.52	36	eP	Pg	04 34 43.1	-0.2
	893nm,0.8s						
MNBS				eS	Sg	04 35 54.8	0.0
	44nm,1.1s						
MNBS	Baschi	5.52	36	Pg	Pg	04 34 43.1	-0.2
	893nm,0.8s						
MNBS				Lg	Lg	04 35 54.8	
	44nm,1.1s						
PDGK	Podgornoye	5.55	48	⇑Pn	Pn	04 34 24.5	+3.3
	6.7nm,0.6s						
PDGK				⇑Pg	Pb	04 34 39.8	+4.6
	13nm,0.7s						
PDGK				⇓Lg	Lg	04 35 53.0	
	58nm,1.0s						
CHCP	Chirah Chowk	6.06	185	P	Pn	04 34 33.2	+5.1
CEP	Cherat	6.08	196	P	Pn	04 34 33.1	+4.6
KTMS	Ketmen	6.13	50	eP	Pg	04 34 53.0	-1.9
	3.8nm,0.6s						
KTMS				eS	Sg	04 36 11.8	-2.5
	18nm,0.7s						
KTMS	Ketmen	6.13	50	Pg	Pg	04 34 53.0	-1.9
	3.8nm,0.6s						
KTMS				Lg	Lg	04 36 11.8	
	18nm,0.7s						
THW	Thamme Wali	7.11	195	P	Pn	04 34 47.3	+4.7
OTUK	Ortayu	8.60	353	⇓Lg	Lg	04 37 31.5	
	22nm,0.7s						
WMQ	Urumqi	11.11	64	eP	Pn	04 35 40.2	+2.8
GEYT	Alibeck	12.42	267	Pn	Pn	04 35 53.8	-1.4
	0.5nm,0.3s,baz=88,slow=18,SNR=4.0						
GEYT				LR	LR	04 41 36.1	
	comp=Z,41nm,18.1s,baz=55,slow=40						
BVAR	Borovoye Array	13.53	351	Pn	Pn	04 36 11.7	+1.4
	0.2nm,0.3s,baz=155,slow=17,SNR=4.4						
AB31	Akbulak array	13.76	318	⇓Pn	P	04 36 18.5	-3.7
	10nm,0.3s,baz=125,slow=13,SNR=4.1						
AB31				⇑Sn	Sn	04 38 47.5	+0.7
	1.5nm,0.3s,baz=127,slow=23,SNR=2.9						
AKTO	Aktyubinsk	15.47	319	Pn	P	04 36 38.7	-2.5
	0.2nm,0.3s,baz=137,slow=15,SNR=4.4						
AKTO	Aktyubinsk	15.47	319	⇑Pn	P	04 36 37.5	-3.7
	2.2nm,0.7s						
AKTO				⇓Sn	S	04 39 36.3	-8.3
	1.8nm,0.8s						
FINES	FINESS Array B	36.19	323	P	P	04 40 02.7	+1.6
	0.6nm,0.4s,baz=117,slow=9.9,SNR=12						
ARCES	ARCESS Array B	39.11	335	P	P	04 40 27.2	+1.5
	2.6nm,1.0s,baz=101,slow=9.3,SNR=4.3						
NB2	NORSAR Subarra	43.25	321	P	P	04 41 01.2	+1.3
	comp=Z,0.5nm,0.6s,baz=89,slow=7.9						
NOA	NORSAR Array B	43.25	321	P	P	04 41 01.1	+1.1
	comp=Z,0.4nm,0.5s,baz=91,slow=7.9,SNR=4.6						
TORD	Torodi Ar. Bea	68.05	269	P	P	04 43 58.4	-0.3
	comp=Z,0.6nm,0.5s,baz=44,slow=5.5,SNR=10.0						

*DDA **01** 04:34:47.2, 40.°46N×42.°39E, h7km±2km, ML2.3*
*TIF **01** 04:34:47.3, 40.°46N×42.°39E, h8km±1km*
*ISK **01** 04:34:48.3, 40.°54N×42.°27E, h9km, ML2.6/5*
ISC 01 04:34:47.8±0.9, **40.°48N**±0.°02×**42.°38E**±0.°03, **h9**km±7km, **n22**, σ**0.s72**/32, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SENK	Senkaya-Erzuru	0.09	347	PG	Pg	04 34 50.4	+0.1
SENK				SG	Sg	04 34 52.4	+0.3
KARS	Kars	0.56	74	PG	Pn	04 35 01.0	-1.1
HOMI	Horasan	0.56	220	i P	Pg	04 34 58.5	-0.3
EATA	Eleskirt	0.62	172	i P	Pg	04 34 59.5	-0.3
EATA				i S	Sg	04 35 07.8	-0.2
KOPR	Koprukoy-ERZUR	0.63	220	PG	Pb	04 35 00.4	-0.7
KOPR				SG	Sb	04 35 10.5	+0.4
DAGI	Agillar	0.70	330	i P	Pg	04 35 01.5	+0.2
DAGI				i S	Sg	04 35 11.3	+0.9
DAGI				IAML		04 35 14.0	
	comp=E,152nm,0.5s						
DAGI				IAML		04 35 15.0	
	comp=N,123nm,0.6s						
DBAD	Bademkaya	0.75	317	i P	Pg	04 35 02.3	0.0
AKDA	Akdag	0.86	245	i P	Pg	04 35 03.8	-0.6
EAK	Akyaka	0.96	77	i P	Pn	04 35 07.2	-0.5
EAK				i S	Sg	04 35 18.2	-0.6
EAK				IAML		04 35 31.0	
	comp=E,143nm,0.8s						
AGRB	Hanur-Agry	1.01	152	PN	Pn	04 35 09.9	+1.4
EPOS	Posof	1.06	14	i P	Pg	04 35 07.7	-0.5
EPOS				i S	Sb	04 35 23.2	+0.6
EPOS				IAML		04 35 28.0	
	comp=N,58nm,0.6s						
TUTA	Tutak	1.12	162	i P	Pn	04 35 10.8	+0.8
BCA	Borcka	1.12	330	PG	Pg	04 35 08.4	-1.1
EMRE	Erzurum,Aziziy	1.16	248	i P	Pn	04 35 11.0	+0.5
EMRE				i S	Sn	04 35 26.5	-0.1
EMRE				IAML		04 35 33.0	
	comp=N,104nm,0.5s						
BGD	Bogdanovka	1.22	49	P	Pn	04 35 11.2	0.0
BGD				S	Sn	04 35 28.8	+0.8
BATM	Batumi	1.24	336	P	Pn	04 35 11.2	-0.3
BATM				S	Sn	04 35 29.1	+0.8
BATM	Batumi	1.24	336	PN	Pn	04 35 10.8	-0.6
BATM	Batumi	1.24	336	i P	Pn	04 35 10.8	-0.6
CHOM	Cayeli-Rize	1.38	297	PN	Pn	04 35 13.1	-0.2
BKRG	Bakuriani	1.55	34	P	Pg	04 35 17.7	+0.2
BKRG				S	Sg	04 35 39.4	+1.8
BAYB	BAYBURT	1.63	263	i P	Pb	04 35 17.6	-0.7
DGRG	David-gareji	2.47	66	P	Pg	04 35 34.6	-0.6

*KRSC **01** 04:38:48.3±1.9, 50.°95N×157.°70E, h109km±25km, ML4.4, FELT [II] at Severo-Kurilsk, lighthouse Krugliy.*
*MOS **01** 04:38:50.1±1.6, 51.°46N×156.°14E, h100km, mb4.2/7, Error ellipse: s-maj=14.7km s-min=4.6km az=66.5*
MOS Felt (II) at Severo-Kuril'sk.
*NEIC **01** 04:38:51.3±1.0, 51.°28N±0.°06×157.°0E±0.°2, h133km±8km, mb4.2/6, Error ellipse: s-maj=16.5km s-min=9.3km az=94.0*
*IDC **01** 04:38:52.2±1.7, 51.°37N×156.°79E, h141km±11km, mb3.3/9, mb1 3.6/11, mb1mx3.3/41, mbtmp3.8/11, Error ellipse: s-maj=29.2km s-min=14.7km az=137.0*
ISC 01 04:38:49.4±0.8, **51.°12N**±0.°07×**157.°23E**±0.°07, **h135**km±6km, **n103**, σ**1.s76**/125, **mb3.6**/15, **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.43	323	eP	Pn	04 39 08.6	0.0
PAU	Pauzhetka	0.43	323	PN	Pn	04 39 08.6	0.0
SKR	Severo-Kuril's	0.83	238	eP	Pn	04 39 11.1	-0.1
SKR				eS	Sn	04 39 26.8	-0.9
SKR	Severo-Kuril's	0.83	238	PN	Pn	04 39 11.1	-0.1
SKR				S	Sn	04 39 26.8	-0.9
ALID	Alaid	1.09	257	eP	Pn	04 39 13.9	+0.2
ALID				eS	Sn	04 39 31.7	-0.4
ALID	Alaid	1.09	257	PN	Pn	04 39 13.9	+0.2
ASAK	Asacha	1.33	18	i P	Pn	04 39 16.4	+0.4
ASAK				eS	Sn	04 39 36.2	-0.2
ASAK	Asacha	1.33	18	PN	Pn	04 39 16.4	+0.4
ASAK				S	Sn	04 39 36.2	-0.2
MTVR	Mutnovka	1.49	23	eP	Pn	04 39 18.3	+0.5
MTVR				eS	Sn	04 39 39.6	+0.1
MTVR	Mutnovka	1.49	23	PN	Pn	04 39 18.3	+0.5
MTVR				S	Sn	04 39 39.6	+0.1
GRL	Gorelyy	1.53	20	i P	Pn	04 39 19.0	+0.8
GRL				eS	Sn	04 39 41.0	+0.8
GRL	Gorelyy	1.53	20	PN	Pn	04 39 19.0	+0.8
GRL				S	Sn	04 39 41.0	+0.8
RUS	Russkaya	1.54	31	i P	Pn	04 39 17.9	-0.3
RUS				eS	Sn	04 39 38.7	-1.5
RUS	Russkaya	1.54	31	PN	Pn	04 39 17.9	-0.3
RUS				S	Sn	04 39 38.7	-1.5
KRMR	Karymshinskiy	1.80	18	eP	Pn	04 39 21.5	+0.3
KRMR				eS	Sn	04 39 46.6	+1.0
KRMR	Karymshinskiy	1.80	18	PN	Pn	04 39 21.5	+0.3
KRMR				S	Sn	04 39 46.6	+1.0
APC	Apacha	1.81	359	eP	Pn	04 39 22.1	+0.9
APC				eS	Sn	04 39 46.2	+0.5
APC	Apacha	1.81	359	PN	Pn	04 39 22.1	+0.9
PEA0B	Petropavlovsk-	2.01	8	i PN	Pn	04 39 24.0	+0.3
PEA0B	Petropavlovsk-	2.01	8		Pn	04 39 23.5	-0.2
PETK	Petropavlovsk-	2.01	8	P	Pn	04 39 24.4	+0.7
	4.9nm,0.3s,baz=168,slow=13,SNR=61						
PETK				S	Sn	04 39 50.0	-0.1
	6.8nm,0.3s,baz=156,slow=15,SNR=8.8						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PET	Petropavlovsk	2.10	24	eP	Pn	04 39 25.2	+0.4
PET				eS	Sn	04 39 51.2	-0.7
PET	Petropavlovsk	2.10	24	ePN	Pn	04 39 25.1	+0.4
PET				eS	Sn	04 39 51.0	-0.9
PET				pmax	pmax		
	comp=Z,77nm,0.3s						
PET				smax	smax		
	comp=N,568nm,0.5s						
PET				smax	smax		
	comp=E,229nm,0.5s						
PET	Petropavlovsk	2.10	24		Pn	04 39 25.1	+0.4
DALK	Dalny	2.13	26	eP	Pn	04 39 25.7	+0.6
DALK				eS	Sn	04 39 52.0	-0.6
DALK	Dalny	2.13	26	PN	Pn	04 39 25.7	+0.6
DALK				S	Sn	04 39 52.0	-0.6
UGLR	Uglovaya	2.31	25	eP	Pn	04 39 28.8	+1.3
UGLR				eS	Sn	04 39 58.0	+1.2
UGLR	Uglovaya	2.31	25	PN	Pn	04 39 28.8	+1.3
UGLR				S	Sn	04 39 58.0	+1.2
AVH	Avacha	2.34	23	eP	Pn	04 39 29.3	+1.5
AVH				eS	Sn	04 39 58.1	+0.7
AVH	Avacha	2.34	23	PN	Pn	04 39 29.3	+1.5
AVH				S	Sn	04 39 58.1	+0.7
KOK	Koryaka	2.34	21	iP	Pn	04 39 29.5	+1.7
KOK	Koryaka	2.34	21	PN	Pn	04 39 29.5	+1.7
SMAR	Somma	2.35	24	eP	Pn	04 39 29.3	+1.2
SMAR				eS	Sn	04 39 57.7	-0.2
SMAR	Somma	2.35	24	PN	Pn	04 39 29.3	+1.2
SMAR				S	Sn	04 39 57.7	-0.2
KRER	Koryakskii	2.38	23	eP	Pn	04 39 29.7	+1.3
KRER	Koryakskii	2.38	23	PN	Pn	04 39 29.7	+1.3
SDLR	Sedlovina	2.39	25	iP	Pn	04 39 29.3	+0.8
SDLR	Sedlovina	2.39	25	PN	Pn	04 39 29.3	+0.8
KRX	Arik	2.41	21	iP	Pn	04 39 30.1	+1.4
KRX	Arik	2.41	21	PN	Pn	04 39 30.1	+1.4
NLC	Nalytchevo	2.43	32	eP	Pn	04 39 28.4	-0.4
NLC				eS	Sn	04 39 56.0	-3.2
NLC	Nalytchevo	2.43	32	PN	Pn	04 39 28.4	-0.4
NLC				S	Sn	04 39 56.0	-3.2
SPN	Mys Shipunski	2.63	40	eP	Pn	04 39 31.3	0.0
SPN				eS	Sn	04 40 00.8	-2.8
SPN	Mys Shipunski	2.63	40	PN	Pn	04 39 31.3	0.0
KII	Karymskiy	3.22	24	eP	Pn	04 39 41.3	+2.3
KII				eS	Sn	04 40 17.7	+0.3
KII	Karymskiy	3.22	24	PN	Pn	04 39 41.3	+2.3
KII				S	Sn	04 40 17.7	+0.3
KZV	Kizimen	4.41	24	eP	Pn	04 39 55.9	+1.2
KZV	Kizimen	4.41	24	PN	Pn	04 39 55.9	+1.2
TUMD	Tumrok D	4.51	24	eP	Pn	04 39 58.3	+2.3
TUMD				eS	Sn	04 40 48.7	+0.9
TUMR	Tumrok	4.52	22	eP	Pn	04 39 57.9	+1.7
TUMR	Tumrok	4.52	22	PN	Pn	04 39 58.3	+2.1
TUMR				S	Sn	04 40 48.7	+0.5
KMNR	Kamenistaya	4.98	20	eP	Pn	04 40 04.1	+1.9
KMNR	Kamenistaya	4.98	20	PN	Pn	04 40 04.1	+1.9
BZWR	Bezymyannyi-We	5.23	21	eP	Pn	04 40 07.4	+1.8
BZWR	Bezymyannyi-We	5.23	21	PN	Pn	04 40 07.4	+1.8
BZGR	Bezymyannyi-Gr	5.25	22	eP	Pn	04 40 08.3	+2.4
BZGR	Bezymyannyi-Gr	5.25	22	PN	Pn	04 40 08.3	+2.4
KBTR	Krutoberegovo	6.08	31	eP	Pn	04 40 16.9	0.0
KBTR				eS	Sn	04 41 20.3	-5.0
KBTR	Krutoberegovo	6.08	31	PN	Pn	04 40 16.9	0.0
BKI	Bering	6.66	49	eP	Pn	04 40 24.2	-0.4
BKI				eS	Sn	04 41 31.5	-7.6
BKI	Bering	6.66	49	PN	Pn	04 40 24.2	-0.4
MA2	Magadan	9.23	339	iPN	Pn	04 40 57.2	-1.9
YSS	Yuzh-Sakhalins	10.37	252	ePN	Pn	04 41 10.0	-4.5
JKA	Kamikawa-asahi	12.09	240		Pn	04 41 38.8	+1.6
ASAJ	Asahikawa	12.09	240	P	Pn	04 41 38.8	+1.6
	comp=E,1.4nm,0.3s,baz=77,slow=12,SNR=7.5						
ERM	Erimo	13.27	232	iPN	Pn	04 41 48.7	-3.7
KLR	Kul'dur	16.41	273	iP	Pn	04 42 29.0	-2.6
KLR				pmax	pmax		
	comp=Z,2.0nm,1.1s						
BILL	Bilibino	17.54	11	iP	P	04 42 41.9	-2.4
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BILL	Bilibino	17.54	11	P	Pn	04 42 45.2	0.0
BILL				IAmb	IAmb	04 42 53.9	
	comp=Z,4.2nm,0.8s						
MJB9	Matsu-Tunnel	19.93	230	P	P	04 43 12.3	+1.7
MJB9				IAmb	IAmb	04 43 13.5	
	comp=Z,8.2nm,0.7s						
MAJO	Matsushiro	19.93	230	P	P	04 43 12.3	+1.8
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MAJO	Matsushiro	19.93	230	P	P	04 43 12.3	+1.8
MAJO				IAmb	IAmb	04 43 13.3	
	comp=Z,10nm,0.7s						
MAT	Matsushiro	19.93	230	P	P	04 43 12.6	+2.1
MJAR	Matsushiro Arr	19.93	230	P	P	04 43 12.6	+2.1
	comp=Z,0.2nm,0.3s,baz=21,slow=10,SNR=34						
INU	Inuyama	21.46	231	P	P	04 43 28.3	+1.4
TIXI	Tiksi	24.20	338	iP	P	04 43 50.2	-2.7
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ILAR	Eielson Array	31.46	43	P	P	04 44 59.7	+2.0
	comp=Z,0.3nm,0.6s,baz=266,slow=6.7,SNR=5.5						
H11N2	WAKE ISLAND Hy	32.24	163	T	T	05 19 22.6	
	baz=349,slow=76,SNR=21						
ULN	Ulaanbaatar	32.24	284	iP	P	04 45 01.2	-3.6
ULN				pmax	pmax		
	comp=Z,1.0nm,1.0s						
H11N3	WAKE ISLAND Hy	32.26	163	T	T	05 19 24.2	
	baz=349,slow=76,SNR=22						
H11N1	WAKE ISLAND Hy	32.26	163	T	T	05 19 22.2	
	baz=349,slow=76,SNR=19						
H11S1	WAKE ISLAND Hy	33.40	164	T	T	05 20 38.1	
	baz=349,slow=76,SNR=30						
H11S3	WAKE ISLAND Hy	33.41	164	T	T	05 20 31.2	
	baz=349,slow=76,SNR=33						
H11S2	WAKE ISLAND Hy	33.42	164	T	T	05 20 39.5	
	baz=349,slow=76,SNR=26						
INK	Inuvik	36.51	36	P	P	04 45 43.3	+2.2
	comp=Z,0.9nm,0.4s,baz=291,slow=8.2,SNR=7.0						
INK	Inuvik	36.51	36	P	P	04 45 43.3	+2.2
INK				pmax	pmax		
	comp=Z,18nm,2.0s						
NRIK	Noril'sk	36.53	326	iP	P	04 45 39.0	-2.3
NRIK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
RES	Resolute Bay	45.81	21	P	P	04 46 59.0	+2.1
	comp=Z,6.5nm,0.9s,baz=350,slow=8.7,SNR=5.5						
RES	Resolute Bay	45.81	21	P	P	04 46 59.0	+2.1
RES				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YKA	Yellowknife Ar	45.81	40	P	P	04 46 59.4	+2.3
	comp=Z,0.3nm,0.5s,baz=295,slow=7.0,SNR=3.7						
ARU	Arti	53.64	317	iP	P	04 47 52.7	-3.7
ARU				pmax	pmax		
	comp=Z,2.0nm,1.1s						
PDAR	Pinedale Array	60.05	58	P	P	04 48 44.5	+2.4
	comp=Z,0.6nm,0.6s,baz=326,slow=2.1,SNR=4.4						
FINES	FINESS Array B	61.21	336	P	P	04 48 48.4	-0.9
	comp=Z,0.4nm,0.5s,baz=33,slow=7.1,SNR=6.4						
OBN	Obninsk	63.20	326	iP	P	04 48 58.0	-4.6
OBN				i		04 49 35.2	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NB2	NORSAR Subarra	64.92	343	P	P	04 49 13.4	-0.4
	comp=Z,0.4nm,0.4s,baz=31,slow=6.5						
NOA	NORSAR Array B	64.92	343	P	P	04 49 13.6	-0.3
	comp=Z,0.3nm,0.4s,baz=15,slow=5.4,SNR=3.4						
TXAR	Lajitas Array	73.06	64	P	P	04 50 07.6	+2.8
	comp=Z,1.3nm,0.7s,baz=299,slow=4.9,SNR=20						
CLL	Collm	73.53	338	eP	P	04 50 11.0	+4.0
GERES	GERESS Array B	75.64	336	P	P	04 50 20.0	+0.8
	comp=Z,0.2nm,0.4s,baz=30,slow=10,SNR=2.2						
ASAR	Alice Springs	77.25	202	pP	pP	04 51 01.7	-0.3
	comp=Z,0.4nm,0.6s,baz=13,slow=5.3,SNR=3.1						
H03N2	Juan Fernandez	136.00	89	T	T	07 28 47.3	
	baz=314,slow=77,SNR=25						
H03N1	Juan Fernandez	136.01	89	T	T	07 28 49.0	
	baz=314,slow=77,SNR=25						
H03N3	Juan Fernandez	136.01	89	T	T	07 28 48.7	
	baz=314,slow=77,SNR=20						

*WEL **01** 04:39:52.9, 38°S±3°×17°6E±°, h229km±5km, M4.2/66, MLv4.2/66, Error ellipse: s-maj=0.0km s-min=0.0km az=8.5*
*NEIC **01** 04:39:53.1±3.4, 37°.56S±0°.08×176°.5E±0°.1, h239km±5km, Error ellipse: s-maj=12.2km s-min=10.8km az=67.0*
*IDC **01** 04:39:58.0±3.7, 37°.29S×176°.46E, h272km±32km, mb4.0/9, mb1 4.1/9, mb1mx3.9/27, mbtmp4.6/9, Error ellipse: s-maj=26.9km s-min=13.2km az=55.0*
ISC 01 04:39:53.5±0.6, **37°.66S**±0°.05×**176°.34E**±0°.05, **h232**km±4km, **n229**, σ**1s.46**/245, **mb4.3**/14, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TGRZ	Tauranga	0.09	220	P	Pn	04 40 22.5	-0.9
TGRZ				S	S	04 40 45.2	-1.7
OPRZ	Ohinepanea	0.26	137	P	Pn	04 40 22.7	-0.9
OPRZ				S	S	04 40 45.0	-2.2
LIRZ	Lichensteins R	0.35	174	P	Pn	04 40 23.7	-0.1
KMRZ	Kaimai	0.37	239	P	Pn	04 40 23.4	-0.5
KARZ	Kaharoa	0.37	191	P	Pn	04 40 23.5	-0.3
MARZ	Manawahe	0.42	141	P	Pn	04 40 23.6	-0.5
OMRZ	Omania	0.45	177	P	Pn	04 40 23.8	-0.3
NGRZ	Ngongotaha	0.46	195	P	Pn	04 40 24.2	0.0
MKRZ	Makatiti	0.49	168	P	Pn	04 40 24.9	+0.6
UTU	Utuhina	0.53	192	P	Pn	04 40 24.6	+0.3
WHRZ	Whale Island	0.54	112	P	Pn	04 40 24.1	-0.2
EDRZ	Edgecumbe	0.55	145	P	Pn	04 40 23.9	-0.5
TARZ	Mount Tarawera	0.59	167	P	Pn	04 40 24.7	0.0
HLRZ	Highlands Stat	0.59	179	P	Pn	04 40 24.9	+0.3
HSRZ	Hossack Road	0.66	186	P	Pn	04 40 25.3	+0.5
TOZ	Tahuroa Road	0.67	263	P	Pn	04 40 24.5	-0.3
WIZ	White Island	0.69	79	P	Pn	04 40 23.9	-1.0
RRRZ	Republican Roa	0.70	168	P	Pn	04 40 24.7	-0.2
GRRZ	Galatos Road	0.71	194	P	Pn	04 40 25.5	+0.5
HRRZ	Handcock Road	0.73	183	P	Pn	04 40 25.3	+0.1
PRRZ	Plateau Road	0.84	177	P	Pn	04 40 25.5	-0.2
URZ	Urewera	0.86	135	P	Pn	04 40 24.5	-1.2
URZ				S	S	04 40 47.8	-3.1
WPRZ	Whakapapatarin	0.87	189	P	Pn	04 40 26.0	+0.2
MUGZ	Murupara	0.89	157	P	Pn	04 40 25.3	-0.6
ALRZ	Allen Road	0.90	180	P	Pn	04 40 26.0	0.0
TLZ	Tolley Road	0.92	223	P	Pn	04 40 26.4	+0.3
KUTZ	Kaahu Road	0.93	206	P	Pn	04 40 26.8	+0.7
KUZ	Kuaotunu	1.03	331	P	Pn	04 40 25.2	-1.5
WHTZ	Whakaora	1.05	196	P	Pn	04 40 27.7	+0.8
RTZ	Ruatahuna	1.08	152	P	Pn	04 40 26.5	-0.6
RTZ				S	S	04 40 51.5	-2.1
MKAZ	Moumakai	1.09	300	P	Pn	04 40 26.4	-0.7
MKAZ				S	S	04 40 52.1	-1.2
RUGZ	Raukumara Rang	1.11	107	P	Pn	04 40 25.1	-2.2
RUGZ				S	S	04 40 49.2	-4.6
HAZ	Te Kaha	1.15	95	P	Pn	04 40 25.7	-1.7
HAZ				S	S	04 40 50.2	-3.7
WATZ	Wairara	1.15	204	P	Pn	04 40 28.2	+0.7
MWZ	Matawai	1.16	126	P	Pn	04 40 26.4	-1.1
MWZ				S	S	04 40 51.6	-2.6
MRHZ	Matea Rd	1.18	177	P	Pn	04 40 27.4	-0.2
RAGZ	Rawiri	1.19	135	P	Pn	04 40 27.3	-0.5
HATZ	Hinemaiaia	1.25	189	P	Pn	04 40 28.5	+0.4
MTHZ	Maungataniwha	1.26	162	P	Pn	04 40 27.9	-0.3
KBAZ	Karaka Road Bo	1.28	295	P	Pn	04 40 27.6	-0.8
RATZ	Rangitukua	1.29	200	P	Pn	04 40 28.8	+0.4
WIAZ	Waiheke Island	1.29	312	P	Pn	04 40 27.5	-1.0
ETAZ	East Tamaki Re	1.32	302	P	Pn	04 40 28.0	-0.7
RITZ	Rihia Road	1.37	196	P	Pn	04 40 29.8	+0.8
SNGZ	Shannon Statio	1.37	145	P	Pn	04 40 29.0	0.0
RAHZ	Arahi	1.39	155	P	Pn	04 40 29.4	+0.3
KATZ	Kakaramea	1.41	201	P	Pn	04 40 29.9	+0.5
TKGZ	Te Karaka	1.43	124	P	Pn	04 40 28.9	-0.5
HIZ	Hauiti	1.45	233	P	Pn	04 40 30.1	+0.5
HIZ	Hauiti	1.45	233		Pn	04 40 30.1	+0.5
MBAZ	Motutapu North	1.45	307	P	Pn	04 40 28.9	-0.7
AWAZ	Awhitu Peninsu	1.47	293	P	Pn	04 40 29.2	-0.6
NMHZ	Naumai	1.48	166	P	Pn	04 40 30.6	+0.6
EPAZ	Eden Park BICE	1.49	301	P	Pn	04 40 29.3	-0.7
BKZ	Black Stump Fm	1.51	175	P	Pn	04 40 29.8	-0.4
BKZ	Black Stump Fm	1.51	175		Pn	04 40 29.9	-0.3
BKZ				S	S	04 40 57.8	-1.1
HBAZ	Herne Bay Bore	1.51	302	P	Pn	04 40 29.4	-0.7
RIGZ	Rimuhau	1.54	133	P	Pn	04 40 30.0	-0.3
KRVZ	Karewarewa	1.54	201	P	Pn	04 40 30.9	+0.4
MXZ	Matakaoa Point	1.57	87	P	Pn	04 40 29.2	-1.4
MXZ	Matakaoa Point	1.57	87		Pn	04 40 29.0	-1.5
MXZ				S	S	04 40 57.2	-2.3
GRZ	Great Barrier	1.57	333	P	Pn	04 40 29.2	-1.5
WTVZ	West Tongariro	1.57	202	P	Pn	04 40 31.2	+0.5
PUZ	Puketiti	1.57	106	P	Pn	04 40 29.4	-1.3
TWVZ	Taurewa	1.58	206	P	Pn	04 40 31.2	+0.4
WTAZ	Waiatarua	1.58	297	P	Pn	04 40 30.3	-0.4
WHHZ	Waihua	1.58	154	P	Pn	04 40 30.9	+0.3
ABAZ	Army Bay	1.60	311	P	Pn	04 40 30.3	-0.6
NGZ	Ngauruhoe	1.62	201	P	Pn	04 40 31.5	+0.4
WMGZ	Waiomatatini S	1.66	96	P	Pn	04 40 30.3	-1.0
RVAZ	Riverhead Bore	1.66	302	P	Pn	04 40 30.6	-0.8
CNGZ	Carnagh Statio	1.69	120	P	Pn	04 40 31.7	+0.1
TUVZ	Tukino	1.70	198	P	Pn	04 40 32.1	+0.4
FWVZ	Far West T-bar	1.71	201	P	Pn	04 40 32.2	+0.2
KNZ	Kokohu	1.72	143	P	Pn	04 40 31.6	-0.2
DRZ	Dome Shelter	1.73	200	P	Pn	04 40 33.3	+1.0
WHVZ	Whangaehu Hut	1.73	200	P	Pn	04 40 32.5	+0.4
TRVZ	Turoa	1.75	200	P	Pn	04 40 32.8	+0.4
PRGZ	Paritu Road	1.75	137	P	Pn	04 40 32.0	-0.1
KWHZ	Kaweka Forest	1.77	178	P	Pn	04 40 32.6	+0.3
PKVZ	Pokaka	1.81	205	P	Pn	04 40 33.2	+0.5
MCHZ	McNeill Hill	1.81	171	P	Pn	04 40 33.2	+0.6
MOVZ	Moawhango	1.81	195	P	Pn	04 40 32.4	-0.2
BHHZ	Black Hill Sta	1.84	187	P	Pn	04 40 32.8	-0.1
MTVZ	Mangateitei	1.85	201	P	Pn	04 40 33.5	+0.4
VRZ	Vera Road	1.92	220	P	Pn	04 40 34.9	+1.3
MHGZ	Mahia Peninsul	1.94	141	P	Pn	04 40 33.8	0.0
KRHZ	Kereru	1.98	179	P	Pn	04 40 34.3	+0.1
CKHZ	Cape Kidnapper	2.08	164	P	Pn	04 40 35.7	+0.5
MHEZ	Mangahewa	2.12	228	P	Pn	04 40 37.5	+1.9
KAHZ	Kahuranaki	2.18	169	P	Pn	04 40 36.5	+0.3
PNHZ	Pukenui	2.26	183	P	Pn	04 40 36.9	0.0
DREZ	Durham Road	2.27	227	P	Pn	04 40 38.8	+1.8
WCZ	Waipu Caves	2.34	316	P	Pn	04 40 37.0	-0.8
WAZ	Wanganui	2.35	206	P	Pn	04 40 38.1	+0.3
LREZ	Lake Rotokare	2.35	219	P	Pn	04 40 39.3	+1.5
PREZ	Palmer Road	2.40	225	P	Pn	04 40 40.2	+1.8
PKE	Pukeiti	2.40	230	P	Pn	04 40 40.0	+1.6
PXZ	Pawanui	2.41	170	P	Pn	04 40 38.7	+0.4
WPHZ	Waipukurau	2.41	178	P	Pn	04 40 38.6	+0.2
TSZ	Takapari Road	2.42	187	P	Pn	04 40 38.4	-0.1
KHEZ	Kahui Hut	2.45	227	P	Pn	04 40 40.4	+1.5
NBEZ	Newall Road No	2.52	230	P	Pn	04 40 41.3	+1.8
NMEZ	Namu Road	2.61	227	P	Pn	04 40 42.5	+2.0
PRHZ	Porangahau	2.62	175	P	Pn	04 40 40.5	-0.1
DVHZ	Dannevirke	2.64	183	P	Pn	04 40 40.5	-0.4
OHWZ	Ohakea	2.67	197	P	Pn	04 40 41.8	+0.7
POWZ	Post Office Ro	2.77	189	P	Pn	04 40 41.8	-0.4
ANWZ	Angora Road	2.80	178	P	Pn	04 40 42.8	+0.2
PRWZ	Pori Road	2.91	186	P	Pn	04 40 43.7	-0.1
BFZ	Birch Farm	3.02	181	P	Pn	04 40 44.5	-0.6
BFZ	Birch Farm	3.02	181	Pn	Pn	04 40 44.4	-0.6
MRZ	Mangatainoka R	3.06	191	P	Pn	04 40 44.7	-0.7
TIWZ	Tintock	3.13	186	P	Pn	04 40 46.0	-0.3
CPWZ	Castlepoint	3.25	182	P	Pn	04 40 47.8	+0.3
OGWZ	Otaki Gorge	3.28	196	P	Pn	04 40 47.3	-0.6
OUZ	Omahuta	3.29	317	P	Pn	04 40 47.1	-1.1
OUZ	Omahuta	3.29	317		Pn	04 40 47.0	-1.1
HOWZ	Holdsworth Sta	3.30	191	P	Pn	04 40 47.2	-1.0
KIW	Kapiti Island	3.39	199	P	Pn	04 40 48.1	-1.0
TMWZ	Te Maipa	3.46	186	P	Pn	04 40 49.2	-0.9
CAW	Cannon Point	3.58	196	P	Pn	04 40 50.4	-1.0
DUWZ	D'Urville Isla	3.66	210	P	Pn	04 40 51.1	-1.2
TRWZ	Traveller	3.77	187	P	Pn	04 40 52.6	-1.0
PAWZ	Paruwai Farm	3.79	190	P	Pn	04 40 52.6	-1.3
WEL	Wellington	3.82	198	P	Pn	04 40 53.2	-1.1
MSWZ	Moikau Station	3.85	192	P	Pn	04 40 53.2	-1.4
MSWZ	Moikau Station	3.85	192		Pn	04 40 53.1	-1.5
MSWZ					S	04 41 40.9	-2.0
SNZO	South Karori	3.86	199		Pn	04 40 53.2	-1.4
TCW	Tory Channel	3.89	204	P	Pn	04 40 53.8	-1.2
BHW	Baring Head	3.92	196	P	Pn	04 40 53.9	-1.4
BHW	Baring Head	3.92	196		Pn	04 40 53.9	-1.4
PLWZ	Palliser	4.00	192	P	Pn	04 40 54.9	-1.4
PLWZ	Palliser	4.00	192		Pn	04 40 54.8	-1.6
TUWZ	Tuamarina	4.20	205	P	Pn	04 40 57.1	-1.7
TUWZ	Tuamarina	4.20	205		Pn	04 40 57.0	-1.7
NNZ	Nelson	4.23	212	P	Pn	04 40 57.7	-1.5
NNZ	Nelson	4.23	212		Pn	04 40 58.1	-1.0
QRZ	Quartz Range	4.33	222	P	Pn	04 40 58.9	-1.5
QRZ	Quartz Range	4.33	222		Pn	04 40 59.0	-1.3
CMWZ	Cape Campbell	4.40	201	P	Pn	04 41 00.8	-0.5
CMWZ	Cape Campbell	4.40	201		Pn	04 41 00.5	-0.8
CMWZ				S	S	04 41 54.0	-1.0
BSWZ	Blackbirch Sta	4.48	204	P	Pn	04 41 00.8	-1.4
BSWZ	Blackbirch Sta	4.48	204		Pn	04 41 00.3	-1.8
THZ	Tophouse	4.88	212	P	Pn	04 41 05.6	-1.6
THZ	Tophouse	4.88	212		Pn	04 41 05.9	-1.3
THZ				S	S	04 42 04.2	-1.5
KHZ	Kahutara	5.22	203	P	Pn	04 41 09.9	-1.4
KHZ	Kahutara	5.22	203		Pn	04 41 09.9	-1.4
DSZ	Denniston Nort	5.37	219	P	Pn	04 41 11.0	-2.3
GVZ	Greta Valley S	5.87	204	P	Pn	04 41 17.8	-1.7
LTZ	Lake Taylor	5.99	210	P	Pn	04 41 18.9	-2.2
LTZ	Lake Taylor	5.99	210	Pn	Pn	04 41 18.9	-2.2
AMCZ	Amberley	6.19	206	P	Pn	04 41 21.7	-1.8
INZ	Inchbonnie	6.30	215	P	Pn	04 41 22.2	-2.7
OXZ	Oxford	6.54	209	P	Pn	04 41 25.3	-2.7
OXZ	Oxford	6.54	209		Pn	04 41 24.9	-3.1
OKCZ	Okains Bay	6.55	201	P	Pn	04 41 26.3	-1.8
MQZ	McQueen's Vall	6.66	204	P	Pn	04 41 26.7	-2.7
MQZ	McQueen's Vall	6.66	204	Pn	Pn	04 41 26.6	-2.9
AKCZ	Akaroa Harbour	6.73	202	P	Pn	04 41 28.6	-1.8
RPZ	Rata Peaks	7.26	212	P	Pn	04 41 35.0	-2.1
	12nm,0.3s,baz=44,slow=2.3,SNR=38						
RPZ				S	S	04 42 53.2	-6.9
	36nm,0.3s,baz=113,slow=22,SNR=17						
RPZ	Rata Peaks	7.26	212	P	Pn	04 41 35.1	-2.1
RPZ	Rata Peaks	7.26	212		Pn	04 41 35.2	-1.9
FOZ	Fox Glacier	7.68	218	P	Pn	04 41 39.8	-2.8
FOZ	Fox Glacier	7.68	218	Pn	Pn	04 41 40.3	-2.2
CTZ	Chatham Island	8.09	141	P	Pn	04 41 49.3	+1.6
LBZ	Lake Benmore	8.17	213	P	Pn	04 41 46.4	-2.4
LBZ	Lake Benmore	8.17	213	Pn	Pn	04 41 46.9	-1.9
ODZ	Otahua Downs	8.53	208	P	Pn	04 41 51.6	-1.7
ODZ	Otahua Downs	8.53	208	Pn	Pn	04 41 52.0	-1.3
JCZ	Jackson Bay	8.59	219	P	Pn	04 41 51.3	-2.9
WKZ	Wanaka	9.04	215	P	Pn	04 41 57.2	-2.6
WKZ	Wanaka	9.04	215	Pn	Pn	04 41 57.7	-2.1
EAZ	Earnscleugh	9.22	213	P	Pn	04 42 00.6	-1.6
HHSZ	Highcliff Hill	9.27	206	P	Pn	04 42 02.5	-0.3
TUZ	Tuapeka	9.68	209	P	Pn	04 42 07.8	-0.3
MLZ	Mavora Lakes	9.86	216	P	Pn	04 42 09.1	-1.3
MLZ	Mavora Lakes	9.86	216		Pn	04 42 08.4	-2.0
WHZ	Wether Hill Ro	10.34	215	P	Pn	04 42 14.3	-2.1
SYZ	Scrubby Hill	10.36	209	P	Pn	04 42 16.5	-0.1
DCZ	Deep Cove	10.40	218	Pn	Pn	04 42 13.4	-3.7
APZ	The Paps	11.05	211	P	Pn	04 42 24.7	-0.8
DZM	Mont Dzumac	17.73	328	P	Pn	04 43 46.6	-0.3
	0.4nm,0.3s,baz=160,slow=15,SNR=2.4						
DZM	Mont Dzumac	17.73	328	P	P	04 43 44.3	-0.1
STKA	Stephens Creek	29.01	271	P	P	04 45 34.7	+2.8
	13nm,0.8s,baz=102,slow=10,SNR=23						
STKA	Stephens Creek	29.01	271	P	P	04 45 32.6	+0.7
CTAO	Charters Tower	31.44	295	P	P	04 45 50.9	-2.5
BBOO	Buckleboo	33.07	266	P	P	04 46 07.5	0.0
COEN	Coen	37.74	300	P	P	04 46 46.4	-0.8
COEN				IAmb	IAmb	04 46 49.2	
	comp=Z,11nm,0.8s						
AS31	Alice Springs	38.75	279	P	P	04 46 55.2	-0.5
AS31				IAmb	IAmb	04 46 57.2	
	comp=Z,4.8nm,0.7s						
ASAR	Alice Springs	38.75	279	P	P	04 46 56.4	+0.7
	comp=Z,10nm,0.6s,baz=121,slow=8.4,SNR=146						
ASAR				ScP	ScP	04 52 25.7	-2.4
	comp=Z,0.2nm,0.5s,baz=121,slow=4.0,SNR=4.0						
FORT	Forrest	40.15	265	P	P	04 47 06.6	-0.5
WR0	Warramunga Arr	40.27	284	P	P	04 47 08.0	-0.2
WR0				IAmb	IAmb	04 47 09.6	
	comp=Z,17nm,1.0s						
WB2	Warramunga Arr	40.42	284	P	P	04 47 08.5	-1.0
WRA	Warramunga Arr	40.43	284	P	P	04 47 10.1	+0.5
	comp=Z,16nm,0.6s,baz=122,slow=8.1,SNR=85						
VNDA	Vanda	40.45	185	P	P	04 47 13.1	+4.2
	comp=Z,1.2nm,0.6s,baz=4.5,slow=9.6,SNR=11						
WB0	Warramunga Arr	40.49	284	P	P	04 47 09.8	-0.2
FITZ	Fitzroy Crossi	48.24	279	P	P	04 48 12.4	+1.1
MORW	Morawa	50.33	261	P	P	04 48 27.6	+0.7
QSPA	South Pole Qui	52.47	180	P	P	04 48 45.6	+3.3
	comp=Z,5.4nm,0.4s,baz=30,slow=3.3,SNR=80						
QSPA	South Pole Qui	52.47	180	P	P	04 48 44.4	+2.1
QSPA				IAmb	IAmb	04 48 46.7	
	comp=Z,14nm,0.9s						
SNAA	Sanae	70.97	180	P	P	04 50 46.3	+1.0
SNAA	Sanae	70.97	180	P	P	04 50 46.4	+1.0
VNA3	Neumayer Olymp	71.32	178	P	P	04 50 48.3	+0.9
VNA2	Neumayer--Watz	71.69	179	P	P	04 50 50.9	+1.3
	baz=169,slow=4.6						
VNA1	Neumayer--Stat	71.95	178	P	P	04 50 51.9	+0.8
KSM	Kuching	72.13	286	P	P	04 50 53.7	+0.6
KSM				IAmb	IAmb	04 50 54.2	
	comp=Z,6.2nm,0.8s						
H03N3	Juan Fernandez	80.50	125	T	T	06 19 09.9	
	baz=234,slow=72,SNR=12						
H03N2	Juan Fernandez	80.51	125	T	T	06 19 09.0	
	baz=234,slow=72,SNR=12						
H03N1	Juan Fernandez	80.52	125	T	T	06 19 10.7	
	baz=234,slow=72,SNR=11						
PLCA	Paso Flores	80.87	135	P	P	04 51 44.6	+2.8
	comp=Z,3.4nm,0.8s,baz=224,slow=7.1,SNR=5.6						
LC01	Cunco	81.34	133	P	P	04 51 46.6	+2.4
MJAR	Matsushiro Arr	81.83	330	P	P	04 51 46.3	-0.2
	comp=Z,0.2nm,0.4s,baz=160,slow=4.8,SNR=4.1						
JNU	Nakatsue	82.17	323	P	P	04 51 48.6	+0.3
	comp=Z,2.4nm,0.4s,baz=77,slow=6.1,SNR=4.0						
KSRS	Korea Array	87.09	323	P	P	04 52 14.2	+1.5
	comp=Z,1.7nm,0.7s,baz=140,slow=5.3,SNR=10						
CMAR	Chiang Mai Arr	91.55	292	P	P	04 52 34.9	+0.8
	comp=Z,1.3nm,0.4s,baz=157,slow=3.7,SNR=7.9						
MKAR	Makanchi Array	118.72	309	PKP	PKPdf	04 58 12.0	-1.5
	comp=Z,0.3nm,0.4s,baz=96,slow=1.2,SNR=5.3						
KURK	Kurchatov	122.50	312		PKPdf	04 58 18.8	-1.7
KURBB	Kurchatov Arra	122.52	312	PKP	PKPdf	04 58 19.1	-1.5
	comp=Z,1.3nm,0.6s,baz=116,slow=1.8,SNR=18						
BVAR	Borovoye Array	128.06	312	PKP	PKiKP	04 58 30.9	-0.9
	comp=Z,1.1nm,0.5s,baz=48,slow=2.2,SNR=5.6						
ARCES	ARCESS Array B	144.41	343	PKP	PKPab	04 58 59.1	-0.7
	comp=Z,1.8nm,0.6s,baz=55,slow=2.9,SNR=19						
DBIC	Dimbokro	149.14	178	PKPbc	PKPbc	04 59 14.3	-0.6
	comp=Z,1.7nm,0.4s,baz=132,slow=2.5,SNR=7.4						
FINES	FINESS Array B	149.84	332	PKPbc	PKPbc	04 59 13.7	-1.4
	comp=Z,6.2nm,0.9s,baz=43,slow=3.7,SNR=22						
FINES				PKPab	PKPab	04 59 20.1	-1.4
	comp=Z,1.3nm,0.4s,baz=25,slow=5.3,SNR=13						
BRTR	Keskin Array B	150.94	286	PKPbc	PKPbc	04 59 17.5	-1.2
	comp=Z,0.4nm,0.5s,baz=152,slow=8.4,SNR=3.7						
BRTR				PKPab	PKPab	04 59 26.4	-0.7
	comp=Z,0.8nm,0.7s,baz=144,slow=4.4,SNR=4.2						
AKASG	Malin Array Be	153.29	310	PKPbc	PKPbc	04 59 22.5	-0.8
	comp=Z,1.3nm,0.6s,baz=60,slow=2.5,SNR=6.4						
AKASG				PKPab	PKPab	04 59 35.7	-0.6
	comp=Z,1.1nm,0.5s,baz=62,slow=3.9,SNR=4.3						
NB2	NORSAR Subarra	154.79	343	PKPdf	PKPbc	04 59 24.9	-1.4
	comp=Z,0.2nm,0.5s,baz=31,slow=1.9						
NOA	NORSAR Array B	154.79	343	PKPbc	PKPbc	04 59 24.2	-2.0
	comp=Z,0.4nm,0.7s,baz=29,slow=2.0,SNR=4.4						
NOA				PKPab	PKPab	04 59 40.8	-1.6
	comp=Z,0.2nm,0.6s,baz=19,slow=3.2,SNR=3.4						
TORD	Torodi Ar. Bea	155.13	192	PKPbc	PKPbc	04 59 28.5	
	comp=Z,0.4nm,0.6s,baz=169,slow=4.8,SNR=7.7						
TORD				PKPab	PKPab	04 59 45.5	+0.5
	comp=Z,1.4nm,0.6s,baz=168,slow=3.3,SNR=8.5						
CLL	Collm	161.96	324	ePKPab	PKPab	05 00 14.0	+0.2

*MEX **01** 04:40:40.8±0.9, 17°.61N×95°.40W, h117km±7km, MD4.0*
*NEIC **01** 04:40:40.3±1.4, 17°.56N±0°.08×95°.41W±0°.09, h111km±7km, Error ellipse: s-maj=15.1km s-min=6.8km az=135.0*
ISC 01 04:40:39.6±1.7, **17°.55N**±0°.06×**95°.43W**±0°.04, **h117**km±13km, **n15**, σ**0s.79**/29, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.69	131		Pn	04 40 58.9	+0.3
CMIG					Sn	04 41 12.9	0.0
CMIG	Matias Romero	0.69	131	iP	Pn	04 40 58.9	+0.3
CMIG				iS	Sn	04 41 12.9	0.0
TUIG	Tuzandepetl	1.07	63		Pn	04 41 02.0	-0.2
TUIG					Sn	04 41 18.4	-0.8
TUIG	Tuzandepetl	1.07	63	iP	Pn	04 41 02.0	-0.2
TUIG				iS	Sn	04 41 18.4	-0.8
VHO	Vista Hermosa	1.33	249	eP	Pn	04 41 06.0	+0.9
VHO				eS	Sn	04 41 25.5	+1.0
TOIG	Toxpalan	1.65	290	eP	Pn	04 41 09.3	+0.6
TOIG				eS	Sn	04 41 30.4	-0.6
HUIG	Huatulco	1.88	200		Pn	04 41 11.2	-0.3
HUIG					Sn	04 41 35.9	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	1.88	200	eP	Pn	04 41 11.2	-0.3
HUIG				eS	Sn	04 41 35.9	+0.1
YOIG	Yosondua	2.14	252	eP	Pn	04 41 15.0	+0.1
YOIG				eS	Sn	04 41 42.6	+0.7
PEIG	Puerto Escondi	2.25	227	eP	Pn	04 41 15.1	-1.1
PEIG				eS	Sn	04 41 41.9	-2.3
HLIG	Huajuapan de L	2.28	277	eP	Pn	04 41 17.4	+0.7
HLIG				eS	Sn	04 41 44.4	-0.7
FTIG	Fresnillo de T	2.60	278	i P	Pn	04 41 21.6	+0.9
FTIG				i S	Sn	04 41 51.6	-0.7
PCIG		2.80	131		Pn	04 41 24.1	+0.9
PCIG					Sn	04 41 57.0	+0.3
PCIG		2.80	131	eP	Pn	04 41 24.1	+0.9
PCIG				i S	Sn	04 41 57.0	+0.3
CCIG	Comitan	3.39	111		Pn	04 41 31.0	-0.1

*GUC **01** 04:45:20.4±0.5, 20°22S×70°87W, h31^{km}±2^{km}, ML3.2*
*SJA **01** 04:45:28.0±0.9, 20°93S×70°74W, h48^{km}±259^{km}, ML3.0, MW3.5*
ISC 01 04:45:19.1±2.0**, 20°22S**±0°04×**70°85W**±0°09**, h24**^{km}±15^{km}**, n19,** σ0^{s}**93**/29**, 5C-7D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TA02	Huaiquique	0.68	94	⇓iP	Pn	04 45 32.4	-0.8
TA02				i S	Sn	04 45 42.0	-1.0
TA01	Diego Aracena	0.72	118	⇓iP	Pb	04 45 33.0	+0.1
TA01				i S	Sn	04 45 43.0	-1.0
TA01				IAML		04 45 45.2	
	comp=N,2μm,0.6s						
PATCX	Punta Patache	0.88	132	⇓iP	Pb	04 45 35.8	-0.1
PATCX				i S	Sn	04 45 48.1	-0.2
PATCX				IAML		04 45 49.4	
	comp=E,891nm,0.5s						
PSGC	Pisagua	0.93	48	⇓iP	Pb	04 45 36.2	-0.4
PSGC				i S	Sn	04 45 48.5	-0.9
PB11	IPOC Station P	1.22	68	⇓iP	Pb	04 45 41.0	-0.6
PB11				i S	Sn	04 45 57.2	+0.7
PB11				IAML		04 46 02.7	
	comp=N,789nm,0.5s						
PB02	IPOC Station P	1.41	141	⇑iP	Pn	04 45 44.0	+0.6
PB02				i S	Sb	04 46 02.3	-0.2
PB01	IPOC Station P	1.52	123	⇑iP	Pb	04 45 45.9	-0.8
PB01				i S	Sb	04 46 05.5	0.0
PB01				IAML		04 46 11.9	
	comp=N,1μm,0.4s						
PB01				IAML		04 46 12.5	
	comp=E,482nm,0.5s						
PB08	IPOC Station P	1.60	87	⇑iP	Pb	04 45 47.4	-0.8
PB08				i S	Sb	04 46 08.8	+0.7
PB08				IAML		04 46 12.8	
	comp=N,233nm,0.5s						
MNMC	Minye Minye	1.61	48	⇑iP	Pn	04 45 47.1	+0.8
MNMC				i S	Sb	04 46 08.7	+0.4
GO01	Chusmiza	1.65	71	⇓iP	Pb	04 45 48.3	-1.0
GO01				i S	Sb	04 46 10.4	+0.6
GO01				IAML		04 46 12.9	
	comp=N,794nm,0.4s						
PB12	IPOC Station P	1.68	17	⇓iP	Pn	04 45 47.9	+0.8
PB12				IAML		04 46 18.8	
	comp=E,344nm,0.7s						
PB09	IPOC Station P	2.17	136	⇑iP	Pn	04 45 55.8	+1.9
PB09	IPOC Station P	2.17	136	i P	Pn	04 45 55.9	+1.9
PB09				IAML		04 46 34.0	
	comp=Z,350nm,0.5s						
PB04	IPOC Station P	2.20	163	i P	Pn	04 45 54.4	+0.1
PB04				IAML		04 46 38.5	
	comp=Z,215nm,0.5s						
PB05	IPOC Station P	2.69	167	i P	Pn	04 46 00.5	-0.5
PB05				IAML		04 46 55.3	
	comp=Z,77nm,1.2s						
PB06	IPOC Station P	2.74	154	i P	Pn	04 46 02.3	+0.5
PB06				IAML		04 46 54.1	
	comp=Z,133nm,0.8s						
LVC	Limon Verde	2.98	143	i P	Pn	04 46 07.4	+2.1
LVC				IAML		04 46 59.2	
	comp=Z,59nm,0.7s						
PB15	IPOC Station P	3.24	157	i P	Pn	04 46 08.8	+0.2
PB15				IAML		04 47 16.3	
	comp=Z,130nm,0.4s						
PB10	IPOC Station P	3.29	175	i P	Pn	04 46 09.5	+0.4
PB10				IAML		04 46 49.8	
	comp=Z,26nm,0.4s						

*IDC **01** 05:02:44.5±0.5, 0°50N×24°97W, h0^{km}, mb4.2/18, mb1 4.4/19, mb1mx4.2/35, mbtmp4.3/19, ML4.0/1, MS3.8/19, Ms1 3.8/19, ms1mx3.6/28, Error ellipse: s-maj=16.6km s-min=13.9km az=135.0*
*BJI **01** 05:02:44.2±0.0, 0°97N×25°46W, h10^{km}, mB5.1/1, Ms7 4.6/1*
*NEIC **01** 05:02:45.7±1.5, 0°47N±0°10×24°98W±0°06, h10^{km}±1^{km}, mb4.8/103, Error ellipse: s-maj=18.9km s-min=4.3km az=149.0*
ISC 01 05:02:45.8±0.4**, 0°48N**±0°08×**25°01W**±0°07**, h10**^{km}**, n154,** σ1^{s}**27**/144**, mb4.8**/66**, MS3.7**/19**, 1C, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RCBR	Riachuelo	12.55	240	Pn	Pn	05 05 44.7	+0.1
	1.0nm,0.3s,baz=53,slow=16,SNR=13						
RCBR				Sn	Sn	05 07 50.5	-14
	0.2nm,0.3s,baz=48,slow=19,SNR=0.8						
RCBR				LR	LR	05 09 25.2	
	comp=Z,795nm,20.1s,baz=113,slow=32						
H10N3	ASCENSION HYDR	13.35	128	T	T	05 19 26.6	
	baz=307,slow=74,SNR=86						
H10N2	ASCENSION HYDR	13.35	128	T	T	05 19 26.9	
	baz=307,slow=74,SNR=70						
H10N1	ASCENSION HYDR	13.37	128	T	T	05 19 28.1	
	baz=307,slow=74,SNR=82						
H10S3	ASCENSION HYDR	13.93	133	T	T	05 20 16.3	
	baz=310,slow=74,SNR=15						
H10S2	ASCENSION HYDR	13.95	132	T	T	05 20 17.6	
	baz=270,slow=74,SNR=16						
LIC	Lamto	20.74	74	eP	P	05 07 25.6	-1.3
	43nm,0.8s						
TIC	Toumodi	20.86	72	eP	P	05 07 27.4	-0.8
DBIC	Dimbokro	21.03	73	P	P	05 07 29.8	-0.2
	11nm,0.8s,baz=232,slow=12,SNR=5.4						
DBIC				LR	LR	05 13 47.3	
	comp=Z,293nm,21.1s,baz=254,slow=32						
DBIC	Dimbokro	21.03	73	P	P	05 07 30.8	+0.8
KIC	Kosan Boka	21.05	73	eP	P	05 07 29.1	-1.2
	25nm,0.9s						
SHEL	Horse Pasture	25.07	131	P	P	05 08 09.5	-1.3
BDFB	Brasilia	27.80	234	LR	LR	05 18 34.0	
	comp=Z,450nm,19.8s,baz=88,slow=34						
BDFB	Brasilia	27.80	234	P	P	05 08 35.0	-0.5
MDP	Montagnes des	27.97	280	LR	LR	05 17 26.3	
	comp=Z,128nm,19.1s,baz=68,slow=32						
TOA0	Torodi Ar. Sit	29.30	63	P	P	05 08 49.3	+0.5
TORD	Torodi Ar. Bea	29.30	63	P	P	05 08 48.4	-0.4
	2.3nm,0.8s,baz=254,slow=9.5,SNR=8.9						
TORD				LR	LR	05 19 12.6	
	comp=Z,442nm,19.7s,baz=250,slow=34						
SIV	San Ignacio	39.18	244	P	P	05 10 15.9	+1.5
	3.4nm,0.8s,baz=94,slow=9.3,SNR=18						
ESDC	Sonseca Array	43.48	24	P	P	05 10 50.9	+1.4
	1.1nm,0.9s,baz=215,slow=9.7,SNR=5.3						
ESDC				LR	LR	05 27 17.0	
	comp=Z,47nm,18.3s,baz=155,slow=34						
LPAZ	La Paz	45.68	247	P	P	05 11 08.6	+0.6
	4.4nm,0.7s,baz=58,slow=5.7,SNR=25						
LPAZ				LR	LR	05 29 54.1	
	comp=Z,476nm,18.5s,baz=73,slow=36						
LPAZ	La Paz	45.68	247	P	P	05 11 08.3	+0.3
TSUM	Tsumeb	46.14	117	P	P	05 11 11.3	+0.3
	5.7nm,0.8s,baz=284,slow=6.2,SNR=7.7						
TSUM	Tsumeb	46.14	117	P	P	05 11 11.8	+0.8
KEST	Kesra	47.43	39	LR	LR	05 32 08.3	
	comp=Z,350nm,19.4s,baz=198,slow=37						
MNMC	Minye Minye	47.88	243	P	P	05 11 27.6	+2.7
ROSC	El Rosal	49.43	276	LR	LR	05 30 48.0	
	comp=Z,240nm,20.6s,baz=127,slow=34						
SUR	Sutherland	54.18	132	P	P	05 12 12.9	+0.9
BOSA	Boshof	56.08	125	P	P	05 12 24.9	-0.8
	4.5nm,0.7s,baz=300,slow=7.1,SNR=11						
BOSA	Boshof	56.08	125	P	P	05 12 25.1	-0.6
BOSA				IAmb	IAmb	05 12 41.3	
	comp=Z,16nm,1.4s						
LC01	Cunco	58.11	222	P	P	05 12 35.6	-4.2
PLCA	Paso Flores	58.21	220	LR	LR	05 38 01.6	
	comp=Z,66nm,18.1s,baz=48,slow=36						
G65A	Princeton	58.22	326	P	P	05 12 41.2	+0.9
GERES	GERESS Array B	58.55	29	P	P	05 12 42.5	-0.3
	comp=Z,0.7nm,0.6s,baz=236,slow=6.3,SNR=8.9						
GERES				LR	LR	05 37 16.5	
	comp=Z,33nm,19.6s,baz=266,slow=35						
KHC	Kasperske Hory	58.69	29	eP	P	05 12 43.0	-0.6
BATG	Bathurst New B	58.70	328	P	P	05 12 43.7	+0.1
PQI	Presque Isle	59.36	327	P	P	05 12 48.9	+0.7
PQI				IAmb	IAmb	05 12 50.0	
	comp=Z,9.4nm,0.9s						
E63A	Oxbow	59.43	326	P	P	05 12 49.8	+1.0
E63A				IAmb	IAmb	05 12 50.8	
	comp=Z,12nm,1.1s						
D62A	Allapoint, All	60.18	327	P	P	05 12 54.0	+0.1
D62A				IAmb	IAmb	05 12 55.2	
	comp=Z,7.1nm,0.8s						
PSZ	Piszkesteto	61.15	33	P	P	05 13 01.4	+0.8
PSZ				IAmb	IAmb	05 13 02.5	
	comp=Z,6.4nm,1.1s						
R58B	Mineral	61.17	314	P	P	05 13 00.6	-0.2
R58B				IAmb	IAmb	05 13 03.6	
	comp=Z,9.3nm,1.1s						
KMBO	Kilima Mbogo	62.28	92	LR	LR	05 37 17.8	
	comp=Z,106nm,19.2s,baz=270,slow=33						
LATQ	La Tuque	62.43	325	P	P	05 13 09.9	+0.8
LATQ				IAmb	IAmb	05 13 11.1	
	comp=Z,3.8nm,0.8s						
OJC	Ojcow	62.48	31	P	P	05 13 09.9	+0.5
TRQ	Mont Tremblant	62.84	324	P	P	05 13 12.2	+0.2
M55A	Ridgway	63.27	317	P	P	05 13 15.2	+0.3
M55A				IAmb	IAmb	05 13 16.4	
	comp=Z,7.4nm,0.8s						
WVNY	West Valley, N	63.57	318	P	P	05 13 17.6	+0.7
Q54A	Coxs Mills	63.70	314	P	P	05 13 18.9	+1.1
Q54A				IAmb	IAmb	05 13 20.8	
	comp=Z,11nm,1.1s						
SCHQ	Schefferville	64.03	335	P	P	05 13 20.0	+0.3
	comp=Z,5.0nm,0.8s,baz=149,slow=5.1,SNR=8.5						
SCHQ	Schefferville	64.03	335	P	P	05 13 19.6	0.0
SCHQ				IAmb	IAmb	05 13 20.7	
	comp=Z,9.9nm,1.1s						
ALLY	Alegheny Colle	64.28	317	P	P	05 13 22.2	+0.7
N53A	Lisbon	64.42	316	P	P	05 13 22.8	+0.3
ACSO	Alum Creek Sta	65.71	315	P	P	05 13 31.7	+0.8
BR131	Keskin Array S	66.02	46	P	P	05 13 33.0	0.0
BRTR	Keskin Array B	66.02	46	P	P	05 13 33.2	+0.1
	comp=Z,2.6nm,0.8s,baz=228,slow=6.4,SNR=13						
BRTR				LR	LR	05 43 28.3	
	comp=Z,36nm,21.2s,baz=164,slow=37						
SWET	Sewanee	66.25	309	P	P	05 13 34.6	+0.1
SWET				IAmb	IAmb	05 13 36.0	
	comp=Z,7.0nm,1.1s						
NB2	NORSAR Subarra	66.43	18	P	P	05 13 36.0	+0.9
	comp=Z,0.6nm,0.8s,baz=219,slow=6.5						
NOA	NORSAR Array B	66.43	18	P	P	05 13 35.6	+0.5
	comp=Z,0.8nm,0.8s,baz=219,slow=6.4,SNR=5.3						
U49A	Red Boiling Sp	66.53	310	P	P	05 13 36.1	-0.1
U49A				IAmb	IAmb	05 13 37.8	
	comp=Z,7.9nm,0.8s						
NC303	NORSAR Array S	66.62	18	P	P	05 13 36.4	+0.1
NC303				IAmb	IAmb	05 13 37.8	
	comp=Z,13nm,1.2s						
V48A	Smith Brothers	67.10	309	P	P	05 13 40.3	+0.4
V48A				IAmb	IAmb	05 13 41.0	
	comp=Z,6.9nm,0.8s						
L48A	N Adams	67.35	316	P	P	05 13 41.1	-0.3
Z47A	Carrollton	67.39	306	P	P	05 13 41.0	-0.8
T47A	Sharon Grove	67.68	310	P	P	05 13 43.6	+0.1
T47A				IAmb	IAmb	05 13 44.7	
	comp=Z,9.0nm,1.0s						
AKASG	Malin Array Be	67.79	34	P	P	05 13 43.5	-0.3
	comp=Z,3.1nm,0.6s,baz=239,slow=6.4,SNR=14						
AKASG				LR	LR	05 45 18.1	
	comp=Z,34nm,18.1s,baz=230,slow=38						
AKBB	Malin Array Si	67.79	34	P	P	05 13 43.8	-0.1
AKBB				IAmb	IAmb	05 13 44.6	
	comp=Z,5.9nm,0.8s						
N47A	Urbana	67.87	314	P	P	05 13 45.2	+0.6
N47A				IAmb	IAmb	05 13 45.6	
	comp=Z,8.2nm,0.8s						
WVT	Waverly	68.00	309	P	P	05 13 45.0	-0.5
P46A	Rosedale	68.56	313	P	P	05 13 49.1	+0.1
OLIL	Olney	68.95	312	P	P	05 13 51.6	+0.2
SIUC	Southern Illin	69.50	310	P	P	05 13 54.9	0.0
S44A	Carbondale	69.53	310	P	P	05 13 54.9	-0.1
O44A	Mansfield	69.64	313	P	P	05 13 55.2	-0.5
P43A	Skaggs, Pawnee	70.27	312	P	P	05 13 58.4	-1.2
P43A				IAmb	IAmb	05 13 59.3	
	comp=Z,7.2nm,0.9s						
T42A	Van Buren	70.77	309	P	P	05 14 01.9	-0.7
I42A	Draeger Farm,	71.11	317	P	P	05 14 04.2	-0.4
I42A				IAmb	IAmb	05 14 05.3	
	comp=Z,6.1nm,0.8s						
CCM	Cathedral Cave	71.14	310	P	P	05 14 04.4	-0.6
CCM				IAmb	IAmb	05 14 05.2	
	comp=Z,9.5nm,0.8s						
UALR	University of	71.22	307	P	P	05 14 04.7	-0.8
UALR				IAmb	IAmb	05 14 06.3	
	comp=Z,6.6nm,0.9s						
WLAR	White Oak Lake	71.60	305	P	P	05 14 07.6	-0.2
WLAR				IAmb	IAmb	05 14 09.3	
	comp=Z,7.2nm,0.8s						
MGMO	Mountain Grove	71.71	309	P	P	05 14 07.4	-1.0
MGMO				IAmb	IAmb	05 14 09.0	
	comp=Z,6.3nm,0.8s						
JFWS	Jewell Farm	71.74	315	P	P	05 14 07.8	-0.6
JFWS				IAmb	IAmb	05 14 08.7	
	comp=Z,5.2nm,0.7s						
VNA1	Neumayer--Stat	71.86	174	P	P	05 14 10.0	+1.5
RAYN	Ar Rayn	71.97	66	P	P	05 14 12.1	+1.8
U40A	Yellville	71.98	308	P	P	05 14 09.3	-0.8
R40A	Maddies Statio	71.98	310	P	P	05 14 08.9	-1.1
R40A				IAmb	IAmb	05 14 10.2	
	comp=Z,6.6nm,0.8s						
FINES	FINESS Array B	72.00	23	P	P	05 14 10.3	+0.8
	comp=Z,2.5nm,0.6s,baz=254,slow=5.0,SNR=18						
L40A	Anamosa	72.19	314	P	P	05 14 10.4	-0.8
L40A				IAmb	IAmb	05 14 11.1	
	comp=Z,7.2nm,0.9s						
VNA2	Neumayer--Watz	72.21	174	P	P	05 14 11.8	+1.1
	baz=331,slow=6.4						
VNA3	Neumayer Olymp	72.30	175	P	P	05 14 11.9	+0.6
SUMG	Summit	72.49	356	P	P	05 14 12.7	-0.1
SUMG				IAmb	IAmb	05 14 14.2	
	comp=Z,4.7nm,0.7s						
NATX	Nacogdoches	72.51	303	P	P	05 14 13.1	-0.1
NATX				IAmb	IAmb	05 14 14.1	
	comp=Z,11nm,0.9s						
P38A	Dawn	73.26	311	P	P	05 14 17.3	-0.3
P38A				IAmb	IAmb	05 14 17.8	
	comp=Z,5.6nm,0.9s						
SNAA	Sanae	73.44	173	P	P	05 14 18.0	0.0
SNAA	Sanae	73.44	173	P	P	05 14 18.3	+0.3
	comp=Z,3.6nm,0.8s,baz=306,slow=8.4,SNR=15						
SNAA	Sanae	73.44	173	P	P	05 14 17.7	-0.3
KBZ	Khabaz	73.84	44	LR	LR	05 48 28.1	
	comp=Z,37nm,20.9s,baz=198,slow=37						
SPMN	Marine on St.	74.16	317	P	P	05 14 22.1	-0.6
TUL1	Leonard	74.21	307	P	P	05 14 23.0	-0.2
TUL1				IAmb	IAmb	05 14 23.7	
	comp=Z,5.4nm,0.8s						
T35A	Sooner Cattle	74.97	308	P	P	05 14 27.0	-0.6
T35A				IAmb	IAmb	05 14 28.2	
	comp=Z,8.1nm,0.8s						
N35A	Tabor	75.11	312	P	P	05 14 28.4	0.0
KSU1	Kansas State U	75.47	310	P	P	05 14 28.7	-1.8
KSU1				IAmb	IAmb	05 14 30.5	
	comp=Z,7.3nm,0.8s						
B35A	Bob, Littlefor	75.62	320	P	P	05 14 30.5	-0.6
L34A	Svendsen Farm,	75.89	313	P	P	05 14 31.7	-1.1
L34A				IAmb	IAmb	05 14 34.3	
	comp=Z,9.0nm,0.7s						
ECSD	EROS Data Cent	76.44	315	P	P	05 14 35.4	-0.5
ECSD				IAmb	IAmb	05 14 36.1	
	comp=Z,7.3nm,0.8s						
ABTX	Abilene, Hawle	76.81	303	P	P	05 14 37.5	-0.8
AGMN	Agassiz Nation	76.98	320	P	P	05 14 38.4	-0.5
AGMN				IAmb	IAmb	05 14 39.2	
	comp=Z,6.8nm,0.7s						
BGNE	Belgrade	77.08	312	P	P	05 14 38.5	-1.1
SUSD	Miller	78.23	315	P	P	05 14 45.5	-0.5
MDND	Maddock	79.33	319	P	P	05 14 51.9	0.0
MDND				IAmb	IAmb	05 14 52.8	
	comp=Z,14nm,1.2s						
MSTX	Muleshoe	79.58	304	P	P	05 14 55.1	+1.3
E28A	Huff	79.83	317	P	P	05 14 54.5	-0.2
E28A				IAmb	IAmb	05 14 55.6	
	comp=Z,12nm,0.8s						
TX31	Lajitas Ar. Si	79.87	300	P	P	05 14 54.3	-1.1
TX32	Lajitas Array	79.87	300	P	P	05 14 54.7	-0.7
TXAR	Lajitas Array	79.87	300	P	P	05 14 55.6	+0.2
	comp=Z,1.1nm,0.9s,baz=126,slow=7.0,SNR=10						
TXAR				LR	LR	05 45 38.2	
	comp=Z,14nm,21.5s,baz=0.0,slow=32						
KSCO	Kaye Shedlock'	80.08	309	P	P	05 14 57.5	+1.1
KSCO				IAmb	IAmb	05 14 58.1	
	comp=Z,13nm,0.9s						
MNTX	Cornudas Mount	81.55	302	P	P	05 15 03.5	-0.8
SYO	Syowa Base	81.56	161	⇑epPKiKP	PKiKP	05 20 32.6	+5.0
RSSD	Black Hills	81.78	314	P	P	05 15 05.8	+0.3
SDCO	Great Sand Dun	82.18	308	P	P	05 15 07.6	-0.2
DGMT	Dagmar	82.47	319	P	P	05 15 09.6	+0.9
LAO	LASA Array	83.61	317	P	P	05 15 15.3	+0.6
RWWY	Rawlins	83.85	312	P	P	05 15 14.3	-2.0
RWWY				IAmb	IAmb	05 15 15.2	
	comp=Z,5.2nm,0.7s						
GEYT	Alibeck	84.28	52	LR	LR	05 56 53.4	
	comp=Z,41nm,18.2s,baz=25,slow=39						
PV13	Radium Mtn., P	84.83	308	P	P	05 15 21.6	+0.3
PV13				IAmb	IAmb	05 15 23.3	
	comp=Z,5.0nm,1.1s						
RLMT	Red Lodge	85.60	315	P	P	05 15 24.8	-0.2
RLMT				IAmb	IAmb	05 15 26.5	
	comp=Z,6.9nm,0.7s						
BW06	Boulder Array	85.66	313	P	P	05 15 24.8	-0.6
PDAR	Pinedale Array	85.66	313	P	P	05 15 25.2	-0.2
	comp=Z,2.1nm,0.9s,baz=101,slow=7.7,SNR=8.5						
PDAR				LR	LR	05 47 37.1	
	comp=Z,23nm,19.4s,baz=128,slow=31						
YNE	Yellowstone No	86.12	315	P	P	05 15 27.6	0.0
EGMT	Eagleton	86.12	318	P	P	05 15 25.9	-1.5
EGMT				IAmb	IAmb	05 15 28.4	
	comp=Z,5.1nm,1.0s						
FLWY	Flagg Ranch	86.56	314	P	P	05 15 30.9	+1.1
SNOW	Snow King Moun	86.58	313	P	P	05 15 29.6	-0.3
REDW	Red Top Meadow	86.64	313	P	P	05 15 30.6	+0.4
REDW				IAmb	IAmb	05 15 31.5	
	comp=Z,8.3nm,0.9s						
TPAW	Teton Pass	86.72	313	P	P	05 15 30.9	+0.2
TPAW				IAmb	IAmb	05 15 32.5	
	comp=Z,8.1nm,0.8s						
IMW	Indian Meadow	86.73	314	P	P	05 15 31.0	+0.3
IMW				IAmb	IAmb	05 15 32.5	
	comp=Z,5.1nm,0.7s						
FXWY	Fox Creek	86.78	313	P	P	05 15 31.3	+0.4
FXWY				IAmb	IAmb	05 15 32.1	
	comp=Z,4.8nm,0.8s						
TCUT	Toone Canyon	86.97	311	P	P	05 15 29.9	-2.0
HWUT	Hardware Ranch	87.10	311	P	P	05 15 32.6	+0.1
HWUT				IAmb	IAmb	05 15 33.6	
	comp=Z,5.8nm,0.9s						
MTPU	Mount Pierson	87.47	308	P	P	05 15 32.9	-1.7
DUG	Dugway, Tooele	88.01	310	P	P	05 15 36.8	0.0
SZCU	Shurtz Canyon	88.18	307	P	P	05 15 38.3	+0.6
CCUT	Cedar City	88.40	307	P	P	05 15 38.1	-0.7
YKA	Yellowknife Ar	89.39	332	P	P	05 15 41.9	-0.7
	comp=Z,0.6nm,0.7s,baz=98,slow=5.5,SNR=11						
YKA				LR	LR	05 53 36.5	
	comp=Z,30nm,18.5s,baz=0.0,slow=34						
MAW	Mawson	89.63	157	P	P	05 15 45.4	+1.9
	comp=Z,7.0nm,0.9s,baz=273,slow=6.9,SNR=16						
MAW	Mawson	89.63	157	P	P	05 15 45.3	+1.8
QSPA	South Pole Qui	90.55	180	P	P	05 15 48.8	+0.7
QSPA				IAmb	IAmb	05 15 48.8	
	comp=Z,6.6nm,1.1s						
BMO	Blue Mountains	91.30	315	P	P	05 15 52.3	+0.3
BMO				IAmb	IAmb	05 15 53.4	
	comp=Z,2.9nm,0.8s						
CD2	Chengdu	122.27	52	PKP	PKPdf	05 21 41.0	-0.9
HHC	Hu-ho-hao-te	123.06	38	ePKP	PKiKP	05 21 44.8	+1.4
GYA	Guiyang	126.33	56	ePKP	PKPdf	05 21 49.8	-0.1
GYA				PP	PP	05 23 45.8	+1.3
GYA				SKKS	SKKSac	05 30 36.3	-7.2
GYA				S	Sdif	05 31 41.2	-5.9
GYA				AMB	AMB		
	comp=Z,40nm,6.8s						
GYA				LR	LR		
	comp=Z,80nm,13.5s						
NJ2	Nanjing	132.95	43	ePKP	PKPdf	05 22 01.5	-0.7
STKA	Stephens Creek	146.30	159	PKPbc	PKPbc	05 22 27.3	-0.1
	comp=Z,12nm,0.9s,baz=143,slow=2.5,SNR=21						
STKA	Stephens Creek	146.30	159	PKPdf	PKPdf	05 22 25.3	-1.1
ASAR	Alice Springs	149.18	140	PKPbc	PKPbc	05 22 35.0	-0.5
	comp=Z,6.8nm,0.9s,baz=208,slow=2.1,SNR=48						
AS31	Alice Springs	149.18	140	PKPdf	PKPdf	05 22 29.3	-2.1
WRA	Warramunga Arr	152.02	135	PKPbc	PKPbc	05 22 41.4	-1.0
	comp=Z,3.5nm,0.9s,baz=246,slow=2.3,SNR=11						

WBNET 01 05:13:43.0, 50°23N×12°45E, h9^{km}, Ml0.8, 5C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.00	10	⇑P	Pg	05 13 44.7	+0.1
NKC				S	Sg	05 13 45.8	+0.1
LBCW	Luby	0.04	328	⇓P	Pg	05 13 44.9	+0.1
LBCW				S	Sg	05 13 46.3	+0.2
VAC	Vackov	0.04	277	⇓P	Pg	05 13 44.9	+0.1
VAC				S	Sg	05 13 46.1	0.0
KVC	Kvetna	0.05	119	⇑P	Pg	05 13 44.8	-0.1
KVC				S	Sg	05 13 46.0	-0.2
STCW	Studenec	0.06	58	⇑P	Pg	05 13 45.0	0.0
STCW				S	Sg	05 13 46.2	-0.2
SKC	Skalna	0.08	223	⇑P	Pg	05 13 45.2	0.0
SKC				S	Sg	05 13 46.8	0.0
POCW	Potky	0.09	352	⇓P	Pg	05 13 45.6	+0.2
POCW				S	Sg	05 13 47.3	+0.1
KACW	Kaceov	0.10	152	⇑P	Pg	05 13 45.5	0.0
KACW				S	Sg	05 13 47.2	0.0
KRCW	Kraslice	0.12	28	⇓P	Pg	05 13 45.8	+0.1
KRCW				S	Sg	05 13 47.6	0.0
ZHC	Zelena Hora	0.18	209	⇓P	Pg	05 13 46.8	0.0
ZHC				S	Sg	05 13 49.4	0.0
CLL	Collm	1.14	18	i Sg	Sn	05 14 20.6	-0.2

*PRU **01** 05:14:18.7±0.0, 50°25N×12°49E, h2^{km}, West Bohemia Swarm*
WBNET 01 05:14:18.1, 50°24N×12°44E, h9^{km}, Ml1.2, 7C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.01	153	ePG	Pg	05 14 19.7	0.0
NKC				eSG	Sg	05 14 20.8	0.0
	comp=Z,66nm,0.2s						
NKC	Novy Kostel	0.01	153	⇑P	Pg	05 14 19.8	+0.1
NKC				S	Sg	05 14 20.9	+0.1
LBCW	Luby	0.03	324	⇑P	Pg	05 14 20.0	+0.1
LBCW				S	Sg	05 14 21.3	+0.2
VAC	Vackov	0.04	267	⇓P	Pg	05 14 20.0	+0.1
VAC				S	Sg	05 14 21.2	0.0
STCW	Studenec	0.05	66	⇑P	Pg	05 14 20.0	0.0
STCW				S	Sg	05 14 21.2	-0.2
KVC	Kvetna	0.06	125	⇓P	Pg	05 14 19.9	0.0
KVC				S	Sg	05 14 21.2	-0.2
POCW	Potky	0.08	352	⇑P	Pg	05 14 20.5	+0.2
POCW				S	Sg	05 14 22.1	+0.1
SKC	Skalna	0.09	218	⇑P	Pg	05 14 20.4	0.0
SKC				S	Sg	05 14 22.0	0.0
KACW	Kaceov	0.11	154	⇓P	Pg	05 14 20.7	+0.1
KACW				S	Sg	05 14 22.4	0.0
KRCW	Kraslice	0.11	31	⇑P	Pg	05 14 20.8	0.0
KRCW				S	Sg	05 14 22.6	0.0
ZHC	Zelena Hora	0.19	207	⇑P	Pg	05 14 22.0	+0.1
ZHC				S	Sg	05 14 24.7	0.0
CLL	Collm	1.13	18	i Pg	Pn	05 14 40.1	0.0
CLL				i		05 14 41.9	
CLL				i Sg	Sn	05 14 55.2	-0.5
CLL	Collm	1.13	18	i Sg	Sn	05 15 12.2	+17
KHC	Kasperske Hory	1.33	146	ePG	Pb	05 14 43.1	-0.1
PRU	Pruhonice	1.37	100	eSG	Sb	05 15 01.0	-0.6
	comp=Z,2.0nm,0.2s						

WBNET 01 05:14:34.8, 50°.24N×12°.45E, h9km, Ml0.7, 8C-2D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.00	157	⇑P	Pg	05 14 36.5	+0.1
LBCW	Luby	0.04	324	⇑P	Pg	05 14 36.7	+0.1
LBCW				S	Sg	05 14 38.0	+0.2
VAC	Vackov	0.04	269	⇑P	Pg	05 14 36.7	+0.1
VAC				S	Sg	05 14 37.9	0.0
STCW	Studenec	0.05	64	⇑P	Pg	05 14 36.7	0.0
STCW				S	Sg	05 14 37.9	-0.2
KVC	Kvetna	0.05	124	⇓P	Pg	05 14 36.7	0.0
KVC				S	Sg	05 14 37.9	-0.1
POCW	Potky	0.09	352	⇑P	Pg	05 14 37.2	+0.1
POCW				S	Sg	05 14 38.8	+0.1
SKC	Skalna	0.09	219	⇑P	Pg	05 14 37.1	0.0
SKC				S	Sg	05 14 38.7	0.0
KACW	Kaceov	0.10	154	⇓P	Pg	05 14 37.4	+0.1
KRCW	Kraslice	0.11	29	⇑P	Pg	05 14 37.5	0.0
ZHC	Zelena Hora	0.19	208	⇑P	Pg	05 14 38.8	+0.1

PRU 01 05:14:36.8±0.0, 50°.25N×12°.51E, h4km, West Bohemia Swarm
WBNET 01 05:14:37.0, 50°.24N×12°.44E, h9km, Ml1.1
ISC 01 05:14:36.7±1.0, 50°.22N±0°.03×12°.47E±0°.04, h9km±5km, n14, σ0s.49/27, 8C-2D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.02	314	ePG	Pg	05 14 37.5	-0.9
NKC				eSG	Sg	05 14 39.7	+0.1
	comp=Z,120nm,0.2s						
NKC	Novy Kostel	0.02	314	⇑P	Pg	05 14 38.7	+0.2
NKC				S	Sg	05 14 39.8	+0.1
KVC	Kvetna	0.03	115	⇓P	Pg	05 14 38.9	+0.4
KVC				S	Sg	05 14 40.1	+0.3
STCW	Studenec	0.05	39	⇑P	Pg	05 14 38.9	+0.2
STCW				S	Sg	05 14 40.1	0.0
LBCW	Luby	0.06	321	⇑P	Pg	05 14 38.9	+0.1
LBCW				S	Sg	05 14 40.2	0.0
VAC	Vackov	0.06	285	⇑P	Pg	05 14 38.9	+0.1
VAC				S	Sg	05 14 40.1	-0.2
KACW	Kaceov	0.08	158	⇓P	Pg	05 14 39.6	+0.6
KACW				S	Sg	05 14 41.4	+0.7
SKC	Skalna	0.09	234	⇑P	Pg	05 14 39.3	+0.3
SKC				S	Sg	05 14 40.8	+0.2
POCW	Potky	0.10	345	⇑P	Pg	05 14 39.4	+0.1
POCW				S	Sg	05 14 41.1	-0.1
KRCW	Kraslice	0.12	19	⇑P	Pg	05 14 39.7	+0.1
KRCW				S	Sg	05 14 41.5	0.0
ZHC	Zelena Hora	0.18	215	⇑P	Pg	05 14 41.0	+0.4
ZHC				S	Sg	05 14 43.6	+0.4
CLL	Collm	1.14	17	i	Pn	05 14 59.8	+1.0
CLL				i		05 15 02.8	
CLL				i Sg	Sg	05 15 13.8	+0.4
	comp=Z,3.0nm,0.7s						
KHC	Kasperske Hory	1.31	146	ePG	Pn	05 15 00.0	-1.2
KHC				eSG	Sn	05 15 18.6	-0.1
	comp=Z,1.6nm,0.2s						
PRU	Pruhonice	1.35	99	eSG	Sb	05 15 19.0	-0.6
	comp=Z,2.0nm,0.2s						

IDC 01 05:19:34.1±21.0, 21°.82S×178°.55W, h213km±166km, mb3.2/3, mb1 3.5/3, mb1mx3.1/30, mbtmp3.7/3, MS2.7/1, Ms1 2.7/1, ms1mx2.4/6, Error ellipse: s-maj=528.1km s-min=43.9km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	7.42	176	LR	LR	05 24 02.4	
	comp=Z,50nm,19.7s,baz=201,slow=36						
ASAR	Alice Springs	43.73	258	P	P	05 27 18.6	-0.2
	0.3nm,0.4s,baz=94,slow=9.4,SNR=6.3						
WRA	Warramunga Arr	43.93	264	P	P	05 27 20.2	-0.1
	0.5nm,0.6s,baz=94,slow=8.2,SNR=5.0						
NVAR	Mina Array Bea	82.33	43	P	P	05 31 32.4	0.0
	0.9nm,0.7s,baz=221,slow=8.4,SNR=4.8						
ARCES	ARCESS Array B	130.12	349	PKP	PKPdf	05 38 17.2	-0.8
	0.9nm,0.8s,baz=62,slow=2.1,SNR=4.5						
FINES	FINESS Array B	136.89	343	PKP	PKPdf	05 38 30.4	-0.5
	1.1nm,0.8s,baz=70,slow=4.6,SNR=5.2						
AKASG	Malin Array Be	143.91	330	PKP	PKPdf	05 38 43.4	-0.4
	0.8nm,0.4s,baz=43,slow=4.3,SNR=14						

BGR 01 05:40:46.0±0.4, 48°.21N×7°.03E, h10km, ML2.0/11, Error ellipse: s-maj=4.4km s-min=1.1km az=61.0
ZUR 01 05:40:46.5, 48°.14N×7°.09E, h4km±2km, MLh2.0/13, Error ellipse: s-maj=4.2km s-min=0.9km az=138.0
STR 01 05:40:46.1±0.2, 48°N±2°×°±°, h7km±2km, MLv2.1/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/haslach_taup-2.11 preliminary
LDG 01 05:40:46.1±0.0, 48°.19N×7°.01E, h10km, Md3.0/3, Ml2.5/20, Error ellipse: s-maj=0.7km s-min=0.6km az=155.0
ISC 01 05:40:45.5±0.8, 48°.17N±0°.01×7°.02E±0°.01, h14km±4km, n106, σ1s.25/188, 9C-11D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	Echery	0.10	64	⇑Pg	Pg	05 40 48.5	-0.2
ECH				⇑Pg	Pg	05 40 48.5	-0.2
	0.7nm,SNR=776						
ECH				Sg	Sg	05 40 50.2	-0.7
ECH	Echery	0.10	64	⇑iPg	Pg	05 40 48.5	-0.2
ECH				Sg	Sg	05 40 50.2	-0.7
ECH	Echery	0.10	64	Pg	Pg	05 40 48.4	-0.2
ECH				Sg	Sg	05 40 50.1	-0.7
ECH	Echery	0.10	64	Pg	Pg	05 40 48.5	-0.2
ECH				Sg	Sg	05 40 50.1	-0.7
CDF	Champ du Feu	0.29	35	ePg	Pg	05 40 51.6	-0.1
CDF				eSg	Sg	05 40 55.3	-0.5
	28nm,0.2s						
WLS	Welschbruch	0.33	42	Pg	Pg	05 40 52.3	+0.1
WLS				P*	Pb	05 40 52.8	-0.3
WLS				Sg	Sg	05 40 56.8	0.0
WLS	Welschbruch	0.33	42	Pg	Pg	05 40 52.3	+0.1
WLS				Sg	Sg	05 40 56.6	-0.2
MOF	Molkenrain	0.33	167	⇓iPg	Pg	05 40 52.8	+0.5
MOF	Molkenrain	0.33	167	Pg	Pg	05 40 52.8	+0.5
HINF	Hinteralfeld	0.38	198	ePg	Pg	05 40 53.4	+0.3
HINF	Hinteralfeld	0.38	198	eP	Pb	05 40 54.7	+0.7
HINF				eSg	Sg	05 40 58.3	+0.1
	46nm,0.2s						
HAU	Haudompre	0.48	250	ePg	Pg	05 40 55.3	+0.2
HAU	Haudompre	0.48	250	ePn	Pb	05 40 57.3	+1.5
HAU				eSg	Sg	05 41 01.7	+0.2
	23nm,0.2s						
FBB	Freiburg im Br	0.58	107	Pg	Pb	05 40 57.4	0.0
FBB				P*	Pg	05 40 58.3	+1.4
FBB				Sg	Sb	05 41 05.1	-0.5
FBB				SmS		05 41 07.8	
KIZ	Kirchzarten	0.64	110	⇑Pg	Pg	05 40 58.3	+0.4
KIZ				⇑Pg	Pg	05 40 58.3	+0.4
	0.2nm,SNR=171						
KIZ				Sg	Sg	05 41 06.4	0.0
KIZ	Kirchzarten	0.64	110	⇑iPg	Pg	05 40 58.3	+0.4
KIZ				P*	Pb	05 40 59.0	+0.6
KIZ				Sg	Sb	05 41 06.9	-0.3
KIZ	Kirchzarten	0.64	110	Pg	Pg	05 40 58.3	+0.4
STR	Strasbourg	0.64	50	PmP		05 40 59.8	
STR	Strasbourg	0.64	50	Pg	Pg	05 40 58.3	+0.2
STR				Sg	Sg	05 41 07.0	+0.5
ENDD	Endenburg	0.66	133	⇓Pg	Pg	05 40 58.8	+0.3
ENDD				Sg	Sb	05 41 07.7	-0.3
ENDD				SmS		05 41 10.5	
THEF	They Montfort	0.70	275	Pg	Pg	05 40 58.9	-0.1
THEF				Sg	Sg	05 41 08.3	+0.1
THEF				SmS		05 41 11.0	
THEF	They Montfort	0.70	275	Pg	Pg	05 40 58.9	-0.1
OTER2	Otterbach 2 (B	0.71	146	Pg	Pg	05 40 59.6	+0.3
OTER2				Sg	Sg	05 41 08.7	0.0
SKAF	Kaiseraugst-Fr	0.79	143	⇓Pg	Pg	05 41 01.2	+0.4
	0.1nm,SNR=5.3						
SKAF				⇓Pg	Pg	05 41 01.2	+0.4
BOURR	Bourrignon	0.79	170	⇓Pg	Pb	05 41 01.7	+0.6
	0.1nm,SNR=23						
BOURR				⇓Pg	Pb	05 41 01.7	+0.6
BOURR				Sg	Sb	05 41 12.4	+0.8
BOURR	Bourrignon	0.79	170	⇓Pg	Pb	05 41 01.6	+0.6
BOURR				Sg	Sb	05 41 12.5	+0.8
BOURR				SmS		05 41 14.2	
MTI01	Mont Terri (ME	0.80	173	⇓Pg	Pg	05 41 01.7	+0.7
	0.1nm,SNR=7.0						
MTI01				⇓Pg	Pg	05 41 01.7	+0.7
MTI02	Mont Terri, (H	0.80	173	⇓Pg	Pb	05 41 01.7	+0.5
MTI02				⇓Pg	Pb	05 41 01.7	+0.5
	0.1nm,SNR=46						
MTI02				Sg	Sb	05 41 12.5	+0.6
SFRA	Frenkendorf	0.81	145	Sg	Sb	05 41 12.6	+0.4
	0.3nm,SNR=8.3						
SFRA				Sg	Sb	05 41 12.6	+0.4
LOMF	Lomont	0.83	189	Pg	Pg	05 41 02.2	+0.6
LOMF				PmP		05 41 02.9	
LOMF	Lomont	0.83	189	Pg	Pg	05 41 02.2	+0.6
LOMF	Lomont	0.83	189	Sg	Sg	05 41 13.4	+0.8
OPP	Oppenau	0.84	67	Pg	Pg	05 41 01.8	0.0
OPP				Sg	Sb	05 41 13.1	0.0
BFO	Black Forest	0.89	79	Pg	Pg	05 41 02.8	+0.2
BFO				Pg	Pg	05 41 02.8	+0.2
	0.1nm,SNR=82						
BFO	Black Forest	0.89	79	⇑Pg	Pg	05 41 02.5	-0.1
BFO				PmP		05 41 03.3	
BFO				Sg	Sb	05 41 14.7	+0.3
SUBF	Surbourg	0.92	36	Pg	Pb	05 41 03.4	+0.1
SUBF	Surbourg	0.92	36	Sg	Sg	05 41 16.6	+1.2
METMA	Mettma DE	0.95	119	Pg	Pb	05 41 03.7	0.0
METMA				Pg	Pb	05 41 03.7	0.0
	0.2nm,SNR=85						
METMA				Sg	Sb	05 41 16.0	-0.1
PAGF	Fort de Pagny	0.95	294	ePn	Pb	05 41 03.9	+0.2
PAGF	Fort de Pagny	0.95	294	ePg	Pb	05 41 04.2	+0.5
PAGF				eSg	Sb	05 41 16.5	+0.4
	32nm,0.2s,baz=115						
BALST	Balsthal	0.95	151	Pg	Pg	05 41 04.3	+0.4
	0.1nm,SNR=57						
BALST				Pg	Pg	05 41 04.3	+0.4
BALST	Balsthal	0.95	151	Pn	Pg	05 41 04.3	+0.4
BALST				Pg	Pb	05 41 04.4	+0.6
BALST				eSg	Sg	05 41 17.3	+1.0
BALST				SmS		05 41 18.4	
LANF	Langenberg	0.96	32	Pn	Pb	05 41 03.7	-0.2
LANF				Sg	Sb	05 41 16.9	+0.4
SULZ	Cheisacher	0.98	131	Pg	Pb	05 41 04.6	+0.4
SULZ				PmP		05 41 05.3	
SULZ				Sg	Sg	05 41 17.8	+0.7
PEB	Petersbachel	1.00	27	Pg	Pb	05 41 04.5	-0.2
PEB				Sn	Sb	05 41 17.4	-0.4
SLE	Schleitheim	1.07	112	Pn	Pb	05 41 05.5	-0.3
	0.2nm,SNR=69						
SLE				Pn	Pb	05 41 05.5	-0.3
SLE	Schleitheim	1.07	112	Pn	Pb	05 41 05.4	-0.3
SLE				PmP		05 41 06.7	
SLE				Sn	Sb	05 41 19.0	-0.6
SLE				SmS		05 41 21.2	
DAGMA	Lutertal, Dagm	1.16	144	⇑Pn	Pg	05 41 07.9	+0.2
	0.1nm,SNR=12						
DAGMA				⇑Pn	Pg	05 41 07.9	+0.2
DUP	Duppenweiler	1.25	353	Pg	Pn	05 41 09.3	+0.7
EMING	Emmingen-Lipti	1.25	102	Pn	Pn	05 41 08.2	-0.4
EMING				Pn	Pn	05 41 08.2	-0.4
	0.1nm,SNR=45						
LBG	Lerchenberg	1.28	67	Pn	Pn	05 41 07.9	-1.0
LBG				PmP		05 41 10.4	
LBG				Sg	Sg	05 41 27.0	+0.3
SFTF	Sexfontaines	1.33	272	ePn	Pn	05 41 09.0	-0.7
	baz=94						
SFTF	Sexfontaines	1.33	272	ePg	Pb	05 41 11.1	+0.9
	baz=92						
SFTF				eSn	Sn	05 41 26.3	-0.9
SFTF				eSg	Sb	05 41 28.5	+1.4
	14nm,0.2s,baz=105						
KTD	Kalmit	1.34	31	Pg	Pb	05 41 11.4	+0.9
KTD				Sg	Sg	05 41 28.8	0.0
KTD	Kalmit	1.34	31	Pg	Pb	05 41 11.3	+0.8
KTD	Kalmit	1.34	31	Sn	Sn	05 41 28.7	+1.1
MEZF	Maizieres J'vi	1.36	285	ePn	Pn	05 41 09.4	-0.6
	baz=105						
MEZF	Maizieres J'vi	1.36	285	ePg	Pb	05 41 11.5	+0.8
	baz=107						
MEZF				eSg	Sn	05 41 28.9	+1.1
	8.0nm,0.2s,baz=108						
SISB	Singen-Schiene	1.39	110	Sg	Sg	05 41 31.0	+0.7
GUT	Gutenstein	1.41	93	Pn	Pn	05 41 10.2	-0.5
GUT				Pg	Pg	05 41 12.8	+0.3
GUT				Sg	Sg	05 41 31.0	+0.3
WILA	Wila	1.48	120	Sg	Sg	05 41 34.0	+0.9
IMS	Imsbach	1.54	22	Pg	Pb	05 41 14.7	+0.9
IMS				Sg	Sb	05 41 34.1	+1.0
RIVT	Riveris	1.55	354	Pg	Pb	05 41 14.4	+0.5
RIVT				eSg	Sb	05 41 34.1	+0.7
BUCH	Bad Urach	1.58	79	Pg	Pg	05 41 16.1	+0.2
BUCH				Sg	Sg	05 41 36.8	+0.4
WLF	Walferdange	1.60	339	Pg	Pb	05 41 16.0	+1.1
WLF				eSg	Sb	05 41 36.3	+1.4
CABF	La Chapelle	1.69	203	ePn	Pn	05 41 14.4	-0.3
CABF	La Chapelle	1.69	203	ePg	Pb	05 41 17.2	+0.8
CABF				eSg	Sb	05 41 39.2	+1.7
	8.1nm,0.3s						
SWS	Schriesheim-Wi	1.72	40	Sg	Sg	05 41 40.5	-0.2
ABH	Alteburg	1.74	11	Pg	Pb	05 41 18.0	+0.7
ABH				eSg	Sb	05 41 40.0	+1.0
ABH	Alteburg	1.74	11	Pg	Pb	05 41 18.0	+0.7
ABH	Alteburg	1.74	11	Sn	Sb	05 41 39.6	+0.5
TOD	Tromm	1.85	39	Sg	Sg	05 41 44.6	-0.5
LIENZ	Kamor/St.Gall	1.88	117	Pg	Pn	05 41 18.2	+0.8
LIENZ				Sn	Sn	05 41 40.1	-1.0
LIENZ				Sg	Sg	05 41 46.9	+0.9
PLONS	Plons/SG	1.95	124	eSg	Sg	05 41 48.2	0.0
SIND	Sindeldorf	2.07	54	Pg	Pg	05 41 25.8	+0.5
SIND				Sg	Sg	05 41 52.6	+0.5
DAVA	Damuels	2.12	114	Sg	Sg	05 41 54.1	+0.4
UBR	Ueberruh	2.13	102	Pg	Pg	05 41 26.9	+0.5
UBR				Sg	Sg	05 41 54.2	+0.2
HDH	Heidenheim-Cha	2.16	78	Pg	Pg	05 41 27.1	+0.2
TNS	Taunus Mts	2.25	24	Sg	Sb	05 41 55.2	+1.4
FACH	Fachingen	2.28	16	Sg	Sb	05 41 56.4	+2.1
LOR	Lormes	2.32	248	ePn	Pn	05 41 22.1	-1.2
	baz=70						
LOR	Lormes	2.32	248	ePg	Pb	05 41 29.4	+2.3
	baz=68						
LOR				eSg	Sb	05 41 58.4	+2.7
	8.0nm,0.2s,baz=77						
GIVF	Givet	2.41	324	ePn	Pn	05 41 23.7	-0.8
GIVF	Givet	2.41	324	ePg	Pb	05 41 30.6	+1.9
GIVF				eSn	Sn	05 41 51.1	-2.8
GIVF				eSg	Sb	05 42 01.4	+3.2
	2.9nm,0.2s						
SSF	Saint Saulge	2.63	246	ePn	Pn	05 41 26.2	-1.3
SSF	Saint Saulge	2.63	246	ePg	Pb	05 41 35.1	+2.8
SSF				eSn	Sn	05 41 57.6	-1.6
SSF				eSg	Sb	05 42 08.5	+4.1
	2.7nm,0.2s						
BAIF	Baives	2.64	317	ePn	Pn	05 41 27.3	-0.4
BAIF	Baives	2.64	317	ePg	Pb	05 41 34.3	+1.7
BAIF				eSn	Sn	05 41 56.9	-2.6
BAIF				eSg	Sb	05 42 07.6	+2.7
	1.8nm,0.2s						
SMF	Signal de Mont	2.65	236	ePn	Pn	05 41 26.2	-1.6
SMF	Signal de Mont	2.65	236	ePg	Pb	05 41 35.4	+2.7
SMF				eSn	Sn	05 41 57.2	-2.5
SMF				eSg	Sg	05 42 09.3	-1.2
	11nm,0.2s						
LPL	La Plagne	2.67	184	ePg	Pg	05 41 35.8	-0.8
LPL				eSg	Sg	05 42 10.0	-1.1
	1.5nm,0.3s						
LPG	La Plagne	2.68	184	ePn	Pn	05 41 29.0	+0.5
LPG	La Plagne	2.68	184	ePg	Pg	05 41 36.4	-0.5
LPG				eSg	Sb	05 42 09.5	+3.2
	1.3nm,0.2s						
AVF	Avril sur Loir	2.85	242	ePn	Pn	05 41 28.7	-1.8
AVF	Avril sur Loir	2.85	242	ePg	Pb	05 41 39.1	+3.0
AVF				eSn	Sn	05 42 04.2	-0.4
AVF				eSg	Sg	05 42 15.4	-1.6
	2.2nm,0.3s						
HYF	Humbligny	3.10	255	ePg	Pg	05 41 44.0	-0.8
HYF				eSg	Sg	05 42 23.4	-1.5
BGF	Bois d'Agland	3.27	242	ePn	Pn	05 41 34.1	-2.2
BGF	Bois d'Agland	3.27	242	ePg	Pb	05 41 46.6	+3.4
BGF				eSg	Sg	05 42 28.4	-2.0
	7.8nm,0.4s						
ORIF	Oris-en-Rattie	3.35	194	ePn	Pn	05 41 37.3	-0.2
ORIF	Oris-en-Rattie	3.35	194	ePg	Pb	05 41 47.2	+2.5
ORIF				eSn	Sn	05 42 16.1	-1.0
ORIF				eSg	Sg	05 42 31.3	-1.8
	2.1nm,0.2s						
VIVF	Saint-Julien-l	3.69	207	ePg	Pg	05 41 54.3	-1.9
VIVF				eSg	Sg	05 42 41.9	-2.2
	2.6nm,0.3s						
TCF	Toulx Ste Croi	3.78	242	ePn	Pn	05 41 42.7	-0.7
TCF	Toulx Ste Croi	3.78	242	eP	Pn	05 41 45.9	+2.5
TCF	Toulx Ste Croi	3.78	242	ePg	Pb	05 41 55.8	+3.7
TCF				eSg	Sg	05 42 44.6	-2.3
	1.9nm,0.3s						
RJF	Les Rejaudoux	4.75	235	ePn	Pn	05 41 54.5	-2.2
RJF	Les Rejaudoux	4.75	235	ePg	Pg	05 42 13.6	-2.8
RJF				eSn	Sn	05 42 47.7	-3.8
RJF				eSg	Sg	05 43 14.6	-3.3
	1.6nm,0.3s						

IDC 01 05:42:09.6±2.5, 7°.85S×109°.96E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.6/44, mbtmp3.9/4, ML3.4/1, Error ellipse: s-maj=208.9km s-min=27.7km az=28.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	Lembang	2.53	293	Pn	Pn	05 42 52.2	0.0
	8.2nm,0.3s,baz=78,slow=4.3,SNR=3.6						
WRA	Warramunga Arr	26.50	120	P	P	05 47 49.5	+0.5
	1.2nm,0.3s,baz=289,slow=9.8,SNR=9.9						
ASAR	Alice Springs	27.83	127	P	P	05 48 00.9	-0.1
	0.4nm,0.4s,baz=307,slow=9.4,SNR=11						
H08S2	Diego Garcia H	37.12	268	T	T	06 27 24.7	
	baz=93,slow=76,SNR=3.5						
H08S3	Diego Garcia H	37.13	268	T	T	06 27 30.2	
	baz=93,slow=76,SNR=4.9						
H08S1	Diego Carcia H	37.13	268	T	T	06 27 38.5	
	baz=93,slow=76,SNR=3.1						
STKA	Stephens Creek	37.91	133	P	P	05 49 28.3	-0.5
	0.7nm,0.4s,baz=303,slow=7.6,SNR=4.3						

PRU 01 05:46:31.2±0.0, 50°.24N×12°.52E, h1km, West Bohemia Swarm
WBNET 01 05:46:30.8, 50°.24N×12°.45E, h9km, Ml1.7, 7C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.00	157	eSG	Sg	05 46 33.5	0.0
	comp=Z,473nm,0.2s						
NKC	Novy Kostel	0.00	157	ePG	Pg	05 46 32.4	0.0
NKC	Novy Kostel	0.00	157	⇑P	Pg	05 46 32.5	+0.1
NKC				S	Sg	05 46 33.6	+0.1
LBCW	Luby	0.04	324	⇑P	Pg	05 46 32.7	+0.1
LBCW				S	Sg	05 46 34.0	+0.2
VAC	Vackov	0.04	269	⇓P	Pg	05 46 32.7	+0.1
VAC				S	Sg	05 46 33.9	0.0
STCW	Studenec	0.05	64	⇑P	Pg	05 46 32.7	0.0
STCW				S	Sg	05 46 33.9	-0.2
KVC	Kvetna	0.05	124	⇓P	Pg	05 46 32.7	0.0
KVC				S	Sg	05 46 33.9	-0.2
POCW	Potky	0.09	352	⇑P	Pg	05 46 33.3	+0.1
POCW				S	Sg	05 46 34.9	+0.1
SKC	Skalna	0.09	219	⇑P	Pg	05 46 33.1	+0.1
SKC				S	Sg	05 46 34.7	0.0
KACW	Kaceov	0.10	154	⇓P	Pg	05 46 33.4	+0.1
KACW				S	Sg	05 46 35.1	+0.1
KRCW	Kraslice	0.11	29	⇑P	Pg	05 46 33.5	0.0
KRCW				S	Sg	05 46 35.3	0.0
ZHC	Zelena Hora	0.19	208	⇑P	Pg	05 46 34.8	+0.1
ZHC				S	Sg	05 46 37.4	0.0
CLL	Collm	1.13	18	i Pg	Pn	05 46 52.9	+0.1
CLL				i		05 46 54.7	
CLL				i		05 46 56.0	
CLL				i Sg	Sb	05 47 07.6	+0.3
	comp=Z,11nm,0.4s						
PBCC	Pribram	1.14	118	ePG	Pg	05 46 51.6	-1.1
KHC	Kasperske Hory	1.33	146	eSG	Sb	05 47 12.8	-0.3
	comp=Z,7.6nm,0.2s						
KHC	Kasperske Hory	1.33	146	ePG	Pn	05 46 55.2	-0.4
PRU	Pruhonice	1.37	100	eSG	Sb	05 47 14.3	0.0
	comp=Z,9.3nm,0.2s						
PRU	Pruhonice	1.37	100	ePG	Pn	05 46 55.8	-0.4
GOPC	GO Pecny, Ondr	1.54	101	eSG	Sb	05 47 19.6	+0.4
UPC	Upice	2.30	82	eSG	Sb	05 47 42.3	+1.3
	comp=Z,2.1nm,0.3s						
DPC	Dobruska-Polom	2.49	86	eSG	Sb	05 47 47.7	+1.2
	comp=Z,2.0nm,0.4s						
KRUC	Moravsky	2.82	113	eSG	Sb	05 47 58.6	+2.6

STR 01 05:47:13.6±0.2, 48°N±1°×°±°, h8km±2km, MLv1.8/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/haslach_taup-2.11 preliminary
LDG 01 05:47:13.6±0.0, 48°.19N×7°.02E, h7km, Md2.6/3, Ml2.2/19, Error ellipse: s-maj=0.7km s-min=0.6km az=157.0
BGR 01 05:47:13.6±0.4, 48°.21N×7°.03E, h10km, ML1.7/8, Error ellipse: s-maj=4.4km s-min=2.2km az=64.0
ZUR 01 05:47:13.9, 48°.16N×7°.08E, h6km±2km, MLh1.7/8, 7C-6D, Error ellipse: s-maj=5.2km s-min=1.0km az=126.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	Echery	0.08	41	⇑Pg	Pg	05 47 16.0	+0.1
	0.5nm,SNR=707						
ECH				⇑Pg	Pg	05 47 16.0	+0.1
ECH				Sg	Sg	05 47 17.7	+0.4
ECH	Echery	0.08	41	⇑iPg	Pg	05 47 16.0	+0.1
ECH				Sg	Sg	05 47 17.6	+0.4
ECH	Echery	0.08	41	Pg	Pg	05 47 16.0	+0.1
ECH				Sg	Sg	05 47 17.6	+0.4
ECH	Echery	0.08	41	Pg	Pg	05 47 16.0	+0.1
ECH				Sg	Sg	05 47 17.6	+0.4
CDF	Champ du Feu	0.29	27	ePg	Pg	05 47 19.1	-0.5
CDF				eSg	Sg	05 47 22.9	-0.6
	12nm,0.1s						
MOF	Molkenrain	0.31	173	⇓iPg	Pg	05 47 20.3	+0.4
MOF	Molkenrain	0.31	173	Pg	Pg	05 47 20.3	+0.4
MOF				Sg	Sg	05 47 25.0	+1.1
WLS	Welschbruch	0.32	35	⇑Pg	Pg	05 47 19.8	-0.3
WLS				P*	Pb	05 47 20.3	-1.7
WLS				Sg	Sg	05 47 24.1	-0.2
WLS	Welschbruch	0.32	35	Pg	Pg	05 47 19.8	-0.4
WLS				Sg	Sg	05 47 24.1	-0.2
HINF	Hinteralfeld	0.37	204	ePg	Pg	05 47 20.8	-0.3
HINF	Hinteralfeld	0.37	204	eP	Pb	05 47 22.3	-0.6
HINF				eSg	Sg	05 47 25.8	-0.2
	29nm,0.2s						
HAU	Haudompre	0.51	253	ePg	Pg	05 47 22.8	-1.0
HAU	Haudompre	0.51	253	ePn	Pb	05 47 24.8	-0.5
HAU				eSg	Sg	05 47 29.3	-1.1
	12nm,0.2s						
FBB	Freiburg im Br	0.54	106	Pg	Pg	05 47 24.9	+0.6
FBB				P*	Pb	05 47 25.7	-0.1
FBB				Sg	Sg	05 47 32.6	+1.2
FBB				SmS		05 47 35.3	
KIZ	Kirchzarten	0.60	109	⇑Pg	Pg	05 47 25.8	+0.4
KIZ				⇑Pg	Pg	05 47 25.8	+0.4
	0.1nm,SNR=90						
KIZ				Sg	Sg	05 47 34.0	+0.8
KIZ	Kirchzarten	0.60	109	⇑Pg	Pg	05 47 25.8	+0.4
KIZ				P*	Pb	05 47 26.5	-0.3
KIZ				Sg	Sg	05 47 34.0	+0.8
KIZ				S*	Sb	05 47 35.9	+0.5
KIZ	Kirchzarten	0.60	109	Pg	Pg	05 47 25.8	+0.4
KIZ	Kirchzarten	0.60	109	Sg	Sg	05 47 34.2	+1.0
ENDD	Endenburg	0.62	135	Pg	Pg	05 47 26.4	+0.4
ENDD				PmP		05 47 27.6	
ENDD				Sg	Sg	05 47 35.1	+1.1
ENDD				SmS		05 47 37.7	
OTER2	Otterbach 2 (B	0.68	148	Pg	Pg	05 47 27.1	+0.2
OTER2				Sg	Sg	05 47 36.2	+0.5
MATTE	Schuetzenmatte	0.69	151	Pg	Pg	05 47 27.7	+0.6
	SNR=9.6						
MATTE				Pg	Pg	05 47 27.7	+0.6
THEF	They Montfort	0.73	276	Pg	Pg	05 47 26.5	-1.5
THEF				Sg	Sg	05 47 35.8	-1.7
THEF				SmS		05 47 38.1	
THEF	They Montfort	0.73	276	Pg	Pg	05 47 26.5	-1.5
BOURR	Bourrignon	0.77	172	⇓Pg	Pg	05 47 29.1	+0.5

	SNR=13						
BOURR				⇓Pg	Pg	05 47 29.1	+0.5
BOURR	**Bourrignon**	**0.77**	**172**	⇓Pg	Pg	05 47 29.1	+0.5
BOURR				Sg	Sb	05 47 40.0	-0.4
BOURR				SmS		05 47 41.4	
MTI02	**Mont Terri, (H**	**0.78**	**176**	⇓Pg	Pg	05 47 29.2	+0.4
MTI02				⇓Pg	Pg	05 47 29.2	+0.4
	SNR=22						
OPP	**Oppenau**	**0.81**	**65**	Pg	Pg	05 47 29.3	-0.2
OPP				Sg	Sg	05 47 40.6	+0.5
LOMF	**Lomont**	**0.82**	**192**	Pg	Pg	05 47 29.7	0.0
LOMF	**Lomont**	**0.82**	**192**	Pg	Pg	05 47 29.9	+0.2
LOMF	**Lomont**	**0.82**	**192**	Sg	Sg	05 47 40.5	+0.1
BFO	**Black Forest**	**0.85**	**78**	Pn	Pg	05 47 30.3	0.0
	SNR=48						
BFO				Pn	Pg	05 47 30.3	0.0
BFO	**Black Forest**	**0.85**	**78**	Pg	Pg	05 47 30.1	-0.2
BFO				PmP		05 47 30.8	
BFO				eSg	Sg	05 47 42.0	+0.6
METMA	**Mettma DE**	**0.91**	**119**	Sg	Sg	05 47 43.4	+0.4
METMA				Sg	Sg	05 47 43.4	+0.4
	0.1nm,SNR=47						
BALST	**Balsthal**	**0.92**	**153**	Pn	Pg	05 47 31.5	-0.1
BALST				Pg	Pb	05 47 31.9	-0.4
BALST				eSg	Sb	05 47 44.6	-0.2
SULZ	**Cheisacher**	**0.94**	**132**	Pn	Pg	05 47 32.2	+0.3
SULZ				Pn	Pg	05 47 32.2	+0.3
	0.1nm,SNR=13						
SULZ				Sg	Sb	05 47 45.4	+0.1
SULZ	**Cheisacher**	**0.94**	**132**	Pn	Pg	05 47 32.0	+0.2
SULZ				PmP		05 47 32.8	
SULZ				Sn	Sb	05 47 45.3	0.0
LANF	**Langenberg**	**0.96**	**30**	Sg	Sg	05 47 44.4	-0.3
PAGF	**Fort de Pagny**	**0.99**	**294**	ePn	Pg	05 47 31.6	-1.3
PAGF	**Fort de Pagny**	**0.99**	**294**	ePg	Pg	05 47 31.9	-1.0
PAGF				eSg	Sg	05 47 44.1	-1.6
	15nm,0.2s,baz=114						
PEB	**Petersbachel**	**1.01**	**25**	Sg	Sg	05 47 44.9	-1.4
SLE	**Schleitheim**	**1.03**	**112**	Pg	Pg	05 47 33.9	+0.2
SLE				PmP		05 47 34.2	
SLE				eSg	Sg	05 47 46.5	-0.5
SLE				SmS		05 47 48.6	
LBG	**Lerchenberg**	**1.25**	**65**	Pg	Pg	05 47 37.7	-0.3
LBG				Sg	Sb	05 47 54.3	0.0
KTD	**Kalmit**	**1.34**	**29**	Pg	Pn	05 47 38.9	-0.3
KTD				Sg	Sb	05 47 56.3	-0.6
KTD	**Kalmit**	**1.34**	**29**	Pn	Pn	05 47 38.4	-0.9
KTD	**Kalmit**	**1.34**	**29**	Sn	Sb	05 47 56.0	-1.0
SFTF	**Sexfontaines**	**1.37**	**273**	ePn	Pn	05 47 36.5	-3.0
SFTF	**Sexfontaines**	**1.37**	**273**	ePg	Pn	05 47 38.7	-0.8
	baz=92						
SFTF				eSn	Sb	05 47 53.7	-3.9
SFTF				eSg	Sg	05 47 55.9	-1.9
	7.1nm,0.2s						
GUT	**Gutenstein**	**1.37**	**93**	Pg	Pg	05 47 40.4	+0.2
GUT				Sg	Sn	05 47 58.7	+0.7
MEZF	**Maizieres J'vi**	**1.40**	**285**	ePn	Pn	05 47 37.0	-2.9
	baz=104						
MEZF	**Maizieres J'vi**	**1.40**	**285**	ePg	Pn	05 47 39.0	-0.9
MEZF				eSg	Sb	05 47 56.4	-2.0
	4.1nm,0.2s						
WILA	**Wila**	**1.44**	**120**	ePn	Pn	05 47 39.7	-0.9
WILA				Sg	Sg	05 48 01.6	+1.4
IMS	**Imsbach**	**1.54**	**20**	Sg	Sn	05 48 01.5	-0.7
BUCH	**Bad Urach**	**1.55**	**78**	Pg	Pg	05 47 43.5	0.0
BUCH				Sg	Sg	05 48 04.2	+0.6
RIVT	**Riveris**	**1.57**	**353**	Pg	Pn	05 47 42.0	-0.3
RIVT				eSg	Sn	05 48 01.6	-1.3
WLF	**Walferdange**	**1.63**	**338**	Pg	Pn	05 47 43.5	+0.3
CABF	**La Chapelle**	**1.69**	**204**	ePn	Pn	05 47 42.0	-2.0
CABF	**La Chapelle**	**1.69**	**204**	ePg	Pb	05 47 44.9	-0.5
CABF				eSn	Sn	05 48 03.3	-2.6
CABF				eSg	Sb	05 48 07.2	+0.4
	5.6nm,0.4s						
SWS	**Schriesheim-Wi**	**1.71**	**38**	Sg	Sg	05 48 08.2	-0.6
ABH	**Alteburg**	**1.75**	**10**	Pg	Pb	05 47 45.9	-0.7
ABH				eSg	Sn	05 48 07.5	-0.1
ABH	**Alteburg**	**1.75**	**10**	Sn	Sn	05 48 06.5	-1.1
ABH	**Alteburg**	**1.75**	**10**	Pn	Pn	05 47 42.4	-2.5
ABH				Pg	Pb	05 47 45.4	-1.1
TOD	**Tromm**	**1.84**	**37**	Sg	Sb	05 48 12.1	+0.7
PLONS	**Plons/SG**	**1.91**	**125**	eSg	Sg	05 48 16.0	+0.7
UBR	**Ueberruh**	**2.09**	**102**	eSg	Sg	05 48 22.1	+0.9
TNS	**Taunus Mts**	**2.26**	**23**	eSg	Sb	05 48 23.2	-0.1
LOR	**Lormes**	**2.35**	**249**	ePn	Pn	05 47 49.8	-3.2
LOR	**Lormes**	**2.35**	**249**	ePg	Pb	05 47 56.9	+0.3
	baz=69						
LOR				eSg	Sb	05 48 26.4	+0.6
	3.9nm,0.2s,baz=69						
GIVF	**Givet**	**2.45**	**324**	ePg	Pb	05 47 58.2	-0.1
GIVF				eSg	Sb	05 48 28.4	-0.3
	2.6nm,0.3s						
LPL	**La Plagne**	**2.65**	**185**	ePn	Pn	05 47 55.9	-1.5
LPL	**La Plagne**	**2.65**	**185**	ePg	Pb	05 48 03.1	+1.2
LPL				eSg	Sg	05 48 37.8	-1.2
	0.7nm,0.3s						
SSF	**Saint Saulge**	**2.65**	**247**	ePn	Pn	05 47 53.7	-3.5
SSF	**Saint Saulge**	**2.65**	**247**	ePg	Pb	05 48 02.7	+0.9
SSF				eSn	Sn	05 48 25.2	-4.5
SSF				eSg	Sb	05 48 36.2	+1.6
	2.0nm,0.3s						
LPG	**La Plagne**	**2.67**	**185**	ePn	Pn	05 47 56.2	-1.5
LPG	**La Plagne**	**2.67**	**185**	ePg	Pg	05 48 03.9	-1.1
LPG				eSn	Sn	05 48 27.5	-2.9
LPG				eSg	Sg	05 48 37.7	-1.9
	0.3nm,0.1s						
SMF	**Signal de Mont**	**2.67**	**237**	ePg	Pb	05 48 03.0	+0.9
SMF				eSn	Sn	05 48 24.7	-5.3
SMF				eSg	Sb	05 48 36.7	+1.7
BAIF	**Baives**	**2.68**	**316**	ePg	Pb	05 48 02.0	-0.3
BAIF				eSg	Sb	05 48 36.1	+0.7
	1.0nm,0.2s						
AVF	**Avril sur Loir**	**2.87**	**243**	ePn	Pn	05 47 56.4	-3.8
AVF	**Avril sur Loir**	**2.87**	**243**	ePg	Pb	05 48 06.6	+1.1
AVF				eSn	Sn	05 48 31.0	-4.0
AVF				eSg	Sb	05 48 43.1	+2.2
	0.7nm,0.2s						
HYF	**Humbligny**	**3.13**	**255**	ePg	Pb	05 48 11.4	+1.5
BGF	**Bois d'Agland**	**3.29**	**243**	ePg	Pb	05 48 14.2	+1.5
BGF				eSg	Sb	05 48 56.1	+3.1
	1.1nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.34**	**195**	ePn	Pn	05 48 05.2	-1.6
ORIF	**Oris-en-Rattie**	**3.34**	**195**	ePg	Pg	05 48 16.1	-1.8
ORIF				eSg	Sg	05 48 59.0	-2.2
	1.2nm,0.2s						
MBDF	**Montbardon**	**3.44**	**184**	ePn	Pn	05 48 06.6	-1.5
MBDF	**Montbardon**	**3.44**	**184**	ePg	Pg	05 48 17.8	-1.9
MBDF				eSn	Sn	05 48 44.9	-4.3
MBDF				eSg	Sg	05 49 02.3	-1.9
	1.6nm,0.3s						
VIVF	**Saint-Julien-l**	**3.69**	**208**	ePn	Pn	05 48 09.4	-2.1
VIVF	**Saint-Julien-l**	**3.69**	**208**	ePg	Pg	05 48 22.2	-2.5
VIVF				eSn	Sn	05 48 51.2	-4.2
VIVF				eSg	Sg	05 49 09.3	-3.2
	0.5nm,0.2s						
TCF	**Toulx Ste Croi**	**3.81**	**242**	ePg	Pb	05 48 23.6	+2.1
TCF				eSg	Sg	05 49 12.3	-3.8
	0.5nm,0.2s						

TRN 01 06:06:32.5, 15°.36N×60°.80W, h30km, MD3.8, 9C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MDN	**Morne-Daniel**	**0.57**	**266**	eP	Pn	06 06 46.5	+1.9
MDN				eS	Sn	06 06 54.5	+1.6
ILAM	**Ilet Lapin Mar**	**0.58**	**187**	eP	Pn	06 06 45.2	+0.4
SVN	**Savane Anatole**	**0.62**	**214**	eP	Pn	06 06 46.5	+1.1
BAMF	**Morne Balai**	**0.63**	**212**	⇑eP	Pn	06 06 46.6	+1.1
CXM	**Morne La Croix**	**0.65**	**213**	⇑eP	Pn	06 06 47.0	+1.2
GBMF	**Grand Be**	**0.66**	**212**	⇑eP	Pn	06 06 46.9	+1.0
PCM	**Pelee Case Pet**	**0.67**	**216**	⇑eP	Pn	06 06 47.2	+1.3
PML	**Morne Lenard**	**0.68**	**213**	⇑eP	Pn	06 06 47.3	+1.1
FDF	**Fort de France**	**0.71**	**208**	eP	Pn	06 06 47.4	+0.9
FDF				eS	Sn	06 06 58.7	+2.3
MAGL	**Barre de l'ile**	**0.75**	**322**	eP	Pn	06 06 47.7	+0.7
MAGL				eS	Sn	06 06 59.2	+1.8
LPMF	**Morne Lapointe**	**0.80**	**191**	⇑eP	Pb	06 06 48.2	+0.4
MVM	**Montagne Vaucl**	**0.81**	**186**	⇑eP	Pb	06 06 48.6	+0.6
ZAM	**Aeronautique**	**0.81**	**196**	⇑eP	Pb	06 06 48.5	+0.5
TRMF	**Trois Ilets**	**0.85**	**196**	⇑eP	Pb	06 06 49.2	+0.4
BIM	**Bigot**	**0.88**	**197**	eP	Pb	06 06 49.9	+0.7
BIM				eS	Sn	06 07 02.4	+1.8
MPOM	**Morne Pois Mar**	**0.91**	**183**	eP	Pb	06 06 50.0	+0.2
MPOM				eS	Sb	06 07 02.1	+0.6
TDBA	**Terre de Bas,**	**0.94**	**301**	eP	Pb	06 06 51.1	+0.9
DEG	**La Desirade**	**0.98**	**345**	eP	Pb	06 06 51.1	+0.2
CBE	**Ff, Capester**	**1.05**	**313**	eP	Pb	06 06 52.7	+0.7
CBE				eS	Sb	06 07 06.7	+1.3
ABD	**La Joyeuse, An**	**1.29**	**329**	eP	Pb	06 06 55.8	-0.3
ABD				eS	Sb	06 07 12.1	-0.2
SLW	**Petit Monier**	**1.34**	**186**	eS	Sb	06 07 14.4	+0.7
SLBI	**Saint Lucia, B**	**1.34**	**187**	eP	Pb	06 06 56.4	-0.5
SLBI				eS	Sb	06 07 13.4	-0.3
SLAC	**Saint Lucia, A**	**1.46**	**184**	eP	Pb	06 06 58.1	-0.8
SLAC				eS	Sb	06 07 17.2	+0.1
SLB	**Belfond**	**1.54**	**189**	eP	Pb	06 07 00.6	+0.2
SLB				eS	Sb	06 07 19.1	-0.4
MCLT	**Moule a Chique**	**1.65**	**185**	eP	Pb	06 07 01.1	-1.1
MCLT				eS	Sb	06 07 21.5	-1.0
MLYT	**Lee's Yard**	**1.90**	**316**	eP	Pb	06 07 06.4	-0.2
MLYT				eS	Sb	06 07 28.8	-1.1
SSV	**Crater Summit**	**2.06**	**191**	eP	Pn	06 07 05.8	+0.7
SVV	**Soufriere Volc**	**2.07**	**191**	eP	Pb	06 07 07.7	-1.7
SVV				eS	Sb	06 07 33.4	-1.3
SVCV	**St. Vincent, C**	**2.10**	**189**	eP	Pb	06 07 08.1	-1.8
SVCV				eS	Sb	06 07 34.1	-1.5
SVB	**Belmont**	**2.12**	**192**	eP	Pb	06 07 08.3	-2.0
SVB				eS	Sb	06 07 33.9	-2.3
ANWB	**Willy Bob**	**2.48**	**338**	eP	Pn	06 07 12.7	+1.8
ANWB				eS	Sn	06 07 41.0	+0.8
SKI	**Saint Kitts**	**2.70**	**317**	eP	Pb	06 07 17.1	-3.1
SKI				eS	Sn	06 07 48.6	+2.9
GCMP	**Grenada, Carri**	**2.92**	**192**	eP	Pn	06 07 19.6	+2.7
GCMP				eS	Sn	06 07 53.5	+2.5
SEUS	**St. Eustatius**	**2.98**	**316**	eP	Pn	06 07 21.2	+3.5
SEUS				eS	Sn	06 07 53.6	+1.2
GRGR	**Grenville**	**3.31**	**195**	eP	Pn	06 07 25.1	+2.8
GRGR				eS	Sn	06 08 02.0	+1.3
SMRT	**St. Maarten**	**3.45**	**321**	eS	Sn	06 08 04.4	+0.3
TOSP	**Speyside**	**4.04**	**176**	eP	Pn	06 07 35.8	+3.4
TRN	**Trinidad (W)**	**4.72**	**187**	eP	Pn	06 07 43.0	+1.3
GUIV	**Guiria**	**4.88**	**197**	eP	Pn	06 07 46.8	+2.9
GUIV	**Guiria**	**4.88**	**197**	eS	Sn	06 08 39.4	-0.1
AOPR	**Arecibo Observ**	**6.42**	**298**	eP	Pn	06 08 08.8	+3.6
AOPR	**Arecibo Observ**	**6.42**	**298**	eS	Sn	06 09 17.8	+0.2

*TAP **01** 06:07:03.2, 24°.72N×122°.42E, h16km, ML2.8, D*
*JMA **01** 06:07:04.3, 24°.67N×122°.41E, h24km±1km, M2.3*
ISC 01 06:07:03.2±1.0**, 24°.71N**±0°.03×**122°.42E**±0°.02**, h15**km±8km**, n50,** σ0s.56/97**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGS		**0.46**	**288**	eP	**Pg**	**06 07 12.5**	**0.0**
	baz=285						
EGS				eS	**Sb**	**06 07 20.7**	**+1.0**
	baz=285						
TWB1	**Santiao Chiao**	**0.49**	**308**	P	**Pb**	**06 07 13.1**	**-0.5**
	baz=305						
TWB1				eS	**Sg**	**06 07 18.9**	**-0.7**
	baz=305						
TWC	**Suao**	**0.53**	**260**	eP	**Pg**	**06 07 13.6**	**-0.1**
	baz=265						
TWC				eS	**Sb**	**06 07 21.9**	**+0.3**
	baz=265						
JYNG	**Yonagunijimaku**	**0.54**	**118**	P	**Pb**	**06 07 14.7**	**+0.2**
JYNG				S	**Sb**	**06 07 22.1**	**0.0**
NTC	**Toucheng**	**0.55**	**286**	eP	**Pn**	**06 07 15.6**	**-1.0**
	baz=283						
NTC				eS	**Sb**	**06 07 23.2**	**+0.8**
	baz=283						
YOJ	**Yonaguni jima**	**0.59**	**114**	eP	**Pb**	**06 07 15.2**	**-0.1**
	baz=116						
YOJ				eS	**Sb**	**06 07 23.6**	**+0.1**
	baz=116						
YOJ	**Yonaguni jima**	**0.59**	**114**	P	**Pb**	**06 07 15.5**	**+0.2**
YOJ				S	**Sb**	**06 07 23.6**	**+0.1**
TIPB	**Shuangxi**	**0.60**	**296**	eP	**Pb**	**06 07 15.2**	**-0.2**
	baz=294						
TIPB				eS	**Sb**	**06 07 23.9**	**+0.2**
	baz=294						
ENA	**Nanau**	**0.68**	**246**	eP	**Pb**	**06 07 17.1**	**+0.3**
	baz=244						
ENA				eS	**Sg**	**06 07 25.2**	**-0.2**
	baz=244						
TWE	**Neicheng**	**0.68**	**271**	eP	**Pg**	**06 07 16.1**	**-0.5**
	baz=269						
TWE				eS	**Sb**	**06 07 26.7**	**+0.6**
	baz=269						
NWF	**Wu-fen Shan**	**0.68**	**302**	P	**Pn**	**06 07 17.6**	**-0.9**
	baz=300						
NWF				S	**Sb**	**06 07 27.1**	**+0.9**
	baz=300						
WFSB	**Wu-fen Shan**	**0.68**	**302**	eP	**Pn**	**06 07 17.6**	**-0.8**
	baz=314						
WFSB				eS	**Sb**	**06 07 26.8**	**+0.7**
	baz=314						
TWA	**Mucha**	**0.81**	**290**	eP	**Pn**	**06 07 19.5**	**-0.6**
	baz=288						
TWA				eS	**Sg**	**06 07 30.5**	**+0.9**
	baz=288						
NDT	**Datong Townshi**	**0.83**	**263**	P	**Pg**	**06 07 19.5**	**+0.2**
	baz=261						
NDT				eS	**Sg**	**06 07 30.6**	**+0.3**
	baz=261						
NWLT	**Wulai**	**0.83**	**275**	eP	**Pn**	**06 07 20.0**	**-0.4**
	baz=273						
NWLT				eS	**Sb**	**06 07 30.3**	**-0.3**
	baz=273						
NHDH	**Xindian Distri**	**0.85**	**288**	eP	**Pn**	**06 07 20.2**	**-0.5**
	baz=286						
NHDH				eS	**Sg**	**06 07 31.3**	**+0.3**
	baz=286						
YM01	**YM01**	**0.89**	**300**	eP	**Pn**	**06 07 21.4**	**+0.2**
	baz=298						
YM01				eS	**Sg**	**06 07 32.0**	**-0.1**
	baz=298						
TATO	**Taipei**	**0.89**	**288**	eP	**Pb**	**06 07 20.2**	**-0.1**
	baz=286						
TATO				eS	**Sg**	**06 07 32.4**	**+0.3**
	baz=286						
NACB	**Ninganchiao**	**0.92**	**235**	eP	**Pb**	**06 07 20.5**	**-0.4**
	baz=233						
NACB				eS	**Sb**	**06 07 32.0**	**-0.9**
	baz=233						
TWY	**Chenhua**	**0.93**	**308**	eP	**Pn**	**06 07 22.6**	**+0.8**
	baz=306						
TWY				eS	**Sn**	**06 07 34.2**	**-0.8**
	baz=306						
YHNB	**Yeheng**	**0.95**	**268**	eP	**Pb**	**06 07 21.4**	**0.0**
	baz=266						
YHNB				eS	**Sg**	**06 07 34.6**	**+0.5**
	baz=266						
NSK	**Sanguang**	**0.96**	**268**	eP	**Pg**	**06 07 22.0**	**+0.1**
	baz=267						
NSK				eS	**Sb**	**06 07 33.5**	**-0.7**
	baz=267						
PCYT	**Pengchaiyu**	**0.97**	**341**	eP	**Pn**	**06 07 22.9**	**+0.6**
	baz=340						
PCYT				eS	**Sg**	**06 07 34.7**	**-0.1**
	baz=340						
TWD	**Chiawan**	**0.97**	**230**	eP	**Pg**	**06 07 22.2**	**+0.1**
	baz=236						
NNSB	**Datong**	**0.98**	**254**	eP	**Pb**	**06 07 21.9**	**-0.1**
	baz=252						
NNSB				eS	**Sb**	**06 07 35.0**	**+0.1**
	baz=252						
NNSH	**Datong**	**0.98**	**254**	eP	**Pn**	**06 07 22.8**	**+0.2**
	baz=253						
NNSH				eS	**Sb**	**06 07 34.7**	**-0.1**
	baz=253						
ETLH	**Xiulin Townshi**	**0.99**	**240**	eP	**Pb**	**06 07 22.1**	**0.0**
	baz=246						
ETLH				eS	**Sg**	**06 07 35.5**	**+0.1**
	baz=246						
NNS	**Nan Shan**	**0.99**	**255**	eP	**Pn**	**06 07 23.1**	**+0.4**
	baz=253						
NNS				eS	**Sb**	**06 07 35.2**	**+0.2**
	baz=253						
WHF	**Hehuan Shan**	**1.19**	**242**	P	**Pb**	**06 07 26.1**	**+0.3**
	baz=251						
WHF				S	**Sb**	**06 07 41.2**	**0.0**
	baz=251						
IRIF	**Iriomote-Funau**	**1.25**	**107**	P	**Pb**	**06 07 26.3**	**-0.2**
IRIF				S	**Sb**	**06 07 42.3**	**-0.2**
NSTT	**Nanjuang**	**1.29**	**267**	eP	**Pg**	**06 07 28.4**	**+0.3**
	baz=266						
NSTT				eS	**Sg**	**06 07 45.2**	**+0.2**
	baz=266						
CHGB	**Renai**	**1.30**	**241**	eP	**Pb**	**06 07 27.6**	**0.0**
	baz=220						
CHGB				eS	**Sn**	**06 07 44.9**	**+0.5**
	baz=220						
WHP	**Taichung City**	**1.41**	**253**	eP	**Pg**	**06 07 30.4**	**+0.1**
	baz=264						
WHP				eS	**Sb**	**06 07 48.0**	**+0.9**
	baz=264						
HATJ	**Hateruma jima**	**1.42**	**117**	eS	**Sn**	**06 07 46.6**	**-0.3**
VWDT	**VWDT**	**1.50**	**231**	eP	**Pg**	**06 07 32.0**	**-0.2**
	baz=214						
VWDT				eS	**Sb**	**06 07 50.7**	**+1.0**
	baz=214						
HGSD	**Ruisui**	**1.51**	**217**	eP	**Pn**	**06 07 30.4**	**+0.6**
	baz=202						
HGSD				eS	**Sb**	**06 07 50.9**	**+0.9**
	baz=202						
JKRS	**Kuro-shima**	**1.52**	**108**	P	**Pb**	**06 07 30.5**	**-0.7**
JKRS				eS	**Sn**	**06 07 49.6**	**+0.1**
JIJ	**Ishigaki jima**	**1.61**	**102**	P	**Pn**	**06 07 31.4**	**+0.3**
JIJ				eS	**Sb**	**06 07 52.7**	**-0.1**
SMLT	**Sun Moon Lake**	**1.61**	**240**	eP	**Pb**	**06 07 33.3**	**+0.6**
	baz=223						
SMLT				eS	**Sg**	**06 07 55.7**	**+0.5**
	baz=223						
TYC	**Yuchr**	**1.63**	**241**	eP	**Pb**	**06 07 33.3**	**+0.3**
	baz=224						
TYC				eS	**Sg**	**06 07 55.3**	**-0.6**
	baz=224						
YULB	**Yu-li**	**1.66**	**218**	eP	**Pn**	**06 07 32.2**	**+0.4**
	baz=217						
YULB				eS	**Sn**	**06 07 52.3**	**-0.6**
	baz=217						
TWF1	**Yuli**	**1.69**	**217**	eP	**Pn**	**06 07 33.1**	**+0.8**
	baz=216						
TWF1				eS	**Sn**	**06 07 53.8**	**+0.1**
	baz=216						
JISG	**Ishigakijimahi**	**1.73**	**94**	P	**Pn**	**06 07 33.0**	**+0.3**
JISG				S	**Sn**	**06 07 54.8**	**+0.3**
WHYT	**Xinyi Township**	**1.75**	**235**	eP	**Pb**	**06 07 35.0**	**0.0**
	baz=219						
WHYT				eS	**Sb**	**06 07 57.4**	**+0.6**
	baz=219						
FULB	**Fuli**	**1.82**	**215**	eP	**Pn**	**06 07 34.0**	**0.0**
	baz=200						
FULB				eS	**Sn**	**06 07 56.8**	**-0.1**
	baz=200						
ELDTW	**Lidau**	**1.98**	**221**	eP	**Pn**	**06 07 37.4**	**+1.1**
	baz=220						
TPUB	**Ta-pu**	**2.15**	**230**	eP	**Pb**	**06 07 40.6**	**-1.3**
	baz=213						
TPUB				eS	**Sb**	**06 08 07.1**	**-1.4**
	baz=213						
TWH	**Lutao**	**2.17**	**204**	eP	**Pn**	**06 07 38.7**	**-0.1**
	baz=202						
TWH				eS	**Sn**	**06 08 04.9**	**-0.4**
	baz=202						
TWK	**Hsinying**	**2.27**	**231**	eP	**Pn**	**06 07 40.6**	**+0.3**
	baz=214						
TWK				eS	**Sb**	**06 08 10.8**	**-1.2**
	baz=214						
SLGT	**Liugui**	**2.35**	**224**	eP	**Pn**	**06 07 41.5**	**+0.1**
	baz=223						
SLGT				eS	**Sb**	**06 08 12.7**	**-1.5**
	baz=223						

KRSC 01 06:26:24.4±2.1**, 54°.97N×165°.57E, h36**km±13km**, ML3.7, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	**Bering**	**0.33**	**44**	eP	Pn	06 26 32.9	+0.3
BKI				eS	Sn	06 26 37.6	-1.8
KBTR	**Krutoberegovo**	**2.00**	**310**	eP	Pn	06 26 57.1	+1.6
KBTR				eS	Sn	06 27 20.7	+1.5
BZWR	**Bezymyannyi-We**	**3.06**	**291**	eP	Pn	06 27 15.2	+4.9
KRSR	**Krestovskiy**	**3.10**	**296**	eP	Pn	06 27 15.5	+4.7
TUMR	**Tumrok**	**3.13**	**278**	eP	Pn	06 27 16.3	+5.1
KMNR	**Kamenistaya**	**3.15**	**287**	eP	Pn	06 27 16.7	+5.3
KMNR				eS	Sn	06 27 55.8	+8.1
KPT	**Kopyto**	**3.21**	**290**	eP	Pn	06 27 17.4	+5.2
SRDR	**Sredinnyy**	**3.58**	**295**	eP	Pn	06 27 22.9	+5.5
SPN	**Mys Shipunski**	**3.77**	**242**	eP	Pn	06 27 24.4	+4.6
SPN				eS	Sn	06 28 05.2	+2.3
NLC	**Nalytchevo**	**4.08**	**246**	eS	Sn	06 28 13.5	+2.9
SDLR	**Sedlovina**	**4.28**	**249**	eP	Pn	06 27 32.1	+5.1
SMAR	**Somma**	**4.33**	**250**	eP	Pn	06 27 33.2	+5.4
SMAR				eS	Sn	06 28 21.7	+4.6
KRER	**Koryakskii**	**4.34**	**250**	eP	Pn	06 27 33.9	+6.0
KRER				eS	Sn	06 28 21.7	+4.3
UGLR	**Uglovaya**	**4.34**	**249**	i P	Pn	06 27 33.6	+5.7
AVH	**Avacha**	**4.37**	**250**	eP	Pn	06 27 33.6	+5.5
AVH				eS	Sn	06 28 22.3	+4.6
KRX	**Arik**	**4.37**	**251**	i P	Pn	06 27 33.8	+5.5
KRX				eS	Sn	06 28 22.1	+4.1
KOK	**Koryaka**	**4.41**	**250**	i P	Pn	06 27 34.4	+5.6
KOK				eS	Sn	06 28 24.5	+5.7
OSSR	**Ossora**	**4.51**	**343**	eP	Pn	06 27 33.3	+3.3
KRMR	**Karymshinskiy**	**4.89**	**247**	eS	Sn	06 28 33.7	+3.1
RUS	**Russkaya**	**4.90**	**242**	i P	Pn	06 27 40.2	+4.8
RUS				eS	Sn	06 28 33.2	+2.5
MTVR	**Mutnovka**	**5.04**	**243**	eP	Pn	06 27 42.8	+5.3
MTVR				eS	Sn	06 28 37.3	+2.8
GRL	**Gorelyy**	**5.06**	**245**	i P	Pn	06 27 43.7	+6.0
GRL				eS	Sn	06 28 40.4	+5.4
ASAK	**Asacha**	**5.24**	**244**	eP	Pn	06 27 46.3	+6.1
ASAK				eS	Sn	06 28 43.5	+4.2

*IDC **01** 06:32:04.0±2.5, 36°.36N×143°.25E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.3/55, mbtmp3.5/4, ML3.0/2, Error ellipse: s-maj=60.9km s-min=29.7km az=144.0*
*JMA **01** 06:32:07.5±0.2, 36°.50N×143°.07E, h56km, M3.3*
ISC 01 06:32:07.6±1.4**, 36°.47N**±0°.06×**143°.13E**±0°.09**, h29**km**, n17,** σ1s.17/25**, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.98**	**289**	P	**Pn**	**06 32 38.6**	**-0.6**
JFK	**Kawauchi**	**2.02**	**297**	P	**Pn**	**06 32 39.1**	**-0.6**
JFK				S	**Sn**	**06 33 02.6**	**-1.4**
JHYU	**Hitachinakayam**	**2.06**	**267**	P	**Pn**	**06 32 40.2**	**0.0**
JHYU				eS	**Sn**	**06 33 03.6**	**-1.2**
JHO	**Hitachi**	**2.07**	**275**	P	**Pn**	**06 32 39.9**	**-0.5**
JFT	**Otama**	**2.47**	**296**	P	**Pn**	**06 32 46.4**	**+0.5**
JFT				S	**Sn**	**06 33 14.9**	**-0.2**
BSO1	**Boso 1**	**2.52**	**225**	P	**Pn**	**06 32 46.3**	**+0.2**
JMK	**Ichinoseki**	**2.91**	**329**	P	**Pn**	**06 32 51.3**	**-0.6**
JMK				S	**Sn**	**06 33 24.6**	**-1.3**
JAG	**Ashikaga**	**2.96**	**270**	P	**Pn**	**06 32 53.0**	**+0.3**
JYK	**Kaneyama**	**3.29**	**319**	P	**Pn**	**06 32 57.3**	**+0.1**
JYK				eS	**Sn**	**06 33 34.9**	**-0.4**
JOM	**Ohasama**	**3.33**	**335**	P	**Pn**	**06 32 56.8**	**-1.0**
JOM				eS	**Sn**	**06 33 34.7**	**-1.7**
JRY	**Ryogami san**	**3.45**	**264**	P	**Pn**	**06 32 59.3**	**-0.1**
JRY				eS	**Sn**	**06 33 38.3**	**-1.0**
JYN	**Shimob**	**3.84**	**257**	P	**Pn**	**06 33 05.7**	**+0.9**
MJAR	**Matsushiro Arr**	**3.96**	**273**	Pn	**Pn**	**06 33 07.2**	**+0.7**
	0.3nm,0.3s,baz=96,slow=12,SNR=24						
JHJ	**Hachijo jima 2**	**4.33**	**220**	Pn	**Pn**	**06 33 11.0**	**-0.4**
	7.6nm,0.3s,baz=345,slow=21,SNR=9.4						
JHJ				Sn	**Sn**	**06 33 57.8**	**-3.1**
	28nm,0.3s,baz=267,slow=22,SNR=8.3						
ASAJ	**Asahikawa**	**7.65**	**357**	Pn	**Pn**	**06 33 55.2**	**-1.9**
	0.8nm,0.3s,baz=217,slow=14,SNR=7.0						
MKAR	**Makanchi Array**	**45.59**	**303**	P	**P**	**06 40 26.5**	**+1.6**
	0.3nm,0.7s,baz=99,slow=8.9,SNR=3.3						
ILAR	**Eielson Array**	**49.24**	**32**	P	**P**	**06 40 54.0**	**+1.0**
	0.3nm,0.7s,baz=259,slow=5.8,SNR=4.5						

WBNET 01 06:33:50.5, 50°.23N×12°.45E, h9km, Ml0.5, 4C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**126**	⇑P	Pg	06 33 52.2	+0.1
NKC				S	Sg	06 33 53.3	+0.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.04**	**326**	⇓P	Pg	06 33 52.4	+0.1
LBCW				S	Sg	06 33 53.8	+0.2
VAC	**Vackov**	**0.04**	**272**	⇓P	Pg	06 33 52.4	+0.1
VAC				S	Sg	06 33 53.7	0.0
STCW	**Studenec**	**0.05**	**62**	⇑P	Pg	06 33 52.5	0.0
STCW				S	Sg	06 33 53.7	-0.1
SKC	**Skalna**	**0.08**	**220**	⇓P	Pg	06 33 52.8	+0.1
SKC				S	Sg	06 33 54.4	0.0
POCW	**Potky**	**0.09**	**352**	⇑P	Pg	06 33 53.0	+0.1
POCW				S	Sg	06 33 54.7	+0.1
KACW	**Kaceov**	**0.10**	**153**	⇓P	Pg	06 33 53.1	0.0
KACW				S	Sg	06 33 54.8	0.0
KRCW	**Kraslice**	**0.11**	**29**	⇑P	Pg	06 33 53.3	0.0
KRCW				S	Sg	06 33 55.1	0.0

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*PRU **01** 06:34:03.4±0.0, 50˚.25N×12˚.52E, h2km, West Bohemia Swarm*

WBNET 01 06:34:03.2, 50˚.23N×12˚.45E, h9km, Ml1.6, 4C-5D, Germany

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**126**	*e*PG	Pg	06 34 04.9	+0.1
NKC				*e*SG	Sg	06 34 05.9	0.0
	comp=Z,139nm,0.2s						
NKC	**Novy Kostel**	**0.00**	**126**	⇓P	Pg	06 34 04.9	+0.1
NKC				S	Sg	06 34 06.0	+0.1
LBCW	**Luby**	**0.04**	**326**	⇓P	Pg	06 34 05.1	+0.1
LBCW				S	Sg	06 34 06.5	+0.2
VAC	**Vackov**	**0.04**	**272**	⇓P	Pg	06 34 05.1	+0.1
VAC				S	Sg	06 34 06.4	0.0
KVC	**Kvetna**	**0.05**	**122**	S	Sg	06 34 06.3	-0.2
STCW	**Studenec**	**0.05**	**62**	⇑P	Pg	06 34 05.2	0.0
STCW				S	Sg	06 34 06.4	-0.2
SKC	**Skalna**	**0.08**	**220**	⇓P	Pg	06 34 05.5	0.0
SKC				S	Sg	06 34 07.1	0.0
POCW	**Potky**	**0.09**	**352**	⇑P	Pg	06 34 05.7	+0.1
POCW				S	Sg	06 34 07.4	+0.1
KACW	**Kaceov**	**0.10**	**153**	⇓P	Pg	06 34 05.8	+0.1
KACW				S	Sg	06 34 07.5	0.0
KRCW	**Kraslice**	**0.11**	**29**	⇑P	Pg	06 34 06.0	0.0
KRCW				S	Sg	06 34 07.8	-0.1
ZHC	**Zelena Hora**	**0.19**	**208**	⇑P	Pg	06 34 07.1	0.0
ZHC				S	Sg	06 34 09.7	0.0
CLL	**Collm**	**1.13**	**18**	*i* Pg	Pn	06 34 25.3	+0.1
CLL				*i*		06 34 27.3	
CLL				*i*		06 34 28.6	
CLL				*i* Sg	Sb	06 34 40.2	+0.4
	comp=Z,3.0nm,0.3s						
KHC	**Kasperske Hory**	**1.33**	**146**	*e*PG	Pn	06 34 27.7	-0.3
KHC				*e*SG	Sb	06 34 44.2	-1.2
	comp=Z,2.3nm,0.2s						
PRU	**Pruhonice**	**1.37**	**100**	*e*SG	Sb	06 34 46.4	-0.3
	comp=Z,2.4nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	Sb	06 34 51.5	-0.1
DPC	**Dobruska-Polom**	**2.49**	**86**	*e*SG	Sb	06 35 19.8	+0.9

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*NIED **01** 06:34:00, 37˚.10N×140˚.70E, h5km, Mw3.6 Best double couple: M₀2.45000×10^14 NP1:φs26.00000°, δ50.00000°, λ-76.00000°. NP2:φs185.00000°, δ42.00000°, λ-106.00000°.*

*IDC **01** 06:34:24.6±1.2, 37˚.01N×140˚.81E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.6/55, mbtmp3.7/6, ML2.5/2, MS2.8/2, Ms1 2.8/2, ms1mx2.3/39, Error ellipse: s-maj=25.5km s-min=23.8km az=112.0*

*JMA **01** 06:34:26.0, 37˚.10N×140˚.69E, h8km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φs353.00000°, δ42.00000°, λ-96.00000°. NP2: φs181.00000°, δ48.00000°, λ-85.00000°. Principal axes: T Plg3.0000°, Azm267.0000°; N Plg4.0000°, Azm357.0000°; P Plg85.0000°, Azm140.0000°;*

JMA Felt III J1.

ISC 01 06:34:26.0±0.9, 37˚.07N±0˚.04×140˚.72E±0˚.03, h9km±6km, n26, σ0.94/25, mb3.7/4, 7C-1D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.07**	**65**	⇑P	**Pg**	**06 34 28.3**	**+0.2**
ONAJ				S	**Sg**	**06 34 29.9**	**+0.3**
JFFD	**Fukushimafurud**	**0.13**	**278**	⇑P	**Pg**	**06 34 28.5**	**-0.4**
JFFD				S	**Sg**	**06 34 30.2**	**-0.7**
JFK	**Kawauchi**	**0.32**	**23**	⇑P	**Pg**	**06 34 32.0**	**-0.4**
JFK				S	**Sg**	**06 34 36.2**	**-0.4**
JHO	**Hitachi**	**0.48**	**195**	⇑P	**Pb**	**06 34 35.5**	**-1.1**
JHO				S	**Sb**	**06 34 42.4**	**-1.3**
JFT	**Otama**	**0.54**	**326**	⇑P	**Pg**	**06 34 36.0**	**-0.5**
JFT				*i* S	**Sg**	**06 34 42.8**	**-0.8**
JSB	**Shiboa**	**0.65**	**261**	⇑P	**Pb**	**06 34 38.9**	**-0.6**
JSB				S	**Sg**	**06 34 47.8**	**+0.8**
JMM	**Marumori**	**0.79**	**4**	⇓P	**Pg**	**06 34 40.4**	**-0.9**
JMM				S	**Sg**	**06 34 50.4**	**-1.3**
JFY	**Yanaizu**	**0.88**	**293**	⇑P	**Pg**	**06 34 42.2**	**-0.6**
JFY				S	**Sg**	**06 34 53.1**	**-1.1**
MJAR	**Matsushiro Arr**	**2.08**	**256**	Pn	**Pn**	**06 35 01.8**	**+0.7**
	2.1nm,0.3s,baz=77,slow=15,SNR=55						
MJAR				Sn	**Sb**	**06 35 30.0**	**0.0**
	3.3nm,0.3s,baz=331,slow=10,SNR=14						
MAT	**Matsushiro**	**2.08**	**256**	P	**Pn**	**06 35 02.2**	**+1.0**
MAT				S	**Sb**	**06 35 30.7**	**+0.7**
USRK	**Ussuriysk Ar.**	**9.73**	**320**	Pn	**Pn**	**06 36 48.5**	**+2.4**
	baz=110,slow=12,SNR=6.7						
KSRS	**Korea Array**	**10.21**	**276**	Pn	Pn	06 36 58.0	+5.3
	0.2nm,0.3s,baz=97,slow=13,SNR=8.7						
KSRS				LR	LR	06 40 18.8	
	comp=Z,22nm,21.4s,baz=135,slow=34						
H11N2	**WAKE ISLAND Hy**	**28.65**	**120**	T	T	07 10 12.3	
	baz=313						
H11N1	**WAKE ISLAND Hy**	**28.66**	**120**	T	T	07 10 06.6	
	baz=313,SNR=30						
H11N3	**WAKE ISLAND Hy**	**28.66**	**120**	T	T	07 10 13.7	
	baz=313						
H11S1	**WAKE ISLAND Hy**	**29.35**	**122**	T	T	07 11 07.0	
	baz=314,slow=75,SNR=8.3						
H11S3	**WAKE ISLAND Hy**	**29.35**	**122**	T	T	07 11 04.9	
	baz=314,slow=75,SNR=4.2						
H11S2	**WAKE ISLAND Hy**	**29.36**	**122**	T	T	07 11 04.8	
	baz=314,slow=75,SNR=3.7						
MKAR	**Makanchi Array**	**43.63**	**302**	P	**P**	**06 42 30.2**	**-0.6**
	0.4nm,0.6s,baz=88,slow=9.4,SNR=4.9						
ILAR	**Eielson Array**	**49.76**	**32**	P	**P**	**06 43 18.8**	**+0.3**
	0.6nm,0.7s,baz=269,slow=6.7,SNR=7.7						
WRA	**Warramunga Arr**	**57.03**	**187**	P	**P**	**06 44 11.7**	**-0.6**
	1.5nm,0.6s,baz=4.2,slow=7.3,SNR=10						
SPITS	**Spitsbergen Ar**	**60.38**	**349**	LR	LR	07 11 37.1	
	comp=Z,15nm,18.3s,baz=140,slow=37						
ASAR	**Alice Springs**	**60.75**	**187**	P	**P**	**06 44 37.9**	**-0.3**
	0.6nm,0.8s,baz=20,slow=7.0,SNR=6.0						
H03N2	**Juan Fernandez**	**147.58**	**96**	T	T	09 38 58.3	
	baz=291,slow=76,SNR=8.4						
H03N3	**Juan Fernandez**	**147.59**	**96**	T	T	09 38 56.1	
	baz=291,slow=76,SNR=7.8						
H03N1	**Juan Fernandez**	**147.60**	**96**	T	T	09 38 59.4	
	baz=291,slow=76,SNR=6.0						

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*IDC **01** 06:35:08.0±4.0, 9˚.29N×126˚.83E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/48, mbtmp3.6/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/38, Error ellipse: s-maj=318.0km s-min=28.6km az=66.0*

*MAN **01** 06:35:08.0, 9˚.30N×127˚.19E, h11km, mb4.4, ML3.2, MS3.0*

ISC 01 06:35:13.0±1.4, 9˚.32N±0˚.09×127˚.1E±0˚.1, h41km, n10, σ1.51/11, mb3.6/3, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**2.37**	**290**	*e*P	**Pn**	**06 35 47.4**	**-2.1**
BUKP	**Musuan**	**2.49**	**235**	*e*P	**Pn**	**06 35 49.7**	**-1.3**
BUKP				*e*S	**Sn**	**06 36 21.1**	**+0.9**
CGP	**Cagayan de Oro**	**2.54**	**250**	⇓*e*P	**Pn**	**06 35 51.0**	**-0.8**
CGP				*e*S	**Sn**	**06 36 23.2**	**+1.6**
DAV	**Davao City (W)**	**2.70**	**214**	LR	LR	06 37 02.0	
	comp=Z,175nm,20.0s,baz=4.0,slow=45						
TBP	**Tagbilaran**	**3.23**	**277**	*e*P	**Pn**	**06 35 59.3**	**-2.0**
DDMP	**Don Marcelino,**	**3.48**	**204**	*e*P	**Pn**	**06 36 03.2**	**-1.6**
RCP	**Roxas**	**4.84**	**298**	⇓*e*P	**Pn**	**06 36 24.1**	**+0.6**
WRA	**Warramunga Arr**	**29.93**	**166**	P	**P**	**06 41 18.2**	**+0.8**
	0.5nm,0.2s,baz=347,slow=9.3,SNR=4.8						
ASAR	**Alice Springs**	**33.45**	**169**	P	**P**	**06 41 49.2**	**+0.9**
	0.2nm,0.4s,baz=352,slow=7.2,SNR=4.7						
MKAR	**Makanchi Array**	**53.29**	**323**	P	**P**	**06 44 27.6**	**-0.3**
	0.4nm,0.6s,baz=132,slow=6.9,SNR=4.6						

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*IDC **01** 06:38:47.7±1.2, 39˚.35N×20˚.80E, h0km, mb3.5/7, mb1 3.5/9, mb1mx3.4/42, mbtmp3.5/9, ML3.4/2, MS3.1/3, Ms1 3.1/3, ms1mx2.4/38, Error ellipse: s-maj=25.7km s-min=18.6km az=69.0*

*ATH **01** 06:38:53.8, 39˚.30N×20˚.65E, h42km±1km, ML3.4/29, Error ellipse: s-maj=2.3km s-min=1.0km az=279.0*

*PDG **01** 06:38:53.6±0.5, 39˚.35N×20˚.47E, h34km±2km, ML3.6/14, Error ellipse: s-maj=0.7km s-min=1.2km az=0.0*

*TIR **01** 06:38:53.4, 39˚.35N×20˚.69E, h36km, Md3.7/8*

*THE **01** 06:38:55.4, 39˚.29N×20˚.60E, h30km, ML3.5/12, Error ellipse: s-maj=1.2km s-min=0.6km az=251.0*

*SOF **01** 06:38:58.2, 39˚.46N×21˚.61E, h8km, MD3.1*

ISC 01 06:38:53.4±0.8, 39˚.32N±0˚.02×20˚.55E±0˚.03, h47km±6km, n200, σ1.85/250, mb3.4/7, 20C-13D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.28**	**322**	P	**Pn**	**06 39 02.8**	**+0.8**
IGT				S	**Sn**	**06 39 09.2**	**+1.1**
	13µm,0.3s						
IGT	**Igoumenitsa**	**0.28**	**322**	*i* PG	**Pn**	**06 39 03.0**	**+0.9**
IGT				*i* SG	**Sn**	**06 39 08.7**	**+0.6**
IGT	**Igoumenitsa**	**0.28**	**322**	P	**Pn**	**06 39 02.9**	**+0.9**
IGT				S	**Sn**	**06 39 09.4**	**+1.3**
IGT				AML	AML	06 39 10.1	
	comp=N,20825µm,0.3s						
IGT				AML	AML	06 39 10.3	
	comp=E,29369µm,0.2s						
JAN	**Janina**	**0.41**	**34**	P	**Pn**	**06 39 03.7**	**+0.3**
JAN				S	**Sn**	**06 39 11.1**	**+0.5**
	comp=E,15µm,0.2s						
JAN	**Janina**	**0.41**	**34**	P	**Pn**	**06 39 03.7**	**+0.3**
JAN				S	**Sn**	**06 39 10.8**	**+0.2**
JAN				AML	AML	06 39 11.4	
	comp=N,24821µm,0.3s						
JAN				AML	AML	06 39 11.4	
	comp=E,33349µm,0.2s						
TSLK	**Tsoukalades, L**	**0.50**	**171**	P	**Pn**	**06 39 05.0**	**+0.6**
TSLK				S	**Sn**	**06 39 14.0**	**+1.7**
	comp=E,4µm,0.3s						
TSLK	**Tsoukalades, L**	**0.50**	**171**	P	**Pn**	**06 39 04.9**	**+0.6**
TSLK				S	**Sn**	**06 39 13.0**	**+0.7**
TSLK				AML	AML	06 39 14.1	
	comp=E,7250µm,0.3s						
TSLK				AML	AML	06 39 14.9	
	comp=N,8838µm,0.4s						
LKD2	**Lefkada island**	**0.53**	**171**	P	**Pn**	**06 39 05.3**	**+0.4**
LKD2				S	**Sn**	**06 39 14.3**	**+1.2**
	comp=N,4µm,0.3s						
LKD2	**Lefkada island**	**0.53**	**171**	*i* PG	**Pn**	**06 39 05.5**	**+0.5**
LKD2				*i* SG	**Sn**	**06 39 14.4**	**+1.3**
LKD2	**Lefkada island**	**0.53**	**171**	P	**Pn**	**06 39 05.4**	**+0.5**
LKD2				S	**Sn**	**06 39 14.2**	**+1.2**
LKD2				AML	AML	06 39 14.8	
	comp=N,7307µm,0.4s						
LKD2				AML	AML	06 39 18.4	
	comp=E,6617µm,0.3s						
KASA	**Kassiopi**	**0.64**	**312**	P	**Pn**	**06 39 08.4**	**+2.1**
KASA				S	**Sn**	**06 39 18.7**	**+3.2**
KASA				AML	AML	06 39 19.0	
	comp=E,20427µm,0.2s						
KASA				AML	AML	06 39 19.4	
	comp=N,12440µm,0.2s						
MGNA	**Meganis**	**0.69**	**164**	P	**Pn**	**06 39 07.1**	**+0.3**
MGNA				AML	AML	06 39 17.8	
	comp=E,3658µm,0.2s						
MGNA				AML	AML	06 39 17.9	
	comp=N,4620µm,0.5s						
EVGI	**Lefkada island**	**0.70**	**173**	P	**Pn**	**06 39 07.4**	**+0.4**
EVGI	**Lefkada island**	**0.70**	**173**	P	**Pn**	**06 39 07.5**	**+0.5**
MEV	**Metsovon**	**0.70**	**48**	P	**Pn**	**06 39 08.1**	**+0.9**
KEK	**Kerkira**	**0.71**	**304**	P	**Pn**	**06 39 08.9**	**+1.9**
KEK				S	**Sn**	**06 39 20.9**	**+3.9**
KEK	**Kerkira**	**0.71**	**304**	P	**Pn**	**06 39 09.0**	**+1.9**
KEK				AML	AML	06 39 23.8	
	comp=E,12116µm,0.6s						
KEK				AML	AML	06 39 24.9	
	comp=N,9244µm,0.6s						
SRN	**Sarande**	**0.71**	**323**	P	**Pn**	**06 39 08.7**	**+1.6**
SRN				S	**Sn**	**06 39 19.5**	**+2.5**
SRN	**Sarande**	**0.71**	**323**	*i* PG	**Pn**	**06 39 08.6**	**+1.5**
SRN				*i* SG	**Sn**	**06 39 18.5**	**+1.5**
FSK	**Fiskardo**	**0.86**	**180**	P	**Pn**	**06 39 09.4**	**+0.3**
FSK	**Fiskardo**	**0.86**	**180**	P	**Pn**	**06 39 10.2**	**+1.2**
FSK				AML	AML	06 39 25.2	
	comp=N,3145µm,0.2s						
FSK				AML	AML	06 39 29.9	
	comp=E,3724µm,0.2s						
PDO	**Prodromos**	**0.87**	**145**	P	**Pn**	**06 39 09.7**	**+0.5**
KPRO	**Kipourio**	**0.89**	**44**	P	**Pn**	**06 39 10.9**	**+1.3**
KPRO				S	**Sn**	**06 39 23.6**	**+2.1**
	comp=E,7µm,0.4s						
KPRO	**Kipourio**	**0.89**	**44**	P	**Pn**	**06 39 11.0**	**+1.3**
KPRO				AML	AML	06 39 24.2	
	comp=E,13203µm,0.5s						
KPRO				AML	AML	06 39 24.5	
	comp=N,13351µm,0.4s						
PENT	**Pentalofos**	**0.99**	**27**	P	**Pn**	**06 39 12.7**	**+1.8**
PENT	**Pentalofos**	**0.99**	**27**	P	**Pn**	**06 39 12.7**	**+1.8**
PENT				AML	AML	06 39 28.6	
	comp=E,2160µm,0.3s						
PENT				AML	AML	06 39 28.8	
	comp=N,2709µm,0.6s						
PVO	**Paravola**	**1.03**	**132**	P	**Pn**	**06 39 12.3**	**+0.9**
PVO	**Paravola**	**1.03**	**132**	P	**Pn**	**06 39 12.6**	**+1.1**
PVO				AML	AML	06 39 30.1	
	comp=N,3672µm,0.3s						
PVO				AML	AML	06 39 30.9	
	comp=E,3693µm,0.4s						
EVR	**Evrytania**	**1.05**	**112**	P	**Pn**	**06 39 13.2**	**+1.3**
EVR				S	**Sn**	**06 39 26.7**	**+1.2**
	comp=E,2µm,0.4s						
EVR	**Evrytania**	**1.05**	**112**	P	**Pn**	**06 39 13.1**	**+1.3**
EVR				S	**Sn**	**06 39 26.2**	**+0.7**
EVR				AML	AML	06 39 29.5	
	comp=E,4174µm,0.4s						
EVR				AML	AML	06 39 32.1	
	comp=N,4884µm,0.4s						
KEF4	**Livadi, Kephal**	**1.06**	**185**	P	**Pn**	**06 39 12.8**	**+1.0**
LXRA	**Lixouri, Kepha**	**1.12**	**185**	P	**Pn**	**06 39 14.7**	**+2.1**
KEF3	**Kipouria, Keph**	**1.12**	**188**	P	**Pn**	**06 39 14.9**	**+2.3**
VLS	**Valsamata**	**1.14**	**179**	P	**Pn**	**06 39 14.5**	**+1.6**
VLS				AML	AML	06 39 34.0	
	comp=E,2142µm,0.2s						
VLS				AML	AML	06 39 34.6	
	comp=N,2430µm,0.2s						
THL	**Klokotos Trika**	**1.16**	**77**	P	**Pn**	**06 39 14.2**	**+1.1**
THL				S	**Sn**	**06 39 28.9**	**+1.1**
	comp=N,2µm,0.6s						
THL	**Klokotos Trika**	**1.16**	**77**	P	**Pn**	**06 39 14.4**	**+1.3**
THL				AML	AML	06 39 30.6	
	comp=E,3812µm,0.6s						
THL				AML	AML	06 39 30.9	
	comp=N,3329µm,0.6s						
NEST	**Nestorio**	**1.16**	**19**	P	**Pn**	**06 39 16.1**	**+2.8**
NEST	**Nestorio**	**1.16**	**19**	P	**Pn**	**06 39 15.6**	**+2.3**
NEST				AML	AML	06 39 38.5	
	comp=N,1880µm,0.6s						
NEST				AML	AML	06 39 39.6	
	comp=E,1514µm,0.3s						
KFL	**Anninata**	**1.22**	**171**	P	**Pn**	**06 39 14.3**	**+0.3**
KFL	**Anninata**	**1.22**	**171**	P	**Pn**	**06 39 15.5**	**+1.5**
MAKR	**Makrakomi, Fth**	**1.26**	**103**	P	**Pn**	**06 39 16.4**	**+1.8**
MAKR				S	**Sn**	**06 39 32.9**	**+2.4**
	comp=E,5µm,0.7s						
MAKR	**Makrakomi, Fth**	**1.26**	**103**	P	**Pn**	**06 39 16.1**	**+1.5**
MAKR				AML	AML	06 39 34.0	
	comp=N,9017µm,1.0s						
MAKR				AML	AML	06 39 35.6	
	comp=E,9243µm,0.4s						
ANX	**Ano Chora**	**1.29**	**124**	P	**Pn**	**06 39 16.5**	**+1.5**
ANX				AML	AML	06 39 34.8	
	comp=N,4738µm,0.4s						
ANX				AML	AML	06 39 39.0	
	comp=E,3881µm,0.5s						
KZN	**Kozani**	**1.36**	**43**	P	**Pn**	**06 39 18.5**	**+2.5**
KZN				S	**Sn**	**06 39 34.6**	**+1.6**
	comp=E,1µm,0.4s						
KZN	**Kozani**	**1.36**	**43**	P	**Pn**	**06 39 17.7**	**+1.7**
KZN				AML	AML	06 39 38.0	
	comp=E,2639µm,0.4s						
KZN				AML	AML	06 39 41.5	
	comp=N,1953µm,0.4s						
EFP	**Efpalio**	**1.38**	**130**	P	**Pn**	**06 39 17.8**	**+1.6**
EFP				S	**Sn**	**06 39 34.5**	**+1.3**
	comp=N,1µm,0.4s						
EFP	**Efpalio**	**1.38**	**130**	P	**Pn**	**06 39 17.7**	**+1.5**
EFP				AML	AML	06 39 44.6	
	comp=N,2733µm,0.4s						
EFP				AML	AML	06 39 45.6	
	comp=E,2398µm,0.7s						
VLO	**Vlora**	**1.41**	**325**	*i* PN	Pn	06 39 22.9	+6.3
VLO				*i* SN	**Sn**	**06 39 40.3**	**+6.4**
AGG	**Agios Georgios**	**1.41**	**101**	P	**Pn**	**06 39 18.1**	**+1.5**
AGG				S	**Sn**	**06 39 34.8**	**+0.7**
	comp=E,1µm,0.5s						
AGG	**Agios Georgios**	**1.41**	**101**	P	**Pn**	**06 39 18.2**	**+1.5**
AGG				AML	AML	06 39 41.1	
	comp=E,3183µm,0.4s						
AGG				AML	AML	06 39 42.9	
	comp=N,2432µm,0.4s						
VLMS	**Volimes, Zakyn**	**1.44**	**177**	P	**Pn**	**06 39 17.7**	**+0.7**
RLS	**Riolos of Patr**	**1.45**	**150**	P	**Pn**	**06 39 18.2**	**+1.1**
RLS	**Riolos of Patr**	**1.45**	**150**	P	**Pn**	**06 39 18.1**	**+1.1**
RLS				AML	AML	06 39 48.8	
	comp=N,861µm,0.5s						
RLS				AML	AML	06 39 51.3	
	comp=E,957µm,0.4s						
LRSO	**Larissa Observ**	**1.47**	**75**	P	**Pn**	**06 39 18.6**	**+1.3**
SERG	**Sergoula**	**1.48**	**127**	P	**Pn**	**06 39 19.0**	**+1.4**
SERG	**Sergoula**	**1.48**	**127**	P	**Pn**	**06 39 19.2**	**+1.6**
SERG				AML	AML	06 39 47.3	
	comp=E,2017µm,0.4s						
SERG				AML	AML	06 39 48.7	
	comp=N,2078µm,0.3s						
TRIZ	**Trizonia**	**1.52**	**128**	P	**Pn**	**06 39 19.7**	**+1.6**
TRIZ	**Trizonia**	**1.52**	**128**	P	**Pn**	**06 39 19.7**	**+1.6**
KALE	**Kalithea**	**1.54**	**126**	P	**Pn**	**06 39 19.8**	**+1.3**
KALE	**Kalithea**	**1.54**	**126**	P	**Pn**	**06 39 19.9**	**+1.3**
KALE				AML	AML	06 39 47.4	
	comp=E,1458µm,0.5s						
KALE				AML	AML	06 39 52.8	
	comp=N,1873µm,0.5s						
LAKA	**Lakka**	**1.55**	**134**	P	**Pn**	**06 39 19.9**	**+1.4**
LAKA	**Lakka**	**1.55**	**134**	P	**Pn**	**06 39 20.0**	**+1.4**
FNA	**Florina**	**1.60**	**23**	P	**Pn**	**06 39 21.1**	**+1.9**
FNA				S	**Sn**	**06 39 41.0**	**+2.3**
	comp=N,990nm,0.4s						
FNA	**Florina**	**1.60**	**23**	P	**Pn**	**06 39 21.0**	**+1.9**
FNA				AML	AML	06 39 44.8	
	comp=E,1630µm,0.4s						
FNA				AML	AML	06 39 47.9	
	comp=N,2335µm,0.4s						
DRO	**Drossia**	**1.64**	**146**	P	**Pn**	**06 39 20.7**	**+1.0**
DRO	**Drossia**	**1.64**	**146**	P	**Pn**	**06 39 20.9**	**+1.2**
DRO				AML	AML	06 39 58.9	
	comp=N,1905µm,0.4s						
DRO				AML	AML	06 40 00.3	
	comp=E,2238µm,0.4s						
LIT	**Litokhoron**	**1.69**	**62**	P	**Pn**	**06 39 20.9**	**+0.5**
LIT	**Litokhoron**	**1.69**	**62**	P	**Pn**	**06 39 21.1**	**+0.7**
LIT				AML	AML	06 39 53.4	
	comp=E,1469µm,0.4s						
LIT				AML	AML	06 39 54.8	
	comp=N,1892µm,0.5s						
AXAR	**Agios Charalam**	**1.73**	**108**	P	**Pn**	**06 39 22.4**	**+1.4**
AXAR				AML	AML	06 39 49.8	
	comp=N,4294µm,0.4s						
AXAR				AML	AML	06 39 52.8	
	comp=E,3987µm,0.5s						
KLV	**Kalavryta, Ach**	**1.78**	**135**	P	**Pn**	**06 39 23.3**	**+1.6**
KLV	**Kalavryta, Ach**	**1.78**	**135**	P	**Pn**	**06 39 23.4**	**+1.7**
OHR	**Ohrid**	**1.80**	**6**	*i* Pn	**Pn**	**06 39 24.6**	**+2.6**
GUR	**Goura**	**1.96**	**134**	P	**Pn**	**06 39 25.9**	**+1.6**
GUR	**Goura**	**1.96**	**134**	P	**Pn**	**06 39 25.8**	**+1.5**
AMT	**Artemida-Makis**	**2.00**	**153**	P	**Pn**	**06 39 26.2**	**+1.5**
AMT	**Artemida-Makis**	**2.00**	**153**	P	**Pn**	**06 39 26.2**	**+1.5**
LKR	**Lokris**	**2.02**	**108**	P	**Pn**	**06 39 25.5**	**+0.6**
LKR	**Lokris**	**2.02**	**108**	P	**Pn**	**06 39 25.6**	**+0.6**
TIR	**Tirane**	**2.10**	**346**	*i* PN	**Pn**	**06 39 27.7**	**+1.7**
TIR				*i* SN	**Sn**	**06 39 59.0**	**+8.2**
PROD	**Prodromos**	**2.12**	**119**	P	**Pn**	**06 39 26.8**	**+0.5**
PROD	**Prodromos**	**2.12**	**119**	P	**Pn**	**06 39 26.7**	**+0.5**
GRG	**Griva**	**2.17**	**40**	P	**Pn**	**06 39 27.9**	**+0.9**
TRIP	**Tripoli**	**2.24**	**142**	P	**Pn**	**06 39 30.0**	**+2.0**
SKIA	**Skiathos**	**2.27**	**93**	P	**Pn**	**06 39 28.8**	**+0.5**
LTK	**Loutraki**	**2.29**	**124**	P	**Pn**	**06 39 29.0**	**+0.3**
HORT	**Hortiatis**	**2.34**	**56**	P	**Pn**	**06 39 29.4**	**0.0**
HORT	**Hortiatis**	**2.34**	**56**	P	**Pn**	**06 39 29.7**	**+0.3**
PHP	**Peshkopia**	**2.37**	**358**	*i* PN	**Pn**	**06 39 31.5**	**+1.7**
ITM	**Ithomi**	**2.39**	**153**	P	**Pn**	**06 39 31.5**	**+1.4**
VIL2	**Platees**	**2.39**	**117**	P	**Pn**	**06 39 31.1**	**+1.0**
MRKA	**Markates**	**2.44**	**104**	P	**Pn**	**06 39 31.3**	**+0.6**
MRKA	**Markates**	**2.44**	**104**	P	**Pn**	**06 39 30.9**	**+0.1**
PLG	**Polygyros**	**2.46**	**64**	P	**Pn**	**06 39 31.1**	**0.0**
PLG	**Polygyros**	**2.46**	**64**	P	**Pn**	**06 39 31.3**	**+0.2**
PLG				AML	AML	06 39 59.6	
	comp=N,430µm,0.6s						
PLG				AML	AML	06 39 59.8	
	comp=E,396µm,0.5s						
PAIG	**Paliouri**	**2.49**	**75**	P	**Pn**	**06 39 31.5**	**+0.2**
VAY	**Valandovo**	**2.53**	**37**	*i* Pn	**Pn**	**06 39 32.9**	**+1.0**
KNT	**Kendrikon**	**2.57**	**43**	P	**Pn**	**06 39 33.2**	**+0.7**
PYL	**PYLOS**	**2.59**	**158**	P	**Pn**	**06 39 33.4**	**+0.6**
CGL1	**Ceglie Messapi**	**2.72**	**300**	⇑*i*Pn	**Pn**	**06 39 35.3**	**+0.8**
CGL1				Sn	**Sn**	**06 40 04.2**	**-1.9**
PUK	**Puka**	**2.77**	**350**	*i* PN	**Pn**	**06 39 36.8**	**+1.5**
PUK				*i* SN	**Sn**	**06 40 08.2**	**+0.6**
DID	**Didima**	**2.78**	**130**	P	**Pn**	**06 39 35.7**	**+0.3**
DID	**Didima**	**2.78**	**130**	P	**Pn**	**06 39 35.9**	**+0.6**
DID				AML	AML	06 40 09.0	
	comp=E,456µm,0.3s						
DID				AML	AML	06 40 11.8	
	comp=N,351µm,0.2s						
TAR1	**Taranto**	**2.79**	**297**	⇓*i*Pn	**Pn**	**06 39 36.5**	**+1.0**
KRND	**KRANIDI**	**2.81**	**133**	P	**Pn**	**06 39 36.2**	**+0.5**
ATH	**Athens Observa**	**2.82**	**117**	P	**Pn**	**06 39 36.5**	**+0.6**
ULC	**Ulcinj**	**2.83**	**340**	*e*Pn	**Pn**	**06 39 36.6**	**+0.6**
ULC				*i* Sn	**Sn**	**06 40 09.6**	**+0.8**
OUR	**Ouranopolis**	**2.83**	**68**	P	**Pn**	**06 39 36.6**	**+0.6**
KYMI	**Kymi, Euboea I**	**2.85**	**103**	P	**Pn**	**06 39 37.1**	**+0.8**
ATHU	**Athens Univers**	**2.87**	**117**	P	**Pn**	**06 39 37.0**	**+0.5**
DION	**Dionisos Attik**	**2.92**	**114**	P	**Pn**	**06 39 37.8**	**+0.5**
DION	**Dionisos Attik**	**2.92**	**114**	P	**Pn**	**06 39 37.7**	**+0.5**
VLY	**Voula,Athens**	**2.93**	**119**	P	**Pn**	**06 39 37.8**	**+0.4**
VLY	**Voula,Athens**	**2.93**	**119**	P	**Pn**	**06 39 38.0**	**+0.6**
SRS	**Serrai**	**2.94**	**51**	P	**Pn**	**06 39 38.0**	**+0.4**
TIP	**Timpagrande**	**2.95**	**269**	⇑P	**Pn**	**06 39 39.3**	**+1.6**
TIP				⇑S	**Sn**	**06 40 13.0**	**+1.0**
DRME	**Dracevica, Mon**	**3.05**	**341**	⇑*i*Pn	**Pn**	**06 39 40.0**	**+0.9**
DRME				*i* Sn	**Sn**	**06 40 14.8**	**+0.5**
DRME	**Dracevica, Mon**	**3.05**	**341**	*e*Pn	**Pn**	**06 39 39.5**	**+0.4**
BCI	**Bajram Curri**	**3.07**	**353**	*i* PN	**Pn**	**06 39 41.4**	**+2.0**
BCI				*i* SN	**Sn**	**06 40 18.0**	**+3.2**
KKB	**Krupnik**	**3.19**	**36**	*e*P	**Pn**	**06 39 43.2**	**+2.1**
BUM	**Brajici-Budva**	**3.24**	**338**	⇑*i*Pn	**Pn**	**06 39 42.3**	**+0.6**
BUM				*i* Sn	**Sn**	**06 40 18.8**	**-0.2**
MATE	**Matera**	**3.24**	**295**	⇑P	**Pn**	**06 39 43.4**	**+1.8**
MATE				⇑S	**Sn**	**06 40 25.0**	**+6.0**
PDG	**Podgorica**	**3.26**	**343**	⇑P	**Pn**	**06 39 46.1**	**+4.1**
PDG				⇑S	Sn	06 40 28.6	+9.1
PDG	**Podgorica**	**3.26**	**343**	*e*Pn	**Pn**	**06 39 42.7**	**+0.7**
TTG	**Podgorica**	**3.26**	**343**	⇑*i*Pn	**Pn**	**06 39 42.7**	**+0.7**
TTG				*i* Sn	**Sn**	**06 40 19.6**	**+0.1**
KARY	**Karystos**	**3.30**	**112**	P	**Pn**	**06 39 42.9**	**+0.4**
PVY	**Plav**	**3.31**	**352**	⇑*i*Pn	**Pn**	**06 39 43.4**	**+0.7**
PVY				*i* Sn	**Sn**	**06 40 21.2**	**+0.4**
MMB	**Musomiste**	**3.32**	**46**	*e*P	**Pn**	**06 39 43.0**	**+0.2**
BAI	**Bari**	**3.33**	**304**	*e*Pn	**Pn**	**06 39 44.1**	**+1.2**
BAI				Sn	**Sn**	**06 40 19.6**	**-1.7**
SG1	**Sgolgore (BA)**	**3.34**	**298**	⇓*i*Pn	**Pn**	**06 39 45.1**	**+2.0**
SG1				Sn	**Sn**	**06 40 20.9**	**-0.6**
CEME	**Cevo**	**3.46**	**340**	⇑*i*Pn	**Pn**	**06 39 45.1**	**+0.4**
CEME				*i* Sn	**Sn**	**06 40 24.1**	**-0.3**
KAVA	**Kavala**	**3.47**	**60**	P	**Pn**	**06 39 45.8**	**+1.0**
HCY	**Herceg Novi**	**3.50**	**334**	⇑*i*Pn	**Pn**	**06 39 45.1**	**-0.1**
HCY				*i* Sn	**Sn**	**06 40 24.9**	**-0.4**
HCY	**Herceg Novi**	**3.50**	**334**	*e*Pn	**Pn**	**06 39 44.5**	**-0.7**
IVA	**Berane**	**3.59**	**352**	⇑*i*Pn	**Pn**	**06 39 47.6**	**+1.1**
IVA				*i* Sn	**Sn**	**06 40 27.5**	**-0.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KOME	Kolasin	3.62	348	⇑iPn	Pn	06 39 47.9	+1.0
KOME				i Sn	Sn	06 40 28.9	+0.5
NKME	Niksic	3.65	341	⇓iPn	Pn	06 39 48.0	+0.6
NKME				i Sn	Sn	06 40 29.2	0.0
NKY	Niksic	3.69	342	⇓iPn	Pn	06 39 48.7	+0.8
NKY				i Sn	Sn	06 40 30.1	0.0
TREB	Trebinje	3.78	335	ePn	Pn	06 39 49.1	0.0
DBRK	Dubrovnik	3.81	332	ePn	Pn	06 39 49.4	-0.2
DBRK				Sn	Sn	06 40 29.0	-4.1
VTS	Vitosha	3.87	31	⇓P	Pn	06 39 54.9	+4.4
VTS	Vitosha	3.87	31	eP	Pn	06 39 51.9	+1.4
BRY	Bratogost	3.89	338	⇓iPn	Pn	06 39 50.9	+0.2
BRY				i Sn	Sn	06 40 34.4	-0.8
BRY	Bratogost	3.89	338	ePn	Pn	06 39 50.4	-0.3
RZN	Rozhen	3.96	52	eP	Pn	06 39 52.6	+0.9
UPM	Unac-Piva	4.08	343	⇑iPn	Pn	06 39 53.6	+0.3
UPM				i Sn	Sn	06 40 39.8	-0.1
UPM	Unac-Piva	4.08	343	ePn	Pn	06 39 54.6	+1.3
PLE	Pljevlja	4.11	348	⇓iPn	Pn	06 39 54.8	+1.2
PLE				i Sn	Sn	06 40 40.3	-0.1
STON	Ston	4.16	330	i Pn	Pn	06 39 54.0	-0.2
STON				Sn	Sn	06 40 38.0	-3.5
STON	Ston	4.16	330	ePn	Pn	06 39 53.6	-0.6
RUDO	Rudo	4.39	349	ePn	Pn	06 39 58.5	+1.1
APE	Apeiranthos	4.52	118	⇓P	Pn	06 40 03.1	+3.9
BBLS	Lazići	4.63	350	ePn	Pn	06 40 00.6	-0.2
MAKA	Makarska	4.78	327	ePn	Pn	06 40 03.2	+0.4
MAKA				Sn	Sn	06 40 53.2	-3.5
DIVS	Divibare	4.80	355	ePn	Pn	06 40 03.2	+0.1
RICI	Ricice	4.90	329	ePn	Pn	06 40 04.5	0.0
RICI				Sn	Sn	06 40 55.8	-4.1
HVAR	Hvar	4.95	323	ePn	Pn	06 40 05.0	0.0
HVAR				Sn	Sn	06 40 57.0	-4.0
IDI	Anoyia	5.30	138	Pn	Pn	06 40 08.6	-1.4
	comp=N,0.8nm,0.3s,baz=288,slow=13,SNR=11						
IDI				Sn	Sn	06 41 03.7	-6.2
	comp=N,11nm,0.3s,baz=305,slow=21,SNR=20						
ELND	Elena	5.40	46	⇑P	Pn	06 40 17.5	+6.2
KIJV	Kijevo	5.62	328	ePn	Pn	06 40 14.9	+0.6
KIJV				Sn	Sn	06 41 15.0	-2.6
ZIRJ	Zirje	5.69	321	ePn	Pn	06 40 15.6	+0.3
ZIRJ				Sn	Sn	06 41 15.4	-3.8
MGRS	Mrkonjic Grad	5.72	334	ePn	Pn	06 40 17.1	+1.4
MORI	Morici	5.82	323	ePn	Pn	06 40 17.7	+0.7
MORI				Sn	Sn	06 41 19.8	-2.6
BLY	Banja Luka	5.98	336	ePn	Pn	06 40 15.2	-4.0
DUGI	Dugi Otok	6.22	320	ePn	Pn	06 40 23.3	+0.7
DUGI				Sn	Sn	06 41 28.9	-3.5
GZR	Gura Zlata	6.29	14	⇑P	Pn	06 40 29.5	+5.9
BZS	Buzias	6.34	7	⇓P	Pn	06 40 30.3	+6.1
NVLJ	Novalja	6.74	323	ePn	Pn	06 40 30.3	+0.6
NVLJ				Sn	Sn	06 41 40.5	-4.4
ARR	Arges	6.76	25	⇓P	Pn	06 40 36.6	+6.6
VOIR		6.96	27	⇓P	Pn	06 40 37.9	+5.1
OZLJ	Ozalj	7.33	331	ePn	Pn	06 40 37.8	+0.1
OZLJ				Sn	Sn	06 41 54.5	-5.0
MLR	Muntele Rosu	7.35	31	LR	LR	06 44 21.2	
	comp=N,56nm,18.8s,baz=90,slow=46						
MLR	Muntele Rosu	7.35	31	⇑P	Pn	06 40 44.0	+5.9
PTJ	Puntijarka	7.40	334	ePn	Pn	06 40 38.1	-0.7
PTJ				Sn	Sn	06 41 56.6	-4.9
KALN	Kalnik	7.45	337	ePn	Pn	06 40 39.2	-0.2
RIY	Rijeka	7.50	325	Sn	Sn	06 41 59.4	-4.3
CRES	Cresnjev	7.51	332	ePn	Pn	06 40 39.8	-0.5
BRJN	Brijuni	7.53	320	ePn	Pn	06 40 40.8	+0.3
BRJN				Sn	Sn	06 42 00.9	-3.6
CEY	Cerknica	7.85	327	ePn	Pn	06 40 44.5	-0.4
PLOR	Plostina	7.93	33	⇑P	Pn	06 40 52.4	+6.4
VRI	Vrincioaia	7.97	33	⇓P	Pn	06 40 53.0	+6.4
LJU	Ljubljana	8.05	329	ePn	Pn	06 40 47.6	-0.1
OBKA	Obir	8.43	330	ePn	Pn	06 40 53.3	+0.4
	comp=N,0.8nm,0.2s						
ARSA	Arzberg	8.73	337	ePn	Pn	06 40 56.2	-0.8
	comp=N,0.4nm,0.2s						
BURAR	Bucovina Array	8.96	21	⇓P	Pn	06 41 07.6	+7.5
KBA	Koelnbreinsper	9.37	328	ePn	Pn	06 41 06.3	+0.4
	comp=N,0.2nm,0.2s						
ABTA	Abfaltersbach	9.47	324	ePn	Pn	06 41 08.0	+0.9
	comp=N,1.0nm,0.3s						
MOA	Molln	9.67	334	ePn	Pn	06 41 10.6	+0.8
	comp=N,0.9nm,0.2s						
WTTA	Wattenberg	10.26	324	ePn	Pn	06 41 20.7	+2.7
	comp=N,1.4nm,0.3s						
MOTA	Moosalm	10.56	322	ePn	Pn	06 41 25.5	+3.3
	comp=N,0.5nm,0.2s						
GERES	GERESS Array B	10.72	335	Pn	Pn	06 41 25.1	+0.9
	comp=N,0.2nm,0.3s,baz=156,slow=13,SNR=5.0						
GERES				Sn	Sn	06 43 16.9	-5.9
	comp=N,0.2nm,0.3s,baz=152,slow=24,SNR=4.4						
DAVOX	Davos/Dischmat	10.79	317	Pn	Pn	06 41 27.6	+2.2
	comp=N,0.2nm,0.3s,baz=336,slow=12,SNR=3.0						
DAVOX				Sn	Sn	06 43 22.6	-2.1
	comp=N,0.5nm,0.3s,baz=34,slow=4.3,SNR=3.2						
HFS	Hagfors	21.28	351	P	P	06 43 35.3	-0.3
	comp=N,0.7nm,0.4s,baz=171,slow=10,SNR=7.3						
FINES	FINESS Array B	22.41	7	P	P	06 43 46.4	-1.3
	comp=N,0.4nm,0.4s,baz=157,slow=10,SNR=6.1						
FINES				LR	LR	06 53 17.0	
	comp=N,18nm,19.0s,baz=18,slow=39						
NB2	NORSAR Subarra	22.51	348	P	P	06 43 48.5	-0.3
	comp=Z,0.8nm,0.7s,baz=153,slow=10						
NOA	NORSAR Array B	22.51	348	P	P	06 43 49.1	+0.3
	comp=Z,0.2nm,0.6s,baz=164,slow=11,SNR=4.1						
EKA	Eskdalemuir Ar	22.52	323	P	P	06 43 49.2	+0.3
	comp=Z,0.9nm,0.6s,baz=120,slow=10,SNR=9.4						
TORD	Torodi Ar. Bea	30.94	218	P	P	06 45 07.3	+1.4
	comp=Z,1.2nm,0.6s,baz=32,slow=9.4,SNR=8.5						
MKAR	Makanchi Array	44.69	59	P	P	06 47 00.5	-1.0
	comp=Z,0.4nm,0.3s,baz=283,slow=8.0,SNR=8.2						
ZALV	Zalesovo Beam	44.92	49	P	P	06 47 02.2	-0.9
	comp=Z,0.8nm,0.4s,baz=296,slow=11,SNR=3.7						
YAK	Yakutsk	64.11	30	LR	LR	07 21 10.3	
	comp=Z,92nm,19.5s,baz=64,slow=40						

*ROM **01** 06:46:48.6±0.1, 46°.189N±0°.004×9°.939E±0°.003, h11km, ML1.7/10, Error ellipse: s-maj=0.4km s-min=0.1km az=172.0*

ZUR 01 06:46:48.5, 46°.18N×9°.96E, h12km±2km, MLh1.7/14, 8C-10D, Error ellipse: s-maj=5.2km s-min=0.9km az=208.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BERNI	Berninapass	0.24	11	⇓Pg	Pg	06 46 54.3	+0.6
	0.3nm,SNR=335						
BERNI				⇓Pg	Pg	06 46 54.3	+0.6
BERNI				Sg	Sg	06 46 57.8	+0.7
BERNI	Berninapass	0.24	11	P	Pg	06 46 54.2	+0.6
BERNI				S	Sg	06 46 57.7	+0.6
BERNI				AML	AML		
	comp=E,418µm,0.1s						
BERNI				AML	AML		
	comp=N,248µm,0.1s						
BERNI				AML	AML		
	comp=E,418µm,0.1s						
MABI	Malga Bissina	0.41	108	⇓Pg	Pg	06 46 57.1	+0.5
	comp=E,0.6nm,SNR=209						
MABI				⇓Pg	Pg	06 46 57.1	+0.5
MABI				Sg	Sg	06 47 02.3	+0.3
MABI	Malga Bissina	0.41	108	P	Pg	06 46 57.1	+0.5
MABI				AML	AML		
	comp=E,236µm,0.1s						
MABI				AML	AML		
	comp=E,236µm,0.1s						
MABI				AML	AML		
	comp=N,282µm,0.1s						
BRMO	Bormio	0.41	44	Pg	Pg	06 46 57.2	+0.5
BRMO				Pg	Pg	06 46 57.2	+0.5
	comp=N,0.1nm,SNR=31						
BRMO	Bormio	0.41	44	P	Pg	06 46 57.0	+0.3
BRMO				S	Sg	06 47 03.0	+0.7
BRMO				AML	AML		
	comp=E,49µm,0.9s						
BRMO				AML	AML		
	comp=N,36µm,0.8s						
MDI	Monti di Nese	0.44	203	⇓Pg	Pb	06 46 57.8	-0.5
MDI				⇓Pg	Pb	06 46 57.8	-0.5
	comp=N,0.1nm,SNR=80						
MDI	Monti di Nese	0.44	203	P	Pb	06 46 57.8	-0.5
MDI				S	Sg	06 47 03.8	+0.7
MDI				AML	AML		
	comp=E,124µm,1.1s						
MDI				AML	AML		
	comp=N,103µm,0.3s						
MDI				AML	AML		
	comp=E,124µm,1.1s						
MDI				AML	AML		
	comp=N,103µm,0.3s						
VDL	Val di Lei	0.47	311	Pg	Pg	06 46 57.9	+0.2
VDL				Pg	Pg	06 46 57.9	+0.2
	comp=N,0.1nm,SNR=13						
FUORN	Ofenpass-Fuorn	0.49	25	⇓Pg	Pg	06 46 58.6	+0.4
	SNR=73						
FUORN				⇓Pg	Pg	06 46 58.6	+0.4
FUORN				Sg	Sg	06 47 04.9	+0.2
FUORN	Ofenpass-Fuorn	0.49	25	P	Pg	06 46 58.3	+0.2
FUORN				S	Sg	06 47 04.9	+0.2
FUORN				AML	AML		
	comp=N,62µm,0.3s						
FUORN				AML	AML		
	comp=N,62µm,0.3s						
FUORN				AML	AML		
	comp=E,46µm,0.6s						
CARE	Lago del Cares	0.57	64	⇑ePg	Pg	06 46 59.6	0.0
CARE				eSg	Sg	06 47 07.4	+0.2
MOSI	Grossmontoni	0.60	43	Pg	Pg	06 47 00.5	+0.3
MOSI				Pg	Pg	06 47 00.5	+0.3
	comp=E,0.1nm,SNR=51						
MOSI				Sg	Sg	06 47 08.4	+0.2
MOSI	Grossmontoni	0.60	43	P	Pg	06 47 00.5	+0.2
MOSI				S	Sg	06 47 08.2	+0.1
MOSI				AML	AML		
	comp=E,73µm,1.5s						
MOSI				AML	AML		
	comp=N,72µm,0.7s						
DAVOX	Davos/Dischmat	0.60	355	Pg	Pg	06 47 00.7	+0.4
	SNR=43						
DAVOX				Pg	Pg	06 47 00.7	+0.4
DAVOX				Sg	Sg	06 47 08.5	+0.2
MAGA	Magasa	0.62	131	P	Pb	06 47 01.0	-0.4
MAGA				S	Sb	06 47 09.6	-0.5
MAGA				AML	AML		
	comp=E,174µm,0.3s						
MAGA				AML	AML		
	comp=N,211µm,0.2s						
MAGA				AML	AML		
	comp=N,210µm,0.2s						
SALO	Salr	0.69	145	Pg	Pb	06 47 02.3	-0.2
SALO				Pg	Pb	06 47 02.3	-0.2
	SNR=3.8						
SALO	Salr	0.69	145	P	Pb	06 47 02.3	-0.2
SALO				S	Sb	06 47 11.6	-0.4
MUGIO	Muggio	0.69	248	⇑Pg	Pg	06 47 01.5	-0.4
MUGIO				⇑Pg	Pg	06 47 01.5	-0.4
	comp=N,0.1nm,SNR=111						
MUGIO	Muggio	0.69	248	P	Pg	06 47 01.5	-0.4
MUGIO				S	Sg	06 47 10.7	-0.3
MUGIO				AML	AML		
	comp=E,54µm,0.7s						
MUGIO				AML	AML		
	comp=N,68µm,1.2s						
MUGIO				AML	AML		
	comp=N,68µm,1.2s						
MUGIO				AML	AML		
	comp=E,54µm,0.6s						
GARGN	Gargnano BS	0.69	135	⇑ePg	Pg	06 47 02.0	0.0
GARGN				eSg	Sb	06 47 11.7	-0.5
GAGG	Gaggia	0.70	98	⇓ePg	Pb	06 47 02.5	-0.3
BALD	Monte Baldo	0.78	129	ePg	Pb	06 47 03.9	-0.2
BALD				eSg	Sb	06 47 15.1	+0.3
OZOL	Ozolo	0.79	73	⇓ePg	Pg	06 47 03.9	0.0
PANIX	Pigniu (Panix)	0.87	318	Pg	Pg	06 47 05.3	-0.1
	SNR=7.2						
PANIX				Pg	Pg	06 47 05.3	-0.1
DOSS	Dosso del Somm	0.91	109	ePg	Pb	06 47 06.3	0.0
FUSIO	Fusio	0.94	287	⇑Pg	Pg	06 47 06.5	-0.1
FUSIO				⇑Pg	Pg	06 47 06.5	-0.1
	comp=E,0.1nm,SNR=25						
FUSIO	Fusio	0.94	287	P	Pg	06 47 06.4	-0.2
FUSIO				S	Sg	06 47 18.2	-0.7
FUSIO				AML	AML		
	comp=E,45µm,0.1s						
FUSIO				AML	AML		
	comp=N,31µm,0.8s						
PLONS	Plons/SG	0.96	336	⇑Pg	Pg	06 47 07.0	0.0
PLONS				⇑Pg	Pg	06 47 07.0	0.0
	SNR=8.2						
PANI	Panarotta	0.96	97	ePg	Pb	06 47 07.4	+0.1
PANI				eSg	Sb	06 47 20.2	0.0
FETA	Feichten	0.99	32	ePg	Pg	06 47 07.8	+0.1
	comp=N,0.1nm,0.1s						
FETA				Sg	Sg	06 47 20.6	-0.1
	comp=N,0.7nm,0.1s,SNR=4.9						
KOSI	Kohlern	1.02	73	P	Pg	06 47 08.1	-0.2
KOSI				S	Sb	06 47 22.0	+0.2
ABSI	Aberstueckl	1.09	59	Pg	Pb	06 47 09.1	-0.4
ABSI				Pg	Pb	06 47 09.1	-0.4
	SNR=8.8						
DAVA	Damuels	1.11	357	Pg	Pn	06 47 10.7	+0.6
	comp=N,0.5nm,0.1s						
DAVA				Sg	Sn	06 47 25.5	+0.1
	comp=N,5.5nm,0.4s						
CGRP	Cima Grappa	1.32	103	P	Pn	06 47 12.9	-0.1
CGRP				S	Sg	06 47 31.1	+0.1
CDCA	Citt' di Caste	3.17	148	S	Sg	06 48 29.0	-1.2
NARO	Abbazia di Nar	3.17	143	P	Pn	06 47 35.7	-2.6
NARO				P	Pg	06 47 47.3	-2.0
SENI	Senigallia	3.40	136	S	Sn	06 48 25.0	+3.5

*IDC **01** 06:47:45.6±0.7, 0°.76N×26°.20W, h0km, mb4.1/10, mb1 4.2/10, mb1mx3.8/54, mbtmp4.1/10, MS3.8/20, Ms1 3.8/20, ms1mx3.6/29, Error ellipse: s-maj=36.6km s-min=16.2km az=139.0*

*NEIC **01** 06:47:46.6±1.9, 0°.6N±0°.1×26°.2W±0°.1, h10km±1km, mb4.3/3, Error ellipse: s-maj=24.6km s-min=17.7km az=323.0*

*GCMT **01** 06:47:47.7±0.4, 0°.76N±0°.03×26°.02W±0°.02, h15km, MW4.7/84, Moment Tensor Solution. s11,c11; s84,c109; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.17±.08; $M_{\theta\theta}$0.22±.09; $M_{\phi\phi}$-0.05±.08; $M_{r\theta}$-0.09±.26; $M_{\theta\phi}$-1.55±.05; $M_{\phi r}$-0.10±.25; Best double couple: $M_0$1.56300×10^{16} NP1:ϕ_s88.00000°, δ86.00000°, λ-176.00000°. NP2: ϕ_s357.00000°, δ86.00000°, λ-4.00000°. Principal axes: T 1.6410, Plg0.0000°, Azm42.0000°; N -0.1550, Plg84.0000°, Azm134.0000°; P -1.4860, Plg6.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 06:47:46.7±0.7**, 0°.7N**±0°.2×**26°.3W**±0°.1**, h10km, n33, σ1°.35**/17**, mb4.1**/10**, MS3.8**/19**, Central Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RCBR	Riachuelo	11.57	236	Pn	Pn	06 50 29.9	-2.3
	0.5nm,0.3s,baz=52,slow=12,SNR=19						
RCBR				Sn	Sn	06 52 29.0	-13
	0.2nm,0.3s,baz=266,slow=11,SNR=1.4						
RCBR				LR	LR	06 53 52.0	
	comp=Z,922nm,21.6s,baz=28,slow=31						
RCBR	Riachuelo	11.57	236	Pn	Pn	06 50 30.2	-2.0
H10N3	ASCENSION HYDR	14.54	126	T	T	07 05 48.1	
	baz=306,slow=75,SNR=179						
H10N2	ASCENSION HYDR	14.55	126	T	T	07 05 48.4	
	baz=306,slow=75,SNR=182						
H10N1	ASCENSION HYDR	14.56	126	T	T	07 05 49.7	
	baz=306,slow=75,SNR=175						
H10S3	ASCENSION HYDR	15.08	130	T	T	07 06 46.7	
	baz=272,slow=74,SNR=49						
H10S2	ASCENSION HYDR	15.10	130	T	T	07 06 30.2	
	baz=308,slow=74,SNR=21						
DBIC	Dimbokro	22.21	74	LR	LR	06 59 18.9	
	comp=Z,141nm,21.4s,baz=235,slow=31						
MDP	Montagnes des	26.63	280	LR	LR	07 01 43.5	
	comp=Z,82nm,20.7s,baz=104,slow=31						
BDFB	Brasilia	26.91	232	P	P	06 53 29.0	+0.6
	3.8nm,0.8s,baz=78,slow=2.9,SNR=5.1						
BDFB				LR	LR	07 03 03.5	
	comp=Z,477nm,19.9s,baz=83,slow=34						
BDFB	Brasilia	26.91	232	P	P	06 53 29.5	+1.1
BDFB				IAmb	IAmb	06 53 32.4	
	comp=Z,10nm,1.2s						
TORD	Torodi Ar. Bea	30.37	65	P	P	06 53 57.5	-1.8
	comp=Z,1.8nm,0.9s,baz=250,slow=9.1,SNR=6.3						
TORD				LR	LR	07 04 49.4	
	comp=Z,196nm,18.6s,baz=210,slow=34						
MDT	Midelt	37.90	30	LR	LR	07 10 06.8	
	comp=Z,227nm,19.1s,baz=250,slow=36						
SIV	San Ignacio	38.12	243	P	P	06 55 08.2	+1.8
	comp=Z,1.3nm,0.9s,baz=105,slow=8.7,SNR=5.3						
ESDC	Sonseca Array	43.80	25	P	P	06 55 54.0	+1.1
	comp=Z,0.8nm,0.8s,baz=216,slow=9.2,SNR=4.4						
ESDC				LR	LR	07 13 36.1	
	comp=Z,69nm,18.0s,baz=195,slow=36						
LPAZ	La Paz	44.58	246	P	P	06 56 01.4	+1.2
	comp=Z,1.8nm,0.8s,baz=68,slow=5.5,SNR=8.7						
LPAZ				LR	LR	07 14 13.6	
	comp=Z,250nm,18.1s,baz=66,slow=36						
LPAZ	La Paz	44.58	246	P	P	06 56 01.6	+1.4
LPAZ				IAmb	IAmb	06 56 02.4	
	comp=Z,3.0nm,0.9s						
KEST	Kesra	48.06	40	LR	LR	07 15 52.7	
	comp=Z,210nm,21.4s,baz=198,slow=35						
BOSA	Boshof	57.30	125	P	P	06 57 36.4	+1.1
	comp=Z,3.9nm,1.0s,baz=297,slow=4.5,SNR=3.3						
BOSA				LR	LR	07 17 17.0	
	comp=Z,97nm,20.6s,baz=326,slow=31						
PLCA	Paso Flores	57.57	219	LR	LR	07 21 35.8	
	comp=Z,80nm,19.1s,baz=58,slow=35						
GERES	GERESS Array B	58.98	30	P	P	06 57 46.2	-0.5
	comp=Z,1.2nm,0.8s,baz=224,slow=5.6,SNR=9.4						
GERES				LR	LR	07 23 01.6	
	comp=Z,36nm,18.2s,baz=257,slow=36						
KMBO	Kilima Mbogo	63.60	92	LR	LR	07 22 46.8	
	comp=Z,48nm,20.1s,baz=289,slow=33						
NOA	NORSAR Array B	66.61	19	LR	LR	07 25 37.1	
	comp=Z,25nm,18.3s,baz=45,slow=34						
BRTR	Keskin Array B	66.79	47	P	P	06 58 38.5	-0.5
	comp=Z,2.1nm,0.8s,baz=235,slow=4.4,SNR=8.5						
BRTR				LR	LR	07 28 49.8	
	comp=Z,49nm,20.3s,baz=202,slow=37						
AKASG	Malin Array Be	68.31	34	P	P	06 58 47.5	-0.6
	comp=Z,5.8nm,0.8s,baz=238,slow=6.8,SNR=8.0						
FINES	FINESS Array B	72.28	24	P	P	06 59 13.1	+0.9
	comp=Z,1.5nm,0.8s,baz=224,slow=5.3,SNR=6.1						
FINES				LR	LR	07 29 08.4	
	comp=Z,39nm,19.2s,baz=18,slow=34						
ULM	Lac du Bonnet	76.47	322	LR	LR	07 27 13.8	
	comp=Z,41nm,21.7s,baz=160,slow=31						
PDAR	Pinedale Array	84.53	313	LR	LR	07 32 40.1	
	comp=Z,52nm,19.2s,baz=122,slow=32						
GEYT	Alibeck	85.16	52	LR	LR	07 43 39.3	
	comp=Z,37nm,18.4s,baz=50,slow=39						
SZCU	Shurtz Canyon	86.99	307	P	P	07 00 33.2	+0.3
MCMT	McKenzie Canyo	87.02	315	P	P	07 00 32.3	-0.7
YKA	Yellowknife Ar	88.56	332	LR	LR	07 35 45.6	
	comp=Z,49nm,21.6s,baz=0.0,slow=32						
ASAR	Alice Springs	150.21	141	PKPbc	PKPbc	07 07 39.0	-0.1
	comp=Z,1.8nm,0.8s,baz=198,slow=1.8,SNR=16						

*PRU **01** 06:48:47.9±0.0, 50°.25N×12°.50E, h2km, West Bohemia Swarm*

WBNET 01 06:48:47.3, 50°.23N×12°.45E, h9km, Ml1.7, 6C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.00	16	ePG	Pg	06 48 48.8	-0.2
	267nm,0.4s						
NKC				eSG	Sg	06 48 49.9	-0.2
	comp=Z,267nm,0.4s						
NKC	Novy Kostel	0.00	16	⇑P	Pg	06 48 49.0	+0.1
NKC				S	Sg	06 48 50.1	0.0
LBCW	Luby	0.04	329	⇓P	Pg	06 48 49.3	+0.1
LBCW				S	Sg	06 48 50.7	+0.2
VAC	Vackov	0.04	278	⇓P	Pg	06 48 49.2	+0.1
VAC				S	Sg	06 48 50.5	0.0
KVC	Kvetna	0.05	117	⇑P	Pg	06 48 49.2	-0.1
KVC				S	Sg	06 48 50.3	-0.2
STCW	Studenec	0.06	57	⇑P	Pg	06 48 49.3	0.0
STCW				S	Sg	06 48 50.5	-0.2
SKC	Skalna	0.08	223	⇑P	Pg	06 48 49.6	0.0
SKC				S	Sg	06 48 51.1	0.0
POCW	Potky	0.09	352	⇓P	Pg	06 48 49.9	+0.2
POCW				S	Sg	06 48 51.6	+0.1
KACW	Kaceov	0.10	152	⇑P	Pg	06 48 49.8	+0.1
KACW				S	Sg	06 48 51.5	0.0
KRCW	Kraslice	0.12	28	⇑P	Pg	06 48 50.1	0.0
KRCW				S	Sg	06 48 52.0	0.0
ZHC	Zelena Hora	0.18	209	⇓P	Pg	06 48 51.2	+0.1
ZHC				S	Sg	06 48 53.7	0.0
CLL	Collm	1.14	18	ePg	Pg	06 49 09.0	-0.1
CLL				i		06 49 11.6	
CLL				i		06 49 13.5	
CLL				i Sg	Sn	06 49 24.8	-0.3
	comp=Z,7.0nm,0.3s						
CLL				i		06 49 30.3	
PBCC	Pribram	1.14	118	eSG	Sg	06 49 22.6	-1.3
	comp=Z,3.0nm,0.3s						
KHC	Kasperske Hory	1.32	146	ePG	Pb	06 49 12.3	0.0
KHC				eSG	Sb	06 49 29.1	-0.3
	comp=Z,3.6nm,0.3s						
PRU	Pruhonice	1.37	99	eSG	Sn	06 49 30.9	0.0
	comp=Z,5.7nm,0.4s						
KRUC	Moravsky	2.82	113	eSG	Sg	06 50 15.3	-2.5
VRAC	Vranov	2.84	107	eSG	Sb	06 50 15.7	+2.6

*ROM **01** 06:59:36.6±0.1, 46°.191N±0°.007×9°.961E±0°.009, h11km±1km, ML1.4/9, Error ellipse: s-maj=0.8km s-min=0.2km az=158.0*

*VIE **01** 06:59:36.6±0.5, 46°.19N×9°.97E, h12km, mb1.4/1, ml1.6/5, Error ellipse: s-maj=3.2km s-min=2.1km az=46.0 8 km ENE of Sondrio*

ZUR 01 06:59:36.5, 46°.18N×9°.95E, h11km±2km, MLh1.5/13, 6C-6D, Error ellipse: s-maj=4.7km s-min=0.9km az=217.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BERNI	Berninapass	0.24	12	Pg	Pg	06 59 42.3	+0.6
BERNI				Pg	Pg	06 59 42.3	+0.6
	0.2nm,SNR=163						
BERNI				Sg	Sg	06 59 45.7	+0.6
BERNI	Berninapass	0.24	12	P	Pg	06 59 42.2	+0.6
BERNI				S	Sg	06 59 45.6	+0.5
BERNI				AML	AML		
	comp=N,136µm,0.1s						
BERNI				AML	AML		
	comp=N,136µm,0.1s						
BERNI				AML	AML		
	comp=E,206µm,0.1s						
SCEL	Celerina	0.34	349	Pg	Pg	06 59 43.9	+0.6
	comp=E,0.1nm,SNR=3.8						
SCEL				Pg	Pg	06 59 43.9	+0.6
SCEL				Sg	Sg	06 59 48.6	+0.7
MABI	Malga Bissina	0.41	107	Pg	Pg	06 59 45.1	+0.5
	comp=E,0.3nm,SNR=97						
MABI				Pg	Pg	06 59 45.1	+0.5
MABI				Sg	Sg	06 59 50.2	0.0
MABI	Malga Bissina	0.41	107	P	Pg	06 59 45.1	+0.4
MABI				S	Sg	06 59 50.2	+0.1
MABI				AML	AML		
	comp=E,110µm,0.1s						
MABI				AML	AML		
	comp=N,131µm,0.1s						
MABI				AML	AML		
	comp=E,111µm,0.1s						
MABI				AML	AML		
	comp=N,131µm,0.1s						
BRMO	Bormio	0.42	44	Pg	Pg	06 59 45.2	+0.3
	SNR=16						
BRMO				Pg	Pg	06 59 45.2	+0.3
BRMO	Bormio	0.42	44	P	Pg	06 59 45.0	+0.2
BRMO				S	Sg	06 59 50.6	+0.2
BRMO				AML	AML		
	comp=E,23µm,0.9s						
BRMO				AML	AML		
	comp=N,18µm,0.8s						
MDI	Monti di Nese	0.43	202	⇓Pg	Pb	06 59 45.7	-0.4
	comp=N,0.1nm,SNR=36						
MDI				⇓Pg	Pb	06 59 45.7	-0.4
MDI	Monti di Nese	0.43	202	P	Pb	06 59 45.7	-0.5
MDI				S	Sb	06 59 51.8	-0.9
MDI				AML	AML		
	comp=E,56µm,1.4s						
MDI				AML	AML		

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,52µm,0.3s						
MDI				AML	AML		
	comp=E,56µm,1.4s						
VDL	Val di Lei	0.46	312	⇓Pg	Pg	06 59 45.9	+0.3
	comp=E,0.1nm,SNR=6.0						
VDL				⇓Pg	Pg	06 59 45.9	+0.3
FUORN	Ofenpass-Fuorn	0.49	26	⇑Pg	Pg	06 59 46.5	+0.3
	SNR=28						
FUORN				⇑Pg	Pg	06 59 46.5	+0.3
FUORN				Sg	Sg	06 59 52.9	0.0
CARE	Lago del Cares	0.57	64	ePg	Pg	06 59 47.6	-0.1
CARE				eSg	Sg	06 59 55.5	+0.2
SVAM	Vaz, Muldain	0.59	331	Pg	Pg	06 59 48.4	+0.3
	comp=E,0.1nm,SNR=6.4						
SVAM				Pg	Pg	06 59 48.4	+0.3
DAVOX	Davos/Dischmat	0.60	356	Pg	Pb	06 59 48.9	-0.3
	SNR=23						
DAVOX				Pg	Pb	06 59 48.9	-0.3
DAVOX				Sg	Sg	06 59 56.5	+0.1
MOSI	Grossmontoni	0.61	43	⇓Pg	Pg	06 59 48.5	+0.2
	comp=E,0.1nm,SNR=27						
MOSI				⇓Pg	Pg	06 59 48.5	+0.2
MOSI	Grossmontoni	0.61	43	P	Pg	06 59 48.5	+0.2
MOSI				S	Sg	06 59 56.3	0.0
MOSI				AML	AML		
	comp=E,30µm,1.6s						
MOSI				AML	AML		
	comp=N,34µm,1.2s						
MAGA	Magasa	0.62	130	P	Pb	06 59 49.1	-0.4
MAGA				S	Sb	06 59 57.8	-0.4
MAGA				AML	AML		
	comp=E,99µm,1.5s						
MAGA				AML	AML		
	comp=N,99µm,0.2s						
MAGA				AML	AML		
	comp=E,99µm,1.5s						
MAGA				AML	AML		
	comp=N,99µm,0.2s						
MUGIO	Muggio	0.68	248	⇑Pg	Pg	06 59 49.5	-0.1
MUGIO				⇑Pg	Pg	06 59 49.5	-0.1
	comp=N,0.1nm,SNR=47						
MUGIO	Muggio	0.68	248	P	Pg	06 59 49.5	-0.1
MUGIO				S	Sb	06 59 59.8	-0.1
MUGIO				AML	AML		
	comp=E,28µm,0.4s						
MUGIO				AML	AML		
	comp=N,31µm,1.2s						
MUGIO				AML	AML		
	comp=E,28µm,0.4s						
MUGIO				AML	AML		
	comp=N,31µm,1.1s						
GARGN	Gargnano BS	0.70	134	ePg	Pg	06 59 50.2	+0.2
GARGN				eSg	Sb	06 59 59.9	-0.4
GAGG	Gaggia	0.71	97	ePg	Pg	06 59 50.4	+0.2
MILN	Milano	0.86	216	P	Pb	06 59 53.7	+0.3
PANIX	Pigniu (Panix)	0.87	319	⇑Pg	Pg	06 59 53.4	+0.1
PANIX				⇑Pg	Pg	06 59 53.4	+0.1
	SNR=3.5						
FUSIO	Fusio	0.93	288	Pg	Pb	06 59 54.6	-0.1
FUSIO				Pg	Pb	06 59 54.6	-0.1
	SNR=7.1						
FUSIO				Sg	Sg	07 00 06.1	-0.5
FUSIO	Fusio	0.93	288	P	Pg	06 59 54.3	-0.1
FUSIO				S	Sg	07 00 06.3	-0.3
FUSIO				AML	AML		
	comp=N,15µm,0.6s						
FUSIO				AML	AML		
	comp=E,22µm,0.6s						
FETA	Feichten	1.00	32	Pg	Pg	06 59 55.7	0.0
	comp=E,0.1nm,0.1s						
FETA				Sg	Sg	07 00 08.7	-0.2
	comp=E,0.2nm,0.1s						

WBNET 01 07:00:25.8,50°.24N×12°.44E,h8km,Ml0.8,6C-3D, Germany

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.00	133	⇑P	Pg	07 00 27.4	+0.1
NKC				S	Sg	07 00 28.4	+0.1
LBCW	Luby	0.04	326	⇓P	Pg	07 00 27.6	+0.1
LBCW				S	Sg	07 00 28.9	+0.2
VAC	Vackov	0.04	269	⇓P	Pg	07 00 27.6	+0.1
VAC				S	Sg	07 00 28.8	0.0
STCW	Studenec	0.05	65	⇑P	Pg	07 00 27.7	0.0
STCW				S	Sg	07 00 28.8	-0.1
KVC	Kvetna	0.06	123	S	Sg	07 00 28.8	-0.2
POCW	Potky	0.09	353	⇑P	Pg	07 00 28.2	+0.2
POCW				S	Sg	07 00 29.8	+0.1
SKC	Skalna	0.09	218	⇑P	Pg	07 00 28.0	+0.1
SKC				S	Sg	07 00 29.5	0.0
KACW	Kaceov	0.10	153	⇓P	Pg	07 00 28.3	+0.1
KACW				S	Sg	07 00 30.1	+0.1
KRCW	Kraslice	0.11	30	⇑P	Pg	07 00 28.5	+0.1
KRCW				S	Sg	07 00 30.3	0.0
ZHC	Zelena Hora	0.19	208	⇑P	Pg	07 00 29.7	+0.1
ZHC				S	Sg	07 00 32.3	0.0
CLL	Collm	1.13	18	i Pg	Pn	07 00 47.9	0.0
CLL				i Sg	Sn	07 01 03.1	-0.5

TAP 01 07:01:12.8,24°.49N×121°.90E,h11km,ML1.9,C,Taiwan

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TWC	Suao	0.13	340	P	Pg	07 01 16.2	+0.3
	baz=344						
TWC				S	Sg	07 01 18.1	-0.1
	baz=344						
ENA	Nanau	0.15	249	eP	Pg	07 01 16.4	+0.2
	baz=247						
ENA				eS	Sg	07 01 18.8	+0.1
	baz=247						
TWE	Neicheng	0.32	318	eP	Pg	07 01 19.4	+0.3
	baz=320						
TWE				eS	Sb	07 01 25.7	+0.1
	baz=320						
NDT	Datong Townshi	0.37	288	P	Pb	07 01 20.8	-0.6
	baz=289						
NDT				S	Sg	07 01 25.6	+0.6
	baz=289						
NACB	Ninganchiao	0.42	222	eP	Pg	07 01 20.7	-0.3
	baz=221						
NACB				eS	Sg	07 01 26.7	+0.2
	baz=221						
NWLT	Wulai	0.46	309	eP	Pg	07 01 20.2	-1.6
	baz=301						
NWLT				eS	Sg	07 01 28.9	+0.9
	baz=301						
ETLH	Xiulin Townshi	0.47	234	eP	Pg	07 01 21.8	-0.3
	baz=234						
ETLH				eS	Sg	07 01 29.0	+0.8
	baz=234						
NNSB	Datong	0.47	263	eP	Pg	07 01 22.3	+0.2
	baz=263						
NNSB				eS	Sg	07 01 28.9	+0.5
	baz=263						
NNSH	Datong	0.47	263	P	Pg	07 01 22.4	+0.3
	baz=264						
NNSH				S	Sg	07 01 28.9	+0.5
	baz=264						
NNS	Nan Shan	0.48	265	eP	Pg	07 01 22.6	+0.4
	baz=264						
NNS				eS	Sg	07 01 28.9	+0.3
	baz=264						
TWD	Chiawan	0.49	215	eP	Pg	07 01 22.2	-0.1
	baz=213						
TWD				eS	Sg	07 01 28.7	-0.1
	baz=213						
YHNB	Yeheng	0.51	291	eP	Pb	07 01 23.5	-0.3
	baz=297						
YHNB				eS	Sg	07 01 29.9	+0.3
	baz=297						
WHF	Hehuan Shan	0.67	240	P	Pg	07 01 25.7	-0.2
	baz=239						
WHF				S	Sb	07 01 35.5	-0.7
	baz=239						
CHGB	Renai	0.79	238	eP	Pb	07 01 28.4	-0.2
	baz=237						
CHGB				eS	Sg	07 01 38.3	0.0
	baz=237						

TRN 01 07:01:23.1,17°.15N×60°.26W,h27km,MD3.8,Leeward Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ABD	La Joyeuse, An	1.35	240	eP	Pb	07 01 48.1	+0.3
ABD				eS	Sb	07 02 04.5	-0.2
ANWB	Willy Bob	1.54	290	eP	Pb	07 01 50.3	-0.8
ANWB				eS	Sn	07 02 08.1	+0.2
MAGL	Barre de l'ile	1.55	219	eP	Pn	07 01 49.8	+0.9
MAGL				eS	Sn	07 02 08.3	+0.2
CBE	Ff, Capester	1.68	230	eP	Pb	07 01 52.4	-1.0
CBE				eS	Sb	07 02 13.6	-0.6
TDBA	Terre de Bas,	1.85	226	eP	Pn	07 01 52.4	-0.6
TDBA				eS	Sb	07 02 18.6	-0.4
MLYT	Lee's Yard	1.90	257	eP	Pb	07 01 57.7	+0.6
MLYT				eS	Sb	07 02 21.2	+0.8
SKI	Saint Kitts	2.37	275	eP	Pn	07 02 01.4	+1.1
SKI				eS	Sn	07 02 30.9	+2.4
BAMF	Morne Balai	2.48	200	eP	Pn	07 02 04.2	+2.5
PCM	Pelee Case Pet	2.50	202	eP	Pn	07 02 04.4	+2.4
GBMF	Grand Be	2.50	200	eP	Pn	07 02 04.6	+2.5
PML	Morne Lenard	2.52	201	eP	Pn	07 02 04.5	+2.2
FDF	Fort de France	2.55	200	eP	Pn	07 02 05.2	+2.4
FDF				eS	Sn	07 02 33.7	+0.7
LPMF	Morne Lapointe	2.65	195	eP	Pn	07 02 05.2	+1.1
ZAM	Aeronautique	2.67	196	eP	Pn	07 02 05.3	+0.9
BIM	Bigot	2.73	197	eP	Pn	07 02 08.0	+2.7
BIM				eS	Sn	07 02 40.2	+2.7
MPOM	Morne Pois Mar	2.75	192	eP	Pn	07 02 06.5	+1.0
MPOM				eS	Sn	07 02 39.6	+1.8
SLBI	Saint Lucia, B	3.19	193	eP	Pn	07 02 13.5	+2.1
SLBI				eS	Sn	07 02 48.7	+0.1

JMA 01 07:02:02.8±0.4,24°.84N×123°.37E,h18km,M1.0, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.50	221	P	Pg	07 02 12.6	-0.3
YOJ				eS	Sg	07 02 19.5	-0.1
JYNG	Yonagunijimaku	0.55	225	P	Pg	07 02 13.5	-0.2
JYNG				S	Sg	07 02 20.6	-0.5
JKRS	Kuro-shima	0.84	136	P	Pg	07 02 19.2	+0.1
JKRS				S	Sb	07 02 29.5	-0.2
JIJ	Ishigaki jima	0.85	124	P	Pb	07 02 18.3	-0.7
JISG	Ishigakijimahi	0.89	106	eS	Sb	07 02 30.2	-1.1

NEIC 01 07:25:14.3±1.2,32°.12N±0°.02×115°.04W±0°.02,h16km±3km, Error ellipse: s-maj=3.5km s-min=2.2km az=151.0
PAS 01 07:25:14.4±2.5,32°.08N±0°.01×115°.00W±0°.01,h10km±1km, Error ellipse: s-maj=2.9km s-min=2.6km az=355.0
ECX 01 07:25:15.9±0.6,32°.07N×115°.12W,h0km±2km,MD2.7, ML2.9
ISC 01 07:25:13.7±1.1,32°.11N±0°.02×115°.06W±0°.02, h10km±10km,n41,σ0s.71/61,3C,California-Baja California border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
MBIG	Mexicali	0.32	339	eP	Pb	07 25 22.4	+0.8
CPBX	Cerro Prieto	0.38	326	eP	Pb	07 25 23.1	+0.6
CPBX				eS	Sb	07 25 29.0	+0.6
CPBX				IAML		07 25 32.2	
	comp=N,4µm,0.4s						
CPBX				IAML		07 25 33.5	
	comp=E,4µm,0.2s						
CPBX				⇑e		07 25 33.5	
CPBX	Cerro Prieto	0.38	326		Pb	07 25 23.4	+0.9
ECBX	El Chinero	0.63	179	eP	Pb	07 25 26.8	0.0
ECBX				eS	Sb	07 25 35.9	+0.2
ESJX	Sierra Juarez	0.76	263	eP	Pb	07 25 29.1	-0.1
ESJX				eS	Sg	07 25 38.6	+0.2
ESJX	Sierra Juarez	0.76	263		Pb	07 25 29.1	-0.1
ESJX					Sg	07 25 39.8	+1.4
DREC	Desert Rsrch C	0.77	335	eP	Pn	07 25 30.2	-0.4
DREC	Desert Rsrch C	0.77	335		Pb	07 25 29.9	+0.7
SNR	Schaffner Ranc	0.82	337		Pb	07 25 30.3	+0.3
WESC	Westside Schoo	0.86	319	eP	Pn	07 25 31.4	-0.5
WESC	Westside Schoo	0.86	319		Pb	07 25 31.1	+0.3
WESC					Sn	07 25 44.4	-0.2
RUN	Ruthven	0.87	5		Pg	07 25 30.5	+0.1
RUN					Sb	07 25 42.4	-0.1
ERMX	Rumorosa	0.94	299	eP	Pb	07 25 32.2	+0.1
ERMX				eS	Sb	07 25 45.0	+0.4
ERMX				⇑e		07 25 45.8	
ERMX				IAML		07 25 45.8	
	comp=E,350nm,0.2s						
VTX	Valle De La Tr	0.94	221	eP	Pg	07 25 31.7	-0.2
VTX				eS	Sg	07 25 44.1	0.0
GLA	Glamis	0.96	12	Pg	Pg	07 25 32.1	-0.1
GLA					Pb	07 25 32.7	+0.1
GLA				Sg	Sb	07 25 46.0	+0.6
RMX	La Rumorosa	1.00	300		Pg	07 25 32.3	-0.6
RMX					Sg	07 25 44.7	-1.2
IKP	In-Ko-Pah, Jac	1.04	302	eP	Pn	07 25 34.3	-0.2
IKP	In-Ko-Pah, Jac	1.04	302		Pg	07 25 33.8	0.0
IKP					Sb	07 25 47.8	+0.2
SFX	San Felipe	1.08	170	eP	Pn	07 25 34.9	+0.1
SFX				eS	Sn	07 25 49.4	-0.5
SFX	San Felipe	1.08	170		Pn	07 25 34.9	+0.1
SFX					Sn	07 25 49.6	-0.2
SPX	San Pedro Mart	1.12	198	eP	Pb	07 25 35.2	-0.1
SPX				eS	Sb	07 25 49.9	-0.2
SPX	San Pedro Mart	1.12	198		Pn	07 25 35.7	0.0
SPX					Sb	07 25 50.0	-0.2
113A	Mohawk Valley,	1.28	58	Pn	Pg	07 25 38.3	0.0
113A				Sn	Sb	07 25 54.3	0.0
CBKC	Canebrake	1.28	308		Pg	07 25 38.6	+0.3
CBKC					Sn	07 25 57.0	+2.0
CBX	Cerro Bola	1.38	279	eP	Pb	07 25 39.4	-0.2
CBX				eS	Sn	07 25 57.6	+0.2
CBX				⇑e		07 26 00.1	
CBX				IAML		07 26 00.1	
	comp=E,269nm,0.4s						
CBX	Cerro Bola	1.38	279		Pg	07 25 40.1	0.0
CBX					Sb	07 25 57.2	-0.1
BAR	Barrett	1.48	293		Pn	07 25 40.4	0.0
BAR					Sn	07 25 59.5	-0.3
BAR	Barrett	1.48	293	Pn	Pn	07 25 40.1	-0.4
BAR	Barrett	1.48	293	Sn	Sb	07 26 00.4	+0.2
EML	El Monte Cty P	1.70	298		Sb	07 26 07.1	+0.6
Y12C	Blythe	1.70	15	Pn	Pb	07 25 44.9	-0.2
SDRC	San Diego Road	1.71	292		Sb	07 26 07.3	+0.5
DPP	Dos Picos Cty	1.82	300		Sb	07 26 10.6	+0.5
109C	Camp Elliot, M	1.90	295		Pn	07 25 46.1	0.0
CPE	Camp Elliot	1.90	295		Sb	07 26 12.8	+0.6
XPFO	Pion Flat	1.91	322		Pn	07 25 44.2	-2.2
PFO	Pinyon Flats O	1.91	322		Pn	07 25 44.5	-2.0
214A	Organ Pipe Nat	1.91	94	Pn	Pn	07 25 46.6	+0.2
W13A	Hualapai Mount	3.14	18		Pn	07 26 01.1	-2.4
TUC	Tucson	3.63	86		Pn	07 26 10.8	+0.8
X16A	Lo Mia Camp, P	3.81	52		Pn	07 26 06.8	-5.8

IDC 01 07:27:23.7±1.1,12°.05N×144°.01E,h0km,mb3.6/7, mb1 3.8/7,mb1mx3.6/34,mbtmp3.6/7,Error ellipse: s-maj=56.6km s-min=22.1km az=99.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
H11N1	WAKE ISLAND Hy	23.27	68	T	T	07 57 09.8	
	baz=259						
H11N2	WAKE ISLAND Hy	23.28	68	T	T	07 57 21.0	
	baz=259						
H11N3	WAKE ISLAND Hy	23.29	68	T	T	07 57 14.8	
	baz=259						
MJAR	Matsushiro Arr	24.94	349	P	P	07 32 48.1	-0.6
	1.0nm,0.8s,baz=151,slow=12,SNR=4.0						
WRA	Warramunga Arr	33.19	197	P	P	07 34 01.9	-0.5
	0.5nm,0.7s,baz=20,slow=9.7,SNR=3.4						
ASAR	Alice Springs	36.85	196	P	P	07 34 34.0	+0.1
	0.3nm,0.7s,baz=15,slow=12,SNR=5.7						
MKAR	Makanchi Array	62.02	317	P	P	07 37 46.6	+0.7
	0.3nm,0.5s,baz=102,slow=7.7,SNR=3.3						
ILAR	Eielson Array	70.31	25	P	P	07 38 38.2	-0.6
	0.5nm,0.8s,baz=271,slow=5.0,SNR=4.8						
YKA	Yellowknife Ar	84.60	27	P	P	07 39 59.9	+1.1
	0.7nm,0.9s,baz=278,slow=5.2,SNR=6.2						
FINES	FINESS Array B	92.19	335	P	P	07 40 34.2	-1.0
	0.9nm,0.9s,baz=72,slow=6.2,SNR=4.1						

RSNC 01 07:33:26.8±0.7,10°.49N×73°.02W,h99km±13km,ML2.9, Mw3.7,1C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SMRC	Santa Marta, M	1.36	299	eP	Pn	07 33 50.8	-0.5
SMRC				eS	Sn	07 34 09.6	-0.4
SMRC				i		07 34 15.3	
	comp=Z,81nm,0.3s						
ARGC	Ariguani, Magd	1.37	243	⇑eP	Pn	07 33 50.5	-0.9
ARGC				eS	Sn	07 34 09.8	-0.3
ARGC				i		07 34 10.4	
	comp=Z,84nm,0.2s						
URIC	Uribia, Colomb	1.57	40	⇓eP	Pn	07 33 53.3	-0.6
URIC				eS	Sn	07 34 14.0	-0.4
URIC				i		07 34 16.3	
	comp=Z,110nm,0.4s						
SMLC	San Martn de	1.98	212	eP	Pn	07 33 59.2	+0.2
SMLC				eS	Sn	07 34 23.0	-0.7
SMLC				i		07 34 26.0	
	comp=Z,171nm,0.3s						
SJCC	San Jacinto, C	2.21	255	⇓eP	Pn	07 34 04.7	+2.6
SJCC				eS	Sn	07 34 34.7	+5.4
OCAC	Ocana	2.26	188	eP	Pn	07 34 02.8	-0.1
OCAC				eS	Sn	07 34 30.2	-0.3
SDV	Santo Domingo	2.84	124	eP	Pn	07 34 06.9	-3.7
PAMC	Pamplona, Colo	3.15	174	i	Sn	07 34 59.4	+7.3
	comp=Z,36nm,0.2s						
ZARC	Zaragoza, Cauc	3.49	212	eP	Pn	07 34 21.2	+2.0
ZARC				i		07 35 13.4	
	comp=Z,24nm,0.4s						
BARC	Barichara	3.88	182	eP	Pn	07 34 23.4	-1.3
BARC				eS	Sn	07 35 08.8	-0.5
BARC				i		07 35 29.9	
	comp=Z,19nm,0.5s						
PTBC	PUERTO BERRIO,	4.18	200	eP	Pn	07 34 26.9	-1.6
PTBC				eS	Sn	07 35 15.8	-0.5
PTBC				i		07 35 37.4	
	comp=Z,11nm,0.4s						
HELC	Santa Helena	4.95	210	eP	Pn	07 34 42.6	+3.5
GUY2C	Guyana, Caldas	5.73	204	eP	Pn	07 34 54.4	+4.5

GCG 01 07:46:24.7±0.6,15°.49N×92°.72W,h70km±45km,MD3.9
MEX 01 07:46:25.5±0.6,15°.06N×92°.74W,h96km±6km,MD4.0
ISC 01 07:46:25.5±1.2,15°.06N±0°.06×92°.87W±0°.06,h79km±9km, n17,σ1s.75/27,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
THIG		0.60	104		Pn	07 46 39.3	-0.7
THIG					Sn	07 46 50.6	-0.3
THIG		0.60	104	eP	Pn	07 46 39.3	-0.7
THIG				i S	Sn	07 46 50.6	-0.3
PCIG		0.73	333		Pn	07 46 41.8	+0.5
PCIG					Sn	07 46 54.7	+1.6
PCIG		0.73	333	eP	Pn	07 46 41.8	+0.5
PCIG				i S	Sn	07 46 55.1	+2.0
STG3	Santiaguito 3,	1.30	105	eP	Pn	07 46 48.5	+0.1
CCIG	Comitan	1.41	30		Pn	07 46 51.4	+1.7
CCIG					Sn	07 47 07.7	-0.3
CCIG	Comitan	1.41	30	eP	Pn	07 46 50.9	+1.1
CCIG				eS	Sn	07 47 09.8	+1.8
FUG	Fuego 3	2.05	107	eP	Pn	07 46 58.1	-0.2
FUG				eS	Sn	07 47 24.7	+1.5
IXG	Ixpaco	2.51	110	eP	Pn	07 47 05.2	+0.8
IXG				eS	Sn	07 47 36.1	+1.9
CMIG	Matias Romero	2.80	317		Pn	07 47 09.0	+0.9
CMIG	Matias Romero	2.80	317	eP	Pn	07 47 09.0	+0.9
MTO3	Montecristo	3.46	100	Pn	Pn	07 47 16.7	-0.5
PEIG	Puerto Escondi	4.23	283	eP	Pn	07 47 27.1	-0.4
CRIN	San Cristobal	6.12	112	Pn	Pn	07 47 52.6	-0.8
CRIN				Sn	Sn	07 49 07.7	+5.6
TEIG	Tepich	6.75	40	Pn	Pn	07 48 01.0	-1.0
TEIG				Sn	Sn	07 49 16.1	-1.4
HSIG		21.73	313	P	P	07 51 08.7	-1.7
HSIG				IAmb	IAmb	07 51 14.9	
	comp=Z,3.1nm,1.2s						
SRIG	Santa Rosalia	21.76	307	P	P	07 51 07.9	-2.8
SRIG				IAmb	IAmb	07 51 15.7	
	comp=Z,13nm,1.0s						

NIED 01 08:15:00,32°.80N×142°.00E,h5km,Mw3.6 Best double couple: $M_0$2.67000×10^{14} NP1:ϕ_s161.00000°,δ52.00000°, λ75.00000°. NP2:ϕ_s5.00000°,δ40.00000°,λ109.00000°.
JMA 01 08:15:03.0±0.3,32°.76N×142°.01E,h65km,M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JAOM	Aogashimamukai	1.92	262	P	Pn	08 15 34.3	+0.8
JAOM				eS	Sn	08 15 57.0	+0.4
BSO1	Boso 1	2.08	336	P	Pn	08 15 36.4	+1.4
JMKN	Mikurajimanish	2.32	300	P	Pn	08 15 39.8	+0.9
BSO3	Boso 3	2.39	329	P	Pn	08 15 40.6	+1.0
BSO3				S	Sn	08 16 09.5	+1.9
JHU	Hanno	3.82	325	eS	Sn	08 16 42.3	-0.8
JHO	Hitachi	4.02	343	P	Pn	08 16 03.4	+1.3
JHO				eS	Sn	08 16 46.7	-1.2
JRY	Ryogami san	4.14	323	P	Pn	08 16 05.4	+1.6
JAG	Ashikaga	4.22	331	P	Pn	08 16 06.5	+1.7
JAG				eS	Sn	08 16 52.5	-0.3

IDC 01 08:21:14.7±1.0,10°.74S×162°.87E,h0km,mb4.0/8, mb1 4.2/9,mb1mx4.0/29,mbtmp4.1/9,ML4.8/1,MS3.4/4, Ms1 3.4/4,ms1mx2.9/31,Error ellipse: s-maj=27.6km s-min=22.7km az=140.0
NEIC 01 08:21:19.7±1.6,10°.7S±0°.1×162°.89E±0°.10,h31km±7km, mb4.4/14,Error ellipse: s-maj=19.4km s-min=6.9km az=220.0
ISC 01 08:21:18.5±0.8,10°.65S±0°.10×162°.76E±0°.08,h21km,n34, σ1s.22/30,mb4.2/13,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.02	293	Pn	Pn	08 22 07.7	+2.5
	117nm,0.3s,baz=125,slow=8.3,SNR=20						
HNR				Sn	Sb	08 22 46.9	-1.2
	186nm,0.3s,baz=176,slow=18,SNR=8.4						
HNR				LR	LR	08 23 27.5	
	comp=Z,430nm,18.9s,baz=172,slow=42						
HNR	Honiara	3.02	293		Pn	08 22 07.4	+2.2
HNR					Sb	08 22 47.0	-1.1
HNR	Honiara	3.02	293	eP	Pn	08 22 05.0	-0.2
HNR				eS	Pb	08 22 11.0	-0.6
DZM	Mont Dzumac	11.89	163	LR	LR	08 27 44.8	
	comp=Z,152nm,18.2s,baz=12,slow=33						
DZM	Mont Dzumac	11.89	163	Pn	Pn	08 24 05.7	-1.3
CTA	Charters Tower	18.46	237	P	Pn	08 25 36.3	+3.1
	1.2nm,0.3s,baz=69,slow=12,SNR=20						
CTAO	Charters Tower	18.46	237	P	Pn	08 25 34.4	+1.2
CTAO				IAmb	IAmb	08 25 37.3	
	comp=Z,45nm,1.5s						
COEN	Coen	19.41	258	P	Pn	08 25 44.4	-0.4
COEN				IAmb	IAmb	08 25 47.6	
	comp=Z,27nm,1.2s						
ARMA	Armidale	22.23	206	P	P	08 26 15.0	+0.9
ARMA				IAmb	IAmb	08 26 16.7	
	comp=Z,12nm,1.1s						
STKA	Stephens Creek	28.79	220	P	P	08 27 15.4	+0.3
	comp=Z,1.0nm,0.5s,baz=77,slow=15,SNR=4.7						
STKA				LR	LR	08 38 03.2	
	comp=Z,68nm,18.8s,baz=22,slow=35						
WRA	Warramunga Arr	28.89	248	P	P	08 27 15.2	-1.0
	comp=Z,2.8nm,0.8s,baz=80,slow=9.3,SNR=12						
H11S2	WAKE ISLAND Hy	29.22	8	T	T	08 57 59.2	
	baz=188,slow=76,SNR=320						
H11S3	WAKE ISLAND Hy	29.22	8	T	T	08 57 57.7	
	baz=188,slow=76,SNR=240						
H11S1	WAKE ISLAND Hy	29.23	8	T	T	08 57 55.4	
	baz=188,slow=76,SNR=174						
AS31	Alice Springs	30.38	241	P	P	08 27 28.3	-1.1
ASAR	Alice Springs	30.38	241	P	P	08 27 27.8	-1.6
	comp=Z,2.0nm,0.6s,baz=65,slow=10,SNR=32						
ASAR				LR	LR	08 39 15.1	
	comp=Z,100nm,18.1s,baz=56,slow=36						
H11N1	WAKE ISLAND Hy	30.45	8	T	T	08 59 29.0	
	baz=188,slow=76,SNR=133						
H11N3	WAKE ISLAND Hy	30.45	8	T	T	08 59 22.5	

baz=188,slow=76,SNR=113
H11N2 WAKE ISLAND Hy 30.46 8 T T 08 59 28.6
baz=188,slow=76,SNR=120
TOO Toolangi 30.98 207 P **P** **08 27 35.7 +1.2**
BBOO Buckleboo 33.01 224 P **P** **08 27 52.0 -0.4**
KNRA Kununurra 33.45 258 P **P** **08 27 55.5 -0.8**
FITZ Fitzroy Crossi 36.66 254 P **P** **08 28 22.8 -1.2**
FORT Forrest 37.90 233 P **P** **08 28 34.8 +0.3**
VNDA Vanda 66.86 180 P **P** **08 32 08.4 -0.1**
comp=Z,0.8nm,0.8s,baz=10,slow=4.2,SNR=3.6
QSPA South Pole Qui 79.35 180 P **P** **08 33 22.5 -0.2**
TTA Tatalina 79.92 18 P **P** **08 33 25.5 -0.2**
TTA IAmb IAmb 08 33 41.7
comp=Z,3.0nm,1.1s
HDA Harding Lake 83.84 20 P **P** **08 33 45.9 -0.2**
HDA IAmb IAmb 08 33 51.0
comp=Z,3.7nm,1.0s
MAW Mawson 83.98 202 P **P** **08 33 46.9 0.0**
comp=Z,1.5nm,0.6s,baz=129,slow=4.4,SNR=4.3
ILAR Eielson Array 84.09 19 P **P** **08 33 46.6 -0.9**
comp=Z,0.5nm,0.7s,baz=241,slow=5.3,SNR=7.8
EGAK Eagle 86.04 21 P **P** **08 33 58.5 +1.3**
EGAK IAmb IAmb 08 33 58.6
comp=Z,3.1nm,1.0s
NVAR Mina Array Bea 88.03 50 P **P** **08 34 07.5 -0.3**
comp=Z,0.4nm,0.7s,baz=246,slow=11,SNR=4.9
MK31 Makanchi Array 91.24 317 P **P** **08 34 23.2 +0.9**
MK31 IAmb IAmb 08 34 29.8
comp=Z,1.1nm,0.8s
MKAR Makanchi Array 91.24 317 P **P** **08 34 22.9 +0.6**
comp=Z,0.8nm,0.6s,baz=97,slow=6.6,SNR=10

JMA 01 08:26:11.6±0.2, 24°.90N×123°.38E, h25km, M0.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.55**	**218**	P	Pb	08 26 22.2	-0.5
YOJ				S	Sb	08 26 29.5	-0.7
JYNG	**Yonagunijimaku**	**0.60**	**222**	P	Pb	08 26 23.5	+0.1
JYNG				*e*S	Sb	08 26 31.2	-0.3
IRIF	**Iriomote-Funau**	**0.65**	**150**	P	Pb	08 26 24.0	-0.3
IRIF				S	Sb	08 26 33.0	+0.1
JKRS	**Kuro-shima**	**0.87**	**139**	P	Pb	08 26 27.8	-0.3
JKRS				S	Sb	08 26 39.2	-0.2
JIJ	**Ishigaki jima**	**0.88**	**127**	P	Pb	08 26 27.5	-0.7
JIJ				*e*S	Sb	08 26 39.2	-0.3
JISG	**Ishigakijimahi**	**0.90**	**110**	P	Pb	08 26 27.8	-0.8
HATJ	**Hateruma jima**	**0.93**	**155**	P	Pb	08 26 28.3	-0.7
HATJ				S	Sb	08 26 40.4	-0.4

TAP 01 08:26:41.0, 24°.24N×121°.71E, h13km, ML2.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.12**	**239**	*i* P	Pb	08 26 44.7	-0.4
baz=238							
NACB				*i* S	Sg	08 26 47.1	+0.6
baz=238							
TWD	**Chiawan**	**0.19**	**213**	P	Pg	08 26 45.6	+0.4
baz=211							
TWD				S	Sg	08 26 48.5	+0.4
baz=211							
ENA	**Nanau**	**0.19**	**9**	*e*P	Pg	08 26 45.8	+0.5
baz=11							
ENA				S	Sg	08 26 48.9	+0.6
baz=11							
ETLH	**Xiulin Townshi**	**0.21**	**262**	*e*P	Pb	08 26 46.5	-0.2
baz=261							
ETLH				S	Sb	08 26 50.1	-0.5
baz=261							
NNSB	**Datong**	**0.35**	**303**	*e*P	Pb	08 26 49.5	+0.3
baz=302							
NNSB				S	Sb	08 26 54.7	0.0
baz=302							
NNSH	**Datong**	**0.35**	**303**	*e*P	Pb	08 26 49.5	+0.4
baz=302							
NNSH				*i* S	Sb	08 26 54.7	0.0
baz=302							
NNS	**Nan Shan**	**0.37**	**303**	*e*P	Pb	08 26 49.7	+0.3
baz=303							
NNS				S	Sb	08 26 55.0	-0.1
baz=303							
TWC	**Suao**	**0.39**	**19**	*e*P	Pb	08 26 49.6	-0.2
baz=20							
TWC				*e*S	Sb	08 26 55.9	+0.2
baz=20							
NDT	**Datong Townshi**	**0.41**	**334**	P	Pb	08 26 50.4	+0.4
baz=333							
NDT				*e*S	Sb	08 26 56.5	+0.4
baz=333							
WHF	**Hehuan Shan**	**0.42**	**257**	P	Pb	08 26 50.3	-0.1
baz=256							
WHF				S	Sb	08 26 56.2	-0.6
baz=256							
TWE	**Neicheng**	**0.48**	**355**	*e*P	Pb	08 26 51.3	0.0
baz=357							
TWE				*e*S	Sb	08 26 58.8	+0.5
baz=357							
ESL	**Shilin**	**0.49**	**211**	*e*P	Pb	08 26 51.2	-0.3
baz=209							
ESL				*e*S	Sb	08 26 58.5	0.0
baz=209							
CHGB	**Renai**	**0.52**	**250**	P	Pb	08 26 52.2	+0.1
baz=250							
CHGB				S	Sb	08 26 59.8	+0.2
baz=250							
ILA	**Ilan**	**0.53**	**4**	*e*P	Pb	08 26 52.0	-0.1
baz=4.0							
ILA				*e*S	Sb	08 27 00.2	+0.6
baz=4.0							
YHNB	**Yeheng**	**0.53**	**325**	P	Pb	08 26 52.9	+0.8
baz=324							
YHNB				S	Sb	08 27 00.3	+0.6
baz=324							
NWLT	**Wulai**	**0.57**	**341**	*e*P	Pb	08 26 53.5	+0.7
baz=340							
NWLT				S	Sb	08 27 01.2	+0.4
baz=340							
WHP	**Taichung City**	**0.70**	**273**	*e*P	Pb	08 26 55.6	+0.6
baz=273							
WHP				*e*S	Sb	08 27 05.8	+1.2
baz=273							
VWDT	**VWDT**	**0.71**	**227**	*e*P	Pb	08 26 55.4	+0.2
baz=227							
VWDT				*e*S	Sb	08 27 05.8	+1.0
baz=227							
TIPB	**Shuangxi**	**0.74**	**8**	*e*P	Pb	08 26 56.0	+0.3
baz=8.0							
TIPB				*e*S	Sb	08 27 06.5	+0.7
baz=8.0							
HGSD	**Ruisui**	**0.79**	**199**	*e*P	Pb	08 26 56.8	+0.3
baz=199							
HGSD				*e*S	Sn	08 27 08.4	-1.0
baz=199							
SSLB	**Suanglung**	**0.82**	**237**	*e*P	Pb	08 26 57.4	+0.2
baz=236							
SSLB				*e*S	Sb	08 27 08.8	+0.6
baz=236							
YULB	**Yu-li**	**0.92**	**204**	*e*P	Pg	08 26 58.7	-0.1
baz=204							
YULB				*e*S	Sb	08 27 11.8	+0.9
baz=204							

TAP 01 08:30:09.2, 24°.23N×121°.94E, h27km, ML1.6, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.32**	**259**	P	Pb	08 30 17.1	+0.5
baz=259							
NACB				*e*S	Sn	08 30 23.2	-0.6
baz=259							
TWD	**Chiawan**	**0.35**	**244**	*e*S	Sn	08 30 24.3	-0.2
baz=243							
ETLH	**Xiulin Townshi**	**0.42**	**266**	*e*P	Pb	08 30 18.1	-0.1
baz=266							
ETLH				*e*S	Sb	08 30 25.1	+0.8
baz=266							
NDT	**Datong Townshi**	**0.53**	**313**	P	Pb	08 30 20.4	+0.3
baz=313							
NDT				S	Sn	08 30 29.1	-0.1
baz=313							
NNSB	**Datong**	**0.54**	**291**	P	Pn	08 30 20.8	-0.5
baz=290							
NNSB				S	Sn	08 30 29.2	-0.4
baz=290							
NNSH	**Datong**	**0.54**	**291**	P	Pn	08 30 20.8	-0.5
baz=290							
NNSH				S	Sn	08 30 29.1	-0.4
baz=290							
NNS	**Nan Shan**	**0.56**	**292**	*e*P	Pn	08 30 21.1	-0.4
baz=291							
WHF	**Hehuan Shan**	**0.62**	**262**	*e*P	Pb	08 30 21.9	+0.1
baz=261							
WHF				*e*S	Sb	08 30 31.1	+0.8
baz=261							
YHNB	**Yeheng**	**0.67**	**310**	*e*P	Pb	08 30 22.6	+0.2
baz=310							
YHNB				*e*S	Sn	08 30 32.6	-0.1
baz=310							
CHGB	**Renai**	**0.72**	**256**	*e*S	Sn	08 30 33.8	-0.2
baz=256							
TIPB	**Shuangxi**	**0.74**	**352**	*e*S	Sn	08 30 34.8	+0.5
baz=351							
VWDT	**VWDT**	**0.87**	**237**	*e*P	Pb	08 30 25.8	+0.1
baz=236							
VWDT				*e*S	Sn	08 30 37.9	+0.4
baz=236							
WHP	**Taichung City**	**0.91**	**273**	*e*S	Sn	08 30 39.1	+0.6
baz=272							

JMA 01 08:30:34.1±0.3, 25°.00N×122°.74E, h26km, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.58**	**161**	P	Pb	08 30 45.4	-0.3
JYNG				S	Sb	08 30 53.6	+0.1
YOJ	**Yonaguni jima**	**0.59**	**155**	S	Sb	08 30 53.0	-0.8
IRIF	**Iriomote-Funau**	**1.12**	**126**	P	Pn	08 30 54.1	0.0
IRIF				S	Sb	08 31 10.0	+1.1
JKRS	**Kuro-shima**	**1.38**	**123**	*e*S	Sb	08 31 16.0	-0.5
JIJ	**Ishigaki jima**	**1.43**	**116**	P	Pn	08 30 58.3	0.0
JIJ				S	Sn	08 31 16.5	+0.3
JISG	**Ishigakijimahi**	**1.49**	**106**	S	Sn	08 31 17.9	+0.2

*JMA **01** 08:44:53.7±0.1, 24°.73N×122°.41E, h14km±3km, M2.1*
*TAP **01** 08:44:53.4, 24°.80N×122°.42E, h9km±1km, ML2.8, C*
ISC 01 08:44:51.8±1.1, **24°.79N**±0°.03×**122°.45E**±0°.02, **h10**km±10km, **n40**, σ0**s51/73**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.47**	**297**	P	**Pb**	**08 45 01.4**	**-0.8**
baz=298							
TWB1				S	**Sg**	**08 45 07.2**	**0.0**
baz=298							
JYNG	**Yonagunijimaku**	**0.56**	**127**	P	**Pn**	**08 45 04.5**	**-1.3**
JYNG				S	**Sb**	**08 45 12.1**	**+0.3**
NTC	**Toucheng**	**0.57**	**277**	*e*P	**Pb**	**08 45 03.8**	**0.0**
baz=276							
NTC				*e*S	**Sb**	**08 45 12.1**	**+0.2**
baz=276							
TWC	**Suao**	**0.58**	**252**	P	**Pb**	**08 45 03.4**	**-0.6**
baz=250							
TWC				*e*S	**Sb**	**08 45 12.0**	**-0.2**
baz=250							
TIPB	**Shuangxi**	**0.59**	**288**	P	**Pb**	**08 45 04.7**	**+0.5**
baz=288							
TIPB				*e*S	**Sb**	**08 45 12.2**	**-0.6**
baz=288							
YOJ	**Yonaguni jima**	**0.61**	**123**	P	**Pn**	**08 45 05.4**	**-1.0**
baz=121							
YOJ				S	**Sb**	**08 45 13.8**	**+0.8**
baz=121							
YOJ	**Yonaguni jima**	**0.61**	**123**	P	**Pn**	**08 45 05.2**	**-1.2**
YOJ				S	**Sb**	**08 45 13.4**	**+0.4**
NWF	**Wu-fen Shan**	**0.67**	**295**	P	**Pb**	**08 45 05.8**	**+0.3**
baz=295							
NWF				S	**Sb**	**08 45 14.8**	**-0.1**
baz=295							
WFSB	**Wu-fen Shan**	**0.67**	**295**	P	**Pb**	**08 45 05.8**	**+0.3**
baz=295							
WFSB				S	**Sb**	**08 45 14.9**	**+0.1**
baz=295							
TWE	**Neicheng**	**0.72**	**265**	P	**Pb**	**08 45 05.9**	**-0.4**
baz=263							
TWE				*e*S	**Sb**	**08 45 15.6**	**-0.5**
baz=263							
NHDH	**Xindian Distri**	**0.86**	**282**	*e*S	**Sb**	**08 45 20.2**	**-0.1**
baz=281							
NWLT	**Wulai**	**0.86**	**269**	*e*P	**Pb**	**08 45 09.1**	**+0.3**
baz=268							
NWLT				*e*S	**Sb**	**08 45 20.3**	**-0.2**
baz=268							
NDT	**Datong Townshi**	**0.87**	**258**	P	**Pb**	**08 45 09.4**	**+0.4**
baz=256							
NDT				*e*S	**Sb**	**08 45 20.9**	**+0.1**
baz=256							
YM01	**YM01**	**0.87**	**294**	*e*P	**Pb**	**08 45 09.4**	**+0.4**
baz=294							
YM01				*e*S	**Sg**	**08 45 20.0**	**0.0**
baz=294							
YM10	**YM10**	**0.89**	**294**	*e*P	**Pn**	**08 45 10.1**	**-0.2**
baz=294							
YM10				*e*S	**Sb**	**08 45 20.9**	**-0.3**
baz=294							
TATO	**Taipei**	**0.89**	**282**	*e*S	**Sg**	**08 45 20.8**	**+0.2**
baz=281							
PCYT	**Pengchaiyu**	**0.90**	**338**	*e*P	**Pn**	**08 45 10.4**	**-0.1**
baz=339							
TWY	**Chenhua**	**0.91**	**302**	*e*P	**Pn**	**08 45 10.3**	**-0.3**
baz=302							
TWY				S	**Sb**	**08 45 22.0**	**+0.2**
baz=302							
YHNB	**Yeheng**	**0.98**	**263**	P	**Pb**	**08 45 11.0**	**+0.1**
baz=262							
YHNB				*e*S	**Sb**	**08 45 24.4**	**+0.3**
baz=262							
NACB	**Ninganchiao**	**0.99**	**232**	P	**Pn**	**08 45 11.3**	**-0.4**
baz=230							
NACB				*e*S	**Sg**	**08 45 23.7**	**0.0**
baz=230							
NSK	**Sanguang**	**1.00**	**264**	P	**Pn**	**08 45 11.5**	**-0.4**
baz=262							
NSK				*e*S	**Sg**	**08 45 24.1**	**+0.1**
baz=262							
NNSB	**Datong**	**1.04**	**250**	P	**Pb**	**08 45 11.9**	**+0.1**
baz=248							
NNSB				*e*S	**Sb**	**08 45 26.0**	**+0.5**
baz=248							
NNSH	**Datong**	**1.04**	**250**	*e*P	**Pn**	**08 45 12.2**	**-0.3**
baz=248							
NNSH				*e*S	**Sb**	**08 45 26.0**	**+0.4**
baz=248							
NNS	**Nan Shan**	**1.04**	**251**	*e*P	**Pn**	**08 45 12.2**	**-0.3**
baz=249							
NNS				*e*S	**Sb**	**08 45 25.9**	**+0.2**
baz=249							
TWD	**Chiawan**	**1.05**	**228**	*e*P	**Pn**	**08 45 12.4**	**-0.1**
baz=226							
TWD				*e*S	**Sb**	**08 45 26.3**	**+0.4**
baz=226							
ETLH	**Xiulin Townshi**	**1.06**	**237**	P	**Pb**	**08 45 12.3**	**+0.2**
baz=235							
ETLH				*e*S	**Sb**	**08 45 26.5**	**+0.4**
baz=235							
IRIF	**Iriomote-Funau**	**1.25**	**111**	P	**Pg**	**08 45 17.2**	**+1.4**
IRIF				*e*S	**Sn**	**08 45 33.1**	**+1.0**
WHF	**Hehuan Shan**	**1.26**	**239**	*e*P	**Pg**	**08 45 16.4**	**+0.5**
baz=238							
WHF				*e*S	**Sg**	**08 45 31.7**	**-0.6**
baz=238							
CHGB	**Renai**	**1.37**	**238**	*e*P	**Pg**	**08 45 18.3**	**+0.1**
baz=237							
CHGB				*e*S	**Sg**	**08 45 36.0**	**0.0**
baz=237							
HATJ	**Hateruma jima**	**1.44**	**120**	P	**Pg**	**08 45 20.5**	**+1.2**
HATJ				S	**Sg**	**08 45 38.3**	**+0.4**
WHP	**Taichung City**	**1.46**	**250**	*e*P	**Pg**	**08 45 19.8**	**0.0**
baz=249							
WHP				*e*S	**Sb**	**08 45 38.1**	**+0.4**
baz=249							
JKRS	**Kuro-shima**	**1.52**	**111**	P	**Pb**	**08 45 20.0**	**-0.1**
VWDT	**VWDT**	**1.58**	**229**	*e*P	**Pg**	**08 45 21.8**	**-0.3**
baz=228							
VWDT				*e*S	**Sb**	**08 45 41.8**	**+0.7**
baz=228							
HGSD	**Ruisui**	**1.60**	**216**	*e*P	**Pg**	**08 45 22.1**	**-0.3**
baz=215							
HGSD				*e*S	**Sb**	**08 45 42.3**	**+0.8**
baz=215							
JIJ	**Ishigaki jima**	**1.60**	**105**	P	**Pg**	**08 45 21.8**	**-0.6**
JIJ				*e*S	**Sg**	**08 45 42.5**	**-0.7**
SSLB	**Suanglung**	**1.69**	**234**	*e*P	**Pg**	**08 45 24.1**	**-0.1**
baz=233							
SSLB				*e*S	**Sb**	**08 45 44.2**	**-0.1**
baz=233							
JISG	**Ishigakijimahi**	**1.70**	**96**	P	**Pg**	**08 45 23.8**	**-0.7**
YULB	**Yu-li**	**1.75**	**217**	*e*P	**Pb**	**08 45 23.6**	**-0.3**
baz=216							
YULB				*e*S	**Sb**	**08 45 45.9**	**0.0**
baz=216							
WHYT	**Xinyi Township**	**1.82**	**234**	*e*P	**Pb**	**08 45 25.4**	**+0.2**
baz=232							
FULB	**Fuli**	**1.91**	**214**	*e*S	**Sb**	**08 45 49.8**	**-0.7**
baz=212							

*BJI **01** 08:52:40.1±0.0, 75°.20N×133°.50E, h10km, mB4.8/24, mb4.7/36, Ms4.4/21, Ms7 4.2/20*
*IDC **01** 08:52:42.1±0.5, 75°.02N×133°.88E, h0km, mb4.3/23, mb1 4.5/24, mb1mx4.2/62, mbtmp4.3/24, ML6.5/1, MS3.4/21, Ms1 3.4/21, ms1mx3.2/54, Error ellipse: s-maj=14.5km s-min=11.1km az=140.0*
*MOS **01** 08:52:42.1±1.1, 75°.13N×133°.68E, h10km, mb4.8/48, Error ellipse: s-maj=22.2km s-min=6.3km az=85.4*
*UNK **01** 08:52:43.9, 75°.01N×133°.67E, h10km*
*YARS **01** 08:52:44.8±0.0, 74°.92N×133°.37E, h20km, mb5.0/6, ML2.9/1, Ms3.0/6*
*NEIC **01** 08:52:44.1±1.7, 75°.08N±0°.08×133°.7E±0°.3, h10km±1km, mb4.7/177, Error ellipse: s-maj=14.3km s-min=11.1km az=327.0*
ISC 01 08:52:43.7±0.3, **75°.02N**±0°.04×**133°.64E**±0°.04, **h10**km, **n368**, σ**1s20/391**, **mb4.7/141**, **MS3.4/28**, **8C-10D**, **Laptev Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**3.65**	**204**	Pn	**Pn**	**08 53 39.0**	**-1.1**
15nm,0.3s,baz=6.3,slow=7.3,SNR=64							
TIXI				Sn	**Sn**	**08 54 21.1**	**-2.1**
33nm,0.3s,baz=149,slow=11,SNR=8.3							
TIXI				LR	LR	08 54 49.3	
comp=Z,358nm,18.1s,baz=84,slow=34							
TIXI	**Tiksi**	**3.65**	**204**	*i* P	**Pn**	**08 53 39.0**	**-1.1**
21nm,0.1s							
TIXI				*e*S	**Sn**	**08 54 20.7**	**-2.4**
119nm,0.6s							
TIXI				*e*S	**Sn**	**08 54 20.7**	**-2.4**
TIXI				*e*Lg	Lg	08 54 37.4	
TIXI				*e*Lg	Lg	08 54 37.4	
TIXI				*e*LR	LR	08 54 53.9	
913nm,16.1s							
TIXI	**Tiksi**	**3.65**	**204**	*de*P	**Pn**	**08 53 38.9**	**-1.2**
TIXI				pmax	pmax		
comp=Z,24nm,0.8s							
TIXI				MLR	MLR		
comp=Z,334nm,2.0s							
TIXI	**Tiksi**	**3.65**	**204**		**Pn**	**08 53 39.4**	**-0.7**
TIXI				Sn	**Sn**	**08 54 21.3**	**-1.8**
TIXI					**Sn**	**08 54 21.8**	**-1.4**
BTGS	**Batagay**	**7.41**	**177**	*i* P	**Pn**	**08 54 30.3**	**-1.4**
comp=Z,0.7nm,0.1s							
BTGS				*e*S	**Sn**	**08 55 54.0**	**-1.6**
comp=Z,50nm,0.5s							
BTGS				*e*Lg	Lg	08 56 37.4	
BTGS				*e*Lg	Lg	08 56 37.4	
BTGS				*e*LR	LR	08 57 10.9	
comp=Z,436nm,15.1s							
YBGR	**Belaya Gora**	**7.59**	**143**	*i* P	**Pn**	**08 54 33.9**	**-0.2**
comp=Z,1.9nm,0.3s							
YBGR				*e*S	**Sn**	**08 55 59.5**	**-0.5**
YBGR				*e*S	**Sn**	**08 55 59.5**	**-0.5**
YBGR				*e*Lg	Lg	08 56 45.1	
YBGR				*e*Lg	Lg	08 56 45.1	
YBGR				*e*LR	LR	08 57 19.6	
comp=Z,169nm,5.1s							
MOMR	**Moma**	**9.14**	**155**	*e*P	**Pn**	**08 54 55.5**	**+0.2**
comp=Z,1.3nm,0.2s							
MOMR				*e*S	**Sn**	**08 56 37.4**	**-0.7**
comp=Z,112nm,0.8s							
MOMR				*e*Lg	Lg	08 57 33.4	
MOMR				*e*Lg	Lg	08 57 33.4	
UNR	**Ust'-Nera**	**10.98**	**158**	*e*P	**Pn**	**08 55 20.2**	**-0.4**
comp=Z,0.7nm,0.6s							
UNR				*e*S	**Sn**	**08 57 22.9**	**-0.4**
comp=Z,4.4nm,0.4s							
UNR				*e*Lg	Lg	08 58 32.0	
UNR				*e*Lg	Lg	08 58 32.0	
UNR				*e*LR	LR	08 59 21.7	
comp=Z,216nm,14.1s							
BILL	**Bilibino**	**12.29**	**108**	*c i* P	**Pn**	**08 55 41.8**	**+3.3**
BILL				pmax	pmax		
comp=Z,32nm,1.2s							
BILL				MLR	MLR		
comp=Z,1μm,12.0s							
BILL	**Bilibino**	**12.29**	**108**	Pn	**Pn**	**08 55 40.1**	**+1.6**
YAK	**Yakutsk**	**13.12**	**188**	*e*P	**Pn**	**08 55 48.7**	**-1.1**
comp=Z,1.2nm,0.2s							
YAK				*e*S	**Sn**	**08 58 14.1**	**-1.5**
comp=Z,7.0nm,0.8s							
YAK				*e*S	**Sn**	**08 58 14.1**	**-1.5**
comp=Z,4.6nm,0.7s							
YAK				*e*Lg	Lg	08 59 38.5	
YAK				*e*Lg	Lg	08 59 38.5	
YAK				*e*LR	LR	09 00 37.9	
comp=Z,128nm,11.6s							
YAK	**Yakutsk**	**13.12**	**188**	*e*P	**Pn**	**08 55 52.8**	**+3.0**
YAK				*e*S	**Sn**	**08 58 21.8**	**+6.3**
YAK				pmax	pmax		
comp=Z,12nm,0.8s							
YAK				pmax	pmax		
comp=N,9.0nm,0.9s							
YAK				pmax	pmax		
comp=E,3.0nm,0.9s							
YAK				smax	smax		
comp=E,22nm,1.4s							
YAK				smax	smax		
comp=N,20nm,2.0s							
YAK				MLR	MLR		
comp=Z,227nm,13.0s							
YAK				MLR	MLR		
comp=N,202nm,14.0s							
TBGR	**Tabaga**	**13.33**	**188**	*e*P	**Pn**	**08 55 51.6**	**-1.0**
comp=N,0.6nm,0.1s							
TBGR				*e*S	**Sn**	**08 58 19.4**	**-1.3**
comp=N,6.4nm,0.3s							
TBGR				*e*LR	LR	09 00 45.5	
comp=N,29nm,16.1s							
SEY	**Seymchan**	**13.76**	**142**	*e*P	**Pn**	**08 56 01.4**	**+3.0**
NRIK	**Noril'sk**	**14.81**	**271**	LR	LR	09 03 37.4	
comp=N,125nm,18.2s,baz=14,slow=44							
MA2	**Magadan**	**16.73**	**149**	LR	LR	09 03 31.3	
comp=N,122nm,19.1s,baz=324,slow=39							
MA2	**Magadan**	**16.73**	**149**	*e*P	**P**	**08 56 41.1**	**+1.1**
MA2				pmax	pmax		
comp=Z,21nm,1.0s							
MA2	**Magadan**	**16.73**	**149**		**P**	**08 56 40.0**	**0.0**
MA2				P	**pP**	**08 56 41.8**	**-1.0**
BOD	**Bodaibo**	**18.77**	**214**	*e*P	**P**	**08 57 00.3**	**-2.3**
BOD				pmax	pmax		
comp=Z,27nm,1.1s							
RDOG	**Red Dog Mine**	**20.21**	**77**	P	**P**	**08 57 18.3**	**+0.1**
RDOG					**pP**	**08 57 21.4**	**+0.4**
GAMB	**Gambell**	**21.27**	**92**	P	**P**	**08 57 29.2**	**-0.4**
ZEA	**Zeya**	**21.52**	**190**	*e*P	**P**	**08 57 33.0**	**+0.6**
ZEA				*e*S	Sn	09 01 41.0	+2.3
ZEA				pmax	pmax		
comp=Z,21nm,1.2s							
ZEA				MLR	MLR		
comp=Z,500nm,13.0s							
ZEA				MLR	MLR		
comp=N,400nm,10.0s							
KBS	**Kingsbay**	**22.94**	**335**	P	**P**	**08 57 45.0**	**-2.3**
KBS				pmax	pmax		
comp=Z,15nm,1.0s							
KBS	**Kingsbay**	**22.94**	**335**	P	**P**	**08 57 45.0**	**-2.3**
KBS					**P**	**08 57 45.7**	**-1.7**
SPA0	**Spitsbergen Ar**	**23.04**	**332**	P	**P**	**08 57 48.5**	**0.0**
SPA0					**P**	**08 57 49.2**	**+0.8**
SPA0				IAmb	IAmb	08 57 51.6	
comp=Z,28nm,1.1s							
SPITS	**Spitsbergen Ar**	**23.04**	**332**	P	**P**	**08 57 48.4**	**0.0**
comp=Z,15nm,0.9s,baz=91,slow=12,SNR=10							
TOLK	**Toolik Lake Re**	**23.04**	**66**	P	**P**	**08 57 48.7**	**+0.1**
baz=320							

TOLK Toolik Lake Re 23.04 66 P **P** **08 57 48.9 +0.3**
COLD Coldfoot 23.99 68 P **P** **08 57 58.4 +0.6**
PEA0B Petropavlovsk- 24.00 143 ⇓ *eP* **P** **08 57 59.5 +1.4**
PEA0B Petropavlovsk- 24.00 143 P **P** **08 57 57.9 -0.1**
PEA0B **P** **08 57 59.4 +1.4**
PEA0B IAmb IAmb 08 58 00.5
comp=Z,38nm,1.4s
PETK Petropavlovsk- 24.00 143 P **P** **08 57 58.5 +0.5**
comp=Z,9.5nm,1.0s,baz=356,slow=5.9,SNR=12
PETK LR LR 09 08 53.6
comp=Z,86nm,20.6s,baz=57,slow=40
PET Petropavlovsk 24.23 142 P **P** **08 58 00.0 -0.1**
PET pmax pmax
comp=Z,18nm,1.1s
PET Petropavlovsk 24.23 142 P **P** **08 58 00.0 -0.1**
PET IAmb IAmb 08 58 02.5
comp=Z,18nm,1.1s
GRNR Gornyy 24.37 176 ⇑ *iP* **P** **08 58 02.3 +0.8**
GRNR pmax pmax
comp=Z,6.0nm,1.2s
GRNR MLR MLR
comp=E,110nm,10.0s
GRNR MLR MLR
comp=N,140nm,13.0s
GRNR MLR MLR
comp=Z,190nm,16.0s
FYU Fort Yukon 25.71 66 P **P** **08 58 10.2 -3.2**
FYU IAmb IAmb 08 58 21.3
comp=Z,29nm,1.4s
IRK Irkutsk 25.73 224 *eP* **P** **08 58 13.2 -0.6**
IRK pmax pmax
comp=Z,47nm,1.4s
KLR Kul'dur 25.89 183 P **P** **08 58 18.0 +2.7**
comp=Z,1.6nm,0.7s,baz=352,slow=8.4,SNR=6.1
KLR Kul'dur 25.89 183 ⇓ *eP* **P** **08 58 17.9 +2.6**
KLR pmax pmax
comp=Z,2.0nm,0.7s
KLR MLR MLR
comp=Z,141nm,17.0s
TTA Tatalina 26.02 79 P **P** **08 58 15.4 -1.1**
TTA Tatalina 26.02 79 P **P** **08 58 15.4 -1.1**
MDM Murphy Dome 26.30 70 P **P** **08 58 18.4 -0.4**
MDM IAmb IAmb 08 58 22.7
comp=Z,9.0nm,0.6s
BPAW Bear Paw Mtn. 26.32 73 P **P** **08 58 19.2 +0.1**
BPAW **P** **08 58 19.9 +0.8**
BPAW IAmb IAmb 08 58 28.8
comp=Z,18nm,1.4s
TLY Talaya 26.38 224 LR LR 09 08 50.1
comp=Z,88nm,18.7s,baz=360,slow=37
TLY Talaya 26.38 224 ⇓ *eP* **P** **08 58 22.8 +3.1**
TLY pmax pmax
comp=Z,3.0nm,0.8s
TLY MLR MLR
comp=Z,105nm,14.0s
TLY Talaya 26.38 224 P **P** **08 58 19.8 +0.1**
TCOL CIGÖ, UAF Yank 26.46 70 P **P** **08 58 21.3 +1.1**
baz=325
COLA College 26.46 70 *ceP* **P** **08 58 21.9 +1.7**
COLA pmax pmax
comp=Z,14nm,0.9s
COLA College 26.46 70 P **P** **08 58 20.0 -0.2**
COLA **pP** **08 58 21.1 -2.2**
COLA **sP** **08 58 22.7 -1.8**
COLA IAmb IAmb 08 58 28.9
comp=Z,16nm,0.8s
HIA Hailar 26.49 201 P **P** **08 58 21.1 +0.3**
HIA pmax pmax
comp=Z,11nm,1.0s
HIA Hailar 26.49 201 P **P** **08 58 21.1 +0.3**
CCB Clear Creek Bu 26.66 70 P **P** **08 58 22.4 +0.3**
CCB **P** **08 58 22.6 +0.5**
CCB IAmb IAmb 08 58 28.0
comp=Z,12nm,0.9s
WRH Wood River Hil 26.73 71 P **P** **08 58 23.0 +0.3**
WRH **P** **08 58 23.4 +0.7**
WRH IAmb IAmb 08 58 31.9
comp=Z,12nm,0.8s
IL31 26.78 69 P **P** **08 58 23.3 +0.2**
IL31 **P** **08 58 24.1 +1.0**
ILAR Eielson Array 26.78 69 P **P** **08 58 23.7 +0.5**
comp=Z,6.0nm,0.7s,baz=321,slow=8.9,SNR=90
PcP **PcP** **09 01 43.8 -1.7**
ILAR LR LR 09 11 59.3
comp=Z,1.5nm,0.8s,baz=323,slow=3.7,SNR=7.6
comp=Z,86nm,18.2s,baz=324,slow=43
KTH Kantishna Hill 26.79 74 P **P** **08 58 23.9 +0.4**
KTH IAmb IAmb 08 58 31.1
comp=Z,14nm,1.0s
INK Inuvik 26.93 55 P **P** **08 58 24.8 +0.3**
comp=Z,2.4nm,0.8s,baz=25,slow=7.1,SNR=5.4
INK Inuvik 26.93 55 P **P** **08 58 24.6 +0.2**
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 26.93 55 P **P** **08 58 24.6 +0.2**
HDA Harding Lake 27.06 70 P **P** **08 58 26.1 +0.3**
baz=326
HDA Harding Lake 27.06 70 P **P** **08 58 25.8 0.0**
HDA IAmb IAmb 08 58 30.9
comp=Z,11nm,1.0s
MCK McKinley 27.14 72 P **P** **08 58 27.0 +0.5**
MCK pmax pmax
comp=Z,7.0nm,0.8s
MCK McKinley 27.14 72 P **P** **08 58 27.0 +0.5**
ZAK Zakamensk 27.69 224 *eP* **P** **08 58 31.0 -0.6**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
EPYK Eagle Plains 27.84 60 P **P** **08 58 33.1 +0.4**
baz=326,SNR=6.0
EPYK Eagle Plains 27.84 60 P **P** **08 58 33.5 +0.9**
EPYK IAmb IAmb 08 58 42.8
comp=Z,15nm,1.1s
C36M Paulatuk 27.98 48 P **P** **08 58 36.9 +3.0**
baz=327
DHY Denali Highway 28.08 72 P **P** **08 58 34.7 -0.3**
RIDG Independent Ri 28.14 69 P **P** **08 58 35.2 -0.2**
EGAK Eagle 28.15 65 P **P** **08 58 35.5 +0.1**
ZAA0 Zalesovo Array 28.35 250 P **P** **08 58 38.4 +1.1**
ZALV Zalesovo Beam 28.35 250 P **P** **08 58 38.1 +0.9**
comp=Z,4.8nm,0.9s,baz=12,slow=7.7,SNR=14
ZALV LR LR 09 10 34.4
comp=Z,71nm,19.7s,baz=24,slow=38
ZALV Zalesovo Beam 28.35 250 *i* P **P** **08 58 38.5 +1.2**
ZALV pmax pmax
comp=Z,4.0nm,0.9s
DOT Dot Lake 28.40 68 P **P** **08 58 38.0 +0.3**
ARCES ARCESS Array B 28.91 316 P **P** **08 58 42.2 0.0**
comp=Z,2.2nm,0.9s,baz=24,slow=9.3,SNR=5.2
SCM Sheep Creek Mo 29.14 73 P **P** **08 58 44.3 -0.1**
SCM pmax pmax
comp=Z,17nm,0.7s
SCM Sheep Creek Mo 29.14 73 P **P** **08 58 44.3 -0.1**
RC01 Rabbit Creek A 29.18 76 P **P** **08 58 44.4 -0.2**
ULN Ulaanbaatar 29.48 218 ⇑ *eP* **P** **08 58 48.9 +1.3**
ULN pmax pmax
comp=Z,8.0nm,1.0s
SONM Songino Array 29.61 219 P **P** **08 58 49.9 +1.2**
comp=Z,12nm,0.8s,baz=11,slow=9.4,SNR=22
SONM LR LR 09 11 38.4
comp=Z,101nm,18.1s,baz=48,slow=38
SDPT Sand Point 31.43 91 P **P** **08 59 05.2 +0.7**
WAX Waxell Ridge 31.44 71 P **P** **08 59 05.8 +1.0**
WAX IAmb IAmb 08 59 10.9
comp=Z,9.9nm,0.8s
DGZ Jazzator, Alta 31.65 243 *d* iP **P** **08 59 08.3 +1.6**
DGZ pmax pmax
comp=Z,13nm,0.8s
YAH Yahtse 31.79 70 P **P** **08 59 08.8 +0.9**
MESA MESA 31.90 70 P **P** **08 59 10.5 +1.6**
HYT Haines Junctio 32.41 66 P **P** **08 59 14.4 +1.2**
HYT IAmb IAmb 08 59 15.3
comp=Z,8.7nm,1.0s
BRVK Borovoye 32.83 264 *de* P **P** **08 59 18.4 +1.6**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
KURK Kurchatov 32.84 254 *c iP* **P** **08 59 18.1 +1.2**
KURK pmax pmax
comp=Z,12nm,1.7s
MK31 Makanchi Array 35.59 247 P **P** **08 59 41.7 +0.9**
MK31 pmax pmax
comp=Z,6.0nm,1.2s
MK31 Makanchi Array 35.59 247 P **P** **08 59 41.7 +0.9**
MKAR Makanchi Array 35.59 247 P **P** **08 59 41.2 +0.3**
comp=Z,4.7nm,0.8s,baz=32,slow=7.1,SNR=34
MKAR LR LR 09 14 58.4
comp=Z,69nm,19.6s,baz=26,slow=38
MAKZ Makanchi 35.65 248 P **P** **08 59 42.2 +0.9**
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
MAKZ Makanchi 35.65 248 P **P** **08 59 42.2 +0.9**
HHC Hu-ho-hao-te 35.71 209 *eP* **P** **08 59 43.0 +1.0**
HHC pmax pmax
comp=Z,7.0nm,0.9s
HHC pmax pmax
comp=Z,30nm,6.3s
HHC LR LR
comp=Z,140nm,15.7s
HHC LR LR
comp=Z,110nm,12.6s
HHC LR LR
comp=Z,190nm,10.9s
YKA Yellowknife Ar 35.87 47 P **P** **08 59 42.0 -1.0**
comp=Z,2.6nm,1.0s,baz=338,slow=8.1,SNR=14
YKA PcP **PcP** **09 02 08.6 -1.2**
comp=Z,0.6nm,0.8s,baz=323,slow=4.0,SNR=4.2
YKA LR LR 09 16 11.9
comp=Z,28nm,19.0s,baz=0.0,slow=39
YKA Yellowknife Ar 35.87 47 P **P** **08 59 42.0 -1.0**
BJI Beijing 35.98 203 P **P** **08 59 44.8 +0.7**
BJI S **S** **09 05 23.2 +0.9**
BJI pmax pmax
comp=Z,9.0nm,0.8s
BJI LR LR
comp=Z,95nm,9.8s
BJI LR LR
comp=Z,270nm,17.9s
FINES FINESS Array B 35.99 309 LR LR 09 17 11.4
comp=Z,69nm,19.6s,baz=6.0,slow=41
DLBC Dease Lake 36.28 62 P **P** **08 59 47.9 +1.1**
DLBC IAmb IAmb 08 59 55.4
comp=Z,14nm,1.4s
WMQ Urumqi 37.14 239 *eP* **P** **08 59 56.4 +2.3**
WMQ pmax pmax
comp=Z,20nm,1.1s
WMQ pmax pmax
comp=Z,41nm,5.1s
WMQ LR LR
comp=Z,280nm,19.3s
WMQ LR LR
comp=Z,160nm,15.9s
MJAR Matsushiro Arr 38.62 174 P **P** **09 00 06.7 0.0**
comp=Z,1.7nm,1.0s,baz=1.0,slow=7.3,SNR=7.2
GTA Gaotai 38.92 223 ⇑ P **P** **09 00 10.9 +1.6**
GTA pP sP 09 00 15.1 +1.5
GTA sP pP 09 00 18.2 +5.8
GTA PcP **PcP** **09 02 19.1 -0.6**
GTA S **S** **09 06 06.1 -1.3**
GTA sS sS 09 06 14.0 +1.6
GTA SS **SnSn** **09 08 50.9 -6.4**
GTA pmax pmax
comp=Z,6.0nm,1.3s
GTA pmax pmax
comp=Z,44nm,6.8s
GTA LR LR
comp=Z,130nm,14.6s
GTA LR LR
comp=Z,210nm,18.4s
GTA LR LR
comp=Z,150nm,13.6s
NB2 NORSAR Subarra 39.14 319 P **P** **09 00 11.1 +0.3**
comp=Z,2.1nm,0.9s,baz=19,slow=8.6
NOA NORSAR Array B 39.14 319 P **P** **09 00 11.2 +0.4**
comp=Z,1.5nm,0.8s,baz=19,slow=8.2,SNR=6.8
NOA LR LR 09 18 30.1
comp=Z,23nm,19.2s,baz=15,slow=40
OBN Obninsk 39.48 296 *i* P **P** **09 00 15.1 +1.6**
OBN *i* 09 00 21.6
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,84nm,16.0s
USP Ospenovka 40.81 254 P **P** **09 00 27.1 +2.3**
SNR=8.9
TKM2 Tokmak 2 40.86 252 P **P** **09 00 27.3 +1.8**
SNR=7.0
KDJ Kajisay 41.21 250 IAmb IAmb 09 00 30.8
comp=Z,11nm,0.8s
AAK Ala-Archa 41.40 253 P **P** **09 00 32.4 +2.5**
SNR=10
AAK Ala-Archa 41.40 253 *d iP* **P** **09 00 31.9 +2.1**
AAK pmax pmax
comp=Z,22nm,1.3s
AAK Ala-Archa 41.40 253 P **P** **09 00 32.3 +2.5**
AAK IAmb IAmb 09 00 32.9
comp=Z,13nm,0.8s
TARG Taragay, Kyrgy 41.44 249 P **P** **09 00 32.9 +2.4**
LZH Lanzhou 41.49 217 *eP* **P** **09 00 32.1 +1.5**
LZH pP sP 09 00 36.8 +1.9
LZH sP pP 09 00 40.2 +6.5
LZH pmax pmax
comp=Z,20nm,1.2s
LZH pmax pmax
comp=Z,160nm,4.6s
KZA Kyzart 41.74 252 P **P** **09 00 35.0 +2.1**
SNR=7.7
UCH Uchur 41.78 253 P **P** **09 00 35.9 +2.5**
SNR=8.3
KK31 Karatay Array 41.96 258 P **P** **09 00 35.8 +1.5**
KK31 pmax pmax
comp=Z,8.0nm,1.2s
KK31 Karatay Array 41.96 258 P **P** **09 00 35.8 +1.5**
AML Almayashu 42.08 254 P **P** **09 00 38.1 +2.5**
SNR=9.4
XAN Xi'an 42.76 211 P P 09 00 46.2 +5.4
XAN pmax pmax
comp=Z,5.0nm,0.9s
XAN pmax pmax
comp=Z,80nm,5.0s
XAN LR LR
comp=Z,120nm,16.3s
XAN LR LR
comp=Z,150nm,20.6s
XAN LR LR
comp=Z,220nm,13.0s
FCC Fort Churchill 42.87 35 P **P** **09 00 40.0 -1.4**
FCC pmax pmax
comp=Z,20nm,1.5s
FCC Fort Churchill 42.87 35 P **P** **09 00 40.0 -1.4**
FCC IAmb IAmb 09 00 41.2
comp=Z,20nm,1.4s
ARSB Arslanbob 43.01 254 P **P** **09 00 43.5 +0.5**
ARSB pmax pmax
comp=Z,9.0nm,1.1s
ARSB Arslanbob 43.01 254 P **P** **09 00 43.5 +0.5**
NJ2 Nanjing 43.65 198 *eP* **P** **09 00 47.9 -0.1**
NJ2 pmax pmax
comp=Z,13nm,0.9s
BTK Batken 44.75 256 P **P** **09 00 58.4 +1.5**
BTK pmax pmax
comp=Z,12nm,0.8s
BTK Batken 44.75 256 P **P** **09 00 58.4 +1.5**
BTK IAmb IAmb 09 00 59.6
comp=Z,12nm,0.8s
AKASG Malin Array Be 45.25 300 P **P** **09 01 01.3 +0.7**
comp=Z,1.4nm,0.6s,baz=22,slow=9.0,SNR=4.5
AKASG Malin Array Be 45.25 300 *i* P **P** **09 01 02.2 +1.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
LLLB Lillooet 45.35 60 P **P** **09 01 01.6 +0.1**
FFC Flin Flon 45.47 42 P **P** **09 01 01.2 -1.1**
FFC pmax pmax
comp=Z,3.0nm,0.7s
FFC Flin Flon 45.47 42 P **P** **09 01 01.2 -1.1**
GAR Garm 45.88 256 P **P** **09 01 07.5 +1.6**
CHGR Chuyangaron 46.49 257 P **P** **09 01 11.7 +1.0**
KIV Kislovodsk 48.34 285 *i* P **P** **09 01 25.7 +0.7**
KIV *i* 09 03 21.2
KIV pmax pmax
comp=Z,8.0nm,1.1s
KIV MLR MLR
comp=Z,29nm,16.0s
KBZ Khabaz 48.50 285 ⇓ *eP* **P** **09 01 28.0 +2.0**
KBZ pmax pmax
comp=Z,5.0nm,1.0s
D05A Enumclaw 48.54 62 P **P** **09 01 27.2 +0.9**
WALA Waterton Lakes 48.56 54 P **P** **09 01 25.9 -0.7**
WALA IAmb IAmb 09 01 31.4
comp=Z,4.7nm,0.8s
LTY Liberty 48.78 61 P **P** **09 01 28.1 -0.2**
LON Longmire 49.00 62 P **P** **09 01 30.0 0.0**
LON pmax pmax
comp=Z,8.0nm,0.9s
LON Longmire 49.00 62 P **P** **09 01 30.0 0.0**
LON IAmb IAmb 09 01 31.2
comp=Z,8.2nm,0.9s
E04D Cinebar 49.01 63 P **P** **09 01 30.8 +0.8**
baz=340
D08A Wollman Farm, 49.36 59 P **P** **09 01 32.8 +0.1**
D08A IAmb IAmb 09 01 38.9
comp=Z,6.4nm,0.9s
SCHQ Schefferville 49.72 15 P **P** **09 01 34.2 -1.1**
comp=Z,2.3nm,0.6s,baz=26,slow=9.4,SNR=6.5
SCHQ LR LR 09 24 11.2
comp=Z,48nm,18.5s,baz=38,slow=38
JTMT Jette 49.72 55 P **P** **09 01 35.6 0.0**
JTMT IAmb IAmb 09 01 44.3
comp=Z,6.9nm,0.8s
GEYT Alibeck 50.02 268 P **P** **09 01 40.1 +2.2**
comp=Z,4.1nm,1.0s,baz=352,slow=6.4,SNR=7.8
GEYT LR LR 09 28 36.3
comp=Z,34nm,19.3s,baz=220,slow=43
E09A Wood Farm, Sta 50.05 59 P **P** **09 01 38.1 +0.3**
E09A IAmb IAmb 09 01 46.8
comp=Z,5.7nm,0.8s
NIL Nilore 50.22 251 P **P** **09 01 40.9 +1.5**
NIL pmax pmax
comp=Z,28nm,1.0s
NIL Nilore 50.22 251 P **P** **09 01 40.9 +1.5**
F07A Phinny Hill Vi 50.23 61 P **P** **09 01 40.0 +0.7**
F07A IAmb IAmb 09 01 46.7
comp=Z,8.7nm,0.9s
GERES GERESS Array B 50.27 312 LR LR 09 27 09.7
comp=Z,50nm,18.6s,baz=59,slow=41
KBL Kabul 50.42 255 P **P** **09 01 39.8 -1.3**
KBL pmax pmax
comp=Z,8.0nm,0.8s
KBL Kabul 50.42 255 P **P** **09 01 39.8 -1.3**
KBL IAmb IAmb 09 01 43.1
comp=Z,7.7nm,0.8s
GYA Guiyang 50.52 212 *eP* **P** **09 01 41.6 -0.3**
GYA pmax pmax
comp=Z,10.0nm,0.5s
F10A Beach Ranch, E 50.76 58 P **P** **09 01 44.0 +0.5**
F10A **P** **09 01 44.7 +1.3**
F10A IAmb IAmb 09 01 50.3
comp=Z,8.0nm,1.1s
ULM Lac du Bonnet 50.81 39 P **P** **09 01 42.6 -1.1**
comp=Z,5.3nm,0.7s,baz=337,slow=6.2,SNR=4.9
ULM LR LR 09 24 32.4
comp=Z,32nm,20.3s,baz=240,slow=38
ULM Lac du Bonnet 50.81 39 IAmb IAmb 09 01 43.2
comp=Z,5.9nm,0.8s
DGMT Dagmar 51.06 46 P **P** **09 01 45.3 -0.2**
baz=344
DGMT Dagmar 51.06 46 P **P** **09 01 45.4 -0.2**
PINE Pine Mountain 51.99 62 P **P** **09 01 53.4 +0.5**
PINE **P** **09 01 53.9 +1.1**
PINE IAmb IAmb 09 01 54.6
comp=Z,16nm,1.3s
TPUB Ta-pu 52.20 195 P **P** **09 01 54.3 0.0**
TPUB IAmb IAmb 09 01 55.3
comp=Z,12nm,1.0s
J04D Umpqua Nationa 52.24 64 P **P** **09 01 55.3 +0.6**
baz=341
LAO LASA Array 52.38 49 P **P** **09 01 55.3 -0.2**
LAO IAmb IAmb 09 01 56.6
comp=Z,8.6nm,0.9s
J05D Fort Rock, OR 52.41 63 P **P** **09 01 56.6 +0.8**
baz=342
MDND Maddock 52.50 43 P **P** **09 01 56.6 +0.3**
baz=345
MDND Maddock 52.50 43 P **P** **09 01 56.1 -0.2**
MDND **P** **09 01 56.7 +0.4**
MDND IAmb IAmb 09 01 56.9
comp=Z,9.2nm,0.7s
GCMT Greycliff 52.55 52 P **P** **09 01 57.1 +0.3**
AGMN Agassiz Nation 52.70 40 P **P** **09 01 56.0 -1.8**
baz=346
AGMN Agassiz Nation 52.70 40 **P** **09 01 56.5 -1.3**
MCMT McKenzie Canyo 52.80 55 P **P** **09 01 59.3 +0.4**
J08A Circle Bar Ran 52.97 60 P **P** **09 02 01.0 +1.0**
J08A **P** **09 02 01.4 +1.5**
K05A Summer Lake 53.02 63 P **P** **09 02 00.8 +0.4**
K05A **P** **09 02 01.8 +1.4**
YHB Horse Butte 53.23 54 P **P** **09 02 02.7 +0.7**
YHB **P** **09 02 03.3 +1.3**
YNE Yellowstone No 53.23 53 P **P** **09 02 01.4 -0.6**
YHH Holmes Hill 53.27 53 P **P** **09 02 01.7 -0.6**
RLMT Red Lodge 53.27 52 P **P** **09 02 02.6 +0.3**
baz=343
RLMT Red Lodge 53.27 52 P **P** **09 02 02.6 +0.3**
RLMT **P** **09 02 03.1 +0.8**
RLMT IAmb IAmb 09 02 03.8
comp=Z,10nm,1.1s
MFID Camas Ranch 53.51 58 **P** **09 02 04.4 +0.6**
MFID IAmb IAmb 09 02 05.2
comp=Z,5.9nm,0.9s
H17A Grant Village 53.70 53 P **P** **09 02 07.9 +2.4**
baz=343
H17A Grant Village 53.70 53 P **P** **09 02 06.1 +0.7**
EYMN Ely 53.74 36 P **P** **09 02 04.2 -1.2**
baz=347
YPP Pitchstone Pla 53.77 53 P **P** **09 02 06.8 +0.8**
YPP **P** **09 02 08.1 +2.1**
WVOR Wild Horse Val 53.81 61 P **P** **09 02 06.7 +0.6**
WVOR pmax pmax
comp=Z,7.0nm,1.1s
WVOR Wild Horse Val 53.81 61 P **P** **09 02 06.7 +0.6**
WVOR IAmb IAmb 09 02 08.1
comp=Z,7.1nm,1.1s
SHL Shillong 53.86 228 P **P** **09 02 06.5 -0.2**
SHL pmax pmax
comp=Z,8.0nm,1.1s
SHL Shillong 53.86 228 P **P** **09 02 06.5 -0.2**
SHL IAmb IAmb 09 02 07.6
comp=Z,8.4nm,1.1s
MOD Modoc Plateau 53.93 63 P **P** **09 02 07.0 0.0**
MOD **P** **09 02 07.8 +0.7**
MOD IAmb IAmb 09 02 13.7
comp=Z,6.3nm,1.0s
IMW Indian Meadow 54.10 54 P **P** **09 02 09.3 +0.9**
IMW **P** **09 02 09.8 +1.4**
IMW IAmb IAmb 09 02 15.9
comp=Z,10nm,1.4s
N02D Trinity Center 54.26 65 P **P** **09 02 10.2 +0.8**
baz=342
FXWY Fox Creek 54.33 54 P **P** **09 02 10.7 +0.7**
TPAW Teton Pass 54.48 54 IAmb IAmb 09 02 13.2
comp=Z,11nm,1.3s
BRTR Keskin Array B 54.56 291 LR LR 09 27 16.4
comp=Z,18nm,19.3s,baz=14,slow=38
F33A 5 Mile Ranch, 55.02 41 P **P** **09 02 13.1 -1.6**
F33A IAmb IAmb 09 02 14.2
comp=Z,4.2nm,0.6s
AHID Auburn Hatcher 55.15 54 P **P** **09 02 16.1 +0.2**
AHID IAmb IAmb 09 02 21.8
comp=Z,6.9nm,1.0s
BW06 Boulder Array 55.47 53 P **P** **09 02 18.5 +0.1**
PD31 Pinedale Array 55.47 53 P **P** **09 02 18.0 -0.3**
PDAR Pinedale Array 55.47 53 P **P** **09 02 17.8 -0.5**
comp=Z,1.2nm,0.7s,baz=1.0,slow=4.1,SNR=9.1
PDAR LR LR 09 30 00.3
comp=Z,29nm,18.4s,baz=335,slow=40
ORV Oroville 55.89 64 P **P** **09 02 20.6 -0.4**
ORV pmax pmax
comp=Z,3.0nm,0.9s
ORV Oroville 55.89 64 P **P** **09 02 20.6 -0.4**
SUSD Miller 55.91 43 P **P** **09 02 20.8 -0.4**
HWUT Hardware Ranch 56.16 55 P **P** **09 02 23.4 +0.2**
ELK Elko 56.18 59 P **P** **09 02 24.1 +0.7**
ELK pmax pmax
comp=Z,10.0nm,1.3s
ELK Elko 56.18 59 P **P** **09 02 24.1 +0.7**
ELK IAmb IAmb 09 02 25.7
comp=Z,10nm,1.3s
K22A Casper 56.20 50 P **P** **09 02 22.0 -1.4**
baz=344
K22A Casper 56.20 50 P **P** **09 02 22.2 -1.3**
K22A IAmb IAmb 09 02 23.1
comp=Z,6.7nm,0.7s
PAHR Pah Rah Range 56.23 63 P **P** **09 02 24.1 +0.3**
PAHR IAmb IAmb 09 02 25.3
comp=Z,8.1nm,0.9s
D53A Lac Vacive, Po 56.43 25 P **P** **09 02 23.8 -1.0**
baz=351
D52A ZEK Kipawa Sen 56.45 26 P **P** **09 02 23.9 -1.1**

baz=350
D54A Lac Fusel, La 56.47 24 P P 09 02 24.8 -0.3
baz=351
VCNR Virginia City 56.56 63 P P 09 02 26.3 +0.2
VCNR IAmb IAmb 09 02 27.7
comp=Z,7.7nm,0.9s
LATQ La Tuque 56.63 21 P P 09 02 25.8 -0.4
baz=352
TCUT Toone Canyon 56.66 55 P P 09 02 26.6 -0.3
D55A Sainte-Anne-du 56.73 23 P P 09 02 26.4 -0.5
baz=351
D56A ZEC Mazanza, M 56.77 23 P P 09 02 26.1 -1.1
baz=352
PNTR Pine Nut 56.77 63 P P 09 02 28.3 +0.7
PNTR IAmb IAmb 09 02 28.9
comp=Z,8.8nm,1.1s
D57A Chemin Vers le 56.89 22 P P 09 02 27.3 -0.8
baz=352
YERR Yerington 56.96 63 P P 09 02 29.2 +0.3
ECSD EROS Data Cent 57.01 42 P P 09 02 27.7 -1.3
baz=346
E54A Lac Daplat, Po 57.12 25 P P 09 02 28.1 -1.6
baz=351
JLU Jordanelle 57.15 55 P P 09 02 30.0 -0.3
E56A St. Veronique 57.24 23 P P 09 02 29.7 -0.9
baz=352
DUG Dugway, Tooele 57.24 57 P P 09 02 31.3 +0.4
baz=344
DUG Dugway, Tooele 57.24 57 P P 09 02 31.2 +0.4
DUG pmax pmax
comp=Z,12nm,1.2s
DUG Dugway, Tooele 57.24 57 P P 09 02 31.2 +0.4
DUG IAmb IAmb 09 02 32.5
comp=Z,12nm,1.2s
D60A Saint Jean D'O 57.27 20 P P 09 02 30.3 -0.4
baz=353
WAKR Walker 57.37 63 P P 09 02 30.8 -1.1
WAKR IAmb IAmb 09 02 33.8
comp=Z,7.9nm,1.0s
E57A Chemin Saint G 57.46 22 P P 09 02 31.6 -0.6
baz=352
RYN Ryan 57.46 62 P P 09 02 33.3 +0.9
CMB Columbia Colle 57.60 64 P P 09 02 33.6 +0.3
CMB pmax pmax
comp=Z,4.0nm,0.9s
CMB Columbia Colle 57.60 64 P P 09 02 33.6 +0.3
TRQ Mont Tremblant 57.61 23 P P 09 02 33.7 +0.4
NLU North Lily Min 57.63 56 P P 09 02 33.9 +0.1
E62A Clayton Lake 57.68 19 P P 09 02 33.6 0.0
baz=353
NVAR Mina Array Bea 57.70 62 P P 09 02 35.2 +1.0
comp=Z,5.9nm,0.6s,baz=349,slow=4.9,SNR=39
NV11 Mina Array Sit 57.73 62 P P 09 02 34.7 +0.3
NV11 IAmb IAmb 09 02 36.2
comp=Z,7.0nm,0.7s
E61A Lac Etchemin 57.78 20 P P 09 02 34.3 -0.1
baz=353
I40A Norwalk 57.84 37 P P 09 02 33.6 -1.2
O20A White River Ci 58.27 53 P P 09 02 37.6 -0.6
baz=344
O20A White River Ci 58.27 53 IAmb IAmb 09 02 38.6
comp=Z,3.5nm,0.7s
YER Yerkesik 58.31 295 P P 09 02 29.2 -9.1
YER pmax pmax
comp=Z,14nm,0.8s
OMMB Old Mammoth Mi 58.32 63 P P 09 02 39.8 +1.1
OMMB IAmb IAmb 09 02 41.0
comp=Z,8.9nm,1.0s
MLAC Mammoth, Mammo 58.34 63 P P 09 02 40.1 +1.3
baz=343
P17A Butcher Ranch, 58.38 55 P P 09 02 39.7 +0.8
R11A Troy Canyon, C 58.40 60 P P 09 02 39.8 +0.8
baz=344,SNR=40
R11A Troy Canyon, C 58.40 60 P P 09 02 39.6 +0.6
F64A Sherman 58.53 18 P P 09 02 39.0 -0.6
baz=353
PSUT Pine Spring 58.61 58 P P 09 02 41.1 +0.6
SRU San Rafael Swe 58.77 55 P P 09 02 41.5 -0.2
SRU pmax pmax
comp=Z,8.0nm,0.7s
SRU San Rafael Swe 58.77 55 P P 09 02 41.5 -0.2
JFWS Jewell Farm 58.85 37 P P 09 02 40.1 -1.7
baz=348
G59A Clarenceville 58.88 22 P P 09 02 41.3 -0.7
baz=352
LONY Lake Ozonia 59.19 23 P P 09 02 43.7 -0.5
baz=352
GRAC Grapevine Rang 59.29 62 P P 09 02 46.8 +1.7
baz=343,SNR=6.6
MTPU Mount Pierson 59.44 57 P P 09 02 46.8 +0.2
L40A Anamosa 59.53 38 P P 09 02 44.9 -1.7
CMAR Chiang Mai Arr 59.54 219 P P 09 02 46.6 -0.3
comp=Z,1.1nm,0.5s,baz=356,slow=8.6,SNR=12
CMAR LR LR 09 30 20.4
comp=Z,23nm,19.4s,baz=195,slow=38
TPNV Topopah Spring 59.59 61 P P 09 02 47.6 +0.3
baz=344,SNR=9.3
TPNV Topopah Spring 59.59 61 P P 09 02 47.6 +0.3
TPNV pmax pmax
comp=Z,10.0nm,1.0s
TPNV Topopah Spring 59.59 61 P P 09 02 47.6 +0.3
CWC Cottonwood Cre 59.66 63 P P 09 02 48.9 +1.2
baz=343
CCUT Cedar City 59.66 58 P P 09 02 47.7 -0.2
SZCU Shurtz Canyon 59.67 58 P P 09 02 48.5 +0.5
PAGB Antelope Grade 59.83 65 P P 09 02 49.3 +0.5
PV19 Morning Glory 59.87 54 P P 09 02 48.9 -0.4
PV19 IAmb IAmb 09 02 55.0
comp=Z,3.7nm,0.8s
FURC Furnace Creek, 59.91 61 P P 09 02 50.6 +1.4
baz=344
PV15 Paradox Valley 59.95 53 P P 09 02 49.5 -0.3
VES Vestal, Richgr 59.99 64 P P 09 02 50.2 +0.3
baz=343,SNR=5.1
PV13 Radium Mtn., P 60.05 54 P P 09 02 48.9 -1.7
PV13 IAmb IAmb 09 02 51.3
comp=Z,5.4nm,0.9s
PV05 Paradox Valley 60.07 54 IAmb IAmb 09 02 51.2
comp=Z,5.0nm,0.8s
PV01 Paradox Valley 60.13 54 P P 09 02 50.9 -0.2
PV01 IAmb IAmb 09 02 51.9
comp=Z,8.6nm,1.0s
MPMC Manual Prospec 60.16 62 P P 09 02 52.2 +1.0
baz=344,SNR=10
SHPR Sheep Range 60.26 60 P P 09 02 52.8 +0.9
SHPR IAmb IAmb 09 02 58.0
comp=Z,6.1nm,0.8s
KNB Kanab 60.29 58 P P 09 02 53.0 +0.9
KNB pmax pmax
comp=Z,13nm,0.9s
KNB Kanab 60.29 58 P P 09 02 53.0 +0.9
ISA Isabella, Lake 60.31 63 P P 09 02 52.1 -0.1
baz=344
ISA Isabella, Lake 60.31 63 P P 09 02 52.4 +0.3
ISA pmax pmax
comp=Z,6.0nm,1.0s
ISA Isabella, Lake 60.31 63 P P 09 02 52.4 +0.3
ISA IAmb IAmb 09 02 53.1
comp=Z,5.8nm,0.9s
SHOC Shoshone, Teco 60.59 61 P P 09 02 54.8 +0.8
baz=344
LRMC Laurel Mtn Rad 60.67 62 P P 09 02 55.6 +0.9
baz=344
PKM Mcpherson Peak 60.73 65 P P 09 02 56.6 +1.4
baz=343
S22A 4UR Ranch, Cre 60.86 52 P P 09 02 56.7 +0.5
baz=345
MVCO Mesa Verde 61.03 54 P P 09 02 57.5 +0.2
baz=345
MVCO Mesa Verde 61.03 54 IAmb IAmb 09 02 58.2
comp=Z,4.8nm,0.9s
GSC Goldstone, Bar 61.04 62 P P 09 02 57.6 +0.4
baz=344
GSC Goldstone, Bar 61.04 62 IAmb IAmb 09 03 03.2
comp=Z,3.9nm,0.9s
SDCO Great Sand Dun 61.13 51 P P 09 02 57.7 -0.3
baz=345
SDCO Great Sand Dun 61.13 51 IAmb IAmb 09 02 58.6
comp=Z,6.1nm,0.8s
EDW2 Edwards Air Fo 61.17 63 P P 09 02 58.6 +0.6
baz=344
MWC Mount Wilson 61.78 63 P P 09 03 03.2 +0.9
MWC pmax pmax
comp=Z,9.0nm,1.0s
MWC Mount Wilson 61.78 63 P P 09 03 03.2 +0.9
GMRC Granite Mounta 61.79 61 P P 09 03 03.0 +0.7
baz=344,SNR=6.5
BFSC Mount Baldy Ra 61.86 63 P P 09 03 03.2 +0.4
baz=344
W13A Hualapai Mount 61.89 59 P P 09 03 03.2 +0.1
W13A IAmb IAmb 09 03 04.4
comp=Z,5.9nm,1.1s
ESDC Sonseca Array 62.24 324 P P 09 03 05.5 +0.4
comp=Z,1.1nm,0.9s,baz=12,slow=6.6,SNR=7.4
PDMCI Parker Dam,Lak 62.60 60 P P 09 03 08.0 +0.5
baz=344
W18A Petrified Fore 62.78 55 P P 09 03 08.9 -0.1
baz=345,SNR=6.1
W18A Petrified Fore 62.78 55 P P 09 03 08.9 -0.1
BC3 Big Chuckawall 62.92 61 P P 09 03 10.3 +0.4
baz=344
R40A Maddies Statio 63.04 39 P P 09 03 08.2 -2.2
R40A IAmb IAmb 09 03 09.2
comp=Z,7.7nm,1.1s
Y12C Blythe 63.04 60 P P 09 03 10.9 +0.4
baz=344
Y12C Blythe 63.04 60 P P 09 03 10.8 +0.3
Y12C IAmb IAmb 09 03 11.7
comp=Z,5.5nm,0.8s
X16A Lo Mia Camp, P 63.09 57 P P 09 03 11.5 +0.4
Y14A Wickenburg 63.20 59 P P 09 03 11.5 -0.1
Y14A IAmb IAmb 09 03 12.9
comp=Z,4.1nm,1.0s
O57A Amberson 63.22 26 P P 09 03 09.9 -1.7
baz=351
O59A Robesonia 63.28 25 P P 09 03 10.7 -1.3
baz=352
X18A Snowflake 63.30 56 P P 09 03 12.2 -0.3
X18A IAmb IAmb 09 03 13.3
comp=Z,4.3nm,0.8s
CCM Cathedral Cave 63.44 39 P P 09 03 11.1 -1.9
baz=348
CCM Cathedral Cave 63.44 39 P P 09 03 11.3 -1.8
CCM pmax pmax
comp=Z,14nm,1.3s
CCM Cathedral Cave 63.44 39 P P 09 03 11.3 -1.8
ANMO Albuquerque 63.64 53 P P 09 03 14.2 -0.5
baz=346
ANMO Albuquerque 63.64 53 LR LR 09 35 47.9
comp=Z,24nm,18.6s,baz=360,slow=41
ANMO Albuquerque 63.64 53 *de*P P 09 03 14.0 -0.7
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO Albuquerque 63.64 53 P P 09 03 14.2 -0.5
ANMO IAmb IAmb 09 03 15.3
comp=Z,5.3nm,1.2s
T35A Sooner Cattle 63.65 43 P P 09 03 13.1 -1.4
SIUC Southern Illin 64.09 37 P P 09 03 15.9 -1.5
S44A Carbondale 64.11 37 P P 09 03 15.8 -1.6
MGMO Mountain Grove 64.15 40 P P 09 03 16.0 -1.8
MGMO IAmb IAmb 09 03 16.8
comp=Z,8.7nm,1.1s
BNM Barren Site 64.37 53 P P 09 03 19.4 -0.2
214A Organ Pipe Nat 65.15 59 P P 09 03 24.3 -0.1
baz=345
214A Organ Pipe Nat 65.15 59 P P 09 03 23.6 -0.8
214A IAmb IAmb 09 03 32.5
comp=Z,3.1nm,0.8s
WMOK Wichita Mounta 65.35 46 P P 09 03 24.9 -0.7
baz=347,SNR=6.2
WMOK Wichita Mounta 65.35 46 P P 09 03 25.0 -0.7
WMOK pmax pmax
comp=Z,5.0nm,0.9s
WMOK Wichita Mounta 65.35 46 P P 09 03 24.9 -0.7
WMOK IAmb IAmb 09 03 25.6
comp=Z,4.9nm,0.9s
LCAR Lake Charles 65.39 39 P P 09 03 24.5 -1.3
LCAR IAmb IAmb 09 03 24.9
comp=Z,8.4nm,1.2s
FCAR Ozark Folk Cen 65.41 40 IAmb IAmb 09 03 24.8
comp=Z,5.6nm,1.1s
121A Cookes Peak, D 65.69 54 P P 09 03 27.7 -0.3
baz=346
121A Cookes Peak, D 65.69 54 P P 09 03 28.4 +0.3
W39A Magazine 65.81 41 P P 09 03 27.2 -1.4
baz=348
W39A Magazine 65.81 41 P P 09 03 27.6 -0.9
W39A IAmb IAmb 09 03 28.4
comp=Z,6.7nm,1.1s
HALT Halls 65.84 37 P P 09 03 28.1 -0.7
WVT Waverly 65.86 36 P P 09 03 27.2 -1.7
baz=349
WVT Waverly 65.86 36 P P 09 03 27.8 -1.1
WVT pmax pmax
comp=Z,10.0nm,1.1s
WVT Waverly 65.86 36 P P 09 03 27.8 -1.1
WHAR Wooly Hollow 65.97 40 P P 09 03 28.5 -1.1
W41B Gary Mavity, V 66.09 40 P P 09 03 29.2 -1.2
baz=348,SNR=8.8
CLTN Cedars of Leba 66.12 35 P P 09 03 29.6 -0.9
CLTN IAmb IAmb 09 03 30.2
comp=Z,6.5nm,0.9s
V48A Smith Brothers 66.39 35 P P 09 03 31.1 -1.2
V48A IAmb IAmb 09 03 31.7
comp=Z,6.3nm,0.9s
319A Douglas 66.49 56 P P 09 03 32.9 -0.2
X40A Basin Creek Fa 66.66 41 P P 09 03 33.1 -0.9
baz=348,SNR=6.7
X40A Basin Creek Fa 66.66 41 P P 09 03 33.1 -0.9
PLAL Pickwick Lake 66.95 36 P P 09 03 34.3 -1.5
PLAL IAmb IAmb 09 03 35.2
comp=Z,9.2nm,1.2s
RAYN Ar Rayn 66.98 275 P P 09 03 37.3 +1.0
RAYN pmax pmax
comp=Z,3.0nm,0.8s
RAYN Ar Rayn 66.98 275 P P 09 03 37.2 +1.0
RAYN IAmb IAmb 09 03 38.0
comp=Z,3.3nm,0.8s
MNTX Cornudas Mount 67.00 53 P P 09 03 36.0 -0.3
baz=346,SNR=10
MNTX Cornudas Mount 67.00 53 P P 09 03 35.9 -0.3
MNTX IAmb IAmb 09 03 37.3
comp=Z,6.9nm,1.2s
OXF Oxford 67.20 38 P P 09 03 36.4 -1.1
baz=349
ABTX Abilene, Hawle 67.25 47 P P 09 03 36.8 -1.1
baz=347
WHTX Lake Whitney, 68.27 45 P P 09 03 43.1 -1.2
baz=348
WHTX Lake Whitney, 68.27 45 P P 09 03 43.0 -1.2
WHTX IAmb IAmb 09 03 43.7
comp=Z,6.7nm,0.8s
X55A Gracelyn & Ava 68.38 31 P P 09 03 43.8 -1.1
baz=351
Y55A Saluda 68.87 31 P P 09 03 46.7 -1.2
baz=351
LRAL Lakeview Retre 69.02 36 P P 09 03 47.5 -1.5
baz=350
JCT Junction City 69.30 48 P P 09 03 49.7 -1.1
baz=347,SNR=6.9
JCT Junction City 69.30 48 P P 09 03 49.7 -1.1
JCT pmax pmax
comp=Z,9.0nm,0.9s
JCT Junction City 69.30 48 P P 09 03 49.7 -1.1
TX31 Lajitas Ar. Sí 69.64 52 P P 09 03 52.3 -0.6
TX32 Lajitas Array 69.64 52 P P 09 03 52.2 -0.7
TX32 IAmb IAmb 09 03 53.1
comp=Z,4.1nm,0.7s
TXAR Lajitas Array 69.64 52 P P 09 03 52.0 -0.9
comp=Z,3.1nm,0.7s,baz=2.3,slow=3.6,SNR=57
TXAR LR LR 09 37 04.3
comp=Z,23nm,19.0s,baz=0.0,slow=38
HPIG 71.55 54 P P 09 04 04.0 -0.8
TOA0 Torodi Ar. Sit 87.20 313 P P 09 05 29.2 -0.7
TORD Torodi Ar. Bea 87.20 313 P P 09 05 29.1 -0.7
comp=Z,6.8nm,0.8s,baz=5.6,slow=5.8,SNR=27
WRAB Tennant Creek 94.73 179 *ce*P P 09 06 03.1 -1.6
WRAB pmax pmax
comp=Z,18nm,2.5s
WRA Warramunga Arr 94.74 179 P P 09 06 03.2 -1.5
comp=Z,3.6nm,0.8s,baz=358,slow=4.9,SNR=9.6
ASAR Alice Springs 98.44 180 P P 09 06 20.0 -1.5
comp=Z,0.3nm,0.8s,baz=350,slow=4.8,SNR=2.8
ASAR Alice Springs 98.44 180 P P 09 06 20.0 -1.5
MAW Mawson 149.21 225 PKPbc PKPbc 09 12 30.3 +0.1
comp=Z,3.7nm,0.8s,baz=20,slow=4.6,SNR=6.9
MAW Mawson 149.21 225 PKP2 PKPbc 09 12 30.5 +0.3
MAW Mawson 149.21 225 PKPbc 09 12 30.5 +0.3
VNDA Vanda 153.20 167 PKPbc PKPbc 09 12 38.8 -0.5
comp=Z,0.9nm,0.9s,baz=312,slow=4.7,SNR=4.0

*IDC **01** 08:56:00.3±1.6, 9°.51N×127°.25E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.6/45, mbtmp3.9/6, MS3.1/1, Ms1 3.1/1, ms1mx2.2/41, Error ellipse: s-maj=115.6km s-min=21.5km az=71.0*

*MAN **01** 08:56:03.5, 9°.32N×127°.08E, h43km, mb4.9, ML3.8, MS3.8*

ISC 01 08:56:06.4±1.0, 9°.30N±0.05×126°.96E±0.09, h41km, n20, σ2s12/23, mb3.8/6, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**2.23**	**292**	*e*P	**Pn**	**08 56 40.1**	**-0.7**
MSLP				*e*S	**Sn**	**08 57 08.0**	**+0.9**
BUKP	**Musuan**	**2.35**	**233**	*e*P	**Pn**	**08 56 41.9**	**-0.6**
BUKP				*e*S	**Sn**	**08 57 11.6**	**+1.3**
CGP	**Cagayan de Oro**	**2.39**	**249**	↓*e*P	**Pn**	**08 56 40.2**	**-2.9**
CGP				*e*S	**Sn**	**08 57 08.5**	**-2.6**
DAV	**Davao City (W)**	**2.60**	**212**	LR	LR	08 57 53.6	
comp=Z,295nm,19.7s,baz=324,slow=39							
KCP	**Kidapawan**	**2.93**	**219**	↓*i*P	**Pn**	**08 56 50.6**	**-0.1**
KCP				*i* S	**Sn**	**08 57 29.3**	**+4.6**
TBP	**Tagbilaran**	**3.08**	**277**	*e*P	**Pn**	**08 56 51.0**	**-1.5**
LLP	**Lapu-Lapu**	**3.11**	**289**	*e*P	**Pn**	**08 56 52.9**	**-0.2**
LLP				*e*S	**Sn**	**08 57 30.1**	**+1.0**
CTBH	**Cotabato--PC H**	**3.39**	**233**	↑*i*P	**Pn**	**08 56 56.5**	**-0.4**
DDMP	**Don Marcelino,**	**3.41**	**201**	*e*P	**Pn**	**08 56 56.2**	**-1.0**
DDMP				*e*S	**Sn**	**08 57 30.9**	**-5.5**
RCP	**Roxas**	**4.71**	**299**	↑*e*P	**Pn**	**08 57 16.2**	**+1.2**
PVCP	**Virac**	**5.07**	**327**	*e*P	**Pn**	**08 57 19.7**	**-0.3**
PVCP				*e*S	**Sn**	**08 58 14.1**	**-3.3**
FITZ	**Fitzroy Crossi**	**27.26**	**183**	P	**P**	**09 01 48.2**	**+1.2**
5.3nm,0.8s,baz=19,slow=11,SNR=6.2							
WRA	**Warramunga Arr**	**29.96**	**166**	P	**P**	**09 02 11.3**	**+0.2**
0.5nm,0.7s,baz=349,slow=9.3,SNR=2.4							
ASAR	**Alice Springs**	**33.47**	**168**	P	**P**	**09 02 42.3**	**+0.4**
0.3nm,0.4s,baz=354,slow=7.0,SNR=13							
H11S3	**WAKE ISLAND Hy**	**39.56**	**72**	T	T	09 46 34.5	
baz=262,slow=75,SNR=5.2							
H11S1	**WAKE ISLAND Hy**	**39.57**	**72**	T	T	09 46 35.2	
baz=262,slow=75,SNR=8.3							
H11S2	**WAKE ISLAND Hy**	**39.57**	**72**	T	T	09 46 35.4	
baz=262,slow=75,SNR=9.1							
STKA	**Stephens Creek**	**43.28**	**162**	P	**P**	**09 04 05.4**	**+1.2**
0.7nm,0.6s,baz=338,slow=11,SNR=4.7							
MKAR	**Makanchi Array**	**53.20**	**323**	P	**P**	**09 05 20.5**	**-0.1**
1.2nm,0.7s,baz=115,slow=8.7,SNR=6.6							
ARCES	**ARCESS Array B**	**85.33**	**340**	P	**P**	**09 08 38.5**	**-0.4**
1.8nm,0.8s,baz=66,slow=9.0,SNR=2.2							

WBNET 01 08:59:47.4, 50°.24N×12°.44E, h9km, Ml1.4, 5C-1D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.01**	**139**	S	Sg	08 59 50.2	+0.1
LBCW	**Luby**	**0.03**	**326**	↑P	Pg	08 59 49.3	+0.1
VAC	**Vackov**	**0.04**	**265**	S	Sg	08 59 50.6	+0.1
STCW	**Studenec**	**0.06**	**68**	↑P	Pg	08 59 49.4	0.0
KVC	**Kvetna**	**0.06**	**124**	↓P	Pg	08 59 49.3	-0.1
POCW	**Potky**	**0.08**	**354**	↑P	Pg	08 59 49.9	+0.2
SKC	**Skalna**	**0.09**	**216**	S	Sg	08 59 51.3	0.0
KRCW	**Kraslice**	**0.11**	**32**	↑P	Pg	08 59 50.1	+0.1
KRCW				S	Sg	08 59 51.9	0.0
ZHC	**Zelena Hora**	**0.19**	**207**	↑P	Pg	08 59 51.4	+0.1
CLL	**Collm**	**1.13**	**18**	*i* Sg	Sb	09 00 24.2	+0.4

WBNET 01 08:59:47.2, 50°.24N×12°.44E, h9km, Ml1.3, 7C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.01**	**153**	↑P	Pg	08 59 48.9	+0.1
NKC				S	Sg	08 59 50.0	+0.1
LBCW	**Luby**	**0.03**	**324**	↑P	Pg	08 59 49.1	+0.1
LBCW				S	Sg	08 59 50.5	+0.2
VAC	**Vackov**	**0.04**	**267**	↓P	Pg	08 59 49.1	+0.1
VAC				S	Sg	08 59 50.3	0.0
STCW	**Studenec**	**0.05**	**66**	↑P	Pg	08 59 49.2	0.0
STCW				S	Sg	08 59 50.4	-0.2
KVC	**Kvetna**	**0.06**	**125**	↓P	Pg	08 59 49.1	0.0
KVC				S	Sg	08 59 50.3	-0.2
POCW	**Potky**	**0.08**	**352**	↑P	Pg	08 59 49.7	+0.1
POCW				S	Sg	08 59 51.3	+0.1
SKC	**Skalna**	**0.09**	**218**	↑P	Pg	08 59 49.6	+0.1
SKC				S	Sg	08 59 51.1	0.0
KACW	**Kaceov**	**0.11**	**154**	↓P	Pg	08 59 49.9	+0.1
KACW				S	Sg	08 59 51.6	0.0
KRCW	**Kraslice**	**0.11**	**31**	↑P	Pg	08 59 49.9	0.0
KRCW				S	Sg	08 59 51.8	0.0
ZHC	**Zelena Hora**	**0.19**	**207**	↑P	Pg	08 59 51.2	+0.1
ZHC				S	Sg	08 59 53.9	0.0

*WBNET **01** 09:00:43.8, 50°.24N×12°.44E, h9km, Ml1.9*

*BGR **01** 09:00:43.4±0.2, 50°.23N×12°.45E, h11km±1km, ML2.1/5, Error ellipse: s-maj=2.2km s-min=1.1km az=101.0*

*CLL **01** 09:00:44.2±0.3, 50°.24N×12°.44E, h8km±1km, ML2.0/9*

PRU 01 09:00:44.2±0.0, 50°.24N×12°.53E, h0km, 8C-2D, West Bohemia Swarm, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STCW	**Studenec**	**0.02**	**341**	↑P	Pg	09 00 45.7	+1.1
STCW				S	Sg	09 00 46.9	+2.1
KVC	**Kvetna**	**0.04**	**196**	↓P	Pg	09 00 45.7	+0.8
KVC				S	Sg	09 00 46.9	+1.6
NKC	**Novy Kostel**	**0.05**	**263**	*e*PG	Pg	09 00 45.5	+0.3
NKC				*e*SG	Sg	09 00 46.5	+0.6
comp=Z,805nm,0.2s							
NKC	**Novy Kostel**	**0.05**	**263**	*i* Pg	Pg	09 00 45.5	+0.3
NKC				*i* Sg	Sg	09 00 46.6	+0.7
NKC	**Novy Kostel**	**0.05**	**263**	↑P	Pg	09 00 45.5	+0.3
NKC				S	Sg	09 00 46.6	+0.7
LBCW	**Luby**	**0.08**	**289**	↑P	Pg	09 00 45.7	0.0
LBCW				S	Sg	09 00 47.0	+0.3
KRCW	**Kraslice**	**0.09**	**0**	↑P	Pg	09 00 46.5	+0.5
KRCW				S	Sg	09 00 48.3	+1.2
KACW	**Kaceov**	**0.10**	**185**	↓P	Pg	09 00 46.4	+0.4
KACW				S	Sg	09 00 48.2	+0.9
VAC	**Vackov**	**0.10**	**267**	↑P	Pg	09 00 45.7	-0.4
VAC				S	Sg	09 00 46.9	-0.4
POCW	**Potky**	**0.10**	**321**	↑P	Pg	09 00 46.3	+0.1
POCW				S	Sg	09 00 47.9	+0.4
WERN	**Wernitzgruen**	**0.11**	**296**	*i* Pg	Pg	09 00 46.0	-0.3
WERN				*i* Sg	Sg	09 00 47.5	-0.2
1µm,0.2s							
SKC	**Skalna**	**0.13**	**237**	↑P	Pg	09 00 46.1	-0.6
SKC				S	Sg	09 00 47.7	-0.6
ROHR	**Rohrbach**	**0.14**	**268**	*i* Pg	Pg	09 00 46.1	-0.7
ROHR				*e*Sg	Sg	09 00 47.6	-1.0
844nm,0.1s							
GUNZ	**Gunzen**	**0.18**	**314**	*i* Pg	Pg	09 00 47.2	-0.4
GUNZ				*i* Sg	Sg	09 00 49.4	-0.5
319nm,0.2s							
TANN	**Tannenbergstha**	**0.18**	**346**	*i* Pg	Pg	09 00 47.6	-0.1
TANN				*i* Sg	Sg	09 00 50.0	0.0
202nm,0.3s							
MULD	**Muldenberg**	**0.19**	**335**	*i* Pg	Pg	09 00 47.6	-0.2
MULD				*i* Sg	Sg	09 00 50.0	-0.3
287nm,0.2s							
ZHC	**Zelena Hora**	**0.22**	**220**	↑P	Pg	09 00 47.8	-0.7
ZHC				S	Sg	09 00 50.4	-0.9
TRIB	**Obertriebel**	**0.28**	**294**	*i* Pg	Pg	09 00 48.5	-1.0
TRIB				*i* Sg	Sg	09 00 51.6	-1.4
158nm,0.2s							
VIEL	**Selb-Vielitz**	**0.28**	**259**	*i* Pg	Pg	09 00 48.4	-1.2
VIEL				*i* Sg	Sg	09 00 51.4	-1.7
PLN	**Plauen**	**0.34**	**316**	*i* Pg	Pg	09 00 50.0	-0.8
PLN				*i* Sg	Sg	09 00 54.1	-1.1
155nm,0.2s							
MANZ	**Manzenberg**	**0.37**	**227**	*e*Pg	Pg	09 00 50.2	-1.1
MANZ				*e*Sg	Sg	09 00 54.6	-1.5
SCHF	**Schoenfels**	**0.45**	**350**	*i* Pg	Pg	09 00 52.4	-0.4
SCHF				*i* Sg	Sg	09 00 58.3	-0.2
193nm,0.3s							
GRZ1	**Mausoleum Wald**	**0.49**	**336**	*i* Pg	Pg	09 00 53.0	-0.7
GRZ1				*i* Sg	Sg	09 00 59.1	-1.0
55nm,0.3s							
ROTZ	**Rotzenmuhle**	**0.52**	**204**	*e*Pg	Pg	09 00 53.2	-0.9
ROTZ				*e*Sg	Sg	09 00 59.6	-1.2
ZEU	**Talsperre Zeul**	**0.56**	**321**	*i* Pg	Pg	09 00 53.9	-1.0
ZEU				*e*Sg	Sg	09 01 00.9	-1.2

MLFH	Mildenfurth	0.62	333	*i* Pg	Pg	09 00 55.4	-0.7
MLFH				*e*Sg	Sg	09 01 03.1	-1.0
MOX	Moxa	0.71	305	*e*Pg	Pg	09 00 56.6	-1.2
MOX				*e*Sg	Sg	09 01 05.6	-1.4
FBE	Freiberg	0.86	37	*e*Pg	Pg	09 01 00.9	+0.2
FBE				*e*Sg	Sg	09 01 12.3	+0.4
GRF	Grafenberg Arr	1.01	237	*e*Pg	Pg	09 01 02.1	-1.4
GRF				*e*Sg	Sg	09 01 14.0	-2.5
PBCC	Pribram	1.10	120	*e*SG	Sg	09 01 19.2	-0.2
	comp=Z,5.0nm,0.3s						
BRG	Berggiesshubel	1.10	54	*e*Pg	Pg	09 01 05.4	+0.1
BRG				*e*Sg	Sg	09 01 19.8	+0.2
CLL	Collm	1.11	15	*i* Pg	Pb	09 01 05.9	-0.4
CLL				*i*		09 01 07.6	
CLL				*i*		09 01 09.0	
CLL				*i* Sg	Sb	09 01 20.6	-0.7
	comp=Z,14nm,0.4s						
CLL				*e*		09 01 25.0	
CLL	Collm	1.11	15	*i* Sg	Sg	09 01 15.9	-4.0
WET	Wettzell	1.12	168	*e*Pg	Pg	09 01 04.7	-0.9
WET				*e*Sg	Sg	09 01 19.0	-1.2
KHC	Kasperske Hory	1.30	148	*e*PG	Pg	09 01 08.3	-0.8
KHC				*e*SG	Sg	09 01 25.2	-0.8
	comp=Z,8.9nm,0.2s						
PRU	Pruhonice	1.32	100	*e*PG	Pg	09 01 08.6	-0.9
PRU				*e*SG	Sg	09 01 26.8	+0.2
	comp=Z,14nm,0.2s						
PRU	Pruhonice	1.32	100	*e*Pg	Pg	09 01 08.9	-0.6
PRU				*e*Sg	Sb	09 01 27.0	-0.3
GOPC	GO Pecny, Ondr	1.49	102	*e*SG	Sg	09 01 32.1	+0.1
GEC2	GERESS Array S	1.59	151	*e*Pg	Pn	09 01 13.6	-0.1
GEC2				*e*Sg	Sn	09 01 34.1	-0.9
UPC	Upice	2.25	82	*e*SG	Sg	09 01 55.2	-1.1
CHVC	Chvalec	2.28	80	*e*SG	Sg	09 01 56.8	-0.7
	comp=Z,2.8nm,0.6s						
DPC	Dobruska-Polom	2.43	86	*e*SG	Sb	09 02 00.5	+1.1
	comp=Z,2.8nm,0.6s						
KRUC	Moravsky	2.77	114	*e*SG	Sg	09 02 11.5	-1.8
VRAC	Vranov	2.79	108	*e*SG	Sb	09 02 11.7	+2.0

IDC 01 09:03:49.3±4.3**, 7°.09S×155°.01E, h0**^{km}**, mb3.4**/3**, mb1 3.7**/3**, mb1mx3.4**/34**, mbtmp3.4**/3**, MS2.9**/1**, Ms1 2.9**/1**, ms1mx2.3**/17**, Error ellipse: s-maj=326.9km s-min=32.0km az=131.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.41	116	LR	LR	09 07 34.7	
	comp=Z,127nm,19.5s,baz=218,slow=42						
WRA	Warramunga Arr	23.78	235	P	P	09 09 03.1	-0.7
	1.3nm,1.0s,baz=60,slow=10,SNR=5.4						
ASAR	Alice Springs	26.12	229	P	P	09 09 26.0	+0.7
	0.4nm,0.8s,baz=64,slow=8.7,SNR=4.5						
H11S3	WAKE ISLAND Hy	27.91	24	T	T	09 38 12.6	
	baz=203,slow=76,SNR=9.6						
H11S2	WAKE ISLAND Hy	27.91	24	T	T	09 38 07.2	
	baz=203,slow=76,SNR=10						
H11S1	WAKE ISLAND Hy	27.93	24	T	T	09 38 13.9	
	baz=203,slow=76,SNR=4.4						
ILAR	Eielson Array	83.46	21	P	P	09 16 18.5	0.0
	0.4nm,0.8s,baz=242,slow=5.0,SNR=4.5						

*IDC **01** 09:05:15.9±1.5, 11°.92N×86°.19W, h90^{km}±20^{km}, mb3.4/6, mb1 3.7/8, mb1mx3.4/35, mbtmp3.8/8, Error ellipse: s-maj=47.9km s-min=14.1km az=48.0*

*UCR **01** 09:05:16.6±1.3, 11°.73N×86°.53W, h38^{km}±156^{km}, MD4.1, ML3.8, mb4.2(NEIC)*

*NEIC **01** 09:05:16.4±1.6, 11°.74N±0°.06×86°.46W±0°.06, h90^{km}±6^{km}, mb4.2/47, Error ellipse: s-maj=10.1km s-min=5.9km az=220.0*

*INET **01** 09:05:16.4, 11°.75N×86°.49W, h81^{km}, ML4.0*

*SNET **01** 09:05:17.3±0.7, 11°.69N×86°.63W, h35^{km}±999^{km}, ML4.0*

ISC 01 09:05:16.0±0.8**, 11°.73N**±0°.04×**86°.50W**±0°.04**, h89**^{km}±7^{km}**, n103, σ0s.98**/135**, mb4.2**/28**, 2D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	San Cristobal	1.11	331	Pn	Pn	09 05 36.6	-0.4
CRIN				Sn	Sn	09 05 52.8	+0.1
ACON	Acoyapa	1.32	79		Pn	09 05 39.2	-0.2
ACON				Sn	Sn	09 05 56.6	-0.6
MATN	Matagalpa	1.32	25	Pn	Pn	09 05 39.3	-0.3
MATN				Sn	Sn	09 05 56.7	-0.6
GBS3	Finca Las Img	1.39	132	*e*P	Pn	09 05 39.9	-0.5
GBS3				*e*S	Sn	09 05 58.6	-0.2
GB1A	Borinquen Arri	1.41	130	*e*P	Pn	09 05 40.3	-0.4
GB1A				*e*S	Sn	09 05 60.0	+0.7
BUEV	Buena Vista	1.42	131	*e*P	Pn	09 05 40.4	-0.4
BUEV				*e*S	Sn	09 05 59.6	+0.1
LAPC	Finca la Perla	1.42	132	*i* P	Pn	09 05 40.0	-0.7
LAPC				*i* S	Sn	09 05 58.2	-1.2
BUAI	Buenos Aires	1.42	126	*i* P	Pn	09 05 40.5	-0.3
BUAI				*i* S	Sn	09 05 58.6	-0.9
NY14	Universidad de	1.43	138	⇓*i*P	Pn	09 05 41.4	+0.5
NY14				*e*S	Sn	09 06 00.3	+0.7
GPS1	Guardaparques	1.47	130	*i* P	Pn	09 05 41.3	-0.2
GPS1				*i* S	Sn	09 06 00.1	-0.6
GPS3	Bodega del ICE	1.48	131	*e*P	Pn	09 05 41.2	-0.3
GPS3				*e*S	Sn	09 05 60.0	-0.8
GPS2	Hotel Rincn d	1.49	131	*e*P	Pn	09 05 41.4	-0.2
GPS2				*e*S	Sn	09 06 00.7	-0.3
LIM1	Limonal	1.60	130	*i* P	Pn	09 05 43.0	0.0
LIM1				*e*S	Sn	09 06 03.5	0.0
GUAB	Guayabo de Bag	1.61	129	*i* P	Pn	09 05 43.3	+0.1
GUAB				*e*S	Sn	09 06 03.3	-0.4
CUI	Cuipilapa	1.69	129	*i* P	Pn	09 05 44.3	0.0
CUI				*e*S	Sn	09 06 06.0	+0.4
GUAI	GUAI	1.74	146	⇓*i*P	Pn	09 05 45.4	+0.5
GUAI				*e*S	Sn	09 06 05.8	-0.9
PTEN	Parque Tenorio	1.79	124	*i* P	Pn	09 05 45.6	0.0
PTEN				*e*S	Sn	09 06 08.4	+0.4
ACAL	Aguas Claras	1.80	127	*i* P	Pn	09 05 45.8	+0.1
ACAL				*e*S	Sn	09 06 07.9	-0.4
LCND	La Caada	2.08	319	*e*P	Pn	09 05 48.9	-0.3
LCND				*e*S	Sn	09 06 13.8	-0.8
LCND				IAML		09 06 16.9	
	comp=Z,612nm,0.4s						
LCND	La Caada	2.08	319	*e*P	Pn	09 05 48.9	-0.3
LCND				*e*S	Sn	09 06 13.8	-0.8
LCND				IAML		09 06 16.9	
	comp=Z,612nm,0.4s						
JTS	Las Juntas de	2.08	133	P	Pn	09 05 49.4	0.0
	comp=Z,36nm,0.3s,baz=182,slow=15,SNR=226						
JTS				S	Sn	09 06 13.6	-1.2
	comp=Z,65nm,0.3s,baz=349,slow=22,SNR=6.9						
JTS	Las Juntas de	2.08	133		Pn	09 05 49.3	-0.1
JTS				Sn	Sn	09 06 13.8	-1.1
CASO	Castillo	2.16	126	*i* P	Pn	09 05 50.7	+0.3
CASO				*e*S	Sn	09 06 17.5	+0.9
ESPN	Las Esperanzas	2.20	78		Pn	09 05 51.3	+0.4
ESPN				Sn	Sn	09 06 17.1	-0.5
JUCU	Jucuar¡n	2.28	312	*e*P	Pn	09 05 51.6	-0.5
JUCU				*e*S	Sn	09 06 18.5	-1.0
JUCU	Jucuar¡n	2.28	312	*e*P	Pn	09 05 51.6	-0.5
JUCU				*e*S	Sn	09 06 18.5	-1.0
TGUH	Tegucigalpa,Un	2.44	342	Pn	Pn	09 05 54.6	+0.4
TGUH				Sn	Sn	09 06 24.4	+1.1
PACA	Pacayal	2.48	314	*e*P	Pn	09 05 55.4	+0.7
PACA				*e*S	Sn	09 06 24.9	+0.5
PACA				IAML		09 06 28.6	
	comp=Z,2μm,0.2s						
PACA	Pacayal	2.48	314	*e*P	Pn	09 05 55.4	+0.7
PACA				*e*S	Sn	09 06 24.9	+0.5
PACA				IAML		09 06 28.6	
	comp=Z,2μm,0.2s						
FAGO	Alcalda de S	2.51	321	*e*P	Pn	09 05 54.9	-0.1
FAGO	Alcalda de S	2.51	321	*e*P	Pn	09 05 54.9	-0.1
ALJI	Alcalda de J	2.57	308	*e*P	Pn	09 05 55.7	-0.1
ALJI				*e*S	Sn	09 06 25.2	-1.1
ALJI	Alcalda de J	2.57	308	*e*P	Pn	09 05 55.7	-0.1
ALJI				*e*S	Sn	09 06 25.2	-1.1
TECA	Tecapa	2.63	312	*e*P	Pn	09 05 57.4	+0.6
TECA	Tecapa	2.63	312	*e*P	Pn	09 05 57.4	+0.6
COEB	Comit de Eme	2.65	312	*e*P	Pn	09 05 57.4	+0.5
COEB				*e*S	Sn	09 06 28.5	+0.1
COEB	Comit de Eme	2.65	312	*e*P	Pn	09 05 57.4	+0.5
COEB				*e*S	Sn	09 06 28.5	+0.1
LFRS	El Faro	3.13	307	*e*P	Pn	09 06 03.8	+0.4
LFRS	El Faro	3.13	307	*e*P	Pn	09 06 03.8	+0.4
CEVE	Cerro Verde	3.69	305	*e*P	Pn	09 06 11.8	+0.7
CEVE				IAML		09 06 59.2	
	comp=Z,245nm,0.3s						
CEVE	Cerro Verde	3.69	305	*e*P	Pn	09 06 11.8	+0.7
CEVE				IAML		09 06 59.2	
	comp=Z,245nm,0.3s						
MTO3	Montecristo	3.85	314		Pn	09 06 13.9	+0.6
BCIP	Isla Barro Col	7.03	111	Pn	Pn	09 06 56.6	+0.2
CCIG	Comitan	7.10	310	Pn	Pn	09 06 60.0	+2.5
CMIG	Matias Romero	9.71	304	P	Pn	09 07 33.9	+1.0
	comp=Z,1.1nm,0.3s,baz=155,slow=12,SNR=94						
RUSC	La Rusia	14.47	112	P	Pn	09 08 39.4	+2.3
152A	Waverly Hall	20.91	4	P	Pn	09 09 55.1	+0.4
152A				IAmb	IAmb	09 09 55.5	
	comp=Z,6.6nm,0.8s						
LRAL	Lakeview Retre	21.21	359	P	P	09 09 57.4	+2.8
Y49A	Blount Mountai	22.03	0	P	P	09 10 04.6	+1.3
Y49A				IAmb	IAmb	09 10 04.9	
	comp=Z,14nm,1.4s						
FPAL	Fort Paine	22.73	2	P	P	09 10 12.7	+2.0
JSC	Jenkinsville	22.95	11	P	P	09 10 13.9	+0.9
PLAL	Pickwick Lake	23.20	357	P	P	09 10 15.2	-0.1
W52A	Murphy	23.38	5	P	P	09 10 17.9	+0.9
W52A				IAmb	IAmb	09 10 19.7	
	comp=Z,14nm,1.4s						
W50A	Signal Mountai	23.39	2	P	P	09 10 17.2	+0.1
W50A				IAmb	IAmb	09 10 19.5	
	comp=Z,6.8nm,1.0s						
BIRD	Birdtown, Kers	23.47	13	P	P	09 10 18.4	+0.6
BIRD				IAmb	IAmb	09 10 22.6	
	comp=Z,7.5nm,1.0s						
MIAR	Mount Ida	23.61	345	P	P	09 10 18.8	-0.3
CPCT	Cooper Cave	23.69	4	P	P	09 10 20.3	+0.6
TXAR	Lajitas Array	23.72	320	P	P	09 10 20.4	+0.2
	comp=Z,3.4nm,0.7s,baz=138,slow=10,SNR=63						
TX31	Lajitas Ar. Si	23.72	320	P	P	09 10 21.4	+1.1
TX31				IAmb	IAmb	09 10 21.5	
	comp=Z,12nm,0.7s						
TX32	Lajitas Array	23.72	320	P	P	09 10 20.6	+0.4
TKL	Tuckaleechee C	23.95	5	P	P	09 10 22.0	-0.1
TKL				IAmb	IAmb	09 10 29.3	
	comp=Z,14nm,1.5s						
W57A	Gilead	24.06	13	P	P	09 10 23.6	+0.6
W57A				IAmb	IAmb	09 10 32.1	
	comp=Z,12nm,1.2s						
V53A	Saluda	24.07	7	P	P	09 10 23.9	+0.7
X37A	Clayton	24.15	342	P	P	09 10 23.9	0.0
WVT	Waverly	24.33	357	P	P	09 10 25.5	+0.1
V58A	Windy Hill, Pi	24.88	14	P	P	09 10 31.1	+0.7
V58A				IAmb	IAmb	09 10 40.2	
	comp=Z,15nm,1.4s						
X34A	Smith Ranch, M	25.00	337	P	P	09 10 31.9	+0.2
X34A				IAmb	IAmb	09 10 34.1	
	comp=Z,9.8nm,1.4s						
U54A	Nelsons Funny	25.05	9	P	P	09 10 32.9	+0.8
T57A	Hurt	25.99	13	P	P	09 10 41.5	+0.9
T57A				IAmb	IAmb	09 10 44.1	
	comp=Z,18nm,1.4s						
R53A	Hurricane	26.80	8	P	P	09 10 48.2	+0.3
R53A				IAmb	IAmb	09 10 51.7	
	comp=Z,17nm,1.4s						
Q51A	Peebles	27.33	5	P	P	09 10 52.9	+0.2
Q51A				IAmb	IAmb	09 11 07.8	
	comp=Z,6.5nm,1.2s						
Q54A	Coxs Mills	27.61	10	P	P	09 10 55.8	+0.7
Q54A				IAmb	IAmb	09 10 56.4	
	comp=Z,15nm,1.4s						
ANMO	Albuquerque	29.38	325	P	P	09 11 11.6	+0.5
	comp=Z,0.5nm,0.5s,baz=173,slow=9.4,SNR=4.3						
N53A	Lisbon	29.39	9	P	P	09 11 10.9	0.0
N53A				IAmb	IAmb	09 11 11.3	
	comp=Z,5.2nm,1.0s						
M56A	Emporium	30.53	12	P	P	09 11 21.9	+0.9
N59A	State Game Lan	30.57	16	P	P	09 11 22.5	+1.1
M57A	Sunshine Farm,	30.62	14	P	P	09 11 23.4	+1.7
J56A	Wolcott	32.53	13	P	P	09 11 38.2	-0.2
J58A	Remsen	32.98	15	P	P	09 11 42.7	+0.2
ECSD	EROS Data Cent	33.07	347	P	P	09 11 41.4	-1.8
ECSD				IAmb	IAmb	09 11 54.6	
	comp=Z,3.4nm,1.4s						
PV18	Skein Mesa, Pa	33.13	327	P	P	09 11 44.5	+0.4
PV18				IAmb	IAmb	09 11 44.8	
	comp=Z,2.6nm,0.5s						
GLA	Glamis	33.52	314	P	P	09 11 48.5	+1.2
LONY	Lake Ozonia	34.34	15	P	P	09 11 54.1	-0.1
F36A	Milaca	34.54	351	P	P	09 11 54.3	-1.6
F36A				IAmb	IAmb	09 11 59.4	
	comp=Z,4.1nm,1.4s						
F33A	5 Mile Ranch,	35.01	348	P	P	09 11 58.0	-2.0
F33A				IAmb	IAmb	09 11 58.2	
	comp=Z,3.3nm,0.6s						
D53A	Lac Vacive, Po	36.01	10	P	P	09 12 07.8	-0.7
D53A				IAmb	IAmb	09 12 08.4	
	comp=Z,7.2nm,1.4s						
G62A	West of Eustis	36.06	19	P	P	09 12 09.6	+0.6
AGMN	Agassiz Nation	37.29	350	P	P	09 12 17.6	-1.7
AGMN				IAmb	IAmb	09 12 17.9	
	comp=Z,3.0nm,0.5s						
SIV	San Ignacio	37.30	137	P	P	09 12 18.9	-1.0
	comp=Z,1.6nm,0.5s,baz=320,slow=7.4,SNR=16						
SNOW	Snow King Moun	37.95	331	P	P	09 12 26.5	+1.2
LMN	Caledonia Moun	38.70	24	P	P	09 12 31.3	0.0
NVAR	Mina Array Bea	38.85	319	P	P	09 12 33.8	+0.9
	comp=Z,0.4nm,0.6s,baz=132,slow=6.6,SNR=3.0						
SCHQ	Schefferville	45.71	16	P	P	09 13 26.0	-2.1
	comp=Z,1.3nm,0.5s,baz=218,slow=8.6,SNR=7.4						
SCHQ	Schefferville	45.71	16	P	P	09 13 26.3	-1.8
SCHQ				IAmb	IAmb	09 13 27.7	
	comp=Z,6.1nm,1.2s						
YKA	Yellowknife Ar	54.55	344	P	P	09 14 32.0	-2.8
	comp=Z,0.2nm,0.6s,baz=150,slow=6.4,SNR=2.8						
SFJD	Kangerlussuaq	60.16	15	P	P	09 15 16.4	+2.3
PCA	Pinnacle	62.30	333	P	P	09 15 26.0	-2.8
INK	Inuvik	64.17	342	P	P	09 15 44.6	+3.7
INK				IAmb	IAmb	09 15 56.8	
	comp=Z,6.1nm,1.5s						
NB201	NORSAR Array S	83.58	29	P	P	09 17 33.5	-0.8
NB201				IAmb	IAmb	09 17 34.6	
	comp=Z,6.7nm,1.1s						
ASAR	Alice Springs	139.85	247	PKP	PKPdf	09 24 35.0	+0.3
	comp=Z,0.3nm,0.7s,baz=96,slow=2.0,SNR=2.2						
WB0	Warramunga Arr	139.92	253	PKPdf	PKPdf	09 24 35.2	+0.3
WB2	Warramunga Arr	139.94	253	PKPdf	PKPdf	09 24 35.5	+0.5
WRA	Warramunga Arr	139.95	253	PKP	PKPdf	09 24 35.4	+0.5
	comp=Z,0.4nm,0.6s,baz=92,slow=2.5,SNR=4.5						

WBNET 01 09:09:43.3, 50°.24N×12°.44E, h9^{km}**, Ml1.0, 7C-2D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.01	157	⇑P	Pg	09 09 45.0	+0.1
NKC				S	Sg	09 09 46.1	+0.1
LBCW	Luby	0.03	323	⇑P	Pg	09 09 45.2	+0.1
LBCW				S	Sg	09 09 46.5	+0.2
VAC	Vackov	0.04	265	S	Sg	09 09 46.4	0.0
STCW	Studenec	0.05	67	⇑P	Pg	09 09 45.2	0.0
STCW				S	Sg	09 09 46.4	-0.2
KVC	Kvetna	0.06	126	⇓P	Pg	09 09 45.2	0.0
KVC				S	Sg	09 09 46.4	-0.2
POCW	Potky	0.08	352	⇑P	Pg	09 09 45.7	+0.2
POCW				S	Sg	09 09 47.3	+0.1
SKC	Skalna	0.09	218	⇑P	Pg	09 09 45.6	+0.1
SKC				S	Sg	09 09 47.2	0.0
KACW	Kaceov	0.11	154	⇓P	Pg	09 09 45.9	+0.1
KACW				S	Sg	09 09 47.7	0.0
KRCW	Kraslice	0.11	31	⇑P	Pg	09 09 46.0	+0.1
KRCW				S	Sg	09 09 47.7	0.0
ZHC	Zelena Hora	0.19	207	⇑P	Pg	09 09 47.3	+0.1
ZHC				S	Sg	09 09 49.9	0.0

*BGR **01** 09:10:26.8±0.2, 50°.23N×12°.45E, h11^{km}±1^{km}, ML2.2/6, Error ellipse: s-maj=2.2km s-min=1.1km az=102.0*

*WBNET **01** 09:10:27.2, 50°.24N×12°.45E, h9^{km}, Ml1.9*

*CLL **01** 09:10:27.6±0.3, 50°.24N×12°.44E, h8^{km}±1^{km}, ML2.2/9*

*LDG **01** 09:10:28.5±0.6, 50°.29N×12°.32E, h10^{km}, Ml2.4/4, Error ellipse: s-maj=31.8km s-min=7.8km az=145.0*

PRU 01 09:10:27.7±0.0**, 50°.22N×12°.52E, h0**^{km}**, 8C-2D, West Bohemia Swarm, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVC	Kvetna	0.01	192	⇓P	Pg	09 10 29.1	+1.1
KVC				S	Sg	09 10 30.3	+2.2
STCW	Studenec	0.04	360	⇑P	Pg	09 10 29.1	+0.7
STCW				S	Sg	09 10 30.3	+1.4
NKC	Novy Kostel	0.05	286	*e*PG	Pg	09 10 28.8	+0.2
NKC				*e*SG	Sg	09 10 30.0	+0.8
	2μm,0.2s						
NKC	Novy Kostel	0.05	286	*i* Pg	Pg	09 10 28.9	+0.3
NKC				*i* Sg	Sg	09 10 30.0	+0.8
NKC	Novy Kostel	0.05	286	⇑P	Pg	09 10 28.9	+0.3
NKC				S	Sg	09 10 30.0	+0.8
KACW	Kaceov	0.08	181	⇓P	Pg	09 10 29.8	+0.7
KACW				S	Sg	09 10 31.6	+1.5
LBCW	Luby	0.08	303	⇑P	Pg	09 10 29.1	-0.2
LBCW				S	Sg	09 10 30.5	+0.1
VAC	Vackov	0.09	280	⇑P	Pg	09 10 29.1	-0.4
VAC				S	Sg	09 10 30.3	-0.3
KRCW	Kraslice	0.11	3	⇑P	Pg	09 10 29.9	0.0
KRCW				S	Sg	09 10 31.7	+0.4
SKC	Skalna	0.11	244	⇑P	Pg	09 10 29.6	-0.3
SKC				S	Sg	09 10 31.1	-0.2
WERN	Wernitzgruen	0.11	306	*i* Pg	Pg	09 10 29.4	-0.5
WERN				*i* Sg	Sg	09 10 30.9	-0.5
	2μm,0.2s						
POCW	Potky	0.12	329	⇑P	Pg	09 10 29.7	-0.3
POCW				S	Sg	09 10 31.3	-0.1
ROHR	Rohrbach	0.13	276	*i* Pg	Pg	09 10 29.5	-0.7
ROHR				*i* Sg	Sg	09 10 31.0	-0.9
	1μm,0.1s						
GUNZ	Gunzen	0.19	320	*i* Pg	Pg	09 10 30.6	-0.7
GUNZ				*i* Sg	Sg	09 10 32.8	-1.0
	528nm,0.2s						
TANN	Tannenbergstha	0.20	349	*i* Pg	Pg	09 10 31.0	-0.5
TANN				*i* Sg	Sg	09 10 33.5	-0.6
	294nm,0.3s						
ZHC	Zelena Hora	0.20	222	⇑P	Pg	09 10 31.2	-0.4
ZHC				S	Sg	09 10 33.8	-0.3
MULD	Muldenberg	0.21	339	*i* Pg	Pg	09 10 31.0	-0.6
MULD				*i* Sg	Sg	09 10 33.5	-0.9
	388nm,0.2s						
VIEL	Selb-Vielitz	0.27	263	*i* Pg	Pg	09 10 31.8	-1.1
VIEL				*i* Sg	Sg	09 10 34.9	-1.5
TRIB	Obertriebel	0.28	298	*i* Pg	Pg	09 10 31.9	-1.2
TRIB				*i* Sg	Sg	09 10 35.0	-1.6
	237nm,0.1s						
PLN	Plauen	0.35	319	*i* Pg	Pg	09 10 33.4	-1.1
PLN				*i* Sg	Sg	09 10 37.5	-1.5
	306nm,0.2s						
MANZ	Manzenberg	0.35	229	*e*Pg	Pg	09 10 33.6	-0.8
MANZ				*e*Sg	Sg	09 10 38.0	-1.0
SCHF	Schoenfels	0.46	351	*i* Pg	Pg	09 10 35.8	-0.8
SCHF				*i* Sg	Sg	09 10 41.7	-0.9
	323nm,0.3s						
ROTZ	Rotzenmuhle	0.50	204	*e*Pg	Pg	09 10 36.6	-0.6
ROTZ				*e*Sg	Sg	09 10 43.2	-0.5
GRZ1	Mausoleum Wald	0.51	338	*i* Pg	Pg	09 10 36.4	-1.1
GRZ1				*i* Sg	Sg	09 10 42.5	-1.6
	95nm,0.3s						
ZEU	Talsperre Zeul	0.57	323	*i* Pg	Pg	09 10 37.3	-1.3
ZEU				*e*Sg	Sg	09 10 44.2	-1.8
MLFH	Mildenfurth	0.64	334	*i* Pg	Pg	09 10 38.8	-1.1
MLFH				*e*Sg	Sg	09 10 46.2	-1.9
MOX	Moxa	0.72	307	*e*Pg	Pg	09 10 40.0	-1.4
MOX				*e*Sg	Sg	09 10 48.7	-2.1
FBE	Freiberg	0.88	37	*e*Pg	Pg	09 10 44.4	-0.2
FBE				*e*Sg	Sg	09 10 55.7	-0.3
GRF	Grafenberg Arr	0.99	238	*e*Pg	Pg	09 10 45.5	-1.2
GRF				*e*Sg	Sg	09 10 57.5	-2.0
PBCC	Pribram	1.09	119	*e*SG	Sg	09 11 02.7	-0.1
	comp=Z,7.2nm,0.4s						
WET	Wettzell	1.10	168	*e*Pg	Pg	09 10 48.2	-0.6
WET				*e*Sg	Sg	09 11 02.5	-0.5
BRG	Berggiesshubel	1.12	54	*e*Pg	Pg	09 10 48.8	-0.3
BRG				*e*Sg	Sg	09 11 03.2	-0.4
CLL	Collm	1.13	16	*i* Pg	Pg	09 10 49.3	-0.1
CLL				*i*		09 10 51.0	
CLL				*i*		09 10 52.5	
CLL				*i*		09 10 54.2	
CLL				*i* Sg	Sg	09 11 03.9	-0.1
	comp=Z,22nm,0.4s						
CLL				*i*		09 11 08.7	
KHC	Kasperske Hory	1.29	147	*e*PG	Pg	09 10 51.6	-0.8
KHC				*e*SG	Sg	09 11 07.7	-1.4
	comp=Z,9.9nm,0.3s						
PRU	Pruhonice	1.32	99	*e*PG	Pg	09 10 52.1	-0.9
PRU				*e*SG	Sg	09 11 10.3	+0.2
	comp=Z,11nm,0.2s						
PVCC	Panska Ves	1.35	76	*e*SG	Sg	09 11 10.9	-0.1
	comp=Z,25nm,0.3s						
GOPC	GO Pecny, Ondr	1.49	101	*e*SG	Sg	09 11 15.7	+0.1
	comp=Z,5.1nm,0.3s						
GEC2	GERESS Array S	1.58	150	*e*Sg	Sn	09 11 17.2	-1.0
UPC	Upice	2.25	81	*e*SG	Sb	09 11 38.6	+0.9
CHVC	Chvalec	2.29	79	*e*SG	Sg	09 11 41.0	-0.3
	comp=Z,4.4nm,0.5s						
DPC	Dobruska-Polom	2.44	85	*e*SG	Sb	09 11 44.1	+1.0
	comp=Z,2.9nm,0.4s						
KRUC	Moravsky	2.77	113	*e*SG	Sg	09 11 55.0	-1.7
VRAC	Vranov	2.79	108	*e*SG	Sb	09 11 55.0	+1.8
MORC	Moravsky Berou	3.27	96	*e*SG	Sg	09 12 10.6	-2.1
CDF	Champ du Feu	3.88	244	*e*Pg	Pb	09 11 39.1	+2.1
CDF				*e*Sn	Sn	09 12 07.6	-7.3
CDF				*e*Sg	Sb	09 12 27.9	+3.4
	comp=Z,2.0nm,0.3s						
HINF	Hinteralfeld	4.44	239	*e*Pg	Pb	09 11 48.9	+2.4
HINF				*e*Sn	Sn	09 12 20.8	-7.8
HINF				*e*Sg	Sb	09 12 44.4	+3.9
	comp=Z,1.5nm,0.3s						
HAU	Haudompre	4.62	244	*e*Pg	Pg	09 11 53.2	-3.0
CABF	La Chapelle	5.60	232	*e*Sg	Sg	09 13 22.8	-4.7
	comp=Z,0.7nm,0.4s						
LOR	Lormes	6.44	246	*e*Pn	Pn	09 12 00.0	-3.8
LOR				*e*Sg	Sg	09 13 47.1	-7.5
	comp=Z,0.5nm,0.3s						

*IDC **01** 09:13:57.3±1.9, 28°.46N×142°.73E, h0^{km}, mb3.6/6, mb1 3.8/8, mb1mx3.6/34, mbtmp3.7/8, ML2.8/2, MS3.0/3, Ms1 3.0/3, ms1mx2.5/40, Error ellipse: s-maj=72.8km s-min=15.1km az=87.0*

*NEIC **01** 09:14:01.2±0.9, 28°.44N±0°.06×142°.9E±0°.2, h27^{km}±6^{km}, mb4.5/11, Error ellipse: s-maj=24.0km s-min=8.0km az=95.0*

ISC 01 09:14:02.2±1.2**, 28°.47N**±0°.07×**142°.8E**±0°.2**, h34**^{km}**, n27, σ0s.92**/21**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	Chichijima	1.46	201	LR	LR	09 14 22.1	
	comp=Z,23nm,19.8s,baz=92,slow=17						
JCJ				Pn	Pn	09 14 25.4	-0.7
	13nm,0.3s,baz=6.5,slow=24,SNR=17						
JCJ				Sn	Sn	09 14 44.1	0.0
	52nm,0.3s,baz=280,slow=22,SNR=5.0						
JHJ2	Mitsune	5.28	332	Pn	Pn	09 15 18.6	-0.1
MJAR	Matsushiro Arr	8.92	336	Pn	Pn	09 16 07.3	-1.4
	0.2nm,0.3s,baz=156,slow=11,SNR=14						
JNU	Nakatsue	11.23	297	LR	LR	09 20 49.3	
	comp=Z,73nm,18.0s,baz=82,slow=37						
ASAJ	Asahikawa	15.62	360	LR	LR	09 24 36.3	
	comp=Z,28nm,21.2s,baz=146,slow=41						
USA0B	Ussuriysk Arra	17.92	334	P	P	09 18 10.7	+1.7
USRK	Ussuriysk Ar.	17.92	334	P	Pn	09 18 06.4	-2.2
	baz=152,slow=13,SNR=7.3						
YHNB	Yeheng	19.50	264		Pn	09 18 27.2	-0.8
YHNB				IAmb	IAmb	09 18 38.5	
	comp=Z,31nm,1.4s						
YULB	Yu-li	19.95	260		Pn	09 18 33.2	-0.2
SSLB	Suanglung	20.13	262		Pn	09 18 35.8	+0.4
SSLB				IAmb	IAmb	09 18 38.8	
	comp=Z,6.4nm,0.5s						
KLR	Kul'dur	22.39	341	P	P	09 18 58.3	+0.8
	comp=Z,1.0nm,0.5s,baz=154,slow=14,SNR=4.2						
H11N2	WAKE ISLAND Hy	23.64	106	T	T	09 44 10.5	
	baz=296,slow=75,SNR=7.9						
H11N1	WAKE ISLAND Hy	23.65	106	T	T	09 44 15.9	
	baz=296,slow=75,SNR=2.5						
H11N3	WAKE ISLAND Hy	23.66	106	T	T	09 44 17.7	
	baz=296,slow=75,SNR=8.8						
CTAO	Charters Tower	48.39	176	P	P	09 22 40.0	-0.9
CTAO				IAmb	IAmb	09 22 46.3	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,7.6nm,1.1s						
WB0	Warramunga Arr	48.63	191	P	P	09 22 42.8	0.0
WB0				IAmb	IAmb	09 22 43.8	
	comp=Z,6.2nm,1.4s						
WR0	Warramunga Arr	48.80	190	P	P	09 22 44.0	-0.1
WR0				IAmb	IAmb	09 23 00.3	
	comp=Z,12nm,1.5s						
ZALV	Zalesovo Beam	48.80	318	LR	LR	09 43 20.2	
	comp=Z,22nm,18.3s,baz=46,slow=36						
WB2	Warramunga Arr	48.81	191	P	P	09 22 44.2	0.0
WRA	Warramunga Arr	48.81	191	P	P	09 22 44.0	-0.3
	comp=Z,1.1nm,0.5s,baz=11,slow=8.3,SNR=16						
MKAR	Makanchi Array	50.01	309	P	P	09 22 53.2	-0.1
	comp=Z,0.5nm,0.6s,baz=99,slow=7.6,SNR=5.8						
GSI	Gunungsitoli	50.88	246	P	P	09 23 00.7	+0.6
KURK	Kurchatov	52.41	314	P	P	09 23 12.4	+1.3
KURK				IAmb	IAmb	09 23 12.8	
	comp=Z,7.8nm,1.1s						
ASAR	Alice Springs	52.53	190	P	P	09 23 12.2	0.0
	comp=Z,0.1nm,0.4s,baz=0.2,slow=5.4,SNR=5.8						
KK31	Karatay Array	58.71	305	P	P	09 23 57.1	+0.6
KK31				IAmb	IAmb	09 23 58.1	
	comp=Z,2.8nm,0.6s						
FINES	FINESS Array B	76.95	334	P	P	09 25 51.2	+0.2
	comp=Z,0.3nm,0.5s,baz=41,slow=6.1,SNR=5.7						
BRTR	Keskin Array B	85.45	313	P	P	09 26 37.4	+0.6
	comp=Z,0.6nm,0.7s,baz=91,slow=2.0,SNR=2.7						

*SNET **01** 09:19:39.7±0.9, 13°03N×88°64W, h64km±5km, ML4.2*
*GCG **01** 09:19:39.5±0.5, 12°94N×88°54W, h35km±999km, MD4.2*
*UCR **01** 09:19:39.8±0.9, 13°03N×88°63W, h64km±5km, ML4.2, mb4.1(NEIC)*
*INET **01** 09:19:40.5, 13°05N×88°59W, h44km, ML4.1*
*NEIC **01** 09:19:40.3±2.6, 13°02N±0°03×88°62W±0°06, h65km±8km, Error ellipse: s-maj=9.3km s-min=2.8km az=67.0*
*IDC **01** 09:19:41.5±1.9, 13°05N×88°42W, h90km±20km, mb3.3/6, mb1 3.7/10, mb1mx3.4/36, mbtmp3.8/10, MS2.8/5, Ms1 2.8/5, ms1mx2.6/21, Error ellipse: s-maj=38.1km s-min=14.2km az=45.0*
ISC 01 09:19:39.9±0.8**, 13°00N**±0°06×**88°60W**±0°03**, h64**km±6km**, n112,** σ1s**07**/137**, mb4.0**/25**, 1D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	Alcalda de J	0.33	5	eP	Pn	09 19 50.4	-0.3
ALJI				eS	Sn	09 19 59.0	+0.5
ALJI				IAML		09 20 00.3	
	comp=Z,25μm,0.2s						
ALJI	Alcalda de J	0.33	5	eP	Pn	09 19 50.4	-0.3
ALJI				eS	Sn	09 19 59.0	+0.5
ALJI				IAML		09 20 00.3	
	comp=Z,25μm,0.2s						
JUCU	Jucuar¡n	0.43	53	eP	Pn	09 19 51.3	-0.3
JUCU				eS	Sn	09 20 00.4	+0.3
JUCU	Jucuar¡n	0.43	53	eP	Pn	09 19 51.3	-0.3
JUCU				eS	Sn	09 20 00.4	+0.3
COEB	Comit de Eme	0.50	8	eP	Pn	09 19 52.1	-0.3
COEB				eS	Sn	09 20 01.8	+0.3
COEB				IAML		09 20 06.6	
	comp=Z,9μm,0.3s						
COEB	Comit de Eme	0.50	8	eP	Pn	09 19 52.1	-0.3
COEB				eS	Sn	09 20 01.8	+0.3
COEB				IAML		09 20 06.6	
	comp=Z,9μm,0.3s						
TECA	Tecapa	0.50	11	eP	Pn	09 19 52.1	-0.4
TECA	Tecapa	0.50	11	eP	Pn	09 19 52.1	-0.4
LCY	Lacayo	0.52	35	eP	Pn	09 19 52.5	-0.1
LCY	Lacayo	0.52	35	eP	Pn	09 19 52.5	-0.1
PACA	Pacayal	0.54	30	eP	Pn	09 19 52.8	0.0
PACA				eS	Sn	09 20 03.6	+1.4
PACA	Pacayal	0.54	30	eP	Pn	09 19 52.8	0.0
PACA				eS	Sn	09 20 03.6	+1.4
BLLM	Bellamira	0.57	39	eP	Pn	09 19 52.9	-0.1
BLLM	Bellamira	0.57	39	eP	Pn	09 19 52.9	-0.1
LCND	La Caada	0.76	66	eP	Pn	09 19 55.2	+0.1
LCND				eS	Sn	09 20 07.4	+1.0
LFRS	El Faro	0.77	324	eP	Pn	09 19 54.7	-0.7
LFRS	El Faro	0.77	324	eP	Pn	09 19 54.7	-0.7
FAGO	Alcalda de S	0.84	35	eP	Pn	09 19 55.9	-0.3
FAGO				eS	Sn	09 20 08.4	+0.2
FAGO	Alcalda de S	0.84	35	eP	Pn	09 19 55.9	-0.3
FAGO				eS	Sn	09 20 08.4	+0.2
AEIL	Aeropuerto Ilo	0.86	324	eP	Pn	09 19 56.3	-0.2
AEIL				eS	Sn	09 20 08.6	0.0
AEIL	Aeropuerto Ilo	0.86	324	eP	Pn	09 19 56.3	-0.2
AEIL				eS	Sn	09 20 08.6	0.0
UDBS	Universidad Do	0.90	323	eP	Pn	09 19 56.5	-0.4
UDBS				eS	Sn	09 20 09.6	+0.2
UDBS				IAML		09 20 12.7	
	comp=Z,4μm,0.2s						
UDBS	Universidad Do	0.90	323	eP	Pn	09 19 56.5	-0.4
UDBS				eS	Sn	09 20 09.6	+0.2
UDBS				IAML		09 20 12.7	
	comp=Z,4μm,0.2s						
OPAM	Oficina de Pla	0.92	321	eS	Sn	09 20 09.3	-0.6
OPAM	Oficina de Pla	0.92	321	eS	Sn	09 20 09.3	-0.6
SNET	Serv Nac Est T	0.92	318	eP	Pn	09 19 56.7	-0.5
SNET				eS	Sn	09 20 09.5	-0.5
SNET	Serv Nac Est T	0.92	318		Pn	09 19 56.8	-0.5
SNET	Serv Nac Est T	0.92	318	eP	Pn	09 19 56.7	-0.5
SNET				eS	Sn	09 20 09.5	-0.5
BOQS	Boqueron	0.99	318	eP	Pn	09 19 57.9	-0.3
BOQS				eS	Sn	09 20 11.6	-0.1
BOQS	Boqueron	0.99	318	eP	Pn	09 19 57.9	-0.3
BOQS				eS	Sn	09 20 11.6	-0.1
LLGN	La Laguna	1.21	344	eP	Pn	09 20 00.7	-0.2
LLGN	La Laguna	1.21	344	eP	Pn	09 20 00.7	-0.2
CEVE	Cerro Verde	1.29	310	eP	Pn	09 20 02.0	-0.2
CEVE				IAML		09 20 26.8	
	comp=Z,3μm,0.3s						
CEVE	Cerro Verde	1.29	310	eP	Pn	09 20 02.0	-0.2
CEVE				IAML		09 20 26.8	
	comp=Z,3μm,0.3s						
UNIC	Universidad Ca	1.34	317	eP	Pn	09 20 02.4	-0.4
UNIC	Universidad Ca	1.34	317	eP	Pn	09 20 02.4	-0.4
CRIN	San Cristobal	1.54	101		Pn	09 20 06.0	+0.7
CRIN				Sn	Sn	09 20 25.4	+0.9
MTO3	Montecristo	1.58	332	eP	Pn	09 20 05.8	-0.2
MTO3	Montecristo	1.58	332		Pn	09 20 05.7	-0.2
MTO3					Sn	09 20 25.1	-0.5
MTO3	Montecristo	1.58	332	eP	Pn	09 20 05.8	-0.2
TGUH	Tegucigalpa,Un	1.67	51	Pn	Pn	09 20 07.3	+0.3
TGUH				Sn	Sn	09 20 28.1	+0.5
IXG	Ixpaco	2.14	303	⇓iP	Pn	09 20 14.4	+0.9
NBG	Las Nubes	2.32	313	eP	Pn	09 20 17.5	+1.5
MATN	Matagalpa	2.61	91		Pn	09 20 19.4	-0.4
MATN					Sn	09 20 50.4	0.0
FUG	Fuego 3	2.61	304	eS	Sn	09 20 53.7	+3.0
STG3	Santiaguito 3,	3.35	301	eP	Pn	09 20 31.7	+1.7
STG3				eS	Sn	09 21 10.2	+1.5
ACON	Acoyapa	3.50	107		Pn	09 20 31.1	-0.9
ESPN	Las Esperanzas	4.27	100		Pn	09 20 42.2	-0.3
JTS	Las Juntas de	4.47	127	P	Pn	09 20 46.3	+1.0
	comp=Z,1.4nm,0.3s,baz=178,slow=23,SNR=18						
JTS				S	Sn	09 21 35.2	-0.9
	comp=Z,3.5nm,0.3s,baz=254,slow=24,SNR=1.4						
JTS				LR	LR	09 22 33.0	
	comp=Z,78nm,19.2s,baz=11,slow=39						
JTS	Las Juntas de	4.47	127		Pn	09 20 46.1	+0.8
CCIG	Comitan	4.73	314	Pn	Pn	09 20 49.4	+0.5
TEIG	Tepich	7.20	2	P	Pn	09 21 24.5	+2.0
	comp=Z,8.8nm,0.3s,baz=36,slow=0.0,SNR=80						
TEIG				LR	LR	09 24 43.3	
	comp=Z,38nm,19.8s,baz=138,slow=42						
TEIG	Tepich	7.20	2		Pn	09 21 24.1	+1.6
CMIG	Matias Romero	7.31	305	P	Pn	09 21 25.9	+1.9
	comp=Z,0.4nm,0.3s,baz=131,slow=10,SNR=12						
CMIG				S	Sn	09 22 46.9	+1.3
	comp=Z,0.7nm,0.3s,baz=38,slow=16,SNR=4.2						
CMIG				LR	LR	09 24 29.2	
	comp=Z,106nm,21.6s,baz=108,slow=39						
MTDJ	Mount Denham	11.86	63	Pn	Pn	09 22 29.0	+2.7
656A	Willston	17.24	18	P	P	09 23 42.5	+5.4
SDV	Santo Domingo	18.11	101	P	P	09 23 46.0	-1.0
	comp=Z,0.6nm,0.3s,baz=258,slow=6.1,SNR=4.3						
352A	Blakely	18.70	10	P	Pn	09 23 55.6	+1.4
152A	Waverly Hall	19.90	10	P	Pn	09 24 08.4	0.0
152A				IAmb	IAmb	09 24 09.6	
	comp=Z,6.5nm,0.9s						
LRAL	Lakeview Retre	20.00	4	P	Pn	09 24 09.7	+0.1
Z47A	Carrollton	20.12	1	P	Pn	09 24 09.9	-1.0
Z47A				IAmb	IAmb	09 24 23.8	
	comp=Z,8.8nm,1.1s						
GOGA	Godfrey	20.86	12	P	P	09 24 18.0	+1.5
GOGA				IAmb	IAmb	09 24 20.9	
	comp=Z,11nm,1.4s						
TX31	Lajitas Ar. Si	21.45	322	P	P	09 24 23.8	+0.7
TX31				IAmb	IAmb	09 24 24.5	
	comp=Z,7.5nm,1.0s						
TX32	Lajitas Array	21.45	322	P	P	09 24 24.1	+1.1
TXAR	Lajitas Array	21.45	322	P	P	09 24 24.1	+1.0
	comp=Z,0.8nm,0.7s,baz=142,slow=12,SNR=13						
MIAR	Mount Ida	21.92	349	P	P	09 24 28.9	+0.9
JSC	Jenkinsville	22.21	16	P	P	09 24 32.2	+1.0
WHAR	Wooly Hollow	22.45	352	P	P	09 24 33.8	+0.1
W39A	Magazine	22.59	349	P	P	09 24 36.4	+1.2
BIRD	Birdtown, Kers	22.78	18	P	P	09 24 37.8	+0.6
BIRD				IAmb	IAmb	09 24 38.3	
	comp=Z,6.1nm,1.0s						
TKL	Tuckaleechee C	22.98	10	P	P	09 24 38.6	-0.6
	comp=Z,2.7nm,0.7s,baz=189,slow=13,SNR=5.0						
TKL				LR	LR	09 33 24.4	
	comp=Z,40nm,22.0s,baz=238,slow=36						
TKL	Tuckaleechee C	22.98	10	P	P	09 24 39.1	-0.1
FCAR	Ozark Folk Cen	23.02	353	P	P	09 24 39.8	+0.3
FCAR				IAmb	IAmb	09 24 40.3	
	comp=Z,3.5nm,0.6s						
LCAR	Lake Charles	23.09	355	P	P	09 24 41.7	+1.5
STVI	Saint Thomas	23.37	74	P	P	09 24 40.9	-2.2
U40A	Yellville	23.57	351	P	P	09 24 45.5	+0.7
U40A				IAmb	IAmb	09 24 46.6	
	comp=Z,4.3nm,0.6s						
HHAR	Hobbs	23.68	349	P	P	09 24 46.5	+0.7
HHAR				IAmb	IAmb	09 24 47.3	
	comp=Z,2.6nm,0.5s						
V55A	Taylorsville	23.71	15	P	P	09 24 48.5	+2.4
V55A				IAmb	IAmb	09 24 57.7	
	comp=Z,12nm,1.3s						
V58A	Windy Hill, Pi	24.26	19	P	P	09 24 50.8	-0.2
V58A				IAmb	IAmb	09 24 52.1	
	comp=Z,13nm,1.2s						
MGMO	Mountain Grove	24.28	353	P	P	09 24 53.0	+1.8
MGMO				IAmb	IAmb	09 25 07.5	
	comp=Z,3.4nm,0.8s						
R40A	Maddies Statio	25.40	353	P	P	09 25 00.6	-0.8
Q56A	Snyder Ridge,	27.25	16	P	P	09 25 18.2	+0.1
Q56A				IAmb	IAmb	09 25 33.1	
	comp=Z,6.0nm,0.9s						
PV12	Saucer Basin,	30.96	328	P	P	09 25 51.5	+0.2
PV12				IAmb	IAmb	09 25 53.2	
	comp=Z,1.9nm,0.6s						
ECSD	EROS Data Cent	31.40	349	P	P	09 25 55.4	+0.5
COWI	Conover	33.00	359	P	P	09 26 06.8	-2.1
PDAR	Pinedale Array	34.77	332	P	P	09 26 23.7	-0.8
	comp=Z,0.5nm,0.6s,baz=108,slow=8.7,SNR=2.8						
EYMN	Ely	34.93	357	P	P	09 26 23.8	-1.7
EYMN				IAmb	IAmb	09 26 29.1	
	comp=Z,4.5nm,1.1s						
REDW	Red Top Meadow	35.82	332	P	P	09 26 33.3	-0.2
SNOW	Snow King Moun	35.86	332	P	P	09 26 33.9	0.0
TPAW	Teton Pass	35.97	332	P	P	09 26 35.2	+0.4
TPAW				IAmb	IAmb	09 26 36.6	
	comp=Z,2.7nm,0.7s						
NVAR	Mina Array Bea	36.56	319	P	P	09 26 40.6	+0.8
	comp=Z,0.4nm,0.6s,baz=134,slow=7.1,SNR=5.0						
NVAR				PcP	PcP	09 29 01.6	-0.7
	comp=Z,0.5nm,0.6s,baz=141,slow=4.2,SNR=5.4						
YNE	Yellowstone No	36.75	334	P	P	09 26 41.4	-0.1
GCMT	Greycliff	37.24	335	P	P	09 26 45.3	-0.2
ULM	Lac du Bonnet	37.62	352	LR	LR	09 43 20.7	
	comp=Z,22nm,19.6s,baz=160,slow=38						
MCMT	McKenzie Canyo	37.87	332	P	P	09 26 51.7	+0.8
BOZ	Bozeman (W)	37.91	333	P	P	09 26 50.8	-0.4
BOZ				IAmb	IAmb	09 26 52.3	
	comp=Z,1.8nm,0.6s						
LRM	Limekiln Ridge	38.45	333	P	P	09 26 57.0	+1.2
FFC	Flin Flon	42.94	349	P	P	09 27 31.5	-0.8
FFC				IAmb	IAmb	09 27 31.9	
	comp=Z,1.5nm,0.5s						
YKA	Yellowknife Ar	52.80	345	P	P	09 28 46.1	-2.3
	comp=Z,0.8nm,0.6s,baz=139,slow=8.5,SNR=15						
DLBC	Dease Lake	54.94	335	P	P	09 29 04.6	+0.4
SKAG	Skagway	57.77	334	P	P	09 29 25.4	+1.2
SCM	Sheep Creek Mo	64.10	333	P	P	09 30 06.1	-1.1
GHO	Glory Hole Cre	64.78	333	P	P	09 30 10.9	-0.8
ILAR	Eielson Array	65.07	336	P	P	09 30 10.9	-2.5
	comp=Z,0.7nm,0.7s,baz=167,slow=4.9,SNR=10						
RND	Reindeer	65.34	335	P	P	09 30 14.0	-1.3
RND				IAmb	IAmb	09 30 14.9	
	comp=Z,3.4nm,0.8s						
CCB	Clear Creek Bu	65.38	336	P	P	09 30 13.7	-1.7
CCB				IAmb	IAmb	09 30 29.9	
	comp=Z,4.4nm,1.5s						
TRF	Thorofare Moun	65.96	334	P	P	09 30 18.4	-1.0
TRF				IAmb	IAmb	09 30 34.6	
	comp=Z,4.6nm,1.1s						
BPAW	Bear Paw Mtn.	66.47	335	P	P	09 30 20.3	-2.2
BPAW				IAmb	IAmb	09 30 36.1	
	comp=Z,1.4nm,1.0s						
TOLK	Toolik Lake Re	67.59	340	P	P	09 30 28.6	-0.9
TOLK				IAmb	IAmb	09 30 29.0	
	comp=Z,3.0nm,1.2s						
WB2	Warramunga Arr	138.32	255	PKPdf	PKiKP	09 39 00.4	-0.6
WRA	Warramunga Arr	138.34	255	PKP	PKPdf	09 38 58.8	-0.1
	comp=Z,0.6nm,0.6s,baz=87,slow=1.4,SNR=0.9						
ASAR	Alice Springs	138.42	249	PKP	PKPdf	09 38 59.0	0.0
	comp=Z,0.2nm,0.7s,baz=81,slow=1.5,SNR=4.6						

*IDC **01** 09:25:38.6±0.9, 59°60S×25°43W, h0km, mb4.1/6, mb1 4.1/6, mb1mx4.0/22, mbtmp4.1/6, MS3.5/2, Ms1 3.4/2, ms1mx3.1/15, Error ellipse: s-maj=38.6km s-min=22.0km az=72.0*
*NEIC **01** 09:25:44.0±1.4, 59°8S±0°1×25°4W±0°3, h35km±5km, mb4.7/16, Error ellipse: s-maj=24.2km s-min=15.6km az=46.0*
ISC 01 09:25:40.5±0.7**, 59°8S**±0°1×**25°1W**±0°2**, h10**km**, n39,** σ1s**76**/40**, mb4.5**/13**, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.89	154	P	Pn	09 28 42.1	-1.4
VNA3	Neumayer Olymp	13.06	158	P	Pn	09 28 43.7	-2.2
VNA2	Neumayer--Watz	13.29	154	P	Pn	09 28 47.6	-1.3
	baz=314,slow=15						
SNAA	Sanae	14.86	152	P	Pn	09 29 08.0	-2.4
SNAA	Sanae	14.86	152	Pn	Pn	09 29 08.0	-2.4
	2.0nm,0.3s,baz=320,slow=12,SNR=112						
SNAA	Sanae	14.86	152		Pn	09 29 08.3	-2.1
EFI	East Falkland	20.08	279	Pn	P	09 30 15.4	+1.7
QSPA	South Pole Qui	30.42	180	P	P	09 31 53.9	+1.2
	2.3nm,0.6s,baz=211,slow=1.4,SNR=36						
QSPA	South Pole Qui	30.42	180	P	P	09 31 53.8	+1.0
PLCA	Paso Flores	33.87	284	LR	LR	09 45 41.4	
	comp=Z,86nm,18.3s,baz=156,slow=36						
MAW	Mawson	36.49	140	LR	LR	09 46 20.1	
	comp=Z,56nm,19.4s,baz=232,slow=34						
CFA	Coronel Fontan	40.12	295	P	P	09 33 13.6	-2.7
	3.4nm,0.6s,baz=154,slow=5.6,SNR=9.5						
CO02	Combarbal	41.74	292	P	P	09 33 27.9	-1.7
CO02				IAmb	IAmb	09 33 42.5	
	comp=Z,24nm,1.2s						
CO01	Juntas del Tor	42.35	294	P	P	09 33 34.2	-0.6
CO01				IAmb	IAmb	09 33 48.2	
	comp=Z,9.7nm,0.9s						
GO04	Tololo Observa	42.51	293	P	P	09 33 34.6	-1.5
VNDA	Vanda	42.84	182	P	P	09 33 40.1	+2.1
	comp=Z,0.5nm,0.6s,baz=191,slow=6.3,SNR=6.3						
VNDA	Vanda	42.84	182	P	P	09 33 40.1	+2.1
AC05	El Transito	43.40	295	P	P	09 33 41.8	-1.4
AC05				IAmb	IAmb	09 33 53.7	
	comp=Z,14nm,0.8s						
AC02	Maricunga	44.59	298	P	P	09 33 51.8	-1.4
GO02	Mina Guanaco	46.24	298	P	P	09 34 04.5	-1.6
GO02				IAmb	IAmb	09 34 15.3	
	comp=Z,8.9nm,0.8s						
PB07	IPOC Station P	49.38	300	P	P	09 34 28.8	-1.4
PB01	IPOC Station P	49.81	301	P	P	09 34 31.8	-1.6
PB01				IAmb	IAmb	09 34 37.2	
	comp=Z,7.2nm,1.0s						
GO01	Chusmiza	50.90	302	P	P	09 34 40.5	-1.6
MNMC	Minye Minye	51.54	302	P	P	09 34 45.2	-1.6
MNMC				IAmb	IAmb	09 34 50.8	
	comp=Z,9.7nm,0.9s						
LPAZ	La Paz	53.47	305	P	P	09 34 59.3	-2.1
	comp=Z,0.8nm,0.5s,baz=77,slow=7.1,SNR=6.8						
LPAZ	La Paz	53.47	305	P	P	09 34 59.4	-2.1
LPAZ				IAmb	IAmb	09 34 59.8	
	comp=Z,7.0nm,1.4s						
TOA0	Torodi Ar. Sit	75.86	27	P	P	09 37 29.1	+2.4
TOA0				IAmb	IAmb	09 37 36.6	
	comp=Z,6.4nm,0.8s						
TORD	Torodi Ar. Bea	75.86	27	P	P	09 37 26.1	-0.7
	comp=Z,1.5nm,0.6s,baz=199,slow=6.2,SNR=8.1						
FOZ	Fox Glacier	76.28	191	P	P	09 37 28.3	-0.6
ASAR	Alice Springs	95.05	161	P	P	09 39 03.6	+0.1
	comp=Z,0.3nm,0.8s,baz=178,slow=2.4,SNR=2.3						
ASAR	Alice Springs	95.05	161		P	09 39 03.6	+0.1
NVAR	Mina Array Bea	123.80	289	PKP	PKPdf	09 44 37.2	-0.8
	comp=Z,0.1nm,0.5s,baz=123,slow=2.5,SNR=2.0						
YKA	Yellowknife Ar	139.66	314	PKP	PKPdf	09 45 05.2	-1.6
	comp=Z,0.4nm,0.8s,baz=134,slow=1.9,SNR=4.5						
INK	Inuvik	149.37	316		PKPdf	09 45 26.9	+3.5
EPYK	Eagle Plains	149.86	312		PKPdf	09 45 28.2	+3.8
DOT	Dot Lake	151.81	304		PKPbc	09 45 33.3	-0.5
DOT					PKPab	09 45 43.6	+0.5
SCRK	Sand Creek	151.90	305		PKPbc	09 45 33.9	-0.2
SCRK				PKPab	PKPab	09 45 44.1	+0.6
RIDG	Independent Ri	152.18	304		PKPbc	09 45 34.5	-0.2
RIDG				PKPab	PKPab	09 45 45.2	+0.6
ILAR	Eielson Array	153.35	306	PKPbc	PKPbc	09 45 36.2	-0.9
	comp=Z,2.1nm,1.0s,baz=150,slow=1.8,SNR=14						

*PRU **01** 09:26:15.2±0.0, 50°20N×12°41E, h4km, West Bohemia Swarm*
WBNET 01 09:26:15.6, 50°24N×12°44E, h9km, Ml1.3, 8C-2D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.00	133	ePG	Pg	09 26 17.2	0.0
NKC				eSG	Sg	09 26 18.2	-0.1
	comp=Z,199nm,0.2s						
NKC	Novy Kostel	0.00	133	⇑P	Pg	09 26 17.3	+0.1
NKC				S	Sg	09 26 18.4	+0.1
LBCW	Luby	0.04	326	⇑P	Pg	09 26 17.5	+0.1
VAC	Vackov	0.04	269	⇑P	Pg	09 26 17.5	+0.1
VAC				S	Sg	09 26 18.7	0.0
STCW	Studenec	0.05	65	⇑P	Pg	09 26 17.5	0.0
STCW				S	Sg	09 26 18.7	-0.2
KVC	Kvetna	0.06	123	⇓P	Pg	09 26 17.4	-0.1
KVC				S	Sg	09 26 18.7	-0.3
POCW	Potky	0.09	353	⇑P	Pg	09 26 18.1	+0.1
SKC	Skalna	0.09	218	⇑P	Pg	09 26 17.9	+0.1
SKC				S	Sg	09 26 19.5	0.0
KACW	Kaceov	0.10	153	⇓P	Pg	09 26 18.2	+0.1
KRCW	Kraslice	0.11	30	⇑P	Pg	09 26 18.3	0.0
ZHC	Zelena Hora	0.19	208	⇑P	Pg	09 26 19.5	+0.1
ZHC				S	Sg	09 26 22.2	+0.1
CLL	Collm	1.13	18	ePg	Pn	09 26 38.0	+0.5
CLL				i		09 26 39.6	
CLL				i		09 26 41.1	
CLL				i		09 26 42.5	
CLL				i Sg	Sn	09 26 52.7	-0.5
	comp=Z,3.0nm,0.5s						
CLL				i		09 26 54.6	
PBCC	Pribram	1.14	118	eSG	Sg	09 26 51.3	-1.1
	comp=Z,1.7nm,0.3s						
KHC	Kasperske Hory	1.33	146	ePG	Pg	09 26 41.0	0.0
KHC				eSG	Sb	09 26 57.4	-0.4
	comp=Z,2.2nm,0.2s						
PRU	Pruhonice	1.37	100	eSG	Sb	09 26 59.0	0.0
	comp=Z,3.1nm,0.2s						
PVCC	Panska Ves	1.39	77	eSG	Sg	09 27 00.8	+0.5
GOPC	GO Pecny, Ondr	1.54	101	eSG	Sb	09 27 04.4	+0.4

WBNET 01 09:26:17.1, 50°24N×12°44E, h9km, Ml1.1, 4C-1D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.00	139	S	Sg	09 26 20.0	+0.1
LBCW	Luby	0.04	325	⇑P	Pg	09 26 19.1	+0.1
LBCW				S	Sg	09 26 20.4	+0.2
LBCW	Luby	0.04	325	S	Pg	09 26 18.8	-0.1
VAC	Vackov	0.04	269	S	Sg	09 26 20.3	0.0
STCW	Studenec	0.05	65	S	Sg	09 26 20.3	-0.2
KVC	Kvetna	0.06	123	S	Sg	09 26 20.2	-0.2
POCW	Potky	0.09	353	⇑P	Pg	09 26 19.6	+0.2
POCW				S	Sg	09 26 21.3	+0.1
POCW	Potky	0.09	353	S	Pg	09 26 19.7	+0.2
SKC	Skalna	0.09	219	S	Sg	09 26 21.1	0.0
KACW	Kaceov	0.10	153	⇓P	Pg	09 26 19.8	+0.1
KACW				S	Sg	09 26 21.5	0.0
KACW	Kaceov	0.10	153	S	Pg	09 26 19.9	+0.3
KRCW	Kraslice	0.11	30	⇑P	Pg	09 26 19.9	+0.1
KRCW				S	Sg	09 26 21.7	0.0
KRCW	Kraslice	0.11	30	S	Pg	09 26 20.2	+0.3
ZHC	Zelena Hora	0.19	208	⇑P	Pg	09 26 21.1	+0.1
ZHC				S	Sg	09 26 23.8	+0.1

MAN 01 10:05:38.6, 5°05N×126°65E, h31km, mb5.2, ML4.2, MS4.3, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	Don Marcelino,	1.40	318	eP	Pn	10 06 01.4	-0.6
DDMP				eS	Sn	10 06 13.8	-5.7
MATI	Mati	1.92	348	eP	Pn	10 06 09.9	+0.7
MATI				eS	Sn	10 06 32.4	0.0
GSPH	General Santos	1.98	301	⇑iP	Pn	10 06 08.4	-1.7
GSPH				i S	Sn	10 06 28.8	-5.2
KCP	Kidapawan	2.49	322	⇓iP	Pn	10 06 18.2	+1.1
KCP				i S	Sn	10 06 47.5	+1.1
SKMP	Bagumbayan, Su	2.55	305	eP	Pn	10 06 18.5	+0.6
SKMP				eS	Sn	10 06 46.4	-1.6
CTBH	Cotabato--PC H	3.22	312	⇓iP	Pn	10 06 30.0	+3.0
BUKP	Musuan	3.22	331	eP	Pn	10 06 27.7	+0.6
BUKP				eS	Sn	10 07 06.7	+2.1

*BJI **01** 10:07:04.5±0.0, 1°36N×89°63E, h10km, mB5.6/78, mb5.5/85, Ms5.7/98, Ms7 5.5/91*
*MOS **01** 10:07:09.3±1.0, 2°04N×89°79E, h10km, mb5.8/76, MS5.2/35, Error ellipse: s-maj=6.0km s-min=3.8km az=107.9*
*IDC **01** 10:07:09.3±0.4, 2°07N×89°75E, h0km, mb5.1/49, mb1 5.1/52, mb1mx5.0/56, mbtmp5.0/52, ML4.8/3, MS5.1/37, Ms1 5.1/37, ms1mx5.0/45, Error ellipse: s-maj=11.5km s-min=9.6km az=17.0*
*BGR **01** 10:07:11.0±0.0, 1°08N×89°75E, h33km, mb5.8, mB_BB6.0, Ms5.1*
*NEIC **01** 10:07:12.4, 2°04N×89°75E, h20km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.04; $M_{\theta\theta}$-0.98; $M_{\phi\phi}$0.94; $M_{r\theta}$0.30; $M_{\theta\phi}$-5.68; $M_{\phi r}$-0.27; Fault plane solution: $M_0$5.78000×10^{17} NP1:ϕ_s94.75000°, δ87.59000°, λ176.84000°. NP2:ϕ_s184.88000°, δ86.85000°, λ2.41000°. Principal axes: T 5.7704, Plg4.0000°, Azm50.0000°; N 0.0139, Plg86.0000°, Azm237.0000°; P -5.7843, Plg1.0000°, Azm140.0000°;*
*GCMT **01** 10:07:12.5±0.1, 1°91N±0°01×89°69E±0°01, h21km, MW5.8/160, Moment Tensor Solution. s151,c299; s160,c346; Duration: 1s9 Moment tensor: Scale 10^{17} Nm; M_{rr}0.17±.05; $M_{\theta\theta}$-1.11±.05; $M_{\phi\phi}$0.94±.05; $M_{r\theta}$-0.01±.10; $M_{\theta\phi}$-5.46±.05; $M_{\phi r}$-1.21±.11; Best double couple: $M_0$5.68700×10^{17} NP1:ϕ_s95.00000°, δ78.00000°, λ178.00000°. NP2:ϕ_s186.00000°, δ88.00000°, λ12.00000°. Principal axes: T 5.6310, Plg10.0000°, Azm51.0000°; N 0.1100, Plg78.0000°, Azm192.0000°; P -5.7420, Plg8.0000°, Azm320.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **01** 10:07:12.5±1.9, 2°02N±0°07×89°78E±0°07, h20km±1km, mb5.6/191, Ms_20 5.5/710, Mwb5.8/48, Mww5.7, Mwc5.8(GCMT) Error ellipse: s-maj=11.8km s-min=10.6km az=307.0*
*NEIC **01** 10:07:13, 1°87N×89°67E, h21km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.02; $M_{\theta\theta}$-1.14; $M_{\phi\phi}$1.15; $M_{r\theta}$-0.15; $M_{\theta\phi}$-5.92; $M_{\phi r}$-0.96; Fault*

plane solution: $M_0 6.11000\times10^{17}$ NP1:ϕ_s96.00000°, δ81.00000°, λ-179.00000°. NP2:ϕ_s5.00000°, δ89.00000°, λ-9.00000°. Principal axes: T 6.1055, Plg6.0000°, Azm51.0000°; N 0.0040, Plg81.0000°, Azm182.0000°; P -6.1095, Plg7.0000°, Azm320.0000°;

*NEIC **01** 10:07:16, 1.°81N×89.°74E, h24km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.22; $M_{\theta\theta}$-0.61; $M_{\phi\phi}$0.83; $M_{r\theta}$0.24; $M_{\theta\phi}$-4.90; $M_{\phi r}$-0.51; Fault plane solution: $M_0 4.99000\times10^{17}$ NP1:ϕ_s94.00000°, δ85.00000°, λ177.00000°. NP2:ϕ_s184.00000°, δ87.00000°, λ5.00000°. Principal axes: T 5.1191, Plg6.0000°, Azm49.0000°; N -0.2692, Plg84.0000°, Azm211.0000°; P -4.8499, Plg2.0000°, Azm319.0000°;*

ISC 01 10:07:13.2±0.4**, 1.°98N**±0.°03**×89.°77E**±0.°03**, h24**km±2km**, h24**km**:pP-P, n1336, σ1.s80**/1081**, mb5.5**/292**, MS5.5**/457**, 81C-68D, North Indian Ocean**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	Sinabang, Aceh	6.57	86	P	Pn	10 08 48.2	-0.2
	26nm32µm4µm,0.9s						
MLSI	Meulaboh, Aceh	7.00	71	P	Pn	10 08 54.3	-0.1
	17nm30µm33µm3µm,0.8s						
TPTI		7.51	80	P	Pn	10 09 00.6	-0.8
	1.4nm4µm233nm,0.7s						
GSI	Gunungsitoli	7.83	95	P	Pn	10 09 05.1	-0.7
	30nm49µm3µm,1.0s						
GSI	Gunungsitoli	7.83	95	Pn	Pn	10 09 04.7	-1.1
LHMI	Lhok Sumawe	7.86	66		Pn	10 09 07.3	+1.2
KCSI	Kotacane, Aceh	8.14	79	P	Pn	10 09 11.1	+1.1
	14µm26µm3µm,1.0s						
PBSI	Pulau Batu	8.75	103	P	Pn	10 09 18.2	-0.2
	19µm18µm2µm,0.8s						
TSI	Tuntungan	8.91	80	P	Pn	10 09 21.5	+0.8
	14µm14µm1µm,0.7s						
RPSI	Rantau Prapat	9.18	85	Pn	Pn	10 09 23.6	-0.6
RPSI	Rantau Prapat	9.18	85		Pn	10 09 22.9	-1.3
RPSI					Sn	10 11 00.6	-6.2
PSI	Prapat	9.18	85	Pn	Pn	10 09 22.9	-1.6
	6.8nm,0.3s,baz=358,slow=1.4,SNR=54						
PSI				Sn	Sn	10 11 00.6	-6.6
	45nm,0.3s,baz=360,slow=16,SNR=7.8						
PSI				LR	LR	10 12 51.4	
	comp=Z,15µm,18.4s,baz=270,slow=37						
PSI	Prapat	9.18	85	P	Pn	10 09 23.6	-0.9
PSI						10 11 00.6	
MNSI	Mandailing Nat	9.88	97	P	Pn	10 09 32.8	-1.1
	15µm807nm,0.6s						
SISI	Saibi	9.88	109	P	Pn	10 09 33.4	-0.5
	15µm4µm395nm,0.8s						
PBA	Port Blair	10.05	17	eP	Pn	10 09 36.1	-0.2
PBA				eS	Sn	10 11 22.7	-5.7
PBA	Port Blair	10.05	17	P	Pn	10 09 35.5	-0.8
	SNR=10						
PBA				S	Sn	10 11 25.4	-3.1
PBA	Port Blair	10.05	17		Pn	10 09 36.5	+0.2
PPSI	Pulau Pagai	11.27	115	P	Pn	10 09 53.8	+0.8
	19µm8µm511nm,0.6s						
KULM	Kulim	11.35	73		Pn	10 09 53.2	-0.8
KULM	Kulim	11.35	73	P	Pn	10 09 54.0	0.0
BKNI	Bangkinang	11.39	98	P	Pn	10 09 56.2	+1.6
	5µm8µm589nm,0.9s						
BKNI	Bangkinang	11.39	98	Pn	Pn	10 09 53.9	-0.7
IPM	Ipoh	11.51	77		Pn	10 09 55.0	-1.3
IPM	Ipoh	11.51	77	P	Pn	10 09 56.0	-0.3
DGPR	DIGLIPUR	11.56	16	eP	Pn	10 09 56.3	-0.6
DGPR				eS	Sn	10 12 00.1	-5.2
SDSI	Sungai Dareh	12.01	104	P	Pn	10 10 01.7	-1.4
	3µm151nm,1.6s						
KRJI	Kerinci	12.37	109	P	Pn	10 10 08.4	+0.3
	15µm34µm3µm,0.7s						
MASI	Maura Aman, Be	13.46	112	P	P	10 10 33.9	+1.8
MYKOM	Kota Tinggi	14.08	91		Pn	10 10 30.4	-0.9
MYKOM	Kota Tinggi	14.08	91	P	Pn	10 10 32.0	+0.7
MDRS	Chennai	14.50	320	eP	Pn	10 10 34.1	-3.0
MNAI	Manna	14.61	116	P	P	10 10 47.9	+3.1
MNAI	Manna	14.61	116		Pn	10 10 41.1	+2.5
TPRI	Tanjung Pinang	14.79	94	P	Pn	10 10 42.4	+1.3
	28µm97nm,0.6s						
LHSI	Lahat	14.91	113	P	Pn	10 10 43.9	+1.2
	16µm6µm236nm,0.8s						
SKHT	Srikalahasti	15.35	320	eP	Pn	10 10 44.2	-4.3
COCO	West Island	15.73	154	P	Pn	10 10 55.2	+1.7
COCO				pmax	pmax		
	comp=Z,569nm,1.0s						
COCO	West Island	15.73	154	P	Pn	10 10 55.2	+1.7
COCO				IAmb	IAmb	10 11 02.5	
	comp=Z,568nm,1.0s						
MDSI	Maura Dua	15.77	114	P	Pn	10 10 55.4	+1.4
	comp=Z,9µmcomp=Z,4µmcomp=Z,257nm,1.1s						
PMBI	Palembang	15.77	108	P	Pn	10 10 54.6	+0.6
	comp=Z,38µmcomp=Z,820nm,1.1s						
PMBI	Palembang	15.77	108	P	P	10 10 58.0	+0.2
LWLI	Liwa	15.88	116	P	Pn	10 10 56.7	+1.2
	comp=Z,815nm,0.8s						
KASI	Kota Agung	16.49	117	P	P	10 11 04.9	-0.8
	comp=Z,13µmcomp=Z,7µmcomp=Z,501nm,0.8s						
ADKI	Addanki	16.82	326	eP	Pn	10 11 03.7	-3.7
BLSI	Bandar Lampung	17.10	115	P	P	10 11 14.4	+1.9
	comp=Z,9µmcomp=Z,8µmcomp=Z,298nm,1.0s						
PVM	Polavaram	17.16	333	eP	Pn	10 11 10.5	-1.0
SRLM	Srisailam	17.65	323	eP	Pn	10 11 16.7	-1.1
NJS	Nagarjunasagar	17.77	325	eP	Pn	10 11 17.9	-1.3
URV	Uravakonda	17.84	317	eP	Pn	10 11 17.9	-2.3
TPI	Tanjungpandan	18.49	105	P	Pn	10 11 30.7	+2.6
	comp=Z,7µmcomp=Z,178nm,1.5s						
CM31	Chiang Mai Arr	18.68	28	P	P	10 11 29.5	-0.4
	SNR=86						
CM31				P	P	10 11 29.5	-0.4
	SNR=86						
CM31				P	P	10 11 29.5	-0.4
	SNR=86						
CM31				S	S	10 15 02.7	+1.3
CM31				S	S	10 15 02.7	+1.3
CM31				S	S	10 15 02.7	+1.3
CM31	Chiang Mai Arr	18.68	28	P	Pn	10 11 30.8	+0.4
CMAR	Chiang Mai Arr	18.68	28	P	P	10 11 29.4	-0.6
	comp=Z,1.3nm,0.3s,baz=221,slow=11,SNR=77						
HYB	Hyderabad	18.89	325	i P	P	10 11 31.5	-0.7
	comp=Z,550nm,1.0s						
HYB				eS	Sn	10 15 02.0	-1.8
HYB	Hyderabad	18.89	325	⇓iP	P	10 11 31.2	-1.0
HYB				IAmb	IAmb	10 11 35.6	
	comp=Z,284nm,0.8s						
HYBB	Hyderabad (bro	18.89	325	eP	P	10 11 31.2	-1.0
DBJI	Dramaga	18.95	117	P	Pn	10 11 35.3	+1.6
	comp=Z,24µmcomp=Z,634nm,0.9s						
CBJI	Citeko	18.99	116	P	Pn	10 11 44.2	+10
CHTO	Chiang Mai	18.99	28	P	P	10 11 33.1	-0.2
CHTO				P	P	10 11 33.1	-0.2
CHTO				P	P	10 11 33.1	-0.2
CHTO				S	S	10 15 10.7	+3.1
CHTO				S	S	10 15 10.7	+3.1
CHTO				S	S	10 15 10.7	+3.1
CHTO	Chiang Mai	18.99	28	P	P	10 11 32.6	-0.8
CHTO				pmax	pmax		
	comp=Z,149nm,1.0s						
CHTO	Chiang Mai	18.99	28	P	P	10 11 32.5	-0.8
CNJI	Cibinong	19.63	118	P	Pn	10 11 41.8	0.0
	comp=Z,11µmcomp=Z,13µmcomp=Z,1µm,1.0s						
DGAR	Diego Garcia	19.64	241	deP	P	10 11 40.6	+0.2
DGAR				pmax	pmax		
	comp=Z,455nm,1.0s						
DGAR	Diego Garcia	19.64	241	P	P	10 11 40.4	0.0
RPR	Rampur	19.66	329	eP	P	10 11 40.7	+0.1
H08S2	Diego Garcia H	19.71	241	T	T	10 31 45.5	
	baz=60,slow=75,SNR=1630						
H08S3	Diego Garcia H	19.71	241	T	T	10 31 49.5	
	baz=60,slow=75,SNR=1203						
H08S1	Diego Carcia H	19.73	241	T	T	10 31 48.7	
	baz=60,slow=75,SNR=1813						
LEM	Lembang	19.85	116	P	Pn	10 11 44.3	-0.3
	comp=Z,3.9nm,0.3s,baz=293,slow=2.8,SNR=10						
LEM				LR	LR	10 18 45.2	
	comp=Z,6µm,18.6s,baz=288,slow=35						
XMIS	Christmas Isla	20.08	128	P	Pn	10 11 48.9	+1.8
SRSP	Sriramsagar	20.22	327	eP	P	10 11 46.6	-0.1
CISI	Cisompet, Garu	20.35	118	P	Pn	10 11 49.3	-1.0
	comp=Z,9µmcomp=Z,10µmcomp=Z,849nm,1.0s						
CISI	Cisompet, Garu	20.35	118	P	P	10 11 48.8	+0.6
KSM	Kuching	20.54	91	P	Pn	10 11 51.5	-1.1
KSM	Kuching	20.54	91	P	Pn	10 11 52.0	-0.5
KLRI	Killari	20.56	322	eP	P	10 11 50.2	-0.3
GOA	Goa	20.67	311	⇓iP	P	10 11 52.1	+0.4
GOA				IAmb	IAmb	10 11 56.3	
	comp=Z,2µm,1.8s						
DLV	T Lat	21.03	61	P	P	10 11 56.5	+0.7
DLV				IAmb	IAmb	10 11 58.5	
	comp=Z,305nm,0.9s						
KAD	Karad	21.60	316	⇓ix	P	10 12 01.8	+0.1
KAD				i x	x	10 15 46.5	
BOK	Bokaro	22.01	350	eP	P	10 12 05.0	-0.9
BOK				IAmb	IAmb	10 12 22.3	
	comp=Z,472nm,1.1s						
SBUM	Sibu	22.44	88	P	P	10 12 11.4	+0.7
SBUM	Sibu	22.44	88	P	P	10 12 12.0	+1.3
SMRI	Semarang	22.50	114	P	P	10 12 13.8	+2.4
	comp=Z,11µmcomp=Z,11µmcomp=Z,512nm,1.0s						
POO	Poona	22.67	318	eP	P	10 12 11.7	-1.5
POO				⇑iP	P	10 12 12.0	-1.2
	comp=Z,300nm,0.8s						
POO				ex	x	10 16 12.0	
UWJI	Ujung Watu	22.73	112	P	P	10 12 30.6	+17
UGM	Wanagama	22.92	116	P	P	10 12 25.9	+10
JBP	Jabalpur	23.10	337	eP	P	10 12 17.7	+0.2
JBP				eS	S	10 16 27.7	+0.2
JBP				AMB	AMB	10 17 18.6	
	comp=Z,423nm,1.3s						
WOJI	Wonogiri, Jawa	23.25	115	P	P	10 12 20.6	+1.5
	comp=Z,3µmcomp=Z,3µmcomp=Z,116nm,1.0s						
SHL	Shillong	23.54	5	eP	P	10 12 20.3	-1.8
SHL	Shillong	23.54	5	P	P	10 12 20.9	-1.1
	SNR=111						
SHL				S	S	10 16 29.2	-5.8
SHL	Shillong	23.54	5	P	P	10 12 21.0	-1.1
SHL				pmax	pmax		
	comp=Z,220nm,0.8s						
SHL				MLR	MLR		
	comp=Z,13µm,21.0s						
SHL	Shillong	23.54	5	P	P	10 12 21.0	-1.1
SHL				IAmb	IAmb	10 12 45.8	
	comp=Z,220nm,0.8s						
SHL				IAMs_20	IAMs_20	10 22 54.2	
	comp=Z,13µm,21.0s						
SLVN	Son La	23.66	35	P	P	10 12 23.3	+0.1
SLVN				IAmb	IAmb	10 12 25.9	
	comp=Z,160nm,0.8s						
SLVN				IAMs_20	IAMs_20	10 22 55.7	
	comp=Z,13µm,18.0s						
BHPL	Bhopal	24.29	331	⇓iP	P	10 12 29.9	+0.8
BHPL				IAmb	IAmb	10 13 01.5	
	comp=Z,315nm,0.5s						
GTK	Tadong	25.22	358	ex	P	10 12 41.2	+3.7
KMMI	Kalianget	25.76	111	P	P	10 12 43.6	+1.1
	comp=Z,2µmcomp=Z,102nm,1.0s						
DIBR	DIBRUGARH	25.82	11	eP	P	10 12 41.8	-1.0
LKP	Lekhapani	25.87	12	eP	P	10 12 42.9	-0.4
QIZ	Qiongzhong	25.95	48	P	P	10 12 44.7	+0.5
QIZ				sP	sP	10 12 51.7	-1.2
QIZ				S	S	10 17 16.2	+2.7
QIZ				pmax	pmax		
	comp=Z,66nm,1.2s						
QIZ				pmax	pmax		
	comp=Z,1µm,6.5s						
QIZ				LR	LR		
	comp=Z,14µm,16.2s						
QIZ				LR	LR		
	comp=Z,8µm,16.7s						
QIZ				LR	LR		
	comp=Z,6µm,14.7s						
QIZ	Qiongzhong	25.95	48	IAmb	IAmb	10 12 59.8	
	comp=Z,223nm,0.9s						
KMI	Kunming	26.19	27	P	P	10 12 48.4	+1.9
KMI				pP	sP	10 12 54.1	-1.2
KMI				sP	pwP	10 12 57.6	+1.3
KMI				PP	PnPn	10 13 33.6	+8.0
KMI				S	S	10 17 19.1	+1.6
KMI				sS	sS	10 17 28.4	+0.7
KMI				SS	SnSn	10 18 29.5	+12
KMI				pmax	pmax		
	comp=Z,60nm,1.0s						
KMI				pmax	pmax		
	comp=Z,980nm,6.0s						
KMI				LR	LR		
	comp=Z,9µm,14.4s						
KMI				LR	LR		
	comp=Z,4µm,20.9s						
KMI				LR	LR		
	comp=Z,7µm,16.1s						
KMI	Kunming	26.19	27	IAmb	IAmb	10 13 20.6	
	comp=Z,80nm,0.8s						
JAGI	Jajag, Banyuwa	26.43	113	P	P	10 12 49.1	+0.5
	comp=Z,2µmcomp=Z,113nm,0.8s						
JAGI	Jajag, Banyuwa	26.43	113	IAmb	IAmb	10 13 04.3	
	comp=Z,242nm,1.3s						
KKM	Kota Kinabalu	26.68	81	P	P	10 12 50.9	0.0
KKM				IAmb	IAmb	10 13 09.9	
	comp=Z,140nm,1.1s						
SPMM	Sapulut	26.79	84	P	P	10 12 53.0	+1.2
KBKI	Kotabaru	26.90	101	P	P	10 13 07.2	+14
SRBI	Singaraja	27.27	112	P	P	10 12 57.7	+1.6
	comp=Z,99nm,0.7s						
BKB	Balikpapan	27.32	97	P	P	10 13 06.3	+10
BKB	Balikpapan	27.32	97	IAMs_20	IAMs_20	10 22 29.4	
	comp=Z,11µm,19.0s						
LSA	Lhasa	27.60	3	P	P	10 13 02.8	+3.4
LSA				pP	pwP	10 13 09.8	+0.5
LSA				pmax	pmax		
	comp=Z,160nm,0.9s						
LSA				LR	LR		
	comp=Z,21µm,19.6s						
LSA				LR	LR		
	comp=Z,15µm,19.6s						
LSA				LR	LR		
	comp=Z,31µm,22.1s						
LSA	Lhasa	27.60	3	P	P	10 13 01.3	+1.9
NDI	New Delhi	29.13	337	eP	P	10 13 12.0	-0.5
NDI				ex	x	10 18 56.0	
GYA	Guiyang	29.25	32	⇑iP	P	10 13 14.4	+0.6
GYA				S	S	10 18 05.8	+0.2
GYA				SS	SnSn	10 19 40.9	+9.0
GYA				pmax	pmax		
	comp=Z,40nm,0.9s						
GYA				pmax	pmax		
	comp=Z,550nm,5.1s						
GYA				LR	LR		
	comp=Z,8µm,17.5s						
GYA				LR	LR		
	comp=Z,8µm,16.1s						
GYA				LR	LR		
	comp=Z,6µm,18.2s						
MPSI	Mapaga	30.17	93	P	P	10 13 24.7	+2.8
	comp=Z,894nmcomp=Z,51nm,0.8s						
DDI	Dehra Dun	30.30	340	eP	P	10 13 24.1	+1.2
DDI				IAmb	IAmb	10 13 35.5	
	comp=Z,296nm,1.0s						
TTSI	Tana Toraja	30.45	99	P	P	10 13 27.5	+3.1
	comp=Z,46nm,1.0s						
SPSI	Sidrap Palu	30.56	101	P	P	10 13 26.9	+1.5
	comp=Z,1µmcomp=Z,52nm,1.2s						
KAPI	Kappang	30.75	103	P	P	10 13 27.6	+0.6
KAPI				MLR	MLR		
	comp=Z,5µm,18.0s						
KAPI	Kappang	30.75	103	P	P	10 13 27.6	+0.6
BNSI	Bone	30.97	102	P	P	10 13 30.9	+1.9
	comp=Z,2µmcomp=Z,102nm,1.0s						
GZH	Guangzhou	31.03	46	P	P	10 13 35.6	+6.2
GZH				PP	PP	10 14 37.1	-2.6
GZH				S	S	10 18 43.2	+10
GZH				LR	LR		
	comp=Z,7µm,17.8s						
GZH				LR	LR		
	comp=Z,9µm,18.9s						
BKSI	Bulukumba	31.18	104	P	P	10 13 32.9	+2.1
	comp=Z,1µmcomp=Z,55nm,1.0s						
SMLA	Simla	31.34	339	⇓iP	P	10 13 32.8	+0.7
CD2	Chengdu	31.67	23	P	P	10 13 34.8	-0.2
CD2				pP	pP	10 13 40.2	-1.1
CD2				sP	pwP	10 13 46.0	+1.1
CD2				PP	PnPn	10 14 39.7	+0.4
CD2				S	S	10 18 43.8	+0.5
CD2				sS	sS	10 18 55.8	+2.2
CD2				pmax	pmax		
	comp=Z,110nm,0.7s						
CD2				pmax	pmax		
	comp=Z,750nm,5.7s						
CD2				LR	LR		
	comp=Z,11µm,22.6s						
CD2				LR	LR		
	comp=Z,14µm,20.2s						
CD2				LR	LR		
	comp=Z,8µm,14.5s						
WBSI	Waikabubak, Su	31.68	112	P	P	10 13 35.7	+0.4
	comp=Z,102nm,1.0s						
BHK	Bhakra	31.88	338	ex	P	10 13 38.8	+2.0
BHK				ex	x	10 14 25.2	
MRSI	Marisa	32.20	92	P	P	10 13 40.2	+0.4
	comp=Z,1µmcomp=Z,88nm,1.3s						
WSI	Waingapu	32.53	111	P	P	10 13 40.6	-2.2
	comp=Z,20µmcomp=Z,744nm,0.5s						
DHRM	DHARAMSHALA	32.67	339	⇓iP	P	10 13 44.2	+0.2
PGP	Puerto Galera	32.90	68	⇑eP	P	10 13 47.3	+1.3
BASI	Baing, Sumba	32.98	112	P	P	10 13 49.1	+2.5
	comp=Z,4µmcomp=Z,371nm,1.2s						
THN	Thein Dam	33.05	338	⇑iP	P	10 13 49.5	+2.5
THN				ex	x	10 20 54.0	
TGY	Tagaytay City	33.07	67	P	P	10 13 48.0	+0.6
	comp=Z,321nm,0.7s,baz=320,slow=3.7,SNR=8.4						
EDFI	Ende, Flores	33.56	109	P	P	10 13 48.2	-3.6
	comp=Z,1µmcomp=Z,444nmcomp=Z,23nm,0.8s						
BBSI	Bau Bau	33.59	103	P	P	10 14 06.2	+14
LQP	Lukban	33.63	67	eP	P	10 13 52.0	-0.5
ENH	Enshi	33.79	32	IAMs_20	IAMs_20	10 29 56.5	
	comp=Z,8µm,18.0s						
SZP	Santa	33.88	61	P	P	10 13 53.8	-0.6
MMRI	Maumere	34.04	109	IAMs_20	IAMs_20	10 28 21.1	
	comp=Z,6µm,19.0s						
RCP	Roxas	34.06	72	⇑eP	P	10 13 57.8	+1.7
GIRL	Giralia	34.18	137	P	P	10 13 58.6	+1.6
	baz=34,SNR=3.9						
GIRL	Giralia	34.18	137	P	P	10 13 57.3	+0.3
KMSI	Cibinong	34.23	92	P	P	10 14 08.1	+11
CTBH	Cotabato--PC H	34.74	80	⇓iP	P	10 14 03.4	+1.4
NIL	Nilore	35.09	336	P	P	10 14 05.2	+0.4
NIL				S	S	10 19 36.0	-0.3
NIL	Nilore	35.09	336	P	P	10 14 04.9	+0.1
NIL				pmax	pmax		
	comp=Z,451nm,0.8s						
NIL				MLR	MLR		
	comp=Z,4µm,19.0s						
NIL	Nilore	35.09	336	P	P	10 14 04.9	+0.1
KCP	Kidapawan	35.55	81	⇓iP	P	10 14 10.8	+1.7
BATI	Baumata	35.85	110	P	P	10 14 10.5	-1.1
	comp=Z,794nmcomp=Z,104nm,0.9s						
QZH	Quanzhou	35.98	48	⇑iP	P	10 14 13.7	+1.2
QZH				PP	PP	10 15 36.6	+2.1
QZH				S	S	10 19 52.7	+2.8
QZH				pmax	pmax		
	comp=Z,630nm,5.1s						
QZH				LR	LR		
	comp=Z,9µm,17.5s						
QZH				LR	LR		
	comp=Z,10µm,17.5s						
QZH				LR	LR		
	comp=Z,5µm,15.2s						
DAV	Davao City (W)	36.04	81	LR	LR	10 30 16.8	
	comp=Z,3µm,19.3s,baz=255,slow=38						
DAV	Davao City (W)	36.04	81	⇑iP	P	10 14 14.0	+0.8
WBK	Wadi Bani Khal	36.25	307	P	P	10 14 15.1	+0.2
	SNR=6.5						
WBK				P	P	10 14 15.1	+0.2
	SNR=6.5						
WBK				S	S	10 19 57.7	+3.3
WBK				S	S	10 19 57.7	+3.3
SOEI	Soe	36.28	109	P	P	10 14 13.9	-1.5
	comp=Z,2µmcomp=Z,126nm,0.9s						
SOEI	Soe	36.28	109	IAmb	IAmb	10 14 35.6	
	comp=Z,111nm,0.9s						
SOEI				IAMs_20	IAMs_20	10 29 18.5	
	comp=Z,6µm,21.0s						
MHTO	MHTO	36.30	304	P	P	10 14 14.7	-0.6
	SNR=12						
MHTO				P	P	10 14 14.7	-0.6
	SNR=12						
LZH	Lanzhou	36.35	19	⇑P	P	10 14 15.6	-0.2
LZH				pP	sP	10 14 23.5	-1.1
LZH				sP	pwP	10 14 26.6	+0.9
LZH				PP	PnPn	10 15 38.3	+0.1
LZH				S	S	10 19 55.6	-0.2
LZH				pmax	pmax		
	comp=Z,58nm,1.4s						
LZH				pmax	pmax		
	comp=Z,570nm,4.9s						
LZH				LR	LR		
	comp=Z,9µm,15.9s						
LZH				LR	LR		
	comp=Z,6µm,15.2s						
LZH				LR	LR		
	comp=Z,9µm,17.3s						
SANI	Sanana	36.43	96	P	P	10 14 15.9	-0.7
	comp=Z,1µmcomp=Z,52nm,1.0s						
XAN	Xi'an	36.57	27	P	P	10 14 15.7	-1.8
XAN				PP	PP	10 15 41.4	+0.4
XAN				S	S	10 19 56.8	-2.2
XAN				SS	SS	10 22 36.6	-2.8
XAN				pmax	pmax		
	comp=Z,76nm,1.6s						
XAN				pmax	pmax		
	comp=Z,640nm,3.9s						
XAN				LR	LR		
	comp=Z,9µm,17.4s						
XAN				LR	LR		
	comp=Z,6µm,16.3s						
XAN				LR	LR		
	comp=Z,8µm,21.7s						
XAN	Xi'an	36.57	27	IAmb	IAmb	10 14 31.2	
	comp=Z,88nm,1.0s						
XAN	Xi'an	36.57	27	IAMs_20	IAMs_20	10 30 10.8	
	comp=Z,6µm,22.0s						
TPUB	Ta-pu	36.65	52	P	P	10 14 19.3	+1.0
WHN	Wuhan	36.73	37	⇑P	P	10 14 19.7	+0.9
WHN				sP	pwP	10 14 30.5	+1.7
WHN				PP	PP	10 15 44.5	+1.7
WHN				S	S	10 20 04.0	+2.7
WHN				pmax	pmax		
	comp=Z,150nm,0.9s						
WHN				pmax	pmax		
	comp=Z,1µm,8.4s						
WHN				LR	LR		
	comp=Z,4µm,11.2s						
WHN				LR	LR		
	comp=Z,13µm,14.9s						
WHN				LR	LR		
	comp=Z,15µm,16.6s						
WSAR	Wadi Sarin	36.84	308	LR	LR	10 27 49.3	
	comp=Z,4µm,18.1s,baz=139,slow=34						
WSAR	Wadi Sarin	36.84	308	P	P	10 14 20.2	+0.3
	SNR=9.4						
SOCY	Socotra	36.88	288	P	P	10 14 21.5	+1.1
SOCY	Socotra	36.88	288	P	P	10 14 20.9	+0.5
SOCY				IAmb	IAmb	10 14 31.3	
	comp=Z,106nm,0.9s						
SMDO	Samad	37.21	307	P	P	10 14 23.3	+0.1
	SNR=9.0						
SMDO				P	P	10 14 23.3	+0.1
	SNR=9.0						
SMDO				P	P	10 14 23.3	+0.1
	SNR=9.0						
YULB	Yu-li	37.23	53	IAmb	IAmb	10 14 26.6	
	comp=Z,80nm,0.8s						
MBWA	Marble Bar	37.27	130	P	P	10 14 23.4	-0.2
MBWA				P	P	10 14 23.4	-0.2
BIDO	Bidbid	37.38	308	P	P	10 14 24.9	+0.4
	SNR=14						
BIDO				P	P	10 14 24.9	+0.4
	SNR=14						
BIDO				P	P	10 14 24.9	+0.4
	SNR=14						
PSA00	Pilbara Seismi	37.59	130	P	P	10 14 26.5	+0.3
PSA00				IAmb	IAmb	10 14 36.8	
	comp=Z,92nm,1.1s						
TNTI	Ternate	37.61	91	P	P	10 14 43.7	+17
NLAI	Namlea	37.67	98	P	P	10 14 30.1	+3.0
	comp=Z,2µmcomp=Z,147nm,1.1s						
KBL	Kabul	37.72	331	P	P	10 14 27.8	+0.3
KBL				P	P	10 14 27.8	+0.3
KBL				P	P	10 14 27.8	+0.3
KBL	Kabul	37.72	331	P	P	10 14 27.3	-0.2
KBL				pmax	pmax		
	comp=Z,81nm,0.9s						
KBL				MLR	MLR		
	comp=Z,2µm,21.0s						
KBL	Kabul	37.72	331	P	P	10 14 27.3	-0.2
KBL				IAmb	IAmb	10 14 38.3	

comp=Z,81nm,0.9s
BSY Bisya 37.75 306 P P 10 14 27.8 +0.2
SNR=12
LBMI Labuha 37.82 94 P P 10 14 29.7 +1.4
comp=Z,6μmcomp=Z,131nm,1.6s
HOQ Hoqain 38.06 307 P P 10 14 30.6 +0.3
SNR=20
HOQ P P **10 14 30.6 +0.3**
SNR=20
RBK Rabkut 38.18 296 P P 10 14 31.4 +0.1
SNR=7.1
RBK P P **10 14 31.4 +0.1**
SNR=7.1
TATO Taipei 38.19 51 P P 10 14 27.3 -4.0
GTA Gaotai 38.36 13 ⇑P P 10 14 33.5 +0.8
GTA pP pP 10 14 39.7 +0.7
GTA sP pwP 10 14 43.3 +0.6
GTA PP **PP 10 16 03.3 +2.6**
GTA S **S 10 20 26.8 +0.6**
GTA sS sS 10 20 39.0 +2.4
GTA SS **SS 10 23 09.0 -6.5**
GTA pmax pmax
comp=Z,65nm,1.2s
GTA pmax pmax
comp=Z,570nm,7.6s
GTA LR LR
comp=Z,3μm,18.7s
GTA LR LR
comp=Z,4μm,20.3s
GTA LR LR
comp=Z,3μm,19.0s
ARQ Araqi 38.58 306 P P 10 14 34.9 +0.3
SNR=12
ARQ P P **10 14 34.9 +0.3**
SNR=12
WHFO Wadi Hawf 38.71 297 P P 10 14 35.5 -0.3
SNR=11
WHFO P P **10 14 35.5 -0.3**
SNR=11
WHFO S **S 10 20 28.3 -3.5**
WHFO S **S 10 20 28.3 -3.5**
ABTO Aybut 38.95 295 P P 10 14 37.9 0.0
SNR=6.9
ABTO P P **10 14 37.9 0.0**
SNR=6.9
ABTO S S 10 20 24.6 -11
ABTO S S 10 20 24.6 -11
SOHO SOHO 38.95 307 P P 10 14 38.0 +0.3
SNR=20
SOHO P P **10 14 38.0 +0.3**
SNR=20
SOHO P P **10 14 38.0 +0.3**
SNR=20
KSH Kashi 39.42 343 P P 10 14 40.5 -1.0
KSH pP pP 10 14 45.2 -2.6
KSH S **S 10 20 37.9 -4.2**
KSH sS pS 10 20 49.0 -0.4
KSH ScS **ScS 10 24 48.3 -0.6**
KSH pmax pmax
comp=Z,170nm,1.2s
KSH pmax pmax
comp=Z,2μm,5.7s
KSH LR LR
comp=Z,4μm,13.4s
KSH LR LR
comp=Z,2μm,10.3s
KSH LR LR
comp=Z,2μm,14.1s
ALNE Al Ain 39.54 307 *i* P **P 10 14 42.6 0.0**
SNR=14
ASHO Ashiyiah 39.60 308 *i* P **P 10 14 42.9 -0.2**
SNR=9.3
ASHO Ashiyiah 39.60 308 P P 10 14 43.3 +0.1
SNR=7.1
ASHO P P **10 14 43.3 +0.1**
SNR=7.1
ASHO S **S 10 20 45.4 +0.3**
ASHO S **S 10 20 45.4 +0.3**
HATD Hatta, Dubai 39.61 308 *i* P **P 10 14 43.1 -0.2**
SNR=9.2
HATD Hatta, Dubai 39.61 308 P P 10 14 43.4 +0.2
SNR=12
HATD P P **10 14 43.4 +0.2**
SNR=12
UOSS Minazif 39.61 308 P P 10 14 42.4 -0.8
UOSS Minazif 39.61 308 P P 10 14 42.7 -0.6
UOSS P **P 10 14 42.7 -0.6**
UOSS Minazif 39.61 308 P 10 14 42.6 -0.6
UOSS Minazif 39.61 308 IAMs_20 IAMs_20 10 26 59.8
comp=Z,5μm,22.0s
MEEK Meekatharra 39.80 138 P P 10 14 45.8 +1.0
baz=40,SNR=74
MORW Morawa 39.83 143 P P 10 14 46.2 +1.2
baz=40,SNR=19
MORW Morawa 39.83 143 P P 10 14 46.0 +1.0
MSFE Esma-Masafi 39.85 309 *i* P **P 10 14 45.2 -0.1**
SNR=12
FAQ Al Faqa, Dubai 40.00 307 *i* P **P 10 14 46.6 +0.1**
SNR=5.4
BANOM Banah 40.03 309 P P 10 14 46.4 -0.4
NAZ Nazwa, Dubai 40.06 308 *i* P **P 10 14 46.8 -0.2**
SNR=7.6
RER Riviere de l'E 40.46 234 P P 10 14 50.7 +0.3
NJ2 Nanjing 40.56 39⇑ *i* P **P 10 14 51.7 +0.8**
NJ2 sP **pP 10 14 57.2 -0.1**
NJ2 PcP **PcP 10 16 46.0 -7.1**
NJ2 S **S 10 21 01.7 +2.7**
NJ2 sS **sS 10 21 08.3 -1.2**
NJ2 SS **SS 10 24 02.3 +2.9**
NJ2 pmax pmax
comp=Z,39nm,0.9s
NJ2 pmax pmax
comp=Z,540nm,3.5s
NJ2 LR LR
comp=Z,8μm,17.5s
NJ2 LR LR
comp=Z,11μm,16.6s
NJ2 LR LR
comp=Z,8μm,13.7s
FITZ Fitzroy Crossi 40.56 121 P P 10 14 50.1 -1.1
GAR Garm 40.90 337 P P 10 14 53.1 -0.8
TARG Taragay, Kyrgy 41.01 346 IAmb IAmb 10 15 07.3
comp=Z,151nm,0.9s
CHGR Chuyangaron 41.08 335 IAmb IAmb 10 15 05.2
comp=Z,189nm,0.9s
TIY Taiyuan 41.21 28 *e*P **P 10 14 56.1 -0.3**
TIY PP **PnPn 10 16 40.4 +4.1**
TIY S **S 10 21 09.9 +1.1**
TIY SS **SS 10 24 10.2 -2.2**
TIY pmax pmax
comp=Z,490nm,7.6s
TIY LR LR
comp=Z,2μm,13.7s
TIY LR LR
comp=Z,8μm,18.6s
TIY LR LR
comp=Z,5μm,21.3s
HRA Herat 41.21 325 P P 10 14 56.9 +0.3
HRA IAmb IAmb 10 15 18.1
comp=Z,113nm,0.9s
BLDU Ballidu 41.35 144 P P 10 14 57.9 +0.4
baz=42,SNR=14
SSE Sheshan 41.47 42 P P 10 15 00.5 +2.0
SSE S **S 10 21 16.8 +4.1**
SSE pmax pmax
comp=Z,24nm,0.8s
SSE pmax pmax
comp=Z,350nm,6.9s
SSE LR LR
comp=Z,1μm,15.1s
SSE LR LR
comp=Z,3μm,15.1s
KDJ Kajisay 41.54 346 IAmb IAmb 10 15 11.2
comp=Z,116nm,1.1s
SIJI Sorong 41.59 94 LR LR 10 32 29.2
comp=Z,2μm,21.4s,baz=260,slow=36
BTK Batken 41.62 338 IAmb IAmb 10 15 12.2
comp=Z,114nm,0.8s
WMQ Urumqi 41.70 358 *e*P **P 10 15 00.5 +0.2**
WMQ pP pP 10 15 06.1 -0.5
WMQ sP pwP 10 15 11.5 +1.2
WMQ PP PP 10 16 45.7 +8.7
WMQ PcP **PcP 10 16 58.1 +1.4**
WMQ S **S 10 21 15.7 -0.2**
WMQ pmax pmax
comp=Z,120nm,0.7s
WMQ pmax pmax
comp=Z,190nm,3.9s
WMQ LR LR
comp=Z,2μm,21.5s
WMQ LR LR
comp=Z,4μm,22.1s
WMQ LR LR
comp=Z,4μm,25.1s
WMQ Urumqi 41.70 358 IAmb IAmb 10 15 12.5
comp=Z,130nm,0.8s
ULHL Ulahol 41.88 345 P P 10 15 12.9 +11
SNR=5.8
KZA Kyzart 42.00 344 P **P 10 15 03.6 +0.5**
SNR=16
SHLS Shalkode 42.02 349⇓ *i*P **P 10 15 03.1 +0.1**
comp=Z,115nm,2.2s,baz=349
SHLS *e*S **S 10 21 22.0 +1.2**
baz=349
SHLS Shalkode 42.02 349 *d* iP **P 10 15 03.1 +0.1**
SHLS *e*S **S 10 21 21.9 +1.2**
SHLS pmax pmax
comp=Z,115nm,2.2s
MUN Mundaring 42.06 146 P **P 10 15 04.1 +0.8**
baz=42,SNR=6.5
UZB Uzynbulak 42.10 348⇓ *i*P **P 10 15 04.0 +0.3**
comp=Z,69nm,2.7s,baz=348
UZB *i* PP **PP 10 16 40.6 -0.7**
baz=348
UZB *i* PcP **PcP 10 16 58.7 +0.6**
baz=348
UZB *e*S **S 10 21 23.7 +1.7**
baz=348
UZB Uzynbulak 42.10 348 *d* iP **P 10 15 03.9 +0.3**
UZB *i* 10 16 40.6
UZB *i* 10 16 58.6
UZB *e*S **S 10 21 23.6 +1.7**
UZB pmax pmax
comp=Z,69nm,2.7s
SATY Saty 42.14 348⇓ *i*P **P 10 15 04.5 +0.5**
comp=Z,52nm,1.9s,baz=347
SATY *i* PP **PP 10 16 41.4 -0.4**
baz=347
SATY *e*S **S 10 21 24.7 +2.2**
baz=347
SATY Saty 42.14 348 *d* iP **P 10 15 04.4 +0.5**
SATY *i* 10 16 41.4
SATY *e*S **S 10 21 24.7 +2.2**
SATY pmax pmax
comp=Z,52nm,1.9s
PDGK Podgornoye 42.18 349 P **P 10 15 04.2 -0.1**
BOOM Boomskoye usch 42.19 345 IAMs_20 IAMs_20 10 32 10.6
comp=Z,5μm,21.0s
UCH Uchtor 42.34 343 P **P 10 15 06.8 +0.7**
SNR=42
KNRA Kununurra 42.35 116 P **P 10 15 06.0 +0.1**
baz=42,SNR=5.7
KNRA Kununurra 42.35 116 P **P 10 15 05.5 -0.4**
TIA Tai'an 42.43 33 P **P 10 15 06.8 +0.5**
TIA PP **PP 10 16 47.3 +2.4**
TIA S **S 10 21 29.9 +3.1**
TIA pmax pmax
comp=Z,36nm,0.9s
TIA LR LR
comp=Z,4μm,16.2s
TIA LR LR
comp=Z,3μm,18.1s
TIA LR LR
comp=Z,6μm,17.5s
TNSS Tian-Shan 42.45 346 *e*P **P 10 15 07.6 +0.8**
comp=Z,932nm,2.0s,baz=346
TNSS Tian-Shan 42.45 346 *e*P **P 10 15 07.6 +0.8**
TNSS pmax pmax
comp=Z,932nm,2.0s
AML Almayashu 42.50 342 P **P 10 15 08.1 +0.8**
SNR=53
MDOK Medeo 42.55 346 *i* P **P 10 15 07.9 +0.5**
comp=Z,1μm,2.7s,baz=346
MDOK *i* S **S 10 21 30.7 +2.1**
baz=346
MDOK *i* SS **SS 10 24 41.4 +2.6**
baz=346
MDOK LR LR 10 34 47.0
comp=Z,2μm,15.7s,baz=346
MDOK Medeo 42.55 346 *i* P **P 10 15 07.8 +0.5**
MDOK *i* S **S 10 21 30.7 +2.1**
MDOK pmax pmax
comp=Z,1μm,2.7s
MDOK MLR MLR
comp=Z,2μm,16.0s
BTO Baotou 42.60 23 *e*P **P 10 15 06.9 -0.8**
BTO *e*PP **PP 10 16 45.7 -1.0**
BTO SS SS 10 24 45.6 +5.8
KBK Karagaybulak 42.62 344 P **P 10 15 09.0 +1.1**
SNR=27
AAA Alma-Ata 42.62 346 *e*P **P 10 15 08.7 +0.9**
comp=Z,38nm,1.2s,baz=346
AAA Alma-Ata 42.62 346 *e*P **P 10 15 08.7 +0.9**
AAA pmax pmax
comp=Z,38nm,1.2s
KLBR Kellerberrin 42.67 144 P **P 10 15 08.4 +0.1**
baz=43,SNR=15
TKM2 Tokmak 2 42.69 345 P **P 10 15 08.9 +0.4**
SNR=35
AAK Ala-Archa 42.73 343 LR LR 10 33 24.3
comp=Z,2μm,21.7s,baz=150,slow=37
AAK Ala-Archa 42.73 343 P **P 10 15 10.2 +1.5**
SNR=16
AAK Ala-Archa 42.73 343 *i* P **P 10 15 09.5 +0.7**
SNR=19
AAK Ala-Archa 42.73 343⇓ *i*P **P 10 15 09.5 +0.7**
AAK pmax pmax
comp=Z,92nm,2.5s
AAK pmax pmax
comp=Z,3.0nm,16.0s
AAK Ala-Archa 42.73 343 P **P 10 15 09.3 +0.5**
FAKI Fak Fak 42.74 96 P **P 10 15 10.1 +0.9**
comp=Z,1μmcomp=Z,91nm,0.8s
FAKI Fak Fak 42.74 96 IAmb IAmb 10 15 23.3
comp=Z,76nm,0.9s
EKS2 Erkin-Say 42.96 343 P **P 10 15 13.5 +2.9**
SNR=26
H01W3 Cape Leeuwin H 43.21 150 T T 11 01 11.4
baz=324,slow=76,SNR=206
H01W2 Cape Leeuwin H 43.22 150 T T 11 01 14.5
baz=324,slow=76,SNR=334
H01W1 Cape Leeuwin H 43.22 150 T T 11 01 19.8
baz=324,slow=76,SNR=214
TAS Tashkent 43.30 337 P **P 10 15 14.1 +0.8**
TAS pmax pmax
comp=Z,238nm,1.2s
TAS Tashkent 43.30 337 P **P 10 15 14.1 +0.8**
USP Ospenovka 43.30 344 P **P 10 15 13.5 +0.2**
SNR=19
NWAO Narrogin (SRO) 43.35 146 P **P 10 15 13.7 -0.1**
baz=44,SNR=17
NWAO Narrogin (SRO) 43.35 146 P **P 10 15 13.7 -0.1**
NWAO pmax pmax
comp=Z,89nm,0.9s
NWAO Narrogin (SRO) 43.35 146 P **P 10 15 13.7 -0.1**
NWAO IAmb IAmb 10 15 15.3
comp=Z,89nm,0.8s
NWAO Narrogin (SRO) 43.35 146 IAmb IAmb 10 15 15.3
comp=Z,71nm,0.8s
NWAO IAMs_20 IAMs_20 10 33 14.4
comp=Z,2μm,20.0s
KUU Kurty 43.41 346⇓ *i*P **P 10 15 13.8 -0.3**
comp=Z,199nm,2.3s,baz=346
KUU *i* S **S 10 21 42.2 +1.3**
baz=346
KUU LR LR 10 33 48.8
comp=Z,1μm,15.9s,baz=346
KUU Kurty 43.41 346 *d* iP **P 10 15 13.8 -0.3**
KUU *i* S **S 10 21 42.2 +1.3**
KUU pmax pmax
comp=Z,199nm,2.3s
KUU MLR MLR
comp=Z,1μm,16.0s
HHC Hu-ho-hao-te 43.42 24 *e*P **P 10 15 15.2 +0.8**
HHC sP pP 10 15 21.3 +0.6
HHC S **S 10 21 41.4 0.0**
HHC sS sS 10 21 52.3 +0.4
HHC pmax pmax
comp=Z,37nm,0.8s
HHC pmax pmax
comp=Z,280nm,6.6s
HHC LR LR
comp=Z,3μm,14.6s
HHC LR LR
comp=Z,3μm,14.8s
HHC LR LR
comp=Z,2μm,14.9s
SGDS Sogindy 43.44 344⇓ *i*P **P 10 15 14.6 +0.2**
comp=Z,76nm,2.1s,baz=344
SGDS *i* PP **PP 10 16 56.0 +0.3**
baz=344
SGDS *e*S **S 10 21 43.4 +1.8**
baz=344
SGDS *i* SS **SS 10 24 58.5 +2.3**
baz=344
SGDS LR LR 10 34 25.4
comp=Z,459nm,13.0s,baz=344
SGDS Sogindy 43.44 344 *d* iP **P 10 15 14.6 +0.2**
SGDS *i* 10 16 56.0
SGDS *e*S **S 10 21 43.3 +1.8**
SGDS pmax pmax
comp=Z,76nm,2.1s
SGDS MLR MLR
comp=Z,459nm,13.0s
MTN Manton Dam 43.62 111 P **P 10 15 16.4 +0.2**
baz=44,SNR=6.8
IUG Iuzhnay 43.74 339⇓ *i*P **P 10 15 17.8 +0.8**
comp=Z,13nm,1.1s,baz=338
IUG *e*S **S 10 21 48.5 +2.4**
baz=338
IUG LR LR 10 35 17.0
comp=Z,76nm,14.0s,baz=338
IUG Iuzhnay 43.74 339 *d* iP **P 10 15 17.7 +0.8**
IUG *e*S **S 10 21 48.4 +2.4**
IUG pmax pmax
comp=Z,13nm,1.1s
IUG MLR MLR
comp=Z,76nm,14.0s
TDK Taldyqorghan 44.00 348 *e*P **P 10 15 19.7 +0.9**
baz=348
TDK *e*S **S 10 21 49.7 +0.1**
baz=348
TDK LR LR 10 35 28.6
comp=Z,2μm,15.5s,baz=348
TDK Taldyqorghan 44.00 348 *e*P **P 10 15 19.7 +0.9**
TDK *e*S **S 10 21 49.7 +0.1**
TDK MLR MLR
comp=Z,2μm,16.0s
KK31 Karatay Array 44.41 340 *i* P **P 10 15 22.2 +0.1**
KK31 Karatay Array 44.41 340 IAmb IAmb 10 15 33.7
comp=Z,117nm,1.0s
JOW Kunigami 44.42 53 P **P 10 15 22.7 +0.2**
comp=Z,4.7nm,0.8s,baz=105,slow=16,SNR=5.4
RKGY Rocky Gully 44.46 147 P **P 10 15 23.5 +0.8**
baz=45,SNR=6.0
BJT Baijiatuau 44.81 29 IAmb IAmb 10 15 41.3
comp=Z,194nm,1.6s
BJT Baijiatuau 44.81 29 IAMs_20 IAMs_20 10 35 49.1
comp=Z,4μm,19.0s
KDU Kakadu 44.83 110 P **P 10 15 26.1 +0.2**
baz=45,SNR=18
BJI Beijing 44.83 29 P **P 10 15 26.0 +0.5**
BJI PP **PP 10 17 13.4 +2.9**
BJI S **S 10 22 03.6 +1.9**
BJI SS **SS 10 25 25.8 +2.5**
BJI pmax pmax
comp=Z,51nm,1.7s
BJI pmax pmax
comp=Z,730nm,7.5s
BJI LR LR
comp=Z,3μm,22.8s
BJI LR LR
comp=Z,5μm,21.7s
BJI LR LR
comp=Z,3μm,25.8s
KMBL Kambalda 45.06 140 P **P 10 15 27.9 +0.3**
baz=45,SNR=16
MK31 Makanchi Array 45.11 353 *e*P **P 10 15 27.2 -0.5**
MKAR Makanchi Array 45.11 353 P **P 10 15 27.3 -0.4**
comp=Z,10nm,0.6s,baz=170,slow=8.4,SNR=64
MAKZ Makanchi 45.16 352 P **P 10 15 27.5 -0.6**
MAKZ pmax pmax
comp=Z,67nm,1.0s
MAKZ Makanchi 45.16 352 P **P 10 15 27.5 -0.6**
MAKZ IAmb IAmb 10 15 39.4
comp=Z,67nm,0.9s
ZSN Zaisan 45.49 355 *e*P **P 10 15 33.3 +2.5**
comp=Z,32nm,1.2s,baz=355
ZSN *i* S **S 10 22 12.9 +1.8**
baz=355
ZSN LR LR 10 35 29.4
comp=Z,303nm,12.6s,baz=355
ZSN Zaisan 45.49 355 *e*P **P 10 15 33.2 +2.5**
ZSN *i* S **S 10 22 12.9 +1.8**
ZSN pmax pmax
comp=Z,32nm,1.2s
ZSN MLR MLR
comp=Z,303nm,13.0s
WRKA Warakurna 45.99 128 P **P 10 15 35.3 +0.3**
baz=46,SNR=5.2
GEYT Alibeck 46.07 325 P **P 10 15 35.6 +0.1**
comp=Z,44nm,0.9s,baz=157,slow=8.0,SNR=70
GEYT LR LR 10 36 41.7
comp=Z,2μm,18.4s,baz=155,slow=38
GYA0 ALIBECK ARRAY 46.07 325 P **P 10 15 35.4 -0.1**
GYA0B ALIBECK ARRAY 46.07 325 IAmb IAmb 10 15 52.7
comp=Z,103nm,0.8s
DAMY Dhamar 46.50 288 P **P 10 15 40.2 +0.7**
SNR=29
DAMY Dhamar 46.50 288 P **P 10 15 40.2 +0.7**
ABPO Ambohimpanom 46.72 241 P **P 10 15 41.0 0.0**
ABPO pmax pmax
comp=Z,118nm,1.1s
ABPO Ambohimpanom 46.72 241 P **P 10 15 41.0 0.0**
DL2 Dalian 46.86 34 P **P 10 15 42.2 +0.6**
DL2 PP **PP 10 17 31.4 -0.7**
DL2 S **S 10 22 33.6 +2.6**
DL2 pmax pmax
comp=Z,68nm,0.9s
DL2 pmax pmax
comp=Z,440nm,4.8s
DL2 LR LR
comp=Z,3μm,18.0s
DL2 LR LR
comp=Z,3μm,15.1s
DL2 LR LR
comp=Z,5μm,15.9s
ATD Arta Tunnel 47.48 284 *i* P **P 10 15 47.5 +0.6**
ATD *i* S **S 10 22 41.6 +0.9**
ATD Arta Tunnel 47.48 284 P **P 10 15 47.3 +0.4**
SNR=16
ATD Arta Tunnel 47.48 284 *i* P **P 10 15 47.5 +0.6**
ATD *i* S **S 10 22 41.6 +0.9**
ATD Arta Tunnel 47.48 284 P **P 10 15 47.1 +0.2**
DGZ Jazzator, Alta 47.59 358⇓ *i*P **P 10 15 48.8 +1.5**
DGZ pmax pmax
comp=Z,21nm,1.8s
DGZ MLR MLR
comp=Z,3μm,19.0s
SONM Songino Array 47.89 15 P **P 10 15 50.0 +0.4**
comp=Z,84nm,0.6s,baz=195,slow=9.2,SNR=115
SONM LR LR 10 37 57.4
comp=Z,8μm,21.2s,baz=194,slow=39
SONM Songino Array 47.89 15 P **P 10 15 50.0 +0.4**
RAYN Ar Rayn 47.89 300 *i* P **P 10 15 48.8 -1.2**
SNR=14
RAYN Ar Rayn 47.89 300 P **P 10 15 48.5 -1.5**
RAYN pmax pmax
comp=Z,62nm,0.8s
RAYN Ar Rayn 47.89 300 P **P 10 15 48.5 -1.5**
RAYN IAmb IAmb 10 16 01.3
comp=Z,62nm,0.8s
RAYN IAMs_20 IAMs_20 10 33 48.8
comp=Z,5μm,19.0s
ULN Ulaanbaatar 48.09 16 *c* iP **P 10 15 51.5 +0.3**
ULN pmax pmax
comp=Z,93nm,1.7s
ULN Ulaanbaatar 48.09 16 P **P 10 15 51.4 +0.1**
OTUK Ortayu 48.48 344 P **P 10 15 53.3 -0.7**
HJU Haeju 48.72 38 P **P 10 15 56.5 +0.5**
TJN Taejon 48.75 41 *c* iP **P 10 15 56.0 -0.3**
WRA Warramunga Arr 48.84 119 P **P 10 15 57.1 -0.2**
comp=Z,61nm,0.8s,baz=296,slow=8.5,SNR=52
WRA LR LR 10 38 31.3
comp=Z,2μm,19.2s,baz=340,slow=38
WRAB Tennant Creek 48.85 119 *d* iP **P 10 15 57.4 +0.1**
WRAB pmax pmax
comp=Z,114nm,1.3s
WRAB Tennant Creek 48.85 119 P **P 10 15 57.5 +0.2**

FORT Forest 48.88 135 P P 10 15 58.0 +0.6
baz=49,SNR=35
FORT Forest 48.88 135 P P 10 15 57.7 +0.3
FORT IAMs_20 IAMs_20 10 39 01.9
comp=Z,3µm,18.0s
INCN Inchon 48.94 39 P P 10 15 56.9 -0.8
INCN pmax pmax
comp=Z,45nm,1.2s
INCN MLR MLR
comp=Z,3µm,20.0s
INCN Inchon 48.94 39 P P 10 15 56.9 -0.8
WR0 Warramunga Arr 49.02 119 P P 10 15 59.1 +0.4
SMPI Sarmi 49.09 94 P P 10 16 00.3 +1.0
comp=Z,2µmcomp=Z,24nm,1.0s
SUJ Sinuiju 49.30 35 P P 10 15 59.8 -0.6
PYAG Pyongyang 49.37 37 P P 10 16 00.0 -1.0
PYAG PPP PPP 10 18 49.0
PYAG S S 10 23 08.0 +1.5
PYAG sS pS 10 23 15.0 +0.9
KURBB Kurchatov Arra 49.39 351 P P 10 16 00.7 -0.2
comp=Z,29nm,0.9s,baz=174,slow=7.4,SNR=106
KURBB Kurchatov Arra 49.39 351 P P 10 16 00.1 -0.8
JNU Nakatsue 49.41 47 P P 10 16 01.6 +0.1
comp=Z,24nm,0.8s,baz=155,slow=2.0,SNR=20
JNU LR LR 10 39 13.0
comp=Z,2µm,18.2s,baz=250,slow=39
JNU Nakatsue 49.41 47 P P 10 16 01.1 -0.4
JNU IAmb IAmb 10 16 20.7
comp=Z,36nm,0.8s
KURK Kurchatov 49.47 351 *de*P P 10 16 01.2 -0.3
KURK pmax pmax
comp=Z,54nm,1.0s
KURK Kurchatov 49.47 351 P P 10 16 00.7 -0.8
ZAK Zakamensk 49.57 11 *e*P P 10 16 02.8 +0.3
ZAK pmax pmax
comp=Z,29nm,1.3s
KS19 Wonju Array Si 49.74 40 IAmb IAmb 10 16 18.9
comp=Z,116nm,1.9s
KSRS Korea Array 49.74 40 P P 10 16 03.4 -0.5
comp=Z,10nm,1.1s,baz=214,slow=10.0,SNR=50
KSRS LR LR 10 39 10.4
comp=Z,3µm,18.8s,baz=236,slow=39
ASAR Alice Springs 49.91 123 P P 10 16 05.8 +0.3
comp=Z,28nm,0.8s,baz=296,slow=7.2,SNR=204
SNY Shenyang 49.95 33 ⇑P P 10 16 05.0 -0.4
SNY S S 10 23 14.8 +0.2
SNY pmax pmax
comp=Z,42nm,1.8s
SNY pmax pmax
comp=Z,590nm,6.9s
SNY LR LR
comp=Z,6µm,17.8s
SNY LR LR
comp=Z,3µm,19.0s
SNY LR LR
comp=Z,6µm,17.1s
BRZS Berezniki 49.99 346 ⇓ *i*P P 10 16 05.5 0.0
comp=Z,102nm,2.3s,baz=346
BRZS LR LR 10 37 09.2
comp=Z,534nm,15.2s,baz=346
BRZS Berezniki 49.99 346 *d i*P P 10 16 05.5 0.0
BRZS pmax pmax
comp=Z,103nm,2.3s
BRZS MLR MLR
comp=Z,534nm,15.0s
MOY Mondy 50.40 9 *e*P P 10 16 09.2 +0.4
MOY pmax pmax
comp=Z,39nm,2.4s
WOSN Wonsan 50.45 38 P P 10 16 10.0 +0.8
TLY Talaya 50.88 11 P P 10 16 12.8 +0.5
comp=Z,12nm,0.7s,baz=221,slow=6.6,SNR=18
TLY LR LR 10 40 11.0
comp=Z,3µm,20.1s,baz=194,slow=39
TLY Talaya 50.88 11 *c i*P P 10 16 13.0 +0.7
TLY *e* 10 18 10.8
TLY *e*S S 10 23 28.2 +1.0
TLY pmax pmax
comp=Z,29nm,0.6s
TLY MLR MLR
comp=Z,6µm,17.0s
TLY Talaya 50.88 11 P P 10 16 12.7 +0.4
TLY IAMs_20 IAMs_20 10 39 57.6
comp=Z,3µm,19.0s
HHU Hamhung 50.98 37 P P 10 16 13.5 +0.3
KGE Kanggye 51.08 36 P P 10 16 13.8 -0.1
JAY Jayapura 51.12 95 LR LR 10 40 40.1
comp=Z,1µm,21.4s,baz=268,slow=39
AAE Adis Abeba 51.20 280 *e*P P 10 16 14.9 -0.8
AAE *e*S S 10 23 38.0 +4.6
AAE Adis Abeba 51.20 280 *e*P P 10 16 14.9 -0.8
AAE *e*S S 10 23 38.0 +4.6
FURI Furi 51.28 280 *e*P P 10 16 16.1 -0.2
FURI *i* S S 10 23 39.6 +5.1
FURI Furi 51.28 280 *e*P P 10 16 16.1 -0.2
FURI *i* S S 10 23 39.6 +5.1
ZAA0 Zalesovo Array 51.96 356 IAmb IAmb 10 16 31.4
comp=Z,79nm,1.0s
ZALV Zalesovo Beam 51.96 356 P P 10 16 19.6 -0.7
comp=Z,16nm,0.5s,baz=188,slow=7.8,SNR=71
ZALV LR LR 10 41 10.2
comp=Z,2µm,18.1s,baz=178,slow=39
CN2 Changchun 52.30 32 *e*P P 10 16 22.9 -0.1
CN2 PP PP 10 18 20.6 -1.2
CN2 *e*S S 10 23 44.4 -2.7
CN2 SS SS 10 27 26.8 +1.8
CN2 pmax pmax
comp=Z,50nm,1.0s
CN2 pmax pmax
comp=Z,490nm,6.1s
CN2 LR LR
comp=Z,3µm,17.0s
CN2 LR LR
comp=Z,3µm,17.0s
CN2 LR LR
comp=Z,2µm,19.0s
KMBO Kilima Mbogo 52.60 267 P P 10 16 26.8 +0.7
comp=Z,10nm,0.8s,baz=64,slow=10,SNR=24
KMBO LR LR 10 34 13.9
comp=Z,2µm,20.2s,baz=86,slow=31
KMBO Kilima Mbogo 52.60 267 *e*P P 10 16 13.0 -13
KMBO *i* S S 10 23 53.4 +0.8
KMBO Kilima Mbogo 52.60 267 *i* P P 10 16 25.7 -0.3
SNR=13
KMBO Kilima Mbogo 52.60 267 *i* P P 10 16 27.8 +1.8
KMBO pmax pmax
comp=Z,11nm,0.8s
KMBO Kilima Mbogo 52.60 267 *e*P P 10 16 13.0 -13
KMBO *i* S S 10 23 53.4 +0.8
KMBO Kilima Mbogo 52.60 267 P P 10 16 26.1 0.0
BVAR Borovoye Array 53.35 346 P P 10 16 29.2 -1.5
comp=Z,19nm,0.8s,baz=154,slow=8.2,SNR=73
BRVK Borovoye 53.41 345 *d i*P P 10 16 30.1 -0.9
BRVK pmax pmax
comp=Z,61nm,2.5s
BRVK Borovoye 53.41 345 P P 10 16 30.1 -0.9
BRVK IAmb IAmb 10 16 41.7
comp=Z,48nm,0.9s
BRVK Borovoye 53.41 345 IAMs_20 IAMs_20 10 38 54.4
comp=Z,3µm,22.0s
CHJN Chongjin 53.49 37 P P 10 16 33.2 +1.4
HIA Hailar 53.63 24 IAmb IAmb 10 16 54.7
comp=Z,109nm,1.4s
HIA Hailar 53.63 24 IAMs_20 IAMs_20 10 42 38.3
comp=Z,4µm,18.0s
CIT Chita 53.69 18 *e*P P 10 16 33.3 +0.1
CIT *e* 10 24 09.1
CIT pmax pmax
comp=Z,158nm,2.0s
QIS Mount Isa 53.70 117 P P 10 16 34.3 +0.6
baz=54,SNR=11
LODK Lodwar 54.36 273 P P 10 16 40.0 +1.2
SNR=25
AKT Akhty 54.52 322 *e*P P 10 16 39.2 -0.3
AKT *e* 10 17 40.0
AKT pmax pmax
comp=Z,199nm,1.1s
MSHR Mys Shultsa 54.76 37 ⇓ *i*P P 10 16 42.1 +1.0
MSHR pmax pmax
comp=Z,21nm,0.8s
INU Inuyama 54.95 47 P P 10 16 42.1 -0.4
CUKT Cukurca 55.03 315 P P 10 16 42.2 -1.1
MDJ Mudanjiang 55.09 34 P P 10 16 44.2 +0.7
MDJ pP pP 10 16 49.8 -0.2
MDJ S S 10 24 28.2 +3.3
MDJ sS sS 10 24 37.9 +2.3
SS SS 10 28 07.3 -1.8
MDJ pmax pmax
comp=Z,43nm,1.0s
MDJ pmax pmax
comp=Z,790nm,7.5s
MDJ LR LR
comp=Z,6µm,16.6s
MDJ LR LR
comp=Z,8µm,17.0s
MDJ LR LR
comp=Z,6µm,17.6s
AKTO Aktyubinsk 55.26 336 P P 10 16 43.5 -1.1
comp=Z,15nm,0.8s,baz=138,slow=8.2,SNR=58
MAK Makhachkala 55.51 323 *e*P P 10 16 39.5 -6.9
MAK *e*S S 10 24 21.0 -9.4
MAK pmax pmax
comp=Z,491nm,1.3s
VLA Vladivostok 55.51 37 *c i*P P 10 16 47.2 +0.7
VLA pmax pmax
comp=Z,126nm,2.2s
BBOO Buckleboo 55.73 133 P P 10 16 47.9 -0.4
baz=56,SNR=14
CLDR Caldiran 55.74 318 P P 10 16 48.7 +0.2
VANB Van 55.83 317 P P 10 16 48.4 -0.7
AKDM Akdamar-Van 55.99 316 P P 10 16 50.8 +0.6
USA0B Ussuriysk Arra 56.21 36 IAMs_20 IAMs_20 10 44 20.1
comp=Z,3µm,18.0s
USRK Ussuriysk Ar. 56.21 36 P P 10 16 50.7 -0.7
comp=Z,13nm,0.9s,baz=239,slow=6.9,SNR=22
USRK LR LR 10 44 31.0
comp=Z,2µm,18.1s,baz=217,slow=40
MAJO Matsushiro 56.34 46 *ce*P P 10 16 52.4 -0.2
MAJO pmax pmax
comp=Z,7.0nm,0.8s
MAJO Matsushiro 56.34 46 P P 10 16 51.8 -0.8
MAJO Matsushiro 56.34 46 IAMs_20 IAMs_20 10 40 04.1
comp=Z,4µm,21.0s
MAT Matsushiro 56.34 46 P P 10 16 51.9 -0.7
MAT S S 10 24 45.0 +3.2
MJAR Matsushiro Arr 56.34 46 P P 10 16 52.4 -0.2
comp=Z,12nm,0.8s,baz=233,slow=6.5,SNR=59
MJAR LR LR 10 41 31.6
comp=Z,2µm,21.8s,baz=235,slow=37
AGRB Hanur-Agry 56.58 318 P P 10 16 54.1 -0.4
GROC Groznyy 56.68 323 *e*P P 10 16 54.7 -0.1
GROC *e* 10 17 53.1
GROC *e* 10 18 58.5
GROC pmax pmax
comp=Z,160nm,1.2s
GURO Guroymak-BITLI 56.75 316 P P 10 16 55.6 0.0
SVAN Silvan-Diyarba 57.15 315 P P 10 16 57.8 -0.5
AKH Akhalkalaki 57.16 320 ⇑P P 10 17 00.5 +2.0
AKH Akhalkalaki 57.16 320 IAmb IAmb 10 17 01.3
comp=Z,88nm,1.2s
MTSU Mount Surprise 57.27 113 P P 10 17 01.3 +1.8
baz=57,SNR=5.0
MAZI Mazidag 57.37 314 P P 10 17 00.4 +0.4
KOPR Koprukoy-ERZUR 57.55 317 P P 10 17 00.4 -0.9
ZEI Tsey 57.62 321 *e*P P 10 17 01.1 -0.7
ZEI *e*S S 10 24 59.9 +1.0
ZEI pmax pmax
comp=Z,56nm,1.1s
ONI Oni 57.80 321 P P 10 17 03.5 +0.6
DYBB Diyarbakir 57.81 315 P P 10 17 03.3 +0.3
BNGB Bingl 57.89 316 P P 10 17 03.8 +0.2
ASF Jabal al Asfar 58.01 307 P P 10 17 04.2 -0.3
comp=Z,21nm,1.0s,baz=112,slow=1.9,SNR=17
HTT Hallett 58.15 132 P P 10 17 05.3 -0.1
baz=58,SNR=4.8
NCK Nalchik 58.18 322 ⇓ *i*P P 10 17 07.1 +1.6
NCK pmax pmax
comp=Z,146nm,1.6s
YEDI Yedisu-Bingol 58.18 316 P P 10 17 06.2 +0.5
PMG Port Moresby 58.27 102 ⇓ *e*P P 10 17 07.9 +1.3
PMG pmax pmax
comp=Z,117nm,0.8s
PMG Port Moresby 58.27 102 P P 10 17 06.5 -0.1
PMG IAmb IAmb 10 18 01.6
comp=Z,37nm,0.9s
BCA Borcka 58.40 319 ⇓P P 10 17 07.5 +0.5
BATM Batumi 58.43 319 ⇑P P 10 17 07.8 +0.6
BATM Batumi 58.43 319 P P 10 17 06.9 -0.3
URFA Urfa 58.53 314 P P 10 17 09.0 +0.9
SVRC Sivrice-ELAZID 58.58 315 P P 10 17 09.0 +0.4
NEY Neytrino 58.60 321 *de*P P 10 17 09.3 +0.7
NEY pmax pmax
comp=Z,25nm,2.0s
KBZ Khabaz 58.74 322 P P 10 17 09.2 0.0
comp=Z,53nm,0.9s,baz=124,slow=6.1,SNR=47
KBZ LR LR 10 44 27.1
comp=Z,626nm,20.3s,baz=124,slow=38
KBZ Khabaz 58.74 322 *d i*P P 10 17 09.0 -0.3
KBZ pmax pmax
comp=Z,95nm,1.1s
EIL Elat 58.80 304 P P 10 17 09.3 -0.7
comp=Z,18nm,0.7s,baz=111,slow=3.9,SNR=22
HRFI Mount Harif 58.83 304 P P 10 17 10.5 +0.2
BOD Bodaibo 58.89 15 *e*P P 10 17 10.1 0.0
BOD pmax pmax
comp=Z,93nm,1.5s
KIV Kislovodsk 58.99 322 *i* P P 10 17 10.8 -0.4
SNR=16
KIV Kislovodsk 58.99 322 P P 10 17 11.3 +0.1
KIV Kislovodsk 58.99 322 *d i*P P 10 17 10.6 -0.6
KIV *i* 10 17 53.4
KIV *i* S S 10 25 12.0 -4.4
KIV pmax pmax
comp=Z,136nm,1.0s
KIV Kislovodsk 58.99 322 P P 10 17 11.1 -0.1
MBAR Mbarara 59.08 268 *ce*P P 10 17 13.2 +0.8
MBAR pmax pmax
comp=Z,47nm,2.5s
MBAR Mbarara 59.08 268 P P 10 17 12.1 -0.3
MBAR IAmb IAmb 10 17 31.6
comp=Z,88nm,1.4s
KLR Kul'dur 59.14 31 P P 10 17 12.0 0.0
comp=Z,16nm,0.8s,baz=249,slow=7.7,SNR=68
KLR LR LR 10 45 39.0
comp=Z,4µm,18.2s,baz=232,slow=39
KLR Kul'dur 59.14 31 *c i*P P 10 17 11.8 -0.2
KLR pmax pmax
comp=Z,110nm,2.2s
MALT Malatya 59.18 314 P P 10 17 13.3 +0.6
GOF Gofitskoye 59.35 323 ⇓ *i*P P 10 17 14.3 +0.8
GOF pmax pmax
comp=Z,114nm,1.1s
TEY Ternei 59.40 37 ⇑ *e*P P 10 17 13.4 -0.5
TEY pmax pmax
comp=Z,10.0nm,2.5s
TEY MLR MLR
comp=E,100nm,19.0s
TEY MLR MLR
comp=N,100nm,18.0s
TEY MLR MLR
comp=Z,100nm,16.0s
KTUT Trabzon 59.42 318 ⇑P P 10 17 15.8 +1.7
SVE Sverdlovsk 59.43 342 *ce*P P 10 17 13.5 -0.3
SVE *e*S S 10 25 18.8 -2.7
SVE pmax pmax
comp=Z,187nm,0.9s
SVE MLR MLR
comp=Z,2µm,19.0s
MMAI Mount Meron Ar 59.48 308 P P 10 17 15.2 +0.5
comp=Z,3.9nm,0.6s,baz=90,slow=8.3,SNR=6.8
STKA Stephens Creek 59.51 129 P P 10 17 15.0 +0.2
baz=60,SNR=18
STKA Stephens Creek 59.51 129 P P 10 17 14.1 -0.8
comp=Z,16nm,0.8s,baz=308,slow=6.7,SNR=34
STKA LR LR 10 41 32.8
comp=Z,1µm,20.4s,baz=296,slow=35
CTAO Charters Tower 59.54 115 P P 10 17 15.3 0.0
CTAO pmax pmax
comp=Z,82nm,1.0s
CTAO Charters Tower 59.54 115 P P 10 17 15.2 0.0
CTAO IAmb IAmb 10 17 31.0
comp=Z,82nm,1.0s
GAZ Gaziantep 59.60 313 P P 10 17 15.8 +0.3
GAZ Gaziantep 59.60 313 IAMs_20 IAMs_20 10 44 41.0
comp=Z,4µm,18.0s
QLP Quilpie 59.68 122 P P 10 17 17.3 +1.2
baz=60,SNR=6.7
ARU Arti 59.77 341 P P 10 17 14.7 -1.5
comp=Z,9.1nm,0.7s,baz=153,slow=4.2,SNR=47
ARU Arti 59.77 341 *d i*P P 10 17 15.3 -0.9
ARU 10 18 00.1
10 19 30.4
ARU PPP PPP 10 20 50.9
ARU S S 10 25 27.3 +1.4
ARU 10 27 04.1
ARU pmax pmax
comp=Z,68nm,1.1s
ARU MLR MLR
comp=Z,2µm,19.0s
ARU Arti 59.77 341 P P 10 17 15.1 -1.1
KMRS Kahramanmaras 59.96 313 P P 10 17 18.5 +0.5
DARE Darende-Malaty 59.96 314 P P 10 17 16.6 -1.4
ZEA Zeya 60.08 25 *e*P P 10 17 18.6 +0.2
ZEA *e* 10 19 29.0
ZEA *e*S S 10 25 29.0 -1.0
ZEA *e*SS SS 10 29 22.0 -5.2
ZEA pmax pmax
comp=Z,58nm,1.0s
ZEA pmax pmax
comp=Z,300nm,7.0s
ZEA pmax pmax
comp=Z,200nm,6.0s
ZEA smax smax
comp=N,500nm,10.0s
ZEA MLR MLR
comp=Z,4µm,21.0s
ZEA MLR MLR
comp=E,2µm,17.0s
ZEA MLR MLR
comp=N,3µm,23.0s
ESPY Espiye-Giresun 60.09 317 P P 10 17 16.3 -2.5
SARI SarD1z-Kayseri 60.66 314 P P 10 17 23.4 +0.5
SOC Sochi 60.66 320 *e*P P 10 17 21.6 -1.0
SOC *e* 10 19 33.9
SOC *e*PPP PPP 10 21 00.7
SOC *e*S S 10 25 40.1 +2.2
SOC *e*SS SS 10 29 36.1 -0.6
SOC pmax pmax
comp=Z,72nm,1.1s
SOC MLR MLR
comp=Z,1µm,16.0s
KOZT Kozan 60.74 313 P P 10 17 23.7 +0.4
RSDY Resadiye-TOKAT 60.83 316 P P 10 17 22.6 -1.2
SVSK Karacayir 60.86 315 P P 10 17 24.5 +0.6
BNN Bunyan 61.25 314 P P 10 17 24.8 -2.0
TOKT Tokat 61.34 316 P P 10 17 26.5 -0.8
MERS Mersin 61.48 311 P P 10 17 25.4 -3.0
CSS Mathiatis 61.74 309 P P 10 17 28.8 -1.3
CSS Mathiatis 61.74 309 P P 10 17 30.2 +0.1
CSS IAmb IAmb 10 17 49.7
comp=Z,95nm,1.2s
ARPS Mount Arapiles 61.78 134 P P 10 17 30.6 +0.4
baz=62,SNR=8.2
YOZ Yozgat 61.93 315 P P 10 17 28.8 -2.6
KEBE Keben-Mersin 61.95 311 P P 10 17 32.5 +1.0
KVT Kavak 62.00 316 P P 10 17 31.8 +0.1
ERM Erimo 62.16 43 IAMs_20 IAMs_20 10 45 34.9
comp=Z,3µm,20.0s
TEKE Tekeli-Mersin 62.30 310 P P 10 17 33.4 -0.4
GRNR Gornyy 62.48 31 ⇑ *i*P P 10 17 34.7 0.0
GRNR *e*S S 10 26 05.6 +5.0
GRNR *e*SS SS 10 30 02.7 -2.1
GRNR pmax pmax
comp=Z,10.0nm,1.2s
GRNR smax smax
comp=N,7.0nm,0.8s
GRNR MLR MLR
comp=E,2µm,20.0s
GRNR MLR MLR
comp=N,810nm,19.0s
GRNR MLR MLR
comp=Z,2µm,19.0s
CMSA Cobar Meteorol 62.60 127 P P 10 17 36.2 +0.4
baz=63,SNR=26
CORM Corum 62.63 315 P P 10 17 35.9 -0.2
ANN Anapa 62.69 321 *e*P P 10 17 31.8 -4.4
ANN *e**PP pP 10 17 35.8 -6.9
ANN *e*S S 10 25 59.1 -4.3
ANN pmax pmax
comp=Z,29nm,0.7s
ASAJ Asahikawa 62.69 40 P P 10 17 34.0 -2.3
comp=Z,9.7nm,0.6s,baz=282,slow=8.8,SNR=13
ASAJ LR LR 10 46 44.7
comp=Z,2µm,18.7s,baz=258,slow=38
ASAJ Asahikawa 62.69 40 P P 10 17 34.0 -2.3
JKA Kamikawa-asahi 62.70 40 P P 10 17 34.0 -2.3
SULT Sultanhani-AKS 62.70 313 P P 10 17 36.9 +0.3
SERE Sereflikochisa 62.94 313 P P 10 17 37.2 -0.9
SNOP Sinop 62.95 317 P P 10 17 36.2 -1.8
BR131 Keskin Array S 63.16 314 P P 10 17 38.5 -1.2
SNR=26
BR131 P P 10 17 38.5 -1.2
SNR=26
BR131 S S 10 26 05.0 -5.0
BR131 S S 10 26 05.0 -5.0
BR131 Keskin Array S 63.16 314 IAmb IAmb 10 17 50.0
comp=Z,37nm,0.8s
BRTR Keskin Array B 63.16 314 P P 10 17 38.5 -1.2
comp=Z,13nm,0.5s,baz=133,slow=6.3,SNR=78
BRTR LR LR 10 47 15.8
comp=Z,2µm,18.8s,baz=96,slow=38
LSZ Lusaka 63.25 252 P P 10 17 39.8 -0.8
LSZ pmax pmax
comp=Z,40nm,1.1s
LSZ Lusaka 63.25 252 P P 10 17 39.8 -0.8
LSZ IAmb IAmb 10 17 53.5
comp=Z,40nm,1.1s
LSZ Lusaka 63.25 252 IAMs_20 IAMs_20 10 41 37.5
comp=Z,2µm,18.0s
VRH Novokhopyorsk 63.45 328 *e*P P 10 17 39.8 -1.3
VRH pmax pmax
comp=Z,90nm,0.9s
KONT Konya--Tatoy 63.47 312 P P 10 17 41.9 +0.3
CANT Cankiri 63.51 315 P P 10 17 41.2 -0.6
LADK Ladik-KONYA 63.55 312 P P 10 17 39.5 -2.8
ILGA Ilgaz 63.60 316 P P 10 17 42.0 -0.6
SEYD Seydisehir-KON 63.68 311 P P 10 17 43.8 +0.7
BZK Bozkurt 63.75 317 ⇑P P 10 17 45.1 +1.8
BZK Bozkurt 63.75 317 P P 10 17 33.9 -9.4
ANTO Ankara 63.82 314 P P 10 17 43.6 -0.4
ANTO Ankara 63.82 314 P P 10 17 43.5 -0.4
ANTO P P 10 17 43.5 -0.4
ANTO Ankara 63.82 314 P P 10 17 42.2 -1.7
ANTO pmax pmax
comp=Z,76nm,0.9s
ANTO MLR MLR
comp=Z,3µm,18.0s
ANTO Ankara 63.82 314 P P 10 17 42.2 -1.7
ANTO Ankara 63.82 314 IAMs_20 IAMs_20 10 48 02.7
comp=Z,3µm,18.0s
BR231 Keskin MP Arra 63.83 314 IAmb IAmb 10 17 54.2
comp=Z,76nm,0.9s
LOD Lodumlu 63.85 314 P P 10 17 44.6 +0.5
MATP Matopo 63.98 246 *i* P P 10 17 44.5 -0.9
MATP Matopo 63.98 246 *i* P P 10 17 44.5 -0.9
MATP Matopo 63.98 246 *i* P P 10 17 44.5 -0.9
YSS Yuzh-Sakhalins 64.08 37 *ce*P P 10 17 45.2 -0.1
YSS *e* 10 17 50.7
YSS *e* 10 20 04.6
YSS *e*PPP PPP 10 21 37.8
YSS *e*S S 10 26 21.0 +0.3
YSS pmax pmax
comp=Z,30nm,1.4s
YSS pmax pmax
comp=Z,300nm,3.2s
YSS MLR MLR
comp=Z,1µm,19.0s
YSS MLR MLR
comp=N,2µm,16.0s
YSS MLR MLR
comp=E,2µm,17.0s
YSS Yuzh-Sakhalins 64.08 37 P P 10 17 45.0 -0.4
YSS IAmb IAmb 10 18 11.1
comp=Z,80nm,1.2s
AUSIV SIVRIHISAR 64.58 313 P P 10 17 47.5 -1.5
SVRH Sivrihisar-ESK 64.60 313 P P 10 17 48.1 -1.0
KIRV Kirov 64.65 338 P P 10 17 47.3 -1.5
comp=Z,42nm,0.7s,baz=108,slow=1.2,SNR=22
KORT Korkueli 64.68 310 P P 10 17 50.4 +0.7
TOO Toolangi 64.76 133 P P 10 17 51.2 +1.1
TOO Toolangi 64.76 133 P P 10 17 51.2 +1.1
TOO IAmb IAmb 10 18 07.2
comp=Z,71nm,1.1s
TOO IAMs_20 IAMs_20 10 48 42.4
comp=Z,3µm,18.0s

YUK	Yuzh-Kuril'sk	64.79	41	eP	P	10 17 40.7	-9.4
YUK				eS	S	10 26 21.8	-7.8
YUK				MLR	MLR		
	comp=Z,1µm,17.0s						
YUK				MLR	MLR		
	comp=N,1µm,15.0s						
YUK				MLR	MLR		
	comp=E,1µm,17.0s						
YUVA	Yuva-Kibriscik	64.80	314	P	P	10 17 49.5	-0.9
ISP	Isparta	64.81	311	P	P	10 17 50.1	-0.4
ISP	Isparta	64.81	311	IAmb	IAmb	10 18 07.5	
	comp=Z,56nm,1.3s						
ISP	Isparta	64.81	311	IAMs_20	IAMs_20	10 49 37.3	
	comp=Z,3µm,18.0s						
SIM	Simferopol'	64.88	320	d iP	P	10 17 50.0	-0.6
SIM				iS	S	10 26 30.1	-0.6
SIM				pmax	pmax		
	comp=Z,169nm,1.9s						
SIM				pmax	pmax		
	comp=Z,160nm,10.5s						
ELL	Elmali	64.94	310	P	P	10 17 50.9	-0.5
SHUT	Suhut-Afyon	65.02	312	P	P	10 17 52.5	+0.6
VORR	Voronezh	65.02	328	eP	P	10 17 52.0	+0.6
VORR				pmax	pmax		
	comp=Z,250nm,1.2s						
MDUB	Mudurnu	65.18	314	P	P	10 17 52.3	-0.6
EIDS	Eidsvold	65.20	119	P	P	10 17 53.4	+0.3
EIDS				IAmb	IAmb	10 18 17.3	
	comp=Z,66nm,1.2s						
SRCK	Saricakaya, Es	65.45	314	P	P	10 17 52.9	-1.6
GULT	Gulveren	65.66	314	P	P	10 17 54.9	-1.0
LPSR	Galich'ya Gora	65.66	329	eP	P	10 17 54.2	-1.3
LPSR				pmax	pmax		
	comp=Z,90nm,0.9s						
AUBOZ	BOZOYUK	65.83	313	P	P	10 17 57.5	+0.4
TYV	Tymovskoe	65.88	34	eP	P	10 17 56.8	-0.2
TYV				eS	S	10 26 45.6	+2.9
TYV				pmax	pmax		
	comp=Z,400nm,6.6s						
TYV				pmax	pmax		
	comp=Z,21nm,1.3s						
TYV				smax	smax		
	comp=N,600nm,8.4s						
NKL	Nikolayevsk	65.99	31	eP	P	10 17 56.4	-1.2
NKL				e		10 20 21.1	
NKL				eS	S	10 26 46.5	+2.6
NKL				pmax	pmax		
	comp=Z,28nm,1.3s						
NKL				pmax	pmax		
	comp=N,3.0nm,0.8s						
NKL				pmax	pmax		
	comp=E,1.0nm,0.8s						
NKL				pmax	pmax		
	comp=Z,111nm,6.7s						
TVSB	Tavsanli	66.11	313	P	P	10 17 58.9	0.0
ORH	Orhaniye	66.12	314	P	PcP	10 18 29.1	0.0
ADVT	Abdulvahap	66.22	314	P	P	10 17 58.3	-1.1
HRT	Hereke	66.39	314	P	P	10 17 56.9	-3.7
KULA	Kula-Manisa	66.42	311	P	P	10 18 00.5	-0.3
YLV	Yalova	66.52	314	P	P	10 18 00.9	-0.6
CAN	Canberra	66.53	130	IAmb	IAmb	10 18 21.5	
	comp=Z,64nm,1.1s						
KUR	Kuril'sk	66.58	41	eP	P	10 18 02.5	+0.9
KUR				e		10 18 28.7	
KUR				e		10 20 28.8	
KUR				iS	S	10 26 53.7	+2.3
KUR				e		10 27 59.3	
KUR				eSS	SS	10 31 06.9	-2.0
KUR				MLR	MLR		
	comp=Z,1µm,16.0s						
KUR				MLR	MLR		
	comp=N,2µm,17.0s						
KUR				MLR	MLR		
	comp=E,2µm,16.0s						
GEMT	Gemlik	66.61	314	P	P	10 18 00.0	-2.0
DAT	Datca	66.73	309	P	P	10 18 03.2	+0.3
KARP	Karpathos	66.74	308	P	P	10 18 03.4	+0.5
KARP	Karpathos	66.74	308	IAMs_20	IAMs_20	10 48 37.3	
	comp=Z,2µm,22.0s						
ARMT	Armutlu	66.89	314	P	P	10 17 58.9	-4.9
KAVV	Kandilli-Istan	66.91	314	P	P	10 18 00.6	-3.2
ISK	Istanbul-Kandi	66.91	314	P	P	10 17 58.9	-4.9
YAK	Yakutsk	66.94	19	P	P	10 18 02.1	-1.5
	comp=Z,31nm,0.8s,baz=241,slow=1.1,SNR=14						
YAK				LR	LR	10 49 19.5	
	comp=Z,2µm,20.4s,baz=234,slow=38						
YAK	Yakutsk	66.94	19	eP	P	10 18 00.9	-2.7
YAK				eS	S	10 26 51.5	-3.7
YAK				e*SS	sS	10 27 11.2	+5.1
YAK				e		10 27 53.4	
YAK				eSS	SS	10 31 18.8	+4.9
YAK				pmax	pmax		
	comp=Z,46nm,0.8s						
YAK				pmax	pmax		
	comp=N,12nm,1.0s						
YAK				pmax	pmax		
	comp=E,13nm,1.1s						
YAK				smax	smax		
	comp=N,251nm,2.5s						
YAK				smax	smax		
	comp=E,131nm,3.2s						
YAK				MLR	MLR		
	comp=Z,2µm,18.0s						
YAK	Yakutsk	66.94	19	P	P	10 18 02.5	-1.1
BODT	Bodrum	67.03	310	P	P	10 17 57.2	-7.5
ARMA	Armidale	67.06	124	P	P	10 18 06.3	+1.2
ARMA				IAmb	IAmb	10 18 26.0	
	comp=Z,84nm,1.3s						
BGKT	Bogazkoy	67.15	314	P	P	10 18 04.6	-0.7
GCAM	G?zelcaml?	67.26	310	P	P	10 18 05.7	-0.4
NRIK	Noril'sk	67.26	359	P	P	10 18 04.3	-1.1
	comp=Z,15nm,0.7s,baz=172,slow=4.0,SNR=15						
NRIK				LR	LR	10 51 55.8	
	comp=Z,2µm,18.4s,baz=178,slow=40						
LBTB	Lobatse	67.63	242	iP	P	10 18 08.6	-0.3
LBTB	Lobatse	67.63	242	iP	P	10 18 08.6	-0.3
LBTB	Lobatse	67.63	242	iP	P	10 18 08.6	-0.3
LBTB	Lobatse	67.63	242	P	P	10 18 08.5	-0.3
LBTB				pmax	pmax		
	comp=Z,96nm,1.0s						
LBTB	Lobatse	67.63	242	P	P	10 18 08.5	-0.3
MRMT	Marmara Adasi	67.82	313	P	P	10 18 08.9	-0.8
CRLT	Corlu	67.88	314	P	P	10 18 08.3	-1.7
URLA	Izmir	67.93	311	P	P	10 18 11.2	+0.8
MOS	Moscow	67.96	331	eP	P	10 18 07.6	-2.6
MOS				eS	S	10 27 02.6	-5.1
MOS				pmax	pmax		
	comp=Z,205nm,1.6s						
MOS				pmax	pmax		
	comp=Z,400nm,2.0s						
MOS				MLR	MLR		
	comp=Z,2µm,20.0s						
MANR	Mangalia	68.13	317	⇑P	P	10 18 11.7	+0.2
OBN	Obninsk	68.16	330	P	P	10 18 09.8	-1.5
	comp=Z,3.4nm,0.4s,baz=92,slow=3.5,SNR=23						
OBN	Obninsk	68.16	330	d iP	P	10 18 10.3	-1.0
OBN				i		10 18 36.5	
OBN				i		10 20 47.1	
OBN				pmax	pmax		
	comp=Z,48nm,1.2s						
OBN				MLR	MLR		
	comp=Z,1µm,21.0s						
OBN	Obninsk	68.16	330	P	P	10 18 10.3	-1.0
OBN				IAmb	IAmb	10 18 21.5	
	comp=Z,78nm,1.0s						
TAU	Tasmania Unive	68.24	138	P	P	10 18 12.8	+0.6
TAU				pmax	pmax		
	comp=Z,97nm,1.4s						
TAU	Tasmania Unive	68.24	138	P	P	10 18 12.8	+0.6
TAU				IAmb	IAmb	10 18 28.9	
	comp=Z,97nm,1.4s						
SANT	Santorini	68.29	308	⇑P	P	10 18 12.3	-0.4
CHOS	Chios island	68.34	311	P	P	10 18 12.5	-0.5
MFTR	Murfatlar	68.37	317	⇑P	P	10 18 13.4	+0.5
APE	Apeiranthos	68.40	309	⇑P	P	10 18 14.0	+0.6
APE	Apeiranthos	68.40	309	P	P	10 18 12.5	-0.9
TLCR		68.44	318	⇓P	P	10 18 14.7	+1.3
TIRR	Tirgusor	68.47	317	iP	P	10 18 12.7	-0.8
TIRR	Tirgusor	68.47	317	IAMs_20	IAMs_20	10 52 59.2	
	comp=Z,3µm,18.0s						
IDI	Anoyia	68.48	307	P	P	10 18 13.2	-0.7
	comp=Z,19nm,0.6s,baz=68,slow=8.8,SNR=14						
IDI	Anoyia	68.48	307	⇓P	P	10 18 14.1	+0.1
IDI	Anoyia	68.48	307	IAmb	IAmb	10 18 31.2	
	comp=Z,59nm,0.9s						
TOPG	Topolog	68.63	318	⇓P	P	10 18 14.8	+0.2
SIGR	SIGRI	68.71	312	P	P	10 18 13.1	-2.1
BOZC	Bozcaada	68.74	312	P	P	10 18 14.8	-0.6
TLBR	Topalu	68.74	317	⇑P	P	10 18 15.4	+0.1
PRD	Provadia	68.75	316	iP	P	10 18 14.3	-1.1
ICOR	Ion Corvin	68.77	317	⇑P	P	10 18 15.4	-0.1
BOSA	Boshof	68.79	238	P	P	10 18 15.2	-0.9
	comp=Z,22nm,0.8s,baz=84,slow=6.7,SNR=24						
BOSA				LR	LR	10 45 18.3	
	comp=Z,698nm,19.4s,baz=74,slow=33						
BOSA	Boshof	68.79	238	iP	P	10 18 15.2	-0.9
BOSA	Boshof	68.79	238	iP	P	10 18 15.2	-0.9
BOSA	Boshof	68.79	238	iP	P	10 18 15.2	-0.9
BOSA	Boshof	68.79	238	P	P	10 18 14.0	-2.1
NEF	NEVSHA	68.86	316	iP	P	10 18 16.0	-0.1
HARR	Harsova	68.87	318	⇑P	P	10 18 15.8	-0.3
CFR	Carcaliu	68.89	318	⇑P	P	10 18 16.4	+0.2
MILM	Milestii Mici	69.05	320	⇓P	P	10 18 17.3	+0.1
KIS	Kishinev	69.07	320	⇑iP	P	10 18 18.0	+0.7
	comp=Z,330nm,2.0s						
KIS	Kishinev	69.07	320	iPcP	P	10 18 28.0	+11
KIS	Kishinev	69.07	320	⇑iP	P	10 18 18.0	+0.7
KIS				e		10 20 48.0	
KIS				iS	S	10 27 20.0	-1.2
KIS				ePS	PnS	10 27 44.0	-3.8
KIS				pmax	pmax		
	comp=Z,330nm,2.0s						
JMB	Yambol	69.10	315	iP	P	10 18 17.0	-0.6
IMMV	Iera Moni Meta	69.24	307	P	P	10 18 19.8	+1.2
LEOM	Leova	69.26	319	⇑P	P	10 18 19.9	+1.5
VARL	Varlezi	69.32	319	⇑P	P	10 18 20.7	+1.8
RDO	Rodhopi	69.47	313	P	P	10 18 15.4	-4.5
RAZG	Razgrad	69.48	316	⇑P	P	10 18 20.3	+0.4
PGOR	Pogoanele	69.58	318	⇑P	P	10 18 21.8	+1.3
VASR	Vaslui	69.61	320	⇑P	P	10 18 22.4	+1.7
PETR	Petresti	69.67	318	⇓P	P	10 18 22.9	+1.8
KDZ	Kurdzhali	69.70	314	iP	P	10 18 20.4	-0.9
KDZ	Kurdzhali	69.70	314	P	P	10 18 20.8	-0.5
CASY	Casey	69.72	171	P	P	10 18 20.2	-0.7
CASY	Casey	69.72	171	IAMs_20	IAMs_20	10 43 31.2	
	comp=Z,2µm,18.0s						
GRER		69.73	318	⇑P	P	10 18 23.0	+1.6
ELND	Elena	69.74	315	⇓P	P	10 18 22.0	+0.5
SORM	Soroca	69.77	321	⇓P	P	10 18 21.7	+0.1
SZH	Strazhica	69.80	316	iP	P	10 18 21.0	-0.9
ODBI	Odobesti	69.80	318	⇑P	P	10 18 23.4	+1.6
IAS	Iasi	69.94	320	⇑P	P	10 18 24.2	+1.5
KLMR	Klimovskoe	69.95	336	d iP	P	10 18 21.5	-0.9
KLMR				eS	S	10 27 30.7	-0.3
KLMR				pmax	pmax		
	comp=Z,110nm,1.0s						
KLMR	Klimovskoe	69.95	336	⇓iP	P	10 18 21.5	-0.9
KLMR				iP	P	10 18 21.5	-0.9
KLMR				iP	P	10 18 21.5	-0.9
KLMR				AMP		10 18 33.5	
	comp=Z,110nm,1.0s						
KLMR				eS	S	10 27 30.8	-0.3
KLMR				eS	S	10 27 30.8	-0.3
KLMR				LQ	LQ	10 43 36.2	
KLMR				LQ	LQ	10 43 36.2	
KLMR				LR	LR	10 49 07.7	
KLMR				AMP		10 55 21.4	
	comp=Z,2µm,17.6s						
BISRR	Bisoca	69.96	318	⇑P	P	10 18 24.5	+1.6
SULR		70.00	317	⇑P	P	10 18 24.5	+1.4
VRI	Vrincioaia	70.05	319	⇑P	P	10 18 24.6	+1.2
VRI	Vrincioaia	70.05	319	P	P	10 18 23.6	+0.2
PLOR	Plostina	70.10	318	⇓P	P	10 18 24.8	+1.1
AKASG	Malin Array Be	70.18	324	P	P	10 18 22.7	-1.3
	comp=Z,9.8nm,0.8s,baz=99,slow=5.6,SNR=40						
AKASG				LR	LR	10 51 29.8	
	comp=Z,628nm,20.8s,baz=130,slow=38						
AKBB	Malin Array Si	70.18	324	IAmb	IAmb	10 18 34.0	
	comp=Z,40nm,0.9s						
RZN	Rozhen	70.22	314	iP	P	10 18 23.5	-1.2
SECR		70.23	318	⇑P	P	10 18 25.8	+1.3
TESR	Tescani	70.31	319	⇑P	P	10 18 24.9	0.0
PLD	Plovdiv	70.34	314	iP	P	10 18 23.9	-1.3
PLD	Plovdiv	70.34	314	P	P	10 18 24.5	-0.7
MLR	Muntele Rosu	70.46	318	P	P	10 18 25.4	-0.7
	comp=Z,147nm,0.9s,baz=28,slow=2.6,SNR=104						
MLR	Muntele Rosu	70.46	318	⇑P	P	10 18 26.8	+0.7
COPA	Copaceanca	70.55	316	⇑P	P	10 18 27.7	+1.3
OZUR		70.75	319	⇑P	P	10 18 28.8	+1.1
PLVB	Pleven	70.75	316	⇑P	P	10 18 28.0	+0.3
BIZ	Bicaz	70.80	319	⇑P	P	10 18 28.3	+0.4
HNR	Honiara	70.81	101	P	P	10 18 30.1	+1.5
HNR				pmax	pmax		
	comp=Z,378nm,1.0s						
HNR	Honiara	70.81	101	P	P	10 18 30.1	+1.5
HUMR	Humele	70.82	317	⇑P	P	10 18 28.0	-0.1
PGB	Panagyurishte	70.84	315	iP	P	10 18 27.1	-1.2
PRAR	RASCA	70.86	320	⇑P	P	10 18 28.5	+0.2
MMB	Musomiste	70.90	313	iP	P	10 18 25.7	-3.0
ARR	Arges	71.30	318	⇓P	P	10 18 31.2	+0.1
AGG	Agios Georgios	71.32	311	IAmb	IAmb	10 19 07.5	
	comp=Z,103nm,1.9s						
KKB	Krupnik	71.44	314	iP	P	10 18 29.1	-2.8
VTS	Vitosha	71.52	314	⇓P	P	10 18 32.7	+0.1
VTS	Vitosha	71.52	314	iP	P	10 18 31.0	-1.6
VTS	Vitosha	71.52	314	IAmb	IAmb	10 18 42.7	
	comp=Z,53nm,1.0s						
BURAR	Bucovina Array	71.59	320	⇑P	P	10 18 33.5	+0.6
BUR08	Bucovina Ar. S	71.61	320	IAmb	IAmb	10 18 44.7	
	comp=Z,73nm,0.9s						
VAY	Valandovo	71.68	313	iP	P	10 18 32.4	-0.9
MDB	Medias	71.69	318	⇑P	P	10 18 34.9	+1.5
GRG	Griva	71.72	313	P	P	10 18 29.0	-4.7
LOT	Lotru	71.91	317	⇓P	P	10 18 34.6	-0.2
MAW	Mawson	71.95	191	P	P	10 18 34.3	-0.1
	comp=Z,9.3nm,0.9s,baz=33,slow=8.6,SNR=9.8						
MAW				LR	LR	10 43 20.1	
	comp=Z,806nm,19.3s,baz=28,slow=30						
MAW	Mawson	71.95	191	P	P	10 18 34.3	-0.1
MAW				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MAW	Mawson	71.95	191	P	P	10 18 34.3	-0.1
ARCR	ARCALIA	71.99	319	⇑P	P	10 18 36.4	+1.3
SRE	Strehaia	72.08	317	⇑P	P	10 18 36.9	+1.2
CJR	Cluj-Napoca	72.38	319	⇓P	P	10 18 39.0	+1.5
MICGM	Minsk	72.39	327	e	P	10 18 38.0	+0.7
MICGM				eLR	LR	10 53 36.0	
MNK	Minsk	72.39	327	eP	P	10 18 38.0	+0.7
TMCR	Tamitsa	72.42	339	eP	P	10 18 36.4	-0.9
TMCR				pmax	pmax		
	comp=Z,104nm,0.5s						
GZR	Gura Zlata	72.56	317	⇑P	P	10 18 39.7	+1.0
DEV	Deva	72.61	318	⇓P	P	10 18 39.8	+0.9
SKO	Skopje	72.66	313	iP	P	10 18 37.2	-2.0
HERR	Herculane	72.68	317	⇑P	P	10 18 39.4	+0.2
BMR	Baia Mare	72.72	320	⇑P	P	10 18 40.8	+1.4
OHR	Ohrid	72.93	312	iP	P	10 18 39.6	-1.3
DRGR		72.98	319	⇑P	P	10 18 41.5	+0.3
DRGR		72.98	319	iP	P	10 18 40.3	-0.9
LVV	L'vov	73.01	322	⇑iP	P	10 18 40.4	-0.7
LVV				e		10 19 00.4	
LVV				e		10 21 20.5	
LVV				eS	S	10 28 04.4	-2.5
LVV				ePS		10 28 37.4	
LVV				eSS	SS	10 32 45.9	-2.0
LVV				eSSS	SSS	10 36 03.7	
LVV				pmax	pmax		
	comp=Z,200nm,1.7s						
NACGM	Naroch	73.13	327	eP	P	10 18 42.0	+0.3
NACGM				ePcP	PcP	10 19 04.0	+5.7
NACGM				ePPP	PPP	10 23 14.0	
NACGM				eS	S	10 28 04.0	-4.0
NACGM				eSSS	SSS	10 38 40.0	
NACGM				eLQ	LQ	10 42 50.0	
NACGM				eLR	LR	10 48 16.0	
NACGM				LRM	MLR	10 57 06.0	
	comp=Z,4.1nm,20.0s						
MDVR	Moldovita	73.14	316	⇑P	P	10 18 42.2	+0.1
PUL	Pulkovo	73.34	333	⇑eP	P	10 18 44.0	+1.2
PUL				pmax	pmax		
	comp=Z,96nm,0.8s						
BZS	Buzias	73.41	317	⇑P	P	10 18 43.6	0.0
SUR	Sutherland	73.42	235	P	P	10 18 44.8	+0.6
TRPA	Tarpa	73.46	320	⇓P	P	10 18 44.7	+0.9
SIRR	Siria	73.55	318	⇑P	P	10 18 44.2	-0.2
IIGN	Ignalina	73.59	328	eP	P	10 18 44.0	-0.4
SKR	Severo-Kuril's	73.65	37	eP	P	10 18 41.2	-3.6
SKR				e		10 19 00.3	
SKR				e		10 21 29.3	
SKR				eS	S	10 28 09.0	-5.0
SKR				eSS	SS	10 33 02.8	+5.3
SKR				pmax	pmax		
	comp=Z,100nm,4.4s						
SKR				MLR	MLR		
	comp=Z,700nm,17.0s						
ISAL	Salakas	73.72	328	eP	P	10 18 45.6	+0.4
UZH	Uzhgorod	73.76	320	eP	P	10 18 44.1	-1.4
UZH				e		10 18 50.6	
UZH				eS	S	10 28 12.0	-3.3
UZH				MLR	MLR		
	comp=Z,90nm,18.0s						
KWP	Kalwaria Pacla	73.78	321	P	P	10 18 44.4	-1.3
KWP				pmax	pmax		
	comp=Z,88nm,1.0s						
KWP				MLR	MLR		
	comp=Z,900nm,18.0s						
KWP	Kalwaria Pacla	73.78	321	P	P	10 18 44.4	-1.3
KWP				IAmb	IAmb	10 19 00.1	
	comp=Z,88nm,1.0s						
TIXI	Tiksi	73.84	12	P	P	10 18 44.2	-1.4
	comp=Z,75nm,0.8s,baz=230,slow=3.2,SNR=112						
TIXI	Tiksi	73.84	12	c iP	P	10 18 43.7	-1.9
TIXI				pmax	pmax		
	comp=Z,56nm,0.6s						
TIXI				MLR	MLR		
	comp=Z,2µm,20.0s						
TIXI	Tiksi	73.84	12	P	P	10 18 43.5	-2.1
TIXI				IAmb	IAmb	10 19 06.6	
	comp=Z,84nm,0.9s						
TIXI				IAMs_20	IAMs_20	10 54 13.1	
	comp=Z,2µm,19.0s						
KOLS	Kolonicke sedl	73.86	321	eP	P	10 18 46.4	+0.2
KOLS				pmax	pmax		
	comp=Z,97nm,0.9s						
KOLS	Kolonicke sedl	73.86	321	eP	P	10 18 46.4	+0.2
TSUM	Tsumeb	73.87	249	P	P	10 18 46.2	-0.8
MA2	Magadan	73.97	28	c iP	P	10 18 45.5	-1.1
MA2				pmax	pmax		
	comp=Z,60nm,1.7s						
MA2	Magadan	73.97	28	P	P	10 18 45.2	-1.3
MA2				IAmb	IAmb	10 19 05.8	
	comp=Z,150nm,1.9s						
DIVS	Divibare	74.17	315	IAmb	IAmb	10 19 02.6	
	comp=Z,82nm,1.3s						
DIVS	Divibare	74.17	315	⇓iP	P	10 18 47.1	-1.1
PDG	Podgorica	74.34	314	⇑P	P	10 18 49.5	+0.4
PDG	Podgorica	74.34	314	IAmb	IAmb	10 19 05.2	
	comp=Z,39nm,0.9s						
PDG				IAMs_20	IAMs_20	10 55 00.7	
	comp=Z,2µm,19.0s						
PDG	Podgorica	74.34	314	eP	P	10 18 47.1	-2.0
DRME	Dracevica, Mon	74.34	313	eP	P	10 18 48.0	-1.1
SCTE	Santa Cesarea	74.46	311	IAmb	IAmb	10 18 51.0	
	comp=Z,61nm,0.9s						
VSU	Vasula	74.49	331	eP	P	10 18 48.7	-0.9
VSU	Vasula	74.49	331	d iP	P	10 18 48.7	-0.9
VSU				pmax	pmax		
	comp=Z,138nm,1.0s						
BBLS	Lazići	74.54	315	⇓iP	P	10 18 49.5	-0.8
FRGS	Fruska Gora	74.54	316	⇓iP	P	10 18 49.1	-1.1
TEKS	Tekeris	74.60	316	eP	P	10 18 49.9	-0.7
UPM	Unac-Piva	74.75	314	eP	P	10 18 50.0	-1.7
SUW	Suwalki	74.81	326	eP	P	10 18 50.9	-0.6
KECS	Kecovo	74.88	320	eP	P	10 18 53.4	+1.3
KECS				pmax	pmax		
	comp=Z,39nm,1.0s						
KECS	Kecovo	74.88	320	eP	P	10 18 53.4	+1.3
BRY	Bratogost	74.95	314	eP	P	10 18 51.0	-1.8
NIE	Niedzica	75.23	321	eP	P	10 18 54.5	+0.3
PEA0B	Petropavlovsk-	75.30	35	IAMs_20	IAMs_20	10 53 53.0	
	comp=Z,2µm,19.0s						
PETK	Petropavlovsk-	75.30	35	P	P	10 18 52.2	-2.2
	comp=Z,3.3nm,0.6s,baz=218,slow=3.5,SNR=14						
PETK				LR	LR	10 54 03.8	
	comp=Z,2µm,18.3s,baz=253,slow=37						
STON	Ston	75.55	314	⇓iP	P	10 18 53.5	-2.6
BEL	Belsk	75.56	323	eP	P	10 18 57.2	+1.3
MORH	Mrgy, Hungar	75.57	317	⇓iP	P	10 18 54.6	-1.5
LVZ	Lovozero	75.64	341	c eP	P	10 18 56.6	+0.5
LVZ				pmax	pmax		
	comp=Z,39nm,0.7s						
LVZ	Lovozero	75.64	341	P	P	10 18 56.3	+0.2
LVZ				IAMs_20	IAMs_20	10 54 18.7	
	comp=Z,2µm,20.0s						
LANS	Liptovska Anna	75.69	320	eP	P	10 18 58.6	+1.8
LANS				pmax	pmax		
	comp=Z,17nm,1.0s						
LANS	Liptovska Anna	75.69	320	eP	P	10 18 58.6	+1.8
OJC	Ojcow	75.75	321	eP	P	10 18 57.3	+0.3
OJC	Ojcow	75.75	321	P	P	10 18 56.2	-0.9
OJC				pmax	pmax		
	comp=Z,67nm,0.9s						
OJC	Ojcow	75.75	321	P	P	10 18 56.2	-0.9
OJC				IAmb	IAmb	10 19 08.6	
	comp=Z,67nm,0.9s						
PET	Petropavlovsk	75.83	36	eP	P	10 18 55.9	-1.5
PET				eS	S	10 28 34.2	-4.0
PET				eSPP	SPP	10 29 20.7	
PET				eSS	SS	10 33 32.2	+1.7
PET				pmax	pmax		
	comp=Z,32nm,0.7s						
PET				pmax	pmax		
	comp=Z,300nm,5.2s						
PET				pmax	pmax		
	comp=Z,100nm,9.9s						
PET				MLR	MLR		
	comp=Z,2µm,19.0s						
PET				MLR	MLR		
	comp=Z,2µm,18.0s						
PET	Petropavlovsk	75.83	36	P	P	10 18 55.4	-2.0
PET				IAmb	IAmb	10 19 21.4	
	comp=Z,45nm,1.1s						
PET				IAMs_20	IAMs_20	10 54 49.9	
	comp=Z,2µm,18.0s						
APA	Apatity	75.87	341	⇑iP	P	10 18 58.4	+1.0
APA				i		10 19 07.3	
APA				pmax	pmax		
	comp=Z,28nm,0.8s						
APA				MLR	MLR		
	comp=Z,2µm,20.0s						
FIA1	FINESS Array S	75.94	334	IAmb	IAmb	10 19 09.1	
	comp=Z,44nm,0.9s						
FINES	FINESS Array B	75.94	334	P	P	10 18 57.2	-0.7
	comp=Z,14nm,0.8s,baz=107,slow=6.6,SNR=46						
FINES				LR	LR	10 57 05.8	
	comp=Z,876nm,18.6s,baz=114,slow=40						
VYHS	Vyhne	75.95	320	eP	P	10 18 58.3	0.0
VYHS				pmax	pmax		
	comp=Z,50nm,1.2s						
VYHS	Vyhne	75.95	320	eP	P	10 18 58.3	0.0
SEY	Seymchan	76.06	25	P	P	10 18 57.5	-1.1
	comp=Z,6.1nm,1.0s,baz=265,slow=8.4,SNR=13						
SEY	Seymchan	76.06	25	c iP	P	10 18 57.0	-1.6
PBUR	Paburge	76.11	328	eP	P	10 18 58.4	-0.5
CEL	Celeste	76.13	309	IAmb	IAmb	10 19 27.1	
	comp=Z,60nm,1.0s						
BLY	Banja Luka	76.28	316	eP	P	10 18 58.9	-1.3
SLIT	Slitere, Latvi	76.42	329	eP	P	10 18 59.3	-1.4
KLNR	Kaliningrad	76.64	326	⇓eP	P	10 19 03.1	+1.1
KLNR				pmax	pmax		
	comp=Z,78nm,0.6s						
OKC	Ostrava-Krasne	76.69	321	eP	P	10 19 03.7	+1.3
OKC				AMS	AMS	10 58 30.0	
	comp=Z,800nm,16.2s						
JAVC	Velka Javorina	76.78	320	eP	P	10 19 03.2	+0.2
JAVC				eS	S	10 28 49.7	+0.6
BEHE	Becsehely	76.89	317	⇓iP	P	10 19 03.8	+0.2
MODS	Modra-Piesok	76.93	319	eP	P	10 19 03.3	-0.6
MODS				pmax	pmax		
	comp=Z,79nm,1.1s						
MODS	Modra-Piesok	76.93	319	eP	P	10 19 03.2	-0.6
MORC	Moravsky Berou	77.06	321	⇑P	P	10 19 05.1	+0.5
MORC	Moravsky Berou	77.06	321	eP	P	10 19 03.8	-0.8
MORC				eS	S	10 28 50.8	-1.3
MORC	Moravsky Berou	77.06	321	P	P	10 19 04.0	-0.6
MORC				pmax	pmax		
	comp=Z,32nm,1.1s						
MORC				MLR	MLR		
	comp=Z,800nm,20.0s						
MORC	Moravsky Berou	77.06	321	P	P	10 19 04.0	-0.6

VAE Valguarnera 77.19 308 P **P** **10 19 05.8 +0.3**
comp=Z,15nm,0.8s,baz=210,slow=13,SNR=4.3
KOGS Kog 77.24 317 *i* P **P** **10 19 04.3 -1.2**
KOGS *e*PcP **sP** **10 19 14.6 -0.2**
KOGS *e*S **S** **10 28 50.7 -3.3**
GCIS Gornji Cirnik 77.56 317 *i* P **P** **10 19 06.3 -1.1**
VRAC Vranov 77.57 320 P **P** **10 19 06.9 -0.4**
comp=Z,15nm,1.0s,baz=109,slow=6.4,SNR=28
VRAC Vranov 77.57 320 ⇑P **P** **10 19 07.8 +0.4**
VRAC Vranov 77.57 320 *e*P **P** **10 19 06.6 -0.8**
VRAC *e*S **S** **10 28 54.1 -3.4**
KRLC Kraliky 77.60 321 *e*P **P** **10 19 08.4 +0.8**
KRLC AMS AMS 10 56 10.0
comp=Z,900nm,18.0s
KRLC Kraliky 77.60 321 *e*P **P** **10 19 08.4 +0.8**
KRLC pmax pmax
comp=Z,1.0nm,18.0s
KRUC Moravsky 77.64 320 *e*P **P** **10 19 07.1 -0.7**
KRUC *e*S **S** **10 28 56.8 -1.5**
CRES Cresnjev 77.67 316 *i* P **P** **10 19 07.0 -1.0**
CRES Cresnjev 77.67 316 ⇓*i*P **P** **10 19 06.7 -1.4**
BOJS Bojanci 77.76 316 *i* P **P** **10 19 07.5 -1.1**
BOJS *i* PcP **sP** **10 19 17.6 -0.1**
CONA Conrad Observa 77.78 319 *e*P **P** **10 19 07.7 -1.0**
comp=Z,20nm,1.7s,SNR=9.7
ARSA Arzberg 77.88 318 *e*P **P** **10 19 08.8 -0.4**
comp=Z,45nm,1.4s,SNR=29
DPC Dobruska-Polom 77.95 321 *e*P **P** **10 19 10.2 +0.7**
DPC *e*S **S** **10 28 57.6 -4.1**
DPC AMS AMS 10 58 40.0
comp=Z,1μm,16.2s
GKP Gorka Klasztor 78.02 324 *e*P **P** **10 19 10.7 +1.0**
PERS Pernice 78.04 317 *i* P **P** **10 19 09.2 -1.0**
PERS *e*PP **PP** **10 22 08.9 +2.4**
OSTC Ostas 78.06 321 *e*P **P** **10 19 11.4 +1.3**
OSTC *e*S **S** **10 29 03.1 +0.3**
OSTC AMS AMS 11 00 50.0
comp=Z,1μm,16.3s
KSP Ksiaz 78.07 322 *e*P **P** **10 19 10.7 +0.5**
CORL Corleone 78.11 308 IAmb IAmb 10 19 32.5
comp=Z,52nm,1.0s
SOKA Soboth 78.11 317 *e*P **P** **10 19 09.7 -0.8**
comp=Z,30nm,1.1s,SNR=13
CHVC Chvalec 78.16 321 *e*P **P** **10 19 11.3 +0.6**
CHVC AMS AMS 11 01 00.0
comp=Z,1μm,15.9s
UPC Upice 78.17 321 *e*P **P** **10 19 12.9 +2.2**
UPC *ex* x 10 19 21.9
UPC AMS AMS 11 03 20.0
comp=Z,1μm,16.0s
UPC Upice 78.17 321 *e*P **P** **10 19 12.9 +2.2**
UPC *e* 10 19 21.9
UPC MLR MLR
comp=Z,1μm,16.0s
INTR Introdacqua 78.18 312 IAmb IAmb 10 19 25.3
comp=Z,44nm,1.0s
TREC Trest 78.28 320 *e*P **P** **10 19 12.7 +1.4**
TREC *ex* x 10 19 21.7
TREC Trest 78.28 320 *e*P **P** **10 19 12.7 +1.4**
TREC *e* 10 19 21.7
CEY Cerknica 78.37 316 *e*P **P** **10 19 08.9 -3.0**
OBKA Obir 78.41 317 *e*P **P** **10 19 11.6 -0.7**
comp=Z,17nm,1.2s,SNR=6.9
DZM Mont Dzumac 78.42 113 *e*P **P** **10 19 10.9 -1.8**
comp=Z,104nm,1.4s
DZM *e*S **S** **10 29 04.5 -3.3**
comp=Z,1μm,35.2s
DZM *e*SS **SS** **10 34 07.5 -3.7**
comp=Z,943nm,26.8s
DZM *e*LQ LQ 10 39 58.0
comp=Z,3μm,34.5s
DZM *e*LR LR 10 43 32.0
comp=Z,2μm,30.1s
CRNS Crni Vrh 78.54 317 *i* P **P** **10 19 11.9 -0.9**
CRNS *e*PP **PP** **10 22 12.9 +2.2**
CRNS *e*S **S** **10 29 04.8 -3.4**
SYO Syowa Base 78.55 196⇑*e*P **P** **10 19 11.0 -1.3**
SYO Syowa Base 78.55 196⇓*e*pP pP 10 19 18.0 -1.1
AQU L'Aquila 78.60 313 IAmb IAmb 10 19 24.5
comp=Z,94nm,1.1s
AQU L'Aquila 78.60 313 *e*P **P** **10 19 13.0 -0.3**
MOA Molin 78.82 318 *e*P **P** **10 19 13.5 -0.9**
comp=Z,14nm,1.3s,SNR=9.3
GOPC GO Pecny, Ondr 78.84 320 *e*P **P** **10 19 16.2 +1.8**
GOPC *ex* x 10 19 25.2
GOPC *e*S **S** **10 29 08.4 -2.8**
GOPC AMS AMS 10 54 20.0
comp=Z,900nm,20.1s
GOPC GO Pecny, Ondr 78.84 320 *e*P **P** **10 19 16.2 +1.8**
GOPC *e* 10 19 25.2
GOPC *e*S **S** **10 29 08.4 -2.8**
GOPC MLR MLR
comp=Z,900nm,20.1s
NRCA Norcia 78.87 313 IAMs_20 IAMs_20 10 58 15.8
comp=Z,2μm,20.0s
KEV Kevo 78.97 342 P **P** **10 19 16.3 +1.7**
KEV pmax pmax
comp=Z,47nm,0.9s
KEV MLR MLR
comp=Z,2μm,21.0s
KEV Kevo 78.97 342 P **P** **10 19 16.3 +1.7**
KEV IAmb IAmb 10 19 26.6
comp=Z,47nm,0.9s
KEV IAMs_20 IAMs_20 10 57 50.7
comp=Z,2μm,21.0s
PRU Pruhonice 79.00 321 *e*P **P** **10 19 15.5 +0.2**
PRU *ex* x 10 19 26.0
PRU *e*S **S** **10 29 11.2 -1.7**
PRU AMS AMS 10 54 10.0
comp=Z,900nm,18.8s
PRU Pruhonice 79.00 321 *e*P **P** **10 19 15.5 +0.2**
PRU *e* 10 19 26.0
PRU *e*S **S** **10 29 11.2 -1.7**
PRU MLR MLR
comp=Z,900nm,18.8s
MYKA Terra Mystica 79.05 317 *e*P **P** **10 19 14.8 -0.9**
comp=Z,40nm,1.4s,SNR=14
PRED Cave del Predi 79.07 317 IAmb IAmb 10 19 17.6
comp=Z,108nm,1.9s
PVCC Panska Ves 79.08 321 AMS AMS 10 56 50.0
comp=Z,900nm,18.9s
PRA Prague 79.09 321 AMS AMS 10 59 20.0
comp=Z,400nm,16.5s
PBCC Pribram 79.30 320 *e*P **P** **10 19 17.6 +0.6**
KBA Koelnbreinsper 79.31 317 *e*P **P** **10 19 16.0 -1.3**
comp=Z,13nm,1.1s,SNR=9.7
ARCES ARCESS Array B 79.35 341 P **P** **10 19 17.9 +1.1**
comp=Z,26nm,0.9s,baz=116,slow=5.5,SNR=53
ARE0 ARCESS Array S 79.35 341 *e*P **P** **10 19 18.0 +1.2**
GEC2 GERESS Array S 79.35 319 *e*P **P** **10 19 17.2 -0.2**
comp=Z,138nm,1.1s,baz=98,slow=5.3
GERES GERESS Array B 79.35 319 P **P** **10 19 17.0 -0.4**
comp=Z,34nm,0.9s,baz=103,slow=5.8,SNR=128
GERES LR LR 10 58 44.9
comp=Z,549nm,20.0s,baz=92,slow=39
MURB Monte Urbino 79.36 314 IAmb IAmb 10 19 41.0
comp=Z,50nm,1.1s
KHC Kasperske Hory 79.48 320 *e*P **P** **10 19 18.0 0.0**
KHC *ex* x 10 19 27.9
KHC *e*S S 10 29 07.8 -10
KHC AMS AMS 11 00 40.0
comp=Z,900nm,16.9s
KHC Kasperske Hory 79.48 320⇓*i*P **P** **10 19 17.5 -0.5**
KHC pmax pmax
comp=Z,171nm,1.7s
KHC Kasperske Hory 79.48 320 P **P** **10 19 17.2 -0.8**
ZOU Zoufplan 79.49 317 IAmb IAmb 10 19 28.8
comp=Z,99nm,1.3s
BRG Berggiesshubel 79.53 321 *i* P **P** **10 19 18.8 +0.7**
comp=Z,80nm,1.4s
BRG *i* PCP **pP** **10 19 25.2 +0.3**
comp=Z,73nm,1.0s
BRG PP **PP** **10 22 18.0 -0.8**
BRG SKS **S** **10 29 19.0 +0.5**
BRG S **SKSac** **10 29 30.0 -3.4**
BRG SS **SS** **10 34 36.0 +9.5**
comp=N,761nm,17.4s
comp=E,971nm,19.6s
comp=Z,1μm,17.5s
BRG Berggiesshubel 79.53 321 *e*P **P** **10 19 18.5 +0.3**
comp=Z,73nm,1.0s,baz=98,slow=5.3
BSD Bornholm Skovb 79.74 326⇓*i*P **P** **10 19 17.8 -1.4**
comp=Z,41nm,1.3s
BSD Bornholm Skovb 79.74 326⇓*i*P **P** **10 19 17.8 -1.4**
BSD pmax pmax
comp=Z,41nm,1.3s
RJOB Jochberg 79.78 318 *e*P **P** **10 19 18.6 -1.1**
comp=Z,34nm,1.1s,baz=98,slow=5.3
CIMO Cimolais 79.82 317 IAmb IAmb 10 19 33.9
comp=Z,58nm,1.3s
ABTA Abfaltersbach 79.83 317 *e*P **P** **10 19 18.9 -1.2**
comp=Z,15nm,1.0s,SNR=12
KTK1 Kautokeino 79.90 340 *e*P **P** **10 19 20.2 +0.4**
FBE Freiberg 79.91 321 *e*P **P** **10 19 20.8 +0.6**
comp=Z,141nm,1.0s,baz=98,slow=5.3
RUE Ruedersdorf 79.91 323 *e*P **P** **10 19 19.8 -0.4**
RUE Ruedersdorf 79.91 323 *e*P **P** **10 19 20.3 +0.1**
comp=Z,302nm,1.0s,baz=98,slow=5.3
WET Wettzell 79.94 319 *e*P **P** **10 19 20.5 0.0**
comp=Z,125nm,1.1s,baz=98,slow=5.3
CLL Collm 80.19 322 *i* P **P** **10 19 22.4 +0.7**
comp=Z,46nm,1.1s
CLL *i* (sP) **pwP** **10 19 33.1 +0.9**
comp=Z,81nm,1.0s
CLL *e*PP **PP** **10 22 24.0 -0.2**
CLL *e* 10 24 42.0
CLL *e*PPPP 10 25 36.0
CLL *e* 10 26 30.0
CLL *e*S **S** **10 29 29.0 +3.6**
CLL *e*PPS PPS 10 30 37.0
CLL *e*SS **SS** **10 34 41.0 +4.7**
CLL *e*SSS SSS 10 38 06.0
CLL *e*SSSS 10 40 36.0
CLL *e* 10 42 12.0
CLL Lm MLR 11 00 00.0
comp=Z,700nm,19.5s
CLL Collm 80.19 322 *i* Sg **S** **10 29 17.4 -8.0**
CLL Collm 80.19 322 IAmb IAmb 10 19 34.4
comp=Z,79nm,1.0s
CTI Castel Tesino 80.33 316 P **P** **10 19 22.1 -0.7**
CTI pmax pmax
comp=Z,50nm,1.0s
CTI MLR MLR
comp=Z,1μm,20.0s
CTI Castel Tesino 80.33 316 P **P** **10 19 22.1 -0.7**
CTI IAmb IAmb 10 19 33.9
comp=Z,50nm,1.0s
HAMF Hammerfest 80.36 342 *e*P **P** **10 19 23.7 +1.4**
NKC Novy Kostel 80.38 321 *e*P **P** **10 19 25.0 +2.2**
NKC *ex* x 10 19 33.8
NKC AMS AMS 11 04 30.0
comp=Z,1μm,15.8s
TANN Tannenbergstha 80.39 321 *e*P **P** **10 19 22.8 -0.1**
comp=Z,79nm,1.1s,baz=98,slow=5.3
WERN Wernitzgruen 80.43 321 *e*P **P** **10 19 23.3 +0.2**
comp=Z,37nm,0.9s,baz=98,slow=5.3
ROTZ Rotzenmuhle 80.46 320 *e*P **P** **10 19 23.4 +0.2**
comp=Z,72nm,1.1s,baz=98,slow=5.3
GUNZ Gunzen 80.47 321 *e*P **P** **10 19 23.4 +0.1**
comp=Z,58nm,1.0s,baz=98,slow=5.3
WTTA Wattenberg 80.50 317 *e*P **P** **10 19 22.5 -1.2**
comp=Z,44nm,1.1s,SNR=17
WATA Walderalm 80.55 318 *e*P **P** **10 19 22.6 -1.3**
comp=Z,33nm,1.1s,SNR=14
MANZ Manzenberg 80.56 320 *e*P **P** **10 19 24.2 +0.4**
comp=Z,127nm,1.1s,baz=98,slow=5.3
PLN Plauen 80.60 321 *e*P **P** **10 19 24.1 +0.2**
comp=Z,55nm,1.1s,baz=98,slow=5.3
ZCCA Zocca 80.60 314 IAmb IAmb 10 19 47.8
comp=Z,94nm,1.2s
SQTA Sankt Quirin 80.78 317 *e*P **P** **10 19 24.0 -1.2**
comp=Z,31nm,1.3s,SNR=16
FUR Furstenfeldbru 80.85 318 *e*P **P** **10 19 24.8 -0.6**
comp=Z,93nm,1.1s,baz=98,slow=5.3
MOTA Moosalm 80.86 318 *e*P **P** **10 19 24.3 -1.4**
comp=Z,22nm,1.0s,SNR=22
NEUB Neunburg 80.94 321 *e*P **P** **10 19 25.7 -0.1**
comp=Z,112nm,0.9s,baz=98,slow=5.3
MOX Moxa 80.96 321 *e*P **P** **10 19 26.0 +0.1**
comp=Z,88nm,1.2s,baz=98,slow=5.3
MOX *e*L L 11 04 32.6
comp=Z,643nm,19.7s
VLC Villacollemand 81.00 314 IAMs_20 IAMs_20 10 59 21.1
comp=Z,1μm,19.0s
SALO Salr 81.06 316 IAmb IAmb 10 19 38.5
comp=Z,97nm,1.2s
KEST Kesra 81.07 306 P **P** **10 19 26.8 -0.1**
comp=Z,21nm,0.9s,baz=318,slow=0.7,SNR=20
KEST LR LR 10 57 30.5
comp=Z,671nm,20.1s,baz=37,slow=37
KEST Kesra 81.07 306 IAmb IAmb 10 19 38.5
comp=Z,85nm,1.1s
KEST IAMs_20 IAMs_20 10 57 08.4
comp=Z,1μm,18.0s
FETA Feichten 81.08 317 *e*P **P** **10 19 25.7 -1.1**
comp=Z,26nm,1.1s,SNR=16
GRA1 Grafenberg Arr 81.08 320 P **P** **10 19 26.5 -0.1**
GRA1 IAmb IAmb 10 19 38.9
comp=Z,94nm,1.0s
GRF Grafenberg Arr 81.08 320 P **P** **10 19 26.5 -0.1**
GRF pmax pmax
comp=Z,95nm,1.0s
GRF Grafenberg Arr 81.08 320 *e*P **P** **10 19 26.9 +0.4**
comp=Z,108nm,1.0s,baz=98,slow=5.3
GRF *e*L L 11 04 49.2
comp=Z,1μm,18.0s
RETA Reutte 81.11 318 *e*P **P** **10 19 26.0 -0.9**
comp=Z,39nm,1.2s,SNR=25
PRMA PARMA 81.12 315 IAmb IAmb 10 19 29.6
comp=Z,142nm,1.5s
HFS Hagfors 81.37 331 P **P** **10 19 26.2 -1.6**
comp=Z,17nm,1.0s,baz=119,slow=5.2,SNR=21
TRO Tromso 81.55 340 *e*P **P** **10 19 28.5 -0.1**
UBR Ueberruh 81.57 318 *e*P **P** **10 19 28.5 -0.8**
comp=Z,68nm,0.9s,baz=98,slow=5.3
DAVOX Davos/Dischmat 81.63 317 P **P** **10 19 29.2 -0.6**
comp=Z,15nm,0.7s,baz=120,slow=4.1,SNR=33
MSSA Maissana 81.64 314 IAMs_20 IAMs_20 11 00 38.0
comp=Z,2μm,18.0s
DAVA Damuels 81.69 317 *e*P **P** **10 19 29.6 -0.4**
comp=Z,87nm,1.0s,SNR=40
ASSE Asse, Remlinge 81.75 322 *e*P **P** **10 19 29.8 -0.1**
comp=Z,90nm,1.1s,baz=98,slow=5.3
CLZ Clausthal 81.89 322 *e*P **P** **10 19 30.5 -0.3**
comp=Z,101nm,1.0s,baz=98,slow=5.3
GTTG Gottingen 82.11 322 *e*P **P** **10 19 32.2 +0.3**
comp=Z,104nm,1.1s,baz=98,slow=5.3
NRDL Niedersach Rie 82.14 323 *e*P **P** **10 19 32.2 +0.2**
comp=Z,95nm,1.1s,baz=98,slow=5.3
BSEG Bad Segeberg 82.19 324 *e*P **P** **10 19 32.2 -0.1**
comp=Z,56nm,1.1s,baz=98,slow=5.3
MOR8 Moi Rana 82.29 337 *e*P **P** **10 19 32.4 -0.2**
STEI Steigen 82.38 338 *e*P **P** **10 19 33.4 +0.4**
NC405 NORSAR Array S 82.50 331 IAmb IAmb 10 19 44.5
comp=Z,56nm,1.1s
NC602 NORSAR Array S 82.52 331 IAmb IAmb 10 19 58.4
comp=Z,74nm,1.2s
NC602 NORSAR Array S 82.52 331 *e*P **P** **10 19 33.6 -0.3**
RETH Rethem/Aller, 82.61 323 *e*P **P** **10 19 34.5 0.0**
comp=Z,55nm,1.1s,baz=98,slow=5.3
CMAH Djebel Manchou 82.68 306 P **P** **10 19 36.0 +0.7**
NC303 NORSAR Array S 82.69 331 IAmb IAmb 10 19 45.4
comp=Z,38nm,1.1s
NB2 NORSAR Subarra 82.73 331 P **P** **10 19 34.0 -1.0**
comp=Z,61nm,1.7s,baz=99,slow=5.6
NB2 NORSAR Subarra 82.73 331 P **P** **10 19 34.0 -1.0**
baz=99,slow=5.6
NOA NORSAR Array B 82.73 331 P **P** **10 19 33.6 -1.4**
comp=Z,4.8nm,0.9s,baz=99,slow=5.6,SNR=16
NOA PP **PP** **10 22 52.7 +7.7**
comp=Z,1.5nm,0.8s,baz=107,slow=7.5,SNR=3.6
NOA LR LR 10 58 27.7
comp=Z,771nm,19.9s,baz=100,slow=37
BFO Black Forest 82.83 318 P **P** **10 19 35.5 -0.3**
BFO pmax pmax
comp=Z,52nm,0.8s
BFO Black Forest 82.83 318 P **P** **10 19 35.5 -0.3**
BFO IAmb IAmb 10 19 48.4
comp=Z,52nm,0.8s
BFO Black Forest 82.83 318 *e*P **P** **10 19 35.3 -0.5**
comp=Z,72nm,1.0s,baz=98,slow=5.3
NAO01 NORSAR Array S 82.86 331 IAmb IAmb 10 19 46.3
comp=Z,42nm,1.1s
TNS Taunus Mts 82.92 320 *e*P **P** **10 19 36.5 +0.2**
comp=Z,77nm,1.1s,baz=98,slow=5.3
NBO00 NORSAR Array S 82.94 331 IAmb IAmb 10 19 46.8
comp=Z,56nm,1.1s
NSS Namsos 82.98 335 *e*P **P** **10 19 36.5 +0.4**
BJO1 Bjornoya 83.02 345 *e*P **P** **10 19 37.0 +0.8**
LOF Lofoten 83.05 338 *e*P **P** **10 19 36.6 +0.1**
TARA Tarawa 83.11 89 IAMs_20 IAMs_20 10 54 43.3
comp=Z,2μm,20.0s
BILL Bilibino 83.13 22*c i*P **P** **10 19 35.3 -1.6**
BILL *i* 10 19 43.7
BILL pmax pmax
comp=Z,8.0nm,2.0s
BILL Bilibino 83.13 22 P **P** **10 19 35.7 -1.2**
MUD Monsted U'grnd 83.15 327 *i* P **P** **10 19 37.7 +0.5**
comp=Z,50nm,0.9s
MUD Monsted U'grnd 83.15 327 *i* P **P** **10 19 37.7 +0.5**
MUD pmax pmax
comp=Z,50nm,0.9s
GOET G??ttrup 83.19 327 *i* P **P** **10 19 38.5 +1.1**
comp=Z,73nm,1.0s
GOET *i* 10 19 49.2
CKFL Kef-Lekhel 83.23 306 P **P** **10 19 39.5 +1.2**
KONO Kongsberg 83.33 330*de*P **P** **10 19 37.2 -0.9**
KONO pmax pmax
comp=Z,18nm,1.3s
KONO Kongsberg 83.33 330 P **P** **10 19 38.0 -0.1**
KONO IAmb IAmb 10 19 49.6
comp=Z,68nm,1.3s
KONO Kongsberg 83.33 330 IAMs_20 IAMs_20 11 01 06.5
comp=Z,1μm,19.0s
KONO Kongsberg 83.33 330 *e*P **P** **10 19 39.0 +1.0**
IBBN Ibbenburen 83.55 322 *e*P **P** **10 19 39.4 +0.1**
comp=Z,84nm,1.1s,baz=98,slow=5.3
ECH Echery 83.60 318 IAmb IAmb 10 19 51.2
comp=Z,51nm,1.0s
BNI Bardonecchia 83.72 315 IAmb IAmb 10 19 51.3
comp=Z,43nm,0.9s
HOMB Homborsund 83.72 328 *e*P **P** **10 19 40.6 +0.5**
BUG Bochum-Univer 83.78 321 *e*P **P** **10 19 40.4 -0.1**
comp=Z,94nm,1.1s,baz=98,slow=5.3
AHRW Bad Neuenahr-A 83.83 320 *e*P **P** **10 19 41.1 +0.3**
comp=Z,69nm,1.2s,baz=98,slow=5.3
DOMB Dombas 83.89 332 *e*P **P** **10 19 42.0 +1.0**
DFRA Djebel Bou Aff 83.92 306 P **P** **10 19 43.5 +1.7**
TAM Tamanrasset 83.93 293 P **P** **10 19 42.3 +0.1**
TAM pmax pmax
comp=Z,72nm,1.4s
TAM Tamanrasset 83.93 293 P **P** **10 19 42.2 +0.1**
TAM IAmb IAmb 10 19 54.1
comp=Z,72nm,1.4s
SKAR Skarslia 84.09 331 *e*P **P** **10 19 43.3 +1.2**
WLF Walferdange 84.36 320 IAmb IAmb 10 19 55.1
comp=Z,52nm,1.1s
WLF IAMs_20 IAMs_20 11 03 14.5
comp=Z,2μm,19.0s
WLF Walferdange 84.36 320 *e*P **P** **10 19 43.9 +0.3**
comp=Z,81nm,1.3s,baz=98,slow=5.3
HSPB Hornsund (broa 84.55 347 *e*P P 10 19 55.0 +11
MOL Molde 84.66 333 *e*P **P** **10 19 46.4 +1.6**
SPA0 Spitsbergen Ar 84.69 349 IAmb IAmb 10 20 17.0
comp=Z,12nm,1.2s
SPA0 Spitsbergen Ar 84.69 349 *e*P **P** **10 19 44.3 -0.5**
SPITS Spitsbergen Ar 84.69 349 P **P** **10 19 44.5 -0.3**
comp=Z,12nm,0.8s,baz=112,slow=8.3,SNR=12
AKN Aaknes 84.88 332 *e*P **P** **10 19 47.4 +1.5**
HYA Hoyanger 85.17 331 *e*P **P** **10 19 49.3 +2.0**
KBS Kingsbay 85.73 349 IAMs_20 IAMs_20 11 04 07.3
comp=Z,2μm,19.0s
QRZ Quartz Range 85.80 131 IAMs_20 IAMs_20 11 05 49.9
comp=Z,2μm,18.0s
THZ Tophouse 86.18 132 IAmb IAmb 10 20 05.7
comp=Z,38nm,0.8s
MQZ McQueen's Vall 86.21 134 IAMs_20 IAMs_20 10 48 19.8
comp=Z,1μm,18.0s
CLF Chambon-Foret 86.87 318 IAmb IAmb 10 20 07.3
comp=Z,33nm,0.9s
CLF IAMs_20 IAMs_20 11 05 01.1
comp=Z,1μm,18.0s
HIZ Hauiti 87.37 129 IAMs_20 IAMs_20 10 59 34.6
comp=Z,2μm,19.0s
TOC2 Torodi Ar. Sit 87.65 283 IAMs_20 IAMs_20 10 54 55.4
comp=Z,2μm,20.0s
TOC3 Torodi Ar. Sit 87.65 283 IAMs_20 IAMs_20 10 54 55.4
comp=Z,2μm,20.0s
TOB3 Torodi Ar. Sit 87.67 283 IAMs_20 IAMs_20 10 54 55.9
comp=Z,2μm,19.0s
TOA0 Torodi Ar. Sit 87.68 283 IAMs_20 IAMs_20 10 54 57.1
comp=Z,2μm,20.0s
TORD Torodi Ar. Bea 87.68 283 P **P** **10 20 00.3 -0.4**
comp=Z,4.8nm,0.8s,baz=94,slow=4.8,SNR=15
TORD LR LR 10 56 34.0
comp=Z,2μm,18.9s,baz=85,slow=34
TOB1 Torodi Ar. Sit 87.68 283 IAMs_20 IAMs_20 10 54 57.1
comp=Z,2μm,20.0s
TOA3 Torodi Ar. Sit 87.68 283 IAMs_20 IAMs_20 10 54 56.1
comp=Z,2μm,19.0s
TOB4 Torodi Ar. Sit 87.69 283 IAMs_20 IAMs_20 10 54 56.4
comp=Z,2μm,20.0s
TOB5 Torodi Ar. Sit 87.69 283 IAMs_20 IAMs_20 10 54 47.5
comp=Z,2μm,20.0s
TOC7 Torodi Ar. Sit 87.69 283 IAMs_20 IAMs_20 10 54 56.5
comp=Z,2μm,20.0s
NVL N'lazarevskaya 87.89 199 *e*P **P** **10 20 00.3 -0.2**
NVL *e*S **SKSac** **10 30 27.2 +0.2**
NVL *e*SS **SS** **10 36 37.2 +8.0**
NVL pmax pmax
comp=Z,84nm,1.2s
NVL MLR MLR
comp=Z,1μm,17.0s
VNDA Vanda 88.09 168 P **P** **10 20 03.0 +1.6**
comp=Z,1.8nm,0.9s,baz=293,slow=7.8,SNR=7.5
VNDA LR LR 10 54 51.0
comp=Z,928nm,18.1s,baz=292,slow=32
VNDA Vanda 88.09 168 P **P** **10 20 01.8 +0.4**
VNDA pmax pmax
comp=Z,41nm,1.7s
VNDA Vanda 88.09 168 P **P** **10 20 01.8 +0.4**
VNDA IAmb IAmb 10 20 47.5
comp=Z,41nm,1.7s
BKZ Black Stump Fm 88.69 129 IAMs_20 IAMs_20 10 59 16.5
comp=Z,2μm,19.0s
NOR Nord 90.44 352 *i* P **P** **10 20 12.0 -0.4**
NOR Nord 90.44 352 *i* P **P** **10 20 12.0 -0.4**
ESDC Sonseca Array 91.62 310 P **P** **10 20 19.2 +0.4**
comp=Z,4.4nm,1.1s,baz=62,slow=4.2,SNR=14
ESDC PP **PP** **10 24 04.2 +6.9**
comp=Z,4.7nm,1.1s,baz=71,slow=7.0,SNR=4.2
ESDC LR LR 11 05 25.6
comp=Z,434nm,19.4s,baz=105,slow=38
QSPA South Pole Qui 91.93 180 P **P** **10 20 19.8 +0.1**
QSPA IAmb IAmb 10 21 08.1
comp=Z,22nm,1.1s
QSPA South Pole Qui 91.93 180 IAMs_20 IAMs_20 10 55 39.9
comp=Z,1μm,20.0s
PAB San Pablo 91.93 309 P **P** **10 20 18.9 -1.4**
PAB pmax pmax
comp=Z,18nm,1.1s
PAB MLR MLR
comp=Z,700nm,18.0s
PAB San Pablo 91.93 309 P **P** **10 20 18.9 -1.4**
DAG Danmarks Havn 92.25 347 *i* P **P** **10 20 20.0 -0.8**
comp=Z,9.9nm,0.7s
DAG Danmarks Havn 92.25 347 *i* P **P** **10 20 20.0 -0.8**
DAG pmax pmax
comp=Z,10.0nm,0.7s
SNAA Sanae 92.69 198 P **P** **10 20 22.8 -0.2**
SNAA Sanae 92.69 198 P **P** **10 20 22.6 -0.4**
SNAA pmax pmax
comp=Z,14nm,1.0s
SNAA Sanae 92.69 198 P **P** **10 20 22.6 -0.4**
RAO Raoul Island 92.98 119 LR LR 11 02 46.2
comp=Z,593nm,19.4s,baz=227,slow=36
PBRG Braganca 93.55 312 *e*P P 10 20 38.6 +11
PBRG Braganca 93.55 312 *e*PP **PP** **10 24 15.0 +2.7**
SPIA Saint Paul Isl 93.76 33 IAMs_20 IAMs_20 11 05 01.0
comp=Z,2μm,20.0s
MVO Moncorvo 93.83 311 *e*P P 10 20 36.3 +7.3
MVO Moncorvo 93.83 311 *e*PP **PP** **10 24 18.1 +3.6**
MVO Moncorvo 93.83 311 *e*SS SS 10 38 01.9 +5.4
MVO Moncorvo 93.83 311 *e*LR LR 10 52 48.6
comp=Z,330nm,18.0s
VNA2 Neumayer--Watz 94.21 199 P **P** **10 20 32.8 +2.9**
baz=88,slow=4.7
PMRV Marv??o 94.29 310 *e*SS SS 10 38 09.1 +6.1
PMRV Marv??o 94.29 310 *e*LR LR 10 53 12.4
comp=Z,484nm,18.0s
MTE Manteigas 94.30 311 *e*P P 10 20 40.0 +8.9
MTE Manteigas 94.30 311 *e*PP **PP** **10 24 18.9 +0.7**
MTE Manteigas 94.30 311 *e*SS SS 10 38 09.1 +5.9
MTE Manteigas 94.30 311 *e*LR LR 10 53 48.0
comp=Z,720nm,18.0s
PCBR Castelo Branco 94.31 310 *e*P P 10 20 42.4 +11
DBIC Dimbokro 94.36 277 P **P** **10 20 31.7 -0.2**
comp=Z,5.1nm,0.9s,baz=135,slow=1.4,SNR=2.3

DBIC LR LR 10 59 25.9
comp=Z,820nm,21.7s,baz=69,slow=33
DBIC Dimbokro 94.36 277 P **P 10 20 31.7 -0.2**
DBIC pmax pmax
comp=Z,61nm,1.6s
DBIC Dimbokro 94.36 277 IAmb IAmb 10 21 39.7
comp=Z,61nm,1.6s
PESTR Estremoz 94.50 309 *e*SKS **SKSac 10 31 08.5 +2.3**
PESTR eSS **SS 10 38 14.7 +8.7**
ANM Nome 94.57 25 IAMs_20 IAMs_20 11 05 32.8
comp=Z,2µm,22.0s
PGAV Gavieira, Arco 94.67 312 *e*PP **PP 10 24 23.3 +2.2**
PGAV Gavieira, Arco 94.67 312 *e*SS SS 10 38 17.4 +9.0
PGAV Gavieira, Arco 94.67 312 *e*LR LR 10 53 53.9
comp=Z,533nm,20.0s
PVAQ Vaqueiros 94.76 308 *e*PP **PP 10 24 18.1 -3.7**
PVAQ Vaqueiros 94.76 308 *e*SS SS 10 38 10.2 +0.5
PVAQ Vaqueiros 94.76 308 *e*LR LR 10 53 24.2
comp=Z,514nm,20.0s
VNA3 Neumayer Olymp 94.91 199 P **P 10 20 35.9 +2.8**
PBDV Barranco-do-Ve 94.94 307 *e*PP **PP 10 24 18.4 -4.9**
PBDV Barranco-do-Ve 94.94 307 *e*SS SS 10 38 14.9 +2.4
PMTG Montargil 94.97 309 *e*SS SS 10 38 19.9 +7.2
COI Coimbra 94.98 310 *e*PP **PP 10 24 24.6 +1.2**
COI Coimbra 94.98 310 *e*SS SS 10 38 18.9 +6.2
PCVE Castro Verde 94.98 308 *e*PP **PP 10 24 19.7 -3.9**
PCAS Casmilo, Conde 95.06 310 *e*PP **PP 10 24 25.5 +1.4**
PCAS Casmilo, Conde 95.06 310 *e*SS SS 10 38 17.2 +3.2
MESJ Messejana 95.11 308 *e*PP **PP 10 24 23.2 -1.3**
MESJ *e*SS SS 10 38 14.7 +0.1
MESJ AMS AMS 11 10 26.8
comp=Z,456nm,18.9s
PNCL Nicolau / Gran 95.32 308 *e*SS SS 10 38 23.9 +6.3
MORF Marmelete 95.51 308 *e*PP **PP 10 24 26.4 -1.3**
MORF AMS AMS 11 06 00.3
comp=N,572nm,18.3s
MORF Marmelete 95.51 308 *e*PP **PP 10 24 25.4 -2.3**
MORF Marmelete 95.51 308 *e*SS SS 10 38 23.2 +2.7
PFVI Vila Bisbo 95.67 307 *e*PP **PP 10 24 29.1 +0.2**
PMAFR Mafra 95.80 309 *e*SS SS 10 38 32.7 +8.2
UNV Unalaska Valle 96.48 35 IAMs_20 IAMs_20 11 08 04.2
comp=Z,1µm,19.0s
SUMG Summit 98.83 346 *i* P Pdif 10 20 59.3 +7.9
comp=Z,18nm,0.9s
SUMG Summit 98.83 346 *e*P Pdif 10 20 59.3 +7.9
SUMG pmax pmax
comp=Z,18nm,0.9s
SUMG Summit 98.83 346 IAMs_20 IAMs_20 11 12 49.6
comp=Z,1µm,21.0s
SDPT Sand Point 99.48 33 IAMs_20 IAMs_20 11 12 01.4
comp=Z,1µm,20.0s
CNBA Chernabura Isl 100.13 33 IAMs_20 IAMs_20 11 12 01.4
comp=Z,1µm,20.0s
MLY Manley 100.24 22 IAMs_20 IAMs_20 11 11 36.3
comp=Z,1µm,20.0s
BPAW Bear Paw Mtn. 100.58 23 IAMs_20 IAMs_20 11 10 16.4
comp=Z,2µm,21.0s
TULEG Thule 100.64 355 IAMs_20 IAMs_20 11 13 53.1
comp=Z,1µm,20.0s
PPLA Purkeypile 100.64 24 IAMs_20 IAMs_20 11 13 56.2
comp=Z,2µm,18.0s
KTH Kantishna Hill 100.86 23 IAMs_20 IAMs_20 11 11 43.9
comp=Z,1µm,20.0s
TRF Thorofare Moun 101.16 23 IAMs_20 IAMs_20 11 12 05.8
comp=Z,2µm,20.0s
COLA College 101.39 22 IAMs_20 IAMs_20 11 10 34.7
comp=Z,1µm,21.0s
WRH Wood River Hil 101.50 22 IAMs_20 IAMs_20 11 10 21.8
comp=Z,1µm,22.0s
MCK McKinley 101.55 23 IAMs_20 IAMs_20 11 12 07.2
comp=Z,2µm,19.0s
ILAR Eielson Array 101.80 21 P **Pdif 10 21 02.3 -2.0**
comp=Z,0.3nm,0.7s,baz=302,slow=5.2,SNR=2.9
ILAR PP **PP 10 25 14.8 +0.1**
comp=Z,1.7nm,0.9s,baz=292,slow=7.4,SNR=6.7
HDA Harding Lake 101.96 22 IAMs_20 IAMs_20 11 12 31.9
comp=Z,1µm,20.0s
HOM Homer 102.31 27 IAMs_20 IAMs_20 11 10 35.5
comp=Z,1µm,20.0s
RC01 Rabbit Creek A 102.50 25 IAMs_20 IAMs_20 11 14 33.4
comp=Z,1µm,18.0s
GHO Glory Hole Cre 102.52 25 IAMs_20 IAMs_20 11 11 30.8
comp=Z,2µm,20.0s
PMR Palmer 102.52 25 IAMs_20 IAMs_20 11 14 13.8
comp=Z,1µm,19.0s
CNPM China Poot 102.56 27 IAMs_20 IAMs_20 11 15 39.0
comp=Z,1µm,20.0s
BRLK Bradley Lake 102.61 27 IAMs_20 IAMs_20 11 16 00.3
comp=Z,1µm,20.0s
KDAK Kodiak Island 102.68 29 IAMs_20 IAMs_20 11 14 56.4
comp=Z,2µm,18.0s
SML Sawmill 102.74 24 IAMs_20 IAMs_20 11 11 37.8
comp=Z,2µm,20.0s
KNK Knik Glacier 102.89 25 IAMs_20 IAMs_20 11 12 58.6
comp=Z,1µm,20.0s
RIDG Independent Ri 103.10 22 IAMs_20 IAMs_20 11 13 07.1
comp=Z,1µm,20.0s
SCM Sheep Creek Mo 103.14 24 IAMs_20 IAMs_20 11 16 31.3
comp=Z,1µm,20.0s
PAX Paxson 103.29 23 IAMs_20 IAMs_20 11 13 31.0
comp=Z,1µm,20.0s
SCRK Sand Creek 103.29 21 IAMs_20 IAMs_20 11 13 21.9
comp=Z,1µm,22.0s
RES Resolute Bay 103.39 1 IAMs_20 IAMs_20 11 11 19.7
comp=Z,1µm,20.0s
DOT Dot Lake 103.44 22 IAMs_20 IAMs_20 11 12 43.0
comp=Z,1µm,21.0s
GLI Glacier Island 103.73 25 IAMs_20 IAMs_20 11 11 35.8
comp=Z,1µm,21.0s
MENT Mentasta 103.97 22 IAMs_20 IAMs_20 11 08 45.1
comp=Z,2µm,22.0s
ILULI Iluliseat 104.16 347 IAMs_20 IAMs_20 11 15 41.4
comp=Z,1µm,18.0s
GLB Gilahina Butte 104.78 24 IAMs_20 IAMs_20 11 10 49.4
comp=Z,1µm,22.0s
VRDI Verde Repeater 105.04 24 IAMs_20 IAMs_20 11 14 19.4
comp=Z,1µm,21.0s
BALM Baldy 105.59 24 IAMs_20 IAMs_20 11 14 45.0
comp=Z,1µm,21.0s
BARN Barnard Glacie 105.85 23 IAMs_20 IAMs_20 11 14 54.8
comp=Z,1µm,21.0s
YAH Yahtse 106.22 24 IAMs_20 IAMs_20 11 19 18.7
comp=Z,1µm,20.0s
PCA Pinnacle 106.98 24 IAMs_20 IAMs_20 11 16 23.7
comp=Z,2µm,22.0s
HYT Haines Junctio 107.60 22 IAMs_20 IAMs_20 11 17 05.9
comp=Z,1µm,20.0s
IVI Ivigtut 109.22 340 IAMs_20 IAMs_20 11 19 39.4
comp=Z,1µm,20.0s
DLBC Dease Lake 112.00 21 IAMs_20 IAMs_20 11 14 09.4
comp=Z,1µm,22.0s
YKA Yellowknife Ar 113.09 12 PP **PP 10 26 30.9 -6.2**
comp=Z,0.9nm,0.8s,baz=328,slow=6.9,SNR=4.4
YKA PKKPbc **PKKPab 10 36 41.5 -2.0**
comp=Z,0.4nm,0.6s,baz=152,slow=4.3,SNR=5.5
MOBC Moresby Island 114.95 26 IAMs_20 IAMs_20 11 12 28.7
comp=Z,1µm,22.0s
TBI Tubuai 118.91 116 *e*PS PS 10 37 02.5 -5.4
comp=Z,241nm,42.0s
TBI *e*SS SS 10 43 34.0 -4.7
comp=Z,826nm,34.2s
TBI Tubuai 118.91 116 *e*LQ LQ 10 56 35.0
comp=Z,864nm,40.5s
TBI *e*LR LR 11 02 20.3
comp=Z,687nm,30.8s
PPT2 Papeete2 119.76 109 *e*PS PS 10 37 10.3 -5.6
comp=Z,221nm,26.8s
PPT2 *e*SS SS 10 43 46.3 -3.9
comp=Z,358nm,27.0s
PPT2 Papeete2 119.76 109 *e*LQ LQ 10 57 41.1
comp=Z,1µm,29.0s
PPT2 *e*LR LR 11 02 49.6
comp=Z,1µm,25.5s
SCHQ Schefferville 120.18 345 PP PP 10 27 23.3 -3.4
comp=Z,2.2nm,0.8s,baz=20,slow=7.2,SNR=2.3
SCHQ Schefferville 120.18 345 IAMs_20 IAMs_20 11 23 02.8
comp=Z,850nm,20.0s
DRLN Deer Lake 121.66 335 IAMs_20 IAMs_20 11 24 06.8
comp=Z,882nm,20.0s
FFC Flin Flon 122.66 8 IAMs_20 IAMs_20 11 28 54.2
comp=Z,884nm,19.0s
B06A Marblemount 122.85 24 IAMs_20 IAMs_20 11 27 20.4
comp=Z,964nm,20.0s
E03A Lebam 123.47 27 IAMs_20 IAMs_20 11 27 18.2
comp=Z,1µm,20.0s
D05A Enumclaw 123.67 26 IAMs_20 IAMs_20 11 24 51.5
comp=Z,791nm,22.0s

B08A Colville Reser 123.84 23 IAMs_20 IAMs_20 11 25 58.5
comp=Z,970nm,20.0s
F03A Seaside 123.93 28 IAMs_20 IAMs_20 11 27 36.5
comp=Z,935nm,21.0s
LON Longmire 124.09 26 IAMs_20 IAMs_20 11 21 55.5
comp=Z,925nm,22.0s
F04A Amboy 124.45 27 IAMs_20 IAMs_20 11 28 31.1
comp=Z,739nm,21.0s
C09A Chrisman Ranch 124.70 23 IAMs_20 IAMs_20 11 21 58.4
comp=Z,923nm,21.0s
NEW Newport 124.75 22 IAMs_20 IAMs_20 11 31 02.6
comp=Z,1µm,18.0s
D08A Wollman Farm, 125.06 24 IAMs_20 IAMs_20 11 23 34.8
comp=Z,939nm,21.0s
WALA Waterton Lakes 125.18 19 IAMs_20 IAMs_20 11 27 27.7
comp=Z,1µm,20.0s
E08A Dider Farm, El 125.46 24 IAMs_20 IAMs_20 11 27 12.5
comp=Z,792nm,20.0s
H04A Detroit Lake 125.51 28 IAMs_20 IAMs_20 11 26 54.2
comp=Z,845nm,20.0s
F07A Phinny Hill Vi 125.57 25 IAMs_20 IAMs_20 11 24 58.6
comp=Z,701nm,20.0s
G06A Carlson Farm, 125.78 26 IAMs_20 IAMs_20 11 27 18.3
comp=Z,972nm,21.0s
E09A Wood Farm, Sta 125.81 23 IAMs_20 IAMs_20 11 23 56.7
comp=Z,1µm,21.0s
JTMT Jette 126.20 20 IAMs_20 IAMs_20 11 30 03.7
comp=Z,1µm,20.0s
BATG Bathurst New B 126.56 340 IAMs_20 IAMs_20 11 23 02.1
comp=Z,946nm,22.0s
F10A Beach Ranch, E 126.61 23 IAMs_20 IAMs_20 11 22 57.0
comp=Z,864nm,21.0s
LMN Caledonia Moun 127.32 338 IAMs_20 IAMs_20 11 25 13.3
comp=Z,1µm,21.0s
EGMT Eagleton 127.36 16 IAMs_20 IAMs_20 11 30 10.2
comp=Z,875nm,20.0s
YBH Yreka Blue Hor 127.47 30 IAMs_20 IAMs_20 11 25 29.3
comp=Z,764nm,22.0s
BMO Blue Mountains 127.51 24 IAMs_20 IAMs_20 11 25 00.6
comp=Z,985nm,22.0s
K05A Summer Lake 127.61 28 IAMs_20 IAMs_20 11 25 14.8
comp=Z,872nm,21.0s
D62A Allapoint, All 127.72 342 IAMs_20 IAMs_20 11 29 28.5
comp=Z,972nm,20.0s
ULM Lac du Bonnet 127.75 5 PKP **PKPdf 10 26 16.5 -0.4**
comp=Z,1.8nm,0.4s,baz=344,slow=2.4,SNR=2.1
ULM Lac du Bonnet 127.75 5 IAMs_20 IAMs_20 11 28 40.7
comp=Z,1µm,20.0s
PQI Presque Isle 127.75 341 IAMs_20 IAMs_20 11 27 22.4
comp=Z,1µm,21.0s
E63A Oxbow 128.10 341 IAMs_20 IAMs_20 11 27 42.7
comp=Z,1µm,21.0s
J08A Circle Bar Ran 128.22 26 IAMs_20 IAMs_20 11 25 07.7
comp=Z,792nm,22.0s
E62A Clayton Lake 128.28 342 IAMs_20 IAMs_20 11 29 44.3
comp=Z,984nm,20.0s
WDC Whiskeytown Da 128.40 31 IAMs_20 IAMs_20 11 29 13.1
comp=Z,806nm,21.0s
MOD Modoc Plateau 128.52 29 IAMs_20 IAMs_20 11 34 04.0
comp=Z,659nm,19.0s
G65A Princeton 128.88 340 IAMs_20 IAMs_20 11 24 58.5
comp=Z,993nm,22.0s
WVOR Wild Horse Val 128.88 27 IAMs_20 IAMs_20 11 30 20.4
comp=Z,1µm,21.0s
F63A Nahmakanta, Br 128.96 341 IAMs_20 IAMs_20 11 29 00.4
comp=Z,774nm,21.0s
EMMW East Machias 129.27 339 IAMs_20 IAMs_20 11 28 35.8
comp=Z,806nm,21.0s
MFID Camas Ranch 129.29 24 IAMs_20 IAMs_20 11 27 19.9
comp=Z,835nm,22.0s
PKME Peaks-Kenny Pk 129.41 341 IAMs_20 IAMs_20 11 29 35.3
comp=Z,947nm,19.0s
LAO LASA Airport 129.53 14 IAMs_20 IAMs_20 11 27 35.3
comp=Z,1µm,22.0s
GDXM Geysers 129.54 33 IAMs_20 IAMs_20 11 32 13.6
comp=Z,872nm,22.0s
MDND Maddock 129.70 8 IAMs_20 IAMs_20 11 31 20.6
comp=Z,1µm,21.0s
B35A Bob, Littlefor 129.77 3 IAMs_20 IAMs_20 11 33 02.2
comp=Z,936nm,20.0s
G62A West of Eustis 129.85 342 IAMs_20 IAMs_20 11 30 41.8
comp=Z,1µm,22.0s
TAOE Nuku Hiva Isla 129.88 100 *e*LR LR 11 07 31.9
comp=Z,620nm,29.3s
D53A Lac Vacive, Po 129.92 349 IAMs_20 IAMs_20 11 30 32.3
comp=Z,1µm,20.0s
RLMT Red Lodge 130.14 18 IAMs_20 IAMs_20 11 25 15.7
comp=Z,941nm,22.0s
WVL Waterville 130.15 341 IAMs_20 IAMs_20 11 29 22.0
comp=Z,850nm,20.0s
EYMN Ely 130.26 1 IAMs_20 IAMs_20 11 33 48.3
comp=Z,964nm,20.0s
FLWY Flagg Ranch 130.62 19 IAMs_20 IAMs_20 11 30 38.5
comp=Z,765nm,20.0s
PAHR Pah Rah Range 130.65 30 IAMs_20 IAMs_20 11 35 48.5
comp=Z,821nm,20.0s
IMW Indian Meadow 130.70 20 IAMs_20 IAMs_20 11 30 38.7
comp=Z,833nm,19.0s
VCNR Virginia City 130.83 30 IAMs_20 IAMs_20 11 30 34.4
comp=Z,742nm,20.0s
I63A Otisfield 130.91 341 IAMs_20 IAMs_20 11 31 49.0
comp=Z,1µm,20.0s
PNTR Pine Nut 131.01 30 PKPdf **PKiKP 10 26 24.8 +0.1**
PNTR IAMs_20 IAMs_20 11 35 58.2
comp=Z,638nm,19.0s
TPAW Teton Pass 131.06 20 IAMs_20 IAMs_20 11 34 01.2
comp=Z,787nm,20.0s
FRNY Flat Rock 131.08 344 IAMs_20 IAMs_20 11 31 48.4
comp=Z,1µm,21.0s
SNOW Snow King Moun 131.15 20 IAMs_20 IAMs_20 11 30 53.5
comp=Z,887nm,19.0s
LBNH Lisbon 131.16 343 IAMs_20 IAMs_20 11 26 29.4
comp=Z,771nm,22.0s
REDW Red Top Meadow 131.20 20 PKPdf **PKiKP 10 26 25.1 +0.1**
REDW IAMs_20 IAMs_20 11 34 17.0
comp=Z,882nm,19.0s
YERR Yerington 131.28 30 IAMs_20 IAMs_20 11 28 11.1
comp=Z,831nm,22.0s
I62A Tamworth 131.31 342 IAMs_20 IAMs_20 11 34 37.4
comp=Z,901nm,18.0s
VT1 Waterbury 131.31 343 IAMs_20 IAMs_20 11 28 00.8
comp=Z,1µm,21.0s
WAKR Walker 131.54 31 IAMs_20 IAMs_20 11 30 58.2
comp=Z,862nm,21.0s
LONY Lake Ozonia 131.55 345 IAMs_20 IAMs_20 11 29 57.6
comp=Z,668nm,20.0s
E38A The Farm, Brul 131.60 1 IAMs_20 IAMs_20 11 30 43.7
comp=Z,848nm,20.0s
PLVO Plena 131.74 348 IAMs_20 IAMs_20 11 28 04.6
comp=Z,974nm,22.0s
HNH Hanover 131.75 343 IAMs_20 IAMs_20 11 37 03.1
comp=Z,774nm,19.0s
E43A Lone Tree Farm 131.76 357 IAMs_20 IAMs_20 11 32 55.9
comp=Z,893nm,20.0s
RYN Ryan 131.91 30 IAMs_20 IAMs_20 11 31 37.8
comp=Z,842nm,21.0s
BW06 Boulder Array 132.16 19 IAMs_20 IAMs_20 11 31 44.4
comp=Z,1µm,20.0s
PDAR Pinedale Array 132.16 19 PKP **PKPdf 10 26 25.5 -0.4**
comp=Z,1.5nm,0.6s,baz=130,slow=0.9,SNR=8.5
NVAR Mina Array Bea 132.17 30 PKP **PKiKP 10 26 27.1 0.0**
comp=Z,1.3nm,0.6s,baz=324,slow=2.1,SNR=14
NV11 Mina Array Sit 132.24 30 PKPdf **PKiKP 10 26 27.4 +0.4**
NV11 IAMs_20 IAMs_20 11 33 13.6
comp=Z,668nm,21.0s
F36A Milaca 132.27 3 IAMs_20 IAMs_20 11 30 12.4
comp=Z,1µm,22.0s
MDPB Devils Postpil 132.39 31 IAMs_20 IAMs_20 11 37 27.6
comp=Z,647nm,20.0s
SADO Sadowa 132.41 349 IAMs_20 IAMs_20 11 30 57.3
comp=Z,734nm,19.0s
OMMB Old Mammoth Mi 132.44 31 IAMs_20 IAMs_20 11 37 29.1
comp=Z,776nm,19.0s
RSSD Black Hills 132.47 13 IAMs_20 IAMs_20 11 30 28.0
comp=Z,927nm,21.0s
HWUT Hardware Ranch 132.49 22 IAMs_20 IAMs_20 11 28 17.2
comp=Z,902nm,22.0s
PMPB Monarch Peak 132.51 34 IAMs_20 IAMs_20 11 31 52.2
comp=Z,747nm,21.0s
J59A Piesco 132.60 344 IAMs_20 IAMs_20 11 31 28.5
comp=Z,817nm,21.0s
HRV Adam Dziewonsk 132.61 341 IAMs_20 IAMs_20 11 32 37.0
comp=Z,911nm,20.0s
WES Weston 132.64 341 IAMs_20 IAMs_20 11 28 21.9
comp=Z,1µm,22.0s
K62A Royalston 132.68 342 IAMs_20 IAMs_20 11 30 04.8
comp=Z,1µm,21.0s
J58A Remsen 132.90 345 IAMs_20 IAMs_20 11 34 04.5
comp=Z,683nm,21.0s
SPMN Marine on St. 132.94 2 IAMs_20 IAMs_20 11 35 29.2
comp=Z,670nm,20.0s
G45A Suttons Bay 133.01 356 IAMs_20 IAMs_20 11 33 13.8
comp=Z,1µm,20.0s
J57A Williamstown 133.03 346 IAMs_20 IAMs_20 11 31 13.9
comp=Z,940nm,20.0s
TRY Troy 133.05 343 IAMs_20 IAMs_20 11 29 24.4
comp=Z,804nm,21.0s
QUA2 Belchertown 133.07 342 IAMs_20 IAMs_20 11 32 21.0
comp=Z,754nm,19.0s
BRYW Bryant College 133.13 341 IAMs_20 IAMs_20 11 32 52.8
comp=Z,926nm,19.0s
M65A Busby, Falmout 133.15 340 IAMs_20 IAMs_20 11 32 06.4
comp=Z,1µm,20.0s
PAGB Antelope Grade 133.17 34 IAMs_20 IAMs_20 11 32 30.6
comp=Z,678nm,20.0s
K22A Casper 133.20 16 IAMs_20 IAMs_20 11 27 24.6
comp=Z,890nm,22.0s
J56A Wolcott 133.37 347 IAMs_20 IAMs_20 11 33 10.7
comp=Z,959nm,20.0s
R11A Troy Canyon, C 133.54 28 PKPdf **PKiKP 10 26 29.9 +0.2**
R11A IAMs_20 IAMs_20 11 32 13.8
comp=Z,662nm,21.0s
K58A Earlville 133.56 345 IAMs_20 IAMs_20 11 33 36.7
comp=Z,760nm,19.0s
H43A Windswept, Lux 133.70 358 IAMs_20 IAMs_20 11 30 30.2
comp=Z,931nm,20.0s
J54A Appleton 133.76 348 IAMs_20 IAMs_20 11 30 55.9
comp=Z,942nm,20.0s
I49A Point Hope 133.80 353 IAMs_20 IAMs_20 11 34 37.0
comp=Z,1µm,20.0s
MEDO Medina 133.82 348 IAMs_20 IAMs_20 11 29 39.7
comp=Z,968nm,22.0s
RWWY Rawlins 133.88 18 IAMs_20 IAMs_20 11 28 42.7
comp=Z,878nm,22.0s
KSCT Kent School, K 133.92 343 IAMs_20 IAMs_20 11 33 21.4
comp=Z,1µm,19.0s
I47A Gladwin 133.92 354 IAMs_20 IAMs_20 11 28 26.0
comp=Z,1µm,22.0s
L59A Walton 133.93 344 IAMs_20 IAMs_20 11 33 12.7
comp=Z,868nm,20.0s
MMNY Mt. Morris Dam 134.12 347 IAMs_20 IAMs_20 11 37 55.6
comp=Z,965nm,20.0s
ECSD EROS Data Cent 134.13 6 IAMs_20 IAMs_20 11 36 03.7
comp=Z,933nm,19.0s
BINY Binghamton 134.17 345 IAMs_20 IAMs_20 11 34 35.0
comp=Z,793nm,19.0s
I40A Norwalk 134.33 0 IAMs_20 IAMs_20 11 31 55.8
comp=Z,1µm,21.0s
WSPT Westport, CT 134.38 342 IAMs_20 IAMs_20 11 30 41.7
comp=Z,1µm,22.0s
WVNY West Valley, N 134.58 348 IAMs_20 IAMs_20 11 29 37.7
comp=Z,1µm,22.0s
L56A Greenwood 134.61 347 IAMs_20 IAMs_20 11 33 21.6
comp=Z,861nm,20.0s
J45A Montague 134.66 356 IAMs_20 IAMs_20 11 30 29.5
comp=Z,859nm,20.0s
PAL Palisades 134.70 343 IAMs_20 IAMs_20 11 31 42.3
comp=Z,715nm,19.0s
KSPA Keystone Colle 134.72 345 IAMs_20 IAMs_20 11 34 59.5
comp=Z,777nm,20.0s
J47A Sunmer 134.72 354 IAMs_20 IAMs_20 11 33 00.2
comp=Z,885nm,21.0s
OSI Osito Audit: C 134.83 34 IAMs_20 IAMs_20 11 26 01.7
comp=Z,670nm,21.0s
ODNJ Ogdensburg 134.84 343 IAMs_20 IAMs_20 11 34 14.8
comp=Z,915nm,19.0s
K50A Casco 134.92 352 IAMs_20 IAMs_20 11 38 22.6
comp=Z,992nm,19.0s
O20A White River Ci 134.96 20 IAMs_20 IAMs_20 11 33 07.5
comp=Z,1003nm,21.0s
Q16A Castle Valley 134.97 23 PKPdf **PKiKP 10 26 32.4 -0.2**
ERPA Erie 135.13 349 IAMs_20 IAMs_20 11 32 21.3
comp=Z,779nm,20.0s
BRNJ Basking Ridge 135.19 343 IAMs_20 IAMs_20 11 31 50.3
comp=Z,896nm,20.0s
SHPR Sheep Range 135.22 29 IAMs_20 IAMs_20 11 31 40.5
comp=Z,896nm,21.0s
M57A Sunshine Farm, 135.27 346 IAMs_20 IAMs_20 11 33 57.0
comp=Z,932nm,20.0s
JFWS Jewell Farm 135.31 0 IAMs_20 IAMs_20 11 30 47.7
comp=Z,1µm,22.0s
N59A State Game Lan 135.31 344 IAMs_20 IAMs_20 11 33 59.3
comp=Z,772nm,20.0s
GSC Goldstone, Bar 135.34 31 IAMs_20 IAMs_20 11 32 34.0
comp=Z,746nm,21.0s
M56A Emporium 135.37 347 IAMs_20 IAMs_20 11 37 52.7
comp=Z,752nm,20.0s
MWC Mount Wilson 135.49 33 IAMs_20 IAMs_20 11 34 05.1
comp=Z,644nm,21.0s
M55A Ridgway 135.51 348 IAMs_20 IAMs_20 11 34 11.4
comp=Z,904nm,21.0s
AAM Ann Arbor 135.52 353 IAMs_20 IAMs_20 11 38 10.4
comp=Z,758nm,18.0s
ALLY Alegheny Colle 135.62 349 IAMs_20 IAMs_20 11 32 35.1
comp=Z,929nm,20.0s
N58A Sunbury 135.63 345 IAMs_20 IAMs_20 11 34 24.7
comp=Z,1µm,21.0s
M54A Sil Creek Stat 135.66 349 IAMs_20 IAMs_20 11 34 29.3
comp=Z,983nm,22.0s
L34A Svendsen Farm, 135.90 7 IAMs_20 IAMs_20 11 32 43.6
comp=Z,1µm,19.0s
OGNE Ogallala 135.94 13 IAMs_20 IAMs_20 11 31 20.9
comp=Z,1µm,22.0s
L46A Eue Claire 136.07 356 IAMs_20 IAMs_20 11 35 11.7
comp=Z,801nm,19.0s
ISCO Idaho Springs 136.09 17 IAMs_20 IAMs_20 11 34 50.3
comp=Z,1µm,21.0s
PV21 Cone Mtn., Par 136.11 21 IAMs_20 IAMs_20 11 36 05.0
comp=Z,1µm,21.0s
SSPA Standing Stone 136.11 346 IAMs_20 IAMs_20 11 33 38.4
comp=Z,990nm,21.0s
PSUB Penn St. - Bra 136.15 344 IAMs_20 IAMs_20 11 37 07.5
comp=Z,986nm,19.0s
PV22 Blue Mesa, Par 136.20 21 IAMs_20 IAMs_20 11 37 21.4
comp=Z,910nm,19.0s
L42A Oliver, Polo 136.22 359 IAMs_20 IAMs_20 11 31 24.7
comp=Z,1µm,21.0s
BDFB Brasilia 136.24 249 PKP **PKiKP 10 26 36.1 +0.4**
comp=Z,5.5nm,1.2s,baz=202,slow=5.4,SNR=2.9
N54A Moraine State 136.25 349 IAMs_20 IAMs_20 11 38 52.9
comp=Z,729nm,19.0s
PV14 Lion Creek, Pa 136.26 21 IAMs_20 IAMs_20 11 36 29.0
comp=Z,1µm,21.0s
P60A Greenville 136.31 344 IAMs_20 IAMs_20 11 30 52.7
comp=Z,1µm,21.0s
M50A Fremont 136.33 352 IAMs_20 IAMs_20 11 32 22.7
comp=Z,891nm,21.0s
PV19 Morning Glory 136.33 21 IAMs_20 IAMs_20 11 34 35.8
comp=Z,833nm,20.0s
MVL Millersville 136.33 345 IAMs_20 IAMs_20 11 29 29.2
comp=Z,1µm,22.0s
PV07 Paradox Valley 136.34 21 IAMs_20 IAMs_20 11 34 26.0
comp=Z,921nm,21.0s
PV18 Skein Mesa, Pa 136.41 21 IAMs_20 IAMs_20 11 36 24.1
comp=Z,1µm,21.0s
PV15 Paradox Valley 136.48 21 IAMs_20 IAMs_20 11 34 47.9
comp=Z,718nm,20.0s
O56A Blue Knob Stat 136.62 347 IAMs_20 IAMs_20 11 34 03.7
comp=Z,1µm,21.0s
N51A Ashland 136.71 351 IAMs_20 IAMs_20 11 39 28.8
comp=Z,1µm,21.0s
M44A Midewin, Midew 136.79 358 IAMs_20 IAMs_20 11 38 10.9
comp=Z,988nm,19.0s
PFO Pinyon Flats O 136.82 33 IAMs_20 IAMs_20 11 33 35.9
comp=Z,767nm,21.0s
XPFO Pion Flat 136.83 33 IAMs_20 IAMs_20 11 33 37.4
comp=Z,768nm,21.0s
N49A Columbus Grove 136.95 353 IAMs_20 IAMs_20 11 30 30.1
comp=Z,1µm,22.0s
W13A Hualapai Mount 136.97 29 IAMs_20 IAMs_20 11 31 26.7
comp=Z,858nm,22.0s
N35A Tabor 137.08 6 IAMs_20 IAMs_20 11 40 28.6
comp=Z,950nm,19.0s
O54A Avella 137.08 349 IAMs_20 IAMs_20 11 31 39.8
comp=Z,910nm,21.0s
Q60A Greensboro 137.12 343 IAMs_20 IAMs_20 11 38 20.2
comp=Z,913nm,19.0s
P57A Homestead Farm 137.24 346 IAMs_20 IAMs_20 11 33 29.1
comp=Z,936nm,22.0s
O52A Adamsville 137.41 350 IAMs_20 IAMs_20 11 37 57.4
comp=Z,985nm,19.0s
ACSO Alum Creek Sta 137.47 352 IAMs_20 IAMs_20 11 33 17.0
comp=Z,905nm,22.0s
MVCO Mesa Verde 137.48 22 IAMs_20 IAMs_20 11 38 23.3
comp=Z,901nm,20.0s
N41A Harden Midland 137.51 1 IAMs_20 IAMs_20 11 33 26.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,1µm,21.0s						
O49A	Covington	137.69	353	IAMs_20	IAMs_20	11 30 51.7	
	comp=Z,941nm,22.0s						
Q56A	Snyder Ridge,	137.93	347	IAMs_20	IAMs_20	11 30 09.4	
	comp=Z,889nm,22.0s						
P53A	Whipple	137.94	350	IAMs_20	IAMs_20	11 37 14.6	
	comp=Z,911nm,19.0s						
SDCO	Great Sand Dun	138.02	18	IAMs_20	IAMs_20	11 33 33.3	
	comp=Z,690nm,22.0s						
GLA	Glamis	138.12	32	IAMs_20	IAMs_20	11 33 44.5	
	comp=Z,591nm,20.0s						
P51A	Williamsport	138.22	352	IAMs_20	IAMs_20	11 33 48.8	
	comp=Z,783nm,20.0s						
CBN	Corbin Frederi	138.28	345	IAMs_20	IAMs_20	11 34 27.9	
	comp=Z,928nm,20.0s						
Q54A	Coxs Mills	138.33	349	IAMs_20	IAMs_20	11 38 48.8	
	comp=Z,970nm,20.0s						
Y14A	Wickenburg	138.33	29	IAMs_20	IAMs_20	11 32 25.8	
	comp=Z,858nm,22.0s						
CBKS	Cedar Bluff	138.47	11	IAMs_20	IAMs_20	11 36 47.8	
	comp=Z,946nm,20.0s						
P48A	Milroy	138.53	354	IAMs_20	IAMs_20	11 32 14.8	
	comp=Z,986nm,21.0s						
P43A	Skaggs, Pawnee	138.57	359	IAMs_20	IAMs_20	11 35 17.1	
	comp=Z,936nm,21.0s						
X16A	Lo Mia Camp, P	138.67	27	IAMs_20	IAMs_20	11 38 10.5	
	comp=Z,700nm,21.0s						
KSU1	Kansas State U	138.70	8	IAMs_20	IAMs_20	11 35 08.6	
	comp=Z,879nm,21.0s						
Q51A	Peebles	138.70	352	IAMs_20	IAMs_20	11 31 17.7	
	comp=Z,689nm,21.0s						
W18A	Petrified Fore	138.82	25	IAMs_20	IAMs_20	11 31 48.1	
	comp=Z,882nm,21.0s						
BLO	Bloomington	138.91	356	IAMs_20	IAMs_20	11 35 30.9	
	comp=Z,828nm,20.0s						
S57A	Dark Hollow, R	139.10	346	IAMs_20	IAMs_20	11 36 43.4	
	comp=Z,726nm,20.0s						
T60A	Surry	139.11	343	IAMs_20	IAMs_20	11 32 36.8	
	comp=Z,795nm,21.0s						
R53A	Hurricane	139.16	350	IAMs_20	IAMs_20	11 28 54.9	
	comp=Z,847nm,22.0s						
OLIL	Olney	139.44	357	IAMs_20	IAMs_20	11 34 56.0	
	comp=Z,1µm,21.0s						
S54A	Dingess, Beckl	139.56	349	IAMs_20	IAMs_20	11 35 14.6	
	comp=Z,964nm,20.0s						
R50A	Paris	139.57	353	IAMs_20	IAMs_20	11 40 26.5	
	comp=Z,894nm,20.0s						
R49A	Shelbyville	139.66	354	IAMs_20	IAMs_20	11 40 37.8	
	comp=Z,879nm,20.0s						
U61A	Possum Corner	139.78	343	IAMs_20	IAMs_20	11 42 47.5	
	comp=Z,880nm,18.0s						
BLA	Blacksburg	139.96	348	IAMs_20	IAMs_20	11 39 43.0	
	comp=Z,922nm,21.0s						
U59A	Littleton	140.14	344	IAMs_20	IAMs_20	11 33 40.0	
	comp=Z,808nm,21.0s						
USIN	University of	140.18	357	IAMs_20	IAMs_20	11 36 37.7	
	comp=Z,996nm,20.0s						
ANMO	Albuquerque	140.24	21	PKIKP	PKPdf	10 26 39.9	-1.1
ANMO	Albuquerque	140.24	21		PKPdf	10 26 39.9	-1.1
ANMO	Albuquerque	140.24	21	IAMs_20	IAMs_20	11 32 46.4	
	comp=Z,856nm,22.0s						
V61A	Roper	140.32	343	IAMs_20	IAMs_20	11 34 35.8	
	comp=Z,808nm,19.0s						
SIUC	Southern Illin	140.49	359	IAMs_20	IAMs_20	11 41 57.1	
	comp=Z,874nm,18.0s						
S44A	Carbondale	140.51	359	IAMs_20	IAMs_20	11 41 49.5	
	comp=Z,855nm,18.0s						
TUC	Tucson	140.73	28	IAMs_20	IAMs_20	11 36 39.1	
	comp=Z,624nm,20.0s						
U56A	King	140.78	347	IAMs_20	IAMs_20	11 31 09.8	
	comp=Z,694nm,20.0s						
T50A	Nancy	140.87	353	IAMs_20	IAMs_20	11 39 39.1	
	comp=Z,969nm,20.0s						
U54A	Nelsons Funny	140.90	349	IAMs_20	IAMs_20	11 34 31.9	
	comp=Z,1µm,21.0s						
MGMO	Mountain Grove	141.02	3	PKPdf	PKPdf	10 26 38.5	-3.6
T47A	Sharon Grove	141.12	356	IAMs_20	IAMs_20	11 39 05.5	
	comp=Z,853nm,20.0s						
TZTN	Tazewell	141.17	351	IAMs_20	IAMs_20	11 33 04.0	
	comp=Z,1µm,22.0s						
HHAR	Hobbs	141.78	5	IAMs_20	IAMs_20	11 35 45.5	
	comp=Z,979nm,21.0s						
AMTX	Amarillo	141.79	15	IAMs_20	IAMs_20	11 34 18.9	
	comp=Z,871nm,22.0s						
PVMO	Portageville	141.80	359	IAMs_20	IAMs_20	11 32 17.5	
	comp=Z,1µm,21.0s						
W57A	Gilead	141.83	346	IAMs_20	IAMs_20	11 43 39.8	
	comp=Z,634nm,20.0s						
121A	Cookes Peak, D	141.86	24	IAMs_20	IAMs_20	11 37 57.7	
	comp=Z,1µm,22.0s						
V52A	Sevierville	141.87	351	IAMs_20	IAMs_20	11 36 43.4	
	comp=Z,856nm,19.0s						
TUL1	Leonard	141.95	7	IAMs_20	IAMs_20	11 33 33.6	
	comp=Z,852nm,20.0s						
CLTN	Cedars of Leba	141.95	355	IAMs_20	IAMs_20	11 41 11.5	
	comp=Z,878nm,18.0s						
WVT	Waverly	142.02	357	PKIKP	PKPdf	10 26 41.5	-2.4
WVT	Waverly	142.02	357		PKPdf	10 26 41.5	-2.4
PEBM	Pemiscott Bayo	142.10	360	IAMs_20	IAMs_20	11 40 44.5	
	comp=Z,835nm,19.0s						
LCAR	Lake Charles	142.14	1	PKPdf	PKPdf	10 26 39.2	-4.9
319A	Douglas	142.21	27	IAMs_20	IAMs_20	11 36 06.1	
	comp=Z,612nm,21.0s						
HALT	Halls	142.29	359	IAMs_20	IAMs_20	11 36 01.6	
	comp=Z,999nm,21.0s						
MSTX	Muleshoe	142.34	17	IAMs_20	IAMs_20	11 35 07.7	
	comp=Z,1µm,22.0s						
CPCT	Cooper Cave	142.38	352	IAMs_20	IAMs_20	11 35 37.0	
	comp=Z,834nm,20.0s						
BIRD	Birdtown, Kers	142.43	347	IAMs_20	IAMs_20	11 41 12.5	
	comp=Z,859nm,19.0s						
WMOK	Wichita Mounta	142.60	12	PKIKP	PKPdf	10 26 40.5	-4.5
WMOK	Wichita Mounta	142.60	12	PKPdf	PKPdf	10 26 40.5	-4.5
Y59A	Loris	142.66	344	IAMs_20	IAMs_20	11 39 48.7	
	comp=Z,878nm,20.0s						
HBAR	Harrisburg	142.66	1	IAMs_20	IAMs_20	11 39 51.2	
	comp=Z,875nm,20.0s						
X34A	Smith Ranch, M	142.92	10	IAMs_20	IAMs_20	11 37 08.4	
	comp=Z,1µm,21.0s						
JSC	Jenkinsville	142.96	348	IAMs_20	IAMs_20	11 35 14.4	
	comp=Z,617nm,22.0s						
W45A	Hickory Valley	143.04	359	IAMs_20	IAMs_20	11 36 25.4	
	comp=Z,771nm,21.0s						
X51A	Calhoun	143.30	353	IAMs_20	IAMs_20	11 41 03.2	
	comp=Z,962nm,20.0s						
MIAR	Mount Ida	143.53	5	IAMs_20	IAMs_20	11 34 25.4	
	comp=Z,906nm,21.0s						
MNTX	Cornudas Mount	143.55	22	PKPdf	PKPbc	10 26 44.5	+0.4
X48A	Hartselle	143.64	356	IAMs_20	IAMs_20	11 36 42.1	
	comp=Z,800nm,20.0s						
X40A	Basin Creek Fa	143.64	4	IAMs_20	IAMs_20	11 36 54.3	
	comp=Z,904nm,20.0s						
OXF	Oxford	143.69	359	IAMs_20	IAMs_20	11 38 55.6	
	comp=Z,948nm,21.0s						
NHSC	New Hope	143.83	346	IAMs_20	IAMs_20	11 39 37.7	
	comp=Z,938nm,20.0s						
AUSP	Uspallata	144.08	211	*i* P	PKPbc	10 26 46.3	+0.3
GOGA	Godfrey	144.22	350	IAMs_20	IAMs_20	11 37 39.8	
	comp=Z,724nm,20.0s						
VA03	San Esteban	144.23	209	PKPdf	PKPab	10 26 45.7	-0.1
Z35A	Perchaven, San	144.26	10	PKPdf	PKPab	10 26 45.5	-0.2
Z35A				IAMs_20	IAMs_20	11 38 09.9	
	comp=Z,952nm,20.0s						
WLAR	White Oak Lake	144.42	4	IAMs_20	IAMs_20	11 37 38.9	
	comp=Z,855nm,22.0s						
Z38A	Mt. Pleasant	144.66	7	PKPdf	PKPab	10 26 47.1	-0.1
154A	Montrose	144.94	350	IAMs_20	IAMs_20	11 37 38.8	
	comp=Z,749nm,22.0s						
ACCO	Cerro Coronel	145.19	213	*i* P	PKPbc	10 26 49.5	-0.1
255A	Hazlehurst	145.48	348	IAMs_20	IAMs_20	11 32 20.3	
	comp=Z,947nm,22.0s						
ACDV	Cuesta del Vie	145.54	213	*i* P	PKPbc	10 26 50.6	+0.1
AROD	Rodeo	145.74	213	*i* P	PKPab	10 26 51.8	+0.1
237A	Washetta, Mont	145.79	8	PKPdf	PKPab	10 26 51.7	+0.3
237A				IAMs_20	IAMs_20	11 38 30.4	
	comp=Z,889nm,21.0s						
CO03	El Pedregal	145.85	211	PKPdf	PKPdf	10 26 50.6	-0.3
250A	Grady	146.02	354	IAMs_20	IAMs_20	11 38 59.2	
	comp=Z,843nm,20.0s						
VCA	Vinchina	146.10	216	*i* P	PKPbc	10 26 52.3	-0.1
TX32	Lajitas Array	146.31	21		PKPdf	10 26 52.2	+0.5
TXAR	Lajitas Array	146.31	21	PKPbc	PKPbc	10 26 52.8	-0.1
	comp=Z,53nm,1.1s,baz=269,slow=1.7,SNR=159						
GO04	Tololo Observa	146.44	211	PKPdf	PKPbc	10 26 52.9	-0.5
JCT	Junction City	146.46	15	IAMs_20	IAMs_20	11 40 52.4	
	comp=Z,656nm,19.0s						
SMRT	St. Maarten	146.66	308	IAMs_20	IAMs_20	11 28 00.2	
	comp=Z,873nm,21.0s						
SKI	Saint Kitts	146.78	306	IAMs_20	IAMs_20	11 28 22.7	
	comp=Z,844nm,20.0s						
AC05	El Transito	147.21	214	PKPbc	PKPbc	10 26 55.8	+0.3
441A	DeRidder	147.33	5	IAMs_20	IAMs_20	11 37 46.0	
	comp=Z,971nm,21.0s						
553A	Crawfordville	147.53	351	IAMs_20	IAMs_20	11 36 43.5	
	comp=Z,891nm,20.0s						
HPIG		147.63	26	IAMs_20	IAMs_20	11 43 50.5	
	comp=Z,888nm,20.0s						
HKT	Hockley	147.80	9	PKIKP	PKPdf	10 26 53.8	-0.2
HKT	Hockley	147.80	9		PKPdf	10 26 53.8	-0.2
AC02	Maricunga	148.05	217	PKPbc	PKPbc	10 26 58.8	+0.4
GRGR	Grenville	148.34	297	IAMs_20	IAMs_20	11 36 45.1	
	comp=Z,557nm,18.0s						
SJG	San Juan	149.00	311	*e*P	PKPab	10 27 03.5	-0.9
SJG	San Juan	149.00	311	IAMs_20	IAMs_20	11 31 23.8	
	comp=Z,905nm,21.0s						
ICMP	Isla Caja de M	149.42	311	PKPbc	PKPbc	10 27 01.4	0.0
PTGA	Pitinga	149.72	272	PKPbc	PKPbc	10 27 02.1	-0.2
PTGA				IAMs_20	IAMs_20	11 38 36.9	
	comp=Z,726nm,19.0s						
LVC	Limon Verde	150.86	224	PKIKP	PKPbc	10 27 05.5	+0.3
LVC	Limon Verde	150.86	224		PKPbc	10 27 05.5	+0.3
061Z	Ochoppi	150.88	343	IAMs_20	IAMs_20	11 42 54.7	
	comp=Z,901nm,20.0s						
PB06	IPOC Station P	151.25	223	PKPbc	PKiKP	10 27 06.7	+0.2
PB06				PKPab	sPKPbc	10 27 14.7	-0.7
SC01	Santiago de lo	151.37	319	IAMs_20	IAMs_20	11 37 13.3	
	comp=Z,707nm,20.0s						
SDDR	Presa de Saban	152.06	319	IAMs_20	IAMs_20	11 39 28.5	
	comp=Z,855nm,22.0s						
SAML	Samuel	152.22	255	PKIKP	PKPbc	10 27 06.3	-1.8
SAML	Samuel	152.22	255		PKPbc	10 27 06.3	-1.8
SAML	Samuel	152.22	255	IAMs_20	IAMs_20	11 38 47.9	
	comp=Z,734nm,18.0s						
LPAZ	La Paz	154.01	236	PKP	PKPdf	10 27 04.8	0.0
	comp=Z,4.7nm,1.2s,baz=205,slow=1.7,SNR=5.4						
LPAZ				PKPbc	PKiKP	10 27 13.1	+0.2
	comp=Z,5.3nm,1.1s,baz=334,slow=1.4,SNR=7.9						
MTDJ	Mount Denham	156.35	329	IAMs_20	IAMs_20	11 43 28.9	
	comp=Z,762nm,20.0s						
URIC	Uribia, Colomb	157.34	307	*e*P	PKPab	10 27 26.5	-13
SDV	Santo Domingo	157.68	299	IAMs_20	IAMs_20	11 51 13.5	
	comp=Z,615nm,18.0s						
SMLC	San Martn de	160.66	304	*e*P	PKPab	10 27 53.8	-0.3
GUVC	San Jose del G	161.84	284	*e*P	PKPdf	10 27 13.2	-0.5
PTBC	PUERTO BERRIO,	162.12	298	*e*P	PKPdf	10 27 13.3	-0.7
SPBC	San Pablo de B	162.17	295	*e*P	PKPdf	10 27 13.2	-0.9
LCBC	Los crdobas,	162.48	308	*e*P	PKPdf	10 27 15.9	+1.6
CTAB	Cerro Tablazo,	162.55	294	*e*P	PKPdf	10 26 53.3	-22
ROSC	El Rosal	162.72	293	PKP	PKPdf	10 27 16.9	+1.9
	comp=Z,4.9nm,0.3s,baz=159,slow=21,SNR=1.5						
ROSC	El Rosal	162.72	293		PKPdf	10 27 15.6	+0.6
NORC	Norcasia	162.92	296	*e*P	PKPdf	10 27 15.6	+0.8
CAPC	Capurgana	163.38	310	*e*P	PKPdf	10 27 15.2	+0.1
GUY2C	Guyana, Caldas	163.51	296	*e*P	PKPdf	10 27 27.1	+11
PRAC	Prado	163.65	290	*e*P	PKPdf	10 27 14.7	-0.8
PLMC	San Jos del P	164.47	296	*e*P	PKPdf	10 27 23.9	+7.6
BETC	Betania	164.50	287	*e*P	PKPdf	10 27 17.2	+0.9
GARC	Garzon, Huila	164.69	286	*e*P	PKPdf	10 27 19.2	+2.5
YOTC	Yotoco, Valle	164.91	293	*e*P	PKPdf	10 27 26.5	+10
SOTA	Rioblanco	165.78	287	*e*P	PKPdf	10 27 29.2	+11
CRUC	La Cruz	166.26	285	*e*P	PKPdf	10 27 11.9	-6.3

YARS 01 10:22:11.0±0.0**,66°.44N**×**127°.75E,h5**km**,mb4.8**/1**,**
ML2.0/3**,Northern and central Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTGS	Batagay	2.96	63	*e*Pn	Pb	10 23 01.8	-2.4
BTGS				*e*Pg	Pg	10 23 09.8	+2.1
	1.5nm,0.1s						
BTGS				*e*Sn	Sn	10 23 37.2	+2.8
BTGS				*e*Sn	Sn	10 23 37.2	+2.8
BTGS				*e*Lg	Lg	10 23 45.0	
BTGS				*e*Lg	Lg	10 23 45.0	
BTGS				*e*Sg	Sg	10 23 48.9	+2.9
	35nm,0.6s						
TIXI	Tiksi	5.25	4	*e*Pn	Pn	10 23 34.2	+4.2
TIXI				*e*Pg	Pg	10 23 55.3	+3.9
	1.6nm,0.2s						
TIXI				*e*Sn	Sn	10 24 32.8	+2.1
TIXI				*e*Lg	Lg	10 24 57.9	
TIXI				*e*Lg	Lg	10 24 57.9	
TIXI				*e*Sg	Sg	10 25 04.8	+5.4
	7.7nm,0.8s						
MOMR	Moma	6.20	83	*e*P	Pn	10 23 43.1	+0.1
	0.6nm,0.1s						
MOMR				*e*Sg	Sg	10 25 36.1	+6.3
	5.6nm,0.6s						
YCRN	Chernyshevskiy	7.37	249	*e*P	Pn	10 23 59.2	+0.1
	0.5nm,0.2s						
YCRN				*e*Lg	Lg	10 26 05.1	
YCRN				*e*Lg	Lg	10 26 05.1	
YCRN				*e*Sg	Sg	10 26 14.7	+7.4
	5.8nm,0.5s						

IDC 01 10:38:56.8±3.2**,2°.73N**×**91°.10E,h0**km**,mb3.6**/4**,mb1 3.7**/5**,**
mb1mx3.4/42**,mbtmp3.6**/5**,ML3.3**/1**,MS3.9**/2**,Ms1 4.0**/2**,**
ms1mx3.4/38**,Error ellipse: s-maj=90.1km**
s-min=29.2km az=48.0,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	7.82	89	Pn	Pn	10 40 50.9	-1.2
	0.4nm,0.3s,baz=359,slow=1.9,SNR=2.2						
CMAR	Chiang Mai Arr	17.42	26	LR	LR	10 50 04.5	
	comp=Z,222nm,18.1s,baz=130,slow=38						
H08S2	Diego Garcia H	21.23	241	T	T	11 04 21.3	
	baz=64,slow=75,SNR=6.5						
H08S3	Diego Garcia H	21.23	241	T	T	11 04 07.3	
	baz=64,slow=75,SNR=8.4						
H08S1	Diego Carcia H	21.25	241	T	T	11 04 10.8	
	baz=64,slow=75,SNR=7.3						
MKAR	Makanchi Array	44.55	351	P	P	10 47 10.0	-0.5
	0.7nm,0.8s,baz=177,slow=9.8,SNR=4.9						
SONM	Songino Array	46.83	14	P	P	10 47 29.9	+1.3
	1.2nm,0.4s,baz=208,slow=8.2,SNR=2.7						
WRA	Warramunga Arr	48.05	120	P	P	10 47 38.5	+0.1
	0.7nm,1.1s,baz=297,slow=8.6,SNR=1.9						
KURBB	Kurchatov Arra	48.89	349	P	P	10 47 43.7	-0.7
	0.5nm,0.7s,baz=180,slow=7.1,SNR=5.7						
AKTO	Aktyubinsk	55.14	335	LR	LR	11 12 54.5	
	comp=Z,213nm,19.3s,baz=93,slow=37						

IDC ***01*** *11:04:13.8±2.0, 9°.39N×127°.03E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.6/41, mbtmp3.9/7, Error ellipse: s-maj=115.9km s-min=17.7km az=72.0*
NEIC ***01*** *11:04:14.9±0.7, 9°.5N±0°.1×127°.2E±0°.2, h10km±2km, mb4.4/13, Error ellipse: s-maj=28.2km s-min=16.8km az=82.0*
MAN ***01*** *11:04:14.3, 9°.37N×127°.15E, h98km, mb5.0, ML4.0, MS4.0*
ISC 01 11:04:15.2±3.3**,9°.51N**±0°.05×**126°.97E**±0°.07**,h11**km±21km**,**
n37,σ**1s68**/48**,mb4.2**/13**,3C-3D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	1.49	281⇓	*e*P	Pn	11 04 42.8	+0.8
SCPH				*e*S	Sn	11 05 00.6	-0.8
MSLP	Maasin	2.17	287	*e*P	Pb	11 04 53.7	-0.9
MSLP				*e*S	Sb	11 05 21.3	-0.2
CGP	Cagayan de Oro	2.48	245⇓	*i*P	Pn	11 04 55.5	-0.1
CGP				*i* S	Sn	11 05 22.0	-3.9
BUKP	Musuan	2.49	230	*e*P	Pn	11 04 55.5	-0.2
BUKP				*e*S	Sn	11 05 24.5	-1.7
BUKP	Musuan	2.49	230	*e*P	Pn	11 04 55.6	-0.2
BUKP				*e*S	Sn	11 05 24.4	-1.7
MATI	Mati	2.65	196	*e*P	Pn	11 04 55.5	-2.3
MATI				*e*S	Sn	11 05 28.1	-1.9
DAV	Davao City (W)	2.79	210	Pn	Pn	11 05 02.1	+2.3
DAV				Sn	Sn	11 05 36.3	+2.8
	81nm,0.3s,baz=331,slow=16,SNR=1.9						
DAV	Davao City (W)	2.79	210		Pn	11 05 02.3	+2.4
DMPH	Davao City--Mi	2.81	211⇑	*e*P	Pb	11 05 05.2	-0.3
DMPH				*e*S	Sn	11 05 36.7	+2.6
TBP	Tagbilaran	3.07	274	*e*P	Pn	11 05 05.2	+1.5
KCP	Kidapawan	3.11	217⇑	*e*P	Pn	11 05 04.9	+0.7
KCP				*i* S	Sn	11 05 42.7	+1.3
CTBH	Cotabato--PC H	3.53	230⇑	*i*P	Pn	11 05 10.1	+0.1
DDMP	Don Marcelino,	3.61	200	*e*P	Pn	11 05 09.5	-1.6
DDMP				*e*S	Sn	11 05 52.6	-1.1
PAGZ	Pagadian	3.92	245	*e*P	Pn	11 05 14.7	-0.7
PAGZ				*e*S	Sn	11 05 58.7	-2.7
RCP	Roxas	4.63	296⇓	*e*P	Pn	11 05 28.9	+3.8
PVCP	Virac	4.91	326	*e*P	Pn	11 05 29.2	+0.2
TNTI	Ternate	8.69	177	Pn	Pn	11 06 24.2	+3.3
SBUM	Sibu	16.26	245	P	P	11 08 09.1	+2.3
KNRA	Kununurra	25.09	176	P	P	11 09 38.1	-1.9
FITZ	Fitzroy Crossi	27.46	183	P	P	11 10 00.5	-1.1
	3.0nm,0.8s,baz=16,slow=7.3,SNR=8.0						
FITZ	Fitzroy Crossi	27.46	183	P	P	11 10 01.5	0.0
FITZ				IAmb	IAmb	11 10 19.9	
	comp=Z,8.8nm,1.3s						
WB0	Warramunga Arr	30.00	166	P	P	11 10 23.5	-0.5
WB0				IAmb	IAmb	11 10 39.9	
	comp=Z,12nm,1.4s						
WRA	Warramunga Arr	30.15	166	P	P	11 10 24.6	-0.9
	comp=Z,0.6nm,0.7s,baz=347,slow=9.4,SNR=3.1						
WB2	Warramunga Arr	30.16	166	P	P	11 10 24.6	-0.9
WB2				IAmb	IAmb	11 10 33.7	
	comp=Z,13nm,1.4s						
AS31	Alice Springs	33.66	168	P	P	11 10 55.9	-0.4
ASAR	Alice Springs	33.66	168	P	P	11 10 55.5	-0.8
	comp=Z,0.4nm,0.8s,baz=353,slow=7.0,SNR=14						
MORW	Morawa	39.78	195	P	P	11 11 48.2	-0.1
MORW				IAmb	IAmb	11 11 48.7	
	comp=Z,5.8nm,0.9s						
FORT	Forrest	40.07	179	P	P	11 11 50.6	-0.1
FORT				IAmb	IAmb	11 12 06.8	
	comp=Z,18nm,1.1s						
EIDS	Eidsvold	41.87	146	P	P	11 12 03.8	-1.8
EIDS				IAmb	IAmb	11 12 07.8	
	comp=Z,21nm,1.5s						
BBOO	Buckleboo	42.97	169	P	P	11 12 14.5	0.0
NWAO	Narrogin (SRO)	43.21	192	P	P	11 12 16.0	-0.5
	comp=Z,8.2nm,0.8s,baz=26,slow=8.9,SNR=3.6						
NWAO	Narrogin (SRO)	43.21	192	P	P	11 12 16.5	+0.1
MKAR	Makanchi Array	53.05	323	P	P	11 13 33.6	+1.2
	comp=Z,0.8nm,0.7s,baz=116,slow=8.2,SNR=8.8						
KURK	Kurchatov	57.08	326	P	P	11 14 03.1	+1.6
KURK				IAmb	IAmb	11 14 03.6	
	comp=Z,1.7nm,0.8s						
KURBB	Kurchatov Arra	57.09	325	P	P	11 14 03.0	+1.5
	comp=Z,0.7nm,0.6s,baz=125,slow=6.7,SNR=7.7						
KK31	Karatay Array	59.27	315	P	P	11 14 18.3	+1.3
BVAR	Borovoye Array	62.68	325	P	P	11 14 40.6	+0.6
	comp=Z,0.5nm,0.5s,baz=108,slow=4.8,SNR=3.8						

IDC ***01*** *11:08:40.6±1.3, 7°.92S×117°.59E, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.5/34, mbtmp3.7/7, ML3.2/2, MS3.6/1, Ms1 3.6/1, ms1mx2.9/29, Error ellipse: s-maj=51.6km s-min=20.5km az=55.0*
DJA ***01*** *11:08:43.9±0.9, 8°S±2°×11°8E±°, h19km±7km, M3.9/11, MLv3.9/11*
ISC 01 11:08:45.5±0.8**,7°.89S**±0°.05×**117°.71E**±0°.04**,h35**km**,n19,**
σ**1s60**/23**,mb3.8**/4**,Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	Plampang	0.94	176	P	Pn	11 09 02.0	-0.2
PLAI				S	Sn	11 09 14.9	+0.6
WBSI	Waikabubak, Su	2.41	136	P	Pn	11 09 23.3	+0.9
WBSI				S	Sn	11 09 52.2	+1.5
DNP	Denpasar	2.60	252	P	Pn	11 09 24.0	-1.0
DNP				S	Sn	11 09 56.3	+1.0
BKSI	Bulukumba	3.50	43	P	Pn	11 09 37.1	-0.3
KAPI	Kappang	3.50	36	Pn	Pn	11 09 37.6	+0.1
	3.0nm,0.3s,baz=241,slow=4.3,SNR=16						
JAGI	Jajag, Banyuwa	3.57	260	P	Pn	11 09 38.4	0.0
BASI	Baing, Sumba	3.66	129	P	Pn	11 09 40.6	+1.0
KMMI	Kalianget	3.80	282	P	Pn	11 09 41.7	+0.1
KMMI				S	Sn	11 10 27.4	+2.2
EDFI	Ende, Flores	4.03	103	P	Pn	11 09 45.9	+1.1
BNSI	Bone	4.20	35	P	Pn	11 09 46.7	-0.4
SPSI	Sidrap Palu	4.40	28	P	Pn	11 09 48.9	-0.9
KBKI	Kotabaru	4.81	341	P	Pn	11 09 54.7	-0.7
FITZ	Fitzroy Crossi	12.75	144	Pn	Pn	11 11 44.9	+0.5
	0.1nm,0.3s,baz=328,slow=17,SNR=0.9						
FITZ				Sn	Sn	11 13 59.2	-6.0
	0.2nm,0.3s,baz=320,slow=12,SNR=1.4						
WRA	Warramunga Arr	20.08	128	P	P	11 13 17.1	+1.0
	1.1nm,0.6s,baz=303,slow=12,SNR=3.1						
PSI	Prapat	21.54	299	LR	LR	11 21 49.4	
	comp=Z,177nm,19.9s,baz=90,slow=37						
ASAR	Alice Springs	22.07	137	P	P	11 13 37.6	0.0
	1.0nm,0.8s,baz=311,slow=9.4,SNR=10						
MKAR	Makanchi Array	62.90	333	P	P	11 19 08.8	+0.6
	1.0nm,0.7s,baz=147,slow=7.4,SNR=8.1						
KURBB	Kurchatov Arra	67.42	334	P	P	11 19 37.8	+0.5
	0.4nm,0.8s,baz=148,slow=5.5,SNR=4.0						
ZALV	Zalesovo Beam	67.56	340	P	P	11 19 38.2	+0.1
	0.7nm,0.4s,baz=121,slow=5.6,SNR=3.7						

IDC ***01*** *11:16:29.4±0.7, 4°.41S×102°.58E, h0km, mb4.5/23, mb1 4.6/24, mb1mx4.4/40, mbtmp4.5/24, ML4.1/1, MS3.4/3, Ms1 3.5/3, ms1mx3.0/39, Error ellipse: s-maj=25.8km s-min=12.0km az=51.0*
NEIC ***01*** *11:16:37.6±1.4, 4°.43S±0°.07×102°.61E±0°.07, h63km±4km, mb4.8/62, Error ellipse: s-maj=10.6km s-min=9.1km az=213.0*
BJI ***01*** *11:16:37.0±0.0, 4°.50S×102°.60E, h68km, mB5.0/21, mb4.9/35, Ms4.3/6, Ms7 4.1/6*
DJA ***01*** *11:16:38.0±0.4, 5°S±3°×10°3E±°, h32km±7km, M4.5/20, mB5.1/6, mb4.6/12, MLv4.7/20, MLv4.5/2, Mw(mB)4.4/6*
ISC 01 11:16:37.5±0.8**,4°.50S**±0°.05×**102°.55E**±0°.05**,h63**km±7km**,**
n190,σ**0s98**/186**,mb4.7**/60**,Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	Manna	0.43	70	P	Pn	11 16 48.2	-0.8
MNAI	Manna	0.43	70		Pn	11 16 48.8	-0.3
MNAI					Sn	11 16 56.5	-1.0
LHSI	Lahat	1.18	55	P	Pn	11 16 58.2	+0.2
LHSI				S	Sn	11 17 13.8	+0.5
MASI	Maura Aman, Be	1.39	347	P	Pn	11 17 01.9	+1.0
LWLI	Liwa	1.59	109	P	Pn	11 17 03.6	0.0
LWLI				S	Sn	11 17 22.5	-0.7
MDSI	Maura Dua	1.62	89	P	Pn	11 17 03.8	-0.1
MDSI				S	Sn	11 17 24.0	+0.1
KASI	Kota Agung	2.19	118	P	Pn	11 17 11.9	+0.3
KRJI	Kerinci	2.63	336	P	Pn	11 17 19.2	+1.4
PMBI	Palembang	2.71	55	P	Pn	11 17 28.2	+9.4
PMBI	Palembang	2.71	55	Pn	Pn	11 17 18.4	-0.3
BLSI	Bandar Lampung	2.82	108	P	Pn	11 17 21.3	+1.1
PPSI	Pulau Pagai	3.07	304	P	Pn	11 17 25.7	+2.0
SDSI	Sungai Dareh	3.72	342	P	Pn	11 17 34.0	+1.4
RGRI	Rengat	4.13	357	P	Pn	11 17 39.2	+1.0
SISI	Saibi	4.68	312	P	Pn	11 17 47.1	+1.4
BKNI	Bangkinang	5.03	342	P	Pn	11 17 52.8	+2.3
	0.8nm4µm164nm,0.9s						
BKNI	Bangkinang	5.03	342	Pn	Pn	11 17 52.0	+1.5
CNJI	Cibinong	5.34	122	P	Pn	11 17 55.9	+1.2
	0.6nm2µm94nm,0.9s						
TPI	Tanjungpandan	5.38	71	P	Pn	11 17 56.1	+0.8
	0.3nm20nm,0.6s						
LEM	Lembang	5.54	115	Pn	Pn	11 17 59.5	+1.8
	3.4nm,0.3s,baz=319,slow=20,SNR=2.1						
TPRI	Tanjung Pinang	5.74	20	P	Pn	11 18 13.1	+13
MNSI	Mandailing Nat	6.04	330	P	Pn	11 18 05.1	+0.7
	0.2nm1µm32nm,0.4s						
CISI	Cisompet, Garu	6.05	120	P	Pn	11 18 04.9	+0.4
	0.7nm2µm118nm,0.5s						
CISI	Cisompet, Garu	6.05	120	Pn	Pn	11 18 04.2	-0.3
PBSI	Pulau Batu	6.14	316	P	Pn	11 18 07.2	+1.5
	0.8nm82nm,0.6s						
MYKOM	Kota Tinggi	6.38	12	Pn	Pn	11 18 10.7	+1.6
GSI	Gunungsitoli	7.62	319	P	Pn	11 18 26.0	+0.1
	1.6nm182nm,0.5s						
GSI	Gunungsitoli	7.62	319		Pn	11 18 26.1	+0.2
RPSI	Rantau Prapat	8.02	333		Pn	11 18 26.4	-5.0
PSI	Prapat	8.11	333	Pn	Pn	11 18 26.4	-6.4
	2.7nm,0.3s,baz=180,slow=6.5,SNR=5.8						
UGM	Wanagama	8.62	114	Pn	Pn	11 18 39.0	-0.6
IPM	Ipoh	9.05	350	Pn	Pn	11 18 48.6	+3.0
KCSI	Kotacane, Aceh	9.29	329	P	Pn	11 18 48.3	-0.6
	8.3nm,1.7s						
TPTI		9.40	325	P	Pn	11 18 48.9	-1.4
	3.9nm,0.6s						
COCO	West Island	9.50	216		Pn	11 18 51.4	-0.2

KULM	Kulim	9.91	349	Pn	Pn	11 18 59.2	+1.9
KAPI	Kappang	17.15	92	LR	LR	11 27 14.5	
	comp=Z,77nm,19.1s,baz=264,slow=38						
KKM	Kota Kinabalu	17.20	53		P	11 20 35.4	+0.8
MPSI	Mapaga	17.98	75	P	Pn	11 20 47.2	+3.8
MMRI	Maumere	19.98	103	P	P	11 21 04.8	-0.2
MMRI				IAmb	IAmb	11 21 08.9	
	comp=Z,39nm,0.9s						
MRSI	Marisa	19.99	76	P	Pn	11 21 06.0	-1.3
BATI	Baumata	21.68	106	LR	LR	11 32 42.3	
	comp=Z,232nm,18.7s,baz=204,slow=45						
CMAR	Chiang Mai Arr	23.09	351	P	P	11 21 37.2	-0.9
	comp=Z,9.4nm,0.7s,baz=184,slow=8.8,SNR=48						
CMAR				PcP	PcP	11 25 26.9	+1.4
	comp=Z,0.8nm,0.7s,baz=197,slow=2.7,SNR=5.2						
CMAR				LR	LR	11 31 56.3	
	comp=Z,72nm,18.6s,baz=4.5,slow=40						
CHTO	Chiang Mai	23.44	351	P	P	11 21 40.9	-0.6
LBMI	Labuha	25.21	82	P	P	11 21 59.9	+2.2
FITZ	Fitzroy Crossi	26.31	123	P	P	11 22 07.5	-0.1
	comp=Z,6.2nm,0.7s,baz=323,slow=7.4,SNR=27						
FITZ	Fitzroy Crossi	26.31	123	P	P	11 22 07.3	-0.3
KNRA	Kununurra	28.05	115	P	P	11 22 22.4	-0.7
KNRA				IAmb	IAmb	11 22 37.3	
	comp=Z,16nm,1.1s						
MTN	Manton Dam	29.42	108	P	P	11 22 36.8	+1.5
MTN				IAmb	IAmb	11 22 39.1	
	comp=Z,16nm,1.1s						
FAKI	Fak Fak	29.68	88	P	P	11 22 37.6	0.0
FAKI				IAmb	IAmb	11 22 50.7	
	comp=Z,32nm,1.3s						
H08S2	Diego Garcia H	30.05	263	T	T	11 53 59.0	
	baz=87,slow=75,SNR=56						
H08S3	Diego Garcia H	30.05	263	T	T	11 53 50.2	
	baz=87,slow=75,SNR=37						
H08S1	Diego Carcia H	30.07	263	T	T	11 53 57.4	
	baz=87,slow=75,SNR=14						
GYA	Guiyang	31.04	7	eP	P	11 22 49.8	+0.2
GYA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SHL	Shillong	31.64	341	P	P	11 22 54.1	-0.9
SHL				IAmb	IAmb	11 22 54.6	
	comp=Z,11nm,0.4s						
H01W3	Cape Leeuwin H	32.08	162	T	T	11 56 54.6	
	baz=340,slow=76,SNR=40						
H01W2	Cape Leeuwin H	32.09	162	T	T	11 56 52.4	
	baz=340,slow=76,SNR=61						
H01W1	Cape Leeuwin H	32.09	162	T	T	11 56 54.5	
	baz=340,slow=76,SNR=53						
ODAN	Odare	34.46	336	eP	P	11 23 20.2	+0.5
	comp=Z,26nm,0.5s						
WB0	Warramunga Arr	34.53	119	P	P	11 23 20.1	-0.1
WB0				IAmb	IAmb	11 23 21.2	
	comp=Z,6.2nm,0.5s						
WRA	Warramunga Arr	34.55	119	P	P	11 23 20.2	-0.1
	comp=Z,3.0nm,0.4s,baz=304,slow=8.8,SNR=52						
WB2	Warramunga Arr	34.56	119	P	P	11 23 20.2	-0.2
WB2				IAmb	IAmb	11 23 20.8	
	comp=Z,6.3nm,0.9s						
WR0	Warramunga Arr	34.73	119	P	P	11 23 21.5	-0.3
WR0				IAmb	IAmb	11 23 22.5	
	comp=Z,24nm,1.5s						
TAPN	Taplejung	34.76	336	eP	P	11 23 23.1	+0.7
	comp=Z,42nm,0.8s						
RAMN	Ramite	34.87	335	eP	P	11 23 24.0	+0.8
	comp=Z,11nm,0.4s						
ENH	Enshi	35.21	10	P	P	11 23 25.5	-0.3
CD2	Chengdu	35.23	2	eP	P	11 23 27.0	+0.9
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
JIRN	Jiri	35.66	335	eP	P	11 23 31.0	+0.8
	comp=Z,57nm,0.7s						
AS31	Alice Springs	35.73	125	P	P	11 23 30.8	+0.3
AS31				IAmb	IAmb	11 23 37.3	
	comp=Z,5.3nm,0.3s						
ASAR	Alice Springs	35.73	125	P	P	11 23 30.8	+0.3
	comp=Z,3.9nm,0.7s,baz=295,slow=7.9,SNR=50						
ASAR				PcP	PcP	11 25 58.4	+0.8
	comp=Z,1.5nm,0.6s,baz=308,slow=2.2,SNR=8.4						
PKI	Pulchoki	35.93	334	eP	P	11 23 32.6	+0.2
	comp=Z,9.3nm,0.4s						
PKIN	Phulchoki	35.94	334	eP	P	11 23 32.5	+0.1
	comp=Z,13nm,0.4s						
GUN	Gumba	36.02	334	eP	P	11 23 33.9	+0.7
	comp=Z,70nm,0.5s						
KKN	Kakani	36.17	334	eP	P	11 23 34.8	+0.4
	comp=Z,35nm,0.4s						
KOLN	Koldanda	36.93	331	eP	P	11 23 41.7	+0.9
	comp=Z,68nm,0.7s						
DANN	Dangsing	37.34	332	eP	P	11 23 45.1	+0.7
	comp=Z,102nm,0.5s						
XAN	Xi'an	38.80	8	P	P	11 23 55.8	-0.6
XAN				pmax	pmax		
	comp=Z,22nm,0.5s						
XAN				LR	LR		
	comp=Z,200nm,18.4s						
XAN				LR	LR		
	comp=Z,250nm,15.2s						
XAN	Xi'an	38.80	8	P	P	11 23 55.7	-0.6
LZH	Lanzhou	40.40	2	eP	P	11 24 13.4	+3.7
LZH				pP	sP	11 24 28.9	-4.0
LZH				sP	pP	11 24 35.6	+10
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
COEN	Coen	41.12	106	P	P	11 24 14.4	-1.4
COEN				IAmb	IAmb	11 24 15.6	
	comp=Z,21nm,1.2s						
BBOO	Buckleboo	42.09	136	P	P	11 24 24.0	+0.5
GTA	Gaotai	43.77	357	eP	P	11 24 37.3	+0.2
GTA				pP	pP	11 24 51.9	-1.2
GTA				PcP	PcP	11 26 21.2	-1.7
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,170nm,7.0s						
GTA				LR	LR		
	comp=Z,93nm,15.9s						
GTA				LR	LR		
	comp=Z,140nm,16.8s						
GTA				LR	LR		
	comp=Z,140nm,16.5s						
CTAO	Charters Tower	45.25	114	P	P	11 24 49.4	+0.4
CTAO				IAmb	IAmb	11 24 50.2	
	comp=Z,9.0nm,0.8s						
STKA	Stephens Creek	45.59	131	P	P	11 24 52.5	+0.9
	comp=Z,9.9nm,0.6s,baz=309,slow=7.8,SNR=33						
STKA				PcP	PcP	11 26 30.0	+0.7
	comp=Z,1.6nm,0.4s,baz=315,slow=2.9,SNR=2.2						
STKA	Stephens Creek	45.59	131	P	P	11 24 52.0	+0.3
HHC	Hu-ho-hao-te	45.88	10	eP	P	11 24 55.7	+1.9
HHC				pmax	pmax		
	comp=Z,26nm,0.8s						
HHC				pmax	pmax		
	comp=Z,53nm,6.4s						
JNU	Nakatsue	46.05	34	P	P	11 24 54.8	-0.5
JNU				IAmb	IAmb	11 25 09.2	
	comp=Z,14nm,1.3s						
BJI	Beijing	46.06	15	P	P	11 24 55.1	0.0
BJI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NIL	Nilore	46.98	326	P	P	11 25 02.3	-0.2
KSRS	Korea Array	47.96	27	P	P	11 25 09.2	-0.7
	comp=Z,1.6nm,0.6s,baz=223,slow=7.2,SNR=9.6						
WMQ	Urumqi	49.93	346	eP	P	11 25 26.3	+1.2
WMQ				pmax	pmax		
	comp=Z,22nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,170nm,6.3s						
TARG	Taragay, Kyrgy	51.25	336	P	P	11 25 35.7	+0.3
TARG				IAmb	IAmb	11 25 45.3	
	comp=Z,4.1nm,0.6s						
PRZ	Przheval'sk	51.65	337	P	P	11 25 39.4	+1.2
PRZ				IAmb	IAmb	11 25 41.4	
	comp=Z,13nm,0.9s						
KDJ	Kajisay	51.84	336	P	P	11 25 39.8	+0.3
SONM	Songino Array	52.23	3	P	P	11 25 42.0	-0.3
	comp=Z,10nm,0.6s,baz=184,slow=9.1,SNR=18						
ULN	Ulaanbaatar	52.30	4	P	P	11 25 42.9	+0.1
ULN				IAmb	IAmb	11 25 44.1	
	comp=Z,6.2nm,0.9s						
GAR	Garm	52.54	328	P	P	11 25 43.5	-1.2
GAR				IAmb	IAmb	11 25 45.9	
	comp=Z,11nm,1.0s						
BOOM	Boomskoye usch	52.64	335	P	P	11 25 44.7	-0.8
BOOM				IAmb	IAmb	11 25 46.6	
	comp=Z,6.7nm,0.8s						
MAJO	Matsushiro	52.69	36	P	P	11 25 44.7	-1.1
MAT	Matsushiro	52.69	36	P	P	11 25 44.0	-1.8
MJAR	Matsushiro Arr	52.69	36	P	P	11 25 44.1	-1.7
	comp=Z,2.4nm,0.7s,baz=217,slow=6.7,SNR=18						
MJAR				PcP	PcP	11 26 54.2	-0.7
	comp=Z,1.2nm,0.8s,baz=201,slow=4.8,SNR=4.3						
CHGR	Chuyangaron	52.90	327	P	P	11 25 45.5	-1.9
ARSB	Arslanbob	53.00	332	P	P	11 25 48.4	+0.3
ARSB				IAmb	IAmb	11 25 49.5	
	comp=Z,15nm,1.1s						
AAK	Ala-Archa	53.38	334	P	P	11 25 50.2	-0.7
	comp=Z,1.1nm,0.3s,baz=202,slow=4.2,SNR=5.1						
AAK	Ala-Archa	53.38	334	P	P	11 25 50.7	-0.2
MK31	Makanchi Array	54.13	343	P	P	11 25 55.6	-0.5
MK31				IAmb	IAmb	11 25 56.7	
	comp=Z,6.4nm,0.6s						
MKAR	Makanchi Array	54.13	343	P	P	11 25 56.0	-0.2
	comp=Z,7.7nm,0.5s,baz=150,slow=8.5,SNR=82						
MAKZ	Makanchi	54.24	343	P	P	11 25 55.7	-1.2
USA0B	Ussuriysk Arra	55.23	25	P	P	11 26 03.6	-0.5
USA0B				IAmb	IAmb	11 26 04.4	
	comp=Z,9.1nm,0.7s						
USRK	Ussuriysk Ar.	55.23	25	P	P	11 26 03.6	-0.5
	comp=Z,9.4nm,0.6s,baz=214,slow=5.8,SNR=21						
KK31	Karatay Array	55.54	332	P	P	11 26 05.9	-0.5
TLY	Talaya	55.98	1	P	P	11 26 10.5	+1.1
	comp=Z,4.2nm,0.5s,baz=173,slow=7.2,SNR=3.0						
TLY	Talaya	55.98	1	P	P	11 26 09.5	+0.1
TLY				IAmb	IAmb	11 26 11.1	
	comp=Z,6.4nm,0.7s						
KURK	Kurchatov	58.73	342	P	P	11 26 28.4	-0.3
GEYT	Alibeck	58.99	320	P	P	11 26 31.4	+0.5
	comp=Z,5.3nm,0.8s,baz=149,slow=6.9,SNR=8.9						
GYA0B	ALIBECK ARRAY	58.99	320	P	P	11 26 31.3	+0.5
GYA0B				IAmb	IAmb	11 26 32.1	
	comp=Z,5.7nm,0.8s						
ZAA0	Zalesovo Array	60.11	348	P	P	11 26 37.6	-0.6
ZALV	Zalesovo Beam	60.11	348	P	P	11 26 37.6	-0.5
	comp=Z,19nm,0.4s,baz=172,slow=5.2,SNR=82						
BRVK	Borovoye	63.47	339	P	P	11 26 59.7	-1.1
BRVK				IAmb	IAmb	11 27 01.0	
	comp=Z,5.1nm,0.8s						
YAK	Yakutsk	69.54	13	P	P	11 27 38.5	-0.9
ARU	Arti	70.51	336	P	P	11 27 45.5	+0.1
RPZ	Rata Peaks	71.42	135	P	P	11 27 51.8	+0.5
RPZ				IAmb	IAmb	11 28 02.8	
	comp=Z,23nm,1.3s						
KBZ	Khabaz	71.86	319	P	P	11 27 54.4	+0.6
	comp=Z,4.1nm,0.8s,baz=107,slow=4.3,SNR=7.0						
QRZ	Quartz Range	71.95	131	P	P	11 27 55.5	+1.0
LTZ	Lake Taylor	72.11	133	P	P	11 27 56.2	+0.7
LTZ				IAmb	IAmb	11 28 10.5	
	comp=Z,28nm,1.5s						
THZ	Tophouse	72.39	132	P	P	11 27 58.1	+0.9
THZ				IAmb	IAmb	11 27 58.9	
	comp=Z,9.0nm,0.7s						
NNZ	Nelson	72.65	132	P	P	11 27 59.5	+0.8
KHZ	Kahutara	72.97	133	P	P	11 28 01.1	+0.6
KHZ				IAmb	IAmb	11 28 19.0	
	comp=Z,15nm,1.2s						
BSWZ	Blackbirch Sta	73.10	132	P	P	11 28 02.3	+1.0
PETK	Petropavlovsk-	73.67	31	P	P	11 28 04.2	-0.2
	comp=Z,1.6nm,0.7s,baz=253,slow=6.4,SNR=4.7						
PET	Petropavlovsk	74.11	31	P	P	11 28 06.0	-0.9
NRIK	Noril'sk	74.41	355	P	P	11 28 07.5	-0.8
	comp=Z,3.5nm,0.4s,baz=147,slow=5.1,SNR=6.8						
BFZ	Birch Farm	74.72	131	P	P	11 28 11.6	+0.7
BKZ	Black Stump Fm	74.72	129	P	P	11 28 11.2	+0.3
BR131	Keskin Array S	76.88	312	P	P	11 28 23.5	+0.2
BRTR	Keskin Array B	76.88	312	P	P	11 28 23.6	+0.2
	comp=Z,2.8nm,0.8s,baz=135,slow=6.2,SNR=14						
TIXI	Tiksi	77.93	8	P	P	11 28 26.8	-1.5
VNDA	Vanda	79.23	169	P	P	11 28 37.2	+1.7
IDI	Anoyia	82.56	306	P	P	11 28 55.9	+1.8
AKASG	Malin Array Be	83.01	322	P	P	11 28 55.8	-0.2
	comp=Z,1.0nm,0.5s,baz=85,slow=4.8,SNR=4.7						
BUR08	Bucovina Ar. S	84.83	319	P	P	11 29 06.4	+1.0
KOLS	Kolonicke sedl	87.00	319	eP	P	11 29 18.1	+2.1
FIA1	FINESS Array S	87.50	332	P	P	11 29 18.3	+0.2
FIA1				IAmb	IAmb	11 29 20.8	
	comp=Z,6.9nm,1.2s						
FINES	FINESS Array B	87.50	332	P	P	11 29 18.5	+0.4
	comp=Z,1.9nm,0.4s,baz=115,slow=5.2,SNR=33						
DIVS	Divibare	87.77	314		P	11 29 21.1	+1.1
DIVS				IAmb	IAmb	11 29 22.8	
	comp=Z,4.5nm,1.1s						
ARCES	ARCESS Array B	89.68	340	P	P	11 29 29.1	+0.8
	comp=Z,1.2nm,0.7s,baz=83,slow=3.9,SNR=6.1						
PRED	Cave del Predi	92.53	316	P	P	11 29 43.3	+1.2
PRED				IAmb	IAmb	11 29 44.6	
	comp=Z,2.7nm,0.9s						
GERES	GERESS Array B	92.60	319	P	P	11 29 42.2	-0.2
	comp=Z,0.6nm,0.7s,baz=95,slow=4.3,SNR=6.0						
KHC	Kasperske Hory	92.70	319	P	P	11 29 44.0	+1.2
CIMO	Cimolais	93.30	316	P	P	11 29 46.5	+0.9
CIMO				IAmb	IAmb	11 29 47.4	
	comp=Z,2.7nm,0.8s						
SPA0	Spitsbergen Ar	93.59	348	P	P	11 29 45.8	-0.5
NOA	NORSAR Array B	94.56	331	P	P	11 29 50.7	-0.4
	comp=Z,0.1nm,0.5s,baz=92,slow=7.1,SNR=1.7						
NVAR	Mina Array Bea	129.83	42	PKP	PKPdf	11 35 40.4	-0.2
	comp=Z,0.4nm,0.6s,baz=330,slow=2.3,SNR=3.6						
CO03	El Pedregal	144.27	190	PKPdf	PKPdf	11 36 06.8	-0.4
CCM	Cathedral Cave	144.31	19		PKPab	11 36 04.5	-0.4
O52A	Adamsville	144.33	6	PKPdf	PKPab	11 36 04.4	-0.5
TUL1	Leonard	144.46	26	PKPdf	PKPab	11 36 05.1	-0.5
BLO	Bloomington	144.52	12	PKPdf	PKPbc	11 36 05.8	-0.1
U38A	Gravette	144.61	24		PKPab	11 36 05.5	-0.6
BDFB	Brasilia	144.65	235	PKP	PKPdf	11 36 08.7	+0.4
	comp=Z,3.6nm,0.6s,baz=91,slow=2.3,SNR=5.6						
BDFB	Brasilia	144.65	235	PKPdf	PKPdf	11 36 09.2	+0.9
MGMO	Mountain Grove	144.78	21		PKPab	11 36 06.0	-0.8
HHAR	Hobbs	144.92	24		PKPab	11 36 06.2	-1.1
TX31	Lajitas Ar. Si	144.98	42		PKPdf	11 36 08.4	-0.1
TX32	Lajitas Array	144.98	42		PKPdf	11 36 08.4	-0.1
TXAR	Lajitas Array	144.98	42	PKP	PKPdf	11 36 08.2	-0.3
	comp=Z,3.1nm,0.5s,baz=258,slow=1.0,SNR=71						
P53A	Whipple	144.99	5		PKPab	11 36 06.4	-1.0
Q51A	Peebles	145.22	8		PKPbc	11 36 07.7	-0.5
SIUC	Southern Illin	145.24	16		PKPbc	11 36 07.4	-0.8
S44A	Carbondale	145.25	17		PKPbc	11 36 08.1	-0.2
SDMD	Soldier's Deli	145.25	359	PKPbc	PKPbc	11 36 08.0	-0.3
U40A	Yellville	145.28	22		PKPbc	11 36 07.9	-0.6
T42A	Van Buren	145.29	19		PKPbc	11 36 08.2	-0.3
USIN	University of	145.41	14		PKPbc	11 36 08.1	-0.7
WCI	Wyandotte Cave	145.48	12		PKPbc	11 36 08.1	-0.9
Q54A	Coxs Mills	145.54	5		PKPdf	11 36 08.9	-0.2
R49A	Shelbyville	145.64	11		PKPbc	11 36 09.3	-0.2
R50A	Paris	145.80	10		PKPdf	11 36 09.5	0.0
FCAR	Ozark Folk Cen	145.96	22		PKPdf	11 36 09.6	-0.3
PARMO	Parma	146.06	18		PKPbc	11 36 10.4	-0.4
R53A	Hurricane	146.08	6		PKPbc	11 36 10.4	-0.5
LCAR	Lake Charles	146.14	20	PKPbc	PKPab	11 36 11.6	-0.2
S51A	Beattyville	146.54	9		PKPbc	11 36 11.8	-0.5
MIAR	Mount Ida	146.57	25		PKPbc	11 36 11.9	-0.6
JCT	Junction City	146.65	37		PKPbc	11 36 12.3	-0.6
WVT	Waverly	147.11	16		PKPbc	11 36 13.2	-0.7
CLTN	Cedars of Leba	147.52	13		PKPbc	11 36 14.3	-0.8
V48A	Smith Brothers	147.74	14		PKPbc	11 36 14.3	-1.4
PLAL	Pickwick Lake	148.12	17		PKiKP	11 36 18.2	-0.2
146A	Union	149.98	20		PKPbc	11 36 21.5	0.0

WBNET 01 11:22:09.9, 50°.23N×12°.45E, h9km, Ml0.9, 5C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKC	Novy Kostel	0.00	358	⇑P	Pg	11 22 11.7	+0.1
NKC				S	Sg	11 22 12.8	+0.1
LBCW	Luby	0.04	326	⇓P	Pg	11 22 11.9	+0.1
LBCW				S	Sg	11 22 13.3	+0.2
VAC	Vackov	0.05	276	⇓P	Pg	11 22 11.9	+0.1
VAC				S	Sg	11 22 13.1	0.0
KVC	Kvetna	0.05	120	S	Sg	11 22 13.0	-0.2
STCW	Studenec	0.05	59	⇑P	Pg	11 22 11.9	0.0
STCW				S	Sg	11 22 13.2	-0.2
SKC	Skalna	0.08	222	⇑P	Pg	11 22 12.2	0.0
SKC				S	Sg	11 22 13.8	0.0
POCW	Potky	0.09	351	⇓P	Pg	11 22 12.5	+0.1
POCW				S	Sg	11 22 14.2	+0.1
KACW	Kaceov	0.10	153	⇓P	Pg	11 22 12.4	+0.1
KACW				S	Sg	11 22 14.2	0.0
KRCW	Kraslice	0.11	28	⇑P	Pg	11 22 12.7	0.0
KRCW				S	Sg	11 22 14.6	0.0
ZHC	Zelena Hora	0.18	209	⇑P	Pg	11 22 13.8	0.0
ZHC				S	Sg	11 22 16.4	0.0
CLL	Collm	1.13	18	i Sg	Sn	11 22 47.5	-0.1

MAN 01 11:22:24.6, 9°.19N×126°.79E, h7km, mb4.4, ML3.2, MS3.0, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSLP	Maasin	2.12	296	eP	Pn	11 23 00.8	+0.2
MSLP				eS	Sn	11 23 27.6	+0.4
BUKP	Musuan	2.15	233	eP	Pn	11 23 01.0	0.0
BUKP				eS	Sn	11 23 28.9	+0.9
CGP	Cagayan de Oro	2.20	251	⇑eP	Pn	11 23 00.3	-1.3
CGP				eS	Sn	11 23 28.0	-1.1
KCP	Kidapawan	2.75	218	⇑eP	Pn	11 23 10.3	+1.1
KCP				i S	Sb	11 23 48.4	+0.3
TBP	Tagbilaran	2.93	280	eP	Pn	11 23 10.8	-0.9
CTBH	Cotabato--PC H	3.19	232	⇑iP	Pn	11 23 15.5	+0.3
DDMP	Don Marcelino,	3.25	199	eP	Pn	11 23 15.6	-0.5
DDMP				eS	Sn	11 23 42.1	-13

*PRU **01** 11:22:43.9±0.0, 50°.24N×12°.53E, h0km, West Bohemia Swarm*

WBNET 01 11:22:43.3, 50°.23N×12°.45E, h9km, Ml1.9, 6C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKC	Novy Kostel	0.00	358	ePG	Pg	11 22 44.9	-0.1
NKC				eSG	Sg	11 22 45.9	-0.2
	comp=Z,218nm,0.2s						
NKC	Novy Kostel	0.00	358	⇑P	Pg	11 22 45.1	+0.1
NKC				S	Sg	11 22 46.2	+0.1
LBCW	Luby	0.04	326	⇓P	Pg	11 22 45.3	+0.1
LBCW				S	Sg	11 22 46.7	+0.2
VAC	Vackov	0.05	276	⇓P	Pg	11 22 45.2	+0.1
VAC				S	Sg	11 22 46.5	0.0
KVC	Kvetna	0.05	120	⇑P	Pg	11 22 45.2	0.0
KVC				S	Sg	11 22 46.4	-0.2
STCW	Studenec	0.05	59	⇑P	Pg	11 22 45.3	0.0
STCW				S	Sg	11 22 46.6	-0.2
SKC	Skalna	0.08	222	⇑P	Pg	11 22 45.6	0.0
SKC				S	Sg	11 22 47.2	0.0
POCW	Potky	0.09	351	⇓P	Pg	11 22 45.9	+0.1
POCW				S	Sg	11 22 47.6	+0.1
KACW	Kaceov	0.10	153	⇓P	Pg	11 22 45.9	+0.1
KACW				S	Sg	11 22 47.6	0.0
KRCW	Kraslice	0.11	28	⇑P	Pg	11 22 46.1	0.0
KRCW				S	Sg	11 22 48.0	-0.1
ZHC	Zelena Hora	0.18	209	⇑P	Pg	11 22 47.2	0.0
ZHC				S	Sg	11 22 49.8	0.0
CLL	Collm	1.13	18	i Pg	Pn	11 23 05.4	+0.1
CLL				i		11 23 07.6	
CLL				i		11 23 08.8	
CLL				i		11 23 09.7	
CLL				i		11 23 10.4	
CLL				i Sg	Sb	11 23 20.0	+0.1
	comp=Z,6.0nm,0.7s						
CLL				i		11 23 24.3	
PBCC	Pribram	1.14	118	ePG	Pb	11 23 04.3	-0.8
PBCC				eSG	Sg	11 23 18.4	-1.5
	comp=Z,3.0nm,0.3s						
KHC	Kasperske Hory	1.32	146	ePG	Pn	11 23 07.7	-0.3
KHC				eSG	Sb	11 23 25.0	-0.4
	comp=Z,3.9nm,0.3s						
PRU	Pruhonice	1.37	99	ePG	Pn	11 23 08.5	-0.1
PRU				eSG	Sb	11 23 26.3	-0.4
	comp=Z,5.2nm,0.2s						
GOPC	GO Pecny, Ondr	1.54	101	eSG	Sb	11 23 31.5	-0.1
	comp=Z,3.7nm,0.3s						
CHVC	Chvalec	2.33	80	eSG	Sb	11 23 56.3	+1.8
DPC	Dobruska-Polom	2.49	86	eSG	Sb	11 23 59.7	+0.8
	comp=Z,1.7nm,0.3s						
KRLC	Kraliky	2.79	92	eSG	Sg	11 24 11.2	-1.7
KRUC	Moravsky	2.82	113	eSG	Sb	11 24 10.6	+2.2
VRAC	Vranov	2.84	107	eSG	Sb	11 24 10.7	+1.7

TAP 01 11:25:18.9, 23°.98N×121°.58E, h9km, ML1.2, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HWA	Hwalien	0.02	103	P	Pg	11 25 21.1	+0.5
	baz=101						
HWA				eS	Sg	11 25 22.9	+1.0
	baz=101						
TWD	Chiawan	0.10	8	i P	Pg	11 25 22.1	+0.7
	baz=12						
TWD				eS	Sg	11 25 24.1	+0.9
	baz=12						
NACB	Ninganchiao	0.19	4	P	Pg	11 25 23.6	+0.7
	baz=3.0						
NACB				eS	Sg	11 25 26.9	+1.2
	baz=3.0						
ESL	Shilin	0.21	219	P	Pg	11 25 23.5	+0.1
	baz=217						
ESL				eS	Sg	11 25 26.6	+0.2
	baz=217						
ETLH	Xiulin Townshi	0.24	338	P	Pg	11 25 24.9	+1.0
	baz=338						
ETLH				eS	Sg	11 25 28.8	+1.5
	baz=338						
WHF	Hehuan Shan	0.33	299	P	Pb	11 25 26.7	-0.6
	baz=299						
WHF				eS	Sb	11 25 31.6	-1.3
	baz=299						
EGFH	Guangfu	0.34	204	eP	Pb	11 25 27.4	+0.3
	baz=204						
EGFH				eS	Sb	11 25 32.6	-0.1
	baz=204						
CHGB	Renai	0.38	282	eP	Pb	11 25 27.8	-0.1
	baz=281						
CHGB				eS	Sb	11 25 34.0	0.0
	baz=281						
VWDT	VWDT	0.46	241	eP	Pb	11 25 28.7	-0.5
	baz=240						
VWDT				eS	Sb	11 25 35.8	-0.4
	baz=240						
ENA	Nanau	0.47	18	eP	Pb	11 25 29.6	+0.2
	baz=19						
ENA				eS	Sb	11 25 35.8	-0.6
	baz=19						
NNSB	Datong	0.48	338	eP	Pb	11 25 29.3	-0.3
	baz=337						
NNSB				eS	Sb	11 25 36.5	-0.3
	baz=337						
NNSH	Datong	0.48	338	eP	Pb	11 25 30.0	+0.4
	baz=337						
NNSH				eS	Sb	11 25 36.3	-0.6
	baz=337						
NNS	Nan Shan	0.49	337	eP	Pb	11 25 30.9	+1.0
	baz=338						
NNS				eS	Sb	11 25 37.0	-0.2
	baz=338						
HGSD	Ruisui	0.51	196	eP	Pb	11 25 29.9	-0.1
	baz=196						
HGSD				eS	Sb	11 25 37.5	+0.1
	baz=196						
SSLB	Suanglung	0.61	251	eP	Pb	11 25 31.7	0.0
	baz=251						
SSLB				eS	Sb	11 25 39.6	-0.7
	baz=251						
NDT	Datong Townshi	0.62	354	eP	Pb	11 25 32.1	+0.2
	baz=354						
NDT				eS	Sb	11 25 41.3	+0.5
	baz=354						
YULB	Yu-li	0.64	204	eP	Pb	11 25 32.8	+0.5
	baz=203						
YULB				eS	Sb	11 25 41.6	+0.2
	baz=203						
WHP	Taichung City	0.65	297	eP	Pn	11 25 33.6	-0.8
	baz=296						
WHP				eS	Sn	11 25 43.6	-1.2
	baz=296						
TWF1	Yuli	0.68	203	eP	Pb	11 25 32.9	0.0
	baz=201						
YHNB	Yeheng	0.71	345	eP	Pb	11 25 33.7	+0.2
	baz=344						
YHNB				eS	Sb	11 25 44.2	+0.8
	baz=344						
TWE	Neicheng	0.74	6	eP	Pn	11 25 35.1	-0.4

baz=7.0

JMA 01 11:26:16.7±0.3, 24°.90N×123°.39E, h27km, M1.0, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.56**	**218**	P	Pb	11 26 27.4	-0.5
YOJ				*e*S	Sb	11 26 34.8	-0.7
JYNG	**Yonagunijimaku**	**0.60**	**222**	P	Pb	11 26 28.5	-0.2
JYNG				S	Sb	11 26 36.1	-0.8
IRIF	**Iriomote-Funau**	**0.64**	**151**	P	Pb	11 26 28.9	-0.5
IRIF				*e*S	Sb	11 26 38.3	+0.3
JKRS	**Kuro-shima**	**0.87**	**139**	*e*S	Sb	11 26 44.3	-0.1
JIJ	**Ishigaki jima**	**0.87**	**128**	*e*S	Sb	11 26 44.0	-0.4
JISG	**Ishigakijimahi**	**0.89**	**110**	*e*S	Sb	11 26 44.9	-0.2

MAN 01 11:31:51.3, 5°.12N×126°.66E, h33km, mb5.5, ML4.5, MS4.8
NEIC 01 11:31:52.7±2.8, 5°.50N±0°.05×126°.55E±0°.08, h10km±1km, mb4.9/69, Error ellipse: s-maj=14.3km s-min=7.1km az=251.0
KLM 01 11:31:53.0, 5°.75N×126°.82E, h10km, mb4.7
IDC 01 11:31:55.0±1.7, 5°.46N×126°.39E, h28km±11km, mb4.3/29, mb1 4.4/31, mb1mx4.3/43, mbtmp4.5/31, ML4.3/1, MS3.7/11, Ms1 3.8/11, ms1mx3.5/37, Error ellipse: s-maj=17.7km s-min=9.7km az=79.0
DJA 01 11:31:55.7±0.9, 6°N±4°×12°7E±°, h32km±7km, M4.7/46, mb4.7/46, mB5.1/14, MLv5.0/12, MLv5.2/4, Mw(mB)4.4/14
ISC 01 11:31:58.0±0.7, 5°.43N±0°.04×126°.47E±0°.05, h51km±6km, n229, σ1.61/247, mb4.8/82, MS4.0/14, 5C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.01**	**312**	*e*P	**Pn**	**11 32 13.3**	**-2.7**
DDMP				*e*S	**Sn**	**11 32 26.9**	**-2.3**
MATI	**Mati**	**1.53**	**352**	*e*P	**Pn**	**11 32 21.8**	**-1.2**
MATI				*e*S	**Sn**	**11 32 43.3**	**+1.6**
GSPH	**General Santos**	**1.65**	**293**⇓	*i*P	**Pn**	**11 32 20.5**	**-4.2**
GSPH				*i* S	**Sn**	**11 32 40.7**	**-4.3**
DAV	**Davao City (W)**	**1.86**	**331**	Pn	**Pn**	**11 32 26.0**	**-1.5**
	277nm,0.3s,baz=158,slow=2.2,SNR=27						
DAV				Sn	**Sn**	**11 32 52.5**	**+2.7**
	295nm,0.3s,baz=226,slow=14,SNR=7.3						
DAV				LR	LR	11 33 16.3	
	comp=Z,2µm,20.9s,baz=175,slow=45						
DAV	**Davao City (W)**	**1.86**	**331**⇑	*i*P	**Pn**	**11 32 26.2**	**-1.3**
DAV	**Davao City (W)**	**1.86**	**331**		**Pn**	**11 32 26.8**	**-0.7**
DMPH	**Davao City--Mi**	**1.91**	**330**⇑	*e*P	**Pn**	**11 32 30.1**	**+2.0**
DMPH				*e*S	**Sn**	**11 32 59.3**	**+8.3**
KCP	**Kidapawan**	**2.09**	**319**⇑	*i*P	**Pn**	**11 32 29.8**	**-0.9**
KCP				*i* S	**Sn**	**11 32 59.1**	**+3.5**
SKMP	**Bagumbayan, Su**	**2.21**	**300**	*e*P	**Pn**	**11 32 31.3**	**-1.0**
SKMP				*e*S	**Sn**	**11 32 57.0**	**-1.4**
BUKP	**Musuan**	**2.81**	**330**	*e*P	**Pn**	**11 32 39.8**	**-0.8**
BUKP				*e*S	**Sn**	**11 33 18.0**	**+4.6**
CTBH	**Cotabato--PC H**	**2.84**	**309**⇑	*e*P	**Pn**	**11 32 40.3**	**-0.7**
CGP	**Cagayan de Oro**	**3.49**	**330**⇑	*e*P	**Pn**	**11 32 48.9**	**-0.9**
CGP				*e*S	Sn	11 33 40.4	+10
PAGZ	**Pagadian**	**3.90**	**308**	*e*P	**Pn**	**11 32 53.8**	**-1.7**
TNTI	**Ternate**	**4.71**	**169**	P	**Pn**	**11 33 07.6**	**+1.0**
TNTI	**Ternate**	**4.71**	**169**	Pn	**Pn**	**11 33 06.9**	**+0.4**
MSLP	**Maasin**	**4.94**	**341**	*e*P	**Pn**	**11 33 10.6**	**+0.8**
MSLP				*e*S	**Sn**	**11 34 06.0**	**+0.2**
TBP	**Tagbilaran**	**4.97**	**329**	*e*P	**Pn**	**11 33 10.4**	**+0.3**
SNPH	**Sibulan**	**5.04**	**321**	*e*P	Pn	11 33 16.2	+5.0
KMSI	**Cibinong**	**5.42**	**207**	P	**Pn**	**11 33 18.5**	**+2.1**
	1.5nm3µm314nm,0.9s						
CNOP	**Candoni, Negro**	**5.79**	**319**	*e*P	**Pn**	**11 33 18.8**	**-2.6**
LBMI	**Labuha**	**6.11**	**170**	P	**Pn**	**11 33 26.3**	**+0.5**
	0.8nm2µm187nm,0.9s						
MRSI	**Marisa**	**6.68**	**223**	P	**Pn**	**11 33 33.2**	**-0.5**
	1.3nm1.3nm3µm329nm,0.6s						
RCP	**Roxas**	**7.12**	**329**⇓	*e*P	**Pn**	**11 33 40.4**	**+0.7**
CNP	**Catarman**	**7.26**	**346**	*e*P	**Pn**	**11 33 43.2**	**+1.6**
LUWI	**Luwuk**	**7.41**	**210**	P	**Pn**	**11 33 45.5**	**+1.8**
	1.1nm1.1nm3µm319nm,1.1s						
LUWI	**Luwuk**	**7.41**	**210**	Pn	**Pn**	**11 33 45.8**	**+2.1**
SANI	**Sanana**	**7.44**	**184**	P	**Pn**	**11 33 42.1**	**-2.0**
	0.3nm1µm37nm,0.6s						
SIJI	**Sorong**	**7.87**	**142**	Pn	**Pn**	**11 33 49.5**	**-0.5**
	4.0nm,0.3s,baz=356,slow=8.5,SNR=18						
SIJI				LR	LR	11 37 19.5	
	comp=Z,244nm,18.5s,baz=330,slow=41						
MPSI	**Mapaga**	**8.29**	**233**	P	**Pn**	**11 33 56.2**	**+0.5**
	364nm43nm,0.8s						
PVCP	**Virac**	**8.43**	**344**	*e*P	**Pn**	**11 33 58.3**	**+0.7**
NLAI	**Namlea**	**8.63**	**176**	P	**Pn**	**11 34 00.0**	**-0.4**
	1µm56nm,0.4s						
BATP	**Bataraza**	**9.23**	**292**	*e*P	**Pn**	**11 34 12.7**	**+4.0**
LQP	**Lukban**	**9.90**	**331**	*e*P	**Pn**	**11 34 19.1**	**+1.0**
SPMM	**Sapulut**	**9.99**	**266**	P	**Pn**	**11 34 23.0**	**+3.9**
FAKI	**Fak Fak**	**10.10**	**145**	P	**Pn**	**11 34 18.8**	**-1.7**
	42nm,1.3s						
FAKI	**Fak Fak**	**10.10**	**145**	Pn	**Pn**	**11 34 19.7**	**-0.8**
TGY	**Tagaytay City**	**10.20**	**328**	LR	LR	11 38 49.6	
	comp=Z,412nm,18.3s,baz=209,slow=41						
KKM	**Kota Kinabalu**	**10.23**	**274**	Pn	**Pn**	**11 34 23.7**	**+1.4**
TTSI	**Tana Toraja**	**10.72**	**218**	P	**Pn**	**11 34 30.6**	**+1.6**
	870nm85nm,0.9s						
SPSI	**Sidrap Palu**	**11.48**	**216**	P	**Pn**	**11 34 39.7**	**+0.3**
	28nm,1.0s						
BNSI	**Bone**	**11.65**	**213**	P	**Pn**	**11 34 44.1**	**+2.4**
	39nm,1.3s						
KAPI	**Kappang**	**12.35**	**213**	Pn	**Pn**	**11 34 50.3**	**-1.0**
	baz=94,slow=19,SNR=1.2						
KAPI				LR	LR	11 38 43.6	
	comp=Z,194nm,21.5s,baz=48,slow=33						
KAPI	**Kappang**	**12.35**	**213**	Pn	**Pn**	**11 34 52.8**	**+1.5**
KBKI	**Kotabaru**	**13.46**	**230**	P	P	11 35 19.9	+5.6
SMPI	**Sarmi**	**14.27**	**121**	P	**Pn**	**11 35 16.3**	**-1.1**
	19nm,1.3s						
SBUM	**Sibu**	**14.52**	**259**	Pn	**Pn**	**11 35 23.0**	**+2.2**
SBUM	**Sibu**	**14.52**	**259**	P	**P**	**11 35 24.0**	**-2.2**
EDFI	**Ende, Flores**	**14.87**	**199**	P	**Pn**	**11 35 27.0**	**+1.6**
	18nm,1.0s						
SOEI	**Soe**	**15.24**	**188**	P	**P**	**11 35 34.0**	**-0.3**
	82nm,0.9s						
SOEI	**Soe**	**15.24**	**188**	P	**P**	**11 35 35.7**	**+1.4**
SOEI				IAmb	IAmb	11 35 49.8	
	comp=Z,104nm,1.3s						
BATI	**Baumata**	**15.78**	**190**	Pn	**P**	**11 35 38.7**	**-1.4**
	comp=Z,4.5nm,0.3s,baz=72,slow=20,SNR=1.7						
BATI	**Baumata**	**15.78**	**190**	P	**P**	**11 35 38.4**	**-1.8**
	comp=Z,44nm,1.0s						
PLAI	**Plampang**	**16.60**	**212**	P	**P**	**11 35 51.4**	**+2.1**
	comp=Z,50nm,0.9s						
KSM	**Kuching**	**16.60**	**257**	P	**P**	**11 35 52.2**	**+2.9**
KSM	**Kuching**	**16.60**	**257**	P	**P**	**11 35 52.0**	**+2.7**
MTN	**Manton Dam**	**18.73**	**166**	P	**P**	**11 36 10.7**	**-2.1**
YHNB	**Yeheng**	**19.75**	**346**	Pn	**Pn**	**11 36 27.1**	**+1.3**
KNRA	**Kununurra**	**21.09**	**174**	P	**P**	**11 36 38.5**	**+0.2**
KNRA				IAmb	IAmb	11 36 39.6	
	comp=Z,47nm,0.6s						
QIZ	**Qiongzhong**	**21.11**	**311**	P	**P**	**11 36 41.1**	**+2.5**
QIZ				S	**S**	**11 40 32.9**	**+2.0**
QIZ				pmax	pmax		
	comp=Z,27nm,1.3s						
QIZ				LR	LR		
	comp=Z,210nm,16.7s						
QIZ				LR	LR		
	comp=Z,200nm,19.8s						
QIZ				LR	LR		
	comp=Z,310nm,20.1s						
LEM	**Lembang**	**22.41**	**237**	P	**P**	**11 36 54.3**	**+1.5**
	comp=Z,17nm,0.7s,baz=318,slow=21,SNR=1.7						
MYKOM	**Kota Tinggi**	**22.86**	**262**	P	**P**	**11 36 58.9**	**+1.5**
MYKOM				IAmb	IAmb	11 37 03.5	
	comp=Z,22nm,0.7s						
FITZ	**Fitzroy Crossi**	**23.39**	**182**	P	**P**	**11 37 00.8**	**-1.7**
	comp=Z,2.4nm,0.5s,baz=14,slow=8.8,SNR=17						
FITZ	**Fitzroy Crossi**	**23.39**	**182**	P	**P**	**11 37 01.5**	**-1.0**
FITZ				IAmb	IAmb	11 37 17.5	
	comp=Z,48nm,1.4s						
MDSI	**Maura Dua**	**24.35**	**247**	P	**P**	**11 37 15.0**	**+3.6**
	comp=Z,34nm,1.1s						
LHSI	**Lahat**	**24.70**	**249**	P	**P**	**11 37 18.2**	**+3.6**
	comp=Z,38nm,0.8s						
IPM	**Ipoh**	**25.37**	**269**	P	**P**	**11 37 21.1**	**+0.3**
IPM				IAmb	IAmb	11 37 25.5	
	comp=Z,38nm,1.3s						
COEN	**Coen**	**25.41**	**139**	P	**P**	**11 37 19.4**	**-1.6**
KULM	**Kulim**	**25.71**	**271**	P	**P**	**11 37 24.5**	**+0.6**
KULM				IAmb	IAmb	11 37 28.9	
	comp=Z,33nm,1.1s						
KULM	**Kulim**	**25.71**	**271**	P	**P**	**11 37 25.0**	**+1.1**
SDSI	**Sungai Dareh**	**25.80**	**257**	P	**P**	**11 37 27.6**	**+2.9**
	comp=Z,29nm,1.4s						
WB0	**Warramunga Arr**	**26.22**	**163**	P	**P**	**11 37 28.8**	**+0.4**
WB0				IAmb	IAmb	11 37 32.9	
	comp=Z,33nm,0.9s						
JCJ	**Chichijima**	**26.24**	**33**	P	**P**	**11 37 24.6**	**-3.9**
	comp=Z,32nm,0.4s,baz=304,slow=15,SNR=10						
WRAB	**Tennant Creek**	**26.36**	**163**	P	**P**	**11 37 31.1**	**+1.4**
WRAB				IAmb	IAmb	11 37 45.4	
	comp=Z,21nm,0.7s						
WRA	**Warramunga Arr**	**26.37**	**163**	P	**P**	**11 37 29.6**	**-0.2**
	comp=Z,15nm,0.5s,baz=342,slow=10,SNR=92						
WRA				PcP	**PcP**	**11 40 54.9**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=333,slow=2.4,SNR=3.4						
WRA				ScP	**ScP**	**11 44 32.6**	**+2.0**
	comp=Z,3.3nm,0.9s,baz=336,slow=3.3,SNR=8.8						
WB2	**Warramunga Arr**	**26.37**	**163**	P	**P**	**11 37 30.7**	**+1.0**
WB2				IAmb	IAmb	11 37 34.4	
	comp=Z,25nm,0.8s						
WR0	**Warramunga Arr**	**26.45**	**163**	P	**P**	**11 37 30.9**	**+0.5**
WR0				IAmb	IAmb	11 37 35.1	
	comp=Z,23nm,1.0s						
MNSI	**Mandailing Nat**	**27.24**	**261**	P	**P**	**11 37 40.8**	**+3.2**
PSI	**Prapat**	**27.60**	**266**	P	**P**	**11 37 40.3**	**-0.7**
	comp=Z,3.8nm,0.5s,baz=0.7,slow=2.9,SNR=5.7						
PSA00	**Pilbara Seismi**	**27.61**	**193**	P	**P**	**11 37 41.3**	**+0.5**
PSA00				IAmb	IAmb	11 37 52.6	
	comp=Z,16nm,0.9s						
RPSI	**Rantau Prapat**	**27.61**	**265**	P	**P**	**11 37 43.8**	**+2.8**
GYA	**Guiyang**	**28.20**	**320**	*e*P	P	11 37 52.1	+5.8
GYA				sP	sP	11 38 08.1	+3.8
GYA				PcP	**PcP**	**11 41 00.8**	**+1.7**
GYA				S	**S**	**11 42 29.9**	**+1.2**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA				pmax	pmax		
	comp=Z,50nm,3.5s						
GYA				LR	LR		
	comp=Z,210nm,16.6s						
GYA				LR	LR		
	comp=Z,140nm,15.4s						
GYA				LR	LR		
	comp=Z,250nm,17.5s						
KCSI	**Kotacane, Aceh**	**28.68**	**267**	P	**P**	**11 37 50.0**	**-0.5**
	comp=Z,20nm,0.8s						
GSI	**Gunungsitoli**	**29.13**	**263**	P	**P**	**11 37 53.8**	**-0.7**
	comp=Z,133nm,0.7s						
AS31	**Alice Springs**	**29.81**	**166**	P	**P**	**11 38 00.6**	**+0.2**
ASAR	**Alice Springs**	**29.81**	**166**	P	**P**	**11 38 00.3**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=340,slow=7.1,SNR=36						
ASAR				PcP	**PcP**	**11 41 03.2**	**+0.1**
	comp=Z,1.6nm,0.5s,baz=349,slow=2.3,SNR=11						
ASAR				ScP	**ScP**	**11 44 43.2**	**+2.1**
	comp=Z,4.7nm,1.0s,baz=346,slow=2.8,SNR=15						
CMAR	**Chiang Mai Arr**	**29.82**	**298**	P	**P**	**11 37 59.5**	**-1.2**
	comp=Z,2.5nm,0.7s,baz=109,slow=7.2,SNR=17						
CMAR				PcP	**PcP**	**11 41 03.9**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=134,slow=1.1,SNR=11						
CMAR				ScP	**ScP**	**11 44 43.3**	**+2.0**
	comp=Z,3.5nm,0.9s,baz=99,slow=1.5,SNR=17						
CMAR				LR	LR	11 50 19.6	
	comp=Z,176nm,18.2s,baz=156,slow=37						
CHTO	**Chiang Mai**	**29.96**	**299**	P	**P**	**11 38 03.1**	**+1.2**
KMI	**Kunming**	**30.02**	**313**	P	**P**	**11 38 03.2**	**+0.6**
KMI				pmax	pmax		
	comp=Z,17nm,0.9s						
GIRL	**Giralia**	**30.36**	**203**	P	**P**	**11 38 06.9**	**+1.7**
KSRS	**Korea Array**	**31.91**	**2**	P	**P**	**11 38 18.8**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=188,slow=9.3,SNR=15						
KSRS				PcP	**PcP**	**11 41 09.1**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=195,slow=2.1,SNR=6.1						
KSRS				LR	LR	11 51 52.3	
	comp=Z,70nm,20.5s,baz=185,slow=38						
CTAO	**Charters Tower**	**31.95**	**143**	P	**P**	**11 38 19.9**	**+0.5**
CTAO				IAmb	IAmb	11 38 20.7	
	comp=Z,25nm,1.4s						
MJAR	**Matsushiro Arr**	**32.79**	**18**	P	**P**	**11 38 24.7**	**-1.8**
	comp=Z,2.5nm,0.9s,baz=189,slow=8.4,SNR=6.7						
MJAR				ScP	**ScP**	**11 44 52.9**	**+2.1**
	comp=Z,1.5nm,0.8s,baz=202,slow=4.5,SNR=6.7						
MJAR				LR	LR	11 53 12.8	
	comp=Z,94nm,18.8s,baz=80,slow=39						
XAN	**Xi'an**	**32.80**	**332**	P	**P**	**11 38 25.2**	**-1.5**
XAN				PcP	**PcP**	**11 41 12.0**	**+1.0**
XAN				pmax	pmax		
	comp=Z,13nm,0.8s						
XAN				LR	LR		
	comp=Z,230nm,18.4s						
XAN				LR	LR		
	comp=Z,200nm,18.4s						
XAN				LR	LR		
	comp=Z,390nm,20.6s						
CD2	**Chengdu**	**33.14**	**323**	P	**P**	**11 38 30.2**	**+0.5**
CD2				S	**S**	**11 43 47.2**	**+1.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.4s						
CD2				LR	LR		
	comp=Z,260nm,12.8s						
CD2				LR	LR		
	comp=Z,260nm,15.2s						
CD2				LR	LR		
	comp=Z,280nm,14.7s						
BJT	**Baijiatuau**	**35.67**	**346**	P	**P**	**11 38 52.0**	**+0.6**
BJT				IAmb	IAmb	11 39 00.4	
	comp=Z,18nm,0.9s						
BJI	**Beijing**	**35.69**	**346**	P	**P**	**11 38 51.2**	**-0.3**
BJI				pmax	pmax		
	comp=Z,17nm,0.9s						
MORW	**Morawa**	**35.73**	**196**	P	**P**	**11 38 52.4**	**+0.4**
MORW				IAmb	IAmb	11 38 53.2	
	comp=Z,10nm,0.8s						
FORT	**Forrest**	**36.03**	**178**	P	**P**	**11 38 54.3**	**-0.2**
FORT				IAmb	IAmb	11 39 11.3	
	comp=Z,18nm,0.7s						
LZH	**Lanzhou**	**36.92**	**329**	*e*P	**P**	**11 39 02.4**	**0.0**
LZH				pP	pP	11 39 15.4	+0.3
LZH				sP	sP	11 39 22.8	+2.1
LZH				pmax	pmax		
	comp=Z,22nm,1.4s						
HHC	**Hu-ho-hao-te**	**37.72**	**341**	*e*P	**P**	**11 39 09.5**	**+0.5**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,53nm,4.2s						
CN2	**Changchun**	**38.23**	**359**	*e*P	**P**	**11 39 17.0**	**+3.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SHL	**Shillong**	**38.69**	**305**	P	**P**	**11 39 17.5**	**+0.1**
EIDS	**Eidsvold**	**38.84**	**143**	P	**P**	**11 39 17.8**	**-0.7**
USRK	**Ussuriysk Ar.**	**38.92**	**6**	P	**P**	**11 39 19.0**	**+0.2**
	comp=Z,4.2nm,0.9s,baz=187,slow=10.0,SNR=4.2						
BBOO	**Buckleboo**	**39.10**	**167**	P	**P**	**11 39 21.2**	**+0.7**
MDJ	**Mudanjiang**	**39.13**	**4**	P	**P**	**11 39 23.1**	**+2.5**
MDJ				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MDJ				pmax	pmax		
	comp=Z,120nm,8.2s						
NWAO	**Narrogin (SRO)**	**39.14**	**192**	P	**P**	**11 39 20.6**	**-0.2**
NWAO				IAmb	IAmb	11 39 33.2	
	comp=Z,55nm,1.4s						
STKA	**Stephens Creek**	**39.80**	**160**	P	**P**	**11 39 25.8**	**-0.5**
	comp=Z,15nm,0.8s,baz=338,slow=8.0,SNR=30						
STKA				ScP	**ScP**	**11 45 18.3**	**+1.6**
	comp=Z,2.0nm,0.9s,baz=347,slow=2.7,SNR=4.1						
STKA				LR	LR	11 58 13.3	
	comp=Z,76nm,18.2s,baz=345,slow=40						
STKA	**Stephens Creek**	**39.80**	**160**	P	**P**	**11 39 26.4**	**0.0**
ASAJ	**Asahikawa**	**41.06**	**18**	P	**P**	**11 39 35.9**	**-0.8**
	comp=Z,3.7nm,0.6s,baz=191,slow=8.6,SNR=9.0						
JKA	**Kamikawa-asahi**	**41.06**	**18**	P	**P**	**11 39 35.9**	**-0.8**
H11S3	**WAKE ISLAND Hy**	**41.31**	**68**	T	T	12 23 32.0	
	baz=199,slow=72,SNR=16						
H11S1	**WAKE ISLAND Hy**	**41.33**	**68**	T	T	12 23 34.7	
	baz=199,slow=72,SNR=16						
H11S2	**WAKE ISLAND Hy**	**41.33**	**68**	T	T	12 23 33.6	
	baz=199,slow=72,SNR=26						
GTA	**Gaotai**	**41.52**	**328**	P	**P**	**11 39 40.0**	**-0.7**
GTA				pP	pP	11 39 52.6	-0.6
GTA				sP	sP	11 39 57.3	-1.5
GTA				PcP	**PcP**	**11 41 38.8**	**+1.3**
GTA				S	**S**	**11 45 54.8**	**+1.8**
GTA				sS	sS	11 46 20.9	+6.9
GTA				ScS	**ScS**	**11 49 40.1**	**0.0**
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,40nm,7.1s						
GTA				LR	LR		
	comp=Z,170nm,18.1s						
GTA				LR	LR		
	comp=Z,130nm,18.1s						
GTA				LR	LR		
	comp=Z,190nm,18.7s						
H11N1	**WAKE ISLAND Hy**	**41.79**	**66**	T	T	12 24 10.6	
	baz=255,slow=75,SNR=39						
H11N2	**WAKE ISLAND Hy**	**41.80**	**66**	T	T	12 24 13.5	
	baz=255,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hy**	**41.81**	**66**	T	T	12 24 12.8	
	baz=255,slow=75,SNR=32						
TAPN	**Taplejung**	**42.83**	**305**	*e*P	**P**	**11 39 51.6**	**-0.1**
	comp=Z,35nm,0.5s						
ODAN	**Odare**	**42.90**	**304**	*e*P	**P**	**11 39 52.0**	**-0.2**
	comp=Z,57nm,0.7s						
ARMA	**Armidale**	**43.02**	**147**	P	**P**	**11 39 53.7**	**+0.7**
RAMN	**Ramite**	**43.58**	**304**	*e*P	**P**	**11 39 57.7**	**-0.1**
	comp=Z,61nm,0.6s						
JIRN	**Jiri**	**44.19**	**305**	*e*P	**P**	**11 40 02.7**	**-0.1**
	comp=Z,134nm,0.6s						
GUN	**Gumba**	**44.54**	**305**	*e*P	**P**	**11 40 05.3**	**-0.2**
	comp=Z,108nm,0.6s						
PKI	**Pulchoki**	**44.80**	**304**	*e*P	**P**	**11 40 06.7**	**-0.9**
	comp=Z,32nm,0.7s						
PKIN	**Phulchoki**	**44.81**	**304**	*e*P	**P**	**11 40 06.7**	**-0.9**
	comp=Z,33nm,0.6s						
KKN	**Kakani**	**44.99**	**304**	*e*P	**P**	**11 40 08.4**	**-0.5**
	comp=Z,22nm,0.4s						
DMN	**Daman**	**45.06**	**304**	*e*P	**P**	**11 40 09.0**	**-0.6**
	comp=Z,32nm,0.7s						
SONM	**Songino Array**	**45.62**	**341**	P	**P**	**11 40 13.2**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=159,slow=8.9,SNR=5.0						
SONM				ScP	**ScP**	**11 45 42.0**	**+1.9**
	comp=Z,0.8nm,0.4s,baz=176,slow=4.3,SNR=3.5						
CAN	**Canberra**	**45.74**	**154**	P	**P**	**11 40 15.7**	**+1.2**
TOO	**Toolangi**	**46.30**	**159**	P	**P**	**11 40 20.2**	**+1.3**
TOO				IAmb	IAmb	11 40 21.2	
	comp=Z,20nm,1.1s						
KOLN	**Koldanda**	**46.37**	**304**	*e*P	**P**	**11 40 19.5**	**-0.3**
	comp=Z,68nm,0.5s						
DANN	**Dangsing**	**46.44**	**304**	*e*P	**P**	**11 40 19.9**	**-0.6**
	comp=Z,167nm,0.6s						
HYB	**Hyderabad**	**48.32**	**288**	*i* P	**P**	**11 40 31.0**	**-4.0**
WMQ	**Urumqi**	**51.20**	**324**	*e*P	**P**	**11 40 57.6**	**+1.1**
WMQ				pmax	pmax		
	comp=Z,22nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,150nm,7.7s						
PEA0B	**Petropavlovsk-**	**53.97**	**23**	P	**P**	**11 41 17.0**	**+0.3**
PEA0B				IAmb	IAmb	11 41 30.8	
	comp=Z,17nm,1.2s						
PETK	**Petropavlovsk-**	**53.97**	**23**	P	**P**	**11 41 16.5**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=192,slow=4.2,SNR=7.3						
PET	**Petropavlovsk**	**54.28**	**23**	P	**P**	**11 41 19.1**	**+0.2**
MK31	**Makanchi Array**	**56.03**	**325**	P	**P**	**11 41 30.8**	**-1.0**
MK31				IAmb	IAmb	11 41 31.8	
	comp=Z,9.5nm,0.7s						
MKAR	**Makanchi Array**	**56.03**	**325**	P	**P**	**11 41 30.6**	**-1.1**
	comp=Z,13nm,0.5s,baz=122,slow=8.2,SNR=176						
MKAR				PcP	**PcP**	**11 42 28.9**	**-0.6**
	comp=Z,6.7nm,0.7s,baz=110,slow=4.0,SNR=8.8						
MKAR				ScP	**ScP**	**11 46 25.8**	**+1.1**
	comp=Z,2.1nm,0.8s,baz=123,slow=4.5,SNR=9.7						
MKAR				LR	LR	12 06 05.7	
	comp=Z,160nm,20.6s,baz=80,slow=37						
MAKZ	**Makanchi**	**56.22**	**325**	P	**P**	**11 41 32.3**	**-0.8**
MAKZ				IAmb	IAmb	11 41 32.7	
	comp=Z,12nm,0.7s						
TARG	**Taragay, Kyrgy**	**56.33**	**318**	P	**P**	**11 41 35.2**	**+0.8**
YAK	**Yakutsk**	**56.53**	**2**	P	**P**	**11 41 34.5**	**-0.5**
	comp=Z,14nm,0.7s,baz=100,slow=0.8,SNR=7.9						
KSH	**Kashi**	**56.68**	**314**	P	**P**	**11 41 37.1**	**+0.5**
KSH				S	**S**	**11 49 22.2**	**-3.4**
KSH				SS	**SS**	**11 53 10.7**	**-3.4**
KSH				pmax	pmax		
	comp=Z,33nm,1.1s						
KSH				pmax	pmax		
	comp=Z,140nm,3.5s						
KSH				LR	LR		
	comp=Z,240nm,8.4s						
KSH				LR	LR		
	comp=Z,170nm,10.0s						
KSH				LR	LR		
	comp=Z,230nm,10.6s						
NIL	**Nilore**	**56.70**	**307**	P	**P**	**11 41 37.2**	**+0.5**
KDJ	**Kajisay**	**56.92**	**318**	P	**P**	**11 41 37.8**	**-0.6**
KDJ				IAmb	IAmb	11 41 38.4	
	comp=Z,13nm,0.8s						
KZA	**Kyzart**	**58.20**	**317**	P	**P**	**11 41 47.4**	**-0.3**
	SNR=9.6						
TKM2	**Tokmak 2**	**58.32**	**318**	P	**P**	**11 41 47.5**	**-0.7**
	SNR=14						
KBK	**Karagaybulak**	**58.64**	**317**	P	**P**	**11 41 50.0**	**-0.5**
	SNR=5.3						
UCH	**Uchtor**	**58.77**	**317**	P	**P**	**11 41 51.2**	**-0.4**
	SNR=28						
ZAA0	**Zalesovo Array**	**58.97**	**333**	P	**P**	**11 41 51.0**	**-1.2**
ZAA0				IAmb	IAmb	11 41 51.2	
	comp=Z,5.1nm,0.6s						
ZALV	**Zalesovo Beam**	**58.97**	**333**	P	**P**	**11 41 50.7**	**-1.6**
	comp=Z,4.4nm,0.5s,baz=125,slow=6.6,SNR=17						
USP	**Ospenovka**	**59.19**	**318**	P	**P**	**11 41 53.2**	**-0.8**
	SNR=6.7						
AML	**Almayashu**	**59.29**	**316**	P	**P**	**11 41 54.8**	**-0.4**
	SNR=19						
KURK	**Kurchatov**	**60.19**	**327**	P	**P**	**11 41 59.9**	**-0.8**
SEY	**Seymchan**	**60.45**	**13**	P	**P**	**11 42 01.6**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=270,slow=3.0,SNR=3.4						
GAR	**Garm**	**60.60**	**312**	P	**P**	**11 42 03.2**	**-0.7**
CHGR	**Chuyangaron**	**61.36**	**311**	P	**P**	**11 42 08.0**	**-1.0**
KK31	**Karatay Array**	**61.83**	**316**	P	**P**	**11 42 11.2**	**-0.9**
KK31				IAmb	IAmb	11 42 12.0	
	comp=Z,13nm,1.0s						
THZ	**Tophouse**	**63.19**	**143**	P	**P**	**11 42 21.9**	**+0.8**
RPZ	**Rata Peaks**	**63.29**	**145**	LR	LR	12 07 12.5	
	comp=Z,108nm,21.2s,baz=322,slow=33						
RAO	**Raoul Island**	**63.53**	**126**	LR	LR	12 06 05.7	
	comp=Z,107nm,21.5s,baz=326,slow=32						
BRVK	**Borovoye**	**65.84**	**327**	P	**P**	**11 42 37.2**	**-1.0**
TIXI	**Tiksi**	**66.16**	**1**	P	**P**	**11 42 38.9**	**-1.0**
	comp=Z,2.4nm,0.3s,baz=203,slow=3.2,SNR=12						
TIXI	**Tiksi**	**66.16**	**1**	P	**P**	**11 42 40.3**	**+0.4**
ATKA	**Atka Island**	**67.26**	**35**	P	**P**	**11 42 46.5**	**-0.7**
NRIK	**Noril'sk**	**68.73**	**346**	P	**P**	**11 42 55.5**	**-0.7**
	comp=Z,14nm,0.7s,baz=124,slow=6.4,SNR=18						
GEYT	**Alibeck**	**69.64**	**308**	P	**P**	**11 43 01.9**	**-0.6**
	comp=Z,3.9nm,0.8s,baz=132,slow=4.4,SNR=10						
UNV	**Unalaska Valle**	**72.18**	**35**	P	**P**	**11 43 18.2**	**+0.7**
CASY	**Casey**	**72.46**	**187**	P	**P**	**11 43 21.2**	**+2.3**
CASY				IAmb	IAmb	11 43 38.8	
	comp=Z,9.5nm,1.2s						
AKUT	**Akutan**	**72.68**	**35**	P	**P**	**11 43 19.5**	**-0.9**
ARU	**Arti**	**73.38**	**328**	P	**P**	**11 43 23.2**	**-1.4**
ARU				IAmb	IAmb	11 43 23.5	
	comp=Z,12nm,0.7s						
KDAK	**Kodiak Island**	**80.60**	**32**	P	**P**	**11 44 05.1**	**0.0**
	comp=Z,6.4nm,0.9s,baz=286,slow=4.9,SNR=5.9						
KDAK	**Kodiak Island**	**80.60**	**32**	P	**P**	**11 44 05.9**	**+0.8**
PPLA	**Purkeypile**	**81.25**	**27**	P	**P**	**11 44 09.3**	**+0.7**
BRLK	**Bradley Lake**	**81.63**	**30**	P	**P**	**11 44 10.0**	**-0.6**
BRLK				IAmb	IAmb	11 44 26.8	
	comp=Z,20nm,1.1s						
KBZ	**Khabaz**	**81.64**	**313**	P	**P**	**11 44 10.2**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=248,slow=2.9,SNR=3.9						
KTH	**Kantishna Hill**	**81.87**	**27**	P	**P**	**11 44 12.4**	**+0.5**
KTH				IAmb	IAmb	11 44 20.0	
	comp=Z,8.4nm,1.1s						
BPAW	**Bear Paw Mtn.**	**81.89**	**26**	P	**P**	**11 44 12.5**	**+0.7**
BPAW				IAmb	IAmb	11 44 24.7	
	comp=Z,8.5nm,1.0s						
SEW	**Seward**	**82.37**	**30**	P	**P**	**11 44 14.2**	**-0.2**
SEW				IAmb	IAmb	11 44 26.4	
	comp=Z,15nm,1.0s						
PMR	**Palmer**	**82.59**	**29**	P	**P**	**11 44 15.1**	**-0.4**
PMR				IAmb	IAmb	11 44 27.8	
	comp=Z,6.3nm,0.9s						
MCK	**McKinley**	**82.77**	**27**	P	**P**	**11 44 17.5**	**+1.0**
MCK				IAmb	IAmb	11 44 28.1	
	comp=Z,11nm,0.9s						
TOLK	**Toolik Lake Re**	**82.77**	**22**	P	**P**	**11 44 17.2**	**+0.7**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TOLK				IAmb	IAmb	11 44 25.0	
	comp=Z,6.4nm,0.8s						
RND	**Reindeer**	**82.79**	**27**	P	**P**	**11 44 16.8**	**+0.1**
SML	**Sawmill**	**82.98**	**28**	P	**P**	**11 44 18.7**	**+1.0**
SML				IAmb	IAmb	11 44 23.3	
	comp=Z,13nm,1.2s						
DHY	**Denali Highway**	**83.45**	**27**	P	**P**	**11 44 21.1**	**+0.9**
ILAR	**Eielson Array**	**83.69**	**25**	P	**P**	**11 44 19.8**	**-1.4**
	comp=Z,1.4nm,0.5s,baz=248,slow=4.8,SNR=17						
KLMR	**Klimovskoe**	**83.81**	**331**	*e*P	**P**	**11 44 18.5**	**-3.4**
KLMR				AMP		11 44 21.6	
	comp=Z,15nm,1.0s						
RIDG	**Independent Ri**	**84.59**	**27**	P	**P**	**11 44 25.5**	**-0.4**
RIDG				IAmb	IAmb	11 44 43.4	
	comp=Z,16nm,1.4s						
DOT	**Dot Lake**	**84.94**	**27**	P	**P**	**11 44 27.1**	**-0.4**
VNDA	**Vanda**	**85.13**	**173**	P	**P**	**11 44 27.5**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=324,slow=5.8,SNR=5.5						
BRTR	**Keskin Array B**	**88.75**	**310**	P	**P**	**11 44 44.2**	**-2.5**
	comp=Z,0.9nm,0.7s,baz=89,slow=3.6,SNR=6.3						
ARCES	**ARCESS Array B**	**88.78**	**340**	P	**P**	**11 44 43.9**	**-2.2**
	comp=Z,7.0nm,0.8s,baz=82,slow=6.2,SNR=26						
FIA1	**FINESS Array S**	**90.22**	**332**	P	**P**	**11 44 52.0**	**-1.0**
FIA1				IAmb	IAmb	11 44 52.4	
	comp=Z,6.5nm,0.8s						
FINES	**FINESS Array B**	**90.23**	**332**	P	**P**	**11 44 51.1**	**-1.9**
	comp=Z,5.5nm,0.7s,baz=45,slow=6.3,SNR=34						
AKASG	**Malin Array Be**	**90.42**	**321**	P	**P**	**11 44 51.4**	**-2.7**
	comp=Z,0.4nm,0.3s,baz=65,slow=4.5,SNR=5.3						
NC405	**NORSAR Array S**	**96.91**	**334**	P	**P**	**11 45 22.4**	**-1.4**
NB2	**NORSAR Subarra**	**97.16**	**334**	P	**P**	**11 45 22.9**	**-2.1**
	comp=Z,3.1nm,0.7s,baz=67,slow=4.6						
NB2	**NORSAR Subarra**	**97.16**	**334**	P	**P**	**11 45 22.9**	**-2.1**
	baz=67,slow=4.6						
NOA	**NORSAR Array B**	**97.16**	**334**	P	**P**	**11 45 23.1**	**-1.8**
	comp=Z,2.9nm,0.7s,baz=65,slow=4.5,SNR=21						
NOA				LR	LR	12 33 06.2	
	comp=Z,92nm,21.4s,baz=170,slow=38						
NC204	**NORSAR Array S**	**97.26**	**334**	P	**P**	**11 45 23.6**	**-1.9**
NAO01	**NORSAR Array S**	**97.39**	**334**	P	**P**	**11 45 23.7**	**-2.2**
YKA	**Yellowknife Ar**	**98.07**	**24**	P	**P**	**11 45 27.1**	**-1.8**
	comp=Z,0.2nm,0.6s,baz=295,slow=4.8,SNR=4.2						
BRG	**Berggiesshubel**	**99.73**	**324**	*e*P	**Pdif**	**11 45 36.2**	**-0.4**
	comp=Z,2.1nm,0.6s						
TXAR	**Lajitas Array**	**120.75**	**51**	PKP	**PKiKP**	**11 50 45.8**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=179,slow=0.8,SNR=4.5						
TORD	**Torodi Ar. Bea**	**122.14**	**289**	PKP	**PKPdf**	**11 50 47.5**	**-0.7**
	comp=Z,2.7nm,0.7s,baz=52,slow=2.1,SNR=9.6						
R40A	**Maddies Statio**	**123.58**	**36**		**PKPdf**	**11 50 49.8**	**-0.6**
U40A	**Yellville**	**124.49**	**38**		**PKPdf**	**11 50 51.5**	**-0.7**
TKL	**Tuckaleechee C**	**130.23**	**33**	PKP	**PKPdf**	**11 51 03.1**	**-0.1**
	comp=Z,4.2nm,0.8s,baz=66,slow=1.5,SNR=5.0						
TKL	**Tuckaleechee C**	**130.23**	**33**	PKPdf	**PKiKP**	**11 51 04.3**	**+0.2**
PLCA	**Paso Flores**	**141.67**	**159**	PKP	**PKPdf**	**11 51 25.8**	**+1.4**
	comp=Z,3.5nm,0.9s,baz=271,slow=1.4,SNR=5.4						
PLCA	**Paso Flores**	**141.67**	**159**	PKPdf	**PKiKP**	**11 51 26.8**	**-0.4**
BI02	**San Fabin de**	**144.91**	**155**	PKPdf	**PKPdf**	**11 51 31.7**	**+1.5**
JTS	**Las Juntas de**	**145.02**	**64**	PKPdf	**PKPdf**	**11 51 31.5**	**+0.6**
BO02	**Sierra Bellavi**	**146.71**	**154**		**PKPab**	**11 51 36.1**	**0.0**
MT02	**Curacav**	**147.82**	**152**	PKPbc	**PKPbc**	**11 51 38.6**	**+0.6**
ROC1	**El Roble**	**148.11**	**151**	PKPbc	**PKPbc**	**11 51 39.6**	**+0.5**
PEL	**Peldehue**	**148.12**	**152**		**PKiKP**	**11 51 39.9**	**-0.8**
VA03	**San Esteban**	**148.50**	**152**		**PKPbc**	**11 51 40.6**	**+0.7**
CO03	**El Pedregal**	**150.01**	**149**	PKPbc	**PKPbc**	**11 51 43.7**	**-0.1**
BCIP	**Isla Barro Col**	**150.03**	**61**	PKPbc	**PKiKP**	**11 51 45.3**	**+0.2**
GO04	**Tololo Observa**	**150.49**	**149**	PKPbc	**PKPbc**	**11 51 45.2**	**+0.1**
CO01	**Juntas del Tor**	**151.01**	**149**		**PKiKP**	**11 51 47.1**	**+0.1**
AC05	**El Transito**	**151.82**	**148**		**PKiKP**	**11 51 49.0**	**+0.4**
AC01	**Pan de Azucar**	**153.71**	**143**	PKPbc	**PKiKP**	**11 51 52.7**	**+0.4**
GO02	**Mina Guanaco**	**155.05**	**144**	PKPbc	PKPdf	11 51 56.2	+9.5
PB10	**IPOC Station P**	**155.66**	**139**	PKPdf	**PKPdf**	**11 51 46.0**	**-1.1**
LPAZ	**La Paz**	**162.07**	**128**	PKP	**PKPdf**	**11 51 55.1**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=40,slow=5.2,SNR=4.0						
LPAZ	**La Paz**	**162.07**	**128**		**PKPdf**	**11 51 55.2**	**-0.4**

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*IDC **01** 11:37:32.0±4.4, 68°.15N×162°.86W, h0km, mb2.8/2, mb1 3.5/4, mb1mx3.2/46, mbtmp3.1/4, ML3.3/2, Error ellipse: s-maj=60.2km s-min=52.3km az=173.0*

*NEIC **01** 11:37:35.1±2.3, 67°.9N±0°.1×162°.2W±0°.3, h10km±2km, ML2.8/8, Error ellipse: s-maj=25.7km s-min=14.6km az=326.0*

ISC 01 11:37:34.3±1.0**, 67°.72N**±0°.07×**162°.26W**±0°.08**, h10**km**, n22,** σ**1s.83**/24**, Northern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.41**	**324**		**Pg**	**11 37 41.9**	**-0.5**
RDOG				IAML		11 37 49.2	
	comp=E,318nm,0.6s						
ANM	**Nome**	**3.41**	**203**	Pn	**Pb**	**11 38 33.9**	**-0.8**
ANM				IAML		11 39 21.8	
	comp=E,22nm,1.5s						
ANM				IAML		11 39 58.4	
	comp=N,22nm,1.9s						
COLD	**Coldfoot**	**4.67**	**91**	Pn	**Pn**	**11 38 46.8**	**+2.1**
TOLK	**Toolik Lake Re**	**4.82**	**73**		**Pn**	**11 38 48.9**	**+2.0**
TOLK				IAML		11 40 12.4	
	comp=N,14nm,0.8s						
TTA	**Tatalina**	**5.47**	**149**	Pn	**Pn**	**11 38 55.5**	**-0.4**
BPAW	**Bear Paw Mtn.**	**5.87**	**123**	Pn	**Pn**	**11 39 02.0**	**+0.7**
KTH	**Kantishna Hill**	**6.28**	**126**	Pn	**Pn**	**11 39 08.1**	**+1.2**
MDM	**Murphy Dome**	**6.29**	**110**	Pn	**Pn**	**11 39 10.5**	**+3.5**
PPLA	**Purkeypile**	**6.42**	**134**	Pn	**Pn**	**11 39 09.7**	**+0.8**
COLA	**College**	**6.47**	**109**	Pn	**Pn**	**11 39 09.7**	**+0.3**
TRF	**Thorofare Moun**	**6.55**	**125**	Pn	**Pn**	**11 39 11.8**	**+1.1**
CCB	**Clear Creek Bu**	**6.61**	**111**		**Pn**	**11 39 12.3**	**+1.0**
IL31		**6.87**	**108**		**Pn**	**11 39 15.9**	**+1.0**
ILAR	**Eielson Array**	**6.87**	**108**	Pn	**Pn**	**11 39 15.9**	**+1.0**
	comp=N,0.8nm,0.3s,baz=300,slow=14,SNR=32						
ILAR				Sn	**Sn**	**11 40 30.6**	**-2.5**
	comp=N,0.1nm,0.3s,baz=306,slow=24,SNR=5.7						
RND	**Reindeer**	**7.04**	**122**	Pn	**Pn**	**11 39 19.9**	**+2.5**
HDA	**Harding Lake**	**7.05**	**111**	Pn	**Pn**	**11 39 19.0**	**+1.6**
DHY	**Denali Highway**	**7.75**	**120**	Pn	**Pn**	**11 39 29.7**	**+2.5**
SCRK	**Sand Creek**	**8.37**	**108**	Pn	**Pn**	**11 39 37.6**	**+2.1**
INK	**Inuvik**	**10.74**	**74**	Pn	**Pn**	**11 40 07.1**	**-0.8**
	comp=N,0.1nm,0.3s,baz=282,slow=9.2,SNR=6.2						
INK				Sn	**Sn**	**11 42 04.3**	**-3.5**
	comp=N,0.1nm,0.3s,baz=211,slow=11,SNR=2.3						
INK	**Inuvik**	**10.74**	**74**		**Pn**	**11 40 08.9**	**+1.1**
YKA	**Yellowknife Ar**	**20.28**	**82**	P	**P**	**11 42 09.9**	**+0.3**
	comp=N,0.1nm,0.4s,baz=304,slow=11,SNR=2.0						
TXAR	**Lajitas Array**	**51.39**	**107**	P	**P**	**11 46 40.0**	**+1.1**
	comp=N,0.3nm,0.9s,baz=343,slow=6.5,SNR=3.7						

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*INET **01** 11:38:16.0, 12°.25N×86°.38W, h4km, ML3.6*

UCR 01 11:38:18.4±1.7**, 12°.32N×86°.36W, h35**km**, MD3.6, Nicaragua**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GB1A	**Borinquen Arri**	**1.77**	**148**	*e*P	Pn	11 38 45.1	-1.6
CUI	**Cuipilapa**	**2.03**	**145**	*e*P	Pn	11 38 50.5	+0.3
PLVR	**Palo Verde**	**2.20**	**153**	*e*P	Pn	11 38 52.8	+0.2
PLVR				*e*S	Sn	11 39 19.2	+0.5
JTS	**Las Juntas de**	**2.45**	**145**	*e*P	Pn	11 38 55.5	-0.4
ARE1	**Arenal 1**	**2.45**	**139**	*e*P	Pn	11 38 57.4	+1.4

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*IDC **01** 11:59:00.4±2.0, 5°.30N×126°.00E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/51, mbtmp3.4/4, MS3.9/1, Ms1 3.9/1, ms1mx2.8/22, Error ellipse: s-maj=122.6km s-min=26.0km az=68.0*

*NEIC **01** 11:59:04.8±1.4, 5°.08N±0°.07×125°.3E±0°.2, h27km±5km, mb4.2/7, Error ellipse: s-maj=23.5km s-min=9.9km az=91.0*

ISC 01 11:59:06.6±1.0**, 5°.16N**±0°.09×**126°.1E**±0°.2**, h35**km**, n17,** σ**1s.56**/17**, mb3.9**/8**, 2D, Mindanao**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.44**	**310**	⇓*i*P	**Pn**	**11 59 29.6**	**-0.8**
GSPH				*i* S	**Sn**	**11 59 49.0**	**+0.8**
DAV	**Davao City (W)**	**1.96**	**346**	Sn	**Sn**	**12 00 00.7**	**0.0**
	0.1nm,0.3s,baz=272,slow=23,SNR=1.3						
DAV	**Davao City (W)**	**1.96**	**346**	Pn	**Pn**	**11 59 36.8**	**-0.6**
KCP	**Kidapawan**	**2.08**	**332**	⇓*e*P	**Pn**	**11 59 39.3**	**+0.3**
KCP				*i* S	**Sn**	**12 00 07.9**	**+4.1**
LUWI	**Luwuk**	**6.98**	**208**	Pn	Pn	12 00 39.9	-6.5
SZP	**Santa**	**13.48**	**336**	Pn	Pn	12 02 08.0	-7.5
KNRA	**Kununurra**	**20.87**	**173**	P	**P**	**12 03 45.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**23.11**	**181**	P	**P**	**12 04 09.4**	**-0.2**
	1.0nm,0.9s,baz=11,slow=10,SNR=0.8						
FITZ	**Fitzroy Crossi**	**23.11**	**181**	P	**P**	**12 04 10.2**	**+0.6**
FITZ				IAmb	IAmb	12 04 23.2	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**26.09**	**162**	P	**P**	**12 04 37.9**	**+0.6**
WB0				IAmb	IAmb	12 04 43.9	
	comp=Z,7.1nm,1.2s						
WRA	**Warramunga Arr**	**26.24**	**162**	P	**P**	**12 04 39.2**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=343,slow=10,SNR=6.9						
WB2	**Warramunga Arr**	**26.24**	**162**	P	**P**	**12 04 38.8**	**+0.2**
WB2				IAmb	IAmb	12 04 40.3	
	comp=Z,9.1nm,1.4s						
WR0	**Warramunga Arr**	**26.32**	**162**	P	**P**	**12 04 40.8**	**+1.6**
WR0				IAmb	IAmb	12 04 42.1	
	comp=Z,9.7nm,1.4s						
ASAR	**Alice Springs**	**29.65**	**165**	P	**P**	**12 05 08.9**	**-0.1**
	comp=Z,0.1nm,0.5s,baz=342,slow=7.6,SNR=4.7						
STKA	**Stephens Creek**	**39.69**	**159**	P	**P**	**12 06 36.7**	**+1.1**
MKAR	**Makanchi Array**	**56.01**	**325**	P	**P**	**12 08 39.8**	**-2.1**
	comp=Z,0.3nm,0.4s,baz=121,slow=8.2,SNR=4.9						
MKAR				LR	LR	12 33 29.0	
	comp=Z,96nm,18.9s,baz=264,slow=37						
KURK	**Kurchatov**	**60.19**	**327**	P	**P**	**12 09 08.5**	**-2.4**
KURK				IAmb	IAmb	12 09 08.9	
	comp=Z,1.3nm,0.6s						

MAN 01 11:59:40.9, 9°.30N×127°.03E, h34km**, mb5.3, ML4.3, MS4.5, Philippine Islands region**

MAN 01 12:01:27.9, 16°.45N×120°.14E, h9km**, mb4.1, ML2.9, MS2.5, Luzon**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.23**	**253**	*e*P	Pg	12 01 36.0	+3.4
BOLP				*e*S	Sg	12 01 41.8	+5.9
SMPP	**San Manuel, Pa**	**0.59**	**120**	*e*P	Pg	12 01 38.4	-1.0
SMPP				*e*S	Sg	12 01 46.3	-0.9
SCZP	**Santa Cruz**	**0.71**	**199**	*e*P	Pg	12 01 41.7	+0.2
SCZP				*e*S	Sb	12 01 52.3	+0.1
ABRA	**Dolores**	**1.31**	**24**	*e*P	Pn	12 01 50.8	-1.6
ABRA				*e*S	Sg	12 02 11.4	+1.2
BALP	**Baler**	**1.55**	**117**	*e*P	Pn	12 01 55.2	-0.4
BALP				*e*S	Sb	12 02 16.4	0.0
APYP	**Conner**	**1.75**	**37**	*e*P	Pn	12 01 58.8	+0.3
APYP				*e*S	Sn	12 02 21.2	+0.2
LQP	**Lukban**	**2.69**	**150**	*e*P	Pg	12 02 30.6	+11

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*NEIC **01** 12:01:48.2±1.5, 61°.21N±0°.02×146°.33W±0°.04, h25km±8km, Error ellipse: s-maj=3.1km s-min=3.0km az=192.0*

AEIC 01 12:01:49.1±1.3**, 61°.19N**±0°.02×**146°.34W**±0°.03**, h20**km±5km**, ML3.2**/94**, Error ellipse: s-maj=3.3km s-min=2.2km az=156.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
VMT	**TAPS TI Valdez**	**0.10**	**188**		Pg	12 01 53.2	+0.2
VMT					Sg	12 01 57.1	+1.5
JPK	**Jack Peak**	**0.18**	**224**		Pg	12 01 54.0	-0.1
FID	**Port Fidalgo**	**0.44**	**189**		Pb	12 01 57.9	-0.2
FID					Sb	12 02 05.5	+1.1
GLI	**Glacier Island**	**0.48**	**231**		Pb	12 01 57.6	-1.2
GLI	**Glacier Island**	**0.48**	**231**		Sb	12 02 05.0	-0.4
PS12	**TAPS Pump St12**	**0.65**	**63**		Pb	12 01 59.5	-2.2
PS12					Sb	12 02 08.3	-1.9
EYAK	**Cordova Ski Ar**	**0.70**	**155**		Pb	12 02 01.7	-0.9
EYAK	**Cordova Ski Ar**	**0.70**	**155**		Sb	12 02 12.0	+0.2
HIN	**Hinchinbrook I**	**0.80**	**186**		Pb	12 02 03.2	-1.0
SCM	**Sheep Creek Mo**	**0.81**	**324**		Pb	12 02 02.3	-2.2
SCM	**Sheep Creek Mo**	**0.81**	**324**		Sb	12 02 13.1	-1.8
PS11	**TAPS Pump St11**	**0.99**	**24**		Pb	12 02 05.9	-1.6
GOAT	**Goat Mountain**	**0.99**	**127**		Pb	12 02 06.1	-1.5
PWL	**Port Wells**	**1.02**	**252**		Pb	12 02 06.2	-1.9
PWL					Sb	12 02 19.9	-1.2
KNK	**Knik Glacier**	**1.05**	**284**		Pb	12 02 06.9	-1.6
SML	**Sawmill**	**1.14**	**304**		Pn	12 02 07.6	-2.4
RAGM	**Ragged Mountai**	**1.14**	**134**		Pn	12 02 08.7	-1.3
GLB	**Gilahina Butte**	**1.25**	**77**		Pn	12 02 09.0	-2.4
GLB					Sb	12 02 25.0	-2.6
GHO	**Glory Hole Cre**	**1.37**	**297**		Pn	12 02 11.6	-1.6
VRDI	**Verde Repeater**	**1.40**	**87**		Pn	12 02 11.4	-2.3
PMR	**Palmer**	**1.40**	**288**		Pn	12 02 12.2	-1.3
WAT6	**Susitna Watana**	**1.55**	**335**		Pn	12 02 13.2	-2.4
RC01	**Rabbit Creek A**	**1.65**	**268**		Pn	12 02 16.5	-0.4
KHIT	**Khitrov Hills**	**1.69**	**115**		Pn	12 02 15.8	-1.7
GRIN	**Grindle Hills**	**1.74**	**120**		Pn	12 02 16.9	-1.2
MID	**Middleton Isla**	**1.76**	**180**		Pn	12 02 16.9	-1.5
PAX	**Paxson**	**1.84**	**12**		Pn	12 02 18.1	-1.5
WAX	**Waxell Ridge**	**1.86**	**112**		Pn	12 02 18.3	-1.5
SEW	**Seward**	**1.88**	**236**		Pn	12 02 18.6	-1.3
BALM	**Baldy**	**1.94**	**93**		Pn	12 02 19.6	-1.5
KIAG	**Kiagna River**	**1.95**	**96**		Pn	12 02 19.6	-1.6
DHY	**Denali Highway**	**1.96**	**346**		Pn	12 02 19.9	-1.4
KULT	**Kultieth River**	**2.01**	**116**		Pn	12 02 20.4	-1.5
SLKM	**Skilak Lake**	**2.02**	**252**		Pn	12 02 21.1	-0.9
WAT2	**Susitna Watana**	**2.07**	**330**		Pn	12 02 22.2	-0.6
MENT	**Mentasta**	**2.15**	**34**		Pn	12 02 23.3	-0.5
CUT	**Chulitna**	**2.23**	**305**		Pn	12 02 24.7	-0.2
BARN	**Barnard Glacie**	**2.27**	**91**		Pn	12 02 24.3	-1.3
MESA	**MESA**	**2.38**	**113**		Pn	12 02 25.7	-1.5
YAH	**Yahtse**	**2.40**	**108**		Pn	12 02 25.8	-1.6
RND	**Reindeer**	**2.52**	**333**		Pn	12 02 28.4	-0.5
RKAV	**Rock Avalanche**	**2.61**	**108**		Pn	12 02 28.9	-1.3
BRSE	**Bradley Lake S**	**2.62**	**238**		Pn	12 02 28.9	-1.3
RIDG	**Independent Ri**	**2.66**	**14**		Pn	12 02 30.8	0.0
BRLK	**Bradley Lake**	**2.67**	**240**		Pn	12 02 29.7	-1.2
STLK	**Strandline Lak**	**2.67**	**279**		Pn	12 02 30.3	-0.6
DOT	**Dot Lake**	**2.69**	**22**		Pn	12 02 31.2	0.0
YUK2	**White River**	**2.71**	**75**		Pn	12 02 30.5	-1.0
SPCG	**Spurr Capps Gl**	**2.75**	**275**		Pn	12 02 31.4	-0.7
CHX	**Chaix Hills**	**2.81**	**111**		Pn	12 02 31.6	-1.2
MCK	**McKinley**	**2.83**	**336**		Pn	12 02 32.9	-0.1
SPCR	**Spurr Chakacha**	**2.84**	**273**		Pn	12 02 32.1	-1.2
BC03		**2.85**	**47**		Pn	12 02 33.0	-0.4
BVCY	**Beaver Creek**	**2.88**	**62**		Pn	12 02 33.7	-0.1
YUK3	**Moose Creek**	**2.88**	**76**		Pn	12 02 33.1	-0.9
SPBG	**Spurr Blockage**	**2.92**	**274**		Pn	12 02 33.6	-0.8
TRF	**Thorofare Moun**	**2.93**	**323**		Pn	12 02 34.1	-0.5
YUK1	**Sand Pete Hill**	**2.94**	**68**		Pn	12 02 34.2	-0.5
CNPM	**China Poot**	**2.95**	**238**		Pn	12 02 33.3	-1.4
SCRK	**Sand Creek**	**3.01**	**20**		Pn	12 02 35.4	-0.2
HOM	**Homer**	**3.04**	**242**		Pn	12 02 35.0	-1.1
SPNN	**North Nagishla**	**3.08**	**276**		Pn	12 02 35.8	-0.8
DFR	**Drift River**	**3.16**	**262**		Pn	12 02 36.3	-1.4
KTH	**Kantishna Hill**	**3.19**	**320**		Pn	12 02 37.6	-0.5
RDJH	**Redoubt Jeurge**	**3.22**	**262**		Pn	12 02 37.4	-1.1
RSO	**Redoubt South**	**3.23**	**260**		Pn	12 02 37.5	-1.2
RED	**Redoubt Volcan**	**3.25**	**259**		Pn	12 02 37.5	-1.4
PPLA	**Purkeypile**	**3.25**	**304**		Pn	12 02 37.9	-1.1
HDA	**Harding Lake**	**3.25**	**355**	Pn	Pn	12 02 38.7	-0.2
RDWB	**Redoubt West**	**3.26**	**260**		Pn	12 02 37.7	-1.4
CCB	**Clear Creek Bu**	**3.54**	**350**		Pn	12 02 41.1	-1.7
ILS	**Iliamna Low So**	**3.54**	**253**		Pn	12 02 41.8	-1.2
IL31		**3.61**	**356**		Pn	12 02 41.9	-1.8
BPAW	**Bear Paw Mtn.**	**3.63**	**326**		Pn	12 02 42.9	-1.1
YUK4	**Talbot Arm**	**3.72**	**84**		Pn	12 02 44.9	-0.6
COLA	**College**	**3.77**	**350**		Pn	12 02 46.0	0.0
COLA	**College**	**3.77**	**350**		Pn	12 02 46.0	+0.1
YUK6	**Outpost Mounta**	**3.88**	**90**		Pn	12 02 46.6	-1.2
MDM	**Murphy Dome**	**3.88**	**348**		Pn	12 02 47.8	+0.2
YUK7	**Dusty Glacier**	**4.06**	**96**		Pn	12 02 49.1	-1.2
EGAK	**Eagle**	**4.31**	**31**		Pn	12 02 53.2	-0.3
HYT	**Haines Junctio**	**4.32**	**91**		Pn	12 02 52.7	-0.9
DHAK	**Deception Hill**	**4.57**	**114**	Pn	Pn	12 02 55.9	-1.1
KDAK	**Kodiak Island**	**4.67**	**226**	Pn	Pn	12 02 56.2	-2.1
TT01	**Tatalina**	**4.87**	**295**		Pn	12 02 59.0	-2.2
TTA	**Tatalina**	**4.88**	**295**		Pn	12 02 59.1	-2.1
OHAK	**Old Harbor**	**5.34**	**225**	Pn	Pn	12 03 05.6	-1.9
SKAG	**Skagway**	**5.74**	**103**	Pn	Pn	12 03 12.3	-0.7
IM03		**5.84**	**329**		Pn	12 03 13.2	-1.2
JIS	**Juneau Island**	**6.71**	**110**	Pn	Pn	12 03 24.9	-1.4
SIT	**Sitka**	**7.02**	**121**	Pn	Pn	12 03 29.2	-1.4
TOLK	**Toolik Lake Re**	**7.61**	**351**	Pn	Pn	12 03 42.0	+3.3
CHGN	**Chignik**	**7.96**	**237**	Pn	Pn	12 03 42.0	-1.4

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*SNET **01** 12:02:39.9±1.0, 13°.65N×89°.66W, h94km±6km, ML2.9*

*GCG **01** 12:02:41.0±0.4, 13°.46N×89°.72W, h75km±15km, MD3.6*

ISC 01 12:02:42.0±1.8**, 13°.6N**±0°.1×**89°.63W**±0°.06**, h86**km±12km**, n17,** σ**0s.89**/22**, 1C, El Salvador**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CEVE	**Cerro Verde**	**0.21**	**1**	*e*P	**Pn**	**12 02 53.8**	**-1.1**
CEVE				*e*S	**Sn**	**12 03 06.4**	**+2.1**
CEVE				IAML		12 03 07.5	
	comp=Z,614nm,0.2s						
SBLS	**San Blas**	**0.22**	**2**	*e*P	**Pn**	**12 02 53.8**	**-1.1**
RTR	**El Retiro**	**0.28**	**357**	*e*P	**Pn**	**12 02 54.2**	**-0.9**
LALI	**Alcalda de L**	**0.33**	**113**	*e*S	**Sn**	**12 03 05.3**	**+0.5**
UNIC	**Universidad Ca**	**0.37**	**12**	*e*P	**Pn**	**12 02 54.3**	**-1.1**
UNIC				IAML		12 02 54.6	
	comp=Z,284nm,0.1s						
UEES	**Universidad Ev**	**0.39**	**76**	*e*S	**Sn**	**12 03 05.9**	**+0.2**
SNET	**Serv Nac Est T**	**0.39**	**80**	IAML		12 03 07.3	
	comp=Z,381nm,0.3s						
LFRS	**El Faro**	**0.55**	**89**	*e*P	**Pn**	**12 02 56.7**	**-0.2**
LFRS				*e*S	**Sn**	**12 03 08.8**	**+0.9**
MTO3	**Montecristo**	**0.82**	**19**	*e*P	**Pn**	**12 02 59.1**	**-0.6**
MTO3				*e*S	**Sn**	**12 03 12.9**	**+0.1**
LLGN	**La Laguna**	**0.86**	**51**	*e*S	**Sn**	**12 03 13.8**	**+0.5**
IXG	**Ixpaco**	**0.96**	**305**	⇑*i*P	**Pn**	**12 03 00.3**	**-0.8**
ALJI	**Alcalda de J**	**1.07**	**106**	*e*S	**Sn**	**12 03 18.1**	**+0.7**
COEB	**Comit de Eme**	**1.07**	**96**	*e*P	**Pn**	**12 03 01.6**	**-0.8**
COEB				*e*S	**Sn**	**12 03 18.5**	**+0.7**
COEB				IAML		12 03 22.4	
	comp=Z,188nm,0.2s						
NBG	**Las Nubes**	**1.19**	**324**	*e*P	**Pn**	**12 03 04.2**	**+0.3**
JUCU	**Jucuar¡n**	**1.39**	**105**	*e*S	**Sn**	**12 03 25.2**	**+0.7**
FUG	**Fuego 3**	**1.44**	**305**	*e*P	**Pn**	**12 03 06.3**	**-0.6**
FUG				*e*S	**Sn**	**12 03 26.3**	**+0.5**
STG3	**Santiaguito 3,**	**2.17**	**300**	*e*P	**Pn**	**12 03 16.2**	**-0.3**
STG3				*e*S	**Sn**	**12 03 43.4**	**+0.4**

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*BJI **01** 12:05:42.7±0.0, 34°.52N×24°.15E, h8km, mB4.9/35, mb4.9/55, Ms4.6/20, Ms7 4.3/19*

*HLW **01** 12:05:47.2, 34°.92N×24°.77E, h26km±25km, Md4.5*

*MED_RC **01** 12:05:48.0±0.5, 34°.52N×24°.54E, h24km, MW4.9/10, Moment Tensor Solution.Mantle waves: s10,c11; Duration: 1s.0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.89±.39; $M_{\theta\theta}$0.94±.25; $M_{\phi\phi}$-0.05±.37; $M_{r\theta}$2.40±.15; $M_{\theta\phi}$0.10±.17; $M_{\phi r}$-0.70±.21; Best double couple: $M_0$2.67000×10^{16} NP1:ϕ_s67.00000°,δ12.00000°, λ-127.00000°. NP2:ϕ_s285.00000°,δ80.00000°, λ-83.00000°. Principal axes: T 2.6300, Plg35.0000°, Azm9.0000°; N 0.0700, Plg7.0000°, Azm104.0000°; P -2.7000, Plg54.0000°, Azm203.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*ISK **01** 12:05:48.7, 34°.52N×24°.66E, h22km, ML5.0/31*

*MOS **01** 12:05:49.1±1.1, 34°.78N×24°.63E, h23km, mb5.2/63, MS4.0/15, Error ellipse: s-maj=5.4km s-min=3.2km az=80.4*

*NEIC **01** 12:05:51.5±1.9, 34°.69N±0°.05×24°.60E±0°.06, h30km±3km, Error ellipse: s-maj=7.7km s-min=7.5km az=82.0*

*PDG **01** 12:05:51.5±0.2, 34°.79N×23°.76E, h19km±16km, ML4.8/13, Error ellipse: s-maj=19.1km s-min=6.0km az=90.0*

*THE **01** 12:05:51.1, 34°.65N×24°.64E, h0km±1km, ML4.7/12, Error ellipse: s-maj=1.9km s-min=0.7km az=182.0*

*UNK **01** 12:05:52.0, 34°.75N×24°.61E, h32km*

*ATH **01** 12:05:52.0, 34°.75N×24°.61E, h32km±1km, ML4.8/26, Error ellipse: s-maj=2.3km s-min=1.0km az=356.0*

*IDC **01** 12:05:51.1±1.8, 34°.74N×24°.68E, h27km±11km, mb4.7/33, mb1 4.8/44, mb1mx4.8/47, mbtmp4.9/44, ML4.8/12, MS4.0/38, Ms1 4.0/38, ms1mx3.9/48, Error ellipse: s-maj=10.6km s-min=9.1km az=145.0*

*DDA **01** 12:05:53.0, 34°.65N×24°.62E, h32km±330km, MW4.7*

*GII **01** 12:05:56.9±0.0, 34°.58N×25°.46E, h10km±1km, mb4.7/3, MD4.6/3, Mm4.5/13*

*NIC **01** 12:05:56.2±0.0, 34°.16N×25°.50E, h10km±1km, Ml4.7/2*

ISC 01 12:05:50.2±0.8**, 34°.60N**±0°.03×**24°.61E**±0°.02**, h24**km±5km**, n1165,** σ**1s.77**/1203**, mb5.1**/204**, MS4.1**/43**, 90C-34D, Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.45**	**21**	P	**Pb**	**12 06 00.1**	**+0.5**
SIVA				S	**Sb**	**12 06 06.2**	**+0.2**
SIVA	**Sivas**	**0.45**	**21**	P	**Pb**	**12 06 00.2**	**+0.6**
SIVA				S	**Sb**	**12 06 06.0**	**0.0**
SIVA				AML	AML	12 06 11.4	
SIVA				AML	AML	12 06 11.5	
GVD	**Gavdhos**	**0.49**	**300**	P	**Pb**	**12 06 01.4**	**+1.1**
GVD				S	**Sn**	**12 06 10.3**	**+0.8**
	199μm,0.3s						
GVD	**Gavdhos**	**0.49**	**300**	P	**Pb**	**12 06 01.4**	**+1.1**
GVD				S	**Sn**	**12 06 09.2**	**-0.3**
GVD				AML	AML	12 06 14.1	
GVD				AML	AML	12 06 17.5	
GVD	**Gavdhos**	**0.49**	**300**	PG	**Pb**	**12 06 00.8**	**+0.5**
GVD				SG	**Sn**	**12 06 09.6**	**+0.1**
TMBK	**Timbaki Herakl**	**0.49**	**15**	P	**Pn**	**12 06 01.1**	**-0.6**
TMBK				S	**Sb**	**12 06 07.8**	**+0.7**
	297μm,0.4s						
IDI	**Anoyia**	**0.73**	**18**	P	**Pb**	**12 06 04.0**	**-0.2**
IDI				S	**Sb**	**12 06 13.9**	**0.0**
	97μm,0.4s						
IDI	**Anoyia**	**0.73**	**18**	Pn	**Pb**	**12 06 04.1**	**-0.2**
	5μm,0.3s,baz=200,slow=16,SNR=9038						
IDI				Sn	**Sb**	**12 06 13.6**	**-0.4**
	9μm,0.3s,baz=98,slow=21,SNR=18						
IDI	**Anoyia**	**0.73**	**18**	P	**Pb**	**12 06 04.1**	**-0.2**
IDI				S	**Sb**	**12 06 13.8**	**-0.1**
IDI				AML	AML	12 06 19.2	
IDI				AML	AML	12 06 19.5	
IDI	**Anoyia**	**0.73**	**18**	PG	**Pb**	**12 06 04.1**	**-0.2**
PRNS	**Prines Rethymn**	**0.77**	**354**	P	**Pb**	**12 06 04.8**	**-0.2**
PRNS				S	**Sn**	**12 06 15.8**	**-0.6**
KSTL	**Kastelli Herak**	**0.80**	**28**	P	**Pn**	**12 06 06.9**	**+0.9**
KSTL				S	**Sn**	**12 06 19.2**	**+2.0**
IACM	**Heraklion**	**0.81**	**28**	P	**Pb**	**12 06 05.6**	**+0.1**
IACM				S	**Sn**	**12 06 17.0**	**-0.2**
	408μm,0.7s						
IACM	**Heraklion**	**0.81**	**28**	P	**Pb**	**12 06 05.4**	**-0.1**
IACM				AML	AML	12 06 28.4	
IACM				AML	AML	12 06 31.6	
HRKL	**Herakleio**	**0.82**	**29**	P	**Pb**	**12 06 05.9**	**+0.1**
HRKL	**Herakleio**	**0.82**	**29**	PG	**Pn**	**12 06 06.3**	**0.0**
HRKL				SG	**Sn**	**12 06 19.1**	**+1.5**
VAM	**Vamos**	**0.88**	**338**	P	**Pb**	**12 06 06.5**	**-0.3**
VAM				S	**Sn**	**12 06 20.3**	**+1.3**
	129μm,0.4s						
VAM	**Vamos**	**0.88**	**338**	P	**Pb**	**12 06 06.7**	**-0.1**
VAM				S	**Sb**	**12 06 18.1**	**0.0**
VAM				AML	AML	12 06 23.6	
VAM				AML	AML	12 06 25.8	
LAST	**Lasithi**	**0.91**	**51**	P	**Pn**	**12 06 07.7**	**+0.1**
LAST				S	**Sn**	**12 06 19.6**	**-0.4**
	69μm,0.9s						
LAST	**Lasithi**	**0.91**	**51**	P	**Pn**	**12 06 07.8**	**+0.2**
LAST				S	**Sn**	**12 06 19.6**	**-0.4**
LAST				AML	AML	12 06 27.5	
LAST				AML	AML	12 06 29.4	
KNDR	**Palaiochora Ch**	**0.99**	**310**	P	**Pb**	**12 06 09.7**	**+1.0**
KNDR				S	**Sn**	**12 06 24.9**	**+3.1**
	24μm,0.5s						
KNDR	**Palaiochora Ch**	**0.99**	**310**	PN	**Pb**	**12 06 09.9**	**+1.2**
KNDR				SN	**Sn**	**12 06 24.7**	**+2.9**
IMMV	**Iera Moni Meta**	**1.01**	**329**	P	**Pn**	**12 06 08.5**	**-0.3**
IMMV	**Iera Moni Meta**	**1.01**	**329**	P	**Pn**	**12 06 09.1**	**+0.3**
IMMV				S	**Sb**	**12 06 20.9**	**-0.9**
IMMV				AML	AML	12 06 32.5	
IMMV				AML	AML	12 06 35.4	
IMMV	**Iera Moni Meta**	**1.01**	**329**	PN	**Pb**	**12 06 09.3**	**+0.3**
IMMV				SN	**Sn**	**12 06 24.2**	**+2.0**
FRMA	**Ierapetra Chan**	**1.02**	**65**	P	**Pb**	**12 06 11.8**	**+2.7**
FRMA				S	**Sn**	**12 06 28.4**	**+6.0**
	18μm,0.6s						
CHAN	**Chania**	**1.03**	**333**	P	**Pn**	**12 06 09.2**	**+0.1**
CHAN				S	**Sn**	**12 06 24.8**	**+2.0**
	32μm,1.1s						
NPS	**Neapolis**	**1.06**	**51**	P	**Pb**	**12 06 10.3**	**+0.4**
NPS	**Neapolis**	**1.06**	**51**	P	**Pb**	**12 06 10.5**	**+0.6**
NPS				S	**Sn**	**12 06 24.4**	**+0.9**
NPS				AML	AML	12 06 31.3	

NPS AML AML 12 06 32.0
STIA Sitia Lasithi 1.36 63 P **Pb** **12 06 16.5 +1.5**
ZKR Zakros 1.42 68 P **Pb** **12 06 17.1 +1.0**
ZKR S **Sb** **12 06 34.1 +0.4**
22µm,0.7s
ZKR Zakros 1.42 68 P **Pb** **12 06 17.4 +1.4**
ZKR AML AML 12 06 46.8
comp=N,26407µm,0.7s
ZKR AML AML 12 06 55.2
comp=E,58116µm,0.7s
ZKR Zakros 1.42 68 PN **Pn** **12 06 13.9 -0.6**
ZKR Zakros 1.42 68 ⇑P **Pb** **12 06 17.0 +1.0**
ZKR S **Sb** **12 06 33.8 +0.1**
ZKR AML AML 12 06 46.0
comp=E,26nm,0.7s
ZKR AML AML 12 06 46.0
comp=E,26nm,0.7s
ZKR AML AML 12 06 58.1
comp=E,66nm,0.7s
ZKR AML AML 12 06 58.1
comp=E,66nm,0.7s
ANKY Antikythira Is 1.66 320 P **Pb** **12 06 20.9 +0.8**
ANKY S **Sb** **12 06 44.5 +3.9**
comp=E,21µm,0.7s
ANKY Antikythira Is 1.66 320 P **Pb** **12 06 20.6 +0.5**
ANKY AML AML 12 07 02.4
comp=N,43594µm,0.6s
ANKY AML AML 12 07 08.6
comp=E,37298µm,0.9s
THR6 Thira Island, 1.87 20 P **Pn** **12 06 22.0 +1.3**
SANT Santorini 1.90 21 P **Pn** **12 06 22.3 +1.2**
SANT Santorini 1.90 21 P **Pn** **12 06 22.1 +0.9**
SANT AML AML 12 06 51.9
comp=E,58942µm,0.8s
SANT AML AML 12 07 02.0
comp=N,23093µm,0.8s
SANT Santorini 1.90 21 ⇑P **Pn** **12 06 22.5 +1.3**
SANT Santorini 1.90 21 PN **Pn** **12 06 21.7 +0.5**
SANT Santorini 1.90 21 **Pn** **12 06 22.4 +1.2**
THR5 Thira Island, 1.92 18 P **Pn** **12 06 22.6 +1.3**
THR3 Thira Island, 1.92 19 P **Pn** **12 06 22.7 +1.3**
SAP3 Santorini-Thir 1.93 18 P **Pn** **12 06 23.0 +1.5**
SNT1 Gialos, Santor 1.94 20 P **Pn** **12 06 22.9 +1.3**
SNT3 Karterados, Sa 1.94 20 P **Pn** **12 06 23.1 +1.5**
SFIR Foira Santorin 1.94 20 P **Pb** **12 06 22.7 -1.2**
THR7 Fira-Santorini 1.94 20 P **Pn** **12 06 23.3 +1.6**
THT2 Imerovigli 1.95 20 P **Pn** **12 06 23.4 +1.6**
THT2 Imerovigli 1.95 20 PN **Pn** **12 06 22.4 +0.6**
CMBO Columbo, Santo 1.98 19 P **Pn** **12 06 23.9 +1.7**
ANAF Anafi Island 2.00 28 P **Pn** **12 06 23.6 +1.1**
ANAF Anafi Island 2.00 28 P **Pn** **12 06 23.8 +1.4**
ANAF AML AML 12 06 57.5
ANAF AML AML 12 07 01.7
comp=E,75628µm,0.4s
KTHA Kythira Island 2.08 323 P **Pb** **12 06 25.8 -1.5**
KTHA Kythira Island 2.08 323 P **Pb** **12 06 25.8 -1.5**
KTHA AML AML 12 07 10.6
comp=N,20320µm,1.1s
KTHA AML AML 12 07 15.4
comp=E,40095µm,0.9s
KTHA Kythira Island 2.08 323 PN **Pn** **12 06 24.9 +1.3**
MHLO Agia Marina, M 2.10 355 P **Pn** **12 06 25.2 +1.4**
MHLO Agia Marina, M 2.10 355 P **Pn** **12 06 25.1 +1.4**
MHLO AML AML 12 07 10.7
comp=E,95760µm,0.7s
MHLO AML AML 12 07 16.0
IOSP Ios island 2.19 14 P **Pn** **12 06 26.4 +1.3**
IOSP Ios island 2.19 14 P **Pn** **12 06 26.4 +1.3**
IOSP AML AML 12 07 05.8
comp=E,37470µm,0.8s
IOSP AML AML 12 07 06.4
comp=N,38835µm,1.1s
KARP Karpathos 2.30 65 P **Pb** **12 06 29.9 -1.1**
KARP Karpathos 2.30 65 P **Pb** **12 06 29.7 -1.3**
KARP AML AML 12 07 18.6
comp=E,23011µm,0.8s
KARP AML AML 12 07 21.9
comp=N,19998µm,0.7s
KARP Karpathos 2.30 65 PN **Pn** **12 06 26.4 -0.2**
KARP Karpathos 2.30 65 **Pb** **12 06 29.9 -1.1**
KARP Karpathos 2.30 65 ⇑P **Pb** **12 06 29.8 -1.3**
KARP S **Sn** **12 06 54.7 +0.5**
KARP AML AML 12 07 18.7
comp=N,23nm,1.0s
KARP AML AML 12 07 18.7
comp=N,23nm,1.0s
KARP AML AML 12 07 21.9
comp=N,20nm,0.7s
KARP AML AML 12 07 21.9
comp=N,20nm,0.7s
AMGA Amorgos Island 2.46 25 P **Pn** **12 06 29.9 +1.1**
AMGA Amorgos Island 2.46 25 P **Pn** **12 06 30.0 +1.1**
AMGA AML AML 12 07 10.5
comp=N,17088µm,0.6s
AMGA AML AML 12 07 14.6
comp=E,22209µm,0.8s
VLI Veliai 2.52 328 P **Pn** **12 06 31.3 +1.7**
VLI Veliai 2.52 328 P **Pn** **12 06 30.9 +1.3**
VLI AML AML 12 07 17.7
comp=E,17343µm,1.3s
VLI AML AML 12 07 23.6
comp=N,23410µm,0.7s
SERI Serifos 2.56 358 P **Pn** **12 06 31.1 +0.9**
APE Apeiranthos 2.58 17 P **Pn** **12 06 31.5 +1.0**
APE Apeiranthos 2.58 17 P **Pn** **12 06 31.6 +1.0**
APE AML AML 12 07 12.7
comp=N,8774µm,1.0s
APE AML AML 12 07 20.3
comp=E,13708µm,0.6s
APE Apeiranthos 2.58 17 ⇑P **Pn** **12 06 31.6 +1.0**
APE Apeiranthos 2.58 17 PN **Pn** **12 06 31.3 +0.8**
APE Apeiranthos 2.58 17 *c* *i*P **Pn** **12 06 31.5 +1.0**
NISR Nisiros 2.88 45 P **Pn** **12 06 35.9 +1.4**
NISR Nisiros 2.88 45 P **Pn** **12 06 35.8 +1.3**
NISR AML AML 12 07 36.8
comp=N,15363µm,0.8s
NISR AML AML 12 07 47.1
comp=E,15451µm,0.8s
KOSK Kos Island 2.89 41 P **Pn** **12 06 36.1 +1.4**
KOSK Kos Island 2.89 41 PN **Pn** **12 06 35.5 +0.8**
KRND KRANIDI 3.02 337 P **Pn** **12 06 37.8 +1.3**
DID Didima 3.11 339 P **Pn** **12 06 38.8 +1.0**
DID Didima 3.11 339 P **Pn** **12 06 38.6 +0.8**
DID AML AML 12 07 24.6
comp=N,9464µm,1.0s
DID AML AML 12 07 45.6
comp=E,8366µm,0.7s
DAT Datca 3.22 48 P **Pn** **12 06 41.3 +1.9**
DAT Datca 3.22 48 PN **Pn** **12 06 40.4 +1.0**
DAT Datca 3.22 48 *i*P **Pn** **12 06 41.0 +1.6**
DAT IAML 12 07 37.0
comp=N,329nm,0.7s
DAT IAML 12 07 49.0
comp=E,358nm,1.5s
PYL PYLOS 3.27 315 P **Pn** **12 06 40.3 +0.3**
PYL PYLOS 3.27 315 P **Pn** **12 06 40.2 +0.3**
PYL AML AML 12 07 54.0
comp=N,4181µm,1.8s
PYL AML AML 12 07 54.6
comp=E,5460µm,1.3s
DATC Datca-Mugla 3.29 48 PN **Pn** **12 06 41.1 +0.9**
ARG Arkhangelos 3.30 60 P **Pn** **12 06 42.6 +2.3**
ARG S **Sn** **12 07 19.0 +0.3**
comp=E,5µm,1.2s
ARG Arkhangelos 3.30 60 P **Pn** **12 06 42.5 +2.1**
ARG AML AML 12 07 44.2
comp=E,11580µm,1.6s
ARG AML AML 12 07 46.6
comp=N,8723µm,1.3s
ARG Arkhangelos 3.30 60 PN **Pn** **12 06 40.9 +0.6**
ARG Arkhangelos 3.30 60 ⇑P **Pn** **12 06 42.4 +2.1**
ARG S **Sn** **12 07 20.4 +1.6**
BODT Bodrum 3.30 41 P **Pn** **12 06 41.8 +1.5**
BODT Bodrum 3.30 41 PN **Pn** **12 06 41.4 +1.1**
VLX Vlachokerasia 3.31 328 P **Pn** **12 06 42.9 +2.4**
VLX Vlachokerasia 3.31 328 P **Pn** **12 06 42.7 +2.2**
VLX AML AML 12 07 58.5
comp=E,8525µm,1.2s
VLX AML AML 12 07 59.6
comp=N,7742µm,0.9s
BDRM Kayabasi 3.37 42 *i*P **Pn** **12 06 42.9 +1.6**
BDRM IAML 12 07 30.0
comp=N,988nm,0.9s
BDRM IAML 12 07 41.0
comp=E,442nm,0.9s
ITM Ithomi 3.38 321 P **Pn** **12 06 42.6 +1.2**
ITM Ithomi 3.38 321 PN **Pn** **12 06 42.9 +1.5**
ITM Ithomi 3.38 321 Pn **Pn** **12 06 42.7 +1.2**
ATHU Athens Univers 3.43 349 P **Pn** **12 06 43.2 +1.1**
KARY Karystos 3.43 358 P **Pn** **12 06 43.7 +1.5**
ATH Athens Observa 3.45 348 P **Pn** **12 06 43.7 +1.4**
ATH Athens Observa 3.45 348 P **Pn** **12 06 43.4 +1.1**
ATH AML AML 12 07 45.0
comp=E,4016µm,1.1s
ATH AML AML 12 07 54.4
comp=N,5398µm,0.8s
PTL Penteli 3.50 350 P **Pn** **12 06 44.5 +1.4**
DION Dionisos Attik 3.52 351 P **Pn** **12 06 45.0 +1.6**
SMG Samos 3.59 29 P **Pn** **12 06 45.5 +1.2**
SMG Samos 3.59 29 P **Pn** **12 06 45.6 +1.2**
SMG AML AML 12 07 51.7
comp=N,3715µm,0.6s
SMG AML AML 12 08 02.0
comp=E,3926µm,0.8s
MRSB Marmaris-Mugla 3.61 53 PN **Pn** **12 06 45.4 +0.8**
LTK Loutraki 3.67 339 P **Pn** **12 06 46.5 +1.1**
VILL Villia 3.71 344 P **Pn** **12 06 47.1 +1.0**
AMT Artemida-Makis 3.76 322 P **Pn** **12 06 47.8 +1.2**
GCAM G?zelcaml? 3.76 34 PN **Pn** **12 06 48.2 +1.6**
GCAM G?zelcaml? 3.76 34 *i*P **Pn** **12 06 48.8 +2.2**
GCAM IAML 12 08 01.0
comp=E,793nm,0.9s
GCAM IAML 12 08 14.0
comp=N,590nm,0.9s
GUR Goura 3.80 332 P **Pn** **12 06 48.6 +1.2**
PROD Prodromos 3.91 340 P **Pn** **12 06 49.3 +0.6**
DGB zmir 3.91 27 *i*P **Pn** **12 06 49.8 +1.1**
DGB IAML 12 08 08.0
comp=E,436nm,1.3s
DGB IAML 12 08 10.0
comp=N,359nm,0.7s
YER Yerkesik 3.92 49 P **Pn** **12 06 51.6 +2.7**
YER Yerkesik 3.92 49 PN **Pn** **12 06 50.3 +1.4**
GMLD Gumuldur 3.94 28 PN **Pn** **12 06 50.9 +1.8**
CHOS Chios island 3.96 17 P **Pn** **12 06 50.4 +0.9**
CHOS Chios island 3.96 17 PN **Pn** **12 06 50.3 +0.8**
TURN Turunc 3.97 54 PN **Pn** **12 06 46.4 -3.1**
TURN Turunc 3.97 54 *i*P **Pn** **12 06 47.5 -1.9**
TURN *i*S **Sn** **12 07 29.1 -6.1**
TURN IAML 12 07 41.0
comp=N,667nm,0.8s
TURN IAML 12 07 41.0
comp=E,575nm,0.6s
DALY Dalyan (Mula) 3.97 55 PN **Pn** **12 06 51.1 +1.6**
DALY Dalyan (Mula) 3.97 55 *i*P **Pn** **12 06 52.4 +2.9**
DALY *i*S **Sn** **12 07 37.4 +2.2**
DALY IAML 12 07 56.0
comp=N,812nm,0.9s
DALY IAML 12 08 00.0
comp=E,712nm,1.1s
KLV Kalavryta, Ach 3.97 331 P **Pn** **12 06 51.0 +1.3**
KYMI Kymi, Euboea I 4.05 354 P **Pn** **12 06 52.0 +1.3**
URLA Izmir 4.08 22 PN **Pn** **12 06 51.9 +0.7**
DRO Drossia 4.09 326 P **Pn** **12 06 53.3 +2.1**
ALIK Alki, Aigiali 4.18 332 P **Pn** **12 06 54.2 +2.6**
FETY Fethiye 4.18 60 P **Pn** **12 06 53.8 +1.4**
FETY Fethiye 4.18 60 PN **Pn** **12 06 53.2 +0.8**
FETY Fethiye 4.18 60 *i*P **Pn** **12 06 53.8 +1.4**
FETY *i*S **Sn** **12 07 40.5 +0.1**
FETY IAML 12 08 13.0
comp=N,427nm,1.2s
FETY IAML 12 08 23.0
comp=E,301nm,1.2s
MRKA Markates 4.18 349 P **Pn** **12 06 53.9 +1.4**
LAKA Lakka 4.21 331 P **Pn** **12 06 54.4 +1.5**
LKR Lokris 4.25 343 P **Pn** **12 06 54.3 +0.9**
BLCB Balcova 4.26 27 P **Pn** **12 06 55.3 +1.7**
BLCB Balcova 4.26 27 PN **Pn** **12 06 55.2 +1.7**
SKY Skiros Island 4.28 359 P **Pn** **12 06 55.1 +1.4**
KALE Kalithea 4.28 333 P **Pn** **12 06 55.2 +1.3**
TRIZ Trizonia 4.28 332 P **Pn** **12 06 55.0 +1.2**
KRBN Karaburun 4.29 21 PN **Pn** **12 06 55.6 +1.7**
RLS Riolos of Patr 4.29 325 P **Pn** **12 06 55.9 +2.0**
KSL Kastellorizon 4.35 68 ⇑P **Pn** **12 06 56.6 +1.8**
AKAS Kas 4.40 67 PN **Pn** **12 06 56.3 +0.8**
AKAS Kas 4.40 67 *i*P **Pn** **12 06 57.0 +1.5**
AKAS *i*S **Sn** **12 07 48.1 +2.0**
AKAS IAML 12 07 50.0
comp=N,968nm,0.5s
AKAS IAML 12 07 51.0
comp=E,691nm,0.5s
AXAR Agios Charalam 4.45 340 P **Pn** **12 06 57.3 +1.2**
TAVA DENIZLI_Tavas 4.51 49 *i*P **Pn** **12 06 59.2 +2.1**
TAVA IAML 12 08 17.0
comp=N,450nm,1.0s
TAVA IAML 12 08 23.0
comp=E,294nm,1.3s
AOS Alonnisos 4.60 353 P **Pn** **12 06 59.4 +1.1**
AOS Alonnisos 4.60 353 PN **Pn** **12 06 59.4 +1.1**
SKIA Skiathos 4.65 349 P **Pn** **12 07 00.7 +1.7**
KFL Anninata 4.67 320 P **Pn** **12 06 59.2 0.0**
SIGR SIGRI 4.71 12 P **Pn** **12 07 00.0 +0.2**
SIGR SIGRI 4.71 12 PN **Pn** **12 07 00.3 +0.5**
PVO Paravola 4.72 329 P **Pn** **12 07 02.7 +2.9**
AGG Agios Georgios 4.78 338 P **Pn** **12 07 02.5 +1.8**
AGG Agios Georgios 4.78 338 PN **Pn** **12 07 01.6 +0.9**
AGG Agios Georgios 4.78 338 P **Pn** **12 07 01.4 +0.6**
AGG Agios Georgios 4.78 338 Pn **Pn** **12 07 01.4 +0.6**
GOLH Golhisar 4.81 55 *i*P **Pn** **12 07 03.4 +2.3**
ELL Elmali 4.82 62 PN **Pn** **12 07 02.5 +1.2**
ELL Elmali 4.82 62 Pn **Pn** **12 07 03.2 +1.9**
ELL Sn **Sn** **12 07 56.6 +0.2**
VLS Valsamata 4.83 319 P **Pn** **12 07 01.2 -0.1**
PRK Paraskevi 4.83 16 P **Pn** **12 07 03.0 +1.7**
NEO Neokhori 4.83 347 P **Pn** **12 07 02.7 +1.3**
DKL Dikili 4.83 22 PN **Pn** **12 07 02.7 +1.3**
MAKR Makrakomi, Fth 4.84 336 P **Pn** **12 07 03.8 +2.3**
PDO Prodromos 4.85 326 P **Pn** **12 07 04.5 +2.8**
XOR Xorichti 4.90 347 P **Pn** **12 07 03.6 +1.3**
AKUM Antalya-Kumluc 4.99 68 *i*P **Pn** **12 07 04.9 +1.3**
AKUM IAML 12 08 03.0
comp=N,554nm,0.6s
AKUM IAML 12 08 05.0
comp=E,671nm,0.5s
MANT Manisa 5.02 38 *i*P **Pn** **12 07 07.0 +2.8**
MANT IAML 12 08 25.0
comp=E,171nm,1.2s
MANT IAML 12 08 57.0
comp=N,139nm,1.7s
MANT Manisa 5.02 38 Pn **Pn** **12 07 06.8 +2.6**
KULA Kula-Manisa 5.09 39 PN **Pn** **12 07 07.2 +2.1**
EVGI Lefkada island 5.12 323 P **Pn** **12 07 06.5 +1.1**
KORT Korkueli 5.25 61 PN **Pn** **12 07 08.9 +1.7**
KORT Korkueli 5.25 61 *i*P **Pn** **12 07 10.3 +3.1**
KORT IAML 12 08 20.0
comp=N,608nm,0.7s
LKD2 Lefkada island 5.25 324 P **Pn** **12 07 07.7 +0.5**
TSLK Tsoukalades, L 5.28 324 P **Pn** **12 07 08.9 +1.3**
LIA Limnos Island 5.31 5 P **Pn** **12 07 08.7 +0.7**
PAIG Paliouri 5.37 352 P **Pn** **12 07 09.6 +0.8**
THL Klokotos Trika 5.38 338 P **Pn** **12 07 09.9 +1.0**
BRDR BURDUR-Merkez 5.39 53 *i*P **Pn** **12 07 11.2 +2.1**
BRDR IAML 12 08 18.0
comp=N,172nm,0.8s
BRDR IAML 12 08 21.0
comp=E,201nm,0.6s
ANTB Antalya 5.43 63 PN **Pn** **12 07 12.2 +2.6**
BCK Buzak 5.63 58 PN **Pn** **12 07 14.6 +2.2**
OSC1 CSNet OBS 1 5.64 99 P **Pn** **12 07 11.0 -1.6**
BALB Balikesir 5.67 26 PN **Pn** **12 07 15.6 +2.7**
SIMA Simav-Kutahya 5.69 37 PN **Pn** **12 07 15.6 +2.3**
LIT Litokhoron 5.75 344 P **Pn** **12 07 14.8 +0.8**
LIT Litokhoron 5.75 344 P **Pn** **12 07 14.8 +0.8**
LIT Litokhoron 5.75 344 **Pn** **12 07 14.8 +0.8**
OUR Ouranopolis 5.75 355 P **Pn** **12 07 14.9 +0.9**
SHAP Saphane-Kutahy 5.76 39 PN **Pn** **12 07 16.4 +2.1**
ISP Isparta 5.76 54 PN **Pn** **12 07 15.8 +1.5**
ISP Isparta 5.76 54 P **Pn** **12 07 15.0 +0.7**
ISP Isparta 5.76 54 Pn **Pn** **12 07 15.0 +0.7**
PLG Polygyros 5.84 351 P **Pn** **12 07 16.2 +0.9**
JAN Janina 5.88 330 P **Pn** **12 07 16.5 +0.7**
GEDZ Gediz 5.88 40 PN **Pn** **12 07 18.1 +2.3**
KPRO Kipourio 5.94 335 P **Pn** **12 07 18.2 +1.5**
IGT Igoumenitsa 6.00 327 *e*Pn **Pn** **12 07 18.7 +1.3**
IGT *e*Sn Sn 12 07 49.8 -35
IGT Igoumenitsa 6.00 327 P **Pn** **12 07 16.9 -0.5**
HORT Hortiatis 6.11 349 P **Pn** **12 07 19.8 +0.8**
KZN Kozani 6.13 339 P **Pn** **12 07 20.1 +0.8**
THE Thessaloniki 6.17 348 P **Pn** **12 07 21.4 +1.7**
SHUT Suhut-Afyon 6.20 49 PN **Pn** **12 07 21.9 +1.6**
TVSB Tavsanli 6.21 37 PN **Pn** **12 07 22.8 +2.4**
ENEZ Enez 6.25 11 P **Pn** **12 07 22.1 +1.2**
AKMS Akamas 6.37 84 P **Pn** **12 07 21.9 -0.7**
KEK Kerkira 6.39 324 P **Pn** **12 07 22.0 -0.8**
SEYD Seydisehir-KON 6.50 62 PN **Pn** **12 07 26.2 +1.8**
GAZI Gazipasa 6.50 73 PN **Pn** **12 07 23.9 -0.5**
SRS Serrai 6.56 353 *e*Pn **Pn** **12 07 26.1 +1.0**
SRS Serrai 6.56 353 P **Pn** **12 07 26.4 +1.3**
NATA Nata 6.56 86 P **Pn** **12 07 24.4 -0.8**
RDO Rodhopi 6.58 6 P **Pn** **12 07 26.2 +0.8**
GRG Griva 6.59 345 P **Pn** **12 07 25.8 +0.3**
ALFC Alefka 6.59 83 ⇑P **Pn** **12 07 24.9 -0.7**
FNA Florina 6.69 338 *e*Pn **Pn** **12 07 26.9 0.0**
FNA *e*Sn Sn 12 07 59.1 -43
FNA Florina 6.69 338 P **Pn** **12 07 27.0 0.0**
FNA Florina 6.69 338 P **Pn** **12 07 26.8 -0.1**
FNA Florina 6.69 338 **Pn** **12 07 26.8 0.0**
KNT Kendrikon 6.69 349 P **Pn** **12 07 28.4 +1.4**
TPE Tepelena 6.76 329 P **Pn** **12 07 27.8 -0.1**
SZAC Souni 6.82 86 ⇑P **Pn** **12 07 27.9 -0.8**
LEF Lefka 6.83 83 PN **Pn** **12 07 29.7 +0.9**
AKDN Akdeniz- Kıbrı 6.90 82 PN **Pn** **12 07 31.3 +1.5**
VAY Valandovo 6.91 347 *e*Pn **Pn** **12 07 30.4 +0.6**
VAY *e*Sn Sn 12 08 05.3 -42
VAY Valandovo 6.91 347 *i*Pn **Pn** **12 07 30.7 +0.8**
MMB Musomiste 7.02 355 *i*P **Pn** **12 07 32.2 +0.8**
CIFT Cifteler, Eski 7.02 45 PN **Pn** **12 07 33.5 +2.0**
KDZ Kurdzhali 7.07 5 *i*P **Pn** **12 07 32.7 +0.5**
RZN Rozhen 7.08 1 *i*P **Pn** **12 07 33.9 +1.4**
KONT Konya--Tatoy 7.10 60 PN **Pn** **12 07 34.4 +1.9**
TEKE Tekeli-Mersin 7.12 75 PN **Pn** **12 07 32.7 -0.1**
ASGA Asgata 7.12 86 P **Pn** **12 07 32.1 -0.8**
OHR Ohrid 7.17 336 *i*Pn **Pn** **12 07 33.1 -0.4**
CSS Mathiatis 7.19 85 PN **Pn** **12 07 32.4 -1.4**
CSS Mathiatis 7.19 85 Pn **Pn** **12 07 32.8 -1.0**
CSS Mathiatis 7.19 85 Pn **Pn** **12 07 32.8 -1.0**
CSS Mathiatis 7.19 85 ⇑P **Pn** **12 07 32.9 -0.8**
LADK Ladik-KONYA 7.21 58 PN **Pn** **12 07 35.4 +1.2**
KIZT Kizilcal 7.24 52 PN **Pn** **12 07 35.4 +0.9**
BERE Bereket-Mersin 7.24 74 PN **Pn** **12 07 34.7 +0.1**
SCTE Santa Cesarea 7.33 320 Pn **Pn** **12 07 34.5 -1.2**
SVRH Sivrihisar-ESK 7.35 47 PN **Pn** **12 07 37.9 +1.8**
AUSIV SIVRIHISAR 7.36 47 PN **Pn** **12 07 38.0 +1.9**
KKB Krupnik 7.36 351 *i*P **Pn** **12 07 37.1 +1.0**
LFK Lefkose 7.36 82 PN **Pn** **12 07 35.7 -0.5**
MVOU Mavrovouni 7.43 84 ⇑P **Pn** **12 07 36.8 +0.4**
AKK1 Akkuyu-Mersin 7.46 75 PN **Pn** **12 07 38.8 +1.4**
AKK2 Akkuyu-Mersin 7.46 76 PN **Pn** **12 07 38.9 +1.4**
AKKU Akkuyu-Mersin 7.47 75 PN **Pn** **12 07 38.8 +1.2**
DIM Dimitrovgrad 7.48 5 *i*P **Pn** **12 07 39.0 +1.3**
KRMN Karaman 7.48 67 PN **Pn** **12 07 39.3 +1.4**
PLD Plovdiv 7.50 1 *e*Pn **Pn** **12 07 40.9 +2.9**
YESI Yesilovacik-Me 7.55 75 PN **Pn** **12 07 39.9 +1.2**
TISA Tisan-Mersin 7.57 75 PN **Pn** **12 07 40.3 +1.3**
IKL Isikli 7.59 75 PN **Pn** **12 07 39.7 +0.4**
KEBE Keben-Mersin 7.65 73 PN **Pn** **12 07 40.6 +0.4**
TIR Tirane 7.71 332 *e*Pn **Pn** **12 07 40.6 -0.2**
TIR Tirane 7.71 332 P **Pn** **12 07 40.7 -0.2**
TIR Tirane 7.71 332 Pn **Pn** **12 07 40.7 -0.2**
CHBY Cihanbeyli 7.76 57 PN **Pn** **12 07 42.9 +1.2**
SKO Skopje 7.78 342 *e*Pn **Pn** **12 07 41.6 -0.2**
SKO Skopje 7.78 342 *i*Pn **Pn** **12 07 42.7 +0.9**
TIP Timpagrande 7.78 308 ⇑P **Pn** **12 07 41.3 -0.6**
TIP Timpagrande 7.78 308 **Pn** **12 07 41.2 -0.7**
PHP Peshkopia 7.80 336 P **Pn** **12 07 41.7 -0.5**
SILI Silifke-Mersin 7.80 74 PN **Pn** **12 07 43.4 +1.2**
MDUB Mudurnu 7.86 40 **Pn** **12 07 45.7 +2.6**
EREN Erenkoy 7.90 80 PN **Pn** **12 07 44.6 +1.1**
CEL Celeste 7.92 300 **Pn** **12 07 43.2 -0.7**
PGB Panagyurishte 7.95 358 *i*P **Pn** **12 07 45.7 +1.4**
KIZK Mersin 8.00 74 PN **Pn** **12 07 46.5 +1.6**
JMB Yambol 8.01 11 *i*P **Pn** 12 07 39.9 -5.1
SULT Sultanhani-AKS 8.03 61 PN **Pn** **12 07 46.7 +1.3**
KULU Kulu 8.06 54 PN **Pn** **12 07 46.9 +1.1**
BOSS Bosilegrad 8.06 349 *e*Pn **Pn** **12 07 46.3 +0.5**
VTS Vitosha 8.08 353 *e*Pn **Pn** **12 07 45.7 -0.5**
VTS *e*Sn Sn 12 08 35.3 -42
VTS Vitosha 8.08 353 ⇓P **Pn** **12 07 47.4 +1.2**
VTS Vitosha 8.08 353 *i*P **Pn** **12 07 46.8 +0.6**
CGL1 Ceglie Messapi 8.28 319 *e*P **Pn** **12 07 47.0 -1.7**
CGL1 S **Sn** **12 09 13.5 -8.0**
TAR1 Taranto 8.30 318 *e*P **Pn** **12 07 48.4 -0.5**
TAR1 S **Sn** **12 09 15.6 -6.2**
AFSR Afar-Bala (An 8.32 52 PN **Pn** **12 07 51.1 +1.7**
WDD Wied Dalam 8.35 281 **Pn** **12 07 49.8 +0.1**
MERS Mersin 8.37 71 PN **Pn** **12 07 51.4 +1.3**
ANTO Ankara 8.38 49 ⇓P **Pn** **12 07 52.7 +2.5**
ANTO Ankara 8.38 49 P **Pn** **12 07 52.2 +2.0**
ANTO Ankara 8.38 49 **Pn** **12 07 52.2 +2.0**
ULC Ulcinj 8.48 332 ⇑*i*Pn **Pn** **12 07 48.5 -3.0**
ULC *i*Sn Sn 12 09 15.8 -11
BARS Barje 8.49 346 *e*Pn **Pn** **12 07 50.7 -1.0**
BARS Barje 8.49 346 *e*Pn Pb 12 08 08.8 -7.7
YAYX Yaylak 8.56 57 PN **Pn** **12 07 53.7 +1.0**
DRME Dracevica, Mon 8.69 332 ⇓*i*Pn **Pn** **12 07 52.3 -2.1**
DRME *i*Sn Sn 12 09 21.4 -10
DRME Dracevica, Mon 8.69 332 *e*Pn **Pn** **12 07 52.4 -2.0**
MATE Matera 8.71 316 ⇑P **Pn** **12 07 54.2 -0.4**
VAE Valguarnera 8.74 292 Pn **Pn** **12 07 57.6 +2.4**
comp=E,6.4nm,0.3s,baz=179,slow=5.2,SNR=23
VAE Sn **Sn** **12 09 28.8 -4.2**
comp=E,7.8nm,0.3s,baz=189,slow=7.8,SNR=6.6
PVY Plav 8.78 337 ⇓*i*Pn **Pn** **12 07 53.6 -2.0**
PVY *i*Sn **Sn** **12 09 25.1 -8.7**
PLVB Pleven 8.78 0 ⇑P **Pn** **12 07 56.6 +1.1**
ZAPS Zavoj 8.80 351 *e*Pn **Pn** **12 07 57.1 +1.2**
BRTR Keskin Array B 8.84 52 Pn **Pn** **12 07 56.8 +0.2**
comp=E,1.8nm,0.3s,baz=226,slow=14,SNR=81
BRTR Keskin Array B 8.84 52 *i*P **Pn** **12 07 57.7 +1.2**
BRTR pmax pmax
comp=Z,15nm,0.6s
PRD Provadia 8.86 13 *i*P **Pn** **12 07 57.3 +0.6**
PDG Podgorica 8.88 333 *e*Pn **Pn** **12 07 54.6 -2.3**
PDG Podgorica 8.88 333 ⇑P **Pn** **12 07 54.9 -2.0**
PDG Podgorica 8.88 333 *e*Pn **Pn** **12 07 54.5 -2.3**
TTG Podgorica 8.88 333 ⇑*i*Pn **Pn** **12 07 54.2 -2.6**
TTG *i*Sn Sn 12 09 26.0 -10
OFRI `Ofer 8.88 100 Pn **Pn** **12 07 56.3 -0.7**
BUM Brajici-Budva 8.90 331 ⇑*i*Pn **Pn** **12 07 54.1 -3.2**
BUM *i*Sn Sn 12 09 26.2 -11
NEF NEVSHA 8.90 13 *i*P **Pn** **12 07 57.9 +0.6**
BAI Bari 8.92 319 *e*P **Pn** **12 07 55.6 -1.9**
BAI S **Sn** **12 09 30.7 -6.4**
CMRD Camardi-Nigde 8.94 67 PN **Pn** **12 07 59.4 +1.5**
KZIT Kziot 9.03 111 Pn **Pn** **12 07 58.5 -0.5**
SELS Selova 9.03 344 *e*Pn **Pn** **12 07 57.4 -1.6**
SLTI Sal'it 9.03 102 Pn **Pn** **12 07 57.8 -1.3**
SLTI Sn **Sn** **12 09 32.7 -7.3**
IVA Berane 9.05 337 ⇑*i*Pn **Pn** **12 07 57.3 -2.0**
IVA *i*Sn Sn 12 09 31.2 -9.2
RAZG Razgrad 9.08 9 ⇑P **Pn** **12 08 00.3 +0.7**
CEME Cevo 9.10 332 ⇓*i*Pn **Pn** **12 07 57.5 -2.5**
CEME *i*Sn Sn 12 09 31.4 -10
MMA0B Mount Meron ar 9.12 97 Pn **Pn** **12 07 59.7 -0.7**
MMAI Mount Meron Ar 9.12 97 Pn **Pn** **12 07 59.2 -1.2**
comp=Z,18nm,0.3s,baz=287,slow=11,SNR=31
MMAI Sn **Sn** **12 09 36.6 -5.7**
comp=Z,29nm,0.3s,baz=293,slow=18,SNR=4.6
DQRL Deir Qamar 9.13 92 *e*P **Pn** **12 07 59.6 -0.9**
KOME Kolasin 9.15 336 ⇓*i*Pn **Pn** **12 07 58.7 -2.1**
KOME *i*Sn Sn 12 09 33.5 -9.5
BHL Bhannes 9.17 91 *e*P **Pn** **12 08 00.7 -0.4**
HCY Herceg Novi 9.19 330 ⇓*i*Pn **Pn** **12 07 58.0 -3.1**
HCY *i*Sn Sn 12 09 33.1 -11
HCY Herceg Novi 9.19 330 *e*Pn **Pn** **12 07 57.6 -3.5**
NKME Niksic 9.28 333 ⇓*i*Pn **Pn** **12 07 59.6 -2.8**
NKME *i*Sn Sn 12 09 35.8 -10
MMLI Mount Malkishu 9.28 100 Pn **Pn** **12 08 01.7 -0.8**
GEM Giv'at Ha'Em 9.29 95 Pn **Pn** **12 08 01.3 -1.3**
KSDI Kefar Szold 9.29 96 Pn **Pn** **12 08 01.0 -1.6**
KSDI Kefar Szold 9.29 96 ⇑P **Pn** **12 08 01.3 -1.3**
NKY Niksic 9.30 334 ⇑*i*Pn **Pn** **12 08 00.5 -2.3**
NKY *i*Sn Sn 12 09 36.4 -10
NATI Neve Ativ 9.34 95 Pn **Pn** **12 08 02.0 -1.3**
NATI Sn **Sn** **12 09 40.7 -6.9**
HWQ Hawqa 9.37 89 *e*P **Pn** **12 08 02.7 -1.1**

SJES Sjenica 9.38 339 *e*Pn **Pn** 12 08 02.2 -1.6
SJES *e*Sn Sn 12 09 04.0 -45
RCY Rachaya 9.38 94 *e*P **Pn** 12 08 01.9 -2.1
ZAGS Zajecar 9.39 349 *e*Pn **Pn** 12 08 04.2 +0.3
VLAD Vladila 9.39 359 ⇑P **Pn** 12 08 05.0 +1.1
YTIR Yattir 9.40 107 Pn **Pn** 12 08 03.8 -0.3
HMDT Nahal Hemdat 9.42 101 Pn **Pn** 12 08 03.4 -1.0
HMDT Sn **Sn** 12 09 41.9 -7.6
TREB Trebinje 9.47 331 *e*Pn **Pn** 12 08 02.3 -2.7
TREB Trebinje 9.47 331 *e*Pn **Pn** 12 08 01.8 -3.2
DBRK Dubrovnik 9.51 330 *e*Pn **Pn** 12 08 02.5 -3.1
DSI Dead Sea 9.53 105 Pn **Pn** 12 08 04.6 -1.3
COPA Copaceanca 9.54 3 ⇑P **Pn** 12 08 07.3 +1.4
BRY Bratogost 9.55 332 ⇑*i*Pn **Pn** 12 08 03.3 -3.0
BRY *i* Sn Sn 12 09 42.2 -11
BRY Bratogost 9.55 332 *e*Pn **Pn** 12 08 03.6 -2.7
IVAS Ivanjica 9.61 340 *e*Pn **Pn** 12 08 04.2 -2.8
IVAS *e*Sn Sn 12 09 09.1 -45
PLE Pljevlja 9.62 337 ⇓*i*Pn **Pn** 12 08 04.8 -2.4
PLE *i* Sn Sn 12 09 44.7 -10
KRMI Paran Flat 9.65 115 Pn **Pn** 12 08 07.9 +0.3
UPM Unac-Piva 9.67 334 ⇑*i*Pn **Pn** 12 08 05.4 -2.6
UPM *i* Sn Sn 12 09 45.5 -10
UPM Unac-Piva 9.67 334 *e*Pn **Pn** 12 08 06.2 -1.8
MANR Mangalia 9.71 17 ⇑P **Pn** 12 08 09.0 +0.7
DAMI2 DAM2 9.73 108 Pn **Pn** 12 08 07.8 -0.8
PRNI Paran 9.75 113 Pn **Pn** 12 08 08.6 -0.3
PRNI Sn **Sn** 12 09 50.4 -7.2
GRUS Gruza 9.76 343 *e*Pn **Pn** 12 08 07.0 -2.0
GRUS *e*Sn Sn 12 09 12.7 -45
GHAJ Ghor Haditha 9.77 107 Pn **Pn** 12 08 08.3 -0.9
ICOR Ion Corvin 9.82 14 ⇑P **Pn** 12 08 11.0 +1.1
STON Ston 9.87 329 *e*Pn **Pn** 12 08 07.2 -3.2
STON Ston 9.87 329 *e*Pn **Pn** 12 08 06.8 -3.6
RUDO Rudo 9.88 337 *e*Pn **Pn** 12 08 07.2 -3.5
KARJ KARJ 9.91 107 Pn Pn 12 08 04.4 -6.8
HRFI Mount Harif 9.92 114 Pn **Pn** 12 08 11.4 +0.1
HUMR Humele 9.93 2 ⇑P **Pn** 12 08 11.8 +0.6
MFTR Murfatlar 10.01 16 ⇑P **Pn** 12 08 13.6 +1.2
EIL Elat 10.05 116 Pn **Pn** 12 08 12.8 -0.2
comp=Z,11nm,0.3s,baz=177,slow=2.0,SNR=54
EIL Sn **Sn** 12 09 58.0 -6.9
comp=Z,27nm,0.3s,baz=173,slow=18,SNR=6.6
EIL Elat 10.05 116 Pn **Pn** 12 08 12.7 -0.3
KUBS Kucevo 10.06 348 *e*Pn **Pn** 12 08 11.8 -1.3
BBLS Lazići 10.10 338 *e*Pn **Pn** 12 08 14.4 -3.3
BBLS *e*Sn Sn 12 09 21.4 -45
BBLS Lazići 10.10 338 *e*Pn **Pn** 12 08 10.0 -3.7
SRE Strehaia 10.11 354 ⇑P **Pn** 12 08 13.8 0.0
DIVS Divibare 10.14 341 *e*Pn **Pn** 12 08 11.1 -3.2
DIVS *e*Sn Sn 12 09 21.5 -46
DIVS Divibare 10.14 341 *e*Pn **Pn** 12 08 11.4 -2.9
TRUS Trudelj 10.15 343 *e*Pn **Pn** 12 08 12.3 -2.0
SULR 10.15 7 ⇑P **Pn** 12 08 14.0 -0.3
TIRR Tirgusor 10.28 15 ⇓P **Pn** 12 08 16.6 +0.5
TIRR Tirgusor 10.28 15 *i*P **Pn** 12 08 15.4 -0.6
TIRR Tirgusor 10.28 15 P **Pn** 12 08 15.5 -0.6
TIRR Tirgusor 10.28 15 **Pn** 12 08 15.5 -0.6
TLBR Topalu 10.28 14 ⇑P **Pn** 12 08 16.4 +0.3
HARR Harsova 10.40 13 ⇑P **Pn** 12 08 18.4 +0.6
HERR Herculane 10.41 351 ⇑P **Pn** 12 08 18.2 +0.3
MDVR Moldovita 10.41 349 ⇑P **Pn** 12 08 17.3 -0.7
SECR 10.49 6 ⇑P **Pn** 12 08 20.5 +1.5
MAKA Makarska 10.50 328 *e*Pn **Pn** 12 08 15.3 -3.8
ASF Jabal al Asfar 10.55 100 Pn **Pn** 12 08 18.6 -1.4
comp=Z,1.1nm,0.3s,baz=219,slow=9.3,SNR=18
ASF Sn **Sn** 12 10 10.8 -6.7
comp=Z,4.1nm,0.3s,baz=307,slow=21,SNR=6.6
RICI Ricice 10.61 329 *e*Pn **Pn** 12 08 17.3 -3.4
RICI Sn Sn 12 10 07.7 -11
ISR Istrita 10.62 7 ⇑P **Pn** 12 08 21.0 +0.3
HVAR Hvar 10.67 326 *e*Pn **Pn** 12 08 18.1 -3.3
HVAR Sn Sn 12 10 09.2 -11
TOPG Topolog 10.67 15 ⇓P **Pn** 12 08 21.6 +0.2
TEKS Tekeris 10.68 340 *e*Pn **Pn** 12 08 20.3 -1.4
TEKS Tekeris 10.68 340 *e*Pn **Pn** 12 08 19.0 -2.7
ARR Arges 10.76 0 ⇓P **Pn** 12 08 22.9 +0.2
VOIR 10.84 2 ⇑P **Pn** 12 08 24.1 +0.4
LOT Lotru 10.86 357 ⇑P **Pn** 12 08 25.4 +1.2
GZR Gura Zlata 10.88 353 ⇑P **Pn** 12 08 24.8 +0.4
CFR Carcaliu 10.91 13 ⇓P **Pn** 12 08 24.5 -0.2
MLR Muntele Rosu 10.93 5 Pn **Pn** 12 08 24.0 -1.2
comp=Z,0.8nm,0.3s,baz=179,slow=8.1,SNR=42
MLR LR LR 12 13 19.6
comp=Z,1μm,20.2s,baz=164,slow=42
MLR Muntele Rosu 10.93 5 ⇑P **Pn** 12 08 25.8 +0.6
MLR Muntele Rosu 10.93 5 P **Pn** 12 08 24.7 -0.5
MLR Muntele Rosu 10.93 5 **Pn** 12 08 24.7 -0.5
BISRR Bisoca 11.06 8 ⇑P **Pn** 12 08 27.3 +0.4
TLCR 11.06 16 ⇓P **Pn** 12 08 27.0 +0.2
FRGS Fruska Gora 11.17 342 *e*Pn **Pn** 12 08 24.1 -2.2
FRGS Fruska Gora 11.17 342 *e*Pn **Pn** 12 08 26.2 -2.1
INTR Introdacqua 11.20 315 **Pn** 12 08 28.8 0.0
BZS Buzias 11.24 349 *e*Pn **Pn** 12 08 28.2 -1.1
BZS Buzias 11.24 349 ⇓P **Pn** 12 08 28.7 -0.6
ODBI Odobesti 11.31 9 ⇑P **Pn** 12 08 31.3 +1.1
KIJV Kijevo 11.34 328 *i* Pn **Pn** 12 08 27.9 -2.8
DEV Deva 11.35 354 ⇓P **Pn** 12 08 31.1 +0.4
PLOR Plostina 11.35 7 ⇑P **Pn** 12 08 31.9 +1.1
VRI Vrincioaia 11.37 8 ⇑P **Pn** 12 08 32.1 +1.0
MGRS Mrkonjic Grad 11.39 332 *e*Pn **Pn** 12 08 28.8 -2.6
ZIRJ Zirje 11.41 325 *e*Pn **Pn** 12 08 28.4 -3.1
MDB Medias 11.54 359 ⇓P **Pn** 12 08 34.6 +1.3
MORI Morici 11.54 326 *e*Pn **Pn** 12 08 30.7 -2.7
BLY Banja Luka 11.64 333 *e*Pn **Pn** 12 08 30.9 -3.8
AQU L'Aquila 11.70 315 *e*Pn **Pn** 12 08 36.6 +0.9
SIRR Siria 11.87 350 ⇑P **Pn** 12 08 37.4 -0.5
DUGI Dugi Otok 11.94 325 *e*Pn **Pn** 12 08 35.9 -2.9
DUGI Sn Sn 12 10 41.0 -10
TESR Tescani 12.01 7 ⇓P **Pn** 12 08 40.1 +0.4
DRGR 12.27 354 ⇓P **Pn** 12 08 43.8 +0.4
BIZ Bicaz 12.38 5 ⇑P **Pn** 12 08 45.4 +0.5
MORH Mrgy, Hungar 12.46 340 *e*Pn **Pn** 12 08 42.5 -3.4
NVLJ Novalja 12.46 326 *e*Pn **Pn** 12 08 43.1 -2.8
ARCR ARCALIA 12.48 359 ⇑P **Pn** 12 08 46.0 -0.2
KEST Kesra 12.54 280 Pn **Pn** 12 08 48.4 +1.1
comp=Z,0.2nm,0.3s,baz=311,slow=3.0,SNR=11
KEST Kesra 12.54 280 **Pn** 12 08 48.7 +1.5
SIM Simferopol' 12.65 32 *e*P **Pn** 12 08 51.8 +3.2
SIM pmax pmax
comp=Z,25nm,0.8s
SIM MLR MLR
comp=Z,340nm,15.6s
MILM Milestii Mici 12.71 13 ⇑P **Pn** 12 08 50.0 +0.6
KIS Kishinev 12.79 13 *e*P Pn 12 08 55.0 +4.6
KIS LRM MLR 12 14 12.0
comp=Z,900nm,12.0s
KIS Kishinev 12.79 13 *e*P Pn 12 08 55.0 +4.6
KIS MLR MLR
comp=Z,900nm,12.0s
KIS MLR MLR
comp=N,700nm,12.0s
ZAG Zagreb 13.00 332 *e*Pn **Pn** 12 08 51.3 -2.0
ZAG Zagreb 13.00 332 *e*Pn **Pn** 12 08 49.6 -3.7
BURAR Bucovina Array 13.02 2 ⇑P **Pn** 12 08 55.4 +1.7
BOJS Bojanci 13.03 330 *e*Pn **Pn** 12 08 50.1 -3.6
BOJS *e*Sn Sn 12 11 03.2 -15
comp=Z,143nm,1.7s
OZLJ Ozalj 13.03 330 *e*Pn **Pn** 12 08 51.1 -2.6
BUR08 Bucovina Ar. S 13.04 2 **Pn** 12 08 54.2 +0.2
PTJ Puntijarka 13.07 332 *e*Pn **Pn** 12 08 51.5 -2.9
KALN Kalnik 13.08 334 *e*Pn **Pn** 12 08 50.3 -4.1
BMR Baia Mare 13.09 357 ⇑P **Pn** 12 08 55.7 +1.1
GCIS Gornji Cirnik 13.17 331 *e*Pn **Pn** 12 08 51.8 -3.9
CRES Cresnjev 13.21 331 *e*Pn Pn 12 08 51.1 -5.0
RIY Rijeka 13.22 327 *i* Pn **Pn** 12 08 54.1 -2.2
RIY Rijeka 13.22 327 *e*Pn **Pn** 12 08 53.2 -3.1
BRJN Brijuni 13.25 324 *e*Pn **Pn** 12 08 54.3 -2.3
BRJN Sn Sn 12 11 12.0 -11
BEHE Becsehely 13.26 336 *e*Pn **Pn** 12 08 55.4 -1.5
CEY Cerknica 13.57 328 *e*Pn **Pn** 12 08 57.2 -3.9
SKDS Skadanscina 13.60 327 *i* Pn **Pn** 12 08 57.6 -3.9
SKDS *e*Sn Sn 12 11 17.0 -15
TRPA Tarpa 13.61 354 ⇓P **Pn** 12 09 01.0 -0.7
LJU Ljubljana 13.77 329 *e*Pn **Pn** 12 09 00.6 -3.2
LJU Ljubljana 13.77 329 *e*Pn **Pn** 12 08 59.6 -4.2
PSZ Piszkesteto 13.77 347 ⇓P **Pn** 12 09 04.7 +0.8
PSZ Piszkesteto 13.77 347 P **Pn** 12 09 01.0 -2.9
PSZ Piszkesteto 13.77 347 **Pn** 12 09 01.0 -2.9
SORM Soroca 13.81 11 ⇓P **Pn** 12 09 05.6 +1.2
CRNS Crni Vrh 13.91 329 *e*Pn **Pn** 12 09 02.6 -3.2

VOJS Vojsko 14.04 328 *i* Pn **Pn** 12 09 04.2 -3.3
VOJS *e*Sn Sn 12 11 30.1 -12
SOKA Soboth 14.08 332 *e*PKPdf **ScP** 12 17 58.6 -0.5
comp=Z,10nm,0.9s,SNR=5.2
SOKA Soboth 14.08 332 *e*Pn **Pn** 12 09 04.2 -3.9
comp=Z,12nm,0.6s,SNR=7.8
OBKA Obir 14.13 330 *e*PKPdf **ScP** 12 17 58.9 -0.4
comp=Z,4.9nm,0.9s
OBKA Obir 14.13 330 *e*Pn **Pn** 12 09 05.9 -2.9
comp=Z,26nm,0.6s
UZH Uzhgorod 14.13 354 *e*P **Pn** 12 09 09.7 +1.0
UZH *e*S **Sn** 12 11 46.3 +1.7
UZH MLR MLR
comp=Z,60nm,17.0s
ANN Anapa 14.17 40 *e*P **Pn** 12 09 06.2 -3.1
ANN *e*S **Sn** 12 11 45.2 -0.4
ANN pmax pmax
comp=Z,45nm,0.9s
ARSA Arzberg 14.37 334 *e*PKPdf **ScP** 12 17 59.1 -0.5
comp=Z,11nm,1.0s,SNR=6.7
ARSA Arzberg 14.37 334 *e*Pn **Pn** 12 09 09.7 -2.3
comp=Z,14nm,0.6s,SNR=15
KOLS Kolonicke sedl 14.43 354 *e*P **Pn** 12 09 12.3 -0.6
KOLS Kolonicke sedl 14.43 354 *e*PN **Pn** 12 09 12.3 -0.6
VYHS Vyhne 14.54 345 *e*P **P** 12 09 21.1 +0.5
VYHS Vyhne 14.54 345 *e*P **P** 12 09 21.1 +0.5
VLC Villacollemand 14.55 315 **Pn** 12 09 14.0 -0.5
MYKA Terra Mystica 14.61 329 *e*PKPdf **ScP** 12 17 59.5 -0.6
comp=Z,10nm,1.1s
MYKA Terra Mystica 14.61 329 *e*Pn **Pn** 12 09 12.3 -3.0
comp=Z,4.1nm,0.5s
ZST Bratislava 14.70 340 *e*P **P** 12 09 21.8 -0.6
ZST Bratislava 14.70 340 *e*P **P** 12 09 21.8 -0.6
SOC Sochi 14.75 48 *e*P **Pn** 12 09 16.4 -0.8
SOC *e* 12 12 05.6
SOC MLR MLR
comp=Z,589nm,14.0s
MODS Modra-Piesok 14.81 341 *e*P **P** 12 09 23.3 -0.4
MODS Modra-Piesok 14.81 341 *e*P **P** 12 09 23.2 -0.4
CONA Conrad Observa 14.84 336 *e*PKPdf **ScP** 12 17 58.9 -1.6
comp=Z,5.3nm,1.5s
CONA Conrad Observa 14.84 336 *e*Pn **Pn** 12 09 16.7 -1.8
comp=Z,18nm,1.1s
SMOL Smolenice 14.90 341 *e*P **P** 12 09 24.4 -0.2
SMOL Smolenice 14.90 341 *e*P **P** 12 09 24.4 -0.2
BCA Borcka 15.04 58 ⇑P **Pn** 12 09 22.8 +1.7
KBA Koelnbreinsper 15.08 329 *e*PKPdf **ScP** 12 17 59.9 -1.1
comp=Z,7.7nm,1.1s
KBA Koelnbreinsper 15.08 329 *e*Pn **Pn** 12 09 19.0 -2.8
comp=Z,6.9nm,0.5s,SNR=9.0
KWP Kalwaria Pacla 15.09 355 *e*P **Pn** 12 09 21.5 -0.2
CTI Castel Tesino 15.10 323 P **Pn** 12 09 20.0 -1.9
CTI Castel Tesino 15.10 323 **Pn** 12 09 20.0 -1.9
NIE Niedzica 15.15 349 *e*P **Pn** 12 09 20.5 -2.0
JAVC Velka Javorina 15.15 342 *e*PN **Pn** 12 09 22.5 -0.1
JAVC *e* 12 09 27.3
JAVC *e*SCP **ScP** 12 18 01.7 +0.7
ABTA Abfaltersbach 15.20 327 *e*PKPdf **ScP** 12 18 00.2 -0.9
comp=Z,4.9nm,0.8s
ABTA Abfaltersbach 15.20 327 *e*Pn **Pn** 12 09 20.4 -2.8
comp=Z,90nm,0.7s,SNR=29
LVV L'vov 15.22 359 *e*P **Pn** 12 09 24.3 +0.9
LVV *e*S **Sn** 12 12 14.7 +3.5
LVV MLR MLR
comp=Z,1μm,13.0s
MOA Molln 15.34 333 *e*PKPdf **ScP** 12 18 00.1 -1.2
comp=Z,3.5nm,1.1s
MOA Molln 15.34 333 *e*Pn **Pn** 12 09 20.6 -4.5
comp=Z,6.4nm,0.8s,SNR=19
SALO Salr 15.38 320 **Pn** 12 09 24.6 -0.9
KRUC Moravsky 15.68 340 *e*PN **Pn** 12 09 28.5 -1.0
KRUC *e* 12 09 32.6
KRUC *e*SCP **ScP** 12 18 01.3 -0.6
RJOB Jochberg 15.83 330 *e*Pn **Pn** 12 09 29.4 -2.1
RJOB *e*ScP **ScP** 12 18 01.4 -0.9
baz=141,slow=2.2
VRAC Vranov 15.85 340 Pn **Pn** 12 09 32.6 +1.0
comp=Z,5.8nm,0.3s,baz=157,slow=10,SNR=138
VRAC LR LR 12 17 40.0
comp=Z,642nm,18.5s,baz=170,slow=45
VRAC ScP **ScP** 12 18 01.6 -0.5
comp=Z,0.1nm,0.3s,baz=155,slow=5.2,SNR=6.0
VRAC Vranov 15.85 340 ⇑P **Pn** 12 09 32.4 +0.7
VRAC Vranov 15.85 340 *e*PN **Pn** 12 09 30.9 -0.7
VRAC *e* 12 09 34.8
VRAC *e*SCP **ScP** 12 18 01.7 -0.5
OKC Ostrava-Krasne 15.96 345 *e*P **Pn** 12 09 34.4 +1.4
WTTA Wattenberg 15.98 326 *e*PKPdf **ScP** 12 18 01.9 -0.8
comp=Z,19nm,1.4s,SNR=7.1
WTTA Wattenberg 15.98 326 *e*Pn **Pn** 12 09 31.9 -1.6
comp=Z,243nm,1.2s,SNR=24
OJC Ojcow 16.01 349 *e*P **Pn** 12 09 31.5 -2.1
MORC Moravsky Berou 16.04 343 ⇑P **Pn** 12 09 33.8 -0.2
MORC Moravsky Berou 16.04 343 *e*PN **Pn** 12 09 32.8 -1.3
MORC *e* 12 09 36.4
MORC *e*SCP **ScP** 12 18 02.2 -0.4
WATA Walderalm 16.06 326 *e*PKPdf **ScP** 12 18 01.8 -1.0
comp=Z,14nm,1.4s
WATA Walderalm 16.06 326 *e*Pn **Pn** 12 09 32.8 -1.7
comp=Z,106nm,0.7s,SNR=51
SQTA Sankt Quirin 16.15 325 *i* PKPdf **ScP** 12 18 02.3 -0.7
comp=Z,15nm,1.1s,SNR=8.3
SQTA Sankt Quirin 16.15 325 *e*Pn **Pn** 12 09 32.9 -2.6
comp=Z,91nm,0.8s,SNR=27
TREC Trest 16.16 338 *e*P **Pn** 12 09 34.8 -0.8
TREC *e*pP **P** 12 09 38.9 +0.2
TREC AMS AMS 12 17 00.0
comp=Z,700nm,13.7s
TREC Trest 16.16 338 *e*P **Pn** 12 09 34.8 -0.8
TREC MLR MLR
comp=Z,700nm,13.7s
FUORN Ofenpass-Fuorn 16.18 322 **Pn** 12 09 36.1 0.0
FETA Feichten 16.23 324 *e*PKPdf **ScP** 12 18 02.6 -0.6
comp=Z,10nm,1.1s,SNR=9.6
FETA Feichten 16.23 324 *e*Pn **Pn** 12 09 35.9 -0.8
comp=Z,116nm,1.0s,SNR=75
MOTA Moosalm 16.29 326 *e*PKPdf **ScP** 12 18 02.2 -1.1
comp=Z,9.0nm,0.9s,SNR=6.0
MOTA Moosalm 16.29 326 *e*Pn **Pn** 12 09 35.3 -2.0
comp=Z,130nm,0.9s,SNR=24
AKH Akhalkalaki 16.35 60 ⇑P **P** 12 09 39.9 -1.1
AKH Akhalkalaki 16.35 60 P **Pn** 12 09 39.3 +1.0
AKH pmax pmax
comp=Z,78nm,0.9s
AKH Akhalkalaki 16.35 60 **Pn** 12 09 39.3 +1.0
GEC2 GERESS Array S 16.38 334 IAmb IAmb 12 09 42.7
comp=Z,152nm,0.7s
GEC2 GERESS Array S 16.38 334 *e*Pn **Pn** 12 09 37.3 -1.1
GEC2 *e*P **P** 12 09 41.9 +0.7
comp=Z,166nm,0.7s,baz=141,slow=11
GEC2 *e*ScP **ScP** 12 18 02.3 -1.1
baz=141,slow=2.2
GERES GERESS Array B 16.38 334 Pn **Pn** 12 09 38.6 +0.2
comp=Z,9.1nm,0.3s,baz=152,slow=13,SNR=78
GERES LR LR 12 17 30.9
comp=Z,1μm,19.0s,baz=152,slow=43
GERES ScP **ScP** 12 18 02.1 -1.2
comp=Z,0.1nm,0.3s,baz=163,slow=1.4,SNR=29
AKASG Malin Array Be 16.45 10 Pn **Pn** 12 09 35.4 -3.8
comp=Z,6.7nm,0.3s,baz=202,slow=12,SNR=184
AKASG Sn **Sn** 12 12 43.2 +2.4
comp=Z,0.3nm,0.3s,baz=196,slow=22,SNR=3.4
AKASG LR LR 12 16 27.0
comp=Z,398nm,21.0s,baz=185,slow=39
AKASG ScP **ScP** 12 18 02.0 -1.2
comp=Z,0.3nm,0.3s,baz=225,slow=1.9,SNR=13
AKBB Malin Array Si 16.45 10 *ce*P **Pn** 12 09 35.8 -3.4
DAVOX Davos/Dischmat 16.49 322 Pn **Pn** 12 09 40.9 +0.9
comp=Z,3.4nm,0.3s,baz=159,slow=7.2,SNR=21
DAVOX LR LR 12 17 44.9
comp=Z,422nm,20.5s,baz=84,slow=44
KRLC Kraliky 16.50 342 AMS AMS 12 17 10.0
comp=Z,1μm,13.6s
NEY Neytrino 16.51 53 *de*P **P** 12 09 42.2 -0.5
NEY pmax pmax
comp=Z,13nm,0.8s
RETA Reutte 16.55 325 *e*PKPdf **ScP** 12 18 02.9 -0.8
comp=Z,7.9nm,1.1s
RETA Reutte 16.55 325 *e*Pn **Pn** 12 09 38.9 -1.7
comp=Z,27nm,0.8s,SNR=27
KHC Kasperske Hory 16.66 334 *e*P **Pn** 12 09 39.4 -2.6
KHC *e*pP **P** 12 09 43.7 -0.5
KHC AMS AMS 12 17 10.0
comp=Z,2μm,14.6s
KHC Kasperske Hory 16.66 334 *c i*P **Pn** 12 09 40.2 -1.8

KHC pmax pmax
comp=Z,43nm,1.0s
KIV Kislovodsk 16.80 51 *i* P **P** 12 09 46.1 +0.2
SNR=42
KIV Kislovodsk 16.80 51 *c i*P **P** 12 09 46.7 +0.8
KIV *i* S **Sn** 12 12 49.7 -0.1
KIV pmax pmax
comp=Z,191nm,1.2s
KIV MLR MLR
comp=Z,442nm,15.0s
KIV Kislovodsk 16.80 51 P **P** 12 09 45.8 -0.1
KIV IAmb IAmb 12 09 48.8
comp=Z,318nm,1.4s
KVAR Kislovodsk Arr 16.81 51 Pn **P** 12 09 45.3 -0.6
baz=262,slow=22,SNR=28
FUR Furstenfeldbru 16.82 328 *e*Pn **Pn** 12 09 42.0 -1.9
FUR *e*P **P** 12 09 46.1 +0.2
comp=Z,238nm,1.0s,baz=141,slow=11
FUR *e*ScP **ScP** 12 18 03.5 -0.7
baz=141,slow=2.2
DAVA Damuels 16.83 323 *e*PKPdf **ScP** 12 18 03.7 -0.7
comp=Z,8.9nm,1.1s
DAVA Damuels 16.83 323 *e*Pn **Pn** 12 09 42.8 -1.5
comp=Z,25nm,0.7s,SNR=37
KBZ Khabaz 16.84 52 Pn **Pn** 12 09 45.0 +0.9
comp=Z,3.8nm,0.3s,baz=247,slow=9.4,SNR=139
KBZ LR LR 12 17 59.8
comp=Z,472nm,18.1s,baz=257,slow=44
KBZ Khabaz 16.84 52 *c i*P **P** 12 09 47.0 +0.9
KBZ pmax pmax
comp=Z,279nm,0.9s
DPC Dobruska-Polom 16.87 341 *e*P **Pn** 12 09 44.6 0.0
DPC AMS AMS 12 17 20.0
comp=Z,1μm,15.1s
GOPC GO Pecny, Ondr 16.92 338 *e*P **Pn** 12 09 43.5 -1.8
GOPC *e*pP **P** 12 09 47.1 0.0
GOPC AMS AMS 12 17 50.0
comp=Z,600nm,12.5s
GOPC GO Pecny, Ondr 16.92 338 *e*P **Pn** 12 09 43.5 -1.8
WET Wettzell 16.93 333 *e*Pn **Pn** 12 09 42.4 -3.0
WET *e*P **P** 12 09 47.7 +0.6
comp=Z,164nm,1.0s,baz=141,slow=11
WET *e*ScP **ScP** 12 18 03.5 -0.9
baz=141,slow=2.2
PBCC Pribram 16.98 336 *e*P **Pn** 12 09 44.8 -1.2
UBR Ueberruh 17.00 325 *e*P **P** 12 09 48.6 +0.7
comp=Z,138nm,1.1s,baz=141,slow=11
UBR *e*ScP **ScP** 12 18 04.0 -0.6
baz=141,slow=2.2
PRU Pruhonice 17.07 337 *e*P **Pn** 12 09 45.9 -1.1
PRU *e*pP **P** 12 09 48.6 0.0
PRU AMS AMS 12 17 40.0
comp=Z,700nm,13.3s
PRU Pruhonice 17.07 337 *e*P **Pn** 12 09 45.9 -1.1
PRU MLR MLR
comp=Z,700nm,13.3s
OSTC Ostas 17.09 342 AMS AMS 12 17 30.0
comp=Z,1μm,15.8s
UPC Upice 17.10 341 AMS AMS 12 17 30.0
comp=Z,1μm,14.6s
ZEI Tsey 17.11 56 *e*P **Pn** 12 09 47.4 -0.5
ZEI pmax pmax
comp=Z,66nm,0.8s
CHVC Chvalec 17.16 341 *e*P **Pn** 12 09 45.2 -3.0
PRA Prague 17.17 337 AMS AMS 12 18 00.0
comp=Z,300nm,13.9s
NCK Nalchik 17.19 53 ⇑*e*P **P** 12 09 50.9 +0.8
NCK pmax pmax
comp=Z,263nm,1.7s
BNI Bardonecchia 17.25 313 P **Pn** 12 09 50.0 +0.5
BNI pmax pmax
comp=Z,22nm,0.9s
BNI Bardonecchia 17.25 313 P **Pn** 12 09 50.0 +0.5
KSP Ksiaz 17.33 342 *e*P **Pn** 12 09 49.0 -1.3
KSP *e*S **S** 12 13 07.4 -3.2
TBLG Delisi 17.34 60 P **P** 12 09 51.5 -0.3
TBLG pmax pmax
comp=Z,55nm,1.2s
TBLG Delisi 17.34 60 P **P** 12 09 51.5 -0.3
BEL Belsk 17.45 352 *e*P **Pn** 12 09 50.0 -1.8
PVCC Panska Ves 17.53 338 *e*P **Pn** 12 09 51.3 -1.5
PVCC AMS AMS 12 18 20.0
comp=Z,600nm,12.0s
PVCC Panska Ves 17.53 338 *e*P **Pn** 12 09 51.3 -1.5
PVCC MLR MLR
comp=Z,600nm,12.0s
GOF Gofitskoye 17.56 48 ⇑*e*P **P** 12 09 53.9 -0.2
GOF *e*S **Sn** 12 13 10.7 +2.7
GOF pmax pmax
comp=Z,332nm,0.8s
SENIN Lac Senin/Sane 17.61 317 P **Pn** 12 09 52.5 -1.6
ROTZ Rotzenmuhle 17.69 333 *e*P **P** 12 09 56.0 +0.4
comp=Z,53nm,0.9s,baz=141,slow=11
MANZ Manzenberg 17.91 333 *e*P **P** 12 09 58.1 +0.1
comp=Z,72nm,0.9s,baz=141,slow=11
MANZ *e*ScP **ScP** 12 18 05.8 -0.6
baz=141,slow=2.2
GRA2 Grafenberg Arr 17.93 331 *e*ScP **ScP** 12 18 11.3 +4.9
baz=141,slow=2.2
NKC Novy Kostel 17.98 334 AMS AMS 12 18 00.0
comp=Z,2μm,14.4s
GRA1 Grafenberg Arr 18.02 331 IAmb IAmb 12 10 01.6
comp=Z,214nm,1.0s
GRF Grafenberg Arr 18.02 331 *e*P **P** 12 09 59.6 +0.5
comp=Z,264nm,1.1s,baz=141,slow=11
GRF *e*L L 12 17 39.8
comp=Z,738nm,18.9s
GRF *e*ScP **ScP** 12 18 05.9 -0.6
baz=141,slow=2.2
BRG Berggiesshubel 18.02 338 *i* P **Pn** 12 09 58.8 -0.1
comp=Z,73nm,0.9s
BRG S **Sn** 12 13 18.0 -1.1
BRG *e*SCP **ScP** 12 18 05.7 -0.9
comp=Z,5.4nm,1.1s
comp=N,554nm,9.5s
comp=E,253nm,11.2s
comp=Z,843nm,11.8s
BRG Berggiesshubel 18.02 338 *i* P **Pn** 12 09 58.8 -0.1
BRG S **Sn** 12 13 18.0 -1.1
BRG pmax pmax
comp=Z,73nm,0.9s
BRG pmax pmax
comp=N,5.0nm,1.1s
BRG MLR MLR
comp=N,554nm,9.5s
BRG MLR MLR
comp=E,253nm,11.2s
BRG MLR MLR
comp=Z,843nm,11.8s
BRG Berggiesshubel 18.02 338 *e*P **Pn** 12 09 59.0 +0.1
comp=Z,73nm,0.9s,baz=141,slow=11
WERN Wernitzgruen 18.05 334 *e*Pn **Pn** 12 09 58.1 -1.2
WERN *e*P **P** 12 10 01.3 +1.7
comp=Z,42nm,0.7s,baz=141,slow=11
TANN Tannenbergstha 18.13 334 *e*P **P** 12 10 01.0 +0.5
comp=Z,280nm,1.1s,baz=141,slow=11
TANN *e*ScP **ScP** 12 18 06.3 -0.6
baz=141,slow=2.2
GUNZ Gunzen 18.14 334 *e*P **Pn** 12 10 00.7 +0.4
comp=Z,80nm,1.0s,baz=141,slow=11
GUNZ *e*ScP **ScP** 12 18 06.4 -0.4
baz=141,slow=2.2
FBE Freiberg 18.25 337 *e*P **Pn** 12 10 01.8 +0.1
comp=Z,125nm,0.8s,baz=141,slow=11
FBE *e*ScP **ScP** 12 18 06.6 -0.4
baz=141,slow=2.2
PLN Plauen 18.30 334 *e*P **P** 12 10 02.7 +0.5
comp=Z,79nm,1.4s,baz=141,slow=11
PLN *e*ScP **ScP** 12 18 06.5 -0.7
baz=141,slow=2.2
BFO Black Forest 18.31 323 P **P** 12 10 01.3 -1.1
BFO pmax pmax
comp=Z,48nm,0.9s
BFO Black Forest 18.31 323 P **P** 12 10 01.3 -1.1
BFO Black Forest 18.31 323 *e*P **Pn** 12 10 02.8 +0.4
comp=Z,109nm,1.5s,baz=141,slow=11
BFO *e*ScP **ScP** 12 18 06.2 -1.0
baz=141,slow=2.2
GROC Groznyy 18.56 56 *e*P **Pn** 12 10 06.6 +1.1
GROC pmax pmax
comp=Z,57nm,0.7s
MOX Moxa 18.63 333 *e*P **P** 12 10 06.2 +0.3
comp=Z,50nm,0.7s,baz=141,slow=11
MOX *e*ScP **ScP** 12 18 07.2 -0.7
baz=141,slow=2.2
MOX *e*L L 12 18 48.8
comp=Z,1μm,21.1s

CLL Collm 18.70 337⇓ *i*P **P 12 10 07.0 +0.4**
comp=Z,54nm,0.7s
CLL *i* 12 10 11.9
comp=Z,81nm,1.1s
CLL *i* PP **PnPn 12 10 19.9 +0.6**
CLL *e*S **Sn 12 13 35.0 -0.4**
CLL *e*SSS SSS 12 14 06.0
CLL *i* PcS **PcS 12 18 08.2 -2.3**
comp=Z,12nm,1.2s
CLL eLmax 12 18 34.0
CLL *e*ScS **ScS 12 21 48.0 -0.9**
NEUB Neuenburg 19.03 335 *e*P **P 12 10 10.9 +0.6**
comp=Z,237nm,1.4s,baz=141,slow=11
NEUB *e*ScP **ScP 12 18 08.1 -0.6**
baz=141,slow=2.2
GKP Gorka Klasztor 19.39 347 *e*P **P 12 10 12.7 -1.4**
GKP *e*S **Sn 12 13 53.9 +1.8**
AKT Akhty 19.43 62 *e*P **P 12 10 15.4 +0.5**
AKT *e*S **Sn 12 13 55.3 +1.7**
AKT pmax pmax
comp=Z,17nm,0.3s
AKT smax smax
comp=N,17nm,0.9s
AKT smax smax
comp=E,17nm,1.1s
SUW Suwalki 19.44 357 *e*P **P 12 10 12.7 -2.0**
RUE Ruedersdorf 19.49 340 *e*P **P 12 10 14.2 -1.0**
RUE Ruedersdorf 19.49 340 *e*P **P 12 10 15.0 -0.2**
comp=E,160nm,1.1s,baz=141,slow=11
TNS Taunus Mts 19.59 328 *e*P **P 12 10 16.8 +0.4**
comp=E,106nm,0.9s,baz=141,slow=11
TNS *e*ScP **ScP 12 18 09.4 -0.7**
baz=141,slow=2.2
GTTG Gottingen 19.97 332 *e*P **P 12 10 21.1 +0.5**
comp=E,348nm,1.3s,baz=141,slow=11
GTTG *e*ScP **ScP 12 18 10.3 -0.6**
baz=141,slow=2.2
MICGM Minsk 20.04 6⇓ *e*P **P 12 10 18.0 -3.2**
MICGM ⇓*e*P **P 12 10 18.0 -3.2**
MICGM *e*PP **PnPn 12 10 45.0 +7.4**
MICGM *e*S **S 12 13 58.0 -7.1**
MICGM *e*SS **SnSn 12 14 27.0 +4.8**
MICGM eLR LR 12 18 18.0
MNK Minsk 20.04 6 *e*P **P 12 10 18.0 -3.2**
MNK *e*S **S 12 13 58.0 -7.1**
VORR Voronezh 20.05 27 *e*P **P 12 10 22.0 +0.6**
VORR pmax pmax
comp=Z,250nm,1.0s
CLZ Clausthal 20.06 334 *e*P **P 12 10 21.4 -0.1**
comp=Z,85nm,1.1s,baz=141,slow=11
CLZ *e*ScP **ScP 12 18 10.6 -0.5**
baz=141,slow=2.2
ASSE Asse, Remlinge 20.18 335 *e*P **P 12 10 22.4 -0.4**
comp=Z,47nm,1.1s,baz=141,slow=11
KLNR Kaliningrad 20.24 353⇓ *e*P **P 12 10 21.9 -1.5**
KLNR pmax pmax
comp=Z,226nm,0.8s
WLF Walferdange 20.27 324 P **P 12 10 24.7 +0.9**
WLF Walferdange 20.27 324 P **P 12 10 23.7 -0.1**
WLF pmax pmax
comp=Z,159nm,1.0s
WLF Walferdange 20.27 324 P **P 12 10 23.7 -0.1**
WLF Walferdange 20.27 324 *e*P **P 12 10 24.7 +0.9**
comp=Z,204nm,1.1s,baz=141,slow=11
NACGM Naroch 20.36 4 *e*P **P 12 10 22.0 -2.8**
NACGM PM 12 10 25.0
comp=Z,1.3nm,1.0s
NACGM *e*S **S 12 14 12.0 +0.3**
TAM Tamanrasset 20.42 240 P Pn 12 10 28.7 +0.7
TAM pmax pmax
comp=Z,117nm,1.8s
TAM Tamanrasset 20.42 240 P Pn 12 10 28.7 +0.7
TAM IAmb IAmb 12 10 34.6
comp=Z,117nm,1.8s
AHRW Bad Neuenahr-A 20.43 327 *e*P **P 12 10 26.0 +0.5**
comp=Z,62nm,0.8s,baz=141,slow=11
NRDL Niedersach Rie 20.68 334 *e*P **P 12 10 28.1 0.0**
comp=Z,67nm,0.9s,baz=141,slow=11
NRDL *e*ScP **ScP 12 18 12.1 -0.4**
baz=141,slow=2.2
LPSR Galich'ya Gora 20.70 25 *e*P **P 12 10 26.2 -2.3**
LPSR pmax pmax
comp=Z,50nm,0.8s
VRH Novokhopyorsk 20.72 32 *e*P **P 12 10 27.0 -1.6**
VRH pmax pmax
comp=Z,100nm,0.7s
IIGN Ignalina 20.79 3 *e*P **P 12 10 27.2 -2.1**
BHOU Houvegnez 20.80 325 P **P 12 10 29.6 0.0**
PABE Paberze 20.91 359 *e*P **P 12 10 28.2 -2.5**
PABE IAmb IAmb 12 10 29.9
comp=Z,576nm,0.7s
MEM Membach 20.97 325 P **P 12 10 32.2 +0.9**
BUG Bochum--Univer 20.99 329 *e*P **P 12 10 32.2 +0.7**
comp=Z,126nm,1.1s,baz=141,slow=11
BUG *e*ScP **ScP 12 18 12.9 -0.4**
baz=141,slow=2.2
ISAL Salakas 21.00 2 *e*P **P 12 10 29.6 -2.1**
RETH Rethem/Aller, 21.15 334 *e*P **P 12 10 33.7 +0.5**
comp=Z,416nm,1.0s,baz=141,slow=11
RETH *e*ScP **ScP 12 18 13.0 -0.6**
baz=141,slow=2.2
BSTI Sart Tilman 21.16 325 P **P 12 10 34.7 +1.3**
BCLA Clavier 21.18 324 ⇑P **P 12 10 34.0 +0.4**
comp=Z,32nm,1.6s
BEBN Eben Emael 21.25 325 ⇑P **P 12 10 35.4 +1.1**
BEBN PnPn **PnPn 12 10 50.5 -3.6**
BGES Gesves 21.26 324 P **P 12 10 34.9 +0.4**
BGES PnPn **PnPn 12 10 52.4 -1.9**
RAYN Ar Rayn 21.30 116 *i* P **P 12 10 38.2 +3.1**
SNR=27
RAYN Ar Rayn 21.30 116 P **P 12 10 37.7 +2.5**
RAYN pmax pmax
comp=Z,30nm,0.9s
RAYN Ar Rayn 21.30 116 P **P 12 10 37.7 +2.5**
DOU Dourbes 21.32 323 ⇑P **P 12 10 35.2 +0.1**
DOU x x 12 10 45.3
DOU PnPn **PnPn 12 10 52.8 -2.3**
BMRD Maredsous 21.36 323 P **P 12 10 35.8 +0.2**
CLF Chambon-Foret 21.39 316 P **P 12 10 36.6 +0.7**
IBBN Ibbenburen 21.43 331 *e*P **P 12 10 36.7 +0.4**
comp=Z,151nm,1.1s,baz=141,slow=11
IBBN *e*ScP **ScP 12 18 13.9 -0.5**
baz=141,slow=2.2
RGN Rugen 21.46 342 *e*P **P 12 10 35.2 -1.3**
RGN IAmb IAmb 12 10 36.7
comp=Z,261nm,0.7s
RGN Rugen 21.46 342 P **P 12 10 34.6 -1.9**
RGN Rugen 21.46 342 *e*P **P 12 10 35.1 -1.3**
comp=Z,291nm,0.8s,baz=141,slow=11
PBUR Paburge 21.51 356 *e*P **P 12 10 33.6 -3.5**
BSD Bornholm Skovb 21.60 345 *i* P **P 12 10 35.1 -2.9**
BSD Bornholm Skovb 21.60 345 *i* P **P 12 10 35.1 -2.9**
BSEG Bad Segeberg 21.80 337 *e*P **P 12 10 39.0 -1.2**
comp=Z,289nm,1.0s,baz=141,slow=11
BSEG *e*ScP **ScP 12 18 14.4 -0.8**
baz=141,slow=2.2
UCC Uccle 21.88 324 IAmb IAmb 12 10 42.6
comp=Z,51nm,0.7s
OBN Obninsk 22.14 18 P **P 12 10 42.4 -1.5**
comp=Z,21nm,0.6s,baz=136,slow=1.5,SNR=17
OBN LR LR 12 20 05.1
comp=Z,143nm,18.8s,baz=198,slow=39
OBN Obninsk 22.14 18*c* *i*P **P 12 10 42.1 -1.7**
OBN *i* S **S 12 14 45.8 -0.6**
OBN pmax pmax
comp=Z,85nm,0.9s
OBN MLR MLR
comp=Z,531nm,20.0s
OBN Obninsk 22.14 18 P **P 12 10 40.9 -2.9**
SKMB Sankelmark Bun 22.74 337 *e*P **P 12 10 48.8 -1.5**
comp=Z,214nm,0.8s,baz=141,slow=11
MOS Moscow 22.97 19 *e*P **P 12 10 50.8 -1.9**
MOS *e* 12 11 01.7
MOS *e* 12 11 19.6
MOS *e*S **S 12 14 55.4 -6.0**
MOS pmax pmax
comp=Z,145nm,0.9s
MOS pmax pmax
comp=Z,300nm,1.4s
SLIT Slitere, Latvi 23.09 357 *e*P **P 12 10 49.5 -4.3**
ESDC Sonseca Array 23.29 291 P **P 12 10 56.8 +0.6**
comp=Z,27nm,0.8s,baz=81,slow=9.5,SNR=140
ESDC ScP **ScP 12 18 19.7 +0.2**
comp=Z,0.6nm,0.8s,baz=64,slow=4.4,SNR=3.5
ESDC LR LR 12 21 03.5
comp=Z,254nm,19.8s,baz=90,slow=39
PAB San Pablo 23.57 291 P **P 12 10 58.8 -0.2**
PAB pmax pmax
comp=Z,53nm,1.0s
PAB San Pablo 23.57 291 P **P 12 10 58.8 -0.2**
PAB IAmb IAmb 12 11 16.4
comp=Z,53nm,1.0s
VSU Vasula 23.92 3 *e*P **P 12 10 58.6 -3.3**
VSU Vasula 23.92 3*c* *i*P **P 12 10 59.5 -2.4**
VSU pmax pmax
comp=Z,191nm,0.9s
HORN Hornachuelos 24.26 286 P **P 12 11 05.7 +0.3**
SNR=11
MUD Monsted U'grnd 24.28 339⇑ *i*P **P 12 11 04.5 -0.8**
comp=Z,93nm,0.8s
MUD Monsted U'grnd 24.28 339⇑ *i*P **P 12 11 04.5 -0.8**
MUD pmax pmax
comp=Z,93nm,0.8s
MDT Midelt 24.34 274 P **P 12 11 07.3 +1.1**
comp=Z,14nm,0.7s,baz=88,slow=10,SNR=20
MDT LR LR 12 22 42.2
comp=Z,192nm,19.3s,baz=142,slow=42
SMIR Smir Dam 24.51 281 P **P 12 11 11.0 +3.3**
SNR=22
GOET G??ttrup 24.76 340⇑ *i*P **P 12 11 10.1 +0.5**
comp=Z,329nm,0.8s
PUL Pulkovo 25.47 7⇓ *e*P **P 12 11 14.0 -2.0**
PUL pmax pmax
comp=Z,92nm,0.9s
PBRG Braganca 25.57 296 *e*P **P 12 11 18.1 +0.8**
comp=Z,52nm,1.2s
TZRR Tazzarine 25.63 270 P **P 12 11 23.0 +5.0**
SNR=7.9
MVO Moncorvo 25.73 294 *e*P **P 12 11 19.7 +1.0**
comp=Z,62nm,1.9s
PMRV Marv??o 25.93 290 *e*P **P 12 11 21.2 +0.7**
comp=Z,95nm,1.2s
PCBR Castelo Branco 26.00 291 *e*P **P 12 11 23.6 +2.5**
comp=Z,55nm,1.3s
HOMB Homborsund 26.02 340 *e*P **P 12 11 20.6 -0.4**
MTE Manteigas 26.07 292 *e*P **P 12 11 24.1 +2.3**
comp=Z,64nm,1.3s
MTE Manteigas 26.07 292 P **P 12 11 22.7 +0.9**
MTE IAmb IAmb 12 11 26.2
comp=Z,24nm,0.7s
PESTR Estremoz 26.08 289 P **P 12 11 22.8 +1.0**
SNR=7.4
PVAQ Vaqueiros 26.23 286 P **P 12 11 23.9 +0.6**
SNR=5.6
PVAQ Vaqueiros 26.23 286 *e*P **P 12 11 23.9 +0.6**
comp=Z,62nm,1.7s
PVAQ Vaqueiros 26.23 286 IAmb IAmb 12 11 27.1
comp=Z,38nm,1.0s
PVRL Vila Real 26.25 294 *e*P **P 12 11 24.6 +1.2**
comp=Z,29nm,1.7s
PBEJ Beja 26.32 287 *e*P **P 12 11 27.1 +3.1**
comp=Z,42nm,1.1s
PVIS Viseu 26.35 293 *e*P **P 12 11 25.6 +1.2**
comp=Z,48nm,1.3s
PBDV Barranco-do-Ve 26.42 285 *e*P **P 12 11 26.1 +1.1**
comp=Z,99nm,1.5s
EVO Evora 26.42 288 *e*P **P 12 11 26.3 +1.4**
comp=Z,47nm,1.7s
SNART Snartemo 26.44 339 *e*P **P 12 11 25.2 +0.3**
PCVE Castro Verde 26.48 286 *e*P **P 12 11 26.7 +1.2**
comp=Z,68nm,1.8s
PCAB Cabril 26.52 295 *e*P **P 12 11 26.7 +0.9**
comp=Z,43nm,1.1s
HFS Hagfors 26.53 348 P **P 12 11 24.1 -1.6**
comp=Z,22nm,0.5s,baz=152,slow=9.8,SNR=79
HFS LR LR 12 23 33.6
comp=Z,385nm,19.5s,baz=162,slow=40
PMTG Montargil 26.57 289 *e*P **P 12 11 27.7 +1.4**
comp=Z,52nm,1.3s
MESJ Messejana 26.61 287 *e*P **P 12 11 27.0 +0.4**
MESJ Messejana 26.61 287 *e*P **P 12 11 28.0 +1.4**
PGAV Gavieira, Arco 26.72 296 *e*P **P 12 11 30.1 +2.4**
comp=Z,34nm,1.6s
COI Coimbra 26.73 292 *e*P **P 12 11 28.3 +0.6**
comp=Z,60nm,1.7s
COI Coimbra 26.73 292 IAmb IAmb 12 11 32.1
comp=Z,31nm,0.8s
PCAS Casmilo, Conde 26.79 292 *e*P **P 12 11 30.9 +2.6**
comp=Z,41nm,1.4s
PNCL Nicolau / Gran 26.84 287 *e*P **P 12 11 29.3 +0.6**
comp=Z,44nm,1.8s
FINES FINESS Array B 26.88 2 P **P 12 11 26.6 -2.3**
comp=Z,38nm,0.8s,baz=156,slow=10.0,SNR=81
FINES LR LR 12 22 54.4
comp=Z,608nm,21.4s,baz=196,slow=38
FIA1 FINESS Array S 26.88 2 P **P 12 11 26.3 -2.5**
FIA1 IAmb IAmb 12 11 29.7
comp=Z,45nm,0.8s
KONO Kongsberg 26.93 343*ce* P **P 12 11 27.6 -1.7**
KONO pmax pmax
comp=Z,79nm,1.1s
KONO Kongsberg 26.93 343 P **P 12 11 26.8 -2.5**
KONO IAmb IAmb 12 11 30.2
comp=Z,65nm,1.1s
KONO Kongsberg 26.93 343 *e*P **P 12 11 27.7 -1.7**
PFVI Vila Bisbo 27.14 285 *e*P **P 12 11 31.8 +0.4**
GEYT Alibeck 27.14 73 P **P 12 11 30.8 -0.7**
comp=Z,8.0nm,0.8s,baz=308,slow=4.9,SNR=9.4
GYA0 ALIBECK ARRAY 27.14 73 P **P 12 11 31.8 +0.3**
GYA0B ALIBECK ARRAY 27.14 73 P **P 12 11 31.6 +0.1**
NC602 NORSAR Array S 27.49 346 *e*P **P 12 11 32.5 -1.8**
BLS5 Blasjo 27.56 340 *e*P **P 12 11 35.5 +0.5**
NAO01 NORSAR Array S 27.72 346 **P 12 11 34.4 -2.0**
NC405 NORSAR Array S 27.80 347 IAmb IAmb 12 11 49.9
comp=Z,67nm,1.4s
NB2 NORSAR Subarra 27.83 346 P **P 12 11 35.7 -1.7**
comp=Z,48nm,1.2s,baz=156,slow=9.3
NB2 NORSAR Subarra 27.83 346 P **P 12 11 35.7 -1.7**
baz=156,slow=9.3
NOA NORSAR Array B 27.83 346 P **P 12 11 35.8 -1.7**
comp=Z,22nm,0.8s,baz=153,slow=8.5,SNR=84
NOA LR LR 12 24 11.8
comp=Z,386nm,20.6s,baz=170,slow=40
NC303 NORSAR Array S 27.97 346 IAmb IAmb 12 11 43.4
comp=Z,32nm,0.7s
KLMR Klimovskoe 27.98 16 *e*P **P 12 11 35.3 -3.4**
KLMR pmax pmax
comp=Z,65nm,1.0s
KLMR Klimovskoe 27.98 16 *e*P **P 12 11 35.4 -3.3**
KLMR AMP 12 11 37.5
comp=Z,65nm,1.0s
SKAR Skarslia 28.15 343 *e*P **P 12 11 40.4 +0.1**
EKA Eskdalemuir Ar 28.25 326 P **P 12 11 40.7 -0.4**
comp=Z,22nm,0.8s,baz=128,slow=8.8,SNR=52
ESK Eskdalemuir 28.26 326 P **P 12 11 40.5 -0.7**
ESK pmax pmax
comp=Z,35nm,0.8s
ESK Eskdalemuir 28.26 326 P **P 12 11 40.5 -0.7**
ESK IAmb IAmb 12 11 56.1
comp=Z,35nm,0.8s
ATD Arta Tunnel 28.34 140 LR LR 12 23 17.1
comp=Z,109nm,20.1s,baz=325,slow=37
BER Bergen 28.68 340 *e*P **P 12 11 43.9 -1.0**
MSFE Esma-Masafi 28.74 100 *i* P **P 12 11 46.8 +0.9**
SNR=5.7
MDH Madha 28.88 100 P **P 12 11 47.8 +0.7**
HATD Hatta, Dubai 28.96 101 *i* P **P 12 11 48.9 +1.1**
SNR=8.4
ASHO Ashiyiah 28.96 101 *i* P **P 12 11 48.8 +0.9**
SNR=9.7
UOSS Minazif 28.96 101 P **P 12 11 48.4 +0.6**
UOSS Minazif 28.96 101 P **P 12 11 48.5 +0.7**
UOSS IAmb IAmb 12 11 56.7
comp=Z,19nm,0.7s
AKTO Aktyubinsk 28.97 47 P **P 12 11 46.8 -0.8**
comp=Z,9.1nm,0.6s,baz=251,slow=8.5,SNR=35
AKTO LR LR 12 27 22.3
comp=Z,234nm,18.0s,baz=228,slow=45
ALNE Al Ain 29.01 103 P **P 12 11 49.4 +1.2**
HYA Hoyanger 29.10 342 *e*P **P 12 11 48.1 -0.5**
KIRV Kirov 29.11 27 P **P 12 11 46.5 -2.3**
comp=Z,23nm,0.6s,baz=226,slow=5.0,SNR=12
KIRV LR LR 12 24 29.4
comp=Z,217nm,18.7s,baz=239,slow=39
DOMB Dombas 29.18 345 *e*P **P 12 11 49.0 -0.4**
SUE Sulen 29.39 340 *e*P **P 12 11 50.4 -0.8**
FOO Floro 29.77 341 *e*P **P 12 11 53.5 -1.0**
AKN Aaknes 29.77 343 *e*P **P 12 11 54.0 -0.6**
TOA0 Torodi Ar. Sit 29.78 230 P **P 12 11 56.5 +1.4**
TOA0 IAmb IAmb 12 11 57.7
comp=Z,24nm,0.6s
TORD Torodi Ar. Bea 29.78 230 P **P 12 11 56.5 +1.4**
comp=Z,17nm,0.5s,baz=34,slow=8.8,SNR=223
TORD LR LR 12 25 32.2
comp=Z,336nm,20.0s,baz=30,slow=40
MOL Molde 29.98 344 *e*P **P 12 11 56.1 -0.3**
TMCR Tamitsa 30.73 11 *e*P **P 12 12 00.1 -2.8**
TMCR *e*S **S 12 17 05.9 +1.7**
TMCR pmax pmax
comp=Z,28nm,1.0s
HRA Herat 30.90 79 P **P 12 12 05.2 +0.1**
NSS Namsos 30.94 349 *e*P **P 12 12 03.6 -1.2**
WSAR Wadi Sarin 31.72 102 LR LR 12 29 05.1
comp=Z,145nm,20.6s,baz=308,slow=44
ARU Arti 31.78 36*d* *i*P **P 12 12 11.5 -0.8**
ARU 12 13 15.9
ARU S **S 12 17 25.3 +4.5**
ARU SS **SnSn 12 19 15.5 +6.8**
ARU pmax pmax
comp=Z,35nm,0.7s
ARU MLR MLR
comp=Z,159nm,15.0s
ARU Arti 31.78 36 P **P 12 12 10.9 -1.5**
STOK Stokkvaagen 32.51 351 *e*P **P 12 12 17.6 -1.0**
KONS Konsvik 32.65 351 *e*P **P 12 12 18.5 -1.4**
SVE Sverdlovsk 32.98 36⇑ *e*P **P 12 12 22.2 -0.7**
SVE pmax pmax
comp=Z,104nm,0.9s
APA Apatity 33.41 6⇓ *i*P **P 12 12 24.0 -2.5**
APA pmax pmax
comp=Z,21nm,0.8s
APA MLR MLR
comp=Z,400nm,18.0s
N2TV TVrnvik 33.47 353 *e*P **P 12 12 25.8 -1.1**
N2RO R,st 33.75 351 *e*P **P 12 12 27.5 -2.0**
N2IH Innhavet 33.79 354 *e*P **P 12 12 27.4 -2.4**
STEI Steigen 33.81 354 *e*P **P 12 12 28.5 -1.5**
N2VA Vr,y 33.82 352 *e*P **P 12 12 28.0 -2.0**
LVZ Lovozero 33.84 7⇓ *e*P **P 12 12 28.7 -1.6**
LVZ pmax pmax
comp=Z,57nm,1.5s
LVZ Lovozero 33.84 7 P **P 12 12 28.5 -1.9**
N2SV S,rvYgen 34.00 352 *e*P **P 12 12 29.7 -1.9**
LOF Lofoten 34.17 353 *e*P **P 12 12 34.0 +0.9**
N2VI Vinje 34.29 353 *e*P **P 12 12 32.5 -1.6**
KTK1 Kautokeino 34.48 359 *e*P **P 12 12 34.7 -1.0**
ARCES ARCESS Array B 35.00 1 P **P 12 12 38.0 -2.3**
comp=Z,10nm,0.5s,baz=176,slow=8.3,SNR=97
ARCES LR LR 12 28 07.9
comp=Z,582nm,18.9s,baz=186,slow=38
ARCES ARCESS Array B 35.00 1 P **P 12 12 38.0 -2.3**
ARE0 ARCESS Array S 35.00 1 *e*P **P 12 12 38.5 -1.7**
TRO Tromso 35.23 357 *e*P **P 12 12 40.1 -2.2**
CHGR Chuyangaron 35.72 70 P **P 12 12 47.0 +0.1**
CHGR IAmb IAmb 12 13 04.2
comp=Z,28nm,0.9s
IUG Iuzhnay 36.05 64 *e*P **P 12 12 49.6 -0.2**
comp=Z,0.7nm,1.0s,baz=65
IUG Iuzhnay 36.05 64 *e*P **P 12 12 49.6 -0.2**
IUG pmax pmax
comp=Z,1.0nm,1.0s
HAMF Hammerfest 36.11 359 *e*P **P 12 12 48.6 -1.2**
KK31 Karatay Array 36.36 63 *i* P **P 12 12 52.2 -0.1**
GAR Garm 36.57 69 IAmb IAmb 12 13 12.9
comp=Z,18nm,0.7s
BRVK Borovoye 37.01 46*c* *i*P **P 12 12 57.2 -0.5**
BRVK pmax pmax
comp=Z,28nm,1.7s
BRVK Borovoye 37.01 46 P **P 12 12 56.9 -0.7**
BRVK IAmb IAmb 12 13 00.9
comp=Z,32nm,1.4s
KMBO Kilima Mbogo 37.46 159 LR LR 12 31 01.2
comp=Z,248nm,19.1s,baz=52,slow=40
OTUK Ortayu 37.70 54 P **P 12 13 03.7 +0.1**
BRZS Berezniki 38.05 51 *e*P **P 12 13 06.2 -0.4**
comp=Z,5.4nm,0.7s,baz=52
BRZS Berezniki 38.05 51 *e*P **P 12 13 06.1 -0.4**
BRZS pmax pmax
comp=Z,5.0nm,0.7s
DBIC Dimbokro 38.86 231 P **P 12 13 14.4 +0.7**
comp=Z,8.7nm,0.6s,baz=12,slow=8.7,SNR=11
DBIC LR LR 12 30 34.4
comp=Z,186nm,19.6s,baz=34,slow=38
DBIC Dimbokro 38.86 231 IAmb IAmb 12 13 19.6
comp=Z,34nm,1.4s
TIC Toumodi 38.98 231 *e*P **P 12 13 16.0 +1.3**
KIC Kosan Boka 39.02 231 *e*P **P 12 13 16.4 +1.4**
comp=Z,51nm,1.0s
LIC Lamto 39.31 231 *e*P **P 12 13 17.6 +0.2**
comp=Z,59nm,0.9s
AAK Ala-Archa 39.32 63 LR LR 12 32 03.4
comp=Z,45nm,18.6s,baz=279,slow=40
AAK Ala-Archa 39.32 63 P **P 12 13 18.6 +1.2**
AAK Ala-Archa 39.32 63*ce* P **P 12 13 17.9 +0.4**
AAK pmax pmax
comp=Z,7.0nm,0.8s
AAK Ala-Archa 39.32 63 P **P 12 13 17.5 +0.1**
SGDS Sogindy 39.35 62 *e*P **P 12 13 17.4 -0.3**
comp=Z,44nm,4.4s,baz=62
SGDS Sogindy 39.35 62 *e*P **P 12 13 17.3 -0.3**
SGDS pmax pmax
comp=Z,44nm,4.4s
NIL Nilore 39.97 77 P **P 12 13 23.5 +0.7**
NIL pmax pmax
comp=Z,21nm,0.7s
NIL Nilore 39.97 77 P **P 12 13 23.5 +0.7**
NIL IAmb IAmb 12 13 42.0
comp=Z,21nm,0.7s
BJO1 Bjornoya 40.08 358 *e*P **P 12 13 21.9 -1.3**
JMIC Jan Mayen 40.50 344 *e*P **P 12 13 27.7 +1.0**
KUU Kurty 40.55 61 *e*P **P 12 13 28.2 +0.7**
comp=Z,16nm,1.5s,baz=61
KUU *e*S **S 12 19 38.0 +2.7**
baz=61
KUU Kurty 40.55 61 *e*P **P 12 13 28.2 +0.7**
KUU *e*S **S 12 19 37.9 +2.7**
KUU pmax pmax
comp=Z,16nm,1.5s
MTBS Maitube 40.68 62 *e*P **P 12 13 29.0 +0.2**
comp=Z,63nm,0.6s,baz=62
MTBS Maitube 40.68 62 *e*P **P 12 13 28.9 +0.2**
MTBS pmax pmax
comp=Z,63nm,0.6s
CHKK Chushkaly 41.02 61 *e*P **P 12 13 31.8 +0.4**
comp=Z,62nm,0.7s,baz=61
CHKK Chushkaly 41.02 61 *e*P **P 12 13 31.8 +0.4**
CHKK pmax pmax
comp=Z,62nm,0.7s
TNSS Tian-Shan 41.07 62 *e*P **P 12 13 32.7 +0.4**
comp=Z,43nm,0.7s,baz=62
TNSS Tian-Shan 41.07 62 *e*P **P 12 13 32.7 +0.4**
TNSS pmax pmax
comp=Z,43nm,0.7s
MDOK Medeo 41.13 62 *e*P **P 12 13 32.3 -0.2**
comp=Z,44nm,0.9s,baz=62
MDOK LR LR 12 32 19.0
comp=Z,51nm,12.8s,baz=62
MDOK Medeo 41.13 62 *e*P **P 12 13 32.2 -0.2**
MDOK pmax pmax
comp=Z,44nm,0.9s
MDOK MLR MLR
comp=Z,51nm,13.0s
KURBB Kurchatov Arra 41.83 51 P **P 12 13 37.4 -0.5**
KURK Kurchatov 41.89 50*c* *i*P **P 12 13 37.9 -0.5**
KURK pmax pmax
comp=Z,34nm,1.7s
KURK Kurchatov 41.89 50 P **P 12 13 37.5 -0.9**
TDK Taldyqorghan 41.93 59 *e*P **P 12 13 39.5 +0.6**
comp=Z,175nm,17.9s,baz=59
TDK LR LR 12 33 25.9
comp=Z,173nm,17.3s,baz=59
TDK Taldyqorghan 41.93 59 *e*P **P 12 13 39.4 +0.6**
TDK pmax pmax
comp=Z,175nm,17.9s
TDK MLR MLR
comp=Z,173nm,17.0s
SATY Saty 42.13 62 *e*P **P 12 13 41.5 +0.8**
comp=Z,9.2nm,1.4s,baz=62
SATY Saty 42.13 62 *e*P **P 12 13 41.4 +0.8**
SATY pmax pmax
comp=Z,9.0nm,1.4s
UZB Uzynbulak 42.57 62 *e*P **P 12 13 44.2 -0.1**
comp=Z,3.0nm,1.6s,baz=62
UZB Uzynbulak 42.57 62 *e*P **P 12 13 44.1 -0.1**
UZB pmax pmax
comp=Z,3.0nm,1.6s

HSPB Hornsund (broa 42.70 357 *e*P **P 12 13 44.5 -0.1**
PDGK Podgornoye 42.88 61 P **P 12 13 46.4 -0.4**
SEM Semipalatinsk 42.92 51 *e*P **P 12 13 47.1 0.0**
comp=Z,5.0nm,0.9s,baz=51
SEM Semipalatinsk 42.92 51 *e*P **P 12 13 47.1 0.0**
SEM pmax pmax
comp=Z,5.0nm,0.9s
SCO Scoresbysund 43.70 339 *i* P **P 12 13 53.8 +1.0**
comp=Z,29nm,0.7s
SCO Scoresbysund 43.70 339 *i* P **P 12 13 53.8 +1.0**
SCO pmax pmax
comp=Z,29nm,0.7s
SPA0 Spitsbergen Ar 43.83 358 P **P 12 13 52.8 -1.0**
SPA0 IAmb IAmb 12 14 11.6
comp=Z,39nm,1.2s
SPA0 Spitsbergen Ar 43.83 358 *e*P **P 12 13 52.7 -1.1**
MAKZ Makanchi 44.25 56 P **P 12 13 57.7 +0.1**
MAKZ pmax pmax
comp=Z,16nm,0.9s
MAKZ Makanchi 44.25 56 P **P 12 13 57.6 +0.1**
MK31 Makanchi Array 44.47 56 *i* P **P 12 13 59.4 +0.1**
MK31 Makanchi Array 44.47 56 P **P 12 13 59.3 0.0**
MK31 IAmb IAmb 12 14 00.4
comp=Z,28nm,0.8s
MKAR Makanchi Array 44.47 56 P **P 12 13 59.5 +0.2**
comp=Z,35nm,0.7s,baz=280,slow=6.5,SNR=273
MKAR ScP **ScP 12 19 31.5 -1.5**
comp=Z,1.5nm,0.9s,baz=302,slow=3.2,SNR=4.4
KBS Kingsbay 44.76 357 P **P 12 14 00.4 -0.7**
KBS pmax pmax
comp=Z,23nm,0.7s
KBS Kingsbay 44.76 357 P **P 12 14 00.4 -0.7**
KBS IAmb IAmb 12 14 02.7
comp=Z,23nm,0.7s
KBS Kingsbay 44.76 357 *e*P **P 12 14 00.8 -0.4**
ZAA0 Zalesovo Array 45.72 46 P **P 12 14 07.9 -1.2**
ZAA0 IAmb IAmb 12 14 09.2
comp=Z,20nm,0.7s
ZALV Zalesovo Beam 45.72 46 P **P 12 14 08.2 -0.9**
comp=Z,23nm,0.7s,baz=263,slow=9.6,SNR=89
ZALV LR LR 12 37 21.4
comp=Z,197nm,18.6s,baz=282,slow=42
ZSN Zaisan 46.14 55 *e*P **P 12 14 13.1 +0.4**
comp=Z,6.7nm,0.8s,baz=55
ZSN Zaisan 46.14 55 *e*P **P 12 14 13.0 +0.4**
ZSN pmax pmax
comp=Z,7.0nm,0.8s
DAG Danmarks Havn 46.50 347⇑ *i*P **P 12 14 14.6 -0.3**
comp=Z,36nm,0.7s
DAG Danmarks Havn 46.50 347⇑ *i*P **P 12 14 14.6 -0.3**
DAG pmax pmax
comp=Z,36nm,0.7s
DGZ Jazzator, Alta 47.59 51⇑ *i*P **P 12 14 24.1 +0.1**
DGZ pmax pmax
comp=Z,10.0nm,0.7s
NRIK Noril'sk 48.58 25 P **P 12 14 31.3 +0.1**
comp=Z,26nm,0.9s,baz=249,slow=5.7,SNR=28
NRIK LR LR 12 37 26.0
comp=Z,177nm,19.7s,baz=286,slow=39
WMQ Urumqi 48.68 59 *e*P **P 12 14 34.1 +1.6**
WMQ pP pP 12 14 38.9 -0.4
WMQ sP sP 12 14 41.5 -0.5
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ pmax pmax
comp=Z,77nm,5.5s
WMQ LR LR
comp=Z,310nm,23.7s
WMQ LR LR
comp=Z,170nm,22.9s
SUMG Summit 49.34 339 *i* P **P 12 14 37.8 +0.3**
comp=Z,78nm,0.9s
SUMG Summit 49.34 339 *i* P **P 12 14 37.8 +0.3**
SUMG pmax pmax
comp=Z,78nm,0.9s
SUMG Summit 49.34 339 P **P 12 14 37.6 +0.1**
NOR Nord 49.44 353 *i* P **P 12 14 36.5 -1.2**
NOR Nord 49.44 353 *i* P **P 12 14 36.5 -1.2**
DANN Dangsing 50.22 80 *e*P **P 12 14 45.2 +0.5**
comp=Z,106nm,0.8s
HYB Hyderabad 50.82 95 *i* P **P 12 14 51.0 +2.0**
DMN Daman 51.61 80 *e*P **P 12 14 55.0 -0.1**
comp=Z,64nm,0.8s
PKIN Phulchoki 51.85 80 *e*P **P 12 14 56.6 -0.3**
comp=Z,74nm,1.0s
PKI Pulchoki 51.87 80 *e*P **P 12 14 56.9 -0.2**
comp=Z,96nm,1.1s
GUN Gumba 52.11 80 *e*P **P 12 14 58.9 -0.1**
comp=Z,79nm,0.9s
JIRN Jiri 52.47 80 *e*P **P 12 15 01.4 -0.2**
comp=Z,133nm,1.2s
SFJD Kangerlussuaq 52.96 332 LR LR 12 38 60.0
comp=Z,181nm,21.3s,baz=86,slow=38
SFJD Kangerlussuaq 52.96 332 *i* P **P 12 15 04.3 +0.1**
SFJD Kangerlussuaq 52.96 332 P **P 12 15 04.4 +0.2**
SFJD pmax pmax
comp=Z,19nm,1.3s
SFJD Kangerlussuaq 52.96 332 P **P 12 15 04.4 +0.2**
RAMN Ramite 53.09 80 *e*P **P 12 15 05.2 -0.9**
comp=Z,37nm,0.9s
ODAN Odare 53.77 80 *e*P **P 12 15 09.5 -1.6**
comp=Z,21nm,0.7s
TAPN Taplejung 53.83 79 *e*P **P 12 15 11.1 -0.4**
comp=Z,22nm,0.7s
MOY Mondy 55.73 47 *e*P **P 12 15 25.5 +0.7**
MOY pmax pmax
comp=Z,20nm,1.8s
TLY Talaya 57.32 47*c i*P **P 12 15 36.6 +0.6**
TLY pmax pmax
comp=Z,15nm,1.2s
TLY Talaya 57.32 47 **P 12 15 36.9 +0.9**
ZAK Zakamensk 57.46 48 *e*P **P 12 15 36.9 -0.2**
ZAK pmax pmax
comp=Z,18nm,1.0s
IRK Irkutsk 57.54 46 *e*P **P 12 15 36.7 -0.8**
IRK pmax pmax
comp=Z,38nm,1.7s
GTA Gaotai 58.63 61 ⇑P **P 12 15 45.6 +0.1**
GTA pP pwP 12 15 57.4 +2.3
GTA S **S 12 23 46.6 -1.9**
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,62nm,7.3s
GTA LR LR
comp=Z,89nm,21.0s
GTA LR LR
comp=Z,58nm,20.6s
GTA LR LR
comp=Z,130nm,18.1s
DRLN Deer Lake 59.92 311 P **P 12 15 54.2 +0.1**
DRLN IAmb IAmb 12 15 55.3
comp=Z,14nm,0.8s
SONM Songino Array 60.20 50 P **P 12 15 56.7 +0.6**
comp=Z,14nm,0.7s,baz=280,slow=8.8,SNR=25
SONM LR LR 12 45 39.7
comp=Z,223nm,21.2s,baz=287,slow=40
ULN Ulaanbaatar 60.60 50*c i*P **P 12 15 59.1 +0.1**
ULN pmax pmax
comp=Z,32nm,1.0s
BOD Bodaibo 61.18 38 *e*P **P 12 16 01.3 -1.2**
BOD pmax pmax
comp=Z,20nm,0.8s
TIXI Tiksi 61.85 20*c i*P **P 12 16 06.0 -0.8**
TIXI pmax pmax
comp=Z,24nm,1.0s
TIXI MLR MLR
comp=Z,220nm,17.0s
TIXI Tiksi 61.85 20 P **P 12 16 06.2 -0.7**
TIXI IAmb IAmb 12 16 09.6
comp=Z,17nm,0.8s
LZH Lanzhou 62.85 63 *e*P **P 12 16 14.8 +0.4**
LZH pP pP 12 16 19.9 -1.5
LZH sP sP 12 16 22.5 -1.6
LZH *e*PP **PP 12 18 31.2 -1.3**
LZH pmax pmax
comp=Z,24nm,1.0s
LZH pmax pmax
comp=Z,57nm,5.4s
LZH LR LR
comp=Z,150nm,13.6s
LZH LR LR
comp=Z,220nm,11.9s
LZH LR LR
comp=Z,270nm,14.1s
BOSA Boshof 62.87 179 P **P 12 16 16.3 +2.0**
comp=Z,7.0nm,0.8s,baz=10,slow=6.8,SNR=10
BOSA LR LR 12 46 45.9
comp=Z,185nm,20.0s,baz=358,slow=39
BOSA Boshof 62.87 179 P **P 12 16 15.6 +1.4**
SCHQ Schefferville 63.32 320 P **P 12 16 17.4 +0.5**
comp=Z,22nm,0.6s,baz=72,slow=5.8,SNR=36
SCHQ LR LR 12 43 24.5
comp=Z,85nm,20.1s,baz=81,slow=36
SCHQ Schefferville 63.32 320 P **P 12 16 16.7 -0.2**
CD2 Chengdu 65.02 69 *e*P **P 12 16 27.0 -1.5**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
LMN Caledonia Moun 65.79 310 IAmb IAmb 12 16 34.9
comp=Z,20nm,0.9s
BATG Bathurst New B 65.96 312 P **P 12 16 35.4 +1.1**
BATG IAmb IAmb 12 16 36.2
comp=Z,18nm,0.8s
YAK Yakutsk 66.59 30 *e*P **P 12 16 36.5 -1.5**
YAK *e*S **S 12 25 24.6 -2.8**
YAK *e*SS **SS 12 29 44.1 +0.1**
YAK pmax pmax
comp=Z,12nm,0.8s
YAK pmax pmax
comp=N,8.0nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK pmax pmax
comp=Z,46nm,2.7s
YAK pmax pmax
comp=N,28nm,2.5s
YAK pmax pmax
comp=E,22nm,2.2s
YAK smax smax
comp=N,31nm,1.7s
YAK smax smax
comp=E,18nm,1.6s
CHTO Chiang Mai 66.91 83 P **P 12 16 40.4 -0.4**
CHTO pmax pmax
comp=Z,12nm,1.3s
CHTO Chiang Mai 66.91 83 P **P 12 16 40.4 -0.4**
CMAR Chiang Mai Arr 67.09 83 P **P 12 16 42.0 +0.1**
comp=Z,1.8nm,0.8s,baz=298,slow=8.4,SNR=12
CMAR LR LR 12 51 10.0
comp=Z,49nm,19.7s,baz=300,slow=41
E64A Bridgewater baz=63 67.43 312 P **P 12 16 44.7 +1.0**
XAN Xi'an 67.49 63 P **P 12 16 44.5 +0.2**
XAN pmax pmax
comp=Z,12nm,0.8s
XAN LR LR
comp=Z,110nm,15.2s
XAN LR LR
comp=Z,140nm,15.2s
XAN Xi'an 67.49 63 IAmb IAmb 12 16 45.3
comp=Z,8.0nm,0.7s
E63A Oxbow baz=63 67.79 312 P **P 12 16 46.9 +1.0**
D62A Allapoint, All baz=62,SNR=6.7 67.88 313 P **P 12 16 47.7 +1.2**
D62A Allapoint, All 67.88 313 IAmb IAmb 12 16 48.7
comp=Z,18nm,0.9s
F64A Sherman baz=62 68.00 311 P **P 12 16 48.5 +1.3**
E62A Clayton Lake baz=62 68.38 312 P **P 12 16 50.7 +1.1**
H65A Eastbrook baz=62 68.48 310 P **P 12 16 50.9 +0.7**
D61A St Aubert, Com baz=62 68.51 313 P **P 12 16 51.9 +1.5**
G64A Maxfield baz=62 68.54 311 P **P 12 16 52.3 +1.6**
F63A Nahmakanta, Br baz=62 68.55 311 P **P 12 16 52.0 +1.3**
E61A Lac Etchemin baz=61 69.05 312 P **P 12 16 54.9 +1.0**
GYA Guiyang 69.35 72⇑ *i*P **P 12 16 56.9 +0.7**
GYA PP **PP 12 19 30.2 +0.9**
GYA S **S 12 25 58.2 -3.6**
GYA SS **SS 12 30 35.0 +6.4**
GYA pmax pmax
comp=Z,10.0nm,1.2s
GYA pmax pmax
comp=Z,120nm,3.5s
GYA LR LR
comp=Z,100nm,9.1s
GYA LR LR
comp=Z,70nm,3.5s
GYA LR LR
comp=Z,120nm,11.9s
CHGQ Chibougamau baz=60 69.64 317 P **P 12 16 58.4 +1.0**
E60A Ste Agathe de baz=61 69.67 313 P **P 12 16 58.8 +1.2**
ZEA Zeya 69.67 38 *e*P **P 12 16 57.2 -0.3**
ZEA pmax pmax
comp=Z,12nm,1.0s
ENH Enshi 69.68 67 IAmb IAmb 12 17 16.6
comp=Z,26nm,1.3s
BJI Beijing 69.83 55 P **P 12 16 57.3 -1.4**
BJI pmax pmax
comp=Z,3.0nm,0.6s
LATQ La Tuque baz=60 69.97 314 P **P 12 17 00.7 +1.3**
F60A Warwick baz=60 70.17 313 P **P 12 17 02.2 +1.5**
D58A Chemin du LacG baz=60 70.17 314 P **P 12 17 01.7 +0.9**
G61A St-Isidore-de- baz=60 70.24 312 P **P 12 17 02.7 +1.5**
F59A Saint Guilaume baz=60 70.73 313 P **P 12 17 05.6 +1.4**
E58A La Victoria baz=60 70.77 313 P **P 12 17 05.8 +1.4**
D57A Chemin Vers le baz=60 70.81 314 P **P 12 17 05.5 +0.9**
E57A Chemin Saint G baz=59,SNR=6.3 71.27 314 P **P 12 17 08.9 +1.5**
D56A ZEC Mazanza, M baz=59,SNR=7.3 71.30 315 P **P 12 17 09.1 +1.4**
MATQ Matagami baz=58 71.53 318 P **P 12 17 10.0 +1.0**
A36M Sachs Harbour baz=26 71.63 351 P **P 12 17 10.0 +0.9**
E56A St. Veronique baz=59 71.72 314 P **P 12 17 11.6 +1.4**
D55A Sainte-Anne-du baz=59,SNR=5.9 71.74 315 P **P 12 17 11.8 +1.5**
G58A Ormstown baz=59 71.86 313 P **P 12 17 12.7 +1.7**
H59A Cadyville baz=59 71.89 312 P **P 12 17 13.0 +1.8**
D54A Lac Fusel, La baz=58,SNR=5.3 72.36 315 P **P 12 17 15.1 +1.2**
LONY Lake Ozonia baz=58 72.45 312 P **P 12 17 16.1 +1.6**
ORIO Orleans, Innes baz=58 72.58 313 P **P 12 17 17.2 +1.9**
F55A Otter Lake baz=58 72.88 314 P **P 12 17 18.9 +1.8**
D53A Lac Vacive, Po baz=57,SNR=6.2 73.00 316 P **P 12 17 19.5 +1.7**
D53A Lac Vacive, Po 73.00 316 IAmb IAmb 12 17 20.1
comp=Z,15nm,0.8s
E54A Lac Daplat, Po baz=57 73.05 315 P **P 12 17 19.4 +1.3**
I58A Old Forge baz=58 73.18 312 P **P 12 17 20.9 +2.0**
E53A Dumoine, Ponti baz=57,SNR=6.6 73.36 315 P **P 12 17 21.4 +1.5**
G55A Calabogie baz=57 73.40 314 P **P 12 17 21.6 +1.4**
D52A ZEK Kipawa Sen baz=57 73.46 316 P **P 12 17 21.7 +1.2**
I57A Carthage baz=58 73.47 312 P **P 12 17 22.3 +1.7**
J58A Remsen baz=58 73.54 311 P **P 12 17 22.6 +1.5**
K59A Cooperstown baz=58 73.58 311 P **P 12 17 23.1 +1.8**
BILL Bilibino 73.72 14*c i*P **P 12 17 20.6 -1.0**
BILL *i* 12 17 28.2
BILL *i* 12 17 39.5
BILL *i* 12 20 01.5
BILL pmax pmax
comp=Z,19nm,1.5s
BILL MLR MLR
comp=Z,187nm,20.0s
BILL Bilibino 73.72 14 P **P 12 17 20.7 -0.9**
BILL IAmb IAmb 12 17 34.2
comp=Z,43nm,1.6s
PLVO Plevna 73.73 314 IAmb IAmb 12 17 24.9
comp=Z,20nm,1.3s
ALGO Algonquin Park baz=57 73.81 315 P **P 12 17 23.9 +1.3**
C36M Paulatuk baz=26 73.84 349 P **P 12 17 22.4 +0.2**
CN2 Changchun 73.89 48 *e*P **P 12 17 22.9 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
D51A Lot 18 Range I baz=56 73.95 316 P **P 12 17 24.8 +1.4**
J57A Williamstown baz=57 73.96 312 P **P 12 17 25.1 +1.6**
FCC Fort Churchill 73.98 332 P **P 12 17 23.7 +0.4**
FCC pmax pmax
comp=Z,14nm,1.0s
FCC Fort Churchill 73.98 332 P **P 12 17 23.7 +0.4**
FCC IAmb IAmb 12 17 25.0
comp=Z,14nm,0.9s
E52A Mattawa baz=56 73.98 315 P **P 12 17 24.8 +1.3**
H55A Tweed baz=57 74.06 313 P **P 12 17 25.3 +1.3**
G54A Lake Saint Pet baz=57,SNR=6.3 74.14 314 P **P 12 17 26.1 +1.6**
D50A G1974 Best Tow baz=56,SNR=5.9 74.17 317 P **P 12 17 26.0 +1.4**
SEY Seymchan 74.25 22⇑ *e*P **P 12 17 25.0 +0.2**
E51A G1948 Merrick baz=56 74.33 316 P **P 12 17 27.1 +1.5**
KLR Kul'dur 74.49 41*c i*P **P 12 17 26.3 -0.2**
KLR pmax pmax
comp=Z,17nm,1.1s
I55A Frankford baz=56 74.54 313 P **P 12 17 28.5 +1.6**
J56A Wolcott baz=57 74.56 312 P **P 12 17 28.9 +1.9**
BINY Binghamton baz=57 74.60 311 P **P 12 17 29.1 +1.8**
G53A Haliburton baz=56 74.61 314 P **P 12 17 28.6 +1.4**
F52A Sundridge baz=56,SNR=5.1 74.64 315 P **P 12 17 29.3 +1.8**
N60A Cedar Hill Far baz=57 74.76 309 P **P 12 17 30.2 +2.1**
H53A Bobcaygeon baz=56 74.89 314 P **P 12 17 30.5 +1.7**
F51A Arnstein baz=56,SNR=5.7 74.91 316 P **P 12 17 30.6 +1.7**
E50A Wahnapitae baz=55 75.10 316 P **P 12 17 32.0 +1.9**
SADO Sadowa 75.11 314 IAmb IAmb 12 17 34.4
comp=Z,51nm,1.9s
K56A Middlesex baz=56 75.16 312 P **P 12 17 32.4 +1.9**
L57A Andrews Acres baz=56 75.25 311 P **P 12 17 32.5 +1.4**
O60A Telford baz=57 75.25 309 P **P 12 17 32.7 +1.7**
PSI Prapat 75.51 97 P **P 12 17 33.6 +0.6**
comp=Z,5.2nm,0.6s,baz=3.3,slow=3.8,SNR=8.7
RPSI Rantau Prapat 75.57 97 P **P 12 17 32.9 -0.3**
K55A Perry baz=56 75.60 312 P **P 12 17 34.5 +1.5**
L56A Greenwood baz=56 75.61 311 P **P 12 17 34.7 +1.6**
L56A Greenwood 75.61 311 IAmb IAmb 12 17 35.5
comp=Z,22nm,0.9s
NJ2 Nanjing 75.72 61 *e*P **P 12 17 32.4 -1.4**
NJ2 pmax pmax
comp=Z,14nm,0.6s
M57A Sunshine Farm, baz=56 75.79 310 P **P 12 17 35.9 +1.8**
N58A Sunbury baz=56 75.80 310 P **P 12 17 35.8 +1.6**
E48A Lockeyer baz=54 75.88 317 P **P 12 17 36.0 +1.5**
GRNR Gornyy 76.00 37 *e*P **P 12 17 34.5 -0.6**
GRNR pmax pmax
comp=Z,9.0nm,0.9s
D47A Chapleau baz=54 76.06 318 P **P 12 17 37.0 +1.4**
WVNY West Valley, N 76.11 312 P **P 12 17 37.0 +1.1**
WVNY IAmb IAmb 12 17 54.6
comp=Z,12nm,0.8s
INK Inuvik 76.11 352 IAmb IAmb 12 17 49.2
comp=Z,20nm,1.1s
L55A Hinsdale baz=56 76.13 312 P **P 12 17 37.7 +1.6**
MA2 Magadan 76.19 25*c e*P **P 12 17 35.9 -0.1**
MA2 pmax pmax
comp=Z,44nm,2.5s
MA2 Magadan 76.19 25 P **P 12 17 35.7 -0.3**
MA2 IAmb IAmb 12 17 49.4
comp=Z,26nm,1.1s
M56A Emporium baz=56 76.36 311 P **P 12 17 39.1 +1.7**
M56A Emporium 76.36 311 IAmb IAmb 12 17 39.9
comp=Z,15nm,0.9s
N57A Milroy baz=58 76.38 310 P **P 12 17 39.1 +1.7**
L54A Sinclairville baz=55 76.64 312 P **P 12 17 40.6 +1.6**
SSPA Standing Stone baz=56 76.66 310 P **P 12 17 40.6 +1.6**
D46A Sault St. Mari baz=53 76.68 318 P **P 12 17 40.7 +1.6**
M55A Ridgway baz=55 76.73 311 P **P 12 17 41.1 +1.6**
M55A Ridgway 76.73 311 IAmb IAmb 12 17 41.5
comp=Z,11nm,0.8s
N56A West Decatur baz=56 76.75 311 P **P 12 17 41.5 +1.9**
J52A Paris baz=55 76.77 314 P **P 12 17 41.2 +1.6**
I51A Listowel baz=54 76.77 314 P **P 12 17 41.3 +1.6**
P58A Pank, Wackersv baz=56 76.92 309 P **P 12 17 42.0 +1.4**
TOLK Toolik Lake Re baz=4.9,SNR=14 76.98 358 P **P 12 17 41.7 +1.3**
TOLK Toolik Lake Re 76.98 358 IAmb IAmb 12 17 54.2
comp=Z,14nm,0.9s
ERPA Erie baz=55 77.12 312 P **P 12 17 43.0 +1.4**
E46A Sault Ste Mari 77.14 318 IAmb IAmb 12 17 43.9
comp=Z,17nm,1.0s
N55A Marion Center baz=55 77.26 311 P **P 12 17 44.3 +1.8**
M54A Oil Creek Stat baz=55 77.27 312 P **P 12 17 44.1 +1.6**
O56A Blue Knob Stat baz=55 77.29 310 P **P 12 17 44.2 +1.5**
L53A Girard baz=55 77.38 312 P **P 12 17 44.8 +1.7**
P57A Homestead Farm baz=55 77.38 309 P **P 12 17 44.8 +1.6**
RDOG Red Dog Mine 77.51 3 IAmb IAmb 12 17 49.2
comp=Z,15nm,0.6s
USA0B Ussuriysk Arra 77.56 45 P **P 12 17 42.8 -1.3**
USA0B pmax pmax
comp=Z,22nm,0.9s
USA0B Ussuriysk Arra 77.56 45 P **P 12 17 42.8 -1.3**
USA0B IAmb IAmb 12 17 56.9
comp=Z,22nm,0.9s
USRK Ussuriysk Ar. 77.56 45 P **P 12 17 43.6 -0.5**
comp=Z,9.2nm,0.6s,baz=291,slow=5.1,SNR=23
USRK LR LR 12 57 43.5
comp=Z,111nm,18.1s,baz=63,slow=40
G47A Hillman baz=53 77.60 317 P **P 12 17 45.6 +1.4**
N54A Moraine State baz=54 77.78 311 P **P 12 17 46.8 +1.4**
O55A Ligonier baz=55 77.79 310 P **P 12 17 46.8 +1.4**
YKA Yellowknife Ar 77.84 342 P **P 12 17 45.2 0.0**
comp=Z,5.6nm,0.6s,baz=36,slow=5.5,SNR=59
YKA LR LR 12 55 57.6
comp=Z,84nm,18.5s,baz=0.0,slow=39
P56A Dayton Farm, R baz=55 77.90 310 P **P 12 17 47.4 +1.4**
MSHR Mys Shultsa 78.03 46⇑ *e*P **P 12 17 47.3 +0.7**
MSHR pmax pmax
comp=Z,8.0nm,1.4s
GLMI Grayling 78.24 317 P **P 12 17 49.8 +2.0**

baz=52
EPYK Eagle Plains 78.33 352 P **P** 12 17 48.0 0.0
baz=16
EPYK Eagle Plains 78.33 352 IAmb IAmb 12 17 51.1
comp=Z,20nm,0.7s
Q56A Snyder Ridge, 78.38 309 P **P** 12 17 50.0 +1.3
baz=55
Q56A Snyder Ridge, 78.38 309 IAmb IAmb 12 17 50.9
comp=Z,18nm,0.8s
R57A Stanardsville 78.38 309 P **P** 12 17 50.3 +1.5
baz=55
COLD Coldfoot 78.42 358 IAmb IAmb 12 18 01.0
comp=Z,18nm,0.9s
MCWV Mont Chateau 78.44 310 P **P** 12 17 50.7 +1.6
baz=54
S58A Poland Farm, P 78.47 308 P **P** 12 17 50.5 +1.3
baz=55
P55A Reedsville 78.52 310 P **P** 12 17 50.8 +1.3
baz=54
I47A Gladwin 78.67 316 P **P** 12 17 51.9 +1.7
baz=52
G45A Suttons Bay 78.70 317 P **P** 12 17 51.5 +1.2
baz=52
P54A Burton 78.88 311 P **P** 12 17 52.2 +0.8
baz=54
KS19 Wonju Array Si 78.92 52 P **P** 12 17 51.6 -0.1
Q55A Buckhannon 78.98 310 P **P** 12 17 52.9 +0.8
baz=54
KSRS Korea Array 78.99 52 P **P** 12 17 52.1 +0.1
comp=Z,8.2nm,0.7s,baz=305,slow=5.0,SNR=57
KSRS LR LR 12 55 15.3
comp=Z,169nm,20.7s,baz=320,slow=38
K48A Perry 79.18 315 P **P** 12 17 54.1 +1.0
baz=52
I46A Reed City 79.25 316 P **P** 12 17 54.4 +1.0
baz=52
O52A Adamsville 79.42 312 P **P** 12 17 55.7 +1.3
baz=53
R55A Marlinton 79.42 309 P **P** 12 17 56.0 +1.5
baz=54
Q54A Coxs Mills 79.46 310 P **P** 12 17 55.3 +0.6
baz=54
P53A Whipple 79.51 311 P **P** 12 17 56.1 +1.2
baz=54
O51A Pataskala 79.87 312 P **P** 12 17 57.9 +1.0
baz=53
P52A Corning 79.89 311 P **P** 12 17 57.6 +0.7
baz=53
FFC Flin Flon 79.91 332 P **P** 12 17 57.2 +0.4
FFC pmax pmax
comp=Z,11nm,0.9s
FFC Flin Flon 79.91 332 P **P** 12 17 57.2 +0.4
COWI Conover 79.93 320 IAmb IAmb 12 17 58.9
comp=Z,18nm,0.9s
S55A Lewisburg 79.96 309 P **P** 12 17 59.1 +1.7
baz=54
U57A Blanch 79.99 307 P **P** 12 17 58.2 +0.7
baz=54
R54A Victor 80.03 310 P **P** 12 17 58.2 +0.4
baz=54
ACSO Alum Creek Sta 80.05 312 P **P** 12 17 58.3 +0.5
baz=53
T56A Rocky Mt 80.09 308 P **P** 12 17 59.5 +1.3
baz=54
EGAK Eagle 80.33 354 IAmb IAmb 12 18 03.0
comp=Z,11nm,0.8s
Q52A Bidwell 80.37 311 P **P** 12 18 00.6 +1.1
baz=53
GCPR Guaynabo City 80.39 286 IAmb IAmb 12 18 04.6
comp=Z,23nm,0.8s
POKR Poker Plat Res 80.42 357 P **P** 12 18 00.4 +1.1
baz=6.6,SNR=9.0
O50A Cable 80.49 312 P **P** 12 18 01.3 +1.0
baz=52
ULM Lac du Bonnet 80.52 326 P **P** 12 18 00.2 +0.1
comp=Z,5.1nm,0.9s,baz=34,slow=5.2,SNR=2.3
ULM LR LR 12 53 52.1
comp=Z,163nm,21.1s,baz=30,slow=36
ULM Lac du Bonnet 80.52 326 P **P** 12 17 59.2 -0.9
ULM pmax pmax
comp=Z,10.0nm,1.1s
ULM Lac du Bonnet 80.52 326 P **P** 12 17 59.2 -0.9
R53A Hurricane 80.55 310 P **P** 12 18 01.8 +1.3
baz=53
V57A Coltrane Farms 80.59 307 P **P** 12 18 02.1 +1.3
baz=54
MLY Manley 80.64 358 IAmb IAmb 12 18 14.3
comp=Z,22nm,0.8s
COLA College 80.68 357⇓*iP* **P** 12 18 01.3 +0.6
COLA pmax pmax
comp=Z,11nm,1.1s
COLA College 80.68 357 P **P** 12 18 01.6 +0.9
COLA IAmb IAmb 12 18 14.7
comp=Z,23nm,1.2s
TCOL CIGO, UAF Yank 80.68 357 P **P** 12 18 02.1 +1.3
baz=6.3
IL31 80.74 356 P **P** 12 18 01.6 +0.6
ILAR Eielson Array 80.74 356 P **P** 12 18 01.1 +0.1
comp=Z,4.1nm,0.8s,baz=354,slow=3.6,SNR=47
ILAR LR LR 12 55 29.7
comp=Z,86nm,20.9s,baz=4.0,slow=37
B35A Bob, Littlefor 80.79 324 IAmb IAmb 12 18 03.0
comp=Z,23nm,1.7s
O49A Covington 80.90 313 IAmb IAmb 12 18 18.8
comp=Z,11nm,0.7s
N48A Decatur 80.91 314 P **P** 12 18 02.9 +0.5
baz=52
CCB Clear Creek Bu 80.91 357 IAmb IAmb 12 18 15.5
comp=Z,15nm,0.9s
P50A Jamestown 80.93 312 P **P** 12 18 03.1 +0.5
baz=52
OBIP Obispado Ponce 80.95 286 IAmb IAmb 12 18 10.0
comp=Z,16nm,0.6s
Q51A Peebles 81.00 311 IAmb IAmb 12 18 04.7
comp=Z,18nm,1.1s
U55A TA2, Sparta 81.06 308 P **P** 12 18 04.8 +1.4
baz=53
T54A Tazewell 81.07 309 P **P** 12 18 04.3 +0.9
baz=53
HDA Harding Lake 81.10 356 P **P** 12 18 03.4 +0.4
baz=7.0,SNR=35
I42A Draeger Farm, 81.23 318 IAmb IAmb 12 18 05.8
comp=Z,14nm,1.0s
SCRK Sand Creek 81.34 355 IAmb IAmb 12 18 19.0
comp=Z,34nm,1.3s
O48A Farmland 81.35 313 P **P** 12 18 05.4 +0.6
baz=52
U54A Nelsons Funny 81.55 309 P **P** 12 18 07.0 +1.0
baz=53
BPAW Bear Paw Mtn. 81.58 358 IAmb IAmb 12 18 18.8
comp=Z,19nm,1.0s
RIDG Independent Ri 81.64 355 IAmb IAmb 12 18 20.2
comp=Z,21nm,0.9s
YSS Yuzh-Sakhalins 81.65 38⇑*eP* **P** 12 18 02.2 -4.0
YSS *eS* **S** 12 28 23.8 +6.7
YSS pmax pmax
comp=Z,20nm,1.2s
YSS pmax pmax
comp=Z,200nm,2.9s
YSS Yuzh-Sakhalins 81.65 38 P **P** 12 18 06.5 +0.3
YSS IAmb IAmb 12 18 24.8
comp=Z,24nm,1.0s
DOT Dot Lake 81.67 355 IAmb IAmb 12 18 20.5
comp=Z,25nm,1.1s
MCK McKinley 81.87 357 IAmb IAmb 12 18 21.1
comp=Z,30nm,1.0s
AGMN Agassiz Nation 81.87 324 P **P** 12 18 07.7 +0.3
baz=46
KMSC Kings Mountain 82.06 307 P **P** 12 18 09.9 +1.3
baz=53
V54A Nebo 82.08 308 P **P** 12 18 10.1 +1.4
baz=53
KTH Kantishna Hill 82.12 358 IAmb IAmb 12 18 22.4
comp=Z,35nm,1.2s
RND Reindeer 82.19 357 IAmb IAmb 12 18 13.2
comp=Z,13nm,0.7s
TRF Thorofare Moun 82.20 358 IAmb IAmb 12 18 22.4
comp=Z,28nm,1.2s
MENT Mentasta 82.35 355 IAmb IAmb 12 18 22.1
comp=Z,15nm,0.8s
SFIN Lafayette 82.44 314 P **P** 12 18 11.1 +0.6
baz=50
SPMN Marine on St. 82.45 321 P **P** 12 18 11.2 +0.7
baz=47
R49A Shelbyville 82.58 312 IAmb IAmb 12 18 13.1
comp=Z,10nm,0.8s
JFWS Jewell Farm 82.61 318 P **P** 12 18 11.6 +0.3
baz=49

BLO Bloomington 82.86 313 IAmb IAmb 12 18 14.4
comp=Z,15nm,0.8s
Y55A Saluda 83.13 307 P **P** 12 18 15.5 +1.4
baz=53
T50A Nancy 83.17 311 IAmb IAmb 12 18 16.5
comp=Z,8.3nm,0.8s
WCI Wyandotte Cave 83.31 312 P **P** 12 18 16.2 +1.1
baz=51
WCI Wyandotte Cave 83.31 312 P **P** 12 18 15.5 +0.4
WCI pmax pmax
comp=Z,14nm,0.9s
WCI Wyandotte Cave 83.31 312 P **P** 12 18 15.5 +0.4
WCI IAmb IAmb 12 18 17.0
comp=Z,14nm,0.8s
JNU Nakatsue 83.49 54 P **P** 12 18 16.2 +0.1
comp=Z,14nm,1.1s,baz=194,slow=3.5,SNR=4.3
JNU Nakatsue 83.49 54 IAmb IAmb 12 18 17.2
comp=Z,18nm,1.1s
HDIL Hopedale 83.61 315 P **P** 12 18 17.5 +1.0
baz=49
PEA0B Petropavlovsk- 83.62 26⇑*eP* **P** 12 18 15.4 -1.0
PETK Petropavlovsk- 83.62 26 P **P** 12 18 16.4 0.0
comp=Z,1.2nm,0.9s,baz=260,slow=8.9,SNR=3.9
PETK LR LR 12 59 22.9
comp=Z,99nm,19.8s,baz=248,slow=38
HYT Haines Junctio 83.80 351 IAmb IAmb 12 18 19.5
comp=Z,18nm,1.0s
MDSI Maura Dua 83.97 100 P **P** 12 18 22.3 +3.5
comp=Z,10nm,0.5s
U49A Red Boiling Sp 84.07 311 IAmb IAmb 12 18 21.0
comp=Z,15nm,0.9s
BALM Baldy 84.11 354 IAmb IAmb 12 18 33.3
comp=Z,24nm,1.2s
T47A Sharon Grove 84.59 312 IAmb IAmb 12 18 23.3
comp=Z,9.9nm,0.8s
DLBC Dease Lake 84.92 347 IAmb IAmb 12 18 37.7
comp=Z,38nm,1.9s
BDFB Brasilia 85.07 247 P **P** 12 18 26.1 +1.8
comp=Z,6.4nm,0.7s,baz=80,slow=6.4,SNR=9.3
BDFB LR LR 12 55 53.1
comp=Z,153nm,20.7s,baz=74,slow=35
BDFB Brasilia 85.07 247 P **P** 12 18 26.7 +2.4
BDFB IAmb IAmb 12 18 28.0
comp=Z,22nm,1.5s
SIUC Southern Illin 85.41 313 IAmb IAmb 12 18 27.5
comp=Z,17nm,1.1s
ECSD EROS Data Cent 85.45 322 P **P** 12 18 26.5 +0.6
baz=45,SNR=18
ECSD EROS Data Cent 85.45 322 IAmb IAmb 12 18 27.4
comp=Z,14nm,0.8s
S44A Carbondale 85.45 313 IAmb IAmb 12 18 27.6
comp=Z,18nm,0.9s
WVT Waverly 85.59 311 P **P** 12 18 26.8 +0.2
baz=50
WVT Waverly 85.59 311 P **P** 12 18 26.4 -0.2
WVT pmax pmax
comp=Z,10.0nm,0.9s
WVT Waverly 85.59 311 P **P** 12 18 26.4 -0.2
WVT IAmb IAmb 12 18 27.7
comp=Z,10nm,0.8s
P40A Paris 85.87 316 IAmb IAmb 12 18 29.5
comp=Z,19nm,1.4s
MAJO Matsushiro 86.04 48⇓*eP* **P** 12 18 28.5 -0.4
MAJO pmax pmax
comp=Z,8.0nm,2.5s
MAJO Matsushiro 86.04 48 P **P** 12 18 28.2 -0.7
MAJO IAmb IAmb 12 18 29.7
comp=Z,7.3nm,0.8s
MAT Matsushiro 86.04 48 P **P** 12 18 28.3 -0.6
MJAR Matsushiro Arr 86.04 48 P **P** 12 18 29.3 +0.4
comp=Z,7.7nm,0.9s,baz=305,slow=5.2,SNR=36
CCM Cathedral Cave 86.39 315 P **P** 12 18 31.7 +1.1
baz=48
CCM Cathedral Cave 86.39 315 P **P** 12 18 31.2 +0.6
CCM pmax pmax
comp=Z,17nm,0.8s
CCM Cathedral Cave 86.39 315 P **P** 12 18 31.2 +0.6
PLAL Pickwick Lake 86.48 311 IAmb IAmb 12 18 32.3
comp=Z,15nm,0.9s
P38A Dawn 86.65 317 IAmb IAmb 12 18 33.6
comp=Z,21nm,1.2s
SBUM Sibu 86.66 89 P **P** 12 18 33.0 +0.8
LRAL Lakeview Retre 87.05 309 P **P** 12 18 35.2 +1.4
baz=50
MGMO Mountain Grove 87.60 314 IAmb IAmb 12 18 38.6
comp=Z,12nm,0.8s
LCAR Lake Charles 87.66 313 IAmb IAmb 12 18 38.7
comp=Z,12nm,0.8s
LAO LASA Array 87.79 329 P **P** 12 18 38.7 +1.4
baz=38,SNR=9.1
EGMT Eagleton 88.18 331 P **P** 12 18 40.1 +0.9
baz=36,SNR=7.3
U40A Yellville 88.48 314 P **P** 12 18 41.3 +0.6
baz=47
KSU1 Kansas State U 88.72 318 P **P** 12 18 42.5 +0.7
baz=45
KSU1 Kansas State U 88.72 318 IAmb IAmb 12 18 43.2
comp=Z,12nm,0.8s
RSSD Black Hills 88.79 326 P **P** 12 18 43.2 +0.9
baz=40
RSSD Black Hills 88.79 326 P **P** 12 18 43.0 +0.7
RSSD pmax pmax
comp=Z,8.0nm,1.1s
RSSD Black Hills 88.79 326 P **P** 12 18 43.0 +0.7
RSSD IAmb IAmb 12 18 44.0
comp=Z,7.9nm,1.1s
WALA Waterton Lakes 88.90 334 IAmb IAmb 12 18 43.6
comp=Z,5.7nm,0.8s
W41B Gary Mavity, V 88.92 313 P **P** 12 18 43.2 +0.4
baz=47
X40A Basin Creek Fa 89.74 313 P **P** 12 18 47.3 +0.7
baz=47
W39A Magazine 89.83 314 P **P** 12 18 48.0 +1.0
baz=46
JTMT Jette 90.14 334 IAmb IAmb 12 19 04.0
comp=Z,11nm,0.9s
MIAR Mount Ida 90.15 313 P **P** 12 18 49.6 +1.1
baz=46
MIAR Mount Ida 90.15 313 P **P** 12 18 49.5 +1.0
MIAR pmax pmax
comp=Z,4.0nm,0.8s
MIAR Mount Ida 90.15 313 P **P** 12 18 49.5 +1.0
TUL1 Leonard 90.51 316 P **P** 12 18 50.8 +0.6
baz=45
NEW Newport 90.70 336 P **P** 12 18 51.8 +0.9
baz=31
NEW Newport 90.70 336 IAmb IAmb 12 18 52.5
comp=Z,8.3nm,0.8s
YNE Yellowstone No 90.73 330 P **P** 12 18 51.8 +0.5
K22A Casper 91.08 326 P **P** 12 18 52.8 -0.1
baz=38
K22A Casper 91.08 326 IAmb IAmb 12 18 53.7
comp=Z,13nm,1.1s
X37A Clayton 91.19 314 IAmb IAmb 12 18 57.5
comp=Z,6.8nm,0.9s
H17A Grant Village 91.46 330 P **P** 12 18 58.5 +3.7
baz=35
PHWY Pilot Hill 91.63 325 P **P** 12 18 55.9 +0.2
N23A Red Feather La 92.18 325 P **P** 12 18 58.7 +0.5
baz=39
PDAR Pinedale Array 92.34 328 P **P** 12 18 58.6 -0.3
comp=Z,1.2nm,0.7s,baz=35,slow=5.4,SNR=8.7
PDAR LR LR 13 01 35.9
comp=Z,154nm,21.2s,baz=36,slow=36
TPAW Teton Pass 92.35 329 P **P** 12 18 59.4 +0.4
TPAW IAmb IAmb 12 19 00.7
comp=Z,4.8nm,0.8s
ISCO Idaho Springs 92.87 324 P **P** 12 19 02.1 +0.7
baz=39
WMOK Wichita Mounta 93.06 316 P **P** 12 19 02.7 +0.7
baz=43
O20A White River Ci 93.86 326 P **P** 12 19 05.9 +0.1
baz=37
O20A White River Ci 93.86 326 P **P** 12 19 05.0 -0.8
O20A IAmb IAmb 12 19 09.1
comp=Z,9.1nm,1.3s
HWUT Hardware Ranch 94.16 329 IAmb IAmb 12 19 08.1
comp=Z,5.5nm,0.8s
T25A Trinidad 94.32 321 P **P** 12 19 08.8 +0.7
baz=40
SDCO Great Sand Dun 94.40 323 P **P** 12 19 08.5 0.0
baz=39
S22A 4UR Ranch, Cre 95.06 323 P **P** 12 19 11.2 -0.3
baz=38
PV01 Paradox Valley 95.60 325 P **P** 12 19 13.8 -0.1
NVAR Mina Array Bea 99.61 331 P **Pdif** 12 19 32.6 +0.7
comp=Z,0.4nm,0.8s,baz=71,slow=3.4,SNR=4.1
NVAR LR LR 13 07 34.6
comp=Z,121nm,18.5s,baz=9.5,slow=37
TXAR Lajitas Array 99.83 316 P **Pdif** 12 19 33.2 +0.3
comp=Z,0.6nm,0.8s,baz=62,slow=3.4,SNR=7.0
TXAR LR LR 13 07 13.8
comp=Z,56nm,18.5s,baz=0.0,slow=37
SYO Syowa Base 103.89 174⇓*eP* **Pdif** 12 19 37.2 -12
FORT Forrest 116.93 110 **PKiKP** 12 24 36.0 +3.1
WB0 Warramunga Arr 116.94 96 PKPdf **PKPdf** 12 24 33.0 -0.2
WRA Warramunga Arr 116.98 96 PKP **PKPdf** 12 24 32.9 -0.4
comp=Z,0.6nm,0.6s,baz=317,slow=1.8,SNR=8.7
WB2 Warramunga Arr 116.99 96 PKPdf **PKPdf** 12 24 33.1 -0.2
WR0 Warramunga Arr 117.15 96 PKPdf **PKiKP** 12 24 36.5 +2.8
ASAR Alice Springs 118.39 100 PKP **PKPdf** 12 24 36.0 0.0
comp=Z,0.6nm,0.7s,baz=305,slow=1.1,SNR=10.0
ASAR PKKPbc **PKKPab** 12 34 54.7 -0.8
comp=Z,0.5nm,0.5s,baz=120,slow=3.7,SNR=17
OBL Observatory Le 126.29 360 PKPpre PKPpre 12 24 41.7
KHU Kahuku 126.46 0 PKPpre PKPpre 12 24 44.9
CTAO Charters Tower 126.86 90 PKIKP **PKPdf** 12 24 48.4 -3.9
CTAO Charters Tower 126.86 90 PKPdf **PKPdf** 12 24 48.4 -3.9
STKA Stephens Creek 127.99 106 PKIKP **PKPdf** 12 24 54.6 +0.5
STKA Stephens Creek 127.99 106 PKPdf **PKPdf** 12 24 54.6 +0.5
MCQ Macquarie Isla 142.70 137 PKIKP **PKPdf** 12 25 21.4 +0.8
MCQ Macquarie Isla 142.70 137 PKPdf **PKPdf** 12 25 21.4 +0.8

*SJA **01** 12:10:28.7±1.2,32.°89S×71.°77W,h21km±5km, ML3.4, MW3.7*
*GUC **01** 12:10:31.4±0.8,32.°77S×71.°62W,h39km±3km, ML3.5*
*NEIC **01** 12:10:31.2±2.6,32.°78S±0.°04×71.°66W±0.°06,h32km±9km, Error ellipse: s-maj=7.9km s-min=5.8km az=85.0*
ISC 01 12:10:29.9±1.3,**32.76S**±0.°03×**71.71W**±0.°05,**h29**km±10km, **n56**,σ1.**98**/**78**,**4C-6D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.62**	**111**			**Pb**	**12 10 42.6**	**+0.1**
ROC1						**Sb**	**12 10 50.6**	**-0.4**
ROC1	**El Roble**	**0.62**	**111**	*i* P		**Pb**	**12 10 42.7**	**+0.1**
ROC1				*i* S		**Sb**	**12 10 51.2**	**+0.1**
ROCH	**El Roble**	**0.62**	**110**⇓	*i*P		**Pb**	**12 10 42.6**	**+0.1**
ROCH				*i* S		**Sb**	**12 10 51.0**	**-0.1**
ROCH				IAML			12 10 51.6	
comp=N,3μm,0.1s								
MT02	**Curacav**	**0.69**	**136**⇓	*i*P		**Pn**	**12 10 43.7**	**-0.2**
MT02				IAML			12 10 53.8	
comp=E,1μm,0.4s								
MT02	**Curacav**	**0.69**	**136**			**Pn**	**12 10 43.7**	**-0.2**
PEL	**Peldehue**	**0.94**	**114**⇓	*i*P		**Pn**	**12 10 47.7**	**+0.4**
PEL				*e*S		**Sn**	**12 10 59.4**	**-0.4**
PEL				IAML			12 11 01.5	
comp=N,4μm,0.1s								
PEL	**Peldehue**	**0.94**	**114**			**Pn**	**12 10 47.6**	**+0.3**
PEL	**Peldehue**	**0.94**	**114**	*i* P		**Pn**	**12 10 47.8**	**+0.4**
PEL				*e*S		**Sb**	**12 11 00.3**	**+0.4**
VA03	**San Esteban**	**0.97**	**91**⇓	*i*P		**Pn**	**12 10 47.6**	**-0.2**
VA03				*i* S		**Sn**	**12 11 00.1**	**-0.6**
VA03				IAML			12 11 01.0	
comp=E,5μm,0.1s								
VA03	**San Esteban**	**0.97**	**91**			**Pn**	**12 10 47.6**	**-0.2**
VA03					Sg	**Sn**	**12 11 00.0**	**-0.6**
MT05	**Renca**	**1.03**	**128**			**Pn**	**12 10 49.2**	**+0.7**
RCDM	**Rinconada Maip**	**1.05**	**134**⇑	*i*P		**Pb**	**12 10 50.4**	**+0.9**
RCDM				*e*S		**Sb**	**12 11 03.5**	**+0.5**
MT01	**Popeta**	**1.17**	**161**⇑	*i*P		**Pn**	**12 10 51.5**	**+1.1**
MT01				*i* S		**Sb**	**12 11 09.4**	**+0.1**
MT01				IAML			12 11 09.7	
comp=N,1μm,0.4s								
MT01	**Popeta**	**1.17**	**161**			**Pn**	**12 10 51.5**	**+1.1**
CLCH	**Cerro Calan**	**1.17**	**123**⇓	*i*P		**Pn**	**12 10 51.4**	**+0.9**
CLCH				*i* S		**Sn**	**12 11 06.0**	**+0.4**
CLCH				IAML			12 11 07.8	
comp=N,2μm,0.5s								
FSR	**Penalolen**	**1.22**	**126**	*e*P		**Pb**	**12 10 53.5**	**+1.0**
FSR				*i* S		**Sb**	**12 11 09.2**	**+1.3**
MT03	**Universidad Ad**	**1.25**	**127**⇓	*i*P		**Pn**	**12 10 52.6**	**+1.1**
MT03				*i* S		**Sn**	**12 11 08.0**	**+0.6**
MT03				IAML			12 11 11.9	
comp=N,4μm,0.2s								
CO02	**Combarbal**	**1.66**	**21**	*i* S		**Sb**	**12 11 20.8**	**+0.3**
CO02	**Combarbal**	**1.66**	**21**			**Pn**	**12 10 58.6**	**+1.4**
LMEL	**Las Melosas**	**1.66**	**131**⇑	*i*P		**Pb**	**12 10 59.4**	**-0.6**
LMEL				*i* S		**Sb**	**12 11 19.9**	**-0.8**
LMEL				IAML			12 11 24.7	
comp=N,2μm,0.2s								
AUSP	**Uspallata**	**2.03**	**75**	*e*P		**Pb**	**12 11 05.7**	**-0.7**
AUSP				*i* S		**Sb**	**12 11 33.7**	**+2.3**
CO03	**El Pedregal**	**2.10**	**25**	Pn		**Pn**	**12 11 05.0**	**+1.7**
BO02	**Sierra Bellavi**	**2.17**	**159**⇑	*i*P		**Pn**	**12 11 06.0**	**+1.7**
BO02				*i* S		**Sn**	**12 11 32.8**	**+2.6**
BO02				IAML			12 11 40.8	
comp=E,852nm,0.2s								
BO02	**Sierra Bellavi**	**2.17**	**159**	Pn		**Pn**	**12 11 05.9**	**+1.7**
RTLS	**Leoncito**	**2.25**	**66**	*i* P		**Pb**	**12 11 09.2**	**-1.0**
RTLS				IAML			12 11 50.8	
comp=Z,79nm,1.1s								
GO05	**Huala**	**2.25**	**185**	IAML			12 11 49.2	
comp=E,211nm,0.4s								
GO05	**Huala**	**2.25**	**185**			**Pn**	**12 11 06.0**	**+0.7**
GO05	**Huala**	**2.25**	**185**	*i* P		**Pn**	**12 11 05.9**	**+0.6**
GO05				*i* S		**Sn**	**12 11 32.0**	**-0.2**
GO04	**Tololo Observa**	**2.69**	**17**			**Pn**	**12 11 13.5**	**+1.9**
GO04	**Tololo Observa**	**2.69**	**17**	*e*P		**Pn**	**12 11 13.0**	**+1.5**
GO04				*e*S		**Sb**	**12 11 51.1**	**+0.8**
RTCV	**Cerro Valdivia**	**2.83**	**72**	*e*P		**Pb**	**12 11 17.5**	**-2.2**
RTCV				IAML			12 12 04.4	
comp=Z,92nm,2.0s								
ZON	**Zonda**	**2.84**	**66**			**Pn**	**12 11 17.4**	**+4.0**
ZON	**Zonda**	**2.84**	**66**	*i* P		**Pn**	**12 11 17.4**	**+4.0**
ZON				*e*S		**Sb**	**12 11 53.2**	**-1.1**
ZON				IAML			12 12 05.5	
comp=Z,69nm,1.1s								
COIS	**El Sosneado**	**2.93**	**144**	*i* P		**Pb**	**12 11 20.6**	**-0.9**
LAMA	**Las Malvinas**	**3.01**	**137**	*i* P		**Pb**	**12 11 20.3**	**-2.5**
RTLL	**Cerro Villicun**	**3.09**	**63**	*e*P		**Pn**	**12 11 20.2**	**+3.3**
RTLL				*e*S		**Sb**	**12 11 59.7**	**-1.9**
RTLL				IAML			12 12 07.5	
comp=Z,128nm,0.4s								
CO01	**Juntas del Tor**	**3.10**	**27**			**Pn**	**12 11 20.3**	**+3.2**
ACCO	**Cerro Coronel**	**3.12**	**47**	*e*P		**Pn**	**12 11 22.1**	**+4.6**
ACCO				*e*S		**Sb**	**12 12 04.1**	**+1.4**
ACCO				IAML			12 12 18.7	
comp=Z,115nm,0.6s								
CFA	**Coronel Fontan**	**3.16**	**70**	*e*P		**Pn**	**12 11 21.2**	**+3.4**
CFA				*e*S		**Sb**	**12 12 01.1**	**-2.4**
CFA				IAML			12 12 08.5	
comp=Z,68nm,0.6s								
AROD	**Rodeo**	**3.21**	**37**	*e*P		**Pn**	**12 11 23.0**	**+4.2**
AROD				*e*S		**Sb**	**12 12 05.4**	**+0.1**
AMOG	**MOGNA**	**3.28**	**57**	*e*P		**Pn**	**12 11 22.9**	**+3.4**
AMOG				IAML			12 12 28.8	
comp=Z,91nm,0.6s								
PUMA	**Malargue**	**3.31**	**146**	*e*P		**Pb**	**12 11 24.7**	**-3.4**
ACDV	**Cuesta del Vie**	**3.40**	**41**	*i* P		**Pn**	**12 11 25.5**	**+4.3**
ACDV				IAML			12 12 23.7	
comp=Z,60nm,0.5s								
ACAN	**Cantantal**	**3.85**	**84**	*i* P		**Pn**	**12 11 31.2**	**+4.0**
ACAN				*e*S		**Sb**	**12 12 18.6**	**-4.7**
ACAN				IAML			12 12 22.0	
comp=Z,67nm,0.5s								
BI02	**San Fabin de**	**3.91**	**175**	Pn		**Pn**	**12 11 29.8**	**+1.6**
AC05	**El Transito**	**4.10**	**18**	Pn		**Pn**	**12 11 32.8**	**+2.1**
BI03	**Tigo**	**4.22**	**195**			**Pn**	**12 11 32.8**	**+0.5**
AC04	**Llanos de Chal**	**4.57**	**7**	Pn		**Pn**	**12 11 38.3**	**+1.2**
VCA	**Vinchina**	**5.01**	**38**	*i* P		Pn	12 11 48.8	+5.4
VCA				IAML			12 13 22.2	
comp=Z,53nm,1.0s								
LC01	**Cunco**	**6.13**	**181**	Pn		**Pn**	**12 11 58.0**	**-0.6**
TCA	**Tanti**	**6.20**	**79**	*i* P		**Pn**	**12 12 00.8**	**+1.2**
TCA				*i* S		**Sn**	**12 13 10.0**	**+0.4**
TCA				IAML			12 13 38.4	
comp=Z,18nm,0.6s								
AC02	**Maricunga**	**6.31**	**21**	Pn		**Pn**	**12 12 02.5**	**+1.0**
PLCA	**Paso Flores**	**8.01**	**174**	Pn		**Pn**	**12 12 26.6**	**+2.1**
LPAZ	**La Paz**	**16.71**	**12**	Pn		**Pn**	**12 14 18.2**	**-4.5**
LPAZ				IAmb		IAmb	12 14 29.1	
comp=Z,2.1nm,0.9s								
PMSA	**Palmer Station**	**32.39**	**174**	P		**P**	**12 16 56.3**	**-0.4**
PMSA				IAmb		IAmb	12 16 58.2	
comp=Z,32nm,1.1s								
QSPA	**South Pole Qui**	**57.48**	**180**	P		**P**	**12 20 17.9**	**+1.8**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
QSPA				IAmb	IAmb	12 20 18.9	
	comp=Z,1.6nm,1.2s						

TAP 01 12:13:46.0,23.°74N×121.°45E,h6km±1km,ML0.8,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	Guangfu	0.07	199	eP	Pg	12 13 48.1	+0.4
	baz=199						
EGFH				S	Sg	12 13 49.9	+0.9
	baz=199						
ESL	Shilin	0.08	346	P	Pg	12 13 48.3	+0.4
	baz=350						
ESL				eS	Sg	12 13 50.1	+1.0
	baz=350						
HGSD	Ruisui	0.25	186	eP	Pg	12 13 52.4	+1.5
	baz=186						
HGSD				eS	Sg	12 13 57.4	+3.3
	baz=186						
EHY	Hungye	0.26	208	eP	Pb	12 13 52.7	-0.5
	baz=206						
EHY				eS	Sb	12 13 57.2	-0.7
	baz=206						
VWDT	VWDT	0.29	273	eP	Pb	12 13 52.9	-0.7
	baz=272						
VWDT				eS	Sb	12 13 57.8	-0.8
	baz=272						
YULB	Yu-li	0.37	203	eP	Pg	12 13 54.0	+0.7
	baz=202						
YULB				eS	Sb	12 13 60.0	-1.2
	baz=202						
CHGB	Renai	0.41	321	eP	Pb	12 13 55.7	-0.1
	baz=321						
CHGB				eS	Sb	12 14 02.0	-0.5
	baz=321						
TWF1	Yuli	0.41	201	eP	Pg	12 13 54.3	+0.3
	baz=199						

JMA 01 12:14:01.3±0.2,24.°83N×123.°21E,h30km,M1.0, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.41	206	P	Pb	12 14 09.9	-0.4
YOJ				S	Sb	12 14 16.2	-0.2
JYNG	Yonagunijimaku	0.45	213	P	Pb	12 14 10.6	-0.3
JYNG				eS	Sb	12 14 17.3	-0.1
IRIF	Iriomote-Funau	0.68	136	P	Pb	12 14 14.3	-0.4
IRIF				eS	Sb	12 14 23.1	-0.8
JKRS	Kuro-shima	0.94	129	P	Pn	12 14 17.8	-0.6
JKRS				S	Sn	12 14 30.2	-0.6
JIJ	Ishigaki jima	0.97	118	eS	Sn	12 14 31.1	-0.5
JISG	Ishigakijimahi	1.03	103	eS	Sn	12 14 33.2	+0.1

WBNET 01 12:20:04.2,50.°24N×12.°44E,h8km,Ml0.5,4C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.01	157	⇓P	Pg	12 20 05.7	+0.1
NKC				S	Sg	12 20 06.7	+0.1
LBCW	Luby	0.03	323	⇓P	Pg	12 20 06.0	+0.2
LBCW				S	Sg	12 20 07.2	+0.3
VAC	Vackov	0.04	265	⇓P	Pg	12 20 06.0	+0.1
VAC				S	Sg	12 20 07.1	+0.1
STCW	Studenec	0.05	67	⇑P	Pg	12 20 06.0	0.0
STCW				S	Sg	12 20 07.1	-0.1
KVC	Kvetna	0.06	126	S	Sg	12 20 07.0	-0.2
POCW	Potky	0.08	352	⇓P	Pg	12 20 06.6	+0.2
POCW				S	Sg	12 20 08.1	+0.2
SKC	Skalna	0.09	218	⇑P	Pg	12 20 06.4	+0.1
SKC				S	Sg	12 20 07.9	0.0
KRCW	Kraslice	0.11	31	⇑P	Pg	12 20 06.8	+0.1
KRCW				S	Sg	12 20 08.5	0.0
ZHC	Zelena Hora	0.19	207	⇑P	Pg	12 20 08.1	+0.1
ZHC				S	Sg	12 20 10.7	0.0
CLL	Collm	1.13	18	iSg	Sn	12 20 41.8	-0.2

PRU 01 12:20:58.0±0.0,50.°23N×12.°53E,h0km,West Bohemia Swarm

WBNET 01 12:20:57.4,50.°22N×12.°45E,h9km,Ml1.8,7C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.01	8	ePG	Pg	12 20 59.1	0.0
NKC				eSG	Sg	12 21 00.1	-0.3
	comp=Z,418nm,0.3s						
NKC	Novy Kostel	0.01	8	⇑P	Pg	12 20 59.2	0.0
NKC				S	Sg	12 21 00.4	0.0
VAC	Vackov	0.05	285	⇑P	Pg	12 20 59.4	+0.1
VAC				S	Sg	12 21 00.7	0.0
LBCW	Luby	0.05	333	⇑P	Pg	12 20 59.5	+0.1
LBCW				S	Sg	12 21 00.9	+0.1
KVC	Kvetna	0.05	112	⇑P	Pg	12 20 59.3	-0.1
KVC				S	Sg	12 21 00.5	-0.2
STCW	Studenec	0.06	53	⇑P	Pg	12 20 59.5	0.0
STCW				S	Sg	12 21 00.8	-0.2
SKC	Skalna	0.08	225	⇑P	Pg	12 20 59.7	0.0
SKC				S	Sg	12 21 01.2	-0.1
KACW	Kaceov	0.09	150	⇓P	Pg	12 20 59.9	+0.1
KACW				S	Sg	12 21 01.6	0.0
POCW	Potky	0.10	353	⇓P	Pg	12 21 00.1	+0.1
POCW				S	Sg	12 21 01.9	+0.1
KRCW	Kraslice	0.12	27	⇑P	Pg	12 21 00.3	0.0
KRCW				S	Sg	12 21 02.3	-0.1
ZHC	Zelena Hora	0.18	210	⇓P	Pg	12 21 01.2	0.0
ZHC				S	Sg	12 21 03.7	-0.1
PBCC	Pribram	1.14	118	ePG	Pb	12 21 18.0	-1.2
PBCC				eSG	Sg	12 21 32.6	-1.4
	comp=Z,3.7nm,0.4s						
CLL	Collm	1.14	18	iPg	Pn	12 21 19.6	+0.1
CLL				i		12 21 22.0	
CLL				iSg	Sn	12 21 34.8	-0.4
	comp=Z,7.0nm,0.3s						
CLL				i		12 21 38.5	
KHC	Kasperske Hory	1.32	146	ePG	Pn	12 21 21.5	-0.4
KHC				eSG	Sb	12 21 38.7	-0.6
	comp=Z,4.4nm,0.3s						
PRU	Pruhonice	1.37	99	ePG	Pn	12 21 21.6	-1.0
PRU				eSG	Sb	12 21 40.6	-0.1
	comp=Z,6.1nm,0.2s						
GOPC	GO Pecny, Ondr	1.54	101	eSG	Sb	12 21 45.5	-0.1
	comp=Z,5.7nm,0.5s						
UPC	Upice	2.30	82	eSG	Sg	12 22 09.6	-1.7
	comp=Z,3.2nm,0.5s						
DPC	Dobruska-Polom	2.49	86	eSG	Sb	12 22 13.9	+0.9
	comp=Z,1.7nm,0.3s						
KRUC	Moravsky	2.82	113	eSG	Sb	12 22 24.8	+2.4
VRAC	Vranov	2.84	107	eSG	Sb	12 22 25.0	+2.0

BGR 01 12:25:29.6±0.0,35.°07N×70.°37E,h231km,mb4.5
MOS 01 12:25:32.0±0.9,36.°54N×70.°15E,h213km,mb4.7/59,Error ellipse: s-maj=5.1km s-min=3.4km az=80.9
IDC 01 12:25:33.4±0.6,36.°45N×70.°15E,h218km±5km,mb4.3/29, mb1 4.4/35,mb1mx4.3/44,mbtmp4.9/35,Error ellipse: s-maj=8.3km s-min=6.8km az=177.0
NNC 01 12:25:33.6±2.8,36.°63N×70.°15E,h217km±28km,mb4.3, mpv5.1,Error ellipse: s-maj=28.3km s-min=13.7km az=164.0
NEIC 01 12:25:33.1±1.7,36.°53N±0.°05×70.°08E±0.°07,h212km±4km, mb4.6/116,Error ellipse: s-maj=8.9km s-min=7.4km az=106.0
BJI 01 12:25:33.4±0.0,36.°62N×70.°25E,h218km,mB4.6/32, mb4.7/47

ISC 01 12:25:33.0±0.3,36.°51N±0.°03×70.°19E±0.°03,h210km±3km, h211km:pP-P,n529,σ1.s28/605,mb4.5/158,48C-29D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.18	206	P	Pn	12 26 14.1	-0.3
KBL				S	S	12 26 44.9	-1.3
KBL	Kabul	2.18	206	PN	Pn	12 26 14.4	0.0
KBL				S	S	12 26 44.3	-2.0
KBL	Kabul	2.18	206	Pn	Pn	12 26 14.4	0.0
KBL					S	12 26 44.2	-2.0
CHGR	Chuyangaron	2.29	339	Pn	Pn	12 26 14.6	-0.7
CHGR					S	12 26 44.8	-3.4
GAR	Garm	2.48	2	Pn	Pn	12 26 17.3	-0.1
GAR					S	12 26 49.8	-2.2
CEP	Cherat	3.03	152	⇑P	Pn	12 26 24.6	+0.9
NIL	Nilore	3.80	138	P	Pn	12 26 34.2	+1.5
NIL				S	S	12 27 15.7	-3.6
NIL	Nilore	3.80	138	PN	Pn	12 26 34.4	+1.6
NIL	Nilore	3.80	138		Pn	12 26 34.4	+1.6
CHCP	Chirah Chowk	3.80	138	⇑P	Pn	12 26 34.1	+1.3
THW	Thamme Wali	3.92	161	⇑P	Pn	12 26 34.5	+0.2
THW				S	S	12 27 20.0	-2.1
TAS	Tashkent	4.86	352	PN	Pn	12 26 45.8	0.0
TAS				S	S	12 27 40.7	-2.3
TAS	Tashkent	4.86	352	Pn	Pn	12 26 45.8	0.0
TAS					S	12 27 40.7	-2.3
SARP	Sargodha	5.02	155	P	Pn	12 26 47.7	-0.2
JMU	Jammu	5.42	133	eP	Pn	12 26 45.5	-7.5
JMU				eS	S	12 27 42.5	-14
KSH	Kashi	5.46	55	P	Pn	12 26 49.0	-4.5
KSH				S	S	12 27 47.3	-10
KSH				pmax	pmax		
	comp=Z,97nm,0.6s						
KSH				smax	smax		
	comp=N,2µm,0.5s						
KSH				smax	smax		
	comp=E,2µm,0.5s						
IUG	Iuzhnay	5.63	359	⇓iP	Pn	12 26 55.6	-0.1
	59nm,0.6s,baz=359						
IUG				iS	S	12 27 59.1	-1.9
	baz=359						
IUG	Iuzhnay	5.63	359	d iPN	Pn	12 26 55.5	-0.1
IUG				iS	S	12 27 59.0	-1.9
IUG				pmax	pmax		
	comp=Z,59nm,0.6s						
THN	Thein Dam	6.11	130	eP	Pn	12 27 02.5	+0.7
THN				ex	x	12 28 10.0	
AML	Almayashu	6.23	25	P	Pn	12 27 03.3	-0.4
	SNR=594						
DZA	Taraz	6.43	7	eP	Pn	12 27 05.8	0.0
	comp=Z,140nm,0.6s,baz=7.7						
DZA				iS	S	12 28 17.4	-2.1
	baz=7.7						
DZA				eS	S	12 28 17.6	-1.9
	baz=7.7						
DZA	Taraz	6.43	7	ePN	Pn	12 27 05.8	0.0
DZA				eS	S	12 28 17.5	-2.0
DZA				pmax	pmax		
	comp=Z,140nm,0.6s						
BRLS	Borolday	6.51	358	eP	Pn	12 27 02.8	-4.2
	comp=Z,30nm,0.8s,baz=356						
BRLS				iS	S	12 28 12.1	-9.4
	baz=356						
BRLS	Borolday	6.51	358	ePN	Pn	12 27 02.7	-4.2
BRLS				pmax	pmax		
	comp=Z,30nm,0.8s						
KK31	Karatay Array	6.59	2	⇓P	Pn	12 27 06.7	-1.1
	comp=Z,28nm,0.3s,baz=193,slow=16,SNR=852						
KK31				⇑S	S	12 28 22.0	-1.2
	comp=Z,192nm,0.8s,baz=192,slow=23,SNR=5.9						
KK31	Karatay Array	6.59	2	iPN	Pn	12 27 06.8	-1.1
KK31	Karatay Array	6.59	2	Pn	Pn	12 27 07.0	-0.9
DHRM	DHARAMSHALA	6.60	128	eP	Pn	12 27 08.2	-0.1
DHRM				eS	S	12 28 21.8	-2.2
DHRM				IAML		12 28 51.9	
	comp=N,1µm,0.5s						
UCH	Uchtor	6.62	29	P	Pn	12 27 08.5	-0.2
	SNR=294						
EKS2	Erkin-Say	6.74	23	P	Pn	12 27 09.7	-0.2
	SNR=76						
KZA	Kyzart	6.80	34	P	Pn	12 27 10.8	-0.2
	SNR=212						
HRA	Herat	6.83	254	Pn	Pn	12 27 10.3	-1.0
AAK	Ala-Archa	6.96	27	P	Pn	12 27 12.8	0.0
	comp=N,56nm,0.3s,baz=187,slow=6.4,SNR=202						
AAK				S	S	12 28 29.0	-3.1
	comp=N,44nm,0.3s,baz=329,slow=22,SNR=23						
AAK	Ala-Archa	6.96	27	P	Pn	12 27 12.8	0.0
	SNR=233						
AAK	Ala-Archa	6.96	27	iP	Pn	12 27 12.4	-0.4
	SNR=238						
AAK	Ala-Archa	6.96	27	P	Pn	12 27 12.6	-0.2
AAK				S	S	12 28 24.3	-7.9
AAK	Ala-Archa	6.96	27	d iPN	Pn	12 27 12.6	-0.2
KBK	Karagaybulak	7.15	29	P	Pn	12 27 15.6	+0.3
	SNR=122						
BHK	Bhakra	7.25	133	eP	Pn	12 27 17.0	+0.5
BHK				eS	S	12 28 33.8	-5.1
CHMS	Chumysh	7.37	27	P	Pn	12 27 17.9	-0.1
	SNR=44						
ULHL	Ulahol	7.39	37	P	Pn	12 27 18.3	-0.2
	SNR=58						
USP	Ospenovka	7.51	25	P	Pn	12 27 19.3	-0.6
	SNR=73						
TKM2	Tokmak 2	7.63	31	P	Pn	12 27 21.3	-0.2
	SNR=172						
SGDS	Sogindy	7.72	25	⇓iP	Pn	12 27 21.5	-1.1
	comp=N,31nm,0.7s,baz=26						
SGDS				iI	I	12 27 36.1	
	baz=26						
SGDS				isP		12 28 07.9	
	baz=26						
SGDS				iS	S	12 28 46.9	-3.0
	baz=26						
SGDS	Sogindy	7.72	25	d iPN	Pn	12 27 21.5	-1.1
SGDS				iS	S	12 28 46.9	-3.0
SGDS				pmax	pmax		
	comp=Z,31nm,0.7s						
TARG	Taragay, Kyrgy	7.88	46		Pn	12 27 24.4	-0.5
SMLA	Simla	7.91	131	eP	Pn	12 27 24.4	-0.5
SMLA				eS	S	12 28 49.4	-5.0
MTBS	Maitube	8.16	34	eP	Pn	12 27 28.8	+0.4
	comp=Z,791nm,0.5s,baz=35						
MTBS				iS	S	12 28 59.2	-1.3
	baz=35						
MTBS	Maitube	8.16	34	ePN	Pn	12 27 28.7	+0.4
MTBS				iS	S	12 28 59.1	-1.3
MTBS				pmax	pmax		
	comp=Z,791nm,0.5s						
TNSS	Tian-Shan	8.33	37	⇓iP	Pn	12 27 30.9	+0.1
	comp=Z,804nm,0.5s,baz=37						
TNSS				iS	S	12 29 04.3	-0.7
	baz=37						
TNSS	Tian-Shan	8.33	37	d iPN	Pn	12 27 30.9	+0.1
TNSS				iS	S	12 29 04.3	-0.7
TNSS				pmax	pmax		
	comp=Z,804nm,0.5s						
AAA	Alma-Ata	8.45	36	eP	Pn	12 27 32.1	+0.1
	comp=Z,42nm,0.9s,baz=36						
AAA				eS	S	12 29 06.0	-1.2
	baz=36						
AAA	Alma-Ata	8.45	36	ePN	Pn	12 27 32.6	+0.6
MDOK	Medeo	8.48	36	iP	Pn	12 27 32.8	+0.3
	comp=Z,575nm,0.7s,baz=37						
MDOK				iS	S	12 29 06.9	-1.1
	baz=37						
MDOK	Medeo	8.48	36	⇑P	Pn	12 27 32.7	+0.3
	comp=Z,40nm,0.6s						
MDOK				S	S	12 29 04.8	-3.2
	comp=Z,194nm,1.2s						
MDOK	Medeo	8.48	36	iPN	Pn	12 27 32.7	+0.3
MDOK				iS	S	12 29 06.9	-1.1
MDOK				pmax	pmax		
	comp=Z,575nm,0.7s						
KNDC	Almaty	8.48	36	⇓P	Pn	12 27 33.2	+0.8
	comp=Z,135nm,0.8s						
KNDC				⇓S	S	12 29 11.7	+3.8
	comp=Z,223nm,1.4s						
KUU	Kurty	8.74	31	eP	Pn	12 27 34.7	-1.1
	comp=Z,14nm,0.7s,baz=31						
KUU	Kurty	8.74	31	ePN	Pn	12 27 34.6	-1.1
KUU				pmax	pmax		
	comp=Z,14nm,0.7s						
CHKK	Chushkaly	8.98	33	iP	Pn	12 27 38.5	-0.4
	comp=Z,182nm,0.5s,baz=34						
CHKK	Chushkaly	8.98	33	iP	Pn	12 27 38.5	-0.4
CHKK				pmax	pmax		
	comp=Z,182nm,0.5s						
DDI	Dehra Dun	9.01	131	eP	Pn	12 27 39.3	-0.1
DDI				eS	S	12 29 14.6	-6.2
SATY	Saty	9.09	42	⇓iP	Pn	12 27 40.0	-0.3
	comp=Z,10nm,0.8s,baz=42						
SATY	Saty	9.09	42	d iP	Pn	12 27 40.0	-0.3
SATY				pmax	pmax		
	comp=Z,10.0nm,0.8s						
UZB	Uzynbulak	9.48	43	⇓iP	Pn	12 27 45.2	-0.3
	comp=Z,7.7nm,0.7s,baz=44						
UZB	Uzynbulak	9.48	43	d iP	Pn	12 27 45.1	-0.3
UZB				pmax	pmax		
	comp=Z,8.0nm,0.7s						
SHLS	Shalkode	9.73	44	eP	Pn	12 27 51.7	+3.1
	comp=Z,11nm,1.2s,baz=46						
SHLS	Shalkode	9.73	44	eP	Pn	12 27 51.7	+3.1
SHLS				pmax	pmax		
	comp=Z,11nm,1.2s						
GEYT	Alibeck	9.73	282	P	Pn	12 27 46.2	-2.4
	comp=Z,1.1nm,0.3s,baz=92,slow=10,SNR=9.8						
GYA0	ALIBECK ARRAY	9.73	282	P	Pn	12 27 46.0	-2.6
GYA0				S	S	12 29 27.9	-10
GYA0B	ALIBECK ARRAY	9.73	282	⇓P	Pn	12 27 46.1	-2.6
GYA0B				⇑S	S	12 29 39.4	+1.6
GYA0B	ALIBECK ARRAY	9.73	282		Pn	12 27 46.0	-2.6
NDI	New Delhi	9.80	141	ex	Pn	12 27 46.0	-3.5
NDI				ex	x	12 29 27.5	
PDGK	Podgornoye	9.86	44	⇑P	Pn	12 27 49.5	-0.8
	comp=Z,56nm,1.0s						
PDGK				⇓S	S	12 29 36.6	-4.3
	comp=Z,276nm,1.1s						
PDGK	Podgornoye	9.86	44	P	Pn	12 27 49.5	-0.8
PDGK				S	S	12 29 36.5	-4.3
TDK	Taldyqorghan	10.52	34	eP	Pn	12 27 58.7	+0.1
	comp=Z,26nm,1.4s,baz=34						
TDK	Taldyqorghan	10.52	34	eP	Pn	12 27 58.7	+0.1
TDK				pmax	pmax		
	comp=Z,26nm,1.4s						
AJM	Ajmer	10.70	158	⇓ix	Pn	12 28 00.0	-1.1
AJM				ix	x	12 29 53.0	
OTUK	Ortayu	11.83	7	⇑P	Pn	12 28 14.5	-0.8
	comp=Z,88nm,1.1s						
OTUK	Ortayu	11.83	7	P	Pn	12 28 14.4	-0.8
MAKZ	Makanchi	13.53	37	P	Pn	12 28 36.1	-0.4
MAKZ	Makanchi	13.53	37	Pn	Pn	12 28 36.1	-0.4
BRZS	Berezniki	13.58	7	eP	Pn	12 28 36.6	-0.6
	comp=Z,106nm,0.7s,baz=6.9						
BRZS	Berezniki	13.58	7	eP	Pn	12 28 36.5	-0.6
BRZS				pmax	pmax		
	comp=Z,106nm,0.7s						
MK31	Makanchi Array	13.67	38	⇑P	Pn	12 28 38.0	-0.3
	comp=Z,92nm,0.7s						
MK31	Makanchi Array	13.67	38	P	Pn	12 28 38.0	-0.3
MK31	Makanchi Array	13.67	38		Pn	12 28 37.9	-0.4
MKAR	Makanchi Array	13.67	38	P	Pn	12 28 37.8	-0.5
	comp=Z,4.8nm,0.3s,baz=220,slow=16,SNR=119						
PYUN	Piuthan	13.68	124	eP	Pn	12 28 37.6	-1.2
	comp=Z,563nm,0.4s						
DANN	Dangsing	14.04	122	eP	Pn	12 28 42.1	-1.3
	comp=Z,253nm,0.5s						
KOLN	Koldanda	14.31	124	eP	Pn	12 28 46.0	-0.5
	comp=Z,109nm,0.3s						
BHPL	Bhopal	14.63	153	eP	P	12 28 52.6	+1.4
AB31	Akbulak array	14.77	333	⇓P	P	12 28 52.8	+0.4
	comp=Z,37nm,0.5s,baz=147,slow=12,SNR=637						
AB31				⇑S	S	12 31 32.4	-2.7
	comp=Z,25nm,1.0s						
GKN	Gorkha	14.86	121	eP	Pn	12 28 52.8	-0.5
	comp=Z,206nm,0.3s						
WMQ	Urumqi	15.23	56	eP	P	12 28 59.4	+1.8
WMQ				pmax	pmax		
	comp=Z,86nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,160nm,5.7s						
WMQ	Urumqi	15.23	56	P	P	12 28 57.9	+0.3
WMQ				pmax	pmax		
	comp=Z,85nm,0.7s						
WMQ	Urumqi	15.23	56	P	P	12 28 57.9	+0.3
KURBB	Kurchatov Arra	15.33	20	P	Pn	12 28 57.5	-0.9
	comp=Z,2.8nm,0.3s,baz=210,slow=10,SNR=130						
KURBB	Kurchatov Arra	15.33	20	⇓P	Pn	12 28 57.0	-1.6
	comp=Z,91nm,0.8s						
KURBB	Kurchatov Arra	15.33	20	P	Pn	12 28 56.9	-1.6
ZSN	Zaisan	15.41	40	eP	P	12 28 59.1	-0.5
	comp=Z,21nm,0.9s,baz=41						
ZSN				eS	S	12 31 50.0	-0.2
	baz=41						
ZSN	Zaisan	15.41	40	eP	P	12 28 59.1	-0.5
ZSN				eS	S	12 31 49.9	-0.2
ZSN				pmax	pmax		
	comp=Z,21nm,0.9s						
DMN	Daman	15.43	121	eP	P	12 28 59.8	-0.5
	comp=Z,117nm,0.3s						
KURK	Kurchatov	15.44	20	P	P	12 28 58.3	-1.5
KURK				S	S	12 31 48.1	-2.4
KURK	Kurchatov	15.44	20	c iP	P	12 28 58.2	-1.5
KURK	Kurchatov	15.44	20	P	P	12 28 58.2	-1.5
KKN	Kakani	15.44	120	eP	P	12 29 00.3	0.0
	comp=Z,425nm,0.5s						
PKIN	Phulchoki	15.65	120	eP	P	12 29 02.4	-0.3
	comp=Z,421nm,0.5s						
PKI	Pulchoki	15.67	120	eP	P	12 29 02.6	-0.3
	comp=Z,177nm,0.3s						
SEM	Semipalatinsk	15.67	24	iP	P	12 29 01.8	-0.9
	comp=Z,25nm,1.4s,baz=25						
SEM				eS	S	12 31 53.4	-2.8
	baz=25						
SEM	Semipalatinsk	15.67	24	iP	P	12 29 01.7	-0.9
SEM				eS	S	12 31 53.3	-2.8
SEM				pmax	pmax		
	comp=Z,25nm,1.4s						
JBP	Jabalpur	15.77	145	⇑eP	Pn	12 29 05.6	+1.5
JBP				ex	x	12 31 49.6	
GUN	Gumba	15.79	118	eP	P	12 29 04.1	-0.2
	comp=Z,360nm,0.5s						
BANOM	Banah	15.88	232	iP	P	12 29 03.7	-1.3
	SNR=28						
BANOM	Banah	15.88	232	P	P	12 29 04.0	-1.0
SHME	Shamm	15.89	233	iP	P	12 29 03.2	-1.9
	SNR=12						
JIRN	Jiri	16.16	119	eP	Pn	12 29 09.3	+0.1
	comp=Z,550nm,0.4s						
MDH	Madha	16.32	231	iP	P	12 29 07.9	-1.9
	SNR=8.7						
MDH	Madha	16.32	231	P	P	12 29 08.4	-1.4
MSFE	Esma-Masafi	16.37	231	iP	P	12 29 09.1	-1.2
	SNR=13						
AKTO	Aktyubinsk	16.45	332	P	P	12 29 11.3	+0.3
	comp=Z,8.4nm,0.3s,baz=144,slow=9.9,SNR=145						
AKTO				S	S	12 32 09.6	-2.8
	comp=Z,0.5nm,0.3s,baz=8.4,slow=20,SNR=3.5						
AKTO	Aktyubinsk	16.45	332	⇑P	P	12 29 10.0	-0.9
	comp=Z,140nm,1.1s						
AKTO				⇑S	S	12 32 09.5	-2.8
	comp=Z,41nm,1.3s						
BVAR	Borovoye Array	16.51	0	P	P	12 29 12.0	+0.4
	comp=Z,15nm,0.3s,baz=169,slow=9.1,SNR=106						
BVAR				S	S	12 32 15.2	+1.7
	baz=180,slow=18,SNR=6.2						
BRVK	Borovoye	16.54	0	P	P	12 29 12.2	+0.3
BRVK	Borovoye	16.54	0	c iP	P	12 29 12.3	+0.3
BRVK	Borovoye	16.54	0	P	P	12 29 12.3	+0.4
BRVK				PcP	PcP	12 33 48.2	-1.9
WSAR	Wadi Sarin	16.58	220	P	P	12 29 12.1	-0.6
	comp=Z,5.6nm,0.3s,baz=81,slow=8.4,SNR=30						
WSAR	Wadi Sarin	16.58	220	P	Pn	12 29 13.4	-0.4
BIDO	Bidbid	16.62	222	P	Pn	12 29 13.7	-0.5
UOSS	Minazif	16.64	230	iP	P	12 29 12.2	-1.1
	SNR=18						
UOSS	Minazif	16.64	230	P	P	12 29 12.6	-0.7
UOSS	Minazif	16.64	230	P	P	12 29 12.1	-1.2
HATD	Hatta, Dubai	16.77	230	iP	P	12 29 15.1	+0.4
	SNR=12						
HATD	Hatta, Dubai	16.77	230	P	P	12 29 15.2	+0.5
	SNR=7.6						
RAMN	Ramite	16.88	120	eP	Pn	12 29 17.1	-0.5
	comp=Z,395nm,0.5s						
ASHO	Ashiyiah	16.92	230	iP	P	12 29 16.5	+0.1
	SNR=72						
ASHO	Ashiyiah	16.92	230	P	P	12 29 16.8	+0.4
	SNR=26						
WBK	Wadi Bani Khal	16.93	218	P	Pn	12 29 17.4	-0.6
	SNR=8.3						
NAZ	Nazwa, Dubai	16.95	231	iP	Pn	12 29 17.6	-0.5
	SNR=7.0						
NAZ	Nazwa, Dubai	16.95	231	P	Pn	12 29 19.0	+0.9
	SNR=11						
SOHO	SOHO	17.04	227	P	P	12 29 18.1	+0.4
	SNR=6.4						
NGP	Nagpur	17.15	151	eP	P	12 29 19.7	+0.8
NGP				eS	S	12 32 26.7	+0.1
TAPN	Taplejung	17.43	117	eP	Pn	12 29 24.0	-0.1
	comp=Z,327nm,0.6s						
ODAN	Odare	17.49	119	eP	Pn	12 29 24.6	-0.2

comp=Z,423nm,0.6s
JMDO Jabal Madar 17.57 220 P Pn 12 29 24.6 -0.9
SNR=6.2
ALNE Al Ain 17.57 229 *i* P P 12 29 23.5 0.0
SNR=15
BSY Bisya 17.75 223 P P 12 29 26.2 +0.8
SNR=5.2
DGZ Jazzator, Alta 18.17 38*c* *i*P Pn 12 29 31.6 -0.8
POO Poona 18.20 169 *e*S S 12 32 52.5 +4.7
SEKA Sheki 18.49 292 P P 12 29 33.7 +0.3
MNGR Mingechevir, A 18.53 290 P P 12 29 34.6 +0.9
BOK Bokaro 18.54 129 *e*P P 12 29 34.0 0.0
MHTO MHTO 18.79 218 P P 12 29 37.5 +0.8
SNR=11
LSA Lhasa 18.81 105 P Pn 12 29 40.4 0.0
LSA pmax pmax
comp=Z,160nm,1.1s
LSA Lhasa 18.81 105 P Pn 12 29 40.1 -0.4
LSA Lhasa 18.81 105 P Pn 12 29 40.2 -0.2
LSA pmax pmax
comp=Z,38nm,0.5s
LSA Lhasa 18.81 105 P Pn 12 29 40.2 -0.2
ZKTA Zakatala 18.98 293 P P 12 29 39.9 +1.3
GANJ Ganja 19.10 290 P P 12 29 40.7 +0.8
DDFL Dedoflistskaro 19.33 292 P Pn 12 29 45.9 -0.2
NAX Nakhchivan 19.67 285 P P 12 29 47.3 +1.2
GROC Groznyy 19.85 297 *e*P P 12 29 48.5 +0.7
GROC S S 12 33 18.8 -0.8
GROC pmax pmax
comp=Z,37nm,0.7s
ZAA0 Zalesovo Array 20.18 26 ⇑P P 12 29 50.9 -0.4
comp=Z,18nm,0.6s
ZAA0 Zalesovo Array 20.18 26 P P 12 29 51.4 +0.1
ZALV Zalesovo Beam 20.18 26 P P 12 29 51.3 +0.1
comp=Z,164nm,0.5s,baz=218,slow=11,SNR=285
TBLG Delisi 20.39 293 P P 12 29 55.0 +1.3
TBLG pmax pmax
comp=Z,23nm,0.6s
TBLG Delisi 20.39 293 P P 12 29 55.0 +1.3
HYB Hyderabad 20.41 157 *i* P P 12 29 54.0 -0.1
comp=Z,110nm,1.0s
HYB *e*S S 12 33 32.0 +1.1
KZRT Kazreti 20.61 292 P Pn 12 29 59.3 -2.4
GUDG Gudauri 20.68 295 P P 12 29 59.6 +2.6
ZEI Tsey 21.14 295 *e*P P 12 30 00.0 -1.9
ZEI pmax pmax
comp=Z,9,0nm,0.6s
BGD Bogdanovka 21.20 291 P P 12 30 05.1 +2.6
AKH Akhalkalaki 21.29 291 P P 12 30 05.1 +1.7
AKH pmax pmax
comp=Z,24nm,0.8s
AKH Akhalkalaki 21.29 291 P P 12 30 05.1 +1.7
AKH IAmb IAmb 12 30 07.2
comp=Z,24nm,0.8s
SVE Sverdlovsk 21.31 345⇓ *e*P P 12 30 03.0 -0.2
SVE *e*S S 12 33 46.1 0.0
SVE pmax pmax
comp=Z,96nm,1.3s
ARU Arti 21.41 342 P P 12 30 04.5 +0.3
comp=Z,15nm,0.4s,baz=149,slow=7.8,SNR=76
ARU Arti 21.41 342*c* *i*P P 12 30 04.4 +0.2
ARU *PP pP 12 30 39.6 -0.7
ARU 12 30 45.1
ARU S S 12 33 50.7 +2.9
ARU pmax pmax
comp=Z,181nm,1.3s
ARU Arti 21.41 342 P P 12 30 03.9 -0.3
NCK Nalchik 21.48 297⇑ *e*P P 12 30 04.9 -0.2
NCK pmax pmax
comp=Z,30nm,0.9s
SHL Shillong 21.50 114 *e*P P 12 30 05.5 -0.1
SHL IAmb IAmb 12 30 09.6
comp=Z,22nm,0.6s
SHL Shillong 21.50 114 P P 12 30 05.7 +0.1
SNR=17
SHL Shillong 21.50 114 P P 12 30 05.6 -0.1
SHL pmax pmax
comp=Z,59nm,0.4s
SHL Shillong 21.50 114 P P 12 30 05.6 -0.1
KBZ Khabaz 22.02 298 P P 12 30 09.7 -0.5
comp=Z,7.8nm,0.9s,baz=109,slow=7.8,SNR=9.4
KBZ Khabaz 22.02 298*d* *i*P P 12 30 09.8 -0.5
KBZ pmax pmax
comp=Z,12nm,1.1s
NEY Neytrino 22.07 296⇑ *e*P P 12 30 12.9 +1.9
NEY pmax pmax
comp=Z,2.0nm,0.6s
GOF Gofitskoye 22.18 301⇑ *e*P P 12 30 04.3 -7.5
KIV Kislovodsk 22.21 298 *i* P P 12 30 09.3 -2.9
KIV *i *PP pP 12 30 46.3 -2.2
KIV pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 22.21 298 P P 12 30 10.6 -1.6
KIV IAmb IAmb 12 30 13.3
comp=Z,20nm,1.4s
GTA Gaotai 23.49 74 ⇑P P 12 30 26.5 +2.6
GTA pP pP 12 31 07.6 +3.8
GTA sP sP 12 31 33.0 +2.1
GTA pmax pmax
comp=Z,19nm,0.6s
GTA pmax pmax
comp=Z,87nm,7.0s
GTA LR LR
comp=Z,88nm,17.5s
GTA LR LR
comp=Z,65nm,16.8s
GTA LR LR
comp=Z,130nm,17.8s
ABTO Aybut 24.24 223 P P 12 30 32.5 +1.6
SNR=11
RAYN Ar Rayn 24.91 246 *i* P P 12 30 36.5 -0.3
SNR=20
RAYN Ar Rayn 24.91 246 P P 12 30 36.0 -0.8
RAYN pmax pmax
comp=Z,20nm,1.0s
RAYN Ar Rayn 24.91 246 P P 12 30 36.0 -0.8
RAYN IAmb IAmb 12 30 38.5
comp=Z,20nm,0.9s
VRH Novokhopyorsk 25.04 315 *e*P P 12 30 37.5 -0.1
VRH pmax pmax
comp=Z,10.0nm,0.6s
KIRV Kirov 25.95 335 P P 12 30 46.3 +0.6
comp=Z,108nm,0.5s,baz=137,slow=2.7,SNR=34
VORD Divnogorie 26.35 313 *e*P P 12 30 49.1 -0.3
VORD pmax pmax
comp=Z,6.0nm,0.5s
MOY Mondy 26.56 46 *e*P P 12 30 53.2 +1.8
MOY pmax pmax
comp=Z,30nm,2.0s
LZH Lanzhou 27.05 81 *e*P P 12 30 57.8 +1.8
LZH pP pP 12 31 41.0 +1.6
LZH sP PP 12 32 01.2 -0.2
LZH pmax pmax
comp=Z,11nm,1.0s
LPSR Galich'ya Gora 27.19 316 *e*P P 12 30 56.4 -0.5
LPSR pmax pmax
comp=Z,40nm,0.8s
ZAK Zakamensk 27.47 49 *e*P P 12 31 00.8 +1.2
ZAK pmax pmax
comp=Z,15nm,1.0s
TLY Talaya 28.10 47 P P 12 31 06.3 +1.2
comp=Z,8.0nm,0.5s,baz=224,slow=11,SNR=11
TLY Talaya 28.10 47*c* *i*P P 12 31 07.4 +2.3
TLY pmax pmax
comp=Z,10.0nm,0.7s
TLY Talaya 28.10 47 P P 12 31 06.6 +1.5
TLY IAmb IAmb 12 31 08.3
comp=Z,10.0nm,0.7s
CD2 Chengdu 28.38 92 *e*P P 12 31 09.0 +1.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
BRTR Keskin Array B 28.81 288 P P 12 31 12.2 +0.6
comp=Z,0.9nm,0.7s,baz=92,slow=9.5,SNR=5.8
SONM Songino Array 28.86 56 P P 12 31 13.8 +1.8
comp=Z,14nm,0.6s,baz=258,slow=9.8,SNR=23
MOS Moscow 29.24 321 *e*P P 12 31 14.2 -0.8
MOS *e* 12 32 23.6
MOS pmax pmax
comp=Z,38nm,0.9s
ULN Ulaanbaatar 29.30 56*c* *i*P P 12 31 17.4 +1.5
ULN pmax pmax
comp=Z,16nm,0.7s
ULN Ulaanbaatar 29.30 56 P P 12 31 17.2 +1.3
OBN Obninsk 29.51 320 P P 12 31 17.0 -0.3
comp=Z,16nm,0.4s,baz=117,slow=2.3,SNR=3.4
OBN Obninsk 29.51 320*c* *e*P P 12 31 17.5 +0.2
OBN pmax pmax
comp=Z,37nm,0.5s
OBN Obninsk 29.51 320 P P 12 31 17.5 +0.2
CHTO Chiang Mai 30.80 117 P P 12 31 29.8 +0.6
CHTO pmax pmax
comp=Z,7.0nm,0.5s
CHTO Chiang Mai 30.80 117 P P 12 31 29.8 +0.6
CHTO IAmb IAmb 12 31 31.1
comp=Z,7.1nm,0.5s
CM31 Chiang Mai Arr 31.03 118 P P 12 31 31.9 +0.7
SNR=6.7
CM31 Chiang Mai Arr 31.03 118 P P 12 31 31.5 +0.3
CM31 IAmb IAmb 12 31 33.5
comp=Z,18nm,1.1s
CMAR Chiang Mai Arr 31.03 118 P P 12 31 31.9 +0.8
comp=Z,8.8nm,0.8s,baz=296,slow=8.0,SNR=56
CMAR PcP PcP 12 34 22.3 +0.6
comp=Z,2.2nm,0.6s,baz=304,slow=4.8,SNR=4.9
CMAR ScP ScP 12 37 42.6 -1.8
comp=Z,5.3nm,1.0s,baz=294,slow=4.8,SNR=14
CMAR Chiang Mai Arr 31.03 118 *i* P P 12 31 32.0 +0.8
CMAR pmax pmax
comp=Z,9.0nm,0.8s
KLMR Klimovskoe 31.15 331 *e*P P 12 31 30.4 -1.3
KLMR pmax pmax
comp=Z,47nm,1.0s
KLMR Klimovskoe 31.15 331 *e*P P 12 31 30.5 -1.3
KLMR AMP 12 31 32.4
comp=Z,47nm,1.0s
XAN Xi'an 31.57 83 P P 12 31 36.0 +0.2
XAN pmax pmax
comp=Z,18nm,0.8s
XAN pmax pmax
comp=Z,76nm,4.3s
XAN LR LR
comp=Z,110nm,17.4s
XAN LR LR
comp=Z,100nm,18.4s
XAN LR LR
comp=Z,130nm,17.3s
XAN Xi'an 31.57 83 P P 12 31 36.4 +0.5
XAN pmax pmax
comp=Z,11nm,0.8s
XAN Xi'an 31.57 83 P P 12 31 36.4 +0.5
XAN IAmb IAmb 12 31 37.1
comp=Z,11nm,0.8s
HHC Hu-ho-hao-te 32.37 69 *e*P P 12 31 46.3 +3.5
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,34nm,7.8s
HHC LR LR
comp=Z,110nm,18.0s
HHC LR LR
comp=Z,100nm,17.1s
HHC LR LR
comp=Z,91nm,18.0s
AKASG Malin Array Be 32.43 309 P P 12 31 43.0 -0.1
comp=Z,9.0nm,0.6s,baz=80,slow=7.2,SNR=55
AKASG PcP PcP 12 34 23.9 -1.1
comp=Z,1.8nm,0.6s,baz=88,slow=2.3,SNR=4.9
AKASG Malin Array Be 32.43 309 P P 12 31 43.0 -0.1
AKBB Malin Array Si 32.43 309 P P 12 31 42.9 -0.1
AKBB pmax pmax
comp=Z,15nm,0.7s
AKBB Malin Array Si 32.43 309 P P 12 31 42.9 -0.1
AKBB IAmb IAmb 12 31 43.4
comp=Z,15nm,0.7s
GYA Guiyang 32.51 97 *e*P P 12 31 45.0 +0.8
GYA pP pP 12 32 33.8 +5.7
GYA S S 12 36 41.2 -2.4
GYA pmax pmax
comp=Z,10.0nm,0.5s
GYA pmax pmax
comp=Z,50nm,5.2s
GYA LR LR
comp=Z,100nm,9.1s
GYA LR LR
comp=Z,70nm,3.5s
GYA LR LR
comp=Z,120nm,11.9s
SORM Soroca 32.66 304 ⇓P P 12 31 44.9 -0.1
CFR Carcaliu 32.66 299 ⇑P P 12 31 45.8 +0.7
SLVN Son La 32.96 108 P P 12 31 49.3 +1.2
SLVN IAmb IAmb 12 31 50.3
comp=Z,11nm,0.6s
ENH Enshi 33.23 89 P P 12 31 51.4 +1.2
ENH IAmb IAmb 12 31 52.0
comp=Z,14nm,1.0s
VRI Vrincioaia 33.66 300 ⇑P P 12 31 55.4 +1.7
PLOR Plostina 33.71 300 ⇓P P 12 31 55.8 +1.6
TESR Tescani 33.72 301 ⇓P P 12 31 55.1 +0.8
TMCR Tamitsa 33.76 335 *e*P P 12 31 52.6 -1.7
TMCR pmax pmax
comp=Z,86nm,0.4s
MLR Muntele Rosu 34.21 299 ⇑P P 12 32 00.4 +1.8
MLR Muntele Rosu 34.21 299 P P 12 32 00.5 +1.9
MLR 12 34 30.3
MLR pmax pmax
comp=Z,18nm,0.9s
MLR Muntele Rosu 34.21 299 P P 12 32 00.5 +1.9
MLR IAmb IAmb 12 32 01.4
comp=Z,18nm,0.9s
MLR PcP PcP 12 34 30.3 0.0
NRIK Noril'sk 34.23 11 P P 12 31 59.6 +1.3
comp=Z,75nm,0.5s,baz=200,slow=6.0,SNR=87
NRIK pP pP 12 32 44.0 +1.7
comp=Z,18nm,1.0s,baz=213,slow=9.3,SNR=1.6
BURAR Bucovina Array 34.73 303 ⇑P P 12 32 04.2 +1.1
BUR08 Bucovina Ar. S 34.74 303 P P 12 32 03.4 +0.3
BUR08 PcP PcP 12 34 33.0 +1.2
VOIR 34.84 299 ⇓P P 12 32 04.9 +1.0
ARR Arges 35.13 299 ⇑P P 12 32 07.9 +1.4
IIGN Ignalina 35.17 316 *e*P P 12 32 07.4 +0.8
ISAL Salakas 35.28 317 *e*P P 12 32 08.3 +0.9
BOD Bodaibo 35.75 39 *e*P P 12 32 12.1 +0.6
BOD pmax pmax
comp=Z,34nm,1.1s
VSU Vasula 35.77 322 *e*P P 12 32 11.8 +0.2
VSU Vasula 35.77 322*c* *e*P P 12 32 11.4 -0.2
VSU pmax pmax
comp=Z,95nm,0.6s
DRGR 36.44 301 ⇑P P 12 32 19.1 +1.6
DRGR 36.44 301 P P 12 32 18.8 +1.3
DRGR pmax pmax
comp=Z,15nm,1.1s
PABE Paberze 36.46 316 *e*P P 12 32 17.8 +0.3
KWP Kalwaria Pacla 36.48 306 P P 12 32 18.1 +0.4
KWP pmax pmax
comp=Z,15nm,0.8s
KWP Kalwaria Pacla 36.48 306 P P 12 32 18.1 +0.4
KWP IAmb IAmb 12 32 19.9
comp=Z,14nm,0.8s
SUW Suwalki 36.64 314 P P 12 32 18.4 -0.6
SUW pmax pmax
comp=Z,33nm,1.1s
SUW Suwalki 36.64 314 P P 12 32 18.4 -0.6
KOLS Kolonicke sedl 36.74 305 *e*P P 12 32 20.7 +0.7
KOLS Kolonicke sedl 36.74 305 *e*P P 12 32 20.7 +0.7
FIA1 FINESS Array S 37.11 326 P P 12 32 22.5 -0.4
FINES FINESS Array B 37.11 326 P P 12 32 22.9 +0.1
comp=Z,26nm,0.6s,baz=112,slow=9.7,SNR=146
FINES FINESS Array B 37.11 326 *i* P P 12 32 23.0 +0.1
FINES pmax pmax
comp=Z,26nm,0.6s
LVZ Lovozero 37.21 339 *e*P P 12 32 23.8 +0.1
LVZ pmax pmax
comp=Z,38nm,0.7s
LVZ Lovozero 37.21 339 P P 12 32 23.2 -0.5
MDVR Moldovita 37.23 298 ⇑P P 12 32 24.7 +0.5
BZS Buzias 37.24 300 ⇑P P 12 32 24.9 +0.7
PBUR Paburge 37.69 317 *e*P P 12 32 28.1 +0.3
SLIT Slitere, Latvi 37.82 319 *e*P P 12 32 28.3 -0.6
OJC Ojcow 38.38 307 P P 12 32 33.3 -0.4
OJC pmax pmax
comp=Z,8.0nm,0.9s
OJC Ojcow 38.38 307 P P 12 32 33.3 -0.4
JAVC Velka Javorina 39.77 305 *e*P P 12 32 46.9 +1.6
MORC Moravsky Berou 39.83 306 *e*P P 12 32 46.6 +0.8
MORC Moravsky Berou 39.83 306 P P 12 32 45.6 -0.2
MORC pmax pmax
comp=Z,5.0nm,0.7s
MORC Moravsky Berou 39.83 306 P P 12 32 45.6 -0.2
NJ2 Nanjing 40.12 82 *e*P P 12 32 48.6 +0.3
NJ2 pmax pmax
comp=Z,16nm,1.0s
VRAC Vranov 40.46 306 *e*P P 12 32 51.8 +0.9
KEV Kevo 40.55 339 P P 12 32 51.4 +0.1
KEV pmax pmax
comp=Z,38nm,0.9s
KEV Kevo 40.55 339 P P 12 32 51.4 +0.1
KRUC Moravsky 40.60 305 *e*P P 12 32 52.7 +0.6
ARCES ARCESS Array B 40.88 338 P P 12 32 54.5 +0.4
comp=Z,60nm,0.8s,baz=108,slow=7.6,SNR=228
ARE0 ARCESS Array S 40.88 338 P P 12 32 54.7 +0.7
ARE0 ARCESS Array S 40.88 338 *e*P P 12 32 54.4 +0.3
CONA Conrad Observa 41.03 304 P P 12 32 56.0 +0.3
comp=Z,5.2nm,0.8s
KTK1 Kautokeino 41.34 337 *e*P P 12 32 57.8 0.0
KCSI Kotacane, Aceh 41.50 136 P P 12 32 59.7 -0.1
comp=Z,9.4nm,0.7s
BSD Bornholm Skovb 41.54 315⇑ *i*P P 12 32 58.3 -1.2
BSD Bornholm Skovb 41.54 315⇑ *i*P P 12 32 58.3 -1.2
SOKA Soboth 41.71 302 *e*P P 12 33 01.9 +0.7
comp=Z,3.5nm,0.5s
KULM Kulim 41.77 131 P P 12 33 01.9 0.0
KULM PcP PcP 12 34 54.6 +0.5
TIP Timpagrande 41.77 290 P P 12 33 01.8 0.0
SGRT San Giovanni R 41.97 294 P P 12 33 03.2 -0.1
HAMF Hammerfest 41.98 339 *e*P P 12 33 03.7 +0.8
BRG Berggiesshubel 42.10 308 *i* P P 12 33 04.9 +0.7
comp=Z,7.8nm,0.9s
BRG *e*pP pP 12 33 50.3 +1.3
comp=Z,3.6nm,0.8s
BRG Berggiesshubel 42.10 308 *i* P P 12 33 04.9 +0.7
BRG *e**PP pP 12 33 50.3 +1.3
BRG pmax pmax
comp=Z,8.0nm,0.9s
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG Berggiesshubel 42.10 308 *e*P P 12 33 05.0 +0.8
comp=Z,7.8nm,0.9s,baz=86,slow=7.9
MOA Molln 42.11 304 *e*P P 12 33 04.2 -0.1
comp=Z,3.0nm,0.7s
GEC2 GERESS Array S 42.39 305 *e*P P 12 33 07.2 +0.5
comp=Z,2.8nm,1.1s,baz=86,slow=7.9
GERES GERESS Array B 42.39 305 P P 12 33 06.9 +0.3
comp=Z,0.3nm,0.4s,baz=81,slow=8.2,SNR=7.5
GERES PcP PcP 12 34 55.5 -0.3
comp=Z,0.6nm,0.6s,baz=91,slow=5.9,SNR=5.5
FBE Freiberg 42.48 308 *e*P P 12 33 08.2 +1.1
comp=Z,9.4nm,0.9s,baz=86,slow=7.9
ZEA Zeya 42.54 48 *e*P P 12 33 09.8 +2.2
ZEA pmax pmax
comp=Z,26nm,0.8s
IPM Ipoh 42.64 131 P P 12 33 08.9 -0.1
IPM IAmb IAmb 12 33 09.5
comp=Z,21nm,0.7s
IPM PcP PcP 12 34 58.0 +1.0
CLL Collm 42.68 309 *e*P P 12 33 09.0 +0.2
comp=Z,4.0nm,1.0s
PSI Prapat 42.75 135 P P 12 33 08.7 -1.2
comp=Z,6.4nm,0.5s,baz=1.6,slow=8.9,SNR=8.5
PSI Prapat 42.75 135 P P 12 33 08.7 -1.2
PSI pmax pmax
comp=Z,11nm,0.6s
RPSI Rantau Prapat 42.83 135 P P 12 33 08.7 -1.8
RPSI Rantau Prapat 42.83 135 P P 12 33 08.6 -1.8
RPSI IAmb IAmb 12 33 14.0
comp=Z,11nm,0.6s
TRO Tromso 42.99 336 *e*P P 12 33 11.2 +0.1
TANN Tannenbergstha 43.07 308 *e*P P 12 33 12.8 +0.7
comp=Z,12nm,1.5s,baz=86,slow=7.9
WERN Wernitzgruen 43.14 307 *e*P P 12 33 13.6 +1.0
comp=Z,1.8nm,0.6s,baz=86,slow=7.9
GUNZ Gunzen 43.16 308 *e*P P 12 33 13.6 +0.9
comp=Z,3.8nm,1.1s,baz=86,slow=7.9
GSI Gunungsitoli 43.23 138 P P 12 33 13.6 -0.1
comp=Z,220nm,0.6s
GSI Gunungsitoli 43.23 138 P P 12 33 14.1 +0.4
GSI PcP PcP 12 35 00.8 +1.9
PLN Plauen 43.26 308 *e*P P 12 33 14.2 +0.7
comp=Z,6.1nm,1.4s,baz=86,slow=7.9
ROTZ Rotzenmuhle 43.29 307 *e*P P 12 33 14.9 +1.2
comp=Z,7.6nm,1.3s,baz=86,slow=7.9
MANZ Manzenberg 43.33 307 *e*P P 12 33 15.2 +1.1
comp=Z,4.4nm,1.1s,baz=86,slow=7.9
STAL STALIGIAL 43.35 302 P P 12 33 13.5 -0.9
N2IH Innhavet 43.43 334 *e*P P 12 33 15.0 +0.5
NEUB Neuenburg 43.45 309 *e*P P 12 33 15.6 +0.6
comp=Z,13nm,1.1s,baz=86,slow=7.9
CIMO Cimolais 43.53 302 P P 12 33 16.2 +0.4
MOX Moxa 43.59 308 *e*P P 12 33 16.9 +0.8
comp=Z,9.9nm,1.5s,baz=86,slow=7.9
N2TV TYrnvik 43.61 333 *e*P P 12 33 16.2 +0.3
STEI Steigen 43.67 333 *e*P P 12 33 16.8 +0.3
NC405 NORSAR Array S 43.74 323 P P 12 33 17.2 0.0
NC405 IAmb IAmb 12 33 17.4
comp=Z,30nm,0.8s
NBB28 Valnes 43.75 332 *e*P P 12 33 17.3 +0.2
NC602 NORSAR Array S 43.79 323 *e*P P 12 33 16.8 -0.7
NBB05 Inndyr 43.87 332 *e*P P 12 33 18.2 +0.2
GRF Grafenberg Arr 43.93 307 *e*P P 12 33 20.4 +1.5
comp=Z,28nm,1.7s,baz=86,slow=7.9
GRF *e*pP pP 12 34 09.4 +5.5
WTTA Wattenberg 43.95 303 *e*P P 12 33 18.4 -0.8
comp=Z,3.2nm,0.8s
NB2 NORSAR Subarra 43.98 323 P P 12 33 18.1 -1.0
comp=Z,14nm,0.6s,baz=99,slow=7.9
NB2 NORSAR Subarra 43.98 323 P P 12 33 18.1 -1.0
baz=99,slow=7.9
NOA NORSAR Array B 43.98 323 P P 12 33 18.1 -1.0
comp=Z,10nm,0.5s,baz=104,slow=7.3,SNR=127
KONS Konsvik 44.09 331 *e*P P 12 33 19.8 +0.1
STOK Stokkvaagen 44.09 331 *e*P P 12 33 20.0 +0.3
NSS Namsos 44.14 328 *e*P P 12 33 19.8 -0.5
BSEG Bad Segeberg 44.21 313 *e*P P 12 33 22.0 +1.1
comp=Z,10.0nm,0.7s,baz=86,slow=7.9
CLZ Clausthal 44.28 310 *e*P P 12 33 22.4 +0.8
comp=Z,14nm,1.4s,baz=86,slow=7.9
MOTA Moosalm 44.29 303 *e*P P 12 33 21.2 -0.7
comp=Z,5.0nm,0.8s
YAK Yakutsk 44.33 36 P P 12 33 22.0 +0.2
comp=Z,28nm,0.7s,baz=234,slow=1.4,SNR=21
YAK Yakutsk 44.33 36 *e*P P 12 33 21.8 0.0
YAK *e**PP pP 12 34 07.2 -0.9
YAK *e* 12 35 08.2
YAK *e*S S 12 39 38.9 -0.6
YAK pmax pmax
comp=Z,41nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.0s
YAK pmax pmax
comp=Z,35nm,2.2s
YAK pmax pmax
comp=N,26nm,2.0s
YAK pmax pmax
comp=E,26nm,1.8s
YAK smax smax
comp=N,32nm,1.4s
YAK smax smax
comp=E,53nm,1.5s
YAK Yakutsk 44.33 36 P P 12 33 22.2 +0.5
LOF Lofoten 44.34 333 *e*P P 12 33 20.9 -0.9
NRDL Niedersach Rie 44.40 311 *e*P P 12 33 23.4 +1.0
comp=E,7.4nm,1.0s,baz=86,slow=7.9
N2SV S rv gen 44.47 333 *e*P P 12 33 22.1 -0.7
N2VA Vr,y 44.53 333 *e*P P 12 33 22.4 -0.9
GTTG Gottingen 44.56 309 *e*P P 12 33 24.5 +0.8
comp=E,14nm,1.0s,baz=86,slow=7.9
KONO Kongsberg 44.67 321*c* *i*P P 12 33 23.7 -0.7
KONO pmax pmax
comp=Z,11nm,0.7s
KONO Kongsberg 44.67 321 P P 12 33 24.1 -0.4
KONO IAmb IAmb 12 33 24.8
comp=Z,13nm,0.6s
KONO Kongsberg 44.67 321 *e*P P 12 33 23.8 -0.7
N2RO R st 44.71 332 *e*P P 12 33 24.1 -0.6
MNSI Mandailing Nat 44.76 136 P P 12 33 25.7 -0.1
comp=Z,1µmcomp=Z,18nm,0.8s
HOPEN Hopen 44.83 346 *e*P P 12 33 27.3 +1.8
RETH Rethem/Aller, 44.84 311 *e*P P 12 33 26.7 +0.8
comp=Z,6.5nm,1.1s,baz=86,slow=7.9
BJO1 Bjornoya 45.06 343 *e*P P 12 33 27.9 +0.5
DOMB Dombas 45.10 324 *e*P P 12 33 27.6 -0.4
DAVA Damuels 45.12 303 *e*P P 12 33 28.1 -0.4
comp=Z,6.0nm,0.5s,SNR=5.8

HOMB Homborsund 45.18 319 *e*P **P** **12 33 28.3 -0.2**
SSLB Suanglung 45.22 92 P **P** **12 33 31.5 +2.1**
SKAR Skarslia 45.37 322 *e*P **P** **12 33 30.4 +0.3**
TJN Taejon 45.39 72 *de*P **P** **12 33 30.1 -0.4**
KS19 Wonju Array Si 45.43 71 P **P** **12 33 32.0 +1.1**
KS19 IAmb IAmb 12 33 33.3
comp=Z,11nm,0.6s
KSRS Korea Array 45.49 71 P **P** **12 33 31.3 0.0**
comp=Z,8.5nm,0.5s,baz=274,slow=6.9,SNR=84
KSRS PcP **PcP** **12 35 05.3 -1.0**
comp=Z,2.0nm,0.9s,baz=289,slow=3.8,SNR=4.6
KLR Kul'dur 45.66 54 P **P** **12 33 33.3 +0.9**
comp=Z,10nm,0.6s,baz=282,slow=7.7,SNR=54
KLR Kul'dur 45.66 54 *c iP* **P** **12 33 33.2 +0.7**
KLR pmax pmax
comp=Z,27nm,1.5s
TWG Pinlang 45.78 93 P **P** **12 33 36.1 +2.4**
IBBN Ibbenburen 45.85 311 *e*P **P** **12 33 34.6 +0.7**
comp=Z,14nm,1.2s,baz=86,slow=7.9
MOL Molde 45.85 325 *e*P **P** **12 33 34.0 +0.3**
MSSA Maissana 45.92 299 P **P** **12 33 34.4 -0.3**
LODK Lodwar 45.95 232 P **P** **12 33 36.0 +0.8**
SNR=5.5
BFO Black Forest 45.99 305 *e*P **P** **12 33 35.0 -0.1**
comp=Z,6.0nm,1.4s,baz=86,slow=7.9
TIXI Tiksi 46.01 22 P **P** **12 33 35.1 +0.3**
comp=Z,37nm,0.7s,baz=267,slow=4.6,SNR=96
TIXI Tiksi 46.01 22 *c iP* **P** **12 33 35.2 +0.3**
TIXI pmax pmax
comp=Z,46nm,0.8s
TIXI Tiksi 46.01 22 P **P** **12 33 35.1 +0.3**
TIXI pP **pP** **12 34 21.5 +0.1**
BLS5 Blasjo 46.26 321 *e*P **P** **12 33 36.9 -0.1**
HYA Hoyanger 46.42 323 *e*P **P** **12 33 39.2 +1.0**
MYKOM Kota Tinggi 46.48 130 P **P** **12 33 39.5 +0.3**
MYKOM IAmb IAmb 12 33 43.3
comp=Z,15nm,0.9s
MSHR Mys Shultsa 46.51 63 *de*P **P** **12 33 41.1 +1.9**
MSHR pmax pmax
comp=Z,19nm,1.6s
USA0B Ussuriysk Arra 46.73 61 P **P** **12 33 41.4 +0.6**
USA0B pmax pmax
comp=Z,6.0nm,0.8s
USA0B Ussuriysk Arra 46.73 61 P **P** **12 33 41.4 +0.6**
USRK Ussuriysk Ar. 46.73 61 P **P** **12 33 41.2 +0.3**
comp=Z,4.7nm,0.7s,baz=277,slow=7.0,SNR=16
BER Bergen 46.83 322 *e*P **P** **12 33 41.4 0.0**
ASK Askoy 46.90 322 *e*P **P** **12 33 42.0 +0.1**
VLA Vladivostok 46.91 62⇓ *e*P **P** **12 33 43.3 +1.1**
VLA pmax pmax
comp=Z,28nm,0.8s
HSPB Hornsund (broa 46.96 345 *e*P **P** **12 33 43.4 +1.2**
FOO Floro 46.98 324 *e*P **P** **12 33 42.4 -0.1**
SENIN Lac Senin/Sane 47.03 303 P **P** **12 33 42.7 -0.7**
WLF Walferdange 47.20 307 P **P** **12 33 45.4 +1.0**
comp=Z,7.3nm,1.2s
WLF Walferdange 47.20 307 *e*P **P** **12 33 45.5 +1.1**
comp=Z,11nm,1.0s,baz=86,slow=7.9
SPA0 Spitsbergen Ar 47.33 347 P **P** **12 33 46.2 +1.1**
SPA0 IAmb IAmb 12 33 47.0
comp=Z,32nm,0.9s
SPA0 Spitsbergen Ar 47.33 347 *e*P **P** **12 33 46.2 +1.1**
BMRD Maredsous 47.98 308 P **P** **12 33 50.6 +0.2**
DOU Dourbes 48.12 308 P **P** **12 33 51.6 +0.1**
KMBO Kilima Mbogo 48.36 227 P **P** **12 33 55.0 +1.0**
comp=Z,11nm,0.4s,baz=39,slow=11,SNR=30
KMBO Kilima Mbogo 48.36 227 P **P** **12 33 54.9 +0.9**
KMBO pmax pmax
comp=Z,17nm,0.8s
KMBO Kilima Mbogo 48.36 227 P **P** **12 33 54.9 +0.9**
KMBO IAmb IAmb 12 33 55.3
comp=Z,17nm,0.8s
KBS Kingsbay 48.45 347 P **P** **12 33 54.7 +1.1**
KBS pmax pmax
comp=Z,51nm,0.8s
KBS Kingsbay 48.45 347 P **P** **12 33 54.6 +1.1**
KBS Kingsbay 48.45 347 *e*P **P** **12 33 54.8 +1.1**
JNU Nakatsue 49.22 75 P **P** **12 34 01.1 +1.0**
JNU IAmb IAmb 12 34 02.1
comp=Z,20nm,0.8s
SBUM Sibu 51.46 121 P **P** **12 34 17.5 +0.5**
KKM Kota Kinabalu 51.81 114 P **P** **12 34 21.0 +1.2**
KKM IAmb IAmb 12 34 22.1
comp=Z,16nm,0.9s
INU Inuyama 53.10 70 P **P** **12 34 29.1 +0.2**
YSS Yuzh-Sakhalins 53.35 55⇓ *e*P **P** **12 34 31.2 +0.8**
YSS pmax pmax
comp=Z,40nm,0.6s
YSS Yuzh-Sakhalins 53.35 55 P **P** **12 34 31.3 +0.8**
MJB9 Matsu-Tunnel 53.55 68 P **P** **12 34 32.1 0.0**
MJB9 IAmb IAmb 12 34 32.8
comp=Z,10nm,0.7s
MAJO Matsushiro 53.55 68⇑ *e*P **P** **12 34 33.0 +0.8**
MAJO pmax pmax
comp=Z,4.0nm,0.8s
MAJO Matsushiro 53.55 68 P **P** **12 34 32.5 +0.3**
MAJO IAmb IAmb 12 34 33.0
comp=Z,12nm,0.8s
MAT Matsushiro 53.55 68 P **P** **12 34 31.9 -0.3**
MJAR Matsushiro Arr 53.55 68 P **P** **12 34 32.3 +0.1**
comp=Z,8.1nm,0.8s,baz=292,slow=9.9,SNR=51
MJAR pP **pP** **12 35 22.6 +2.3**
comp=Z,1.8nm,0.8s,baz=288,slow=10,SNR=3.1
NOR Nord 53.67 349 *i* P **P** **12 34 32.7 +0.4**
comp=Z,7.4nm,0.8s
NOR Nord 53.67 349 *i* P **P** **12 34 32.7 +0.4**
NOR pmax pmax
comp=Z,7.0nm,0.8s
DAG Danmarks Havn 54.53 344⇑ *i*P **P** **12 34 38.9 +0.3**
comp=Z,24nm,0.8s
DAG Danmarks Havn 54.53 344⇑ *i*P **P** **12 34 38.9 +0.3**
DAG pmax pmax
comp=Z,25nm,0.8s
MA2 Magadan 54.75 38⇑ *e*P **P** **12 34 42.1 +1.7**
MA2 pmax pmax
comp=Z,8.0nm,0.9s
MA2 Magadan 54.75 38 P **P** **12 34 41.5 +1.1**
SEY Seymchan 54.77 34 *ce*P **P** **12 34 41.2 +0.7**
ESDC Sonseca Array 56.88 298 P **P** **12 34 55.2 -0.6**
comp=Z,0.9nm,0.7s,baz=52,slow=7.7,SNR=11
ESDC pP **pP** **12 35 44.4 +1.0**
comp=Z,1.6nm,0.9s,baz=60,slow=7.7,SNR=3.8
MPSI Mapaga 58.37 116 P **P** **12 35 06.3 -0.2**
comp=Z,18nm,0.6s
BILL Bilibino 58.88 26 *c iP* **P** **12 35 10.0 +0.7**
BILL *i* *PP **pP** **12 35 58.9 +1.0**
BILL *i* 12 37 21.2
BILL pmax pmax
comp=Z,18nm,1.1s
BILL Bilibino 58.88 26 P **P** **12 35 10.4 +1.2**
BILL IAmb IAmb 12 35 11.2
comp=Z,16nm,1.0s
ABPO Ambohimpanom 59.34 205 P **P** **12 35 13.8 +0.6**
ABPO pmax pmax
comp=Z,17nm,0.8s
ABPO Ambohimpanom 59.34 205 P **P** **12 35 13.8 +0.6**
ABPO IAmb IAmb 12 35 14.4
comp=Z,17nm,0.8s
MRSI Marisa 59.76 115 P **P** **12 35 15.8 -0.2**
comp=Z,26nm,0.6s
PEA0B Petropavlovsk- 60.41 44 P **P** **12 35 19.5 -0.5**
PEA0B pmax pmax
comp=Z,23nm,1.2s
PEA0B Petropavlovsk- 60.41 44 P **P** **12 35 19.4 -0.5**
PEA0B IAmb IAmb 12 35 29.2
comp=Z,23nm,1.1s
PETK Petropavlovsk- 60.41 44 P **P** **12 35 19.4 -0.5**
comp=Z,3.6nm,0.6s,baz=258,slow=3.8,SNR=17
SUMG Summit 60.84 341 *i* P **P** **12 35 23.8 +0.8**
comp=Z,36nm,0.9s
SUMG Summit 60.84 341 *i* P **P** **12 35 23.8 +0.8**
SUMG pmax pmax
comp=Z,36nm,0.9s
SUMG Summit 60.84 341 P **P** **12 35 23.7 +0.8**
SUMG IAmb IAmb 12 35 24.9
comp=Z,12nm,0.8s
PET Petropavlovsk 60.97 44 P **P** **12 35 22.4 -1.3**
PET pmax pmax
comp=Z,45nm,1.5s
PET Petropavlovsk 60.97 44 P **P** **12 35 22.4 -1.3**
KAPI Kappang 62.02 121 P **P** **12 35 31.8 +0.6**
KAPI pmax pmax
comp=Z,20nm,1.4s
KAPI Kappang 62.02 121 P **P** **12 35 31.8 +0.6**
KAPI IAmb IAmb 12 35 33.3
comp=Z,20nm,1.4s
TULEG Thule 64.31 350 P **P** **12 35 46.0 +0.6**
TULEG IAmb IAmb 12 35 48.7
comp=Z,18nm,1.0s
TOA0 Torodi Ar. Sit 65.07 268 P **P** **12 35 50.4 -0.9**
TOA0 IAmb IAmb 12 35 50.8
comp=Z,11nm,1.3s
TORD Torodi Ar. Bea 65.07 268 P **P** **12 35 50.1 -1.1**
comp=Z,3.6nm,0.5s,baz=45,slow=5.5,SNR=38
TORD pP **pP** **12 36 39.8 -0.4**
comp=Z,2.4nm,0.5s,baz=46,slow=6.3,SNR=3.2
ILULI Ilulissat 66.17 341 P **P** **12 35 57.9 +0.5**
ILULI pmax pmax
comp=Z,15nm,0.8s
ILULI Ilulissat 66.17 341 P **P** **12 35 57.9 +0.5**
ILULI IAmb IAmb 12 35 58.7
comp=Z,15nm,0.8s
TOLK Toolik Lake Re 71.07 14 P **P** **12 36 28.4 +0.6**
GIRL Giralia 72.05 138 P **P** **12 36 35.0 +0.9**
COLD Coldfoot 72.13 15 P **P** **12 36 34.3 +0.2**
COLD IAmb IAmb 12 36 35.5
comp=Z,8.1nm,0.8s
C36M Paulatuk 73.93 5 P **P** **12 36 44.5 0.0**
INK Inuvik 73.99 9 P **P** **12 36 45.6 +0.7**
INK pmax pmax
comp=Z,18nm,0.8s
INK Inuvik 73.99 9 P **P** **12 36 45.6 +0.7**
DBIC Dimbokro 74.05 266 P **P** **12 36 44.7 -1.4**
comp=Z,3.8nm,0.8s,baz=32,slow=6.8,SNR=5.6
DBIC Dimbokro 74.05 266 P **P** **12 36 45.2 -0.9**
DBIC pmax pmax
comp=Z,28nm,1.3s
DBIC Dimbokro 74.05 266 P **P** **12 36 45.2 -0.9**
DBIC IAmb IAmb 12 36 49.8
comp=Z,28nm,1.3s
TTA Tatalina 74.23 20 P **P** **12 36 47.1 +0.6**
TTA pmax pmax
comp=Z,7.0nm,1.1s
TTA Tatalina 74.23 20 P **P** **12 36 47.1 +0.6**
LBTB Lobatse 74.25 221 P **P** **12 36 47.1 0.0**
LBTB pmax pmax
comp=Z,12nm,0.7s
LBTB Lobatse 74.25 221 P **P** **12 36 47.1 0.0**
LBTB IAmb IAmb 12 36 47.7
comp=Z,12nm,0.7s
PSA00 Pilbara Seismi 74.40 133 P **P** **12 36 47.0 -0.9**
PSA00 IAmb IAmb 12 36 49.2
comp=Z,5.3nm,0.6s
TSUM Tsumeb 74.42 231 P **P** **12 36 47.9 -0.3**
BPAW Bear Paw Mtn. 74.58 17 P **P** **12 36 48.3 -0.1**
BPAW IAmb IAmb 12 36 49.2
comp=Z,9.0nm,1.0s
COLA College 74.64 16 *c iP* **P** **12 36 48.5 -0.2**
COLA pmax pmax
comp=Z,20nm,0.9s
COLA College 74.64 16 P **P** **12 36 50.0 +1.4**
COLA IAmb IAmb 12 36 50.4
comp=Z,18nm,0.8s
CCB Clear Creek Bu 74.85 16 P **P** **12 36 50.0 +0.1**
FRB Frobisher Bay 74.85 342 P **P** **12 36 49.2 -0.6**
comp=Z,2.9nm,0.3s,baz=96,slow=6.7,SNR=3.1
IL31 74.94 16 P **P** **12 36 50.0 -0.4**
ILAR Eielson Array 74.94 16 P **P** **12 36 50.0 -0.4**
comp=Z,5.5nm,0.9s,baz=321,slow=4.7,SNR=32
ILAR pP **pP** **12 37 41.5 +0.3**
comp=Z,1.8nm,1.0s,baz=316,slow=5.2,SNR=3.1
ILAR PP **PP** **12 39 39.3 -1.1**
comp=Z,1.2nm,0.8s,baz=323,slow=7.7,SNR=5.3
KTH Kantishna Hill 75.05 18 P **P** **12 36 51.0 -0.2**
KTH IAmb IAmb 12 36 52.1
comp=Z,10nm,0.8s
HDA Harding Lake 75.24 16 P **P** **12 36 51.2 -1.0**
PPLA Purkeypile 75.28 19 P **P** **12 36 53.2 +0.6**
PPLA IAmb IAmb 12 37 06.0
comp=Z,12nm,1.2s
EPYK Eagle Plains 75.37 11 P **P** **12 36 53.3 +0.4**
EPYK IAmb IAmb 12 36 53.8
comp=Z,6.1nm,0.7s
MCK McKinley 75.38 17 P **P** **12 36 53.2 +0.3**
MCK pmax pmax
comp=Z,6.0nm,0.6s
MCK McKinley 75.38 17 P **P** **12 36 53.2 +0.3**
MCK IAmb IAmb 12 36 53.7
comp=Z,5.8nm,0.6s
RND Reindeer 75.67 17 P **P** **12 36 54.6 -0.1**
RND pmax pmax
comp=Z,6.0nm,0.8s
RND Reindeer 75.67 17 P **P** **12 36 54.6 -0.1**
KNRA Kununurra 75.78 122 P **P** **12 36 55.1 -0.8**
KNRA IAmb IAmb 12 36 57.5
comp=Z,16nm,0.8s
EGAK Eagle 76.08 13 P **P** **12 36 58.2 +1.3**
SCRK Sand Creek 76.25 15 P **P** **12 36 58.6 +0.6**
SCRK IAmb IAmb 12 36 59.2
comp=Z,7.6nm,0.8s
RIDG Independent Ri 76.28 15 P **P** **12 36 57.9 -0.3**
RIDG IAmb IAmb 12 36 58.6
comp=Z,9.0nm,1.0s
DHY Denali Highway 76.30 17 P **P** **12 36 58.6 +0.2**
DHY IAmb IAmb 12 36 59.5
comp=Z,8.7nm,0.8s
DOT Dot Lake 76.53 15 P **P** **12 37 00.2 +0.7**
GHO Glory Hole Cre 77.06 18 P **P** **12 37 02.4 -0.1**
GHO IAmb IAmb 12 37 04.3
comp=Z,11nm,1.0s
SML Sawmill 77.17 18 P **P** **12 37 03.4 +0.2**
SML IAmb IAmb 12 37 04.3
comp=Z,19nm,1.0s
BOSA Boshof 77.34 220 P **P** **12 37 03.9 -0.7**
comp=Z,5.0nm,0.7s,baz=21,slow=4.3,SNR=11
BOSA Boshof 77.34 220 P **P** **12 37 04.0 -0.5**
BOSA pmax pmax
comp=Z,9.0nm,1.0s
BOSA Boshof 77.34 220 P **P** **12 37 04.0 -0.5**
BOSA IAmb IAmb 12 37 04.8
comp=Z,8.6nm,1.0s
SCM Sheep Creek Mo 77.39 17 P **P** **12 37 04.8 +0.4**
SCM pmax pmax
comp=Z,8.0nm,0.7s
SCM Sheep Creek Mo 77.39 17 P **P** **12 37 04.8 +0.4**
SCM IAmb IAmb 12 37 06.0
comp=Z,8.2nm,0.7s
RC01 Rabbit Creek A 77.43 19 P **P** **12 37 05.0 +0.5**
RC01 IAmb IAmb 12 37 16.3
comp=Z,21nm,1.2s
MORW Morawa 78.18 140 P **P** **12 37 08.6 -0.4**
MORW IAmb IAmb 12 37 09.8
comp=Z,12nm,1.1s
CHGN Chignik 78.76 25 P **P** **12 37 11.5 -0.3**
EYAK Cordova Ski Ar 78.89 17 P **P** **12 37 13.5 +1.0**
KDAK Kodiak Island 79.43 22 P **P** **12 37 15.5 +0.1**
KDAK pmax pmax
comp=Z,25nm,1.1s
KDAK Kodiak Island 79.43 22 P **P** **12 37 15.5 +0.1**
KDAK IAmb IAmb 12 37 16.2
comp=Z,25nm,1.1s
OHAK Old Harbor 79.68 22 P **P** **12 37 17.2 +0.4**
OHAK IAmb IAmb 12 37 22.6
comp=Z,11nm,0.9s
HYT Haines Junctio 80.39 13 P **P** **12 37 21.6 +0.9**
YKA Yellowknife Ar 81.26 2 P **P** **12 37 25.2 +0.1**
comp=Z,5.6nm,0.7s,baz=348,slow=4.7,SNR=84
YKA pP **pP** **12 38 16.4 0.0**
comp=Z,2.9nm,0.8s,baz=345,slow=4.6,SNR=4.0
YKA PP **PP** **12 40 32.0 -0.8**
comp=Z,0.6nm,0.6s,baz=352,slow=7.6,SNR=5.0
NWAO Narrogin (SRO) 81.88 142 P **P** **12 37 29.2 +0.5**
NWAO pmax pmax
comp=Z,10.0nm,0.9s
NWAO Narrogin (SRO) 81.88 142 P **P** **12 37 29.2 +0.5**
NWAO IAmb IAmb 12 37 29.8
comp=Z,10nm,0.9s
WB0 Warramunga Arr 82.47 121 P **P** **12 37 31.0 -1.1**
WRA Warramunga Arr 82.55 121 P **P** **12 37 30.8 -1.7**
comp=Z,3.7nm,0.5s,baz=322,slow=5.0,SNR=76
WRA PKKPbc **PKKPbc** **12 55 57.0 +0.9**
comp=Z,0.2nm,0.3s,baz=125,slow=2.4,SNR=6.1
WRAB Tennant Creek 82.55 121⇑ *e*P **P** **12 37 30.7 -1.8**
WRAB pmax pmax
comp=Z,6.0nm,0.6s
WRAB Tennant Creek 82.55 121 P **P** **12 37 31.7 -0.8**
WRAB IAmb IAmb 12 37 32.8
comp=Z,7.3nm,0.6s
WB2 Warramunga Arr 82.56 121 P **P** **12 37 30.8 -1.8**
WB2 IAmb IAmb 12 37 32.8
comp=Z,7.9nm,0.5s
WR0 Warramunga Arr 82.70 121 P **P** **12 37 31.4 -1.9**
DLBC Dease Lake 83.90 11 P **P** **12 37 39.6 +0.7**
AS31 Alice Springs 84.80 124 P **P** **12 37 42.2 -1.6**
ASAR Alice Springs 84.80 124 P **P** **12 37 42.2 -1.6**
comp=Z,5.8nm,0.5s,baz=312,slow=4.8,SNR=158
ASAR PKiKP **PKiKP** **12 42 54.3 -0.9**
comp=Z,0.1nm,0.5s,baz=331,slow=1.0,SNR=4.3
FORT Forrest 86.15 133 P **P** **12 37 49.5 -0.8**
FFC Flin Flon 88.88 355 P **P** **12 38 03.3 +0.3**
FFC pmax pmax
comp=Z,10.0nm,1.4s
FFC Flin Flon 88.88 355 P **P** **12 38 03.3 +0.3**
FFC IAmb IAmb 12 38 03.9
comp=Z,10.0nm,1.4s
STKA Stephens Creek 95.32 126 P **P** **12 38 32.0 -1.1**
comp=Z,0.6nm,0.4s,baz=322,slow=8.8,SNR=3.1
STKA Stephens Creek 95.32 126 P **P** **12 38 32.0 -1.1**
STKA Stephens Creek 95.32 126 P **P** **12 38 31.9 -1.1**
SNAA Sanae 119.18 200 PKPdf **PKPdf** **12 43 55.6 -0.2**
SNAA Sanae 119.18 200 PKiKP **PKiKP** **12 43 55.5 -0.2**
SNAA Sanae 119.18 200 PKPdf **PKPdf** **12 43 55.5 -0.3**
VNA2 Neumayer--Watz 120.17 202 PKPdf **PKiKP** **12 43 58.0 +0.3**
FOZ Fox Glacier 120.30 124 PKPdf **PKPdf** **12 43 58.5 -0.1**
VNA3 Neumayer Olymp 120.98 202 PKPdf **PKPdf** **12 43 59.1 -0.1**
QRZ Quartz Range 121.09 120 PKPdf **PKPdf** **12 43 59.5 -0.8**
RPZ Rata Peaks 121.20 124 PKPdf **PKPdf** **12 43 59.8 -0.6**
HIZ Hauiti 121.83 117 PKPdf **PKPdf** **12 44 01.8 +0.1**
KHZ Kahutara 122.40 121 PKPdf **PKPdf** **12 44 02.2 -0.5**
BKZ Black Stump Fm 123.26 117 PKPdf **PKPdf** **12 44 03.1 -1.4**
BFZ Birch Farm 123.65 119 PKPdf **PKPdf** **12 44 04.8 -0.4**
QSPA South Pole Qui 126.31 180 PKPdf **PKPdf** **12 44 08.9 -0.6**
HOPE Hope Point 127.99 225 PKPpre PKPpre 12 44 02.8
GO02 Mina Guanaco 143.90 277 PKPdf PKPbc 12 44 42.4 +0.2
AC02 Maricunga 144.28 274 PKPdf **PKPab** **12 44 43.3 +0.1**
CO01 Juntas del Tor 146.33 269 PKPbc **PKPbc** **12 44 48.7 -0.6**
CO02 Combarbal 147.50 268 **PKPdf** **12 44 48.6 -0.9**
CO02 PKPbc **PKPbc** **12 44 52.4 0.0**
CO02 **PKPab** **12 44 54.9 -0.2**
MT02 Curacav 148.26 264 PKPbc **PKPbc** **12 44 53.7 -0.4**
PLCA Paso Flores 149.22 250 PKPbc **PiKiKP** **12 44 57.0 -0.5**
comp=Z,5.4nm,0.9s,baz=88,slow=2.3,SNR=4.0
PLCA Paso Flores 149.22 250 **PKPbc** **12 44 56.2 -0.3**
LL01 San Ignacio de 150.70 247 PKPdf **PKPdf** **12 44 54.4 +0.3**

JMA 01 12:44:58.9±0.3, 24.87N×123.43E, h27km, M1.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.56**	**223**	P		Pb	12 45 09.8	-0.3
YOJ				S		Sb	12 45 17.5	-0.3
IRIF	**Iriomote-Funau**	**0.60**	**153**	P		Pb	12 45 10.5	-0.3
IRIF				*e*S		Sb	12 45 18.6	-0.3
JYNG	**Yonagunijimaku**	**0.61**	**227**	P		Pb	12 45 10.7	-0.3
JYNG				*e*S		Sb	12 45 18.6	-0.6
JKRS	**Kuro-shima**	**0.82**	**140**	P		Pb	12 45 14.5	-0.1
JKRS				*e*S		Sb	12 45 25.3	0.0
JJ	**Ishigaki jima**	**0.82**	**128**	S		Sb	12 45 23.9	-1.4
JISG	**Ishigakijimahi**	**0.85**	**109**	*e*S		Sb	12 45 25.2	-0.9

*SOME **01** 12:45:04.7, 40.77N×69.57E, h10km*
*KRNET **01** 12:45:10.6±0.1, 40.92N×69.77E, mb2.7*

ISC 01 12:45:09.4±2.4, 41.01N±0.06×69.83E±0.08, h11km±13km, n11, σ2s09/22, 2C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.15**	**8**	*e*P		**Pg**	**12 45 31.4**	**-0.1**
IUG	15nm,0.2s							
	114nm,0.7s							
BTK	**Batken**	**1.21**	**141**⇑ *i*P			**Pn**	**12 45 33.2**	**+0.8**
BTK	baz=37			⇑ *i*S		**Sn**	**12 45 49.6**	**+0.8**
	baz=37							
ARK	**Arkit**	**1.79**	**63**⇓ *i*P			**Pg**	**12 45 45.4**	**+1.6**
ARK	baz=62			⇓ *i*S		**Sg**	**12 46 11.2**	**+4.1**
	baz=62							
BRLS	**Borolday**	**2.02**	**0**	*e*P		**Pn**	**12 45 42.6**	**-0.9**
BRLS	13nm,0.2s							
	36nm,0.2s			*e*S		**Sn**	**12 46 08.4**	**-0.4**
ARSB	**Arslanbob**	**2.40**	**81**⇓ *i*P			**Pb**	**12 45 54.4**	**+1.6**
ARSB	baz=80			⇓ *i*S		**Sg**	**12 46 26.0**	**-0.7**
	baz=80							
MRKS	**Merke**	**3.08**	**54**	*e*P		**Pg**	**12 46 07.1**	**-1.3**
MRKS	3.7nm,0.5s			*e*S		**Sg**	**12 46 49.6**	**+1.4**
	5.1nm,0.3s							
ARLS	**Aral**	**3.49**	**74**⇓ *e*P			**Pb**	**12 46 09.5**	**-1.8**
ARLS	baz=73			⇓ *i*S		**Sb**	**12 46 52.6**	**-1.1**
	baz=73							
DGS	**Degeres**	**4.96**	**61**	*e*P		**Pg**	**12 46 41.4**	**-2.9**
DGS	2.1nm,0.3s			*e*S		**Sg**	**12 47 49.6**	**+1.1**
	6.2nm,0.6s							
KST	**Kastek**	**5.00**	**64**	*e*P		**Pg**	**12 46 42.0**	**-3.3**
KST	0.5nm,0.1s			*e*S		**Sg**	**12 47 49.8**	**-0.2**
	4.3nm,0.6s							
TNSS	**Tian-Shan**	**5.68**	**67**	*e*P		**Pg**	**12 46 55.8**	**-2.3**
TNSS	1.5nm,0.6s			*e*S		**Sg**	**12 48 13.7**	**+1.9**
	3.5nm,0.9s							
KTBS	**Karatobe**	**5.75**	**60**	*e*P		**Pg**	**12 46 57.5**	**-2.1**
KTBS	0.9nm,0.6s			*e*S		**Sg**	**12 48 16.1**	**+2.0**
	4.2nm,0.8s							

TAP 01 12:45:24.0, 24.83N×122.41E, h28km±1km, ML1.9, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.42**	**295**	P		Pb	12 45 32.9	-0.1
TWB1	baz=295			*e*S		Sb	12 45 39.1	-0.1
	baz=295							
TIPB	**Shuangxi**	**0.55**	**285**	*e*P		Pb	12 45 35.2	+0.1
TIPB	baz=293			*e*S		Sb	12 45 41.8	-0.9
	baz=293							
TWC	**Suao**	**0.56**	**246**	*e*P		Pb	12 45 34.5	-0.8
TWC	baz=246			*e*S		Sb	12 45 43.2	+0.3
	baz=246							
YOJ	**Yonaguni jima**	**0.66**	**124**	*e*P		Pb	12 45 35.8	-1.2
	baz=123							
TWE	**Neicheng**	**0.68**	**261**	P		Pb	12 45 37.2	-0.2
TWE	baz=261			*e*S		Sb	12 45 46.2	-0.3
	baz=261							
NWLT	**Wulai**	**0.82**	**266**	*e*P		Pb	12 45 40.2	+0.4
NWLT	baz=274			*e*S		Sb	12 45 50.8	+0.2
	baz=274							
NDT	**Datong Townshi**	**0.85**	**254**	P		Pb	12 45 40.4	+0.3
NDT	baz=248			*e*S		Sb	12 45 51.1	-0.1
	baz=248							
YHNB	**Yeheng**	**0.95**	**260**	*e*P		Pb	12 45 42.1	+0.1
YHNB	baz=251			*e*S		Sb	12 45 54.1	-0.1
	baz=251							
NSK	**Sanguang**	**0.97**	**261**	*e*P		Pb	12 45 42.1	-0.1
NSK	baz=251			*e*S		Sn	12 45 53.6	-1.0
	baz=251							
NACB	**Ninganchiao**	**0.99**	**229**	*e*P		Pn	12 45 40.4	-1.6
	baz=229							
NNSB	**Datong**	**1.02**	**247**	*e*P		Pn	12 45 42.5	+0.1
NNSB	baz=242			*e*S		Sn	12 45 55.8	-0.1
	baz=242							
NNSH	**Datong**	**1.02**	**247**	*e*P		Pb	12 45 43.0	-0.1
NNSH	baz=242			*e*S		Sn	12 45 55.2	-0.7
	baz=242							
NNS	**Nan Shan**	**1.02**	**248**	*e*P		Pb	12 45 43.1	0.0

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
	baz=248						
ETLH	**Xiulin Townshi**	**1.05**	**234**	eP	Pb	12 45 44.0	+0.4
	baz=240						
ETLH				eS	Sn	12 45 56.6	-0.1
	baz=240						
WHF	**Hehuan Shan**	**1.25**	**237**	eP	Pb	12 45 47.0	-0.1
	baz=237						

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*JMA **01** 12:51:18.4±0.1, 24°.76N×122°.29E, h0km, M2.0*
*TAP **01** 12:51:18.7, 24°.84N×122°.26E, h12km, ML2.7, C*
ISC 01 12:51:18.8±1.0**, 24°.80N**±0°.03×**122°.29E**±0°.02**, h8**km±9km**, n44,** σ**0s.44**/75**, 1D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
EGS		**0.33**	**277**	P	**Pg**	**12 51 25.3**	**+0.1**
	baz=261						
EGS				eS	**Sg**	**12 51 30.6**	**+1.1**
	baz=261						
TWB1	**Santiao Chiao**	**0.34**	**307**	⇓iP	**Pg**	**12 51 25.3**	**-0.2**
	baz=303						
TWB1				iS	**Sg**	**12 51 29.8**	**-0.2**
	baz=303						
NTC	**Toucheng**	**0.42**	**277**	P	**Pg**	**12 51 27.2**	**+0.2**
	baz=272						
NTC				eS	**Sg**	**12 51 33.3**	**+0.9**
	baz=272						
TWC	**Suao**	**0.44**	**244**	P	**Pg**	**12 51 27.4**	**0.0**
	baz=239						
TWC				eS	**Sg**	**12 51 33.4**	**+0.2**
	baz=239						
TIPB	**Shuangxi**	**0.45**	**292**	P	**Pg**	**12 51 27.7**	**+0.1**
	baz=287						
TIPB				eS	**Sg**	**12 51 33.9**	**+0.3**
	baz=287						
NWF	**Wu-fen Shan**	**0.53**	**300**	P	**Pb**	**12 51 29.7**	**-0.7**
	baz=296						
NWF				eS	**Sb**	**12 51 37.3**	**-1.0**
	baz=296						
WFSB	**Wu-fen Shan**	**0.53**	**300**	eP	**Pb**	**12 51 29.8**	**-0.5**
	baz=296						
WFSB				eS	**Sb**	**12 51 37.7**	**-0.5**
	baz=296						
TWE	**Neicheng**	**0.57**	**262**	P	**Pg**	**12 51 29.6**	**-0.2**
	baz=250						
TWE				eS	**Sg**	**12 51 37.2**	**-0.1**
	baz=250						
ENA	**Nanau**	**0.62**	**233**	eP	**Pg**	**12 51 30.8**	**0.0**
	baz=230						
ENA				eS	**Sg**	**12 51 38.8**	**-0.1**
	baz=230						
TWA	**Mucha**	**0.66**	**286**	eP	**Pb**	**12 51 32.4**	**-0.2**
	baz=283						
JYNG	**Yonagunijimaku**	**0.69**	**120**	P	**Pg**	**12 51 31.6**	**-0.6**
JYNG				S	**Sg**	**12 51 42.0**	**+0.8**
NHDH	**Xindian Distri**	**0.71**	**283**	eP	**Pb**	**12 51 33.0**	**-0.4**
	baz=280						
NHDH				eS	**Sb**	**12 51 42.4**	**-0.9**
	baz=280						
NWLT	**Wulai**	**0.71**	**268**	iP	**Pg**	**12 51 32.6**	**+0.1**
	baz=265						
NWLT				eS	**Sg**	**12 51 42.4**	**+0.6**
	baz=265						
NDT	**Datong Townshi**	**0.73**	**254**	eP	**Pb**	**12 51 33.2**	**-0.5**
	baz=251						
NDT				eS	**Sg**	**12 51 42.9**	**+0.5**
	baz=251						
YM01	**YM01**	**0.73**	**298**	iP	**Pb**	**12 51 33.3**	**-0.5**
	baz=295						
YM01				eS	**Sg**	**12 51 42.7**	**+0.2**
	baz=295						
YM11	**YM11**	**0.74**	**299**	eP	**Pb**	**12 51 33.9**	**-0.1**
	baz=297						
YOJ	**Yonaguni jima**	**0.74**	**117**	P	**Pg**	**12 51 32.7**	**-0.4**
	baz=118						
YOJ	**Yonaguni jima**	**0.74**	**117**	P	**Pg**	**12 51 32.7**	**-0.4**
YOJ				eS	**Sg**	**12 51 42.9**	**+0.2**
TATO	**Taipei**	**0.74**	**283**	eP	**Pb**	**12 51 33.6**	**-0.4**
	baz=281						
YM10	**YM10**	**0.75**	**298**	eP	**Pb**	**12 51 33.6**	**-0.5**
	baz=296						
TWY	**Chenhua**	**0.78**	**307**	P	**Pb**	**12 51 34.2**	**-0.4**
	baz=305						
TWY				eS	**Sb**	**12 51 45.0**	**-0.3**
	baz=305						
YHNB	**Yeheng**	**0.84**	**261**	P	**Pg**	**12 51 34.8**	**-0.1**
	baz=258						
YHNB				eS	**Sb**	**12 51 46.6**	**-0.6**
	baz=258						
TWS1	**Kuangyinshan**	**0.84**	**291**	eP	**Pg**	**12 51 35.0**	**-0.1**
	baz=289						
NSK	**Sanguang**	**0.85**	**262**	P	**Pg**	**12 51 35.1**	**-0.1**
	baz=259						
NSK				eS	**Sg**	**12 51 45.9**	**-0.4**
	baz=259						
NACB	**Ninganchiao**	**0.89**	**225**	P	**Pg**	**12 51 35.7**	**-0.1**
	baz=224						
NACB				eS	**Sg**	**12 51 47.0**	**-0.5**
	baz=224						
NNSB	**Datong**	**0.90**	**246**	P	**Pg**	**12 51 36.0**	**-0.2**
	baz=234						
NNSB				eS	**Sg**	**12 51 47.9**	**0.0**
	baz=234						
NNSH	**Datong**	**0.90**	**246**	P	**Pg**	**12 51 36.2**	**0.0**
	baz=236						
NNSH				eS	**Sb**	**12 51 48.3**	**-0.7**
	baz=236						
NNS	**Nan Shan**	**0.91**	**247**	P	**Pg**	**12 51 36.3**	**+0.1**
	baz=235						
NNS				eS	**Sg**	**12 51 48.2**	**+0.2**
	baz=235						
ETLH	**Xiulin Townshi**	**0.94**	**231**	P	**Pg**	**12 51 37.0**	**+0.1**
	baz=230						
ETLH				eS	**Sb**	**12 51 49.7**	**-0.5**
	baz=230						
TWD	**Chiawan**	**0.96**	**221**	eP	**Pg**	**12 51 37.0**	**-0.2**
	baz=228						
TWD				eS	**Sg**	**12 51 48.8**	**-0.8**
	baz=228						
WHF	**Hehuan Shan**	**1.14**	**235**	P	**Pb**	**12 51 40.7**	**-0.3**
	baz=234						
WHF				eS	**Sg**	**12 51 55.5**	**0.0**
	baz=234						
NSTT	**Nanjuang**	**1.18**	**262**	eP	**Pn**	**12 51 42.4**	**+0.8**
	baz=278						
NSTT				eS	**Sn**	**12 51 58.8**	**+0.9**
	baz=278						
CHGB	**Renai**	**1.26**	**234**	eP	**Pb**	**12 51 42.7**	**-0.2**
	baz=234						
CHGB				eS	**Sb**	**12 51 59.3**	**+0.1**
	baz=234						
ESL	**Shilin**	**1.26**	**219**	eP	**Pb**	**12 51 42.7**	**-0.1**
	baz=225						
ESL				eS	**Sn**	**12 52 00.1**	**+0.3**
	baz=225						
WHP	**Taichung City**	**1.33**	**247**	eP	**Pg**	**12 51 44.3**	**0.0**
	baz=246						
WHP				eS	**Sb**	**12 52 01.0**	**-0.2**
	baz=246						
EGFH	**Guangfu**	**1.38**	**215**	eP	**Pg**	**12 51 45.9**	**+0.7**
	baz=202						
IRIF	**Iriomote-Funau**	**1.39**	**109**	P	**Pn**	**12 51 44.7**	**+0.2**
IRIF				eS	**Sb**	**12 52 02.6**	**-0.4**
TWQ1	**Liyutan**	**1.45**	**252**	eP	**Pg**	**12 51 46.8**	**+0.1**
	baz=270						
DPDB	**Guoxing**	**1.46**	**239**	eP	**Pg**	**12 51 46.4**	**-0.3**
	baz=240						
VWDT	**VWDT**	**1.48**	**225**	eP	**Pn**	**12 51 45.9**	**+0.2**
	baz=228						
SSLB	**Suanglung**	**1.58**	**231**	eP	**Pb**	**12 51 47.6**	**-0.7**
	baz=233						
JKRS	**Kuro-shima**	**1.67**	**109**	P	**Pb**	**12 51 49.9**	**+0.2**
WHYT	**Xinyi Township**	**1.71**	**230**	eP	**Pg**	**12 51 51.2**	**-0.4**
	baz=233						
JIJ	**Ishigaki jima**	**1.75**	**104**	P	**Pb**	**12 51 50.8**	**-0.3**
JIJ				eS	**Sb**	**12 52 13.4**	**+0.2**

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*IDC **01** 13:23:19.1±1.6, 0°.29S×132°.41E, h0km, mb3.9/3, mb1 4.1/5, mb1mx3.6/33, mbtmp3.9/5, ML3.8/2, MS3.3/9, Ms1 3.3/9, ms1mx3.0/39, Error ellipse: s-maj=26.8km s-min=18.8km az=67.0*
*DJA **01** 13:23:23.0±0.5, 0°S±5°×13°2E±°, h10km, M4.0/10, mb4.2/3, MLv4.0/10*
*NEIC **01** 13:23:25.3±2.5, 0°.39S±0°.09×132°.37E±0°.09, h40km±8km, mb4.0/14, Error ellipse: s-maj=14.0km s-min=11.8km az=46.0*
ISC 01 13:23:23.9±0.9**, 0°.36S**±0°.08×**132°.39E**±0°.06**, h33**km**, n41,** σ**2s.14**/32**, mb4.0**/5**, MS3.3**/8**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.23**	**246**	Pn	**Pn**	**13 23 44.1**	**-0.8**
	74nm,0.3s,baz=206,slow=23,SNR=196						
SIJI				Sn	**Sn**	**13 24 02.2**	**+1.9**
	76nm,0.3s,baz=160,slow=22,SNR=12						
RKPI	**Ransiki, Papua**	**2.13**	**123**	P	**Pb**	**13 24 00.2**	**-1.7**
RKPI				S	**Sb**	**13 24 30.0**	**+2.1**
FAKI	**Fak Fak**	**2.55**	**183**	P	**Pn**	**13 24 05.0**	**+2.0**
FAKI				S	**Sb**	**13 24 39.5**	**-0.5**
FAKI	**Fak Fak**	**2.55**	**183**	Pn	**Pn**	**13 24 04.6**	**+1.5**
MSAI	**Masohi**	**4.56**	**229**	P	**Pn**	**13 24 32.2**	**+1.6**
BNDI	**Bandanaira**	**4.82**	**211**	P	**Pn**	**13 24 36.7**	**+2.4**
LBMI	**Labuha**	**4.89**	**267**	P	**Pn**	**13 24 35.3**	**0.0**
AAI	**Ambon**	**5.34**	**232**	P	**Pn**	**13 24 43.8**	**+2.4**
	0.2nm71nm,0.8s						
MTN	**Manton Dam**	**12.47**	**186**	Pn	**Pn**	**13 26 17.9**	**-1.3**
KAPI	**Kappang**	**13.44**	**250**	LR	LR	13 31 56.1	
	comp=Z,60nm,19.8s,baz=63,slow=38						
KNRA	**Kununurra**	**15.64**	**193**	Pn	**Pn**	**13 26 59.1**	**-2.9**
KNRA				IAmb	IAmb	13 27 03.1	
	comp=Z,18nm,1.1s						
COEN	**Coen**	**17.23**	**142**		**P**	**13 27 23.2**	**-0.3**
COEN				IAmb	IAmb	13 27 46.4	
	comp=Z,25nm,1.6s						
KKM	**Kota Kinabalu**	**17.35**	**292**	Pn	**Pn**	**13 27 23.7**	**-0.2**
KKM				IAmb	IAmb	13 27 53.9	
	comp=Z,21nm,1.3s						
FITZ	**Fitzroy Crossi**	**18.84**	**200**	P	**P**	**13 27 41.2**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=36,slow=7.7,SNR=11						
FITZ	**Fitzroy Crossi**	**18.84**	**200**		**P**	**13 27 40.1**	**-1.1**
WB0	**Warramunga Arr**	**19.39**	**174**	P	**P**	**13 27 47.9**	**+0.6**
WB0				IAmb	IAmb	13 28 27.6	
	comp=Z,7.1nm,0.9s						
WRAB	**Tennant Creek**	**19.55**	**174**	P	**P**	**13 27 50.3**	**+1.2**
WRAB				IAmb	IAmb	13 28 48.4	
	comp=Z,5.4nm,0.7s						
WRA	**Warramunga Arr**	**19.56**	**175**	P	**P**	**13 27 48.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=354,slow=11,SNR=20						
WRA				S	**S**	**13 31 22.5**	**-5.8**
	comp=Z,0.1nm,0.3s,baz=353,slow=24,SNR=4.1						
WB2	**Warramunga Arr**	**19.56**	**174**	P	**P**	**13 27 49.9**	**+0.7**
WB2				IAmb	IAmb	13 27 54.0	
	comp=Z,9.9nm,1.2s						
WR0	**Warramunga Arr**	**19.60**	**174**	P	**P**	**13 27 50.4**	**+0.9**
WR0				IAmb	IAmb	13 27 53.0	
	comp=Z,13nm,1.2s						
SBUM	**Sibu**	**20.35**	**278**	P	**P**	**13 27 59.3**	**+1.4**
KSM	**Kuching**	**22.15**	**275**	P	**P**	**13 28 18.7**	**+1.5**
KSM				IAmb	IAmb	13 28 21.2	
	comp=Z,6.0nm,1.0s						
SMRI	**Semarang**	**22.87**	**253**	P	**P**	**13 28 23.6**	**-1.3**
AS31	**Alice Springs**	**23.22**	**176**	P	**P**	**13 28 28.9**	**+0.5**
ASAR	**Alice Springs**	**23.22**	**176**	P	**P**	**13 28 28.8**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=357,slow=12,SNR=34						
ASAR				S	**S**	**13 32 44.8**	**+6.5**
	comp=Z,1.6nm,1.1s,baz=0.8,slow=20,SNR=6.2						
JCJ	**Chichijima**	**28.88**	**18**	LR	LR	13 38 55.5	
	comp=Z,66nm,19.3s,baz=120,slow=32						
FORT	**Forrest**	**30.53**	**187**	P	**P**	**13 29 35.1**	**+0.7**
STKA	**Stephens Creek**	**32.54**	**165**	P	**P**	**13 29 51.0**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=330,slow=8.1,SNR=3.0						
STKA				LR	LR	13 45 26.2	
	comp=Z,124nm,21.1s,baz=355,slow=41						
STKA	**Stephens Creek**	**32.54**	**165**	IAmb	IAmb	13 29 53.6	
	comp=Z,8.3nm,1.9s						
JNU	**Nakatsue**	**33.33**	**358**	LR	LR	13 43 28.6	
	comp=Z,41nm,19.0s,baz=150,slow=36						
JHJ	**Hachijo jima 2**	**34.02**	**11**	LR	LR	13 41 48.3	
	comp=Z,90nm,18.3s,baz=298,slow=33						
MJAR	**Matsushiro Arr**	**37.11**	**8**	LR	LR	13 42 33.9	
	comp=Z,65nm,21.6s,baz=270,slow=31						
KSRS	**Korea Array**	**37.85**	**354**	LR	LR	13 44 05.5	
	comp=Z,29nm,20.2s,baz=170,slow=33						
H11N1	**WAKE ISLAND Hy**	**39.26**	**57**	T	T	14 12 29.1	
	baz=246,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**39.27**	**57**	T	T	14 12 27.5	
	baz=246,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**39.28**	**57**	T	T	14 12 29.7	
	baz=246,slow=75,SNR=12						
HHC	**Hu-ho-hao-te**	**45.17**	**338**	eP	P	13 31 46.5	+8.7
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,42nm,5.2s						
ASAJ	**Asahikawa**	**45.21**	**10**	LR	LR	13 48 58.1	
	comp=Z,41nm,19.7s,baz=205,slow=34						
PETK	**Petropavlovsk-**	**57.31**	**18**	LR	LR	13 55 24.9	
	comp=Z,26nm,21.3s,baz=233,slow=34						
WMQ	**Urumqi**	**59.31**	**324**	eP	P	13 33 30.8	+8.0
MKAR	**Makanchi Array**	**64.13**	**324**	P	**P**	**13 33 55.5**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=124,slow=8.2,SNR=7.0						

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*IDC **01** 13:25:28.6±2.0, 19°.75S×71°.35W, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.6/21, mbtmp3.7/5, ML3.1/2, Error ellipse: s-maj=49.7km s-min=35.4km az=61.0*
*NEIC **01** 13:25:31.6±1.3, 19°.71S±0°.05×71°.16W±0°.10, h20km±3km, mb4.3/1, Error ellipse: s-maj=13.5km s-min=6.8km az=96.0*
*GUC **01** 13:25:32.3±0.6, 19°.63S×71°.18W, h37km±3km, ML3.6*
ISC 01 13:25:28.8±2.1**, 19°.68S**±0°.04×**71°.21W**±0°.07**, h3**km±12km**, n45,** σ**0s.97**/50**, mb3.6**/3**, 9C-3D, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**1.02**	**85**	⇓eP	**Pg**	**13 25 49.0**	**+0.5**
PSGC				eS	**Sg**	**13 26 02.0**	**+0.2**
PSGCX	**Pisagua**	**1.02**	**85**		**Pg**	**13 25 49.0**	**+0.5**
TA02	**Huaiquique**	**1.17**	**120**	⇑iP	**Pn**	**13 25 51.9**	**-0.2**
TA02				eS	**Sb**	**13 26 07.2**	**0.0**
TA02				IAML		13 26 09.5	
	comp=N,1μm,0.1s						
TA01	**Diego Aracena**	**1.30**	**133**	⇑iP	**Pn**	**13 25 53.9**	**-0.1**
TA01				eS	**Sb**	**13 26 10.8**	**-0.3**
TA01				IAML		13 26 16.4	
	comp=E,2μm,0.6s						
TA01	**Diego Aracena**	**1.30**	**133**		**Pn**	**13 25 53.5**	**-0.5**
PB12	**IPOC Station P**	**1.35**	**38**	⇑iP	**Pn**	**13 25 55.2**	**+0.5**
PB12				eS	**Sb**	**13 26 12.2**	**-0.3**
PB12	**IPOC Station P**	**1.35**	**38**		**Pn**	**13 25 54.5**	**-0.1**
PB11	**IPOC Station P**	**1.46**	**93**	⇑iP	**Pn**	**13 25 56.1**	**-0.2**
PB11				eS	**Sn**	**13 26 14.6**	**-1.5**
PB11				IAML		13 26 15.9	
	comp=N,1μm,0.4s						
PB11	**IPOC Station P**	**1.46**	**93**		**Pn**	**13 25 55.9**	**-0.3**
PATCX	**Punta Patache**	**1.50**	**139**	⇑iP	**Pn**	**13 25 56.8**	**0.0**
PATCX				eS	**Sn**	**13 26 16.5**	**-0.5**
PATCX	**Punta Patache**	**1.50**	**139**		**Pn**	**13 25 56.7**	**0.0**
AP01	**Chacalluta**	**1.54**	**32**	Pn	**Pn**	**13 25 56.9**	**-0.2**
MNMC	**Minye Minye**	**1.62**	**70**	⇑iP	**Pn**	**13 25 58.8**	**+0.3**
MNMC				eS	**Sn**	**13 26 19.2**	**-0.8**
MNMC				IAML		13 26 24.4	
	comp=N,2μm,0.3s						
MNMC	**Minye Minye**	**1.62**	**70**		**Pn**	**13 25 58.7**	**+0.3**
GO01	**Chusmiza**	**1.90**	**90**	⇑iP	**Pn**	**13 26 02.8**	**+0.2**
GO01				eS	**Sn**	**13 26 26.3**	**-0.9**
GO01	**Chusmiza**	**1.90**	**90**		**Pn**	**13 26 02.7**	**+0.1**
PB08	**IPOC Station P**	**1.98**	**104**	⇑iP	**Pn**	**13 26 03.9**	**+0.2**
PB08				iS	**Sn**	**13 26 28.8**	**-0.4**
PB08				IAML		13 26 39.7	
	comp=N,598nm,0.6s						
PB08	**IPOC Station P**	**1.98**	**104**		**Pn**	**13 26 03.5**	**-0.1**
PB02	**IPOC Station P**	**2.04**	**143**	⇓×iP	**Pn**	**13 26 04.6**	**+0.4**
PB01	**IPOC Station P**	**2.11**	**130**	⇑iP	**Pn**	**13 26 05.6**	**+0.5**
PB01				IAML		13 26 41.0	
	comp=N,406nm,0.5s						
PB01	**IPOC Station P**	**2.11**	**130**		**Pn**	**13 26 05.4**	**+0.3**
PB07	**IPOC Station P**	**2.38**	**149**	⇓iP	**Pn**	**13 26 09.3**	**+0.4**
PB07				IAML		13 26 54.3	
	comp=E,419nm,0.7s						
PB07	**IPOC Station P**	**2.38**	**149**		**Pn**	**13 26 09.1**	**+0.2**
PB09	**IPOC Station P**	**2.79**	**139**	eP	**Pn**	**13 26 15.8**	**+1.2**
PB09				IAML		13 27 04.4	
	comp=N,299nm,0.6s						
PB09	**IPOC Station P**	**2.79**	**139**		**Pn**	**13 26 15.8**	**+1.2**
PB04	**IPOC Station P**	**2.82**	**160**	Pn	**Pn**	**13 26 15.5**	**+0.6**
PB06	**IPOC Station P**	**3.37**	**153**	Pn	**Pn**	**13 26 22.6**	**0.0**
LVC	**Limon Verde**	**3.62**	**144**	Pn	**Pn**	**13 26 27.7**	**+1.6**
	comp=N,0.8nm,0.3s,baz=354,slow=7.1,SNR=20						
LVC				Sn	**Sn**	**13 27 08.1**	**-1.4**
	comp=N,2.8nm,0.3s,baz=338,slow=13,SNR=3.7						
PB10	**IPOC Station P**	**3.86**	**171**	Pn	**Pn**	**13 26 28.5**	**-0.6**
PB15	**IPOC Station P**	**3.86**	**156**	Pn	**Pn**	**13 26 29.4**	**+0.1**
LPAZ	**La Paz**	**4.47**	**41**	Pn	**Pb**	**13 26 45.4**	**-2.9**
	comp=N,0.5nm,0.3s,baz=187,slow=4.9,SNR=11						
LPAZ	**La Paz**	**4.47**	**41**	Pn	Pb	13 26 45.0	-3.3
GO02	**Mina Guanaco**	**5.66**	**165**	Pn	**Pn**	**13 26 54.2**	**+0.1**
AC01	**Pan de Azucar**	**6.46**	**175**	Pn	**Pn**	**13 27 04.3**	**-0.6**
AC02	**Maricunga**	**7.37**	**165**	Pn	**Pn**	**13 27 18.4**	**+0.6**
CO01	**Juntas del Tor**	**10.30**	**175**	Pn	**Pn**	**13 27 59.0**	**+1.2**
SIV	**San Ignacio**	**10.32**	**71**	Pn	**Pn**	**13 28 01.1**	**+3.1**
	comp=N,0.2nm,0.3s,baz=261,slow=14,SNR=7.5						
H03N1	**Juan Fernandez**	**15.33**	**205**	T	T	13 45 30.9	
	baz=32,slow=73,SNR=5.4						
H03N2	**Juan Fernandez**	**15.34**	**205**	T	T	13 45 27.9	
	baz=32,slow=73,SNR=4.1						
H03N3	**Juan Fernandez**	**15.35**	**205**	T	T	13 45 37.5	
	baz=32,slow=73,SNR=3.3						
PTGA	**Pitinga**	**21.82**	**32**	P	**P**	**13 30 24.8**	**+2.4**
	comp=N,1.0nm,0.3s,baz=19,slow=23,SNR=1.7						
PTGA	**Pitinga**	**21.82**	**32**	IAmb	IAmb	13 30 45.1	
	comp=Z,24nm,1.9s						
TORD	**Torodi Ar. Bea**	**78.80**	**72**	P	**P**	**13 37 32.9**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=248,slow=4.9,SNR=4.0						
YKA	**Yellowknife Ar**	**88.78**	**341**	P	**P**	**13 38 23.9**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=147,slow=4.7,SNR=4.0						
MKAR	**Makanchi Array**	**145.35**	**33**	PKPbc	**PKPab**	**13 45 09.3**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=319,slow=4.0,SNR=3.8						

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*IDC **01** 13:37:33.4±1.9, 36°.26N×136°.90E, h243km±19km, mb2.8/2, mb1 3.0/3, mb1mx2.6/39, mbtmp3.5/3, Error ellipse: s-maj=70.8km s-min=23.9km az=91.0*
*JMA **01** 13:37:35.1±0.2, 36°.01N×137°.47E, h256km±3km, M2.5*
ISC 01 13:37:35.3±1.2**, 36°.1N**±0°.1×**137°.46E**±0°.07**, h254**km±9km**, n18,** σ**0s.59**/22**, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.19**	**322**	P	**Pn**	**13 38 08.3**	**+0.2**
JNG	**Nsakai**	**0.61**	**57**	P	**Pn**	**13 38 09.6**	**+0.5**
JNG				S	**S**	**13 38 35.4**	**-0.3**
MAT	**Matsushiro**	**0.76**	**52**	P	**Pn**	**13 38 10.0**	**+0.4**
MAT				S	**S**	**13 38 36.8**	**+0.2**
MJAR	**Matsushiro Arr**	**0.77**	**52**	P	**Pn**	**13 38 10.2**	**+0.6**
	0.3nm,0.3s,baz=242,slow=5.4,SNR=24						
MJAR				S	**S**	**13 38 36.0**	**-0.6**
	0.1nm,0.3s,baz=260,slow=21,SNR=13						
JKG	**Kaga**	**0.94**	**283**	P	**Pn**	**13 38 11.1**	**+0.7**
JYN	**Shimob**	**1.05**	**123**	P	**Pn**	**13 38 11.2**	**+0.1**
JRY	**Ryogami san**	**1.17**	**92**	P	**Pn**	**13 38 12.4**	**+0.6**
JSZ	**Suzu**	**1.38**	**357**	P	**Pn**	**13 38 13.5**	**+0.5**
JOD2	**Odawara 2**	**1.55**	**121**	P	**Pn**	**13 38 14.8**	**+0.4**
JAG	**Ashikaga**	**1.65**	**77**	P	**Pn**	**13 38 15.5**	**+0.4**
JWT	**Wachi**	**1.85**	**245**	P	**Pn**	**13 38 17.0**	**+0.2**
JWT				eS	**S**	**13 38 48.6**	**-1.0**
JKY	**Yasaka**	**1.97**	**258**	P	**Pn**	**13 38 17.8**	**0.0**
JSD	**Sado**	**2.06**	**18**	P	**Pn**	**13 38 19.1**	**+0.5**
JKSM	**Kasumi**	**2.32**	**259**	P	**Pn**	**13 38 21.3**	**+0.2**
BSO1	**Boso 1**	**3.20**	**115**	P	**Pn**	**13 38 29.4**	**-0.2**
ASAJ	**Asahikawa**	**8.95**	**24**	P	**Pn**	**13 39 38.9**	**-1.4**
	0.5nm,0.3s,baz=223,slow=13,SNR=13						
WRA	**Warramunga Arr**	**55.79**	**184**	P	**P**	**13 46 46.4**	**+0.2**
	0.3nm,0.3s,baz=0.0,slow=7.6,SNR=18						
ASAR	**Alice Springs**	**59.51**	**184**	P	**P**	**13 47 12.2**	**+0.2**
	0.1nm,0.5s,baz=358,slow=6.5,SNR=6.5						

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*IDC **01** 13:42:29.9±1.6, 55°.12N×165°.53E, h0km, mb3.4/4, mb1 3.8/5, mb1mx3.3/46, mbtmp3.4/5, ML3.0/1, MS2.4/2, Ms1 2.4/2, ms1mx2.3/34, Error ellipse: s-maj=97.6km s-min=24.6km az=155.0*
*KRSC **01** 13:42:30.6±1.8, 54°.97N×165°.52E, h38km±14km, ML4.0*
ISC 01 13:42:32.4±1.5**, 55°.00N**±0°.05×**165°.59E**±0°.08**, h19**km±6km**, n45,** σ**1s.46**/76**, mb3.4**/4**, Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BKI	**Bering**	**0.30**	**47**	P	**Pg**	**13 42 38.5**	**-0.5**
BKI				S	**Sg**	**13 42 43.1**	**-0.4**
KBTR	**Krutoberegovo**	**1.98**	**309**	P	**Pn**	**13 43 02.9**	**-2.0**
KBTR				S	**Sn**	**13 43 26.6**	**-2.6**
KBG	**Krutoberegovo**	**2.06**	**309**	S	**Sn**	**13 43 29.2**	**-1.9**
ZLN	**Zelenaya**	**2.91**	**292**	P	**Pn**	**13 43 18.6**	**+0.9**
BDR	**Baidarnaya**	**2.93**	**304**	P	**Pn**	**13 43 18.4**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**2.94**	**291**	P	**Pn**	**13 43 19.2**	**+1.1**
BZGR				S	**Sn**	**13 43 54.0**	**+1.1**
LGNR	**Loginova**	**2.99**	**293**	P	**Pn**	**13 43 20.1**	**+1.1**
TUMD	**Tumrok D**	**2.99**	**276**	P	**Pn**	**13 43 18.9**	**+0.2**
TUMD				S	**Sn**	**13 43 53.1**	**-0.9**
SRKR	**Sorokina**	**3.00**	**305**	P	**Pn**	**13 43 19.0**	**+0.2**
SRKR				S	**Sn**	**13 43 53.2**	**-1.0**
KZV	**Kizimen**	**3.05**	**274**	P	**Pn**	**13 43 19.9**	**+0.2**
KZV				S	**Sn**	**13 43 54.1**	**-1.6**
KLY	**Klyuchi**	**3.09**	**297**	P	**Pn**	**13 43 19.7**	**-0.4**
KLY				S	**Sn**	**13 43 54.8**	**-1.7**
KRSR	**Krestovskiy**	**3.10**	**295**	P	**Pn**	**13 43 20.9**	**+0.6**
KRSR				S	**Sn**	**13 43 55.6**	**-1.3**
KIRR	**Kirishev**	**3.14**	**290**	P	**Pn**	**13 43 22.2**	**+1.3**
KIRR				S	**Sn**	**13 43 58.7**	**+0.9**
TUMR	**Tumrok**	**3.14**	**277**	P	**Pn**	**13 43 21.6**	**+0.8**
TUMR				S	**Sn**	**13 43 56.4**	**-1.4**
KMNR	**Kamenistaya**	**3.15**	**286**	P	**Pn**	**13 43 22.5**	**+1.5**
KMNR				S	**Sn**	**13 43 59.0**	**+1.0**
KPT	**Kopyto**	**3.21**	**290**	P	**Pn**	**13 43 23.0**	**+1.3**
KOZ	**Kozyrevsk**	**3.42**	**290**	P	**Pn**	**13 43 26.4**	**+1.8**
SRDR	**Sredinnyy**	**3.58**	**294**	P	**Pn**	**13 43 28.3**	**+1.4**
SRDR				S	**Sn**	**13 44 09.0**	**+0.4**
KII	**Karymskiy**	**3.71**	**257**	P	**Pn**	**13 43 29.8**	**+1.2**
KII				S	**Sn**	**13 44 12.2**	**+0.4**
SPN	**Mys Shipunski**	**3.79**	**242**	P	**Pn**	**13 43 29.9**	**+0.2**
SPN				S	**Sn**	**13 44 10.3**	**-3.5**
NLC	**Nalytchevo**	**4.11**	**246**	P	**Pn**	**13 43 34.0**	**0.0**
NLC				S	**Sn**	**13 44 19.3**	**-2.2**
SDLR	**Sedlovina**	**4.30**	**249**	P	**Pn**	**13 43 37.7**	**+0.8**
SDLR				S	**Sn**	**13 44 26.1**	**-0.5**
SMAR	**Somma**	**4.36**	**249**	P	**Pn**	**13 43 38.9**	**+1.2**
SMAR				S	**Sn**	**13 44 27.0**	**-1.0**
KRER	**Koryakskii**	**4.37**	**250**	P	**Pn**	**13 43 39.5**	**+1.7**
KRER				S	**Sn**	**13 44 26.7**	**-1.5**
UGLR	**Uglovaya**	**4.37**	**249**	P	**Pn**	**13 43 39.2**	**+1.5**
UGLR				S	**Sn**	**13 44 26.1**	**-2.0**
AVH	**Avacha**	**4.39**	**249**	P	**Pn**	**13 43 39.4**	**+1.4**
AVH				S	**Sn**	**13 44 28.0**	**-0.6**
KRX	**Arik**	**4.40**	**251**	P	**Pn**	**13 43 39.2**	**+1.0**
KRX				S	**Sn**	**13 44 27.3**	**-1.6**
KOK	**Koryaka**	**4.43**	**250**	P	**Pn**	**13 43 40.1**	**+1.5**
KOK				S	**Sn**	**13 44 28.0**	**-1.7**
OSSR	**Ossora**	**4.48**	**343**	P	**Pn**	**13 43 38.8**	**-0.3**
OSSR				S	**Sn**	**13 44 31.8**	**+1.2**
DALK	**Dalny**	**4.49**	**247**	P	**Pn**	**13 43 39.9**	**+0.6**
DALK				S	**Sn**	**13 44 28.4**	**-2.5**
PET	**Petropavlovsk**	**4.55**	**247**	P	**Pn**	**13 43 41.2**	**+1.1**
PET				S	**Sn**	**13 44 29.7**	**-2.6**
KRMR	**Karymshinskiy**	**4.92**	**247**	P	**Pn**	**13 43 47.2**	**+2.0**
KRMR				S	**Sn**	**13 44 40.9**	**-0.5**
RUS	**Russkaya**	**4.93**	**241**	P	**Pn**	**13 43 45.8**	**+0.5**
RUS				S	**Sn**	**13 44 38.3**	**-3.4**
PETK	**Petropavlovsk-**	**5.02**	**251**	Pn	**Pn**	**13 43 47.6**	**+1.0**
	2.7nm,0.3s,baz=75,slow=18,SNR=64						
PETK				Sn	**Sn**	**13 44 43.9**	**-0.2**
	2.0nm,0.3s,baz=77,slow=36,SNR=5.3						
PETK				LR	LR	13 45 51.3	
	comp=Z,57nm,20.4s,baz=61,slow=40						
MTVR	**Mutnovka**	**5.07**	**243**	P	**Pn**	**13 43 48.5**	**+1.1**
MTVR				S	**Sn**	**13 44 42.3**	**-3.1**
GRL	**Gorelyy**	**5.09**	**244**	P	**Pn**	**13 43 49.4**	**+1.8**
GRL				S	**Sn**	**13 44 45.1**	**-0.8**
ASAK	**Asacha**	**5.27**	**243**	P	**Pn**	**13 43 51.8**	**+1.7**
ASAK				S	**Sn**	**13 44 49.4**	**-0.8**
APC	**Apacha**	**5.39**	**251**	P	**Pn**	**13 43 53.8**	**+2.1**
APC				S	**Sn**	**13 44 53.2**	**0.0**
MIPR	**Malaya Ipel'ka**	**5.92**	**246**	P	**Pn**	**13 44 00.3**	**+1.3**
ALID	**Alaid**	**7.34**	**240**	P	**Pn**	**13 44 21.2**	**+2.6**
MA2	**Magadan**	**9.23**	**306**	LR	LR	13 48 39.7	
	comp=Z,20nm,21.0s,baz=74,slow=40						
ILAR	**Eielson Array**	**25.15**	**48**	P	**P**	**13 47 56.0**	**+0.2**
	0.8nm,0.8s,baz=252,slow=8.8,SNR=8.4						
YKA	**Yellowknife Ar**	**39.53**	**46**	P	**P**	**13 50 01.1**	**-0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	0.3nm,0.7s,baz=296,slow=8.0,SNR=3.7						
NVAR	**Mina Array Bea**	**52.08**	**75**	P	**P**	**13 51 42.1**	**+1.1**
	0.3nm,0.6s,baz=309,slow=7.8,SNR=3.1						
TXAR	**Lajitas Array**	**66.93**	**72**	P	**P**	**13 53 23.7**	**+0.2**
	0.3nm,0.6s,baz=311,slow=4.4,SNR=4.4						

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*IDC **01** 13:59:39.2±0.6, 9°.28N×126°.72E, h0^{km}, mb4.1/19, mb1 4.2/21, mb1mx4.0/42, mbtmp4.1/21, ML4.7/2, MS3.1/7, Ms1 3.1/7, ms1mx2.8/45, Error ellipse: s-maj=25.9km s-min=11.4km az=90.0*

*DJA **01** 13:59:41.7±0.7, 10°N±6°×12°7E±°, h10^{km}, M4.3/11, mb4.5/11, mB4.8/5, Mw(mB)4.1/5*

*NEIC **01** 13:59:41.4±1.8, 9°.31N±0°.08×126°.7E±0°.1, h16^{km}±4^{km}, mb4.6/23, Error ellipse: s-maj=18.8km s-min=11.8km az=102.0*

ISC 01 13:59:42.8±1.3**, 9°.36N**±0°.03**×126°.76E**±0°.06**, h22**^{km}±9^{km}**, n80,** σ**1§58**/87**, mb4.3**/29**, 7C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.23**	**199**	⇑eP	Pb	14 00 12.3	+7.0
BIPH				eS	**Sb**	**14 00 25.9**	**+5.1**
SCPH	**Surigao**	**1.32**	**289**	⇑eP	**Pb**	**14 00 07.1**	**+0.2**
MSLP	**Maasin**	**2.02**	**293**	eP	**Pn**	**14 00 17.2**	**+1.7**
MSLP				eS	**Sb**	**14 00 42.5**	**-1.2**
CGP	**Cagayan de Oro**	**2.23**	**246**	⇑iP	**Pn**	**14 00 18.4**	**+0.1**
CGP				i S	**Sn**	**14 00 45.1**	**-0.1**
BUKP	**Musuan**	**2.23**	**229**	eP	**Pn**	**14 00 18.9**	**+0.4**
BUKP				eS	**Sn**	**14 00 46.9**	**+1.5**
MATI	**Mati**	**2.45**	**192**	eP	**Pn**	**14 00 18.9**	**-2.5**
MATI				eS	**Sn**	**14 00 51.7**	**+1.1**
DAV	**Davao City (W)**	**2.55**	**207**	Pn	**Pn**	**14 00 22.9**	**0.0**
	77nm,0.3s,baz=76,slow=18,SNR=5.1						
DAV				Sn	**Sb**	**14 00 58.4**	**-0.5**
	78nm,0.3s,baz=238,slow=19,SNR=12						
DAV				LR	LR	14 01 33.1	
	comp=Z,1μm,19.9s,baz=6.5,slow=46						
DAV	**Davao City (W)**	**2.55**	**207**	Pn	**Pn**	**14 00 22.4**	**-0.5**
DMPH	**Davao City--Mi**	**2.58**	**209**	⇑iP	**Pb**	**14 00 27.6**	**-0.8**
DMPH				i S	**Sn**	**14 00 56.0**	**+2.1**
KCP	**Kidapawan**	**2.86**	**215**	⇑eP	**Pn**	**14 00 27.8**	**+0.7**
KCP				i S	**Sb**	**14 01 08.1**	**+0.3**
TBP	**Tagbilaran**	**2.88**	**277**	eP	**Pn**	**14 00 28.8**	**+1.5**
TBP				i S	**Sb**	**14 01 05.4**	**-2.8**
LLP	**Lapu-Lapu**	**2.91**	**289**	eP	**Pn**	**14 00 29.8**	**+2.0**
LLP				eS	**Sb**	**14 01 08.1**	**-1.2**
CTBH	**Cotabato--PC H**	**3.27**	**230**	⇑eP	**Pn**	**14 00 33.2**	**+0.5**
DDMP	**Don Marcelino,**	**3.39**	**198**	eP	**Pn**	**14 00 34.7**	**+0.2**
DDMP				eS	**Sn**	**14 01 12.4**	**-1.7**
SNPH	**Sibulan**	**3.48**	**270**	eP	**Pn**	**14 00 38.5**	**+2.9**
SNPH				eS	**Sn**	**14 01 20.5**	**+4.4**
PAGZ	**Pagadian**	**3.66**	**246**	eP	**Pn**	**14 00 37.6**	**-0.5**
PAGZ				eS	**Sn**	**14 01 22.0**	**+1.4**
CNP	**Catarman**	**3.75**	**327**	eP	**Pn**	**14 00 40.9**	**+1.6**
CNP				eS	**Sn**	**14 01 25.3**	**+2.5**
CNOP	**Candoni, Negro**	**4.09**	**277**	eP	**Pn**	**14 00 45.6**	**+1.6**
CNOP				eS	**Sn**	**14 01 31.1**	**-0.1**
GUIM	**Jordan**	**4.29**	**287**	eP	**Pn**	**14 00 48.8**	**+2.0**
RCP	**Roxas**	**4.51**	**299**	⇑eP	**Pb**	**14 00 59.0**	**-2.4**
PVCP	**Virac**	**4.92**	**329**	eP	**Pn**	**14 00 57.4**	**+1.9**
PVCP				eS	Sn	14 01 39.5	-12
TGY	**Tagaytay City**	**7.40**	**310**	LR	LR	14 04 34.4	
	comp=Z,112nm,20.4s,baz=57,slow=40						
SMPP	**San Manuel, Pa**	**8.98**	**319**	eP	**Pn**	**14 01 50.9**	**-0.3**
LBMI	**Labuha**	**9.96**	**176**	P	**Pn**	**14 02 07.7**	**+3.1**
	31nm,1.1s						
MRSI	**Marisa**	**10.04**	**209**	P	**Pn**	**14 02 07.8**	**+2.0**
	21nm,0.7s						
LUWI	**Luwuk**	**11.07**	**201**	Pn	**Pn**	**14 02 18.9**	**-0.9**
SANI	**Sanana**	**11.36**	**184**	P	**Pn**	**14 02 25.0**	**+1.2**
	15nm,0.7s						
FAKI	**Fak Fak**	**13.37**	**156**	Pn	**Pn**	**14 02 49.3**	**-2.0**
TTSI	**Tana Toraja**	**14.13**	**210**	P	**Pn**	**14 03 04.9**	**+3.2**
	15nm,1.2s						
SPSI	**Sidrap Palu**	**14.96**	**208**	P	**Pn**	**14 03 15.5**	**+2.5**
BNSI	**Bone**	**15.19**	**206**	P	**Pn**	**14 03 18.4**	**+2.3**
	684nm26nm,1.1s						
KAPI	**Kappang**	**15.89**	**206**	LR	LR	14 10 24.7	
	comp=Z,73nm,20.4s,baz=60,slow=41						
SBUM	**Sibu**	**16.00**	**245**	P	**P**	**14 03 29.7**	**-0.3**
BATI	**Baumata**	**19.68**	**189**	P	**P**	**14 04 10.4**	**-0.2**
	4.8nm,0.3s,baz=20,slow=3.3,SNR=5.3						
MTN	**Manton Dam**	**22.48**	**169**	P	**P**	**14 04 40.6**	**-0.2**
MTN				IAmb	IAmb	14 05 24.6	
	comp=Z,68nm,1.7s						
JCJ	**Chichijima**	**22.89**	**38**	LR	LR	14 12 03.1	
	comp=Z,45nm,21.6s,baz=92,slow=32						
JNU	**Nakatsue**	**23.95**	**9**	P	**P**	**14 04 57.0**	**+1.4**
	comp=Z,3.6nm,0.9s,baz=158,slow=3.6,SNR=5.8						
JNU				LR	LR	14 13 07.2	
	comp=Z,33nm,20.3s,baz=267,slow=34						
JNU	**Nakatsue**	**23.95**	**9**	P	**P**	**14 04 55.8**	**+0.3**
JNU				IAmb	IAmb	14 05 37.0	
	comp=Z,33nm,1.7s						
LEM	**Lembang**	**24.94**	**231**	P	**P**	**14 05 04.8**	**-0.1**
	comp=Z,31nm,0.8s,baz=286,slow=18,SNR=2.6						
KNRA	**Kununurra**	**24.95**	**175**	P	**P**	**14 05 03.5**	**-1.2**
FITZ	**Fitzroy Crossi**	**27.30**	**182**	P	**P**	**14 05 25.5**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=0.5,slow=11,SNR=11						
FITZ	**Fitzroy Crossi**	**27.30**	**182**	P	**P**	**14 05 25.1**	**-0.8**
FITZ				IAmb	IAmb	14 05 51.0	
	comp=Z,25nm,1.5s						
KSRS	**Korea Array**	**27.99**	**2**	P	**P**	**14 05 32.5**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=179,slow=9.9,SNR=11						
CMAR	**Chiang Mai Arr**	**28.44**	**292**	P	**P**	**14 05 35.5**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=125,slow=7.8,SNR=2.0						
MJAR	**Matsushiro Arr**	**28.99**	**19**	P	**P**	**14 05 40.7**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=187,slow=8.0,SNR=5.6						
MJAR				LR	LR	14 17 36.7	
	comp=Z,25nm,19.3s,baz=190,slow=37						
WB0	**Warramunga Arr**	**29.90**	**165**	P	**P**	**14 05 46.9**	**-2.3**
WB0				IAmb	IAmb	14 06 37.0	
	comp=Z,6.8nm,1.1s						
WRA	**Warramunga Arr**	**30.06**	**166**	P	**P**	**14 05 48.5**	**-2.1**
	comp=Z,0.9nm,0.6s,baz=347,slow=9.2,SNR=10.0						
WB2	**Warramunga Arr**	**30.06**	**166**	P	**P**	**14 05 49.8**	**-0.8**
GSI	**Gunungsitoli**	**30.11**	**256**	P	**P**	**14 05 49.7**	**-1.4**
WR0	**Warramunga Arr**	**30.12**	**165**	P	**P**	**14 05 49.7**	**-1.4**
WR0				IAmb	IAmb	14 06 15.3	
	comp=Z,26nm,1.8s						
PSA00	**Pilbara Seismi**	**31.48**	**192**	P	**P**	**14 06 03.9**	**+0.9**
AS31	**Alice Springs**	**33.56**	**168**	P	**P**	**14 06 19.9**	**-1.4**
ASAR	**Alice Springs**	**33.56**	**168**	P	**P**	**14 06 19.4**	**-1.8**
	comp=Z,0.4nm,0.4s,baz=353,slow=6.7,SNR=31						
USRK	**Ussuriysk Ar.**	**35.01**	**7**	P	**P**	**14 06 34.1**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=183,slow=9.4,SNR=6.3						
MORW	**Morawa**	**39.58**	**195**	P	**P**	**14 07 12.1**	**-0.4**
H11S3	**WAKE ISLAND Hy**	**39.73**	**72**	T	T	14 50 16.9	
	baz=262,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**39.74**	**72**	T	T	14 50 21.3	
	baz=262,slow=75,SNR=11						
H11S2	**WAKE ISLAND Hy**	**39.74**	**72**	T	T	14 50 19.3	
	baz=262,slow=75,SNR=11						
FORT	**Forrest**	**39.92**	**178**	P	**P**	**14 07 14.3**	**-1.1**
FORT				IAmb	IAmb	14 07 20.3	
	comp=Z,10nm,0.6s						
KLR	**Kul'dur**	**39.96**	**5**	LR	LR	14 21 31.1	
	comp=Z,25nm,20.4s,baz=162,slow=33						
BBOO	**Buckleboo**	**42.86**	**168**	P	**P**	**14 07 38.8**	**-0.7**
BBOO				IAmb	IAmb	14 08 24.4	
	comp=Z,21nm,1.5s						
NWAO	**Narrogin (SRO)**	**43.02**	**192**	P	**P**	**14 07 40.2**	**-0.5**
NWAO				IAmb	IAmb	14 07 47.5	
	comp=Z,25nm,1.1s						
NWAO	**Narrogin (SRO)**	**43.02**	**192**	P	**P**	**14 07 40.2**	**-0.5**
NWAO				IAmb	IAmb	14 07 47.5	
	comp=Z,20nm,1.1s						
STKA	**Stephens Creek**	**43.39**	**162**	P	**P**	**14 07 42.4**	**-1.3**
	comp=Z,2.4nm,0.8s,baz=320,slow=9.2,SNR=5.8						
STKA	**Stephens Creek**	**43.39**	**162**	P	**P**	**14 07 42.8**	**-1.0**
PETK	**Petropavlovsk-**	**50.27**	**24**	P	**P**	**14 08 39.2**	**+1.8**
	comp=Z,2.1nm,0.8s,baz=178,slow=4.5,SNR=5.2						
MK31	**Makanchi Array**	**53.04**	**323**	P	**P**	**14 08 56.5**	**-1.8**
MKAR	**Makanchi Array**	**53.04**	**323**	P	**P**	**14 08 57.9**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=117,slow=7.8,SNR=12						
MAKZ	**Makanchi**	**53.23**	**323**	P	**P**	**14 08 59.1**	**-0.5**
ZALV	**Zalesovo Beam**	**55.65**	**331**	P	**P**	**14 09 16.5**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=141,slow=5.5,SNR=1.4						
KURK	**Kurchatov**	**57.09**	**326**	P	**P**	**14 09 26.5**	**-0.9**
KURK				IAmb	IAmb	14 09 27.7	
	comp=Z,3.8nm,0.9s						
TIXI	**Tiksi**	**62.25**	**1**	P	**P**	**14 10 03.4**	**+0.9**
TIXI				IAmb	IAmb	14 10 04.1	
	comp=Z,4.5nm,1.1s						
BRVK	**Borovoye**	**62.76**	**326**	P	**P**	**14 10 05.2**	**-1.1**
BRVK				IAmb	IAmb	14 10 06.7	
	comp=Z,4.5nm,1.2s						
NRIK	**Noril'sk**	**65.01**	**346**	P	**P**	**14 10 19.9**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=64,slow=6.4,SNR=3.9						
RAYN	**Ar Rayn**	**78.36**	**292**	P	**P**	**14 11 41.1**	**-1.0**
RAYN				IAmb	IAmb	14 11 52.5	
	comp=Z,3.0nm,0.7s						
ILAR	**Eielson Array**	**80.05**	**26**	P	**P**	**14 11 51.5**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=246,slow=6.6,SNR=4.6						
ARCES	**ARCESS Array B**	**85.21**	**340**	P	**P**	**14 12 16.9**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=86,slow=7.4,SNR=3.8						
FINES	**FINESS Array B**	**86.92**	**332**	P	**P**	**14 12 26.2**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=64,slow=4.4,SNR=5.9						
VNDA	**Vanda**	**88.97**	**173**	P	**P**	**14 12 35.6**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=292,slow=5.5,SNR=4.8						
YKA	**Yellowknife Ar**	**94.39**	**24**	P	**P**	**14 13 01.7**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=298,slow=4.5,SNR=6.3						

JMA 01 14:03:01.9±0.1**, 24°.93N×123°.31E, h12**^{km}±5^{km}**, M1.6, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.54**	**210**	P	Pg	14 03 12.3	-0.2
YOJ				eS	Sg	14 03 19.7	+0.1
JYNG	**Yonagunijimaku**	**0.58**	**215**	P	Pg	14 03 13.2	0.0
JYNG				eS	Sg	14 03 21.2	+0.3
IRIF	**Iriomote-Funau**	**0.70**	**147**	P	Pg	14 03 15.4	-0.2
IRIF				S	Sg	14 03 24.8	-0.1
JKRS	**Kuro-shima**	**0.94**	**137**	P	Pg	14 03 19.5	-0.5
JKRS				eS	Sg	14 03 31.4	-0.9
JIJ	**Ishigaki jima**	**0.94**	**126**	P	Pg	14 03 19.4	-0.7
JIJ				S	Sg	14 03 30.8	-1.7
JISG	**Ishigakijimahi**	**0.97**	**110**	P	Pg	14 03 20.3	-0.3
JISG				eS	Sg	14 03 33.1	-0.2
HATJ	**Hateruma jima**	**0.98**	**152**	P	Pg	14 03 20.4	-0.4
HATJ				eS	Sg	14 03 33.1	-0.5

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*IDC **01** 14:03:19.4±2.3, 24°.35S×179°.90E, h499^{km}±24^{km}, mb3.5/13, mb1 3.6/13, mb1mx3.3/40, mbtmp4.3/13, Error ellipse: s-maj=18.5km s-min=17.4km az=172.0*

*NEIC **01** 14:03:20.2±1.4, 24°.41S±0°.08×179°.9E±0°.1, h514^{km}±7^{km}, mb4.7/30, Error ellipse: s-maj=18.7km s-min=7.1km az=121.0*

ISC 01 14:03:20.8±0.6**, 24°.42S**±0°.09**×179°.9E**±0°.1**, h517**^{km}**, n54,** σ**0§86**/53**, mb4.5**/23**, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.88**	**345**	P	**P**	**14 05 06.8**	**+0.3**
OUZ	**Omahuta**	**12.07**	**206**	P	**P**	**14 06 01.3**	**+1.4**
DZM	**Mont Dzumac**	**12.60**	**278**	P	**P**	**14 06 07.6**	**+1.8**
AFI	**Afiamalu**	**13.07**	**38**	P	P	14 06 05.6	-5.1
MXZ	**Matakaoa Point**	**13.17**	**186**	P	**P**	**14 06 12.0**	**+0.6**
HIZ	**Hauiti**	**14.69**	**196**	P	**P**	**14 06 28.3**	**+1.0**
BKZ	**Black Stump Fm**	**14.98**	**190**	P	**P**	**14 06 29.5**	**-1.0**
BFZ	**Birch Farm**	**16.50**	**190**	P	**P**	**14 06 44.0**	**-2.1**
SNZO	**South Karori**	**17.40**	**193**	P	**P**	**14 06 53.1**	**-1.5**
QRZ	**Quartz Range**	**17.49**	**199**	P	**P**	**14 06 54.4**	**-1.1**
PLWZ	**Palliser**	**17.54**	**192**	P	**P**	**14 06 55.4**	**-0.6**
NNZ	**Nelson**	**17.62**	**196**	P	**P**	**14 06 56.1**	**-0.4**
TUWZ	**Tuamarina**	**17.68**	**195**	P	**P**	**14 06 56.5**	**-0.6**
THZ	**Tophouse**	**18.25**	**197**	P	**P**	**14 07 01.2**	**-1.2**
LTZ	**Lake Taylor**	**19.37**	**197**	P	**P**	**14 07 11.6**	**-1.0**
LTZ				IAmb	IAmb	14 07 53.3	
	comp=Z,66nm,1.9s						
OXZ	**Oxford**	**19.94**	**197**	P	**P**	**14 07 18.2**	**+0.4**
OXZ				IAmb	IAmb	14 07 41.3	
	comp=Z,73nm,2.0s						
RPZ	**Rata Peaks**	**20.57**	**199**	P	**P**	**14 07 23.2**	**-0.3**
	comp=Z,7.7nm,1.0s,baz=52,slow=22,SNR=2.0						
RPZ	**Rata Peaks**	**20.57**	**199**	IAmb	IAmb	14 08 19.2	
	comp=Z,71nm,1.7s						
ARMA	**Armidale**	**25.77**	**250**	P	**P**	**14 08 10.2**	**-0.1**
ARMA				IAmb	IAmb	14 08 11.1	
	comp=Z,22nm,1.3s						
EIDS	**Eidsvold**	**26.15**	**262**	P	**P**	**14 08 13.2**	**-0.4**
CAN	**Canberra**	**28.82**	**241**	P	**P**	**14 08 37.8**	**+0.9**
CTA	**Charters Tower**	**31.41**	**271**	P	**P**	**14 08 59.1**	**-0.3**
	comp=Z,8.1nm,0.5s,baz=93,slow=11,SNR=24						
CTAO	**Charters Tower**	**31.41**	**271**	P	**P**	**14 08 60.0**	**+0.6**
CTAO				IAmb	IAmb	14 09 00.7	
	comp=Z,11nm,0.8s						
TOO	**Toolangi**	**32.10**	**238**	P	**P**	**14 09 05.8**	**+0.6**
TOO				IAmb	IAmb	14 09 32.6	
	comp=Z,44nm,1.6s						
STKA	**Stephens Creek**	**34.46**	**249**	P	**P**	**14 09 25.4**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=95,slow=12,SNR=7.2						
PMG	**Port Moresby**	**34.59**	**290**	P	**P**	**14 09 26.9**	**+0.5**
PMG				IAmb	IAmb	14 10 51.6	
	comp=Z,23nm,1.1s						
BBOO	**Buckleboo**	**39.17**	**247**	P	**P**	**14 10 03.2**	**-0.7**
BBOO				IAmb	IAmb	14 11 13.2	
	comp=Z,44nm,1.8s						
AS31	**Alice Springs**	**41.88**	**261**	P	**P**	**14 10 24.9**	**-0.8**
ASAR	**Alice Springs**	**41.88**	**261**	P	**P**	**14 10 25.4**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=92,slow=7.3,SNR=27						
ASAR				ScP	**ScP**	**14 15 11.7**	**+1.1**
	comp=Z,0.5nm,0.9s,baz=100,slow=4.8,SNR=3.3						
WR0	**Warramunga Arr**	**42.11**	**267**	P	**P**	**14 10 26.8**	**-0.7**
WB2	**Warramunga Arr**	**42.29**	**267**	P	**P**	**14 10 28.2**	**-0.7**
WB2				IAmb	IAmb	14 10 28.6	
	comp=Z,35nm,1.8s						
WRAB	**Tennant Creek**	**42.29**	**267**	P	**P**	**14 10 28.2**	**-0.8**
WRAB				IAmb	IAmb	14 10 50.4	
	comp=Z,43nm,1.9s						
WB0	**Warramunga Arr**	**42.29**	**267**	P	**P**	**14 10 28.3**	**-0.7**
WRA	**Warramunga Arr**	**42.30**	**267**	P	**P**	**14 10 28.3**	**-0.7**
	comp=Z,4.7nm,0.6s,baz=97,slow=8.3,SNR=44						
WRA				ScP	**ScP**	**14 15 14.4**	**+2.1**
	comp=Z,1.7nm,0.9s,baz=100,slow=3.7,SNR=8.3						
JAY	**Jayapura**	**43.65**	**294**	P	**P**	**14 10 39.2**	**-0.4**
	comp=Z,8.5nm,0.8s,baz=147,slow=7.2,SNR=6.3						
FORT	**Forrest**	**46.06**	**250**	P	**P**	**14 10 57.0**	**-1.0**
FORT				IAmb	IAmb	14 10 58.0	
	comp=Z,10nm,0.7s						
KNRA	**Kununurra**	**48.61**	**270**	P	**P**	**14 11 17.2**	**-0.1**
KNRA				IAmb	IAmb	14 11 18.1	
	comp=Z,24nm,1.1s						
KHLU	**Kahalu`u**	**49.69**	**30**	P	**P**	**14 11 25.4**	**0.0**
FITZ	**Fitzroy Crossi**	**50.71**	**266**	P	**P**	**14 11 32.9**	**+0.1**
	comp=Z,6.5nm,0.9s,baz=101,slow=9.5,SNR=10						
FITZ	**Fitzroy Crossi**	**50.71**	**266**	IAmb	IAmb	14 11 33.8	
	comp=Z,8.1nm,0.9s						
SIJI	**Sorong**	**52.53**	**289**	P	**P**	**14 11 45.6**	**-0.4**
	comp=Z,13nm,0.7s,baz=72,slow=4.7,SNR=12						
MORW	**Morawa**	**56.63**	**250**	P	**P**	**14 12 13.9**	**-0.7**
MORW				IAmb	IAmb	14 12 51.4	
	comp=Z,36nm,1.6s						
CASY	**Casey**	**59.61**	**206**	P	**P**	**14 12 33.9**	**-0.2**
CASY				IAmb	IAmb	14 14 17.6	
	comp=Z,30nm,0.6s						
QSPA	**South Pole Qui**	**65.67**	**180**	P	**P**	**14 13 13.7**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=8.4,slow=1.0,SNR=6.9						
QSPA	**South Pole Qui**	**65.67**	**180**	P	**P**	**14 13 13.6**	**+0.1**
KKM	**Kota Kinabalu**	**68.98**	**287**	P	**P**	**14 13 33.9**	**-0.8**
KKM				IAmb	IAmb	14 15 05.2	
	comp=Z,27nm,1.5s						
KSM	**Kuching**	**72.12**	**280**	P	**P**	**14 13 52.8**	**-0.4**
MJAR	**Matsushiro Arr**	**72.28**	**326**	P	**P**	**14 13 52.1**	**-1.5**
	comp=Z,1.0nm,0.8s,baz=161,slow=6.5,SNR=5.6						
PETK	**Petropavlovsk-**	**79.59**	**347**	P	**P**	**14 14 33.5**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=144,slow=6.8,SNR=4.8						
NVAR	**Mina Array Bea**	**85.18**	**44**	P	**P**	**14 15 03.0**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=218,slow=8.0,SNR=5.7						
TXAR	**Lajitas Array**	**90.77**	**58**	P	**P**	**14 15 29.9**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=213,slow=6.4,SNR=11						
FINES	**FINESS Array B**	**138.91**	**341**	PKP	**PKPdf**	**14 21 48.1**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=81,slow=2.5,SNR=4.6						
AKASG	**Malin Array Be**	**145.36**	**327**	PKPbc	**PKPdf**	**14 21 59.3**	**0.0**
	comp=Z,0.8nm,0.3s,baz=45,slow=4.7,SNR=6.4						
BRTR	**Keskin Array B**	**147.83**	**306**	PKPbc	**PKPbc**	**14 22 07.0**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=98,slow=3.1,SNR=3.1						

TAP 01 14:03:54.8, 24°.68N×121°.14E, h10^{km}±1^{km}**, ML1.6, B, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSTT	**Nanjuang**	**0.13**	**250**	P	Pg	14 03 58.3	+0.4
	baz=248						
NSTT				S	Sg	14 04 01.1	+1.1
	baz=248						
HSN	**Hsinchu**	**0.20**	**310**	eP	Pg	14 03 59.7	+0.7
	baz=323						
HSN				eS	Sg	14 04 03.6	+1.8
	baz=323						
YHNB	**Yeheng**	**0.22**	**92**	i P	Pg	14 03 59.9	+0.5
	baz=91						
YHNB				i S	Sg	14 04 04.0	+1.6
	baz=91						
NNS	**Nan Shan**	**0.32**	**138**	eP	Pb	14 04 02.9	+0.2
	baz=136						
NNS				S	Sb	14 04 07.8	-0.1
	baz=136						
NNSB	**Datong**	**0.33**	**138**	eP	Pb	14 04 03.1	+0.2
	baz=137						
NNSB				S	Sb	14 04 07.9	-0.4
	baz=137						
NNSH	**Datong**	**0.33**	**138**	P	Pb	14 04 03.0	+0.1
	baz=137						
NNSH				S	Sb	14 04 08.1	-0.2
	baz=137						
NDT	**Datong Townshi**	**0.35**	**102**	P	Pb	14 04 03.0	-0.1
	baz=102						
NDT				eS	Sb	14 04 08.0	-0.7
	baz=102						
WHP	**Taichung City**	**0.43**	**204**	eP	Pb	14 04 04.8	+0.3
	baz=203						
WHP				S	Sb	14 04 10.8	-0.3
	baz=203						

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*NEIC **01** 14:51:55.7±1.3, 21°.9S±0°.1×178°.9W±0°.1, h448^{km}±7^{km}, mb4.6/33, Error ellipse: s-maj=18.9km s-min=15.0km az=124.0*

*IDC **01** 14:51:56.8±4.4, 21°.82S×178°.96W, h455^{km}±49^{km}, mb3.3/10, mb1 3.6/11, mb1mx3.3/22, mbtmp4.1/11, Error ellipse: s-maj=28.3km s-min=22.1km az=160.0*

ISC 01 14:51:55.6±0.5**, 21°.87S**±0°.09**×178°.74W**±0°.09**, h450**^{km}**, n86,** σ**1§46**/85**, mb4.5**/25**, 10C-4D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.11**	**323**	P	**P**	**14 53 23.8**	**+2.6**
RAO	**Raoul Island**	**7.39**	**174**	P	**P**	**14 53 44.0**	**-0.4**
NIUE	**Niue**	**8.71**	**73**	P	**P**	**14 53 59.2**	**+0.3**
AFI	**Afiamalu**	**10.32**	**41**	P	**P**	**14 54 14.4**	**-2.1**
DZM	**Mont Dzumac**	**13.75**	**266**	P	**P**	**14 54 54.2**	**+0.6**
	4.0nm,0.3s,baz=97,slow=18,SNR=38						
DZM	**Mont Dzumac**	**13.75**	**266**	P	**P**	**14 54 52.7**	**-0.9**
OUZ	**Omahuta**	**14.90**	**205**	P	**P**	**14 55 07.7**	**+2.1**
MXZ	**Matakaoa Point**	**15.85**	**189**	P	**P**	**14 55 15.8**	**+0.2**
MXZ	**Matakaoa Point**	**15.85**	**189**	P	**P**	**14 55 15.7**	**+0.1**
WMGZ	**Waiomatatini S**	**16.09**	**188**	P	**P**	**14 55 19.3**	**+1.2**
HAZ	**Te Kaha**	**16.12**	**190**	P	**P**	**14 55 18.6**	**+0.2**
PKGZ	**Pakihiroa**	**16.20**	**189**	P	**P**	**14 55 17.2**	**-2.3**
RUGZ	**Raukumara Rang**	**16.34**	**190**	P	**P**	**14 55 23.2**	**+2.3**
PUZ	**Puketiti**	**16.36**	**188**	P	**P**	**14 55 21.2**	**+0.2**
OPRZ	**Ohinepanea**	**16.43**	**193**	P	**P**	**14 55 24.9**	**+3.2**
URZ	**Urewera**	**16.72**	**191**	P	**P**	**14 55 23.7**	**-1.1**
CNGZ	**Carnagh Statio**	**16.77**	**188**	P	**P**	**14 55 25.7**	**+0.5**
TKGZ	**Te Karaka**	**16.77**	**189**	P	**P**	**14 55 25.9**	**+0.6**
MUGZ	**Murupara**	**17.00**	**192**	P	**P**	**14 55 28.3**	**+0.5**
RTZ	**Ruatahuna**	**17.09**	**191**	P	**P**	**14 55 32.2**	**+3.4**
BKZ	**Black Stump Fm**	**17.72**	**192**	P	**P**	**14 55 32.9**	**-2.4**
BKZ				IAmb	IAmb	14 56 22.1	
	comp=Z,28nm,1.3s						
BFZ	**Birch Farm**	**19.23**	**192**	P	**P**	**14 55 48.5**	**-1.3**
QRZ	**Quartz Range**	**20.30**	**199**	P	**P**	**14 55 59.8**	**+0.2**
NNZ	**Nelson**	**20.41**	**197**	P	**P**	**14 55 59.6**	**-0.9**
TUWZ	**Tuamarina**	**20.46**	**196**	P	**P**	**14 56 00.1**	**-0.8**
THZ	**Tophouse**	**21.05**	**198**	P	**P**	**14 56 06.0**	**-0.4**
LTZ	**Lake Taylor**	**22.17**	**198**	P	**P**	**14 56 15.9**	**-0.7**
LTZ				IAmb	IAmb	14 56 24.5	
	comp=Z,37nm,1.6s						
RPZ	**Rata Peaks**	**23.38**	**199**	P	**P**	**14 56 28.7**	**+1.2**
	comp=Z,4.6nm,0.5s,baz=20,slow=2.9,SNR=8.2						
RPZ	**Rata Peaks**	**23.38**	**199**	IAmb	IAmb	14 57 08.0	
	comp=Z,33nm,1.3s						
FOZ	**Fox Glacier**	**23.61**	**201**	P	**P**	**14 56 29.6**	**+0.2**
EIDS	**Eidsvold**	**27.84**	**257**	P	**P**	**14 57 07.4**	**+0.1**
EIDS				IAmb	IAmb	14 57 46.9	
	comp=Z,31nm,1.9s						
CTAO	**Charters Tower**	**32.69**	**267**	P	**P**	**14 57 49.0**	**-0.4**
CTAO				IAmb	IAmb	14 58 28.7	
	comp=Z,30nm,1.6s						
STKA	**Stephens Creek**	**36.59**	**246**	P	**P**	**14 58 21.0**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=100,slow=11,SNR=4.8						
STKA	**Stephens Creek**	**36.59**	**246**	P	**P**	**14 58 21.8**	**-0.3**
BBOO	**Buckleboo**	**41.33**	**245**	P	**P**	**14 58 59.3**	**-1.4**
BBOO				IAmb	IAmb	15 00 17.7	
	comp=Z,40nm,1.9s						
AS31	**Alice Springs**	**43.55**	**258**	P	**P**	**14 59 17.5**	**-0.9**
ASAR	**Alice Springs**	**43.55**	**258**	P	**P**	**14 59 17.6**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=98,slow=8.3,SNR=20						
WR0	**Warramunga Arr**	**43.56**	**264**	P	**P**	**14 59 17.5**	**-1.0**
WB0	**Warramunga Arr**	**43.73**	**264**	P	**P**	**14 59 18.5**	**-1.3**
WB2	**Warramunga Arr**	**43.73**	**264**	P	**P**	**14 59 18.6**	**-1.3**
WRA	**Warramunga Arr**	**43.75**	**264**	P	**P**	**14 59 18.0**	**-2.0**
	comp=Z,0.9nm,0.8s,baz=96,slow=8.0,SNR=20						
FORT	**Forrest**	**48.13**	**248**	P	**P**	**14 59 52.3**	**-1.1**
FORT				IAmb	IAmb	15 00 58.4	
	comp=Z,48nm,1.8s						
FITZ	**Fitzroy Crossi**	**52.18**	**264**	P	**P**	**15 00 23.5**	**+0.1**
CASY	**Casey**	**62.44**	**206**	P	**P**	**15 01 33.6**	**+0.4**
QSPA	**South Pole Qui**	**68.20**	**180**	P	**P**	**15 02 11.0**	**+1.2**
ADK	**Adak**	**73.45**	**1**	P	**P**	**15 02 41.0**	**+0.4**
ADK				IAmb	IAmb	15 04 38.3	
	comp=Z,27nm,1.2s						
NIKH	**Nikolski High**	**75.02**	**6**	P	**P**	**15 02 50.1**	**+0.6**
UNV	**Unalaska Valle**	**76.14**	**7**	P	**P**	**15 02 56.0**	**+0.2**
PET	**Petropavlovsk**	**77.12**	**346**	P	**P**	**15 03 02.3**	**+1.1**
PET				IAmb	IAmb	15 04 57.2	
	comp=Z,34nm,1.4s						
PEA0B	**Petropavlovsk-**	**77.42**	**346**	P	**P**	**15 03 03.8**	**+0.9**
PEA0B				IAmb	IAmb	15 04 12.3	
	comp=Z,25nm,1.2s						
PETK	**Petropavlovsk-**	**77.42**	**346**	P	**P**	**15 03 03.5**	**+0.7**
	comp=Z,2.8nm,0.6s,baz=165,slow=4.9,SNR=8.5						
NVAR	**Mina Array Bea**	**82.49**	**44**	P	**P**	**15 03 31.2**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=227,slow=8.0,SNR=7.3						
GHO	**Glory Hole Cre**	**86.71**	**14**	P	**P**	**15 03 51.0**	**+0.8**
GHO				IAmb	IAmb	15 03 51.8	
	comp=Z,12nm,0.6s						
KTH	**Kantishna Hill**	**87.89**	**12**	P	**P**	**15 03 55.9**	**+0.1**
KTH				IAmb	IAmb	15 03 57.4	
	comp=Z,4.6nm,0.7s						
RND	**Reindeer**	**88.18**	**13**	P	**P**	**15 03 57.5**	**+0.4**
RND				IAmb	IAmb	15 03 58.9	
	comp=Z,11nm,0.7s						
TXAR	**Lajitas Array**	**88.37**	**58**	P	**P**	**15 03 59.9**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=216,slow=4.0,SNR=5.1						
HDA	**Harding Lake**	**89.47**	**13**	P	**P**	**15 04 03.3**	**+0.3**
HDA				IAmb	IAmb	15 04 04.1	
	comp=Z,4.3nm,0.5s						
CCB	**Clear Creek Bu**	**89.50**	**13**	P	**P**	**15 04 03.3**	**+0.2**
CCB				IAmb	IAmb	15 04 04.0	
	comp=Z,6.1nm,0.5s						
COLA	**College**	**89.69**	**13**	P	**P**	**15 04 04.2**	**+0.2**
COLA				IAmb	IAmb	15 04 04.9	
	comp=Z,6.2nm,0.7s						
IL31		**89.80**	**13**	P	**P**	**15 04 04.9**	**+0.4**
IL31				IAmb	IAmb	15 04 06.6	
	comp=Z,8.4nm,1.6s						
ILAR	**Eielson Array**	**89.80**	**13**	P	**P**	**15 04 04.8**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=217,slow=5.2,SNR=44						
CMAR	**Chiang Mai Arr**	**89.92**	**290**	P	**P**	**15 04 07.5**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=94,slow=2.4,SNR=4.5						
PDAR	**Pinedale Array**	**90.43**	**43**	P	**P**	**15 04 09.1**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=165,slow=4.6,SNR=2.3						
ARCES	**ARCESS Array B**	**130.13**	**349**	PKP	**PKPdf**	**15 10 12.6**	**-0.2**
	comp=Z,2.1nm,0.7s,baz=77,slow=2.6,SNR=8.0						
FINES	**FINESS Array B**	**136.88**	**343**	PKP	**PKPdf**	**15 10 26.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=78,slow=2.7,SNR=6.0						
NB2	**NORSAR Subarra**	**140.25**	**352**	PKP	**PKPdf**	**15 10 25.4**	**-6.5**
	comp=Z,0.2nm,0.5s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**140.25**	**352**	PKhKP	**PKPdf**	**15 10 26.2**	**-5.7**
	comp=Z,0.4nm,0.6s,baz=20,slow=5.2,SNR=4.6						
AKASG	**Malin Array Be**	**143.86**	**330**	PKP	PKPab	15 10 37.2	-0.1
	comp=Z,1.5nm,0.3s,baz=43,slow=4.0,SNR=14						
SORM	**Soroca**	**145.99**	**327**	⇑P	**PKPbc**	**15 10 44.3**	**+0.4**
BRTR	**Keskin Array B**	**147.22**	**310**	PKPbc	**PKPbc**	**15 10 48.2**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=134,slow=3.6,SNR=5.5						
BURAR	**Bucovina Array**	**147.89**	**329**	⇑P	**PKiKP**	**15 10 51.7**	**+1.0**

BIZ	Bicaz	147.92	327	⇓P	PKiKP	15 10 50.7	0.0
TRPA	Tarpa	148.74	332	⇑P	PKiKP	15 10 52.0	-0.3
MLR	Muntele Rosu	148.97	325	⇓P	PKPbc	15 10 51.0	-1.1
CLL	Collm	149.22	346	⇑ *i*PKPbc	PKiKP	15 10 53.9	+0.7
	comp=Z,7.0nm,1.0s						
CLL				*i* PKiKP	PKPab	15 10 56.0	-2.5
	comp=Z,3.0nm,1.1s						
CLL	Collm	149.22	346		PKiKP	15 10 53.0	-0.2
DRGR		149.67	330	⇑P	PKPbc	15 10 53.8	+0.2
ARR	Arges	149.74	326	⇓P	PKiKP	15 10 55.5	+1.0
PSZ	Piszkesteto	150.01	335	⇑P	PKPbc	15 10 54.1	-0.3
GZR	Gura Zlata	150.66	328	⇑P	PKPbc	15 10 56.2	+0.2
BZS	Buzias	151.05	330	⇓P	PKiKP	15 10 57.3	+0.1
KHC	Kasperske Hory	151.09	343	⇑ *e*PKP	PKPbc	15 10 57.0	+0.2
KHC	Kasperske Hory	151.09	343		PKiKP	15 10 57.1	0.0
HERR	Herculane	151.20	328	⇑P	PKPbc	15 10 57.3	+0.2
GERES	GERESS Array B	151.31	343	PKPbc	PKiKP	15 10 57.9	+0.1
	comp=Z,1.2nm,0.7s,baz=33,slow=3.2,SNR=14						
MDVR	Moldovita	151.62	328	⇑P	PKPbc	15 10 56.9	-1.3

*ISK **01** 14:54:52.9, 38°.90N×43°.57E, h5km, ML3.4/16*
*DDA **01** 14:54:53.5, 38°.89N×43°.53E, h13km, MW3.5*
*NSSP **01** 14:54:53.8, 38°.92N×43°.57E, h10km, Ms3.2*
ISC 01 14:54:54.0±0.9**, 38°.91N**±0°.02×**43°.55E**±0°.02**, h12**km±6km**,** **n35,** σ**1^{s}49**/56**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	Van-Muradiye	0.08	10	*i* P	Pg	14 54 56.5	-0.3
VMUR				*i* S	Sg	14 54 59.1	+0.3
ERCV	ERCIS-VAN	0.20	303	PG	Pg	14 54 58.1	-0.4
ERCV				SG	Sg	14 55 02.2	+0.6
VANB	Van	0.34	202	PG	Pb	14 55 02.2	+0.1
CLDR	Caldiran	0.37	50	PG	Pg	14 55 01.3	-0.2
CLDR				SG	Sb	14 55 07.5	-1.0
CLDR	Caldiran	0.37	50	*i* P	Pg	14 55 01.2	-0.2
CLDR				*i* S	Sb	14 55 07.7	-0.8
CLDR				IAML		14 55 10.0	
	comp=N,2μm,0.7s						
CLDR				IAML		14 55 16.0	
	comp=E,2μm,0.6s						
TVAN	Van	0.40	197	*i* P	Pg	14 55 01.8	-0.2
TVAN				*i* S	Sb	14 55 08.7	-0.5
TVAN				IAML		14 55 10.0	
	comp=E,3μm,0.4s						
TVAN				IAML		14 55 11.0	
	comp=N,3μm,0.4s						
DYDN	Diyadin	0.64	9	*i* P	Pg	14 55 06.4	-0.1
DYDN				*i* S	Sb	14 55 16.0	-0.4
DYDN				IAML		14 55 18.0	
	comp=N,649nm,0.2s						
DYDN				IAML		14 55 23.0	
	comp=E,736nm,0.4s						
TUTA	Tutak	0.76	311	*i* P	Pg	14 55 07.8	-0.9
TUTA				*i* S	Sb	14 55 19.6	-0.1
TUTA				IAML		14 55 22.0	
	comp=N,2μm,0.3s						
AGRB	Hanur-Agry	0.80	327	PG	Pg	14 55 08.9	-0.5
MLAZ	Malazgirt-MUS	0.81	287	PG	Pb	14 55 10.0	-0.2
MLAZ				SG	Sn	14 55 22.6	-1.0
IGDI	IGDIR	1.04	23	*i* P	Pb	14 55 13.8	-0.2
IGDI				*i* S	Sn	14 55 30.3	+1.2
IGDI				IAML		14 55 34.0	
	comp=N,415nm,0.5s						
IGDI				IAML		14 55 35.0	
	comp=E,396nm,0.5s						
TASB	TASBURUN-IGDIR	1.20	26	PN	Pg	14 55 17.1	0.0
VNNZ	Vanand	1.21	10	*i* P	Pg	14 55 17.4	+0.1
VNNZ				*i* S	Sn	14 55 33.9	+0.6
BLIS	Bitlis-Merkez	1.23	247	*i* P	Pn	14 55 15.7	-1.5
BLIS				*i* S	Sg	14 55 33.2	-0.4
BLIS				IAML		14 55 36.0	
	comp=E,482nm,0.6s						
BLIS				IAML		14 55 37.0	
	comp=N,538nm,0.7s						
GURO	Guroymak-BITLI	1.24	254	PN	Pn	14 55 16.2	-1.2
EATA	Eleskirt	1.26	320	*i* P	Pb	14 55 17.7	-0.2
EATA				*i* S	Sn	14 55 35.6	+0.8
EATA				IAML		14 55 39.0	
	comp=E,297nm,0.6s						
EATA				IAML		14 55 41.0	
	comp=N,410nm,0.6s						
METS	Metsamor	1.30	18	*e*P	Pg	14 55 19.3	+0.2
METS				*e*S	Sg	14 55 37.6	+1.5
HAKT	HAKKARI	1.35	175	*i* P	Pn	14 55 17.8	-1.3
HAKT				*i* S	Sg	14 55 40.4	+2.8
HAKT				IAML		14 55 44.0	
	comp=E,152nm,0.8s						
NRKZ	NAREK	1.39	38	*e*P	Pg	14 55 20.0	-0.7
NRKZ				*e*S	Sg	14 55 39.0	+0.3
ARUZ	Aruch	1.43	17	*i* P	Pg	14 55 22.0	+0.4
ARUZ				*i* S	Sg	14 55 42.2	+2.0
SRTM	Siirt_Merkez	1.57	235	*i* P	Pb	14 55 23.1	-0.1
SRTM				*i* S	Sg	14 55 46.8	+2.1
SRTM				IAML		14 55 47.0	
	comp=E,364nm,0.7s						
SRTM				IAML		14 55 54.0	
	comp=N,396nm,0.8s						
MUSM	Mu-Merkez	1.60	264	*i* P	Pn	14 55 22.0	-0.3
MUSM				*i* S	Sg	14 55 44.7	-0.9
VRTB	Varto-Mus	1.65	279	PN	Pb	14 55 24.4	-0.1
VRTB	Varto-Mus	1.65	279	*i* P	Pb	14 55 24.5	0.0
VRTB				*i* S	Sg	14 55 54.6	+7.4
VRTB				IAML		14 55 58.0	
	comp=E,583nm,0.6s						
VRTB				IAML		14 56 01.0	
	comp=N,491nm,1.0s						
CUKT	Cukurca	1.66	178	PN	Pb	14 55 24.4	-0.2
CUKT	Cukurca	1.66	178	*i* P	Pg	14 55 24.7	-1.2
CUKT				*i* S	Sg	14 55 51.1	+3.7
CUKT				IAML		14 55 53.0	
	comp=E,356nm,0.7s						
CUKT				IAML		14 55 56.0	
	comp=N,325nm,0.7s						
KAPZ	Kaputan	1.67	32	*i* P	Pg	14 55 25.4	-0.6
KAPZ				*i* S	Sg	14 55 48.1	+0.4
KOPR	Koprukoy-ERZUR	1.70	310	PN	Pb	14 55 25.3	-0.1
KARS	Kars	1.75	348	PN	Pb	14 55 25.6	-0.7
SENK	Senkaya-Erzuru	1.89	331	PN	Pb	14 55 27.9	-0.8
KARO	Karliova-Bingo	1.99	282	PN	Pb	14 55 29.2	-1.1
SVAN	Silvan-Diyarba	2.00	248	PN	Pb	14 55 29.2	-1.1
BNGB	Bingl	2.24	273	PN	Pb	14 55 32.8	-1.7
YEDI	Yedisu-Bingol	2.40	284	PN	Pn	14 55 35.0	+1.7
DBAD	Bademkaya	2.54	326	*i* P	Pg	14 55 41.6	-1.2

TAP 01 14:55:57.2, 24°.66N×121°.14E, h6km, ML1.8, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIOB	Emei	0.12	261	*i* P	Pg	14 56 00.3	+0.6
	baz=261						
LIOB				*i* S	Sg	14 56 02.7	+1.3
	baz=261						
NSTT	Nanjuang	0.13	256	*i* P	Pg	14 56 00.5	+0.5
	baz=253						
NSTT				*i* S	Sg	14 56 03.3	+1.4
	baz=253						
SBCB	Hsinchu	0.19	312	*e*P	Pg	14 56 01.6	+0.5
	baz=312						
SBCB				*e*S	Sg	14 56 05.5	+1.8
	baz=312						
HSN	Hsinchu	0.21	311	*e*P	Pg	14 56 01.7	+0.3
	baz=324						
HSN				*e*S	Sg	14 56 05.5	+1.3
	baz=324						
YHNB	Yeheng	0.21	88	*i* P	Pg	14 56 02.7	+1.2
	baz=88						
YHNB				S	Sg	14 56 06.1	+1.7
	baz=88						
NCUH	Zhongli	0.30	8	*e*P	Pb	14 56 04.3	-0.8
	baz=7.0						
NNS	Nan Shan	0.31	137	*i* P	Pb	14 56 05.0	-0.2
	baz=135						
NNS				S	Sb	14 56 10.0	-0.5
	baz=135						
NNSB	Datong	0.32	137	*i* P	Pb	14 56 05.2	-0.2
	baz=136						
NNSB				*i* S	Sb	14 56 09.7	-1.2
	baz=136						
NNSH	Datong	0.32	137	*i* P	Pb	14 56 05.2	-0.3
	baz=136						
NNSH				S	Sb	14 56 09.9	-1.0
	baz=136						
NMLH	Miaoli	0.34	248	*e*P	Pb	14 56 05.5	-0.2
	baz=248						
NDT	Datong Townshi	0.34	100	P	Pb	14 56 05.5	-0.3
	baz=100						
NDT				S	Sb	14 56 10.2	-1.2
	baz=100						
NWLT	Wulai	0.35	71	*e*P	Pg	14 56 04.9	+0.9
	baz=71						
NWLT				*e*S	Sg	14 56 09.4	+0.8
	baz=71						
WHP	Taichung City	0.42	205	*i* P	Pb	14 56 06.8	-0.3
	baz=204						
WHP				S	Sb	14 56 12.9	-0.9
	baz=204						
NSY	Sanyi	0.42	235	*e*S	Sb	14 56 14.3	+0.6
	baz=233						
NHDH	Xindian Distri	0.46	49	*e*P	Pb	14 56 07.3	-0.3
	baz=49						
NHDH				*e*S	Sb	14 56 14.7	0.0
	baz=49						
TWE	Neicheng	0.48	83	*e*P	Pb	14 56 08.0	-0.1
	baz=83						
TWE				*e*S	Sb	14 56 14.7	-0.7
	baz=83						
WHF	Hehuan Shan	0.53	168	*e*S	Sb	14 56 17.6	+0.4
	baz=166						
ETLH	Xiulin Townshi	0.55	146	*i* P	Pb	14 56 09.7	+0.4
	baz=145						
ETLH				S	Sb	14 56 17.4	-0.1
	baz=145						
CHGB	Renai	0.60	177	*i* P	Pb	14 56 10.2	-0.1
	baz=177						
CHGB				S	Sb	14 56 18.6	-0.5
	baz=177						
YM01	YM01	0.62	39	*e*P	Pb	14 56 10.6	+0.2
	baz=39						
YM01				*e*S	Sb	14 56 20.6	+1.1
	baz=39						
YM11	YM11	0.64	38	*e*P	Pb	14 56 10.9	+0.2
	baz=38						
NACB	Ninganchiao	0.64	140	*e*P	Pb	14 56 11.3	+0.6
	baz=139						
NACB				*e*S	Sb	14 56 20.2	+0.3
	baz=139						
TIPB	Shuangxi	0.69	64	*e*P	Pb	14 56 11.6	-0.1
	baz=63						
TIPB				*e*S	Sb	14 56 22.1	+0.5
	baz=63						
TYC	Yuchr	0.80	199	*e*P	Pn	14 56 15.1	+0.1
	baz=198						
TYC				*e*S	Sn	14 56 28.4	+1.2
	baz=198						
VWDT	VWDT	0.91	180	*e*P	Pb	14 56 15.4	+0.1
	baz=179						
WHYT	Xinyi Township	1.00	195	*e*P	Pn	14 56 18.6	+0.8
	baz=195						
WHYT				*e*S	Sn	14 56 32.8	+0.6
	baz=195						
YULB	Yu-li	1.27	174	*e*P	Pg	14 56 23.0	+1.3
	baz=173						
YULB				*e*S	Sn	14 56 41.7	+2.8
	baz=173						

JMA 01 14:56:49.5±0.4**, 24°.82N×123°.29E, h29**km**, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.44	216	P	Pb	14 56 58.5	-0.4
YOJ				S	Sb	14 57 04.3	-1.0
JYNG	Yonagunijimaku	0.48	221	P	Pb	14 56 59.5	-0.1
JYNG				S	Sb	14 57 05.8	-0.7
IRIF	Iriomote-Funau	0.63	140	P	Pb	14 57 01.5	-0.5
IRIF				S	Sn	14 57 11.4	-0.1
JKRS	Kuro-shima	0.88	131	P	Pn	14 57 05.4	-0.4
JKRS				S	Sb	14 57 17.4	-0.1
JIJ	Ishigaki jima	0.90	120	P	Pn	14 57 05.1	-1.1
JIJ				S	Sb	14 57 17.1	-1.1
JISG	Ishigakijimahi	0.96	104	P	Pn	14 57 06.2	-0.8

*NEIC **01** 15:04:53.7±1.3, 20°.4S±0°.2×179°.1W±0°.2, h629km±6km, mb4.4/9, Error ellipse: s-maj=32.5km s-min=19.2km az=151.0*
*IDC **01** 15:04:58.4±15.0, 20°.37S×179°.35W, h684km±149km, mb2.7/3, mb1 3.0/4, mb1mx2.6/39, mbtmp3.8/4, Error ellipse: s-maj=227.2km s-min=60.8km az=137.0*
ISC 01 15:04:54.3±1.5**, 20°.3S**±0°.2×**179°.2W**±0°.2**, h645**km**, n14,** σ**1^{s}26**/14**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.64	313	P	P	15 06 18.4	-2.6
DZM	Mont Dzumac	13.55	260	P	P	15 07 48.3	+0.7
	0.2nm,0.3s,baz=86,slow=22,SNR=1.2						
MQZ	McQueen's Vall	24.36	194	P	P	15 09 24.2	-0.4
CTAO	Charters Tower	32.43	264	P	P	15 10 35.7	+1.2
CTAO				IAmb	IAmb	15 11 15.7	
	comp=Z,25nm,1.6s						
STKA	Stephens Creek	36.91	244	P	P	15 11 10.4	-0.9
STKA				IAmb	IAmb	15 11 35.0	
	comp=Z,2.6nm,1.6s						
BBOO	Buckleboo	41.68	243	P	P	15 11 48.5	-0.8
WR0	Warramunga Arr	43.36	262	P	P	15 12 03.5	+0.9
WR0				IAmb	IAmb	15 12 48.9	
	comp=Z,23nm,1.6s						
AS31	Alice Springs	43.51	257	P	P	15 12 04.1	+0.4
ASAR	Alice Springs	43.51	257	P	P	15 12 04.2	+0.5
	comp=Z,0.9nm,0.5s,baz=91,slow=8.2,SNR=45						
WB0	Warramunga Arr	43.53	262	P	P	15 12 04.5	+0.6
WB0				IAmb	IAmb	15 12 22.2	
	comp=Z,39nm,2.0s						
WB2	Warramunga Arr	43.54	262	P	P	15 12 04.5	+0.5
WB2				IAmb	IAmb	15 13 15.2	
	comp=Z,24nm,1.8s						
WRA	Warramunga Arr	43.55	262	P	P	15 12 04.5	+0.5
	comp=Z,0.4nm,0.3s,baz=97,slow=7.1,SNR=33						
ILAR	Eielson Array	88.33	13	P	P	15 16 40.6	+1.9
	comp=Z,0.2nm,0.8s,baz=217,slow=5.8,SNR=2.2						
AKASG	Malin Array Be	142.27	330	PKP	PKPdf	15 23 13.9	-1.0
	comp=Z,0.7nm,0.4s,baz=36,slow=4.0,SNR=5.0						

WBNET 01 15:04:55.5, 50°.23N×12°.44E, h8km**, Ml0.0, 2C-3D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.00	110	⇓P	Pg	15 04 57.0	+0.1
NKC				S	Sg	15 04 57.9	+0.1
LBCW	Luby	0.04	327	⇓P	Pg	15 04 57.2	+0.1
VAC	Vackov	0.04	272	⇓P	Pg	15 04 57.2	+0.1
VAC				S	Sg	15 04 58.3	+0.1
STCW	Studenec	0.06	63	⇑P	Pg	15 04 57.2	0.0
STCW				S	Sg	15 04 58.3	-0.2
SKC	Skalna	0.08	220	S	Sg	15 04 59.1	0.0
POCW	Potky	0.09	353	S	Sg	15 04 59.4	+0.1
KRCW	Kraslice	0.11	30	⇑P	Pg	15 04 58.1	0.0

*PRU **01** 15:05:21.2±0.0, 50°.24N×12°.49E, h4km, West Bohemia Swarm*
WBNET 01 15:05:21.0, 50°.23N×12°.45E, h9km**, Ml1.6, 6C-4D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.00	356	*e*PG	Pg	15 05 22.8	+0.1
NKC				*e*SG	Sg	15 05 23.7	-0.1
	comp=Z,100nm,0.2s						
NKC	Novy Kostel	0.00	356	⇑P	Pg	15 05 22.8	+0.1
NKC				S	Sg	15 05 23.9	+0.1
LBCW	Luby	0.04	326	⇓P	Pg	15 05 23.0	+0.1
LBCW				S	Sg	15 05 24.4	+0.2
VAC	Vackov	0.05	274	⇓P	Pg	15 05 22.9	+0.1
VAC				S	Sg	15 05 24.2	0.0
KVC	Kvetna	0.05	121	⇑P	Pg	15 05 22.9	0.0
KVC				S	Sg	15 05 24.1	-0.2
STCW	Studenec	0.05	59	⇑P	Pg	15 05 23.0	0.0
STCW				S	Sg	15 05 24.3	-0.1
SKC	Skalna	0.08	222	⇑P	Pg	15 05 23.3	0.0
SKC				S	Sg	15 05 24.9	0.0
POCW	Potky	0.09	351	⇓P	Pg	15 05 23.6	+0.1
POCW				S	Sg	15 05 25.3	+0.1
KACW	Kaceov	0.10	153	⇓P	Pg	15 05 23.6	+0.1
KACW				S	Sg	15 05 25.3	0.0
KRCW	Kraslice	0.11	28	⇑P	Pg	15 05 23.8	0.0
KRCW				S	Sg	15 05 25.6	-0.1
ZHC	Zelena Hora	0.18	209	⇑P	Pg	15 05 24.9	0.0
ZHC				S	Sg	15 05 27.5	0.0
CLL	Collm	1.13	18	*e*Pg	Pn	15 05 43.0	0.0
CLL				*i*		15 05 45.1	
CLL				*e*		15 05 46.0	
CLL				*i* Sg	Sb	15 05 58.1	+0.5
	comp=Z,3.0nm,0.4s						
CLL				*i*		15 06 02.1	
PBCC	Pribram	1.14	118	*e*SG	Sg	15 05 56.5	-1.1
	comp=Z,1.5nm,0.3s						
KHC	Kasperske Hory	1.32	146	*e*PG	Pb	15 05 46.0	0.0
KHC				*e*SG	Sb	15 06 02.6	-0.5
	comp=Z,1.6nm,0.4s						
PRU	Pruhonice	1.37	99	*e*SG	Sb	15 06 03.9	-0.5
	comp=Z,3.0nm,0.4s						
GOPC	GO Pecny, Ondr	1.54	101	*e*SG	Sb	15 06 09.4	+0.1

*IDC **01** 15:11:20.9±0.7, 34°.06N×137°.34E, h326km±6km, mb3.3/13, mb1 3.5/18, mb1mx3.2/54, mbtmp4.0/18, Error ellipse: s-maj=14.8km s-min=9.4km az=120.0*
*NEIC **01** 15:11:21.2±2.0, 34°.04N±0°.07×137°.38E±0°.10, h330km±7km, mb4.3/61, Error ellipse: s-maj=12.2km s-min=9.7km az=120.0*
*JMA **01** 15:11:21.3±0.2, 34°.19N×137°.29E, h336km±2km, M3.3*
ISC 01 15:11:21.1±0.6**, 34°.13N**±0°.06×**137°.30E**±0°.07**, h332**km±5km**, n105,** σ**1^{s}40**/112**, mb4.2**/40**, Near south coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO4	TONANKAI O.B.S	0.23	120	P	Pn	15 12 03.6	+1.0
TTO4				*e*S	S	15 12 37.7	+2.0
TTO3	TONANKAI O.B.S	0.28	162	P	Pn	15 12 04.1	+1.3
TTO3				*e*S	S	15 12 38.8	+2.7
TK02	Tokai 2	0.42	115	P	Pn	15 12 04.2	+1.3
TTO2	TONANKAI O.B.S	0.45	210	P	Pn	15 12 04.0	+1.1
JIE	Ise	0.55	299	P	Pn	15 12 04.2	+0.8
JIE				*e*S	S	15 12 37.2	0.0
TTO1	TONANKAI O.B.S	0.66	220	P	Pn	15 12 04.4	+1.0
INU	Inuyama	1.24	349		Pn	15 12 06.5	+0.6
JWY	Kouya	1.41	274	P	Pn	15 12 07.7	+0.7
JTNC	Tanabenakahech	1.43	258	P	Pn	15 12 07.6	+0.5
JYTA	Yamagatataniai	1.53	343	P	Pn	15 12 08.2	+0.7
JYTA				*e*S	S	15 12 44.2	-0.5
JOD2	Odawara 2	1.86	52	P	Pn	15 12 09.9	+0.2
JWT	Wachi	1.94	307	P	Pn	15 12 11.0	+0.8
JHJ	Hachijo jima 2	2.31	115	P	Pn	15 12 13.5	+0.4
	57nm,0.3s,baz=36,slow=21,SNR=72						
JHJ				S	S	15 12 56.0	+1.3
	9.0nm,0.3s,baz=67,slow=23,SNR=1.7						
JHJ2	Mitsune	2.33	115		Pn	15 12 13.2	-0.1
MJAR	Matsushiro Arr	2.52	17	P	Pn	15 12 14.8	+0.1
	1.8nm,0.3s,baz=183,slow=9.0,SNR=228						
MJAR				S	S	15 12 57.3	-0.5
	0.2nm,0.3s,baz=197,slow=17,SNR=9.3						
MAJO	Matsushiro	2.52	17		Pn	15 12 14.8	0.0
MAT	Matsushiro	2.52	17	P	Pn	15 12 14.9	+0.1
MAT				S	S	15 12 56.8	-1.1
MJB9	Matsu-Tunnel	2.52	17		Pn	15 12 14.8	0.0
JNU	Nakatsue	5.45	261	P	Pn	15 12 45.8	+0.8
	0.7nm,0.3s,baz=121,slow=1.8,SNR=11						
JCJ	Chichijima	8.18	148	P	Pn	15 13 13.1	-4.2
	2.0nm,0.3s,baz=359,slow=20,SNR=17						
JCJ				S	S	15 14 39.9	-12
	8.5nm,0.3s,baz=262,slow=22,SNR=8.8						
KSRS	Korea Array	8.31	296	P	Pn	15 13 20.1	+1.5
	0.4nm,0.3s,baz=108,slow=12,SNR=23						
KS19	Wonju Array Si	8.37	296		Pn	15 13 20.1	+0.8
ERM	Erimo	9.13	29	Pn	Pn	15 13 26.8	-1.6
INCN	Inchon	9.28	294	Pn	Pn	15 13 31.9	+1.5
JOW	Kunigami	10.64	229	Pn	Pn	15 13 45.2	-1.8
ASAJ	Asahikawa	10.79	21	P	Pn	15 13 48.0	-0.4
	0.5nm,0.3s,baz=214,slow=14,SNR=9.6						
ASAJ				S	S	15 15 44.1	-5.3
	0.3nm,0.3s,baz=42,slow=27,SNR=3.5						
JKA	Kamikawa-asahi	10.79	21	P	Pn	15 13 48.0	-0.4
JKA					S	15 15 44.1	-5.3
JKA	Kamikawa-asahi	10.79	21	Pn	Pn	15 13 48.1	-0.3
YSS	Yuzh-Sakhalins	13.46	16	P	Pn	15 14 20.8	+0.6
YOJ	Yonaguni jima	15.73	236	P	P	15 14 42.8	-1.8
YHNB	Yeheng	16.75	240	P	P	15 14 55.8	0.0
NACB	Ninganchiao	16.91	238	P	P	15 14 55.7	-1.6
SSLB	Suanglung	17.60	238	P	P	15 15 03.4	-1.5
SSLB				IAmb	IAmb	15 15 15.6	
	comp=Z,18nm,1.6s						
YULB	Yu-li	17.61	237	P	P	15 15 02.6	-2.4
YULB				IAmb	IAmb	15 15 05.9	
	comp=Z,5.7nm,0.7s						
TPUB	Ta-pu	18.14	238	P	P	15 15 09.2	-1.4
TPUB				IAmb	IAmb	15 15 10.8	
	comp=Z,7.5nm,0.7s						
TWG	Pinlang	18.15	236	P	P	15 15 09.1	-1.6
ENH	Enshi	23.81	268	P	P	15 16 04.2	-0.9
ENH				IAmb	IAmb	15 16 05.3	
	comp=Z,14nm,0.6s						
PETK	Petropavlovsk-	23.90	31	P	P	15 16 05.5	-0.1
	comp=Z,2.3nm,0.8s,baz=238,slow=8.5,SNR=4.7						
KKM	Kota Kinabalu	34.09	220	P	P	15 17 35.5	-0.1
KKM				IAmb	IAmb	15 18 48.6	
	comp=Z,16nm,1.3s						
CHTO	Chiang Mai	37.32	256	P	P	15 18 03.4	+0.6
CMAR	Chiang Mai Arr	37.51	255	P	P	15 18 04.8	+0.4
	comp=Z,1.2nm,0.4s,baz=48,slow=8.2,SNR=9.3						
BILL	Bilibino	37.78	17	P	P	15 18 07.9	+2.0
TIXI	Tiksi	37.85	356	P	P	15 18 06.7	+0.2
	comp=Z,0.8nm,0.3s,baz=65,slow=2.0,SNR=2.6						
MK31	Makanchi Array	42.89	304	P	P	15 18 48.5	+0.7
MKAR	Makanchi Array	42.89	304	P	P	15 18 48.5	+0.7
	comp=Z,1.9nm,0.7s,baz=90,slow=9.9,SNR=21						
MAKZ	Makanchi	43.11	304	P	P	15 18 50.4	+0.8
IPM	Ipoh	44.76	237	P	P	15 19 02.2	-0.7
KURK	Kurchatov	45.15	310	P	P	15 19 05.6	+0.2
CNBA	Chernabura Isl	47.74	44	P	P	15 19 25.5	+0.2
GSI	Gunungsitoli	49.42	237	P	P	15 19 38.5	-0.1
GSI				IAmb	IAmb	15 19 40.1	
	comp=Z,13nm,0.5s						
TTA	Tatalina	49.70	33	P	P	15 19 41.5	+1.4
KNRA	Kununurra	50.19	191	P	P	15 19 43.7	-0.4
KNRA				IAmb	IAmb	15 21 26.3	
	comp=Z,33nm,1.5s						
RSO	Redoubt South	51.25	37	P	P	15 19 52.9	+1.1
PPLA	Purkeypile	51.45	34	P	P	15 19 55.4	+2.2
PPLA				IAmb	IAmb	15 21 15.5	
	comp=Z,14nm,1.4s						
KDAK	Kodiak Island	51.49	40	P	P	15 19 54.1	+0.8
	comp=Z,3.1nm,0.4s,baz=299,slow=1.4,SNR=18						
KDAK	Kodiak Island	51.49	40	P	P	15 19 53.9	+0.6
BPAW	Bear Paw Mtn.	51.98	32	P	P	15 19 58.5	+1.6
KTH	Kantishna Hill	52.02	33	P	P	15 19 58.8	+1.6
KTH				IAmb	IAmb	15 21 55.8	
	comp=Z,32nm,1.9s						
RC01	Rabbit Creek A	52.69	36	P	P	15 20 03.3	+1.3
RC01				IAmb	IAmb	15 21 32.4	
	comp=Z,26nm,1.1s						
MCK	McKinley	52.90	32	P	P	15 20 05.3	+1.8
MCK				IAmb	IAmb	15 21 35.0	
	comp=Z,26nm,2.0s						
SEW	Seward	52.91	37	P	P	15 20 04.3	+0.7
PMR	Palmer	52.94	35	P	P	15 20 04.4	+0.6
PMR				IAmb	IAmb	15 20 27.6	
	comp=Z,19nm,1.5s						
RND	Reindeer	52.95	33	P	P	15 20 05.2	+1.2
RND				IAmb	IAmb	15 20 05.7	
	comp=Z,6.2nm,0.5s						
GHO	Glory Hole Cre	53.03	35	P	P	15 20 06.0	+1.4
GHO				IAmb	IAmb	15 21 11.8	
	comp=Z,20nm,1.5s						
FITZ	Fitzroy Crossi	53.11	194	P	P	15 20 05.5	-0.1
FITZ				IAmb	IAmb	15 21 32.8	
	comp=Z,29nm,1.8s						
MDM	Murphy Dome	53.14	31	P	P	15 20 07.7	+2.4
SML	Sawmill	53.30	35	P	P	15 20 07.9	+1.4
SML				IAmb	IAmb	15 21 48.8	
	comp=Z,7.3nm,0.7s						
CCB	Clear Creek Bu	53.34	31	P	P	15 20 08.6	+1.9
DHY	Denali Highway	53.64	33	P	P	15 20 09.9	+0.8
WB0	Warramunga Arr	53.66	183	P	P	15 20 08.7	-0.8

HDA Harding Lake 53.72 31 P P 15 20 10.1 +0.6
HDA IAmb IAmb 15 21 52.4
comp=Z,17nm,1.9s
IL31 53.73 31 P P 15 20 10.4 +1.0
ILAR Eielson Array 53.73 31 P P 15 20 10.2 +0.7
comp=Z,0.9nm,0.6s,baz=262,slow=5.0,SNR=18
SCM Sheep Creek Mo 53.78 35 P P 15 20 11.5 +1.5
WRAB Tennant Creek 53.83 183 P P 15 20 10.1 -0.6
WB2 Warramunga Arr 53.84 183 P P 15 20 10.1 -0.7
WRA Warramunga Arr 53.84 183 P P 15 20 10.1 -0.7
comp=Z,0.8nm,0.3s,baz=0.1,slow=7.6,SNR=93
WR0 Warramunga Arr 53.85 183 P P 15 20 10.2 -0.7
FID Port Fidalgo 54.31 36 P P 15 20 14.7 +1.0
FID IAmb IAmb 15 20 44.5
comp=Z,32nm,1.2s
RIDG Independent Ri 54.71 32 P P 15 20 17.3 +0.7
RIDG IAmb IAmb 15 21 34.5
comp=Z,18nm,1.7s
SCRK Sand Creek 55.06 32 P P 15 20 20.0 +0.9
DOT Dot Lake 55.06 32 P P 15 20 19.7 +0.6
DOT IAmb IAmb 15 22 00.1
comp=Z,15nm,2.0s
GLB Gilahina Butte 55.49 35 P P 15 20 23.7 +1.5
VRDI Verde Repeater 55.70 35 P P 15 20 25.1 +1.4
VRDI IAmb IAmb 15 20 26.7
comp=Z,12nm,1.3s
WAX Waxell Ridge 56.12 36 P P 15 20 28.6 +1.9
WAX IAmb IAmb 15 22 05.5
comp=Z,28nm,1.3s
EGAK Eagle 56.16 31 P P 15 20 28.2 +1.4
EGAK IAmb IAmb 15 21 16.4
comp=Z,12nm,1.8s
BARN Barnard Glacie 56.58 35 P P 15 20 31.9 +1.8
BARN IAmb IAmb 15 21 03.7
comp=Z,8.2nm,1.2s
AS31 Alice Springs 57.56 184 P P 15 20 36.6 -0.5
AS31 IAmb IAmb 15 22 35.0
comp=Z,27nm,1.2s
ASAR Alice Springs 57.56 184 P P 15 20 36.6 -0.4
comp=Z,0.3nm,0.5s,baz=357,slow=5.1,SNR=25
EPYK Eagle Plains 57.69 28 P P 15 20 39.1 +1.7
EPYK IAmb IAmb 15 20 40.0
comp=Z,7.7nm,0.7s
INK Inuvik 58.48 26 P P 15 20 44.0 +1.3
comp=Z,2.1nm,0.5s,baz=282,slow=4.3,SNR=11
INK Inuvik 58.48 26 IAmb IAmb 15 22 10.5
comp=Z,13nm,1.9s
EIDS Eidsvold 60.60 166 pP 15 22 07.4 -0.8
C36M Paulatuk 61.45 24 P P 15 21 03.8 +1.1
FORT Forrest 65.14 189 P P 15 21 27.0 -0.2
FORT IAmb IAmb 15 23 14.4
comp=Z,12nm,1.0s
YKA Yellowknife Ar 67.98 28 P P 15 21 44.5 -0.2
comp=Z,0.5nm,0.4s,baz=285,slow=5.6,SNR=7.0
SUMG Summit 73.54 359 P P 15 22 18.2 -0.1
PINE Pine Mountain 74.77 47 P P 15 22 27.4 +1.7
WVOR Wild Horse Val 76.93 47 P P 15 22 38.7 +1.0
WVOR IAmb IAmb 15 25 01.1
comp=Z,4.3nm,1.3s
LRM Limekiln Ridge 78.56 42 P P 15 22 48.2 +1.5
RAYN Ar Rayn 78.59 291 P P 15 22 47.3 +0.3
RAYN IAmb IAmb 15 22 48.0
comp=Z,4.0nm,1.2s
KVN Kaiserville 79.19 50 P P 15 22 51.5 +1.3
KVN IAmb IAmb 15 23 58.1
comp=Z,8.3nm,1.7s
NVAR Mina Array Bea 79.42 51 P P 15 22 52.2 +0.8
comp=Z,0.5nm,0.7s,baz=302,slow=4.1,SNR=5.8
PDAR Pinedale Array 82.09 43 P P 15 23 06.3 +0.9
comp=Z,0.6nm,0.6s,baz=349,slow=3.0,SNR=3.6
TXAR Lajitas Array 94.55 50 P P 15 24 04.8 0.0
comp=Z,0.3nm,0.6s,baz=287,slow=2.8,SNR=3.5

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*KRSC **01** 15:15:31.4±2.0, 49°.83N×153°.89E, h275km±37km, ML4.0*
*MOS **01** 15:15:32.1±1.0, 50°.23N×153°.26E, h260km, mb3.8/16, Error ellipse: s-maj=11.6km s-min=7.1km az=61.5*
*NEIC **01** 15:15:33.4±1.2, 50°.23N±0°.08×153°.25E±0°.10, h254km±8km, mb4.2/57, Error ellipse: s-maj=11.5km s-min=8.6km az=196.0*
*IDC **01** 15:15:33.3±1.6, 50°.28N×153°.28E, h255km±17km, mb3.4/18, mb1 3.5/23, mb1mx3.4/52, mbtmp4.0/23, Error ellipse: s-maj=16.4km s-min=8.5km az=154.0*
ISC 01 15:15:32.6±0.4**, 50°.17N**±0°.07×**153°.32E**±0°.05**, h250**km**, n146, σ1s.45**/156**, mb4.0**/55**, 2C-8D, Kuril Islands**

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

ALID Alaid 1.59 63 iP Pn 15 16 12.3 +0.6
SKR Severo-Kuril's 1.86 73 eP Pn 15 16 14.1 +0.4
SKR eS S 15 16 46.1 -0.1
SKR Severo-Kuril's 1.86 73 ePN Pn 15 16 14.2 +0.5
SKR eS S 15 16 46.0 -0.1
SKR pmax pmax
comp=Z,141nm,0.6s
SKR smax smax
comp=N,80nm,0.8s
SKR smax smax
comp=E,80nm,0.8s
PAU Pauzhetka 2.57 58 eP Pn 15 16 21.0 +0.6
MIPR Malaya Ipel'ka 3.02 44 eP Pn 15 16 26.5 +1.3
ASAK Asacha 3.63 51 eP Pn 15 16 34.7 +2.6
APC Apacha 3.66 39 eP Pn 15 16 33.3 +1.1
GRL Gorelyy 3.82 49 eP Pn 15 16 36.2 +2.0
MTVR Mutnovka 3.83 51 eP Pn 15 16 35.6 +1.2
MTVR eS S 15 17 23.2 -0.3
RUS Russkaya 3.97 53 eP Pn 15 16 36.5 +0.6
RUS eS S 15 17 22.6 -3.6
PEA0B Petropavlovsk- 4.01 41⇑ePN Pn 15 16 37.6 +1.2
PEA0B Petropavlovsk- 4.01 41 Pn Pn 15 16 37.2 +0.8
PETK Petropavlovsk- 4.01 41 P Pn 15 16 37.6 +1.2
comp=E,0.3nm,0.3s,baz=202,slow=11,SNR=9.3
PET Petropavlovsk 4.38 47 eS S 15 17 34.7 -0.4
PET Petropavlovsk 4.38 47 PN Pn 15 16 41.7 +0.9
PET Petropavlovsk 4.38 47 Pn Pn 15 16 41.7 +0.9
DALK Dalny 4.44 48 eP Pn 15 16 43.3 +1.9
DALK eS S 15 17 34.5 -1.7
KOK Koryaka 4.55 45 iP Pn 15 16 45.0 +2.1
AVH Avacha 4.58 45 iP Pn 15 16 45.9 +2.7
UGLR Uglovaya 4.58 46 iP Pn 15 16 45.6 +2.3
KRX Arik 4.60 44 iP Pn 15 16 46.8 +3.3
SMAR Somma 4.61 46 iP Pn 15 16 46.8 +3.1
SDLR Sedlovina 4.65 46 iP Pn 15 16 46.0 +1.9
SPN Mys Shipunski 5.10 52 eP Pn 15 16 49.0 -0.4
SPN eS S 15 17 44.0 -6.8
KUR Kuril'sk 6.16 219 PN Pn 15 17 05.5 +2.9
KUR eS S 15 18 15.5 +0.8
KZV Kizimen 6.52 38 eP Pn 15 17 10.2 +3.0
TUMR Tumrok 6.59 36 iP Pn 15 17 10.3 +2.3
YUK Yuzh-Kuril'sk 7.97 222 ePN Pn 15 17 25.1 -0.3
YUK eS S 15 18 52.1 -4.2
YUK pmax pmax
comp=N,14nm,0.2s
YUK pmax pmax
comp=E,19nm,0.2s
YUK pmax pmax
comp=Z,87nm,0.2s
GRPR Tuman 8.04 223 ePN Pn 15 17 25.4 -0.9
GRPR eS S 15 18 51.3 -6.7
GRPR pmax pmax
comp=Z,63nm,0.2s
GRPR pmax pmax
comp=E,22nm,0.3s
GRPR pmax pmax
comp=N,23nm,0.2s
KBTR Krutoberegovo 8.31 40 eP Pn 15 17 29.5 -0.1
NMR Nemuro--Hokkai 8.56 220 ePN Pn 15 17 28.7 -4.2
JKA Kamikawa-asahi 9.48 234 Pn 15 17 46.2 +1.6
JKA Kamikawa-asahi 9.48 234 Pn Pn 15 17 46.5 +2.0
ASAJ Asahikawa 9.48 234 P Pn 15 17 46.2 +1.6
comp=N,0.8nm,0.3s,baz=66,slow=11,SNR=8.0
ERM Erimo 10.78 225⇓ePN Pn 15 17 59.0 -1.8
ERM Erimo 10.78 225 Pn Pn 15 17 59.0 -1.8
KLR Kul'dur 13.99 274 P Pn 15 18 42.5 +2.1
comp=N,0.3nm,0.3s,baz=66,slow=11,SNR=8.3
KLR Kul'dur 13.99 274 deP P 15 18 43.5 +2.5
KLR pmax pmax
comp=Z,4.0nm,1.1s
USRK Ussuriysk Ar. 15.66 256 P P 15 19 01.3 +1.8
baz=59,slow=14,SNR=5.2
ZEA Zeya 16.43 293 eP P 15 19 09.5 +1.7
MJB9 Matsu-Tunnel 17.45 224 P P 15 19 19.4 +0.2
MJB9 IAmb IAmb 15 19 22.9
comp=Z,3.2nm,0.6s
MAJO Matsushiro 17.45 224 P P 15 19 19.1 -0.1
MAJO pmax pmax
comp=Z,6.0nm,1.1s
MAJO Matsushiro 17.45 224 P P 15 19 19.1 -0.1
MJAR Matsushiro Arr 17.45 224 P P 15 19 19.0 -0.2
comp=Z,0.1nm,0.3s,baz=23,slow=12,SNR=19
MJAR Matsushiro Arr 17.45 224 P P 15 19 19.0 -0.2
YAK Yakutsk 17.62 321 P P 15 19 19.9 -0.7
comp=Z,0.1nm,0.3s,baz=142,slow=2.8,SNR=5.0
YAK Yakutsk 17.62 321 eP P 15 19 19.6 -1.0
YAK pmax pmax
comp=Z,6.0nm,0.7s
YAK Yakutsk 17.62 321 P P 15 19 21.4 +0.7
ADK Adak 18.89 73 P P 15 19 35.7 +1.3
ADK pmax pmax
comp=Z,53nm,1.8s
ADK Adak 18.89 73 P P 15 19 35.7 +1.3
KSRS Korea Array 22.17 245 P P 15 20 09.2 +1.2
comp=Z,1.5nm,0.6s,baz=46,slow=9.7,SNR=11
SPIA Saint Paul Isl 22.48 58 P P 15 20 11.9 +1.4
GAMB Gambell 23.05 41 P P 15 20 16.7 +1.1
GAMB IAmb IAmb 15 20 35.6
comp=Z,10nm,1.0s
JNU Nakatsue 23.76 233 P P 15 20 23.0 +0.5
comp=Z,3.1nm,0.7s,baz=40,slow=2.4,SNR=5.2
JNU Nakatsue 23.76 233 IAmb IAmb 15 20 50.2
comp=Z,12nm,1.3s
TIXI Tiksi 24.25 341 P P 15 20 25.1 -1.4
comp=Z,1.2nm,0.3s,baz=304,slow=5.8,SNR=3.6
TTA Tatalina 29.84 45 P P 15 21 16.7 +0.3
TTA Tatalina 29.84 45 P P 15 21 16.7 +0.3
TTA IAmb IAmb 15 22 23.6
comp=Z,22nm,1.9s
ULN Ulaanbaatar 30.06 284⇓eP P 15 21 17.8 -0.8
ULN pmax pmax
comp=Z,2.0nm,1.1s
TLY Talaya 30.87 292c iP P 15 21 26.4 +0.9
TLY pmax pmax
comp=Z,4.0nm,0.7s
KDAK Kodiak Island 31.93 55 P P 15 21 33.3 -1.4
comp=Z,6.2nm,1.1s,baz=292,slow=2.5,SNR=12
KDAK Kodiak Island 31.93 55 P P 15 21 33.7 -0.9
KDAK pmax pmax
comp=Z,21nm,1.3s
KDAK Kodiak Island 31.93 55 P P 15 21 33.7 -0.9
CNPM China Poot 32.35 52 P P 15 21 37.7 -0.6
TOLK Toolik Lake Re 32.81 35 P P 15 21 42.3 +0.1
TOLK IAmb IAmb 15 22 47.7
comp=Z,16nm,1.9s
RND Reindeer 33.07 44 P P 15 21 45.0 +0.4
RND pmax pmax
comp=Z,21nm,1.8s
RND Reindeer 33.07 44 P P 15 21 45.0 +0.4
RND IAmb IAmb 15 22 15.1
comp=Z,20nm,1.8s
SEW Seward 33.16 50 P P 15 21 44.5 -0.7
GHO Glory Hole Cre 33.19 47 P P 15 21 45.6 0.0
MDM Murphy Dome 33.26 41 P P 15 21 45.1 -1.0
COLA College 33.42 42⇓eP P 15 21 47.5 +0.1
COLA pmax pmax
comp=Z,3.0nm,0.7s
CCB Clear Creek Bu 33.46 42 P P 15 21 47.7 0.0
CCB IAmb IAmb 15 22 34.8
comp=Z,13nm,1.9s
SML Sawmill 33.47 47 P P 15 21 48.2 +0.3
DHY Denali Highway 33.77 45 P P 15 21 50.5 -0.2
DHY IAmb IAmb 15 22 53.6
comp=Z,7.9nm,1.5s
HDA Harding Lake 33.84 42 P P 15 21 51.1 0.0
HDA IAmb IAmb 15 23 28.0
comp=Z,12nm,1.6s
IL31 33.84 42 P P 15 21 51.4 +0.3
IL31 IAmb IAmb 15 22 17.0
comp=Z,7.9nm,1.7s
ILAR Eielson Array 33.84 42 P P 15 21 49.6 -1.5
comp=Z,0.6nm,0.6s,baz=268,slow=5.3,SNR=11
FID Port Fidalgo 34.51 49 P P 15 21 56.5 -0.4
RIDG Independent Ri 34.83 43 P P 15 21 60.0 +0.4
RIDG IAmb IAmb 15 23 19.9
comp=Z,15nm,1.6s
SCRK Sand Creek 35.17 43 P P 15 22 02.4 -0.2
DOT Dot Lake 35.18 43 P P 15 22 02.1 -0.5
DOT IAmb IAmb 15 22 13.9
comp=Z,13nm,1.9s
NACB Ninganchiao 35.76 235 P P 15 22 09.0 +1.1
VRDI Verde Repeater 35.87 47 P P 15 22 09.3 +0.7
VRDI IAmb IAmb 15 23 10.7
comp=Z,9.3nm,1.2s
WAX Waxell Ridge 36.32 49 P P 15 22 13.5 +1.1
BARN Barnard Glacie 36.76 47 P P 15 22 17.5 +1.4
BARN IAmb IAmb 15 23 05.4
comp=Z,11nm,1.4s
MESA MESA 36.82 49 P P 15 22 18.0 +1.4
YAH Yahtse 36.88 49 P P 15 22 18.8 +1.6
PCA Pinnacle 37.66 49 P P 15 22 24.2 +0.6
INK Inuvik 38.72 35 P P 15 22 30.9 -1.2
comp=Z,1.5nm,0.4s,baz=277,slow=4.3,SNR=8.4
INK Inuvik 38.72 35 P P 15 22 32.7 +0.6
INK Inuvik 38.72 35 P P 15 22 32.6 +0.6
ZALV Zalesovo Beam 40.80 303 P P 15 22 48.5 -0.9
comp=Z,1.2nm,0.3s,baz=63,slow=7.5,SNR=6.2
DGZ Jazzator, Alta 41.15 296⇓eP P 15 22 53.9 +1.4
DGZ pmax pmax
comp=Z,2.0nm,0.7s
DLBC Dease Lake 43.16 48 P P 15 23 09.7 +1.3
DLBC IAmb IAmb 15 23 15.4
comp=Z,16nm,1.7s
MK31 Makanchi Array 45.57 295 P P 15 23 27.1 -0.5
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MK31 Makanchi Array 45.57 295 P P 15 23 27.1 -0.5
MKAR Makanchi Array 45.57 295 P P 15 23 27.1 -0.4
comp=Z,2.0nm,0.8s,baz=62,slow=7.8,SNR=18
KURK Kurchatov 45.65 301 d iP P 15 23 27.4 -0.7
KURK pmax pmax
comp=Z,4.0nm,0.6s
KURK Kurchatov 45.65 301 P P 15 23 27.7 -0.3
KURK IAmb IAmb 15 23 28.3
comp=Z,5.0nm,0.5s
MAKZ Makanchi 45.74 295 P P 15 23 28.3 -0.6
MAKZ pmax pmax
comp=Z,1.0nm,0.5s
MAKZ Makanchi 45.74 295 P P 15 23 28.3 -0.6
YKA Yellowknife Ar 48.13 39 P P 15 23 47.5 +0.5
comp=Z,0.8nm,0.5s,baz=301,slow=6.7,SNR=7.5
BRVK Borovoye 48.88 307 deP P 15 23 52.2 -0.6
BRVK pmax pmax
comp=Z,1.0nm,0.6s
BRVK Borovoye 48.88 307 P P 15 23 52.2 -0.6
ARU Arti 52.62 316 d iP P 15 24 19.6 -1.0
ARU *PP pP 15 25 12.3 -2.1
ARU S S 15 31 26.9 -0.8
ARU SS SS 15 35 05.8 -3.0
ARU pmax pmax
comp=Z,4.0nm,0.6s
ARU Arti 52.62 316 P P 15 24 19.8 -0.7
SHL Shillong 52.67 266 P P 15 24 21.4 -0.2
SHL pmax pmax
comp=Z,4.0nm,0.5s
SHL Shillong 52.67 266 P P 15 24 21.4 -0.2
SHL IAmb IAmb 15 24 22.1
comp=Z,4.2nm,0.5s
CHTO Chiang Mai 53.11 254 P P 15 24 26.0 +1.3
CHTO pmax pmax
comp=Z,7.0nm,1.7s
CHTO Chiang Mai 53.11 254 P P 15 24 26.0 +1.3
CMAR Chiang Mai Arr 53.38 254 P P 15 24 27.2 +0.6
comp=Z,0.5nm,0.4s,baz=32,slow=6.7,SNR=4.8
ARCES ARCESS Array B 54.67 340 P P 15 24 33.5 -1.8
comp=Z,3.1nm,1.0s,baz=27,slow=8.2,SNR=4.4
WALA Waterton Lakes 56.20 52 P P 15 24 47.0 +0.5
WALA IAmb IAmb 15 25 00.2
comp=Z,16nm,1.9s
MSO Missoula 57.61 54 P P 15 24 56.7 +0.3
WVOR Wild Horse Val 57.92 61 P P 15 24 59.0 +0.3
WVOR pmax pmax
comp=Z,11nm,1.9s
WVOR Wild Horse Val 57.92 61 P P 15 24 59.0 +0.3
WVOR IAmb IAmb 15 25 38.5
comp=Z,11nm,1.9s
FFC Flin Flon 58.05 41 P P 15 24 59.5 +0.3
FFC pmax pmax
comp=Z,17nm,2.0s
FFC Flin Flon 58.05 41 P P 15 24 59.5 +0.3
FFC IAmb IAmb 15 25 33.7
comp=Z,17nm,2.0s
FCC Fort Churchill 58.34 34 P P 15 25 01.1 0.0
FCC pmax pmax
comp=Z,9.0nm,1.3s
FCC Fort Churchill 58.34 34 P P 15 25 01.1 0.0
FCC IAmb IAmb 15 25 18.4
comp=Z,9.4nm,1.2s
LRM Limekiln Ridge 59.05 54 P P 15 25 07.7 +1.1
PNTR Pine Nut 59.58 64 P P 15 25 11.2 +1.0
PNTR IAmb IAmb 15 25 13.3
comp=Z,3.2nm,0.8s
BOZ Bozeman (W) 59.63 54 P P 15 25 11.0 +0.6
BOZ pmax pmax
comp=Z,2.0nm,0.6s
BOZ Bozeman (W) 59.63 54 P P 15 25 11.0 +0.6
KVN Kaiserville 60.47 63 P P 15 25 16.9 +0.7
KVN pmax pmax
comp=Z,3.0nm,1.1s
KVN Kaiserville 60.47 63 P P 15 25 16.9 +0.7
NVAR Mina Array Bea 60.77 64 P P 15 25 18.9 +0.6
comp=Z,0.8nm,0.6s,baz=304,slow=6.6,SNR=8.5
FIA1 FINESS Array S 61.01 334 P P 15 25 19.1 -0.1
FIA1 IAmb IAmb 15 26 33.4
comp=Z,8.5nm,1.3s
FINES FINESS Array B 61.01 334 P P 15 25 19.2 0.0
comp=Z,1.0nm,0.4s,baz=37,slow=7.8,SNR=20
PD31 Pinedale Array 62.65 55 P P 15 25 31.5 +0.7
PDAR Pinedale Array 62.65 55 P P 15 25 31.6 +0.7
comp=Z,1.5nm,0.8s,baz=321,slow=1.9,SNR=8.9
KULM Kulim 62.71 243 P P 15 25 31.8 +0.6
TPNV Topopah Spring 62.97 64 P P 15 25 33.0 +0.2
TPNV Topopah Spring 62.97 64 P P 15 25 33.0 +0.2
TPNV IAmb IAmb 15 27 22.0
comp=Z,8.2nm,1.6s
GEYT Alibeck 65.00 300 P P 15 25 44.7 -1.2
comp=Z,1.1nm,0.5s,baz=37,slow=10,SNR=3.9
NB2 NORSAR Subarra 65.04 341 P P 15 25 45.9 +0.2
comp=Z,0.1nm,0.3s,baz=30,slow=6.2
NOA NORSAR Array B 65.04 341 P P 15 25 45.9 +0.2
comp=Z,0.2nm,0.3s,baz=28,slow=6.5,SNR=4.4
PV21 Cone Mtn., Par 65.93 58 P P 15 25 52.1 +0.1
PV21 IAmb IAmb 15 25 53.5
comp=Z,2.8nm,0.8s
PV05 Paradox Valley 66.21 59 P P 15 25 54.3 +0.5
PV05 IAmb IAmb 15 25 55.8
comp=Z,4.3nm,1.0s
ECSD EROS Data Cent 68.43 47 P P 15 26 07.0 -0.4
ECSD IAmb IAmb 15 26 07.9
comp=Z,3.1nm,0.8s
TRQ Mont Tremblant 75.42 32 P P 15 26 48.0 -0.7
GERES GERESS Array B 75.44 334 P P 15 26 49.2 +0.4
comp=Z,0.3nm,0.3s,baz=34,slow=6.1,SNR=4.6
TX31 Lajitas Ar. Si 75.71 61 P P 15 26 50.9 +0.2
TX31 IAmb IAmb 15 28 38.7
comp=Z,14nm,1.5s
TX32 Lajitas Array 75.71 61 P P 15 26 51.0 +0.3
TXAR Lajitas Array 75.71 61 P P 15 26 51.0 +0.3
comp=Z,0.7nm,0.4s,baz=296,slow=5.1,SNR=19
TXAR Lajitas Array 75.71 61 P P 15 26 51.0 +0.3

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*IDC **01** 15:17:40.8±0.5, 6°.53S×146°.99E, h0km, mb4.4/21, mb1 4.5/26, mb1mx4.4/41, mbtmp4.5/26, ML4.1/5, MS3.8/7, Ms1 3.8/7, ms1mx3.5/30, Error ellipse: s-maj=18.4km s-min=10.8km az=86.0*
*BJI **01** 15:17:45.1±0.0, 6°.64S×147°.53E, h63km, mB4.8/26, mb4.7/42, Ms4.8/19, Ms7 4.5/19*
*GCMT **01** 15:17:45.0±0.4, 6°.57S±0°.02×146°.80E±0°.04, h21km±1km, MW4.8/68, Moment Tensor Solution. s16,c17; s68,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.07±.18; $M_{\theta\theta}$-1.48±.11; $M_{\phi\phi}$-0.59±.11; $M_{r\theta}$-0.48±.17; $M_{\theta\phi}$0.88±.06; $M_{\phi r}$-0.87±.21; Best double couple: $M_0$2.24000×10^{16} NP1:ϕ_s282.00000°, δ48.00000°, λ61.00000°. NP2: ϕ_s142.00000°, δ50.00000°, λ119.00000°. Principal axes: T 2.4620, Plg68.0000°, Azm120.0000°; N -0.4490, Plg22.0000°, Azm302.0000°; P -2.0190, Plg1.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **01** 15:17:47.0±1.6, 6°.62S±0°.06×146°.92E±0°.07, h45km±5km, mb4.9/60 Error ellipse: s-maj=10.1km s-min=8.5km az=93.0*
*DJA **01** 15:17:49.0±0.4, 7°S±3°×14°7E±°, h59km±4km, M4.6/40, mb4.7/40, mB5.1/17, MLv5.2/4, Mw(mB)4.4/17*
ISC 01 15:17:47.3±0.3**, 6°.59S**±0°.05×**146°.98E**±0°.06**, h49**km**, n144, σ1s.26**/138**, mb4.8**/58**, MS4.2**/12**, 1C, Eastern New Guinea region**

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

PMG Port Moresby 2.81 176 Pn Pn 15 18 29.4 -0.4
23nm,0.3s,baz=340,slow=6.5,SNR=44
PMG Sn Sn 15 19 09.5 +7.1
69nm,0.3s,baz=332,slow=20,SNR=7.0
PMG Port Moresby 2.81 176 Pn 15 18 28.6 -1.2
KRVT Keravat (AS076 5.51 66 Pn Pn 15 19 05.2 -1.7
12nm,0.3s,baz=115,slow=1.3,SNR=17
RABL Rabaul 5.69 66 Pn 15 19 10.2 +0.9
JAY Jayapura 7.45 303 Pn Pn 15 19 32.0 -1.4
1.3nm,0.3s,baz=139,slow=6.9,SNR=11
JAY Jayapura 7.45 303 P Pn 15 19 33.0 -0.5
0.2nm322nm23nm,0.9s
JAY S Sn 15 21 05.8 +9.1
0.2nm322nm23nm,0.9s
GENI Genyem 7.86 300 P Pn 15 19 40.6 +1.5
1.0nm2μm116nm,0.9s
COEN Coen 8.22 207 Pn Pn 15 19 42.7 -1.5
SMPI Sarmi 9.42 299 P Pn 15 20 01.7 +1.2
470nm32nm,1.0s
HNR Honiara 13.15 103 LR LR 15 24 49.2
comp=Z,91nm,19.1s,baz=282,slow=33
CTA Charters Tower 13.44 183 Pn Pn 15 20 54.1 -1.4
0.2nm,0.3s,baz=24,slow=22,SNR=2.8
CTAO Charters Tower 13.44 183 Pn Pn 15 20 54.6 -0.9
FAKI Fak Fak 15.12 283 P Pn 15 21 15.6 -2.3
540nm41nm,1.1s
FAKI Fak Fak 15.12 283 P 15 21 22.6 +0.4
SIJI Sorong 16.67 289 Pn Pn 15 21 36.5 -1.2
0.7nm,0.3s,baz=83,slow=7.6,SNR=22
MTN Manton Dam 16.80 247 Pn Pn 15 21 38.4 -1.0
WB0 Warramunga Arr 17.92 222 P Pn 15 21 51.8 -1.3
WR0 Warramunga Arr 17.96 221 Pn 15 21 52.4 -1.3
WR0 IAmb IAmb 15 21 55.5
comp=Z,136nm,1.2s
WRAB Tennant Creek 18.07 222 P P 15 21 53.5 -1.4
WRAB IAmb IAmb 15 21 56.7
comp=Z,137nm,1.1s
WB2 Warramunga Arr 18.07 222 P 15 21 53.7 -1.2
WB2 IAmb IAmb 15 21 56.9
comp=Z,150nm,1.2s
WRA Warramunga Arr 18.08 222 P P 15 21 54.0 -1.0
comp=Z,1.1nm,0.3s,baz=47,slow=12,SNR=61
WRA LR LR 15 29 18.4
comp=Z,549nm,20.3s,baz=45,slow=38
MSAI Masohi 18.27 279 P P 15 21 56.7 -0.4
comp=Z,18nm,1.2s
AAI Ambon 18.93 278 P P 15 22 04.3 0.0
comp=Z,1μmcomp=Z,104nm,0.8s
EIDS Eidsvold 19.09 169 P 15 22 06.2 +0.2
EIDS IAmb IAmb 15 22 11.3
comp=Z,120nm,1.8s
KNRA Kununurra 20.01 242 P P 15 22 15.5 -0.6
KNRA IAmb IAmb 15 22 27.7
comp=Z,99nm,1.1s
NLAI Namlea 20.08 279 P P 15 22 17.7 +0.8
comp=Z,552nmcomp=Z,28nm,1.2s
GUMO Guam 20.15 354 Pn 15 22 21.7 +1.8
LBMI Labuha 20.31 286 P P 15 22 19.6 +0.2
comp=Z,123nm,1.8s
TNTI Ternate 20.89 290 P Pn 15 22 28.4 -0.3
AS31 Alice Springs 21.12 215 P P 15 22 27.9 -0.3
ASAR Alice Springs 21.13 215 P P 15 22 28.9 +0.7
comp=Z,35nm,0.9s,baz=53,slow=8.3,SNR=36
ASAR S Sn 15 26 27.5 -2.0
comp=Z,1.7nm,0.7s,baz=36,slow=17,SNR=5.3
ASAR LR LR 15 31 01.1
comp=Z,396nm,19.5s,baz=33,slow=38
SANI Sanana 21.40 281 P P 15 22 30.4 -0.8
comp=Z,637nmcomp=Z,46nm,1.1s
BATI Baumata 23.34 260 LR LR 15 34 12.7
comp=Z,600nm,19.5s,baz=95,slow=42

BATI Baumata 23.34 260 P **P** **15 22 52.7 +1.1**
comp=Z,47nm,1.4s
FITZ Fitzroy Crossi 23.74 239 P **P** **15 22 55.2 -0.1**
comp=Z,8.2nm,0.7s,baz=57,slow=8.5,SNR=28
FITZ LR LR 15 32 40.7
comp=Z,220nm,20.2s,baz=68,slow=38
FITZ Fitzroy Crossi 23.74 239 P **P** **15 22 55.0 -0.3**
KMSI Cibinong 24.03 286 P **P** **15 22 58.2 +0.2**
comp=Z,2µmcomp=Z,133nm,0.6s
ARMA Armidale 24.11 170 P **P** **15 22 58.1 -0.5**
ARMA IAmb IAmb 15 23 02.7
comp=Z,61nm,1.6s
DZM Mont Dzumac 24.30 131 P **P** **15 23 00.8 +0.3**
comp=Z,8.1nm,0.8s,baz=286,slow=13,SNR=3.8
DZM Mont Dzumac 24.30 131 P **P** **15 22 59.2 -1.3**
DZM IAmb IAmb 15 23 03.7
comp=Z,51nm,1.3s
MMRI Maumere 24.60 264 P **P** **15 23 02.3 -1.0**
LUWI Luwuk 24.76 282 P **P** **15 23 05.1 +0.4**
EDFI Ende, Flores 25.15 263 P **P** **15 23 06.7 -1.6**
comp=Z,12nm,0.6s
STKA Stephens Creek 25.66 191 P **P** **15 23 12.5 -0.1**
comp=Z,4.8nm,0.8s,baz=354,slow=8.1,SNR=11
STKA LR LR 15 33 38.5
comp=Z,400nm,20.0s,baz=15,slow=37
STKA Stephens Creek 25.66 191 P **P** **15 23 11.8 -0.9**
MRSI Marisa 25.95 285 P **P** **15 23 15.4 -0.1**
comp=Z,376nmcomp=Z,27nm,1.0s
MPSI Mapaga 27.88 283 P **P** **15 23 31.2 -1.7**
comp=Z,9.3nm,1.1s
BBOO Buckleboo 28.00 200 P **P** **15 23 33.6 -0.1**
CAN Canberra 28.66 177 P **P** **15 23 39.4 -0.1**
CAN IAmb IAmb 15 23 51.4
comp=Z,64nm,1.6s
FORT Forrest 29.90 214 P **P** **15 23 51.5 +0.9**
FORT IAmb IAmb 15 24 49.8
comp=Z,16nm,0.9s
BKB Balikpapan 30.46 279 P **P** **15 23 57.0 +1.2**
TOO Toolangi 30.87 182 P **P** **15 23 59.8 +0.7**
JAGI Jajag, Banyuwa 32.59 265 P **P** **15 24 14.5 0.0**
KKM Kota Kinabalu 33.16 292 P **P** **15 24 19.8 +0.2**
KKM IAmb IAmb 15 24 51.0
comp=Z,16nm,1.1s
SBUM Sibu 35.84 283 P **P** **15 24 42.4 -0.3**
MORW Morawa 36.77 229 P **P** **15 24 49.9 -0.5**
MORW IAmb IAmb 15 25 14.5
comp=Z,25nm,1.4s
KSM Kuching 37.47 281 P **P** **15 24 56.0 -0.5**
YULB Yu-li 38.95 321 P **P** **15 25 08.2 -0.7**
LEM Lembang 39.08 267 LR LR 15 42 35.0
comp=Z,98nm,21.2s,baz=24,slow=38
TPUB Ta-pu 39.31 320 P **P** **15 25 12.4 +0.5**
TPUB IAmb IAmb 15 25 27.8
comp=Z,10nm,0.7s
YHNB Yeheng 39.84 322 P **P** **15 25 16.3 0.0**
PMBI Palembang 42.20 273 P **P** **15 25 37.8 +1.9**
JNU Nakatsue 42.35 340 P **P** **15 25 35.1 -1.7**
comp=Z,13nm,1.1s,baz=106,slow=7.0,SNR=6.1
JNU Nakatsue 42.35 340 P **P** **15 25 36.3 -0.5**
JNU IAmb IAmb 15 26 05.7
comp=Z,20nm,1.1s
BSWZ Blackbirch Sta 42.37 150 P **P** **15 25 37.7 +0.9**
LTZ Lake Taylor 42.40 152 P **P** **15 25 37.5 +0.4**
LTZ IAmb IAmb 15 26 51.0
comp=Z,39nm,1.6s
RPZ Rata Peaks 42.59 154 P **P** **15 25 39.7 +1.1**
comp=Z,7.3nm,0.7s,baz=56,slow=20,SNR=2.8
RPZ Rata Peaks 42.59 154 P **P** **15 25 39.2 +0.5**
RPZ IAmb IAmb 15 26 12.9
comp=Z,58nm,1.7s
KHZ Kahutara 42.73 151 P **P** **15 25 38.5 -1.2**
KHZ IAmb IAmb 15 27 01.1
comp=Z,39nm,1.4s
LBZ Lake Benmore 42.77 155 P **P** **15 25 39.0 -1.0**
LBZ IAmb IAmb 15 26 09.7
comp=Z,50nm,1.5s
MLZ Mavora Lakes 42.77 158 P **P** **15 25 39.8 -0.3**
MLZ IAmb IAmb 15 26 04.3
comp=Z,46nm,1.4s
MSWZ Moikau Station 42.85 148 P **P** **15 25 40.9 +0.1**
BFZ Birch Farm 42.85 147 P **P** **15 25 41.6 +0.8**
PLWZ Palliser 42.96 149 P **P** **15 25 42.0 +0.3**
MJAR Matsushiro Arr 43.68 350 P **P** **15 25 46.3 -1.2**
comp=Z,2.4nm,0.9s,baz=155,slow=6.0,SNR=8.5
MAJO Matsushiro 43.68 350 P **P** **15 25 46.9 -0.6**
MAT Matsushiro 43.68 350 P **P** **15 25 47.3 -0.2**
MJB9 Matsu-Tunnel 43.69 350 P **P** **15 25 47.0 -0.5**
QIZ Qiongzhong 44.57 306 P **P** **15 25 56.4 +1.5**
QIZ S **S** **15 32 30.4 +2.9**
QIZ LR LR
comp=Z,310nm,17.7s
QIZ LR LR
comp=Z,300nm,18.6s
QIZ LR LR
comp=Z,380nm,18.1s
NJ2 Nanjing 46.85 327 *eP* **P** **15 26 15.4 +2.7**
NJ2 pmax pmax
comp=Z,11nm,0.9s
NJ2 LR LR
comp=Z,380nm,12.8s
NJ2 LR LR
comp=Z,740nm,12.8s
NJ2 LR LR
comp=Z,1µm,14.2s
IPM Ipoh 47.17 282 P **P** **15 26 14.4 -1.1**
IPM IAmb IAmb 15 26 23.1
comp=Z,19nm,1.0s
KSRS Korea Array 47.29 339 P **P** **15 26 15.8 -0.1**
comp=Z,9.0nm,1.0s,baz=158,slow=8.5,SNR=27
KS19 Wonju Array Si 47.35 339 P **P** **15 26 15.9 -0.6**
KS19 IAmb IAmb 15 26 26.6
comp=Z,23nm,1.3s
KULM Kulim 47.72 283 P **P** **15 26 19.5 -0.3**
KULM IAmb IAmb 15 26 30.2
comp=Z,18nm,1.1s
INCN Inchon 47.78 338 P **P** **15 26 20.0 +0.2**
INCN IAmb IAmb 15 26 30.3
comp=Z,13nm,0.8s
MNSI Mandailing Nat 47.87 277 P P 15 26 37.3 +16
WHN Wuhan 48.38 322 ⇑P P 15 26 30.4 +5.9
GSI Gunungsitoli 49.93 277 P **P** **15 26 35.4 -1.3**
KCSI Kotacane, Aceh 50.14 280 P **P** **15 26 36.7 -1.6**
comp=Z,2µmcomp=Z,15nm,1.0s
JKA Kamikawa-asahi 50.62 356 P **P** **15 26 41.2 -0.2**
ASAJ Asahikawa 50.62 356 P **P** **15 26 41.2 -0.2**
comp=Z,5.3nm,0.8s,baz=211,slow=8.3,SNR=7.7
GYA Guiyang 51.05 312 *eP* **P** **15 26 42.3 -2.8**
GYA pmax pmax
comp=Z,10.0nm,0.5s
MLSI Meulaboh, Aceh 51.62 281 P **P** **15 26 50.6 +1.1**
comp=Z,76nm,0.9s
USRK Ussuriysk Ar. 52.33 346 P **P** **15 26 54.7 +0.5**
comp=Z,1.7nm,0.5s,baz=190,slow=9.7,SNR=7.0
MDJ Mudanjiang 53.32 345 P **P** **15 27 03.8 +2.3**
MDJ pmax pmax
comp=Z,4.0nm,0.7s
MDJ pmax pmax
comp=Z,40nm,4.0s
CM31 Chiang Mai Arr 53.51 299 P **P** **15 27 04.0 +0.6**
CM31 IAmb IAmb 15 27 11.2
comp=Z,13nm,1.1s
CMAR Chiang Mai Arr 53.51 299 P **P** **15 27 04.5 +1.2**
comp=Z,4.9nm,0.8s,baz=123,slow=5.6,SNR=25
CHTO Chiang Mai 53.65 299 P **P** **15 27 04.8 +0.4**
CHTO IAmb IAmb 15 27 08.3
comp=Z,11nm,1.2s
CN2 Changchun 53.80 341 *eP* P 15 27 18.2 +13
CN2 pmax pmax
comp=Z,10.0nm,1.1s
XAN Xi'an 54.12 321 P **P** **15 27 09.0 +1.4**
XAN pP sP 15 27 28.7 +1.1
XAN pmax pmax
comp=Z,12nm,1.5s
XAN LR LR
comp=Z,250nm,16.3s
XAN LR LR
comp=Z,330nm,21.7s
BJI Beijing 54.40 331 P **P** **15 27 10.4 +1.0**
BJI S **S** **15 34 47.4 +3.0**
BJI pmax pmax
comp=Z,6.0nm,1.0s
BJI LR LR
comp=Z,280nm,17.5s
BJI LR LR
comp=Z,320nm,15.2s
BJI LR LR
comp=Z,300nm,21.1s
CD2 Chengdu 55.67 315 *eP* **P** **15 27 19.0 +0.2**
KLR Kul'dur 57.16 348 P **P** **15 27 29.7 +0.7**
comp=Z,1.1nm,0.4s,baz=212,slow=15,SNR=4.9
HHC Hu-ho-hao-te 57.32 329 *eP* **P** **15 27 32.6 +2.1**
HHC pmax pmax
comp=Z,9.0nm,0.8s
HHC pmax pmax
comp=Z,130nm,8.1s
HHC LR LR
comp=Z,230nm,18.0s
HHC LR LR
comp=Z,200nm,14.1s
HHC LR LR
comp=Z,260nm,15.2s
LZH Lanzhou 58.64 320 *eP* **P** **15 27 43.9 +4.0**
LZH pP pP 15 27 56.7 +2.9
LZH sP sP 15 28 02.0 +2.5
LZH pmax pmax
comp=Z,18nm,1.0s
PEA0B Petropavlovsk- 60.16 7 P **P** **15 27 50.5 +0.7**
PETK Petropavlovsk- 60.16 7 P **P** **15 27 50.9 +1.1**
comp=Z,3.2nm,0.5s,baz=168,slow=7.6,SNR=36
HIA Hailar 60.49 340 P **P** **15 27 52.4 +0.1**
SHL Shillong 62.32 303 P **P** **15 28 04.8 -0.4**
SHL IAmb IAmb 15 28 16.2
comp=Z,8.3nm,0.8s
GTA Gaotai 63.18 320 *eP* **P** **15 28 10.8 +0.2**
GTA pP pP 15 28 23.5 -1.2
GTA S **S** **15 36 39.5 +0.8**
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA pmax pmax
comp=Z,62nm,7.0s
GTA LR LR
comp=Z,76nm,16.2s
GTA LR LR
comp=Z,99nm,18.7s
GTA LR LR
comp=Z,69nm,16.5s
ULN Ulaanbaatar 64.61 331 P **P** **15 28 20.1 +0.2**
CASY Casey 64.69 195 P **P** **15 28 19.4 -0.5**
CASY IAmb IAmb 15 28 28.6
comp=Z,30nm,1.8s
SONM Songino Array 64.90 331 P **P** **15 28 22.9 +1.2**
comp=Z,1.9nm,0.6s,baz=144,slow=5.5,SNR=5.0
YAK Yakutsk 69.71 351 P **P** **15 28 52.4 +0.7**
VNDA Vanda 71.33 177 P **P** **15 29 02.3 +0.9**
comp=Z,4.0nm,0.8s,baz=339,slow=6.6,SNR=16
VNDA Vanda 71.33 177 P **P** **15 29 01.7 +0.2**
VNDA IAmb IAmb 15 29 14.0
comp=Z,20nm,1.4s
WMQ Urumqi 73.22 319 *eP* **P** **15 29 14.9 +1.5**
WMQ pmax pmax
comp=Z,32nm,0.7s
WMQ pmax pmax
comp=Z,100nm,4.9s
WMQ LR LR
comp=Z,160nm,15.1s
WMQ LR LR
comp=Z,210nm,21.5s
WMQ LR LR
comp=Z,230nm,19.1s
BILL Bilibino 75.69 7 P **P** **15 29 28.2 +1.1**
TIXI Tiksi 78.99 354 P **P** **15 29 44.7 -0.8**
ZALV Zalesovo Beam 79.49 328 P **P** **15 29 47.2 -1.4**
comp=Z,1.3nm,0.6s,baz=120,slow=5.8,SNR=6.5
NIL Nilore 80.25 306 P **P** **15 29 51.3 -1.9**
NIL IAmb IAmb 15 30 01.4
comp=Z,12nm,0.7s
MAW Mawson 81.70 203 P **P** **15 30 00.0 -0.2**
comp=Z,2.0nm,0.9s,baz=39,slow=11,SNR=2.9
MAW Mawson 81.70 203 IAmb IAmb 15 30 06.8
comp=Z,2.7nm,1.5s
QSPA South Pole Qui 83.39 180 P **P** **15 30 09.2 -0.1**
comp=Z,15nm,0.9s,baz=318,slow=0.6,SNR=56
QSPA South Pole Qui 83.39 180 P **P** **15 30 08.9 -0.4**
QSPA IAmb IAmb 15 30 16.8
comp=Z,11nm,0.8s
MCK McKinley 84.77 24 P **P** **15 30 15.2 -0.9**
MCK IAmb IAmb 15 30 25.9
comp=Z,9.2nm,1.1s
NRIK Noril'sk 85.82 342 P **P** **15 30 20.1 -1.0**
comp=Z,1.9nm,0.7s,baz=121,slow=6.6,SNR=5.7
ILAR Eielson Array 86.03 23 P **P** **15 30 21.2 -1.1**
comp=Z,2.9nm,0.6s,baz=252,slow=4.9,SNR=38
EPYK Eagle Plains 90.54 23 P **P** **15 30 43.4 -0.5**
NVAR Mina Array Bea 97.74 52 P Pdif 15 31 19.5 +1.7
comp=Z,0.2nm,0.5s,baz=273,slow=6.8,SNR=2.8
GERES GERESS Array B 122.37 325 PKP **PKiKP** **15 36 37.8 +0.3**
comp=Z,0.6nm,0.5s,baz=114,slow=1.7,SNR=9.5
LPAZ La Paz 138.48 124 PKP **PKiKP** **15 37 11.1 -0.4**
comp=Z,1.1nm,0.6s,baz=39,slow=7.0,SNR=5.2
SDV Santo Domingo 142.67 84 **PKPdf** **15 37 14.4 -2.0**
CRPR Cabo Rojo, PR 144.89 68 **PKPab** **15 37 18.3 -0.8**
TOA0 Torodi Ar. Sit 145.21 284 **PKPbc** **15 37 19.3 -1.0**
TORD Torodi Ar. Bea 145.21 284 PKPbc **PKPdf** **15 37 20.9 +0.3**
comp=Z,9.4nm,0.6s,baz=64,slow=4.1,SNR=53
OBIP Obispado Ponce 145.34 68 **PKPbc** **15 37 20.3 -0.3**
SJG San Juan 145.74 67 **PKPdf** **15 37 21.5 +0.1**
HUMP Col San Antoni 146.01 67 PKPdf 15 37 05.8 -16
HUMP PKPbc **PKPbc** **15 37 23.0 +0.3**
MTP Monte Pirata 146.29 67 **PKPab** **15 37 24.5 +0.1**
STVI Saint Thomas 146.77 66 PKPbc **PKPab** **15 37 25.8 -0.4**
SMRT St. Maarten 148.56 66 **PKPbc** **15 37 29.0 -0.8**
DBIC Dimbokro 152.02 272 PKPbc **PKiKP** **15 37 38.5 -0.1**
comp=Z,2.8nm,0.6s,baz=180,slow=2.0,SNR=4.8
BDFB Brasilia 153.39 146 PKPbc **PKiKP** **15 37 43.0 +1.5**
comp=Z,3.0nm,0.7s,baz=194,slow=7.5,SNR=4.7

*NEIC **01** 15:23:22.9±1.2,24.4°S±0.1°×179.6°W±0.2,h465km±11km, mb4.6/26,Error ellipse: s-maj=30.5km s-min=17.4km az=85.0*
*IDC **01** 15:23:25.0±15.0,24.44S×179.69W,h480km±153km, mb3.4/7,mb1 3.5/7,mb1mx3.1/44,mbtmp4.3/7,Error ellipse: s-maj=108.4km s-min=23.9km az=49.0*
ISC 01 15:23:24.4±1.0,24.4°S±0.1°×179.5°W±0.2,h490km,n37, σ0991/35,mb4.5/14,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.01**	**164**	P	**P**	**15 24 49.1**	**-1.8**
MSVF	**Nonsavu**	**7.04**	**341**	P	**P**	**15 25 09.6**	**-1.3**
BFZ	**Birch Farm**	**16.59**	**191**	P	**P**	**15 26 50.7**	**-0.6**
BFZ				IAmb	IAmb	15 27 00.7	
comp=Z,37nm,1.2s							
QRZ	**Quartz Range**	**17.65**	**200**	P	**P**	**15 27 01.1**	**-0.8**
NNZ	**Nelson**	**17.76**	**198**	P	**P**	**15 27 02.2**	**-0.6**
TUWZ	**Tuamarina**	**17.81**	**196**	P	**P**	**15 27 02.5**	**-0.8**
THZ	**Tophouse**	**18.40**	**198**	P	**P**	**15 27 08.2**	**-0.7**
LTZ	**Lake Taylor**	**19.52**	**198**	P	**P**	**15 27 18.0**	**-1.1**
LTZ				IAmb	IAmb	15 28 16.2	
comp=Z,33nm,1.5s							
OXZ	**Oxford**	**20.09**	**198**	P	**P**	**15 27 22.4**	**-1.8**
OXZ				IAmb	IAmb	15 27 60.0	
comp=Z,36nm,1.5s							
RPZ	**Rata Peaks**	**20.73**	**200**	P	**P**	**15 27 30.3**	**+0.2**
comp=Z,9.2nm,0.9s,baz=102,slow=13,SNR=2.4							
RPZ	**Rata Peaks**	**20.73**	**200**	IAmb	IAmb	15 28 22.3	
comp=Z,29nm,1.2s							
FOZ	**Fox Glacier**	**20.97**	**202**	P	**P**	**15 27 31.6**	**-0.5**
CAN	**Canberra**	**29.26**	**241**	P	**P**	**15 28 46.2**	**+0.2**
CTA	**Charters Tower**	**31.91**	**271**	P	**P**	**15 29 09.8**	**+0.8**
comp=Z,4.2nm,0.4s,baz=99,slow=11,SNR=9.6							
CTAO	**Charters Tower**	**31.91**	**271**	P	**P**	**15 29 09.7**	**+0.6**
CTAO				IAmb	IAmb	15 30 12.8	
comp=Z,31nm,1.6s							
TAU	**Tasmania Unive**	**32.90**	**228**	P	**P**	**15 29 17.7**	**+0.6**
TAU				IAmb	IAmb	15 29 56.1	
comp=Z,41nm,1.2s							
STKA	**Stephens Creek**	**34.93**	**249**	P	**P**	**15 29 34.5**	**+0.1**
comp=Z,1.6nm,0.6s,baz=93,slow=8.9,SNR=8.8							
BBOO	**Buckleboo**	**39.64**	**247**	P	**P**	**15 30 12.4**	**-0.8**
BBOO				IAmb	IAmb	15 30 17.2	
comp=Z,44nm,1.8s							
AS31	**Alice Springs**	**42.38**	**261**	P	**P**	**15 30 34.8**	**-0.4**
ASAR	**Alice Springs**	**42.38**	**261**	P	**P**	**15 30 35.0**	**-0.2**
comp=Z,1.3nm,0.7s,baz=102,slow=7.8,SNR=20							
WR0	**Warramunga Arr**	**42.62**	**267**	P	**P**	**15 30 36.5**	**-0.6**
WB2	**Warramunga Arr**	**42.79**	**267**	P	**P**	**15 30 37.9**	**-0.6**
WB2				IAmb	IAmb	15 30 38.3	
comp=Z,25nm,1.6s							
WB0	**Warramunga Arr**	**42.80**	**267**	P	**P**	**15 30 37.9**	**-0.6**
WB0				IAmb	IAmb	15 31 08.9	
comp=Z,50nm,2.0s							
WRA	**Warramunga Arr**	**42.80**	**267**	P	**P**	**15 30 38.0**	**-0.5**
comp=Z,3.6nm,0.6s,baz=98,slow=8.6,SNR=27							
WAKE	**Wake Island**	**45.49**	**342**	P	**P**	**15 30 59.4**	**+0.2**
FORT	**Forrest**	**46.53**	**250**	P	**P**	**15 31 06.2**	**-1.0**
MTN	**Manton Dam**	**47.93**	**275**	P	**P**	**15 31 17.3**	**-0.6**
MTN				IAmb	IAmb	15 31 29.5	
comp=Z,64nm,1.8s							
KNRA	**Kununurra**	**49.12**	**270**	P	**P**	**15 31 26.8**	**0.0**
KNRA				IAmb	IAmb	15 31 53.3	
comp=Z,72nm,1.6s							
FITZ	**Fitzroy Crossi**	**51.22**	**266**	P	**P**	**15 31 41.9**	**-0.4**
comp=Z,4.6nm,0.9s,baz=115,slow=11,SNR=5.8							
FITZ	**Fitzroy Crossi**	**51.22**	**266**	IAmb	IAmb	15 32 06.9	
comp=Z,39nm,1.6s							
MORW	**Morawa**	**57.10**	**250**	P	**P**	**15 32 23.2**	**-0.5**
MORW				IAmb	IAmb	15 32 59.0	
comp=Z,50nm,1.8s							
QSPA	**South Pole Qui**	**65.66**	**180**	P	**P**	**15 33 20.6**	**+1.3**
comp=Z,1.0nm,0.7s,baz=90,slow=1.0,SNR=5.1							
QSPA	**South Pole Qui**	**65.66**	**180**	P	**P**	**15 33 21.2**	**+1.8**
KKM	**Kota Kinabalu**	**69.47**	**287**	P	**P**	**15 33 44.3**	**+0.7**
KKM				IAmb	IAmb	15 34 17.3	
comp=Z,12nm,1.0s							
MAW	**Mawson**	**77.41**	**200**	P	**P**	**15 34 29.4**	**+1.5**
AKASG	**Malin Array Be**	**145.65**	**327**	PKPbc	**PKPbc**	**15 42 08.6**	**+1.0**
comp=Z,0.5nm,0.5s,baz=38,slow=3.7,SNR=2.0							
BRTR	**Keskin Array B**	**148.24**	**307**	PKPbc	**PKPbc**	**15 42 15.8**	**+0.6**
comp=Z,0.3nm,0.6s,baz=132,slow=2.1,SNR=2.2							

*MOS **01** 15:24:43.5±1.4,56.07N×113.96E,h8km,mb3.6/1,Error ellipse: s-maj=12.9km s-min=8.2km az=67.7*
*BYKL **01** 15:24:44.7±0.2,56.08N×114.00E,h10km±4km*
*IDC **01** 15:24:46.3±2.1,56.26N×113.52E,h0km,mb3.4/3, mb1 3.6/5,mb1mx3.3/54,mbtmp3.5/5,ML3.5/2,Error ellipse: s-maj=46.8km s-min=23.9km az=123.0*
ISC 01 15:24:43.2±0.6,55.91N±0.02×113.98E±0.02,h10km,n60, σ2961/102,mb3.4/3,9C-6D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.32**	**312**	⇑*i*Pg	**Pg**	**15 24 48.8**	**-0.8**
SVKR				*e*Sg	**Sg**	**15 24 52.8**	**-1.0**
SVKR				*e*		15 24 58.6	
SVKR				Pmax			
1µm,0.2s							
SVKR				max			
15µm,0.7s							
SVKR	**Severomuysk**	**0.32**	**312**	⇑*i*PG	**Pg**	**15 24 48.8**	**-0.8**
SVKR				*e*		15 24 52.1	
SVKR				pmax	pmax		
comp=Z,790nm,0.2s							
SVKR				smax	smax		
comp=N,15µm,0.8s							
UKT	**Uakit**	**0.46**	**206**	⇓*i*Pg	**Pn**	**15 24 55.4**	**-0.6**
UKT				*e*Sg	**Sb**	**15 25 04.0**	**+3.5**
UKT				Pmax			
comp=N,217nm,0.6s							
UKT				Smax			
comp=N,2µm,2.2s							
UKT	**Uakit**	**0.46**	**206**	⇑*i*PG	**Pn**	**15 24 55.5**	**-0.6**
UKT				*e*		15 25 02.7	
UKT				pmax	pmax		
comp=Z,205nm,0.5s							
UKT				smax	smax		
comp=E,990nm,0.7s							
NLYR	**Nelyaty**	**1.13**	**58**	⇑*i*Pg	**Pb**	**15 25 03.2**	**-1.6**
NLYR				*e*Pb	**Pn**	**15 25 06.0**	**+0.9**
NLYR				*e*		15 25 07.4	
NLYR				*e*Sg	**Sg**	**15 25 17.7**	**-1.9**
NLYR				*e*Sb	**Sn**	**15 25 21.5**	**+0.8**
NLYR				max			
comp=E,211nm,0.3s							
NLYR				max			
comp=E,1µm,0.9s							
NLYR	**Nelyaty**	**1.13**	**58**	⇑*i*PG	**Pb**	**15 25 03.3**	**-1.6**
NLYR				*e*		15 25 17.5	
NLYR				pmax	pmax		
comp=Z,209nm,0.4s							
NLYR				smax	smax		
comp=E,1µm,1.1s							
YOA	**Uoyan**	**1.28**	**281**	*e*Pg	**Pg**	**15 25 08.1**	**+0.2**
YOA				*e*Sg	**Sn**	**15 25 24.4**	**-0.1**
YOA				*e*		15 25 30.2	
YOA				Pmax			
comp=E,204nm,0.4s							
YOA				max			
comp=E,3µm,0.6s							
YOA	**Uoyan**	**1.28**	**281**	⇑*i*PG	**Pg**	**15 25 08.0**	**+0.2**
YOA				*e*		15 25 26.8	
YOA				pmax	pmax		
comp=Z,144nm,0.2s							
YOA				smax	smax		
comp=E,3µm,0.6s							
KMO	**Kumora**	**1.56**	**270**	⇓*i*Pg	**Pb**	**15 25 12.7**	**+0.5**
KMO				*e*Sg	**Sg**	**15 25 33.5**	**0.0**
KMO				Pmax			
comp=E,414nm,0.5s							
KMO				Smax			
comp=E,2µm,0.9s							
KMO	**Kumora**	**1.56**	**270**	⇑*e*PG	**Pb**	**15 25 12.7**	**+0.5**
KMO				*i*		15 25 13.4	
KMO				*e*		15 25 35.0	
KMO				pmax	pmax		
comp=Z,231nm,0.4s							
KMO				smax	smax		
comp=N,2µm,1.0s							
YLYR	**Ulyunkhan**	**1.91**	**238**	⇑*i*Pn	**Pg**	**15 25 19.6**	**-0.2**
YLYR				⇓*i*Pg	**Pb**	**15 25 20.6**	**+2.5**
YLYR				*e*Sg	**Sg**	**15 25 47.9**	**+3.4**
YLYR				Pmax			
comp=N,225nm,1.1s							
YLYR				Smax			
comp=N,494nm,0.4s							
YLYR	**Ulyunkhan**	**1.91**	**238**	⇓*i*PN	**Pg**	**15 25 19.6**	**-0.2**
YLYR				*e*		15 25 21.8	
YLYR				*e*S	**Sg**	**15 25 45.3**	**+0.8**
YLYR				*e*		15 25 47.2	
YLYR				pmax	pmax		
comp=Z,228nm,0.6s							
YLYR				smax	smax		
comp=E,494nm,0.4s							
BOD	**Bodaibo**	**1.92**	**0**	⇑*i*Pg	**Pn**	**15 25 15.4**	**-0.5**
BOD				*e*		15 25 17.0	
BOD				*e*Sg	**Sn**	**15 25 38.9**	**-1.2**
BOD				max			
comp=E,175nm,0.4s							
BOD				Smax			
comp=E,392nm,0.4s							
BOD	**Bodaibo**	**1.92**	**0**	*e*PN	**Pn**	**15 25 15.4**	**-0.5**
BOD				*e*		15 25 37.7	
BOD				pmax	pmax		
comp=Z,178nm,0.4s							
BOD				smax	smax		
comp=E,397nm,0.4s							
NIZ	**Nizh Angarsk**	**2.50**	**269**	*e*Pn	**Pn**	**15 25 25.7**	**+1.7**
NIZ				*e*		15 25 27.2	
NIZ				*e*Sg	**Sg**	**15 26 02.7**	**-0.9**
NIZ				*e*SgSg	**SnSn**	**15 26 09.1**	**+3.9**
NIZ				max			
comp=E,55nm,1.0s							
NIZ				Smax			
comp=E,342nm,0.9s							
NIZ	**Nizh Angarsk**	**2.50**	**269**	*e*PN	**Pb**	**15 25 26.8**	**-1.5**
NIZ				*e*		15 25 30.1	
NIZ				*e*S	**Sb**	**15 25 58.0**	**-1.2**
NIZ				*e*		15 26 03.6	
NIZ				pmax	pmax		
comp=Z,55nm,1.0s							
NIZ				smax	smax		
comp=N,343nm,0.9s							
CRS	**Chara**	**2.58**	**66**	*e*Pn	**Pn**	**15 25 26.5**	**+1.4**
CRS				*e*		15 25 27.7	
CRS				*e*Pg	**Pb**	**15 25 30.3**	**+0.6**
CRS				*e*Sg	**Sg**	**15 26 03.5**	**-2.7**
CRS				*e*SgSg	**SnSn**	**15 26 08.3**	**+1.0**
CRS				Pmax			
comp=N,360nm,1.0s							
CRS				Smax			
comp=N,884nm,1.0s							
CRS	**Chara**	**2.58**	**66**	*e*PN	**Pn**	**15 25 26.6**	**+1.4**
CRS				*e*		15 25 30.4	

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CRS				*e*		15 26 02.3	
CRS				pmax	pmax		
	comp=Z,363nm,0.6s						
CRS				smax	smax		
	comp=E,509nm,0.6s						
SYVR	**Suvo**	**3.22**	**227**	*e*Pn	**Pb**	**15 25 37.5**	**-3.0**
SYVR				*e*Pg	**Pg**	**15 25 45.1**	**+0.2**
SYVR				*e*PgPg	**PbPb**	**15 25 47.1**	**+3.5**
SYVR				*e*Sg	**Sg**	**15 26 28.7**	**+2.1**
SYVR				*e*		15 26 38.0	
SYVR				*e*		19 26 04.6	
SYVR				max			
	comp=E,57nm,1.2s						
SYVR				max			
	comp=E,246nm,1.0s						
SYVR	**Suvo**	**3.22**	**227**	*e*PN	**Pb**	**15 25 37.5**	**-3.0**
SYVR				*e*		15 25 45.5	
SYVR				*e*		15 26 28.7	
SYVR				pmax	pmax		
	comp=Z,58nm,0.9s						
SYVR				smax	smax		
	comp=N,254nm,0.9s						
KHNR	**Khani**	**3.49**	**71**	*e*Pn	**Pn**	**15 25 39.6**	**+2.1**
KHNR				*e*Pg	**Pb**	**15 25 47.0**	**+2.0**
KHNR				*e*		15 26 08.5	
KHNR				*e*		15 26 10.9	
KHNR				*e*Sg	**Sb**	**15 26 30.5**	**+3.1**
VTMR	**Vitim**	**3.63**	**348**	*e*Pn	**Pn**	**15 25 39.8**	**+0.4**
VTMR				*e*Pg	**Pb**	**15 25 46.6**	**-0.7**
VTMR				*e*		15 25 50.0	
VTMR				*e*		15 26 20.3	
VTMR				*e*Sg	**Sb**	**15 26 30.4**	**-0.9**
TUP	**Tupik**	**3.73**	**111**	⇓*i*Pn	**Pn**	**15 25 43.6**	**+2.7**
TUP				Pg	**Pg**	**15 25 52.5**	**-2.2**
TUP				*e*		15 26 01.3	
TUP				*e*		15 26 14.5	
TUP				*e*Sn	**Sn**	**15 26 26.8**	**+1.9**
TUP				*e*Sg	**Sg**	**15 26 41.8**	**-1.3**
TUP				*e*		15 26 49.2	
TUP				Pmax			
	comp=N,46nm,0.3s						
TUP				max			
	comp=N,192nm,0.9s						
TUP	**Tupik**	**3.73**	**111**	⇓*i*PN	**Pn**	**15 25 43.6**	**+2.7**
TUP				*e*		15 25 52.5	
TUP				*e*S	**Sn**	**15 26 27.5**	**+2.6**
TUP				*e*		15 26 41.3	
TUP				pmax	pmax		
	comp=Z,24nm,0.6s						
TUP				smax	smax		
	comp=E,191nm,0.9s						
MXMB	**Maximikha**	**4.03**	**231**	*e*Pg	**Pg**	**15 25 59.5**	**-1.0**
MXMB				*e*		15 26 28.4	
MXMB				*e*		15 26 44.9	
MXMB				*e*Sg	**Sg**	**15 26 53.3**	**+0.6**
OGRR	**Ongureny**	**4.33**	**241**	*e*Pn	**Pn**	**15 25 51.6**	**+2.5**
OGRR				*e*Pg	**Pg**	**15 26 03.3**	**-2.9**
OGRR				*e*		15 26 32.7	
OGRR				*e*Sg	**Sg**	**15 27 01.5**	**-0.8**
OGRR				Pmax			
	comp=E,45nm,1.3s						
OGRR				Smax			
	comp=E,132nm,1.7s						
OGRR	**Ongureny**	**4.33**	**241**	*e*PN	**Pn**	**15 25 53.4**	**+4.3**
OGRR				*e*		15 26 05.0	
OGRR				*e*		15 27 01.4	
OGRR				pmax	pmax		
	comp=Z,45nm,1.6s						
OGRR				smax	smax		
	comp=N,132nm,2.1s						
YKLR	**Yuktali**	**4.34**	**78**	*e*Pn	**Pn**	**15 25 49.9**	**+0.7**
YKLR				*e*Pg	**Pb**	**15 26 01.3**	**+1.8**
YKLR				*e*		15 26 34.1	
YKLR				*e*Sg	**Sg**	**15 26 57.7**	**-4.7**
KELR	**Kotokel**	**4.67**	**230**	*e*	**Sn**	**15 26 46.5**	**-1.5**
KELR				*e*Sg	**Sg**	**15 27 12.8**	**-0.4**
ZRHB	**Zarechye**	**5.22**	**233**	*e*	**Pg**	**15 26 20.7**	**-2.5**
ZRHB				Sg	**Sg**	**15 27 29.4**	**-1.4**
ZRHB				*e*		15 27 54.7	
TRG	**Tyrgan**	**5.46**	**238**	*e*	Pb	15 26 12.4	-6.3
TRG				*e*		15 26 29.6	
TRG				*e*Sg	**Sg**	**15 27 36.6**	**-1.9**
TRG				max			
	comp=N,28nm,1.8s						
TRG				Smax			
	comp=N,69nm,2.0s						
UUDB	**Ulan-Yde**	**5.50**	**225**	*e*Pg	**Pg**	**15 26 27.2**	**-1.4**
UUDB				*e*		15 27 28.3	
UUDB				*e*Sg	**Sg**	**15 27 40.1**	**+0.3**
UUDB				*e*		15 27 53.5	
UUDB				Pmax			
	comp=N,38nm,1.5s						
UUDB				Smax			
	comp=N,223nm,1.7s						
FFNB	**Fofonovo**	**5.75**	**231**	*e*	**Pg**	**15 26 32.1**	**-1.1**
FFNB				Sg	**Sg**	**15 27 46.0**	**-1.6**
FFNB				*e*		15 27 50.3	
FFNB				*e*		15 27 59.5	
KAB	**Kabansk**	**5.79**	**231**	*e*Sg	**Sg**	**15 27 47.3**	**-1.8**
KAB				*e*		15 27 53.3	
KAB				*e*		15 28 02.8	
KAB				max			
	comp=N,503nm,1.3s						
STDB	**Stepnoy Dvoret**	**5.84**	**233**	Sg	**Sg**	**15 27 50.1**	**-0.5**
HRMR	**Khuramsha**	**5.97**	**227**	*e*	**Pb**	**15 26 24.6**	**-2.8**
HRMR				*e*Pg	**Pg**	**15 26 35.1**	**-2.4**
HRMR				*e*Sg	**Sg**	**15 27 53.9**	**-0.9**
HRMR				*e*		15 28 06.6	
HRMR				Pmax			
	comp=N,23nm,0.6s						
HRMR				max			
	comp=N,317nm,0.8s						
CLNS	**Chul'man**	**6.14**	**77**	*e*	**Pn**	**15 26 10.6**	**-3.3**
CLNS				*e*		15 26 30.7	
CLNS				Sg	**Sg**	**15 27 53.2**	**-6.9**
CLNS				*e*		15 27 56.2	
KPC	**Khapcheranga**	**6.29**	**190**	*e*Pn	**Pn**	**15 26 18.9**	**+2.9**
KPC				*e*		15 26 27.4	
KPC				*e*Pg	**Pg**	**15 26 42.1**	**-1.5**
KPC				*e*		15 27 50.5	
KPC				*e*Sg	**Sg**	**15 28 04.8**	**-0.1**
KPC				Pmax			
	comp=N,9.0nm,1.3s						
KPC				Smax			
	comp=N,154nm,1.0s						
KPC	**Khapcheranga**	**6.29**	**190**	*e*PN	**Pn**	**15 26 19.1**	**+3.1**
KPC				*e*		15 26 39.7	
KPC				*e*		15 28 02.8	
KPC				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KPC				smax	smax		
	comp=E,152nm,1.1s						
BGT	**Bolshoye Golou**	**6.36**	**236**	*e*	Pn	15 26 24.5	+7.5
BGT				*e*		15 27 09.4	
BGT				Sg	**Sg**	**15 28 06.1**	**-1.2**
BGT				max			
	comp=E,3.0nm,0.2s						
BGT				Smax			
	comp=E,35nm,1.1s						
LSTR	**Listvyanka**	**6.75**	**237**	*e*	**Pb**	**15 26 45.2**	**+4.6**
LSTR				*e*		15 28 13.7	
LSTR				*e*Sg	**Sg**	**15 28 17.8**	**-1.9**
LSTR				*e*		15 28 28.9	
LSTR				max			
	comp=E,2.0nm,0.6s						
LSTR				max			
	comp=E,61nm,1.6s						
IRK	**Irkutsk**	**6.79**	**241**	*e*Sg	**Sg**	**15 28 18.5**	**-2.4**
IRK				*e*		15 28 34.0	
IRK				Smax			
	comp=E,223nm,0.4s						
IRK	**Irkutsk**	**6.79**	**241**	*e*PG	**Pg**	**15 26 50.9**	**-2.2**
IRK				*e*		15 28 18.4	
IRK				pmax	pmax		
	comp=Z,25nm,0.1s						
IRK				smax	smax		
	comp=E,224nm,0.4s						
IVK	**Ivanovka**	**6.99**	**238**	*e*		15 28 16.8	
IVK				*e*Sg	**Sg**	**15 28 23.2**	**-4.2**
IVK				*e*		15 28 29.2	
IVK				max			
	comp=E,60nm,2.8s						
TLY	**Talaya**	**7.44**	**240**	*e*Sn	**Sn**	**15 27 59.1**	**+3.0**
TLY				*e*Sg	**Sg**	**15 28 37.2**	**-4.6**
TLY				Smax			
	comp=E,29nm,1.1s						
HIA	**Hailar**	**7.52**	**150**	*e*	**Sn**	**15 27 51.0**	**-7.1**
HIA				*e*		15 28 25.2	
HIA				*e*Sg	**Sg**	**15 28 39.9**	**-4.4**
HIA				*e*		15 28 48.0	
HIA				*e*		15 29 02.9	
ARS	**Arshan**	**7.90**	**244**	*e*	Pg	15 27 07.8	-6.6
ARS				*e*		15 28 16.0	
ARS				*e*		15 28 46.7	
ARS				*e*Sg	**Sg**	**15 28 50.2**	**-6.4**
ARS				max			
	comp=E,2.0nm,0.1s						
ARS				Smax			
	comp=E,152nm,0.8s						
ZEA	**Zeya**	**7.97**	**100**	*e*PN	Pn	15 26 49.6	+11
ZEA				*e*		15 28 05.8	
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.4s						
ZEA				smax	smax		
	comp=E,110nm,1.0s						
ZAK	**Zakamensk**	**8.48**	**234**	*e*	Pn	15 26 56.9	+11
ZAK				*e*		15 27 04.2	
ZAK				*e*		15 28 42.5	
ZAK				Sg	**Sg**	**15 29 09.8**	**-5.3**
ZAK				max			
	comp=E,1.0nm,0.1s						
ZAK				Smax			
	comp=E,26nm,1.3s						
ZAK	**Zakamensk**	**8.48**	**234**	*e*PG	Pg	15 27 19.8	-5.6
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MOY	**Mondy**	**8.78**	**246**	*e*	**Pn**	**15 26 47.8**	**-2.4**
MOY				*e*		15 27 12.9	
MOY				*e*		15 28 32.9	
MOY				*e*Sg	**Sg**	**15 29 18.9**	**-5.8**
MOY				max			
	comp=Z,3.0nm,0.6s						
MOY				Smax			
	comp=Z,56nm,1.3s						
ORL	**Orlik**	**8.96**	**254**	*e*Pn	**Pn**	**15 26 55.0**	**+2.3**
ORL				*e*		15 27 07.8	
ORL				Pg	Pg	15 27 27.8	-6.8
ORL				*e*		15 27 36.9	
ORL				*e*		15 28 56.0	
ORL				*e*Sg	**Sg**	**15 29 25.3**	**-5.1**
ORL				max			
	comp=Z,8.0nm,1.4s						
ORL				Smax			
	comp=Z,48nm,1.3s						
ORL	**Orlik**	**8.96**	**254**	*e*P	**Pn**	**15 26 55.2**	**+2.5**
ORL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**9.34**	**213**	Pn	Pn	15 27 05.5	+7.6
	comp=Z,0.4nm,0.3s,baz=46,slow=12,SNR=2.6						
SONM				Lg	Lg	15 29 44.7	
	comp=Z,1.1nm,0.3s,baz=18,slow=30,SNR=10						
TDJR	**Todzha**	**11.05**	**259**	*e*		15 30 22.2	
TDJR				*e*Sg		15 30 29.2	
TDJR				*e*		15 30 38.8	
KLR	**Kul'dur**	**12.69**	**114**	Lg	Lg	15 31 31.9	
	comp=Z,0.2nm,0.3s,baz=26,slow=16,SNR=4.5						
NRIK	**Noril'sk**	**17.91**	**329**	P	**Pn**	**15 28 49.4**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=123,slow=12,SNR=3.5						
MKAR	**Makanchi Array**	**21.62**	**258**	P	**P**	**15 29 36.2**	**+3.0**
	comp=Z,0.7nm,0.7s,baz=55,slow=9.6,SNR=9.8						
FINES	**FINESS Array B**	**42.72**	**315**	P	**P**	**15 32 41.8**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=55,slow=12,SNR=2.9						
ILAR	**Eielson Array**	**44.90**	**37**	P	**P**	**15 33 00.4**	**+3.0**
	comp=Z,0.2nm,0.4s,baz=306,slow=6.0,SNR=2.0						

IDC ***01*** *15:27:52.5±0.9, 30.°28N×131.°52E, h0km, mb4.1/18, mb1 4.3/23, mb1mx4.2/48, mbtmp4.1/23, ML2.9/5, MS3.7/8, Ms1 3.7/8, ms1mx3.4/43, Error ellipse: s-maj=24.1km s-min=15.7km az=153.0*

BJI ***01*** *15:27:55.8±0.0, 30.°23N×131.°99E, h52km, mB4.4/31, mb4.4/41, Ms4.1/25, Ms7 4.0/25*

JMA ***01*** *15:27:56.3±0.2, 30.°44N×131.°81E, h45km±3km, M4.1*

NEIC ***01*** *15:27:59.2±1.4, 30.°53N±0.°06×131.°56E±0.°08, h37km±6km, mb4.6/49, Error ellipse: s-maj=10.9km s-min=8.7km az=114.0*

ISC 01 15:27:60.0±0.9**, 30.°51N**±0.°04×**131.°61E**±0.°05**, h46**km±8km**, n118,** σ1§**29**/130**, mb4.4**/48**, MS3.9**/7**, 1C-10D, Kyushu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.56**	**285**	⇓P	**Pn**	**15 28 10.3**	**-1.6**
JTN				*e*S	**Sn**	**15 28 20.8**	**+0.5**
JMTN	**Minamitane**	**0.63**	**260**	⇓P	**Pn**	**15 28 11.3**	**-1.3**
JMTN				*e*S	**Sn**	**15 28 23.0**	**+1.3**
JTSR	**Tashiro 2**	**0.88**	**318**	P	**Pn**	**15 28 14.6**	**-1.5**
JTSR				*e*S	**Sn**	**15 28 29.0**	**+1.2**
JYAK	**Yakushimahirau**	**0.99**	**254**	⇓P	**Pn**	**15 28 16.1**	**-1.4**
JYAK				*e*S	**Sn**	**15 28 31.0**	**+0.6**
JNAR	**Kushima--Naru**	**1.05**	**344**	⇓P	**Pn**	**15 28 17.1**	**-1.2**
JNAR				*e*S	**Sn**	**15 28 32.3**	**+0.4**
JNKG	**Nichinankitago**	**1.16**	**350**	P	**Pn**	**15 28 18.4**	**-1.4**
JNKG				*e*S	**Sn**	**15 28 34.9**	**+0.3**
JKC	**Kuchinoerabu**	**1.23**	**268**	⇓P	**Pn**	**15 28 19.9**	**-0.8**
JKC				*e*S	**Sn**	**15 28 37.3**	**+1.2**
JSU	**Suzuyama**	**1.40**	**315**	P	**Pn**	**15 28 21.9**	**-1.3**
JSU				S	**Sn**	**15 28 41.3**	**+0.8**
JTZ	**Takazaki**	**1.46**	**342**	⇓P	**Pn**	**15 28 22.7**	**-1.1**
JTZ				S	**Sn**	**15 28 41.9**	**+0.2**
JNN	**Nakanoshima**	**1.65**	**246**	P	**Pn**	**15 28 25.5**	**-1.0**
JNN				S	**Sn**	**15 28 47.6**	**+1.1**
JTSN	**Tsuno**	**1.73**	**357**	P	**Pn**	**15 28 26.1**	**-1.5**
JTSN				*e*S	**Sn**	**15 28 47.8**	**-0.7**
JZO	**Okuchi**	**1.84**	**332**	⇓P	**Pn**	**15 28 28.1**	**-1.0**
JSJ	**Shimokoshiki**	**2.00**	**306**	P	**Pn**	**15 28 29.5**	**-1.8**
JIU3	**Izumi3**	**2.14**	**342**	⇓P	**Pn**	**15 28 32.3**	**-1.0**
JNU	**Nakatsue**	**2.67**	**347**	Pn	**Pn**	**15 28 40.0**	**-0.6**
	14nm,0.3s,baz=188,slow=9.3,SNR=165						
JNU				Sn	**Sn**	**15 29 10.9**	**-0.9**
	19nm,0.3s,baz=168,slow=2.3,SNR=10						
JNU	**Nakatsue**	**2.67**	**347**	Pn	**Pn**	**15 28 39.4**	**-1.2**
JOW	**Kunigami**	**4.70**	**219**	Pn	Pn	15 29 00.8	-7.6
	0.3nm,0.3s,baz=96,slow=16,SNR=5.0						
JOW	**Kunigami**	**4.70**	**219**	Pn	**Pn**	**15 29 07.7**	**-0.6**
INU	**Inuyama**	**6.62**	**42**		**Pn**	**15 29 33.9**	**-0.9**
JHJ	**Hachijo jima 2**	**7.42**	**67**	Pn	**Pn**	**15 29 44.3**	**-1.4**
	11nm,0.3s,baz=94,slow=6.8,SNR=13						
JHJ				LR	LR	15 32 32.9	
	comp=Z,410nm,18.8s,baz=258,slow=37						
JHJ2	**Mitsune**	**7.45**	**68**	Pn	**Pn**	**15 29 44.6**	**-1.4**
KSRS	**Korea Array**	**7.57**	**337**	Pn	**Pn**	**15 29 48.6**	**+1.0**
	0.3nm,0.3s,baz=178,slow=14,SNR=6.0						
KSRS				Lg	Lg	15 32 00.5	
	0.1nm,0.3s,baz=158,slow=30,SNR=2.7						
KS19	**Wonju Array Si**	**7.63**	**337**	Pn	**Pn**	**15 29 47.3**	**-1.3**
INCN	**Inchon**	**8.09**	**331**	Pn	**Pn**	**15 29 54.7**	**-0.1**
MAJO	**Matsushiro**	**8.15**	**41**		**Pn**	**15 29 54.3**	**-1.4**
MJAR	**Matsushiro Arr**	**8.15**	**41**	Pn	**Pn**	**15 29 54.7**	**-1.0**
	0.2nm,0.3s,baz=233,slow=13,SNR=39						
MJB9	**Matsu-Tunnel**	**8.15**	**41**		**Pn**	**15 29 54.0**	**-1.6**
JCJ	**Chichijima**	**9.88**	**108**	LR	LR	15 33 44.5	
	comp=Z,247nm,19.7s,baz=328,slow=36						
NJ2	**Nanjing**	**11.03**	**281**	*e*P	**Pn**	**15 30 34.7**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
USA0B	**Ussuriysk Arra**	**13.67**	**1**	Pn	**Pn**	**15 31 09.3**	**-1.8**
USRK	**Ussuriysk Ar.**	**13.67**	**1**	Pn	**Pn**	**15 31 12.8**	**+1.7**
	baz=188,slow=12,SNR=4.3						
USRK				LR	LR	15 36 29.6	
	comp=Z,155nm,21.9s,baz=173,slow=37						
BJT	**Baijiatuau**	**15.76**	**311**	P	**P**	**15 31 41.7**	**-0.3**
BJI	**Beijing**	**15.77**	**311**	P	**P**	**15 31 43.6**	**+1.5**
BJI				pmax	pmax		
	comp=Z,12nm,1.0s						
KLR	**Kul'dur**	**18.70**	**0**	P	**Pn**	**15 32 14.7**	**-0.3**
	0.6nm,0.3s,baz=140,slow=6.8,SNR=6.4						
KLR				LR	LR	15 40 11.5	
	comp=Z,255nm,18.9s,baz=177,slow=39						
ENH	**Enshi**	**19.09**	**275**	Pn	**Pn**	**15 32 19.5**	**-0.5**
ENH				IAmb	IAmb	15 32 26.0	
	comp=Z,17nm,0.7s						
HHC	**Hu-ho-hao-te**	**19.24**	**308**	*e*P	**Pn**	**15 32 21.9**	**+0.1**
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax		
	comp=Z,43nm,5.3s						
HHC				LR	LR		
	comp=Z,210nm,14.7s						
HHC				LR	LR		
	comp=Z,200nm,13.1s						
HHC				LR	LR		
	comp=Z,260nm,13.9s						
XAN	**Xi'an**	**19.50**	**286**	P	**Pn**	**15 32 25.2**	**+0.3**
XAN				pP	sP	15 32 39.7	-0.3
XAN				sP	pP	15 32 45.4	+11
XAN				pmax	pmax		
	comp=Z,8.0nm,1.3s						
XAN				pmax	pmax		
	comp=Z,90nm,4.7s						
XAN				LR	LR		
	comp=Z,1µm,14.9s						
XAN				LR	LR		
	comp=Z,1µm,14.7s						
XAN	**Xi'an**	**19.50**	**286**	P	**P**	**15 32 22.9**	**-0.4**
PGP	**Puerto Galera**	**19.58**	**212**	⇓*e*P	**P**	**15 32 24.9**	**+0.6**
GYA	**Guiyang**	**22.28**	**266**	⇓*i*P	**P**	**15 32 53.1**	**-0.4**
GYA				pP	pP	15 33 03.8	-0.5
GYA				S	**S**	**15 36 51.7**	**-4.3**
GYA				pmax	pmax		
	comp=Z,30nm,0.7s						
GYA				pmax	pmax		
	comp=Z,60nm,3.5s						
GYA				LR	LR		
	comp=Z,260nm,17.0s						
GYA				LR	LR		
	comp=Z,210nm,16.5s						
GYA				LR	LR		
	comp=Z,260nm,16.3s						
LZH	**Lanzhou**	**23.82**	**291**	*e*P	P	15 33 19.1	+10
LZH				pP	sP	15 33 29.0	+2.7
LZH				sP	pP	15 33 34.4	+14
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
CD2	**Chengdu**	**23.93**	**278**	*e*P	**P**	**15 33 09.0**	**-0.8**
ULN	**Ulaanbaatar**	**25.57**	**320**	P	**P**	**15 33 24.2**	**-0.5**
SONM	**Songino Array**	**25.93**	**319**	P	**P**	**15 33 27.6**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=133,slow=10,SNR=3.1						
SONM				LR	LR	15 45 41.6	
	comp=Z,272nm,19.1s,baz=85,slow=41						
SLVN	**Son La**	**26.49**	**256**	P	**P**	**15 33 33.0**	**-0.2**
GTA	**Gaotai**	**27.42**	**298**	⇑P	**P**	**15 33 41.0**	**-0.4**
GTA				pP	pP	15 33 52.6	-0.6
GTA				sP	sP	15 33 57.0	-1.7
GTA				PcP	**PcP**	**15 36 56.4**	**-2.9**
GTA				S	**S**	**15 38 18.9**	**+0.2**
GTA				SS	**SnSn**	**15 39 38.1**	**+6.8**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,26nm,7.8s						
GTA				LR	LR		
	comp=Z,140nm,13.6s						
GTA				LR	LR		
	comp=Z,190nm,14.3s						
GTA				LR	LR		
	comp=Z,280nm,15.6s						
PETK	**Petropavlovsk-**	**29.50**	**33**	P	**P**	**15 34 00.3**	**+0.7**
	comp=Z,3.7nm,0.9s,baz=212,slow=5.3,SNR=5.0						
YAK	**Yakutsk**	**31.55**	**358**	P	**P**	**15 34 17.7**	**+0.1**
CHTO	**Chiang Mai**	**31.78**	**256**	P	**P**	**15 34 19.9**	**-0.2**
CHTO				IAmb	IAmb	15 34 20.8	
	comp=Z,8.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.95**	**256**	P	**P**	**15 34 19.2**	**-2.4**
	comp=Z,1.6nm,0.5s,baz=50,slow=8.0,SNR=15						
CMAR				PcP	**PcP**	**15 37 10.4**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=5.5,slow=1.3,SNR=5.7						
SBUM	**Sibu**	**33.41**	**217**	P	**P**	**15 34 34.7**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**33.57**	**100**	T	T	16 10 02.5	
	baz=296,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**33.58**	**100**	T	T	16 10 02.7	
	baz=296,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**33.59**	**100**	T	T	16 10 03.8	
	baz=296,slow=75,SNR=15						
KSM	**Kuching**	**35.25**	**219**	P	**P**	**15 34 49.8**	**-0.5**
KSM				IAmb	IAmb	15 35 06.0	
	comp=Z,10nm,1.1s						
SHL	**Shillong**	**35.28**	**272**	P	**P**	**15 34 49.7**	**-1.1**
SHL				IAmb	IAmb	15 34 50.8	
	comp=Z,9.2nm,1.1s						
WMQ	**Urumqi**	**37.01**	**303**	*e*P	**P**	**15 35 06.9**	**+1.7**
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,89nm,6.7s						
WMQ				LR	LR		
	comp=Z,140nm,15.1s						
WMQ				LR	LR		
	comp=Z,160nm,17.9s						
WMQ				LR	LR		
	comp=Z,230nm,22.9s						
KULM	**Kulim**	**38.45**	**235**	P	**P**	**15 35 18.7**	**+1.1**
KULM				IAmb	IAmb	15 36 20.2	
	comp=Z,16nm,1.2s						
IPM	**Ipoh**	**38.75**	**234**	P	**P**	**15 35 20.2**	**+0.1**
IPM				IAmb	IAmb	15 35 38.1	
	comp=Z,12nm,0.9s						
ZAA0	**Zalesovo Array**	**40.82**	**319**	P	**P**	**15 35 35.0**	**-1.8**
ZALV	**Zalesovo Beam**	**40.82**	**319**	P	**P**	**15 35 35.9**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=123,slow=16,SNR=5.0						
ZALV				PcP	**PcP**	**15 37 37.5**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=20,slow=4.9,SNR=4.8						
MK31	**Makanchi Array**	**41.10**	**308**	P	**P**	**15 35 37.7**	**-1.6**
MKAR	**Makanchi Array**	**41.10**	**308**	P	**P**	**15 35 38.9**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=92,slow=11,SNR=15						
MKAR				PcP	**PcP**	**15 37 38.4**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=94,slow=2.6,SNR=8.4						
MKAR				LR	LR	15 55 32.7	
	comp=Z,146nm,18.4s,baz=92,slow=40						
MAKZ	**Makanchi**	**41.32**	**308**	P	**P**	**15 35 39.3**	**-1.8**
BILL	**Bilibino**	**42.68**	**18**	P	**P**	**15 35 52.4**	**+0.5**
BILL				IAmb	IAmb	15 36 05.2	
	comp=Z,6.9nm,0.9s						
GSI	**Gunungsitoli**	**43.42**	**235**	P	**P**	**15 35 57.8**	**-0.6**
GSI				IAmb	IAmb	15 36 13.6	
	comp=Z,20nm,1.0s						
KURK	**Kurchatov**	**43.93**	**313**	P	**P**	**15 36 01.3**	**-0.8**
KURK				IAmb	IAmb	15 36 02.4	
	comp=Z,5.8nm,0.7s						
TARG	**Taragay, Kyrgy**	**44.24**	**300**	P	**P**	**15 36 05.2**	**0.0**
TARG				IAmb	IAmb	15 36 06.5	
	comp=Z,5.4nm,0.8s						
KSH	**Kashi**	**45.82**	**297**	*e*P	**P**	**15 36 21.3**	**+3.8**
AAK	**Ala-Archa**	**46.63**	**302**	P	**P**	**15 36 23.9**	**0.0**
BRVK	**Borovoye**	**49.26**	**316**	P	**P**	**15 36 43.3**	**-0.5**
KK31	**Karatay Array**	**49.50**	**303**	P	**P**	**15 36 45.4**	**-0.5**
KK31				IAmb	IAmb	15 37 00.6	
	comp=Z,6.5nm,1.2s						
AKUT	**Akutan**	**50.05**	**43**	P	**P**	**15 36 50.9**	**+1.1**
WB2	**Warramunga Arr**	**50.23**	**177**	P	**P**	**15 36 51.3**	**-0.3**
WR0	**Warramunga Arr**	**50.26**	**176**	P	**P**	**15 36 51.5**	**-0.2**
CHGR	**Chuyangaron**	**51.19**	**297**	P	**P**	**15 36 58.2**	**-0.6**
PSA00	**Pilbara Seismi**	**53.01**	**194**	P	**P**	**15 37 13.5**	**+1.3**
PPLA	**Purkeypile**	**57.08**	**32**	P	**P**	**15 37 42.7**	**+1.3**
PPLA				IAmb	IAmb	15 38 00.0	
	comp=Z,11nm,1.1s						
KDAK	**Kodiak Island**	**57.32**	**38**	P	**P**	**15 37 43.4**	**+0.5**
BPAW	**Bear Paw Mtn.**	**57.55**	**31**	P	**P**	**15 37 45.0**	**+0.5**
RND	**Reindeer**	**58.55**	**31**	P	**P**	**15 37 51.8**	**+0.2**
MDM	**Murphy Dome**	**58.67**	**29**	P	**P**	**15 37 53.2**	**+0.8**
MDM				IAmb	IAmb	15 38 07.1	
	comp=Z,6.5nm,0.8s						
IL31		**59.26**	**30**	P	**P**	**15 37 56.1**	**-0.2**
IL31				IAmb	IAmb	15 38 09.8	
	comp=Z,2.9nm,0.8s						
ILAR	**Eielson Array**	**59.26**	**30**	P	**P**	**15 37 56.8**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=278,slow=6.7,SNR=13						
HDA	**Harding Lake**	**59.28**	**30**	P	**P**	**15 37 56.8**	**+0.2**
SCRK	**Sand Creek**	**60.62**	**30**	P	**P**	**15 38 06.2**	**+0.3**
SCRK				IAmb	IAmb	15 38 18.0	
	comp=Z,4.7nm,0.9s						
DOT	**Dot Lake**	**60.65**	**31**	P	**P**	**15 38 06.2**	**+0.3**
DOT				IAmb	IAmb	15 38 18.7	
	comp=Z,4.2nm,0.7s						
EPYK	**Eagle Plains**	**63.11**	**27**	P	**P**	**15 38 22.9**	**+0.4**
EPYK				IAmb	IAmb	15 38 36.1	
	comp=Z,6.8nm,0.8s						
INK	**Inuvik**	**63.78**	**24**	P	**P**	**15 38 28.7**	**+1.9**
	comp=Z,1.1nm,0.8s,baz=294,slow=12,SNR=2.2						
INK	**Inuvik**	**63.78**	**24**	IAmb	IAmb	15 39 17.5	
	comp=Z,3.7nm,1.0s						
ARCES	**ARCESS Array B**	**67.12**	**338**	P	**P**	**15 38 48.6**	**+0.2**

	comp=Z,2.3nm,0.7s,baz=62,slow=11,SNR=8.2						
ARCES				LR	LR	16 14 22.2	
	comp=Z,160nm,18.3s,baz=55,slow=41						
KBZ	Khabaz	68.78	309	P	P	15 38 59.3	+0.1
	comp=Z,2.7nm,0.9s,baz=240,slow=2.4,SNR=3.9						
FINES	FINESS Array B	70.61	331	P	P	15 39 09.6	-0.6
	comp=Z,2.2nm,0.6s,baz=66,slow=4.7,SNR=17						
DAG	Danmarks Havn	71.39	353	*i* P	P	15 39 14.8	+0.1
	comp=Z,0.3nm,0.5s						
YKA	Yellowknife Ar	73.39	26	P	P	15 39 27.2	+0.4
	comp=Z,0.7nm,0.8s,baz=299,slow=5.0,SNR=7.5						
AKASG	Malin Array Be	74.21	320	P	P	15 39 31.3	-0.5
	comp=Z,0.7nm,0.5s,baz=57,slow=6.3,SNR=3.4						
RAYN	Ar Rayn	75.27	289	P	P	15 39 38.4	-0.1
RAYN				IAmb	IAmb	15 39 54.0	
	comp=Z,7.6nm,1.0s						
BRTR	Keskin Array B	76.75	308	P	P	15 39 46.4	-0.4
	comp=Z,2.5nm,0.9s,baz=92,slow=3.8,SNR=11						
BRTR				LR	LR	16 17 10.7	
	comp=Z,29nm,20.6s,baz=14,slow=38						
NB2	NORSAR Subarra	76.77	334	P	P	15 39 46.0	-0.4
	comp=Z,0.7nm,0.6s,baz=50,slow=5.9						
NOA	NORSAR Array B	76.77	334	P	P	15 39 46.0	-0.4
	comp=Z,0.4nm,0.6s,baz=48,slow=5.4,SNR=4.4						
SUMG	Summit	76.96	357	*i* P	P	15 39 48.6	+0.9
	comp=Z,12nm,0.7s						
SUMG	Summit	76.96	357	P	P	15 39 48.5	+0.8
SUMG				IAmb	IAmb	15 39 49.5	
	comp=Z,4.9nm,0.7s						
J08A	Circle Bar Ran	82.46	44	P	P	15 40 19.1	+1.5
J08A				IAmb	IAmb	15 40 31.8	
	comp=Z,3.4nm,0.9s						
CONA	Conrad Observa	83.01	322	*e*PcP	P	15 40 22.7	+2.3
	comp=Z,3.5nm,1.4s						
KHC	Kasperske Hory	83.42	324	*e*P	P	15 40 23.5	+1.0
GERES	GERESS Array B	83.55	324	P	P	15 40 23.5	+0.3
	comp=Z,0.8nm,0.8s,baz=29,slow=3.0,SNR=7.9						
ARSA	Arzberg	83.61	322	*e*PcP	P	15 40 25.1	+1.7
	comp=Z,5.5nm,1.4s						
MOA	Molln	83.89	323	*e*PcP	P	15 40 26.0	+1.1
	comp=Z,5.6nm,1.3s						
PAHR	Pah Rah Range	83.99	47	P	P	15 40 24.3	-1.4
SOKA	Soboth	84.23	322	*e*PcP	P	15 40 28.8	+2.1
	comp=Z,8.7nm,1.1s						
DLMT	Dillon	84.63	40	P	P	15 40 29.9	+1.1
DLMT				IAmb	IAmb	15 40 42.3	
	comp=Z,5.2nm,0.9s						
RYN	Ryan	85.16	48	P	P	15 40 32.0	+0.3
RYN				IAmb	IAmb	15 40 45.5	
	comp=Z,3.8nm,1.0s						
KVN	Kaiserville	85.18	47	P	P	15 40 32.6	+0.8
NVAR	Mina Array Bea	85.41	48	P	P	15 40 33.7	+0.7
	comp=Z,1.5nm,0.6s,baz=297,slow=5.3,SNR=11						
EKA	Eskdalemuir Ar	86.14	336	P	P	15 40 35.7	-0.2
	comp=Z,2.7nm,0.7s,baz=40,slow=5.4,SNR=7.0						
PDAR	Pinedale Array	87.97	40	P	P	15 40 45.8	+0.4
	comp=Z,0.8nm,0.7s,baz=170,slow=2.7,SNR=5.4						
P17A	Butcher Ranch,	89.43	43	P	P	15 40 53.6	+1.4
TXAR	Lajitas Array	100.54	47	P	Pdif	15 41 44.0	+0.9
	comp=Z,0.3nm,0.8s,baz=204,slow=2.0,SNR=2.9						

IDC ***01*** *15:31:29.1±0.5, 2.°40S×138.°97E, h0km, mb4.5/21, mb1 4.5/27, mb1mx4.4/38, mbtmp4.5/27, ML4.2/3, MS4.2/19, Ms1 4.2/19, ms1mx4.1/30, Error ellipse: s-maj=13.7km s-min=11.4km az=70.0*

DJA ***01*** *15:31:30.8±0.4, 2.°S±4°×13°9E±°, h12km±4km, M4.7/19, mb4.9/19, mB5.2/15, MLv4.8/7, Mw(mB)4.6/15*

MOS ***01*** *15:31:31.9±0.9, 2.°50S×138.°90E, h33km, mb5.0/34, Error ellipse: s-maj=10.2km s-min=6.2km az=109.2*

BJI ***01*** *15:31:32.4±0.0, 2.°61S×139.°11E, h47km, mB5.1/32, mb4.7/47, Ms4.5/27, Ms7 4.3/28*

NEIC ***01*** *15:31:34±1.8, 2.°46S±0.°04×138.°92E±0.°06, h39km±5km, mb5.0/94, Error ellipse: s-maj=8.2km s-min=6.1km az=99.0*

UNK ***01*** *15:31:34.5, 2.°45S×138.°90E, h44km*

GCMT ***01*** *15:31:34.0±0.2, 2.°27S±0.°01×138.°98E±0.°01, h13km±1km, MW4.9/92, Moment Tensor Solution. s20,c23; s92,c137; Duration: 0 Moment tensor: Scale 10*^{16}*Nm;* M_{rr}*0.30±.07;* $M_{\theta\theta}$*-0.77±.06;* $M_{\phi\phi}$*0.46±.07;* $M_{r\theta}$*-1.86±.30;* $M_{\theta\phi}$*2.09±.06;* $M_{\phi r}$*1.09±.22; Best double couple:* M_0*2.81700×10*^{16} *NP1:*ϕ_s*178.00000°, δ56.00000°, λ-171.00000°. NP2:* ϕ_s*83.00000°, δ82.00000°, λ-34.00000°. Principal axes: T 2.1040, Plg17.0000°, Azm135.0000°; N 1.4270, Plg55.0000°, Azm252.0000°; P -3.5310, Plg29.0000°, Azm35.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 15:31:34.2±0.3**, 2.°46S**±0.°04×**138.°92E**±0.°04**, h37km, n257,** σ**1.°42**/256**, mb4.9**/91**, MS4.2**/27**, 8C-8D, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	Sarmi	0.52	336	P	Pn	15 31 39.1	-6.0
SMPI				S	Sn	15 31 46.4	-6.2
GENI	Genyem	1.25	96	P	Pn	15 31 52.9	-2.2
GENI				S	Sn	15 32 12.1	+1.4
JAY	Jayapura	1.78	92	Pn	Pn	15 32 00.3	-2.1
	127nm,0.3s,baz=242,slow=10,SNR=358						
JAY				LR	LR	15 32 23.2	
	comp=Z,504nm,20.9s,baz=274,slow=31						
JAY				Sn	Sn	15 32 25.0	+1.2
	90nm,0.3s,baz=277,slow=21,SNR=9.7						
JAY	Jayapura	1.78	92	P	Pn	15 31 59.8	-2.6
JAY				S	Sn	15 32 23.3	-0.6
SRPI	Serui, Papua	2.74	282	P	Pn	15 32 15.0	-0.6
SRPI				S	Sn	15 32 49.3	+1.7
MMPI	Merauke	6.14	166	P	Pn	15 33 03.3	+1.0
	3.4nm10μm928nm,0.8s						
FAKI	Fak Fak	6.68	266	P	Pn	15 33 10.3	+0.5
	0.3nm1μm116nm,0.8s						
FAKI	Fak Fak	6.68	266		Pn	15 33 09.6	-0.2
SIJI	Sorong	7.81	282	Pn	Pn	15 33 25.1	-0.3
	2.2nm,0.3s,baz=46,slow=18,SNR=11						
MSAI	Masohi	10.02	265	P	Pn	15 33 56.7	+1.1
	271nm17nm,0.6s						
PMG	Port Moresby	10.71	130	Pn	Pn	15 34 05.2	+0.2
	0.2nm,0.3s,baz=347,slow=18,SNR=2.5						
PMG				LR	LR	15 39 40.3	
	comp=Z,3μm,18.5s,baz=312,slow=46						
PMG	Port Moresby	10.71	130	*d i*P	Pn	15 34 10.3	+5.3
PMG	Port Moresby	10.71	130	Pn	Pn	15 34 06.0	+1.0
LBMI	Labuha	11.56	279	P	Pn	15 34 14.9	-1.8
	1μm62nm,1.3s						
NLAI	Namlea	11.83	266	P	Pn	15 34 20.6	+0.2
	1μm89nm,1.0s						
KDU	Kakadu	12.00	212	P	Pn	15 34 21.9	-0.7
	baz=12,SNR=22						
COEN	Coen	12.17	160		Pn	15 34 25.3	+0.2
MTN	Manton Dam	12.88	216	P	Pn	15 34 34.3	-0.4
	baz=13,SNR=56						
MTN				S	Sn	15 36 55.8	-1.0
	baz=13						
MTN	Manton Dam	12.88	216		Pn	15 34 34.2	-0.5
SANI	Sanana	12.93	272	P	Pn	15 34 35.6	+0.1
	777nm43nm,0.9s						
KMSI	Cibinong	15.24	281	P	P	15 35 17.3	+6.1
LUWI	Luwuk	16.20	275	P	Pn	15 35 18.7	-0.5
	2μm130nm,1.4s						
LUWI	Luwuk	16.20	275	Pn	Pn	15 35 17.9	-1.3
SOEI	Soe	16.26	243	P	Pn	15 35 21.3	+1.2
	2μm196nm,1.0s						
SOEI	Soe	16.26	243	Pn	Pn	15 35 20.2	+0.1
MTSU	Mount Surprise	16.45	162	P	P	15 35 25.0	+0.4
	baz=17,SNR=24						
KNRA	Kununurra	16.51	217	P	Pn	15 35 23.0	0.0
	baz=17,SNR=32						
KNRA	Kununurra	16.51	217	Pn	Pn	15 35 22.5	-0.6
BBSI	Bau Bau	16.58	259	P	P	15 35 30.1	+3.9
BATI	Baumata	16.99	242	Pn	Pn	15 35 29.6	+0.4
	5.8nm,0.3s,baz=151,slow=0.6,SNR=15						
BATI	Baumata	16.99	242	P	P	15 35 30.6	-0.1
	1μm86nm,1.1s						
GUMO	Guam	17.01	20	P	Pn	15 35 30.0	+0.7
GUMO				pmax	pmax		
	comp=Z,102nm,1.2s						
GUMO	Guam	17.01	20	P	Pn	15 35 30.0	+0.7
GUMO				IAmb	IAmb	15 35 38.0	
	comp=Z,102nm,1.1s						
MRSI	Marisa	17.23	280	P	Pn	15 35 31.9	-0.2
	comp=Z,731nmcomp=Z,28nm,0.9s						
WB0	Warramunga Arr	17.76	194	Pn	Pn	15 35 37.1	-1.5
WR0	Warramunga Arr	17.91	194	Pn	Pn	15 35 38.3	-2.2
WRAB	Tennant Creek	17.93	194	*ce*P	Pn	15 35 40.3	-0.4
WRAB	Tennant Creek	17.93	194		Pn	15 35 39.4	-1.3
WB2	Warramunga Arr	17.94	194		Pn	15 35 40.0	-0.8
WRA	Warramunga Arr	17.94	194	P	Pn	15 35 39.4	-1.5
	comp=Z,1.5nm,0.3s,baz=17,slow=13,SNR=41						
WRA				Sn	Sn	15 38 49.2	-11
	comp=Z,0.6nm,0.3s,baz=10,slow=22,SNR=6.5						
QIS	Mount Isa	18.00	178	P	Pn	15 35 39.1	-2.4
	baz=18,SNR=14						
EDFI	Ende, Flores	18.24	249	P	Pn	15 35 45.5	+0.8
CTA	Charters Tower	18.92	158	P	P	15 35 51.4	-0.5
	comp=Z,0.2nm,0.3s,baz=326,slow=9.0,SNR=4.6						
CTAO	Charters Tower	18.92	158	P	P	15 35 51.0	-1.0
CTAO				pmax	pmax		
	comp=Z,137nm,2.0s						
CTAO	Charters Tower	18.92	158		P	15 35 51.0	-1.0
CTAO				IAmb	IAmb	15 36 32.4	
	comp=Z,137nm,1.9s						
KAPI	Kappang	19.30	262	P	P	15 35 55.6	-0.5
	baz=216,slow=19,SNR=1.0						
KAPI	Kappang	19.30	262	P	P	15 35 55.6	-0.5
KAPI				pmax	pmax		
	comp=Z,65nm,1.7s						
FITZ	Fitzroy Crossi	20.27	219	P	P	15 36 06.9	+0.2
	baz=20,SNR=11						
FITZ	Fitzroy Crossi	20.27	219	P	P	15 36 06.5	-0.2
	comp=Z,7.2nm,0.9s,baz=55,slow=12,SNR=11						
FITZ				S	S	15 39 46.2	-6.0
	comp=Z,32nm,1.1s,baz=184,slow=13,SNR=5.3						
FITZ				LR	LR	15 44 41.1	
	comp=Z,853nm,18.7s,baz=42,slow=39						
FITZ	Fitzroy Crossi	20.27	219	P	P	15 36 06.0	-0.7
CNOP	Candoni, Negro	20.30	307	*e*P	P	15 36 04.2	-2.9
RCP	Roxas	21.28	311	⇓*e*P	P	15 36 19.6	+2.0
PATS	Pohnpei	21.45	64	P	P	15 36 18.1	-1.3
AS31	Alice Springs	21.63	193	P	P	15 36 20.8	-0.5
ASAR	Alice Springs	21.63	193	P	P	15 36 20.9	-0.4
	comp=Z,7.4nm,0.7s,baz=23,slow=10,SNR=102						
ASAR				S	S	15 40 17.2	-1.9
	comp=Z,12nm,0.9s,baz=15,slow=24,SNR=8.6						
PVCP	Virac	21.66	318	*e*P	P	15 36 32.3	+11
HNR	Honiara	22.02	109	P	P	15 36 24.9	-0.6
	comp=Z,65nm,0.8s,baz=212,slow=4.2,SNR=6.5						
HNR	Honiara	22.02	109	P	P	15 36 24.2	-1.3
HNR				pmax	pmax		
	comp=Z,118nm,0.9s						
HNR	Honiara	22.02	109		P	15 36 24.2	-1.3
BKB	Balikpapan	22.05	273	P	P	15 36 24.6	-1.3
SJMP	San Jose	23.08	310	*e*P	P	15 36 37.5	+0.8
BATP	Bataraza	23.84	298	*e*P	P	15 36 44.7	+0.6
KKM	Kota Kinabalu	24.20	291	P	P	15 36 47.3	-0.3
KKM				IAmb	IAmb	15 36 52.3	
	comp=Z,141nm,2.0s						
TGY	Tagaytay City	24.27	313	LR	LR	15 47 08.4	
	comp=Z,606nm,18.1s,baz=106,slow=39						
QLP	Quilpie	24.52	168	P	P	15 36 52.3	+2.0
	baz=25,SNR=15						
WRKA	Warakurna	24.67	204	P	P	15 36 51.9	+0.2
	baz=25,SNR=30						
BALP	Baler	24.93	317	*e*P	P	15 36 53.1	-0.9
JAGI	Jajag, Banyuwa	25.36	255	P	P	15 36 56.1	-1.9
JAGI				IAmb	IAmb	15 37 49.9	
	comp=Z,80nm,1.5s						
EIDS	Eidsvold	25.61	154	P	P	15 37 02.3	+2.1
	baz=26,SNR=8.7						
EIDS	Eidsvold	25.61	154	P	P	15 37 01.1	+1.0
EIDS				IAmb	IAmb	15 37 05.5	
	comp=Z,82nm,1.1s						
RMQ	Roma	25.68	159	P	P	15 37 03.7	+2.9
	baz=26,SNR=9.5						
SMPP	San Manuel, Pa	25.83	316	*e*P	P	15 37 02.1	-0.2
PSAD1	Pilbara Seismi	26.49	223	P	P	15 37 08.2	0.0
PSAD1				IAmb	IAmb	15 37 48.7	
	comp=Z,135nm,1.9s						
PSAC2	Pilbara Seismi	26.51	223	P	P	15 37 08.1	-0.3
PSAC2				IAmb	IAmb	15 37 23.4	
	comp=Z,20nm,0.8s						
PSAB2	Pilbara Seismi	26.54	223	P	P	15 37 08.4	-0.2
PSAB2				IAmb	IAmb	15 37 17.4	
	comp=Z,24nm,1.0s						
PSAA2	Pilbara Seismi	26.55	223	P	P	15 37 08.4	-0.3
PSAA2				IAmb	IAmb	15 37 46.4	
	comp=Z,79nm,1.7s						
PSAA3	Pilbara Seismi	26.55	223	P	P	15 37 08.6	-0.2
PSAA3				IAmb	IAmb	15 37 18.5	
	comp=Z,28nm,1.0s						
PSA00	Pilbara Seismi	26.56	223	P	P	15 37 08.8	0.0
PSA00				IAmb	IAmb	15 37 18.4	
	comp=Z,25nm,1.0s						
PSAB3	Pilbara Seismi	26.57	223	P	P	15 37 08.4	-0.4
PSAB3				IAmb	IAmb	15 37 18.6	
	comp=Z,24nm,1.0s						
PSAA1	Pilbara Seismi	26.57	223	P	P	15 37 07.9	-1.0
PSAA1				IAmb	IAmb	15 37 18.5	
	comp=Z,28nm,1.0s						
PSAB1	Pilbara Seismi	26.57	223	P	P	15 37 08.0	-1.0
PSAB1				IAmb	IAmb	15 37 44.6	
	comp=Z,75nm,1.6s						
SBUM	Sibu	27.14	280	P	P	15 37 13.6	-0.5
KSM	Kuching	28.87	277	P	P	15 37 28.6	-1.1
STKA	Stephens Creek	29.36	175	P	P	15 37 34.1	+0.3
	baz=30,SNR=5.6						
STKA	Stephens Creek	29.36	175	P	P	15 37 34.3	+0.5
	comp=Z,5.2nm,0.9s,baz=8.6,slow=9.0,SNR=6.5						
STKA				LR	LR	15 50 34.6	
	comp=Z,1μm,18.2s,baz=348,slow=39						
STKA	Stephens Creek	29.36	175	P	P	15 37 34.2	+0.5
STKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
STKA	Stephens Creek	29.36	175	P	P	15 37 34.1	+0.3
JCJ	Chichijima	29.56	6	LR	LR	15 48 27.3	
	comp=Z,397nm,20.3s,baz=145,slow=34						
CMSA	Cobar Meteorol	29.61	168	P	P	15 37 38.0	+2.0
	baz=30,SNR=23						
FORT	Forrest	29.98	199	P	P	15 37 40.3	+1.1
	baz=30,SNR=9.4						
FORT	Forrest	29.98	199	P	P	15 37 39.3	+0.1
FORT				IAmb	IAmb	15 38 41.5	
	comp=Z,40nm,0.8s						
HTT	Hallett	30.81	180	P	P	15 37 47.4	+0.8
	baz=31,SNR=7.2						
MEEK	Meekatharra	30.94	217	P	P	15 37 49.5	+1.7
	baz=31,SNR=3.5						
YNG	Young	32.88	165	P	P	15 38 07.0	+2.2
	baz=33,SNR=8.6						
DZM	Mont Dzumac	33.09	128	*e*P	P	15 38 16.4	+10
	comp=Z,12nm,0.8s						
DZM				*e*LR	LR	15 46 55.5	
	comp=Z,583nm,22.3s						
DZM	Mont Dzumac	33.09	128	LR	LR	15 52 25.7	
	comp=Z,485nm,18.7s,baz=312,slow=38						
CNB	Canberra Magne	34.09	165	P	P	15 38 18.3	+2.9
	baz=34,SNR=5.9						
ARPS	Mount Arapiles	34.24	176	P	P	15 38 18.0	+1.4
	baz=34,SNR=8.0						
JHJ	Hachijo jima 2	35.40	1	LR	LR	15 49 34.7	
	comp=Z,249nm,21.8s,baz=182,slow=31						
JNU	Nakatsue	36.20	349	P	P	15 38 33.1	-0.4
	comp=Z,7.9nm,0.9s,baz=116,slow=2.9,SNR=5.3						
JNU				LR	LR	15 50 38.4	
	comp=Z,169nm,20.9s,baz=163,slow=32						
JNU	Nakatsue	36.20	349	IAmb	IAmb	15 38 37.7	
	comp=Z,13nm,1.0s						
MJAR	Matsushiro Arr	38.81	359	P	P	15 38 54.4	-1.1
	comp=Z,1.6nm,0.7s,baz=173,slow=9.3,SNR=8.5						
MAJO	Matsushiro	38.81	359	⇑*i*P	P	15 38 56.4	+0.9
MAJO				pmax	pmax		
	comp=Z,8.0nm,1.6s						
MJB9	Matsu-Tunnel	38.82	359	P	P	15 38 53.6	-2.0
KULM	Kulim	39.00	281	P	P	15 38 57.2	-0.3
KULM				IAmb	IAmb	15 39 00.8	
	comp=Z,44nm,1.6s						
NJ2	Nanjing	39.26	333	*e*P	P	15 39 00.8	+1.5
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.9s						
RPSI	Rantau Prapat	40.31	277	P	P	15 39 07.0	-1.4
RPSI				IAmb	IAmb	15 39 13.0	
	comp=Z,36nm,1.1s						
RPSI	Rantau Prapat	40.31	277	P	P	15 39 09.8	+1.5
PSI	Prapat	40.32	277	P	P	15 39 09.8	+1.2
	comp=Z,14nm,0.7s,baz=180,slow=3.6,SNR=17						
PSI	Prapat	40.32	277	P	P	15 39 09.8	+1.2
PSI				pmax	pmax		
	comp=Z,36nm,1.1s						
TAU	Tasmania Unive	40.96	171	P	P	15 39 14.3	+1.0
TAU				pmax	pmax		
	comp=Z,25nm,1.0s						
TAU	Tasmania Unive	40.96	171	P	P	15 39 14.3	+1.0
TAU				IAmb	IAmb	15 39 16.9	
	comp=Z,25nm,0.9s						
KSRS	Korea Array	41.01	347	P	P	15 39 14.1	+0.4
	comp=Z,1.4nm,0.9s,baz=157,slow=6.6,SNR=3.7						
GSI	Gunungsitoli	41.51	275	P	P	15 39 17.4	-0.8
GYA	Guiyang	42.40	315	*e*P	P	15 39 26.8	+1.3
GYA				PP	PP	15 41 02.8	-1.4
GYA				S	S	15 45 49.1	+4.3
GYA				SS	SS	15 48 48.3	-6.5
GYA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA				pmax	pmax		
	comp=Z,80nm,3.5s						
GYA				LR	LR		
	comp=Z,160nm,13.2s						
GYA				LR	LR		
	comp=Z,170nm,18.6s						
GYA				LR	LR		
	comp=Z,270nm,18.6s						
ENH	Enshi	43.00	321	P	P	15 39 28.4	-1.8
CMAR	Chiang Mai Arr	44.50	300	P	P	15 39 41.9	-0.5
	comp=Z,1.1nm,0.4s,baz=123,slow=6.3,SNR=7.9						
CMAR				PcP	PP	15 41 27.6	+0.8
	comp=Z,1.3nm,0.7s,baz=145,slow=2.6,SNR=4.8						
CMAR				LR	LR	16 00 05.5	
	comp=Z,138nm,18.0s,baz=147,slow=39						
CMAR	Chiang Mai Arr	44.50	300	*i* P	P	15 39 42.7	+0.3
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CHTO	Chiang Mai	44.64	300	P	P	15 39 42.2	-1.3
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CHTO	Chiang Mai	44.64	300	P	P	15 39 42.2	-1.3
XAN	Xi'an	46.00	325	P	P	15 39 54.4	+0.3
XAN				pmax	pmax		
	comp=Z,15nm,1.3s						
XAN				LR	LR		
	comp=Z,250nm,16.3s						
XAN				LR	LR		
	comp=Z,330nm,21.7s						
XAN	Xi'an	46.00	325	P	P	15 39 53.0	-1.1
XAN				pmax	pmax		
	comp=Z,16nm,1.1s						
XAN	Xi'an	46.00	325	P	P	15 39 53.0	-1.1
XAN				IAmb	IAmb	15 40 04.2	
	comp=Z,16nm,1.1s						
USA0B	Ussuriysk Arra	46.87	353	P	P	15 40 00.3	-0.3
USA0B				pmax	pmax		
	comp=Z,16nm,1.5s						
USA0B	Ussuriysk Arra	46.87	353	P	P	15 40 00.3	-0.3
USA0B				IAmb	IAmb	15 40 31.7	
	comp=Z,16nm,1.5s						
USRK	Ussuriysk Ar.	46.87	353	P	P	15 40 01.1	+0.4
	comp=Z,1.5nm,0.8s,baz=166,slow=9.8,SNR=5.4						
BJT	Baijiatuau	47.14	336	P	P	15 40 00.9	-2.0
BJT				pmax	pmax		
	comp=Z,17nm,1.4s						
BJT	Baijiatuau	47.14	336	P	P	15 40 00.9	-2.0
BJT				IAmb	IAmb	15 40 24.8	
	comp=Z,17nm,1.4s						
CD2	Chengdu	47.14	318	P	P	15 40 02.8	-0.3
CD2				S	S	15 46 53.4	+0.1
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,480nm,13.7s						
CD2				LR	LR		
	comp=Z,330nm,13.3s						
BJI	Beijing	47.16	336	P	P	15 40 03.7	+0.7
BJI				S	S	15 46 56.9	+3.9
BJI				pmax	pmax		
	comp=Z,6.0nm,1.5s						
BJI				LR	LR		
	comp=Z,150nm,21.1s						
BJI				LR	LR		
	comp=Z,240nm,24.7s						
BJI				LR	LR		
	comp=Z,240nm,36.3s						
MDJ	Mudanjiang	47.61	351	P	P	15 40 06.9	+0.5
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,150nm,4.5s						
RAO	Raoul Island	48.88	127	LR	LR	15 59 08.0	
	comp=Z,200nm,22.0s,baz=299,slow=34						
HHC	Hu-ho-hao-te	49.81	333	*e*P	P	15 40 25.7	+2.1
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,7.7s						
HHC				LR	LR		
	comp=Z,170nm,17.1s						
HHC				LR	LR		
	comp=Z,120nm,17.1s						
HHC				LR	LR		
	comp=Z,210nm,17.6s						
TUWZ	Tuamarina	49.95	146	P	P	15 40 21.8	-2.7
LZH	Lanzhou	50.41	323	*e*P	P	15 40 33.9	+5.6
LZH				pmax	pmax		
	comp=Z,31nm,1.1s						
KLR	Kul'dur	51.86	354	P	P	15 40 38.5	-0.2
	comp=Z,1.7nm,0.6s,baz=176,slow=6.0,SNR=6.0						
KLR	Kul'dur	51.86	354	⇑*e*P	P	15 40 38.6	-0.1
KLR				pmax	pmax		
	comp=Z,8.0nm,1.7s						
SHL	Shillong	53.37	305	P	P	15 40 50.2	-0.3
SHL				pmax	pmax		
	comp=Z,9.0nm,0.9s						
SHL	Shillong	53.37	305	P	P	15 40 50.2	-0.3
SHL				IAmb	IAmb	15 40 57.3	
	comp=Z,9.4nm,0.9s						
GTA	Gaotai	55.00	323	⇑P	P	15 41 03.4	+1.3
GTA				pP	pP	15 41 13.9	+0.7
GTA				sP	sP	15 41 18.2	+0.7
GTA				PcP	PcP	15 42 04.6	+1.1
GTA				S	S	15 48 45.4	+3.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,77nm,8.1s						
GTA				LR	LR		
	comp=Z,110nm,18.7s						
GTA				LR	LR		
	comp=Z,150nm,17.8s						
GTA				LR	LR		
	comp=Z,180nm,18.4s						
LSA	Lhasa	55.73	309	P	P	15 41 09.2	+1.3
LSA				pmax	pmax		
	comp=Z,17nm,0.8s						
LSA	Lhasa	55.73	309	P	P	15 41 07.7	-0.2
LSA				pmax	pmax		
	comp=Z,11nm,1.3s						
LSA	Lhasa	55.73	309	P	P	15 41 07.7	-0.2
ZEA	Zeya	56.85	352	*e*P	P	15 41 15.2	+0.3
ZEA				pmax	pmax		
	comp=Z,14nm,1.4s						
ULN	Ulaanbaatar	57.33	335	⇑*e*P	P	15 41 19.3	+0.7
ULN				pmax	pmax		
	comp=Z,12nm,2.0s						
ULN	Ulaanbaatar	57.33	335	P	P	15 41 18.8	+0.2
PETK	Petropavlovsk-	57.58	13	LR	LR	16 01 49.0	
	comp=Z,184nm,21.8s,baz=237,slow=32						
SONM	Songino Array	57.59	335	LR	LR	16 05 24.6	
	comp=Z,360nm,20.9s,baz=94,slow=35						
ZAK	Zakamensk	60.86	335	*e*P	P	15 41 44.2	+1.3
ZAK				pmax	pmax		
	comp=Z,8.0nm,1.7s						
TLY	Talaya	61.68	336	*e*P	P	15 41 50.8	+2.4
TLY				pmax	pmax		
	comp=Z,40nm,1.9s						
IRK	Irkutsk	61.86	337	*e*P	P	15 41 50.1	+0.6
IRK				pmax	pmax		
	comp=Z,33nm,3.4s						
RAR	Rarotonga	62.42	113	LR	LR	16 07 15.3	
	comp=Z,77nm,20.3s,baz=257,slow=34						
YAK	Yakutsk	64.71	355	*e*P	P	15 42 08.9	+0.7
YAK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.0s						
WMQ	Urumqi	64.95	321	*e*P	P	15 42 11.1	+0.8
WMQ				pmax	pmax		
	comp=N,16nm,0.7s						

WMQ				pmax	pmax		
	comp=N,170nm,5.1s						
WMQ				LR	LR		
	comp=N,170nm,18.3s						
WMQ				LR	LR		
	comp=N,160nm,22.1s						
WMQ				LR	LR		
	comp=N,120nm,21.9s						
CASY	**Casey**	**66.76**	**192**	P	**P**	**15 42 22.1**	**+0.7**
CASY				IAmb	IAmb	15 42 27.9	
	comp=Z,19nm,1.1s						
DGZ	**Jazzator, Alta**	**68.19**	**327**⇓	*e*P	**P**	**15 42 31.8**	**+0.8**
DGZ				pmax	pmax		
	comp=Z,7.0nm,1.7s						
MK31	**Makanchi Array**	**69.72**	**322**	P	**P**	**15 42 40.2**	**-0.2**
MK31				pmax	pmax		
	comp=Z,10.0nm,1.2s						
MK31	**Makanchi Array**	**69.72**	**322**	P	**P**	**15 42 40.2**	**-0.2**
MKAR	**Makanchi Array**	**69.72**	**322**	P	**P**	**15 42 41.3**	**+0.9**
	comp=Z,3.9nm,0.7s,baz=112,slow=7.8,SNR=42						
MKAR				LR	LR	16 15 16.3	
	comp=Z,104nm,18.2s,baz=104,slow=38						
MAKZ	**Makanchi**	**69.92**	**322**	P	**P**	**15 42 41.6**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MAKZ	**Makanchi**	**69.92**	**322**	P	**P**	**15 42 41.6**	**0.0**
MAKZ				IAmb	IAmb	15 42 56.1	
	comp=Z,8.9nm,0.8s						
KSH	**Kashi**	**71.07**	**313**	*e*P	**P**	**15 42 52.2**	**+3.3**
KSH				pmax	pmax		
	comp=Z,17nm,0.8s						
KSH				pmax	pmax		
	comp=Z,260nm,3.9s						
NIL	**Nilore**	**71.35**	**307**	P	**P**	**15 42 51.1**	**+0.5**
NIL				pmax	pmax		
	comp=Z,12nm,1.0s						
NIL	**Nilore**	**71.35**	**307**	P	**P**	**15 42 51.1**	**+0.5**
NIL				IAmb	IAmb	15 43 01.4	
	comp=Z,12nm,0.9s						
PPT2	**Papeete2**	**71.63**	**108**	*e*LQ	LQ	16 01 44.6	
	comp=Z,411nm,35.8s						
PPT2				*e*LR	LR	16 04 45.4	
	comp=Z,450nm,26.5s						
ZAA0	**Zalesovo Array**	**71.83**	**330**	P	**P**	**15 42 52.4**	**-0.6**
ZALV	**Zalesovo Beam**	**71.83**	**330**	P	**P**	**15 42 52.8**	**-0.2**
	comp=Z,3.0nm,0.6s,baz=114,slow=6.6,SNR=15						
ZALV				LR	LR	16 14 17.9	
	comp=Z,134nm,21.9s,baz=111,slow=36						
TBI	**Tubuai**	**72.16**	**114**	*e*LR	LR	16 05 00.0	
	comp=Z,311nm,31.5s						
BILL	**Bilibino**	**72.89**	**10**	*i* P	**P**	**15 43 01.6**	**+2.6**
BILL				*i*		15 45 48.4	
BILL				pmax	pmax		
	comp=Z,8.0nm,1.9s						
AAK	**Ala-Archa**	**73.18**	**316**⇓	*e*P	**P**	**15 43 02.4**	**+0.9**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
AAK	**Ala-Archa**	**73.18**	**316**	P	**P**	**15 43 00.5**	**-1.0**
KURK	**Kurchatov**	**73.64**	**325**	*de*P	**P**	**15 43 04.4**	**+0.6**
KURK				pmax	pmax		
	comp=Z,15nm,1.2s						
KURK	**Kurchatov**	**73.64**	**325**	P	**P**	**15 43 02.8**	**-1.0**
KURK				IAmb	IAmb	15 43 07.1	
	comp=Z,15nm,1.1s						
TIXI	**Tiksi**	**74.27**	**357**⇓	*e*P	**P**	**15 43 07.3**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,11nm,2.3s						
TIXI	**Tiksi**	**74.27**	**357**	P	**P**	**15 43 06.9**	**-0.2**
GAR	**Garm**	**75.09**	**311**	P	**P**	**15 43 12.6**	**-0.1**
CHGR	**Chuyangaron**	**75.88**	**311**	P	**P**	**15 43 16.3**	**-0.9**
CHGR				IAmb	IAmb	15 43 21.9	
	comp=Z,27nm,0.9s						
VNDA	**Vanda**	**76.00**	**175**	P	**P**	**15 43 18.2**	**+1.2**
	comp=Z,4.5nm,0.7s,baz=324,slow=5.9,SNR=23						
VNDA				LR	LR	16 15 52.9	
	comp=Z,279nm,20.5s,baz=351,slow=35						
VNDA	**Vanda**	**76.00**	**175**	P	**P**	**15 43 17.6**	**+0.6**
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
VNDA	**Vanda**	**76.00**	**175**		**P**	**15 43 17.6**	**+0.6**
KK31	**Karatay Array**	**76.10**	**315**	P	**P**	**15 43 16.9**	**-1.4**
KK31				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KK31	**Karatay Array**	**76.10**	**315**	P	**P**	**15 43 16.9**	**-1.4**
BRVK	**Borovoye**	**79.30**	**325**	*d i*P	**P**	**15 43 36.8**	**+1.0**
BRVK				pmax	pmax		
	comp=Z,14nm,1.0s						
BRVK	**Borovoye**	**79.30**	**325**	P	**P**	**15 43 34.9**	**-1.0**
BRVK				IAmb	IAmb	15 43 47.6	
	comp=Z,14nm,0.9s						
NRIK	**Noril'sk**	**79.55**	**344**	P	**P**	**15 43 37.3**	**+0.5**
	comp=Z,5.7nm,0.7s,baz=124,slow=6.4,SNR=20						
OHAK	**Old Harbor**	**80.24**	**31**	P	**P**	**15 43 39.9**	**-0.9**
OHAK				IAmb	IAmb	15 43 45.3	
	comp=Z,21nm,0.8s						
KDAK	**Kodiak Island**	**80.78**	**30**	P	**P**	**15 43 44.4**	**+0.7**
	comp=Z,16nm,0.8s,baz=226,slow=3.0,SNR=15						
KDAK	**Kodiak Island**	**80.78**	**30**	P	**P**	**15 43 43.9**	**+0.2**
KDAK				pmax	pmax		
	comp=Z,23nm,1.0s						
KDAK	**Kodiak Island**	**80.78**	**30**	P	**P**	**15 43 43.9**	**+0.2**
KDAK				IAmb	IAmb	15 43 51.2	
	comp=Z,23nm,0.9s						
TTA	**Tatalina**	**81.10**	**25**	P	**P**	**15 43 46.6**	**+1.2**
TTA	**Tatalina**	**81.10**	**25**	P	**P**	**15 43 46.6**	**+1.2**
CNPM	**China Poot**	**82.03**	**29**	P	**P**	**15 43 49.8**	**-0.5**
MAW	**Mawson**	**82.43**	**202**	P	**P**	**15 43 54.3**	**+2.1**
	comp=Z,4.4nm,0.9s,baz=90,slow=4.0,SNR=6.1						
MAW				LR	LR	16 18 12.0	
	comp=Z,179nm,19.7s,baz=60,slow=34						
MAW	**Mawson**	**82.43**	**202**	P	**P**	**15 43 52.1**	**-0.1**
MAW	**Mawson**	**82.43**	**202**		**P**	**15 43 52.1**	**-0.1**
RC01	**Rabbit Creek A**	**83.22**	**28**	P	**P**	**15 43 56.5**	**0.0**
KTH	**Kantishna Hill**	**83.47**	**25**	P	**P**	**15 43 57.4**	**-0.4**
KTH				IAmb	IAmb	15 44 03.7	
	comp=Z,14nm,1.0s						
PMR	**Palmer**	**83.65**	**27**	P	**P**	**15 43 58.3**	**-0.3**
PMR				pmax	pmax		
	comp=Z,17nm,1.0s						
PMR	**Palmer**	**83.65**	**27**	P	**P**	**15 43 58.3**	**-0.3**
PMR				IAmb	IAmb	15 44 00.3	
	comp=Z,17nm,1.0s						
GHO	**Glory Hole Cre**	**83.80**	**27**	P	**P**	**15 43 59.9**	**+0.4**
GHO				IAmb	IAmb	15 44 09.1	
	comp=Z,18nm,1.2s						
KNK	**Knik Glacier**	**83.91**	**27**	P	**P**	**15 44 00.5**	**+0.4**
MLY	**Manley**	**84.03**	**24**	P	**P**	**15 44 01.2**	**+0.6**
MLY				IAmb	IAmb	15 44 04.2	
	comp=Z,15nm,1.1s						
SML	**Sawmill**	**84.08**	**27**	P	**P**	**15 44 01.4**	**+0.5**
GEYT	**Alibeck**	**84.25**	**308**	P	**P**	**15 44 03.5**	**+1.1**
	comp=Z,3.1nm,0.8s,baz=92,slow=4.6,SNR=8.0						
GYA0B	**ALIBECK ARRAY**	**84.25**	**308**	P	**P**	**15 44 01.1**	**-1.3**
GYA0B				IAmb	IAmb	15 44 10.5	
	comp=Z,14nm,1.1s						
RND	**Reindeer**	**84.31**	**26**	P	**P**	**15 44 01.5**	**-0.6**
RND				pmax	pmax		
	comp=Z,20nm,0.9s						
RND	**Reindeer**	**84.31**	**26**	P	**P**	**15 44 01.5**	**-0.6**
MCK	**McKinley**	**84.37**	**25**	P	**P**	**15 44 02.1**	**-0.3**
MCK				pmax	pmax		
	comp=Z,22nm,1.1s						
MCK	**McKinley**	**84.37**	**25**	P	**P**	**15 44 02.1**	**-0.3**
MCK				IAmb	IAmb	15 44 09.6	
	comp=Z,22nm,1.1s						
SCM	**Sheep Creek Mo**	**84.55**	**27**	P	**P**	**15 44 03.6**	**+0.3**
SCM				pmax	pmax		
	comp=Z,28nm,1.0s						
SCM	**Sheep Creek Mo**	**84.55**	**27**	P	**P**	**15 44 03.6**	**+0.3**
DHY	**Denali Highway**	**84.86**	**26**	P	**P**	**15 44 05.3**	**+0.3**
WRH	**Wood River Hil**	**84.94**	**25**	P	**P**	**15 44 04.9**	**-0.3**
WRH				IAmb	IAmb	15 44 10.9	
	comp=Z,20nm,1.0s						
CCB	**Clear Creek Bu**	**85.11**	**24**	P	**P**	**15 44 05.7**	**-0.2**
TCOL	**CIGO, UAF Yank**	**85.15**	**24**	P	**P**	**15 44 06.7**	**+0.5**
	baz=254						
COLA	**College**	**85.15**	**24**	*de*P	**P**	**15 44 06.9**	**+0.7**
COLA				pmax	pmax		
	comp=Z,11nm,0.9s						
COLA	**College**	**85.15**	**24**	P	**P**	**15 44 05.8**	**-0.3**
COLA				IAmb	IAmb	15 44 11.4	
	comp=Z,12nm,0.9s						
POKR	**Poker Plat Res**	**85.39**	**24**	P	**P**	**15 44 07.6**	**+0.1**
	baz=254						
HDA	**Harding Lake**	**85.40**	**25**	P	**P**	**15 44 07.3**	**-0.2**
	baz=255						
HDA	**Harding Lake**	**85.40**	**25**	P	**P**	**15 44 06.9**	**-0.6**
HDA				IAmb	IAmb	15 44 09.4	
	comp=Z,16nm,0.9s						
IL31		**85.52**	**24**	P	**P**	**15 44 06.8**	**-1.2**
IL31				IAmb	IAmb	15 44 09.3	
	comp=Z,12nm,0.8s						
ILAR	**Eielson Array**	**85.52**	**24**	P	**P**	**15 44 07.2**	**-0.8**
	comp=Z,13nm,0.9s,baz=259,slow=4.7,SNR=90						
ILAR				LR	LR	16 17 21.1	
	comp=Z,85nm,21.8s,baz=248,slow=32						
TOLK	**Toolik Lake Re**	**85.62**	**20**	P	**P**	**15 44 09.7**	**+1.1**
	baz=252						
TOLK	**Toolik Lake Re**	**85.62**	**20**	P	**P**	**15 44 09.6**	**+1.1**
TOLK				IAmb	IAmb	15 44 15.5	
	comp=Z,21nm,1.2s						
GLB	**Gilahina Butte**	**86.08**	**28**	P	**P**	**15 44 10.9**	**-0.1**
GLB				IAmb	IAmb	15 44 12.9	
	comp=Z,14nm,0.9s						
RIDG	**Independent Ri**	**86.13**	**26**	P	**P**	**15 44 11.2**	**0.0**
VRDI	**Verde Repeater**	**86.20**	**28**	P	**P**	**15 44 12.2**	**+0.5**
WAX	**Waxell Ridge**	**86.33**	**29**	P	**P**	**15 44 11.9**	**-0.3**
DOT	**Dot Lake**	**86.45**	**26**	P	**P**	**15 44 12.5**	**-0.2**
DOT				IAmb	IAmb	15 44 18.7	
	comp=Z,13nm,1.0s						
SCRK	**Sand Creek**	**86.55**	**26**	P	**P**	**15 44 13.3**	**0.0**
SCRK				IAmb	IAmb	15 44 18.5	
	comp=Z,4.7nm,0.8s						
BALM	**Baldy**	**86.69**	**29**	P	**P**	**15 44 14.1**	**0.0**
ARU	**Arti**	**86.71**	**327**	*c i*P	**P**	**15 44 13.7**	**-0.4**
ARU						15 47 34.8	
ARU				S	S	15 54 37.1	-12
ARU				SS	**SS**	**16 00 27.8**	**-2.8**
ARU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARU	**Arti**	**86.71**	**327**	P	**P**	**15 44 12.9**	**-1.2**
ARU				IAmb	IAmb	15 44 17.5	
	comp=Z,5.6nm,0.7s						
BARN	**Barnard Glacie**	**87.02**	**29**		**P**	**15 44 17.1**	**+1.3**
QSPA	**South Pole Qui**	**87.48**	**180**		**P**	**15 44 17.5**	**-0.3**
QSPA				IAmb	IAmb	15 44 22.9	
	comp=Z,13nm,0.9s						
EGAK	**Eagle**	**87.92**	**25**		**P**	**15 44 21.3**	**+1.6**
HYT	**Haines Junctio**	**88.99**	**29**		**P**	**15 44 27.0**	**+1.9**
SKAG	**Skagway**	**89.94**	**31**	P	**P**	**15 44 28.9**	**-0.4**
EPYK	**Eagle Plains**	**89.97**	**24**	P	**P**	**15 44 29.7**	**+0.2**
	baz=264						
SYO	**Syowa Base**	**91.06**	**201**⇑	*e*P	**P**	**15 44 33.7**	**-0.7**
SYO	**Syowa Base**	**91.06**	**201**⇑	*e*pP	pP	15 44 44.2	-2.2
INK	**Inuvik**	**91.36**	**22**	P	**P**	**15 44 35.3**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=27,slow=2.3,SNR=3.2						
INK	**Inuvik**	**91.36**	**22**	P	**P**	**15 44 35.3**	**-0.5**
INK				pmax	pmax		
	comp=Z,8.0nm,1.5s						
INK	**Inuvik**	**91.36**	**22**	IAmb	IAmb	15 45 03.5	
	comp=Z,8.4nm,1.4s						
C36M	**Paulatuk**	**94.77**	**21**	P	**P**	**15 44 51.8**	**+0.4**
	baz=276						
KIV	**Kislovodsk**	**96.19**	**314**	*i* P	**P**	**15 45 00.0**	**+1.3**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN	**Obninsk**	**99.08**	**325**	*i* P	**Pdif**	**15 45 12.5**	**+1.3**
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
YKA	**Yellowknife Ar**	**99.75**	**27**	P	**Pdif**	**15 45 13.9**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=280,slow=4.6,SNR=7.8						
YKA				LR	LR	16 26 18.5	
	comp=Z,143nm,21.7s,baz=0.0,slow=33						
ARCES	**ARCESS Array B**	**100.35**	**341**	P	**Pdif**	**15 45 16.2**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=33,slow=4.6,SNR=5.1						
NVAR	**Mina Array Bea**	**101.53**	**51**	P	**Pdif**	**15 45 23.1**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=270,slow=6.3,SNR=3.3						
TORD	**Torodi Ar. Bea**	**136.39**	**286**	PKP	**PKiKP**	**15 50 55.1**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=32,slow=1.6,SNR=6.3						
MNMC	**Minye Minye**	**144.69**	**129**		**PKPab**	**15 51 07.0**	**-0.1**
LPAZ	**La Paz**	**147.42**	**126**	PKPbc	**PKPbc**	**15 51 16.9**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=93,slow=1.4,SNR=8.6						
RUSC	**La Rusia**	**147.91**	**83**		**PKPdf**	**15 51 11.5**	**-2.7**
SDV	**Santo Domingo**	**149.92**	**77**		**PKPbc**	**15 51 19.8**	**-2.1**
PDPR	**Patillas Dam,**	**151.06**	**56**		**PKPbc**	**15 51 22.9**	**-1.3**
BDFB	**Brasilia**	**160.75**	**159**	PKP	**PKPdf**	**15 51 32.7**	**+1.2**
	comp=Z,3.0nm,0.8s,baz=344,slow=1.5,SNR=4.4						

*IDC **01** 15:40:54.9±1.6, 6°.43S×147°.17E, h0^{km}, mb3.6/2, mb1 4.0/4, mb1mx3.5/30, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=63.4km s-min=25.1km az=104.0*
*NEIC **01** 15:40:56.5±2.0, 6°.38S±0°.08×147°.0E±0°.1, h12^{km}±8^{km}, mb4.2/6, Error ellipse: s-maj=20.5km s-min=11.1km az=98.0*
ISC 01 15:41:01.2±1.3**, 6°.5S**±0°.1×**147°.0E**±0°.2**, h49^{km}, n12, σ1^{s}20**/12**, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.91**	**176**	Pn	**Pn**	**15 41 43.7**	**-1.5**
	3.7nm,0.3s,baz=20,slow=5.3,SNR=16						
PMG				Sn	**Sn**	**15 42 19.9**	**+1.0**
	5.0nm,0.3s,baz=340,slow=22,SNR=4.2						
COEN	**Coen**	**8.30**	**206**	Pn	**Pn**	**15 42 57.9**	**-1.2**
WB0	**Warramunga Arr**	**17.98**	**222**		**P**	**15 45 07.6**	**-0.1**
WB0				IAmb	IAmb	15 45 16.7	
	comp=Z,26nm,1.3s						
WB2	**Warramunga Arr**	**18.13**	**221**	P	**P**	**15 45 09.5**	**+0.1**
WB2				IAmb	IAmb	15 45 35.4	
	comp=Z,22nm,1.2s						
WRA	**Warramunga Arr**	**18.14**	**221**	P	**P**	**15 45 09.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=49,slow=12,SNR=5.0						
EIDS	**Eidsvold**	**19.19**	**169**	Pn	**Pn**	**15 45 22.8**	**+0.4**
EIDS				IAmb	IAmb	15 45 51.7	
	comp=Z,27nm,1.4s						
KNRA	**Kununurra**	**20.03**	**241**	Pn	Pn	15 45 34.1	+1.7
AS31	**Alice Springs**	**21.19**	**215**	P	**P**	**15 45 44.6**	**+1.8**
ASAR	**Alice Springs**	**21.19**	**215**	P	**P**	**15 45 44.8**	**+2.0**
	comp=Z,2.3nm,0.6s,baz=30,slow=12,SNR=11						
BBOO	**Buckleboo**	**28.09**	**200**	P	**P**	**15 46 48.1**	**-0.3**
ILAR	**Eielson Array**	**85.94**	**23**	P	**P**	**15 53 35.6**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=234,slow=6.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**145.15**	**284**	PKPbc	**PKPdf**	**16 00 35.4**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=71,slow=4.3,SNR=5.5						

*UPA **01** 15:56:58.7±1.4, 7°.38N×78°.40W, h1^{km}±7^{km}, MW3.8*
ISC 01 15:56:58.8±2.0**, 7°.39N**±0°.05×**78°.43W**±0°.04**, h2^{km}**±14^{km}**, n20, σ1^{s}29**/32**, 1C, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UPD2	**Meteti**	**1.23**	**20**⇑	*e*P	**Pg**	**15 57 22.1**	**-0.3**
CAPC	**Capurgana**	**1.64**	**41**	*e*P	**Pn**	**15 57 27.6**	**-1.0**
CAPC				*e*S	**Sn**	**15 57 48.4**	**-1.9**
CAPC				*i*		15 57 51.2	
	comp=Z,144nm,0.6s						
CAP2	**Capurgana**	**1.65**	**40**	*e*P	**Pn**	**15 57 28.0**	**-0.7**
CAP2				*e*S	**Sn**	**15 57 49.1**	**-1.3**
AZU	**Azuero**	**1.87**	**283**	*e*P	**Pn**	**15 57 30.9**	**-0.8**
AZU				*e*S	**Sn**	**15 57 55.0**	**-0.8**
CNTA3	**Canitas, Panam**	**1.88**	**346**	*e*P	**Pn**	**15 57 32.4**	**+0.5**
CNTA3				*e*S	**Sb**	**15 57 58.3**	**+0.6**
CHPO	**Chepo, Panama**	**1.90**	**339**	*e*P	**Pn**	**15 57 31.8**	**-0.3**
CHPO				*e*S	**Sn**	**15 57 55.3**	**-1.3**
UPA	**Univ. de Panam**	**1.92**	**326**	*e*P	**Pn**	**15 57 31.6**	**-0.9**
UPA				*e*S	**Sn**	**15 57 57.2**	**0.0**
CHOR3	**La Chorrera**	**2.00**	**319**	*e*P	**Pn**	**15 57 34.5**	**+1.0**
CHOR3				*e*S	**Sn**	**15 57 59.8**	**+0.6**
VTON	**El Valle, Cocl**	**2.06**	**306**	*e*S	**Sn**	**15 58 02.5**	**+1.8**
ZANG	**Zanguenga, Cho**	**2.11**	**318**	*e*P	**Pn**	**15 57 35.1**	**0.0**
ZANG				*e*S	**Sb**	**15 58 05.6**	**+1.2**
DBBC	**Dabeiba**	**2.24**	**99**	*e*P	**Pb**	**15 57 40.1**	**+0.2**
DBBC				*e*S	**Sb**	**15 58 07.4**	**-0.7**
BCIP	**Isla Barro Col**	**2.25**	**322**	*e*P	**Pn**	**15 57 36.4**	**-0.6**
BCIP				*e*S	**Sn**	**15 58 03.9**	**-1.4**
BCIP				*i*		15 58 15.8	
	comp=Z,62nm,0.7s						
BCIP	**Isla Barro Col**	**2.25**	**322**	*e*P	**Pn**	**15 57 36.0**	**-0.9**
BCIP				*e*S	**Sb**	**15 58 09.1**	**+0.7**
CBOC	**Ciudad Bolivar**	**2.84**	**122**	*e*P	**Pn**	**15 57 44.1**	**-1.2**
UREC	**San Jos de Ur**	**2.90**	**83**	*e*P	**Pn**	**15 57 48.1**	**+2.1**
UREC				*e*S	**Sn**	**15 58 21.2**	**-0.2**
HELC	**Santa Helena**	**3.12**	**112**	*e*P	**Pn**	**15 57 46.7**	**-2.6**
HELC	**Santa Helena**	**3.12**	**112**	*e*S	**Sn**	**15 58 28.8**	**+1.5**
GUY2C	**Guyana, Caldas**	**3.73**	**125**	*e*P	**Pn**	**15 57 58.7**	**+0.9**
SJCC	**San Jacinto, C**	**4.07**	**52**	*e*S	**Sn**	**15 58 49.7**	**-0.7**
SMLC	**San Martn de**	**4.54**	**72**	*e*P	**Pn**	**15 58 11.5**	**+3.0**

*ATH **01** 16:01:06.5, 37°.71N×20°.92E, h18^{km}±2^{km}, ML2.4/10, Error ellipse: s-maj=2.0km s-min=0.7km az=3.0*
*THE **01** 16:01:06.5, 37°.68N×20°.85E, h19^{km}±1^{km}, ML2.7/4, Error ellipse: s-maj=2.0km s-min=0.9km az=226.0*
ISC 01 16:01:06.5±0.9**, 37°.70N**±0°.03×**20°.91E**±0°.03**, h18^{km}**±4^{km}**, n39, σ0^{s}41**/57**, Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.08**	**245**	P	**Pg**	**16 01 10.1**	**+0.1**
KRI1				S	**Sg**	**16 01 12.7**	**+0.4**
ZAK2	**Zakynthos**	**0.09**	**354**	P	**Pg**	**16 01 10.2**	**+0.1**
VLMS	**Volimes, Zakyn**	**0.27**	**312**	P	**Pg**	**16 01 12.3**	**-0.2**
VLMS				S	**Sg**	**16 01 16.6**	**0.0**
VLMS				AML	AML	16 01 20.1	
	comp=E,4146μm,0.2s						
VLMS				AML	AML	16 01 20.3	
	comp=N,4266μm,0.2s						
VTN	**Vitineika**	**0.31**	**45**	P	**Pb**	**16 01 13.7**	**+0.2**
VTN	**Vitineika**	**0.31**	**45**	P	**Pb**	**16 01 13.5**	**0.0**
VTN				S	**Sg**	**16 01 17.7**	**0.0**
KFL	**Anninata**	**0.42**	**347**	P	**Pg**	**16 01 14.9**	**-0.3**
KFL				S	**Sb**	**16 01 21.6**	**0.0**
	comp=N,2μm,0.3s						
KFL	**Anninata**	**0.42**	**347**	P	**Pg**	**16 01 14.9**	**-0.3**
KFL				S	**Sg**	**16 01 21.0**	**-0.1**
KFL				AML	AML	16 01 23.7	
	comp=N,2950μm,0.4s						
KFL				AML	AML	16 01 23.8	
	comp=E,3047μm,0.3s						
VLS	**Valsamata**	**0.54**	**332**	P	**Pg**	**16 01 16.7**	**-0.7**
VLS				S	**Sb**	**16 01 25.2**	**+0.2**
VLS	**Valsamata**	**0.54**	**332**	P	**Pg**	**16 01 16.7**	**-0.7**
VLS				S	**Sb**	**16 01 25.3**	**+0.2**
VLS				AML	AML	16 01 27.3	
	comp=N,924μm,0.2s						
VLS				AML	AML	16 01 27.5	
	comp=E,811μm,0.1s						
RLS	**Riolos of Patr**	**0.57**	**50**	P	**Pg**	**16 01 17.5**	**-0.3**
RLS				S	**Sb**	**16 01 27.2**	**+1.5**
	comp=E,532nm,0.5s						
RLS	**Riolos of Patr**	**0.57**	**50**	P	**Pg**	**16 01 17.6**	**-0.3**
RLS				S	**Sg**	**16 01 25.5**	**0.0**
RLS				AML	AML	16 01 27.7	
	comp=N,1611μm,0.5s						
RLS				AML	AML	16 01 28.4	
	comp=E,618μm,0.5s						
ARGA	**Argostoli. Kep**	**0.59**	**325**	P	**Pb**	**16 01 17.9**	**-0.4**
AMT	**Artemida-Makis**	**0.65**	**104**	P	**Pb**	**16 01 19.2**	**-0.2**
AMT				S	**Sn**	**16 01 30.7**	**-0.2**
	comp=E,815nm,0.3s						
AMT	**Artemida-Makis**	**0.65**	**104**	P	**Pb**	**16 01 18.9**	**-0.5**
AMT				S	**Sg**	**16 01 28.7**	**+0.6**
AMT				AML	AML	16 01 31.6	
	comp=N,1654μm,0.4s						
AMT				AML	AML	16 01 33.8	
	comp=E,1544μm,0.3s						
KEF3	**Kipouria, Keph**	**0.67**	**319**	P	**Pg**	**16 01 20.2**	**+0.4**
KEF4	**Livadi, Kephal**	**0.68**	**326**	P	**Pb**	**16 01 19.6**	**-0.2**
DRO	**Drossia**	**0.68**	**68**	P	**Pb**	**16 01 19.6**	**-0.3**
DRO				S	**Sn**	**16 01 31.3**	**-0.2**
	comp=E,518nm,0.4s						
DRO	**Drossia**	**0.68**	**68**	P	**Pb**	**16 01 19.6**	**-0.3**
DRO				S	**Sg**	**16 01 29.2**	**+0.2**
DRO				AML	AML	16 01 33.2	
	comp=E,1337μm,0.4s						
DRO				AML	AML	16 01 38.7	
	comp=N,800μm,0.3s						
PDO	**Prodromos**	**0.93**	**13**	P	**Pb**	**16 01 23.7**	**-0.4**
PDO				S	**Sn**	**16 01 38.5**	**+1.0**
PDO	**Prodromos**	**0.93**	**13**	P	**Pb**	**16 01 23.7**	**-0.4**
ITM	**Ithomi**	**0.96**	**122**	P	**Pn**	**16 01 24.9**	**-0.2**
ITM				S	**Sg**	**16 01 38.1**	**+0.3**
ITM				AML	AML	16 01 48.3	
	comp=E,204μm,0.3s						
ITM				AML	AML	16 01 49.2	
	comp=N,233μm,0.4s						
LAKA	**Lakka**	**1.00**	**57**	P	**Pb**	**16 01 25.0**	**-0.4**
LAKA				S	**Sg**	**16 01 39.1**	**-0.1**
LAKA				AML	AML	16 01 52.0	
	comp=N,276μm,1.1s						
LAKA				AML	AML	16 01 52.2	
	comp=E,297μm,0.8s						
PVO	**Paravola**	**1.04**	**28**	P	**Pb**	**16 01 26.1**	**+0.1**
PVO	**Paravola**	**1.04**	**28**	P	**Pb**	**16 01 26.1**	**+0.1**
KLV	**Kalavryta, Ach**	**1.04**	**70**	P	**Pb**	**16 01 25.5**	**-0.6**
KLV	**Kalavryta, Ach**	**1.04**	**70**	P	**Pb**	**16 01 25.7**	**-0.3**
KLV				S	**Sg**	**16 01 40.6**	**+0.2**
KLV				AML	AML	16 01 49.8	
	comp=E,145μm,0.7s						
KLV				AML	AML	16 01 50.7	
	comp=N,242μm,1.1s						
PYL	**PYLOS**	**1.04**	**140**	P	**Pn**	**16 01 26.3**	**+0.1**
LKD2	**Lefkada island**	**1.11**	**350**	P	**Pb**	**16 01 27.4**	**+0.2**
LKD2				S	**Sg**	**16 01 43.1**	**+0.6**
LKD2				AML	AML	16 01 52.0	
	comp=N,334μm,0.4s						
LKD2				AML	AML	16 01 52.2	
	comp=E,405μm,0.3s						
TRIZ	**Trizonia**	**1.13**	**54**	P	**Pn**	**16 01 27.3**	**-0.2**
TSLK	**Tsoukalades, L**	**1.14**	**350**	P	**Pg**	**16 01 28.4**	**-0.3**
GUR	**Goura**	**1.16**	**78**	P	**Pn**	**16 01 27.8**	**-0.2**
GUR	**Goura**	**1.16**	**78**	P	**Pn**	**16 01 27.9**	**0.0**
KALE	**Kalithea**	**1.19**	**54**	P	**Pn**	**16 01 28.0**	**-0.4**
KALE	**Kalithea**	**1.19**	**54**	P	**Pn**	**16 01 28.0**	**-0.4**
LTK	**Loutraki**	**1.66**	**78**	P	**Pb**	**16 01 37.1**	**+0.5**
AGG	**Agios Georgios**	**1.73**	**40**	P	**Pb**	**16 01 38.2**	**+0.3**
DID	**Didima**	**1.86**	**95**	P	**Pb**	**16 01 39.3**	**-0.7**
IGT	**Igoumenitsa**	**1.89**	**346**	P	**Pb**	**16 01 40.5**	**0.0**
VIL2	**Platees**	**1.93**	**74**	P	**Pb**	**16 01 40.9**	**-0.3**

WEL 01 16:02:49.5, 39°.2S±1°.0×**17°.8E**±°**, h31^{km}**±1^{km}**, M3.5**/19**, ML3.9**/19**, MLv3.5**/19**, Error ellipse: s-maj=0.0km s-min=0.0km az=105.6, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.16**	**30**	P	Pn	16 02 55.7	-0.1
KNZ				S	Sn	16 03 00.6	+1.0
MHGZ	**Mahia Peninsul**	**0.26**	**88**	P	Pn	16 02 57.9	+0.7
WHHZ	**Waihua**	**0.28**	**288**	P	Pb	16 02 56.9	+0.1
WHHZ				S	Sn	16 03 02.6	+0.1
PRGZ	**Paritu Road**	**0.34**	**46**	P	Pn	16 02 58.6	+0.3
SNGZ	**Shannon Statio**	**0.42**	**334**	P	Pb	16 02 58.9	+0.1
SNGZ				S	Sn	16 03 06.1	0.0
RAHZ	**Arahi**	**0.45**	**303**	P	Pb	16 02 59.2	0.0
RAHZ				S	Sn	16 03 06.7	-0.2
RIGZ	**Rimuhau**	**0.48**	**18**	P	Pb	16 02 59.9	+0.2
RIGZ				S	Sn	16 03 08.4	+0.8
NMHZ	**Naumai**	**0.60**	**276**	P	Pn	16 03 01.9	-0.1
NMHZ				S	Sn	16 03 11.5	+0.9
CKHZ	**Cape Kidnapper**	**0.63**	**217**	P	Pn	16 03 02.8	+0.5
MTHZ	**Maungataniwha**	**0.65**	**298**	P	Pb	16 03 02.1	-0.4
MTHZ				S	Sn	16 03 11.6	-0.1
RAGZ	**Rawiri**	**0.68**	**349**	P	Pb	16 03 02.9	-0.1
RAGZ				S	Sn	16 03 13.3	+0.8
RTZ	**Ruatahuna**	**0.71**	**319**	P	Pn	16 03 03.1	-0.4
MCHZ	**McNeill Hill**	**0.74**	**247**	P	Pb	16 03 04.2	+0.3
TKGZ	**Te Karaka**	**0.75**	**17**	P	Pn	16 03 04.0	0.0
MWZ	**Matawai**	**0.83**	**358**	P	Pn	16 03 04.7	-0.3
KAHZ	**Kahuranaki**	**0.83**	**220**	P	Pb	16 03 05.4	-0.1
CNGZ	**Carnagh Statio**	**0.84**	**36**	P	Pb	16 03 05.4	-0.2
BKZ	**Black Stump Fm**	**0.84**	**269**	P	Pn	16 03 05.2	0.0
MUGZ	**Murupara**	**0.93**	**317**	P	Pn	16 03 06.1	-0.3
KWHZ	**Kaweka Forest**	**0.93**	**253**	P	Pn	16 03 06.6	+0.2
MRHZ	**Matea Rd**	**0.96**	**290**	P	Pn	16 03 07.0	+0.2
URZ	**Urewera**	**0.97**	**338**	P	Pn	16 03 06.8	-0.1
PXZ	**Pawanui**	**1.03**	**212**	P	Pn	16 03 07.3	-0.5
TWGZ	**Tauwhareparae**	**1.03**	**18**	P	Pb	16 03 08.9	+0.1
KRHZ	**Kereru**	**1.05**	**242**	P	Pn	16 03 08.0	-0.1
ALRZ	**Allen Road**	**1.13**	**302**	P	Pb	16 03 09.9	-0.6
PRRZ	**Plateau Road**	**1.13**	**305**	P	Pb	16 03 10.1	-0.4
RRRZ	**Republican Roa**	**1.17**	**314**	P	Pb	16 03 10.6	-0.5
HATZ	**Hinemaiaia**	**1.18**	**283**	P	Pb	16 03 11.1	-0.3
RUGZ	**Raukumara Rang**	**1.20**	**4**	P	Pn	16 03 10.1	-0.1
PUZ	**Puketiti**	**1.21**	**26**	P	Pn	16 03 09.7	-0.6
BHHZ	**Black Hill Sta**	**1.22**	**254**	P	Pn	16 03 10.5	+0.1
EDRZ	**Edgecumbe**	**1.24**	**328**	P	Pb	16 03 12.4	+0.1
TARZ	**Mount Tarawera**	**1.25**	**318**	P	Pn	16 03 11.3	+0.4
WPHZ	**Waipukurau**	**1.26**	**224**	P	Pn	16 03 10.8	-0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HRRZ	Handcock Road	1.27	307	P	Pn	16 03 11.2	+0.1
WPRZ	Whakapapatarin	1.27	300	P	Pb	16 03 12.7	-0.2
PNHZ	Pukenui	1.30	234	P	Pn	16 03 11.4	-0.2
HLRZ	Highlands Stat	1.32	313	P	Pb	16 03 13.9	+0.2
PRHZ	Porangahau	1.32	213	P	Pn	16 03 11.1	-0.7
PKGZ	Pakihiroa	1.33	17	P	Pn	16 03 12.0	+0.1
MKRZ	Makatiti	1.34	319	P	Pb	16 03 14.9	+0.8
HSRZ	Hossack Road	1.34	309	P	Pb	16 03 13.3	-0.8
RITZ	Rihia Road	1.35	277	P	Pn	16 03 12.9	+0.7
WHTZ	Whakaora	1.35	291	P	Pb	16 03 15.3	+1.0
MARZ	Manawahe	1.37	329	P	Pb	16 03 14.6	0.0
WHRZ	Whale Island	1.39	340	P	Pb	16 03 14.6	-0.2
GRRZ	Galatos Road	1.40	305	P	Pb	16 03 15.4	+0.3
HAZ	Te Kaha	1.41	7	P	Pn	16 03 12.9	-0.1
OMRZ	Omania	1.41	318	P	Pb	16 03 15.0	-0.3
RATZ	Rangitukua	1.43	281	P	Pb	16 03 15.2	-0.4
MOVZ	Moawhango	1.43	260	P	Pn	16 03 14.0	+0.6
UTU	Utuhina	1.46	312	P	Pb	16 03 18.3	+2.2
KATZ	Kakaramea	1.47	277	P	Pn	16 03 14.4	+0.4
TUVZ	Tukino	1.49	265	P	Pn	16 03 14.8	+0.5
WMGZ	Waiomatatini S	1.49	27	P	Pn	16 03 13.7	-0.4
KRVZ	Karewarewa	1.50	272	P	Pn	16 03 14.8	+0.4
KUTZ	Kaahu Road	1.52	296	P	Pn	16 03 14.8	+0.2
NGZ	Ngauruhoe	1.53	269	P	Pn	16 03 15.2	+0.4
OPRZ	Ohinepanea	1.54	328	P	Pn	16 03 14.5	-0.3
KARZ	Kaharoa	1.54	317	P	Pn	16 03 15.5	+0.7
WTVZ	West Tongariro	1.54	271	P	Pn	16 03 16.1	+1.2
WHVZ	Whangaehu Hut	1.55	265	P	Pn	16 03 15.5	+0.4
ANWZ	Angora Road	1.55	213	P	Pn	16 03 14.2	-0.8
DRZ	Dome Shelter	1.56	265	P	Pb	16 03 18.8	+0.8
DVHZ	Dannevirke	1.57	223	P	Pn	16 03 14.6	-0.7
FWVZ	Far West T-bar	1.57	266	P	Pn	16 03 15.7	+0.3
TRVZ	Turoa	1.58	264	P	Pn	16 03 15.8	+0.3
MTVZ	Mangateitei	1.65	262	P	Pn	16 03 16.7	+0.3
TWVZ	Taurewa	1.66	272	P	Pn	16 03 16.6	0.0
MXZ	Matakaoa Point	1.70	20	P	Pn	16 03 18.1	+1.1
PKVZ	Pokaka	1.73	265	P	Pn	16 03 18.4	+0.9
TGRZ	Tauranga	1.76	324	P	Pb	16 03 21.5	+0.4
TLZ	Tolley Road	1.79	297	P	Pb	16 03 20.3	-1.5
BFZ	Birch Farm	1.83	213	P	Pn	16 03 17.7	-1.1
KMRZ	Kaimai	1.83	315	P	Pb	16 03 21.6	-0.8
POWZ	Post Office Ro	1.86	228	P	Pn	16 03 19.4	+0.2
PRWZ	Pori Road	1.86	221	P	Pn	16 03 18.6	-0.6
TIWZ	Tintock	2.07	218	P	Pn	16 03 20.9	-1.2
WAZ	Wanganui	2.09	253	P	Pn	16 03 23.8	+1.4
MRZ	Mangatainoka R	2.14	225	P	Pn	16 03 22.3	-0.8
TOZ	Tahuroa Road	2.16	311	P	Pb	16 03 30.1	+2.1
VRZ	Vera Road	2.19	270	P	Pn	16 03 24.6	+0.9
HIZ	Hauiti	2.22	286	P	Pn	16 03 24.9	+0.7
TMWZ	Te Maipa	2.33	213	P	Pn	16 03 23.7	-2.0
HOWZ	Holdsworth Sta	2.35	222	P	Pn	16 03 24.3	-1.6
LREZ	Lake Rotokare	2.48	262	P	Pn	16 03 29.4	+1.7
OGWZ	Otaki Gorge	2.48	227	P	Pn	16 03 26.5	-1.2
PREZ	Palmer Road	2.66	265	P	Pn	16 03 32.2	+2.0
KIW	Kapiti Island	2.66	229	P	Pn	16 03 28.8	-1.4
CAW	Cannon Point	2.73	224	P	Pn	16 03 29.5	-1.8
PAWZ	Paruwai Farm	2.76	216	P	Pn	16 03 29.1	-2.5
KHEZ	Kahui Hut	2.77	266	P	Pn	16 03 33.7	+2.0
PKE	Pukeiti	2.79	268	P	Pn	16 03 33.4	+1.4
PLWZ	Palliser	2.99	216	P	Pn	16 03 31.7	-3.1
ETAZ	East Tamaki Re	3.04	316	P	Pn	16 03 36.4	+1.1
DUWZ	D'Urville Isla	3.25	239	P	Pn	16 03 36.9	-1.4
TCW	Tory Channel	3.25	230	P	Pn	16 03 37.4	-0.9
TUWZ	Tuamarina	3.58	230	P	Pn	16 03 40.5	-2.3
NNZ	Nelson	3.81	236	P	Pn	16 03 44.4	-1.6
QRZ	Quartz Range	4.22	245	P	Pn	16 03 49.2	-2.4
THZ	Tophouse	4.41	232	P	Pn	16 03 52.4	-1.9
KHZ	Kahutara	4.47	222	P	Pn	16 03 51.9	-3.1
GVZ	Greta Valley S	5.12	221	P	Pn	16 04 02.3	-1.8
LTZ	Lake Taylor	5.40	226	P	Pn	16 04 05.8	-2.2
MQZ	McQueen's Vall	5.86	218	P	Pn	16 04 11.9	-2.2
CTZ	Chatham Island	6.32	138	P	Pn	16 04 20.5	0.0

*JMA **01** 16:14:25.7±0.1, 43.32N×145.96E, h88km±1km, M2.8*
*SKHL **01** 16:14:26.2±0.2, 43.34N×145.88E, h86km±2km, mb4.3/2, msh5.4/2*
ISC 01 16:14:26.3±1.8, **43.34N**±0.07×**145.94E**±0.07, **h83**km±9km, **n15**, σ**0.59**/29, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	0.15	281	P	Pn	16 14 38.4	+0.2
NEM2				eS	Sn	16 14 47.7	+0.7
NMR	Nemuro--Hokkai	0.16	282	eP	Pn	16 14 38.0	-0.2
NMR				eS	Sn	16 14 47.0	0.0
JKHN	Kushirohamanak	0.63	246	P	Pn	16 14 41.6	+0.2
JKHN				eS	Sn	16 14 53.1	+0.5
GRPR	Tuman	0.67	349	eP	Pn	16 14 41.0	-0.9
GRPR				eS	Sn	16 14 52.0	-1.4
GRPR				A	A	16 14 54.0	
	600nm,0.2s						
GRPR				A	A	16 14 54.0	
	550nm,0.2s						
YUK	Yuzh-Kuril'sk	0.70	355	eP	Pn	16 14 41.8	-0.4
YUK				AMB	AMB	16 14 42.0	
	200nm,0.4s						
YUK				eS	Sn	16 14 53.7	-0.2
YUK				A	A	16 14 55.9	
	360nm,0.2s						
YUK				A	A	16 14 55.9	
	280nm,0.2s						
JNSB	Nemuroshibetsu	0.81	303	P	Pn	16 14 43.3	0.0
JNSB				eS	Sn	16 14 56.9	+0.9
JRA	Rausu	0.85	316	P	Pn	16 14 43.8	+0.1
JRA				eS	Sn	16 14 57.9	+1.2
JNK	Nakash	0.93	286	P	Pn	16 14 44.3	-0.3
JNK				eS	Sn	16 14 57.8	-0.5
JAK	Akkeshi	0.97	250	P	Pn	16 14 44.9	-0.3
JAK				eS	Sn	16 14 59.3	0.0
JAR	Ashorobuto	1.59	269	P	Pn	16 14 53.0	+0.2
JAR				eS	Sn	16 15 13.4	+0.5
JOB	Onbets	1.60	255	P	Pn	16 14 53.1	+0.1
JOB				eS	Sn	16 15 13.6	+0.3
JTKR	Abashiri--Toko	1.61	294	P	Pn	16 14 53.2	+0.1
JTKR				eS	Sn	16 15 13.5	+0.1
JMP	Maruseppu	1.99	291	P	Pn	16 14 58.3	+0.1
JCH	Churui	2.03	250	P	Pn	16 14 58.0	-0.6
JCH				eS	Sn	16 15 22.1	-1.1
KUR	Kuril'sk	2.35	35	eP	Pn	16 15 03.3	+0.5
KUR				AMB	AMB	16 15 06.3	
	80nm,0.9s						
KUR				eS	Sn	16 15 31.0	+0.2

*IDC **01** 16:35:45.6±1.1, 0.40S×129.66E, h0km, mb4.0/4, mb1 4.1/6, mb1mx3.7/38, mbtmp4.0/6, ML3.8/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/37, Error ellipse: s-maj=25.4km s-min=12.8km az=26.0*
*DJA **01** 16:35:48.7±0.9, 0°S±3°×13°0E±°, h13km±7km, M4.0/11, mB5.0/1, mb4.8/1, MLv3.9/11, MLv3.7/2, Mw(mB)4.3/1*
*NEIC **01** 16:35:50.1±0.6, 0.5S±0.1×129.66E±0.08, h38km±9km, mb4.1/11, Error ellipse: s-maj=18.2km s-min=8.5km az=207.0*
ISC 01 16:35:49.9±0.8, **0.33S**±0.06×**129.78E**±0.05, **h35**km, **n30**, σ**1.68**/29, **mb4.0**/5, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	1.58	110	Pg	Pn	16 36 16.5	+1.0
	140nm,0.3s,baz=310,slow=11,SNR=402						
SIJI				Lg	Lg	16 36 38.0	
	41nm,0.3s,baz=148,slow=22,SNR=6.3						
LBMI	Labuha	2.30	262	P	Pn	16 36 25.7	+0.4
LBMI				S	Sn	16 36 54.1	+1.7
TNTI	Ternate	2.65	294	P	Pn	16 36 30.1	0.0
TNTI				S	Sn	16 37 02.5	+1.5
TNTI	Ternate	2.65	294		Pn	16 36 29.9	-0.2
MSAI	Masohi	3.12	196	P	Pn	16 36 38.5	+2.0
MSAI				S	Sn	16 37 15.8	+3.2
FAKI	Fak Fak	3.57	136	P	Pn	16 36 43.9	+1.1
FAKI	Fak Fak	3.57	136		Pn	16 36 43.0	+0.3
AAI	Ambon	3.69	205	P	Pn	16 36 45.7	+1.2
NLAI	Namlea	3.94	223	P	Pn	16 36 46.9	-1.0
KMSI	Cibinong	5.87	279	P	Pn	16 37 15.3	+0.9
MTN	Manton Dam	12.51	174		Pn	16 38 42.9	-2.5
KNRA	Kununurra	15.28	184	Pn	Pn	16 39 18.5	-4.7
SBUM	Sibu	17.77	279	P	Pn	16 39 54.1	-0.5
FITZ	Fitzroy Crossi	18.12	193	P	Pn	16 39 56.9	-2.0
	0.2nm,0.3s,baz=7.4,slow=12,SNR=6.9						
FITZ	Fitzroy Crossi	18.12	193	IAmb	IAmb	16 40 52.1	
	comp=Z,34nm,1.9s						
COEN	Coen	18.95	136	P	P	16 40 07.4	-0.8
COEN				IAmb	IAmb	16 40 17.7	
	comp=Z,23nm,1.6s						
PMG	Port Moresby	19.51	118	LR	LR	16 48 57.7	
	comp=Z,96nm,18.6s,baz=294,slow=40						
WB0	Warramunga Arr	19.84	167	P	P	16 40 16.5	-1.3
WB0				IAmb	IAmb	16 40 50.5	
	comp=Z,26nm,1.9s						
WRA	Warramunga Arr	20.00	167	P	P	16 40 18.3	-1.3
	comp=Z,0.3nm,0.3s,baz=344,slow=12,SNR=18						
WRA				S	S	16 43 52.6	-10
	comp=Z,0.1nm,0.3s,baz=358,slow=23,SNR=2.4						
WB2	Warramunga Arr	20.00	167	P	P	16 40 18.0	-1.6
WB2				IAmb	IAmb	16 40 31.8	
	comp=Z,12nm,1.3s						
WR0	Warramunga Arr	20.06	167	P	P	16 40 18.9	-1.4
WR0				IAmb	IAmb	16 40 28.1	
	comp=Z,6.4nm,1.0s						
AS31	Alice Springs	23.54	170	P	P	16 40 55.5	-1.6
ASAR	Alice Springs	23.54	170	P	P	16 40 58.0	+0.8
	comp=Z,7.0nm,0.9s,baz=350,slow=10,SNR=54						
STKA	Stephens Creek	33.31	162	P	P	16 42 25.8	+1.3
	comp=Z,3.0nm,0.7s,baz=319,slow=7.7,SNR=5.8						
STKA	Stephens Creek	33.31	162	IAmb	IAmb	16 43 29.4	
	comp=Z,3.9nm,1.9s						
CMAR	Chiang Mai Arr	35.59	303	P	P	16 42 45.5	+1.1
	comp=Z,0.7nm,0.9s,baz=124,slow=6.8,SNR=6.7						
KSRS	Korea Array	37.63	358	LR	LR	16 58 30.0	
	comp=Z,12nm,19.5s,baz=142,slow=36						
JOHN	Johnston Islan	62.14	71	P	P	16 46 08.2	+0.3
MK31	Makanchi Array	62.60	325	P	P	16 46 10.9	+0.3
MK31				IAmb	IAmb	16 46 12.4	
	comp=Z,1.1nm,0.9s						
MKAR	Makanchi Array	62.60	325	P	P	16 46 11.0	+0.3
	comp=Z,0.9nm,0.7s,baz=113,slow=8.0,SNR=9.2						

*DDA **01** 16:36:08.8, 35.94N×28.00E, h45km±6km, ML2.4*
*ISK **01** 16:36:08.8, 35.97N×28.04E, h25km, ML2.9/14*
*ATH **01** 16:36:10.9, 36.09N×27.75E, h47km±8km, ML2.7/3, Error ellipse: s-maj=9.4km s-min=1.2km az=94.0*
*THE **01** 16:36:10.0, 36.00N×27.99E, h72km±3km, ML2.7/2, Error ellipse: s-maj=3.1km s-min=1.2km az=141.0*
ISC 01 16:36:08.1±1.4, **36.04N**±0.04×**28.00E**±0.03, **h79**km±8km, **n44**, σ**1.28**/72, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	Arkhangelos	0.20	30	P	Pn	16 36 20.3	+0.4
ARG				S	Sn	16 36 28.6	+0.1
	722nm,0.3s						
ARG	Arkhangelos	0.20	30	P	Pn	16 36 20.3	+0.4
ARG				S	Sn	16 36 27.6	-0.9
ARG				AML	AML	16 36 29.0	
	comp=N,1174µm,0.3s						
ARG				AML	AML	16 36 30.2	
	comp=E,1777µm,0.4s						
MRSB	Marmaris-Mugla	0.69	13	PG	Pn	16 36 24.4	+0.7
MRSB				SG	Sn	16 36 35.9	+0.6
DAT	Datca	0.77	334	P	Pn	16 36 25.5	+0.9
DAT				S	Sn	16 36 37.2	+0.4
DAT	Datca	0.77	334	PG	Pn	16 36 25.5	+0.9
DAT				SG	Sn	16 36 37.5	+0.7
DAT	Datca	0.77	334	i P	Pn	16 36 25.4	+0.8
DAT				i S	Sn	16 36 34.3	-2.5
DATC	Datca-Mugla	0.77	339	PG	Pn	16 36 25.2	+0.8
KARP	Karpathos	0.84	235	P	Pn	16 36 25.7	+0.4
KARP				S	Sn	16 36 37.1	-0.9
	comp=E,512nm,0.1s						
KARP	Karpathos	0.84	235	P	Pn	16 36 25.7	+0.4
KARP				S	Sn	16 36 36.4	-1.7
KARP				AML	AML	16 36 38.2	
	comp=N,841µm,0.2s						
KARP				AML	AML	16 36 39.1	
	comp=E,1209µm,0.1s						
KARP	Karpathos	0.84	235	PG	Pn	16 36 25.5	+0.2
KARP				SG	Sn	16 36 37.5	-0.5
DALY	Dalyan (Mula)	0.94	34	PG	Pn	16 36 27.6	+1.2
DALY				SG	Sn	16 36 40.8	+0.8
DALY	Dalyan (Mula)	0.94	34	i P	Pn	16 36 26.5	+0.1
DALY				i S	Sn	16 36 40.0	0.0
DALY				IAML		16 36 42.0	
	comp=N,68nm,0.4s						
TURN	Turunc	0.96	30	PG	Pn	16 36 25.7	-1.0
TURN				SG	Sn	16 36 37.4	-3.1
TURN	Turunc	0.96	30	i P	Pn	16 36 25.6	-1.0
TURN				i S	Sn	16 36 36.7	-3.8
TURN				IAML		16 36 38.0	
	comp=N,292nm,0.2s						
TURN				IAML		16 36 38.0	
	comp=E,82nm,0.2s						
FETY	Fethiye	1.06	55	P	Pn	16 36 28.3	+0.5
FETY				S	Sn	16 36 43.2	+0.6
FETY	Fethiye	1.06	55	PG	Pn	16 36 28.4	+0.5
FETY				SG	Sn	16 36 43.0	+0.4
FETY	Fethiye	1.06	55	i P	Pn	16 36 28.4	+0.5
FETY				i S	Sn	16 36 42.2	-0.4
BDRM	Kayabasi	1.12	337	i P	Pn	16 36 28.9	+0.4
BDRM				i S	Sn	16 36 43.9	0.0
BDRM				IAML		16 36 44.0	
	comp=E,98nm,0.5s						
YER	Yerkesik	1.12	12	P	Pn	16 36 30.4	+1.8
YER				S	Sn	16 36 45.9	+1.9
YER	Yerkesik	1.12	12	PN	Pn	16 36 29.9	+1.3
BODT	Bodrum	1.16	332	P	Pn	16 36 30.0	+0.8
BODT				S	Sn	16 36 45.3	+0.4
BODT	Bodrum	1.16	332	PN	Pn	16 36 29.9	+0.8
AKAS	Kas	1.31	81	PN	Pn	16 36 32.1	+1.0
AKAS	Kas	1.31	81	i P	Pn	16 36 29.7	-1.4
AKAS				i S	Sn	16 36 46.8	-1.6
AKAS				IAML		16 36 50.0	
	comp=N,59nm,0.5s						
TAVA	DENIZLI_Tavas	1.60	27	i P	Pn	16 36 36.2	+1.4
TAVA				i S	Sn	16 36 54.7	-0.3
AYDN	Tasoluk	1.62	357	i P	Pn	16 36 36.4	+1.3
AYDN				i S	Sn	16 36 54.3	-1.1
ELL	Elmali	1.70	65	PN	Pn	16 36 37.3	+1.2
ZKR	Zakros	1.72	238	P	Pn	16 36 37.5	+1.3
ZKR				S	Sn	16 36 57.5	-0.2
GOLH	Golhisar	1.73	46	i P	Pn	16 36 38.0	+1.5
GCAM	G?zelcaml?	1.77	340	PN	Pn	16 36 38.4	+1.5
GCAM	G?zelcaml?	1.77	340	i P	Pn	16 36 35.7	-1.2
GCAM				IAML		16 37 01.0	
	comp=N,28nm,0.2s						
ANAF	Anafi Island	1.83	281	P	Pn	16 36 38.8	+1.1
ANAF	Anafi Island	1.83	281	P	Pn	16 36 38.6	+1.0
ANAF				S	Sn	16 36 57.9	-2.2
ANAF				AML	AML	16 37 02.1	
	comp=E,1081µm,0.4s						
ANAF				AML	AML	16 37 02.8	
	comp=N,741µm,0.3s						
AMGA	Amorgos Island	1.87	296	P	Pn	16 36 39.1	+0.8
AYDB	Zeytinkoy-Aydi	1.91	357	PN	Pn	16 36 39.9	+1.0
SANT	Santorini	2.08	280	P	Pn	16 36 41.9	+0.8
NPS	Neapolis	2.09	249	P	Pn	16 36 42.2	+1.0
NPS				S	Sn	16 37 05.5	-1.0
KORT	Korkueli	2.12	62	PN	Pn	16 36 43.7	+2.0
DGB	zmir	2.20	336	i P	Pn	16 36 43.5	+0.9
DGB				i S	Sn	16 37 06.5	-2.5
LAST	Lasithi	2.23	248	P	Pn	16 36 44.4	+1.2
APE	Apeiranthos	2.24	298	P	Pn	16 36 44.3	+1.1
IOSP	Ios island	2.29	288	P	Pn	16 36 44.9	+1.1
MANT	Manisa	2.49	10	i P	Pn	16 36 45.8	-0.9
MANT				i S	Sn	16 37 14.6	-1.7
AKHS	Akhisar	2.84	357	i P	Pn	16 36 51.9	+0.6
AKHS				i S	Sn	16 37 22.3	-2.2
AKHS				IAML		16 37 25.0	
	comp=E,9.8nm,0.5s						

*BGR **01** 16:37:28.7±0.0, 21.66S×176.14W, h33km*
*NEIC **01** 16:38:30.6±1.6, 20.3S±0.1×178.1W±0.1, h548km±6km, mb4.6/47, Error ellipse: s-maj=18.1km s-min=15.2km az=127.0*
*IDC **01** 16:38:33.0±2.1, 20.27S×178.22W, h564km±23km, mb3.5/20, mb1 3.7/20, mb1mx3.5/40, mbtmp4.4/20, Error ellipse: s-maj=14.6km s-min=11.6km az=135.0*
ISC 01 16:38:29.7±0.5, **20.30S**±0.09×**178.11W**±0.08, **h534**km, **n126**, σ**0.83**/138, **mb4.5**/44, **8C-1D**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.44	304	P	P	16 39 57.5	+3.5
NIUE	Niue	7.81	82	P	P	16 40 26.2	+1.2
AFI	Afiamalu	8.78	45	P	P	16 40 33.9	-1.1
DZM	Mont Dzumac	14.51	260	P	P	16 41 29.7	-4.8
BKZ	Black Stump Fm	19.37	193	P	P	16 42 19.4	-1.3
BFZ	Birch Farm	20.88	192	P	P	16 42 32.8	-1.6
QRZ	Quartz Range	21.96	199	P	P	16 42 43.2	-0.9
NNZ	Nelson	22.07	197	P	P	16 42 44.2	-0.9
TUWZ	Tuamarina	22.12	196	P	P	16 42 44.2	-1.3
THZ	Tophouse	22.71	198	P	P	16 42 51.0	+0.1
DCZ	Deep Cove	27.89	202	P	P	16 43 35.1	-1.3
EIDS	Eidsvold	28.80	254	P	P	16 43 45.1	+0.3
ARMA	Armidale	29.06	244	P	P	16 43 47.9	+0.8
CAN	Canberra	32.53	236	P	P	16 44 17.3	+0.5
CTA	Charters Tower	33.40	264	P	P	16 44 25.1	+0.8
	14nm,0.7s,baz=92,slow=9.9,SNR=20						
CTAO	Charters Tower	33.40	264	P	P	16 44 24.8	+0.5
CTAO				IAmb	IAmb	16 44 25.8	
	comp=Z,12nm,0.7s						
TOO	Toolangi	35.93	233	P	P	16 44 45.5	+0.3
TOO				IAmb	IAmb	16 45 30.5	
	comp=Z,18nm,1.2s						
COEN	Coen	37.46	273	P	P	16 44 58.5	+0.4
COEN				IAmb	IAmb	16 44 59.6	
	comp=Z,16nm,1.1s						
STKA	Stephens Creek	37.78	244	P	P	16 45 01.4	+1.0
	comp=Z,3.8nm,0.7s,baz=81,slow=8.5,SNR=6.8						
STKA	Stephens Creek	37.78	244	P	P	16 45 01.3	+0.9
BBOO	Buckleboo	42.54	243	P	P	16 45 38.8	+0.2
BBOO				IAmb	IAmb	16 45 42.1	
	comp=Z,59nm,1.9s						
JAY	Jayapura	43.88	288	P	P	16 45 50.0	+0.8
	comp=Z,29nm,0.7s,baz=132,slow=3.4,SNR=20						
WR0	Warramunga Arr	44.33	262	P	P	16 45 52.1	-0.6
WR0				IAmb	IAmb	16 45 53.4	
	comp=Z,5.6nm,0.5s						
AS31	Alice Springs	44.46	257	P	P	16 45 53.6	0.0
ASAR	Alice Springs	44.46	257	P	P	16 45 53.7	+0.1
	comp=Z,13nm,0.7s,baz=88,slow=8.2,SNR=159						
ASAR				PcP	PcP	16 47 25.3	-0.4
	comp=Z,2.0nm,0.6s,baz=100,slow=3.9,SNR=8.2						
ASAR				ScP	ScP	16 50 26.8	-0.2
	comp=Z,0.7nm,0.9s,baz=118,slow=5.0,SNR=4.1						
ASAR				S	S	16 51 47.5	-2.5
	comp=Z,0.5nm,0.7s,baz=94,slow=16,SNR=4.8						
WB0	Warramunga Arr	44.50	262	P	P	16 45 53.5	-0.4
WB0				IAmb	IAmb	16 45 54.2	
	comp=Z,14nm,0.6s						
WB2	Warramunga Arr	44.51	262	P	P	16 45 53.7	-0.4
WB2				IAmb	IAmb	16 45 54.5	
	comp=Z,20nm,1.1s						
WRAB	Tennant Creek	44.51	262	P	P	16 45 53.3	-0.8
WRAB				IAmb	IAmb	16 45 54.4	
	comp=Z,15nm,1.0s						
WRA	Warramunga Arr	44.52	262	P	P	16 45 53.6	-0.5
	comp=Z,10nm,0.7s,baz=97,slow=7.6,SNR=128						
WRA				PcP	PcP	16 47 25.1	-0.8
	comp=Z,0.8nm,0.9s,baz=89,slow=3.5,SNR=4.5						
MTN	Manton Dam	49.05	270	P	P	16 46 27.6	-0.8
MTN				IAmb	IAmb	16 46 28.9	
	comp=Z,20nm,0.9s						
FORT	Forrest	49.28	246	P	P	16 46 29.4	-0.5
FORT				IAmb	IAmb	16 48 07.0	
	comp=Z,37nm,1.4s						
KNRA	Kununurra	50.57	266	P	P	16 46 39.4	-0.1
KNRA				IAmb	IAmb	16 46 40.1	
	comp=Z,13nm,0.7s						
FAKI	Fak Fak	51.35	283	P	P	16 46 45.0	-0.3
FITZ	Fitzroy Crossi	52.95	262	P	P	16 46 57.0	+0.3
	comp=Z,3.1nm,0.6s,baz=80,slow=3.7,SNR=15						
FITZ	Fitzroy Crossi	52.95	262	P	P	16 46 56.7	+0.1
SOEI	Soe	56.39	272	P	P	16 47 22.1	+1.2
SOEI				IAmb	IAmb	16 47 23.3	
	comp=Z,35nm,0.8s						
PSA00	Pilbara Seismi	57.61	257	P	P	16 47 28.6	-0.5
PSA00				IAmb	IAmb	16 48 35.2	
	comp=Z,78nm,1.9s						
VNDA	Vanda	58.10	185	P	P	16 47 33.1	+1.7
	comp=Z,0.5nm,0.8s,baz=0.7,slow=7.4,SNR=5.3						
VNDA	Vanda	58.10	185	P	P	16 47 32.6	+1.2
NWAO	Narrogin (SRO)	58.36	243	P	P	16 47 34.0	0.0
NWAO				IAmb	IAmb	16 48 11.6	
	comp=Z,86nm,1.9s						
MORW	Morawa	59.81	248	P	P	16 47 43.5	-0.3
GIRL	Giralia	62.50	254	P	P	16 48 02.4	+0.9
JHJ2	Mitsune	66.59	322	P	P	16 48 27.3	+0.2
QSPA	South Pole Qui	69.77	180	P	P	16 48 47.0	+1.0
	comp=Z,2.4nm,0.8s,baz=329,slow=0.8,SNR=13						
QSPA	South Pole Qui	69.77	180	P	P	16 48 46.1	0.0
MJAR	Matsushiro Arr	69.98	324	P	P	16 48 46.9	-0.8
	comp=Z,2.0nm,0.6s,baz=138,slow=6.1,SNR=18						
MAT	Matsushiro	69.99	324	P	P	16 48 47.4	-0.2
ADK	Adak	71.88	1	P	P	16 48 57.6	-0.7
ADK				IAmb	IAmb	16 51 34.0	
	comp=Z,35nm,1.4s						
ATKA	Atka Island	72.27	3	P	P	16 49 00.0	-0.6
ATKA				IAmb	IAmb	16 49 00.9	
	comp=Z,21nm,1.0s						
KSM	Kuching	73.28	278	P	P	16 49 07.3	0.0
JKA	Kamikawa-asahi	73.50	332	P	P	16 49 09.6	+1.7
JKA	Kamikawa-asahi	73.50	332	P	P	16 49 09.1	+1.3
JKA				IAmb	IAmb	16 51 21.4	
	comp=Z,13nm,0.6s						
ASAJ	Asahikawa	73.50	332	P	P	16 49 09.6	+1.7
	comp=Z,6.4nm,0.8s,baz=232,slow=4.7,SNR=10						
TPUB	Ta-pu	73.78	303	P	P	16 49 09.0	-1.0
UNV	Unalaska Valle	74.51	7	P	P	16 49 12.5	-0.9
UNV				IAmb	IAmb	16 49 41.0	
	comp=Z,32nm,1.4s						
AKUT	Akutan	74.88	7	P	P	16 49 14.5	-1.0
PET	Petropavlovsk	75.75	346	P	P	16 49 19.0	-1.2
PET				IAmb	IAmb	16 50 45.7	
	comp=Z,67nm,1.7s						
PEA0B	Petropavlovsk-	76.05	345	P	P	16 49 21.9	-0.1
PEA0B				IAmb	IAmb	16 51 23.6	
	comp=Z,24nm,1.3s						
PETK	Petropavlovsk-	76.05	345	P	P	16 49 22.0	0.0
	comp=Z,5.0nm,0.7s,baz=141,slow=6.8,SNR=11						
KSRS	Korea Array	76.67	319	P	P	16 49 26.7	+1.0
	comp=Z,0.8nm,0.6s,baz=128,slow=6.2,SNR=9.8						
USRK	Ussuriysk Ar.	78.74	326	P	P	16 49 38.2	+1.4
	comp=Z,3.6nm,0.8s,baz=130,slow=2.9,SNR=8.6						
NVAR	Mina Array Bea	80.95	43	P	P	16 49 50.0	+1.1
	comp=Z,1.0nm,0.7s,baz=229,slow=8.4,SNR=8.3						
KLR	Kul'dur	82.30	329	P	P	16 49 55.4	+0.2
	comp=Z,1.5nm,0.8s,baz=61,slow=3.9,SNR=4.6						
SEY	Seymchan	86.16	347	P	P	16 50 13.6	-0.2
	comp=Z,4.7nm,0.6s,baz=149,slow=6.2,SNR=18						
RND	Reindeer	86.53	13	P	P	16 50 15.2	-0.5
RND				IAmb	IAmb	16 50 16.1	
	comp=Z,6.6nm,0.8s						
TXAR	Lajitas Array	87.04	57	P	P	16 50 20.5	+1.6
	comp=Z,0.8nm,0.8s,baz=221,slow=6.7,SNR=10						
WRH	Wood River Hil	87.63	13	P	P	16 50 20.0	-0.7
WRH				IAmb	IAmb	16 50 20.8	
	comp=Z,5.1nm,0.8s						
HDA	Harding Lake	87.81	13	P	P	16 50 20.8	-0.7
HDA				IAmb	IAmb	16 50 21.7	
	comp=Z,4.5nm,0.6s						
CCB	Clear Creek Bu	87.84	13	P	P	16 50 20.7	-1.0
CCB				IAmb	IAmb	16 50 21.5	
	comp=Z,4.9nm,0.6s						
MCMT	McKenzie Canyo	87.87	40		P	16 50 23.2	+0.6
ILAR	Eielson Array	88.14	13	P	P	16 50 22.2	-0.9
	comp=Z,1.3nm,0.6s,baz=226,slow=5.6,SNR=11						
PDAR	Pinedale Array	88.89	43	P	P	16 50 27.9	+0.4
	comp=Z,0.6nm,0.6s,baz=205,slow=3.1,SNR=4.5						
EGAK	Eagle	89.44	15	P	P	16 50 29.1	0.0
CMAR	Chiang Mai Arr	89.95	290	P	P	16 50 33.8	+1.2
	comp=Z,2.8nm,0.8s,baz=118,slow=2.9,SNR=25						
CHTO	Chiang Mai	90.08	290	P	P	16 50 32.8	-0.4
CHTO				IAmb	IAmb	16 50 35.0	
	comp=Z,4.8nm,0.7s						
MKAR	Makanchi Array	110.98	313	PKiKP	PKiKP	16 56 00.7	-1.6
	comp=Z,0.4nm,0.5s,baz=97,slow=0.8,SNR=8.0						
ARCES	ARCESS Array B	128.70	350	PKP	PKPdf	16 56 35.2	-0.4
	comp=Z,0.8nm,0.5s,baz=29,slow=2.8,SNR=5.8						
FINES	FINESS Array B	135.55	344	PKP	PKPdf	16 56 46.0	-2.6
	comp=Z,0.7nm,0.6s,baz=84,slow=4.2,SNR=5.1						
AKASG	Malin Array Be	142.79	331	PKhKP	PKPpre	16 56 58.1	
	comp=Z,7.0nm,0.5s,baz=43,slow=4.3,SNR=35						
BSEG	Bad Segeberg	145.81	351	ePKPbc	PKPbc	16 57 08.8	-0.1
	baz=14,slow=2.4						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BR131	**Keskin Array S**	**146.62**	**312**		**PKPbc**	**16 57 11.0**	**-0.9**
BRTR	**Keskin Array B**	**146.62**	**312**	PKPbc	**PKPbc**	**16 57 11.2**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=134,slow=4.1,SNR=19						
BUR08	**Bucovina Ar. S**	**146.82**	**331**		**PKPbc**	**16 57 12.0**	**-0.1**
RETH	**Rethem/Aller,**	**147.11**	**352**	*e*PKPbc	**PKPbc**	**16 57 12.1**	**-0.3**
	baz=14,slow=2.4						
NRDL	**Niedersach Rie**	**147.24**	**351**	*e*PKPbc	**PKPbc**	**16 57 12.7**	**-0.1**
	baz=14,slow=2.4						
OSTC	**Ostas**	**147.75**	**343**	⇑*e*PKP	**PKPbc**	**16 57 14.4**	**+0.1**
CHVC	**Chvalec**	**147.76**	**343**	⇑*e*PKP	**PKPbc**	**16 57 14.5**	**+0.1**
CLZ	**Clausthal**	**147.83**	**350**	*e*PKPbc	**PKPbc**	**16 57 14.5**	**0.0**
	baz=14,slow=2.4						
CLL	**Collm**	**147.84**	**347**	⇓*i*PKPbc	**PKiKP**	**16 57 15.2**	**-0.7**
	comp=Z,11nm,0.9s						
CLL				⇑*i*PKPab	**PKPab**	**16 57 19.4**	**+0.5**
	comp=Z,5.0nm,0.8s						
CLL	**Collm**	**147.84**	**347**		**PKPbc**	**16 57 14.6**	**+0.1**
DPC	**Dobruska-Polom**	**147.90**	**343**	⇑*e*PKP	**PKPbc**	**16 57 14.9**	**+0.2**
KRLC	**Kraliky**	**148.02**	**342**	⇑*e*PKP	**PKPbc**	**16 57 15.1**	**+0.1**
KRLC				*e*PKPAB	**PKPab**	**16 57 19.9**	**+0.2**
BRG	**Berggiesshubel**	**148.04**	**346**	*e*PKP	**PKPbc**	**16 57 15.1**	**+0.1**
	comp=Z,5.8nm,0.7s						
BRG				*e*		16 57 19.6	
	comp=Z,4.0nm,0.8s						
BRG	**Berggiesshubel**	**148.04**	**346**	*e*PKPbc	**PKPbc**	**16 57 15.0**	**0.0**
	baz=14,slow=2.4						
BRG				*e*PKPab	**PKPab**	**16 57 19.5**	**-0.1**
	baz=15,slow=4.4						
MORC	**Moravsky Berou**	**148.05**	**341**	*e*PKP	**PKPbc**	**16 57 14.9**	**-0.2**
FBE	**Freiberg**	**148.13**	**346**	*e*PKPbc	**PKPbc**	**16 57 15.5**	**+0.3**
	baz=14,slow=2.4						
FBE				*e*PKPab	**PKPab**	**16 57 20.3**	**+0.2**
	baz=15,slow=4.4						
BUG	**Bochum--Univer**	**148.63**	**354**	*e*PKPbc	**PKPbc**	**16 57 16.1**	**-0.3**
	baz=14,slow=2.4						
PRU	**Pruhonice**	**148.71**	**344**	⇑*e*PKP	**PKPbc**	**16 57 16.5**	**-0.2**
GOPC	**GO Pecny, Ondr**	**148.72**	**344**	⇑*e*PKP	**PKPbc**	**16 57 17.1**	**+0.4**
MOX	**Moxa**	**148.75**	**348**	*e*PKPbc	**PKPbc**	**16 57 16.6**	**-0.2**
	baz=14,slow=2.4						
MOX				*e*PKPab	**PKPab**	**16 57 22.2**	**-0.5**
	baz=15,slow=4.4						
VRAC	**Vranov**	**148.75**	**341**	*e*PKP	**PKPbc**	**16 57 16.6**	**-0.2**
PLN	**Plauen**	**148.80**	**347**	*e*PKPbc	**PKPbc**	**16 57 16.9**	**0.0**
	baz=14,slow=2.4						
TANN	**Tannenbergstha**	**148.80**	**347**	*e*PKPbc	**PKPbc**	**16 57 16.9**	**-0.1**
	baz=14,slow=2.4						
JAVC	**Velka Javorina**	**148.81**	**340**	*e*PKP	**PKiKP**	**16 57 17.9**	**-0.2**
GUNZ	**Gunzen**	**148.88**	**347**	*e*PKPbc	**PKPbc**	**16 57 17.2**	**+0.1**
	baz=14,slow=2.4						
GUNZ				*e*PKPab	**PKPab**	**16 57 23.2**	**0.0**
	baz=15,slow=4.4						
WERN	**Wernitzgruen**	**148.94**	**347**	*e*PKPbc	**PKPbc**	**16 57 17.5**	**+0.2**
	baz=14,slow=2.4						
WERN				*e*PKPab	**PKPab**	**16 57 23.6**	**+0.1**
	baz=15,slow=4.4						
KRUC	**Moravsky**	**149.03**	**341**	*e*PKP	**PKPbc**	**16 57 17.0**	**-0.5**
MANZ	**Manzenberg**	**149.28**	**347**	*e*PKPbc	**PKPbc**	**16 57 18.1**	**0.0**
	baz=14,slow=2.4						
ROTZ	**Rotzenmuhle**	**149.47**	**347**	*e*PKPbc	**PKPbc**	**16 57 18.5**	**-0.1**
	baz=14,slow=2.4						
TNS	**Taunus Mts**	**149.69**	**352**	*e*PKPab	**PKPab**	**16 57 26.5**	**-0.1**
	baz=15,slow=4.4						
GRF	**Grafenberg Arr**	**149.74**	**348**	*e*PKPbc	**PKPbc**	**16 57 19.2**	**0.0**
	baz=14,slow=2.4						
GRF				*e*PKPab	**PKPab**	**16 57 26.9**	**+0.2**
	baz=15,slow=4.4						
KHC	**Kasperske Hory**	**149.75**	**345**	⇑*e*PKP	**PKPbc**	**16 57 19.2**	**-0.1**
KHC				*e*PKPAB	**PKPab**	**16 57 26.9**	**0.0**
KHC	**Kasperske Hory**	**149.75**	**345**		**PKPbc**	**16 57 19.1**	**-0.1**
WET	**Wettzell**	**149.90**	**346**	*e*PKPbc	**PKPbc**	**16 57 19.3**	**-0.3**
	baz=14,slow=2.4						
WET				*e*PKPab	**PKPab**	**16 57 27.7**	**+0.2**
	baz=15,slow=4.4						
GEC2	**GERESS Array S**	**149.98**	**344**		**PKPbc**	**16 57 19.3**	**-0.6**
GEC2	**GERESS Array S**	**149.98**	**344**	*e*PKPbc	**PKPbc**	**16 57 19.6**	**-0.3**
	baz=14,slow=2.4						
GERES	**GERESS Array B**	**149.98**	**344**	PKPbc	**PKPbc**	**16 57 19.4**	**-0.5**
	comp=Z,1.9nm,0.8s,baz=50,slow=2.1,SNR=20						
CONA	**Conrad Observa**	**150.21**	**341**	*e*PKiKP	**PKPbc**	**16 57 20.3**	**-0.1**
	comp=Z,2.0nm,0.6s						
MOA	**Molln**	**150.74**	**343**	*e*PKPbc	**PKPbc**	**16 57 20.9**	**-0.7**
	comp=Z,1.3nm,0.6s						
RJOB	**Jochberg**	**151.23**	**345**	*e*PKPbc	**PKPbc**	**16 57 22.2**	**-0.6**
	baz=14,slow=2.4						
SOKA	**Soboth**	**151.58**	**341**	*e*PKPbc	**PKPbc**	**16 57 22.3**	**-1.3**
	comp=Z,0.4nm,0.4s						
KBA	**Koelnbreinsper**	**151.70**	**343**	*e*PKPbc	**PKPbc**	**16 57 22.9**	**-1.1**
	comp=Z,1.1nm,0.5s						
WTTA	**Wattenberg**	**151.95**	**346**	*e*PKiKP	**PKPbc**	**16 57 24.0**	**-0.6**
	comp=Z,2.8nm,0.5s						
PRED	**Cave del Predi**	**152.22**	**343**		**PKPab**	**16 57 36.2**	**-1.2**
ABTA	**Abfaltersbach**	**152.22**	**344**	*e*PKPbc	**PKPbc**	**16 57 24.1**	**-1.0**
	comp=Z,3.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**172.89**	**178**	PKP	**PKPdf**	**16 57 36.9**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=347,slow=4.6,SNR=3.6						

IDC 01 16:47:30.5±2.5**, 0°.15N×129°.11E, h0**km**, mb3.1**/3**, mb1 3.3**/3**, mb1mx3.1**/40**, mbtmp3.1**/3**, Error ellipse: s-maj=172.2km s-min=27.6km az=69.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.61**	**166**	P	P	16 52 10.3	-1.2
	0.4nm,0.9s,baz=346,slow=11,SNR=1.9						
ASAR	**Alice Springs**	**24.12**	**169**	P	P	16 52 49.0	+0.7
	0.3nm,0.5s,baz=344,slow=10,SNR=14						
MKAR	**Makanchi Array**	**61.84**	**325**	P	P	16 57 51.4	-0.1
	0.3nm,0.7s,baz=118,slow=6.7,SNR=4.6						

MAN 01 16:48:33.0, 9°.30N×127°.08E, h26km**, mb4.9, ML3.8, MS3.8, 3C, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSLP	**Maasin**	**2.34**	**291**	*e*P	Pn	16 49 11.0	+1.1
MSLP				*e*S	Sn	16 49 38.3	+0.4
BUKP	**Musuan**	**2.45**	**235**	*e*P	Pn	16 49 12.5	+1.1
BUKP				*e*S	Sn	16 49 41.6	+1.1
CGP	**Cagayan de Oro**	**2.50**	**251**	*e*P	Pn	16 49 12.0	-0.1
CGP				*e*S	Sn	16 49 40.1	-1.8
KCP	**Kidapawan**	**3.01**	**221**	⇑*i*P	Pb	16 49 24.9	-1.2
KCP				*i* S	Sb	16 50 01.5	-0.9
TBP	**Tagbilaran**	**3.20**	**277**	*e*P	Pn	16 49 22.2	+0.5
DDMP	**Don Marcelino,**	**3.45**	**203**	*e*P	Pn	16 49 25.7	+0.5
DDMP				*e*S	Sn	16 50 07.3	+2.0
CTBH	**Cotabato--PC H**	**3.48**	**234**	⇑*i*P	Pn	16 49 27.0	+1.4
PAGZ	**Pagadian**	**3.93**	**249**	*e*P	Pn	16 49 29.8	-2.0
CNP	**Catarman**	**3.98**	**324**	*e*P	Pn	16 49 33.8	+1.4
CNOP	**Candoni, Negro**	**4.41**	**277**	*e*P	Pn	16 49 36.9	-1.5
RCP	**Roxas**	**4.82**	**298**	⇑*e*P	Pn	16 49 48.7	+4.7

JMA ***01*** *16:49:13.9±0.1, 37°.85N×134°.23E, h413*km*, M2.6*
IDC ***01*** *16:49:15.2±1.0, 37°.82N×134°.35E, h402*km*±14*km*, mb2.6/3, mb1 2.8/8, mb1mx2.6/49, mbtmp3.5/8, Error ellipse: s-maj=23.1km s-min=18.5km az=26.0*
ISC 01 16:49:15.4±1.0**, 37°.8N**±0°.1**×134°.32E**±0°.09**, h407**km**, n19, σ0s.78**/20**, mb3.0**/3**, Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
JOI	**OKI**	**1.74**	**210**	P	**P**	**16 50 09.9**	**-0.7**
JKG	**Kaga**	**2.22**	**133**	P	**P**	**16 50 13.3**	**-0.1**
JSZ	**Suzu**	**2.45**	**98**	P	**P**	**16 50 14.9**	**+0.1**
JWT	**Wachi**	**2.67**	**161**	P	**P**	**16 50 16.4**	**-0.2**
JHS	**Saijyo**	**2.97**	**199**	P	**P**	**16 50 18.3**	**-0.6**
JGT2	**ShimaneMisato**	**3.11**	**209**	P	**P**	**16 50 19.2**	**-0.8**
JSD	**Sado**	**3.13**	**85**	P	**P**	**16 50 19.7**	**-0.3**
MAT	**Matsushiro**	**3.35**	**111**	P	**P**	**16 50 21.7**	**-0.3**
MJAR	**Matsushiro Arr**	**3.36**	**111**	P	**P**	**16 50 22.3**	**+0.2**
	0.2nm,0.3s,baz=293,slow=9.9,SNR=53						
MJAR				S	**S**	**16 51 15.7**	**-0.5**
	0.0nm,0.3s,baz=118,slow=21,SNR=1.5						
JRY	**Ryogami san**	**4.09**	**115**	P	**P**	**16 50 29.4**	**+0.8**
KSRS	**Korea Array**	**5.09**	**268**	P	**P**	**16 50 39.0**	**+0.6**
	0.4nm,0.3s,baz=86,slow=11,SNR=35						
JNU	**Nakatsue**	**5.46**	**212**	P	**P**	**16 50 42.1**	**-0.3**
	0.3nm,0.3s,baz=26,slow=24,SNR=1.0						
JMK	**Ichinoseki**	**5.54**	**76**	P	**P**	**16 50 42.5**	**-0.5**
JOSM	**Okushiri--Mats**	**5.82**	**41**	P	**P**	**16 50 46.4**	**+0.5**
USRK	**Ussuriysk Ar.**	**6.62**	**345**	P	**P**	**16 50 54.3**	**-1.0**
	baz=188,slow=11,SNR=7.8						
ASAJ	**Asahikawa**	**8.88**	**42**	P	**P**	**16 51 19.9**	**-0.4**
	3.2nm,0.3s,baz=235,slow=11,SNR=46						
CMAR	**Chiang Mai Arr**	**36.38**	**248**	P	**P**	**16 55 43.5**	**+0.2**
	0.3nm,0.4s,baz=46,slow=7.8,SNR=4.6						
WRA	**Warramunga Arr**	**57.45**	**180**	P	**P**	**16 58 25.6**	**+2.0**
	0.8nm,1.2s,baz=359,slow=7.4,SNR=1.9						
ASAR	**Alice Springs**	**61.15**	**180**	P	**P**	**16 58 47.4**	**-1.2**
	0.2nm,0.9s,baz=34,slow=6.8,SNR=1.9						

ISK ***01*** *16:57:15.7, 40°.77N×25°.73E, h9*km*, ML2.4/13*
ATH ***01*** *16:57:15.7, 40°.77N×25°.70E, h25*km*±1*km*, ML2.3/6, Error ellipse: s-maj=2.2km s-min=1.1km az=263.0*
DDA ***01*** *16:57:16.9, 40°.73N×25°.78E, h9*km*±2*km*, ML2.3*
THE ***01*** *16:57:16.4, 40°.77N×25°.69E, h12*km*±1*km*, ML2.2/6, Error ellipse: s-maj=1.2km s-min=0.5km az=344.0*
BEO ***01*** *16:57:19.2±1.4, 42°.27N×26°.67E, h0*km*, ML2.5/3*
ISC 01 16:57:15.8±0.9**, 40°.77N**±0°.02**×25°.73E**±0°.02**, h13**km±8km**, n57, σ0s.67**/89**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ALN	**Alexandroupoli**	**0.27**	**62**	PG	**Pb**	**16 57 21.8**	**-0.7**
ALN				SG	**Sb**	**16 57 26.1**	**-0.9**
ENEZ	**Enez**	**0.32**	**96**	P	**Pb**	**16 57 23.1**	**-0.3**
ENEZ	**Enez**	**0.32**	**96**	PG	**Pb**	**16 57 22.7**	**-0.7**
SMTH	**Samothraki Isl**	**0.34**	**207**	P	**Pg**	**16 57 22.9**	**+0.2**
SMTH				S	**Sg**	**16 57 27.8**	**+0.4**
	400nm,0.2s						
SMTH	**Samothraki Isl**	**0.34**	**207**	P	**Pg**	**16 57 22.9**	**+0.2**
SMTH				S	**Sg**	**16 57 27.7**	**+0.4**
SMTH				AML	AML	16 57 29.3	
	comp=N,931µm,0.1s						
SMTH				AML	AML	16 57 29.3	
	comp=E,1010µm,0.3s						
RDO	**Rodhopi**	**0.40**	**338**	P	**Pb**	**16 57 24.4**	**-0.4**
RDO				S	**Sg**	**16 57 29.7**	**+0.4**
	comp=E,435nm,0.3s						
RDO	**Rodhopi**	**0.40**	**338**	P	**Pb**	**16 57 24.4**	**-0.4**
RDO				S	**Sb**	**16 57 29.9**	**-0.9**
RDO				AML	AML	16 57 30.1	
	comp=E,814µm,0.2s						
RDO				AML	AML	16 57 30.5	
	comp=N,1236µm,0.1s						
RDO	**Rodhopi**	**0.40**	**338**	PG	**Pb**	**16 57 24.3**	**-0.5**
RDO				SG	**Sb**	**16 57 30.0**	**-0.9**
GADA	**Gvkgeada**	**0.59**	**168**	P	**Pb**	**16 57 27.9**	**-0.2**
GOKA	**anakkale-Gk**	**0.60**	**167**	*i* P	**Pb**	**16 57 28.1**	**0.0**
GOKA				*i* S	**Sb**	**16 57 36.2**	**-0.2**
GOKA				IAML		16 57 39.0	
	comp=N,245nm,0.3s						
GOKA				IAML		16 57 39.0	
	comp=E,380nm,0.2s						
ERIK	**Erikli-Kesan**	**0.60**	**100**	PG	**Pb**	**16 57 27.8**	**-0.4**
ERIK				SG	**Sb**	**16 57 36.4**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.68**	**123**	PG	**Pb**	**16 57 29.3**	**-0.2**
KESN	**Edirne-Kesan**	**0.72**	**85**	*i* P	**Pg**	**16 57 29.8**	**-0.1**
KESN				*i* S	**Sb**	**16 57 40.4**	**0.0**
KESN				IAML		16 57 46.0	
	comp=N,146nm,0.2s						
KESN				IAML		16 57 46.0	
	comp=E,93nm,0.1s						
UKOP	**Uzunkopru-Edir**	**0.77**	**62**	PG	**Pb**	**16 57 31.2**	**+0.2**
UKOP				SG	**Sb**	**16 57 42.2**	**+0.8**
THAS	**Thassos island**	**0.79**	**258**	P	**Pb**	**16 57 31.1**	**-0.3**
THAS				S	**Sb**	**16 57 41.6**	**-0.4**
	comp=E,308nm,0.4s						
THAS	**Thassos island**	**0.79**	**258**	P	**Pg**	**16 57 30.9**	**-0.2**
THAS				S	**Sg**	**16 57 41.4**	**-0.1**
THAS				AML	AML	16 57 44.6	
	comp=N,488µm,0.4s						
THAS				AML	AML	16 57 44.9	
	comp=E,657µm,0.4s						
LPK	**Lapseki**	**0.88**	**117**	PG	**Pg**	**16 57 32.6**	**-0.2**
KDZ	**Kurdzhali**	**0.91**	**345**	*i* P	**Pb**	**16 57 33.4**	**0.0**
KDZ	**Kurdzhali**	**0.91**	**345**	PG	**Pb**	**16 57 33.5**	**0.0**
KAVA	**Kavala**	**0.95**	**284**	P	**Pb**	**16 57 34.1**	**-0.1**
KAVA				S	**Sb**	**16 57 46.8**	**+0.1**
	comp=E,180nm,0.2s						
KAVA	**Kavala**	**0.95**	**284**	P	**Pb**	**16 57 34.0**	**-0.1**
KAVA				S	**Sg**	**16 57 46.5**	**-0.2**
KAVA				AML	AML	16 57 48.9	
	comp=N,381µm,0.4s						
KAVA				AML	AML	16 57 50.0	
	comp=E,336µm,0.1s						
BOZC	**Bozcaada**	**0.96**	**165**	PG	**Pb**	**16 57 34.5**	**+0.1**
BOZC	**Bozcaada**	**0.96**	**165**	*i* P	**Pb**	**16 57 34.4**	**+0.1**
BOZC				*i* S	**Sg**	**16 57 46.5**	**-0.5**
BOZC				IAML		16 57 49.0	
	comp=N,57nm,0.3s						
BOZC				IAML		16 57 49.0	
	comp=E,109nm,0.3s						
LIA	**Limnos Island**	**0.97**	**206**	P	**Pb**	**16 57 34.4**	**-0.1**
LIA				S	**Sn**	**16 57 48.3**	**-0.4**
	comp=E,258nm,0.4s						
LIA	**Limnos Island**	**0.97**	**206**	P	**Pb**	**16 57 34.4**	**-0.1**
LIA				S	**Sb**	**16 57 47.8**	**+0.6**
LIA				AML	AML	16 57 49.2	
	comp=N,673µm,0.4s						
LIA				AML	AML	16 57 51.9	
	comp=E,253µm,0.4s						
KVLA	**Kavala**	**1.04**	**280**	P	**Pg**	**16 57 35.4**	**-0.4**
KVLA				S	**Sg**	**16 57 48.7**	**-0.6**
EZN	**Ezine**	**1.05**	**154**	P	**Pb**	**16 57 36.0**	**+0.2**
EZN	**Ezine**	**1.05**	**154**	PG	**Pb**	**16 57 36.1**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.10**	**94**	PN	**Pn**	**16 57 37.3**	**+0.3**
SART	**Tekirdag**	**1.10**	**94**	*i* P	**Pn**	**16 57 37.2**	**+0.2**
SART				*i* S	**Sn**	**16 57 53.0**	**+0.8**
RZN	**Rozhen**	**1.19**	**320**	*i* P	**Pn**	**16 57 38.8**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**1.20**	**149**	*i* P	**Pg**	**16 57 38.9**	**-0.1**
BAYC				*i* S	**Sn**	**16 57 55.2**	**+0.6**
BAYC				IAML		16 57 57.0	
	comp=N,59nm,0.4s						
KRBG	**Karabiga-Canak**	**1.25**	**107**	PN	**Pg**	**16 57 39.7**	**-0.2**
DIM	**Dimitrovgrad**	**1.28**	**353**	*i* P	**Pg**	**16 57 40.6**	**0.0**
EDRB	**Edirne**	**1.31**	**35**	PN	**Pb**	**16 57 40.5**	**+0.1**
MRMT	**Marmara Adasi**	**1.43**	**96**	PN	**Pn**	**16 57 41.9**	**+0.4**
KIRK	**Kırklareli**	**1.44**	**45**	*i* P	**Pn**	**16 57 42.1**	**+0.5**
KIRK				*i* S	**Sn**	**16 58 00.1**	**-0.3**
KIRK				IAML		16 58 06.0	
	comp=N,28nm,0.5s						
KNL	**Balıkesir**	**1.46**	**110**	*i* P	**Pn**	**16 57 41.7**	**-0.1**
KNL				IAML		16 58 03.0	
	comp=E,49nm,0.4s						
PLD	**Plovdiv**	**1.54**	**330**	*e*Pg	**Pg**	**16 57 46.1**	**+0.7**
PLD				*e*Sg	**Sg**	**16 58 05.4**	**0.0**
PLD	**Plovdiv**	**1.54**	**330**	PN	**Pb**	**16 57 44.5**	**+0.3**
SIGR	**SIGRI**	**1.56**	**177**	P	**Pn**	**16 57 43.2**	**-0.1**
SIGR				S	**Sn**	**16 58 03.8**	**+0.4**
	comp=E,85nm,0.5s						
SIGR	**SIGRI**	**1.56**	**177**	P	**Pn**	**16 57 43.4**	**+0.1**
SIGR				S	**Sb**	**16 58 04.2**	**0.0**
SIGR				AML	AML	16 58 07.6	
	comp=N,206µm,0.4s						
SIGR				AML	AML	16 58 07.7	
	comp=E,140µm,0.6s						
SIGR	**SIGRI**	**1.56**	**177**	PN	**Pn**	**16 57 43.9**	**+0.6**
PRK	**Paraskevi**	**1.58**	**165**	P	**Pb**	**16 57 44.8**	**-0.1**
AYVA	**Ayvalik**	**1.64**	**153**	*i* P	**Pg**	**16 57 47.5**	**+0.3**
AYVA				*i* S	**Sg**	**16 58 08.1**	**-0.4**
AYVA				IAML		16 58 09.0	
	comp=N,25nm,0.4s						
SRS	**Serrai**	**1.66**	**283**	P	**Pn**	**16 57 44.9**	**+0.3**
MMB	**Musomiste**	**1.72**	**299**	*i* P	**Pb**	**16 57 46.7**	**-0.6**
PLG	**Polygyros**	**1.79**	**258**	P	**Pn**	**16 57 46.4**	**-0.1**
STEP	**BALIKESIR_Sava**	**2.06**	**132**	*i* P	**Pn**	**16 57 51.5**	**+1.3**
STEP				*i* S	**Sg**	**16 58 20.5**	**-1.7**
STEP				IAML		16 58 24.0	
	comp=N,39nm,0.5s						
STEP				IAML		16 58 24.0	
	comp=E,31nm,0.7s						
ELBA	**Catalca**	**2.08**	**79**	*i* P	**Pn**	**16 57 51.2**	**+0.8**
ELBA				*i* S	**Sn**	**16 58 16.9**	**+0.8**
ZEDA	**zmir-Bergama**	**2.08**	**150**	*i* P	**Pg**	**16 57 54.5**	**-1.2**
ZEDA				*i* S	**Sg**	**16 58 21.6**	**-1.1**
ZEDA				IAML		16 58 24.0	
	comp=N,30nm,0.4s						
ZEDA				IAML		16 58 24.0	
	comp=E,19nm,0.4s						
DURS	**Dursunbey**	**2.40**	**118**	*i* P	**Pb**	**16 57 58.6**	**-0.4**
DURS				*i* S	**Sb**	**16 58 29.5**	**+1.0**
DURS				IAML		16 58 39.0	
	comp=E,11nm,0.6s						
URLA	**Izmir**	**2.50**	**164**	*i* P	**Pn**	**16 57 57.2**	**+1.0**
URLA				*i* S	**Sn**	**16 58 25.9**	**-0.7**
VTS	**Vitosha**	**2.63**	**315**	*e*Pn	**Pb**	**16 58 03.1**	**+0.3**
VTS				*e*Sn	**Sb**	**16 58 34.3**	**-0.8**
BOSS	**Bosilegrad**	**2.99**	**306**	*e*Pn	**Pb**	**16 58 08.6**	**-0.3**
BOSS				*e*Sn	**Sb**	**16 58 47.7**	**+2.5**
ZAPS	**Zavoj**	**3.40**	**318**	*e*Pn	**Pn**	**16 58 09.5**	**+0.9**
BARS	**Barje**	**3.57**	**306**	*e*Pn	**Pb**	**16 58 15.9**	**-2.9**

SJA ***01*** *17:04:21.9±1.1, 22°.62S×69°.58W, h41*km*±5*km*, ML3.9, MW3.9*
NEIC ***01*** *17:04:22.2±3.2, 22°.61S±0°.03×69°.54W±0°.03, h54*km*±8*km*, Error ellipse: s-maj=5.4km s-min=2.7km az=225.0*
GUC ***01*** *17:04:23.4±0.7, 22°.63S×69°.54W, h38*km*±1*km*, ML4.0*
ISC 01 17:04:21.9±0.9**, 22°.65S**±0°.02**×69°.56W**±0°.03**, h40**km±6km**, n67, σ1s.61**/91**, 5C-10D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PB06	**IPOC Station P**	**0.05**	**190**	⇑*i*P	**Pn**	**17 04 29.7**	**+1.0**
PB06				*e*S	**Sn**	**17 04 34.7**	**+1.4**
PB06	**IPOC Station P**	**0.05**	**190**		**Pn**	**17 04 29.1**	**+0.5**
PB06	**IPOC Station P**	**0.05**	**190**	*i* P	**Pn**	**17 04 29.7**	**+1.0**
PB06				*i* S	**Sn**	**17 04 34.7**	**+1.4**
PB06				IAML		17 04 40.8	
	comp=Z,4µm,0.1s						
PB15	**IPOC Station P**	**0.56**	**171**	⇓*i*P	**Pn**	**17 04 34.8**	**+1.1**
PB15				*i* S	**Sn**	**17 04 44.3**	**+2.3**
PB15	**IPOC Station P**	**0.56**	**171**		**Pn**	**17 04 34.7**	**+1.1**
PB15				Sn	**Sn**	**17 04 44.9**	**+3.0**
PB15	**IPOC Station P**	**0.56**	**171**	*i* P	**Pn**	**17 04 35.0**	**+1.3**
PB15				*e*S	**Sn**	**17 04 44.1**	**+2.2**
PB15				IAML		17 04 46.0	
	comp=Z,30µm,0.2s						
LVC	**Limon Verde**	**0.60**	**86**	*e*P	**Pn**	**17 04 35.3**	**+1.0**
LVC				*i* S	**Sn**	**17 04 44.3**	**+1.1**
LVC	**Limon Verde**	**0.60**	**86**		**Pn**	**17 04 35.1**	**+0.7**
LVC				Sn	**Sn**	**17 04 44.5**	**+1.2**
LVC	**Limon Verde**	**0.60**	**86**	*i* P	**Pn**	**17 04 35.4**	**+1.0**
LVC				*i* S	**Sn**	**17 04 44.4**	**+1.1**
LVC				IAML		17 04 45.8	
	comp=Z,2µm,0.2s						
PB05	**IPOC Station P**	**0.62**	**251**	⇑*i*P	**Pn**	**17 04 35.6**	**+1.2**
PB05				*i* S	**Sn**	**17 04 45.3**	**+2.0**
PB05				IAML		17 04 45.5	
	comp=N,5µm,0.2s						
PB05				IAML		17 04 46.0	
	comp=E,6µm,0.3s						
PB05	**IPOC Station P**	**0.62**	**251**	*i* P	**Pn**	**17 04 35.7**	**+1.2**
PB05				*e*S	**Sn**	**17 04 45.3**	**+2.0**
PB05				IAML		17 04 47.1	
	comp=Z,3µm,0.3s						
PB03	**IPOC Station P**	**0.63**	**344**	⇓*i*P	**Pn**	**17 04 35.0**	**+0.5**
PB03				*i* S	**Sn**	**17 04 43.8**	**+0.3**
PB03				IAML		17 04 44.5	
	comp=E,19µm,0.3s						
PB03	**IPOC Station P**	**0.63**	**344**	*i* P	**Pn**	**17 04 35.0**	**+0.5**
PB03				*e*S	**Sn**	**17 04 43.8**	**+0.3**
PB03				IAML		17 04 46.2	
	comp=Z,8µm,0.1s						
PB04	**IPOC Station P**	**0.63**	**300**	⇑*i*P	**Pn**	**17 04 35.4**	**+0.9**
PB04				*i* S	**Sn**	**17 04 44.7**	**+1.2**
PB04				IAML		17 04 45.0	
	comp=E,35µm,0.2s						
PB04	**IPOC Station P**	**0.63**	**300**		**Pn**	**17 04 34.7**	**+0.2**
PB04				Sn	**Sn**	**17 04 44.9**	**+1.3**
PB04	**IPOC Station P**	**0.63**	**300**	*i* P	**Pn**	**17 04 35.5**	**+0.9**
PB04				*i* S	**Sn**	**17 04 44.8**	**+1.2**
PB04				IAML		17 04 45.3	
	comp=Z,18µm,0.2s						
PB09	**IPOC Station P**	**0.90**	**19**	⇓*i*P	**Pn**	**17 04 39.4**	**+1.1**
PB09				*i* S	**Sn**	**17 04 51.5**	**+1.2**
PB09	**IPOC Station P**	**0.90**	**19**		**Pn**	**17 04 38.7**	**+0.4**
PB09	**IPOC Station P**	**0.90**	**19**	*i* P	**Pn**	**17 04 39.5**	**+1.2**
PB09				*e*S	**Sn**	**17 04 51.3**	**+1.1**
PB09				IAML		17 04 53.4	
	comp=Z,3µm,0.2s						
PB07	**IPOC Station P**	**0.97**	**342**	⇓*i*P	**Pn**	**17 04 40.0**	**+0.8**
PB07				*i* S	**Sn**	**17 04 52.7**	**+0.9**
PB07				IAML		17 04 53.3	
	comp=E,15µm,0.3s						
PB07	**IPOC Station P**	**0.97**	**342**		**Pn**	**17 04 39.3**	**+0.1**
PB07	**IPOC Station P**	**0.97**	**342**	*i* P	**Pn**	**17 04 40.0**	**+0.8**
PB07				*e*S	**Sn**	**17 04 52.9**	**+1.0**
PB07				IAML		17 04 54.1	
	comp=Z,6µm,0.1s						
PB10	**IPOC Station P**	**1.25**	**227**	⇑*i*P	**Pn**	**17 04 44.1**	**+1.2**
PB10				*i* S	**Sn**	**17 05 01.5**	**+2.9**
PB10				IAML		17 05 04.4	
	comp=E,2µm,0.3s						
PB10	**IPOC Station P**	**1.25**	**227**		**Pn**	**17 04 44.1**	**+1.2**
PB10	**IPOC Station P**	**1.25**	**227**	*i* P	**Pn**	**17 04 44.2**	**+1.3**
PB10				*e*S	**Sn**	**17 05 00.2**	**+1.6**
PB10				IAML		17 05 06.9	
	comp=Z,1µm,0.4s						
PB02	**IPOC Station P**	**1.36**	**347**	⇓*i*P	**Pn**	**17 04 45.4**	**+0.9**
PB02				*i* S	**Sn**	**17 05 02.8**	**+1.3**
PB02				IAML		17 05 04.6	
	comp=E,11µm,0.2s						
PB02	**IPOC Station P**	**1.36**	**347**	*e*P	**Pn**	**17 04 45.4**	**+0.9**
PB02				*e*S	**Sn**	**17 05 02.7**	**+1.2**
PB02				IAML		17 05 03.3	
	comp=Z,8µm,0.4s						
PB01	**IPOC Station P**	**1.60**	**2**	⇓*i*P	**Pn**	**17 04 49.6**	**+1.8**
PB01				*i* S	**Sn**	**17 05 09.5**	**+2.2**
PB01				IAML		17 05 10.0	
	comp=N,6µm,0.3s						
PB01	**IPOC Station P**	**1.60**	**2**	Pn	**Pn**	**17 04 49.2**	**+1.4**
PB01	**IPOC Station P**	**1.60**	**2**	*e*P	**Pn**	**17 04 49.7**	**+1.8**
PB01				*e*S	**Sn**	**17 05 09.5**	**+2.2**
PB01				IAML		17 05 11.1	
	comp=Z,5µm,0.2s						
PATCX	**Punta Patache**	**1.91**	**343**	⇓*i*P	**Pn**	**17 04 52.8**	**+0.8**
PATCX				*i* S	**Sn**	**17 05 17.6**	**+2.8**
PATCX	**Punta Patache**	**1.91**	**343**		**Pn**	**17 04 52.9**	**+1.0**
PATCX	**Punta Patache**	**1.91**	**343**	*e*P	**Pn**	**17 04 52.8**	**+0.8**
PATCX				*i* S	**Sn**	**17 05 17.6**	**+2.8**
PATCX				IAML		17 05 33.4	
	comp=Z,1µm,0.4s						
TA01	**Diego Aracena**	**2.16**	**344**	*e*P	**Pn**	**17 04 56.4**	**+1.0**
TA01				*i* S	**Sn**	**17 05 22.3**	**+1.4**
TA01				IAML		17 05 29.6	
	comp=E,1µm,0.3s						
TA01	**Diego Aracena**	**2.16**	**344**		**Pn**	**17 04 57.0**	**+1.6**
TA02	**Huaiquique**	**2.43**	**347**	*e*P	**Pn**	**17 05 00.1**	**+1.0**
GO02	**Mina Guanaco**	**2.50**	**181**	IAML		17 05 48.3	
	comp=N,1µm,0.4s						
GO02	**Mina Guanaco**	**2.50**	**181**	Pn	**Pn**	**17 05 04.2**	**+3.8**
PB08	**IPOC Station P**	**2.53**	**9**	⇓*i*P	**Pn**	**17 05 02.9**	**+2.1**
PB08				*i* S	**Sn**	**17 05 32.9**	**+2.3**
PB08				IAML		17 05 40.5	
	comp=E,800nm,0.1s						
PB08	**IPOC Station P**	**2.53**	**9**		**Pn**	**17 05 03.0**	**+2.1**
PB08	**IPOC Station P**	**2.53**	**9**	*e*P	**Pn**	**17 05 03.0**	**+2.1**
PB08				*e*S	**Sn**	**17 05 32.9**	**+2.3**
PB08				IAML		17 05 40.4	
	comp=Z,481nm,0.5s						
PB11	**IPOC Station P**	**2.88**	**358**	⇑*i*P	**Pn**	**17 05 07.5**	**+2.0**
PB11	**IPOC Station P**	**2.88**	**358**		**Pn**	**17 05 07.2**	**+1.7**
PB11	**IPOC Station P**	**2.88**	**358**	*i* P	**Pn**	**17 05 07.5**	**+2.0**
PB11				IAML		17 05 57.2	
	comp=Z,428nm,0.3s						
GO01	**Chusmiza**	**2.99**	**7**		**Pn**	**17 05 09.5**	**+2.2**
PSGC	**Pisagua**	**3.09**	**350**	⇓*i*P	**Pn**	**17 05 08.9**	**+0.7**
PSGCX	**Pisagua**	**3.09**	**350**		**Pn**	**17 05 08.9**	**+0.7**
PSGCX	**Pisagua**	**3.09**	**350**	*i* P	**Pn**	**17 05 09.0**	**+0.7**
PSGCX				IAML		17 06 01.4	
	comp=Z,286nm,0.3s						
MNMC	**Minye Minye**	**3.50**	**359**	⇓*i*P	**Pn**	**17 05 15.9**	**+1.8**
MNMC	**Minye Minye**	**3.50**	**359**	Pn	**Pn**	**17 05 16.0**	**+1.8**
MNMCX	**Minye Minye**	**3.50**	**359**	*e*P	**Pn**	**17 05 16.2**	**+2.0**
MNMCX				IAML		17 06 17.6	
	comp=Z,502nm,0.2s						
AC01	**Pan de Azucar**	**3.60**	**195**		**Pn**	**17 05 16.3**	**+1.0**
YJA	**Yavi**	**3.77**	**84**	*i* P	Pn	17 05 23.6	+5.6
YJA				IAML		17 06 43.4	
	comp=Z,5.6nm,3.6s						
PB12	**IPOC Station P**	**4.08**	**350**	Pn	**Pn**	**17 05 22.6**	**+0.6**
AC02	**Maricunga**	**4.18**	**175**	Pn	Pn	17 05 27.9	+4.2
AZAP	**Zapla**	**4.42**	**112**	*i* P	Pn	17 05 32.1	+5.5
AZAP				IAML		17 06 51.9	
	comp=Z,25nm,2.8s						

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GO03	**Copiap**	**4.96**	**187**		**Pn**	**17 05 34.5**	**+0.6**
VCA	**Vinchina**	**6.18**	**169**	*i* P	Pn	17 05 54.8	+4.0
VCA				IAML		17 07 51.5	
	comp=Z,42nm,1.3s						
AC05	**El Transito**	**6.19**	**186**	Pn	**Pn**	**17 05 51.7**	**+0.8**
LPAZ	**La Paz**	**6.47**	**12**	Pn	Pn	17 05 59.9	+4.6
CO01	**Juntas del Tor**	**7.31**	**184**	Pn	**Pn**	**17 06 07.0**	**+0.7**
GO04	**Tololo Observa**	**7.57**	**188**	Pn	**Pn**	**17 06 09.3**	**-0.6**
CO03	**El Pedregal**	**8.21**	**187**	Pn	**Pn**	**17 06 17.4**	**-1.2**
CO02	**Combarbal**	**8.61**	**188**	Pn	**Pn**	**17 06 21.9**	**-2.3**
BI02	**San Fabin de**	**14.04**	**186**	Pn	**Pn**	**17 07 35.5**	**-2.8**
TRQA	**Tornquist**	**16.68**	**159**	Pn	**Pn**	**17 08 09.9**	**-2.7**
BDFB	**Brasilia**	**21.50**	**75**	P	**P**	**17 09 04.8**	**-2.8**
BDFB				IAmb	IAmb	17 09 23.7	
	comp=Z,12nm,1.5s						

*ISN **01** 17:13:43.4±0.8, 33°.23N×46°.18E, h0km±6km, ML2.6*
*TEH **01** 17:13:44.2, 33°.27N×46°.19E, h14km, ML2.8*
ISC 01 17:13:44.1±1.1**, 33°.23N**±0°.07×**46°.20E**±0°.05**, h10**km**, n11, σ0s.82**/15**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.26**	**243**	*e*Pg	**Pg**	**17 13 49.0**	**-0.3**
IBDR				*e*Sg	**Sg**	**17 13 52.0**	**-0.8**
IBDR				AML	AML	17 14 03.4	
	comp=E,752nm,0.6s						
IBDR				AML	AML	17 14 05.4	
	comp=N,672nm,0.5s						
IGHG	**Ghaleghazi**	**1.14**	**15**	*e*		17 14 08.1	
IGHG				*e*Pg	**Pn**	**17 14 07.1**	**+0.8**
KCHF	**Cheshme Sefid,**	**1.25**	**34**	*e*		17 14 09.7	
KCHF				*e*Pg	**Pn**	**17 14 07.6**	**-0.3**
KCHF				*e*Sg	**Sn**	**17 14 25.1**	**+0.2**
IVIS	**Veis**	**1.40**	**22**	*e*Pg	**Pg**	**17 14 10.5**	**-0.5**
IVIS				*e*		17 14 33.9	
IKOM	**Komasi**	**1.44**	**49**	*e*Pg	**Pg**	**17 14 11.7**	**-0.1**
IKOM				*e*		17 14 14.0	
IDHR	**Dehrash**	**1.48**	**6**	*e*Pg	**Pb**	**17 14 11.3**	**-0.4**
IDHR				*e*		17 14 34.4	
BHD	**Baghdad**	**1.53**	**272**	*e*Pn	**Pb**	**17 14 12.0**	**-0.5**
BHD				*e*Sn	**Sg**	**17 14 33.0**	**-0.3**
ILIN	**Lien**	**1.80**	**20**	*e*Pg	**Pb**	**17 14 16.5**	**-0.8**
ILIN				*e*		17 14 45.2	
IBZA	**Bozab**	**1.85**	**48**	*e*Pg	**Pb**	**17 14 17.6**	**-0.6**
IBZA				*e*		17 14 18.4	
BMDN	**Meydan**	**2.23**	**78**	*e*Pn	**Pn**	**17 14 22.8**	**+1.5**
BMDN				*e*		17 14 30.1	
IKRK	**Kirkuk**	**2.66**	**325**	*e*Pn	**Pn**	**17 14 28.5**	**+1.5**
IKRK				*e*Sn	**Sn**	**17 15 00.0**	**+0.7**
IKRK				AML	AML	17 15 09.8	
	comp=N,44nm,0.4s						
IKRK				AML	AML	17 15 41.2	
	comp=E,49nm,0.3s						

*JMA **01** 17:15:42.9±0.1, 24°.94N×123°.37E, h29km, M1.6*
*TAP **01** 17:15:44.0, 23°.88N×122°.80E, h48km±1km, ML2.5, C*
ISC 01 17:15:38.5±1.7**, 23°.75N**±0°.03×**122°.97E**±0°.03**, h17**km±13km**, n66, σ1s.40**/113**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.70**	**358**	P	**Pn**	**17 15 54.8**	**+1.2**
JYNG				*e*S	**Sb**	**17 16 02.8**	**+1.2**
YOJ	**Yonaguni jima**	**0.71**	**3**	P	**Pn**	**17 15 56.7**	**+3.0**
	baz=17						
YOJ				S	**Sn**	**17 16 06.2**	**+1.9**
	baz=17						
YOJ	**Yonaguni jima**	**0.71**	**3**	P	**Pn**	**17 15 54.1**	**+0.4**
YOJ				*e*S	**Sb**	**17 16 02.2**	**+0.3**
HATJ	**Hateruma jima**	**0.82**	**68**	P	Pn	17 16 00.3	+5.0
HATJ				*e*S	**Sn**	**17 16 13.2**	**+6.1**
IRIF	**Iriomote-Funau**	**0.91**	**50**	P	**Pb**	**17 15 55.7**	**-0.1**
IRIF				*e*S	**Sb**	**17 16 05.2**	**-2.4**
JKRS	**Kuro-shima**	**1.07**	**63**	P	**Pn**	**17 15 59.4**	**+0.8**
JKRS				*e*S	**Sb**	**17 16 11.2**	**-1.0**
JIJ	**Ishigaki jima**	**1.24**	**60**	P	**Pn**	**17 15 59.1**	**-1.9**
JIJ				*e*S	**Sb**	**17 16 10.2**	**-6.8**
TWD	**Chiawan**	**1.30**	**285**	*e*P	**Pb**	**17 16 03.4**	**+1.0**
	baz=268						
TWD				*e*S	**Sn**	**17 16 17.3**	**-1.5**
	baz=268						
ENA	**Nanau**	**1.31**	**301**	*e*P	**Pb**	**17 16 03.6**	**+1.0**
	baz=301						
ENA				*e*S	**Sn**	**17 16 18.4**	**-0.7**
	baz=301						
NACB	**Ninganchiao**	**1.33**	**289**	P	**Pb**	**17 16 03.5**	**+0.6**
	baz=274						
NACB				S	**Sn**	**17 16 17.5**	**-2.0**
	baz=274						
TWC	**Suao**	**1.33**	**310**	*e*P	**Pg**	**17 16 04.4**	**+0.1**
	baz=312						
TWC				*e*S	**Sn**	**17 16 18.2**	**-1.4**
	baz=312						
ESL	**Shilin**	**1.41**	**273**	*e*P	**Pn**	**17 16 04.4**	**+1.1**
	baz=257						
ESL				*e*S	**Sn**	**17 16 20.4**	**-1.1**
	baz=257						
EGFH	**Guangfu**	**1.42**	**267**	*e*P	**Pb**	**17 16 04.9**	**+0.5**
	baz=249						
EGFH				*e*S	**Sn**	**17 16 20.9**	**-0.7**
	baz=249						
ETLH	**Xiulin Townshi**	**1.44**	**289**	*e*P	**Pb**	**17 16 05.3**	**+0.5**
	baz=276						
ETLH				*e*S	**Sn**	**17 16 21.4**	**-0.9**
	baz=276						
HGSD	**Ruisui**	**1.44**	**260**	P	**Pb**	**17 16 05.3**	**+0.5**
	baz=252						
HGSD				S	**Sn**	**17 16 21.1**	**-1.2**
	baz=252						
JISG	**Ishigakijimahi**	**1.48**	**55**	P	Pn	17 15 59.7	-4.6
JISG				*e*S	Sn	17 16 11.3	-12
ILA	**Ilan**	**1.51**	**313**	*e*S	**Sn**	**17 16 23.3**	**-0.6**
	baz=315						
EHY	**Hungye**	**1.53**	**261**	*e*P	**Pb**	**17 16 07.1**	**+0.7**
	baz=253						
EHY				*e*S	**Sn**	**17 16 23.7**	**-0.8**
	baz=253						
TWE	**Neicheng**	**1.53**	**309**	*e*P	**Pb**	**17 16 07.5**	**+1.1**
	baz=311						
TWE				*e*S	**Sn**	**17 16 24.4**	**-0.1**
	baz=311						
YULB	**Yu-li**	**1.57**	**257**	*e*P	**Pb**	**17 16 07.9**	**+0.7**
	baz=242						
YULB				S	**Sn**	**17 16 25.2**	**-0.4**
	baz=242						
NDT	**Datong Townshi**	**1.58**	**303**	*e*P	**Pb**	**17 16 07.6**	**+0.4**
	baz=304						
NDT				*e*S	**Sn**	**17 16 25.2**	**-0.5**
	baz=304						
TWF1	**Yuli**	**1.58**	**256**	*e*P	**Pb**	**17 16 07.8**	**+0.5**
	baz=241						
TWF1				*e*S	**Sn**	**17 16 25.7**	**-0.1**
	baz=241						
NNSB	**Datong**	**1.60**	**295**	*e*P	**Pb**	**17 16 08.0**	**+0.3**
	baz=295						
NNSB				*e*S	**Sn**	**17 16 25.5**	**-0.9**
	baz=295						
NNSH	**Datong**	**1.60**	**295**	*e*S	**Sn**	**17 16 24.8**	**-1.6**
	baz=286						
TIPB	**Shuangxi**	**1.60**	**320**	*e*P	**Pb**	**17 16 07.7**	**+0.1**
	baz=333						
TIPB				*e*S	**Sn**	**17 16 24.8**	**-1.6**
	baz=333						
CHKT	**Chengkung**	**1.61**	**247**	*e*S	**Sn**	**17 16 25.5**	**-0.9**
	baz=230						
WHF	**Hehuan Shan**	**1.61**	**285**	*e*P	**Pn**	**17 16 07.8**	**+1.3**
	baz=269						
WHF				*e*S	**Sn**	**17 16 25.6**	**-1.4**
	baz=269						
NNS	**Nan Shan**	**1.61**	**296**	*e*S	**Sn**	**17 16 25.6**	**-1.2**
	baz=296						
FULB	**Fuli**	**1.63**	**251**	P	**Pb**	**17 16 08.4**	**+0.2**
	baz=235						
FULB				S	**Sn**	**17 16 26.4**	**-0.7**
	baz=235						
CHGB	**Renai**	**1.67**	**281**	*e*P	**Pb**	**17 16 09.2**	**+0.2**
	baz=265						
CHGB				*e*S	**Sn**	**17 16 27.0**	**-1.3**
	baz=265						
VWDT	**VWDT**	**1.68**	**271**	P	**Pb**	**17 16 09.1**	**+0.3**
	baz=263						
VWDT				S	**Sn**	**17 16 26.4**	**-1.7**
	baz=263						
NWLT	**Wulai**	**1.69**	**308**	*e*S	**Sn**	**17 16 28.6**	**+0.3**
	baz=310						
TWH	**Lutao**	**1.72**	**233**	*e*P	**Pb**	**17 16 10.4**	**+0.9**
	baz=224						
TWH				*e*S	**Sn**	**17 16 30.4**	**+1.2**
	baz=224						
YHNB	**Yeheng**	**1.72**	**303**	*e*P	**Pb**	**17 16 09.6**	**-0.1**
	baz=304						
YHNB				*e*S	**Sn**	**17 16 28.0**	**-1.3**
	baz=304						
JTJ	**Tarama**	**1.81**	**60**	*e*S	Sn	17 16 21.0	-11
SSLB	**Suanglung**	**1.85**	**272**	*e*P	**Pb**	**17 16 11.3**	**-0.5**
	baz=257						
SSLB				*e*S	**Sn**	**17 16 31.4**	**-1.0**
	baz=257						
ELDTW	**Lidau**	**1.88**	**253**	P	**Pb**	**17 16 12.1**	**-0.3**
	baz=245						
ELDTW				S	**Sn**	**17 16 32.1**	**-1.1**
	baz=245						
YM01	**YM01**	**1.89**	**318**	*e*S	**Sn**	**17 16 31.6**	**-1.8**
	baz=321						
DPDB	**Guoxing**	**1.89**	**279**	*e*P	**Pb**	**17 16 12.1**	**-0.4**
	baz=266						
DPDB				*e*S	**Sn**	**17 16 32.6**	**-0.9**
	baz=266						
SMLT	**Sun Moon Lake**	**1.90**	**274**	*e*S	**Sn**	**17 16 33.2**	**-0.6**
	baz=261						
WHP	**Taichung City**	**1.92**	**286**	*e*P	**Pb**	**17 16 13.8**	**+0.6**
	baz=282						
WHP				*e*S	**Sn**	**17 16 34.2**	**-0.1**
	baz=282						
TYC	**Yuchr**	**1.94**	**275**	*e*P	**Pb**	**17 16 13.0**	**-0.3**
	baz=269						
TYC				*e*S	**Sn**	**17 16 34.1**	**-0.5**
	baz=269						
WHYT	**Xinyi Township**	**1.94**	**269**	*e*P	**Pb**	**17 16 13.0**	**-0.4**
	baz=254						
WHYT				*e*S	**Sn**	**17 16 34.4**	**-0.2**
	baz=254						
TWGBT	**Beinan**	**1.97**	**242**	*e*P	**Pb**	**17 16 13.1**	**-0.7**
	baz=228						
TWGBT				*e*S	**Sn**	**17 16 35.4**	**0.0**
	baz=228						
TWG	**Pinlang**	**1.97**	**242**	*e*P	**Pb**	**17 16 13.7**	**-0.3**
	baz=228						
TWG				*e*S	**Sn**	**17 16 35.0**	**-0.5**
	baz=228						
ALS	**Alishan**	**2.00**	**264**	*e*P	**Pb**	**17 16 14.8**	**+0.2**
	baz=256						
ALS				*e*S	**Sn**	**17 16 36.6**	**+0.1**
	baz=256						
NSTT	**Nanjuang**	**2.00**	**296**	*e*P	**Pb**	**17 16 14.4**	**0.0**
	baz=298						
NSTT				*e*S	**Sn**	**17 16 36.0**	**-0.1**
	baz=298						
NCU	**National Centr**	**2.03**	**307**	*e*S	**Sn**	**17 16 37.4**	**+0.6**
	baz=311						
WJS	**Zhushan**	**2.05**	**272**	*e*S	**Sn**	**17 16 39.1**	**+1.6**
	baz=259						
CHN5	**Tsauling**	**2.11**	**266**	*e*P	**Pb**	**17 16 16.2**	**-0.1**
	baz=260						
CHN5				*e*S	**Sn**	**17 16 39.5**	**+0.6**
	baz=260						
LAY	**Lan-yu**	**2.15**	**218**	*e*P	**Pb**	**17 16 17.2**	**+0.3**
	baz=211						
LAY				*e*S	**Sn**	**17 16 41.3**	**+1.5**
	baz=211						
ECL	**Taimali**	**2.18**	**239**	*e*P	**Pb**	**17 16 16.6**	**-0.8**
	baz=241						
ECL				*e*S	**Sn**	**17 16 40.4**	**-0.2**
	baz=241						
TPUB	**Ta-pu**	**2.19**	**259**	*e*P	**Pb**	**17 16 17.5**	**-0.2**
	baz=247						
TPUB				*e*S	**Sn**	**17 16 42.1**	**+1.1**
	baz=247						
WTP	**Ta-pu**	**2.22**	**257**	*e*P	**Pb**	**17 16 18.1**	**-0.1**
	baz=250						
WTP				*e*S	**Sn**	**17 16 43.4**	**+1.8**
	baz=250						
WDLH	**Douliu**	**2.23**	**269**	*e*S	**Sn**	**17 16 43.5**	**+1.7**
	baz=262						
WCHH	**Zhanghua**	**2.23**	**279**	*e*S	**Sn**	**17 16 43.4**	**+1.6**
	baz=272						
SLGT	**Liugui**	**2.26**	**251**	*e*P	**Pb**	**17 16 18.4**	**-0.4**
	baz=240						
SLGT				*e*S	**Sn**	**17 16 43.9**	**+1.3**
	baz=240						
SGST	**Jiashian**	**2.29**	**254**	*e*P	**Pb**	**17 16 19.2**	**-0.2**
	baz=240						
SGST				*e*S	**Sn**	**17 16 45.5**	**+2.3**
	baz=240						
CHN1	**Nanshi**	**2.31**	**256**	*e*P	**Pb**	**17 16 20.0**	**+0.3**
	baz=249						
CHN1				*e*S	**Sn**	**17 16 46.3**	**+2.5**
	baz=249						
TWK	**Hsinying**	**2.33**	**259**	P	**Pb**	**17 16 20.3**	**+0.3**
	baz=251						
TWK				S	**Sn**	**17 16 47.0**	**+2.8**
	baz=251						
SSD	**Sandimen**	**2.37**	**246**	*e*P	**Pb**	**17 16 19.5**	**-1.2**
	baz=235						
SSD				*e*S	**Sn**	**17 16 44.9**	**-0.3**
	baz=235						
EAST	**Anshuo**	**2.38**	**236**	*e*P	**Pb**	**17 16 20.4**	**-0.5**
	baz=236						
EAST				*e*S	**Sn**	**17 16 46.9**	**+1.3**
	baz=236						
MASBT	**Mashibuluo**	**2.43**	**243**	*e*P	**Pb**	**17 16 20.8**	**-0.9**
	baz=233						
MASBT				*e*S	**Sn**	**17 16 48.2**	**+1.5**
	baz=233						
WTCT	**Ta-ch'eng**	**2.46**	**273**	*e*S	**Sn**	**17 16 49.8**	**+2.3**
	baz=258						
SGLT	**Jiouru**	**2.50**	**246**	*e*S	**Sb**	**17 16 52.2**	**-1.1**
	baz=239						
WSF	**Szhu**	**2.52**	**268**	*e*S	**Sn**	**17 16 50.1**	**+1.1**
	baz=251						

*IDC **01** 17:27:45.8±2.0, 24°.15S×67°.08W, h156km±24km, mb3.4/2, mb1 3.6/7, mb1mx3.3/33, mbtmp4.0/7, Error ellipse: s-maj=30.9km s-min=19.1km az=120.0*
*VAO **01** 17:27:46.8±1.4, 24°.30S×67°.74W, h246km±14km, mb4.1*
*SJA **01** 17:27:47.2±0.9, 24°.11S×67°.17W, h186km±9km, ML4.0, MW3.8*
*GUC **01** 17:27:49.0±0.6, 24°.11S×67°.62W, h202km±9km, ML4.3*
ISC 01 17:27:47.1±0.7**, 24°.09S**±0°.05×**67°.20W**±0°.04**, h189**km±7km**, n54, σ1s.30**/80**, 7C-2D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**1.96**	**94**	*i* P	**Pn**	**17 28 24.4**	**-0.2**
AZAP				*e*S	**S**	**17 28 53.1**	**-0.5**
AZAP				IAML		17 28 54.2	
	comp=Z,71nm,0.7s						
LVC	**Limon Verde**	**2.15**	**313**	P	**Pn**	**17 28 23.8**	**-3.0**
	comp=Z,2.1nm,0.3s,baz=348,slow=12,SNR=111						
LVC				S	**S**	**17 28 57.7**	**+0.1**
	comp=Z,22nm,0.3s,baz=166,slow=6.7,SNR=7.7						
LVC	**Limon Verde**	**2.15**	**313**⇑	*i*P	**Pn**	**17 28 28.5**	**+1.7**
LVC				*i* S	**S**	**17 28 58.0**	**+0.4**
LVC	**Limon Verde**	**2.15**	**313**	*i* P	**Pn**	**17 28 28.6**	**+1.7**
LVC				*i* S	**S**	**17 28 58.1**	**+0.4**
LVC				IAML		17 29 01.8	
	comp=Z,174nm,0.5s						
LVC	**Limon Verde**	**2.15**	**313**	*e*P	**Pn**	**17 28 28.6**	**+1.7**
LVC	**Limon Verde**	**2.15**	**313**	*e*P	**Pn**	**17 28 28.6**	**+1.7**
PB15	**IPOC Station P**	**2.26**	**293**⇑	*i*P	**Pn**	**17 28 28.9**	**+1.1**
PB15				*i* S	**S**	**17 28 59.1**	**-0.3**
PB15	**IPOC Station P**	**2.26**	**293**	*i* P	**Pn**	**17 28 29.0**	**+1.1**
PB15				*e*S	**S**	**17 28 59.3**	**-0.1**
GO02	**Mina Guanaco**	**2.42**	**243**⇑	*i*P	**Pn**	**17 28 29.9**	**+0.2**
GO02				*i* S	**S**	**17 29 01.9**	**-0.8**
GO02				IAML		17 29 02.9	
	comp=N,980nm,0.3s						
YJA	**Yavi**	**2.46**	**39**	*i* P	**Pn**	**17 28 31.4**	**+1.1**
YJA				*e*S	**S**	**17 29 04.3**	**+0.4**
PB06	**IPOC Station P**	**2.58**	**302**⇑	*i*P	**Pn**	**17 28 32.6**	**+1.2**
PB06				*i* S	**S**	**17 29 05.3**	**-0.5**
PB06				IAML		17 29 07.9	
	comp=N,2μm,0.2s						
PB06	**IPOC Station P**	**2.58**	**302**	*i* P	**Pn**	**17 28 32.6**	**+1.2**
PB06				*e*S	**S**	**17 29 05.3**	**-0.5**
PB06				IAML		17 29 07.3	
	comp=Z,538nm,0.2s						
PB09	**IPOC Station P**	**2.96**	**320**	*e*P	**Pn**	**17 28 37.9**	**+1.9**
PB09				*i* S	**S**	**17 29 14.7**	**+0.9**
PB09				IAML		17 29 16.2	
	comp=N,404nm,0.5s						
PB09	**IPOC Station P**	**2.96**	**320**	*i* P	**Pn**	**17 28 38.1**	**+2.1**
PB09				*i* S	**S**	**17 29 14.8**	**+0.9**
PB09				IAML		17 29 15.4	
	comp=Z,304nm,0.6s						
PB05	**IPOC Station P**	**3.02**	**294**⇑	*i*P	**Pn**	**17 28 37.1**	**+0.5**
PB05				*i* S	**S**	**17 29 13.1**	**-1.9**
PB05				IAML		17 29 14.8	
	comp=N,319nm,0.3s						
PB05	**IPOC Station P**	**3.02**	**294**	*i* P	**Pn**	**17 28 37.2**	**+0.7**
PB05				*e*S	**S**	**17 29 13.1**	**-1.9**
PB05				IAML		17 29 16.0	
	comp=Z,239nm,0.2s						
PB03	**IPOC Station P**	**3.11**	**310**⇑	*i*P	**Pn**	**17 28 38.7**	**+1.0**
PB03				*i* S	**S**	**17 29 16.0**	**-1.1**
PB03				IAML		17 29 17.6	
	comp=E,735nm,0.1s						
PB03	**IPOC Station P**	**3.11**	**310**	*i* P	**Pn**	**17 28 38.9**	**+1.2**
PB03				*i* S	**S**	**17 29 16.0**	**-1.1**
PB03				IAML		17 29 19.4	
	comp=Z,566nm,0.1s						
PB10	**IPOC Station P**	**3.12**	**280**	IAML		17 29 20.8	
	comp=E,288nm,0.4s						
PB10	**IPOC Station P**	**3.12**	**280**	*i* P	**Pn**	**17 28 38.6**	**+0.9**
PB10				*i* S	**S**	**17 29 15.2**	**-1.9**
PB10				IAML		17 29 18.8	
	comp=Z,133nm,0.3s						
PB04	**IPOC Station P**	**3.23**	**302**⇓	*i*P	**Pn**	**17 28 40.0**	**+0.9**
PB04				*i* S	**S**	**17 29 18.2**	**-1.5**
PB04				IAML		17 29 19.9	
	comp=N,759nm,0.4s						
PB04	**IPOC Station P**	**3.23**	**302**	*i* P	**Pn**	**17 28 38.0**	**-1.2**
PB04				*i* S	**S**	**17 29 18.1**	**-1.5**
PB04				IAML		17 29 23.4	
	comp=Z,545nm,0.1s						
PB07	**IPOC Station P**	**3.42**	**313**⇑	*i*P	**Pn**	**17 28 42.4**	**+1.0**
PB07				*i* S	**S**	**17 29 22.4**	**-1.5**
PB07	**IPOC Station P**	**3.42**	**313**	*e*P	**Pn**	**17 28 42.5**	**+1.0**
PB07				*e*S	**S**	**17 29 22.3**	**-1.5**
PB07				IAML		17 29 24.1	
	comp=Z,503nm,0.5s						
PB01	**IPOC Station P**	**3.70**	**325**	*i* P	**Pn**	**17 28 46.0**	**+1.1**
PB01				*e*S	**S**	**17 29 29.2**	**-0.8**
PB01				IAML		17 29 33.9	
	comp=Z,227nm,0.1s						
PB02	**IPOC Station P**	**3.72**	**317**	*i* P	**Pn**	**17 28 46.0**	**+0.9**
PB02				*e*S	**S**	**17 29 28.6**	**-1.8**
PB02				IAML		17 29 34.4	
	comp=Z,510nm,0.2s						
PATCX	**Punta Patache**	**4.25**	**319**	*e*P	**Pn**	**17 28 52.1**	**+0.4**
PATCX				*i* S	**S**	**17 29 40.7**	**-1.8**
PATCX				IAML		17 29 52.4	
	comp=Z,118nm,0.4s						
PB08	**IPOC Station P**	**4.33**	**335**⇓	*i*P	**Pn**	**17 28 54.5**	**+1.4**
PB08				*i* S	**S**	**17 29 45.2**	**+0.5**
LPAZ	**La Paz**	**7.81**	**353**	P	**Pn**	**17 29 40.0**	**+1.4**
	comp=Z,1.9nm,0.3s,baz=130,slow=5.2,SNR=32						
LPAZ				S	**S**	**17 31 07.6**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=344,slow=18,SNR=3.3						
LPAZ	**La Paz**	**7.81**	**353**	*e*P	**Pn**	**17 29 40.5**	**+1.9**
LPAZ	**La Paz**	**7.81**	**353**	*e*P	**Pn**	**17 29 40.5**	**+1.9**
SIV	**San Ignacio**	**9.91**	**37**	P	**Pn**	**17 30 04.3**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=236,slow=8.5,SNR=12						
SIV				S	**S**	**17 31 53.3**	**-2.8**
	comp=Z,0.2nm,0.3s,baz=301,slow=23,SNR=2.7						
TRCB	**Terra Rica**	**13.44**	**87**	*e*P	**P**	**17 30 54.9**	**+1.4**
TRCB	**Terra Rica**	**13.44**	**87**	*e*P	**P**	**17 30 54.9**	**+1.4**
ARAG	**Araguaiana, MT**	**16.70**	**63**	*e*P	**Pn**	**17 31 31.9**	**+1.5**
ARAG	**Araguaiana, MT**	**16.70**	**63**	*e*P	**Pn**	**17 31 31.9**	**+1.5**
PLCA	**Paso Flores**	**16.83**	**189**	P	**Pn**	**17 31 32.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=249,slow=10,SNR=3.0						
CLDB	**Colider**	**17.05**	**41**	*e*P	**Pn**	**17 31 33.3**	**-1.4**
CLDB	**Colider**	**17.05**	**41**	*e*P	**Pn**	**17 31 33.3**	**-1.4**
VAO	**Valinhos**	**18.59**	**91**	*e*P	**P**	**17 31 50.4**	**+0.1**
VAO	**Valinhos**	**18.59**	**91**	*e*P	**P**	**17 31 50.4**	**+0.1**
IPMB	**Ipameri, GO**	**18.73**	**75**	*e*P	**Pn**	**17 31 52.7**	**-1.8**
IPMB	**Ipameri, GO**	**18.73**	**75**	*e*P	**Pn**	**17 31 52.7**	**-1.8**
BDFB	**Brasilia**	**19.89**	**69**	P	**P**	**17 32 05.0**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=242,slow=10,SNR=19						
PEXB	**Peixe**	**21.53**	**60**	*e*P	**P**	**17 32 21.5**	**-0.1**
PEXB	**Peixe**	**21.53**	**60**	*e*P	**P**	**17 32 21.5**	**-0.1**
JANB	**Januaria**	**23.34**	**72**	*e*P	**P**	**17 32 38.9**	**+0.2**
JANB	**Januaria**	**23.34**	**72**	*e*P	**P**	**17 32 38.9**	**+0.2**
GDU01	**Guandu, BA**	**28.05**	**73**	*e*P	**P**	**17 33 20.8**	**-0.2**
GDU01	**Guandu, BA**	**28.05**	**73**	*e*P	**P**	**17 33 20.8**	**-0.2**
SNAA	**Sanae**	**59.32**	**161**	P	**P**	**17 37 30.5**	**+1.7**
	comp=Z,0.5nm,0.8s,baz=268,slow=9.6,SNR=5.4						
TORD	**Torodi Ar. Bea**	**76.78**	**69**	P	**P**	**17 39 19.4**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=261,slow=5.7,SNR=7.7						
ZALV	**Zalesovo Beam**	**143.56**	**28**	PKP	**PKiKP**	**17 46 59.8**	**-2.6**
	comp=Z,0.4nm,0.5s,baz=306,slow=2.7,SNR=3.7						
MKAR	**Makanchi Array**	**146.72**	**39**	PKPbc	**PKiKP**	**17 47 08.7**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=297,slow=3.9,SNR=6.9						

IDC 01 17:29:58.5±48.0**, 23°.19S×174°.24W, h0**km**, mb4.1**/3**, mb1 4.3**/3**, mb1mx3.7**/26**, mbtmp4.1**/3**, Error ellipse: s-maj=904.1km s-min=161.2km az=88.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.88**	**248**	P	P	17 37 32.8	-1.4
	1.4nm,0.5s,baz=101,slow=10,SNR=9.0						
ASAR	**Alice Springs**	**47.36**	**259**	P	P	17 38 34.6	0.0
	1.1nm,0.5s,baz=88,slow=6.6,SNR=41						
WRA	**Warramunga Arr**	**47.73**	**264**	P	P	17 38 38.4	+0.9
	1.6nm,0.4s,baz=101,slow=8.2,SNR=36						

*TEH **01** 17:34:09.9, 36°.54N×49°.87E, h8km, ML3.5*
*THR **01** 17:34:09.6±0.4, 36°.60N×49°.87E, h6km±3km, ML3.4*
ISC 01 17:34:08.8±1.0**, 36°.66N**±0°.04×**49°.80E**±0°.03**, h12**km**, n33, σ1s.44**/33**, Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QCNT	**Qazvin**	**0.41**	**156**	*e*Pg	**Pg**	**17 34 15.6**	**-1.3**
IGZV	**Ghazvin**	**0.43**	**129**	*e*Pg	**Pg**	**17 34 16.6**	**-0.8**
QSDN	**Sirdan**	**0.53**	**253**	*e*Pg	**Pb**	**17 34 21.0**	**+0.8**
QALM	**Alamut, Qazvin**	**0.72**	**108**	*e*Pg	**Pg**	**17 34 22.2**	**-0.6**
ZNJK	**Zanjan**	**0.90**	**271**	*e*Pg	**Pn**	**17 34 28.1**	**+0.6**
ZNJK	**Zanjan**	**0.90**	**271**	*e*Pg	**Pn**	**17 34 28.1**	**+0.6**
QABG	**Abgarm-Qazvin**	**0.97**	**191**	*e*Pg	**Pg**	**17 34 26.3**	**-1.2**
IMHD	**Mahdasht**	**1.20**	**144**	*e*Pg	**Pn**	**17 34 31.1**	**-0.4**
IRAZ	**Razeghan**	**1.26**	**175**	*e*Pg	**Pn**	**17 34 32.0**	**-0.4**
IRAZ				*e*		17 35 06.8	
CHTH	**Charan**	**1.31**	**125**	*e*Pg	**Pn**	**17 34 33.3**	**+0.2**
CHTH	**Charan**	**1.31**	**125**	*e*Pg	**Pn**	**17 34 33.3**	**+0.2**
IHSB	**Hasanabad**	**1.71**	**135**	*e*Pg	**Pb**	**17 34 40.0**	**-0.2**
HAGD	**Aghdareh**	**1.91**	**197**	*e*Pn	**Pb**	**17 34 44.3**	**+0.5**
ISRB	**Sarab**	**2.06**	**305**	*e*Pn	**Pg**	**17 34 49.1**	**+0.7**
IPRN	**Peran**	**2.09**	**101**	*e*Pn	**Pb**	**17 34 46.8**	**+0.1**
IDMV	**Damavand**	**2.10**	**120**	*e*Pn	**Pb**	**17 34 46.9**	**-0.2**
IDMV				*e*		17 34 52.2	
IVRN	**Varamin**	**2.28**	**136**	*e*Pn	**Pb**	**17 34 49.8**	**-0.2**
IVRN				*e*		17 35 23.9	
IALA	**Alasht**	**2.49**	**103**	*e*Pn	**Pb**	**17 34 53.7**	**0.0**
SNGE	**Sanandaj**	**2.54**	**233**	*e*Pn	**Pb**	**17 34 53.5**	**-0.8**
SNGE	**Sanandaj**	**2.54**	**233**	*e*Pn	**Pb**	**17 34 53.6**	**-0.8**
IHSH	**Hashtrud**	**2.60**	**310**	*e*Pn	**Pn**	**17 34 49.8**	**-1.2**
GRMI	**Germi**	**2.62**	**325**	*e*Pn	**Pb**	**17 34 55.8**	**0.0**
GRMI				IAML		17 35 36.5	
	comp=E,141nm,0.5s						
GRMI				IAML		17 35 36.8	
	comp=N,131nm,0.5s						
GRMI	**Germi**	**2.62**	**325**	*e*Pn	**Pb**	**17 34 55.8**	**0.0**
HSAM	**Samen**	**2.63**	**202**	*e*Pn	**Pb**	**17 34 54.9**	**-1.2**
IHRS	**Heris**	**2.75**	**308**	*e*Pn	**Pb**	**17 34 58.7**	**+0.7**
ILAS	**Lasjerd**	**2.86**	**116**	*e*Pn	**Pb**	**17 34 57.7**	**-2.2**
KHMZ	**Khomeyn**	**2.92**	**177**	*e*Pn	**Pn**	**17 34 58.0**	**+2.7**
KHMZ	**Khomeyn**	**2.92**	**177**	*e*Pn	**Pn**	**17 34 58.0**	**+2.7**
BMDN	**Meydan**	**3.09**	**195**	*e*Pn	**Pn**	**17 34 59.6**	**+2.0**
IKOM	**Komasi**	**3.11**	**218**	*e*Pn	**Pn**	**17 35 00.5**	**+2.7**
IAZR	**Azarshahr**	**3.22**	**290**	*e*Pn	**Pb**	**17 35 04.2**	**-1.8**
IGLO	**Ghaloghah**	**3.25**	**92**	*e*Pn	**Pn**	**17 35 02.8**	**+3.1**
IMRD	**Marand**	**3.84**	**303**	*e*Pn	**Pb**	**17 35 14.0**	**-2.7**

*ISK **01** 17:45:36.2, 34°.59N×25°.35E, h21km, ML3.5/13*

*ATH **01** 17:45:36.7, 34°.57N×25°.28E, h35km±3km, ML3.1/8, Error ellipse: s-maj=3.5km s-min=1.1km az=3.0*
*THE **01** 17:45:37.6, 34°.58N×25°.26E, h8km±2km, ML3.0/9, Error ellipse: s-maj=2.8km s-min=0.9km az=4.0*
*DDA **01** 17:45:40.5, 34°.91N×25°.63E, h11km±5km, MW3.6*
ISC 01 17:45:34.9±1.5**, 34°.56N**±0°.07×**25°.34E**±0°.03**, h17**km±10km**, n68,** σ**1s.75**/93**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.56**	**35**	P	**Pn**	**17 45 50.2**	**+2.0**
FRMA				S	**Sn**	**17 46 01.2**	**+4.1**
	745nm,0.9s						
LAST	**Lasithi**	**0.61**	**10**	P	**Pn**	**17 45 49.3**	**+0.2**
LAST				S	**Sb**	**17 45 57.2**	**+1.4**
	1μm,0.7s						
LAST	**Lasithi**	**0.61**	**10**	P	**Pn**	**17 45 49.2**	**+0.2**
LAST				S	**Sn**	**17 45 58.3**	**-0.3**
LAST				AML	AML	17 46 02.6	
	comp=E,2625μm,0.6s						
LAST				AML	AML	17 46 05.1	
	comp=N,2852μm,0.7s						
SIVA	**Sivas**	**0.64**	**317**	P	**Pn**	**17 45 49.0**	**-0.2**
SIVA				S	**Sb**	**17 45 56.9**	**+0.6**
	comp=N,9μm,0.7s						
SIVA	**Sivas**	**0.64**	**317**	P	**Pn**	**17 45 49.0**	**-0.2**
SIVA				S	**Sb**	**17 45 58.0**	**+1.7**
SIVA				AML	AML	17 46 01.5	
	comp=E,25730μm,0.4s						
SIVA				AML	AML	17 46 05.3	
	comp=N,10286μm,1.0s						
TMBK	**Timbaki Herakl**	**0.70**	**317**	P	**Pn**	**17 45 50.4**	**+0.3**
TMBK				S	**Sn**	**17 45 59.9**	**-0.7**
	comp=N,2μm,0.4s						
NPS	**Neapolis**	**0.74**	**17**	P	**Pn**	**17 45 51.4**	**+0.7**
NPS				S	**Sn**	**17 46 03.5**	**+1.9**
	comp=N,1μm,0.5s						
NPS	**Neapolis**	**0.74**	**17**	P	**Pn**	**17 45 51.5**	**+0.8**
NPS				S	**Sn**	**17 46 02.8**	**+1.2**
NPS				AML	AML	17 46 06.1	
	comp=N,2144μm,0.6s						
NPS				AML	AML	17 46 07.1	
	comp=E,2929μm,0.4s						
KSTL	**Kastelli Herak**	**0.78**	**343**	P	**Pb**	**17 45 50.5**	**+0.4**
KSTL				S	**Sg**	**17 45 58.9**	**-1.6**
HRKL	**Herakleio**	**0.78**	**345**	P	**Pn**	**17 45 52.6**	**+1.4**
HRKL				S	**Sn**	**17 46 04.0**	**+1.4**
	comp=E,4μm,0.7s						
HRKL	**Herakleio**	**0.78**	**345**	PG	**Pn**	**17 45 51.7**	**+0.5**
HRKL				SG	**Sn**	**17 46 02.4**	**-0.2**
IDI	**Anoyia**	**0.82**	**333**	P	**Pn**	**17 45 52.2**	**+0.3**
IDI				S	**Sn**	**17 46 03.3**	**-0.4**
	comp=E,1μm,0.6s						
IDI	**Anoyia**	**0.82**	**333**	P	**Pn**	**17 45 52.2**	**+0.3**
IDI				S	**Sn**	**17 46 04.4**	**+0.8**
IDI				AML	AML	17 46 05.2	
	comp=N,2294μm,0.6s						
IDI				AML	AML	17 46 07.4	
	comp=E,2164μm,0.7s						
IDI	**Anoyia**	**0.82**	**333**	PG	**Pn**	**17 45 52.2**	**+0.3**
IDI				SG	**Sn**	**17 46 03.9**	**+0.2**
STIA	**Sitia Lasithi**	**0.89**	**43**	P	**Pn**	**17 45 54.9**	**+2.2**
STIA				S	**Sn**	**17 46 08.5**	**+3.2**
ZKR	**Zakros**	**0.91**	**52**	P	**Pn**	**17 45 54.9**	**+1.9**
ZKR				S	**Sn**	**17 46 08.8**	**+3.0**
	comp=E,910nm,0.9s						
ZKR	**Zakros**	**0.91**	**52**	P	**Pn**	**17 45 55.0**	**+2.0**
ZKR				S	**Sn**	**17 46 08.4**	**+2.6**
ZKR				AML	AML	17 46 12.2	
	comp=N,1005μm,0.4s						
ZKR				AML	AML	17 46 12.5	
	comp=E,2586μm,0.8s						
ZKR	**Zakros**	**0.91**	**52**	PG	**Pn**	**17 45 54.1**	**+1.1**
ZKR				SG	**Sn**	**17 46 07.0**	**+1.2**
GVD	**Gavdhos**	**1.07**	**286**	P	**Pg**	**17 45 56.0**	**+0.3**
GVD	**Gavdhos**	**1.07**	**286**	P	**Pg**	**17 45 56.0**	**+0.3**
GVD				S	**Sn**	**17 46 10.4**	**+0.6**
GVD				AML	AML	17 46 23.3	
	comp=N,2433μm,0.4s						
GVD				AML	AML	17 46 27.8	
	comp=E,3225μm,0.4s						
GVD	**Gavdhos**	**1.07**	**286**	PG	**Pg**	**17 45 56.2**	**+0.5**
VAM	**Vamos**	**1.27**	**312**	P	**Pg**	**17 45 59.3**	**-0.1**
VAM				S	**Sg**	**17 46 16.7**	**+0.8**
	comp=E,878nm,0.4s						
VAM	**Vamos**	**1.27**	**312**	P	**Pg**	**17 45 59.2**	**-0.2**
VAM				S	**Sn**	**17 46 15.4**	**+0.8**
VAM				AML	AML	17 46 26.1	
	comp=N,1755μm,0.6s						
VAM				AML	AML	17 46 30.6	
	comp=E,2102μm,0.5s						
IMMV	**Iera Moni Meta**	**1.44**	**309**	P	**Pb**	**17 46 01.5**	**+0.2**
IMMV	**Iera Moni Meta**	**1.44**	**309**	P	**Pb**	**17 46 01.5**	**+0.2**
IMMV				S	**Sn**	**17 46 19.3**	**+0.5**
IMMV				AML	AML	17 46 33.9	
	comp=E,1376μm,0.8s						
IMMV				AML	AML	17 46 34.5	
	comp=N,1361μm,0.6s						
IMMV	**Iera Moni Meta**	**1.44**	**309**	PN	**Pb**	**17 46 01.6**	**+0.2**
KNDR	**Palaiochora Ch**	**1.52**	**297**	PN	**Pg**	**17 46 03.9**	**-0.3**
KARP	**Karpathos**	**1.79**	**56**	P	**Pb**	**17 46 07.0**	**-0.3**
KARP	**Karpathos**	**1.79**	**56**	PN	**Pn**	**17 46 06.7**	**+1.6**
SANT	**Santorini**	**1.81**	**3**	PN	**Pn**	**17 46 06.7**	**+1.2**
ANAF	**Anafi Island**	**1.83**	**11**	P	**Pn**	**17 46 07.2**	**+1.5**
ANKY	**Antikythira Is**	**2.12**	**309**	P	**Pn**	**17 46 10.8**	**+1.1**
IOSP	**Ios island**	**2.16**	**359**	P	**Pn**	**17 46 10.7**	**+0.4**
KTHA	**Kythira Island**	**2.52**	**313**	P	**Pn**	**17 46 16.9**	**+1.7**
KTHA	**Kythira Island**	**2.52**	**313**	PN	**Pn**	**17 46 17.2**	**+2.0**
ARG	**Arkhangelos**	**2.81**	**53**	PN	**Pn**	**17 46 20.9**	**+1.7**
DAT	**Datca**	**2.83**	**39**	PN	**Pn**	**17 46 20.8**	**+1.3**
DAT	**Datca**	**2.83**	**39**	*i* P	**Pn**	**17 46 20.8**	**+1.3**
DAT				*i* S	**Sn**	**17 46 48.7**	**-4.6**
DAT				IAML		17 47 02.0	
	comp=E,18nm,1.8s						
DAT				IAML		17 47 21.0	
	comp=N,18nm,0.9s						
VLI	**Veliai**	**2.92**	**318**	P	**Pn**	**17 46 21.2**	**+0.6**
VLI	**Veliai**	**2.92**	**318**	P	**Pn**	**17 46 20.9**	**+0.3**
DID	**Didima**	**3.41**	**330**	P	**Pn**	**17 46 27.1**	**-0.2**
DID	**Didima**	**3.41**	**330**	P	**Pn**	**17 46 25.8**	**-1.6**
GCAM	**G?zelcaml?**	**3.49**	**25**	*i* P	**Pn**	**17 46 28.8**	**+0.3**
GCAM				IAML		17 47 07.0	
	comp=N,16nm,0.9s						
GCAM				IAML		17 47 25.0	
	comp=E,12nm,1.3s						
YER	**Yerkesik**	**3.51**	**42**	PN	**Pn**	**17 46 30.7**	**+1.9**
DALY	**Dalyan (Mula)**	**3.51**	**49**	PN	**Pn**	**17 46 30.4**	**+1.6**
DALY	**Dalyan (Mula)**	**3.51**	**49**	*i* P	**Pn**	**17 46 29.8**	**+1.0**
DALY				*i* S	**Sn**	**17 47 06.7**	**-3.3**
TURN	**Turunc**	**3.52**	**48**	PN	**Pn**	**17 46 26.8**	**-2.0**
TURN	**Turunc**	**3.52**	**48**	*i* P	Pn	17 46 13.6	-15
FETY	**Fethiye**	**3.69**	**55**	PN	**Pn**	**17 46 32.6**	**+1.4**
FETY	**Fethiye**	**3.69**	**55**	*i* P	**Pn**	**17 46 31.7**	**+0.4**
FETY				*i* S	**Sn**	**17 47 10.5**	**-3.8**
FETY				IAML		17 47 26.0	
	comp=E,13nm,0.9s						
FETY				IAML		17 47 43.0	
	comp=N,10nm,1.2s						
AYDN	**Tasoluk**	**3.72**	**33**	*i* P	**Pn**	**17 46 33.4**	**+1.7**
AYDN				IAML		17 47 31.0	
	comp=E,14nm,1.2s						
AYDN				IAML		17 47 34.0	
	comp=N,11nm,1.1s						
AKAS	**Kas**	**3.86**	**63**	PN	**Pn**	**17 46 36.1**	**+2.4**
AKAS	**Kas**	**3.86**	**63**	*i* P	**Pn**	**17 46 34.8**	**+1.0**
AKAS				*i* S	Sn	17 47 10.2	-8.6
URLA	**Izmir**	**3.93**	**15**	*i* P	**Pn**	**17 46 33.9**	**-0.7**
URLA				IAML		17 47 35.0	
	comp=N,10nm,1.5s						
URLA				IAML		17 48 04.0	
	comp=E,9.0nm,1.1s						
AYDB	**Zeytinkoy-Aydi**	**3.96**	**31**	PN	**Pn**	**17 46 36.6**	**+1.5**
TAVA	**DENIZLI_Tavas**	**4.10**	**44**	*i* P	**Pn**	**17 46 38.1**	**+1.1**
TAVA				*i* S	**Sn**	**17 47 24.4**	**-0.2**
TAVA				IAML		17 47 50.0	
	comp=E,8.3nm,1.2s						
TAVA				IAML		17 47 57.0	
	comp=N,10nm,1.3s						
GOLH	**Golhisar**	**4.34**	**51**	*i* P	**Pn**	**17 46 41.3**	**+1.0**
GOLH				*i* S	**Sn**	**17 47 28.6**	**-2.0**
GOLH				IAML		17 47 36.0	
	comp=N,11nm,0.4s						
AKUM	**Antalya-Kumluc**	**4.45**	**65**	*i* P	**Pn**	**17 46 42.0**	**+0.4**
AKUM				*i* S	**Sn**	**17 47 26.2**	**-6.8**
KHAL	**Karahalli**	**5.07**	**40**	*i* P	**Pn**	**17 46 50.9**	**+0.6**
KHAL				IAML		17 47 47.0	
	comp=E,3.6nm,0.5s						
KHAL				IAML		17 48 19.0	
	comp=N,5.2nm,3.2s						
DBRK	**Dubrovnik**	**9.86**	**327**	*e*Pn	**Pn**	**17 47 53.3**	**-2.6**
DBRK				Sn	Sn	17 49 34.7	-12
STON	**Ston**	**10.22**	**327**	*e*Pn	**Pn**	**17 47 59.0**	**-1.9**
STON				Sn	Sn	17 49 43.1	-12
MAKA	**Makarska**	**10.86**	**326**	Sn	Sn	17 49 59.3	-11
RICI	**Ricice**	**10.97**	**327**	*e*Pn	**Pn**	**17 48 07.8**	**-3.4**
RICI				Sn	Sn	17 49 59.0	-14
HVAR	**Hvar**	**11.05**	**324**	Sn	Sn	17 50 05.7	-10
KIJV	**Kijevo**	**11.70**	**326**	*e*Pn	**Pn**	**17 48 17.6**	**-3.5**
KIJV				Sn	Sn	17 50 17.3	-14
MORI	**Morici**	**11.92**	**324**	*e*Pn	**Pn**	**17 48 23.6**	**-0.5**
MORI				Sn	Sn	17 50 25.0	-12
DUGI	**Dugi Otok**	**12.33**	**323**	*e*Pn	**Pn**	**17 48 30.6**	**+0.9**
DUGI				Sn	Sn	17 50 37.4	-9.4
NVLJ	**Novalja**	**12.84**	**324**	*e*Pn	**Pn**	**17 48 35.2**	**-1.4**
NVLJ				Sn	Sn	17 50 46.7	-12

WBNET 01 17:46:30.7, 50°.24N×12°.45E, h8km, Ml0.5, 4C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**216**	⇓P	Pg	17 46 32.3	+0.1
NKC				S	Sg	17 46 33.2	+0.1
LBCW	**Luby**	**0.04**	**322**	⇓P	Pg	17 46 32.5	+0.1
LBCW				S	Sg	17 46 33.8	+0.2
VAC	**Vackov**	**0.05**	**271**	⇓P	Pg	17 46 32.5	+0.1
VAC				S	Sg	17 46 33.6	0.0
KVC	**Kvetna**	**0.05**	**125**	S	Sg	17 46 33.5	-0.1
STCW	**Studenec**	**0.05**	**62**	⇑P	Pg	17 46 32.5	+0.1
STCW				S	Sg	17 46 33.7	-0.1
POCW	**Potky**	**0.09**	**350**	⇓P	Pg	17 46 33.1	+0.2
POCW				S	Sg	17 46 34.7	+0.2
SKC	**Skalna**	**0.09**	**221**	⇑P	Pg	17 46 32.9	+0.1
SKC				S	Sg	17 46 34.4	0.0
KACW	**Kaceov**	**0.10**	**155**	S	Sg	17 46 34.9	+0.1
KRCW	**Kraslice**	**0.11**	**28**	⇑P	Pg	17 46 33.4	+0.1
KRCW				S	Sg	17 46 35.1	0.0
ZHC	**Zelena Hora**	**0.19**	**209**	⇑P	Pg	17 46 34.6	+0.1

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*PRU **01** 17:47:30.2±0.0, 50°.25N×12°.51E, h0km, West Bohemia Swarm*
WBNET 01 17:47:29.5, 50°.24N×12°.44E, h9km, Ml1.2, 5C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**127**	*e*PG	Pg	17 47 31.0	-0.1
NKC				*e*SG	Sg	17 47 32.2	-0.1
	comp=Z,46nm,0.2s						
NKC	**Novy Kostel**	**0.00**	**127**	⇓P	Pg	17 47 31.2	+0.1
NKC				S	Sg	17 47 32.4	+0.1
LBCW	**Luby**	**0.04**	**326**	⇓P	Pg	17 47 31.5	+0.1
LBCW				S	Sg	17 47 32.8	+0.2
VAC	**Vackov**	**0.04**	**271**	⇓P	Pg	17 47 31.4	+0.1
VAC				S	Sg	17 47 32.7	0.0
KVC	**Kvetna**	**0.05**	**122**	⇑P	Pg	17 47 31.4	-0.1
KVC				S	Sg	17 47 32.6	-0.2
STCW	**Studenec**	**0.05**	**64**	⇑P	Pg	17 47 31.5	0.0
STCW				S	Sg	17 47 32.7	-0.2
SKC	**Skalna**	**0.08**	**219**	⇑P	Pg	17 47 31.8	+0.1
SKC				S	Sg	17 47 33.4	0.0
POCW	**Potky**	**0.09**	**353**	⇓P	Pg	17 47 32.0	+0.2
POCW				S	Sg	17 47 33.7	+0.1
KACW	**Kaceov**	**0.10**	**153**	⇓P	Pg	17 47 32.1	+0.1
KACW				S	Sg	17 47 33.9	0.0
KRCW	**Kraslice**	**0.11**	**30**	⇑P	Pg	17 47 32.3	0.0
KRCW				S	Sg	17 47 34.1	-0.1
ZHC	**Zelena Hora**	**0.19**	**208**	⇑P	Pg	17 47 33.5	0.0
ZHC				S	Sg	17 47 36.1	0.0
CLL	**Collm**	**1.13**	**18**	*e*	Pn	17 47 54.0	+2.4
CLL				*i* Sg	Sb	17 48 06.5	+0.4
CLL				*i*		17 48 10.2	
KHC	**Kasperske Hory**	**1.33**	**146**	*e*PG	Pn	17 47 53.7	-0.6
KHC				*e*SG	Sb	17 48 11.8	0.0
PRU	**Pruhonice**	**1.37**	**100**	*e*SG	Sb	17 48 13.0	0.0
	comp=Z,1.5nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	Sb	17 48 17.9	0.0
ZIRJ	**Zirje**	**6.94**	**160**	Sn	Sn	17 50 24.3	-6.0

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*PRU **01** 17:47:45.6±0.0, 50°.26N×12°.50E, h4km, West Bohemia Swarm*
WBNET 01 17:47:45.5, 50°.24N×12°.44E, h8km, Ml0.9, 4C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**139**	*e*PG	Pg	17 47 47.0	+0.1
NKC				*e*SG	Sg	17 47 47.9	0.0
	comp=Z,44nm,0.2s						
NKC	**Novy Kostel**	**0.00**	**139**	⇓P	Pg	17 47 47.1	+0.1
NKC				S	Sg	17 47 48.0	+0.1
LBCW	**Luby**	**0.04**	**325**	⇓P	Pg	17 47 47.3	+0.2
LBCW				S	Sg	17 47 48.5	+0.2
VAC	**Vackov**	**0.04**	**269**	⇓P	Pg	17 47 47.3	+0.1
VAC				S	Sg	17 47 48.4	0.0
STCW	**Studenec**	**0.05**	**65**	⇑P	Pg	17 47 47.4	+0.1
STCW				S	Sg	17 47 48.5	-0.1
KVC	**Kvetna**	**0.06**	**123**	S	Sg	17 47 48.4	-0.2
POCW	**Potky**	**0.09**	**353**	⇓P	Pg	17 47 47.9	+0.2
POCW				S	Sg	17 47 49.5	+0.2
SKC	**Skalna**	**0.09**	**219**	⇑P	Pg	17 47 47.7	+0.1
SKC				S	Sg	17 47 49.2	0.0
KACW	**Kaceov**	**0.10**	**153**	S	Sg	17 47 49.7	+0.1
KRCW	**Kraslice**	**0.11**	**30**	⇑P	Pg	17 47 48.2	+0.1
KRCW				S	Sg	17 47 49.9	0.0
ZHC	**Zelena Hora**	**0.19**	**208**	⇑P	Pg	17 47 49.4	+0.1
ZHC				S	Sg	17 47 52.0	+0.1
CLL	**Collm**	**1.13**	**18**	*i* Sg	Sn	17 48 23.0	-0.4
PRU	**Pruhonice**	**1.37**	**100**	*e*SG	Sb	17 48 27.8	-1.3
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	Sb	17 48 34.1	0.0

IDC 01 18:22:43.9±5.0**, 5°.44S×154°.24E, h372**km±20km**, mb2.8**/4**, mb1 3.1**/5**, mb1mx2.8**/27**, mbtmp3.5**/5**, Error ellipse: s-maj=85.9km s-min=24.5km az=98.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.48**	**297**	P	Pn	18 23 41.6	+0.9
	13nm,0.3s,baz=98,slow=1.1,SNR=30						
KRVT				S	S	18 24 26.6	+0.1
	5.3nm,0.3s,baz=58,slow=21,SNR=7.9						
WRA	**Warramunga Arr**	**24.14**	**232**	P	P	18 27 28.2	+0.2
	0.7nm,0.5s,baz=56,slow=9.2,SNR=10.0						
ASAR	**Alice Springs**	**26.69**	**225**	P	P	18 27 50.1	-0.6
	0.3nm,0.3s,baz=56,slow=9.2,SNR=27						
CMAR	**Chiang Mai Arr**	**59.45**	**295**	P	P	18 32 09.9	+0.5
	0.3nm,0.6s,baz=116,slow=5.4,SNR=4.2						
MKAR	**Makanchi Array**	**81.75**	**319**	P	P	18 34 21.8	-0.3
	0.2nm,0.5s,baz=101,slow=5.1,SNR=4.7						

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*IDC **01** 18:31:39.5±1.5, 2°.08N×96°.13E, h0km, mb4.1/7, mb1 4.1/9, mb1mx3.7/40, mbtmp4.0/9, ML3.7/2, MS3.2/3, Ms1 3.3/3, ms1mx2.9/31, Error ellipse: s-maj=47.8km s-min=19.8km az=51.0*
*DJA **01** 18:31:42.7±1.1, 2°N±4°×9°6E±°, h17km±4km, M4.5/13, mB4.7/2, mB4.8/1, mb4.7/4, mb5.0/1, MLv4.3/13, MLv4.3/6, Mw(mB)3.9/2, Mw(mB)4.0/1*
*NEIC **01** 18:31:44.2±0.9, 2°.09N±0°.10×96°.2E±0°.1, h34km±7km, mb4.3/7, Error ellipse: s-maj=20.4km s-min=6.9km az=51.0*
ISC 01 18:31:43.4±0.8**, 2°.16N**±0°.06×**96°.16E**±0°.09**, h27**km**, n36,** σ**0s.78**/31**, mb4.2**/14**, MS3.6**/3**, 1C, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.30**	**33**	P	**Pb**	**18 31 50.0**	**-0.6**
SNSI				S	**Sb**	**18 31 55.1**	**-0.4**
GSI	**Gunungsitoli**	**1.65**	**121**	P	**Pn**	**18 32 10.2**	**-0.4**
GSI				S	**Sn**	**18 32 30.1**	**-0.8**
KCSI	**Kotacane, Aceh**	**2.10**	**50**	P	**Pn**	**18 32 16.7**	**-0.2**
MLSI	**Meulaboh, Aceh**	**2.11**	**7**	P	**Pn**	**18 32 16.4**	**-0.6**
TSI	**Tuntungan**	**2.75**	**61**	P	**Pn**	**18 32 26.7**	**+1.0**
RPSI	**Rantau Prapat**	**2.81**	**79**	Pn	**Pn**	**18 32 26.7**	**+0.2**
RPSI	**Rantau Prapat**	**2.81**	**79**		**Pn**	**18 32 26.8**	**+0.2**
PSI	**Prapat**	**2.83**	**77**	Pn	**Pn**	**18 32 26.8**	**-0.2**
	6.2nm,0.3s,baz=184,slow=1.2,SNR=22						
PSI				LR	LR	18 33 30.6	
	comp=Z,162nm,18.0s,baz=273,slow=39						
PBSI	**Pulau Batu**	**3.05**	**136**	P	**Pn**	**18 32 30.2**	**+0.3**
LHMI	**Lhok Sumawe**	**3.15**	**14**	P	**Pn**	**18 32 30.5**	**-0.8**
MNSI	**Mandailing Nat**	**3.67**	**112**	P	**Pn**	**18 32 39.5**	**+1.0**
KRJI	**Kerinci**	**6.77**	**128**	P	**Pn**	**18 33 21.3**	**+0.1**
	0.6nm122nm,0.7s						
CMAR	**Chiang Mai Arr**	**16.43**	**9**	Pn	**Pn**	**18 35 33.4**	**+1.1**
	0.2nm,0.3s,baz=196,slow=12,SNR=19						
CMAR				LR	LR	18 42 35.7	
	comp=Z,151nm,18.5s,baz=232,slow=40						
SHL	**Shillong**	**23.64**	**350**	P	**P**	**18 36 52.6**	**-0.2**
SHL				IAmb	IAmb	18 36 55.0	
	comp=Z,9.7nm,0.7s						
H08S2	**Diego Garcia H**	**25.54**	**247**	T	T	19 03 42.3	
	baz=68,slow=76,SNR=351						
H08S3	**Diego Garcia H**	**25.54**	**247**	T	T	19 03 43.8	
	baz=68,slow=76,SNR=327						
H08S1	**Diego Carcia H**	**25.56**	**247**	T	T	19 03 47.6	
	baz=68,slow=76,SNR=319						
XAN	**Xi'an**	**33.89**	**19**	P	**P**	**18 38 23.3**	**-0.8**
XAN				pmax	pmax		
	comp=Z,26nm,0.8s						
XAN				pmax	pmax		
	comp=Z,72nm,3.7s						
XAN				LR	LR		
	comp=Z,130nm,16.3s						
XAN				LR	LR		
	comp=Z,100nm,17.4s						
XAN				LR	LR		
	comp=Z,130nm,20.6s						
GTA	**Gaotai**	**37.23**	**5**	⇑P	**P**	**18 38 53.7**	**+0.9**
GTA				pP	pP	18 38 59.8	-1.0
GTA				sP	sP	18 39 03.2	-0.6
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,35nm,6.7s						
GTA				LR	LR		
	comp=Z,71nm,18.4s						
GTA				LR	LR		
	comp=Z,67nm,19.0s						
H01W3	**Cape Leeuwin H**	**40.52**	**157**	T	T	19 22 18.0	
	baz=333,slow=76,SNR=49						
H01W2	**Cape Leeuwin H**	**40.53**	**157**	T	T	19 22 17.3	
	baz=333,slow=76,SNR=46						
H01W1	**Cape Leeuwin H**	**40.54**	**157**	T	T	19 22 24.0	
	baz=333,slow=76,SNR=58						
WB0	**Warramunga Arr**	**43.39**	**122**	P	**P**	**18 39 42.3**	**-1.7**
WB0				IAmb	IAmb	18 39 49.7	
	comp=Z,4.1nm,1.1s						
WRA	**Warramunga Arr**	**43.42**	**122**	P	**P**	**18 39 44.0**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=299,slow=9.5,SNR=4.7						
WR0	**Warramunga Arr**	**43.60**	**122**	P	**P**	**18 39 44.8**	**-0.9**
WR0				IAmb	IAmb	18 39 57.1	
	comp=Z,9.0nm,1.4s						
ASAR	**Alice Springs**	**44.80**	**127**	P	**P**	**18 39 55.3**	**0.0**
	comp=Z,0.6nm,0.7s,baz=300,slow=7.8,SNR=9.7						
KSRS	**Korea Array**	**45.67**	**36**	LR	LR	18 59 32.8	
	comp=Z,29nm,18.4s,baz=255,slow=37						
MK31	**Makanchi Array**	**46.08**	**347**		**P**	**18 40 04.8**	**-0.2**
MK31				IAmb	IAmb	18 40 07.2	
	comp=Z,3.7nm,1.0s						
MKAR	**Makanchi Array**	**46.08**	**347**	P	**P**	**18 40 05.6**	**+0.6**
	comp=Z,3.9nm,0.8s,baz=162,slow=7.4,SNR=40						
MAKZ	**Makanchi**	**46.16**	**347**		**P**	**18 40 06.4**	**+0.7**
MAKZ				IAmb	IAmb	18 40 08.1	
	comp=Z,3.2nm,0.8s						
SONM	**Songino Array**	**46.35**	**10**	P	**P**	**18 40 07.8**	**+0.4**
	comp=Z,1.6nm,0.7s,baz=204,slow=5.7,SNR=2.5						
ZAA0	**Zalesovo Array**	**52.46**	**352**	P	**P**	**18 40 53.8**	**+0.1**
ZALV	**Zalesovo Beam**	**52.46**	**352**	P	**P**	**18 40 54.2**	**+0.5**
	comp=Z,3.0nm,0.4s,baz=174,slow=7.5,SNR=19						
MAW	**Mawson**	**73.41**	**193**	P	**P**	**18 43 11.4**	**-1.3**
FINES	**FINESS Array B**	**78.68**	**333**	P	**P**	**18 43 43.6**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=111,slow=7.6,SNR=1.8						
ARCES	**ARCESS Array B**	**81.29**	**340**	P	**P**	**18 43 58.5**	**+1.5**
	comp=Z,2.1nm,0.9s,baz=101,slow=4.7,SNR=2.0						

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*TEH **01** 18:38:48.4, 36°.72N×54°.92E, h8km, ML3.6*
*THR **01** 18:38:50.8±0.3, 36°.74N×55°.05E, h15km±4km, ML3.4*
ISC 01 18:38:50.3±1.0**, 36°.81N**±0°.05×**54°.92E**±0°.03**, h15**km**, n37,** σ**1s.49**/39**, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.59**	**41**	*e*Pg	**Pg**	**18 39 00.7**	**-1.3**
IGLO	**Ghaloghah**	**0.93**	**251**	*e*		18 39 27.7	
IGLO				*e*Pg	**Pb**	**18 39 06.2**	**-2.1**
SHRO	**Shahrood**	**1.20**	**133**	*e*Pg	**Pb**	**18 39 10.8**	**-2.1**
SHRO	**Shahrood**	**1.20**	**133**	*e*Pg	**Pb**	**18 39 10.8**	**-2.1**
IANJ	**Anjilo**	**1.57**	**212**	*e*Pg	**Pn**	**18 39 16.3**	**-1.6**
ISHM	**Shahmirzad**	**1.65**	**233**	*e*Pg	**Pn**	**18 39 19.0**	**-0.1**
IALA	**Alasht**	**1.85**	**248**	*e*Pn	**Pb**	**18 39 22.7**	**-1.3**
IFIR	**Firoozkooh**	**2.10**	**237**	*e*Pn	**Pb**	**18 39 26.2**	**-2.2**
ILAS	**Lasjerd**	**2.13**	**229**	*e*Pg	**Pb**	**18 39 27.3**	**-1.5**
ILAS				*e*		18 39 30.2	
IPRN	**Peran**	**2.16**	**256**	*e*Pn	**Pn**	**18 39 26.6**	**+0.7**
BJRD	**Bojnurd**	**2.17**	**65**	*e*Pn	**Pb**	**18 39 27.7**	**-1.8**
BJRD				*e*Sg	**Sb**	**18 39 57.4**	**+1.1**
BJRD	**Bojnurd**	**2.17**	**65**	*e*Pn	**Pb**	**18 39 27.7**	**-1.8**
SBZV	**Sabzevar**	**2.20**	**100**	*e*Pn	**Pb**	**18 39 27.6**	**-2.4**
ISFR	**Sfrayin**	**2.48**	**83**	*e*Pn	**Pn**	**18 39 31.7**	**+1.3**
ISFR				*e*		18 41 08.7	
IDMV	**Damavand**	**2.64**	**243**	*e*Pn	**Pn**	**18 39 34.2**	**+1.5**
IKRD	**Kardeh**	**2.88**	**90**	*e*Pn	**Pg**	**18 39 48.0**	**+2.4**
IEMG	**Emamgholi**	**3.04**	**77**	*e*Pn	**Pn**	**18 39 39.0**	**+0.8**
IAKL	**Akhelmad**	**3.09**	**93**	*e*Pn	**Pn**	**18 39 39.3**	**+0.5**
IVRN	**Varamin**	**3.16**	**236**	*e*Pn	**Pn**	**18 39 39.9**	**+0.3**
IPAY	**Payeh**	**3.30**	**95**	*e*Pn	**Pn**	**18 39 42.2**	**+0.6**
QALM	**Alamut, Qazvin**	**3.46**	**265**	*e*Pn	**Pn**	**18 39 44.9**	**+1.0**
TABS	**Tabas**	**3.63**	**150**	*e*Pn	**Pn**	**18 39 46.9**	**+0.8**
TABS				*e*Sg	**Sb**	**18 40 40.3**	**+2.1**
TABS	**Tabas**	**3.63**	**150**	*e*Pn	**Pn**	**18 39 46.9**	**+0.8**
TKDS	**Koohdasht(Taba**	**3.66**	**150**	*e*Pn	**Pn**	**18 39 46.6**	**0.0**
ANAR	**Anarak**	**3.74**	**196**	*e*Pn	**Pn**	**18 39 47.0**	**-0.7**
GHVR	**GHOM**	**3.76**	**233**	*e*Pn	**Pn**	**18 39 51.3**	**+3.4**
GHVR				IAML		18 41 05.8	
	comp=E,44nm,0.4s						
TPRV	**Parvadeh(Tabas**	**4.04**	**158**	*e*Pn	**Pn**	**18 39 52.3**	**+0.6**
IRAZ	**Razeghan**	**4.28**	**252**	*e*Pn	**Pn**	**18 39 56.2**	**+1.1**
IZEF	**Zefreh**	**4.45**	**209**	*e*Pn	**Pn**	**18 39 58.7**	**+1.2**
QABG	**Abgarm-Qazvin**	**4.45**	**257**	*e*Pn	**Pn**	**18 39 58.1**	**+0.6**
QSDN	**Sirdan**	**4.63**	**268**	*e*Pn	**Pn**	**18 40 02.3**	**+2.3**
AFRZ	**Afriz**	**4.76**	**134**	*e*Pn	**Pn**	**18 40 01.0**	**-0.7**
ITEG	**Tejag**	**5.01**	**140**	*e*Pn	**Pn**	**18 40 05.2**	**0.0**
ITEG				*e*		18 41 01.5	
IMON	**Monand**	**5.31**	**131**	*e*Pn	**Pn**	**18 40 09.9**	**+0.6**
IRAM	**Ramesheh**	**5.41**	**204**	*e*Pn	**Pn**	**18 40 10.8**	**+0.1**
IKOO	**Kooshah**	**5.52**	**141**	*e*Pn	**Pn**	**18 40 12.4**	**+0.2**
IDAH	**Dahanechah**	**5.75**	**133**	*e*Pn	**Pn**	**18 40 16.0**	**+0.6**

TEH 01 18:39:42.9, 36°.73N×54°.99E, h10km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.62**	**32**	*e*Pg	Pg	18 39 54.2	-0.8
IGLO	**Ghaloghah**	**0.96**	**257**	*e*Pg	Pb	18 40 01.8	0.0
IGLO				*e*		18 40 26.9	
IANJ	**Anjilo**	**1.53**	**215**	*e*	Sg	18 40 37.9	+5.7
ISHM	**Shahmirzad**	**1.65**	**237**	*e*Pg	Pb	18 40 13.7	+0.1
ISHM				*e*		18 40 42.1	
IALA	**Alasht**	**1.87**	**251**	*e*Pn	Pg	18 40 18.3	-0.6
IFIR	**Firoozkooh**	**2.11**	**240**	*e*Pn	Pb	18 40 20.8	-0.6
IPRN	**Peran**	**2.19**	**258**	*e*Pn	Pb	18 40 21.3	-1.4
IKRD	**Kardeh**	**2.83**	**88**	*e*Pn	Pg	18 40 42.1	+4.9
IKRD				*e*		18 40 59.2	
IGZV	**Ghazvin**	**3.86**	**266**	*e*Pn	Pn	18 40 46.2	+3.7
AFRZ	**Afriz**	**4.66**	**134**	*e*Pn	Pn	18 40 55.6	+2.1
ITEG	**Tejag**	**4.92**	**140**	*e*Pn	Pn	18 40 59.1	+2.1
IKOO	**Kooshah**	**5.42**	**141**	*e*		18 41 07.5	
IKOO				*e*Pn	Pn	18 41 05.9	+1.9

UCR ***01*** *18:57:10.5±1.6, 9°.63N×84°.75W, h21km±3km, MD3.7*
UPA ***01*** *18:57:12.0±1.5, 10°.24N×84°.37W, h0km±9km, MW3.7*
ISC 01 18:57:09.6±1.3**, 9°.64N**±0°.05×**84°.77W**±0°.04**, h10**km±10km**,**
n25, σ**1s.05**/39**, 3C-4D, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SRA1	**San Ramn**	**0.53**	**32**	⇓*i*P	**Pb**	**18 57 20.8**	**-0.3**
SRA1				*e*S	**Sb**	**18 57 28.7**	**-0.2**
JTS	**Las Juntas de**	**0.68**	**344**	*e*S	**Sb**	**18 57 34.0**	**+1.1**
JTS	**Las Juntas de**	**0.68**	**344**	⇓*i*P	**Pg**	**18 57 23.0**	**+0.2**
JTS				*e*S	**Sb**	**18 57 32.6**	**-0.3**
LCR2	**La Lucha 2**	**0.76**	**82**	⇑*e*P	**Pg**	**18 57 24.2**	**-0.2**
LCR2				*e*S	**Sb**	**18 57 35.6**	**0.0**
SJS	**Escuela Geolog**	**0.77**	**67**	*e*P	**Pb**	**18 57 24.6**	**-0.5**
SJS				*e*S	**Sg**	**18 57 34.8**	**+0.3**
CASO	**Castillo**	**0.79**	**2**	*i* P	**Pb**	**18 57 25.3**	**-0.2**
ARE1	**Arenal 1**	**0.82**	**3**	⇓*e*P	**Pb**	**18 57 26.1**	**+0.1**
ARE1				*e*S	**Sb**	**18 57 38.1**	**+1.0**
PLVR	**Palo Verde**	**0.91**	**321**	⇓*i*P	**Pg**	**18 57 27.1**	**-0.1**
PLVR				*e*S	**Sb**	**18 57 41.2**	**+1.3**
GUAI	**GUAI**	**0.96**	**311**	*i* P	**Pb**	**18 57 28.0**	**-0.5**
GUAI				*i* S	**Sb**	**18 57 41.6**	**+0.3**
ACAL	**Aguas Claras**	**1.03**	**345**	*i* P	**Pg**	**18 57 29.1**	**-0.2**
ACAL				*i* S	**Sb**	**18 57 43.6**	**+0.5**
CVTR	**Volcan Turrial**	**1.07**	**69**	*e*P	**Pn**	**18 57 30.9**	**-0.1**
PTEN	**Parque Tenorio**	**1.09**	**349**	*i* P	**Pg**	**18 57 30.3**	**-0.4**
GPS2	**Hotel Rincn d**	**1.25**	**333**	*e*P	**Pg**	**18 57 32.3**	**-1.4**
GPS2				*e*S	**Sn**	**18 57 51.0**	**+0.8**
NY14	**Universidad de**	**1.26**	**323**	*i* P	**Pg**	**18 57 33.1**	**-0.7**
GPS1	**Guardaparques**	**1.27**	**333**	*i* P	**Pg**	**18 57 32.7**	**-1.3**
LAPC	**Finca la Perla**	**1.30**	**330**	*i* P	**Pn**	**18 57 32.8**	**-1.1**
GB1A	**Borinquen Arri**	**1.33**	**332**	*e*P	**Pn**	**18 57 33.8**	**-0.6**
BUAI	**Buenos Aires**	**1.35**	**336**	*i* P	**Pn**	**18 57 34.0**	**-0.6**
DRK0	**Durika**	**1.55**	**104**	⇑*e*P	**Pn**	**18 57 36.7**	**-0.8**
DRK0				*e*S	**Sn**	**18 57 56.5**	**-1.2**
DRK0	**Durika**	**1.55**	**104**	⇑*e*P	**Pn**	**18 57 36.6**	**-0.8**
DRK0				*e*S	**Sn**	**18 57 56.5**	**-1.2**
PTJ1	**Puerto Jimnez**	**1.81**	**127**	*e*S	**Sg**	**18 58 11.7**	**+3.7**
BRU2	**Volcan**	**2.21**	**112**	*e*P	**Pb**	**18 57 49.6**	**-0.3**
BRU2				*e*S	**Sg**	**18 58 19.3**	**-1.6**
ACON	**Acoyapa**	**2.35**	**350**	*e*P	**Pn**	**18 57 49.3**	**+1.0**
BCO2	**Palmira**	**2.39**	**112**	*e*P	**Pb**	**18 57 52.0**	**-0.9**
BCO2				*e*S	**Sb**	**18 58 23.0**	**+0.4**
CHGR2	**Aguacate**	**2.68**	**105**	*e*P	**Pn**	**18 57 53.9**	**+1.0**
CHGR2				*e*S	**Sn**	**18 58 27.2**	**+1.7**

BJI ***01*** *19:01:46.9±0.0, 2°.59N×125°.91E, h128km, mB4.8/43, mb5.0/61*
MOS ***01*** *19:01:50.7±1.0, 3°.16N×125°.65E, h123km, mb5.0/24, Error ellipse: s-maj=8.9km s-min=4.8km az=112.4*
UNK ***01*** *19:01:51.6, 3°.15N×125°.77E, h111km*
NEIC ***01*** *19:01:52.2±2.6, 3°.09N±0°.06×125°.76E±0°.07, h123km±3km, mb5.0/93, Error ellipse: s-maj=10.5km s-min=8.1km az=60.0*
IDC ***01*** *19:01:53.7±1.1, 3°.12N×125°.67E, h136km±9km, mb4.6/33, mb1 4.6/39, mb1mx4.6/45, mbtmp5.0/39, MS3.3/4, Ms1 3.3/4, ms1mx2.9/41, Error ellipse: s-maj=10.9km s-min=6.8km az=71.0*
DJA ***01*** *19:01:53.6±0.2, 3°N±2°×12°6E±°, h137km±2km, M4.9/84, mb5.2/84, mB5.4/50, MLv5.4/17, Mw(mB)4.8/50*
MAN ***01*** *19:01:54.8, 3°.34N×125°.99E, h150km, mb5.8, ML4.9, MS5.3*
GCMT ***01*** *19:01:55.2±0.3, 3°.08N±0°.02×125°.83E±0°.02, h121km±4km, MW4.9/96, Moment Tensor Solution. s22,c23; s96,c138; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.70±.11; $M_{\theta\theta}$-0.82±.10; $M_{\phi\phi}$0.12±.13; $M_{r\theta}$0.08±.07; $M_{\theta\phi}$-2.25±.10; $M_{\phi r}$1.92±.08; Best double couple: $M_0$3.05600×10^{16} NP1:ϕ_s272.00000°, δ49.00000°, λ167.00000°. NP2: ϕ_s11.00000°, δ80.00000°, λ42.00000°. Principal axes: T 2.9880, Plg35.0000°, Azm240.0000°; N 0.1350, Plg47.0000°, Azm21.0000°; P -3.1230, Plg20.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
KLM ***01*** *19:01:55.0, 3°.05N×125°.85E, h157km, mb5.0*
ISC 01 19:01:53.2±0.4**, 3°.14N**±0°.03×**125°.82E**±0°.04**, h135**km±3km**,**
h136km:pP-P, n563, σ**1s.32**/612**, mb5.0**/132**, 23C-41D,**
Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.82**	**147**	P	**Pn**	**19 02 37.4**	**-0.3**
TNTI				S	**Sn**	**19 03 11.7**	**-0.3**
TNTI	**Ternate**	**2.82**	**147**	Pn	**Pn**	**19 02 36.6**	**-1.2**
TNTI				Sn	**Sn**	**19 03 09.2**	**-2.8**
DDMP	**Don Marcelino,**	**2.94**	**358**	*e*P	**Pn**	**19 02 40.2**	**+0.8**
DDMP				*e*S	**Sn**	**19 03 14.1**	**-0.9**
GSPH	**General Santos**	**3.05**	**343**	⇓*i*P	**Pn**	**19 02 41.4**	**+0.6**
GSPH				*i* S	**Sn**	**19 03 17.3**	**-0.3**
KMSI	**Cibinong**	**3.15**	**216**	P	**Pn**	**19 02 43.4**	**+1.5**
KMSI				S	**Sn**	**19 03 21.4**	**+1.8**
SKMP	**Bagumbayan, Su**	**3.59**	**339**	*e*P	**Pn**	**19 02 49.1**	**+1.4**
SKMP				*e*S	**Sn**	**19 03 30.2**	**+0.3**
GTOI	**Gorontalo**	**3.75**	**228**	P	**Pn**	**19 02 51.2**	**+1.3**
MATI	**Mati**	**3.80**	**7**	*e*P	**Pn**	**19 02 50.3**	**-0.2**
MATI				*e*S	**Sn**	**19 03 35.7**	**+0.7**
DAV	**Davao City (W)**	**3.91**	**356**	P	**Pn**	**19 02 53.7**	**+1.8**
	78nm,0.3s,baz=70,slow=3.4,SNR=10						
DAV				S	**Sn**	**19 03 39.8**	**+2.3**
	206nm,0.3s,baz=169,slow=7.6,SNR=4.6						
DAV	**Davao City (W)**	**3.91**	**356**	⇓*e*P	**Pn**	**19 02 56.2**	**+4.3**
DAV	**Davao City (W)**	**3.91**	**356**		**Pn**	**19 02 53.9**	**+2.0**
KCP	**Kidapawan**	**3.91**	**349**	⇑*i*P	**Pn**	**19 02 54.1**	**+2.1**
KCP				*i* S	**Sn**	**19 03 41.6**	**+4.0**
DMPH	**Davao City--Mi**	**3.92**	**355**	⇑*e*P	**Pn**	**19 02 56.8**	**+4.6**
DMPH				*e*S	**Sn**	**19 03 42.8**	**+4.9**
LBMI	**Labuha**	**4.12**	**156**	P	**Pn**	**19 02 54.2**	**-0.5**
LBMI				S	**Sn**	**19 03 39.9**	**-2.5**
CTBH	**Cotabato--PC H**	**4.34**	**339**	⇓*e*P	**Pn**	**19 02 59.0**	**+1.3**
MRSI	**Marisa**	**4.70**	**236**	P	**Pn**	**19 03 04.8**	**+2.4**
MRSI				S	**Sn**	**19 03 58.2**	**+2.0**
BUKP	**Musuan**	**4.76**	**351**	*e*P	**Pn**	**19 03 04.4**	**+1.1**
BUKP				*e*S	**Sn**	**19 03 57.7**	**-0.2**
LUWI	**Luwuk**	**5.16**	**216**	P	**Pn**	**19 03 09.5**	**+1.0**
	4.2nm14µm1µm,1.1s						
LUWI	**Luwuk**	**5.16**	**216**	Pn	**Pn**	**19 03 10.2**	**+1.7**
SANI	**Sanana**	**5.16**	**178**	P	**Pn**	**19 03 07.4**	**-1.2**
	10nm65µm2µm,0.8s						
PAGZ	**Pagadian**	**5.26**	**333**	*e*P	**Pn**	**19 03 10.8**	**+0.8**
ZCP	**Zamboanga City**	**5.30**	**315**	⇑*i*P	**Pn**	**19 03 12.1**	**+1.6**
ZCP				*i* S	**Sn**	**19 04 14.2**	**+3.6**
CGP	**Cagayan de Oro**	**5.39**	**348**	⇓*e*P	**Pn**	**19 03 12.9**	**+1.2**
CGP				*e*S	**Sn**	**19 04 20.0**	**+7.1**
NLAI	**Namlea**	**6.47**	**169**	P	**Pn**	**19 03 25.2**	**-0.9**
	12nm33µm2µm,0.8s						
MPSI	**Mapaga**	**6.54**	**245**	P	**Pn**	**19 03 29.2**	**+2.1**
	0.4nm1µm148nm,0.8s						
SNPH	**Sibulan**	**6.67**	**337**	*e*P	**Pn**	**19 03 33.3**	**+4.4**
SIJI	**Sorong**	**6.75**	**126**	P	**Pn**	**19 03 29.9**	**0.0**
	7.8nm,0.3s,baz=317,slow=8.8,SNR=48						
SIJI				S	**Sn**	**19 04 47.0**	**+1.5**
	5.2nm,0.3s,baz=1.1,slow=24,SNR=5.9						
TBP	**Tagbilaran**	**6.79**	**343**	*e*P	**Pn**	**19 03 27.3**	**-3.1**
MSLP	**Maasin**	**7.01**	**352**	*e*P	**Pn**	**19 03 33.9**	**+0.4**
MSAI	**Masohi**	**7.16**	**154**	P	**Pn**	**19 03 35.5**	**+0.1**
	0.5nm1µm138nm,0.9s						
AAI	**Ambon**	**7.19**	**161**	P	**Pn**	**19 03 35.3**	**-0.5**
	5.0nm14µm1µm,0.8s						
CNOP	**Candoni, Negro**	**7.35**	**335**	*e*P	**Pn**	**19 03 39.1**	**+1.1**
LLP	**Lapu-Lapu**	**7.36**	**346**	*e*P	**Pn**	**19 03 39.6**	**+1.5**
LLP				*i* S	**Sn**	**19 04 52.9**	**-7.4**
GUIM	**Jordan**	**8.10**	**337**	*e*P	**Pn**	**19 03 47.7**	**-0.3**
TTSI	**Tana Toraja**	**8.59**	**224**	P	**Pn**	**19 03 56.0**	**+1.4**
	2µm117nm,0.8s						
BNDI	**Bandanaira**	**8.64**	**152**	P	**Pn**	**19 03 56.3**	**+1.0**
	435nm,1.0s						
FAKI	**Fak Fak**	**8.81**	**133**	P	**Pn**	**19 03 57.7**	**+0.1**
	5µm572nm,0.9s						
FAKI	**Fak Fak**	**8.81**	**133**	Pn	**Pn**	**19 03 55.8**	**-1.8**
RCP	**Roxas**	**8.90**	**340**	⇓*e*P	Pn	19 04 05.8	+7.0
BBSI	**Bau Bau**	**9.17**	**201**	P	**Pn**	**19 04 03.5**	**+1.1**
	167nm24nm,0.8s						
SPSI	**Sidrap Palu**	**9.30**	**221**	P	**Pn**	**19 04 04.9**	**+0.8**
	840nm100nm,0.8s						
SMKI	**Samarinda**	**9.32**	**248**	P	**Pn**	**19 04 05.5**	**+1.1**
	332nm,0.9s						
CNP	**Catarman**	**9.38**	**353**	*e*P	**Pn**	**19 04 06.0**	**+0.8**
CNP				*e*S	**Sn**	**19 05 46.6**	**-2.4**
BNSI	**Bone**	**9.42**	**217**	P	**Pn**	**19 04 06.8**	**+1.0**
	819nm79nm,1.0s						
RKPI	**Ransiki, Papua**	**9.55**	**119**	P	**Pn**	**19 04 08.1**	**+0.6**
	8µm387nm,0.9s						
BKB	**Balikpapan**	**9.94**	**244**	P	**Pn**	**19 04 13.8**	**+1.1**
	115nm,1.5s						
BKB	**Balikpapan**	**9.94**	**244**	Pn	**Pn**	**19 04 10.1**	**-2.6**
KKM	**Kota Kinabalu**	**10.00**	**287**	Pn	**Pn**	**19 04 14.7**	**+1.1**
KAPI	**Kappang**	**10.12**	**217**	P	**Pn**	**19 04 14.3**	**-0.9**
	1.9nm,0.3s,baz=25,slow=8.1,SNR=19						
KAPI				S	**Sn**	**19 06 06.0**	**-1.1**
	0.5nm,0.3s,baz=211,slow=22,SNR=1.3						
KAPI				LR	LR	19 08 03.1	
	comp=Z,229nm,20.1s,baz=38,slow=37						
KAPI	**Kappang**	**10.12**	**217**	P	**Pn**	**19 04 12.6**	**-2.6**
KAPI	**Kappang**	**10.12**	**217**	Pn	**Pn**	**19 04 12.6**	**-2.6**
BKSI	**Bulukumba**	**10.15**	**214**	P	**Pn**	**19 04 16.4**	**+0.8**
	429nm29nm,0.7s						
PVCP	**Virac**	**10.52**	**351**	*e*P	**Pn**	**19 04 20.5**	**+0.1**
PGP	**Puerto Galera**	**11.36**	**335**	⇓*e*P	**Pn**	**19 04 32.9**	**+1.3**
SRPI	**Serui, Papua**	**11.55**	**115**	P	**P**	**19 04 42.9**	**+0.8**
KBKI	**Kotabaru**	**11.58**	**237**	P	**Pn**	**19 04 36.3**	**+1.8**
	1µm161nm,1.0s						
LQP	**Lukban**	**11.69**	**339**	*e*P	**Pn**	**19 04 37.7**	**+1.6**
TGY	**Tagaytay City**	**11.91**	**336**	P	**Pn**	**19 04 39.1**	**+0.2**
	29nm,0.3s,baz=244,slow=8.1,SNR=4.7						
TGY				LR	LR	19 10 06.1	
	comp=Z,179nm,18.2s,baz=177,slow=42						
MMRI	**Maumere**	**12.23**	**197**	P	**Pn**	**19 04 44.2**	**+1.1**
	2µm230nm,0.9s						
MMRI	**Maumere**	**12.23**	**197**	Pn	**Pn**	**19 04 42.5**	**-0.6**
EDFI	**Ende, Flores**	**12.51**	**199**	P	**Pn**	**19 04 47.3**	**+0.5**
	546nm72nm,0.9s						
SOEI	**Soe**	**12.91**	**187**	P	**Pn**	**19 04 53.6**	**+1.6**
	115nm,0.8s						
SOEI	**Soe**	**12.91**	**187**	Pn	**Pn**	**19 04 52.7**	**+0.8**
BALP	**Baler**	**13.20**	**342**	*e*P	**Pn**	**19 04 56.7**	**+1.1**
BATI	**Baumata**	**13.44**	**189**	P	**Pn**	**19 05 00.2**	**+1.6**
	7.4nm,0.3s,baz=36,slow=1.8,SNR=12						
BATI				S	**S**	**19 07 38.5**	**-2.4**
	3.0nm,0.3s,baz=306,slow=22,SNR=5.6						
BATI	**Baumata**	**13.44**	**189**	P	**P**	**19 05 01.1**	**-2.1**
	803nm66nm,0.6s						
SBUM	**Sibu**	**13.60**	**267**		**P**	**19 05 03.5**	**-1.6**
SBUM	**Sibu**	**13.60**	**267**	P	**P**	**19 05 03.0**	**-2.0**
SMPI	**Sarmi**	**13.86**	**111**	P	**Pn**	**19 05 04.2**	**+0.1**
	680nm62nm,1.9s						
WSI	**Waingapu**	**13.87**	**203**	P	**P**	**19 05 06.3**	**-1.7**
	597nm,0.7s						
SMPP	**San Manuel, Pa**	**13.88**	**339**	*e*P	**Pn**	**19 05 03.6**	**-0.7**
WBSI	**Waikabubak, Su**	**14.22**	**207**	P	**Pn**	**19 05 09.1**	**+0.4**
	4µm513nm,0.9s						
BASI	**Baing, Sumba**	**14.27**	**201**	P	**Pn**	**19 05 10.1**	**+0.9**
	3µm256nm,1.0s						
PLAI	**Plampang**	**14.34**	**214**	P	**Pn**	**19 05 11.3**	**+1.1**
	6µm722nm,0.9s						
ABRA	**Dolores**	**15.26**	**341**	*e*P	**P**	**19 05 23.6**	**+0.2**
APYP	**Conner**	**15.30**	**343**	*e*P	**Pn**	**19 05 22.0**	**-0.2**
GENI	**Genyem**	**15.43**	**112**	P	**P**	**19 05 24.9**	**-0.5**
	6µm664nm,1.0s						
KMMI	**Kalianget**	**15.57**	**229**	P	**P**	**19 05 27.5**	**+0.6**
	96nm,0.9s						
KSM	**Kuching**	**15.59**	**264**		**P**	**19 05 28.9**	**+1.8**
DNP	**Denpasar**	**15.80**	**222**	P	**P**	**19 05 31.1**	**+1.6**
	277nm,0.8s						
JAY	**Jayapura**	**15.90**	**111**	P	**P**	**19 05 30.4**	**-0.3**
	7.5nm,0.3s,baz=264,slow=5.8,SNR=57						
JAY	**Jayapura**	**15.90**	**111**	P	**Pn**	**19 05 30.0**	**+0.3**
	818nm106nm,0.8s						
JAGI	**Jajag, Banyuwa**	**16.39**	**225**	P	**Pn**	**19 05 35.8**	**+0.2**
JAGI	**Jajag, Banyuwa**	**16.39**	**225**	P	**P**	**19 05 37.3**	**+1.4**
	2µm97nm,1.0s						
JAGI	**Jajag, Banyuwa**	**16.39**	**225**		**P**	**19 05 37.3**	**+1.4**
JAGI				IAmb	IAmb	19 05 42.3	
	comp=Z,121nm,0.9s						
GRJI	**Gresik**	**16.65**	**233**	P	**P**	**19 05 38.9**	**+0.1**
	comp=Z,85nm,0.9s						
MTN	**Manton Dam**	**16.74**	**162**	Pn	**P**	**19 05 37.3**	**-2.4**
SMRI	**Semarang**	**18.39**	**237**	P	**P**	**19 05 58.7**	**+0.7**
	comp=Z,150nm,0.8s						
WOJI	**Wonogiri, Jawa**	**18.43**	**234**	P	**P**	**19 05 59.1**	**+0.7**
	comp=Z,2µmcomp=Z,92nm,0.9s						
MMPI	**Merauke**	**18.55**	**129**	P	**Pn**	**19 06 00.7**	**-0.8**
	comp=Z,5µmcomp=Z,596nm,0.6s						
KNRA	**Kununurra**	**18.93**	**171**	P	**P**	**19 06 03.9**	**+0.2**
	baz=19,SNR=101						
KNRA	**Kununurra**	**18.93**	**171**		**P**	**19 06 04.0**	**+0.2**
TPI	**Tanjungpandan**	**19.08**	**252**	P	**P**	**19 06 06.6**	**+1.1**
DLV	**T Lat**	**19.26**	**298**		**Pn**	**19 06 09.6**	**-0.5**
DLV				IAmb	IAmb	19 06 16.8	
	comp=Z,33nm,0.6s						
YULB	**Yu-li**	**20.60**	**348**	P	**P**	**19 06 19.1**	**-2.7**
TPUB	**Ta-pu**	**20.66**	**346**	P	**P**	**19 06 20.7**	**-1.7**
LEM	**Lembang**	**20.69**	**241**	P	**P**	**19 06 23.5**	**+0.4**
	comp=Z,257nm,0.7s,baz=20,slow=12,SNR=3.9						
CISI	**Cisompet, Garu**	**20.87**	**239**	P	**P**	**19 06 24.2**	**-0.7**
SSLB	**Suanglung**	**21.05**	**348**	P	**P**	**19 06 25.1**	**-1.6**
FITZ	**Fitzroy Crossi**	**21.11**	**180**	P	**P**	**19 06 26.7**	**-0.5**
	baz=21,SNR=62						
FITZ	**Fitzroy Crossi**	**21.11**	**180**	P	**P**	**19 06 26.8**	**-0.5**
	comp=Z,42nm,0.8s,baz=355,slow=11,SNR=56						
FITZ				S	**S**	**19 10 12.4**	**-2.2**
	comp=Z,8.9nm,0.7s,baz=56,slow=3.9,SNR=6.1						
FITZ	**Fitzroy Crossi**	**21.11**	**180**	P	**P**	**19 06 26.6**	**-0.7**
FITZ				IAmb	IAmb	19 06 30.6	
	comp=Z,38nm,0.8s						
TNG	**Tangerang**	**21.27**	**244**	P	P	19 06 36.9	+7.9
DBJI	**Dramaga**	**21.34**	**243**	P	**P**	**19 06 31.3**	**+1.5**
	comp=Z,97nm,1.1s						
CNJI	**Cibinong**	**21.35**	**241**	P	**P**	**19 06 29.9**	**0.0**
	comp=Z,241nm,0.9s						
TPRI	**Tanjung Pinang**	**21.39**	**265**	P	**P**	**19 06 30.2**	**-0.2**
	comp=Z,51nm,1.2s						
PMBI	**Palembang**	**21.89**	**254**	P	**P**	**19 06 36.7**	**+1.1**
	comp=Z,372nm,1.0s						
MYKOM	**Kota Tinggi**	**21.99**	**267**	P	**P**	**19 06 36.5**	**-0.2**
MYKOM				IAmb	IAmb	19 06 40.4	
	comp=Z,51nm,1.0s						
MYKOM	**Kota Tinggi**	**21.99**	**267**	P	**P**	**19 06 39.0**	**+2.3**
QIZ	**Qiongzhong**	**22.21**	**316**	P	**P**	**19 06 38.8**	**-0.1**
QIZ				S	**S**	**19 10 38.1**	**+4.0**
QIZ				sS	**sS**	**19 11 17.6**	**+0.1**
QIZ				pmax	pmax		
	comp=Z,15nm,1.0s						
QIZ				LR	LR		
	comp=Z,400nm,10.8s						
QIZ				LR	LR		
	comp=Z,300nm,23.5s						
QIZ				LR	LR		
	comp=Z,170nm,16.7s						
BLSI	**Bandar Lampung**	**22.22**	**248**	P	**P**	**19 06 40.0**	**+0.9**
	comp=Z,4µmcomp=Z,454nm,1.0s						
QZH	**Quanzhou**	**22.77**	**343**	*e*P	**P**	**19 06 45.0**	**+0.8**
QZH				S	**S**	**19 10 38.3**	**-4.5**
QZH				sS	**sS**	**19 11 29.6**	**+1.3**
KASI	**Kota Agung**	**22.97**	**248**	P	**P**	**19 06 46.5**	**+0.2**
	comp=Z,2µmcomp=Z,338nm,0.9s						
KASI	**Kota Agung**	**22.97**	**248**	S	**P**	**19 06 48.5**	**+2.2**
LWLI	**Liwa**	**23.20**	**250**	P	**P**	**19 06 50.4**	**+1.9**
	comp=Z,225nm,0.8s						
LHSI	**Lahat**	**23.33**	**253**	P	**P**	**19 06 50.0**	**+0.4**
	comp=Z,66nm,0.8s						
MNAI	**Manna**	**24.03**	**252**	P	**P**	**19 06 56.8**	**+0.8**
	comp=Z,209nm,1.0s						
COEN	**Coen**	**24.19**	**135**	P	**P**	**19 06 57.3**	**0.0**
	baz=24,SNR=67						
COEN	**Coen**	**24.19**	**135**	IAmb	IAmb	19 06 58.3	
	comp=Z,86nm,0.8s						
WRAB	**Tennant Creek**	**24.42**	**160**	*d i*P	**P**	**19 06 59.2**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,394nm,0.9s						
WRAB	**Tennant Creek**	**24.42**	**160**	P	**P**	**19 06 59.3**	**-0.1**
WRA	**Warramunga Arr**	**24.42**	**160**	P	**P**	**19 06 59.3**	**-0.1**
	comp=Z,364nm,1.0s,baz=332,slow=11,SNR=368						
WRA				S	**S**	**19 11 05.0**	**-4.6**
	comp=Z,8.4nm,0.8s,baz=330,slow=15,SNR=5.7						
WRA				ScP	**ScP**	**19 14 01.0**	**-0.4**
	comp=Z,5.4nm,0.9s,baz=338,slow=3.3,SNR=5.5						
PMG	**Port Moresby**	**24.65**	**121**	P	**P**	**19 07 02.0**	**+0.4**
	comp=Z,62nm,0.8s,baz=35,slow=3.4,SNR=18						
PMG	**Port Moresby**	**24.65**	**121**	*d i*P	**P**	**19 07 02.1**	**+0.5**
PMG				pmax	pmax		
	comp=Z,518nm,1.1s						
PMG	**Port Moresby**	**24.65**	**121**	P	**P**	**19 07 02.3**	**+0.7**
PMG				IAmb	IAmb	19 07 05.3	
	comp=Z,113nm,1.1s						
SDSI	**Sungai Dareh**	**24.72**	**261**	P	**P**	**19 07 05.9**	**+3.7**
IPM	**Ipoh**	**24.77**	**274**	P	**P**	**19 07 02.4**	**-0.3**
IPM	**Ipoh**	**24.77**	**274**	P	**P**	**19 07 02.0**	**-0.7**
KRJI	**Kerinci**	**24.90**	**258**	P	**P**	**19 07 04.7**	**+0.8**
	comp=Z,2µmcomp=Z,166nm,0.9s						
BKNI	**Bangkinang**	**24.92**	**264**	P	**P**	**19 07 04.8**	**+0.7**
	comp=Z,84nm,0.5s						
KULM	**Kulim**	**25.19**	**276**	P	**P**	**19 07 06.5**	**0.0**
PSA00	**Pilbara Seismi**	**25.25**	**193**	P	**P**	**19 07 07.0**	**+0.1**
PSA00				IAmb	IAmb	19 07 07.9	
	comp=Z,69nm,0.8s						
MNSI	**Mandailing Nat**	**26.33**	**265**	P	**P**	**19 07 18.4**	**+1.7**
PSI	**Prapat**	**26.86**	**270**	P	**P**	**19 07 20.6**	**-1.1**
	comp=Z,7.0nm,0.6s,baz=359,slow=1.7,SNR=7.6						
PSI				ScP	**ScP**	**19 14 07.5**	**-1.3**
	comp=Z,1.8nm,0.5s,baz=180,slow=5.7,SNR=5.2						
RPSI	**Rantau Prapat**	**26.86**	**270**	P	**P**	**19 07 21.8**	**+0.3**
RPSI	**Rantau Prapat**	**26.86**	**270**		**ScP**	**19 14 07.5**	**-1.2**
SISI	**Saibi**	**27.09**	**261**	P	**P**	**19 07 22.9**	**-0.7**
	comp=Z,54nm,0.6s						
QIS	**Mount Isa**	**27.16**	**151**	P	**P**	**19 07 24.5**	**+0.3**
	baz=27,SNR=95						
KRVT	**Keravat (AS076**	**27.21**	**106**	P	**P**	**19 07 26.7**	**+2.0**
	comp=Z,100nm,0.5s,baz=242,slow=1.1,SNR=22						
RABL	**Rabaul**	**27.32**	**105**	P	**P**	**19 07 27.4**	**+1.7**
AS31	**Alice Springs**	**27.79**	**164**	P	**P**	**19 07 30.2**	**+0.5**
AS31				IAmb	IAmb	19 07 31.8	
	comp=Z,11nm,0.5s						
ASAR	**Alice Springs**	**27.79**	**164**	P	**P**	**19 07 29.9**	**+0.2**
	comp=Z,17nm,0.6s,baz=342,slow=7.1,SNR=470						
ASAR				PcP	**PcP**	**19 10 43.5**	**+0.6**
	comp=Z,4.6nm,0.5s,baz=352,slow=2.7,SNR=7.6						
ASAR				S	**S**	**19 12 01.4**	**-1.4**
	comp=Z,4.9nm,0.7s,baz=352,slow=22,SNR=6.3						
ASAR				ScP	**ScP**	**19 14 11.2**	**-0.1**
	comp=Z,5.1nm,0.8s,baz=354,slow=2.4,SNR=8.3						
MTSU	**Mount Surprise**	**27.92**	**140**	P	**P**	**19 07 29.9**	**-1.0**
	baz=28,SNR=7.3						
SLVN	**Son La**	**27.95**	**312**	P	**P**	**19 07 32.4**	**+1.1**
KCSI	**Kotacane, Aceh**	**28.00**	**272**	P	**P**	**19 07 30.7**	**-1.1**
	comp=Z,24nm,0.7s						
GIRL	**Giralia**	**28.02**	**203**	P	**P**	**19 07 33.2**	**+1.5**
	baz=28,SNR=3.5						
GIRL	**Giralia**	**28.02**	**203**	P	**P**	**19 07 33.0**	**+1.4**
WRKA	**Warakurna**	**28.12**	**175**	P	**P**	**19 07 32.8**	**+0.2**
	baz=28,SNR=18						
GSI	**Gunungsitoli**	**28.28**	**267**	P	**P**	**19 07 34.4**	**+0.2**
GSI	**Gunungsitoli**	**28.28**	**267**	P	**P**	**19 07 32.6**	**-1.6**
GSI				IAmb	IAmb	19 07 48.4	
	comp=Z,18nm,0.7s						
GYA	**Guiyang**	**29.58**	**323**	⇑*i*P	**P**	**19 07 46.5**	**+0.8**
GYA				sP	sP	19 08 27.4	-1.4
GYA				PP	**PnPn**	**19 08 46.7**	**-0.5**
GYA				PcP	**PcP**	**19 10 48.4**	**+0.9**
GYA				S	**S**	**19 12 28.9**	**-2.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA				pmax	pmax		
	comp=Z,70nm,6.0s						
GYA				LR	LR		
	comp=Z,100nm,8.2s						
GYA				LR	LR		
	comp=Z,80nm,7.7s						
GYA				LR	LR		
	comp=Z,100nm,9.9s						
JNU	**Nakatsue**	**30.20**	**8**	P	**P**	**19 07 51.3**	**+0.3**
	comp=Z,3.8nm,0.7s,baz=191,slow=23,SNR=3.2						
CM31	**Chiang Mai Arr**	**30.40**	**302**	P	**P**	**19 07 54.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**30.40**	**302**	P	**P**	**19 07 53.4**	**+0.5**
	comp=Z,7.6nm,0.8s,baz=117,slow=7.0,SNR=68						
CMAR				ScP	**ScP**	**19 14 19.1**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=142,slow=2.3,SNR=7.6						
MEEK	**Meekatharra**	**30.41**	**193**	P	**P**	**19 07 52.6**	**-0.3**
	baz=31,SNR=63						
CHTO	**Chiang Mai**	**30.56**	**303**	P	**P**	**19 07 55.0**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,16nm,0.6s						
CHTO	**Chiang Mai**	**30.56**	**303**	P	**P**	**19 07 55.0**	**+0.7**
CHTO				IAmb	IAmb	19 07 56.4	
	comp=Z,16nm,0.6s						
CTA	**Charters Tower**	**30.59**	**140**	P	**P**	**19 07 56.0**	**+1.5**
	comp=Z,12nm,0.6s,baz=319,slow=12,SNR=20						
CTA	**Charters Tower**	**30.59**	**140**	P	**P**	**19 07 56.0**	**+1.5**
CTAO	**Charters Tower**	**30.59**	**140**	P	**P**	**19 07 54.7**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,13nm,0.9s						
CTAO	**Charters Tower**	**30.59**	**140**	P	**P**	**19 07 54.7**	**+0.2**
ENH	**Enshi**	**31.10**	**332**	P	**P**	**19 07 58.5**	**-0.5**
ENH				IAmb	IAmb	19 07 59.9	
	comp=Z,20nm,0.7s						
TJN	**Taejon**	**33.10**	**2**	⇑*e*P	**P**	**19 08 18.0**	**+1.7**
MORW	**Morawa**	**33.38**	**196**	P	**P**	**19 08 18.6**	**-0.1**
	baz=34,SNR=13						
MORW	**Morawa**	**33.38**	**196**	P	**P**	**19 08 18.8**	**0.0**
MORW				IAmb	IAmb	19 08 19.6	
	comp=Z,30nm,0.8s						
INU	**Inuyama**	**33.69**	**17**	P	**P**	**19 08 20.7**	**-0.6**
FORT	**Forrest**	**33.80**	**177**	P	**P**	**19 08 22.6**	**+0.3**
	baz=34,SNR=18						
FORT	**Forrest**	**33.80**	**177**	P	**P**	**19 08 22.7**	**+0.3**
FORT				IAmb	IAmb	19 08 25.7	
	comp=Z,20nm,0.6s						
KSRS	**Korea Array**	**34.20**	**3**	P	**P**	**19 08 27.4**	**+1.6**
	comp=Z,7.3nm,0.6s,baz=177,slow=9.7,SNR=51						
KSRS				PcP	**PcP**	**19 11 01.1**	**+1.5**
	comp=Z,4.1nm,0.7s,baz=181,slow=2.5,SNR=13						
KSRS				ScP	**ScP**	**19 14 32.9**	**+0.6**
	comp=Z,4.1nm,0.9s,baz=190,slow=3.5,SNR=14						
KSRS				LR	LR	19 25 33.1	
	comp=Z,30nm,18.0s,baz=182,slow=42						
KS19	**Wonju Array Si**	**34.24**	**3**	P	**P**	**19 08 27.8**	**+1.6**
KMBL	**Kambalda**	**34.52**	**186**	P	**P**	**19 08 28.8**	**+0.1**
	baz=35,SNR=54						
XAN	**Xi'an**	**34.54**	**335**	P	**P**	**19 08 28.1**	**-0.8**
XAN				pP	pP	19 08 53.9	-4.1
XAN				SS	SS	19 16 10.0	-12
XAN				pmax	pmax		
	comp=Z,17nm,0.6s						
XAN				pmax	pmax		
	comp=Z,100nm,3.5s						
XAN				LR	LR		
	comp=Z,130nm,16.3s						
XAN	**Xi'an**	**34.54**	**335**	P	**P**	**19 08 27.0**	**-1.9**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
XAN	**Xi'an**	**34.54**	**335**	P	**P**	**19 08 27.0**	**-1.9**
CD2	**Chengdu**	**34.59**	**325**	P	**P**	**19 08 30.0**	**+0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BLDU	**Ballidu**	**34.68**	**194**	P	**P**	**19 08 29.7**	**-0.3**
	baz=35,SNR=26						
MAJO	**Matsushiro**	**35.14**	**17**	P	**P**	**19 08 32.6**	**-1.4**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAJO	**Matsushiro**	**35.14**	**17**	P	**P**	**19 08 32.6**	**-1.4**
MAT	**Matsushiro**	**35.14**	**17**	P	**P**	**19 08 34.0**	**0.0**
MJAR	**Matsushiro Arr**	**35.14**	**17**	P	**P**	**19 08 33.9**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=195,slow=9.3,SNR=21						
MJAR				PcP	**PcP**	**19 11 03.9**	**+1.5**
	comp=Z,2.4nm,0.6s,baz=197,slow=3.8,SNR=5.6						
MJAR				ScP	**ScP**	**19 14 35.3**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=160,slow=4.0,SNR=4.1						
MJB9	**Matsu-Tunnel**	**35.15**	**17**	P	**P**	**19 08 32.7**	**-1.3**
KLBR	**Kellerberrin**	**35.39**	**192**	P	**P**	**19 08 36.1**	**0.0**
	baz=36,SNR=6.8						
DL2	**Dalian**	**35.80**	**354**	P	**P**	**19 08 40.4**	**+0.9**
DL2				pmax	pmax		
	comp=Z,23nm,0.6s						
MUN	**Mundaring**	**36.10**	**194**	P	**P**	**19 08 42.1**	**-0.1**
	baz=36,SNR=6.9						
NWAO	**Narrogin (SRO)**	**36.78**	**192**	P	**P**	**19 08 48.1**	**+0.2**
	baz=37,SNR=22						
NWAO	**Narrogin (SRO)**	**36.78**	**192**	P	**P**	**19 08 47.1**	**-0.9**
	comp=Z,18nm,0.5s,baz=22,slow=7.6,SNR=32						
NWAO	**Narrogin (SRO)**	**36.78**	**192**	P	**P**	**19 08 48.0**	**+0.1**
NWAO				IAmb	IAmb	19 08 48.5	
	comp=Z,18nm,0.7s						
NWAO	**Narrogin (SRO)**	**36.78**	**192**	IAmb	IAmb	19 08 48.5	
	comp=Z,14nm,0.7s						
RMQ	**Roma**	**36.87**	**144**	P	**P**	**19 08 48.8**	**0.0**
	baz=37,SNR=11						
BBOO	**Buckleboo**	**37.05**	**166**	P	**P**	**19 08 50.7**	**+0.5**
	baz=37,SNR=86						
BBOO	**Buckleboo**	**37.05**	**166**	IAmb	IAmb	19 08 51.5	
	comp=Z,52nm,1.1s						

EIDS Eidsvold 37.47 141 P **P** 19 08 53.9 +0.1
baz=38,SNR=25
BJT Baijiatuau 37.73 348 IAmb IAmb 19 08 56.5
comp=Z,9.7nm,0.6s
BJI Beijing 37.75 348 P **P** 19 08 55.6 -0.4
BJI PcP **PcP** 19 11 11.0 +0.8
BJI pmax pmax
comp=Z,9.0nm,0.7s
KOHI KOHIMA 37.84 309 *e*P **P** 19 08 56.0 -1.1
KOHI IAmb IAmb 19 09 00.5
comp=Z,25nm,0.5s
STKA Stephens Creek 37.92 158 P **P** 19 08 58.4 +0.8
baz=38,SNR=141
STKA Stephens Creek 37.92 158 P **P** 19 08 58.3 +0.8
comp=Z,38nm,0.5s,baz=338,slow=8.1,SNR=165
STKA Stephens Creek 37.92 158 P **P** 19 08 58.4 +0.8
STKA pmax pmax
comp=Z,15nm,1.0s
STKA Stephens Creek 37.92 158 P **P** 19 08 58.4 +0.8
STKA IAmb IAmb 19 08 59.2
comp=Z,15nm,0.9s
HTT Hallett 38.43 162 P **P** 19 09 02.7 +0.9
baz=39,SNR=12
LZH Lanzhou 38.56 331 *e*P **P** 19 09 04.0 +0.9
LZH pP pP 19 09 29.5 -3.0
LZH PP **PnPn** 19 10 42.5 +4.9
LZH pmax pmax
comp=Z,37nm,1.1s
LZH pmax pmax
comp=Z,130nm,6.0s
LZH LR LR
comp=Z,260nm,14.1s
LZH LR LR
comp=Z,300nm,15.0s
LZH LR LR
comp=Z,320nm,15.2s
ZIRO ZIRO 38.99 312 *e*P **P** 19 09 06.4 -0.4
CMSA Cobar Meteorol 39.33 153 P **P** 19 09 10.4 +1.1
baz=40,SNR=14
SHL Shillong 39.50 308 *e*P **P** 19 09 10.2 -0.9
SHL IAmb IAmb 19 09 14.2
comp=Z,26nm,0.6s
SHL *i* pP **pwP** 19 09 46.5 +1.2
SHL Shillong 39.50 308 IAmb IAmb 19 09 14.1
comp=Z,34nm,0.6s
MSHR Mys Shultsa 39.55 6⇓ *e*P **P** 19 09 12.4 +1.4
MSHR pmax pmax
comp=Z,7.0nm,0.9s
HHC Hu-ho-hao-te 39.68 343 *e*P **P** 19 09 13.3 +1.1
HHC pmax pmax
comp=Z,16nm,0.9s
HHC pmax pmax
comp=Z,38nm,5.8s
CN2 Changchun 40.49 360 *e*P **P** 19 09 20.9 +2.2
CN2 pmax pmax
comp=Z,10.0nm,0.9s
USRK Ussuriysk Ar. 41.25 7 P **P** 19 09 26.2 +1.3
comp=Z,4.9nm,0.7s,baz=204,slow=7.1,SNR=14
MDJ Mudanjiang 41.44 4 P **P** 19 09 27.8 +1.3
MDJ pmax pmax
comp=Z,14nm,0.8s
MDJ pmax pmax
comp=Z,82nm,5.3s
ARMA Armidale 41.49 145 P **P** 19 09 29.0 +1.7
baz=42,SNR=25
ARMA Armidale 41.49 145 P **P** 19 09 29.2 +2.0
ARMA IAmb IAmb 19 09 29.7
comp=Z,46nm,0.8s
LSA Lhasa 42.15 312 P **P** 19 09 34.1 +1.0
LSA pmax pmax
comp=Z,260nm,0.9s
LSA Lhasa 42.15 312 P **P** 19 09 34.8 +1.7
LSA pmax pmax
comp=Z,50nm,0.6s
LSA Lhasa 42.15 312 P **P** 19 09 34.8 +1.7
ARPS Mount Arapiles 42.42 161 P **P** 19 09 35.8 +1.3
baz=43,SNR=21
TEY Ternei 42.79 11⇑ *i*P **P** 19 09 38.9 +1.5
TEY pmax pmax
comp=N,10.0nm,0.8s
TEY pmax pmax
comp=Z,20nm,0.7s
YNG Young 42.88 152 P **P** 19 09 40.1 +1.7
baz=43,SNR=8.1
GTK Tadong 42.92 308 *e*P **P** 19 09 39.2 +0.3
GTA Gaotai 43.14 330 ⇑P **P** 19 09 40.6 +0.1
GTA pP pP 19 10 11.2 +0.8
GTA sP sP 19 10 25.0 -0.5
GTA PcP **PcP** 19 11 28.7 +0.9
GTA ScP **ScP** 19 15 06.7 +0.1
GTA ScS **ScS** 19 19 25.7 -1.3
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA pmax pmax
comp=Z,73nm,7.5s
GTA LR LR
comp=Z,72nm,17.8s
GTA LR LR
comp=Z,86nm,17.8s
GTA LR LR
comp=Z,98nm,19.4s
ASAJ Asahikawa 43.42 18 P **P** 19 09 44.6 +2.2
comp=Z,23nm,0.7s,baz=229,slow=9.0,SNR=45
ASAJ LR LR 19 29 43.3
comp=Z,32nm,19.9s,baz=249,slow=38
TAPN Taplejung 43.64 307 *e*P **P** 19 09 44.7 -0.2
comp=Z,53nm,0.6s
ODAN Odare 43.68 306 *e*P **P** 19 09 44.8 -0.4
comp=Z,116nm,0.8s
BOK Bokaro 43.68 302 *e*P **P** 19 09 45.5 +0.5
BOK IAmb IAmb 19 09 48.1
comp=Z,12nm,0.7s
CAN Canberra 44.01 152 P **P** 19 09 49.4 +2.0
CAN pmax pmax
comp=Z,33nm,0.7s
CAN Canberra 44.01 152 P **P** 19 09 49.4 +2.0
CAN IAmb IAmb 19 09 50.2
comp=Z,33nm,0.7s
CNB Canberra Magne 44.17 152 P **P** 19 09 50.6 +1.9
baz=44,SNR=13
RAMN Ramite 44.35 306 *e*P **P** 19 09 50.5 -0.1
comp=Z,123nm,0.7s
TOO Toolangi 44.44 158 P **P** 19 09 52.9 +2.1
baz=45,SNR=15
TOO Toolangi 44.44 158 P **P** 19 09 52.7 +1.9
TOO pmax pmax
comp=Z,30nm,1.0s
TOO Toolangi 44.44 158 P **P** 19 09 52.7 +1.9
TOO IAmb IAmb 19 09 54.5
comp=Z,30nm,1.0s
JIRN Jiri 44.98 307 *e*P **P** 19 09 55.4 -0.3
comp=Z,191nm,0.6s
GUN Gumba 45.34 307 *e*P **P** 19 09 58.2 -0.3
comp=Z,249nm,0.6s
PVM Polavaram 45.56 291 *e*P **P** 19 09 59.3 -0.6
PVM IVmB_BB 19 10 01.1
comp=Z,273nm,0.5s
PKI Pulchoki 45.57 306 *e*P **P** 19 09 59.5 -0.8
comp=Z,56nm,0.6s
PKIN Phulchoki 45.59 306 *e*P **P** 19 09 59.5 -0.9
comp=Z,56nm,0.6s
KKN Kakani 45.77 307 *e*P **P** 19 10 01.8 +0.1
comp=Z,0.6nm,0.5s
DMN Daman 45.83 306 *e*P **P** 19 10 02.4 +0.1
comp=Z,103nm,0.8s
YSS Yuzh-Sakhalins 46.05 16⇑ *e*P **P** 19 10 04.4 +1.1
YSS pmax pmax
comp=Z,20nm,0.4s
YSS MLR MLR
comp=Z,100nm,18.0s
YSS Yuzh-Sakhalins 46.05 16 P **P** 19 10 03.6 +0.3
YSS IAmb IAmb 19 10 05.1
comp=Z,14nm,0.5s
KLR Kul'dur 46.20 5*c* *i*P **P** 19 10 04.9 +0.5
KLR pmax pmax
comp=Z,8.0nm,0.7s
GKN Gorkha 46.38 306 *e*P **P** 19 10 05.7 -0.7
comp=Z,90nm,0.7s
SKHT Srikalahasti 46.72 286 *e*P **P** 19 10 08.8 -0.2
SKHT IVmB_BB 19 10 09.4
comp=Z,204nm,0.7s
ADKI Addanki 46.83 289 *e*P **P** 19 10 10.1 +0.3
ADKI IVmB_BB 19 10 10.6
comp=Z,144nm,0.7s
DZM Mont Dzumac 46.95 124 P **P** 19 10 12.5 +1.6
comp=Z,24nm,1.0s,baz=246,slow=12,SNR=7.4

KOLN Koldanda 47.12 306 *e*P **P** 19 10 12.0 -0.2
comp=Z,327nm,0.6s
DANN Dangsing 47.22 306 *e*P **P** 19 10 12.7 -0.5
comp=Z,464nm,0.6s
ULN Ulaanbaatar 47.40 343*c* *i*P **P** 19 10 14.0 0.0
ULN pmax pmax
comp=Z,13nm,1.3s
SONM Songino Array 47.57 342 P **P** 19 10 15.5 +0.2
comp=Z,5.2nm,0.6s,baz=153,slow=9.4,SNR=8.3
NJS Nagarjunasagar 47.59 290 *e*P **P** 19 10 14.4 -1.3
NJS IVmB_BB 19 10 15.9
comp=Z,285nm,0.7s
PYUN Piuthan 47.74 306 *e*P **P** 19 10 17.5 +0.4
comp=Z,288nm,0.6s
SRLM Srisailam 47.89 289 *e*P **P** 19 10 17.8 -0.4
SRLM IVmB_BB 19 10 18.2
comp=Z,249nm,0.7s
RPR Rampur 48.08 293 *e*P **P** 19 10 19.5 -0.1
RPR IVmB_BB 19 10 20.2
comp=Z,346nm,0.5s
HYB Hyderabad 48.46 290 *i* P **P** 19 10 22.0 -0.6
HYB *e* 19 10 53.0
HYB *e*PcP **PcP** 19 11 46.0 -0.8
HYB Hyderabad 48.46 290 *e*P **P** 19 10 22.3 -0.3
HYB IAmb IAmb 19 10 23.9
comp=Z,32nm,0.8s
HYBB Hyderabad (bro 48.46 290 *e*P **P** 19 10 22.3 -0.2
HYBB IVmB_BB 19 10 22.6
comp=Z,454nm,0.7s
NGP Nagpur 48.86 295 *e*P **P** 19 10 25.1 -0.4
NGP IAmb IAmb 19 10 27.2
comp=Z,55nm,0.2s
SRSP Sriramsagar 48.97 292 *e*P **P** 19 10 25.8 -0.6
SRSP IVmB_BB 19 10 26.3
comp=Z,237nm,0.8s
URV Uravakonda 49.25 287 *e*P **P** 19 10 27.9 -0.7
URV IVmBBB 19 10 28.4
comp=Z,168nm,0.8s
KLRI Killari 50.42 291 *e*P **P** 19 10 36.5 -0.9
KLRI IVmB_BB 19 10 37.0
comp=Z,493nm,0.7s
ZEA Zeya 50.45 1 *e*P **P** 19 10 37.4 +0.5
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZAK Zakamensk 50.78 342 *e*P **P** 19 10 38.3 -1.4
ZAK pmax pmax
comp=Z,2.0nm,1.5s
BHPL Bhopal 50.86 298 *e*P **P** 19 10 40.0 -0.6
BHPL IAmb IAmb 19 10 42.4
comp=Z,30nm,0.5s
TLY Talaya 51.81 343⇑ *e*P **P** 19 10 47.7 +0.5
TLY pmax pmax
comp=Z,11nm,0.8s
DDI Dehra Dun 52.58 306 *e*P **P** 19 10 52.8 -0.5
MOY Mondy 52.62 341 *e*P **P** 19 10 53.6 +0.3
MOY pmax pmax
comp=Z,12nm,1.0s
WMQ Urumqi 52.69 326 *e*P **P** 19 10 56.2 +2.3
WMQ pmax pmax
comp=Z,24nm,0.7s
WMQ pmax pmax
comp=Z,96nm,4.5s
POO Poona 53.07 291 *e*P **P** 19 10 55.0 -2.0
SMLA Simla 53.58 307 *e*P **P** 19 11 00.4 -0.2
DHRM DHARAMSHALA 54.68 308 *e*P **P** 19 11 08.3 -0.5
DHRM IAmb IAmb 19 11 10.7
comp=Z,74nm,0.6s
BOD Bodaibo 55.31 352 *e*P **P** 19 11 13.5 +0.9
BOD pmax pmax
comp=Z,20nm,0.9s
PEA0B Petropavlovsk- 56.31 22 *de*P **P** 19 11 21.8 +2.0
PETK Petropavlovsk- 56.31 22 P **P** 19 11 21.6 +1.8
comp=Z,4.9nm,0.6s,baz=192,slow=6.6,SNR=13
DGZ Jazzator, Alta 56.66 331⇓ *e*P **P** 19 11 21.7 -0.8
DGZ pmax pmax
comp=Z,3.0nm,0.5s
PDGK Podgornoye 57.29 321 P **P** 19 11 26.2 -0.9
MK31 Makanchi Array 57.52 326 P **P** 19 11 28.5 0.0
MK31 pmax pmax
comp=Z,8.0nm,0.7s
MK31 Makanchi Array 57.52 326 P **P** 19 11 28.5 0.0
MK31 IAmb IAmb 19 11 29.5
comp=Z,8.2nm,0.7s
MKAR Makanchi Array 57.52 326 P **P** 19 11 28.2 -0.3
comp=Z,14nm,0.5s,baz=120,slow=8.0,SNR=296
MKAR S **S** 19 19 14.8 -0.8
comp=Z,0.7nm,0.9s,baz=127,slow=14,SNR=3.6
NIL Nilore 57.57 308 P **P** 19 11 26.7 -2.4
NIL pmax pmax
comp=Z,14nm,0.8s
NIL Nilore 57.57 308 P **P** 19 11 26.7 -2.4
NIL IAmb IAmb 19 11 29.1
comp=Z,14nm,0.8s
TARG Taragay, Kyrgy 57.58 319 P **P** 19 11 29.7 +0.2
MAKZ Makanchi 57.70 326 P **P** 19 11 29.5 -0.3
MAKZ pmax pmax
comp=Z,12nm,0.6s
MAKZ Makanchi 57.70 326 P **P** 19 11 29.5 -0.3
MAKZ IAmb IAmb 19 11 30.2
comp=Z,12nm,0.6s
KSH Kashi 57.82 316 *e*P **P** 19 11 32.1 +1.3
KSH pmax pmax
comp=Z,63nm,1.2s
KSH pmax pmax
comp=Z,170nm,4.8s
YAK Yakutsk 58.82 2 *e*P **P** 19 11 37.9 +0.8
YAK *e**PP **sP** 19 12 18.1 -5.6
YAK *e*S **S** 19 19 30.7 -1.1
YAK *e* 19 21 08.5
YAK pmax pmax
comp=Z,37nm,0.8s
YAK pmax pmax
comp=N,16nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK smax smax
comp=N,93nm,1.6s
YAK smax smax
comp=E,57nm,1.8s
YAK Yakutsk 58.82 2 P **P** 19 11 36.9 -0.2
KZA Kyzart 59.44 318 P **P** 19 11 43.0 +0.7
SNR=10
MA2 Magadan 59.49 14*c* *i*P **P** 19 11 43.5 +1.7
MA2 pmax pmax
comp=Z,10.0nm,0.7s
MA2 Magadan 59.49 14 P **P** 19 11 43.6 +1.8
TKM2 Tokmak 2 59.59 319 P **P** 19 11 43.0 -0.1
SNR=23
KBK Karagaybulak 59.89 319 P **P** 19 11 45.5 +0.3
SNR=10
UCH Uchtor 59.99 318 P **P** 19 11 46.7 +0.5
SNR=20
CHMS Chumysh 60.17 319 P **P** 19 11 46.6 -0.3
SNR=8.7
AAK Ala-Archa 60.19 318 P **P** 19 11 46.3 -0.8
comp=Z,3.8nm,0.4s,baz=118,slow=6.3,SNR=13
AAK Ala-Archa 60.19 318 P **P** 19 11 47.4 +0.3
SNR=6.0
AAK Ala-Archa 60.19 318*c* *i*P **P** 19 11 47.3 +0.1
AAK pmax pmax
comp=Z,8.0nm,0.9s
AAK Ala-Archa 60.19 318 P **P** 19 11 47.3 +0.1
USP Ospenovka 60.46 319 P **P** 19 11 48.8 -0.1
SNR=16
AML Almayashu 60.50 318 P **P** 19 11 49.9 +0.3
SNR=28
EKS2 Erkin-Say 60.67 318 P **P** 19 11 50.6 +0.2
SNR=15
ZAA0 Zalesovo Array 60.70 334 P **P** 19 11 49.3 -0.9
ZALV Zalesovo Beam 60.70 334 P **P** 19 11 48.9 -1.3
comp=Z,7.3nm,0.6s,baz=133,slow=6.2,SNR=27
ZALV S **S** 19 19 55.7 -0.4
comp=Z,0.5nm,0.5s,baz=95,slow=13,SNR=3.9
KBL Kabul 61.16 308 P **P** 19 11 53.3 -0.7
KBL pmax pmax
comp=Z,19nm,0.7s
KBL Kabul 61.16 308 P **P** 19 11 53.3 -0.7
KBL IAmb IAmb 19 11 54.1
comp=Z,19nm,0.7s
KURBB Kurchatov Arra 61.74 328 P **P** 19 11 56.6 -0.7
KURK Kurchatov 61.75 328*c* *i*P **P** 19 11 56.7 -0.6
KURK pmax pmax
comp=Z,41nm,0.6s
KURK Kurchatov 61.75 328 P **P** 19 11 57.0 -0.3
THZ Tophouse 61.80 142 P **P** 19 11 58.0 +0.1

RPZ Rata Peaks 61.81 144 P **P** 19 11 58.0 +0.1
CHGR Chuyangaron 62.38 312 P **P** 19 12 01.6 -0.3
CHGR IAmb IAmb 19 12 02.4
comp=Z,30nm,1.1s
BKZ Black Stump Fm 62.76 137 P **P** 19 12 04.9 +0.5
BKZ IAmb IAmb 19 12 05.2
comp=Z,19nm,0.6s
SEY Seymchan 62.80 13*ce*P **P** 19 12 06.0 +1.9
KK31 Karatay Array 63.04 317 *i* P **P** 19 12 05.7 -0.4
OTUK Ortayu 64.04 323 P **P** 19 12 12.1 -0.5
BRVK Borovoye 67.39 327*c* *i*P **P** 19 12 33.2 -0.7
BRVK pmax pmax
comp=Z,12nm,0.7s
BRVK Borovoye 67.39 327 P **P** 19 12 33.6 -0.3
BRVK IAmb IAmb 19 12 34.2
comp=Z,13nm,0.8s
TIXI Tiksi 68.44 1*c* *i*P **P** 19 12 40.3 +0.2
TIXI pmax pmax
comp=Z,18nm,0.9s
TIXI Tiksi 68.44 1 P **P** 19 12 39.9 -0.2
TIXI IAmb IAmb 19 12 41.0
comp=Z,16nm,0.9s
ATKA Atka Island 69.49 35 P **P** 19 12 47.8 +0.9
ATKA IAmb IAmb 19 12 48.7
comp=Z,20nm,0.7s
CASY Casey 70.13 187 P **P** 19 12 51.5 +0.9
CASY IAmb IAmb 19 12 52.3
comp=Z,14nm,0.7s
BILL Bilibino 70.35 15 *i* P **P** 19 12 50.3 -1.6
BILL *i* 19 13 12.0
BILL *i* *PP **pP** 19 13 26.0 +1.4
BILL *i* 19 15 28.6
BILL pmax pmax
comp=Z,7.0nm,1.3s
GEYT Alibeck 70.55 309 P **P** 19 12 53.6 -0.3
comp=Z,9.1nm,0.6s,baz=134,slow=6.4,SNR=24
GYA0B ALIBECK ARRAY 70.55 309 P **P** 19 12 52.4 -1.4
GYA0B IAmb IAmb 19 12 55.3
comp=Z,12nm,0.7s
NRIK Noril'sk 70.78 347 P **P** 19 12 55.1 +0.6
comp=Z,77nm,0.6s,baz=126,slow=6.1,SNR=97
SOCY Socotra 71.59 282 P **P** 19 12 57.8 -2.8
SOCY IAmb IAmb 19 12 59.7
comp=Z,40nm,0.8s
AKTO Aktyubinsk 73.55 322 P **P** 19 13 10.8 -0.6
SVE Sverdlovsk 73.98 329⇓ *e*P **P** 19 13 13.4 -0.4
SVE pmax pmax
comp=Z,25nm,0.6s
ARU Arti 74.94 328*c* *i*P **P** 19 13 18.1 -1.2
ARU *PP pP 19 13 44.9 -8.0
ARU 19 16 03.4
ARU S **S** 19 22 44.1 -1.6
ARU SS **SS** 19 27 34.7 -2.2
ARU pmax pmax
comp=Z,18nm,0.6s
ARU Arti 74.94 328 P **P** 19 13 18.4 -0.9
ARU IAmb IAmb 19 13 20.0
comp=Z,25nm,0.5s
AKT Akhty 79.00 311 *e*P **P** 19 13 41.7 -0.8
AKT *e* 19 13 49.7
AKT *e**PP **pP** 19 14 16.1 0.0
AKT pmax pmax
comp=Z,11nm,0.5s
RAYN Ar Rayn 79.88 293 P **P** 19 13 46.4 -1.1
RAYN pmax pmax
comp=Z,14nm,0.8s
RAYN Ar Rayn 79.88 293 P **P** 19 13 46.4 -1.1
RAYN IAmb IAmb 19 13 48.3
comp=Z,14nm,0.8s
ABPO Ambohimpanom 80.26 250 P **P** 19 13 49.2 -0.6
ABPO pmax pmax
comp=Z,13nm,0.7s
ABPO Ambohimpanom 80.26 250 P **P** 19 13 49.2 -0.6
ABPO IAmb IAmb 19 13 51.0
comp=Z,13nm,0.7s
TBLG Delisi 81.26 312 P **P** 19 13 54.8 +0.3
TBLG pmax pmax
comp=Z,12nm,0.6s
TBLG Delisi 81.26 312 P **P** 19 13 54.8 +0.3
TBLG IAmb IAmb 19 13 57.6
comp=Z,12nm,0.6s
TTA Tatalina 81.83 27 P **P** 19 13 59.2 +2.1
TTA pmax pmax
comp=Z,5.0nm,0.6s
TTA Tatalina 81.83 27 P **P** 19 13 59.2 +2.1
ZEI Tsey 81.94 313 *e*P **P** 19 13 56.5 -1.8
ZEI pmax pmax
comp=Z,11nm,0.5s
AKH Akhalkalaki 82.17 311 ⇓P **P** 19 14 00.6 +1.0
KBZ Khabaz 82.72 314 P **P** 19 14 01.6 -0.4
comp=Z,3.1nm,0.7s,baz=176,slow=6.1,SNR=5.9
MAW Mawson 82.89 200 P **P** 19 14 03.3 +0.9
baz=83,SNR=11
MAW Mawson 82.89 200 P **P** 19 14 03.3 +0.9
comp=Z,7.5nm,1.0s,baz=68,slow=7.4,SNR=7.4
MAW Mawson 82.89 200 P **P** 19 14 03.4 +0.9
VNDA Vanda 82.97 173 P **P** 19 14 03.3 +0.7
comp=Z,3.3nm,0.4s,baz=318,slow=6.7,SNR=48
VNDA Vanda 82.97 173 P **P** 19 14 03.5 +0.9
VRH Novokhopyorsk 83.86 321 *e*P **P** 19 14 06.4 -1.3
VRH pmax pmax
comp=Z,40nm,0.6s
TOLK Toolik Lake Re 85.12 21 P **P** 19 14 15.7 +1.9
baz=266
VORD Divnogorie 85.39 321 *e*P **P** 19 14 14.3 -1.1
VORD pmax pmax
comp=Z,30nm,1.0s
KLMR Klimovskoe 85.47 331 *e*P **P** 19 14 14.5 -1.0
KLMR pmax pmax
comp=Z,57nm,0.7s
KLMR Klimovskoe 85.47 331 *e*P **P** 19 14 14.6 -1.0
KLMR AMP 19 14 16.2
comp=Z,57nm,0.7s
LPSR Galich'ya Gora 85.63 322 *e*P **P** 19 14 15.6 -1.0
LPSR pmax pmax
comp=Z,60nm,1.0s
HDA Harding Lake 85.98 26 P **P** 19 14 18.0 -0.2
baz=269
ILAR Eielson Array 86.02 25 P **P** 19 14 17.6 -0.7
comp=Z,1.1nm,0.6s,baz=239,slow=4.9,SNR=15
ILAR PKKPbc **PKKPbc** 19 32 17.2 -3.2
comp=Z,0.4nm,0.5s,baz=80,slow=1.4,SNR=5.7
TMCR Tamitsa 86.22 334 *e*P **P** 19 14 18.5 -0.7
TMCR pmax pmax
comp=Z,25nm,0.6s
MOS Moscow 86.40 326 *e*P **P** 19 14 19.1 -1.2
MOS *e*S **S** 19 24 39.6 -5.2
MOS pmax pmax
comp=Z,56nm,0.7s
OBN Obninsk 87.01 325 ⇓P **P** 19 14 23.1 -0.2
OBN Obninsk 87.01 325*c* *i*P **P** 19 14 22.6 -0.7
OBN *i* *PP **pP** 19 14 54.9 -2.8
OBN *i* 19 17 48.1
OBN pmax pmax
comp=Z,70nm,1.4s
OBN Obninsk 87.01 325 P **P** 19 14 23.0 -0.2
KMBO Kilima Mbogo 88.63 269 P **P** 19 14 33.4 +1.2
comp=Z,10nm,0.9s,baz=55,slow=7.1,SNR=16
KMBO Kilima Mbogo 88.63 269 P **P** 19 14 30.1 -2.1
KMBO IAmb IAmb 19 14 33.0
comp=Z,11nm,0.9s
SIM Simferopol' 89.01 315 *i* P **P** 19 14 32.5 -0.5
SIM pmax pmax
comp=Z,42nm,0.5s
ILGA Ilgaz 89.55 311 P **P** 19 14 35.8 -0.1
ILGA IAmb IAmb 19 14 36.3
comp=Z,13nm,0.8s
BR131 Keskin Array S 89.69 310 P **P** 19 14 35.4 -1.1
BR131 pmax pmax
comp=Z,11nm,0.9s
BR131 Keskin Array S 89.69 310 P **P** 19 14 35.4 -1.1
BR131 IAmb IAmb 19 14 37.0
comp=Z,11nm,0.9s
BRTR Keskin Array B 89.69 310 P **P** 19 14 35.2 -1.3
comp=Z,9.2nm,0.8s,baz=121,slow=5.2,SNR=28
BRTR PP **PP** 19 18 10.9 +0.6
comp=Z,0.8nm,0.7s,baz=102,slow=8.4,SNR=4.1
EPYK Eagle Plains 90.14 24 P **P** 19 14 38.3 +0.5
baz=278
ARCES ARCESS Array B 90.68 340 P **P** 19 14 39.3 -1.0
comp=Z,4.0nm,0.5s,baz=86,slow=4.7,SNR=22
ARE0 ARCESS Array S 90.68 340 *e*P **P** 19 14 39.2 -1.1
SPA0 Spitsbergen Ar 90.87 349 *e*P **P** 19 14 40.6 -0.5
HAMF Hammerfest 91.07 341 *e*P **P** 19 14 41.0 -1.0
KBS Kingsbay 91.42 350 *e*P **P** 19 14 43.3 -0.2

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
HSPB	**Hornsund (broa**	**91.45**	**348**	*e*P	**P**	**19 14 41.9**	**-1.8**
SYO	**Syowa Base**	**91.56**	**201**	⇓*e*P	**P**	**19 14 43.5**	**-0.7**
SYO	**Syowa Base**	**91.56**	**201**	⇑*e*PcP	**PcP**	**19 14 47.5**	**+2.4**
KTK1	**Kautokeino**	**91.58**	**339**	*e*P	**P**	**19 14 43.7**	**-0.8**
AKASG	**Malin Array Be**	**91.77**	**321**	P	**P**	**19 14 44.5**	**-1.2**
	comp=Z,15nm,0.5s,baz=70,slow=4.5,SNR=73						
AKBB	**Malin Array Si**	**91.77**	**321**	IAmb	IAmb	19 14 45.3	
	comp=Z,14nm,0.7s						
FINES	**FINESS Array B**	**91.92**	**332**	P	**P**	**19 14 45.3**	**-0.8**
	comp=Z,12nm,0.6s,baz=54,slow=5.3,SNR=77						
VSU	**Vasula**	**92.09**	**329**	*e*P	**P**	**19 14 46.4**	**-0.5**
VSU	**Vasula**	**92.09**	**329**	*c i*P	**P**	**19 14 45.8**	**-1.2**
VSU				pmax	pmax		
	comp=Z,58nm,0.7s						
MILM	**Milestii Mici**	**92.51**	**317**	⇓P	**P**	**19 14 48.1**	**-1.1**
SORM	**Soroca**	**92.66**	**318**	⇓P	**P**	**19 14 49.0**	**-0.9**
IIGN	**Ignalina**	**92.89**	**326**	*e*P	**P**	**19 14 50.7**	**0.0**
TRO	**Tromso**	**92.90**	**340**	*e*P	**P**	**19 14 50.5**	**0.0**
ISAL	**Salakas**	**92.90**	**326**	*e*P	**P**	**19 14 50.9**	**+0.1**
QSPA	**South Pole Qui**	**93.06**	**180**	PKKPbc	PKKPbc	19 31 59.3	-4.6
	comp=Z,1.4nm,0.8s,baz=260,slow=1.4,SNR=8.3						
QSPA	**South Pole Qui**	**93.06**	**180**	P	**P**	**19 14 52.5**	**+1.0**
QSPA				IAmb	IAmb	19 14 54.7	
	comp=Z,7.2nm,0.9s						
CFR	**Carcaliu**	**93.20**	**315**	⇓P	**P**	**19 14 51.3**	**-1.2**
HARR	**Harsova**	**93.42**	**315**	⇓P	**P**	**19 14 53.2**	**-0.2**
ODBI	**Odobesti**	**93.88**	**316**	⇓P	**P**	**19 14 56.5**	**+1.0**
TESR	**Tescani**	**94.04**	**317**	⇓P	**P**	**19 14 56.1**	**-0.2**
VRI	**Vrincioaia**	**94.09**	**316**	⇓P	**P**	**19 14 56.5**	**-0.1**
PABE	**Paberze**	**94.12**	**326**	*e*P	**P**	**19 14 56.4**	**0.0**
PLOR	**Plostina**	**94.14**	**316**	⇓P	**P**	**19 14 56.7**	**-0.1**
BISRR	**Bisoca**	**94.15**	**316**	⇓P	**P**	**19 14 57.5**	**+0.6**
BIZ	**Bicaz**	**94.35**	**317**	⇓P	**P**	**19 14 57.6**	**-0.1**
MLR	**Muntele Rosu**	**94.69**	**316**	⇓P	**P**	**19 14 59.1**	**-0.4**
STEI	**Steigen**	**94.71**	**339**	*e*P	**P**	**19 14 57.7**	**-1.1**
BURAR	**Bucovina Array**	**94.83**	**318**	⇓P	**P**	**19 15 00.3**	**+0.3**
SUW	**Suwalki**	**94.87**	**325**	*e*P	**P**	**19 14 59.4**	**-0.5**
SUW	**Suwalki**	**94.87**	**325**	P	**P**	**19 14 59.9**	**0.0**
SUW				pmax	pmax		
	comp=Z,121nm,0.9s						
SUW	**Suwalki**	**94.87**	**325**	P	**P**	**19 14 59.9**	**0.0**
LVV	**L'vov**	**95.20**	**320**	*e*P	**P**	**19 15 00.8**	**-0.7**
LOF	**Lofoten**	**95.24**	**340**	*e*P	**P**	**19 15 00.4**	**-0.8**
VOIR		**95.32**	**316**	⇓P	**P**	**19 15 01.5**	**-0.8**
ARCR	**ARCALIA**	**95.50**	**318**	⇓P	**P**	**19 15 03.4**	**+0.5**
ARR	**Arges**	**95.62**	**316**	⇓P	**P**	**19 15 03.4**	**-0.2**
MOR8	**Moi Rana**	**95.63**	**338**	*e*P	**P**	**19 15 00.7**	**-2.4**
BMR	**Baia Mare**	**95.96**	**318**	⇓P	**P**	**19 15 05.4**	**+0.4**
KONS	**Konsvik**	**96.00**	**338**	*e*P	**P**	**19 15 05.0**	**+0.3**
CJR	**Cluj-Napoca**	**96.08**	**317**	⇓P	**P**	**19 15 06.3**	**+0.7**
LOT	**Lotru**	**96.20**	**316**	⇓P	**P**	**19 15 06.4**	**0.0**
TRPA	**Tarpa**	**96.50**	**319**	⇓P	**P**	**19 15 07.3**	**-0.1**
KOLS	**Kolonicke sedl**	**96.50**	**320**	*e*P	**P**	**19 15 07.7**	**+0.2**
KOLS	**Kolonicke sedl**	**96.50**	**320**	*e*PDIFF	**P**	**19 15 07.7**	**+0.2**
UZH	**Uzhgorod**	**96.56**	**320**	⇓*i*P	**P**	**19 15 07.4**	**-0.3**
DRGR		**96.66**	**318**	⇓P	**P**	**19 15 08.8**	**+0.5**
CRVS	**Cervenica-Dubn**	**97.03**	**320**	*e*P	Pdif	19 15 10.7	+0.8
CRVS	**Cervenica-Dubn**	**97.03**	**320**	*e*PDIFF	Pdif	19 15 10.7	+0.8
VTS	**Vitosha**	**97.11**	**313**	⇓P	**P**	**19 15 09.9**	**-0.7**
NSS	**Namsos**	**97.21**	**337**	*e*P	**P**	**19 15 08.6**	**-1.7**
HERR	**Herculane**	**97.25**	**316**	⇓P	**P**	**19 15 10.7**	**-0.3**
BZS	**Buzias**	**97.65**	**317**	⇓P	**P**	**19 15 12.0**	**-0.7**
NIE	**Niedzica**	**97.66**	**321**	*e*P	Pdif	19 15 12.9	+0.2
KECS	**Kecovo**	**97.76**	**320**	*e*P	**P**	**19 15 13.0**	**-0.1**
KECS	**Kecovo**	**97.76**	**320**	*e*PDIFF	**P**	**19 15 13.0**	**-0.1**
MDVR	**Moldovita**	**97.76**	**316**	⇓P	**P**	**19 15 12.8**	**-0.5**
OJC	**Ojcow**	**97.78**	**321**	*e*P	**P**	**19 15 12.8**	**-0.4**
LIT	**Litokhoron**	**98.14**	**311**	P	**P**	**19 15 13.1**	**-2.0**
LIT	**Litokhoron**	**98.14**	**311**	P	**P**	**19 15 13.1**	**-2.0**
LIT				IAmb	IAmb	19 15 13.8	
	comp=Z,8.9nm,0.8s						
LANS	**Liptovska Anna**	**98.25**	**320**	*e*P	Pdif	19 15 15.8	+0.4
LANS	**Liptovska Anna**	**98.25**	**320**	*e*PDIFF	Pdif	19 15 15.8	+0.4
PSZ	**Piszkesteto**	**98.28**	**319**	⇓P	**P**	**19 15 15.5**	**-0.1**
GKP	**Gorka Klasztor**	**98.49**	**325**	*e*P	Pdif	19 15 16.5	+0.2
VYHS	**Vyhne**	**98.82**	**320**	*e*P	**P**	**19 15 17.5**	**-0.4**
VYHS	**Vyhne**	**98.82**	**320**	*e*PDIFF	**P**	**19 15 17.5**	**-0.4**
NB2	**NORSAR Subarra**	**98.90**	**333**	P	**P**	**19 15 16.3**	**-1.7**
	comp=Z,2.2nm,0.6s,baz=67,slow=4.6						
NB2	**NORSAR Subarra**	**98.90**	**333**	P	**P**	**19 15 16.3**	**-1.7**
	baz=67,slow=4.6						
NOA	**NORSAR Array B**	**98.90**	**333**	P	**P**	**19 15 16.4**	**-1.6**
	comp=Z,2.0nm,0.7s,baz=68,slow=4.5,SNR=13						
OKC	**Ostrava-Krasne**	**98.90**	**321**	*e*PDIFF	Pdif	19 15 18.4	+0.2
MORC	**Moravsky Berou**	**99.30**	**321**	⇑P	**Pdif**	**19 15 20.3**	**+0.3**
MORC	**Moravsky Berou**	**99.30**	**321**	*e*PDIFF	**Pdif**	**19 15 20.0**	**0.0**
JAVC	**Velka Javorina**	**99.47**	**320**	*e*PDIFF	**Pdif**	**19 15 21.6**	**+0.8**
KRLC	**Kraliky**	**99.68**	**322**	*e*PDIFF	**Pdif**	**19 15 21.9**	**+0.1**
KRLC	**Kraliky**	**99.68**	**322**	*e*P	**Pdif**	**19 15 21.9**	**+0.1**
KSP	**Ksiaz**	**99.76**	**323**	*e*P	**Pdif**	**19 15 22.3**	**+0.3**
DPC	**Dobruska-Polom**	**99.89**	**322**	*e*PDIFF	**Pdif**	**19 15 23.1**	**+0.5**
OSTC	**Ostas**	**99.89**	**322**	*e*PDIFF	**Pdif**	**19 15 23.1**	**+0.5**
CHVC	**Chvalec**	**99.98**	**322**	*e*PDIFF	**Pdif**	**19 15 23.2**	**+0.2**
VRAC	**Vranov**	**100.02**	**321**	⇑P	**Pdif**	**19 15 24.0**	**+0.8**
VRAC	**Vranov**	**100.02**	**321**	*e*PDIFF	**Pdif**	**19 15 23.6**	**+0.4**
UPC	**Upice**	**100.03**	**322**	*e*PDIFF	**Pdif**	**19 15 23.6**	**+0.4**
UPC	**Upice**	**100.03**	**322**	*e*P	**Pdif**	**19 15 23.6**	**+0.4**
KRUC	**Moravsky**	**100.22**	**321**	*e*PDIFF	**Pdif**	**19 15 24.1**	**0.0**
SKAR	**Skarslia**	**100.35**	**334**	*e*Pdif	**Pdif**	**19 15 24.2**	**-0.3**
YKA	**Yellowknife Ar**	**100.40**	**24**	P	**Pdif**	**19 15 24.5**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=295,slow=4.1,SNR=4.1						
YKA				PKKPbc	**PKKPbc**	**19 31 39.1**	**-3.6**
	comp=Z,0.7nm,0.6s,baz=118,slow=3.2,SNR=5.4						
RUE	**Ruedersdorf**	**100.72**	**325**	*e*Pdiff	**Pdif**	**19 15 26.7**	**+0.5**
	baz=69,slow=4.5						
CONA	**Conrad Observa**	**100.89**	**320**	*e*Pdiff	**Pdif**	**19 15 27.0**	**-0.2**
	comp=Z,2.3nm,0.8s						
PVCC	**Panska Ves**	**100.90**	**323**	*e*PDIFF	**Pdif**	**19 15 27.4**	**+0.3**
PVCC	**Panska Ves**	**100.90**	**323**	*e*P	**Pdif**	**19 15 27.4**	**+0.3**
GOPC	**GO Pecny, Ondr**	**100.96**	**322**	*e*PDIFF	**Pdif**	**19 15 27.5**	**+0.1**
PRU	**Pruhonice**	**101.09**	**322**	*e*PDIFF	**Pdif**	**19 15 28.0**	**+0.1**
PRU	**Pruhonice**	**101.09**	**322**	*e*P	**Pdif**	**19 15 28.0**	**+0.1**
BRG	**Berggiesshubel**	**101.16**	**323**	*i* PDIFF	**Pdif**	**19 15 28.4**	**+0.1**
	comp=Z,14nm,0.9s						
BRG				*e*pP	**pPdif**	**19 16 00.8**	**-2.0**
	comp=Z,3.5nm,1.0s						
BRG				*e*PP	**PP**	**19 19 39.1**	**+0.7**
	comp=Z,3.8nm,1.1s						
BRG	**Berggiesshubel**	**101.16**	**323**	*i* P	**Pdif**	**19 15 28.4**	**+0.1**
BRG				*e*		19 19 39.1	
BRG				pmax	pmax		
	comp=Z,14nm,0.9s						
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRG				pmax	pmax		
	comp=Z,4.0nm,1.1s						
BRG	**Berggiesshubel**	**101.16**	**323**	*e*Pdiff	**Pdif**	**19 15 28.4**	**+0.1**
	baz=69,slow=4.5						
ARSA	**Arzberg**	**101.31**	**319**	*e*Pdiff	**Pdif**	**19 15 28.7**	**-0.3**
	comp=Z,1.8nm,0.6s						
FBE	**Freiberg**	**101.50**	**323**	*e*Pdiff	**Pdif**	**19 15 30.1**	**+0.4**
	baz=69,slow=4.5						
PBCC	**Pribram**	**101.52**	**322**	*e*PDIFF	**Pdif**	**19 15 30.3**	**+0.4**
CLL	**Collm**	**101.57**	**324**	*i* Pdif	**Pdif**	**19 15 30.9**	**+0.9**
	comp=Z,6.0nm,0.9s						
CLL				*e*		19 16 08.0	
SOKA	**Soboth**	**101.80**	**319**	*e*Pdiff	**Pdif**	**19 15 30.7**	**-0.6**
	comp=Z,2.6nm,0.9s						
MOA	**Molln**	**101.94**	**320**	*e*Pdiff	**Pdif**	**19 15 31.7**	**0.0**
	comp=Z,6.5nm,1.0s						
KHC	**Kasperske Hory**	**101.96**	**322**	*e*PDIFF	**Pdif**	**19 15 31.9**	**0.0**
KHC	**Kasperske Hory**	**101.96**	**322**	*e*P	**Pdif**	**19 15 31.9**	**0.0**
GEC2	**GERESS Array S**	**101.97**	**321**	*e*Pdiff	**Pdif**	**19 15 32.0**	**-0.1**
	baz=69,slow=4.5						
GERES	**GERESS Array B**	**101.97**	**321**	P	**Pdif**	**19 15 31.9**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=72,slow=4.8,SNR=23						
GERES				PP	**PP**	**19 19 48.5**	**+3.8**
	comp=Z,0.4nm,0.7s,baz=72,slow=9.0,SNR=4.4						
BSEG	**Bad Segeberg**	**102.14**	**327**	*e*Pdiff	**Pdif**	**19 15 32.8**	**+0.4**
	baz=69,slow=4.5						
TANN	**Tannenbergstha**	**102.20**	**323**	*e*Pdiff	**Pdif**	**19 15 32.9**	**0.0**
	baz=69,slow=4.5						
GUNZ	**Gunzen**	**102.30**	**323**	*e*Pdiff	**Pdif**	**19 15 33.6**	**+0.3**
	baz=69,slow=4.5						
WERN	**Wernitzgruen**	**102.30**	**323**	*e*Pdiff	**Pdif**	**19 15 33.7**	**+0.3**
	baz=69,slow=4.5						
NEUB	**Neuenburg**	**102.33**	**324**	*e*Pdiff	**Pdif**	**19 15 33.7**	**+0.2**
	baz=69,slow=4.5						
PLN	**Plauen**	**102.36**	**323**	*e*Pdiff	**Pdif**	**19 15 33.8**	**+0.2**
	baz=69,slow=4.5						
WET	**Wettzell**	**102.39**	**322**	*e*Pdiff	**Pdif**	**19 15 33.8**	**+0.1**
	baz=69,slow=4.5						
MANZ	**Manzenberg**	**102.57**	**323**	*e*Pdiff	**Pdif**	**19 15 34.7**	**+0.1**
	baz=69,slow=4.5						
ROTZ	**Rotzenmuhle**	**102.58**	**322**	*e*Pdiff	**Pdif**	**19 15 35.0**	**+0.4**
	baz=69,slow=4.5						
MOX	**Moxa**	**102.63**	**323**	*e*Pdiff	**Pdif**	**19 15 34.9**	**+0.1**
	baz=69,slow=4.5						
ASSE	**Asse, Remlinge**	**102.63**	**325**	*e*Pdiff	**Pdif**	**19 15 35.0**	**+0.4**
	baz=69,slow=4.5						
NRDL	**Niedersach Rie**	**102.81**	**326**	*e*Pdiff	**Pdif**	**19 15 36.1**	**+0.7**
	baz=69,slow=4.5						
CLZ	**Clausthal**	**102.91**	**325**	*e*Pdiff	**Pdif**	**19 15 36.7**	**+0.6**
	baz=69,slow=4.5						
GRF	**Grafenberg Arr**	**103.21**	**323**	*e*Pdiff	**Pdif**	**19 15 37.5**	**+0.1**
	comp=Z,4.9nm,1.1s,baz=69,slow=4.5						
ABTA	**Abfaltersbach**	**103.42**	**320**	*e*Pdiff	**Pdif**	**19 15 37.3**	**-1.2**
	comp=Z,3.9nm,1.1s						
WTTA	**Wattenberg**	**103.81**	**320**	*e*Pdiff	**Pdif**	**19 15 39.8**	**-0.6**
	comp=Z,5.1nm,1.1s						
WATA	**Walderalm**	**103.82**	**320**	*e*Pdiff	**Pdif**	**19 15 39.6**	**-0.8**
	comp=Z,4.3nm,1.2s						
SQTA	**Sankt Quirin**	**104.10**	**320**	*e*Pdiff	**Pdif**	**19 15 40.9**	**-0.7**
	comp=Z,4.7nm,0.7s						
MOTA	**Moosalm**	**104.12**	**320**	*e*Pdiff	**Pdif**	**19 15 40.8**	**-0.9**
	comp=Z,6.6nm,1.2s						
SNAA	**Sanae**	**104.42**	**195**	Pdiff	**Pdif**	**19 15 43.3**	**+1.0**
FETA	**Feichten**	**104.47**	**320**	*e*Pdiff	**Pdif**	**19 15 42.8**	**-0.4**
	comp=Z,1.9nm,0.7s						
NVAR	**Mina Array Bea**	**107.97**	**48**	PKiKP	**PKiKP**	**19 20 07.1**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=228,slow=2.8,SNR=6.0						
NVAR				PKKPbc	**PKKPbc**	**19 31 19.9**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=137,slow=4.2,SNR=6.2						
NVAR				PKKP	**PKKPdf**	**19 31 32.7**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=120,slow=5.0,SNR=11						
BELC	**Belle Mtn. Jos**	**111.19**	**52**	P	**PKiKP**	**19 20 13.7**	**+2.0**
	baz=289						
GMRC	**Granite Mounta**	**111.19**	**51**	P	**PKiKP**	**19 20 13.6**	**+1.9**
	baz=290						
MONP2	**Monument Peak**	**111.21**	**53**	P	**PKiKP**	**19 20 13.1**	**+1.3**
	baz=289						
DUG	**Dugway, Tooele**	**111.29**	**45**	P	**PKiKP**	**19 20 13.4**	**+1.6**
	baz=294						
IRM	**Iron Mountain**	**111.80**	**51**	P	**PKiKP**	**19 20 13.2**	**+0.4**
	baz=290						
PDAR	**Pinedale Array**	**112.39**	**41**	PKiKP	**PKiKP**	**19 20 14.4**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=160,slow=4.7,SNR=4.3						
O20A	**White River Ci**	**114.48**	**43**	P	**PKiKP**	**19 20 19.5**	**+1.6**
	baz=298						
RSSD	**Black Hills**	**115.20**	**37**	P	**PKPdf**	**19 20 19.5**	**+0.2**
	baz=303						
W18A	**Petrified Fore**	**115.58**	**49**	P	**PKPdf**	**19 20 21.8**	**+1.7**
	baz=294						
TUC	**Tucson**	**115.88**	**52**	P	**PKiKP**	**19 20 22.4**	**+1.7**
	baz=292						
ULM	**Lac du Bonnet**	**115.91**	**28**	PKP	**PKiKP**	**19 20 19.8**	**-0.3**
	comp=Z,3.9nm,0.6s,baz=79,slow=1.1,SNR=3.2						
ISCO	**Idaho Springs**	**116.41**	**42**	P	**PKiKP**	**19 20 23.1**	**+1.3**
	baz=300						
ANMO	**Albuquerque**	**118.09**	**47**	P	**PKiKP**	**19 20 26.6**	**+1.6**
	baz=297						
121A	**Cookes Peak, D**	**118.12**	**50**	P	**PKiKP**	**19 20 27.0**	**+1.8**
	baz=294						
T25A	**Trinidad**	**118.53**	**44**	P	**PKiKP**	**19 20 27.6**	**+1.7**
	baz=299						
ECSD	**EROS Data Cent**	**119.78**	**34**	P	**PKiKP**	**19 20 28.1**	**+0.3**
	baz=309						
MNTX	**Cornudas Mount**	**120.32**	**50**	P	**PKiKP**	**19 20 30.7**	**+1.5**
	baz=296						
MNTX	**Cornudas Mount**	**120.32**	**50**	PKPdf	**PKiKP**	**19 20 31.0**	**+1.8**
CBKS	**Cedar Bluff**	**120.81**	**40**	P	**PKiKP**	**19 20 31.1**	**+1.1**
	baz=304						
MSTX	**Muleshoe**	**121.24**	**47**	P	**PKiKP**	**19 20 32.0**	**+0.9**
	baz=299						
SCHQ	**Schefferville**	**121.28**	**9**	PKP	**PKiKP**	**19 20 31.1**	**+0.7**
	comp=Z,4.5nm,0.6s,baz=35,slow=4.1,SNR=7.6						
TOA0	**Torodi Ar. Sit**	**122.23**	**288**	PKPdf	**PKPdf**	**19 20 33.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**122.23**	**288**	PKP	**PKPdf**	**19 20 32.8**	**-0.4**
	comp=Z,3.7nm,0.7s,baz=80,slow=1.8,SNR=26						
KSU1	**Kansas State U**	**122.63**	**39**	P	**PKiKP**	**19 20 34.4**	**+0.8**
	baz=307						
TXAR	**Lajitas Array**	**122.67**	**52**	PKP	**PKiKP**	**19 20 35.1**	**+1.1**
	comp=Z,1.9nm,0.7s,baz=301,slow=0.5,SNR=27						
TXAR				PKKPbc	**PKKPab**	**19 30 29.0**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=140,slow=4.8,SNR=3.9						
WMOK	**Wichita Mounta**	**123.68**	**44**	P	**PKiKP**	**19 20 36.5**	**+0.7**
	baz=303						
JFWS	**Jewell Farm**	**123.78**	**31**	P	**PKPdf**	**19 20 35.5**	**+0.1**
	baz=315						
D47A	**Chapleau**	**123.90**	**23**	P	**PKiKP**	**19 20 36.3**	**+0.5**
	baz=325						
ABTX	**Abilene, Hawle**	**124.18**	**47**	P	**PKiKP**	**19 20 37.6**	**+0.8**
	baz=301						
CHGQ	**Chibougamau**	**124.35**	**16**	P	**PKiKP**	**19 20 36.6**	**0.0**
	baz=335						
G46A	**Petoskey**	**124.56**	**26**	P	**PKiKP**	**19 20 37.7**	**+0.5**
	baz=322						
E48A	**Lockeyer**	**124.75**	**23**	P	**PKiKP**	**19 20 38.3**	**+0.8**
	baz=325						
H46A	**Fife Lake**	**125.02**	**27**	P	**PKiKP**	**19 20 38.3**	**+0.2**
	baz=321						
D50A	**G1974 Best Tow**	**125.05**	**21**	P	**PKiKP**	**19 20 38.1**	**0.0**
	baz=328						
G47A	**Hillman**	**125.11**	**25**	P	**PKiKP**	**19 20 38.9**	**+0.6**
	baz=323						
JCT	**Junction City**	**125.13**	**49**	P	**PKiKP**	**19 20 39.5**	**+0.7**
	baz=299						
E50A	**Wahnapitae**	**125.34**	**22**	P	**PKiKP**	**19 20 39.5**	**+0.8**
	baz=327						
F49A	**Sandfield**	**125.38**	**24**	P	**PKiKP**	**19 20 39.2**	**+0.5**
	baz=325						
D52A	**ZEK Kipawa Sen**	**125.72**	**20**	P	**PKPdf**	**19 20 38.9**	**-0.1**
	baz=330						
F52A	**Sundridge**	**126.40**	**22**	P	**PKPdf**	**19 20 40.2**	**-0.2**
	baz=328						
E53A	**Dumoine, Ponti**	**126.49**	**20**	P	**PKiKP**	**19 20 41.1**	**+0.1**
	baz=330						
CCM	**Cathedral Cave**	**126.55**	**36**	P	**PKiKP**	**19 20 41.9**	**+0.6**
	baz=312						
CCM	**Cathedral Cave**	**126.55**	**36**	PKIKP	**PKiKP**	**19 20 42.0**	**+0.6**
CCM	**Cathedral Cave**	**126.55**	**36**	PKPdf	**PKiKP**	**19 20 42.0**	**+0.7**
J48A	**Bridge Port**	**126.63**	**27**	P	**PKiKP**	**19 20 42.0**	**+0.7**
	baz=322						
D55A	**Sainte-Anne-du**	**126.64**	**18**	P	**PKiKP**	**19 20 41.4**	**+0.1**
	baz=333						
U40A	**Yellville**	**126.67**	**39**	P	**PKiKP**	**19 20 41.8**	**+0.1**
	baz=309						
U40A	**Yellville**	**126.67**	**39**	PKPdf	**PKiKP**	**19 20 42.2**	**+0.5**
ALGO	**Algonquin Park**	**126.73**	**21**	P	**PKiKP**	**19 20 41.9**	**+0.4**
	baz=330						
W39A	**Magazine**	**126.78**	**41**	P	**PKiKP**	**19 20 42.4**	**+0.5**
	baz=308						
D56A	**ZEC Mazanza, M**	**126.83**	**17**	P	**PKiKP**	**19 20 41.5**	**-0.2**
	baz=334						
LATQ	**La Tuque**	**127.09**	**16**	P	**PKiKP**	**19 20 42.3**	**+0.2**
	baz=337						
G54A	**Lake Saint Pet**	**127.19**	**21**	P	**PKiKP**	**19 20 42.7**	**+0.2**
	baz=330						
G53A	**Haliburton**	**127.23**	**22**	P	**PKiKP**	**19 20 42.9**	**+0.4**
	baz=329						
MIAR	**Mount Ida**	**127.31**	**41**	PKIKP	**PKiKP**	**19 20 44.3**	**+1.3**
MIAR	**Mount Ida**	**127.31**	**41**	PKPdf	**PKiKP**	**19 20 44.3**	**+1.3**
DBIC	**Dimbokro**	**129.81**	**281**	PKP	**PKPdf**	**19 20 47.8**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=58,slow=6.1,SNR=4.6						
PLCA	**Paso Flores**	**139.77**	**161**	PKP	**PKiKP**	**19 21 07.7**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=201,slow=6.6,SNR=4.4						
ZON	**Zonda**	**148.62**	**156**	PKP2	**PKiKP**	**19 21 26.6**	**0.0**
ZON	**Zonda**	**148.62**	**156**		**PKiKP**	**19 21 26.6**	**0.0**
AC05	**El Transito**	**150.21**	**151**		**PKiKP**	**19 21 30.8**	**+0.8**
SDV	**Santo Domingo**	**159.71**	**54**	PKP	**PKPdf**	**19 21 38.2**	**+0.8**
	comp=Z,6.2nm,0.7s,baz=327,slow=2.9,SNR=7.5						
LPAZ	**La Paz**	**161.06**	**135**	PKP	**PKPdf**	**19 21 40.4**	**+1.1**
	comp=Z,2.5nm,0.8s,baz=336,slow=2.2,SNR=11						
LPAZ				PKKP		19 29 52.6	
	comp=Z,1.0nm,0.3s,baz=297,slow=3.6,SNR=9.8						
LPAZ	**La Paz**	**161.06**	**135**	PKPdf	**PKPdf**	**19 21 41.5**	**+2.2**

DJA 01 19:04:21.4±0.7**, 8°S**±3°×**10°8E**±°**, h13**km±4km**, M3.6**/7**,**
MLv3.6/7**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**0.72**	**360**	P	Pb	19 04 35.8	-0.1
CISI				S	Sb	19 04 46.6	+0.9
CNJI	**Cibinong**	**1.18**	**325**	P	Pn	19 04 43.1	-0.6
CNJI				S	Sb	19 04 57.5	-1.4
LEM	**Lembang**	**1.46**	**352**	P	Pn	19 04 47.9	+0.3
LEM				S	Sg	19 05 07.8	-0.7
DBJI	**Dramaga**	**2.02**	**328**	P	Pn	19 04 55.2	0.0
DBJI				S	Sb	19 05 21.7	-1.3
UGM	**Wanagama**	**2.70**	**82**	P	Pn	19 05 03.7	-0.9
KASI	**Kota Agung**	**4.29**	**309**	P	Pn	19 05 26.8	+0.4

*IDC **01** 19:06:32.8±3.8, 24°10S×66°90W, h173km±34km, mb3.0/1, mb1 3.2/5, mb1mx3.1/28, mbtmp3.7/5, Error ellipse: s-maj=61.0km s-min=22.1km az=163.0*

ISC 01 19:06:33.4±1.4**, 24°1S**±0°2×**66°9W**±0°1**, h181**km**, n8,** σ0.s61/9**, Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.34**	**307**	P	**Pn**	**19 07 14.9**	**+0.2**
	8.6nm,0.3s,baz=116,slow=8.0,SNR=51						
LVC				S	**Sn**	**19 07 45.9**	**-0.8**
	30nm,0.3s,baz=215,slow=9.8,SNR=65						
LPAZ	**La Paz**	**7.81**	**351**	P	**Pn**	**19 08 25.4**	**+0.5**
	0.6nm,0.3s,baz=167,slow=6.5,SNR=17						
SIV	**San Ignacio**	**9.70**	**35**	P	**Pn**	**19 08 48.7**	**-0.5**
	0.7nm,0.3s,baz=230,slow=11,SNR=11						
BDFB	**Brasilia**	**19.61**	**68**	P	**P**	**19 10 48.5**	**+0.2**
	0.4nm,0.3s,baz=235,slow=9.6,SNR=5.1						
TORD	**Torodi Ar. Bea**	**76.50**	**69**	P	**P**	**19 18 04.1**	**+0.3**
	0.5nm,1.0s,baz=244,slow=6.0,SNR=1.6						
ASAR	**Alice Springs**	**128.45**	**205**	PKP	**PKPdf**	**19 25 18.6**	**-0.8**
	0.3nm,0.8s,baz=135,slow=2.5,SNR=4.3						
WRA	**Warramunga Arr**	**131.63**	**207**	PKP	**PKPdf**	**19 25 25.6**	**+0.2**
	0.5nm,0.9s,baz=152,slow=1.7,SNR=4.6						
MKAR	**Makanchi Array**	**146.50**	**40**	PKPbc	**PKPbc**	**19 25 53.5**	**+0.2**
	0.5nm,0.7s,baz=305,slow=4.3,SNR=5.0						

WEL 01 19:10:49.3, 39°S±1°×**17°8E**±°**, h31**km±3km**, M2.2**/13**,**
ML2.3/12**, MLv2.2**/13**, Error ellipse: s-maj=0.0km s-min=0.0km az=68.6, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIGZ	**Rimuhau**	**0.11**	**231**	P	Pn	19 10 55.1	+0.1
TKGZ	**Te Karaka**	**0.20**	**355**	P	Pn	19 10 55.9	-0.2
PRGZ	**Paritu Road**	**0.29**	**178**	P	Pn	19 10 57.2	-0.3
CNGZ	**Carnagh Statio**	**0.31**	**60**	P	Pn	19 10 57.5	-0.1
MWZ	**Matawai**	**0.40**	**318**	P	Pb	19 10 58.7	+0.3
KNZ	**Kokohu**	**0.41**	**202**	P	Pb	19 10 58.7	+0.2
SNGZ	**Shannon Statio**	**0.44**	**251**	P	Pb	19 10 53.4	-5.5
TWGZ	**Tauwhareparae**	**0.47**	**11**	P	Pn	19 10 59.8	-0.1
MHGZ	**Mahia Peninsul**	**0.52**	**177**	P	Pn	19 11 00.5	-0.1
PUZ	**Puketiti**	**0.64**	**28**	P	Pb	19 11 01.6	-0.6
RAHZ	**Arahi**	**0.67**	**245**	P	Pn	19 11 02.9	+0.2
RUGZ	**Raukumara Rang**	**0.69**	**347**	P	Pb	19 11 02.4	-0.6
RTZ	**Ruatahuna**	**0.70**	**271**	P	Pb	19 11 00.7	-2.4
URZ	**Urewera**	**0.70**	**302**	P	Pb	19 11 03.2	0.0
PKGZ	**Pakihiroa**	**0.77**	**12**	P	Pn	19 11 04.0	-0.1
MTHZ	**Maungataniwha**	**0.83**	**255**	P	Pn	19 11 05.0	+0.1
HAZ	**Te Kaha**	**0.88**	**356**	P	Pn	19 11 05.3	-0.2
BKZ	**Black Stump Fm**	**1.20**	**243**	P	Pn	19 11 10.2	+0.2
NNZ	**Nelson**	**4.31**	**232**	P	Pn	19 11 58.0	+5.4
THZ	**Tophouse**	**4.92**	**229**	P	Pn	19 11 58.7	-2.4
KHZ	**Kahutara**	**5.01**	**220**	P	Pn	19 12 03.1	+0.7

TAP 01 19:17:06.5, 24°40N×121°68E, h27km**, ML1.7, B, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.06**	**65**	*e*P	Pb	19 17 11.9	+0.7
	baz=69						
ENA				*e*S	Sb	19 17 15.7	+1.3
	baz=69						
NACB	**Ninganchiao**	**0.24**	**199**	*e*P	Pb	19 17 12.9	0.0
	baz=199						
NACB				*e*S	Sb	19 17 17.9	+0.6
	baz=199						
NDT	**Datong Townshi**	**0.25**	**322**	*e*P	Pn	19 17 13.8	-0.6
	baz=321						
NDT				*e*S	Sn	19 17 18.9	-0.5
	baz=321						
TWC	**Suao**	**0.26**	**36**	*e*P	Pb	19 17 13.5	+0.4
	baz=38						
TWC				*e*S	Sn	19 17 18.6	-0.9
	baz=38						
ETLH	**Xiulin Townshi**	**0.27**	**223**	*e*P	Pb	19 17 13.6	+0.2
	baz=223						
ETLH				*e*S	Sb	19 17 18.6	+0.6
	baz=223						
NNSB	**Datong**	**0.28**	**275**	P	Pb	19 17 14.1	+0.6
	baz=275						
NNSB				*e*S	Sn	19 17 19.4	-0.8
	baz=275						
NNSH	**Datong**	**0.28**	**275**	P	Pb	19 17 14.0	+0.5
	baz=275						
NNSH				S	Sb	19 17 18.9	+0.7
	baz=275						
NNS	**Nan Shan**	**0.28**	**277**	*e*P	Pb	19 17 14.2	+0.6
	baz=277						
NNS				*e*S	Sn	19 17 19.6	-0.8
	baz=277						
TWE	**Neicheng**	**0.32**	**357**	*e*P	Pn	19 17 14.7	-0.6
	baz=359						
TWE				*e*S	Sb	19 17 19.9	+0.9
	baz=359						
TWD	**Chiawan**	**0.33**	**194**	*e*P	Pb	19 17 14.6	+0.5
	baz=192						
TWD				*e*S	Sb	19 17 20.0	+0.7
	baz=192						
YHNB	**Yeheng**	**0.39**	**314**	P	Pb	19 17 15.7	+0.6
	baz=313						
YHNB				S	Sb	19 17 21.4	+0.6
	baz=313						
NWLT	**Wulai**	**0.41**	**336**	*e*P	Pn	19 17 16.0	-0.6
	baz=336						
NWLT				*e*S	Sb	19 17 21.9	+0.6
	baz=336						
WHF	**Hehuan Shan**	**0.46**	**236**	*e*P	Pb	19 17 16.9	+0.4
	baz=235						
WHF				*e*S	Sb	19 17 23.8	+0.6
	baz=235						
NTC	**Toucheng**	**0.47**	**17**	*e*P	Pn	19 17 16.9	-0.5
	baz=16						
NTC				*e*S	Sn	19 17 24.4	-0.4
	baz=16						
NHDH	**Xindian Distri**	**0.58**	**346**	*e*P	Pn	19 17 19.1	+0.2
	baz=345						
NHDH				*e*S	Sn	19 17 26.7	-0.7
	baz=345						
CHGB	**Renai**	**0.58**	**234**	*e*P	Pb	19 17 18.6	+0.4
	baz=233						
CHGB				*e*S	Sn	19 17 27.1	-0.7
	baz=233						
TIPB	**Shuangxi**	**0.58**	**13**	*e*P	Pn	19 17 18.7	-0.2
	baz=12						
TIPB				*e*S	Sn	19 17 27.1	-0.5
	baz=12						
WLTB	**Daxi**	**0.59**	**319**	*e*P	Pn	19 17 18.8	-0.3
	baz=318						
WLTB				*e*S	Sn	19 17 27.5	-0.4
	baz=318						
TATO	**Taipei**	**0.60**	**343**	*e*P	Pb	19 17 18.6	+0.2
	baz=343						
TATO				*e*S	Sn	19 17 27.6	-0.3
	baz=343						
ESL	**Shilin**	**0.63**	**201**	*e*P	Pn	19 17 19.6	0.0
	baz=200						
ESL				*e*S	Sn	19 17 28.9	+0.2
	baz=200						
LIOB	**Emei**	**0.65**	**292**	*e*P	Pn	19 17 20.5	+0.5
	baz=291						
LIOB				*e*S	Sn	19 17 30.1	+0.7
	baz=291						
NSTT	**Nanjuang**	**0.66**	**290**	*e*P	Pb	19 17 19.7	+0.2
	baz=290						
NSTT				*e*S	Sn	19 17 29.8	+0.3
	baz=290						
TWB1	**Santiao Chiao**	**0.66**	**25**	*e*P	Pn	19 17 19.8	-0.3
	baz=25						
TWB1				*e*S	Sn	19 17 29.6	0.0
	baz=25						
WHP	**Taichung City**	**0.68**	**260**	*e*P	Pn	19 17 21.0	+0.6
	baz=259						
WHP				*e*S	Sn	19 17 30.2	0.0
	baz=259						
SBCB	**Hsinchu**	**0.74**	**302**	*e*S	Sb	19 17 30.7	0.0
	baz=301						
YM01	**YM01**	**0.75**	**352**	*e*P	Pb	19 17 21.1	+0.1
	baz=352						
YM01				*e*S	Sn	19 17 32.4	+0.7
	baz=352						

YM11	YM11	0.77	353	eP	Pb	19 17 21.4	+0.1
	baz=352						
YM11				eS	Sn	19 17 32.0	-0.3
	baz=352						
EGFH	Guangfu	0.77	198	eP	Pb	19 17 21.2	0.0
	baz=197						
EGFH				eS	Sn	19 17 32.0	-0.2
	baz=197						
DPDB	Guoxing	0.78	242	eP	Pb	19 17 21.5	0.0
	baz=241						
DPDB				eS	Sn	19 17 32.6	0.0
	baz=241						
VWDT	VWDT	0.81	218	eP	Pb	19 17 21.8	-0.2
	baz=217						
VWDT				eS	Sn	19 17 33.3	0.0
	baz=217						
SMLT	Sun Moon Lake	0.88	234	eS	Sn	19 17 35.5	+0.4
	baz=233						
TYC	Yuchr	0.90	237	eP	Pn	19 17 22.9	-0.5
	baz=236						
TYC				eS	Sn	19 17 36.5	+1.0
	baz=236						
SSLB	Suanglung	0.91	228	eP	Pn	19 17 23.5	+0.1
	baz=227						
SSLB				eS	Sn	19 17 37.2	+1.6
	baz=227						
HGSD	Ruisui	0.94	195	eP	Pb	19 17 25.0	+0.9
	baz=194						
HGSD				eS	Sn	19 17 37.8	+1.5
	baz=194						
WHYT	Xinyi Township	1.03	227	eP	Pn	19 17 25.1	-0.1
	baz=227						
WHYT				eS	Sb	19 17 41.3	+2.3
	baz=227						
YULB	Yu-li	1.07	199	eP	Pb	19 17 27.0	+0.7
	baz=199						
YULB				eS	Sn	19 17 39.4	-0.2
	baz=199						
ALS	Alishan	1.20	222	eS	Sb	19 17 43.6	-0.3
	baz=221						
WMLT	Mailiao	1.46	246	eP	Pn	19 17 31.3	+0.2
	baz=245						
WMLT				eS	Sn	19 17 47.9	-1.4
	baz=245						

JMA 01 19:17:33.2±0.1, 24.91N×123.39E, h27km±5km, M1.3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	Yonaguni jima	0.56	218	P	Pb	19 17 44.2	-0.4
YOJ				S	Sb	19 17 52.0	-0.3
JYNG	Yonagunijimaku	0.61	222	P	Pb	19 17 45.1	-0.2
JYNG				S	Sb	19 17 53.2	-0.4
IRIF	Iriomote-Funau	0.65	152	P	Pb	19 17 45.6	-0.4
IRIF				S	Sb	19 17 54.4	-0.3
JIJ	Ishigaki jima	0.88	128	P	Pn	19 17 49.0	-0.7
JIJ				S	Sb	19 17 59.8	-1.3
JKRS	Kuro-shima	0.88	140	P	Pn	19 17 49.5	-0.2
JKRS				S	Sb	19 18 01.0	-0.1
JISG	Ishigakijimahi	0.90	111	P	Pn	19 17 49.8	-0.2
JISG				S	Sb	19 18 01.1	-0.6
HATJ	Hateruma jima	0.93	156	P	Pn	19 17 50.2	-0.3
HATJ				eS	Sb	19 18 02.4	-0.3

*IDC **01** 19:19:19.2±0.6, 36.78N×137.41E, h252km±9km, mb3.1/7, mb1 3.2/10, mb1mx3.0/49, mbtmp3.7/10, Error ellipse: s-maj=38.7km s-min=12.9km az=72.0*
*JMA **01** 19:19:19.8±0.1, 36.68N×137.43E, h253km±2km, M2.9*
ISC 01 19:19:19.2±0.7, 36.80N±0.06×137.40E±0.07, h252km±6km, n27, σ1.40/35, mb3.3/7, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZ	Suzu	0.65	357	P	Pn	19 19 54.0	+1.2
JSZ				S	S	19 20 20.4	+1.1
MAT	Matsushiro	0.70	111	P	Pn	19 19 53.8	+0.7
MAT				S	S	19 20 20.7	+1.0
MAT	Matsushiro	0.70	111	P	Pn	19 19 53.8	+0.7
MJAR	Matsushiro Arr	0.70	112	P	Pn	19 19 54.1	+1.0
	2.5nm,0.3s,baz=275,slow=6.0,SNR=210						
MJAR				S	S	19 20 20.1	+0.4
	baz=300,slow=20,SNR=0.9						
JKG	Kaga	1.01	239	S	S	19 20 22.2	0.0
JHG	Hegura jima	1.11	340	P	Pn	19 19 56.6	+1.6
JYTA	Yamagatataniai	1.32	204	P	Pn	19 19 56.3	-0.2
JSD	Sado	1.41	29	P	Pn	19 19 58.7	+1.7
JSD				S	S	19 20 28.1	+1.2
JRY	Ryogami san	1.44	122	P	Pn	19 19 57.5	+0.1
JYN	Shimob	1.60	144	P	Pn	19 19 58.4	-0.2
JAG	Ashikaga	1.69	102	P	Pn	19 19 59.3	0.0
JNS	Sasagawa	1.83	56	P	Pn	19 20 01.9	+1.5
JOD2	Odawara 2	2.06	138	P	Pn	19 20 02.7	+0.3
JOD2				S	S	19 20 36.2	-0.3
JWT	Wachi	2.22	227	P	Pn	19 20 03.6	-0.3
JWT				S	S	19 20 37.0	-2.2
JIE	Ise	2.47	193	P	Pn	19 20 06.3	-0.1
JIE				S	S	19 20 42.5	-1.1
TK02	Tokai 2	2.86	174	P	Pn	19 20 10.2	0.0
JHJ	Hachijo jima 2	4.16	151	P	Pn	19 20 25.1	+0.1
	2.0nm,0.3s,baz=58,slow=17,SNR=2.1						
JHJ				S	S	19 21 17.5	+0.1
	16nm,0.3s,baz=326,slow=24,SNR=11						
ASAJ	Asahikawa	8.31	27	P	Pn	19 21 15.4	-0.8
	2.8nm,0.3s,baz=237,slow=9.7,SNR=34						
ASAJ				S	S	19 22 44.8	-5.9
	0.3nm,0.3s,baz=334,slow=30,SNR=1.7						
JCJ	Chichijima	10.49	156	P	Pn	19 21 38.4	-5.6
	2.7nm,0.3s,baz=4.8,slow=21,SNR=7.6						
JCJ				S	S	19 23 27.9	-14
	6.1nm,0.3s,baz=297,slow=22,SNR=6.1						
KLR	Kul'dur	13.09	343	P	Pn	19 22 15.0	-0.9
	0.1nm,0.3s,baz=183,slow=18,SNR=4.5						
ZALV	Zalesovo Beam	39.70	313	P	P	19 26 27.2	+0.3
	0.6nm,0.5s,baz=109,slow=9.1,SNR=2.5						
MKAR	Makanchi Array	41.51	302	P	P	19 26 41.2	-0.6
	0.6nm,0.6s,baz=88,slow=10,SNR=7.9						
WRA	Warramunga Arr	56.51	183	P	P	19 28 34.8	-0.6
	0.8nm,0.4s,baz=358,slow=7.8,SNR=5.2						
FINES	FINESS Array B	67.49	331	P	P	19 29 47.9	+0.2
	0.4nm,0.4s,baz=60,slow=7.5,SNR=6.4						
AKASG	Malin Array Be	72.47	321	P	P	19 30 18.2	0.0
	0.5nm,0.4s,baz=50,slow=6.9,SNR=4.5						
NOA	NORSAR Array B	73.12	336	P	P	19 30 22.0	+0.3
	0.3nm,0.7s,baz=39,slow=5.7,SNR=1.7						
GERES	GERESS Array B	81.16	326	P	P	19 31 08.0	+1.3
	0.2nm,0.5s,baz=38,slow=4.0,SNR=3.8						

*MAN **01** 19:21:21.5, 9.45N×127.14E, h22km, mb5.7, ML4.7, MS5.1*
*NEIC **01** 19:21:22.9±2.4, 9.40N±0.06×126.73E±0.09, h10km±1km, mb4.9/52, Error ellipse: s-maj=16.0km s-min=10.4km az=258.0*
*BJI **01** 19:21:23.8±0.0, 9.08N×126.71E, h38km, mB4.8/28, mb4.6/38, Ms4.3/21, Ms7 4.1/22*
*GCMT **01** 19:21:26.9±0.4, 9.46N±0.02×126.89E±0.02, h21km±1km, MW4.9/69, Moment Tensor Solution. s23,c24; s69,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.17±.17; $M_{\theta\theta}$-0.30±.09; $M_{\phi\phi}$-1.87±.11; $M_{r\theta}$-0.42±.15; $M_{\theta\phi}$0.65±.05; $M_{\phi r}$1.31±.16; Best double couple: $M_0$2.54300×10^{16} NP1:ϕ_s159.00000°,δ29.00000°,λ88.00000°. NP2: ϕ_s341.00000°,δ61.00000°,λ91.00000°. Principal axes: T 2.5750, Plg74.0000°, Azm254.0000°; N -0.0660, Plg1.0000°, Azm161.0000°; P -2.5100, Plg16.0000°, Azm70.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*KLM **01** 19:21:29.0, 9.66N×126.62E, h30km, mb4.9*
*IDC **01** 19:21:29.1±2.0, 9.32N×126.67E, h56km±18km, mb4.2/30, mb1 4.3/33, mb1mx4.3/45, mbtmp4.5/33, ML4.9/4, MS3.8/23, Ms1 3.8/23, ms1mx3.6/43, Error ellipse: s-maj=15.3km s-min=8.8km az=82.0*
*DJA **01** 19:21:29.1±0.5, 9°N±3°×12°7E±°, h57km±4km, M4.4/53, mb4.8/53, mB5.1/20, MLv4.1/2, Mw(mB)4.4/20, Mwp6.5/1*
ISC 01 19:21:29.5±1.0, 9.43N±0.03×126.73E±0.05, h60km±9km, n186, σ1.58/199, mb4.7/59, 7C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	1.27	286	⇑eP	Pn	19 21 49.0	-2.1
BIPH	Bislig	1.29	196	⇑iP	Pn	19 21 56.5	+5.2
BIPH				iS	Sn	19 22 12.7	+5.0
MSLP	Maasin	1.97	291	eP	Pn	19 21 59.7	-0.8
MSLP				eS	Sn	19 22 29.8	+5.6
CGP	Cagayan de Oro	2.23	244	⇑iP	Pn	19 22 03.1	-0.9
CGP				iS	Sn	19 22 34.1	+3.7
BUKP	Musuan	2.25	227	eP	Pn	19 22 03.3	-1.1
BUKP				eS	Sn	19 22 34.3	+3.2
MATI	Mati	2.51	191	eP	Pn	19 22 02.7	-5.1
MATI				eS	Sn	19 22 37.9	+0.6
DAV	Davao City (W)	2.60	206	P	Pn	19 22 07.9	-1.2
	58nm,0.3s,baz=55,slow=2.9,SNR=12						
DAV				LR	LR	19 23 16.7	
	comp=Z,5μm,19.7s,baz=58,slow=43						
DAV	Davao City (W)	2.60	206		Pn	19 22 08.8	-0.4
DMPH	Davao City--Mi	2.62	207	⇑eP	Pn	19 22 14.8	+5.3
DMPH				eS	Sn	19 22 44.3	+4.2
TBP	Tagbilaran	2.84	276	eP	Pn	19 22 11.8	-0.6
LLP	Lapu-Lapu	2.86	288	eP	Pn	19 22 12.1	-0.5
LLP				eS	Sn	19 22 51.6	+5.7
KCP	Kidapawan	2.90	214	⇓eP	Pn	19 22 11.8	-1.5
KCP				iS	Sn	19 22 45.9	-1.1
CTBH	Cotabato--PC H	3.29	228	⇑eP	Pn	19 22 15.4	-3.2
SNPH	Sibulan	3.44	269	eP	Pn	19 22 21.1	+0.4
DDMP	Don Marcelino,	3.45	197	eP	Pn	19 22 17.0	-3.8
DDMP				eS	Sn	19 23 05.0	+4.6
SKMP	Bagumbayan, Su	3.61	217	eP	Pn	19 22 19.6	-3.3
PAGZ	Pagadian	3.66	245	eP	Pn	19 22 22.8	-0.8
PAGZ				eS	Sn	19 23 01.1	-4.4
CNP	Catarman	3.67	327	eP	Pn	19 22 22.1	-1.7
CNP				eS	Sn	19 23 04.8	-1.2
GSPH	General Santos	3.76	208	⇓iP	Pn	19 22 26.8	+1.7
CNOP	Candoni, Negro	4.05	276	eP	Pn	19 22 28.2	-0.8
CNOP				eS	Sn	19 23 15.8	+0.6
GUIM	Jordan	4.25	287	eP	Pn	19 22 30.7	-0.9
RCP	Roxas	4.45	299	⇑eP	Pn	19 22 34.9	+0.4
PVCP	Virac	4.85	329	eP	Pn	19 22 38.0	-1.9
PVCP				eS	Sn	19 23 33.3	-1.5
JAP	San Jose, Anti	4.89	286	⇑eP	Pn	19 22 36.5	-3.9
CUYO	Cuyo Island	5.79	285	eP	Pn	19 22 52.4	-0.5
SJMP	San Jose	6.28	299	eP	Pn	19 22 59.7	+0.2
LQP	Lukban	6.89	313	eP	Pn	19 23 07.9	-0.2
PGP	Puerto Galera	6.96	306	⇓eP	Pn	19 23 11.2	+2.3
POLP	Polilio Island	7.05	319	eP	Pn	19 23 09.5	-0.5
TGY	Tagaytay City	7.33	310	P	Pn	19 23 14.8	+0.8
	71nm,0.3s,baz=9.3,slow=3.9,SNR=6.7						
TGY				LR	LR	19 26 19.0	
	comp=Z,643nm,20.4s,baz=130,slow=39						
ENPP	El Nido	7.40	284	eP	Pn	19 23 13.1	-1.7
LUBP	Lubang	7.66	305	eP	Pn	19 23 18.5	+0.1
TNTI	Ternate	8.62	176	P	Pn	19 23 32.6	+1.0
	838nm83nm,1.2s						
PALP	Palanan	8.67	332	eP	Pn	19 23 30.6	-1.7
CAUP	Cauayan	8.87	328	eP	Pn	19 23 32.6	-2.3
SMPP	San Manuel, Pa	8.91	319	eP	Pn	19 23 32.6	-3.0
KMSI	Cibinong	9.21	197	P	Pn	19 23 41.1	+1.4
	1μm71nm,0.8s						
APYP	Conner	9.93	328	eP	Pn	19 23 49.9	+0.4
LBMI	Labuha	10.03	176	P	Pn	19 23 48.4	-2.5
	1μm47nm,0.7s						
ABRA	Dolores	10.05	325	eP	Pn	19 23 51.0	-0.1
MRSI	Marisa	10.09	208	P	Pn	19 23 50.3	-1.4
	471nm52nm,1.0s						
SZP	Santa	10.12	324		Pn	19 23 51.5	-0.5
LUWI	Luwuk	11.12	201	P	Pn	19 24 06.9	+1.1
	1μm80nm,0.9s						
SIJI	Sorong	11.18	156	P	Pn	19 24 06.1	-0.6
	2.5nm,0.3s,baz=338,slow=12,SNR=13						
SIJI				S	Sn	19 25 59.6	-11
	0.5nm,0.3s,baz=80,slow=24,SNR=6.2						
SANI	Sanana	11.42	184	P	Pn	19 24 08.0	-1.9
	998nm37nm,0.9s						
NLAI	Namlea	12.59	178	P	Pn	19 24 21.5	-4.3
TTSI	Tana Toraja	14.17	209	P	Pn	19 24 49.3	+2.0
	502nm40nm,0.9s						
TWG	Pinlang	14.38	339	P	Pn	19 24 52.1	+2.2
YULB	Yu-li	14.83	340		Pn	19 24 52.7	-3.1
TPUB	Ta-pu	14.98	338	Pn	Pn	19 24 57.4	-0.4
TPUB				IAmb	IAmb	19 25 07.4	
	comp=Z,32nm,0.8s						
SPSI	Sidrap Palu	15.00	208	P	Pn	19 24 59.5	+1.5
	comp=Z,536nmcomp=Z,42nm,0.9s						
BNSI	Bone	15.24	206	P	P	19 25 02.8	-2.0
	comp=Z,196μmcomp=Z,3μmcomp=Z,55nm,1.3s						
SBUM	Sibu	16.00	245	P	P	19 25 12.0	-1.3
KBKI	Kotabaru	16.45	220	P	P	19 25 18.5	+0.2
	comp=Z,40nm,0.8s						
QZH	Quanzhou	17.27	334	⇓iP	P	19 25 28.9	+1.7
QZH				S	S	19 28 46.5	+2.7
QZH				pmax	pmax		
	comp=Z,140nm,5.9s						
QZH				LR	LR		
	comp=Z,340nm,17.5s						
QZH				LR	LR		
	comp=Z,290nm,17.5s						
QZH				LR	LR		
	comp=Z,580nm,14.2s						
GENI	Genyem	17.94	131	P	P	19 25 34.7	-0.1
	comp=Z,957nmcomp=Z,28nm,0.8s						
KSM	Kuching	18.14	245		Pn	19 25 38.2	+0.9
KSM				IAmb	IAmb	19 25 42.2	
	comp=Z,65nm,1.1s						
JAY	Jayapura	18.30	130	P	Pn	19 25 39.5	+0.3
	comp=Z,0.2nm,0.3s,baz=310,slow=13,SNR=4.5						
JAY				LR	LR	19 32 11.7	
	comp=Z,487nm,19.2s,baz=245,slow=35						
MMRI	Maumere	18.49	194	P	Pn	19 25 43.0	+1.4
	comp=Z,989nmcomp=Z,94nm,1.2s						
MMRI	Maumere	18.49	194	Pn	Pn	19 25 42.9	+1.4
MMRI				IAmb	IAmb	19 25 52.4	
	comp=Z,70nm,0.8s						
EDFI	Ende, Flores	18.74	196	P	Pn	19 25 44.9	+0.2
	comp=Z,17nm,0.8s						
QIZ	Qiongzhong	18.93	302	P	P	19 25 43.6	-2.0
QIZ				S	S	19 29 18.4	+0.7
QIZ				LR	LR		
	comp=Z,200nm,15.7s						
QIZ				LR	LR		
	comp=Z,280nm,17.7s						
QIZ				LR	LR		
	comp=Z,290nm,17.7s						
SOEI	Soe	19.21	187	P	Pn	19 25 49.3	-1.0
	comp=Z,2μmcomp=Z,114nm,0.8s						
SOEI	Soe	19.21	187	P	Pn	19 25 50.3	-0.1
SOEI				IAmb	IAmb	19 26 00.6	
	comp=Z,70nm,0.9s						
BATI	Baumata	19.74	189	P	P	19 25 54.0	-0.5
	comp=Z,13nm,0.3s,baz=192,slow=1.1,SNR=22						
BATI				LR	LR	19 33 39.8	
	comp=Z,165nm,18.9s,baz=66,slow=37						
BATI	Baumata	19.74	189	P	P	19 25 54.7	+0.2
	comp=Z,1μmcomp=Z,113nm,1.1s						
PLAI	Plampang	20.20	206	P	Pn	19 26 01.3	-0.6
	comp=Z,104nm,0.9s						
TPI	Tanjungpandan	22.53	238	P	P	19 26 26.1	+1.5
	comp=Z,22nm,1.1s						
MTN	Manton Dam	22.55	169	P	P	19 26 24.8	0.0
MTN				IAmb	IAmb	19 26 38.7	
	comp=Z,33nm,0.8s						
JCJ	Chichijima	22.85	38	LR	LR	19 35 42.4	
	comp=Z,215nm,18.3s,baz=92,slow=37						
TPRI	Tanjung Pinang	23.65	250	P	P	19 26 36.3	+0.6
	comp=Z,28nm,1.2s						
JNU	Nakatsue	23.89	9	P	P	19 26 38.2	+0.5
	comp=Z,28nm,0.9s,baz=162,slow=1.4,SNR=12						
JNU				LR	LR	19 37 10.9	
	comp=Z,146nm,18.1s,baz=188,slow=39						
JNU	Nakatsue	23.89	9	P	P	19 26 37.4	-0.3
JNU				IAmb	IAmb	19 26 42.2	
	comp=Z,31nm,0.9s						
WHN	Wuhan	23.97	333	P	P	19 26 38.2	-0.2
WHN				LR	LR		
	comp=Z,630nm,15.0s						
MYKOM	Kota Tinggi	23.98	253	P	P	19 26 37.1	-1.6
MYKOM	Kota Tinggi	23.98	253	P	P	19 26 41.0	+2.3
SLVN	Son La	24.94	301	P	P	19 26 47.9	+0.4
LEM	Lembang	24.96	230	P	P	19 26 46.8	-1.0
	comp=Z,8.4nm,0.5s,baz=353,slow=22,SNR=1.9						
KNRA	Kununurra	25.02	175	P	P	19 26 47.1	-0.9
DBJI	Dramaga	25.46	232	P	P	19 26 51.6	-0.5
	comp=Z,26nm,0.9s						
IPM	Ipoh	25.97	261	P	P	19 26 58.3	+1.5
IPM				IAmb	IAmb	19 27 00.1	
	comp=Z,32nm,0.9s						
JHJ	Hachijo jima 2	26.48	25	LR	LR	19 37 10.3	
	comp=Z,208nm,19.6s,baz=275,slow=35						
LWLI	Liwa	26.76	238	P	P	19 27 04.0	0.0
	comp=Z,98nm,0.9s						
FITZ	Fitzroy Crossi	27.37	182	P	P	19 27 08.3	-0.9
	comp=Z,8.3nm,0.4s,baz=4.4,slow=8.4,SNR=25						
FITZ	Fitzroy Crossi	27.37	182	P	P	19 27 08.2	-1.0
FITZ				IAmb	IAmb	19 27 21.6	
	comp=Z,26nm,1.1s						
KSRS	Korea Array	27.93	2	P	P	19 27 14.5	+0.5
	comp=Z,5.4nm,0.8s,baz=171,slow=9.9,SNR=14						
KSRS				PcP	PcP	19 30 28.4	+0.1
	comp=Z,1.2nm,0.9s,baz=202,slow=2.6,SNR=4.0						
KSRS				LR	LR	19 39 57.5	
	comp=Z,214nm,19.0s,baz=174,slow=40						
MNSI	Mandailing Nat	28.34	254	P	P	19 27 18.5	+0.5
	comp=Z,17nm,0.6s						
CMAR	Chiang Mai Arr	28.38	291	P	P	19 27 18.3	-0.1
	comp=Z,4.0nm,0.8s,baz=102,slow=7.3,SNR=15						
CMAR				PcP	PcP	19 30 31.6	+1.8
	comp=Z,0.2nm,0.4s,baz=119,slow=1.6,SNR=3.1						
CMAR				LR	LR	19 39 41.6	
	comp=Z,143nm,18.8s,baz=206,slow=38						
PSI	Prapat	28.40	258	P	P	19 27 18.6	-0.1
	comp=Z,15nm,0.9s,baz=2.0,slow=2.1,SNR=9.7						
MJAR	Matsushiro Arr	28.94	19	P	P	19 27 22.5	-0.6
	comp=Z,3.5nm,0.9s,baz=197,slow=9.0,SNR=16						
MJAR				PcP	PcP	19 30 31.5	+0.6
	comp=Z,1.4nm,0.9s,baz=202,slow=3.9,SNR=5.1						
MJAR				LR	LR	19 39 07.1	
	comp=Z,156nm,19.6s,baz=205,slow=36						
KCSI	Kotacane, Aceh	29.35	260	P	P	19 27 27.3	+0.3
	comp=Z,19nm,1.2s						
XAN	Xi'an	29.45	329	P	P	19 27 26.1	-1.7
XAN				pmax	pmax		
	comp=Z,16nm,0.7s						
XAN				pmax	pmax		
	comp=Z,76nm,6.3s						
XAN				LR	LR		
	comp=Z,290nm,20.6s						
XAN				LR	LR		
	comp=Z,230nm,20.6s						
XAN				LR	LR		
	comp=Z,390nm,17.3s						
WB0	Warramunga Arr	29.98	165	P	P	19 27 30.4	-2.0
GSI	Gunungsitoli	30.10	256	P	P	19 27 33.3	-0.3
	comp=Z,263nm,1.1s						
GSI	Gunungsitoli	30.10	256	P	P	19 27 33.4	-0.3
WRA	Warramunga Arr	30.13	166	P	P	19 27 31.5	-2.3
	comp=Z,4.4nm,1.0s,baz=346,slow=9.1,SNR=14						
WB2	Warramunga Arr	30.13	166	P	P	19 27 31.8	-2.0
WR0	Warramunga Arr	30.20	165	P	P	19 27 32.3	-2.1
PSA00	Pilbara Seismi	31.54	192	P	P	19 27 45.1	-1.0
BJT	Baijiatuau	31.88	345	P	P	19 27 48.9	-0.1
BJT				IAmb	IAmb	19 27 51.0	
	comp=Z,16nm,1.0s						
AS31	Alice Springs	33.63	168	P	P	19 28 03.0	-1.5
ASAR	Alice Springs	33.63	168	P	P	19 28 02.7	-1.8
	comp=Z,2.1nm,0.5s,baz=351,slow=6.8,SNR=24						
ASAR				PcP	PcP	19 30 43.2	-0.5
	comp=Z,1.7nm,0.9s,baz=351,slow=2.3,SNR=4.8						
ASAR				LR	LR	19 43 46.1	
	comp=Z,66nm,18.1s,baz=343,slow=40						
USRK	Ussuriysk Ar.	34.94	7	P	P	19 28 15.6	0.0
	comp=Z,5.7nm,0.8s,baz=202,slow=8.3,SNR=10						
USRK				LR	LR	19 43 03.9	
	comp=Z,75nm,18.7s,baz=184,slow=37						
CTA	Charters Tower	35.07	147	P	P	19 28 14.8	-2.1
	comp=Z,4.4nm,0.9s,baz=309,slow=9.9,SNR=5.8						
SHL	Shillong	36.75	300	P	P	19 28 30.4	-1.1
SHL				IAmb	IAmb	19 28 34.1	
	comp=Z,27nm,0.9s						
ASAJ	Asahikawa	37.21	19	P	P	19 28 37.3	+2.3
	comp=Z,20nm,1.0s,baz=216,slow=12,SNR=8.7						
GTA	Gaotai	38.33	326	eP	P	19 28 43.8	-0.9
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,46nm,6.8s						
GTA				LR	LR		
	comp=Z,170nm,20.0s						
GTA				LR	LR		
	comp=Z,140nm,17.8s						
GTA				LR	LR		
	comp=Z,150nm,16.5s						
MORW	Morawa	39.63	195	P	P	19 28 55.2	-0.3
MORW				IAmb	IAmb	19 28 58.8	
	comp=Z,20nm,0.9s						
KLR	Kul'dur	39.90	5	P	P	19 28 58.8	+1.3
	comp=Z,4.3nm,0.7s,baz=204,slow=5.1,SNR=16						
FORT	Forrest	39.99	178	P	P	19 28 57.8	-0.7
FORT				IAmb	IAmb	19 29 16.3	
	comp=Z,26nm,0.8s						
TAPN	Taplejung	40.87	301	eP	P	19 29 05.2	-1.0
	comp=Z,41nm,0.9s						
ODAN	Odare	40.99	300	eP	P	19 29 06.2	-0.9
	comp=Z,57nm,0.8s						
RAMN	Ramite	41.69	300	eP	P	19 29 12.3	-0.5
	comp=Z,38nm,0.8s						
EIDS	Eidsvold	41.94	146	P	P	19 29 13.5	-1.0
SONM	Songino Array	41.96	340	P	P	19 29 15.5	+0.9
	comp=Z,2.0nm,0.5s,baz=145,slow=11,SNR=4.6						
JIRN	Jiri	42.25	301	eP	P	19 29 16.7	-0.8
	comp=Z,54nm,0.6s						
GUN	Gumba	42.58	301	eP	P	19 29 19.4	-0.9
	comp=Z,92nm,0.9s						
PKI	Pulchoki	42.88	301	eP	P	19 29 21.2	-1.5
	comp=Z,16nm,0.7s						
PKIN	Phulchoki	42.89	301	eP	P	19 29 21.2	-1.5
	comp=Z,16nm,0.7s						
NWAO	Narrogin (SRO)	43.08	192	P	P	19 29 23.8	+0.2
NWAO				IAmb	IAmb	19 29 35.6	
	comp=Z,21nm,0.9s						
NWAO	Narrogin (SRO)	43.08	192	P	P	19 29 23.8	+0.2
NWAO				IAmb	IAmb	19 29 35.6	
	comp=Z,18nm,0.9s						
DMN	Daman	43.15	300	eP	P	19 29 23.5	-1.2
	comp=Z,16nm,0.7s						
STKA	Stephens Creek	43.46	161	P	P	19 29 26.1	-0.7
	comp=Z,3.1nm,0.6s,baz=326,slow=8.4,SNR=7.3						
STKA				PP	PP	19 31 09.7	+0.7
	comp=Z,7.2nm,1.1s,baz=338,slow=14,SNR=3.3						
STKA				LR	LR	19 49 27.9	
	comp=Z,71nm,20.3s,baz=330,slow=39						
STKA	Stephens Creek	43.46	161	P	P	19 29 26.2	-0.6
GKN	Gorkha	43.66	301	eP	P	19 29 27.2	-1.5
	comp=Z,22nm,0.7s						
KOLN	Koldanda	44.48	300	eP	P	19 29 34.4	-0.9
	comp=Z,44nm,0.7s						
DANN	Dangsing	44.50	301	eP	P	19 29 34.3	-1.3
	comp=Z,43nm,0.7s						
PYUN	Piuthan	45.09	300	eP	P	19 29 39.3	-0.9
TLY	Talaya	46.17	340	P	P	19 29 49.7	+1.5
TLY				IAmb	IAmb	19 29 57.0	
	comp=Z,7.0nm,0.8s						
HYB	Hyderabad	47.42	285	iP	P	19 29 58.0	-0.4
PETK	Petropavlovsk-	50.22	24	P	P	19 30 21.1	+1.8
	comp=Z,5.0nm,0.9s,baz=196,slow=4.8,SNR=7.5						
PETK				LR	LR	19 51 51.5	
	comp=Z,108nm,19.4s,baz=241,slow=36						
YAK	Yakutsk	52.55	2	P	P	19 30 38.0	+1.5
YAK				IAmb	IAmb	19 30 44.0	
	comp=Z,13nm,0.8s						
MK31	Makanchi Array	52.97	323	P	P	19 30 38.9	-1.1
MKAR	Makanchi Array	52.97	323	P	P	19 30 39.6	-0.3
	comp=Z,6.8nm,0.8s,baz=124,slow=7.6,SNR=36						
MKAR				LR	LR	19 52 32.6	
	comp=Z,98nm,20.1s,baz=124,slow=35						
MAKZ	Makanchi	53.16	323	P	P	19 30 41.2	-0.2
MAKZ				IAmb	IAmb	19 30 43.5	
	comp=Z,9.0nm,0.9s						
KZA	Kyzart	55.52	315	P	P	19 30 59.9	+0.9
	SNR=13						
ZAA0	Zalesovo Array	55.58	331	P	P	19 30 57.1	-1.6
ZALV	Zalesovo Beam	55.58	331	P	P	19 30 58.1	-0.6
	comp=Z,4.3nm,0.7s,baz=120,slow=6.8,SNR=12						
ZALV				LR	LR	19 56 47.2	
	comp=Z,75nm,18.9s,baz=108,slow=38						
TKM2	Tokmak 2	55.58	316	P	P	19 30 59.1	-0.1
	SNR=8.0						
KBK	Karagaybulak	55.93	316	P	P	19 31 02.2	+0.5
	SNR=10						
UCH	Uchtor	56.08	315	P	P	19 31 03.7	+0.6
	SNR=28						
CHMS	Chumysh	56.19	316	P	P	19 31 03.3	-0.1
	SNR=11						
AAK	Ala-Archa	56.24	315	P	P	19 31 03.5	-0.4

USP Ospenovka 56.45 316 P P 19 31 05.0 -0.2
SNR=7.8
AML Almayashu 56.62 315 P P 19 31 07.3 +0.4
SNR=19
EKS2 Erkin-Say 56.74 315 P P 19 31 07.7 +0.2
SNR=13
KURK Kurchatov 57.01 326 P P 19 31 08.2 -0.8
GAR Garm 58.17 310 P P 19 31 17.3 -0.3
KBL Kabul 58.18 305 P P 19 31 16.5 -1.3
KBL IAmb IAmb 19 31 20.9
comp=Z,12nm,0.8s
CHGR Chuyangaron 58.97 310 P P 19 31 21.8 -1.3
KK31 Karatay Array 59.16 315 P P 19 31 24.5 +0.3
KK31 IAmb IAmb 19 31 25.9
comp=Z,9.9nm,0.8s
TIXI Tiksi 62.18 1 P P 19 31 45.7 +1.5
BRVK Borovoye 62.68 326 P P 19 31 48.3 +0.3
BILL Bilibino 64.09 15 P P 19 31 58.2 +1.3
BILL IAmb IAmb 19 32 01.5
comp=Z,5.7nm,0.9s
NRIK Noril'sk 64.94 346 P P 19 32 03.5 +1.0
comp=Z,19nm,0.9s,baz=132,slow=7.0,SNR=23
NRIK LR LR 20 04 27.8
comp=Z,69nm,18.1s,baz=156,slow=40
THZ Tophouse 66.22 144 P P 19 32 10.9 -0.4
RPZ Rata Peaks 66.44 146 P P 19 32 13.5 +1.0
BKZ Black Stump Fm 66.85 140 P P 19 32 16.0 +0.7
GEYT Alibeck 67.41 307 P P 19 32 19.3 +0.4
comp=Z,2.3nm,0.8s,baz=141,slow=5.0,SNR=6.3
GEYT LR LR 20 06 31.0
comp=Z,70nm,19.5s,baz=100,slow=40
UOSS Minazif 68.47 293 P P 19 32 23.7 -2.2
UOSS IAmb IAmb 19 32 36.9
comp=Z,8.8nm,1.1s
ARU Arti 70.17 327 P P 19 32 35.2 -0.5
ARU IAmb IAmb 19 32 39.5
comp=Z,14nm,1.0s
TTA Tatalina 75.86 27 P P 19 33 08.6 -0.7
CASY Casey 76.44 187 P P 19 33 12.4 +0.2
CASY IAmb IAmb 19 33 25.7
comp=Z,8.6nm,0.8s
RAYN Ar Rayn 78.30 292 P P 19 33 22.5 -1.3
RAYN IAmb IAmb 19 33 24.9
comp=Z,8.7nm,0.8s
KBZ Khabaz 79.11 313 P P 19 33 27.1 -0.6
comp=Z,2.1nm,0.7s,baz=80,slow=5.4,SNR=3.6
KBZ LR LR 20 13 12.2
comp=Z,75nm,18.4s,baz=124,slow=39
CCB Clear Creek Bu 79.61 26 P P 19 33 29.4 -0.6
HDA Harding Lake 79.98 26 P P 19 33 31.5 -0.5
ILAR Eielson Array 80.00 26 P P 19 33 32.8 +0.6
comp=Z,1.6nm,0.9s,baz=241,slow=6.3,SNR=15
ILAR LR LR 20 09 19.5
comp=Z,20nm,20.2s,baz=284,slow=36
KLMR Klimovskoe 80.48 330 *e*P P 19 33 33.8 -0.9
KLMR AMP 19 33 36.6
comp=Z,27nm,0.9s
RIDG Independent Ri 80.92 27 P P 19 33 38.5 +1.3
RIDG IAmb IAmb 19 33 43.0
comp=Z,9.9nm,1.0s
SPA0 Spitsbergen Ar 84.93 349 P P 19 33 58.5 +0.9
ARCES ARCESS Array B 85.14 340 P P 19 33 59.1 +0.3
comp=Z,6.8nm,0.6s,baz=76,slow=5.6,SNR=21
BRTR Keskin Array B 86.41 310 P P 19 34 05.7 -0.2
comp=Z,0.7nm,0.8s,baz=142,slow=6.3,SNR=4.1
FIA1 FINESS Array S 86.84 332 P P 19 34 07.6 +0.4
FIA1 IAmb IAmb 19 34 11.8
comp=Z,9.4nm,1.0s
FINES FINESS Array B 86.84 332 P P 19 34 07.3 0.0
comp=Z,5.3nm,0.9s,baz=58,slow=4.7,SNR=12
FINES LR LR 20 17 16.7
comp=Z,96nm,18.9s,baz=50,slow=38
PPT Papeete 86.88 108 LR LR 20 11 09.6
comp=Z,40nm,18.8s,baz=200,slow=34
AKASG Malin Array Be 87.50 321 P P 19 34 10.3 -0.4
comp=Z,1.8nm,0.8s,baz=66,slow=4.5,SNR=5.2
AKASG LR LR 20 14 02.9
comp=Z,30nm,21.1s,baz=175,slow=36
VNDA Vanda 89.04 173 P P 19 34 17.6 +0.2
comp=Z,1.5nm,0.7s,baz=326,slow=6.4,SNR=12
DAG Danmarks Havn 91.64 352 *i* P P 19 34 30.0 +0.4
comp=Z,12nm,1.1s
NB2 NORSAR Subarra 93.71 334 P P 19 34 38.4 -1.1
comp=Z,5.5nm,1.4s,baz=66,slow=4.8
NOA NORSAR Array B 93.71 334 P P 19 34 39.2 -0.3
comp=Z,0.9nm,0.7s,baz=64,slow=4.6,SNR=5.6
YKA Yellowknife Ar 94.34 24 P P 19 34 43.9 +1.6
comp=Z,3.1nm,1.1s,baz=295,slow=4.3,SNR=11
GERES GERESS Array B 97.63 322 P P 19 34 58.0 +0.2
comp=Z,0.3nm,0.6s,baz=57,slow=4.9,SNR=4.5
TXAR Lajitas Array 118.03 50 PKP PKiKP 19 40 12.1 +1.6
comp=Z,0.7nm,0.9s,baz=349,slow=2.1,SNR=4.8
TORD Torodi Ar. Bea 120.99 291 PKP PKPdf 19 40 16.2 0.0
comp=Z,0.7nm,0.7s,baz=63,slow=2.2,SNR=3.1
PLCA Paso Flores 145.26 157 PKPbc PKPbc 19 41 00.1 -0.5
comp=Z,6.2nm,0.9s,baz=163,slow=6.2,SNR=5.5

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*TUL **01** 19:54:18.3±1.1, 35.°50N±0.°01×97.°24W±0.°01, h5km±5km, ML3.6, Mwr3.6/24(NEIC), Error ellipse: s-maj=1.7km s-min=1.5km az=193.0*
*IDC **01** 19:54:18.1±1.1, 35.°51N×97.°37W, h0km, mb3.3/1, mb1 3.7/5, mb1mx3.4/44, mbtmp3.3/5, ML3.9/3, Error ellipse: s-maj=16.2km s-min=12.4km az=163.0*
*UNK **01** 19:54:18.4, 35.°50N×97.°24W, h10km*
*NEIC **01** 19:54:18.3, 35.°50N×97.°24W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.71; $M_{\theta\theta}$2.79; $M_{\phi\phi}$-2.08; $M_{r\theta}$-0.71; $M_{\theta\phi}$-1.65; $M_{\phi r}$-1.93; Fault plane solution: $M_0$3.64000×10^{14} NP1:ϕ_s326.99000°, δ66.08000°, λ-23.05000°. NP2:ϕ_s66.78000°, δ69.03000°, λ-154.26000°. Principal axes: T 3.2959, Plg2.0000°, Azm196.0000°; N 0.6045, Plg57.0000°, Azm103.0000°; P -3.9004, Plg33.0000°, Azm288.0000°;*
*ANF **01** 19:54:18.9±0.4, 35.°52N×97.°25W, h10km, ML4.7/17 Error ellipse: s-maj=4.3km s-min=2.8km az=162.0*
*NEIC **01** 19:54:18.6±1.0, 35.°51N±0.°01×97.°233W±0.°009, h7km±4km, Error ellipse: s-maj=2.1km s-min=1.0km az=187.0*
ISC 01 19:54:18.7±0.8, **35.°53N**±0.°02×**97.°21W**±0.°02, **h11**km±5km, **n70**, σ1**§99**/109, **Oklahoma**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
OK001 Jones High Sch 0.07 297 Pg Pg 19 54 20.4 -0.8
OK001 Sg Sg 19 54 22.0 -1.0
OK005 Luther M Schoo 0.13 7 Pg 19 54 22.0 +0.1
ADOK Arcadia Dam 0.18 313 Pg Pg 19 54 22.4 -0.3
ADOK Sg Sg 19 54 24.7 -0.8
OK009 Oakdale Elemen 0.18 287 Pg 19 54 22.1 -0.6
OK009 Sg Sg 19 54 25.0 -0.5
OKCSW OKLAHOMA CITY 0.22 236 Pg 19 54 22.3 -1.1
OKCSW Sg Sg 19 54 25.3 -1.3
OKCFA Oklahoma City 0.23 240 Pg 19 54 22.4 -1.1
OKCFA Sg Sg 19 54 25.5 -1.2
FNO Franklin 0.31 210 Pg 19 54 24.2 -0.8
FNO Sg Sg 19 54 28.4 -0.8
W35A Tecumseh 0.47 144 Pg 19 54 27.1 -0.7
W35A Sg Sg 19 54 33.5 -0.5
X34A Smith Ranch, M 1.06 209 Pg Pg 19 54 37.8 -1.2
X34A Sg Sb 19 54 52.5 -0.3
TUL1 Leonard 1.22 71 P Pb 19 54 40.4 -1.3
baz=251,SNR=38
TUL1 S Sg 19 54 57.7 -0.2
baz=251
TUL1 Leonard 1.22 71 Pg Pb 19 54 40.6 -1.1
T35A Sooner Cattle 1.50 22 Pn 19 54 45.5 0.0
WMOK Wichita Mounta 1.51 239 P Pn 19 54 44.6 -1.0
baz=58
WMOK S Sn 19 55 04.6 -0.7
baz=58
U32A Winter Ranch, 1.68 301 Pn 19 54 48.4 +0.3
X37A Clayton 1.78 121 Pn 19 54 50.0 +0.7
Z35A Perchaven, San 2.19 181 Pn 19 54 55.2 +0.1
HHAR Hobbs 2.76 73 Pn 19 55 03.6 +0.8
W39A Magazine 2.82 96 Pn Pn 19 55 04.1 +0.4
baz=277,SNR=17
W39A Pb Pb 19 55 10.4 +1.4
baz=277
W39A Sn Sn 19 55 39.3 +1.7
baz=277
W39A Sb Sg 19 55 47.6 -1.7
baz=277
W39A Magazine 2.82 96 Pn 19 55 04.1 +0.4
Z38A Mt. Pleasant 2.92 140 Pn Pn 19 55 05.2 +0.2
MIAR Mount Ida 3.14 107 Pn Pn 19 55 09.4 +1.4
baz=289,SNR=29
MIAR Pb Pb 19 55 16.5 +2.0
baz=289
MIAR Sn Sn 19 55 47.9 +2.4
baz=289
MIAR Sb Sg 19 55 59.0 -0.6
baz=289
MIAR Mount Ida 3.14 107 Pn Pn 19 55 09.0 +0.9
ABTX Abilene, Hawle 3.53 216 Pn Pn 19 55 14.7 +1.2
baz=34,SNR=70
ABTX Pb Pb 19 55 22.6 +1.4
baz=34
ABTX Abilene, Hawle 3.53 216 Pn Pn 19 55 14.8 +1.3
WHTX Lake Whitney, 3.53 183 P Pn 19 55 13.8 +0.3
baz=2.9,SNR=35
WHTX Sb Sb 19 56 05.8 +1.7
baz=2.9
WHTX Lake Whitney, 3.53 183 Pn Pn 19 55 13.6 +0.1
KSU1 Kansas State U 3.60 7 Pn Pn 19 55 14.8 +0.4
baz=188,SNR=10
KSU1 Pb Pb 19 55 23.1 +0.8
baz=188
KSU1 Sn Sn 19 55 58.5 +1.6
baz=188
KSU1 Sb Sg 19 56 12.7 -1.6
baz=188
KSU1 Kansas State U 3.60 7 Pn Pn 19 55 14.4 0.0
U40A Yellville 3.63 76 P Pn 19 55 15.3 +0.5
baz=258,SNR=6.8
U40A Sb Sg 19 56 12.2 -3.1
baz=258
U40A Yellville 3.63 76 Pn Pn 19 55 15.4 +0.6
237A Washetta, Mont 3.71 161 Pn 19 55 16.0 +0.2
AMTX Amarillo 3.72 261 Sb Sb 19 56 11.2 +1.7
baz=79
AMTX Amarillo 3.72 261 Pn Pn 19 55 17.0 +0.9
X40A Basin Creek Fa 3.74 105 Pn Pn 19 55 17.0 +0.7
baz=287,SNR=9.2
X40A Pb Pb 19 55 26.9 +2.2
baz=287
X40A Sb Sg 19 56 15.9 -2.9
baz=287
X40A Basin Creek Fa 3.74 105 Pn 19 55 16.5 +0.2
WLAR White Oak Lake 3.85 117 Pn Pn 19 55 17.5 -0.3
CBKS Cedar Bluff 3.85 329 Pn Pn 19 55 18.9 +1.0
baz=148
CBKS Pb Pb 19 55 27.8 +1.2
baz=148,SNR=9.4
CBKS Sb Sg 19 56 19.6 -2.8
baz=148
WHAR Wooly Hollow 4.03 92 Pn 19 55 21.0 +0.7
UALR University of 4.06 99 Pn Pn 19 55 21.1 +0.4
W41B Gary Mavity, V 4.07 94 P Pn 19 55 21.7 +0.8
baz=276,SNR=13
W41B Sn Sn 19 56 09.8 +1.3
baz=276
W41B Sb Sg 19 56 25.3 -4.2
baz=276
FCAR Ozark Folk Cen 4.16 84 Pn 19 55 21.9 -0.1
Z41A Richland Creek 4.29 121 P Pn 19 55 23.8 -0.1
baz=303,SNR=5.6
Z41A S Sn 19 56 14.2 +0.3
baz=303
NATX Nacogdoches 4.32 150 S Sn 19 56 14.3 -0.3
baz=331
435B Jarrell 4.74 184 Pn Pn 19 55 31.2 +1.1
baz=3.4
435B Pb Pb 19 55 42.9 +1.1
baz=3.4
435B Sb Sb 19 56 44.3 +5.3
baz=3.4
R40A Maddies Statio 4.83 54 Pn 19 55 31.3 +0.1
MSTX Muleshoe 4.83 253 Sn Sn 19 56 31.1 +3.6
baz=70
MSTX Sb Sb 19 56 47.0 +5.4
baz=70
X43A Marvell 5.29 99 Sb Sg 19 57 04.4 -4.2
baz=282
CCM Cathedral Cave 5.41 60 P Pn 19 55 41.5 +2.2
baz=244
CCM S Sn 19 56 42.8 +1.3
baz=244
JCT Junction City 5.49 204 Pn Pn 19 55 40.2 -0.2
baz=22
JCT Pb Pb 19 55 55.9 +1.4
baz=22
JCT Sb Sg 19 57 07.4 -7.5
baz=22
KSCO Kaye Shedlock' 5.54 310 P Pn 19 55 41.8 +0.6
baz=128,SNR=8.0
BGNE Belgrade 5.92 353 S Sn 19 56 51.4 -2.6
baz=173
T25A Trinidad 6.03 288 Pn Pn 19 55 49.6 +1.6
baz=104
T25A Pb Pb 19 56 07.9 +4.0
baz=104
T25A Sb Sg 19 57 24.9 -7.4
baz=104
OXF Oxford 6.48 97 P Pn 19 55 53.6 -0.4
baz=281,SNR=7.2
OXF S Sn 19 57 06.5 -1.4
baz=281
OGNE Ogallala 6.61 326 P Pn 19 55 57.0 +1.3
baz=144
OGNE S Sn 19 57 10.1 -1.0
baz=144
SDCO Great Sand Dun 7.02 291 P Pn 19 56 02.4 +0.7
baz=106
SCIA State Center 7.09 25 S Sn 19 57 22.5 -0.4
baz=207
833A Chaparral WMA, 7.42 195 P Pn 19 56 08.3 +1.4
baz=14
ANMO Albuquerque 7.59 268 Pn Pn 19 56 09.8 +0.5
0.1nm,0.3s,baz=83,slow=15,SNR=2.3
ANMO Lg Lg 19 58 12.8
3.5nm,0.3s,baz=1.6,slow=17,SNR=6.1
WVT Waverly 7.64 83 S Sn 19 57 33.6 -2.9
baz=268
MNTX Cornudas Mount 7.81 243 P Pn 19 56 13.6 +1.3
baz=58
ISCO Idaho Springs 7.91 305 P Pn 19 56 14.3 +0.5
baz=120
HDIL Hopedale 8.01 49 S Sn 19 57 41.9 -3.6
baz=234
ECSD EROS Data Cent 8.21 3 P Pn 19 56 16.0 -1.6
baz=184,SNR=12
ECSD S Sn 19 57 45.9 -4.5
baz=184
TXAR Lajitas Array 8.24 223 Pn Pn 19 56 16.1 -2.2
0.4nm,0.3s,baz=59,slow=12,SNR=16
TXAR Lg Lg 19 58 31.2
4.1nm,0.3s,baz=38,slow=43,SNR=6.8
N23A Red Feather La 8.71 311 P Pn 19 56 26.8 +2.0
baz=126,SNR=14
JFWS Jewell Farm 9.14 34 S Sn 19 58 10.9 -2.3
baz=218
TKL Tuckaleechee C 10.94 85 Pn Pn 19 56 55.5 +0.3
0.1nm,0.3s,baz=241,slow=19,SNR=1.8
TKL Lg Lg 20 00 02.1
1.9nm,0.3s,baz=93,slow=12,SNR=6.2
PDAR Pinedale Array 12.00 311 Pn Pn 19 57 10.5 +0.7
0.2nm,0.3s,baz=106,slow=16,SNR=4.6
PDAR Pg 19 57 56.1
0.4nm,0.3s,baz=110,slow=18,SNR=4.7
PDAR Lg Lg 20 00 28.6
0.4nm,0.3s,baz=122,slow=24,SNR=2.5
ULM Lac du Bonnet 14.74 3 Lg Lg 20 01 55.4
0.4nm,0.3s,baz=114,slow=17,SNR=1.5
ILAR Eielson Array 41.50 330 P P 20 02 06.8 +1.3
0.3nm,0.7s,baz=108,slow=8.1,SNR=5.3

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*BEO **01** 19:58:29.9±0.8, 39.°67N×25.°57E, h33km, ML3.7/9*
*ISK **01** 19:58:30.8, 40.°41N×26.°14E, h10km, ML3.7/38*
*DDA **01** 19:58:30.9, 40.°40N×26.°14E, h15km±2km, MW3.6*
*THE **01** 19:58:31.6, 40.°42N×26.°09E, h12km, ML3.4/8, Error ellipse: s-maj=0.6km s-min=0.4km az=1.0*
*ATH **01** 19:58:31.4, 40.°43N×26.°05E, h29km±1km, ML3.5/10, Error ellipse: s-maj=2.0km s-min=1.0km az=66.0*
ISC 01 19:58:31.6±0.8, **40.°40N**±0.°01×**26.°12E**±0.°01, **h16**km±6km, **n184**, σ1**§28**/234, **15C-10D, Turkey**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
GOKA anakkale-Gk 0.27 217 *i* P Pg 19 58 37.3 0.0
GOKA *i* S Sg 19 58 41.8 +0.6
GOKA IAML 19 58 42.0
comp=E,12µm,0.6s
GOKA IAML 19 58 43.0
comp=N,17µm,0.2s
GADA Gvkgeada 0.27 218 P Pg 19 58 37.3 -0.1
GADA S Sg 19 58 41.6 +0.3
comp=N,5µm,0.2s
GADA Gvkgeada 0.27 218 PG Pg 19 58 37.0 -0.4
GADA SG Sg 19 58 41.7 +0.4
GELI Tayfur-Gelibol 0.27 91 PG Pg 19 58 36.7 -0.7
GELI SG Sg 19 58 40.8 -0.6
ENEZ Enez 0.34 5 P Pg 19 58 38.2 -0.3
ENEZ S Sg 19 58 42.9 -0.4
comp=N,11µm,0.5s
ENEZ Enez 0.34 5 PG Pg 19 58 38.2 -0.3
ENEZ SG Sg 19 58 42.9 -0.4
ERIK Erikli-Kesan 0.40 48 PG Pg 19 58 39.2 -0.5
ERIK SG Sg 19 58 44.9 -0.4
SMTH Samothraki Isl 0.45 279 P Pg 19 58 40.1 -0.5
SMTH S Sg 19 58 46.3 -0.5
comp=N,5µm,0.2s
SMTH Samothraki Isl 0.45 279 P Pg 19 58 40.3 -0.3
SMTH S Sg 19 58 46.6 -0.2
SMTH AML AML 19 58 47.1
comp=N,8616µm,0.2s
SMTH AML AML 19 58 47.5
comp=E,12910µm,0.2s
LPK Lapseki 0.49 93 PG Pg 19 58 40.8 -0.6
ALN Alexandroupoli 0.50 354 P Pg 19 58 41.5 +0.1
ALN S Sg 19 58 48.0 -0.2
ALN AML AML 19 58 48.4
comp=N,8342µm,0.2s
ALN AML AML 19 58 53.6
comp=E,11955µm,0.9s
ALN Alexandroupoli 0.50 354 PG Pg 19 58 40.9 -0.6
ALN SG Sg 19 58 48.2 0.0
BOZC Bozcaada 0.56 185 PG Pg 19 58 42.3 -0.4
BOZC Bozcaada 0.56 185 *i* P Pg 19 58 42.1 -0.5
BOZC *i* S Sg 19 58 48.9 -1.2
BOZC IAML 19 58 51.0
comp=N,1µm,0.5s
BOZC IAML 19 58 51.0
comp=E,3µm,0.6s
EZN Ezine 0.60 164 P Pg 19 58 42.6 -0.7
EZN Ezine 0.60 164 PG Pg 19 58 42.6 -0.7
KESN Edirne-Kesan 0.60 45 *i* P Pg 19 58 42.3 -1.3
KESN *i* S Sg 19 58 50.3 -1.3
KESN IAML 19 58 55.0
comp=N,4µm,0.7s
KESN IAML 19 58 56.0
comp=E,5µm,0.2s
BAYC CANAKKALE_Bayr 0.74 153 *i* P Pg 19 58 45.5 -0.5
BAYC *i* S Sg 19 58 55.5 -0.2
BAYC IAML 19 59 01.0
comp=N,432nm,0.7s
BAYC IAML 19 59 01.0
comp=E,499nm,0.2s
UKOP Uzunkopru-Edir 0.82 28 PG Pg 19 58 46.8 -0.8
RKY Sarkoy-Tekirda 0.86 70 PG Pg 19 58 46.9 -1.3
SART Tekirdag 0.86 70 *i* P Pg 19 58 47.0 -1.3
SART IAML 19 59 03.0
comp=E,669nm,0.3s
RDO Rodhopi 0.86 330 P Pg 19 58 47.2 -1.1
RDO S Sg 19 58 59.4 -0.3
comp=E,3µm,0.3s
RDO Rodhopi 0.86 330 P Pg 19 58 47.7 -0.7
RDO S Sg 19 58 59.0 -0.7
RDO AML AML 19 59 02.1
comp=N,6137µm,0.3s
RDO AML AML 19 59 02.7
comp=E,3844µm,0.2s
RDO Rodhopi 0.86 330 PG Pg 19 58 47.3 -1.1
LIA Limnos Island 0.88 235 P Pg 19 58 47.9 -0.6
LIA S Sg 19 59 00.3 +0.2
comp=E,3µm,0.4s
LIA Limnos Island 0.88 235 P Pg 19 58 48.0 -0.6
LIA S Sg 19 59 00.3 +0.2
LIA AML AML 19 59 01.4
comp=N,5805µm,0.4s
LIA AML AML 19 59 02.1
comp=E,6540µm,0.5s
KRBG Karabiga-Canak 0.90 90 PG Pg 19 58 47.9 -1.1
THAS Thassos island 1.08 281 P Pb 19 58 51.5 -0.5
THAS S Sb 19 59 06.2 +0.3
comp=E,2µm,0.3s
THAS Thassos island 1.08 281 P Pb 19 58 51.9 -0.1
THAS S Sb 19 59 06.4 +0.5
THAS AML AML 19 59 07.8
comp=N,3882µm,0.4s
THAS AML AML 19 59 08.1
comp=E,4493µm,0.2s
MRMT Marmara Adasi 1.15 79 PN Pb 19 58 51.7 -1.4
PRK Paraskevi 1.16 174 P Pg 19 58 54.6 +0.7
PRK S Sn 19 59 10.6 +1.9
PRK AML AML 19 59 11.9
comp=E,16022µm,0.8s
PRK AML AML 19 59 12.1
comp=N,20458µm,0.6s
AYVA Ayvalik 1.18 158 *i* P Pb 19 58 53.6 0.0
AYVA *i* S Sb 19 59 08.8 +0.2
AYVA IAML 19 59 11.0
comp=E,3µm,0.6s
SIGR SIGRI 1.21 190 P Pn 19 58 53.6 -0.2
SIGR S Sb 19 59 10.5 +1.1
comp=E,3µm,0.4s
SIGR SIGRI 1.21 190 P Pn 19 58 53.9 0.0
SIGR S Sg 19 59 10.7 +0.1
SIGR AML AML 19 59 11.9
comp=N,6190µm,0.4s
SIGR AML AML 19 59 12.0
comp=E,5649µm,0.4s
SIGR SIGRI 1.21 190 PN Pn 19 58 53.8 0.0
EFSA Agios Efstrati 1.22 226 P Pn 19 58 54.1 +0.1
EFSA S Sb 19 59 09.9 +0.1
EFSA AML AML 19 59 12.5
comp=E,4749µm,0.7s
EFSA AML AML 19 59 13.6
comp=N,4207µm,0.4s
TKR Tekirdag 1.23 61 PN Pn 19 58 54.0 -0.1
GONE Gonen-Balikesi 1.25 106 PN Pn 19 58 54.5 +0.1
EDC Edincik 1.33 92 PN Pn 19 58 55.6 0.0
KDZ Kurdzhali 1.35 337 *e*P Pn 19 58 55.8 -0.1
KDZ Kurdzhali 1.35 337 PN Pn 19 58 56.3 +0.4
KAVA Kavala 1.36 296 P Pn 19 58 55.4 -0.5
KAVA Kavala 1.36 296 P Pn 19 58 55.6 -0.3
KAVA S Sn 19 59 12.1 -1.4
KAVA AML AML 19 59 18.2
comp=N,924µm,0.3s
KAVA AML AML 19 59 19.0
comp=E,1111µm,0.2s
KVLA Kavala 1.42 293 P Pn 19 58 56.4 -0.3
CRLT Corlu 1.43 59 PN Pn 19 58 56.9 0.0
DKL Dikili 1.46 155 PN Pn 19 58 57.9 +0.6
EDRB Edirne 1.52 18 P Pn 19 58 57.5 -0.6
EDRB Edirne 1.52 18 PN Pn 19 58 58.2 +0.1
BOTS Marmara Eregli 1.53 67 PN Pn 19 58 58.5 +0.2
BALB Balikesir 1.55 119 PN Pn 19 58 58.6 0.0
KIRK Kırklareli 1.56 28 *i* P Pn 19 58 58.0 -0.8
KIRK IAML 19 59 23.0
comp=N,215nm,0.3s
STEP BALIKESIR_Sava 1.60 129 *i* P Pn 19 59 00.1 +0.8
STEP *i* S Sb 19 59 20.9 +0.1
STEP IAML 19 59 34.0
comp=N,498nm,0.8s
STEP IAML 19 59 38.0
comp=E,450nm,0.5s
ZEDA zmir-Bergama 1.61 152 *i* P Pn 19 59 00.1 +0.7
ZEDA *i* S Sn 19 59 20.4 +0.5
ZEDA IAML 19 59 24.0
comp=E,394nm,0.8s
ZEDA IAML 19 59 25.0
comp=N,696nm,0.3s
PHSR Pinarhisar 1.62 40 PN Pn 19 58 58.9 -0.7
OUR Ouranopolis 1.63 268 P Pn 19 58 58.7 -1.0
OUR S Sn 19 59 20.2 -0.2
comp=N,1µm,0.5s
OUR Ouranopolis 1.63 268 P Pn 19 58 58.9 -0.8
OUR S Sn 19 59 20.8 +0.4
OUR AML AML 19 59 27.3
comp=E,2644µm,0.4s
OUR AML AML 19 59 27.4
comp=N,2436µm,0.5s
OUR Ouranopolis 1.63 268 PN Pn 19 58 58.9 -0.8
RZN Rozhen 1.67 321 *e*P Pn 19 59 00.4 +0.1

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
DIM	Dimitrovgrad	1.70	345	eP	Pn	19 59 01.4	+0.7
KCTX	Karacabey (Bur	1.72	94	PN	Pn	19 59 00.9	0.0
SLVT	Silivri	1.79	62	PN	Pn	19 59 02.1	+0.3
KRBN	Karaburun	1.84	169	PN	Pn	19 59 02.9	+0.4
PSRA	Psara	1.91	193	P	Pn	19 59 04.4	+0.9
ELBA	Catalca	1.91	66	iP	Pn	19 59 03.3	-0.2
ELBA				iS	Sn	19 59 26.3	-0.9
ELBA				IAML		19 59 36.0	
	comp=E,112nm,0.2s						
ELBA				IAML		19 59 39.0	
	comp=N,166nm,0.8s						
PAIG	Paliouri	1.93	257	P	Pn	19 59 02.6	-1.1
PAIG	Paliouri	1.93	257	P	Pn	19 59 03.0	-0.7
CTYL	Yalikoy Yolu	1.96	56	PN	Pn	19 59 03.9	-0.3
DURS	Dursunbey	1.98	113	iP	Pn	19 59 05.1	+0.6
DURS				iS	Sn	19 59 27.6	-1.5
DURS				IAML		19 59 34.0	
	comp=N,681nm,0.4s						
DURS				IAML		19 59 35.0	
	comp=E,849nm,0.5s						
CTKS	Kestanelik-??a	2.00	65	PN	Pn	19 59 04.6	-0.1
PLD	Plovdiv	2.01	328	ePn	Pn	19 59 05.3	+0.5
PLD	Plovdiv	2.01	328	eP	Pn	19 59 04.8	0.0
PLD	Plovdiv	2.01	328	PN	Pn	19 59 05.6	+0.8
AKHS	Akhisar	2.01	139	iP	Pn	19 59 05.4	+0.6
AKHS				IAML		19 59 43.0	
	comp=E,68nm,0.7s						
CHOS	Chios island	2.01	181	P	Pn	19 59 05.3	+0.3
CHOS	Chios island	2.01	181	PN	Pn	19 59 05.5	+0.5
PLG	Polygyros	2.04	270	P	Pn	19 59 04.8	-0.5
SRS	Serrai	2.05	291	ePn	Pn	19 59 04.9	-0.5
SRS	Serrai	2.05	291	P	Pn	19 59 04.8	-0.6
AVCI	Avcilar-stanb	2.07	72	PN	Pn	19 59 06.1	+0.5
URLA	Izmir	2.07	170	PN	Pn	19 59 06.1	+0.3
URLA	Izmir	2.07	170	iP	Pn	19 59 06.7	+1.0
URLA				iS	Sn	19 59 31.1	-0.2
URLA				IAML		19 59 41.0	
	comp=E,282nm,0.7s						
URLA				IAML		19 59 46.0	
	comp=N,236nm,0.8s						
DST	Dursunbey	2.08	112	PN	Pn	19 59 06.5	+0.6
JMB	Yambol	2.09	9	eP	Pn	19 59 06.2	+0.2
ARMT	Armutlu	2.10	85	PN	Pn	19 59 06.5	+0.4
MDNY	Mudanya-Bursa	2.11	90	PN	Pn	19 59 06.7	+0.4
AOS	Alonnisos	2.12	235	P	Pn	19 59 05.5	-0.8
BLCB	Balcova	2.14	160	P	Pn	19 59 07.2	+0.6
BLCB	Balcova	2.14	160	PN	Pn	19 59 07.4	+0.8
BGKT	Bogazkoy	2.16	68	PN	Pn	19 59 07.5	+0.6
MMB	Musomiste	2.16	304	eP	Pn	19 59 06.9	-0.1
ULDT	Uludag	2.32	95	iP	Pn	19 59 09.3	0.0
ULDT				iS	Sb	19 59 42.4	+0.6
ULDT				IAML		19 59 50.0	
	comp=E,261nm,0.5s						
ULDT				IAML		19 59 51.0	
	comp=N,243nm,0.5s						
BUY	Buyukada	2.33	78	iP	Pn	19 59 07.8	-1.4
BUY				iS	Sn	19 59 36.8	-0.7
BUY				IAML		19 59 50.0	
	comp=E,201nm,0.4s						
BUY				IAML		19 59 53.0	
	comp=N,218nm,0.4s						
ISK	Istanbul-Kandi	2.33	73	P	Pn	19 59 09.2	-0.1
ISK	Istanbul-Kandi	2.33	73	PN	Pn	19 59 09.4	+0.1
KAVV	Kandilli-Istan	2.33	73	PN	Pn	19 59 09.7	+0.4
GEMT	Gemlik	2.35	88	PN	Pn	19 59 10.2	+0.7
IGD	Bursa	2.36	92	iP	Pn	19 59 10.0	+0.3
IGD				IAML		19 59 49.0	
	comp=E,104nm,0.6s						
IGD				IAML		19 59 49.0	
	comp=N,117nm,0.4s						
KLYT	Kilyos	2.38	68	PN	Pn	19 59 09.9	0.0
DEMI	Demirci	2.42	123	iP	Pn	19 59 11.2	+0.6
DEMI				iS	Sn	19 59 40.9	+0.9
DEMI				IAML		19 59 57.0	
	comp=E,177nm,0.6s						
DEMI				IAML		19 59 59.0	
	comp=N,139nm,0.7s						
DGB	zmir	2.42	166	iP	Pn	19 59 11.0	+0.5
YLV	Yalova	2.49	85	PN	Pn	19 59 11.7	+0.2
ELND	Elena	2.53	356	⇓P	Pn	19 59 13.3	+1.3
MANT	Manisa	2.69	135	iP	Pn	19 59 15.2	+0.8
MANT				iS	Sn	19 59 46.4	-0.3
MANT				IAML		19 59 49.0	
	comp=N,55nm,0.3s						
MANT				IAML		19 59 58.0	
	comp=E,41nm,0.5s						
KKB	Krupnik	2.72	304	eP	Pn	19 59 14.4	-0.2
SMG	Samos	2.75	168	P	Pn	19 59 15.3	+0.3
GCAM	G?zelcaml?	2.83	162	iP	Pn	19 59 16.7	+0.5
GCAM				iS	Sn	19 59 50.5	+0.5
VAY	Valandovo	2.84	290	ePn	Pn	19 59 12.1	-4.2
VAY				eSn	Sn	19 59 44.0	-6.2
VAY	Valandovo	2.84	290	iPn	Pn	19 59 16.9	+0.6
SZH	Strazhica	2.87	357	eP	Pn	19 59 17.3	+0.7
GDZ	Gediz	2.91	116	iP	Pn	19 59 18.4	+1.1
GDZ				iS	Sn	19 59 53.2	+1.2
PTL	Penteli	2.93	217	P	Pn	19 59 16.6	-0.9
AVR	AVREN	2.95	23	eP	Pn	19 59 17.5	-0.3
PRD	Provadia	2.96	19	eP	Pn	19 59 17.5	-0.3
NEF	NEVSHA	2.99	16	eP	Pn	19 59 18.1	-0.2
AUBOZ	BOZOYUK	3.04	98	iP	Pn	19 59 20.4	+1.3
AUBOZ				iS	Sn	19 59 55.8	+0.5
AUBOZ				IAML		19 59 57.0	
	comp=E,47nm,0.6s						
AUBOZ				IAML		19 59 57.0	
	comp=N,68nm,0.6s						
VTS	Vitosha	3.10	317	ePn	Pn	19 59 20.8	+0.9
VTS				eSn	Sn	20 00 01.5	+4.8
VTS	Vitosha	3.10	317	⇓P	Pn	19 59 20.5	+0.5
VTS	Vitosha	3.10	317	eP	Pn	19 59 20.4	+0.5
VLY	Voula,Athens	3.12	216	P	Pn	19 59 19.6	-0.6
GEYV	SAKARYA_Geyve	3.19	87	iP	Pn	19 59 20.8	-0.3
AGG	Agios Georgios	3.23	246	P	Pn	19 59 20.9	-0.8
THL	Klokotos Trika	3.26	256	P	Pn	19 59 21.5	-0.6
KHAL	Karahalli	3.31	127	iP	Pn	19 59 23.7	+0.8
KHAL				iS	Sn	20 00 01.6	-0.4
APE	Apeiranthos	3.36	188	⇑P	Pn	19 59 23.2	-0.3
BORA	Eskisehir	3.37	98	iP	Pn	19 59 24.6	+1.0
BOSS	Bosilegrad	3.44	309	ePn	Pn	19 59 25.6	+1.0
BOSS				eSn	Sn	20 00 05.5	+0.4
BODT	Bodrum	3.46	164	P	Pn	19 59 25.4	+0.5
SRCK	Saricakaya, Es	3.47	95	iP	Pn	19 59 25.3	+0.4
BDRM	Kayabasi	3.49	162	iP	Pn	19 59 25.2	0.0
BDRM				iS	Sg	20 00 20.3	-3.3
SAHE	Sakarya_HENDEK	3.63	81	iP	Pn	19 59 27.8	+0.6
TAVA	DENIZLI_Tavas	3.65	142	iP	Pn	19 59 28.1	+0.5
DID	Didima	3.66	219	P	Pn	19 59 26.8	-0.8
YER	Yerkesik	3.68	152	P	Pn	19 59 28.6	+0.8
KZIL	AFYON_Kizioren	3.79	123	iP	Pn	19 59 30.5	+1.1
COPA	Copaceanca	3.79	350	⇑P	Pn	19 59 30.0	+0.7
DAT	Datca	3.84	162	P	Pn	19 59 30.4	+0.2
DAT	Datca	3.84	162	iP	Pn	19 59 30.4	+0.2
ZAPS	Zavoj	3.87	319	ePn	Pn	19 59 32.0	+1.5
ZAPS				eSn	Sn	20 00 18.8	+3.1
ICOR	Ion Corvin	3.92	18	⇑P	Pn	19 59 33.7	+2.6
CIFT	Cifteler, Eski	3.94	104	iP	Pn	19 59 33.1	+1.5
TURN	Turunc	4.03	150	iP	Pn	19 59 30.3	-2.3
BARS	Barje	4.03	308	ePn	Pn	19 59 33.4	+0.8
BARS				eSn	Sn	20 00 19.2	-0.3
BRDR	BURDUR-Merkez	4.09	130	iP	Pn	19 59 34.6	+1.0
YIGI	Dzce	4.09	80	iP	Pn	19 59 36.1	+2.6
DALY	Dalyan (Mula)	4.09	150	iP	Pn	19 59 34.3	+0.8
BOLV	Bolvadin	4.10	113	iP	Pn	19 59 35.3	+1.7
HUMR	Humele	4.21	349	⇑P	Pn	19 59 36.1	+1.1
BAGO	Egridir - ISPA	4.36	122	iP	Pn	19 59 38.6	+1.4
KIBS	BOLU	4.38	88	iP	Pn	19 59 38.8	+1.3
TLBR	Topalu	4.38	18	⇓P	Pn	19 59 41.3	+3.9
TIRR	Tirgusor	4.39	22	⇑P	Pn	19 59 41.2	+3.6
FETY	Fethiye	4.42	147	iP	Pn	19 59 39.6	+1.5
ZAGS	Zajecar	4.47	321	ePn	Pn	19 59 38.5	-0.1
ZAGS				eSn	Sn	20 00 34.9	+4.6
HARR	Harsova	4.49	17	⇓P	Pn	19 59 42.0	+3.1
BCAM	Yenicaga	4.55	83	iP	Pn	19 59 40.1	+0.3
SELS	Selova	4.68	309	ePn	Pn	19 59 41.6	0.0
SELS				eSn	Sn	20 00 33.8	-1.7
CMDR	Camlidere-ANKA	4.85	87	iP	Pn	19 59 45.1	+1.1
DOGA	KONYA_Doganhis	4.88	116	iP	Pn	19 59 46.7	+2.2
AKAS	Kas	4.99	146	iP	Pn	19 59 48.2	+2.3
CFR	Carcaliu	5.00	17	⇓P	Pn	19 59 49.6	+3.7
KDHN	Kadinhani	5.01	110	iP	Pn	19 59 47.9	+1.7
MLR	Muntele Rosu	5.09	359	⇑P	Pn	19 59 49.8	+2.5
VOIR		5.09	352	⇓P	Pn	19 59 48.3	+1.0
BISRR	Bisoca	5.16	5	⇓P	Pn	19 59 51.4	+3.2
KUBS	Kucevo	5.18	322	ePn	Pn	19 59 51.5	+3.0
HERR	Herculane	5.24	330	⇑P	Pn	19 59 49.6	+0.3
GRUS	Gruza	5.32	313	ePn	Pn	19 59 50.4	+0.1
GRUS				eSn	Sn	20 00 50.4	-0.8
LOT	Lotru	5.33	342	⇓P	Pn	19 59 52.1	+1.5
KKUL	Konya-Kulu	5.38	101	iP	Pn	19 59 53.3	+2.0
KONT	Konya--Tatoy	5.44	115	iP	Pn	19 59 54.4	+2.4
MDVR	Moldovita	5.45	325	⇑P	Pn	19 59 52.5	+0.3
IVAS	Ivanjica	5.46	307	ePn	Pn	19 59 50.9	-1.4
PLOR	Plostina	5.46	4	⇑P	Pn	19 59 54.8	+2.4
VRI	Vrincioaia	5.48	4	⇓P	Pn	19 59 55.3	+2.7
KEPZ	Antalya-Kepez	5.54	127	iP	Pn	19 59 55.8	+2.4
GZR	Gura Zlata	5.56	335	⇓P	Pn	19 59 54.1	+0.4
OZUR		5.70	358	⇑P	Pn	19 59 57.6	+2.1
TRUS	Trudelj	5.70	314	ePn	Pn	19 59 55.2	-0.4
DIVS	Divibare	5.86	311	ePn	Pn	19 59 57.8	0.0
DIVS				eSn	Sn	20 01 00.9	-3.7
TESR	Tescani	6.12	3	⇑P	Pn	20 00 03.0	+1.6
BZS	Buzias	6.17	329	⇑P	Pn	20 00 01.8	-0.1
BIZ	Bicaz	6.54	360	⇑P	Pn	20 00 09.6	+2.5
DRGR		6.85	340	⇑P	Pn	20 00 12.8	+1.4
BURAR	Bucovina Array	7.24	355	⇑P	Pn	20 00 19.3	+2.5

IDC 01 20:05:11.5±5.1, 2°.92S×150°.67E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/23, mbtmp3.4/3, Error ellipse: s-maj=158.9km s-min=37.8km az=104.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.25	222	P	P	20 10 20.8	+0.1
	0.3nm,0.7s,baz=51,slow=11,SNR=7.4						
ASAR	Alice Springs	26.24	217	P	P	20 10 49.5	+0.9
	0.7nm,0.4s,baz=54,slow=8.7,SNR=1.4						
MKAR	Makanchi Array	77.52	319	P	P	20 17 08.6	-0.7
	0.1nm,0.4s,baz=126,slow=7.3,SNR=2.4						

GII 01 20:17:56.8±0.0, 33°.43N×35°.64E, h8km
GRAL 01 20:17:57.7±0.3, 33°.43N×35°.58E, h0km±53km, MD2.7
ISC 01 20:17:57.1±1.5, 33°.44N±0°.03×35°.59E±0°.08, h11km±15km, n9, σ0s.29/15, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
QRWL	Qaraoun	0.13	35	eP	Pg	20 18 00.4	+0.1
QRWL				eS	Sg	20 18 02.2	-0.4
SHBL	Chebaa	0.16	126	eP	Pg	20 18 00.6	-0.1
RCY	Rachaya	0.21	75	eP	Pg	20 18 01.8	+0.1
RCY				eS	Sg	20 18 04.8	+0.1
NATI	Neve Ativ	0.22	146	Pg	Pg	20 18 01.4	-0.2
NATI				Sg	Sg	20 18 04.7	+0.1
GEM	Giv'at Ha'Em	0.24	165	Pg	Pg	20 18 01.7	-0.3
GEM				Sg	Sg	20 18 05.5	+0.2
KSDI	Kefar Szold	0.26	167	Pg	Pg	20 18 02.2	-0.1
KSDI				Sg	Sg	20 18 06.5	+0.7
DQRL	Deir Qamar	0.27	356	eP	Pg	20 18 02.5	0.0
MMA0B	Mount Meron ar	0.45	200	Pg	Pg	20 18 06.0	0.0
MMA0B				Sg	Sb	20 18 13.7	-0.2
BHL	Bhannes	0.47	6	eP	Pg	20 18 06.2	0.0

SJA 01 20:21:21.8±0.6, 24°.05S×67°.15W, h190km±6km, ML3.6, MW3.5
NEIC 01 20:21:22.9±1.9, 24°.02S±0°.07×67°.2W±0°.1, h187km±4km, mb4.3/5, Error ellipse: s-maj=15.5km s-min=9.4km az=78.0
GUC 01 20:21:23.6±0.6, 24°.02S×67°.53W, h219km±6km, ML4.6
VAO 01 20:21:23.5±0.7, 23°.85S×67°.19W, h199km±7km, mb4.3
IDC 01 20:21:23.2±1.1, 23°.85S×67°.03W, h180km±10km, mb3.6/9, mb1 3.9/14, mb1mx3.8/28, mbtmp4.2/14, Error ellipse: s-maj=15.6km s-min=13.7km az=120.0
ISC 01 20:21:22.4±0.7, 24°.02S±0°.04×67°.18W±0°.03, h181km±6km, n120, σ1s.36/147, mb3.9/9, 11C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
AZAP	Zapla	1.94	96	iP	Pn	20 21 59.9	+0.7
AZAP				IAML		20 22 00.3	
	comp=Z,593nm,0.5s						
AZAP				eS	Sn	20 22 28.1	+0.4
LVC	Limon Verde	2.12	311	P	Pn	20 22 02.4	+1.2
	comp=Z,22nm,0.3s,baz=157,slow=7.1,SNR=413						
LVC				S	Sn	20 22 31.9	+0.6
	comp=Z,114nm,0.3s,baz=259,slow=22,SNR=84						
LVC	Limon Verde	2.12	311	⇑iP	Pn	20 22 02.5	+1.2
LVC				eS	Sn	20 22 32.2	+0.9
LVC	Limon Verde	2.12	311		Pn	20 22 02.6	+1.4
LVC	Limon Verde	2.12	311	iP	Pn	20 22 02.5	+1.2
LVC				eS	Sn	20 22 32.4	+1.0
LVC				IAML		20 22 33.7	
	comp=Z,368nm,0.3s						
LVC	Limon Verde	2.12	311	eP	Pn	20 22 02.3	+1.0
LVC				eS	Sn	20 22 32.1	+0.7
LVC	Limon Verde	2.12	311	eP	Pn	20 22 02.3	+1.0
LVC				eS	Sn	20 22 32.1	+0.7
PB15	IPOC Station P	2.25	291	⇑iP	Pn	20 22 03.2	+0.7
PB15				eS	Sn	20 22 33.6	-0.1
PB15	IPOC Station P	2.25	291		Pn	20 22 03.8	+1.3
PB15	IPOC Station P	2.25	291	iP	Pn	20 22 03.8	+1.3
PB15				eS	Sn	20 22 34.3	+0.7
YJA	Yavi	2.40	40	iP	Pn	20 22 05.5	+1.1
YJA				eS	Sn	20 22 37.7	+0.7
YJA				IAML		20 22 40.4	
	comp=Z,49nm,0.7s						
GO02	Mina Guanaco	2.47	242	⇑iP	Pn	20 22 05.7	+0.6
GO02				eS	Sn	20 22 38.6	+0.4
GO02				IAML		20 22 39.2	
	comp=E,2μm,0.3s						
GO02	Mina Guanaco	2.47	242		Pn	20 22 05.9	+0.8
ASTB	Santa Barbara	2.50	89	iP	Pn	20 22 06.1	+0.8
ASTB				eS	Sn	20 22 37.8	-0.8
PB06	IPOC Station P	2.56	300	⇑iP	Pn	20 22 06.7	+0.7
PB06				eS	Sn	20 22 39.1	-0.8
PB06				IAML		20 22 41.9	
	comp=N,2μm,0.2s						
PB06	IPOC Station P	2.56	300		Pn	20 22 07.2	+1.3
PB06	IPOC Station P	2.56	300	iP	Pn	20 22 07.3	+1.3
PB06				eS	Sn	20 22 40.0	+0.1
PB09	IPOC Station P	2.92	319	⇑iP	Pn	20 22 11.9	+1.6
PB09				eS	Sn	20 22 48.1	+0.5
PB09	IPOC Station P	2.92	319		Pn	20 22 12.0	+1.7
PB09	IPOC Station P	2.92	319	iP	Pn	20 22 11.6	+1.3
PB09				eS	Sn	20 22 47.9	+0.3
PB05	IPOC Station P	3.01	292	⇑iP	Pn	20 22 11.7	+0.4
PB05				eS	Sn	20 22 47.4	-2.0
PB05				IAML		20 22 50.0	
	comp=E,673nm,0.3s						
PB05	IPOC Station P	3.01	292	iP	Pn	20 22 11.9	+0.6
PB03	IPOC Station P	3.08	309	⇑iP	Pn	20 22 12.9	+0.6
PB03				eS	Sn	20 22 49.8	-1.2
PB03				eS		20 22 49.9	
PB03				IAML		20 22 51.4	
	comp=E,900nm,0.1s						
PB10	IPOC Station P	3.13	279	⇓iP	Pn	20 22 13.2	+0.5
PB10				iS	Sn	20 22 49.5	-2.4
PB10	IPOC Station P	3.13	279		Pn	20 22 13.4	+0.8
PB10	IPOC Station P	3.13	279	iP	Pn	20 22 13.5	+0.8
PB10				eS	Sn	20 22 51.7	-0.2
PB04	IPOC Station P	3.21	301	⇑iP	Pn	20 22 13.8	0.0
PB04				eS	Sn	20 22 51.7	-2.2
PB04				IAML		20 22 54.4	
	comp=N,1μm,0.2s						
PB04	IPOC Station P	3.21	301		Pn	20 22 14.2	+0.4
PB04	IPOC Station P	3.21	301	iP	Pn	20 22 14.6	+0.8
PB04				eS	Sn	20 22 53.8	0.0
AC02	Maricunga	3.31	212	iP	Pn	20 22 16.1	+0.7
AC02				eS	Sn	20 22 57.4	+0.7
AC02	Maricunga	3.31	212		Pn	20 22 16.2	+0.9
PB07	IPOC Station P	3.38	312	⇓iP	Pn	20 22 16.5	+0.5
PB07				iS	Sn	20 22 55.9	-1.9
PB07	IPOC Station P	3.38	312		Pn	20 22 16.7	+0.7
PB01	IPOC Station P	3.65	324	⇓iP	Pn	20 22 19.3	0.0
PB01				iS	Sn	20 23 02.3	-1.4
PB01	IPOC Station P	3.65	324	Pn	Pn	20 22 19.5	+0.2
PB02	IPOC Station P	3.68	317	⇑iP	Pn	20 22 19.7	+0.1
AC01	Pan de Azucar	3.75	235	⇑iP	Pn	20 22 19.5	-0.9
AC01				eS	Sn	20 23 03.3	-2.4
AC01	Pan de Azucar	3.75	235	Pn	Pn	20 22 19.8	-0.6
PATCX	Punta Patache	4.21	319		Pn	20 22 27.4	+1.1
PB08	IPOC Station P	4.27	334		Pn	20 22 28.4	+0.9
GO03	Copiap	4.50	217		Pn	20 22 29.0	-0.9
GO01	Chusmiza	4.72	336		Pn	20 22 33.7	+0.4
PB11	IPOC Station P	4.82	331		Pn	20 22 33.8	-0.6
PSGCX	Pisagua	5.18	328		Pn	20 22 37.6	-1.4
MNMC	Minye Minye	5.36	335	Pn	Pn	20 22 42.5	+1.1
AC04	Llanos de Chal	5.44	219	Pn	Pn	20 22 40.1	-2.0
AC05	El Transito	5.54	209	Pn	Pn	20 22 42.1	-1.4
ACDV	Cuesta del Vie	6.36	195	iP	Pn	20 22 54.2	-0.1
AROD	Rodeo	6.45	198	iP	Pn	20 22 55.7	+0.1
AROD				eS	Sn	20 24 06.0	-3.1
CO01	Juntas del Tor	6.47	203		Pn	20 22 55.4	-0.4
GO04	Tololo Observa	6.92	207		Pn	20 22 59.5	-2.3
AMOG	MOGNA	6.99	189	iP	Pn	20 23 02.0	-0.5
AMOG				eS	Sn	20 24 16.6	-4.9
CO03	El Pedregal	7.47	204	Pn	Pn	20 23 06.0	-2.8
LPAZ	La Paz	7.75	353	P	Pn	20 23 13.4	+0.4
	comp=N,6.1nm,0.3s,baz=150,slow=5.8,SNR=91						
LPAZ				S	Sn	20 24 36.9	-3.6
	comp=N,0.7nm,0.3s,baz=336,slow=18,SNR=7.3						
LPAZ	La Paz	7.75	353	Pn	Pn	20 23 14.0	+0.9
CO02	Combarbal	7.91	204		Pn	20 23 11.6	-3.0
SIV	San Ignacio	9.84	37	P	Pn	20 23 37.5	-2.5
	comp=N,4.8nm,0.3s,baz=225,slow=13,SNR=97						
SIV				S	Sn	20 25 15.7	-14
	baz=234,slow=14,SNR=4.6						
PTLB	Pontes e Lacer	11.40	43	eP	Pn	20 23 58.3	-2.0
PTLB	Pontes e Lacer	11.40	43	eP	Pn	20 23 58.3	-2.0
VILB	Vilhena	12.85	32	eP	Pn	20 24 18.5	-0.2
VILB	Vilhena	12.85	32	eP	Pn	20 24 18.5	-0.2
TRCB	Terra Rica	13.41	88	eP	Pn	20 24 26.2	+0.3
TRCB	Terra Rica	13.41	88	eP	Pn	20 24 26.2	+0.3
SALV	Santo Antonio	13.48	55	eP	Pn	20 24 25.4	-1.3
SALV	Santo Antonio	13.48	55	eP	Pn	20 24 25.4	-1.3
C2SB	Chapadao do Su	14.34	71	eP	Pn	20 24 38.3	+0.9
C2SB	Chapadao do Su	14.34	71	eP	Pn	20 24 38.3	+0.9
SAML	Samuel	15.47	15		Pn	20 24 48.7	-2.7
SAML				IAmb	IAmb	20 24 51.2	
	comp=Z,9.1nm,0.7s						
SAML	Samuel	15.47	15	eP	Pn	20 24 49.4	-2.0
SAML	Samuel	15.47	15	eP	Pn	20 24 49.4	-2.0
ARAG	Araguaiana, MT	16.65	63	eP	P	20 25 04.7	-0.1
ARAG	Araguaiana, MT	16.65	63	eP	P	20 25 04.7	-0.1
PLCA	Paso Flores	16.90	189	P	Pn	20 25 09.9	+1.4
	comp=Z,0.5nm,0.3s,baz=11,slow=8.1,SNR=6.0						
CLDB	Colider	16.98	42	eP	P	20 25 06.7	-1.9
CLDB	Colider	16.98	42	eP	P	20 25 06.7	-1.9
VAO	Valinhos	18.57	91	eP	P	20 25 25.1	-0.8
VAO	Valinhos	18.57	91	eP	P	20 25 25.1	-0.8
IPMB	Ipameri, GO	18.70	75	eP	P	20 25 27.1	-0.2
IPMB	Ipameri, GO	18.70	75	eP	P	20 25 27.1	-0.2
BDFB	Brasilia	19.85	69	P	P	20 25 39.3	-0.5
	comp=Z,3.8nm,0.3s,baz=241,slow=11,SNR=60						
BDFB	Brasilia	19.85	69	P	P	20 25 39.6	-0.2
NPGB	Novo Progresso	20.34	36	eP	P	20 25 42.6	-2.4
NPGB	Novo Progresso	20.34	36	eP	P	20 25 42.6	-2.4
PEXB	Peixe	21.48	60	eP	P	20 25 55.5	-1.6
PEXB	Peixe	21.48	60	eP	P	20 25 55.5	-1.6
JANB	Januaria	23.30	72	eP	P	20 26 13.1	-1.3
JANB	Januaria	23.30	72	eP	P	20 26 13.1	-1.3
SMTB	Santa Maria do	24.04	54	eP	P	20 26 20.3	-0.9
SMTB	Santa Maria do	24.04	54	eP	P	20 26 20.3	-0.9
PTGA	Pitinga	24.19	18	P	P	20 26 21.6	-0.9
	comp=Z,2.0nm,0.3s,baz=304,slow=23,SNR=6.3						
PTGA	Pitinga	24.19	18	P	P	20 26 22.3	-0.1
PTGA				IAmb	IAmb	20 26 22.8	
	comp=Z,5.8nm,0.8s						
PRPB	Parauapebas	24.36	46	eP	P	20 26 22.5	-1.6
PRPB	Parauapebas	24.36	46	eP	P	20 26 22.5	-1.6
MALB	Monte Alegre	25.34	31	eP	P	20 26 31.5	-1.3
MALB	Monte Alegre	25.34	31	eP	P	20 26 31.5	-1.3
GDU01	Guandu, BA	28.01	74	eP	P	20 26 55.3	-1.4
GDU01	Guandu, BA	28.01	74	eP	P	20 26 55.3	-1.4
VNA3	Neumayer Olymp	57.18	161	P	P	20 30 51.3	+1.1
VNA2	Neumayer--Watz	57.75	160	P	P	20 30 55.1	+1.0
	baz=288,slow=7.8						
SNAA	Sanae	59.38	161	P	P	20 31 06.5	+1.1
TXAR	Lajitas Array	63.60	325	P	P	20 31 35.2	+1.0
	comp=Z,0.5nm,0.9s,baz=134,slow=8.9,SNR=5.1						
SYO	Syowa Base	73.59	159	⇑eP	P	20 32 35.0	-0.3
SYO	Syowa Base	73.59	159	⇓eP	P	20 32 39.0	+3.7
VNDA	Vanda	74.65	190	P	P	20 32 44.3	+2.9
	comp=Z,1.7nm,0.9s,baz=133,slow=4.8,SNR=9.4						
TORD	Torodi Ar. Bea	76.73	69	P	P	20 32 53.7	-0.6
	comp=Z,1.6nm,0.6s,baz=262,slow=5.6,SNR=22						
PDAR	Pinedale Array	77.08	329	P	P	20 32 56.8	+0.9
	comp=Z,0.4nm,0.5s,baz=69,slow=4.9,SNR=2.5						
NVAR	Mina Array Bea	78.45	321	P	P	20 33 04.2	+0.7
	comp=Z,0.5nm,0.8s,baz=146,slow=6.6,SNR=3.0						
BOSA	Boshof	80.87	117	P	P	20 33 16.8	0.0
	comp=Z,8.3nm,1.2s,baz=275,slow=5.6,SNR=3.8						
BOSA	Boshof	80.87	117	IAmb	IAmb	20 33 17.6	
	comp=Z,11nm,1.1s						
MAW	Mawson	81.46	163	P	P	20 33 20.3	+1.3
	comp=Z,3.8nm,0.6s,baz=223,slow=7.0,SNR=23						
MAW	Mawson	81.46	163	P	P	20 33 20.6	+1.6
YKA	Yellowknife Ar	94.09	340	P	P	20 34 20.5	+0.8
	comp=Z,0.7nm,0.7s,baz=142,slow=5.5,SNR=4.9						
ASAR	Alice Springs	128.36	205	PKP	PKiKP	20 40 08.8	-0.1
	comp=Z,1.7nm,0.7s,baz=160,slow=1.7,SNR=12						
WRA	Warramunga Arr	131.53	207	PKP	PKiKP	20 40 15.2	-0.1
	comp=Z,1.0nm,0.5s,baz=161,slow=1.7,SNR=12						
ZALV	Zalesovo Beam	143.49	28	PKP	PKPdf	20 40 34.0	-1.1
	comp=Z,1.3nm,0.6s,baz=305,slow=3.6,SNR=4.6						
BATI	Baumata	144.37	199	PKP	PKPdf	20 40 37.8	-0.2
	comp=Z,9.1nm,0.6s,baz=247,slow=1.6,SNR=4.5						
MKAR	Makanchi Array	146.65	39	PKPbc	PKPbc	20 40 41.7	-1.0
	comp=Z,1.7nm,0.6s,baz=37,slow=1.3,SNR=14						
SIJI	Sorong	149.45	219	PKPbc	PKiKP	20 40 52.3	+0.2
	comp=Z,8.0nm,0.7s,baz=29,slow=6.0,SNR=6.1						
KLR	Kul'dur	150.77	334	PKPbc	PKPbc	20 40 52.6	-0.5
	comp=Z,2.1nm,0.7s,baz=57,slow=3.4,SNR=11						
MJAR	Matsushiro Arr	154.86	306	PKPab	PKPab	20 41 18.8	+0.2
	comp=Z,1.0nm,1.0s,baz=221,slow=2.1,SNR=5.3						

MAN 01 20:30:48.9, 9°.52N×127°.24E, h15km, mb5.1, ML4.0, MS4.1
IDC 01 20:30:49.1±1.0, 9°.56N×127°.46E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.6/52, mbtmp3.9/10, ML4.6/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/43, Error ellipse: s-maj=44.7km s-min=16.3km az=86.0
ISC 01 20:30:50.7±3.4, 9°.48N±0°.05×127°.15E±0°.08, h9km±22km, n29, σ1s.41/38, mb3.9/8, 3C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
SCPH	Surigao	1.66	280	⇓eP	Pn	20 31 18.5	-1.5
SCPH				eS	Sn	20 31 38.2	-3.3
MSLP	Maasin	2.35	286	eP	Pn	20 31 29.1	-0.3
MSLP				eS	Sn	20 31 58.9	+0.5
BUKP	Musuan	2.61	232	eP	Pn	20 31 32.4	-0.7
BUKP				eS	Sn	20 32 04.0	-0.9
CGP	Cagayan de Oro	2.63	247	⇓eP	Pn	20 31 32.7	-0.6
CGP				eS	Sn	20 32 02.9	-2.6
DAV	Davao City (W)	2.86	213	Pn	Pb	20 31 40.8	-1.1
	41nm,0.3s,baz=71,slow=18,SNR=1.7						
DAV				Sn	Sb	20 32 18.1	+1.1
	baz=302,slow=19,SNR=6.6						
DAV				LR	LR	20 32 46.1	
	comp=Z,509nm,20.3s,baz=56,slow=38						
DMPH	Davao City--Mi	2.88	214	⇑eP	Pb	20 31 43.2	+0.8
DMPH				eS	Sn	20 32 12.3	+0.6
KCP	Kidapawan	3.19	220	⇓eP	Pn	20 31 41.3	+0.2
KCP				iS	Sn	20 32 20.1	+0.7
LLP	Lapu-Lapu	3.24	285	eP	Pn	20 31 43.5	+1.7
LLP				eS	Sn	20 32 21.9	+1.4
TBP	Tagbilaran	3.25	274	eP	Pn	20 31 41.3	-0.5
DDMP	Don Marcelino,	3.65	203	eP	Pn	20 31 47.3	0.0
CTBH	Cotabato--PC H	3.65	232	⇑eP	Pn	20 31 46.8	-0.5
SNPH	Sibulan	3.86	268	⇑iP	Pn	20 31 51.5	+1.1
SNPH				eS	Sn	20 32 37.7	+1.7
CNP	Catarman	3.87	321	eP	Pn	20 31 51.6	+1.2
CNP				eS	Sn	20 32 34.6	-1.5
PAGZ	Pagadian	4.06	247	eP	Pn	20 31 52.1	-0.9
PAGZ				eS	Sn	20 32 30.8	-10
CNOP	Candoni, Negro	4.46	275	eP	Pn	20 31 56.8	-1.8
GUIM	Jordan	4.63	285	eP	Pn	20 32 00.8	-0.1
RCP	Roxas	4.80	296	⇓eP	Pn	20 32 06.5	+3.3
PVCP	Virac	5.03	325	eP	Pn	20 32 03.9	-2.5

SMPP	San Manuel, Pa	9.15	317	eP	Pn	20 33 03.2	+0.2
BATI	Baumata	19.86	190	P	Pn	20 35 23.9	0.0
	2.8nm,0.3s,baz=52,slow=3.0,SNR=4.9						
FITZ	Fitzroy Crossi	27.45	183	P	P	20 36 38.1	+1.0
	1.1nm,0.4s,baz=7.5,slow=11,SNR=11						
KSRS	Korea Array	27.86	1	LR	LR	20 49 15.0	
	comp=Z,21nm,18.5s,baz=165,slow=40						
WRA	Warramunga Arr	30.09	166	P	P	20 37 00.3	-0.4
	0.4nm,0.8s,baz=346,slow=9.1,SNR=1.8						
ASAR	Alice Springs	33.60	169	P	P	20 37 30.3	-1.3
	0.3nm,0.9s,baz=19,slow=12,SNR=3.4						
MKAR	Makanchi Array	53.17	323	P	P	20 40 09.8	+0.7
	1.3nm,0.8s,baz=124,slow=7.4,SNR=9.9						
ZALV	Zalesovo Beam	55.73	331	P	P	20 40 26.2	-1.3
	0.4nm,0.5s,baz=134,slow=10,SNR=2.0						
TIXI	Tiksi	62.12	1	P	P	20 41 12.9	+1.2
	0.4nm,0.4s,baz=243,slow=4.5,SNR=1.6						
ARCES	ARCESS Array B	85.23	340	P	P	20 43 28.0	+0.6
	2.5nm,0.9s,baz=74,slow=7.6,SNR=4.6						
FINES	FINESS Array B	86.99	332	P	P	20 43 36.0	-0.2
	0.9nm,0.8s,baz=67,slow=3.6,SNR=1.9						

IDC 01 20:34:38.9±1.7**,5.°63S**×**146.°91E,h0km,mb3.6**/4**, mb1 3.8**/6**,mb1mx3.5**/36**,mbtmp3.7**/6**,ML3.7**/1**,Error ellipse: s-maj=50.1km s-min=27.0km az=115.0,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PMG	Port Moresby	3.76	176	Pn	Pn	20 35 39.9	+1.7
	9.4nm,0.3s,baz=336,slow=6.6,SNR=16						
PMG				Sn	Sn	20 36 20.4	-2.8
	1.5nm,0.3s,baz=142,slow=18,SNR=1.9						
WRA	Warramunga Arr	18.75	220	P	P	20 38 58.5	-1.1
	0.3nm,0.3s,baz=48,slow=12,SNR=9.9						
ASAR	Alice Springs	21.87	214	P	P	20 39 33.2	-0.3
	0.6nm,0.3s,baz=52,slow=9.2,SNR=19						
FITZ	Fitzroy Crossi	24.18	237	P	P	20 39 57.1	-0.1
	2.3nm,0.6s,baz=33,slow=4.8,SNR=11						
STKA	Stephens Creek	26.58	190	P	P	20 40 19.4	+0.6
	0.9nm,0.5s,baz=31,slow=9.2,SNR=3.0						
ILAR	Eielson Array	85.18	23	P	P	20 47 16.6	-0.3
	0.2nm,0.6s,baz=239,slow=5.0,SNR=4.5						

MAN 01 20:55:33.5,9.°37N×127.°14E,h5km,mb4.9,ML3.9,MS3.9, 2C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MSLP	Maasin	2.37	289	eP	Pn	20 56 12.6	-0.5
MSLP				eS	Sn	20 56 43.4	+0.8
MSLP	Maasin	2.37	289	eP	Pn	20 56 12.6	-0.5
MSLP				eS	Sn	20 56 43.3	+0.7
BUKP	Musuan	2.54	234	eP	Pn	20 56 15.6	+0.2
BUKP				eS	Sn	20 56 47.5	+0.8
BUKP	Musuan	2.54	234	eP	Pn	20 56 16.1	+0.7
BUKP				eS	Sn	20 56 47.5	+0.8
CGP	Cagayan de Oro	2.58	249⇓	eP	Pn	20 56 17.1	+1.1
CGP				eS	Sn	20 56 43.0	-4.7
KCP	Kidapawan	3.10	221⇑	eP	Pb	20 56 30.4	+1.1
KCP				i S	Sb	20 57 05.8	-1.6
TBP	Tagbilaran	3.25	276	eP	Pn	20 56 24.5	-0.6
DDMP	Don Marcelino,	3.54	204	eP	Pn	20 56 30.1	+0.9
DDMP				eS	Sn	20 57 05.0	-6.5
DDMP	Don Marcelino,	3.54	204	eP	Pn	20 56 30.5	+1.3
DDMP				eS	Sn	20 57 05.0	-6.5
CTBH	Cotabato--PC H	3.58	233⇑	iP	Pn	20 56 30.4	+0.7
CNP	Catarman	3.95	322	eP	Pn	20 56 36.2	+1.4
CNP				eS	Sn	20 57 01.7	-20
CNP	Catarman	3.95	322	eP	Pn	20 56 36.5	+1.7
CNP				eS	Sn	20 57 02.4	-19
RCP	Roxas	4.84	297⇓	eP	Pn	20 56 51.5	+4.5

*KRSC **01** 20:57:32.3±1.5, 51.°17N×158.°08E, h99km±24km, ML4.3, FELT [III-IV] at GMS Vodopadnay; [II] at lighthouse Krugliy.*
*MOS **01** 20:57:33.9±1.0, 51.°29N×157.°68E, h116km, mb4.1/9, Error ellipse: s-maj=13.3km s-min=4.6km az=79.5*
*IDC **01** 20:57:36.8±1.7, 51.°49N×157.°60E, h117km±13km, mb3.4/11, mb1 3.6/13, mb1mx3.4/37, mbtmp3.8/13, Error ellipse: s-maj=23.3km s-min=13.7km az=134.0*
*NEIC **01** 20:57:36.2±1.8, 51.°42N±0.°10×157.°6E±0.°2, h115km±8km, mb4.3/11, Error ellipse: s-maj=17.8km s-min=11.6km az=123.0*
ISC 01 20:57:33.4±0.9**,51.°17N**±0.°06×**158.°05E**±0.°06**,h103**km±7km**, n105,**σ**1.s42**/137**,mb3.8**/19**,3C-6D,Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PAU	Pauzhetka	0.83	292	eP	Pn	20 57 52.8	+0.6
PAU				eS	Sn	20 58 07.3	+0.9
PAU	Pauzhetka	0.83	292	PN	Pn	20 57 52.8	+0.6
PAU				S	Sn	20 58 07.3	+0.9
ASAK	Asacha	1.22	356	eP	Pn	20 57 57.1	+0.6
ASAK				eS	Sn	20 58 13.8	-0.2
ASAK	Asacha	1.22	356	PN	Pn	20 57 57.1	+0.6
ASAK				S	Sn	20 58 13.8	-0.2
RUS	Russkaya	1.30	13	eP	Pn	20 57 57.5	+0.1
RUS				eS	Sn	20 58 14.3	-1.2
RUS	Russkaya	1.30	13	PN	Pn	20 57 57.5	+0.1
RUS				S	Sn	20 58 14.3	-1.2
SKR	Severo-Kuril's	1.31	249	eP	Pn	20 57 58.2	+0.7
SKR				eS	Sn	20 58 15.2	-0.6
SKR	Severo-Kuril's	1.31	249	PN	Pn	20 57 58.2	+0.7
SKR				S	Sn	20 58 15.2	-0.6
MTVR	Mutnovka	1.32	4	eP	Pn	20 57 58.4	+0.6
MTVR				eS	Sn	20 58 15.9	-0.3
MTVR	Mutnovka	1.32	4	PN	Pn	20 57 58.4	+0.6
MTVR				S	Sn	20 58 15.9	-0.3
MIPR	Malaya Ipel'ka	1.37	325	eP	Pn	20 57 58.7	+0.5
MIPR				eS	Sn	20 58 16.5	-0.5
MIPR	Malaya Ipel'ka	1.37	325	PN	Pn	20 57 58.7	+0.5
MIPR				S	Sn	20 58 16.5	-0.5
GRL	Gorelyy	1.39	1	i P	Pn	20 57 59.4	+0.9
GRL				eS	Sn	20 58 17.6	+0.1
GRL	Gorelyy	1.39	1	PN	Pn	20 57 59.4	+0.9
GRL				S	Sn	20 58 17.6	+0.1
ALID	Alaid	1.60	260	eP	Pn	20 58 01.6	+0.4
ALID				eS	Sn	20 58 21.7	-0.6
ALID	Alaid	1.60	260	PN	Pn	20 58 01.6	+0.4
ALID				S	Sn	20 58 21.7	-0.6
KRMR	Karymshinskiy	1.66	2	eP	Pn	20 58 03.6	+1.8
KRMR				eS	Sn	20 58 24.4	+1.0
KRMR	Karymshinskiy	1.66	2	PN	Pn	20 58 03.6	+1.8
KRMR				S	Sn	20 58 24.4	+1.0
APC	Apacha	1.84	343	eP	Pn	20 58 04.7	+0.7
APC				eS	Sn	20 58 27.4	+0.1
APC	Apacha	1.84	343	PN	Pn	20 58 04.7	+0.7
APC				S	Sn	20 58 27.4	+0.1
PET	Petropavlovsk	1.90	11	eP	Pn	20 58 05.4	+0.7
PET				eS	Sn	20 58 28.1	-0.4
PET	Petropavlovsk	1.90	11⇑	iPN	Pn	20 58 05.3	+0.7
PET				i S	Sn	20 58 28.1	-0.4
PET				pmax	pmax		
	comp=Z,126nm,0.4s						
PET				smax	smax		
	comp=E,567nm,0.5s						
PET				smax	smax		
	comp=N,516nm,0.6s						
PET	Petropavlovsk	1.90	11		Pn	20 58 05.4	+0.7
DALK	Dalny	1.92	13	eP	Pn	20 58 05.9	+1.0
DALK				eS	Sn	20 58 28.5	-0.5
DALK	Dalny	1.92	13	PN	Pn	20 58 05.9	+1.0
DALK				S	Sn	20 58 28.5	-0.5
PEA0B	Petropavlovsk-	1.95	354	d iPN	Pn	20 58 06.1	+0.6
PEA0B	Petropavlovsk-	1.95	354		Pn	20 58 06.2	+0.8
PETK	Petropavlovsk-	1.95	354	P	Pn	20 58 06.2	+0.7
	comp=N,11nm,0.3s,baz=161,slow=14,SNR=204						
PETK				S	Sn	20 58 27.3	-2.7
	comp=N,14nm,0.3s,baz=131,slow=20,SNR=7.9						
UGLR	Uglovaya	2.10	13	eP	Pn	20 58 08.7	+1.3
UGLR	Uglovaya	2.10	13	PN	Pn	20 58 08.7	+1.3
AVH	Avacha	2.14	11	i P	Pn	20 58 09.6	+1.6
AVH	Avacha	2.14	11	PN	Pn	20 58 09.6	+1.6
SMAR	Somma	2.15	12	i P	Pn	20 58 09.1	+0.9
SMAR	Somma	2.15	12	PN	Pn	20 58 09.1	+0.9
KOK	Koryaka	2.16	9	eP	Pn	20 58 10.0	+1.8
KOK				eS	Sn	20 58 35.6	+0.9
KOK	Koryaka	2.16	9	PN	Pn	20 58 10.0	+1.8
KOK				S	Sn	20 58 35.6	+0.9
SDLR	Sedlovina	2.17	13	eP	Pn	20 58 09.2	+0.8
SDLR				eS	Sn	20 58 34.2	-1.0
SDLR	Sedlovina	2.17	13	PN	Pn	20 58 09.2	+0.8
SDLR				S	Sn	20 58 34.2	-1.0
KRER	Koryakskii	2.18	11	i P	Pn	20 58 10.0	+1.4
KRER				eS	Sn	20 58 36.0	+0.5
KRER	Koryakskii	2.18	11	PN	Pn	20 58 10.0	+1.4
KRER				S	Sn	20 58 36.0	+0.5
KRX	Arik	2.22	9	i P	Pn	20 58 10.5	+1.4
KRX	Arik	2.22	9	PN	Pn	20 58 10.5	+1.4
SPN	Mys Shipunski	2.28	31	eP	Pn	20 58 10.5	+0.8
SPN				eS	Sn	20 58 36.4	-1.1
SPN	Mys Shipunski	2.28	31	PN	Pn	20 58 10.5	+0.8
SPN				S	Sn	20 58 36.4	-1.1
KII	Karymskiy	3.00	16	eP	Pn	20 58 21.2	+2.0
KII				eS	Sn	20 58 55.5	+1.0
KII	Karymskiy	3.00	16	PN	Pn	20 58 21.2	+2.0
KII				S	Sn	20 58 55.5	+1.0
KZV	Kizimen	4.18	18	eP	Pn	20 58 36.5	+1.4
KZV				eS	Sn	20 59 22.6	-0.3
KZV	Kizimen	4.18	18	PN	Pn	20 58 36.5	+1.4
KZV				S	Sn	20 59 22.6	-0.3
TUMD	Tumrok D	4.28	18	eP	Pn	20 58 38.5	+2.1
TUMD				eS	Sn	20 59 26.3	+1.1
TUMR	Tumrok	4.31	16	i P	Pn	20 58 38.9	+2.1
TUMR	Tumrok	4.31	16	PN	Pn	20 58 38.5	+1.7
TUMR				S	Sn	20 59 26.3	+0.2
KBTR	Krutoberegovo	5.79	27	eP	Pn	20 58 57.5	+0.8
KBTR				eS	Sn	20 59 58.2	-3.5
KBTR	Krutoberegovo	5.79	27	PN	Pn	20 58 57.5	+0.8
KBTR				S	Sn	20 59 58.2	-3.5
BKI	Bering	6.25	47	eS	Sn	21 00 07.1	-5.7
JKA	Kamikawa-asahi	12.57	242		Pn	21 00 29.0	+0.6
JKA	Kamikawa-asahi	12.57	242	Pn	Pn	21 00 25.1	-3.3
ASAJ	Asahikawa	12.57	242	P	Pn	21 00 29.0	+0.6
	comp=N,1.0nm,0.3s,baz=71,slow=15,SNR=9.4						
ASAJ	Asahikawa	12.57	242	PN	Pn	21 00 25.1	-3.3
ERM	Erimo	13.71	234	P	Pn	21 00 41.1	-2.3
ERM	Erimo	13.71	234	Pn	Pn	21 00 41.1	-2.3
KLR	Kul'dur	16.92	274	P	P	21 01 23.8	-0.2
	comp=N,0.3nm,0.3s,baz=72,slow=11,SNR=11						
KLR	Kul'dur	16.92	274⇓	eP	P	21 01 25.5	+1.5
KLR				pmax	pmax		
	comp=Z,8.0nm,1.6s						
YAK	Yakutsk	18.85	316	eP	P	21 01 42.9	-2.1
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MJB9	Matsu-Tunnel	20.36	232	P	P	21 02 02.2	+0.6
MJB9				IAmb	IAmb	21 02 04.3	
	comp=Z,11nm,0.8s						
MAJO	Matsushiro	20.36	232	deP	P	21 02 03.2	+1.6
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MAJO	Matsushiro	20.36	232	P	P	21 02 02.3	+0.7
MAJO				IAmb	IAmb	21 02 04.0	
	comp=Z,13nm,0.8s						
MAT	Matsushiro	20.36	232	P	P	21 02 03.2	+1.6
MJAR	Matsushiro Arr	20.36	232	P	P	21 02 03.3	+1.6
	comp=Z,5.5nm,0.8s,baz=24,slow=11,SNR=40						
ANM	Nome	23.21	41	P	P	21 02 30.0	-1.0
ANM				pmax	pmax		
	comp=Z,13nm,1.2s						
ANM	Nome	23.21	41	P	P	21 02 30.0	-1.0
ANM				IAmb	IAmb	21 02 34.5	
	comp=Z,13nm,1.2s						
TIXI	Tiksi	24.35	338	P	P	21 02 39.0	-2.2
	comp=Z,1.5nm,0.3s,baz=180,slow=0.5,SNR=7.1						
TIXI	Tiksi	24.35	338⇑	eP	P	21 02 40.1	-1.2
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
TIXI	Tiksi	24.35	338	P	P	21 02 40.0	-1.2
KSRS	Korea Array	25.33	249	P	P	21 02 50.9	+0.4
	comp=Z,1.2nm,0.5s,baz=45,slow=9.4,SNR=5.6						
H11N2	WAKE ISLAND Hy	32.14	164	T	T	21 38 02.0	
	baz=349,slow=76						
H11N3	WAKE ISLAND Hy	32.16	164	T	T	21 38 02.1	
	baz=349,slow=76						
H11N1	WAKE ISLAND Hy	32.16	164	T	T	21 38 05.2	
	baz=349,slow=76						
H11S1	WAKE ISLAND Hy	33.30	165	T	T	21 39 21.3	
	baz=350,slow=76						
H11S3	WAKE ISLAND Hy	33.32	165	T	T	21 39 32.6	
	baz=350,slow=76						
H11S2	WAKE ISLAND Hy	33.32	165	T	T	21 39 26.8	
	baz=350,slow=76						
MESA	MESA	33.88	51	P	P	21 04 04.8	-1.3
YAH	Yahtse	33.94	51	P	P	21 04 06.7	0.0
YAH				IAmb	IAmb	21 04 20.4	
	comp=Z,32nm,0.6s						
YKU2	Yakutat	35.15	52	P	P	21 04 18.8	+2.1
DGZ	Jazzator, Alta	43.40	297⇓	eP	P	21 05 25.5	-0.2
DGZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KURK	Kurchatov	47.69	302	c iP	P	21 05 57.3	-1.9
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KURK	Kurchatov	47.69	302	P	P	21 05 57.7	-1.5
KURK				IAmb	IAmb	21 05 58.7	
	comp=Z,3.0nm,0.6s						
MK31	Makanchi Array	47.86	296	P	P	21 05 58.6	-2.0
MK31				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MK31	Makanchi Array	47.86	296	P	P	21 05 58.6	-2.0
MK31				IAmb	IAmb	21 05 60.0	
	comp=Z,1.1nm,0.7s						
MKAR	Makanchi Array	47.86	296	P	P	21 05 58.9	-1.8
	comp=Z,0.9nm,0.6s,baz=58,slow=6.2,SNR=12						
MAKZ	Makanchi	48.03	296	P	P	21 06 00.1	-1.8
MAKZ				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MAKZ	Makanchi	48.03	296	P	P	21 06 00.1	-1.8
BRVK	Borovoye	50.63	309⇓	eP	P	21 06 19.8	-1.8
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CM31	Chiang Mai Arr	56.54	257	P	P	21 07 06.0	+0.9
CM31				IAmb	IAmb	21 07 07.5	
	comp=Z,3.4nm,0.7s						
CMAR	Chiang Mai Arr	56.54	257	P	P	21 07 06.9	+1.8
	comp=Z,2.1nm,0.7s,baz=29,slow=7.0,SNR=20						
NVAR	Mina Array Bea	57.62	68	P	P	21 07 15.7	+2.9
	comp=Z,0.2nm,0.4s,baz=297,slow=8.0,SNR=3.6						
NOA	NORSAR Array B	65.02	343	P	P	21 08 01.2	-0.9
	comp=Z,0.2nm,0.3s,baz=33,slow=7.4,SNR=3.8						
AKASG	Malin Array Be	69.60	328	P	P	21 08 30.4	-0.6
	comp=Z,0.2nm,0.3s,baz=32,slow=6.1,SNR=1.9						
TXAR	Lajitas Array	72.58	65	P	P	21 08 51.9	+2.4
	comp=Z,0.3nm,0.5s,baz=303,slow=5.0,SNR=6.4						
WRA	Warramunga Arr	73.81	203	i P	P	21 08 56.7	+0.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
KHC	Kasperske Hory	75.56	337⇓	eP	P	21 09 06.9	+0.4
KHC				pmax	pmax		
	comp=Z,5.0nm,1.5s						
GERES	GERESS Array B	75.80	337	P	P	21 09 07.5	-0.4
	comp=Z,0.2nm,0.4s,baz=38,slow=5.0,SNR=2.2						
ASAR	Alice Springs	77.49	203	P	P	21 09 19.8	+2.3
	comp=Z,0.3nm,0.6s,baz=14,slow=5.2,SNR=4.3						
H03N2	Juan Fernandez	135.48	89	T	T	23 47 27.6	
	baz=314,slow=77						
H03N1	Juan Fernandez	135.50	89	T	T	23 47 29.0	
	baz=314,slow=77						
H03N3	Juan Fernandez	135.50	89	T	T	23 47 28.3	
	baz=314,slow=77						

IDC 01 21:07:26.4±1.9**,24.°99N**×**97.°57E,h0km,mb3.4**/2**, mb1 3.4**/3**,mb1mx3.1**/30**,mbtmp3.3**/3**,ML3.5**/1**,Error ellipse: s-maj=97.4km s-min=24.9km az=75.0, Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	6.62	169	Pn	Pn	21 09 04.1	-0.9
	0.2nm,0.3s,baz=345,slow=13,SNR=7.8						
CMAR				Pg	Pg	21 09 28.6	-4.7
	0.2nm,0.3s,baz=343,slow=18,SNR=7.6						
CMAR				Lg	Lg	21 10 51.2	
	0.2nm,0.3s,baz=33,slow=34,SNR=4.8						
MKAR	Makanchi Array	24.95	335	P	P	21 12 51.4	0.0
	0.5nm,0.8s,baz=142,slow=7.3,SNR=5.0						
ZALV	Zalesovo Beam	30.45	345	P	P	21 13 40.6	0.0
	0.3nm,0.4s,baz=161,slow=9.2,SNR=2.1						

*ISK **01** 21:17:45.7, 40.°56N×27.°33E, h11km, ML3.6/33*
*DDA **01** 21:17:45.6, 40.°54N×27.°33E, h8km±3km, MW3.6*
*THE **01** 21:17:47.0, 40.°62N×27.°28E, h6km±2km, ML3.5/6, Error ellipse: s-maj=3.4km s-min=1.2km az=54.0*
*ATH **01** 21:17:48.6, 40.°52N×27.°08E, h31km±10km, ML3.5/5, Error ellipse: s-maj=10.8km s-min=2.5km az=86.0*
*BEO **01** 21:17:49.2±1.9, 40.°64N×27.°23E, h15km, ML3.5/2*
ISC 01 21:17:46.1±0.8**,40.°56N**±0.°02×**27.°32E**±0.°01**,h12**km±6km**, n161,**σ**0.s98**/194**,19C-1D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KRBG	Karabiga-Canak	0.17	185	PG	Pg	21 17 50.0	+0.1
KRBG				SG	Sg	21 17 52.9	+0.4
RKY	Sarkoy-Tekirda	0.17	321	PG	Pg	21 17 50.1	+0.1
SART	Tekirdag	0.17	322	i P	Pg	21 17 50.1	+0.1
SART				i S	Sg	21 17 52.3	-0.3
SART				IAML		21 17 55.0	
	comp=E,4μm,0.5s						
MRMT	Marmara Adasi	0.22	78	PG	Pg	21 17 50.4	-0.4
MRMT				SG	Sg	21 17 53.6	-0.4
KNL	Balıkesir	0.33	151	i P	Pg	21 17 53.1	+0.3
KNL				i S	Sg	21 17 57.1	-0.1
TKR	Tekirdag	0.46	21	PG	Pg	21 17 55.4	+0.2
LPK	Lapseki	0.46	247	PG	Pg	21 17 55.5	+0.3
LPK				SG	Sb	21 18 02.7	-0.4
EDC	Edincik	0.47	117	PG	Pg	21 17 55.1	-0.2
KESN	Edirne-Kesan	0.55	299	i P	Pg	21 17 56.9	-0.1
KESN				IAML		21 18 07.0	
	comp=E,1μm,0.2s						
KESN				IAML		21 18 17.0	
	comp=N,2μm,0.4s						
GONE	Gonen-Balikesi	0.58	151	PG	Pg	21 17 57.7	+0.2
ERIK	Erikli-Kesan	0.62	281	PG	Pg	21 17 58.2	0.0
GELI	Tayfur-Gelibol	0.66	256	PG	Pg	21 17 58.9	-0.1
BOTS	Marmara Eregli	0.66	49	PG	Pg	21 17 58.9	-0.1
UKOP	Uzunkopru-Edir	0.77	318	PG	Pg	21 18 01.2	+0.2
KCTX	Karacabey (Bur	0.85	110	PG	Pg	21 18 01.5	-1.0
ENEZ	Enez	0.90	282	PG	Pg	21 18 03.9	+0.4
SLVT	Silivri	0.95	45	PG	Pg	21 18 04.2	-0.3
BAYC	CANAKKALE_Bayr	1.01	216	i P	Pg	21 18 04.6	-0.9
BAYC				i S	Sg	21 18 18.7	+0.1
BAYC				IAML		21 18 22.0	
	comp=E,1μm,0.3s						
BAYC				IAML		21 18 23.0	
	comp=N,1μm,0.3s						
BALB	Balikesir	1.01	155	PG	Pg	21 18 05.3	-0.4
ALN	Alexandroupoli	1.02	290	P	Pg	21 18 05.2	-0.6
ALN				S	Sb	21 18 19.7	+0.5
ALN	Alexandroupoli	1.02	290	PG	Pg	21 18 05.6	-0.2
ELBA	Catalca	1.03	55	i P	Pb	21 18 05.1	-0.8
ELBA				i S	Sg	21 18 18.8	-0.6
EZN	Ezine	1.05	226	PG	Pg	21 18 05.9	-0.5
PHSR	Pinarhisar	1.08	8	PG	Pb	21 18 06.9	0.0
YKBL	Yakuplu-Istanb	1.11	67	PN	Pb	21 18 07.1	-0.3
CTKS	Kestanelik-??a	1.13	53	PN	Pb	21 18 07.0	-0.6
GOKA	anakkale-Gk	1.14	252	i P	Pb	21 18 07.2	-0.5
GOKA				i S	Sb	21 18 22.7	+0.2
GADA	Gvkgeada	1.14	252	PN	Pb	21 18 07.2	-0.7
AVCI	Avcilar-stanb	1.15	67	PN	Pb	21 18 07.9	-0.1
CTYL	Yalikoy Yolu	1.18	39	PN	Pb	21 18 07.8	-0.6
ARMT	Armutlu	1.18	89	PN	Pn	21 18 08.2	-0.3
BOZC	Bozcaada	1.20	234	i P	Pb	21 18 08.1	-0.8
BOZC				i S	Sb	21 18 24.1	-0.3
BOZC				IAML		21 18 28.0	
	comp=N,2μm,0.6s						
MDNY	Mudanya-Bursa	1.21	98	PN	Pn	21 18 08.4	-0.5
STEP	BALIKESIR_Sava	1.22	165	i P	Pn	21 18 09.0	-0.1
STEP				i S	Sb	21 18 23.8	-1.1
STEP				IAML		21 18 28.0	
	comp=E,1μm,0.5s						
STEP				IAML		21 18 31.0	
	comp=N,2μm,0.7s						
HVHR	Bakirkoy-Istan	1.23	70	PN	Pn	21 18 09.1	-0.1
KIRK	Kırklareli	1.23	352	i P	Pn	21 18 08.8	-0.5
KIRK				i S	Sb	21 18 24.2	-1.1
KIRK				IAML		21 18 28.0	
	comp=N,301nm,0.3s						
BGKT	Bogazkoy	1.27	60	PN	Pn	21 18 09.5	-0.2
DURS	Dursunbey	1.31	137	i P	Pn	21 18 10.6	+0.3
DURS				i S	Sb	21 18 27.6	+0.1
DURS				IAML		21 18 31.0	
	comp=E,1μm,0.4s						
ORLT	Orhaneli	1.31	112	PN	Pn	21 18 10.2	-0.2
AYVA	Ayvalik	1.34	201	i P	Pn	21 18 11.2	+0.5
AYVA				i S	Sn	21 18 29.4	+0.9
AYVA				IAML		21 18 32.0	
	comp=E,2μm,0.4s						
SMTH	Samothraki Isl	1.36	267	P	Pn	21 18 10.8	-0.3
SMTH				S	Sn	21 18 29.5	+0.4
	comp=E,2μm,0.3s						
SMTH	Samothraki Isl	1.36	267	P	Pn	21 18 10.9	-0.1
SMTH				S	Sb	21 18 27.4	-1.7
SMTH				AML	AML	21 18 32.0	
	comp=E,4849μm,0.4s						
SMTH				AML	AML	21 18 32.3	
	comp=N,3385μm,0.4s						
DST	Dursunbey	1.38	133	PN	Pn	21 18 11.2	-0.1
BUY	Buyukada	1.40	77	i P	Pn	21 18 11.7	+0.1
BUY				i S	Sn	21 18 28.4	-1.6
BUY				IAML		21 18 33.0	
	comp=E,599nm,0.3s						
BUY				IAML		21 18 35.0	
	comp=N,716nm,0.5s						
ISK	Istanbul-Kandi	1.42	68	PN	Pn	21 18 11.5	-0.3
KAVV	Kandilli-Istan	1.42	69	PN	Pn	21 18 11.6	-0.2
GEMT	Gemlik	1.43	94	PN	Pn	21 18 12.1	+0.1
ULDT	Uludag	1.45	106	i P	Pn	21 18 12.3	-0.1
ULDT				IAML		21 18 36.0	
	comp=E,351nm,0.4s						
ULDT				IAML		21 18 37.0	
	comp=N,448nm,0.5s						
IGD	Bursa	1.47	101	i P	Pn	21 18 12.5	0.0
IGD				IAML		21 18 36.0	
	comp=E,320nm,0.3s						
IGD				IAML		21 18 39.0	
	comp=N,247nm,0.8s						
RDO	Rodhopi	1.47	294	P	Pn	21 18 13.1	+0.6
RDO				S	Sb	21 18 32.3	+0.2
	comp=N,988nm,0.2s						
RDO	Rodhopi	1.47	294	P	Pn	21 18 13.1	+0.6
RDO				S	Sn	21 18 30.8	-0.9
RDO				AML	AML	21 18 33.9	
	comp=N,1480μm,0.2s						
RDO				AML	AML	21 18 35.2	
	comp=E,2518μm,0.2s						
KLYT	Kilyos	1.48	62	PN	Pn	21 18 12.6	0.0
TUZL	Tuzla-Istanbul	1.50	80	PN	Pn	21 18 12.9	-0.1
PRK	Paraskevi	1.54	212	P	Pb	21 18 14.9	+0.3
PRK				S	Sg	21 18 35.9	+0.3
	comp=E,3μm,0.4s						
PRK	Paraskevi	1.54	212	P	Pb	21 18 14.9	+0.3
PRK				AML	AML	21 18 38.2	
	comp=N,3225μm,0.3s						
PRK				AML	AML	21 18 38.4	
	comp=E,6461μm,0.2s						
ZEDA	zmir-Bergama	1.60	187	i P	Pn	21 18 14.6	+0.3
ZEDA				IAML		21 18 39.0	
	comp=N,660nm,0.5s						
ZEDA				IAML		21 18 42.0	
	comp=E,531nm,0.3s						
AKHS	Akhisar	1.72	167	i P	Pn	21 18 16.4	+0.4
AKHS				i S	Sn	21 18 36.6	-1.4
SIGR	SIGRI	1.75	220	P	Pn	21 18 16.4	0.0
SIGR				S	Sg	21 18 42.2	-0.3
	comp=E,2μm,0.2s						
SIGR	SIGRI	1.75	220	P	Pn	21 18 16.0	-0.3
SIGR				AML	AML	21 18 44.6	
	comp=E,2864μm,0.2s						
SIGR				AML	AML	21 18 45.0	
	comp=N,3587μm,0.3s						
LIA	Limnos Island	1.76	249	P	Pn	21 18 16.8	+0.3
LIA				S	Sb	21 18 39.9	-0.6
	comp=N,982nm,0.6s						
LIA	Limnos Island	1.76	249	P	Pn	21 18 16.6	+0.1
LIA				AML	AML	21 18 44.1	
	comp=N,1885μm,0.3s						
LIA				AML	AML	21 18 44.8	
	comp=E,1804μm,0.4s						
KDZ	Kurdzhali	1.80	308	i P	Pn	21 18 17.8	+0.7
DEMI	Demirci	1.86	144	i P	Pn	21 18 18.7	+0.7
DEMI				IAML		21 18 46.0	

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=N,877nm,0.3s						
DEMI				IAML		21 18 47.0	
	comp=E,636nm,0.7s						
THAS	Thassos island	1.98	272	P	Pn	21 18 19.1	-0.4
THAS	Thassos island	1.98	272	P	Pn	21 18 18.9	-0.5
JMB	Yambol	1.98	344	*i* P	Pg	21 18 24.7	+0.5
DIM	Dimitrovgrad	2.01	319	*i* P	Pn	21 18 20.0	+0.1
EFSA	Agios Efstrati	2.06	241	P	Pn	21 18 21.0	+0.4
KAVA	Kavala	2.17	283	P	Pn	21 18 22.6	+0.5
KAVA				S	Sn	21 18 48.5	-0.5
	comp=E,470nm,0.3s						
KAVA	Kavala	2.17	283	P	Pn	21 18 22.6	+0.5
AUBOZ	BOZOYUK	2.18	106	*i* P	Pn	21 18 22.5	+0.2
AUBOZ				IAML		21 19 01.0	
	comp=N,265nm,0.5s						
AUBOZ				IAML		21 19 01.0	
	comp=E,350nm,0.4s						
GDZ	Gediz	2.22	131	*i* P	Pn	21 18 23.6	+0.6
GDZ				IAML		21 19 05.0	
	comp=N,151nm,0.7s						
KAND	Kocaeli-Kandir	2.25	75	*i* P	Pn	21 18 22.8	-0.4
KAND				*i* S	Sn	21 18 50.6	-0.3
KVLA	Kavala	2.26	281	P	Pn	21 18 23.9	+0.6
USAK	Uak-Merkez	2.26	144	*i* P	Pn	21 18 23.7	+0.2
USAK				*i* S	Sb	21 18 56.2	+1.3
RZN	Rozhen	2.27	301	*i* P	Pn	21 18 24.4	+0.8
URLA	Izmir	2.27	194	*i* P	Pn	21 18 22.9	-0.6
URLA				IAML		21 19 06.0	
	comp=N,127nm,0.5s						
URLA				IAML		21 19 12.0	
	comp=E,97nm,0.4s						
GEYV	SAKARYA_Geyve	2.27	91	*i* P	Pn	21 18 23.4	-0.2
GEYV				*i* S	Sn	21 18 55.0	+3.5
MANT	Manisa	2.28	155	*i* P	Pn	21 18 24.4	+0.6
CHOS	Chios island	2.38	205	P	Pn	21 18 25.1	0.0
CHOS	Chios island	2.38	205	P	Pn	21 18 25.0	0.0
PSRA	Psara	2.43	214	P	Pn	21 18 26.8	+1.2
BORA	Eskisehir	2.50	105	*i* P	Pn	21 18 26.8	+0.1
BORA				*i* S	Sb	21 19 04.5	+2.8
PLD	Plovdiv	2.50	309	*i* P	Pn	21 18 27.3	+0.6
DGB	zmir	2.53	188	*i* P	Pn	21 18 27.1	+0.1
DGB				IAML		21 19 08.0	
	comp=E,181nm,0.9s						
DGB				IAML		21 19 11.0	
	comp=N,252nm,0.5s						
OUR	Ouranopolis	2.55	266	P	Pn	21 18 27.1	-0.3
OUR	Ouranopolis	2.55	266	P	Pn	21 18 26.9	-0.5
SRCK	Saricakaya, Es	2.58	100	*i* P	Pn	21 18 27.8	0.0
SRCK				*i* S	Sg	21 19 08.5	-0.7
ELND	Elena	2.60	336	⇑P	Pn	21 18 28.8	+0.7
PRD	Provadia	2.64	1	*i* P	Pn	21 18 28.6	0.0
NEF	NEVSHA	2.70	359	*i* P	Pn	21 18 30.0	+0.5
SAHE	Sakarya_HENDEK	2.71	83	*i* P	Pn	21 18 29.8	+0.3
KHAL	Karahalli	2.76	142	*i* P	Pn	21 18 31.1	+0.8
KHAL				*i* S	Sb	21 19 11.9	+2.6
AUKIR	Kırka- Seyitga	2.78	116	*i* P	Pg	21 18 39.9	+0.4
BTAS	Taskesti	2.81	89	*i* P	Pn	21 18 31.7	+0.7
GCAM	G?zelcaml?	2.85	181	*i* P	Pn	21 18 32.1	+0.6
SRS	Serrai	2.88	282	*e*Pn	Pn	21 18 32.4	+0.5
SRS				*e*Sn	Sn	21 19 06.7	+0.2
SRS	Serrai	2.88	282	P	Pn	21 18 32.2	+0.3
MMB	Musomiste	2.90	292	*i* P	Pn	21 18 32.9	+0.7
AFYO	Afyonkarahisar	2.90	127	*i* P	Pn	21 18 32.7	+0.4
AOS	Alonnisos	2.99	243	P	Pn	21 18 33.3	0.0
AOS	Alonnisos	2.99	243	P	Pn	21 18 33.5	+0.2
RAZG	Razgrad	3.06	349	⇑P	Pn	21 18 37.4	+2.9
CIFT	Cifteler, Eski	3.12	111	*i* P	Pn	21 18 36.0	+0.8
KYMI	Kymi, Euboea I	3.14	233	P	Pn	21 18 35.8	+0.3
YIGI	Dzce	3.17	81	*i* P	Pn	21 18 37.0	+1.2
KZIL	AFYON_Kizioren	3.17	135	*i* P	Pn	21 18 36.7	+0.6
KZIL				*i* S	Sg	21 19 29.0	+0.9
TAVA	DENIZLI_Tavas	3.33	158	*i* P	Pn	21 18 38.7	+0.5
BOLV	Bolvadin	3.35	122	*i* P	Pn	21 18 39.9	+1.4
NEO	Neokhori	3.39	250	P	Pn	21 18 38.0	-0.9
KNT	Kendrikon	3.40	282	P	Pn	21 18 39.8	+0.7
AUSIV	SIVRIHISAR	3.43	108	*i* P	Pb	21 18 47.5	+0.6
KKB	Krupnik	3.45	294	*i* P	Pn	21 18 40.9	+1.1
KIBS	BOLU	3.46	91	*i* P	Pn	21 18 40.5	+0.5
PLVB	Pleven	3.47	325	⇑P	Pn	21 18 40.3	+0.3
BRDR	BURDUR-Merkez	3.57	142	*i* P	Pn	21 18 42.4	+1.0
BCAM	Yenicaga	3.62	84	*i* P	Pn	21 18 42.8	+0.6
VAY	Valandovo	3.67	284	*i* Pn	Pn	21 18 44.5	+1.7
VTS	Vitosha	3.69	305	*e*Pn	Pn	21 18 44.0	+0.9
VTS	Vitosha	3.69	305	⇑P	Pn	21 18 41.7	-1.4
VTS	Vitosha	3.69	305	*i* P	Pn	21 18 44.0	+0.9
GOLH	Golhisar	3.75	151	*i* P	Pn	21 18 45.2	+1.3
APE	Apeiranthos	3.75	202	P	Pn	21 18 43.5	-0.5
APE	Apeiranthos	3.75	202	⇑P	Pn	21 18 43.9	-0.1
TURN	Turunc	3.81	164	*i* P	Pn	21 18 45.5	+0.7
DAT	Datca	3.83	177	*i* P	Pn	21 18 43.1	-1.9
DALY	Dalyan (Mula)	3.88	164	*i* P	Pn	21 18 46.7	+1.1
BOSS	Bosilegrad	4.11	300	*e*Pn	Pn	21 18 50.6	+1.7
FETY	Fethiye	4.16	160	*i* P	Pn	21 18 50.4	+0.9
DOGA	KONYA_Doganhis	4.17	125	*i* P	Pn	21 18 49.8	0.0
ANTO	Ankara	4.25	98	⇑P	Pb	21 18 57.7	-3.2
ZAPS	Zavoj	4.42	309	*e*Pn	Pn	21 18 54.8	+1.7
SANT	Santorini	4.43	200	⇑P	Pn	21 18 53.0	-0.2
FNA	Florina	4.52	275	*e*Pn	Pn	21 18 56.3	+1.8
BBAL	Bala	4.57	101	*i* P	Pn	21 18 55.1	-0.1
PELI	Kastamonı-Ara	4.60	79	*i* P	Pn	21 18 58.3	+2.6
BARS	Barje	4.70	301	*e*Pn	Pn	21 18 58.7	+1.8
KEPZ	Antalya-Kepez	4.96	136	*i* P	Pn	21 18 59.3	-1.2
ZAGS	Zajecar	4.98	312	*e*Pn	Pn	21 19 00.8	0.0
MLR	Muntele Rosu	5.03	349	⇑P	Pn	21 19 04.0	+2.4
DELI	KIRIKKALE	5.08	94	*i* P	Pn	21 19 02.3	0.0
DELI				*i* S	Sn	21 19 58.5	-2.5
ODBI	Odobesti	5.21	358	⇑P	Pn	21 19 07.0	+3.2
KIRS	Kırehir-Merke	5.28	104	*i* P	Pn	21 19 04.8	-0.2
PLOR	Plostina	5.31	355	⇑P	Pn	21 19 07.9	+2.6
VRI	Vrincioaia	5.32	356	⇑P	Pn	21 19 07.5	+2.0
SELS	Selova	5.33	302	*e*Pn	Pn	21 19 06.3	+0.6
CDAG	Cicekdag	5.49	98	*i* P	Pn	21 19 07.1	-0.8
LOT	Lotru	5.54	333	⇑P	Pn	21 19 09.2	+0.8
HERR	Herculane	5.63	322	⇑P	Pn	21 19 09.5	-0.1
OZUR		5.65	349	⇑P	Pn	21 19 12.2	+2.3
GZR	Gura Zlata	5.87	327	⇑P	Pn	21 19 13.5	+0.5
MDVR	Moldovita	5.90	317	⇑P	Pn	21 19 12.8	-0.7
GRUS	Gruza	5.92	306	*e*Pn	Pn	21 19 14.3	+0.6
TESR	Tescani	5.97	356	⇓P	Pn	21 19 15.9	+1.6
SJES	Sjenica	6.11	299	*e*Pn	Pn	21 19 17.8	+1.5
IVAS	Ivanjica	6.12	302	*e*Pn	Pn	21 19 17.0	+0.5
TRUS	Trudelj	6.29	308	*e*Pn	Pn	21 19 19.0	+0.2
DIVS	Divibare	6.48	305	*e*Pn	Pn	21 19 22.1	+0.7
BZS	Buzias	6.55	322	⇑P	Pn	21 19 22.2	-0.2
DRGR		7.07	333	⇑P	Pn	21 19 30.3	+0.8
BURAR	Bucovina Array	7.21	349	⇑P	Pn	21 19 34.6	+3.0

*SKHL **01** 21:19:45.9±0.5, 44°.37N×148°.38E, h45km±4km, mb3.9/2*
*JMA **01** 21:19:46.2±0.3, 44°.02N×148°.13E, h0km, M3.6*
ISC 01 21:19:44.6±3.2**, 44°.39N**±0°.09×**148°.5E**±0°.2**, h50**km**, n16,** σ**1s.74**/28**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.96	332	*e*P	Pn	21 20 01.8	+0.1
KUR				AMB	AMB	21 20 02.0	
	150nm,0.9s						
KUR				*e*S	Sn	21 20 13.1	-1.2
KUR				A	A	21 20 14.8	
	260nm,0.2s						
KUR				A	A	21 20 14.8	
	280nm,0.2s						
YUK	Yuzh-Kuril'sk	1.93	260	*e*P	Pn	21 20 14.1	-0.8
YUK				AMB	AMB	21 20 17.1	
	80nm,0.4s						
YUK				*e*S	Sn	21 20 35.3	-2.6
YUK				A	A	21 20 35.9	
	150nm,0.2s						
YUK				A	A	21 20 35.9	
	120nm,0.2s						
GRPR	Tuman	2.00	260	*e*P	Pn	21 20 16.0	+0.1
GRPR				*e*S	Sn	21 20 39.0	-0.7
GRPR				A	A	21 20 41.0	
	140nm,0.2s						
GRPR				A	A	21 20 41.0	
	90nm,0.2s						
NEM2	Nemuro 2	2.24	244	P	Pn	21 20 19.7	+0.6
NEM2				*e*S	Sn	21 20 43.9	-1.6
NMR	Nemuro--Hokkai	2.25	244	*e*P	Pn	21 20 19.0	-0.2
NMR				*e*S	Sn	21 20 44.0	-1.7
JRA	Rausu	2.47	261	P	Pn	21 20 24.4	+2.1
JRA				*e*S	Sn	21 20 52.5	+1.3
JNSB	Nemuroshibetsu	2.59	258	P	Pn	21 20 26.1	+2.1
JKHN	Kushirohamanak	2.75	243	P	Pn	21 20 27.1	+1.0
JKHN				*e*S	Sn	21 20 57.4	-0.7
JNK	Nakash	2.84	255	P	Pn	21 20 29.2	+1.8
JNK				*e*S	Sn	21 21 00.3	-0.1
JAK	Akkeshi	3.09	245	P	Pn	21 20 32.0	+1.2
JAK				*e*S	Sn	21 21 05.3	-1.1
JAR	Ashorobuto	3.59	254	P	Pn	21 20 40.4	+2.7
JCH	Churui	4.13	246	P	Pn	21 20 46.9	+1.8
JCH				*e*S	Sn	21 21 31.6	-0.6
JNBK	Urakawa-nobuka	4.69	245	P	Pn	21 20 54.6	+1.8
JKB	Kayabe	6.01	248	P	Pn	21 21 12.9	+2.1
JKB				*e*S	Sn	21 22 16.6	-1.6
JOT	Ohata	6.24	244	P	Pn	21 21 15.6	+1.6
JOT				*e*S	Sn	21 22 21.6	-2.4
JANG	Nango	6.54	235	*e*S	Sn	21 22 27.8	-3.6

*NNC **01** 21:23:08.3±0.2, 43°.07N×77°.55E, h3km±1km, mb3.0, mpv3.7, Error ellipse: s-maj=2.7km s-min=1.2km az=179.0*
*KRNET **01** 21:23:08.9±0.1, 43°.08N×77°.54E, h19km, mb3.2*
*SOME **01** 21:23:08.4, 43°.05N×77°.55E, h10km*
*KNET **01** 21:23:11.4±0.6, 43°.07N×77°.26E, h0km±3km, ml2.2, Error ellipse: s-maj=4.3km s-min=2.4km az=107.0*
ISC 01 21:23:08.1±1.0**, 43°.08N**±0°.02×**77°.52E**±0°.01**, h18**km±5km**, n79,** σ**0s.92**/144**, 61C-47D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
ANVS	Anan'yevo	0.31	160	⇑*i*P	Pg	21 23 15.1	+0.1
	baz=62						
ANVS				⇑*i*S	Sg	21 23 19.4	-0.3
	baz=62						
KOTS	Kotyrbulak	0.34	298	⇑*i*P	Pb	21 23 16.1	+0.4
	baz=96						
KOTS				⇓*i*S	Sb	21 23 21.3	+0.4
	baz=96						
KOTS	Kotyrbulak	0.34	298	⇑*i*P	Pb	21 23 16.1	+0.4
	152nm,0.1s						
KOTS				⇓*i*S	Sb	21 23 21.3	+0.4
	281nm,0.1s						
KOTS	Kotyrbulak	0.34	298	P	Pb	21 23 16.1	+0.4
	152nm,0.1s						
KOTS				S	Sb	21 23 21.4	+0.4
	281nm,0.1s						
MDOK	Medeo	0.36	284	⇓*i*P	Pb	21 23 16.3	+0.2
	baz=84						
MDOK				⇓*i*S	Sb	21 23 21.7	+0.2
	baz=84						
MDOK	Medeo	0.36	284	⇓*i*P	Pb	21 23 16.3	+0.2
	97nm,0.1s						
MDOK				⇓*i*S	Sb	21 23 21.7	+0.2
	63nm,0.2s						
MDOK	Medeo	0.36	284	⇑P	Pb	21 23 16.1	+0.1
	25nm,0.4s						
MDOK				⇓S	Sb	21 23 21.6	+0.2
	14nm,0.4s						
MDOK	Medeo	0.36	284	Pg	Pb	21 23 16.3	+0.2
	97nm,0.1s						
MDOK				Lg	Lg	21 23 21.7	
	63nm,0.2s						
TNSS	Tian-Shan	0.42	265	⇑*i*P	Pb	21 23 17.6	+0.3
	baz=65						
TNSS				⇑*i*S	Sb	21 23 24.0	+0.4
	baz=65						
TNSS	Tian-Shan	0.42	265	⇑*i*P	Pb	21 23 17.6	+0.3
	74nm,0.1s						
TNSS				⇑*i*S	Sb	21 23 24.0	+0.4
	192nm,0.1s						
TNSS	Tian-Shan	0.42	265	P	Pb	21 23 17.6	+0.3
	51nm,0.1s						
TNSS				S	Sb	21 23 23.9	+0.4
	192nm,0.1s						
KNDC	Almaty	0.43	289	⇓P	Pb	21 23 17.5	+0.2
	13nm,0.3s						
KNDC				⇑S	Sb	21 23 24.5	+1.0
	38nm,0.7s						
AAA	Alma-Ata	0.46	287	⇑*i*P	Pb	21 23 18.7	+0.9
	66nm,0.1s						
AAA				⇑*i*S	Sb	21 23 25.7	+1.3
	58nm,0.1s						
AAA	Alma-Ata	0.46	287	P	Pb	21 23 18.7	+0.9
	66nm,0.1s						
AAA				S	Sb	21 23 25.7	+1.3
	52nm,0.1s						
KURS	Kuram	0.63	49	⇓*i*P	Pb	21 23 20.7	+0.1
	baz=48						
KURS				⇑*i*S	Sb	21 23 29.1	0.0
	baz=48						
KURS	Kuram	0.63	49	⇓*i*P	Pb	21 23 20.6	+0.1
	10nm,0.1s						
KURS				⇑*i*S	Sb	21 23 29.0	0.0
	41nm,0.4s						
KURS	Kuram	0.63	49	P	Pb	21 23 20.6	+0.1
	10nm,0.1s						
KURS				S	Sb	21 23 28.9	-0.1
	41nm,0.4s						
SATY	Saty	0.65	91	⇑*i*P	Pb	21 23 21.0	0.0
	45nm,0.1s						
SATY				⇓*e*S	Sb	21 23 29.8	0.0
	232nm,0.1s						
SATY	Saty	0.65	91	P	Pb	21 23 21.0	0.0
	45nm,0.1s						
SATY				S	Sb	21 23 29.8	0.0
	232nm,0.1s						
IZV	Izvestkoviy	0.67	267	⇑*i*P	Pb	21 23 22.0	+0.6
	baz=67						
IZV				⇑*i*S	Sb	21 23 31.7	+1.4
	baz=67						
IZV	Izvestkoviy	0.67	267	⇑*i*P	Pb	21 23 22.0	+0.6
	106nm,0.1s						
IZV				⇑*i*S	Sb	21 23 31.7	+1.4
	299nm,0.2s						
IZV	Izvestkoviy	0.67	267	P	Pb	21 23 22.0	+0.6
	106nm,0.1s						
IZV				S	Sb	21 23 31.5	+1.1
	284nm,0.1s						
MTBS	Maitube	0.80	274	⇑*i*P	Pn	21 23 24.3	-0.4
	baz=74						
MTBS				⇓*i*S	Sn	21 23 35.5	-0.7
	baz=74						
MTBS	Maitube	0.80	274	⇑*i*P	Pn	21 23 24.3	-0.4
	46nm,0.1s						
MTBS				⇓*i*S	Sn	21 23 35.5	-0.7
	68nm,0.2s						
MTBS	Maitube	0.80	274	P	Pn	21 23 24.3	-0.4
	46nm,0.1s						
MTBS				S	Sn	21 23 35.5	-0.7
	68nm,0.2s						
CHKK	Chushkaly	0.87	334	⇑*i*P	Pn	21 23 25.3	-0.2
	baz=34						
CHKK				⇓*i*S	Sn	21 23 37.2	-0.6
	baz=34						
CHKK	Chushkaly	0.87	334	⇑*i*P	Pn	21 23 25.3	-0.2
	5.9nm,0.1s						
CHKK				⇓*i*S	Sn	21 23 37.1	-0.6
	311nm,0.2s						
CHKK	Chushkaly	0.87	334	P	Pn	21 23 25.3	-0.2
	5.9nm,0.1s						
CHKK				S	Sn	21 23 37.1	-0.6
	311nm,0.2s						
PRZ	Przheval'sk	0.88	132	⇑*i*P	Pb	21 23 25.6	+0.6
	baz=32						
PRZ				⇑*i*S	Sb	21 23 37.5	+1.1
	baz=32						
KTBS	Karatobe	0.88	316	*e*P	Pn	21 23 25.7	0.0
	6.1nm,0.1s						
KTBS				*e*S	Sn	21 23 37.5	-0.6
	81nm,0.4s						
KTBS	Karatobe	0.88	316	P	Pn	21 23 25.7	0.0
	6.1nm,0.1s						
KTBS				S	Sn	21 23 37.5	-0.6
	81nm,0.4s						
KDJ	Kajisay	0.98	195	⇑*i*P	Pb	21 23 27.2	+0.5
	baz=95						
KDJ				⇑*i*S	Sb	21 23 40.5	+1.1
	baz=95						
UZB	Uzynbulak	1.10	86	*e*P	Pn	21 23 28.8	0.0
	47nm,0.1s						
UZB				*e*S	Sg	21 23 43.5	-0.5
	49nm,0.1s						
UZB	Uzynbulak	1.10	86	P	Pn	21 23 28.8	0.0
	47nm,0.1s						
UZB				S	Sg	21 23 43.5	-0.5
	49nm,0.1s						
KST	Kastek	1.14	269	⇑*i*P	Pg	21 23 30.3	0.0
	33nm,0.2s						
KST				⇓*i*S	Sg	21 23 45.9	+0.6
	41nm,0.4s						
KST	Kastek	1.14	269	P	Pg	21 23 30.3	0.0
	33nm,0.2s						
KST				S	Sg	21 23 45.8	+0.5
	41nm,0.4s						
ARXS	Arharly	1.16	11	⇑*i*P	Pg	21 23 30.2	-0.3
	35nm,0.1s						
ARXS				⇑*e*S	Sn	21 23 45.5	+0.5
	19nm,0.1s						
ARXS	Arharly	1.16	11	P	Pg	21 23 30.2	-0.3
	35nm,0.1s						
ARXS				S	Sn	21 23 45.5	+0.5
	19nm,0.1s						
KUU	Kurty	1.19	314	⇑*i*P	Pg	21 23 31.2	+0.2
	baz=13						
KUU				⇓*e*S	Sg	21 23 47.3	+0.8
	baz=13						
KUU	Kurty	1.19	314	⇑*i*P	Pg	21 23 31.2	+0.2
	6.4nm,0.1s						
KUU				⇓*e*S	Sg	21 23 47.3	+0.8
	32nm,0.1s						
KUU	Kurty	1.19	314	P	Pg	21 23 31.2	+0.2
	6.4nm,0.1s						
KUU				S	Sg	21 23 47.4	+0.8
	154nm,0.2s						
MNBS	Baschi	1.19	32	⇓*i*P	Pg	21 23 31.3	+0.2
	14nm,0.1s						
MNBS				⇑*i*S	Sg	21 23 47.5	+0.8
	50nm,0.2s						
MNBS	Baschi	1.19	32	P	Pg	21 23 31.3	+0.2
	14nm,0.1s						
MNBS				S	Sg	21 23 47.4	+0.8
	45nm,0.1s						
ULHL	Ulahol	1.26	229	⇑*i*P	Pb	21 23 32.4	+0.9
	baz=30						
ULHL				⇑*e*S	Sn	21 23 49.1	+1.5
	baz=30						
ULHL	Ulahol	1.26	229	⇓P	Pb	21 23 32.5	+1.1
	5.2nm,0.2s,SNR=53						
ULHL				⇓S	Sg	21 23 49.6	+0.7
	16nm,0.1s						
DGS	Degeres	1.29	278	⇓*i*P	Pg	21 23 33.0	-0.1
	baz=78						
DGS				⇓*i*S	Sg	21 23 50.3	+0.3
	baz=78						
DGS	Degeres	1.29	278	⇓*i*P	Pg	21 23 33.0	-0.1
	30nm,0.2s						
DGS				⇓*i*S	Sg	21 23 50.3	+0.3
	34nm,0.2s						
DGS	Degeres	1.29	278	P	Pg	21 23 32.9	-0.1
	30nm,0.2s						
DGS				S	Sg	21 23 50.2	+0.3
	34nm,0.2s						
BOOM	Boomskoye usch	1.30	244	⇓*e*P	Pg	21 23 33.4	+0.1
	baz=44						
BOOM				⇓*i*S	Sg	21 23 50.4	0.0
	baz=44						
TKM2	Tokmak 2	1.42	264	⇑*i*P	Pg	21 23 35.8	+0.2
	baz=64						
TKM2				⇑*i*S	Sg	21 23 55.0	+0.9
	baz=64						
TKM2	Tokmak 2	1.42	264	⇓P	Pg	21 23 35.5	0.0
	5.5nm,0.1s,SNR=6.0						
SHLS	Shalkode	1.42	86	⇓*i*P	Pg	21 23 40.2	+4.6
	baz=86						
SHLS				⇓*e*S	Sg	21 24 03.4	+9.3
	baz=86						
SHLS	Shalkode	1.42	86	⇓*i*P	Pg	21 23 40.2	+4.6
	14nm,0.1s						
SHLS				⇓*e*S	Sg	21 24 03.4	+9.3
	51nm,0.4s						
SHLS	Shalkode	1.42	86	P	Pg	21 23 40.3	+4.7
	14nm,0.1s						
SHLS				S	Sg	21 24 03.4	+9.2
	50nm,0.4s						
PDGK	Podgornoye	1.46	79	⇑P	Pb	21 23 34.9	0.0
	4.0nm,0.3s						
PDGK				⇓S	Sg	21 23 54.1	-1.3
	11nm,0.5s						
KRBS	Karabastau	1.48	295	⇑*i*P	Pg	21 23 36.1	-0.6
	15nm,0.2s						
KRBS				⇓*i*S	Sg	21 23 55.7	-0.3
	24nm,0.1s						
KRBS	Karabastau	1.48	295	P	Pg	21 23 36.1	-0.6
	15nm,0.2s						
KRBS				S	Sg	21 23 55.7	-0.3
	24nm,0.1s						
KBK	Karagaybulak	1.94	258	⇑*i*P	Pb	21 23 44.3	+1.3
	baz=58						
KBK				⇑*i*S	Sb	21 24 09.0	+2.0
	baz=58						
KBK	Karagaybulak	1.94	258	⇓P	Pg	21 23 44.9	-0.4
	12nm,0.2s,SNR=9.3						
KBK				⇓S	Sg	21 24 11.1	+0.5
	47nm,0.3s						
KZA	Kyzart	1.95	240	⇑*i*P	Pb	21 23 44.5	+1.1
	baz=40						
KZA				⇑*e*S	Sb	21 24 09.9	+2.3
	baz=40						
KZA	Kyzart	1.95	240	⇓P	Pg	21 23 45.6	-0.1
	3.5nm,0.2s,SNR=7.7						
KZA				⇑S	Sg	21 24 11.6	+0.5
	7.0nm,0.2s						
CHMS	Chumysh	2.03	269	⇑*i*P	Pb	21 23 45.6	+1.0
	baz=69						
CHMS				⇑*i*S	Sb	21 24 11.5	+2.0
	baz=69						
CHMS	Chumysh	2.03	269	⇑P	Pb	21 23 45.5	+1.0
	4.5nm,0.1s,SNR=13						
CHMS				⇓S	Sg	21 24 12.9	-0.7
	14nm,0.1s						
DJR	Jarkent	2.07	52	⇑*i*P	Pb	21 23 45.9	+0.8
	4.5nm,0.2s						
DJR				⇓*i*S	Sg	21 24 12.7	-2.0
	25nm,0.4s						
DJR	Jarkent	2.07	52	Pg	Pb	21 23 46.0	+0.8
	3.9nm,0.2s						
DJR				Lg	Lg	21 24 12.8	
	28nm,0.3s						
KTMS	Ketmen	2.10	79	*e*P	Pb	21 23 46.6	+0.8
	12nm,0.1s						
KTMS				*e*S	Sg	21 24 13.9	-1.8
	28nm,0.2s						
KTMS	Ketmen	2.10	79	Pg	Pb	21 23 46.6	+0.8
	12nm,0.1s						
KTMS				Lg	Lg	21 24 14.0	
	28nm,0.2s						
SGDS	Sogindy	2.15	281	Pg	Pg	21 23 48.3	-1.0
	9.4nm,0.2s						
SGDS				Lg	Lg	21 24 16.3	
	12nm,0.2s						
USP	Ospenovka	2.22	276	⇑*i*P	Pb	21 23 47.8	+0.1
	baz=76						
USP				⇑*i*S	Sb	21 24 15.5	+0.6
	baz=76						
USP	Ospenovka	2.22	276	⇑P	Pb	21 23 48.7	+0.9
	22nm,0.3s,SNR=25						
USP				⇓S	Sg	21 24 18.3	-1.2
	21nm,0.2s						
AAK	Ala-Archa	2.27	260	⇓*i*P	Pb	21 23 48.9	+0.2
	baz=60						
AAK				⇓*i*S	Sb	21 24 17.3	+0.8
	baz=60						
AAK	Ala-Archa	2.27	260	⇑P	Pb	21 23 50.1	+1.5
	5.2nm,0.2s,SNR=7.3						
AAK				⇓S	Sg	21 24 20.4	-0.8
	11nm,0.3s						
UCH	Uchtor	2.38	250	⇑*i*P	Pb	21 23 50.5	-0.2
	baz=50						
UCH				⇑*e*S	Sb	21 24 19.9	+0.1
	baz=50						
UCH	Uchtor	2.38	250	⇑P	Pg	21 23 52.8	-1.0
	2.1nm,0.2s,SNR=6.0						
ARLS	Aral	2.66	244	⇓*e*P	Pb	21 23 53.9	-1.4
	baz=44						
ARLS				⇓*i*S	Sb	21 24 26.4	-1.3
	baz=44						
EKS2	Erkin-Say	2.78	263	⇑*i*P	Pb	21 23 55.9	-1.5
	baz=63						
EKS2				⇑*i*S	Sb	21 24 29.5	-1.7
	baz=63						
AML	Almayashu	2.98	253	⇑*i*P	Pb	21 23 58.7	-2.2
	baz=53						
AML				⇑*i*S	Sb	21 24 34.6	-2.5
	baz=53						

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MK31	Makanchi Array	5.03	41	⇓Pn	Pn	21 24 25.5	+2.9
	0.1nm,0.3s,baz=221,slow=16,SNR=3.3						
MK31				⇑Lg	Lg	21 25 46.5	
	0.6nm,0.6s,baz=219,slow=26,SNR=8.0						
KK31	Karatay Array	5.13	273	⇓Pg	Pg	21 24 42.0	-4.4
	0.2nm,0.3s						
KK31				⇑Lg	Lg	21 25 50.3	
	1.3nm,0.5s,baz=89,slow=29,SNR=6.9						

IDC 01 21:25:50.6±27.0, 21°.23S×177°.69W, h473km±241km, mb3.0/4, mb1 3.2/4, mb1mx2.9/21, mbtmp3.9/4, Error ellipse: s-maj=192.3km s-min=58.2km az=102.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.74	245	P	P	21 32 25.7	+0.7
	1.0nm,0.6s,baz=322,slow=18,SNR=2.9						
ASAR	Alice Springs	44.64	257	P	P	21 33 20.1	-0.1
	1.9nm,0.6s,baz=89,slow=8.2,SNR=19						
ASAR				PcP	pwP	21 34 53.8	+0.3
	0.4nm,0.6s,baz=110,slow=3.7,SNR=6.8						
WRA	Warramunga Arr	44.79	263	P	P	21 33 20.4	-1.0
	0.4nm,0.3s,baz=97,slow=7.2,SNR=9.2						
USRK	Ussuriysk Ar.	79.73	326	P	P	21 37 09.2	+0.8
	0.9nm,0.6s,baz=74,slow=6.9,SNR=4.6						
AKASG	Malin Array Be	143.79	331	PKP	PKPab	21 44 28.7	-1.0
	1.4nm,0.4s,baz=45,slow=4.2,SNR=11						
BRTR	Keskin Array B	147.54	312	PKPbc	PKPbc	21 44 40.5	-0.8
	0.4nm,0.5s,baz=142,slow=5.3,SNR=5.2						

ATH 01 21:34:40.2, 40°.43N×26°.08E, h28km±2km, ML2.3/6, Error ellipse: s-maj=3.3km s-min=1.0km az=272.0
DDA 01 21:34:40.2, 40°.41N×26°.13E, h12km±2km, ML2.5
ISK 01 21:34:40.1, 40°.41N×26°.13E, h9km, ML2.6/21
THE 01 21:34:40.8, 40°.42N×26°.09E, h12km, ML2.2/7, Error ellipse: s-maj=0.9km s-min=0.5km az=307.0
ISC 01 21:34:40.3±0.8, 40°.43N±0°.02×26°.12E±0°.02, h15km±7km, n66, σ0s.56/94, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GELI	Tayfur-Gelibol	0.27	96	PG	Pg	21 34 45.9	-0.2
GELI				SG	Sg	21 34 50.1	0.0
GOKA	anakkale-Gk	0.29	215	*i* P	Pg	21 34 46.5	+0.1
GOKA				*i* S	Sg	21 34 50.5	0.0
GOKA				IAML		21 34 52.0	
	comp=N,840nm,0.2s						
GOKA				IAML		21 34 52.0	
	comp=E,772nm,0.2s						
GADA	Gvkgeada	0.29	216	P	Pg	21 34 46.5	0.0
GADA				S	Sg	21 34 51.1	+0.4
	comp=E,405nm,0.3s						
GADA	Gvkgeada	0.29	216	PG	Pg	21 34 46.3	-0.2
GADA				SG	Sg	21 34 50.7	0.0
ENEZ	Enez	0.31	4	P	Pb	21 34 47.4	-0.2
ENEZ				S	Sb	21 34 52.3	-0.2
	comp=E,700nm,0.4s						
ENEZ	Enez	0.31	4	PG	Pb	21 34 47.3	-0.3
ENEZ				SG	Sb	21 34 52.3	-0.2
ERIK	Erikli-Kesan	0.39	50	PG	Pb	21 34 48.4	-0.5
ERIK				SG	Sb	21 34 54.2	-0.4
SMTH	Samothraki Isl	0.46	276	P	Pg	21 34 49.4	0.0
SMTH				S	Sg	21 34 55.5	-0.1
	comp=E,312nm,0.2s						
SMTH	Samothraki Isl	0.46	276	P	Pg	21 34 49.2	-0.2
SMTH				S	Sb	21 34 56.4	-0.2
SMTH				AML	AML	21 34 59.3	
	comp=E,850μm,0.1s						
SMTH				AML	AML	21 34 59.7	
	comp=N,704μm,0.1s						
ALN	Alexandroupoli	0.47	353	PG	Pb	21 34 50.3	-0.1
ALN				SG	Sb	21 34 57.5	+0.3
LPK	Lapseki	0.49	96	PG	Pb	21 34 50.2	-0.4
LPK				SG	Sb	21 34 57.1	-0.5
KESN	Edirne-Kesan	0.58	46	*i* P	Pg	21 34 51.8	-0.2
KESN				*i* S	Sg	21 34 59.6	-0.2
KESN				IAML		21 35 01.0	
	comp=E,353nm,0.1s						
KESN				IAML		21 35 03.0	
	comp=N,172nm,0.3s						
BOZC	Bozcaada	0.58	185	PG	Pg	21 34 51.6	-0.3
BOZC	Bozcaada	0.58	185	*i* P	Pg	21 34 51.4	-0.5
BOZC				*i* S	Sg	21 34 59.0	-0.7
EZN	Ezine	0.62	165	P	Pg	21 34 52.0	-0.5
EZN	Ezine	0.62	165	PG	Pg	21 34 52.2	-0.3
BAYC	CANAKKALE_Bayr	0.76	154	*i* P	Pg	21 34 54.8	-0.3
BAYC				*i* S	Sb	21 35 05.5	+0.1
UKOP	Uzunkopru-Edir	0.80	29	PG	Pb	21 34 56.1	+0.1
RKY	Sarkoy-Tekirda	0.84	72	PG	Pg	21 34 56.6	-0.2
RDO	Rodhopi	0.85	328	P	Pg	21 34 56.6	-0.2
RDO				S	Sb	21 35 08.6	+0.7
	comp=N,150nm,0.3s						
RDO	Rodhopi	0.85	328	P	Pg	21 34 56.5	-0.2
RDO				S	Sb	21 35 08.2	+0.3
RDO				AML	AML	21 35 11.4	
	comp=N,377μm,0.3s						
RDO				AML	AML	21 35 16.1	
	comp=E,269μm,0.2s						
RDO	Rodhopi	0.85	328	PG	Pg	21 34 56.7	-0.1
SART	Tekirdag	0.85	72	*i* P	Pg	21 34 56.2	-0.6
SART				*i* S	Sb	21 35 09.1	+1.1
LIA	Limnos Island	0.89	234	P	Pg	21 34 57.3	-0.3
LIA				S	Sb	21 35 09.8	+0.6
	comp=E,170nm,0.4s						
LIA	Limnos Island	0.89	234	P	Pg	21 34 57.1	-0.5
LIA				S	Sb	21 35 09.8	+0.6
LIA				AML	AML	21 35 11.3	
	comp=N,375μm,0.5s						
LIA				AML	AML	21 35 13.7	
	comp=E,231μm,0.3s						
KRBG	Karabiga-Canak	0.90	92	PG	Pb	21 34 57.6	0.0
KNL	Balıkesir	1.08	98	*i* P	Pg	21 35 01.0	-0.3
KNL				*i* S	Sn	21 35 15.6	0.0
KNL				IAML		21 35 18.0	
	comp=E,212nm,0.4s						
KNL				IAML		21 35 19.0	
	comp=N,141nm,0.2s						
THAS	Thassos island	1.08	280	P	Pb	21 35 00.7	-0.1
THAS				S	Sg	21 35 15.5	0.0
	comp=N,118nm,0.2s						
THAS	Thassos island	1.08	280	P	Pb	21 35 00.7	-0.1
THAS				AML	AML	21 35 17.2	
	comp=N,204μm,0.2s						
THAS				AML	AML	21 35 17.3	
	comp=E,267μm,0.2s						
MRMT	Marmara Adasi	1.14	81	PN	Pn	21 35 01.9	+0.1
PRK	Paraskevi	1.18	174	P	Pg	21 35 03.2	0.0
PRK				AML	AML	21 35 21.0	
	comp=E,902μm,0.4s						
PRK				AML	AML	21 35 21.3	
	comp=N,1392μm,0.6s						
AYVA	Ayvalik	1.20	158	*i* P	Pn	21 35 00.4	-2.1
AYVA				*i* S	Sb	21 35 18.3	+0.3
AYVA				IAML		21 35 20.0	
	comp=E,110nm,0.4s						
TKR	Tekirdag	1.21	62	PN	Pg	21 35 03.6	-0.1
SIGR	SIGRI	1.23	190	P	Pn	21 35 03.0	0.0
SIGR				S	Sn	21 35 19.4	+0.1
	comp=E,180nm,0.4s						
SIGR	SIGRI	1.23	190	P	Pn	21 35 03.0	0.0
SIGR				AML	AML	21 35 21.3	
	comp=E,390μm,0.4s						
SIGR				AML	AML	21 35 21.8	
	comp=N,295μm,0.3s						
SIGR	SIGRI	1.23	190	PN	Pb	21 35 03.2	0.0
EFSA	Agios Efstrati	1.24	225	P	Pn	21 35 03.1	0.0
EDC	Edincik	1.33	93	PN	Pb	21 35 04.9	-0.1
KDZ	Kurdzhali	1.33	337	*i* P	Pg	21 35 05.9	-0.2
KDZ	Kurdzhali	1.33	337	PN	Pg	21 35 05.8	-0.3
KAVA	Kavala	1.35	296	P	Pn	21 35 04.6	0.0
KAVA	Kavala	1.35	296	P	Pn	21 35 04.1	-0.5
DKL	Dikili	1.48	156	PN	Pb	21 35 07.3	-0.2
EDRB	Edirne	1.50	18	P	Pn	21 35 06.4	-0.2
EDRB	Edirne	1.50	18	PN	Pb	21 35 07.8	0.0
KIRK	Kırklareli	1.54	28	*i* P	Pn	21 35 07.4	+0.2
KIRK				*i* S	Sn	21 35 26.5	-0.5
BALB	Balikesir	1.56	120	PN	Pn	21 35 08.2	+0.7
STEP	BALIKESIR_Sava	1.61	130	*i* P	Pb	21 35 09.5	-0.4
ZEDA	zmir-Bergama	1.63	153	*i* P	Pb	21 35 09.7	-0.4
ZEDA				*i* S	Sn	21 35 29.2	0.0
ZEDA				IAML		21 35 33.0	
	comp=N,63nm,0.4s						
ZEDA				IAML		21 35 34.0	
	comp=E,317nm,0.3s						
OUR	Ouranopolis	1.64	268	P	Pn	21 35 08.0	-0.5
RZN	Rozhen	1.65	320	*i* P	Pn	21 35 09.7	+0.8
SLVT	Silivri	1.78	62	PN	Pb	21 35 11.7	-0.9
ELBA	Catalca	1.89	67	*i* P	Pn	21 35 11.4	-0.7
ELBA				*i* S	Sn	21 35 35.9	+0.2
PSRA	Psara	1.93	193	P	Pn	21 35 13.6	+1.0
CTKS	Kestanelik-??a	1.98	65	PN	Pn	21 35 14.5	+1.2
DURS	Dursunbey	1.98	114	*i* P	Pn	21 35 14.6	+1.2
DURS				*i* S	Sn	21 35 38.5	+0.5
DURS				IAML		21 35 44.0	
	comp=N,32nm,0.5s						
DURS				IAML		21 35 46.0	
	comp=E,36nm,0.2s						
AKHS	Akhisar	2.02	139	*i* P	Pn	21 35 15.1	+1.2
CHOS	Chios island	2.04	182	P	Pn	21 35 14.4	+0.3
CHOS	Chios island	2.04	182	P	Pn	21 35 14.4	+0.3
SRS	Serrai	2.04	291	P	Pn	21 35 14.5	+0.3
ARMT	Armutlu	2.09	85	PN	Pn	21 35 16.1	+1.2
URLA	Izmir	2.10	170	*i* P	Pn	21 35 15.6	+0.7
URLA				*i* S	Sn	21 35 39.3	-1.4
DEMI	Demirci	2.43	124	*i* P	Pn	21 35 20.9	+1.4
DGB	zmir	2.44	166	*i* P	Pn	21 35 20.7	+1.1
KNT	Kendrikon	2.56	288	P	Pn	21 35 21.9	+0.7
SMG	Samos	2.77	168	P	Pn	21 35 24.8	+0.6

JMA 01 21:39:50.3±0.2, 43°.94N×147°.92E, h0km, M3.7
SKHL 01 21:39:51.5±0.7, 44°.33N×148°.10E, h52km±8km, mb3.9/2
ISC 01 21:39:48.3±3.0, 44°.23N±0°.10×148°.4E±0°.2, h47km, n17, σ1s.68/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	Kuril'sk	1.07	340	*i* P	Pn	21 40 07.2	+0.4
KUR				AMB	AMB	21 40 07.5	
	40nm,0.3s						
KUR				*i* S	Sn	21 40 18.8	-1.7
KUR				A	A	21 40 20.8	
	440nm,0.4s						
KUR				A	A	21 40 20.8	
	680nm,0.4s						
YUK	Yuzh-Kuril'sk	1.82	265	*e*P	Pn	21 40 17.5	+0.4
YUK				AMB	AMB	21 40 17.9	
	60nm,0.3s						
YUK				*e*S	Sn	21 40 36.3	-2.7
YUK				A	A	21 40 40.5	
	280nm,0.4s						
YUK				A	A	21 40 40.5	
	340nm,0.4s						
GRPR	Tuman	1.90	264	*e*S	Sn	21 40 39.0	-1.8
NEM2	Nemuro 2	2.10	247	P	Pn	21 40 21.3	+0.4
NEM2				*e*S	Sn	21 40 43.2	-2.5
NMR	Nemuro--Hokkai	2.10	247	*e*P	Pn	21 40 21.1	+0.1
NMR				*e*S	Sn	21 40 43.8	-2.1
JRA	Rausu	2.37	264	P	Pn	21 40 26.0	+1.4
JRA				*e*S	Sn	21 40 52.1	-0.3
JNSB	Nemuroshibetsu	2.48	261	P	Pn	21 40 27.5	+1.4
JNSB				*e*S	Sn	21 40 55.2	+0.1
JKHN	Kushirohamanak	2.60	245	P	Pn	21 40 28.8	+1.0
JNK	Nakash	2.73	258	P	Pn	21 40 30.9	+1.4
JNK				*e*S	Sn	21 40 59.8	-1.4
JAK	Akkeshi	2.95	247	P	Pn	21 40 33.5	+1.0
JAK				*e*S	Sn	21 41 04.8	-1.8
JTKR	Abashiri--Toko	3.23	267	P	Pn	21 40 39.0	+2.6
JAR	Ashorobuto	3.47	256	*e*S	Sn	21 41 19.5	0.0
JOB	Onbets	3.56	250	P	Pn	21 40 42.6	+1.7
JOB				*e*S	Sn	21 41 20.4	-1.3
JMP	Maruseppu	3.62	268	P	Pn	21 40 44.5	+2.7
JCH	Churui	4.00	248	P	Pn	21 40 48.1	+1.2
JNBK	Urakawa-nobuka	4.55	247	P	Pn	21 40 56.0	+1.5
JKB	Kayabe	5.87	249	P	Pn	21 41 14.6	+2.0
JKB				*e*S	Sn	21 42 16.6	-2.0

WBNET 01 21:44:31.9, 50°.24N×12°.44E, h9km, Ml0.4, 5C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.00	127	S	Sg	21 44 34.8	+0.1
LBCW	Luby	0.04	326	⇓P	Pg	21 44 33.8	+0.1
LBCW				S	Sg	21 44 35.2	+0.2
VAC	Vackov	0.04	271	⇓P	Pg	21 44 33.8	+0.1
VAC				S	Sg	21 44 35.1	0.0
KVC	Kvetna	0.05	122	S	Sg	21 44 35.0	-0.2
STCW	Studenec	0.05	64	⇑P	Pg	21 44 33.9	0.0
STCW				S	Sg	21 44 35.1	-0.2
SKC	Skalna	0.08	219	⇑P	Pg	21 44 34.2	+0.1
SKC				S	Sg	21 44 35.8	0.0
POCW	Potky	0.09	353	⇑P	Pg	21 44 34.4	+0.2
POCW				S	Sg	21 44 36.1	+0.1
KACW	Kaceov	0.10	153	⇓P	Pg	21 44 34.5	+0.1
KACW				S	Sg	21 44 36.3	0.0
KRCW	Kraslice	0.11	30	⇑P	Pg	21 44 34.7	0.0
KRCW				S	Sg	21 44 36.5	-0.1
ZHC	Zelena Hora	0.19	208	⇑P	Pg	21 44 35.9	+0.1
ZHC				S	Sg	21 44 38.5	0.0

PRU 01 21:45:02.4±0.0, 50°.22N×12°.51E, h1km, West Bohemia Swarm
WBNET 01 21:45:02.1, 50°.24N×12°.44E, h9km, Ml1.5, 4C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
NKC	Novy Kostel	0.00	127	*e*PG	Pg	21 45 03.7	-0.1
NKC				*e*SG	Sg	21 45 04.9	0.0
	comp=Z,113nm,0.2s						
NKC	Novy Kostel	0.00	127	⇓P	Pg	21 45 03.9	+0.1
NKC				S	Sg	21 45 05.0	+0.1
LBCW	Luby	0.04	326	⇓P	Pg	21 45 04.1	+0.1
LBCW				S	Sg	21 45 05.4	+0.2
VAC	Vackov	0.04	271	⇓P	Pg	21 45 04.1	+0.1
VAC				S	Sg	21 45 05.3	0.0
KVC	Kvetna	0.05	122	⇑P	Pg	21 45 04.0	-0.1
KVC				S	Sg	21 45 05.2	-0.3
STCW	Studenec	0.05	64	⇑P	Pg	21 45 04.1	0.0
STCW				S	Sg	21 45 05.3	-0.2
SKC	Skalna	0.08	219	⇑P	Pg	21 45 04.5	+0.1
SKC				S	Sg	21 45 06.0	0.0
POCW	Potky	0.09	353	⇓P	Pg	21 45 04.7	+0.2
POCW				S	Sg	21 45 06.3	+0.1
KACW	Kaceov	0.10	153	⇓P	Pg	21 45 04.7	0.0
KACW				S	Sg	21 45 06.5	0.0
KRCW	Kraslice	0.11	30	⇓P	Pg	21 45 04.9	0.0
KRCW				S	Sg	21 45 06.7	-0.1
ZHC	Zelena Hora	0.19	208	⇑P	Pg	21 45 06.1	+0.1
ZHC				S	Sg	21 45 08.7	0.0
CLL	Collm	1.13	18	*i* Pg	Pn	21 45 24.4	+0.2
CLL				*e*		21 45 26.0	
CLL				*i* Sg	Sb	21 45 39.2	+0.5
	comp=Z,2.0nm,0.3s						
CLL				*i*		21 45 43.0	
KHC	Kasperske Hory	1.33	146	*e*PG	Pn	21 45 26.4	-0.5
KHC				*e*SG	Sb	21 45 43.3	-1.1
	comp=Z,1.8nm,0.2s						
PRU	Pruhonice	1.37	100	*e*SG	Sb	21 45 45.2	-0.4
	comp=Z,3.1nm,0.2s						
PVCC	Panska Ves	1.39	77	*e*SG	Sn	21 45 46.3	+0.1
	comp=Z,3.0nm,0.2s						
GOPC	GO Pecny, Ondr	1.54	101	*e*SG	Sb	21 45 50.5	-0.1
	comp=Z,1.5nm,0.1s						
DPC	Dobruska-Polom	2.49	86	*e*SG	Sb	21 46 18.5	+0.7

IDC 01 21:54:34.5±2.2, 1°.89N×125°.63E, h0km, mb3.2/3, mb1 3.5/3, mb1mx3.2/30, mbtmp3.3/3, Error ellipse: s-maj=194.4km s-min=28.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.32	159	P	P	21 59 43.3	-1.2
	0.5nm,0.6s,baz=337,slow=11,SNR=7.0						
ASAR	Alice Springs	26.65	163	P	P	22 00 16.6	+1.4
	0.2nm,0.5s,baz=336,slow=6.5,SNR=1.5						
MKAR	Makanchi Array	58.45	326	P	P	22 04 32.1	-0.2
	0.1nm,0.3s,baz=120,slow=8.3,SNR=2.3						

NEIC 01 22:06:58.5±1.9, 7°.65S±0°.07×128°.31E±0°.06, h174km±6km, mb4.2/22, Error ellipse: s-maj=10.6km s-min=8.3km az=198.0
IDC 01 22:07:00.4±1.8, 7°.51S×128°.20E, h166km±16km, mb3.3/5, mb1 3.8/9, mb1mx3.5/29, mbtmp4.2/9, MS3.0/1, Ms1 3.0/1, ms1mx2.4/21, Error ellipse: s-maj=26.5km s-min=15.7km az=88.0
DJA 01 22:07:00.5±0.5, 8°S±4°×12°8E±°, h175km±16km, M4.3/11, mb4.1/6, mB4.9/5, MLv4.5/11, Mw(mB)4.1/5
ISC 01 22:07:00.2±0.4, 7°.72S±0°.04×128°.30E±0°.05, h200km, n57, σ2s.56/63, mb4.0/12, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	2.98	95	P	Pn	22 07 50.7	+1.0
SAUI				S	Sn	22 08 29.3	+1.0
SAUI	Saumlaki	2.98	95	Pn	Pn	22 07 46.7	-3.0
SAUI					Sn	22 08 24.1	-4.2
SOEI	Soe	4.47	243	P	Pn	22 08 07.5	-0.6
SOEI	Soe	4.47	243		Pn	22 08 05.5	-2.5
NLAI	Namlea	4.61	345	P	Pn	22 08 08.9	-0.9
BATI	Baumata	5.20	241	P	Pn	22 08 16.6	-0.7
	50nm,0.3s,baz=81,slow=2.0,SNR=32						
BATI				S	Sn	22 09 11.6	-6.6
	50nm,0.3s,baz=329,slow=17,SNR=11						
BATI	Baumata	5.20	241	P	Pn	22 08 16.6	-0.7
	0.5nm2μm75nm,0.4s						
MTN	Manton Dam	5.80	152		Pn	22 08 23.8	-1.2
SANI	Sanana	6.09	338	P	Pn	22 08 27.3	-1.4
	0.1nm44nm,0.8s						
FAKI	Fak Fak	6.18	40	P	Pn	22 08 28.3	-1.6
	0.3nm690nm26nm,1.2s						
FAKI	Fak Fak	6.18	40	Pn	Pn	22 08 27.7	-2.2
FAKI					Sn	22 09 35.2	-5.7
EDFI	Ende, Flores	6.62	261	P	Pn	22 08 34.7	-1.0
	0.0nm14nm,0.8s						
LBMI	Labuha	7.08	353	P	Pn	22 08 41.1	-0.5
	0.1nm3μm37nm,0.8s						
SIJI	Sorong	7.42	24	P	Pn	22 08 44.2	-1.9
	4.2nm,0.3s,baz=313,slow=6.6,SNR=16						
SIJI				S	Sn	22 10 04.0	-6.1
	2.7nm,0.3s,baz=266,slow=23,SNR=5.9						
KNRA	Kununurra	7.92	177		Pn	22 08 52.3	-0.2
FITZ	Fitzroy Crossi	10.63	194	P	Pn	22 09 27.1	-0.6
	1.8nm,0.3s,baz=11,slow=9.8,SNR=64						
FITZ				S	Sn	22 11 18.7	-7.8
	6.3nm,0.3s,baz=142,slow=19,SNR=7.6						
FITZ	Fitzroy Crossi	10.63	194	Pn	Pn	22 09 27.3	-0.4
WB0	Warramunga Arr	13.35	154	P	P	22 10 03.7	-1.2
WRAB	Tennant Creek	13.48	155	Pn	Pn	22 10 03.9	0.0
WRA	Warramunga Arr	13.48	155	P	P	22 10 06.2	-0.2
	7.1nm,0.3s,baz=330,slow=14,SNR=141						
WRA				S	S	22 12 28.8	-5.5
	2.8nm,0.3s,baz=325,slow=23,SNR=6.9						
WB2	Warramunga Arr	13.49	155	Pn	Pn	22 10 04.1	+0.2
WR0	Warramunga Arr	13.59	154	P	P	22 10 07.2	-0.4
JAGI	Jajag, Banyuwa	14.03	266	Pn	Pn	22 10 09.8	-0.9
COEN	Coen	15.86	114	P	Pn	22 10 33.6	+0.5
COEN				IAmb	IAmb	22 10 38.0	
	comp=Z,11nm,1.1s						
PSA00	Pilbara Seismi	16.01	210	P	Pn	22 10 36.1	+1.4
PSA00				IAmb	IAmb	22 10 53.3	
	comp=Z,13nm,0.9s						
AS31	Alice Springs	16.74	162		Pn	22 10 43.7	+0.2
AS31				IAmb	IAmb	22 10 56.4	
	comp=Z,4.8nm,0.5s						
ASAR	Alice Springs	16.74	162	P	Pn	22 10 47.3	+3.8
	comp=Z,1.7nm,0.3s,baz=334,slow=11,SNR=94						
ASAR				S	S	22 13 48.4	+1.3
	comp=Z,0.5nm,0.3s,baz=312,slow=16,SNR=3.2						
ASAR				ScP	ScP	22 18 41.5	+5.8
	comp=Z,0.1nm,0.3s,baz=350,slow=1.7,SNR=4.4						
UGM	Wanagama	17.61	268	P	P	22 10 51.4	-0.7
UGM				IAmb	IAmb	22 10 56.1	
	comp=Z,19nm,0.9s						
SBUM	Sibu	18.96	302	P	P	22 11 05.2	-1.5
KSM	Kuching	20.14	296	P	P	22 11 20.1	+0.8
KSM				IAmb	IAmb	22 11 28.6	
	comp=Z,6.5nm,0.8s						
CISI	Cisompet, Garu	20.31	269	P	P	22 11 18.5	-2.6
CTAO	Charters Tower	21.30	127	P	P	22 11 29.3	-2.2
CTAO				IAmb	IAmb	22 11 29.6	
	comp=Z,6.5nm,1.1s						
TGY	Tagaytay City	22.88	341	LR	LR	22 22 59.7	
	comp=Z,35nm,19.6s,baz=42,slow=42						
FORT	Forrest	22.94	181	P	P	22 11 48.5	+1.5
MORW	Morawa	24.17	207	P	P	22 11 59.4	+1.1
MORW				IAmb	IAmb	22 12 04.2	
	comp=Z,6.6nm,0.7s						
BBOO	Buckleboo	25.98	165	P	P	22 12 15.2	+0.6
BBOO				IAmb	IAmb	22 12 22.3	
	comp=Z,2.8nm,0.9s						
NWAO	Narrogin (SRO)	27.10	201	P	P	22 12 25.6	+1.1
DLV	T Lat	27.75	315	P	P	22 12 31.4	+0.7
DLV				IAmb	IAmb	22 12 46.1	
	comp=Z,5.1nm,0.9s						
KULM	Kulim	30.46	294	P	P	22 12 54.5	-0.1
KULM				IAmb	IAmb	22 12 56.2	
	comp=Z,10nm,1.0s						
TPUB	Ta-pu	31.73	347	P	P	22 13 05.1	-0.4
TPUB				IAmb	IAmb	22 13 06.5	
	comp=Z,6.8nm,0.9s						
PATS	Pohnpei	33.24	65	P	P	22 13 18.4	-0.5
LHI	Lord Howe Isla	37.18	134	P	P	22 13 51.4	-0.8
CMAR	Chiang Mai Arr	38.93	312	P	P	22 14 09.1	+2.0
	comp=Z,0.5nm,0.5s,baz=137,slow=6.8,SNR=4.3						
MJAR	Matsushiro Arr	45.00	11	P	P	22 14 58.5	+2.7
	comp=Z,0.6nm,0.5s,baz=159,slow=6.2,SNR=2.1						
MK31	Makanchi Array	67.92	328	P	P	22 17 37.2	-0.2
MKAR	Makanchi Array	67.92	328	P	P	22 17 38.7	+1.3
	comp=Z,0.4nm,0.5s,baz=126,slow=8.2,SNR=7.9						
SMY	Shemya	71.69	27	P	P	22 18 01.4	+1.3
VNDA	Vanda	71.94	173	P	P	22 18 06.5	+5.2
	comp=Z,0.4nm,0.8s,baz=344,slow=7.3,SNR=1.8						
KURK	Kurchatov	72.27	329	P	P	22 18 04.0	+0.4
MAW	Mawson	73.67	201	P	P	22 18 17.2	+5.6
	comp=Z,2.4nm,0.6s,baz=63,slow=6.8,SNR=12						
MAW	Mawson	73.67	201	P	P	22 18 13.4	+1.9
QSPA	South Pole Qui	82.26	180	P	P	22 19 01.0	+1.9
SYO	Syowa Base	82.38	201	⇑*e*P	P	22 19 03.4	+3.9
SNAA	Sanae	94.57	194	P	P	22 20 00.0	+2.2
SNAA				IAmb	IAmb	22 20 04.4	
	comp=Z,0.7nm,0.7s						
TORD	Torodi Ar. Bea	127.29	281	PKP	PKiKP	22 25 45.4	+2.9
	comp=Z,0.5nm,0.9s,baz=61,slow=2.4,SNR=2.3						
LPAZ	La Paz	151.13	146	PKPbc	PKPab	22 26 36.8	-3.0
	comp=Z,0.4nm,0.5s,baz=188,slow=6.3,SNR=2.2						
LPAZ	La Paz	151.13	146		PKiKP	22 26 32.4	+0.4

DDA 01 22:44:00.3, 40°.34N×25°.93E, h9km±2km, ML1.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GOKA	anakkale-Gk	0.15	185	*i* P	Pg	22 44 01.6	-1.8
GOKA				IAML		22 44 06.0	
	comp=E,36nm,0.3s						
GOKA				*i* S	Sg	22 44 06.3	+0.6
GOKA				IAML		22 44 07.0	
	comp=N,35nm,0.2s						
BOZC	Bozcaada	0.50	169	*i* P	Pg	22 44 09.7	-0.4
KESN	Edirne-Kesan	0.75	49	*i* P	Pg	22 44 06.2	-8.6
KESN				*i* S	Sg	22 44 24.0	-0.8
BAYC	CANAKKALE_Bayr	0.76	141	*i* P	Pg	22 44 13.1	-1.9
BAYC				*i* S	Sg	22 44 25.4	+0.5
BAYC				IAML		22 44 27.0	
	comp=N,4.4nm,0.4s						

ATH 01 22:44:46.5, 40°.05N×24°.28E, h18km±7km, ML1.4/5, Error ellipse: s-maj=7.6km s-min=1.0km az=303.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OUR	Ouranopolis	0.37	321	P	Pb	22 44 54.4	-0.2
OUR				S	Sg	22 44 59.5	+0.1
OUR				AML	AML	22 45 00.5	
	comp=E,230μm,0.2s						
OUR				AML	AML	22 45 02.6	
	comp=N,160μm,0.2s						
PAIG	Paliouri	0.48	255	P	Pb	22 44 56.4	0.0

PAIG				S	Sb	22 45 03.1	-0.1
PAIG				AML	AML	22 45 04.1	
	comp=N,78μm,0.5s						
PAIG				AML	AML	22 45 05.0	
	comp=E,58μm,0.2s						
THAS	Thassos island	0.65	31	P	Pg	22 44 59.1	-0.3
THAS				S	Sb	22 45 08.1	0.0
THAS				AML	AML	22 45 10.2	
	comp=E,176μm,0.3s						
THAS				AML	AML	22 45 10.7	
	comp=N,137μm,0.2s						
LIA	Limnos Island	0.71	102	P	Pg	22 45 00.6	+0.2
LIA				S	Sg	22 45 09.8	0.0
PLG	Polygyros	0.72	297	P	Pb	22 45 00.6	0.0
PLG				S	Sg	22 45 10.3	+0.1
PLG				AML	AML	22 45 12.6	
	comp=N,38μm,0.3s						
PLG				AML	AML	22 45 13.0	
	comp=E,33μm,0.5s						
AOS	Alonnisos	0.93	200	P	Pb	22 45 03.8	-0.4
KAVA	Kavala	0.96	10	P	Pn	22 45 05.2	-0.1
KAVA				S	Sg	22 45 17.8	-0.1
KAVA				AML	AML	22 45 19.4	
	comp=E,60μm,0.2s						
KAVA				AML	AML	22 45 19.5	
	comp=N,55μm,0.2s						
SMTH	Samothraki Isl	1.04	66	P	Pg	22 45 06.8	0.0
SRS	Serrai	1.19	334	P	Pn	22 45 08.5	+0.1

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*IDC **01** 23:03:21.1±1.2, 7°.08S×156°.36E, h0km, mb3.7/3, mb1 4.1/4, mb1mx3.6/31, mbtmp3.8/4, ML4.0/1, MS2.7/2, Ms1 2.7/2, ms1mx2.4/23, Error ellipse: s-maj=41.0km s-min=28.7km az=134.0*

ISC 01 23:03:26.7±1.1**, 7°.2S**±0°.2×**156°.3E**±0°.2**, h35**km**, n12, σ1.33**/10**, mb3.6**/3**, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	Keravat (AS076	5.15	303	Pn	Pn	23 04 39.2	-2.1
	5.1nm,0.3s,baz=78,slow=20,SNR=1.9						
KRVT				Sn	Sn	23 05 41.6	+2.1
	9.6nm,0.3s,baz=180,slow=20,SNR=1.5						
KRVT				LR	LR	23 06 45.1	
	comp=Z,52nm,19.7s,baz=110,slow=40						
WRA	Warramunga Arr	24.84	237	P	P	23 08 46.2	+0.2
	1.8nm,0.6s,baz=60,slow=9.6,SNR=9.0						
SIJI	Sorong	25.77	283	LR	LR	23 20 38.3	
	comp=Z,29nm,19.5s,baz=335,slow=40						
ASAR	Alice Springs	27.08	230	P	P	23 09 06.8	+0.5
	0.6nm,0.4s,baz=56,slow=9.6,SNR=10						
H11S3	WAKE ISLAND Hy	27.46	22	T	T	23 37 41.1	
	baz=202,slow=76						
H11S2	WAKE ISLAND Hy	27.46	22	T	T	23 37 41.0	
	baz=202,slow=76						
H11S1	WAKE ISLAND Hy	27.48	22	T	T	23 37 45.6	
	baz=202,slow=76						
ILAR	Eielson Array	83.04	21	P	P	23 15 48.8	+0.6
	0.2nm,0.7s,baz=216,slow=4.5,SNR=2.1						
FINES	FINESS Array B	114.63	336	PKP	PKiKP	23 22 03.1	+0.1
	1.2nm,0.9s,baz=105,slow=3.2,SNR=3.3						
HFS	Hagfors	120.13	339	PKP	PKPdf	23 22 13.4	-0.2
	1.0nm,0.8s,baz=101,slow=8.0,SNR=2.4						
GERES	GERESS Array B	127.88	329	PKP	PKPdf	23 22 29.4	+0.4
	0.1nm,0.3s,baz=238,slow=1.9,SNR=1.8						
TORD	Torodi Ar. Bea	154.36	285	PKPbc	PKPbc	23 23 23.4	-1.0
	0.1nm,0.4s,baz=80,slow=1.4,SNR=5.8						
TORD				PKPab	pPKPbc	23 23 36.7	+1.2
	0.4nm,1.0s,baz=86,slow=4.5,SNR=4.5						

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*IDC **01** 23:42:05.6±0.9, 3°.69S×144°.39E, h0km, mb4.0/10, mb1 4.1/13, mb1mx3.9/36, mbtmp3.9/13, ML3.6/2, MS3.5/3, Ms1 3.4/3, ms1mx2.8/25, Error ellipse: s-maj=28.1km s-min=15.9km az=87.0*

*NEIC **01** 23:42:08.6±2.9, 3°.91S±0°.08×144°.39E±0°.07, h34km±5km, mb4.5/15, Error ellipse: s-maj=12.5km s-min=9.6km az=209.0*

ISC 01 23:42:09.6±0.5**, 3°.78S**±0°.07×**144°.34E**±0°.08**, h35**km**, n39, σ2.05**/35**, mb4.1**/15**, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	Jayapura	3.85	289	Pn	Pn	23 43 05.7	-0.7
	0.6nm,0.3s,baz=115,slow=19,SNR=1.9						
PMG	Port Moresby	6.25	154	Pn	Pn	23 43 41.1	+1.8
	2.0nm,0.3s,baz=236,slow=11,SNR=1.5						
PMG				Sn	Sn	23 44 55.5	+6.0
	1.6nm,0.3s,baz=322,slow=19,SNR=1.3						
PMG				LR	LR	23 46 52.4	
	comp=Z,260nm,18.1s,baz=68,slow=45						
PMG	Port Moresby	6.25	154		Pn	23 43 35.4	-3.9
RABL	Rabaul	7.81	93	Pn	Pn	23 43 59.2	-1.6
COEN	Coen	10.18	186	Pn	Pn	23 44 30.9	-2.3
FAKI	Fak Fak	12.11	274	Pn	Pn	23 44 59.0	-0.7
MTN	Manton Dam	15.86	235	Pn	Pn	23 45 49.0	-1.4
MTN				IAmb	IAmb	23 45 53.6	
	comp=Z,38nm,1.2s						
PATS	Pohnpei	17.48	53	P	Pn	23 46 09.6	-1.2
PATS				IAmb	IAmb	23 46 18.7	
	comp=Z,154nm,1.3s						
WR0	Warramunga Arr	18.71	210	P	P	23 46 23.9	-1.3
WB2	Warramunga Arr	18.79	210	P	P	23 46 25.4	-0.7
WRA	Warramunga Arr	18.79	210	P	Pn	23 46 27.6	+0.7
	comp=Z,0.5nm,0.3s,baz=40,slow=11,SNR=9.0						
AS31	Alice Springs	22.19	206	P	P	23 47 01.9	-1.1
ASAR	Alice Springs	22.19	206	P	P	23 47 04.7	+1.7
	comp=Z,1.9nm,0.6s,baz=30,slow=12,SNR=15						
ASAR				LR	LR	23 56 48.5	
	comp=Z,104nm,19.0s,baz=0.0,slow=40						
FITZ	Fitzroy Crossi	23.19	231	P	P	23 47 14.8	+1.3
	comp=Z,2.6nm,0.7s,baz=52,slow=9.6,SNR=7.3						
FITZ	Fitzroy Crossi	23.19	231	P	P	23 47 12.6	-0.9
FITZ				IAmb	IAmb	23 47 22.1	
	comp=Z,15nm,1.4s						
STKA	Stephens Creek	28.07	185	LR	LR	00 00 46.4	
	comp=Z,107nm,18.2s,baz=202,slow=40						
H11N1	WAKE ISLAND Hy	32.19	43	T	T	00 22 12.6	
	baz=226						
H11N2	WAKE ISLAND Hy	32.21	43	T	T	00 22 17.4	
	baz=226						
H11N3	WAKE ISLAND Hy	32.21	43	T	T	00 22 20.0	
	baz=226						
KSRS	Korea Array	43.78	341	P	P	23 50 12.4	+0.5
	comp=Z,2.2nm,0.7s,baz=158,slow=9.9,SNR=8.5						
HIZ	Hauiti	44.35	145	P	P	23 50 14.2	-2.4
MXZ	Matakaoa Point	45.78	142	P	P	23 50 24.7	-3.2
RPSI	Rantau Prapat	45.85	277	P	P	23 50 27.4	-1.4
RPSI				IAmb	IAmb	23 50 46.0	
	comp=Z,14nm,1.1s						
DCZ	Deep Cove	46.06	158	P	P	23 50 27.1	-2.9
BSWZ	Blackbirch Sta	46.10	149	P	P	23 50 27.4	-3.0
CMAR	Chiang Mai Arr	49.88	298	P	P	23 51 02.5	+2.6
	comp=Z,1.8nm,0.6s,baz=116,slow=6.1,SNR=7.0						
PETK	Petropavlovsk-	57.79	9	P	P	23 51 58.6	+1.4
	comp=Z,1.7nm,0.6s,baz=176,slow=8.2,SNR=3.9						
SONM	Songino Array	61.20	332	P	P	23 52 22.1	+1.0
	comp=Z,1.1nm,0.8s,baz=156,slow=8.2,SNR=2.6						
MKAR	Makanchi Array	74.12	321	P	P	23 53 43.7	+1.3
	comp=Z,0.6nm,0.7s,baz=100,slow=8.0,SNR=5.9						
VNDA	Vanda	74.28	176	P	P	23 53 44.8	+2.0
	comp=Z,1.1nm,0.8s,baz=322,slow=6.7,SNR=7.8						
VNDA	Vanda	74.28	176	P	P	23 53 44.7	+2.0
VNDA				IAmb	IAmb	23 53 46.3	
	comp=Z,2.0nm,1.1s						
MAKZ	Makanchi	74.32	321	P	P	23 53 44.6	+1.1
MAKZ				IAmb	IAmb	23 53 55.9	
	comp=Z,1.3nm,0.6s						
ZALV	Zalesovo Beam	75.74	328	P	P	23 53 52.0	+0.4
	comp=Z,1.0nm,0.6s,baz=101,slow=6.2,SNR=6.1						
TIXI	Tiksi	75.97	355	P	P	23 53 51.9	-0.6
TIXI				IAmb	IAmb	23 53 58.8	
	comp=Z,4.2nm,1.4s						
NIL	Nilore	76.49	306	P	P	23 53 55.9	-0.5
NIL				IAmb	IAmb	23 53 59.0	
	comp=Z,14nm,0.6s						
BRVK	Borovoye	83.50	324	P	P	23 54 33.1	-0.7
BRVK				IAmb	IAmb	23 54 36.4	
	comp=Z,3.3nm,0.8s						
ILAR	Eielson Array	84.51	24	P	P	23 54 38.3	-0.4
	comp=Z,1.3nm,0.5s,baz=253,slow=4.6,SNR=0.9						
GERES	GERESS Array B	118.59	325	PKP	PKiKP	00 00 55.7	+1.6
	comp=Z,0.1nm,0.2s,baz=64,slow=2.3,SNR=2.9						
TORD	Torodi Ar. Bea	141.95	286	PKhKP	PKPpre	00 01 35.3	
	comp=Z,0.4nm,0.9s,baz=66,slow=1.4,SNR=2.1						

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*NIED **01** 23:46:00, 44°.50N×142°.60E, h220km, Mw3.8 Best double couple: Mo6.51000×10^14 NP1:φs249.00000°, δ81.00000°, λ-122.00000°. NP2:φs145.00000°, δ33.00000°, λ-16.00000°.*

*IDC **01** 23:46:27.8±0.4, 44°.61N×142°.62E, h241km±3km, mb3.4/18, mb1 3.6/20, mb1mx3.4/46, mbtmp4.0/20, Error ellipse: s-maj=12.2km s-min=11.1km az=124.0*

*NEIC **01** 23:46:28.0±1.2, 44°.58N±0°.07×142°.6E±0°.2, h247km±6km, mb4.0/7, Error ellipse: s-maj=16.6km s-min=10.4km az=92.0*

*SKHL **01** 23:46:28.4±0.4, 44°.61N×142°.62E, h220km, mb4.8/6, msh5.2/5*

*JMA **01** 23:46:28.2±0.2, 44°.51N×142°.60E, h244km±2km, M3.8*

ISC 01 23:46:27.8±0.6**, 44°.55N**±0°.06×**142°.61E**±0°.06**, h245**km±5km**, n59, σ0.76**/70**, mb3.8**/21**, 8C-5D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	Soyaes	0.41	358	⇓P	Pn	23 47 00.1	+0.3
JSE				eS	S	23 47 24.5	-0.6
ASAJ	Asahikawa	0.44	181	P	Pn	23 47 00.6	+0.5
	12nm,0.3s,baz=272,slow=8.4,SNR=55						
ASAJ				S	S	23 47 25.2	-0.1
	10nm,0.3s,baz=78,slow=20,SNR=7.5						
ASAJ	Asahikawa	0.44	181	P	Pn	23 47 00.5	+0.5
ASAJ				eS	S	23 47 24.7	-0.6
JKA	Kamikawa-asahi	0.44	181		Pn	23 47 00.6	+0.5
JKA					S	23 47 25.2	-0.1
JSS	Shosan	0.56	254	⇓P	Pn	23 47 00.8	+0.4
JKK2	Kamakawa 2	0.69	172	⇑P	Pn	23 47 01.3	+0.4
JKK2				eS	S	23 47 26.7	-0.2
JYG	Yagishiri	0.86	262	⇓P	Pn	23 47 01.7	+0.1
JYG				eS	S	23 47 27.4	-0.6
JWK2	Keihoku	0.92	327	⇓P	Pn	23 47 02.3	+0.5
JWK2				eS	S	23 47 29.0	+0.4
JHR	Hokuryu	1.03	218	eS	S	23 47 30.6	+0.8
JTKR	Abashiri--Toko	1.10	121	⇑P	Pn	23 47 03.4	+0.5
JTKR				eS	S	23 47 30.5	0.0
JFR	Furan	1.39	180	⇑P	Pn	23 47 04.9	-0.1
JRBN	Rebuntou	1.40	309	⇓P	Pn	23 47 04.3	-0.5
JAR	Ashorobuto	1.51	146	⇑P	Pn	23 47 06.1	+0.3
JEW	Eniwo	1.91	207	⇑P	Pn	23 47 09.7	+0.6
JEW				eS	S	23 47 41.0	-0.6
JRA	Rausu	1.91	108	P	Pn	23 47 09.6	+0.6
JCH	Churui	2.01	164	⇑P	Pn	23 47 08.7	-1.4
JAK	Akkeshi	2.17	135	P	Pn	23 47 10.2	-1.3
JNBK	Urakawa-nobuka	2.27	177	⇑P	Pn	23 47 11.6	-0.9
JNBK				eS	S	23 47 47.7	0.0
YUK	Yuzh-Kuril'sk	2.39	101	eP	Pn	23 47 14.0	+0.4
YUK				AMB	AMB	23 47 14.9	
	240nm,0.2s						
YUK				eS	S	23 47 49.9	+0.2
YUK				A	A	23 47 51.8	
	200nm,0.6s						
YUK				A	A	23 47 51.8	
	300nm,0.6s						
YSS	Yuzh-Sakhalins	2.40	2	iP	Pn	23 47 13.7	+0.1
YSS				AMB	AMB	23 47 13.9	
	110nm,0.4s						
YSS				eS	S	23 47 48.9	-1.0
YSS				A	A	23 47 50.3	
	120nm,0.8s						
YSS				A	A	23 47 50.3	
	100nm,0.8s						
YSS	Yuzh-Sakhalins	2.40	2		Pn	23 47 13.7	+0.1
NEM2	Nemuro 2	2.56	117	P	Pn	23 47 13.8	-1.5
ERM	Erimo	2.57	171		Pn	23 47 15.2	-0.3
JKB	Kayabe	2.90	204	⇑P	Pn	23 47 18.1	-0.9
TEY	Ternei	4.30	279	iP	Pn	23 47 35.3	+0.4
TEY				AMB	AMB	23 47 35.4	
	50nm,0.5s						
USA0B	Ussuriysk Arra	7.62	271	Pn	Pn	23 48 16.4	+0.3
USRK	Ussuriysk Ar.	7.62	271	P	Pn	23 48 16.5	+0.3
	baz=84,slow=13,SNR=15						
MJB9	Matsu-Tunnel	8.67	204		Pn	23 48 29.0	-0.7
MAJO	Matsushiro	8.67	204		Pn	23 48 28.6	-1.1
MJAR	Matsushiro Arr	8.67	204	P	Pn	23 48 28.8	-0.9
	0.4nm,0.3s,baz=16,slow=12,SNR=11						
KLR	Kul'dur	8.78	306	P	Pn	23 48 29.7	-1.2
SEY	Seymchan	19.26	14	P	P	23 50 33.6	-0.2
SONM	Songino Array	25.14	290	P	P	23 51 31.7	+1.2
	3.7nm,0.6s,baz=82,slow=8.6,SNR=26						
ZALV	Zalesovo Beam	37.89	305	P	P	23 53 21.0	-0.1
	0.5nm,0.3s,baz=95,slow=7.2,SNR=3.6						
KDAK	Kodiak Island	41.11	47	P	P	23 53 47.9	+0.3
	3.0nm,0.6s,baz=85,slow=0.5,SNR=7.1						
KDAK	Kodiak Island	41.11	47	P	P	23 53 47.5	-0.1
MK31	Makanchi Array	41.30	295	P	P	23 53 50.2	+0.9
MKAR	Makanchi Array	41.30	295	P	P	23 53 50.1	+0.8
	0.9nm,0.5s,baz=81,slow=9.1,SNR=15						
MAKZ	Makanchi	41.50	295	P	P	23 53 50.7	-0.2
CNPM	China Poot	41.51	45	P	P	23 53 50.1	-0.7
CNPM				IAmb	IAmb	23 53 52.1	
	comp=Z,101nm,1.8s						
KURK	Kurchatov	42.35	302	P	P	23 53 58.1	+0.5
KURK				IAmb	IAmb	23 53 58.9	
	comp=Z,3.3nm,0.7s						
INK	Inuvik	47.35	30	P	P	23 54 36.1	-0.6
	comp=Z,1.7nm,0.4s,baz=288,slow=6.2,SNR=14						
INK	Inuvik	47.35	30	IAmb	IAmb	23 54 47.4	
	comp=Z,13nm,1.9s						
YKA	Yellowknife Ar	56.92	33	P	P	23 55 47.1	+0.1
	comp=Z,0.9nm,0.5s,baz=306,slow=6.7,SNR=11						
FINES	FINESS Array B	62.63	331	P	P	23 56 25.5	-0.3
	comp=Z,2.6nm,0.5s,baz=48,slow=7.5,SNR=37						
WRA	Warramunga Arr	64.62	189	P	P	23 56 39.2	0.0
	comp=Z,0.7nm,0.4s,baz=5.6,slow=6.9,SNR=9.4						
NB2	NORSAR Subarra	67.62	337	P	P	23 56 57.4	-0.5
	comp=Z,1.0nm,0.6s,baz=36,slow=6.5						
NOA	NORSAR Array B	67.62	337	P	P	23 56 57.6	-0.3
	comp=Z,1.4nm,0.6s,baz=36,slow=6.2,SNR=13						
HFS	Hagfors	67.63	335	P	P	23 56 57.7	-0.1
	comp=Z,2.6nm,0.5s,baz=55,slow=5.6,SNR=26						
ASAR	Alice Springs	68.35	189	P	P	23 57 04.2	+1.4
	comp=Z,1.7nm,0.7s,baz=5.8,slow=5.5,SNR=20						
AKASG	Malin Array Be	68.95	321	P	P	23 57 05.8	-0.3
	comp=Z,0.9nm,0.3s,baz=44,slow=6.6,SNR=7.5						
AKBB	Malin Array Si	68.95	321	P	P	23 57 03.1	-3.1
AKBB				IAmb	IAmb	23 57 07.1	
	comp=Z,2.5nm,0.8s						
NVAR	Mina Array Bea	69.87	56	P	P	23 57 12.7	+0.4
	comp=Z,0.2nm,0.6s,baz=302,slow=7.1,SNR=2.6						
PDAR	Pinedale Array	71.83	48	P	P	23 57 24.2	+0.2
	comp=Z,0.6nm,0.7s,baz=325,slow=2.3,SNR=4.5						
BRTR	Keskin Array B	74.58	311	P	P	23 57 40.3	+0.3
	comp=Z,0.3nm,0.7s,baz=46,slow=6.2,SNR=2.2						
CLL	Collm	75.04	330	eP	P	23 57 44.0	+1.8
EKA	Eskdalemuir Ar	76.35	341	P	P	23 57 49.7	+0.2
	comp=Z,0.5nm,0.5s,baz=24,slow=4.7,SNR=6.9						
GERES	GERESS Array B	76.81	328	P	P	23 57 52.2	-0.1
	comp=Z,0.7nm,1.0s,baz=57,slow=7.2,SNR=2.5						
TXAR	Lajitas Array	84.86	53	P	P	23 58 36.2	+1.0
	comp=Z,0.3nm,0.7s,baz=294,slow=4.8,SNR=5.6						

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*IDC **02** 00:00:20.9±2.6, 6°.53S×130°.03E, h152km±34km, mb3.4/1, mb1 3.6/5, mb1mx3.2/31, mbtmp4.0/5, Error ellipse: s-maj=63.9km s-min=19.9km az=89.0*

ISC 02 00:00:19.5±1.0**, 6°.57S**±0°.07×**130°.1E**±0°.1**, h146**km**, n6, σ2.66**/8**, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	Sorong	5.78	12	P	Pn	00 01 44.9	+1.5
	4.0nm,0.3s,baz=205,slow=17,SNR=20						
SIJI				S	Sn	00 02 45.8	-3.1
	2.1nm,0.3s,baz=239,slow=23,SNR=2.2						
BATI	Baumata	7.31	240	S	Sn	00 03 24.6	-1.0
	7.3nm,0.3s,baz=329,slow=22,SNR=3.2						
FITZ	Fitzroy Crossi	12.25	200	P	Pn	00 03 09.6	+0.4
	1.2nm,0.3s,baz=29,slow=13,SNR=41						
FITZ				S	Sn	00 05 15.8	-8.8
	0.1nm,0.3s,baz=103,slow=7.4,SNR=1.9						
WRA	Warramunga Arr	13.92	163	P	Pn	00 03 31.4	+0.8
	0.5nm,0.3s,baz=345,slow=11,SNR=2.1						
WRA				S	Sn	00 05 57.4	-7.5
	1.4nm,0.3s,baz=28,slow=12,SNR=7.2						
ASAR	Alice Springs	17.39	168	P	Pn	00 04 15.8	+2.4
	0.5nm,0.3s,baz=340,slow=10,SNR=22						
ASAR				S	S	00 07 22.2	-4.0
	0.3nm,0.3s,baz=248,slow=8.7,SNR=7.6						
MKAR	Makanchi Array	67.92	327	P	P	00 11 02.6	+0.2
	0.6nm,0.5s,baz=114,slow=7.7,SNR=10.0						

IDC 02 00:18:59.6±1.8**, 4°.06S**×**144°.42E, h0**km**, mb3.5**/3**, mb1 3.8**/4**, mb1mx3.4**/29**, mbtmp3.5**/4**, ML3.5**/1**, MS3.9**/1**, Ms1 3.9**/1**, ms1mx2.8**/24**, Error ellipse: s-maj=126.7km s-min=27.2km az=123.0, Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	18.60	211	P	Pn	00 23 19.1	+0.4
	0.2nm,0.3s,baz=37,slow=12,SNR=4.5						
ASAR	Alice Springs	21.98	207	P	P	00 23 55.5	+0.2
	0.4nm,0.5s,baz=38,slow=11,SNR=2.7						
FITZ	Fitzroy Crossi	23.08	231	P	P	00 24 06.5	-0.6
	1.0nm,0.5s,baz=45,slow=10.0,SNR=6.1						
ASAJ	Asahikawa	47.98	358	LR	LR	00 49 02.0	
	comp=Z,122nm,18.2s,baz=213,slow=38						
ILAR	Eielson Array	84.73	24	P	P	00 31 35.4	+0.1
	0.4nm,0.6s,baz=266,slow=5.4,SNR=7.8						

MAN 02 00:24:53.9, 8°.38N×121°.34E, h30km, mb4.2, ML3.0, MS2.7, Mindanao

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*IDC **02** 00:26:53.9±0.5, 9°.37N×126°.67E, h0km, mb4.3/26, mb1 4.4/28, mb1mx4.3/44, mbtmp4.3/28, ML4.7/3, MS3.7/11, Ms1 3.7/11, ms1mx3.4/39, Error ellipse: s-maj=20.1km s-min=10.5km az=82.0*

*NEIC **02** 00:26:54.7±1.4, 9°.33N±0°.06×126°.63E±0°.08, h8km±3km, mb4.6/85, Error ellipse: s-maj=12.3km s-min=8.7km az=80.0*

*MAN **02** 00:26:57.2, 9°.55N×127°.07E, h82km, mb5.3, ML4.3, MS4.4*

*BJI **02** 00:27:01.2±0.0, 9°.51N×126°.42E, h51km, mB4.8/11, mb4.8/17, Ms4.2/5, Ms7 4.1/5*

*DJA **02** 00:27:11.3±0.8, 9°N±5°×12°7E±°, h160km±7km, M4.1/24, mb4.5/24, mB4.9/3, MLv3.9/2, Mw(mB)4.2/3*

ISC 02 00:27:00.9±1.0**, 9°.43N**±0°.04×**126°.84E**±0°.06**, h55**km±9km**, n188, σ1.86**/181**, mb4.5**/65**, MS3.7**/10**, 6C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	1.33	201	⇑eP	Pn	00 27 30.3	+7.2
BIPH				eS	Sn	00 27 45.6	+5.8
SCPH	Surigao	1.38	285	⇑eP	Pn	00 27 15.4	-8.4
MSLP	Maasin	2.08	290	eP	Pn	00 27 33.4	+0.1
MSLP				eS	Sn	00 28 02.9	+4.9
CGP	Cagayan de Oro	2.33	246	⇑eP	Pn	00 27 38.1	+1.3
CGP				eS	Sn	00 28 08.0	+3.7
BUKP	Musuan	2.34	229	eP	Pn	00 27 37.3	+0.3
BUKP				eS	Sn	00 28 09.0	+4.4
MATI	Mati	2.54	193	eP	Pn	00 27 39.8	+0.2
MATI				eS	Sn	00 28 16.1	+6.7
DAV	Davao City (W)	2.66	208	Pn	Pn	00 27 42.8	+1.5
	16nm,0.3s,baz=89,slow=4.3,SNR=7.1						
DAV				Sn	Sn	00 28 05.4	-7.0
	61nm,0.3s,baz=103,slow=19,SNR=6.5						
DAV				LR	LR	00 28 50.0	
	comp=Z,3μm,20.4s,baz=42,slow=46						
DAV	Davao City (W)	2.66	208	Pn	Pn	00 27 36.7	-4.7
TBP	Tagbilaran	2.95	275	eP	Pn	00 27 38.3	-7.0
TBP				iS	Pn	00 27 47.0	+1.7
LLP	Lapu-Lapu	2.97	287	eP	Pn	00 27 45.8	+0.3
LLP				eS	Sn	00 28 23.4	+3.5
KCP	Kidapawan	2.97	216	⇑eP	Pn	00 27 44.3	-1.3
KCP				iS	Sn	00 28 21.6	+1.5
CTBH	Cotabato--PC H	3.38	230	⇓iP	Pn	00 27 50.9	-0.3
DDMP	Don Marcelino,	3.49	199	eP	Pn	00 27 53.9	+1.2
DDMP				eS	Sn	00 28 33.0	+0.1
SNPH	Sibulan	3.56	269	⇑iP	Pn	00 27 55.4	+1.7
CNP	Catarman	3.73	325	eP	Pn	00 27 54.0	-2.0
CNP				eS	Sn	00 28 35.5	-3.2
PAGZ	Pagadian	3.77	246	eP	Pn	00 27 57.5	+1.0
PAGZ				eS	Sn	00 28 41.0	+1.5
CNOP	Candoni, Negro	4.16	276	eP	Pn	00 28 00.3	-1.6
CNOP				eS	Sn	00 28 55.2	+5.9
RCP	Roxas	4.55	298	⇑eP	Pn	00 28 17.6	+10
TGY	Tagaytay City	7.41	309	Pn	Pn	00 28 43.6	-3.0
	23nm,0.3s,baz=199,slow=22,SNR=1.2						
TGY				LR	LR	00 31 52.6	
	comp=Z,691nm,18.5s,baz=199,slow=41						
TNTI	Ternate	8.62	176	Pn	Pn	00 28 57.4	-5.7
MRSI	Marisa	10.15	209	P	Pn	00 29 23.4	-0.5
KKM	Kota Kinabalu	11.05	253	Pn	Pn	00 29 29.0	-7.5
SIJI	Sorong	11.14	156	Pn	Pn	00 29 35.3	-2.3
	1.8nm,0.3s,baz=271,slow=23,SNR=2.4						
LUWI	Luwuk	11.17	201	Pn	Pn	00 29 32.2	-5.7
FAKI	Fak Fak	13.40	156	P	Pn	00 30 11.3	+2.9
FAKI	Fak Fak	13.40	156	Pn	Pn	00 30 04.3	-4.1
TTSI	Tana Toraja	14.23	210	P	P	00 30 32.6	+7.1
YULB	Yu-li	14.86	340	Pn	Pn	00 30 26.2	-1.6
TPUB	Ta-pu	15.02	337	Pn	Pn	00 30 28.2	-1.6
TPUB				IAmb	IAmb	00 30 38.5	
	comp=Z,28nm,0.9s						
BNSI	Bone	15.29	206	P	P	00 30 40.8	+3.5
	comp=Z,24nm,1.3s						
SSLB	Suanglung	15.34	339	Pn	Pn	00 30 32.6	-1.5
NACB	Ninganchiao	15.49	342	Pn	Pn	00 30 34.1	-1.9
KAPI	Kappang	16.00	206	LR	LR	00 38 03.2	
	comp=Z,189nm,18.9s,baz=26,slow=42						
YHNB	Yeheng	16.02	342	P	P	00 30 44.5	-0.9
YHNB				IAmb	IAmb	00 30 52.1	
	comp=Z,25nm,0.8s						
SBUM	Sibu	16.11	245	P	Pn	00 30 41.2	-2.6
TATO	Taipei	16.28	342	Pn	Pn	00 30 43.1	-2.8
TATO				IAmb	IAmb	00 30 47.2	
	comp=Z,36nm,1.0s						
SMPI	Sarmi	16.39	133	P	P	00 30 51.2	+1.8
	comp=Z,1μmcomp=Z,21nm,1.6s						
KBKI	Kotabaru	16.53	221	P	P	00 31 06.4	+15
QZH	Quanzhou	17.31	334	P	Pn	00 30 55.6	-3.2
QZH				LR	LR		
	comp=Z,280nm,15.2s						
QZH				LR	LR		
	comp=Z,220nm,19.9s						
QZH				LR	LR		
	comp=Z,340nm,15.2s						
JOW	Kunigami	17.36	4		Pn	00 30 59.2	-0.2
JAY	Jayapura	18.21	130	LR	LR	00 38 45.1	
	comp=Z,348nm,18.2s,baz=306,slow=39						
MMRI	Maumere	18.53	194	P	Pn	00 31 17.5	+3.8
	comp=Z,3μmcomp=Z,59nm,1.2s						
EDFI	Ende, Flores	18.78	196	P	Pn	00 31 19.5	+2.6
	comp=Z,11nm,0.8s						
SOEI	Soe	19.23	188	P	Pn	00 31 23.5	+1.2
	comp=Z,86nm,1.2s						
PBKI	Pangkalan Bun	19.34	232	P	Pn	00 31 38.5	+15
BATI	Baumata	19.77	189	P	P	00 31 25.3	-1.3
	comp=Z,4.8nm,0.3s,baz=318,slow=23,SNR=4.3						
BATI	Baumata	19.77	189	P	Pn	00 31 28.3	-0.2
	comp=Z,61nm,0.9s						
SSE	Sheshan	22.19	347	P	P	00 31 50.9	-1.6
SSE				IAmb	IAmb	00 32 01.6	
	comp=Z,35nm,1.1s						
SMRI	Semarang	23.13	226	P	P	00 31 58.1	-4.5
JNU	Nakatsue	23.87	8	P	P	00 32 10.5	+1.1
	comp=Z,12nm,0.8s,baz=15,slow=0.3,SNR=6.5						
JNU	Nakatsue	23.87	8	P	P	00 32 09.6	+0.2
JNU				IAmb	IAmb	00 32 13.8	
	comp=Z,21nm,1.0s						
WHN	Wuhan	24.02	333	⇓P	P	00 32 12.0	+1.3
MYKOM	Kota Tinggi	24.09	253	P	P	00 32 08.4	-3.1
MYKOM				IAmb	IAmb	00 32 14.7	
	comp=Z,28nm,0.9s						
KNRA	Kununurra	25.02	176	P	P	00 32 16.8	-3.1
SLVN	Son La	25.04	301	P	P	00 32 18.9	-1.3
SLVN				IAmb	IAmb	00 32 34.4	
	comp=Z,9.6nm,1.0s						
JHJ	Hachijo jima 2	26.42	25	LR	LR	00 42 32.8	
	comp=Z,218nm,20.2s,baz=19,slow=35						
FITZ	Fitzroy Crossi	27.38	182	P	P	00 32 41.7	+0.4
	comp=Z,1.9nm,0.4s,baz=16,slow=10,SNR=17						
FITZ	Fitzroy Crossi	27.38	182	P	P	00 32 39.9	-1.4
FITZ				IAmb	IAmb	00 32 57.8	
	comp=Z,9.5nm,0.9s						
PMG	Port Moresby	27.56	132	LR	LR	00 45 36.0	
	comp=Z,123nm,18.7s,baz=8.5,slow=41						
KSRS	Korea Array	27.91	2	P	P	00 32 46.7	+0.9
	comp=Z,2.7nm,0.8s,baz=176,slow=8.5,SNR=9.1						
CMAR	Chiang Mai Arr	28.49	291	P	P	00 32 49.8	-1.5

comp=Z,1.2nm,0.4s,baz=99,slow=6.7,SNR=8.4
CMAR PcP **PcP** **00 36 02.9 +0.8**
comp=Z,0.5nm,0.3s,baz=132,slow=1.3,SNR=1.4
CMAR LR LR 00 44 22.7
comp=Z,79nm,18.2s,baz=110,slow=37
PSI Prapat 28.51 258 P **P 00 32 50.6 -1.1**
comp=Z,8.9nm,0.8s,baz=180,slow=0.7,SNR=9.6
RPSI Rantau Prapat 28.54 258 P **P 00 32 49.6 -2.1**
RPSI IAmb IAmb 00 32 54.9
comp=Z,12nm,0.9s
RPSI Rantau Prapat 28.54 258 P **P 00 32 50.6 -1.1**
KRVT Keravat (AS076 28.57 117 LR LR 00 43 42.4
comp=Z,106nm,19.1s,baz=263,slow=35
MJAR Matsushiro Arr 28.89 19 P **P 00 32 55.2 +0.6**
comp=Z,1.7nm,0.4s,baz=114,slow=9.3,SNR=4.8
MJAR LR LR 00 44 19.4
comp=Z,182nm,19.7s,baz=195,slow=36
KCSI Kotacane, Aceh 29.46 260 P **P 00 32 59.9 0.0**
comp=Z,13nm,0.9s
XAN Xi'an 29.51 329 P **P 00 32 59.6 -0.5**
XAN pP sP 00 33 18.0 +1.0
XAN pmax pmax
comp=Z,11nm,0.6s
XAN pmax pmax
comp=Z,100nm,5.3s
XAN LR LR
comp=Z,200nm,18.4s
XAN LR LR
comp=Z,190nm,17.3s
XAN LR LR
comp=Z,360nm,16.3s
XAN Xi'an 29.51 329 P **P 00 32 58.7 -1.4**
XAN IAmb IAmb 00 33 02.1
comp=Z,7.2nm,0.5s
WB0 Warramunga Arr 29.95 166 P **P 00 33 03.6 -0.6**
WB0 IAmb IAmb 00 33 19.0
comp=Z,8.2nm,1.1s
WRA Warramunga Arr 30.11 166 P **P 00 33 04.4 -1.1**
comp=Z,1.7nm,0.8s,baz=348,slow=9.5,SNR=6.0
WB2 Warramunga Arr 30.11 166 P **P 00 33 01.6 -3.9**
WB2 IAmb IAmb 00 33 11.0
comp=Z,8.1nm,1.1s
GSI Gunungsitoli 30.21 256 P **P 00 33 07.8 +1.2**
comp=Z,200nm,0.9s
GSI Gunungsitoli 30.21 256 P **P 00 33 03.6 -2.9**
PATS Pohnpei 31.25 92 P **P 00 33 15.6 -0.2**
PSA00 Pilbara Seismi 31.57 193 P **P 00 33 16.4 -2.0**
PSA00 IAmb IAmb 00 33 23.8
comp=Z,12nm,0.9s
PSAC3 Pilbara Seismi 31.62 193 P **P 00 33 17.1 -1.7**
PSAC3 IAmb IAmb 00 33 22.9
comp=Z,14nm,0.8s
PSAD3 Pilbara Seismi 31.65 193 P **P 00 33 17.8 -1.3**
BJT Baijiatuau 31.91 344 P **P 00 33 20.6 -0.6**
BJT IAmb IAmb 00 33 35.3
comp=Z,16nm,1.2s
ASAR Alice Springs 33.61 168 P **P 00 33 36.0 -0.2**
comp=Z,1.0nm,0.8s,baz=14,slow=10,SNR=10.0
ASAR PcP **PcP 00 36 17.1 +1.4**
comp=Z,0.6nm,0.7s,baz=332,slow=2.7,SNR=4.3
USA0B Ussuriysk Arra 34.92 6 P **P 00 33 47.2 -0.1**
USA0B IAmb IAmb 00 34 03.2
comp=Z,5.3nm,0.7s
ASAJ Asahikawa 37.16 19 P **P 00 34 07.6 +1.1**
comp=Z,3.4nm,0.5s,baz=250,slow=13,SNR=4.6
H11S3 WAKE ISLAND Hy 39.62 72 T T 01 17 40.5
baz=262,slow=72,SNR=16
H11S1 WAKE ISLAND Hy 39.64 72 T T 01 17 38.3
baz=262,slow=72,SNR=12
H11S2 WAKE ISLAND Hy 39.64 72 T T 01 17 29.0
baz=262,slow=72,SNR=9.0
MORW Morawa 39.67 195 P **P 00 34 26.4 -1.4**
MORW IAmb IAmb 00 34 40.8
comp=Z,8.4nm,0.8s
H11N1 WAKE ISLAND Hy 39.99 71 T T 01 18 13.8
baz=265,slow=74,SNR=15
H11N2 WAKE ISLAND Hy 40.00 71 T T 01 18 08.3
baz=265,slow=74,SNR=11
FORT Forrest 40.00 178 P **P 00 34 29.1 -1.3**
FORT IAmb IAmb 00 34 37.4
comp=Z,18nm,0.9s
H11N3 WAKE ISLAND Hy 40.01 71 T T 01 18 08.9
baz=265,slow=74,SNR=12
TAPN Taplejung 40.96 301 *e*P **P 00 34 38.6 -0.3**
comp=Z,6.6nm,0.4s
ODAN Odare 41.08 300 *e*P **P 00 34 39.5 -0.3**
comp=Z,34nm,0.6s
RAMN Ramite 41.78 300 *e*P **P 00 34 44.9 -0.7**
comp=Z,15nm,0.7s
ULN Ulaanbaatar 41.80 340 P **P 00 34 45.7 +0.4**
SONM Songino Array 41.99 339 P **P 00 34 47.3 +0.4**
comp=Z,2.7nm,0.7s,baz=158,slow=9.2,SNR=11
JIRN Jiri 42.34 301 *e*P **P 00 34 50.0 -0.3**
comp=Z,29nm,0.6s
GUN Gumba 42.68 301 *e*P **P 00 34 52.0 -1.0**
comp=Z,36nm,0.8s
BBOO Buckleboo 42.92 169 P **P 00 34 54.3 0.0**
BBOO IAmb IAmb 00 35 07.7
comp=Z,16nm,1.1s
PKI Pulchoki 42.98 300 *e*P **P 00 34 54.2 -1.2**
comp=Z,5.6nm,0.4s
PKIN Phulchoki 42.99 300 *e*P **P 00 34 54.2 -1.2**
comp=Z,8.5nm,0.6s
NWAO Narrogin (SRO) 43.11 192 P **P 00 34 54.2 -1.6**
comp=Z,7.1nm,0.7s,baz=27,slow=9.2,SNR=9.9
NWAO Narrogin (SRO) 43.11 192 P **P 00 34 54.9 -1.0**
NWAO IAmb IAmb 00 35 09.3
comp=Z,24nm,0.9s
STKA Stephens Creek 43.43 162 P **P 00 34 58.2 -0.3**
comp=Z,1.4nm,0.5s,baz=338,slow=8.7,SNR=4.6
STKA LR LR 00 57 36.2
comp=Z,75nm,18.0s,baz=232,slow=42
KOLN Koldanda 44.57 300 *e*P **P 00 35 06.4 -1.7**
comp=Z,23nm,0.8s
DANN Dangsing 44.60 301 *e*P **P 00 35 07.2 -1.1**
comp=Z,26nm,0.7s
PYUN Piuthan 45.18 300 *e*P **P 00 35 11.9 -1.0**
comp=Z,20nm,0.5s
TLY Talaya 46.21 340 P **P 00 35 20.5 +0.1**
TLY IAmb IAmb 00 35 24.7
comp=Z,8.2nm,0.6s
DZM Mont Dzumac 49.88 129 *e*S S 00 43 17.9 +22
comp=Z,49nm,24.4s
DZM *e*LR LR 00 50 17.7
comp=Z,99nm,25.4s
PETK Petropavlovsk- 50.17 24 P **P 00 35 52.7 +1.8**
comp=Z,1.4nm,0.6s,baz=210,slow=4.6,SNR=2.3
MK31 Makanchi Array 53.03 323 P **P 00 36 12.4 0.0**
MKAR Makanchi Array 53.03 323 P **P 00 36 12.5 +0.1**
comp=Z,4.5nm,0.6s,baz=120,slow=8.6,SNR=14
MKAR PcP **PcP 00 37 20.8 +0.4**
comp=Z,1.2nm,0.6s,baz=108,slow=4.4,SNR=1.8
MKAR LR LR 00 58 02.5
comp=Z,69nm,19.6s,baz=110,slow=35
MA2 Magadan 53.19 15 P **P 00 36 14.3 +1.0**
MA2 IAmb IAmb 00 36 33.4
comp=Z,5.5nm,0.8s
MAKZ Makanchi 53.22 323 P **P 00 36 14.2 +0.4**
MAKZ IAmb IAmb 00 36 16.0
comp=Z,5.6nm,1.0s
TARG Taragay, Kyrgy 53.69 315 P **P 00 36 16.0 -1.8**
KSH Kashi 54.21 312 *e*P **P 00 36 23.2 +1.9**
KSH pmax pmax
comp=Z,9.0nm,0.6s
KSH pmax pmax
comp=Z,130nm,8.4s
KZA Kyzart 55.59 315 P **P 00 36 32.9 +1.3**
SNR=6.5
ZAA0 Zalesovo Array 55.63 331 P **P 00 36 30.1 -0.9**
ZAA0 IAmb IAmb 00 36 33.3
comp=Z,3.8nm,0.8s
ZALV Zalesovo Beam 55.63 331 P **P 00 36 30.9 -0.1**
comp=Z,3.4nm,0.7s,baz=118,slow=6.8,SNR=19
KBK Karagaybulak 56.01 316 P **P 00 36 35.7 +1.4**
SNR=5.7
UCH Uchtor 56.16 315 P **P 00 36 36.8 +1.1**
SNR=18
AAK Ala-Archa 56.31 315 P **P 00 36 35.3 -1.1**
USP Ospenovka 56.53 316 P **P 00 36 38.7 +0.9**
SNR=5.9
AML Almayashu 56.70 315 P **P 00 36 40.6 +1.1**
SNR=12
EKS2 Erkin-Say 56.82 315 P **P 00 36 41.0 +1.1**
SNR=7.4
KURK Kurchatov 57.07 326 P **P 00 36 41.4 0.0**
KURK IAmb IAmb 00 36 43.0
comp=Z,8.6nm,0.8s

GAR Garm 58.26 310 P **P 00 36 48.9 -1.3**
KBL Kabul 58.27 305 P **P 00 36 49.3 -1.1**
CHGR Chuyangaron 59.05 310 P **P 00 36 54.5 -1.1**
KK31 Karatay Array 59.24 315 P **P 00 36 56.8 0.0**
TIXI Tiksi 62.17 1 P **P 00 37 17.6 +1.4**
TIXI IAmb IAmb 00 37 34.2
comp=Z,6.9nm,1.0s
BRVK Borovoye 62.74 325 P **P 00 37 20.2 -0.1**
HRA Herat 63.80 304 P **P 00 37 27.3 -0.6**
HRA IAmb IAmb 00 37 41.3
comp=Z,3.1nm,0.9s
ATKA Atka Island 63.80 36 P **P 00 37 29.1 +1.7**
BILL Bilibino 64.05 15 P **P 00 37 29.9 +1.2**
BILL IAmb IAmb 00 37 38.3
comp=Z,2.9nm,0.8s
NRIK Noril'sk 64.96 346 P **P 00 37 35.5 +0.9**
comp=Z,8.2nm,0.7s,baz=122,slow=7.1,SNR=23
THZ Tophouse 66.16 144 P **P 00 37 42.7 -0.1**
LBZ Lake Benmore 66.36 148 P **P 00 37 45.0 +1.0**
RPZ Rata Peaks 66.38 147 P **P 00 37 44.9 +0.7**
LTZ Lake Taylor 66.45 145 P **P 00 37 46.1 +1.5**
BKZ Black Stump Fm 66.78 140 P **P 00 37 48.4 +1.5**
GEYT Alibeck 67.50 307 P **P 00 37 51.7 +0.2**
comp=Z,1.5nm,0.7s,baz=90,slow=4.3,SNR=2.9
UOSS Minazif 68.58 293 P **P 00 37 57.2 -1.3**
UOSS IAmb IAmb 00 37 58.8
comp=Z,4.5nm,0.8s
ARU Arti 70.23 327 P **P 00 38 08.2 +0.1**
SOCY Socotra 71.42 280 P **P 00 38 14.2 -2.0**
TTA Tatalina 75.81 27 P **P 00 38 42.5 +1.5**
CASY Casey 76.46 187 P **P 00 38 44.9 +0.6**
CASY IAmb IAmb 00 38 59.5
comp=Z,5.7nm,0.8s
BPAW Bear Paw Mtn. 78.15 26 P **P 00 38 56.4 +2.2**
BPAW IAmb IAmb 00 39 01.1
comp=Z,6.6nm,1.2s
RAR Rarotonga 78.19 114 P **P 00 38 55.0 -0.1**
RAYN Ar Rayn 78.41 292 P **P 00 38 55.3 -1.0**
RAYN IAmb IAmb 00 38 57.5
comp=Z,7.1nm,0.8s
TRF Thorofare Moun 78.43 27 P **P 00 38 56.8 +1.0**
AKH Akhalkalaki 78.86 310 P **P 00 38 58.0 -0.7**
AKH IAmb IAmb 00 39 01.3
comp=Z,5.2nm,0.7s
TOLK Toolik Lake Re 78.94 22 P **P 00 38 59.4 +1.0**
MCK McKinley 79.05 27 P **P 00 38 59.5 +0.4**
MCK IAmb IAmb 00 39 15.8
comp=Z,4.9nm,1.0s
RND Reindeer 79.08 27 P **P 00 39 00.3 +1.0**
KBZ Khabaz 79.19 313 P **P 00 39 00.4 +0.3**
comp=Z,2.1nm,0.8s,baz=149,slow=3.3,SNR=3.8
SML Sawmill 79.31 29 P **P 00 38 60.0 -0.6**
SML IAmb IAmb 00 39 10.9
comp=Z,6.7nm,0.9s
KIV Kislovodsk 79.33 313 P **P 00 39 00.6 -0.4**
KIV IAmb IAmb 00 39 06.5
comp=Z,6.2nm,0.7s
WRH Wood River Hil 79.43 26 P **P 00 39 02.2 +1.2**
CCB Clear Creek Bu 79.55 26 P **P 00 39 02.6 +0.9**
DHY Denali Highway 79.75 27 P **P 00 39 03.2 +0.2**
GLI Glacier Island 79.91 30 P **P 00 39 04.2 +0.5**
HDA Harding Lake 79.92 26 P **P 00 39 04.3 +0.6**
IL31 79.94 26 P **P 00 39 04.1 +0.3**
ILAR Eielson Array 79.94 26 P **P 00 39 04.6 +0.7**
comp=Z,0.7nm,0.6s,baz=242,slow=4.5,SNR=7.9
FID Port Fidalgo 80.22 30 P **P 00 39 06.6 +1.2**
KLMR Klimovskoe 80.53 330 *e*P **P 00 39 07.5 +0.5**
KLMR AMP 00 39 23.8
comp=Z,21nm,1.5s
PAX Paxson 80.62 28 P **P 00 39 09.2 +1.5**
RIDG Independent Ri 80.86 27 P **P 00 39 10.1 +1.2**
RIDG IAmb IAmb 00 39 16.7
comp=Z,6.1nm,1.0s
DOT Dot Lake 81.22 27 P **P 00 39 10.5 -0.3**
SCRK Sand Creek 81.23 27 P **P 00 39 13.0 +2.0**
BARN Barnard Glacie 82.55 29 P **P 00 39 19.0 +1.0**
BARN IAmb IAmb 00 39 38.0
comp=Z,5.8nm,0.8s
HYT Haines Junctio 84.59 29 P **P 00 39 29.7 +1.3**
HYT IAmb IAmb 00 39 36.5
comp=Z,5.5nm,1.1s
INK Inuvik 84.85 22 P **P 00 39 30.3 +0.9**
INK IAmb IAmb 00 39 39.6
comp=Z,3.5nm,1.1s
SPA0 Spitsbergen Ar 84.94 349 P **P 00 39 29.9 +0.2**
ARCES ARCESS Array B 85.17 340 P **P 00 39 31.7 +0.7**
comp=Z,6.1nm,0.7s,baz=72,slow=6.2,SNR=18
BRTR Keskin Array B 86.50 310 P **P 00 39 38.0 -0.3**
comp=Z,1.1nm,0.8s,baz=102,slow=4.3,SNR=9.6
PPT2 Papeete2 86.77 108 *e*LR LR 01 07 23.6
comp=Z,55nm,24.5s
FINES FINESS Array B 86.89 332 P **P 00 39 40.0 +0.5**
comp=Z,2.2nm,0.7s,baz=76,slow=5.9,SNR=4.9
VNDA Vanda 89.03 173 P **P 00 39 50.0 +0.6**
comp=Z,1.1nm,0.7s,baz=326,slow=5.8,SNR=9.5
BUR08 Bucovina Ar. S 90.84 319 P **P 00 39 58.3 -0.4**
BUR08 IAmb IAmb 00 40 11.3
comp=Z,3.1nm,1.1s
DAG Danmarks Havn 91.65 353 *i* P **P 00 40 03.0 +1.3**
comp=Z,7.4nm,0.8s
NB2 NORSAR Subarra 93.75 334 P **P 00 40 12.2 +0.4**
comp=Z,2.3nm,0.9s,baz=61,slow=4.4
NB2 NORSAR Subarra 93.75 334 P **P 00 40 12.2 +0.4**
baz=61,slow=4.4
NOA NORSAR Array B 93.75 334 P **P 00 40 11.7 0.0**
comp=Z,0.8nm,0.8s,baz=62,slow=4.6,SNR=8.1
YKA Yellowknife Ar 94.29 24 P **P 00 40 16.3 +2.2**
comp=Z,0.5nm,0.7s,baz=296,slow=4.5,SNR=4.1
GERES GERESS Array B 97.69 322 P **P 00 40 29.7 -0.4**
comp=Z,0.3nm,0.6s,baz=72,slow=4.3,SNR=3.6
TXAR Lajitas Array 117.94 50 PKP **PKiKP 00 45 43.6 +1.3**
comp=Z,0.3nm,0.7s,baz=134,slow=1.3,SNR=4.1
TORD Torodi Ar. Bea 121.10 292 PKP **PKiKP 00 45 48.6 -0.1**
comp=Z,0.4nm,0.8s,baz=72,slow=0.8,SNR=2.2

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*IDC **02** 01:01:17.1±0.8, 19°.89N×71°.10W, h0km, mb3.5/8, mb1 4.0/12, mb1mx3.7/33, mbtmp3.8/12, ML3.2/4, MS3.0/4, Ms1 3.0/4, ms1mx2.7/31, Error ellipse: s-maj=25.1km s-min=19.0km az=55.0*
*NEIC **02** 01:01:17.7±2.3, 19°.81N±0°.03×71°.18W±0°.06, h10km±1km, mb4.3/9, Mwr3.9/14, Error ellipse: s-maj=10.0km s-min=5.3km az=255.0*
*NEIC **02** 01:01:17.8, 19°.81N×71°.17W, h19km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.42; $M_{\theta\theta}$-0.66; $M_{\phi\phi}$0.23; $M_{r\theta}$-0.73; $M_{\theta\phi}$-0.42; $M_{\phi r}$-0.03; Fault plane solution: $M_0 1.02000\times10^{15}$ NP1:ϕ_s33.93000°, δ29.22000°, λ36.74000°. NP2:ϕ_s270.84000°, δ73.02000°, λ114.14000°. Principal axes: T 0.8388, Plg55.0000°, Azm212.0000°; N 0.2943, Plg23.0000°, Azm83.0000°; P -1.1330, Plg24.0000°, Azm342.0000°;*
*OSPL **02** 01:01:20.2±2.5, 19°.81N×71°.19W, h20km, ML4.0*
ISC 02 01:01:20.1±1.2**, 19°.70N**±0°.05×**71°.19W**±0°.05**, h31**km±9km**, n68, σ1s64**/74**, mb3.8**/11**, Dominican Republic region**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
SC01 Santiago de lo 0.51 122 **Pb 01 01 29.5 -1.3**
SC01 Santiago de lo 0.51 122 *i* P **Pb 01 01 29.5 -1.3**
SC01 *e*S **Sn 01 01 39.0 0.0**
SC01 IAML 01 01 46.0
comp=Z,5μm,1.2s
SDDR Presa de Saban 0.72 187 **Pn 01 01 33.7 -0.5**
SDDR Sg **Sb 01 01 45.1 +1.3**
SDDR Presa de Saban 0.72 187 *i* P **Pn 01 01 33.7 -0.5**
SDDR *e*S **Sb 01 01 45.3 +1.5**
SDDR IAML 01 01 46.5
comp=Z,10μm,0.5s
BON1 Bonao 1.06 135 *i* P **Pn 01 01 38.3 -0.6**
BON1 *e*S **Sn 01 01 53.2 +0.6**
BON1 IAML 01 01 56.2
comp=Z,4μm,0.3s
LONE1 Neyba 1.23 190 *i* P **Pn 01 01 40.9 -0.3**
LONE1 *e*S **Sb 01 01 59.3 +1.1**
LONE1 IAML 01 01 59.7
comp=Z,3μm,0.8s
BANI BANI 1.52 149 **Pn 01 01 46.7 +1.4**
SDD Santo Domingo 1.73 135 Pn **Pn 01 01 49.5 +1.6**
SDD Santo Domingo 1.73 135 *i* P **Pb 01 01 50.0 -1.2**
GRTK Grand Turk 1.80 2 Pn **Pn 01 01 47.8 -1.3**
DR12 Loma Pena Alta 1.94 118 **Pn 01 01 51.7 +0.8**
PCDR Punta Cana, DR 2.91 113 Pn **Pn 01 02 03.2 -1.1**
PCDR Punta Cana, DR 2.91 113 *i* P **Pn 01 02 05.7 +1.5**
PCDR IAML 01 02 53.0
comp=Z,408nm,1.0s
GTBY Guantanamo Bay 3.70 274 *e*P **Pn 01 02 13.2 -1.9**
GTBY Guantanamo Bay 3.70 274 Pn **Pn 01 02 13.7 -1.4**
GTBY Guantanamo Bay 3.70 274 *i* P **Pn 01 02 14.6 -0.5**
GTBY IAML 01 03 05.0
comp=Z,54nm,0.8s
AGPR Aguadilla, PR 4.05 107 **Pn 01 02 19.9 0.0**
AGPR Aguadilla, PR 4.05 107 *i* P **Pn 01 02 20.4 +0.4**
AGPR IAML 01 03 34.6
comp=Z,228nm,0.9s
MPR Mayaguez 4.11 110 **Pn 01 02 22.0 +1.2**
CRPR Cabo Rojo, PR 4.22 113 **Pn 01 02 22.0 -0.3**
MLPR Magueyes Islan 4.29 113 **Pn 01 02 24.2 +1.0**
AOPR Arecibo Observ 4.41 107 **Pn 01 02 25.8 +0.9**
EMPR Esperanza - Ma 4.57 105 Pn **Pn 01 02 30.5 +3.3**
OBIP Obispado Ponce 4.64 110 **Pn 01 02 29.1 +0.9**
GCPR Guaynabo City 5.03 105 **Pn 01 02 33.0 -0.3**
GCPR Sn **Sn 01 03 28.9 -1.6**
SJG San Juan 5.03 107 Pn **Pn 01 02 32.6 -0.8**
comp=Z,1.5nm,0.3s,baz=343,slow=13,SNR=2.1
SJG Sn **Sn 01 03 29.1 -1.3**
comp=Z,11nm,0.3s,baz=327,slow=23,SNR=7.0
SJG Lg Lg 01 03 46.6
comp=Z,19nm,0.3s,baz=219,slow=22,SNR=7.9
SJG LR LR 01 04 39.1
comp=Z,123nm,19.6s,baz=274,slow=40
SJG San Juan 5.03 107 *e*P **Pn 01 02 36.9 +3.5**
SJG San Juan 5.03 107 **Pn 01 02 32.3 -1.1**
IGPR InterUniversit 5.12 109 Pn **Pn 01 02 36.4 +1.8**
PDPR Patillas Dam, 5.17 108 **Pn 01 02 35.5 +0.2**
CBYP Canovanas 5.24 105 **Pn 01 02 35.6 -0.8**
HUMP Col San Antoni 5.29 106 **Pn 01 02 37.0 +0.1**
MTP Monte Pirata 5.57 106 Pn **Pn 01 02 41.0 +0.2**
STVI Saint Thomas 6.05 102 Pn **Pn 01 02 46.8 -0.7**
MTDJ Mount Denham 6.18 257 Pn **Pn 01 02 50.6 +1.2**
CDVI St. Croix 6.39 107 Pn **Pn 01 02 51.8 -0.3**
SMRT St. Maarten 7.86 101 Pn **Pn 01 03 11.6 -0.7**
URIC Uribia, Colomb 7.99 186 Pn **Pn 01 03 14.1 -0.1**
SDV Santo Domingo 10.76 177 Pn **Pn 01 03 56.5 +4.2**
comp=Z,1.7nm,0.3s,baz=359,slow=11,SNR=11
SDV Sn **Sn 01 05 52.1 +0.1**
comp=Z,0.6nm,0.3s,baz=356,slow=23,SNR=2.0
SDV Santo Domingo 10.76 177 *e*P Pn 01 03 57.9 +5.6
SOCV Socops 11.35 178 *e*P Pn 01 04 06.0 +5.8
PCRV Puerto La Cruz 11.39 145 Pn **Pn 01 04 03.6 +2.8**
comp=Z,0.5nm,0.3s,baz=111,slow=16,SNR=2.1
PCRV Sn **Sn 01 06 02.3 -4.8**
comp=Z,0.3nm,0.3s,baz=40,slow=23,SNR=0.7
PLCV Puerto La Cruz 11.42 145 **Pn 01 04 03.6 +2.4**
PLCV **Sn 01 06 02.3 -5.6**
HELC Santa Helena 14.07 198 *e*P **P 01 04 43.9 -1.3**
CBOC Ciudad Bolivar 14.53 199 *e*P **P 01 04 49.2 -0.8**
GUY2C Guyana, Caldas 14.95 196 *e*P **P 01 04 54.6 -0.4**
ROSC El Rosal 15.08 192 Pn **P 01 04 55.1 -1.3**
comp=Z,0.7nm,0.3s,baz=131,slow=20,SNR=1.7
ROSC El Rosal 15.08 192 **Pn 01 04 50.3 -1.1**
ROSC IAmb IAmb 01 05 07.7
comp=Z,8.9nm,0.8s
ORTC Ortega, Tolima 16.19 195 *e*P **Pn 01 05 05.5 0.0**
JTS Las Juntas de 16.24 237 LR LR 01 11 46.0
comp=Z,56nm,18.7s,baz=177,slow=38
TKL Tuckaleechee C 19.38 328 LR LR 01 12 39.8
comp=Z,45nm,18.1s,baz=160,slow=35
FCAR Ozark Folk Cen 24.48 316 P **P 01 06 34.0 -2.5**
FCAR IAmb IAmb 01 06 41.8
comp=Z,6.0nm,0.8s
SADO Sadowa 25.86 347 LR LR 01 16 43.8
comp=Z,49nm,19.5s,baz=101,slow=36
TXAR Lajitas Array 30.98 294 P **P 01 07 36.4 +1.5**
comp=Z,0.4nm,0.8s,baz=101,slow=7.7,SNR=4.7
TXAR PcP **PcP 01 10 32.1 +1.4**
comp=Z,0.5nm,0.9s,baz=134,slow=5.2,SNR=3.7
MNTX Cornudas Mount 32.91 298 **P 01 07 51.5 -0.2**
MNTX IAmb IAmb 01 07 54.2
comp=Z,2.2nm,0.8s
LPAZ La Paz 35.89 175 P **P 01 08 20.6 +2.4**
comp=Z,1.3nm,0.7s,baz=0.0,slow=8.1,SNR=3.8
LPAZ La Paz 35.89 175 P **P 01 08 18.2 0.0**
GO01 Chusmiza 39.17 177 P **P 01 08 45.1 -0.7**
GO01 IAmb IAmb 01 08 51.4
comp=Z,14nm,1.4s
PB11 IPOC Station P 39.24 178 P **P 01 08 45.8 -0.3**
MTPU Mount Pierson 39.90 306 P **P 01 08 49.6 -2.1**
SPUT South Promonto 41.07 311 P **P 01 09 00.0 -1.1**
NVAR Mina Array Bea 44.68 305 P **P 01 09 31.9 +1.4**
comp=Z,0.9nm,0.8s,baz=96,slow=7.6,SNR=5.8
YKA Yellowknife Ar 52.08 336 P **P 01 10 27.2 +0.3**
comp=Z,0.3nm,0.7s,baz=118,slow=7.8,SNR=2.4
ESDC Sonseca Array 60.36 55 P **P 01 11 27.3 +0.8**
comp=Z,0.9nm,0.7s,baz=277,slow=7.0,SNR=8.6
ILAR Eielson Array 66.26 333 P **P 01 12 06.0 +0.9**
comp=Z,0.4nm,0.8s,baz=102,slow=6.6,SNR=2.8
GERES GERESS Array B 72.12 44 P **P 01 12 42.2 +0.4**
comp=Z,0.1nm,0.3s,baz=291,slow=6.2,SNR=1.5
BRTR Keskin Array B 88.44 48 P **P 01 14 10.8 +1.1**
comp=Z,0.4nm,0.8s,baz=291,slow=5.7,SNR=2.4
CD2 Chengdu 129.45 6 PKP **PKPdf 01 20 24.8 -1.6**

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*IDC **02** 01:04:02.0±0.4, 9°.55N×126°.59E, h0km, mb4.7/31, mb1 4.8/35, mb1mx4.7/39, mbtmp4.7/35, ML4.4/4, MS4.2/24, Ms1 4.2/24, ms1mx4.1/34, Error ellipse: s-maj=14.5km s-min=8.3km az=88.0*
*MOS **02** 01:04:05.2±1.2, 9°.49N×126°.38E, h28km, mb5.3/41, MS4.2/8, Error ellipse: s-maj=9.8km s-min=5.1km az=111.8*
*NEIC **02** 01:04:05.4±2.4, 9°.58N±0°.04×126°.65E±0°.08, h23km±3km, mb5.1/109, Error ellipse: s-maj=11.7km s-min=5.8km az=95.0*
*BJI **02** 01:04:06.9±0.0, 9°.34N×126°.65E, h56km, mB4.9/53, mb4.9/69, Ms4.7/64, Ms7 4.5/57*
*MAN **02** 01:04:06.1, 9°.50N×126°.82E, h42km, mb5.6, ML4.7, MS5.0*
*GCMT **02** 01:04:09.4±0.2, 9°.50N±0°.02×126°.75E±0°.01, h24km, MW5.1/109, Moment Tensor Solution. s55,c67; s109,c156; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.15±.18; $M_{\theta\theta}$0.07±.10; $M_{\phi\phi}$-4.22±.12; $M_{r\theta}$-0.02±.16; $M_{\theta\phi}$0.56±.07; $M_{\phi r}$2.33±.15; Best double couple: $M_0 4.82100\times10^{16}$ NP1:ϕ_s169.00000°, δ31.00000°, λ84.00000°. NP2:ϕ_s356.00000°, δ59.00000°, λ93.00000°. Principal axes: T 4.7580, Plg75.0000°, Azm276.0000°; N 0.1260, Plg3.0000°, Azm174.0000°; P -4.8850, Plg14.0000°, Azm84.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **02** 01:04:09.4±0.6, 10°N±4°×12°7E±°, h62km±5km, M4.9/60, mb5.0/60, mB5.3/30, MLv5.7/1, Mw(mB)4.7/30*
*UNK **02** 01:04:10.4, 9°.50N×126°.61E, h55km*
*KLM **02** 01:04:12.0, 9°.50N×126°.87E, h81km, mb5.1*
ISC 02 01:04:10.1±0.5**, 9°.50N**±0°.03×**126°.64E**±0°.04**, h59**km±4km**, n429, σ1s89**/437**, mb5.0**/140**, MS4.3**/46**, 32C-13D, Mindanao**

Code Station Name Δ° AZ° Phase ID (Op, ISC) Time (h m s) Res (ISC)
SCPH Surigao 1.17 284⇑*e*P **Pn 01 04 28.0 -2.3**
SCPH *e*S **Sn 01 04 45.9 +0.5**
BIPH Bislig 1.34 192⇑*e*P **Pn 01 04 30.6 -2.0**
BIPH *e*S **Sn 01 04 54.4 +5.0**
MSLP Maasin 1.86 290 *e*P **Pn 01 04 38.6 -1.1**
MSLP *e*S **Sn 01 04 58.8 -3.4**
CGP Cagayan de Oro 2.19 242⇑*i*P **Pn 01 04 43.3 -0.8**
CGP *i* S **Sn 01 05 10.8 +0.8**
BUKP Musuan 2.24 224 *e*P **Pn 01 04 43.7 -1.2**
BUKP *e*S **Sn 01 05 11.4 -0.1**
MATI Mati 2.57 189 *e*P **Pn 01 04 46.0 -3.3**
MATI *e*S **Sn 01 05 24.8 +5.4**
DAV Davao City (W) 2.63 204 Pn **Pn 01 04 46.8 -3.5**
55nm,0.3s,baz=61,slow=3.8,SNR=7.6
DAV Lg Lg 01 05 29.0
128nm,0.3s,baz=314,slow=20,SNR=5.2
DAV LR LR 01 05 59.0
comp=Z,12μm,20.3s,baz=36,slow=44
DAV Davao City (W) 2.63 204 P **Pn 01 04 54.8 +4.6**
DAV Davao City (W) 2.63 204 **Pn 01 04 50.3 +0.1**
TBP Tagbilaran 2.75 274 *e*P **Pn 01 04 51.6 -0.1**
TBP *i* S **Sn 01 05 26.1 +2.3**
LLP Lapu-Lapu 2.76 287 *e*P **Pn 01 04 52.0 +0.1**
LLP *e*S **Sn 01 05 28.8 +4.7**

KCP Kidapawan 2.91 212⇑ *i*P **Pn 01 04 52.9 -1.2**
KCP *i* S Sn 01 05 39.5 +11
CTBH Cotabato--PC H 3.28 226⇓ *e*P **Pn 01 04 58.4 -0.6**
SNPH Sibulan 3.36 268 *e*P **Pn 01 05 01.7 +1.5**
DDMP Don Marcelino, 3.50 195 *e*P **Pn 01 04 59.5 -2.6**
DDMP *e*S **Sn 01 05 45.5 +3.3**
CNP Catarman 3.56 327 *e*P **Pn 01 05 00.4 -2.6**
CNP *e*S Sn 01 06 02.1 +18
PAGZ Pagadian 3.62 243 *e*P **Pn 01 05 02.9 -0.7**
PAGZ *e*S **Sn 01 05 46.7 +1.6**
SKMP Bagumbayan, Su 3.62 215 *e*P **Pn 01 05 03.2 -0.5**
GSPH General Santos 3.78 206⇓ *i*P Pn 01 05 12.7 +6.6
CNOP Candoni, Negro 3.96 275 *e*P **Pn 01 05 07.0 -1.4**
CNOP *e*S **Sn 01 05 57.2 +3.7**
GUIM Jordan 4.14 286 *e*P **Pn 01 05 08.4 -2.5**
GUIM *e*S Sn 01 05 39.9 -18
RCP Roxas 4.34 298⇑ *e*P **Pn 01 05 14.2 +0.6**
PVCP Virac 4.74 329 *e*P **Pn 01 05 17.9 -1.2**
PVCP *e*S Sn 01 06 34.2 +21
JAP San Jose, Anti 4.78 285⇑ *e*P **Pn 01 05 21.6 +2.0**
LQP Lukban 6.78 313 *e*P **Pn 01 05 48.2 +1.0**
PGP Puerto Galera 6.84 306⇑ *e*P **Pn 01 05 47.8 -0.2**
TGY Tagaytay City 7.22 310 Pn Pn 01 05 47.2 -5.8
142nm,0.3s,baz=194,slow=10,SNR=2.9
TGY LR LR 01 08 56.7
comp=Z,4μm,19.9s,baz=173,slow=41
TNTI Ternate 8.70 175 P **Pn 01 06 16.6 +3.2**
129nm,1.4s
TNTI Ternate 8.70 175 Pn **Pn 01 06 13.4 0.0**
TNTI **Sn 01 07 47.7 -2.4**
SZP Santa 10.01 324 Pn 01 06 36.1 +4.9
LBMI Labuha 10.11 175 P **Pn 01 06 32.2 -0.4**
72nm,1.1s
MRSI Marisa 10.11 208 P **Pn 01 06 34.7 +2.1**
747nm80nm,1.1s
KKM Kota Kinabalu 10.88 252 Pn **Pn 01 06 44.1 +0.8**
LUWI Luwuk 11.16 200 P **Pn 01 06 48.3 +1.3**
4μm136nm,0.8s
LUWI Luwuk 11.16 200 Pn **Pn 01 06 47.4 +0.4**
SIJI Sorong 11.29 156 Pn **Pn 01 06 44.2 -4.5**
1.8nm,0.3s,baz=238,slow=23,SNR=2.1
SIJI Sn Sn 01 08 42.2 -11
1.6nm,0.3s,baz=71,slow=23,SNR=5.7
SANI Sanana 11.49 183 P **Pn 01 06 53.8 +2.3**
1μm61nm,1.0s
NLAI Namlea 12.66 178 P **Pn 01 07 10.6 +3.1**
40nm,0.7s
FAKI Fak Fak 13.55 155 P **Pn 01 07 19.4 -0.1**
809nm85nm,1.1s
FAKI Fak Fak 13.55 155 Pn **Pn 01 07 19.6 +0.1**
TTSI Tana Toraja 14.20 209 P **P 01 07 31.4 -2.5**
2μm53nm,0.9s
TWG Pinlang 14.28 339 Pn 01 07 23.8 -5.5
YULB Yu-li 14.73 340 P **Pn 01 07 36.7 +1.5**
TPUB Ta-pu 14.88 338 Pn **Pn 01 07 35.1 -2.0**
SPSI Sidrap Palu 15.03 207 P **P 01 07 42.7 -0.5**
1μm34nm,1.0s
SSLB Suanglung 15.21 340 **Pn 01 07 38.6 -2.8**
BNSI Bone 15.27 206 P **P 01 07 45.4 -0.5**
1μm145nm,1.1s
SBUM Sibu 15.95 245 **Pn 01 07 49.1 -1.8**
SBUM Sibu 15.95 245 P **P 01 07 56.0 +2.5**
KAPI Kappang 15.97 206 Pn **Pn 01 07 48.1 -3.0**
baz=55,slow=13,SNR=1.0
KAPI LR LR 01 14 18.0
comp=Z,667nm,20.6s,baz=34,slow=38
KAPI Kappang 15.97 206 P **Pn 01 07 52.0 +0.9**
KAPI pmax pmax
comp=Z,46nm,1.1s
KAPI Kappang 15.97 206 **Pn 01 07 52.0 +0.9**
BKSI Bulukumba 16.09 204 P **P 01 07 54.7 -0.3**
comp=Z,495nmcomp=Z,40nm,1.0s
KBKI Kotabaru 16.45 220 P P 01 08 10.7 +12
SMPI Sarmi 16.58 133 P **Pn 01 07 57.5 -1.3**
comp=Z,59nm,1.7s
QZH Quanzhou 17.16 334⇑ *i*P **Pn 01 08 02.8 -3.1**
QZH pmax pmax
comp=Z,360nm,8.1s
QZH LR LR
comp=Z,1μm,15.6s
QZH LR LR
comp=Z,560nm,16.1s
QZH LR LR
comp=Z,2μm,16.1s
DLV T Lat 18.00 279 **P 01 08 15.4 -1.0**
GENI Genyem 18.06 131 P **P 01 08 16.2 -0.6**
comp=Z,3μmcomp=Z,59nm,0.6s
KSM Kuching 18.09 245 P **Pn 01 08 18.1 +0.6**
KSM IAmb IAmb 01 08 22.4
comp=Z,143nm,1.0s
KSM Kuching 18.09 245 P **Pn 01 08 21.0 +3.5**
JAY Jayapura 18.41 130 P **P 01 08 20.1 -0.5**
comp=Z,0.3nm,0.3s,baz=290,slow=5.3,SNR=8.0
JAY LR LR 01 15 06.4
comp=Z,2μm,18.6s,baz=308,slow=36
JAY Jayapura 18.41 130 P **P 01 08 19.8 -0.9**
comp=Z,469nmcomp=Z,25nm,1.1s
MMRI Maumere 18.54 194 P Pn 01 08 31.2 +8.3
MMRI Maumere 18.54 194 **P 01 08 19.6 -2.5**
MMRI IAmb IAmb 01 08 39.7
comp=Z,200nm,1.3s
GZH Guangzhou 18.56 318 P **Pn 01 08 25.7 +2.7**
GZH S **S 01 11 58.2 +7.5**
GZH LR LR
comp=Z,2μm,16.5s
GZH LR LR
comp=Z,2μm,16.5s
EDFI Ende, Flores 18.79 195 P **Pn 01 08 27.4 +1.5**
comp=Z,25nm,0.7s
QIZ Qiongzhong 18.82 302 P **Pn 01 08 26.1 -0.1**
QIZ sP **sP 01 08 47.1 +2.0**
QIZ S **S 01 11 58.4 +2.3**
QIZ PcP **PcP 01 12 48.4 -1.9**
QIZ pmax pmax
comp=Z,19nm,0.9s
QIZ pmax pmax
comp=Z,390nm,8.9s
QIZ LR LR
comp=Z,550nm,16.3s
QIZ LR LR
comp=Z,650nm,20.6s
QIZ LR LR
comp=Z,880nm,22.5s
SOEI Soe 19.27 187 P **Pn 01 08 32.0 +0.3**
comp=Z,2μmcomp=Z,190nm,0.9s
SOEI Soe 19.27 187 P **P 01 08 28.5 -1.7**
BATI Baumata 19.80 189 P **P 01 08 33.8 -2.1**
comp=Z,6.7nm,0.3s,baz=339,slow=1.2,SNR=16
BATI Baumata 19.80 189 P **P 01 08 35.7 -0.2**
comp=Z,1μmcomp=Z,214nm,0.8s
PLAI Plampang 20.23 206 P Pn 01 08 43.6 +0.6
comp=Z,104nm,1.0s
SRBI Singaraja 20.85 213 P **P 01 08 48.7 +1.5**
comp=Z,57nm,1.1s
JAGI Jajag, Banyuwa 21.76 215 P **P 01 08 56.1 -0.8**
JAGI IAmb IAmb 01 09 23.0
comp=Z,48nm,1.2s
SSE Sheshan 22.08 347 P **P 01 09 01.3 +1.1**
SSE pmax pmax
comp=Z,26nm,1.5s
SSE pmax pmax
comp=Z,240nm,7.1s
SSE LR LR
comp=Z,440nm,19.2s
SSE LR LR
comp=Z,260nm,23.7s
SSE Sheshan 22.08 347 P **P 01 08 59.6 -0.7**
SSE IAmb IAmb 01 09 04.6
comp=Z,52nm,1.0s
TPI Tanjungpandan 22.50 238 P **P 01 09 07.3 +2.4**
comp=Z,620nmcomp=Z,54nm,1.1s
MTN Manton Dam 22.64 169 P **P 01 09 06.4 0.0**
baz=23,SNR=7.4
MTN Manton Dam 22.64 169 P **P 01 09 04.6 -1.8**
MTN IAmb IAmb 01 09 17.3
comp=Z,52nm,0.8s
KDU Kakadu 22.79 165 P **P 01 09 06.8 -1.2**
baz=23,SNR=8.1
JCJ Chichijima 22.85 38 P **P 01 09 07.3 -1.1**
comp=Z,88nm,0.9s,baz=306,slow=9.5,SNR=5.9
JCJ LR LR 01 17 55.9
comp=Z,365nm,19.7s,baz=315,slow=36
SMRI Semarang 23.04 225 P **P 01 09 11.9 +1.4**
comp=Z,160nm,1.2s
SMRI Semarang 23.04 225 P **P 01 09 08.1 -2.4**

TPRI Tanjung Pinang 23.59 250 P **P 01 09 17.7 +1.9**
JNU Nakatsue 23.83 9 P **P 01 09 16.3 -1.5**
comp=Z,29nm,1.0s,baz=159,slow=0.7,SNR=11
JNU LR LR 01 18 16.8
comp=Z,292nm,20.4s,baz=172,slow=36
JNU Nakatsue 23.83 9 P **P 01 09 16.3 -1.5**
JNU IAmb IAmb 01 09 19.8
comp=Z,43nm,1.1s
WHN Wuhan 23.87 333 ⇓P **P 01 09 18.5 +0.4**
WHN pmax pmax
comp=Z,110nm,1.2s
WHN LR LR
comp=Z,1μm,9.6s
WHN LR LR
comp=Z,770nm,11.0s
WHN LR LR
comp=Z,2μm,16.5s
MYKOM Kota Tinggi 23.92 253 P **P 01 09 20.0 +1.2**
SLVN Son La 24.83 301 P **P 01 09 26.6 -0.5**
LEM Lembang 24.95 230 P **P 01 09 27.6 -0.7**
comp=Z,11nm,0.4s,baz=8.6,slow=12,SNR=4.9
KNRA Kununurra 25.10 175 P **P 01 09 29.7 +0.2**
baz=25,SNR=11
KNRA Kununurra 25.10 175 IAmb IAmb 01 10 03.5
comp=Z,56nm,0.8s
GYA Guiyang 25.34 314 *e*P **P 01 09 32.1 +0.3**
GYA sP sP 01 09 53.1 +1.2
GYA PP **PnPn 01 10 10.6 +1.3**
GYA S **S 01 13 46.9 -7.2**
GYA sS sS 01 14 09.9 -6.1
GYA pmax pmax
comp=Z,10.0nm,0.5s
GYA pmax pmax
comp=Z,180nm,10.6s
GYA LR LR
comp=Z,490nm,14.4s
GYA LR LR
comp=Z,910nm,17.9s
GYA LR LR
comp=Z,1μm,16.7s
KULM Kulim 26.10 263 P **P 01 09 38.8 +0.1**
KULM IAmb IAmb 01 09 42.8
comp=Z,37nm,1.1s
KULM Kulim 26.10 263 P **P 01 09 40.0 +1.3**
JHJ Hachijo jima 2 26.45 25 LR LR 01 19 49.2
comp=Z,387nm,18.9s,baz=359,slow=36
KASI Kota Agung 26.64 237 P **P 01 09 44.2 +0.7**
comp=Z,45nm,1.4s
LWLI Liwa 26.73 238 P **P 01 09 45.8 +1.4**
comp=Z,147nm,1.0s
TJN Taejon 26.76 1⇑ *e*P **P 01 09 47.9 +3.6**
SDSI Sungai Dareh 27.16 249 P **P 01 09 50.6 +2.4**
comp=Z,20nm,1.2s
FITZ Fitzroy Crossi 27.44 182 P **P 01 09 50.9 +0.4**
baz=28
FITZ Fitzroy Crossi 27.44 182 P **P 01 09 50.6 0.0**
comp=Z,42nm,0.9s,baz=6.7,slow=7.1,SNR=29
FITZ Fitzroy Crossi 27.44 182 IAmb IAmb 01 09 58.1
comp=Z,53nm,0.9s
KMI Kunming 27.53 307 P **P 01 09 55.8 +4.2**
KMI pP pwP 01 10 06.8 -2.8
KMI sP sP 01 10 11.6 -0.3
KMI S **S 01 14 28.7 -0.1**
KMI sS sS 01 14 54.2 +3.3
KMI SS **SnSn 01 15 49.7 +5.3**
KMI pmax pmax
comp=Z,11nm,1.3s
KMI pmax pmax
comp=Z,84nm,5.6s
KMI LR LR
comp=Z,590nm,19.5s
KMI LR LR
comp=Z,470nm,18.4s
KMI LR LR
comp=Z,710nm,19.9s
PMG Port Moresby 27.75 132 *de*P **P 01 09 57.0 +3.6**
PMG pmax pmax
comp=Z,216nm,1.7s
KSRS Korea Array 27.85 2 P **P 01 09 53.3 -0.8**
comp=Z,5.7nm,0.8s,baz=177,slow=11,SNR=23
KSRS PcP **PcP 01 13 09.6 +0.7**
comp=Z,1.1nm,0.8s,baz=183,slow=2.4,SNR=4.5
KSRS LR LR 01 22 46.3
comp=Z,463nm,18.9s,baz=180,slow=40
CM31 Chiang Mai Arr 28.28 291 P **P 01 09 56.7 -1.4**
CMAR Chiang Mai Arr 28.28 291 P **P 01 09 56.9 -1.3**
comp=Z,5.9nm,0.9s,baz=101,slow=7.3,SNR=24
CMAR PcP **PcP 01 13 10.3 0.0**
comp=Z,0.9nm,0.4s,baz=96,slow=1.8,SNR=1.9
CMAR ScP **ScP 01 16 51.0 +4.5**
comp=Z,0.5nm,0.4s,baz=103,slow=2.9,SNR=4.2
CMAR LR LR 01 21 54.0
comp=Z,714nm,18.3s,baz=180,slow=38
CMAR Chiang Mai Arr 28.28 291 *ce*P **P 01 09 57.7 -0.4**
CMAR pmax pmax
comp=Z,6.0nm,0.9s
MNSI Mandailing Nat 28.28 254 P **P 01 10 00.2 +2.0**
comp=Z,45nm,0.9s
PSI Prapat 28.33 258 P **P 01 09 58.2 -0.6**
comp=Z,9.6nm,0.6s,baz=0.8,slow=4.7,SNR=18
PSI Prapat 28.33 258 P **P 01 09 58.8 0.0**
PSI pmax pmax
comp=Z,53nm,1.2s
RPSI Rantau Prapat 28.36 258 P **P 01 09 58.8 0.0**
RPSI IAmb IAmb 01 10 01.7
comp=Z,53nm,1.2s
CHTO Chiang Mai 28.37 292 P **P 01 09 56.7 -2.2**
CHTO pmax pmax
comp=Z,9.0nm,1.1s
CHTO Chiang Mai 28.37 292 P **P 01 09 56.7 -2.2**
COEN Coen 28.50 145 P **P 01 10 00.6 +0.4**
COEN IAmb IAmb 01 10 17.6
comp=Z,60nm,1.6s
KRVT Keravat (AS076 28.78 117 LR LR 01 20 06.2
comp=Z,277nm,18.7s,baz=298,slow=33
MAJO Matsushiro 28.89 20⇓ *e*P **P 01 10 02.7 -0.7**
MAJO pmax pmax
comp=Z,3.0nm,0.9s
MAJO Matsushiro 28.89 20 P **P 01 10 00.9 -2.5**
MJAR Matsushiro Arr 28.89 20 P **P 01 10 02.9 -0.6**
comp=Z,3.2nm,0.8s,baz=198,slow=9.7,SNR=6.6
MJAR PcP **PcP 01 13 11.7 +0.2**
comp=Z,1.4nm,0.4s,baz=204,slow=3.7,SNR=6.3
MJAR LR LR 01 22 21.9
comp=Z,365nm,18.0s,baz=210,slow=38
MJB9 Matsu-Tunnel 28.90 20 P **P 01 10 02.4 -1.0**
KCSI Kotacane, Aceh 29.28 260 P **P 01 10 07.3 +0.2**
comp=Z,38nm,1.4s
XAN Xi'an 29.35 329 P **P 01 10 05.7 -1.8**
XAN pP pP 01 10 17.4 -3.5
XAN sP pwP 01 10 23.4 -3.2
XAN S **S 01 14 55.4 -1.5**
XAN pmax pmax
comp=Z,18nm,0.8s
XAN pmax pmax
comp=Z,130nm,5.9s
XAN LR LR
comp=Z,620nm,16.3s
XAN LR LR
comp=Z,570nm,16.3s
XAN LR LR
comp=Z,1μm,17.3s
XAN Xi'an 29.35 329 P **P 01 10 04.6 -2.9**
XAN pmax pmax
comp=Z,12nm,0.7s
XAN Xi'an 29.35 329 P **P 01 10 04.6 -2.9**
LHMI Lhok Sumawe 29.74 264 P **P 01 10 13.1 +1.9**
comp=Z,106nm,1.0s
GSI Gunungsitoli 30.03 256 P **P 01 10 13.9 +0.1**
comp=Z,44μmcomp=Z,547nm,0.9s
GSI Gunungsitoli 30.03 256 P **P 01 10 13.4 -0.3**
WB0 Warramunga Arr 30.07 165 IAmb IAmb 01 10 27.9
comp=Z,23nm,0.8s
CD2 Chengdu 30.12 318 P **P 01 10 15.4 +1.0**
CD2 pmax pmax
comp=Z,30nm,0.5s
WRAB Tennant Creek 30.22 165 *de*P **P 01 10 15.0 -0.3**
WRAB pmax pmax
comp=Z,11nm,1.0s
WRA Warramunga Arr 30.23 165 P **P 01 10 13.8 -1.6**
comp=Z,5.8nm,0.9s,baz=342,slow=9.4,SNR=13
WRA PcP **PcP 01 13 15.9 +0.8**
comp=Z,2.3nm,0.9s,baz=324,slow=3.3,SNR=2.6
WRA LR LR 01 26 19.1
comp=Z,245nm,18.0s,baz=350,slow=44
WB2 Warramunga Arr 30.23 165 P **P 01 10 14.4 -0.9**

WB2 IAmb IAmb 01 10 29.6
comp=Z,19nm,0.8s
WR0 Warramunga Arr 30.29 165 P **P 01 10 14.0 -1.9**
WR0 IAmb IAmb 01 10 30.6
comp=Z,18nm,1.0s
PSA00 Pilbara Seismi 31.59 192 P **P 01 10 26.1 -1.2**
BJT Baijiatuao 31.79 345 P **P 01 10 28.7 -0.2**
BJT pmax pmax
comp=Z,95nm,1.5s
BJT Baijiatuao 31.79 345 P **P 01 10 28.7 -0.2**
BJI Beijing 31.81 345 P **P 01 10 29.7 +0.7**
BJI PcP **PcP 01 13 18.7 -0.3**
BJI S **S 01 15 38.9 +3.7**
BJI pmax pmax
comp=Z,36nm,1.4s
BJI LR LR
comp=Z,350nm,16.2s
BJI LR LR
comp=Z,280nm,15.7s
SNY Shenyang 32.31 356 ⇑P **P 01 10 34.8 +1.4**
SNY S **S 01 15 35.9 -7.1**
SNY pmax pmax
comp=Z,18nm,1.0s
SNY pmax pmax
comp=Z,160nm,4.1s
SNY LR LR
comp=Z,580nm,16.1s
SNY LR LR
comp=Z,400nm,14.3s
SNY LR LR
comp=Z,840nm,17.1s
QIS Mount Isa 32.48 157 P **P 01 10 35.1 0.0**
baz=32,SNR=14
MTSU Mount Surprise 32.54 148 P **P 01 10 36.6 +0.9**
baz=33,SNR=7.4
LZH Lanzhou 33.61 325 *e*P P 01 10 49.9 +4.8
LZH sP sP 01 11 09.0 +4.0
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,150nm,4.2s
LZH LR LR
comp=Z,820nm,13.6s
LZH LR LR
comp=Z,550nm,11.4s
LZH LR LR
comp=Z,980nm,14.8s
AS31 Alice Springs 33.72 168 P **P 01 10 45.3 -0.7**
ASAR Alice Springs 33.72 168 P **P 01 10 44.9 -1.1**
comp=Z,11nm,0.7s,baz=320,slow=5.3,SNR=14
ASAR PcP **PcP 01 13 25.6 +0.9**
comp=Z,2.4nm,0.8s,baz=332,slow=1.5,SNR=4.4
HHC Hu-ho-hao-te 33.96 339 *e*P **P 01 10 48.8 +0.8**
HHC pP pP 01 11 02.9 +2.0
HHC S **S 01 16 15.6 +6.7**
HHC pmax pmax
comp=Z,24nm,1.0s
HHC pmax pmax
comp=Z,86nm,4.8s
HHC LR LR
comp=Z,370nm,14.7s
HHC LR LR
comp=Z,230nm,14.2s
HHC LR LR
comp=Z,310nm,14.5s
CN2 Changchun 34.19 358 *e*P **P 01 10 50.0 +0.2**
CN2 *e*S **S 01 16 16.9 +4.9**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,9.0s
CN2 LR LR
comp=Z,400nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,500nm,18.0s
WRKA Warakurna 34.37 177 P **P 01 10 51.5 -0.1**
baz=34,SNR=18
USRK Ussuriysk Ar. 34.88 7 P **P 01 10 55.1 -0.7**
comp=Z,17nm,1.0s,baz=189,slow=7.1,SNR=23
USA0B Ussuriysk Arra 34.88 7 P **P 01 10 55.9 +0.2**
USA0B pmax pmax
comp=Z,23nm,1.3s
USA0B Ussuriysk Arra 34.88 7 P **P 01 10 55.9 +0.2**
USA0B IAmb IAmb 01 11 11.4
comp=Z,23nm,1.2s
MDJ Mudanjiang 35.08 4 P **P 01 10 59.0 +1.5**
MDJ S **S 01 16 28.3 +2.5**
MDJ PcS **PcS 01 17 18.1 +3.2**
MDJ SS **SnSn 01 18 42.0 -5.0**
MDJ pmax pmax
comp=Z,30nm,1.1s
MDJ LR LR
comp=Z,430nm,14.7s
MDJ LR LR
comp=Z,310nm,14.5s
MDJ LR LR
comp=Z,450nm,15.4s
MDJ Mudanjiang 35.08 4 P **P 01 10 57.4 0.0**
MDJ IAmb IAmb 01 11 00.4
comp=Z,20nm,0.8s
MDJ PcP **PcP 01 13 29.7 +1.6**
CTA Charters Tower 35.18 147 P **P 01 10 59.0 +0.4**
comp=Z,5.6nm,0.7s,baz=324,slow=10,SNR=9.8
TEY Ternei 36.44 12⇑ *e*P **P 01 11 10.8 +1.8**
TEY pmax pmax
comp=Z,10.0nm,1.2s
TEY pmax pmax
comp=N,10.0nm,1.0s
SHL Shillong 36.64 300 P **P 01 11 10.8 -0.5**
SHL pmax pmax
comp=Z,42nm,0.9s
SHL Shillong 36.64 300 P **P 01 11 10.8 -0.5**
SHL IAmb IAmb 01 11 12.4
comp=Z,42nm,0.9s
MEEK Meekatharra 36.76 192 P **P 01 11 11.8 -0.3**
baz=37,SNR=23
GTA Gaotai 38.22 326 ⇑P **P 01 11 23.7 -0.7**
GTA PP **PnPn 01 12 57.8 +2.9**
GTA S **S 01 17 16.3 +2.2**
GTA SS **SnSn 01 19 57.4 -5.8**
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,61nm,6.5s
GTA LR LR
comp=Z,430nm,18.7s
GTA LR LR
comp=Z,660nm,17.5s
GTA LR LR
comp=Z,930nm,18.1s
YUK Yuzh-Kuril'sk 38.24 23 *e*P **P 01 11 21.8 -2.6**
YUK *e* 01 12 50.8
YUK *e*S **S 01 17 13.4 -0.5**
YUK *e*SS **SS 01 20 04.8 +0.6**
YUK MLR MLR
comp=Z,167nm,15.0s
YUK MLR MLR
comp=E,156nm,13.0s
LSA Lhasa 38.77 306 P **P 01 11 30.4 +0.8**
LSA pmax pmax
comp=E,28nm,1.6s
MORW Morawa 39.69 195 P **P 01 11 36.6 0.0**
baz=40,SNR=19
MORW Morawa 39.69 195 P **P 01 11 36.6 0.0**
MORW IAmb IAmb 01 11 37.7
comp=Z,42nm,0.9s
YSS Yuzh-Sakhalins 39.77 17 *e*P **P 01 11 38.7 +1.6**
YSS *e* 01 11 43.9
YSS *e**SP **pP 01 11 49.3 -0.7**
YSS *e*S **S 01 17 41.5 +4.7**
YSS *e*SS **SS 01 20 30.5 -4.1**
YSS MLR MLR
comp=Z,200nm,14.0s
YSS MLR MLR
comp=N,200nm,18.0s
YSS MLR MLR
comp=E,200nm,16.0s
H11S3 WAKE ISLAND Hy 39.80 73 T T 01 54 44.3
baz=262,slow=75,SNR=17
H11S1 WAKE ISLAND Hy 39.81 73 T T 01 54 49.8
baz=262,slow=75,SNR=10
H11S2 WAKE ISLAND Hy 39.81 73 T T 01 54 36.4
baz=262,slow=75,SNR=15
KLR Kul'dur 39.83 5*c i*P **P 01 11 38.3 +0.7**

KLR pmax pmax
comp=Z,20nm,1.5s
KUR Kuril'sk 40.02 23 *e*P **P** **01 11 41.4 +2.2**
KUR *e*PPP PPP 01 13 37.8
KUR S **S** **01 17 49.3 +8.6**
FORT Forrest 40.07 178 P **P** **01 11 39.9 +0.1**
baz=40,SNR=8.4
FORT Forrest 40.07 178 P **P** **01 11 39.3 -0.4**
FORT IAmb IAmb 01 11 54.9
comp=Z,48nm,0.9s
H11N1 WAKE ISLAND Hy 40.16 71 T T 01 55 22.5
baz=265,slow=74,SNR=24
H11N2 WAKE ISLAND Hy 40.16 71 T T 01 55 19.8
baz=265,slow=74,SNR=19
H11N3 WAKE ISLAND Hy 40.17 71 T T 01 55 23.9
baz=265,slow=74,SNR=22
TAPN Taplejung 40.75 301 *e*P **P** **01 11 45.5 -0.4**
comp=Z,31nm,0.6s
ODAN Odare 40.88 300 *e*P **P** **01 11 46.0 -0.9**
comp=Z,83nm,0.7s
KMBL Kambalda 40.89 186 P **P** **01 11 46.8 +0.2**
baz=41,SNR=11
BLDU Ballidu 41.01 193 P **P** **01 11 47.4 -0.2**
baz=41,SNR=11
RAMN Ramite 41.58 300 *e*P **P** **01 11 52.0 -0.6**
comp=Z,21nm,0.6s
ULN Ulaanbaatar 41.66 340*c i*P **P** **01 11 53.7 +0.8**
ULN pmax pmax
comp=Z,19nm,1.7s
ULN Ulaanbaatar 41.66 340 P **P** **01 11 51.7 -1.2**
KLBR Kellerberrin 41.74 191 P **P** **01 11 53.6 +0.2**
baz=42,SNR=11
SONM Songino Array 41.86 340 P **P** **01 11 53.7 -0.8**
comp=Z,4.8nm,0.8s,baz=161,slow=8.1,SNR=11
SONM LR LR 01 32 07.6
comp=Z,457nm,18.5s,baz=108,slow=40
GRNR Gornyy 41.93 9⇓*i*P **P** **01 11 57.4 +2.5**
GRNR pmax pmax
comp=Z,9.0nm,1.1s
GRNR MLR MLR
comp=E,70nm,12.0s
GRNR MLR MLR
comp=N,110nm,14.0s
GRNR MLR MLR
comp=Z,210nm,20.0s
EIDS Eidsvold 42.05 146 P **P** **01 11 56.4 +0.3**
baz=42,SNR=6.2
EIDS Eidsvold 42.05 146 P **P** **01 11 54.6 -1.6**
EIDS IAmb IAmb 01 12 00.5
comp=Z,24nm,0.9s
JIRN Jiri 42.13 301 *e*P **P** **01 11 56.6 -0.7**
comp=Z,42nm,0.4s
MUN Mundaring 42.44 193 P **P** **01 11 59.6 +0.5**
baz=43,SNR=8.4
GUN Gumba 42.47 301 *e*P **P** **01 11 59.2 -0.8**
comp=Z,97nm,0.9s
PKI Pulchoki 42.77 301 *e*P **P** **01 12 01.1 -1.4**
comp=Z,9.3nm,0.5s
PKIN Phulchoki 42.78 301 *e*P **P** **01 12 00.9 -1.6**
comp=Z,12nm,0.5s
BBOO Buckleboo 43.02 168 P **P** **01 12 03.3 -0.6**
baz=43,SNR=22
BBOO Buckleboo 43.02 168 P **P** **01 12 02.8 -1.1**
BBOO IAmb IAmb 01 12 08.5
comp=Z,36nm,1.1s
DMN Daman 43.04 300 *e*P **P** **01 12 03.7 -0.8**
comp=Z,13nm,0.5s
NWAO Narrogin (SRO) 43.13 192 P **P** **01 12 03.1 -1.7**
NWAO pmax pmax
comp=Z,65nm,0.9s
NWAO Narrogin (SRO) 43.13 192 P **P** **01 12 03.1 -1.7**
NWAO Narrogin (SRO) 43.13 192 P **P** **01 12 02.9 -2.0**
NWAO IAmb IAmb 01 12 17.7
comp=Z,52nm,0.9s
STKA Stephens Creek 43.56 161 P **P** **01 12 07.7 -0.6**
comp=Z,5.4nm,0.6s,baz=333,slow=8.1,SNR=16
STKA PcP **PcP** **01 13 54.1 -1.1**
comp=Z,7.4nm,0.8s,baz=337,slow=11,SNR=4.4
STKA LR LR 01 32 11.0
comp=Z,139nm,20.9s,baz=343,slow=39
CIT Chita 43.72 348 *e*P **P** **01 12 10.9 +1.5**
CIT *e* 01 12 18.8
CIT *e* 01 12 23.5
CIT pmax pmax
comp=Z,116nm,1.4s
ZEA Zeya 44.12 1 *e*P **P** **01 12 11.2 -1.3**
ZEA pmax pmax
comp=Z,21nm,1.2s
HTT Hallett 44.27 165 P **P** **01 12 14.5 +0.5**
baz=44,SNR=4.7
PVM Polavaram 44.38 285 *e*P **P** **01 12 15.2 0.0**
DANN Dangsing 44.39 301 *e*P **P** **01 12 14.3 -1.1**
comp=Z,84nm,0.8s
NKL Nikolayevsk 44.98 12 P **P** **01 12 20.8 +1.5**
NKL *e* 01 13 58.0
NKL *e*S **S** **01 18 50.7 -2.7**
NKL pmax pmax
comp=Z,21nm,1.2s
NKL pmax pmax
comp=E,4.0nm,0.8s
NKL pmax pmax
comp=N,2.0nm,1.0s
NKL pmax pmax
comp=Z,47nm,1.4s
ZAK Zakamensk 45.11 339 *e*P **P** **01 12 21.8 +1.2**
ZAK *e* 01 14 01.2
ZAK pmax pmax
comp=Z,4.0nm,1.0s
ZAK pmax pmax
comp=Z,5.0nm,1.1s
ADKI Addanki 45.89 283 *e*P **P** **01 12 27.6 +0.5**
TLY Talaya 46.08 340 *e*P **P** **01 12 28.9 +0.8**
TLY *e*S S 01 19 20.4 +11
TLY pmax pmax
comp=Z,43nm,1.5s
TLY MLR MLR
comp=Z,665nm,16.0s
TLY Talaya 46.08 340 P **P** **01 12 28.6 +0.5**
SKHT Srikalahasti 46.11 280 *e*P **P** **01 12 29.2 +0.3**
NJS Nagarjunasagar 46.56 284 *e*P **P** **01 12 31.9 -0.5**
RPR Rampur 46.71 287 *e*P **P** **01 12 33.8 +0.2**
MOY Mondy 46.99 338 *e*P **P** **01 12 36.0 +0.7**
MOY pmax pmax
comp=Z,23nm,2.2s
HYB Hyderabad 47.32 285 *i*P **P** **01 12 38.0 -0.4**
HYBB Hyderabad (bro 47.32 285 *e*P **P** **01 12 38.2 -0.1**
SRSP Sriramsagar 47.62 287 *e*P **P** **01 12 39.8 -0.9**
SKR Severo-Kuril's 47.71 25 *e*P P 01 12 29.4 -11
SKR *e*S **S** **01 19 27.2 -5.4**
SKR *e*SSS SSS 01 22 33.5
SKR MLR MLR
comp=Z,100nm,19.0s
SKR MLR MLR
comp=Z,200nm,16.0s
WMQ Urumqi 48.05 322 *e*P **P** **01 12 45.3 +1.6**
WMQ pmax pmax
comp=Z,20nm,0.9s
WMQ pmax pmax
comp=Z,120nm,5.5s
WMQ LR LR
comp=Z,550nm,22.7s
WMQ LR LR
comp=Z,340nm,17.5s
WMQ LR LR
comp=Z,490nm,18.3s
ARPS Mount Arapiles 48.19 164 P **P** **01 12 45.2 +0.5**
baz=48,SNR=6.1
BOD Bodaibo 49.18 351 *e*P **P** **01 12 53.3 +1.3**
BOD pmax pmax
comp=Z,39nm,1.5s
KLRI Killari 49.21 286 *e*P **P** **01 12 52.4 -0.6**
DZM Mont Dzumac 50.08 129 *e*P **P** **01 13 01.0 +1.5**
comp=Z,17nm,0.9s
DZM Mont Dzumac 50.08 129 *e*LR LR 01 27 09.7
comp=Z,342nm,26.4s
PETK Petropavlovsk- 50.19 24 P **P** **01 12 59.8 0.0**
comp=Z,3.9nm,0.6s,baz=196,slow=6.2,SNR=10
PETK LR LR 01 34 58.5
comp=Z,178nm,18.6s,baz=238,slow=37
DGZ Jazzator, Alta 51.61 328⇑*e*P **P** **01 13 10.6 -0.1**
DGZ pmax pmax
comp=Z,4.0nm,1.1s
YAK Yakutsk 52.48 2 *e*P **P** **01 13 17.9 +1.2**
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,34nm,1.0s
YAK pmax pmax
comp=N,24nm,1.1s
YAK Yakutsk 52.48 2 P **P** **01 13 17.9 +1.2**
YAK IAmb IAmb 01 13 19.6
comp=Z,29nm,0.9s
MK31 Makanchi Array 52.86 323 *i*P **P** **01 13 19.4 -0.4**
MKAR Makanchi Array 52.86 323 P **P** **01 13 19.2 -0.6**
comp=Z,8.8nm,0.8s,baz=120,slow=8.5,SNR=49
MKAR PcP **PcP** **01 14 28.5 +0.1**
comp=Z,3.2nm,0.7s,baz=115,slow=4.5,SNR=4.0
MKAR LR LR 01 37 41.2
comp=Z,232nm,18.7s,baz=122,slow=38
PDGK Podgornoye 53.01 318 P **P** **01 13 20.1 -1.1**
MAKZ Makanchi 53.05 323 P **P** **01 13 20.2 -1.1**
MAKZ pmax pmax
comp=Z,26nm,1.3s
MAKZ Makanchi 53.05 323 P **P** **01 13 20.1 -1.1**
MAKZ IAmb IAmb 01 13 22.9
comp=Z,26nm,1.2s
MA2 Magadan 53.18 15⇑*e*P **P** **01 13 24.1 +2.2**
MA2 pmax pmax
comp=Z,20nm,1.5s
TARG Taragay, Kyrgy 53.50 315 P **P** **01 13 20.7 -4.5**
KSH Kashi 54.01 312 P **P** **01 13 30.3 +1.7**
KSH pmax pmax
comp=Z,34nm,1.0s
KSH pmax pmax
comp=Z,200nm,4.4s
KSH LR LR
comp=Z,350nm,12.3s
KSH LR LR
comp=Z,760nm,16.7s
KSH LR LR
comp=Z,820nm,13.6s
NIL Nilore 54.47 305 P **P** **01 13 31.5 -0.4**
NIL pmax pmax
comp=Z,80nm,1.0s
NIL Nilore 54.47 305 P **P** **01 13 31.5 -0.4**
KZA Kyzart 55.41 315 P **P** **01 13 39.9 +0.9**
SNR=14
TKM2 Tokmak 2 55.47 316 P **P** **01 13 39.4 +0.3**
SNR=7.6
ZALV Zalesovo Beam 55.47 331 P **P** **01 13 37.3 -1.3**
comp=Z,6.0nm,0.8s,baz=120,slow=7.3,SNR=22
ZALV LR LR 01 39 05.7
comp=Z,185nm,19.3s,baz=104,slow=38
KBK Karagaybulak 55.82 316 P **P** **01 13 42.4 +0.7**
SNR=7.3
UCH Uchtor 55.97 315 P **P** **01 13 43.5 +0.4**
SNR=34
CHMS Chumysh 56.07 316 P **P** **01 13 43.0 -0.3**
SNR=9.7
AAK Ala-Archa 56.12 315 P **P** **01 13 43.2 -0.6**
AAK pmax pmax
comp=Z,12nm,1.1s
AAK Ala-Archa 56.12 315 P **P** **01 13 43.2 -0.6**
AAK IAmb IAmb 01 13 55.1
comp=Z,12nm,1.1s
USP Ospenovka 56.34 316 P **P** **01 13 45.3 +0.1**
SNR=13
SEY Seymchan 56.47 14⇓*i*P **P** **01 13 48.8 +3.1**
AML Almayashu 56.51 315 P **P** **01 13 47.1 +0.2**
SNR=19
EKS2 Erkin-Say 56.63 315 P **P** **01 13 48.0 +0.6**
SNR=13
KURK Kurchatov 56.90 326*c i*P **P** **01 13 48.2 -0.8**
KURK pmax pmax
comp=Z,41nm,1.3s
KURK Kurchatov 56.90 326 P **P** **01 13 48.7 -0.3**
KURK IAmb IAmb 01 13 49.9
comp=Z,31nm,1.1s
KURBB Kurchatov Arra 56.91 326 P **P** **01 13 48.4 -0.6**
GAR Garm 58.06 310 P **P** **01 13 56.4 -1.1**
GAR PcP **PcP** **01 14 49.5 +0.6**
KBL Kabul 58.07 305 P **P** **01 13 57.1 -0.6**
KBL pmax pmax
comp=Z,34nm,1.1s
KBL Kabul 58.07 305 P **P** **01 13 57.1 -0.6**
KK31 Karatay Array 59.05 315 *i*P **P** **01 14 03.3 -0.9**
KK31 Karatay Array 59.05 315 IAmb IAmb 01 14 04.8
comp=Z,17nm,0.8s
OTUK Ortayu 59.55 321 P **P** **01 14 07.0 -0.6**
TIXI Tiksi 62.11 1*ce*P **P** **01 14 24.8 +0.4**
TIXI pmax pmax
comp=Z,22nm,1.0s
TIXI Tiksi 62.11 1 P **P** **01 14 25.5 +1.1**
TIXI IAmb IAmb 01 14 26.4
comp=Z,16nm,0.9s
BRVK Borovoye 62.57 326*ce*P **P** **01 14 27.4 -0.5**
BRVK pmax pmax
comp=Z,35nm,1.3s
BRVK Borovoye 62.57 326 P **P** **01 14 27.0 -0.9**
HRA Herat 63.59 304 P **P** **01 14 33.3 -2.0**
HRA IAmb IAmb 01 14 37.5
comp=Z,11nm,1.1s
BILL Bilibino 64.04 15*ce*P **P** **01 14 38.7 +1.4**
BILL *i* 01 14 42.4
BILL *i* 01 15 12.8
BILL pmax pmax
comp=Z,19nm,1.7s
BILL Bilibino 64.04 15 P **P** **01 14 38.8 +1.4**
BILL IAmb IAmb 01 14 47.5
comp=Z,18nm,1.3s
NRIK Noril'sk 64.84 346 P **P** **01 14 42.5 0.0**
comp=Z,32nm,1.1s,baz=133,slow=6.7,SNR=47
NRIK LR LR 01 46 09.4
comp=Z,287nm,19.4s,baz=147,slow=39
QRZ Quartz Range 65.53 143 P **P** **01 14 48.2 +0.8**
LBZ Lake Benmore 66.53 147 P **P** **01 14 53.3 -0.5**
RPZ Rata Peaks 66.55 146 P **P** **01 14 54.5 +0.6**
GEYT Alibeck 67.29 307 P **P** **01 14 58.9 0.0**
comp=Z,11nm,1.0s,baz=108,slow=4.8,SNR=14
GYA0B ALIBECK ARRAY 67.29 307 IAmb IAmb 01 15 02.9
comp=Z,22nm,1.2s
BANOM Banah 68.27 294 P **P** **01 15 05.1 -0.2**
MDH Madha 68.28 293 P **P** **01 15 04.8 -0.5**
UOSS Minazif 68.37 293 P **P** **01 15 04.8 -1.1**
UOSS IAmb IAmb 01 15 31.3
comp=Z,11nm,1.1s
HATD Hatta, Dubai 68.43 293 *i*P **P** **01 15 05.6 -0.7**
SNR=6.3
ASHO Ashiyiah 68.50 293 P **P** **01 15 06.5 -0.2**
SVE Sverdlovsk 69.05 327*de*P **P** **01 15 09.6 +0.1**
SVE pmax pmax
comp=Z,38nm,1.1s
SHAO Shalim 69.16 286 P **P** **01 15 09.2 -1.7**
ARU Arti 70.06 327*c i*P **P** **01 15 15.0 -0.7**
ARU 01 15 35.6
ARU 01 17 51.0
ARU S **S** **01 24 26.1 +4.2**
ARU 01 25 15.1
ARU SS **SS** **01 28 48.9 -3.4**
ARU pmax pmax
comp=Z,18nm,0.7s
ARU MLR MLR
comp=Z,141nm,16.0s
ARU Arti 70.06 327 P **P** **01 15 15.2 -0.6**
AKT Akhty 75.47 310 *e*P **P** **01 15 48.4 +0.1**
AKT *e* 01 16 01.7
AKT pmax pmax
comp=Z,17nm,1.2s
MAK Makhachkala 75.65 312 *e*P **P** **01 15 44.9 -4.2**
MAK *e* 01 18 33.8
MAK *e*S **S** **01 25 20.6 -5.3**
MAK pmax pmax
comp=Z,284nm,1.2s
CASY Casey 76.50 187 P **P** **01 15 53.5 +0.2**
CASY IAmb IAmb 01 16 06.2
comp=Z,17nm,0.8s
TBLG Delisi 77.72 311 IAmb IAmb 01 16 02.1
comp=Z,13nm,0.8s
BPAW Bear Paw Mtn. 78.18 26 IAmb IAmb 01 16 19.6
comp=Z,19nm,1.1s
KTH Kantishna Hill 78.19 27 **P** **01 16 07.5 +4.5**
RAYN Ar Rayn 78.19 292 *i*P **P** **01 16 03.2 -0.7**
SNR=30
RAYN Ar Rayn 78.19 292 P **P** **01 16 03.3 -0.6**
RAYN pmax pmax
comp=Z,21nm,0.8s
RAYN Ar Rayn 78.19 292 P **P** **01 16 03.3 -0.6**
RAYN IAmb IAmb 01 16 04.5
comp=Z,22nm,0.8s
ZEI Tsey 78.30 312 *e*P **P** **01 16 02.7 -1.6**
ZEI pmax pmax
comp=Z,15nm,0.7s
TRF Thorofare Moun 78.46 27 IAmb IAmb 01 16 20.7
comp=Z,11nm,1.0s
AKH Akhalkalaki 78.66 310⇓P **P** **01 16 06.9 +0.6**
AKH Akhalkalaki 78.66 310 IAmb IAmb 01 16 08.3
comp=Z,18nm,0.9s
TOLK Toolik Lake Re 78.95 22 P **P** **01 16 09.0 +1.9**
baz=268
PMR Palmer 78.96 29 IAmb IAmb 01 16 23.0
comp=Z,16nm,1.2s
KBZ Khabaz 78.99 313 P **P** **01 16 07.5 -0.3**
comp=Z,5.3nm,0.9s,baz=88,slow=4.9,SNR=5.8
KBZ LR LR 01 55 25.1
comp=Z,197nm,18.3s,baz=91,slow=39
MCK McKinley 79.08 27 IAmb IAmb 01 16 23.8
comp=Z,23nm,1.1s
RND Reindeer 79.11 27 IAmb IAmb 01 16 23.7
comp=Z,52nm,1.9s
KIV Kislovodsk 79.14 313 P **P** **01 16 09.3 +0.6**
KIV Kislovodsk 79.14 313*ce*P **P** **01 16 08.8 +0.1**
KIV *i* 01 16 16.4
KIV pmax pmax
comp=Z,15nm,0.9s
KIV MLR MLR
comp=Z,276nm,17.0s
KIV Kislovodsk 79.14 313 P **P** **01 16 06.9 -1.8**
KIV IAmb IAmb 01 16 10.5
comp=Z,13nm,0.9s
KNK Knik Glacier 79.28 29 IAmb IAmb 01 16 23.4
comp=Z,21nm,0.9s
SML Sawmill 79.34 29 IAmb IAmb 01 16 24.0
comp=Z,16nm,0.9s
VRH Novokhopyorsk 79.49 320 *e*P **P** **01 16 08.6 -1.7**
VRH pmax pmax
comp=Z,20nm,1.0s
COLA College 79.56 26⇓*e*P **P** **01 16 11.7 +1.3**
COLA pmax pmax
comp=Z,6.0nm,1.3s
HDA Harding Lake 79.95 26 P **P** **01 16 13.4 +0.8**
baz=271
ILAR Eielson Array 79.97 26 P **P** **01 16 12.5 -0.2**
comp=Z,2.0nm,0.8s,baz=239,slow=4.7,SNR=20
DAMY Dhamar 80.22 283 IAmb IAmb 01 16 17.7
comp=Z,17nm,1.2s
KLMR Klimovskoe 80.37 330*c i*P **P** **01 16 14.8 -0.1**
KLMR pmax pmax
comp=Z,43nm,0.9s
KLMR Klimovskoe 80.37 330⇑*i*P **P** **01 16 14.9 0.0**
KLMR Klimovskoe 80.37 330 *i*P **P** **01 16 14.9 0.0**
KLMR Klimovskoe 80.37 330 *i*P **P** **01 16 14.9 0.0**
KLMR Klimovskoe 80.37 330 AMP 01 16 16.1
comp=Z,43nm,0.9s
PAX Paxson 80.65 28 IAmb IAmb 01 16 22.7
comp=Z,14nm,1.2s
TMCR Tamitsa 80.91 334 *e*P **P** **01 16 18.0 +0.3**
TMCR pmax pmax
comp=Z,34nm,1.1s
LPSR Galich'ya Gora 81.14 322 *e*P **P** **01 16 18.0 -1.2**
LPSR pmax pmax
comp=Z,30nm,0.9s
DOT Dot Lake 81.25 27 IAmb IAmb 01 16 35.2
comp=Z,36nm,2.0s
GLB Gilahina Butte 81.52 29 IAmb IAmb 01 16 25.5
comp=Z,20nm,1.3s
MOS Moscow 81.67 325 *e*P **P** **01 16 20.8 -1.1**
MOS *e* 01 16 29.9
ATD Arta Tunnel 82.12 280 IAmb IAmb 01 16 27.4
comp=Z,14nm,0.9s
OBN Obninsk 82.33 325*c i*P **P** **01 16 24.9 -0.4**
OBN *i* 01 16 30.2
OBN *e*S S 01 26 27.7 -8.8
OBN pmax pmax
comp=Z,28nm,1.3s
ABPO Ambohimpanom 83.20 249 P **P** **01 16 29.6 -1.2**
ABPO pmax pmax
comp=Z,13nm,1.1s
ABPO Ambohimpanom 83.20 249 P **P** **01 16 29.6 -1.2**
ABPO IAmb IAmb 01 16 31.0
comp=Z,13nm,1.1s
EPYK Eagle Plains 84.03 24 P **P** **01 16 36.1 +2.1**
baz=280
EPYK Eagle Plains 84.03 24 IAmb IAmb 01 16 37.0
comp=Z,13nm,0.9s
SPA0 Spitsbergen Ar 84.84 349 *e*P **P** **01 16 39.1 +1.2**
INK Inuvik 84.86 22 P **P** **01 16 33.6 -4.4**
INK pmax pmax
comp=Z,20nm,1.4s
INK Inuvik 84.86 22 P **P** **01 16 33.6 -4.4**
INK IAmb IAmb 01 16 44.8
comp=Z,20nm,1.4s
ARCES ARCESS Array B 85.04 340 P **P** **01 16 39.5 +0.5**
comp=Z,9.8nm,0.7s,baz=75,slow=6.4,SNR=20
ARCES LR LR 01 59 16.8
comp=Z,130nm,18.2s,baz=148,slow=39
ARE0 ARCESS Array S 85.04 340 *e*P **P** **01 16 40.3 +1.3**
SIM Simferopol' 85.14 315*ce*P **P** **01 16 39.7 -0.3**
SIM *e**PP **pP** **01 16 52.0 -2.9**
SIM *e*S **S** **01 27 05.0 -0.3**
SIM pmax pmax
comp=Z,20nm,0.9s
SIM MLR MLR
comp=Z,80nm,19.3s
HAMF Hammerfest 85.36 341 *e*P **P** **01 16 41.5 +0.9**
BJO1 Bjornoya 85.55 345 *e*P **P** **01 16 42.6 +1.2**
KTK1 Kautokeino 85.95 339 *e*P **P** **01 16 43.5 -0.1**
BRTR Keskin Array B 86.30 309 P **P** **01 16 45.1 -1.0**
comp=Z,2.6nm,0.9s,baz=89,slow=4.0,SNR=12
A36M Sachs Harbour 86.53 17 P **P** **01 16 48.2 +1.9**
baz=290
FINES FINESS Array B 86.74 332 P **P** **01 16 47.1 -0.4**
comp=Z,7.4nm,0.7s,baz=74,slow=6.9,SNR=25
FINES LR LR 01 59 56.1
comp=Z,260nm,18.3s,baz=64,slow=39
PPT Papeete 86.98 108 LR LR 01 51 38.2
comp=Z,101nm,18.4s,baz=350,slow=33
PPT2 Papeete2 86.98 108 *e*S **S** **01 27 21.8 -2.5**
comp=Z,103nm,25.0s
PPT2 Papeete2 86.98 108 *e*LR LR 01 44 24.0
comp=Z,172nm,22.5s,baz=288
VSU Vasula 87.11 329*ce*P **P** **01 16 49.0 -0.4**
VSU pmax pmax
comp=Z,53nm,0.9s
TRO Tromso 87.22 340 *e*P **P** **01 16 49.8 +0.2**
CSS Mathiatis 87.32 305 IAmb IAmb 01 16 52.7
comp=Z,20nm,1.1s
NOR Nord 87.37 355 *i*P **P** **01 16 51.7 +1.4**
comp=Z,12nm,1.1s
NOR Nord 87.37 355 *i*P **P** **01 16 51.7 +1.4**
NOR pmax pmax
comp=Z,12nm,1.1s
AKASG Malin Array Be 87.39 321 P **P** **01 16 50.1 -0.8**
comp=Z,1.5nm,0.5s,baz=66,slow=4.5,SNR=13
C36M Paulatuk 87.84 20 P **P** **01 16 54.2 +1.6**
baz=291
TBI Tubuai 88.18 114 *e*S **S** **01 27 33.0 -2.4**
comp=Z,254nm,28.8s
TBI Tubuai 88.18 114 *e*LR LR 01 44 52.7
comp=Z,240nm,24.0s,baz=291
STEI Steigen 89.09 339 *e*P **P** **01 16 58.1 -0.5**
MAW Mawson 89.11 200 P **P** **01 16 59.7 +1.1**
comp=Z,5.4nm,0.9s,baz=17,slow=4.3,SNR=8.7
MAW Mawson 89.11 200 P **P** **01 17 00.5 +2.0**
MAW pmax pmax
comp=Z,2.0nm,1.1s
MAW Mawson 89.11 200 P **P** **01 17 00.5 +2.0**
VNDA Vanda 89.13 173 P **P** **01 16 58.9 +0.4**
comp=Z,2.3nm,0.8s,baz=315,slow=6.9,SNR=13
VNDA LR LR 01 58 12.1
comp=Z,174nm,18.9s,baz=288,slow=36
VNDA Vanda 89.13 173 P **P** **01 16 59.3 +0.8**
VNDA pmax pmax
comp=Z,4.0nm,0.9s
VNDA Vanda 89.13 173 P **P** **01 16 59.3 +0.8**
KMBO Kilima Mbogo 89.58 269 P **P** **01 17 04.2 +1.9**
comp=Z,6.8nm,1.0s,baz=43,slow=8.8,SNR=11
KMBO Kilima Mbogo 89.58 269 *i*P **P** **01 17 03.1 +0.8**
SNR=7.1
KMBO Kilima Mbogo 89.58 269 P **P** **01 16 58.3 -4.0**
KMBO pmax pmax
comp=Z,14nm,1.2s
KMBO Kilima Mbogo 89.58 269 P **P** **01 16 58.3 -4.0**
KMBO IAmb IAmb 01 17 04.0
comp=Z,14nm,1.1s
LOF Lofoten 89.59 340 *e*P **P** **01 17 01.1 +0.2**
TESR Tescani 89.98 317⇓P **P** **01 17 03.3 +0.1**
MOR8 Moi Rana 90.09 338 *e*P **P** **01 17 02.4 -1.0**

SUW	**Suwalki**	**90.18**	**325**	*e*P	**P**	**01 17 03.8**	**-0.1**
BURAR	**Bucovina Array**	**90.65**	**318**	⇑P	**P**	**01 17 07.6**	**+1.1**
BURAR	**Bucovina Array**	**90.65**	**318**	⇑P	**P**	**01 17 07.6**	**+1.1**
LVV	**L'vov**	**90.83**	**321**	*e*P	**P**	**01 17 07.5**	**+0.4**
DAG	**Danmarks Havn**	**91.56**	**352**	*i* P	**P**	**01 17 10.2**	**+0.3**
	comp=Z,26nm,1.1s						
DAG	**Danmarks Havn**	**91.56**	**352**	*i* P	**P**	**01 17 10.2**	**+0.3**
DAG				pmax	pmax		
	comp=Z,26nm,1.1s						
KWP	**Kalwaria Pacla**	**91.71**	**321**	*e*P	**P**	**01 17 11.5**	**+0.2**
NSS	**Namsos**	**91.73**	**337**	*e*P	**P**	**01 17 10.6**	**-0.3**
KOLS	**Kolonicke sedl**	**92.19**	**320**	*e*P	**P**	**01 17 13.1**	**-0.3**
KOLS	**Kolonicke sedl**	**92.19**	**320**	*e*P	**P**	**01 17 13.1**	**-0.3**
UZH	**Uzhgorod**	**92.26**	**320**	*e*P	**P**	**01 17 14.0**	**+0.2**
UZH				*e*		01 17 23.5	
TBLU	**Trondheim**	**92.98**	**336**	*e*P	**P**	**01 17 14.7**	**-2.1**
NIE	**Niedzica**	**93.27**	**321**	*e*P	**P**	**01 17 19.3**	**+0.8**
OJC	**Ojcow**	**93.32**	**322**	*e*P	**P**	**01 17 19.1**	**+0.5**
NC405	**NORSAR Array S**	**93.35**	**334**	P	**P**	**01 17 15.9**	**-2.7**
NB2	**NORSAR Subarra**	**93.60**	**334**	P	**P**	**01 17 19.0**	**-0.8**
	comp=Z,5.6nm,1.0s,baz=65,slow=4.8						
NB2	**NORSAR Subarra**	**93.60**	**334**	P	**P**	**01 17 19.0**	**-0.8**
	baz=65,slow=4.8						
NOA	**NORSAR Array B**	**93.60**	**334**	P	**P**	**01 17 18.6**	**-1.2**
	comp=Z,2.1nm,0.9s,baz=64,slow=4.7,SNR=9.5						
NOA				LR	LR	02 03 42.0	
	comp=Z,140nm,19.0s,baz=75,slow=38						
YKA	**Yellowknife Ar**	**94.31**	**24**	P	**P**	**01 17 23.9**	**+1.1**
	comp=Z,2.4nm,0.7s,baz=293,slow=4.4,SNR=20						
VYHS	**Vyhne**	**94.48**	**321**	*e*P	**P**	**01 17 23.0**	**-1.0**
VYHS	**Vyhne**	**94.48**	**321**	*e*P	**P**	**01 17 23.0**	**-1.0**
TAOE	**Nuku Hiva Isla**	**94.57**	**98**	*e*LR	LR	01 47 38.1	
	comp=Z,303nm,32.3s						
MORC	**Moravsky Berou**	**94.84**	**322**	*e*P	**P**	**01 17 26.2**	**+0.5**
JAVC	**Velka Javorina**	**95.08**	**321**	*e*P	**P**	**01 17 28.7**	**+1.9**
VRAC	**Vranov**	**95.58**	**322**	*e*P	**P**	**01 17 29.9**	**+0.8**
KRUC	**Moravsky**	**95.80**	**322**	*e*P	**P**	**01 17 30.6**	**+0.6**
MBAR	**Mbarara**	**95.92**	**270**	*ce*P	**P**	**01 17 31.1**	**-0.4**
MBAR				pmax	pmax		
	comp=Z,7.0nm,1.7s						
A04D	**Lummi Island**	**96.17**	**39**	P	**P**	**01 17 32.6**	**+0.9**
	baz=292						
BRG	**Berggiesshubel**	**96.56**	**324**	*e*P	**P**	**01 17 33.3**	**-0.1**
	comp=Z,2.2nm,1.0s						
BRG	**Berggiesshubel**	**96.56**	**324**	*e*P	**P**	**01 17 33.3**	**-0.1**
BRG				pmax	pmax		
	comp=Z,2.0nm,1.0s						
CLL	**Collm**	**96.93**	**325**	*e*P	**P**	**01 17 37.0**	**+1.9**
CLL				LmV		01 30 00.0	
	comp=Z,100nm,19.2s						
CLL	**Collm**	**96.93**	**325**	*e*P	**P**	**01 17 37.0**	**+1.9**
SUMG	**Summit**	**97.52**	**356**	*i* P	Pdif	01 17 38.9	+1.0
	comp=Z,14nm,1.2s						
SUMG	**Summit**	**97.52**	**356**	*i* P	Pdif	01 17 38.9	+1.0
SUMG				pmax	pmax		
	comp=Z,14nm,1.2s						
GERES	**GERESS Array B**	**97.52**	**322**	P	**P**	**01 17 37.1**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=56,slow=5.5,SNR=10						
MOA	**Molln**	**97.57**	**321**	*i* PcP	Pdif	01 17 38.5	+0.3
	comp=Z,2.6nm,0.9s						
SYO	**Syowa Base**	**97.74**	**201**	⇓*e*X	**P**	**01 17 35.0**	**-3.2**
SYO	**Syowa Base**	**97.74**	**201**	⇑*e*pP	Pdif	01 17 44.5	+6.2
KBA	**Koelnbreinsper**	**98.45**	**321**	*i* PcP	Pdif	01 17 43.0	+0.7
	comp=Z,3.3nm,1.2s						
ABTA	**Abfaltersbach**	**99.10**	**321**	*i* Pdiff	**Pdif**	**01 17 45.9**	**+0.8**
	comp=Z,1.9nm,0.6s						
WTTA	**Wattenberg**	**99.43**	**321**	*i* Pdiff	**Pdif**	**01 17 46.4**	**-0.3**
	comp=Z,4.6nm,1.1s						
WATA	**Walderalm**	**99.44**	**321**	*i* Pdiff	**Pdif**	**01 17 46.4**	**-0.3**
	comp=Z,4.8nm,1.5s						
SQTA	**Sankt Quirin**	**99.72**	**321**	*i* Pdiff	**Pdif**	**01 17 47.8**	**0.0**
	comp=Z,4.6nm,1.2s						
MOTA	**Moosalm**	**99.73**	**321**	*i* Pdiff	**Pdif**	**01 17 48.0**	**+0.1**
	comp=Z,3.2nm,1.1s						
FETA	**Feichten**	**100.10**	**321**	*i* Pdiff	**Pdif**	**01 17 48.7**	**-0.9**
	comp=Z,3.2nm,1.3s						
NVAR	**Mina Array Bea**	**103.10**	**47**	Pdiff	**Pdif**	**01 18 03.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=282,slow=4.4,SNR=1.5						
PDAR	**Pinedale Array**	**107.05**	**40**	PKKPab	PKKPab	01 34 00.7	-3.2
	comp=Z,0.7nm,0.7s,baz=106,slow=4.8,SNR=5.9						
TXAR	**Lajitas Array**	**118.05**	**50**	PKP	**PKiKP**	**01 22 53.3**	**+2.1**
	comp=Z,1.9nm,1.1s,baz=229,slow=1.0,SNR=10						
TXAR				PKKPab	**PKKPab**	**01 33 13.2**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=121,slow=6.0,SNR=4.4						
HHAR	**Hobbs**	**120.58**	**38**		**PKiKP**	**01 22 56.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**120.89**	**291**	PKP	**PKPdf**	**01 22 56.1**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=50,slow=1.3,SNR=5.5						
CCM	**Cathedral Cave**	**120.93**	**34**	PKIKP	**PKiKP**	**01 22 57.9**	**+1.5**
CCM	**Cathedral Cave**	**120.93**	**34**	PKPdf	**PKiKP**	**01 22 57.9**	**+1.5**
WCI	**Wyandotte Cave**	**123.44**	**31**	PKIKP	**PKPdf**	**01 22 58.8**	**-2.3**
WCI	**Wyandotte Cave**	**123.44**	**31**	PKPdf	**PKPdf**	**01 22 58.8**	**-2.3**
ACSO	**Alum Creek Sta**	**123.44**	**27**	PKPdf	**PKiKP**	**01 23 02.8**	**+1.6**
WVT	**Waverly**	**124.20**	**34**	PKIKP	**PKiKP**	**01 23 02.8**	**-0.1**
WVT	**Waverly**	**124.20**	**34**	PKPdf	**PKiKP**	**01 23 02.8**	**-0.1**
PLAL	**Pickwick Lake**	**124.91**	**35**	PKPdf	**PKPdf**	**01 23 03.3**	**-0.7**
PLCA	**Paso Flores**	**145.36**	**157**	PKPbc	**PKPbc**	**01 23 41.6**	**-0.1**
	comp=Z,5.6nm,0.7s,baz=211,slow=3.7,SNR=10						
PLCA	**Paso Flores**	**145.36**	**157**	PKIKP	**PKPab**	**01 23 43.2**	**+1.3**
PLCA	**Paso Flores**	**145.36**	**157**		**PKPab**	**01 23 43.2**	**+1.3**
LC01	**Cunco**	**146.35**	**153**		**PKiKP**	**01 23 46.8**	**-1.0**
OBIP	**Obispado Ponce**	**149.67**	**26**		**PKPbc**	**01 23 53.8**	**-0.3**
MTP	**Monte Pirata**	**150.05**	**24**		**PKiKP**	**01 23 55.6**	**-0.3**
STVI	**Saint Thomas**	**150.05**	**22**		**PKPbc**	**01 23 54.4**	**-0.6**
URIC	**Uribia, Colomb**	**151.95**	**42**	PKPdf	**PKPdf**	**01 23 49.1**	**-4.0**
SDV	**Santo Domingo**	**154.91**	**44**	PKPdf	**PKPdf**	**01 23 57.2**	**-0.3**
SDV				PKPbc	**PKiKP**	**01 24 06.7**	**+0.4**
SDV				PKPab	**PKPab**	**01 24 22.6**	**+1.0**
LPAZ	**La Paz**	**164.11**	**117**	PKP	**PKPdf**	**01 24 09.7**	**+1.2**
	comp=Z,2.6nm,1.2s,baz=3.5,slow=3.0,SNR=5.4						

*ISK **02** 01:53:25.1, 40.°40N×25.°95E, h8km, ML2.5/19*
*DDA **02** 01:53:25.7, 40.°38N×26.°02E, h8km±3km, ML2.4*
*ATH **02** 01:53:25.3, 40.°41N×25.°91E, h27km±1km, ML2.3/7, Error ellipse: s-maj=2.1km s-min=0.9km az=262.0*
*THE **02** 01:53:25.7, 40.°40N×25.°95E, h7km±1km, ML2.1/8, Error ellipse: s-maj=1.2km s-min=0.5km az=319.0*
ISC 02 01:53:25.3±0.9**, 40.°40N**±0.°02×**25.°97E**±0.°02**, h19**km±2km**, n63,** σ**0.s54**/95**, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOKA	**anakkale-Gk**	**0.21**	**193**	*i* P	**Pg**	**01 53 30.6**	**0.0**
GOKA				IAML		01 53 34.0	
	comp=E,2μm,0.5s						
GOKA				*i* S	**Sg**	**01 53 34.1**	**0.0**
GOKA				IAML		01 53 37.0	
	comp=N,1μm,0.3s						
GADA	**Gvkgeada**	**0.21**	**195**	P	**Pg**	**01 53 30.6**	**0.0**
GADA				S	**Sb**	**01 53 33.1**	**0.0**
	comp=N,538nm,0.3s						
GADA	**Gvkgeada**	**0.21**	**195**	PG	**Pg**	**01 53 30.5**	**0.0**
GADA				SG	**Sb**	**01 53 33.3**	**+0.2**
SMTH	**Samothraki Isl**	**0.34**	**283**	P	**Pg**	**01 53 32.1**	**-0.6**
SMTH				S	**Sg**	**01 53 37.2**	**-0.5**
	comp=N,1μm,0.1s						
SMTH	**Samothraki Isl**	**0.34**	**283**	P	**Pg**	**01 53 32.1**	**-0.6**
SMTH				S	**Sg**	**01 53 37.2**	**-0.5**
SMTH				AML	AML	01 53 37.6	
	comp=E,2624μm,0.1s						
SMTH				AML	AML	01 53 38.4	
	comp=N,1674μm,0.2s						
ENEZ	**Enez**	**0.37**	**22**	P	**Pg**	**01 53 32.9**	**-0.2**
ENEZ				S	**Sg**	**01 53 38.5**	**+0.1**
	comp=N,398nm,0.2s						
ENEZ	**Enez**	**0.37**	**22**	PG	**Pg**	**01 53 32.7**	**-0.5**
ENEZ				SG	**Sg**	**01 53 38.5**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.39**	**89**	PG	**Pb**	**01 53 33.5**	**-0.1**
GELI				SG	**Sb**	**01 53 39.7**	**+0.5**
ERIK	**Erikli-Kesan**	**0.50**	**56**	PG	**Pg**	**01 53 35.4**	**0.0**
ERIK				SG	**Sb**	**01 53 42.2**	**-0.1**
ALN	**Alexandroupoli**	**0.51**	**7**	P	**Pb**	**01 53 35.2**	**-0.4**
ALN				S	**Sb**	**01 53 42.5**	**0.0**
ALN	**Alexandroupoli**	**0.51**	**7**	PG	**Pb**	**01 53 35.2**	**-0.4**
BOZC	**Bozcaada**	**0.56**	**173**	PG	**Pg**	**01 53 36.7**	**+0.1**
BOZC				SG	**Sg**	**01 53 44.6**	**+0.6**
BOZC	**Bozcaada**	**0.56**	**173**	*i* P	**Pg**	**01 53 36.6**	**+0.1**
BOZC				*i* S	**Sb**	**01 53 43.5**	**-0.4**
LPK	**Lapseki**	**0.60**	**92**	PG	**Pg**	**01 53 37.8**	**+0.4**
EZN	**Ezine**	**0.63**	**154**	P	**Pg**	**01 53 37.9**	**0.0**
EZN				S	**Sg**	**01 53 46.8**	**+0.5**
	comp=N,118nm,0.2s						
EZN	**Ezine**	**0.63**	**154**	PG	**Pg**	**01 53 37.7**	**-0.2**
EZN				SG	**Sg**	**01 53 46.9**	**+0.6**
KESN	**Edirne-Kesan**	**0.69**	**51**	*i* P	**Pg**	**01 53 39.1**	**0.0**
KESN				*i* S	**Sb**	**01 53 47.8**	**-0.4**
KESN				IAML		01 53 53.0	
	comp=N,148nm,0.1s						
KESN				IAML		01 53 54.0	
	comp=E,159nm,0.2s						
LIA	**Limnos Island**	**0.78**	**231**	P	**Pg**	**01 53 40.5**	**-0.1**
LIA				S	**Sn**	**01 53 52.4**	**0.0**
	comp=E,92nm,0.2s						
LIA	**Limnos Island**	**0.78**	**231**	P	**Pg**	**01 53 40.5**	**-0.1**
LIA				S	**Sg**	**01 53 51.6**	**+0.6**
LIA				AML	AML	01 53 54.8	
	comp=E,150μm,0.3s						
LIA				AML	AML	01 53 55.4	
	comp=N,206μm,0.2s						
BAYC	**CANAKKALE_Bayr**	**0.79**	**146**	*i* P	**Pn**	**01 53 40.9**	**-0.5**
BAYC				*i* S	**Sg**	**01 53 50.8**	**-0.6**
RDO	**Rodhopi**	**0.82**	**337**	P	**Pb**	**01 53 40.5**	**-0.4**
RDO	**Rodhopi**	**0.82**	**337**	P	**Pb**	**01 53 40.7**	**-0.2**
RDO				S	**Sb**	**01 53 52.2**	**+0.7**
RDO				AML	AML	01 53 56.4	
	comp=E,345μm,0.4s						
RDO				AML	AML	01 53 56.9	
	comp=N,289μm,0.1s						
RDO	**Rodhopi**	**0.82**	**337**	PG	**Pb**	**01 53 40.9**	**0.0**
RDO				SG	**Sg**	**01 53 52.5**	**+0.2**
UKOP	**Uzunkopru-Edir**	**0.89**	**34**	PG	**Pg**	**01 53 42.6**	**-0.1**
RKY	**Sarkoy-Tekirda**	**0.97**	**72**	PG	**Pg**	**01 53 44.1**	**-0.1**
SART	**Tekirdag**	**0.97**	**72**	*i* P	**Pb**	**01 53 43.2**	**-0.4**
SART				*i* S	**Sn**	**01 53 57.0**	**-0.2**
THAS	**Thassos island**	**0.98**	**283**	P	**Pb**	**01 53 43.5**	**-0.1**
THAS				S	**Sn**	**01 53 57.3**	**0.0**
	comp=N,115nm,0.2s						
THAS	**Thassos island**	**0.98**	**283**	P	**Pb**	**01 53 43.7**	**+0.1**
THAS				S	**Sb**	**01 53 56.7**	**+0.6**
THAS				AML	AML	01 53 58.4	
	comp=N,272μm,0.2s						
THAS				AML	AML	01 54 01.3	
	comp=E,190μm,0.2s						
PRK	**Paraskevi**	**1.17**	**168**	P	**Pg**	**01 53 48.3**	**+0.3**
PRK				S	**Sg**	**01 54 05.0**	**+1.6**
	comp=E,185nm,0.3s						
PRK	**Paraskevi**	**1.17**	**168**	P	**Pg**	**01 53 48.4**	**+0.4**
PRK				S	**Sg**	**01 54 04.7**	**+1.3**
PRK				AML	AML	01 54 06.4	
	comp=N,398μm,0.2s						
PRK				AML	AML	01 54 06.9	
	comp=E,347μm,0.3s						
SIGR	**SIGRI**	**1.19**	**184**	P	**Pg**	**01 53 47.9**	**-0.4**
SIGR				S	**Sg**	**01 54 04.5**	**+0.7**
	comp=E,188nm,0.4s						
SIGR	**SIGRI**	**1.19**	**184**	P	**Pg**	**01 53 47.8**	**-0.4**
SIGR				S	**Sg**	**01 54 04.2**	**+0.3**
SIGR				AML	AML	01 54 05.6	
	comp=E,282μm,0.3s						
SIGR				AML	AML	01 54 06.1	
	comp=N,468μm,0.4s						
SIGR	**SIGRI**	**1.19**	**184**	PN	**Pg**	**01 53 48.1**	**-0.2**
KNL	**Balıkesir**	**1.20**	**95**	*i* P	**Pg**	**01 53 48.2**	**-0.3**
KNL				*i* S	**Sg**	**01 54 03.8**	**-0.4**
AYVA	**Ayvalik**	**1.22**	**153**	*i* P	**Pg**	**01 53 48.5**	**-0.4**
AYVA				*i* S	**Sg**	**01 54 05.2**	**+0.3**
AYVA				IAML		01 54 07.0	
	comp=N,277nm,0.5s						
AYVA				IAML		01 54 07.0	
	comp=E,110nm,0.5s						
MRMT	**Marmara Adasi**	**1.26**	**80**	PN	**Pg**	**01 53 49.4**	**-0.3**
KAVA	**Kavala**	**1.26**	**299**	P	**Pb**	**01 53 48.6**	**+0.1**
KAVA	**Kavala**	**1.26**	**299**	P	**Pb**	**01 53 48.6**	**+0.1**
KDZ	**Kurdzhali**	**1.32**	**342**	*i* P	**Pb**	**01 53 49.4**	**-0.1**
KDZ	**Kurdzhali**	**1.32**	**342**	PN	**Pb**	**01 53 50.2**	**+0.7**
TKR	**Tekirdag**	**1.33**	**63**	PN	**Pg**	**01 53 50.5**	**-0.6**
GONE	**Gonen-Balikesi**	**1.36**	**104**	PN	**Pg**	**01 53 50.7**	**-0.9**
EDC	**Edincik**	**1.45**	**91**	PN	**Pb**	**01 53 51.9**	**+0.2**
DKL	**Dikili**	**1.51**	**151**	PN	**Pb**	**01 53 52.8**	**+0.2**
OUR	**Ouranopolis**	**1.52**	**268**	P	**Pn**	**01 53 51.6**	**+0.2**
OUR	**Ouranopolis**	**1.52**	**268**	P	**Pn**	**01 53 51.7**	**+0.3**
OUR				S	**Sb**	**01 54 11.9**	**+0.2**
OUR				AML	AML	01 54 16.0	
	comp=N,134μm,0.5s						
OUR				AML	AML	01 54 17.4	
	comp=E,150μm,0.4s						
OUR	**Ouranopolis**	**1.52**	**268**	PN	**Pn**	**01 53 51.7**	**+0.3**
EDRB	**Edirne**	**1.56**	**22**	P	**Pn**	**01 53 52.8**	**+0.7**
EDRB	**Edirne**	**1.56**	**22**	PN	**Pb**	**01 53 54.1**	**+0.5**
RZN	**Rozhen**	**1.60**	**324**	*i* P	**Pn**	**01 53 53.7**	**+0.9**
KIRK	**Kırklareli**	**1.63**	**31**	*i* P	**Pn**	**01 53 53.2**	**+0.3**
KIRK				*i* S	**Sn**	**01 54 12.6**	**-0.7**
BALB	**Balikesir**	**1.65**	**117**	PN	**Pb**	**01 53 55.2**	**+0.1**
ZEDA	**zmir-Bergama**	**1.66**	**149**	*i* P	**Pb**	**01 53 55.4**	**+0.1**
ZEDA				*i* S	**Sg**	**01 54 18.3**	**-0.7**
ZEDA				IAML		01 54 20.0	
	comp=N,64nm,0.4s						
ZEDA				IAML		01 54 20.0	
	comp=E,36nm,0.5s						
DIM	**Dimitrovgrad**	**1.69**	**349**	*i* P	**Pb**	**01 53 54.9**	**-0.8**
STEP	**BALIKESIR_Sava**	**1.69**	**127**	*i* P	**Pb**	**01 53 56.5**	**+0.7**
PLG	**Polygyros**	**1.93**	**270**	P	**Pn**	**01 53 57.6**	**+0.4**
SRS	**Serrai**	**1.94**	**293**	P	**Pn**	**01 53 57.9**	**+0.6**
SRS	**Serrai**	**1.94**	**293**	P	**Pn**	**01 53 58.1**	**+0.8**
CHOS	**Chios island**	**2.01**	**178**	P	**Pb**	**01 53 59.6**	**-1.7**
AKHS	**Akhisar**	**2.08**	**136**	*i* P	**Pb**	**01 54 02.5**	**+0.1**
DURS	**Dursunbey**	**2.08**	**112**	*i* P	**Pn**	**01 54 00.4**	**+1.1**
DURS				IAML		01 54 33.0	
	comp=E,32nm,0.2s						
URLA	**Izmir**	**2.09**	**166**	*i* P	**Pb**	**01 54 00.9**	**-1.7**
URLA				*i* S	**Sb**	**01 54 27.5**	**-0.6**
KIS	**Kishinev**	**6.92**	**16**	*e*	Pb	01 55 30.0	+5.2

DJA 02 01:53:45.3±0.8**, 9°S**±12°×**11°3E**±°**, h78**km±11km**, M3.3**/7**, MLv3.3**/7**, Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.48**	**81**	P	Pn	01 54 10.4	+0.2
JAGI				S	Sn	01 54 29.9	+0.8
UGM	**Wanagama**	**2.28**	**290**	P	Pn	01 54 20.8	-0.1
SRBI	**Singaraja**	**2.58**	**76**	P	Pn	01 54 24.0	-1.0
SRBI				S	Sn	01 54 55.3	-0.1

*IDC **02** 01:55:35.3±0.6, 0.°89S×97.°01E, h0km, mb4.2/20, mb1 4.3/22, mb1mx4.1/45, mbtmp4.2/22, ML4.1/2, MS2.9/2, Ms1 3.1/2, ms1mx2.8/31, Error ellipse: s-maj=19.6km s-min=14.2km az=51.0*
*NEIC **02** 01:55:36.7±2.0, 0.°81S±0.°04×97.°12E±0.°08, h10km±1km, mb4.4/15, Error ellipse: s-maj=13.8km s-min=4.5km az=291.0*
*DJA **02** 01:55:37.4±2.3, 1°S±3°×9°7E±°, h12km±17km, M4.6/15, mB4.9/2, mb4.9/8, MLv4.7/15, MLv4.5/4, Mw(mB)4.2/2*
ISC 02 01:55:36.5±0.5**, 0.°81S**±0.°04×**97.°11E**±0.°05**, h10**km**, n73,** σ**1.s35**/74**, mb4.3**/29**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**1.39**	**58**	P	**Pg**	**01 56 02.9**	**-0.3**
PBSI				S	**Sn**	**01 56 20.0**	**-0.4**
PBSI	**Pulau Batu**	**1.39**	**58**	P	**Pb**	**01 56 02.3**	**-0.3**
SISI	**Saibi**	**2.05**	**105**	P	**Pn**	**01 56 11.5**	**+0.5**
SISI				S	**Sn**	**01 56 36.2**	**-0.5**
GSI	**Gunungsitoli**	**2.15**	**13**	P	**Pn**	**01 56 12.8**	**+0.4**
GSI				S	**Sn**	**01 56 39.2**	**+0.1**
GSI	**Gunungsitoli**	**2.15**	**13**	P	**Pn**	**01 56 12.5**	**+0.1**
GSI	**Gunungsitoli**	**2.15**	**13**	Pn	**Pn**	**01 56 12.9**	**+0.4**
MNSI	**Mandailing Nat**	**2.94**	**57**	P	**Pn**	**01 56 24.8**	**+1.5**
MNSI				S	**Sn**	**01 56 58.4**	**-0.3**
SNSI	**Sinabang, Aceh**	**3.29**	**346**	P	**Pn**	**01 56 28.0**	**0.0**
SNSI				S	**Sn**	**01 57 03.9**	**-3.3**
PPSI	**Pulau Pagai**	**3.50**	**124**	P	**Pn**	**01 56 30.3**	**-0.6**
PPSI				S	**Sn**	**01 57 07.7**	**-4.7**
RPSI	**Rantau Prapat**	**3.92**	**28**	Pn	**Pn**	**01 56 36.5**	**-0.3**
RPSI	**Rantau Prapat**	**3.92**	**28**		**Pn**	**01 56 38.0**	**+1.2**
RPSI					**Sn**	**01 57 21.9**	**-1.0**
PSI	**Prapat**	**4.02**	**27**	Pn	**Pn**	**01 56 38.0**	**-0.2**
	3.1nm,0.3s,baz=180,slow=7.9,SNR=15						
PSI				Sn	**Sn**	**01 57 21.9**	**-3.5**
	5.0nm,0.3s,baz=360,slow=23,SNR=7.4						
SDSI	**Sungai Dareh**	**4.33**	**92**	P	**Pn**	**01 56 46.6**	**+4.3**
KCSI	**Kotacane, Aceh**	**4.35**	**9**	P	**Pn**	**01 56 42.9**	**+0.2**
KRJI	**Kerinci**	**4.54**	**106**	P	**Pn**	**01 56 47.1**	**+1.7**
MLSI	**Meulaboh, Aceh**	**5.09**	**352**	P	**Pn**	**01 56 52.7**	**-0.1**
	1.1nm85nm,0.6s						
MASI	**Maura Aman, Be**	**5.63**	**114**	P	**Pb**	**01 57 15.0**	**0.0**
LHMI	**Lhok Sumawe**	**6.00**	**358**	Pn	**Pn**	**01 57 05.8**	**+0.5**
LHMI				Sn	**Sn**	**01 58 12.2**	**-1.9**
IPM	**Ipoh**	**6.55**	**37**	Pn	**Pn**	**01 57 13.5**	**+0.5**
MNAI	**Manna**	**6.83**	**121**	P	**Pn**	**01 57 17.2**	**+0.4**
	1.3nm226nm,0.8s						
MNAI	**Manna**	**6.83**	**121**	Pn	**Pn**	**01 57 17.0**	**+0.2**
KULM	**Kulim**	**7.01**	**30**	Pn	**Pn**	**01 57 18.6**	**-0.7**
LHSI	**Lahat**	**7.08**	**115**	P	**Pn**	**01 57 21.7**	**+1.5**
	0.6nm203nm,0.8s						
LWLI	**Liwa**	**8.11**	**121**	P	Pb	01 57 48.2	-9.0
KASI	**Kota Agung**	**8.74**	**123**	P	**Pn**	**01 57 44.0**	**+0.9**
	72nm,0.8s						
LEM	**Lembang**	**12.07**	**120**	LR	LR	02 03 44.1	
	comp=Z,58nm,20.6s,baz=306,slow=40						
CMAR	**Chiang Mai Arr**	**19.23**	**5**	P	**Pn**	**02 00 01.9**	**0.0**
	0.6nm,0.3s,baz=200,slow=10,SNR=13						
CMAR				LR	LR	02 07 11.7	
	comp=Z,42nm,18.7s,baz=233,slow=36						
CHTO	**Chiang Mai**	**19.58**	**5**		**P**	**02 00 04.1**	**-0.7**
KKM	**Kota Kinabalu**	**20.26**	**70**	P	**P**	**02 00 09.9**	**-2.5**
KKM				IAmb	IAmb	02 00 18.1	
	comp=Z,32nm,0.8s						
SLVN	**Son La**	**22.99**	**16**	P	**P**	**02 00 40.7**	**-0.9**
SLVN				IAmb	IAmb	02 00 51.9	
	comp=Z,12nm,1.0s						
BNSI	**Bone**	**23.25**	**99**	P	P	02 00 57.7	+13
MRSI	**Marisa**	**24.87**	**87**	P	P	02 01 10.5	+11
H08S2	**Diego Garcia H**	**25.45**	**254**	T	T	02 28 35.4	
	baz=74,slow=75,SNR=30						
H08S3	**Diego Garcia H**	**25.46**	**254**	T	T	02 28 44.3	
	baz=74,slow=75,SNR=28						
H08S1	**Diego Carcia H**	**25.47**	**254**	T	T	02 28 41.0	
	baz=74,slow=75,SNR=27						
SHL	**Shillong**	**26.70**	**349**	P	**P**	**02 01 14.6**	**-1.7**
SHL				IAmb	IAmb	02 01 28.7	
	comp=Z,9.6nm,0.7s						
SZP	**Santa**	**29.35**	**50**	P	**P**	**02 01 39.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**32.88**	**123**	P	**P**	**02 02 10.3**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=107,slow=13,SNR=2.6						
XAN	**Xi'an**	**36.40**	**17**	P	**P**	**02 02 39.2**	**-2.0**
XAN				pP	pwP	02 02 50.4	+1.1
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
XAN				LR	LR		
	comp=E,160nm,15.2s						
XAN				LR	LR		
	comp=Z,190nm,19.5s						
H01W3	**Cape Leeuwin H**	**37.45**	**157**	T	T	02 43 14.5	
	baz=334,slow=76,SNR=6.0						
H01W2	**Cape Leeuwin H**	**37.46**	**157**	T	T	02 43 15.6	
	baz=334,slow=76,SNR=10						
H01W1	**Cape Leeuwin H**	**37.46**	**157**	T	T	02 43 16.7	
	baz=334,slow=76,SNR=8.2						
WRA	**Warramunga Arr**	**41.09**	**120**	P	**P**	**02 03 20.8**	**0.0**
	comp=Z,1.0nm,0.6s,baz=291,slow=9.1,SNR=5.4						
ASAR	**Alice Springs**	**42.30**	**125**	P	**P**	**02 03 31.4**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=297,slow=7.9,SNR=11						
ASAR				PcP	**PcP**	**02 05 24.7**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=310,slow=1.8,SNR=2.8						
KSRS	**Korea Array**	**47.55**	**34**	P	**P**	**02 04 13.6**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=221,slow=9.3,SNR=4.4						
SONM	**Songino Array**	**49.12**	**8**	P	**P**	**02 04 25.6**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=183,slow=11,SNR=2.8						
SONM				PcP	**PcP**	**02 05 48.4**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=184,slow=4.0,SNR=2.5						
MK31	**Makanchi Array**	**49.15**	**347**	P	**P**	**02 04 25.9**	**+1.4**
MK31				IAmb	IAmb	02 04 27.2	
	comp=Z,4.2nm,0.8s						
MKAR	**Makanchi Array**	**49.15**	**347**	P	**P**	**02 04 26.4**	**+1.8**
	comp=Z,5.0nm,0.6s,baz=154,slow=8.3,SNR=60						
MAKZ	**Makanchi**	**49.24**	**346**	P	**P**	**02 04 26.4**	**+1.1**
MAKZ				IAmb	IAmb	02 04 27.8	
	comp=Z,3.1nm,0.9s						
KK31	**Karatay Array**	**49.81**	**335**	P	**P**	**02 04 29.4**	**-0.2**
KK31				IAmb	IAmb	02 04 32.0	
	comp=Z,4.0nm,1.1s						
OPO	**Ambohidratompo**	**52.04**	**247**	P	**P**	**02 04 46.7**	**-0.3**
	comp=Z,3.9nm,1.0s,baz=254,slow=4.1,SNR=3.5						
STKA	**Stephens Creek**	**52.11**	**131**	P	**P**	**02 04 48.3**	**+1.2**
	comp=Z,2.6nm,0.7s,baz=331,slow=8.5,SNR=6.5						
STKA	**Stephens Creek**	**52.11**	**131**	P	**P**	**02 04 47.3**	**+0.2**
GEYT	**Alibeck**	**52.70**	**321**	P	**P**	**02 04 52.0**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=152,slow=6.7,SNR=5.7						
USA0B	**Ussuriysk Arra**	**54.53**	**30**		**P**	**02 05 05.3**	**+0.6**
USRK	**Ussuriysk Ar.**	**54.53**	**30**	P	**P**	**02 05 06.3**	**+1.6**
	comp=Z,5.0nm,0.7s,baz=228,slow=6.0,SNR=14						
ZAA0	**Zalesovo Array**	**55.51**	**351**	P	**P**	**02 05 11.8**	**+0.2**
ZALV	**Zalesovo Beam**	**55.51**	**351**	P	**P**	**02 05 12.8**	**+1.2**
	comp=Z,6.6nm,0.5s,baz=181,slow=6.2,SNR=35						
KBZ	**Khabaz**	**65.52**	**320**	P	**P**	**02 06 21.1**	**+0.9**
	comp=Z,3.7nm,0.7s,baz=118,slow=5.2,SNR=7.9						
NRIK	**Noril'sk**	**70.31**	**356**	P	**P**	**02 06 50.0**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=178,slow=5.7,SNR=5.7						
BR131	**Keskin Array S**	**70.39**	**313**	P	**P**	**02 06 49.6**	**-1.6**
BRTR	**Keskin Array B**	**70.39**	**313**	P	**P**	**02 06 51.0**	**-0.1**
	comp=Z,1.6nm,0.8s,baz=129,slow=6.5,SNR=12						
BOSA	**Boshof**	**73.71**	**241**	P	**P**	**02 07 11.3**	**0.0**
	comp=Z,3.6nm,0.9s,baz=104,slow=7.7,SNR=4.3						
TIXI	**Tiksi**	**75.16**	**10**		**P**	**02 07 18.0**	**-0.6**
TIXI				IAmb	IAmb	02 07 20.0	
	comp=Z,3.1nm,0.7s						
AKASG	**Malin Array Be**	**76.78**	**323**	P	**P**	**02 07 27.9**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=90,slow=4.6,SNR=5.7						
BUR08	**Bucovina Ar. S**	**78.48**	**319**	P	**P**	**02 07 36.6**	**-1.4**
BUR08				IAmb	IAmb	02 07 40.5	
	comp=Z,2.3nm,0.8s						
VTS	**Vitosha**	**78.72**	**314**	P	**P**	**02 07 37.5**	**-2.0**
VTS				IAmb	IAmb	02 07 40.9	
	comp=Z,2.5nm,0.8s						
KOLS	**Kolonicke sedl**	**80.67**	**320**	*e*P	**P**	**02 07 51.6**	**+1.8**
FINES	**FINESS Array B**	**81.72**	**333**	P	**P**	**02 07 55.8**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=144,slow=3.5,SNR=6.1						
GERES	**GERESS Array B**	**86.25**	**319**	P	**P**	**02 08 19.4**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=90,slow=8.4,SNR=7.3						
NOA	**NORSAR Array B**	**88.70**	**331**	P	**P**	**02 08 29.8**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=95,slow=4.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**95.45**	**283**	P	**P**	**02 09 02.9**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=72,slow=4.7,SNR=3.0						
TXAR	**Lajitas Array**	**145.40**	**33**	PKPbc	**PKPdf**	**02 15 16.9**	**+1.2**
	comp=Z,3.8nm,0.8s,baz=290,slow=2.4,SNR=37						

*IDC **02** 02:03:09.5±0.8, 0.°19S×132.°49E, h0km, mb4.1/10, mb1 4.3/14, mb1mx4.1/34, mbtmp4.2/14, ML4.1/4, MS3.6/11, Ms1 3.6/11, ms1mx3.2/34, Error ellipse: s-maj=15.9km s-min=13.6km az=111.0*
*DJA **02** 02:03:12.7±0.4, 0°S±4°×13°2E±°, h10km, M4.5/14, mB5.5/3, mb4.7/14, MLv4.4/10, Mw(mB)4.9/3, Mwp5.0/2*
*NEIC **02** 02:03:15.0±1.9, 0.°33S±0.°07×132.°33E±0.°08, h35km±2km, mb4.3/19, Error ellipse: s-maj=14.0km s-min=10.5km az=243.0*
ISC 02 02:03:14.8±0.6**, 0.°24S**±0.°06×**132.°39E**±0.°06**, h35**km**, n62,** σ**1.s88**/56**, mb4.2**/15**, MS3.6**/8**, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.28**	**241**	Pg	**Pn**	**02 03 35.3**	**-0.9**
	158nm,0.3s,baz=235,slow=22,SNR=159						
SIJI				Lg	Lg	02 03 54.6	
	161nm,0.3s,baz=168,slow=20,SNR=15						
RKPI	**Ransiki, Papua**	**2.19**	**125**	P	**Pn**	**02 03 49.2**	**+0.4**
RKPI				S	**Sn**	**02 04 20.1**	**+5.4**
FAKI	**Fak Fak**	**2.66**	**183**	P	**Pn**	**02 03 56.0**	**+0.8**
FAKI				S	**Sn**	**02 04 30.9**	**+4.5**
FAKI	**Fak Fak**	**2.66**	**183**		**Pn**	**02 03 56.1**	**+0.8**
MSAI	**Masohi**	**4.63**	**228**	P	**Pn**	**02 04 23.9**	**+1.6**
MSAI				S	**Sn**	**02 05 18.1**	**+3.2**
LBMI	**Labuha**	**4.90**	**265**	P	**Pn**	**02 04 27.7**	**+1.7**
BNDI	**Bandanaira**	**4.92**	**210**	P	**Pn**	**02 04 28.3**	**+2.0**
AAI	**Ambon**	**5.41**	**231**	P	**Pn**	**02 04 35.2**	**+2.2**
	0.8nm3μm3μm193nm,0.8s						
NLAI	**Namlea**	**6.07**	**241**	P	**Pn**	**02 04 44.4**	**+2.4**
	0.2nm50nm,0.7s						
SANI	**Sanana**	**6.64**	**254**	P	**Pn**	**02 04 50.4**	**+0.4**
	0.1nm841nm36nm,0.7s						
LUWI	**Luwuk**	**9.65**	**265**	Pn	**Pn**	**02 05 31.6**	**+0.4**
MTN	**Manton Dam**	**12.58**	**186**	Pn	**Pn**	**02 06 09.2**	**-2.2**
MTN					**Sn**	**02 08 28.4**	**-2.0**
SPSI	**Sidrap Palu**	**13.14**	**253**	P	**Pn**	**02 06 20.4**	**+1.4**
	2μm19nm,1.0s						
BATI	**Baumata**	**13.16**	**221**	Pn	**Pn**	**02 06 19.4**	**-0.1**
	5.6nm,0.3s,baz=287,slow=23,SNR=2.8						

BATI				LR	LR	02 11 55.7	
	comp=Z,334nm,18.4s,baz=76,slow=40						
BKSI	**Bulukumba**	**13.24**	**247**	P	**Pn**	**02 06 25.0**	**+4.5**
KAPI	**Kappang**	**13.48**	**249**	Pn	**Pn**	**02 06 24.1**	**+0.4**
	0.2nm,0.3s,baz=37,slow=17,SNR=1.9						
KAPI				LR	LR	02 13 30.2	
	comp=Z,110nm,18.8s,baz=82,slow=46						
KAPI	**Kappang**	**13.48**	**249**		**Pn**	**02 06 21.1**	**-2.6**
WSI	**Waingapu**	**15.25**	**232**	P	**Pn**	**02 06 43.9**	**-3.7**
KNRA	**Kununurra**	**15.75**	**193**		**Pn**	**02 06 51.2**	**-2.9**
PMG	**Port Moresby**	**17.30**	**122**	LR	LR	02 15 00.5	
	comp=Z,131nm,19.5s,baz=287,slow=41						
COEN	**Coen**	**17.32**	**142**	Pn	**Pn**	**02 07 12.0**	**-1.9**
SRBI	**Singaraja**	**18.80**	**245**	P	**Pn**	**02 07 34.3**	**+2.1**
	64nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.95**	**200**	P	**P**	**02 07 31.9**	**-1.1**
	0.2nm,0.3s,baz=30,slow=10,SNR=6.8						
FITZ	**Fitzroy Crossi**	**18.95**	**200**	P	**P**	**02 07 31.6**	**-1.4**
FITZ				IAmb	IAmb	02 07 42.2	
	comp=Z,21nm,1.3s						
WB0	**Warramunga Arr**	**19.51**	**174**	P	**P**	**02 07 38.9**	**-0.2**
WB0				IAmb	IAmb	02 07 43.5	
	comp=Z,16nm,1.0s						
WRAB	**Tennant Creek**	**19.67**	**175**	P	**P**	**02 07 40.2**	**-0.7**
WRAB				IAmb	IAmb	02 07 42.0	
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**19.67**	**175**	P	**P**	**02 07 41.0**	**0.0**
	comp=Z,1.1nm,0.3s,baz=353,slow=11,SNR=24						
WRA	**Warramunga Arr**	**19.67**	**175**	P	**P**	**02 07 41.0**	**0.0**
WB2	**Warramunga Arr**	**19.68**	**175**		**P**	**02 07 41.4**	**+0.4**
WB2				IAmb	IAmb	02 07 48.5	
	comp=Z,11nm,0.7s						
WR0	**Warramunga Arr**	**19.71**	**174**		**P**	**02 07 41.4**	**0.0**
WR0				IAmb	IAmb	02 07 42.6	
	comp=Z,13nm,0.8s						
JAGI	**Jajag, Banyuwa**	**19.92**	**245**	P	**Pn**	**02 07 45.6**	**0.0**
	comp=Z,77nm,0.9s						
JAGI	**Jajag, Banyuwa**	**19.92**	**245**	P	**P**	**02 07 42.8**	**-0.9**
KRVT	**Keravat (AS076**	**20.03**	**102**	LR	LR	02 14 33.8	
	comp=Z,170nm,18.6s,baz=258,slow=34						
SBUM	**Sibu**	**20.34**	**278**	P	**P**	**02 07 47.4**	**-0.9**
KSM	**Kuching**	**22.14**	**274**	P	**P**	**02 08 04.9**	**-2.9**
KSM				IAmb	IAmb	02 08 14.0	
	comp=Z,12nm,0.8s						
AS31	**Alice Springs**	**23.33**	**176**	P	**P**	**02 08 19.4**	**-0.7**
ASAR	**Alice Springs**	**23.33**	**176**	P	**P**	**02 08 19.9**	**-0.2**
	comp=Z,13nm,0.8s,baz=354,slow=9.9,SNR=60						
ASAR				LR	LR	02 18 47.8	
	comp=Z,201nm,19.2s,baz=356,slow=40						
CTA	**Charters Tower**	**23.95**	**146**	P	**P**	**02 08 26.0**	**0.0**
	comp=Z,5.7nm,0.7s,baz=340,slow=9.7,SNR=6.6						
CTA				LR	LR	02 19 01.4	
	comp=Z,437nm,21.5s,baz=96,slow=40						
CTAO	**Charters Tower**	**23.95**	**146**	P	**P**	**02 08 25.2**	**-0.7**
CTAO				IAmb	IAmb	02 08 28.2	
	comp=Z,7.6nm,0.8s						
PSA00	**Pilbara Seismi**	**24.48**	**209**	P	**P**	**02 08 32.1**	**+1.3**
PSA00				IAmb	IAmb	02 08 33.9	
	comp=Z,16nm,0.8s						
CISI	**Cisompet, Garu**	**25.55**	**253**	P	**P**	**02 08 37.9**	**-2.8**
LEM	**Lembang**	**25.56**	**255**	LR	LR	02 19 57.1	
	comp=Z,34nm,21.1s,baz=5.0,slow=39						
STKA	**Stephens Creek**	**32.65**	**165**	P	**P**	**02 09 43.2**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=326,slow=7.8,SNR=6.8						
STKA	**Stephens Creek**	**32.65**	**165**	IAmb	IAmb	02 09 45.6	
	comp=Z,0.8nm,0.8s						
RPSI	**Rantau Prapat**	**33.58**	**275**	P	**P**	**02 09 52.4**	**+0.5**
MLSI	**Meulaboh, Aceh**	**36.23**	**278**	P	**P**	**02 10 17.5**	**+2.7**
MJAR	**Matsushiro Arr**	**36.99**	**8**	LR	LR	02 24 17.8	
	comp=Z,92nm,18.7s,baz=210,slow=34						
CMAR	**Chiang Mai Arr**	**37.75**	**301**	P	**P**	**02 10 28.0**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=123,slow=6.6,SNR=1.2						
H11N1	**WAKE ISLAND Hy**	**39.20**	**58**	T	T	02 52 25.4	
	baz=246,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy**	**39.21**	**58**	T	T	02 52 20.0	
	baz=246,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**39.22**	**58**	T	T	02 52 26.8	
	baz=246,slow=75,SNR=29						
SONM	**Songino Array**	**52.95**	**338**	P	**P**	**02 12 28.4**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=153,slow=9.7,SNR=1.1						
PETK	**Petropavlovsk-**	**57.20**	**18**	LR	LR	02 33 53.5	
	comp=Z,34nm,21.4s,baz=241,slow=32						
MK31	**Makanchi Array**	**64.04**	**324**	P	**P**	**02 13 46.5**	**+1.4**
MK31				IAmb	IAmb	02 13 52.6	
	comp=Z,2.3nm,1.0s						
MKAR	**Makanchi Array**	**64.04**	**324**	P	**P**	**02 13 45.6**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=120,slow=8.1,SNR=19						
MAKZ	**Makanchi**	**64.23**	**324**	P	**P**	**02 13 47.3**	**+0.9**
MAKZ				IAmb	IAmb	02 13 53.8	
	comp=Z,5.1nm,1.0s						
ZALV	**Zalesovo Beam**	**66.70**	**332**	P	**P**	**02 14 01.5**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=134,slow=8.3,SNR=2.5						
KURK	**Kurchatov**	**68.13**	**326**	P	**P**	**02 14 10.5**	**-0.7**
KURK				IAmb	IAmb	02 14 20.0	
	comp=Z,2.9nm,0.8s						
NRIK	**Noril'sk**	**75.65**	**345**	LR	LR	02 47 59.2	
	comp=Z,68nm,21.9s,baz=149,slow=36						
GEYT	**Alibeck**	**77.77**	**309**	P	**P**	**02 15 09.0**	**+0.3**
	comp=Z,1.6nm,0.6s,baz=114,slow=6.5,SNR=1.5						
VNDA	**Vanda**	**78.84**	**174**	P	**P**	**02 15 14.8**	**+1.0**
	comp=Z,1.8nm,0.8s,baz=324,slow=6.4,SNR=14						
VNDA				LR	LR	02 49 26.4	
	comp=Z,73nm,19.4s,baz=261,slow=35						
ILAR	**Eielson Array**	**86.26**	**25**	P	**P**	**02 15 52.2**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=258,slow=4.5,SNR=11						

IDC 02 02:09:15.6±4.8**, 13°.90N×92°.77W, h0**^{km}**, mb3.5**/2**, mb1 3.8**/5**, mb1mx3.5**/28**, mbtmp3.4**/5**, ML2.8**/2**, Error ellipse: s-maj=76.5km s-min=46.2km az=10.0, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**3.77**	**327**	Pn	Pn	02 10 14.5	-0.6
	1.1nm,0.3s,baz=141,slow=11,SNR=9.5						
CMIG				Sn	Sn	02 11 00.9	+0.7
	2.3nm,0.3s,baz=122,slow=12,SNR=5.6						
TEIG	**Tepich**	**7.61**	**34**	Pn	Pn	02 11 08.3	+0.4
	baz=139,slow=1.6						
TEIG				Sn	Sn	02 12 33.4	-1.6
	baz=319,slow=20						
TXAR	**Lajitas Array**	**18.38**	**328**	P	P	02 13 33.1	+0.9
	0.0nm,0.3s,baz=153,slow=14,SNR=4.2						
NVAR	**Mina Array Bea**	**33.29**	**322**	P	P	02 15 55.8	+0.5
	0.3nm,0.5s,baz=135,slow=9.0,SNR=2.0						
YKA	**Yellowknife Ar**	**50.95**	**347**	P	P	02 18 17.9	-0.7
	0.9nm,0.8s,baz=156,slow=7.6,SNR=7.3						

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*IDC **02** 02:31:57.8±0.7, 9°.63N×127°.07E, h0^{km}, mb3.9/17, mb1 4.1/19, mb1mx4.0/43, mbtmp4.0/19, ML5.0/3, MS3.3/5, Ms1 3.3/5, ms1mx2.9/29, Error ellipse: s-maj=25.7km s-min=13.3km az=81.0*

*NEIC **02** 02:31:59.0±1.0, 9°.57N±0°.06×126°.99E±0°.09, h10^{km}±1^{km}, mb4.4/12, Error ellipse: s-maj=16.4km s-min=8.9km az=110.0*

*MAN **02** 02:32:01.5, 9°.27N×126°.89E, h10^{km}, mb4.9, ML3.8, MS3.7*

ISC 02 02:31:58.4±3.3**, 9°.45N**±0°.04×**127°.02E**±0°.06**, h7**^{km}±21^{km}**, n52, σ1s63**/65**, mb4.0**/20**, MS3.1**/3**, 2C-3D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.54**	**282**	⇓eP	**Pn**	**02 32 25.8**	**-0.5**
SCPH				eS	**Sn**	**02 32 45.9**	**-0.8**
MSLP	**Maasin**	**2.23**	**288**	eP	**Pn**	**02 32 37.1**	**+1.3**
MSLP				eS	**Sn**	**02 33 05.6**	**+1.8**
BUKP	**Musuan**	**2.49**	**231**	eP	**Pn**	**02 32 39.4**	**0.0**
BUKP				eS	**Sn**	**02 33 07.8**	**-2.3**
CGP	**Cagayan de Oro**	**2.50**	**247**	⇓iP	**Pn**	**02 32 40.6**	**+1.1**
CGP				i S	**Sn**	**02 33 11.7**	**+1.4**
MATI	**Mati**	**2.60**	**197**	eP	**Pn**	**02 32 40.8**	**-0.1**
MATI				eS	**Sn**	**02 33 09.9**	**-2.9**
DAV	**Davao City (W)**	**2.76**	**211**	Pn	**Pb**	**02 32 47.3**	**-0.8**
	95nm,0.3s,baz=265,slow=2.0,SNR=2.4						
DAV				Sn	**Sb**	**02 33 21.4**	**-0.8**
	51nm,0.3s,baz=54,slow=20,SNR=3.6						
DAV				LR	LR	02 33 54.9	
	comp=Z,786nm,21.4s,baz=42,slow=40						
DAV	**Davao City (W)**	**2.76**	**211**		**Pn**	**02 32 44.7**	**+1.6**
DAV				Sn	**Sn**	**02 33 18.9**	**+2.2**
KCP	**Kidapawan**	**3.09**	**218**	⇓iP	**Pn**	**02 32 49.5**	**+1.9**
KCP				i S	**Sb**	**02 33 29.4**	**-2.3**
TBP	**Tagbilaran**	**3.12**	**275**	eP	**Pn**	**02 32 48.6**	**+0.5**
TBP				i S	**Sn**	**02 33 26.8**	**+1.1**
LLP	**Lapu-Lapu**	**3.13**	**286**	eP	**Pn**	**02 32 50.7**	**+2.5**
LLP				eS	**Sb**	**02 33 31.4**	**-1.5**
CTBH	**Cotabato--PC H**	**3.53**	**231**	⇑iP	**Pn**	**02 32 55.2**	**+1.5**
DDMP	**Don Marcelino,**	**3.57**	**201**	eP	**Pn**	**02 32 54.6**	**+0.4**
DDMP				eS	**Sn**	**02 33 33.6**	**-3.0**
CNP	**Catarman**	**3.82**	**323**	eP	**Pn**	**02 33 02.2**	**+4.5**
CNP				eS	**Sb**	**02 33 49.5**	**-3.3**
PAGZ	**Pagadian**	**3.93**	**246**	eP	**Pn**	**02 33 00.8**	**+1.6**
PAGZ				eS	**Sn**	**02 33 45.0**	**-0.6**
GUIM	**Jordan**	**4.52**	**285**	eP	**Pn**	**02 33 10.6**	**+3.3**
GUIM				eS	**Sn**	**02 34 02.9**	**+2.8**
RCP	**Roxas**	**4.70**	**297**	⇑eP	**Pn**	**02 33 11.6**	**+1.9**
TGY	**Tagaytay City**	**7.54**	**308**	Pn	**Pn**	**02 33 48.9**	**0.0**
	35nm,0.3s,baz=141,slow=19,SNR=1.5						
TGY				LR	LR	02 36 57.9	
	comp=Z,199nm,19.0s,baz=346,slow=40						
SZP	**Santa**	**10.27**	**322**	Pn	**Pn**	**02 34 24.9**	**-1.5**
SBUM	**Sibu**	**16.27**	**246**		**Pn**	**02 35 48.2**	**+0.6**
KSM	**Kuching**	**18.41**	**246**	P	**P**	**02 36 14.2**	**-0.2**
KSM				IAmb	IAmb	02 36 18.9	
	comp=Z,12nm,0.8s						
MMRI	**Maumere**	**18.59**	**195**	P	**P**	**02 36 15.2**	**-1.0**
MMRI				IAmb	IAmb	02 36 21.4	
	comp=Z,52nm,1.4s						
BATI	**Baumata**	**19.81**	**190**	P	**Pn**	**02 36 32.5**	**+1.3**
	comp=Z,5.6nm,0.3s,baz=340,slow=3.5,SNR=3.5						
KNRA	**Kununurra**	**25.02**	**176**	P	**P**	**02 37 24.1**	**+0.9**
KNRA				IAmb	IAmb	02 37 30.6	
	comp=Z,22nm,1.2s						
FITZ	**Fitzroy Crossi**	**27.41**	**183**	P	**P**	**02 37 47.0**	**+2.2**
	comp=Z,1.7nm,0.5s,baz=8.9,slow=10.0,SNR=12						
FITZ	**Fitzroy Crossi**	**27.41**	**183**	P	**P**	**02 37 46.1**	**+1.3**
FITZ				IAmb	IAmb	02 38 01.6	
	comp=Z,9.0nm,1.1s						
KSRS	**Korea Array**	**27.89**	**2**	LR	LR	02 50 03.8	
	comp=Z,46nm,19.2s,baz=180,slow=39						
CMAR	**Chiang Mai Arr**	**28.64**	**291**	P	**P**	**02 37 55.5**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=101,slow=9.3,SNR=5.3						
CMAR				LR	LR	02 49 06.6	
	comp=Z,36nm,19.1s,baz=135,slow=36						
PSI	**Prapat**	**28.69**	**258**	P	**P**	**02 37 58.2**	**+1.6**
	comp=Z,1.6nm,0.3s,baz=359,slow=2.3,SNR=4.0						
RPSI	**Rantau Prapat**	**28.71**	**258**	P	**P**	**02 37 58.2**	**+1.6**
MJAR	**Matsushiro Arr**	**28.82**	**19**	LR	LR	02 48 54.3	
	comp=Z,50nm,19.4s,baz=210,slow=36						
WRA	**Warramunga Arr**	**30.08**	**166**	P	**P**	**02 38 09.7**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=345,slow=10.0,SNR=2.6						
ASAR	**Alice Springs**	**33.59**	**169**	P	**P**	**02 38 41.3**	**+1.8**
	comp=Z,0.4nm,0.5s,baz=352,slow=7.2,SNR=2.1						
KLR	**Kul'dur**	**39.85**	**5**	P	**P**	**02 39 31.1**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=207,slow=4.5,SNR=1.4						
ULN	**Ulaanbaatar**	**41.84**	**340**	P	**P**	**02 39 47.3**	**-1.9**
ULN				IAmb	IAmb	02 40 03.7	
	comp=Z,2.8nm,0.5s						
SONM	**Songino Array**	**42.04**	**339**	P	**P**	**02 39 49.9**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=161,slow=11,SNR=2.2						
NWAO	**Narrogin (SRO)**	**43.16**	**192**	P	**P**	**02 40 00.9**	**+1.0**
STKA	**Stephens Creek**	**43.39**	**162**	P	**P**	**02 40 03.1**	**+1.3**
	comp=Z,0.6nm,0.2s,baz=339,slow=12,SNR=2.0						
STKA	**Stephens Creek**	**43.39**	**162**	P	**P**	**02 40 01.4**	**-0.4**
MK31	**Makanchi Array**	**53.12**	**323**	P	**P**	**02 41 15.4**	**-1.4**
MKAR	**Makanchi Array**	**53.12**	**323**	P	**P**	**02 41 16.4**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=124,slow=7.7,SNR=9.2						
MKAR				PcP	**PcP**	**02 42 24.8**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=107,slow=5.0,SNR=1.9						
NIL	**Nilore**	**54.80**	**305**	P	**P**	**02 41 27.4**	**-2.0**
ZALV	**Zalesovo Beam**	**55.70**	**331**	P	**P**	**02 41 35.0**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=84,slow=7.6,SNR=5.3						
GAR	**Garm**	**58.38**	**310**	P	**P**	**02 41 53.2**	**-1.7**
KK31	**Karatay Array**	**59.35**	**315**	P	**P**	**02 42 00.5**	**-0.9**
KK31				IAmb	IAmb	02 42 01.8	
	comp=Z,2.8nm,0.8s						
ILAR	**Eielson Array**	**79.85**	**26**	P	**P**	**02 44 07.7**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=270,slow=5.4,SNR=1.4						
ARCES	**ARCESS Array B**	**85.21**	**340**	P	**P**	**02 44 35.2**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=64,slow=5.5,SNR=10						
BRTR	**Keskin Array B**	**86.62**	**310**	P	**P**	**02 44 43.4**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=54,slow=7.3,SNR=3.1						
FINES	**FINESS Array B**	**86.96**	**332**	P	**P**	**02 44 43.9**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=54,slow=7.1,SNR=2.2						
AKASG	**Malin Array Be**	**87.66**	**321**	P	**P**	**02 44 47.4**	**-0.4**
	comp=Z,0.1nm,0.2s,baz=63,slow=4.8,SNR=1.5						
VNDA	**Vanda**	**89.03**	**173**	P	**P**	**02 44 55.5**	**+1.9**
	comp=Z,0.4nm,0.6s,baz=347,slow=3.8,SNR=2.5						
YKA	**Yellowknife Ar**	**94.20**	**24**	P	**P**	**02 45 17.6**	**-0.4**
	comp=Z,0.1nm,0.6s,baz=297,slow=4.1,SNR=1.6						
TORD	**Torodi Ar. Bea**	**121.25**	**292**	PKP	**PKPdf**	**02 50 53.5**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=96,slow=1.4,SNR=1.6						

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*IDC **02** 02:36:42.5±2.1, 34°.08N×118°.45W, h0^{km}, mb3.2/1, mb1 3.3/5, mb1mx3.2/31, mbtmp2.9/5, ML3.3/4, MS3.4/10, Ms1 3.4/10, ms1mx3.3/15, Error ellipse: s-maj=24.5km s-min=9.8km az=50.0*

*NEIC **02** 02:36:43.9±2.2, 34°.06N±0°.04×118°.54W±0°.05, h9^{km}±4^{km}, Error ellipse: s-maj=6.0km s-min=5.4km az=138.0*

*ANF **02** 02:36:43.2±0.2, 34°.08N×118°.52W, h10^{km}±1^{km}, ML4.0/41, Error ellipse: s-maj=1.5km s-min=1.3km az=49.0*

*SCEDC **02** 02:36:43.9, 34°.10N×118°.49W, h4^{km}, M4.2, ML3.7, MW4.2, MW4.2, MW4.2, MWR4.2, MWR4.2, MWR4.2, MW4.2(NEIC), MW4.2(NEIC), MW4.2(NEIC), MWR4.2(NEIC), MWR4.2(NEIC), MWR4.2(NEIC)*

*PAS **02** 02:36:43.9±1.9, 34°.10N±0°.04×118°.49W±0°.05, h4^{km}±5^{km}, Mwr4.2/4, Error ellipse: s-maj=6.8km s-min=5.6km az=209.0*

*NEIC **02** 02:36:43.7, 34°.09N×118°.49W, h5^{km}, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.01; $M_{\theta\theta}$-1.74; $M_{\phi\phi}$1.75; $M_{r\theta}$0.14; $M_{\theta\phi}$1.29; $M_{\phi r}$0.04; Fault plane solution: $M_0$2.18000×10^{15} NP1:ϕ_s243.27000°, δ89.22000°, λ-3.87000°. NP2:ϕ_s333.33000°, δ86.13000°, λ-179.22000°. Principal axes: T 2.1773, Plg2.0000°, Azm288.0000°; N -0.0034, Plg86.0000°, Azm52.0000°; P -2.1739, Plg3.0000°, Azm198.0000°;*

ISC 02 02:36:44.1±0.8**, 34°.09N**±0°.02×**118°.50W**±0°.01**, h10**^{km}±5^{km}**, n160, σ1s16**/187**, MS3.3**/4**, Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DJJ	**Donna J Jenkin**	**0.04**	**65**		**Pg**	**02 36 45.7**	**-0.4**
DJJ	**Donna J Jenkin**	**0.04**	**65**		**Pg**	**02 36 44.7**	**-1.3**
LCGC	**La Cienega, Cu**	**0.14**	**130**		**Pg**	**02 36 47.7**	**+0.5**
HLLC	**North Hollywoo**	**0.15**	**53**		**Pg**	**02 36 46.8**	**-0.6**
HLLC					**Sg**	**02 36 49.2**	**-0.5**
BHPC	**Baldwin Hills**	**0.15**	**130**		**Pg**	**02 36 47.9**	**+0.4**
GR2C	**Griffith Obs.**	**0.17**	**80**		**Pg**	**02 36 47.0**	**-0.8**
GR2C					**Sg**	**02 36 49.8**	**-0.6**
USC	**University of**	**0.19**	**111**		**Pg**	**02 36 48.6**	**+0.5**
DECC	**Green Verdugo**	**0.22**	**40**	P	**Pg**	**02 36 47.9**	**-0.7**
	baz=220,SNR=233						
DECC				S	**Sg**	**02 36 50.8**	**-0.9**
	baz=220						
DECC	**Green Verdugo**	**0.22**	**40**		**Pg**	**02 36 47.9**	**-0.7**
DECC					**Sg**	**02 36 51.1**	**-0.6**
AGOC	**Agoura**	**0.23**	**285**		**Pg**	**02 36 48.3**	**-0.5**
AGOC					**Sg**	**02 36 52.0**	**0.0**
WTT2	**Watts, South G**	**0.25**	**124**		**Sg**	**02 36 49.9**	**-2.7**
PT2	**Point Dume**	**0.27**	**252**		**Pg**	**02 36 49.2**	**-0.2**
PT2					**Sg**	**02 36 53.5**	**+0.5**
PASC	**Pasadena Art C**	**0.28**	**72**	Pg	**Pg**	**02 36 48.9**	**-0.8**
PASC	**Pasadena Art C**	**0.28**	**72**		**Sg**	**02 36 53.0**	**-0.5**
GSA	**Caltech--GSA**	**0.31**	**81**		**Pg**	**02 36 50.3**	**-0.1**
CACC	**Caltech Cellar**	**0.32**	**81**		**Pg**	**02 36 49.8**	**-0.7**
GVRC	**Garvey Reservo**	**0.32**	**97**		**Pg**	**02 36 50.3**	**-0.2**
RPV	**Rancho Palos V**	**0.35**	**167**		**Pg**	**02 36 51.2**	**+0.1**
MWC	**Mount Wilson**	**0.39**	**70**	Sg	**Sg**	**02 36 56.4**	**-0.8**
FMP	**Fort Macarthur**	**0.41**	**155**	P	**Pg**	**02 36 52.1**	**-0.1**
	baz=337,SNR=49						
FMP				S	**Sg**	**02 36 57.2**	**-0.5**
	baz=337						
FMP	**Fort Macarthur**	**0.41**	**155**		**Pg**	**02 36 52.1**	**-0.1**
CHFC	**Chilao Flat St**	**0.47**	**58**		**Pg**	**02 36 52.3**	**-1.0**
PYR	**Pyramid**	**0.52**	**338**		**Pg**	**02 36 54.4**	**+0.1**
PEM	**Pine Mountain**	**0.53**	**81**		**Pg**	**02 36 53.5**	**-1.0**
CJV	**Casa Juvan**	**0.53**	**34**		**Pg**	**02 36 53.5**	**-1.1**
OSI	**Osito Audit: C**	**0.56**	**341**	P	**Pg**	**02 36 54.8**	**-0.2**
	baz=160						
OSI				S	**Sg**	**02 37 02.1**	**-0.2**
	baz=160						
OSI	**Osito Audit: C**	**0.56**	**341**	Pg	**Pg**	**02 36 54.9**	**-0.1**
PSRC	**Puddingstone R**	**0.58**	**89**		**Pg**	**02 36 54.5**	**-0.9**
JNH	**Juniper Hills**	**0.58**	**52**		**Pg**	**02 36 54.3**	**-1.1**
JNH					**Sg**	**02 37 02.1**	**-0.9**
LRRC	**Littlerock Res**	**0.59**	**42**		**Pg**	**02 36 54.6**	**-0.9**
BTPC	**Burnt Peak**	**0.60**	**354**		**Pg**	**02 36 55.2**	**-0.6**
STCC	**Santa Clara**	**0.61**	**291**		**Pg**	**02 36 55.8**	**-0.1**
SSK	**Sunset Peak**	**0.68**	**79**		**Pg**	**02 36 56.2**	**-1.2**
CIAC	**Catalina I. Ai**	**0.69**	**174**		**Pg**	**02 36 57.2**	**-0.3**
CIS	**Catalina Islan**	**0.69**	**174**	P	**Pg**	**02 36 57.2**	**-0.3**
	baz=355,SNR=162						
CIS				S	**Sg**	**02 37 06.0**	**-0.5**
	baz=355						
BFSC	**Mount Baldy Ra**	**0.72**	**78**	P	**Pg**	**02 36 56.6**	**-1.4**
	baz=258,SNR=156						
BFSC				S	**Sg**	**02 37 07.2**	**-0.2**
	baz=258						
BFSC	**Mount Baldy Ra**	**0.72**	**78**		**Pg**	**02 36 56.6**	**-1.4**
SBI	**Santa Barbara**	**0.75**	**216**		**Pg**	**02 36 58.6**	**+0.1**
TPO	**Tropico Hills**	**0.82**	**16**		**Pg**	**02 36 58.8**	**-1.2**
THC	**Tehachapi Micr**	**0.83**	**351**		**Pg**	**02 36 59.3**	**-0.8**
SS2	**San Sevaine**	**0.84**	**82**		**Pg**	**02 36 59.1**	**-1.2**
RYS	**Reyes Peak**	**0.90**	**309**		**Pg**	**02 37 00.7**	**-0.7**
EDW2	**Edwards Air Fo**	**0.90**	**28**	P	**Pg**	**02 36 59.9**	**-1.5**
	baz=208,SNR=496						
EDW2				S	**Sg**	**02 37 12.3**	**-0.8**
	baz=208						
EDW2	**Edwards Air Fo**	**0.90**	**28**		**Pg**	**02 36 59.9**	**-1.5**
MPI	**Mount Pinos, F**	**0.90**	**324**		**Pg**	**02 37 00.4**	**-1.1**
RVR	**Riverside**	**0.94**	**95**		**Pg**	**02 37 00.7**	**-1.6**
SCZ2	**Santa Cruz Isl**	**0.94**	**265**	P	**Pg**	**02 37 00.5**	**-1.9**
	baz=84,SNR=54						
SCZ2				S	**Sg**	**02 37 13.3**	**-1.4**
	baz=84						
SCZ2	**Santa Cruz Isl**	**0.94**	**265**		**Pg**	**02 37 00.4**	**-1.9**
ABL	**Mount Abel**	**0.97**	**322**		**Pg**	**02 37 01.4**	**-1.4**
CSP	**Cedar Springs**	**0.97**	**77**		**Pg**	**02 37 01.4**	**-1.4**
SME	**Santa Rosa Min**	**0.99**	**105**		**Pg**	**02 37 01.5**	**-1.6**
SBC	**Santa Barbara**	**1.06**	**290**	P	**Pg**	**02 37 03.3**	**-1.3**
	baz=108,SNR=114						
SBC				S	**Sg**	**02 37 18.2**	**-0.2**
	baz=108						
SBC	**Santa Barbara**	**1.06**	**290**		**Pg**	**02 37 03.3**	**-1.3**
ARVC	**Arvin**	**1.07**	**345**	P	**Pg**	**02 37 03.5**	**-1.2**
	baz=165,SNR=230						
ARVC	**Arvin**	**1.07**	**345**		**Pg**	**02 37 03.4**	**-1.4**
HYS	**Haystack Butte**	**1.09**	**45**		**Pg**	**02 37 03.5**	**-1.7**
SCI2	**San Clemente I**	**1.10**	**182**	P	**Pg**	**02 37 03.6**	**-1.8**
	baz=2.4,SNR=52						
SCI2				Sb	**Sb**	**02 37 20.9**	**+1.1**
	baz=2.4						
BCW	**Bitter Crk WRg**	**1.14**	**319**		**Pg**	**02 37 04.5**	**-1.4**
CCAC	**Calif City Air**	**1.14**	**21**		**Pg**	**02 37 04.5**	**-1.5**
TEJ	**El Tejon**	**1.15**	**352**		**Pg**	**02 37 04.7**	**-1.5**
MURC	**Murrieta**	**1.19**	**114**	P	**Pg**	**02 37 05.4**	**-1.6**
	baz=295,SNR=140						
MURC				S	**Sg**	**02 37 21.9**	**-0.6**
	baz=295						
MURC	**Murrieta**	**1.19**	**114**		**Pg**	**02 37 05.0**	**-2.0**
SNCC	**San Nicolas Is**	**1.20**	**226**	P	**Pg**	**02 37 05.5**	**-1.5**
	baz=45,SNR=32						
SNCC				S	**Sg**	**02 37 21.7**	**-0.9**
	baz=45						
SNCC	**San Nicolas Is**	**1.20**	**226**		**Pg**	**02 37 05.8**	**-1.3**
BBSC	**Beaumont Base**	**1.27**	**97**		**Pg**	**02 37 07.5**	**-1.1**
DTP	**Desert Tortois**	**1.30**	**25**		**Pg**	**02 37 07.1**	**-1.9**
SYP	**Santa Ynez Pea**	**1.30**	**290**		**Pg**	**02 37 06.7**	**-2.4**
HMTC	**Hemet**	**1.30**	**106**		**Pg**	**02 37 06.6**	**-2.5**
DGR	**Domenigoni Val**	**1.32**	**109**		**Pn**	**02 37 06.7**	**-1.9**
BBRC	**Big Bear Solar**	**1.32**	**82**	P	**Pg**	**02 37 08.1**	**-1.4**
	baz=263,SNR=21						
BBRC				S	**Sb**	**02 37 26.7**	**+0.3**
	baz=263						
PKM	**Mcpherson Peak**	**1.35**	**307**	P	**Pn**	**02 37 07.9**	**-1.3**
	baz=126,SNR=442						
PKM				S	**Sg**	**02 37 26.4**	**-1.1**
	baz=126						
PKM	**Mcpherson Peak**	**1.35**	**307**		**Pn**	**02 37 07.9**	**-1.3**
BAKC	**Calstate**	**1.35**	**339**		**Pn**	**02 37 08.3**	**-0.7**
POB	**Polly Butte**	**1.37**	**106**		**Pn**	**02 37 07.7**	**-1.8**
FIGC	**Figueroa Mtn.**	**1.39**	**298**		**Pn**	**02 37 08.3**	**-1.3**
SIL	**Silver Peak**	**1.41**	**79**		**Pn**	**02 37 09.9**	**-0.2**
RRX	**Edison Barstow**	**1.47**	**57**	P	**Pn**	**02 37 10.2**	**-0.6**
	baz=238,SNR=13						
RRX				S	**Sg**	**02 37 30.8**	**-0.7**
	baz=238						
RRX	**Edison Barstow**	**1.47**	**57**		**Pn**	**02 37 10.9**	**+0.1**
BSM	**San Miguel Isl**	**1.54**	**269**		**Pn**	**02 37 10.0**	**-1.6**
LRMC	**Laurel Mtn Rad**	**1.54**	**26**	P	**Pn**	**02 37 11.1**	**-0.8**
	baz=206,SNR=41						
LRMC				S	**Sn**	**02 37 32.0**	**-0.1**
	baz=206						
ISA	**Isabella, Lake**	**1.57**	**1**	P	**Pn**	**02 37 11.6**	**-0.6**
	baz=180,SNR=119						
ISA				S	**Sn**	**02 37 31.9**	**-0.8**
	baz=180						
ISA	**Isabella, Lake**	**1.57**	**1**	Pn	**Pn**	**02 37 11.7**	**-0.6**
109C	**Camp Elliot, M**	**1.67**	**135**	P	**Pn**	**02 37 11.8**	**-1.7**
	baz=317,SNR=68						
SMMC	**Simmler**	**1.73**	**315**	P	**Pn**	**02 37 13.8**	**-0.7**
	baz=134,SNR=106						
SMMC				S	**Sn**	**02 37 37.2**	**+0.5**
	baz=134						
PFO	**Pinyon Flats O**	**1.77**	**105**	P	**Pn**	**02 37 14.1**	**-0.8**
	baz=287,SNR=58						
PFO				S	**Sn**	**02 37 37.7**	**+0.2**
	baz=287						
PFO	**Pinyon Flats O**	**1.77**	**105**	Pg	**Pn**	**02 37 14.8**	**-0.1**
	6.0nm,0.3s,baz=282,slow=17,SNR=72						
PFO				Lg	Lg	02 37 37.2	
	38nm,0.3s,baz=266,slow=19,SNR=10						
PFO	**Pinyon Flats O**	**1.77**	**105**		**Pn**	**02 37 14.6**	**-0.3**
XPFO	**Pion Flat**	**1.77**	**105**		**Pn**	**02 37 14.6**	**-0.3**
VES	**Vestal, Richgr**	**1.81**	**345**	P	**Pn**	**02 37 14.6**	**-0.9**
	baz=164,SNR=137						
VES				S	**Sn**	**02 37 38.6**	**+0.1**
	baz=164						
GSC	**Goldstone, Bar**	**1.85**	**49**	P	**Pn**	**02 37 15.3**	**-0.8**
	baz=229,SNR=244						
GSC				Sb	**Sg**	**02 37 42.8**	**-0.8**
	baz=229						
SDRC	**San Diego Road**	**1.88**	**136**		**Pn**	**02 37 15.2**	**-1.1**
CLC	**China Lake**	**1.88**	**23**		**Pn**	**02 37 16.3**	**-0.1**
HEC	**Hector,Ludlow**	**1.94**	**67**	P	**Pn**	**02 37 16.5**	**-0.8**
	baz=248,SNR=376						
HEC				Sb	**Sg**	**02 37 45.3**	**-1.1**
	baz=248						
BAR	**Barrett**	**2.08**	**132**		**Pn**	**02 37 17.8**	**-1.3**
BELC	**Belle Mtn. Jos**	**2.08**	**92**	P	**Pn**	**02 37 18.4**	**-0.8**
	baz=273,SNR=131						
BELC				Sb	**Sb**	**02 37 49.1**	**+1.1**
	baz=273						
MONP2	**Monument Peak**	**2.11**	**124**	P	**Pn**	**02 37 18.7**	**-0.9**
	baz=306,SNR=25						
MONP2				S	**Sn**	**02 37 46.2**	**+0.1**
	baz=306						
MPMC	**Manual Prospec**	**2.13**	**23**	P	**Pn**	**02 37 19.2**	**-0.9**
	baz=203,SNR=244						
MPMC				Sb	**Sg**	**02 37 52.1**	**-0.7**
	baz=203						
PAGB	**Antelope Grade**	**2.18**	**319**		**Pn**	**02 37 20.2**	**-0.3**
VOG	**Valley Oaks Go**	**2.34**	**342**	P	**Pn**	**02 37 21.8**	**-0.9**
	baz=162						
VOG				Sb	**Sb**	**02 37 56.3**	**+0.8**
	baz=162						
GMRC	**Granite Mounta**	**2.45**	**73**	P	**Pn**	**02 37 23.6**	**-0.8**
	baz=254,SNR=69						
GMRC				S	**Sn**	**02 37 55.0**	**+0.6**
	baz=254						
IKP	**In-Ko-Pah, Jac**	**2.46**	**125**	P	**Pn**	**02 37 23.9**	**-0.5**
	baz=307,SNR=20						
TUQ	**Turquoise Moun**	**2.51**	**57**	P	**Pn**	**02 37 25.0**	**-0.2**
	baz=238,SNR=57						
TUQ				Sb	**Sb**	**02 38 02.4**	**+1.9**
	baz=238						
SWSC	**Sam W. Stewart**	**2.53**	**116**	Pb	**Pb**	**02 37 28.9**	**-0.7**
	baz=298,SNR=41						
SHOC	**Shoshone, Teco**	**2.57**	**45**	P	**Pn**	**02 37 25.4**	**-0.5**
	baz=226,SNR=62						
BC3	**Big Chuckawall**	**2.57**	**99**	Pb	**Pb**	**02 37 29.9**	**-0.6**
	baz=281,SNR=22						
FURC	**Furnace Creek,**	**2.73**	**29**	Pb	**Pb**	**02 37 33.7**	**+0.8**
	baz=210,SNR=62						
IRM	**Iron Mountain**	**2.79**	**88**	P	**Pn**	**02 37 28.8**	**-0.1**
	baz=270,SNR=42						
PMPB	**Monarch Peak**	**2.84**	**319**	Pn	**Pn**	**02 37 28.6**	**-1.1**
TIN	**Tinemaha, Big**	**2.97**	**4**	Pg	**Pg**	**02 37 39.6**	**-1.5**
	baz=184,SNR=23						

GRAC	**Grapevine Rang**	**3.05**	**17**	P	**Pn**	**02 37 33.1**	**+0.6**
	baz=198,SNR=10						
GLA	**Glamis**	**3.24**	**108**	Pn	**Pn**	**02 37 35.2**	**+0.1**
NEE2	**Needles Airpor**	**3.28**	**77**	P	**Pn**	**02 37 35.3**	**-0.3**
	baz=259						
Y12C	**Blythe**	**3.33**	**95**	Pb	**Pb**	**02 37 43.5**	**+0.3**
	baz=277,SNR=17						
Y12C	**Blythe**	**3.33**	**95**	Pn	**Pn**	**02 37 37.4**	**+1.1**
TPNV	**Topopah Spring**	**3.40**	**32**	P	**Pn**	**02 37 37.6**	**+0.3**
	baz=213,SNR=54						
TPNV	**Topopah Spring**	**3.40**	**32**	Pn	**Pn**	**02 37 37.5**	**+0.2**
OMMB	**Old Mammoth Mi**	**3.54**	**354**	Pn	**Pn**	**02 37 41.1**	**+1.6**
MLAC	**Mammoth, Mammo**	**3.55**	**356**	Pg	**Pg**	**02 37 50.9**	**-1.2**
	baz=175						
MLAC				Sb	**Sb**	**02 38 32.5**	**+2.2**
	baz=175						
MDPB	**Devils Postpil**	**3.57**	**353**	Pn	**Pn**	**02 37 40.3**	**+0.5**
SAO	**San Andreas Ge**	**3.59**	**319**	Pn	**Pn**	**02 37 38.8**	**-1.1**
SHPR	**Sheep Range**	**3.65**	**48**	Pn	**Pn**	**02 37 41.8**	**+1.0**
CMB	**Columbia Colle**	**4.22**	**339**	Pn	**Pn**	**02 37 48.3**	**-0.3**
NVAR	**Mina Array Bea**	**4.34**	**2**	Pn	**Pn**	**02 37 52.3**	**+2.0**
	0.2nm,0.3s,baz=186,slow=15,SNR=3.5						
NVAR				Lg	Lg	02 39 00.6	
	2.5nm,0.3s,baz=191,slow=13,SNR=3.5						
NVAR				LR	LR	02 39 49.9	
	comp=Z,594nm,21.1s,baz=172,slow=43						
NV11	**Mina Array Sit**	**4.34**	**4**	Pn	**Pn**	**02 37 52.6**	**+2.2**
NV11					**Pg**	**02 38 05.2**	**-2.1**
WAKR	**Walker**	**4.47**	**351**	Pn	**Pn**	**02 37 54.2**	**+2.0**
RYN	**Ryan**	**4.53**	**360**	Pn	**Pn**	**02 37 53.2**	**+0.2**
Y14A	**Wickenburg**	**4.57**	**90**		**Pn**	**02 37 53.6**	**+0.2**
R11A	**Troy Canyon, C**	**4.86**	**28**	Pn	**Pn**	**02 37 57.3**	**-0.2**
YERR	**Yerington**	**4.92**	**353**	Pn	**Pn**	**02 37 59.9**	**+1.5**
KVN	**Kaiserville**	**4.96**	**4**	Pn	**Pn**	**02 38 01.0**	**+2.0**
PNTR	**Pine Nut**	**5.07**	**350**	Pn	**Pn**	**02 38 01.7**	**+1.3**
RUBR	**Rubicon Trail**	**5.13**	**345**	Pn	**Pn**	**02 38 01.5**	**+0.3**
LCMT	**Little Creek M**	**5.18**	**54**	Pn	**Pn**	**02 38 03.3**	**+1.3**
AFDM	**Forest Hills D**	**5.24**	**338**		**Pn**	**02 38 03.7**	**+1.0**
VCNR	**Virginia City**	**5.28**	**350**	Pn	**Pn**	**02 38 04.3**	**+1.0**
VCNR				Pg	**Pg**	**02 38 21.3**	**-3.9**
MCCM	**Marconi Confer**	**5.38**	**320**	Pn	**Pn**	**02 38 03.3**	**-1.1**
CCUT	**Cedar City**	**5.42**	**49**	Pn	**Pn**	**02 38 06.3**	**+1.1**
KNB	**Kanab**	**5.47**	**56**	Pn	**Pn**	**02 38 07.7**	**+1.7**
SZCU	**Shurtz Canyon**	**5.62**	**50**	Pn	**Pn**	**02 38 10.1**	**+2.1**
PSUT	**Pine Spring**	**5.81**	**39**	Pn	**Pn**	**02 38 10.6**	**0.0**
X16A	**Lo Mia Camp, P**	**5.86**	**85**	Pn	**Pn**	**02 38 12.5**	**+1.3**
BEKR	**Beckworth**	**5.96**	**346**	Pn	**Pn**	**02 38 14.1**	**+1.5**
PKCU	**Pink Cliffs**	**6.04**	**55**	Pn	**Pn**	**02 38 16.6**	**+2.7**
MTPU	**Mount Pierson**	**6.46**	**51**	Pn	**Pn**	**02 38 21.3**	**+1.7**
X18A	**Snowflake**	**7.09**	**84**	Pn	**Pn**	**02 38 30.0**	**+1.8**
ELK	**Elko**	**7.13**	**20**	Pn	**Pn**	**02 38 29.2**	**+0.4**
	0.1nm,0.3s,baz=210,slow=13,SNR=2.0						
ELK				Lg	Lg	02 40 26.5	
	0.3nm,0.3s,baz=93,slow=20,SNR=2.7						
KMRM	**Mail Ridge**	**7.40**	**327**	Pn	**Pn**	**02 38 33.5**	**+1.2**
ANMO	**Albuquerque**	**9.98**	**82**	Pg	Pn	02 39 42.7	+35
	0.1nm,0.3s,baz=267,slow=16,SNR=1.8						
ANMO				Lg	Lg	02 41 51.0	
	0.1nm,0.3s,baz=59,slow=23,SNR=1.2						
PDAR	**Pinedale Array**	**11.14**	**36**	Pn	**Pn**	**02 39 25.4**	**+1.7**
	0.1nm,0.3s,baz=226,slow=14,SNR=2.1						
PDAR				Lg	Lg	02 42 32.4	
	0.1nm,0.3s,baz=217,slow=18,SNR=1.0						
PDAR				LR	LR	02 43 29.9	
	comp=Z,113nm,18.2s,baz=244,slow=37						
LPIG	**La Paz**	**12.25**	**142**	LR	LR	02 44 00.1	
	comp=Z,225nm,21.5s,baz=4.0,slow=36						
TXAR	**Lajitas Array**	**13.49**	**107**	Pn	**Pn**	**02 39 56.6**	**+0.9**
	0.0nm,0.3s,baz=286,slow=13,SNR=1.6						
TXAR				LR	LR	02 45 23.6	
	comp=Z,249nm,19.6s,baz=0.0,slow=39						
NEW	**Newport**	**14.20**	**4**	LR	LR	02 45 33.7	
	comp=Z,132nm,19.3s,baz=181,slow=37						
BBB	**Bella Bella**	**19.37**	**342**	LR	LR	02 49 12.9	
	comp=Z,75nm,19.2s,baz=178,slow=39						
ULM	**Lac du Bonnet**	**23.14**	**39**	LR	LR	02 51 04.4	
	comp=Z,92nm,18.1s,baz=39,slow=37						
DLBC	**Dease Lake**	**25.55**	**346**	LR	LR	02 52 35.2	
	comp=Z,152nm,18.5s,baz=100,slow=37						
TKL	**Tuckaleechee C**	**28.45**	**77**	LR	LR	02 54 56.5	
	comp=Z,38nm,18.5s,baz=285,slow=38						
YKA	**Yellowknife Ar**	**28.53**	**4**	LR	LR	02 54 19.9	
	comp=Z,81nm,20.4s,baz=0.0,slow=37						
ILAR	**Eielson Array**	**35.22**	**339**	P	**P**	**02 43 38.2**	**-0.1**
	0.3nm,0.6s,baz=150,slow=9.3,SNR=3.0						
HHC	**Hu-ho-hao-te**	**92.33**	**324**	*e*P	**P**	**02 49 55.9**	**+0.9**
HHC				pmax	pmax		
	comp=Z,13nm,1.2s						
HHC				pmax	pmax		
	comp=Z,24nm,5.7s						
WMQ	**Urumqi**	**98.86**	**341**	*e*P	Pdif	02 50 26.7	+2.1

*PRE **02** 02:51:35.2±1.0, 21°.15S×33°.21E, h5km, ML2.8*

ISC 02 02:51:42.4±2.0**, 21°.06S**±0°.07×**32°.5E**±0°.1**, h10**km**, n14, σ2°.71**/24**, Mozambique**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSNA	**Messina**	**2.60**	**240**	*e*P	**Pb**	**02 52 27.7**	**-1.4**
MSNA				*e*S	**Sg**	**02 53 05.1**	**-0.8**
MSNA				AML	AML	02 53 22.2	
	comp=Z,75nm,0.4s						
MOPA	**Mopani**	**2.63**	**202**	*e*P	**Pn**	**02 52 22.5**	**-2.6**
MOPA				*e*S	**Sn**	**02 52 56.5**	**-0.6**
MOPA				AML	AML	02 53 12.7	
	comp=Z,42nm,0.5s						
MATP	**Matopo**	**3.75**	**279**	*i* P	**Pb**	**02 52 44.9**	**-4.0**
MATP				*i* S	**Sn**	**02 53 24.9**	**0.0**
MATP	**Matopo**	**3.75**	**279**	*i* P	**Pb**	**02 52 44.9**	**-4.0**
MATP				*i* S	**Sn**	**02 53 24.9**	**0.0**
MATP	**Matopo**	**3.75**	**279**	*i* P	**Pb**	**02 52 44.9**	**-4.0**
MATP				*i* S	**Sn**	**02 53 24.9**	**0.0**
LSZ	**Lusaka**	**7.03**	**324**	*e*P	**Pn**	**02 53 26.4**	**+0.8**
LSZ				AML	AML	02 54 57.2	
	comp=Z,29nm,0.6s						
LSZ	**Lusaka**	**7.03**	**324**	*i* P	**Pn**	**02 53 27.5**	**+1.8**
LSZ	**Lusaka**	**7.03**	**324**	*i* P	**Pn**	**02 53 27.5**	**+1.8**
LSZ	**Lusaka**	**7.03**	**324**	*i* P	**Pn**	**02 53 27.5**	**+1.8**
LBTB	**Lobatse**	**7.44**	**237**	*e*P	**Pn**	**02 53 34.2**	**+3.0**
LBTB				*e*S	**Sn**	**02 54 59.2**	**+3.5**
LBTB				AML	AML	02 55 01.5	
	comp=Z,3.6nm,0.6s						
LBTB	**Lobatse**	**7.44**	**237**	*i* P	**Pn**	**02 53 35.8**	**+4.6**
LBTB				*i* S	**Sn**	**02 54 56.2**	**+0.5**
LBTB	**Lobatse**	**7.44**	**237**	*i* P	**Pn**	**02 53 35.8**	**+4.6**
LBTB				*i* S	**Sn**	**02 54 56.2**	**+0.5**
LBTB	**Lobatse**	**7.44**	**237**	*i* P	**Pn**	**02 53 35.8**	**+4.6**
LBTB				*i* S	**Sn**	**02 54 56.2**	**+0.5**
PRYS	**Parys**	**7.47**	**218**	*e*P	**Pn**	**02 53 31.2**	**-0.4**
PRYS				*e*S	**Sn**	**02 54 55.9**	**-0.6**
PRYS				AML	AML	02 55 13.7	
	comp=Z,3.1nm,0.7s						

*TAP **02** 03:17:07.0, 25°.17N×122°.94E, h177km±1km, ML2.7, D*
*JMA **02** 03:17:08.4±0.2, 25°.16N×122°.95E, h164km*

ISC 02 03:17:07.3±2.3**, 25°.1N**±0°.1×**122°.92E**±0°.04**, h175**km±15km**, n29, σ0°.61**/49**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.63**	**172**	P	**Pn**	**03 17 32.3**	**+0.2**
	baz=174						
YOJ				*e*S	**Sn**	**03 17 51.2**	**0.0**
	baz=174						
YOJ	**Yonaguni jima**	**0.63**	**172**	P	**Pn**	**03 17 32.6**	**+0.5**
JYNG	**Yonagunijimaku**	**0.63**	**178**	P	**Pn**	**03 17 32.8**	**+0.7**
TWB1	**Santiao Chiao**	**0.85**	**265**	*e*P	**Pn**	**03 17 33.4**	**0.0**
	baz=259						
TIPB	**Shuangxi**	**1.00**	**264**	P	**Pn**	**03 17 35.0**	**+0.5**
	baz=259						
TIPB				*e*S	**Sn**	**03 17 54.7**	**-0.7**
	baz=259						
IRIF	**Iriomote-Funau**	**1.05**	**135**	P	**Pn**	**03 17 35.2**	**+0.3**
ENA	**Nanau**	**1.25**	**239**	*e*P	**Pn**	**03 17 36.3**	**-0.3**
	baz=235						
ENA				*e*S	**Sn**	**03 17 58.7**	**-0.4**
	baz=235						
JKRS	**Kuro-shima**	**1.30**	**130**	P	**Pn**	**03 17 37.8**	**+0.8**
JKRS				S	**Sn**	**03 18 00.3**	**+0.5**
JIJ	**Ishigaki jima**	**1.33**	**123**	P	**Pn**	**03 17 37.4**	**+0.2**
JIJ				S	**Sn**	**03 17 59.4**	**-0.8**
JISG	**Ishigakijimahi**	**1.36**	**111**	P	**Pn**	**03 17 38.1**	**+0.6**
JISG				*e*S	**Sn**	**03 18 00.3**	**-0.4**
NDT	**Datong Townshi**	**1.36**	**250**	*e*P	**Pn**	**03 17 38.0**	**+0.4**
	baz=246						
NDT				*e*S	**Sn**	**03 18 00.9**	**0.0**
	baz=246						
YHNB	**Yeheng**	**1.46**	**254**	*e*P	**Pn**	**03 17 38.7**	**+0.2**
	baz=250						
YHNB				*e*S	**Sn**	**03 18 02.0**	**-0.6**
	baz=250						
NACB	**Ninganchiao**	**1.51**	**233**	*e*P	**Pn**	**03 17 38.4**	**-0.6**
	baz=231						
NACB				*e*S	**Sn**	**03 18 02.9**	**-0.4**
	baz=231						
NNSB	**Datong**	**1.54**	**245**	P	**Pn**	**03 17 40.1**	**+0.7**
	baz=242						
NNSB				*e*S	**Sn**	**03 18 03.6**	**-0.4**
	baz=242						
NNSH	**Datong**	**1.54**	**245**	*e*P	**Pn**	**03 17 40.0**	**+0.6**
	baz=242						
NNSH				*e*S	**Sn**	**03 18 03.9**	**-0.1**
	baz=242						
TWD	**Chiawan**	**1.56**	**231**	*e*P	**Pn**	**03 17 38.5**	**-1.0**
	baz=228						
TWD				*e*S	**Sn**	**03 18 02.9**	**-1.4**
	baz=228						
ETLH	**Xiulin Townshi**	**1.57**	**237**	*e*P	**Pn**	**03 17 39.5**	**-0.1**
	baz=234						
ETLH				*e*S	**Sn**	**03 18 04.4**	**-0.2**
	baz=234						
JTJ	**Tarama**	**1.68**	**105**	P	**Pn**	**03 17 41.6**	**+1.0**
JTJ				S	**Sn**	**03 18 06.6**	**+0.3**
WHF	**Hehuan Shan**	**1.77**	**238**	*e*P	**Pn**	**03 17 43.1**	**+1.1**
	baz=236						
WHF				*e*S	**Sn**	**03 18 08.5**	**-0.3**
	baz=236						
CHGB	**Renai**	**1.89**	**238**	P	**Pn**	**03 17 43.0**	**-0.1**
	baz=235						
CHGB				*e*S	**Sn**	**03 18 10.7**	**+0.1**
	baz=235						
WHP	**Taichung City**	**1.97**	**246**	*e*P	**Pn**	**03 17 43.9**	**+0.1**
	baz=243						
NMLH	**Miaoli**	**2.01**	**255**	*e*P	**Pn**	**03 17 45.1**	**+1.0**
	baz=252						
JIRB	**Irabujima**	**2.06**	**97**	P	**Pn**	**03 17 44.3**	**-0.4**
JIRB				*e*S	**Sn**	**03 18 12.6**	**-1.0**
HGSD	**Ruisui**	**2.09**	**221**	*e*P	**Pn**	**03 17 45.9**	**+0.8**
	baz=219						
HGSD				*e*S	**Sn**	**03 18 14.7**	**+0.5**
	baz=219						
VWDT	**VWDT**	**2.09**	**231**	*e*P	**Pn**	**03 17 44.6**	**-0.4**
	baz=229						
VWDT				*e*S	**Sn**	**03 18 14.1**	**-0.1**
	baz=229						
JIKM	**Ikemajima**	**2.12**	**94**	P	**Pn**	**03 17 45.7**	**+0.4**
JMJ	**Miyako jima 2**	**2.17**	**97**	*e*P	**Pn**	**03 17 45.8**	**-0.1**
	baz=99						
JMJ				*e*S	**Sn**	**03 18 14.9**	**-0.9**
	baz=99						
SSLB	**Suanglung**	**2.21**	**235**	*e*P	**Pn**	**03 17 47.3**	**+0.9**
	baz=232						
YULB	**Yu-li**	**2.24**	**222**	*e*P	**Pn**	**03 17 46.1**	**-0.7**
	baz=220						

IDC 02 03:24:42.3±2.7**, 21°.14S**×**179°.73E, h0**km**, mb4.0**/4**, mb1 4.4**/4**, mb1mx3.9**/21**, mbtmp4.0**/4**, Error ellipse: s-maj=247.9km s-min=27.2km az=160.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.31**	**258**	P	P	03 32 37.1	-1.0
	1.7nm,0.8s,baz=96,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**42.41**	**263**	P	P	03 32 39.7	+0.7
	1.1nm,0.3s,baz=96,slow=8.2,SNR=14						
TXAR	**Lajitas Array**	**89.19**	**58**	P	P	03 37 39.9	-0.5
	0.5nm,0.7s,baz=216,slow=6.5,SNR=9.0						
PDAR	**Pinedale Array**	**90.89**	**44**	P	P	03 37 48.9	+0.7
	0.3nm,0.4s,baz=215,slow=5.5,SNR=2.0						

*UCR **02** 03:46:09.9±2.3, 12°.76N×91°.33W, h0km±54km, ML4.0, mb4.5(NEIC)*
*SNET **02** 03:46:09.5±0.8, 14°.35N×90°.48W, h254km±6km, ML4.4*
*GCG **02** 03:46:12.4±0.3, 14°.09N×90°.01W, h246km±76km, MD4.2*
*NEIC **02** 03:46:17.3±2.1, 14°.2N±0°.1×90°.12W±0°.08, h215km±6km, mb4.5/86, Error ellipse: s-maj=18.3km s-min=7.1km az=209.0*
*IDC **02** 03:46:19.6±1.9, 14°.41N×89°.80W, h229km±19km, mb3.5/11, mb1 3.7/15, mb1mx3.5/36, mbtmp4.1/15, Error ellipse: s-maj=25.1km s-min=10.0km az=55.0*

ISC 02 03:46:16.3±0.7**, 14°.27N**±0°.08×**90°.19W**±0°.06**, h200**km**, n135, σ2°.19**/131**, mb4.4**/37**, 19C-2D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.26**	**249**	⇓*i*P	**Pn**	**03 46 45.6**	**+2.6**
NBG	**Las Nubes**	**0.35**	**334**	⇑*e*P	**Pn**	**03 46 46.4**	**+3.1**
PCG	**Pacaya**	**0.43**	**287**	*e*P	**Pn**	**03 46 46.6**	**+3.1**
RTR	**El Retiro**	**0.64**	**125**	⇑*i*P	**Pn**	**03 46 46.0**	**+1.7**
RTR	**El Retiro**	**0.64**	**125**	⇑*i*P	**Pn**	**03 46 46.0**	**+1.7**
FUG	**Fuego 3**	**0.66**	**286**	⇑*e*P	**Pn**	**03 46 47.3**	**+3.0**
UNIC	**Universidad Ca**	**0.68**	**115**	⇑*i*P	**Pn**	**03 46 45.6**	**+1.3**
UNIC				*e*S	**Sn**	**03 47 14.2**	**+8.3**
UNIC	**Universidad Ca**	**0.68**	**115**	⇑*i*P	**Pn**	**03 46 45.6**	**+1.3**
UNIC				*e*S	**Sn**	**03 47 14.2**	**+8.3**
SBLS	**San Blas**	**0.69**	**128**	⇑*i*P	**Pn**	**03 46 46.1**	**+1.6**
SBLS	**San Blas**	**0.69**	**128**	⇑*i*P	**Pn**	**03 46 46.1**	**+1.6**
CEVE	**Cerro Verde**	**0.70**	**129**	⇑*i*P	**Pn**	**03 46 46.1**	**+1.5**
CEVE				IAML		03 46 46.7	
	comp=Z,2μm,0.3s						
CEVE				*e*S	**Sn**	**03 47 14.2**	**+7.8**
CEVE	**Cerro Verde**	**0.70**	**129**	⇑*i*P	**Pn**	**03 46 46.1**	**+1.5**
CEVE				IAML		03 46 46.7	
	comp=Z,2μm,0.3s						
CEVE				*e*S	**Sn**	**03 47 14.2**	**+7.8**
MTO3	**Montecristo**	**0.81**	**81**		**Pn**	**03 46 46.5**	**+1.4**
MTO3				S	**Sn**	**03 47 08.7**	**+1.3**
MTO3	**Montecristo**	**0.81**	**81**	⇑*i*P	**Pn**	**03 46 46.4**	**+1.2**
MRL	**Marmol**	**0.94**	**31**	⇓*e*P	**Pn**	**03 46 48.4**	**+2.5**
BOQS	**Boqueron**	**1.03**	**121**	*e*P	**Pn**	**03 46 47.8**	**+1.3**
BOQS	**Boqueron**	**1.03**	**121**	*e*P	**Pn**	**03 46 47.8**	**+1.3**
UEES	**Universidad Ev**	**1.07**	**121**	⇑*i*P	**Pn**	**03 46 48.0**	**+1.3**
UEES	**Universidad Ev**	**1.07**	**121**	⇑*i*P	**Pn**	**03 46 48.0**	**+1.3**
SNET	**Serv Nac Est T**	**1.09**	**122**	*e*P	**Pn**	**03 46 48.0**	**+1.2**
SNET				IAML		03 47 20.1	
	comp=Z,616nm,0.2s						
SNET	**Serv Nac Est T**	**1.09**	**122**		**Pn**	**03 46 48.5**	**+1.7**
SNET				S	**Sn**	**03 47 12.7**	**+2.2**
SNET	**Serv Nac Est T**	**1.09**	**122**	*e*P	**Pn**	**03 46 48.0**	**+1.2**
SNET				IAML		03 47 20.1	
	comp=Z,616nm,0.2s						
LALI	**Alcalda de L**	**1.14**	**133**	⇑*i*P	**Pn**	**03 46 48.2**	**+1.2**
LALI	**Alcalda de L**	**1.14**	**133**	⇑*i*P	**Pn**	**03 46 48.2**	**+1.2**
AEIL	**Aeropuerto Ilo**	**1.18**	**118**	*i* P	**Pn**	**03 46 49.1**	**+1.6**
AEIL				IAML		03 46 49.9	
	comp=Z,2μm,0.4s						
AEIL	**Aeropuerto Ilo**	**1.18**	**118**	*i* P	**Pn**	**03 46 49.1**	**+1.6**
AEIL				IAML		03 46 49.9	
	comp=Z,2μm,0.4s						
LBRS	**Las Brisas**	**1.23**	**115**	⇑*i*P	**Pn**	**03 46 49.3**	**+1.5**
LBRS	**Las Brisas**	**1.23**	**115**	⇑*i*P	**Pn**	**03 46 49.3**	**+1.5**
LFRS	**El Faro**	**1.27**	**120**	⇑*i*P	**Pn**	**03 46 49.5**	**+1.3**
LFRS	**El Faro**	**1.27**	**120**	⇑*i*P	**Pn**	**03 46 49.5**	**+1.3**
LCND	**La Caada**	**2.43**	**113**	*i* P	**Pn**	**03 47 00.4**	**+1.0**
CCIG	**Comitan**	**2.75**	**317**		**Pn**	**03 47 05.9**	**+2.7**
TGUH	**Tegucigalpa,Un**	**2.83**	**94**	Pn	**Pn**	**03 47 05.1**	**+1.0**
CRIN	**San Cristobal**	**3.43**	**117**	Pn	**Pn**	**03 47 14.5**	**+3.3**
CRIN				S	**Sn**	**03 47 54.9**	**+0.9**
MATN	**Matagalpa**	**4.35**	**107**		**Pn**	**03 47 22.8**	**+0.1**
CMIG	**Matias Romero**	**5.32**	**302**	P	**Pn**	**03 47 36.0**	**+1.2**
	comp=Z,3.4nm,0.3s,baz=143,slow=9.3,SNR=88						
CMIG				S	**Sn**	**03 48 31.0**	**-5.9**
	comp=Z,3.5nm,0.3s,baz=128,slow=15,SNR=9.3						
ACON	**Acoyapa**	**5.39**	**114**		**Pn**	**03 47 36.9**	**+1.1**
GBS3	**Finca Las Img**	**5.78**	**126**	*e*P	**Pn**	**03 47 42.1**	**+1.3**
GB1A	**Borinquen Arri**	**5.80**	**126**	*e*P	**Pn**	**03 47 42.5**	**+1.4**
LAPC	**Finca la Perla**	**5.80**	**126**	*e*P	**Pn**	**03 47 42.3**	**+1.2**
BUEV	**Buena Vista**	**5.80**	**126**	*e*P	**Pn**	**03 47 42.8**	**+1.6**
BUAI	**Buenos Aires**	**5.81**	**125**	*e*P	**Pn**	**03 47 42.2**	**+0.9**
GPS1	**Guardaparques**	**5.86**	**126**	*e*P	**Pn**	**03 47 43.6**	**+1.7**
GPS3	**Bodega del ICE**	**5.86**	**126**	*e*P	**Pn**	**03 47 43.5**	**+1.6**
GPS2	**Hotel Rincn d**	**5.87**	**126**	*e*P	**Pn**	**03 47 43.4**	**+1.3**
LIM1	**Limonal**	**5.98**	**126**	*e*P	**Pn**	**03 47 45.2**	**+1.7**
GUAB	**Guayabo de Bag**	**6.00**	**126**	*e*P	**Pn**	**03 47 44.8**	**+1.2**
HORNC	**Hornillas**	**6.03**	**125**	*e*P	**Pn**	**03 47 45.2**	**+1.1**
COLC	**Colonia**	**6.04**	**126**	*e*P	**Pn**	**03 47 45.2**	**+1.0**
CUI	**Cuipilapa**	**6.08**	**126**	*e*P	**Pn**	**03 47 46.1**	**+1.5**
ACAL	**Aguas Claras**	**6.19**	**125**	*e*P	**Pn**	**03 47 47.6**	**+1.4**
TEIG	**Tepich**	**6.20**	**17**	P	**Pn**	**03 47 45.4**	**-0.7**
	comp=Z,2.4nm,0.3s,baz=139,slow=1.7,SNR=14						
JTS	**Las Juntas de**	**6.46**	**127**	P	**Pn**	**03 47 50.8**	**+1.1**
	comp=Z,21nm,0.3s,baz=28,slow=12,SNR=130						
JTS				S	**Sn**	**03 48 58.3**	**-5.3**
	comp=Z,5.0nm,0.3s,baz=36,slow=23,SNR=1.8						
JTS	**Las Juntas de**	**6.46**	**127**	*e*P	**Pn**	**03 47 50.8**	**+1.1**
JTS	**Las Juntas de**	**6.46**	**127**	Pn	**Pn**	**03 47 50.9**	**+1.1**
JTS					**Sn**	**03 49 01.7**	**-1.9**
ARE1	**Arenal 1**	**6.55**	**125**	*e*P	**Pn**	**03 47 52.2**	**+1.5**
CASO	**Castillo**	**6.55**	**125**	*e*P	**Pn**	**03 47 52.5**	**+1.7**
SRA1	**San Ramn**	**6.96**	**126**	*e*P	**Pn**	**03 47 58.0**	**+1.8**
LCR2	**La Lucha 2**	**7.54**	**126**	*e*P	**Pn**	**03 48 05.3**	**+1.6**
CVTR	**Volcan Turrial**	**7.57**	**123**	*e*P	**Pn**	**03 48 05.7**	**+1.3**
MTDJ	**Mount Denham**	**12.77**	**70**		**Pn**	**03 49 12.9**	**+1.8**
553A	**Crawfordville**	**16.71**	**18**	P	**P**	**03 49 55.7**	**-2.3**
352A	**Blakely**	**17.80**	**15**	P	**P**	**03 50 08.7**	**-1.2**
JCT	**Junction City**	**18.41**	**333**	P	**P**	**03 50 15.6**	**-1.0**
JCT				IAmb	IAmb	03 50 18.9	
	comp=Z,13nm,0.6s						
WHTX	**Lake Whitney,**	**18.86**	**341**	P	**P**	**03 50 23.0**	**+1.6**
LRAL	**Lakeview Retre**	**18.91**	**8**	P	**P**	**03 50 23.1**	**+1.2**
LRAL				IAmb	IAmb	03 50 28.2	
	comp=Z,23nm,1.1s						
Z47A	**Carrollton**	**18.95**	**5**	P	**P**	**03 50 24.7**	**+2.4**
152A	**Waverly Hall**	**18.98**	**14**	P	**P**	**03 50 24.5**	**+1.8**
152A				IAmb	IAmb	03 50 25.1	
	comp=Z,28nm,1.3s						
TXAR	**Lajitas Array**	**19.50**	**322**	P	**Pn**	**03 50 31.4**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=143,slow=11,SNR=40						
TX31	**Lajitas Ar. Si**	**19.50**	**322**	P	**Pn**	**03 50 31.8**	**-0.4**
TX31				IAmb	IAmb	03 50 32.3	
	comp=Z,8.4nm,0.8s						
TX32	**Lajitas Array**	**19.50**	**322**	P	**P**	**03 50 30.6**	**+2.1**
Y45A	**Yeager Farm, C**	**19.52**	**2**	P	**P**	**03 50 31.4**	**+2.9**
Y49A	**Blount Mountai**	**19.80**	**9**	P	**P**	**03 50 32.7**	**+1.1**
Y49A				IAmb	IAmb	03 50 35.8	
	comp=Z,30nm,1.4s						
SDV	**Santo Domingo**	**19.88**	**103**	P	**P**	**03 50 31.2**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=307,slow=10,SNR=3.7						
GOGA	**Godfrey**	**20.01**	**17**	P	**P**	**03 50 34.5**	**+0.7**
OXF	**Oxford**	**20.17**	**2**	P	**P**	**03 50 36.5**	**+1.1**
OXF				IAmb	IAmb	03 50 38.6	
	comp=Z,15nm,0.7s						
ABTX	**Abilene, Hawle**	**20.21**	**336**	P	**P**	**03 50 34.9**	**-1.0**
ABTX				IAmb	IAmb	03 50 39.0	
	comp=Z,8.1nm,0.6s						
X40A	**Basin Creek Fa**	**20.27**	**354**	P	**P**	**03 50 39.9**	**+3.3**
X48A	**Hartselle**	**20.30**	**8**	P	**P**	**03 50 38.2**	**+1.4**
X48A				IAmb	IAmb	03 50 40.1	
	comp=Z,12nm,0.7s						
MIAR	**Mount Ida**	**20.42**	**352**	P	**P**	**03 50 41.1**	**+3.0**
MIAR				IAmb	IAmb	03 50 42.2	
	comp=Z,7.9nm,0.8s						
UALR	**University of**	**20.51**	**355**	P	**P**	**03 50 41.5**	**+2.4**
UALR				IAmb	IAmb	03 50 43.2	
	comp=Z,19nm,0.8s						
FPAL	**Fort Paine**	**20.61**	**11**	P	**P**	**03 50 41.2**	**+1.0**
FPAL				IAmb	IAmb	03 50 41.7	
	comp=Z,12nm,0.8s						
PLAL	**Pickwick Lake**	**20.71**	**5**	P	**P**	**03 50 42.6**	**+1.3**
PLAL				IAmb	IAmb	03 50 43.8	
	comp=Z,8.1nm,0.6s						
X51A	**Calhoun**	**20.78**	**12**	P	**P**	**03 50 42.4**	**+0.5**
X51A				IAmb	IAmb	03 50 53.6	
	comp=Z,23nm,1.4s						
WHAR	**Wooly Hollow**	**21.02**	**355**	P	**P**	**03 50 47.1**	**+2.6**
WHAR				IAmb	IAmb	03 50 47.2	
	comp=Z,10nm,1.0s						
HODGE	**Hodges**	**21.13**	**18**	P	**P**	**03 50 46.3**	**+0.7**
SWET	**Sewanee**	**21.21**	**10**	P	**P**	**03 50 47.3**	**+0.8**
SWET				IAmb	IAmb	03 50 48.5	
	comp=Z,18nm,1.0s						
X34A	**Smith Ranch, M**	**21.39**	**342**	P	**P**	**03 50 49.0**	**+0.7**
X34A				IAmb	IAmb	03 50 50.7	
	comp=Z,7.1nm,0.7s						
V48A	**Smith Brothers**	**21.59**	**7**	IAmb	IAmb	03 50 51.6	
	comp=Z,7.9nm,0.8s						
FCAR	**Ozark Folk Cen**	**21.60**	**356**	P	**P**	**03 50 51.5**	**+1.0**
GNAR	**Gosnell**	**21.61**	**0**	P	**P**	**03 50 47.8**	**-2.8**
CPCT	**Cooper Cave**	**21.70**	**13**	P	**P**	**03 50 52.4**	**+0.9**
CPCT				IAmb	IAmb	03 50 52.8	
	comp=Z,10nm,0.8s						
WVT	**Waverly**	**21.87**	**5**	P	**P**	**03 50 53.8**	**+0.6**
CLTN	**Cedars of Leba**	**22.01**	**8**	P	**P**	**03 50 55.5**	**+1.0**
CLTN				IAmb	IAmb	03 50 56.7	
	comp=Z,16nm,0.9s						
TKL	**Tuckaleechee C**	**22.07**	**14**	P	**P**	**03 50 54.7**	**-0.4**
	comp=Z,3.0nm,0.3s,baz=174,slow=7.8,SNR=15						
TKL	**Tuckaleechee C**	**22.07**	**14**	IAmb	IAmb	03 50 57.3	
	comp=Z,26nm,1.2s						
V51A	**Loudon**	**22.08**	**13**	P	**P**	**03 50 56.4**	**+1.2**
V51A				IAmb	IAmb	03 50 57.2	
	comp=Z,9.6nm,0.8s						
V52A	**Sevierville**	**22.28**	**14**	IAmb	IAmb	03 50 59.4	
	comp=Z,10nm,0.9s						
X58A	**Rowland**	**22.45**	**24**	P	**P**	**03 50 58.4**	**-0.3**
X58A				IAmb	IAmb	03 51 00.6	
	comp=Z,8.3nm,0.6s						
W57A	**Gilead**	**22.73**	**22**	P	**P**	**03 51 01.0**	**-0.2**
W57A				IAmb	IAmb	03 51 10.6	
	comp=Z,9.5nm,1.1s						
V55A	**Taylorsville**	**22.95**	**19**	P	**P**	**03 51 03.7**	**+0.5**
TZTN	**Tazewell**	**22.97**	**14**	P	**P**	**03 51 03.8**	**+0.4**
TZTN				IAmb	IAmb	03 51 05.6	
	comp=Z,10nm,1.1s						
T50A	**Nancy**	**23.16**	**11**	IAmb	IAmb	03 51 07.0	
	comp=Z,7.7nm,0.7s						
U54A	**Nelsons Funny**	**23.39**	**17**	P	**P**	**03 51 07.4**	**+0.2**
CCM	**Cathedral Cave**	**23.71**	**358**	P	**P**	**03 51 10.5**	**+0.4**
CCM				IAmb	IAmb	03 51 12.2	
	comp=Z,8.4nm,0.7s						
S51A	**Beattyville**	**24.00**	**13**	P	**P**	**03 51 13.0**	**+0.3**
S51A				IAmb	IAmb	03 51 31.0	
	comp=Z,28nm,1.5s						
WCI	**Wyandotte Cave**	**24.11**	**8**	P	**P**	**03 51 14.5**	**+0.8**
OLIL	**Olney**	**24.44**	**4**	P	**P**	**03 51 17.3**	**+0.7**
OLIL				IAmb	IAmb	03 51 20.6	
	comp=Z,30nm,1.5s						
R50A	**Paris**	**24.48**	**11**	P	**P**	**03 51 16.8**	**-0.2**
Q44A	**Meyer Farm, Va**	**24.56**	**2**	P	**P**	**03 51 17.8**	**+0.1**
Q44A				IAmb	IAmb	03 51 21.4	
	comp=Z,9.1nm,0.7s						
S54A	**Dingess, Beckl**	**24.73**	**17**	P	**P**	**03 51 19.2**	**-0.1**
S54A				IAmb	IAmb	03 51 36.4	
	comp=Z,11nm,1.2s						
P40A	**Paris**	**25.22**	**357**	IAmb	IAmb	03 51 24.8	
	comp=Z,6.3nm,0.7s						
T59A	**Double "B" Far**	**25.27**	**24**	P	**P**	**03 51 24.4**	**+0.3**
L40A	**Anamosa**	**27.71**	**358**	P	**P**	**03 51 46.0**	**0.0**
L40A				IAmb	IAmb	03 51 47.2	
	comp=Z,11nm,1.2s						
ECSD	**EROS Data Cent**	**29.88**	**351**	IAmb	IAmb	03 52 06.3	
	comp=Z,6.8nm,0.9s						
COWI	**Conover**	**31.75**	**1**	IAmb	IAmb	03 52 21.6	
	comp=Z,7.9nm,0.7s						
F33A	**5 Mile Ranch,**	**31.89**	**352**	IAmb	IAmb	03 52 22.9	
	comp=Z,8.2nm,0.8s						
E38A	**The Farm, Brul**	**32.26**	**358**	IAmb	IAmb	03 52 26.2	
	comp=Z,7.7nm,0.7s						
PDAR	**Pinedale Array**	**32.94**	**333**	P	**P**	**03 52 33.2**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=143,slow=3.7,SNR=3.9						
REDW	**Red Top Meadow**	**33.99**	**333**	IAmb	IAmb	03 52 43.9	
	comp=Z,9.8nm,0.6s						
SNOW	**Snow King Moun**	**34.02**	**333**	IAmb	IAmb	03 52 44.7	
	comp=Z,12nm,0.7s						
NVAR	**Mina Array Bea**	**34.59**	**319**	P	**P**	**03 52 49.6**	**+3.1**
	comp=Z,0.5nm,0.8s,baz=122,slow=8.6,SNR=4.3						
ULM	**Lac du Bonnet**	**36.18**	**354**	P	**P**	**03 52 58.8**	**-0.8**
	comp=Z,7.9nm,0.5s,baz=163,slow=8.0,SNR=5.8						
ULM	**Lac du Bonnet**	**36.18**	**354**	IAmb	IAmb	03 52 59.5	
	comp=Z,8.3nm,0.6s						
LPAZ	**La Paz**	**37.37**	**144**	P	**P**	**03 53 10.2**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=348,slow=4.7,SNR=5.9						
LPAZ	**La Paz**	**37.37**	**144**	P	**P**	**03 53 09.0**	**-1.7**
SIV	**San Ignacio**	**41.61**	**135**	P	**P**	**03 53 44.2**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=312,slow=9.7,SNR=13						
SCHQ	**Schefferville**	**44.38**	**19**	P	**P**	**03 54 05.5**	**-1.3**
	comp=Z,4.7nm,0.4s,baz=223,slow=6.3,SNR=20						

SCHQ	Schefferville	44.38	19	P	P	03 54 06.0	-0.8
SCHQ				IAmb	IAmb	03 54 06.4	
	comp=Z,6.4nm,0.5s						
YKA	Yellowknife Ar	51.19	346	P	P	03 54 58.3	-0.5
	comp=Z,1.1nm,0.6s,baz=135,slow=7.6,SNR=12						
ILAR	Eielson Array	63.30	336	P	P	03 56 22.8	-0.7
	comp=Z,0.5nm,1.0s,baz=147,slow=5.1,SNR=3.8						
DBIC	Dimbokro	83.88	85	P	P	03 58 21.6	-2.7
	comp=Z,4.0nm,0.9s,baz=246,slow=5.3,SNR=4.3						
DBIC	Dimbokro	83.88	85	IAmb	IAmb	03 58 35.1	
	comp=Z,11nm,1.2s						
ARCES	ARCESS Array B	85.33	19	P	P	03 58 29.6	-0.9
	comp=Z,1.4nm,0.9s,baz=310,slow=4.2,SNR=1.1						
TORD	Torodi Ar. Bea	88.61	77	P	P	03 58 42.9	-4.4
	comp=Z,0.3nm,0.7s,baz=287,slow=4.7,SNR=1.5						

*TAP **02** 04:09:51.7, 24.°79N×122.°43E, h5km±1km, ML2.8, D*
*JMA **02** 04:09:51.8±0.1, 24.°77N×122.°41E, h8km±4km, M2.3*
ISC 02 04:09:51.8±1.1**, 24.°78N**±0.°04×**122.°41E**±0.°03**, h9**km±12km**, n19, σ0.s54**/32**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.44	300	P	Pg	04 10 00.1	-0.4
	baz=298						
TWB1				eS	Sg	04 10 05.8	-0.6
	baz=298						
TWC	Suao	0.54	251	P	Pg	04 10 02.1	-0.1
	baz=250						
TWC				eS	Sg	04 10 10.4	+1.1
	baz=250						
TIPB	Shuangxi	0.56	290	P	Pg	04 10 02.9	+0.2
	baz=288						
TIPB				eS	Sg	04 10 11.0	+0.8
	baz=288						
JYNG	Yonagunijimaku	0.59	124	P	Pg	04 10 03.1	-0.1
JYNG				eS	Sg	04 10 11.2	+0.3
YOJ	Yonaguni jima	0.63	120	P	Pg	04 10 03.9	-0.1
YOJ				S	Sg	04 10 12.1	-0.2
WFSB	Wu-fen Shan	0.64	297	eP	Pg	04 10 04.5	+0.4
	baz=295						
WFSB				eS	Sb	04 10 13.8	-0.4
	baz=295						
TWE	Neicheng	0.68	265	P	Pg	04 10 04.8	0.0
	baz=263						
TWE				eS	Sb	04 10 15.4	+0.2
	baz=263						
ENA	Nanau	0.70	240	P	Pg	04 10 05.3	-0.1
	baz=239						
ENA				eS	Sb	04 10 15.6	-0.4
	baz=239						
NDT	Datong Townshi	0.84	258	P	Pg	04 10 08.2	+0.3
	baz=257						
NDT				eS	Sg	04 10 19.5	+0.7
	baz=257						
YM01	YM01	0.84	296	eP	Pg	04 10 08.4	+0.4
	baz=294						
YM01				eS	Sg	04 10 17.3	-1.8
	baz=294						
TWY	Chenhua	0.88	304	P	Pg	04 10 09.1	+0.3
	baz=302						
TWY				eS	Sg	04 10 20.3	0.0
	baz=302						
YHNB	Yeheng	0.95	263	P	Pg	04 10 10.0	0.0
	baz=262						
NACB	Ninganchiao	0.96	231	P	Pg	04 10 09.8	-0.4
	baz=231						
NACB				eS	Sg	04 10 21.9	-0.9
	baz=231						
NNSB	Datong	1.00	250	P	Pg	04 10 10.5	-0.5
	baz=249						
NNSB				S	Sb	04 10 24.9	+0.2
	baz=249						
ETLH	Xiulin Townshi	1.02	236	eP	Pg	04 10 11.7	+0.3
	baz=236						
WHF	Hehuan Shan	1.22	239	eP	Pg	04 10 15.3	+0.1
	baz=238						
IRIF	Iriomote-Funau	1.28	110	P	Pn	04 10 15.9	+0.1
CHGB	Renai	1.34	238	eP	Pg	04 10 17.5	0.0
	baz=237						
HATJ	Hateruma jima	1.46	119	eS	Sb	04 10 37.9	+0.1

*IDC **02** 04:34:04.2±1.1, 1.°47N×128.°78E, h0km, mb3.9/5, mb1 4.1/6, mb1mx3.7/41, mbtmp4.0/6, ML4.1/1, MS3.3/4, Ms1 3.3/4, ms1mx2.8/36, Error ellipse: s-maj=52.6km s-min=18.4km az=72.0*
*DJA **02** 04:34:08.2±1.4, 1°N±5°×12°9E±°, h18km±13km, M4.0/7, mB4.7/1, mb4.3/1, MLv3.8/7, Mw(mB)3.9/1*
ISC 02 04:34:09.6±0.9**, 1.°39N**±0.°08×**128.°90E**±0.°07**, h35**km**, n21, σ1.s47**/14**, mb3.9**/5**, MS3.2**/3**, 1D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.65	248	P	Pn	04 34 35.1	-0.9
TNTI				S	Sn	04 34 55.4	-0.6
LBMI	Labuha	2.45	215	P	Pn	04 34 46.7	-0.4
LBMI				S	Sn	04 35 15.1	-0.7
SIJI	Sorong	3.26	133	Pn	Pn	04 34 59.2	+1.0
	17nm,0.3s,baz=324,slow=19,SNR=23						
SIJI				Sn	Sn	04 35 36.8	+0.9
	7.8nm,0.3s,baz=36,slow=21,SNR=9.2						
SIJI				LR	LR	04 36 31.4	
	comp=Z,167nm,18.7s,baz=46,slow=43						
MSAI	Masohi	4.70	180	P	Pn	04 35 08.0	-10
KMSI	Cibinong	4.98	261	P	Pn	04 35 21.4	-0.5
FAKI	Fak Fak	5.43	142	P	Pn	04 35 29.1	+1.0
KCP	Kidapawan	6.75	326	⇓eP	Pn	04 35 50.4	+4.1
TTSI	Tana Toraja	10.09	244	P	Pn	04 36 38.1	+6.1
WRA	Warramunga Arr	21.86	166	P	P	04 38 59.6	+0.2
	1.7nm,0.6s,baz=347,slow=11,SNR=5.8						
LEM	Lembang	22.75	249	LR	LR	04 49 18.6	
	comp=Z,83nm,18.8s,baz=39,slow=40						
KRVT	Keravat (AS076	23.79	104	LR	LR	04 46 49.8	
	comp=Z,60nm,20.4s,baz=259,slow=32						
ASAR	Alice Springs	25.38	169	P	P	04 39 34.1	+0.4
	1.5nm,0.6s,baz=350,slow=10,SNR=16						
STKA	Stephens Creek	35.21	161	P	P	04 41 01.0	+0.4
	0.7nm,0.5s,baz=348,slow=12,SNR=3.0						
STKA				LR	LR	04 58 35.4	
	comp=Z,87nm,19.4s,baz=226,slow=42						
MJAR	Matsushiro Arr	36.03	13	P	P	04 41 06.6	-0.9
	1.0nm,0.3s,baz=184,slow=9.7,SNR=6.5						
H11S3	WAKE ISLAND Hy	40.77	63	T	T	05 25 45.6	
	baz=247,slow=74,SNR=8.7						
H11S2	WAKE ISLAND Hy	40.79	63	T	T	05 25 42.0	
	baz=247,slow=74,SNR=4.4						
H11S1	WAKE ISLAND Hy	40.79	63	T	T	05 25 33.5	
	baz=247,slow=74,SNR=6.5						
H11N1	WAKE ISLAND Hy	41.38	61	T	T	05 26 24.9	
	baz=248,slow=75,SNR=33						
H11N2	WAKE ISLAND Hy	41.40	61	T	T	05 26 26.9	
	baz=248,slow=75,SNR=17						
H11N3	WAKE ISLAND Hy	41.40	61	T	T	05 26 31.0	
	baz=248,slow=75,SNR=41						
MKAR	Makanchi Array	60.70	325	P	P	04 44 16.7	-0.8
	0.7nm,0.4s,baz=117,slow=8.7,SNR=13						

WEL 02 04:44:39.0±0.9**, 34°S**±17°×**18°0E**±2°2**, h336**km±20km**, M4.1**/10**, mB4.4**/3**, MLv4.1**/10**, Mw(mB)3.6**/3**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	3.41	202	P	Pn	04 45 40.6	-0.5
HAZ	Te Kaha	3.77	207	P	Pn	04 45 44.3	-0.4
PUZ	Puketiti	3.90	200	P	Pn	04 45 46.9	+0.8
PUZ				S	S	04 46 40.2	+0.2
MUGZ	Murupara	4.80	211	P	Pn	04 45 55.4	-0.2
RAHZ	Arahi	5.05	206	P	Pn	04 45 58.9	+0.5
RAHZ				S	S	04 47 04.4	+1.7
TLZ	Tolley Road	5.28	221	P	Pn	04 46 02.0	+0.9
NMHZ	Naumai	5.31	207	P	Pn	04 46 02.1	+0.7
BKZ	Black Stump Fm	5.49	209	P	Pn	04 46 02.6	-0.9
KWHZ	Kaweka Forest	5.74	208	P	Pn	04 46 05.9	-0.4
KWHZ				S	S	04 47 18.4	+1.4
HIZ	Hauiti	5.79	224	P	Pn	04 46 07.3	+0.5
KAHZ	Kahuranaki	5.91	204	P	Pn	04 46 08.8	+0.6
BHHZ	Black Hill Sta	5.94	210	P	Pn	04 46 07.8	-0.9
BHHZ				S	S	04 47 19.9	-1.4
KRHZ	Kereru	5.95	208	P	Pn	04 46 08.2	-0.5
FWVZ	Far West T-bar	5.98	215	P	Pn	04 46 08.4	-0.9
PXZ	Pawanui	6.12	203	P	Pn	04 46 10.9	+0.3
PNHZ	Pukenui	6.25	207	P	Pn	04 46 11.7	-0.4
PRHZ	Porangahau	6.41	203	P	Pn	04 46 14.5	+0.5
DVHZ	Dannevirke	6.60	206	P	Pn	04 46 15.5	-0.7
DVHZ				S	S	04 47 34.7	-0.5
BFZ	Birch Farm	6.91	204	P	Pn	04 46 19.5	-0.4
BFZ				S	S	04 47 40.4	-1.4
TIWZ	Tintock	7.12	206	P	Pn	04 46 21.9	-0.5
MRZ	Mangatainoka R	7.14	208	P	Pn	04 46 21.1	-1.4
MRZ				S	S	04 47 44.0	-2.7
HOWZ	Holdsworth Sta	7.37	207	P	Pn	04 46 23.2	-2.0
HOWZ				S	S	04 47 49.3	-2.4
TMWZ	Te Maipa	7.41	204	P	Pn	04 46 25.7	-0.1
OGWZ	Otaki Gorge	7.43	209	P	Pn	04 46 24.3	-1.7
OGWZ				S	S	04 47 51.8	-1.2
KIW	Kapiti Island	7.57	210	P	Pn	04 46 25.7	-2.0
KIW				S	S	04 47 52.9	-3.4
CAW	Cannon Point	7.72	209	P	Pn	04 46 27.4	-2.0

*IDC **02** 04:46:09.4±3.7, 9.°23S×118.°92E, h83km±35km, mb3.5/4, mb1 3.6/8, mb1mx3.4/35, mbtmp3.9/8, Error ellipse: s-maj=44.5km s-min=16.9km az=56.0*
*DJA **02** 04:46:10.6±0.5, 9°S±4°×11°9E±°, h30km±7km, M4.1/11, mb4.3/1, MLv4.0/11*
ISC 02 04:46:10.3±0.8**, 9.°20S**±0.°05×**119.°01E**±0.°05**, h102**km**, n23, σ2.s29**/25**, mb3.8**/3**, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	Waikabubak, Su	0.58	139	P	Pn	04 46 23.0	-4.0
WBSI				S	Sn	04 46 32.2	-7.2
PLAI	Plampang	1.27	287	P	Pn	04 46 32.7	-1.3
PLAI				S	Sn	04 46 49.3	-2.6
WSI	Waingapu	1.35	110	P	Pn	04 46 57.8	+23
BASI	Baing, Sumba	1.85	123	P	Pn	04 46 40.4	-0.7
EDFI	Ende, Flores	2.69	81	P	Pn	04 46 51.7	-0.4
EDFI				S	Sn	04 47 23.1	-1.1
MMRI	Maumere	3.24	80	P	Pn	04 46 59.6	+0.2
BKSI	Bulukumba	4.01	16	P	Pn	04 47 09.6	-0.1
BKSI				S	Sn	04 47 52.7	-3.0
KAPI	Kappang	4.22	10	P	Pn	04 47 12.6	0.0
	8.2nm,0.3s,baz=221,slow=2.7,SNR=22						
KAPI				S	Sn	04 47 57.9	-3.1
	18nm,0.3s,baz=174,slow=22,SNR=9.1						
BATI	Baumata	4.70	103	P	Pn	04 47 20.0	+1.0
	14nm,0.3s,baz=271,slow=0.6,SNR=7.0						
BATI				S	Sn	04 48 13.1	+0.6
	20nm,0.3s,baz=122,slow=20,SNR=8.1						
BATI	Baumata	4.70	103	P	Pn	04 47 19.1	+0.1
BATI				S	Sn	04 48 13.0	+0.6
JAGI	Jajag, Banyuwa	4.86	278	S	Sn	04 48 17.8	+1.6
BNSI	Bone	4.89	13	P	Pn	04 47 21.3	-0.4
SPSI	Sidrap Palu	5.26	8	P	Pn	04 47 27.1	+0.5
FITZ	Fitzroy Crossi	10.94	145	P	Pn	04 48 42.0	-1.8
	0.6nm,0.3s,baz=339,slow=11,SNR=42						
FITZ				S	Sn	04 50 35.5	-8.8
	1.5nm,0.3s,baz=171,slow=19,SNR=12						
WRA	Warramunga Arr	18.26	127	P	Pn	04 50 18.6	+1.4
	0.2nm,0.3s,baz=301,slow=12,SNR=2.7						
WRA				S	S	04 53 27.7	-12
	0.3nm,0.3s,baz=304,slow=25,SNR=5.0						
ASAR	Alice Springs	20.24	137	P	P	04 50 38.7	+1.0
	0.8nm,0.4s,baz=317,slow=9.8,SNR=11						
ASAR				S	S	04 54 14.9	-4.4
	0.3nm,0.6s,baz=314,slow=24,SNR=2.2						
MMPI	Merauke	21.13	90	P	P	04 51 00.8	+14
STKA	Stephens Creek	30.79	140	P	P	04 52 18.0	+1.6
	0.7nm,0.4s,baz=313,slow=14,SNR=3.4						
H08S2	Diego Garcia H	46.02	268	T	T	05 43 49.4	
	baz=95,slow=76,SNR=6.5						
H08S3	Diego Garcia H	46.03	268	T	T	05 43 51.5	
	baz=95,slow=76,SNR=7.2						
H08S1	Diego Carcia H	46.03	268	T	T	05 43 49.9	
	baz=95,slow=76,SNR=5.5						
MKAR	Makanchi Array	64.64	333	P	P	04 56 37.9	+0.8
	0.7nm,0.6s,baz=153,slow=6.9,SNR=7.7						
ZALV	Zalesovo Beam	69.23	339	P	P	04 57 07.1	+1.0
	0.4nm,0.3s,baz=161,slow=5.7,SNR=1.7						

*RSNC **02** 04:48:37.2±1.9, 6.°51N×73.°81W, h4km±5km, ML3.2, Mw3.4*
*IDC **02** 04:48:38.6±7.0, 6.°59N×73.°71W, h52km±44km, mb3.3/1, mb1 3.7/1, mb1mx3.0/30, mbtmp3.6/1, Error ellipse: s-maj=207.3km s-min=31.3km az=100.0*
ISC 02 04:48:34.4±1.3**, 6.°54N**±0.°03×**73.°81W**±0.°03**, h0**km±10km**, n24, σ1.s10**/42**, 2C-6D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	Barichara	0.63	85	⇑iP	Pg	04 48 47.1	+0.6
BARC				eS	Sg	04 48 54.3	-0.4
BARC				i		04 48 57.1	
	comp=Z,491nm,0.3s						
PTBC	PUERTO BERRIO,	0.64	270	⇓iP	Pb	04 48 49.3	+0.8
PTBC				eS	Sb	04 48 58.1	+0.1
SPBC	San Pablo de B	0.92	196	eP	Pg	04 48 52.0	0.0
SPBC				i		04 49 09.5	
	comp=Z,447nm,0.2s						
RUSC	La Rusia	0.97	131	⇓iP	Pg	04 48 52.3	-0.7
RUSC				eS	Sg	04 49 03.6	-2.0
RUSC				i		04 49 05.3	
	comp=Z,330nm,0.2s						
PAMC	Pamplona, Colo	1.36	54	eP	Pg	04 49 01.0	+0.4
PAMC				eS	Sb	04 49 19.5	+0.2
PAMC				i		04 49 27.8	
	comp=Z,297nm,0.4s						
ZARC	Zaragoza, Cauc	1.41	313	eP	Pb	04 49 02.2	+0.6
ZARC				eS	Sn	04 49 21.9	+1.3
ZARC				i		04 49 25.2	
	comp=Z,390nm,0.3s						
NORC	Norcasia	1.43	227	⇓eP	Pn	04 49 00.8	-0.8
NORC				eS	Sg	04 49 19.8	-0.5
NORC				i		04 49 21.0	
	comp=Z,450nm,0.5s						
HELC	Santa Helena	1.74	259	⇓iP	Pn	04 49 06.8	+0.6
HELC				eS	Sn	04 49 29.2	0.0
HELC				i		04 49 30.9	
	comp=Z,540nm,0.2s						
ROSC	El Rosal	1.76	197	P	Pn	04 49 08.0	+1.5
	comp=Z,12nm,0.3s,baz=343,slow=19,SNR=29						
ROSC				S	Sn	04 49 30.7	+1.0
	comp=Z,19nm,0.3s,baz=114,slow=23,SNR=7.9						
ROSC	El Rosal	1.76	197	eP	Pn	04 49 07.5	+1.1
ROSC				eS	Sn	04 49 29.9	+0.1
ROSC				i		04 49 37.0	
	comp=Z,139nm,0.3s						
OCAC	Ocana	1.76	16	eP	Pb	04 49 07.6	-0.1
OCAC				eS	Sg	04 49 31.2	+0.1
OCAC				i		04 49 34.3	
	comp=Z,166nm,0.5s						
CHIC	Chingaza	1.90	178	eP	Pn	04 49 09.6	+1.2
CHIC				eS	Sn	04 49 34.3	+1.1
CHIC				i		04 49 39.0	
	comp=Z,118nm,0.3s						
TAMC	Tame, Arauca	2.01	93	⇓eP	Pn	04 49 10.7	+1.1
TAMC				eS	Sn	04 49 36.5	+1.0
TAMC				i		04 49 39.8	
	comp=Z,146nm,0.5s						
GUY2C	Guyana, Caldas	2.02	230	⇓iP	Pn	04 49 11.4	+1.2
GUY2C				eS	Sn	04 49 36.2	-0.1
GUY2C				i		04 49 40.3	
	comp=Z,128nm,0.3s						
RREF	El Recreo	2.23	223	⇑iP	Pn	04 49 15.1	+1.9
RREF				eS	Sn	04 49 42.6	+0.9
RREF				i		04 49 47.5	
	comp=Z,137nm,0.4s						
SMLC	San Martn de	2.27	354	eP	Pn	04 49 13.2	+0.1
SMLC				i		04 49 53.9	
	comp=Z,126nm,0.4s						
VILC	Villavicencio,	2.41	177	eP	Pn	04 49 16.5	+1.2
VILC				eS	Sn	04 49 46.4	+0.8
ANIL	Santa Ana	2.58	218	eP	Pn	04 49 18.9	+1.3
ANIL				eS	Sn	04 49 50.9	+1.1
ANIL				i		04 49 56.0	
	comp=Z,254nm,0.3s						
ORTC	Ortega, Tolima	2.97	209	eP	Pn	04 49 24.3	+1.4
ORTC				eS	Sn	04 50 00.1	+0.7
ORTC				i		04 50 04.9	
	comp=Z,61nm,0.5s						
PRAC	Prado	3.00	201	eP	Pn	04 49 24.3	+1.0
PRAC				eS	Sn	04 49 59.6	-0.3
PRAC				i		04 50 15.9	
	comp=Z,50nm,0.4s						
SDV	Santo Domingo	3.92	53	eP	Pn	04 49 37.4	+1.3
SDV				i		04 50 27.1	
	comp=Z,36nm,0.5s						
YKA	Yellowknife Ar	63.29	340	P	P	04 59 01.7	-3.1
	comp=Z,0.4nm,0.6s,baz=132,slow=6.7,SNR=4.1						
ASAR	Alice Springs	148.39	234	PKPbc	PKPdf	05 08 19.5	-0.9
	comp=Z,0.2nm,0.4s,baz=127,slow=2.9,SNR=5.3						
WRA	Warramunga Arr	149.60	241	PKPbc	PKPdf	05 08 23.5	+1.2
	comp=Z,0.5nm,0.5s,baz=107,slow=2.7,SNR=6.0						

*SJA **02** 04:54:47.3±0.3, 22.°06S×73.°12W, h10km, ML4.9, MW4.6*
*IDC **02** 04:55:09.8±0.8, 23.°01S×70.°86W, h0km, mb4.2/7, mb1 4.3/9, mb1mx4.1/25, mbtmp4.2/9, ML3.8/2, MS3.6/7, Ms1 3.6/7, ms1mx3.3/20, Error ellipse: s-maj=25.7km s-min=14.5km az=169.0*
*NEIC **02** 04:55:10.2±3.1, 23.°08S±0.°02×71.°04W±0.°07, h22km±4km, Error ellipse: s-maj=8.9km s-min=3.5km az=86.0*
*GUC **02** 04:55:11.1±0.8, 23.°05S×71.°01W, h33km±3km, ML4.4*
*NEIC **02** 04:55:11, 23.°05S×70.°97W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.60; $M_{\theta\theta}$0.05; $M_{\phi\phi}$-3.65; $M_{r\theta}$0.78; $M_{\theta\phi}$-0.04; $M_{\phi r}$-2.62; Fault plane solution: $M_0$4.54000×10^{15} NP1:ϕ_s170.52000°, δ63.62000°, λ80.90000°. NP2:ϕ_s10.36000°, δ27.80000°, λ107.69000°. Principal axes: T 4.5745, Plg70.0000°, Azm61.0000°; N -0.0652, Plg8.0000°, Azm175.0000°; P -4.5093, Plg18.0000°, Azm267.0000°;*
*VAO **02** 04:55:12.7±2.0, 23.°15S×71.°11W, h42km±12km, mb4.6*
ISC 02 04:55:09.3±1.5**, 23.°08S**±0.°03×**71.°09W**±0.°05**, h12**km±8km**, n145, σ1.s68**/147**, mb4.5**/11**, MS3.9**/4**, 9C-5D, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB10	IPOC Station P	0.66	131	⇓iP	Pg	04 55 22.9	+0.7
PB10				eS	Sg	04 55 31.0	+0.2
PB10				IAML		04 55 33.3	
	comp=N,56µm,0.2s						
PB10	IPOC Station P	0.66	131		Pg	04 55 22.8	+0.7
PB10				Sg	Sg	04 55 30.8	0.0
PB05	IPOC Station P	0.85	75	⇓iP	Pg	04 55 25.2	-0.5
PB05				eS	Sg	04 55 34.8	-2.1
PB04	IPOC Station P	1.14	50	⇑iP	Pb	04 55 30.9	-0.2
PB04				eS	Sb	04 55 45.1	-0.9
PB04				IAML		04 55 47.9	
	comp=N,15µm,0.5s						
PB04	IPOC Station P	1.14	50		Pb	04 55 30.9	-0.2
PB06	IPOC Station P	1.45	75	⇓iP	Pn	04 55 34.9	-0.6
PB06				eS	Sn	04 55 52.4	-2.1
PB06				IAML		04 55 54.8	
	comp=N,19µm,0.2s						
PB06	IPOC Station P	1.45	75		Pn	04 55 34.9	-0.6
PB06				Sg	Sn	04 55 52.2	-2.3
PB15	IPOC Station P	1.50	95	⇑iP	Pn	04 55 36.1	-0.1
PB15				eS	Sn	04 55 54.4	-1.4
PB15	IPOC Station P	1.50	95		Pn	04 55 34.8	-1.4
PB03	IPOC Station P	1.60	51	⇑iP	Pn	04 55 37.6	0.0
PB03				eS	Sn	04 55 57.6	-0.8
PB03				IAML		04 56 03.8	
	comp=E,6µm,0.3s						
PB07	IPOC Station P	1.75	40	⇑iP	Pn	04 55 39.9	+0.2
PB07				IAML		04 56 07.2	
	comp=E,5µm,0.7s						
PB07	IPOC Station P	1.75	40		Pn	04 55 39.9	+0.2
LVC	Limon Verde	2.06	77	Pn	Pn	04 55 44.5	+0.4
	comp=E,126nm,0.3s,baz=214,slow=5.9,SNR=290						
LVC				LR	LR	04 56 04.6	
	comp=E,521nm,18.2s,baz=297,slow=30						
LVC				Lg	Lg	04 56 09.6	
	comp=E,607nm,0.3s,baz=234,slow=15,SNR=12						
LVC	Limon Verde	2.06	77	eP	Pn	04 55 45.0	+0.8
LVC				i S	Sn	04 56 10.4	+0.4
LVC	Limon Verde	2.06	77	Pn	Pn	04 55 44.8	+0.6
LVC	Limon Verde	2.06	77	eP	Pn	04 55 45.1	+0.9
LVC				eS	Sn	04 56 10.8	+0.8
LVC	Limon Verde	2.06	77	eP	Pn	04 55 45.1	+0.9
LVC				eS	Sn	04 56 10.8	+0.8
PB02	IPOC Station P	2.07	33	⇑iP	Pn	04 55 44.5	+0.5
PB02				eS	Sn	04 56 09.8	0.0
PB02				IAML		04 56 23.5	
	comp=E,5µm,0.4s						
PB09	IPOC Station P	2.13	54	⇑iP	Pn	04 55 46.0	+1.0
PB09				eS	Sn	04 56 12.2	+0.8
PB09				IAML		04 56 19.1	
	comp=N,10µm,0.8s						
PB09	IPOC Station P	2.13	54		Pn	04 55 44.8	-0.1
PATCX	Punta Patache	2.41	21	⇑iP	Pn	04 55 49.0	+0.4
PATCX	Punta Patache	2.41	21		Pn	04 55 48.5	-0.1
GO02	Mina Guanaco	2.49	147	Pn	Pn	04 55 52.0	+2.0
PB01	IPOC Station P	2.51	37	eP	Pn	04 55 50.9	+0.8
PB01				IAML		04 56 31.6	
	comp=E,2µm,0.2s						
PB01	IPOC Station P	2.51	37		Pn	04 55 51.0	+0.8
TA01	Diego Aracena	2.64	19	i P	Pn	04 55 52.1	+0.4
TA01	Diego Aracena	2.64	19		Pn	04 55 52.2	+0.4
AC01	Pan de Azucar	3.09	172	Pn	Pn	04 55 58.2	+0.3
PB08	IPOC Station P	3.43	32	⇑iP	Pn	04 56 04.5	+1.6
PB08				IAML		04 57 05.7	
	comp=E,737nm,0.6s						
PB08	IPOC Station P	3.43	32		Pn	04 56 04.6	+1.6
PB11	IPOC Station P	3.56	22		Pn	04 56 05.0	+0.5
PSGCX	Pisagua	3.58	15		Pn	04 56 05.4	+0.6
GO01	Chusmiza	3.83	28		Pn	04 56 10.5	+2.0
AC02	Maricunga	4.14	155	Pn	Pn	04 56 15.7	+2.8
MNMC	Minye Minye	4.17	20	⇓iP	Pn	04 56 14.4	+1.4
MNMC	Minye Minye	4.17	20	Pn	Pn	04 56 14.0	+1.0
PB12	IPOC Station P	4.50	9	Pn	Pn	04 56 18.5	+1.1
GO03	Copiap	4.56	170		Pn	04 56 19.3	+1.1
AP01	Chacalluta	4.74	9	Pn	Pn	04 56 19.2	-1.4
AC04	Llanos de Chal	5.11	180		Pn	04 56 24.6	-1.0
AC04				Sn	Sn	04 57 20.0	-4.6
AC05	El Transito	5.78	173	Pn	Pn	04 56 36.6	+1.5
LCO	Las Campanas	5.92	177	Pn	Pn	04 56 36.8	-0.3
VCA	Vinchina	6.20	156	i P	Pn	04 56 43.7	+2.8
VCA				eS	Sb	04 58 15.2	+3.5
CO01	Juntas del Tor	6.93	173		Pn	04 56 52.1	+1.1
GO04	Tololo Observa	7.07	178		Pn	04 56 54.1	+1.2
AROD	Rodeo	7.21	169	i P	Pn	04 56 57.3	+2.5
ACDV	Cuesta del Vie	7.28	166	i P	Pn	04 57 01.3	+5.6
ACDV				eS	Sb	04 58 35.4	-7.3
ACDV				IAML		04 58 53.6	
	comp=Z,66nm,0.7s						
LPAZ	La Paz	7.31	23	Pn	Pn	04 57 00.6	+4.0
	comp=Z,2.7nm,0.3s,baz=169,slow=3.5,SNR=110						
ACCO	Cerro Coronel	7.70	167	i P	Pn	04 57 04.0	+2.4
CO03	El Pedregal	7.74	177		Pn	04 57 03.5	+1.5
CO02	Combarbal	8.10	179	Pn	Pn	04 57 06.2	-0.6
RTLL	Cerro Villicun	8.54	165	i P	Pn	04 57 20.2	+7.3
RTLL				eS	Sn	04 59 10.1	+21
RTLS	Leoncito	8.83	170	i P	Pn	04 57 18.5	+1.4
CFA	Coronel Fontan	8.86	164	Pn	Pn	04 57 18.8	+1.4
	comp=Z,0.4nm,0.3s,baz=330,slow=15,SNR=12						
CFA				LR	LR	05 01 07.6	
	comp=Z,130nm,20.0s,baz=4.5,slow=40						
RTCV	Cerro Valdivia	9.04	166	i P	Pn	04 57 21.0	+1.3
MT02	Curacav	10.14	180	Pn	Pn	04 57 34.5	-0.3
SIV	San Ignacio	11.78	55	Pn	Pn	04 57 55.0	-2.3
	comp=Z,1.8nm,0.3s,baz=252,slow=14,SNR=61						
SIV				Sn	Sn	05 00 08.0	-0.8
	comp=Z,0.1nm,0.3s,baz=281,slow=16,SNR=1.2						
GO05	Huala	11.91	183	Pn	Pn	04 57 56.9	-2.1
NNA	Nana	12.31	333	LR	LR	05 02 28.1	
	comp=Z,138nm,20.9s,baz=159,slow=36						
H03N1	Juan Fernandez	12.41	212	T	T	05 10 52.5	
	baz=39,slow=72,SNR=151						
H03N2	Juan Fernandez	12.42	212	T	T	05 11 20.1	
	baz=39,slow=72,SNR=133						
H03N3	Juan Fernandez	12.43	212	T	T	05 11 12.5	
	baz=39,slow=72,SNR=148						
VILB	Vilhena	14.44	48	eP	Pn	04 58 34.8	+1.2
VILB	Vilhena	14.44	48	eP	Pn	04 58 34.8	+1.2
AQDB	Aquidauana	14.53	83	eP	Pn	04 58 35.9	+1.0
AQDB	Aquidauana	14.53	83	eP	Pn	04 58 35.9	+1.0
SAML	Samuel	15.96	30		Pn	04 58 51.0	-2.9
SALV	Santo Antonio	16.17	67	eP	P	04 58 58.2	-1.6
SALV	Santo Antonio	16.17	67	eP	P	04 58 58.2	-1.6
TRCB	Terra Rica	17.00	93	eP	P	04 59 08.3	-0.7
TRCB	Terra Rica	17.00	93	eP	P	04 59 08.3	-0.7
C2SB	Chapadao do Su	17.58	79	eP	P	04 59 14.8	-0.5
C2SB	Chapadao do Su	17.58	79	eP	P	04 59 14.8	-0.5
PLCA	Paso Flores	17.61	179	P	P	04 59 20.7	+5.1

comp=Z,0.2nm,0.3s,baz=324,slow=7.2,SNR=3.1
PLCA LR LR 05 05 57.0
comp=Z,198nm,19.6s,baz=354,slow=37
PLCA Paso Flores 17.61 179 Pn 04 59 12.7 -2.0
PCMB Pacaembu 18.40 89 *e*P **Pn 04 59 24.4 0.0**
PCMB Pacaembu 18.40 89 *e*P **Pn 04 59 24.4 0.0**
LL01 San Ignacio de 19.28 183 P **P 04 59 33.4 -0.4**
LL01 IAmb IAmb 04 59 49.8
comp=Z,27nm,1.1s
ARAG Araguaiana, MT 19.59 71 *e*P **Pn 04 59 38.3 -0.6**
ARAG Araguaiana, MT 19.59 71 *e*P **Pn 04 59 38.3 -0.6**
FRTB Fartura 19.79 95 *e*P **P 04 59 40.3 +0.6**
FRTB Fartura 19.79 95 *e*P **P 04 59 40.3 +0.6**
NPGB Novo Progresso 21.98 46 *e*P **P 05 00 03.0 -0.4**
NPGB Novo Progresso 21.98 46 *e*P **P 05 00 03.0 -0.4**
IPMB Ipameri, GO 22.01 81 *e*P **P 05 00 03.1 -0.7**
IPMB Ipameri, GO 22.01 81 *e*P **P 05 00 03.1 -0.7**
VAO Valinhos 22.20 95 *e*P **P 05 00 05.8 +0.1**
VAO Valinhos 22.20 95 *e*P **P 05 00 05.8 +0.1**
MACA Manacapuru-AM 22.22 28 *e*P **P 05 00 06.4 +0.5**
MACA Manacapuru-AM 22.22 28 *e*P **P 05 00 06.4 +0.5**
BDFB Brasilia 22.97 75 P **P 05 00 13.1 -1.0**
comp=Z,5.2nm,0.8s,baz=244,slow=8.5,SNR=6.7
BDFB LR LR 05 10 20.1
comp=Z,313nm,18.1s,baz=223,slow=40
BDFB Brasilia 22.97 75 P **P 05 00 09.1 -5.0**
BDFB IAmb IAmb 05 00 16.6
comp=Z,9.1nm,1.0s
PEXB Peixe 24.27 67 *e*P **P 05 00 25.6 -1.1**
PEXB Peixe 24.27 67 *e*P **P 05 00 25.6 -1.1**
PTGA Pitinga 24.70 27 P **P 05 00 30.9 +0.4**
comp=Z,5.0nm,0.5s,baz=205,slow=13,SNR=11
PTGA Pitinga 24.70 27 P **P 05 00 27.6 -2.9**
PTGA IAmb IAmb 05 00 34.6
comp=Z,23nm,1.4s
PTGA Pitinga 24.70 27 *e*P **P 05 00 31.3 +0.8**
PTGA Pitinga 24.70 27 *e*P **P 05 00 31.3 +0.8**
MC01 Montes Claros 26.28 81 *e*P **P 05 00 44.0 -0.9**
MC01 Montes Claros 26.28 81 *e*P **P 05 00 44.0 -0.9**
JANB Januaria 26.50 77 *e*P **P 05 00 46.6 -0.3**
JANB Januaria 26.50 77 *e*P **P 05 00 46.6 -0.3**
PRPB Parauapebas 26.51 54 *e*P **P 05 00 47.1 +0.2**
PRPB Parauapebas 26.51 54 *e*P **P 05 00 47.1 +0.2**
SMTB Santa Maria do 26.59 62 *e*P **P 05 00 48.2 +0.6**
SMTB Santa Maria do 26.59 62 *e*P **P 05 00 48.2 +0.6**
MALB Monte Alegre 26.68 40 *e*P **P 05 00 49.5 +1.1**
MALB Monte Alegre 26.68 40 *e*P **P 05 00 49.5 +1.1**
GDU01 Guandu, BA 31.26 78 *e*P **P 05 01 28.6 -0.6**
GDU01 Guandu, BA 31.26 78 *e*P **P 05 01 28.6 -0.6**
VNA3 Neumayer Olymp 59.25 161 P **P 05 05 12.8 +2.5**
VNA1 Neumayer--Stat 59.49 160 P **P 05 05 13.1 +1.2**
VNA2 Neumayer--Watz 59.85 160 P **P 05 05 16.6 +2.2**
baz=287,slow=8.4
TXAR Lajitas Array 60.81 327 P **P 05 05 25.2 +3.6**
comp=Z,0.3nm,0.8s,baz=150,slow=7.3,SNR=3.4
SNAA Sanae 61.47 160 P **P 05 05 27.6 +2.1**
CBKS Cedar Bluff 67.17 336 P **P 05 06 01.6 -1.6**
CBKS IAmb IAmb 05 06 08.4
comp=Z,8.2nm,0.9s
BATG Bathurst New B 70.17 4 P **P 05 06 20.2 -1.5**
ECSD EROS Data Cent 70.49 341 P **P 05 06 22.9 -0.8**
ECSD IAmb IAmb 05 06 27.6
comp=Z,6.7nm,1.2s
DBIC Dimbokro 71.11 74 P **P 05 06 28.0 -0.2**
comp=Z,3.5nm,0.9s,baz=225,slow=5.7,SNR=1.9
DBIC LR LR 05 38 03.8
comp=Z,62nm,18.2s,baz=139,slow=36
DBIC Dimbokro 71.11 74 P **P 05 06 26.1 -2.0**
KNB Kanab 71.55 326 P **P 05 06 30.0 -0.6**
PPT Papeete 73.01 258 LR LR 05 29 13.3
comp=Z,16nm,21.9s,baz=134,slow=28
AHID Auburn Hatcher 75.18 331 P **P 05 06 49.0 -2.9**
SYO Syowa Base 75.74 160⇓*e*P P 05 07 02.8 +8.3
SYO Syowa Base 75.74 160⇑*e*P P 05 07 06.6 +12
TOA0 Torodi Ar. Sit 79.78 71 P **P 05 07 15.7 -2.2**
TOA0 IAmb IAmb 05 07 19.9
comp=Z,8.1nm,0.8s
TORD Torodi Ar. Bea 79.78 71 P **P 05 07 18.5 +0.5**
comp=Z,6.6nm,0.9s,baz=255,slow=4.9,SNR=24
FFC Flin Flon 81.90 342 P **P 05 07 27.4 -0.9**
FFC IAmb IAmb 05 07 45.0
comp=Z,5.3nm,1.4s
MAW Mawson 83.39 164 P **P 05 07 38.9 +2.8**
comp=Z,2.5nm,0.9s,baz=238,slow=7.4,SNR=4.1
MAW Mawson 83.39 164 P **P 05 07 34.5 -1.6**
YKA Yellowknife Ar 92.01 341 P **P 05 08 19.5 +1.9**
comp=Z,1.3nm,0.8s,baz=143,slow=4.9,SNR=11
KEST Kesra 95.86 54 LR LR 05 50 55.4
comp=Z,54nm,20.7s,baz=286,slow=35
H11S2 WAKE ISLAND Hy126.06 277 T T 07 33 44.8
baz=106,slow=74,SNR=70
H11S1 WAKE ISLAND Hy126.07 277 T T 07 33 34.7
baz=106,slow=74,SNR=45
H11S3 WAKE ISLAND Hy126.08 277 T T 07 33 33.2
baz=106,slow=74,SNR=48
H11N3 WAKE ISLAND Hy126.19 278 T T 07 33 37.1
baz=106,slow=75,SNR=30
H11N2 WAKE ISLAND Hy126.21 278 T T 07 33 54.3
baz=106,slow=75,SNR=31
H11N1 WAKE ISLAND Hy126.21 278 T T 07 33 41.4
baz=106,slow=75,SNR=18
ASAR Alice Springs 127.57 209 PKP **PKiKP 05 14 17.9 +2.2**
comp=Z,0.9nm,0.8s,baz=143,slow=2.6,SNR=6.2
ZAA0 Zalesovo Array 144.22 24 PKPdf PKPbc 05 14 43.4 +0.4
ZALV Zalesovo Beam 144.22 24 PKP **PKPdf 05 14 46.4 +1.5**
comp=Z,2.5nm,0.7s,baz=280,slow=2.7,SNR=10
MAKZ Makanchi 147.91 36 PKPbc 05 14 54.9 +0.5
MK31 Makanchi Array 148.09 36 PKPdf **PKPdf 05 14 48.1 -3.6**
MK31 **PKPbc 05 14 54.8 -0.1**
MKAR Makanchi Array 148.09 36 PKP **PKPbc 05 14 53.6 -1.3**
comp=Z,3.1nm,0.8s,baz=329,slow=1.4,SNR=26
MKAR PKPbc **PKiKP 05 14 57.1 +0.4**
comp=Z,3.2nm,0.8s,baz=322,slow=2.9,SNR=27
MJAR Matsushiro Arr 151.38 305 PKPbc **PKiKP 05 15 06.6 +2.8**
comp=Z,1.8nm,0.5s,baz=60,slow=0.3,SNR=7.1

IDC 02 05:08:53.4±5.7**,5.22S**×**133.18E,h0**km**,mb3.5**/1**, mb1 3.6**/3**,mb1mx3.4**/21**,mbtmp3.4**/3**,ML3.4**/2**,Error ellipse: s-maj=338.1km s-min=32.8km az=76.0,Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.68**	**176**	Pn	Pn	05 12 20.3	-2.2
	0.2nm,0.3s,baz=352,slow=13,SNR=4.7						
WRA				Sn	Sn	05 15 00.4	-5.6
	0.3nm,0.3s,baz=348,slow=25,SNR=4.8						
ASAR	**Alice Springs**	**18.35**	**178**	P	P	05 13 10.4	+0.7
	0.1nm,0.3s,baz=5.9,slow=11,SNR=11						
MKAR	**Makanchi Array**	**68.53**	**325**	P	P	05 19 57.9	0.0
	0.4nm,0.7s,baz=112,slow=6.3,SNR=4.0						

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*SJA **02** 05:44:23.2±0.8, 33.64S×72.35W, h10km±10km, ML4.4, MW4.2*
*IDC **02** 05:44:24.1±0.6, 33.67S×71.93W, h0km, mb4.3/9, mb1 4.5/12, mb1mx4.3/25, mbtmp4.3/12, ML4.4/2, MS3.9/3, Ms1 3.9/3, ms1mx3.4/22, Error ellipse: s-maj=26.6km s-min=16.2km az=106.0*
*NEIC **02** 05:44:25.6±2.4, 33.73S±0.03×72.13W±0.04, h16km±3km, Error ellipse: s-maj=5.1km s-min=4.2km az=131.0*
*VAO **02** 05:44:27.9±1.3, 33.79S×72.10W, h37km±13km, mb4.7*
*NEIC **02** 05:44:27, 33.78S×72.01W, h27km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.96; $M_{\theta\theta}$-0.11; $M_{\phi\phi}$-0.85; $M_{r\theta}$0.59; $M_{\theta\phi}$0.62; $M_{\phi r}$-3.04; Fault plane solution: $M_0$3.29000×10^{15} NP1:ϕ_s308.60000°, δ11.69000°, λ50.97000°. NP2:ϕ_s168.22000°, δ80.94000°, λ97.43000°. Principal axes: T 3.2323, Plg53.0000°, Azm87.0000°; N 0.1073, Plg7.0000°, Azm347.0000°; P -3.3397, Plg36.0000°, Azm252.0000°;*
*GUC **02** 05:44:27.1±0.9, 33.78S×72.01W, h36km±13km, ML4.5*
ISC 02 05:44:25.5±1.4**,33.72S**±0.03×**72.12W**±0.05**,h15**km±8km**, n208,**σ**1**§**17**/229**,mb4.9**/21**,3C-7D,Off coast of central Chile**

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

MT01 Popeta 0.74 101 *e*P **Pb 05 44 40.5 +0.5**
MT01 *e*S **Sg 05 44 49.8 +0.1**
MT01 IAML 05 44 50.4
comp=N,36μm,0.2s
MT01 Popeta 0.74 101 Pb 05 44 40.3 +0.2
MT01 **Sg 05 44 49.7 0.0**
MT02 Curacav 0.94 61⇓*i*P **Pn 05 44 44.2 0.0**
MT02 *e*S **Sn 05 44 57.0 -0.5**
MT02 IAML 05 44 58.8
comp=N,24μm,0.3s
MT02 Curacav 0.94 61 Pn 05 44 44.2 0.0
MT02 Sn **Sg 05 44 56.2 +0.1**
ROC1 El Roble 1.19 52 Pn **Pg 05 44 48.6 +0.1**
ROC1 Sn **Sb 05 45 00.7 -2.5**
ROC1 El Roble 1.19 52 *i* P **Pg 05 44 48.5 +0.1**
ROC1 *e*S **Sg 05 45 05.9 +2.0**
ROCH El Roble 1.20 51⇓*i*P **Pg 05 44 48.6 +0.1**
ROCH *e*S **Sg 05 45 05.1 +0.9**
ROCH IAML 05 45 10.7
comp=N,21μm,0.5s
MT05 Renca 1.20 74 Pb 05 44 47.9 -0.1
MT05 Sn **Sg 05 45 04.5 +0.1**
GO05 Huala 1.29 173⇑*i*P **Pb 05 44 49.5 0.0**
GO05 *e*S **Sn 05 45 06.3 +0.2**
GO05 Huala 1.29 173 Pb 05 44 49.5 0.0
GO05 **Sb 05 45 05.5 -0.5**
GO05 Huala 1.29 173 *i* P **Pb 05 44 49.6 +0.1**
PEL Peldehue 1.33 65⇓*i*P **Pg 05 44 50.7 -0.4**
PEL *e*S **Sg 05 45 07.9 -0.6**
PEL IAML 05 45 13.6
comp=E,19μm,0.5s
PEL Peldehue 1.33 65 Pb 05 44 50.5 +0.2
PEL Sn **Sg 05 45 08.3 -0.2**
PEL Peldehue 1.33 65 *i* P **Pg 05 44 50.8 -0.4**
PEL *e*S **Sg 05 45 12.1 +3.6**
FSR Penalolen 1.35 80 *e*P **Pg 05 44 51.9 +0.3**
FSR *e*S **Sg 05 45 09.2 0.0**
MT03 Universidad Ad 1.36 81⇓*i*P **Pb 05 44 50.6 -0.2**
MT03 *e*S **Sb 05 45 08.1 0.0**
MT03 IAML 05 45 18.5
comp=N,17μm,0.2s
BO02 Sierra Bellavi 1.54 134⇓*i*P **Pn 05 44 52.6 +0.2**
BO02 *i* S **Sb 05 45 13.1 0.0**
BO02 IAML 05 45 18.7
comp=E,13μm,0.4s
BO02 Sierra Bellavi 1.54 134 Pn 05 44 52.5 0.0
BO02 **Sn 05 45 11.7 -0.6**
LMEL Las Melosas 1.60 95⇓*i*P **Pn 05 44 54.0 +0.6**
LMEL *e*S **Sb 05 45 15.3 +0.2**
LMEL IAML 05 45 19.7
comp=E,9μm,0.4s
VA03 San Esteban 1.63 54⇑*i*P **Pb 05 44 55.3 0.0**
VA03 *e*S **Sg 05 45 16.9 -1.1**
VA03 San Esteban 1.63 54 Pb 05 44 54.8 -0.5
VA03 Sn **Sg 05 45 16.8 -1.2**
COIS El Sosneado 2.51 124 *i* P **Pb 05 45 10.7 +0.5**
CO02 Combarbal 2.69 21 Pn 05 45 09.4 +1.1
LAMA Las Malvinas 2.70 117 *i* P **Pb 05 45 12.2 -1.3**
PUMA Malargue 2.83 129 *i* P **Pb 05 45 13.9 -1.8**
BI02 San Fabin de 3.02 167⇑*i*P **Pn 05 45 14.1 +1.3**
BI02 IAML 05 46 06.8
comp=N,635nm,0.5s
BI02 San Fabin de 3.02 167 Pn **Pn 05 45 13.7 +1.0**
BI02 Sn **Sn 05 45 44.0 -4.7**
EDS3 Malargue 3.03 133⇓*i*P **Pb 05 45 16.8 -2.5**
CO03 El Pedregal 3.12 23 Pn **Pn 05 45 15.6 +1.4**
CO03 Sn **Sn 05 45 52.2 +0.9**
BI03 Tigo 3.20 193 Pn **Pn 05 45 15.2 -0.1**
BI03 Sn **Sn 05 45 52.0 -1.2**
ZON Zonda 3.63 54 Pn **Pn 05 45 20.7 -0.5**
GO04 Tololo Observa 3.71 18 Pn 05 45 23.1 +0.6
GO04 Tololo Observa 3.71 18 *i* P **Pn 05 45 23.5 +0.9**
CFA Coronel Fontan 3.90 58 Pn **Pn 05 45 22.9 -2.0**
baz=180,slow=10
CFA Lg Lg 05 46 20.7
comp=N,131nm,0.3s,baz=93,slow=18,SNR=8.6
CO01 Juntas del Tor 4.11 25 Pn 05 45 29.7 +1.7
CANA Caviahue 4.24 169 *i* P **Pn 05 45 33.2 +3.4**
CANA IAML 05 46 52.9
comp=Z,268nm,1.5s
ACDV Cuesta del Vie 4.37 37 *i* P **Pn 05 45 35.2 +3.8**
ACDV IAML 05 46 47.2
comp=Z,582nm,0.8s
AC05 El Transito 5.12 18 Pn **Pn 05 45 42.8 +1.0**
LC01 Cunco 5.17 178 Pn **Pn 05 45 39.0 -3.3**
MRA San Martin 5.53 78 *i* P **Pn 05 45 49.7 +2.3**
MRA IAML 05 47 37.7
comp=Z,166nm,0.7s
AC04 Llanos de Chal 5.57 10 Pn **Pn 05 45 47.8 -0.1**
H03S1 Juan Fernandez 5.65 267 T T 05 51 42.6
baz=88,slow=75,SNR=5288
H03S3 Juan Fernandez 5.65 267 T T 05 51 48.8
baz=88,slow=75,SNR=3658
H03S2 Juan Fernandez 5.67 267 T T 05 51 43.2
baz=88,slow=75,SNR=4108
H03N1 Juan Fernandez 5.67 271 T T 05 51 50.1
baz=98,slow=74,SNR=83
H03N3 Juan Fernandez 5.68 271 T T 05 51 49.9
baz=98,slow=74,SNR=152
H03N2 Juan Fernandez 5.69 271 T T 05 51 51.1
baz=98,slow=74,SNR=86
VCA Vinchina 6.00 35 *i* P **Pn 05 45 56.7 +2.8**
GO03 Copiap 6.32 15 Pn 05 45 58.4 +0.2
TCA Tanti 6.79 72 *i* P **Pn 05 46 05.2 +0.6**
PLCA Paso Flores 7.11 170 Pn **Pn 05 46 10.8 +1.8**
comp=Z,1.3nm,0.3s,baz=331,slow=11,SNR=22
PLCA Lg Lg 05 48 04.8
comp=Z,0.4nm,0.3s,baz=307,slow=18,SNR=2.8
PLCA LR LR 05 49 06.5
comp=Z,550nm,18.1s,baz=350,slow=40
PLCA Paso Flores 7.11 170 Pn **Pn 05 46 09.8 +0.8**
PLCA Paso Flores 7.11 170 *e*P **Pn 05 46 08.4 -0.6**
PLCA Paso Flores 7.11 170 *e*P **Pn 05 46 08.4 -0.6**
AC02 Maricunga 7.34 21 Pn **Pn 05 46 12.1 -0.5**
AC01 Pan de Azucar 7.66 10 Pn **Pn 05 46 16.7 +0.1**
GO02 Mina Guanaco 8.81 15 Pn **Pn 05 46 30.0 -2.6**
PB15 IPOC Station P 10.73 13 Pn **Pn 05 46 55.9 -2.9**
PB06 IPOC Station P 11.20 12 Pn **Pn 05 47 02.0 -3.3**
LVC Limon Verde 11.43 15 Pn Pn 05 47 03.7 -4.8
comp=Z,0.3nm,0.3s,baz=270,slow=2.2,SNR=2.0
LVC LR LR 05 51 58.4
comp=Z,456nm,21.2s,baz=211,slow=40
LVC Limon Verde 11.43 15 Pn **Pn 05 47 04.8 -3.7**
PB04 IPOC Station P 11.48 9 Pn **Pn 05 47 07.4 -1.7**
PB07 IPOC Station P 12.11 10 Pn **Pn 05 47 17.6 -0.1**
PB09 IPOC Station P 12.15 13 Pn **Pn 05 47 16.0 -2.2**
PB11 IPOC Station P 14.08 10 Pn **Pn 05 47 44.2 -0.3**
GO01 Chusmiza 14.24 11 Pn **Pn 05 47 46.7 -0.4**
MNMC Minye Minye 14.71 9 Pn **Pn 05 47 53.2 -0.1**
PLTB Pedras Altas 15.71 88 *e*P **Pn 05 48 05.0 -1.2**
PLTB Pedras Altas 15.71 88 *e*P **Pn 05 48 05.0 -1.2**
LPAZ La Paz 17.73 13 P **P 05 48 33.1 -0.2**
comp=Z,0.7nm,0.3s,baz=193,slow=7.3,SNR=56
LPAZ La Paz 17.73 13 Pn **Pn 05 48 29.8 -2.7**
LPAZ La Paz 17.73 13 *e*P **P 05 48 33.4 0.0**
LPAZ La Paz 17.73 13 *e*P **P 05 48 33.4 0.0**
ITAB Concordia 18.39 75 *e*P **Pn 05 48 40.5 +0.5**
ITAB Concordia 18.39 75 *e*P **Pn 05 48 40.5 +0.5**
CNLB Canela 18.65 82 *e*P **Pn 05 48 43.4 +0.2**
CNLB Canela 18.65 82 *e*P **Pn 05 48 43.4 +0.2**
AQDB Aquidauana 19.66 52 *e*P **P 05 48 53.8 0.0**
AQDB Aquidauana 19.66 52 *e*P **P 05 48 53.8 0.0**
SIV San Ignacio 20.28 32 P **P 05 48 60.0 -0.7**
comp=Z,6.1nm,0.6s,baz=228,slow=11,SNR=28
TRCB Terra Rica 20.29 63 *e*P **P 05 49 01.0 +0.2**
TRCB Terra Rica 20.29 63 *e*P **P 05 49 01.0 +0.2**
PTLB Pontes e Lacer 21.65 36 *e*P **P 05 49 15.9 +0.4**
PTLB Pontes e Lacer 21.65 36 *e*P **P 05 49 15.9 +0.4**
TIJ01 Guaruva-PR 21.75 73 *e*P **P 05 49 15.9 -0.7**
TIJ01 Guaruva-PR 21.75 73 *e*P **P 05 49 15.9 -0.7**
PCMB Pacaembu 22.02 62 *e*P **P 05 49 18.8 -0.7**
PCMB Pacaembu 22.02 62 *e*P **P 05 49 18.8 -0.7**
FRTB Fartura 22.31 68 *e*P **P 05 49 23.2 +0.7**
FRTB Fartura 22.31 68 *e*P **P 05 49 23.2 +0.7**
C2SB Chapadao do Su 22.77 54 *e*P **P 05 49 27.4 0.0**
C2SB Chapadao do Su 22.77 54 *e*P **P 05 49 27.4 0.0**
SALV Santo Antonio 23.12 44 *e*P **P 05 49 29.8 -1.2**
SALV Santo Antonio 23.12 44 *e*P **P 05 49 29.8 -1.2**
VILB Vilhena 23.36 31 *e*P **P 05 49 33.7 +0.2**
VILB Vilhena 23.36 31 *e*P **P 05 49 33.7 +0.2**
PET01 Itanhaem-SP 23.63 73 *e*P **P 05 49 35.6 -0.5**
PET01 Itanhaem-SP 23.63 73 *e*P **P 05 49 35.6 -0.5**
SPB Sao Paulo 23.85 71 P **P 05 49 37.3 -0.9**
SPB IAmb IAmb 05 49 39.9
comp=Z,53nm,0.9s
SPB Sao Paulo 23.85 71 *e*P **P 05 49 38.9 +0.7**
SPB Sao Paulo 23.85 71 *e*P **P 05 49 38.9 +0.7**
ITRB Iturama 23.87 60 *e*P **P 05 49 37.8 -0.6**
ITRB Iturama 23.87 60 *e*P **P 05 49 37.8 -0.6**
BB19B Bebedouro 24.38 65 *e*P **P 05 49 41.8 -1.5**
BB19B Bebedouro 24.38 65 *e*P **P 05 49 41.8 -1.5**
RCLB Rio Claro- Sao 24.39 69 *e*P **P 05 49 42.3 -1.0**
RCLB Rio Claro- Sao 24.39 69 *e*P **P 05 49 42.3 -1.0**
VAO Valinhos 24.52 71 *e*P **P 05 49 44.2 -0.3**
VAO Valinhos 24.52 71 *e*P **P 05 49 44.2 -0.3**
PARB Paraibuna 25.41 73 *e*P **P 05 49 52.6 0.0**
PARB Paraibuna 25.41 73 *e*P **P 05 49 52.6 0.0**
ARAG Araguaiana, MT 25.65 51 *e*P **P 05 49 53.7 -1.0**
ARAG Araguaiana, MT 25.65 51 *e*P **P 05 49 53.7 -1.0**
SAML Samuel 26.00 21 P **P 05 49 58.7 +0.8**
SAML IAmb IAmb 05 50 01.6
comp=Z,14nm,0.8s
SAML Samuel 26.00 21 *e*P **P 05 49 57.6 -0.2**
SAML Samuel 26.00 21 *e*P **P 05 49 57.6 -0.2**
IPMB Ipameri, GO 26.53 60 *e*P **P 05 50 02.6 -0.2**
IPMB Ipameri, GO 26.53 60 *e*P **P 05 50 02.6 -0.2**
MAN01 Angra dos Reis 26.97 74 *e*P **P 05 50 07.2 +0.5**
MAN01 Angra dos Reis 26.97 74 *e*P **P 05 50 07.2 +0.5**
CLDB Colider 27.22 37 *e*P **P 05 50 08.1 -0.9**
CLDB Colider 27.22 37 *e*P **P 05 50 08.1 -0.9**
BSCB Bom Sucesso 27.30 69 *e*P **P 05 50 09.5 -0.3**
BSCB Bom Sucesso 27.30 69 *e*P **P 05 50 09.5 -0.3**
BDFB Brasilia 28.24 56 P **P 05 50 17.3 -0.8**
comp=Z,5.2nm,0.4s,baz=224,slow=7.5,SNR=14
BDFB LR LR 06 02 44.4
comp=Z,504nm,18.3s,baz=219,slow=39
BDFB Brasilia 28.24 56 P **P 05 50 17.5 -0.6**
MC01 Montes Claros 30.47 63 *e*P **P 05 50 36.8 -1.1**
MC01 Montes Claros 30.47 63 *e*P **P 05 50 36.8 -1.1**
PEXB Peixe 30.59 51 *e*P **P 05 50 38.3 -0.6**
PEXB Peixe 30.59 51 *e*P **P 05 50 38.3 -0.6**
NPGB Novo Progresso 30.75 34 *e*P **P 05 50 39.7 -0.6**
NPGB Novo Progresso 30.75 34 *e*P **P 05 50 39.7 -0.6**
JANB Januaria 31.26 60 *e*P **P 05 50 45.0 +0.2**
JANB Januaria 31.26 60 *e*P **P 05 50 45.0 +0.2**
SJMB Sao Joao De Ma 31.38 69 *e*P **P 05 50 45.6 -0.3**
SJMB Sao Joao De Ma 31.38 69 *e*P **P 05 50 45.6 -0.3**
BSFB Barra de Sao F 31.57 70 *e*P **P 05 50 47.0 -0.6**
BSFB Barra de Sao F 31.57 70 *e*P **P 05 50 47.0 -0.6**
MACA Manacapuru-AM 32.23 22 *e*P **P 05 50 53.9 +0.6**
MACA Manacapuru-AM 32.23 22 *e*P **P 05 50 53.9 +0.6**
HOPE Hope Point 32.35 140 P **P 05 50 53.0 -1.0**
NAN01 Guarapari, ES 32.70 69 *e*P **P 05 50 56.5 -1.0**
NAN01 Guarapari, ES 32.70 69 *e*P **P 05 50 56.5 -1.0**
SMTB Santa Maria do 33.51 48 *e*P **P 05 51 04.4 -0.2**
SMTB Santa Maria do 33.51 48 *e*P **P 05 51 04.4 -0.2**
PRPB Parauapebas 34.34 42 *e*P **P 05 51 11.3 -0.4**
PRPB Parauapebas 34.34 42 *e*P **P 05 51 11.3 -0.4**
PTGA Pitinga 34.74 22 P **P 05 51 15.6 +0.3**
PTGA IAmb IAmb 05 51 16.4
comp=Z,14nm,0.9s
PTGA Pitinga 34.74 22 *e*P **P 05 51 15.5 +0.3**
PTGA Pitinga 34.74 22 *e*P **P 05 51 15.5 +0.3**
GDU01 Guandu, BA 35.61 64 *e*P **P 05 51 21.8 -0.9**
GDU01 Guandu, BA 35.61 64 *e*P **P 05 51 21.8 -0.9**
MALB Monte Alegre 35.84 32 *e*P **P 05 51 24.4 -0.3**
MALB Monte Alegre 35.84 32 *e*P **P 05 51 24.4 -0.3**
RUSC La Rusia 39.41 358 P **P 05 51 55.0 -0.4**
VNA3 Neumayer Olymp 49.64 158 P **P 05 53 17.7 +1.7**
VNA1 Neumayer--Stat 49.96 157 P **P 05 53 20.5 +2.2**
VNA2 Neumayer--Watz 50.29 157 P **P 05 53 22.3 +1.4**
baz=287,slow=8.9
MLPR Magueyes Islan 51.63 6 P **P 05 53 31.9 +0.4**
CRPR Cabo Rojo, PR 51.66 6 P **P 05 53 31.6 -0.1**
OBIP Obispado Ponce 51.74 7 P **P 05 53 32.2 -0.2**
BANI BANI 51.85 2 P **P 05 53 33.8 +0.5**
SNAA Sanae 51.87 158 P **P 05 53 34.0 +1.1**
SNAA Sanae 51.87 158 P **P 05 53 33.9 +1.1**
SNAA IAmb IAmb 05 53 35.2
comp=Z,17nm,1.1s
QSPA South Pole Qui 56.51 180 P **P 05 54 08.3 +1.5**
comp=Z,5.6nm,0.9s,baz=136,slow=3.1,SNR=15
QSPA South Pole Qui 56.51 180 P **P 05 54 08.0 +1.1**
QSPA IAmb IAmb 05 54 09.7
comp=Z,7.0nm,1.0s
VNDA Vanda 64.36 191 P **P 05 55 02.4 +2.2**
comp=Z,0.6nm,0.7s,baz=106,slow=6.6,SNR=4.5
X51A Calhoun 68.97 349 P **P 05 55 27.8 -2.1**
X51A IAmb IAmb 05 55 32.5
comp=Z,13nm,0.9s
JCT Junction City 69.00 335 P **P 05 55 28.3 -2.0**
JCT IAmb IAmb 05 55 33.1
comp=Z,7.5nm,0.8s
TXAR Lajitas Array 69.46 331 P **P 05 55 35.1 +1.8**
comp=Z,1.6nm,0.7s,baz=153,slow=8.3,SNR=15
TX31 Lajitas Ar. Si 69.46 331 P **P 05 55 31.7 -1.6**
TX31 IAmb IAmb 05 55 37.4
comp=Z,8.3nm,1.1s
TX32 Lajitas Array 69.46 331 P **P 05 55 33.9 +0.6**
WHTX Lake Whitney, 69.59 337 P **P 05 55 31.7 -2.2**
WHTX IAmb IAmb 05 55 36.8
comp=Z,10nm,1.1s
PLAL Pickwick Lake 69.96 346 P **P 05 55 36.9 +0.8**
PLAL IAmb IAmb 05 55 37.7
comp=Z,5.2nm,0.9s
V48A Smith Brothers 70.46 347 P **P 05 55 40.2 +1.1**
V48A IAmb IAmb 05 55 41.7
comp=Z,14nm,0.9s
WVT Waverly 71.03 347 P **P 05 55 43.3 +0.8**
MNTX Cornudas Mount 72.23 331 P **P 05 55 48.9 -1.1**
MSTX Muleshoe 73.23 334 P **P 05 55 56.2 +0.2**
MSTX IAmb IAmb 05 55 58.2
comp=Z,5.4nm,0.8s
MAW Mawson 73.47 164 P **P 05 55 58.0 +1.1**
comp=Z,3.5nm,0.8s,baz=214,slow=8.5,SNR=5.6
MAW Mawson 73.47 164 IAmb IAmb 05 55 59.0
comp=Z,1.6nm,1.1s
CCM Cathedral Cave 73.59 344 P **P 05 55 59.1 +1.2**
CCM IAmb IAmb 05 55 59.8
comp=Z,9.8nm,0.8s
AMTX Amarillo 73.66 335 P **P 05 55 57.9 -0.6**
DBIC Dimbokro 75.16 71 P **P 05 56 07.9 +0.4**
comp=Z,6.1nm,0.8s,baz=222,slow=7.8,SNR=6.2
DBIC Dimbokro 75.16 71 IAmb IAmb 05 56 09.2
comp=Z,9.4nm,0.9s
P40A Paris 75.19 344 P **P 05 56 06.7 -0.4**
P40A IAmb IAmb 05 56 09.1
comp=Z,11nm,0.9s
X16A Lo Mia Camp, P 77.17 328 P **P 05 56 16.9 -1.8**
KSCO Kaye Shedlock' 77.70 336 P **P 05 56 21.2 -0.4**
ECSD EROS Data Cent 80.26 342 P **P 05 56 35.9 +0.6**
HWUT Hardware Ranch 83.27 331 P **P 05 56 51.2 -0.2**
NVAR Mina Array Bea 83.61 325 P **P 05 56 54.5 +1.0**
comp=Z,0.5nm,0.7s,baz=163,slow=7.3,SNR=4.8
TOA0 Torodi Ar. Sit 84.18 70 P **P 05 56 56.5 0.0**
TOA0 IAmb IAmb 05 56 57.8
comp=Z,9.2nm,0.8s
TORD Torodi Ar. Bea 84.18 70 P **P 05 56 56.8 +0.3**
comp=Z,7.9nm,0.8s,baz=256,slow=4.4,SNR=35
J08A Circle Bar Ran 87.62 328 P **P 05 57 14.0 +0.9**
ASAR Alice Springs 117.78 207 PKP **PKPdf 06 03 11.4 -0.3**
comp=Z,0.5nm,0.8s,baz=165,slow=3.8,SNR=4.4
WRA Warramunga Arr 120.97 209 PKP **PKPdf 06 03 17.9 -0.1**
comp=Z,1.0nm,0.8s,baz=157,slow=1.7,SNR=5.3
BRTR Keskin Array B 121.76 61 PKP **PKiKP 06 03 19.4 +0.3**
comp=Z,0.5nm,0.8s,baz=216,slow=6.1,SNR=3.7
AKASG Malin Array Be 122.06 47 PKP **PKPdf 06 03 18.7 -0.2**
comp=Z,0.3nm,0.4s,baz=274,slow=2.5,SNR=2.4
KLMR Klimovskoe 129.22 36 *e*PKPdf **PKPdf 06 03 32.0 -0.3**
KLMR AMP 06 03 33.9
comp=Z,6.0nm,1.0s
BRVK Borovoye 147.05 43 PKPbc 06 04 06.9 -0.2
GAR Garm 149.45 69 PKiKP 06 04 15.2 0.0
KK31 Karatay Array 149.47 61 PKPbc 06 04 14.4 +0.5
NIL Nilore 151.27 80 PKPdf **PKPdf 06 04 11.1 -1.4**
NIL **PKPbc 06 04 18.4 -0.2**
NIL PKPab **PKPab 06 04 25.9 -0.6**
ZAA0 Zalesovo Array 154.03 32 PKPdf **PKPdf 06 04 14.7 -1.1**
ZAA0 **PKiKP 06 04 24.4 +0.4**
ZAA0 PKPab **PKPab 06 04 38.6 +1.2**
ZALV Zalesovo Beam 154.03 32 PKP **PKPdf 06 04 16.6 +0.8**
comp=Z,1.1nm,0.7s,baz=264,slow=2.8,SNR=6.8
ZALV PKPbc **PKiKP 06 04 24.4 +0.4**
comp=Z,3.1nm,0.6s,baz=304,slow=3.5,SNR=16
ZALV PKPab **PKPab 06 04 37.7 +0.3**
comp=Z,3.3nm,0.7s,baz=295,slow=5.6,SNR=8.1
MKAR Makanchi Array 156.63 48 PKP **PKPdf 06 04 20.4 +0.7**
comp=Z,0.7nm,0.8s,baz=270,slow=1.0,SNR=6.2
MKAR PKPab **PKPab 06 04 49.3 +0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,1.5nm,0.7s,baz=294,slow=3.5,SNR=7.5						
GTA	Gaotai	171.38	46	ePKP	PKPdf	06 04 33.9	+0.5
CD2	Chengdu	175.53	128	PKP	PKPdf	06 04 33.6	-1.6
LZH	Lanzhou	175.93	53	ePKP	PKPdf	06 04 30.9	-4.3
LZH				pPKP	sPKPdf	06 04 41.2	-0.5
LZH				sPKP		06 04 46.9	

MEX 02 05:49:03.4±0.6, 14°.38N×92°.22W, h73km±10km, MD3.8
GCG 02 05:49:06.3±0.7, 14°.31N×92°.20W, h32km±999km, MD3.7
ISC 02 05:49:03.8±2.1**, 14°.3N**±0°.1×**92°.40W**±0°.08**, h62**km**, n7,** σ**1s.40**/12**, Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		0.61	13	eP	Pn	05 49 15.1	-1.9
THIG				eS	Sn	05 49 25.0	-1.7
FUG	Fuego 3	1.52	85	eP	Pn	05 49 28.7	-0.2
PCIG		1.59	330	eP	Pn	05 49 29.1	-0.7
PCIG				i S	Sn	05 49 48.4	-1.0
PCG	Pacaya	1.74	87	eP	Pn	05 49 32.9	+0.9
PCG				eS	Sn	05 49 52.7	-0.6
IXG	Ixpaco	1.91	94	eP	Pn	05 49 34.3	+0.1
CCIG	Comitan	1.98	7	i P	Pn	05 49 36.3	+1.2
CCIG				i S	Sn	05 50 00.8	+1.9
CMIG	Matias Romero	3.65	319	eP	Pn	05 49 58.0	+0.2
CMIG				i S	Sn	05 50 41.5	+1.8

WEL 02 05:55:56.4, 40°S±3°×**17°4E**±°**, h235**km±5km**, M2.6**/28**, MLv2.6**/28**, Error ellipse: s-maj=0.0km s-min=0.0km az=81.8, Off west coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEZ	North Egmont	0.84	32	P	Pn	05 56 29.0	-0.1
DUWZ	D'Urville Isla	0.87	159	P	Pn	05 56 29.7	+0.7
DUWZ				S	S	05 56 54.0	-0.8
PKE	Pukeiti	0.87	25	P	Pn	05 56 29.4	+0.1
QRZ	Quartz Range	1.13	222	P	Pn	05 56 30.7	+0.1
QRZ				S	S	05 56 55.4	-1.9
WAZ	Wanganui	1.15	79	P	Pn	05 56 31.7	+0.9
WAZ				S	S	05 56 57.1	-0.5
NNZ	Nelson	1.23	185	P	Pn	05 56 31.6	+0.4
NNZ				S	S	05 56 57.7	-0.9
NNZ	Nelson	1.23	185	P	S	05 56 57.6	-1.0
VRZ	Vera Road	1.29	48	P	Pn	05 56 31.7	0.0
VRZ				S	S	05 56 57.8	-1.5
TCW	Tory Channel	1.35	155	P	Pn	05 56 33.0	+0.9
TCW				S	S	05 56 58.6	-1.5
KIW	Kapiti Island	1.37	130	P	Pn	05 56 32.8	+0.6
KIW				S	S	05 56 58.0	-2.4
TUWZ	Tuamarina	1.48	168	P	Pn	05 56 33.7	+0.7
TUWZ				S	S	05 57 00.2	-1.6
OGWZ	Otaki Gorge	1.51	124	P	Pn	05 56 34.3	+1.1
PKVZ	Pokaka	1.57	64	P	Pn	05 56 33.9	-0.1
CAW	Cannon Point	1.62	134	P	Pn	05 56 34.6	+0.4
MRZ	Mangatainoka R	1.71	114	P	Pn	05 56 34.8	-0.2
TRVZ	Turoa	1.71	67	P	Pn	05 56 35.2	-0.1
FWVZ	Far West T-bar	1.73	66	P	Pn	05 56 35.3	-0.2
TWVZ	Taurewa	1.74	59	P	Pn	05 56 34.9	-0.6
BSWZ	Blackbirch Sta	1.75	171	P	Pn	05 56 35.9	+0.6
TUVZ	Tukino	1.80	67	P	Pn	05 56 36.2	+0.2
NGZ	Ngauruhoe	1.80	64	P	Pn	05 56 35.9	-0.2
MOVZ	Moawhango	1.82	72	P	Pn	05 56 35.7	-0.3
WTVZ	West Tongariro	1.82	62	P	Pn	05 56 36.0	-0.2
THZ	Tophouse	1.83	195	P	Pn	05 56 36.5	+0.4
KRVZ	Karewarewa	1.87	62	P	Pn	05 56 36.4	-0.1
KATZ	Kakaramea	1.96	60	P	Pn	05 56 37.4	-0.1
BHHZ	Black Hill Sta	2.02	77	P	Pn	05 56 37.4	-0.6
DVHZ	Dannevirke	2.05	100	P	Pn	05 56 38.2	+0.1
PLWZ	Palliser	2.06	141	P	Pn	05 56 38.0	-0.1
PNHZ	Pukenui	2.06	89	P	Pn	05 56 38.3	+0.1
DSZ	Denniston Nort	2.19	216	P	Pn	05 56 39.4	0.0
BFZ	Birch Farm	2.19	109	P	Pn	05 56 39.7	+0.2
KRHZ	Kereru	2.22	82	P	Pn	05 56 39.8	0.0
KWHZ	Kaweka Forest	2.31	77	P	Pn	05 56 41.0	+0.3
KHZ	Kahutara	2.42	180	P	Pn	05 56 41.4	-0.3
BKZ	Black Stump Fm	2.44	71	P	Pn	05 56 41.5	-0.5
MCHZ	McNeill Hill	2.51	78	P	Pn	05 56 43.2	+0.5
KAHZ	Kahuranaki	2.59	87	P	Pn	05 56 43.8	+0.3
LTZ	Lake Taylor	2.94	198	P	Pn	05 56 46.9	-0.4
GVZ	Greta Valley S	3.00	187	P	Pn	05 56 47.2	-0.7
INZ	Inchbonnie	3.15	209	P	Pn	05 56 49.0	-0.5
OXZ	Oxford	3.52	198	P	Pn	05 56 52.7	-1.0
OKCZ	Okains Bay	3.75	185	P	Pn	05 56 55.4	-1.1
MQZ	McQueen's Vall	3.77	190	P	Pn	05 56 55.1	-1.6
RPZ	Rata Peaks	4.15	206	P	Pn	05 57 00.4	-0.9
FOZ	Fox Glacier	4.50	217	P	Pn	05 57 04.1	-1.3
JCZ	Jackson Bay	5.39	219	P	Pn	05 57 15.1	-1.5
ODZ	Otahua Downs	5.48	202	P	Pn	05 57 17.0	-0.6

IDC 02 06:14:05.1±0.9, 49°.59S×125°.99E, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.0/28, mbtmp4.0/7, MS3.5/2, Ms1 3.4/2, ms1mx3.1/25, Error ellipse: s-maj=51.8km s-min=16.9km az=98.0
NEIC 02 06:14:06.6±0.5, 49°.56S±0°.06×126°.2E±0°.5, h10km±1km, mb4.3/6, Error ellipse: s-maj=52.3km s-min=8.1km az=278.0
ISC 02 06:14:06.6±0.8**, 49°.6S**±0°.1×**126°.0E**±0°.3**, h10**km**, n21,** σ**0s.63**/14**, mb4.2**/8**, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	17.07	325	T	T	06 35 40.7	
	baz=151,slow=73,SNR=34						
H01W2	Cape Leeuwin H	17.08	325	T	T	06 35 38.5	
	baz=151,slow=73,SNR=38						
H01W3	Cape Leeuwin H	17.09	325	T	T	06 35 43.9	
	baz=151,slow=73,SNR=30						
NWAO	Narrogin (SRO)	17.89	335	LR	LR	06 23 18.7	
	comp=Z,250nm,20.7s,baz=140,slow=31						
NWAO	Narrogin (SRO)	17.89	335		P	06 18 16.0	0.0
NWAO				IAmb	IAmb	06 18 30.2	
	comp=Z,20nm,1.2s						
STKA	Stephens Creek	21.20	39	P	P	06 18 53.2	+0.8
	comp=Z,2.0nm,0.8s,baz=184,slow=10,SNR=2.3						
STKA				LR	LR	06 25 26.7	
	comp=Z,86nm,21.2s,baz=204,slow=32						
ASAR	Alice Springs	26.61	16	P	P	06 19 44.2	-0.9
	comp=Z,3.0nm,0.6s,baz=188,slow=10.0,SNR=17						
AS31	Alice Springs	26.61	16	P	P	06 19 44.5	-0.7
WRA	Warramunga Arr	30.33	16	P	P	06 20 17.4	-0.9
	comp=Z,0.4nm,0.5s,baz=192,slow=7.9,SNR=5.4						
WR0	Warramunga Arr	30.34	16	P	P	06 20 17.9	-0.6
WR0				IAmb	IAmb	06 20 31.6	
	comp=Z,9.5nm,1.4s						
VNDA	Vanda	31.15	166	P	P	06 20 24.6	-0.4
	comp=Z,2.4nm,0.8s,baz=306,slow=8.9,SNR=14						
VNDA	Vanda	31.15	166	P	P	06 20 24.9	-0.1
VNDA				IAmb	IAmb	06 20 33.3	
	comp=Z,4.0nm,0.8s						
QSPA	South Pole Qui	40.53	180	P	P	06 21 45.2	-0.4
	comp=Z,3.6nm,1.0s,baz=351,slow=4.8,SNR=5.7						
QSPA	South Pole Qui	40.53	180	P	P	06 21 46.0	+0.3
QSPA				IAmb	IAmb	06 21 47.6	
	comp=Z,11nm,1.4s						
SNAA	Sanae	53.76	198	P	P	06 23 28.7	+0.2
	comp=Z,4.8nm,0.9s,baz=141,slow=8.1,SNR=14						
SNAA	Sanae	53.76	198	P	P	06 23 28.6	+0.1
H08S2	Diego Garcia H	61.05	294	T	T	07 30 34.0	
	baz=144,slow=76,SNR=7.2						
H08S1	Diego Carcia H	61.07	294	T	T	07 30 24.0	
	baz=144,slow=76,SNR=4.9						
H08S3	Diego Garcia H	61.07	294	T	T	07 30 35.4	
	baz=144,slow=76,SNR=6.3						
CMAR	Chiang Mai Arr	71.87	333	P	P	06 25 30.0	+0.4
	comp=Z,0.5nm,0.4s,baz=139,slow=4.3,SNR=4.7						
YKA	Yellowknife Ar	145.16	45	PKPbc	PKPdf	06 33 43.7	+0.7
	comp=Z,0.6nm,0.6s,baz=261,slow=3.8,SNR=8.5						

IDC 02 06:15:09.0±2.5**, 29°.67S**×**139°.46E, h0**km**, mb1 2.9**/3**, mb1mx2.9**/27**, mbtmp2.6**/3**, ML2.2**/3**, Error ellipse: s-maj=170.1km s-min=17.5km az=52.0, South Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	2.87	141	Pn	Pn	06 15 54.4	-1.6
	0.1nm,0.3s,baz=325,slow=12,SNR=1.8						
STKA				Sn	Sn	06 16 30.7	-0.5
	0.7nm,0.3s,baz=285,slow=16,SNR=5.0						
STKA				Lg	Lg	06 16 41.8	
	0.9nm,0.3s,baz=357,slow=16,SNR=6.5						
ASAR	Alice Springs	7.78	319	Pn	Pn	06 17 05.3	+1.8
	0.0nm,0.3s,baz=148,slow=13,SNR=2.4						
ASAR				Sn	Sn	06 18 26.7	-5.6
	0.1nm,0.3s,baz=151,slow=22,SNR=2.5						
WRA	Warramunga Arr	10.74	333	Pn	Pn	06 17 43.2	-1.0
	0.0nm,0.3s,baz=154,slow=11,SNR=1.6						
WRA				Sn	Sn	06 19 40.2	-5.0
	0.0nm,0.3s,baz=160,slow=24,SNR=1.6						

NEIC 02 06:27:55.2±0.9, 17°.9S±0°.2×178°.7W±0°.2, h597km±10km, mb4.2/16, Error ellipse: s-maj=28.4km s-min=16.7km az=129.0
IDC 02 06:27:56.5±6.1, 17°.58S×178°.82W, h607km±75km, mb3.2/7, mb1 3.5/8, mb1mx3.1/41, mbtmp4.2/8, Error ellipse: s-maj=97.7km s-min=27.3km az=152.0
ISC 02 06:27:53.9±0.9**, 18°.0S**±0°.2×**178°.5W**±0°.2**, h579**km**, n26,** σ**0s.91**/27**, mb4.1**/15**, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	3.28	274	P	P	06 29 15.4	+2.3
DZM	Mont Dzumac	14.69	252	P	P	06 31 00.4	+0.5
	0.5nm,0.3s,baz=122,slow=12,SNR=6.8						
ARMA	Armidale	29.79	240	P	P	06 33 15.9	+0.8
ARMA				IAmb	IAmb	06 33 20.2	
	comp=Z,7.0nm,1.2s						
CTA	Charters Tower	33.32	261	P	P	06 33 44.8	-0.4
	comp=Z,1.8nm,0.4s,baz=98,slow=9.3,SNR=6.2						
CTAO	Charters Tower	33.32	261	P	P	06 33 45.0	-0.2
TOO	Toolangi	37.02	231	P	P	06 34 15.1	-0.5
STKA	Stephens Creek	38.48	241	P	P	06 34 27.9	+0.4
	comp=Z,4.5nm,0.7s,baz=82,slow=8.8,SNR=7.5						
STKA	Stephens Creek	38.48	241	P	P	06 34 28.4	+0.9
BBOO	Buckleboo	43.26	241	P	P	06 35 05.5	+0.1
BBOO				IAmb	IAmb	06 35 05.6	
	comp=Z,6.1nm,0.7s						
WR0	Warramunga Arr	44.32	260	P	P	06 35 13.8	+0.1
WR0				IAmb	IAmb	06 35 21.1	
	comp=Z,7.1nm,1.3s						
WB0	Warramunga Arr	44.47	260	P	P	06 35 14.1	-0.8
WB0				IAmb	IAmb	06 35 14.4	
	comp=Z,6.1nm,0.9s						
WB2	Warramunga Arr	44.49	260	P	P	06 35 14.3	-0.8
WB2				IAmb	IAmb	06 35 20.7	
	comp=Z,14nm,1.4s						
WRAB	Tennant Creek	44.50	260	P	P	06 35 13.3	-1.8
WRAB				IAmb	IAmb	06 35 19.3	
	comp=Z,12nm,1.5s						
WRA	Warramunga Arr	44.51	260	P	P	06 35 14.1	-1.0
	comp=Z,1.6nm,0.4s,baz=90,slow=8.0,SNR=53						
AS31	Alice Springs	44.66	254	P	P	06 35 15.9	-0.5
AS31				IAmb	IAmb	06 35 17.0	
	comp=Z,4.6nm,0.6s						
ASAR	Alice Springs	44.66	254	P	P	06 35 16.0	-0.3
	comp=Z,18nm,0.6s,baz=87,slow=8.6,SNR=200						
ASAR				PcP	PcP	06 36 45.4	-0.8
	comp=Z,0.6nm,0.7s,baz=103,slow=4.4,SNR=3.1						
MTN	Manton Dam	48.69	269	P	P	06 35 45.8	-0.9
FORT	Forrest	49.86	245	P	P	06 35 54.2	-0.9
KNRA	Kununurra	50.37	264	P	P	06 35 58.5	-0.5
KNRA				IAmb	IAmb	06 36 11.2	
	comp=Z,13nm,1.1s						
FITZ	Fitzroy Crossi	52.90	261	P	P	06 36 16.0	-1.2
PSA00	Pilbara Seismi	57.78	255	P	P	06 36 50.1	-0.9
QSPA	South Pole Qui	72.04	180	P	P	06 38 20.4	+0.5
YERR	Yerington	79.27	43	P	P	06 39 00.1	-0.2
NVAR	Mina Array Bea	79.58	44	P	P	06 39 01.5	-0.5
	comp=Z,0.7nm,0.8s,baz=219,slow=7.3,SNR=5.9						
TXAR	Lajitas Array	86.14	58	P	P	06 39 35.5	+0.6
	comp=Z,0.5nm,0.7s,baz=216,slow=6.7,SNR=7.0						
PDAR	Pinedale Array	87.50	43	P	P	06 39 40.3	-0.8
	comp=Z,0.2nm,0.3s,baz=250,slow=6.4,SNR=2.4						

WEL 02 06:29:13.0±0.3**, 33°S**±4°×**17°9W**±1°1**, h153**km±6km**, M4.1**/38**, mB4.6**/19**, MLv5.1**/38**, Mw(mB)3.8**/19**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.71	11	P	Pn	06 30 08.4	-1.2
GLKZ				S	Sn	06 30 51.1	-2.4
RIZ	Raoul Island	3.73	11	P	Pn	06 30 10.2	+0.4
RIZ				S	Sn	06 30 54.0	+0.1
MXZ	Matakaoa Point	5.23	207	P	Pn	06 30 31.2	+1.8
MXZ				S	Sn	06 31 30.2	+1.1
WMGZ	Waiomatatini S	5.42	205	P	Pn	06 30 34.4	+2.5
WMGZ				S	Sn	06 31 36.4	+2.8
PKGZ	Pakihiroa	5.60	207	P	Pn	06 30 35.9	+1.5
PKGZ				S	Sn	06 31 40.6	+2.5
HAZ	Te Kaha	5.61	210	P	Pn	06 30 36.5	+2.1
HAZ				S	Sn	06 31 38.7	+0.7
PUZ	Puketiti	5.70	205	P	Pn	06 30 36.8	+1.1
PUZ				S	Sn	06 31 42.2	+1.9
RUGZ	Raukumara Rang	5.83	209	P	Pn	06 30 38.5	+1.0
RUGZ				S	Sn	06 31 42.3	-1.3
TWGZ	Tauwhareparae	5.89	206	P	Pn	06 30 39.8	+1.5
TWGZ				S	Sn	06 31 47.0	+2.0
CNGZ	Carnagh Statio	6.08	203	P	Pn	06 30 42.3	+1.6
CNGZ				S	Sn	06 31 52.1	+2.6
TKGZ	Te Karaka	6.17	206	P	Pn	06 30 42.2	+0.4
TKGZ				S	Sn	06 31 52.5	+0.9
MWZ	Matawai	6.20	208	P	Pn	06 30 42.5	+0.1
MWZ				S	Sn	06 31 51.3	-1.1
URZ	Urewera	6.32	211	P	Pn	06 30 44.3	+0.5
URZ				S	Sn	06 31 51.8	-3.2
RIGZ	Rimuhau	6.44	205	P	Pn	06 30 45.1	-0.4
RIGZ				S	Sn	06 31 57.9	-0.1
PRGZ	Paritu Road	6.59	204	P	Pn	06 30 47.8	+0.3
PRGZ				S	Sn	06 32 02.1	+0.5
MUGZ	Murupara	6.64	212	P	Pn	06 30 50.8	+2.5
MUGZ				S	Sn	06 32 01.7	-1.3
SNGZ	Shannon Statio	6.66	208	P	Pn	06 30 48.0	-0.5
SNGZ				S	Sn	06 32 02.8	-0.6
PRRZ	Plateau Road	6.84	214	P	Pn	06 30 53.0	+2.2
RAHZ	Arahi	6.88	208	P	Pn	06 30 50.0	-1.3
RAHZ				S	Sn	06 32 06.0	-2.6
ALRZ	Allen Road	6.91	214	P	Pn	06 30 54.5	+2.7
ALRZ				S	Sn	06 32 07.2	-2.1
MTHZ	Maungataniwha	6.93	210	P	Pn	06 30 52.2	+0.2
MTHZ				S	Sn	06 32 06.8	-2.9
WHHZ	Waihua	6.96	207	P	Pn	06 30 55.8	+3.4
WHHZ				S	Sn	06 32 08.8	-1.7
WPRZ	Whakapapatarin	6.96	215	P	Pn	06 30 55.4	+2.9
TLZ	Tolley Road	7.14	219	P	Pn	06 30 58.2	+3.3
NMHZ	Naumai	7.15	209	P	Pn	06 30 54.4	-0.5
NMHZ				S	Sn	06 32 12.9	-2.1
BKZ	Black Stump Fm	7.34	211	P	Pn	06 30 55.8	-1.7
MCHZ	McNeill Hill	7.49	208	P	Pn	06 31 00.9	+1.5
KATZ	Kakaramea	7.55	215	P	Pn	06 31 02.8	+2.4
KWHZ	Kaweka Forest	7.58	210	P	Pn	06 31 00.2	-0.6
HIZ	Hauiti	7.64	221	P	Pn	06 31 04.1	+2.6
WTVZ	West Tongariro	7.71	215	P	Pn	06 31 03.7	+1.2
KAHZ	Kahuranaki	7.72	206	P	Pn	06 31 01.4	-1.2
TWVZ	Taurewa	7.75	216	P	Pn	06 31 04.4	+1.4
NGZ	Ngauruhoe	7.75	215	P	Pn	06 31 04.4	+1.3
KRHZ	Kereru	7.79	209	P	Pn	06 31 02.5	-1.0
BHHZ	Black Hill Sta	7.79	211	P	Pn	06 31 04.3	+0.8
TUVZ	Tukino	7.80	214	P	Pn	06 31 04.8	+1.1
FWVZ	Far West T-bar	7.83	215	P	Pn	06 31 04.8	+0.5
WHVZ	Whangaehu Hut	7.84	214	P	Pn	06 31 05.3	+0.9
MOVZ	Moawhango	7.86	213	P	Pn	06 31 04.3	-0.2
TRVZ	Turoa	7.87	214	P	Pn	06 31 05.5	+0.7
PXZ	Pawanui	7.93	205	P	Pn	06 31 03.2	-2.1
PNHZ	Pukenui	8.09	209	P	Pn	06 31 05.5	-1.9
PRHZ	Porangahau	8.22	206	P	Pn	06 31 08.3	-1.0
DVHZ	Dannevirke	8.43	208	P	Pn	06 31 11.4	-0.6
ANWZ	Angora Road	8.45	206	P	Pn	06 31 13.8	+1.5
WAZ	Wanganui	8.50	215	P	Pn	06 31 13.0	+0.1
PKE	Pukeiti	8.60	221	P	Pn	06 31 16.5	+2.2
KHEZ	Kahui Hut	8.66	221	P	Pn	06 31 16.7	+1.6
POWZ	Post Office Ro	8.67	209	P	Pn	06 31 14.6	-0.5
PRWZ	Pori Road	8.72	208	P	Pn	06 31 16.5	+0.6
BFZ	Birch Farm	8.73	206	P	Pn	06 31 14.0	-2.0
MRZ	Mangatainoka R	8.97	209	P	Pn	06 31 16.7	-2.5
HOWZ	Holdsworth Sta	9.20	208	P	Pn	06 31 20.9	-1.4
TMWZ	Te Maipa	9.23	206	P	Pn	06 31 22.0	-0.7
OGWZ	Otaki Gorge	9.27	210	P	Pn	06 31 20.9	-2.3
KIW	Kapiti Island	9.42	211	P	Pn	06 31 22.3	-2.9
CAW	Cannon Point	9.56	210	P	Pn	06 31 23.7	-3.3
TRWZ	Traveller	9.56	206	P	Pn	06 31 26.0	-1.0
PAWZ	Paruwai Farm	9.65	207	P	Pn	06 31 25.4	-2.8
MSWZ	Moikau Station	9.74	208	P	Pn	06 31 27.6	-1.8
PLWZ	Palliser	9.87	207	P	Pn	06 31 29.0	-2.2

BJI 02 06:31:37.2±0.0, 32°.72S×178°.60W, h10km, mB5.6/23, mb5.4/27, Ms5.0/19, Ms7 4.8/20
NEIC 02 06:31:39.0±2.5, 33°.00S±0°.06×179°.04W±0°.08, h10km±3km, mb5.3/134, Ms_20 5.0/540, Mwb5.4/31, Mwc5.5(GCMT), Error ellipse: s-maj=9.4km s-min=8.6km az=92.0
NEIC 02 06:31:39, 33°.00S×179°.04W, h28km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.31; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$-1.24; $M_{r\theta}$0.02; $M_{\theta\phi}$0.93; $M_{\phi r}$0.48; Fault plane solution: $M_0$1.65000×10^{17} NP1:ϕ_s136.17000°, δ39.35000°, λ67.53000°. NP2:ϕ_s344.31000°, δ54.13000°, λ107.40000°. Principal axes: T 1.4229, Plg74.0000°, Azm304.0000°; N 0.3803, Plg14.0000°, Azm154.0000°; P -1.8031, Plg8.0000°, Azm62.0000°;
UNK 02 06:31:39.3, 33°.05S×178°.96W, h10km
WEL 02 06:31:40.6±0.3, 33°S±3°×17°8W±°, h33km, M5.4/67, mB5.8/66, ML6.0/54, MLv5.8/67, Mw(mB)5.3/66
MOS 02 06:31:41.7±1.0, 32°.92S×179°.04W, h29km, mb5.6/33, MS5.0/16, Error ellipse: s-maj=10.8km s-min=8.4km az=87.7
NEIC 02 06:31:47, 33°.00S×178°.92W, h54km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.83; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$-1.75; $M_{r\theta}$0.02; $M_{\theta\phi}$-0.58; $M_{\phi r}$0.78; Fault plane solution: $M_0$2.04000×10^{17} NP1:ϕ_s204.00000°, δ34.00000°, λ101.00000°. NP2:ϕ_s11.00000°, δ56.00000°, λ83.00000°. Principal axes: T 1.9955, Plg78.0000°, Azm257.0000°; N 0.0822, Plg6.0000°, Azm15.0000°; P -2.0777, Plg11.0000°, Azm106.0000°;
GCMT 02 06:31:47.0±0.1, 32°.97S±0°.01×178°.95W±0°.01, h51km, MW5.5/148, Moment Tensor Solution. s144,c244; s148,c275; Duration: 1s.4 Moment tensor: Scale 10^{17} Nm; M_{rr}1.97±.03; $M_{\theta\theta}$-0.17±.02; $M_{\phi\phi}$-1.80±.02; $M_{r\theta}$0.08±.02; $M_{\theta\phi}$-0.58±.02; $M_{\phi r}$0.81±.02; Best double couple: $M_0$2.13900×10^{17} NP1:ϕ_s202.00000°, δ34.00000°, λ98.00000°. NP2:ϕ_s13.00000°, δ56.00000°, λ85.00000°. Principal axes: T 2.1370, Plg78.0000°, Azm265.0000°; N 0.0040, Plg4.0000°, Azm16.0000°; P -2.1410, Plg11.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
IDC 02 06:31:53.1±2.6, 32°.89S×179°.29W, h111km±22km, mb4.7/20, mb1 4.8/21, mb1mx4.7/33, mbtmp5.0/21, MS4.7/34, Ms1 4.7/34, ms1mx4.7/39 Error ellipse: s-maj=14.1km s-min=11.3km az=52.0
ISC 02 06:31:43.0±0.6**, 33°.02S**±0°.04×**178°.84W**±0°.05**, h33**km±2km**, h32**km**:pP-P, n1019,** σ**1s.91**/814**, mb5.3**/127**, MS5.0**/318**, 45C-6D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	3.82	12	P	Pn	06 32 40.1	+0.6
GLKZ				S	Sn	06 33 24.6	+1.3
RAO	Raoul Island	3.83	12	P	Pn	06 32 40.5	+0.8
	358nm,0.3s,baz=172,slow=6.4,SNR=19						
RAO				S	Sn	06 33 25.9	+2.3
	1μm,0.3s,baz=141,slow=23,SNR=6.1						
RAO				LR	LR	06 34 10.6	
	comp=Z,11μm,21.4s,baz=174,slow=36						
RAO	Raoul Island	3.83	12	P	Pn	06 32 39.5	-0.1
RAO	Raoul Island	3.83	12	Pn	Pn	06 32 39.5	-0.1
RIZ	Raoul Island	3.84	12	P	Pn	06 32 41.0	+1.3
RIZ				S	Sn	06 33 28.5	+4.7
MXZ	Matakaoa Point	5.10	206	P	Pn	06 32 57.9	+0.9
MXZ				S	Sn	06 33 58.1	+3.4
MXZ	Matakaoa Point	5.10	206	Pn	Pn	06 32 54.3	-2.8
WMGZ	Waiomatatini S	5.29	204	P	Pn	06 33 00.9	+1.3
WMGZ				S	Sn	06 34 03.4	+4.0
PKGZ	Pakihiroa	5.47	207	P	Pn	06 33 02.7	+0.5
PKGZ				S	Sn	06 34 05.2	+1.2
HAZ	Te Kaha	5.47	209	P	Pn	06 33 03.8	+1.6
HAZ				S	Sn	06 34 07.4	+3.5
PUZ	Puketiti	5.57	204	P	Pn	06 33 03.9	+0.3
PUZ				S	Sn	06 34 06.4	0.0
RUGZ	Raukumara Rang	5.70	209	P	Pn	06 33 06.2	+0.9
RUGZ				S	Sn	06 34 11.3	+1.6
TWGZ	Tauwhareparae	5.76	206	P	Pn	06 33 06.5	+0.3
TWGZ				S	Sn	06 34 13.6	+2.4
KUZ	Kuaotunu	5.81	229	P	Pn	06 33 09.1	+2.2
WHRZ	Whale Island	5.92	214	P	Pn	06 33 11.9	+3.6
WHRZ				S	Sn	06 34 19.9	+5.0
CNGZ	Carnagh Statio	5.96	203	P	Pn	06 33 08.8	0.0
CNGZ				S	Sn	06 34 20.0	+4.1
TKGZ	Te Karaka	6.04	206	S	Sn	06 34 17.7	-0.3
MWZ	Matawai	6.07	208	P	Pn	06 33 10.4	0.0
MWZ				S	Sn	06 34 18.2	-0.6
OPRZ	Ohinepanea	6.11	217	P	Pn	06 33 14.0	+3.1
MARZ	Manawahe	6.16	215	P	Pn	06 33 14.7	+3.1
TGRZ	Tauranga	6.17	219	P	Pn	06 33 15.3	+3.5
URZ	Urewera	6.18	211	P	Pn	06 33 11.9	0.0
URZ				S	Sn	06 34 23.3	+1.9
EDRZ	Edgecumbe	6.23	214	P	Pn	06 33 15.6	+3.0
RAGZ	Rawiri	6.26	208	P	Pn	06 33 12.2	-0.8
RAGZ				S	Sn	06 34 24.5	+1.1
RIGZ	Rimuhau	6.31	205	P	Pn	06 33 13.5	-0.2
RIGZ				S	Sn	06 34 24.9	+0.2
LIRZ	Lichensteins R	6.32	217	P	Pn	06 33 18.8	+5.0
MKRZ	Makatiti	6.38	215	P	Pn	06 33 20.6	+5.9
MKAZ	Moumakai	6.39	229	P	Pn	06 33 18.9	+4.1
KARZ	Kaharoa	6.40	217	P	Pn	06 33 17.7	+2.7
OMRZ	Omania	6.40	216	P	Pn	06 33 18.6	+3.7
KMRZ	Kaimai	6.43	220	P	Pn	06 33 19.2	+3.8
TARZ	Mount Tarawera	6.44	215	P	Pn	06 33 18.8	+3.3
PRGZ	Paritu Road	6.46	203	P	Pn	06 33 14.8	-1.0
PRGZ				S	Sn	06 34 29.0	+0.6
NGRZ	Ngongotaha	6.49	217	P	Pn	06 33 21.0	+4.8
MUGZ	Murupara	6.51	212	P	Pn	06 33 16.2	-0.3
RRRZ	Republican Roa	6.52	214	P	Pn	06 33 19.4	+2.9
HLRZ	Highlands Stat	6.53	215	P	Pn	06 33 20.2	+3.6
SNGZ	Shannon Statio	6.53	207	P	Pn	06 33 17.1	+0.3
SNGZ				S	Sn	06 34 31.2	+1.1
RTZ	Ruatahuna	6.54	210	P	Pn	06 33 17.3	+0.4
RTZ				S	Sn	06 34 28.7	-1.6
UTU	Utuhina	6.55	217	P	Pn	06 33 23.4	+6.5
TOZ	Tahuroa Road	6.59	223	P	Pn	06 33 21.1	+3.6
KNZ	Kokohu	6.62	204	P	Pn	06 33 17.2	-0.7
HSRZ	Hossack Road	6.63	216	P	Pn	06 33 22.1	+4.1
OUZ	Omahuta	6.65	249	P	Pn	06 33 21.9	+3.7
OUZ	Omahuta	6.65	249	Pn	Pn	06 33 17.3	-1.0
MHGZ	Mahia Peninsul	6.67	202	P	Pn	06 33 17.8	-0.7
HRRZ	Handcock Road	6.67	215	P	Pn	06 33 22.3	+3.6
PRRZ	Plateau Road	6.70	214	P	Pn	06 33 21.0	+1.9
GRRZ	Galatos Road	6.72	216	P	Pn	06 33 21.4	+2.1
RAHZ	Arahi	6.75	208	P	Pn	06 33 20.9	+1.1
ALRZ	Allen Road	6.78	214	P	Pn	06 33 20.5	+0.4
MTHZ	Maungataniwha	6.79	210	P	Pn	06 33 21.4	+1.0
WPRZ	Whakapapatarin	6.83	215	P	Pn	06 33 25.2	+4.4
WHHZ	Waihua	6.83	207	P	Pn	06 33 22.0	+1.1
MRHZ	Matea Rd	6.96	212	P	Pn	06 33 22.4	-0.3
KUTZ	Kaahu Road	6.97	217	P	Pn	06 33 25.8	+3.0
TLZ	Tolley Road	7.00	219	P	Pn	06 33 26.3	+3.2
NMHZ	Naumai	7.02	209	P	Pn	06 33 24.3	+0.9
WHTZ	Whakaora	7.04	215	P	Pn	06 33 25.4	+1.6
WATZ	Wairara	7.19	216	P	Pn	06 33 27.8	+2.0
BKZ	Black Stump Fm	7.21	210	P	Pn	06 33 25.6	-0.4
BKZ	Black Stump Fm	7.21	210	Pn	Pn	06 33 24.7	-1.3
RATZ	Rangitukua	7.29	215	P	Pn	06 33 29.1	+1.9
RITZ	Rihia Road	7.34	214	P	Pn	06 33 29.5	+1.8
MCHZ	McNeill Hill	7.36	208	P	Pn	06 33 28.5	+0.4
CKHZ	Cape Kidnapper	7.40	205	P	Pn	06 33 27.9	-0.7
KATZ	Kakaramea	7.41	215	P	Pn	06 33 31.7	+2.8
KWHZ	Kaweka Forest	7.45	210	P	Pn	06 33 28.6	-0.8
HIZ	Hauiti	7.50	221	P	Pn	06 33 33.1	+3.0
HIZ	Hauiti	7.50	221	Pn	Pn	06 33 27.9	-2.1
KRVZ	Karewarewa	7.53	215	P	Pn	06 33 32.0	+1.5
WTVZ	West Tongariro	7.57	215	P	Pn	06 33 32.4	+1.3
KAHZ	Kahuranaki	7.59	206	P	Pn	06 33 29.4	-1.9
TWVZ	Taurewa	7.61	216	P	Pn	06 33 32.2	+0.6
NGZ	Ngauruhoe	7.62	215	P	Pn	06 33 32.9	+1.1
BHHZ	Black Hill Sta	7.66	211	P	Pn	06 33 31.9	-0.3

KRHZ Kereru 7.66 209 P Pn 06 33 30.7 -1.5
TUVZ Tukino 7.66 214 P Pn 06 33 33.5 +1.1
FWVZ Far West T-bar 7.70 214 P Pn 06 33 33.3 +0.4
WHVZ Whangaehu Hut 7.71 214 P Pn 06 33 33.8 +0.8
MOVZ Moawhango 7.73 213 P Pn 06 33 33.1 -0.1
TRVZ Turoa 7.74 214 P Pn 06 33 34.9 +1.4
PXZ Pawanui 7.81 205 P Pn 06 33 33.2 -0.9
PKVZ Pokaka 7.83 215 P Pn 06 33 36.1 +1.5
MTVZ Mangateitei 7.84 214 P Pn 06 33 35.2 +0.4
PNHZ Pukenui 7.96 209 P Pn 06 33 34.3 -2.0
WPHZ Waipukurau 7.99 207 P Pn 06 33 36.8 0.0
VRZ Vera Road 8.00 219 P Pn 06 33 38.9 +2.0
PRHZ Porangahau 8.10 205 P Pn 06 33 36.8 -1.3
MHEZ Mangahewa 8.20 221 P Pn 06 33 43.6 +4.0
DVHZ Dannevirke 8.30 207 P Pn 06 33 39.8 -1.2
ANWZ Angora Road 8.32 205 P Pn 06 33 40.6 -0.7
DREZ Durham Road 8.34 220 P Pn 06 33 45.7 +4.2
WAZ Wanganui 8.37 215 P Pn 06 33 41.9 0.0
LREZ Lake Rotokare 8.43 218 P Pn 06 33 44.2 +1.4
PKE Pukeiti 8.46 221 P Pn 06 33 46.8 +3.5
POWZ Post Office Ro 8.54 209 P Pn 06 33 43.2 -1.0
PRWZ Pori Road 8.60 207 P Pn 06 33 44.4 -0.6
BFZ Birch Farm 8.60 206 P Pn 06 33 43.1 -2.0
BFZ Birch Farm 8.60 206 Pn Pn 06 33 43.4 -1.7
CPWZ Castlepoint 8.82 205 P Pn 06 33 47.8 -0.3
TIWZ Tintock 8.82 207 P Pn 06 33 45.7 -2.5
TMWZ Te Maipa 9.11 206 P Pn 06 33 49.6 -2.4
TRWZ Traveller 9.43 206 P Pn 06 33 53.8 -2.7
PAWZ Paruwai Farm 9.52 207 P Pn 06 33 54.9 -2.8
MSWZ Moikau Station 9.62 208 P Pn 06 33 56.6 -2.4
MSWZ Moikau Station 9.62 208 Pn 06 33 55.8 -3.2
PLWZ Palliser 9.74 207 Pn Pn 06 33 55.6 -5.2
SNZO South Karori 9.75 210 Pn Pn 06 33 56.3 -4.5
BHW Baring Head 9.76 209 Pn 06 33 57.7 -3.3
TUWZ Tuamarina 10.18 212 Pn 06 34 02.7 -3.9
NNZ Nelson 10.27 215 Pn Pn 06 34 03.7 -4.3
CMWZ Cape Campbell 10.32 210 Pn Pn 06 34 04.8 -3.8
QRZ Quartz Range 10.41 219 Pn Pn 06 34 05.9 -4.0
BSWZ Blackbirch Sta 10.44 212 Pn 06 34 06.0 -4.2
THZ Tophouse 10.92 215 P Pn 06 34 13.2 -3.7
THZ Tophouse 10.92 215 Pn Pn 06 34 12.4 -4.5
KHZ Kahutara 11.15 211 Pn Pn 06 34 15.7 -4.3
LTZ Lake Taylor 12.01 213 Pn Pn 06 34 26.6 -5.1
OXZ Oxford 12.54 212 Pn Pn 06 34 34.2 -4.8
MQZ McQueen's Vall 12.58 210 P Pn 06 34 35.3 -4.2
MQZ McQueen's Vall 12.58 210 Pn Pn 06 34 34.4 -5.1
RPZ Rata Peaks 13.29 214 P Pn 06 34 43.6 -5.7
4.0nm,0.3s,baz=78,slow=2.4,SNR=19
RPZ S Sn 06 37 01.3 -15
7.0nm,0.3s,baz=148,slow=22,SNR=8.5
RPZ Rata Peaks 13.29 214 Pn 06 34 44.4 -4.8
FOZ Fox Glacier 13.76 217 P Pn 06 34 48.9 -6.6
FOZ Fox Glacier 13.76 217 Pn Pn 06 34 52.2 -3.3
LBZ Lake Benmore 14.21 214 Pn Pn 06 35 00.5 -1.3
ODZ Otahua Downs 14.51 211 P Pn 06 34 59.0 -6.8
ODZ Otahua Downs 14.51 211 Pn Pn 06 35 03.5 -2.4
MSVF Nonsavu 15.47 349 P Pn 06 35 18.1 -0.8
MSVF pmax pmax
comp=Z,251nm,1.2s
MSVF Nonsavu 15.47 349 Pn Pn 06 35 18.1 -0.8
MSVF IAmb IAmb 06 35 37.1
comp=Z,251nm,1.1s
MLZ Mavora Lakes 15.92 215 Pn Pn 06 35 22.0 -2.4
NIUE Niue 16.01 32 P Pn 06 35 24.6 -1.1
baz=16,SNR=5.7
NIUE Niue 16.01 32 Pn Pn 06 35 25.2 -0.5
NIUE IAmb IAmb 06 35 32.5
comp=Z,293nm,1.0s
DZM Mont Dzumac 16.98 306 ePn P 06 35 43.1 +3.3
comp=Z,425nm,1.6s
DZM eLR LR 06 39 48.0
comp=Z,19µm,25.5s,baz=137
DZM Mont Dzumac 16.98 306 P P 06 35 41.2 +1.4
comp=Z,1.0nm,0.3s,baz=113,slow=16,SNR=13
DZM LR LR 06 40 51.4
comp=Z,10µm,20.2s,baz=141,slow=32
DZM Mont Dzumac 16.98 306 Pn 06 35 37.0 -1.1
AFI Afiamalu 20.08 20 P P 06 36 12.1 -1.7
AFI pmax pmax
comp=Z,90nm,0.8s
AFI Afiamalu 20.08 20 P P 06 36 12.1 -1.7
RAR Rarotonga 20.61 60 P Pn 06 36 27.1 +5.3
comp=Z,47nm,0.9s,baz=213,slow=7.1,SNR=3.8
RAR S S 06 40 00.3 -7.8
comp=Z,39nm,0.8s,baz=85,slow=19,SNR=3.5
RAR LR LR 06 43 36.2
comp=Z,1µm,19.8s,baz=251,slow=34
RAR Rarotonga 20.61 60 P Pn 06 36 21.4 -0.4
RAR pmax pmax
comp=Z,160nm,1.3s
RAR Rarotonga 20.61 60 P Pn 06 36 21.4 -0.4
RAR IAmb IAmb 06 36 35.7
comp=Z,160nm,1.3s
ARMA Armidale 25.22 268 P P 06 37 06.6 +0.7
baz=26,SNR=4.9
CAN Canberra 26.65 256 IAMs_20 IAMs_20 06 46 12.3
comp=Z,4µm,20.0s
EIDS Eidsvold 27.28 278 P P 06 37 26.1 +1.7
baz=28,SNR=8.2
EIDS Eidsvold 27.28 278 P P 06 37 24.1 -0.3
TBI Tubuai 27.55 77 eS S 06 42 01.7 -4.3
comp=Z,997nm,29.5s
TBI eLQ LQ 06 43 01.5
comp=Z,3µm,27.5s
TBI eLR LR 06 44 14.5
comp=Z,6µm,27.8s,baz=241
TBI Tubuai 27.55 77 eT T 07 05 47.9
comp=Z,263nm,0.4s
TAU Tasmania Unive 28.29 240 P P 06 37 33.8 +0.6
TAU pmax pmax
comp=Z,39nm,1.0s
TAU Tasmania Unive 28.29 240 P P 06 37 33.8 +0.6
TAU IAmb IAmb 06 37 36.0
comp=Z,39nm,0.9s
MOO Moorlands 28.31 241 P P 06 37 32.2 -1.3
baz=28,SNR=6.5
RMQ Roma 28.80 274 P P 06 37 39.9 +1.9
baz=29,SNR=34
TOO Toolangi 29.35 251 P P 06 37 42.9 0.0
TOO pmax pmax
comp=Z,15nm,1.1s
TOO Toolangi 29.35 251 P P 06 37 42.9 0.0
PAE Paea 30.41 67 eT T 07 09 31.9
comp=Z,53nm,0.3s
PPT2 Papeete2 30.46 67 eS S 06 42 50.9 -1.0
comp=Z,1µm,27.0s
PPT2 eLQ LQ 06 44 07.0
comp=Z,2µm,26.2s
PPT2 eLR LR 06 45 40.9
comp=Z,5µm,26.2s,baz=230
PPT2 Papeete2 30.46 67 eT T 07 09 36.1
comp=Z,115nm,0.3s
PPT Papeete 30.47 67 LR LR 06 47 01.0
comp=Z,1µm,21.8s,baz=246,slow=30
TVO Taravao 30.60 68 eT T 07 09 45.6
comp=Z,9.6nm,0.4s
TIAR Tiarei 30.65 67 eT T 07 09 49.9
comp=Z,14nm,0.3s
MEH Mehetia 31.47 69 eT T 07 10 49.4
comp=Z,50nm,0.3s
STKA Stephens Creek 33.28 261 P P 06 38 18.1 +0.7
baz=34
STKA Stephens Creek 33.28 261 P P 06 38 17.8 +0.4
comp=Z,7.6nm,0.9s,baz=96,slow=11,SNR=6.7
STKA LR LR 06 50 52.9
comp=Z,3µm,18.5s,baz=91,slow=35
STKA Stephens Creek 33.28 261 P P 06 38 17.0 -0.4
STKA pmax pmax
comp=Z,2.0nm,1.1s
STKA MLR MLR
comp=Z,700nm,20.0s
STKA Stephens Creek 33.28 261 P P 06 38 17.0 -0.4
CTA Charters Tower 33.62 284 P P 06 38 22.1 +1.6
baz=34
CTA Charters Tower 33.62 284 P P 06 38 20.7 +0.2
comp=Z,16nm,0.5s,baz=112,slow=10,SNR=43
CTA LR LR 06 49 47.9
comp=Z,2µm,21.7s,baz=112,slow=32
CTAO Charters Tower 33.62 284 P P 06 38 21.6 +1.2
CTAO pmax pmax
comp=Z,31nm,0.6s
CTAO Charters Tower 33.62 284 P P 06 38 21.6 +1.2
CTAO IAmb IAmb 06 38 37.0
comp=Z,31nm,0.6s

BBOO Buckleboo 37.64 258 P P 06 38 53.9 -1.0
baz=38
BBOO Buckleboo 37.64 258 P P 06 38 54.5 -0.4
BBOO IAMs_20 IAMs_20 06 53 03.6
comp=Z,2µm,20.0s
QIS Mount Isa 38.88 278 P P 06 39 06.0 +0.6
baz=39
PMG Port Moresby 39.16 299 P P 06 39 08.4 +0.6
comp=Z,54nm,0.9s,baz=101,slow=2.4,SNR=7.5
PMG LR LR 06 52 29.9
comp=Z,2µm,21.2s,baz=159,slow=32
PMG Port Moresby 39.16 299 ceP P 06 39 07.0 -0.8
PMG pmax pmax
comp=Z,349nm,1.1s
PMG Port Moresby 39.16 299 P P 06 39 06.5 -1.3
PMG IAmb IAmb 06 39 09.3
comp=Z,73nm,1.0s
PMG Port Moresby 39.16 299 IAMs_20 IAMs_20 06 52 07.4
comp=Z,2µm,22.0s
COEN Coen 39.39 290 P P 06 39 10.7 +0.9
baz=40
COEN Coen 39.39 290 P P 06 39 09.3 -0.4
KRVT Keravat (AS076 39.44 310 P P 06 39 09.2 -0.9
comp=Z,2µm,1.1s,baz=46,slow=2.7,SNR=62
AS31 Alice Springs 42.33 270 P P 06 39 32.3 -1.6
ASAR Alice Springs 42.33 270 P P 06 39 33.4 -0.6
comp=Z,26nm,0.7s,baz=111,slow=7.4,SNR=102
ASAR S S 06 45 46.9 -6.1
comp=Z,0.7nm,0.9s,baz=116,slow=17,SNR=1.5
ASAR LR LR 06 55 32.0
comp=Z,1µm,21.0s,baz=119,slow=34
ASAR PKPPKP P'P'df 07 11 39.2 +0.7
comp=Z,0.6nm,1.0s,baz=323,slow=2.3,SNR=4.0
TAOE Nuku Hiva Isla 43.03 65 eS S 06 46 02.6 -0.9
comp=Z,866nm,27.9s
TAOE eLQ LQ 06 49 42.7
comp=Z,3µm,30.5s
TAOE eLR LR 06 51 30.4
comp=Z,3µm,29.0s,baz=234
WR0 Warramunga Arr 43.38 275 P P 06 39 41.2 -1.3
WR0 IAmb IAmb 06 39 45.4
comp=Z,54nm,1.0s
WR0 IAMs_20 IAMs_20 06 56 01.4
comp=Z,2µm,21.0s
WR8 Warramunga Arr 43.41 275 P P 06 39 41.8 -0.9
baz=44
WR8 Warramunga Arr 43.41 275 IAMs_20 IAMs_20 06 56 02.3
comp=Z,2µm,21.0s
WR7 Warramunga Arr 43.43 275 IAMs_20 IAMs_20 06 55 52.8
comp=Z,2µm,22.0s
WB1 Warramunga Ar. 43.54 275 IAMs_20 IAMs_20 06 56 05.7
comp=Z,2µm,21.0s
KWAJ Kwajalein Atol 43.54 340 P P 06 39 44.0 +0.3
KWAJ pmax pmax
comp=Z,187nm,0.9s
KWAJ Kwajalein Atol 43.54 340 P P 06 39 44.0 +0.3
WB2 Warramunga Arr 43.54 275 P P 06 39 43.1 -0.7
WB2 IAmb IAmb 06 39 46.2
comp=Z,68nm,1.1s
WB2 IAMs_20 IAMs_20 06 56 05.8
comp=Z,2µm,21.0s
WC4 Warramunga Arr 43.54 275 IAMs_20 IAMs_20 06 55 54.8
comp=Z,2µm,19.0s
WRAB Tennant Creek 43.55 275 ceP P 06 39 42.9 -0.9
WRAB pmax pmax
comp=Z,62nm,1.2s
WRAB Tennant Creek 43.55 275 P P 06 39 43.0 -0.8
WRAB IAmb IAmb 06 39 46.2
comp=Z,63nm,1.1s
WRAB Tennant Creek 43.55 275 IAMs_20 IAMs_20 06 56 25.7
comp=Z,2µm,21.0s
WRA Warramunga Arr 43.55 275 P P 06 39 42.4 -1.5
comp=Z,40nm,0.8s,baz=114,slow=8.0,SNR=118
WRA LR LR 06 56 28.1
comp=Z,1µm,20.8s,baz=115,slow=34
WB4 Warramunga Arr 43.55 275 IAMs_20 IAMs_20 06 55 53.1
comp=Z,2µm,21.0s
WB8 Warramunga Arr 43.58 276 IAMs_20 IAMs_20 06 56 07.7
comp=Z,2µm,21.0s
WB9 Warramunga Arr 43.59 276 IAMs_20 IAMs_20 06 56 08.9
comp=Z,2µm,22.0s
WB0 Warramunga Arr 43.59 276 P P 06 39 43.0 -1.1
WB0 IAmb IAmb 06 39 46.5
comp=Z,61nm,0.9s
WB0 IAMs_20 IAMs_20 06 56 09.0
comp=Z,2µm,22.0s
FORT Forrest 44.74 258 P P 06 39 52.5 -0.7
baz=45
FORT Forrest 44.74 258 P P 06 39 52.1 -1.2
FORT IAMs_20 IAMs_20 06 57 02.7
comp=Z,3µm,21.0s
VNDA Vanda 45.43 186 P P 06 40 00.6 +2.5
comp=Z,1.7nm,0.8s,baz=35,slow=6.0,SNR=12
VNDA LR LR 06 55 41.2
comp=Z,523nm,21.1s,baz=32,slow=31
VNDA Vanda 45.43 186 P P 06 39 59.4 +1.3
VNDA pmax pmax
comp=Z,9.0nm,1.1s
VNDA Vanda 45.43 186 P P 06 39 59.4 +1.3
WRKA Warakurna 46.50 266 P P 06 40 05.8 -1.5
baz=47
JAY Jayapura 48.52 300 LR LR 06 58 52.9
comp=Z,1µm,21.9s,baz=140,slow=34
JAY Jayapura 48.52 300 P P 06 40 22.7 -0.4
comp=Z,718nmcomp=Z,54nm,1.3s
KDU Kakadu 48.73 283 P P 06 40 23.4 -1.2
baz=49
GENI Genyem 48.86 300 P P 06 40 25.5 -0.1
comp=Z,2µmcomp=Z,158nm,0.9s
MTN Manton Dam 49.74 282 P P 06 40 30.9 -1.5
MTN IAmb IAmb 06 40 48.7
comp=Z,28nm,0.9s
MTN IAMs_20 IAMs_20 06 59 17.2
comp=Z,1µm,22.0s
KNRA Kununurra 50.25 277 P P 06 40 35.1 -1.1
KNRA IAmb IAmb 06 40 36.8
comp=Z,48nm,1.2s
KNRA IAMs_20 IAMs_20 07 00 39.5
comp=Z,2µm,19.0s
SMPI Sarmi 50.34 299 P P 06 40 35.8 -1.1
comp=Z,30nm,1.1s
FITZ Fitzroy Crossi 51.70 272 P P 06 40 46.4 -0.6
FITZ IAmb IAmb 06 40 48.2
comp=Z,74nm,1.4s
CASY Casey 52.50 209 P P 06 40 51.7 -0.7
NWAO Narrogin (SRO) 52.85 251 LR LR 06 59 50.2
comp=Z,838nm,22.0s,baz=116,slow=32
FAKI Fak Fak 54.63 293 P P 06 41 07.8 -0.9
comp=Z,1µmcomp=Z,2µmcomp=Z,77nm,1.3s
FAKI Fak Fak 54.63 293 P P 06 41 07.3 -1.4
FAKI IAMs_20 IAMs_20 07 01 52.0
comp=Z,1µm,22.0s
PSA00 Pilbara Seismi 55.00 265 P P 06 41 09.0 -2.3
PSA00 IAmb IAmb 06 41 12.7
comp=Z,30nm,0.9s
MBWA Marble Bar 55.27 266 IAMs_20 IAMs_20 07 03 14.4
comp=Z,2µm,22.0s
SIJI Sorong 56.68 294 LR LR 07 04 02.1
comp=Z,1µm,22.0s,baz=127,slow=34
SOEI Soe 57.07 280 P P 06 41 27.6 +1.3
comp=Z,2µmcomp=Z,120nm,1.1s
SOEI Soe 57.07 280 P P 06 41 26.2 -0.1
QSPA South Pole Qui 57.10 180 P P 06 41 29.0 +3.1
comp=Z,127nm,1.0s,baz=36,slow=2.5,SNR=124
QSPA South Pole Qui 57.10 180 P P 06 41 28.4 +2.5
BATI Baumata 57.32 280 LR LR 07 05 02.9
comp=Z,1µm,21.0s,baz=134,slow=35
KIP Kipapa 57.67 23 ceP P 06 41 31.0 +0.8
KIP pmax pmax
comp=Z,67nm,1.1s
NLAI Namlea 58.48 289 P P 06 41 35.8 -0.3
comp=Z,1µmcomp=Z,38nm,1.1s
MMRI Maumere 59.35 280 P P 06 41 42.1 -0.1
comp=Z,146nm,0.6s
MMRI Maumere 59.35 280 P P 06 41 40.7 -1.5
EDFI Ende, Flores 59.74 280 P P 06 41 43.7 -1.3
comp=Z,439nmcomp=Z,25nm,1.6s
LBMI Labuha 59.75 291 P P 06 41 45.9 +1.0
comp=Z,1µmcomp=Z,32nm,0.8s
SANI Sanana 60.08 289 P P 06 41 45.3 -1.9
comp=Z,2µmcomp=Z,73nm,1.3s
TNTI Ternate 60.73 292 P P 06 41 50.7 -0.9
comp=Z,46nm,1.2s
MIDW Midway 60.91 1 IAMs_20 IAMs_20 07 04 57.0
comp=Z,1µm,20.0s
WBSI Waikabubak, Su 61.18 277 P P 06 41 56.1 +1.4
comp=Z,69nm,1.2s

BKSI Bulukumba 62.93 282 P P 06 42 05.8 -0.6
comp=Z,1µmcomp=Z,36nm,1.7s
PLAI Plampang 62.95 277 P P 06 42 05.9 -0.7
comp=Z,71nm,1.0s
KAPI Kappang 63.41 282 LR LR 07 10 34.9
comp=Z,534nm,18.7s,baz=116,slow=37
KAPI Kappang 63.41 282 P P 06 42 07.0 -2.6
KAPI pmax pmax
comp=Z,30nm,1.1s
KAPI MLR MLR
comp=Z,700nm,20.0s
KAPI Kappang 63.41 282 P P 06 42 07.0 -2.6
KAPI IAmb IAmb 06 42 09.1
comp=Z,30nm,1.1s
BNSI Bone 63.46 283 P P 06 42 10.3 +0.3
SPSI Sidrap Palu 63.99 283 P P 06 42 11.7 -1.7
comp=Z,743nmcomp=Z,35nm,1.0s
TTSI Tana Toraja 64.47 284 P P 06 42 15.5 -1.1
comp=Z,1µmcomp=Z,24nm,1.3s
MRSI Marisa 64.82 288 P P 06 42 18.0 -0.9
comp=Z,22nm,1.1s
SRBI Singaraja 65.49 276 P P 06 42 23.6 +0.4
comp=Z,2µmcomp=Z,23nm,0.5s
DAV Davao City (W) 66.11 296 LR LR 07 08 21.5
comp=Z,381nm,21.6s,baz=132,slow=33
MPSI Mapaga 66.37 287 P P 06 42 27.0 -1.9
comp=Z,1µmcomp=Z,12nm,0.9s
KBKI Kotabaru 67.32 281 P P 06 42 35.7 +0.8
comp=Z,5µmcomp=Z,36nm,0.7s
WOJI Wonogiri, Jawa 69.21 274 P P 06 42 46.1 -0.7
comp=Z,59nm,1.4s
MAW Mawson 69.61 201 P P 06 42 48.9 +0.5
comp=Z,35nm,1.1s,baz=116,slow=8.1,SNR=29
MAW LR LR 07 11 48.8
comp=Z,924nm,21.0s,baz=103,slow=34
MAW Mawson 69.61 201 P P 06 42 46.8 -1.6
MAW pmax pmax
comp=Z,9.0nm,1.1s
MAW Mawson 69.61 201 P P 06 42 46.8 -1.6
PMSA Palmer Station 70.18 156 P P 06 42 55.1 +3.1
comp=Z,5.3nm,0.6s,baz=235,slow=4.1,SNR=1.6
JCJ Chichijima 70.33 323 LR LR 07 09 14.7
comp=Z,341nm,21.4s,baz=152,slow=32
CISI Cisompet, Garu 71.97 273 IAMs_20 IAMs_20 07 15 53.9
comp=Z,977nm,20.0s
KKM Kota Kinabalu 72.72 289 P P 06 43 06.2 -1.9
KKM IAmb IAmb 06 43 06.9
comp=Z,43nm,1.2s
SBUM Sibu 73.82 284 P P 06 43 11.7 -2.9
SBUM Sibu 73.82 284 P P 06 43 13.0 -1.6
SYO Syowa Base 74.41 193 ⇓ iP P 06 43 16.0 -1.1
SYO Syowa Base 74.41 193 ⇓ ipP P 06 43 17.8 +0.7
SYO Syowa Base 74.41 193 ⇓ isP P 06 43 19.8 +2.7
KSM Kuching 74.83 282 P P 06 43 18.1 -2.4
KSM IAMs_20 IAMs_20 07 14 45.1
comp=Z,781nm,21.0s
KSM Kuching 74.83 282 P P 06 43 19.0 -1.5
SNAA Sanae 75.57 179 P P 06 43 25.5 +1.7
SNAA Sanae 75.57 179 i P P 06 43 24.7 +0.9
SNAA Sanae 75.57 179 P P 06 43 24.8 +0.9
SNAA IAmb IAmb 06 43 27.0
comp=Z,43nm,1.1s
SNAA IAMs_20 IAMs_20 07 12 23.4
comp=Z,794nm,21.0s
VNA3 Neumayer Olymp 75.75 176 P P 06 43 26.5 +1.6
VNA2 Neumayer--Watz 76.17 177 P P 06 43 29.2 +1.9
baz=175,slow=4.6
NVL N'lazarevskaya 76.23 184 eP P 06 43 27.8 +0.3
NVL eS S 06 53 07.8 -1.4
NVL pmax pmax
comp=Z,94nm,1.3s
VNA1 Neumayer--Stat 76.41 177 P P 06 43 30.6 +2.0
PMBI Palembang 77.00 275 IAMs_20 IAMs_20 07 16 17.3
comp=Z,777nm,20.0s
INU Inuyama 79.60 325 P P 06 43 44.9 -1.8
INU IAmb IAmb 06 43 48.1
comp=Z,37nm,1.3s
H03S2 Juan Fernandez 79.62 124 T T 08 12 18.6
baz=236,slow=74,SNR=154
H03S1 Juan Fernandez 79.63 124 T T 08 12 18.5
baz=236,slow=74,SNR=156
H03S3 Juan Fernandez 79.64 124 T T 08 12 23.3
baz=236,slow=74,SNR=173
H03N3 Juan Fernandez 79.83 123 T T 08 12 21.6
baz=240,slow=72,SNR=213
H03N2 Juan Fernandez 79.83 123 T T 08 12 20.4
baz=240,slow=72,SNR=249
H03N1 Juan Fernandez 79.84 123 T T 08 12 20.8
baz=240,slow=72,SNR=393
MJAR Matsushiro Arr 79.99 326 P P 06 43 47.4 -1.5
comp=Z,11nm,1.2s,baz=171,slow=5.5,SNR=13
MJAR LR LR 07 15 23.5
comp=Z,314nm,21.2s,baz=125,slow=33
MAJO Matsushiro 80.00 326 i P P 06 43 46.7 -2.1
MAJO pmax pmax
comp=Z,17nm,1.3s
MAJO Matsushiro 80.00 326 P P 06 43 47.0 -1.8
MAT Matsushiro 80.00 326 P P 06 43 47.2 -1.6
MAT eS S 06 53 55.0 +4.5
MJB9 Matsu-Tunnel 80.00 326 P P 06 43 47.3 -1.6
MYKOM Kota Tinggi 80.35 278 IAMs_20 IAMs_20 07 20 38.4
comp=Z,908nm,20.0s
YHNB Yeheng 80.82 307 IAMs_20 IAMs_20 07 13 21.6
comp=Z,698nm,22.0s
EFI East Falkland 80.99 147 i P P 06 43 55.3 +1.2
EFI pmax pmax
comp=Z,115nm,1.0s
EFI East Falkland 80.99 147 P 06 43 55.7 +1.6
JNU Nakatsue 81.05 319 LR LR 07 15 17.7
comp=Z,206nm,21.5s,baz=144,slow=32
PLCA Paso Flores 81.25 133 P P 06 43 59.4 +3.5
comp=Z,19nm,1.0s,baz=217,slow=5.8,SNR=14
PLCA LR LR 07 14 45.1
comp=Z,305nm,18.6s,baz=249,slow=32
PLCA Paso Flores 81.25 133 P P 06 43 57.1 +1.3
PLCA pmax pmax
comp=Z,43nm,1.3s
PLCA Paso Flores 81.25 133 P P 06 43 57.1 +1.3
PLCA IAmb IAmb 06 44 12.1
comp=Z,43nm,1.2s
LC01 Cunco 81.50 131 P P 06 43 59.6 +2.5
LC01 IAmb IAmb 06 44 17.1
comp=Z,29nm,0.9s
BKNI Bangkinang 81.89 276 IAMs_20 IAMs_20 07 20 29.0
comp=Z,782nm,22.0s
DLV T Lat 82.34 289 P P 06 43 59.3 -2.7
DLV IAmb IAmb 06 44 01.4
comp=Z,27nm,1.0s
ERM Erimo 82.43 332 P P 06 44 02.0 +0.4
ERM pmax pmax
comp=Z,14nm,0.8s
ERM Erimo 82.43 332 P P 06 44 02.0 +0.4
QZH Quanzhou 82.88 306 ⇑ iP P 06 44 03.3 -1.0
QZH S S 06 54 18.6 -2.1
QZH pmax pmax
comp=Z,170nm,3.7s
QZH LR LR
comp=Z,260nm,15.6s
QZH LR LR
comp=Z,270nm,18.9s
YUK Yuzh-Kuril'sk 83.17 335 eP P 06 44 03.3 -2.0
YUK e 06 44 09.5
YUK e 06 47 15.9
YUK ePPP PPP 06 49 07.2
YUK eS S 06 54 25.9 +3.1
YUK eSS SS 06 59 50.9 +2.4
YUK eSSS SSS 07 03 18.7
YUK pmax pmax
comp=E,135nm,1.0s
YUK pmax pmax
comp=Z,187nm,1.0s
YUK pmax pmax
comp=N,168nm,0.9s
KUR Kuril'sk 83.54 337 eP P 06 44 07.0 -0.2
KUR pmax pmax
comp=Z,69nm,0.9s
IPM Ipoh 84.18 279 IAMs_20 IAMs_20 07 21 55.8
comp=Z,880nm,21.0s
ADK Adak 84.56 1 IAMs_20 IAMs_20 07 17 12.8
comp=Z,621nm,20.0s
BO02 Sierra Bellavi 84.62 128 P P 06 44 13.2 -0.2
BO02 IAmb IAmb 06 44 17.1
comp=Z,26nm,0.9s
KULM Kulim 84.94 280 IAMs_20 IAMs_20 07 22 16.9
comp=Z,744nm,20.0s
RPSI Rantau Prapat 84.95 276 P P 06 44 11.7 -3.5

RPSI IAmb IAmb 06 44 13.1
comp=Z,28nm,1.3s
PSI Prapat 85.01 277 P **P** **06 44 11.7 -4.0**
PSI pmax pmax
comp=Z,28nm,1.3s
PSI MLR MLR
comp=Z,2µm,22.0s
GSI Gunungsitoli 85.32 275 P **P** **06 44 16.0 -1.1**
GSI Gunungsitoli 85.32 275 P **P** **06 44 15.3 -1.8**
TJN Taejon 85.40 319*ce*P **P** **06 44 17.6 +0.7**
QIZ Qiongzhong 85.48 296 P **P** **06 44 15.9 -1.8**
QIZ PP **PP** **06 47 38.0 +1.4**
QIZ S **S** **06 54 51.4 +4.4**
QIZ SS **SS** **07 00 27.4 +4.0**
QIZ pmax pmax
comp=Z,230nm,6.0s
QIZ LR LR
comp=Z,140nm,26.5s
QIZ LR LR
comp=Z,210nm,18.6s
QIZ LR LR
comp=Z,410nm,37.3s
KSRS Korea Array 85.88 320 P **P** **06 44 17.5 -1.7**
comp=Z,3.2nm,0.8s,baz=136,slow=5.1,SNR=4.5
KSRS LR LR 07 19 09.3
comp=Z,251nm,21.1s,baz=136,slow=33
NIKH Nikolski High 86.07 6 IAMs_20 IAMs_20 07 16 45.1
comp=Z,632nm,21.0s
SKR Severo-Kuril's 86.23 344 *e*P P 06 44 06.8 -14
SKR *e*S S 06 54 36.6 -16
SKR pmax pmax
comp=Z,100nm,6.0s
SKR pmax pmax
comp=Z,200nm,6.2s
SKR MLR MLR
comp=Z,300nm,17.0s
SKR MLR MLR
comp=Z,200nm,16.0s
LPIG La Paz 86.52 58 LR LR 07 14 55.8
comp=Z,480nm,21.1s,baz=211,slow=30
YSS Yuzh-Sakhalins 86.79 335⇓ *e*P **P** **06 44 24.2 +0.7**
YSS *e* 06 44 34.2
YSS *e* 06 47 55.3
YSS *e* 06 54 48.1
YSS *e*S **S** **06 54 57.4 -1.2**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS pmax pmax
comp=Z,300nm,6.0s
YSS MLR MLR
comp=N,400nm,17.0s
YSS MLR MLR
comp=Z,600nm,17.0s
YSS Yuzh-Sakhalins 86.79 335 P **P** **06 44 23.0 -0.4**
YSS IAMs_20 IAMs_20 07 18 40.0
comp=Z,702nm,20.0s
SCZ2 Santa Cruz Isl 86.81 46 P **P** **06 44 26.8 +2.8**
baz=226
CO03 El Pedregal 87.05 125 P **P** **06 44 27.4 +1.9**
CO03 IAmb IAmb 06 44 29.6
comp=Z,28nm,1.2s
SBC Santa Barbara 87.08 45 P **P** **06 44 28.3 +3.1**
baz=226
CIS Catalina Islan 87.15 47 P **P** **06 44 28.2 +2.6**
baz=227
UNV Unalaska Valle 87.16 7 P **P** **06 44 25.3 +0.2**
UNV IAmb IAmb 06 44 36.5
comp=Z,16nm,0.9s
SRIG Santa Rosalia 87.17 55 P **P** **06 44 25.9 0.0**
SRIG IAmb IAmb 06 44 29.4
comp=Z,14nm,0.9s
SRIG IAMs_20 IAMs_20 07 19 11.2
comp=Z,572nm,20.0s
HOPE Hope Point 87.18 159 **P** **06 44 28.1 +2.6**
PKM Mcpherson Peak 87.33 45 P **P** **06 44 29.9 +3.2**
baz=226,SNR=8.6
NJ2 Nanjing 87.41 311 *e*P **P** **06 44 27.9 +1.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
FMP Fort Macarthur 87.43 47 P **P** **06 44 29.9 +3.0**
baz=227
SMMC Simmler 87.51 44 P **P** **06 44 30.7 +3.3**
baz=226,SNR=9.6
109C Camp Elliot, M 87.61 48 P **P** **06 44 30.6 +2.8**
baz=228
109C Camp Elliot, M 87.61 48 P **P** **06 44 27.9 +0.1**
109C IAmb IAmb 06 44 31.3
comp=Z,14nm,0.9s
PAGB Antelope Grade 87.65 44 P **P** **06 44 27.9 -0.1**
PMPB Monarch Peak 87.67 43 P **P** **06 44 28.6 +0.4**
SAO San Andreas Ge 87.69 43 P **P** **06 44 27.5 -0.6**
SAO pmax pmax
comp=Z,28nm,1.2s
SAO San Andreas Ge 87.69 43 P **P** **06 44 27.5 -0.6**
SAO IAmb IAmb 06 44 32.2
comp=Z,28nm,1.1s
BAR Barrett 87.74 48 P **P** **06 44 27.6 -0.9**
BAR IAmb IAmb 06 44 32.9
comp=Z,18nm,1.1s
DECC Green Verdugo 87.78 46 P **P** **06 44 31.2 +2.5**
baz=227
OSI Osito Audit: C 87.79 46 P **P** **06 44 31.8 +3.1**
baz=227
PASC Pasadena Art C 87.81 46 P **P** **06 44 29.3 +0.5**
PASC Pasadena Art C 87.81 46 IAMs_20 IAMs_20 07 19 23.4
comp=Z,632nm,18.0s
PET Petropavlovsk 87.90 347 IAMs_20 IAMs_20 07 17 19.9
comp=Z,615nm,22.0s
MWC Mount Wilson 87.92 46 P **P** **06 44 30.5 +0.9**
MWC pmax pmax
comp=Z,45nm,1.3s
MWC MLR MLR
comp=Z,600nm,19.0s
MWC Mount Wilson 87.92 46 P **P** **06 44 30.5 +0.9**
MWC IAMs_20 IAMs_20 07 23 52.7
comp=Z,590nm,19.0s
MURC Murrieta 88.03 47 P **P** **06 44 32.9 +3.0**
baz=228,SNR=16
MONP2 Monument Peak 88.04 48 P **P** **06 44 33.4 +3.3**
baz=228,SNR=15
ARVC Arvin 88.07 45 P **P** **06 44 32.8 +2.8**
baz=227,SNR=13
IKP In-Ko-Pah, Jac 88.08 49 P **P** **06 44 33.6 +3.5**
baz=228,SNR=7.9
MSHR Mys Shultsa 88.09 326*ce*P **P** **06 44 30.0 +0.1**
MSHR pmax pmax
comp=Z,11nm,1.4s
PEA0B Petropavlovsk- 88.17 346*ce*P **P** **06 44 31.2 +1.2**
PEA0B Petropavlovsk- 88.17 346 P **P** **06 44 29.8 -0.2**
PEA0B IAMs_20 IAMs_20 07 20 47.9
comp=Z,568nm,19.0s
PETK Petropavlovsk- 88.17 346 P **P** **06 44 29.7 -0.3**
comp=Z,5.8nm,0.7s,baz=142,slow=8.3,SNR=14
PETK LR LR 07 20 39.5
comp=Z,308nm,19.2s,baz=213,slow=33
BFSC Mount Baldy Ra 88.18 47 P **P** **06 44 33.3 +2.6**
baz=227,SNR=26
CFA Coronel Fontan 88.25 127 P **P** **06 44 33.7 +2.5**
comp=Z,10nm,0.9s,baz=269,slow=3.0,SNR=12
GDXM Geysers 88.39 40 P **P** **06 44 31.5 0.0**
EDW2 Edwards Air Fo 88.41 46 P **P** **06 44 34.7 +3.0**
baz=227,SNR=26
VES Vestal, Richgr 88.41 45 P **P** **06 44 34.1 +2.5**
baz=226,SNR=29
SWSC Sam W. Stewart 88.47 49 P **P** **06 44 35.2 +3.3**
baz=228,SNR=7.3
PFO Pinyon Flats O 88.50 48 P **P** **06 44 35.4 +3.2**
baz=228,SNR=16
PFO Pinyon Flats O 88.50 48 P **P** **06 44 34.7 +2.5**
comp=Z,20nm,0.9s,baz=272,slow=4.0,SNR=22
PFO LR LR 07 18 31.6
comp=Z,448nm,19.0s,baz=237,slow=32
XPFO Pion Flat 88.50 48 P **P** **06 44 33.0 +0.8**
XPFO Pion Flat 88.50 48 IAMs_20 IAMs_20 07 18 19.0
comp=Z,763nm,20.0s
VOG Valley Oaks Go 88.57 44 P **P** **06 44 34.6 +2.3**
baz=226
BBRC Big Bear Solar 88.64 47 P **P** **06 44 35.8 +2.8**
baz=228
ISA Isabella, Lake 88.65 45 P **P** **06 44 35.9 +3.1**
baz=227,SNR=40
ISA Isabella, Lake 88.65 45 P **P** **06 44 33.3 +0.5**
ISA pmax pmax
comp=Z,62nm,1.1s
ISA Isabella, Lake 88.65 45 P **P** **06 44 33.3 +0.5**
ISA IAMs_20 IAMs_20 07 14 20.9
comp=Z,616nm,21.0s
USRK Ussuriysk Ar. 88.95 327 P **P** **06 44 33.7 -0.2**
comp=Z,3.6nm,0.8s,baz=151,slow=4.5,SNR=10
USRK LR LR 07 19 52.8
comp=Z,327nm,20.0s,baz=130,slow=32
LRMC Laurel Mtn Rad 89.00 46 P **P** **06 44 37.4 +2.9**
baz=227,SNR=14
RRX Edison Barstow 89.01 46 P **P** **06 44 37.6 +3.1**
baz=228
CNBA Chernabura Isl 89.04 11 IAMs_20 IAMs_20 07 19 26.4
comp=Z,619nm,20.0s
BELC Belle Mtn. Jos 89.04 48 P **P** **06 44 38.2 +3.5**
baz=228,SNR=34
HSIG 89.13 54 P **P** **06 44 35.7 +0.6**
HSIG IAmb IAmb 06 44 39.3
comp=Z,21nm,1.3s
HSIG IAMs_20 IAMs_20 07 16 38.9
comp=Z,516nm,21.0s
GLA Glamis 89.15 49 P **P** **06 44 39.0 +3.8**
baz=229,SNR=14
GLA Glamis 89.15 49 IAMs_20 IAMs_20 07 18 24.9
comp=Z,530nm,18.0s
BC3 Big Chuckawall 89.15 48 P **P** **06 44 38.7 +3.5**
baz=229,SNR=22
CMB Columbia Colle 89.18 42 P **P** **06 44 33.9 -1.3**
CMB pmax pmax
comp=Z,32nm,1.0s
CMB Columbia Colle 89.18 42 P **P** **06 44 33.9 -1.3**
CMB IAMs_20 IAMs_20 07 14 46.7
comp=Z,757nm,22.0s
JCC Jacoby Creek, 89.18 38 IAMs_20 IAMs_20 07 15 07.4
comp=Z,705nm,19.0s
O02D Mt. Diablo Mer 89.37 39 P **P** **06 44 39.4 +3.3**
baz=224
HEC Hector,Ludlow 89.38 47 P **P** **06 44 39.2 +3.0**
baz=228,SNR=15
GSC Goldstone, Bar 89.41 46 P **P** **06 44 39.5 +3.1**
baz=228,SNR=22
GSC Goldstone, Bar 89.41 46 P **P** **06 44 38.0 +1.6**
GSC pmax pmax
comp=Z,42nm,1.1s
GSC Goldstone, Bar 89.41 46 P **P** **06 44 38.0 +1.6**
GSC IAMs_20 IAMs_20 07 20 51.1
comp=Z,569nm,19.0s
CWC Cottonwood Cre 89.41 45 P **P** **06 44 39.0 +2.5**
baz=227
AFDM Forest Hills D 89.49 41 P **P** **06 44 38.6 +2.0**
AFDM IAmb IAmb 06 44 40.1
comp=Z,29nm,1.1s
AFDM IAMs_20 IAMs_20 07 19 34.8
comp=Z,584nm,19.0s
MPMC Manual Prospec 89.51 45 P **P** **06 44 39.9 +2.9**
baz=227,SNR=19
ORV Oroville 89.62 41 P **P** **06 44 39.2 +2.0**
ORV pmax pmax
comp=Z,22nm,1.2s
ORV Oroville 89.62 41 P **P** **06 44 39.2 +2.0**
ORV IAmb IAmb 06 44 40.8
comp=Z,22nm,1.1s
ORV IAMs_20 IAMs_20 07 15 57.4
comp=Z,550nm,21.0s
113A Mohawk Valley, 89.64 50 IAMs_20 IAMs_20 07 18 20.0
comp=Z,626nm,19.0s
MDPB Devils Postpil 89.64 43 P **P** **06 44 38.7 +1.0**
MDPB IAmb IAmb 06 44 41.5
comp=Z,15nm,1.1s
MDPB IAMs_20 IAMs_20 07 15 02.1
comp=Z,673nm,22.0s
IRM Iron Mountain 89.67 48 P **P** **06 44 41.2 +3.6**
baz=229,SNR=54
OMMB Old Mammoth Mi 89.68 43 P **P** **06 44 38.7 +0.8**
OMMB IAMs_20 IAMs_20 07 15 03.0
comp=Z,749nm,22.0s
214A Organ Pipe Nat 89.74 51 P **P** **06 44 41.2 +3.2**
baz=230
214A Organ Pipe Nat 89.74 51 P **P** **06 44 38.1 +0.1**
214A IAmb IAmb 06 44 42.8
comp=Z,20nm,1.1s
TIN Tinemaha, Big 89.74 44 P **P** **06 44 40.6 +2.6**
baz=227
KRMB Red Mountain 89.75 38 IAMs_20 IAMs_20 07 21 15.4
comp=Z,626nm,19.0s
GMRC Granite Mounta 89.77 47 P **P** **06 44 41.4 +3.2**
baz=228,SNR=20
MLAC Mammoth, Mammo 89.78 43 P **P** **06 44 41.2 +2.9**
baz=227,SNR=14
WDC Whiskeytown Da 89.79 39 P **P** **06 44 37.8 -0.1**
WDC pmax pmax
comp=Z,39nm,1.1s
WDC Whiskeytown Da 89.79 39 P **P** **06 44 37.8 -0.1**
WDC IAMs_20 IAMs_20 07 15 28.4
comp=Z,667nm,22.0s
Y12C Blythe 89.80 49 P **P** **06 44 41.7 +3.5**
baz=229,SNR=7.8
Y12C Blythe 89.80 49 IAMs_20 IAMs_20 07 18 23.1
comp=Z,511nm,19.0s
O03E Paynes Creek 89.98 40 P **P** **06 44 41.0 +2.1**
baz=225,SNR=12
N02D Trinity Center 89.98 39 P **P** **06 44 41.7 +2.8**
baz=224,SNR=15
RUBR Rubicon Trail 90.02 42 P **P** **06 44 40.3 +1.0**
RUBR IAMs_20 IAMs_20 07 15 58.5
comp=Z,672nm,22.0s
WAKR Walker 90.04 42 P **P** **06 44 39.4 0.0**
WAKR IAMs_20 IAMs_20 07 15 38.2
comp=Z,717nm,21.0s
SHOC Shoshone, Teco 90.13 46 P **P** **06 44 42.6 +2.9**
baz=228,SNR=5.1
FURC Furnace Creek, 90.16 45 P **P** **06 44 42.4 +2.7**
baz=228,SNR=11
TYV Tymovskoe 90.16 337 *e*P **P** **06 44 39.9 +0.5**
TYV *e*S **S** **06 55 34.8 +4.5**
TYV pmax pmax
comp=Z,300nm,3.9s
TYV pmax pmax
comp=Z,350nm,1.1s
TYV smax smax
comp=E,100nm,7.6s
M02C Callahan 90.21 39 P **P** **06 44 42.9 +3.0**
baz=224,SNR=6.1
GRAC Grapevine Rang 90.21 45 P **P** **06 44 42.8 +2.7**
baz=228,SNR=30
PNTR Pine Nut 90.35 42 P **P** **06 44 41.3 +0.4**
PNTR IAMs_20 IAMs_20 07 16 09.4
comp=Z,646nm,22.0s
MDJ Mudanjiang 90.38 326 P **P** **06 44 42.2 +1.6**
MDJ pmax pmax
comp=Z,9.0nm,1.3s
MDJ pmax pmax
comp=Z,200nm,3.4s
PDMCI Parker Dam,Lak 90.40 48 P **P** **06 44 44.3 +3.4**
baz=229,SNR=20
NEE2 Needles Airpor 90.40 48 P **P** **06 44 44.2 +3.2**
baz=229,SNR=12
VCNR Virginia City 90.47 42 IAMs_20 IAMs_20 07 20 25.5
comp=Z,530nm,19.0s
BEKR Beckworth 90.47 41 IAMs_20 IAMs_20 07 16 22.5
comp=Z,627nm,22.0s
YERR Yerington 90.48 42 P **P** **06 44 42.2 +0.7**
YERR IAmb IAmb 06 44 45.0
comp=Z,30nm,1.2s
YBH Yreka Blue Hor 90.52 38 LR LR 07 20 38.7
comp=Z,298nm,18.8s,baz=240,slow=32
YBH Yreka Blue Hor 90.52 38 P **P** **06 44 42.5 +1.1**
YBH pmax pmax
comp=Z,25nm,1.2s
YBH Yreka Blue Hor 90.52 38 P **P** **06 44 42.5 +1.1**
YBH IAmb IAmb 06 44 45.3
comp=Z,25nm,1.1s
YBH IAMs_20 IAMs_20 07 16 13.8
comp=Z,639nm,21.0s
NVAR Mina Array Bea 90.64 43 P **P** **06 44 44.6 +2.4**
comp=Z,21nm,1.0s,baz=218,slow=7.6,SNR=81
NVAR PKPPKP **P'P'df** **07 10 19.0 +3.9**
comp=Z,0.4nm,0.9s,baz=112,slow=5.2,SNR=3.6
NVAR LR LR 07 18 29.8
comp=Z,273nm,20.3s,baz=205,slow=31
RYN Ryan 90.65 43 P **P** **06 44 42.4 +0.2**
RYN IAmb IAmb 06 44 45.9
comp=Z,21nm,1.2s
CHGN Chignik 90.65 11 P **P** **06 44 42.9 +1.4**
NV11 Mina Array Sit 90.72 43 P **P** **06 44 44.4 +1.9**
NV11 IAmb IAmb 06 44 46.2
comp=Z,23nm,1.1s
K02D Willamette Mer 90.73 37 P **P** **06 44 45.2 +2.8**
baz=224
TPNV Topopah Spring 90.84 45 P **P** **06 44 46.1 +2.9**
baz=228
TPNV Topopah Spring 90.84 45 P **P** **06 44 44.4 +1.3**
TPNV pmax pmax
comp=Z,16nm,0.9s
TPNV Topopah Spring 90.84 45 P **P** **06 44 44.4 +1.3**
TPNV IAmb IAmb 06 44 47.3
comp=Z,16nm,0.9s
TPNV IAMs_20 IAMs_20 07 22 06.6
comp=Z,498nm,19.0s
Y14A Wickenburg 90.88 49 IAMs_20 IAMs_20 07 19 17.8
comp=Z,638nm,19.0s
PAHR Pah Rah Range 90.90 42 IAmb IAmb 06 44 46.8
comp=Z,24nm,1.2s
PAHR IAMs_20 IAMs_20 07 21 06.0
comp=Z,584nm,19.0s
J01E Myrtle Point 90.93 37 P **P** **06 44 46.7 +3.6**
baz=223
M04C Macdoel 91.02 39 P **P** **06 44 45.9 +2.2**
baz=225,SNR=5.6
W13A Hualapai Mount 91.08 48 IAmb IAmb 06 44 48.9
comp=Z,16nm,1.1s
L04D Klamath Falls 91.08 38 P **P** **06 44 46.4 +2.3**
baz=224,SNR=5.4
KVN Kaiserville 91.17 43 IAmb IAmb 06 44 48.1
comp=Z,18nm,1.1s
SHPR Sheep Range 91.21 46 IAmb IAmb 06 44 49.4
comp=Z,13nm,1.1s
SHPR IAMs_20 IAMs_20 07 21 39.3
comp=Z,526nm,18.0s
TUC Tucson 91.29 52 P **P** **06 44 48.8 +3.5**
baz=231
TUC Tucson 91.29 52 P **P** **06 44 46.3 +1.1**
TUC Tucson 91.29 52 P **P** **06 44 46.3 +1.1**
TUC IAmb IAmb 06 44 50.3
comp=Z,23nm,1.1s
TUC Tucson 91.29 52 IAMs_20 IAMs_20 07 18 55.8
comp=Z,464nm,19.0s
ZAIG Zacatecas 91.41 64 IAMs_20 IAMs_20 07 15 58.1
comp=Z,602nm,22.0s
HPIG 91.56 59 IAMs_20 IAMs_20 07 19 47.0
comp=Z,646nm,18.0s
I03D Drain, OR 91.61 37 P **P** **06 44 48.8 +2.6**
baz=224,SNR=6.3
I02D Swisshome 91.66 36 P **P** **06 44 49.2 +2.7**
baz=224
K04D Chiloquin, OR 91.66 38 P **P** **06 44 49.3 +2.5**
baz=225
319A Douglas 91.72 53 IAMs_20 IAMs_20 07 20 40.0
comp=Z,477nm,19.0s
CN2 Changchun 91.80 323 *e*P **P** **06 44 46.5 -0.7**
CN2 *e*S **S** **06 55 50.9 +5.3**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,200nm,20.0s
CN2 LR LR
comp=Z,300nm,20.0s
CN2 LR LR
comp=Z,300nm,26.0s
J04D Umpqua Nationa 91.91 38 P **P** **06 44 50.3 +2.3**
baz=225,SNR=10
I04A Tendick Farm, 92.15 37 P **P** **06 44 50.8 +1.9**
baz=224
R11A Troy Canyon, C 92.17 45 P **P** **06 44 51.5 +2.2**
baz=229,SNR=7.1
R11A Troy Canyon, C 92.17 45 IAMs_20 IAMs_20 07 16 35.6
comp=Z,500nm,20.0s
K05A Summer Lake 92.18 39 IAMs_20 IAMs_20 07 22 47.7
comp=Z,620nm,20.0s
X16A Lo Mia Camp, P 92.19 50 IAmb IAmb 06 44 54.4
comp=Z,19nm,1.1s
X16A IAMs_20 IAMs_20 07 16 51.4
comp=Z,614nm,22.0s
GYA Guiyang 92.24 300⇑ *i*P **P** **06 44 48.6 -1.2**
GYA PP **PP** **06 48 31.6 +0.8**
GYA S **S** **06 55 50.5 -0.1**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA pmax pmax
comp=Z,130nm,3.9s
GYA LR LR
comp=Z,100nm,4.7s
GYA LR LR
comp=Z,90nm,5.6s
GYA LR LR
comp=Z,200nm,18.4s
GRNR Gornyy 92.29 333⇓ *i*P **P** **06 44 50.6 +1.3**
GRNR pmax pmax
comp=Z,7.0nm,1.0s
GRNR MLR MLR
comp=N,230nm,19.0s
GRNR MLR MLR
comp=E,190nm,19.0s
GRNR MLR MLR
comp=Z,240nm,20.0s
J05D Fort Rock, OR 92.39 38 P **P** **06 44 52.6 +2.5**
baz=225,SNR=17
H04D Lebanon 92.51 36 P **P** **06 44 53.0 +2.6**
baz=224,SNR=5.3
G03D McMinnville, O 92.74 36 P **P** **06 44 54.1 +2.6**
baz=224
H04A Detroit Lake 92.90 37 IAMs_20 IAMs_20 07 21 14.6
comp=Z,572nm,20.0s
PINE Pine Mountain 92.90 38 IAMs_20 IAMs_20 07 21 00.8
comp=Z,491nm,20.0s
U15A North Rim 92.92 48 IAmb IAmb 06 44 57.5
comp=Z,14nm,1.0s
U15A IAMs_20 IAMs_20 07 17 36.7
comp=Z,459nm,20.0s
WUAZ Wupatki 92.92 49 P **P** **06 44 55.4 +2.6**
baz=231
WUAZ Wupatki 92.92 49 IAmb IAmb 06 44 57.4
comp=Z,12nm,1.2s
KLR Kul'dur 92.93 330*ce*P **P** **06 44 52.4 +0.1**
KLR pmax pmax
comp=Z,4.0nm,1.3s
CCUT Cedar City 92.98 46 P **P** **06 44 53.5 +0.4**
I05D Terrebonne, OR 93.08 37 P **P** **06 44 55.5 +2.3**
baz=225,SNR=14
KDAK Kodiak Island 93.11 14 IAMs_20 IAMs_20 07 22 14.0
comp=Z,469nm,19.0s
WVOR Wild Horse Val 93.18 40 P **P** **06 44 52.7 -1.1**
WVOR pmax pmax
comp=Z,22nm,1.2s
WVOR Wild Horse Val 93.18 40 P **P** **06 44 52.7 -1.1**
WVOR IAmb IAmb 06 44 57.3
comp=Z,22nm,1.1s
X18A Snowflake 93.22 50 IAmb IAmb 06 44 58.8
comp=Z,12nm,1.3s
121A Cookes Peak, D 93.43 53 P **P** **06 44 57.0 +1.8**
baz=233
121A Cookes Peak, D 93.43 53 IAMs_20 IAMs_20 07 21 53.3
comp=Z,574nm,19.0s
CMAR Chiang Mai Arr 93.59 290 P **P** **06 44 55.3 -0.8**
comp=Z,1.2nm,0.3s,baz=145,slow=4.2,SNR=8.6
CMAR PP **PP** **06 48 40.0 -1.4**
comp=Z,2.5nm,0.8s,baz=137,slow=5.7,SNR=10
F04A Amboy 93.67 36 P **P** **06 44 55.6 -0.1**
F04A IAmb IAmb 06 44 59.9
comp=Z,19nm,1.1s
F04A IAMs_20 IAMs_20 07 17 13.0
comp=Z,687nm,22.0s
W18A Petrified Fore 93.72 50 P **P** **06 44 59.1 +2.5**
baz=232
G05D Wamic, OR 93.73 37 P **P** **06 44 58.5 +2.4**
baz=225
J08A Circle Bar Ran 93.90 39 IAmb IAmb 06 45 00.5
comp=Z,24nm,1.1s
ELK Elko 93.94 43 LR LR 07 20 42.3
comp=Z,237nm,20.8s,baz=224,slow=31
MTPU Mount Pierson 94.01 47 P **P** **06 44 58.2 +0.2**
NLWA Neilton Lookou 94.03 34 IAMs_20 IAMs_20 07 16 29.3
comp=Z,596nm,22.0s
E04D Cinebar 94.05 35 P **P** **06 45 00.2 +2.7**
baz=224
G06A Carlson Farm, 94.07 37 P **P** **06 44 59.0 +1.3**
G06A IAmb IAmb 06 45 01.0
comp=Z,25nm,1.2s
KMI Kunming 94.36 297 P **P** **06 45 00.9 +1.1**
KMI PP **PP** **06 48 44.3 -3.3**
KMI S **S** **06 56 10.2 +0.5**
KMI pmax pmax
comp=Z,18nm,0.5s
KMI pmax pmax
comp=Z,100nm,4.0s

KMI LR LR
comp=Z,200nm,28.4s
KMI LR LR
comp=Z,150nm,28.8s
KMI LR LR
comp=Z,490nm,33.0s
TXAR Lajitas Array 94.39 58 P **P** **06 45 02.0 +2.3**
comp=Z,2.4nm,1.0s,baz=209,slow=5.2,SNR=11
TXAR LR LR 07 22 05.6
comp=Z,347nm,18.5s,baz=0.0,slow=32
TXAR Lajitas Array 94.39 58 P **P** **06 45 02.0 +2.3**
D03D Eldon 94.50 34 P **P** **06 45 02.1 +2.5**
baz=224
MNTX Cornudas Mount 94.57 55 P **P** **06 45 02.2 +1.9**
baz=234
F07A Phinny Hill Vi 94.89 37 IAMs_20 IAMs_20 07 22 17.2
comp=Z,577nm,21.0s
Y22D IRIS PASSCAL I 94.93 52 IAMs_20 IAMs_20 07 17 58.1
comp=Z,528nm,22.0s
G08A Pilot Rock 94.96 38 P **P** **06 45 01.4 -0.5**
G08A IAmb IAmb 06 45 05.3
comp=Z,18nm,1.2s
G08A IAMs_20 IAMs_20 07 24 14.3
comp=Z,452nm,19.0s
CNPM China Poot 95.00 14 IAMs_20 IAMs_20 07 23 44.8
comp=Z,521nm,20.0s
DUG Dugway, Tooele 95.00 45 P **P** **06 45 04.4 +2.2**
baz=230
DUG Dugway, Tooele 95.00 45 IAMs_20 IAMs_20 07 28 15.6
comp=Z,412nm,18.0s
HOM Homer 95.04 13 IAMs_20 IAMs_20 07 22 35.8
comp=Z,543nm,19.0s
BRLK Bradley Lake 95.29 14 IAMs_20 IAMs_20 07 24 03.1
comp=Z,533nm,19.0s
MFID Camas Ranch 95.37 41 P **P** **06 45 03.0 -0.8**
MFID IAmb IAmb 06 45 07.0
comp=Z,14nm,1.0s
HAWA Hanford 95.43 37 IAMs_20 IAMs_20 07 22 43.5
comp=Z,655nm,20.0s
LTY Liberty 95.46 36 IAMs_20 IAMs_20 07 18 56.4
comp=Z,598nm,22.0s
B05A Bryant 95.49 34 P **P** **06 45 06.4 +2.4**
baz=225
BMO Blue Mountains 95.53 39 P **P** **06 45 04.6 +0.1**
BMO pmax pmax
comp=Z,6.0nm,1.2s
BMO Blue Mountains 95.53 39 P **P** **06 45 04.6 +0.1**
MA2 Magadan 95.62 345 IAMs_20 IAMs_20 07 23 50.0
comp=Z,584nm,20.0s
SRU San Rafael Swe 95.69 47 P **P** **06 45 05.9 +0.4**
SRU pmax pmax
comp=Z,6.0nm,1.0s
SRU San Rafael Swe 95.69 47 P **P** **06 45 05.9 +0.4**
E08A Dider Farm, El 95.73 37 IAMs_20 IAMs_20 07 22 52.6
comp=Z,513nm,20.0s
ANMO Albuquerque 95.76 52 P **P** **06 45 08.3 +2.4**
baz=234
ANMO Albuquerque 95.76 52 *ce*P **P** **06 45 07.0 +1.1**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ANMO Albuquerque 95.76 52 P **P** **06 45 08.0 +2.1**
ANMO Albuquerque 95.76 52 IAMs_20 IAMs_20 07 21 40.0
comp=Z,513nm,20.0s
P17A Butcher Ranch, 95.78 46 P **P** **06 45 05.8 -0.1**
MVCO Mesa Verde 95.79 49 IAMs_20 IAMs_20 07 22 02.7
comp=Z,545nm,21.0s
SEW Seward 95.89 14 IAMs_20 IAMs_20 07 23 47.5
comp=Z,566nm,21.0s
SPUT South Promonto 95.92 44 P **P** **06 45 05.6 -0.9**
PV13 Radium Mtn., P 96.16 48 P **P** **06 45 08.0 +0.3**
PV14 Lion Creek, Pa 96.17 48 IAMs_20 IAMs_20 07 26 27.6
comp=Z,546nm,20.0s
D08A Wollman Farm, 96.19 37 P **P** **06 45 06.9 -0.4**
D08A IAmb IAmb 06 45 12.3
comp=Z,8.6nm,1.0s
D08A IAMs_20 IAMs_20 07 23 26.7
comp=Z,645nm,20.0s
F10A Beach Ranch, E 96.32 38 P **P** **06 45 07.6 -0.4**
F10A IAmb IAmb 06 45 11.6
comp=Z,9.9nm,1.1s
TCUT Toone Canyon 96.41 45 P **P** **06 45 07.3 -1.5**
PV22 Blue Mesa, Par 96.41 48 IAMs_20 IAMs_20 07 24 17.4
comp=Z,435nm,20.0s
GAMB Gambell 96.63 3 IAMs_20 IAMs_20 07 20 40.9
comp=Z,585nm,22.0s
HIN Hinchinbrook I 96.79 16 IAMs_20 IAMs_20 07 20 19.3
comp=Z,483nm,20.0s
CD2 Chengdu 96.88 302 P **P** **06 45 10.7 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
C09A Chrisman Ranch 97.02 36 IAMs_20 IAMs_20 07 24 00.5
comp=Z,655nm,20.0s
EYAK Cordova Ski Ar 97.10 16 IAMs_20 IAMs_20 07 27 43.5
comp=Z,455nm,19.0s
RAGM Ragged Mountai 97.20 16 IAMs_20 IAMs_20 07 27 56.3
comp=Z,612nm,20.0s
LLLB Lillooet 97.24 33 IAMs_20 IAMs_20 07 19 05.3
comp=Z,524nm,22.0s
KNK Knik Glacier 97.29 14 IAMs_20 IAMs_20 07 24 29.4
comp=Z,493nm,22.0s
TTA Tatalina 97.35 10 IAmb IAmb 06 45 29.5
comp=Z,11nm,1.5s
HHC Hu-ho-hao-te 97.54 314 *e*P Pdif 06 45 14.3 +0.5
HHC pmax pmax
comp=Z,12nm,1.3s
HHC pmax pmax
comp=Z,60nm,6.4s
HHC LR LR
comp=Z,150nm,16.9s
HHC LR LR
comp=Z,190nm,18.2s
HHC LR LR
comp=Z,300nm,17.6s
AHID Auburn Hatcher 97.61 43 IAMs_20 IAMs_20 07 19 58.7
comp=Z,491nm,22.0s
SML Sawmill 97.67 14 IAMs_20 IAMs_20 07 25 03.5
comp=Z,423nm,20.0s
LPAZ La Paz 97.71 115 LR LR 07 21 30.9
comp=Z,304nm,21.8s,baz=216,slow=30
O20A White River Ci 97.71 47 P Pdif 06 45 16.3 +1.6
baz=233
JCT Junction City 97.80 59 IAMs_20 IAMs_20 07 22 49.3
comp=Z,531nm,20.0s
ANM Nome 97.83 6 IAMs_20 IAMs_20 07 25 01.9
comp=Z,629nm,20.0s
NEW Newport 97.90 36 LR LR 07 21 38.7
comp=Z,462nm,21.8s,baz=222,slow=30
NEW Newport 97.90 36 IAMs_20 IAMs_20 07 24 37.9
comp=Z,638nm,20.0s
SCM Sheep Creek Mo 97.90 14 IAMs_20 IAMs_20 07 24 49.7
comp=Z,469nm,22.0s
MCMT McKenzie Canyo 97.92 41 P Pdif 06 45 15.8 +0.3
PPLA Purkeypile 97.94 12 IAMs_20 IAMs_20 07 25 24.5
comp=Z,563nm,20.0s
PCA Pinnacle 98.06 18 IAMs_20 IAMs_20 07 20 50.1
comp=Z,557nm,20.0s
REDW Red Top Meadow 98.13 43 P **P** **06 45 16.2 -0.2**
REDW IAmb IAmb 06 45 19.8
comp=Z,8.5nm,1.1s
REDW IAMs_20 IAMs_20 07 20 25.3
comp=Z,500nm,22.0s
TPAW Teton Pass 98.15 43 IAMs_20 IAMs_20 07 20 25.8
comp=Z,494nm,22.0s
FXWY Fox Creek 98.20 43 IAMs_20 IAMs_20 07 20 22.1
comp=Z,470nm,22.0s
SNOW Snow King Moun 98.24 43 IAmb IAmb 06 45 20.5
comp=Z,7.5nm,0.9s
SNOW IAMs_20 IAMs_20 07 20 40.4
comp=Z,477nm,22.0s
JIS Juneau Island 98.25 22 IAMs_20 IAMs_20 07 25 19.4
comp=Z,451nm,20.0s
BALM Baldy 98.33 17 IAMs_20 IAMs_20 07 22 14.2
comp=Z,537nm,21.0s
SEY Seymchan 98.36 347 *i*P Pdif 06 45 16.8 +0.1
735A Kenedy 98.36 61 IAMs_20 IAMs_20 07 18 41.2
comp=Z,473nm,19.0s
BW06 Boulder Array 98.51 44 P Pdif 06 45 19.7 +1.4
baz=233
BW06 Boulder Array 98.51 44 IAMs_20 IAMs_20 07 21 02.5
comp=Z,510nm,22.0s
PDAR Pinedale Array 98.51 44 P Pdif 06 45 20.1 +1.8
comp=Z,2.3nm,0.9s,baz=196,slow=4.2,SNR=12
PDAR LR LR 07 23 43.2
comp=Z,248nm,19.6s,baz=230,slow=32
FLWY Flagg Ranch 98.66 43 P Pdif 06 45 19.8 +1.0
FLWY IAmb IAmb 06 45 23.1
comp=Z,9.8nm,1.1s
FLWY IAMs_20 IAMs_20 07 20 44.2
comp=Z,531nm,22.0s
JTS Las Juntas de 98.76 83 LR LR 07 19 51.9
comp=Z,276nm,20.9s,baz=328,slow=29
KTH Kantishna Hill 98.77 12 IAMs_20 IAMs_20 07 25 43.5
comp=Z,635nm,20.0s
TGUH Tegucigalpa,Un 98.81 79 IAMs_20 IAMs_20 07 19 53.0
comp=Z,458nm,20.0s
H17A Grant Village 98.92 42 IAMs_20 IAMs_20 07 21 04.2
comp=Z,615nm,22.0s
AMTX Amarillo 98.93 54 IAMs_20 IAMs_20 07 23 10.0
comp=Z,534nm,20.0s
RND Reindeer 99.02 13 IAmb IAmb 06 45 26.7
comp=Z,8.7nm,1.0s
RND IAMs_20 IAMs_20 07 25 46.1
comp=Z,493nm,20.0s
ABTX Abilene, Hawle 99.09 57 IAMs_20 IAMs_20 07 23 03.5
comp=Z,614nm,20.0s
LKWY Lake 99.12 42 IAMs_20 IAMs_20 07 25 55.6
comp=Z,534nm,19.0s
ISCO Idaho Springs 99.15 48 IAMs_20 IAMs_20 07 20 36.5
comp=Z,548nm,22.0s
RWWY Rawlins 99.27 46 IAMs_20 IAMs_20 07 21 25.5
comp=Z,484nm,22.0s
MCK McKinley 99.30 13 IAmb IAmb 06 45 25.3
comp=Z,8.8nm,1.1s
MCK IAMs_20 IAMs_20 07 26 15.5
comp=Z,537nm,20.0s
PAX Paxson 99.31 15 IAMs_20 IAMs_20 07 25 44.0
comp=Z,451nm,21.0s
LZH Lanzhou 99.71 307 *e*P **Pdif** **06 45 25.8 +2.2**
LZH pP pP 06 45 31.5 -1.8
LZH sP sP 06 45 35.6 -0.6
LZH PP **PP** **06 49 25.6 -3.0**
LZH pmax pmax
comp=Z,12nm,1.1s
LZH pmax pmax
comp=Z,120nm,5.4s
LZH LR LR
comp=Z,240nm,15.9s
LZH LR LR
comp=Z,160nm,14.6s
LZH LR LR
comp=Z,270nm,16.3s
DLBC Dease Lake 99.80 24 IAMs_20 IAMs_20 07 27 22.4
comp=Z,424nm,20.0s
WALA Waterton Lakes 100.04 37 IAMs_20 IAMs_20 07 21 07.5
comp=Z,541nm,22.0s
RIDG Independent Ri 100.13 15 IAMs_20 IAMs_20 07 26 19.5
comp=Z,528nm,21.0s
WRH Wood River Hil 100.13 13 IAMs_20 IAMs_20 07 26 34.4
comp=Z,404nm,20.0s
K22A Casper 100.24 46 IAMs_20 IAMs_20 07 23 39.4
comp=Z,544nm,22.0s
WHTX Lake Whitney, 100.31 59 IAMs_20 IAMs_20 07 27 34.7
comp=Z,514nm,18.0s
CCB Clear Creek Bu 100.34 13 IAMs_20 IAMs_20 07 30 08.0
comp=Z,420nm,20.0s
COLA College 100.54 13 IAMs_20 IAMs_20 07 27 05.2
comp=Z,546nm,20.0s
ILAR Eielson Array 100.63 13 P **Pdif** **06 45 27.9 +1.1**
comp=Z,5.2nm,1.2s,baz=218,slow=5.6,SNR=15
ILAR PKKPbc **PKKPbc** **07 01 42.0 -1.0**
comp=Z,0.6nm,0.8s,baz=15,slow=3.7,SNR=5.5
237A Washetta, Mont 101.50 59 IAMs_20 IAMs_20 07 25 43.3
comp=Z,402nm,18.0s
EGMT Eagleton 101.57 40 IAMs_20 IAMs_20 07 28 20.3
comp=Z,555nm,19.0s
EGAK Eagle 101.83 16 IAMs_20 IAMs_20 07 30 55.7
comp=Z,377nm,19.0s
OGNE Ogallala 102.05 49 IAMs_20 IAMs_20 07 26 29.4
comp=Z,597nm,20.0s
OKCFA Oklahoma City 102.13 56 IAMs_20 IAMs_20 07 30 02.8
comp=Z,432nm,20.0s
CBKS Cedar Bluff 102.38 52 IAMs_20 IAMs_20 07 25 58.3
comp=Z,448nm,20.0s
RSSD Black Hills 102.57 45 IAMs_20 IAMs_20 07 23 13.9
comp=Z,509nm,22.0s
Z38A Mt. Pleasant 102.75 59 IAMs_20 IAMs_20 07 29 21.3
comp=Z,539nm,18.0s
SHL Shillong 102.90 292 IAMs_20 IAMs_20 07 37 01.7
comp=Z,425nm,21.0s
TUL1 Leonard 103.54 56 IAMs_20 IAMs_20 07 30 58.1
comp=Z,506nm,18.0s
TOLK Toolik Lake Re 103.66 11 IAMs_20 IAMs_20 07 25 47.6
comp=Z,464nm,22.0s
GTA Gaotai 104.18 308 *e*P PKiKP 06 50 12.5 +12
GTA pP PP 06 50 16.8 +15
GTA sP 06 50 19.6
GTA pmax pmax
comp=Z,3.0nm,0.7s
WLAR White Oak Lake 104.31 59 IAMs_20 IAMs_20 07 28 19.7
comp=Z,434nm,19.0s
MIAR Mount Ida 104.41 58 P **Pdif** **06 45 44.9 +0.5**
baz=240
SONM Songino Array 104.60 318 PKKP 07 01 43.5
comp=Z,1.4nm,1.0s,baz=222,slow=1.9,SNR=4.4
U38A Gravette 104.79 56 IAMs_20 IAMs_20 07 31 38.2
comp=Z,521nm,19.0s
X40A Basin Creek Fa 104.91 59 IAMs_20 IAMs_20 07 30 47.5
comp=Z,356nm,18.0s
K31A O'Neill 105.02 49 IAMs_20 IAMs_20 07 27 53.9
comp=Z,488nm,20.0s
HHAR Hobbs 105.02 56 IAMs_20 IAMs_20 07 31 45.3
comp=Z,457nm,18.0s
CCAR Cane Creek 105.39 59 IAMs_20 IAMs_20 07 29 19.4
comp=Z,474nm,20.0s
UALR University of 105.41 58 IAMs_20 IAMs_20 07 30 00.6
comp=Z,448nm,19.0s
WHAR Wooly Hollow 105.70 58 IAMs_20 IAMs_20 07 27 13.3
comp=Z,547nm,21.0s
U40A Yellville 105.82 57 IAMs_20 IAMs_20 07 29 51.5
comp=Z,506nm,19.0s
E28A Huff 105.88 45 IAMs_20 IAMs_20 07 24 55.4
comp=Z,500nm,22.0s
N35A Tabor 106.14 52 IAMs_20 IAMs_20 07 28 16.7
comp=Z,408nm,19.0s
L34A Svendsen Farm, 106.21 50 IAMs_20 IAMs_20 07 28 41.5
comp=Z,408nm,21.0s
INK Inuvik 106.48 16 PKKP 07 01 38.5
comp=Z,1.8nm,0.9s,baz=43,slow=5.0,SNR=4.3
INK Inuvik 106.48 16 IAMs_20 IAMs_20 07 31 57.7
comp=Z,510nm,21.0s
MGMO Mountain Grove 106.62 56 IAMs_20 IAMs_20 07 32 25.6
comp=Z,429nm,18.0s
ECSD EROS Data Cent 106.93 49 IAMs_20 IAMs_20 07 29 31.5
comp=Z,436nm,19.0s
Y45A Yeager Farm, C 106.99 60 IAMs_20 IAMs_20 07 28 57.7
comp=Z,433nm,22.0s
R40A Maddies Statio 107.16 55 IAMs_20 IAMs_20 07 28 23.0
comp=Z,485nm,21.0s
MDND Maddock 107.17 44 IAMs_20 IAMs_20 07 35 37.5
comp=Z,350nm,18.0s
LPAR Lepanto 107.27 59 IAMs_20 IAMs_20 07 26 53.9
comp=Z,417nm,22.0s
GNAR Gosnell 107.64 58 IAMs_20 IAMs_20 07 28 01.8
comp=Z,454nm,21.0s
N38A Joes South For 107.70 53 IAMs_20 IAMs_20 07 31 59.1
comp=Z,451nm,19.0s
Z47A Carrollton 107.76 62 IAMs_20 IAMs_20 07 26 48.0
comp=Z,586nm,22.0s
CCM Cathedral Cave 107.76 56 IAMs_20 IAMs_20 07 33 29.9
comp=Z,396nm,19.0s
PEBM Pemiscott Bayo 107.82 58 IAMs_20 IAMs_20 07 31 16.6
comp=Z,483nm,19.0s
W45A Hickory Valley 107.86 59 IAMs_20 IAMs_20 07 32 40.7
comp=Z,464nm,18.0s
HALT Halls 108.10 59 IAMs_20 IAMs_20 07 32 04.0
comp=Z,430nm,20.0s
YKA Yellowknife Ar 108.10 26 Pdiff **Pdif** **06 46 05.5 +5.5**
comp=Z,0.3nm,0.7s,baz=222,slow=4.6,SNR=2.7
YKA PKiKP **PKiKP** **06 50 06.2 -0.3**
comp=Z,1.1nm,0.7s,baz=245,slow=1.1,SNR=8.2
YKA PKKPbc **PKKPbc** **07 01 18.2 -2.0**
comp=Z,1.7nm,0.8s,baz=54,slow=3.1,SNR=9.9
YKA PKKP **PKKPdf** **07 01 35.7 +0.9**
comp=Z,0.8nm,0.9s,baz=60,slow=2.5,SNR=3.7
SCIA State Center 108.24 52 IAMs_20 IAMs_20 07 32 54.4
comp=Z,358nm,19.0s
GLAT Glass 108.31 58 IAMs_20 IAMs_20 07 30 19.4
comp=Z,426nm,20.0s
D32A Dogwood Acres, 108.34 45 IAMs_20 IAMs_20 07 26 41.7
comp=Z,424nm,22.0s
HICK Hickman 108.47 58 IAMs_20 IAMs_20 07 28 36.9
comp=Z,569nm,21.0s
MTDJ Mount Denham 108.97 80 IAMs_20 IAMs_20 07 25 20.7
comp=Z,527nm,22.0s
S44A Carbondale 108.99 57 IAMs_20 IAMs_20 07 29 13.4
comp=Z,560nm,21.0s
FFC Flin Flon 109.33 37 IAMs_20 IAMs_20 07 31 13.2
comp=Z,505nm,20.0s
C36M Paulatuk 109.58 18 IAMs_20 IAMs_20 07 28 42.5
comp=Z,534nm,21.0s
L40A Anamosa 109.63 52 IAMs_20 IAMs_20 07 29 47.2
comp=Z,418nm,20.0s
P43A Skaggs, Pawnee 109.69 55 IAMs_20 IAMs_20 07 32 10.8
comp=Z,391nm,20.0s
Q44A Meyer Farm, Va 109.70 56 IAMs_20 IAMs_20 07 35 07.3
comp=Z,450nm,18.0s
V48A Smith Brothers 109.84 60 IAMs_20 IAMs_20 07 31 20.1
comp=Z,468nm,19.0s
F36A Milaca 109.88 48 IAMs_20 IAMs_20 07 30 54.4
comp=Z,482nm,20.0s
SPMN Marine on St. 110.04 49 IAMs_20 IAMs_20 07 30 41.7
comp=Z,360nm,20.0s
T47A Sharon Grove 110.20 59 IAMs_20 IAMs_20 07 30 01.4
comp=Z,488nm,21.0s
SWET Sewanee 110.26 61 IAMs_20 IAMs_20 07 33 10.1
comp=Z,404nm,20.0s
OLIL Olney 110.27 56 IAMs_20 IAMs_20 07 30 13.3
comp=Z,535nm,21.0s
CLTN Cedars of Leba 110.36 60 IAMs_20 IAMs_20 07 34 12.7
comp=Z,428nm,18.0s
ULM Lac du Bonnet 110.47 43 IAMs_20 IAMs_20 07 31 39.9
comp=Z,325nm,19.0s
TIXI Tiksi 110.59 344 *c i* PKIKP **PKiKP** **06 50 10.8 -0.1**
TIXI pmax pmax
comp=Z,4.0nm,1.0s
TIXI Tiksi 110.59 344 IAMs_20 IAMs_20 07 31 09.2
comp=Z,510nm,21.0s
O44A Mansfield 110.64 55 IAMs_20 IAMs_20 07 32 41.5
comp=Z,480nm,19.0s
L42A Oliver, Polo 110.64 53 IAMs_20 IAMs_20 07 30 15.0
comp=Z,392nm,21.0s
JFWS Jewell Farm 110.66 52 IAMs_20 IAMs_20 07 35 52.3
comp=Z,419nm,18.0s
W50A Signal Mountai 110.70 61 IAMs_20 IAMs_20 07 28 15.0
comp=Z,499nm,22.0s
U49A Red Boiling Sp 110.94 59 IAMs_20 IAMs_20 07 33 38.2
comp=Z,403nm,19.0s
E38A The Farm, Brul 111.43 48 IAMs_20 IAMs_20 07 35 44.6
comp=Z,457nm,18.0s
V51A Loudon 111.67 61 IAMs_20 IAMs_20 07 32 31.6
comp=Z,503nm,20.0s
G40A Rib Lake 111.71 49 IAMs_20 IAMs_20 07 31 24.0
comp=Z,346nm,20.0s
K43A Burlington 111.84 53 IAMs_20 IAMs_20 07 31 34.0
comp=Z,452nm,20.0s
T50A Nancy 111.84 59 IAMs_20 IAMs_20 07 34 32.0
comp=Z,338nm,20.0s
I42A Draeger Farm, 111.95 51 IAMs_20 IAMs_20 07 28 49.6
comp=Z,426nm,22.0s
TKL Tuckaleechee C 112.03 61 IAMs_20 IAMs_20 07 32 45.2
comp=Z,439nm,20.0s
EYMN Ely 112.04 46 IAMs_20 IAMs_20 07 35 35.6
comp=Z,428nm,18.0s
V52A Sevierville 112.24 61 IAMs_20 IAMs_20 07 33 09.7
comp=Z,480nm,19.0s
TZTN Tazewell 112.58 60 IAMs_20 IAMs_20 07 33 21.5
comp=Z,389nm,19.0s
COWI Conover 112.73 49 IAMs_20 IAMs_20 07 32 25.2
comp=Z,407nm,20.0s
R50A Paris 112.74 58 IAMs_20 IAMs_20 07 31 58.9
comp=Z,420nm,19.0s
V53A Saluda 112.75 61 IAMs_20 IAMs_20 07 32 51.1
comp=Z,490nm,20.0s
N47A Urbana 112.86 55 IAMs_20 IAMs_20 07 38 01.9
comp=Z,369nm,19.0s
H43A Windswept, Lux 112.94 51 IAMs_20 IAMs_20 07 30 06.8
comp=Z,372nm,22.0s
S51A Beattyville 113.00 59 IAMs_20 IAMs_20 07 34 56.8
comp=Z,368nm,20.0s
F42A Maple Grove Fa 113.23 50 IAMs_20 IAMs_20 07 29 53.4
comp=Z,483nm,22.0s
Q51A Peebles 113.75 58 IAMs_20 IAMs_20 07 32 20.5
comp=Z,424nm,20.0s
I45A Fountain 113.78 52 IAMs_20 IAMs_20 07 32 21.9
comp=Z,391nm,20.0s
U54A Nelsons Funny 113.83 61 IAMs_20 IAMs_20 07 33 57.8
comp=Z,425nm,19.0s
V55A Taylorsville 114.00 62 IAMs_20 IAMs_20 07 33 52.4
comp=Z,462nm,20.0s
L48A N Adams 114.16 55 IAMs_20 IAMs_20 07 44 20.2
comp=Z,323nm,19.0s
E43A Lone Tree Farm 114.21 49 IAMs_20 IAMs_20 07 32 50.1
comp=Z,353nm,20.0s
WMQ Urumqi 114.26 308 *e*PKP PKPdf 06 50 18.9 0.0
WMQ AMB AMB
comp=Z,160nm,6.1s
G45A Suttons Bay 114.55 51 IAMs_20 IAMs_20 07 36 56.4
comp=Z,408nm,19.0s
U56A King 114.82 62 IAMs_20 IAMs_20 07 34 43.0
comp=Z,412nm,20.0s
AAM Ann Arbor 114.83 54 IAMs_20 IAMs_20 07 36 21.9
comp=Z,305nm,19.0s
M50A Fremont 114.91 56 IAMs_20 IAMs_20 07 38 10.0
comp=Z,386nm,19.0s
BLA Blacksburg 115.14 61 IAMs_20 IAMs_20 07 36 41.3
comp=Z,405nm,18.0s
GLMI Grayling 115.15 52 IAMs_20 IAMs_20 07 37 30.3
comp=Z,420nm,19.0s
T56A Rocky Mt 115.35 61 P **PKiKP** **06 50 21.3 +0.2**
baz=247
Q54A Coxs Mills 115.53 59 IAMs_20 IAMs_20 07 34 14.6
comp=Z,340nm,19.0s
V58A Windy Hill, Pi 115.54 63 IAMs_20 IAMs_20 07 34 53.1
comp=Z,403nm,20.0s
R55A Marlinton 115.77 60 IAMs_20 IAMs_20 07 36 46.2
comp=Z,307nm,19.0s
G47A Hillman 115.78 51 P **PKiKP** **06 50 22.7 +1.1**
baz=248
T57A Hurt 115.91 61 P **PKiKP** **06 50 23.0 +0.8**
baz=247
T57A Hurt 115.91 61 IAMs_20 IAMs_20 07 36 33.8
comp=Z,427nm,20.0s
X60A Albert Glenn T 115.91 64 P **PKiKP** **06 50 22.9 +0.7**
baz=246
H48A Harrisville 115.96 52 IAMs_20 IAMs_20 07 33 49.7
comp=Z,499nm,21.0s
M52A Chesterland 116.13 56 P **PKiKP** **06 50 22.9 +0.4**
baz=248
M52A Chesterland 116.13 56 IAMs_20 IAMs_20 07 34 22.4
comp=Z,444nm,20.0s
CNNC Cliffs of the 116.24 64 IAMs_20 IAMs_20 07 38 31.7
comp=Z,347nm,20.0s
O54A Avella 116.31 58 P **PKiKP** **06 50 23.5 +0.6**
baz=248
S57A Dark Hollow, R 116.42 61 IAMs_20 IAMs_20 07 38 21.4
comp=Z,384nm,19.0s
E47A Iron Bridge 116.62 50 P **PKiKP** **06 50 24.4 +1.2**
baz=249
Q56A Snyder Ridge, 116.74 59 IAMs_20 IAMs_20 07 35 33.6
comp=Z,327nm,20.0s
U59A Littleton 116.75 63 IAMs_20 IAMs_20 07 35 38.0
comp=Z,394nm,20.0s
S58A Poland Farm, P 117.03 61 IAMs_20 IAMs_20 07 37 23.5
comp=Z,409nm,18.0s
T59A Double "B" Far 117.16 62 P **PKiKP** **06 50 25.3 +0.7**
baz=248
T59A Double "B" Far 117.16 62 IAMs_20 IAMs_20 07 35 44.9
comp=Z,464nm,20.0s
R58B Mineral 117.29 61 IAMs_20 IAMs_20 07 36 54.3
comp=Z,379nm,19.0s
CBN Corbin Frederi 117.75 61 IAMs_20 IAMs_20 07 37 42.5
comp=Z,384nm,19.0s
P57A Homestead Farm 117.75 59 IAMs_20 IAMs_20 07 33 56.4
comp=Z,326nm,19.0s
Q58A Fox Den Farm, 117.79 60 P **PKiKP** **06 50 26.6 +0.9**
baz=249
M55A Ridgway 117.92 57 P **PKiKP** **06 50 27.2 +1.2**
baz=249
D49A Beulah Townshi 118.14 50 P **PKiKP** **06 50 26.3 +0.1**
baz=251
H52A Wyevale 118.23 53 P **PKiKP** **06 50 26.6 +0.1**
baz=250
E50A Wahnapitae 118.26 51 P **PKiKP** **06 50 27.3 +0.8**
baz=251
M56A Emporium 118.33 57 P **PKiKP** **06 50 27.2 +0.5**
baz=250
L55A Hinsdale 118.40 56 P **PKiKP** **06 50 27.1 +0.2**
baz=250
N57A Milroy 118.53 58 P **PKiKP** **06 50 28.0 +0.8**
baz=250
J54A Appleton 118.62 55 IAMs_20 IAMs_20 07 35 50.4
comp=Z,338nm,20.0s
SADO Sadowa 118.78 53 IAMs_20 IAMs_20 07 33 22.3

comp=Z,309nm,20.0s
MK31 Makanchi Array 118.89 309 PKIKP PKPdf 06 50 26.0 -1.6
MK31 Makanchi Array 118.89 309 PKPdf PKPdf 06 50 26.0 -1.6
MKAR Makanchi Array 118.89 309 PKP PKPdf 06 50 26.3 -1.4
comp=Z,9.0nm,0.9s,baz=112,slow=1.3,SNR=37
MKAR PKKPbc **PKKPab 07 00 45.0 +1.7**
comp=Z,1.1nm,0.7s,baz=282,slow=3.4,SNR=6.7
F52A Sundridge 118.99 52 P PKiKP 06 50 28.4 +0.5
baz=251
L56A Greenwood 118.99 57 P PKiKP 06 50 28.6 +0.6
baz=250
M57A Sunshine Farm, 119.03 57 P PKiKP 06 50 28.7 +0.6
baz=250
E51A G1948 Merrick 119.11 51 P PKiKP 06 50 28.8 +0.7
baz=252
MVL Millersville 119.13 59 IAMs_20 IAMs_20 07 34 36.9
comp=Z,425nm,21.0s
N58A Sunbury 119.15 58 P PKiKP 06 50 28.5 +0.2
baz=250
J55A Hilton 119.19 55 P PKiKP 06 50 29.3 +1.0
baz=251
J55A Hilton 119.19 55 IAMs_20 IAMs_20 07 39 32.3
comp=Z,335nm,20.0s
K56A Middlesex 119.34 56 P PKiKP 06 50 29.0 +0.3
baz=251
L57A Andrews Acres 119.45 57 P PKiKP 06 50 29.4 +0.4
baz=251
ZAA0 Zalesovo Array 119.49 318 PKPdf PKPdf 06 50 26.6 -1.9
ZALV Zalesovo Beam 119.49 318 PKP PKPdf 06 50 26.9 -1.6
comp=Z,3.3nm,0.6s,baz=158,slow=1.6,SNR=14
E52A Mattawa 119.58 52 P PKiKP 06 50 29.2 +0.1
baz=252
I55A Frankford 119.59 54 P PKPdf 06 50 29.1 0.0
baz=251
G54A Lake Saint Pet 119.69 53 P PKPdf 06 50 29.1 -0.1
baz=252
DELO Deloro Mine 119.73 54 IAMs_20 IAMs_20 07 39 35.5
comp=Z,384nm,19.0s
J56A Wolcott 119.86 55 IAMs_20 IAMs_20 07 36 39.0
comp=Z,353nm,20.0s
ALGO Algonquin Park 119.88 52 P PKPdf 06 50 29.6 +0.1
baz=252
K57A Scipio Center 119.92 56 P PKiKP 06 50 30.1 +0.3
baz=251
RES Resolute Bay 119.95 18 PKP PKiKP 06 50 29.6 +0.8
comp=Z,5.7nm,0.9s,baz=312,slow=3.0,SNR=2.2
RES Resolute Bay 119.95 18 IAMs_20 IAMs_20 07 35 21.6
comp=Z,434nm,21.0s
D52A ZEK Kipawa Sen 119.96 51 P PKiKP 06 50 29.9 +0.1
baz=252
H55A Tweed 120.03 54 P PKPdf 06 50 29.9 0.0
baz=252
BINY Binghamton 120.12 57 P PKiKP 06 50 30.7 +0.4
baz=251
L58A Harry Jones Me 120.17 57 P PKiKP 06 50 31.0 +0.6
baz=251
PLVO Plevna 120.26 53 IAMs_20 IAMs_20 07 38 03.5
comp=Z,394nm,18.0s
E53A Dumoine, Ponti 120.27 52 P PKiKP 06 50 31.0 +0.6
baz=253
M59A Waymart 120.30 58 P PKiKP 06 50 31.0 +0.4
baz=251
N60A Cedar Hill Far 120.32 59 P PKiKP 06 50 31.1 +0.4
baz=251
TARG Taragay, Kyrgy 120.32 302 PKPdf PKPdf 06 50 29.7 -1.4
D53A Lac Vacive, Po 120.45 51 P PKiKP 06 50 31.1 +0.4
baz=253
D53A Lac Vacive, Po 120.45 51 IAMs_20 IAMs_20 07 35 57.5
comp=Z,411nm,20.0s
J57A Williamstown 120.49 56 P PKiKP 06 50 31.2 +0.3
baz=252
J57A Williamstown 120.49 56 IAMs_20 IAMs_20 07 37 15.9
comp=Z,381nm,20.0s
K58A Earlville 120.54 56 P PKPdf 06 50 31.1 +0.1
baz=252
G55A Calabogie 120.56 53 P PKiKP 06 50 31.3 +0.4
baz=252
E54A Lac Daplat, Po 120.60 52 P PKiKP 06 50 31.1 +0.1
baz=253
SEUS St. Eustatius 120.78 88 IAMs_20 IAMs_20 07 33 15.4
comp=Z,409nm,21.0s
I57A Carthage 120.89 55 P PKiKP 06 50 31.9 +0.3
baz=252
SKI Saint Kitts 120.91 89 IAMs_20 IAMs_20 07 32 27.6
comp=Z,355nm,20.0s
VLDQ Val d'Or 120.91 50 IAMs_20 IAMs_20 07 39 07.9
comp=Z,428nm,19.0s
SMRT St. Maarten 120.96 88 IAMs_20 IAMs_20 07 31 48.1
comp=Z,360nm,21.0s
D54A Lac Fusel, La 121.16 51 P PKPdf 06 50 31.9 0.0
baz=254
PAL Palisades 121.22 59 P PKPdf 06 50 32.4 +0.1
baz=252
MATQ Matagami 121.24 48 P PKiKP 06 50 32.5 +0.4
baz=255
I58A Old Forge 121.29 55 P PKiKP 06 50 33.0 +0.5
baz=253
M61A Granite Spring 121.41 58 P PKiKP 06 50 33.1 +0.4
baz=252
ULHL Ulahol 121.59 303 P PKPdf 06 50 33.0 -0.2
SNR=6.0
NRIK Noril'sk 121.72 335 PKP PKPdf 06 50 31.6 -0.8
comp=Z,6.6nm,0.6s,baz=78,slow=3.7,SNR=13
LONY Lake Ozonia 121.83 55 P PKPdf 06 50 32.8 -0.6
baz=253
L61A Hillsdale 1, H 121.83 58 P PKiKP 06 50 33.6 0.0
baz=252
D55A Sainte-Anne-du 121.90 52 P PKPdf 06 50 33.3 0.0
baz=254
E56A St. Veronique 122.06 52 P PKiKP 06 50 34.1 +0.2
baz=254
J60A Lant Hill Farm 122.24 56 P PKiKP 06 50 34.5 +0.2
baz=253
TKM2 Tokmak 2 122.25 303 P PKPdf 06 50 33.0 -1.5
SNR=8.8
KURK Kurchatov 122.32 313 *c i* PKIKP **PKPdf 06 50 32.8 -1.2**
KURK pmax pmax
comp=Z,29nm,1.0s
KURK Kurchatov 122.32 313 PKPdf **PKPdf 06 50 32.0 -2.1**
KURK Kurchatov 122.32 313 IAMs_20 IAMs_20 07 39 14.1
comp=Z,347nm,21.0s
G58A Ormstown 122.34 54 P PKPdf 06 50 34.4 +0.1
baz=254
D56A ZEC Mazanza, M 122.38 52 P PKPdf 06 50 34.4 0.0
baz=255
H59A Cadyville 122.45 55 P PKiKP 06 50 35.0 +0.3
baz=254
I60A Shoreham 122.50 56 P PKiKP 06 50 35.0 +0.2
baz=254
L61B Northampton 122.53 57 P PKiKP 06 50 35.3 +0.3
baz=253
E57A Chemin Saint G 122.61 53 P PKiKP 06 50 35.5 +0.5
baz=255
UCH Uchtor 122.81 302 P PKPdf 06 50 35.5 -0.4
SNR=15
AAK Ala-Archa 122.94 303 *c i* PKIKP **PKPdf 06 50 35.0 -0.8**
AAK pmax pmax
comp=Z,7.0nm,1.3s
D57A Chemin Vers le 122.94 52 P PKiKP 06 50 36.1 +0.4
baz=255
HNH Hanover 123.16 56 IAMs_20 IAMs_20 07 36 58.5
comp=Z,374nm,20.0s
E58A La Victoria 123.19 53 P PKiKP 06 50 36.8 +0.7
baz=255
BRYW Bryant College 123.19 58 IAMs_20 IAMs_20 07 42 49.9
comp=Z,423nm,20.0s
I61A Oroboro, Fairl 123.28 56 P PKPdf 06 50 36.2 0.0
baz=254
M64A Tiverton 123.32 59 P PKiKP 06 50 36.7 +0.2
baz=253
CHGQ Chibougamau 123.33 49 P PKPdf 06 50 36.2 +0.1
baz=257
HRV Adam Dziewonsk 123.34 58 P PKPdf 06 50 35.8 -0.5
baz=254
AML Almayashu 123.37 302 P PKPdf 06 50 36.2 -0.7
SNR=13
K63A Dunstable 123.41 57 P PKPdf 06 50 36.5 +0.1
baz=254
EKS2 Erkin-Say 123.46 302 P PKPdf 06 50 36.3 -0.4
SNR=6.7
G60A Masonville 123.50 55 P PKPdf 06 50 36.7 +0.2
baz=255
LBNH Lisbon 123.55 56 P PKPdf 06 50 36.7 0.0
baz=255
D58A Chemin du LacG 123.63 52 P PKiKP 06 50 37.1 +0.1
baz=256
H61A Lyndonville 123.63 55 P PKiKP 06 50 37.1 0.0
baz=255
LATQ La Tuque 123.76 52 P PKiKP 06 50 37.2 0.0
baz=256
F60A Warwick 123.98 54 P PKPdf 06 50 37.4 0.0
baz=256
G61A St-Isidore-de- 124.10 54 P PKPdf 06 50 37.7 0.0
baz=256
H62A Milan 124.17 55 P PKiKP 06 50 38.8 +0.7
baz=255
D59A Saint-Raymond 124.30 52 P PKiKP 06 50 38.3 0.0
baz=257
E60A Ste Agathe de 124.41 53 P PKiKP 06 50 38.6 +0.1
baz=256
I63A Otisfield 124.44 56 P PKiKP 06 50 38.9 +0.2
baz=255
F61A St Evariste 124.63 54 P PKiKP 06 50 39.2 +0.2
baz=256
G62A West of Eustis 124.76 55 P PKiKP 06 50 39.3 0.0
baz=256
D60A Saint Jean D'O 124.89 53 P PKPdf 06 50 39.1 0.0
baz=257
H63A New Sharon 124.97 56 P PKiKP 06 50 39.8 +0.1
baz=256
I64A Boothbay 125.07 56 P PKPdf 06 50 39.6 0.0
baz=256
E61A Lac Etchemin 125.07 53 P PKiKP 06 50 40.3 +0.4
baz=257
G63A Kingsbury 125.37 55 P PKiKP 06 50 40.8 +0.3
baz=257
D61A St Aubert, Com 125.44 52 P PKiKP 06 50 40.9 +0.4
baz=258
LSZ Lusaka 125.47 213 PKIKP PKiKP 06 50 41.7 -0.1
LSZ Lusaka 125.47 213 PKPdf PKiKP 06 50 41.7 -0.1
H64A Troy 125.53 56 P PKiKP 06 50 40.8 0.0
baz=256
PKME Peaks-Kenny Pk 125.62 55 P PKiKP 06 50 41.3 +0.3
baz=257
TSUM Tsumeb 125.75 199 PKPdf PKPdf 06 50 40.6 -1.4
E62A Clayton Lake 125.77 53 P PKiKP 06 50 41.2 0.0
baz=258
E62A Clayton Lake 125.77 53 PKiKP 06 50 41.2 0.0
F63A Nahmakanta, Br 125.85 54 P PKiKP 06 50 41.9 +0.4
baz=257
KK31 Karatay Array 125.89 302 PKIKP PKPdf 06 50 40.2 -1.0
KK31 Karatay Array 125.89 302 PKPdf PKPdf 06 50 40.2 -1.0
ALE Alert 125.93 8 IAMs_20 IAMs_20 07 41 13.9
comp=Z,394nm,20.0s
G64A Maxfield 125.99 55 P PKiKP 06 50 41.9 +0.2
baz=257
D62A Allapoint, All 126.18 53 P PKiKP 06 50 42.1 +0.1
baz=258
H65A Eastbrook 126.22 56 P PKiKP 06 50 42.2 0.0
baz=257
F64A Sherman 126.40 54 P PKiKP 06 50 42.4 -0.1
baz=258
E63A Oxbow 126.47 54 P PKPdf 06 50 42.4 +0.3
baz=258
E63A Oxbow 126.47 54 PKPdf PKPdf 06 50 42.3 +0.1
D63A Stockholm 126.80 53 P PKPdf 06 50 42.8 0.0
baz=259
G65A Princeton 126.80 55 P PKPdf 06 50 43.1 +0.2
baz=258
E64A Bridgewater 126.87 54 P PKPdf 06 50 43.2 +0.3
baz=259
BRVK Borovoye 127.81 314 *c i* PKIKP **PKPdf 06 50 43.7 -0.8**
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 127.81 314 PKPdf PKPdf 06 50 43.3 -1.2
SCHQ Schefferville 128.64 43 PKP PKiKP 06 50 46.8 0.0
comp=Z,5.2nm,1.0s,baz=224,slow=5.2,SNR=3.8
HRA Herat 129.86 289 IAMs_20 IAMs_20 07 50 03.0
comp=Z,313nm,19.0s
KMBO Kilima Mbogo 131.93 232 PKP PKiKP 06 50 56.5 +1.5
comp=Z,0.8nm,0.4s,baz=46,slow=2.7,SNR=3.8
KMBO Kilima Mbogo 131.93 232 PKIKP PKPdf 06 50 52.9 -1.1
KMBO Kilima Mbogo 131.93 232 PKPdf PKPdf 06 50 52.9 -1.1
GEYT Alibeck 133.97 293 PKP PKPdf 06 50 57.1 +0.3
comp=Z,2.4nm,0.8s,baz=108,slow=0.5,SNR=3.6
SPA0 Spitsbergen Ar 134.25 356 PKPdf 06 50 55.8 -0.3
SPITS Spitsbergen Ar 134.25 356 PKP PKPdf 06 50 55.5 -0.6
comp=Z,31nm,1.0s,baz=108,slow=5.4,SNR=11
SPITS SKPbc **SKPbc 06 54 16.2 -6.8**
comp=Z,0.7nm,0.4s,baz=324,slow=4.1,SNR=2.0
ARU Arti 134.62 319 *i* PKIKP **PKPdf 06 50 55.9 -1.4**
ARU MLR MLR
comp=Z,271nm,22.0s
ARU Arti 134.62 319 PKPdf PKPdf 06 50 55.6 -1.7
ARU IAMs_20 IAMs_20 07 51 55.4
comp=Z,288nm,21.0s
SUMG Summit 135.41 16 PKIKP PKPdf 06 50 59.3 +0.4
SUMG Summit 135.41 16 PKPdf PKPdf 06 50 59.2 +0.4
ARCES ARCESS Array B 140.97 347 PKhKP PKPpre 06 51 03.2
comp=Z,3.3nm,0.8s,baz=46,slow=3.5,SNR=6.3
ARCES PKP **PKPdf 06 51 09.3 +0.7**
comp=Z,9.6nm,0.7s,baz=11,slow=1.2,SNR=12
KLMR Klimovskoe 142.69 330 *e* PKIKP **PKPdf 06 51 09.9 -2.0**
KLMR *e* 06 54 21.9
KLMR pmax pmax
comp=Z,35nm,1.4s
KLMR Klimovskoe 142.69 330 *e* PKPdf **PKPdf 06 51 10.0 -2.0**
KLMR AMP 06 51 13.6
comp=Z,35nm,1.4s
KLMR *e*PP **PP 06 54 22.0 +1.3**
STEI Steigen 144.10 351 *e*PKPdf PKPbc 06 51 12.7 +0.4
LOF Lofoten 144.12 352 *e*PKPdf PKPbc 06 51 12.1 -0.2
ZEI Tsey 145.21 299 *i* PKIKP **PKPdf 06 51 18.9 +1.7**
ZEI pmax pmax
comp=Z,31nm,1.2s
BORG Borgarnes 145.37 17 PKIKP PKPab 06 51 17.9 +1.3
BORG Borgarnes 145.37 17 PKPab 06 51 17.9 +1.3
VRH Novokhopyorsk 145.40 314 *e*PKP2 **PKPbc 06 51 15.8 -1.1**
VRH pmax pmax
comp=Z,50nm,0.7s
VRH MLR MLR
comp=Z,2µm,19.0s
GOF Gofitskoye 145.68 303 ⇑ *e*PKIKP **PKPdf 06 51 16.9 -0.8**
KONS Konsvik 145.73 352 *e*PKPdf **PKPbc 06 51 17.5 0.0**
MOR8 Moi Rana 145.87 350 *e*PKPdf **PKPdf 06 51 16.0 -1.4**
MOR8 *ep*PKPbc **PKiKP 06 51 21.8 +0.3**
KBZ Khabaz 145.90 301 PKPbc **PKPdf 06 51 17.9 -0.1**
comp=Z,12nm,0.9s,baz=105,slow=8.1,SNR=12
KBZ Khabaz 145.90 301 *c i* PKP2 **PKPab 06 51 19.9 +0.7**
KIV Kislovodsk 146.03 301 *c i* PKP2 **PKPdf 06 51 18.6 +0.2**
KIV *e* 06 58 15.7
KIV pmax pmax
comp=Z,23nm,1.7s
KIV Kislovodsk 146.03 301 IAMs_20 IAMs_20 08 02 20.0
comp=Z,234nm,19.0s
MOS Moscow 146.04 323 *i* PKIKP **PKPdf 06 51 15.6 -2.3**
MOS pmax pmax
comp=Z,83nm,1.0s
NEY Neytrino 146.06 300 *i* PKP2 **PKPdf 06 51 18.5 -0.1**
SHA1 Shidzhatmaz 146.07 301 *i* PKP2 **PKPdf 06 51 18.5 -0.2**
LPSR Galich'ya Gora 146.60 317 *e*PKP2 **PKPdf 06 51 19.6 +0.7**
LPSR pmax pmax
comp=Z,60nm,0.9s
LPSR MLR MLR
comp=Z,450nm,22.0s
OBN Obninsk 146.86 322 PKPbc **PKPdf 06 51 18.0 -1.2**
comp=Z,8.3nm,0.3s,baz=58,slow=13,SNR=1.9
OBN Obninsk 146.86 322 *e*PKP2 **PKPdf 06 51 19.9 +0.6**
OBN pmax pmax
comp=Z,84nm,1.2s
VORD Divnogorie 146.93 314 *e*PKIKP **PKPdf 06 51 19.4 -0.1**
VORD pmax pmax
comp=Z,30nm,1.4s
BCA Boroka 146.95 297 ⇑P **PKPdf 06 51 19.6 -0.3**
FIA1 FINESS Array S 147.32 338 PKPdf **PKPdf 06 51 17.9 -2.0**
FINES FINESS Array B 147.32 338 PKP **PKPdf 06 51 19.0 -0.9**
comp=Z,48nm,0.9s,baz=86,slow=2.9,SNR=54
FINES PKPbc **PKPbc 06 51 21.3 -1.0**
comp=Z,48nm,0.9s,baz=66,slow=3.5,SNR=38
NSS Namsos 147.76 351 *e*PKPdf **PKPdf 06 51 20.4 -0.1**
KTUT Trabzon 148.36 296 ⇓P **PKiKP 06 51 26.8 -0.6**
TBLU Trondheim 149.20 352 *e*PKPdf **PKPdf 06 51 22.6 -0.4**
MOL Molde 150.15 354 *e*PKPdf **PKPdf 06 51 24.9 +0.5**
MOL *ep*PKPdf **PKPbc 06 51 29.4 -0.1**
DOMB Dombas 150.52 352 *e*PKPdf **PKPdf 06 51 25.5 +0.4**
DOMB *ep*PKPdf **PKPbc 06 51 30.0 -0.5**
AKN Aaknes 150.58 354 *e*PKPdf **PKPdf 06 51 25.9 +0.7**
AKN *e*PKPbc **PKPbc 06 51 30.8 +0.2**
NB2 NORSAR Subarra 151.21 350 PKP **PKPbc 06 51 31.3 -0.9**
comp=Z,67nm,1.1s,baz=16,slow=2.6
NB2 NORSAR Subarra 151.21 350 PKPab **PKPbc 06 51 31.3 -0.9**
baz=16,slow=2.6
NOA NORSAR Array B 151.21 350 PKP **PKPdf 06 51 25.7 -0.5**
comp=Z,5.1nm,1.1s,baz=29,slow=1.9,SNR=16
NOA PKPbc **PKPbc 06 51 31.3 -0.9**
comp=Z,17nm,0.8s,baz=13,slow=4.1,SNR=54
MICGM Minsk 151.43 327 ⇓ *e*PKP **PKPbc 06 51 31.0 -1.8**
MICGM *e*LR LR 07 51 08.0
MNK Minsk 151.43 327 *e*PKIKP **PKPbc 06 51 31.0 -1.8**
NC602 NORSAR Array S 151.45 349 *e*PKPdf **PKPdf 06 51 26.3 -0.2**
NC602 *ep*PKPdf **PKPbc 06 51 31.9 -0.8**
NACGM Naroch 151.67 328 *e* **PKPbc 06 51 32.0 -1.3**
NACGM *e*LR LR 07 50 10.0
DIKM Dikmen 151.70 298 ⇑P PKPab 06 51 56.0 +13
LIC Lamto 152.73 166 *e*P **PKPdf 06 51 32.2 +2.3**
comp=Z,52nm,0.8s
KONO Kongsberg 152.78 351 PKIKP PKPbc 06 51 34.7 -1.0
KONO Kongsberg 152.78 351 PKPbc 06 51 34.6 -1.0
KONO Kongsberg 152.78 351 IAMs_20 IAMs_20 08 02 16.6
comp=Z,305nm,21.0s
KONO Kongsberg 152.78 351 *e*PKPdf **PKPdf 06 51 29.0 +0.5**
KONO *ep*PKPbc **PKPbc 06 51 35.2 -0.5**
AKASG Malin Array Be 152.87 319 PKP PKPdf 06 51 28.7 -0.2
comp=Z,4.8nm,0.9s,baz=78,slow=1.3,SNR=6.5
AKASG PKPbc **PKPbc 06 51 35.4 -0.8**
comp=Z,13nm,0.7s,baz=55,slow=2.5,SNR=16
AKBB Malin Array Si 152.87 319 PKIKP PKPbc 06 51 35.4 -0.7
AKBB Malin Array Si 152.87 319 PKPdf PKPdf 06 51 26.8 -2.1
AKBB PKPbc **PKPbc 06 51 35.4 -0.7**
KIC Kosan Boka 152.91 167 *e*P **PKPdf 06 51 33.2 +3.0**
comp=Z,6.0nm,0.4s
ILGA Ilgaz 152.92 297 PKPbc 06 51 34.4 -2.6
BR131 Keskin Array S 153.10 294 PKIKP PKPbc 06 51 36.5 -0.8
BR131 Keskin Array S 153.10 294 PKPbc 06 51 36.5 -0.7
BRTR Keskin Array B 153.10 294 PKP PKPdf 06 51 29.1 -0.8
comp=Z,2.4nm,1.0s,baz=144,slow=2.3,SNR=9.5
BRTR PKPbc **PKPbc 06 51 36.4 -0.8**
comp=Z,5.5nm,0.5s,baz=148,slow=4.0,SNR=30
TIC Toumodi 153.14 166 *e*P **PKPdf 06 51 31.6 +1.1**
DBIC Dimbokro 153.19 167 PKP PKPdf 06 51 30.8 +0.2
comp=Z,6.6nm,0.8s,baz=126,slow=4.4,SNR=4.1
DBIC PKPbc **pPKPdf 06 51 40.4 +0.3**
comp=Z,7.3nm,0.9s,baz=148,slow=3.8,SNR=6.3
DBIC PKPab **sPKPbc 06 51 51.0 0.0**
comp=Z,21nm,0.8s,baz=166,slow=3.1,SNR=12
BIZ Bicaz 156.49 314 ⇑P **PKPdf 06 51 34.2 +0.1**
VRI Vrincioaia 156.57 311 ⇑P **PKPab 06 51 56.6 -6.7**
VRI Vrincioaia 156.57 311 ⇑PKP2 **PKPab 06 51 56.6 -6.7**
BURAR Bucovina Array 156.69 316 ⇑P **PKPab 06 52 00.6 -3.3**
BURAR Bucovina Array 156.69 316 ⇑PKP2 **PKPab 06 52 00.6 -3.3**
MLR Muntele Rosu 157.22 310 ⇑P **PKPdf 06 51 34.0 -1.2**
MLR Muntele Rosu 157.22 310 PKIKP PKPdf 06 51 32.6 -2.6
MLR Muntele Rosu 157.22 310 PKPdf PKPdf 06 51 32.6 -2.6
VOIR 157.82 311 ⇑P PKPdf 06 51 45.2 +9.3
VOIR 157.82 311 ⇑PKIKP PKPdf 06 51 45.2 +9.3
OJC Ojcow 157.98 327 *e*P **PKPdf 06 51 35.4 -0.5**
BSEG Bad Segeberg 158.09 345 *e*PKPdf **PKPdf 06 51 36.1 +0.2**
baz=28,slow=1.0
ARR Arges 158.11 311 ⇑P **PKPdf 06 51 35.2 -1.1**
ELND Elena 158.22 304 ⇑P **PKPdf 06 51 34.1 -2.3**
NIE Niedzica 158.29 325 *e*P **PKPdf 06 51 35.3 -1.0**
OKC Ostrava-Krasne 159.00 328 *e*PKPDF **PKPdf 06 51 37.1 0.0**
OKC AMS AMS 08 03 40.0
comp=Z,300nm,22.5s
KSP Ksiaz 159.00 332 *e*P **PKPdf 06 51 36.8 -0.3**
GZR Gura Zlata 159.26 313 ⇑P **PKPdf 06 51 38.9 +1.2**
GZR Gura Zlata 159.26 313 ⇑PKIKP **PKPdf 06 51 38.9 +1.2**
OSTC Ostas 159.26 332 *e*PKPDF **PKPdf 06 51 35.4 -2.0**
OSTC AMS AMS 07 54 50.0
comp=Z,400nm,27.4s
CHVC Chvalec 159.30 332 AMS AMS 07 55 10.0
comp=Z,300nm,22.0s
MORC Moravsky Berou 159.31 329 ⇑P **PKPdf 06 51 36.7 -0.8**
MORC Moravsky Berou 159.31 329 *e*PKP **PKPdf 06 51 37.1 -0.4**
MORC Moravsky Berou 159.31 329 ⇑PKIKP **PKPdf 06 51 36.7 -0.8**
MORC Moravsky Berou 159.31 329 PKPdf **PKPdf 06 51 36.9 -0.7**
UPC Upice 159.38 332 ⇑ *e*PKP **PKPdf 06 51 35.4 -2.1**
UPC *e*PP PP 06 55 48.4 -7.9
UPC AMS AMS 07 55 20.0
comp=Z,400nm,25.3s
UPC Upice 159.38 332 *e*PKIKP **PKPdf 06 51 35.4 -2.1**
UPC MLR MLR
comp=Z,400nm,25.3s
DPC Dobruska-Polom 159.38 332 ⇑ *e*PKP **PKPdf 06 51 33.7 -3.9**
DPC *e*PP **PP 06 55 53.4 -3.0**
DPC AMS AMS 08 02 10.0
comp=Z,400nm,20.6s
KRLC Kraliky 159.40 330 *e*PKPDF **PKPdf 06 51 37.4 -0.2**
KRLC AMS AMS 08 06 10.0
comp=Z,400nm,22.1s
KRLC Kraliky 159.40 330 *e*PKIKP **PKPdf 06 51 37.4 -0.2**
KRLC MLR MLR
comp=Z,400nm,22.1s
RETH Rethem/Aller, 159.42 346 *e*PKPdf **PKPdf 06 51 37.6 +0.1**
baz=28,slow=1.0
NRDL Niedersach Rie 159.49 344 *ep*PKPab pPKPab 06 52 28.8 +3.8
baz=25,slow=4.4
VYHS Vyhne 159.62 325 *e*PKP2 **PKPab 06 52 17.0 +0.6**
VYHS Vyhne 159.62 325 *e*PKP **PKPab 06 52 17.0 +0.6**
VYHS *e*PDIFF **PKPab 06 52 17.0 +0.6**
ASSE Asse, Remlinge 159.69 343 *e*PKPdf **PKPdf 06 51 37.6 -0.1**
baz=28,slow=1.0
ASSE *e*PKPab **PKPab 06 52 16.9 +0.5**
baz=27,slow=4.5
SANT Santorini 159.76 286 IAMs_20 IAMs_20 08 13 01.7
comp=Z,252nm,20.0s
CLL Collm 159.77 338 *e*PKPdf **PKPdf 06 51 41.0 +3.1**
CLL *e*PKPdiff **sPKPdf 06 51 53.0 +2.0**
CLL *i* PKPab **PKPab 06 52 16.5 -0.4**
comp=Z,17nm,1.0s
CLL *e* 06 52 30.0
CLL *i* 06 52 36.7
CLL *e*PP **PP 06 56 01.0 +2.7**
CLL *e*PPP PPP 06 59 30.0
CLL *e*PPPP 07 01 54.0
CLL *e*PSKS 07 06 18.0
CLL *e*PPS PPS 07 09 18.0
CLL *e*PSPS 07 17 30.0
CLL *e*SSS SSS 07 22 30.0
CLL *e*SSSS 07 26 30.0
CLL Collm 159.77 338 PKP2 **PKPab 06 52 16.5 -0.4**
CLL Collm 159.77 338 PKPab **PKPab 06 52 16.5 -0.4**
CLL IAMs_20 IAMs_20 08 10 31.3
comp=Z,247nm,22.0s
BRG Berggiesshubel 159.84 336 *i* PKP **PKPdf 06 51 37.5 -0.6**
comp=Z,12nm,1.4s
BRG SS SS 07 12 53.0 -191
comp=N,225nm,23.3s
comp=E,146nm,20.9s
comp=Z,469nm,23.1s
BRG Berggiesshubel 159.84 336 *e*PKPdf **PKPdf 06 51 38.0 -0.1**
baz=28,slow=1.0
BRG *e*PKPab **PKPab 06 52 17.0 -0.2**
baz=27,slow=4.5
BZS Buzias 159.85 315 ⇑P **PKPdf 06 51 38.6 +0.4**
BZS Buzias 159.85 315 ⇑PKIKP **PKPdf 06 51 38.6 +0.4**
PVCC Panska Ves 159.90 334 ⇑ *e*PKP **PKPdf 06 51 33.7 -4.4**
PVCC AMS AMS 08 05 20.0
comp=Z,400nm,22.8s
PVCC Panska Ves 159.90 334 *e*PKIKP **PKPdf 06 51 33.7 -4.4**
PVCC MLR MLR
comp=Z,400nm,22.8s
JAVC Velka Javorina 159.92 327 *e*PKP **PKPdf 06 51 38.6 +0.3**
FBE Freiberg 159.99 337 *e*PKPdf **PKPdf 06 51 38.3 +0.2**
baz=28,slow=1.0
FBE *e*PKPab **PKPab 06 52 18.1 +0.2**
baz=27,slow=4.5
CLZ Clausthal 160.03 343 *e*PKPdf **PKPdf 06 51 38.3 +0.1**
baz=28,slow=1.0
CLZ *e*PKPab **PKPab 06 52 18.5 +0.4**
baz=27,slow=4.5
VRAC Vranov 160.07 329 *e*PKP **PKPdf 06 51 37.6 -0.8**
IBBN Ibbenburen 160.14 348 *e*PKPdf **PKPdf 06 51 38.5 +0.2**
baz=28,slow=1.0
TOA0 Torodi Ar. Sit 160.22 182 PKPdf PKPdf 06 51 39.1 -0.4
TOA0 PKPab **PKPab 06 52 20.5 +0.9**
TORD Torodi Ar. Bea 160.22 182 PKP PKPdf 06 51 39.5 0.0
comp=Z,4.1nm,1.0s,baz=168,slow=0.6,SNR=9.2
TORD PKPab **PKPab 06 52 20.6 +0.9**
comp=Z,31nm,1.0s,baz=178,slow=3.5,SNR=20
GOPC GO Pecny, Ondr 160.32 333 ⇑ *e*PKP **PKPdf 06 51 33.7 -4.9**
GOPC *e*PP **PP 06 55 56.7 -4.8**
GOPC AMS AMS 08 06 10.0
comp=Z,500nm,24.8s
GOPC GO Pecny, Ondr 160.32 333 *e*PKIKP **PKPdf 06 51 32.0 -6.6**
GOPC MLR MLR
comp=Z,400nm,27.4s
PRA Prague 160.33 334 ⇑ *e*PKP **PKPdf 06 51 33.7 -4.9**

PRA				AMS	AMS	08 03 00.0	
	comp=Z,200nm,22.1s						
PRA	Prague	160.33	334	ePKIKP	PKPdf	06 51 33.7	-4.9
PRA				MLR	MLR		
	comp=Z,200nm,22.1s						
KRUC	Moravsky	160.34	329	ePKP	PKPdf	06 51 37.9	-0.8
PRU	Pruhonice	160.35	334⇑	ePKP	PKPdf	06 51 32.0	-6.6
PRU				ePP	PP	06 56 01.9	+0.3
PRU				AMS	AMS	08 05 50.0	
	comp=Z,400nm,21.9s						
PRU	Pruhonice	160.35	334	ePKIKP	PKPdf	06 51 32.0	-6.6
PRU				e		06 56 01.9	
PRU				MLR	MLR		
	comp=Z,400nm,21.9s						
GTTG	Gottingen	160.40	343	ePKPab	PKPab	06 52 20.2	+0.6
	baz=27,slow=4.5						
TREC	Trest	160.54	331⇑	ePKP	PKPdf	06 51 35.4	-3.5
TREC				ePP	PP	06 55 52.9	-10
TREC				AMS	AMS	08 07 50.0	
	comp=Z,500nm,21.6s						
TREC	Trest	160.54	331	ePKIKP	PKPdf	06 51 35.4	-3.5
TREC				MLR	MLR		
	comp=Z,500nm,21.6s						
TANN	Tannenbergstha	160.72	338	ePKPdf	PKPdf	06 51 38.9	-0.3
	baz=28,slow=1.0						
TANN				ePKPab	PKPab	06 52 21.1	0.0
	baz=27,slow=4.5						
TANN				epPKPab	sPKPab	06 52 34.3	+0.5
	baz=25,slow=4.4						
PLN	Plauen	160.75	338	ePKPdf	PKPdf	06 51 38.9	-0.2
	baz=28,slow=1.0						
PLN				ePKPab	PKPab	06 52 21.5	+0.3
	baz=27,slow=4.5						
PLN				epPKPab	sPKPab	06 52 34.5	+0.6
	baz=25,slow=4.4						
MOX	Moxa	160.78	339	ePKPdf	PKPdf	06 51 38.8	-0.3
	baz=28,slow=1.0						
MOX				ePKPab	PKPab	06 52 21.4	+0.1
	baz=27,slow=4.5						
MOX				epPKPab	sPKPab	06 52 34.7	+0.8
	baz=25,slow=4.4						
MOX				eL	L	08 15 29.9	
	comp=Z,182nm,20.2s						
GUNZ	Gunzen	160.80	338	ePKPdf	PKPdf	06 51 38.9	-0.2
	baz=28,slow=1.0						
GUNZ				ePKPab	PKPab	06 52 21.8	+0.3
	baz=27,slow=4.5						
GUNZ				epPKPab	sPKPab	06 52 34.6	+0.6
	baz=25,slow=4.4						
WERN	Wernitzgruen	160.85	338	ePKPdf	PKPdf	06 51 39.4	+0.1
	baz=28,slow=1.0						
WERN				ePKPab	PKPab	06 52 22.1	+0.4
	baz=27,slow=4.5						
WERN				epPKPab	sPKPab	06 52 35.0	+0.7
	baz=25,slow=4.4						
NKC	Novy Kostel	160.88	337⇑	ePKP	PKPdf	06 51 32.0	-7.2
NKC				AMS	AMS	07 58 50.0	
	comp=Z,400nm,27.4s						
BUG	Bochum--Univer	161.05	348	ePKPdf	PKPdf	06 51 39.2	-0.1
	baz=28,slow=1.0						
UBBA	Unterbreizbach	161.06	343	ePKPdf	PKPdf	06 51 39.2	0.0
	baz=28,slow=1.0						
UBBA				epPKPab	sPKPab	06 52 35.7	+0.8
	baz=25,slow=4.4						
MANZ	Manzenberg	161.20	338	ePKPdf	PKPdf	06 51 39.4	-0.2
	baz=28,slow=1.0						
MANZ				ePKPab	PKPab	06 52 23.4	+0.2
	baz=27,slow=4.5						
ROTZ	Rotzenmuhle	161.36	337	ePKPdf	PKPdf	06 51 39.6	-0.2
	baz=28,slow=1.0						
ROTZ				ePKPab	PKPab	06 52 24.3	+0.4
	baz=27,slow=4.5						
ROTZ				epPKPab	sPKPab	06 52 37.3	+0.8
	baz=25,slow=4.4						
KHC	Kasperske Hory	161.42	334	ePKPDF	PKPdf	06 51 40.0	+0.1
KHC				ePP	PP	06 56 03.5	-3.8
KHC				AMS	AMS	08 06 10.0	
	comp=Z,500nm,20.6s						
KHC	Kasperske Hory	161.42	334	ePKIKP	PKPdf	06 51 40.0	+0.1
KHC				e		06 56 03.5	
KHC				MLR	MLR		
	comp=Z,500nm,20.6s						
CONA	Conrad Observa	161.42	328	i PKPdf	PKPdf	06 51 38.6	-1.4
	comp=Z,5.0nm,1.3s						
GEC2	GERESS Array S	161.61	333	ePKPdf	PKPdf	06 51 39.7	-0.4
	baz=28,slow=1.0						
GERES	GERESS Array B	161.61	333	PKP	PKPdf	06 51 39.3	-0.8
	comp=Z,1.5nm,0.8s,baz=0.0,slow=1.7,SNR=14						
GERES				PKPab	PKPab	06 52 24.6	-0.5
	comp=Z,2.4nm,0.8s,baz=46,slow=3.9,SNR=5.8						
WET	Wettzell	161.66	335	ePKPdf	PKPdf	06 51 39.9	-0.2
	baz=28,slow=1.0						
GRF	Grafenberg Arr	161.74	339	ePKPdf	PKPdf	06 51 40.0	-0.2
	baz=28,slow=1.0						
GRF				ePKPab	PKPab	06 52 26.1	+0.5
	baz=27,slow=4.5						
GRF				epPKPab	sPKPab	06 52 38.7	+0.5
	baz=25,slow=4.4						
GRF				eL	L	08 09 06.4	
	comp=Z,334nm,21.9s						
AHRW	Bad Neuenahr-A	161.95	348	ePKPdf	PKPdf	06 51 40.5	+0.2
	baz=28,slow=1.0						
TNS	Taunus Mts	161.98	345	ePKPdf	PKPdf	06 51 40.3	-0.1
	baz=28,slow=1.0						
TNS				epPKPab	sPKPab	06 52 39.8	+0.5
	baz=25,slow=4.4						
ARSA	Arzberg	162.08	327	i PKPdf	PKPdf	06 51 38.5	-2.1
	comp=Z,2.7nm,0.6s						
FNA	Florina	162.09	301	PKIKP	PKPdf	06 51 39.1	-1.8
FNA	Florina	162.09	301	PKPdf	PKPdf	06 51 39.1	-1.8
MOA	Molln	162.18	330	i PKPdf	PKPdf	06 51 40.9	+0.3
	comp=Z,3.7nm,0.9s						
SNF	Seneffe	162.37	353	PKPdf	PKPdf	06 51 40.9	+0.2
BMRD	Maredsous	162.52	352	PKPdf	PKPdf	06 51 40.8	-0.1
GROS	Grobnik	162.66	325	i PKPdf	PKPdf	06 51 39.8	-1.4
SOKA	Soboth	162.73	326	i PKPdf	PKPdf	06 51 40.4	-1.0
	SNR=6.1						
DOU	Dourbes	162.75	353	PKPdf	PKPdf	06 51 41.3	+0.2
WLF	Walferdange	162.96	349	ePKPdf	PKPdf	06 51 42.1	+0.8
	baz=28,slow=1.0						
OBKA	Obir	163.08	327	i PKPdf	PKPdf	06 51 37.9	-3.8
	comp=Z,3.2nm,0.7s						
KBA	Koelnbreinsper	163.17	330	i PKPdf	PKPdf	06 51 40.3	-1.6
	comp=Z,8.0nm,1.1s						
MYKA	Terra Mystica	163.39	329	i PKPdf	PKPdf	06 51 39.9	-2.0
	comp=Z,0.8nm,0.4s						
LJU	Ljubljana	163.43	326	ePKPdf	PKPdf	06 51 41.1	-0.9
LJU				e		06 51 53.0	
VISS	Visnje	163.46	324	ePKPdf	PKPdf	06 51 41.0	-0.9
VISS				e		06 51 51.0	
VISS				ePP	PP	06 56 14.6	-3.8
WATA	Walderalm	163.66	334	i PKPdf	PKPdf	06 51 42.1	-0.2
	comp=Z,3.2nm,0.5s						
WTTA	Wattenberg	163.69	334	i PKPdf	PKPdf	06 51 42.1	-0.3
	comp=Z,19nm,1.7s						
ZOU	Zoufplan	163.74	330		PKPdf	06 51 41.9	-0.6
VOJS	Vojsko	163.74	327	ePKPdf	PKPdf	06 51 41.1	-1.3
BFO	Black Forest	163.78	343	ePKPdf	PKPdf	06 51 41.6	-0.7
	baz=28,slow=1.0						
BFO				ePKPab	PKPab	06 52 34.7	+0.2
	baz=27,slow=4.5						
BFO				epPKPab	sPKPab	06 52 47.6	+0.4
	baz=25,slow=4.4						
ABTA	Abfaltersbach	163.78	331	i PKPdf	PKPdf	06 51 40.9	-1.4
	comp=Z,12nm,1.3s						
MOTA	Moosalm	163.82	335	i PKPdf	PKPdf	06 51 40.8	-1.7
	comp=Z,16nm,1.6s						
UBR	Ueberruh	163.86	338	ePKPdf	PKPdf	06 51 41.7	-0.7
	baz=28,slow=1.0						
SQTA	Sankt Quirin	163.89	335	i PKPdf	PKPdf	06 51 41.6	-0.9
	comp=Z,8.3nm,1.1s						
CIMO	Cimolais	164.16	330		PKPdf	06 51 40.6	-2.0
CIMO				PKPab	PKPab	06 52 34.4	-2.0
FETA	Feichten	164.23	335	i PKPdf	PKPdf	06 51 42.3	-0.5
	SNR=6.3						
DAVA	Damuels	164.28	338	i PKPdf	PKPdf	06 51 42.5	-0.4
	comp=Z,6.7nm,1.0s						
TIP	Timpagrande	165.98	300	⇑P	PKPdf	06 51 44.8	+0.3
PGAV	Gavieira, Arco	168.35	37	eLR	LR	07 50 09.0	
	comp=Z,251nm,20.0s						
TAM	Tamanrasset	169.11	202	PKIKP	PKPdf	06 51 47.1	-0.2
TAM	Tamanrasset	169.11	202		PKPdf	06 51 47.1	-0.2
PVRL	Vila Real	169.14	38	ePKPab	PKPab	06 52 58.8	+0.3
PBRG	Braganca	169.22	33	ePKPab	PKPab	06 52 59.9	+1.1
PVIS	Viseu	169.44	41	ePKPab	PKPab	06 53 01.9	+2.0
MVO	Moncorvo	169.57	36	ePKPab	PKPab	06 53 01.9	+1.5
MVO	Moncorvo	169.57	36	eLR	LR	07 51 08.5	
	comp=Z,425nm,20.0s						
MTE	Manteigas	169.85	41	ePKPab	PKPab	06 53 02.7	+1.0
MTE	Manteigas	169.85	41	eLR	LR	07 50 14.8	
	comp=Z,289nm,18.0s						
PCBR	Castelo Branco	170.27	43	ePKPab	PKPab	06 53 04.3	+0.8
PMRV	Marv??o	170.59	45	ePKPab	PKPab	06 53 06.0	+1.0
PMRV	Marv??o	170.59	45	eLR	LR	07 51 50.5	
	comp=Z,252nm,20.0s						
PVAQ	Vaqueiros	171.52	56	eLR	LR	07 52 24.3	
	comp=Z,384nm,20.0s						
PAB	San Pablo	172.11	33	PKIKP	PKPdf	06 51 48.2	-0.1
PAB	San Pablo	172.11	33		PKPdf	06 51 48.2	-0.1
ESDC	Sonseca Array	172.18	30	PKP	PKPdf	06 51 49.2	+0.9
	comp=Z,4.1nm,1.1s,baz=331,slow=2.6,SNR=12						
ESDC				PKPab	PKPab	06 53 12.8	+0.8
	comp=Z,3.8nm,0.8s,baz=319,slow=4.2,SNR=8.4						
ESDC				PP	PP	06 57 03.8	+1.0
	comp=Z,0.8nm,0.8s,baz=335,slow=5.7,SNR=3.1						
KEST	Kesra	172.71	294	PKP	PKPdf	06 51 49.9	+1.2
	comp=Z,8.8nm,1.0s,baz=170,slow=8.2,SNR=4.0						

*BJI **02** 06:31:40.0±0.0, 81°.50N×4°.80W, h5km, mB4.9/10, mb4.7/20, Ms4.5/3*
*BER **02** 06:31:43.4±4.1, 81°.66N×3°.35W, h10km, ML3.2, ML4.9(NAO)*
*NEIC **02** 06:31:43.9±2.7, 81°.53N±0°.09×3°.9W±0°.5, h10km±1km, mb4.5/72, Error ellipse: s-maj=16.0km s-min=10.9km az=19.0*
*IDC **02** 06:31:43.6±0.5, 81°.45N×3°.89W, h0km, mb4.0/23, mb1 4.3/25, mb1mx4.1/54, mbtmp4.1/25, ML4.5/2, MS3.6/12, Ms1 3.6/12, ms1mx3.2/54, Error ellipse: s-maj=14.5km s-min=10.6km az=42.0*
*IEPN **02** 06:31:47.0, 81°.51N×1°.14W, h15km*
ISC 02 06:31:44.1±0.3**, 81°.41N**±0°.05×**3°.68W**±0°.04**, h12km, n192,** σ**2°.13**/199**, mb4.4**/68**, MS3.7**/8**, 5C-2D, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	Nord	1.94	282	Pn	Pn	06 32 15.2	-1.6
NOR				Sn	Sn	06 32 38.0	-3.0
NOR	Nord	1.94	282⇑	iP	Pn	06 32 15.4	-1.4
NOR				i S	Sn	06 32 37.6	-3.4
NOR	Nord	1.94	282	eP	Pn	06 32 15.4	-1.4
NOR				eS	Sn	06 32 37.6	-3.4
NOR				IAML		06 32 45.4	
	comp=Z,109nm,0.4s						
KBS	Kingsbay	3.65	125	Pn	Pn	06 32 39.0	-1.3
KBS	Kingsbay	3.65	125⇓	iP	Pn	06 32 38.7	-1.5
KBS				eS	Sn	06 33 16.9	-6.2
KBS	Kingsbay	3.65	125	Pn	Pn	06 32 38.7	-1.5
KBS	Kingsbay	3.65	125⇓	iP	Pn	06 32 38.7	-1.5
KBS				eS	Sn	06 33 18.0	-5.1
KBS				IAML		06 33 32.0	
	comp=Z,57nm,0.7s						
BRBA	Barentsburg A	4.62	127	Pn	Pn	06 32 53.1	-0.5
BRBA	Barentsburg A	4.62	127	Pn	Pn	06 32 53.1	-0.5
SPA0	Spitsbergen Ar	4.79	122	Pn	Pn	06 32 54.5	-1.5
	baz=353,slow=7.4						
SPA0				Sn	Sn	06 33 48.3	-3.0
	baz=334,slow=28						
SPA0	Spitsbergen Ar	4.79	122⇑	iP	Pn	06 32 54.6	-1.3
SPA0				i S	Sn	06 33 46.2	-5.1
SPA0	Spitsbergen Ar	4.79	122		Pn	06 32 54.6	-1.3
SPA0	Spitsbergen Ar	4.79	122	Pn	Pn	06 32 54.5	-1.5
	baz=353,slow=7.4						
SPA0				Sn	Sn	06 33 48.3	-3.0
	baz=334,slow=28						
SPITS	Spitsbergen Ar	4.79	122	Pn	Pn	06 32 54.6	-1.3
	baz=327,slow=10,SNR=576						
SPITS				Sn	Sn	06 33 48.0	-3.3
	baz=325,slow=24,SNR=0.7						
SPITS				LR	LR	06 34 47.6	
	comp=Z,700nm,18.1s,baz=110,slow=38						
DAG	Danmarks Havn	5.43	219	e	Pn	06 33 01.9	-2.8
	baz=32,slow=14						
DAG				⇑iP	Pn	06 33 04.4	-0.4
DAG				i S	Sn	06 34 03.8	-3.3
DAG				IAML		06 34 11.2	
	comp=Z,94nm,0.4s						
HSPB	Hornsund (broa	5.67	131	Pn	Pn	06 33 07.2	-0.9
HSPB	Hornsund (broa	5.67	131	eP	Pn	06 33 07.1	-0.9
HSPB	Hornsund (broa	5.67	131	eP	Pn	06 33 07.0	-1.0
HSPB				eS	Sn	06 34 09.0	-3.8
HSPB	Hornsund (broa	5.67	131	eP	Pn	06 33 07.1	-0.9
HSPB				eS	Sn	06 34 09.9	-3.0
HOPEN	Hopen	7.27	117	Pn	Pn	06 33 28.1	-1.9
HOPEN	Hopen	7.27	117	eP	Pn	06 33 28.0	-1.9
HOPEN				eS	Sn	06 34 44.4	-7.8
HOPEN	Hopen	7.27	117	eP	Pn	06 33 27.8	-2.1
HOPEN				eS	Sn	06 34 44.4	-7.8
HOPEN				IAML		06 34 48.8	
	comp=Z,46nm,0.9s						
ZFI2	Zemlya Franca-	7.75	69⇑	iP	Pn	06 33 33.5	-2.9
ZFI2				i S	Sn	06 34 52.8	-11
	comp=Z,31nm,0.6s						
DBG	Daneborg	7.89	214	eP	Pn	06 33 37.3	-1.1
DBG				eS	Sn	06 34 58.4	-9.1
DBG				IAML		06 35 10.3	
	comp=Z,33nm,0.4s						
BJO1	Bjornoya	8.30	134	Pn	Pn	06 33 45.0	+1.0
BJO1	Bjornoya	8.30	134	eP	Pn	06 33 43.9	-0.2
JNW	Jan Mayen West	10.50	189	eP	Pn	06 34 15.6	+1.5
JMIC	Jan Mayen	10.54	189	Pn	Pn	06 34 15.4	+0.7
JMIC	Jan Mayen	10.54	189	eP	Pn	06 34 16.0	+1.3
JMI	Jan Mayen	10.61	189	eP	Pn	06 34 17.3	+1.7
SUMG	Summit	11.51	239	i P	Pn	06 34 24.6	-3.6
SUMG	Summit	11.51	239	Pn	Pn	06 34 25.7	-2.6
SUMG	Summit	11.51	239	eP	Pn	06 34 24.7	-3.6
SUMG				i S	Sn	06 36 26.3	-10
SUMG				IAML		06 36 34.1	
	comp=Z,53nm,0.5s						
SCO	Scoresbysund	11.73	211	i P	Pn	06 34 31.4	+0.5
SCO				IAML		06 36 45.0	
	comp=Z,2.9nm,0.5s						
HAMF	Hammerfest	12.43	135	Pn	Pn	06 34 40.1	-0.4
HAMF	Hammerfest	12.43	135	eP	Pn	06 34 39.6	-0.9
KULLO	Kullorsuaq	12.45	267	i P	Pn	06 34 35.8	-4.9
KULLO	Kullorsuaq	12.45	267	eP	Pn	06 34 35.8	-4.9
KULLO				IAML		06 37 05.0	
	comp=Z,10nm,0.4s						
TULEG	Thule	12.60	283	Pn	Pn	06 34 36.8	-5.9
TULEG	Thule	12.60	283	i P	Pn	06 34 37.8	-5.0
TULEG				IAML		06 37 14.5	
	comp=Z,7.6nm,0.4s						
TRO	Tromso	12.93	143	eP	Pn	06 34 43.8	-3.5
KEV	Kevo	13.64	131	Pn	Pn	06 34 57.5	+0.6
ARA0	ARCESS Array S	13.68	134	Pn	Pn	06 34 57.2	-0.4
	baz=356,slow=14						
ARA0	ARCESS Array S	13.68	134	Pn	Pn	06 34 57.2	-0.4
	baz=356,slow=14						
ARCES	ARCESS Array B	13.68	134	Pn	Pn	06 34 57.1	-0.4
	comp=Z,1.4nm,0.3s,baz=354,slow=12,SNR=32						
ARCES				LR	LR	06 39 49.9	
	comp=Z,97nm,21.6s,baz=322,slow=35						
ARE0	ARCESS Array S	13.68	134		Pn	06 34 57.7	+0.1
KIF	Kilpisjarvi	13.71	141	P	Pn	06 34 58.1	+0.2
KIF	Kilpisjarvi	13.71	141	eP	Pn	06 34 58.0	0.0
UPNV	Upernavik	13.82	261	eP	Pn	06 34 53.5	-5.9
UPNV				IAML		06 37 20.5	
	comp=Z,24nm,0.4s						
KTK1	Kautokeino	13.94	137	eP	Pn	06 35 01.7	+0.6
LOF	Lofoten	13.97	153	eP	Pn	06 35 01.5	0.0
STEI	Steigen	14.29	150	eP	P	06 35 09.3	-3.7
NUUG	Nuugaatsiaq	14.48	256	eP	Pn	06 35 03.6	-4.9
NUUG				IAML		06 37 54.9	
	comp=Z,14nm,0.4s						
HEF	Hetta	14.57	137	P	Pn	06 35 10.2	+0.5
HEF	Hetta	14.57	137	eP	Pn	06 35 10.2	+0.5
KONS	Konsvik	15.56	154	eP	P	06 35 26.9	-0.2
MOR8	Moi Rana	15.97	153	eP	P	06 35 31.3	-0.4
LVZ	Lovozero	16.31	123	Pn	Pn	06 35 31.1	-1.6
LVZ				IAmb	IAmb	06 35 39.3	
	comp=Z,24nm,0.9s						
APA0	Apatity Array	16.39	126	P	Pn	06 35 30.4	-3.2
	baz=352,slow=8.6						
APA0	Apatity Array	16.39	126	P	Pn	06 35 30.4	-3.2
	baz=352,slow=8.6						
BORG	Borgarnes	17.35	206	LR	LR	06 41 45.0	
	comp=Z,26nm,19.6s,baz=347,slow=35						
RES	Resolute Bay	17.78	300	P	Pn	06 35 45.5	-5.4
	comp=Z,0.6nm,0.3s,baz=33,slow=12,SNR=15						
RES				LR	LR	06 42 44.0	
	comp=Z,209nm,18.9s,baz=51,slow=37						
RES	Resolute Bay	17.78	300	Pn	Pn	06 35 46.0	-4.9
SFJD	Kangerlussuaq	18.30	246	P	Pn	06 35 53.4	-4.0
	comp=Z,1.6nm,0.3s,baz=17,slow=13,SNR=8.9						
SFJD				S	Sn	06 39 02.9	-18
	comp=Z,5.1nm,0.3s,baz=71,slow=2.1,SNR=13						
SFJD				LR	LR	06 43 34.3	
	comp=Z,198nm,20.5s,baz=14,slow=39						
SFJD	Kangerlussuaq	18.30	246	Pn	Pn	06 35 53.9	-3.5
SLVR	Solovky	19.19	125	eP	P	06 36 02.6	-4.6
	comp=Z,9.4nm,0.4s						
NC204	NORSAR Array S	20.62	160	P	P	06 36 23.2	+0.3
NC204				IAmb	IAmb	06 36 35.0	
	comp=Z,38nm,1.1s						
LSH	Leshukonskoye	20.64	113	eP	P	06 36 23.5	+0.5
	comp=Z,24nm,0.7s						
NC303	NORSAR Array S	20.70	159	P	P	06 36 24.1	+0.4
NC303				IAmb	IAmb	06 36 42.1	
	comp=Z,25nm,1.0s						
NC405	NORSAR Array S	20.83	159	P	Pn	06 36 26.6	-0.9
NC405				IAmb	IAmb	06 36 30.1	
	comp=Z,22nm,0.8s						
NBO00	NORSAR Array S	20.86	160	P	Pn	06 36 27.2	-0.7
NB201	NORSAR Array S	20.87	159	P	Pn	06 36 27.1	-1.0
NB201				IAmb	IAmb	06 36 28.6	
	comp=Z,17nm,0.8s						
NB2	NORSAR Subarra	20.88	159	P	Pn	06 36 27.7	-0.5
	baz=353,slow=10						
NB2	NORSAR Subarra	20.88	159	P	Pn	06 36 27.2	-0.9
	comp=Z,20nm,1.2s,baz=354,slow=11						
NB2	NORSAR Subarra	20.88	159	P	Pn	06 36 27.2	-0.9
	baz=354,slow=11						
NB2				P	pP	06 36 27.7	-0.4
	baz=353,slow=10						
NOA	NORSAR Array B	20.88	159	P	Pn	06 36 27.6	-0.5
	comp=Z,4.0nm,0.8s,baz=352,slow=11,SNR=24						
NAO01	NORSAR Array S	21.05	160	P	P	06 36 29.0	+1.4
NC602	NORSAR Array S	21.20	159	P	P	06 36 30.0	+0.9
NRA0	NORESS Array S	21.20	159	P	P	06 36 30.9	+1.9
	baz=345,slow=12						
NRA0	NORESS Array S	21.20	159	P	P	06 36 30.9	+1.9
	baz=345,slow=12						
FIA1	FINESS Array S	21.61	140	P	P	06 36 34.2	+0.8
FIA1				IAmb	IAmb	06 36 43.1	
	comp=Z,22nm,0.9s						
FIA0	FINESS Array S	21.61	140	P	P	06 36 35.0	+1.6
	baz=348,slow=14						
FIA0	FINESS Array S	21.61	140	P	P	06 36 35.0	+1.6
	baz=348,slow=14						
FINES	FINESS Array B	21.61	140	P	P	06 36 34.8	+1.4
	comp=Z,9.6nm,0.8s,baz=352,slow=12,SNR=25						
FINES				PcP	PcP	06 40 35.1	+0.7
	comp=Z,2.2nm,0.7s,baz=11,slow=2.8,SNR=5.7						
HFS	Hagfors	21.92	156	P	P	06 36 38.2	+1.4
	baz=350,slow=7.9						
HFS	Hagfors	21.92	156	P	P	06 36 38.3	+1.5
	comp=Z,10nm,0.8s,baz=3.1,slow=8.2,SNR=25						
HFS	Hagfors	21.92	156	P	P	06 36 38.2	+1.4
	baz=350,slow=7.9						
KONO	Kongsberg	22.18	162	P	P	06 36 40.5	+0.9
KONO				IAmb	IAmb	06 36 49.1	
	comp=Z,14nm,1.1s						
NRIK	Noril'sk	22.61	67	P	P	06 36 44.4	+0.3
	comp=Z,5.0nm,0.8s,baz=356,slow=10,SNR=9.7						
NRIK				LR	LR	06 46 08.7	
	comp=Z,155nm,21.3s,baz=350,slow=38						
KLMR	Klimovskoe	23.69	123	eP	P	06 36 55.4	+0.3
	comp=Z,24nm,1.1s						
KLMR	Klimovskoe	23.69	123	eP	P	06 36 55.4	+0.3
KLMR				AMP		06 37 09.3	
	comp=Z,24nm,1.1s						
FRB	Frobisher Bay	23.95	263	P	P	06 36 58.7	+1.1
	comp=Z,12nm,0.7s,baz=32,slow=13,SNR=10						
TIXI	Tiksi	25.10	33	P	P	06 37 09.6	+1.6
	comp=Z,1.8nm,0.5s,baz=353,slow=7.9,SNR=4.7						
C36M	Paulatuk	26.19	316	P	P	06 37 15.3	-2.6
C36M				IAmb	IAmb	06 37 18.7	
	comp=Z,17nm,1.2s						
EKA	Eskdalemuir Ar	26.20	179	P	P	06 37 19.0	+0.9
	comp=Z,1.1nm,0.7s,baz=2.2,slow=11,SNR=3.8						
INK	Inuvik	28.12	323	P	P	06 37 35.4	+0.2
	comp=Z,0.9nm,0.7s,baz=52,slow=7.1,SNR=3.6						
INK	Inuvik	28.12	323	P	P	06 37 31.3	-4.0
ARU	Arti	30.58	105	P	P	06 37 57.1	0.0
ARU				IAmb	IAmb	06 38 07.1	
	comp=Z,6.3nm,0.8s						
CLL	Collm	30.68	159	eP	P	06 38 00.0	+1.9
CLL				e		06 38 08.0	
CLL				e		06 38 21.0	
CLL	Collm	30.68	159	P	P	06 37 59.7	+1.6
CLL				IAmb	IAmb	06 38 02.1	
	comp=Z,8.4nm,1.3s						
BRG	Berggiesshubel	31.17	158	eP	P	06 38 04.6	+2.3
	comp=Z,4.6nm,1.0s						
BRG				e		06 38 11.7	
	comp=Z,7.0nm,1.1s						
YKA	Yellowknife Ar	31.71	304	P	P	06 38 08.3	+1.2
	comp=Z,0.4nm,0.7s,baz=17,slow=8.7,SNR=4.4						
YKA				PcP	PcP	06 40 58.7	+0.6
	comp=Z,0.9nm,0.8s,baz=15,slow=2.6,SNR=6.2						
YKA				LR	LR	06 50 48.0	
	comp=Z,152nm,18.4s,baz=0.0,slow=36						
SCHQ	Schefferville	32.26	255	P	P	06 38 13.8	+1.9
	comp=Z,2.2nm,0.8s,baz=17,slow=11,SNR=3.0						
SCHQ				LR	LR	06 51 36.2	
	comp=Z,131nm,20.0s,baz=20,slow=37						
SCHQ	Schefferville	32.26	255	IAmb	IAmb	06 38 15.6	
	comp=Z,6.2nm,1.1s						
AKASG	Malin Array Be	32.52	140	P	P	06 38 14.8	+0.7
	comp=Z,1.5nm,0.6s,baz=350,slow=9.2,SNR=5.7						
AKASG				PcP	PcP	06 41 00.9	+0.4
	comp=Z,1.0nm,0.4s,baz=359,slow=2.7,SNR=4.2						
AKBB	Malin Array Si	32.52	140	P	P	06 38 15.7	+1.5
ILAR	Eielson Array	32.69	332	P	P	06 38 17.6	+2.0
	comp=Z,0.8nm,0.7s,baz=9.0,slow=7.1,SNR=10.0						
ILAR				PcP	PcP	06 41 01.6	+0.9
	comp=Z,0.8nm,0.6s,baz=331,slow=3.3,SNR=5.0						
CCB	Clear Creek Bu	32.87	332	P	P	06 38 15.3	-1.9
KHC	Kasperske Hory	32.89	159	P	P	06 38 17.5	-0.1
HDA	Harding Lake	33.05	332	P	P	06 38 15.3	-3.4
WRH	Wood River Hil	33.07	332	P	P	06 38 16.6	-2.3
WRH				IAmb	IAmb	06 38 22.5	
	comp=Z,10nm,1.5s						
GEC2	GERESS Array S	33.18	159	P	P	06 38 21.6	+1.4
GEC2				IAmb	IAmb	06 38 24.1	
	comp=Z,6.1nm,0.9s						
GERES	GERESS Array B	33.18	159	P	P	06 38 22.8	+2.7
	comp=Z,2.9nm,0.8s,baz=3.3,slow=7.0,SNR=24						
GERES				PcP	PcP	06 41 04.5	+2.0
	comp=Z,0.3nm,0.3s,baz=11,slow=2.0,SNR=5.3						
GERES				LR	LR	06 52 05.9	
	comp=Z,90nm,18.3s,baz=250,slow=37						
BFO	Black Forest	33.45	165	P	P	06 38 23.5	+1.1
BFO				IAmb	IAmb	06 38 33.1	
	comp=Z,6.7nm,1.2s						
ECH	Echery	33.52	167	P	P	06 38 23.6	+0.6
ECH				IAmb	IAmb	06 38 26.8	
	comp=Z,6.0nm,0.8s						
CLF	Chambon-Foret	33.58	173	P	P	06 38 22.8	-0.6
DOT	Dot Lake	33.59	329	P	P	06 38 21.6	-1.9
BPAW	Bear Paw Mtn.	33.63	335	P	P	06 38 21.7	-2.2
CONA	Conrad Observa	34.22	156	i pP	P	06 38 31.9	+2.7
	comp=Z,4.6nm,0.8s						
RETA	Reutte	34.39	163	i pP	P	06 38 34.1	+3.4
	comp=Z,2.9nm,0.5s						
DHY	Denali Highway	34.40	332	P	P	06 38 28.8	-1.9
DHY				IAmb	IAmb	06 38 34.9	
	comp=Z,9.8nm,1.4s						
PSZ	Piszkesteto	34.49	152	P	P	06 38 32.1	+0.6
PSZ				IAmb	IAmb	06 38 42.7	
	comp=Z,5.9nm,0.9s						
MOTA	Moosalm	34.55	162	i pP	P	06 38 34.9	+2.8
	comp=Z,6.6nm,1.1s						
DAVA	Damuels	34.55	164	i pP	P	06 38 35.2	+3.1
	comp=Z,2.2nm,0.5s						
WTTA	Wattenberg	34.65	162	i P	P	06 38 32.5	-0.6
	comp=Z,2.8nm,0.6s						
SQTA	Sankt Quirin	34.67	162	i pP	P	06 38 36.5	+3.3
	comp=Z,1.2nm,0.5s						
FETA	Feichten	34.85	163	i sP	P	06 38 38.1	+3.3
	comp=Z,6.9nm,1.4s						
KBA	Koelnbreinsper	34.92	160	i P	P	06 38 36.0	+0.6
	comp=Z,4.5nm,1.2s						
BUR08	Bucovina Ar. S	35.18	145	P	P	06 38 37.2	-0.3
BUR08				IAmb	IAmb	06 38 48.1	

	comp=Z,5.1nm,1.1s						
SENIN	**Lac Senin/Sane**	**35.37**	**167**	P	**P**	**06 38 39.4**	**+0.1**
MYKA	**Terra Mystica**	**35.38**	**159**	*i* pP	**P**	**06 38 42.4**	**+3.2**
	comp=Z,5.0nm,0.9s						
SOKA	**Soboth**	**35.41**	**158**	*i* pP	**P**	**06 38 42.4**	**+2.9**
	comp=Z,5.2nm,0.9s						
ZOU	**Zoufplan**	**35.42**	**160**	P	**P**	**06 38 40.0**	**+0.3**
OBKA	**Obir**	**35.55**	**158**	*i* pP	**P**	**06 38 43.7**	**+3.0**
	comp=Z,14nm,0.9s						
PRED	**Cave del Predi**	**35.57**	**159**	P	**P**	**06 38 41.4**	**+0.6**
PRED				IAmb	IAmb	06 38 51.6	
	comp=Z,5.8nm,1.1s						
BRVK	**Borovoye**	**35.58**	**94**	P	**P**	**06 38 41.7**	**+0.9**
BRVK				IAmb	IAmb	06 38 50.7	
	comp=Z,3.6nm,0.8s						
CIMO	**Cimolais**	**35.64**	**161**	P	**P**	**06 38 41.4**	**0.0**
CIMO				IAmb	IAmb	06 38 44.7	
	comp=Z,6.3nm,0.8s						
STAL	**STALIGIAL**	**35.70**	**160**	P	**P**	**06 38 41.5**	**-0.5**
STAL				IAmb	IAmb	06 38 55.4	
	comp=Z,7.5nm,1.0s						
GLB	**Gilahina Butte**	**35.75**	**328**	P	**P**	**06 38 40.6**	**-1.6**
GLB				IAmb	IAmb	06 38 57.7	
	comp=Z,10nm,1.4s						
HYT	**Haines Junctio**	**35.82**	**323**	P	**P**	**06 38 40.3**	**-2.6**
HYT				IAmb	IAmb	06 38 46.3	
	comp=Z,4.3nm,0.8s						
CTI	**Castel Tesino**	**35.87**	**162**	P	**P**	**06 38 44.6**	**+1.2**
BARN	**Barnard Glacie**	**35.95**	**326**	P	**P**	**06 38 43.0**	**-1.1**
WAX	**Waxell Ridge**	**36.66**	**327**	P	**P**	**06 38 46.6**	**-3.4**
WAX				IAmb	IAmb	06 38 59.6	
	comp=Z,10nm,0.9s						
ZAA0	**Zalesovo Array**	**36.89**	**80**	P	**P**	**06 38 51.8**	**-0.2**
ZALV	**Zalesovo Beam**	**36.89**	**80**	P	**P**	**06 38 53.5**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=350,slow=7.8,SNR=6.9						
ZALV				PcP	**PcP**	**06 41 14.2**	**+1.1**
	comp=Z,2.9nm,1.0s,baz=282,slow=2.8,SNR=3.7						
ZALV				LR	LR	06 57 56.9	
	comp=Z,115nm,18.2s,baz=14,slow=43						
PRMA	**PARMA**	**37.09**	**163**	P	**P**	**06 38 53.0**	**-0.7**
VLC	**Villacollemand**	**37.69**	**163**	P	**P**	**06 39 00.9**	**+2.1**
CASP	**Castiglione de**	**39.08**	**163**	P	**P**	**06 39 11.7**	**+1.1**
CASP				IAmb	IAmb	06 39 22.0	
	comp=Z,10.0nm,1.0s						
KURK	**Kurchatov**	**39.11**	**87**	P	**P**	**06 39 11.9**	**+1.2**
KURK				IAmb	IAmb	06 39 20.5	
	comp=Z,11nm,0.9s						
NRCA	**Norcia**	**39.14**	**160**	P	**P**	**06 39 12.8**	**+1.6**
INTR	**Introdacqua**	**40.00**	**160**	P	**P**	**06 39 19.1**	**+0.8**
INTR				IAmb	IAmb	06 39 23.0	
	comp=Z,14nm,0.9s						
KDAK	**Kodiak Island**	**40.02**	**335**	P	**P**	**06 39 18.5**	**+0.4**
KBZ	**Khabaz**	**40.90**	**126**	P	**P**	**06 39 28.4**	**+2.9**
	comp=Z,6.3nm,0.9s,baz=277,slow=3.5,SNR=8.3						
F64A	**Sherman**	**41.22**	**253**	P	**P**	**06 39 27.6**	**-0.7**
D53A	**Lac Vacive, Po**	**41.41**	**263**	P	**P**	**06 39 30.4**	**+0.6**
D53A				IAmb	IAmb	06 39 38.7	
	comp=Z,11nm,1.3s						
ESDC	**Sonseca Array**	**41.87**	**180**	P	**P**	**06 39 35.6**	**+1.9**
	comp=Z,1.3nm,0.7s,baz=358,slow=8.3,SNR=9.3						
TIP	**Timpagrande**	**42.99**	**157**	P	**P**	**06 39 44.0**	**+1.2**
TIP				IAmb	IAmb	06 39 45.4	
	comp=Z,5.1nm,0.8s						
MAKZ	**Makanchi**	**43.42**	**85**	P	**P**	**06 39 47.2**	**+1.0**
MAKZ				IAmb	IAmb	06 39 55.9	
	comp=Z,10nm,0.9s						
MK31	**Makanchi Array**	**43.48**	**85**	P	**P**	**06 39 46.9**	**+0.3**
MKAR	**Makanchi Array**	**43.48**	**85**	P	**P**	**06 39 48.2**	**+1.6**
	comp=Z,2.5nm,0.7s,baz=349,slow=7.5,SNR=21						
MKAR				LR	LR	07 01 53.6	
	comp=Z,106nm,19.6s,baz=36,slow=42						
E43A	**Lone Tree Farm**	**43.49**	**272**	P	**P**	**06 39 46.7**	**0.0**
BR131	**Keskin Array S**	**43.82**	**138**	P	**P**	**06 39 50.2**	**+0.7**
BRTR	**Keskin Array B**	**43.82**	**138**	P	**P**	**06 39 52.5**	**+2.9**
	comp=Z,2.2nm,0.8s,baz=343,slow=6.7,SNR=10						
KK31	**Karatay Array**	**45.32**	**98**	P	**P**	**06 40 01.8**	**+0.4**
KK31				IAmb	IAmb	06 40 12.2	
	comp=Z,7.1nm,1.0s						
SONM	**Songino Array**	**45.91**	**62**	P	**P**	**06 40 07.8**	**+1.7**
	comp=Z,2.0nm,0.8s,baz=336,slow=7.6,SNR=6.4						
SONM				LR	LR	07 00 55.9	
	comp=Z,139nm,19.4s,baz=96,slow=38						
ULN	**Ulaanbaatar**	**45.97**	**61**	P	**P**	**06 40 05.1**	**-1.5**
WVNY	**West Valley, N**	**46.11**	**263**	P	**P**	**06 40 08.8**	**+1.2**
HIA	**Hailar**	**46.15**	**49**	P	**P**	**06 40 07.7**	**-0.2**
WMQ	**Urumqi**	**47.19**	**81**	*e*P	**P**	**06 40 19.3**	**+3.1**
GAR	**Garm**	**49.31**	**99**	P	**P**	**06 40 33.1**	**+0.5**
CHGR	**Chuyangaron**	**49.48**	**100**	P	**P**	**06 40 35.0**	**+1.1**
T59A	**Double "B" Far**	**51.28**	**260**	P	**P**	**06 40 48.1**	**+0.8**
T59A				IAmb	IAmb	06 40 59.0	
	comp=Z,6.6nm,0.8s						
R40A	**Maddies Statio**	**52.19**	**275**	P	**P**	**06 40 54.2**	**0.0**
R40A				IAmb	IAmb	06 40 56.7	
	comp=Z,7.9nm,1.2s						
GTA	**Gaotai**	**53.27**	**70**	⇑P	**P**	**06 41 03.8**	**+1.5**
GTA				pP	pwP	06 41 10.5	+0.6
GTA				sP	sP	06 41 13.4	+7.3
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,47nm,7.5s						
GTA				LR	LR		
	comp=Z,96nm,17.8s						
GTA				LR	LR		
	comp=Z,250nm,19.0s						
U38A	**Gravette**	**54.33**	**277**	P	**P**	**06 41 09.8**	**-0.1**
U38A				IAmb	IAmb	06 41 11.3	
	comp=Z,3.1nm,0.8s						
HHAR	**Hobbs**	**54.41**	**277**	P	**P**	**06 41 08.5**	**-2.0**
NVAR	**Mina Array Bea**	**55.75**	**300**	P	**P**	**06 41 21.2**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=8.8,slow=6.5,SNR=3.3						
XAN	**Xi'an**	**59.81**	**62**	P	P	06 41 58.7	+10
XAN				pP	pwP	06 42 06.8	+11
XAN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
JCT	**Junction City**	**60.98**	**281**	P	**P**	**06 41 55.9**	**-0.9**
CD2	**Chengdu**	**62.18**	**68**	P	**P**	**06 42 04.1**	**-0.8**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
TX31	**Lajitas Ar. Si**	**62.67**	**285**	P	**P**	**06 42 07.9**	**-0.4**
TX32	**Lajitas Array**	**62.67**	**285**	P	**P**	**06 42 08.1**	**-0.2**
TX32				IAmb	IAmb	06 42 16.8	
	comp=Z,3.5nm,1.1s						
TXAR	**Lajitas Array**	**62.67**	**285**	P	**P**	**06 42 09.1**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=49,slow=4.7,SNR=9.7						
NJ2	**Nanjing**	**63.03**	**53**	*e*P	**P**	**06 42 09.8**	**-0.7**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.7s						
MTP	**Monte Pirata**	**68.12**	**245**	P	**P**	**06 42 42.4**	**-1.1**
TOA0	**Torodi Ar. Sit**	**68.33**	**174**	P	**P**	**06 42 46.1**	**+1.3**
TORD	**Torodi Ar. Bea**	**68.33**	**174**	P	**P**	**06 42 46.1**	**+1.2**
	comp=Z,3.2nm,0.6s,baz=353,slow=6.5,SNR=34						
CMAR	**Chiang Mai Arr**	**73.74**	**75**	P	**P**	**06 43 21.1**	**+3.4**
	comp=Z,1.5nm,0.3s,baz=348,slow=6.5,SNR=3.2						
WRA	**Warramunga Arr**	**116.12**	**44**	PKP	**PKPdf**	**06 50 25.9**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=338,slow=2.2,SNR=4.9						
ASAR	**Alice Springs**	**119.76**	**45**	PKP	**PKiKP**	**06 50 33.3**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=346,slow=2.2,SNR=9.9						
MAW	**Mawson**	**152.90**	**129**	PKPbc	**PKiKP**	**06 51 40.1**	**+1.1**
	comp=Z,3.6nm,0.7s,baz=11,slow=5.2,SNR=6.3						
MAW	**Mawson**	**152.90**	**129**	PKPdf	**PKPdf**	**06 51 32.7**	**+1.1**
MAW					**pPKPbc**	**06 51 40.5**	**-1.3**
MAW					**pPKPab**	**06 51 53.0**	**-0.1**

NEIC ***02*** *06:37:37.6±1.8, 1.46°S±0.07°×77.65°W±0.09°, h173km±4km, mb4.7/271, Error ellipse: s-maj=13.4km s-min=9.7km az=89.0*

IDC ***02*** *06:37:38.1±0.7, 1.39°S×77.62°W, h174km±5km, mb4.2/30, mb1 4.3/35, mb1mx4.3/44, mbtmp4.7/35, MS3.2/5, Ms1 3.2/5, ms1mx2.9/36, Error ellipse: s-maj=12.0km s-min=7.6km az=59.0*

IGQ ***02*** *06:37:38.0±0.4, 2°S±2°×7°8W±°, h173km, M4.5*

UNK ***02*** *06:37:40.1, 1.39°S×77.63°W, h194km*

VAO ***02*** *06:37:41.9±0.5, 1.36°S×77.51°W, h201km±2km, mb5.0*

ISC 02 06:37:38.2±0.4**, 1.50°S**±0.03×**77.78°W**±0.04**, h181**km±3km**, h182**km**:pP-P, n816,** σ**1.14**/816**, mb4.7**/170**, 8C-3D, Ecuador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKYU	**Pakayacu**	**0.23**	**129**	P	**Pn**	**06 38 01.6**	**-0.8**
PKYU				S	**Sn**	**06 38 19.5**	**-1.5**
BULB	**Ulba Tungurahu**	**0.64**	**276**	P	**Pn**	**06 38 02.7**	**-1.5**
BULB				S	**Sn**	**06 38 22.0**	**-2.2**
BRUN	**Tungurahua Vol**	**0.64**	**277**	P	**Pn**	**06 38 03.0**	**-1.2**
RUN5	**Runtun**	**0.65**	**278**	P	**Pn**	**06 38 02.9**	**-1.4**
BPAT	**Tungurahua Vol**	**0.66**	**270**	P	**Pn**	**06 38 03.2**	**-1.3**
RETU	**Refugio**	**0.67**	**274**	P	**Pn**	**06 38 03.3**	**-1.4**
ARRY	**Arrayan**	**0.68**	**270**	P	**Pn**	**06 38 02.8**	**-1.7**
BMAS	**Trigal station**	**0.70**	**270**	P	**Pn**	**06 38 02.9**	**-1.7**
BBIL	**Ulba Tungurahu**	**0.71**	**274**	P	**Pn**	**06 38 03.3**	**-1.4**
BIL2	**Estacion Bilba**	**0.73**	**274**	P	**Pn**	**06 38 02.9**	**-1.7**
PIS1	**Pisayambo**	**0.75**	**306**	P	**Pn**	**06 38 04.0**	**-1.0**
PIS1				S	**Sn**	**06 38 24.4**	**-1.2**
PISA	**Pisayambo**	**0.75**	**306**	P	**Pn**	**06 38 04.0**	**-1.0**
SANGA	**Volcan Sangay**	**0.81**	**227**	P	**Pn**	**06 38 03.8**	**-1.5**
IGUA	**Igualata**	**0.86**	**271**	P	**Pn**	**06 38 04.2**	**-1.6**
AAM2	**Ambato 2 (Merc**	**0.87**	**285**	P	**Pn**	**06 38 04.6**	**-0.9**
VCES	**Cotopaxi**	**0.93**	**318**	P	**Pn**	**06 38 05.9**	**-0.4**
VCES				S	**Sn**	**06 38 27.3**	**-0.5**
ARIO	**Riobamba**	**0.93**	**261**	P	**Pn**	**06 38 04.3**	**-1.7**
SAGO	**Sagoatoa**	**0.95**	**291**	P	**Pn**	**06 38 05.2**	**-1.2**
ALAT	**Latacunga**	**1.02**	**304**	P	**Pn**	**06 38 05.9**	**-0.8**
BMOR	**Cotopaxi Volca**	**1.03**	**318**	P	**Pn**	**06 38 06.1**	**-0.9**
BMOR				S	**Sn**	**06 38 26.4**	**-2.7**
ANTM	**Antisana-La Mi**	**1.06**	**335**	P	**Pn**	**06 38 06.4**	**-0.8**
ANTM				S	**Sn**	**06 38 26.8**	**-2.7**
VC1	**Cotopaxi 1**	**1.06**	**324**	P	**Pn**	**06 38 06.4**	**-0.8**
BREF	**Cotopaxi Volca**	**1.06**	**321**	P	**Pn**	**06 38 07.8**	**+0.5**
BREF				S	**Sn**	**06 38 27.4**	**-2.3**
ANTS	**Antisana-Sarah**	**1.07**	**338**	P	**Pn**	**06 38 06.7**	**-0.6**
BNAS	**Cotopaxi Volca**	**1.08**	**319**	P	**Pn**	**06 38 06.8**	**-0.5**
ANTG	**Antisana-Guama**	**1.10**	**334**	P	**Pn**	**06 38 06.8**	**-0.7**
ILLI	**Illinizas Sur**	**1.23**	**309**	P	**Pn**	**06 38 07.4**	**-1.1**
REVS	**Reventador Sur**	**1.40**	**6**	P	**Pn**	**06 38 09.2**	**-0.5**
LAV4	**Lava4-Reventad**	**1.41**	**6**	P	**Pn**	**06 38 09.3**	**-0.5**
REVN	**San Rafael**	**1.43**	**6**	P	**Pn**	**06 38 09.5**	**-0.5**
GGPC	**Guagua Pichinc**	**1.55**	**328**	P	**Pn**	**06 38 10.4**	**-1.0**
PINO	**Pino**	**1.57**	**328**	P	**Pn**	**06 38 10.7**	**-0.9**
YANA	**Yana**	**1.59**	**330**	P	**Pn**	**06 38 10.8**	**-0.9**
PULU	**Pululahua**	**1.68**	**334**	P	**Pn**	**06 38 11.6**	**-1.0**
CASC	**Dorado de Casc**	**1.69**	**15**	⇓*i*P	**Pn**	**06 38 11.8**	**-0.4**
CASC				*e*S	**Sn**	**06 38 36.6**	**-2.1**
CASC	**Dorado de Casc**	**1.69**	**15**	P	**Pn**	**06 38 11.9**	**-0.4**
COHC	**Cochancay**	**1.76**	**237**	P	**Pn**	**06 38 10.3**	**-2.6**
COHC				S	**Sn**	**06 38 35.7**	**-4.0**
BOSC	**San Juan Bosco**	**1.79**	**204**	P	**Pn**	**06 38 12.1**	**-1.3**
IMBA	**Imbabura, San**	**1.82**	**347**	P	**Pn**	**06 38 14.3**	**+0.3**
YAHU	**Yahuarcocha**	**1.88**	**351**	P	**Pn**	**06 38 14.4**	**-0.2**
URCU	**Urcuqui**	**1.99**	**346**	P	**Pn**	**06 38 15.4**	**-0.3**
PAC1	**Pacto, Paraso**	**2.03**	**330**	P	**Pn**	**06 38 14.5**	**-1.3**
TULM	**Tulcn-Chalpat**	**2.20**	**360**	P	**Pn**	**06 38 18.2**	**0.0**
AGUAY	**Guayaquil**	**2.24**	**256**	P	**Pn**	**06 38 14.2**	**-3.9**
ATUL	**Tulcn**	**2.26**	**1**	P	**Pn**	**06 38 19.1**	**+0.5**
CHL1	**Volc¡n Chiles**	**2.29**	**356**	P	**Pn**	**06 38 19.2**	**0.0**
CHL2	**Volc¡n Chiles**	**2.29**	**356**	P	**Pn**	**06 38 19.4**	**+0.2**
PUAC	**Puerto Asis, P**	**2.37**	**31**	⇓*i*P	**Pn**	**06 38 19.8**	**+0.3**
PUAC				*e*S	**Sn**	**06 38 50.6**	**-1.1**
CMBC	**Cumbal**	**2.43**	**359**	*e*P	**Pn**	**06 38 21.3**	**+0.7**
CCUFI	**Cufio, Nario**	**2.74**	**9**	*e*P	**Pn**	**06 38 24.7**	**+0.3**
GCUF	**Volcan Galeras**	**2.74**	**9**	⇓*i*P	**Pn**	**06 38 24.8**	**+0.4**
GCUF				*i*		06 38 27.4	
	comp=Z,123nm,0.8s						
GCUF				*e*S	**Sn**	**06 39 00.0**	**-0.3**
MORR	**Playas El Morr**	**2.80**	**246**	P	**Pn**	**06 38 21.0**	**-3.5**
PPLP	**Puerto Lpez**	**3.00**	**269**	P	**Pn**	**06 38 23.1**	**-3.9**
CRUC	**La Cruz**	**3.16**	**15**	*e*P	**Pn**	**06 38 29.9**	**+0.7**
GONZ	**Gonzanam**	**3.16**	**211**	P	**Pn**	**06 38 26.8**	**-2.5**
SALI	**Salinas**	**3.28**	**258**	P	**Pn**	**06 38 26.5**	**-3.9**
PTLC	**Puerto Leguiza**	**3.41**	**61**	*e*P	**Pn**	**06 38 30.1**	**-1.9**
BBAC	**Balboa, Cauca**	**3.54**	**9**	⇑*i*P	**Pn**	**06 38 33.4**	**-0.5**
BBAC				*i*		06 38 38.8	
	comp=Z,85nm,0.6s						
BBAC				*e*S	**Sn**	**06 39 16.6**	**-0.7**
SOTA	**Rioblanco**	**3.80**	**18**	*e*P	**Pn**	**06 38 37.6**	**+0.2**
PCON	**Cinco Dias**	**4.05**	**20**	*e*P	**Pn**	**06 38 41.2**	**+0.7**
GARC	**Garzon, Huila**	**4.32**	**32**	⇑*i*P	**Pn**	**06 38 44.3**	**+0.6**
BETC	**Betania**	**4.77**	**29**	⇑*i*P	**Pn**	**06 38 50.3**	**+1.0**
MACC	**Macarena, Meta**	**5.34**	**47**	⇑*i*P	**Pn**	**06 38 57.0**	**+0.3**
ATAH	**Atahualpa**	**5.63**	**186**	P	**Pn**	**06 39 00.6**	**-0.3**
	comp=Z,38nm,0.3s,baz=9.5,slow=8.8,SNR=75						
ATAH				S	**Sn**	**06 40 00.8**	**-5.0**
	comp=Z,42nm,0.3s,baz=129,slow=19,SNR=15						
YOTC	**Yotoco, Valle**	**5.63**	**15**	*e*P	**Pn**	**06 38 58.0**	**-2.7**
PRAC	**Prado**	**5.93**	**29**	*e*P	**Pn**	**06 39 03.6**	**-0.8**
ORTC	**Ortega, Tolima**	**5.94**	**25**	*e*P	**Pn**	**06 39 03.5**	**-1.1**
ANIL	**Santa Ana**	**6.41**	**22**	*e*P	**Pn**	**06 39 09.7**	**-1.3**
TOLC	**Tolima**	**6.53**	**22**	*e*P	**Pn**	**06 39 11.2**	**-1.3**
GUVC	**San Jose del G**	**6.53**	**52**	⇑*e*P	**Pn**	**06 39 13.2**	**+0.9**
PLMC	**San Jos del P**	**6.54**	**13**	*e*P	**Pn**	**06 39 08.8**	**-3.6**
VILC	**Villavicencio,**	**6.91**	**36**	*e*P	**Pn**	**06 39 18.9**	**+1.5**
CVER	**Cruz Verde, Cu**	**7.03**	**32**	*e*P	**Pn**	**06 39 20.7**	**+1.3**
GUY2C	**Guyana, Caldas**	**7.10**	**20**	*e*P	**Pn**	**06 39 17.3**	**-2.9**
ROSC	**El Rosal**	**7.18**	**29**	P	**Pn**	**06 39 21.9**	**+0.7**
	comp=Z,6.7nm,0.3s,baz=345,slow=6.1,SNR=17						
ROSC	**El Rosal**	**7.18**	**29**	Pn	**Pn**	**06 39 20.3**	**-0.9**
CHIC	**Chingaza**	**7.31**	**34**	*e*P	**Pn**	**06 39 24.4**	**+1.6**
HELC	**Santa Helena**	**7.96**	**16**	*e*P	**Pn**	**06 39 28.3**	**-3.1**
PTGC	**Puerto Gaitan,**	**7.99**	**45**	*e*P	**Pn**	**06 39 31.6**	**+0.1**
DBBC	**Dabeiba**	**8.61**	**10**	*e*P	**Pn**	**06 39 40.8**	**+1.1**
PTBC	**PUERTO BERRIO,**	**8.65**	**22**	*e*P	**Pn**	**06 39 37.9**	**-2.2**
RUSC	**La Rusia**	**8.71**	**32**	*e*P	**Pn**	**06 39 43.1**	**+1.7**
RUSC	**La Rusia**	**8.71**	**32**	Pn	**Pn**	**06 39 42.2**	**+0.8**
BARC	**Barichara**	**9.26**	**30**	*e*P	**Pn**	**06 39 48.3**	**0.0**
UREC	**San Jos de Ur**	**9.46**	**14**	*e*P	**Pn**	**06 39 51.7**	**+0.9**
TAMC	**Tame, Arauca**	**9.89**	**37**	*e*P	**Pn**	**06 39 56.3**	**-0.2**
UPD2	**Meteti**	**9.99**	**359**	*e*P	**Pn**	**06 39 57.5**	**-0.2**
PAMC	**Pamplona, Colo**	**10.14**	**30**	*e*P	**Pn**	**06 40 00.5**	**+0.4**
NNA	**Nana**	**10.46**	**175**	P	**Pn**	**06 40 02.4**	**-1.5**
	comp=Z,4.7nm,0.3s,baz=324,slow=16,SNR=9.9						
NNA				S	Sn	06 41 48.8	-11
	comp=Z,8.2nm,0.3s,baz=32,slow=18,SNR=6.4						
NNA				LR	LR	06 44 28.5	
	comp=Z,50nm,18.1s,baz=338,slow=39						
NNA	**Nana**	**10.46**	**175**	Pn	**Pn**	**06 40 02.7**	**-1.2**
BCIP	**Isla Barro Col**	**10.79**	**349**		**Pn**	**06 40 08.2**	**0.0**
SMLC	**San Martn de**	**10.88**	**20**	*e*P	**Pn**	**06 40 07.4**	**-1.9**
SJCC	**San Jacinto, C**	**11.62**	**13**	*e*P	**Pn**	**06 40 18.9**	**+0.1**
ELOV	**Elorza**	**11.82**	**44**	*e*P	**Pn**	**06 40 20.8**	**-0.7**
SOCV	**Socops**	**11.92**	**35**	*e*P	**Pn**	**06 40 22.2**	**-0.5**
PAYG	**Puerto Ayora**	**12.54**	**274**	Pn	**Pn**	**06 40 32.4**	**+1.8**
SDV	**Santo Domingo**	**12.54**	**34**	P	**Pn**	**06 40 29.9**	**-0.9**
	comp=Z,5.9nm,0.3s,baz=183,slow=9.1,SNR=24						
SDV				LR	LR	06 46 02.8	
	comp=Z,109nm,21.4s,baz=240,slow=41						
SDV	**Santo Domingo**	**12.54**	**34**	*e*P	**Pn**	**06 40 30.5**	**-0.2**
SDV	**Santo Domingo**	**12.54**	**34**	Pn	**Pn**	**06 40 30.5**	**-0.2**
SDV	**Santo Domingo**	**12.54**	**34**	*e*P	**Pn**	**06 40 30.6**	**-0.2**
SDV	**Santo Domingo**	**12.54**	**34**	*e*P	**Pn**	**06 40 30.6**	**-0.2**
JTS	**Las Juntas de**	**13.72**	**329**	P	**P**	**06 40 47.4**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=214,slow=6.2,SNR=7.8						
JTS				LR	LR	06 45 15.7	
	comp=Z,95nm,18.4s,baz=209,slow=33						
JTS	**Las Juntas de**	**13.72**	**329**		**P**	**06 40 47.8**	**-0.5**
URIC	**Uribia, Colomb**	**14.32**	**24**	Pn	**Pn**	**06 40 50.5**	**-2.5**
HATO	**Hato, Curacao**	**16.17**	**33**	P	**P**	**06 41 13.8**	**-1.6**
SAML	**Samuel**	**16.30**	**118**	P	**P**	**06 41 15.1**	**-1.7**
MACA	**Manacapuru-AM**	**17.16**	**96**	*e*P	**P**	**06 41 25.3**	**-1.0**
MACA				*e*S	**S**	**06 44 31.9**	**-4.0**
MACA	**Manacapuru-AM**	**17.16**	**96**	*e*P	**P**	**06 41 25.3**	**-1.0**
MACA				*e*S	**S**	**06 44 31.9**	**-4.0**
PCRV	**Puerto La Cruz**	**17.48**	**48**	P	**Pn**	**06 41 31.8**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=328,slow=9.7,SNR=3.3						
LPAZ	**La Paz**	**17.50**	**148**	P	**Pn**	**06 41 32.0**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=333,slow=9.7,SNR=55						
LPAZ	**La Paz**	**17.50**	**148**	P	**Pn**	**06 41 31.5**	**-0.6**
LPAZ	**La Paz**	**17.50**	**148**	*e*P	**Pn**	**06 41 32.5**	**+0.4**
LPAZ				*e*S	**S**	**06 44 44.7**	**+1.1**
LPAZ	**La Paz**	**17.50**	**148**	*e*P	**Pn**	**06 41 32.5**	**+0.4**
LPAZ				*e*S	**S**	**06 44 44.7**	**+1.1**
PLCV	**Puerto La Cruz**	**17.51**	**48**	P	**Pn**	**06 41 31.8**	**+0.2**
PTGA	**Pitinga**	**17.82**	**88**	P	**P**	**06 41 33.1**	**-0.5**
	comp=Z,3.2nm,0.3s,baz=268,slow=13,SNR=28						
PTGA				LR	LR	06 47 48.1	
	comp=Z,78nm,20.2s,baz=287,slow=34						
PTGA	**Pitinga**	**17.82**	**88**	P	**P**	**06 41 32.5**	**-1.1**
PTGA	**Pitinga**	**17.82**	**88**	*e*P	**P**	**06 41 33.1**	**-0.5**
PTGA				*e*S	**S**	**06 44 45.9**	**-3.3**
PTGA	**Pitinga**	**17.82**	**88**	*e*P	**P**	**06 41 33.1**	**-0.5**
PTGA				*e*S	**S**	**06 44 45.9**	**-3.3**
PB12	**IPOC Station P**	**18.51**	**157**	P	**P**	**06 41 41.2**	**+0.2**
PB12				IAmb	IAmb	06 41 45.8	
	comp=Z,26nm,0.7s						
MNMC	**Minye Minye**	**19.27**	**156**	P	**P**	**06 41 50.3**	**+0.9**
MNMC				IAmb	IAmb	06 42 09.8	
	comp=Z,38nm,1.0s						
MTO3	**Montecristo**	**19.52**	**324**	P	**P**	**06 41 53.1**	**+0.9**
MTO3				IAmb	IAmb	06 41 55.0	
	comp=Z,32nm,1.1s						
MTDJ	**Mount Denham**	**19.61**	**1**	P	**P**	**06 41 50.5**	**-2.4**
PB11	**IPOC Station P**	**19.81**	**157**	P	**P**	**06 41 56.5**	**+1.3**
PB11				IAmb	IAmb	06 42 13.0	
	comp=Z,21nm,0.8s						
GO01	**Chusmiza**	**19.91**	**156**	P	**P**	**06 41 57.8**	**+1.2**
GO01				IAmb	IAmb	06 42 06.9	
	comp=Z,17nm,0.7s						
PB08	**IPOC Station P**	**20.35**	**156**	P	**P**	**06 42 00.5**	**-0.8**
VILB	**Vilhena**	**20.80**	**124**	*e*P	**P**	**06 42 06.4**	**+0.8**
VILB				*e*S	**S**	**06 45 47.1**	**-0.6**
VILB	**Vilhena**	**20.80**	**124**	*e*P	**P**	**06 42 06.4**	**+0.8**
VILB				*e*S	**S**	**06 45 47.1**	**-0.6**
GRGR	**Grenville**	**20.98**	**49**	P	**P**	**06 42 05.6**	**-1.9**
PB01	**IPOC Station P**	**21.04**	**158**	P	**P**	**06 42 09.7**	**+1.4**
PB01				IAmb	IAmb	06 42 12.6	
	comp=Z,25nm,1.2s						
TOSP	**Speyside**	**21.34**	**53**	P	**P**	**06 42 09.9**	**-1.5**
GTBY	**Guantanamo Bay**	**21.45**	**7**	P	**P**	**06 42 12.3**	**-0.2**
PB07	**IPOC Station P**	**21.52**	**160**	P	**P**	**06 42 14.2**	**+0.8**
PB07				IAmb	IAmb	06 42 30.1	
	comp=Z,17nm,0.7s						
DR12	**Loma Pena Alta**	**21.79**	**22**	P	**P**	**06 42 13.9**	**-2.1**
PB09	**IPOC Station P**	**21.82**	**158**	P	**P**	**06 42 18.4**	**+2.0**
PB09				IAmb	IAmb	06 42 37.1	
	comp=Z,18nm,0.8s						
SIV	**San Ignacio**	**21.87**	**132**	P	**P**	**06 42 16.3**	**-0.6**
	comp=Z,19nm,0.7s,baz=310,slow=7.9,SNR=62						
SC01	**Santiago de lo**	**21.92**	**18**	P	**P**	**06 42 16.6**	**-0.7**
PB04	**IPOC Station P**	**22.00**	**161**	P	**P**	**06 42 16.9**	**-1.4**
PB04				IAmb	IAmb	06 42 22.1	
	comp=Z,61nm,1.4s						
CRPR	**Cabo Rojo, PR**	**22.05**	**28**	P	**P**	**06 42 16.6**	**-2.0**
CRPR				IAmb	IAmb	06 42 27.2	
	comp=Z,40nm,0.8s						
MPR	**Mayaguez**	**22.21**	**28**	P	**P**	**06 42 20.0**	**-0.2**
MPR				IAmb	IAmb	06 42 31.3	
	comp=Z,25nm,0.8s						
OBIP	**Obispado Ponce**	**22.32**	**29**	P	**P**	**06 42 20.4**	**-0.7**
OBIP				IAmb	IAmb	06 42 24.6	
	comp=Z,43nm,1.4s						
AOPR	**Arecibo Observ**	**22.51**	**28**	P	**P**	**06 42 21.7**	**-1.3**
PDPR	**Patillas Dam,**	**22.59**	**30**	P	**P**	**06 42 23.1**	**-0.5**
PDPR				IAmb	IAmb	06 42 24.0	
	comp=Z,15nm,0.8s						
SJG	**San Juan**	**22.60**	**30**	P	**P**	**06 42 22.1**	**-1.6**
	comp=Z,14nm,0.6s,baz=152,slow=3.2,SNR=3.1						
SJG	**San Juan**	**22.60**	**30**	P	**P**	**06 42 22.7**	**-1.1**
SJG				IAmb	IAmb	06 42 33.6	
	comp=Z,17nm,0.8s						
CCIG	**Comitan**	**22.66**	**322**	P	**P**	**06 42 25.0**	**+0.5**
CCIG				IAmb	IAmb	06 42 26.9	
	comp=Z,21nm,1.1s						
LVC	**Limon Verde**	**22.68**	**158**	P	**P**	**06 42 27.7**	**+2.8**
	comp=Z,5.3nm,0.6s,baz=327,slow=6.3,SNR=12						
LVC	**Limon Verde**	**22.68**	**158**	P	**P**	**06 42 25.7**	**+0.8**
EMPR	**Esperanza - Ma**	**22.73**	**29**	P	**P**	**06 42 24.4**	**-0.4**
GCPR	**Guaynabo City**	**22.80**	**30**	P	**P**	**06 42 24.1**	**-1.4**
CBYP	**Canovanas**	**22.89**	**30**	P	**P**	**06 42 25.2**	**-1.2**
CBYP				IAmb	IAmb	06 42 37.2	
	comp=Z,39nm,1.1s						
MTP	**Monte Pirata**	**22.89**	**31**	P	**P**	**06 42 25.7**	**-0.7**
NPGB	**Novo Progresso**	**23.02**	**105**	*e*P	**P**	**06 42 27.2**	**-0.4**
NPGB				*e*S	**S**	**06 46 22.5**	**-2.1**
NPGB	**Novo Progresso**	**23.02**	**105**	*e*P	**P**	**06 42 27.2**	**-0.4**
NPGB				*e*S	**S**	**06 46 22.5**	**-2.1**
PTLB	**Pontes e Lacer**	**23.03**	**128**	*e*P	**P**	**06 42 28.6**	**+0.9**
PTLB				*e*S	**S**	**06 46 24.4**	**-0.3**
PTLB	**Pontes e Lacer**	**23.03**	**128**	*e*P	**P**	**06 42 28.6**	**+0.9**
PTLB				*e*S	**S**	**06 46 24.4**	**-0.3**
MALB	**Monte Alegre**	**23.50**	**91**	*e*P	**P**	**06 42 32.6**	**+0.6**
MALB	**Monte Alegre**	**23.50**	**91**	*e*P	**P**	**06 42 32.6**	**+0.6**
CLDB	**Colider**	**23.73**	**114**	*e*P	**P**	**06 42 33.4**	**-0.7**
CLDB				*e*S	**S**	**06 46 34.7**	**-1.4**
CLDB	**Colider**	**23.73**	**114**	*e*P	**P**	**06 42 33.4**	**-0.7**
CLDB				*e*S	**S**	**06 46 34.7**	**-1.4**
GRTK	**Grand Turk**	**23.78**	**15**	P	**P**	**06 42 34.1**	**-0.3**
TEIG	**Tepich**	**23.92**	**335**	P	**P**	**06 42 36.3**	**+0.6**
	comp=Z,6.2nm,0.7s,baz=139,slow=2.3,SNR=6.5						
TEIG	**Tepich**	**23.92**	**335**	P	**P**	**06 42 35.5**	**-0.3**
TEIG				IAmb	IAmb	06 42 50.4	
	comp=Z,41nm,1.2s						
GO02	**Mina Guanaco**	**24.82**	**162**	P	**P**	**06 42 45.2**	**+1.1**
GO02				IAmb	IAmb	06 42 47.7	
	comp=Z,27nm,1.4s						
CMIG	**Matias Romero**	**25.02**	**318**	P	**P**	**06 42 46.2**	**+0.5**
	comp=Z,13nm,0.7s,baz=117,slow=6.4,SNR=15						
MDP	**Montagnes des**	**25.95**	**75**	P	**P**	**06 42 53.1**	**-1.1**
	comp=Z,27nm,0.7s,baz=262,slow=9.1,SNR=13						
SALV	**Santo Antonio**	**26.05**	**125**	*e*P	**P**	**06 42 56.1**	**+1.0**
SALV	**Santo Antonio**	**26.05**	**125**	*e*P	**P**	**06 42 56.1**	**+1.0**
AC02	**Maricunga**	**26.52**	**162**	P	**P**	**06 42 59.2**	**-0.6**
AC02				IAmb	IAmb	06 43 04.3	
	comp=Z,18nm,1.4s						
061Z	**Ochoppi**	**27.38**	**354**	P	**P**	**06 43 07.9**	**+1.2**
AC05	**El Transito**	**28.11**	**166**	P	**P**	**06 43 13.9**	**+0.5**
AC05				IAmb	IAmb	06 43 16.2	
	comp=Z,11nm,0.9s						
PRPB	**Parauapebas**	**28.27**	**100**	*e*P	**P**	**06 43 14.5**	**-0.5**
PRPB	**Parauapebas**	**28.27**	**100**	*e*P	**P**	**06 43 14.5**	**-0.5**
AQDB	**Aquidauana**	**28.64**	**133**	*e*P	**P**	**06 43 19.2**	**+1.1**
AQDB	**Aquidauana**	**28.64**	**133**	*e*P	**P**	**06 43 19.2**	**+1.1**
ARAG	**Araguaiana, MT**	**29.23**	**120**	*e*P	**P**	**06 43 24.0**	**+0.6**
ARAG				*e*S	**S**	**06 48 00.1**	**-2.7**
ARAG	**Araguaiana, MT**	**29.23**	**120**	*e*P	**P**	**06 43 24.0**	**+0.6**
ARAG				*e*S	**S**	**06 48 00.1**	**-2.7**
CO01	**Juntas del Tor**	**29.25**	**166**	P	**P**	**06 43 25.2**	**+1.6**
DWPF	**Disney Wildern**	**29.65**	**353**	P	**P**	**06 43 27.1**	**+0.2**
	baz=172						
C2SB	**Chapadao do Su**	**29.87**	**127**	*e*P	**P**	**06 43 30.1**	**+1.1**
C2SB	**Chapadao do Su**	**29.87**	**127**	*e*P	**P**	**06 43 30.1**	**+1.1**
CO03	**El Pedregal**	**29.94**	**168**	P	**P**	**06 43 28.3**	**-1.3**
CO03				IAmb	IAmb	06 43 31.9	
	comp=Z,10nm,0.9s						
CO02	**Combarbal**	**30.23**	**168**	P	**P**	**06 43 31.8**	**-0.3**
CO02				IAmb	IAmb	06 43 34.9	
	comp=Z,19nm,0.8s						
SMTB	**Santa Maria do**	**30.92**	**105**	*e*P	**P**	**06 43 38.8**	**+0.5**
SMTB				*e*pP	**pP**	**06 44 18.9**	**+3.0**
SMTB	**Santa Maria do**	**30.92**	**105**	*e*P	**P**	**06 43 38.8**	**+0.5**
SMTB				*e*pP	**pP**	**06 44 18.9**	**+3.0**
656A	**Willston**	**31.03**	**352**	P	**P**	**06 43 38.1**	**-0.9**
PEXB	**Peixe**	**31.06**	**111**	*e*P	**P**	**06 43 39.9**	**+0.4**
PEXB				*e*pP	**pP**	**06 44 21.1**	**+3.9**
PEXB	**Peixe**	**31.06**	**111**	*e*P	**P**	**06 43 39.9**	**+0.4**
PEXB				*e*pP	**pP**	**06 44 21.1**	**+3.9**
CFA	**Coronel Fontan**	**31.27**	**164**	P	**P**	**06 43 42.3**	**+1.1**
	comp=Z,2.0nm,0.3s,baz=343,slow=8.7,SNR=13						
CFA				LR	LR	06 56 45.0	
	comp=Z,142nm,20.5s,baz=321,slow=37						
VA03	**San Esteban**	**31.83**	**168**	P	**P**	**06 43 47.1**	**+0.9**
VA03				IAmb	IAmb	06 43 49.2	
	comp=Z,22nm,0.9s						
ROC1	**El Roble**	**31.95**	**169**	P	**P**	**06 43 47.1**	**-0.2**
BDFB	**Brasilia**	**32.54**	**117**	P	**P**	**06 43 52.7**	**+0.1**
	comp=Z,26nm,0.4s,baz=289,slow=9.8,SNR=97						
BDFB	**Brasilia**	**32.54**	**117**	P	**P**	**06 43 53.3**	**+0.7**
PCMB	**Pacaembu**	**32.65**	**130**	*e*P	**P**	**06 43 53.3**	**-0.1**
PCMB				*e*pP	**pP**	**06 44 34.6**	**+3.4**
PCMB	**Pacaembu**	**32.65**	**130**	*e*P	**P**	**06 43 53.3**	**-0.1**
PCMB				*e*pP	**pP**	**06 44 34.6**	**+3.4**
451A	**Vernon**	**32.83**	**347**	P	**P**	**06 43 55.7**	**+1.0**
TIGA	**Tifton**	**33.22**	**351**	P	**P**	**06 43 59.1**	**+1.0**
	baz=169						
IPMB	**Ipameri, GO**	**33.33**	**121**	*e*P	**P**	**06 43 59.8**	**+0.5**
IPMB	**Ipameri, GO**	**33.33**	**121**	*e*P	**P**	**06 43 59.8**	**+0.5**
ROSB	**Rosrio**	**33.65**	**93**	*e*P	**P**	**06 44 02.0**	**-0.2**
ROSB	**Rosrio**	**33.65**	**93**	*e*P	**P**	**06 44 02.0**	**-0.2**
BO02	**Sierra Bellavi**	**33.76**	**170**	P	**P**	**06 44 03.6**	**+0.8**
GO05	**Huala**	**33.78**	**171**	P	**P**	**06 44 03.8**	**+0.9**
ZAIG	**Zacatecas**	**34.14**	**316**	P	**P**	**06 44 06.9**	**+0.3**
250A	**Grady**	**34.26**	**347**	P	**P**	**06 44 06.0**	**-1.1**
250A				IAmb	IAmb	06 44 08.1	
	comp=Z,18nm,1.0s						
NHSC	**New Hope**	**34.50**	**356**	P	**P**	**06 44 10.1**	**+1.1**
	baz=176						
NHSC	**New Hope**	**34.50**	**356**	P	**P**	**06 44 09.4**	**+0.3**
152A	**Waverly Hall**	**34.61**	**350**	P	**P**	**06 44 10.2**	**+0.1**
152A				IAmb	IAmb	06 44 11.1	

comp=Z,14nm,0.8s
Z58A St. Stephen 34.70 357 P P 06 44 12.1 +1.2
baz=176
Z57A Bowman 34.72 356 P P 06 44 12.4 +1.4
baz=175
Z56A Williston 34.81 355 P P 06 44 13.1 +1.4
baz=174
GOGA Godfrey 35.14 352 P P 06 44 14.8 +0.3
baz=170
GOGA Godfrey 35.14 352 P P 06 44 14.7 +0.1
Y56A Pelion 35.26 355 P P 06 44 16.1 +0.5
baz=174
Y58A Scranton 35.26 357 P P 06 44 17.1 +1.5
baz=176
Y58A Scranton 35.26 357 P P 06 44 15.7 0.0
Y59A Loris 35.32 358 P P 06 44 17.0 +0.9
baz=178,SNR=5.7
Y59A Loris 35.32 358 P P 06 44 17.5 +1.4
Y60A Bolivia 35.32 359 P P 06 44 15.4 -0.7
baz=179
Y57A Sumter 35.42 356 P P 06 44 17.7 +0.7
baz=175
Y57A Sumter 35.42 356 P P 06 44 17.6 +0.7
LRAL Lakeview Retre 35.44 347 P P 06 44 17.1 -0.1
baz=164,SNR=6.5
LRAL Lakeview Retre 35.44 347 P P 06 44 17.1 -0.1
LRAL IAmb IAmb 06 44 18.1
comp=Z,18nm,1.0s
Y55A Saluda 35.46 354 P P 06 44 18.3 +0.9
baz=173
JANB Januaria 35.67 114 eP P 06 44 19.4 0.0
JANB Januaria 35.67 114 eP P 06 44 19.4 0.0
JSC Jenkinsville 35.74 355 P P 06 44 19.6 -0.2
HODGE Hodges 35.79 354 P P 06 44 20.0 -0.2
HODGE IAmb IAmb 06 44 22.8
comp=Z,14nm,0.9s
X57A Johnson Farm, 35.84 357 P P 06 44 21.9 +1.4
baz=176
Z47A Carrollton 35.86 345 P P 06 44 20.3 -0.4
Z47A IAmb IAmb 06 44 21.4
comp=Z,18nm,0.7s
X60A Albert Glenn T 35.89 360 P P 06 44 21.8 +0.9
baz=179
X59A McDuffie Farm, 35.89 359 P P 06 44 21.6 +0.6
baz=178
X58A Rowland 35.90 358 P P 06 44 22.2 +1.2
baz=177
X58A Rowland 35.90 358 P P 06 44 21.4 +0.3
X56A White Oak 35.94 355 P P 06 44 22.4 +1.1
baz=174
X55A Gracelyn & Ava 35.97 355 P P 06 44 22.1 +0.5
baz=173
X54A Belton 36.12 354 P P 06 44 23.7 +0.8
baz=172
833A Chaparral WMA, 36.19 327 P P 06 44 25.2 +1.5
baz=141
W58A Raeford 36.36 358 P P 06 44 25.7 +0.7
baz=177,SNR=9.7
W60A Pink Hill 36.36 0 P P 06 44 25.7 +0.7
baz=180
W59A Clinton 36.48 359 P P 06 44 27.0 +1.0
baz=179
W61A Ground Anchor 36.49 1 P P 06 44 27.1 +1.0
baz=181
W57A Gilead 36.52 357 P P 06 44 26.5 +0.2
baz=176
W56A Indian Trail 36.54 356 P P 06 44 26.7 +0.2
baz=175
CNNC Cliffs of the 36.55 360 P P 06 44 27.1 +0.6
baz=180
FPAL Fort Paine 36.60 349 IAmb IAmb 06 44 27.6
comp=Z,15nm,0.9s
KMSC Kings Mountain 36.60 355 P P 06 44 27.7 +0.6
baz=174,SNR=5.1
KMSC Kings Mountain 36.60 355 IAmb IAmb 06 44 28.7
comp=Z,24nm,1.1s
W54A Cherokee Point 36.63 354 P P 06 44 27.8 +0.5
baz=172
SPB Sao Paulo 36.70 129 eP P 06 44 27.8 -0.2
SPB Sao Paulo 36.70 129 eP P 06 44 27.8 -0.2
Y45A Yeager Farm, C 36.88 344 P P 06 44 29.8 +0.4
V59A Middlesex 37.08 359 P P 06 44 31.8 +0.8
baz=179,SNR=5.3
V60A Jim Taylor Roa 37.08 1 P P 06 44 31.7 +0.7
baz=181,SNR=5.5
V60A Jim Taylor Roa 37.08 1 P P 06 44 30.3 -0.7
V61A Roper 37.12 2 P P 06 44 32.3 +1.0
baz=182
V58A Windy Hill, Pi 37.12 358 P P 06 44 31.8 +0.4
baz=178,SNR=10
V58A Windy Hill, Pi 37.12 358 P P 06 44 32.0 +0.6
V56A Mocksville 37.21 356 P P 06 44 32.6 +0.5
baz=175,SNR=5.6
V57A Coltrane Farms 37.24 357 P P 06 44 33.0 +0.6
baz=176,SNR=5.5
V54A Nebo 37.29 354 P P 06 44 33.5 +0.6
baz=173
CPCT Cooper Cave 37.30 351 IAmb IAmb 06 44 33.9
comp=Z,13nm,0.8s
V55A Taylorsville 37.30 355 P P 06 44 33.7 +0.8
baz=174
SWET Sewanee 37.32 349 IAmb IAmb 06 44 33.5
comp=Z,11nm,0.8s
TKL Tuckaleechee C 37.39 352 P P 06 44 33.5 -0.2
comp=Z,4.0nm,0.8s,baz=198,slow=10,SNR=7.3
TKL Tuckaleechee C 37.39 352 IAmb IAmb 06 44 37.8
comp=Z,9.2nm,1.1s
OXF Oxford 37.45 344 P P 06 44 34.5 +0.4
baz=160
V52A Sevierville 37.55 352 IAmb IAmb 06 44 37.1
comp=Z,13nm,1.0s
BSCB Bom Sucesso 37.57 123 eP P 06 44 35.6 +0.1
BSCB epP pP 06 45 18.7 +4.6
BSCB Bom Sucesso 37.57 123 eP P 06 44 35.6 +0.1
BSCB epP pP 06 45 18.7 +4.6
LC01 Cunco 37.61 172 PcP 06 46 48.2 -1.1
V51A Loudon 37.62 351 IAmb IAmb 06 44 36.4
comp=Z,9.4nm,0.7s
U59A Littleton 37.66 360 P P 06 44 36.6 +0.7
baz=180,SNR=5.1
U59A Littleton 37.66 360 IAmb IAmb 06 44 37.2
comp=Z,14nm,0.8s
U61A Possum Corner 37.66 2 P P 06 44 36.9 +1.0
baz=182
U58A Oxford 37.71 359 P P 06 44 36.9 +0.5
baz=178,SNR=5.7
U56A King 37.73 357 P P 06 44 37.6 +1.1
baz=176,SNR=13
U57A Blanch 37.77 358 P P 06 44 37.2 +0.4
baz=177,SNR=15
U60A Pendleton 37.78 1 P P 06 44 37.4 +0.4
baz=181
U55A TA2, Sparta 37.93 356 P P 06 44 38.7 +0.4
baz=174,SNR=6.2
PARB Paraibuna 37.99 127 eP P 06 44 39.2 +0.2
PARB epP pP 06 45 20.1 +2.5
PARB Paraibuna 37.99 127 eP P 06 44 39.2 +0.2
PARB epP pP 06 45 20.1 +2.5
V48A Smith Brothers 38.00 348 P P 06 44 38.7 -0.1
W45A Hickory Valley 38.00 345 P P 06 44 36.6 -2.2
U54A Nelsons Funny 38.02 355 P P 06 44 39.7 +0.7
baz=173
U54A Nelsons Funny 38.02 355 P P 06 44 38.9 -0.1
U54A IAmb IAmb 06 44 40.5
comp=Z,14nm,0.7s
JCT Junction City 38.11 328 P P 06 44 40.8 +1.0
baz=142
JCT Junction City 38.11 328 P P 06 44 40.1 +0.3
WHTX Lake Whitney, 38.18 332 P P 06 44 41.1 +0.8
baz=147
TZTN Tazewell 38.23 352 P P 06 44 40.8 +0.1
baz=170
TZTN Tazewell 38.23 352 P P 06 44 40.9 +0.1
TZTN IAmb IAmb 06 44 41.5
comp=Z,12nm,0.6s
CLTN Cedars of Leba 38.24 349 P P 06 44 40.3 -0.5
CLTN IAmb IAmb 06 44 41.3
comp=Z,12nm,1.0s
T58A Grand View Acr 38.26 359 P P 06 44 41.5 +0.6
baz=178,SNR=5.9
T59A Double "B" Far 38.28 0 P P 06 44 41.9 +0.9
baz=180,SNR=9.1
T59A Double "B" Far 38.28 0 P P 06 44 41.2 +0.1
T57A Hurt 38.33 358 P P 06 44 42.1 +0.6
baz=177,SNR=15
T57A Hurt 38.33 358 P P 06 44 41.9 +0.4
T56A Rocky Mt 38.39 357 P P 06 44 43.0 +1.0
baz=176,SNR=7.8
T60A Surry 38.46 1 P P 06 44 43.4 +0.8
baz=181
T60A Surry 38.46 1 P P 06 44 43.3 +0.8
X40A Basin Creek Fa 38.49 340 P P 06 44 43.6 +0.7
baz=155
X40A Basin Creek Fa 38.49 340 P P 06 44 43.6 +0.7
T55A Pulaski 38.52 356 P P 06 44 44.0 +0.7
baz=175
T54A Tazewell 38.53 355 P P 06 44 43.6 +0.3
baz=174,SNR=6.6
T53A Wise 38.54 354 P P 06 44 43.6 +0.2
baz=172
U49A Red Boiling Sp 38.55 350 P P 06 44 42.7 -0.6
UALR University of 38.59 341 P P 06 44 43.1 -0.5
UALR IAmb IAmb 06 44 44.1
comp=Z,11nm,0.7s
WVT Waverly 38.59 347 P P 06 44 42.4 -1.3
baz=164
WVT Waverly 38.59 347 P P 06 44 42.2 -1.5
WVT P 06 44 42.7 -1.0
WVT IAmb IAmb 06 44 43.2
comp=Z,8.5nm,0.7s
BLA Blacksburg 38.60 357 P P 06 44 44.6 +0.8
baz=176,SNR=5.1
BLA Blacksburg 38.60 357 P P 06 44 44.5 +0.8
BLA IAmb IAmb 06 44 45.7
comp=Z,26nm,0.8s
S58A Poland Farm, P 38.92 360 P P 06 44 46.8 +0.5
baz=179
W41B Gary Mavity, V 38.92 341 P P 06 44 45.8 -0.7
baz=156
HPIG 39.01 318 P P 06 44 48.4 +0.8
HPIG IAmb IAmb 06 44 50.0
comp=Z,26nm,1.5s
S56A Natural Bridge 39.02 358 P P 06 44 47.9 +0.6
baz=177,SNR=10
S60A Water View 39.02 1 P P 06 44 48.4 +1.1
baz=182
WHAR Wooly Hollow 39.04 341 P P 06 44 46.9 -0.5
WHAR IAmb IAmb 06 44 47.8
comp=Z,9.9nm,0.8s
S59A Mechanicsville 39.07 1 P P 06 44 48.6 +0.9
baz=180
S57A Dark Hollow, R 39.08 359 P P 06 44 48.4 +0.6
baz=178,SNR=7.6
S57A Dark Hollow, R 39.08 359 P P 06 44 47.9 +0.1
S57A IAmb IAmb 06 44 49.5
comp=Z,30nm,1.1s
S55A Lewisburg 39.16 357 P P 06 44 49.4 +0.9
baz=176,SNR=18
S53A Williamson 39.20 355 P P 06 44 48.9 +0.1
baz=173
S54A Dingess, Beckl 39.24 356 P P 06 44 49.4 +0.3
baz=174,SNR=6.9
S54A Dingess, Beckl 39.24 356 IAmb IAmb 06 44 50.5
comp=Z,23nm,0.8s
T47A Sharon Grove 39.26 348 IAmb IAmb 06 44 49.1
comp=Z,17nm,0.7s
R58B Mineral 39.27 360 P P 06 44 50.4 +1.1
baz=180
R58B Mineral 39.27 360 IAmb IAmb 06 44 51.3
comp=Z,16nm,1.1s
LCAR Lake Charles 39.41 343 P P 06 44 49.2 -1.3
LCAR IAmb IAmb 06 44 50.6
comp=Z,17nm,0.8s
TX32 Lajitas Array 39.41 323 P P 06 44 51.8 +1.0
TXAR Lajitas Array 39.41 323 P P 06 44 51.7 +0.9
comp=Z,1.8nm,0.5s,baz=145,slow=8.4,SNR=44
TXAR PcP PcP
comp=Z,0.3nm,0.5s,baz=134,slow=5.2,SNR=1.6
TXAR ScP ScP 06 50 28.3 +1.4
comp=Z,0.8nm,0.8s,baz=152,slow=5.7,SNR=5.3
TX31 Lajitas Ar. Si 39.41 323 P P 06 44 50.7 -0.1
TX31 IAmb IAmb 06 45 04.0
comp=Z,20nm,1.2s
W39A Magazine 39.46 339 P P 06 44 51.3 +0.4
baz=154
R59A King George, V 39.51 1 P P 06 44 52.3 +1.1
baz=181,SNR=6.0
CBN Corbin Frederi 39.51 0 P P 06 44 52.3 +1.0
baz=180
CBN Corbin Frederi 39.51 0 P P 06 44 50.3 -1.0
FCAR Ozark Folk Cen 39.54 342 P P 06 44 51.0 -0.6
PARMO Parma 39.57 345 P P 06 44 51.5 -0.3
PLCA Paso Flores 39.60 171 P P 06 44 52.7 +0.6
comp=Z,7.7nm,0.6s,baz=340,slow=8.3,SNR=6.4
PLCA Paso Flores 39.60 171 IAmb IAmb 06 44 55.5
comp=Z,12nm,0.8s
R54A Victor 39.60 356 P P 06 44 52.6 +0.5
baz=175,SNR=6.1
R58A Rapidan 39.60 360 P P 06 44 53.2 +1.2
baz=179,SNR=13
R57A Stanardsville 39.61 359 P P 06 44 53.1 +0.9
baz=179
R55A Marlinton 39.65 357 P P 06 44 53.4 +0.9
baz=176,SNR=9.3
GDU01 Guandu, BA 39.68 110 eP P 06 44 53.6 +0.5
GDU01 Guandu, BA 39.68 110 eP P 06 44 53.6 +0.5
SJMB Sao Joao De Ma 39.73 118 eP P 06 44 53.4 0.0
SJMB Sao Joao De Ma 39.73 118 eP P 06 44 53.4 0.0
ABTX Abilene, Hawle 39.74 331 P P 06 44 54.1 +0.7
baz=144
R53A Hurricane 39.82 355 P P 06 44 53.9 0.0
baz=173
BSFB Barra de Sao F 40.07 118 eP P 06 44 56.2 0.0
BSFB Barra de Sao F 40.07 118 eP P 06 44 56.2 0.0
U40A Yellville 40.20 341 P P 06 44 56.5 -0.6
baz=156,SNR=13
U40A Yellville 40.20 341 IAmb IAmb 06 44 57.5
comp=Z,16nm,0.8s
Q58A Fox Den Farm, 40.24 0 P P 06 44 58.4 +1.1
baz=180,SNR=9.9
T42A Van Buren 40.28 343 IAmb IAmb 06 44 57.4
comp=Z,17nm,0.7s
WCI Wyandotte Cave 40.31 350 P P 06 44 57.1 -0.8
baz=167
WCI Wyandotte Cave 40.31 350 P P 06 44 56.9 -1.0
Q53A Leroy 40.31 355 P P 06 44 58.3 +0.4
baz=174,SNR=14
USIN University of 40.32 348 P P 06 44 56.3 -1.6
USIN IAmb IAmb 06 44 57.7
comp=Z,26nm,0.8s
Q57A Strasburg 40.34 359 P P 06 44 59.3 +1.1
baz=179
Q60A Greensboro 40.34 2 P P 06 44 59.2 +1.1
baz=183
Q55A Buckhannon 40.35 357 P P 06 44 59.6 +1.3
baz=176,SNR=8.3
Q56A Snyder Ridge, 40.37 358 P P 06 44 59.5 +1.1
baz=178,SNR=7.3
Q56A Snyder Ridge, 40.37 358 P P 06 44 59.5 +1.1
Q56A IAmb IAmb 06 45 00.7
comp=Z,25nm,0.9s
Q54A Coxs Mills 40.38 356 P P 06 44 58.7 +0.2
baz=175,SNR=8.3
Q54A Coxs Mills 40.38 356 P P 06 44 58.4 -0.1
Q54A IAmb IAmb 06 44 59.7
comp=Z,19nm,0.8s
S44A Carbondale 40.42 346 IAmb IAmb 06 44 59.2
comp=Z,24nm,0.9s
Q52A Bidwell 40.48 355 P P 06 44 59.0 -0.3
baz=173,SNR=7.6
Q51A Peebles 40.65 353 IAmb IAmb 06 45 01.5
comp=Z,19nm,1.2s
MGMO Mountain Grove 40.74 342 IAmb IAmb 06 45 01.8
comp=Z,21nm,0.8s
P57A Homestead Farm 40.79 360 P P 06 45 02.9 +1.1
baz=179
U38A Gravette 40.79 339 P P 06 45 01.0 -0.9
P58A Pank, Wackersv 40.79 1 P P 06 45 02.6 +0.8
baz=180,SNR=5.8
P56A Dayton Farm, R 40.82 359 P P 06 45 03.3 +1.2
baz=178,SNR=11
TUL1 Leonard 40.84 337 P P 06 45 02.9 +0.6
baz=152
TUL1 Leonard 40.84 337 P P 06 45 01.6 -0.7
P55A Reedsville 40.85 358 P P 06 45 03.3 +0.9
baz=177
P53A Whipple 40.92 356 P P 06 45 03.0 +0.1
baz=174,SNR=9.4
P53A Whipple 40.92 356 IAmb IAmb 06 45 04.2
comp=Z,29nm,0.8s
P59A Jarrettsville 40.93 2 P P 06 45 04.2 +1.2
baz=182
P54A Burton 40.98 357 P P 06 45 03.7 +0.3
baz=176,SNR=6.8
MCWV Mont Chateau 41.01 358 P P 06 45 04.2 +0.6
baz=177
P61A Hammonton 41.07 4 P P 06 45 05.1 +1.0
baz=184
P51A Williamsport 41.07 354 P P 06 45 04.2 +0.1
baz=172
P52A Corning 41.13 355 P P 06 45 04.3 -0.3
baz=173,SNR=11
OLIL Olney 41.15 348 IAmb IAmb 06 45 04.3
comp=Z,14nm,0.8s
P60A Greenville 41.16 3 P P 06 45 05.8 +1.0
baz=183
BLO Bloomington 41.27 350 IAmb IAmb 06 45 05.4
comp=Z,17nm,0.6s
CCM Cathedral Cave 41.28 344 P P 06 45 04.7 -1.1
baz=159
CCM Cathedral Cave 41.28 344 P P 06 45 04.8 -1.1
CCM P 06 45 04.9 -0.9
MVL Millersville 41.32 2 P P 06 45 07.5 +1.3
P49A Miami Univ. Ec 41.33 352 P P 06 45 05.1 -1.1
baz=169
O58A Lewisberry 41.43 1 P P 06 45 08.3 +1.2
baz=181,SNR=7.7
O61A Allentown 41.50 4 P P 06 45 08.0 +0.5
baz=185
O57A Amberson 41.51 0 P P 06 45 08.7 +1.0
baz=180,SNR=9.1
Q44A Meyer Farm, Va 41.52 347 IAmb IAmb 06 45 07.3
comp=Z,26nm,0.8s
O55A Ligonier 41.53 358 P P 06 45 08.6 +0.7
baz=178,SNR=9.3
O54A Avella 41.55 357 P P 06 45 08.2 +0.1
baz=176,SNR=5.2
O54A Avella 41.55 357 IAmb IAmb 06 45 09.9
comp=Z,18nm,0.8s
O56A Blue Knob Stat 41.58 359 P P 06 45 09.4 +1.1
baz=179,SNR=10
O52A Adamsville 41.58 355 P P 06 45 08.2 -0.1
baz=174,SNR=5.9
O52A Adamsville 41.58 355 P P 06 45 07.9 -0.4
O52A IAmb IAmb 06 45 09.1
comp=Z,25nm,0.8s
O59A Robesonia 41.64 2 P P 06 45 10.0 +1.3
baz=182,SNR=8.8
O53A New Philadelph 41.67 356 P P 06 45 08.8 -0.2
baz=175,SNR=6.9
O60A Telford 41.68 3 P P 06 45 10.1 +1.2
baz=183
O51A Pataskala 41.68 354 P P 06 45 08.6 -0.5
baz=172,SNR=5.5
O50A Cable 41.79 353 P P 06 45 09.3 -0.7
baz=171,SNR=6.6
R40A Maddies Statio 41.80 343 P P 06 45 08.4 -1.6
ACSO Alum Creek Sta 41.81 354 P P 06 45 09.8 -0.3
baz=172
ACSO Alum Creek Sta 41.81 354 P P 06 45 10.0 0.0
ACSO IAmb IAmb 06 45 10.7
comp=Z,25nm,0.9s
SSPA Standing Stone 41.94 360 P P 06 45 12.1 +1.0
SSPA IAmb IAmb 06 45 13.1
comp=Z,26nm,0.8s
LUPA Lehigh Univers 41.96 3 P P 06 45 12.6 +1.3
RCBR Riachuelo 42.00 97 P P 06 45 11.9 -0.2
comp=Z,26nm,0.8s,baz=275,slow=8.5,SNR=14
RCBR Riachuelo 42.00 97 IAmb IAmb 06 45 12.9
comp=Z,32nm,0.9s
N57A Milroy 42.06 0 P P 06 45 12.7 +0.6
baz=180,SNR=5.4
N55A Marion Center 42.10 359 P P 06 45 13.3 +0.8
baz=178,SNR=21
O48A Farmland 42.10 352 P P 06 45 11.6 -0.8
baz=169
MNTX Cornudas Mount 42.14 324 P P 06 45 14.0 +1.0
baz=136,SNR=5.3
MNTX Cornudas Mount 42.14 324 P P 06 45 13.6 +0.6
MNTX IAmb IAmb 06 45 14.9
comp=Z,6.7nm,0.8s
N58A Sunbury 42.15 1 P P 06 45 13.8 +0.9
baz=181,SNR=5.2
N58A Sunbury 42.15 1 IAmb IAmb 06 45 14.9
comp=Z,22nm,1.1s
N61A South Mountain 42.17 4 P P 06 45 13.8 +0.8
baz=185
N53A Lisbon 42.20 357 P P 06 45 13.2 -0.1
baz=175
N53A Lisbon 42.20 357 IAmb IAmb 06 45 14.1
comp=Z,19nm,0.7s
N56A West Decatur 42.22 359 P P 06 45 14.2 +0.7
baz=179,SNR=12
N60A Cedar Hill Far 42.24 3 P P 06 45 14.4 +0.8
baz=184
N59A State Game Lan 42.26 2 P P 06 45 15.0 +1.3
baz=183,SNR=12
N59A State Game Lan 42.26 2 P P 06 45 14.6 +0.9
N59A IAmb IAmb 06 45 16.1
comp=Z,36nm,0.9s
N54A Moraine State 42.31 358 P P 06 45 14.7 +0.5
baz=176,SNR=13
N54A Moraine State 42.31 358 P P 06 45 14.3 +0.1
P43A Skaggs, Pawnee 42.34 347 IAmb IAmb 06 45 14.0
comp=Z,20nm,0.9s
N50A Nevada 42.36 354 P P 06 45 14.0 -0.5
baz=172,SNR=5.7
MSTX Muleshoe 42.40 329 P P 06 45 15.8 +0.7
baz=141,SNR=7.3
MSTX Muleshoe 42.40 329 P P 06 45 15.6 +0.4
MSTX IAmb IAmb 06 45 16.9
comp=Z,21nm,1.2s
N51A Ashland 42.43 355 P P 06 45 14.6 -0.5
baz=173
PAL Palisades 42.45 4 P P 06 45 15.7 +0.4
baz=186,SNR=5.0
PAL Palisades 42.45 4 IAmb IAmb 06 45 16.8
comp=Z,28nm,1.1s
ODNJ Ogdensburg 42.48 4 P P 06 45 16.1 +0.6
U32A Winter Ranch, 42.55 334 P P 06 45 16.8 +0.6
N49A Columbus Grove 42.62 353 P P 06 45 15.8 -0.9
M57A Sunshine Farm, 42.64 1 P P 06 45 18.0 +1.2
baz=181,SNR=11
M57A Sunshine Farm, 42.64 1 P P 06 45 18.0 +1.2
M57A IAmb IAmb 06 45 19.0
comp=Z,29nm,0.8s
M58A Price's Panora 42.69 1 P P 06 45 18.3 +1.1
baz=182,SNR=5.2
M60A Port Jervis 42.72 3 P P 06 45 18.0 +0.6
baz=184
M61A Granite Spring 42.77 4 P P 06 45 18.5 +0.7
baz=186
M55A Ridgway 42.78 359 P P 06 45 18.5 +0.6
baz=178,SNR=9.5
M55A Ridgway 42.78 359 IAmb IAmb 06 45 19.4
comp=Z,27nm,0.8s
M56A Emporium 42.79 360 P P 06 45 18.6 +0.6
baz=179,SNR=19
M53A Wl Miller and 42.82 357 P P 06 45 18.8 +0.5
baz=176
M54A Oil Creek Stat 42.84 358 P P 06 45 18.8 +0.3
baz=177,SNR=15
M59A Waymart 42.90 3 P P 06 45 19.9 +1.0
baz=183,SNR=7.5
KSPA Keystone Colle 42.90 2 IAmb IAmb 06 45 21.0
comp=Z,31nm,1.0s
M52A Chesterland 42.97 356 P P 06 45 18.9 -0.5
baz=174
M62A Hamden 42.97 5 P P 06 45 20.3 +0.8
baz=187,SNR=6.4
M63A Gales Ferry 43.02 6 P P 06 45 20.9 +1.1
baz=188,SNR=6.3
HDIL Hopedale 43.16 347 P P 06 45 19.3 -1.7
baz=163,SNR=7.7
HDIL Hopedale 43.16 347 P P 06 45 19.2 -1.8
KSCT Kent School, K 43.20 5 P P 06 45 21.9 +0.6
L57A Andrews Acres 43.31 1 P P 06 45 23.0 +0.8
baz=181,SNR=16
L53A Girard 43.31 357 P P 06 45 22.3 +0.1
baz=176
L58A Harry Jones Me 43.38 2 P P 06 45 23.8 +1.0
baz=183,SNR=8.2
L60A Shokan 43.41 4 P P 06 45 23.8 +0.9
baz=185
L56A Greenwood 43.44 0 P P 06 45 23.9 +0.6
baz=180,SNR=8.4
L56A Greenwood 43.44 0 P P 06 45 23.4 +0.2
L56A IAmb IAmb 06 45 24.8
comp=Z,36nm,0.9s
ERPA Erie 43.46 358 P P 06 45 23.3 -0.1
baz=177,SNR=6.4

L55A	Hinsdale	43.49	359	P	P	06 45 24.2	+0.6		baz=179,SNR=20
L63A	North Scituate	43.52	7	P	P	06 45 24.5	+0.7		baz=189
BINY	Binghamton	43.53	2	P	P	06 45 24.9	+1.0		baz=182,SNR=14
L54A	Sinclairville	43.56	358	P	P	06 45 24.5	+0.4		baz=178,SNR=16
L59A	Walton	43.56	3	P	P	06 45 25.1	+0.9		baz=184
L59A	Walton	43.56	3	IAmb	IAmb	06 45 26.2			comp=Z,19nm,1.0s
L50A	Kingsville	43.58	355	P	P	06 45 23.5	-0.8		baz=172
L61A	Hillsdale 1, H	43.66	5	P	P	06 45 25.8	+0.9		baz=186,SNR=8.9
L64A	Middleborough	43.69	7	P	P	06 45 25.9	+0.8		baz=190
QUA2	Belchertown	43.85	6	IAmb	IAmb	06 45 28.1			comp=Z,23nm,1.0s
K54A	Basiliko Farm,	43.92	359	P	P	06 45 27.4	+0.4		baz=178,SNR=7.6
KSU1	Kansas State U	43.96	339	P	P	06 45 26.9	-0.5		baz=152
KSU1	Kansas State U	43.96	339	IAmb	IAmb	06 45 27.8			comp=Z,17nm,0.7s
L61B	Northampton	43.99	5	P	P	06 45 28.1	+0.5		baz=187
K56A	Middlesex	44.00	0	P	P	06 45 28.0	+0.3		baz=180
K55A	Perry	44.03	360	P	P	06 45 28.3	+0.3		baz=179,SNR=7.7
MMNY	Mt. Morris Dam	44.03	360	P	P	06 45 27.5	-0.4		
MMNY				IAmb	IAmb	06 45 29.1			comp=Z,49nm,1.3s
K57A	Scipio Center	44.05	1	P	P	06 45 28.7	+0.6		baz=182,SNR=14
WES	Weston	44.07	7	IAmb	IAmb	06 45 30.3			comp=Z,24nm,1.1s
K58A	Earlville	44.10	2	P	P	06 45 29.3	+0.8		baz=183,SNR=9.3
K58A	Earlville	44.10	2	P	P	06 45 29.1	+0.6		
K59A	Cooperstown	44.15	3	P	P	06 45 29.6	+0.7		baz=184
K61A	Williamstown	44.16	5	P	P	06 45 29.7	+0.8		baz=186
K52A	Tillsonburg	44.16	357	P	P	06 45 28.6	-0.3		baz=176
HRV	Adam Dziewonsk	44.16	7	P	P	06 45 29.7	+0.8		baz=189
TRY	Troy	44.19	4	P	P	06 45 30.6	+1.5		
TRY				IAmb	IAmb	06 45 31.3			comp=Z,21nm,0.9s
K62A	Royalston	44.25	6	P	P	06 45 30.3	+0.7		baz=188
K50A	Casco	44.29	355	P	P	06 45 29.3	-0.6		baz=173
K50A	Casco	44.29	355	IAmb	IAmb	06 45 30.0			comp=Z,29nm,0.7s
K63A	Dunstable	44.35	7	P	P	06 45 31.2	+0.8		baz=189
K49A	Clarkson	44.38	354	P	P	06 45 29.7	-1.0		baz=172,SNR=5.1
N38A	Joes South For	44.39	343	IAmb	IAmb	06 45 30.6			comp=Z,21nm,0.8s
K47A	Vermontville	44.45	352	P	P	06 45 30.1	-1.1		baz=170,SNR=6.8
K48A	Perry	44.47	353	P	P	06 45 30.5	-0.9		baz=171,SNR=7.0
J55A	Hilton	44.56	360	P	P	06 45 32.2	+0.1		baz=180,SNR=6.9
J55A	Hilton	44.56	360	IAmb	IAmb	06 45 33.3			comp=Z,29nm,0.8s
J54A	Appleton	44.58	359	P	P	06 45 32.4	+0.2		baz=179
J54A	Appleton	44.58	359	IAmb	IAmb	06 45 33.2			comp=Z,30nm,0.7s
J56A	Wolcott	44.58	1	P	P	06 45 32.7	+0.5		baz=181,SNR=14
J52A	Paris	44.61	357	P	P	06 45 32.0	-0.5		baz=176
L42A	Oliver, Polo	44.62	347	P	P	06 45 31.0	-1.6		
L42A				IAmb	IAmb	06 45 31.9			comp=Z,18nm,1.1s
BNM	Barren Site	44.64	325	P	P	06 45 34.9	+1.8		
J58A	Remsen	44.72	3	P	P	06 45 34.1	+0.7		baz=183,SNR=9.0
J58A	Remsen	44.72	3	P	P	06 45 33.7	+0.4		
J58A				IAmb	IAmb	06 45 35.0			comp=Z,27nm,1.1s
J60A	Lant Hill Farm	44.72	5	P	P	06 45 34.4	+1.0		baz=186
J57A	Williamstown	44.74	2	P	P	06 45 33.9	+0.4		baz=182,SNR=6.4
J57A	Williamstown	44.74	2	P	P	06 45 33.5	0.0		
J57A				IAmb	IAmb	06 45 35.0			comp=Z,32nm,1.2s
ACCN	Adirondack Com	44.84	4	IAmb	IAmb	06 45 36.3			comp=Z,22nm,1.1s
J62A	Henniker	44.85	6	P	P	06 45 35.2	+0.9		baz=188
J59A	Piesco	44.86	3	P	P	06 45 35.2	+0.7		baz=184,SNR=17
J59A	Piesco	44.86	3	IAmb	IAmb	06 45 36.3			comp=Z,36nm,0.8s
J61A	Chester	44.89	5	P	P	06 45 35.9	+1.2		baz=187
J49A	Marlette	44.92	354	P	P	06 45 33.7	-1.2		baz=172,SNR=6.0
CBKS	Cedar Bluff	44.92	336	P	P	06 45 34.7	-0.5		baz=148
CBKS	Cedar Bluff	44.92	336	IAmb	IAmb	06 45 37.0			comp=Z,14nm,0.7s
J48A	Bridge Port	44.92	354	P	P	06 45 34.0	-1.0		baz=171,SNR=9.9
J63A	Strafford	44.98	7	P	P	06 45 35.9	+0.5		baz=189
J47A	Sunmer	44.99	353	P	P	06 45 34.5	-1.0		baz=170,SNR=16
L40A	Anamosa	45.04	346	IAmb	IAmb	06 45 36.1			comp=Z,25nm,1.1s
I58A	Old Forge	45.06	3	P	P	06 45 36.7	+0.6		baz=184,SNR=13
ANMO	Albuquerque	45.12	326	P	P	06 45 38.4	+1.5		baz=137
I53A	Kortright Cn E	45.15	358	P	P	06 45 37.0	+0.3		baz=177
I51A	Listowel	45.20	357	P	P	06 45 36.5	-0.6		baz=175,SNR=14
N35A	Tabor	45.20	341	IAmb	IAmb	06 45 36.9			comp=Z,14nm,0.7s
J46A	Howard City	45.20	352	P	P	06 45 35.8	-1.4		baz=169
I59A	Olmsteadville	45.23	4	P	P	06 45 38.2	+0.8		baz=185,SNR=11
I57A	Carthage	45.28	2	P	P	06 45 38.6	+0.9		baz=183
I60A	Shoreham	45.32	5	P	P	06 45 39.3	+1.2		baz=186,SNR=6.0
NCB	Newcomb	45.38	4	IAmb	IAmb	06 45 40.3			comp=Z,16nm,0.8s
SCIA	State Center	45.42	344	IAmb	IAmb	06 45 38.6			comp=Z,16nm,0.8s
I49A	Point Hope	45.47	355	P	P	06 45 38.1	-1.1		baz=173
I61A	Oroboro, Fairl	45.51	6	P	P	06 45 40.5	+1.0		baz=188
I55A	Frankford	45.52	0	P	P	06 45 39.6	0.0		baz=180,SNR=8.7
JFWS	Jewell Farm	45.62	347	P	P	06 45 39.0	-1.4		baz=162,SNR=8.5
JFWS	Jewell Farm	45.62	347	P	P	06 45 39.0	-1.4		
JFWS				IAmb	IAmb	06 45 39.9			comp=Z,22nm,0.7s
T25A	Trinidad	45.70	330	P	P	06 45 42.7	+1.3		baz=141
I47A	Gladwin	45.72	353	P	P	06 45 40.2	-1.0		baz=170,SNR=9.7
I47A	Gladwin	45.72	353	P	P	06 45 40.0	-1.2		
I46A	Reed City	45.76	352	P	P	06 45 40.2	-1.3		baz=169
I48A	Sherman Twp	45.80	354	P	P	06 45 40.9	-0.8		baz=172
I64A	Boothbay	45.80	8	P	P	06 45 42.9	+1.1		baz=191
I63A	Otisfield	45.80	7	P	P	06 45 42.7	+0.9		baz=190,SNR=6.4
DELO	Deloro Mine	45.82	0	IAmb	IAmb	06 45 42.9			
H58A	Gabriels	45.83	4	P	P	06 45 42.6	+0.5		baz=185,SNR=8.7
LBNH	Lisbon	45.84	6	P	P	06 45 43.2	+1.1		baz=188,SNR=9.1
LBNH	Lisbon	45.84	6	IAmb	IAmb	06 45 44.2			comp=Z,30nm,0.9s
H55A	Tweed	45.85	1	P	P	06 45 42.4	+0.2		baz=181,SNR=19
H53A	Bobcaygeon	45.88	359	P	P	06 45 42.4	0.0		baz=179,SNR=12
TUC	Tucson	45.89	320	P	P	06 45 44.4	+1.5		baz=131
H56A	Elgin	45.91	2	P	P	06 45 43.2	+0.6		baz=182,SNR=22
H52A	Wyevale	45.98	358	P	P	06 45 42.7	-0.5		baz=177,SNR=8.1
LONY	Lake Ozonia	46.01	3	P	P	06 45 43.8	+0.4		baz=184,SNR=8.7
LONY	Lake Ozonia	46.01	3	IAmb	IAmb	06 45 45.9			comp=Z,20nm,1.1s
H60A	Morristown	46.08	5	P	P	06 45 44.8	+0.7		baz=187
SADO	Sadowa	46.09	359	IAmb	IAmb	06 45 45.0			comp=Z,21nm,0.8s
H59A	Cadyville	46.09	4	P	P	06 45 44.6	+0.5		baz=186,SNR=11
H61A	Lyndonville	46.13	6	P	P	06 45 45.4	+1.0		baz=188
H62A	Milan	46.25	7	P	P	06 45 46.4	+1.0		baz=189
H47A	Mio	46.26	354	P	P	06 45 44.3	-1.1		baz=171,SNR=6.6
H48A	Harrisville	46.27	355	P	P	06 45 45.0	-0.4		baz=172
I42A	Draeger Farm,	46.28	349	P	P	06 45 44.4	-1.2		
I42A				IAmb	IAmb	06 45 45.6			comp=Z,20nm,1.1s
FRNY	Flat Rock	46.28	4	P	P	06 45 46.2	+0.6		
FRNY				IAmb	IAmb	06 45 47.4			comp=Z,30nm,0.8s
H46A	Fife Lake	46.32	353	P	P	06 45 44.9	-1.0		baz=170
PLVO	Plevna	46.34	1	P	P	06 45 46.2	+0.2		
PLVO				IAmb	IAmb	06 45 47.2			comp=Z,37nm,0.9s
G53A	Haliburton	46.43	359	P	P	06 45 46.3	-0.5		baz=179,SNR=9.5
G57A	Newington	46.47	3	P	P	06 45 47.3	+0.3		baz=184,SNR=11
H63A	New Sharon	46.48	8	P	P	06 45 48.3	+1.2		baz=190
GLMI	Grayling	46.52	353	P	P	06 45 46.5	-1.0		baz=170
G59A	Clarenceville	46.56	4	P	P	06 45 48.3	+0.6		baz=186
G55A	Calabogie	46.56	1	P	P	06 45 48.0	+0.2		baz=181,SNR=15
G58A	Ormstown	46.57	4	P	P	06 45 48.4	+0.6		baz=185,SNR=7.0
H64A	Troy	46.57	8	P	P	06 45 48.4	+0.5		baz=192
G60A	Masonville	46.65	5	P	P	06 45 49.3	+0.8		baz=187,SNR=5.1
G54A	Lake Saint Pet	46.70	360	P	P	06 45 48.6	-0.2		baz=179,SNR=16
SDCO	Great Sand Dun	46.72	330	P	P	06 45 51.3	+1.8		baz=140,SNR=12
H65A	Eastbrook	46.77	9	P	P	06 45 50.0	+0.7		baz=193
G47A	Hillman	46.79	354	P	P	06 45 48.5	-1.0		baz=172
ORIO	Orleans, Innes	46.79	2	P	P	06 45 49.7	+0.2		baz=183,SNR=5.9
G45A	Suttons Bay	46.87	352	P	P	06 45 48.9	-1.3		baz=169
G45A	Suttons Bay	46.87	352	P	P	06 45 49.5	-0.7		
G61A	St-Isidore-de-	46.91	6	P	P	06 45 52.0	+1.5		baz=188,SNR=9.0
G62A	West of Eustis	46.96	7	P	P	06 45 52.2	+1.4		baz=190,SNR=13
G62A	West of Eustis	46.96	7	P	P	06 45 51.9	+1.0		
G63A	Kingsbury	46.98	8	P	P	06 45 51.9	+0.9		baz=191,SNR=6.0
214A	Organ Pipe Nat	46.99	318	P	P	06 45 52.6	+1.2		baz=128,SNR=6.9
214A	Organ Pipe Nat	46.99	318	P	P	06 45 51.9	+0.5		
214A				IAmb	IAmb	06 45 54.0			comp=Z,14nm,0.8s
H66A	Whiting	47.02	10	P	P	06 45 51.2	0.0		baz=194
G46A	Petoskey	47.04	353	P	P	06 45 50.5	-0.9		baz=170
F52A	Sundridge	47.11	359	P	P	06 45 51.3	-0.8		baz=178,SNR=5.8
W18A	Petrified Fore	47.13	324	P	P	06 45 54.2	+1.6		baz=134
W18A	Petrified Fore	47.13	324	P	P	06 45 52.6	0.0		
W18A				IAmb	IAmb	06 45 55.3			comp=Z,18nm,0.8s
F55A	Otter Lake	47.15	1	P	P	06 45 52.4	+0.1		baz=182,SNR=6.1
PKME	Peaks-Kenny Pk	47.17	8	P	P	06 45 53.2	+0.7		baz=191
PKME	Peaks-Kenny Pk	47.17	8	IAmb	IAmb	06 45 53.9			comp=Z,16nm,0.7s
G64A	Maxfield	47.24	9	P	P	06 45 53.7	+0.7		baz=192
ALGO	Algonquin Park	47.25	360	P	P	06 45 52.7	-0.4		baz=179
F51A	Arnstein	47.27	358	P	P	06 45 52.3	-0.9		baz=177
F48A	Evansville	47.32	355	P	P	06 45 52.3	-1.3		baz=173
F59A	Saint Guilaume	47.36	5	P	P	06 45 54.5	+0.7		baz=187
G65A	Princeton	47.38	10	P	P	06 45 54.8	+0.8		baz=194
S22A	4UR Ranch, Cre	47.40	328	P	P	06 45 55.5	+0.7		baz=139
F45A	CMJ Biological	47.48	353	P	P	06 45 53.7	-1.2		baz=169
F60A	Warwick	47.55	6	P	P	06 45 56.2	+0.8		baz=188
E52A	Mattawa	47.59	359	P	P	06 45 54.8	-0.9		baz=179
F63A	Nahmakanta, Br	47.63	8	P	P	06 45 56.2	+0.2		baz=192
F61A	St Evariste	47.65	6	P	P	06 45 56.2	0.0		baz=189
E53A	Dumoine, Ponti	47.68	0	P	P	06 45 55.7	-0.7		baz=180,SNR=7.1
E54A	Lac Daplat, Po	47.74	1	P	P	06 45 56.5	-0.3		baz=181,SNR=9.8
E55A	Montcerf-Lytto	47.78	2	P	P	06 45 57.1	0.0		baz=182,SNR=5.2
E50A	Wahnapitae	47.79	357	P	P	06 45 55.8	-1.4		baz=176
E57A	Chemin Saint G	47.82	3	P	P	06 45 57.9	+0.4		baz=185,SNR=30
K31A	O'Neill	47.83	339	IAmb	IAmb	06 45 58.9			comp=Z,23nm,0.8s
E58A	La Victoria	47.84	4	P	P	06 45 58.2	+0.6		baz=186
E51A	G1948 Merrick	47.86	358	P	P	06 45 57.2	-0.5		baz=178,SNR=21
F64A	Sherman	47.90	9	P	P	06 45 58.9	+0.9		baz=192
MVCO	Mesa Verde	47.90	327	P	P	06 45 59.3	+0.8		baz=136
E56A	St. Veronique	47.90	3	P	P	06 45 58.4	+0.3		baz=184,SNR=24
E48A	Lockeyer	47.94	356	P	P	06 45 57.3	-1.1		baz=174,SNR=9.1
E60A	Ste Agathe de	47.99	6	P	P	06 45 59.2	+0.4		baz=188
E47A	Iron Bridge	48.00	355	P	P	06 45 57.6	-1.2		baz=172,SNR=8.0
E59A	St. Maurice	48.01	5	P	P	06 45 59.1	+0.3		baz=187
E46A	Sault Ste Mari	48.01	354	IAmb	IAmb	06 45 58.5			comp=Z,12nm,0.7s
ECSD	EROS Data Cent	48.10	342	P	P	06 45 58.2	-1.5		baz=154,SNR=6.0
E61A	Lac Etchemin	48.16	7	P	P	06 46 01.0	+0.9		baz=190,SNR=7.5
D52A	ZEK Kipawa Sen	48.28	359	P	P	06 46 00.7	-0.2		baz=179,SNR=8.6
D55A	Sainte-Anne-du	48.36	2	P	P	06 46 01.7	+0.1		baz=183
ISCO	Idaho Springs	48.36	331	P	P	06 46 03.1	+0.9		baz=141
E43A	Lone Tree Farm	48.36	351	IAmb	IAmb	06 46 01.3			comp=Z,10nm,0.7s
WUAZ	Wupatki	48.38	323	P	P	06 46 04.3	+2.1		baz=132,SNR=5.1
D53A	Lac Vacive, Po	48.38	0	P	P	06 46 01.6	-0.1		baz=180,SNR=18
D53A	Lac Vacive, Po	48.38	0	IAmb	IAmb	06 46 02.5			comp=Z,22nm,0.8s
SPMN	Marine on St.	48.40	346	P	P	06 46 00.4	-1.6		baz=160
D56A	ZEC Mazanza, M	48.42	3	P	P	06 46 02.2	+0.1		baz=184,SNR=16
E63A	Oxbow	48.43	9	P	P	06 46 03.1	+1.0		baz=192
E63A	Oxbow	48.43	9	P	P	06 46 02.6	+0.5		
E63A				IAmb	IAmb	06 46 04.6			comp=Z,21nm,1.1s
D57A	Chemin Vers le	48.44	4	P	P	06 46 02.7	+0.5		baz=185,SNR=22
D54A	Lac Fusel, La	48.46	1	P	P	06 46 01.9	-0.5		baz=181,SNR=11
E62A	Clayton Lake	48.47	8	P	P	06 46 03.7	+1.2		baz=191,SNR=19
E62A	Clayton Lake	48.47	8	P	P	06 46 01.0	-1.4		
D50A	G1974 Best Tow	48.50	358	P	P	06 46 01.4	-1.2		baz=177,SNR=5.2
D46A	Sault St. Mari	48.50	354	P	P	06 46 01.1	-1.6		baz=171,SNR=6.2
E64A	Bridgewater	48.52	9	P	P	06 46 03.6	+0.8		baz=193
D47A	Chapleau	48.58	355	P	P	06 46 01.6	-1.7		baz=173,SNR=9.1
D58A	Chemin du LacG	48.59	4	P	P	06 46 04.0	+0.7		baz=186,SNR=20
D59A	Saint-Raymond	48.59	5	P	P	06 46 04.0	+0.7		baz=188
D60A	Saint Jean D'O	48.59	6	P	P	06 46 04.0	+0.7		baz=189,SNR=5.3
D48A	Paudash Townsh	48.60	356	P	P	06 46 02.0	-1.5		baz=174,SNR=9.6
D49A	Beulah Townshi	48.67	357	P	P	06 46 02.7	-1.3		baz=175,SNR=5.2
PV13	Radium Mtn., P	48.77	327	IAmb	IAmb	06 46 07.4			comp=Z,20nm,1.0s
PV05	Paradox Valley	48.86	327	P	P	06 46 06.1	+0.2		
PV05				IAmb	IAmb	06 46 07.7			comp=Z,21nm,1.2s
PV12	Saucer Basin,	48.87	327	IAmb	IAmb	06 46 08.4			comp=Z,14nm,0.9s
LATQ	La Tuque	48.88	5	P	P	06 46 06.2	+0.7		baz=186,SNR=34
LATQ	La Tuque	48.88	5	P	P	06 46 04.7	-0.8		
PV17	East Wray Mesa	48.93	327	P	P	06 46 06.8	+0.5		
D61A	St Aubert, Com	48.96	7	P	P	06 46 07.4	+1.3		baz=190,SNR=5.4
D62A	Allapoint, All	48.98	8	P	P	06 46 07.3	+1.0		baz=191,SNR=16
GLA	Glamis	49.01	318	P	P	06 46 07.5	+0.7		baz=127
D63A	Stockholm	49.08	9	P	P	06 46 07.7	+0.7		baz=193
VLDQ	Val d'Or	49.41	0	P	P	06 46 09.2	-0.3		
SUSD	Miller	49.49	340	P	P	06 46 09.3	-1.0		baz=152
SWSC	Sam W. Stewart	49.60	317	P	P	06 46 12.5	+1.2		baz=126
BATG	Bathurst New B	49.65	10	P	P	06 46 12.0	+0.6		
BATG				IAmb	IAmb	06 46 13.0			comp=Z,19nm,0.8s
W13A	Hualapai Mount	49.66	321	P	P	06 46 13.0	+1.0		
O20A	White River Ci	49.92	329	P	P	06 46 15.2	+1.3		baz=138
NEE2	Needles Airpor	49.92	320	P	P	06 46 15.4	+1.7		baz=128
MONP2	Monument Peak	50.00	317	P	P	06 46 15.5	+0.9		baz=125
BELC	Belle Mtn. Jos	50.36	318	P	P	06 46 18.1	+0.9		baz=126
LSQQ	Lebel-sur-Quev	50.36	1	P	P	06 46 16.3	-0.4		baz=181
PFO	Pinyon Flats O	50.44	317	P	P	06 46 18.3	+0.6		baz=126
109C	Camp Elliot, M	50.47	316	P	P	06 46 19.4	+1.6		baz=125
GMRC	Granite Mounta	50.61	319	P	P	06 46 20.0	+1.0		baz=127
EYMN	Ely	50.68	348	P	P	06 46 17.8	-1.3		baz=162
EYMN	Ely	50.68	348	P	P	06 46 18.1	-1.1		
P17A	Butcher Ranch,	50.75	327	P	P	06 46 21.0	+1.0		
MSU	Marysvale	50.88	325	P	P	06 46 22.7	+1.6		
MURC	Murrieta	50.94	317	P	P	06 46 23.0	+1.6		baz=125
K22A	Casper	51.02	333	P	P	06 46 23.3	+1.3		baz=142
MATQ	Matagami	51.06	0	P	P	06 46 21.0	-0.9		baz=180,SNR=8.3
HEC	Hector,Ludlow	51.08	319	P	P	06 46 23.7	+1.3		baz=127
RSSD	Black Hills	51.13	336	P	P	06 46 23.8	+1.0		baz=145
BBRC	Big Bear Solar	51.13	318	P	P	06 46 24.6	+1.6		baz=126
TUQ	Turquoise Moun	51.17	320	P	P	06 46 24.7	+1.4		baz=128
CHGQ	Chibougamau	51.30	3	P	P	06 46 23.6	-0.1		baz=184,SNR=18
B35A	Bob, Littlefor	51.56	346	P	P	06 46 24.5	-1.2		
BFSC	Mount Baldy Ra	51.62	317	P	P	06 46 27.4	+0.9		baz=125
GSC	Goldstone, Bar	51.67	319	P	P	06 46 28.4	+1.6		baz=126
AGMN	Agassiz Nation	52.04	345	P	P	06 46 28.4	-0.8		baz=157,SNR=11
AGMN	Agassiz Nation	52.04	345	IAmb	IAmb	06 46 29.3			comp=Z,12nm,0.6s
DECC	Green Verdugo	52.08	317	P	P	06 46 31.6	+1.8		baz=124
EDW2	Edwards Air Fo	52.21	318	P	P	06 46 31.8	+0.9		baz=125
TPNV	Topopah Spring	52.31	321	P	P	06 46 32.8	+1.1		baz=128,SNR=5.0
DUG	Dugway, Tooele	52.39	326	P	P	06 46 33.2	+1.0		baz=134
DUG	Dugway, Tooele	52.39	326	P	P	06 46 32.9	+0.7		
FURC	Furnace Creek,	52.41	320	P	P	06 46 33.4	+1.3		baz=127
PDAR	Pinedale Array	52.54	331	P	P	06 46 33.6	+0.3		
PDAR				PcP	PcP	06 47 41.2	0.0		comp=Z,0.5nm,0.4s,baz=122,slow=12,SNR=2.3
HWUT	Hardware Ranch	52.71	328	P	P	06 46 35.0	+0.5		comp=Z,0.3nm,0.4s,baz=161,slow=3.8,SNR=2.0
R11A	Troy Canyon, C	52.78	323	P	P	06 46 36.7	+1.6		baz=130
SPUT	South Promonto	52.97	328	P	P	06 46 37.6	+1.2		
ISA	Isabella, Lake	52.98	318	P	P	06 46 38.0	+1.5		baz=125
BGU	Big Grassy Mou	53.02	327	P	P	06 46 36.6	-0.1		
CWC	Cottonwood Cre	53.18	319	P	P	06 46 39.2	+1.2		baz=126
PKM	Mcpherson Peak	53.45	317	P	P	06 46 41.4	+1.4		baz=124
VES	Vestal, Richgr	53.49	318	P	P	06 46 41.8	+1.7		baz=125
TIN	Tinemaha, Big	53.64	320	P	P	06 46 42.5	+1.2		baz=126
SMMC	Simmler	53.81	317	P	P	06 46 43.7	+1.2		baz=124
ULM	Lac du Bonnet	53.84	346	P	P	06 46 41.4	-1.0		
ULM				PcP	sP	06 47 45.2	+0.3		comp=Z,6.7nm,0.6s,baz=157,slow=9.7,SNR=5.4
ULM	Lac du Bonnet	53.84	346	P	P	06 46 41.1	-1.3		
ULM				IAmb	IAmb	06 46 42.8			comp=Z,1.7nm,0.4s,baz=153,slow=5.3,SNR=3.0
LAO	LASA Array	54.11	336	P	P	06 46 45.8	+1.3		comp=Z,8.6nm,0.8s
NVAR	Mina Array Bea	54.50	321	P	P	06 46 49.1	+1.5		baz=144
MDPB	Devils Postpil	54.52	320	P	P	06 46 48.4	+0.5		comp=Z,3.9nm,0.7s,baz=130,slow=7.1,SNR=21
DGMT	Dagmar	54.80	339	P	P	06 46 50.7	+1.3		baz=147
MFID	Camas Ranch	56.23	327	IAmb	IAmb	06 47 02.2			

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
	comp=Z,7.4nm,0.8s						
SCHQ	Schefferville	56.87	8	P	P	06 47 03.7	-0.2
	comp=Z,11nm,0.6s,baz=210,slow=5.0,SNR=27						
SCHQ	Schefferville	56.87	8	P	P	06 47 03.4	-0.5
SCHQ				IAmb	IAmb	06 47 04.3	
	comp=Z,14nm,0.8s						
WVOR	Wild Horse Val	57.17	325	IAmb	IAmb	06 47 08.4	
	comp=Z,14nm,1.2s						
ORV	Oroville	57.18	321	P	P	06 47 07.1	+0.8
ORV				IAmb	IAmb	06 47 09.1	
	comp=Z,18nm,0.9s						
MSO	Missoula	57.64	331	P	P	06 47 10.6	+1.0
	baz=136						
O03E	Paynes Creek	57.79	321	P	P	06 47 11.5	+0.7
	baz=125						
M04C	Macdoel	58.67	322	P	P	06 47 17.5	+0.6
	baz=125						
K04D	Chiloquin, OR	59.11	323	P	P	06 47 20.9	+1.0
	baz=126						
J05D	Fort Rock, OR	59.20	324	P	P	06 47 21.7	+1.2
	baz=127						
L04D	Klamath Falls	59.21	323	P	P	06 47 20.9	+0.3
	baz=125						
PINE	Pine Mountain	59.33	325	IAmb	IAmb	06 47 24.1	
	comp=Z,13nm,0.8s						
FFC	Flin Flon	59.49	344	P	P	06 47 21.2	-0.8
FFC					P	06 47 22.3	+0.2
J04D	Umpqua Nationa	59.68	324	P	P	06 47 24.0	+0.1
	baz=126						
I05D	Terrebonne, OR	59.89	325	P	P	06 47 26.1	+1.0
	baz=127						
I04A	Tendick Farm,	60.19	324	P	P	06 47 27.6	+0.5
	baz=126						
K02D	Willamette Mer	60.30	322	P	P	06 47 28.9	+0.9
	baz=124						
G05D	Wamic, OR	60.43	326	P	P	06 47 30.0	+1.3
	baz=128						
J01E	Myrtle Point	60.73	323	P	P	06 47 32.1	+1.4
	baz=124						
E04D	Cinebar	61.92	327	P	P	06 47 40.0	+1.4
	baz=127						
D03D	Eldon	62.79	327	P	P	06 47 45.3	+0.9
	baz=127						
FRB	Frobisher Bay	65.45	4	P	P	06 48 00.6	-0.8
	comp=Z,8.9nm,0.7s,baz=216,slow=8.1,SNR=12						
YKA	Yellowknife Ar	69.61	343	P	P	06 48 27.4	-0.1
	comp=Z,2.0nm,0.6s,baz=143,slow=6.2,SNR=20						
ILULI	Ilulissat	72.87	10	P	P	06 48 46.6	-0.3
ILULI					P	06 48 46.8	0.0
LIC	Lamto	73.03	83	eP	P	06 48 48.5	-0.5
	comp=Z,9.8nm,0.3s						
TIC	Toumodi	73.06	83	eP	P	06 48 48.6	-0.6
DBIC	Dimbokro	73.22	83	P	P	06 48 49.6	-0.5
	comp=Z,15nm,0.4s,baz=252,slow=3.3,SNR=67						
DBIC	Dimbokro	73.22	83	P	P	06 48 49.4	-0.7
DBIC					P	06 48 49.8	-0.4
KIC	Kosan Boka	73.32	83	eP	P	06 48 50.4	-0.3
	comp=Z,121nm,0.8s						
MORF	Marmelete	74.44	51	ePP	PP	06 51 44.3	-1.4
MESJ	Messejana	74.90	50	ePP	PP	06 51 48.2	-1.3
KULLO	Kullorsuaq	76.98	6	⇑iP	P	06 49 10.5	+0.1
	comp=Z,30nm,1.1s						
SUMG	Summit	77.98	11	⇑iP	P	06 49 16.9	+0.4
	comp=Z,101nm,0.7s						
SUMG	Summit	77.98	11	P	P	06 49 16.5	0.0
ESDC	Sonseca Array	78.55	49	P	P	06 49 19.2	-0.7
	comp=Z,1.1nm,0.6s,baz=259,slow=6.1,SNR=7.0						
ESDC				pP	pP	06 50 02.3	-1.8
	comp=Z,2.5nm,0.9s,baz=266,slow=6.0,SNR=5.5						
A36M	Sachs Harbour	79.31	347	P	P	06 49 23.5	+0.3
	baz=131						
INK	Inuvik	79.34	342	P	P	06 49 24.2	+0.8
	comp=Z,7.5nm,0.8s,baz=106,slow=5.5,SNR=19						
INK				pP	pP	06 50 04.8	-3.2
	comp=Z,3.3nm,0.9s,baz=131,slow=6.2,SNR=2.3						
INK	Inuvik	79.34	342	P	P	06 49 24.5	+1.1
INK					P	06 49 24.7	+1.2
INK				IAmb	IAmb	06 49 25.3	
	comp=Z,10nm,0.9s						
EPYK	Eagle Plains	79.39	339	P	P	06 49 24.6	+0.8
	baz=119						
EPYK	Eagle Plains	79.39	339	P	P	06 49 24.1	+0.2
RAGM	Ragged Mountai	80.08	332	P	P	06 49 29.3	+1.6
RAGM					PcP	06 49 38.5	+4.0
TOA0	Torodi Ar. Sit	80.09	76	P	P	06 49 27.5	-1.1
TOA0					P	06 49 27.9	-0.8
TOA0				IAmb	IAmb	06 49 28.3	
	comp=Z,12nm,0.5s						
TORD	Torodi Ar. Bea	80.09	76	P	P	06 49 27.8	-0.9
	comp=Z,6.5nm,0.4s,baz=282,slow=5.7,SNR=111						
EGAK	Eagle	80.31	337	P	P	06 49 29.3	+0.6
EGAK					P	06 49 29.9	+1.1
SCRK	Sand Creek	81.11	336		P	06 49 33.6	+0.4
SCRK					P	06 49 34.4	+1.2
VNA3	Neumayer Olymp	81.65	162	P	P	06 49 36.1	+0.3
VNA2	Neumayer--Watz	82.25	162	P	P	06 49 39.8	+1.0
	baz=300,slow=6.0						
HDA	Harding Lake	82.48	336	P	P	06 49 40.7	+0.6
	baz=109						
HDA	Harding Lake	82.48	336	P	P	06 49 40.5	+0.3
EKA	Eskdalemuir Ar	82.52	34	P	P	06 49 39.6	-1.0
	comp=Z,2.4nm,0.7s,baz=238,slow=4.8,SNR=7.8						
IL31		82.57	336	P	P	06 49 40.4	-0.2
ILAR	Eielson Array	82.57	336	P	P	06 49 41.6	+0.9
	comp=Z,2.4nm,0.8s,baz=122,slow=3.3,SNR=14						
SNAA	Sanae	83.86	162	P	P	06 49 47.6	+0.3
BPAW	Bear Paw Mtn.	84.06	335	P	P	06 49 48.4	+0.1
BPAW					P	06 49 48.9	+0.6
PPLA	Purkeypile	84.27	334	IAmb	IAmb	06 49 57.4	
	comp=Z,7.3nm,0.7s						
TAM	Tamanrasset	84.40	67	P	P	06 49 50.1	-1.0
TAM					PcP	06 49 52.1	-2.2
TAM				IAmb	IAmb	06 49 52.9	
	comp=Z,18nm,0.8s						
CLF	Chambon-Foret	84.44	42	P	P	06 49 49.2	-1.4
CLF					PcP	06 49 51.5	-2.3
CLF				IAmb	IAmb	06 49 52.0	
	comp=Z,20nm,0.8s						
DAG	Danmarks Havn	84.67	11	⇑iP	P	06 49 51.0	-0.1
	comp=Z,14nm,0.9s						
DOU	Dourbes	86.24	40	PcP	P	06 49 59.9	+0.5
BMRD	Maredsous	86.38	40	PcP	P	06 50 01.1	+1.0
BGES	Gesves	86.59	40	PcP	P	06 50 01.7	+0.6
MEM	Membach	87.20	39	PcP	PcP	06 50 05.2	-0.7
WLF	Walferdange	87.20	40	PcP	PcP	06 50 05.1	-0.8
NOR	Nord	87.40	7	iP	P	06 50 05.0	+0.6
	comp=Z,7.3nm,1.0s						
ECH	Echery	87.73	42	IAmb	IAmb	06 50 07.5	
	comp=Z,7.4nm,0.8s						
QSPA	South Pole Qui	88.56	180	P	P	06 50 11.4	+1.1
DAVA	Damuels	89.50	43	iPcP	P	06 50 15.2	+0.1
	comp=Z,10.0nm,1.1s						
FUORN	Ofenpass-Fuorn	89.73	44	P	P	06 50 14.1	-2.3
FUORN				IAmb	IAmb	06 50 17.5	
	comp=Z,11nm,1.4s						
FETA	Feichten	90.06	43	iPcP	P	06 50 18.0	+0.2
	comp=Z,9.2nm,0.9s						
MOTA	Moosalm	90.33	43	iPcP	P	06 50 19.1	+0.1
	comp=Z,6.5nm,0.9s						
SQTA	Sankt Quirin	90.40	43	iPcP	P	06 50 19.7	+0.4
	comp=Z,7.2nm,0.6s						
WATA	Walderalm	90.65	43	iPcP	P	06 50 20.8	+0.3
	comp=Z,6.1nm,0.8s						
CTI	Castel Tesino	90.67	44	P	P	06 50 18.1	-2.5
CTI				IAmb	IAmb	06 50 21.8	
	comp=Z,6.9nm,0.8s						
WTTA	Wattenberg	90.69	43	iPcP	P	06 50 21.1	+0.4
	comp=Z,3.9nm,0.6s						
NB2	NORSAR Subarra	90.81	29	P	P	06 50 21.0	+0.2
	comp=Z,0.9nm,0.6s,baz=267,slow=4.6						
NOA	NORSAR Array B	90.81	29	P	P	06 50 20.9	+0.2
	comp=Z,2.6nm,0.9s,baz=268,slow=4.6,SNR=6.8						
CIMO	Cimolais	91.22	44	P	P	06 50 22.3	-0.7
ABTA	Abfaltersbach	91.28	43	iP	P	06 50 22.8	-0.5
	comp=Z,6.5nm,1.0s						
KBA	Koelnbreinsper	91.86	43	iPcP	P	06 50 25.9	-0.2
	comp=Z,4.7nm,1.2s						
PRED	Cave del Predi	92.00	44	P	P	06 50 26.3	-0.4
PRED				IAmb	IAmb	06 50 27.7	
	comp=Z,5.5nm,1.0s						
MYKA	Terra Mystica	92.06	44	iPcP	P	06 50 27.3	+0.3
GERES	GERESS Array B	92.10	41	P	P	06 50 27.4	+0.3
	comp=Z,0.5nm,0.5s,baz=254,slow=4.9,SNR=5.1						
BRG	Berggiesshubel	92.24	39	ePKP	P	06 50 28.5	+1.0
	comp=Z,7.8nm,1.1s						
SPITS	Spitsbergen Ar	92.31	12	P	P	06 50 27.6	+0.2
	comp=Z,3.5nm,0.9s,baz=188,slow=2.4,SNR=5.6						
MOA	Molln	92.48	42	iPcP	P	06 50 28.9	+0.1
	comp=Z,2.8nm,0.6s						
SOKA	Soboth	93.02	44	iPcP	P	06 50 31.1	-0.2
	comp=Z,2.6nm,1.0s						
ARSA	Arzberg	93.34	43	iPcP	P	06 50 32.9	+0.2
	comp=Z,2.9nm,0.6s						
CONA	Conrad Observa	93.55	42	iPcP	P	06 50 34.4	+0.6
	comp=Z,5.5nm,0.9s						
VNDA	Vanda	94.85	191	P	P	06 50 40.8	+1.7
	comp=Z,1.1nm,0.8s,baz=158,slow=1.4,SNR=4.8						
ARCES	ARCESS Array B	96.03	20	P	P	06 50 43.9	-0.7
	comp=Z,2.3nm,0.6s,baz=273,slow=4.5,SNR=15						
FINES	FINESS Array B	97.92	28	P	P	06 50 52.6	-0.6
	comp=Z,2.6nm,0.7s,baz=270,slow=7.6,SNR=8.2						
GEYT	Alibeck	125.70	43	PKP	PKPdf	06 56 18.9	+0.2
	comp=Z,1.8nm,0.5s,baz=313,slow=3.0,SNR=3.0						
ZALV	Zalesovo Beam	125.79	13	PKP	PKPdf	06 56 18.1	-0.3
	comp=Z,1.7nm,0.6s,baz=250,slow=3.0,SNR=6.8						
ZALV				pPKP	pPKPdf	06 57 04.8	-1.1
	comp=Z,0.4nm,0.3s,baz=336,slow=3.2,SNR=1.4						
STKA	Stephens Creek	130.07	225	PKP	PKPdf	06 56 27.2	0.0
	comp=Z,3.3nm,0.8s,baz=154,slow=1.6,SNR=6.1						
MKAR	Makanchi Array	131.65	18	PKP	PKPdf	06 56 29.7	-0.1
	comp=Z,0.6nm,0.6s,baz=317,slow=2.3,SNR=4.3						
MKAR				SKPbc	SKPab	06 59 39.5	+0.3
	comp=Z,0.9nm,0.8s,baz=337,slow=3.7,SNR=6.1						
MJAR	Matsushiro Arr	131.82	321	SKPbc	SKPbc	06 59 39.8	+0.3
	comp=Z,0.8nm,0.3s,baz=27,slow=3.3,SNR=5.2						
SONM	Songino Array	133.71	356	SKPbc	SKPab	06 59 47.3	-0.9
	comp=Z,0.8nm,0.8s,baz=27,slow=3.6,SNR=4.5						
ASAR	Alice Springs	140.32	229	PKhKP	PKPpre	06 56 38.2	
	comp=Z,1.3nm,0.4s,baz=124,slow=3.8,SNR=23						
ASAR				PKP	PKiKP	06 56 48.4	-0.7
	comp=Z,1.9nm,0.6s,baz=125,slow=2.1,SNR=12						
ASAR				SKP	SKPdf	07 00 05.0	+0.6
	comp=Z,0.6nm,0.7s,baz=126,slow=2.6,SNR=4.2						
WRA	Warramunga Arr	141.97	234	PKhKP	PKPpre	06 56 44.5	
	comp=Z,2.7nm,0.5s,baz=123,slow=2.7,SNR=18						
WRA				PKP	PKiKP	06 56 52.1	-0.5
	comp=Z,1.8nm,0.4s,baz=110,slow=2.3,SNR=8.0						
WRA				SKP	SKPdf	07 00 07.8	+0.6
	comp=Z,3.9nm,1.1s,baz=111,slow=2.5,SNR=6.2						
FITZ	Fitzroy Crossi	149.82	229	PKPbc	PKPbc	06 57 08.2	+0.3
	comp=Z,12nm,0.7s,baz=172,slow=0.4,SNR=18						
FITZ				PKPab	PKPab	06 57 14.8	+1.1
	comp=Z,7.6nm,0.5s,baz=150,slow=4.1,SNR=13						
CMAR	Chiang Mai Arr	162.84	11	PKPab	PKPab	06 58 09.2	-0.2
	comp=Z,5.0nm,0.6s,baz=328,slow=5.1,SNR=20						

IDC 02 06:45:36.7±1.9, 34°.55S×73°.67W, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.7/30, mbtmp3.7/5, ML3.7/2, MS3.7/2, Ms1 3.7/2, ms1mx3.1/24, Error ellipse: s-maj=47.1km s-min=37.8km az=58.0

NEIC 02 06:45:37.1±2.1, 34°.58S±0°.02×73°.69W±0°.10, h16km±5km, mb4.2/2, Error ellipse: s-maj=11.9km s-min=1.4km az=105.0

ISC 02 06:45:41.1±0.9, **34°.55S**±0°.05×**73°.64W**±0°.08, **h35km, n32, σ1s89**/33, **mb4.2**/5, **Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
GO05	Huala	1.48	109		Pn	06 46 03.3	-2.0
GO05					Sn	06 46 21.6	-1.7
MT01	Popeta	2.09	72	Pn	Pn	06 46 11.6	-2.1
MT01				Sn	Sn	06 46 34.9	-3.6
BI03	Tigo	2.34	168	Pn	Pn	06 46 14.4	-2.6
BI03				Sn	Sn	06 46 40.5	-4.1
BO02	Sierra Bellavi	2.37	97		Pn	06 46 16.6	-0.9
BO02				Sn	Sn	06 46 44.9	-0.4
MT02	Curacav	2.45	59		Pn	06 46 16.9	-1.6
MT02				Sn	Sn	06 46 44.6	-2.6
MT05	Renca	2.67	65	Pn	Pn	06 46 20.7	-0.9
MT05				Sn	Sn	06 46 52.3	-0.6
ROC1	El Roble	2.69	55		Pn	06 46 20.8	-1.3
ROC1				Sn	Sn	06 46 52.3	-1.3
PEL	Peldehue	2.83	61		Pn	06 46 22.8	-1.0
BI02	San Fabin de	2.86	138		Pn	06 46 23.0	-1.2
VA03	San Esteban	3.13	56		Pn	06 46 26.6	-1.4
CO02	Combarbal	4.01	34		Pn	06 46 38.8	-1.3
H03S1	Juan Fernandez	4.42	278	T	T	06 51 00.9	
	baz=98,slow=73,SNR=14						
H03S3	Juan Fernandez	4.43	278	T	T	06 51 02.8	
	baz=98,slow=73,SNR=14						
H03S2	Juan Fernandez	4.44	278	T	T	06 51 00.7	
	baz=98,slow=73,SNR=16						
CO03	El Pedregal	4.46	35		Pn	06 46 44.7	-1.6
H03N1	Juan Fernandez	4.52	283	T	T	06 51 16.7	
	baz=108,slow=76,SNR=3.9						
H03N3	Juan Fernandez	4.52	282	T	T	06 51 13.5	
	baz=108,slow=76,SNR=3.3						
H03N2	Juan Fernandez	4.54	283	T	T	06 51 21.3	
	baz=108,slow=76,SNR=3.0						
GO04	Tololo Observa	4.98	30	Pn	Pn	06 46 51.5	-2.1
ZON	Zonda	5.13	56	Pn	Pn	06 46 56.3	+0.8
CFA	Coronel Fontan	5.40	59	Pn	Pn	06 46 59.2	0.0
	3.6nm,0.3s,baz=234,slow=11,SNR=30						
CFA				Sn	Sn	06 48 00.5	+0.3
	2.5nm,0.3s,baz=341,slow=21,SNR=6.7						
CO01	Juntas del Tor	5.46	34		Pn	06 46 59.2	-0.9
AC05	El Transito	6.38	28	Pn	Pn	06 47 11.4	-1.2
PLCA	Paso Flores	6.64	159	Pn	Pn	06 47 16.0	-0.2
	0.3nm,0.3s,baz=328,slow=13,SNR=2.0						
PLCA				LR	LR	06 49 10.6	
	comp=Z,87nm,21.3s,baz=31,slow=32						
AC04	Llanos de Chal	6.69	20	Pn	Pn	06 47 14.2	-2.7
AC02	Maricunga	8.61	28	Pn	Pn	06 47 40.0	-3.7
SNAA	Sanae	51.58	158	P	P	06 54 44.6	+1.2
SNAA				IAmb	IAmb	06 54 45.0	
	comp=Z,2.1nm,0.8s						
QSPA	South Pole Qui	55.69	180	P	P	06 55 14.9	+1.2
QSPA				IAmb	IAmb	06 55 15.9	
	comp=Z,2.9nm,1.1s						
TXAR	Lajitas Array	69.58	332	P	P	06 56 47.7	+1.1
	comp=Z,0.2nm,0.5s,baz=148,slow=7.4,SNR=2.4						
DBIC	Dimbokro	76.61	72	P	P	06 57 29.5	+1.1
	comp=Z,2.1nm,0.7s,baz=225,slow=7.1,SNR=1.6						
TORD	Torodi Ar. Bea	85.64	71	P	P	06 58 17.6	+1.2
	comp=Z,0.3nm,0.5s,baz=242,slow=3.7,SNR=1.5						
SCHQ	Schefferville	89.21	4	LR	LR	07 39 18.2	
	comp=Z,383nm,22.0s,baz=266,slow=36						

MAN 02 06:50:18.6, 9°.93N×123°.95E, h31km, mb3.7, ML2.5, MS2.0, 1C, Negros

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
TBP	Tagbilaran	0.25	199	eP	Pn	06 50 26.8	+0.6
TBP				iS	Sn	06 50 32.6	+1.5
LLP	Lapu-Lapu	0.39	3	⇑iP	Pn	06 50 28.6	+0.6
LLP				iS	Sn	06 50 35.4	+1.0

SNET 02 07:00:32.5±0.5, 13°.29N×90°.40W, h22km±4km, ML2.9

GCG 02 07:00:34.1±0.3, 13°.38N×90°.45W, h51km±66km, MD3.6

ISC 02 07:00:29.7±3.0, **13°.2N**±0°.2×**90°.48W**±0°.08, **h10km, n10, σ0s59**/13, **1C, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
IXG	Ixpaco	0.97	2	⇑iP	Pg	07 00 49.6	+1.2
CEVE	Cerro Verde	1.04	53	eP	Pg	07 00 49.9	+0.1
CEVE				eS	Sb	07 01 04.1	+0.2
CEVE				IAML		07 01 05.3	
	comp=Z,759nm,0.2s						
SBLS	San Blas	1.05	52	eP	Pg	07 00 50.2	+0.3
RTR	El Retiro	1.07	49	eP	Pg	07 00 50.6	+0.3
SNJE	San Jose	1.08	52	eP	Pg	07 00 50.6	+0.1
SNJE				eS	Sg	07 01 04.7	+0.1
UNIC	Universidad Ca	1.20	49	eP	Pb	07 00 52.0	-0.5
UNIC				IAML		07 01 08.3	
	comp=Z,138nm,0.2s						
PCG	Pacaya	1.20	354	eP	Pg	07 00 53.0	+0.2
FUG	Fuego 3	1.29	344	eP	Pn	07 00 54.2	+0.1
FUG				eS	Sb	07 01 09.8	-1.2
LFRS	El Faro	1.44	73	eP	Pn	07 00 56.2	+0.2
MTO3	Montecristo	1.62	42	eP	Pn	07 00 58.7	+0.2

IDC 02 07:02:07.4±1.0, 35°.93N×3°.47W, h0km, mb3.8/10, mb1 4.0/14, mb1mx3.7/56, mbtmp3.8/14, ML3.9/4, MS3.7/4, Ms1 3.7/4, ms1mx3.0/48, Error ellipse: s-maj=26.0km s-min=18.1km az=97.0

LDG 02 07:02:08.7±0.2, 35°.99N×3°.38W, h10km, Ml3.6/11, Error ellipse: s-maj=5.9km s-min=4.9km az=175.0

NEIC 02 07:02:08.8±1.5, 35°.94N±0°.05×3°.44W±0°.07, h10km±1km, Error ellipse: s-maj=10.1km s-min=8.0km az=114.0

IGIL 02 07:02:09.5, 35°.91N×3°.56W, h0km, ML3.9

MDD 02 07:02:09.1±0.2, 35°.94N×3°.56W, h0km, mbLg4.0/62, Error ellipse: s-maj=2.8km s-min=2.1km az=31.0, PRXIMO

MDD EMS: II INTENSIDAD MAXIMA.

SFS 02 07:02:09.0, 35°.92N×3°.54W, ML3.9, ALBORAN SUR

CNRM 02 07:02:09.3±1.1, 35°.93N×3°.57W, h15km±7km, Error ellipse: s-maj=4.9km s-min=3.3km az=72.0

MED_RC 02 07:02:09.0±0.7, 35°.95N×3°.54W, h10km, MW4.5/6, Moment Tensor Solution.Mantle waves: s6,c8; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; Mrr-2.21±.50; Mθθ-1.50±.39; Mφφ3.71±.42; Mrθ-4.00±1.15; Mθφ0.21±.47; Mφr5.56±1.01; Best double couple: M0 7.58000×10^{15} NP1:φs34.00000°, δ21.00000°, λ-25.00000°. NP2: φs148.00000°, δ81.00000°, λ-109.00000°. Principal axes: T 7.4900, Plg34.0000°, Azm254.0000°; N 0.1700, Plg19.0000°, Azm151.0000°; P -7.6600, Plg50.0000°, Azm37.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.

INMG 02 07:02:10.4±1.5, 35°.88N×3°.53W, h21km±5km, MD3.8, ML3.9 Error ellipse: s-maj=3.3km s-min=2.3km az=160.0

ISC 02 07:02:07.2±1.1, **35°.97N**±0°.02×**3°.58W**±0°.02, **h2km**±7km, **n223, σ1s85**/360, **mb4.2**/15, **10C-16D, Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
EALB	Alboran	0.44	94	⇑P	Pb	07 02 17.4	-0.3
	2μm,0.1s,SNR=18						
EALB				S	Sg	07 02 22.7	+1.4
	9μm,0.2s,SNR=15						
PALE	Palemas	0.81	202	P	Pn	07 02 25.0	-0.7
PALE				S	Sb	07 02 35.4	-0.1
EMEL	Melilla	0.84	143	⇓P	Pb	07 02 24.1	-0.4
	302nm,0.1s,SNR=18						
EMEL				S	Sg	07 02 33.9	-0.2
	8μm,0.2s,SNR=16						
MELI	Melilla	0.85	142	⇓P	Pg	07 02 24.2	+0.7
	168nm,0.1s,SNR=18						
MELI				S	Sg	07 02 34.1	-0.5
	1μm,0.1s,SNR=7.9						
MELI	Melilla	0.85	142	eP	Pg	07 02 24.0	+0.4
MELI				eS	Sg	07 02 34.0	-0.6
GOG	Mont Gurugu	0.88	148	P	Pg	07 02 24.7	+0.5
GOG				S	Sb	07 02 37.8	+0.1
ELGU	Los Guajares,	0.90	357	⇓P	Pb	07 02 26.0	+0.4
	26nm,0.0s,SNR=18						
ELGU				S	Sb	07 02 37.5	-0.5
	5μm,0.2s,SNR=7.9						
PVLZ	Peæn de	0.99	217	P	Pb	07 02 27.3	+0.1
PVLZ				S	Sg	07 02 39.8	+0.7
PVLZ	Peæn de	0.99	217	⇓iP	Pb	07 02 27.3	+0.1
PVLZ				eS	Sg	07 02 39.8	+0.7
EMAL	Malaga-Limoner	1.05	319	eP	Pn	07 02 29.0	+0.1
EMAL				eS	Sb	07 02 42.3	0.0
EBER	Berja	1.08	31	⇑P	Pg	07 02 28.5	+0.7
	298nm,0.3s,SNR=18						
EBER				S	Sg	07 02 42.5	+0.7
	8μm,0.4s,SNR=23						
EMIJ	Mijas	1.14	302	⇑P	Pg	07 02 29.5	+0.6
	21nm,0.2s,SNR=18						
EMIJ				S	Sn	07 02 45.9	-0.5
	3μm,0.4s						
EGOR	Sierra Gorda,	1.22	339	⇓P	Pb	07 02 31.2	+0.1
	6.3nm,0.2s,SNR=18						
EGOR				S	Sn	07 02 50.2	+1.7
	4μm,0.7s,SNR=7.9						
EQUE	Quentar	1.23	5	⇓P	Pn	07 02 31.9	+0.3
	51nm,0.3s,SNR=18						
EQUE				S	Sn	07 02 48.9	-0.1
	971nm,0.3s						
REAL	Reales	1.42	292	P	Pn	07 02 33.0	-1.2
REAL				S	Sg	07 02 50.0	-2.7
REAL	Reales	1.42	292	iP	Pn	07 02 33.0	-1.2
REAL				eS	Sg	07 02 50.0	-2.7
CEU	Ceuta	1.46	268	P	Pn	07 02 33.5	-1.1
CEU				S	Sg	07 02 54.9	+0.7
CEU	Ceuta	1.46	268	eP	Pn	07 02 33.5	-1.1
CEU				eS	Sg	07 02 54.9	+0.7
CEU				eCod		07 03 55.0	
ECEU	Ceuta	1.46	268	P	Pn	07 02 34.1	-0.6
	8.1nm,0.3s,SNR=23						
ECEU				S	Sg	07 02 54.7	+0.4
	111nm,0.1s,SNR=8.3						
AKLM	AKL	1.48	189	P	Pb	07 02 35.6	+0.1
	SNR=189						
AKLM				S	Sb	07 02 52.2	-2.5
ENIJ	Nijar	1.49	47	⇑P	Pn	07 02 33.2	-1.9
	123nm,0.5s,SNR=18						
ENIJ				S	Sn	07 02 54.2	-0.9
	2μm,0.6s,SNR=7.9						
TAF	Taforalt	1.49	140	P	Pn	07 02 33.3	-1.9
TAF				S	Sg	07 02 56.6	+1.3
SMIR	Smir Dam	1.50	259	P	Pn	07 02 34.4	-0.7
SMIR				S	Sg	07 02 56.8	+1.5
GORA	Gorafe	1.56	16	⇓P	Pg	07 02 37.7	+0.5
	57nm,0.2s,SNR=18						
GORA				S	Sg	07 02 58.4	+0.9
	4μm,0.4s,SNR=7.9						
CHEFC	Chefchaouen	1.68	240	P	Pb	07 02 39.1	+0.2
	SNR=51						
CHEFC				S	Sn	07 03 00.1	+0.2
EQES	Quesada	1.87	12	⇓P	Pb	07 02 42.7	+0.5
	124nm,0.3s,SNR=18						
EQES				S	Sb	07 03 06.5	+0.3
	4μm,0.5s,SNR=18						
CNIL	Conil	2.04	282	P	Pb	07 02 45.2	+0.2
CNIL	Conil	2.04	282	iP	Pb	07 02 45.2	+0.2
ESPR	Espera	2.05	297	⇓P	Pb	07 02 45.7	+0.6
	18nm,0.2s,SNR=18						
ESPR				S	Sn	07 03 08.5	-0.3
	556nm,0.5s,SNR=13						
GIBL	Gibalbin	2.11	295	P	Pg	07 02 49.0	+1.3
GIBL	Gibalbin	2.11	295	eP	Pg	07 02 49.0	+1.3
RSA	Sarsar	2.13	240	P	Pb	07 02 46.3	-0.3
RSA				S	Sg	07 03 15.4	-0.3
SFS	San Fernando	2.18	284	P	Pg	07 02 48.7	-0.4
SFS				S	Sn	07 03 12.6	+0.4
SFS	San Fernando	2.18	284	eP	Pg	07 02 48.7	-0.4
SFS				eS	Sn	07 03 12.6	+0.4
SFS	San Fernando	2.18	284	Pn	Pb	07 02 46.6	-0.9
TLOR	Lorca, Murcia	2.26	41	P	Pn	07 02 45.6	-0.1
	SNR=7.9						
TLOR				S	Sn	07 03 13.5	-0.7
	3μm,0.5s,SNR=7.9						
SESP	Santiago Espad	2.30	21	⇓P	Pb	07 02 48.1	-1.4
	2.2nm,0.1s,SNR=18						
SESP				S	Sn	07 03 15.6	+0.4
	1μm,0.3s,SNR=7.9						
SESP	Santiago Espad	2.30	21	P	Pb	07 02 48.3	-1.2
	SNR=236						
SESP				S	Sb	07 03 17.1	-1.3
HORN	Hornachuelos	2.31	325	P	Pb	07 02 48.6	-1.0
	SNR=87						
HORN				S	Sb	07 03 17.8	-0.8
EADA	Adamuz	2.33	340	P	Pb	07 02 48.6	-1.4
	14nm,0.1s,SNR=55						
EADA				S	Sn	07 03 16.8	+0.8
	1μm,0.5s,SNR=7.2						
ECAB	El Cabril	2.57	325	P	Pn	07 02 51.5	+1.6
	1.1nm,0.1s,SNR=29						
ECAB				S	Sb	07 03 26.2	+0.2
	1μm,0.7s,SNR=20						
CART	Cartagena	2.62	51	P	Pn	07 02 49.6	-1.0
CART				S	Sn	07 03 20.7	-2.3
CART	Cartagena	2.62	51	eP	Pn	07 02 49.6	-1.0
CART				eS	Sn	07 03 20.7	-2.3
CART	Cartagena	2.62	51	Pn	Pn	07 02 49.7	-0.8
EMUR	La Murta	2.64	44	P	Pn	07 02 50.2	-0.7
	37nm,0.4s,SNR=34						
EMUR				S	Sn	07 03 22.1	-1.5
	326nm,0.5s						
IFR	Ifrane	2.76	208	⇓iP	Pn	07 02 53.9	+1.2
IFR				iS	Sn	07 03 25.3	-1.5
ETRV	Los Montesinos	3.04	47	S	Sn	07 03 33.0	-0.4
	988nm,0.8s,SNR=4.0						
EMIN	Mina Concepcio	3.06	307	⇑P	Pn	07 02 57.8	+1.1
	10.0nm,0.2s,SNR=18						
EMIN				S	Sn	07 03 33.9	-0.1

412nm,0.8s,SNR=5.9
ETOB Tobarra 3.12 31 P **Pn** 07 02 58.8 +1.3
77nm,0.3s,SNR=203
ETOB S **Sn** 07 03 34.8 -0.7
847nm,1.0s,SNR=4.8
CZD Col de Zad 3.17 203 P **Pn** 07 02 58.2 -0.2
SNR=39
CZD P Pb 07 02 59.6 -4.9
CZD S **Sn** 07 03 36.4 -0.6
CZD S **Sb** 07 03 37.0 -6.8
TDRA Tendrara 3.19 156 P **Pn** 07 02 58.5 -0.2
SNR=9.2
TDRA S **Sn** 07 03 38.7 +1.3
MD31 MD31 3.25 198 P **Pn** 07 03 00.8 +1.5
MDT Midelt 3.26 195 Pn **Pn** 07 02 59.8 +0.2
7.8nm,0.3s,baz=30,slow=11,SNR=119
MDT Sn **Sn** 07 03 38.7 -0.3
9.7nm,0.3s,baz=106,slow=17,SNR=5.3
MDT Midelt 3.26 195 P **Pn** 07 02 59.7 +0.2
MDT S **Sn** 07 03 39.6 +0.6
RTC Rabat Centre 3.34 235 P **Pn** 07 03 00.8 +0.2
EGRO El Granado 3.50 298 ⇓P **Pn** 07 03 04.1 +1.3
50nm,0.4s,SNR=18
EGRO S **Sn** 07 03 44.0 -0.9
158nm,0.4s,SNR=7.8
PBAR Barrancos 3.54 309 P **Pn** 07 03 05.6 +2.4
PBAR S **Sn** 07 03 45.3 -0.3
153nm,0.7s
PBAR Barrancos 3.54 309 *e*Pn **Pn** 07 03 05.6 +2.4
PBAR *e*Sn **Sn** 07 03 45.3 -0.3
PBAR A A 07 04 18.8
153nm,0.7s
AFON Font Roja 3.62 41 ⇓P **Pn** 07 03 06.3 +1.9
35nm,0.4s,SNR=18
AFON S **Sn** 07 03 46.8 -0.9
350nm,1.0s,SNR=5.7
PAB San Pablo 3.62 350 P **Pn** 07 03 06.0 +1.5
8.7nm,0.3s,SNR=7.9
PAB S **Sn** 07 03 48.6 +0.8
519nm,0.8s,SNR=7.9
PAB San Pablo 3.62 350 Pn **Pn** 07 03 05.9 +1.5
PVAQ Vaqueiros 3.62 294 P **Pn** 07 03 05.9 +1.5
PVAQ S **Sn** 07 03 47.2 -0.5
134nm,0.5s
PVAQ Vaqueiros 3.62 294 P **Pn** 07 03 05.2 +0.8
SNR=80
PVAQ S **Sn** 07 03 48.2 +0.4
PVAQ Vaqueiros 3.62 294 ⇓*e*Pn **Pn** 07 03 05.9 +1.5
PVAQ *e*Sn **Sn** 07 03 47.2 -0.5
PVAQ A A 07 03 51.7
134nm,0.5s
PVAQ Vaqueiros 3.62 294 Pn **Pn** 07 03 05.7 +1.3
ESDC Sonseca Array 3.71 355 Pn **Pn** 07 03 07.6 +2.0
10nm,0.3s,baz=174,slow=12,SNR=212
ESDC Sn **Sn** 07 03 48.2 -1.8
8.8nm,0.3s,baz=170,slow=24,SNR=3.1
ESDC Lg Lg 07 04 03.9
19nm,0.3s,baz=180,slow=30,SNR=6.9
ESDC LR LR 07 04 39.8
comp=Z,383nm,19.4s,baz=175,slow=40
ESDC Sonseca Array 3.71 355 ⇓P **Pn** 07 03 07.1 +1.5
59nm,0.2s,baz=176,slow=12,SNR=18
ESDC S **Sn** 07 03 49.0 -1.0
41nm,0.6s,baz=188,slow=17,SNR=5.7
PBDV Barranco-do-Ve 3.73 291 P **Pn** 07 03 07.2 +1.4
PBDV S **Sn** 07 03 48.9 -1.5
115nm,0.6s
PBDV Barranco-do-Ve 3.73 291 ⇑*e*Pn **Pn** 07 03 07.2 +1.4
PBDV *e*Sn **Sn** 07 03 48.9 -1.5
PBDV A A 07 03 57.2
115nm,0.6s
EBEN2 Beniarda presa 3.82 44 P **Pn** 07 03 07.9 +0.9
22nm,0.5s,SNR=4.0
EBEN2 S **Sn** 07 03 52.2 -0.4
534nm,1.0s,SNR=7.9
EBAD Badajoz 3.90 316 P **Pn** 07 03 09.6 +1.4
12nm,0.2s,SNR=68
EBAD S **Sn** 07 03 53.6 -1.0
309nm,0.7s,SNR=8.7
PCVE Castro Verde 3.95 296 P **Pn** 07 03 10.2 +1.4
PCVE S **Sn** 07 03 54.9 -0.8
89nm,0.5s
PCVE Castro Verde 3.95 296 *e*Pn **Pn** 07 03 10.2 +1.4
PCVE *e*Sn **Sn** 07 03 54.9 -0.8
PCVE A A 07 04 25.5
89nm,0.5s
PBEJ Beja 4.00 302 P **Pn** 07 03 10.9 +1.3
PBEJ S **Sn** 07 03 56.4 -0.7
41nm,0.6s
PBEJ Beja 4.00 302 *e*Pn **Pn** 07 03 10.9 +1.3
PBEJ *e*Sn **Sn** 07 03 56.4 -0.7
PBEJ A A 07 04 33.7
82nm,0.6s
AVE Averroes 4.14 231 P **Pn** 07 03 11.8 +0.3
AVE S **Sn** 07 04 00.6 +0.1
AVE Averroes 4.14 231 *e*P **Pb** 07 03 17.0 -3.8
AVE *e*S **Sn** 07 03 58.2 -2.2
MESJ Messejana 4.16 298 *e*P **Pn** 07 03 12.9 +1.1
MESJ *e*S **Sn** 07 03 59.2 -1.8
MESJ AML AML 07 04 02.9
comp=N,98nm,0.7s
MESJ Messejana 4.16 298 P **Pn** 07 03 12.9 +1.1
MESJ S **Sn** 07 03 59.2 -1.8
comp=N,98nm,0.7s
MESJ Messejana 4.16 298 *e*Pn **Pn** 07 03 13.2 +1.4
MESJ *e*Sn **Sn** 07 03 59.7 -1.4
MESJ A A 07 04 38.8
comp=N,95nm,0.6s
MORF Marmelete 4.29 290 *e*P **Pn** 07 03 14.4 +0.7
MORF *e*S **Sn** 07 04 02.4 -1.9
MORF AML AML 07 04 07.9
comp=N,253nm,0.4s
MORF Marmelete 4.29 290 P **Pn** 07 03 14.4 +0.7
MORF S **Sn** 07 04 02.4 -1.9
comp=N,253nm,0.4s
MORF Marmelete 4.29 290 *e*Pn **Pn** 07 03 14.4 +0.7
MORF *e*Sn **Sn** 07 04 02.8 -1.6
MORF A A 07 04 10.1
comp=N,92nm,0.6s
PESTR Estremoz 4.31 313 P **Pn** 07 03 15.6 +1.8
PESTR S **Sn** 07 04 02.9 -1.8
PESTR Estremoz 4.31 313 *e*Pn **Pn** 07 03 15.7 +1.8
PESTR *e*Sn **Sn** 07 04 03.7 -1.0
PESTR Estremoz 4.31 313 Pn **Pn** 07 03 15.8 +2.0
UCM Universidad Co 4.34 3 *e*P **Pn** 07 03 16.6 +2.4
UCM *e*S **Sn** 07 04 03.9 -1.5
EVO Evora 4.37 307 P **Pn** 07 03 13.4 -1.2
EVO S **Sn** 07 04 05.0 -1.1
EVO Evora 4.37 307 *e*P **Pn** 07 03 13.4 -1.2
EVO *e*S **Sn** 07 04 05.0 -1.1
EVO Evora 4.37 307 *e*Sn **Sn** 07 04 05.7 -0.4
EVO A A 07 04 07.6
comp=N,167nm,0.5s
PFVI Vila Bisbo 4.38 287 P **Pn** 07 03 16.1 +1.2
comp=N,23nm,0.2s,SNR=26
PFVI S **Sn** 07 04 05.5 -1.0
comp=N,195nm,0.4s,SNR=6.0
PFVI Vila Bisbo 4.38 287 P **Pn** 07 03 15.8 +1.0
SNR=34
PFVI S **Sn** 07 04 07.4 +0.9
PFVI Vila Bisbo 4.38 287 *e*Pn **Pn** 07 03 16.0 +1.2
PFVI *e*Sn **Sn** 07 04 04.9 -1.6
PFVI A A 07 04 22.6
comp=N,134nm,0.7s
PFVI Vila Bisbo 4.38 287 Pn **Pn** 07 03 16.0 +1.2
GOLM Goulmima 4.41 195 P **Pn** 07 03 16.4 +1.0
GOLM S **Sn** 07 04 11.5 +4.1
PTEO Sao Teotonio 4.42 292 P **Pn** 07 03 16.8 +1.4
PTEO S **Sn** 07 04 06.2 -1.3
comp=N,49nm,0.7s
PTEO Sao Teotonio 4.42 292 ⇑*e*Pn **Pn** 07 03 16.8 +1.4
PTEO *e*Sn **Sn** 07 04 06.2 -1.3
PTEO A A 07 04 17.7
comp=N,97nm,0.7s
PNCL Nicolau / Gran 4.50 300 P **Pn** 07 03 17.8 +1.4
PNCL S **Sn** 07 04 09.3 -0.1
comp=N,65nm,0.5s
PNCL Nicolau / Gran 4.50 300 *e*Pn **Pn** 07 03 17.8 +1.4
PNCL *e*Sn **Sn** 07 04 09.3 -0.1
PNCL A A 07 04 43.6
comp=N,65nm,0.5s
EPLA Plasencia 4.54 335 P **Pn** 07 03 19.1 +2.1
comp=N,16nm,0.3s,SNR=25
EPLA S **Sn** 07 04 09.8 -0.5
comp=N,652nm,1.2s

ARF Arif 4.56 187 P **Pn** 07 03 16.3 -1.0
PMRV Marv??o 4.59 320 P **Pn** 07 03 19.3 +1.6
PMRV S **Sn** 07 04 10.9 -0.7
comp=N,168nm,0.5s
PMRV Marv??o 4.59 320 *e*Pn **Pn** 07 03 19.3 +1.6
PMRV *e*Sn **Sn** 07 04 10.9 -0.7
PMRV A A 07 04 35.5
comp=N,168nm,0.5s
GUD Guadarrama 4.69 355 ⇓P **Pn** 07 03 20.7 +1.6
comp=N,17nm,0.3s,SNR=18
GUD S **Sn** 07 04 13.0 -1.1
comp=N,154nm,0.7s,SNR=5.6
PMTG Montargil 4.82 311 P **Pn** 07 03 22.4 +1.6
PMTG S **Sn** 07 04 16.2 -1.0
comp=N,101nm,0.8s
PMTG Montargil 4.82 311 *e*Pn **Pn** 07 03 22.4 +1.6
PMTG *e*Sn **Sn** 07 04 16.2 -1.0
PMTG A A 07 04 50.3
comp=N,101nm,0.8s
PCBR Castelo Branco 4.94 323 P **Pn** 07 03 24.3 +1.8
PCBR S **Sn** 07 04 19.1 -1.2
comp=N,67nm,0.6s
PCBR Castelo Branco 4.94 323 *e*Pn **Pn** 07 03 24.3 +1.8
PCBR *e*Sn **Sn** 07 04 19.1 -1.2
PCBR A A 07 04 56.7
comp=N,135nm,0.6s
EIBI Ibiza 4.96 51 P **Pn** 07 03 22.4 -0.3
comp=N,16nm,0.3s,SNR=12
EIBI S **Sn** 07 04 17.7 -3.0
comp=N,57nm,0.6s
ETOR Torete 4.99 13 P **Pn** 07 03 25.0 +1.8
comp=N,36nm,0.3s,SNR=25
ETOR S **Sn** 07 04 19.9 -1.6
comp=N,340nm,0.7s,SNR=7.9
SRHM Skhour des Reh 5.00 227 P **Pn** 07 03 26.9 +3.5
EMOS Mosqueruela 5.02 28 P **Pn** 07 03 25.2 +1.4
comp=N,11nm,0.5s,SNR=13
EMOS S **Sn** 07 04 21.2 -1.3
comp=N,439nm,1.7s,SNR=50
LIS Lisbon 5.22 303 *e*S **Sn** 07 04 23.9 -3.1
LIS AML AML 07 04 27.1
comp=N,366nm,0.5s
LIS Lisbon 5.22 303 P **Pn** 07 03 29.4 +3.1
LIS S **Sn** 07 04 23.9 -3.1
comp=N,366nm,0.5s
LIS Lisbon 5.22 303 *e*Pn **Pn** 07 03 29.4 +3.1
LIS *e*Sn **Sn** 07 04 25.9 -1.1
MTE Manteigas 5.41 326 P **Pn** 07 03 30.9 +1.8
MTE S **Sn** 07 04 30.1 -1.9
MTE Manteigas 5.41 326 *e*Pn **Pn** 07 03 30.9 +1.8
MTE *e*Sn **Sn** 07 04 30.1 -1.9
MTE *e*Sg **Sg** 07 04 59.9 -1.2
MTE A A 07 05 03.0
comp=N,188nm,0.6s
MTE Manteigas 5.41 326 Pn **Pn** 07 03 30.8 +1.8
PMAFR Mafra 5.43 305 P **Pn** 07 03 31.2 +2.0
comp=N,24nm,0.3s,SNR=10
PMAFR S **Sn** 07 04 30.1 -2.2
comp=N,344nm,0.4s,SNR=7.7
PMAFR Mafra 5.43 305 *e*Pn **Pn** 07 03 31.7 +2.5
PMAFR *e*Sn **Sn** 07 04 30.1 -2.2
PMAFR A A 07 04 39.3
comp=N,107nm,0.5s
TZRR Tazzarine 5.43 198 P **Pn** 07 03 28.9 -0.5
TZRR S **Sn** 07 04 31.3 -1.3
PCAS Casmilo, Conde 5.63 318 P **Pn** 07 03 30.4 -1.6
PCAS S **Sn** 07 04 31.9 -5.4
comp=N,135nm,0.7s
PCAS Casmilo, Conde 5.63 318 *e*Pn **Pn** 07 03 30.4 -1.6
PCAS *e*Sn **Sn** 07 04 31.9 -5.4
PCAS A A 07 05 09.9
comp=N,135nm,0.7s
COI Coimbra 5.70 319 P **Pn** 07 03 34.5 +1.7
COI S **Sn** 07 04 36.9 -1.9
comp=N,81nm,0.6s
COI Coimbra 5.70 319 *e*Pn **Pn** 07 03 34.5 +1.7
COI *e*Sn **Sn** 07 04 36.9 -1.9
COI A A 07 05 14.9
comp=N,161nm,0.6s
COI Coimbra 5.70 319 Pn **Pn** 07 03 34.4 +1.5
OUZM OUZ 5.71 209 P **Pn** 07 03 34.3 +1.2
OUZM S **Sn** 07 04 41.9 +2.6
PVIS Viseu 5.83 326 P **Pn** 07 03 36.4 +1.7
PVIS S **Sn** 07 04 39.5 -2.7
PVIS Viseu 5.83 326 *e*Pn **Pn** 07 03 36.4 +1.7
PVIS *e*Sn **Sn** 07 04 39.5 -2.7
PVIS *e*Sg **Sg** 07 05 13.3 -1.0
PVIS A A 07 05 18.2
comp=N,97nm,0.7s
ERTA Horta de San J 5.84 30 P **Pn** 07 03 36.8 +1.8
comp=N,8.8nm,0.3s,SNR=9.6
ERTA S **Sn** 07 04 39.5 -3.1
comp=N,171nm,1.7s,SNR=7.9
MVO Moncorvo 5.85 333 ⇑P **Pn** 07 03 37.0 +2.0
comp=N,30nm,0.2s,SNR=18
MVO S **Sn** 07 04 39.8 -2.9
comp=N,412nm,0.8s,SNR=7.9
MVO Moncorvo 5.85 333 ⇑*e*Pn **Pn** 07 03 37.0 +2.0
MVO *e*Sn **Sn** 07 04 39.6 -3.1
MVO *e*Sg **Sg** 07 05 15.0 0.0
MVO A A 07 05 23.4
comp=N,143nm,0.6s
OUK Oukaimeden 5.95 218 P **Pn** 07 03 36.2 -0.5
OUK S **Sn** 07 04 43.6 -2.0
ZGR Zagora 6.08 197 P **Pn** 07 03 38.0 -0.3
ZGR S **Sn** 07 04 46.8 -1.8
PVRL Vila Real 6.21 330 P **Pn** 07 03 42.0 +2.1
PVRL S **Sn** 07 04 47.5 -4.0
PVRL Vila Real 6.21 330 *e*Pn **Pn** 07 03 42.0 +2.1
PVRL *e*Sn **Sn** 07 04 47.5 -4.0
PVRL *e*Sg **Sg** 07 05 26.8 +0.2
PVRL A A 07 05 32.0
comp=N,78nm,0.6s
ESAC San Caprasio 6.23 22 P **Pn** 07 03 43.7 +3.4
comp=N,13nm,0.4s,SNR=7.9
ETOS Mallorca 6.32 51 P **Pn** 07 03 41.6 +0.2
comp=N,6.5nm,0.4s,SNR=4.8
PBRG Braganca 6.33 338 P **Pn** 07 03 43.4 +1.8
PBRG S **Sn** 07 04 53.1 -1.3
PBRG Braganca 6.33 338 ⇑*e*Pn **Pn** 07 03 43.4 +1.8
PBRG *e*Sn **Sn** 07 04 53.1 -1.3
PBRG *e*Sg **Sg** 07 05 26.9 -3.4
PBRG A A 07 05 46.7
comp=N,59nm,0.6s
ECAL Calabor 6.45 339 P **Pn** 07 03 45.0 +1.7
comp=N,21nm,0.4s,SNR=16
ECAL S **Sn** 07 04 53.4 -4.1
comp=N,194nm,0.6s,SNR=7.9
EPOB Poblet 6.49 33 P **Pn** 07 03 45.1 +1.3
comp=N,4.0nm,0.4s,SNR=6.6
PCAB Cabril 6.70 330 P **Pn** 07 03 48.9 +2.2
PCAB S **Sn** 07 04 59.5 -4.1
PCAB Cabril 6.70 330 *e*Pn **Pn** 07 03 48.9 +2.2
PCAB *e*Sn **Sn** 07 04 59.5 -4.1
PCAB *e*Sg **Sg** 07 05 39.6 -2.7
PCAB A A 07 05 49.6
comp=N,117nm,0.6s
TTIG Tnine Tigouga, 6.77 218 P **Pn** 07 03 47.9 +0.1
TTIG S **Sn** 07 05 04.7 -0.9
ELOB Lobios 6.85 331 P **Pn** 07 03 50.9 +2.1
comp=N,16nm,0.4s,SNR=23
ELOB S **Sn** 07 05 04.0 -3.3
comp=N,183nm,0.6s,SNR=7.9
PGAV Gavieira, Arco 7.01 330 P **Pn** 07 03 53.2 +2.2
PGAV S **Sn** 07 05 07.2 -4.2
PGAV Gavieira, Arco 7.01 330 *e*Pn **Pn** 07 03 53.2 +2.2
PGAV *e*Sn **Sn** 07 05 07.2 -4.2
PGAV *e*Sg **Sg** 07 05 50.7 -1.7
PGAV A A 07 06 05.5
comp=N,91nm,0.7s
EORO Oroz-Betelu 7.13 14 P **Pn** 07 03 54.6 +2.0
comp=N,9.4nm,0.6s,SNR=16
EORO S **Sn** 07 05 10.6 -3.7
comp=N,380nm,2.2s,SNR=6.3
ELAN Lanestosa 7.25 1 P **Pn** 07 03 56.8 +2.6
comp=N,1.5nm,0.3s,SNR=8.3
ETSF Etsaut 7.30 18 *e*P **Pn** 07 03 56.9 +1.9
ETSF *e*Sg **Sg** 07 05 56.9 -4.7
ETSF Etsaut 7.30 18 P **Pn** 07 03 56.9 +1.9
EZAM Zamans 7.34 329 P **Pn** 07 03 57.1 +1.6
comp=N,0.9nm,0.1s,SNR=7.9
EZAM S **Sn** 07 05 13.4 -6.0
comp=N,640nm,0.4s,SNR=7.9
SJPF Ste Jean 7.36 14 *e*P **Pn** 07 03 57.8 +2.1

SJPF *e*Sg **Sg** 07 05 59.7 -3.8
comp=N,110nm,1.1s
SJPF Ste Jean 7.36 14 P **Pn** 07 03 57.8 +2.1
CSOR Sort 7.37 28 P **Pn** 07 03 57.3 +1.5
comp=N,30nm,0.7s,SNR=26
CSOR S **Sn** 07 05 16.0 -4.1
comp=N,142nm,1.6s,SNR=7.9
EALK Alkurruntz 7.41 12 P **Pn** 07 03 58.3 +1.8
comp=N,29nm,0.4s,SNR=7.8
EALK S **Sn** 07 05 18.2 -3.0
comp=N,320nm,1.3s,SNR=7.9
EARI Arriondas 7.43 351 P **Pn** 07 03 58.0 +1.3
comp=N,3.2nm,0.4s,SNR=20
CFON Fontmartina 7.44 37 P **Pn** 07 03 57.5 +0.6
comp=N,2.2nm,0.2s,SNR=7.9
ATE Arette 7.44 16 P **Pn** 07 03 59.1 +2.3
comp=N,4.1nm,0.2s,SNR=7.9
ATE S **Sn** 07 05 19.3 -2.6
comp=N,119nm,1.6s,SNR=7.9
EAGO Agolada(Pontev 7.66 334 P **Pn** 07 04 01.5 +1.6
comp=N,0.1nm,0.2s,SNR=7.9
EAGO S **Sn** 07 05 23.8 -3.5
comp=N,352nm,1.9s,SNR=7.9
EPF Esparros 7.67 22 *e*P **Pn** 07 04 01.6 +1.6
EPF *e*Sg **Sg** 07 06 09.2 -4.3
comp=N,12nm,0.5s
EPF Esparros 7.67 22 P **Pn** 07 04 01.6 +1.6
CLLI Llivia 7.79 32 P **Pn** 07 04 03.4 +1.6
comp=N,1.5nm,0.2s,SNR=8.0
EPON Pontenova 7.84 341 P **Pn** 07 04 04.2 +1.8
comp=N,1.1nm,0.2s,SNR=5.0
EPON S **Sn** 07 05 28.1 -3.7
comp=N,166nm,1.7s,SNR=7.9
EMAZ Mazaricos 8.12 331 P **Pn** 07 04 08.9 +2.7
comp=N,0.4nm,0.1s,SNR=7.9
EMAZ S **Sn** 07 05 35.1 -3.5
comp=N,120nm,1.2s,SNR=7.9
MTLF Montolieu 8.61 29 *e*P **Pn** 07 04 15.0 +2.2
MTLF *e*Sg **Sg** 07 06 38.2 -5.2
comp=N,5.8nm,0.6s
MTLF Montolieu 8.61 29 P **Pn** 07 04 15.0 +2.2
LFF La Frestale 9.54 19 *e*P **Pn** 07 04 26.9 +1.3
LFF *e*Sn Sn 07 06 02.0 -11
comp=N,8.1nm,0.6s
LFF La Frestale 9.54 19 P **Pn** 07 04 26.9 +1.3
LFF S Sn 07 06 02.0 -11
comp=N,4.1nm,0.6s
CAF Calviac 9.92 24 *e*P **Pn** 07 04 32.3 +1.5
CAF Calviac 9.92 24 P **Pn** 07 04 32.3 +1.5
KEST Kesra 10.49 88 Pn **Pn** 07 04 38.1 -0.6
comp=N,0.9nm,0.3s,baz=239,slow=5.9,SNR=7.6
KEST LR LR 07 09 04.5
comp=N,54nm,19.9s,baz=310,slow=40
KEST Kesra 10.49 88 Pn **Pn** 07 04 37.9 -0.9
VSL Villasalto 10.84 67 Pn **Pn** 07 04 44.2 +0.7
PGF Pioggiola 11.75 52 *e*P **Pn** 07 04 57.4 +1.5
PGF *e*Sn Sn 07 06 54.8 -13
comp=N,3.5nm,0.7s
PGF Pioggiola 11.75 52 P **Pn** 07 04 57.4 +1.5
PGF S Sn 07 06 54.8 -13
comp=N,1.8nm,0.7s
QUIF Quistinic 11.94 1 *e*P **Pn** 07 05 00.5 +2.1
QUIF *e*Sn Sn 07 07 01.3 -11
comp=N,1.3nm,0.3s
QUIF Quistinic 11.94 1 P **Pn** 07 05 00.5 +2.1
QUIF S Sn 07 07 01.3 -11
comp=N,0.6nm,0.3s
SMF Signal de Mont 12.03 25 *e*Pn **Pn** 07 04 56.2 -3.4
SMF Signal de Mont 12.03 25 P **Pn** 07 04 56.2 -3.4
ROSF Rostrenen 12.36 1 *e*P **Pn** 07 05 05.7 +1.6
ROSF *e*Sn Sn 07 07 10.1 -12
comp=N,1.7nm,0.3s
ROSF Rostrenen 12.36 1 P **Pn** 07 05 05.7 +1.6
ROSF S Sn 07 07 10.1 -12
comp=N,0.9nm,0.3s
FETA Feichten 15.36 40 *i* P **P** 07 05 50.6 +0.6
comp=N,8.8nm,0.7s
BMRD Maredsous 15.55 20 PnPn **P** 07 05 52.7 +0.8
RETA Reutte 15.68 38 *i* P **P** 07 05 54.2 +0.6
comp=N,3.6nm,0.5s
SQTA Sankt Quirin 15.74 40 *i* P **P** 07 05 55.1 +0.9
comp=N,6.0nm,0.6s
MOTA Moosalm 15.76 39 *i* Pn **Pn** 07 05 51.9 +1.4
comp=N,1.0nm,0.4s
CIMO Cimolais 15.85 44 Pn **P** 07 05 54.0 -1.4
WTTA Wattenberg 15.99 40 *i* Pn **P** 07 05 56.6 -0.4
comp=N,8.9nm,0.9s
WATA Walderalm 16.00 40 *i* Pn **P** 07 05 55.7 -1.4
comp=N,6.4nm,0.8s
ZOU Zoufplan 16.30 44 **Pn** 07 05 58.0 +0.7
ZOU IAmb IAmb 07 06 03.1
comp=Z,9.1nm,1.2s
GERES GERESS Array B 18.06 39 P **Pn** 07 06 19.3 -0.1
comp=Z,0.1nm,0.3s,baz=215,slow=11,SNR=5.1
KHC Kasperske Hory 18.18 38 *e*P **P** 07 06 22.6 +1.5
KHC AMS AMS 07 14 10.0
comp=Z,100nm,13.3s
CONA Conrad Observa 18.69 44 *i* Pn **Pn** 07 06 28.2 +1.1
PRA Prague 19.21 37 AMS AMS 07 15 00.0
comp=Z,100nm,13.9s
PRU Pruhonice 19.21 38 AMS AMS 07 14 40.0
comp=Z,100nm,9.9s
TREC Trest 19.27 40 AMS AMS 07 14 40.0
comp=Z,100nm,13.7s
GOPC GO Pecny, Ondr 19.29 38 AMS AMS 07 13 00.0
comp=Z,100nm,21.1s
EKA Eskdalemuir Ar 19.37 1 P **Pn** 07 06 40.4 +5.4
baz=173,slow=8.2,SNR=5.2
MODS Modra-Piesok 19.73 45 *e*P **Pn** 07 06 39.0 -0.6
DPC Dobruska-Polom 20.33 39 AMS AMS 07 15 10.0
comp=Z,100nm,14.8s
OKC Ostrava-Krasne 21.00 42 AMS AMS 07 15 50.0
comp=Z,100nm,13.9s
TOA0 Torodi Ar. Sit 23.22 167 P **P** 07 07 16.4 +0.8
TOA0 IAmb IAmb 07 07 22.7
comp=Z,15nm,0.9s
TORD Torodi Ar. Bea 23.22 167 P **P** 07 07 15.5 -0.2
comp=Z,8.0nm,0.8s,baz=344,slow=8.9,SNR=35
MLR Muntele Rosu 24.19 58 P **P** 07 07 26.2 +1.0
comp=Z,3.7nm,0.9s,baz=252,slow=3.2,SNR=4.7
MLR Muntele Rosu 24.19 58 P **P** 07 07 26.2 +1.0
MLR IAmb IAmb 07 07 35.1
comp=Z,14nm,1.2s
HFS Hagfors 26.62 19 P **P** 07 07 47.1 +0.2
comp=Z,0.9nm,0.7s,baz=152,slow=6.5,SNR=2.0
NOA NORSAR Array B 26.80 16 P **P** 07 07 49.6 +1.1
comp=Z,0.4nm,0.7s,baz=209,slow=9.6,SNR=1.9
FINES FINESS Array B 31.61 27 P **P** 07 08 30.6 -0.6
comp=Z,0.6nm,0.5s,baz=221,slow=10,SNR=4.7
ARCES ARCESS Array B 37.18 16 P **P** 07 09 20.0 +0.6
comp=Z,2.3nm,0.9s,baz=216,slow=8.9,SNR=4.3
RAYN Ar Rayn 43.96 92 P **P** 07 10 17.4 +1.3
NRIK Noril'sk 57.24 25 LR LR 07 41 48.6
comp=Z,270nm,18.2s,baz=116,slow=42
ZALV Zalesovo Beam 60.98 43 LR LR 07 40 53.5
comp=Z,185nm,20.3s,baz=100,slow=38
MKAR Makanchi Array 62.28 51 P **P** 07 12 30.5 -0.2
comp=Z,0.6nm,0.5s,baz=288,slow=5.0,SNR=8.2
WMQ Urumqi 67.02 52 *e*P **P** 07 13 03.6 +1.8
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,100nm,5.9s
YKA Yellowknife Ar 67.49 332 P **P** 07 13 05.2 +0.9
comp=Z,0.7nm,0.6s,baz=65,slow=6.9,SNR=6.0
INK Inuvik 69.56 342 P **P** 07 13 18.6 +1.4
comp=Z,0.6nm,0.7s,baz=56,slow=3.6,SNR=1.4
INK Inuvik 69.56 342 IAmb IAmb 07 13 29.3
comp=Z,6.2nm,1.5s
PDAR Pinedale Array 76.63 313 P **P** 07 14 00.6 +0.7
comp=Z,0.3nm,0.5s,baz=17,slow=6.6,SNR=2.2
HHC Hu-ho-hao-te 83.13 44 *e*P **P** 07 14 34.0 -0.9
HHC pmax pmax
comp=Z,11nm,1.3s
HHC pmax pmax
comp=Z,41nm,6.9s
CD2 Chengdu 84.77 55 P **P** 07 14 41.6 -1.8
CD2 pmax pmax
comp=Z,20nm,0.5s
NJ2 Nanjing 93.47 46 *e*P **P** 07 15 22.8 -1.8
NJ2 pmax pmax
comp=Z,14nm,0.5s

*NEIC **02** 07:14:41.0₀1.7,32.9S₀0.1×178.0W₄0.1,h35km±2km, mb4.5/6, Error ellipse: s-maj=26.6km s-min=4.8km*

az=136.0
IDC 02 07:14:41.7±4.7, 32°.97S×178°.79W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/21, mbtmp4.0/3, Error ellipse: s-maj=181.7km s-min=59.0km az=163.0
ISC 02 07:14:42.4±2.2, 33°.1S±0°.2×178°.1W±0°.3, h34km, n14, σ1.s32/14, mb4.5/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
OUZ	Omahuta	7.23	250	Pn	Pn	07 16 25.1	-0.6
BKZ	Black Stump Fm	7.50	214	Pn	Pn	07 16 29.0	-0.4
HIZ	Hauiti	7.90	225	Pn	Pn	07 16 37.3	+2.5
BFZ	Birch Farm	8.85	209	Pn	Pn	07 16 47.0	-0.8
CTA	Charters Tower	34.26	283	P	P	07 21 26.0	+0.7
	1.4nm,0.4s,baz=136,slow=9.7,SNR=2.1						
CTAO	Charters Tower	34.26	283	P	P	07 21 26.4	+1.1
CTAO				IAmb	IAmb	07 21 33.5	
	comp=Z,14nm,1.5s						
ASAR	Alice Springs	42.97	270	P	P	07 22 37.4	-1.1
	comp=Z,0.7nm,0.4s,baz=112,slow=7.7,SNR=12						
WR0	Warramunga Arr	44.03	275	P	P	07 22 45.6	-1.3
WB2	Warramunga Arr	44.19	275	P	P	07 22 47.0	-1.3
WB2				IAmb	IAmb	07 22 51.3	
	comp=Z,14nm,1.5s						
WRA	Warramunga Arr	44.20	275	P	P	07 22 46.9	-1.5
	comp=Z,0.8nm,0.5s,baz=115,slow=7.9,SNR=14						
WB0	Warramunga Arr	44.24	275	P	P	07 22 47.4	-1.3
WB0				IAmb	IAmb	07 23 01.7	
	comp=Z,11nm,1.4s						
FITZ	Fitzroy Crossi	52.34	272	P	P	07 23 50.4	-0.8
FITZ				IAmb	IAmb	07 24 08.1	
	comp=Z,6.7nm,1.3s						
SOEI	Soe	57.71	280	P	P	07 24 30.4	+0.2
FINES	FINESS Array B	147.62	338	PKPbc	PKPab	07 34 25.6	+0.9
	comp=Z,2.4nm,0.9s,baz=50,slow=4.3,SNR=3.8						

IDC 02 07:31:29.4±2.9, 7°.07S×129°.41E, h96km±33km, mb3.6/2, mb1 3.6/5, mb1mx3.3/43, mbtmp3.9/5, Error ellipse: s-maj=57.6km s-min=21.3km az=85.0
NEIC 02 07:31:30.4±2.6, 7°.04S±0°.08×129°.75E±0°.06, h120km±14km, mb4.4/2, Error ellipse: s-maj=12.2km s-min=8.7km az=184.0
ISC 02 07:31:29.1±0.9, 7°.01S±0°.06×129°.64E±0°.09, h100km, n18, σ2.s15/22, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SAUI	Saumlaki	1.91	121	Pn	Pn	07 32 03.4	+2.9
SAUI				Sn	Sn	07 32 24.9	+0.5
FAKI	Fak Fak	4.82	33	Pn	Pn	07 32 40.0	+0.6
FAKI				Sn	Sn	07 33 32.0	-2.1
SOEI	Soe	5.98	242	Pn	Pn	07 32 58.1	+2.9
MTN	Manton Dam	5.98	166	Pn	Pn	07 32 57.1	+2.0
MTN				Sn	Sn	07 33 56.4	-5.8
SIJI	Sorong	6.31	15	P	Pn	07 33 01.6	+2.0
	1.2nm,0.3s,baz=180,slow=19,SNR=6.6						
SIJI				S	Sn	07 34 08.1	-2.3
	2.6nm,0.3s,baz=167,slow=23,SNR=6.3						
KNRA	Kununurra	8.66	186	Pn	Pn	07 33 32.4	+0.9
FITZ	Fitzroy Crossi	11.69	199	P	Pn	07 34 11.3	-1.3
	0.3nm,0.3s,baz=14,slow=11,SNR=22						
FITZ				S	Sn	07 36 10.1	-11
	0.4nm,0.3s,baz=59,slow=17,SNR=2.4						
FITZ	Fitzroy Crossi	11.69	199		Pn	07 34 12.6	-0.1
WB0	Warramunga Arr	13.49	160	Pn	Pn	07 34 36.3	-0.2
WRA	Warramunga Arr	13.64	161	P	Pn	07 34 36.2	-2.3
	0.6nm,0.3s,baz=342,slow=14,SNR=23						
WRA				S	Sn	07 36 55.3	-13
	2.2nm,0.3s,baz=338,slow=21,SNR=15						
WB2	Warramunga Arr	13.64	161	Pn	Pn	07 34 36.7	-1.8
WR0	Warramunga Arr	13.72	160	Pn	Pn	07 34 38.1	-1.4
COEN	Coen	14.98	119	P	Pn	07 34 56.7	+1.0
ASAR	Alice Springs	17.06	167	P	P	07 35 21.9	+0.2
	0.4nm,0.3s,baz=344,slow=10.0,SNR=19						
ASAR				S	Sn	07 38 16.4	-15
	0.2nm,0.3s,baz=350,slow=26,SNR=1.8						
FORT	Forrest	23.69	183	P	P	07 36 33.5	+1.7
FORT				IAmb	IAmb	07 36 47.4	
	comp=Z,29nm,1.4s						
BBOO	Buckleboo	26.36	168	P	P	07 36 55.2	-0.7
BBOO				IAmb	IAmb	07 37 02.5	
	comp=Z,14nm,1.4s						
STKA	Stephens Creek	27.14	157	P	P	07 37 03.9	+0.9
	comp=Z,1.0nm,0.5s,baz=336,slow=11,SNR=2.9						
MKAR	Makanchi Array	68.04	327	P	P	07 42 18.2	+0.4
	comp=Z,0.3nm,0.3s,baz=130,slow=7.6,SNR=5.3						

IDC 02 08:07:25.7±0.5, 43°.40N×45°.32E, h0km, mb4.4/28, mb1 4.4/38, mb1mx4.3/55, mbtmp4.4/38, ML4.1/8, MS3.8/10, Ms1 3.8/10, ms1mx3.4/48, Error ellipse: s-maj=9.6km s-min=6.1km az=175.0
TIF 02 08:07:26.3, 43°.63N×45°.42E, h24km±2km
BJI 02 08:07:27.0±0.0, 43°.50N×45°.60E, h5km, mB4.8/25, mb4.7/36, Ms4.5/18, Ms7 4.2/9
NEIC 02 08:07:28.0±2.2, 43°.60N±0°.05×45°.49E±0°.06, h10km±1km, mb4.8/92, Error ellipse: s-maj=9.0km s-min=7.7km az=193.0
NORS 02 08:07:27.9±0.0, 43°.53N×45°.47E, h25km, MPVA5.1, Felt I=IV MSK at Petropavlovskaya, Ilinskaya, Berkat-Urt; I=III-IV MSK at Groznyi, Argun, Gudermes, Chervlenaya, Tolstoy-Urt, Mesker-Urt; Felt I=III MSK at Buynaksk, Dubki
MOS 02 08:07:28.3±0.0, 43°.42N×45°.31E, h13km, MPVA5.1
DRS 02 08:07:29.2±0.0, 43°.47N×45°.28E, h17km
BGR 02 08:07:33.6±0.0, 42°.96N×44°.22E, h2km, mb4.4
ISC 02 08:07:27.7±0.9, 43°.52N±0°.02×45°.43E±0°.01, h11km±6km, n470, σ1.s66/537, mb4.6/123, MS3.9/29, 60C-13D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TRKR	Terskaya	0.55	292	ePg	Pb	08 07 40.1	+0.8
TRKR				eSg	Sn	08 07 49.6	-0.9
TRKR	Terskaya	0.55	292	ePG	Pb	08 07 40.1	+0.8
TRKR				eS	Sn	08 07 49.7	-0.9
KMGR	Komgaron	0.62	222	ePg	Pb	08 07 40.0	-0.5
KMGR				eSg	Sg	08 07 47.4	-0.4
KMGR	Komgaron	0.62	222	⇓ePG	Pb	08 07 40.0	-0.5
KMGR				eS	Sg	08 07 47.4	-0.4
BTKR	Batakoyurt	0.66	258	ePg	Pb	08 07 42.0	+0.7
BTKR				eSg	Sb	08 07 50.1	-0.4
BTKR	Batakoyurt	0.66	258	ePG	Pb	08 07 42.0	+0.7
BTKR				eS	Sb	08 07 50.1	-0.4
VLKR	Vladikavkaz	0.72	230	ePg	Pb	08 07 42.0	-0.3
VLKR				eSg	Sg	08 07 50.9	-0.3
VLKR	Vladikavkaz	0.72	230	ePG	Pb	08 07 42.0	-0.3
VLKR				eS	Sg	08 07 50.9	-0.3
PRTR	Priterechnaya	0.87	286	ePg	Pn	08 07 45.4	-0.4
PRTR				eSg	Sn	08 07 59.1	+0.6
PRTR	Priterechnaya	0.87	286	ePG	Pn	08 07 45.4	-0.4
PRTR				eS	Sn	08 07 59.1	+0.6
ARNR	Ardon	0.90	248	ePg	Pg	08 07 44.7	-0.4
ARNR	Ardon	0.90	248	ePG	Pg	08 07 44.7	-0.4
STDR	Stavd-Durt	1.01	262	ePg	Pn	08 07 48.6	+0.8
STDR				eSg	Sn	08 08 02.4	+0.4
STDR	Stavd-Durt	1.01	262	ePG	Pn	08 07 48.6	+0.8
STDR				eS	Sn	08 08 02.4	+0.4
BTLR	Botlikh	1.03	146	⇑ePG	Pg	08 07 47.2	-0.3
BTLR				e		08 08 02.0	
BTLR				pmax	pmax		
	comp=Z,3μm,0.6s						
BTLR				smax	smax		
	comp=N,8μm,0.8s						
LACR	Lac	1.08	231	ePg	Pg	08 07 48.2	-0.2
LACR				eSg	Sb	08 08 02.9	+0.3
LACR	Lac	1.08	231	ePG	Pg	08 07 48.2	-0.2
LACR				eS	Sb	08 08 02.9	+0.3
KORR	Kora	1.08	247	ePg	Pn	08 07 48.9	0.0
KORR				eSg	Sg	08 08 02.3	-0.3
KORR	Kora	1.08	247	ePG	Pn	08 07 48.9	0.0
KORR				eS	Sg	08 08 02.3	-0.3
DBC	Dubki	1.14	116	⇑ePG	Pn	08 07 50.2	+0.6
DBC				eS	Sn	08 08 06.4	+1.1
LSNR	Lesken	1.19	259	i Pg	Pg	08 07 50.8	+0.2
LSNR				eSg	Sn	08 08 09.0	+2.3
LSNR	Lesken	1.19	259	i PG	Pg	08 07 50.8	+0.2
LSNR				eS	Sn	08 08 09.0	+2.3
GUDG	Gudauri	1.27	214	P	Pn	08 07 50.0	-1.6
GUDG				S	Sg	08 08 08.2	-0.2
GUDG	Gudauri	1.27	214	ePg	Pn	08 07 49.9	-1.6
GUDG				ePg	Pn	08 07 50.0	-1.6
GUDG				eSg	Sb	08 08 06.2	-1.8
GUDG				eSg	Sg	08 08 08.2	-0.2
GUDG	Gudauri	1.27	214	⇑PG	Pn	08 07 50.0	-1.6
GUDG				S	Sg	08 08 08.2	-0.2
UNCR	Uncukul	1.28	128	i Pg	Pg	08 07 52.5	+0.2
UNCR				eSg	Sg	08 08 12.5	+3.6
UNCR	Uncukul	1.28	128	⇓iPG	Pg	08 07 52.5	+0.2
UNCR				eS	Sg	08 08 12.5	+3.6
UNCR				pmax	pmax		
	comp=Z,197nm,0.7s						
NCK	Nalchik	1.33	270	ePg	Pb	08 07 52.8	+0.1
NCK				eSg	Sg	08 08 12.0	+1.4
NCK	Nalchik	1.33	270	ePG	Pb	08 07 52.8	+0.1
NCK				eS	Sg	08 08 12.0	+1.4
ZEI	Tsey	1.34	237	i Pg	Pn	08 07 52.5	0.0
ZEI				eSg	Sg	08 08 10.6	-0.1
ZEI	Tsey	1.34	237	i PG	Pn	08 07 52.5	0.0
ZEI				eS	Sg	08 08 10.6	-0.1
XNZR	Khunzakh	1.35	136	ePg	Pg	08 07 53.9	+0.3
XNZR				eSg	Sg	08 08 12.3	+1.2
XNZR	Khunzakh	1.35	136	ePG	Pg	08 07 54.2	+0.6
XNZR				eS	Sg	08 08 12.4	+1.2
BUJR	Buynaksk	1.41	119	ePg	Pg	08 07 56.1	+1.4
BUJR				eSg	Sg	08 08 15.8	+2.8
BUJR	Buynaksk	1.41	119	⇑iPG	Pg	08 07 55.9	+1.2
BUJR				e		08 08 16.4	
ARKR	Arakani	1.47	128	i Pg	Pg	08 07 56.0	+0.2
ARKR				eSg	Sg	08 08 17.0	+2.2
ARKR	Arakani	1.47	128	⇓iPG	Pg	08 07 56.0	+0.2
ARKR				eS	Sg	08 08 17.0	+2.2
DIGR	Digorskoe uzhe	1.49	246	ePg	Pn	08 07 54.2	-0.4
DIGR				eSg	Sn	08 08 13.0	-1.1
DIGR	Digorskoe uzhe	1.49	246	ePG	Pn	08 07 54.2	-0.4
GNBR	Gunib	1.59	135	ePg	Pg	08 07 58.3	+0.1
GNBR				eSg	Sg	08 08 19.8	+0.9
GNBR	Gunib	1.59	135	⇑iPN	Pg	08 07 58.0	-0.2
GNBR				e		08 08 21.4	
GNBR				pmax	pmax		
	comp=Z,3μm,0.7s						
GNBR				smax	smax		
	comp=N,9μm,0.5s						
MAK	Makhachkala	1.61	109	ePg	Pg	08 07 58.9	+0.3
MAK				eSg	Sg	08 08 21.1	+1.5
MAK	Makhachkala	1.61	109	ePN	Pg	08 07 58.3	-0.3
MAK				e		08 08 23.1	
MAK				pmax	pmax		
	comp=Z,4μm,0.4s						
MAK				smax	smax		
	comp=N,18μm,0.4s						
ONI	Oni	1.72	238	P	Pn	08 07 58.1	+0.4
ONI				S	Sb	08 08 21.6	+0.6
ONI	Oni	1.72	238	ePg	Pn	08 07 58.0	+0.3
ONI				eSg	Sb	08 08 20.9	-0.2
ONI	Oni	1.72	238	⇑PN	Pn	08 07 58.1	+0.4
LGD	Lagodekhi	1.79	160	P	Pb	08 08 00.1	-0.4
LGD	Lagodekhi	1.79	160	ePg	Pb	08 07 59.9	-0.5
LGD				eSg	Sb	08 08 22.4	-0.4
LGD	Lagodekhi	1.79	160	ePN	Pb	08 07 59.9	-0.5
SEAG	Tbilisi Sea	1.81	195	P	Pb	08 08 00.6	-0.3
SEAG				S	Sg	08 08 26.1	+0.1
SEAG	Tbilisi Sea	1.81	195	ePg	Pb	08 08 00.6	-0.3
SEAG	Tbilisi Sea	1.81	195	PN	Pb	08 08 00.6	-0.3
KBZ	Khabaz	1.85	277	Pn	Pn	08 07 59.7	+0.3
	comp=N,20nm,0.3s,baz=117,slow=6.5,SNR=212						
KBZ				Sn	Sb	08 08 24.2	-0.5
	comp=N,76nm,0.3s,baz=256,slow=18,SNR=21						
KBZ	Khabaz	1.85	277	ePN	Pn	08 07 58.7	-0.7
KMKR	Kumukh	1.85	138	i Pg	Pb	08 08 02.0	+0.3
KMKR				eSg	Sg	08 08 28.0	+0.8
KMKR	Kumukh	1.85	138	⇑iPN	Pb	08 08 02.0	+0.3
KMKR				eS	Sg	08 08 28.0	+0.8
TBLG	Delisi	1.86	196	P	Pn	08 08 00.1	+0.6
TBLG				S	Sg	08 08 26.1	-1.3
TBLG	Delisi	1.86	196	ePg	Pn	08 08 00.1	+0.6
TBLG	Delisi	1.86	196	⇑PN	Pn	08 08 00.1	+0.6
TBLG	Delisi	1.86	196	Pn	Pb	08 08 01.1	-0.6
BTNK	Botanikuri	1.89	194	P	Pb	08 08 01.4	-0.9
BTNK				S	Sb	08 08 26.4	+0.5
BTNK	Botanikuri	1.89	194	PN	Pb	08 08 01.4	-0.9
SGKR	Sergokala	1.95	122	i Pg	Pb	08 08 04.0	+0.8
SGKR				i Sg	Sg	08 08 31.0	+0.8
SGKR	Sergokala	1.95	122	i PN	Pb	08 08 04.0	+0.8
SGKR				i S	Sg	08 08 31.0	+0.8
SGKR				pmax	pmax		
	comp=Z,8μm,0.2s						
BEYR	Belyy Ugol+	1.96	285	ePN	Pn	08 08 01.4	+0.5
NEY	Neytrino	1.99	263	ePg	Pn	08 08 01.4	0.0
NEY				eSg	Sn	08 08 25.3	-1.3
NEY	Neytrino	1.99	263	ePN	Pn	08 08 01.5	0.0
SHA1	Shidzhatmaz	2.03	277	i Pg	Pn	08 08 02.1	+0.1
SHA1				eSg	Sn	08 08 27.8	+0.4
SHA1	Shidzhatmaz	2.03	277	⇑iPN	Pn	08 08 02.1	+0.1
KVAR	Kislovodsk Arr	2.03	283	Pn	Pn	08 08 02.8	+0.8
	baz=270,slow=20,SNR=22						
KVAR				Sn	Sb	08 08 29.2	-0.8
	baz=233,slow=10,SNR=16						
KIV	Kislovodsk	2.04	283	P	Pn	08 08 02.4	+0.4
KIV	Kislovodsk	2.04	283	ePg	Pn	08 08 02.1	+0.1
KIV	Kislovodsk	2.04	283	P	Pn	08 08 02.4	+0.4
KIV	Kislovodsk	2.04	283	⇑ePN	Pn	08 08 02.1	+0.1
KIV				e		08 08 06.9	
KIV				pmax	pmax		
	comp=Z,508nm,0.8s						
KIV				MLR	MLR		
	comp=Z,2μm,2.0s						
KIV	Kislovodsk	2.04	283	Pn	Pn	08 08 02.4	+0.4
DGRG	David-gareji	2.07	181	P	Pb	08 08 04.9	-0.4
DGRG	David-gareji	2.07	181	ePg	Pb	08 08 04.8	-0.4
DGRG	David-gareji	2.07	181	⇑PN	Pb	08 08 04.9	-0.4
URKR	Urkarakh	2.11	129	ePg	Pb	08 08 06.1	+0.1
URKR				eSg	Sg	08 08 34.3	-1.2
URKR	Urkarakh	2.11	129	⇓ePN	Pb	08 08 06.2	+0.2
URKR				e		08 08 34.6	
URKR				pmax	pmax		
	comp=Z,2μm,0.6s						
URKR				smax	smax		
	comp=N,5μm,1.0s						
DDFL	Dedoflistskaro	2.13	166	P	Pg	08 08 08.8	+0.2
DDFL	Dedoflistskaro	2.13	166	ePn	Pg	08 08 08.8	+0.2
DDFL	Dedoflistskaro	2.13	166	⇑PN	Pg	08 08 08.8	+0.2
TKB	Tkibuli	2.14	238	P	Pn	08 08 04.5	+1.1
TKB				S	Sb	08 08 34.4	+1.4
TKB	Tkibuli	2.14	238	ePg	Pn	08 08 04.5	+1.1
TKB	Tkibuli	2.14	238	PN	Pn	08 08 04.5	+1.1
TKB				S	Sb	08 08 34.4	+1.4
BKRG	Bakuriani	2.25	219	P	Pn	08 08 05.8	+0.7
BKRG				S	Sn	08 08 33.9	+0.9
BKRG	Bakuriani	2.25	219	ePg	Pn	08 08 05.8	+0.7
BKRG				eSg	Sn	08 08 33.9	+0.9
BKRG	Bakuriani	2.25	219	PN	Pn	08 08 05.8	+0.7
BKRG				S	Sn	08 08 33.9	+0.9
KZRT	Kazreti	2.26	200	P	Pn	08 08 06.0	+0.9
KZRT				S	Sb	08 08 35.2	-1.4
KZRT	Kazreti	2.26	200	ePg	Pn	08 08 06.0	+0.9
KZRT	Kazreti	2.26	200	PN	Pn	08 08 06.0	+0.9
KZRT				S	Sb	08 08 35.2	-1.4
GOF	Gofitskoye	2.30	313	ePn	Pb	08 08 07.7	-1.5
GOF				eSn	Sb	08 08 37.8	+0.1
GOF	Gofitskoye	2.30	313	ePN	Pb	08 08 07.7	-1.5
GOF				eS	Sb	08 08 37.8	+0.1
AKH	Akhalkalaki	2.55	215	P	Pn	08 08 10.4	+1.2
AKH	Akhalkalaki	2.55	215	ePn	Pn	08 08 10.0	+0.9
AKH				eSn	Sn	08 08 39.5	-0.8
AKH	Akhalkalaki	2.55	215	ePN	Pn	08 08 10.0	+0.9
AKH	Akhalkalaki	2.55	215	Pn	Pn	08 08 10.7	+1.6
DRN	Derbent	2.60	124	ePn	Pb	08 08 13.7	-0.6
DRN				eSn	Sb	08 08 45.8	-0.5
DRN	Derbent	2.60	124	ePN	Pb	08 08 13.7	-0.6
DRN				eS	Sb	08 08 45.8	-0.5
BGD	Bogdanovka	2.63	212	P	Pn	08 08 10.8	+0.5
BGD	Bogdanovka	2.63	212	ePn	Pn	08 08 10.8	+0.5
BGD	Bogdanovka	2.63	212	PN	Pn	08 08 10.8	+0.5
AKT	Akhty	2.65	139	ePn	Pb	08 08 13.8	-1.5
AKT				eSn	Sb	08 08 45.7	-2.2
AKT	Akhty	2.65	139	⇑iPN	Pb	08 08 13.7	-1.5
AKT				e		08 08 18.8	
AKT				e		08 08 20.4	
AKT				eS	Sb	08 08 49.3	+1.4
AKT				e		08 08 57.0	
AKT				pmax	pmax		
	comp=Z,522nm,0.4s						
AKT				smax	smax		
	comp=E,2μm,0.4s						
AKT				smax	smax		
	comp=N,3μm,0.5s						
AKT				smax	smax		
	comp=N,2μm,0.4s						
AKT				MLR	MLR		
	comp=Z,2μm,2.0s						
DOMR	Dombai	2.78	267	ePn	Pn	08 08 12.2	-0.2
DOMR				eSn	Sn	08 08 45.0	-1.1
DOMR	Dombai	2.78	267	ePN	Pn	08 08 12.2	-0.2
DOMR				eS	Sn	08 08 45.0	-1.1
ARXR	Arkhyz	3.02	272	ePn	Pn	08 08 16.8	+1.2
ARXR				eSn	Sn	08 08 50.5	-1.4
ARXR	Arkhyz	3.02	272	ePN	Pn	08 08 16.8	+1.2
ARXR				eS	Sn	08 08 50.5	-1.4
BATM	Batumi	3.36	237	P	Pn	08 08 20.9	+0.8
BATM	Batumi	3.36	237	ePn	Pn	08 08 20.9	+0.8
BATM				eSn	Sn	08 08 57.4	-2.6
BATM	Batumi	3.36	237	ePN	Pn	08 08 20.9	+0.8
RPOR	Krasnaya Polya	3.75	275	ePn	Pn	08 08 27.8	+2.2
RPOR	Krasnaya Polya	3.75	275	ePN	Pn	08 08 28.4	+2.8
RPOR				eS	Sn	08 09 14.2	+4.4
SOC	Sochi	4.15	273	ePn	Pn	08 08 31.7	+0.7
SOC				eSn	Sn	08 09 17.3	-2.3
SOC	Sochi	4.15	273	ePN	Pn	08 08 30.6	-0.4
SOC				e		08 09 20.5	
SOC				eSS	Sb	08 09 32.4	+1.4
SOC				MLR	MLR		
	comp=Z,1μm,10.0s						
ERBR	Yeremizino-Bor	4.16	304	ePn	Pn	08 08 33.3	+2.2
ERBR	Yeremizino-Bor	4.16	304	ePN	Pn	08 08 33.3	+2.2
ERBR				eS	Sn	08 09 17.0	-2.7
LZRR	Lazarevskoye	4.41	277	ePn	Pn	08 08 36.0	+1.5
LZRR				eSn	Sn	08 09 24.4	-1.4
LZRR	Lazarevskoye	4.41	277	ePN	Pn	08 08 36.0	+1.5
LZRR				eS	Sn	08 09 24.4	-1.4
ANN	Anapa	5.89	285	eP	Pn	08 08 58.5	+3.6
ANN				eS	Sn	08 10 08.5	+6.1
ANN				pmax	pmax		
	comp=Z,78nm,1.4s						
ANN				MLR	MLR		
	comp=Z,744nm,15.0s						
DIKM	Dikmen	7.74	260	⇑P	Pb	08 09 35.6	-6.2
VRH	Novokhopyorsk	8.09	343	eP	Pn	08 09 24.2	-0.8
VRH				pmax	pmax		
	comp=Z,20nm,0.6s						
VRH				MLR	MLR		
	comp=Z,560nm,8.0s						
SIM	Simferopol'	8.25	284	P	Pn	08 09 30.5	+3.2
SIM				pmax	pmax		
	comp=Z,64nm,0.2s						
BZK	Bozkurt	8.55	263	⇓P	Pn	08 09 35.4	+4.0
BR131	Keskin Array S	9.61	251	P	Pn	08 09 46.6	+0.6
BR131	Keskin Array S	9.61	251	Pn	Pn	08 09 46.6	+0.6
BRTR	Keskin Array B	9.61	251	Pn	Pn	08 09 48.2	+2.2
	comp=Z,0.1nm,0.3s,baz=72,slow=11,SNR=11						
LPSR	Galich'ya Gora	10.07	337	eP	Pn	08 09 53.9	+1.7
LPSR				pmax	pmax		
	comp=Z,70nm,1.0s						
LPSR				MLR	MLR		
	comp=Z,390nm,10.0s						
AKTO	Aktyubinsk	11.03	47	Pn	Pn	08 10 04.4	-0.8
	comp=Z,4.3nm,0.3s,baz=252,slow=9.1,SNR=24						
AKTO				Sn	Sn	08 11 59.8	-8.7
	comp=Z,15nm,0.3s,baz=65,slow=19,SNR=8.6						
AKTO				LR	LR	08 16 11.6	
	comp=Z,192nm,18.2s,baz=235,slow=47						
AKTO	Aktyubinsk	11.03	47	⇑Pn	Pn	08 10 04.0	-1.3
	comp=Z,41nm,0.7s						
AKTO				⇑Sn	Sn	08 11 59.5	-9.0
	comp=Z,86nm,0.6s						
GEYT	Alibeck	11.12	116	Pn	Pn	08 10 05.6	-1.1
	comp=Z,8.0nm,0.3s,baz=299,slow=15,SNR=35						
GEYT				Sn	Sn	08 12 06.8	-4.3
	comp=Z,2.1nm,0.3s,baz=291,slow=20,SNR=1.4						
GYA0B	ALIBECK ARRAY	11.12	116	Pn	Pn	08 10 05.6	-1.1
AB31	Akbulak array	11.54	55	⇑Pn	Pn	08 10 12.8	+0.5
	comp=Z,20nm,0.5s,baz=246,slow=12						
AB31				⇓Sn	Sn	08 12 15.0	-6.1
	comp=Z,57nm,0.5s,baz=248,slow=22,SNR=14						
MILM	Milestii Mici	12.20	292	⇑P	P	08 10 34.8	+0.9
CFR	Carcaliu	12.49	284	⇑P	Pn	08 10 27.8	+2.5
CFR	Carcaliu	12.49	284	⇑P	Pn	08 10 27.8	+2.5
OBN	Obninsk	12.95	337	Pn	Pn	08 10 29.4	-2.1
	comp=Z,2.4nm,0.3s,baz=163,slow=22,SNR=7.2						
OBN				Sn	Sn	08 12 47.6	-7.9
	comp=Z,1.0nm,0.3s,baz=287,slow=19,SNR=1.3						
OBN				Lg	Lg	08 14 20.1	
	comp=Z,3.4nm,0.3s,baz=338,slow=22,SNR=2.1						
OBN	Obninsk	12.95	337	⇑P	Pn	08 10 29.7	-1.8
OBN	Obninsk	12.95	337	⇓eP	Pn	08 10 30.6	-0.9
OBN				i S	Sn	08 12 55.3	-0.2
OBN				pmax	pmax		
	comp=Z,62nm,1.3s						
OBN				MLR	MLR		
	comp=Z,265nm,9.0s						
MMAI	Mount Meron Ar	13.10	220	LR	LR	08 15 57.1	
	comp=Z,384nm,18.4s,baz=15,slow=40						
AKASG	Malin Array Be	13.15	309	Pn	Pn	08 10 31.2	-3.1
	comp=Z,1.0nm,0.3s,baz=104,slow=12,SNR=1.9						
AKASG				Lg	Lg	08 14 23.6	
	baz=114,slow=28,SNR=4.4						
AKBB	Malin Array Si	13.15	309	c eP	Pn	08 10 36.6	+2.3
AKBB	Malin Array Si	13.15	309		Pn	08 10 35.3	+1.0
MOS	Moscow	13.22	340	eP	Pn	08 10 35.5	+0.3
MOS				e		08 13 08.1	
MOS				pmax	pmax		
	comp=Z,47nm,0.8s						
MOS				MLR	MLR		
	comp=Z,800nm,14.0s						
VRI	Vrincioaia	13.51	286	⇑P	Pn	08 10 40.4	+1.1
VRI	Vrincioaia	13.51	286	⇑P	Pn	08 10 40.4	+1.1
PLOR	Plostina	13.57	286	⇑P	Pn	08 10 40.6	+0.6
PLOR	Plostina	13.57	286	⇑P	Pn	08 10 40.6	+0.6
TESR	Tescani	13.62	289	⇑P	Pn	08 10 40.7	0.0
ISR	Istrita	13.62	283	⇑P	Pn	08 10 43.6	+2.8
ISR	Istrita	13.62	283	⇑P	Pn	08 10 43.6	+2.8
ELL	Elmali	13.66	246	P	Pn	08 10 40.3	-1.1
ELL	Elmali	13.66	246		Pn	08 10 40.2	-1.1
BIZ	Bicaz	14.04	291	⇑P	Pn	08 10 45.8	-0.7
MLR	Muntele Rosu	14.05	285	Pn	Pn	08 10 47.2	+0.5
	comp=Z,0.4nm,0.3s,baz=92,slow=12,SNR=2.5						
MLR	Muntele Rosu	14.05	285	⇑P	Pn	08 10 47.5	+0.9
MLR	Muntele Rosu	14.05	285	⇑P	Pn	08 10 47.5	+0.9
MLR	Muntele Rosu	14.05	285	Pn	Pn	08 10 47.9	+1.2
OZUR		14.18	287	⇑P	Pn	08 10 48.7	+0.3
DOPR	Dopca	14.45	287	⇑P	Pn	08 10 53.1	+1.0
MTUR	Matau	14.67	284	⇑P	P	08 11 06.6	+5.2
VOIR		14.68	285	⇑P	Pn	08 10 57.4	+2.2
VOIR		14.68	285	⇑P	Pn	08 10 57.4	+2.2
BURAR	Bucovina Array	14.73	293	⇓P	Pn	08 10 54.9	-1.1
BURAR	Bucovina Array	14.73	293	⇓P	Pn	08 10 54.9	-1.1
BUR08	Bucovina Ar. S	14.75	293	Pn	Pn	08 10 56.4	+0.2
ARR	Arges	14.97	284	⇓P	P	08 11 07.3	+2.5
PLVB	Pleven	15.12	277	⇑P	P	08 11 06.7	+0.4
KIRV	Kirov	15.29	8	Pn	Pn	08 10 59.9	-3.4
	comp=Z,1.5nm,0.3s,baz=214,slow=6.0,SNR=8.1						
KIRV				Sn	Sn	08 13 41.9	-11
	comp=Z,4.6nm,0.3s,baz=202,slow=22,SNR=6.9						
KIRV				LR	LR	08 18 08.2	
	comp=Z,484nm,18.6s,baz=205,slow=42						
ARU	Arti	15.40	28	Pn	Pn	08 11 01.2	-3.6
	comp=Z,0.0nm,0.3s,baz=207,slow=5.8,SNR=16						
ARU				Sn	Sn	08 13 42.0	-13
	comp=Z,0.0nm,0.3s,baz=221,slow=20,SNR=1.5						
ARU				LR	LR	08 18 41.2	
	comp=Z,386nm,18.6s,baz=249,slow=44						
ARU	Arti	15.40	28	c iP	Pn	08 11 01.6	-3.1
ARU				S	Sn	08 13 51.2	-4.0
ARU				pmax	pmax		
	comp=Z,23nm,0.6s						
ARU				MLR	MLR		
	comp=Z,353nm,19.0s						
ARU	Arti	15.40	28		Pn	08 11 02.0	-2.8
ARU				IAmb	IAmb	08 11 05.9	
	comp=Z,29nm,0.6s						
HRA	Herat	15.92	119	Pn	Pn	08 11 11.2	-0.6
LVV	L'vov	15.96	301	eP	Pn	08 11 13.3	+1.3
LVV				eS	Sn	08 14 13.4	+4.6
LVV				MLR	MLR		
	comp=N,500nm,10.0s						

LVV MLR MLR
comp=E,400nm,10.0s
LVV MLR MLR
comp=Z,600nm,10.0s
EIL Elat 16.16 215 Pn **Pn 08 11 13.4 -1.3**
comp=Z,0.1nm,0.3s,baz=349,slow=16,SNR=1.8
DEV Deva 16.18 286 ⇓P **P 08 11 18.1 0.0**
DEV Deva 16.18 286 ⇓P **P 08 11 18.1 0.0**
VTS Vitosha 16.24 274 ⇑P **P 08 11 18.4 -0.6**
VTS Vitosha 16.24 274 ⇑P **P 08 11 18.4 -0.6**
VTS Vitosha 16.24 274 Pn **P 08 11 18.1 -0.9**
GZR Gura Zlata 16.28 284 ⇑P **P 08 11 19.1 -0.1**
SVE Sverdlovsk 16.45 31 *e*P **Pn 08 11 15.4 -2.8**
SVE *e*S **Sn 08 14 12.0 -8.6**
SVE pmax pmax
comp=Z,47nm,0.6s
HERR Herculane 16.55 283 ⇑P **P 08 11 22.0 -0.3**
TRPA Tarpa 16.59 294 ⇑P **P 08 11 24.1 +1.5**
NACGM Naroch 16.62 320 *e*P **Pn 08 11 17.0 -3.4**
NACGM *e*S Sn 08 14 09.0 -16
NACGM *e*LQ LQ 08 16 18.0
NACGM *e*LR LR 08 18 28.0
UZH Uzhgorod 16.82 296 *e*P **P 08 11 24.7 -0.5**
UZH *e*S **Sn 08 14 31.4 +1.6**
KOLS Kolonicke sedl 16.89 297 *e*P **P 08 11 27.1 +1.1**
KOLS Kolonicke sedl 16.89 297 *e*P **P 08 11 27.0 +1.1**
SIRR Siria 17.05 288 ⇑P **P 08 11 27.2 -0.6**
MDVR Moldovita 17.06 282 ⇑P **P 08 11 29.2 +1.3**
BZS Buzias 17.09 285 ⇑P **P 08 11 28.5 +0.4**
BZS Buzias 17.09 285 ⇑P **P 08 11 28.5 +0.4**
KLMR Klimovskoe 17.72 350 *e*P **Pn 08 11 30.7 -3.5**
KLMR *e* 08 14 47.2
KLMR pmax pmax
comp=Z,95nm,1.1s
KLMR Klimovskoe 17.72 350 *e*Pn **Pn 08 11 30.7 -3.5**
KLMR AMP 08 11 40.4
comp=Z,95nm,1.1s
KLMR *e*Sn **Sn 08 14 47.3 -4.2**
KLMR *e*Sn **Sn 08 14 47.3 -4.2**
AGG Agios Georgios 17.92 263 P **P 08 11 39.2 +1.8**
AGG pmax pmax
comp=Z,28nm,1.1s
AGG Agios Georgios 17.92 263 P **P 08 11 39.2 +1.8**
FNA Florina 18.03 270 P **P 08 11 39.7 +1.0**
FNA pmax pmax
comp=Z,12nm,1.0s
FNA Florina 18.03 270 P **P 08 11 39.7 +1.0**
KK31 Karatay Array 18.24 83 P **Pn 08 11 39.9 -0.9**
KK31 pmax pmax
comp=Z,22nm,0.8s
KK31 Karatay Array 18.24 83 P **Pn 08 11 39.9 -0.9**
NIE Niedzica 18.24 298 *e*P **P 08 11 44.7 +3.7**
CHGR Chuyangaron 18.51 97 P **P 08 11 44.0 -0.1**
OJC Ojcow 18.71 300 *e*P **P 08 11 45.5 -0.5**
OJC Ojcow 18.71 300 P **Pn 08 11 47.4 +1.0**
OJC pmax pmax
comp=Z,16nm,1.2s
OJC Ojcow 18.71 300 P **Pn 08 11 47.4 +1.0**
VSU Vasula 18.93 329 *i* P **P 08 11 48.6 +0.3**
VSU pmax pmax
comp=Z,47nm,0.8s
BRVK Borovoye 19.00 51 P **P 08 11 49.5 +0.3**
BRVK Borovoye 19.00 51 *ce*P **P 08 11 49.2 0.0**
BRVK pmax pmax
comp=Z,46nm,0.7s
BRVK Borovoye 19.00 51 P **P 08 11 49.0 -0.2**
BRVK IAmb IAmb 08 11 56.4
comp=Z,48nm,0.7s
BVAR Borovoye Array 19.05 51 Pn **P 08 11 48.2 -1.6**
comp=Z,5.5nm,0.3s,baz=235,slow=13,SNR=29
BVAR S Sn 08 15 12.5 -11
comp=Z,3.4nm,0.3s,baz=258,slow=22,SNR=8.1
PDG Podgorica 19.16 276 ⇑P **Pn 08 11 54.4 +2.5**
PDG Podgorica 19.16 276 P **Pn 08 11 53.7 +1.8**
GAR Garm 19.22 95 P **P 08 11 51.1 -0.8**
GAR IAmb IAmb 08 11 55.9
comp=Z,68nm,0.8s
SHME Shamm 19.49 150 P **Pn 08 11 55.9 -0.1**
BANOM Banah 19.66 150 *i* P **Pn 08 11 58.2 +0.1**
SNR=11
BANOM Banah 19.66 150 P **Pn 08 11 58.5 +0.4**
OKC Ostrava-Krasne 19.69 298 AMS AMS 08 20 20.0
comp=Z,400nm,13.9s
JAVC Velka Javorina 19.89 295 *e*P **Pn 08 12 03.0 +2.4**
RAYN Ar Rayn 19.95 180 P **Pn 08 12 01.2 -0.2**
RAYN pmax pmax
comp=Z,13nm,0.8s
RAYN Ar Rayn 19.95 180 P **Pn 08 12 01.2 -0.2**
MORC Moravsky Berou 20.07 298 *e*P Pn 08 12 03.3 +0.5
MODS Modra-Piesok 20.11 294 *e*P Pn 08 12 06.7 +3.5
MODS Modra-Piesok 20.11 294 *e*P Pn 08 12 06.7 +3.5
MSFE Esma-Masafi 20.13 151 *i* P **P 08 12 02.3 +0.6**
SNR=10
MDH Madha 20.23 150 *i* P **P 08 12 03.5 +0.7**
SNR=7.3
MDH Madha 20.23 150 P **P 08 12 03.6 +0.7**
NAZ Nazwa, Dubai 20.30 152 *i* P Pn 08 12 04.7 -0.8
SNR=6.9
NAZ Nazwa, Dubai 20.30 152 P Pn 08 12 04.8 -0.7
SNR=7.3
UOSS Minazif 20.52 151 *i* P **P 08 12 05.9 0.0**
SNR=12
UOSS Minazif 20.52 151 P **P 08 12 06.3 +0.3**
UOSS Minazif 20.52 151 P Pn 08 12 07.2 -1.0
UOSS IAmb IAmb 08 12 16.6
comp=Z,30nm,0.8s
KRLC Kraliky 20.60 299 *e*P Pn 08 12 12.1 +3.2
KRLC AMS AMS 08 21 30.0
comp=Z,300nm,13.1s
KRLC Kraliky 20.60 299 *e*P Pn 08 12 12.1 +3.2
KRLC MLR MLR
comp=Z,300nm,13.1s
HATD Hatta, Dubai 20.61 151 *i* P **P 08 12 08.0 +1.1**
SNR=16
HATD Hatta, Dubai 20.61 151 P **P 08 12 07.4 +0.5**
SNR=9.2
VRAC Vranov 20.63 296 P **P 08 12 05.2 -1.9**
comp=Z,1.8nm,0.5s,baz=229,slow=20,SNR=1.4
VRAC Vranov 20.63 296 *e*P Pn 08 12 08.7 -0.6
EKS2 Erkin-Say 20.68 83 P **P 08 12 08.5 +0.7**
SNR=14
ASHO Ashiyiah 20.71 152 *i* P **P 08 12 08.6 +0.5**
SNR=36
ASHO Ashiyiah 20.71 152 P **P 08 12 08.7 +0.6**
SNR=12
AML Almayashu 20.74 84 P **P 08 12 09.5 +0.8**
SNR=13
KRUC Moravsky 20.74 296 *e*P Pn 08 12 09.6 -1.0
DPC Dobruska-Polom 20.93 299 *e*P Pn 08 12 14.8 +2.0
DPC AMS AMS 08 20 50.0
comp=Z,300nm,16.0s
OSTC Ostas 21.02 300 AMS AMS 08 21 00.0
comp=Z,300nm,16.0s
CONA Conrad Observa 21.04 292 *i* Pn **P 08 12 13.7 +2.2**
comp=Z,11nm,1.3s,SNR=8.2
TMCR Tamitsa 21.11 351 *e*P **P 08 12 12.3 +0.3**
TMCR *e*S **S 08 16 06.8 +0.2**
TMCR pmax pmax
comp=Z,67nm,0.5s
CHVC Chvalec 21.13 300 *e*P **P 08 12 16.6 +4.2**
CHVC AMS AMS 08 21 00.0
comp=Z,300nm,15.1s
UPC Upice 21.14 300 *e*P **P 08 12 17.1 +4.5**
UPC AMS AMS 08 21 00.0
comp=Z,400nm,13.4s
UPC Upice 21.14 300 *e*P **P 08 12 17.1 +4.5**
UPC MLR MLR
comp=Z,400nm,13.4s
AAK Ala-Archa 21.21 82 P **P 08 12 14.2 +0.8**
SNR=9.8
AAK Ala-Archa 21.21 82 P **P 08 12 14.2 +0.8**
AAK Ala-Archa 21.21 82 *ce*P **P 08 12 13.9 +0.5**
AAK pmax pmax
comp=Z,11nm,0.8s
ARSA Arzberg 21.27 291 *i* P **P 08 12 14.2 +0.2**
comp=Z,12nm,1.3s
UCH Uchtor 21.31 83 P **P 08 12 15.3 +0.4**
SNR=7.5
FIA1 FINESS Array S 21.32 334 P **P 08 12 16.3 +2.0**
FIA1 IAmb IAmb 08 12 21.6
comp=Z,19nm,0.9s
FINES FINESS Array B 21.32 334 P **P 08 12 13.6 -0.7**
comp=Z,5.2nm,0.5s,baz=142,slow=11,SNR=21
FINES S S 08 15 56.3 -15
comp=Z,8.8nm,0.9s,baz=94,slow=14,SNR=3.1
FINES LR LR 08 21 14.2
comp=Z,285nm,18.2s,baz=194,slow=39
SOHO SOHO 21.39 151 P **P 08 12 16.2 +0.9**
SNR=17
KBK Karagaybulak 21.53 82 P **P 08 12 17.9 +1.0**
SNR=12
SOKA Soboth 21.62 289 *i* P **P 08 12 19.3 +1.5**
comp=Z,16nm,1.3s
GOPC GO Pecny, Ondr 21.86 298 AMS AMS 08 23 30.0
comp=Z,300nm,9.7s
KZA Kyzart 21.88 83 P **P 08 12 21.9 +0.9**
SNR=9.8
TIP Timpagrande 21.91 268 P **P 08 12 23.0 +2.1**
TKM2 Tokmak 2 21.94 81 P **P 08 12 21.0 -0.4**
SNR=12
OBKA Obir 21.96 289 *i* P **P 08 12 23.3 +1.8**
comp=Z,23nm,1.2s
PRU Pruhonice 22.02 298 *e*P P 08 12 29.7 +7.7
PRU AMS AMS 08 22 40.0
comp=Z,300nm,20.0s
PRU Pruhonice 22.02 298 *e*P P 08 12 29.7 +7.7
PRU MLR MLR
comp=Z,300nm,20.0s
PVCC Panska Ves 22.06 299 AMS AMS 08 21 40.0
comp=Z,300nm,14.6s
PRA Prague 22.10 298 AMS AMS 08 22 40.0
comp=Z,200nm,12.9s
MOA Molln 22.11 292 *i* P **P 08 12 24.6 +1.6**
comp=Z,5.2nm,1.1s
ARQ Araqi 22.12 152 P **P 08 12 23.9 +0.8**
SNR=11
HOQ Hoqain 22.17 150 P **P 08 12 24.1 +0.4**
SNR=6.3
BRG Berggiesshubel 22.50 300 *e*P **P 08 12 30.3 +3.2**
comp=Z,8.4nm,1.1s
BRG *e* 08 12 34.6
comp=Z,23nm,1.4s
comp=N,383nm,13.2s
comp=E,353nm,13.6s
comp=Z,363nm,17.4s
BRG Berggiesshubel 22.50 300 *e*P **P 08 12 30.3 +3.2**
BRG *e* 08 12 34.6
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG MLR MLR
comp=N,383nm,13.2s
BRG MLR MLR
comp=E,353nm,13.6s
BRG MLR MLR
comp=Z,363nm,17.4s
GEC2 GERESS Array S 22.50 295 *e*P **P 08 12 28.7 +1.4**
comp=Z,19nm,1.4s,baz=94,slow=9.9
GERES GERESS Array B 22.50 295 P **P 08 12 27.6 +0.4**
comp=Z,3.3nm,0.8s,baz=95,slow=10.0,SNR=16
ULHL Ulahol 22.55 83 P **P 08 12 31.3 +3.3**
SNR=8.8
MYKA Terra Mystica 22.58 289 *i* pP **P 08 12 30.7 +2.6**
comp=Z,3.4nm,0.5s
KHC Kasperske Hory 22.59 296 *e*P **P 08 12 30.6 +2.5**
KHC *ex* x 08 12 38.8
KHC *ex* x 08 12 49.5
KHC AMS AMS 08 22 00.0
comp=Z,300nm,15.2s
KHC Kasperske Hory 22.59 296 *ce*P **P 08 12 28.6 +0.5**
KHC pmax pmax
comp=Z,14nm,1.3s
KBA Koelnbreinsper 22.76 290 *i* P **P 08 12 30.3 +0.2**
comp=Z,24nm,1.3s
FBE Freiberg 22.87 300 *e*P **P 08 12 32.5 +1.5**
comp=Z,18nm,1.2s,baz=94,slow=9.9
BSY Bisya 22.90 151 P **P 08 12 32.0 +0.5**
SMDO Samad 22.92 149 P **P 08 12 32.6 +0.8**
SNR=11
WSAR Wadi Sarin 22.98 147 P **P 08 12 32.1 -0.2**
comp=Z,14nm,0.8s,baz=356,slow=12,SNR=6.6
WSAR Wadi Sarin 22.98 147 P **P 08 12 33.6 +1.3**
ZOU Zoufplan 23.05 289 P **P 08 12 33.4 +0.3**
WET Wettzell 23.05 296 *e*P **P 08 12 33.7 +0.7**
comp=Z,6.3nm,1.2s,baz=94,slow=9.9
INTR Introdacqua 23.13 277 P **P 08 12 34.8 +1.0**
INTR IAmb IAmb 08 12 44.0
comp=Z,20nm,1.1s
CLL Collm 23.14 301 *e*P **P 08 12 35.0 +1.3**
comp=Z,28nm,1.6s
CLL *i* 08 12 43.8
CLL Collm 23.14 301 P **P 08 12 35.8 +2.1**
CLL pmax pmax
comp=Z,28nm,1.5s
CLL Collm 23.14 301 P **P 08 12 35.8 +2.1**
CLL IAmb IAmb 08 12 46.4
comp=Z,28nm,1.5s
KSH Kashi 23.15 89 *e*P **P 08 12 32.4 -1.7**
KSH pmax pmax
comp=Z,11nm,0.7s
KSH pmax pmax
comp=Z,150nm,4.4s
KSH LR LR
comp=Z,640nm,12.2s
KSH LR LR
comp=Z,560nm,11.9s
STAL STALIGIAL 23.25 288 P **P 08 12 34.9 -0.2**
ABTA Abfaltersbach 23.35 289 *i* P **P 08 12 36.9 +0.9**
comp=Z,5.5nm,0.9s
NKC Novy Kostel 23.39 298 AMS AMS 08 23 40.0
comp=Z,300nm,10.8s
TANN Tannenbergstha 23.39 299 *e*P **P 08 12 37.6 +1.2**
comp=Z,76nm,2.2s,baz=94,slow=9.9
AQU L'Aquila 23.41 278 P **P 08 12 37.7 +1.1**
AQU pmax pmax
comp=Z,20nm,1.0s
AQU L'Aquila 23.41 278 P **P 08 12 37.7 +1.1**
AQU IAmb IAmb 08 12 52.3
comp=Z,20nm,1.0s
CIMO Cimolais 23.43 288 P **P 08 12 37.0 +0.2**
WERN Wernitzgruen 23.44 298 *e*P **P 08 12 38.4 +1.6**
comp=Z,22nm,1.5s,baz=94,slow=9.9
GUNZ Gunzen 23.47 299 *e*P **P 08 12 38.6 +1.4**
comp=Z,17nm,1.5s,baz=94,slow=9.9
KURBB Kurchatov Arra 23.49 61 P **P 08 12 38.0 +0.7**
comp=Z,7.1nm,0.5s,baz=270,slow=12,SNR=52
KURBB S **S 08 16 53.4 +2.7**
comp=Z,1.1nm,0.8s,baz=282,slow=18,SNR=1.9
NRCA Norcia 23.50 280 P **P 08 12 39.7 +2.1**
KURK Kurchatov 23.56 61 *ce*P **P 08 12 38.6 +0.7**
KURK pmax pmax
comp=Z,47nm,2.5s
KURK Kurchatov 23.56 61 P **P 08 12 37.2 -0.7**
KURK IAmb IAmb 08 12 56.1
comp=Z,21nm,0.9s
KURK Kurchatov 23.56 61 S **S 08 16 53.4 +1.6**
MANZ Manzenberg 23.59 298 *e*P **P 08 12 39.7 +1.4**
comp=Z,9.6nm,1.4s,baz=94,slow=9.9
WBK Wadi Bani Khal 23.68 147 P **P 08 12 40.0 +0.7**
NIL Nilore 23.78 105 P **P 08 12 39.7 -0.6**
NIL pmax pmax
comp=Z,14nm,0.8s
NIL Nilore 23.78 105 P **P 08 12 39.7 -0.6**
NIL IAmb IAmb 08 12 45.9
comp=Z,14nm,0.8s
TARG Taragay, Kyrgy 23.81 83 P **P 08 12 39.4 -1.6**
MURB Monte Urbino 23.83 281 P **P 08 12 42.2 +1.4**
WTTA Wattenberg 23.91 291 *i* P **P 08 12 41.9 +0.3**
comp=Z,16nm,0.9s,SNR=8.6
MOX Moxa 23.95 299 *e*P **P 08 12 43.2 +1.5**
comp=Z,34nm,2.0s,baz=94,slow=9.9
WATA Walderalm 23.95 291 *i* P **P 08 12 42.5 +0.5**
comp=Z,12nm,0.9s
CTI Castel Tesino 24.01 288 P **P 08 12 42.3 -0.2**
CTI pmax pmax
comp=Z,13nm,1.1s
CTI Castel Tesino 24.01 288 P **P 08 12 42.3 -0.2**
GRF Grafenberg Arr 24.15 297 *e*P **P 08 12 45.1 +1.4**
comp=Z,8.9nm,0.8s,baz=94,slow=9.9
SQTA Sankt Quirin 24.21 291 *i* P **P 08 12 44.7 +0.4**
comp=Z,18nm,0.9s,SNR=6.6
VAE Valguarnera 24.26 266 P **P 08 12 48.4 +3.6**
comp=Z,16nm,0.7s,baz=98,slow=7.1,SNR=1.8
MOTA Moosalm 24.27 291 *i* P **P 08 12 44.7 -0.2**
comp=Z,22nm,1.0s,SNR=11
RETA Reutte 24.49 291 *i* P **P 08 12 46.8 -0.1**
FETA Feichten 24.55 290 *i* P **P 08 12 46.8 -0.7**
comp=Z,20nm,1.0s,SNR=23
ASSE Asse, Remlinge 24.67 303 *e*P **P 08 12 49.7 +1.5**
comp=Z,9.8nm,1.2s,baz=94,slow=9.9
MHTO MHTO 24.79 151 P **P 08 12 49.8 +0.2**
SNR=18
CLZ Clausthal 24.83 302 *e*P **P 08 12 51.4 +1.6**
comp=Z,11nm,1.2s,baz=94,slow=9.9
FUORN Ofenpass-Fuorn 24.90 289 P **P 08 12 50.2 -0.6**
FUORN IAmb IAmb 08 13 06.4
comp=Z,31nm,1.2s
UBR Ueberruh 24.92 292 *e*P **P 08 12 52.4 +1.6**
comp=Z,26nm,1.2s,baz=94,slow=9.9
APA Apatity 24.95 349 ⇓*i* P P 08 12 58.8 +8.1
APA *i* 08 13 28.2
APA *i* S **S 08 17 16.0 +2.1**
APA pmax pmax
comp=Z,43nm,0.6s
APA MLR MLR
comp=Z,300nm,13.0s
NRDL Niedersach Rie 25.06 303 *e*P **P 08 12 53.6 +1.8**
comp=Z,11nm,1.5s,baz=94,slow=9.9
LVZ Lovozero 25.10 350 *i* P **P 08 12 53.3 +1.2**
LVZ pmax pmax
comp=Z,15nm,0.7s
DAVA Damuels 25.11 291 *i* P **P 08 12 52.5 0.0**
comp=Z,19nm,1.1s
BSEG Bad Segeberg 25.15 307 *e*P **P 08 12 54.7 +2.1**
comp=Z,34nm,1.2s,baz=94,slow=9.9
DAVOX Davos/Dischmat 25.15 290 P **P 08 12 52.8 -0.2**
comp=Z,12nm,0.8s,baz=109,slow=8.1,SNR=22
VLC Villacollemand 25.17 284 P **P 08 12 54.1 +1.1**
HFS Hagfors 25.35 322 P **P 08 12 54.6 +0.1**
comp=Z,3.9nm,0.5s,baz=131,slow=10,SNR=12
HFS S **S 08 17 27.6 +7.1**
comp=Z,1.7nm,0.7s,baz=138,slow=18,SNR=1.8
RETH Rethem/Aller, 25.54 304 *e*P **P 08 12 58.1 +2.0**
comp=Z,22nm,1.2s,baz=94,slow=9.9
MAKZ Makanchi 25.83 70 P **P 08 12 59.2 +0.3**
MAKZ pmax pmax
comp=Z,12nm,1.3s
MAKZ Makanchi 25.83 70 P **P 08 12 59.2 +0.3**
MK31 Makanchi Array 26.04 70 P **P 08 13 01.2 +0.3**
MK31 pmax pmax
comp=Z,8.0nm,1.2s
MK31 Makanchi Array 26.04 70 P **P 08 13 01.2 +0.3**
MKAR Makanchi Array 26.04 70 P **P 08 13 01.6 +0.7**
comp=Z,1.4nm,0.4s,baz=276,slow=7.9,SNR=30
MKAR S S 08 17 52.9 +21
comp=Z,0.7nm,0.7s,baz=268,slow=17,SNR=1.9
MKAR LR LR 08 25 04.6
comp=Z,202nm,18.2s,baz=276,slow=40
BFO Black Forest 26.08 294 P **P 08 13 02.3 +1.1**
BFO pmax pmax
comp=Z,15nm,1.5s
BFO Black Forest 26.08 294 P **P 08 13 02.3 +1.1**
BFO Black Forest 26.08 294 *e*P **P 08 13 03.4 +2.3**
comp=Z,9.0nm,1.2s,baz=94,slow=9.9
WHFO Wadi Hawf 26.48 162 P **P 08 13 04.4 -0.6**
SNR=13
NC405 NORSAR Array S 26.66 323 P **P 08 13 05.7 -0.6**
NC405 IAmb IAmb 08 13 13.5
comp=Z,20nm,1.0s
NB2 NORSAR Subarra 26.85 323 P **P 08 13 07.7 -0.3**
comp=Z,10nm,1.2s,baz=119,slow=10
NOA NORSAR Array B 26.85 323 P **P 08 13 07.3 -0.7**
comp=Z,2.1nm,1.0s,baz=118,slow=8.4,SNR=8.0
NC303 NORSAR Array S 26.86 323 P **P 08 13 07.8 -0.3**
NC303 IAmb IAmb 08 13 26.3
comp=Z,21nm,1.0s
NAO01 NORSAR Array S 26.91 322 P **P 08 13 07.9 -0.7**
NAO01 IAmb IAmb 08 13 15.5
comp=Z,16nm,1.1s
SENIN Lac Senin/Sane 26.97 289 P **P 08 13 08.6 -0.8**
NBO00 NORSAR Array S 27.04 322 P **P 08 13 07.6 -2.1**
NBO00 IAmb IAmb 08 13 17.2
comp=Z,11nm,1.0s
ZAA0 Zalesovo Array 27.65 54 P **P 08 13 14.9 -0.3**
ZALV Zalesovo Beam 27.65 54 P **P 08 13 15.7 +0.4**
comp=Z,4.8nm,0.8s,baz=266,slow=9.7,SNR=12
ZALV S S 08 18 14.1 +17
comp=Z,0.9nm,0.3s,baz=262,slow=20,SNR=2.1
ARCES ARCESS Array B 28.01 345 P **P 08 13 21.1 +2.8**
comp=Z,3.7nm,0.8s,baz=163,slow=9.7,SNR=8.7
ARCES LR LR 08 24 35.2
comp=Z,171nm,20.0s,baz=232,slow=37
DAMY Dhamar 28.86 182 P **P 08 13 28.6 +2.0**
DAMY IAmb IAmb 08 13 29.7
comp=Z,16nm,0.8s
SSB Saint Sauveur 29.05 288 P **P 08 13 28.3 +0.5**
SSB pmax pmax
comp=Z,13nm,1.3s
SSB Saint Sauveur 29.05 288 P **P 08 13 28.3 +0.5**
SSB IAmb IAmb 08 13 33.1
comp=Z,13nm,1.3s
WMQ Urumqi 30.33 75 *e*P **P 08 13 41.7 +2.4**
WMQ pmax pmax
comp=Z,39nm,1.1s
WMQ pmax pmax
comp=Z,160nm,6.3s
WMQ LR LR
comp=Z,250nm,20.1s
WMQ LR LR
comp=Z,310nm,21.3s
NRIK Noril'sk 33.59 25 P **P 08 14 09.3 +1.8**
comp=Z,5.8nm,0.6s,baz=108,slow=1.9,SNR=11
NRIK LR LR 08 31 18.1
comp=Z,254nm,18.9s,baz=266,slow=42
SPA0 Spitsbergen Ar 36.63 350 P **P 08 14 32.7 -0.9**
SPITS Spitsbergen Ar 36.63 350 P **P 08 14 33.6 +0.1**
comp=Z,28nm,0.9s,baz=132,slow=12,SNR=17
ESDC Sonseca Array 36.70 281 P **P 08 14 33.2 -1.5**
comp=Z,0.8nm,0.8s,baz=64,slow=8.7,SNR=3.2
TAM Tamanrasset 38.81 251 P **P 08 14 53.7 +0.9**
TAM pmax pmax
comp=Z,13nm,1.2s
TAM Tamanrasset 38.81 251 P **P 08 14 53.7 +0.9**
TAM IAmb IAmb 08 14 54.7
comp=Z,13nm,1.2s
TLY Talaya 39.15 57 *i* P **P 08 14 56.2 +1.0**
TLY pmax pmax
comp=Z,3.0nm,0.6s
TLY MLR MLR
comp=Z,51nm,13.0s
GTA Gaotai 40.35 77 ⇑P P 08 14 58.4 -7.1
GTA pP pP 08 15 06.1 -2.7
GTA sP sP 08 15 09.0 -1.1
GTA S S 08 21 04.0 -9.3
GTA sS pS 08 21 13.3 -3.8
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA pmax pmax
comp=Z,55nm,7.5s
GTA LR LR
comp=N,240nm,20.6s
GTA LR LR
comp=E,290nm,19.0s
GTA LR LR
comp=Z,120nm,19.0s
SHL Shillong 41.65 100 P **P 08 15 15.6 -0.8**
SHL pmax pmax
comp=Z,9.0nm,0.9s
SHL Shillong 41.65 100 P **P 08 15 15.6 -0.8**
SHL IAmb IAmb 08 15 16.3
comp=Z,9.2nm,0.9s
SONM Songino Array 41.85 62 P **P 08 15 18.3 +0.6**
comp=Z,2.0nm,0.7s,baz=283,slow=9.6,SNR=14
DAG Danmarks Havn 42.19 342 *i* P **P 08 15 21.0 +1.1**
comp=Z,9.5nm,0.8s
DAG Danmarks Havn 42.19 342 *i* P **P 08 15 21.0 +1.1**
DAG pmax pmax
comp=Z,10.0nm,0.8s
ULN Ulaanbaatar 42.26 62 *ce*P **P 08 15 22.2 +1.1**
ULN pmax pmax
comp=Z,10.0nm,0.8s
ULN Ulaanbaatar 42.26 62 P **P 08 15 21.3 +0.2**
ULN IAmb IAmb 08 15 23.1
comp=Z,9.3nm,0.8s
NOR Nord 43.22 349 *i* P **P 08 15 32.3 +4.1**
comp=Z,7.6nm,1.0s
NOR Nord 43.22 349 *i* P **P 08 15 32.3 +4.1**
NOR pmax pmax
comp=Z,8.0nm,1.0s
BOD Bodaibo 43.79 46 *e*P **P 08 15 33.6 +0.5**
BOD pmax pmax
comp=Z,33nm,0.7s
LZH Lanzhou 44.68 79 *e*P **P 08 15 42.2 +1.4**
LZH pP sP 08 15 46.8 +1.4
LZH sP pP 08 15 49.6 +5.5
LZH pmax pmax
comp=Z,19nm,0.9s
SUMG Summit 47.34 336 *i* P **P 08 16 03.7 +2.2**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
SUMG	**Summit**	**47.34**	**336**	P	**P**	**08 16 02.8**	**+1.3**
SUMG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
SUMG	**Summit**	**47.34**	**336**	P	**P**	**08 16 02.8**	**+1.3**
SUMG				IAmb	IAmb	08 16 04.1	
	comp=Z,7.7nm,1.0s						
TIXI	**Tiksi**	**47.38**	**25**	P	**P**	**08 16 02.8**	**+1.5**
	comp=Z,3.1nm,0.5s,baz=306,slow=5.7,SNR=7.9						
TIXI	**Tiksi**	**47.38**	**25**	*ce*P	**P**	**08 16 01.3**	**0.0**
TIXI				pmax	pmax		
	comp=Z,14nm,1.3s						
TIXI				MLR	MLR		
	comp=Z,57nm,18.0s						
TIXI	**Tiksi**	**47.38**	**25**		**P**	**08 16 01.5**	**+0.3**
HHC	**Hu-ho-hao-te**	**47.91**	**69**	*e*P	**P**	**08 16 08.4**	**+2.4**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,40nm,5.8s						
HHC				LR	LR		
	comp=Z,170nm,17.5s						
HHC				LR	LR		
	comp=Z,86nm,17.0s						
TOA0	**Torodi Ar. Sit**	**48.16**	**245**	P	**P**	**08 16 07.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**48.16**	**245**	P	**P**	**08 16 07.4**	**-0.7**
	comp=Z,14nm,0.9s,baz=39,slow=7.8,SNR=67						
XAN	**Xi'an**	**49.31**	**79**	P	**P**	**08 16 16.9**	**+0.1**
XAN				pP	sP	08 16 29.2	+7.7
XAN				pmax	pmax		
	comp=Z,14nm,0.8s						
XAN				pmax	pmax		
	comp=Z,120nm,3.5s						
XAN				LR	LR		
	comp=Z,240nm,16.3s						
XAN				LR	LR		
	comp=Z,190nm,14.1s						
XAN				LR	LR		
	comp=Z,220nm,20.6s						
YAK	**Yakutsk**	**50.25**	**38**	P	**P**	**08 16 24.3**	**+0.9**
	comp=Z,15nm,0.5s,baz=240,slow=0.8,SNR=4.1						
YAK	**Yakutsk**	**50.25**	**38**	P	**P**	**08 16 24.4**	**+0.9**
YAK				pmax	pmax		
	comp=Z,29nm,0.6s						
YAK	**Yakutsk**	**50.25**	**38**	IAmb	IAmb	08 16 24.6	
	comp=Z,29nm,0.6s						
CHTO	**Chiang Mai**	**50.97**	**101**	P	**P**	**08 16 29.4**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CHTO	**Chiang Mai**	**50.97**	**101**	P	**P**	**08 16 29.4**	**-0.1**
CMAR	**Chiang Mai Arr**	**51.20**	**102**	P	**P**	**08 16 31.1**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=306,slow=8.0,SNR=11						
SFJD	**Kangerlussuaq**	**53.07**	**331**	P	**P**	**08 16 43.4**	**-1.1**
SFJD				pmax	pmax		
	comp=Z,9.0nm,0.8s						
SFJD	**Kangerlussuaq**	**53.07**	**331**	P	**P**	**08 16 43.4**	**-1.1**
SFJD				IAmb	IAmb	08 16 45.3	
	comp=Z,9.2nm,0.8s						
WHN	**Wuhan**	**55.06**	**79**	⇑P	P	08 17 04.7	+5.2
KLR	**Kul'dur**	**56.72**	**51**	*ce*P	**P**	**08 17 11.6**	**+0.5**
KLR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KLR				MLR	MLR		
	comp=Z,87nm,12.0s						
DBIC	**Dimbokro**	**57.26**	**245**	P	**P**	**08 17 14.4**	**-0.9**
	comp=Z,14nm,0.8s,baz=22,slow=8.5,SNR=16						
DBIC	**Dimbokro**	**57.26**	**245**	P	**P**	**08 17 14.4**	**-0.9**
DBIC				pmax	pmax		
	comp=Z,15nm,0.8s						
DBIC	**Dimbokro**	**57.26**	**245**	IAmb	IAmb	08 17 15.5	
	comp=Z,15nm,0.8s						
TIC	**Toumodi**	**57.38**	**245**	*e*P	**P**	**08 17 15.3**	**-1.0**
KIC	**Kosan Boka**	**57.41**	**245**	*e*P	**P**	**08 17 15.6**	**-0.9**
	comp=Z,69nm,1.1s						
NJ2	**Nanjing**	**57.41**	**75**	*e*P	**P**	**08 17 14.6**	**-1.7**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LIC	**Lamto**	**57.70**	**245**	*e*P	**P**	**08 17 17.5**	**-1.0**
	comp=Z,125nm,1.0s						
QIZ	**Qiongzhong**	**58.69**	**93**	P	**P**	**08 17 26.2**	**+0.8**
QIZ				S	**S**	**08 25 31.4**	**+1.2**
QIZ				LR	LR		
	comp=Z,220nm,16.2s						
QIZ				LR	LR		
	comp=Z,140nm,17.2s						
QIZ				LR	LR		
	comp=Z,170nm,16.2s						
BILL	**Bilibino**	**60.30**	**22**	⇑*e*P	**P**	**08 17 37.1**	**+1.3**
BILL				*i*		08 17 41.3	
BILL				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,90nm,23.0s						
BILL	**Bilibino**	**60.30**	**22**		**P**	**08 17 36.9**	**+1.1**
BILL				IAmb	IAmb	08 17 41.7	
	comp=Z,11nm,0.9s						
MA2	**Magadan**	**60.48**	**34**	*ce*P	**P**	**08 17 38.4**	**+1.2**
MA2				pmax	pmax		
	comp=Z,11nm,1.3s						
MA2				MLR	MLR		
	comp=Z,150nm,18.0s						
MA2	**Magadan**	**60.48**	**34**		**P**	**08 17 36.7**	**-0.5**
MA2				IAmb	IAmb	08 17 39.4	
	comp=Z,10nm,0.9s						
KSRS	**Korea Array**	**60.58**	**65**	P	**P**	**08 17 38.4**	**+0.2**
	comp=Z,2.8nm,0.4s,baz=301,slow=7.7,SNR=13						
TPUB	**Ta-pu**	**63.85**	**82**	P	**P**	**08 18 01.0**	**+0.6**
SCHQ	**Schefferville**	**66.41**	**324**	P	**P**	**08 18 16.4**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=41,slow=4.7,SNR=5.1						
SCHQ	**Schefferville**	**66.41**	**324**	IAmb	IAmb	08 18 17.4	
	comp=Z,9.7nm,1.4s						
RDOG	**Red Dog Mine**	**66.72**	**11**	P	**P**	**08 18 18.0**	**-0.3**
C36M	**Paulatuk**	**67.19**	**356**	P	**P**	**08 18 22.4**	**+1.2**
PETK	**Petropavlovsk-**	**67.59**	**37**	P	**P**	**08 18 23.8**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=284,slow=7.3,SNR=4.5						
PETK				LR	LR	08 50 42.5	
	comp=Z,80nm,19.9s,baz=50,slow=38						
TOLK	**Toolik Lake Re**	**67.60**	**6**	P	**P**	**08 18 25.0**	**+1.1**
MJAR	**Matsushiro Arr**	**67.77**	**60**	P	**P**	**08 18 26.2**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=324,slow=9.7,SNR=4.1						
INK	**Inuvik**	**68.50**	**360**	P	**P**	**08 18 29.9**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=355,slow=7.0,SNR=9.4						
INK	**Inuvik**	**68.50**	**360**	P	**P**	**08 18 29.6**	**+0.1**
INK				pmax	pmax		
	comp=Z,12nm,1.5s						
INK	**Inuvik**	**68.50**	**360**	P	**P**	**08 18 29.6**	**+0.1**
INK				IAmb	IAmb	08 18 36.2	
	comp=Z,12nm,1.4s						
EPYK	**Eagle Plains**	**70.43**	**1**	P	**P**	**08 18 42.2**	**+0.7**
EPYK				IAmb	IAmb	08 18 46.7	
	comp=Z,10nm,1.0s						
MLY	**Manley**	**71.05**	**7**	P	**P**	**08 18 46.5**	**+1.2**
MLY				IAmb	IAmb	08 18 51.3	
	comp=Z,8.0nm,1.0s						
COLA	**College**	**71.45**	**6**	P	**P**	**08 18 48.4**	**+0.8**
COLA				pmax	pmax		
	comp=Z,15nm,0.9s						
COLA	**College**	**71.45**	**6**	P	**P**	**08 18 48.4**	**+0.8**
ILAR	**Eielson Array**	**71.62**	**6**	P	**P**	**08 18 48.8**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=336,slow=6.3,SNR=15						
ILAR				LR	LR	08 51 49.6	
	comp=Z,49nm,21.0s,baz=4.5,slow=37						
CCB	**Clear Creek Bu**	**71.67**	**6**	P	**P**	**08 18 49.6**	**+0.6**
CCB				IAmb	IAmb	08 18 50.6	
	comp=Z,6.3nm,0.8s						
EGAK	**Eagle**	**71.92**	**3**	P	**P**	**08 18 51.2**	**+0.7**
EGAK				IAmb	IAmb	08 18 53.1	
	comp=Z,5.9nm,0.9s						
HDA	**Harding Lake**	**71.97**	**6**	P	**P**	**08 18 51.4**	**+0.5**
SCRK	**Sand Creek**	**72.59**	**4**	P	**P**	**08 18 54.8**	**+0.1**
SCRK				IAmb	IAmb	08 18 56.7	
	comp=Z,4.4nm,1.0s						
RIDG	**Independent Ri**	**72.78**	**5**	P	**P**	**08 18 56.6**	**+0.9**
RIDG				IAmb	IAmb	08 19 01.2	
	comp=Z,11nm,1.0s						
RND	**Reindeer**	**72.81**	**7**	P	**P**	**08 18 55.6**	**-0.4**
RND				pmax	pmax		
	comp=Z,8.0nm,0.7s						
RND	**Reindeer**	**72.81**	**7**	P	**P**	**08 18 55.6**	**-0.4**
RND				IAmb	IAmb	08 18 56.7	
	comp=Z,8.3nm,0.7s						
DOT	**Dot Lake**	**72.91**	**4**	P	**P**	**08 18 57.8**	**+1.4**
DOT				IAmb	IAmb	08 19 02.3	
	comp=Z,16nm,1.2s						
YKA	**Yellowknife Ar**	**73.13**	**350**	P	**P**	**08 18 58.3**	**+0.6**
	comp=Z,4.8nm,0.8s,baz=15,slow=5.9,SNR=40						
MENT	**Mentasta**	**73.64**	**4**	P	**P**	**08 19 02.1**	**+1.3**
BOSA	**Boshof**	**74.13**	**198**	P	**P**	**08 19 03.5**	**-0.5**
	comp=Z,3.3nm,0.6s,baz=3.2,slow=5.7,SNR=8.6						
BOSA	**Boshof**	**74.13**	**198**	P	**P**	**08 19 03.5**	**-0.5**
BOSA				pmax	pmax		
	comp=Z,17nm,1.5s						
BOSA	**Boshof**	**74.13**	**198**	IAmb	IAmb	08 19 08.0	
	comp=Z,17nm,1.4s						
SML	**Sawmill**	**74.44**	**7**	P	**P**	**08 19 05.5**	**0.0**
SCM	**Sheep Creek Mo**	**74.49**	**6**	P	**P**	**08 19 06.6**	**+0.7**
SCM				pmax	pmax		
	comp=Z,19nm,0.8s						
SCM	**Sheep Creek Mo**	**74.49**	**6**	P	**P**	**08 19 06.5**	**+0.7**
KNK	**Knik Glacier**	**74.82**	**7**	P	**P**	**08 19 08.6**	**+0.9**
HYT	**Haines Junctio**	**75.98**	**1**		**P**	**08 19 14.9**	**+0.4**
HYT				IAmb	IAmb	08 19 20.3	
	comp=Z,12nm,0.9s						
PCA	**Pinnacle**	**76.64**	**3**	P	**P**	**08 19 17.2**	**-0.9**
FFC	**Flin Flon**	**78.27**	**341**	P	**P**	**08 19 27.8**	**+0.6**
FFC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FFC	**Flin Flon**	**78.27**	**341**	P	**P**	**08 19 27.8**	**+0.6**
FFC				IAmb	IAmb	08 19 28.6	
	comp=Z,4.4nm,0.8s						
DLBC	**Dease Lake**	**78.34**	**358**	P	**P**	**08 19 28.8**	**+1.1**
DLBC				IAmb	IAmb	08 19 34.6	
	comp=Z,13nm,1.4s						
OHAK	**Old Harbor**	**78.41**	**10**	P	**P**	**08 19 28.4**	**+0.5**
G40A	**Rib Lake**	**83.19**	**330**	P	**P**	**08 19 53.6**	**-0.2**
G40A				IAmb	IAmb	08 19 55.2	
	comp=Z,4.3nm,0.9s						
I37A	**Lemond, Waseca**	**85.41**	**332**	P	**P**	**08 20 04.3**	**-0.8**
I37A				IAmb	IAmb	08 20 06.7	
	comp=Z,8.9nm,0.9s						
LLLB	**Lillooet**	**85.60**	**352**	P	**P**	**08 20 05.3**	**-0.7**
LLLB				IAmb	IAmb	08 20 11.6	
	comp=Z,8.2nm,0.9s						
EGMT	**Eagleton**	**86.25**	**344**	P	**P**	**08 20 09.7**	**+0.3**
EGMT				IAmb	IAmb	08 20 10.6	
	comp=Z,4.3nm,1.1s						
L40A	**Anamosa**	**86.33**	**329**	P	**P**	**08 20 09.8**	**+0.2**
L40A				IAmb	IAmb	08 20 10.4	
	comp=Z,7.9nm,0.9s						
K38A	**Parkersburg**	**86.39**	**330**	P	**P**	**08 20 09.2**	**-0.8**
LAO	**LASA Array**	**86.73**	**341**	P	**P**	**08 20 12.2**	**+0.5**
LAO				IAmb	IAmb	08 20 14.1	
	comp=Z,9.4nm,0.9s						
ECSD	**EROS Data Cent**	**86.74**	**333**	P	**P**	**08 20 12.2**	**+0.5**
ECSD				IAmb	IAmb	08 20 16.6	
	comp=Z,4.1nm,1.1s						
NEW	**Newport**	**87.32**	**348**	P	**P**	**08 20 15.0**	**+0.5**
NEW				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NEW	**Newport**	**87.32**	**348**	P	**P**	**08 20 15.0**	**+0.5**
YNE	**Yellowstone No**	**89.18**	**343**	P	**P**	**08 20 23.9**	**+0.2**
MGMO	**Mountain Grove**	**90.99**	**327**	P	**P**	**08 20 31.9**	**-0.1**
MGMO				IAmb	IAmb	08 20 33.3	
	comp=Z,4.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**95.41**	**110**	P	**P**	**08 20 51.7**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=201,slow=3.7,SNR=5.1						
FITZ	**Fitzroy Crossi**	**95.41**	**110**	P	**P**	**08 20 51.3**	**-1.0**
WRA	**Warramunga Arr**	**102.69**	**105**	P	**Pdif**	**08 21 23.9**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=317,slow=4.2,SNR=6.0						
ASAR	**Alice Springs**	**104.84**	**109**	Pdiff	**Pdif**	**08 21 33.2**	**-1.3**
	comp=Z,0.7nm,0.8s,baz=310,slow=3.9,SNR=5.7						
STKA	**Stephens Creek**	**115.28**	**111**	PKP	**PKPdf**	**08 26 07.5**	**-1.7**
	comp=Z,1.3nm,0.6s,baz=351,slow=5.0,SNR=4.1						
NVL	**N'lazarevskaya**	**116.53**	**192**	*e*PKIKP	**PKPdf**	**08 26 04.6**	**-5.7**
NVL				pmax	pmax		
	comp=Z,7.0nm,0.7s						

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*DJA **02** 08:19:33.3±0.4, 6°S±3°×10°4E±°, h10km, M4.6/12, MLv4.6/12*
*NEIC **02** 08:19:34.1±2.8, 6°.16S±0°.07×103°.61E±0°.07, h45km±6km, mb4.8/27, Error ellipse: s-maj=12.6km s-min=8.0km az=221.0*
*BJI **02** 08:19:35.0±0.0, 6°.10S×103°.70E, h60km, mB5.2/10, mb4.9/19, Ms4.9/4*
*IDC **02** 08:19:36.1±0.9, 5°.99S×103°.79E, h53km±7km, mb4.2/18, mb1 4.3/18, mb1mx4.0/42, mbtmp4.5/18, MS3.7/5, Ms1 3.7/5, ms1mx3.1/45, Error ellipse: s-maj=24.1km s-min=11.6km az=51.0*
ISC 02 08:19:33.8±0.4**, 6°.16S**±0°.06×**103°.64E**±0°.06**, h38**km**, n91, σ1§28**/88**, mb4.7**/35**, MS3.8**/5**, Southwest of Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.06**	**53**	P	**Pn**	**08 19 51.5**	**-0.6**
KASI				S	**Sn**	**08 20 04.1**	**-1.5**
LWLI	**Liwa**	**1.21**	**20**	P	**Pn**	**08 19 55.1**	**+0.8**
LWLI				S	**Sn**	**08 20 09.8**	**+0.3**
MDSI	**Maura Dua**	**1.75**	**18**	P	**Pn**	**08 20 03.0**	**+1.4**
BLSI	**Bandar Lampung**	**1.78**	**64**	P	**Pn**	**08 20 02.8**	**+0.8**
BLSI				S	**Sn**	**08 20 24.7**	**+1.3**
MNAI	**Manna**	**1.92**	**339**	P	**Pn**	**08 20 06.3**	**+2.3**
MNAI	**Manna**	**1.92**	**339**		**Pn**	**08 20 05.8**	**+1.8**
LHSI	**Lahat**	**2.32**	**357**	P	**Pn**	**08 20 12.3**	**+2.8**
KSI	**Kapahiang**	**2.70**	**337**	P	**Pn**	**08 20 16.5**	**+1.7**
DBJI	**Dramaga**	**3.11**	**97**	P	Pn	08 20 31.8	+11
CBJI	**Citeko**	**3.20**	**95**	P	**Pn**	**08 20 26.1**	**+4.5**
MASI	**Maura Aman, Be**	**3.31**	**335**	P	**Pn**	**08 20 24.6**	**+1.4**
CNJI	**Cibinong**	**3.65**	**108**	P	**Pn**	**08 20 28.8**	**+1.1**
LEM	**Lembang**	**4.00**	**100**	P	**Pn**	**08 20 36.2**	**+3.4**
	8.5nm,0.3s,baz=170,slow=12,SNR=6.0						
LEM				S	**Sn**	**08 21 18.6**	**0.0**
	12nm,0.3s,baz=136,slow=17,SNR=4.6						
LEM				LR	LR	08 22 27.6	
	comp=Z,576nm,18.8s,baz=302,slow=44						
LEM	**Lembang**	**4.00**	**100**	P	**Pn**	**08 20 33.1**	**+0.3**
CISI	**Cisompet, Garu**	**4.37**	**109**	P	**Pn**	**08 20 38.2**	**+0.5**
CISI	**Cisompet, Garu**	**4.37**	**109**	Pn	**Pn**	**08 20 38.1**	**+0.3**
PPSI	**Pulau Pagai**	**4.95**	**313**	P	**Pn**	**08 20 46.7**	**+1.0**
UGM	**Wanagama**	**7.05**	**105**	Pn	**Pn**	**08 21 14.2**	**-0.3**
COCO	**West Island**	**9.00**	**228**	Pn	**Pn**	**08 21 39.6**	**-1.7**
GSI	**Gunungsitoli**	**9.58**	**321**	Pn	**Pn**	**08 21 47.5**	**-1.7**
RPSI	**Rantau Prapat**	**9.98**	**332**	Pn	**Pn**	**08 21 56.9**	**+2.1**
JAGI	**Jajag, Banyuwa**	**10.67**	**103**	Pn	**Pn**	**08 22 05.5**	**+1.2**
GIRL	**Giralia**	**19.31**	**149**	P	**P**	**08 23 56.3**	**+0.6**
BATI	**Baumata**	**20.21**	**103**	P	**P**	**08 24 05.5**	**-0.3**
	42nm,0.4s,baz=216,slow=2.4,SNR=6.0						
BATI				LR	LR	08 32 20.1	
	comp=Z,364nm,18.4s,baz=282,slow=38						
FITZ	**Fitzroy Crossi**	**24.52**	**121**	P	**P**	**08 24 50.2**	**+0.3**
	3.4nm,0.7s,baz=273,slow=8.3,SNR=8.3						
FITZ	**Fitzroy Crossi**	**24.52**	**121**	P	**P**	**08 24 48.8**	**-1.2**
FITZ				IAmb	IAmb	08 25 09.4	
	comp=Z,23nm,1.4s						
CMAR	**Chiang Mai Arr**	**24.90**	**349**	P	**P**	**08 24 52.5**	**-0.9**
	comp=Z,9.7nm,0.7s,baz=181,slow=8.9,SNR=54						
CMAR				LR	LR	08 35 17.1	
	comp=Z,94nm,18.9s,baz=200,slow=38						
CHTO	**Chiang Mai**	**25.25**	**350**	P	**P**	**08 24 55.5**	**-1.0**
KNRA	**Kununurra**	**26.38**	**113**	P	**P**	**08 25 05.7**	**-1.2**
KNRA				IAmb	IAmb	08 25 26.6	
	comp=Z,50nm,1.4s						
H01W3	**Cape Leeuwin H**	**30.18**	**163**	T	T	08 57 03.5	
	baz=341,slow=76,SNR=9.6						
H01W2	**Cape Leeuwin H**	**30.19**	**163**	T	T	08 57 01.6	
	baz=341,slow=76,SNR=12						
H01W1	**Cape Leeuwin H**	**30.19**	**163**	T	T	08 57 07.0	
	baz=341,slow=76,SNR=9.4						
H08S2	**Diego Garcia H**	**30.96**	**265**	T	T	08 58 20.5	
	baz=90,slow=75,SNR=32						
H08S3	**Diego Garcia H**	**30.97**	**265**	T	T	08 58 19.4	
	baz=90,slow=75,SNR=24						
H08S1	**Diego Carcia H**	**30.98**	**265**	T	T	08 58 07.8	
	baz=90,slow=75,SNR=14						
WB0	**Warramunga Arr**	**32.79**	**117**	P	**P**	**08 26 00.6**	**-3.2**
WRA	**Warramunga Arr**	**32.81**	**118**	P	**P**	**08 26 03.5**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=291,slow=10,SNR=11						
WB2	**Warramunga Arr**	**32.82**	**118**	P	P	08 25 58.7	-5.3
WB2				IAmb	IAmb	08 26 03.7	
	comp=Z,21nm,1.6s						
WR0	**Warramunga Arr**	**32.99**	**117**	P	**P**	**08 26 05.3**	**-0.2**
WR0				IAmb	IAmb	08 26 26.5	
	comp=Z,42nm,1.9s						
ASAR	**Alice Springs**	**33.90**	**124**	P	**P**	**08 26 13.9**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=306,slow=8.6,SNR=9.1						
ASAR				pP	**sP**	**08 26 28.2**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=302,slow=8.1,SNR=11						
ASAR				LR	LR	08 41 34.0	
	comp=Z,67nm,18.7s,baz=287,slow=39						
TAPN	**Taplejung**	**36.71**	**336**	*e*P	**P**	**08 26 38.5**	**+0.7**
RAMN	**Ramite**	**36.82**	**334**	*e*P	**P**	**08 26 39.6**	**+0.9**
JIRN	**Jiri**	**37.62**	**334**	*e*P	**P**	**08 26 46.1**	**+0.5**
	comp=Z,66nm,0.7s						
PKI	**Pulchoki**	**37.88**	**333**	*e*P	**P**	**08 26 48.0**	**+0.2**
GUN	**Gumba**	**37.97**	**334**	*e*P	**P**	**08 26 49.1**	**+0.6**
	comp=Z,58nm,0.7s						
KKN	**Kakani**	**38.13**	**333**	*e*P	**P**	**08 26 50.2**	**+0.5**
	comp=Z,31nm,0.7s						
KOLN	**Koldanda**	**38.90**	**331**	*e*P	**P**	**08 26 56.8**	**+0.6**
	comp=Z,46nm,0.7s						
DANN	**Dangsing**	**39.31**	**332**	*e*P	**P**	**08 27 00.1**	**+0.4**
	comp=Z,74nm,0.7s						
PYUN	**Piuthan**	**39.47**	**331**	*e*P	**P**	**08 27 01.1**	**+0.2**
	comp=Z,35nm,0.5s						
COEN	**Coen**	**39.64**	**104**	P	**P**	**08 27 00.9**	**-1.4**
COEN				IAmb	IAmb	08 27 24.0	
	comp=Z,20nm,1.4s						
BBOO	**Buckleboo**	**40.15**	**136**	P	**P**	**08 27 06.5**	**+0.1**
BBOO				IAmb	IAmb	08 27 48.5	
	comp=Z,17nm,1.3s						
XAN	**Xi'an**	**40.29**	**7**	P	P	08 27 18.3	+11
XAN				pmax	pmax		
	comp=Z,7.0nm,1.7s						
STKA	**Stephens Creek**	**43.69**	**131**	P	**P**	**08 27 35.6**	**+0.3**
	comp=Z,3.0nm,0.6s,baz=302,slow=7.6,SNR=11						
STKA	**Stephens Creek**	**43.69**	**131**	P	**P**	**08 27 36.0**	**+0.7**
GTA	**Gaotai**	**45.48**	**356**	*e*P	**P**	**08 27 49.7**	**+0.2**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
JNU	**Nakatsue**	**46.85**	**32**	P	**P**	**08 27 58.8**	**-1.6**
KSRS	**Korea Array**	**48.95**	**26**	P	**P**	**08 28 16.5**	**+0.1**
	comp=Z,6.7nm,0.7s,baz=222,slow=7.6,SNR=25						
NIL	**Nilore**	**48.96**	**326**	P	**P**	**08 28 16.3**	**-0.4**
NIL				IAmb	IAmb	08 28 31.6	
	comp=Z,11nm,1.0s						
KSH	**Kashi**	**52.15**	**333**	*e*P	**P**	**08 28 40.2**	**-0.6**
KSH				pmax	pmax		
	comp=Z,13nm,0.5s						
KSH				pmax	pmax		
	comp=Z,480nm,6.9s						
TARG	**Taragay, Kyrgy**	**53.19**	**336**	P	**P**	**08 28 48.2**	**-0.6**
TARG				IAmb	IAmb	08 28 59.1	
	comp=Z,4.6nm,0.8s						
MJAR	**Matsushiro Arr**	**53.40**	**35**	P	**P**	**08 28 47.5**	**-2.4**
	comp=Z,1.2nm,1.0s,baz=224,slow=9.4,SNR=7.1						
CN2	**Changchun**	**53.49**	**20**	*e*P	**P**	**08 28 49.4**	**-1.0**
CN2				*e*S	**S**	**08 36 21.5**	**+0.9**
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				pmax	pmax		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=Z,400nm,14.0s						
CN2				LR	LR		
	comp=Z,300nm,14.0s						
SONM	**Songino Array**	**53.82**	**2**	P	**P**	**08 28 53.3**	**+0.4**
	comp=Z,12nm,0.8s,baz=182,slow=8.8,SNR=51						
SONM				pP	**pwP**	**08 29 06.7**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=172,slow=7.1,SNR=3.6						
ULN	**Ulaanbaatar**	**53.88**	**3**	P	**P**	**08 28 53.8**	**+0.5**
ULN				IAmb	IAmb	08 28 54.4	
	comp=Z,6.0nm,0.8s						
GAR	**Garm**	**54.51**	**328**	P	**P**	**08 28 59.0**	**+0.8**
GAR				IAmb	IAmb	08 29 13.4	
	comp=Z,8.2nm,0.8s						
MK31	**Makanchi Array**	**56.03**	**342**	P	**P**	**08 29 08.7**	**-0.1**
MK31				IAmb	IAmb	08 29 09.8	
	comp=Z,4.4nm,0.8s						
MKAR	**Makanchi Array**	**56.03**	**342**	P	**P**	**08 29 08.5**	**-0.3**
	comp=Z,7.1nm,0.7s,baz=145,slow=8.2,SNR=64						
MAKZ	**Makanchi**	**56.13**	**342**	P	**P**	**08 29 10.1**	**+0.6**
USA0B	**Ussuriysk Arra**	**56.27**	**24**	P	**P**	**08 29 10.0**	**-0.4**
USRK	**Ussuriysk Ar.**	**56.27**	**24**	P	**P**	**08 29 10.0**	**-0.5**
	comp=Z,6.2nm,0.6s,baz=219,slow=8.0,SNR=12						
HIA	**Hailar**	**56.96**	**13**	P	**P**	**08 29 14.7**	**-0.7**
HIA				IAmb	IAmb	08 30 44.2	
	comp=Z,7.6nm,0.5s						
KK31	**Karatay Array**	**57.50**	**332**	P	**P**	**08 29 17.7**	**-1.6**
CASY	**Casey**	**60.21**	**177**	P	**P**	**08 29 39.7**	**+2.0**
KURK	**Kurchatov**	**60.63**	**342**	P	**P**	**08 29 39.6**	**-1.2**
KURK				IAmb	IAmb	08 29 42.1	
	comp=Z,6.6nm,0.8s						
JKA	**Kamikawa-asahi**	**61.12**	**31**	P	**P**	**08 29 42.4**	**-1.9**
JKA				IAmb	IAmb	08 29 45.3	
	comp=Z,7.0nm,0.7s						
ZAA0	**Zalesovo Array**	**61.95**	**348**	P	**P**	**08 29 49.1**	**-0.6**
ZALV	**Zalesovo Beam**	**61.95**	**348**	P	**P**	**08 29 49.0**	**-0.6**
	comp=Z,12nm,0.5s,baz=154,slow=4.5,SNR=36						
MAW	**Mawson**	**67.23**	**196**	LR	LR	08 54 19.0	
	comp=Z,92nm,22.0s,baz=52,slow=31						
BKZ	**Black Stump Fm**	**72.84**	**129**	P	**P**	**08 30 59.7**	**+0.7**
KBZ	**Khabaz**	**73.81**	**319**	P	**P**	**08 31 04.5**	**0.0**
	comp=Z,4.0nm,1.0s,baz=143,slow=4.5,SNR=4.9						
PETK	**Petropavlovsk-**	**74.52**	**30**	P	**P**	**08 31 07.6**	**-0.9**
	comp=Z,2.7nm,1.0s,baz=270,slow=4.4,SNR=3.5						
NRIK	**Noril'sk**	**76.15**	**354**	P	**P**	**08 31 16.2**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=118,slow=5.9,SNR=2.7						
BR131	**Keskin Array S**	**78.79**	**312**	P	**P**	**08 31 33.5**	**+0.4**
BRTR	**Keskin Array B**	**78.79**	**312**	P	**P**	**08 31 33.8**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=120,slow=7.3,SNR=12						
BRTR				pP	**sP**	**08 31 48.5**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=142,slow=5.1,SNR=4.9						
KLMR	**Klimovskoe**	**83.14**	**334**	*e*P	P	08 31 50.6	-5.0
KLMR				AMP		08 31 56.5	
	comp=Z,8.0nm,1.1s						
AKASG	**Malin Array Be**	**84.98**	**322**	P	**P**	**08 32 05.4**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=90,slow=4.5,SNR=2.0						
BUR08	**Bucovina Ar. S**	**86.78**	**318**	P	**P**	**08 32 12.5**	**-1.8**
BUR08				IAmb	IAmb	08 32 17.4	
	comp=Z,3.7nm,0.7s						
KOLS	**Kolonicke sedl**	**88.95**	**319**	*e*P	**P**	**08 32 26.7**	**+2.1**
FINES	**FINESS Array B**	**89.46**	**332**	P	**P**	**08 32 27.3**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=91,slow=5.6,SNR=3.7						
TXAR	**Lajitas Array**	**145.43**	**45**	PKPbc	**PKPab**	**08 39 09.3**	**+0.5**
	comp=Z,6.6nm,0.8s,baz=293,slow=1.6,SNR=60						
LPAZ	**La Paz**	**156.26**	**200**	PKPab	**PKPab**	**08 39 55.9**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=313,slow=12,SNR=8.9						

MAN 02 08:34:27.2, 13°.67N×120°.65E, h79km, mb3.9, ML2.6, MS2.2, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.34**	**120**	⇓*e*P	Pn	08 34 41.6	+1.9
PGP				*e*S	Sn	08 34 51.9	+3.1
LUBP	**Lubang**	**0.40**	**279**	*e*P	Pn	08 34 41.8	+1.7
LUBP				*e*S	Sn	08 34 53.0	+3.4
SJMP	**San Jose**	**1.28**	**159**	*e*P	Pn	08 34 50.6	+0.9

WEL 02 08:37:51.1±0.4**, 33°S**±6°×**18°0W**±1°5**, h266**km±7km**, M4.1**/19**, mB4.5**/9**, MLv4.7**/19**, Mw(mB)3.6**/9**, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.88**	**26**	P	Pn	08 38 53.1	-1.1
GLKZ				S	S	08 39 42.3	-2.2
RIZ	**Raoul Island**	**3.89**	**26**	P	Pn	08 38 52.0	-2.4
RIZ				S	S	08 39 44.0	-0.8
MXZ	**Matakaoa Point**	**5.01**	**197**	P	Pn	08 39 12.3	+4.9
MXZ				S	S	08 40 11.7	+3.2
HAZ	**Te Kaha**	**5.33**	**200**	P	Pn	08 39 12.5	+1.2
HAZ				S	S	08 40 19.4	+3.9
TWGZ	**Tauwhareparae**	**5.67**	**197**	P	Pn	08 39 17.1	+1.6
TWGZ				S	S	08 40 27.8	+4.6
OPRZ	**Ohinepanea**	**5.85**	**209**	P	Pn	08 39 22.1	+4.6
URZ	**Urewera**	**6.01**	**203**	P	Pn	08 39 18.2	-1.3
URZ				S	S	08 40 31.3	+0.9
RAGZ	**Rawiri**	**6.13**	**200**	P	Pn	08 39 24.8	+3.7
RAGZ				S	S	08 40 34.9	+1.6
RIGZ	**Rimuhau**	**6.23**	**197**	P	Pn	08 39 22.9	+0.6
RIGZ				S	S	08 40 37.6	+2.1
MUGZ	**Murupara**	**6.32**	**205**	P	Pn	08 39 24.0	+0.6
WHHZ	**Waihua**	**6.72**	**200**	P	Pn	08 39 31.4	+3.1
WHHZ				S	S	08 40 47.6	+1.1
BKZ	**Black Stump Fm**	**7.03**	**204**	P	Pn	08 39 31.2	-1.1
BKZ				S	S	08 40 52.2	-1.5
HIZ	**Hauiti**	**7.16**	**215**	P	Pn	08 39 38.1	+4.3
MCHZ	**McNeill Hill**	**7.22**	**202**	P	Pn	08 39 36.9	+2.4
MCHZ				S	S	08 40 57.6	-0.2
KWHZ	**Kaweka Forest**	**7.29**	**203**	P	Pn	08 39 36.9	+1.4
KWHZ				S	S	08 40 57.7	-1.9
TWVZ	**Taurewa**	**7.35**	**210**	P	Pn	08 39 37.8	+1.6

NGZ	**Ngauruhoe**	**7.37**	**209**	P	Pn	08 39 38.4	+1.8
TUVZ	**Tukino**	**7.43**	**208**	P	Pn	08 39 38.3	+1.0
TUVZ				S	S	08 41 02.1	-0.9
BHHZ	**Black Hill Sta**	**7.47**	**205**	P	Pn	08 39 38.0	+0.3
BHHZ				S	S	08 41 02.6	-1.1
KAHZ	**Kahuranaki**	**7.49**	**200**	P	Pn	08 39 38.6	+0.6
KRHZ	**Kereru**	**7.50**	**203**	P	Pn	08 39 38.7	+0.6
KRHZ				S	S	08 41 02.3	-2.1
MOVZ	**Moawhango**	**7.51**	**207**	P	Pn	08 39 38.6	+0.3
MOVZ				S	S	08 41 01.5	-3.2
PXZ	**Pawanui**	**7.71**	**199**	P	Pn	08 39 40.0	-0.7
PXZ				S	S	08 41 07.0	-2.1
PNHZ	**Pukenui**	**7.80**	**203**	P	Pn	08 39 41.7	-0.2
PNHZ				S	S	08 41 08.1	-3.2
WPHZ	**Waipukurau**	**7.86**	**201**	P	Pn	08 39 43.2	+0.6
WPHZ				S	S	08 41 10.4	-2.2
DVHZ	**Dannevirke**	**8.16**	**202**	P	Pn	08 39 46.1	-0.2
DVHZ				S	S	08 41 14.9	-4.7
BFZ	**Birch Farm**	**8.49**	**200**	P	Pn	08 39 50.2	-0.2
BFZ				S	S	08 41 20.7	-6.3

*UPA **02** 08:45:03.6±1.4, 5°.74N×78°.28W, h16km±9km, MW3.6*
*RSNC **02** 08:45:06.1±1.1, 5°.84N×78°.14W, h32km±13km, ML2.9, Mw3.2*
ISC 02 08:45:00.2±1.6**, 5°.81N**±0°.03×**78°.22W**±0°.03**, h5**km±12km**,**
n40, σ**2s.12**/71**, 2C, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIZC	**Pizarro, Choco**	**1.20**	**135**	*e*P	**Pg**	**08 45 24.8**	**+1.7**
PIZC				*e*S	**Sn**	**08 45 39.4**	**-0.8**
PIZC				*i*		08 45 41.1	
	comp=Z,631nm,0.3s						
PTAC	**Punta Ardita,**	**1.39**	**17**	*e*P	**Pg**	**08 45 27.8**	**+0.9**
PTAC				*e*S	**Sn**	**08 45 43.4**	**-1.6**
MALC	**Bahia Malaga**	**1.99**	**154**	*e*P	**Pb**	**08 45 36.6**	**-0.3**
MALC				*e*S	**Sb**	**08 46 00.3**	**-1.7**
MALC				*i*		08 46 12.9	
	comp=Z,166nm,1.1s						
PLMC	**San Jos del P**	**2.12**	**115**	*e*P	**Pn**	**08 45 37.7**	**+1.3**
PLMC				*e*S	**Sn**	**08 46 01.9**	**-1.3**
CBOC	**Ciudad Bolivar**	**2.19**	**88**	*i* P	**Pb**	**08 45 39.3**	**-1.2**
CBOC				*e*S	**Sn**	**08 46 03.4**	**-1.7**
CBOC				*i*		08 46 04.9	
	comp=Z,54nm,0.2s						
DBBC	**Dabeiba**	**2.33**	**59**	*e*P	**Pb**	**08 45 42.9**	**+0.1**
YOTC	**Yotoco, Valle**	**2.60**	**134⇑**	*i*P	**Pn**	**08 45 44.7**	**+1.7**
YOTC				*e*S	**Sn**	**08 46 13.5**	**-1.6**
YOTC				*i*		08 46 14.9	
	comp=Z,60nm,0.6s						
HELC	**Santa Helena**	**2.70**	**82**	*e*P	**Pb**	**08 45 47.7**	**-1.5**
HELC				*e*S	**Sn**	**08 46 17.3**	**-0.5**
HELC				*i*		08 46 20.9	
	comp=Z,24nm,0.3s						
HELC	**Santa Helena**	**2.70**	**82⇑**	*e*P	**Pb**	**08 45 47.3**	**-1.9**
HELC				*e*S	**Sb**	**08 46 20.9**	**-1.9**
AZU	**Azuero**	**2.84**	**314**	*e*P	**Pn**	**08 45 47.4**	**+1.2**
AZU				*e*S	**Sn**	**08 46 21.1**	**+0.3**
GUY2C	**Guyana, Caldas**	**2.90**	**101**	*e*P	**Pn**	**08 45 49.8**	**+2.3**
GUY2C				*e*S	**Sn**	**08 46 22.8**	**-0.1**
GUY2C				*i*		08 46 26.5	
	comp=Z,19nm,0.3s						
CAPC	**Capurgana**	**2.94**	**17**	*e*P	**Pn**	**08 45 49.4**	**+1.9**
CAPC				*e*S	**Sn**	**08 46 22.5**	**-0.7**
CAPC				*i*		08 46 25.9	
	comp=Z,26nm,0.2s						
CAP2	**Capurgana**	**2.95**	**17**	*e*P	**Pb**	**08 45 51.4**	**-1.9**
CAP2				*e*S	**Sn**	**08 46 26.2**	**+2.7**
RREF	**El Recreo**	**3.00**	**107**	*e*P	**Pb**	**08 45 52.5**	**-1.9**
RREF				*e*S	**Sn**	**08 46 27.0**	**+1.5**
RREF				*i*		08 46 31.6	
	comp=Z,21nm,0.3s						
CACAO	**El Cacao, Vera**	**3.04**	**300**	*e*P	**Pn**	**08 45 50.1**	**+1.1**
CACAO				*e*S	**Sn**	**08 46 24.4**	**-1.4**
ANIL	**Santa Ana**	**3.09**	**115**	*e*P	**Pb**	**08 45 54.3**	**-1.6**
ANIL				*e*S	**Sn**	**08 46 30.2**	**+2.7**
ANIL				*i*		08 46 40.2	
	comp=Z,80nm,0.4s						
TOLC	**Tolima**	**3.13**	**113**	*e*P	**Pn**	**08 45 52.7**	**+2.1**
TOLC				*e*S	**Sn**	**08 46 28.4**	**0.0**
TOLC				*i*		08 46 36.7	
	comp=Z,63nm,0.6s						
UREC	**San Jos de Ur**	**3.29**	**54**	*e*S	**Sb**	**08 46 37.5**	**-1.9**
NORC	**Norcasia**	**3.34**	**94**	*e*P	**Pn**	**08 45 55.3**	**+2.2**
NORC				*e*S	**Sn**	**08 46 33.6**	**+0.4**
NORC				*i*		08 46 37.7	
	comp=Z,19nm,0.5s						
FLAM	**Flamenco Islan**	**3.35**	**337**	*e*P	**Pn**	**08 45 55.4**	**+2.2**
FLAM				*e*S	**Sn**	**08 46 34.8**	**+1.3**
CHOR3	**La Chorrera**	**3.43**	**333**	*e*P	**Pn**	**08 45 56.8**	**+2.4**
CHOR3				*e*S	**Sn**	**08 46 37.1**	**+1.6**
CHPO	**Chepo, Panama**	**3.46**	**345**	*e*P	**Pn**	**08 45 56.7**	**+2.0**
CHPO				*e*S	**Sn**	**08 46 36.5**	**+0.4**
ORTC	**Ortega, Tolima**	**3.51**	**122**	*e*P	**Pb**	**08 45 59.1**	**-3.8**
ORTC				*e*S	**Sn**	**08 46 38.2**	**+0.7**
ORTC				*i*		08 46 42.6	
	comp=Z,33nm,0.3s						
ZANG	**Zanguenga, Cho**	**3.53**	**332**	*e*P	**Pn**	**08 45 57.7**	**+2.0**
ZANG				*e*S	**Sb**	**08 46 42.1**	**-4.2**
GMAL	**Guarumal, Vera**	**3.57**	**303**	*e*P	**Pn**	**08 45 59.0**	**+2.7**
GMAL				*e*S	**Sn**	**08 46 39.9**	**+1.0**
BCIP	**Isla Barro Col**	**3.70**	**334**	*e*P	**Pn**	**08 45 60.0**	**+1.9**
BCIP				*e*S	**Sn**	**08 46 43.0**	**+0.8**
BCIP				*i*		08 46 47.1	
	comp=Z,24nm,1.4s						
BCIP	**Isla Barro Col**	**3.70**	**334**	*e*P	**Pn**	**08 46 01.1**	**+3.1**
BCIP				*e*S	**Sn**	**08 46 43.5**	**+1.4**
FRIJ	**El Hiral**	**3.71**	**336**	*e*P	**Pn**	**08 46 00.1**	**+2.0**
FRIJ				*e*S	**Sn**	**08 46 43.9**	**+1.6**
PTBC	**PUERTO BERRIO,**	**3.81**	**79**	*e*P	**Pb**	**08 46 04.3**	**-3.6**
PTBC				*e*S	**Sn**	**08 46 46.1**	**+1.4**
PTBC				*i*		08 47 01.3	
	comp=Z,10.0nm,2.0s						
BBAC	**Balboa, Cauca**	**3.88**	**166**	*e*P	**Pn**	**08 46 03.3**	**+2.4**
BBAC				*i*		08 46 55.1	
	comp=Z,15nm,0.3s						
PCON	**Cinco Dias**	**3.91**	**152**	*e*P	**Pb**	**08 46 06.9**	**-3.0**
PCON				*i*		08 46 57.4	
	comp=Z,11nm,0.6s						
PRAC	**Prado**	**3.92**	**122**	*e*P	**Pn**	**08 46 03.7**	**+2.6**
PRAC				*e*S	**Sn**	**08 46 48.0**	**+0.5**
PRAC				*i*		08 46 54.3	
	comp=Z,32nm,0.5s						
SOTA	**Rioblanco**	**3.99**	**156**	*e*P	**Pn**	**08 46 04.7**	**+2.2**
SOTA				*i*		08 46 57.3	
	comp=Z,16nm,0.5s						
SPBC	**San Pablo de B**	**4.13**	**92**	*e*P	**Pb**	**08 46 09.6**	**-3.8**
SPBC				*e*S	**Sn**	**08 46 54.9**	**+2.1**
SPBC				*i*		08 46 59.5	
	comp=Z,10nm,0.9s						
GARC	**Garzon, Huila**	**4.51**	**143**	*e*P	**Pn**	**08 46 12.6**	**+3.2**
GARC				*e*S	**Sn**	**08 47 02.8**	**+0.4**
GARC				*i*		08 47 05.4	
	comp=Z,33nm,0.4s						
GCUF	**Volcan Galeras**	**4.64**	**169**	*e*P	**Pn**	**08 46 14.5**	**+3.1**
GCUF				*i*		08 47 31.0	
	comp=Z,7.5nm,3.8s						
VILC	**Villavicencio,**	**4.81**	**110**	*e*P	**Pb**	**08 46 20.8**	**-4.3**
VILC				*i*		08 47 20.4	
	comp=Z,11nm,0.5s						
BARC	**Barichara**	**5.06**	**81**	*e*P	Pn	08 46 22.6	+5.5
BARC				*e*S	**Sn**	**08 47 20.9**	**+4.8**
BARC				*i*		08 47 32.8	
	comp=Z,8.0nm,0.8s						
SMLC	**San Martn de**	**5.07**	**54**	*e*S	**Sn**	**08 47 16.7**	**+0.7**
MACC	**Macarena, Meta**	**5.68**	**130**	*e*P	**Pn**	**08 46 27.6**	**+2.3**
MACC				*e*S	**Sn**	**08 47 30.5**	**-0.5**
MACC				*i*		08 47 40.9	
	comp=Z,6.5nm,1.0s						

*IDC **02** 08:45:01.8±3.5, 14°.41N×92°.65W, h50km±24km, mb3.4/3, mb1 3.7/7, mb1mx3.4/39, mbtmp3.5/7, ML3.0/4, Error ellipse: s-maj=59.2km s-min=17.8km az=37.0*
ISC 02 08:45:02.3±1.3**, 14°.4N**±0°.2×**92°.7W**±0°.1**, h62**km**, n8,** σ**1s.17**/9**,**
Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**3.42**	**322**	P	**Pn**	**08 45 51.5**	**-1.8**
	0.5nm,0.3s,baz=146,slow=8.6,SNR=8.4						
CMIG				S	**Sn**	**08 46 33.2**	**+0.6**
	0.8nm,0.3s,baz=106,slow=11,SNR=4.1						
TEIG	**Tepich**	**7.16**	**35**	P	**Pn**	**08 46 43.6**	**-0.8**
	0.8nm,0.3s,baz=319,slow=3.5,SNR=6.9						
JTS	**Las Juntas de**	**8.57**	**118**	P	**Pn**	**08 47 03.6**	**-0.3**
	0.7nm,0.3s,baz=1.5,slow=22,SNR=7.3						
TXAR	**Lajitas Array**	**18.01**	**327**	P	**P**	**08 49 07.9**	**-0.4**
	0.0nm,0.3s,baz=162,slow=9.2,SNR=3.5						
NVAR	**Mina Array Bea**	**32.96**	**321**	P	**P**	**08 51 33.0**	**+1.6**
	0.4nm,0.7s,baz=132,slow=9.0,SNR=3.8						
YKA	**Yellowknife Ar**	**50.50**	**347**	P	**P**	**08 53 54.6**	**+0.8**
	1.6nm,0.7s,baz=153,slow=7.8,SNR=12						
ILAR	**Eielson Array**	**62.22**	**337**	P	**P**	**08 55 16.7**	**-0.6**
	0.6nm,0.9s,baz=119,slow=5.6,SNR=4.6						
CMAR	**Chiang Mai Arr**	**145.41**	**340**	PKPbc	**PKPab**	**09 04 34.7**	**+0.4**
	1.7nm,0.3s,baz=354,slow=5.4,SNR=4.9						

*MAN **02** 09:25:18.0, 9°.24N×127°.65E, h34km, mb4.7, ML3.6, MS3.5*
*IDC **02** 09:25:21.4±1.8, 9°.08N×126°.55E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/39, mbtmp3.6/4, Error ellipse: s-maj=178.1km s-min=24.3km az=69.0*
ISC 02 09:25:24.9±1.2**, 9°.24N**±0°.07×**127°.4E**±0°.1**, h35**km**, n12,**
σ**2s.68**/13**, mb3.6**/4**, 3D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**2.62**	**290**	*e*P	**Pn**	**09 26 02.5**	**-2.2**
MSLP				*e*S	**Sn**	**09 26 36.1**	**+0.8**
BUKP	**Musuan**	**2.64**	**239**	*e*P	**Pn**	**09 26 02.6**	**-2.4**
BUKP				*e*S	**Sn**	**09 26 37.1**	**+1.2**
CGP	**Cagayan de Oro**	**2.74**	**254⇓**	*e*P	**Pn**	**09 26 05.7**	**-0.7**
DAV	**Davao City (W)**	**2.78**	**219**	Sn	Sn	09 26 21.1	-18
	92nm,0.3s,baz=272,slow=10,SNR=2.0						
KCP	**Kidapawan**	**3.15**	**226⇓**	*e*P	Pn	09 26 18.1	+5.9
KCP				*i* S	**Sn**	**09 26 53.2**	**+4.6**
TBP	**Tagbilaran**	**3.48**	**278**	*e*P	**Pn**	**09 26 13.3**	**-3.3**
DDMP	**Don Marcelino,**	**3.52**	**208**	*e*P	**Pn**	**09 26 13.4**	**-3.7**
DDMP				*e*S	**Sn**	**09 26 55.8**	**-1.6**
RCP	**Roxas**	**5.09**	**297⇓**	*e*P	Pn	09 26 57.5	+19
WRA	**Warramunga Arr**	**29.80**	**167**	P	**P**	**09 31 30.1**	**+1.4**
	0.3nm,0.5s,baz=348,slow=9.1,SNR=1.9						
ASAR	**Alice Springs**	**33.33**	**169**	P	**P**	**09 32 01.4**	**+1.8**
	0.2nm,0.3s,baz=346,slow=7.1,SNR=8.1						
MKAR	**Makanchi Array**	**53.49**	**323**	P	**P**	**09 34 40.5**	**-1.4**
	0.8nm,0.8s,baz=127,slow=9.3,SNR=6.9						
ARCES	**ARCESS Array B**	**85.53**	**340**	P	**P**	**09 38 01.1**	**+2.0**
	4.6nm,1.1s,baz=72,slow=8.7,SNR=6.3						

*ATH **02** 09:27:16.4, 37°.82N×26°.97E, h26km±1km, ML3.7/4, Error ellipse: s-maj=5.5km s-min=1.2km az=248.0*
*THE **02** 09:27:17.9, 37°.88N×26°.95E, h2km±2km, ML3.7/4, Error ellipse: s-maj=2.0km s-min=0.5km az=168.0*
*ISK **02** 09:27:17.7, 37°.87N×26°.95E, h3km, ML3.7/31*
*DDA **02** 09:27:18.0, 37°.87N×26°.95E, h8km±2km, MW3.8*
ISC 02 09:27:18.1±0.8**, 37°.87N**±0°.01×**26°.94E**±0°.02**, h11**km±6km**,**
n81, σ**0s.94**/115**, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGB	**zmir**	**0.18**	**345**	*i* P	**Pg**	**09 27 22.1**	**-0.1**
DGB				*i* S	**Sg**	**09 27 24.6**	**-0.3**
DGB				IAML		09 27 25.0	
	comp=E,4μm,0.5s						
DGB				IAML		09 27 25.0	
	comp=N,4μm,0.4s						
SMG	**Samos**	**0.18**	**207**	P	**Pg**	**09 27 21.8**	**-0.4**
SMG				S	**Sg**	**09 27 25.4**	**+0.4**
	comp=N,32μm,0.5s						
SMG	**Samos**	**0.18**	**207**	P	**Pg**	**09 27 21.8**	**-0.4**
SMG				S	**Sg**	**09 27 25.4**	**+0.4**
SMG				AML	AML	09 27 25.6	
	comp=N,55371μm,0.4s						
SMG				AML	AML	09 27 25.8	
	comp=E,73830μm,0.5s						
GMLD	**Gumuldur**	**0.20**	**354**	PG	**Pg**	**09 27 22.5**	**0.0**
GMLD				SG	**Sg**	**09 27 26.2**	**+0.7**
GCAM	**G?zelcaml?**	**0.29**	**127**	PG	**Pg**	**09 27 24.1**	**+0.1**
GCAM				SG	**Sg**	**09 27 28.5**	**+0.6**
GCAM	**G?zelcaml?**	**0.29**	**127**	*i* P	**Pg**	**09 27 24.2**	**+0.1**
GCAM				*i* S	**Sg**	**09 27 28.0**	**+0.1**
GCAM				IAML		09 27 29.0	
	comp=N,11μm,0.5s						
GCAM				IAML		09 27 29.0	
	comp=E,10μm,0.4s						
BLCB	**Balcova**	**0.52**	**9**	P	**Pg**	**09 27 28.3**	**+0.1**
BLCB				S	**Sg**	**09 27 35.8**	**+0.7**
BLCB	**Balcova**	**0.52**	**9**	PG	**Pg**	**09 27 28.4**	**+0.2**
DIDI	**Didim-Aydin**	**0.55**	**155**	PG	**Pg**	**09 27 28.9**	**+0.1**
URLA	**Izmir**	**0.56**	**331**	PG	**Pg**	**09 27 29.3**	**+0.3**
URLA				SG	**Sb**	**09 27 38.0**	**+0.1**
URLA	**Izmir**	**0.56**	**331**	*i* P	**Pg**	**09 27 29.1**	**0.0**
URLA				*i* S	**Sb**	**09 27 37.5**	**-0.4**
URLA				IAML		09 27 38.0	
	comp=E,1μm,0.5s						
URLA				IAML		09 27 42.0	
	comp=N,1μm,1.1s						
AYDB	**Zeytinkoy-Aydi**	**0.75**	**84**	PG	**Pb**	**09 27 32.9**	**-0.4**
AYDN	**Tasoluk**	**0.77**	**106**	*i* P	**Pb**	**09 27 33.1**	**-0.5**
AYDN				*i* S	**Sb**	**09 27 43.9**	**-0.2**
AYDN				IAML		09 27 48.0	
	comp=E,3μm,0.3s						
AYDN				IAML		09 27 48.0	
	comp=N,2μm,0.4s						
BODT	**Bodrum**	**0.86**	**160**	P	**Pg**	**09 27 33.9**	**-0.9**
BODT				S	**Sb**	**09 27 46.8**	**+0.2**
BODT	**Bodrum**	**0.86**	**160**	PG	**Pg**	**09 27 34.6**	**-0.2**
BODT				SG	**Sb**	**09 27 47.3**	**+0.7**
CHOS	**Chios island**	**0.87**	**306**	P	**Pg**	**09 27 34.6**	**-0.3**
CHOS				S	**Sb**	**09 27 47.6**	**+0.7**
	comp=N,5μm,0.4s						
CHOS	**Chios island**	**0.87**	**306**	P	**Pg**	**09 27 34.1**	**-0.8**
CHOS				S	**Sb**	**09 27 47.5**	**+0.6**
CHOS				AML	AML	09 27 48.5	
	comp=E,10245μm,0.4s						
CHOS				AML	AML	09 27 48.8	
	comp=N,9956μm,0.4s						
CHOS	**Chios island**	**0.87**	**306**	PG	**Pb**	**09 27 35.4**	**+0.1**
BDRM	**Kayabasi**	**0.90**	**154**	*i* P	**Pg**	**09 27 34.8**	**-0.7**
BDRM				*i* S	**Sg**	**09 27 47.2**	**0.0**
BDRM				IAML		09 27 48.0	
	comp=E,2μm,0.5s						
BDRM				IAML		09 27 53.0	
	comp=N,1μm,0.6s						
ZEDA	**zmir-Bergama**	**1.10**	**5**	*i* P	**Pg**	**09 27 38.6**	**-0.6**
ZEDA				*i* S	**Sb**	**09 27 54.1**	**+0.7**
ZEDA				IAML		09 27 58.0	
	comp=E,978nm,0.5s						
ZEDA				IAML		09 28 00.0	
	comp=N,868nm,0.7s						
KOSK	**Kos Island**	**1.12**	**179**	P	**Pg**	**09 27 39.0**	**-0.7**
KOSK				S	**Sn**	**09 27 55.5**	**+0.4**
	comp=N,4μm,0.4s						
KOSK	**Kos Island**	**1.12**	**179**	PN	**Pn**	**09 27 39.9**	**+0.2**
GOMA	**Golmarmara-Man**	**1.13**	**42**	PN	**Pn**	**09 27 40.2**	**+0.3**
DKL	**Dikili**	**1.20**	**359**	PN	**Pn**	**09 27 41.6**	**+0.8**
AKS	**Akhisar**	**1.21**	**34**	PN	**Pn**	**09 27 41.8**	**+0.7**
DAT	**Datca**	**1.25**	**156**	P	**Pb**	**09 27 40.7**	**-1.1**
DAT	**Datca**	**1.25**	**156**	PN	**Pg**	**09 27 42.3**	**+0.1**
DAT	**Datca**	**1.25**	**156**	*i* P	**Pb**	**09 27 40.8**	**-1.1**
DAT				*i* S	**Sn**	**09 27 59.4**	**+0.9**
DAT				IAML		09 28 04.0	
	comp=E,362nm,1.0s						
DAT				IAML		09 28 06.0	
	comp=N,290nm,0.6s						
NISR	**Nisiros**	**1.27**	**173**	P	**Pn**	**09 27 41.7**	**-0.1**
YER	**Yerkesik**	**1.30**	**124**	P	**Pn**	**09 27 42.0**	**-0.2**
YER				S	**Sn**	**09 28 00.1**	**+0.5**
YER	**Yerkesik**	**1.30**	**124**	PN	**Pg**	**09 27 43.2**	**+0.2**
APE	**Apeiranthos**	**1.38**	**235**	P	**Pn**	**09 27 42.0**	**-1.4**
APE	**Apeiranthos**	**1.38**	**235**	P	**Pn**	**09 27 42.0**	**-1.4**
APE				AML	AML	09 28 06.7	
	comp=N,1486μm,0.4s						
APE				AML	AML	09 28 09.5	
	comp=E,2475μm,0.7s						
APE	**Apeiranthos**	**1.38**	**235**	PN	**Pg**	**09 27 44.6**	**-0.1**
MANT	**Manisa**	**1.41**	**64**	*i* P	**Pn**	**09 27 43.6**	**-0.3**
MANT				*i* S	**Sb**	**09 27 59.8**	**-3.0**
MANT				IAML		09 28 04.0	
	comp=N,401nm,0.8s						
MANT				IAML		09 28 05.0	
	comp=E,353nm,0.4s						
AYVA	**Ayvalik**	**1.45**	**352**	*i* P	**Pg**	**09 27 45.8**	**-0.1**
AYVA				*i* S	**Sg**	**09 28 06.1**	**+1.4**
AYVA				IAML		09 28 07.0	
	comp=E,924nm,1.2s						
AYVA				IAML		09 28 09.0	
	comp=N,849nm,0.9s						
TNSA	**Tinos**	**1.45**	**257**	P	**Pn**	**09 27 43.1**	**-1.2**
PRK	**Paraskevi**	**1.47**	**339**	P	**Pn**	**09 27 43.7**	**-0.8**
PRK				S	**Sb**	**09 28 04.6**	**+0.5**
	comp=N,2μm,0.8s						
PRK	**Paraskevi**	**1.47**	**339**	P	**Pn**	**09 27 43.7**	**-0.8**
PRK				AML	AML	09 28 11.7	
	comp=N,3174μm,0.7s						
PRK				AML	AML	09 28 14.9	
	comp=E,3860μm,0.9s						
KULA	**Kula-Manisa**	**1.50**	**64**	P	**Pn**	**09 27 44.7**	**-0.3**
KULA	**Kula-Manisa**	**1.50**	**64**	PN	**Pg**	**09 27 46.4**	**-0.5**
SIGR	**SIGRI**	**1.58**	**328**	P	**Pn**	**09 27 46.0**	**-0.1**
SIGR	**SIGRI**	**1.58**	**328**	P	**Pn**	**09 27 45.9**	**-0.2**
SIGR	**SIGRI**	**1.58**	**328**	PN	**Pb**	**09 27 47.8**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.61**	**104**	*i* P	**Pn**	**09 27 46.5**	**-0.1**
TAVA				*i* S	**Sn**	**09 28 06.5**	**-1.0**
TAVA				IAML		09 28 21.0	
	comp=N,217nm,1.0s						
STEP	**BALIKESIR_Sava**	**1.62**	**22**	*i* P	**Pn**	**09 27 46.5**	**-0.1**
STEP				*i* S	**Sg**	**09 28 09.5**	**-0.7**
STEP				IAML		09 28 14.0	
	comp=N,870nm,1.0s						
STEP				IAML		09 28 31.0	
	comp=E,608nm,1.0s						
TURN	**Turunc**	**1.66**	**127**	PN	**Pn**	**09 27 46.5**	**-0.6**
TURN	**Turunc**	**1.66**	**127**	*i* P	**Pn**	**09 27 44.9**	**-2.2**
TURN				*i* S	**Sn**	**09 28 06.5**	**-1.9**
TURN				IAML		09 28 10.0	
	comp=N,377nm,1.6s						
TURN				IAML		09 28 15.0	
	comp=E,376nm,0.6s						
DALY	**Dalyan (Mula)**	**1.72**	**127**	PN	**Pb**	**09 27 49.6**	**-0.2**
DALY	**Dalyan (Mula)**	**1.72**	**127**	*i* P	**Pb**	**09 27 49.7**	**0.0**
DALY				*i* S	**Sg**	**09 28 14.3**	**+0.7**
DALY				IAML		09 28 24.0	
	comp=N,336nm,0.6s						
DALY				IAML		09 28 27.0	
	comp=E,205nm,1.0s						
IOSP	**Ios island**	**1.75**	**229**	P	**Pn**	**09 27 48.2**	**-0.2**
ANAF	**Anafi Island**	**1.78**	**212**	P	**Pn**	**09 27 49.2**	**+0.4**
DEMI	**Demirci**	**1.82**	**49**	*i* P	**Pg**	**09 27 52.2**	**-0.7**
DEMI				*i* S	**Sb**	**09 28 14.2**	**0.0**
DEMI				IAML		09 28 22.0	
	comp=N,242nm,0.4s						
DEMI				IAML		09 28 22.0	
	comp=E,299nm,0.5s						
THT2	**Imerovigli**	**1.88**	**221**	PN	**Pb**	**09 27 51.7**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**1.89**	**351**	*i* P	**Pn**	**09 27 50.1**	**-0.3**
BAYC				*i* S	**Sb**	**09 28 17.7**	**+1.4**
BAYC				IAML		09 28 27.0	
	comp=E,192nm,0.8s						
BAYC				IAML		09 28 30.0	
	comp=N,103nm,0.5s						
ARG	**Arkhangelos**	**1.91**	**150**	PN	**Pb**	**09 27 52.2**	**-0.7**
BALB	**Balikesir**	**1.91**	**22**	PN	**Pb**	**09 27 52.6**	**-0.4**
SANT	**Santorini**	**1.91**	**219**	PN	**Pb**	**09 27 52.7**	**-0.3**
SIMA	**Simav-Kutahya**	**2.00**	**52**	PN	**Pb**	**09 27 53.9**	**-0.7**
EZN	**Ezine**	**2.01**	**346**	P	**Pn**	**09 27 52.1**	**+0.2**
EZN	**Ezine**	**2.01**	**346**	PN	**Pb**	**09 27 54.0**	**-0.6**
KHAL	**Karahalli**	**2.07**	**75**	*i* P	**Pn**	**09 27 52.6**	**-0.4**
KHAL				*i* S	**Sn**	**09 28 18.6**	**-0.2**
KHAL				IAML		09 28 29.0	
	comp=N,164nm,1.1s						
KHAL				IAML		09 28 32.0	
	comp=E,154nm,0.9s						
BOZC	**Bozcaada**	**2.08**	**341**	PN	**Pb**	**09 27 55.4**	**-0.5**
DURS	**Dursunbey**	**2.10**	**34**	*i* P	**Pn**	**09 27 52.1**	**-1.2**
DURS				*i* S	**Sg**	**09 28 25.6**	**0.0**
DURS				IAML		09 28 35.0	
	comp=N,252nm,0.7s						
DURS				IAML		09 28 42.0	
	comp=E,172nm,1.1s						
FETY	**Fethiye**	**2.11**	**125**	PN	**Pb**	**09 27 55.4**	**-1.0**
FETY	**Fethiye**	**2.11**	**125**	*i* P	**Pn**	**09 27 54.0**	**+0.7**
FETY				*i* S	**Sn**	**09 28 20.2**	**+0.6**
SHAP	**Saphane-Kutahy**	**2.12**	**57**	PN	**Pb**	**09 27 55.9**	**-0.8**
DST	**Dursunbey**	**2.17**	**37**	PN	**Pb**	**09 27 56.4**	**-1.0**
GOLH	**Golhisar**	**2.17**	**106**	*i* P	**Pn**	**09 27 55.8**	**+1.4**
GOLH				*i* S	**Sg**	**09 28 28.6**	**+0.5**
GOLH				IAML		09 28 41.0	
	comp=N,295nm,1.0s						
GONE	**Gonen-Balikesi**	**2.25**	**15**	PN	**Pb**	**09 27 57.4**	**-1.3**
GEDZ	**Gediz**	**2.26**	**58**	PN	**Pb**	**09 27 57.4**	**-1.6**
KARP	**Karpathos**	**2.33**	**176**	PN	**Pn**	**09 27 58.3**	**+1.9**
GDZ	**Gediz**	**2.33**	**58**	*i* P	**Pb**	**09 28 01.3**	**+1.1**
GDZ				*i* S	**Sb**	**09 28 30.4**	**+1.3**
BASM	**Basmaki-Afyon**	**2.46**	**88**	PN	**Pn**	**09 27 59.9**	**+1.7**
KZIL	**AFYON_Kizioren**	**2.55**	**80**	*i* P	**Pg**	**09 28 06.8**	**-0.2**
KZIL				*i* S	**Sg**	**09 28 41.9**	**+1.7**
KZIL				IAML		09 28 51.0	
	comp=E,130nm,1.1s						
KZIL				IAML		09 29 03.0	
	comp=N,142nm,1.2s						
ELL	**Elmali**	**2.62**	**115**	PN	**Pn**	**09 28 02.5**	**+2.0**
AKAS	**Kas**	**2.69**	**127**	PN	**Pn**	**09 28 03.8**	**+2.4**
ZKR	**Zakros**	**2.81**	**192**	PN	**Pn**	**09 28 05.3**	**+2.2**
ISP	**Isparta**	**2.83**	**90**	PN	**Pn**	**09 28 05.6**	**+2.2**
KORT	**Korkueli**	**2.85**	**107**	PN	**Pb**	**09 28 06.4**	**-2.7**
ENEZ	**Enez**	**2.92**	**348**	P	**Pn**	**09 28 05.1**	**+0.6**

AUST 02 10:12:22.5±0.5**, 32°.69S**×**126°.24E, h10**km**, Error ellipse: s-maj=9.4km s-min=3.8km az=169.0, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FORT	**Forrest**	**2.46**	**40**	P	Pn	10 13 03.6	+1.0
	baz=2.5						
FORT				S	Sn	10 13 33.8	+1.1
	baz=2.5						
KMBL	**Kambalda**	**3.93**	**288**	P	Pn	10 13 24.7	+1.9
	baz=3.9						
MULG	**Mulgathing**	**7.10**	**72**	P	Pn	10 14 06.5	+0.1
	baz=7.1						
KLBR	**Kellerberrin**	**7.28**	**276**	P	Pn	10 14 08.8	0.0
	baz=7.3						
NWAO	**Narrogin (SRO)**	**7.58**	**266**	P	Pn	10 14 13.4	+0.4
	baz=7.6						
WRKA	**Warakurna**	**7.84**	**14**	P	Pn	10 14 17.5	+0.9
	baz=7.9						
BBOO	**Buckleboo**	**8.28**	**93**	P	Pn	10 14 22.1	-0.5
	baz=8.3						
BLDU	**Ballidu**	**8.38**	**282**	P	Pn	10 14 22.8	-1.2
	baz=8.4						
MUN	**Mundaring**	**8.52**	**272**	P	Pn	10 14 25.9	+0.1
	baz=8.5						
MEEK	**Meekatharra**	**8.96**	**310**	P	Pn	10 14 31.1	-0.9
	baz=9.0						
MORW	**Morawa**	**9.47**	**290**	P	Pn	10 14 37.7	-1.3
	baz=9.5						
OOD	**Oodnadatta**	**9.52**	**62**	P	Pn	10 14 38.6	-1.0
	baz=9.5						
LCRK	**Leigh Creek**	**10.46**	**81**	P	Pn	10 14 52.2	-0.3
	baz=10						
GIRL	**Giralia**	**14.59**	**310**	P	Pn	10 15 48.8	-0.2
	baz=15						
WC3	**Warramunga Arr**	**14.62**	**32**	P	Pn	10 15 46.7	-2.7
	baz=15						

*SCB **02** 10:21:38.9±21.0, 19°.05S×66°.57W, h18km±342km, ML4.1/4, Error ellipse: s-maj=70.3km s-min=41.0km az=1.0*
*IDC **02** 10:21:43.3±0.7, 19°.00S×66°.84W, h248km±5km, mb3.8/14, mb1 4.0/20, mb1mx3.9/34, mbtmp4.5/20, Error ellipse: s-maj=10.6km s-min=8.4km az=92.0*
*NEIC **02** 10:21:43.8±2.4, 19°.02S±0°.06×66°.91W±0°.04, h257km±5km, mb4.3/79, Error ellipse: s-maj=9.3km s-min=5.3km az=186.0*
*VAO **02** 10:21:43.9±0.4, 18°.96S×66°.99W, h265km, mb4.8*
ISC 02 10:21:42.8±0.3**, 19°.01S**±0°.04×**66°.98W**±0°.05**, h246**km**,**
n228, σ**1s.44**/224**, mb4.3**/43**, Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**2.19**	**252**		**Pn**	**10 22 29.9**	**+2.7**
BBOJ	**La Paz, Jacaqu**	**2.33**	**330**	P	**Pn**	**10 22 32.9**	**+4.2**
PB08	**IPOC Station P**	**2.34**	**241**	P	**Pn**	**10 22 31.3**	**+2.8**
PB08	**IPOC Station P**	**2.34**	**241**		**Pn**	**10 22 31.4**	**+2.8**

BBOE	**La Paz, Chanca**	**2.39**	**336**	P	**Pn**	**10 22 33.3**	**+4.0**
MNMC	**Minye Minye**	**2.48**	**267**	P	**Pn**	**10 22 32.2**	**+2.4**
MNMC	**Minye Minye**	**2.48**	**267**	Pn	**Pn**	**10 22 32.4**	**+2.5**
MOCB	**Mochara**	**2.56**	**151**	P	**Pn**	**10 22 34.3**	**+3.5**
PB11	**IPOC Station P**	**2.64**	**253**	P	**Pn**	**10 22 33.3**	**+2.0**
PB11				S	**S**	**10 23 11.5**	**+1.9**
PB11				AML	AML	10 23 12.4	
	629nm,0.4s						
PB11	**IPOC Station P**	**2.64**	**253**		**Pn**	**10 22 33.4**	**+2.0**
BBOD	**La Paz, Gloria**	**2.82**	**327**	P	**Pn**	**10 22 37.0**	**+3.3**
LPAZ	**La Paz**	**2.93**	**338**	P	**Pn**	**10 22 37.8**	**+2.9**
	57nm,0.3s,baz=127,slow=6.1,SNR=1360						
LPAZ				S	**S**	**10 23 18.1**	**+2.1**
	38nm,0.3s,baz=50,slow=21,SNR=19						
LPAZ	**La Paz**	**2.93**	**338**	P	**Pn**	**10 22 37.8**	**+2.9**
LPAZ				S	**S**	**10 23 17.9**	**+1.9**
LPAZ				AML	AML	10 23 19.6	
	371nm,0.8s						
LPAZ	**La Paz**	**2.93**	**338**	Pn	**Pn**	**10 22 38.0**	**+3.1**
PSGC	**Pisagua**	**3.03**	**258**	P	**Pn**	**10 22 37.2**	**+1.8**
PSGC				S	**S**	**10 23 17.1**	**+0.1**
PSGC				AML	AML	10 23 17.8	
	340nm,0.4s						
PSGCX	**Pisagua**	**3.03**	**258**		**Pn**	**10 22 36.7**	**+1.3**
BBOB	**La Paz, Bander**	**3.06**	**339**	P	**Pn**	**10 22 39.0**	**+2.7**
PB01	**IPOC Station P**	**3.11**	**229**	P	**Pn**	**10 22 38.1**	**+1.9**
PB01				S	**S**	**10 23 19.0**	**+0.5**
PB01				AML	AML	10 23 19.9	
	408nm,0.2s						
PB01	**IPOC Station P**	**3.11**	**229**	Pn	**Pn**	**10 22 38.2**	**+1.9**
PB12	**IPOC Station P**	**3.20**	**277**	Pn	**Pn**	**10 22 38.5**	**+1.2**
BS09	**Huarina**	**3.21**	**331**	P	**Pn**	**10 22 41.2**	**+3.3**
AP01	**Chacalluta**	**3.25**	**281**	Pn	**Pn**	**10 22 39.4**	**+1.6**
TA01	**Diego Aracena**	**3.39**	**242**		**Pn**	**10 22 41.0**	**+1.7**
YJA	**Yavi**	**3.43**	**157**	P	**Pn**	**10 22 43.3**	**+3.1**
PATCX	**Punta Patache**	**3.49**	**238**		**Pn**	**10 22 42.2**	**+1.7**
PB09	**IPOC Station P**	**3.49**	**217**		**Pn**	**10 22 43.4**	**+2.8**
PB02	**IPOC Station P**	**3.58**	**230**	P	**Pn**	**10 22 44.3**	**+2.8**
PB07	**IPOC Station P**	**3.84**	**225**		**Pn**	**10 22 46.2**	**+1.6**
LVC	**Limon Verde**	**4.01**	**206**	P	**Pn**	**10 22 49.0**	**+2.2**
	20nm,0.3s,baz=20,slow=8.6,SNR=166						
LVC				S	**S**	**10 23 38.5**	**+0.8**
	19nm,0.3s,baz=266,slow=23,SNR=14						
LVC	**Limon Verde**	**4.01**	**206**	Pn	**Pn**	**10 22 48.9**	**+2.0**
LVC	**Limon Verde**	**4.01**	**206**	*eP*	**Pn**	**10 22 49.1**	**+2.2**
LVC	**Limon Verde**	**4.01**	**206**	*eP*	**Pn**	**10 22 49.1**	**+2.2**
PB06	**IPOC Station P**	**4.40**	**213**	P	**Pn**	**10 22 53.2**	**+1.9**
PB06	**IPOC Station P**	**4.40**	**213**		**Pn**	**10 22 53.0**	**+1.7**
PB04	**IPOC Station P**	**4.44**	**221**	P	**Pn**	**10 22 53.5**	**+1.7**
PB04	**IPOC Station P**	**4.44**	**221**		**Pn**	**10 22 53.2**	**+1.4**
PB15	**IPOC Station P**	**4.78**	**209**	Pn	**Pn**	**10 22 58.1**	**+2.2**
SIV	**San Ignacio**	**6.39**	**63**	P	**Pn**	**10 23 15.9**	**+0.1**
	27nm,0.3s,baz=262,slow=12,SNR=514						
SIV	**San Ignacio**	**6.39**	**63**	P	**Pn**	**10 23 17.8**	**+2.0**
GO02	**Mina Guanaco**	**6.58**	**201**	Pn	**Pn**	**10 23 19.1**	**+0.7**
AC01	**Pan de Azucar**	**7.85**	**205**	Pn	**Pn**	**10 23 33.8**	**-0.3**
PTLB	**Pontes e Lacer**	**8.29**	**66**	*eP*	**Pn**	**10 23 40.2**	**+0.5**
PTLB	**Pontes e Lacer**	**8.29**	**66**	*eP*	**Pn**	**10 23 40.2**	**+0.5**
VILB	**Vilhena**	**8.87**	**48**	*eP*	**Pn**	**10 23 48.0**	**+0.7**
VILB	**Vilhena**	**8.87**	**48**	*eP*	**Pn**	**10 23 48.0**	**+0.7**
GO03	**Copiap**	**9.05**	**199**	Pn	**Pn**	**10 23 49.5**	**+0.2**
AC04	**Llanos de Chal**	**9.89**	**202**	Pn	**Pn**	**10 23 59.6**	**-0.3**
SAML	**Samuel**	**10.66**	**21**		**Pn**	**10 24 09.8**	**0.0**
SAML	**Samuel**	**10.66**	**21**	*eP*	**Pn**	**10 24 10.3**	**+0.5**
SAML	**Samuel**	**10.66**	**21**	*eP*	**Pn**	**10 24 10.3**	**+0.5**
AQDB	**Aquidauana**	**10.72**	**100**	*eP*	**Pn**	**10 24 11.4**	**+0.9**
AQDB	**Aquidauana**	**10.72**	**100**	*eP*	**Pn**	**10 24 11.4**	**+0.9**
CO01	**Juntas del Tor**	**11.28**	**194**	P	**P**	**10 24 18.8**	**-3.0**
GO04	**Tololo Observa**	**11.64**	**197**	P	**P**	**10 24 22.7**	**-3.1**
NNA	**Nana**	**11.79**	**305**	P	**P**	**10 24 26.2**	**-1.2**
	22nm,0.3s,baz=135,slow=11,SNR=29						
NNA				S	**S**	**10 26 30.1**	**-5.6**
	2.3nm,0.3s,baz=234,slow=17,SNR=2.3						
NNA	**Nana**	**11.79**	**305**	P	**Pn**	**10 24 24.9**	**+0.8**
NNA	**Nana**	**11.79**	**305**	P	**P**	**10 24 25.9**	**-1.6**
CO02	**Combarbal**	**12.67**	**196**	P	**P**	**10 24 34.7**	**-2.4**
CLDB	**Colider**	**13.49**	**55**	P	**Pn**	**10 24 45.0**	**0.0**
CLDB	**Colider**	**13.49**	**55**	*eP*	**Pn**	**10 24 45.0**	**0.0**
CLDB	**Colider**	**13.49**	**55**	*eP*	**Pn**	**10 24 45.0**	**0.0**
TRCB	**Terra Rica**	**13.92**	**108**	*eP*	**P**	**10 24 51.4**	**+0.4**
TRCB	**Terra Rica**	**13.92**	**108**	*eP*	**P**	**10 24 51.4**	**+0.4**
VA03	**San Esteban**	**14.06**	**192**	P	**P**	**10 24 53.8**	**+1.2**
ARAG	**Araguaiana, MT**	**14.85**	**80**	*eP*	**Pn**	**10 25 01.8**	**+0.4**
ARAG	**Araguaiana, MT**	**14.85**	**80**	*eP*	**Pn**	**10 25 01.8**	**+0.4**
PTGB	**Pitanga**	**14.96**	**115**	*eP*	**Pn**	**10 25 04.1**	**+1.4**
PTGB	**Pitanga**	**14.96**	**115**	*eP*	**Pn**	**10 25 04.1**	**+1.4**
PCMB	**Pacaembu**	**14.97**	**103**	*eP*	**Pn**	**10 25 03.1**	**+0.3**
PCMB	**Pacaembu**	**14.97**	**103**	*eP*	**Pn**	**10 25 03.1**	**+0.3**
BO02	**Sierra Bellavi**	**16.08**	**191**	P	**Pn**	**10 25 16.9**	**+1.0**
ATAH	**Atahualpa**	**16.21**	**315**	P	**Pn**	**10 25 20.4**	**+2.3**
	1.8nm,0.3s,baz=60,slow=2.5,SNR=7.2						
NPGB	**Novo Progresso**	**16.41**	**45**	*eP*	**P**	**10 25 18.2**	**-0.2**
NPGB	**Novo Progresso**	**16.41**	**45**	*eP*	**P**	**10 25 18.2**	**-0.2**
GO05	**Huala**	**16.53**	**194**	P	**Pn**	**10 25 21.1**	**-0.2**
GO05				IAmb	IAmb	10 25 24.5	
	comp=Z,11nm,0.7s						
CPSB	**Cacapava Do Su**	**16.71**	**135**	*eP*	**Pn**	**10 25 22.2**	**-1.2**
CPSB	**Cacapava Do Su**	**16.71**	**135**	*eP*	**Pn**	**10 25 22.2**	**-1.2**
FRTB	**Fartura**	**16.80**	**108**	*eP*	**Pn**	**10 25 23.8**	**-0.8**
FRTB	**Fartura**	**16.80**	**108**	*eP*	**Pn**	**10 25 23.8**	**-0.8**
MACA	**Manacapuru-AM**	**16.91**	**22**	*eP*	**P**	**10 25 24.0**	**0.0**
MACA	**Manacapuru-AM**	**16.91**	**22**	*eP*	**P**	**10 25 24.0**	**0.0**
PLTB	**Pedras Altas**	**17.50**	**139**	*eP*	**P**	**10 25 30.0**	**-0.2**
PLTB	**Pedras Altas**	**17.50**	**139**	*eP*	**P**	**10 25 30.0**	**-0.2**
IPMB	**Ipameri, GO**	**17.83**	**90**	*eP*	**P**	**10 25 34.8**	**+0.9**
IPMB	**Ipameri, GO**	**17.83**	**90**	*eP*	**P**	**10 25 34.8**	**+0.9**
CNLB	**Canela**	**17.91**	**128**	*eP*	**P**	**10 25 34.3**	**-0.4**
CNLB	**Canela**	**17.91**	**128**	*eP*	**P**	**10 25 34.3**	**-0.4**
BI02	**San Fabin de**	**17.98**	**191**	P	**Pn**	**10 25 37.0**	**-1.4**
BI02				IAmb	IAmb	10 25 37.8	
	comp=Z,9.4nm,0.8s						
BDFB	**Brasilia**	**18.41**	**82**	P	**P**	**10 25 41.2**	**+0.8**
	comp=Z,2.3nm,0.3s,baz=246,slow=6.7,SNR=10						
BDFB	**Brasilia**	**18.41**	**82**	P	**P**	**10 25 41.7**	**+1.4**
BDFB				IAmb	IAmb	10 25 45.3	
	comp=Z,11nm,0.7s						
SPB	**Sao Paulo**	**18.77**	**107**	*eP*	**P**	**10 25 43.9**	**-0.1**
SPB	**Sao Paulo**	**18.77**	**107**	*eP*	**P**	**10 25 43.9**	**-0.1**
VAO	**Valinhos**	**19.10**	**105**	*eP*	**P**	**10 25 47.1**	**-0.5**
VAO	**Valinhos**	**19.10**	**105**	*eP*	**P**	**10 25 47.1**	**-0.5**
PEXB	**Peixe**	**19.25**	**72**	*eP*	**P**	**10 25 49.0**	**-0.2**
PEXB	**Peixe**	**19.25**	**72**	*eP*	**P**	**10 25 49.0**	**-0.2**
PTGA	**Pitinga**	**19.43**	**22**	P	**P**	**10 25 50.2**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=201,slow=12,SNR=21						
PTGA	**Pitinga**	**19.43**	**22**	P	**P**	**10 25 50.4**	**-0.7**
PTGA				IAmb	IAmb	10 25 50.8	
	comp=Z,7.3nm,0.6s						
PTGA	**Pitinga**	**19.43**	**22**	*eP*	**P**	**10 25 50.2**	**-0.9**
PTGA	**Pitinga**	**19.43**	**22**	*eP*	**P**	**10 25 50.2**	**-0.9**
LC01	**Cunco**	**20.27**	**191**	P	**P**	**10 25 59.9**	**0.0**
PARB	**Paraibuna**	**20.37**	**106**	*eP*	**P**	**10 26 00.2**	**-0.9**
PARB	**Paraibuna**	**20.37**	**106**	*eP*	**P**	**10 26 00.2**	**-0.9**
BSCB	**Bom Sucesso**	**20.96**	**99**	*eP*	**P**	**10 26 06.8**	**-0.6**
BSCB	**Bom Sucesso**	**20.96**	**99**	*eP*	**P**	**10 26 06.8**	**-0.6**
PRPB	**Paraupepas**	**21.03**	**55**	*eP*	**P**	**10 26 07.6**	**-0.5**
PRPB	**Paraupepas**	**21.03**	**55**	*eP*	**P**	**10 26 07.6**	**-0.5**
MALB	**Monte Alegre**	**21.12**	**38**	*eP*	**P**	**10 26 07.8**	**-1.2**
MALB	**Monte Alegre**	**21.12**	**38**	*eP*	**P**	**10 26 07.8**	**-1.2**
SMTB	**Santa Maria do**	**21.33**	**64**	*eP*	**P**	**10 26 11.0**	**0.0**
SMTB	**Santa Maria do**	**21.33**	**64**	*eP*	**P**	**10 26 11.0**	**0.0**
PLCA	**Paso Flores**	**21.86**	**187**	P	**P**	**10 26 16.6**	**+0.8**
	comp=Z,8.8nm,0.8s,baz=355,slow=12,SNR=14						
PLCA	**Paso Flores**	**21.86**	**187**	P	**P**	**10 26 16.5**	**+0.6**
PLCA				IAmb	IAmb	10 26 17.4	
	comp=Z,16nm,1.0s						
PLCA	**Paso Flores**	**21.86**	**187**	*eP*	**P**	**10 26 16.1**	**+0.3**
PLCA	**Paso Flores**	**21.86**	**187**	*eP*	**P**	**10 26 16.1**	**+0.3**
JANB	**Januaria**	**22.02**	**83**	*eP*	**P**	**10 26 16.9**	**-0.6**
JANB	**Januaria**	**22.02**	**83**	*eP*	**P**	**10 26 16.9**	**-0.6**
MC01	**Montes Claros**	**22.04**	**88**	*eP*	**P**	**10 26 16.7**	**-1.0**
MC01	**Montes Claros**	**22.04**	**88**	*eP*	**P**	**10 26 16.7**	**-1.0**
GCUF	**Volcan Galeras**	**22.55**	**332**	*eP*	**P**	**10 26 27.0**	**+4.2**
GARC	**Garzon, Huila**	**22.67**	**337**	*eP*	**P**	**10 26 23.2**	**-0.5**
BBAC	**Balboa, Cauca**	**23.21**	**333**	*eP*	**P**	**10 26 30.4**	**+1.8**
PRAC	**Prado**	**23.89**	**340**	*eP*	**P**	**10 26 36.0**	**+1.5**
VILC	**Villavicencio,**	**23.91**	**343**	*eP*	**P**	**10 26 35.7**	**+0.9**
ORTC	**Ortega, Tolima**	**24.19**	**340**	*eP*	**P**	**10 26 37.3**	**+0.1**
CHIC	**Chingaza**	**24.42**	**344**	*eP*	**P**	**10 26 39.7**	**0.0**
YOTC	**Yotoco, Valle**	**24.64**	**337**	*eP*	**P**	**10 26 40.4**	**-1.0**
BSFB	**Barra de Sao F**	**24.71**	**94**	*eP*	**P**	**10 26 41.6**	**-0.3**
BSFB	**Barra de Sao F**	**24.71**	**94**	*eP*	**P**	**10 26 41.6**	**-0.3**

ANIL	**Santa Ana**	**24.79**	**340**	*eP*	**P**	**10 26 42.4**	**-0.5**
TOLC	**Tolima**	**24.85**	**340**	*eP*	**P**	**10 26 43.2**	**-0.2**
RREF	**El Recreo**	**25.15**	**340**	*eP*	**P**	**10 26 46.9**	**+0.3**
GUY2C	**Guyana, Caldas**	**25.46**	**340**	*eP*	**P**	**10 26 49.3**	**+0.1**
RUSC	**La Rusia**	**25.47**	**346**	*eP*	**P**	**10 26 48.5**	**-0.8**
RUSC	**La Rusia**	**25.47**	**346**	P	**P**	**10 26 49.1**	**-0.1**
PLMC	**San Jos del P**	**25.48**	**338**	*eP*	**P**	**10 26 48.8**	**-0.1**
NORC	**Norcasia**	**25.63**	**342**	*eP*	**P**	**10 26 50.1**	**-0.1**
CBOC	**Ciudad Bolivar**	**26.27**	**339**	*eP*	**P**	**10 26 55.6**	**-0.5**
HELC	**Santa Helena**	**26.43**	**341**	*eP*	**P**	**10 26 55.7**	**-2.0**
PTBC	**PUERTO BERRIO,**	**26.44**	**343**	*eP*	**P**	**10 26 54.7**	**-2.7**
GDU01	**Guandu, BA**	**26.80**	**83**	*eP*	**P**	**10 26 59.9**	**-0.8**
GDU01	**Guandu, BA**	**26.80**	**83**	*eP*	**P**	**10 26 59.9**	**-0.8**
ZARC	**Zaragoza, Cauc**	**27.46**	**343**	*eP*	**P**	**10 27 04.4**	**-2.1**
SMLC	**San Martn de**	**28.51**	**345**	*eP*	**P**	**10 27 13.1**	**-2.7**
RCBR	**Riachuelo**	**32.98**	**71**	P	**P**	**10 27 55.2**	**+0.2**
	comp=Z,15nm,0.5s,baz=232,slow=6.9,SNR=15						
RCBR	**Riachuelo**	**32.98**	**71**	P	**P**	**10 27 54.5**	**-0.6**
BANI	**BANI**	**37.32**	**355**	P	**P**	**10 28 32.1**	**+0.2**
MTO3	**Montecristo**	**39.85**	**325**	P	**P**	**10 28 54.3**	**+1.2**
MTO3				IAmb	IAmb	10 28 57.3	
	comp=Z,16nm,1.3s						
TEIG	**Tepich**	**44.23**	**331**	P	**P**	**10 29 28.2**	**+0.1**
WVT	**Waverly**	**58.29**	**340**	P	**P**	**10 31 10.7**	**-1.2**
FCAR	**Ozark Folk Cen**	**59.57**	**336**	P	**P**	**10 31 19.8**	**-1.0**
TX31	**Lajitas Ar. Si**	**59.70**	**323**	P	**P**	**10 31 22.1**	**+0.3**
TX32	**Lajitas Array**	**59.70**	**323**	P	**P**	**10 31 21.9**	**+0.1**
TXAR	**Lajitas Array**	**59.70**	**323**	P	**P**	**10 31 21.9**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=152,slow=8.2,SNR=13						
P53A	**Whipple**	**59.73**	**347**	P	**P**	**10 31 21.7**	**0.0**
P53A				IAmb	IAmb	10 31 22.2	
	comp=Z,7.0nm,0.7s						
X37A	**Clayton**	**59.76**	**333**	P	**P**	**10 31 22.1**	**+0.1**
TUL1	**Leonard**	**61.06**	**333**	P	**P**	**10 31 31.0**	**+0.2**
CCM	**Cathedral Cave**	**61.18**	**338**	P	**P**	**10 31 30.6**	**-0.9**
WMOK	**Wichita Mounta**	**61.41**	**330**	IAmb	IAmb	10 31 35.1	
	comp=Z,14nm,1.1s						
R40A	**Maddies Statio**	**61.75**	**338**	IAmb	IAmb	10 31 35.1	
	comp=Z,5.6nm,0.7s						
VNA3	**Neumayer Olymp**	**61.85**	**162**	P	**P**	**10 31 36.9**	**+1.2**
VNA2	**Neumayer--Watz**	**62.40**	**161**	P	**P**	**10 31 40.5**	**+1.3**
	baz=293,slow=6.6						
J59A	**Piesco**	**62.55**	**354**	P	**P**	**10 31 40.5**	**-0.1**
J59A				IAmb	IAmb	10 31 41.2	
	comp=Z,5.7nm,0.9s						
P38A	**Dawn**	**63.39**	**337**	IAmb	IAmb	10 31 45.9	
	comp=Z,7.4nm,0.8s						
SNAA	**Sanae**	**64.04**	**162**	P	**P**	**10 31 51.0**	**+1.0**
SNAA	**Sanae**	**64.04**	**162**	P	**P**	**10 31 51.0**	**+1.0**
K43A	**Burlington**	**64.49**	**343**	P	**P**	**10 31 52.3**	**-0.9**
F64A	**Sherman**	**64.58**	**359**	P	**P**	**10 31 54.1**	**+0.4**
F64A				IAmb	IAmb	10 32 10.3	
	comp=Z,6.1nm,1.1s						
L40A	**Anamosa**	**64.77**	**340**	P	**P**	**10 31 54.6**	**-0.4**
L40A				IAmb	IAmb	10 31 59.0	
	comp=Z,3.8nm,0.8s						
E62A	**Clayton Lake**	**65.36**	**358**	P	**P**	**10 31 58.5**	**-0.2**
E62A				IAmb	IAmb	10 32 05.3	
	comp=Z,8.3nm,1.1s						
ANMO	**Albuquerque**	**65.47**	**325**	P	**P**	**10 32 00.5**	**+0.6**
DBIC	**Dimbokro**	**66.29**	**74**	P	**P**	**10 32 03.8**	**-1.5**
	comp=Z,4.9nm,0.6s,baz=256,slow=2.7,SNR=13						
DBIC	**Dimbokro**	**66.29**	**74**	P	**P**	**10 32 03.7**	**-1.7**
D53A	**Lac Vacive, Po**	**66.49**	**352**	P	**P**	**10 32 05.1**	**-0.8**
ECSD	**EROS Data Cent**	**68.10**	**337**	P	**P**	**10 32 15.8**	**-0.3**
113A	**Mohawk Valley,**	**68.20**	**319**	P	**P**	**10 32 18.3**	**+1.4**
Y14A	**Wickenburg**	**68.52**	**320**	P	**P**	**10 32 19.4**	**+0.4**
F36A	**Milaca**	**68.91**	**340**	P	**P**	**10 32 20.5**	**-0.6**
F36A				IAmb	IAmb	10 32 32.7	
	comp=Z,9.0nm,1.5s						
U15A	**North Rim**	**69.81**	**322**	IAmb	IAmb	10 32 29.9	
	comp=Z,5.4nm,0.9s						
BAR	**Barrett**	**70.00**	**317**	P	**P**	**10 32 29.4**	**+1.4**
BAR				IAmb	IAmb	10 32 40.1	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**71.17**	**180**	P	**P**	**10 32 36.1**	**+1.5**
QSPA				IAmb	IAmb	10 32 36.9	
	comp=Z,5.3nm,0.9s						
B35A	**Bob, Littlefor**	**71.21**	**342**	P	**P**	**10 32 34.4**	**-0.4**
B35A				IAmb	IAmb	10 32 34.7	
	comp=Z,5.0nm,0.6s						
AGMN	**Agassiz Nation**	**71.81**	**340**	IAmb	IAmb	10 32 38.9	
	comp=Z,6.4nm,0.9s						
PSUT	**Pine Spring**	**72.16**	**323**	P	**P**	**10 32 42.2**	**+1.2**
TPNV	**Topopah Spring**	**72.50**	**320**	IAmb	IAmb	10 32 45.5	
	comp=Z,4.7nm,0.6s						
PDAR	**Pinedale Array**	**72.91**	**329**	P	**P**	**10 32 46.0**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=128,slow=9.1,SNR=9.6						
R11A	**Troy Canyon, C**	**73.04**	**322**	P	**P**	**10 32 47.1**	**+0.9**
R11A				IAmb	IAmb	10 32 49.0	
	comp=Z,5.1nm,1.2s						
ULM	**Lac du Bonnet**	**73.53**	**341**	P	**P**	**10 32 48.0**	**-0.6**
	comp=Z,3.5nm,0.4s,baz=101,slow=3.2,SNR=3.0						
ULM	**Lac du Bonnet**	**73.53**	**341**	IAmb	IAmb	10 32 48.7	
	comp=Z,5.2nm,0.9s						
SCHQ	**Schefferville**	**73.55**	**0**	P	**P**	**10 32 47.7**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=207,slow=4.5,SNR=2.1						
REDW	**Red Top Meadow**	**73.99**	**328**	P	**P**	**10 32 53.3**	**+1.6**
TPAW	**Teton Pass**	**74.13**	**328**	P	**P**	**10 32 54.5**	**+2.0**
ELK	**Elko**	**74.45**	**324**	P	**P**	**10 32 55.4**	**+0.9**
	comp=Z,1.8nm,0.8s,baz=160,slow=2.6,SNR=9.6						
OMMB	**Old Mammoth Mi**	**74.60**	**320**	P	**P**	**10 32 56.9**	**+1.4**
OMMB				IAmb	IAmb	10 32 57.8	
	comp=Z,5.1nm,0.8s						
NVAR	**Mina Array Bea**	**74.70**	**321**	P	**P**	**10 32 57.3**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=154,slow=6.2,SNR=15						
TOA0	**Torodi Ar. Sit**	**74.81**	**70**	P	**P**	**10 32 55.0**	**-1.7**
TORD	**Torodi Ar. Bea**	**74.81**	**70**	P	**P**	**10 32 55.0**	**-1.7**
	comp=Z,7.5nm,0.4s,baz=253,slow=5.1,SNR=89						
RYN	**Ryan**	**74.96**	**321**	P	**P**	**10 32 58.6**	**+1.3**
KVN	**Kaiserville**	**74.98**	**321**	IAmb	IAmb	10 32 59.5	
	comp=Z,5.2nm,0.8s						
YERR	**Yerington**	**75.62**	**320**	IAmb	IAmb	10 33 03.6	
	comp=Z,6.6nm,1.2s						
PNTR	**Pine Nut**	**75.90**	**320**	IAmb	IAmb	10 33 05.4	
	comp=Z,6.0nm,0.8s						
DLMT	**Dillon**	**76.30**	**329**	P	**P**	**10 33 06.1**	**+1.5**
J08A	**Circle Bar Ran**	**77.99**	**324**	IAmb	IAmb	10 33 16.3	
	comp=Z,3.0nm,0.6s						
MOD	**Modoc Plateau**	**78.09**	**322**	IAmb	IAmb	10 33 16.9	
	comp=Z,3.6nm,0.7s						
BMO	**Blue Mountains**	**78.35**	**326**	IAmb	IAmb	10 33 18.1	
	comp=Z,6.4nm,0.8s						
WDC	**Whiskeytown Da**	**78.60**	**320**	P	**P**	**10 33 16.3**	**-1.0**
F10A	**Beach Ranch, E**	**79.06**	**327**	IAmb	IAmb	10 33 22.8	
	comp=Z,3.9nm,0.8s						
VNDA	**Vanda**	**79.59**	**190**	P	**P**	**10 33 24.3**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=126,slow=3.6,SNR=4.4						
PINE	**Pine Mountain**	**79.64**	**323**	IAmb	IAmb	10 33 25.9	
	comp=Z,7.1nm,0.7s						
KRMB	**Red Mountain**	**79.99**	**320**	P	**P**	**10 33 25.1**	**+0.2**
FCC	**Fort Churchill**	**80.65**	**346**	P	**P**	**10 33 27.2**	**-0.6**
FCC				IAmb	IAmb	10 33 28.8	
	comp=Z,6.2nm,1.1s						
H04A	**Detroit Lake**	**80.90**	**324**	P	**P**	**10 33 30.4**	**+0.8**
H04A				IAmb	IAmb	10 33 30.8	
	comp=Z,6.1nm,0.7s						
ESDC	**Sonseca Array**	**82.80**	**44**	P	**P**	**10 33 39.5**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=257,slow=5.0,SNR=2.3						
BOSA	**Boshof**	**83.00**	**118**	P	**P**	**10 33 41.2**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=274,slow=2.4,SNR=5.6						
BOSA	**Boshof**	**83.00**	**118**	IAmb	IAmb	10 33 46.4	
	comp=Z,15nm,1.4s						
NLWA	**Neilton Lookou**	**83.48**	**325**	P	**P**	**10 33 43.8**	**+0.9**
NLWA				IAmb	IAmb	10 34 00.9	
	comp=Z,14nm,1.5s						
YKA	**Yellowknife Ar**	**89.47**	**340**	P	**P**	**10 34 11.6**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=133,slow=5.0,SNR=31						
SEY	**Seymchan**	**128.51**	**338**	PKP	**PKiKP**	**10 40 20.5**	**0.0**
	comp=Z,2.4nm,0.7s,baz=69,slow=2.3,SNR=8.7						
ASAR	**Alice Springs**	**132.94**	**207**	PKP	**PKPdf**	**10 40 29.1**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=135,slow=1.6,SNR=23						
ASAR				SKPbc	**SKPbc**	**10 43 33.8**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=140,slow=3.7,SNR=4.4						
WRA	**Warramunga Arr**	**136.00**	**209**	PKP	**PKiKP**	**10 40 35.6**	**-1.4**
	comp=Z,2.3nm,0.9s,baz=154,slow=1.8,SNR=14						
WRA				SKPbc	**SKPbc**	**10 43 42.9**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=154,slow=3.3,SNR=3.4						
ZALV	**Zalesovo Beam**	**138.94**	**25**	PKP	**PKPdf**	**10 40 40.4**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=318,slow=2.0,SNR=6.3						
MKAR	**Makanchi Array**	**142.57**	**35**	PKhKP	PKPpre	10 40 43.4	
	comp=Z,0.4nm,0.6s,baz=292,slow=5.3,SNR=4.4						
MKAR				PKP	**PKPdf**	**10 40 47.0**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=283,slow=2.1,SNR=5.2						
MKAR				SKPbc	**SKPbc**	**10 44 00.9**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=342,slow=1.9,SNR=4.8						
JKA	**Kamikawa-asahi**	**144.82**	**322**		**PKPdf**	**10 40 51.1**	**+0.7**
ASAJ	**Asahikawa**	**144.82**	**322**	PKP	**PKPdf**	**10 40 51.1**	**+0.7**
	comp=Z,10nm,0.8s,baz=49,slow=2.0,SNR=11						
KLR	**Kul'dur**	**146.30**	**338**	PKPbc	**PKPbc**	**10 40 53.7**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=18,slow=4.7,SNR=10						
USRK	**Ussuriysk Ar.**	**150.29**	**332**	PKPbc	**PKiKP**	**10 41 05.5**	**-0.1**
	comp=Z,7.0nm,0.7s,baz=23,slow=2.3,SNR=14						
SONM	**Songino Array**	**150.75**	**9**	PKP	**PKPdf**	**10 41 00.8**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=48,slow=2.2,SNR=3.8						
SONM				PKPbc	**PKiKP**	**10 41 06.3**	**-0.2**
	comp=Z,2.5nm,0.5s,baz=298,slow=1.9,SNR=15						
MJAR	**Matsushiro Arr**	**151.82**	**313**	PKPbc	**PKiKP**	**10 41 08.9**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=103,slow=0.8,SNR=4.8						
MJAR				PKPab	**PKPab**	**10 41 18.7**	**0.0**
	comp=Z,2.7nm,0.9s,baz=57,slow=3.1,SNR=8.1						

NEIC ***02*** *10:31:41.2±1.3, 51.6°N±0.1°×175.90°W±0.08, h38km±47km, Error ellipse: s-maj=16.2km s-min=6.4km az=170.0*
AEIC 02 10:31:41±1.1, **

ESPN	**Las Esperanzas**	**3.69**	**90**	*e*P		**Pn**	**11 03 42.8**	**-0.2**

MAN 02 11:15:28.2, 9.46N×127.08E, h148km, mb4.5, ML3.4, MS3.2, 1C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.13**	**219**	*e*P	Pn	11 16 30.0	+13
KCP				*i* S	Sn	11 16 52.0	-3.2
TBP	**Tagbilaran**	**3.18**	**274**	*e*P	Pn	11 16 18.6	+0.8
RCP	**Roxas**	**4.75**	**296**	*e*P	Pn	11 16 41.8	+3.4

*IDC **02** 11:17:44.2±1.0, 5.80S×103.54E, h0km, mb4.2/16, mb1 4.3/16, mb1mx4.1/43, mbtmp4.2/16, MS3.3/3, Ms1 3.3/3, ms1mx2.7/35, Error ellipse: s-maj=33.4km s-min=13.8km az=56.0*
*DJA **02** 11:17:46.0±1.4, 6.S±4.×10.4E±.°, h26km±15km, M4.4/6, MLv4.4/6*
*NEIC **02** 11:17:49.3±1.6, 5.82S±0.10×103.4E±0.1, h37km±7km, mb4.4/12, Error ellipse: s-maj=19.8km s-min=7.7km az=49.0*

ISC 02 11:17:50.9±1.7, 5.85S±0.09×103.55E±0.08, h50km±14km, n46, σ1°§41/49, mb4.3/19, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LWLI	**Liwa**	**0.97**	**32**	P	**Pn**	**11 18 07.1**	**-1.2**
LWLI				S	**Sn**	**11 18 22.5**	**+1.4**
KASI	**Kota Agung**	**1.00**	**71**	P	**Pn**	**11 18 06.2**	**-2.4**
KASI				S	**Sn**	**11 18 20.8**	**-0.8**
MDSI	**Maura Dua**	**1.49**	**25**	P	**Pn**	**11 18 15.2**	**-0.1**
MDSI				S	**Sn**	**11 18 37.6**	**+4.0**
MNAI	**Manna**	**1.59**	**338**	P	**Pn**	**11 18 17.1**	**+0.4**
MNAI				S	**Sn**	**11 18 41.1**	**+5.0**
MNAI	**Manna**	**1.59**	**338**		**Pn**	**11 18 15.1**	**-1.6**
MNAI				Sn	**Sn**	**11 18 32.8**	**-3.3**
LHSI	**Lahat**	**2.01**	**359**	P	**Pn**	**11 18 23.0**	**+0.6**
KSI	**Kapahiang**	**2.38**	**336**	P	**Pn**	**11 18 28.0**	**+0.5**
LEM	**Lembang**	**4.16**	**104**	Pn	**Pn**	**11 18 54.0**	**+2.0**
	5.8nm,0.3s,baz=330,slow=20,SNR=2.5						
LEM				Sn	**Sn**	**11 19 42.0**	**+2.6**
	2.0nm,0.3s,baz=186,slow=21,SNR=4.7						
LEM				LR	LR	11 20 29.9	
	comp=Z,198nm,18.2s,baz=182,slow=40						
CISI	**Cisompet, Garu**	**4.56**	**112**		**Pn**	**11 18 56.7**	**-0.8**
XMIS	**Christmas Isla**	**5.05**	**156**		Pn	11 18 55.1	-9.0
XMIS				Sn	Sn	11 19 49.9	-11
KAPI	**Kappang**	**16.15**	**88**	LR	LR	11 28 20.8	
	comp=Z,51nm,18.8s,baz=251,slow=39						
BATI	**Baumata**	**20.38**	**104**	P	**P**	**11 22 23.9**	**+0.2**
	12nm,0.3s,baz=100,slow=17,SNR=1.7						
CMAR	**Chiang Mai Arr**	**24.58**	**349**	P	**P**	**11 23 05.2**	**-1.1**
	0.7nm,0.3s,baz=180,slow=8.8,SNR=9.7						
FITZ	**Fitzroy Crossi**	**24.77**	**121**	P	**P**	**11 23 08.2**	**+0.2**
	6.5nm,0.8s,baz=285,slow=5.6,SNR=8.8						
FITZ	**Fitzroy Crossi**	**24.77**	**121**	P	**P**	**11 23 08.1**	**0.0**
FITZ				IAmb	IAmb	11 23 09.2	
	comp=Z,11nm,1.1s						
H08S2	**Diego Garcia H**	**30.89**	**265**	T	T	11 55 51.1	
	baz=89,slow=75,SNR=21						
H08S3	**Diego Garcia H**	**30.90**	**265**	T	T	11 56 09.6	
	baz=89,slow=75,SNR=20						
H08S1	**Diego Garcia H**	**30.91**	**265**	T	T	11 56 07.8	
	baz=89,slow=75,SNR=12						
WRA	**Warramunga Arr**	**33.04**	**118**	P	**P**	**11 24 21.1**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=212,slow=20,SNR=10						
WRA				PcP	**PcP**	**11 27 04.6**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=300,slow=2.1,SNR=7.7						
ASAR	**Alice Springs**	**34.16**	**124**	P	**P**	**11 24 31.2**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=304,slow=8.3,SNR=14						
ASAR				PcP	**PcP**	**11 27 08.9**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=310,slow=2.0,SNR=9.3						
STKA	**Stephens Creek**	**43.97**	**131**	P	**P**	**11 25 53.8**	**+0.4**
	comp=Z,4.0nm,0.8s,baz=299,slow=8.1,SNR=9.3						
STKA	**Stephens Creek**	**43.97**	**131**	P	**P**	**11 25 53.0**	**-0.3**
NIL	**Nilore**	**48.65**	**326**	P	**P**	**11 26 29.2**	**-0.8**
KSRS	**Korea Array**	**48.71**	**26**	P	**P**	**11 26 30.7**	**+0.3**
	comp=Z,2.0nm,0.6s,baz=225,slow=7.6,SNR=9.2						
MJAR	**Matsushiro Arr**	**53.20**	**35**	P	**P**	**11 27 02.9**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=210,slow=7.2,SNR=5.0						
SONM	**Songino Array**	**53.51**	**2**	P	**P**	**11 27 07.0**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=180,slow=9.1,SNR=8.5						
SONM				PcP	**PcP**	**11 28 13.6**	**+0.8**
	comp=Z,0.9nm,0.4s,baz=168,slow=4.7,SNR=2.6						
GAR	**Garm**	**54.20**	**328**	P	**P**	**11 27 11.2**	**-0.4**
GAR				IAmb	IAmb	11 27 12.4	
	comp=Z,4.5nm,0.6s						
AAK	**Ala-Archa**	**55.01**	**334**	P	**P**	**11 27 17.4**	**-0.1**
AAK				IAmb	IAmb	11 27 28.1	
	comp=Z,4.9nm,1.4s						
MK31	**Makanchi Array**	**55.70**	**342**	P	**P**	**11 27 21.6**	**-0.6**
MK31				IAmb	IAmb	11 27 22.6	
	comp=Z,3.1nm,0.7s						
MKAR	**Makanchi Array**	**55.70**	**342**	P	**P**	**11 27 22.1**	**-0.1**
	comp=Z,4.2nm,0.6s,baz=147,slow=7.9,SNR=45						
USRK	**Ussuriysk Ar.**	**56.02**	**24**	P	**P**	**11 27 24.2**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=220,slow=6.0,SNR=6.6						
KK31	**Karatay Array**	**57.19**	**332**	P	**P**	**11 27 31.0**	**-1.8**
KLR	**Kul'dur**	**60.11**	**21**	P	**P**	**11 27 52.8**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=242,slow=4.4,SNR=5.5						
KURK	**Kurchatov**	**60.30**	**342**	P	**P**	**11 27 53.6**	**-0.6**
KURK				IAmb	IAmb	11 27 55.4	
	comp=Z,4.7nm,0.9s						
ASAJ	**Asahikawa**	**60.91**	**31**	P	**P**	**11 27 58.5**	**0.0**
	comp=Z,3.1nm,0.5s,baz=231,slow=6.9,SNR=12						
JKA	**Kamikawa-asahi**	**60.91**	**31**	P	**P**	**11 27 58.5**	**0.0**
ZAA0	**Zalesovo Array**	**61.62**	**348**	P	**P**	**11 28 02.5**	**-0.6**
ZALV	**Zalesovo Beam**	**61.62**	**348**	P	**P**	**11 28 02.9**	**-0.3**
	comp=Z,5.3nm,0.6s,baz=163,slow=4.6,SNR=20						
LSZ	**Lusaka**	**74.39**	**256**	LR	LR	11 59 14.5	
	comp=Z,63nm,18.6s,baz=168,slow=34						
BRTR	**Keskin Array B**	**78.51**	**312**	P	**P**	**11 29 47.9**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=120,slow=7.3,SNR=5.9						
BR131	**Keskin Array S**	**78.52**	**312**	P	**P**	**11 29 46.5**	**-0.7**
FINES	**FINESS Array B**	**89.14**	**332**	P	**P**	**11 30 40.2**	**-0.5**
	comp=Z,1.9nm,0.9s,baz=132,slow=2.8,SNR=3.9						
SNAA	**Sanae**	**89.59**	**198**	P	**P**	**11 30 43.7**	**+0.9**
TXAR	**Lajitas Array**	**145.27**	**45**	PKPbc	**PKPdf**	**11 37 24.8**	**+0.9**
	comp=Z,3.7nm,0.7s,baz=277,slow=1.4,SNR=56						
U38A	**Gravette**	**145.40**	**26**		**PKPbc**	**11 37 23.2**	**-0.5**
U40A	**Yellville**	**146.12**	**24**		**PKPdf**	**11 37 25.4**	**+0.3**

ISC 02 11:49:48.3±0.9, 50.06N±0.04×18.40E±0.03, h0km, n16, σ0§80/27, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.28**	**217**	*e*PG	**Pg**	**11 49 54.3**	**+0.8**
OKC				*e*SG	**Sb**	**11 49 59.1**	**-2.2**
	comp=Z,76nm,0.5s						
MORC	**Moravsky Berou**	**0.62**	**244**	*e*PG	**Pg**	**11 50 00.7**	**+0.5**
MORC				*e*SG	**Sg**	**11 50 08.9**	**+0.6**
OJC	**Ojcow**	**0.91**	**79**	*e*Pg	**Pg**	**11 50 05.4**	**-0.4**
OJC				*e*Sg	**Sg**	**11 50 17.6**	**+0.1**
KRLC	**Kraliky**	**1.05**	**272**	*e*PG	**Pg**	**11 50 07.7**	**-0.6**
KRLC				*e*SG	**Sg**	**11 50 22.5**	**+0.7**
	comp=Z,24nm,0.4s						
LANS	**Liptovska Anna**	**1.14**	**142**	*e*PG	**Pg**	**11 50 10.3**	**+0.2**
LANS				*e*SG	**Sb**	**11 50 27.0**	**+0.7**
LANS				*e*LG	Lg	11 50 29.5	
JAVC	**Velka Javorina**	**1.29**	**202**	*e*PG	**Pg**	**11 50 12.7**	**-0.3**
DPC	**Dobruska-Polom**	**1.37**	**283**	*e*PG	**Pg**	**11 50 13.9**	**-0.6**
DPC				*e*SG	**Sn**	**11 50 33.3**	**-0.2**
	comp=Z,24nm,0.6s						
NIE	**Niedzica**	**1.39**	**117**	*e*Pg	**Pn**	**11 50 15.0**	**+0.1**
NIE				*e*Sg	**Sn**	**11 50 34.0**	**+0.1**
VRAC	**Vranov**	**1.40**	**238**	*e*PG	**Pg**	**11 50 14.5**	**-0.5**
VRAC				*e*SG	**Sg**	**11 50 33.0**	**0.0**
OSTC	**Ostas**	**1.49**	**290**	*e*PG	**Pn**	**11 50 16.0**	**-0.3**
OSTC				*e*SG	**Sn**	**11 50 37.6**	**+1.1**
	comp=Z,6.5nm,0.4s						
VYHS	**Vyhne**	**1.59**	**170**	*e*PG	**Pn**	**11 50 17.5**	**-0.2**
VYHS				*e*SG	**Sn**	**11 50 38.9**	**0.0**
CHVC	**Chvalec**	**1.60**	**290**	*e*PG	**Pn**	**11 50 17.4**	**-0.4**
CHVC				*e*SG	**Sg**	**11 50 40.8**	**+1.3**
	comp=Z,5.7nm,0.5s						
UPC	**Upice**	**1.60**	**287**	*e*SG	**Sg**	**11 50 41.4**	**+1.8**
	comp=Z,15nm,1.0s						
KRUC	**Moravsky**	**1.64**	**233**	*e*SG	**Sn**	**11 50 40.4**	**+0.2**
PRU	**Pruhonice**	**2.49**	**270**	*e*SG	**Sg**	**11 51 09.0**	**+0.7**
	comp=Z,8.5nm,0.9s						
KHC	**Kasperske Hory**	**3.27**	**255**	*e*SG	**Sg**	**11 51 33.3**	**-0.1**
	comp=Z,5.9nm,0.6s						

*NIC **02** 11:53:42.5±0.0, 35.65N×34.54E, h46km±13km, Ml2.9/6*
*ISK **02** 11:53:44.3, 35.56N×34.45E, h55km, ML3.1/21*
*DDA **02** 11:53:44.7, 35.81N×34.55E, h22km±2km, ML2.3*
*GII **02** 11:53:45.6±0.0, 35.26N×34.44E, h30km, MD2.2/3, Mm2.5/4*

ISC 02 11:53:43.5±1.2, 35.48N±0.02×34.55E±0.03, h59km±9km, n55, σ0§97/84, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EREN	**Erenkoy**	**0.31**	**279**	PG	**Pn**	**11 53 53.6**	**0.0**
EREN				SG	**Sn**	**11 54 00.8**	**0.0**
EREN	**Erenkoy**	**0.31**	**279**	*i* P	**Pn**	**11 53 53.6**	**0.0**
EREN				*i* S	**Sn**	**11 54 00.9**	**0.0**
EREN				IAML		11 54 03.0	
	comp=N,225nm,0.3s						
PARAL	**Paralimni**	**0.64**	**221**	P	**Pn**	**11 53 57.5**	**+0.5**
PARAL				AML	AML	11 54 07.6	
	comp=N,2.0nm,0.3s						
PARAL				AML	AML	11 54 07.6	
	comp=N,2.0nm,0.3s						
PARAL				S	**Sn**	**11 54 07.8**	**+1.1**
PARAL				AML	AML	11 54 08.0	
	comp=N,2.9nm,0.2s						
PARAL				AML	AML	11 54 08.0	
	comp=N,2.9nm,0.2s						
LFK	**Lefkose**	**0.85**	**257**	PG	**Pn**	**11 54 00.1**	**+0.4**
LFK				SG	**Sn**	**11 54 11.8**	**+0.2**
MVOU	**Mavrovouni**	**0.88**	**239**	P	**Pn**	**11 54 00.3**	**+0.3**
MVOU				S	**Sn**	**11 54 12.7**	**+0.7**
MVOU				AML	AML	11 54 15.5	
	comp=N,0.6nm,0.4s						
MVOU				AML	AML	11 54 15.5	
	comp=N,0.6nm,0.4s						
TISA	**Tisan-Mersin**	**0.98**	**314**	PG	**Pn**	**11 54 01.1**	**-0.2**
TISA				SG	**Sn**	**11 54 13.3**	**-1.1**
ATHAL	**Athalassa**	**1.00**	**251**	P	**Pn**	**11 54 00.4**	**-1.2**
ATHAL				S	**Sn**	**11 54 14.3**	**-0.5**
ATHAL				AML	AML	11 54 18.8	
	comp=N,0.9nm,0.4s						
ATHAL				AML	AML	11 54 18.8	
	comp=N,0.9nm,0.4s						
SILI	**Silifke-Mersin**	**1.02**	**330**	PG	**Pn**	**11 54 01.7**	**-0.1**
SILI				SG	**Sn**	**11 54 14.5**	**-0.8**
YESI	**Yesilovacik-Me**	**1.03**	**314**	PG	**Pn**	**11 54 01.7**	**-0.1**
YESI				SG	**Sn**	**11 54 14.3**	**-1.1**
IKL	**Isikli**	**1.03**	**317**	PG	**Pn**	**11 54 01.9**	**0.0**
IKL				SG	**Sn**	**11 54 14.5**	**-1.1**
AKK2	**Akkuyu-Mersin**	**1.04**	**309**	PG	**Pn**	**11 54 02.0**	**-0.1**
AKK2				SG	**Sn**	**11 54 14.9**	**-0.9**
KIZK	**Mersin**	**1.05**	**342**	PG	**Pn**	**11 54 02.4**	**+0.2**
KIZK	**Mersin**	**1.05**	**342**	*i* P	**Pn**	**11 54 02.3**	**+0.2**
KIZK				IAML		11 54 17.0	
	comp=E,134nm,0.4s						
AKK1	**Akkuyu-Mersin**	**1.05**	**309**	PG	**Pn**	**11 54 01.9**	**-0.3**
AKK1				SG	**Sn**	**11 54 15.0**	**-1.1**
AKKU	**Akkuyu-Mersin**	**1.06**	**310**	PG	**Pn**	**11 54 02.1**	**-0.2**
GULN	**MERSIN_Gulnar**	**1.08**	**311**	*i* P	**Pn**	**11 54 01.8**	**-0.7**
GULN				*i* S	**Sn**	**11 54 15.4**	**-1.2**
GULN				IAML		11 54 16.0	
	comp=N,185nm,0.2s						
GULN				IAML		11 54 16.0	
	comp=E,118nm,0.2s						
CSS	**Mathiatis**	**1.12**	**243**	PN	**Pn**	**11 54 04.0**	**+0.8**
CSS	**Mathiatis**	**1.12**	**243**	Pg	**Pn**	**11 54 02.3**	**-0.9**
CSS	**Mathiatis**	**1.12**	**243**	P	**Pn**	**11 54 02.8**	**-0.3**
CSS				S	**Sn**	**11 54 17.7**	**0.0**
CSS				AML	AML	11 54 21.2	
	comp=E,0.2nm,0.3s						
CSS				AML	AML	11 54 21.2	
	comp=E,0.2nm,0.3s						
CSS				AML	AML	11 54 23.7	
	comp=E,0.1nm,0.3s						
CSS				AML	AML	11 54 23.7	
	comp=E,0.1nm,0.3s						
OREN	**Orenkoy-Mersin**	**1.15**	**310**	PG	**Pn**	**11 54 03.5**	**+0.1**
YORU	**Yoruktepe-Mers**	**1.15**	**306**	PG	**Pn**	**11 54 03.5**	**0.0**
KEBE	**Keben-Mersin**	**1.18**	**325**	PG	**Pn**	**11 54 03.9**	**-0.1**
ASGA	**Asgata**	**1.27**	**237**	P	**Pn**	**11 54 06.2**	**+1.1**
ASGA				AML	AML	11 54 22.6	
	comp=E,0.6nm,0.4s						
ASGA				AML	AML	11 54 22.6	
	comp=E,0.6nm,0.4s						
ASGA				S	**Sn**	**11 54 22.6**	**+1.4**
ASGA				AML	AML	11 54 24.6	
	comp=E,0.6nm,0.3s						
ASGA				AML	AML	11 54 24.6	
	comp=E,0.6nm,0.3s						
KRTS	**Karatas**	**1.28**	**31**	PN	**Pn**	**11 54 06.5**	**+1.3**
TEVE	**Tevekalti-Mers**	**1.31**	**317**	PN	**Pn**	**11 54 05.7**	**0.0**
TEKE	**Tekeli-Mersin**	**1.34**	**300**	PN	**Pn**	**11 54 06.1**	**+0.1**
BERE	**Bereket-Mersin**	**1.38**	**309**	PN	**Pn**	**11 54 06.6**	**-0.1**
MERS	**Mersin**	**1.39**	**359**	PN	**Pn**	**11 54 07.2**	**+0.5**
LEF	**Lefka**	**1.40**	**256**	PN	**Pn**	**11 54 08.3**	**+1.4**
SZAC	**Souni**	**1.55**	**243**	P	**Pn**	**11 54 09.8**	**+1.0**
SZAC				AML	AML	11 54 31.6	
	comp=E,0.4nm,0.2s						
SZAC				AML	AML	11 54 37.1	
	comp=E,0.4nm,0.2s						
TAHT	**Tahtakopru-Hat**	**1.60**	**56**	PN	**Pn**	**11 54 10.4**	**+0.9**
YURE	**YUREGIR**	**1.60**	**33**	PN	**Pn**	**11 54 10.9**	**+1.3**
YURE	**YUREGIR**	**1.60**	**33**	*i* P	**Pn**	**11 54 12.0**	**+2.4**
YURE				*i* S	**Sn**	**11 54 29.1**	**-0.2**
ALFC	**Alefka**	**1.63**	**259**	P	**Pn**	**11 54 09.1**	**-0.8**
ALFC				S	**Sn**	**11 54 28.6**	**-1.3**
HWQ	**Hawqa**	**1.66**	**136**	*e*P	**Pn**	**11 54 11.4**	**+0.9**
GULE	**Gulek**	**1.81**	**6**	*i* P	**Pn**	**11 54 13.0**	**+0.5**
BHL	**Bhannes**	**1.82**	**150**	*e*P	**Pn**	**11 54 12.5**	**-0.1**
KERG	**Konya-Eregli**	**1.96**	**350**	*i* P	**Pn**	**11 54 15.7**	**+1.2**
KERG				*i* S	**Sn**	**11 54 36.8**	**-1.3**
GAZI	**Gazipasa**	**1.96**	**293**	PN	**Pn**	**11 54 14.9**	**+0.4**
AKO	**Adana**	**2.11**	**20**	*i* P	**Pn**	**11 54 16.6**	**+0.2**
AKO				*i* S	**Sn**	**11 54 39.7**	**-1.8**
AKO				IAML		11 54 42.0	
	comp=N,55nm,1.1s						
AKO				IAML		11 54 43.0	
	comp=E,33nm,0.4s						
CMRD	**Camardi-Nigde**	**2.21**	**9**	PN	**Pn**	**11 54 19.1**	**+1.2**
RCY	**Rachaya**	**2.25**	**151**	*e*P	**Pn**	**11 54 18.7**	**+0.3**
KAMA	**Osmaniye**	**2.41**	**45**	*i* P	**Pn**	**11 54 21.9**	**+1.2**
KAMA				*i* S	**Sn**	**11 54 47.4**	**-1.8**
KAMA				IAML		11 54 50.0	
	comp=N,24nm,0.5s						
NATI	**Neve Ativ**	**2.42**	**156**	Pn	**Pn**	**11 54 20.9**	**+0.2**
NATI				Sn	**Sn**	**11 54 47.6**	**-1.5**
GEM	**Giv'at Ha'Em**	**2.44**	**158**	Pn	**Pn**	**11 54 20.9**	**-0.1**
GEM				Sn	**Sn**	**11 54 48.1**	**-1.6**
KSDI	**Kefar Szold**	**2.46**	**158**	Pn	**Pn**	**11 54 21.3**	**+0.1**
KSDI				Sn	**Sn**	**11 54 48.6**	**-1.5**
KSDI	**Kefar Szold**	**2.46**	**158**	P	**Pn**	**11 54 21.6**	**+0.4**
KSDI				S	**Sn**	**11 54 49.4**	**-0.7**
MMA0B	**Mount Meron ar**	**2.56**	**164**	Pn	**Pn**	**11 54 22.5**	**-0.1**
MMA0B				Sn	**Sn**	**11 54 50.8**	**-1.8**
YAHY	**KAYSERI_Yahyal**	**2.69**	**14**	*i* P	**Pn**	**11 54 26.4**	**+1.9**
YAHY				*i* S	**Sn**	**11 54 57.2**	**+1.2**
YAHY				IAML		11 54 59.0	
	comp=N,16nm,0.5s						
OSC2	**CSNet OBS 4**	**3.05**	**219**	P	**Pn**	**11 54 31.0**	**+1.7**
OSC2				S	**Sn**	**11 55 06.8**	**+2.1**
MMLI	**Mount Malkishu**	**3.12**	**166**	Pn	**Pn**	**11 54 30.1**	**-0.2**
MMLI				Sn	**Sn**	**11 55 05.0**	**-1.3**
QRNJ	**Al-Qirein**	**3.25**	**164**	Pn	**Pn**	**11 54 32.4**	**+0.4**
HMDT	**Nahal Hemdat**	**3.32**	**166**	Pn	**Pn**	**11 54 33.1**	**+0.1**
HMDT				Sn	**Sn**	**11 55 09.6**	**-1.6**
DSI	**Dead Sea**	**3.96**	**170**	Pn	**Pn**	**11 54 42.3**	**+0.5**
PRNI	**Paran**	**5.13**	**176**	Pn	**Pn**	**11 54 58.1**	**+0.3**

IDC 02 11:55:53.7±32.0, 5.84N×127.07E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.5/35, mbtmp3.9/4, Error ellipse: s-maj=534.2km s-min=101.4km az=158.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**23.83**	**183**	P	P	12 01 10.4	+1.9
	3.7nm,1.1s,baz=8.8,slow=9.7,SNR=9.7						
WRA	**Warramunga Arr**	**26.60**	**165**	P	P	12 01 32.5	-1.4
	1.0nm,0.3s,baz=342,slow=10,SNR=44						
ASAR	**Alice Springs**	**30.08**	**167**	P	P	12 02 05.0	0.0
	0.7nm,0.6s,baz=345,slow=7.3,SNR=17						
STKA	**Stephens Creek**	**39.98**	**161**	P	P	12 03 30.1	-0.1
	0.9nm,0.3s,baz=335,slow=9.1,SNR=7.5						

HEL 02 11:57:32.9±0.5, 61.03N×28.49E, h0km, ML1.4, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.67**	**223**	PG	Pg	11 57 45.1	-0.6
VJF				SG	Sg	11 57 54.0	-0.4
FIA0	**FINESS Array S**	**1.24**	**291**	PG	Pg	11 57 54.7	-1.9
	baz=114						
FIA0				SN	Sn	11 58 16.3	+1.5
PVF	**Pernaja**	**1.38**	**250**	MSG		11 58 14.4	
	comp=Z,2.6nm,0.2s						
PVF				SN	Sn	11 58 18.1	0.0
KAF	**Kangasniemi**	**1.51**	**317**	PG	Pn	11 58 00.2	-0.9
	baz=150						
KAF				SG	Sg	11 58 19.3	-1.9
SUF	**Sumiainen**	**2.02**	**328**	PG	Pb	11 58 09.4	-1.1
	baz=147						
SUF				MSG		11 58 33.0	
	comp=Z,1.6nm,0.2s						
SUF				SG	Sn	11 58 34.8	+0.6
KEF	**Keuruu**	**2.07**	**305**	MSG		11 58 34.3	
	comp=Z,1.3nm,0.2s						
KEF				SG	Sb	11 58 36.9	-0.7
JOF	**Joensuu**	**2.32**	**34**	PB	Pb	11 58 15.1	-0.4
JOF				SG	Sb	11 58 45.5	+0.9
VSU	**Vasula**	**2.73**	**200**	PG	Pb	11 58 21.6	-0.8

LVSN 02 11:58:19.6±5.3, 59.36N×27.53E, h0km±72km, ML1.3, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.80**	**300**	*e*P	Pn	11 58 52.4	+0.5
MEF				AML	AML	11 58 54.2	
	comp=Z,7.5nm,0.8s						
MEF				AML	AML	11 58 54.4	
	comp=E,4.5nm,0.7s						
MEF				*e*S	Sg	11 59 17.2	-0.2
MEF				AML	AML	11 59 21.1	
	comp=N,4.1nm,0.4s						
MTSE	**Matsula**	**2.03**	**253**	*e*P	Pn	11 58 54.2	-0.8
MTSE				*e*S	Sn	11 59 21.8	+0.9
SLIT	**Slitere, Latvi**	**3.25**	**240**	*e*S	Sb	11 59 57.1	-1.1

MAN 02 12:15:09.6, 9.35N×127.03E, h98km, mb4.6, ML3.5, MS3.3, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**3.02**	**220**	*e*P	Pn	12 16 13.9	+18
TBP	**Tagbilaran**	**3.14**	**276**	*e*P	Pn	12 15 58.7	+1.5

*NIED **02** 12:45:00, 38.00N×141.70E, h11km, Mw3.5 Best double couple: M₀2.18000×10¹⁴ NP1:φ₁§103.00000°, δ58.00000°, λ61.00000°. NP2:φ₂§330.00000°, δ42.00000°, λ128.00000°.*
*IDC **02** 12:45:33.2±1.6, 38.05N×141.81E, h0km, mb3.8/5, mb1 3.7/9, mb1mx3.5/37, mbtmp3.7/9, ML3.0/4, MS2.7/1, Ms1 2.7/1, ms1mx2.0/34, Error ellipse: s-maj=39.6km s-min=18.4km az=81.0*
*JMA **02** 12:45:36.4, 38.00N×141.65E, h19km±1km, M4.0*
JMA Felt I J1.
*NEIC **02** 12:45:38.6±1.2, 38.03N±0.07×141.8E±0.1, h40km±12km, mb4.1/5, Error ellipse: s-maj=16.5km s-min=9.7km az=108.0*

ISC 02 12:45:35.6±1.3, 37.97N±0.03×141.73E±0.05, h19km±3km, n41, σ1°§23/53, mb3.9/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.40**	**328**	P	**Pg**	**12 45 43.7**	**-0.2**
JIKH				S	**Sg**	**12 45 48.3**	**-1.2**
JIO	**Ouri**	**0.57**	**328**	P	**Pg**	**12 45 46.5**	**-0.5**
JIO				*i* S	**Sg**	**12 45 53.2**	**-1.5**
JMST	**Minamisoumatoc**	**0.71**	**250**	P	**Pb**	**12 45 49.0**	**-0.4**
JMST				S	**Sb**	**12 45 57.8**	**-0.9**
JMM	**Marumori**	**0.75**	**262**	P	**Pb**	**12 45 49.3**	**-0.7**
JMM				S	**Sb**	**12 45 58.5**	**-1.3**
JKMT	**Kesennumamotoy**	**0.86**	**346**	P	**Pb**	**12 45 51.7**	**-0.2**
JKMT				S	**Sb**	**12 46 02.5**	**-0.5**
JFK	**Kawauchi**	**0.91**	**229**	P	**Pb**	**12 45 52.3**	**-0.5**
JFK				S	**Sb**	**12 46 04.0**	**-0.5**
JOU	**Okura**	**0.93**	**295**	P	**Pb**	**12 45 52.9**	**-0.2**
JOU				S	**Sg**	**12 46 04.4**	**-1.6**
JMK	**Ichinoseki**	**1.06**	**338**	P	**Pb**	**12 45 54.9**	**-0.3**
JMK				S	**Sb**	**12 46 07.9**	**-0.8**
OFUJ	**Ofunato**	**1.11**	**357**	P	**Pb**	**12 45 56.0**	**-0.1**
OFUJ				S	**Sb**	**12 46 10.2**	**+0.1**
ONAJ	**Iwakimizuishiy**	**1.14**	**221**	P	**Pn**	**12 45 55.5**	**-1.1**
ONAJ				S	**Sb**	**12 46 10.4**	**-0.8**
JFT	**Otama

ASAR	**Alice Springs**	**61.75**	**188**	P		**P**		**12 55 54.1**	**+1.3**
	comp=Z,0.3nm,0.9s,baz=11,slow=9.8,SNR=2.2								

MAN 02 12:49:55.7, 8°.68N × 123°.16E, h164km, mb4.5, ML3.3, MS3.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**2.04**	**113**	*e*P	Pn	12 50 32.4	+0.2
BUKP				*e*S	Sn	12 51 00.9	+0.4
MSLP	**Maasin**	**2.21**	**49**	*e*P	Pn	12 50 34.5	+0.4
MSLP				*e*S	Sn	12 51 04.4	+0.5
DDMP	**Don Marcelino,**	**3.60**	**135**	*e*P	Pn	12 50 51.9	+0.7
DDMP				*e*S	Sn	12 51 35.8	+1.3

*KRSC **02** 12:50:05.6±1.8, 48°.82N × 156°.51E, h78km±32km, ML4.2*
*IDC **02** 12:50:10.0±3.2, 48°.94N × 156°.16E, h58km±28km, mb3.4/8, mb1 3.6/13, mb1mx3.4/38, mbtmp3.7/13, ML3.8/3, MS3.1/4, Ms1 3.2/4, ms1mx2.8/34, Error ellipse: s-maj=30.6km s-min=18.7km az=124.0*

ISC 02 12:50:06.9±0.9, 48°.78N±0°.09 × 156°.5E±0°.1, h34km, n38, σ1s37/38, mb3.7/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.92**	**353**	*e*P	Pn	**12 50 37.2**	**+0.2**
SKR				*e*S	Sn	**12 51 00.7**	**+0.8**
ALID	**Alaid**	**2.17**	**344**	*e*P	Pn	**12 50 41.8**	**+1.1**
PAU	**Pauzhetka**	**2.70**	**5**	*e*P	Pn	**12 50 49.0**	**+1.2**
PAU				*e*S	Sn	**12 51 19.9**	**+0.7**
ASAK	**Asacha**	**3.72**	**14**	*i* P	Pn	**12 51 03.5**	**+1.6**
MTVR	**Mutnovka**	**3.86**	**16**	*e*P	Pn	**12 51 04.6**	**+0.7**
MTVR				*e*S	Sn	**12 51 48.4**	**+0.2**
RUS	**Russkaya**	**3.88**	**19**	*e*P	Pn	**12 51 03.7**	**-0.3**
RUS				*e*S	Sn	**12 51 46.2**	**-2.2**
GRL	**Gorelyy**	**3.91**	**15**	*e*P	Pn	**12 51 05.7**	**+1.1**
KRMR	**Karymshinskiy**	**4.19**	**14**	*e*P	Pn	**12 51 10.9**	**+2.7**
PETK	**Petropavlovsk-** 1.1nm,0.3s,baz=186,slow=13,SNR=14	**4.40**	**10**	P	Pn	**12 51 12.5**	**+1.3**
PET	**Petropavlovsk**	**4.47**	**17**	*e*S	Sn	**12 52 03.9**	**+1.1**
DALK	**Dalny**	**4.49**	**18**	*e*P	Pn	**12 51 13.2**	**+0.8**
UGLR	**Uglovaya**	**4.68**	**18**	*i* P	Pn	**12 51 16.4**	**+1.3**
AVH	**Avacha**	**4.71**	**17**	*e*P	Pn	**12 51 17.7**	**+2.2**
KOK	**Koryaka**	**4.72**	**16**	*i* P	Pn	**12 51 17.7**	**+2.1**
SMAR	**Somma**	**4.72**	**17**	*e*P	Pn	**12 51 17.3**	**+1.5**
KRER	**Koryakskii**	**4.75**	**17**	*i* P	Pn	**12 51 16.7**	**+0.5**
SDLR	**Sedlovina**	**4.75**	**18**	*e*P	Pn	**12 51 16.8**	**+0.7**
KRX	**Arik**	**4.79**	**16**	*e*P	Pn	**12 51 18.4**	**+1.8**
SPN	**Mys Shipunski**	**4.87**	**26**	*e*P	Pn	**12 51 18.1**	**+0.5**
SPN				*e*S	Sn	**12 52 11.2**	**-1.6**
KII	**Karymskiy**	**5.58**	**18**	*e*P	Pn	**12 51 29.7**	**+2.2**
TUMR	**Tumrok**	**6.89**	**18**	*e*P	Pn	**12 51 47.3**	**+1.8**
ASAJ	**Asahikawa** 0.4nm,0.3s,baz=93,slow=18,SNR=8.0	**10.64**	**249**	P	Pn	**12 52 37.6**	**+0.8**
MA2	**Magadan** 0.2nm,0.3s,baz=114,slow=20,SNR=1.9	**11.31**	**345**	P	Pn	**12 52 46.7**	**+0.8**
MA2				LR	LR	12 57 42.5	
KLR	comp=Z,81nm,18.1s,baz=158,slow=41 **Kul'dur** 0.1nm,0.3s,baz=72,slow=6.4,SNR=2.2	**16.21**	**281**	P	Pn	**12 53 52.0**	**+0.1**
USRK	**Ussuriysk Ar.** baz=59,slow=9.7,SNR=5.0	**17.44**	**264**	P	Pn	**12 54 06.9**	**-0.4**
MJAR	**Matsushiro Arr** comp=Z,46nm,19.9s,baz=205,slow=37	**18.11**	**234**	LR	LR	13 01 21.9	
KSRS	**Korea Array** 1.1nm,0.5s,baz=127,slow=9.7,SNR=3.9	**23.57**	**252**	P	**P**	**12 55 13.2**	**-1.0**
TIXI	**Tiksi** 1.5nm,0.5s,baz=48,slow=9.8,SNR=6.3	**26.23**	**341**	P	**P**	**12 55 36.0**	**-2.1**
H11S1	**WAKE ISLAND Hy** baz=345,slow=76,SNR=10.0	**31.32**	**161**	T	T	13 29 49.7	
H11S3	**WAKE ISLAND Hy** baz=345,slow=76,SNR=18	**31.33**	**161**	T	T	13 29 48.3	
H11S2	**WAKE ISLAND Hy** baz=345,slow=76,SNR=10	**31.34**	**161**	T	T	13 29 49.6	
MKAR	**Makanchi Array** 0.7nm,0.7s,baz=70,slow=10,SNR=6.2	**48.02**	**297**	P	**P**	**12 58 40.1**	**-2.3**
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=34,slow=7.6,SNR=4.1	**55.03**	**258**	P	**P**	**12 59 35.6**	**+0.5**
CMAR				LR	LR	13 24 23.1	
FINES	comp=Z,21nm,18.2s,baz=300,slow=37 **FINESS Array B** 1.7nm,0.8s,baz=45,slow=5.7,SNR=8.4	**63.14**	**336**	P	**P**	**13 00 29.9**	**-0.7**
NOA	**NORSAR Array B** comp=Z,17nm,19.2s,baz=35,slow=40	**67.00**	**342**	LR	LR	13 34 42.7	
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=11,slow=9.3,SNR=1.7	**71.21**	**202**	P	**P**	**13 01 22.8**	**+0.6**
TXAR	**Lajitas Array** 0.1nm,0.4s,baz=311,slow=4.7,SNR=1.9	**74.54**	**63**	P	**P**	**13 01 43.0**	**+0.8**
ASAR	**Alice Springs** 0.2nm,0.8s,baz=12,slow=5.3,SNR=1.6	**74.89**	**201**	P	**P**	**13 01 45.0**	**+1.0**

*RSNC **02** 12:52:21.4±0.9, 2°.57N × 76°.93W, h131km±3km, ML3.6, Mw4.1*
*NEIC **02** 12:52:21.9±2.0, 2°.57N±0°.08 × 76°.79W±0°.09, h145km±1km, mb4.4/28, Error ellipse: s-maj=12.8km s-min=11.5km az=51.0*
*IDC **02** 12:52:24.0±3.0, 2°.63N × 76°.49W, h173km±30km, mb3.4/8, mb1 3.7/10, mb1mx3.5/29, mbtmp3.9/10, MS2.9/1, Ms1 2.9/1, ms1mx2.4/15, Error ellipse: s-maj=38.2km s-min=13.8km az=68.0*

ISC 02 12:52:20.7±0.6, 2°.59N±0°.03 × 76°.90W±0°.04, h133km±5km, n86, σ1s57/128, mb4.4/20, 5C-1D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOTA	**Rioblanco**	**0.53**	**147**	*i* P	Pn	**12 52 41.1**	**+0.2**
SOTA				*e*S	Sn	**12 52 56.1**	**0.0**
SOTA				*i*		12 52 56.8	
PCON	comp=Z,3μm,0.4s **Cinco Dias**	**0.56**	**117**	*i* P	Pn	**12 52 41.8**	**+0.6**
PCON				*e*S	Sn	**12 52 57.1**	**+0.6**
BBAC	**Balboa, Cauca**	**0.66**	**212**	*i* P	Pn	**12 52 41.2**	**-0.2**
BBAC				*e*S	Sn	**12 52 56.0**	**-1.0**
CRUC	**La Cruz**	**1.01**	**183**	*e*P	Pn	**12 52 44.4**	**0.0**
CRUC				*e*S	Sn	**12 53 02.2**	**-0.1**
CRUC				*i*		12 53 04.6	
GR1C	comp=Z,920nm,0.4s **Gorgona, Isla**	**1.33**	**288**	⇑*i*P	Pn	**12 52 46.8**	**-0.3**
GR1C				*e*S	Sn	**12 53 06.3**	**-1.0**
GR1C				*i*		12 53 09.4	
GCUF	comp=Z,401nm,1.2s **Volcan Galeras**	**1.42**	**198**	⇓*i*P	Pn	**12 52 48.3**	**-0.4**
GCUF				*e*S	Sn	**12 53 09.3**	**-0.6**
GCUF				*i*		12 53 13.5	
BETC	comp=Z,492nm,0.2s **Betania**	**1.46**	**86**	⇑*e*P	Pn	**12 52 49.7**	**+1.1**
BETC				*e*S	Sn	**12 53 11.6**	**+1.8**
GARC	**Garzon, Huila**	**1.46**	**106**	⇑*i*P	Pn	**12 52 49.2**	**+0.4**
GARC				*e*S	Sn	**12 53 10.3**	**+0.2**
GARC				*i*		12 53 11.2	
MALC	comp=Z,790nm,0.3s **Bahia Malaga**	**1.48**	**343**	*e*P	Pn	**12 52 49.9**	**+1.1**
MALC				*e*S	Sn	**12 53 10.9**	**+0.6**
MALC				*i*		12 53 19.9	
YOTC	comp=Z,798nm,0.8s **Yotoco, Valle**	**1.49**	**22**	*e*P	Pn	**12 52 49.3**	**+0.3**
YOTC				*e*S	Sn	**12 53 11.3**	**+0.5**
YOTC				*i*		12 53 15.6	
CMBC	comp=Z,568nm,0.3s **Cumbal**	**1.88**	**210**	*e*P	Pn	**12 52 54.5**	**+0.6**
CMBC				*e*S	Sn	**12 53 19.8**	**+0.7**
PUAC	**Puerto Asis, P**	**2.05**	**171**	*i* P	Pn	**12 52 55.3**	**-0.2**
ORTC	**Ortega, Tolima**	**2.11**	**51**	*i* P	Pn	**12 52 57.1**	**+0.9**
ORTC				*e*S	Sn	**12 53 24.6**	**+1.2**
ORTC				*i*		12 53 31.8	
PRAC	comp=Z,252nm,0.7s **Prado**	**2.30**	**61**	*i* P	Pn	**12 52 59.5**	**+0.9**
PRAC				*e*S	Sn	**12 53 29.2**	**+1.6**
PRAC				*i*		12 53 32.6	
PLMC	comp=Z,243nm,0.4s **San Jos del P**	**2.38**	**15**	*e*P	Pn	**12 52 59.5**	**-0.2**
PLMC				*e*S	Sn	**12 53 30.0**	**+0.3**
ANIL	**Santa Ana**	**2.41**	**38**	*e*P	Pn	**12 53 00.6**	**+0.4**
ANIL				*e*S	Sn	**12 53 31.1**	**+0.6**
ANIL				*i*		12 53 39.6	
PIZC	comp=Z,610nm,0.3s **Pizarro, Choco**	**2.41**	**349**	*e*S	Sn	**12 53 30.6**	**+0.6**
TOLC	**Tolima**	**2.53**	**38**	*e*P	Pn	**12 53 02.5**	**+0.7**
TOLC				*e*S	Sn	**12 53 34.3**	**+0.9**
TOLC				*i*		12 53 38.9	
	comp=Z,657nm,0.8s						
CUSE	**Cuicocha Este**	**2.72**	**214**	*e*P	Pn	**12 53 04.8**	**+0.6**
CUSE				*e*S	Sn	**12 53 37.7**	**0.0**
RREF	**El Recreo**	**2.77**	**34**	*e*P	Pn	**12 53 05.5**	**+0.4**
RREF				*e*S	Sn	**12 53 34.4**	**-4.8**
RREF				*i*		12 53 49.7	
PAC1	comp=Z,96nm,0.7s **Pacto, Paraso**	**2.98**	**219**	*e*P	Pn	**12 53 05.7**	**-1.7**
PAC1				*e*S	Sn	**12 53 42.2**	**-1.2**
GUY2C	**Guyana, Caldas**	**3.03**	**30**	*e*P	Pn	**12 53 08.4**	**+0.1**
GUY2C				*e*S	Sn	**12 53 44.5**	**-0.5**
GUY2C				*i*		12 53 50.8	
MACC	comp=Z,135nm,0.7s **Macarena, Meta**	**3.08**	**98**	⇑*i*P	Pn	**12 53 08.9**	**+0.4**
MACC				*e*S	Sn	**12 53 45.2**	**-0.1**
MACC				*i*		12 53 46.7	
PTLC	comp=Z,73nm,2.4s **Puerto Leguiza**	**3.19**	**139**	⇑*i*P	Pn	**12 53 13.0**	**+3.1**
PTLC				*e*S	Sn	**12 53 47.2**	**-0.7**
PTLC				*i*		12 53 48.1	
CBOC	comp=Z,101nm,1.2s **Ciudad Bolivar**	**3.37**	**15**	*e*P	Pn	**12 53 12.7**	**+0.2**
CBOC				*e*S	Sn	**12 53 54.0**	**+1.5**
CBOC				*i*		12 53 57.2	
ROSC	comp=Z,114nm,0.2s **El Rosal**	**3.41**	**49**	P	Pn	**12 53 14.9**	**+1.8**
ROSC	comp=Z,45nm,0.3s,baz=227,slow=17,SNR=46			S	Sn	**12 53 52.8**	**-0.8**
ROSC	comp=Z,5.1nm,0.3s,baz=319,slow=20,SNR=4.7 **El Rosal**	**3.41**	**49**	*e*P	Pn	**12 53 14.9**	**+1.8**
ROSC				*e*S	Sn	**12 53 52.8**	**-0.8**
ROSC				*i*		12 53 59.9	
ROSC	comp=Z,53nm,0.5s **El Rosal**	**3.41**	**49**		Pn	**12 53 15.1**	**+2.0**
ROSC				Sn	Sn	**12 53 53.4**	**-0.2**
VILC	**Villavicencio,**	**3.54**	**65**	*e*P	Pn	**12 53 17.4**	**+2.8**
VILC				*e*S	Sn	**12 53 59.7**	**+3.4**
VILC				*i*		12 54 01.8	
NORC	comp=Z,138nm,0.8s **Norcasia**	**3.58**	**34**	*i* P	Pn	**12 53 15.4**	**+0.3**
NORC				*e*S	Sn	**12 53 57.9**	**+0.7**
NORC				*i*		12 53 59.8	
CHIC	comp=Z,67nm,1.0s **Chingaza**	**3.75**	**57**	*e*P	Pn	**12 53 19.2**	**+1.5**
CHIC				*e*S	Sn	**12 54 03.9**	**+2.1**
CHIC				*i*		12 54 05.8	
HELC	comp=Z,63nm,1.1s **Santa Helena**	**3.83**	**21**	*e*P	Pn	**12 53 18.9**	**+0.2**
HELC				*e*S	Sn	**12 54 04.4**	**+0.8**
HELC				*i*		12 54 08.8	
DBBC	comp=Z,122nm,0.5s **Dabeiba**	**4.46**	**9**	*e*P	Pn	**12 53 28.4**	**+1.7**
DBBC				*e*S	Sn	**12 54 20.1**	**+2.1**
DBBC				*i*		12 54 25.2	
PTBC	comp=Z,156nm,0.2s **PUERTO BERRIO,**	**4.62**	**32**	*i* P	Pn	**12 53 28.4**	**-0.4**
PTBC				*e*S	Sn	**12 54 19.9**	**-1.9**
PTBC				*i*		12 54 25.3	
RUSC	comp=Z,26nm,1.2s **La Rusia**	**5.03**	**49**	Pn	Pn	**12 53 35.5**	**+0.8**
ZARC	**Zaragoza, Cauc**	**5.28**	**23**	*e*P	Pn	**12 53 37.4**	**-0.3**
ZARC				*i*		12 54 40.8	
UREC	comp=Z,47nm,0.7s **San Jos de Ur**	**5.31**	**15**	*e*P	Pn	**12 53 38.1**	**+0.1**
UREC				*e*S	Sn	**12 54 38.1**	**-0.2**
UREC				*i*		12 54 42.1	
BARC	comp=Z,14nm,0.2s **Barichara**	**5.43**	**43**	*e*P	Pn	**12 53 40.9**	**+1.0**
BARC				*e*S	Sn	**12 54 44.5**	**+2.9**
BARC				*i*		12 54 53.4	
BRRC	comp=Z,28nm,1.5s **Barranca, Sant**	**5.50**	**35**	*e*P	Pn	**12 53 40.0**	**-0.6**
BRRC				*e*S	Sn	**12 54 36.4**	**-6.4**
BRRC				*i*		12 54 42.9	
CAPC	comp=Z,15nm,0.5s **Capurgana**	**6.03**	**356**	*e*P	Pn	**12 53 48.2**	**+0.5**
CAPC				*e*S	Sn	**12 54 56.1**	**+0.5**
CAPC				*i*		12 55 05.8	
OCAC	comp=Z,33nm,0.6s **Ocana**	**6.65**	**32**	*e*S	Sn	**12 55 09.6**	**-1.2**
SMLC	**San Martn de**	**6.78**	**24**	*e*P	Pn	**12 53 56.6**	**-1.3**
SMLC				*e*S	Sn	**12 55 08.0**	**-5.8**
SMLC				*i*		12 55 16.6	
BCIP	comp=Z,11nm,0.3s **Isla Barro Col**	**7.16**	**336**	*e*P	Pn	**12 54 05.0**	**+2.0**
BCIP				*e*S	Sn	**12 55 25.7**	**+2.7**
BCIP	**Isla Barro Col**	**7.16**	**336**	Pn	Pn	**12 54 04.9**	**+1.9**
BCIP				Sn	Sn	**12 55 25.9**	**+3.0**
SJCC	**San Jacinto, C**	**7.46**	**13**	*e*P	Pn	**12 54 07.1**	**+0.1**
SJCC				*i*		12 55 46.0	
SDV	comp=Z,9.4nm,2.1s **Santo Domingo**	**8.83**	**45**	P	Pn	**12 54 24.4**	**-1.1**
SDV	comp=Z,2.0nm,0.3s,baz=226,slow=9.7,SNR=9.2			S	Sn	**12 55 59.5**	**-4.1**
SDV	comp=Z,1.6nm,0.3s,baz=274,slow=17,SNR=5.1			LR	LR	12 58 04.7	
SDV	comp=Z,82nm,19.1s,baz=76,slow=40 **Santo Domingo**	**8.83**	**45**		Pn	**12 54 24.7**	**-0.9**
SDV				Sn	Sn	**12 56 00.3**	**-3.3**
MTDJ	**Mount Denham**	**15.56**	**358**	P	P	**12 55 55.7**	**+1.2**
PTGA	**Pitinga**	**17.24**	**101**	P	P	**12 56 12.4**	**-0.6**
PTGA	comp=Z,1.1nm,0.3s,baz=289,slow=14,SNR=8.4 **Pitinga**	**17.24**	**101**		P	**12 56 12.5**	**-0.6**
DR12	**Loma Pena Alta**	**17.70**	**24**	Pn	Pn	**12 56 19.3**	**+0.2**
SAML	**Samuel**	**17.84**	**130**	P	P	**12 56 17.9**	**-1.7**
SAML				IAmb	IAmb	12 56 20.2	
LPAZ	comp=Z,7.8nm,0.7s **La Paz**	**20.66**	**155**	P	P	**12 56 48.1**	**-2.7**
	comp=Z,2.5nm,0.7s,baz=337,slow=14,SNR=10.0						
LPAZ	**La Paz**	**20.66**	**155**	P	P	**12 56 47.8**	**-2.9**
PB12	**IPOC Station P**	**22.04**	**163**	P	P	**12 57 03.8**	**-1.0**
MNMC	**Minye Minye**	**22.74**	**162**	P	P	**12 57 10.8**	**-1.3**
PB08	**IPOC Station P**	**23.83**	**162**	P	P	**12 57 22.4**	**+0.2**
SIV	**San Ignacio**	**24.20**	**140**	P	P	**12 57 23.7**	**-1.5**
PB09	comp=Z,2.2nm,0.4s,baz=323,slow=11,SNR=18 **IPOC Station P**	**25.36**	**163**	P	P	**12 57 36.1**	**+0.3**
PB15	**IPOC Station P**	**26.64**	**165**	P	P	**12 57 49.5**	**+2.1**
GOGA	**Godfrey**	**31.28**	**349**	P	P	**12 58 29.1**	**+1.0**
GOGA				IAmb	IAmb	12 58 41.5	
V53A	comp=Z,7.3nm,1.1s **Saluda**	**33.37**	**351**	P	P	**12 58 47.0**	**+0.5**
V53A				IAmb	IAmb	12 58 48.7	
V48A	comp=Z,5.3nm,0.7s **Smith Brothers**	**34.25**	**346**	P	P	**12 58 54.3**	**+0.3**
TZTN	**Tazewell**	**34.35**	**350**	P	P	**12 58 55.6**	**+0.8**
WHAR	**Wooly Hollow**	**35.54**	**338**	P	P	**12 59 04.7**	**-0.4**
WHAR				IAmb	IAmb	12 59 08.1	
T42A	comp=Z,13nm,1.5s **Van Buren**	**36.69**	**341**	P	P	**12 59 14.3**	**-0.5**
T42A				IAmb	IAmb	12 59 15.3	
TXAR	comp=Z,5.2nm,1.1s **Lajitas Array**	**36.81**	**319**	P	P	**12 59 17.6**	**+1.5**
TXAR	comp=Z,0.3nm,0.6s,baz=150,slow=8.7,SNR=5.7			PcP	PcP	**13 01 34.6**	**-0.9**
TX31	comp=Z,0.4nm,0.8s,baz=134,slow=2.6,SNR=3.9 **Lajitas Ar. Si**	**36.81**	**319**	P	P	**12 59 17.3**	**+1.2**
SSPA	**Standing Stone**	**37.89**	**359**	P	P	**12 59 26.0**	**+1.1**
SSPA				IAmb	IAmb	12 59 26.5	
WMOK	comp=Z,7.8nm,1.1s **Wichita Mounta**	**37.92**	**330**	P	P	**12 59 24.6**	**-0.7**
WMOK				IAmb	IAmb	12 59 26.7	
M54A	comp=Z,8.6nm,0.8s **Oil Creek Stat**	**38.83**	**357**	P	P	**12 59 33.8**	**+1.1**
M54A				IAmb	IAmb	12 59 35.0	
MNTX	comp=Z,5.3nm,0.7s **Cornudas Mount**	**39.48**	**320**	P	P	**12 59 39.3**	**+1.0**
J56A	**Wolcott**	**40.52**	**0**	P	P	**12 59 47.7**	**+1.1**
J56A				IAmb	IAmb	12 59 48.4	
ANMO	comp=Z,8.1nm,0.7s **Albuquerque**	**42.32**	**323**	P	P	**13 00 02.0**	**+0.3**
ANMO				IAmb	IAmb	13 00 03.8	
SDCO	comp=Z,7.9nm,1.5s **Great Sand Dun**	**43.73**	**327**	P	P	**13 00 14.3**	**+1.1**
EYMN	**Ely**	**46.91**	**347**	P	P	**13 00 37.0**	**-0.8**
EYMN				IAmb	IAmb	13 00 38.0	
RSSD	comp=Z,14nm,1.4s **Black Hills**	**47.83**	**334**	P	P	**13 00 46.1**	**+0.9**
RSSD				IAmb	IAmb	13 00 47.0	
PDAR	comp=Z,5.5nm,0.7s **Pinedale Array**	**49.48**	**328**	P	P	**13 00 58.8**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=94,slow=7.3,SNR=2.2						
ULM	**Lac du Bonnet**	**50.15**	**344**	P	P	**13 01 01.0**	**-1.5**
	comp=Z,4.4nm,0.6s,baz=141,slow=6.1,SNR=3.3						
NVAR	**Mina Array Bea**	**51.96**	**319**	P	P	**13 01 17.5**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=140,slow=6.0,SNR=5.3						
YKA	**Yellowknife Ar**	**66.01**	**342**	P	P	**13 02 51.9**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=138,slow=6.8,SNR=8.4						
INK	**Inuvik**	**75.77**	**341**	P	P	**13 03 51.5**	**0.0**
ILAR	**Eielson Array**	**79.22**	**336**	P	P	**13 04 10.7**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=130,slow=3.7,SNR=8.1						
PPLA	**Purkeypile**	**81.03**	**333**	P	P	**13 04 20.5**	**-0.3**
PPLA				IAmb	IAmb	13 04 30.0	
SNAA	comp=Z,12nm,1.5s **Sanae**	**87.46**	**162**	P	P	**13 04 52.7**	**-0.3**
SNAA				IAmb	IAmb	13 05 05.8	
WRA	comp=Z,3.8nm,1.5s **Warramunga Arr**	**144.96**	**238**	PKPbc	**PKPbc**	**13 11 41.6**	**-1.1**
	comp=Z,0.8nm,1.0s,baz=119,slow=3.4,SNR=3.2						

*IDC **02** 13:12:17.0±2.1, 12°.56N × 142°.94E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.5/34, mbtmp3.5/4, Error ellipse: s-maj=215.5km s-min=26.7km az=112.0*
*NEIC **02** 13:12:18.7±1.7, 12°.47N±0°.06 × 143°.3E±0°.2, h10km±1km, mb4.5/9, Error ellipse: s-maj=28.1km s-min=7.3km az=287.0*

ISC 02 13:12:18.7±0.9, 12°.5N±0°.2 × 143°.2E±0°.2, h10km, n20, σ1s14/14, mb3.6/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.92**	**56**		Pn	**13 12 50.7**	**-0.7**
RABL	**Rabaul**	**18.81**	**151**	P	P	**13 16 38.6**	**0.0**
RABL				IAmb	IAmb	13 17 00.6	
H11S3	comp=Z,15nm,0.7s **WAKE ISLAND Hy** baz=252	**23.35**	**72**	T	T	13 41 03.4	
H11S1	**WAKE ISLAND Hy** baz=252	**23.37**	**72**	T	T	13 40 57.5	
H11S2	**WAKE ISLAND Hy** baz=252	**23.37**	**72**	T	T	13 41 02.9	
H11N1	**WAKE ISLAND Hy** baz=254	**23.81**	**69**	T	T	13 41 35.5	
H11N2	**WAKE ISLAND Hy** baz=254	**23.82**	**69**	T	T	13 41 31.6	
H11N3	**WAKE ISLAND Hy** baz=254	**23.82**	**69**	T	T	13 41 34.0	
SOEI	**Soe**	**29.06**	**221**	P	P	**13 18 18.6**	**-1.0**
WR0	**Warramunga Arr**	**33.38**	**195**	P	P	**13 18 56.9**	**-0.5**
WR0				IAmb	IAmb	13 19 45.3	
WB2	comp=Z,15nm,1.5s **Warramunga Arr**	**33.41**	**195**	P	P	**13 18 58.5**	**+0.8**
WRA	**Warramunga Arr**	**33.41**	**195**	P	P	**13 18 58.0**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=19,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**37.09**	**194**	P	P	**13 19 28.2**	**-1.2**
	comp=Z,0.4nm,0.9s,baz=16,slow=9.1,SNR=2.7						
STKA	**Stephens Creek**	**44.16**	**182**	P	P	**13 20 27.3**	**-0.3**
GIRL	**Giralia**	**45.04**	**219**	P	P	**13 20 33.9**	**-0.9**
BBOO	**Buckleboo**	**45.58**	**188**	P	P	**13 20 39.1**	**+0.1**
MORW	**Morawa**	**48.98**	**212**	P	P	**13 21 08.4**	**+2.8**
RDOG	**Red Dog Mine**	**65.42**	**19**	P	P	**13 23 01.0**	**-0.4**
ILAR	**Eielson Array**	**70.22**	**25**	P	P	**13 23 31.8**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=253,slow=5.7,SNR=4.6						
NVAR	**Mina Array Bea**	**88.83**	**51**	P	P	**13 25 14.9**	**+1.3**
	comp=Z,0.3nm,0.7s,baz=258,slow=5.3,SNR=3.7						

*NEIC **02** 13:23:50.0±2.3, 16°.62S±0°.08 × 69°.20W±0°.10, h214km±5km, mb4.7/6, Error ellipse: s-maj=13.6km s-min=10.6km az=108.0*
*IDC **02** 13:23:51.7±0.7, 16°.35S × 68°.99W, h212km±4km, mb3.5/8, mb1 3.7/10, mb1mx3.5/31, mbtmp4.0/10, Error ellipse: s-maj=19.0km s-min=15.2km az=28.0*
*VAO **02** 13:23:52.4±1.1, 16°.38S × 69°.03W, h216km, mb4.2*

ISC 02 13:23:48.5±0.4, 16°.61S±0°.05 × 69°.24W±0°.06, h200km, n89, σ1s89/93, mb3.7/8, 1C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.11**	**73**	P	Pn	**13 24 23.4**	**+3.7**
LPAZ	372nm,0.3s,baz=333,slow=5.3,SNR=3284			S	Sn	**13 24 46.6**	**+2.8**
LPAZ	23nm,0.3s,baz=306,slow=19,SNR=6.6 **La Paz**	**1.11**	**73**	*e*P	Pn	**13 24 23.5**	**+3.7**
LPAZ				*e*S	Sn	**13 24 47.7**	**+3.9**
LPAZ	**La Paz**	**1.11**	**73**	*e*P	Pn	**13 24 23.5**	**+3.7**
LPAZ				*e*S	Sn	**13 24 47.7**	**+3.9**
PB12	**IPOC Station P**	**2.25**	**207**	Pn	Pn	**13 24 32.2**	**+2.5**
MNMC	**Minye Minye**	**2.53**	**188**	Pn	Pn	**13 24 36.3**	**+3.3**
GO01	**Chusmiza**	**3.04**	**179**		Pn	**13 24 42.3**	**+3.2**
PSGCX	**Pisagua**	**3.09**	**196**		Pn	**13 24 41.5**	**+2.3**
PB11	**IPOC Station P**	**3.16**	**187**		Pn	**13 24 43.1**	**+3.0**
PB10	**IPOC Station P**	**3.51**	**179**		Pn	**13 24 48.0**	**+3.3**
TA01	**Diego Aracena**	**4.03**	**193**		Pn	**13 24 52.4**	**+1.8**
PATCX	**Punta Patache**	**4.28**	**192**	Pn	Pn	**13 24 56.4**	**+2.7**
PB01	**IPOC Station P**	**4.41**	**183**	Pn	Pn	**13 24 57.9**	**+2.4**
PB07	**IPOC Station P**	**5.12**	**187**		Pn	**13 25 07.1**	**+2.5**
PB09	**IPOC Station P**	**5.16**	**180**		Pn	**13 25 07.8**	**+2.8**
PB04	**IPOC Station P**	**5.76**	**188**		Pn	**13 25 14.8**	**+2.0**
LVC	**Limon Verde**	**5.97**	**177**	P	Pn	**13 25 18.6**	**+2.9**
LVC	11nm,0.3s,baz=9.1,slow=8.8,SNR=54			S	Sn	**13 26 24.3**	**-0.5**
LVC	56nm,0.3s,baz=308,slow=19,SNR=44 **Limon Verde**	**5.97**	**177**	Pn	Pn	**13 25 18.4**	**+2.7**
PB06	**IPOC Station P**	**6.07**	**183**		Pn	**13 25 18.7**	**+1.9**
PB15	**IPOC Station P**	**6.57**	**182**		Pn	**13 25 24.8**	**+1.6**
PB10	**IPOC Station P**	**6.98**	**190**	Pn	Pn	**13 25 29.8**	**+1.4**
SIV	**San Ignacio** 1.3nm,0.3s,baz=285,slow=10,SNR=20	**7.86**	**87**	P	Pn	**13 25 40.0**	**0.0**
SIV	0.3nm,0.3s,baz=266,slow=14,SNR=1.7			S	Sn	**13 27

RUSC	**La Rusia**	**22.68**	**350**	P	**P**	**13 28 33.0**	**-0.7**
JANB	**Januaria**	**24.03**	**90**	*e*P	**P**	**13 28 44.9**	**-0.5**
JANB	**Januaria**	**24.03**	**90**	*e*P	**P**	**13 28 44.9**	**-0.5**
PLCA	**Paso Flores**	**24.06**	**182**	P	**P**	**13 28 50.0**	**+4.5**
	comp=Z,5.6nm,0.8s,baz=359,slow=11,SNR=6.9						
HOPE	**Hope Point**	**45.33**	**154**	P	**P**	**13 31 44.5**	**-1.8**
TXAR	**Lajitas Array**	**56.49**	**324**	P	**P**	**13 33 10.6**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=155,slow=8.6,SNR=5.1						
TXAR				PcP	**PcP**	**13 34 06.0**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=132,slow=4.0,SNR=2.1						
DBIC	**Dimbokro**	**67.73**	**75**	P	**P**	**13 34 24.6**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=210,slow=6.5,SNR=3.8						
DBIC	**Dimbokro**	**67.73**	**75**	IAmb	IAmb	13 36 53.0	
	comp=Z,32nm,1.6s						
PDAR	**Pinedale Array**	**69.75**	**329**	P	**P**	**13 34 37.9**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=110,slow=8.7,SNR=3.6						
NVAR	**Mina Array Bea**	**71.49**	**321**	P	**P**	**13 34 49.4**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=127,slow=5.9,SNR=6.4						
TORD	**Torodi Ar. Bea**	**76.06**	**72**	P	**P**	**13 35 13.7**	**-0.8**
	comp=Z,1.5nm,0.6s,baz=256,slow=5.6,SNR=8.9						
SYO	**Syowa Base**	**81.17**	**160**⇑	*e*P	**P**	**13 35 38.8**	**-2.5**
SYO	**Syowa Base**	**81.17**	**160**‖	*e*PcP	**P**	**13 35 43.1**	**+1.8**
YKA	**Yellowknife Ar**	**86.50**	**341**	P	**P**	**13 36 09.3**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=231,slow=15,SNR=4.3						
ASAR	**Alice Springs**	**134.02**	**210**	PKP	**PKPdf**	**13 42 43.5**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=122,slow=1.7,SNR=16						
ASAR				SKPbc	**SKPbc**	**13 45 53.8**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=137,slow=3.6,SNR=12						
WRA	**Warramunga Arr**	**136.92**	**213**	PKhKP	PKPpre	13 42 43.9	
	comp=Z,0.7nm,0.5s,baz=146,slow=1.5,SNR=4.9						
WRA				PKP	**PKiKP**	**13 42 49.7**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=136,slow=1.5,SNR=23						
WRA				SKPbc	**SKPbc**	**13 46 03.2**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=145,slow=2.8,SNR=11						
ZALV	**Zalesovo Beam**	**137.63**	**23**	PKP	**PKPdf**	**13 42 47.5**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=305,slow=5.1,SNR=4.0						
FITZ	**Fitzroy Crossi**	**142.53**	**204**	PKhKP	PKPpre	13 42 55.9	
	comp=Z,1.3nm,0.7s,baz=221,slow=1.5,SNR=6.0						
USRK	**Usuriysk Ar.**	**147.16**	**331**	PKPbc	**PKPab**	**13 43 09.9**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=3.1,slow=3.1,SNR=5.7						
MJAR	**Matsushiro Arr**	**148.61**	**315**	PKPbc	**PKiKP**	**13 43 13.7**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=115,slow=1.5,SNR=5.8						
SONM	**Songino Array**	**148.66**	**6**	PKPbc	**PKiKP**	**13 43 13.3**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=271,slow=0.7,SNR=7.6						
HHC	**Hu-ho-hao-te**	**155.84**	**359**	*e*P	**PKPdf**	**13 43 15.2**	**-3.7**
NJ2	**Nanjing**	**162.96**	**336**	*e*P	**PKPdf**	**13 43 23.8**	**-3.4**
NJ2	**Nanjing**	**162.96**	**336**	pmax	pmax		
	comp=Z,6.0nm,0.6s						

*IDC **02** 13:30:31.1±1.2,9.°08N×126.°40E,h0km,mb3.5/5, mb1 3.7/5,mb1mx3.5/37,mbtmp3.5/5,MS3.1/2,Ms1 3.1/2, ms1mx2.5/27,Error ellipse: s-maj=69.6km s-min=23.0km az=76.0*

*MAN **02** 13:30:31.3,9.°23N×126.°94E,h5km,mb4.7,ML3.6,MS3.5*

ISC 02 13:30:33.5±3.9,9.°24N±0.°05×126.°78E±0.°08,h15km±25km, n17,σ1°96/22,mb3.3/5,3C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.38**	**293**‖	*e*P	**Pn**	**13 30 58.4**	**+0.2**
SCPH				*e*S	**Sn**	**13 31 11.5**	**-4.7**
MSLP	**Maasin**	**2.09**	**295**	*e*P	**Pn**	**13 31 09.2**	**+1.2**
MSLP				*e*S	**Sb**	**13 31 37.9**	**+1.1**
BUKP	**Musuan**	**2.17**	**232**	*e*P	**Pn**	**13 31 10.4**	**+1.3**
BUKP				*e*S	**Sb**	**13 31 38.9**	**-0.2**
MATI	**Mati**	**2.33**	**193**	*e*P	**Pn**	**13 31 10.4**	**-0.9**
MATI				*e*S	**Sb**	**13 31 43.8**	**-0.2**
KCP	**Kidapawan**	**2.77**	**217**⇑	*e*P	**Pb**	**13 31 21.7**	**-1.1**
KCP				*i* S	**Sn**	**13 31 52.6**	**+1.9**
TBP	**Tagbilaran**	**2.91**	**279**	*e*P	**Pn**	**13 31 20.4**	**+1.1**
CTBH	**Cotabato--PC H**	**3.21**	**232**⇑	*i*P	**Pn**	**13 31 25.5**	**+2.1**
DDMP	**Don Marcelino,**	**3.29**	**199**	*e*P	**Pn**	**13 31 25.3**	**+0.8**
DDMP				*e*S	**Sn**	**13 32 05.9**	**+2.6**
PAGZ	**Pagadian**	**3.63**	**248**	*e*P	**Pn**	**13 31 31.1**	**+1.9**
PAGZ				*e*S	**Sn**	**13 32 10.3**	**-1.5**
RCP	**Roxas**	**4.59**	**301**⇑	*e*P	**Pn**	**13 31 45.7**	**+3.3**
JAY	**Jayapura**	**18.14**	**129**	LR	LR	13 40 39.5	
	comp=Z,32nm,21.0s,baz=90,slow=33						
FITZ	**Fitzroy Crossi**	**27.18**	**182**	P	**P**	**13 36 15.6**	**-1.1**
	2.0nm,0.8s,baz=0.5,slow=8.9,SNR=1.3						
WRA	**Warramunga Arr**	**29.94**	**166**	P	**P**	**13 36 40.2**	**-1.1**
	0.3nm,0.7s,baz=346,slow=9.4,SNR=1.7						
ASAR	**Alice Springs**	**33.44**	**168**	P	**P**	**13 37 11.3**	**-0.7**
	0.1nm,0.4s,baz=345,slow=7.2,SNR=6.8						
MKAR	**Makanchi Array**	**53.15**	**323**	P	**P**	**13 39 50.0**	**-0.9**
	0.7nm,0.6s,baz=123,slow=7.7,SNR=8.9						
GEYT	**Alibeck**	**67.56**	**307**	LR	LR	14 14 57.2	
	comp=Z,22nm,18.0s,baz=10.0,slow=40						
ILAR	**Eielson Array**	**80.15**	**26**	P	**P**	**13 42 44.8**	**+1.9**
	0.2nm,0.6s,baz=280,slow=5.4,SNR=1.8						

*IDC **02** 13:35:06.4±2.2,0.°80N×127.°20E,h0km,mb3.3/3, mb1 3.5/4,mb1mx3.3/35,mbtmp3.4/4,ML3.2/1,Error ellipse: s-maj=138.9km s-min=27.0km az=69.0*

*DJA **02** 13:35:12.6±0.4,0.°1N±3.°3×12.°7E±.°,h10km,M2.8/7,MLv2.8/7*

ISC 02 13:35:14.0±1.1,0.°51N±0.°07×126.°63E±0.°07,h47km,n8, σ1°11/10,mb3.2/3,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.78**	**71**	P	**Pn**	**13 35 28.8**	**+0.1**
TNTI				S	**Sn**	**13 35 40.1**	**+0.7**
LBMI	**Labuha**	**1.43**	**143**	P	**Pn**	**13 35 37.9**	**+0.3**
LBMI				S	**Sn**	**13 35 55.9**	**+0.6**
SANI	**Sanana**	**2.62**	**194**	P	**Pn**	**13 35 53.8**	**-0.1**
KMSI	**Cibinong**	**2.65**	**271**	P	**Pn**	**13 35 54.8**	**+0.5**
FITZ	**Fitzroy Crossi**	**18.52**	**183**	P	**Pn**	**13 39 28.4**	**+1.2**
	0.1nm,0.3s,baz=11,slow=16,SNR=1.4						
WRA	**Warramunga Arr**	**21.68**	**160**	P	**P**	**13 39 58.7**	**-2.4**
	0.6nm,0.6s,baz=338,slow=10,SNR=8.1						
ASAR	**Alice Springs**	**25.05**	**164**	P	**P**	**13 40 34.4**	**+0.3**
	0.2nm,0.3s,baz=344,slow=12,SNR=7.5						
MKAR	**Makanchi Array**	**60.15**	**326**	P	**P**	**13 45 16.3**	**-0.6**
	0.2nm,0.4s,baz=123,slow=5.3,SNR=3.3						

MAN 02 13:38:11.7,9.°35N×126.°95E,h44km,mb4.3,ML3.1,MS2.8, 2C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.50**	**287**‖	*e*P	Pn	13 38 36.7	+0.5
SCPH				*e*S	Sn	13 38 55.6	+1.0
MSLP	**Maasin**	**2.20**	**291**	*e*P	Pn	13 38 47.7	+1.9
MSLP				*e*S	Sn	13 39 15.0	+3.2
BUKP	**Musuan**	**2.37**	**232**	*e*P	Pn	13 38 50.2	+2.0
BUKP				*e*S	Sn	13 39 18.9	+2.8
MATI	**Mati**	**2.49**	**196**	*e*P	Pn	13 38 50.6	+0.8
KCP	**Kidapawan**	**2.97**	**218**‖	*i*P	Pn	13 38 59.9	+3.5
KCP				*i* S	Sn	13 39 41.6	+11
TBP	**Tagbilaran**	**3.06**	**277**	*e*P	Pn	13 38 59.6	+1.9
TBP				*i* S	Sn	13 39 35.1	+2.0
CTBH	**Cotabato--PC H**	**3.41**	**232**⇑	*i*P	Pn	13 39 04.4	+2.0
DDMP	**Don Marcelino,**	**3.45**	**201**	*e*P	Pn	13 39 04.2	+1.2
DDMP				*e*S	Sn	13 39 44.2	+1.5
PAGZ	**Pagadian**	**3.83**	**247**	*e*P	Pn	13 39 09.1	+0.9
CNP	**Catarman**	**3.86**	**325**	*e*P	Pn	13 39 10.7	+2.1
CNP				*e*S	Sn	13 39 54.2	+1.5
CNOP	**Candoni, Negro**	**4.28**	**277**	*e*P	Pn	13 39 15.0	+0.7
CNOP				*e*S	Sn	13 40 03.0	0.0
RCP	**Roxas**	**4.68**	**298**⇑	*e*P	Pn	13 39 23.6	+3.7

IEPN 02 13:40:36.0,85.°69N×18.°86E,h20km,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**5.83**	**130**	*e*P	Pn	13 41 59.9	-1.3
ZFI2				*e*S	Sn	13 43 01.7	-5.5
	16nm,0.6s						
ZFI2	**Zemlya Franca-**	**5.83**	**130**	*e*P	Pn	13 41 59.9	-1.3
ZFI2				*e*S	Sn	13 43 01.7	-5.5
	16nm,0.6s						
HSPB	**Hornsund (broa**	**8.76**	**185**	*e*P	Pn	13 42 33.4	-7.8
HSPB				*e*S	Sn	13 44 01.6	-17
HSPB	**Hornsund (broa**	**8.76**	**185**	*e*P	Pn	13 42 33.4	-7.8
HSPB				*e*S	Sn	13 44 01.6	-17
HOPEN	**Hopen**	**9.28**	**171**	*e*P	Pn	13 42 41.0	-7.3
HOPEN				*e*S	Sn	13 44 17.4	-14
HOPEN	**Hopen**	**9.28**	**171**	*e*P	Pn	13 42 41.0	-7.3
HOPEN				*e*S	Sn	13 44 17.4	-14
BJO1	**Bjornoya**	**11.26**	**180**	*e*P	Pn	13 43 08.2	-7.2
BJO1				*e*S	Sn	13 45 00.6	-20
BJO1	**Bjornoya**	**11.26**	**180**	*e*P	Pn	13 43 08.2	-7.2
BJO1				*e*S	Sn	13 45 00.6	-20

WBNET 02 14:13:48.7,50.°23N×12.°45E,h9km,Ml1.1,6C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**286**	⇑P	Pg	14 13 50.5	+0.1
NKC				S	Sg	14 13 51.6	+0.1
NKC	**Novy Kostel**	**0.00**	**286**	⇑P	Pg	14 13 50.5	+0.1
NKC				S	Sg	14 13 51.6	+0.1
LBCW	**Luby**	**0.04**	**321**	⇓P	Pg	14 13 50.7	+0.1
KVC	**Kvetna**	**0.05**	**124**	⇑P	Pg	14 13 50.6	0.0
KVC				S	Sg	14 13 51.9	-0.1
KVC	**Kvetna**	**0.05**	**124**	⇑P	Pg	14 13 50.6	0.0
KVC				S	Sg	14 13 51.9	-0.1
VAC	**Vackov**	**0.05**	**274**	⇓P	Pg	14 13 50.7	0.0
VAC				S	Sg	14 13 51.9	-0.1
STCW	**Studenec**	**0.05**	**57**	⇑P	Pg	14 13 50.7	0.0
POCW	**Potky**	**0.09**	**349**	S	Sg	14 13 53.0	+0.1
KACW	**Kaceov**	**0.10**	**155**	⇓P	Pg	14 13 51.2	0.0
KACW				S	Sg	14 13 53.0	+0.1
KRCW	**Kraslice**	**0.11**	**26**	⇑P	Pg	14 13 51.5	0.0
KRCW				S	Sg	14 13 53.3	0.0

WBNET 02 14:13:48.3,50.°23N×12.°45E,h9km,Ml1.2,5C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**327**	⇑P	Pg	14 13 50.0	+0.1
NKC				S	Sg	14 13 51.1	+0.1
LBCW	**Luby**	**0.04**	**325**	⇓P	Pg	14 13 50.2	+0.1
LBCW				S	Sg	14 13 51.6	+0.2
VAC	**Vackov**	**0.05**	**275**	⇓P	Pg	14 13 50.2	+0.1
VAC				S	Sg	14 13 51.5	0.0
KVC	**Kvetna**	**0.05**	**121**	⇑P	Pg	14 13 50.1	0.0
KVC				S	Sg	14 13 51.4	-0.1
STCW	**Studenec**	**0.05**	**58**	⇑P	Pg	14 13 50.3	0.0
STCW				S	Sg	14 13 51.5	-0.1
SKC	**Skalna**	**0.08**	**223**	S	Sg	14 13 52.1	0.0
POCW	**Potky**	**0.09**	**351**	⇓P	Pg	14 13 50.8	+0.1
POCW				S	Sg	14 13 52.5	+0.1
KACW	**Kaceov**	**0.10**	**154**	⇓P	Pg	14 13 50.8	+0.1
KACW				S	Sg	14 13 52.5	0.0
KRCW	**Kraslice**	**0.11**	**27**	⇑P	Pg	14 13 51.1	0.0
KRCW				S	Sg	14 13 52.9	0.0
ZHC	**Zelena Hora**	**0.18**	**210**	⇑P	Pg	14 13 52.1	0.0
ZHC				S	Sg	14 13 54.7	0.0
LACW	**Lazy**	**0.21**	**148**	⇓P	Pg	14 13 52.7	+0.1
LACW				S	Sg	14 13 55.7	+0.1

*PRU **02** 14:14:32.0±0.0,50.°25N×12.°48E,h3km,West Bohemia Swarm*

WBNET 02 14:14:31.6,50.°23N×12.°45E,h9km,Ml1.5,5C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**347**	*e*PG	Pg	14 14 33.0	-0.3
NKC				*e*SG	Sg	14 14 34.4	0.0
	comp=Z,115nm,0.2s						
NKC	**Novy Kostel**	**0.00**	**347**	⇑P	Pg	14 14 33.4	+0.1
NKC				S	Sg	14 14 34.5	+0.1
LBCW	**Luby**	**0.04**	**326**	⇓P	Pg	14 14 33.6	+0.1
LBCW				S	Sg	14 14 35.0	+0.2
VAC	**Vackov**	**0.05**	**277**	⇓P	Pg	14 14 33.6	+0.1
VAC				S	Sg	14 14 34.8	0.0
KVC	**Kvetna**	**0.05**	**120**	S	Sg	14 14 34.8	-0.1
STCW	**Studenec**	**0.05**	**57**	⇑P	Pg	14 14 33.6	0.0
STCW				S	Sg	14 14 34.9	-0.1
SKC	**Skalna**	**0.08**	**223**	⇑P	Pg	14 14 33.9	0.0
SKC				S	Sg	14 14 35.5	0.0
POCW	**Potky**	**0.09**	**351**	⇓P	Pg	14 14 34.2	+0.1
POCW				S	Sg	14 14 35.9	+0.1
KACW	**Kaceov**	**0.10**	**153**	⇓P	Pg	14 14 34.2	+0.1
KACW				S	Sg	14 14 35.9	0.0
KRCW	**Kraslice**	**0.11**	**27**	⇑P	Pg	14 14 34.4	0.0
KRCW				S	Sg	14 14 36.3	0.0
ZHC	**Zelena Hora**	**0.18**	**210**	⇑P	Pg	14 14 35.5	0.0
ZHC				S	Sg	14 14 38.1	0.0
LACW	**Lazy**	**0.21**	**148**	⇓P	Pg	14 14 36.1	+0.1
LACW				S	Sg	14 14 39.1	+0.2
CLL	**Collm**	**1.14**	**18**	*e*Pg	Pn	14 14 54.0	+0.3
CLL				*i*		14 14 55.9	
CLL				*i* Sg	Sn	14 15 09.3	-0.1
CLL	**Collm**	**1.14**	**18**	*i* Sg	Sn	14 15 14.1	+4.7
KHC	**Kasperske Hory**	**1.32**	**146**	*e*PG	Pn	14 14 56.3	0.0
KHC				*e*SG	Sn	14 15 13.9	-0.2
	comp=Z,2.2nm,0.4s						
PRU	**Pruhonice**	**1.37**	**99**	*e*PG	Pn	14 14 56.6	-0.3
PRU				*e*SG	Sn	14 15 15.3	+0.2
	comp=Z,2.2nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	Sb	14 15 20.1	+0.2
	comp=Z,1.9nm,0.4s						

*IDC **02** 14:19:30.6±0.8,1.°26S×24.°06W,h0km,mb4.1/11, mb1 4.3/11,mb1mx4.0/34,mbtmp4.1/11,MS3.6/19, Ms1 3.6/19,ms1mx3.4/31,Error ellipse: s-maj=36.2km s-min=16.8km az=147.0*

*NEIC **02** 14:19:33.4±1.0,1.°2S±0.°1×24.°1W±0.°1,h19km±4km, mb4.6/9,Error ellipse: s-maj=17.9km s-min=16.4km az=187.0*

ISC 02 14:19:31.7±0.5,1.°3S±0.°1×24.°19W±0.°09,h10km,n47, σ1°02/31,mb4.3/13,MS3.5/18,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**1.66**	**124**	T	T	14 34 22.1	
	baz=304,slow=74,SNR=4330						
H10N2	**ASCENSION HYDR**	**1.67**	**124**	T	T	14 34 19.7	
	baz=304,slow=74,SNR=3437						
H10N1	**ASCENSION HYDR**	**1.68**	**124**	T	T	14 34 24.6	
	baz=304,slow=74,SNR=5201						
ASCN	**Ascension**	**11.83**	**124**	Pn	**Pn**	**14 22 21.7**	**+1.0**
H10S3	**ASCENSION HYDR**	**2.19**	**129**	T	T	14 35 04.6	
	baz=308,slow=74,SNR=1026						
H10S2	**ASCENSION HYDR**	**2.20**	**129**	T	T	14 35 05.7	
	baz=272,slow=74,SNR=285						
RCBR	**Riachuelo**	**12.54**	**248**	Pn	**Pn**	**14 22 27.9**	**-2.5**
	3.5nm,0.3s,baz=73,slow=11,SNR=23						
RCBR				Sn	Sn	14 24 35.2	-15
	0.4nm,0.3s,baz=86,slow=14,SNR=0.9						
RCBR				LR	LR	14 26 10.3	
	comp=Z,277nm,21.0s,baz=56,slow=32						
LIC	**Lamto**	**20.52**	**69**	*e*P	**P**	**14 24 09.5**	**-0.9**
	72nm,1.2s						
TIC	**Toumodi**	**20.68**	**67**	*e*P	**P**	**14 24 10.9**	**-1.3**
KIC	**Kosan Boka**	**20.84**	**69**	*e*P	**P**	**14 24 12.0**	**-1.8**
	50nm,1.1s						
DBIC	**Dimbokro**	**20.84**	**68**	P	**P**	**14 24 13.3**	**-0.5**
	16nm,0.8s,baz=237,slow=13,SNR=11						
DBIC				LR	LR	14 30 25.9	
	comp=Z,157nm,21.2s,baz=226,slow=32						
DBIC	**Dimbokro**	**20.84**	**68**	P	**P**	**14 24 13.1**	**-0.8**
DBIC				IAmb	IAmb	14 24 18.2	
	comp=Z,19nm,0.9s						
BDFB	**Brasilia**	**27.51**	**237**	LR	LR	14 35 30.3	
	comp=Z,358nm,19.5s,baz=102,slow=35						
MDP	**Montagnes des**	**29.11**	**283**	LR	LR	14 33 29.9	
	comp=Z,42nm,21.2s,baz=108,slow=29						
TOA0	**Torodi Ar. Sit**	**29.39**	**60**	P	**P**	**14 25 34.5**	**-1.0**
TOA0				IAmb	IAmb	14 25 36.4	
	comp=Z,14nm,1.1s						
TORD	**Torodi Ar. Bea**	**29.39**	**60**	P	**P**	**14 25 34.8**	**-0.7**
	comp=Z,6.7nm,1.0s,baz=252,slow=8.5,SNR=22						
TORD				LR	LR	14 35 47.9	
	comp=Z,136nm,19.4s,baz=250,slow=33						
TRIS	**Tristan da Cun**	**37.29**	**164**	P	**P**	**14 26 44.2**	**+0.2**
H09W1	**TRISTAN DA CUN**	**37.31**	**164**	T	T	15 06 38.2	
SIV	**San Ignacio**	**39.19**	**246**	P	**P**	**14 27 01.9**	**+1.6**
	comp=Z,1.4nm,0.9s,baz=96,slow=12,SNR=4.8						
H05S1	**Guadeloupe/Mar**	**39.48**	**295**	T	T	15 08 45.6	
	SNR=7.6						
SAML	**Samuel**	**39.55**	**257**	P	**P**	**14 27 04.6**	**+1.2**
ESDC	**Sonseca Array**	**44.75**	**22**	P	**P**	**14 27 47.0**	**+1.5**
	comp=Z,3.8nm,1.1s,baz=214,slow=8.3,SNR=14						
ESDC				LR	LR	14 46 27.2	
	comp=Z,50nm,18.0s,baz=175,slow=36						
LPAZ	**La Paz**	**45.78**	**248**	P	**P**	**14 27 55.9**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=92,slow=5.2,SNR=9.7						
LPAZ				LR	LR	14 46 02.6	
	comp=Z,119nm,19.5s,baz=114,slow=35						
LPAZ	**La Paz**	**45.78**	**248**	P	**P**	**14 27 55.6**	**+0.9**
KEST	**Kesra**	**48.29**	**37**	LR	LR	14 49 38.3	
	comp=Z,251nm,18.1s,baz=171,slow=38						
DSB	**Dublin**	**56.31**	**13**	P	**P**	**14 29 12.7**	**+0.1**
FUORN	**Ofenpass-Fuorn**	**56.46**	**28**	P	**P**	**14 29 13.8**	**-0.4**
FUORN				IAmb	IAmb	14 29 29.8	
	comp=Z,6.2nm,1.4s						
PLCA	**Paso Flores**	**57.42**	**221**	LR	LR	14 53 31.7	
	comp=Z,34nm,19.3s,baz=83,slow=36						
GERES	**GERESS Array B**	**59.67**	**28**	LR	LR	14 56 00.9	
	comp=Z,40nm,18.1s,baz=286,slow=37						
BG3	**Lake Jocassee**	**65.57**	**310**	P	**P**	**14 30 16.8**	**+0.8**
BRTR	**Keskin Array B**	**66.63**	**45**	P	**P**	**14 30 22.5**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=224,slow=5.2,SNR=8.8						
BRTR				LR	LR	15 00 12.3	
	comp=Z,37nm,21.6s,baz=194,slow=37						
NOA	**NORSAR Array B**	**67.81**	**18**	P	**P**	**14 30 29.7**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=216,slow=6.6,SNR=2.4						
NOA				LR	LR	14 59 26.6	
	comp=Z,14nm,18.7s,baz=240,slow=35						
AKASG	**Malin Array Be**	**68.77**	**33**	P	**P**	**14 30 35.1**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=239,slow=6.4,SNR=6.1						
AKASG				LR	LR	15 01 14.2	
	comp=Z,22nm,20.1s,baz=220,slow=36						
FINES	**FINESS Array B**	**73.26**	**23**	P	**P**	**14 31 04.0**	**+1.0**
	comp=Z,3.2nm,1.0s,baz=205,slow=6.2,SNR=1.8						
FINES				LR	LR	15 02 31.9	
	comp=Z,28nm,19.9s,baz=242,slow=35						
KBZ	**Khabaz**	**74.50**	**44**	P	**P**	**14 31 10.7**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=308,slow=6.4,SNR=5.9						
KBZ				LR	LR	15 06 21.5	
	comp=Z,26nm,20.0s,baz=204,slow=38						
ARCES	**ARCESS Array B**	**78.05**	**16**	LR	LR	15 02 48.8	
	comp=Z,18nm,21.9s,baz=153,slow=33						
ECSD	**EROS Data Cent**	**78.23**	**315**	P	**P**	**14 31 31.8**	**-0.1**
ECSD				IAmb	IAmb	14 31 33.3	
	comp=Z,18nm,1.7s						
TXAR	**Lajitas Array**	**81.44**	**300**	P	**P**	**14 31 50.5**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=121,slow=7.3,SNR=8.6						
PDAR	**Pinedale Array**	**87.43**	**313**	LR	LR	15 05 39.5	
	comp=Z,45nm,21.8s,baz=130,slow=32						
YKA	**Yellowknife Ar**	**91.29**	**332**	LR	LR	15 08 39.1	
	comp=Z,25nm,22.0s,baz=0.0,slow=32						
NVAR	**Mina Array Bea**	**94.00**	**308**	LR	LR	15 12 11.8	
	comp=Z,27nm,19.4s,baz=309,slow=34						
STKA	**Stephens Creek**	**144.40**	**159**	PKP	**PKPdf**	**14 39 08.3**	**-0.7**
	comp=Z,5.2nm,0.7s,baz=202,slow=1.3,SNR=18						
STKA	**Stephens Creek**	**144.40**	**159**		**PKPdf**	**14 39 08.1**	**-0.9**
FITZ	**Fitzroy Crossi**	**144.63**	**124**		**PKPdf**	**14 39 09.6**	**-0.2**
ASAR	**Alice Springs**	**147.33**	**141**	PKPbc	**PKPbc**	**14 39 17.1**	**+0.4**
	comp=Z,6.4nm,0.8s,baz=210,slow=2.2,SNR=91						
AS31	**Alice Springs**	**147.34**	**141**		**PKPbc**	**14 39 16.9**	**+0.3**
WRA	**Warramunga Arr**	**150.22**	**136**	PKPbc	**PKPbc**	**14 39 23.9**	**-0.2**
	comp=Z,4.1nm,1.0s,baz=241,slow=2.4,SNR=12						

*MAN **02** 14:27:36.4,9.°55N×127.°40E,h51km,mb4.8,ML3.7,MS3.6*

*IDC **02** 14:27:38.7±3.9,9.°52N×126.°97E,h0km,mb3.3/3, mb1 3.5/3,mb1mx3.3/31,mbtmp3.3/3,MS3.3/2,Ms1 3.3/2, ms1mx2.5/19,Error ellipse: s-maj=297.3km s-min=29.8km az=66.0*

ISC 02 14:27:38.7±1.3,9.°57N±0.°05×127.°1E±0.°1,h10km,n12, σ1°49/14,mb3.1/3,3D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**2.30**	**284**	*e*P	**Pn**	**14 28 17.2**	**+0.5**
MSLP				*e*S	**Sn**	**14 28 46.7**	**+1.5**
BUKP	**Musuan**	**2.65**	**231**	*e*P	**Pn**	**14 28 20.6**	**-1.0**
BUKP				*e*S	**Sn**	**14 28 54.1**	**+0.4**
DAV	**Davao City (W)**	**2.92**	**212**	LR	LR	14 29 44.4	
	comp=Z,208nm,18.2s,baz=344,slow=45						
KCP	**Kidapawan**	**3.25**	**218**‖

	SNR=40							
JMDO					S		Sn	14 55 39.9 -1.1
HOQ	**Hoqain**	**5.45**	**257**		P		Pn	14 54 45.5 +1.1
	SNR=6.7							
HOQ					S		Sn	14 55 43.5 -2.8
BSY	**Bisya**	**5.82**	**249**		P		Pn	14 54 52.0 +2.4
	SNR=6.7							
SOHO	**SOHO**	**6.03**	**264**		P		Pn	14 54 53.4 +1.0
	SNR=13							
SOHO					S		Sn	14 55 58.1 -2.4
ARQ	**Araqi**	**6.21**	**257**		P		Pn	14 54 59.0 +4.0
	SNR=26							
BANOM	**Banah**	**6.22**	**281**	*i*	P		Pn	14 54 56.2 +1.1
	SNR=18							
BANOM					S		Sn	14 56 00.9 -4.5
BANOM	**Banah**	**6.22**	**281**		P		Pn	14 54 56.3 +1.2
	SNR=18							
BANOM					S		Sn	14 56 01.4 -4.0
	SNR=10							
UOSS	**Minazif**	**6.25**	**272**		P		Pn	14 54 56.7 +1.1
UOSS	**Minazif**	**6.25**	**272**		P		Pn	14 54 56.4 +0.8
MSFE	**Esma-Masafi**	**6.30**	**275**		P		Pn	14 54 58.0 +1.8
HATD	**Hatta, Dubai**	**6.33**	**271**		P		Pn	14 54 57.8 +1.3
SHME	**Shamm**	**6.38**	**282**	*i*	P		Pn	14 54 58.5 +1.2
	SNR=17							
SHME					S		Sn	14 56 07.9 -1.4
ASHO	**Ashiyiah**	**6.40**	**269**	*i*	P		Pn	14 54 59.7 +2.1
	SNR=65							
ASHO	**Ashiyiah**	**6.40**	**269**		P		Pn	14 54 58.9 +1.4
	SNR=67							
AAK	**Ala-Archa**	**20.01**	**25**		P		P	14 57 55.5 -0.2
	3.1nm,0.7s,baz=183,slow=5.8,SNR=11							
KBZ	**Khabaz**	**24.98**	**324**		P		P	14 58 49.6 +3.3
	3.2nm,0.7s,baz=120,slow=9.3,SNR=6.9							
AKTO	**Aktyubinsk**	**25.77**	**353**		P		P	14 58 54.1 +0.7
	1.4nm,0.5s,baz=162,slow=12,SNR=4.7							
MKAR	**Makanchi Array**	**26.66**	**30**		P		P	14 59 01.3 -0.3
	2.4nm,0.6s,baz=212,slow=9.0,SNR=29							
BVAR	**Borovoye Array**	**28.59**	**9**		P		P	14 59 19.3 +0.6
	0.3nm,0.5s,baz=190,slow=7.3,SNR=2.5							
ZALV	**Zalesovo Beam**	**33.21**	**24**		P		P	14 59 58.6 -0.8
	1.5nm,0.5s,baz=225,slow=9.4,SNR=9.2							
AKASG	**Malin Array Be**	**36.60**	**324**		P		P	15 00 28.4 -0.2
	0.7nm,0.5s,baz=123,slow=8.2,SNR=2.6							
SONM	**Songino Array**	**40.98**	**45**		P		P	15 01 05.4 -0.2
	0.4nm,0.4s,baz=254,slow=8.9,SNR=2.5							
FINES	**FINESS Array B**	**44.28**	**336**		P		P	15 01 32.2 +0.2
	1.5nm,0.8s,baz=133,slow=11,SNR=5.3							
GERES	**GERESS Array B**	**45.17**	**315**		P		P	15 01 40.6 +1.2
	0.3nm,0.5s,baz=101,slow=8.3,SNR=4.4							
ARCES	**ARCESS Array B**	**49.80**	**344**		P		P	15 02 15.1 +0.1
	1.6nm,0.7s,baz=140,slow=9.6,SNR=9.2							
TGY	**Tagaytay City**	**55.23**	**90**		P		P	15 02 53.8 -2.2
	247nm,0.4s,baz=211,slow=18,SNR=2.3							
TORD	**Torodi Ar. Bea**	**58.80**	**271**		P		P	15 03 22.4 +1.1
	0.3nm,0.5s,baz=70,slow=5.4,SNR=2.3							
ILAR	**Eielson Array**	**87.61**	**12**		P		P	15 06 09.0 -1.4
	0.2nm,0.5s,baz=314,slow=4.5,SNR=4.6							

*ISK **02** 15:05:24.8,38˙.85N×28˙.08E,h7km,ML3.5/41*
*ATH **02** 15:05:24.6,38˙.77N×28˙.14E,h31km±12km,ML3.3/3,Error ellipse: s-maj=15.3km s-min=2.6km az=83.0*
*DDA **02** 15:05:25.0,38˙.84N×28˙.07E,h7km±2km,MW3.6*
*THE **02** 15:05:25.9,38˙.77N×28˙.11E,h7km±21km,ML3.4/3,Error ellipse: s-maj=24.4km s-min=0.7km az=25.0*

ISC 02 15:05:25.2±0.8,38˚.84N±0˙.02×28˚.09E±0˙.01,h14km±6km, n117,σ1§37/161,9C-11D,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GOMA	**Golmarmara-Man**	**0.19**	**225**	PG		**Pg**	**15 05 29.5**	**-0.1**
GOMA				SG		**Sg**	**15 05 32.6**	**0.0**
AKHS	**Akhisar**	**0.22**	**279**	*i* P		**Pg**	**15 05 29.9**	**-0.2**
AKHS				*i* S		**Sg**	**15 05 32.4**	**-1.0**
AKHS				IAML			15 05 34.0	
	comp=E,4μm,0.5s							
AKS	**Akhisar**	**0.22**	**279**	PG		**Pg**	**15 05 29.9**	**-0.2**
AKS				SG		**Sg**	**15 05 33.1**	**-0.3**
MANT	**Manisa**	**0.51**	**134**	*i* P		**Pg**	**15 05 35.4**	**+0.1**
MANT				*i* S		**Sg**	**15 05 41.3**	**-0.9**
MANT				IAML			15 05 43.0	
	comp=E,2μm,0.4s							
MANT				IAML			15 05 44.0	
	comp=N,1μm,0.1s							
DEMI	**Demirci**	**0.53**	**68**	*i* P		**Pg**	**15 05 35.5**	**-0.1**
DEMI				*i* S		**Sg**	**15 05 41.2**	**-1.5**
DEMI				IAML			15 05 43.0	
	comp=N,3μm,0.2s							
DEMI				IAML			15 05 44.0	
	comp=E,4μm,0.6s							
KULA	**Kula-Manisa**	**0.56**	**126**	P		**Pg**	**15 05 36.0**	**-0.2**
KULA				S		**Sg**	**15 05 43.3**	**-0.3**
KULA	**Kula-Manisa**	**0.56**	**126**	PG		**Pb**	**15 05 36.2**	**-0.6**
STEP	**BALIKESIR_Sava**	**0.60**	**332**	*i* P		**Pg**	**15 05 36.5**	**-0.6**
STEP				*i* S		**Sg**	**15 05 43.8**	**-1.4**
STEP				IAML			15 05 46.0	
	comp=N,3μm,0.6s							
STEP				IAML			15 05 46.0	
	comp=E,3μm,0.7s							
SIMA	**Simav-Kutahya**	**0.74**	**71**	PG		**Pb**	**15 05 39.5**	**-0.4**
SMAA	**Simav-Kutahya**	**0.74**	**69**	PG		**Pb**	**15 05 39.9**	**-0.1**
ZEDA	**zmir-Bergama**	**0.80**	**279**	*i* P		**Pg**	**15 05 40.9**	**+0.1**
ZEDA				*i* S		**Sg**	**15 05 49.0**	**-2.2**
ZEDA				IAML			15 05 54.0	
	comp=E,749nm,0.5s							
ZEDA				IAML			15 05 55.0	
	comp=N,843nm,0.6s							
BALB	**Balikesir**	**0.81**	**348**	PG		**Pg**	**15 05 41.1**	**+0.1**
DURS	**Dursunbey**	**0.81**	**21**	*i* P		**Pg**	**15 05 40.6**	**-0.5**
DURS				*i* S		**Sg**	**15 05 51.5**	**-0.2**
DURS				IAML			15 05 56.0	
	comp=N,2μm,0.2s							
DURS				IAML			15 05 56.0	
	comp=E,1μm,0.2s							
DST	**Dursunbey**	**0.86**	**28**	PG		**Pg**	**15 05 41.4**	**-0.6**
SHAP	**Saphane-Kutahy**	**0.90**	**78**	PG		**Pb**	**15 05 42.5**	**-0.2**
AYDB	**Zeytinkoy-Aydi**	**0.91**	**190**	PG		**Pg**	**15 05 42.5**	**-0.4**
BLCB	**Balcova**	**0.94**	**241**	P		**Pg**	**15 05 42.8**	**-0.6**
BLCB				S		**Sb**	**15 05 56.9**	**+1.2**
BLCB	**Balcova**	**0.94**	**241**	PG		**Pg**	**15 05 43.4**	**0.0**
DKL	**Dikili**	**0.95**	**284**	PG		**Pg**	**15 05 43.4**	**-0.2**
BALY	**Balya**	**0.97**	**338**	*i* P		**Pg**	**15 05 43.8**	**-0.1**
BALY				*i* S		**Sg**	**15 05 54.7**	**-1.9**
BALY				IAML			15 05 59.0	
	comp=E,1μm,0.4s							
BALY				IAML			15 06 01.0	
	comp=N,1μm,0.4s							
GEDZ	**Gediz**	**1.05**	**79**	PG		**Pb**	**15 05 45.6**	**+0.3**
GDZ	**Gediz**	**1.11**	**77**	*i* P		**Pb**	**15 05 46.3**	**-0.1**
GDZ				*i* S		**Sg**	**15 05 59.8**	**-1.5**
GDZ				IAML			15 06 04.0	
	comp=N,342nm,0.6s							
GDZ				IAML			15 06 04.0	
	comp=E,219nm,0.4s							
AYVA	**Ayvalik**	**1.18**	**293**	*i* P		**Pg**	**15 05 47.6**	**-0.4**
AYVA				*i* S		**Sg**	**15 06 01.4**	**-2.0**
AYVA				IAML			15 06 08.0	
	comp=E,586nm,0.8s							
AYVA				IAML			15 06 12.0	
	comp=N,633nm,0.6s							
KHAL	**Karahalli**	**1.20**	**113**	*i* P		**Pb**	**15 05 47.8**	**0.0**
KHAL				*i* S		**Sg**	**15 06 02.6**	**-1.3**
KHAL				IAML			15 06 09.0	
	comp=E,190nm,0.4s							
GMLD	**Gumuldur**	**1.20**	**231**	PN		**Pb**	**15 05 48.0**	**+0.3**
TVSB	**Tavsanli**	**1.23**	**60**	PN		**Pg**	**15 05 48.2**	**-0.7**
KRBN	**Karaburun**	**1.23**	**259**	PN		**Pb**	**15 05 48.5**	**+0.3**
DGB	**zmir**	**1.23**	**231**	*i* P		**Pn**	**15 05 47.4**	**-0.7**
DGB				*i* S		**Sg**	**15 06 02.1**	**-3.0**
DGB				IAML			15 06 07.0	
	comp=E,801nm,0.4s							
DGB				IAML			15 06 09.0	
	comp=N,478nm,0.5s							
GONE	**Gonen-Balikesi**	**1.24**	**346**	PN		**Pn**	**15 05 48.8**	**+0.6**
URLA	**Izmir**	**1.27**	**248**	PN		**Pn**	**15 05 49.2**	**+0.6**
URLA	**Izmir**	**1.27**	**248**	*i* P		**Pn**	**15 05 48.5**	**-0.1**
URLA				*i* S		**Sb**	**15 06 05.6**	**+0.5**
URLA				IAML			15 06 07.0	
	comp=N,597nm,0.4s							
URLA				IAML			15 06 08.0	
	comp=E,431nm,0.3s							
GCAM	**G?zelcaml?**	**1.33**	**211**	PN		**Pb**	**15 05 50.1**	**+0.2**
GCAM	**G?zelcaml?**	**1.33**	**211**	*i* P		**Pb**	**15 05 50.3**	**+0.4**
GCAM				*i* S		**Sb**	**15 06 06.2**	**-0.6**
GCAM				IAML			15 06 11.0	
	comp=E,234nm,0.5s							
GCAM				IAML			15 06 12.0	
	comp=N,260nm,0.6s							
ORLT	**Orhaneli**	**1.35**	**27**	PN		**Pb**	**15 05 50.6**	**+0.2**
KCTX	**Karacabey (Bur**	**1.43**	**8**	PN		**Pn**	**15 05 51.6**	**+0.7**
PRK	**Paraskevi**	**1.47**	**286**	P		**Pb**	**15 05 52.7**	**+0.3**
PRK				S		**Sn**	**15 06 11.7**	**+1.3**
	comp=N,1μm,0.5s							
PRK	**Paraskevi**	**1.47**	**286**	P		**Pb**	**15 05 52.8**	**+0.4**
PRK				S		**Sn**	**15 06 11.7**	**+1.3**
PRK				AML	AML		15 06 16.1	
	comp=E,1909μm,0.5s							
PRK				AML	AML		15 06 17.4	
	comp=N,1518μm,0.5s							
CESE	**eme**	**1.49**	**250**	PN		**Pn**	**15 05 52.7**	**+1.0**
BAYC	**CANAKKALE_Bayr**	**1.50**	**307**	*i* P		**Pn**	**15 05 52.0**	**+0.3**
BAYC				*i* S		**Sn**	**15 06 10.0**	**-1.1**
BAYC				IAML			15 06 15.0	
	comp=N,411nm,0.4s							
BAYC				IAML			15 06 19.0	
	comp=E,290nm,0.2s							
SMG	**Samos**	**1.50**	**221**	P		**Pn**	**15 05 50.7**	**-1.1**
SMG				S		**Sn**	**15 06 12.4**	**+1.2**
	comp=E,1μm,0.5s							
SMG	**Samos**	**1.50**	**221**	P		**Pn**	**15 05 50.8**	**-1.0**
SMG				S		**Sn**	**15 06 10.5**	**-0.7**
SMG				AML	AML		15 06 16.1	
	comp=N,2669μm,0.3s							
SMG				AML	AML		15 06 16.7	
	comp=E,2033μm,0.6s							
EDC	**Edincik**	**1.51**	**353**	PN		**Pb**	**15 05 53.1**	**0.0**
TAVA	**DENIZLI_Tavas**	**1.52**	**154**	*i* P		**Pn**	**15 05 51.8**	**-0.3**
TAVA				*i* S		**Sn**	**15 06 09.8**	**-2.1**
TAVA				IAML			15 06 17.0	
	comp=N,144nm,0.9s							
TAVA				IAML			15 06 18.0	
	comp=E,124nm,0.7s							
ULDT	**Uludag**	**1.53**	**32**	*i* P		**Pb**	**15 05 53.6**	**+0.1**
ULDT				*i* S		**Sn**	**15 06 12.1**	**-0.1**
ULDT				IAML			15 06 17.0	
	comp=E,588nm,0.4s							
ULDT				IAML			15 06 19.0	
	comp=N,493nm,0.3s							
MDNY	**Mudanya-Bursa**	**1.64**	**22**	PN		**Pn**	**15 05 54.8**	**+1.1**
CHOS	**Chios island**	**1.66**	**255**	P		**Pn**	**15 05 54.0**	**0.0**
CHOS				S		**Sn**	**15 06 16.4**	**+1.2**
	comp=N,858nm,0.4s							
CHOS	**Chios island**	**1.66**	**255**	P		**Pn**	**15 05 54.1**	**0.0**
IGD	**Bursa**	**1.66**	**31**	*i* P		**Pg**	**15 05 56.4**	**-0.7**
IGD				*i* S		**Sb**	**15 06 16.9**	**+0.6**
IGD				IAML			15 06 20.0	
	comp=E,260nm,0.3s							
IGD				IAML			15 06 20.0	
	comp=N,234nm,0.3s							
KRBG	**Karabiga-Canak**	**1.66**	**339**	PN		**Pn**	**15 05 54.2**	**+0.2**
EZN	**Ezine**	**1.68**	**306**	PN		**Pn**	**15 05 55.4**	**+1.1**
KZIL	**AFYON_Kizioren**	**1.71**	**109**	*i* P		**Pn**	**15 05 55.2**	**+0.4**
YER	**Yerkesik**	**1.71**	**175**	P		**Pn**	**15 05 54.6**	**-0.2**
YER	**Yerkesik**	**1.71**	**175**	PN		**Pn**	**15 05 55.9**	**+1.1**
SIGR	**SIGRI**	**1.78**	**283**	P		**Pn**	**15 05 55.6**	**0.0**
SIGR	**SIGRI**	**1.78**	**283**	P		**Pn**	**15 05 55.6**	**0.0**
SIGR				AML	AML		15 06 30.2	
	comp=N,872μm,0.7s							
SIGR				AML	AML		15 06 30.7	
	comp=E,575μm,0.4s							
BASM	**Basmaki-Afyon**	**1.80**	**120**	PN		**Pn**	**15 05 56.9**	**+1.0**
GEMT	**Gemlik**	**1.80**	**28**	PN		**Pn**	**15 05 57.3**	**+1.4**
ARMT	**Armutlu**	**1.82**	**19**	PN		**Pn**	**15 05 57.3**	**+1.1**
AUBOZ	**BOZOYUK**	**1.84**	**54**	PN		**Pn**	**15 05 57.7**	**+1.1**
AUBOZ	**BOZOYUK**	**1.84**	**54**	*i* P		**Pg**	**15 05 59.9**	**-0.8**
AUBOZ				*i* S		**Sg**	**15 06 23.2**	**-1.4**
AUBOZ				IAML			15 06 26.0	
	comp=E,495nm,0.9s							
AUBOZ				IAML			15 06 29.0	
	comp=N,394nm,0.5s							
BDRM	**Kayabasi**	**1.85**	**196**	*i* P		**Pn**	**15 05 55.9**	**-0.7**
BDRM				*i* S		**Sb**	**15 06 21.7**	**-0.1**
BDRM				IAML			15 06 29.0	
	comp=N,157nm,0.6s							
BDRM				IAML			15 06 30.0	
	comp=E,159nm,0.6s							
BOZC	**Bozcaada**	**1.87**	**303**	*i* P		**Pn**	**15 05 57.4**	**+0.6**
BOZC				*i* S		**Sg**	**15 06 24.5**	**-0.8**
BOZC				IAML			15 06 27.0	
	comp=N,711nm,0.5s							
BOZC				IAML			15 06 27.0	
	comp=E,443nm,0.4s							
BODT	**Bodrum**	**1.88**	**199**	P		**Pn**	**15 05 56.0**	**-1.1**
BODT	**Bodrum**	**1.88**	**199**	PN		**Pn**	**15 05 58.4**	**+1.3**
CAVI	**Cavuskoy**	**1.92**	**44**	PN		**Pn**	**15 05 58.7**	**+1.2**
SHUT	**Suhut-Afyon**	**1.95**	**98**	PN		**Pn**	**15 05 59.4**	**+1.4**
GOLH	**Golhisar**	**1.98**	**144**	*i* P		**Pn**	**15 05 59.1**	**+0.6**
GOLH				*i* S		**Sg**	**15 06 28.5**	**-0.4**
GOLH				IAML			15 06 40.0	
	comp=N,94nm,0.9s							
YLV	**Yalova**	**1.98**	**30**	PN		**Pn**	**15 05 59.7**	**+1.2**
PSRA	**Psara**	**2.00**	**262**	P		**Pn**	**15 05 59.6**	**+1.0**
TURN	**Turunc**	**2.01**	**168**	PN		**Pb**	**15 06 01.2**	**-0.4**
TURN	**Turunc**	**2.01**	**168**	*i* P		**Pn**	**15 05 59.3**	**+0.5**
TURN				IAML			15 06 38.0	
	comp=N,133nm,0.9s							
TURN				IAML			15 06 40.0	
	comp=E,81nm,1.0s							
ADVT	**Abdulvahap**	**2.03**	**38**	PN		**Pn**	**15 06 00.6**	**+1.5**
DALY	**Dalyan (Mula)**	**2.07**	**167**	PN		**Pn**	**15 06 01.2**	**+1.6**
DALY	**Dalyan (Mula)**	**2.07**	**167**	*i* P		**Pn**	**15 06 00.7**	**+1.1**
DALY				*i* S		**Sn**	**15 06 26.0**	**+0.8**
DALY				IAML			15 06 39.0	
	comp=E,78nm,0.9s							
YLVH	**Yalova**	**2.10**	**28**	PN		**Pn**	**15 06 01.5**	**+1.6**
BORA	**Eskisehir**	**2.10**	**60**	PN		**Pn**	**15 06 01.6**	**+1.4**
BORA	**Eskisehir**	**2.10**	**60**	*i* P		**Pg**	**15 06 04.3**	**-1.3**
BORA				*i* S		**Sg**	**15 06 31.5**	**-1.5**
BORA				IAML			15 06 34.0	
	comp=N,151nm,0.8s							
BORA				IAML			15 06 38.0	
	comp=E,132nm,0.2s							
DATC	**Datca-Mugla**	**2.11**	**189**	PN		**Pn**	**15 06 01.3**	**+1.2**
DAT	**Datca**	**2.15**	**191**	P		**Pn**	**15 06 00.0**	**-0.8**
DAT	**Datca**	**2.15**	**191**	PN		**Pn**	**15 06 02.2**	**+1.4**
BUY	**Buyukada**	**2.16**	**21**	*i* P		**Pg**	**15 06 06.1**	**-0.5**
BUY				*i* S		**Sn**	**15 06 28.4**	**+1.0**
BUY				IAML			15 06 37.0	
	comp=E,327nm,0.4s							
BUY				IAML			15 06 39.0	
	comp=N,239nm,0.5s							
GOKA	**anakkale-Gk**	**2.16**	**309**	*i* P		**Pn**	**15 06 02.4**	**+1.6**
GOKA				*i* S		**Sn**	**15 06 28.1**	**+0.8**
GOKA				IAML			15 06 35.0	
	comp=E,657nm,0.4s							
GOKA				IAML			15 06 36.0	
	comp=N,441nm,0.4s							
SRCK	**Saricakaya, Es**	**2.30**	**58**	PN		**Pn**	**15 06 04.4**	**+1.6**
SRCK	**Saricakaya, Es**	**2.30**	**58**	*i* P		**Pg**	**15 06 08.1**	**-1.2**
SRCK				*i* S		**Sg**	**15 06 38.1**	**-1.1**
SRCK				IAML			15 06 42.0	
	comp=N,297nm,0.4s							
SRCK				IAML			15 06 43.0	
	comp=E,347nm,0.4s							
FETY	**Fethiye**	**2.34**	**160**	PN		**Pn**	**15 06 04.8**	**+1.4**
FETY	**Fethiye**	**2.34**	**160**	*i* P		**Pn**	**15 06 04.2**	**+0.8**
FETY				*i* S		**Sn**	**15 06 31.5**	**-0.5**
LIA	**Limnos Island**	**2.49**	**296**	P		**Pn**	**15 06 05.8**	**+0.5**
LIA	**Limnos Island**	**2.49**	**296**	P		**Pn**	**15 06 06.0**	**+0.7**
ELL	**Elmali**	**2.54**	**145**	PN		**Pn**	**15 06 07.8**	**+1.6**
SMTH	**Samothraki Isl**	**2.56**	**310**	P		**Pn**	**15 06 06.8**	**+0.5**
SMTH	**Samothraki Isl**	**2.56**	**310**	P		**Pn**	**15 06 06.8**	**+0.5**
KORT	**Korkueli**	**2.57**	**135**	PN		**Pn**	**15 06 08.3**	**+1.7**
ALN	**Alexandroupoli**	**2.58**	**323**	P		**Pn**	**15 06 07.9**	**+1.3**
APE	**Apeiranthos**	**2.69**	**230**	P		**Pn**	**15 06 07.5**	**-0.7**
APE	**Apeiranthos**	**2.69**	**230**	⇑P		**Pg**	**15 06 15.7**	**-1.1**
APE				⇓S		**Sg**	**15 06 49.6**	**-2.1**
BTAS	**Taskesti**	**2.83**	**52**	*i* P		**Pg**	**15 06 18.4**	**-1.0**
BTAS				*i* S		**Sg**	**15 06 55.3**	**-0.9**
SAHE	**Sakarya_HENDEK**	**2.92**	**46**	*i* P		**Pg**	**15 06 20.0**	**-1.3**
SAHE				*i* S		**Sg**	**15 06 56.5**	**-2.7**
RDO	**Rodhopi**	**3.02**	**320**	P		**Pn**	**15 06 13.6**	**+0.9**
RDO	**Rodhopi**	**3.02**	**320**	P		**Pn**	**15 06 13.7**	**+0.9**
SANT	**Santorini**	**3.23**	**221**	⇓P		**Pb**	**15 06 24.8**	**+2.3**
SANT				⇓S		**Sb**	**15 07 05.0**	**+3.2**
KIBS	**BOLU**	**3.30**	**60**	*i* P		**Pg**	**15 06 28.1**	**-0.5**
KIBS				*i* S		**Sg**	**15 07 07.7**	**-3.7**
SERI	**Serifos**	**3.31**	**241**	P		**Pn**	**15 06 16.3**	**-0.3**
KARP	**Karpathos**	**3.37**	**193**	P		**Pn**	**15 06 18.0**	**+0.5**
KAVA	**Kavala**	**3.49**	**309**	P		**Pn**	**15 06 19.6**	**+0.5**
ANTO	**Ankara**	**3.79**	**73**	⇓P		**Pg**	**15 06 36.7**	**-1.1**
IDI	**Anoyia**	**4.38**	**217**	⇓P		**Pb**	**15 06 40.9**	**-1.1**
IDI				⇓S		**Sb**	**15 07 34.6**	**0.0**
ELND	**Elena**	**4.41**	**338**	⇑S		**Sn**	**15 07 21.6**	**-1.4**
PLVB	**Pleven**	**5.24**	**331**	⇑P		**Pn**	**15 06 44.6**	**+1.4**
PLVB				⇓S		**Sn**	**15 07 40.6**	**-2.8**
VTS	**Vitosha**	**5.27**	**317**	⇓P		**Pn**	**15 06 44.7**	**+0.9**
VTS				⇓S		**Sn**	**15 07 41.0**	**-3.5**
TIRR	**Tirgusor**	**5.62**	**2**	⇑P		**Pn**	**15 06 53.0**	**+4.7**
BISRR	**Bisoca**	**6.78**	**352**	⇓P		**Pn**	**15 07 08.1**	**+3.7**
MLR	**Muntele Rosu**	**6.83**	**347**	⇑P		**Pn**	**15 07 08.1**	**+2.9**
PLOR	**Plostina**	**7.08**	**352**	⇑P		**Pn**	**15 07 11.4**	**+2.9**
VRI	**Vrincioaia**	**7.09**	**352**	⇓P		**Pn**	**15 07 12.2**	**+3.6**
TESR	**Tescani**	**7.74**	**353**	⇑P		**Pn**	**15 07 20.8**	**+3.4**
BIZ	**Bicaz**	**8.22**	**350**	⇑P		**Pn**	**15 07 27.2**	**+3.1**
BURAR	**Bucovina Array**	**9.01**	**347**	⇑P		**Pn**	**15 07 38.4**	**+3.4**

*IDC **02** 15:12:16.4±0.8,20˙.97N×122˙.02E,h0km,mb3.7/12, mb1 3.9/13,mb1mx3.7/40,mbtmp3.8/13,ML3.3/1,MS3.5/15, Ms1 3.5/15,ms1mx3.3/35,Error ellipse: s-maj=26.1km s-min=15.5km az=83.0*
*BJI **02** 15:12:18.2±0.0,21˙.14N×121˙.83E,h8km,mB4.5/18, mb4.1/19,Ms4.0/11,Ms7 3.8/11*
*JMA **02** 15:12:19.1±0.7,21˙.30N×122˙.02E,h17km,M3.9*
*NEIC **02** 15:12:20.8±1.9,21˙.20N±0˙.06×122˙.1E±0˙.1,h32km±8km, mb4.3/10,Error ellipse: s-maj=17.0km s-min=8.3km az=90.0*
*MAN **02** 15:12:21.8,20˙.95N×122˙.01E,h16km,mb5.0,ML3.9, MS4.0*

ISC 02 15:12:21.6±0.6,21˚.17N±0˙.04×122˚.03E±0˙.06,h35km,n64, σ1§23/53,mb3.9/16,MS3.5/13,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWG	**Pinlang**	**1.87**	**332**			**Pn**	**15 12 48.8**	**-2.4**
YULB	**Yu-li**	**2.32**	**343**			**Pn**	**15 12 55.4**	**-1.9**
TPUB	**Ta-pu**	**2.49**	**329**			**Pn**	**15 12 59.1**	**-0.6**
SSLB	**Suanglung**	**2.79**	**339**	Pn		**Pn**	**15 13 03.4**	**-0.5**
NACB	**Ninganchiao**	**3.02**	**352**			**Pn**	**15 13 05.4**	**-1.6**
HATJ	**Hateruma jima**	**3.31**	**29**	P		**Pn**	**15 13 10.1**	**-0.9**
HATJ				*e*S		**Sn**	**15 13 47.4**	**-1.7**
JYNG	**Yonaguni jima**	**3.38**	**14**	P		**Pn**	**15 13 11.1**	**-0.8**
YOJ	**Yonaguni jima**	**3.40**	**15**	P		**Pn**	**15 13 11.5**	**-0.7**
YOJ	**Yonaguni jima**	**3.40**	**15**	Pn		**Pn**	**15 13 11.8**	**-0.4**
IRIF	**Iriomote-Funau**	**3.52**	**26**	P		**Pn**	**15 13 13.5**	**-0.4**
YHNB	**Yeheng**	**3.54**	**350**	Pn		**Pn**	**15 13 13.7**	**-0.5**
SIPP	**Brgy, Tapao**	**3.55**	**205**	⇓*e*P		**Pn**	**15 13 14.4**	**+0.1**
JKRS	**Kuro-shima**	**3.56**	**31**	P		**Pn**	**15 13 14.2**	**-0.2**
JIJ	**Ishigaki jima**	**3.73**	**31**	P		**Pn**	**15 13 15.8**	**-1.0**
JIJ				*e*S		**Sn**	**15 13 57.7**	**-1.8**
TATO	**Taipei**	**3.82**	**353**	Pn		**Pn**	**15 13 18.2**	**+0.2**
SZP	**Santa**	**3.89**	**203**			**Pn**	**15 13 18.4**	**-0.6**
JISG	**Ishigakijimahi**	**4.00**	**31**	P		**Pn**	**15 13 19.7**	**-0.8**
JISG				S		**Sn**	**15 14 05.7**	**-0.5**
JTJ	**Tarama**	**4.25**	**35**	P		**Pn**	**15 13 23.8**	**0.0**
JTJ				S		**Sn**	**15 14 10.8**	**-1.4**
JIRB	**Irabujima**	**4.66**	**38**	*e*S		**Sn**	**15 14 21.1**	**-1.2**
KNMB	**Chin-men Tao**	**4.70**	**315**	Pn		**Pn**	**15 13 28.1**	**-1.9**
TGY	**Tagaytay City**	**7.10**	**189**	LR		LR	15 17 04.1	
	comp=Z,284nm,20.6s,baz=14,slow=42							
QIZ	**Qiongzhong**	**11.64**	**262**	P		**Pn**	**15 15 04.7**	**-0.7**
QIZ				S		**Sn**	**15 17 15.6**	**+1.4**
QIZ				LR	LR			
	comp=N,270nm,13.7s							
QIZ				LR	LR			
	comp=E,250nm,11.3s							
QIZ				LR	LR			
	comp=Z,280nm,10.2s							
DAV	**Davao City (W)**	**14.

comp=Z,38nm,18.2s,baz=308,slow=36
BBOO Buckleboo 55.32 166 P **P** 15 21 51.0 -0.9
STKA Stephens Creek 55.98 160 P **P** 15 21 55.5 -1.1
comp=Z,1.4nm,0.7s,baz=317,slow=10,SNR=4.3
STKA Stephens Creek 55.98 160 P **P** 15 21 55.7 -0.9
STKA IAmb IAmb 15 23 00.9
comp=Z,4.3nm,1.8s
GEYT Allbeck 57.02 302 LR LR 15 50 09.0
comp=Z,65nm,19.2s,baz=60,slow=40
DZM Mont Dzumac 61.03 132 LR LR 15 44 14.8
comp=Z,64nm,21.6s,baz=348,slow=32
FINES FINESS Array B 74.44 330 LR LR 15 57 52.7
comp=Z,40nm,19.2s,baz=3.5,slow=37
BRTR Keskin Array B 75.60 307 LR LR 16 04 38.6
comp=Z,15nm,18.2s,baz=18,slow=42
NOA NORSAR Array B 81.25 333 LR LR 16 04 05.2
comp=Z,76nm,18.0s,baz=55,slow=38
YKA Yellowknife Ar 85.44 23 P **P** **15 24 56.6 +1.2**
comp=Z,0.4nm,0.6s,baz=318,slow=4.3,SNR=2.1
GERES GERESS Array B 85.66 321 LR LR 16 04 01.2
comp=Z,17nm,21.6s,baz=75,slow=36

*SSNC **02** 15:12:31.0±2.3, 19.91N×76.24W, h5km, ML3.2, MW3.5*
*OSPL **02** 15:12:33.3±1.9, 20.84N×75.36W, h0km±287km, ML3.1*
*JSN **02** 15:12:34.0±1.3, 19.42N×76.23W, h0km±999km, MD3.7*
ISC 02 15:12:29.1±1.1, **19.87N**±0.04×**76.29W**±0.03, **h31**km±12km, **n14**, σ1§58/22, **2D, Cuba region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RCC	**Rio Carpintero**	**0.57**	**78**	*e*P		**Pb**	**15 12 40.6**	**-0.1**
RCC				*e*S		**Sb**	**15 12 47.9**	**-0.9**
RCC				IAML			15 12 48.3	
	comp=E,834nm,0.1s							
RCC				IAML			15 12 48.4	
	comp=N,1μm,0.1s							
LMGC	**Las Mercedes**	**0.70**	**286**	*e*P		**Pn**	**15 12 43.8**	**+0.9**
LMGC				*e*S		**Sb**	**15 12 53.2**	**+0.9**
LMGC				IAML			15 12 54.5	
	comp=N,6μm,0.1s							
LMGC				IAML			15 12 54.9	
	comp=E,3μm,0.1s							
GTMO	**Guantanamo**	**1.10**	**79**	*e*P		**Pb**	**15 12 50.1**	**+0.5**
GTMO				*e*S		**Sn**	**15 13 03.5**	**+1.0**
GTMO				IAML			15 13 06.8	
	comp=E,10μm,0.3s							
GTMO				IAML			15 13 08.3	
	comp=N,12μm,0.4s							
GTBY	**Guantanamo Bay**	**1.11**	**87**	*i* P		**Pn**	**15 12 49.1**	**+0.6**
GTBY				*e*S		**Sb**	**15 13 03.0**	**-0.9**
GTBY				IAML			15 13 03.2	
	comp=Z,588nm,0.2s							
MOAC	**Moa**	**1.47**	**58**↓	*e*P		**Pb**	**15 12 56.4**	**+0.5**
MOAC				*e*S		**Sb**	**15 13 15.0**	**+0.7**
MOAC				IAML			15 13 22.5	
	comp=N,126nm,0.4s							
MOAC				IAML			15 13 23.7	
	comp=E,87nm,0.5s							
BBJ	**Bamboo Saint A**	**1.75**	**212**	*i* P		**Pb**	**15 12 59.1**	**-1.5**
GWJ	**Greenwich**	**1.84**	**193**↓	*i* P		**Pn**	**15 13 00.0**	**+1.3**
STH	**Stony Hill**	**1.85**	**196**	*i* P		**Pn**	**15 13 00.3**	**+1.5**
STH				*i* S		**Sn**	**15 13 18.6**	**-2.6**
CCCC	**Cccc**	**1.91**	**314**	*e*P		**Pn**	**15 12 58.7**	**-0.9**
CCCC				*e*S		**Sn**	**15 13 19.3**	**-3.4**
CCCC				IAML			15 13 22.8	
	comp=N,88nm,0.4s							
CCCC				IAML			15 13 22.9	
	comp=E,169nm,0.3s							
MASC	**Masc**	**1.96**	**81**	*e*P		**Pn**	**15 13 00.8**	**+0.6**
MASC				*e*S		**Sn**	**15 13 23.3**	**-0.4**
MASC				IAML			15 13 29.7	
	comp=N,94nm,0.3s							
MASC				IAML			15 13 30.0	
	comp=E,140nm,0.3s							
MCJ	**Malvern**	**2.35**	**215**	*i* P		**Pn**	**15 13 07.7**	**+2.0**
MCJ				*i* S		**Sn**	**15 13 34.4**	**+1.0**
MGV	**Manicaragua**	**4.11**	**303**	*e*P		**Pn**	**15 13 32.5**	**+2.7**
SDDR	**Presa de Saban**	**4.80**	**100**	*i* P		**Pn**	**15 13 38.5**	**-0.9**
SDDR				IAML			15 14 36.2	
	comp=Z,19nm,2.0s							
SC01	**Santiago de lo**	**5.26**	**94**	*e*S		Sn	15 14 31.9	-13

*ROM **02** 15:12:30.0±0.1, 44.339N±0.006×7.36E±0.01, h8km, ML2.4/24, Error ellipse: s-maj=1.0km s-min=0.2km az=236.0*
*LDG **02** 15:12:30.8±0.1, 44.36N×7.37E, h2km, Md3.0/2, Ml2.9/29, Error ellipse: s-maj=1.4km s-min=1.0km az=66.0*
*STR **02** 15:12:30.6±0.4, 44°N±1°×±°, h1km±2km, MLv2.5/7, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*GEN **02** 15:12:30.7, 44.34N×7.36E, h4km±1km, Ml2.4*
ISC 02 15:12:30.6±0.8, **44.36N**±0.01×**7.38E**±0.01, **h8**km±6km, **n109**, σ1§49/188, **Northern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STV	**Sant Anna di V**	**0.12**	**198**	P		**Pg**	**15 12 32.9**	**-0.4**
STV				S		**Sg**	**15 12 34.2**	**-1.0**
STV	**Sant Anna di V**	**0.12**	**198**	P		**Pg**	**15 12 32.9**	**-0.4**
STV				S		**Sg**	**15 12 34.2**	**-1.0**
STV				AML		AML		
	comp=E,2505μm,1.4s							
STV				AML		AML		
	comp=N,2270μm,0.9s							
ENR	**Entracque**	**0.14**	**167**	P		**Pg**	**15 12 33.3**	**-0.3**
ENR				S		**Sg**	**15 12 34.9**	**-0.8**
ENR	**Entracque**	**0.14**	**167**	P		**Pg**	**15 12 33.3**	**-0.3**
ENR				S		**Sg**	**15 12 34.9**	**-0.8**
ENR				AML		AML		
	comp=N,31300μm,0.4s							
ENR				AML		AML		
	comp=E,25350μm,0.2s							
ENR				AML		AML		
	comp=E,25350μm,0.2s							
ENR				AML		AML		
	comp=N,31300μm,0.4s							
DOI	**San Damiano**	**0.17**	**327**	P		**Pg**	**15 12 34.8**	**+0.6**
DOI				S		**Sg**	**15 12 37.4**	**+0.7**
DOI				AML		AML		
	comp=N,6550μm,0.2s							
DOI				AML		AML		
	comp=E,6365μm,0.9s							
PZZ	**Stroppo**	**0.24**	**308**	P		**Pg**	**15 12 35.6**	**+0.2**
PZZ				S		**Sg**	**15 12 39.2**	**+0.5**
PZZ	**Stroppo**	**0.24**	**308**	P		**Pg**	**15 12 35.5**	**+0.2**
PZZ				S		**Sg**	**15 12 39.3**	**+0.7**
PZZ				AML		AML		
	comp=E,1785μm,0.4s							
PZZ				AML		AML		
	comp=N,2830μm,0.3s							
ISO	**Isola**	**0.29**	**233**	Pg		**Pg**	**15 12 36.4**	**-0.1**
ISO				Sg		**Sg**	**15 12 39.9**	**-0.5**
GBOS	**Grotte di Boss**	**0.35**	**109**	P		**Pg**	**15 12 37.7**	**+0.1**
GBOS				S		**Sg**	**15 12 42.8**	**+0.7**
GBOS	**Grotte di Boss**	**0.35**	**109**	P		**Pg**	**15 12 37.8**	**+0.2**
GBOS				AML		AML		
	comp=E,861μm,0.4s							
GBOS				AML		AML		
	comp=N,834μm,0.8s							
TURF	**col de Turini**	**0.39**	**178**	Pg		**Pg**	**15 12 38.2**	**0.0**
TURF				Sg		**Sg**	**15 12 42.7**	**-0.5**
SAOF	**Saorge**	**0.40**	**161**	P		**Pg**	**15 12 38.2**	**-0.1**
SAOF	**Saorge**	**0.40**	**161**	AML		AML		
	comp=N,961μm,0.4s							
SAOF				AML		AML		
	comp=E,834μm,0.4s							
SAOF	**Saorge**	**0.40**	**161**	Pg		**Pg**	**15 12 38.2**	**-0.1**
SAOF				Sg		**Sg**	**15 12 43.2**	**-0.3**
SURF	**Saint Ours**	**0.42**	**287**	Pg		**Pg**	**15 12 38.9**	**0.0**
SURF				Sg		**Sg**	**15 12 45.7**	**+1.3**
BHB	**Bricherasio**	**0.49**	**350**	P		**Pg**	**15 12 40.3**	**+0.3**
BHB				S		**Sg**	**15 12 47.1**	**+0.6**
BHB	**Bricherasio**	**0.49**	**350**	P		**Pg**	**15 12 40.3**	**+0.3**
BHB				S		**Sg**	**15 12 47.3**	**+0.8**
BHB				AML		AML		
	comp=E,574μm,0.3s							
BHB				AML		AML		
	comp=N,627μm,0.4s							
SBF	**Sospel**	**0.50**	**175**	*e*Pg		**Pg**	**15 12 40.2**	**0.0**
SBF				*e*Sg		**Sg**	**15 12 46.9**	**+0.1**
	comp=N,205nm,0.2s							

ESCA	**l'Escarene**	**0.53**	**180**	Pg		**Pg**	**15 12 41.0**	**+0.2**
ESCA				Sg		**Sg**	**15 12 47.5**	**-0.2**
RORO	**Rocca Rossa**	**0.55**	**116**	P		**Pg**	**15 12 41.1**	**-0.1**
RORO				S		**Sg**	**15 12 49.2**	**+0.7**
RORO	**Rocca Rossa**	**0.55**	**116**	P		**Pg**	**15 12 41.1**	**-0.1**
RORO				S		**Sg**	**15 12 49.2**	**+0.7**
RORO				AML		AML		
	comp=N,1130μm,0.5s							
RORO				AML		AML		
	comp=E,706μm,0.8s							
NEGI	**Seborga**	**0.56**	**155**	P		**Pg**	**15 12 41.5**	**+0.1**
NEGI				S		**Sg**	**15 12 48.9**	**0.0**
NEGI	**Seborga**	**0.56**	**155**	P		**Pg**	**15 12 41.6**	**+0.1**
NEGI				S		**Sg**	**15 12 49.0**	**+0.2**
NEGI				AML		AML		
	comp=N,732μm,0.4s							
NEGI				AML		AML		
	comp=E,788μm,0.4s							
MBDF	**Montbardon**	**0.57**	**310**	*e*Pg		**Pg**	**15 12 41.7**	**+0.1**
MBDF				*e*Sg		**Sg**	**15 12 49.5**	**+0.4**
	comp=E,259nm,0.3s							
IMI	**Imperia**	**0.58**	**140**	P		**Pg**	**15 12 41.8**	**-0.1**
IMI				S		**Sg**	**15 12 49.7**	**+0.2**
IMI	**Imperia**	**0.58**	**140**	P		**Pg**	**15 12 41.8**	**-0.1**
IMI				S		**Sg**	**15 12 49.9**	**+0.4**
IMI				AML		AML		
	comp=N,792μm,0.2s							
IMI				AML		AML		
	comp=E,635μm,0.3s							
OGAG	**Argentiere**	**0.61**	**279**	Pg		**Pn**	**15 12 45.0**	**-0.6**
OGAG				Sg		**Sn**	**15 12 55.5**	**-0.3**
MON	**Monaco**	**0.63**	**177**	Pg		**Pg**	**15 12 43.1**	**+0.4**
MON				Sg		**Sg**	**15 12 51.3**	**+0.4**
CALF	**Calern**	**0.69**	**209**	Pg		**Pg**	**15 12 43.9**	**0.0**
CALF				Sg		**Sg**	**15 12 52.9**	**0.0**
QLNO	**Quiliano**	**0.70**	**93**	P		**Pg**	**15 12 44.3**	**+0.3**
QLNO				S		**Sb**	**15 12 54.9**	**+0.1**
QLNO				AML		AML		
	comp=N,472μm,0.3s							
QLNO				AML		AML		
	comp=E,602μm,0.4s							
RRL	**Rocca Remolon**	**0.70**	**323**	P		**Pg**	**15 12 44.4**	**+0.3**
RRL				S		**Sg**	**15 12 53.5**	**+0.3**
RRL	**Rocca Remolon**	**0.70**	**323**	P		**Pg**	**15 12 44.4**	**+0.3**
RRL				S		**Sg**	**15 12 54.3**	**+1.0**
RRL				AML		AML		
	comp=N,268μm,0.5s							
RRL				AML		AML		
	comp=E,408μm,0.7s							
RRL				AML		AML		
	comp=N,268μm,0.5s							
FINB	**Finale Ligure**	**0.70**	**105**	P		**Pg**	**15 12 44.2**	**+0.1**
FINB				S		**Sg**	**15 12 54.0**	**+0.7**
FINB				AML		AML		
	comp=E,706μm,0.3s							
FINB				AML		AML		
	comp=N,433μm,0.7s							
FINB				AML		AML		
	comp=E,705μm,0.3s							
FINB				AML		AML		
	comp=N,432μm,0.7s							
RSP	**Reno Superiore**	**0.79**	**354**	P		**Pg**	**15 12 45.3**	**-0.6**
RSP				S		**Sg**	**15 12 55.5**	**-0.7**
RSP	**Reno Superiore**	**0.79**	**354**	P		**Pg**	**15 12 45.3**	**-0.6**
RSP				AML		AML		
	comp=E,156μm,1.1s							
RSP				AML		AML		
	comp=N,157μm,1.3s							
MONC	**Moncucco Torin**	**0.81**	**29**	AML		AML		
MONC	comp=N,582μm,0.2s			AML		AML		
	comp=E,770μm,0.2s							
OGDI	**Digne**	**0.81**	**252**	Pg		**Pb**	**15 12 47.9**	**+0.8**
OGDI				Sg		**Sb**	**15 12 59.1**	**+0.9**
EILF	**Villa Eilenroc**	**0.83**	**192**	Pg		**Pg**	**15 12 46.4**	**-0.1**
EILF				Sg		**Sg**	**15 12 57.1**	**-0.2**
ROTM	**Rocchetta Tana**	**0.85**	**55**	P		**Pn**	**15 12 48.6**	**-0.3**
ROTM				S		**Sn**	**15 13 00.9**	**-0.7**
ROTM	**Rocchetta Tana**	**0.85**	**55**	AML		AML		
	comp=E,1510μm,1.0s							
ROTM				AML		AML		
	comp=N,2055μm,1.4s							
BNI	**Bardonecchia**	**0.85**	**324**	P		**Pg**	**15 12 47.1**	**+0.1**
BNI				S		**Sb**	**15 12 59.1**	**-0.3**
BNI				AML		AML		
	comp=E,238μm,0.5s							
BNI				AML		AML		
	comp=N,92μm,1.0s							
PCP	**Piancastagn**	**0.86**	**77**	P		**Pg**	**15 12 47.3**	**+0.3**
PCP				S		**Sb**	**15 12 59.3**	**-0.1**
PCP	**Piancastagn**	**0.86**	**77**	P		**Pg**	**15 12 47.0**	**-0.1**
PCP				S		**Sb**	**15 12 59.7**	**+0.3**
PCP				AML		AML		
	comp=E,276μm,1.4s							
PCP				AML		AML		
	comp=N,354μm,0.4s							
PCP				AML		AML		
	comp=E,277μm,1.4s							
PCP				AML		AML		
	comp=N,353μm,0.4s							
FRF	**La Foret Royal**	**0.96**	**214**	*e*Pg		**Pg**	**15 12 48.5**	**-0.5**
FRF	**La Foret Royal**	**0.96**	**214**	*e*Pn		**Pb**	**15 12 49.8**	**+0.3**
FRF				*e*Sg		**Sg**	**15 13 01.5**	**+0.1**
	comp=N,113nm,0.2s							
FRF				*e*Sn		**Sb**	**15 13 03.2**	**+0.9**
OGMO	**Fort Saint-Gob**	**0.98**	**330**	Pg		**Pb**	**15 12 50.2**	**+0.2**
OGMO				Sg		**Sb**	**15 13 04.0**	**+0.9**
LSD	**Lago del Serru**	**1.11**	**351**	P		**Pg**	**15 12 50.7**	**-1.3**
LSD				S		**Sg**	**15 13 06.0**	**-0.5**
LSD	**Lago del Serru**	**1.11**	**351**	P		**Pg**	**15 12 50.7**	**-1.3**
LSD				AML		AML		
	comp=E,216μm,0.2s							
LSD				AML		AML		
	comp=N,146μm,0.3s							
TRAV	**Traversella**	**1.18**	**13**	P		**Pg**	**15 12 51.8**	**-1.5**
TRAV				AML		AML		
	comp=N,71μm,0.4s							
TRAV				AML		AML		
	comp=E,81μm,0.3s							
TRAV				AML		AML		
	comp=N,71μm,0.4s							
LMR	**La Mourre**	**1.20**	**212**	*e*Pg		**Pg**	**15 12 53.1**	**-0.6**
LMR				*e*Sg		**Sg**	**15 13 09.0**	**-0.3**
	comp=N,138nm,0.2s							
ORIF	**Oris-en-Rattie**	**1.21**	**298**	*e*Pn		**Pg**	**15 12 53.3**	**-0.4**
ORIF				*e*Sn		**Sg**	**15 13 09.6**	**+0.2**
	comp=N,89nm,0.4s							
ORIF	**Oris-en-Rattie**	**1.21**	**298**	P		**Pg**	**15 12 52.8**	**-0.9**
ORIF				AML		AML		
	comp=E,186μm,0.7s							
ORIF				AML		AML		
	comp=N,140μm,0.4s							
ORIF	**Oris-en-Rattie**	**1.21**	**298**	P		**Pg**	**15 12 53.4**	**-0.4**
ORIF				Pg		**Pn**	**15 12 54.1**	**+0.2**
ORIF	**Oris-en-Rattie**	**1.21**	**298**	Sg		**Sn**	**15 13 10.6**	**+0.1**
MLYF	**Mely**	**1.22**	**253**	Pn		**Pn**	**15 12 55.5**	**+1.5**
MLYF				Sn		**Sn**	**15 13 12.6**	**+1.9**
LPG	**La Plagne**	**1.22**	**339**	*e*Pn		**Pg**	**15 12 53.5**	**-0.6**
LPG				*e*Sn		**Sg**	**15 13 09.7**	**-0.2**
	comp=N,162nm,0.6s							
GDM	**Grand'Maison**	**1.23**	**314**	Pg		**Pb**	**15 12 54.5**	**+0.3**
GDM				Sg		**Sb**	**15 13 10.8**	**+0.4**
LPL	**La Plagne**	**1.24**	**339**	*e*Pn		**Pg**	**15 12 53.9**	**-0.6**
LPL				*e*Sn		**Sg**	**15 13 10.2**	**-0.4**
	comp=N,77nm,0.4s							
CIRO	**Champorcher**	**1.25**	**6**	AML		AML		
	comp=N,42μm,0.3s							
CIRO				AML		AML		
	comp=E,54μm,1.0s							
BSTF	**la Bastide-des**	**1.34**	**250**	Pn		**Pg**	**15 12 57.1**	**+0.9**
BSTF				Sn		**Sn**	**15 13 15.2**	**+1.6**
SMRF	**Simiane la Rot**	**1.35**	**254**	*e*P		**Pg**	**15 12 57.0**	**+0.5**
SMRF				*e*Sn		**Sb**	**15 13 12.8**	**-0.9**
	comp=E,82nm,0.3s							
ARTF	**Artigues**	**1.37**	**236**	Pn		**Pb**	**15 12 56.8**	**+0.2**
ARTF				Sg		**Sg**	**15 13 15.4**	**+0.7**
RUSF	**Rustrel**	**1.43**	**254**	Pn		**Pg**	**15 12 58.3**	**+0.4**
RUSF				Sn		**Sg**	**15 13 17.5**	**+1.0**
RSL	**Roselend**	**1.43**	**338**	Pn		**Pg**	**15 12 58.7**	**+0.7**
GRN	**Grenoble**	**1.46**	**308**	Pn		**Pb**	**15 12 58.3**	**+0.2**
GRN				Sn		**Sg**	**15 13 18.4**	**+0.9**
MSSA	**Maissana**	**1.54**	**91**	P		**Pn**	**15 12 57.7**	**-0.7**
MSSA				AML		AML		
	comp=E,48μm,0.6s							
MSSA				AML		AML		
	comp=N,48μm,0.8s							
ARBF	**Arbois**	**1.71**	**240**	Pn		**Pb**	**15 13 01.9**	**-0.5**
ARBF				Sn		**Sb**	**15 13 24.0**	**0.0**
OGSM	**Saint Maurice**	**1.73**	**317**	Pn		**Pb**	**15 13 02.1**	**-0.5**
OGSM				Sn		**Sb**	**15 13 24.4**	**-0.1**
ASEAF	**Site Antares,**	**1.80**	**210**	Pn		**Pn**	**15 13 02.4**	**+0.8**
ASEAF				Sn		**Sn**	**15 13 25.2**	**+0.8**
GRAM	**Graiana**	**1.93**	**85**	P		**Pn**	**15 13 04.5**	**+0.6**
GRAM				AML		AML		
	comp=N,113μm,0.3s							
GRAM				AML		AML		
	comp=E,98μm,0.4s							
VIVF	**Saint-Julien-l**	**2.00**	**285**	*e*P		**Pn**	**15 13 06.0**	**+1.3**
VIVF				*e*Sn		**Sn**	**15 13 28.0**	**-1.9**
	comp=E,20nm,0.2s							
EQUI	**Equi**	**2.00**	**95**	P		**Pn**	**15 13 04.9**	**+0.1**
EQUI				S		**Sn**	**15 13 29.7**	**-0.3**
EQUI				AML		AML		
	comp=E,21μm,0.3s							
EQUI				AML		AML		
	comp=N,32μm,1.0s							
PGF	**Pioggiola**	**2.16**	**146**	*e*Pn		**Pn**	**15 13 05.7**	**-1.3**
PGF				*e*Sn		**Sn**	**15 13 31.6**	**-2.5**
	comp=N,17nm,0.2s							
PGF	**Pioggiola**	**2.16**	**146**	AML		AML		
	comp=E,38μm,0.2s							
PGF				AML		AML		
	comp=N,55μm,1.1s							
PGF	**Pioggiola**	**2.16**	**146**	Pn		**Pn**	**15 13 05.8**	**-1.2**
SSB	**Saint Sauveur**	**2.22**	**295**	Pn		**Pn**	**15 13 08.9**	**+1.2**
SSB				Sn		**Sn**	**15 13 36.6**	**+1.2**
MAIM	**Mastiano**	**2.29**	**100**	P		**Pn**	**15 13 08.9**	**+0.3**
CABF	**La Chapelle**	**2.43**	**338**	*e*P		**Pn**	**15 13 12.2**	**+1.5**
CABF	**La Chapelle**	**2.43**	**338**	*e*Pg		**Pg**	**15 13 16.6**	**-0.5**
CABF				*e*Sn		**Sn**	**15 13 38.2**	**-2.4**
CABF				*e*Sg		**Sg**	**15 13 47.0**	**-1.6**
	comp=N,6.0nm,0.4s							
TRBF	**Trabuc cave**	**2.47**	**265**	Pn		**Pn**	**15 13 11.6**	**+0.5**
TRBF				Sn		**Sn**	**15 13 41.0**	**-0.5**
LASF	**Ste Croix**	**2.55**	**265**	*e*Pn		**Pn**	**15 13 11.7**	**-0.6**
LASF	**Ste Croix**	**2.55**	**265**	*e*P		**Pn**	**15 13 14.0**	**+1.7**
LASF				*e*Sn		**Sn**	**15 13 41.2**	**-2.3**
	comp=N,5.2nm,0.3s							
AJAC	**Base Areonaval**	**2.63**	**157**	Pn		**Pn**	**15 13 13.6**	**+0.2**
AJAC				S		**Sn**	**15 13 43.2**	**-2.4**
SMPL	**Sampolo**	**2.66**	**148**	Pn		**Pn**	**15 13 14.0**	**+0.2**
SMPL				Sn		**Sn**	**15 13 43.8**	**-2.4**
LBL	**Lubilhac**	**3.07**	**288**	Pn		**Pn**	**15 13 20.7**	**+1.2**
LBL	**Lubilhac**	**3.07**	**288**	Sn		**Sn**	**15 13 56.7**	**+0.3**
MEZF	**Signal de Mont**	**3.38**	**314**	*e*P		**Pn**	**15 13 25.6**	**+1.9**
SMF				*e*Sn		**Sn**	**15 14 01.1**	**-2.8**
	comp=N,1.1nm,0.2s							
SMF				*e*Sg		**Sg**	**15 14 17.0**	**-2.0**
	comp=N,13nm,0.4s							
DAVA	**Damuels**	**3.41**	**30**	*e*Pn		**Pn**	**15 13 26.7**	**+2.5**
	comp=N,1.6nm,0.2s							
DAVA				*i* Sn		**Sn**	**15 14 08.5**	**+3.6**
	comp=N,4.9nm,0.3s							
HINF	**Hinteralfeld**	**3.48**	**354**	*e*P		**Pn**	**15 13 26.1**	**+1.0**
HINF				*e*Sn		**Sn**	**15 14 03.7**	**-2.7**
	comp=N,2.4nm,0.3s							
FETA	**Feichten**	**3.55**	**40**	*i* Pn		**Pn**	**15 13 29.4**	**+3.3**
	comp=N,0.3nm,0.2s							
FETA				*e*Sn		**Sn**	**15 14 11.6**	**+3.2**
	comp=N,1.6nm,0.3s							
HAU	**Haudompre**	**3.72**	**349**	*e*P		**Pn**	**15 13 29.2**	**+0.9**
HAU				*e*Sn		**Sn**	**15 14 09.0**	**-3.3**
	comp=N,3.9nm,0.3s							
AVF	**Avril sur Loir**	**3.73**	**312**	*e*P		**Pn**	**15 13 30.4**	**+2.0**
AVF				*e*Sn		**Sn**	**15 14 09.4**	**-3.1**
	comp=N,1.2nm,0.3s							
LOR	**Lormes**	**3.81**	**321**	*e*P		**Pn**	**15 13 31.6**	**+2.0**
	baz=141							
LOR				*e*Sn		**Sn**	**15 14 11.8**	**-2.8**
	comp=N,2.9nm,0.3s							
SSF	**Saint Saulge**	**3.83**	**316**	*e*P		**Pn**	**15 13 31.8**	**+2.0**
SSF				*e*Sn		**Sn**	**15 14 11.3**	**-3.7**
	comp=N,3.9nm,0.3s							
CAF	**Calviac**	**3.83**	**280**	*e*P		**Pn**	**15 13 32.4**	**+2.4**
CAF				*e*Sn		**Sn**	**15 14 12.1**	**-3.1**
	comp=N,2.8nm,0.3s							
MTLF	**Montolieu**	**3.87**	**257**	*e*P		**Pn**	**15 13 31.9**	**+1.5**
MTLF				*e*Sn		**Sn**	**15 14 12.4**	**-3.7**
	comp=N,2.9nm,0.3s							
BGF	**Bois d'Agland**	**3.87**	**306**	*e*P		**Pn**	**15 13 32.6**	**+2.1**
CDF	**Champ du Feu**	**4.05**	**359**	*e*Pn		**Pn**	**15 13 32.1**	**-0.9**
CDF				*e*Sn		**Sn**	**15 14 16.4**	**-4.3**
	comp=N,2.2nm,0.3s							
TCF	**Toulx Ste Croi**	**4.12**	**300**	*e*P		**Pn**	**15 13 36.2**	**+2.3**
TCF				*e*Sn		**Sn**	**15 14 19.7**	**-2.7**
	comp=N,4.4nm,0.6s							
WTTA	**Wattenberg**	**4.16**	**44**	*i* Pn		**Pn**	**15 13 36.5**	**+1.9**
	comp=N,1.3nm,0.2s							
WTTA				*e*Sn		**Sn**	**15 14 25.8**	**+2.3**
	comp=N,2.6nm,0.3s							
SFTF	**Sexfontaines**	**4.17**	**338**	*e*P		**Pn**	**15 13 36.3**	**+1.7**
	baz=158							
SFTF				*e*Sn		**Sn**	**15 14 20.1**	**-3.5**
	comp=N,3.2nm,0.2s							
PAGF	**Fort de Pagny**	**4.35**	**345**	*e*P		**Pn**	**15 13 38.6**	**+1.6**
	baz=164							
PAGF				*e*Sn		**Sn**	**15 14 23.9**	**-4.0**
	comp=N,2.0nm,0.3s							
HYF	**Humbligny**	**4.41**	**313**	*e*P		**Pn**	**15 13 40.3**	**+2.5**
MEZF	**Maizieres J'vi**	**4.44**	**340**	*e*Pn		**Pn**	**15 13 36.9**	**-1.4**
MEZF				*e*Sn		**Sn**	**15 14 25.7**	**-4.5**
	comp=N,10nm,0.5s							
LFF	**La Frestale**	**4.77**	**279**	*e*P		**Pn**	**15 13 45.8**	**+3.0**
MFF	**Saint Martin d**	**5.75**	**296**	*e*P		**Pn**	**15 13 59.3**	**+3.1**
MFF				*e*Sn		**Sn**	**15 14 58.2**	**-4.1**
	comp=N,3.2nm,0.4s							
LDF	**La Druitiere**	**6.69**	**312**	*e*P		**Pn**	**15 14 11.9**	**+2.8**
GRR	**Gorron**	**6.98**	**308**	*e*P		**Pn**	**15 14 15.5**	**+2.5**
FLN	**La Foliniere**	**6.98**	**312**	*e*P		**Pn**	**15 14 15.7**	**+2.6**
	baz=132							

*IDC **02** 15:15:05.9±6.7, 4.11S×128.12E, h222km±85km, mb2.8/2, mb1 3.1/4, mb1mx2.8/29, mbtmp3.6/4, Error ellipse: s-maj=107.1km s-min=17.5km az=82.0*
*DJA **02** 15:15:07.6±0.9, 4°S±9°×12°8E±°, h193km±5km, M3.1/10, MLv3.1/10*
ISC 02 15:15:05.5±1.1, **4.19S**±0.10×**128.07E**±0.08, **h200**km, **n11**, σ1§68/13, **Ban

BFZ	**Birch Farm**	**23.14**	**190**	P	**P**	**15 42 56.5**	**+1.1**
QRZ	**Quartz Range**	**24.11**	**197**	P	**P**	**15 43 04.2**	**+0.2**
NNZ	**Nelson**	**24.25**	**195**	P	**P**	**15 43 04.8**	**-0.4**
TUWZ	**Tuamarina**	**24.32**	**194**	P	**P**	**15 43 05.1**	**-0.8**
BSWZ	**Blackbirch Sta**	**24.61**	**194**	P	**P**	**15 43 08.8**	**+0.4**
THZ	**Tophouse**	**24.88**	**195**	P	**P**	**15 43 10.1**	**-0.8**
LTZ	**Lake Taylor**	**26.00**	**196**	P	**P**	**15 43 18.4**	**-2.3**
LTZ				IAmb	IAmb	15 44 04.6	
	comp=Z,52nm,1.8s						
OXZ	**Oxford**	**26.57**	**196**	P	**P**	**15 43 24.1**	**-1.6**
OXZ				IAmb	IAmb	15 44 11.1	
	comp=Z,34nm,1.7s						
RPZ	**Rata Peaks**	**27.19**	**197**	P	**P**	**15 43 36.0**	**+4.8**
	comp=Z,2.0nm,0.5s,baz=325,slow=4.9,SNR=1.6						
RPZ	**Rata Peaks**	**27.19**	**197**	P	**P**	**15 43 29.0**	**-2.2**
RPZ				IAmb	IAmb	15 44 03.7	
	comp=Z,33nm,1.5s						
FOZ	**Fox Glacier**	**27.38**	**199**	P	**P**	**15 43 30.7**	**-2.0**
LBZ	**Lake Benmore**	**28.05**	**197**	P	**P**	**15 43 35.7**	**-2.9**
LBZ				IAmb	IAmb	15 45 07.0	
	comp=Z,28nm,1.3s						
ODZ	**Otahua Downs**	**28.53**	**196**	P	**P**	**15 43 40.9**	**-1.9**
ODZ				IAmb	IAmb	15 45 11.1	
	comp=Z,30nm,1.4s						
WKZ	**Wanaka**	**28.80**	**199**	P	**P**	**15 43 43.4**	**-1.8**
MLZ	**Mavora Lakes**	**29.56**	**199**	P	**P**	**15 43 51.3**	**-0.4**
MLZ				IAmb	IAmb	15 45 25.1	
	comp=Z,49nm,1.4s						
CAN	**Canberra**	**33.62**	**232**	P	**P**	**15 44 26.0**	**-0.5**
COEN	**Coen**	**37.01**	**270**	P	**P**	**15 44 56.5**	**+1.8**
COEN				IAmb	IAmb	15 45 35.2	
	comp=Z,42nm,1.5s						
TOO	**Toolangi**	**37.09**	**231**	P	**P**	**15 44 55.6**	**+0.4**
TOO				IAmb	IAmb	15 46 32.7	
	comp=Z,38nm,1.6s						
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**15 45 07.9**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=57,slow=14,SNR=6.5						
STKA	**Stephens Creek**	**38.54**	**241**	P	**P**	**15 45 07.3**	**+0.4**
BBOO	**Buckleboo**	**43.32**	**241**	P	**P**	**15 45 45.0**	**+0.2**
BBOO				IAmb	IAmb	15 47 07.8	
	comp=Z,32nm,1.7s						
WR0	**Warramunga Arr**	**44.34**	**260**	P	**P**	**15 45 53.1**	**+0.3**
WR0				IAmb	IAmb	15 46 19.1	
	comp=Z,26nm,2.0s						
WB0	**Warramunga Arr**	**44.50**	**260**	P	**P**	**15 45 54.2**	**+0.2**
WB2	**Warramunga Arr**	**44.52**	**260**	P	**P**	**15 45 54.0**	**-0.2**
WRA	**Warramunga Arr**	**44.53**	**260**	P	**P**	**15 45 54.6**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=97,slow=7.2,SNR=43						
WRA				PcP	**PcP**	**15 47 24.1**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=91,slow=3.3,SNR=2.1						
AS31	**Alice Springs**	**44.70**	**254**	P	**P**	**15 45 55.9**	**+0.4**
ASAR	**Alice Springs**	**44.70**	**254**	P	**P**	**15 45 56.3**	**+0.8**
	comp=Z,6.6nm,0.5s,baz=87,slow=8.9,SNR=152						
ASAR				PcP	**PcP**	**15 47 24.7**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=104,slow=3.9,SNR=2.4						
ASAR				ScP	**ScP**	**15 50 22.0**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=102,slow=3.7,SNR=2.1						
MTN	**Manton Dam**	**48.70**	**268**	P	**P**	**15 46 25.9**	**+0.2**
MTN				IAmb	IAmb	15 46 51.6	
	comp=Z,60nm,1.8s						
FORT	**Forrest**	**49.92**	**245**	P	**P**	**15 46 34.1**	**-0.4**
FORT				IAmb	IAmb	15 47 17.1	
	comp=Z,15nm,1.1s						
KNRA	**Kununurra**	**50.39**	**264**	P	**P**	**15 46 38.2**	**+0.1**
KNRA				IAmb	IAmb	15 48 04.8	
	comp=Z,78nm,1.9s						
PETK	**Petropavlovsk-**	**73.66**	**345**	P	**P**	**15 49 07.1**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=140,slow=8.1,SNR=2.6						
NVAR	**Mina Array Bea**	**79.49**	**44**	P	**P**	**15 49 40.2**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=221,slow=8.4,SNR=9.1						
U15A	**North Rim**	**82.59**	**48**	P	**P**	**15 49 56.8**	**+0.3**
F10A	**Beach Ranch, E**	**84.26**	**38**	P	**P**	**15 50 04.5**	**+0.1**
ILAR	**Eielson Array**	**85.91**	**13**	P	**P**	**15 50 10.9**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=221,slow=4.7,SNR=9.2						
TX31	**Lajitas Ar. Si**	**86.08**	**58**	P	**P**	**15 50 14.5**	**+1.0**
TX31				IAmb	IAmb	15 50 15.6	
	comp=Z,10nm,1.0s						
TX32	**Lajitas Array**	**86.08**	**58**	P	**P**	**15 50 14.5**	**+1.0**
TXAR	**Lajitas Array**	**86.08**	**58**	P	**P**	**15 50 14.3**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=222,slow=5.8,SNR=18						
PDAR	**Pinedale Array**	**87.42**	**43**	P	**P**	**15 50 19.7**	**0.0**
	comp=Z,0.7nm,0.6s,baz=263,slow=2.4,SNR=5.2						
ARCES	**ARCESS Array B**	**126.30**	**350**	PKP	**PKPdf**	**15 56 29.0**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=11,slow=1.8,SNR=1.4						
BRTR	**Keskin Array B**	**144.72**	**315**	PKP	**PKPdf**	**15 57 04.2**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=145,slow=4.5,SNR=3.6						
CLL	**Collm**	**145.44**	**347**	*i* PKPbc	**PKPab**	**15 57 07.7**	**-0.5**
	comp=Z,4.0nm,0.7s						
GERES	**GERESS Array B**	**147.59**	**345**	PKPbc	**PKPbc**	**15 57 12.5**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=26,slow=3.4,SNR=11						

NEIC ***02*** *15:53:48.3±1.2, 19.27N±0.09×67.01W±0.04, h22km±16km, Error ellipse: s-maj=13.1km s-min=5.7km az=187.0*
RSPR ***02*** *15:53:49.1, 19.33N×67.04W, h8km±5km, MD3.0/9*

ISC 02 15:53:46.8±1.6, 19.35N±0.08×66.97W±0.04, h25km, n40, σ0.88/49, 11C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.89**	**189**	*e*S	**Sn**	**15 54 15.6**	**-0.4**
AGPR	**Aguadilla, PR**	**0.89**	**189**	↑*e*P	**Pb**	**15 54 03.8**	**+0.1**
AGPR	**Aguadilla, PR**	**0.89**	**189**		**Sn**	**15 54 15.6**	**-0.4**
AGPR	**Aguadilla, PR**	**0.89**	**189**		**Pb**	**15 54 03.1**	**-0.6**
EMPR	**Esperanza - Ma**	**0.97**	**154**	*e*S	**Sn**	**15 54 18.9**	**+1.1**
EMPR	**Esperanza - Ma**	**0.97**	**154**	↑*e*P	**Pb**	**15 54 06.0**	**+1.1**
EMPR	**Esperanza - Ma**	**0.97**	**154**		**Pb**	**15 54 06.0**	**+1.1**
AOPR	**Arecibo Observ**	**1.02**	**168**	*e*S	**Sn**	**15 54 19.8**	**+0.6**
AOPR	**Arecibo Observ**	**1.02**	**168**	↑*e*P	**Pb**	**15 54 06.0**	**+0.1**
AOPR	**Arecibo Observ**	**1.02**	**168**		**Pb**	**15 54 05.1**	**-0.8**
AOPR	**Arecibo Observ**	**1.02**	**168**		**Sn**	**15 54 19.8**	**+0.6**
IDE	**Isla Desecheo**	**1.07**	**206**	*e*S	**Sn**	**15 54 20.0**	**-0.4**
IDE	**Isla Desecheo**	**1.07**	**206**	↑*e*P	**Pb**	**15 54 06.3**	**-0.5**
IDE	**Isla Desecheo**	**1.07**	**206**		**Pb**	**15 54 06.3**	**-0.5**
IDE					**Sn**	**15 54 20.0**	**-0.4**
LSP	**Las Mesas**	**1.18**	**185**	*e*S	**Sb**	**15 54 23.3**	**-0.1**
LSP	**Las Mesas**	**1.18**	**185**	↑*e*P	**Pb**	**15 54 08.2**	**-0.3**
LSP	**Las Mesas**	**1.18**	**185**		**Pb**	**15 54 08.2**	**-0.3**
LSP					**Sb**	**15 54 23.3**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.35**	**186**	‖*e*P	**Pb**	**15 54 10.6**	**-0.8**
CRPR	**Cabo Rojo, PR**	**1.35**	**186**	*e*S	**Sn**	**15 54 27.4**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.35**	**186**		**Pb**	**15 54 10.6**	**-0.8**
CRPR					**Sn**	**15 54 27.4**	**+0.3**
OBIP	**Obispado Ponce**	**1.35**	**165**	↑*e*P	**Pb**	**15 54 10.7**	**-0.8**
OBIP	**Obispado Ponce**	**1.35**	**165**	*e*S	**Sb**	**15 54 27.6**	**-0.7**
OBIP	**Obispado Ponce**	**1.35**	**165**		**Pb**	**15 54 10.7**	**-0.8**
OBIP					**Sb**	**15 54 27.6**	**-0.7**
MLPR	**Magueyes Islan**	**1.38**	**183**	↑*e*P	**Pb**	**15 54 11.3**	**-0.6**
MLPR	**Magueyes Islan**	**1.38**	**183**	*e*S	**Sb**	**15 54 28.6**	**-0.5**
MLPR	**Magueyes Islan**	**1.38**	**183**		**Pb**	**15 54 11.3**	**-0.6**
MLPR					**Sb**	**15 54 28.6**	**-0.5**
PCDR	**Punta Cana, DR**	**1.57**	**238**	↑*e*P	**Pb**	**15 54 13.7**	**-1.6**
PCDR	**Punta Cana, DR**	**1.57**	**238**	*e*S	**Sn**	**15 54 32.9**	**+0.1**
PCDR	**Punta Cana, DR**	**1.57**	**238**		**Pb**	**15 54 13.7**	**-1.6**
PCDR					**Sn**	**15 54 32.9**	**+0.1**
PDPR	**Patillas Dam,**	**1.60**	**146**	↑*e*P	**Pb**	**15 54 14.6**	**-1.2**
PDPR	**Patillas Dam,**	**1.60**	**146**	*e*S	**Sb**	**15 54 34.6**	**-1.0**
PDPR	**Patillas Dam,**	**1.60**	**146**		**Pb**	**15 54 14.6**	**-1.2**
PDPR					**Sb**	**15 54 34.6**	**-1.0**
HUMP	**Col San Antoni**	**1.61**	**138**	↑*e*P	**Pb**	**15 54 15.5**	**-0.4**
HUMP	**Col San Antoni**	**1.61**	**138**	*e*S	**Sb**	**15 54 34.6**	**-1.1**
HUMP	**Col San Antoni**	**1.61**	**138**		**Pb**	**15 54 15.5**	**-0.4**
HUMP					**Sb**	**15 54 34.6**	**-1.1**
MTP	**Monte Pirata**	**1.83**	**133**	↑*e*P	**Pb**	**15 54 18.3**	**-1.4**
MTP	**Monte Pirata**	**1.83**	**133**	*e*S	**Sb**	**15 54 41.4**	**-0.9**
MTP	**Monte Pirata**	**1.83**	**133**		**Pb**	**15 54 18.3**	**-1.4**
MTP					**Sb**	**15 54 41.4**	**-0.9**
DR12	**Loma Pena Alta**	**2.35**	**257**	Pn	**Pn**	**15 54 24.8**	**+0.9**
SDDR	**Presa de Saban**	**4.10**	**266**	Pn	**Pn**	**15 54 50.2**	**+2.3**

IDC ***02*** *16:00:02.7±0.6, 21.57N×121.00E, h0km, mb3.9/19, mb1 4.1/21, mb1mx4.0/47, mbtmp4.0/21, ML3.7/2, MS3.5/9, Ms1 3.5/9, ms1mx3.1/37, Error ellipse: s-maj=19.1km s-min=13.2km az=79.0*
JMA ***02*** *16:00:02.4±0.8, 21.59N×120.79E, h62km, M4.3*
TAP ***02*** *16:00:04.0, 21.57N×121.01E, h27km, ML4.2, D*
BJI ***02*** *16:00:06.1±0.0, 21.73N×120.88E, h20km, mB4.4/19, mb4.2/24, Ms3.9/20, Ms7 3.7/19*
NEIC ***02*** *16:00:06.8±1.6, 21.94N±0.04×120.92E±0.09, h10km±1km, mb4.1/16, Error ellipse: s-maj=13.6km s-min=5.9km*

az=100.0

ISC 02 16:00:06.0±0.6, 21.65N±0.03×121.03E±0.03, h22km±5km, n176, σ1$55/201, mb4.1/27, MS3.6/9, 1C-7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSEB	**Hengchuen, Pin**	**0.28**	**334**	‖*i*P	**Pb**	**16 00 12.4**	**-0.1**
	baz=330						
TSEB				S	**Sn**	**16 00 19.1**	**-1.2**
	baz=330						
TWKBT	**Hengchun**	**0.35**	**325**	‖*i*P	**Pb**	**16 00 13.1**	**-0.5**
	baz=328						
TWKBT				*i* S	**Sb**	**16 00 19.6**	**+0.7**
	baz=328						
TWK1	**Hengchun**	**0.36**	**324**	‖*i*P	**Pb**	**16 00 13.2**	**-0.6**
	baz=328						
TWK1				S	**Sn**	**16 00 20.1**	**-2.3**
	baz=328						
HEN	**Hengchun**	**0.45**	**322**	‖*i*P	**Pn**	**16 00 15.0**	**-2.1**
	baz=334						
HEN				S	**Sn**	**16 00 22.4**	**-2.1**
	baz=334						
LAY	**Lan-yu**	**0.62**	**51**	P	**Pn**	**16 00 17.9**	**-1.6**
	baz=47						
LAY				*e*S	**Sn**	**16 00 27.8**	**-0.9**
	baz=47						
TAW	**Tawu**	**0.72**	**350**	‖*i*P	**Pb**	**16 00 18.7**	**-1.1**
	baz=4.0						
TAW				*e*S	**Sn**	**16 00 30.6**	**-0.5**
	baz=4.0						
EAST	**Anshuo**	**0.75**	**347**	‖*i*P	**Pb**	**16 00 19.5**	**-0.9**
	baz=359						
EAST				*e*S	**Sb**	**16 00 30.7**	**+0.5**
	baz=359						
SCZT	**Fangliau**	**0.81**	**332**	‖*i*P	**Pb**	**16 00 21.3**	**-0.1**
	baz=337						
SCZT				S	**Sn**	**16 00 33.2**	**-0.3**
	baz=337						
WLCH	**Liuqiu**	**0.93**	**319**	*e*P	**Pb**	**16 00 22.7**	**-0.6**
	baz=324						
SSPT	**Xinbi**	**0.94**	**333**	*e*P	**Pb**	**16 00 23.9**	**+0.4**
	baz=336						
SSPT				*e*S	**Sb**	**16 00 37.0**	**+1.5**
	baz=336						
ECL	**Taimali**	**0.95**	**356**	*e*P	**Pb**	**16 00 21.4**	**-2.6**
	baz=9.0						
ECL				*e*S	**Sn**	**16 00 35.7**	**-1.1**
	baz=9.0						
MASBT	**Mashibuluo**	**1.03**	**339**	*e*P	**Pb**	**16 00 24.4**	**-0.7**
	baz=342						
MASBT				*e*S	**Sb**	**16 00 40.0**	**+1.8**
	baz=342						
TTN	**Taitung**	**1.10**	**5**	*e*P	**Pb**	**16 00 25.8**	**-0.6**
	baz=7.0						
TWH	**Lutao**	**1.13**	**21**	P	**Pn**	**16 00 23.7**	**-2.8**
	baz=22						
TWH				*e*S	**Sn**	**16 00 39.2**	**-2.2**
	baz=22						
SSD	**Sandimen**	**1.15**	**341**	*e*P	**Pb**	**16 00 26.0**	**-1.3**
	baz=344						
SSD				*e*S	**Sb**	**16 00 42.3**	**+0.5**
	baz=344						
TWGBT	**Beinan**	**1.16**	**2**	*e*P	**Pn**	**16 00 24.1**	**-2.8**
	baz=3.0						
TWGBT				*e*S	**Sn**	**16 00 40.5**	**-1.7**
	baz=3.0						
TWG	**Pinlang**	**1.17**	**2**	*e*P	**Pn**	**16 00 24.3**	**-2.7**
	baz=3.0						
TWG				*e*S	**Sn**	**16 00 41.3**	**-0.9**
	baz=3.0						
TWG	**Pinlang**	**1.17**	**2**		**Pn**	**16 00 23.8**	**-3.2**
TWG					**Sn**	**16 00 35.0**	**-7.3**
SGLT	**Jiouru**	**1.18**	**335**	*e*P	**Pb**	**16 00 29.5**	**+1.8**
	baz=338						
SGLT				*e*S	**Sb**	**16 00 46.8**	**+4.2**
	baz=338						
SNJT	**Kaohsiung City**	**1.27**	**330**	*e*P	**Pb**	**16 00 28.6**	**-0.7**
	baz=316						
TWM1	**Shoushan**	**1.30**	**334**	*e*P	**Pb**	**16 00 29.8**	**+0.1**
	baz=338						
SLGT	**Liugui**	**1.39**	**345**	*e*P	**Pb**	**16 00 31.0**	**-0.2**
	baz=347						
CHKT	**Chengkung**	**1.48**	**12**	*e*P	**Pb**	**16 00 32.2**	**-0.6**
	baz=13						
SGST	**Jiashian**	**1.49**	**344**	*e*P	**Pb**	**16 00 31.1**	**-1.8**
	baz=331						
STYT	**Tauyuan**	**1.53**	**350**	*e*P	**Pb**	**16 00 32.9**	**-0.7**
	baz=352						
ELDTW	**Lidau**	**1.53**	**359**	*e*P	**Pn**	**16 00 30.5**	**-1.6**
	baz=8.0						
CHN3	**Shinhua**	**1.55**	**337**	*e*P	**Pb**	**16 00 33.2**	**-0.7**
	baz=325						
FULB	**Fuli**	**1.56**	**9**	*e*P	**Pn**	**16 00 30.8**	**-1.7**
	baz=9.0						
CHN1	**Nanshi**	**1.60**	**343**	*e*P	**Pb**	**16 00 33.3**	**-1.6**
	baz=329						
WTP	**Ta-pu**	**1.64**	**346**	*e*P	**Pb**	**16 00 34.2**	**-1.3**
	baz=332						
SNST	**Taan City**	**1.64**	**343**	*e*P	**Pb**	**16 00 35.9**	**+0.4**
	baz=328						
TPUB	**Ta-pu**	**1.69**	**347**	*e*P	**Pb**	**16 00 34.3**	**-2.0**
	baz=334						
TPUB				*e*S	**Sb**	**16 00 56.4**	**-0.7**
	baz=334						
TPUB	**Ta-pu**	**1.69**	**347**		**Pn**	**16 00 33.8**	**-0.4**
TWK	**Hsinying**	**1.69**	**343**	*e*P	**Pb**	**16 00 34.7**	**-1.7**
	baz=329						
TWF1	**Yuli**	**1.71**	**8**	*e*P	**Pn**	**16 00 32.5**	**-2.0**
	baz=9.0						
YULB	**Yu-li**	**1.75**	**8**	*e*P	**Pn**	**16 00 34.7**	**-0.4**
	baz=8.0						
YULB	**Yu-li**	**1.75**	**8**		**Pn**	**16 00 32.6**	**-2.5**
ALS	**Alishan**	**1.86**	**354**	*e*P	**Pb**	**16 00 37.8**	**-1.7**
	baz=355						
EHY	**Hungye**	**1.87**	**8**	*e*P	**Pn**	**16 00 36.1**	**-0.5**
	baz=9.0						
HGSD	**Ruisui**	**1.87**	**11**	*e*P	**Pb**	**16 00 37.2**	**-2.3**
	baz=11						
HGSD				*e*S	**Sn**	**16 01 00.5**	**+0.8**
	baz=11						
CHY	**Chiayi**	**1.92**	**343**	*e*P	**Pb**	**16 00 38.0**	**-2.3**
	baz=331						
WLGB	**Puzi**	**1.94**	**340**	*e*P	**Pn**	**16 00 37.9**	**+0.3**
	baz=342						
CHN5	**Tsauling**	**1.97**	**350**	*e*P	**Pb**	**16 00 39.1**	**-2.1**
	baz=352						
WHYT	**Xinyi Township**	**2.04**	**355**	*e*P	**Pb**	**16 00 40.2**	**-2.3**
	baz=357						
WDGT	**Dungji**	**2.04**	**322**	*e*P	**Pn**	**16 00 37.1**	**-1.9**
	baz=325						
WGK	**Gukeng**	**2.07**	**348**	*e*P	**Pn**	**16 00 40.1**	**+0.6**
	baz=350						
WDLH	**Douliu**	**2.08**	**347**	*e*P	**Pn**	**16 00 39.7**	**+0.1**
	baz=334						
VWDT	**VWDT**	**2.10**	**3**	*e*P	**Pn**	**16 00 39.7**	**-0.1**
	baz=11						
WSF	**Szhu**	**2.12**	**339**	*e*P	**Pn**	**16 00 39.1**	**-1.0**
	baz=328						
SSLB	**Suanglung**	**2.13**	**358**	*e*P	**Pb**	**16 00 41.2**	**-2.7**
	baz=12						
SSLB	**Suanglung**	**2.13**	**358**		**Pn**	**16 00 39.3**	**-1.0**
VCHM	**Qimei**	**2.15**	**317**	P	**Pn**	**16 00 38.5**	**-1.9**
	baz=319						
VCHM				*e*S	**Sn**	**16 01 04.2**	**-2.2**
	baz=319						
WJS	**Zhushan**	**2.18**	**353**	*e*P	**Pb**	**16 00 44.1**	**-0.7**
	baz=354						
ESL	**Shilin**	**2.19**	**10**	*e*P	**Pn**	**16 00 41.2**	**+0.2**
	baz=10.0						
SMLT	**Sun Moon Lake**	**2.23**	**357**	*e*P	**Pn**	**16 00 43.0**	**-2.6**
	baz=345						
WNT	**Mingjian**	**2.24**	**352**	*e*P	**Pn**	**16 00 42.5**	**+0.7**
	baz=354						
TYC	**Yuchr**	**2.25**	**356**	*e*P	**Pb**	**16 00 43.4**	**-2.5**
	baz=345						
PHUB	**P'eng-hu**	**2.29**	**324**	P	**Pn**	**16 00 40.2**	**-2.3**
	baz=326						
PHUB				*e*S	**Sn**	**16 01 06.5**	**-3.5**
	baz=326						
WTCT	**Ta-ch'eng**	**2.31**	**343**	*e*S	**Sn**	**16 01 11.2**	**+0.7**
	baz=333						
PNG	**Penghu**	**2.35**	**325**	*e*P	**Pn**	**16 00 41.0**	**-2.2**
	baz=327						
PNG				*e*S	**Sn**	**16 01 09.3**	**-2.0**
	baz=327						
DPDB	**Guoxing**	**2.38**	**358**	*e*P	**Pn**	**16 00 44.5**	**+0.9**
	baz=346						
CHGB	**Renai**	**2.40**	**3**	*e*P	**Pn**	**16 00 44.5**	**+0.3**
	baz=11						
WCHH	**Zhanghua**	**2.46**	**350**	*e*P	**Pn**	**16 00 45.1**	**+0.4**
	baz=351						
WCHH				*e*S	**Sn**	**16 01 14.6**	**+0.4**
	baz=351						
TWD	**Chiawan**	**2.48**	**12**	*e*P	**Pn**	**16 00 43.6**	**-1.3**
	baz=13						
TWD				*e*S	**Sn**	**16 01 13.1**	**-1.5**
	baz=13						
WHF	**Hehuan Shan**	**2.49**	**5**	*e*P	**Pn**	**16 00 45.5**	**-0.2**
	baz=13						
TCU	**Taichung**	**2.51**	**353**	*e*P	**Pn**	**16 00 46.1**	**+0.7**
	baz=341						
NACB	**Ninganchiao**	**2.57**	**12**	*e*P	**Pn**	**16 00 45.0**	**-1.3**
	baz=12						
NACB	**Ninganchiao**	**2.57**	**12**		**Pn**	**16 00 44.8**	**-1.4**
ETLH	**Xiulin Townshi**	**2.58**	**9**	*e*P	**Pn**	**16 00 46.9**	**+0.4**
	baz=18						
WHP	**Taichung City**	**2.62**	**358**	*e*P	**Pn**	**16 00 48.5**	**+1.5**
	baz=360						
WHP				*e*S	**Sb**	**16 01 22.8**	**-1.2**
	baz=360						
TWQ1	**Liyutan**	**2.70**	**355**	*e*P	**Pb**	**16 00 50.0**	**-3.5**
	baz=345						
NSY	**Sanyi**	**2.77**	**355**	*e*P	**Pn**	**16 00 50.5**	**+1.5**
	baz=345						
NNSB	**Datong**	**2.79**	**7**	*e*P	**Pn**	**16 00 49.8**	**+0.4**
	baz=13						
NNSH	**Datong**	**2.79**	**7**	*e*P	**Pn**	**16 00 49.3**	**-0.1**
	baz=16						
NNS	**Nan Shan**	**2.80**	**6**	*e*P	**Pb**	**16 00 52.2**	**-3.1**
	baz=13						
ENA	**Nanau**	**2.84**	**13**	*e*P	**Pn**	**16 00 50.9**	**+0.9**
	baz=14						
NSTT	**Nanjuang**	**2.97**	**359**	*e*P	**Pn**	**16 00 52.8**	**+1.0**
	baz=1.0						
NDT	**Datong Townshi**	**2.97**	**8**	*e*P	**Pn**	**16 00 52.8**	**+1.0**
	baz=15						
LIOB	**Emei**	**2.98**	**360**	*e*P	**Pn**	**16 00 52.6**	**+0.6**
	baz=1.0						
YHNB	**Yeheng**	**3.02**	**6**	*e*P	**Pn**	**16 00 53.2**	**+0.6**
	baz=354						
YHNB	**Yeheng**	**3.02**	**6**		**Pn**	**16 00 52.4**	**-0.2**
TWC	**Suao**	**3.04**	**14**	*e*P	**Pn**	**16 00 53.4**	**+0.6**
	baz=8.0						
TWE	**Neicheng**	**3.11**	**11**	*e*P	**Pn**	**16 00 55.7**	**+1.9**
	baz=11						
NWLT	**Wulai**	**3.14**	**8**	*e*P	**Pn**	**16 00 55.3**	**+1.0**
	baz=16						
WLTB	**Daxi**	**3.19**	**4**	*e*P	**Pb**	**16 00 58.3**	**-3.7**
	baz=5.0						
JYNG	**Yonagunijimaku**	**3.30**	**32**	P	**Pn**	**16 00 55.5**	**-0.8**
JYNG				*e*S	**Sn**	**16 01 35.3**	**+0.4**
NCU	**National Centr**	**3.31**	**2**	*e*P	**Pn**	**16 00 56.7**	**+0.2**
	baz=4.0						
NHDH	**Xindian Distri**	**3.33**	**8**	*e*P	Pb	16 00 59.6	-4.7
	baz=354						
TATO	**Taipei**	**3.34**	**7**	*e*P	**Pn**	**16 00 58.0**	**+1.1**
	baz=354						
TATO	**Taipei**	**3.34**	**7**	Pn	**Pn**	**16 00 56.0**	**-0.8**
YOJ	**Yonaguni jima**	**3.34**	**33**	*e*P	**Pn**	**16 00 57.3**	**+0.4**
	baz=43						
YOJ				*e*S	**Sn**	**16 01 35.6**	**-0.3**
	baz=43						
YOJ	**Yonaguni jima**	**3.34**	**33**	P	**Pn**	**16 00 56.9**	**0.0**
YOJ				*e*S	**Sn**	**16 01 36.6**	**+0.7**
YOJ	**Yonaguni jima**	**3.34**	**33**		**Pn**	**16 00 56.7**	**-0.2**
TIPB	**Shuangxi**	**3.39**	**12**	*e*P	**Pn**	**16 00 58.7**	**+1.2**
	baz=13						
TWB1	**Santiao Chiao**	**3.46**	**15**	*e*P	**Pn**	**16 00 59.7**	**+1.2**
	baz=6.0						
HATJ	**Hateruma jima**	**3.50**	**46**	*e*S	**Sn**	**16 01 38.4**	**-1.5**
YM10	**YM10**	**3.52**	**8**	*e*P	**Pn**	**16 01 01.1**	**+1.6**
	baz=355						
ANP	**Anpu**	**3.55**	**7**	*e*P	**Pn**	**16 01 01.9**	**+2.1**
	baz=355						
VWUC	**VWUC**	**3.63**	**337**	*e*P	**Pn**	**16 00 59.2**	**-1.6**
	baz=328						
IRIF	**Iriomote-Funau**	**3.65**	**42**	P	**Pn**	**16 01 00.9**	**-0.2**
IRIF				S	**Sn**	**16 01 43.1**	**-0.4**
KNM	**Kinmen**	**3.65**	**320**	*e*P	**Pn**	**16 01 00.8**	**-0.4**
	baz=320						
KNMB	**Chin-men Tao**	**3.71**	**320**	*e*P	**Pn**	**16 01 00.2**	**-1.7**
	baz=321						
KNMB	**Chin-men Tao**	**3.71**	**320**	Pn	**Pn**	**16 01 00.6**	**-1.4**
SIPP	**Brgy, Tapao**	**3.75**	**188**	‖*e*P	**Sn**	**16 01 46.6**	**+0.6**
JKRS	**Kuro-shima**	**3.76**	**46**	P	**Pn**	**16 01 02.7**	**0.0**
ZPLA	**Ao Xicun**	**3.79**	**307**	*e*P	**Pn**	**16 01 00.6**	**-2.4**
	baz=309						
PTMZ	**Houxiangcun**	**3.81**	**333**	*e*P	**Pn**

CHTO					IAmb	IAmb	16 04 52.0	
	comp=Z,11nm,1.2s							
SBUM	**Sibu**	**20.92**	**205**	P	Pn		16 04 50.6	+0.8
CM31	**Chiang Mai Arr**	**20.99**	**265**	P	Pn		16 04 49.5	-1.1
CM31					IAmb	IAmb	16 04 53.0	
	comp=Z,5.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**20.99**	**265**	P	Pn		16 04 49.0	-1.7
	comp=Z,1.6nm,0.8s,baz=71,slow=9.5,SNR=14							
MAJO	**Matsushiro**	**21.06**	**41**	P	**P**		**16 04 49.8**	**+1.2**
MAJO					IAmb	IAmb	16 05 14.2	
	comp=Z,24nm,1.9s							
MJAR	**Matsushiro Arr**	**21.06**	**41**	P	**P**		**16 04 51.2**	**+2.6**
	comp=Z,1.7nm,0.7s,baz=237,slow=7.0,SNR=5.3							
MJB9	**Matsu-Tunnel**	**21.06**	**41**	P	**P**		**16 04 49.8**	**+1.2**
APSI	**Ampana**	**22.43**	**178**	P	**P**		**16 05 04.9**	**+1.5**
	comp=Z,18nm,1.4s							
LUWI	**Luwuk**	**22.62**	**175**	P	**P**		**16 05 07.1**	**+1.7**
LBMI	**Labuha**	**23.03**	**163**	P	**P**		**16 05 09.8**	**0.0**
	comp=Z,14nm,1.1s							
USRK	**Ussuriysk Ar.**	**24.25**	**19**	P	**P**		**16 05 21.2**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=203,slow=10,SNR=5.4							
GTA	**Gaotai**	**25.34**	**319**	*e*P	**P**		**16 05 31.6**	**+0.2**
GTA					pP	pP	16 05 35.9	-2.0
GTA					sP	sP	16 05 38.6	-1.9
GTA					sS	sS	16 10 07.2	-0.3
GTA					pmax	pmax		
	comp=Z,2.0nm,1.0s							
GTA					pmax	pmax		
	comp=Z,36nm,6.2s							
GTA					LR	LR		
	comp=Z,130nm,19.0s							
GTA					LR	LR		
	comp=Z,120nm,19.7s							
GTA					LR	LR		
	comp=Z,160nm,14.6s							
FAKI	**Fak Fak**	**26.77**	**154**	P	P		16 05 50.7	+6.2
ULN	**Ulaanbaatar**	**28.47**	**340**	P	**P**		**16 05 59.9**	**+0.3**
ULN					IAmb	IAmb	16 06 00.9	
	comp=Z,3.4nm,1.0s							
PSI	**Prapat**	**28.52**	**232**	P	**P**		**16 06 00.7**	**+0.4**
	comp=Z,1.9nm,0.5s,baz=0.2,slow=13,SNR=3.8							
RPSI	**Rantau Prapat**	**28.59**	**232**	P	**P**		**16 06 00.7**	**0.0**
ASAJ	**Asahikawa**	**28.65**	**34**	P	**P**		**16 06 03.5**	**+2.6**
	comp=Z,3.1nm,0.8s,baz=215,slow=15,SNR=6.4							
JKA	**Kamikawa-asahi**	**28.65**	**34**	P	**P**		**16 06 03.5**	**+2.6**
SONM	**Songino Array**	**28.66**	**339**	P	**P**		**16 06 01.6**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=153,slow=10.0,SNR=4.8							
SONM					LR	LR	16 19 11.2	
	comp=Z,108nm,18.0s,baz=144,slow=40							
WMQ	**Urumqi**	**35.35**	**317**	*e*P	**P**		**16 07 02.0**	**+2.1**
MK31	**Makanchi Array**	**40.09**	**318**	P	**P**		**16 07 40.1**	**+0.3**
MKAR	**Makanchi Array**	**40.09**	**318**	P	**P**		**16 07 40.4**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=114,slow=9.8,SNR=23							
MKAR					LR	LR	16 26 39.1	
	comp=Z,74nm,18.1s,baz=110,slow=40							
MAKZ	**Makanchi**	**40.29**	**318**	P	**P**		**16 07 41.8**	**+0.3**
ZAA0	**Zalesovo Array**	**42.31**	**329**	P	**P**		**16 07 57.6**	**-0.4**
ZAA0					IAmb	IAmb	16 07 59.0	
	comp=Z,5.6nm,0.9s							
ZALV	**Zalesovo Beam**	**42.31**	**329**	P	**P**		**16 07 58.2**	**+0.2**
	comp=Z,3.4nm,0.7s,baz=114,slow=7.1,SNR=15							
ZALV					PcP	**PcP**	**16 09 51.0**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=96,slow=4.3,SNR=2.3							
ZALV					LR	LR	16 24 46.3	
	comp=Z,32nm,19.6s,baz=94,slow=35							
WRA	**Warramunga Arr**	**43.34**	**162**	P	**P**		**16 08 05.3**	**-1.3**
	comp=Z,0.9nm,0.7s,baz=344,slow=9.1,SNR=11							
WRA					PcP	**PcP**	**16 09 54.8**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=344,slow=3.7,SNR=4.8							
KURK	**Kurchatov**	**43.96**	**322**	P	**P**		**16 08 11.4**	**+0.1**
KURK					IAmb	IAmb	16 08 12.9	
	comp=Z,4.0nm,0.9s							
AS31	**Alice Springs**	**46.75**	**164**	P	**P**		**16 08 33.2**	**-0.6**
AS31					IAmb	IAmb	16 08 36.5	
	comp=Z,1.5nm,1.2s							
ASAR	**Alice Springs**	**46.75**	**164**	P	**P**		**16 08 33.2**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=346,slow=7.5,SNR=29							
ASAR					PcP	**PcP**	**16 10 06.3**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=350,slow=3.5,SNR=5.9							
BRVK	**Borovoye**	**49.63**	**322**	P	**P**		**16 08 56.0**	**+0.3**
BRVK					IAmb	IAmb	16 08 57.4	
	comp=Z,3.2nm,0.8s							
NRIK	**Noril'sk**	**51.81**	**346**	P	**P**		**16 09 11.8**	**0.0**
	comp=Z,2.5nm,0.7s,baz=119,slow=5.5,SNR=5.5							
NRIK					LR	LR	16 33 37.6	
	comp=Z,66nm,18.6s,baz=276,slow=39							
GEYT	**Alibeck**	**55.98**	**302**	P	**P**		**16 09 44.2**	**+1.2**
	comp=Z,2.4nm,0.8s,baz=110,slow=5.8,SNR=5.1							
STKA	**Stephens Creek**	**56.75**	**159**	P	**P**		**16 09 48.9**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=7.7,slow=4.5,SNR=7.6							
ARU	**Arti**	**57.05**	**324**	P	**P**		**16 09 50.2**	**0.0**
KBZ	**Khabaz**	**66.96**	**310**	P	**P**		**16 10 58.0**	**+1.0**
	comp=Z,3.2nm,0.8s,baz=125,slow=6.1,SNR=4.7							
KIV	**Kislovodsk**	**67.08**	**310**	P	**P**		**16 10 59.0**	**+1.1**
KLMR	**Klimovskoe**	**67.23**	**328**	*e*P	**P**		**16 10 55.9**	**-2.5**
KLMR					AMP		16 10 59.8	
	comp=Z,13nm,1.5s							
ILAR	**Eielson Array**	**71.52**	**27**	P	**P**		**16 11 24.5**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=286,slow=6.0,SNR=2.4							
ARCES	**ARCESS Array B**	**71.83**	**338**	P	**P**		**16 11 26.7**	**0.0**
	comp=Z,1.3nm,0.8s,baz=81,slow=3.8,SNR=4.0							
FINES	**FINESS Array B**	**73.56**	**330**	P	**P**		**16 11 37.4**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=66,slow=3.4,SNR=5.9							
FINES					LR	LR	16 45 46.6	
	comp=Z,36nm,18.6s,baz=131,slow=37							
BRTR	**Keskin Array B**	**74.57**	**307**	LR	LR		16 47 37.7	
	comp=Z,12nm,19.9s,baz=266,slow=38							
NOA	**NORSAR Array B**	**80.39**	**332**	P	**P**		**16 12 15.2**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=64,slow=5.3,SNR=3.5							
NOA					LR	LR	16 51 54.3	
	comp=Z,69nm,18.4s,baz=60,slow=39							
CLL	**Collm**	**83.98**	**323**	*e*P	**P**		**16 12 36.0**	**+1.5**
GERES	**GERESS Array B**	**84.70**	**321**	P	**P**		**16 12 38.5**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=57,slow=4.9,SNR=12							

WBNET 02 16:00:17.5,50.23N×12.45E,h9km,MI0.5,6C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**10**	⇑P	Pg	16 00 19.2	+0.1
NKC				S	Sg	16 00 20.4	+0.1
LBCW	**Luby**	**0.04**	**328**	⇓P	Pg	16 00 19.5	+0.1
LBCW				S	Sg	16 00 20.9	+0.2
VAC	**Vackov**	**0.04**	**277**	⇓P	Pg	16 00 19.4	+0.1
VAC				S	Sg	16 00 20.7	0.0
STCW	**Studenec**	**0.06**	**58**	⇑P	Pg	16 00 19.5	0.0
STCW				S	Sg	16 00 20.8	-0.1
SKC	**Skalna**	**0.08**	**223**	⇑P	Pg	16 00 19.8	0.0
SKC				S	Sg	16 00 21.3	0.0
POCW	**Potky**	**0.09**	**352**	⇑P	Pg	16 00 20.1	+0.1
POCW				S	Sg	16 00 21.8	+0.1
KACW	**Kaceov**	**0.10**	**152**	⇓P	Pg	16 00 21.0	+0.1
KACW				S	Sg	16 00 21.7	0.0
KRCW	**Kraslice**	**0.12**	**28**	⇑P	Pg	16 00 20.3	0.0
KRCW				S	Sg	16 00 22.2	-0.1
ZHC	**Zelena Hora**	**0.18**	**209**	⇑P	Pg	16 00 21.4	0.0
ZHC				S	Sg	16 00 24.0	0.0
LACW	**Lazy**	**0.21**	**147**	⇓P	Pg	16 00 21.9	0.0
LACW				S	Sg	16 00 25.0	+0.1

PRU ***02*** *16:01:05.4±0.0,50.25N×12.47E,h3km, West Bohemia Swarm*

WBNET 02 16:01:05.0,50.23N×12.45E,h9km,MI1.1,6C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.00**	**185**	*e*PG	Pg	16 01 05.8	-0.8
NKC				*e*SG	Sg	16 01 07.6	-0.1
	comp=Z,50nm,0.2s						
NKC	**Novy Kostel**	**0.00**	**185**	⇑P	Pg	16 01 06.7	+0.1
NKC				S	Sg	16 01 07.8	+0.1
LBCW	**Luby**	**0.04**	**324**	⇓P	Pg	16 01 06.9	+0.1
LBCW				S	Sg	16 01 08.3	+0.2
VAC	**Vackov**	**0.04**	**272**	⇓P	Pg	16 01 06.9	+0.1
VAC				S	Sg	16 01 08.1	0.0
KVC	**Kvetna**	**0.05**	**123**	S	Sg	16 01 08.1	-0.2
STCW	**Studenec**	**0.05**	**61**	⇑P	Pg	16 01 06.9	0.0
STCW				S	Sg	16 01 08.2	-0.2
SKC	**Skalna**	**0.09**	**221**	⇑P	Pg	16 01 07.3	+0.1
SKC				S	Sg	16 01 08.8	-0.1
POCW	**Potky**	**0.09**	**351**	⇑P	Pg	16 01 07.5	+0.2
POCW				S	Sg	16 01 09.2	+0.1
KACW	**Kaceov**	**0.10**	**154**	⇓P	Pg	16 01 07.5	+0.1
KACW				S	Sg	16 01 09.3	+0.1
KRCW	**Kraslice**	**0.11**	**28**	⇑P	Pg	16 01 07.7	+0.1
KRCW				S	Sg	16 01 09.6	0.0
ZHC	**Zelena Hora**	**0.19**	**209**	⇑P	Pg	16 01 08.9	0.0
LACW	**Lazy**	**0.22**	**148**	S	Sg	16 01 12.5	+0.1
KHC	**Kasperske Hory**	**1.33**	**146**	*e*PG	Pn	16 01 29.3	-0.4
KHC				*e*SG	Sn	16 01 47.4	-0.1
	comp=Z,1.1nm,0.4s						
PRU	**Pruhonice**	**1.37**	**100**	*e*SG	Sg	16 01 48.9	-0.1
	comp=Z,1.9nm,0.2s						

NIED ***02*** *16:09:00,43.20N×145.80E,h44km,Mw3.8 Best double couple: M0 5.58000×10^14 NP1:ϕs24.00000°,δ69.00000°, λ71.00000°. NP2:ϕs248.00000°,δ29.00000°,λ130.00000°.*
IDC ***02*** *16:09:38.0±1.0,43.26N×146.50E,h0km,mb3.7/8, mb1 3.8/12,mb1mx3.6/49,mbtmp3.8/12,ML4.0/2,MS2.7/2, Ms1 2.7/2,ms1mx2.4/31,Error ellipse: s-maj=24.0km s-min=20.9km az=72.0*
MOS ***02*** *16:09:45.1±1.7,43.19N×145.87E,h62km,mb4.0/4,Error ellipse: s-maj=13.2km s-min=8.8km az=95.1*
SKHL ***02*** *16:09:46.8±0.4,43.18N×145.90E,h71km±8km,mb4.3/5*
JMA ***02*** *16:09:46.4±0.1,43.14N×145.83E,h47km±1km,M3.8*
JMA Felt II J1.

ISC 02 16:09:45.4±0.9,43.13N±0.05×145.91E±0.05,h45km±7km, n52,σ1s65/64,mb3.6/10,2C-4D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.26**	**332**	P	**Pn**	**16 09 54.6**	**+0.8**
NEM2				*e*S	**Sn**	**16 10 00.4**	**+0.7**
NMR	**Nemuro--Hokkai**	**0.27**	**331**	*i* P	**Pn**	**16 09 54.6**	**+0.7**
NMR	**Nemuro--Hokkai**	**0.27**	**331**	⇓*i* PN	**Pn**	**16 09 54.6**	**+0.7**
NMR				*i* S	**Sn**	**16 10 00.3**	**+0.5**
JKHN	**Kushirohamanak**	**0.55**	**265**	P	**Pn**	**16 09 57.7**	**+0.7**
JKHN				*e*S	**Sn**	**16 10 05.7**	**+0.4**
GLVR	**Golovnino**	**0.67**	**335**	*i* P	**Pn**	**16 09 59.6**	**+1.0**
GLVR				AMB	AMB	16 09 59.9	
	320nm,0.4s						
GLVR				A	A	16 10 09.0	
	940nm,0.3s						
GLVR				A	A	16 10 09.0	
	2μm,0.3s						
GLVR				*i* S	**Sn**	**16 10 09.3**	**+1.2**
GLVR	**Golovnino**	**0.67**	**335**	⇓*i* PN	**Pn**	**16 09 59.4**	**+0.8**
GLVR				*i*		16 10 08.4	
GLVR				pmax	pmax		
	comp=N,1μm,0.3s						
GLVR				pmax	pmax		
	comp=Z,8μm,0.3s						
GLVR				pmax	pmax		
	comp=E,432nm,0.1s						
GLVR				smax	smax		
	comp=N,9μm,0.6s						
GLVR				smax	smax		
	comp=E,18μm,0.3s						
GRPR	**Tuman**	**0.87**	**353**	*i* P	**Pn**	**16 10 01.9**	**+0.7**
GRPR				AMB	AMB	16 10 02.0	
	comp=E,360nm,0.4s						
GRPR				AMB	AMB	16 10 02.0	
	comp=E,260nm,0.4s						
GRPR				*i* S	**Sn**	**16 10 12.8**	**0.0**
GRPR				A	A	16 10 14.0	
	comp=E,990nm,0.3s						
GRPR				A	A	16 10 14.0	
	comp=E,490nm,0.3s						
GRPR	**Tuman**	**0.87**	**353**	⇓*i* PN	**Pn**	**16 10 01.9**	**+0.7**
GRPR				*i* S	**Sn**	**16 10 12.8**	**0.0**
GRPR				pmax	pmax		
	comp=Z,4μm,0.2s						
GRPR				pmax	pmax		
	comp=N,485nm,0.3s						
GRPR				pmax	pmax		
	comp=E,460nm,0.2s						
GRPR				smax	smax		
	comp=N,10μm,0.2s						
GRPR				smax	smax		
	comp=E,5μm,0.3s						
JAK	**Akkeshi**	**0.90**	**262**	P	**Pn**	**16 10 01.8**	**+0.1**
JAK				*e*S	**Sn**	**16 10 13.3**	**-0.2**
YUK	**Yuzh-Kuril'sk**	**0.91**	**358**	*i* P	**Pn**	**16 10 02.1**	**+0.4**
YUK				AMB	AMB	16 10 03.7	
	comp=E,350nm,0.4s						
YUK				*i* S	**Sn**	**16 10 13.6**	**-0.1**
YUK				A	A	16 10 16.7	
	comp=E,790nm,0.3s						
YUK				A	A	16 10 16.7	
	comp=E,810nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.91**	**358**	*d i* PN	**Pn**	**16 10 02.3**	**+0.6**
YUK				*i* S	**Sn**	**16 10 13.9**	**+0.2**
YUK				pmax	pmax		
	comp=Z,4μm,0.3s						
YUK				pmax	pmax		
	comp=N,414nm,0.2s						
YUK				pmax	pmax		
	comp=E,674nm,0.2s						
YUK				smax	smax		
	comp=E,4μm,0.3s						
YUK				smax	smax		
	comp=N,6μm,0.4s						
JNSB	**Nemuroshibetsu**	**0.92**	**315**	P	**Pn**	**16 10 02.5**	**+0.5**
JNSB				*e*S	**Sn**	**16 10 14.0**	**-0.1**
JNK	**Nakash**	**0.98**	**298**	P	**Pn**	**16 10 03.0**	**+0.2**
JNK				*e*S	**Sn**	**16 10 15.0**	**-0.5**
JRA	**Rausu**	**0.99**	**325**	P	**Pn**	**16 10 03.7**	**+0.8**
JRA				*e*S	**Sn**	**16 10 16.5**	**+0.8**
JOB	**Onbets**	**1.54**	**262**	P	**Pn**	**16 10 10.7**	**+0.3**
JOB				*e*S	**Sn**	**16 10 29.2**	**0.0**
JAR	**Ashorobuto**	**1.57**	**277**	P	**Pn**	**16 10 11.5**	**+0.6**
JAR				*e*S	**Sn**	**16 10 29.6**	**-0.5**
JTKR	**Abashiri--Toko**	**1.68**	**301**	P	**Pn**	**16 10 13.8**	**+1.5**
JTKR				*e*S	**Sn**	**16 10 33.8**	**+1.2**
ERM	**Erimo**	**2.32**	**242**	*c i* PN	**Pn**	**16 10 23.5**	**+2.4**
KUR	**Kuril'sk**	**2.53**	**33**	*i* P	**Pn**	**16 10 26.5**	**+2.5**
KUR				AMB	AMB	16 10 27.0	
	comp=N,220nm,0.4s						
KUR				AMB	AMB	16 10 27.0	
	comp=N,50nm,0.4s						
KUR				*i* S	**Sn**	**16 10 55.5**	**+2.0**
KUR				A	A	16 11 00.5	
	comp=N,240nm,0.3s						
KUR				A	A	16 11 00.5	
	comp=N,210nm,0.3s						
KUR	**Kuril'sk**	**2.53**	**33**	*c i* PN	**Pn**	**16 10 26.5**	**+2.5**
KUR				*i* S	**Sn**	**16 10 55.8**	**+2.3**
KUR				pmax	pmax		
	comp=Z,45nm,0.4s						
KUR				pmax	pmax		
	comp=N,22nm,0.3s						
KUR				pmax	pmax		
	comp=E,14nm,0.2s						
KUR				smax	smax		
	comp=N,241nm,0.2s						
KUR				smax	smax		
	comp=E,208nm,0.3s						
JKA	**Kamikawa-asahi**	**2.60**	**293**	*e*P	**Pn**	**16 10 27.1**	**+2.2**
ASAJ	**Asahikawa**	**2.60**	**293**	Pn	**Pn**	**16 10 27.1**	**+2.2**
	comp=E,19nm,0.3s,baz=113,slow=11,SNR=144						
ASAJ				Sn	**Sn**	**16 11 01.9**	**+6.6**
	comp=E,24nm,0.3s,baz=16,slow=29,SNR=3.9						
ASAJ				LR	LR	16 11 43.4	
	comp=E,134nm,18.3s,baz=108,slow=42						
YSS	**Yuzh-Sakhalins**	**4.43**	**331**	*e*P	**Pn**	**16 10 51.8**	**+1.8**
YSS				AMB	AMB	16 10 52.6	
	comp=E,20nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.43**	**331**	*e*PN	**Pn**	**16 10 52.3**	**+2.3**
YSS				MLR	MLR		
	comp=Z,100nm,17.0s						
MAJO	**Matsushiro**	**8.85**	**225**	*i* PN	**Pn**	**16 11 53.1**	**+2.4**
MJAR	**Matsushiro Arr**	**8.85**	**225**	Pn	**Pn**	**16 11 50.7**	**0.0**
	comp=Z,0.1nm,0.3s,baz=79,slow=16,SNR=4.5						
USRK	**Ussuriysk Ar.**	**10.15**	**281**	Pn	**Pn**	**16 12 11.2**	**+2.8**
	baz=88,slow=14,SNR=2.8						
JHJ	**Hachijo jima 2**	**11.09**	**208**	Pn	**Pn**	**16 12 20.2**	**-1.2**
	comp=Z,1.5nm,0.3s,baz=59,slow=17,SNR=1.8						
JHJ				Sn	Sn	16 14 15.7	-8.4
	comp=Z,5.5nm,0.3s,baz=140,slow=22,SNR=6.3						
KLR	**Kul'dur**	**11.55**	**307**	LR	LR	16 17 09.2	
	comp=Z,33nm,19.6s,baz=194,slow=38						
KLR	**Kul'dur**	**11.55**	**307**	*e*P	**Pn**	**16 12 25.3**	**-2.2**
KLR	**Kul'dur**	**11.55**	**307**	*i* PN	**Pn**	**16 12 25.3**	**-2.2**
KLR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
YAK	**Yakutsk**	**21.23**	**339**	*i* P	**P**	**16 14 25.2**	**-1.9**
YAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BILL	**Bilibino**	**27.21**	**17**	*e*P	**P**	**16 15 24.0**	**-0.5**
BILL	**Bilibino**	**27.21**	**17**	*e*P	**P**	**16 15 24.0**	**-0.5**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s						
SONM	**Songino Array**	**27.88**	**294**	P	**P**	**16 15 32.9**	**+2.0**
	comp=Z,0.8nm,0.6s,baz=87,slow=9.4,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**29.25**	**136**	T	T	16 46 33.2	
	baz=328,slow=75,SNR=619						
H11N1	**WAKE ISLAND Hy**	**29.26**	**136**	T	T	16 46 33.8	
	baz=328,slow=75,SNR=631						
H11N3	**WAKE ISLAND Hy**	**29.27**	**136**	T	T	16 46 34.7	
	baz=328,slow=75,SNR=649						
H11S1	**WAKE ISLAND Hy**	**30.19**	**138**	T	T	16 47 46.1	
	baz=329,slow=76,SNR=1153						
H11S3	**WAKE ISLAND Hy**	**30.19**	**138**	T	T	16 47 44.0	
	baz=329,slow=76,SNR=1177						
H11S2	**WAKE ISLAND Hy**	**30.20**	**138**	T	T	16 47 44.9	
	baz=329,slow=76,SNR=846						
ZALV	**Zalesovo Beam**	**40.65**	**307**	PcP	**PcP**	**16 19 22.9**	**+1.1**
	comp=Z,6.0nm,0.4s,baz=58,slow=3.6,SNR=3.8						
MKAR	**Makanchi Array**	**44.07**	**298**	P	**P**	**16 17 49.3**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=82,slow=9.0,SNR=8.9						
MKAR				PcP	**PcP**	**16 19 34.4**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=48,slow=6.4,SNR=2.3						
MKAR	**Makanchi Array**	**44.07**	**298**	*e*P	**P**	**16 17 49.5**	**+0.7**
WRA	**Warramunga Arr**	**63.66**	**192**	P	**P**	**16 20 12.5**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=13,slow=4.6,SNR=1.7						
FINES	**FINESS Array B**	**65.01**	**333**	P	**P**	**16 20 20.5**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=42,slow=8.8,SNR=8.1						
ASAR	**Alice Springs**	**67.38**	**192**	P	**P**	**16 20 37.2**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=11,slow=6.3,SNR=4.7						
NVAR	**Mina Array Bea**	**68.67**	**57**	P	**P**	**16 20 40.0**	**-4.3**
	comp=Z,0.1nm,0.4s,baz=310,slow=5.8,SNR=1.8						
NB2	**NORSAR Subarra**	**69.85**	**338**	P	**P**	**16 20 51.2**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**69.85**	**338**	P	**P**	**16 20 49.4**	**-1.5**
	comp=Z,1.1nm,0.8s,baz=34,slow=6.2,SNR=5.1						
AKASG	**Malin Array Be**	**71.54**	**323**	P	**P**	**16 21 01.6**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=41,slow=6.3,SNR=5.0						
AKASG	**Malin Array Be**	**71.54**	**323**	*i* P	**P**	**16 21 01.2**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						

IDC ***02*** *16:27:38.3±1.4,1.38N×125.83E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/26,mbtmp3.5/4,MS3.2/2,Ms1 3.2/2, ms1mx2.6/21,Error ellipse: s-maj=141.9km s-min=22.0km az=67.0*
DJA ***02*** *16:27:41.8±0.4,2.7N±7.2°×12.7E±°,h10km,M3.6/9,mB4.3/1, mb3.7/1,MLv3.5/9,Mw(mB)3.4/1*

ISC 02 16:27:44.8±1.1,1.7N±0.1×126.64E±0.08,h47km,n13, σ1s71/11,mb3.6/4,Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.18**	**142**	P	**Pn**	**16 28 04.6**	**-0.4**
LBMI	**Labuha**	**2.49**	**160**	P	**Pn**	**16 28 22.9**	**0.0**
KMSI	**Cibinong**	**2.89**	**247**	P	**Pn**	**16 28 26.4**	**-1.9**
LUWI	**Luwuk**	**4.74**	**235**	P	**Pn**	**16 28 53.9**	**+0.2**
MRSI	**Marisa**	**4.86**	**255**	P	**Pn**	**16 28 54.8**	**-0.6**
APSI	**Ampana**	**5.63**	**242**	P	**Pn**	**16 29 07.1**	**+1.1**
KMMI	**Kalianget**	**15.35**	**235**	P	**P**	**16 31 24.5**	**+2.1**
WRA	**Warramunga Arr**	**22.81**	**161**	P	**P**	**16 32 42.3**	**-1.5**
	1.3nm,0.5s,baz=339,slow=11,SNR=19						
ASAR	**Alice Springs**	**26.20**	**165**	P	**P**	**16 33 14.5**	**-0.8**
	0.2nm,0.5s,baz=348,slow=9.6,SNR=3.1						
KSRS	**Korea Array**	**35.59**	**2**	LR	LR	16 48 06.3	
	comp=Z,44nm,21.7s,baz=192,slow=34						
MJAR	**Matsushiro Arr**	**36.27**	**16**	LR	LR	16 49 02.6	
	comp=Z,30nm,21.2s,baz=135,slow=35						
SONM	**Songino Array**	**49.17**	**342**	P	**P**	**16 36 30.6**	**+2.4**
	0.3nm,0.4s,baz=159,slow=8.6,SNR=2.6						
MKAR	**Makanchi Array**	**59.16**	**326**	P	**P**	**16 37 38.6**	**-2.2**
	0.3nm,0.3s,baz=118,slow=7.9,SNR=8.9						

KRSC ***02*** *16:45:40.4±3.4,60.36N×171.40E,h40km±44km,ML4.6, FELT [II] at Pahachi.*
IDC ***02*** *16:45:41.1±0.6,60.42N×170.99E,h0km,mb4.2/30, mb1 4.4/36,mb1mx4.3/51,mbtmp4.2/36,ML4.4/5,MS3.6/27, Ms1 3.7/27,ms1mx3.5/48,Error ellipse: s-maj=17.1km s-min=8.4km az=175.0*
BJI ***02*** *16:45:41.8±0.0,60.58N×170.62E,h15km,mB4.9/28, mb4.7/38,Ms4.4/20,Ms7 4.2/20*
NEIC ***02*** *16:45:42.9±1.6,60.28N±0.07×171.1E±0.1,h15km±3km, mb4.8/222, Error ellipse: s-maj=10.4km s-min=8.5km az=170.0*
MOS ***02*** *16:45:44.0±0.9,60.44N×171.04E,h32km,mb4.6/20, MS3.7/13,Error ellipse: s-maj=7.5km s-min=4.1km az=68.2*
BGR ***02*** *16:45:46.9±0.0,60.46N×170.11E,h20km,mb4.7*

ISC 02 16:45:45.9±0.3,60.38N±0.05×171.07E±0.04,h35km,n516, σ1s24/525,mb4.7/196,MS3.8/33,31C-10D,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TILK	**Tilichiki**	**2.44**	**274**	*e*P	**Pn**	**16 46 22.5**	**-0.7**
TILK				*e*S	**Sn**	**16 46 53.2**	**+1.4**
TILK	**Tilichiki**	**2.44**	**274**

BILL Bilibino 7.96 347 *e*PN **Pn** **16 47 40.7 +1.7**
BILL pmax pmax
comp=Z,7.0nm,1.0s
BILL MLR MLR
comp=Z,176nm,3.0s
BILL Bilibino 7.96 347 Pn **Pn** **16 47 40.5 +1.6**
GAMB Gambell 8.76 60 Pn **Pn** **16 47 50.4 +0.6**
SEY Seymchan 9.24 294 Pn **Pn** **16 47 56.6 +0.2**
comp=Z,0.4nm,0.3s,baz=103,slow=12,SNR=17
SEY Lg Lg 16 50 37.9
comp=Z,0.3nm,0.3s,baz=197,slow=18,SNR=3.4
SEY Seymchan 9.24 294 *i* PN **Pn** **16 47 56.8 +0.3**
SPN Mys Shipunski 9.48 225 *e*P **Pn** **16 48 01.4 +1.6**
SPN *e*S **Sn** **16 49 40.7 -4.3**
SPN Mys Shipunski 9.48 225 PN **Pn** **16 48 01.4 +1.6**
SDLR Sedlovina 9.75 228 *e*P **Pn** **16 48 06.7 +3.1**
SDLR Sedlovina 9.75 228 PN **Pn** **16 48 06.7 +3.1**
KRX Arik 9.77 229 *e*P **Pn** **16 48 06.9 +3.0**
KRX Arik 9.77 229 PN **Pn** **16 48 06.9 +3.0**
KRER Koryakskii 9.78 229 *e*P **Pn** **16 48 08.1 +4.0**
KRER Koryakskii 9.78 229 PN **Pn** **16 48 08.1 +4.0**
SMAR Somma 9.79 229 *e*P **Pn** **16 48 06.6 +2.3**
SMAR *e*S **Sn** **16 49 54.4 +1.5**
SMAR Somma 9.79 229 PN **Pn** **16 48 06.6 +2.3**
AVH Avacha 9.81 229 *e*P **Pn** **16 48 07.4 +3.0**
AVH Avacha 9.81 229 PN **Pn** **16 48 07.4 +3.0**
UGLR Uglovaya 9.83 228 *i* P **Pn** **16 48 06.9 +2.3**
UGLR Uglovaya 9.83 228 PN **Pn** **16 48 06.9 +2.3**
KOK Koryaka 9.83 229 *e*P Pn 16 48 09.8 +5.1
KOK Koryaka 9.83 229 PN Pn 16 48 09.8 +5.1
DALK Dalny 9.99 228 *e*P **Pn** **16 48 07.2 +0.4**
DALK *e*S **Sn** **16 49 55.3 -2.2**
DALK Dalny 9.99 228 PN **Pn** **16 48 07.2 +0.4**
PET Petropavlovsk 10.04 228 PN **Pn** **16 48 07.6 +0.2**
PET Petropavlovsk 10.04 228 Pn **Pn** **16 48 07.5 +0.2**
MA2 Magadan 10.20 274 Pn **Pn** **16 48 10.2 +0.5**
comp=Z,0.9nm,0.3s,baz=72,slow=12,SNR=23
MA2 Sn **Sn** **16 50 02.3 -0.3**
comp=Z,0.9nm,0.3s,baz=208,slow=6.4,SNR=3.9
MA2 LR LR 16 52 21.2
comp=Z,576nm,18.3s,baz=80,slow=39
MA2 Magadan 10.20 274 *ce*PN **Pn** **16 48 10.7 +1.1**
MA2 pmax pmax
comp=Z,4.0nm,0.6s
MA2 MLR MLR
comp=Z,594nm,15.0s
MA2 Magadan 10.20 274 Pn **Pn** **16 48 09.3 -0.3**
SPIA Saint Paul Isl 10.21 100 Pn **Pn** **16 48 08.7 -1.0**
PEA0B Petropavlovsk- 10.33 231 PN **Pn** **16 48 12.4 +1.0**
PEA0B Petropavlovsk- 10.33 231 Pn **Pn** **16 48 12.4 +1.0**
PETK Petropavlovsk- 10.33 231 Pn **Pn** **16 48 13.3 +1.8**
comp=Z,0.9nm,0.3s,baz=73,slow=14,SNR=16
PETK LR LR 16 51 42.4
comp=Z,158nm,19.0s,baz=57,slow=35
RUS Russkaya 10.56 227 *e*P **Pn** **16 48 15.7 +1.2**
RUS Russkaya 10.56 227 PN **Pn** **16 48 15.7 +1.2**
ADK Adak 10.90 136 PN Pn 16 48 13.6 -5.6
ADK Adak 10.90 136 Pn Pn 16 48 13.6 -5.6
GSTR Great Sitkin T 10.95 134 Pn Pn 16 48 14.6 -5.3
ATKA Atka Island 11.56 129 Pn Pn 16 48 23.5 -4.7
NIKH Nikolski High 13.26 115 Pn **Pn** **16 48 47.6 -3.8**
AKUT Akutan 13.96 106 Pn **Pn** **16 48 58.5 -2.4**
FALS False Pass 14.69 101 Pn **Pn** **16 49 10.4 -0.4**
TTA Tatalina 15.74 66 P **Pn** **16 49 25.0 +0.4**
TTA pmax pmax
comp=Z,21nm,1.3s
TTA Tatalina 15.74 66 Pn **Pn** **16 49 25.0 +0.4**
SDPT Sand Point 15.88 96 Pn **Pn** **16 49 25.5 -0.8**
SDPT IAmb IAmb 16 49 31.7
comp=Z,45nm,0.8s
CHGN Chignik 16.44 91 Pn **Pn** **16 49 33.8 +0.2**
OKH Okha 16.70 258 *de*P **P** **16 49 40.9 +2.1**
OKH *e*S **Sn** **16 52 33.6 -7.3**
OKH pmax pmax
comp=Z,100nm,12.5s
OKH MLR MLR
comp=Z,200nm,15.0s
OKH MLR MLR
comp=N,300nm,14.0s
OKH MLR MLR
comp=E,600nm,15.0s
PPLA Purkeypile 17.48 66 P **Pn** **16 49 47.2 +0.5**
RSO Redoubt South 17.72 74 P **P** **16 49 50.9 +0.5**
KTH Kantishna Hill 17.96 63 P **P** **16 49 53.4 +0.6**
COLD Coldfoot 18.14 51 P **P** **16 49 55.0 +0.3**
TOLK Toolik Lake Re 18.51 47 **Pn** **16 49 59.8 +0.6**
TYV Tymovskoe 18.52 252 *e*P **Pn** **16 50 02.6 +3.3**
TYV pmax pmax
comp=Z,100nm,4.6s
TYV pmax pmax
comp=Z,14nm,1.3s
KDAK Kodiak Island 18.70 82 P **Pn** **16 50 02.0 +0.5**
comp=Z,0.4nm,0.3s,baz=208,slow=5.4,SNR=2.5
KDAK LR LR 16 57 39.9
comp=Z,245nm,20.2s,baz=314,slow=38
KDAK Kodiak Island 18.70 82 P **P** **16 49 59.6 -1.3**
KDAK pmax pmax
comp=Z,86nm,1.8s
KDAK Kodiak Island 18.70 82 P **P** **16 49 59.6 -1.3**
KDAK IAmb IAmb 16 50 38.7
comp=Z,86nm,1.8s
COLA College 19.14 59 *i* P **P** **16 50 05.9 +0.2**
COLA pmax pmax
comp=Z,3.0nm,0.9s
IL31 19.57 59 P **P** **16 50 10.7 +0.4**
ILAR Eielson Array 19.57 59 P **Pn** **16 50 11.8 -0.1**
comp=Z,0.3nm,0.3s,baz=257,slow=8.6,SNR=52
ILAR LR LR 16 58 09.8
comp=Z,93nm,21.3s,baz=315,slow=38
YAK Yakutsk 19.76 293 P **P** **16 50 12.3 -0.1**
comp=Z,0.1nm,0.3s,baz=50,slow=22,SNR=23
YAK LR LR 16 57 51.9
comp=Z,133nm,22.0s,baz=80,slow=37
YAK Yakutsk 19.76 293 *c* *i*P **P** **16 50 12.3 -0.1**
YAK *e*S **Sn** **16 53 55.0 +0.2**
YAK pmax pmax
comp=Z,10.0nm,0.7s
YAK pmax pmax
comp=N,1.0nm,1.0s
YAK pmax pmax
comp=E,10.0nm,0.8s
YAK pmax pmax
comp=Z,30nm,1.4s
YAK pmax pmax
comp=N,26nm,1.5s
YAK pmax pmax
comp=E,37nm,1.4s
YAK smax smax
comp=N,29nm,2.5s
YAK smax smax
comp=E,19nm,2.5s
YAK MLR MLR
comp=Z,238nm,15.0s
YAK MLR MLR
comp=N,68nm,15.0s
YAK MLR MLR
comp=E,184nm,16.0s
YAK Yakutsk 19.76 293 P **P** **16 50 12.1 -0.4**
YAK IAmb IAmb 16 50 17.1
comp=Z,48nm,0.9s
TIXI Tiksi 19.99 322 P **Pn** **16 50 16.0 -0.8**
comp=Z,2.6nm,0.3s,baz=110,slow=12,SNR=149
TIXI Tiksi 19.99 322 *c* *i*P **Pn** **16 50 16.1 -0.6**
TIXI pmax pmax
comp=Z,40nm,0.8s
TIXI MLR MLR
comp=Z,437nm,15.0s
TIXI Tiksi 19.99 322 P **Pn** **16 50 15.4 -1.3**
TIXI IAmb IAmb 16 50 17.1
comp=Z,52nm,0.8s
PRP Porcupine Dome 20.06 57 **P** **16 50 15.8 0.0**
FYU Fort Yukon 20.10 54 P **P** **16 50 16.3 +0.2**
PAX Paxson 20.49 64 P **P** **16 50 19.8 -0.7**
PAX pmax pmax
comp=Z,6.0nm,0.9s
PAX Paxson 20.49 64 P **P** **16 50 19.8 -0.7**
DOT Dot Lake 20.96 62 P **P** **16 50 24.9 -0.7**
MENT Mentasta 21.27 63 P **P** **16 50 28.5 -0.4**
YSS Yuzh-Sakhalins 21.28 244 *i* P **P** **16 50 34.1 +5.2**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,200nm,14.0s
YSS Yuzh-Sakhalins 21.28 244 P **P** **16 50 28.3 -0.6**
YSS IAmb IAmb 16 50 38.9
comp=Z,103nm,1.8s
GRNR Gornyy 21.57 259 *e*P **P** **16 50 33.5 +1.4**
GRNR pmax pmax
comp=Z,3.0nm,0.8s
GRNR MLR MLR
comp=E,210nm,18.0s
GRNR MLR MLR
comp=N,270nm,15.0s
GRNR MLR MLR
comp=Z,290nm,14.0s
EGAK Eagle 21.99 58 P **P** **16 50 35.6 -0.9**
BARN Barnard Glacie 22.74 68 P **P** **16 50 45.1 +0.3**
BARN IAmb IAmb 16 50 48.0
comp=Z,39nm,1.6s
YAH Yahtse 22.94 69 P **P** **16 50 47.6 +0.8**
EPYK Eagle Plains 23.51 53 P **P** **16 50 52.9 +0.6**
ASAJ Asahikawa 23.57 239 LR LR 16 58 57.7
comp=Z,115nm,21.6s,baz=12,slow=34
ZEA Zeya 24.35 274 *e*P **P** **16 51 00.5 +0.4**
ZEA pmax pmax
comp=N,22nm,1.2s
ZEA pmax pmax
comp=E,35nm,1.0s
ZEA pmax pmax
comp=Z,76nm,1.0s
ZEA MLR MLR
comp=Z,500nm,16.0s
ZEA MLR MLR
comp=E,300nm,13.0s
ZEA MLR MLR
comp=N,300nm,16.0s
INK Inuvik 24.42 48 P **P** **16 51 01.9 +1.3**
comp=N,15nm,1.0s,baz=290,slow=10,SNR=21
INK Inuvik 24.42 48 P **P** **16 51 01.7 +1.1**
INK pmax pmax
comp=Z,25nm,1.3s
INK Inuvik 24.42 48 P **P** **16 51 01.7 +1.1**
INK IAmb IAmb 16 51 03.2
comp=Z,24nm,1.2s
HYT Haines Junctio 24.72 66 P **P** **16 51 04.1 +0.5**
KLR Kul'dur 24.86 261 P **P** **16 51 04.4 -0.4**
comp=Z,0.7nm,0.5s,baz=18,slow=12,SNR=2.4
KLR LR LR 17 01 30.8
comp=Z,312nm,19.7s,baz=48,slow=38
KLR Kul'dur 24.86 261 *ce*P **P** **16 51 05.9 +1.1**
KLR pmax pmax
comp=Z,5.0nm,1.0s
KLR MLR MLR
comp=Z,400nm,15.0s
ERM Erimo 25.06 235 *ce*P **P** **16 51 08.3 +1.6**
ERM pmax pmax
comp=Z,8.0nm,1.1s
SIT Sitka 27.38 73 P **P** **16 51 28.7 +1.2**
SIT pmax pmax
comp=Z,103nm,1.8s
SIT Sitka 27.38 73 P **P** **16 51 28.7 +1.2**
C36M Paulatuk 27.59 44 P **P** **16 51 29.5 +0.3**
C36M IAmb IAmb 16 51 36.0
comp=Z,29nm,1.7s
DLBC Dease Lake 29.18 67 P **P** **16 51 45.7 +2.1**
comp=Z,2.3nm,0.6s,baz=301,slow=8.4,SNR=4.8
DLBC LR LR 17 05 08.8
comp=Z,209nm,19.1s,baz=305,slow=40
DLBC Dease Lake 29.18 67 IAmb IAmb 16 51 46.3
comp=Z,24nm,1.9s
MJAR Matsushiro Arr 31.73 236 P **P** **16 52 05.3 -0.9**
comp=Z,1.2nm,0.8s,baz=28,slow=8.6,SNR=4.4
NRIK Noril'sk 33.77 321 P **P** **16 52 23.7 0.0**
comp=Z,4.0nm,0.7s,baz=73,slow=6.0,SNR=5.8
NRIK LR LR 17 07 53.6
comp=Z,29nm,20.2s,baz=64,slow=40
YKA Yellowknife Ar 33.80 53 P **P** **16 52 24.6 +0.6**
comp=Z,2.0nm,0.7s,baz=300,slow=8.2,SNR=11
YKA PcP **PcP** **16 55 01.9 -0.4**
comp=Z,0.3nm,0.6s,baz=274,slow=3.4,SNR=3.7
KSRS Korea Array 35.52 250 P **P** **16 52 38.4 -0.7**
comp=Z,0.6nm,0.6s,baz=27,slow=7.0,SNR=2.2
KSRS LR LR 17 07 46.0
comp=Z,56nm,18.3s,baz=42,slow=37
TLY Talaya 37.07 288 LR LR 17 07 32.1
comp=Z,70nm,19.7s,baz=34,slow=35
TLY Talaya 37.07 288 *i* P **P** **16 52 54.0 +1.7**
TLY pmax pmax
comp=Z,8.0nm,0.8s
TLY MLR MLR
comp=Z,197nm,15.0s
ULN Ulaanbaatar 37.98 280 *ce*P **P** **16 53 00.9 +0.7**
ULN pmax pmax
comp=Z,8.0nm,1.7s
ZAK Zakamensk 38.10 286 *e*P **P** **16 53 00.7 -0.4**
ZAK pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 38.33 281 P **P** **16 53 03.5 +0.5**
comp=Z,0.4nm,0.5s,baz=53,slow=6.4,SNR=2.5
SONM PcP **PcP** **16 55 16.5 +0.3**
comp=Z,0.8nm,0.8s,baz=38,slow=2.6,SNR=3.5
SONM LR LR 17 10 04.6
comp=Z,85nm,19.1s,baz=86,slow=38
H11N2 WAKE ISLAND Hy 40.72 186 T T 17 36 44.3
baz=3.3,slow=76,SNR=59
H11N3 WAKE ISLAND Hy 40.73 186 T T 17 36 44.8
baz=3.3,slow=76,SNR=75
H11N1 WAKE ISLAND Hy 40.73 186 T T 17 36 44.8
baz=3.3,slow=76,SNR=84
HHC Hu-ho-hao-te 40.83 269 *e*P **P** **16 53 24.0 +0.1**
HHC pmax pmax
comp=Z,8.0nm,0.9s
HHC pmax pmax
comp=Z,52nm,4.8s
HHC LR LR
comp=Z,140nm,14.6s
HHC LR LR
comp=Z,140nm,14.4s
HHC LR LR
comp=Z,160nm,14.5s
SPA0 Spitsbergen Ar 40.83 352 P **P** **16 53 23.5 +0.1**
SPA0 IAmb IAmb 16 53 43.4
comp=Z,23nm,1.2s
H11S1 WAKE ISLAND Hy 41.94 186 T T 17 38 46.7
baz=3.7,slow=76,SNR=100
H11S3 WAKE ISLAND Hy 41.96 186 T T 17 38 47.0
baz=3.7,slow=76,SNR=51
H11S2 WAKE ISLAND Hy 41.96 186 T T 17 38 47.3
baz=3.7,slow=76,SNR=120
WALA Waterton Lakes 42.42 70 P **P** **16 53 37.2 +0.3**
TIY Taiyuan 42.80 265 *e*P P 16 53 46.6 +6.6
TIY pmax pmax
comp=Z,11nm,0.5s
PINE Pine Mountain 42.83 81 P **P** **16 53 41.7 +1.4**
DAG Danmarks Havn 42.96 3 *i* P **P** **16 53 40.6 -0.1**
comp=Z,6.3nm,0.8s
DAG Danmarks Havn 42.96 3 *i* P **P** **16 53 40.6 -0.1**
DAG pmax pmax
comp=Z,6.0nm,0.8s
F10A Beach Ranch, E 43.05 76 P **P** **16 53 41.7 -0.2**
YBH Yreka Blue Hor 43.49 84 P **P** **16 53 46.4 +0.8**
YBH pmax pmax
comp=Z,6.0nm,0.9s
YBH Yreka Blue Hor 43.49 84 P **P** **16 53 46.4 +0.8**
K05A Summer Lake 43.65 82 P **P** **16 53 48.0 +1.1**
K05A IAmb IAmb 16 53 48.9
comp=Z,8.7nm,0.9s
BMO Blue Mountains 43.83 77 P **P** **16 53 49.0 +0.7**
BMO pmax pmax
comp=Z,5.0nm,1.2s
BMO Blue Mountains 43.83 77 P **P** **16 53 49.0 +0.7**
ZALV Zalesovo Beam 44.01 302 P **P** **16 53 48.7 -0.7**
comp=Z,0.6nm,0.5s,baz=47,slow=6.5,SNR=4.4
ZALV PcP **PcP** **16 55 33.4 -1.0**
comp=Z,1.4nm,0.6s,baz=24,slow=3.9,SNR=4.8
ZALV LR LR 17 14 10.1
comp=Z,326nm,18.6s,baz=50,slow=39
FCC Fort Churchill 44.04 48 P **P** **16 53 49.9 +0.3**
FCC pmax pmax
comp=Z,7.0nm,1.1s
FCC Fort Churchill 44.04 48 P **P** **16 53 49.9 +0.3**
NJ2 Nanjing 44.21 254 *e*P **P** **16 53 50.8 -0.5**
NJ2 pmax pmax
comp=Z,5.0nm,0.6s
MOD Modoc Plateau 44.55 82 P **P** **16 53 54.9 +0.8**
MOD IAmb IAmb 16 53 56.0
comp=Z,6.0nm,0.8s
WVOR Wild Horse Val 44.97 80 P **P** **16 53 58.1 +0.7**
WVOR pmax pmax
comp=Z,3.0nm,0.9s
WVOR Wild Horse Val 44.97 80 P **P** **16 53 58.1 +0.7**
MFID Camas Ranch 45.61 77 P **P** **16 54 02.7 +0.3**
SUMG Summit 45.78 12 *i* P **P** **16 54 04.8 +1.0**
comp=Z,35nm,1.2s
SUMG Summit 45.78 12 P **P** **16 54 04.2 +0.4**
SUMG pmax pmax
comp=Z,28nm,1.3s
SUMG Summit 45.78 12 P **P** **16 54 04.2 +0.4**
SUMG IAmb IAmb 16 54 11.4
comp=Z,28nm,1.3s
DGZ Jazzator, Alta 45.91 296 *i* P **P** **16 54 04.8 0.0**
DGZ pmax pmax
comp=Z,11nm,0.9s
MCMT McKenzie Canyo 45.99 74 P **P** **16 54 05.7 +0.1**
BEKR Beckworth 46.07 84 P **P** **16 54 05.9 -0.4**
AFDM Forest Hills D 46.47 85 P **P** **16 54 09.5 +0.3**
PNTR Pine Nut 47.04 84 P **P** **16 54 14.7 +0.8**
PNTR IAmb IAmb 16 54 21.0
comp=Z,7.8nm,0.7s
XAN Xi'an 47.45 265 P P 16 54 23.5 +6.6
XAN pP sP 16 54 32.3 +0.9
XAN pmax pmax
comp=Z,6.0nm,1.2s
XAN LR LR
comp=N,350nm,15.2s
XAN LR LR
comp=Z,280nm,16.3s
RLMT Red Lodge 47.46 71 P **P** **16 54 17.9 +0.8**
LAO LASA Array 47.71 67 P **P** **16 54 19.8 +1.0**
LAO IAmb IAmb 16 54 20.7
comp=Z,7.7nm,1.1s
GTA Gaotai 47.74 278 *e*P **P** **16 54 19.8 +0.6**
GTA pP pP 16 54 26.3 -3.3
GTA sP sP 16 54 29.5 -4.3
GTA SS SS 17 04 36.3 -4.8
GTA pmax pmax
comp=Z,3.0nm,0.8s
GTA pmax pmax
comp=Z,54nm,6.7s
GTA LR LR
comp=Z,130nm,15.6s
GTA LR LR
comp=Z,140nm,17.5s
GTA LR LR
comp=Z,230nm,16.5s
FXWY Fox Creek 47.75 74 P **P** **16 54 20.3 +1.0**
KVN Kaiserville 47.81 83 P **P** **16 54 20.6 +0.8**
KVN pmax pmax
comp=Z,3.0nm,1.0s
KVN Kaiserville 47.81 83 P **P** **16 54 20.6 +0.8**
ELK Elko 47.91 79 P **P** **16 54 21.4 +0.7**
ELK pmax pmax
comp=Z,3.0nm,0.9s
ELK Elko 47.91 79 P **P** **16 54 21.4 +0.7**
RYN Ryan 47.93 84 P **P** **16 54 21.0 +0.3**
ARCES ARCESS Array B 48.06 344 P **P** **16 54 20.6 -0.5**
comp=Z,5.5nm,0.6s,baz=29,slow=8.8,SNR=38
ARCES LR LR 17 16 07.6
comp=Z,72nm,19.4s,baz=6.5,slow=38
NVAR Mina Array Bea 48.19 84 P **P** **16 54 23.5 +0.7**
comp=Z,2.4nm,0.7s,baz=313,slow=7.3,SNR=20
NVAR PcP **PcP** **16 55 51.1 +1.4**
comp=Z,0.7nm,0.7s,baz=297,slow=4.0,SNR=3.2
NVAR LR LR 17 12 59.2
comp=Z,102nm,20.5s,baz=316,slow=34
NV11 Mina Array Sit 48.26 84 P **P** **16 54 24.1 +0.8**
NV11 IAmb IAmb 16 54 25.1
comp=Z,7.6nm,1.4s
LZH Lanzhou 48.34 271 *e*P **P** **16 54 25.6 +1.7**
LZH pP pP 16 54 33.1 -1.2
LZH sP sP 16 54 36.6 -1.9
LZH pmax pmax
comp=Z,28nm,1.1s
MDPB Devils Postpil 48.43 85 P **P** **16 54 25.6 +0.9**
MDPB IAmb IAmb 16 54 26.9
comp=Z,6.0nm,0.9s
OMMB Old Mammoth Mi 48.48 85 P **P** **16 54 25.5 +0.3**
KURK Kurchatov 48.97 303 *ce*P **P** **16 54 28.0 -0.4**
KURK pmax pmax
comp=Z,14nm,1.7s
KURK Kurchatov 48.97 303 P **P** **16 54 27.8 -0.6**
HWUT Hardware Ranch 49.03 76 P **P** **16 54 29.9 +0.7**
HWUT IAmb IAmb 16 54 31.2
comp=Z,8.2nm,1.2s
KURBB Kurchatov Arra 49.08 303 P **P** **16 54 28.5 -0.7**
comp=Z,5.3nm,0.8s,baz=40,slow=7.6,SNR=46
KURBB PP **PP** **16 56 21.4 -1.1**
comp=Z,3.5nm,0.8s,baz=46,slow=9.5,SNR=7.3
BW06 Boulder Array 49.11 73 P **P** **16 54 30.4 +0.5**
PD31 Pinedale Array 49.11 73 P **P** **16 54 30.1 +0.3**
PDAR Pinedale Array 49.11 73 P **P** **16 54 30.1 +0.3**
comp=Z,1.9nm,0.8s,baz=316,slow=4.1,SNR=12
PDAR LR LR 17 16 51.2
comp=Z,45nm,18.1s,baz=8.5,slow=38
ULM Lac du Bonnet 49.58 57 P **P** **16 54 33.4 +0.4**
comp=Z,3.6nm,0.6s,baz=335,slow=6.9,SNR=3.5
ULM Lac du Bonnet 49.58 57 P **P** **16 54 33.4 +0.4**
ULM pmax pmax
comp=Z,6.0nm,0.8s
ULM Lac du Bonnet 49.58 57 P **P** **16 54 33.4 +0.4**
ULM IAmb IAmb 16 54 34.9
comp=Z,5.9nm,0.8s
R11A Troy Canyon, C 49.59 82 P **P** **16 54 33.8 +0.3**
NLU North Lily Min 50.06 77 P **P** **16 54 37.7 +0.6**
WMQ Urumqi 50.18 291 *e*P **P** **16 54 39.8 +2.0**
WMQ pmax pmax
comp=Z,10.0nm,0.7s
WMQ pmax pmax
comp=Z,62nm,4.5s
ENH Enshi 50.22 262 P **P** **16 54 37.5 -0.7**
ENH IAmb IAmb 16 54 44.1
comp=Z,5.1nm,0.8s
E28A Huff 50.29 64 P **P** **16 54 39.3 +0.8**
E28A IAmb IAmb 16 54 40.6
comp=Z,18nm,0.9s
PSUT Pine Spring 50.30 80 P **P** **16 54 39.5 +0.6**
TPNV Topopah Spring 50.36 83 P **P** **16 54 38.2 -1.1**
TPNV pmax pmax
comp=Z,18nm,2.0s
TPNV Topopah Spring 50.36 83 P **P** **16 54 38.2 -1.1**
TPNV IAmb IAmb 16 54 53.9
comp=Z,18nm,1.9s
MK31 Makanchi Array 50.37 297 P **P** **16 54 37.7 -1.4**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 50.37 297 P **P** **16 54 37.7 -1.4**
MKAR Makanchi Array 50.37 297 P **P** **16 54 38.0 -1.1**
comp=Z,3.2nm,0.7s,baz=48,slow=7.3,SNR=39
MKAR PP **PP** **16 56 36.4 +2.0**
comp=Z,1.4nm,0.7s,baz=46,slow=8.7,SNR=4.1
MKAR LR LR 17 17 05.7
comp=Z,209nm,18.7s,baz=44,slow=38
MAKZ Makanchi 50.49 297 P **P** **16 54 38.7 -1.4**
MAKZ pmax pmax
comp=Z,4.0nm,1.0s
MAKZ Makanchi 50.49 297 P **P** **16 54 38.7 -1.4**
BVAR Borovoye Array 50.50 310 P **P** **16 54 39.9 -0.1**
comp=Z,6.4nm,0.8s,baz=52,slow=7.6,SNR=28
BVAR PcP **PcP** **16 55 57.7 +0.2**
comp=Z,0.7nm,0.6s,baz=23,slow=4.7,SNR=1.3
BRVK Borovoye 50.52 310 *ce*P **P** **16 54 40.0 -0.1**
BRVK pmax pmax
comp=Z,11nm,1.3s
BRVK Borovoye 50.52 310 P **P** **16 54 39.4 -0.7**
BRVK IAmb IAmb 16 54 40.8
comp=Z,17nm,1.4s
K22A Casper 50.63 71 P **P** **16 54 42.1 +0.8**
K22A IAmb IAmb 16 54 42.7
comp=Z,9.5nm,1.2s
RSSD Black Hills 50.66 68 P **P** **16 54 41.5 0.0**
RSSD pmax pmax
comp=Z,4.0nm,1.0s
RSSD Black Hills 50.66 68 P **P** **16 54 41.5 0.0**
TMUT Trail Mountain 50.99 77 P **P** **16 54 45.2 +0.9**
MSU Marysvale 51.13 79 P **P** **16 54 46.2 +1.0**
MSU Marysvale 51.13 79 P **P** **16 54 46.2 +1.0**
Q16A Castle Valley 51.30 78 P **P** **16 54 47.5 +1.0**
CCUT Cedar City 51.31 80 P **P** **16 54 47.0 +0.5**
GSC Goldstone, Bar 51.39 85 P **P** **16 54 47.8 +0.8**
GSC pmax pmax
comp=Z,6.0nm,0.9s
GSC Goldstone, Bar 51.39 85 P **P** **16 54 47.8 +0.8**
SRU San Rafael Swe 51.47 77 P **P** **16 54 48.0 +0.3**
SRU pmax pmax
comp=Z,10.0nm,0.8s

SRU **San Rafael Swe** 51.47 77 P **P** 16 54 48.0 +0.3
O20A **White River Ci** 51.77 74 P **P** 16 54 50.4 +0.4
O20A IAmb IAmb 16 55 00.2
comp=Z,7.9nm,0.9s
LCMT **Little Creek M** 51.79 81 P **P** 16 54 50.3 +0.2
ARU **Arti** 51.97 319*c i* P **P** 16 54 51.4 +0.4
ARU 16 56 01.0
ARU 16 56 48.9
ARU S **S** 17 02 12.1 +0.8
ARU SS **SS** 17 05 45.5 -2.2
ARU pmax pmax
comp=Z,4.0nm,1.4s
ARU MLR MLR
comp=Z,110nm,17.0s
KNB **Kanab** 51.99 80 P **P** 16 54 52.7 +1.1
KNB pmax pmax
comp=Z,7.0nm,1.3s
KNB **Kanab** 51.99 80 P **P** 16 54 52.7 +1.1
CD2 **Chengdu** 52.53 268 P **P** 16 54 53.8 -1.7
CD2 pmax pmax
comp=Z,10.0nm,0.5s
PV09 **Paradox Valley** 52.62 76 P **P** 16 54 56.8 +0.4
PV21 **Cone Mtn., Par** 52.65 76 P **P** 16 54 57.1 +0.6
PV23 **Carpenter Ridg** 52.72 76 P **P** 16 54 57.6 +0.5
PV23 IAmb IAmb 16 54 58.7
comp=Z,7.8nm,0.8s
U15A **North Rim** 52.72 80 P **P** 16 54 57.8 +0.7
PV22 **Blue Mesa, Par** 52.76 76 P **P** 16 54 57.7 +0.4
PV22 IAmb IAmb 16 54 59.0
comp=Z,7.8nm,0.8s
PV14 **Lion Creek, Pa** 52.77 76 P **P** 16 54 58.0 +0.5
PV04 **Paradox Valley** 52.81 76 P **P** 16 54 58.4 +0.7
PV04 IAmb IAmb 16 54 59.3
comp=Z,9.2nm,0.7s
PV20 **West Nyswonger** 52.82 76 P **P** 16 54 58.6 +0.8
PV20 IAmb IAmb 16 54 59.4
comp=Z,7.3nm,0.9s
PV19 **Morning Glory** 52.84 76 P **P** 16 54 58.3 +0.4
PV19 IAmb IAmb 16 55 13.1
comp=Z,11nm,1.3s
PV17 **East Wray Mesa** 52.88 76 P **P** 16 54 58.7 +0.6
PV17 IAmb IAmb 16 54 59.8
comp=Z,9.7nm,0.8s
PV07 **Paradox Valley** 52.90 76 P **P** 16 54 58.8 +0.4
PV07 IAmb IAmb 16 54 59.9
comp=Z,7.6nm,0.9s
PV11 **David Mesa, Pa** 52.90 76 P **P** 16 54 59.1 +0.8
PV11 IAmb IAmb 16 55 00.0
comp=Z,28nm,1.4s
PV12 **Saucer Basin,** 52.92 76 P **P** 16 54 59.3 +0.7
PV12 IAmb IAmb 16 55 02.5
comp=Z,6.4nm,0.8s
PV18 **Skein Mesa, Pa** 52.93 76 P **P** 16 54 59.0 +0.5
PV18 IAmb IAmb 16 55 00.2
comp=Z,10nm,0.9s
PV03 **Paradox Valley** 52.95 76 P **P** 16 54 59.5 +0.7
PV03 IAmb IAmb 16 55 00.3
comp=Z,8.3nm,0.9s
PV05 **Paradox Valley** 52.97 77 P **P** 16 54 59.3 +0.4
PV05 IAmb IAmb 16 55 00.6
comp=Z,9.0nm,0.9s
W13A **Hualapai Mount** 52.99 83 P **P** 16 54 59.5 +0.4
PV13 **Radium Mtn., P** 53.04 76 P **P** 16 55 00.2 +0.8
PV13 IAmb IAmb 16 55 01.1
comp=Z,11nm,0.8s
PV02 **Paradox Valley** 53.04 76 P **P** 16 55 00.2 +0.8
PV02 IAmb IAmb 16 55 01.1
comp=Z,7.1nm,0.9s
PV15 **Paradox Valley** 53.06 76 P **P** 16 54 60.0 +0.4
PV15 IAmb IAmb 16 55 01.1
comp=Z,11nm,0.8s
PV01 **Paradox Valley** 53.18 76 P **P** 16 55 01.0 +0.6
EYMN **Ely** 53.18 56 P **P** 16 55 01.0 +1.0
EYMN IAmb IAmb 16 55 01.8
comp=Z,9.4nm,0.9s
KLMR **Klimovskoe** 53.45 333 *e*P **P** 16 55 00.7 -1.1
KLMR pmax pmax
comp=Z,10.0nm,0.8s
KLMR **Klimovskoe** 53.45 333 *e*P **P** 16 55 00.7 -1.1
KLMR AMP 16 55 02.3
comp=Z,10.0nm,0.8s
WUAZ **Wupatki** 53.89 80 P **P** 16 55 06.8 +1.2
F36A **Milaca** 53.98 59 P **P** 16 55 06.3 +0.4
E38A **The Farm, Brul** 54.22 57 P **P** 16 55 08.2 +0.6
E38A IAmb IAmb 16 55 09.0
comp=Z,19nm,1.0s
ECSD **EROS Data Cent** 54.31 63 P **P** 16 55 09.1 +0.7
ECSD IAmb IAmb 16 55 20.5
comp=Z,26nm,2.0s
GYA **Guiyang** 54.76 262 *e*P **P** 16 55 16.6 +4.6
GYA pmax pmax
comp=Z,10.0nm,1.0s
SPMN **Marine on St.** 54.79 59 P **P** 16 55 12.7 +0.9
SPMN IAmb IAmb 16 55 13.5
comp=Z,10nm,0.7s
113A **Mohawk Valley,** 54.92 84 P **P** 16 55 13.8 +0.9
SDCO **Great Sand Dun** 54.96 74 P **P** 16 55 14.2 +0.7
D41A **Chassel** 55.09 55 P **P** 16 55 14.6 +0.7
D41A IAmb IAmb 16 55 37.0
comp=Z,18nm,1.1s
KSCO **Kaye Shedlock'** 55.31 71 P **P** 16 55 16.7 +0.9
KSCO IAmb IAmb 16 55 17.9
comp=Z,20nm,1.2s
X18A **Snowflake** 55.38 80 P **P** 16 55 17.6 +1.2
X18A IAmb IAmb 16 55 19.2
comp=Z,14nm,1.0s
BGNE **Belgrade** 55.47 66 P **P** 16 55 17.9 +1.0
I37A **Lemond, Waseca** 55.50 61 P **P** 16 55 18.2 +1.2
FIA1 **FINESS Array S** 55.55 340 P **P** 16 55 16.2 -0.8
FIA1 IAmb IAmb 16 57 15.2
comp=Z,20nm,1.6s
FINES **FINESS Array B** 55.55 340 P **P** 16 55 16.4 -0.7
comp=Z,3.0nm,0.7s,baz=43,slow=8.6,SNR=12
FINES LR LR 17 24 17.2
comp=Z,57nm,18.1s,baz=20,slow=42
COWI **Conover** 55.63 56 P **P** 16 55 18.2 +0.4
COWI IAmb IAmb 16 55 21.1
comp=Z,5.9nm,0.9s
L34A **Svendsen Farm,** 55.83 64 P **P** 16 55 19.4 0.0
G40A **Rib Lake** 55.85 57 P **P** 16 55 20.2 +0.7
G40A IAmb IAmb 16 55 21.0
comp=Z,7.6nm,0.9s
214A **Organ Pipe Nat** 56.05 84 P **P** 16 55 21.4 +0.3
214A IAmb IAmb 16 55 23.4
comp=Z,7.4nm,1.1s
SCHQ **Schefferville** 56.27 36 P **P** 16 55 22.4 +0.1
comp=Z,1.8nm,0.6s,baz=292,slow=16,SNR=1.8
SCHQ **Schefferville** 56.27 36 IAmb IAmb 16 55 41.3
comp=Z,23nm,1.8s
E43A **Lone Tree Farm** 56.28 55 P **P** 16 55 22.7 +0.3
E43A IAmb IAmb 16 56 05.3
comp=Z,10nm,1.1s
TARG **Taragay, Kyrgy** 56.33 296 P **P** 16 55 23.1 -0.4
TARG IAmb IAmb 16 55 36.3
comp=Z,8.4nm,1.2s
TKM2 **Tokmak 2** 56.35 299 P **P** 16 55 23.8 +0.5
SNR=5.7
USP **Ospenovka** 56.55 300 P **P** 16 55 25.1 +0.6
SNR=5.2
CHMS **Chumysh** 56.66 299 P **P** 16 55 25.8 +0.6
SNR=6.0
ANMO **Albuquerque** 56.75 77 *ce*P **P** 16 55 26.9 +0.7
ANMO pmax pmax
comp=Z,3.0nm,0.8s
ANMO **Albuquerque** 56.75 77 P **P** 16 55 26.7 +0.5
ANMO IAmb IAmb 16 55 28.4
comp=Z,5.9nm,1.1s
I40A **Norwalk** 56.79 59 P **P** 16 55 26.4 +0.3
I40A IAmb IAmb 16 55 27.6
comp=Z,16nm,0.9s
KBK **Karagaybulak** 56.85 299 P **P** 16 55 27.5 +0.7
SNR=7.6
N35A **Tabor** 57.04 64 P **P** 16 55 28.7 +0.7
AAK **Ala-Archa** 57.06 299 P **P** 16 55 28.6 +0.3
comp=Z,7.8nm,0.8s,baz=5.8,slow=2.6,SNR=26
AAK **Ala-Archa** 57.06 299 P **P** 16 55 28.7 +0.5
SNR=9.7
AAK **Ala-Archa** 57.06 299 *ce*P **P** 16 55 28.9 +0.6
AAK pmax pmax
comp=Z,9.0nm,0.7s
AAK **Ala-Archa** 57.06 299 P **P** 16 55 28.4 +0.1
AAK IAmb IAmb 16 55 29.6
comp=Z,9.4nm,0.8s
AKTO **Aktyubinsk** 57.12 316 P **P** 16 55 28.0 -0.4
comp=Z,1.4nm,0.7s,baz=41,slow=7.8,SNR=4.5

LENM **Lemitar** 57.12 78 P **P** 16 55 30.9 +2.0
SCIA **State Center** 57.27 62 P **P** 16 55 30.1 +0.5
BNM **Barren Site** 57.31 78 P **P** 16 55 31.4 +1.2
EKS2 **Erkin-Say** 57.35 300 P **P** 16 55 30.9 +0.6
SNR=13
I42A **Draeger Farm,** 57.51 58 P **P** 16 55 32.0 +0.8
I42A IAmb IAmb 16 55 32.6
comp=Z,9.6nm,0.7s
H43A **Windswept, Lux** 57.51 56 P **P** 16 55 32.1 +0.8
R32A **Long Quarter,** 57.61 68 P **P** 16 55 32.4 +0.4
R32A IAmb IAmb 16 55 33.7
comp=Z,11nm,0.9s
NC204 **NORSAR Array S** 57.72 349 P **P** 16 55 32.1 -0.4
JFWS **Jewell Farm** 57.74 59 P **P** 16 55 32.6 -0.3
JFWS pmax pmax
comp=Z,7.0nm,0.8s
JFWS **Jewell Farm** 57.74 59 P **P** 16 55 32.6 -0.3
JFWS IAmb IAmb 16 56 41.5
comp=Z,7.1nm,0.8s
NC405 **NORSAR Array S** 57.79 348 P **P** 16 55 32.5 -0.5
AML **Almayashu** 57.82 299 P **P** 16 55 35.0 +1.0
SNR=8.5
NB201 **NORSAR Array S** 57.90 349 P **P** 16 55 33.4 -0.3
NB2 **NORSAR Subarra** 57.91 349 P **P** 16 55 33.5 -0.3
comp=Z,1.1nm,0.6s,baz=14,slow=7.9
NOA **NORSAR Array B** 57.91 349 P **P** 16 55 33.5 -0.3
comp=Z,2.9nm,0.8s,baz=12,slow=7.1,SNR=6.2
NOA LR LR 17 21 19.8
comp=Z,35nm,19.5s,baz=355,slow=37
L40A **Anamosa** 58.02 60 P **P** 16 55 34.8 0.0
L40A IAmb IAmb 16 57 23.3
comp=Z,14nm,1.0s
N38A **Joes South For** 58.17 63 P **P** 16 55 36.0 +0.1
N38A IAmb IAmb 16 55 36.9
comp=Z,14nm,0.9s
KK31 **Karatay Array** 58.38 302 P **P** 16 55 37.2 -0.2
KK31 pmax pmax
comp=Z,10.0nm,1.0s
KK31 **Karatay Array** 58.38 302 P **P** 16 55 37.2 -0.2
KK31 IAmb IAmb 16 55 38.3
comp=Z,10nm,1.0s
VLDQ **Val d'Or** 58.51 47 P **P** 16 55 36.6 -1.5
VLDQ IAmb IAmb 16 55 37.4
comp=Z,9.7nm,1.0s
K43A **Burlington** 58.72 58 P **P** 16 55 39.9 +0.2
L42A **Oliver, Polo** 58.73 59 P **P** 16 55 39.6 -0.2
L42A IAmb IAmb 16 55 40.2
comp=Z,7.6nm,0.8s
ARSB **Arslanbob** 58.78 299 P **P** 16 55 40.5 +0.2
ARSB pmax pmax
comp=Z,10.0nm,0.8s
ARSB **Arslanbob** 58.78 299 P **P** 16 55 40.5 +0.2
ARSB IAmb IAmb 16 55 41.7
comp=Z,10.0nm,0.8s
KSH **Kashi** 58.94 296 *e*P **P** 16 55 45.8 +4.3
KSH sP sP 16 55 56.7 +0.5
KSH pmax pmax
comp=Z,36nm,1.2s
KSH pmax pmax
comp=Z,220nm,3.7s
KSH LR LR
comp=Z,180nm,10.6s
KSH LR LR
comp=Z,200nm,10.8s
KSH LR LR
comp=Z,240nm,13.4s
AMTX **Amarillo** 59.09 73 P **P** 16 55 42.5 0.0
AMTX IAmb IAmb 16 55 43.8
comp=Z,8.3nm,0.8s
N41A **Harden Midland** 59.28 61 P **P** 16 55 43.6 0.0
D53A **Lac Vacive, Po** 59.29 48 P **P** 16 55 43.1 -0.5
D53A IAmb IAmb 16 55 43.9
comp=Z,6.3nm,0.8s
MSTX **Muleshoe** 59.31 75 P **P** 16 55 44.6 +0.6
MSTX IAmb IAmb 16 55 45.4
comp=Z,8.9nm,0.8s
OBN **Obninsk** 59.31 332 *e*P **P** 16 55 44.7 +1.1
OBN *e* 16 57 54.8
OBN *e*S **S** 17 03 48.4 -0.6
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN MLR MLR
comp=Z,61nm,15.0s
QIZ **Qiongzhong** 59.51 254 P **P** 16 55 44.8 -0.6
QIZ S **S** 17 03 53.1 +0.7
QIZ LR LR
comp=Z,150nm,20.6s
QIZ LR LR
comp=Z,150nm,13.7s
QIZ LR LR
comp=Z,120nm,14.7s
P40A **Paris** 59.72 63 P **P** 16 55 46.6 -0.1
P40A IAmb IAmb 16 55 47.6
comp=Z,7.6nm,0.8s
T35A **Sooner Cattle** 59.85 68 P **P** 16 55 47.4 -0.2
T35A IAmb IAmb 16 55 48.5
comp=Z,5.7nm,0.8s
MNTX **Cornudas Mount** 59.91 78 P **P** 16 55 49.5 +1.4
MNTX IAmb IAmb 16 55 50.5
comp=Z,6.7nm,0.8s
M44A **Midewin, Midew** 59.93 59 P **P** 16 55 48.0 -0.1
HDIL **Hopedale** 60.08 60 P **P** 16 55 49.2 +0.1
SLVN **Son La** 60.42 261 P **P** 16 55 51.6 -0.2
SLVN IAmb IAmb 16 55 57.9
comp=Z,26nm,1.9s
WMOK **Wichita Mounta** 60.58 71 P **P** 16 55 53.0 +0.4
WMOK pmax pmax
comp=Z,6.0nm,1.0s
WMOK **Wichita Mounta** 60.58 71 P **P** 16 55 53.0 +0.4
WMOK IAmb IAmb 16 55 54.0
comp=Z,6.0nm,1.0s
R40A **Maddies Statio** 60.64 64 P **P** 16 55 52.8 -0.2
R40A IAmb IAmb 16 55 53.6
comp=Z,7.2nm,0.7s
P43A **Skaggs, Pawnee** 60.74 61 P **P** 16 55 53.3 -0.3
BTK **Batken** 60.76 300 P **P** 16 55 53.9 0.0
BTK pmax pmax
comp=Z,14nm,0.8s
BTK **Batken** 60.76 300 P **P** 16 55 53.9 0.0
L48A **N Adams** 60.98 56 P **P** 16 55 55.6 +0.3
TUL1 **Leonard** 61.01 68 P **P** 16 55 55.6 +0.1
TUL1 IAmb IAmb 16 55 56.2
comp=Z,7.9nm,0.8s
U38A **Gravette** 61.21 67 P **P** 16 55 56.2 -0.7
U38A IAmb IAmb 16 55 57.2
comp=Z,4.3nm,0.8s
CCM **Cathedral Cave** 61.29 63 P **P** 16 55 57.1 -0.3
CCM pmax pmax
comp=Z,6.0nm,1.0s
CCM **Cathedral Cave** 61.29 63 P **P** 16 55 57.1 -0.3
CCM IAmb IAmb 16 57 01.5
comp=Z,6.1nm,1.0s
N47A **Urbana** 61.34 57 P **P** 16 55 57.5 -0.2
N47A IAmb IAmb 16 55 58.0
comp=Z,11nm,0.8s
HHAR **Hobbs** 61.55 66 P **P** 16 55 58.5 -0.7
HHAR IAmb IAmb 16 55 59.3
comp=Z,5.9nm,0.7s
MGMO **Mountain Grove** 61.58 64 P **P** 16 55 58.8 -0.6
P46A **Rosedale** 61.75 59 P **P** 16 56 00.1 -0.4
ABTX **Abilene, Hawle** 61.91 73 P **P** 16 56 01.8 +0.2
ABTX IAmb IAmb 16 56 03.0
comp=Z,8.6nm,0.8s
N49A **Columbus Grove** 61.93 56 P **P** 16 56 01.6 0.0
T42A **Van Buren** 62.21 64 P **P** 16 56 03.1 -0.4
T42A IAmb IAmb 16 56 34.3
comp=Z,5.8nm,0.5s
S44A **Carbondale** 62.47 62 P **P** 16 56 05.0 -0.3
J55A **Hilton** 62.48 50 P **P** 16 56 04.3 -1.0
J55A IAmb IAmb 16 56 04.9
comp=Z,8.4nm,0.8s
O49A **Covington** 62.48 57 P **P** 16 56 05.3 -0.1
W39A **Magazine** 62.52 67 P **P** 16 56 05.8 +0.2
E62A **Clayton Lake** 62.57 43 P **P** 16 56 05.9 +0.1
P48A **Milroy** 62.64 58 P **P** 16 56 05.8 -0.6
TX31 **Lajitas Ar. Si** 62.69 78 P **P** 16 56 07.8 +0.8
TX32 **Lajitas Array** 62.69 78 P **P** 16 56 07.9 +0.9
TX32 IAmb IAmb 16 56 09.0
comp=Z,6.7nm,0.9s
TXAR **Lajitas Array** 62.69 78 P **P** 16 56 08.1 +1.1
comp=Z,3.6nm,0.8s,baz=315,slow=5.0,SNR=36
TXAR LR LR 17 23 22.1
comp=Z,61nm,19.0s,baz=0.0,slow=36
M54A **Oil Creek Stat** 63.26 53 P **P** 16 56 10.1 -0.5
N53A **Lisbon** 63.39 54 P **P** 16 56 11.3 -0.1

TAPN **Taplejung** 63.40 279 *e*P **P** 16 56 10.8 -1.2
comp=Z,156nm,0.7s
UALR **University of** 63.52 66 P **P** 16 56 10.7 -1.7
L56A **Greenwood** 63.54 51 P **P** 16 56 11.4 -1.1
O52A **Adamsville** 63.57 55 P **P** 16 56 12.3 -0.4
O52A IAmb IAmb 16 56 13.2
comp=Z,10nm,0.8s
N54A **Moraine State** 63.60 53 P **P** 16 56 12.5 -0.3
JCT **Junction City** 63.60 75 P **P** 16 56 13.0 0.0
JCT pmax pmax
comp=Z,17nm,1.2s
JCT **Junction City** 63.60 75 P **P** 16 56 13.0 0.0
F64A **Sherman** 63.62 42 P **P** 16 56 12.6 -0.3
M55A **Ridgway** 63.65 52 P **P** 16 56 12.7 -0.4
GUN **Gumba** 63.83 281 *e*P **P** 16 56 14.0 -0.9
comp=Z,41nm,0.7s
T47A **Sharon Grove** 63.99 61 P **P** 16 56 15.4 0.0
T47A IAmb IAmb 16 56 16.3
comp=Z,12nm,0.8s
RGN **Rugen** 64.05 346 *e*P **P** 16 56 16.6 +1.1
comp=Z,20nm,0.6s,baz=11,slow=6.2
RAMN **Ramite** 64.28 280 *e*P **P** 16 56 16.5 -1.2
comp=Z,17nm,0.7s
PKI **Pulchoki** 64.34 281 *e*P **P** 16 56 17.1 -1.2
comp=Z,11nm,0.7s
PKIN **Phulchoki** 64.35 281 *e*P **P** 16 56 17.1 -1.1
comp=Z,11nm,0.6s
WVT **Waverly** 64.40 62 P **P** 16 56 18.2 +0.1
WVT pmax pmax
comp=Z,15nm,0.7s
WVT **Waverly** 64.40 62 P **P** 16 56 18.2 +0.1
L59A **Walton** 64.45 49 P **P** 16 56 17.7 -0.7
DANN **Dangsing** 64.50 283 *e*P **P** 16 56 18.6 -0.6
comp=Z,52nm,0.6s
U49A **Red Boiling Sp** 64.97 60 P **P** 16 56 21.9 +0.1
BSEG **Bad Segeberg** 65.00 348 *e*P **P** 16 56 22.7 +1.0
comp=Z,4.6nm,0.6s,baz=11,slow=6.2
R53A **Hurricane** 65.04 56 P **P** 16 56 22.2 0.0
KOLN **Koldanda** 65.06 283 *e*P **P** 16 56 21.8 -1.0
comp=Z,15nm,0.7s
OXF **Oxford** 65.06 64 P **P** 16 56 22.5 +0.1
OXF pmax pmax
comp=Z,20nm,0.8s
OXF **Oxford** 65.06 64 P **P** 16 56 22.5 +0.1
AKASG **Malin Array Be** 65.08 334 P **P** 16 56 21.5 -0.7
comp=Z,6.7nm,0.6s,baz=23,slow=6.5,SNR=13
AKASG LR LR 17 29 25.4
comp=Z,51nm,18.2s,baz=25,slow=40
AKBB **Malin Array Si** 65.08 334 P **P** 16 56 21.1 -1.1
AKBB pmax pmax
comp=Z,7.0nm,1.0s
AKBB **Malin Array Si** 65.08 334 P **P** 16 56 21.1 -1.1
AKBB IAmb IAmb 16 56 22.4
comp=Z,6.6nm,0.9s
CLTN **Cedars of Leba** 65.08 61 P **P** 16 56 22.5 -0.1
V48A **Smith Brothers** 65.17 61 P **P** 16 56 22.8 -0.3
V48A IAmb IAmb 16 56 23.8
comp=Z,6.2nm,0.6s
CMAR **Chiang Mai Arr** 65.30 264 P **P** 16 56 23.7 -0.5
comp=Z,0.7nm,0.8s,baz=26,slow=9.0,SNR=6.6
CMAR LR LR 17 28 07.1
comp=Z,98nm,18.2s,baz=149,slow=39
Y45A **Yeager Farm, C** 65.54 64 P **P** 16 56 26.2 +0.6
R55A **Marlinton** 65.83 55 P **P** 16 56 27.1 -0.3
V51A **Loudon** 66.18 59 P **P** 16 56 29.4 -0.2
GBN **Guysborough** 66.21 38 P **P** 16 56 29.3 -0.3
CPCT **Cooper Cave** 66.41 60 P **P** 16 56 30.9 -0.2
CPCT IAmb IAmb 16 56 31.5
comp=Z,6.1nm,0.8s
V52A **Sevierville** 66.47 59 P **P** 16 56 31.1 -0.4
V52A IAmb IAmb 16 56 32.2
comp=Z,8.2nm,0.9s
DSB **Dublin** 66.70 358 P **P** 16 56 33.2 +0.5
FPAL **Fort Paine** 66.71 61 P **P** 16 56 32.7 -0.4
FPAL IAmb IAmb 16 56 33.9
comp=Z,8.7nm,0.8s
S57A **Dark Hollow, R** 66.75 54 P **P** 16 56 33.7 +0.4
Y49A **Blount Mountai** 66.94 62 P **P** 16 56 34.0 -0.5
V53A **Saluda** 66.95 58 P **P** 16 56 34.6 0.0
LVV **L'vov** 66.97 337 *e*P **P** 16 56 34.2 -0.2
CLZ **Clausthal** 67.06 347 *e*P **P** 16 56 35.9 +0.9
comp=Z,6.3nm,0.9s,baz=11,slow=6.2
CLL **Collm** 67.27 345 *e*P **P** 16 56 37.0 +0.7
comp=Z,3.0nm,1.1s
CLL *i* pP **pP** 16 56 42.7 -4.3
comp=Z,7.0nm,1.3s
CLL LmV 17 26 00.0
comp=Z,100nm,21.0s
CLL **Collm** 67.27 345 *e*P **P** 16 56 37.0 +0.7
CLL *i* 16 56 42.7
CLL pmax pmax
comp=Z,3.0nm,1.1s
OJC **Ojcow** 67.33 340 *e*P **P** 16 56 35.0 -1.8
OJC **Ojcow** 67.33 340 P **P** 16 56 36.6 -0.2
OJC pmax pmax
comp=Z,7.0nm,0.6s
OJC **Ojcow** 67.33 340 P **P** 16 56 36.6 -0.2
OJC IAmb IAmb 16 56 37.6
comp=Z,7.4nm,0.6s
LRAL **Lakeview Retre** 67.38 63 P **P** 16 56 36.5 -0.8
LRAL IAmb IAmb 16 56 37.6
comp=Z,5.0nm,0.7s
KWP **Kalwaria Pacla** 67.39 338 *e*P **P** 16 56 38.0 +0.8
KWP **Kalwaria Pacla** 67.39 338 P **P** 16 56 37.3 +0.1
KWP pmax pmax
comp=Z,22nm,0.9s
KWP **Kalwaria Pacla** 67.39 338 P **P** 16 56 37.2 +0.1
BRG **Berggiesshubel** 67.57 345 *e*(P) **P** 16 56 37.9 -0.3
comp=Z,1.6nm,1.0s
BRG **Berggiesshubel** 67.57 345 *e*P **P** 16 56 37.9 -0.3
BRG pmax pmax
comp=Z,2.0nm,1.0s
FBE **Freiberg** 67.60 345 *e*P **P** 16 56 38.8 +0.3
comp=Z,14nm,1.5s,baz=11,slow=6.2
SORM **Soroca** 67.69 334 ⇓P **P** 16 56 38.7 -0.3
SORM **Soroca** 67.69 334 ⇓P **P** 16 56 38.7 -0.3
DPC **Dobruska-Polom** 67.75 343 *e*P **P** 16 56 39.5 0.0
DPC *ex* x 16 56 45.9
GEYT **Alibeck** 67.78 308 P **P** 16 56 40.5 +0.6
comp=Z,2.9nm,0.7s,baz=13,slow=1.9,SNR=8.5
GYA0B **ALIBECK ARRAY** 67.78 308 P **P** 16 56 40.6 +0.7
GYA0B IAmb IAmb 16 56 47.1
comp=Z,7.7nm,0.9s
KIV **Kislovodsk** 67.82 322 *e*P **P** 16 56 41.1 +1.1
KIV pmax pmax
comp=Z,3.0nm,0.9s
KIV MLR MLR
comp=Z,52nm,19.0s
KBZ **Khabaz** 67.96 322 LR LR 17 30 30.3
comp=Z,59nm,19.9s,baz=2.0,slow=40
KBZ **Khabaz** 67.96 322 *ce*P **P** 16 56 42.1 +1.4
KBZ pmax pmax
comp=Z,4.0nm,0.9s
MOX **Moxa** 68.09 346 *e*P **P** 16 56 41.9 +0.3
comp=Z,4.4nm,1.1s,baz=11,slow=6.2
KOLS **Kolonicke sedl** 68.14 338 *e*P **P** 16 56 42.1 +0.2
KOLS **Kolonicke sedl** 68.14 338 *e*P **P** 16 56 42.1 +0.2
PLN **Plauen** 68.18 346 *e*P **P** 16 56 42.4 +0.3
comp=Z,4.1nm,1.0s,baz=11,slow=6.2
GUNZ **Gunzen** 68.28 346 *e*P **P** 16 56 43.2 +0.5
comp=Z,5.8nm,1.2s,baz=11,slow=6.2
WERN **Wernitzgruen** 68.35 345 *e*P **P** 16 56 43.7 +0.5
comp=Z,4.3nm,0.9s,baz=11,slow=6.2
PRU **Pruhonice** 68.36 344 *e*P P 16 56 49.5 +6.3
PRU **Pruhonice** 68.36 344 *e*P P 16 56 49.5 +6.3
GOPC **GO Pecny, Ondr** 68.40 344 *e*P **P** 16 56 43.6 +0.1
HODGE **Hodges** 68.41 59 P **P** 16 56 43.6 -0.2
HODGE IAmb IAmb 16 56 44.5
comp=Z,6.2nm,0.8s
W57A **Gilead** 68.57 56 P **P** 16 56 44.4 -0.4
AHRW **Bad Neuenahr-A** 68.68 349 *e*P **P** 16 56 46.0 +0.8
comp=Z,18nm,1.6s,baz=11,slow=6.2
MANZ **Manzenberg** 68.68 346 *e*P **P** 16 56 45.4 +0.1
comp=Z,3.6nm,1.0s,baz=11,slow=6.2
MEM **Membach** 68.71 350 P **P** 16 56 44.4 -0.9
MEM pP **pP** 16 56 51.6 -4.5
MILM **Milestii Mici** 68.74 333 ⇑P **P** 16 56 44.6 -0.9
BUR08 **Bucovina Ar. S** 68.82 336 P **P** 16 56 46.1 -0.2
BUR08 IAmb IAmb 16 56 52.8
comp=Z,3.9nm,0.9s
BURAR **Bucovina Array** 68.84 336 ⇑P **P** 16 56 46.5 +0.1
BURAR **Bucovina Array** 68.84 336 ⇑P **P** 16 56 46.5 +0.1
TNS **Taunus Mts** 68.86 348 *e*P **P** 16 56 46.9 +0.5
comp=Z,2.8nm,0.8s,baz=11,slow=6.2
TNS *e*pP **pP** 16 56 52.6 -4.6

TRPA	**Tarpa**	**68.87 338**	⇑P		**P**	**16 56 46.8**	**+0.4**
ROTZ	**Rotzenmuhle**	**68.88 345**	*e*P		**P**	**16 56 47.0**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=11,slow=6.2						
GRF	**Grafenberg Arr**	**69.08 346**	*e*P		**P**	**16 56 48.4**	**+0.7**
	comp=Z,5.8nm,1.0s,baz=11,slow=6.2						
BIZ	**Bicaz**	**69.30 335**	⇑P		**P**	**16 56 49.7**	**+0.6**
KHC	**Kasperske Hory**	**69.33 344**	*e*P		**P**	**16 56 48.9**	**-0.4**
KHC			*ex*		x	16 56 55.0	
KHC			*ex*		x	16 57 06.3	
KHC	**Kasperske Hory**	**69.33 344**	*ce*P		**P**	**16 56 49.4**	**+0.1**
KHC			pmax		pmax		
	comp=Z,10.0nm,1.3s						
KHC	**Kasperske Hory**	**69.33 344**	P		**P**	**16 56 49.3**	**0.0**
WET	**Wettzell**	**69.41 345**	*e*P		**P**	**16 56 50.4**	**+0.6**
	comp=Z,5.0nm,1.1s,baz=11,slow=6.2						
GEC2	**GERESS Array S**	**69.59 344**	P		**P**	**16 56 50.5**	**-0.5**
GEC2			IAmb		IAmb	16 56 58.0	
	comp=Z,4.0nm,0.9s						
GEC2	**GERESS Array S**	**69.59 344**	*e*P		**P**	**16 56 51.2**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=11,slow=6.2						
GEC2			*e*pP		**pP**	**16 56 56.9**	**-4.9**
GERES	**GERESS Array B**	**69.59 344**	P		**P**	**16 56 50.9**	**-0.1**
	comp=Z,3.2nm,0.7s,baz=32,slow=5.3,SNR=28						
TESR	**Tescani**	**69.59 335**	⇓P		**P**	**16 56 51.0**	**0.0**
DRGR		**70.12 337**	⇓P		**P**	**16 56 53.6**	**-0.7**
DRGR		**70.12 337**	⇓P		**P**	**16 56 53.6**	**-0.7**
CONA	**Conrad Observa**	**70.18 343**	P		**P**	**16 56 54.8**	**+0.1**
	comp=Z,3.1nm,0.6s						
DOPR	**Dopca**	**70.38 335**	⇑P		**P**	**16 56 55.9**	**+0.2**
MOA	**Molln**	**70.49 344**	*e*P		**P**	**16 56 56.6**	**+0.2**
	comp=Z,3.6nm,1.1s						
MLR	**Muntele Rosu**	**70.72 335**	⇑P		**P**	**16 56 57.5**	**-0.5**
MLR	**Muntele Rosu**	**70.72 335**	⇑P		**P**	**16 56 57.5**	**-0.5**
MLR	**Muntele Rosu**	**70.72 335**	P		**P**	**16 56 58.8**	**+0.8**
MLR			IAmb		IAmb	16 57 00.2	
	comp=Z,4.4nm,0.6s						
BFO	**Black Forest**	**70.74 348**	*e*P		**P**	**16 56 58.0**	**0.0**
	comp=Z,4.5nm,1.1s,baz=11,slow=6.2						
RJOB	**Jochberg**	**70.80 345**	*e*P		**P**	**16 56 58.8**	**+0.4**
	comp=Z,3.8nm,0.7s,baz=11,slow=6.2						
SIRR	**Siria**	**70.82 338**	⇓P		**P**	**16 56 58.5**	**0.0**
VOIR		**70.95 335**	⇓P		**P**	**16 56 58.6**	**-0.8**
VOIR		**70.95 335**	⇓P		**P**	**16 56 58.6**	**-0.8**
HARR	**Harsova**	**71.05 333**	⇑P		**P**	**16 56 58.7**	**-1.1**
HARR	**Harsova**	**71.05 333**	⇑P		**P**	**16 56 58.7**	**-1.1**
TIRR	**Tirgusor**	**71.16 333**	P		**P**	**16 57 00.6**	**+0.1**
TIRR			pmax		pmax		
	comp=Z,53nm,1.5s						
TIRR	**Tirgusor**	**71.16 333**	P		**P**	**16 57 00.6**	**+0.1**
RETA	**Reutte**	**71.30 346**	*e*P		**P**	**16 57 01.1**	**-0.3**
	comp=Z,4.6nm,1.1s						
KBA	**Koelnbreinsper**	**71.37 344**	*e*P		**P**	**16 57 01.9**	**-0.1**
	comp=Z,6.6nm,1.1s						
MOTA	**Moosalm**	**71.40 346**	*e*P		**P**	**16 57 01.5**	**-0.6**
	comp=Z,3.7nm,1.4s						
WTTA	**Wattenberg**	**71.41 345**	*e*P		**P**	**16 57 02.3**	**0.0**
	comp=Z,4.3nm,0.9s						
GZR	**Gura Zlata**	**71.45 337**	⇑P		**P**	**16 57 02.2**	**-0.1**
GZR	**Gura Zlata**	**71.45 337**	⇑P		**P**	**16 57 02.2**	**-0.1**
BZS	**Buzias**	**71.46 338**	⇑P		**P**	**16 57 02.0**	**-0.3**
BZS	**Buzias**	**71.46 338**	⇑P		**P**	**16 57 02.0**	**-0.3**
SQTA	**Sankt Quirin**	**71.51 346**	*e*P		**P**	**16 57 02.5**	**-0.3**
	comp=Z,8.8nm,1.0s						
SOKA	**Soboth**	**71.53 343**	*e*P		**P**	**16 57 02.9**	**+0.1**
	comp=Z,3.7nm,0.9s						
OBKA	**Obir**	**71.76 343**	*e*P		**P**	**16 57 04.6**	**+0.3**
	comp=Z,19nm,0.7s						
FETA	**Feichten**	**71.76 346**	*e*P		**P**	**16 57 04.0**	**-0.3**
	comp=Z,4.9nm,1.0s						
ABTA	**Abfaltersbach**	**71.81 345**	*e*P		**P**	**16 57 05.2**	**+0.7**
	comp=Z,8.9nm,0.9s						
PRED	**Cave del Predi**	**71.97 344**	P		**P**	**16 57 04.8**	**-0.7**
PRED			IAmb		IAmb	16 57 05.8	
	comp=Z,5.5nm,0.7s						
HERR	**Herculane**	**72.02 337**	⇑P		**P**	**16 57 05.6**	**0.0**
FUORN	**Ofenpass-Fuorn**	**72.21 346**	P		**P**	**16 57 06.7**	**-0.5**
FUORN			IAmb		IAmb	16 57 16.6	
	comp=Z,14nm,1.7s						
CTI	**Castel Tesino**	**72.61 345**	P		**P**	**16 57 08.6**	**-0.7**
CTI			pmax		pmax		
	comp=Z,4.0nm,0.9s						
CTI	**Castel Tesino**	**72.61 345**	P		**P**	**16 57 08.6**	**-0.7**
SBUM	**Sibu**	**72.93 243**	P		**P**	**16 57 10.7**	**-0.8**
PLVB	**Pleven**	**73.01 335**	⇓P		**P**	**16 57 11.9**	**+0.3**
VTS	**Vitosha**	**74.03 336**	⇑P		**P**	**16 57 17.6**	**-0.2**
VTS	**Vitosha**	**74.03 336**	⇑P		**P**	**16 57 17.6**	**-0.2**
VTS	**Vitosha**	**74.03 336**	P		**P**	**16 57 17.1**	**-0.7**
BRTR	**Keskin Array B**	**74.31 327**	P		**P**	**16 57 20.2**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=25,slow=4.1,SNR=5.4						
BRTR			LR		LR	17 35 16.0	
	comp=Z,20nm,20.5s,baz=332,slow=40						
BRTR	**Keskin Array B**	**74.31 327**	*i* P		**P**	**16 57 20.3**	**+0.8**
BRTR			pmax		pmax		
	comp=Z,1.0nm,0.5s						
ZCCA	**Zocca**	**74.36 345**	P		**P**	**16 57 20.2**	**+0.7**
ZCCA			IAmb		IAmb	16 57 21.7	
	comp=Z,8.6nm,0.7s						
MURB	**Monte Urbino**	**75.23 344**	P		**P**	**16 57 25.5**	**+0.9**
MURB			IAmb		IAmb	16 57 32.9	
	comp=Z,12nm,0.8s						
NRCA	**Norcia**	**75.57 343**	P		**P**	**16 57 26.6**	**0.0**
NRCA			IAmb		IAmb	16 57 34.2	
	comp=Z,7.4nm,0.8s						
ESDC	**Sonseca Array**	**80.21 356**	P		**P**	**16 57 52.8**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=354,slow=5.6,SNR=12						
PPT	**Papeete**	**83.91 143**	LR		LR	17 29 22.1	
	comp=Z,40nm,21.9s,baz=340,slow=31						
RAR	**Rarotonga**	**84.69 153**	LR		LR	17 29 27.2	
	comp=Z,41nm,20.3s,baz=358,slow=31						
WRA	**Warramunga Arr**	**85.40 214**	P		**P**	**16 58 20.7**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=20,slow=5.3,SNR=4.6						
RAYN	**Ar Rayn**	**85.45 311**	P		**P**	**16 58 19.2**	**-0.7**
RAYN			pmax		pmax		
	comp=Z,10.0nm,1.0s						
RAYN	**Ar Rayn**	**85.45 311**	P		**P**	**16 58 19.2**	**-0.7**
RAYN			IAmb		IAmb	16 58 29.0	
	comp=Z,10nm,1.0s						
ASAR	**Alice Springs**	**89.06 214**	P		**P**	**16 58 38.1**	**+1.2**
	comp=Z,0.6nm,1.0s,baz=22,slow=4.6,SNR=4.8						
RAO	**Raoul Island**	**89.76 170**	LR		LR	17 34 08.9	
	comp=Z,34nm,19.9s,baz=108,slow=32						
MAW	**Mawson**	**149.44 226**	PKPbc		**PKPbc**	**17 05 29.0**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=351,slow=0.7,SNR=2.1						
QSPA	**South Pole Qui**	**150.15 180**			**PKPbc**	**17 05 30.5**	**-0.8**

*DRS **02** 16:53:20.3±0.0, 43°.35N×46°.09E, h16km*
*NORS **02** 16:53:20.9±0.0, 43°.08N×46°.20E, h13km, MPVA3.5*
*MOS **02** 16:53:20.8±0.0, 43°.18N×46°.16E, h11km, MPVA3.6*
*TIF **02** 16:53:22.5, 43°.17N×46°.05E, h21km±3km*

ISC 02 16:53:22.0±1.1, 43°.18N±0°.04×46°.15E±0°.02, h12km±9km, n29, σ0s.99/54, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GROC	**Groznyy**	**0.26**	**275**	*e*Pg	**Pg**	**16 53 26.7**	**-0.6**
GROC				*e*Sg	**Sb**	**16 53 32.9**	**-0.2**
BTLR	**Botlikh**	**0.52**	**174**	*e*Pg	**Pg**	**16 53 32.1**	**0.0**
BTLR				*e*Sg	**Sb**	**16 53 40.4**	**-0.2**
DBC	**Dubki**	**0.53**	**107**	*e*Pg	**Pg**	**16 53 31.9**	**-0.4**
DBC				*e*Sg	**Sb**	**16 53 39.9**	**-0.9**
UNCR	**Uncukul**	**0.67**	**134**	*e*Pg	**Pg**	**16 53 34.5**	**-0.4**
UNCR				*e*Sg	**Sb**	**16 53 45.0**	**+0.2**
XNZR	**Khunzakh**	**0.76**	**147**	*e*Pg	**Pb**	**16 53 37.1**	**-0.2**
XNZR				*e*Sg	**Sb**	**16 53 47.8**	**+0.2**
BUJR	**Buynaksk**	**0.79**	**116**	*e*Pg	**Pn**	**16 53 38.1**	**-0.9**
BUJR				*e*Sg	**Sn**	**16 53 50.5**	**-0.2**
KMGR	**Komgaron**	**0.95**	**263**	*e*Pg	**Pn**	**16 53 41.5**	**+0.3**
KMGR				*e*Sg	**Sn**	**16 53 56.0**	**+1.3**
GNBR	**Gunib**	**0.99**	**142**	*e*Pg	**Pn**	**16 53 41.5**	**-0.3**
GNBR				*e*Sg	**Sn**	**16 53 56.8**	**+1.0**
MAK	**Makhachkala**	**1.02**	**102**	*e*Pg	**Pg**	**16 53 43.1**	**+1.5**
MAK				*e*Sg	**Sg**	**16 53 56.5**	**+0.2**
VLKR	**Vladikavkaz**	**1.08**	**263**	*e*Pg	**Pg**	**16 53 43.9**	**+1.0**
VLKR				*e*Sg	**Sn**	**16 54 00.3**	**+2.3**
BTKR	**Batakoyurt**	**1.19**	**280**	*e*Pg	**Pg**	**16 53 44.3**	**-0.5**
BTKR				*e*Sg	**Sg**	**16 54 02.0**	**+1.7**
PNSH	**Pansheti**	**1.25**	**245**	P	**Pb**	**16 53 44.9**	**-0.8**
PNSH				S	**Sb**	**16 54 01.0**	**-0.7**
KMKR	**Kumukh**	**1.26**	**146**	*e*Pg	**Pg**	**16 53 47.0**	**+0.7**
KMKR				*e*Sg	**Sg**	**16 54 04.5**	**+1.8**
LGD	**Lagodekhi**	**1.35**	**177**	P	**Pg**	**16 53 47.5**	**-0.4**
LGD				S	**Sg**	**16 54 06.0**	**+0.7**
LGD	**Lagodekhi**	**1.35**	**177**	*i* Pg	**Pg**	**16 53 47.4**	**-0.5**
LGD				*e*Sg	**Sg**	**16 54 05.9**	**+0.7**
ARNR	**Ardon**	**1.36**	**271**	*e*Pg	**Pb**	**16 53 46.8**	**-0.6**
GUDG	**Gudauri**	**1.42**	**240**	P	**Pn**	**16 53 47.0**	**-0.8**
GUDG				S	**Sn**	**16 54 05.7**	**-0.9**
GUDG	**Gudauri**	**1.42**	**240**	*e*Pg	**Pn**	**16 53 46.9**	**-1.0**
URKR	**Urkarakh**	**1.49**	**132**	*e*Pg	**Pg**	**16 53 50.4**	**-0.3**
URKR				*e*Sg	**Sg**	**16 54 10.1**	**0.0**
KORR	**Kora**	**1.52**	**267**	*e*Pg	**Pg**	**16 53 50.6**	**-0.7**
KORR				*i* Sg	**Sg**	**16 54 11.2**	**+0.2**
STDR	**Stavd-Durt**	**1.53**	**278**	*e*Pg	**Pg**	**16 53 51.5**	**+0.1**
STDR				*e*Sg	**Sg**	**16 54 13.2**	**+1.8**
ZEI	**Tsey**	**1.69**	**257**	*e*Pg	**Pb**	**16 53 52.6**	**-0.6**
ZEI				*e*Sg	**Sb**	**16 54 14.7**	**+0.2**
LSNR	**Lesken**	**1.70**	**274**	*e*Pg	**Pb**	**16 53 53.0**	**-0.2**
LSNR				*e*Sg	**Sg**	**16 54 17.1**	**+0.5**
DDFL	**Dedoflistskaro**	**1.73**	**181**	P	**Pg**	**16 53 57.9**	**+2.7**
DDFL				S	**Sg**	**16 54 19.5**	**+1.8**
DIGR	**Digorskoe uzhe**	**1.90**	**262**	*e*Pg	**Pb**	**16 53 56.2**	**-0.6**
DIGR				*e*Sg	**Sb**	**16 54 20.9**	**+0.3**
DRN	**Derbent**	**1.98**	**125**	*e*Pg	**Pb**	**16 53 56.7**	**-1.2**
DRN				*e*Sg	**Sb**	**16 54 22.4**	**-0.1**
KZRT	**Kazreti**	**2.21**	**216**	P	**Pb**	**16 54 00.6**	**-1.4**
KZRT				S	**Sg**	**16 54 31.7**	**-1.4**
KZRT	**Kazreti**	**2.21**	**216**	*e*Pg	**Pb**	**16 54 00.6**	**-1.4**
GOF	**Gofitskoye**	**2.92**	**311**	*e*Pn	**Pn**	**16 54 07.9**	**-0.4**

PRU 02 16:56:02.6±0.0, 49°.84N×18°.55E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.26**	**270**	*e*PG	Pg	16 56 07.3	-0.3
OKC				*e*SG	Sg	16 56 11.6	+0.6
MORC	**Moravsky Berou**	**0.66**	**265**	*e*PG	Pg	16 56 14.8	-0.4
MORC				*e*SG	Sg	16 56 22.1	-1.5
JAVC	**Velka Javorina**	**1.14**	**211**	*e*PG	Pg	16 56 23.8	-0.6
KRLC	**Kraliky**	**1.17**	**282**	*e*PG	Pg	16 56 22.9	-2.0
KRLC				*e*SG	Sg	16 56 40.4	+0.4
	comp=Z,7.7nm,0.7s						
KRLC	**Kraliky**	**1.17**	**282**	*e*	Sg	16 56 40.4	+0.4
KRLC	**Kraliky**	**1.17**	**282**	*e*PG	Pg	16 56 22.9	-2.0
VYHS	**Vyhne**	**1.36**	**172**	*e*PG	Pg	16 56 27.7	-0.9
VYHS				*e*SG	Sg	16 56 46.2	-0.1
DPC	**Dobruska-Polom**	**1.52**	**290**	*e*SG	Sg	16 56 50.8	-0.7
	comp=Z,1.7nm,0.2s						
KRUC	**Moravsky**	**1.61**	**242**	*e*PG	Pn	16 56 31.3	-0.9
KRUC				*e*SG	Sn	16 56 51.5	-2.2
KSP	**Ksiaz**	**1.76**	**306**	*e*P	Pg	16 56 36.5	+0.2

*IDC **02** 17:00:18.9±1.7, 9°.31N×126°.75E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.5/47, mbtmp3.6/6, MS3.4/2, Ms1 3.4/2, ms1mx2.5/42, Error ellipse: s-maj=135.5km s-min=20.7km az=72.0*

*MAN **02** 17:00:22.2, 9°.42N×126°.91E, h18km, mb4.9, ML3.8, MS3.8*

ISC 02 17:00:25.1±1.0, 9°.40N±0°.04×126°.90E±0°.10, h41km, n18, σ1s38/24, mb3.6/6, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.45**	**285**	⇓*e*P	**Pn**	**17 00 46.8**	**-2.0**
MSLP	**Maasin**	**2.14**	**290**	*e*P	**Pn**	**17 00 57.7**	**-0.6**
MSLP				*e*S	**Sn**	**17 01 24.2**	**+0.5**
BUKP	**Musuan**	**2.37**	**230**	*e*P	**Pn**	**17 01 00.6**	**-0.9**
BUKP				*e*S	**Sn**	**17 01 30.2**	**+1.0**
MATI	**Mati**	**2.52**	**195**	*e*P	**Pn**	**17 01 03.7**	**+0.1**
MATI				*e*S	**Sn**	**17 01 34.9**	**+1.8**
KCP	**Kidapawan**	**2.98**	**217**	⇓*e*P	**Pn**	**17 01 12.5**	**+2.6**
KCP				*i* S	**Sn**	**17 01 45.0**	**+0.6**
TBP	**Tagbilaran**	**3.01**	**276**	*e*P	**Pn**	**17 01 09.8**	**-0.5**
CTBH	**Cotabato--PC H**	**3.41**	**231**	⇑*i*P	**Pn**	**17 01 15.9**	**+0.2**
DDMP	**Don Marcelino,**	**3.48**	**200**	*e*P	**Pn**	**17 01 16.3**	**-0.5**
DDMP				*e*S	**Sn**	**17 01 58.3**	**+1.6**
CNP	**Catarman**	**3.79**	**325**	*e*P	**Pn**	**17 01 20.9**	**-0.1**
CNP				*e*S	**Sn**	**17 02 05.7**	**+1.2**
RCP	**Roxas**	**4.62**	**298**	⇓*e*P	**Pn**	**17 01 33.3**	**+0.9**
PVCP	**Virac**	**4.96**	**327**	*e*P	**Pn**	**17 01 37.2**	**0.0**
PVCP				*e*S	**Sn**	**17 02 37.0**	**+3.7**
FITZ	**Fitzroy Crossi**	**27.35**	**183**	P	**P**	**17 06 05.3**	**-1.1**
	2.3nm,1.0s,baz=354,slow=10.0,SNR=1.7						
WRA	**Warramunga Arr**	**30.06**	**166**	P	**P**	**17 06 29.2**	**-1.4**
	0.4nm,0.7s,baz=345,slow=9.6,SNR=2.5						
ASAR	**Alice Springs**	**33.57**	**168**	P	**P**	**17 07 00.5**	**-0.9**
	0.1nm,0.4s,baz=349,slow=7.1,SNR=9.9						
MKAR	**Makanchi Array**	**53.09**	**323**	P	**P**	**17 09 38.2**	**-0.3**
	0.3nm,0.6s,baz=120,slow=8.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**55.68**	**331**	P	**P**	**17 09 56.5**	**-0.6**
	0.4nm,0.5s,baz=132,slow=7.3,SNR=2.0						
ZALV				LR	LR	17 35 44.0	
	comp=Z,14nm,18.8s,baz=48,slow=38						
RPZ	**Rata Peaks**	**66.32**	**147**	LR	LR	17 40 16.9	
	comp=Z,59nm,18.5s,baz=11,slow=36						
ARCES	**ARCESS Array B**	**85.22**	**340**	P	**P**	**17 12 57.4**	**+0.4**
	1.3nm,0.9s,baz=74,slow=6.7,SNR=3.9						

*INET **02** 17:09:44.6, 11°.06N×86°.33W, h28km, ML2.8*

UCR 02 17:09:42.2±1.2, 11°.10N×86°.43W, h13km±10km, MD4.0, 2C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MASN	**Masaya**	**0.93**	**17**	*e*P	Pg	17 09 57.8	-2.4
GBS3	**Finca Las Img**	**1.01**	**108**	*i* P	Pb	17 10 00.6	-0.9
GBS3				*i* S	Sb	17 10 13.9	-0.9
LAPC	**Finca la Perla**	**1.03**	**108**	*i* P	Pb	17 10 01.0	-1.0
LAPC				*i* S	Sb	17 10 14.4	-1.1
BUEV	**Buena Vista**	**1.05**	**106**	*i* P	Pb	17 10 01.3	-1.0
GB1A	**Borinquen Arri**	**1.05**	**105**	*i* P	Pb	17 10 01.9	-0.5
BUAI	**Buenos Aires**	**1.10**	**101**	*i* P	Pb	17 10 02.7	-0.5
GPS1	**Guardaparques**	**1.11**	**107**	*i* P	Pb	17 10 02.0	-1.3
GPS2	**Hotel Rincn d**	**1.11**	**108**	*i* P	Pb	17 10 02.0	-1.4
GPS2				*e*S	Sb	17 10 17.8	-0.1
LIM1	**Limonal**	**1.23**	**109**	*i* P	Pn	17 10 03.4	-1.7
HORNC	**Hornillas**	**1.29**	**107**	*i* P	Pn	17 10 05.0	-1.1
PLVR	**Palo Verde**	**1.30**	**125**	⇓*e*P	Pn	17 10 04.4	-1.8
PLVR				*e*S	Sb	17 10 22.2	-1.0
ACAL	**Aguas Claras**	**1.45**	**108**	*i* P	Pn	17 10 07.6	-0.6
PTEN	**Parque Tenorio**	**1.47**	**105**	*i* P	Pn	17 10 08.4	-0.1
ACON	**Acoyapa**	**1.51**	**55**	⇓*e*P	Pn	17 10 08.0	-0.9
ARE1	**Arenal 1**	**1.80**	**110**	*e*P	Pn	17 10 13.4	+0.4

DJA 02 17:13:27.9±0.4, 9°S.3°×112°.4E, h116km±5km, M3.4/6, mB5.5/1, mb3.8/4, MLv3.1/6, Mw(mB)5.0/1, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.76**	**164**	P	Pn	17 13 48.7	+1.2
SOEI				S	Sn	17 14 03.4	+1.1
BATI	**Baumata**	**1.24**	**198**	P	Pn	17 13 53.1	+0.9
BATI				S	Sn	17 14 11.9	+1.3
MMRI	**Maumere**	**1.84**	**282**	P	Pn	17 13 58.9	-0.3
EDFI	**Ende, Flores**	**2.36**	**276**	P	Pn	17 14 05.7	-0.1
WBSI	**Waikabubak, Su**	**4.65**	**262**	P	Pn	17 14 34.4	-1.7
PLAI	**Plampang**	**6.21**	**271**	P	Pn	17 14 57.4	+0.2
	0.1nm20nm,1.3s						
NLAI	**Namlea**	**6.49**	**28**	P	Pn	17 15 01.4	+0.4
	0.2nm5μm10nm,0.8s						

WBNET 02 17:20:10.3, 50°.24N×12°.44E, h9km, MI0.8, 5C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.00**	**139**	⇓P	Pg	17 20 12.0	+0.1
NKC				S	Sg	17 20 13.1	+0.1
LBCW	**Luby**	**0.04**	**325**	⇓P	Pg	17 20 12.2	+0.1
LBCW				S	Sg	17 20 13.6	+0.2
VAC	**Vackov**	**0.04**	**269**	⇓P	Pg	17 20 12.2	+0.1
VAC				S	Sg	17 20 13.4	0.0
STCW	**Studenec**	**0.05**	**65**	⇑P	Pg	17 20 12.3	0.0
STCW				S	Sg	17 20 13.5	-0.2
KVC	**Kvetna**	**0.06**	**123**	S	Sg	17 20 13.4	-0.2
POCW	**Potky**	**0.09**	**353**	⇑P	Pg	17 20 12.8	+0.2
POCW				S	Sg	17 20 14.4	+0.1
SKC	**Skalna**	**0.09**	**219**	⇑P	Pg	17 20 12.6	0.0
SKC				S	Sg	17 20 14.2	0.0
KACW	**Kaceov**	**0.10**	**153**	⇓P	Pg	17 20 12.9	+0.1
KACW				S	Sg	17 20 14.7	0.0
KRCW	**Kraslice**	**0.11**	**30**	⇑P	Pg	17 20 13.0	0.0
KRCW				S	Sg	17 20 14.9	0.0
ZHC	**Zelena Hora**	**0.19**	**208**	⇑P	Pg	17 20 14.3	+0.1
ZHC				S	Sg	17 20 16.9	0.0
LACW	**Lazy**	**0.22**	**148**	⇓P	Pg	17 20 14.8	+0.1
LACW				S	Sg	17 20 17.9	+0.1
CLL	**Collm**	**1.13**	**18**	*i* Sg	Sn	17 20 55.4	+7.5

*PRU **02** 17:21:04.5±0.0, 50°.20N×12°.36E, h3km, West Bohemia Swarm*

WBNET 02 17:21:05.0, 50°.24N×12°.44E, h9km, MI1.1, 6C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.00**	**127**	*e*PG	Pg	17 21 06.0	-0.6
NKC				*e*SG	Sg	17 21 07.5	-0.2
	comp=Z,26nm,0.2s						
NKC	**Novy Kostel**	**0.00**	**127**	⇑P	Pg	17 21 06.7	+0.1
NKC				S	Sg	17 21 07.8	+0.1
LBCW	**Luby**	**0.04**	**326**	⇓P	Pg	17 21 06.9	+0.1
LBCW				S	Sg	17 21 08.2	+0.2
VAC	**Vackov**	**0.04**	**271**	⇓P	Pg	17 21 06.9	+0.1
VAC				S	Sg	17 21 08.1	0.0
KVC	**Kvetna**	**0.05**	**122**	⇓P	Pg	17 21 06.9	0.0
KVC				S	Sg	17 21 08.1	-0.2
STCW	**Studenec**	**0.05**	**64**	⇑P	Pg	17 21 06.9	0.0
STCW				S	Sg	17 21 08.2	-0.2
SKC	**Skalna**	**0.08**	**219**	⇑P	Pg	17 21 07.3	0.0
SKC				S	Sg	17 21 08.8	0.0
POCW	**Potky**	**0.09**	**353**	⇑P	Pg	17 21 07.5	+0.1
POCW				S	Sg	17 21 09.1	+0.1
KACW	**Kaceov**	**0.10**	**153**	⇓P	Pg	17 21 07.6	+0.1
KACW				S	Sg	17 21 09.3	0.0
KRCW	**Kraslice**	**0.11**	**30**	⇑P	Pg	17 21 07.7	0.0
KRCW				S	Sg	17 21 09.5	-0.1
ZHC	**Zelena Hora**	**0.19**	**208**	⇑P	Pg	17 21 08.9	+0.1
ZHC				S	Sg	17 21 11.5	0.0
LACW	**Lazy**	**0.22**	**148**	⇓P	Pg	17 21 09.5	+0.1
LACW				S	Sg	17 21 12.6	+0.1
CLL	**Collm**	**1.13**	**18**	*i* Sg	Sn	17 21 42.5	-0.1
KHC	**Kasperske Hory**	**1.33**	**146**	*e*PG	Pn	17 21 27.6	-2.1
KHC				*e*SG	Sb	17 21 47.0	-0.2

*IDC **02** 18:27:04.5±1.2, 47°.21S×33°.12E, h0km, mb3.7/4, mb1 3.9/6, mb1mx3.6/30, mbtmp3.8/6, ML3.8/2, MS3.3/7, Ms1 3.3/7, ms1mx3.1/24, Error ellipse: s-maj=73.7km s-min=22.5km az=63.0*

ISC 02 18:27:06.0±1.1, 47°.25S±0°.3×33°.0E±0°.4, h10km, n11, σ0s.99/6, mb3.7/4, MS3.3/6, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**17.48**	**324**	P	**Pn**	**18 31 08.8**	**-1.1**
	0.3nm,0.3s,baz=144,slow=15,SNR=1.3						
SUR				LR	LR	18 36 01.0	
	comp=Z,173nm,21.0s,baz=151,slow=31						
BOSA	**Boshof**	**19.52**	**339**	P	**P**	**18 31 33.5**	**0.0**
	0.3nm,0.3s,baz=175,slow=9.2,SNR=5.3						
MAW	**Mawson**	**25.55**	**154**	LR	LR	18 41 53.9	
	comp=Z,36nm,18.5s,baz=94,slow=35						
MATP	**Matopo**	**26.97**	**351**	P	**P**	**18 32 48.6**	**+0.7**
	0.9nm,0.5s,baz=188,slow=9.1,SNR=4.7						
MATP				LR	LR	18 41 12.5	
	comp=Z,96nm,21.4s,baz=170,slow=31						
SNAA	**Sanae**	**29.66**	**202**	LR	LR	18 44 30.0	
	comp=Z,37nm,18.4s,baz=12,slow=35						
VNDA	**Vanda**	**51.61**	**168**	P	**P**	**18 36 12.1**	**+0.2**
	0.7nm,0

2.2nm,1.0s,baz=50,slow=6.0,SNR=7.2
AKASG Malin Array Be 78.79 320 LR LR 19 19 12.5
comp=Z,13nm,19.6s,baz=355,slow=36

NIED ***02*** *19:34:00,39.90N×143.30E,h8km,Mw3.6 Best double couple: M₀3.11000×10¹⁴ NP1:φs151.00000°,δ64.00000°, λ-148.00000°. NP2:φs45.00000°,δ61.00000°, λ-30.00000°.*
IDC ***02*** *19:34:03.2±1.1,39.92N×143.22E,h0km,mb3.6/8, mb1 3.6/12,mb1mx3.5/42,mbtmp3.6/12,ML3.0/4,MS3.1/2, Ms1 3.2/2,ms1mx2.4/38,Error ellipse: s-maj=29.2km s-min=16.7km az=104.0*
JMA ***02*** *18:34:03.7±0.3,39.89N×143.27E,h20km±4km,M3.9*
ISC 02 18:34:03.0±2.3,39.87N±0.05×143.18E±0.07,h3km±14km, n32,σ1s83/32,mb3.7/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.02**	**274**	P		**Pn**		**18 34 23.5**	**-0.7**
JTH				eS		**Sn**		**18 34 38.1**	**-0.9**
MIYJ	**Miyakonagasawa**	**1.09**	**255**	P		**Pb**		**18 34 24.7**	**+0.2**
MIYJ				eS		**Sn**		**18 34 40.1**	**-0.7**
JKEN	**Kujiedanarisaw**	**1.18**	**287**	P		**Pg**		**18 34 25.5**	**-0.1**
JKEN				eS		**Sn**		**18 34 41.6**	**-1.4**
JANG	**Nango**	**1.37**	**292**	P		**Pb**		**18 34 28.5**	**-0.9**
JOM	**Ohasama**	**1.51**	**255**	P		**Pb**		**18 34 31.7**	**0.0**
JMK	**Ichinoseki**	**1.77**	**240**	P		**Pn**		**18 34 35.2**	**+0.6**
JMK				eS		**Sb**		**18 34 57.9**	**-1.0**
JTM	**Tenmabayashi**	**1.86**	**300**	P		**Pb**		**18 34 36.8**	**-0.8**
JAH	**Hinai**	**1.98**	**280**	P		**Pb**		**18 34 38.7**	**-1.0**
JIO	**Ouri**	**2.01**	**226**	P		**Pn**		**18 34 37.7**	**-0.1**
JIO				eS		**Sn**		**18 35 03.0**	**-0.4**
JRG	**Rokugo**	**2.02**	**257**	P		**Pb**		**18 34 40.0**	**-0.4**
JOT	**Ohata**	**2.22**	**314**	P		**Pb**		**18 34 42.2**	**-1.5**
JNBK	**Urakawa-nobuka**	**2.43**	**352**	P		**Pb**		**18 34 45.1**	**-2.3**
JKB	**Kayabe**	**2.59**	**322**	P		**Pb**		**18 34 48.4**	**-1.7**
ASAJ	**Asahikawa** 0.7nm,0.3s,baz=200,slow=8.8,SNR=9.2	**4.27**	**354**	Pn		**Pn**		**18 35 10.4**	**+1.5**
ASAJ	0.2nm,0.3s,baz=197,slow=30,SNR=1.6					**Sn**		**18 36 01.9**	**+2.7**
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=42,slow=13,SNR=15	**5.14**	**231**	Pn		**Pn**		**18 35 23.9**	**+3.1**
JHJ	**Hachijo jima 2** 3.5nm,0.3s,baz=55,slow=20,SNR=6.1	**7.27**	**203**	Pn		**Pn**		**18 35 50.6**	**+0.4**
JHJ	1.6nm,0.3s,baz=85,slow=20,SNR=1.8					**Sn**		**18 37 06.2**	**-7.1**
JHJ	comp=Z,39nm,19.7s,baz=144,slow=41				LR	LR		18 39 03.4	
KSRS	**Korea Array** 0.1nm,0.3s,baz=70,slow=14,SNR=2.1	**12.17**	**263**	Pn		**Pn**		**18 36 58.4**	**+1.1**
MA2	**Magadan** 1.5nm,0.4s,baz=179,slow=9.5,SNR=6.1	**20.30**	**11**	P		**P**		**18 38 40.3**	**+0.5**
SEY	**Seymchan** 1.4nm,0.7s,baz=194,slow=14,SNR=4.3	**23.75**	**10**	P		**P**		**18 39 15.2**	**-1.0**
SONM	**Songino Array** 0.8nm,0.5s,baz=123,slow=10,SNR=3.2	**27.49**	**299**	P		**P**		**18 39 50.7**	**+0.1**
H11N2	**WAKE ISLAND Hy** baz=318,slow=75,SNR=60	**28.59**	**128**	T		T		19 09 54.3	
H11N1	**WAKE ISLAND Hy** baz=318,slow=75,SNR=54	**28.60**	**128**	T		T		19 09 51.7	
H11N3	**WAKE ISLAND Hy** baz=318,slow=75,SNR=60	**28.61**	**128**	T		T		19 09 52.8	
H11S1	**WAKE ISLAND Hy** baz=321,slow=76,SNR=8.5	**29.41**	**130**	T		T		19 10 54.8	
H11S3	**WAKE ISLAND Hy** baz=321,slow=76,SNR=7.5	**29.42**	**130**	T		T		19 10 55.1	
H11S2	**WAKE ISLAND Hy** baz=321,slow=76,SNR=7.9	**29.43**	**130**	T		T		19 10 56.2	
ZALV	**Zalesovo Beam** 0.9nm,0.5s,baz=97,slow=8.1,SNR=5.3	**41.09**	**310**	P		**P**		**18 41 48.2**	**+0.3**
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=82,slow=8.6,SNR=3.6	**43.85**	**300**	P		**P**		**18 42 10.5**	**+0.1**
ILAR	**Eielson Array** 0.3nm,0.6s,baz=282,slow=4.5,SNR=2.9	**46.36**	**34**	P		**P**		**18 42 30.2**	**+0.1**
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=8.1,slow=7.1,SNR=2.9	**60.07**	**190**	P		**P**		**18 44 12.6**	**+1.1**
YKA	**Yellowknife Ar** comp=Z,64nm,21.5s,baz=0.0,slow=37	**60.66**	**31**	LR		LR		19 11 02.4	
ASAR	**Alice Springs** 0.3nm,0.8s,baz=10,slow=5.7,SNR=2.3	**63.80**	**189**	P		**P**		**18 44 37.7**	**+1.2**

RSNC ***02*** *19:10:08.4±1.1,6.39N×76.87W,h32km±25km,ML3.3*
UPA ***02*** *19:10:09.0±1.2,6.43N×76.90W,h43km±28km,MW4.0*
ISC 02 19:10:06.1±1.6,6.47N±0.03×76.93W±0.03,h13km±12km, n40,σ2s05/64,1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.90**	**52**	eP		**Pg**		**19 10 23.0**	**-0.6**
CBOC	**Ciudad Bolivar**	**1.09**	**123**	eP		**Pb**		**19 10 25.1**	**-1.8**
CBOC	comp=Z,486nm,0.4s			i				19 10 52.1	
PTAC	**Punta Ardita,**	**1.10**	**308**	eP		**Pg**		**19 10 28.5**	**+1.1**
PTAC				eS		**Sn**		**19 10 43.3**	**+0.8**
HELC	**Santa Helena**	**1.42**	**101**	eP		**Pn**		**19 10 31.0**	**-1.0**
HELC				eS		**Sn**		**19 10 48.2**	**-2.5**
HELC	comp=Z,483nm,0.9s			i				19 10 49.7	
HELC	**Santa Helena**	**1.42**	**101**	↓eP		**Pn**		**19 10 31.1**	**-0.9**
HELC				eS		**Sn**		**19 10 48.7**	**-2.1**
PLMC	**San Jos del P**	**1.68**	**157**	eP		**Pn**		**19 10 33.2**	**-2.1**
PLMC				eS		**Sn**		**19 10 52.8**	**-4.0**
UREC	**San Jos de Ur**	**1.89**	**47**	eP		**Pn**		**19 10 38.4**	**+0.3**
UREC				eS		**Sn**		**19 11 00.2**	**-1.6**
UREC	comp=Z,263nm,0.7s			i				19 11 02.9	
GUY2C	**Guyana, Caldas**	**1.99**	**128**	eP		**Pn**		**19 10 40.5**	**+0.6**
GUY2C				eS		**Sn**		**19 11 04.3**	**-0.6**
GUY2C	comp=Z,323nm,0.5s			i				19 11 10.0	
CAPC	**Capurgana**	**2.20**	**349**	eP		**Pn**		**19 10 42.9**	**+0.5**
CAPC				eS		**Sn**		**19 11 09.9**	**+0.5**
CAPC	comp=Z,165nm,0.6s			i				19 11 14.6	
CAP2	**Capurgana**	**2.21**	**349**	eP		**Pn**		**19 10 43.7**	**+1.1**
CAP2				eS		**Sn**		**19 11 08.4**	**-1.5**
RREF	**El Recreo**	**2.21**	**135**	eP		**Pn**		**19 10 44.1**	**+0.9**
RREF	comp=Z,187nm,0.7s			i				19 11 18.4	
NORC	**Norcasia**	**2.24**	**114**	eP		**Pn**		**19 10 43.7**	**+0.7**
NORC				eS		**Sn**		**19 11 11.1**	**+0.6**
NORC	comp=Z,169nm,0.7s			i				19 11 22.8	
ZARC	**Zaragoza, Cauc**	**2.30**	**63**	eP		**Pn**		**19 10 44.6**	**+0.8**
ZARC				eS		**Sn**		**19 11 12.2**	**+0.2**
ZARC	comp=Z,161nm,0.6s			i				19 11 23.9	
LCBC	**Los crdobas,**	**2.44**	**13**	eP		**Pn**		**19 10 47.6**	**+1.9**
LCBC				eS		**Sn**		**19 11 18.4**	**+2.9**
LCBC	comp=Z,205nm,0.9s			i				19 11 20.1	
PTBC	**PUERTO BERRIO,**	**2.46**	**88**	eP		**Pn**		**19 10 47.2**	**+1.2**
PTBC				eS		**Sn**		**19 11 16.1**	**+0.2**
PTBC	comp=Z,202nm,1.0s			i				19 11 24.0	
TOLC	**Tolima**	**2.46**	**139**	eP		**Pn**		**19 10 47.9**	**+1.6**
TOLC	comp=Z,252nm,1.2s			i				19 11 20.0	
MALC	**Bahia Malaga**	**2.47**	**189**	eP		**Pn**		**19 10 48.5**	**+2.4**
MALC	comp=Z,80nm,0.7s			i				19 11 20.0	
ANIL	**Santa Ana**	**2.48**	**142**	eP		**Pn**		**19 10 47.5**	**+0.9**
ANIL				eS		**Sn**		**19 11 18.4**	**+1.5**
ANIL	comp=Z,351nm,0.4s			i				19 11 26.5	
YOTC	**Yotoco, Valle**	**2.53**	**167**	eP		**Pn**		**19 10 45.8**	**-1.3**
YOTC				eS		**Sn**		**19 11 14.2**	**-3.8**
YOTC	comp=Z,94nm,0.4s			i				19 11 17.3	
SPBC	**San Pablo de B**	**2.96**	**106**	eP		**Pn**		**19 10 55.0**	**+2.2**
SPBC	comp=Z,86nm,1.2s			i				19 11 34.1	
ORTC	**Ortega, Tolima**	**3.04**	**146**	eP		**Pn**		**19 10 55.8**	**+1.8**
ORTC				eS		**Sn**		**19 11 32.1**	**+1.7**
ORTC	comp=Z,96nm,0.5s			i				19 11 39.3	
ROSC	**El Rosal**	**3.06**	**122**	eP		**Pn**		**19 10 56.9**	**+2.3**
ROSC				eS		**Sb**		**19 11 36.9**	**-1.2**
ROSC	comp=Z,72nm,0.6s			i				19 11 49.4	
BRRC	**Barranca, Sant**	**3.26**	**79**	eP		**Pn**		**19 10 58.7**	**+1.7**
BRRC				eS		**Sn**		**19 11 37.2**	**+1.5**
BRRC	comp=Z,67nm,0.6s			i				19 11 54.5	
PRAC	**Prado**	**3.41**	**143**	eP		**Pn**		**19 11 01.1**	**+2.1**
PRAC				eS		**Sn**		**19 11 42.7**	**+3.3**
PRAC	comp=Z,53nm,0.5s			i				19 11 53.6	
AZU	**Azuero**	**3.57**	**292**	eP		**Pn**		**19 11 02.4**	**+1.2**
AZU				eS		**Sn**		**19 11 41.9**	**-1.5**
SMLC	**San Martn de**	**3.66**	**51**	eP		**Pn**		**19 11 03.2**	**+0.6**
SMLC	comp=Z,28nm,0.5s			i				19 12 01.3	
CHIC	**Chingaza**	**3.67**	**120**	eP		**Pn**		**19 11 05.3**	**+2.3**
CHIC	comp=Z,28nm,1.1s			i				19 11 52.4	
BARC	**Barichara**	**3.73**	**88**	eP		**Pn**		**19 11 05.8**	**+2.2**
BARC	comp=Z,95nm,0.6s			i				19 12 05.5	
ZANG	**Zanguenga, Cho**	**3.82**	**311**	eP		**Pn**		**19 11 05.7**	**+0.9**
SJCC	**San Jacinto, C**	**3.82**	**27**	eP		**Pn**		**19 11 06.0**	**+1.2**
SJCC				eS		**Sn**		**19 11 47.4**	**-2.3**
RUSC	**La Rusia**	**3.87**	**98**	eP		**Pn**		**19 11 07.5**	**+1.7**
RUSC				eS		**Sb**		**19 12 00.6**	**-0.9**
RUSC	comp=Z,122nm,0.9s			i				19 12 07.2	
BCIP	**Isla Barro Col**	**3.94**	**313**	eP		**Pn**		**19 11 05.6**	**-0.7**
BCIP	comp=Z,36nm,1.0s			i				19 11 53.4	
VILC	**Villavicencio,**	**3.98**	**126**	eP		**Pn**		**19 11 10.9**	**+3.9**
VILC	comp=Z,25nm,0.4s			i				19 12 14.1	
OCAC	**Ocana**	**3.99**	**64**	eP		**Pn**		**19 11 11.8**	**+4.6**
OCAC	comp=Z,56nm,0.7s			i				19 12 15.3	
CACAO	**El Cacao, Vera**	**4.00**	**283**	eP		**Pn**		**19 11 07.7**	**+0.5**
CACAO				eS		**Sn**		**19 11 51.1**	**-2.9**
BETC	**Betania**	**4.04**	**158**	eP		**Pn**		**19 11 05.3**	**-2.5**
PCON	**Cinco Dias**	**4.14**	**173**	eP		**Pn**		**19 11 12.5**	**+2.8**
PCON	comp=Z,42nm,0.7s			i				19 12 15.3	
PAMC	**Pamplona, Colo**	**4.29**	**78**	eP		**Pn**		**19 11 13.8**	**+2.3**
PAMC				eS		**Sn**		**19 12 01.9**	**+0.1**
PAMC	comp=Z,62nm,0.9s			i				19 12 18.2	
SOTA	**Rioblanco**	**4.31**	**176**	eP		**Pn**		**19 11 15.1**	**+3.2**
SOTA				eS		**Sn**		**19 12 05.5**	**+3.1**
SOTA	comp=Z,42nm,0.7s			i				19 12 14.1	
BBAC	**Balboa, Cauca**	**4.43**	**184**	eP		**Pn**		**19 11 17.2**	**+4.0**
BBAC	comp=Z,16nm,0.5s			i				19 12 11.9	

IDC ***02*** *19:22:56.5±0.9,9.28S×123.99E,h98km±8km, mb3.8/6, mb1 3.9/10,mb1mx3.6/34,mbtmp4.2/10,MS3.2/1, Ms1 3.1/1,ms1mx2.4/37,Error ellipse: s-maj=31.1km s-min=11.6km az=84.0*
DJA ***02*** *19:22:56.7±0.2,9°S±3°×12°4E±°,h77km±5km,M4.2/13, mB4.9/5,mb4.2/10,MLv4.2/13,MLv4.1/9,Mw(mB)4.2/5*
NEIC ***02*** *19:22:57.1±0.8,9.23S±0.06×123.74E±0.06,h97km±7km, mb4.3/23,Error ellipse: s-maj=9.1km s-min=8.3km az=88.0*
ISC 02 19:22:56.8±0.5,9.32S±0.06×123.69E±0.06,h100km,n74, σ1s56/77,mb4.2/18,Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.72**	**127**	P		**Pn**		**19 23 14.3**	**-0.2**
SOEI	**Soe**	**0.72**	**127**	Pn		**Pn**		**19 23 14.1**	**-0.4**
BATI	**Baumata** 574nm,0.3s,baz=24,slow=4.1,SNR=1015	**0.88**	**181**	P		**Pn**		**19 23 16.5**	**+0.5**
BATI	633nm,0.3s,baz=41,slow=7.2,SNR=9.7					S		**Sn**	**19 23 32.1**	**+1.7**
BATI	comp=Z,194nm,18.5s,baz=1.0,slow=45					LR	LR	19 23 40.7	
BATI	**Baumata**	**0.88**	**181**	P		**Pn**		**19 23 16.5**	**+0.5**
MMRI	**Maumere**	**1.58**	**295**	P		**Pn**		**19 23 23.9**	**-0.2**
MMRI				S		**Sn**		**19 23 44.4**	**-0.4**
MMRI	**Maumere**	**1.58**	**295**	Pn		**Pn**		**19 23 23.9**	**-0.2**
EDFI	**Ende, Flores**	**2.05**	**286**	P		**Pn**		**19 23 30.4**	**+0.3**
BASI	**Baing, Sumba**	**3.19**	**253**	P		**Pn**		**19 23 46.1**	**+1.0**
BBSI	**Bau Bau**	**3.96**	**344**	P		**Pn**		**19 23 56.4**	**+0.9**
WBSI	**Waikabubak, Su**	**4.25**	**265**	P		**Pn**		**19 23 58.8**	**-0.6**
BKSI	**Bulukumba** 0.2nm624nm52nm,0.6s	**5.32**	**318**	P		**Pn**		**19 24 14.7**	**+0.9**
KAPI	**Kappang** 3.0nm,0.3s,baz=173,slow=5.3,SNR=9.5	**5.79**	**317**	P		**Pn**		**19 24 22.3**	**+2.1**
KAPI	**Kappang**	**5.79**	**317**	Pn		**Pn**		**19 24 21.7**	**+1.4**
PLAI	**Plampang** 0.3nm0.3nm1µm44nm,0.5s	**5.86**	**274**	P		**Pn**		**19 24 21.8**	**+0.7**
BNSI	**Bone**	**6.04**	**324**	P		**Pn**		**19 24 27.6**	**+3.9**
SANI	**Sanana** 0.1nm629nm18nm,0.7s	**7.58**	**18**	P		**Pn**		**19 24 46.2**	**+1.6**
SAUI	**Saumlaki**	**7.64**	**81**	Pn		**Pn**		**19 24 44.7**	**-0.8**
KNRA	**Kununurra**	**8.03**	**142**	Pn		**Pn**		**19 24 48.9**	**-1.8**
MTN	**Manton Dam**	**8.10**	**116**	Pn		**Pn**		**19 24 50.2**	**-1.5**
APSI	**Ampana** 7.8nm,0.8s	**8.60**	**346**	P		**Pn**		**19 25 00.8**	**+2.4**
FITZ	**Fitzroy Crossi** 2.4nm,0.3s,baz=351,slow=8.7,SNR=130	**8.93**	**168**	P		**Pn**		**19 25 00.9**	**-2.0**
FITZ	11nm,0.3s,baz=148,slow=3.9,SNR=26					S	Sn	19 26 33.4	-8.5
FITZ	**Fitzroy Crossi**	**8.93**	**168**			**Pn**		**19 25 01.1**	**-1.9**
JAGI	**Jajag, Banyuwa**	**9.46**	**274**	Pn		**Pn**		**19 25 06.8**	**-3.4**
MPSI	**Mapaga** 4.9nm,0.8s	**10.31**	**338**	P		**Pn**		**19 25 24.7**	**+3.0**
FAKI	**Fak Fak**	**10.62**	**54**	Pn		**Pn**		**19 25 25.1**	**-1.0**
WB0	**Warramunga Arr**	**14.66**	**136**			**Pn**		**19 26 15.6**	**-3.7**
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=313,slow=14,SNR=55	**14.75**	**137**	P		**Pn**		**19 26 16.9**	**-3.5**
WRA	2.0nm,0.3s,baz=308,slow=25,SNR=9.8					S	Sn	19 28 50.3	-13
WB2	**Warramunga Arr**	**14.76**	**137**	Pn		**Pn**		**19 26 17.1**	**-3.4**
WR0	**Warramunga Arr**	**14.90**	**136**	Pn		**Pn**		**19 26 18.8**	**-3.5**
CISI	**Cisompet, Garu**	**15.80**	**275**	Pn		**Pn**		**19 26 31.1**	**-2.6**
KSM	**Kuching**	**17.10**	**308**	P		**P**		**19 26 50.3**	**+0.3**
AS31	**Alice Springs**	**17.29**	**147**	P		**P**		**19 26 51.6**	**-0.4**
ASAR	**Alice Springs** 0.7nm,0.3s,baz=318,slow=12,SNR=67	**17.29**	**147**	P		**P**		**19 26 52.0**	**0.0**
ASAR	1.6nm,0.3s,baz=322,slow=23,SNR=27					S	Sn	19 29 52.6	-12
KASI	**Kota Agung**	**19.39**	**280**	P		**P**		**19 27 15.3**	**+0.2**
MORW	**Morawa**	**20.91**	**199**	P		**P**		**19 27 33.0**	**+1.7**
FORT	**Forrest**	**21.74**	**170**			**P**		**19 27 41.8**	**+1.7**
MASI	**Maura Aman, Be**	**22.18**	**285**	P		P		19 27 37.6	-7.4
NWAO	**Narrogin (SRO)**	**24.24**	**193**	P		**P**		**19 28 05.9**	**+1.5**
NWAO	comp=Z,20nm,1.2s					lAmb	lAmb	19 28 06.0	
NWAO	**Narrogin (SRO)**	**24.24**	**193**	P		**P**		**19 28 05.9**	**+1.5**
NWAO	comp=Z,16nm,1.2s					lAmb	lAmb	19 28 06.0	
BBOO	**Buckleboo**	**26.02**	**156**	P		**P**		**19 28 22.9**	**+2.3**
BBOO	comp=Z,21nm,1.5s					lAmb	lAmb	19 28 23.2	
MNSI	**Mandailing Nat**	**26.03**	**291**	P		P		19 28 10.9	-10
STKA	**Stephens Creek** comp=Z,0.5nm,0.3s,baz=315,slow=13,SNR=6.1	**27.93**	**146**	P		**P**		**19 28 40.4**	**+2.7**
STKA	comp=Z,46nm,19.6s,baz=22,slow=38					LR	LR	19 40 25.9	
STKA	**Stephens Creek**	**27.93**	**146**	P		**P**		**19 28 40.5**	**+2.9**
GSI	**Gunungsitoli**	**28.07**	**291**	P		**P**		**19 28 37.5**	**-1.6**
GSI	comp=Z,4.7nm,0.5s					lAmb	lAmb	19 28 38.0	
CMAR	**Chiang Mai Arr** comp=Z,1.6nm,0.8s,baz=146,slow=6.6,SNR=14	**36.85**	**319**	P		**P**		**19 29 56.8**	**+1.1**
CMAR	comp=Z,0.4nm,0.9s,baz=101,slow=14,SNR=1.8					pP	**pwP**	**19 30 20.7**	**-1.2**
CHTO	**Chiang Mai**	**37.11**	**319**	P		**P**		**19 29 57.9**	**+0.1**
CHTO	comp=Z,4.2nm,1.1s					lAmb	lAmb	19 29 59.1	
ENH	**Enshi**	**41.66**	**341**	P		**P**		**19 30 35.1**	**-0.5**
LSA	**Lhasa**	**49.86**	**322**	P		**P**		**19 31 41.6**	**+1.0**
LSA	comp=Z,3.8nm,0.9s					lAmb	lAmb	19 31 42.6	
TAPN	**Taplejung** comp=Z,12nm,0.4s	**50.44**	**317**	eP		**P**		**19 31 45.0**	**+0.2**
RAMN	**Ramite** comp=Z,6.7nm,0.3s	**50.93**	**316**	eP		**P**		**19 31 46.6**	**-1.9**
JIRN	**Jiri** comp=Z,13nm,0.6s	**51.66**	**317**	eP		**P**		**19 31 54.2**	**+0.1**
GUN	**Gumba** comp=Z,9.3nm,0.5s	**52.03**	**317**	eP		**P**		**19 31 56.9**	**+0.1**
PKI	**Pulchoki** comp=Z,6.4nm,0.3s	**52.14**	**316**	eP		**P**		**19 31 57.2**	**-0.4**
PKIN	**Phulchoki** comp=Z,6.0nm,0.3s	**52.15**	**316**	eP		**P**		**19 31 57.2**	**-0.4**
GKN	**Gorkha** comp=Z,6.0nm,0.2s	**52.94**	**316**	eP		**P**		**19 32 03.2**	**-0.1**
KOLN	**Koldanda** comp=Z,11nm,0.6s	**53.52**	**315**	eP		**P**		**19 32 06.4**	**-1.2**
DANN	**Dangsing** comp=Z,38nm,0.7s	**53.76**	**315**	eP		**P**		**19 32 09.3**	**-0.2**
USRK	**Ussuriysk Ar.** comp=Z,1.2nm,0.5s,baz=210,slow=6.9,SNR=4.0	**53.80**	**7**	P		**P**		**19 32 08.9**	**-0.1**
PYUN	**Piuthan** comp=Z,22nm,0.5s	**54.15**	**315**	eP		**P**		**19 32 12.2**	**0.0**
SONM	**Songino Array** comp=Z,0.8nm,0.6s,baz=72,slow=39,SNR=3.4	**58.93**	**346**	P		**P**		**19 32 45.9**	**+0.3**
NIL	**Nilore**	**64.17**	**314**	P		**P**		**19 33 20.7**	**-0.4**
MK31	**Makanchi Array**	**66.93**	**330**	P		**P**		**19 33 39.0**	**+0.5**
MK31	comp=Z,3.7nm,0.7s					lAmb	lAmb	19 33 40.1	
MKAR	**Makanchi Array** comp=Z,4.4nm,0.5s,baz=134,slow=7.5,SNR=100	**66.93**	**330**	P		**P**		**19 33 39.2**	**+0.7**
MKAR				pP		**PcP**		**19 34 04.8**	**-1.6**
MAKZ	**Makanchi** comp=Z,0.5nm,0.5s,baz=138,slow=7.5,SNR=2.1	**67.10**	**330**	P		**P**		**19 33 39.8**	**+0.3**
MAKZ	comp=Z,3.0nm,0.9s					lAmb	lAmb	19 33 41.3	
AAK	**Ala-Archa** comp=Z,2.2nm,0.7s	**68.45**	**323**	P		**P**		**19 33 48.9**	**+0.6**
AAK						lAmb	lAmb	19 33 50.9	
ARSB	**Arslanbob** comp=Z,9.4nm,1.5s	**68.59**	**321**	P		**P**		**19 33 50.0**	**+0.7**
ARSB						lAmb	lAmb	19 34 04.4	
ZAA0	**Zalesovo Array** comp=Z,3.4nm,0.9s	**71.07**	**337**	P		**P**		**19 34 04.0**	**+0.1**
ZAA0						lAmb	lAmb	19 34 04.7	
ZALV	**Zalesovo Beam** comp=Z,1.4nm,0.4s,baz=145,slow=5.4,SNR=12	**71.07**	**337**	P		**P**		**19 34 03.8**	**-0.1**
ZALV	comp=Z,0.4nm,0.4s,baz=144,slow=6.1,SNR=2.0					pP	**pP**	**19 34 27.9**	**-0.3**
YAK	**Yakutsk**	**71.28**	**3**	P		**P**		**19 34 05.1**	**+0.1**
YAK	comp=Z,7.0nm,1.0s					lAmb	lAmb	19 34 06.0	
KURK	**Kurchatov**	**71.40**	**332**	P		**P**		**19 34 07.1**	**+1.1**
TIXI	**Tiksi**	**80.87**	**2**	P		**P**		**19 34 59.2**	**0.0**
ARU	**Arti** comp=Z,0.5nm,0.5s,baz=108,slow=20,SNR=4.6	**84.44**	**330**	P		**P**		**19 35 18.5**	**+0.5**
ARU	**Arti** comp=Z,2.4nm,0.8s	**84.44**	**330**	P		**P**		**19 35 18.6**	**+0.5**
ARU						lAmb	lAmb	19 35 19.3	
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.7s,baz=100,slow=2.5,SNR=1.8	**123.07**	**280**	PKP		**PKiKP**		**19 41 44.4**	**+1.6**

JMA ***02*** *19:51:02.4±0.2,24.88N×123.41E,h25km,M1.8*
TAP ***02*** *19:51:03.0,24.46N×122.83E,h65km,ML2.9,D*
ISC 02 19:50:58.0±2.0,24.9N±0.2×123.26E±0.06,h79km±23km, n13,σ1s90/22,1D,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima** baz=87	**0.49**	**207**	↓iP		**Pn**		**19 51 13.1**	**+1.5**
YOJ	baz=87				S	**Sn**		**19 51 20.5**	**-1.0**
YOJ	**Yonaguni jima**	**0.49**	**207**	P		**Pn**		**19 51 13.1**	**+1.5**
YOJ					S	**Sn**		**19 51 20.3**	**-1.3**
JYNG	**Yonagunijimaku**	**0.53**	**212**	P		**Pn**		**19 51 14.0**	**+2.1**
JYNG				eS		**Sn**		**19 51 21.9**	**-0.3**
IRIF	**Iriomote-Funau**	**0.71**	**143**	P		**Pn**		**19 51 14.2**	**+0.5**
IRIF				S		**Sn**		**19 51 22.4**	**-2.9**
JKRS	**Kuro-shima**	**0.95**	**134**	P		**Pn**		**19 51 18.3**	**+1.9**
JKRS				eS		**Sn**		**19 51 29.0**	**-1.2**
JIJ	**Ishigaki jima**	**0.97**	**123**	P		**Pn**		**19 51 17.6**	**+1.0**
JIJ				eS		**Sn**		**19 51 27.9**	**-2.6**
HATJ	**Hateruma jima**	**0.98**	**149**	P		**Pn**		**19 51 18.9**	**+2.2**
HATJ				eS		**Sn**		**19 51 30.2**	**-0.5**
JISG	**Ishigakijimahi**	**1.01**	**108**	P		**Pn**		**19 51 18.2**	**+1.1**
NTC	**Toucheng** baz=293	**1.30**	**268**	eP		**Pn**		**19 51 21.6**	**+1.0**
TIPB	**Shuangxi** baz=299	**1.30**	**273**	eP		**Pn**		**19 51 22.5**	**+1.8**
TIPB	baz=299				eS	**Sn**		**19 51 37.1**	**-0.8**
TWC	**Suao** baz=279	**1.31**	**257**	eP		**Pn**		**19 51 21.0**	**+0.2**
WFSB	**Wu-fen Shan** baz=302	**1.35**	**277**	eP		**Pn**		**19 51 23.7**	**+2.4**
TWE	**Neicheng** baz=283	**1.46**	**263**	eP		**Pn**		**19 51 23.4**	**+0.7**
TWE	baz=283				eS	**Sn**		**19 51 37.5**	**-3.8**

NIED ***02*** *19:54:00,39.70N×142.30E,h5km,Mw3.8 Best double couple: M₀5.44000×10¹⁴ NP1:φs292.00000°,δ64.00000°, λ40.00000°. NP2:φs182.00000°,δ55.00000°,λ147.00000°.*
JMA ***02*** *19:54:06.0,39.74N×142.32E,h18km±1km,M4.0*
JMA Felt I J1.
NEIC ***02*** *19:54:08.7±1.5,39.71N±0.09×142.6E±0.2,h29km±7km, mb4.4/8,Error ellipse: s-maj=21.4km s-min=9.6km az=117.0*
IDC ***02*** *19:54:11.9±2.5,39.67N×142.14E,h50km±23km,mb3.5/12, mb1 3.7/14,mb1mx3.4/51,mbtmp3.8/14,ML3.0/2,MS2.7/5, Ms1 2.7/5,ms1mx2.4/49,Error ellipse: s-maj=24.7km s-min=13.1km az=100.0*
ISC 02 19:54:06.0±1.8,39.70N±0.03×142.30E±0.07,h6km±10km, n51,σ1s72/54,mb4.1/17,Near east coast of eastern Honshu

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

H11N1	**WAKE ISLAND Hy**	**29.05**	**126**	T	T	20 30 35.5	
	baz=319,slow=75,SNR=3141						
H11N3	**WAKE ISLAND Hy**	**29.05**	**126**	T	T	20 30 36.1	
	baz=319,slow=75,SNR=4636						
H11S1	**WAKE ISLAND Hy**	**29.84**	**128**	T	T	20 31 34.3	
	baz=321,slow=76,SNR=344						
H11S3	**WAKE ISLAND Hy**	**29.84**	**128**	T	T	20 31 34.5	
	baz=321,slow=76,SNR=149						
H11S2	**WAKE ISLAND Hy**	**29.86**	**128**	T	T	20 31 36.3	
	baz=321,slow=76,SNR=154						
ZALV	**Zalesovo Beam**	**40.68**	**310**	P	**P**	**20 01 45.6**	**-1.4**
	0.6nm,0.5s,baz=88,slow=10,SNR=3.6						
CMAR	**Chiang Mai Arr**	**42.89**	**253**	LR	LR	20 18 49.9	
	comp=Z,6.9nm,19.4s,baz=150,slow=35						
MK31	**Makanchi Array**	**43.34**	**300**	P	**P**	**20 02 08.9**	**0.0**
MKAR	**Makanchi Array**	**43.34**	**300**	P	**P**	**20 02 09.0**	**+0.1**
	0.9nm,0.8s,baz=87,slow=12,SNR=6.7						
KURK	**Kurchatov**	**44.88**	**306**	P	**P**	**20 02 20.7**	**-0.4**
KURK				IAmb	IAmb	20 02 24.6	
	comp=Z,2.4nm,0.8s						
KURBB	**Kurchatov Arra**	**44.95**	**306**	P	**P**	**20 02 20.8**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=80,slow=8.5,SNR=12						
ILAR	**Eielson Array**	**46.88**	**34**	P	**P**	**20 02 37.2**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=258,slow=5.8,SNR=8.3						
RIDG	**Independent Ri**	**47.85**	**35**	P	**P**	**20 02 42.1**	**-2.3**
BVAR	**Borovoye Array**	**49.33**	**311**	P	**P**	**20 02 54.5**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=54,slow=7.3,SNR=1.4						
BARN	**Barnard Glacie**	**49.70**	**38**	P	**P**	**20 02 57.7**	**-1.2**
INK	**Inuvik**	**51.70**	**28**	P	**P**	**20 03 14.0**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=294,slow=12,SNR=1.9						
INK	**Inuvik**	**51.70**	**28**	P	**P**	**20 03 13.8**	**+0.3**
WB0	**Warramunga Arr**	**59.62**	**189**	P	**P**	**20 04 10.0**	**-0.9**
WB0				IAmb	IAmb	20 04 14.6	
	comp=Z,5.0nm,1.1s						
WR0	**Warramunga Arr**	**59.79**	**188**	P	**P**	**20 04 11.2**	**-0.9**
WR0				IAmb	IAmb	20 04 15.0	
	comp=Z,3.4nm,0.9s						
WB2	**Warramunga Arr**	**59.80**	**189**	P	**P**	**20 04 11.1**	**-1.0**
WB2				IAmb	IAmb	20 04 30.5	
	comp=Z,5.5nm,1.1s						
WRA	**Warramunga Arr**	**59.80**	**189**	P	**P**	**20 04 11.2**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=6.1,slow=6.9,SNR=26						
ASAR	**Alice Springs**	**63.53**	**189**	P	**P**	**20 04 36.8**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=358,slow=5.4,SNR=11						
FINES	**FINESS Array B**	**66.78**	**332**	P	**P**	**20 04 57.3**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=104,slow=3.9,SNR=2.7						
HFS	**Hagfors**	**71.94**	**336**	P	**P**	**20 05 29.7**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=54,slow=7.5,SNR=5.4						
NB2	**NORSAR Subarra**	**72.00**	**337**	P	**P**	**20 05 29.7**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**72.00**	**337**	P	**P**	**20 05 29.8**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=322,slow=23,SNR=3.3						

GCG ***02*** *20:04:21.8±0.7, 15.57N×91.43W, h176km±34km, MD4.0*
IDC ***02*** *20:04:24.8±2.3, 14.00N×92.38W, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.6/54, mbtmp3.6/5, ML3.7/3, MS2.8/1, Ms1 2.8/1, ms1mx2.2/35, Error ellipse: s-maj=57.2km s-min=27.2km az=42.0*
NEIC ***02*** *20:04:25.5±2.3, 13.88N±0.07×92.25W±0.06, h10km±1km, mb4.1/2, Error ellipse: s-maj=12.8km s-min=8.6km az=149.0*

ISC 02 20:04:25.8±1.6**, 13.7N**±0.1×**92.27W**±0.0**7, h32**km**, n15, σ1.5 77/16, mb3.9/4, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**1.58**	**61**	*eP*	**Pn**	**20 04 52.5**	**+0.7**
PCG	**Pacaya**	**1.76**	**66**	*eP*	**Pn**	**20 04 50.2**	**-4.0**
PCG				*eS*	**Sb**	**20 05 18.7**	**-0.7**
IXG	**Ixpaco**	**1.84**	**74**	*eP*	**Pn**	**20 04 56.3**	**+1.0**
NBG	**Las Nubes**	**2.07**	**64**	*eP*	Pn	20 04 54.1	-4.5
CCIG	**Comitan**	**2.59**	**3**	Pn	**Pn**	**20 05 06.5**	**+0.9**
MTO3	**Montecristo**	**2.91**	**76**	Pn	**Pn**	**20 05 10.5**	**+0.4**
CMIG	**Matias Romero**	**4.22**	**324**	Pn	**Pn**	**20 05 27.1**	**-0.9**
	1.5nm,0.3s,baz=141,slow=12,SNR=10						
CMIG				Sn	**Sn**	**20 06 13.5**	**-2.7**
	4.3nm,0.3s,baz=131,slow=17,SNR=5.7						
CMIG				Lg	Lg	20 06 26.8	
	6.6nm,0.3s,baz=60,slow=19,SNR=6.2						
TEIG	**Tepich**	**7.54**	**30**	Pn	**Pn**	**20 06 14.9**	**+1.4**
	2.2nm,0.3s,baz=139,slow=3.1,SNR=3.3						
TEIG				LR	LR	20 09 30.6	
	comp=Z,83nm,21.0s,baz=50,slow=42						
TEIG	**Tepich**	**7.54**	**30**		**Pn**	**20 06 13.9**	**+0.4**
TXAR	**Lajitas Array**	**18.82**	**328**	P	**Pn**	**20 08 44.0**	**+0.4**
	0.1nm,0.3s,baz=147,slow=12,SNR=4.9						
AMTX	**Amarillo**	**22.76**	**340**	P	**P**	**20 09 24.9**	**-0.6**
AMTX				IAmb	IAmb	20 09 25.8	
	comp=Z,6.6nm,0.6s						
CLTN	**Cedars of Leba**	**22.94**	**12**	P	**P**	**20 09 27.8**	**+0.5**
CLTN				IAmb	IAmb	20 09 28.0	
	comp=Z,5.5nm,1.0s						
NVAR	**Mina Array Bea**	**33.75**	**322**	P	**P**	**20 11 07.7**	**+2.9**
	comp=Z,0.3nm,0.5s,baz=135,slow=9.0,SNR=2.2						
YKA	**Yellowknife Ar**	**51.27**	**347**	P	**P**	**20 13 26.0**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=152,slow=7.9,SNR=8.5						
CMAR	**Chiang Mai Arr**	**146.20**	**341**	PKPbc	**PKiKP**	**20 24 05.7**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=339,slow=3.4,SNR=10						

JMA ***02*** *20:05:33.0±0.1, 24.92N×123.48E, h26km±4km, M3.0*
IDC ***02*** *20:05:34.8±1.6, 25.09N×123.23E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.3/68, mbtmp3.4/5, MS2.7/3, Ms1 2.7/3, ms1mx2.4/34, Error ellipse: s-maj=56.6km s-min=22.8km az=61.0*

ISC 02 20:05:33.3±1.8**, 24.88N**±0.08×**123.51E**±0.0**4, h14**km**±13**km**, n18, σ0.84/19, mb3.4/5, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.58**	**160**	P	**Pg**	**20 05 45.0**	**+0.3**
IRIF				S	**Sg**	**20 05 53.6**	**+1.2**
YOJ	**Yonaguni jima**	**0.62**	**227**	P	**Pg**	**20 05 45.0**	**-0.4**
JYNG	**Yonagunijimaku**	**0.67**	**230**	P	**Pb**	**20 05 45.8**	**-1.0**
JYNG				S	**Sg**	**20 05 54.9**	**-0.3**
JIJ	**Ishigaki jima**	**0.77**	**132**	P	**Pb**	**20 05 47.9**	**-0.6**
JIJ				S	**Sb**	**20 05 58.2**	**-0.7**
JISG	**Ishigakijimahi**	**0.79**	**112**	P	**Pb**	**20 05 48.3**	**-0.4**
JISG				*eS*	**Sb**	**20 05 59.4**	**+0.2**
JKRS	**Kuro-shima**	**0.79**	**145**	P	**Pb**	**20 05 48.6**	**-0.1**
JKRS				S	**Sb**	**20 05 59.5**	**+0.2**
HATJ	**Hateruma jima**	**0.86**	**162**	P	**Pb**	**20 05 49.6**	**-0.5**
HATJ				*eS*	**Sb**	**20 06 01.5**	**0.0**
JTJ	**Tarama**	**1.11**	**102**	P	**Pn**	**20 05 54.0**	**-0.4**
JIRB	**Irabujima**	**1.51**	**92**	P	**Pn**	**20 05 58.7**	**-1.2**
JIKM	**Ikemajima**	**1.58**	**88**	*eS*	**Sn**	**20 06 19.7**	**-1.4**
TGY	**Tagaytay City**	**10.99**	**193**	LR	LR	20 12 15.9	
	comp=Z,19nm,20.0s,baz=42,slow=36						
KSRS	**Korea Array**	**13.09**	**16**	LR	LR	20 14 34.6	
	comp=Z,37nm,18.8s,baz=210,slow=42						
CMAR	**Chiang Mai Arr**	**23.69**	**259**	P	**P**	**20 10 45.9**	**+1.1**
	0.2nm,0.3s,baz=67,slow=6.9,SNR=1.3						
SONM	**Songino Array**	**26.61**	**334**	P	**P**	**20 11 12.4**	**+1.0**
	0.7nm,0.8s,baz=150,slow=8.9,SNR=3.7						
MKAR	**Makanchi Array**	**39.34**	**314**	P	**P**	**20 13 03.0**	**+0.9**
	0.5nm,0.8s,baz=118,slow=9.9,SNR=3.6						
AAK	**Ala-Archa**	**43.78**	**306**	LR	LR	20 34 50.9	
	comp=Z,19nm,19.0s,baz=200,slow=40						
WRA	**Warramunga Arr**	**45.78**	**166**	P	P	20 14 00.2	+5.5
	1.3nm,0.7s,baz=348,slow=8.7,SNR=7.4						
ASAR	**Alice Springs**	**49.30**	**167**	P	P	20 14 27.9	+5.9
	0.3nm,0.7s,baz=347,slow=6.3,SNR=5.9						

MAN 02 20:20:00.7, 10.05N×124.05E, h32km, mb3.7, ML2.5, MS2.0, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLP	**Lapu-Lapu**	**0.28**	**344**	*ieP*	Pn	20 20 10.0	+1.3
LLP				*i* S	Sn	20 20 15.7	+2.0
TBP	**Tagbilaran**	**0.40**	**207**	*eP*	Pn	20 20 10.9	+0.6

JMA ***02*** *20:24:08.3±0.2, 24.92N×123.48E, h25km±5km, M3.5*
IDC ***02*** *20:24:17.7±5.1, 24.83N×123.38E, h86km±49km, mb3.4/13, mb1 3.6/15, mb1mx3.4/50, mbtmp3.7/15, ML2.8/2, MS3.3/14, Ms1 3.3/14, ms1mx3.2/23, Error ellipse: s-maj=23.7km s-min=14.9km az=74.0*

ISC 02 20:24:08.3±1.5**, 24.90N**±0.06×**123.51E**±0.0**3, h9**km**±11**km**, n35, σ0.96/34, mb3.6/13, MS3.2/9, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.59**	**160**	P	**Pb**	**20 24 20.4**	**-0.5**
IRIF				*eS*	**Sb**	**20 24 29.3**	**-0.1**
YOJ	**Yonaguni jima**	**0.63**	**227**	P	**Pg**	**20 24 20.4**	**-0.1**
YOJ				*eS*	**Sg**	**20 24 28.8**	**+0.1**
JYNG	**Yonagunijimaku**	**0.68**	**230**	P	**Pg**	**20 24 21.1**	**-0.3**
JYNG				*eS*	**Sg**	**20 24 30.3**	**0.0**
JIJ	**Ishigaki jima**	**0.78**	**133**	P	**Pg**	**20 24 23.1**	**-0.3**
JIJ				S	**Sg**	**20 24 33.7**	**+0.2**
JISG	**Ishigakijimahi**	**0.79**	**113**	P	**Pb**	**20 24 23.9**	**-0.3**
JISG				S	**Sb**	**20 24 35.1**	**+0.1**
JKRS	**Kuro-shima**	**0.80**	**145**	P	**Pg**	**20 24 23.8**	**+0.2**
JKRS				S	**Sg**	**20 24 34.8**	**+0.8**
HATJ	**Hateruma jima**	**0.88**	**162**	P	**Pg**	**20 24 25.1**	**-0.1**
HATJ				*eS*	**Sg**	**20 24 37.0**	**+0.4**
JTJ	**Tarama**	**1.11**	**103**	P	**Pg**	**20 24 29.4**	**-0.2**
JIRB	**Irabujima**	**1.51**	**92**	P	**Pn**	**20 24 35.6**	**0.0**
JIKM	**Ikemajima**	**1.57**	**89**	S	**Sn**	**20 24 55.3**	**-1.7**
JMJ2	**Miyako jima3**	**1.66**	**95**	P	**Pn**	**20 24 37.5**	**-0.1**
JOGS	**Gusukube**	**1.73**	**94**	P	**Pn**	**20 24 37.7**	**-0.8**
JNU	**Nakatsue**	**10.42**	**36**	LR	LR	20 31 20.1	
	comp=Z,131nm,18.3s,baz=188,slow=40						
TGY	**Tagaytay City**	**11.01**	**193**	LR	LR	20 31 02.4	
	comp=Z,162nm,19.9s,baz=356,slow=37						
KSRS	**Korea Array**	**13.07**	**16**	P	**P**	**20 27 22.7**	**-1.9**
	0.1nm,0.3s,baz=196,slow=11,SNR=6.1						
KSRS				LR	LR	20 33 01.8	
	comp=Z,157nm,18.8s,baz=211,slow=40						
JHJ	**Hachijo jima 2**	**16.41**	**56**	LR	LR	20 33 56.2	
	comp=Z,48nm,19.9s,baz=277,slow=35						
MJAR	**Matsushiro Arr**	**17.13**	**44**	P	**P**	**20 28 12.8**	**+3.0**
	0.0nm,0.3s,baz=251,slow=7.2,SNR=2.3						
MJAR				LR	LR	20 35 01.9	
	comp=Z,59nm,20.1s,baz=245,slow=37						
USRK	**Ussuriysk Ar.**	**20.46**	**18**	LR	LR	20 37 04.5	
	comp=Z,112nm,19.8s,baz=173,slow=37						
CMAR	**Chiang Mai Arr**	**23.69**	**259**	P	**P**	**20 29 21.4**	**+0.7**
	1.3nm,0.9s,baz=58,slow=7.8,SNR=9.9						
CMAR				LR	LR	20 39 15.7	
	comp=Z,28nm,19.4s,baz=100,slow=38						
ASAJ	**Asahikawa**	**24.69**	**34**	LR	LR	20 38 52.6	
	comp=Z,48nm,20.5s,baz=196,slow=35						
KLR	**Kul'dur**	**25.13**	**13**	P	**P**	**20 29 35.7**	**+2.1**
	1.6nm,0.9s,baz=186,slow=8.0,SNR=4.0						
KLR				LR	LR	20 40 26.8	
	comp=Z,92nm,18.0s,baz=202,slow=38						
SONM	**Songino Array**	**26.60**	**334**	P	**P**	**20 29 48.5**	**+1.3**
	3.2nm,0.9s,baz=145,slow=9.9,SNR=8.5						
SONM				LR	LR	20 41 04.2	
	comp=Z,74nm,21.1s,baz=282,slow=38						
MKAR	**Makanchi Array**	**39.33**	**314**	P	**P**	**20 31 38.2**	**+0.3**
	1.2nm,0.8s,baz=94,slow=10,SNR=11						
MKAR				LR	LR	20 48 29.3	
	comp=Z,35nm,19.5s,baz=56,slow=37						
MA2	**Magadan**	**39.53**	**21**	LR	LR	20 48 42.3	
	comp=Z,62nm,18.9s,baz=244,slow=37						
ZALV	**Zalesovo Beam**	**40.83**	**326**	P	**P**	**20 31 49.3**	**-0.9**
	0.6nm,0.5s,baz=31,slow=42,SNR=3.1						
KURBB	**Kurchatov Arra**	**42.95**	**319**	P	**P**	**20 32 06.5**	**-1.0**
	0.8nm,0.8s,baz=110,slow=8.1,SNR=5.0						
WRA	**Warramunga Arr**	**45.80**	**166**	P	**P**	**20 32 29.9**	**-0.8**
	2.5nm,0.9s,baz=348,slow=8.6,SNR=16						
TIXI	**Tiksi**	**46.88**	**2**	P	**P**	**20 32 38.2**	**-0.3**
	1.3nm,0.3s,baz=176,slow=1.6,SNR=3.9						
BVAR	**Borovoye Array**	**48.48**	**320**	P	**P**	**20 32 51.0**	**-0.3**
	0.3nm,0.5s,baz=81,slow=8.5,SNR=1.8						
ASAR	**Alice Springs**	**49.31**	**167**	P	**P**	**20 32 58.4**	**+0.4**
	0.5nm,0.7s,baz=352,slow=14,SNR=9.5						
ILAR	**Eielson Array**	**67.61**	**28**	LR	LR	21 06 39.5	
	comp=Z,23nm,21.5s,baz=264,slow=38						
ARCES	**ARCESS Array B**	**69.67**	**338**	LR	LR	21 08 54.9	
	comp=Z,27nm,19.4s,baz=124,slow=38						
BRTR	**Keskin Array B**	**74.45**	**307**	P	**P**	**20 35 47.2**	**-0.2**
	0.2nm,0.5s,baz=52,slow=9.3,SNR=1.6						
NOA	**NORSAR Array B**	**78.58**	**333**	P	**P**	**20 36 10.4**	**+0.2**
	0.5nm,0.9s,baz=57,slow=5.6,SNR=2.6						
YKA	**Yellowknife Ar**	**81.48**	**23**	P	**P**	**20 36 26.3**	**+0.5**
	0.8nm,0.8s,baz=309,slow=4.6,SNR=8.2						

NEIC ***02*** *20:26:04.0±1.3, 20.45S±0.1×178.1W±0.1, h541km±6km, mb4.5/71, Error ellipse: s-maj=18.9km s-min=15.6km az=116.0*
IDC ***02*** *20:26:06.0±2.4, 20.45S×178.05W, h561km±26km, mb3.6/19, mb1 3.8/20, mb1mx3.6/44, mbtmp4.5/20, Error ellipse: s-maj=16.2km s-min=11.5km az=144.0*

ISC 02 20:26:03.1±0.4**, 20.42S**±0.08×**177.94W**±0.0**7, h534**km**, n194, σ0.81/210, mb4.4/53, 19C-9D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.64**	**304**	P	**P**	**20 27 29.6**	**+0.5**
NIUE	**Niue**	**7.66**	**81**	P	**P**	**20 27 55.7**	**-1.3**
AFI	**Afiamalu**	**8.75**	**43**	P	**P**	**20 28 04.7**	**-3.3**
DZM	**Mont Dzumac**	**14.66**	**261**	P	**P**	**20 29 09.6**	**+0.3**
	1.0nm,0.3s,baz=122,slow=18,SNR=8.1						
DZM	**Mont Dzumac**	**14.66**	**261**	P	**P**	**20 29 08.2**	**-1.2**
KNTN	**Kanton**	**18.55**	**20**	P	**P**	**20 29 44.2**	**-2.7**
BKZ	**Black Stump Fm**	**19.29**	**193**	P	**P**	**20 29 50.9**	**-2.5**
QRZ	**Quartz Range**	**21.91**	**200**	P	**P**	**20 30 16.7**	**-0.2**
LTZ	**Lake Taylor**	**23.77**	**198**	P	**P**	**20 30 30.8**	**-2.8**
EIDS	**Eidsvold**	**28.93**	**254**	P	**P**	**20 31 19.3**	**+0.1**
EIDS				IAmb	IAmb	20 31 19.7	
	comp=Z,8.8nm,0.9s						
ARMA	**Armidale**	**29.16**	**244**	P	**P**	**20 31 20.9**	**-0.4**
CAN	**Canberra**	**32.61**	**236**	P	**P**	**20 31 51.0**	**+0.2**
CTAO	**Charters Tower**	**33.56**	**264**	P	**P**	**20 31 59.5**	**+0.6**
TOO	**Toolangi**	**35.99**	**234**	P	**P**	**20 32 18.7**	**-0.4**
TAU	**Tasmania Unive**	**36.73**	**224**	P	**P**	**20 32 25.4**	**+0.5**
COEN	**Coen**	**37.64**	**273**	P	**P**	**20 32 33.0**	**+0.1**
STKA	**Stephens Creek**	**37.88**	**244**	P	**P**	**20 32 35.1**	**+0.5**
	comp=Z,7.7nm,0.8s,baz=92,slow=10,SNR=25						
STKA	**Stephens Creek**	**37.88**	**244**	P	**P**	**20 32 35.0**	**+0.5**
BBOO	**Buckleboo**	**42.64**	**243**	P	**P**	**20 33 12.6**	**-0.1**
BBOO				IAmb	IAmb	20 33 13.3	
	comp=Z,15nm,0.7s						
WR0	**Warramunga Arr**	**44.48**	**262**	P	**P**	**20 33 26.3**	**-0.9**
WR0				IAmb	IAmb	20 33 28.2	
	comp=Z,15nm,1.1s						
AS31	**Alice Springs**	**44.59**	**257**	P	**P**	**20 33 27.7**	**-0.3**
AS31				IAmb	IAmb	20 33 28.8	
	comp=Z,6.8nm,0.7s						
ASAR	**Alice Springs**	**44.59**	**257**	P	**P**	**20 33 28.0**	**0.0**
	comp=Z,31nm,0.8s,baz=98,slow=7.6,SNR=271						
ASAR				PcP	**PcP**	**20 34 59.6**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=103,slow=3.6,SNR=7.4						
ASAR				S	**S**	**20 39 23.0**	**-2.3**
	comp=Z,1.7nm,0.8s,baz=92,slow=15,SNR=11						
WB0	**Warramunga Arr**	**44.65**	**262**	P	**P**	**20 33 28.1**	**-0.4**
WB0				IAmb	IAmb	20 33 28.7	
	comp=Z,14nm,0.7s						
WB2	**Warramunga Arr**	**44.66**	**262**	P	**P**	**20 33 28.1**	**-0.5**
WB2				IAmb	IAmb	20 33 28.9	
	comp=Z,23nm,1.0s						
WRAB	**Tennant Creek**	**44.66**	**262**	P	**P**	**20 33 27.4**	**-1.1**
WRAB				IAmb	IAmb	20 33 28.9	
	comp=Z,16nm,0.9s						
WRA	**Warramunga Arr**	**44.67**	**262**	P	**P**	**20 33 28.0**	**-0.7**
	comp=Z,9.8nm,0.7s,baz=97,slow=7.6,SNR=147						
WRA				PcP	**PcP**	**20 35 00.2**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=95,slow=3.2,SNR=3.4						
MTN	**Manton Dam**	**49.22**	**270**	P	**P**	**20 34 02.5**	**-0.4**
MTN				IAmb	IAmb	20 34 03.9	
	comp=Z,18nm,0.7s						
FORT	**Forrest**	**49.38**	**247**	P	**P**	**20 34 03.6**	**-0.4**
KNRA	**Kununurra**	**50.72**	**266**	P	**P**	**20 34 13.9**	**0.0**
FITZ	**Fitzroy Crossi**	**53.10**	**262**	P	**P**	**20 34 30.9**	**-0.1**
SIJI	**Sorong**	**53.27**	**285**	P	**P**	**20 34 32.5**	**+0.2**
	comp=Z,21nm,0.7s,baz=84,slow=6.4,SNR=15						
SOEI	**Soe**	**56.56**	**272**	P	**P**	**20 34 56.4**	**+0.9**
PSA00	**Pilbara Seismi**	**57.74**	**257**	P	**P**	**20 35 03.1**	**-0.3**
PSA00				IAmb	IAmb	20 35 03.8	
	comp=Z,18nm,0.7s						
VNDA	**Vanda**	**58.00**	**185**	P	**P**	**20 35 05.2**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=349,slow=7.5,SNR=5.2						
VNDA	**Vanda**	**58.00**	**185**	P	**P**	**20 35 05.7**	**+1.6**
MMRI	**Maumere**	**58.81**	**272**	P	**P**	**20 35 10.2**	**-0.4**
MMRI				IAmb	IAmb	20 35 11.2	
	comp=Z,30nm,0.9s						
MORW	**Morawa**	**59.91**	**248**	P	**P**	**20 35 17.3**	**-0.6**
MORW				IAmb	IAmb	20 35 42.9	
	comp=Z,47nm,1.8s						
CASY	**Casey**	**64.06**	**205**	P	**P**	**20 35 44.3**	**+0.2**
CASY				IAmb	IAmb	20 35 45.0	
	comp=Z,11nm,1.2s						
QSPA	**South Pole Qui**	**69.65**	**180**	P	**P**	**20 36 19.4**	**+0.7**
MJAR	**Matsushiro Arr**	**70.18**	**324**	P	**P**	**20 36 21.9**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=139,slow=6.1,SNR=9.3						
MAJO	**Matsushiro**	**70.18**	**324**	P	**P**	**20 36 22.1**	**-0.1**
MAT	**Matsushiro**	**70.18**	**324**	P	**P**	**20 36 22.3**	**+0.2**
MJB9	**Matsu-Tunnel**	**70.18**	**324**	P	**P**	**20 36 22.2**	**+0.1**
MJB9				IAmb	IAmb	20 38 16.8	
	comp=Z,3.4nm,0.5s						
ADK	**Adak**	**72.00**	**1**	P	**P**	**20 36 31.9**	**-0.4**
ADK				IAmb	IAmb	20 38 03.2	
	comp=Z,38nm,1.2s						
JKA	**Kamikawa-asahi**	**73.68**	**332**	P	**P**	**20 36 43.9**	**+1.6**
ASAJ	**Asahikawa**	**73.68**	**332**	P	**P**	**20 36 43.9**	**+1.6**
	comp=Z,3.8nm,0.8s,baz=218,slow=7.1,SNR=5.5						
TPUB	**Ta-pu**	**73.98**	**303**	P	**P**	**20 36 43.5**	**-1.0**
TPUB				IAmb	IAmb	20 39 11.7	
	comp=Z,42nm,1.4s						
PETK	**Petropavlovsk-**	**76.20**	**345**	P	**P**	**20 36 56.4**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=134,slow=8.5,SNR=9.3						
KSRS	**Korea Array**	**76.86**	**319**	P	**P**	**20 37 01.0**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=123,slow=6.0,SNR=4.4						
USRK	**Ussuriysk Ar.**	**78.93**	**326**	P	**P**	**20 37 12.8**	**+1.7**
	comp=Z,4.3nm,0.8s,baz=130,slow=2.7,SNR=8.5						
USA0B	**Ussuriysk Arra**	**78.93**	**326**	P	**P**	**20 37 10.1**	**-1.0**
AFDM	**Forest Hills D**	**79.54**	**42**	P	**P**	**20 37 15.8**	**+1.2**
MYKOM	**Kota Tinggi**	**79.59**	**276**	P	**P**	**20 37 15.6**	**+0.3**
MYKOM				IAmb	IAmb	20 37 16.9	
	comp=Z,9.1nm,0.8s						
NVAR	**Mina Array Bea**	**80.92**	**43**	P	**P**	**20 37 23.2**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=228,slow=9.5,SNR=10						
NV11	**Mina Array Sit**	**81.02**	**43**	P	**P**	**20 37 23.1**	**+0.6**
KVN	**Kaiserville**	**81.41**	**43**	P	**P**	**20 37 25.6**	**+1.0**
MAW	**Mawson**	**81.66**	**200**	P	**P**	**20 37 25.1**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=124,slow=7.9,SNR=6.9						
MAW	**Mawson**	**81.66**	**200**	P	**P**	**20 37 25.3**	**+0.2**
K05A	**Summer Lake**	**81.86**	**39**	P	**P**	**20 37 28.2**	**+1.5**
K05A				IAmb	IAmb	20 39 19.6	
	comp=Z,45nm,1.9s						
Y14A	**Wickenburg**	**82.09**	**49**	P	**P**	**20 37 28.8**	**+0.9**
PINE	**Pine Mountain**	**82.48**	**38**	P	**P**	**20 37 31.5**	**+1.7**
PINE				IAmb	IAmb	20 37 32.2	
	comp=Z,8.7nm,0.9s						
KLR	**Kul'dur**	**82.48**	**329**	P	**P**	**20 37 30.7**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=49,slow=6.0,SNR=4.5						
IPM	**Ipoh**	**83.18**	**277**	P	**P**	**20 37 34.8**	**+1.0**
IPM				IAmb	IAmb	20 37 35.4	
	comp=Z,12nm,0.6s						
X16A	**Lo Mia Camp, P**	**83.45**	**50**	P	**P**	**20 37 36.1**	**+1.2**
LCMT	**Little Creek M**	**83.51**	**47**	P	**P**	**20 37 36.4**	**+1.3**
J08A	**Circle Bar Ran**	**83.66**	**39**	P	**P**	**20 37 36.9**	**+1.2**
CCUT	**Cedar City**	**83.71**	**46**	P	**P**	**20 37 37.3**	**+1.1**
KULM	**Kulim**	**83.82**	**278**	P	**P**	**20 37 37.9**	**+1.0**
KULM				IAmb	IAmb	20 37 38.7	
	comp=Z,7.0nm,0.7s						
U15A	**North Rim**	**83.86**	**48**	P	**P**	**20 37 38.5**	**+1.5**
PGC	**Sidney**	**84.16**	**33**	P	**P**	**20 37 38.3**	**+0.5**
RPSI	**Rantau Prapat**	**84.51**	**275**	P	**P**	**20 37 40.0**	**-0.4**
RPSI				IAmb	IAmb	20 37 41.5	
	comp=Z,6.3nm,0.9s						
G08A	**Pilot Rock**	**84.51**	**37**	P	**P**	**20 37 41.0**	**+1.2**
GLI	**Glacier Island**	**84.75**	**15**	P	**P**

MANR	Mangalia	147.86	323	⇑P	PKPbc	20 44 48.6	+0.5
OSTC	Ostas	147.91	343	⇑*e*PKP	PKPbc	20 44 48.7	+0.6
CHVC	Chvalec	147.92	343	⇑*e*PKP	PKPbc	20 44 48.3	+0.2
CLZ	Clausthal baz=12,slow=2.4	147.97	350	*e*PKPbc	PKPbc	20 44 48.6	+0.4
CLL	Collm comp=Z,17nm,0.9s	147.99	347	⇓*i*PKPbc	PKiKP	20 44 49.3	-0.3
CLL				*e*PKPab	PKPab	20 44 54.0	+1.2
CLL				*ep*PKPab	pPKPab	20 46 54.0	+1.0
CLL	Collm	147.99	347		PKiKP	20 44 49.1	-0.4
UPC	Upice	148.01	343	⇑*e*PKP	PKPbc	20 44 48.6	+0.3
DPC	Dobruska-Polom	148.06	343	⇑*e*PKP	PKPbc	20 44 48.8	+0.3
DPC				*e*PKPAB	PKPab	20 44 54.2	+1.0
KRLC	Kraliky	148.18	342	⇑*e*PKP	PKPbc	20 44 49.0	+0.2
KRLC				*e*PKPAB	PKPab	20 44 54.1	+0.4
MLR	Muntele Rosu	148.19	327	⇑P	PKPbc	20 44 48.1	-1.0
MLR	Muntele Rosu	148.19	327		PKPbc	20 44 48.4	-0.7
BRG	Berggiesshubel comp=Z,7.5nm,0.7s	148.19	346	*i* PKP	PKiKP	20 44 49.7	-0.3
BRG				*i*		20 44 53.4	
BRG	Berggiesshubel baz=12,slow=2.4 comp=Z,4.7nm,0.8s	148.19	346	*e*PKPbc	PKPbc	20 44 49.1	+0.3
MORC	Moravsky Berou	148.22	341	*e*PKP	PKPbc	20 44 48.7	-0.2
FBE	Freiberg baz=12,slow=2.4	148.28	346	*e*PKPbc	PKiKP	20 44 49.6	-0.6
FBE	baz=13,slow=4.3			*e*PKPab	PKPab	20 44 54.5	+0.5
PVCC	Panska Ves	148.36	345	⇑*e*PKP	PKiKP	20 44 49.8	-0.6
PRU	Pruhonice	148.87	344	⇑*e*PKP	PKPbc	20 44 50.6	+0.2
PRU				*e*PKPAB	PKPab	20 44 56.5	0.0
GOPC	GO Pecny, Ondr	148.87	344	⇑*e*PKP	PKPbc	20 44 50.6	+0.1
GOPC				*e*PKPAB	PKPab	20 44 56.8	+0.2
MOX	Moxa baz=12,slow=2.4	148.90	348	*e*PKPbc	PKPbc	20 44 50.8	+0.2
VRAC	Vranov	148.92	341	*e*PKP	PKPbc	20 44 50.7	+0.1
ARR	Arges	148.93	328	⇓P	PKiKP	20 44 51.9	+0.1
PLN	Plauen baz=12,slow=2.4	148.95	347	*e*PKPbc	PKPbc	20 44 51.0	+0.4
TANN	Tannenbergstha baz=12,slow=2.4	148.95	347	*e*PKPbc	PKPbc	20 44 51.0	+0.3
JAVC	Velka Javorina	148.98	340	*e*PKP	PKiKP	20 44 52.0	+0.2
GUNZ	Gunzen baz=12,slow=2.4	149.03	347	*e*PKPbc	PKPbc	20 44 51.2	+0.4
GUNZ	baz=13,slow=4.3			*e*PKPab	PKPab	20 44 57.5	+0.3
WERN	Wernitzgruen baz=12,slow=2.4	149.09	347	*e*PKPbc	PKPbc	20 44 51.4	+0.4
WERN	baz=13,slow=4.3			*e*PKPab	PKPab	20 44 57.9	+0.4
NKC	Novy Kostel	149.13	347	⇑*e*PKP	PKiKP	20 44 51.6	-0.4
KRUC	Moravsky	149.20	341	*e*PKP	PKPbc	20 44 51.3	0.0
TREC	Trest	149.25	343	⇑*e*PKP	PKPbc	20 44 51.4	0.0
PBCC	Pribram	149.28	345	⇑*e*PKP	PKPbc	20 44 51.7	+0.2
MANZ	Manzenberg baz=12,slow=2.4	149.43	347	*e*PKPbc	PKPbc	20 44 52.2	+0.3
ROTZ	Rotzenmuhle baz=12,slow=2.4	149.62	347	*e*PKPbc	PKPbc	20 44 52.5	+0.2
GZR	Gura Zlata	149.80	330	⇓P	PKPbc	20 44 52.1	-0.8
TNS	Taunus Mts baz=13,slow=4.3	149.83	352	*e*PKPab	PKPab	20 45 00.3	-0.2
KHC	Kasperske Hory	149.90	345	⇑*e*PKP	PKPdf	20 44 48.1	+0.6
KHC				*e*PKPAB	PKPab	20 45 01.1	+0.2
KHC	Kasperske Hory	149.90	345		PKPbc	20 44 53.1	+0.1
KHC					PKPab	20 45 01.4	+0.6
WET	Wettzell baz=13,slow=4.3	150.06	346	*e*PKPab	PKPab	20 45 01.9	+0.4
GEC2	GERESS Array S	150.13	344		PKPbc	20 44 53.8	+0.1
GEC2	GERESS Array S baz=12,slow=2.4	150.13	344	*e*PKPbc	PKPbc	20 44 53.7	+0.1
GERES	GERESS Array B comp=Z,1.1nm,0.6s,baz=309,slow=3.1,SNR=1.7	150.13	344	PKP	PKPdf	20 44 48.7	+0.7
GERES				PKPbc	PKPbc	20 44 53.5	-0.2
GERES	comp=Z,2.0nm,0.6s,baz=45,slow=2.1,SNR=19			PKPab	PKPab	20 45 02.0	+0.1
BZS	Buzias	150.15	332	⇓P	PKPbc	20 44 53.6	0.0
PLVB	Pleven	150.32	326	⇓P	PKPbc	20 44 54.3	+0.2
HERR	Herculane	150.35	330	⇓P	PKPbc	20 44 54.0	-0.1
CONA	Conrad Observa comp=Z,4.0nm,0.6s,SNR=7.3	150.37	341	*i* PKiKP	PKPbc	20 44 54.4	+0.2
WLF	Walferdange	150.63	355		PKiKP	20 44 55.1	+0.1
MDVR	Moldovita	150.75	331	⇑P	PKPbc	20 44 55.1	0.0
MANT	Manisa	150.89	314		PKPbc	20 44 55.5	-0.4
MOA	Molln comp=Z,2.3nm,0.7s	150.90	343	*i* PKPbc	PKPbc	20 44 54.2	-1.2
ARSA	Arzberg comp=Z,1.8nm,0.6s	151.08	341	*i* PKiKP	PKiKP	20 44 56.6	+0.5
FUR	Furstenfeldbru baz=13,slow=4.3	151.33	347	*e*PKPab	PKPab	20 45 07.3	+0.5
RJOB	Jochberg baz=13,slow=4.3	151.39	345	*e*PKPab	PKPab	20 45 08.1	+0.9
VTS	Vitosha	151.59	326		PKPbc	20 44 56.9	-0.3
BFO	Black Forest baz=12,slow=2.4	151.70	351	*e*PKPbc	PKPbc	20 44 56.8	-0.4
SOKA	Soboth comp=Z,2.6nm,0.9s	151.74	341	*i* PKPbc	PKPbc	20 44 56.4	-0.9
KBA	Koelnbreinsper comp=Z,2.0nm,0.5s	151.86	344	*i* PKPbc	PKPbc	20 44 57.1	-0.6
UBR	Ueberruh baz=12,slow=2.4	152.03	348	*e*PKPbc	PKPbc	20 44 57.6	-0.3
DIVS	Divibare	152.06	332		PKPbc	20 44 58.1	0.0
RETA	Reutte comp=Z,3.1nm,1.2s	152.09	347	*i* PKPbc	PKPbc	20 44 58.1	0.0
WTTA	Wattenberg comp=Z,4.4nm,0.8s	152.11	346	*i* PKPbc	PKPbc	20 44 57.9	-0.4
MOTA	Moosalm comp=Z,2.5nm,0.7s	152.15	347	*i* PKPbc	PKPbc	20 44 57.6	-0.8
MYKA	Terra Mystica comp=Z,1.9nm,0.4s	152.19	343	*i* PKPbc	PKPbc	20 44 57.3	-1.1
SQTA	Sankt Quirin comp=Z,1.7nm,0.4s	152.24	347	*i* PKPbc	PKPbc	20 44 58.1	-0.4
ABTA	Abfaltersbach comp=Z,4.3nm,0.6s	152.38	344	*i* PKPbc	PKPbc	20 44 57.7	-1.1
PRED	Cave del Predi	152.38	343	PKPbc	PKPbc	20 44 57.7	-1.0
PRED					PKPab	20 45 10.7	-0.7
FETA	Feichten comp=Z,3.7nm,0.9s	152.54	347	*i* PKPdf	PKPdf	20 44 51.0	-0.7
CIMO	Cimolais	152.81	344		PKPbc	20 44 58.7	-0.9
TORD	Torodi Ar. Bea comp=Z,2.2nm,1.1s,baz=204,slow=1.5,SNR=5.2	172.76	177	PKP	PKPdf	20 45 10.6	-1.1
TORD				PKPab	PKPab	20 46 41.6	+0.4
	comp=Z,0.6nm,0.6s,baz=193,slow=2.0,SNR=3.5						

*IDC **02** 20:32:13.9±0.7, 67.81N×162.17W, h0km, mb3.8/21, mb1 4.1/23, mb1mx4.0/48, mbtmp3.9/23, ML4.0/2, MS3.3/10, Ms1 3.3/10, ms1mx3.0/46, Error ellipse: s-maj=20.4km s-min=12.8km az=8.0*

*NEIC **02** 20:32:14.3±1.5, 67.67N±0.07×162.21W±0.08, h8km±4km, Error ellipse: s-maj=10.3km s-min=3.1km az=161.0*

*AEIC **02** 20:32:14±1.4, 67.66N±0.05×162.3W±0.1, h15km±4km, ML4.0/51, mb4.3/6(NEIC), Error ellipse: s-maj=7.1km s-min=5.9km az=159.0*

ISC 02 20:32:14.7±0.5, 67.76N±0.06×162.07W±0.04, h10km, n99, σ1§49/101, mb3.9/23, MS3.4/6, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDOG	Red Dog Mine	0.43	313		Pg	20 32 23.3	+0.2
RDOG	Red Dog Mine	0.43	313		Sb	20 32 30.4	-0.6
ANM	Nome	3.48	204		Pn	20 33 06.6	-2.2
ANM					Sn	20 33 46.9	-3.0
IM03		3.74	115		Pn	20 33 11.8	-0.5
IM03					Sn	20 33 56.0	-0.3
PS05	TAPS Pump Stn5	4.53	97		Pn	20 33 24.6	+1.5
COLD	Coldfoot	4.59	91		Pn	20 33 25.4	+1.3
TOLK	Toolik Lake Re	4.74	74		Pn	20 33 28.1	+1.9
PS04	TAPS Pump Stn4	4.81	76		Pn	20 33 28.4	+1.3
PS06	TAPS Pump Stn6	5.24	106		Pn	20 33 32.9	0.0
MLY	Manley	5.31	116		Pn	20 33 34.2	+0.2
PS01	TAPS Pump Stn	5.45	56		Pn	20 33 37.4	+1.7
TTA	Tatalina	5.47	150	Pn	Pn	20 33 34.9	-1.4
TT01	Tatalina	5.49	150		Pn	20 33 35.4	-1.1
BPAW	Bear Paw Mtn.	5.83	124		Pn	20 33 41.0	-0.1
PS07	TAPS Pump Stn7	6.03	108		Pn	20 33 44.0	+0.2
MDM	Murphy Dome	6.23	110		Pn	20 33 46.7	+0.1
KTH	Kantishna Hill	6.25	127		Pn	20 33 46.0	-0.8
PPLA	Purkeypile	6.39	135		Pn	20 33 48.6	-0.3
TCOL	CIGO, UAF Yank	6.41	110		Pn	20 33 49.7	+0.7
COLA	College	6.42	110	Pn	Pn	20 33 49.4	+0.4
POKR	Poker Plat Res	6.44	107		Pn	20 33 49.7	+0.3
CCB	Clear Creek Bu	6.56	112		Pn	20 33 51.2	+0.1

WRH	Wood River Hil	6.56	114		Pn	20 33 50.9	-0.1
FYU	Fort Yukon	6.66	93		Pn	20 33 53.0	+0.6
BM03	Burnt Mountain	6.68	85		Pn	20 33 53.6	+0.8
MCK	McKinley	6.75	121		Pn	20 33 53.5	-0.1
IL31		6.82	109		Pn	20 33 54.4	-0.2
ILAR	Eielson Array 35nm,0.3s,baz=304,slow=13,SNR=1029	6.82	109	Pn	Pn	20 33 54.2	-0.4
ILAR	5.4nm,0.3s,baz=175,slow=30,SNR=6.2			Sn	Sn	20 35 11.0	-1.2
PRP	Porcupine Dome	6.95	101		Pn	20 33 56.6	+0.1
HDA	Harding Lake	7.00	112		Pn	20 33 57.1	0.0
RND	Reindeer	7.00	122		Pn	20 33 56.8	-0.3
WAT2	Susitna Watana	7.40	124		Pn	20 34 03.2	+0.5
SPNN	North Nagishla	7.57	143		Pn	20 34 05.2	+0.1
STLK	Strandline Lak	7.66	140		Pn	20 34 06.3	+0.1
DHY	Denali Highway	7.71	121		Pn	20 34 07.0	+0.1
SPCG	Spurr Capps Gl	7.80	142		Pn	20 34 08.1	0.0
WAT6	Susitna Watana	7.95	124		Pn	20 34 10.3	0.0
RIDG	Independent Ri	8.14	112	Pn	Pn	20 34 12.8	0.0
GHO	Glory Hole Cre	8.21	131		Pn	20 34 13.8	0.0
DFR	Drift River	8.27	146		Pn	20 34 13.2	-1.4
PMR	Palmer	8.30	132		Pn	20 34 14.9	+0.1
SCRK	Sand Creek	8.31	109		Pn	20 34 15.3	+0.1
RDWB	Redoubt West	8.33	147		Pn	20 34 14.2	-1.3
SML	Sawmill	8.36	129		Pn	20 34 15.8	+0.1
RSO	Redoubt South	8.37	147		Pn	20 34 16.2	+0.1
RED	Redoubt Volcan	8.41	147		Pn	20 34 15.3	-1.2
DOT	Dot Lake	8.48	111		Pn	20 34 17.4	+0.1
KNK	Knik Glacier	8.63	131		Pn	20 34 20.1	+0.6
SCM	Sheep Creek Mo	8.64	126		Pn	20 34 20.0	+0.4
EGAK	Eagle	8.93	100		Pn	20 34 24.0	+0.5
MENT	Mentasta	9.04	114		Pn	20 34 24.8	-0.3
GLI	Glacier Island	9.46	130		Pn	20 34 32.2	+1.5
CNPM	China Poot	9.55	145	Pn	Pn	20 34 30.2	-1.9
FID	Port Fidalgo	9.74	129	Pn	Pn	20 34 33.8	-0.9
EPYK	Eagle Plains	9.96	86		Pn	20 34 38.6	+0.9
HIN	Hinchinbrook I	10.02	130	Pn	Pn	20 34 37.7	-0.8
GLB	Gilahina Butte	10.05	120	Pn	Pn	20 34 38.0	-1.0
VRDI	Verde Repeater	10.32	120	Pn	Pn	20 34 41.9	-0.9
RAGM	Ragged Mountai	10.58	126	Pn	Pn	20 34 44.9	-1.2
INK	Inuvik 2.3nm,0.3s,baz=287,slow=10,SNR=48	10.66	74	Pn	Pn	20 34 47.0	-0.1
INK				Sn	Sn	20 36 39.8	-6.5
INK	0.8nm,0.3s,baz=16,slow=7.1,SNR=5.3			LR	LR	20 40 02.5	
INK	comp=Z,101nm,21.3s,baz=272,slow=44				Pn	20 34 46.8	-0.3
KDAK	Kodiak Island 0.5nm,0.3s,baz=17,slow=8.5,SNR=7.8	10.90	152	Pn	Pn	20 34 51.5	+1.0
KDAK				LR	LR	20 38 40.9	
SEY	comp=Z,83nm,21.8s,baz=65,slow=35 Seymchan	19.22	277	P	Pn	20 36 39.2	-0.2
SEY	0.1nm,0.3s,baz=66,slow=20,SNR=2.5			LR	LR	20 44 43.3	
YKA	comp=Z,196nm,18.0s,baz=275,slow=39 Yellowknife Ar	20.20	82	P	P	20 36 49.4	+0.3
YKA	4.2nm,0.6s,baz=302,slow=9.6,SNR=14			LR	LR	20 45 42.3	
RES	comp=Z,34nm,18.3s,baz=0.0,slow=40 Resolute Bay	21.45	42	P	P	20 37 02.4	-0.2
RES	7.1nm,1.0s,baz=313,slow=11,SNR=2.7			S	S	20 40 54.5	-5.6
RES	2.7nm,0.9s,baz=320,slow=12,SNR=1.0			LR	LR	20 47 07.5	
RES	comp=Z,31nm,19.9s,baz=184,slow=42 Resolute Bay	21.45	42	P	P	20 37 02.3	-0.2
RES				IAmb	IAmb	20 37 17.0	
MA2	comp=Z,9.1nm,1.0s Magadan	21.92	271	P	P	20 37 09.8	+2.1
TIXI	comp=Z,2.5nm,0.3s,baz=353,slow=22,SNR=1.9 Tiksi	23.05	311	P	P	20 37 18.6	-1.0
PETK	comp=Z,1.1nm,0.3s,baz=323,slow=0.9,SNR=5.2 Petropavlovsk-	24.08	253	P	P	20 37 30.0	+0.1
TULEG	comp=Z,1.3nm,0.7s,baz=74,slow=6.6,SNR=2.8 Thule	26.63	31	P	P	20 37 54.6	+1.9
TULEG				IAmb	IAmb	20 38 10.8	
PDAR	comp=Z,7.7nm,1.0s Pinedale Array	37.23	105	P	P	20 39 27.6	+1.3
NVAR	comp=Z,1.0nm,0.6s,baz=335,slow=6.6,SNR=8.3 Mina Array Bea	37.98	118	P	P	20 39 33.9	+1.3
SCHQ	comp=Z,1.3nm,0.7s,baz=315,slow=7.1,SNR=3.7 Schefferville	42.77	58	LR	LR	20 59 06.0	
ARCES	comp=Z,49nm,19.2s,baz=332,slow=38 ARCESS Array B	42.87	356	P	P	20 40 13.0	+0.6
ARCES	comp=Z,0.9nm,0.8s,baz=9.9,slow=11,SNR=1.5			PcP	PcP	20 42 03.2	+0.3
MJAR	comp=Z,1.4nm,0.6s,baz=347,slow=3.3,SNR=14 Matsushiro Arr	45.35	258	P	P	20 40 33.4	+0.8
SONM	comp=Z,0.9nm,0.7s,baz=14,slow=31,SNR=2.4 Songino Array	47.43	294	P	P	20 40 51.0	+1.9
KSRS	comp=Z,0.6nm,0.7s,baz=292,slow=9.4,SNR=2.2 Korea Array	48.43	268	P	P	20 40 57.0	+0.4
ZALV	comp=Z,1.1nm,0.7s,baz=121,slow=39,SNR=3.5 Zalesovo Beam	48.88	314	P	P	20 40 59.3	-0.7
KLMR	comp=Z,1.7nm,0.8s,baz=3.0,slow=4.6,SNR=6.5 Klimovskoe	50.72	347	*e*P	P	20 41 10.7	-3.1
KLMR				AMP		20 41 23.3	
FINES	comp=Z,6.0nm,1.1s FINESS Array B	50.96	355	P	P	20 41 16.2	+0.6
TX31	comp=Z,0.9nm,0.5s,baz=15,slow=6.8,SNR=15 Lajitas Ar. Si	51.33	108	P	P	20 41 18.9	-0.1
TX32	Lajitas Array	51.33	108	P	P	20 41 18.5	-0.5
TXAR	Lajitas Array comp=Z,1.3nm,0.6s,baz=332,slow=6.1,SNR=20	51.33	108	P	P	20 41 19.8	+0.8
NOA	NORSAR Array B comp=Z,0.2nm,0.5s,baz=54,slow=21,SNR=2.9	51.40	4	P	P	20 41 19.9	+0.8
HHC	Hu-ho-hao-te	51.62	285	*e*P	P	20 41 25.0	+4.0
HHC				pmax	pmax		
HHC	comp=Z,8.0nm,1.1s			pmax	pmax		
MKAR	comp=Z,44nm,5.1s Makanchi Array	56.03	312	P	P	20 41 52.1	-0.9
AKASG	comp=Z,0.4nm,0.5s,baz=36,slow=7.4,SNR=7.5 Malin Array Be	61.56	352	P	P	20 42 31.8	+0.4
GERES	comp=Z,0.5nm,0.3s,baz=9.1,slow=7.2,SNR=4.7 GERESS Array B	63.68	3	P	P	20 42 46.5	+0.8
ZOU	comp=Z,0.6nm,0.7s,baz=356,slow=4.0,SNR=6.1 Zoufplan	65.95	4	P	P	20 43 01.3	+0.6
ESDC	Sonseca Array comp=Z,0.8nm,0.7s,baz=350,slow=6.7,SNR=9.0	71.61	18	P	P	20 43 36.5	+0.7
BRTR	Keskin Array B comp=Z,0.4nm,0.6s,baz=355,slow=5.5,SNR=3.5	72.18	347	P	P	20 43 40.9	+1.5
CMAR	Chiang Mai Arr comp=Z,0.8nm,0.6s,baz=0.3,slow=6.4,SNR=1.7	76.43	285	*e*P	P	20 44 03.6	-0.6
CMAR				LR	LR	21 21 29.9	
DAV	comp=Z,30nm,19.9s,baz=185,slow=39 Davao City (W)	76.84	256	LR	LR	21 17 40.7	
WSAR	comp=Z,18nm,19.6s,baz=117,slow=36 Wadi Sarin	84.41	323	LR	LR	21 29 18.2	
	comp=Z,22nm,20.6s,baz=180,slow=41						

DDA 02 20:34:35.9, 38.91N×27.71E, h3km±2km, ML1.4, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	Akhisar	0.09	110	*i* P	Pg	20 34 38.2	+0.6
AKHS				*i* S	Sg	20 34 39.6	+0.8
STEP	BALIKESIR_Sava	0.47	1	*i* P	Pg	20 34 45.2	+0.3
STEP				*i* S	Sg	20 34 52.1	+1.1
MANT	Manisa	0.78	122	*i* P	Pb	20 34 52.2	-0.1
MANT				*i* S	Sg	20 34 59.5	-1.6
DURS	Dursunbey	0.91	40	*i* P	Pg	20 34 53.8	+0.4
DURS				*i* S	Sg	20 35 04.9	-0.3
DURS				IAML		20 35 09.0	
	comp=E,9.6nm,0.2s						
BAYC	CANAKKALE_Bayr	1.23	313	*i* P	Pn	20 35 00.9	+0.9
BAYC				*i* S	Sg	20 35 10.6	-4.7
BAYC				IAML		20 35 20.0	
	comp=E,7.4nm,0.4s						

*ATH **02** 20:34:48.0, 40.45N×26.05E, h31km±2km, ML1.4/3, Error ellipse: s-maj=2.8km s-min=0.9km az=21.0*

ISK 02 20:34:47.7, 40.38N×26.18E, h15km, ML1.9/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GELI	Tayfur-Gelibol	0.22	85	PG	Pb	20 34 53.1	-0.4
GELI				SG	Sb	20 34 56.9	-0.4
GADA	Gvkgeada	0.29	229	PG	Pb	20 34 54.2	-0.4
GADA				SG	Sb	20 34 59.0	-0.2
ENEZ	Enez	0.36	356	PG	Pb	20 34 55.7	-0.1
ERIK	Erikli-Kesan	0.39	41	PG	Pg	20 34 55.5	0.0
ERIK				SG	Sb	20 35 01.9	-0.1
LPK	Lapseki	0.44	91	PG	Pb	20 34 57.2	0.0
SMTH	Samothraki Isl	0.51	281	P	Pg	20 34 57.2	-0.6
SMTH				S	Sg	20 35 03.8	-0.8
SMTH				AML	AML	20 35 07.6	
SMTH	comp=E,249μm,0.1s			AML	AML	20 35 07.7	
ALN	comp=N,219μm,0.1s Alexandroupoli	0.53	349	P	Pg	20 34 58.1	-0.1
ALN				S	Sg	20 35 04.3	-0.9
ALN				AML	AML	20 35 04.9	
ALN	comp=E,86μm,0.3s			AML	AML	20 35 05.7	
RDO	comp=N,58μm,0.2s			AML	AML	20 35 21.3	
RDO	comp=N,51μm,0.2s			AML	AML	20 35 19.2	
RDO	comp=E,55μm,0.3s Rodhopi	0.91	328	PG	Pg	20 35 05.6	+0.2
MRMT	Marmara Adasi	1.10	78	PN	Pg	20 35 08.9	0.0
PRK	Paraskevi	1.13	177	P	Pg	20 35 11.1	+1.6
PRK				S	Sg	20 35 27.1	+2.7
THAS	Thassos island	1.14	282	P	Pb	20 35 07.6	-1.5
THAS				S	Sb	20 35 21.9	-1.8
SIGR	SIGRI	1.19	192	P	Pg	20 35 10.6	0.0
SIGR				S	Sg	20 35 27.4	+1.2
SIGR	SIGRI	1.19	192	PN	Pb	20 35 10.2	+0.2
EDC	Edincik	1.28	91	PN	Pb	20 35 11.6	0.0
BALB	Balikesir	1.50	119	PN	Pn	20 35 14.3	+0.3
OUR	Ouranopolis	1.68	269	PN	Pn	20 35 17.1	+0.5
CHOS	Chios island	1.99	183	PN	Pn	20 35 21.5	+0.6

*IDC **02** 21:09:23.2±6.2, 36.75N×69.56E, h138km±47km, mb3.2/1, mb1 3.3/6, mb1mx2.9/48, mbtmp3.8/6, Error ellipse: s-maj=80.6km s-min=18.6km az=158.0*

*NNC **02** 21:09:29.6±3.6, 37.50N×68.52E, h0km, mb4.3, mpv3.2, Error ellipse: s-maj=45.7km s-min=18.6km az=132.0*

ISC 02 21:09:20.5±0.9, 36.58N±0.07×69.65E±0.07, h100km, n31, σ1§82/35, 1C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu SNR=44	6.37	28	P	Pn	21 10 54.6	+2.5
THN	Thein Dam	6.49	128	*e*P	Pn	21 10 57.0	+3.6
THN				*e*S	Sn	21 12 07.5	+1.5
KK31	Karatay Array 0.9nm,0.3s,baz=184,slow=11,SNR=22	6.55	6	P	Pn	21 10 56.9	+2.6
KK31	5.4nm,0.3s,baz=197,slow=27,SNR=21			S	Sn	21 12 05.4	-2.1
UCH	Uchtor SNR=25	6.79	32	P	Pn	21 10 59.6	+1.8
EKS2	Erkin-Say SNR=8.5	6.86	26	P	Pn	21 11 01.0	+2.4
KZA	Kyzart SNR=7.3	7.00	37	P	Pn	21 11 02.5	+1.8
AAK	Ala-Archa 7.6nm,0.3s,baz=175,slow=3.0,SNR=56	7.12	30	P	Pn	21 11 04.3	+2.2
AAK	1.2nm,0.3s,baz=151,slow=19,SNR=7.9			S	Sn	21 12 21.6	+0.2
AAK	Ala-Archa SNR=26	7.12	30	P	Pn	21 11 04.4	+2.4
KBK	Karagaybulak SNR=21	7.32	32	P	Pn	21 11 07.6	+2.7
CHMS	Chumysh SNR=36	7.52	30	P	Pn	21 11 09.1	+1.7
ULHL	Ulahol SNR=9.7	7.62	40	P	Pn	21 11 10.8	+1.8
USP	Uspenovka SNR=18	7.65	28	P	Pn	21 11 10.8	+1.6
TKM2	Tokmak 2 SNR=14	7.82	34	P	Pn	21 11 13.4	+1.8
GEYT	Alibeck 0.8nm,0.3s,baz=120,slow=8.0,SNR=3.5	9.29	282	P	Pn	21 11 32.7	+1.1
GEYT	0.4nm,0.3s,baz=115,slow=16,SNR=2.3			S	Sn	21 13 13.5	-0.8
MKAR	Makanchi Array 0.1nm,0.3s,baz=221,slow=15,SNR=2.6	13.89	39	P	Pn	21 12 31.3	-1.6
PYUN	Piuhan 15nm,0.3s	14.08	123	*e*P	Pn	21 12 33.1	-2.6
DANN	Dangsing 8.0nm,0.3s	14.45	121	*e*P	Pn	21 12 38.1	-2.4
AB31	Akbulak array 23nm,0.4s,baz=151,slow=13,SNR=30	14.52	334	P	Pn	21 12 40.2	-0.6
KOLN	Koldanda 4.8nm,0.3s	14.71	123	*e*P	Pn	21 12 41.7	-2.0
GKN	Gorkha 16nm,0.2s	15.27	120	*e*P	Pn	21 12 49.1	-1.7
KURBB	Kurchatov Arra 0.1nm,0.3s,baz=212,slow=12,SNR=8.0	15.43	22	P	Pn	21 12 53.2	+0.8
PKIN	Phulchoki 6.2nm,0.2s	16.07	119	*e*P	Pn	21 12 59.9	-0.9
PKI	Pulchoki 4.8nm,0.2s	16.08	119	*e*P	Pn	21 13 00.1	-1.0
AKTO	Aktyubinsk 0.2nm,0.3s,baz=137,slow=13,SNR=7.2	16.19	332	P	Pn	21 13 01.6	-0.4
AKTO	Aktyubinsk 2.7nm,0.8s	16.19	332	⇑P	Pn	21 13 01.5	-0.4
GUN	Gumba 7.6nm,0.3s	16.21	118	*e*P	Pn	21 13 01.7	-1.0
JIRN	Jiri 37nm,0.3s	16.58	118	*e*P	Pn	21 13 06.6	-0.7
RAMN	Ramite 8.9nm,0.4s	17.29	119	*e*P	P	21 13 15.3	-0.6
TAPN	Taplejung 12nm,0.5s	17.85	116	*e*P	Pn	21 13 22.9	+0.2
ODAN	Odare 9.9nm,0.6s	17.91	118	*e*P	Pn	21 13 23.3	-0.1
ZALV	Zalesovo Beam 1.9nm,0.7s,baz=225,slow=10.0,SNR=7.5	20.32	26	P	P	21 13 46.5	-1.9

*LDG **02** 21:47:12.9±0.2, 43.26N×19.86E, h5km, Ml3.2/9, Error ellipse: s-maj=5.2km s-min=4.2km az=35.0*

*PDG **02** 21

PVY	**Plav**	**0.60**	**170**	⇓/*i*Pg	**Pg**	**21 47 26.2**	**-0.3**
PVY				*i* Sg	**Sb**	**21 47 36.4**	**-0.2**
UPM	**Unac-Piva**	**0.66**	**271**	⇑/*i*Pg	**Pg**	**21 47 27.1**	**-0.5**
UPM				*i* Sg	**Sb**	**21 47 38.9**	**+0.6**
UPM	**Unac-Piva**	**0.66**	**271**	*e*Pg	**Pg**	**21 47 27.4**	**-0.2**
UPM				*e*Sg	**Sg**	**21 47 36.5**	**+0.3**
NKY	**Niksic**	**0.71**	**238**	⇓/*i*Pg	**Pg**	**21 47 28.4**	**0.0**
NKY				*i* Sg	**Sb**	**21 47 41.0**	**+1.5**
BBLS	**Lazić**	**0.74**	**337**	*e*Pg	**Pg**	**21 47 27.1**	**-1.9**
BBLS				*e*Sg	**Sg**	**21 47 38.4**	**-0.2**
BBLS	**Lazić**	**0.74**	**337**	*e*Pg	**Pg**	**21 47 26.8**	**-2.2**
BBLS				*e*Sg	**Sg**	**21 47 36.8**	**-1.8**
NKME	**Niksic**	**0.76**	**236**	⇑/*i*Pg	**Pg**	**21 47 29.0**	**-0.4**
NKME				*i* Sg	**Sn**	**21 47 43.0**	**-0.7**
PDG	**Podgorica**	**0.86**	**208**	⇑P	**Pg**	**21 47 31.1**	**-0.2**
PDG				⇓S	**Sb**	**21 47 44.0**	**+0.1**
PDG	**Podgorica**	**0.86**	**208**	⇑/*i*Pg	**Pg**	**21 47 31.0**	**-0.4**
PDG				*e*Sg	**Sb**	**21 47 44.2**	**+0.4**
TTG	**Podgorica**	**0.86**	**208**	⇑/*i*Pg	**Pg**	**21 47 31.0**	**-0.4**
TTG				*i* Sg	**Sn**	**21 47 46.3**	**+0.1**
DIVS	**Divibare**	**0.92**	**8**	*e*Pg	**Sn**	**21 47 56.5**	**+8.7**
DIVS				*e*Sg	Sb	21 47 58.9	+13
DIVS	**Divibare**	**0.92**	**8**	*e*Pg	**Pg**	**21 47 29.4**	**-3.0**
DIVS				*e*Sg	**Sg**	**21 47 41.8**	**-2.6**
CEME	**Cevo**	**0.92**	**226**	⇓/*i*Pg	**Pg**	**21 47 31.6**	**-0.8**
CEME				*i* Sg	**Sn**	**21 47 48.5**	**+0.8**
SELS	**Selova**	**0.96**	**88**	*e*Pg	Pn	21 47 43.4	+8.7
SELS				*e*Sg	**Sg**	**21 47 45.4**	**-0.2**
GRUS	**Gruza**	**0.96**	**43**	*e*Sg	**Pg**	**21 47 29.6**	**-3.6**
GRUS	**Gruza**	**0.96**	**43**	*e*Pg	**Sb**	**21 47 46.3**	**-0.4**
BRY	**Bratogost**	**0.98**	**253**	⇑/*i*Pg	**Pg**	**21 47 32.5**	**-1.0**
BRY				*i* Sg	**Sn**	**21 47 50.0**	**+0.8**
BRY	**Bratogost**	**0.98**	**253**	*e*Pg	**Pg**	**21 47 32.7**	**-0.8**
BRY				*e*Sg	**Sg**	**21 47 46.5**	**+0.3**
DRME	**Dracevica, Mon**	**1.10**	**205**	⇓/*i*Pg	**Pg**	**21 47 35.9**	**0.0**
DRME				*i* Sg	**Sn**	**21 47 54.8**	**+2.6**
DRME	**Dracevica, Mon**	**1.10**	**205**	⇑/*i*Pg	**Pg**	**21 47 36.0**	**0.0**
DRME				*e*Sg	**Sn**	**21 47 51.8**	**-0.4**
BUM	**Brajici-Budva**	**1.12**	**218**	⇓/*i*Pg	**Pg**	**21 47 36.1**	**-0.1**
BUM				*i* Sg	**Sn**	**21 47 55.1**	**+2.5**
TRUS	**Trudelj**	**1.12**	**22**	*e*Pg	**Pn**	**21 47 40.0**	**+3.1**
TREB	**Trebinje**	**1.17**	**247**	*e*Sg	Sg	21 47 43.4	-9.1
TREB	**Trebinje**	**1.17**	**247**	*e*Pg	**Sn**	**21 47 58.3**	**+4.4**
TREB	**Trebinje**	**1.17**	**247**	*e*Pg	**Pg**	**21 47 36.0**	**-1.3**
TREB				*e*Sg	**Sn**	**21 47 53.8**	**-0.1**
HCY	**Herceg Novi**	**1.22**	**233**	⇑/*i*Pg	**Pb**	**21 47 37.2**	**-1.0**
HCY				*i* Sg	**Sn**	**21 47 58.9**	**+3.8**
HCY	**Herceg Novi**	**1.22**	**233**	*e*Pg	**Pb**	**21 47 37.2**	**-1.0**
HCY				*e*Sg	**Sn**	**21 47 55.6**	**+0.5**
ULC	**Ulcinj**	**1.29**	**199**	⇑/*i*Pg	**Pb**	**21 47 39.6**	**+0.1**
ULC				*i* Sg	**Sn**	**21 48 01.5**	**+4.6**
DBRK	**Dubrovnik**	**1.33**	**247**	*i* Pg	**Pn**	**21 47 38.9**	**-0.9**
DBRK				Sg	**Sb**	**21 47 55.1**	**-2.2**
TEKS	**Tekeris**	**1.37**	**352**	*e*Pg	**Pg**	**21 47 44.8**	**+3.6**
TEKS	**Tekeris**	**1.37**	**352**	*e*Pg	**Pn**	**21 47 38.2**	**-2.3**
TEKS				*e*Sg	**Sb**	**21 47 57.1**	**-1.5**
BOVS	**Bovan**	**1.45**	**72**	*e*Sg	Sn	21 47 45.6	-15
SVIS	**Svilajnac**	**1.48**	**43**	*e*Pg	Pn	21 47 30.4	-11
SVIS				*e*Sg	**Pb**	**21 47 42.6**	**-0.1**
BARS	**Barje**	**1.52**	**104**	*e*Pg	**Pn**	**21 47 41.0**	**-1.4**
BARS	**Barje**	**1.52**	**104**	*e*Pg	**Pn**	**21 47 41.1**	**-1.4**
BARS				*e*Sg	**Sn**	**21 47 59.7**	**-2.7**
STON	**Ston**	**1.58**	**259**	*e*Pn	**Pn**	**21 47 43.3**	**0.0**
STON				Sg	**Sn**	**21 48 02.7**	**-1.2**
STON	**Ston**	**1.58**	**259**	*e*Pn	**Pn**	**21 47 43.2**	**0.0**
STON				*e*Sn	**Sb**	**21 48 05.1**	**+0.6**
SKO	**Skopje**	**1.71**	**135**	*i* Pn	**Pn**	**21 47 45.5**	**+0.4**
TIR	**Tirane**	**1.84**	**179**	*e*Pg	**Sn**	**21 48 05.9**	**-4.5**
TIR	**Tirane**	**1.84**	**179**	⇓P	**Pn**	**21 47 47.6**	**+0.8**
TIR				⇑S	**Sg**	**21 48 14.6**	**+0.7**
ZAGS	**Zajecar**	**1.87**	**70**	*e*Sg	**Pn**	**21 47 47.4**	**+0.2**
ZAGS	**Zajecar**	**1.87**	**70**	*e*Pg	**Pg**	**21 47 53.6**	**+3.0**
FRGS	**Fruska Gora**	**1.97**	**360**	*e*Pg	Pn	21 47 42.8	-5.8
FRGS	**Fruska Gora**	**1.97**	**360**	*e*Sn	**Sn**	**21 48 12.4**	**-1.2**
MAKA	**Makarska**	**2.04**	**274**	*e*Pn	**Pn**	**21 47 50.2**	**+0.6**
MAKA				Sn	**Sn**	**21 48 15.1**	**-0.2**
ZAPS	**Zavoj**	**2.06**	**87**	*e*Pg	**Pn**	**21 47 49.4**	**-0.6**
BOSS	**Bosilegrad**	**2.08**	**109**	*e*Pg	**Pg**	**21 47 56.3**	**+1.6**
MDVR	**Moldovita**	**2.10**	**40**	⇑P	**Pn**	**21 47 47.8**	**-2.7**
BLKB	**Belogradchik**	**2.13**	**77**	⇓S	**Sb**	**21 48 19.9**	**-0.6**
OHR	**Ohrid**	**2.20**	**160**	*i* Pn	**Pb**	**21 47 53.6**	**-1.4**
MGRS	**Mrkonjic Grad**	**2.32**	**303**	*e*Pn	**Pn**	**21 47 54.0**	**+0.5**
MGRS				*e*Sn	**Sn**	**21 48 22.0**	**-0.4**
BANR	**Banloc**	**2.39**	**23**	⇓P	**Pn**	**21 47 52.4**	**-2.0**
BANR				⇓S	**Sn**	**21 48 29.0**	**-1.0**
BLY	**Banja Luka**	**2.45**	**310**	*e*Pn	**Pg**	**21 48 03.1**	**+1.3**
BLY	**Banja Luka**	**2.45**	**310**	*e*Pn	**Pn**	**21 47 56.0**	**+0.7**
BLY				*e*Sn	**Sn**	**21 48 25.8**	**+0.3**
HVAR	**Hvar**	**2.46**	**271**	*e*Pn	**Pn**	**21 47 55.9**	**+0.5**
HVAR				Sn	**Sn**	**21 48 24.9**	**-0.7**
PUNG	**Punghina**	**2.51**	**63**	⇑P	**Pn**	**21 47 54.6**	**-1.4**
PUNG				⇓S	**Sn**	**21 48 28.0**	**+1.2**
HERR	**Herculane**	**2.53**	**47**	⇓P	**Pn**	**21 47 54.2**	**-2.1**
HERR				⇓S	**Sn**	**21 48 27.2**	**-0.1**
KIJV	**Kijevo**	**2.60**	**289**	*e*Pn	**Pn**	**21 47 57.8**	**+0.5**
KIJV				Sn	**Sn**	**21 48 29.1**	**-0.2**
BAIL	**Bailesti**	**2.70**	**71**	⇓P	**Pn**	**21 47 58.1**	**-0.5**
BAIL				⇑S	**Sb**	**21 48 34.2**	**-2.4**
TIM	**Timisoara**	**2.74**	**21**	⇑P	**Pn**	**21 47 57.1**	**-2.0**
BZS	**Buzias**	**2.75**	**27**	*e*Pn	Pn	21 47 49.0	-10
BZS	**Buzias**	**2.75**	**27**	⇓P	**Pn**	**21 47 56.5**	**-2.8**
BZS				⇑S	**Sn**	**21 48 30.9**	**-1.9**
VAY	**Valandovo**	**2.77**	**131**	*e*Pn	**Pn**	**21 47 57.8**	**-1.8**
SRE	**Strehaia**	**2.86**	**58**	⇓P	**Pn**	**21 48 00.1**	**-0.7**
SRE				⇑S	**Sn**	**21 48 35.6**	**+0.1**
BAI	**Bari**	**3.01**	**227**	*e*Pn	**Pn**	**21 48 04.6**	**+1.7**
MORI	**Morici**	**3.06**	**284**	*e*Pn	**Pn**	**21 48 04.0**	**+0.5**
MORI				Sn	**Sn**	**21 48 39.2**	**-1.3**
GZR	**Gura Zlata**	**3.06**	**43**	⇓P	**Pn**	**21 48 01.3**	**-2.4**
GZR				⇑S	**Sn**	**21 48 41.1**	**+0.4**
ZIRJ	**Zirje**	**3.07**	**280**	*e*Pn	**Pn**	**21 48 03.8**	**0.0**
ZIRJ				Sn	**Sn**	**21 48 39.4**	**-1.3**
CGL1	**Ceglie Messapi**	**3.07**	**215**	*e*Pn	**Pn**	**21 48 06.5**	**+2.7**
MORH	**Mrgy, Hungar**	**3.14**	**345**	*e*Sn	**Sn**	**21 48 41.6**	**-0.7**
TAR1	**Taranto**	**3.26**	**216**	*e*Pn	**Pg**	**21 48 15.8**	**-1.5**
SG1	**Sgolgore (BA)**	**3.31**	**226**	*e*Pn	**Pn**	**21 48 08.3**	**+1.2**
SIRR	**Siria**	**3.35**	**23**	⇑P	**Pn**	**21 48 05.3**	**-2.3**
MATE	**Matera**	**3.44**	**223**	⇑P	**Pn**	**21 48 06.9**	**-1.9**
MATE				⇑S	**Sn**	**21 48 49.6**	**-0.1**
PLVB	**Pleven**	**3.52**	**85**	⇓P	**Pn**	**21 48 11.2**	**+1.3**
PLVB				⇓S	**Sn**	**21 48 55.3**	**+3.6**
DUGI	**Dugi Otok**	**3.54**	**285**	*e*Pn	**Pn**	**21 48 10.5**	**+0.2**
DUGI				Sn	**Sn**	**21 48 51.0**	**-1.4**
LOT	**Lotru**	**3.63**	**50**	⇑P	**Pn**	**21 48 10.2**	**-1.3**
LOT				⇑S	**Sn**	**21 48 55.8**	**+1.1**
PLD	**Plovdiv**	**3.77**	**105**	*e*Pn	**Pn**	**21 48 10.4**	**-2.9**
KALN	**Kalnik**	**3.79**	**322**	*e*Pn	**Pn**	**21 48 13.4**	**-0.3**
KALN				Sn	**Sn**	**21 48 58.3**	**-0.2**
ZAG	**Zagreb**	**3.80**	**315**	*e*Pn	**Pn**	**21 48 13.4**	**-0.3**
NVLJ	**Novalja**	**3.83**	**293**	*e*Pn	**Pn**	**21 48 15.1**	**+1.0**
NVLJ				Sn	**Sn**	**21 48 58.5**	**-0.8**
PTJ	**Puntijarka**	**3.86**	**316**	*i* Pn	**Pn**	**21 48 15.5**	**+0.8**
PTJ				Sn	**Sn**	**21 48 59.9**	**-0.5**
BEHE	**Becsehely**	**3.93**	**328**	*e*Pn	**Pn**	**21 48 15.4**	**-0.1**
BEHE				*e*Sn	**Sn**	**21 49 00.2**	**-1.6**
OZLJ	**Ozalj**	**3.94**	**309**	*e*Pn	**Pn**	**21 48 16.8**	**+1.1**
OZLJ				Sn	**Sn**	**21 49 01.5**	**-0.7**
HUMR	**Humele**	**3.97**	**69**	⇑S	**Sn**	**21 49 03.9**	**+0.5**
BOJS	**Bojanci**	**4.00**	**307**	*i* Pn	**Pn**	**21 48 17.1**	**+0.3**
BOJS				*e*Sn	**Sg**	**21 49 26.6**	**+3.2**
CRES	**Cresnjev**	**4.08**	**312**	*e*Pn	**Pn**	**21 48 17.0**	**-0.6**
ARR	**Arges**	**4.09**	**56**	⇑P	**Pn**	**21 48 16.6**	**-1.3**
ARR				⇓S	**Sn**	**21 49 07.2**	**+1.3**
KOGS	**Kog**	**4.13**	**323**	*e*Pn	**Pn**	**21 48 17.7**	**-0.5**
DRGR		**4.15**	**29**	⇑P	**Pn**	**21 48 16.2**	**-2.4**
VOIR		**4.38**	**57**	⇑P	**Pn**	**21 48 22.2**	**+0.4**
RIY	**Rijeka**	**4.38**	**301**	*e*Pn	**Pn**	**21 48 22.0**	**+0.3**
RIY				*e*Sn	**Sn**	**21 49 11.9**	**-1.1**
VISS	**Visnje**	**4.41**	**308**	*e*Pn	**Pn**	**21 48 22.4**	**+0.2**
ELND	**Elena**	**4.45**	**91**	⇑P	**Pn**	**21 48 22.0**	**-0.7**
ELND				⇑S	**Sn**	**21 49 17.0**	**+2.2**
CEY	**Cerknica**	**4.62**	**305**	*e*Pn	**Pn**	**21 48 25.0**	**-0.1**
TIP	**Timpagrande**	**4.62**	**211**	⇑P	**Pn**	**21 48 25.5**	**+0.4**
TIP				⇑S	**Sn**	**21 49 20.7**	**+1.6**
SRO2	**Moca**	**4.68**	**348**	*e*PN	**Pn**	**21 48 24.0**	**-1.8**
SRO2				*e*SN	**Sn**	**21 49 19.6**	**-0.8**
SRO2				eLG	Lg	21 49 24.0	
BRJN	**Brijuni**	**4.69**	**294**	*e*Pn	**Pn**	**21 48 26.6**	**+0.6**
BRJN				Sn	**Sn**	**21 49 19.4**	**-1.2**

LJU	**Ljubljana**	**4.73**	**309**	*e*Pn	**Pn**	**21 48 26.0**	**-0.5**
PSZ	**Piszkesteto**	**4.73**	**1**	⇑P	**Pn**	**21 48 24.3**	**-2.3**
SRO	**Srobarova**	**4.74**	**348**	*e*PN	**Pn**	**21 48 25.9**	**-0.8**
SRO				eLG	Lg	21 49 30.2	
AQU	**L'Aquila**	**4.79**	**262**	*e*Pn	**Pn**	**21 48 28.0**	**+0.6**
AQU				*e*Sn	**Sn**	**21 49 22.4**	**-0.8**
DOPR	**Dopca**	**4.86**	**53**	⇓P	**Pn**	**21 48 27.8**	**-0.5**
SOKA	**Soboth**	**4.87**	**317**	*i* Pn	**Pn**	**21 48 27.6**	**-0.9**
	5.5nm,0.3s,SNR=21						
SOKA				*i* Sn	**Sn**	**21 49 25.0**	**-0.1**
	12nm,0.6s						
MLR	**Muntele Rosu**	**4.96**	**60**	⇑P	**Pn**	**21 48 28.9**	**-0.9**
OBKA	**Obir**	**5.00**	**313**	*i* Pn	**Pn**	**21 48 31.0**	**+0.7**
	1.6nm,0.2s,SNR=7.8						
ARSA	**Arzberg**	**5.07**	**325**	*i* Pn	**Pn**	**21 48 30.7**	**-0.5**
	13nm,0.7s,SNR=14						
ARSA				*i* Sn	**Sn**	**21 49 30.1**	**+0.2**
	17nm,0.5s						
OZUR		**5.16**	**54**	⇓P	**Pn**	**21 48 30.0**	**-2.5**
TRPA	**Tarpa**	**5.30**	**20**	⇑P	**Pn**	**21 48 32.9**	**-1.4**
VYHS	**Vyhne**	**5.35**	**353**	*e*PN	**Pn**	**21 48 32.8**	**-2.2**
VYHS				*e*SN	**Sn**	**21 49 35.9**	**-1.0**
ZST	**Bratislava**	**5.35**	**340**	*e*SN	**Sn**	**21 49 34.6**	**-2.4**
MODS	**Modra-Piesok**	**5.48**	**342**	*e*PN	**Pn**	**21 48 34.8**	**-2.0**
MODS				*e*SN	**Sn**	**21 49 38.0**	**-2.1**
CONA	**Conrad Observa**	**5.49**	**331**	*i* Pn	**Pn**	**21 48 36.1**	**-0.9**
	0.9nm,0.3s,SNR=6.5						
CONA				*i* Sn	**Sn**	**21 49 41.3**	**+0.9**
	11nm,0.6s						
PLOR	**Plostina**	**5.57**	**59**	⇑P	**Pn**	**21 48 38.7**	**+0.6**
MYKA	**Terra Mystica**	**5.57**	**310**	*i* Pn	**Pn**	**21 48 39.0**	**+0.9**
	4.1nm,0.5s,SNR=9.6						
MYKA				*i* Sg	**Sg**	**21 50 21.5**	**+7.9**
	6.4nm,0.5s						
SMOL	**Smolenice**	**5.58**	**343**	*e*PN	**Pn**	**21 48 38.1**	**-0.1**
BURAR	**Bucovina Array**	**5.83**	**39**	⇑P	**Pn**	**21 48 41.5**	**-0.3**
JAVC	**Velka Javorina**	**5.86**	**346**	*e*PN	**Pn**	**21 48 41.0**	**-1.1**
JAVC				*e*SN	**Sn**	**21 49 52.0**	**+2.4**
JAVC				*e*SG	**Sg**	**21 50 27.4**	**+4.5**
KOLS	**Kolonicke sedl**	**5.99**	**16**	*e*PN	**Pn**	**21 48 44.6**	**+0.7**
KBA	**Koelnbreinsper**	**6.00**	**313**	*i* Pn	**Pn**	**21 48 45.6**	**+1.5**
	2.7nm,0.5s						
KBA				*i* Sn	**Sn**	**21 49 50.8**	**-2.5**
	3.9nm,0.4s						
MOA	**Molln**	**6.07**	**322**	*i* Pn	**Pn**	**21 48 44.5**	**-0.5**
	1.6nm,0.3s,SNR=7.0						
MOA				*i* Sn	**Sn**	**21 49 53.9**	**-0.9**
	9.5nm,0.7s						
ABTA	**Abfaltersbach**	**6.28**	**307**	*i* Pn	**Pn**	**21 48 48.7**	**+0.8**
	18nm,0.5s,SNR=20						
ABTA				*i* Sn	**Sb**	**21 50 22.8**	**+3.0**
	11nm,0.7s						
CFR	**Carcaliu**	**6.31**	**69**	⇑P	**Pn**	**21 48 47.9**	**-0.3**
KRUC	**Moravsky**	**6.33**	**339**	*e*PN	**Pn**	**21 48 47.7**	**-0.9**
KRUC				*e*PB	Pb	21 48 56.3	-9.0
KRUC				*e*SN	**Sn**	**21 50 01.9**	**+0.8**
KRUC				*e*SG	**Sg**	**21 50 44.0**	**+6.0**
TOPG	**Topolog**	**6.40**	**72**	⇓P	**Pn**	**21 48 49.9**	**-0.4**
VRAC	**Vranov**	**6.51**	**341**	*e*PN	**Pn**	**21 48 53.4**	**+2.4**
MORC	**Moravsky Berou**	**6.77**	**347**	*e*PN	**Pn**	**21 48 54.5**	**-0.1**
MORC				*e*SN	**Sn**	**21 50 07.4**	**-4.6**
MORC				*e*SG	**Sg**	**21 50 53.0**	**+0.9**
TREC	**Trest**	**6.80**	**335**	AMS	AMS	21 51 40.0	
	comp=Z,200nm,9.7s						
WTTA	**Wattenberg**	**7.06**	**308**	*i* Pn	**Pn**	**21 49 00.5**	**+1.7**
	19nm,0.6s,SNR=23						
WTTA				*i* Sn	**Sn**	**21 50 21.4**	**+2.0**
	10.0nm,0.6s						
WATA	**Walderalm**	**7.14**	**308**	*i* Pn	**Pn**	**21 49 01.7**	**+2.0**
	11nm,0.5s,SNR=20						
WATA				*i* Sn	**Sn**	**21 50 21.2**	**+0.1**
	13nm,0.8s						
KRLC	**Kraliky**	**7.20**	**344**	*e*PN	**Pn**	**21 49 02.4**	**+2.0**
KRLC				*e*SN	**Sn**	**21 50 21.5**	**-0.9**
KRLC				AMS	AMS	21 52 20.0	
	comp=Z,200nm,6.4s						
SQTA	**Sankt Quirin**	**7.29**	**307**	*i* Pn	**Pn**	**21 49 03.6**	**+1.9**
	6.3nm,0.5s,SNR=19						
SQTA				*i* Sn	**Sn**	**21 50 24.5**	**-0.3**
	22nm,1.1s						
KHC	**Kasperske Hory**	**7.35**	**326**	*e*PN	**Pn**	**21 49 04.3**	**+1.8**
KHC				*e*SN	**Sn**	**21 50 22.5**	**-3.6**
KHC				AMS	AMS	21 51 50.0	
	comp=Z,200nm,10.3s						
MOTA	**Moosalm**	**7.41**	**307**	*i* Pn	**Pn**	**21 49 05.3**	**+1.7**
	21nm,0.6s,SNR=26						
MOTA				*i* Sn	**Sn**	**21 50 28.4**	**+0.5**
	4.9nm,0.8s						
FETA	**Feichten**	**7.48**	**304**	*i* Pn	**Pn**	**21 49 06.3**	**+1.9**
	4.2nm,0.6s,SNR=9.4						
FETA				*i* Sn	**Sn**	**21 50 33.0**	**+3.4**
	7.3nm,0.8s						
DPC	**Dobruska-Polom**	**7.55**	**343**	*e*PN	**Pn**	**21 49 07.1**	**+1.8**
DPC				AMS	AMS	21 52 20.0	
	comp=Z,100nm,12.7s						
GOPC	**GO Pecny, Ondr**	**7.56**	**335**	AMS	AMS	21 52 00.0	
	comp=Z,200nm,10.2s						
RETA	**Reutte**	**7.69**	**307**	*i* Pn	**Pn**	**21 49 08.0**	**+0.8**
	SNR=6.9						
PRU	**Pruhonice**	**7.71**	**334**	AMS	AMS	21 52 00.0	
	comp=Z,200nm,8.1s						
UPC	**Upice**	**7.77**	**342**	AMS	AMS	21 51 40.0	
	comp=Z,100nm,13.2s						
OSTC	**Ostas**	**7.77**	**343**	AMS	AMS	21 52 20.0	
	comp=Z,100nm,11.4s						
PRA	**Prague**	**7.81**	**334**	AMS	AMS	21 52 10.0	
	comp=Z,100nm,8.2s						
CHVC	**Chvalec**	**7.83**	**342**	AMS	AMS	21 51 50.0	
	comp=Z,100nm,12.3s						
PGF	**Pioggiola**	**7.97**	**269**	*e*P	**Pn**	**21 49 13.3**	**+2.2**
PGF				*e*Sn	**Sn**	**21 50 32.7**	**-8.8**
	1.0nm,0.5s						
DAVA	**Damuels**	**8.12**	**304**	*i* Pn	**Pn**	**21 49 15.1**	**+1.9**
	1.3nm,0.4s						
DAVA				*i* Sn	**Sn**	**21 50 43.9**	**-1.3**
	2.6nm,0.3s						
PVCC	**Panska Ves**	**8.17**	**336**	AMS	AMS	21 52 20.0	
	comp=Z,100nm,7.9s						
BRG	**Berggiesshubel**	**8.66**	**335**	SG	Sn	21 51 17.2	+19
	6.1nm,1.0s						
SBF	**Sospel**	**9.02**	**279**	*e*P	**Pn**	**21 49 26.2**	**+0.7**
	SNR=1.9						
SBF				*e*Sn	**Sn**	**21 50 59.1**	**-8.2**
	1.1nm,0.4s						
CLL	**Collm**	**9.34**	**333**	*e*Pn	**Pn**	**21 49 28.0**	**-1.8**
CLL				*e*Sn	Sn	21 50 57.0	-18
CLL				*e*Sb		21 51 37.0	
CLL				Lmax		21 52 00.0	
CLL				*e*Sg		21 52 10.0	
MBDF	**Montbardon**	**9.53**	**284**	*e*Pn	**Pn**	**21 49 28.8**	**-3.8**
	SNR=4.1						
MBDF				*e*Sn	Sn	21 51 09.6	-10
	1.9nm,0.4s						
FRF	**La Foret Royal**	**9.60**	**277**	*e*P	**Pn**	**21 49 34.1**	**+0.8**
FRF				*e*Sn	**Sn**	**21 51 12.9**	**-8.5**
	1.2nm,0.5s						
LPG	**La Plagne**	**9.64**	**288**	*e*P	**Pn**	**21 49 36.5**	**+2.3**
	SNR=4.1						
LPG				*e*Sn	Sn	21 51 13.4	-9.4
	2.9nm,0.5s						
LPL	**La Plagne**	**9.65**	**288**	*e*P	**Pn**	**21 49 36.6**	**+2.3**
	SNR=4.4						
LPL				*e*Sn	Sn	21 51 13.7	-9.4
	9.3nm,0.7s						
LMR	**La Mourre**	**9.71**	**275**	*e*P	**Pn**	**21 49 36.7**	**+1.9**
ORIF	**Oris-en-Rattie**	**10.18**	**285**	*e*P	**Pn**	**21 49 41.9**	**+0.5**
	SNR=1.7						
ORIF				*e*Sn	Sn	21 51 26.5	-9.3
	2.7nm,0.7s						
CDF	**Champ du Feu**	**10.19**	**305**	*e*P	**Pn**	**21 49 41.6**	**+0.1**
	SNR=2.3						
HINF	**Hinteralfeld**	**10.20**	**301**	*e*P	**Pn**	**21 49 41.7**	**+0.1**
	SNR=2.3						
CABF	**La Chapelle**	**10.32**	**294**	*e*P	**Pn**	**21 49 44.8**	**+1.5**
	SNR=2.2						
SMRF	**Simiane la Rot**	**10.36**	**279**	*e*P	**Pn**	**21 49 46.4**	**+2.6**
HAU	**Haudompre**	**10.59**	**302**	*e*P	**Pn**	**21 49 46.5**	**-0.4**
	SNR=3.9						
VIVF	**Saint-Julien-l**	**11.03**	**284**	*e*P	**Pn**	**21 49 53.3**	**+0.3**
SMF	**Signal de Mont**	**11.84**	**292**	*e*P	**Pn**	**21 50 04.4**	**+0.4**
	SNR=0.8						
LOR	**Lormes**	**11.96**	**295**	*e*P	**Pn**	**21 50 06.2**	**+0.5**
	baz=117,SNR=1.7						
SSF	**Saint Saulge**	**12.15**	**294**	*e*P	**Pn**	**21 50 09.4**	**+1.2**
	SNR=1.7						

IDC ***02*** *22:08:36.8±1.0, 14°.70N×147°.11E, h0km, mb4.0/16, mb1 4.1/16, mb1mx3.9/47, mbtmp4.0/16, Error ellipse: s-maj=32.4km s-min=17.5km az=100.0*

NEIC ***02*** *22:08:40.8±2.8, 14°.67N±0°.02×147°.12E±0°.10, h32km±5km, mb4.7/23, Error ellipse: s-maj=13.6km s-min=3.0km az=86.0*

ISC 02 22:08:40.4±0.5, **14°.61N**±0°.08×**147°.19E**±0°.09, **h33**km, **n57**, σ1**s23/57, mb4.3/28, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.47**	**246**		**Pn**	**22 09 17.5**	**-0.9**
PATS	**Pohnpei**	**13.38**	**124**	Pn	**Pn**	**22 11 45.0**	**-3.1**
SIJI	**Sorong**	**22.02**	**227**	P	**P**	**22 13 34.1**	**+1.8**
	14nm,0.9s,baz=48,slow=9.5,SNR=8.6						
FAKI	**Fak Fak**	**22.86**	**222**	P	**P**	**22 13 39.7**	**-1.5**
FAKI				IAmb	IAmb	22 13 44.2	
	comp=Z,21nm,0.6s						
MJAR	**Matsushiro Arr**	**23.27**	**341**	P	**P**	**22 13 41.3**	**-3.8**
	comp=Z,2.1nm,0.7s,baz=136,slow=8.8,SNR=2.7						
JNU	**Nakatsue**	**23.65**	**324**	P	**P**	**22 13 47.1**	**-1.9**
JNU				IAmb	IAmb	22 13 49.3	
	comp=Z,27nm,1.4s						
YULB	**Yu-li**	**25.96**	**294**	P	**P**	**22 14 10.5**	**+0.3**
SSLB	**Suanglung**	**26.36**	**294**	P	**P**	**22 14 13.2**	**-0.7**
SSLB				IAmb	IAmb	22 14 16.8	
	comp=Z,27nm,1.5s						
KSRS	**Korea Array**	**28.47**	**327**	P	**P**	**22 14 31.8**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=146,slow=9.2,SNR=8.5						
MTN	**Manton Dam**	**31.58**	**211**	P	**P**	**22 14 59.0**	**-1.2**
USRK	**Ussuriysk Ar.**	**32.21**	**339**	P	**P**	**22 15 06.0**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=134,slow=12,SNR=4.4						
WB0	**Warramunga Arr**	**36.41**	**201**	P	**P**	**22 15 43.0**	**+0.9**
WB0				IAmb	IAmb	22 15 46.9	
	comp=Z,10nm,1.3s						
WR0	**Warramunga Arr**	**36.54**	**200**	P	**P**	**22 15 44.6**	**+1.4**
WR0				IAmb	IAmb	22 15 59.3	
	comp=Z,8.8nm,1.3s						
WB2	**Warramunga Arr**	**36.59**	**201**	P	**P**	**22 15 43.9**	**+0.2**
WRA	**Warramunga Arr**	**36.59**	**201**	P	**P**	**22 15 44.1**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=24,

PTEO				*e*Sn		**Sn**	**22 12 58.8**	**-0.2**
PTEO				A		A	22 13 06.1	
	6.8nm,0.9s							
MORF	**Marmelete**	**5.79**	**88**	*e*P		Pn	22 11 59.8	+5.6
MORF				*e*S		**Sn**	**22 13 00.6**	**-0.1**
MORF				AML		AML	22 13 08.2	
	comp=N,7.3nm,0.3s							
MORF	**Marmelete**	**5.79**	**88**	P		Pn	22 11 59.8	+5.6
MORF				S		**Sn**	**22 13 00.6**	**-0.1**
	comp=N,7.3nm,0.3s							
MORF	**Marmelete**	**5.79**	**88**	*e*Pn		Pn	22 11 59.8	+5.6
MORF				*e*Sn		**Sn**	**22 13 03.3**	**+2.6**
MORF				A		A	22 13 10.7	
	comp=N,3.9nm,0.1s							
PNCL	**Nicolau / Gran**	**5.90**	**81**	P		Pn	22 12 01.1	+5.5
PNCL				S		**Sn**	**22 13 02.0**	**-1.3**
	comp=N,3.9nm,0.6s							
PNCL	**Nicolau / Gran**	**5.90**	**81**	*e*Pn		Pn	22 12 01.1	+5.5
PNCL				*e*Sn		**Sn**	**22 13 02.0**	**-1.3**
PNCL				A		A	22 13 08.6	
	comp=N,3.9nm,0.6s							
MESJ	**Messejana**	**6.13**	**83**	*e*P		Pn	22 12 04.7	+5.9
MESJ				*e*S		**Sn**	**22 13 08.8**	**-0.1**
MESJ				AML		AML	22 13 13.8	
	comp=N,4.9nm,0.6s							
MESJ	**Messejana**	**6.13**	**83**	P		Pn	22 12 05.3	+6.5
MESJ				S		**Sn**	**22 13 10.7**	**+1.8**
	comp=N,2.4nm,0.4s							
MESJ	**Messejana**	**6.13**	**83**	*e*Pn		Pn	22 12 05.3	+6.5
MESJ				*e*Sn		**Sn**	**22 13 10.7**	**+1.8**
MESJ				A		A	22 13 14.3	
	comp=N,2.4nm,0.4s							
PCVE	**Castro Verde**	**6.27**	**85**	P		Pn	22 12 07.9	+7.2
PCVE				S		**Sn**	**22 13 14.3**	**+1.9**
	comp=N,2.7nm,1.0s							
PCVE	**Castro Verde**	**6.27**	**85**	*e*Pn		Pn	22 12 07.9	+7.2
PCVE				*e*Sn		**Sn**	**22 13 14.3**	**+1.9**
PCVE				A		A	22 13 16.1	
	comp=N,2.7nm,1.0s							
PMTG	**Montargil**	**6.29**	**72**	P		Pn	22 12 06.7	+5.7
PMTG				S		**Sn**	**22 13 13.4**	**+0.6**
	comp=N,2.0nm,0.8s							
PMTG	**Montargil**	**6.29**	**72**	*e*Pn		Pn	22 12 06.7	+5.7
PMTG				*e*Sn		**Sn**	**22 13 13.4**	**+0.6**
PMTG				A		A	22 13 29.5	
	comp=N,2.0nm,0.8s							
EVO	**Evora**	**6.35**	**77**	S		**Sn**	**22 13 15.4**	**+1.0**
EVO	**Evora**	**6.35**	**77**	*e*Sn		**Sn**	**22 13 15.4**	**+1.0**
PBDV	**Barranco-do-Ve**	**6.37**	**89**	P		Pn	22 12 08.2	+6.1
PBDV				S		**Sn**	**22 13 17.4**	**+2.6**
	comp=N,3.9nm,0.6s							
PBDV	**Barranco-do-Ve**	**6.37**	**89**	*e*Pn		Pn	22 12 08.2	+6.1
PBDV				*e*Sn		**Sn**	**22 13 17.4**	**+2.6**
PBDV				A		A	22 13 21.9	
	comp=N,3.9nm,0.6s							
PCAS	**Casmilo, Conde**	**6.39**	**63**	P		**Pn**	**22 12 04.1**	**+1.8**
PCAS				S		**Sn**	**22 13 11.7**	**-3.6**
	comp=N,2.1nm,0.9s							
PCAS	**Casmilo, Conde**	**6.39**	**63**	*e*Pn		**Pn**	**22 12 04.1**	**+1.8**
PCAS				*e*Sn		**Sn**	**22 13 11.7**	**-3.6**
PCAS				A		A	22 13 19.1	
	comp=N,2.1nm,0.9s							
PVAQ	**Vaqueiros**	**6.53**	**87**	P		Pn	22 12 09.7	+5.4
PVAQ				S		**Sn**	**22 13 20.2**	**+1.4**
	comp=N,2.8nm,0.5s							
PVAQ	**Vaqueiros**	**6.53**	**87**	*e*Pn		Pn	22 12 09.7	+5.4
PVAQ				*e*Sn		**Sn**	**22 13 20.2**	**+1.4**
PVAQ				A		A	22 13 26.6	
	comp=N,2.8nm,0.5s							
EGRO	**El Granado**	**6.71**	**86**	P		Pn	22 12 13.4	+6.6
	comp=N,0.4nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**22 13 23.6**	**+0.3**
	comp=N,5.4nm,0.5s,SNR=7.9							
PESTR	**Estremoz**	**6.73**	**75**	*e*Sn		**Sn**	**22 13 24.7**	**+0.9**
PMRV	**Marv??o**	**7.00**	**70**	P		Pn	22 12 16.3	+5.5
PMRV				S		**Sn**	**22 13 29.9**	**-0.6**
	comp=N,2.0nm,0.4s							
PMRV	**Marv??o**	**7.00**	**70**	*e*Pn		Pn	22 12 16.3	+5.5
PMRV				*e*Sn		**Sn**	**22 13 29.9**	**-0.6**
PMRV				A		A	22 13 34.7	
	comp=N,2.0nm,0.4s							
PCBR	**Castelo Branco**	**7.05**	**67**	S		**Sn**	**22 13 32.1**	**+0.5**
	comp=N,0.8nm,0.6s							
PCBR	**Castelo Branco**	**7.05**	**67**	*e*Sn		**Sn**	**22 13 32.1**	**+0.5**
PCBR				A		A	22 13 36.3	
	comp=N,1.5nm,0.6s							
PVIS	**Viseu**	**7.08**	**59**	S		**Sn**	**22 13 32.5**	**+0.1**
	comp=N,1.4nm,0.3s							
PVIS	**Viseu**	**7.08**	**59**	*e*Sn		**Sn**	**22 13 32.5**	**+0.1**
PVIS				A		A	22 13 33.5	
	comp=N,2.9nm,0.3s							
EBAD	**Badajoz**	**7.16**	**76**	P		Pn	22 12 18.6	+5.7
	comp=N,0.4nm,0.1s,SNR=6.3							
EBAD				S		**Sn**	**22 13 33.1**	**-1.2**
	comp=N,2.3nm,0.3s,SNR=7.9							
MTE	**Manteigas**	**7.19**	**63**	S		**Sn**	**22 13 36.8**	**+1.5**
	comp=N,1.5nm,0.6s							
MTE	**Manteigas**	**7.19**	**63**	*e*Sn		**Sn**	**22 13 36.8**	**+1.5**
MTE				A		A	22 13 40.0	
	comp=N,3.0nm,0.6s							
EZAM	**Zamans**	**7.32**	**47**	S		**Sn**	**22 13 33.4**	**-5.0**
	comp=N,6.6nm,0.5s,SNR=7.9							
EMIN	**Mina Concepcio**	**7.35**	**84**	P		Pn	22 12 21.3	+5.7
	comp=N,0.3nm,0.2s,SNR=7.9							
EMIN				S		**Sn**	**22 13 38.1**	**-1.0**
	comp=N,4.2nm,0.6s,SNR=7.9							
PGAV	**Gavieira, Arco**	**7.47**	**50**	P		Pn	22 12 21.9	+4.6
PGAV				S		**Sn**	**22 13 40.6**	**-1.4**
	comp=N,3.5nm,0.5s							
PGAV	**Gavieira, Arco**	**7.47**	**50**	*e*Pn		Pn	22 12 21.9	+4.6
PGAV				*e*Sn		**Sn**	**22 13 40.6**	**-1.4**
PGAV				A		A	22 13 45.0	
	comp=N,3.5nm,0.5s							
PCAB	**Cabril**	**7.47**	**52**	S		**Sn**	**22 13 41.9**	**-0.2**
	comp=N,1.8nm,0.2s							
PCAB	**Cabril**	**7.47**	**52**	*e*Sn		**Sn**	**22 13 41.9**	**-0.2**
PCAB				A		A	22 13 43.2	
	comp=N,3.5nm,0.2s							
ELOB	**Lobios**	**7.54**	**51**	P		**Pn**	**22 12 22.0**	**+3.7**
	comp=N,0.4nm,0.1s,SNR=7.9							
ELOB				S		**Sn**	**22 13 39.4**	**-4.4**
	comp=N,10nm,0.7s,SNR=7.9							
EMAZ	**Mazaricos**	**7.69**	**42**	S		**Sn**	**22 13 42.5**	**-4.9**
	comp=N,11nm,0.5s,SNR=7.9							
MVO	**Moncorvo**	**7.86**	**59**	P		Pn	22 12 27.2	+4.5
	comp=N,0.9nm,0.3s,SNR=7.9							
MVO				S		**Sn**	**22 13 47.8**	**-3.9**
	comp=N,4.7nm,0.5s,SNR=7.9							
MVO	**Moncorvo**	**7.86**	**59**	*e*Sn		**Sn**	**22 13 50.0**	**-1.7**
MVO				A		A	22 13 52.8	
	comp=N,2.2nm,0.6s							
EAGO	**Agolada(Pontev**	**8.08**	**45**	P		**Pn**	**22 12 29.3**	**+3.7**
	comp=N,0.4nm,0.2s,SNR=7.9							
EAGO				S		**Sn**	**22 13 51.6**	**-5.4**
	comp=N,12nm,0.8s,SNR=7.9							
ECAB	**El Cabril**	**8.35**	**82**	P		Pn	22 12 34.5	+5.2
	comp=N,0.4nm,0.2s,SNR=7.9							
ECAB				S		**Sn**	**22 14 01.8**	**-1.9**
	comp=N,2.6nm,0.6s,SNR=7.9							
ECAL	**Calabor**	**8.42**	**54**	P		**Pn**	**22 12 34.2**	**+3.9**
	comp=N,0.9nm,0.3s,SNR=7.9							
ECAL				S		**Sn**	**22 14 01.1**	**-4.4**
	comp=N,3.2nm,0.7s,SNR=7.9							
EPON	**Pontenova**	**8.95**	**46**	P		**Pn**	**22 12 40.6**	**+3.1**
	comp=N,0.2nm,0.1s,SNR=4.0							
EPON				S		**Sn**	**22 14 12.4**	**-5.9**
	comp=N,4.9nm,0.7s,SNR=7.9							
EADA	**Adamuz**	**9.01**	**82**	P		Pn	22 12 43.4	+5.0
	comp=N,0.2nm,0.1s,SNR=7.9							
EADA				S		**Sn**	**22 14 17.6**	**-2.5**
	comp=N,4.2nm,1.1s,SNR=7.9							
PAB	**San Pablo**	**9.33**	**73**	P		**Pn**	**22 12 46.7**	**+3.9**
	comp=N,0.2nm,0.2s,SNR=7.9							
PAB				S		**Sn**	**22 14 24.1**	**-3.7**
	comp=N,5.5nm,1.1s,SNR=7.9							

UPA ***02*** *22:19:00.4±1.1, 8.°84N×77.°63W, h4km±13km, MW3.0*
RSNC ***02*** *22:19:01.8±0.9, 8.°62N×77.°37W, h42km±8km, ML2.2*

ISC 02 22:18:59.6±1.3, 8.°59N±0.°09×77.°48W±0.°04, h49km±8km, n10, σ0°80/18, 1D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CAP2	**Capurgana**	**0.13**	**64**	*e*P	**Pn**	**22 19 07.4**	**-0.1**
CAP2				*e*S	**Sn**	**22 19 13.6**	**+0.6**
CAPC	**Capurgana**	**0.14**	**71**	*e*P	**Pn**	**22 19 07.4**	**-0.1**
CAPC				*e*S	**Sn**	**22 19 13.6**	**+0.5**
UPD2	**Meteti**	**0.53**	**265**	||*i*P	**Pn**	**22 19 11.4**	**+0.2**
UPD2				*e*S	**Sn**	**22 19 18.1**	**-1.4**
CNTA3	**Canitas, Panam**	**1.52**	**294**	*e*S	**Sn**	**22 19 42.8**	**-0.3**
CHPO	**Chepo, Panama**	**1.71**	**290**	*e*S	**Sn**	**22 19 47.1**	**-0.6**
URE C	**San Jos de Ur**	**2.10**	**113**	*e*P	**Pn**	**22 19 32.7**	**+0.4**
URE C				*e*S	**Sn**	**22 19 56.8**	**-0.5**
URE C				*i*		22 19 59.0	
	comp=Z,16nm,0.2s						
BCIP	**Isla Barro Col**	**2.40**	**284**	*e*P	**Pn**	**22 19 36.9**	**+0.5**
BCIP				*e*S	**Sn**	**22 20 04.8**	**+0.2**
SJCC	**San Jacinto, C**	**2.62**	**60**	*e*P	**Pn**	**22 19 40.1**	**+0.6**
SJCC				*e*S	**Sn**	**22 20 08.7**	**-1.4**
ZARC	**Zaragoza, Cauc**	**2.82**	**113**	*e*P	**Pn**	**22 19 43.0**	**+0.9**
ZARC				*e*S	**Sn**	**22 20 14.0**	**-0.9**
ZARC				*i*		22 20 16.5	
	comp=Z,16nm,0.3s						
PTBC	**PUERTO BERRIO,**	**3.63**	**124**	*e*P	**Pn**	**22 19 53.9**	**+0.6**
PTBC				*e*S	**Sn**	**22 20 34.0**	**-0.8**
PTBC				*i*		22 20 37.1	
	comp=Z,4.2nm,0.4s						

CNRM ***02*** *22:27:25.4±0.6, 33.°52N×3.°03W, h0km, Error ellipse: s-maj=5.3km s-min=3.8km az=78.0*
MDD ***02*** *22:27:25.0±2.3, 33.°35N×3.°07W, h0km, mb3.5/8, Error ellipse: s-maj=20.4km s-min=14.6km az=170.0, PRXIMO*
INMG ***02*** *22:27:25.0±1.7, 33.°33N×2.°90W, h0km, ML2.4, Error ellipse: s-maj=17.8km s-min=5.9km az=123.0*

ISC 02 22:27:25.4±1.2, 33.°52N±0.°02×3.°01W±0.°03, h7km±10km, n48, σ1°85/82, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TDRA	**Tendrara**	**0.95**	**120**	P	**Pg**	**22 27 42.4**	**-1.2**
TDRA				S	**Sg**	**22 27 54.0**	**-1.9**
AKLM	**AKL**	**1.22**	**325**	P	**Pn**	**22 27 49.7**	**+0.8**
AKLM				S	**Sb**	**22 28 05.5**	**+0.7**
MDT	**Midelt**	**1.51**	**243**	P	**Pn**	**22 27 52.1**	**-0.9**
MDT				S	**Sg**	**22 28 14.0**	**-0.1**
GOG	**Mont Gurugu**	**1.70**	**0**	P	**Pg**	**22 27 57.3**	**-0.6**
GOG				S	**Sg**	**22 28 20.7**	**+0.7**
IFR	**Ifrane**	**1.77**	**271**	*e*Pn	**Pn**	**22 27 57.8**	**+1.2**
IFR	**Ifrane**	**1.77**	**271**	*i* Pg	**Pb**	**22 27 58.4**	**+0.1**
IFR				*i* S	**Sg**	**22 28 22.5**	**+0.3**
CZD	**Col de Zad**	**1.77**	**255**	P	**Pn**	**22 27 58.2**	**+1.5**
CZD				S	**Sb**	**22 28 21.6**	**+0.7**
MELI	**Melilla**	**1.77**	**2**	*e*S	**Sg**	**22 28 23.3**	**+1.0**
EMEL	**Melilla**	**1.78**	**1**	S	**Sg**	**22 28 24.4**	**+1.9**
	30nm,0.2s,SNR=7.9						
PALE	**Palemas**	**1.86**	**336**	P	**Pg**	**22 28 00.5**	**-0.6**
PALE				S	**Sb**	**22 28 23.3**	**+0.1**
PVLZ	**Peæn de**	**1.97**	**327**	P	**Pg**	**22 28 04.2**	**+1.1**
PVLZ				S	**Sg**	**22 28 29.3**	**+0.8**
PVLZ	**Peæn de**	**1.97**	**327**	*e*P	**Pg**	**22 28 04.2**	**+1.1**
PVLZ				*e*S	**Sg**	**22 28 29.3**	**+0.8**
SICH	**Sidi Chahed**	**2.01**	**288**	P	**Pn**	**22 28 00.8**	**+1.1**
SICH				S	**Sb**	**22 28 27.2**	**-0.3**
ARF	**Arif**	**2.32**	**207**	P	**Pn**	**22 28 04.7**	**+0.6**
ARF				S	**Sn**	**22 28 34.2**	**+1.3**
CHEFC	**Chefchaouen**	**2.50**	**310**	P	**Pb**	**22 28 09.4**	**-1.2**
CHEFC				S	**Sn**	**22 28 39.7**	**+2.4**
RSA	**Sarsar**	**2.70**	**301**	P	**Pn**	**22 28 10.6**	**+1.3**
RSA				S	**Sb**	**22 28 46.7**	**-0.7**
ZHG	**ZHG**	**3.04**	**270**	P	**Pn**	**22 28 16.6**	**+2.6**
EMIJ	**Mijas**	**3.37**	**335**	P	**Pn**	**22 28 19.2**	**+0.8**
	0.9nm,0.2s,SNR=7.9						
EMIJ				S	**Sn**	**22 28 57.9**	**-0.8**
	2.7nm,0.5s,SNR=7.9						
EBER	**Berja**	**3.37**	**2**	P	**Pn**	**22 28 20.4**	**+1.7**
	0.6nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**22 28 59.9**	**+0.9**
	15nm,0.9s,SNR=7.9						
ELGU	**Los Guajares,**	**3.38**	**352**	P	**Pn**	**22 28 19.2**	**+0.6**
	0.4nm,0.1s,SNR=7.9						
TZRR	**Tazzarine**	**3.48**	**219**	P	**Pn**	**22 28 20.8**	**+0.7**
TZRR				S	**Sn**	**22 29 04.2**	**+2.5**
AVE	**Averroes**	**3.69**	**268**	*e*S	**Sg**	**22 29 22.2**	**-1.7**
ZGR	**Zagora**	**4.05**	**214**	P	**Pn**	**22 28 28.8**	**+0.8**
ZGR				S	**Sn**	**22 29 17.4**	**+1.7**
OUZM	**OUZ**	**4.11**	**232**	P	**Pn**	**22 28 32.1**	**+3.4**
OUZM				S	**Sb**	**22 29 24.9**	**-3.2**
EQES	**Quesada**	**4.28**	**359**	P	**Pn**	**22 28 32.5**	**+1.5**
	0.8nm,0.3s,SNR=7.9						
EQES				S	**Sn**	**22 29 23.2**	**+2.0**
	1.9nm,0.6s,SNR=7.9						
EMUR	**La Murta**	**4.55**	**18**	P	**Pn**	**22 28 35.4**	**+0.8**
	1.2nm,0.3s,SNR=4.0						
SESP	**Santiago Espad**	**4.61**	**5**	P	**Pn**	**22 28 37.5**	**+1.9**
	2.0nm,0.3s,SNR=7.9						
SESP				S	**Sn**	**22 29 30.3**	**+0.8**
	6.0nm,0.6s,SNR=7.9						
OUK	**Oukaimeden**	**4.71**	**242**	P	**Pn**	**22 28 38.4**	**+1.2**
OUK				S	**Sn**	**22 29 35.1**	**+2.8**
EADA	**Adamuz**	**4.81**	**345**	S	**Sn**	**22 29 34.5**	**+0.2**
	1.9nm,0.5s,SNR=7.9						
ECAB	**El Cabril**	**4.95**	**337**	S	**Sn**	**22 29 38.6**	**+0.9**
	2.1nm,1.0s,SNR=7.9						
EMIN	**Mina Concepcio**	**5.18**	**326**	P	**Pn**	**22 28 43.3**	**0.0**
	0.3nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**22 29 43.4**	**-0.1**
	1.3nm,0.5s,SNR=7.9						
ETOB	**Tobarra**	**5.25**	**13**	P	**Pn**	**22 28 46.3**	**+2.0**
	0.6nm,0.2s,SNR=7.9						
EGRO	**El Granado**	**5.42**	**319**	P	**Pn**	**22 28 46.1**	**-0.4**
	1.8nm,0.3s,SNR=4.0						
EGRO				S	**Sn**	**22 29 46.5**	**-2.7**
	7.4nm,0.5s,SNR=7.9						
PVAQ	**Vaqueiros**	**5.46**	**317**	P	**Pn**	**22 28 49.2**	**+2.1**
PVAQ				S	**Sn**	**22 29 46.7**	**-3.5**
	2.4nm,0.7s						
PVAQ	**Vaqueiros**	**5.46**	**317**	*e*P	**Pn**	**22 28 49.2**	**+2.1**
PVAQ				*e*S	**Sn**	**22 29 46.7**	**-3.5**
PVAQ				A	A	22 29 56.4	
	2.4nm,0.7s						
PBDV	**Barranco-do-Ve**	**5.47**	**314**	P	**Pn**	**22 28 49.3**	**+1.9**
PBDV				S	**Sn**	**22 29 46.9**	**-3.8**
	2.8nm,0.6s						
PBDV	**Barranco-do-Ve**	**5.47**	**314**	*e*P	**Pn**	**22 28 49.3**	**+1.9**
PBDV				*e*S	**Sn**	**22 29 46.9**	**-3.8**
PBDV				A	A	22 29 52.9	
	2.8nm,0.6s						
PCVE	**Castro Verde**	**5.80**	**316**	S	**Sn**	**22 29 55.9**	**-2.7**
PCVE	**Castro Verde**	**5.80**	**316**	S	**Sn**	**22 29 55.9**	**-2.7**
MESJ	**Messejana**	**6.05**	**317**	S	**Sn**	**22 30 02.0**	**-2.7**
	2.7nm,0.6s						
MESJ	**Messejana**	**6.05**	**317**	*e*S	**Sn**	**22 30 02.0**	**-2.7**
MESJ				A	A	22 30 07.7	
	2.7nm,0.6s						
EBAD	**Badajoz**	**6.15**	**329**	P	**Pn**	**22 28 56.7**	**+0.1**
	0.3nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**22 30 04.9**	**-2.3**
	1.7nm,1.0s,SNR=7.9						
PTEO	**Sao Teotonio**	**6.15**	**312**	P	**Pn**	**22 28 58.5**	**+1.8**
PTEO				S	**Sn**	**22 30 03.9**	**-3.4**
PTEO	**Sao Teotonio**	**6.15**	**312**	*e*P	**Pn**	**22 28 58.5**	**+1.8**
PTEO				*e*S	**Sn**	**22 30 03.9**	**-3.4**
PNCL	**Nicolau / Gran**	**6.41**	**317**	P	**Pn**	**22 29 01.2**	**+1.0**
PNCL				S	**Sn**	**22 30 12.2**	**-1.5**
	1.9nm,0.5s						
PNCL	**Nicolau / Gran**	**6.41**	**317**	*e*P	**Pn**	**22 29 01.2**	**+1.0**
PNCL				*e*S	**Sn**	**22 30 12.2**	**-1.5**
PNCL				A	A	22 30 15.5	
	1.9nm,0.5s						
EVO	**Evora**	**6.44**	**322**	P	**Pn**	**22 29 01.1**	**+0.5**
EVO				S	**Sn**	**22 30 11.8**	**-2.6**
EVO	**Evora**	**6.44**	**322**	*e*P	**Pn**	**22 29 01.1**	**+0.5**
EVO				*e*S	**Sn**	**22 30 11.8**	**-2.6**

NEIC ***02*** *22:30:51.4±1.1, 52.°99N±0.°01×165.°56W±0.°08, h36km±32km, Error ellipse: s-maj=7.0km s-min=1.9km az=82.0*

AEIC 02 22:30:50.4±1.2, 52.°96N±0.°07×165.°55W±0.°09, h35km±9km, ML3.0/31, Error ellipse: s-maj=10.7km s-min=6.4km az=149.0, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MREP	**Makushin Rep't**	**1.11**	**320**		Pn	22 31 09.8	+0.4
MNAT	**Makushin Natee**	**1.15**	**324**		Pn	22 31 10.3	+0.4
MNAT					Sn	22 31 25.3	+0.9
MGOD	**Makushin Gods**	**1.15**	**317**		Pn	22 31 10.6	+0.6
AKBBA	**Akutan Broad B**	**1.16**	**349**		Pn	22 31 10.5	+0.4
AKBBA					Sn	22 31 26.7	+2.0
AKMO	**Akutan Morgan**	**1.16**	**347**		Pn	22 31 10.6	+0.5
AKMO					Sn	22 31 27.2	+2.5
AKSA	**Akutan Strait**	**1.18**	**356**		Pn	22 31 10.5	+0.2
AKSA	**Akutan Strait**	**1.18**	**356**		Pn	22 31 10.6	+0.2
AKSA					Sn	22 31 26.6	+1.5
AKUT	**Akutan**	**1.18**	**354**		Pn	22 31 11.1	+0.8
AKUT				Sn	Sn	22 31 23.4	-1.8
MSW	**Makushin Switc**	**1.21**	**323**		Pn	22 31 11.2	+0.5
MSW					Sn	22 31 27.3	+1.5
AKRB	**Akutan Reef Bi**	**1.21**	**345**		Pn	22 31 11.4	+0.6
AKLV	**Akutan Long Va**	**1.23**	**349**		Pn	22 31 11.3	+0.2
AKLV					Sn	22 31 28.4	+2.1
AKGG	**Akutan Green G**	**1.27**	**348**		Pn	22 31 12.4	+0.9
OKFG	**Magazine Ridge**	**1.49**	**288**		Pn	22 31 15.4	+0.8
WESP	**Westdahl Peak**	**1.61**	**17**		Pn	22 31 17.4	+1.0
OKCE	**Okmok Cone E**	**1.64**	**288**		Pn	22 31 18.2	+1.5
OKCE					Sn	22 31 39.1	+2.5
OKSP	**Okmok Steeple**	**1.68**	**281**		Pn	22 31 18.1	+0.9
NIKH	**Nikolski High**	**2.00**	**272**		Pn	22 31 22.5	+0.9
SSBA	**Shishaldin**	**2.00**	**24**		Pn	22 31 22.8	+1.1
FALS	**False Pass**	**2.28**	**33**		Pn	22 31 26.6	+1.2
DT1	**Dutton Round H**	**2.89**	**41**		Pn	22 31 35.1	+1.3
SDPT	**Sand Point**	**3.82**	**49**		Pn	22 31 47.2	+0.5
CNBA	**Chernabura Isl**	**3.99**	**60**		Pn	22 31 49.3	+0.4
SPIA	**Saint Paul Isl**	**5.01**	**329**	Pn	Pn	22 32 04.0	+1.0
CHGN	**Chignik**	**5.33**	**48**	Pn	Pn	22 32 08.1	+0.9
ADK	**Adak**	**6.90**	**265**	Pn	Pn	22 32 31.5	+2.7
ADK				Sn	Sn	22 33 45.8	-0.2
HIN	**Hinchinbrook I**	**12.81**	**47**	Pn	Pn	22 33 50.6	+0.9
INK	**Inuvik**	**21.58**	**32**	P	P	22 35 35.7	-0.8

WEL 02 22:33:59.3, 38.°3S±0.°4×176.°2E±0.°4, h10km±1km, M1.9/11, ML3.1/6, MLv1.9/11, Error ellipse: s-maj=0.0km s-min=0.0km az=43.6, North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HSRZ	**Hossack Road**	**0.03**	**17**	P	Pg	22 34 01.1	0.0
HRRZ	**Handcock Road**	**0.07**	**143**	P	Pg	22 34 01.9	+0.4
HRRZ				S	Sg	22 34 03.8	+0.8
GRRZ	**Galatos Road**	**0.10**	**263**	P	Pg	22 34 02.4	+0.6
HLRZ	**Highlands Stat**	**0.13**	**47**	P	Pg	22 34 03.0	+0.7
UTU	**Utuhina**	**0.17**	**349**	P	Pg	22 34 03.5	+0.7
WPRZ	**Whakapapatarin**	**0.19**	**197**	P	Pg	22 34 04.2	+0.9
WPRZ				S	Sg	22 34 07.7	+1.6
PRRZ	**Plateau Road**	**0.20**	**142**	P	Pg	22 34 04.3	+0.8
PRRZ				S	Sg	22 34 07.8	+1.4
TARZ	**Mount Tarawera**	**0.24**	**64**	P	Pg	22 34 05.7	+1.6
ALRZ	**Allen Road**	**0.24**	**159**	P	Pg	22 34 05.1	+0.9
ALRZ				S	Sg	22 34 09.0	+1.5
ALRZ	**Allen Road**	**0.24**	**159**	P	Pg	22 34 13.3	+9.2
ALRZ				S	Sg	22 34 17.3	+10
NGRZ	**Ngongotaha**	**0.24**	**351**	P	Pg	22 34 04.8	+0.7
OMRZ	**Omania**	**0.26**	**25**	P	Pn	22 34 13.4	+4.2
OMRZ				S	Sb	22 34 17.4	+6.9
MKRZ	**Makatiti**	**0.27**	**43**	P	Pb	22 34 14.1	+4.7
MUGZ	**Murupara**	**0.44**	**108**	P	Pb	22 34 08.8	-0.4
MUGZ	**Murupara**	**0.44**	**108**	P	Pn	22 34 17.2	+5.4
MRHZ	**Matea Rd**	**0.52**	**164**	P	Pn	22 34 18.6	+5.8
TGRZ	**Tauranga**	**0.61**	**2**	P	Pn	22 34 20.3	+6.3
RATZ	**Rangitukua**	**0.64**	**214**	P	Pn	22 34 20.0	+5.5
MTHZ	**Maungataniwha**	**0.70**	**137**	P	Pn	22 34 22.2	+6.9
BKZ	**Black Stump Fm**	**0.85**	**166**	P	Pn	22 34 25.2	+7.8
RAHZ	**Arahi**	**0.88**	**131**	P	Pn	22 34 26.2	+8.5
NGZ	**Ngauruhoe**	**0.97**	**210**	P	Pn	22 34 27.8	+8.6
SNGZ	**Shannon Statio**	**0.97**	**117**	P	Pn	22 34 27.8	+8.8
MWZ	**Matawai**	**1.02**	**90**	P	Pn	22 34 27.6	+7.9
TUVZ	**Tukino**	**1.03**	**206**	P	Pn	22 34 28.3	+8.4
MOVZ	**Moawhango**	**1.13**	**199**	P	Pn	22 34 29.2	+7.9
BHHZ	**Black Hill Sta**	**1.16**	**187**	P	Pn	22 34 30.3	+8.7

NEIC ***02*** *22:39:56.8±1.0, 3.°06N±0.°10×128.°4E±0.°1, h189km±10km, mb4.0/12, Error ellipse: s-maj=20.2km s

NEIC **02** *22:51:15.0±2.3,27.79N±0.05×57.27E±0.07,h10km±1km, Error ellipse: s-maj=10.8km s-min=8.0km az=99.0*
DSN **02** *22:51:14.8±0.8,27.93N×57.78E,h10km,mb5.0/2, ML5.2/10,Error ellipse: s-maj=15.4km s-min=4.8km az=101.0*
MOS **02** *22:51:15.6±1.1,27.90N×57.31E,h18km,mb4.9/34,Error ellipse: s-maj=5.5km s-min=3.9km az=88.5*
THR **02** *22:51:16.5±0.8,27.76N×57.22E,h14km±8km, ML5.2*
TEH **02** *22:51:17.3,27.84N×57.37E,h14km, ML4.9*
IDC **02** *22:51:19.2±1.9,27.94N×57.37E,h29km±12km,mb4.3/38, mb1 4.4/44,mb1mx4.4/54,mbtmp4.5/44,ML4.5/6,MS3.9/26, Ms1 3.9/26,ms1mx3.7/46,Error ellipse: s-maj=11.8km s-min=9.1km az=167.0*
OMAN **02** *22:51:19.1±8.9,27.89N×57.67E,h49km±74km,mb5.0/2, ml4.8/18,ms4.3/1,Mwp4.7/6,Error ellipse: s-maj=233.0km s-min=94.1km az=137.0*
BGR **02** *22:51:35.3±0.0,28.84N×55.41E,h33km,mb4.3*
ISC 02 22:51:16.7±0.6,**27.81N**±0.02×**57.27E**±0.03,**h17**km±3km, **n522,**σ1**s79**/563,**mb4.7**/156,**MS3.9**/42,**44C-17D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.41**	**70**	*e*Pg		**Pg**	**22 51 24.0**	**-1.2**
KHNJ				*e*Sg		**Sg**	**22 51 28.9**	**-2.1**
GENO	**Geno**	**1.05**	**248**	*e*Pg		**Pg**	**22 51 40.2**	**+3.1**
GENO				*e*			22 51 41.3	
BNDS	**Bandar-Abbas**	**1.05**	**248**	*e*Pg		**Pb**	**22 51 34.7**	**-1.9**
BNDS				*e*Sg		**Sb**	**22 51 49.6**	**-0.5**
BNDS	**Bandar-Abbas**	**1.05**	**248**	*e*Pn		**Pb**	**22 51 34.7**	**-1.9**
NGRK	**Negar Kerman**	**1.89**	**346**	*e*Pn		**Pb**	**22 51 50.2**	**-0.8**
NGRK				*e*			22 51 51.6	
SHME	**Shamm** SNR=85	**2.02**	**210**	*e*P		**Pb**	**22 51 53.3**	**+0.3**
SHME				S		**Sg**	**22 52 24.3**	**+2.6**
SHME	**Shamm**	**2.02**	**210**	*e*Pn		**Pb**	**22 51 53.3**	**+0.3**
CHMN	**Cheshme madani**	**2.06**	**7**	*e*Pn		**Pn**	**22 51 52.1**	**+1.2**
CHMN				*e*			22 51 58.7	
CHMN	**Cheshme madani**	**2.06**	**7**	Pn		**Pb**	**22 51 52.8**	**-1.1**
BANOM	**Banah** SNR=816	**2.06**	**205**	*e*P		**Pb**	**22 51 54.2**	**+0.5**
BANOM				S		**Sg**	**22 52 24.0**	**+0.8**
BANOM	**Banah** SNR=757	**2.06**	**205**	P		**Pb**	**22 51 54.2**	**+0.5**
BANOM				S		**Sg**	**22 52 24.0**	**+0.8**
BANOM	**Banah**	**2.06**	**205**	*e*Pn		**Pb**	**22 51 54.2**	**+0.5**
JSK1	**Jask**	**2.21**	**168**	*e*Pn		**Pb**	**22 51 55.9**	**-0.2**
KRBR	**Kerman**	**2.21**	**349**	*e*Pn		**Pb**	**22 51 56.0**	**-0.5**
KRBR				*e*Sg		**Sg**	**22 52 27.6**	**-0.5**
KRBR	comp=N,5μm,0.8s			IAML			22 52 38.0	
KRBR	**Kerman**	**2.21**	**349**	*e*Pn		**Pb**	**22 51 56.0**	**-0.5**
TVBK	**TV Kerman**	**2.22**	**349**	*e*Pn		**Pb**	**22 51 55.6**	**-0.9**
TVBK				*e*			22 51 58.1	
TVBK	**TV Kerman**	**2.22**	**349**	Pn		**Pb**	**22 51 55.7**	**-0.8**
LAR1	**LAR**	**2.57**	**268**	*e*Pn		**Pb**	**22 52 00.8**	**-1.5**
MSFE	**Esma-Masafi** SNR=26	**2.63**	**202**	*e*P		**Pb**	**22 52 01.6**	**-1.9**
MSFE	**Esma-Masafi**	**2.63**	**202**	*e*Pn		**Pb**	**22 52 01.7**	**-1.7**
MDH	**Madha** SNR=63	**2.64**	**199**	*e*P		**Pn**	**22 52 00.6**	**+2.1**
MDH	**Madha** SNR=42	**2.64**	**199**	P		**Pn**	**22 52 00.7**	**+2.1**
MDH	SNR=42			P		**Pn**	**22 52 00.7**	**+2.1**
MDH	**Madha**	**2.64**	**199**	*e*Pn		**Pn**	**22 52 00.6**	**+2.1**
KHGB	**Koh Gabri**	**2.65**	**345**	*e*			22 52 08.4	
KHGB				*e*Pn		**Pb**	**22 52 02.7**	**-1.2**
UMQ	**Umm Al-Quwin** SNR=15	**2.69**	**213**	*i* P		**Pb**	**22 52 04.1**	**-0.2**
UMQ	**Umm Al-Quwin** SNR=7.2	**2.69**	**213**	P		**Pb**	**22 52 04.2**	**-0.2**
UMQ	**Umm Al-Quwin**	**2.69**	**213**	*e*Pn		**Pb**	**22 52 04.3**	**0.0**
UOSS	**Minazif** SNR=25	**3.00**	**199**	*i* P		**Pn**	**22 52 06.2**	**+2.6**
UOSS	**Minazif**	**3.00**	**199**	P		**Pn**	**22 52 06.0**	**+2.5**
UOSS	**Minazif**	**3.00**	**199**	*e*Pn		**Pn**	**22 52 05.5**	**+2.0**
UOSS	**Minazif**	**3.00**	**199**			**Pn**	**22 52 05.3**	**+1.7**
HATD	**Hatta, Dubai** SNR=40	**3.14**	**199**	*i* P		**Pn**	**22 52 08.0**	**+2.6**
HATD	**Hatta, Dubai** SNR=38	**3.14**	**199**	P		**Pn**	**22 52 08.0**	**+2.6**
HATD	SNR=38			P		**Pn**	**22 52 08.0**	**+2.6**
HATD	**Hatta, Dubai**	**3.14**	**199**	*e*Pn		**Pn**	**22 52 07.8**	**+2.4**
NAZ	**Nazwa, Dubai** SNR=83	**3.15**	**207**	*i* P		**Pb**	**22 52 10.0**	**-2.3**
NAZ	**Nazwa, Dubai** SNR=83	**3.15**	**207**	P		**Pb**	**22 52 09.5**	**-2.8**
NAZ	**Nazwa, Dubai**	**3.15**	**207**	*e*Pn		**Pb**	**22 52 09.8**	**-2.5**
ASHO	**Ashiyiah** SNR=166	**3.29**	**199**	*i* P		**Pn**	**22 52 11.0**	**+3.4**
ASHO	**Ashiyiah** SNR=166	**3.29**	**199**	P		**Pb**	**22 52 11.6**	**-3.1**
ASHO	SNR=166			P		**Pb**	**22 52 11.6**	**-3.1**
ASHO	**Ashiyiah**	**3.29**	**199**	*e*Pn		**Pn**	**22 52 10.9**	**+3.4**
ASHO	**Ashiyiah**	**3.29**	**199**	Pn		**Pn**	**22 52 10.9**	**+3.4**
JHRM	**Jahrom**	**3.33**	**283**	*e*Pn		**Pn**	**22 52 11.3**	**+3.2**
FAQ	**Al Faqa, Dubai** SNR=7.9	**3.40**	**207**	*i* P		**Pb**	**22 52 13.5**	**-3.0**
FAQ	**Al Faqa, Dubai** SNR=7.9	**3.40**	**207**	P		**Pb**	**22 52 13.5**	**-3.0**
FAQ	**Al Faqa, Dubai**	**3.40**	**207**	*e*Pn		**Pb**	**22 52 13.5**	**-3.0**
ZHSF	**Zahedan**	**3.57**	**59**	*e*Pn		**Pn**	**22 52 14.6**	**+3.1**
ZHSF	**Zahedan**	**3.57**	**59**	*e*Pn		**Pn**	**22 52 14.6**	**+3.1**
SZD1	**Zahaedan-tmp**	**3.58**	**61**	*e*Pn		**Pn**	**22 52 14.1**	**+2.5**
LMD1	**Lamerd**	**3.67**	**264**	*e*Pn		**Pn**	**22 52 16.1**	**+3.4**
SOHO	**SOHO** SNR=56	**3.72**	**190**	P		**Pn**	**22 52 15.0**	**+1.7**
SOHO	**SOHO**	**3.72**	**190**	*e*Pn		**Pn**	**22 52 14.6**	**+1.3**
AJN	**Ajban** SNR=29	**3.82**	**213**	*i* P		**Pn**	**22 52 18.7**	**+3.9**
AJN	**Ajban** SNR=29	**3.82**	**213**	P		**Pn**	**22 52 18.7**	**+3.9**
AJN				S		**Sb**	**22 53 05.5**	**-4.2**
AJN	**Ajban**	**3.82**	**213**	*e*Pn		**Pn**	**22 52 18.8**	**+3.9**
ALNE	**Al Ain** SNR=41	**3.98**	**200**	*i* P		**Pn**	**22 52 20.8**	**+3.9**
ALNE	**Al Ain**	**3.98**	**200**	*e*Pn		**Pn**	**22 52 21.4**	**+4.5**
ALNE	**Al Ain**	**3.98**	**200**	Pn		**Pn**	**22 52 21.3**	**+4.4**
IBAF	**Bafgh**	**4.05**	**339**	*e*Pn		**Pn**	**22 52 20.7**	**+2.7**
IBAF	**Bafgh**	**4.05**	**339**	Pn		**Pn**	**22 52 20.6**	**+2.6**
HOQ	**Hoqain** SNR=166	**4.21**	**179**	P		**Pn**	**22 52 21.2**	**+1.1**
IMEH	**Mehriz**	**4.25**	**328**	*e*Pn		**Pn**	**22 52 23.9**	**+3.0**
IMEH	**Mehriz**	**4.25**	**328**	Pn		**Pn**	**22 52 23.7**	**+2.8**
NHDN	**Nehbandan**	**4.32**	**33**	*e*Pn		**Pn**	**22 52 23.8**	**+2.1**
BIDO	**Bidbid** SNR=20	**4.34**	**169**	P		**Pn**	**22 52 22.9**	**+1.0**
BIDO	**Bidbid**	**4.34**	**169**	*e*Pn		**Pn**	**22 52 22.9**	**+1.0**
ARQ	**Araqi** SNR=481	**4.50**	**189**	P		**Pn**	**22 52 28.2**	**+4.1**
WSAR	**Wadi Sarin** comp=N,30nm,0.3s,baz=359,slow=8.8,SNR=327	**4.71**	**165**	Pn		**Pn**	**22 52 28.7**	**+1.7**
WSAR	comp=N,60nm,0.3s,baz=284,slow=21,SNR=10			Sn		**Sn**	**22 53 19.9**	**-1.4**
WSAR	**Wadi Sarin** SNR=425	**4.71**	**165**	P		**Pn**	**22 52 28.7**	**+1.7**
SMDO	**Samad** SNR=27	**4.78**	**171**	P		**Pn**	**22 52 29.7**	**+1.7**
SMDO				S		**Sn**	**22 53 23.3**	**+0.2**
IKOO	**Kooshah**	**4.84**	**18**	*e*Pn		**Pn**	**22 52 31.4**	**+2.4**
JRN	**Qarnain Island**	**4.88**	**235**	*e*Pn		**Pn**	**22 52 31.7**	**+2.4**
BSY	**Bisya** SNR=64	**5.04**	**181**	P		**Pn**	**22 52 35.2**	**+3.6**
BSY	SNR=69			P		**Pn**	**22 52 35.3**	**+3.7**
MZWR	**Madinat Zayed**	**5.05**	**218**	*e*Pn		**Pn**	**22 52 34.4**	**+2.7**
ICHK	**Chekchek**	**5.07**	**331**	*e*Pn		**Pn**	**22 52 35.4**	**+3.3**
YZKH	**Yazd**	**5.12**	**334**	*e*Pn		**Pn**	**22 52 35.4**	**+2.7**
YZKH	**Yazd**	**5.12**	**334**	*e*Pn		**Pn**	**22 52 35.4**	**+2.7**
ISAD	**Sadrabad**	**5.14**	**324**	*e*Pn		**Pn**	**22 52 36.4**	**+3.3**
TPRV	**Parvadeh(Tabas**	**5.23**	**355**	*e*Pn		**Pn**	**22 52 37.7**	**+3.5**
ITEG	**Tejag**	**5.23**	**14**	*e*Pn		**Pn**	**22 52 37.8**	**+3.5**
AHBU	**AHRAM**	**5.37**	**283**	*e*Pn		**Pn**	**22 52 37.7**	**+1.7**
WBK	**Wadi Bani Khal** SNR=48	**5.40**	**163**	P		**Pn**	**22 52 37.8**	**+1.3**
IDAH	**Dahanechah**	**5.41**	**24**	*e*Pn		**Pn**	**22 52 40.5**	**+3.7**
UMZA	**Um Al Zommool**	**5.42**	**201**	*e*Pn		**Pn**	**22 52 39.5**	**+2.8**
JMDO	**Jabal Madar** SNR=14	**5.47**	**172**	P		**Pn**	**22 52 39.7**	**+2.3**
IMON	**Monand**	**5.75**	**21**	*e*Pn		**Pn**	**22 52 45.2**	**+3.7**
TKDS	**Koohdasht(Taba**	**5.79**	**359**	*e*Pn		**Pn**	**22 52 45.0**	**+3.1**
AFRZ	**Afriz**	**5.80**	**15**	*e*Pn		**Pn**	**22 52 45.3**	**+3.2**
IRAM	**Ramesheh**	**5.82**	**314**	*e*Pn		**Pn**	**22 52 45.3**	**+2.8**
TABS	**Tabas**	**5.83**	**359**	*e*Pn		**Pn**	**22 52 45.2**	**+2.9**
TABS	**Tabas**	**5.83**	**359**	*e*Pn		**Pn**	**22 52 45.3**	**+2.9**
KLNJ	**Kolanjah**	**5.89**	**304**	*e*Pn		**Pn**	**22 52 46.1**	**+2.6**
ANAR	**Anarak**	**6.17**	**331**	*e*Pn		**Pn**	**22 52 50.0**	**+2.8**
ANAR	**Anarak**	**6.17**	**331**	Pn		**Pn**	**22 52 49.9**	**+2.8**
SLWR	**Sila**	**6.25**	**235**	*e*Pn		**Pn**	**22 52 49.6**	**+1.5**
SHRT	**Shahrakht**	**6.38**	**23**	*e*Pn		**Pn**	**22 52 53.4**	**+3.4**
SHRT	**Shahrakht**	**6.38**	**23**	*e*Pn		**Pn**	**22 52 53.4**	**+3.4**
IGAR	**Gharneh**	**6.44**	**317**	*e*Pn		**Pn**	**22 52 53.8**	**+2.9**
IZEF	**Zefreh**	**6.63**	**321**	*e*Pn		**Pn**	**22 52 55.8**	**+2.3**
MHTO	**MHTO**	**6.82**	**174**	P		**Pn**	**22 52 58.4**	**+2.4**
ROKH	**ROKH**	**7.04**	**311**	*e*Pn		**Pn**	**22 53 01.9**	**+2.7**
JHBN	**Jahan bin**	**7.22**	**309**	*e*Pn		**Pn**	**22 53 04.5**	**+2.7**
IPIR	**Pirpir**	**7.35**	**313**	*e*Pn		**Pn**	**22 53 05.9**	**+2.4**
IKLH	**Kolahrood**	**7.36**	**320**	*e*Pn		**Pn**	**22 53 06.4**	**+2.8**
HRA	**Herat**	**7.83**	**32**	Pn		**Pn**	**22 53 12.2**	**+2.2**
IANJ	**Anjilo**	**8.15**	**340**	*e*Pn		**Pn**	**22 53 17.8**	**+3.3**
IANJ	**Anjilo**	**8.15**	**340**	Pn		**Pn**	**22 53 17.8**	**+3.3**
SHGR	**Shooshtar-Gavs**	**8.50**	**302**	*e*Pn		**Pn**	**22 53 21.2**	**+2.2**
SHGR	comp=E,224nm,0.5s			IAML			22 55 13.5	
SHGR	**Shooshtar-Gavs**	**8.50**	**302**	*e*Pn		**Pn**	**22 53 21.2**	**+2.2**
IVRN	**Varamin**	**8.59**	**328**	*e*Pn		**Pn**	**22 53 23.6**	**+3.3**
IPAY	**Payeh**	**8.74**	**9**	*e*Pn		**Pn**	**22 53 26.6**	**+4.1**
IQOM	**Qom**	**8.79**	**324**	*e*Pn		**Pn**	**22 53 26.8**	**+3.6**
IAKL	**Akhelmad**	**8.86**	**8**	*e*Pn		**Pn**	**22 53 28.5**	**+4.3**
IAKL	**Akhelmad**	**8.86**	**8**	Pn		**Pn**	**22 53 28.5**	**+4.3**
IKRD	**Kardeh**	**9.01**	**6**	*e*Pn		Pn	22 53 32.8	+6.6
IGLO	**Ghaloghah**	**9.14**	**342**	*e*Pn		**Pn**	**22 53 30.6**	**+2.5**
ISFR	**Sfrayin**	**9.24**	**4**	*e*Pn		**Pn**	**22 53 33.9**	**+4.5**
BMDN	**Meydan**	**9.32**	**311**	*e*Pn		**Pn**	**22 53 31.6**	**+1.2**
IPRN	**Peran**	**9.39**	**335**	*e*Pn		**Pn**	**22 53 35.1**	**+3.8**
IKMR	**Kamar-syah**	**9.53**	**309**	*e*Pn		**Pn**	**22 53 35.3**	**+2.1**
HSAM	**Samen**	**9.79**	**313**	*e*Pn		**Pn**	**22 53 38.7**	**+1.7**
IRAZ	**Razeghan**	**9.82**	**322**	*e*Pn		**Pn**	**22 53 40.6**	**+3.3**
IDOB	**Doab**	**9.83**	**310**	*e*Pn		**Pn**	**22 53 37.8**	**+0.4**
SHAO	**Shalim** SNR=57	**9.85**	**189**	*i* P		**Pn**	**22 53 39.0**	**+1.3**
GEYT	**Alibeck** comp=E,1.2nm,0.3s,baz=177,slow=13,SNR=29	**10.12**	**4**	Pn		**Pn**	**22 53 45.1**	**+3.9**
GEYT	comp=E,1μm,19.5s,baz=165,slow=41			LR		LR	22 58 10.9	
GYA0B	**ALIBECK ARRAY**	**10.12**	**4**	Pn		**Pn**	**22 53 40.5**	**-0.8**
ASHT	**Ashkhabad**	**10.15**	**5**	P		**Pn**	**22 53 42.9**	**+1.3**
ASHT	**Ashkhabad**	**10.15**	**5**	Pn		**Pn**	**22 53 42.9**	**+1.3**
QABG	**Abgarm-Qazvin**	**10.23**	**322**	*e*Pn		**Pn**	**22 53 45.3**	**+2.3**
QALM	**Alamut, Qazvin**	**10.27**	**329**	*e*Pn		**Pn**	**22 53 46.4**	**+3.0**
IBZA	**Bozab**	**10.44**	**312**	*e*Pn		**Pn**	**22 53 48.2**	**+2.4**
IALM	**Almabolaq**	**10.48**	**314**	*e*Pn		**Pn**	**22 53 48.1**	**+1.7**
IKOM	**Komasi**	**10.50**	**310**	*e*Pn		**Pn**	**22 53 48.2**	**+1.6**
QSDN	**Sirdan**	**11.05**	**324**	*e*Pn		**Pn**	**22 53 58.3**	**+4.1**
RAYN	**Ar Rayn**	**11.43**	**251**	P		**Pn**	**22 53 57.8**	**-1.5**
RAYN	**Ar Rayn**	**11.43**	**251**			**Pn**	**22 53 57.8**	**-1.5**
RAYN						**Sn**	**22 56 00.3**	**-6.4**
IDHR	**Dehrash**	**11.56**	**309**	*e*Pn		**Pn**	**22 54 01.6**	**+0.4**
KBL	**Kabul**	**12.11**	**53**	P		**Pn**	**22 54 07.9**	**-0.7**
KBL	**Kabul**	**12.11**	**53**	Pn		**Pn**	**22 54 07.9**	**-0.7**
CHGR	**Chuyangaron**	**14.69**	**40**	P		**Pn**	**22 54 43.2**	**-0.5**
NIL	**Nilore**	**14.93**	**63**	P		**Pn**	**22 54 46.5**	**-0.5**
NIL	**Nilore**	**14.93**	**63**	Pn		**Pn**	**22 54 46.5**	**-0.5**
GAR	**Garm**	**15.58**	**41**	P		**Pn**	**22 54 55.4**	**-0.2**
GAR	comp=Z,48nm,0.9s			IAmb		IAmb	22 55 18.4	
AKT	**Akhty**	**15.72**	**333**	*e*P		**Pn**	**22 54 59.2**	**+1.8**
AKT				*e*S		**Sn**	**22 57 54.0**	**+2.7**
AKT	comp=Z,113nm,0.6s			pmax		pmax		
SOCY	**Socotra**	**15.84**	**192**			**Pn**	**22 54 55.0**	**-4.0**
BTK	**Batken**	**16.58**	**39**	P		**Pn**	**22 55 08.3**	**-0.2**
BTK	comp=Z,32nm,1.1s			pmax		pmax		
BTK	**Batken**	**16.58**	**39**			**Pn**	**22 55 08.2**	**-0.2**
TAS	**Tashkent**	**16.71**	**33**	P		**Pn**	**22 55 09.8**	**-0.2**
TAS	comp=Z,103nm,0.9s			pmax		pmax		
TAS	**Tashkent**	**16.71**	**33**			**Pn**	**22 55 09.8**	**-0.2**
TAS	comp=Z,103nm,0.9s			IAmb		IAmb	22 55 23.8	
BHK	**Bhakra**	**17.04**	**73**	*e*P		**P**	**22 55 19.8**	**+3.9**
MAK	**Makhachkala**	**17.07**	**335**	*e*P		**Pn**	**22 55 11.0**	**-3.4**
MAK				*e*S		**Sn**	**22 58 19.2**	**-4.5**
MAK	comp=Z,179nm,0.9s			pmax		pmax		
MAK	comp=Z,236nm,11.0s			MLR		MLR		
TBLG	**Delisi**	**17.26**	**327**	P		**Pn**	**22 55 16.3**	**-0.6**
TBLG	comp=Z,29nm,0.9s			pmax		pmax		
TBLG	**Delisi**	**17.26**	**327**	Pn		**Pn**	**22 55 16.3**	**-0.6**
AKH	**Akhalkalaki**	**17.65**	**324**	⇑P		**P**	**22 55 25.3**	**+2.4**
AKH	**Akhalkalaki**	**17.65**	**324**	P		**P**	**22 55 23.4**	**+0.6**
AKH	comp=Z,33nm,1.0s			pmax		pmax		
AKH	**Akhalkalaki**	**17.65**	**324**	P		**P**	**22 55 23.4**	**+0.6**
IUG	**Iuzhnay** comp=Z,1.7nm,0.7s,baz=32	**17.69**	**33**	*e*P		**P**	**22 55 25.5**	**+2.2**
IUG	comp=Z,8.8nm,10.9s,baz=32			LR		LR	23 03 13.0	
IUG	**Iuzhnay**	**17.69**	**33**	*e*P		**P**	**22 55 25.4**	**+2.2**
IUG	comp=Z,2.0nm,0.7s			pmax		pmax		
IUG	comp=Z,9.0nm,11.0s			MLR		MLR		
DAMY	**Dhamar**	**17.80**	**225**			**Pn**	**22 55 22.1**	**-1.9**
DAMY	comp=Z,56nm,0.8s			IAmb		IAmb	22 55 51.2	
ASF	**Jabal al Asfar** comp=Z,1.8nm,0.3s,baz=59,slow=4.1,SNR=16	**18.17**	**289**	P		**Pn**	**22 55 27.8**	**-0.4**
ASF	comp=Z,0.6nm,0.3s,baz=222,slow=15,SNR=4.3			S		Sn	22 58 38.2	-12
ZEI	**Tsey**	**18.47**	**328**	*e*P		**P**	**22 55 31.0**	**-0.8**
ZEI	comp=Z,49nm,0.9s			pmax		pmax		
KK31	**Karatay Array**	**18.66**	**32**	P		**P**	**22 55 33.2**	**-0.5**
KK31	comp=Z,27nm,0.9s			pmax		pmax		
KK31	**Karatay Array**	**18.66**	**32**	P		**P**	**22 55 33.2**	**-0.5**
GAZ	**Gaziantep**	**19.29**	**304**			**P**	**22 55 40.3**	**-0.5**
GAZ	comp=Z,37nm,0.8s			IAmb		IAmb	22 55 58.2	
KSH	**Kashi**	**19.42**	**48**	*e*P		**P**	**22 55 38.3**	**-4.0**
KSH				sP		Pn	22 55 45.2	+1.7
KSH	comp=Z,38nm,1.2s			pmax		pmax		
KSH	comp=Z,1μm,11.3s			LR		LR		
KSH	comp=Z,900nm,8.8s			LR		LR		
KSH	comp=Z,1μm,15.5s			LR		LR		
MMAI	**Mount Meron Ar** comp=Z,2.2nm,0.3s,baz=95,slow=14,SNR=16	**19.55**	**291**	P		**Pn**	**22 55 46.4**	**+1.4**
MMAI				S		**S**	**22 59 16.6**	**-7.2**
MMAI	comp=Z,1.1nm,0.3s,baz=116,slow=37,SNR=2.3			LR		LR	23 05 22.1	
AML	comp=Z,245nm,18.4s,baz=90,slow=43 **Almayashu** SNR=18	**19.58**	**39**	P		**P**	**22 55 44.2**	**-0.1**
EIL	**Elat** comp=Z,1.6nm,0.3s,baz=103,slow=4.3,SNR=12	**19.65**	**281**	P		**Pn**	**22 55 47.0**	**+0.8**
EIL	comp=Z,0.5nm,0.3s,baz=132,slow=14,SNR=1.8			S		**S**	**22 59 21.0**	**-4.9**
EIL	comp=Z,205nm,20.5s,baz=100,slow=42			LR		LR	23 05 08.3	
KBZ	**Khabaz** comp=Z,0.4nm,0.3s,baz=148,slow=12,SNR=9.8	**19.66**	**328**	P		**Pn**	**22 55 46.2**	**+0.2**
KBZ	**Khabaz**	**19.66**	**328**	*i* P		**P**	**22 55 45.0**	**+0.4**
KBZ	comp=Z,10.0nm,0.9s			pmax		pmax		
SHA1	**Shidzhatmaz**	**19.78**	**327**	*i* P		**Pn**	**22 55 47.9**	**+0.1**
KVAR	**Kislovodsk Arr** baz=90,slow=20,SNR=3.9	**19.93**	**328**	P		**Pn**	**22 55 49.4**	**+0.1**
KIV	**Kislovodsk**	**19.93**	**328**	P		**Pn**	**22 55 49.7**	**+0.2**
KIV	**Kislovodsk**	**19.93**	**328**	*e*P		**Pn**	**22 55 48.8**	**-0.6**
KIV				*e*S		**S**	**22 59 30.4**	**-1.0**
KIV	comp=Z,36nm,0.9s			pmax		pmax		
KIV	comp=Z,54nm,18.0s			MLR		MLR		
KIV	**Kislovodsk**	**19.93**	**328**	P		**P**	**22 55 46.6**	**-1.1**
KIV	comp=Z,40nm,0.9s			IAmb		IAmb	22 56 03.3	
EKS2	**Erkin-Say** SNR=28	**19.98**	**38**	P		**P**	**22 55 48.8**	**+0.4**
UCH	**Uchtor** SNR=10	**20.11**	**40**	P		**P**	**22 55 50.3**	**+0.2**
AAK	**Ala-Archa** comp=Z,7.7nm,0.6s,baz=213,slow=11,SNR=19	**20.36**	**39**	P		**P**	**22 55 53.0**	**+0.4**
AAK				PcP		**PcP**	**23 00 06.2**	**+1.1**
AAK	comp=Z,1.6nm,0.4s,baz=187,slow=5.4,SNR=3.7			LR		LR	23 04 34.3	
AAK	**Ala-Archa** SNR=12	**20.36**	**39**	P		**P**	**22 55 53.2**	**+0.7**
AAK	**Ala-Archa**	**20.36**	**39**	*ce*P		**P**	**22 55 53.3**	**+0.8**
AAK	comp=Z,46nm,2.5s			pmax		pmax		
AAK	**Ala-Archa**	**20.36**	**39**	P		**P**	**22 55 51.5**	**-1.0**
KZA	**Kyzart** SNR=35	**20.44**	**41**	P		Pn	22 55 58.5	+2.8
FRU1	**Bishkek**	**20.55**	**39**	P		**P**	**22 55 55.0**	**+0.5**
FRU1	comp=Z,50nm,1.1s			pmax		pmax		
FRU1	**Bishkek**	**20.55**	**39**	P		**P**	**22 55 55.0**	**+0.5**
FRU1	comp=Z,50nm,1.1s			IAmb		IAmb	22 56 07.8	
GOF	**Gofitskoye**	**20.62**	**330**	⇓*i* P		Pn	22 55 56.4	-1.0
GOF	comp=Z,70nm,1.0s			pmax		pmax		
KBK	**Karagaybulak** SNR=8.7	**20.63**	**39**	P		Pn	22 55 56.6	-1.1
CHMS	**Chumysh** SNR=6.0	**20.74**	**38**	P		Pn	22 55 58.6	-0.3
USP	**Ospenovka** SNR=11	**20.79**	**38**	P		Pn	22 56 00.1	+0.7
SGDS	**Sogindy** comp=Z,27nm,1.8s,baz=37	**20.98**	**37**	⇓*i* P		**P**	**22 55 59.7**	**+0.6**
SGDS	baz=37			*e*S		**S**	**22 59 53.9**	**+1.6**
SGDS	comp=Z,265nm,14.6s,baz=37			LR		LR	23 04 59.3	
SGDS	**Sogindy**	**20.98**	**37**	*d i* P		**P**	**22 55 59.6**	**+0.6**
SGDS				*e*S		**S**	**22 59 53.8**	**+1.6**
SGDS	comp=Z,27nm,1.8s			pmax		pmax		
SGDS	comp=Z,265nm,15.0s			MLR		MLR		
ATD	**Arta Tunnel** comp=Z,18nm,0.6s,baz=218,slow=19,SNR=13	**21.09**	**223**	P		**P**	**22 56 03.7**	**+3.2**
ATD	comp=Z,379nm,19.6s,baz=42,slow=41			LR		LR	23 05 46.6	
ATD	**Arta Tunnel** SNR=8.3	**21.09**	**223**	P		**P**	**22 56 03.7**	**+3.2**
ATD	**Arta Tunnel**	**21.09**	**223**	P		**P**	**22 55 59.3**	**-1.2**
ATD	comp=Z,40nm,0.8s			IAmb		IAmb	22 56 11.1	
TKM2	**Tokmak 2** SNR=19	**21.17**	**40**	P		**P**	**22 56 01.4**	**+0.1**
CSS	**Mathiatis**	**21.61**	**295**	P		**P**	**22 56 04.6**	**-1.3**
CSS	comp=Z,26nm,0.8s			IAmb		IAmb	22 56 13.1	
KDJ	**Kajisay**	**21.62**	**43**	P		**P**	**22 56 06.9**	**+0.8**
KDJ	comp=Z,38nm,0.9s			pmax		pmax		
KDJ	**Kajisay**	**21.62**	**43**	P		**P**	**22 56 06.9**	**+0.8**
KDJ	comp=Z,38nm,0.8s			IAmb		IAmb	22 56 10.1	
TARG	**Taragay, Kyrgy**	**21.78**	**45**	P		**P**	**22 56 07.5**	**-0.6**
TARG	comp=Z,29nm,0.8s			IAmb		IAmb	22 56 11.7	
TNSS	**Tian-Shan** comp=Z,510nm,0.9s,baz=41	**22.02**	**41**	*e*P		**P**	**22 56 10.9**	**+0.3**
TNSS	**Tian-Shan**	**22.02**	**41**	*e*P		**P**	**22 56 10.8**	**+0.3**
TNSS	comp=Z,510nm,0.9s			pmax		pmax		
MDOK	**Medeo** comp=Z,350nm,1.6s,baz=40	**22.15**	**41**	*i* P		**P**	**22 56 11.9**	**+0.2**
MDOK	comp=Z,337nm,13.3s,baz=40			LR		LR	23 05 09.6	
MDOK	**Medeo**	**22.15**	**41**	*i* P		**P**	**22 56 11.9**	**+0.2**
MDOK	comp=Z,350nm,1.6s			pmax		pmax		
MDOK	comp=Z,337nm,13.0s			MLR		MLR		
HYB	**Hyderabad**	**22.17**	**113**	*i* P		**P**	**22 56 18.0**	**+5.9**
KUU	**Kurty** comp=Z,55nm,2.3s,baz=38	**22.20**	**39**	*i* P		**P**	**22 56 13.0**	**+0.8**
KUU	baz=38			*e*S		**S**	**23 00 17.6**	**+1.6**
KUU	comp=Z,164nm,9.9s,baz=38			LR		LR	23 05 26.2	
KUU	**Kurty**	**22.20**	**39**	*i* P		**P**	**22 56 13.0**	**+0.

SHLS pmax pmax
comp=Z,14nm,0.8s
SHLS MLR MLR
comp=Z,170nm,15.0s
TDK Taldyqorghan 24.05 39 *eP* **P 22 56 31.1 +0.1**
comp=Z,28nm,0.9s,baz=38
TDK LR LR 23 06 29.9
comp=Z,351nm,14.7s,baz=38
TDK Taldyqorghan 24.05 39 *eP* **P 22 56 31.0 +0.1**
TDK pmax pmax
comp=Z,28nm,0.9s
TDK MLR MLR
comp=Z,351nm,15.0s
DMN Daman 24.63 84 *eP* **P 22 56 37.4 +0.7**
comp=Z,52nm,1.0s
ELL Elmali 24.72 298 P **P 22 56 38.1 +0.8**
ELL pmax pmax
comp=Z,72nm,0.7s
ELL Elmali 24.72 298 P **P 22 56 38.1 +0.8**
PKIN Phulchoki 24.89 84 *eP* **P 22 56 39.2 +0.2**
comp=Z,110nm,1.0s
MDUB Mudurnu 24.90 307 P **P 22 56 39.9 +1.1**
PKI Pulchoki 24.90 84 *eP* **P 22 56 39.5 +0.3**
comp=Z,106nm,1.0s
BRZS Berezniki 25.09 24 *i P* **P 22 56 40.7 +0.4**
comp=Z,32nm,1.2s,baz=24
BRZS LR LR 23 07 43.4
comp=Z,242nm,11.3s,baz=24
BRZS Berezniki 25.09 24 *i P* **P 22 56 40.7 +0.4**
BRZS pmax pmax
comp=Z,32nm,1.2s
BRZS MLR MLR
comp=Z,242nm,11.0s
SIM Simferopol' 25.16 319 *ceP* **P 22 56 41.3 +0.3**
SIM *eS* **S 23 01 10.0 +4.8**
SIM pmax pmax
comp=Z,24nm,0.8s
GUN Gumba 25.28 83 *eP* **P 22 56 43.2 +0.6**
comp=Z,114nm,0.9s
JIRN Jiri 25.58 84 *eP* **P 22 56 45.7 +0.3**
comp=Z,71nm,0.8s
RAMN Ramite 26.04 85 *eP* **P 22 56 49.4 0.0**
comp=Z,33nm,0.7s
VRH Novokhopyorsk 26.16 338 *eP* **P 22 56 49.5 -0.4**
VRH pmax pmax
comp=Z,60nm,0.8s
MANT Manisa 26.19 301 P **P 22 56 51.0 +0.3**
MANT IAmb IAmb 22 57 41.2
comp=Z,35nm,0.8s
VORD Divnogorie 26.84 334 *eP* **P 22 56 55.0 -1.1**
VORD pmax pmax
comp=Z,60nm,1.5s
TAPN Taplejung 26.96 84 *eP* **P 22 56 58.1 +0.3**
BVAR Borovoye Array 27.01 18 P **P 22 56 57.9 +0.2**
comp=Z,80nm,0.7s,baz=198,slow=8.5,SNR=521
BVAR PcP **PcP 23 00 19.0 +0.3**
comp=Z,4.0nm,0.7s,baz=218,slow=2.4,SNR=5.5
BVAR ScP **ScP 23 03 57.2 -1.0**
comp=Z,3.9nm,0.9s,baz=198,slow=2.3,SNR=13
BRVK Borovoye 27.01 17 *ceP* **P 22 56 57.7 +0.1**
BRVK pmax pmax
comp=Z,57nm,0.8s
BRVK Borovoye 27.01 17 P **P 22 56 57.9 +0.3**
MAKZ Makanchi 27.13 39 P **P 22 56 58.6 -0.2**
MAKZ pmax pmax
comp=Z,46nm,1.4s
MAKZ Makanchi 27.13 39 P **P 22 56 58.6 -0.2**
MAKZ IAmb IAmb 22 56 59.6
comp=Z,46nm,1.4s
MK31 Makanchi Array 27.30 39 P **P 22 56 58.7 -1.6**
MK31 IAmb IAmb 22 57 00.9
comp=Z,11nm,0.7s
MK31 PcP **PcP 23 00 19.7 +0.1**
MKAR Makanchi Array 27.30 39 P **P 22 56 59.9 -0.4**
comp=Z,10nm,0.6s,baz=225,slow=7.0,SNR=88
MKAR PcP **PcP 23 00 19.4 -0.2**
comp=Z,2.5nm,0.6s,baz=236,slow=1.9,SNR=8.1
MKAR LR LR 23 09 04.8
comp=Z,352nm,19.2s,baz=232,slow=39
KURBB Kurchatov Arra 27.93 30 P **P 22 57 06.0 +0.2**
comp=Z,13nm,0.5s,baz=228,slow=8.6,SNR=157
KURBB ScP **ScP 23 03 59.7 -1.4**
comp=Z,0.9nm,0.8s,baz=223,slow=3.0,SNR=5.0
KURK Kurchatov 28.03 30 *ceP* **P 22 57 06.9 +0.1**
KURK pmax pmax
comp=Z,33nm,1.7s
KURK Kurchatov 28.03 30 P **P 22 57 05.8 -1.0**
KURK IAmb IAmb 22 57 08.0
comp=Z,19nm,0.9s
KURK Kurchatov 28.03 30 **ScP 23 03 59.7 -1.7**
LPSR Galich'ya Gora 28.29 336 *eP* **P 22 57 08.7 -0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
IDI Anoyia 28.49 293 P **P 22 57 13.0 +1.8**
comp=Z,9.5nm,0.6s,baz=324,slow=3.2,SNR=14
IDI Anoyia 28.49 293 ⇓P **P 22 57 11.9 +0.7**
SEM Semipalatinsk 28.55 32 *i P* **P 22 57 11.9 +0.2**
comp=Z,4.0nm,0.6s,baz=31
SEM LR LR 23 09 43.0
comp=Z,150nm,13.9s,baz=31
SEM Semipalatinsk 28.55 32 *i P* **P 22 57 11.9 +0.2**
SEM pmax pmax
comp=Z,4.0nm,0.6s
SEM MLR MLR
comp=Z,150nm,14.0s
ARU Arti 28.62 2 P **P 22 57 11.9 -0.1**
comp=Z,0.9nm,0.4s,baz=181,slow=8.3,SNR=7.8
ARU Arti 28.62 2 *c i P* **P 22 57 13.3 +1.4**
ARU 22 58 03.5
ARU S **S 23 02 04.0 +4.5**
ARU SS **SnSn 23 03 23.4 +3.7**
ARU pmax pmax
comp=Z,4.0nm,0.7s
ARU MLR MLR
comp=Z,119nm,15.0s
ARU Arti 28.62 2 P **P 22 57 11.3 -0.6**
ARU IAmb IAmb 22 57 24.2
comp=Z,7.3nm,0.6s
TOPG Topolog 28.63 314 ⇑P **P 22 57 12.9 +0.7**
CFR Carcaliu 28.92 315 ⇓P **P 22 57 15.1 +0.4**
SVE Sverdlovsk 29.10 4 *eP* **P 22 57 16.2 0.0**
SVE pmax pmax
comp=Z,14nm,1.1s
ZSN Zaisan 29.12 40 *eP* **P 22 57 15.9 -0.7**
comp=Z,4.1nm,1.0s,baz=40
ZSN Zaisan 29.12 40 *eP* **P 22 57 15.8 -0.7**
ZSN pmax pmax
comp=Z,4.0nm,1.0s
WMQ Urumqi 29.19 49 *eP* **P 22 57 18.9 +1.6**
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ pmax pmax
comp=Z,110nm,4.1s
WMQ LR LR
comp=Z,200nm,22.3s
RAZG Razgrad 29.31 311 ⇑P **P 22 57 19.3 +1.1**
ELND Elena 29.51 309 ⇑P **P 22 57 21.1 +1.1**
LSA Lhasa 29.71 78 P **P 22 57 21.3 -1.2**
LSA 23 00 27.7
LSA pmax pmax
comp=Z,9.0nm,1.1s
LSA Lhasa 29.71 78 P **P 22 57 21.3 -1.2**
LSA **PcP 23 00 27.7 +1.2**
GHRR 29.77 316 ⇓P **P 22 57 23.3 +0.9**
BISRR Bisoca 29.98 314 ⇓P **P 22 57 26.3 +2.0**
VRI Vrincioaia 30.11 315 ⇓P **P 22 57 26.3 +0.9**
PLOR Plostina 30.15 315 ⇑P **P 22 57 27.3 +1.5**
SORM Soroca 30.24 320 ⇑P **P 22 57 25.6 -0.8**
MLR Muntele Rosu 30.44 314 P **P 22 57 30.0 +1.5**
comp=Z,5.6nm,0.8s,baz=45,slow=6.1,SNR=14
MLR ScP **ScP 23 04 08.4 -1.0**
comp=Z,0.9nm,0.4s,baz=154,slow=14,SNR=4.5
MLR Muntele Rosu 30.44 314 ⇓P **P 22 57 30.2 +1.8**
MLR Muntele Rosu 30.44 314 P **P 22 57 28.5 +0.1**
TESR Tescani 30.45 316 ⇑P **P 22 57 28.5 +0.2**
PLVB Pleven 30.53 309 ⇑P **P 22 57 30.4 +1.3**
BIZ Bicaz 30.98 316 ⇑P **P 22 57 33.0 0.0**
VOIR 31.00 313 ⇓P **P 22 57 33.7 +0.4**
ITM Ithomi 31.09 297 P **P 22 57 33.6 -0.5**
ITM IAmb IAmb 22 57 46.5
comp=Z,34nm,1.3s
OBN Obninsk 31.14 337 P **P 22 57 34.5 +0.3**
comp=Z,3.5nm,0.5s,baz=181,slow=4.2,SNR=6.4
OBN LR LR 23 13 04.2
comp=Z,20nm,18.3s,baz=172,slow=42

OBN Obninsk 31.14 337 *ceP* **P 22 57 35.1 +0.8**
OBN *e* 22 58 35.8
OBN *eSS* SS 23 04 18.2 -34
OBN pmax pmax
comp=Z,14nm,0.6s
OBN MLR MLR
comp=Z,65nm,16.0s
OBN Obninsk 31.14 337 P **P 22 57 33.6 -0.7**
AKASG Malin Array Be 31.21 325 P **P 22 57 34.5 -0.4**
comp=Z,2.3nm,0.4s,baz=130,slow=8.5,SNR=12
AKBB Malin Array Si 31.21 325 *ceP* **P 22 57 34.8 -0.1**
AKBB Malin Array Si 31.21 325 P **P 22 57 33.7 -1.2**
AKBB IAmb IAmb 22 57 45.0
comp=Z,11nm,1.0s
ARR Arges 31.24 313 ⇓P **P 22 57 36.1 +0.7**
VTS Vitosha 31.25 307 ⇑P **P 22 57 36.4 +0.8**
VTS Vitosha 31.25 307 P **P 22 57 38.4 +2.8**
VTS Vitosha 31.25 307 P **P 22 57 34.4 -1.2**
VTS IAmb IAmb 22 57 38.4
comp=Z,9.0nm,0.9s
KIRV Kirov 31.25 352 P **P 22 57 35.4 +0.2**
comp=Z,10nm,0.6s,baz=168,slow=19,SNR=12
KIRV LR LR 23 12 42.2
comp=Z,408nm,19.1s,baz=167,slow=41
DGZ Jazzator, Alta 31.77 38 *i P* **P 22 57 39.1 -1.0**
DGZ pmax pmax
comp=Z,7.0nm,0.8s
BURAR Bucovina Array 31.82 317 ⇑P **P 22 57 41.0 +0.4**
BURAR Bucovina Array 31.82 317 P **P 22 57 50.3 +10**
BUR08 Bucovina Ar. S 31.84 317 P **P 22 57 39.0 -1.7**
HERR Herculane 32.52 311 ⇑P **P 22 57 47.9 +1.3**
MDVR Moldovita 32.97 310 ⇑P **P 22 57 51.6 +1.1**
ZAA0 Zalesovo Array 33.02 30 P **P 22 57 50.2 -0.5**
ZALV Zalesovo Beam 33.02 30 P **P 22 57 50.3 -0.5**
comp=Z,38nm,0.3s,baz=226,slow=9.2,SNR=199
ZALV PcP **PcP 23 00 33.1 -1.1**
comp=Z,3.6nm,0.5s,baz=238,slow=4.1,SNR=6.4
ZALV LR LR 23 12 08.1
comp=Z,106nm,20.8s,baz=234,slow=38
DRGR 33.03 314 ⇑P **P 22 57 51.8 +0.8**
BZS Buzias 33.31 312 ⇓P **P 22 57 54.5 +1.1**
SIRR Siria 33.51 313 ⇑P **P 22 57 56.3 +1.1**
LVV L'vov 33.54 320 *eP* **P 22 57 54.4 -1.0**
BANR Banloc 33.55 311 ⇓P **P 22 57 56.5 +1.0**
TRPA Tarpa 33.67 317 ⇑P **P 22 57 57.5 +1.0**
DIVS Divibare 33.94 309 P **P 22 57 57.0 -2.0**
DIVS IAmb IAmb 22 58 01.9
comp=Z,7.6nm,0.9s
DIVS Divibare 33.94 309 ⇑*i P* **P 22 57 58.9 -0.1**
UZH Uzhgorod 34.03 317 ⇓*i P* **P 22 58 00.0 +0.4**
UZH *e* 22 58 05.8
KOLS Kolonicke sedl 34.17 318 *eP* **P 22 58 02.3 +1.4**
KOLS pmax pmax
comp=Z,25nm,0.9s
KOLS Kolonicke sedl 34.17 318 *eP* **P 22 58 02.3 +1.4**
KWP Kalwaria Pacla 34.22 319 *eP* **P 22 58 01.8 +0.5**
KWP Kalwaria Pacla 34.22 319 P **P 22 58 00.4 -1.0**
KWP pmax pmax
comp=Z,18nm,0.8s
KWP Kalwaria Pacla 34.22 319 P **P 22 58 00.3 -1.0**
KWP IAmb IAmb 22 58 11.8
comp=Z,18nm,0.8s
BBLS Lazići 34.28 308 ⇑*i P* **P 22 58 02.2 +0.2**
FRGS Fruska Gora 34.37 310 ⇑*i P* **P 22 58 03.0 +0.3**
HCY Herceg Novi 34.59 305 *eP* **P 22 58 04.4 -0.3**
KMBO Kilima Mbogo 34.60 217 P **P 22 58 08.8 +3.6**
comp=Z,1.6nm,0.7s,baz=13,slow=12,SNR=4.7
TREB Trebinje 34.76 306 *eP* **P 22 58 05.6 -0.4**
KLMR Klimovskoe 35.15 345 *eP* **P 22 58 07.3 -1.9**
KLMR pmax pmax
comp=Z,12nm,0.9s
KLMR Klimovskoe 35.15 345 *eP* **P 22 58 07.4 -1.8**
KLMR AMP 22 58 09.4
comp=Z,12nm,0.9s
STON Ston 35.26 306 *eP* **P 22 58 10.1 -0.2**
TIP Timpagrande 35.37 299 ⇓P **P 22 58 12.4 +0.9**
MORH Mrgy, Hungar 35.46 312 ⇑*i P* **P 22 58 12.4 +0.3**
IIGN Ignalina 35.48 330 *eP* **P 22 58 12.6 +0.5**
ISAL Salakas 35.66 330 *eP* **P 22 58 13.3 -0.3**
ISAL IAmb IAmb 22 58 28.6
comp=Z,7.7nm,0.8s
IZAR Zarasai 35.71 330 *eP* **P 22 58 13.7 -0.4**
MGRS Mrkonjic Grad 36.04 308 *eP* **P 22 58 17.5 +0.4**
VYHS Vyhne 36.09 315 *eP* **P 22 58 18.2 +0.7**
VYHS Vyhne 36.09 315 *eP* **P 22 58 18.2 +0.7**
OJC Ojcow 36.17 319 *eP* **P 22 58 18.8 +0.7**
OJC Ojcow 36.17 319 IAmb IAmb 22 58 27.9
comp=Z,20nm,0.7s
SRO Srobarova 36.19 314 *eP* **P 22 58 19.1 +0.8**
SRO Srobarova 36.19 314 *eP* **P 22 58 19.1 +0.8**
PABE Paberze 36.60 328 *eP* **P 22 58 21.9 +0.3**
PABE IAmb IAmb 22 58 23.8
comp=Z,15nm,0.9s
ZIRJ Zirje 36.88 307 P **P 22 58 24.1 -0.2**
JAVC Velka Javorina 36.94 316 *eP* **P 22 58 25.5 +0.7**
GTA Gaotai 36.97 61 ⇑P **P 22 58 25.2 0.0**
GTA pP pP 22 58 29.8 -1.0
GTA sP sP 22 58 32.7 -0.3
GTA S **S 23 04 15.5 +5.6**
GTA pmax pmax
comp=Z,10.0nm,0.7s
GTA pmax pmax
comp=Z,54nm,7.1s
GTA LR LR
comp=Z,140nm,14.9s
GTA LR LR
comp=Z,170nm,15.9s
GTA LR LR
comp=Z,200nm,15.9s
OKC Ostrava-Krasne 37.00 317 *eP* **P 22 58 25.4 +0.2**
OKC *ex* x 22 58 31.0
PAOL Paolisi 37.25 302 IAmb IAmb 22 58 51.3
comp=Z,18nm,1.2s
VSU Vasula 37.27 334 *eP* **P 22 58 27.3 0.0**
VSU IAmb IAmb 22 58 29.7
comp=Z,46nm,0.9s
MORC Moravsky Berou 37.34 317 ⇑P **P 22 58 28.6 +0.4**
MORC Moravsky Berou 37.34 317 *eP* **P 22 58 28.2 0.0**
MORC Moravsky Berou 37.34 317 P **P 22 58 37.6 +9.4**
DUGI Dugi Otok 37.37 307 P **P 22 58 28.8 +0.4**
CRES Cresnjev 37.49 310 ⇑*i P* **P 22 58 29.8 +0.3**
NVLJ Novalja 37.61 308 P **P 22 58 30.4 0.0**
VRAC Vranov 37.76 316 P **P 22 58 31.3 -0.4**
comp=Z,3.3nm,0.8s,baz=100,slow=8.2,SNR=9.9
VRAC Vranov 37.76 316 ⇑P **P 22 58 32.4 +0.8**
VRAC Vranov 37.76 316 *eP* **P 22 58 31.8 +0.1**
CONA Conrad Observa 37.79 313 *i P* **P 22 58 31.8 -0.2**
comp=Z,4.4nm,1.0s
KRUC Moravsky 37.80 315 *eP* **P 22 58 32.3 +0.3**
ARSA Arzberg 37.82 312 *i P* **P 22 58 33.4 +1.2**
comp=Z,8.5nm,1.1s
PBUR Paburge 37.84 328 *eP* **P 22 58 32.2 0.0**
INTR Introdacqua 37.87 304 IAmb IAmb 22 58 45.0
comp=Z,10nm,0.7s
KRLC Kraliky 37.91 317 *eP* **P 22 58 32.3 -0.7**
KRLC *ex* x 22 58 38.3
KRLC Kraliky 37.91 317 *eP* **P 22 58 32.3 -0.7**
KRLC *e* 22 58 38.3
SOKA Soboth 37.99 311 *i P* **P 22 58 34.3 +0.5**
comp=Z,5.8nm,1.3s
MBAR Mbarara 38.03 226 P **P 22 58 36.9 +2.4**
comp=Z,2.6nm,0.6s,baz=342,slow=20,SNR=2.2
MBAR Mbarara 38.03 226 P **P 22 58 34.8 +0.4**
CEY Cerknica 38.17 310 ⇑*i P* **P 22 58 35.6 +0.4**
OBKA Obir 38.27 311 *i P* **P 22 58 36.7 +0.6**
comp=Z,7.5nm,1.2s
DPC Dobruska-Polom 38.28 317 *eP* **P 22 58 35.6 -0.5**
DPC *ex* x 22 58 43.9
AQU L'Aquila 38.29 304 IAmb IAmb 22 58 51.7
comp=Z,26nm,0.9s
AQU L'Aquila 38.29 304 *eP* **P 22 58 37.7 +1.4**
OSTC Ostas 38.42 318 *eP* **P 22 58 37.4 +0.2**
OSTC *ex* x 22 58 44.9
TREC Trest 38.44 315 *eP* **P 22 58 38.1 +0.7**
TREC *ex* x 22 58 44.1
TREC Trest 38.44 315 *eP* **P 22 58 38.1 +0.7**
TREC *e* 22 58 44.1
BRJN Brijuni 38.47 308 P **P 22 58 37.8 +0.2**
KSP Ksiaz 38.48 318 *eP* **P 22 58 38.1 +0.5**
CHVC Chvalec 38.53 318 *eP* **P 22 58 38.3 +0.2**
CHVC *ex* x 22 58 46.8
NRCA Norcia 38.57 305 P **P 22 58 39.5 +0.8**
SLIT Slitere, Latvi 38.59 330 *eP* **P 22 58 38.3 -0.2**

MOA Molln 38.80 313 *i P* **P 22 58 40.9 +0.4**
comp=Z,11nm,1.1s,SNR=10
MURB Monte Urbino 39.06 305 IAmb IAmb 22 58 55.5
comp=Z,22nm,0.8s
KBA Koelnbreinsper 39.21 311 *i P* **P 22 58 45.2 +1.1**
comp=Z,11nm,1.2s,SNR=7.0
CMAR Chiang Mai Arr 39.28 95 P **P 22 58 46.1 +1.3**
comp=Z,0.5nm,0.6s,baz=276,slow=9.9,SNR=1.9
CMAR PcP **PcP 23 00 54.9 +1.3**
comp=Z,4.7nm,0.7s,baz=285,slow=4.9,SNR=16
CMAR LR LR 23 18 23.5
comp=Z,83nm,18.9s,baz=340,slow=41
GEC2 GERESS Array S 39.43 314 *eP* **P 22 58 46.1 +0.3**
comp=Z,15nm,1.5s,baz=105,slow=8.3
GERES GERESS Array B 39.43 314 P **P 22 58 45.5 -0.3**
comp=Z,2.1nm,0.7s,baz=108,slow=8.8,SNR=22
GERES PcP **PcP 23 00 54.9 +1.2**
comp=Z,0.7nm,0.8s,baz=81,slow=6.1,SNR=2.3
GERES ScP **ScP 23 04 40.4 -1.2**
comp=Z,1.1nm,1.0s,baz=98,slow=2.0,SNR=5.0
GERES LR LR 23 17 27.5
comp=Z,42nm,20.5s,baz=126,slow=40
FIA1 FINESS Array S 39.55 337 P **P 22 58 45.6 -0.9**
FIA1 IAmb IAmb 22 59 10.1
comp=Z,34nm,1.7s
FINES FINESS Array B 39.55 337 P **P 22 58 46.2 -0.2**
comp=Z,3.3nm,0.5s,baz=134,slow=5.9,SNR=33
FINES PP **PnPn 23 00 19.1 -1.1**
comp=Z,5.6nm,0.8s,baz=129,slow=13,SNR=2.5
FINES LR LR 23 18 17.7
comp=Z,67nm,19.4s,baz=118,slow=41
KHC Kasperske Hory 39.59 315 *eP* **P 22 58 46.9 -0.2**
KHC *ex* x 22 58 53.1
KHC Kasperske Hory 39.59 315 *ceP* **P 22 58 47.1 0.0**
KHC pmax pmax
comp=Z,41nm,1.7s
CIMO Cimolais 39.65 310 P **P 22 58 46.6 -1.0**
CIMO IAmb IAmb 22 58 57.9
comp=Z,27nm,1.8s
ABTA Abfaltersbach 39.69 311 *i P* **P 22 58 48.2 +0.2**
comp=Z,4.3nm,0.6s,SNR=6.1
RJOB Jochberg 39.73 312 *eP* **P 22 58 48.7 +0.4**
comp=Z,7.8nm,1.2s,baz=105,slow=8.3
BRG Berggiesshubel 39.89 317 *eP* **P 22 58 49.5 +0.1**
comp=Z,3.8nm,0.9s
BRG Berggiesshubel 39.89 317 *eP* **P 22 58 49.5 +0.1**
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 39.89 317 *eP* **P 22 58 49.7 +0.2**
comp=Z,3.8nm,0.9s,baz=105,slow=8.3
WET Wettzell 40.03 314 *eP* **P 22 58 50.7 -0.1**
comp=Z,9.4nm,1.6s,baz=105,slow=8.3
LZH Lanzhou 40.06 66 *eP* P 22 58 57.1 +5.8
LZH pP sP 22 59 01.2 +2.1
LZH sP pP 22 59 03.4 +6.5
LZH *e*PP **PnPn 23 00 28.7 +1.7**
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,120nm,6.0s
LZH LR LR
comp=N,230nm,14.8s
LZH LR LR
comp=E,300nm,15.3s
LZH LR LR
comp=Z,350nm,16.2s
CTI Castel Tesino 40.14 309 P **P 22 58 50.9 -0.9**
CTI PcP **PcP 23 00 56.0 0.0**
ZCCA Zocca 40.32 307 IAmb IAmb 22 59 04.9
comp=Z,26nm,0.9s
MOY Mondy 40.38 42 *eP* **P 22 58 54.9 +1.2**
MOY pmax pmax
comp=Z,30nm,2.1s
WTTA Wattenberg 40.39 311 *i P* **P 22 58 53.4 -0.4**
comp=Z,5.2nm,0.4s,SNR=9.8
WATA Walderalm 40.44 311 *i P* **P 22 58 53.6 -0.7**
comp=Z,15nm,1.3s,SNR=7.4
CLL Collm 40.59 318 ⇓*i P* **P 22 58 56.7 +1.5**
comp=Z,10.0nm,1.4s
CLL *i* sP **sP 22 59 03.4 +0.4**
comp=Z,14nm,1.3s
CLL *e*SS SS 23 08 06.0 +2.2
CLL Lm MLR 23 18 00.0
comp=Z,100nm,20.5s
CLL Collm 40.59 318 ⇓*i P* **P 22 58 56.7 +1.5**
CLL *i* 22 59 03.4
CLL pmax pmax
comp=Z,10.0nm,1.4s
KMI Kunming 40.62 83 P **P 22 58 52.1 -4.1**
KMI pP pP 22 58 56.7 -5.0
KMI sP sP 22 58 59.5 -4.4
KMI pmax pmax
comp=Z,10.0nm,1.2s
ROTZ Rotzenmuhle 40.62 315 *eP* **P 22 58 56.0 +0.4**
comp=Z,9.2nm,1.4s,baz=105,slow=8.3
SQTA Sankt Quirin 40.66 311 *i P* **P 22 58 55.5 -0.6**
comp=Z,5.8nm,0.4s,SNR=13
MOTA Moosalm 40.76 311 *i P* **P 22 58 56.0 -0.9**
comp=Z,4.0nm,0.4s,SNR=6.8
SALO Salr 40.84 309 P **P 22 58 56.5 -0.9**
SALO IAmb IAmb 22 59 08.2
comp=Z,17nm,0.7s
BSD Bornholm Skovb 40.89 324 *i P* **P 22 58 56.1 -1.6**
BSD Bornholm Skovb 40.89 324 *i P* **P 22 58 56.1 -1.6**
FETA Feichten 40.95 311 *i P* **P 22 58 58.2 -0.3**
comp=Z,6.3nm,0.7s,SNR=8.8
RETA Reutte 41.02 311 *i P* **P 22 58 58.0 -0.9**
comp=Z,2.7nm,0.5s
KEST Kesra 41.17 293 P **P 22 59 01.1 +0.8**
comp=Z,3.8nm,0.9s,baz=131,slow=20,SNR=1.9
FUORN Ofenpass-Fuorn 41.19 310 P **P 22 58 59.1 -1.4**
GRA1 Grafenberg Arr 41.22 315 P **P 22 58 59.0 -1.6**
GRA1 IAmb IAmb 22 59 10.4
comp=Z,12nm,0.8s
GRF Grafenberg Arr 41.22 315 P **P 22 58 59.0 -1.6**
GRF pmax pmax
comp=Z,12nm,0.8s
GRF Grafenberg Arr 41.22 315 *eP* **P 22 59 01.2 +0.6**
comp=Z,18nm,1.4s,baz=105,slow=8.3
GRF *e*pP **sP 22 59 09.9 +1.6**
ZAK Zakamensk 41.38 44 *eP* **P 22 59 01.4 -0.6**
ZAK *e* 23 01 00.0
ZAK pmax pmax
comp=Z,5.0nm,1.1s
ZAK pmax pmax
comp=Z,2.0nm,1.1s
UBR Ueberruh 41.49 312 *eP* **P 22 59 02.5 -0.3**
comp=Z,16nm,1.3s,baz=105,slow=8.3
DAVA Damuels 41.56 311 *i P* **P 22 59 02.9 -0.7**
comp=Z,4.9nm,0.4s,SNR=8.7
TLY Talaya 41.96 42 P **P 22 59 06.3 -0.2**
comp=Z,2.4nm,0.5s,baz=170,slow=5.6,SNR=4.6
TLY Talaya 41.96 42 *eP* **P 22 59 07.0 +0.4**
TLY pmax pmax
comp=Z,21nm,1.4s
TLY MLR MLR
comp=Z,326nm,11.0s
TLY Talaya 41.96 42 P **P 22 59 05.9 -0.7**
ASSE Asse, Remlinge 42.22 318 *eP* **P 22 59 08.9 +0.4**
comp=Z,11nm,1.6s,baz=105,slow=8.3
UBBA Unterbreizbach 42.27 316 *eP* **P 22 59 09.6 +0.7**
comp=Z,3.8nm,1.1s,baz=105,slow=8.3
CLZ Clausthal 42.31 318 *eP* **P 22 59 10.3 +0.8**
comp=Z,8.3nm,0.9s,baz=105,slow=8.3
NRDL Niedersach Rie 42.65 319 *eP* **P 22 59 13.0 +1.0**
comp=Z,20nm,2.0s,baz=105,slow=8.3
SONM Songino Array 42.83 49 P **P 22 59 13.7 -0.1**
comp=Z,3.9nm,0.7s,baz=266,slow=9.4,SNR=10
SONM LR LR 23 19 04.0
comp=Z,605nm,20.2s,baz=274,slow=39
TNS Taunus Mts 43.09 315 *eP* **P 22 59 16.5 +0.7**
comp=Z,11nm,1.3s,baz=105,slow=8.3
ULN Ulaanbaatar 43.27 49 *ceP* **P 22 59 17.2 -0.2**
ULN pmax pmax
comp=Z,15nm,1.7s
ULN Ulaanbaatar 43.27 49 P **P 22 59 16.3 -1.1**
BNI Bardonecchia 43.45 307 P **P 22 59 18.0 -0.9**
BNI pmax pmax
comp=Z,30nm,1.5s
BNI Bardonecchia 43.45 307 P **P 22 59 18.0 -0.9**
BNI IAmb IAmb 22 59 21.6
comp=Z,30nm,1.5s
HFS Hagfors 43.70 330 P **P 22 59 20.0 -0.5**
comp=Z,2.4nm,0.3s,baz=123,slow=8.8,SNR=30
HFS PP **PP 23 01 02.5 +0.3**
comp=Z,3.0nm,0.8s,baz=120,slow=17,SNR=2.5

GYA	**Guiyang**	**43.74**	**80**	⇑*i*P		**P**	**22 59 21.0**	**-0.5**
GYA				PP		**PcP**	**23 01 08.2**	**-0.1**
GYA				S		**S**	**23 05 51.7**	**+0.3**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.6s							
GYA				pmax	pmax			
	comp=Z,80nm,3.5s							
GYA				LR	LR			
	comp=Z,90nm,4.3s							
GYA				LR	LR			
	comp=Z,100nm,3.5s							
GYA				LR	LR			
	comp=Z,50nm,4.7s							
XAN	**Xi'an**	**44.37**	**69**	P		**P**	**22 59 25.0**	**-1.3**
XAN				pmax	pmax			
	comp=Z,10.0nm,0.7s							
XAN				LR	LR			
	comp=Z,250nm,17.3s							
XAN				LR	LR			
	comp=Z,170nm,17.3s							
XAN				LR	LR			
	comp=Z,200nm,19.5s							
MUD	**Monsted U'grnd**	**44.40**	**324**	*i*P		**P**	**22 59 27.1**	**+0.9**
MUD	**Monsted U'grnd**	**44.40**	**324**	*i*P		**P**	**22 59 27.1**	**+0.9**
SSB	**Saint Sauveur**	**44.98**	**307**	IAmb	IAmb		22 59 40.2	
	comp=Z,8.1nm,0.9s							
NC405	**NORSAR Array S**	**45.02**	**331**	P		**P**	**22 59 30.4**	**-0.7**
NC405				IAmb	IAmb		22 59 34.2	
	comp=Z,13nm,0.8s							
BCLA	**Clavier**	**45.10**	**315**	pP		**P**	**22 59 33.5**	**+1.6**
NRIK	**Noril'sk**	**45.15**	**15**	P		**P**	**22 59 32.4**	**+0.4**
	comp=Z,35nm,0.8s,baz=213,slow=5.4,SNR=55							
NRIK				LR	LR		23 21 53.0	
	comp=Z,598nm,18.3s,baz=210,slow=41							
NB2	**NORSAR Subarra**	**45.20**	**330**	P		**P**	**22 59 32.1**	**-0.5**
	comp=Z,4.3nm,1.0s,baz=113,slow=7.9							
NOA	**NORSAR Array B**	**45.20**	**330**	P		**P**	**22 59 31.4**	**-1.1**
	comp=Z,1.9nm,0.7s,baz=115,slow=7.9,SNR=13							
NOA				PP		**PP**	**23 01 18.1**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=108,slow=10,SNR=5.0							
NOA				LR	LR		23 21 27.9	
	comp=Z,77nm,20.2s,baz=120,slow=40							
BMRD	**Maredsous**	**45.42**	**314**	pP		**P**	**22 59 36.2**	**+1.8**
KEV	**Kevo**	**45.47**	**346**	P		**P**	**22 59 33.8**	**-0.6**
KEV				pmax	pmax			
	comp=Z,16nm,0.8s							
KEV	**Kevo**	**45.47**	**346**	P		**P**	**22 59 33.8**	**-0.6**
KEV				IAmb	IAmb		22 59 35.2	
	comp=Z,16nm,0.8s							
ARCES	**ARCESS Array B**	**45.63**	**345**	P		**P**	**22 59 35.6**	**-0.1**
	comp=Z,6.1nm,0.8s,baz=140,slow=7.8,SNR=22							
ARCES				PcP		**PcP**	**23 01 13.8**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=157,slow=4.9,SNR=2.5							
ARCES				PP		**PP**	**23 01 21.7**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=134,slow=7.0,SNR=3.4							
ARCES				LR	LR		23 21 34.8	
	comp=Z,129nm,18.2s,baz=142,slow=40							
ARE0	**ARCESS Array S**	**45.63**	**345**	P		**P**	**22 59 35.8**	**0.0**
HHC	**Hu-ho-hao-te**	**46.01**	**59**	*e*P		**P**	**22 59 39.7**	**+0.3**
HHC				pmax	pmax			
	comp=Z,7.0nm,1.0s							
HHC				pmax	pmax			
	comp=Z,37nm,4.8s							
HHC				LR	LR			
	comp=Z,170nm,14.8s							
HHC				LR	LR			
	comp=Z,120nm,16.3s							
HHC				LR	LR			
	comp=Z,110nm,15.9s							
TAM	**Tamanrasset**	**46.77**	**276**	P		**P**	**22 59 44.5**	**-1.1**
TAM				pmax	pmax			
	comp=Z,5.0nm,1.1s							
TAM	**Tamanrasset**	**46.77**	**276**	P		**P**	**22 59 44.5**	**-1.1**
BOD	**Bodaibo**	**49.31**	**36**	*e*P		**P**	**23 00 03.4**	**-1.1**
BOD				pmax	pmax			
	comp=Z,39nm,0.9s							
ESDC	**Sonseca Array**	**51.38**	**300**	P		**P**	**23 00 21.4**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=69,slow=7.5,SNR=14							
ESDC				PcP		**PcP**	**23 01 35.4**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=45,slow=3.8,SNR=4.5							
ESDC				LR	LR		23 26 12.0	
	comp=Z,51nm,18.9s,baz=120,slow=41							
NJ2	**Nanjing**	**52.92**	**69**	*e*P		**P**	**23 00 31.2**	**-0.8**
NJ2				pmax	pmax			
	comp=Z,16nm,0.7s							
TOA0	**Torodi Ar. Sit**	**53.65**	**266**	P		**P**	**23 00 38.0**	**+0.4**
	SNR=16							
TOA0				P		**P**	**23 00 38.0**	**+0.4**
	SNR=16							
TOA0	**Torodi Ar. Sit**	**53.65**	**266**	P		**P**	**23 00 37.9**	**+0.3**
TORD	**Torodi Ar. Bea**	**53.65**	**266**	P		**P**	**23 00 37.9**	**+0.2**
	comp=Z,10.0nm,0.5s,baz=63,slow=7.5,SNR=108							
TORD				LR	LR		23 26 36.4	
	comp=Z,230nm,18.3s,baz=55,slow=39							
ZEA	**Zeya**	**56.40**	**42**	*e*P		**P**	**23 00 57.0**	**0.0**
ZEA				pmax	pmax			
	comp=Z,17nm,1.0s							
TIXI	**Tiksi**	**58.08**	**21**	*ce*P		**P**	**23 01 07.7**	**-0.9**
TIXI				pmax	pmax			
	comp=Z,9.0nm,0.7s							
TIXI	**Tiksi**	**58.08**	**21**	P		**P**	**23 01 08.0**	**-0.6**
TIXI				IAmb	IAmb		23 01 09.6	
	comp=Z,9.4nm,0.8s							
TIXI				PcP		**PcP**	**23 01 58.9**	**-1.3**
TIXI				PP		**PP**	**23 03 14.8**	**-2.2**
KSRS	**Korea Array**	**59.04**	**61**	P		**P**	**23 01 14.4**	**-1.4**
	comp=Z,5.9nm,0.7s,baz=276,slow=6.9,SNR=23							
KSRS				LR	LR		23 29 31.5	
	comp=Z,118nm,19.5s,baz=305,slow=39							
KLR	**Kul'dur**	**59.62**	**47**	P		**P**	**23 01 18.6**	**-1.0**
	comp=Z,7.9nm,0.8s,baz=288,slow=8.7,SNR=28							
KLR	**Kul'dur**	**59.62**	**47**	*ce*P		**P**	**23 01 18.6**	**-1.0**
KLR				pmax	pmax			
	comp=Z,11nm,0.9s							
DAG	**Danmarks Havn**	**59.92**	**345**	⇑*i*P		**P**	**23 01 20.4**	**-0.9**
DAG	**Danmarks Havn**	**59.92**	**345**	⇑*i*P		**P**	**23 01 20.4**	**-0.9**
NOR	**Nord**	**60.33**	**351**	*i*P		**P**	**23 01 23.6**	**-0.4**
NOR	**Nord**	**60.33**	**351**	*i*P		**P**	**23 01 23.6**	**-0.4**
MSHR	**Mys Shultsa**	**60.37**	**55**	*i*P		**P**	**23 01 24.2**	**-0.7**
MSHR				pmax	pmax			
	comp=Z,4.0nm,1.0s							
USRK	**Ussuriysk Ar.**	**60.64**	**53**	P		**P**	**23 01 24.8**	**-1.9**
	comp=Z,4.0nm,0.7s,baz=272,slow=6.1,SNR=7.8							
LBTB	**Lobatse**	**60.73**	**213**	P		**P**	**23 01 26.2**	**-1.4**
LBTB				pmax	pmax			
	comp=Z,96nm,2.0s							
LBTB	**Lobatse**	**60.73**	**213**	P		**P**	**23 01 26.2**	**-1.4**
DBIC	**Dimbokro**	**62.29**	**263**	P		**P**	**23 01 39.0**	**+0.7**
	comp=Z,6.2nm,0.9s,baz=32,slow=6.9,SNR=13							
DBIC				LR	LR		23 29 15.4	
	comp=Z,93nm,20.2s,baz=50,slow=36							
DBIC	**Dimbokro**	**62.29**	**263**	IAmb	IAmb		23 02 27.9	
	comp=Z,16nm,1.3s							
SUMG	**Summit**	**65.42**	**341**	*i*P		**P**	**23 01 59.1**	**+0.6**
	comp=Z,19nm,0.8s							
SUMG	**Summit**	**65.42**	**341**	*i*P		**P**	**23 01 59.1**	**+0.6**
SUMG				pmax	pmax			
	comp=Z,19nm,0.8s							
SUMG	**Summit**	**65.42**	**341**	P		**P**	**23 01 59.1**	**+0.6**
SUMG				IAmb	IAmb		23 02 00.3	
	comp=Z,9.0nm,0.9s							
MJAR	**Matsushiro Arr**	**67.21**	**60**	P		**P**	**23 02 09.3**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=290,slow=6.7,SNR=7.4							
MJAR				LR	LR		23 34 04.1	
	comp=Z,42nm,18.2s,baz=270,slow=38							
YSS	**Yuzh-Sakhalins**	**67.31**	**48**	⇑*i*P		**P**	**23 02 09.0**	**-1.5**
YSS				*e*			23 02 17.1	
YSS				pmax	pmax			
	comp=Z,30nm,0.7s							
YSS				MLR	MLR			
	comp=E,100nm,17.0s							
YSS				MLR	MLR			
	comp=Z,200nm,17.0s							
YSS	**Yuzh-Sakhalins**	**67.31**	**48**	P		**P**	**23 02 07.7**	**-2.8**
SEY	**Seymchan**	**67.88**	**29**	*i*P		**P**	**23 02 13.3**	**-0.6**
MA2	**Magadan**	**68.17**	**33**	*ce*P		**P**	**23 02 14.8**	**-0.9**
MA2				pmax	pmax			
	comp=Z,21nm,2.5s							
BILL	**Bilibino**	**71.25**	**22**	*ce*P		**P**	**23 02 34.7**	**+0.1**
BILL				*i*			23 02 42.4	
BILL				*e*			23 05 11.3	
BILL				*i*S		**S**	**23 11 52.0**	**+1.1**
BILL				*i*SS		**SS**	**23 16 31.9**	**+7.9**
BILL				pmax	pmax			
	comp=Z,9.0nm,0.7s							
BILL				MLR	MLR			
	comp=Z,2μm,16.0s							
BILL	**Bilibino**	**71.25**	**22**	P		**P**	**23 02 34.3**	**-0.2**
BILL				IAmb	IAmb		23 02 35.4	
	comp=Z,10.0nm,0.8s							
PETK	**Petropavlovsk-**	**74.13**	**38**	P		**P**	**23 02 50.1**	**-1.8**
	comp=Z,3.9nm,0.8s,baz=170,slow=2.7,SNR=6.8							
PETK				LR	LR		23 38 13.7	
	comp=Z,106nm,19.1s,baz=244,slow=38							
TOLK	**Toolik Lake Re**	**81.82**	**10**	P		**P**	**23 03 33.5**	**-1.0**
COLD	**Coldfoot**	**83.02**	**10**	P		**P**	**23 03 40.9**	**+0.1**
COLD				IAmb	IAmb		23 03 42.3	
	comp=Z,7.2nm,0.8s							
INK	**Inuvik**	**83.84**	**4**	P		**P**	**23 03 43.2**	**-1.7**
INK				pmax	pmax			
	comp=Z,8.0nm,1.2s							
INK	**Inuvik**	**83.84**	**4**	P		**P**	**23 03 43.2**	**-1.7**
INK				IAmb	IAmb		23 03 45.6	
	comp=Z,8.2nm,1.1s							
SCHQ	**Schefferville**	**84.77**	**331**	P		**P**	**23 03 50.3**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=54,slow=3.6,SNR=5.7							
MLY	**Manley**	**84.94**	**12**	P		**P**	**23 03 49.7**	**-0.9**
MLY				IAmb	IAmb		23 03 51.6	
	comp=Z,8.5nm,0.8s							
EPYK	**Eagle Plains**	**85.52**	**6**	IAmb	IAmb		23 03 53.9	
	comp=Z,10nm,1.1s							
BPAW	**Bear Paw Mtn.**	**85.75**	**12**	P		**P**	**23 03 54.3**	**-0.3**
TTA	**Tatalina**	**85.77**	**15**	P		**P**	**23 03 53.4**	**-1.4**
TTA				pmax	pmax			
	comp=Z,8.0nm,1.0s							
TTA	**Tatalina**	**85.77**	**15**	P		**P**	**23 03 53.4**	**-1.4**
TTA				IAmb	IAmb		23 03 55.7	
	comp=Z,7.8nm,1.0s							
CCB	**Clear Creek Bu**	**85.79**	**11**	P		**P**	**23 03 53.3**	**-1.4**
IL31		**85.82**	**10**	P		**P**	**23 03 52.9**	**-2.0**
ILAR	**Eielson Array**	**85.82**	**10**	P		**P**	**23 03 54.0**	**-0.9**
	comp=Z,3.3nm,0.8s,baz=328,slow=4.2,SNR=26							
ILAR				PP		**PP**	**23 07 11.1**	**-2.6**
	comp=Z,0.8nm,0.9s,baz=332,slow=6.8,SNR=5.8							
ILAR				LR	LR		23 48 14.1	
	comp=Z,58nm,19.2s,baz=320,slow=40							
WRH	**Wood River Hil**	**85.91**	**11**	P		**P**	**23 03 54.0**	**-1.3**
WRH				IAmb	IAmb		23 04 03.5	
	comp=Z,18nm,1.3s							
HDA	**Harding Lake**	**86.15**	**10**	P		**P**	**23 03 54.8**	**-1.8**
HDA				IAmb	IAmb		23 03 56.4	
	comp=Z,6.0nm,0.8s							
KTH	**Kantishna Hill**	**86.25**	**12**	P		**P**	**23 03 56.2**	**-1.0**
MCK	**McKinley**	**86.45**	**11**	P		**P**	**23 03 57.3**	**-0.8**
MCK				pmax	pmax			
	comp=Z,19nm,0.9s							
MCK	**McKinley**	**86.45**	**11**	P		**P**	**23 03 57.3**	**-0.8**
TRF	**Thorofare Moun**	**86.47**	**12**	P		**P**	**23 03 57.4**	**-0.9**
RND	**Reindeer**	**86.77**	**11**	IAmb	IAmb		23 03 59.5	
	comp=Z,11nm,1.0s							
SCRK	**Sand Creek**	**87.00**	**9**	P		**P**	**23 04 00.6**	**-0.4**
DHY	**Denali Highway**	**87.33**	**11**	P		**P**	**23 04 01.3**	**-1.3**
DHY				IAmb	IAmb		23 04 02.7	
	comp=Z,7.6nm,1.1s							
MENT	**Mentasta**	**88.03**	**9**	IAmb	IAmb		23 04 08.5	
	comp=Z,6.2nm,0.9s							
WRA	**Warramunga Arr**	**88.33**	**113**	P		**P**	**23 04 08.9**	**+1.1**
	comp=Z,3.9nm,0.8s,baz=311,slow=4.2,SNR=11							
WRA	**Warramunga Arr**	**88.33**	**113**	*i*P		**P**	**23 04 09.0**	**+1.1**
WRA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
WRAB	**Tennant Creek**	**88.34**	**113**	*ce*P		**P**	**23 04 10.0**	**+2.1**
WRAB				pmax	pmax			
	comp=Z,11nm,1.3s							
WB2	**Warramunga Arr**	**88.34**	**113**	P		**P**	**23 04 07.3**	**-0.6**
PMR	**Palmer**	**88.39**	**12**	P		**P**	**23 04 07.1**	**-0.3**
PMR				pmax	pmax			
	comp=Z,15nm,0.8s							
PMR	**Palmer**	**88.39**	**12**	P		**P**	**23 04 07.1**	**-0.3**
RC01	**Rabbit Creek A**	**88.74**	**13**	P		**P**	**23 04 07.7**	**-1.3**
YKA	**Yellowknife Ar**	**89.78**	**356**	P		**P**	**23 04 13.8**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=1.6,slow=4.6,SNR=20							
YKA				PP		**PP**	**23 07 46.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=358,slow=7.4,SNR=2.0							
YKA				LR	LR		23 47 35.6	
	comp=Z,47nm,22.0s,baz=0.0,slow=38							
ASAR	**Alice Springs**	**89.86**	**117**	P		**P**	**23 04 15.8**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=300,slow=4.7,SNR=17							
HYT	**Haines Junctio**	**90.87**	**7**	P		**P**	**23 04 18.2**	**-1.0**
HYT				IAmb	IAmb		23 04 21.2	
	comp=Z,5.6nm,0.9s							
CHGN	**Chignik**	**90.91**	**19**	P		**P**	**23 04 17.8**	**-1.4**
KDAK	**Kodiak Island**	**91.13**	**15**	P		**P**	**23 04 19.7**	**-0.6**
KDAK				pmax	pmax			
	comp=Z,24nm,0.8s							
KDAK	**Kodiak Island**	**91.13**	**15**	P		**P**	**23 04 19.7**	**-0.6**
TXAR	**Lajitas Array**	**120.32**	**341**	PKP		**PKPdf**	**23 10 07.7**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=134,slow=3.6,SNR=3.8							

IDC ***02*** *23:17:39.8±4.8, 33°.91N×31°.89E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.3/25, mbtmp3.6/2, ML2.0/1, Error ellipse: s-maj=86.4km s-min=46.2km az=22.0*
ISK ***02*** *23:17:43.7, 34°.34N×32°.16E, h13km, ML3.2/26*
NIC ***02*** *23:17:44.2±0.0, 34°.40N×32°.00E, h27km, Ml3.5/7*
GII ***02*** *23:17:45.7±0.0, 34°.35N×32°.22E, h10km, MD3.2/3*
DDA ***02*** *23:17:49.9, 34°.91N×32°.10E, h20km±1km, ML3.3*

ISC 02 23:17:44.7±1.9, 34°.43N±0°.03×32°.05E±0°.03, h20km±13km, n87,σ2s16/124, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NATA	**Nata**	**0.56**	**50**	P	**Pb**	**23 17 56.5**	**+0.7**
NATA				S	**Sn**	**23 18 05.7**	**-0.6**
NATA				AML	AML	23 18 15.7	
	17nm,0.8s						
NATA				AML	AML	23 18 15.7	
	17nm,0.8s						
NATA				AML	AML	23 18 16.5	
	13nm,1.0s						
NATA				AML	AML	23 18 16.5	
	13nm,1.0s						
AKMS	**Akamas**	**0.64**	**22**	P	**Pb**	**23 17 57.7**	**+0.6**
AKMS				AML	AML	23 18 07.6	
	22nm,0.9s						
AKMS				AML	AML	23 18 07.6	
	22nm,0.9s						
AKMS				S	**Sn**	**23 18 07.7**	**-0.5**
SZAC	**Souni**	**0.76**	**64**	P	**Pb**	**23 17 59.3**	**0.0**
SZAC				S	**Sn**	**23 18 11.0**	**-0.3**
SZAC				AML	AML	23 18 11.2	
	8.2nm,0.2s						
SZAC				AML	AML	23 18 11.2	
	8.2nm,0.2s						
SZAC				AML	AML	23 18 15.2	
	5.4nm,0.3s						
SZAC				AML	AML	23 18 15.2	
	5.4nm,0.3s						
ALFC	**Alefka**	**0.86**	**32**	P	**Pb**	**23 18 00.9**	**-0.1**
ALFC				S	**Sg**	**23 18 13.3**	**+1.2**
ALFC				AML	AML	23 18 13.6	
	5.3nm,0.3s						
ALFC				AML	AML	23 18 13.6	
	5.3nm,0.3s						
ALFC				AML	AML	23 18 14.4	
	6.0nm,0.6s						
ALFC				AML	AML	23 18 14.4	
	6.0nm,0.6s						
LEF	**Lefka**	**0.98**	**45**	PG	**Pb**	**23 18 02.5**	**-0.5**
LEF				SG	**Sb**	**23 18 15.9**	**+0.4**
LEF	**Lefka**	**0.98**	**45**	*i*P	**Pb**	**23 18 02.4**	**-0.6**
LEF				*i*S	**Sb**	**23 18 11.9**	**-3.6**
ASGA	**Asgata**	**1.05**	**70**	P	**Pb**	**23 18 03.6**	**-0.7**
ASGA				S	**Sb**	**23 18 17.3**	**-0.3**
ASGA				AML	AML	23 18 18.6	
	2.7nm,0.4s						
ASGA				AML	AML	23 18 18.6	
	2.7nm,0.4s						
ASGA				AML	AML	23 18 20.6	
	2.7nm,0.2s						
ASGA				AML	AML	23 18 20.6	
	2.7nm,0.2s						
CSS	**Mathiatis**	**1.18**	**63**	PN	**Pn**	**23 18 05.7**	**-0.5**
CSS				SN	**Sn**	**23 18 22.0**	**+0.3**
CSS	**Mathiatis**	**1.18**	**63**	Pg	**Pn**	**23 18 05.4**	**-0.8**
CSS	**Mathiatis**	**1.18**	**63**	P	**Pn**	**23 18 05.3**	**-0.8**
CSS				S	**Sb**	**23 18 21.5**	**+0.1**
CSS				AML	AML	23 18 21.7	
	0.6nm,1.0s						
CSS				AML	AML	23 18 21.7	
	0.6nm,1.0s						

ATHAL	**Athalassa**	**1.32**	**57**	P		**Pn**	**23 18 08.3**	**+0.3**
MVOU	**Mavrovouni**	**1.43**	**65**	P		**Pn**	**23 18 09.3**	**-0.2**
MVOU				S		**Sn**	**23 18 28.4**	**+0.7**
MVOU				AML	AML	23 18 39.3		
	0.9nm,1.0s							
MVOU				AML	AML	23 18 39.3		
	0.9nm,1.0s							
MVOU				AML	AML	23 18 39.6		
	1.1nm,1.0s							
MVOU				AML	AML	23 18 39.6		
	1.1nm,1.0s							
LFK	**Lefkose**	**1.49**	**55**	PN		**Pn**	**23 18 10.8**	**+0.4**
GAZI	**Gazipasa**	**1.82**	**7**	PN		**Pb**	**23 18 16.6**	**-0.7**
GAZI	**Gazipasa**	**1.82**	**7**	*i*P		**Pn**	**23 18 15.6**	**+0.7**
GAZI				*i*S		**Sn**	**23 18 33.8**	**-3.6**
TEKE	**Tekeli-Mersin**	**1.92**	**27**	PN		**Pn**	**23 18 17.7**	**+1.4**
YORU	**Yoruktepe-Mers**	**2.05**	**32**	PN		**Pn**	**23 18 19.4**	**+1.3**
EREN	**Erenkoy**	**2.06**	**57**	PN		**Pn**	**23 18 18.7**	**+0.5**
AKKU	**Akkuyu-Mersin**	**2.12**	**35**	PN		**Pn**	**23 18 20.5**	**+1.5**
GULN	**MERSIN_Gulnar**	**2.14**	**34**	*i*P		**Pn**	**23 18 19.9**	**+0.7**
GULN				*i*S		**Sn**	**23 18 39.4**	**-5.8**
BERE	**Bereket-Mersin**	**2.15**	**26**	PN		**Pn**	**23 18 21.0**	**+1.5**
TISA	**Tisan-Mersin**	**2.19**	**37**	PN		**Pn**	**23 18 21.4**	**+1.5**
YESI	**Yesilovacik-Me**	**2.19**	**36**	PN		**Pn**	**23 18 21.2**	**+1.2**
IKL	**Isikli**	**2.25**	**36**	PN		**Pn**	**23 18 22.1**	**+1.3**
TEVE	**Tevekalti-Mers**	**2.31**	**29**	PN		**Pn**	**23 18 23.0**	**+1.3**
ERMK	**Ermenek**	**2.32**	**17**	*i*P		**Pb**	**23 18 24.6**	**-1.4**
ERMK				*i*S		**Sn**	**23 18 48.6**	**-1.5**
AKUM	**Antalya-Kumluc**	**2.35**	**324**	*i*P		**Pb**	**23 18 24.7**	**-1.6**
AKUM				*i*S		**Sn**	**23 18 45.9**	**-4.5**
KEBE	**Keben-Mersin**	**2.43**	**33**	PN		**Pn**	**23 18 24.8**	**+1.4**
SILI	**Silifke-Mersin**	**2.47**	**38**	PN		**Pn**	**23 18 25.3**	**+1.5**
KEPZ	**Antalya-Kepez**	**2.50**	**352**	*i*P		**Pb**	**23 18 27.4**	**-1.5**
KEPZ				*i*S		**Sn**	**23 18 51.7**	**-2.5**
KIZK	**Mersin**	**2.67**	**39**	PN		**Pn**	**23 18 28.3**	**+1.7**
KIZK	**Mersin**	**2.67**	**39**	*i*P		**Pn**	**23 18 28.3**	**+1.7**
KIZK				*i*S		**Sn**	**23 18 54.8**	**-3.6**
AKAS	**Kas**	**2.69**	**313**	PN		**Pn**	**23 18 29.1**	**+2.1**
AKAS	**Kas**	**2.69**	**313**	*i*P		**Pn**	**23 18 28.3**	**+1.3**
AKAS				*i*S		**Sn**	**23 18 54.3**	**-4.7**
ELL	**Elmali**	**2.90**	**324**	PN		**Pn**	**23 18 32.5**	**+2.6**
KRMN	**Karaman**	**2.92**	**19**	PN		**Pn**	**23 18 32.0**	**+2.0**
KORT	**Korkueli**	**2.92**	**332**	PN		**Pn**	**23 18 32.7**	**+2.6**
SEYD	**Seydisehir-KON**	**2.98**	**357**	PN		**Pn**	**23 18 33.6**	**+2.7**
DQRL	**Deir Qamar**	**3.01**	**103**	*e*P		**Pb**	**23 18 35.7**	**-2.0**
MMA0B	**Mount Meron ar**	**3.13**	**116**	Pn		**Pn**	**23 18 33.0**	**0.0**
MMA0B				Sn		**Sn**	**23 19 08.6**	**-1.2**
QRWL	**Qaraoun**	**3.14**	**105**	*e*P		**Pn**	**23 18 33.1**	**-0.1**
MERS	**Mersin**	**3.16**	**39**	PN		**Pn**	**23 18 34.7**	**+1.3**
GEM	**Giv'at Ha'Em**	**3.24**	**111**	Pn		**Pn**	**23 18 34.4**	**-0.1**
KSDI	**Kefar Szold**	**3.25**	**111**	Pn		**Pn**	**23 18 34.6**	**+0.1**
BCK	**Bucak**	**3.25**	**339**	PN		**Pn**	**23 18 37.7**	**+3.0**
FETY	**Fethiye**	**3.27**	**313**	PN		**Pn**	**23 18 37.4**	**+2.5**
FETY	**Fethiye**	**3.27**	**313**	*i*P		**Pn**	**23 18 37.1**	**+2.2**
FETY				*i*S		**Sn**	**23 19 08.1**	**-5.2**
NATI	**Neve Ativ**	**3.28**	**110**	Pn		**Pn**	**23 18 34.9**	**-0.1**
RCY	**Rachaya**	**3.28**	**105**	*e*P		**Pn**	**23 18 35.1**	**0.0**
SLTI	**Sal'it**	**3.32**	**130**	Pn		**Pn**	**23 18 35.1**	**-0.4**
SLTI				Sn		**Sn**	**23 19 12.8**	**-1.6**
KERG	**Konya-Eregli**	**3.43**	**29**	*i*P		**Pn**	**23 18 40.4**	**+3.4**
KERG				*i*S		**Sn**	**23 19 13.7**	**-3.5**
MMLI	**Mount Malkishu**	**3.45**	**124**	PN		**Pn**	**23 18 36.8**	**-0.5**
MMLI	**Mount Malkishu**	**3.45**	**124**	Pn		**Pn**	**23 18 37.6**	**+0.3**
MMLI				Sn		**Sn**	**23 19 15.5**	**-2.1**
KONT	**Konya--Tatoy**	**3.52**	**4**	PN		**Pn**	**23 18 41.4**	**+3.1**
SHMJ	**Saham**	**3.53**	**118**	Pn		**Pn**	**23 18 38.9**	**+0.4**
QRNJ	**Al-Qirein**	**3.61**	**124**	Pn		**Pn**	**23 18 39.9**	**+0.4**
YESY	**Yesilyurt**	**3.62**	**22**	PN		**Pn**	**23 18 41.9**	**+2.1**
HMDT	**Nahal Hemdat**	**3.63**	**126**	Pn		**Pn**	**23 18 40.5**	**+0.8**
HMDT				Sn		**Sn**	**23 19 21.5**	**-0.5**
BRDR	**BURDUR-Merkez**	**3.64**	**334**	*i*P		**Pn**	**23 18 43.2**	**+3.2**
BRDR				*i*S		**Sn**	**23 19 18.1**	**-4.2**
DALY	**Dalyan (Mula)**	**3.65**	**312**	*i*P		**Pn**	**23 18 42.1**	**+2.0**
DALY				*i*S		**Sn**	**23 19 20.9**	**-1.6**
DOGA	**KONYA_Doganhis**	**3.69**	**355**	*i*P		**Pb**	**23 18 46.4**	**-2.9**
DOGA				*i*S		Sn	23 19 15.1	-8.6
TURN	**Turunc**	**3.72**	**312**	*i*P		**Pn**	**23 18 45.0**	**+4.1**
TURN				*i*S		**Sn**	**23 19 27.5**	**+3.3**
AMAZ	**Amatzia**	**3.76**	**139**	Pn		**Pn**	**23 18 41.7**	**+3.1**
TAHT	**Tahtakopru-Hat**	**3.90**	**59**	PN		**Pn**	**23 18 45.1**	**+1.6**
TAVA	**DENIZLI_Tavas**	**3.96**	**321**	*i*P		**Pn**	**23 18 47.2**	**+2.9**
TAVA				*i*S		**Sn**	**23 19 26.7**	**-3.6**
DSI	**

comp=N,486μm,0.5s

VLX				AML	AML	23 20 32.0		
	comp=E,349μm,0.5s							
TRIP	**Tripoli**	**1.03**	**42**	P	Pb	23 20 08.5	+1.1	
TRIP	**Tripoli**	**1.03**	**42**	P	Pb	23 20 08.3	+0.9	
TRIP				S	Sb	23 20 22.5	+1.8	
TRIP				AML	AML	23 20 28.8		
	comp=N,308μm,0.6s							
TRIP				AML	AML	23 20 31.1		
	comp=E,264μm,0.7s							
VTN	**Vitineika**	**1.17**	**351**	P	Pb	23 20 10.4	+0.7	
DRO	**Drossia**	**1.22**	**11**	P	Pb	23 20 11.2	+0.7	
DRO	**Drossia**	**1.22**	**11**	P	Pb	23 20 11.0	+0.5	
VLI	**Veliai**	**1.23**	**91**	P	Pb	23 20 11.6	+0.9	
VLI	**Veliai**	**1.23**	**91**	P	Pb	23 20 11.7	+1.0	
VLMS	**Volimes, Zakyn**	**1.27**	**332**	P	Pn	23 20 09.9	-0.1	
RLS	**Riolos of Patr**	**1.30**	**2**	P	Pb	23 20 11.9	0.0	
GUR	**Goura**	**1.40**	**32**	P	Pb	23 20 14.2	+0.7	
GUR	**Goura**	**1.40**	**32**	P	Pb	23 20 14.1	+0.5	
KLV	**Kalavryta, Ach**	**1.42**	**25**	P	Pb	23 20 14.1	+0.2	
KTHA	**Kythira Island**	**1.42**	**110**	P	Pb	23 20 13.9	-0.1	
KTHA	**Kythira Island**	**1.42**	**110**	P	Pb	23 20 14.1	+0.1	
LAKA	**Lakka**	**1.55**	**17**	P	Pb	23 20 16.1	-0.1	
DID	**Didima**	**1.64**	**62**	P	Pb	23 20 16.6	-1.1	
LTK	**Loutraki**	**1.77**	**44**	P	Pb	23 20 18.6	-1.3	
PVO	**Paravola**	**1.86**	**3**	P	Pb	23 20 20.8	-0.6	
LKD2	**Lefkada island**	**2.12**	**344**	P	Pn	23 20 23.5	+1.8	

IDC ***02*** *23:30:56.7±5.6, 11°.24S×161°.43E, h113km±43km, mb3.5/6, mb1 3.7/8, mb1mx3.5/31, mbtmp3.9/8, MS3.2/4, Ms1 3.1/4, ms1mx2.8/21, Error ellipse: s-maj=58.4km s-min=20.2km az=118.0*

ISC 02 23:30:55.0±1.2, **11°.3S**±0°.1×**161°.6E**±0°.2, **h100**km, **n9, σ1§04/9, mb3.5/6, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.46**	**319**	P		**Pn**	**23 31 34.2**	**+0.5**
	18nm,0.3s,baz=204,slow=8.9,SNR=2.4							
HNR				S		**Sn**	**23 32 02.9**	**-0.4**
	43nm,0.3s,baz=344,slow=21,SNR=6.1							
HNR				LR		LR	23 32 46.2	
	comp=Z,123nm,18.6s,baz=184,slow=47							
DZM	**Mont Dzumac**	**11.66**	**157**	LR		LR	23 36 46.3	
	comp=Z,109nm,18.4s,baz=44,slow=30							
CTA	**Charters Tower**	**17.12**	**238**	P		**Pn**	**23 34 47.8**	**-0.4**
	0.8nm,0.3s,baz=63,slow=15,SNR=6.8							
STKA	**Stephens Creek**	**27.54**	**219**	P		**P**	**23 36 34.0**	**+1.6**
	0.5nm,0.4s,baz=16,slow=11,SNR=3.8							
STKA				LR		LR	23 47 12.4	
	comp=Z,66nm,19.9s,baz=292,slow=36							
WRA	**Warramunga Arr**	**27.56**	**249**	P		**P**	**23 36 32.0**	**-0.8**
	1.1nm,0.8s,baz=79,slow=9.0,SNR=3.1							
ASAR	**Alice Springs**	**29.04**	**241**	P		**P**	**23 36 44.9**	**-1.1**
	0.9nm,0.7s,baz=63,slow=10,SNR=9.4							
ASAR				LR		LR	23 46 49.4	
	comp=Z,96nm,21.1s,baz=182,slow=33							
ILAR	**Eielson Array**	**85.11**	**20**	P		**P**	**23 43 19.4**	**-0.1**
	0.3nm,0.6s,baz=244,slow=4.5,SNR=4.9							
MKAR	**Makanchi Array**	**90.94**	**318**	P		**P**	**23 43 48.7**	**+0.9**
	0.4nm,0.8s,baz=93,slow=5.8,SNR=2.9							
YKA	**Yellowknife Ar**	**97.10**	**28**	P		**P**	**23 44 14.8**	**-0.8**
	0.1nm,0.5s,baz=256,slow=4.4,SNR=3.8							

IDC ***02*** *23:46:43.3±3.3, 22°.24S×172°.02E, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.8/39, mbtmp4.2/4, ML4.3/1, MS3.7/20, Ms1 3.7/20, ms1mx3.6/28, Error ellipse: s-maj=120.5km s-min=46.0km az=160.0*

GCMT ***02*** *23:46:53.0±0.3, 21°.15S±0°.02×171°.54E±0°.02, h14km±2km, MW4.8/85, Moment Tensor Solution. s20,c22; s85,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.61±.11; $M_{\theta\theta}$2.46±.12; $M_{\phi\phi}$-1.84±.09; $M_{r\theta}$-0.20±.22; $M_{\theta\phi}$0.04±.10; $M_{\phi r}$-0.50±.24; Best double couple: M_o2.24600×10^{16} NP1:ϕ_s313.00000°, δ73.00000°, λ-11.00000°. NP2: ϕ_s46.00000°, δ79.00000°, λ-163.00000°. Principal axes: T 2.4750, Plg4.0000°, Azm179.0000°; N -0.4480, Plg70.0000°, Azm78.0000°; P -2.0170, Plg20.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 02 23:46:48.7±1.1, **21°.4S**±0°.5×**171°.5E**±0°.1, **h10**km, **n36, σ0§87/12, mb4.1/3, MS3.8/20, Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.79**	**260**	*e*Pn		**Pn**	**23 48 01.1**	**+0.1**
	125nm,0.7s							
DZM				*e*LR		LR	23 49 04.5	
	comp=Z,3μm,25.9s							
DZM	**Mont Dzumac**	**4.79**	**260**	Pn		**Pn**	**23 48 01.9**	**+1.0**
	10nm,0.3s,baz=89,slow=17,SNR=76							
DZM				LR		LR	23 49 11.6	
	comp=Z,269nm,19.7s,baz=49,slow=29							
RAO	**Raoul Island**	**12.36**	**132**	LR		LR	23 52 57.8	
	comp=Z,302nm,18.3s,baz=210,slow=33							
CTA	**Charters Tower**	**23.67**	**268**	P		**P**	**23 52 00.8**	**+0.2**
	2.0nm,0.6s,baz=100,slow=6.1,SNR=1.8							
STKA	**Stephens Creek**	**28.66**	**242**	LR		LR	00 02 56.1	
	comp=Z,161nm,19.9s,baz=73,slow=34							
ASAR	**Alice Springs**	**34.77**	**259**	P		**P**	**23 53 39.0**	**-0.6**
	1.8nm,0.6s,baz=84,slow=8.6,SNR=22							
ASAR				LR		LR	00 07 08.1	
	comp=Z,152nm,18.9s,baz=98,slow=35							
WRA	**Warramunga Arr**	**34.78**	**265**	P		**P**	**23 53 38.3**	**-1.4**
	2.1nm,0.7s,baz=103,slow=8.0,SNR=11							
WRA				LR		LR	00 07 47.6	
	comp=Z,350nm,21.8s,baz=130,slow=36							
TBI	**Tubuai**	**36.06**	**101**	*e*LQ		LQ	00 01 52.9	
	367nm,30.2s							
TBI				*e*LR		LR	00 03 33.3	
	comp=Z,202nm,30.5s							
PPT2	**Papeete2**	**36.80**	**91**	*e*S		**S**	**23 59 41.4**	**-0.1**
	48nm,26.8s							
PPT2				*e*LR		LR	00 03 56.8	
	comp=Z,345nm,26.2s,baz=256							
PPT	**Papeete**	**36.80**	**91**	LR		LR	00 04 53.0	
	comp=Z,189nm,19.3s,baz=190,slow=30							
H11S2	**WAKE ISLAND Hy**	**39.88**	**353**	T		T	00 36 37.4	
	baz=173,slow=76,SNR=17							
H11S3	**WAKE ISLAND Hy**	**39.88**	**353**	T		T	00 36 36.7	
	baz=173,slow=76,SNR=13							
H11S1	**WAKE ISLAND Hy**	**39.90**	**353**	T		T	00 36 37.2	
	baz=173,slow=76,SNR=13							
H11N1	**WAKE ISLAND Hy**	**41.06**	**353**	T		T	00 38 08.5	
	baz=172,slow=76,SNR=9.1							
H11N3	**WAKE ISLAND Hy**	**41.07**	**353**	T		T	00 38 07.5	
	baz=172,slow=76,SNR=5.6							
H11N2	**WAKE ISLAND Hy**	**41.08**	**353**	T		T	00 38 10.2	
	baz=172,slow=76,SNR=8.0							
VNDA	**Vanda**	**56.41**	**183**	LR		LR	00 16 35.6	
	comp=Z,128nm,21.2s,baz=3.5,slow=32							
MJAR	**Matsushiro Arr**	**65.62**	**331**	LR		LR	00 21 06.2	
	comp=Z,18nm,21.0s,baz=95,slow=31							
KSRS	**Korea Array**	**71.46**	**325**	LR		LR	00 28 19.9	
	comp=Z,31nm,19.1s,baz=152,slow=34							
USRK	**Ussuriysk Ar.**	**74.60**	**332**	LR		LR	00 28 37.7	
	comp=Z,45nm,20.5s,baz=141,slow=33							
PETK	**Petropavlovsk-**	**75.11**	**351**	LR		LR	00 25 14.5	
	comp=Z,149nm,21.9s,baz=68,slow=30							
MAW	**Mawson**	**77.29**	**202**	LR		LR	00 28 23.0	
	comp=Z,29nm,18.2s,baz=48,slow=33							
KDAK	**Kodiak Island**	**84.32**	**18**	LR		LR	00 30 40.3	
	comp=Z,56nm,19.9s,baz=137,slow=31							
YBH	**Yreka Blue Hor**	**87.34**	**43**	LR		LR	00 32 48.0	
	comp=Z,30nm,19.5s,baz=249,slow=32							
NVAR	**Mina Array Bea**	**88.60**	**48**	LR		LR	00 33 04.0	
	comp=Z,47nm,19.2s,baz=266,slow=31							
ILAR	**Eielson Array**	**91.61**	**17**	LR		LR	00 34 52.9	
	comp=Z,56nm,20.6s,baz=237,slow=31							
ELK	**Elko**	**91.78**	**47**	LR		LR	00 35 59.1	
	comp=Z,26nm,18.3s,baz=272,slow=32							
NEW	**Newport**	**94.02**	**39**	LR		LR	00 34 20.5	
	comp=Z,39nm,21.6s,baz=264,slow=30							
TXAR	**Lajitas Array**	**95.89**	**61**	LR		LR	00 34 22.6	
	comp=Z,20nm,20.1s,baz=0.0,slow=30							
PDAR	**Pinedale Array**	**96.48**	**47**	LR		LR	00 38 49.1	
	comp=Z,22nm,19.1s,baz=295,slow=32							
CONA	**Conrad Observa**	**147.05**	**329**	*i* PKPbc		**PKiKP**	**00 06 35.8**	**+1.4**
	2.6nm,1.0s							
GERES	**GERESS Array B**	**147.35**	**332**	PKPbc		**PKPdf**	**00 06 31.1**	**+0.8**
	0.8nm,0.6s,baz=46,slow=3.9,SNR=4.9							

ABTA	**Abfaltersbach**	**149.47**	**331**	*i* PKPbc		**PKPab**	**00 06 43.2**	**+0.1**
	2.9nm,1.0s							
MOTA	**Moosalm**	**149.62**	**333**	*i* PKPdf		**PKPbc**	**00 06 38.2**	**-0.5**
	3.0nm,1.2s							
FETA	**Feichten**	**150.03**	**333**	*i* PKPdf		**PKiKP**	**00 06 40.3**	**-0.3**
	2.7nm,1.0s							
DAVA	**Damuels**	**150.17**	**334**	*i* PKPdf		**PKPbc**	**00 06 39.4**	**-0.6**
	4.7nm,1.3s							

IDC ***02*** *23:54:18.5±1.8, 40°.44N×124°.17W, h0km, mb3.7/2, mb1 4.0/9, mb1mx3.7/44, mbtmp3.7/9, ML3.5/6, MS3.3/9, Ms1 3.2/9, ms1mx3.0/35, Error ellipse: s-maj=20.8km s-min=11.6km az=71.0*

NEIC ***02*** *23:54:19.4±2.3, 40°.35N±0°.03×124°.40W±0°.10, h21km±8km, Error ellipse: s-maj=11.2km s-min=3.5km az=71.0*

NCEDC ***02*** *23:54:19.7±2.4, 40°.35N±0°.04×124°.42W±0°.07, h18km±5km, Mwr4.1/6, mb3.9/9(NEIC), Error ellipse: s-maj=8.0km s-min=4.8km az=69.0*

NEIC ***02*** *23:54:19.8, 40°.35N×124°.41W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.30; $M_{\theta\theta}$-2.13; $M_{\phi\phi}$1.82; $M_{r\theta}$-0.39; $M_{\theta\phi}$-0.08; $M_{\phi r}$-0.32; Fault plane solution: M_o2.06000×10^{15} NP1:ϕ_s224.28000°, δ88.27000°, λ14.65000°. NP2:ϕ_s133.83000°, δ75.35000°, λ178.21000°. Principal axes: T 1.8903, Plg12.0000°, Azm90.0000°; N 0.3010, Plg75.0000°, Azm231.0000°; P -2.1914, Plg9.0000°, Azm358.0000°;*

ANF ***02*** *23:54:20.8±0.8, 40°.58N×124°.20W, h10km, ML3.8/18 Error ellipse: s-maj=6.1km s-min=3.4km az=32.0*

ISC 02 23:54:19.8±0.9, **40°.36N**±0°.03×**124°.42W**±0°.05, **h25**km±6km, **n155, σ1§14/164, MS3.1/6, Near coast of northern California**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.14**	**27**			**Pb**	**23 54 24.5**	**-0.4**
KCTM						**Sb**	**23 54 28.6**	**+0.4**
KMPM	**Mount Pierce**	**0.23**	**74**			**Pb**	**23 54 25.6**	**-0.4**
KMPM						**Sb**	**23 54 30.4**	**+0.1**
KSMM	**Slide Mountain**	**0.25**	**132**			**Pb**	**23 54 25.7**	**-0.5**
KCRM	**Chalk Rock**	**0.46**	**81**			**Pb**	**23 54 29.5**	**0.0**
JCC	**Jacoby Creek,**	**0.55**	**32**	Pg		**Pb**	**23 54 29.7**	**-1.1**
JCC	**Jacoby Creek,**	**0.55**	**32**			**Sb**	**23 54 38.3**	**0.0**
KMRM	**Mail Ridge**	**0.56**	**104**			**Pb**	**23 54 31.3**	**+0.3**
KMRM						**Sn**	**23 54 40.8**	**+0.2**
KCSM	**Cold Springs**	**0.71**	**75**			**Pb**	**23 54 33.2**	**-0.4**
KHMM	**Horse Mountain**	**0.74**	**45**			**Pb**	**23 54 33.2**	**-0.9**
KBSM	**Bell Springs**	**0.77**	**124**			**Pb**	**23 54 33.8**	**-0.7**
KPPM	**Pickett Peak**	**0.81**	**90**			**Pb**	**23 54 34.5**	**-0.7**
KRPM	**Rodgers**	**0.86**	**20**			**Pb**	**23 54 34.4**	**-1.6**
KIPM	**Iron Peak**	**0.90**	**127**			**Pb**	**23 54 35.6**	**-1.2**
KCPM	**Cahto Peak**	**0.93**	**136**			**Pb**	**23 54 35.8**	**-1.5**
KHBM	**Hayfork Bally**	**0.96**	**71**			**Pn**	**23 54 36.5**	**-1.4**
KBNM	**Bluenose Ridge**	**1.04**	**116**			**Pn**	**23 54 38.1**	**-0.8**
KFPM	**Farley Peak**	**1.04**	**133**			**Pn**	**23 54 37.4**	**-1.5**
GTC	**Three Chop Rid**	**1.16**	**145**			**Pn**	**23 54 38.6**	**-1.8**
LBPM	**Beegum Peak**	**1.17**	**91**			**Pn**	**23 54 39.3**	**-1.4**
KOMM	**Orleans Mounta**	**1.18**	**38**			**Pn**	**23 54 39.3**	**-1.4**
KRMB	**Red Mountain**	**1.23**	**18**			**Pn**	**23 54 39.7**	**-1.8**
KRKM	**Rackout Spring**	**1.23**	**129**			**Pn**	**23 54 40.3**	**-1.2**
O02D	**Mt. Diablo Mer**	**1.26**	**98**	P		**Pn**	**23 54 40.8**	**-1.0**
O02D	baz=278,SNR=802			S		**Sb**	**23 54 58.7**	**+0.1**
	baz=278							
O02D	**Mt. Diablo Mer**	**1.26**	**98**			**Pn**	**23 54 41.0**	**-0.8**
GNAM	**Navarro Ridge**	**1.30**	**152**			**Pn**	**23 54 40.6**	**-1.8**
LGPM	**Granite Peak**	**1.33**	**65**			**Pn**	**23 54 41.7**	**-1.1**
GROM	**Round Mountain**	**1.41**	**108**			**Pn**	**23 54 43.3**	**-0.6**
GHMM	**Hull Mountain**	**1.43**	**126**			**Pn**	**23 54 42.8**	**-1.4**
GWRM	**Wonder Ranch**	**1.43**	**143**			**Pn**	**23 54 42.5**	**-1.7**
N02D	**Trinity Center**	**1.44**	**64**	P		**Pn**	**23 54 43.2**	**-1.1**
N02D	baz=245,SNR=624			S		**Sn**	**23 55 00.6**	**-1.9**
	baz=245							
N02D	**Trinity Center**	**1.44**	**64**			**Pn**	**23 54 43.2**	**-1.1**
WDC	**Whiskeytown Da**	**1.45**	**80**	Pn		**Pn**	**23 54 43.2**	**-1.1**
GVV	**Valley View**	**1.46**	**113**			**Pn**	**23 54 43.9**	**-0.7**
GHOM	**Hamilton Openi**	**1.47**	**152**			**Pn**	**23 54 42.8**	**-1.9**
GASB	**Alder Springs**	**1.48**	**118**			**Pn**	**23 54 43.8**	**-1.2**
LBKM	**Bonanza King**	**1.52**	**61**			**Pn**	**23 54 44.5**	**-1.0**
KSXB	**Camp Six Broad**	**1.53**	**15**			**Pn**	**23 54 43.9**	**-1.7**
M02C	**Callahan**	**1.57**	**48**	P		**Pn**	**23 54 45.0**	**-1.2**
M02C	baz=229,SNR=538			S		**Sn**	**23 55 03.9**	**-1.9**
	baz=229							
M02C	**Callahan**	**1.57**	**48**			**Pn**	**23 54 45.0**	**-1.2**
GGUM	**Gualala**	**1.66**	**154**			**Pn**	**23 54 45.2**	**-2.0**
GHLM	**Highland Sprin**	**1.70**	**140**			**Pn**	**23 54 46.2**	**-1.7**
GSNM	**Snow Mountain**	**1.70**	**146**			**Pn**	**23 54 46.4**	**-1.4**
HOPS	**Hopland Field**	**1.71**	**142**			**Pn**	**23 54 46.3**	**-1.6**
GCK	**Clark Valley**	**1.72**	**117**			**Pn**	**23 54 48.2**	**0.0**
KTRM	**Thompson Ridge**	**1.74**	**27**			**Pn**	**23 54 47.1**	**-1.4**
GTSM	**Trough Springs**	**1.74**	**126**			**Pn**	**23 54 47.4**	**-1.1**
LTCM	**Liscan Springs**	**1.76**	**94**			**Pn**	**23 54 47.7**	**-0.9**
GDCM	**Dry Creek**	**1.83**	**150**			**Pn**	**23 54 48.5**	**-1.1**
LSHM	**Sage Hen Hill**	**1.86**	**76**			**Pn**	**23 54 49.4**	**-0.7**
LCSM	**College of the**	**1.86**	**55**			**Pn**	**23 54 50.0**	**-0.2**
GPMM	**Pine Mountain**	**1.89**	**142**			**Pn**	**23 54 49.4**	**-1.1**
YBH	**Yreka Blue Hor**	**1.89**	**43**	Pn		**Pn**	**23 54 49.5**	**-1.0**
YBH	30nm,0.3s,baz=275,slow=8.9,SNR=546					Sn	**Sn**	**23 55 13.2**	**-0.2**
	39nm,0.3s,baz=107,slow=19,SNR=6.7							
YBH				LR		LR	23 55 24.7	
	comp=Z,102nm,18.6s,baz=11,slow=39							
YBH	**Yreka Blue Hor**	**1.89**	**43**	Pn		**Pn**	**23 54 49.6**	**-0.9**
GACM	**Cache Creek**	**1.91**	**140**			**Pn**	**23 54 49.8**	**-1.2**
GBMM	**Baldy Mountain**	**1.91**	**129**			**Pn**	**23 54 50.2**	**-0.6**
GCVM	**Cloverdale**	**1.92**	**145**			**Pn**	**23 54 49.2**	**-1.6**
GFC	**Funks Creek**	**1.93**	**121**			**Pn**	**23 54 51.2**	**+0.2**
GRTM	**Round Top Moun**	**1.95**	**136**			**Pn**	**23 54 51.0**	**-0.3**
LGBM	**Gray Butte**	**1.96**	**59**			**Pn**	**23 54 51.4**	**-0.1**
M03C	**McCloud**	**1.97**	**61**			**Pn**	**23 54 51.7**	**+0.1**
GWKM	**Walker Ridge**	**1.97**	**131**			**Pn**	**23 54 51.4**	**-0.2**
GSSM	**Skaggs Springs**	**1.98**	**146**			**Pn**	**23 54 50.8**	**-0.8**
GHCM	**House Creek**	**1.98**	**151**			**Pn**	**23 54 50.4**	**-1.4**
GDXM	**Geysers**	**1.99**	**140**			**Pn**	**23 54 52.3**	**+0.4**
O03E	**Paynes Creek**	**2.00**	**91**	P		**Pn**	**23 54 50.7**	**-1.3**
O03E	baz=272,SNR=356			S		**Sn**	**23 55 16.7**	**+0.5**
	baz=272							
O03E	**Paynes Creek**	**2.00**	**91**			**Pn**	**23 54 50.9**	**-1.1**
LDBM	**Digger Butte**	**2.01**	**87**			**Pn**	**23 54 51.1**	**-1.1**
GBGM	**Boggs Mountain**	**2.04**	**138**			**Pn**	**23 54 52.0**	**-0.6**
LMPM	**Military Pass**	**2.05**	**56**			**Pn**	**23 54 53.3**	**+0.5**
FTR	**Fort Ross**	**2.07**	**152**			**Pn**	**23 54 51.4**	**-1.5**
GAXM	**Alexander Vall**	**2.08**	**141**			**Pn**	**23 54 52.8**	**-0.3**
LHEM	**Herd Peak**	**2.09**	**52**			**Pn**	**23 54 53.3**	**-0.2**
B040	**Montague**	**2.11**	**45**			**Pn**	**23 54 53.0**	**-0.5**
NMCNC	**Mill Creek, So**	**2.11**	**146**			**Pn**	**23 54 51.6**	**-1.8**
MNRC	**McLaughlin Min**	**2.12**	**133**			**Pn**	**23 54 54.1**	**+0.4**
LBFM	**Black Fox Moun**	**2.16**	**62**			**Pn**	**23 54 54.7**	**+0.4**
NMTM	**Middletown**	**2.17**	**135**			**Pn**	**23 54 54.0**	**-0.3**
LMEM	**Manzanita Entr**	**2.18**	**84**			**Pn**	**23 54 55.3**	**+0.7**
NHSM	**Mount Saint He**	**2.19**	**140**			**Pn**	**23 54 53.6**	**-1.1**
LCMM	**Colby Mountain**	**2.23**	**94**			**Pn**	**23 54 54.6**	**-0.7**
OSUM	**Sutter Buttes**	**2.25**	**118**			**Pn**	**23 54 54.1**	**-1.3**
MGL	**Magalia**	**2.26**	**103**			**Pn**	**23 54 54.4**	**-1.2**
HATC	**Hat Creek Radi**	**2.30**	**77**			**Pn**	**23 54 56.3**	**+0.2**
LGMM	**Garner Mountai**	**2.32**	**57**			**Pn**	**23 54 56.4**	**0.0**
SUTB	**Sutter Butte**	**2.32**	**118**			**Pn**	**23 54 54.6**	**-1.7**
LTIM	**Timbered Crate**	**2.37**	**69**			**Pn**	**23 54 56.9**	**-0.3**
ORV	**Oroville**	**2.38**	**109**			**Pn**	**23 54 55.9**	**-1.3**
ORV	**Oroville**	**2.38**	**109**	Pn		**Pn**	**23 54 55.8**	**-1.4**
ORV	**Oroville**	**2.38**	**109**			**Pn**	**23 54 55.7**	**-1.4**
LBCM	**Butte Creek Ri**	**2.38**	**77**			**Pn**	**23 54 57.0**	**-0.3**
NTYM	**Taylor**	**2.39**	**145**			**Pn**	**23 54 57.0**	**-0.2**
PAM	**Palermo**	**2.40**	**111**			**Pn**	**23 54 56.2**	**-1.3**
K02D	**Willamette Mer**	**2.41**	**13**	P		**Pn**	**23 54 56.3**	**-1.3**
K02D	baz=194,SNR=49			S		**Sn**	**23 55 24.0**	**-2.3**
	baz=194							
NBPM	**Berryessa Peak**	**2.41**	**134**			**Pn**	**23 54 58.0**	**+0.4**
M04C	**Macdoel**	**2.42**	**53**	P		**Pn**	**23 54 57.5**	**-0.2**
	baz=234,SNR=73							
M04C	**Macdoel**	**2.42**	**53**			**Pn**	**23 54 57.7**	**-0.1**
LMHM	**Little Mount H**	**2.42**	**59**			**Pn**	**23 54 57.7**	**-0.2**
L04D	**Klamath Falls**	**2.45**	**40**	P		**Pn**	**23 54 58.0**	**-0.2**
L04D	baz=221,SNR=239			Sb		**Sn**	**23 55 29.0**	**+1.5**
	baz=221							
L04D	**Klamath Falls**	**2.45**	**40**			**Pn**	**23 54 58.9**	**+0.7**
OHCM	**Honcut**	**2.48**	**113**			**Pn**	**23 54 57.3**	**-1.1**
LASM	**Arnica Sink**	**2.48**	**59**			**Pn**	**23 54 58.4**	**-0.4**
MCCM	**Marconi Confer**	**2.51**	**151**			**Pn**	**23 54 57.5**	**-1.4**
MCCM	**Marconi Confer**	**2.51**	**151**	Pn		**Pn**	**23 54 57.2**	**-1.7**
CVS	**Carmenet Viney**	**2.52**	**142**			**Pn**	**23 54 58.4**	**-0.7**
NPRM	**Point Reyes**	**2.59**	**155**			**Pn**	**23 54 58.5**	**-1.6**
NADM	**Allendale**	**2.68**	**134**			**Pn**	**23 55 01.9**	**+0.6**
J01E	**Myrtle Point**	**2.83**	**7**	P		**Pn**	**23 55 02.3**	**-1.0**
J01E	baz=188,SNR=9.4			S		**Sn**	**23 55 34.6**	**-1.9**
	baz=188							
DBO	**Dodson Butte**	**2.90**	**17**			**Pn**	**23 55 04.1**	**-0.2**
AFDM	**Forest Hills D**	**3.01**	**117**			**Pn**	**23 55 05.2**	**-0.6**
K04D	**Chiloquin, OR**	**3.02**	**41**	P		**Pn**	**23 55 05.7**	**-0.5**
K04D	baz=222,SNR=10			S		**Sn**	**23 55 39.5**	**-2.0**
	baz=222							
J04D	**Umpqua Nationa**	**3.36**	**30**	P		**Pn**	**23 55 10.5**	**-0.4**
	baz=212,SNR=21							
I03D	**Drain, OR**	**3.43**	**13**	P		**Pn**	**23 55 11.1**	**-0.6**
	baz=194,SNR=36							
MOD	**Modoc Plateau**	**3.47**	**62**	Pn		**Pn**	**23 55 11.8**	**-0.5**
RUBR	**Rubicon Trail**	**3.54**	**110**			**Pn**	**23 55 13.8**	**+0.6**
K05A	**Summer Lake**	**3.55**	**47**	Pn		**Pn**	**23 55 12.8**	**-0.7**
I04A	**Tendick Farm,**	**3.75**	**23**	P		**Pn**	**23 55 16.0**	**0.0**
	baz=204,SNR=28							
I04A				S		**Sn**	**23 55 57.6**	**-1.7**
	baz=204							
J05D	**Fort Rock, OR**	**3.77**	**38**	P		**Pn**	**23 55 16.8**	**+0.3**
	baz=220,SNR=42							
I02D	**Swisshome**	**3.77**	**6**	P		**Pn**	**23 55 16.6**	**+0.3**
	baz=187,SNR=22							
I02D				S		**Sn**	**23 55 58.6**	**-1.2**
	baz=187							
VCNR	**Virginia City**	**3.82**	**105**			**Pn**	**23 55 17.5**	**+0.3**
CMB	**Columbia Colle**	**3.90**	**125**			**Pn**	**23 55 18.7**	**+0.7**
SAO	**San Andreas Ge**	**4.27**	**146**	Pn		**Pn**	**23 55 22.7**	**-0.5**
COR	**Corvallis**	**4.31**	**11**	Pn		**Pn**	**23 55 24.6**	**+1.0**
H04D	**Lebanon**	**4.35**	**16**	P		**Pn**	**23 55 24.8**	**+0.7**
	baz=197							
I05D	**Terrebonne, OR**	**4.59**	**29**	P		**Pn**	**23 55 28.6**	**+1.1**
	baz=211							
H04A	**Detroit Lake**	**4.63**	**20**	Pn		**Pn**	**23 55 27.4**	**-0.8**
RYN	**Ryan**	**4.87**	**109**			**Pn**	**23 55 30.6**	**-1.0**
G03D	**McMinnville, O**	**4.93**	**10**	P		**Pn**	**23 55 34.0**	**+1.9**
	baz=190							
NVAR	**Mina Array Bea**	**5.11**	**110**	Pn		**Pn**	**23 55 35.8**	**+0.9**
	4.5nm,0.3s,baz=286,slow=14,SNR=91							
NVAR				Lg		Lg	23 56 51.4	
	1.7nm,0.3s,baz=312,slow=24,SNR=3.0							
G05D	**Wamic, OR**	**5.39**	**24**	P		**Pn**	**23 55 39.6**	**+1.0**
	baz=206							
ELK	**Elko**	**7.00**	**84**	Pn		**Pn**	**23 56 03.1**	**+2.2**
	0.1nm,0.3s,baz=270,slow=13,SNR=7.3							
ELK				Lg		Lg	23 57 52.2	
	0.2nm,0.3s,baz=166,slow=19,SNR=3.5							
PFO	**Pinyon Flats O**	**9.26**	**134**	Pn		**Pn**	**23 56 33.3**	**+1.6**
	0.7nm,0.3s,

ASGA					AML	AML	00 26 05.4		
	0.7nm,0.3s								
ASGA					AML	AML	00 26 07.4		
	0.9nm,0.2s								
CSS	**Mathiatis**	**1.20**	**63**	PG	**Pn**		**00 25 52.4**	**+0.2**	
CSS				SG	**Sn**		**00 26 06.0**	**-1.5**	
CSS	**Mathiatis**	**1.20**	**63**	Pg	**Pn**		**00 25 51.9**	**-0.3**	
CSS				Sg	**Sn**		**00 26 07.4**	**-0.1**	
CSS	**Mathiatis**	**1.20**	**63**	P	**Pn**		**00 25 52.1**	**-0.1**	
CSS				S	**Sn**		**00 26 08.3**	**+0.8**	
CSS				AML	AML		00 26 10.2		
	0.2nm,0.2s								
CSS				AML	AML		00 26 10.2		
	0.2nm,0.2s								
CSS				AML	AML		00 26 12.8		
	0.2nm,0.3s								
CSS				AML	AML		00 26 12.8		
	0.2nm,0.3s								
MVOU	**Mavrovouni**	**1.45**	**66**	P	**Pn**		**00 25 56.2**	**+0.7**	
LFK	**Lefkose**	**1.50**	**55**	PN	**Pn**		**00 25 57.2**	**+0.8**	
GAZI	**Gazipasa**	**1.82**	**7**	PN	**Pb**		**00 26 04.5**	**+0.6**	
TEKE	**Tekeli-Mersin**	**1.93**	**27**	PN	**Pb**		**00 26 04.8**	**-1.0**	
TEKE				SN	**Sn**		**00 26 27.1**	**+1.7**	
AKKU	**Akkuyu-Mersin**	**2.13**	**35**	PN	**Pn**		**00 26 07.1**	**+2.2**	
GULN	**MERSİN_Gulnar**	**2.15**	**35**	*i* P	**Pn**		**00 26 07.0**	**+1.9**	
GULN				*i* S	**Sn**		**00 26 29.1**	**-1.7**	
BERE	**Bereket-Mersin**	**2.15**	**27**	PN	**Pb**		**00 26 07.9**	**-1.8**	
IKL	**Isikli**	**2.26**	**36**	PN	**Pn**		**00 26 08.8**	**+2.1**	
TEVE	**Tevekalti-Mers**	**2.31**	**30**	PN	**Pn**		**00 26 10.1**	**+2.6**	
ERMK	**Ermenek**	**2.32**	**18**	*i* P	**Pb**		**00 26 11.8**	**-0.8**	
ERMK				*i* S	**Sn**		**00 26 34.4**	**-1.1**	
ERMK				IAML			00 27 21.0		
	comp=N,42nm,3.0s								
KEBE	**Keben-Mersin**	**2.44**	**34**	PN	**Pn**		**00 26 11.5**	**+2.2**	
KIZK	**Mersin**	**2.68**	**40**	PN	**Pn**		**00 26 14.7**	**+2.2**	
KRMN	**Karaman**	**2.92**	**20**	PN	**Pn**		**00 26 19.2**	**+3.3**	
HNTI	**Hanita**	**2.95**	**116**	Sn	**Sn**		**00 26 49.1**	**-1.5**	
OFRI	**`Ofer**	**3.06**	**125**	Pn	**Pn**		**00 26 18.7**	**+0.9**	
OFRI				Sn	**Sn**		**00 26 52.3**	**-1.2**	
MMA0B	**Mount Meron ar**	**3.15**	**116**	Pn	**Pn**		**00 26 19.7**	**+0.7**	
MMA0B				Sn	**Sn**		**00 26 54.8**	**-0.9**	
FETY	**Fethiye**	**3.25**	**313**	*i* P	**Pn**		**00 26 23.6**	**+3.2**	
FETY				*i* S	**Sn**		**00 26 54.0**	**-4.2**	
GEM	**Giv'at Ha'Em**	**3.26**	**111**	Pn	**Pn**		**00 26 20.7**	**+0.2**	
GEM				Sn	**Sn**		**00 26 57.2**	**-1.2**	
KSDI	**Kefar Szold**	**3.27**	**111**	Pn	**Pn**		**00 26 21.4**	**+0.8**	
KSDI				Sn	**Sn**		**00 26 56.8**	**-1.7**	
NATI	**Neve Ativ**	**3.30**	**110**	Pn	**Pn**		**00 26 21.9**	**+0.9**	
NATI				Sn	**Sn**		**00 26 58.3**	**-1.0**	
KERG	**Konya-Eregli**	**3.43**	**29**	*i* P	**Pn**		**00 26 26.5**	**+3.6**	
KERG				*i* S	**Sn**		**00 26 58.1**	**-4.6**	
KERG				IAML			00 27 18.0		
	comp=N,15nm,1.6s								
GOLH	**Golhisar**	**3.44**	**325**	*i* P	**Pb**		**00 26 28.1**	**-3.5**	
GOLH				*i* S	**Sn**		**00 27 02.1**	**-0.8**	
MMLI	**Mount Malkishu**	**3.47**	**124**	Pn	**Pn**		**00 26 24.8**	**+1.4**	
MMLI				Sn	**Sn**		**00 27 02.7**	**-0.8**	
SHMJ	**Saham**	**3.55**	**118**	Pn	**Pn**		**00 26 24.6**	**+0.1**	
QRNJ	**Al-Qirein**	**3.63**	**124**	Pn	**Pn**		**00 26 26.1**	**+0.6**	
DALY	**Dalyan (Mula)**	**3.63**	**312**	*i* P	**Pn**		**00 26 29.0**	**+3.4**	
DALY				*i* S	**Sn**		**00 27 05.4**	**-2.1**	
DALY				IAML			00 27 20.0		
	comp=N,12nm,1.4s								
DALY				IAML			00 27 26.0		
	comp=E,15nm,1.3s								
HMDT	**Nahal Hemdat**	**3.65**	**126**	Pn	**Pn**		**00 26 26.7**	**+0.9**	
HMDT				Sn	**Sn**		**00 27 07.1**	**-0.8**	
TURN	**Turunc**	**3.70**	**312**	*i* P	**Pb**		**00 26 32.4**	**-3.6**	
TURN				*i* S	**Sn**		**00 27 11.7**	**+2.5**	
AMAZ	**Amatzia**	**3.77**	**139**	Pn	**Pn**		**00 26 28.7**	**+1.1**	
AMAZ				Sn	**Sn**		**00 27 11.0**	**-0.1**	
TAVA	**DENIZLI_Tavas**	**3.94**	**321**	*i* P	**Pn**		**00 26 34.0**	**+4.0**	
TAVA				*i* S	**Sn**		**00 27 09.4**	**-5.9**	
DSI	**Dead Sea**	**4.01**	**134**	Pn	**Pn**		**00 26 31.8**	**+1.0**	
DSI				Sn	**Sn**		**00 27 16.7**	**-0.1**	
YTIR	**Yattir**	**4.01**	**139**	Pn	**Pn**		**00 26 31.8**	**+0.9**	
YTIR				Sn	**Sn**		**00 27 17.1**	**0.0**	
KZIT	**Kziot**	**4.04**	**150**	Pn	**Pn**		**00 26 32.3**	**+1.0**	
KZIT				Sn	**Sn**		**00 27 17.6**	**0.0**	
DAT	**Datca**	**4.29**	**304**	*i* P	**Pn**		**00 26 38.0**	**+3.3**	
DAT				*i* S	**Sn**		**00 27 23.4**	**-0.4**	
DAT				IAML			00 27 28.0		
	comp=E,7.3nm,0.4s								
DAT				IAML			00 27 29.0		
	comp=N,8.6nm,0.4s								
GHAJ	**Ghor Haditha**	**4.31**	**135**	Pn	**Pn**		**00 26 36.5**	**+1.6**	
GHAJ				Sn	**Sn**		**00 27 24.0**	**-0.2**	
DAMI2	**DAM2**	**4.34**	**138**	Pn	**Pn**		**00 26 36.7**	**+1.4**	
KARJ	**KARJ**	**4.50**	**136**	Pn	Pn		00 26 29.7	-7.8	
KARJ				Sn	Sn		00 27 11.4	-17	
PRNI	**Paran**	**4.78**	**147**	Pn	**Pn**		**00 26 42.3**	**+0.8**	
PRNI				Sn	**Sn**		**00 27 35.3**	**-0.6**	
KRMI	**Paran Flat**	**4.87**	**151**	Pn	**Pn**		**00 26 44.2**	**+1.5**	
KRMI				Sn	**Sn**		**00 27 38.6**	**+0.5**	
HRFI	**Mount Harif**	**5.07**	**149**	Pn	**Pn**		**00 26 47.1**	**+1.7**	
HRFI				Sn	**Sn**		**00 27 42.4**	**-0.6**	
MBRI	**Mt Berech**	**5.23**	**151**	Pn	**Pn**		**00 26 49.0**	**+1.3**	
MBRI				Sn	**Sn**		**00 27 48.1**	**+1.0**	
EIL	**Elat**	**5.36**	**152**	Pn	**Pn**		**00 26 50.9**	**+1.6**	
EIL				Sn	**Sn**		**00 27 49.6**	**-0.4**	

VAO 03 00:45:36.1±0.2, 8°55'S×53°25'W, h0km, mb3.7, Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPGB	**Novo Progresso**	**2.57**	**305**	*eP*	Pn	00 46 19.6	+0.6
NPGB				*eS*	Sn	00 46 51.0	0.0
NPGB	**Novo Progresso**	**2.57**	**305**	*eP*	Pn	00 46 19.6	+0.6
NPGB				*eS*	Sn	00 46 51.0	0.0
CLDB	**Colider**	**3.42**	**227**	*eP*	Pn	00 46 29.7	-1.0
CLDB				*eS*	Sn	00 47 12.6	+0.6
CLDB	**Colider**	**3.42**	**227**	*eP*	Pn	00 46 29.7	-1.0
CLDB				*eS*	Sn	00 47 12.6	+0.6
PRPB	**Parauapebas**	**4.14**	**56**	*eP*	Pn	00 46 40.3	-0.3
PRPB				*eS*	Sn	00 47 30.3	+0.5
PRPB	**Parauapebas**	**4.14**	**56**	*eP*	Pn	00 46 40.3	-0.3
PRPB				*eS*	Sn	00 47 30.3	+0.5
ITTB	**Itaituba**	**4.83**	**329**	*eP*	Pn	00 46 50.9	+0.7
ITTB				*eS*	Sn	00 47 47.1	+0.2
ITTB	**Itaituba**	**4.83**	**329**	*eP*	Pn	00 46 50.9	+0.7
ITTB				*eS*	Sn	00 47 47.1	+0.2
SMTB	**Santa Maria do**	**5.60**	**94**	*eP*	Pn	00 47 00.6	-0.2
SMTB				*eS*	Sn	00 48 06.0	+0.1
SMTB	**Santa Maria do**	**5.60**	**94**	*eP*	Pn	00 47 00.6	-0.2
SMTB				*eS*	Sn	00 48 06.0	+0.1
PEXB	**Peixe**	**6.01**	**126**	*eP*	Pn	00 47 06.9	+0.5
PEXB				*eS*	Sn	00 48 16.6	+0.5
PEXB	**Peixe**	**6.01**	**126**	*eP*	Pn	00 47 06.9	+0.5
PEXB				*eS*	Sn	00 48 16.6	+0.5
ARAG	**Araguaiana, MT**	**7.25**	**169**	*eP*	Pn	00 47 23.5	0.0
ARAG	**Araguaiana, MT**	**7.25**	**169**	*eP*	Pn	00 47 23.5	0.0
SALV	**Santo Antonio**	**7.69**	**198**	*eP*	Pn	00 47 29.5	0.0
SALV	**Santo Antonio**	**7.69**	**198**	*eP*	Pn	00 47 29.5	0.0
VILB	**Vilhena**	**8.12**	**237**	*eP*	Pn	00 47 35.2	-0.1
VILB				*eS*	Sn	00 49 09.0	+1.1
VILB	**Vilhena**	**8.12**	**237**	*eP*	Pn	00 47 35.2	-0.1
VILB				*eS*	Sn	00 49 09.0	+1.1
PTLB	**Pontes e Lacer**	**8.96**	**219**	*eP*	Pn	00 47 46.1	-0.8
PTLB	**Pontes e Lacer**	**8.96**	**219**	*eP*	Pn	00 47 46.1	-0.8
MACA	**Manacapuru-AM**	**9.13**	**305**	*eP*	Pn	00 47 49.5	+0.3
MACA	**Manacapuru-AM**	**9.13**	**305**	*eP*	Pn	00 47 49.5	+0.3
SAML	**Samuel**	**9.83**	**267**	*eP*	Pn	00 47 58.3	-0.5
SAML				*eS*	Sn	00 49 50.9	+0.8
SAML	**Samuel**	**9.83**	**267**	*eP*	Pn	00 47 58.3	-0.5
SAML				*eS*	Sn	00 49 50.9	+0.8
PTGA	**Pitinga**	**10.25**	**319**	*eP*	Pn	00 48 04.5	-0.1
PTGA	**Pitinga**	**10.25**	**319**	*eP*	Pn	00 48 04.5	-0.1
IPMB	**Ipameri, GO**	**10.58**	**153**	*eP*	Pn	00 48 08.9	-0.2
IPMB				*eS*	Sn	00 50 09.5	+1.0
IPMB	**Ipameri, GO**	**10.58**	**153**	*eP*	Pn	00 48 08.9	-0.2
IPMB				*eS*	Sn	00 50 09.5	+1.0
ROSB	**Rosrio**	**10.67**	**59**	*eP*	Pn	00 48 10.2	-0.1
ROSB				*eS*	Sn	00 50 11.4	+0.8
ROSB	**Rosrio**	**10.67**	**59**	*eP*	Pn	00 48 10.2	-0.1
ROSB				*eS*	Sn	00 50 11.4	+0.8
JANB	**Januaria**	**10.88**	**127**	*eP*	Pn	00 48 13.1	-0.1
JANB				*eS*	Sn	00 50 17.1	+1.3
JANB	**Januaria**	**10.88**	**127**	*eP*	Pn	00 48 13.1	-0.1
JANB				*eS*	Sn	00 50 17.1	+1.3
ITRB	**Iturama**	**11.44**	**166**	*eP*	Pn	00 48 20.2	-0.7
ITRB				*eS*	Sn	00 50 30.1	+0.5
ITRB	**Iturama**	**11.44**	**166**	*eP*	Pn	00 48 20.2	-0.7
ITRB				*eS*	Sn	00 50 30.1	+0.5
AQDB	**Aquidauana**	**12.10**	**191**	*eP*	Pn	00 48 29.6	-0.2
AQDB				*eS*	Sn	00 50 46.7	+1.1
AQDB	**Aquidauana**	**12.10**	**191**	*eP*	Pn	00 48 29.6	-0.2
AQDB				*eS*	Sn	00 50 46.7	+1.1
MC01	**Montes Claros**	**12.17**	**133**	*eP*	Pn	00 48 30.4	-0.5
MC01				*eS*	Sn	00 50 48.3	+0.7
MC01	**Montes Claros**	**12.17**	**133**	*eP*	Pn	00 48 30.4	-0.5
MC01				*eS*	Sn	00 50 48.3	+0.7
PCMB	**Pacaembu**	**13.13**	**172**	*eP*	Pn	00 48 43.5	-0.4
PCMB				*eS*	Sn	00 51 11.3	+0.4
PCMB	**Pacaembu**	**13.13**	**172**	*eP*	Pn	00 48 43.5	-0.4
PCMB				*eS*	Sn	00 51 11.3	+0.4
BB19B	**Bebedouro**	**13.26**	**160**	*eP*	Pn	00 48 45.5	-0.2
BB19B				*eS*	Sn	00 51 14.3	+0.4
BB19B	**Bebedouro**	**13.26**	**160**	*eP*	Pn	00 48 45.5	-0.2
BB19B				*eS*	Sn	00 51 14.3	+0.4
GDU01	**Guandu, BA**	**14.36**	**112**	*eP*	Pn	00 49 00.7	-0.2
GDU01				*eS*	Sn	00 51 41.4	+0.3
GDU01	**Guandu, BA**	**14.36**	**112**	*eP*	Pn	00 49 00.7	-0.2
GDU01				*eS*	Sn	00 51 41.4	+0.3

*BJI **03** 01:27:17.8±0.0, 19°.67S×175°.47W, h253km, mB5.0/27, mb5.2/49*
*NEIC **03** 01:27:18.1±1.4, 19°.29S±0°.08×175°.67W±0°.07, h228km±4km, mb4.9/167, Error ellipse: s-maj=12.0km s-min=10.1km az=184.0*
*IDC **03** 01:27:18.3±1.2, 19°.30S×175°.86W, h219km±11km, mb4.8/23, mb1 4.8/25, mb1mx4.8/27, mbtmp5.3/25, Error ellipse: s-maj=10.0km s-min=9.2km az=179.0*
*GCMT **03** 01:27:22.1±0.3, 19°.44S±0°.03×175°.61W±0°.02, h259km±2km, MW5.1/75, Moment Tensor Solution. s41,c43; s75,c90; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr0.15±.23; Mθθ0.42±.35; Mϕϕ-0.57±.28; Mrθ-4.00±.23; Mθϕ0.35±.26; Mϕr-3.48±.16; Best double couple: M=5.32100×10^16^ NP1:ϕs313.00000°, δ5.00000°, λ-5.00000°. NP2:ϕs48.00000°, δ90.00000°, λ-95.00000°. Principal axes: T 5.5640, Plg44.0000°, Azm143.0000°; N -0.4850, Plg5.0000°, Azm48.0000°; P -5.0790, Plg45.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **03** 01:27:26.3±0.0, 18°.86S×174°.61W, h277km*
ISC 03 01:27:19.9±0.6, 19°.31S±0°.05×175°.73W±0°.04, h242km±4km, n526, σ1s25/559, mb5.0/140, 54C-40D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.49**	**89**	P	**Pn**	**01 28 40.4**	**-1.1**
	baz=5.4,SNR=106						
NIUE	**Niue**	**5.49**	**89**		**Pn**	**01 28 39.6**	**-1.9**
MSVF	**Nonsavu**	**6.10**	**284**		**Pn**	**01 28 49.1**	**-0.2**
MSVF				S	**S**	**01 30 05.3**	**+4.6**
AFI	**Afiamalu**	**6.57**	**36**		**Pn**	**01 28 51.7**	**-3.6**
RAO	**Raoul Island**	**10.10**	**191**	P	**Pn**	**01 29 39.3**	**-0.4**
	58nm,0.3s,baz=18,slow=20,SNR=2.3						
RAO				S	S	01 31 23.1	-10
	115nm,0.3s,baz=102,slow=23,SNR=6.9						
RAO	**Raoul Island**	**10.10**	**191**		**Pn**	**01 29 38.6**	**-1.2**
FUNA	**Funafuti**	**11.79**	**335**		**Pn**	**01 30 01.0**	**-0.2**
RAR	**Rarotonga**	**15.10**	**100**	P	**Pn**	**01 30 41.8**	**+0.2**
	2.1nm,0.3s,baz=224,slow=6.9,SNR=5.7						
RAR				S	**S**	**01 33 31.2**	**+2.9**
	1.9nm,0.3s,baz=97,slow=19,SNR=2.5						
RAR	**Rarotonga**	**15.10**	**100**	P	**P**	**01 30 40.9**	**-0.5**
RAR				IAmb	IAmb	01 30 43.4	
	comp=Z,87nm,1.1s						
RAR					**S**	**01 33 28.1**	**-0.2**
DZM	**Mont Dzumac**	**16.90**	**258**	*eP*	**Pn**	**01 31 03.7**	**+0.5**
	comp=Z,575nm,1.2s						
DZM	**Mont Dzumac**	**16.90**	**258**	P	**Pn**	**01 31 03.5**	**+0.3**
	comp=Z,8.4nm,0.3s,baz=84,slow=13,SNR=40						
DZM	**Mont Dzumac**	**16.90**	**258**	P	**P**	**01 31 01.5**	**+0.2**
HIZ	**Hauiti**	**20.81**	**201**	P	**P**	**01 31 43.2**	**+0.2**
HIZ				IAmb	IAmb	01 31 44.9	
	comp=Z,42nm,0.7s						
BFZ	**Birch Farm**	**22.38**	**196**	P	**P**	**01 31 57.5**	**-0.6**
BFZ				IAmb	IAmb	01 31 58.5	
	comp=Z,43nm,0.7s						
TARA	**Tarawa**	**23.36**	**330**	P	**P**	**01 32 05.3**	**-1.8**
TCW	**Tory Channel**	**23.44**	**199**	P	**P**	**01 32 06.9**	**-0.7**
PLWZ	**Palliser**	**23.48**	**197**	P	**P**	**01 32 06.9**	**-1.1**
QRZ	**Quartz Range**	**23.68**	**203**	P	**P**	**01 32 10.2**	**+0.4**
QRZ	**Quartz Range**	**23.68**	**203**	P	**P**	**01 32 10.1**	**+0.3**
QRZ				IAmb	IAmb	01 32 15.9	
	comp=Z,61nm,0.8s						
NNZ	**Nelson**	**23.73**	**201**	P	**P**	**01 32 09.3**	**-0.9**
TUWZ	**Tuamarina**	**23.74**	**200**	P	**P**	**01 32 10.2**	**-0.1**
TUWZ	**Tuamarina**	**23.74**	**200**	P	**P**	**01 32 08.7**	**-1.6**
THZ	**Tophouse**	**24.38**	**201**	P	**P**	**01 32 16.6**	**+0.4**
THZ	**Tophouse**	**24.38**	**201**	P	**P**	**01 32 15.7**	**-0.5**
THZ				IAmb	IAmb	01 32 23.2	
	comp=Z,22nm,0.6s						
DSZ	**Denniston Nort**	**24.75**	**203**	P	**P**	**01 32 19.0**	**-0.5**
KHZ	**Kahutara**	**24.76**	**199**	P	**P**	**01 32 19.1**	**-0.4**
KHZ	**Kahutara**	**24.76**	**199**	P	**P**	**01 32 18.2**	**-1.4**
KHZ				IAmb	IAmb	01 32 29.5	
	comp=Z,24nm,0.8s						
PAE	**Paea**	**24.85**	**90**	*eP*	**P**	**01 32 21.2**	**+0.6**
	comp=Z,16nm,0.9s						
PPT2	**Papeete2**	**24.86**	**90**	*eP*	**P**	**01 32 21.7**	**+0.9**
	comp=Z,110nm,1.0s						
PPT	**Papeete**	**24.87**	**90**	P	**P**	**01 32 22.1**	**+1.3**
	comp=Z,113nm,0.8s,baz=3.7,slow=0.6,SNR=8.9						
PPTF	**Pamatai, Papee**	**24.87**	**90**	P	**P**	**01 32 19.0**	**-1.9**
TIAR	**Tiarei**	**25.09**	**90**	*eP*	**P**	**01 32 23.4**	**+0.6**
	comp=Z,26nm,1.0s						
GVZ	**Greta Valley S**	**25.42**	**199**	P	**P**	**01 32 25.0**	**-0.5**
HNR	**Honiara**	**25.49**	**289**	P	**P**	**01 32 24.9**	**-1.5**
	comp=Z,267nm,0.7s,baz=136,slow=2.1,SNR=5.0						
HNR	**Honiara**	**25.49**	**289**	P	**P**	**01 32 25.5**	**-0.9**
LTZ	**Lake Taylor**	**25.50**	**201**	P	**P**	**01 32 24.8**	**-1.5**
LTZ	**Lake Taylor**	**25.50**	**201**	P	**P**	**01 32 24.6**	**-1.7**
AMCZ	**Amberley**	**25.73**	**200**	P	**P**	**01 32 31.3**	**+3.1**
INZ	**Inchbonnie**	**25.74**	**202**	P	**P**	**01 32 27.1**	**-1.2**
OXZ	**Oxford**	**26.07**	**201**	P	**P**	**01 32 31.0**	**-0.3**
OXZ	**Oxford**	**26.07**	**201**	P	**P**	**01 32 29.9**	**-1.4**
OKCZ	**Okains Bay**	**26.10**	**199**	P	**P**	**01 32 31.6**	**+0.1**
MQZ	**McQueen's Vall**	**26.21**	**199**	P	**P**	**01 32 31.1**	**-1.4**
MQZ				IAmb	IAmb	01 32 47.7	
	comp=Z,15nm,0.5s						
RPZ	**Rata Peaks**	**26.74**	**202**	P	**P**	**01 32 35.6**	**-1.7**
	comp=Z,20nm,0.5s,baz=301,slow=1.5,SNR=14						
RPZ	**Rata Peaks**	**26.74**	**202**	IAmb	IAmb	01 32 51.3	
	comp=Z,37nm,1.0s						
FOZ	**Fox Glacier**	**27.03**	**204**	IAmb	IAmb	01 32 45.0	
	comp=Z,28nm,0.8s						
EIDS	**Eidsvold**	**31.23**	**253**	P	**P**	**01 33 16.6**	**-0.5**
	baz=31,SNR=11						
EIDS	**Eidsvold**	**31.23**	**253**	IAmb	IAmb	01 33 19.4	
	comp=Z,36nm,1.1s						
ARMA	**Armidale**	**31.50**	**243**	P	**P**	**01 33 19.9**	**+0.2**
	baz=32,SNR=12						
ARMA	**Armidale**	**31.50**	**243**	P	**P**	**01 33 19.6**	**0.0**
ARMA				IAmb	IAmb	01 33 21.0	
	comp=Z,18nm,0.7s						
MGCD	**Mangrove Creek**	**32.65**	**238**	P	**P**	**01 33 30.3**	**+0.9**
	baz=33,SNR=7.0						
RMQ	**Roma**	**33.40**	**251**	P	**P**	**01 33 36.3**	**+0.2**
	baz=34,SNR=11						
CNB	**Canberra Magne**	**34.66**	**235**	P	**P**	**01 33 46.6**	**-0.2**
	baz=35,SNR=11						
KRVT	**Keravat (AS076**	**34.80**	**291**	P	**P**	**01 33 47.2**	**-1.0**
	comp=Z,85nm,0.8s,baz=16,slow=5.6,SNR=7.5						
CAN	**Canberra**	**34.94**	**236**	IAmb	IAmb	01 33 51.0	
	comp=Z,25nm,1.0s						
CTA	**Charters Tower**	**35.75**	**262**	P	**P**	**01 33 56.0**	**-0.2**
	comp=Z,143nm,0.6s,baz=95,slow=12						
CTA				ScP	**ScP**	**01 39 43.7**	**+2.3**
	comp=Z,6.9nm,1.0s,baz=243,slow=11,SNR=4.1						
CTAO	**Charters Tower**	**35.75**	**262**	P	**P**	**01 33 56.2**	**0.0**
PATS	**Pohnpei**	**36.45**	**313**	P	**P**	**01 34 04.9**	**+2.8**
	baz=37,SNR=3.2						
CMSA	**Cobar Meteorol**	**36.72**	**243**	P	**P**	**01 34 03.6**	**-0.7**
	baz=37,SNR=31						
PMG	**Port Moresby**	**37.20**	**280**	P	**P**	**01 34 07.9**	**-0.5**
	comp=Z,77nm,0.9s,baz=91,slow=5.2,SNR=11						
PMG	**Port Moresby**	**37.20**	**280**	P	**P**	**01 34 08.1**	**-0.4**
QLP	**Quilpie**	**37.45**	**251**	P	**P**	**01 34 09.9**	**-0.5**
	baz=38,SNR=3.6						
MTSU	**Mount Surprise**	**37.80**	**265**	P	**P**	**01 34 13.1**	**-0.4**
	baz=38,SNR=63						
TOO	**Toolangi**	**38.32**	**233**	P	**P**	**01 34 17.0**	**-0.5**
	baz=38,SNR=6.8						
COEN	**Coen**	**39.66**	**271**	P	**P**	**01 34 28.6**	**-0.3**
	baz=40,SNR=25						
COEN	**Coen**	**39.66**	**271**	P	**P**	**01 34 28.4**	**-0.6**
COEN				IAmb	IAmb	01 34 31.5	
	comp=Z,35nm,0.8s						
STKA	**Stephens Creek**	**40.23**	**243**	P	**P**	**01 34 33.3**	**-0.1**
	baz=40,SNR=19						
STKA	**Stephens Creek**	**40.23**	**243**	P	**P**	**01 34 32.9**	**-0.5**
	comp=Z,26nm,0.8s,baz=89,slow=9.4,SNR=53						
STKA				PcP	**PcP**	**01 36 33.0**	**+0.7**
	comp=Z,9.8nm,0.8s,baz=54,slow=3.1,SNR=4.9						
STKA				ScP	**ScP**	**01 40 00.7**	**+2.4**
	comp=Z,1.6nm,0.7s,baz=16,slow=1.9,SNR=3.0						
STKA	**Stephens Creek**	**40.23**	**243**	P	**P**	**01 34 33.1**	**-0.3**
STKA				PcP	**PcP**	**01 36 31.9**	**-0.4**
STKA				ScP	**ScP**	**01 39 59.9**	**+1.6**
ARPS	**Mount Arapiles**	**40.92**	**236**	P	**P**	**01 34 39.6**	**+0.7**
	baz=41,SNR=6.5						
QIS	**Mount Isa**	**41.91**	**260**	P	**P**	**01 34 46.2**	**-1.0**
	baz=42,SNR=17						
HTT	**Hallett**	**42.67**	**241**	P	**P**	**01 34 52.2**	**-1.0**
	baz=43,SNR=16						
BBOO	**Buckleboo**	**44.99**	**243**	P	**P**	**01 35 10.3**	**-1.2**
	baz=45,SNR=19						
BBOO	**Buckleboo**	**44.99**	**243**	P	**P**	**01 35 10.5**	**-1.1**
BBOO				IAmb	IAmb	01 35 11.9	
	comp=Z,48nm,1.0s						
JAY	**Jayapura**	**45.73**	**286**	P	**P**	**01 35 17.5**	**-0.1**
	comp=Z,83nm,0.5s,baz=112,slow=2.1,SNR=45						
JAY				S	**S**	**01 41 40.5**	**-2.1**
	comp=Z,2.2nm,0.3s,baz=94,slow=19,SNR=2.0						
JAY	**Jayapura**	**45.73**	**286**	P	**P**	**01 35 17.5**	**-0.1**
	comp=Z,1μmcomp=Z,92nm,0.8s						
GENI	**Genyem**	**46.19**	**286**	P	**P**	**01 35 20.4**	**-0.7**
	comp=Z,6μmcomp=Z,237nm,1.0s						
WR0	**Warramunga Arr**	**46.70**	**260**	P	**P**	**01 35 23.8**	**-1.3**
WR0				IAmb	IAmb	01 35 27.2	
	comp=Z,31nm,0.9s						
WB0	**Warramunga Arr**	**46.87**	**261**	P	**P**	**01 35 25.3**	**-1.0**
WB0				IAmb	IAmb	01 35 27.2	
	comp=Z,68nm,0.6s						
AS31	**Alice Springs**	**46.87**	**255**	P	**P**	**01 35 25.7**	**-0.7**
AS31				IAmb	IAmb	01 35 27.7	
	comp=Z,44nm,0.6s						
ASAR	**Alice Springs**	**46.88**	**255**	P	**P**	**01 35 25.5**	**-0.9**
	comp=Z,128nm,0.5s,baz=88,slow=8.4,SNR=637						
ASAR				PcP	**PcP**	**01 36 55.5**	**+0.3**
	comp=Z,12nm,0.7s,baz=98,slow=4.5,SNR=6.9						
ASAR				ScP	**ScP**	**01 40 28.1**	**+2.5**
	comp=Z,4.4nm,0.9s,baz=103,slow=3.6,SNR=10						
ASAR				S	**S**	**01 41 53.6**	**-5.1**
	comp=Z,4.8nm,0.7s,baz=91,slow=15,SNR=16						
WB2	**Warramunga Arr**	**46.88**	**260**	P	**P**	**01 35 25.5**	**-1.0**
WRAB	**Tennant Creek**	**46.88**	**260**	P	**P**	**01 35 24.2**	**-2.3**
WRAB				IAmb	IAmb	01 35 27.3	
	comp=Z,51nm,0.5s						
WRA	**Warramunga Arr**	**46.89**	**260**	P	**P**	**01 35 25.1**	**-1.5**
	comp=Z,50nm,0.4s,baz=98,slow=5.7,SNR=223						
WRA				PcP	**PcP**	**01 36 55.3**	**+0.1**
	comp=

KKM IAmb IAmb 01 38 16.1
comp=Z,36nm,0.7s
WOJI Wonogiri, Jawa 71.78 268 P **P** **01 38 16.5 -0.1**
comp=Z,76nm,0.9s
ERM Erimo 71.88 329 P **P** **01 38 16.4 -0.2**
ERM IAmb IAmb 01 38 21.4
comp=Z,30nm,0.8s
SMRI Semarang 72.47 269 P **P** **01 38 21.4 +0.6**
comp=Z,192nm,0.8s
UNV Unalaska Valle 73.28 6 IAmb IAmb 01 38 26.0
comp=Z,28nm,1.0s
SBUM Sibu 73.93 278 P **P** **01 38 30.0 +0.8**
YULB Yu-li 74.66 302 IAmb IAmb 01 38 33.1
comp=Z,28nm,0.6s
CISI Cisompet, Garu 74.80 267 P **P** **01 38 33.2 -1.1**
comp=Z,118nm,1.1s
CNBA Chernabura Isl 75.11 10 P **P** **01 38 35.3 +0.3**
CNBA IAmb IAmb 01 38 35.8
comp=Z,12nm,0.8s
KSM Kuching 75.38 277 IAmb IAmb 01 38 38.9
comp=Z,44nm,0.9s
KSM Kuching 75.38 277 P **P** **01 38 38.0 +0.4**
PETK Petropavlovsk- 75.70 344 P **P** **01 38 38.9 +0.4**
comp=Z,48nm,1.0s,baz=120,slow=8.8,SNR=31
YSS Yuzh-Sakhalins 75.82 332 P **P** **01 38 38.5 -0.7**
CBJI Citeko 76.06 268 P P 01 38 48.9 +7.5
DBJI Dramaga 76.11 268 P **P** **01 38 41.8 +0.1**
comp=Z,139nm,0.7s
TPI Tanjungpandan 76.46 272 P **P** **01 38 44.2 +0.5**
comp=Z,116nmcomp=Z,49nm,1.0s
CHGN Chignik 76.72 10 IAmb IAmb 01 38 45.3
comp=Z,16nm,0.8s
KSRS Korea Array 77.44 317 P **P** **01 38 49.8 +1.2**
comp=Z,8.0nm,0.7s,baz=135,slow=6.2,SNR=24
OHAK Old Harbor 78.52 12 IAmb IAmb 01 38 56.0
comp=Z,16nm,0.8s
KASI Kota Agung 78.56 268 P **P** **01 38 54.1 -1.2**
comp=Z,140nm,1.1s
NVAR Mina Array Bea 78.70 42 P **P** **01 38 57.6 +1.9**
comp=Z,4.1nm,0.8s,baz=225,slow=8.5,SNR=18
NV11 Mina Array Sit 78.80 43 P **P** **01 38 55.6 -0.6**
LWLI Liwa 79.13 268 P P 01 39 04.0 +5.5
KDAK Kodiak Island 79.19 12 P **P** **01 38 57.1 -0.5**
KDAK IAmb IAmb 01 38 59.3
comp=Z,22nm,0.8s
KVN Kaiserville 79.20 42 P **P** **01 38 57.7 -0.7**
USA0B Ussuriysk Arra 79.21 325 IAmb IAmb 01 39 00.9
comp=Z,53nm,1.1s
USRK Ussuriysk Ar. 79.21 325 P **P** **01 38 59.5 +1.4**
comp=Z,23nm,0.8s,baz=120,slow=3.8,SNR=69
Y14A Wickenburg 79.80 49 P **P** **01 39 00.5 -1.1**
PINE Pine Mountain 80.35 37 P **P** **01 39 03.6 -0.9**
NJ2 Nanjing 80.79 309 *e*P **P** **01 39 05.8 -1.0**
NJ2 pmax pmax
comp=Z,15nm,0.5s
MDJ Mudanjiang 80.80 324 P **P** **01 39 08.4 +1.8**
MDJ pmax pmax
comp=Z,230nm,1.3s
MDJ pmax pmax
comp=Z,300nm,3.6s
DLV T Lat 80.83 286 IAmb IAmb 01 39 09.3
comp=Z,24nm,1.1s
KSI Kapahiang 80.95 269 P **P** **01 39 07.5 -0.7**
comp=Z,110nm,0.8s
CNPM China Poot 81.07 12 IAmb IAmb 01 39 09.7
comp=Z,25nm,0.9s
BRLK Bradley Lake 81.36 12 IAmb IAmb 01 39 11.0
comp=Z,23nm,0.9s
CCUT Cedar City 81.45 45 P **P** **01 39 09.8 -0.7**
SVW2 Sparrevohn 81.75 10 P **P** **01 39 10.1 -1.1**
ELK Elko 81.97 42 P **P** **01 39 12.8 -0.3**
SEW Seward 81.97 13 IAmb IAmb 01 39 13.8
comp=Z,20nm,1.0s
X18A Snowflake 82.28 49 P **P** **01 39 13.1 -1.7**
G08A Pilot Rock 82.39 37 P **P** **01 39 14.2 -0.9**
CN2 Changchun 82.69 321 *e*P **P** **01 39 17.5 +1.1**
CN2 pmax pmax
comp=Z,60nm,1.2s
W18A Petrified Fore 82.72 49 P **P** **01 39 16.2 -0.8**
MSU Marysvale 82.75 45 P **P** **01 39 16.8 -0.5**
RC01 Rabbit Creek A 82.81 12 IAmb IAmb 01 39 18.4
comp=Z,21nm,1.1s
MFID Camas Ranch 83.11 39 P **P** **01 39 18.1 -0.7**
GLI Glacier Island 83.18 14 IAmb IAmb 01 39 20.0
comp=Z,35nm,0.9s
MA2 Magadan 83.23 344 P **P** **01 39 18.8 0.0**
MA2 IAmb IAmb 01 39 20.0
comp=Z,21nm,1.1s
KNK Knik Glacier 83.36 13 IAmb IAmb 01 39 21.2
comp=Z,16nm,0.9s
PMR Palmer 83.39 12 IAmb IAmb 01 39 37.0
comp=Z,9.4nm,0.6s
MAW Mawson 83.39 199 P **P** **01 39 20.8 +1.1**
comp=Z,6.9nm,0.7s,baz=139,slow=6.6,SNR=22
MAW Mawson 83.39 199 P **P** **01 39 19.7 0.0**
TTA Tatalina 83.43 9 IAmb IAmb 01 39 22.4
comp=Z,20nm,1.0s
D08A Wollman Farm, 83.48 35 P **P** **01 39 19.8 -0.6**
WHN Wuhan 83.48 305 P **P** **01 39 21.9 +1.1**
WHN pmax pmax
comp=Z,70nm,0.9s
GHO Glory Hole Cre 83.59 12 IAmb IAmb 01 39 37.3
comp=Z,26nm,0.6s
SML Sawmill 83.75 13 P **P** **01 39 21.4 -0.1**
F10A Beach Ranch, E 83.77 37 IAmb IAmb 01 39 24.3
comp=Z,13nm,1.1s
WAX Waxell Ridge 83.82 16 IAmb IAmb 01 39 24.3
comp=Z,46nm,1.1s
SCM Sheep Creek Mo 83.98 13 IAmb IAmb 01 39 24.5
comp=Z,28nm,0.9s
SRU San Rafael Swe 84.17 45 P **P** **01 39 22.6 -1.7**
MNTX Cornudas Mount 84.33 54 P **P** **01 39 24.0 -1.1**
VRDI Verde Repeater 84.34 15 IAmb IAmb 01 39 27.3
comp=Z,17nm,1.0s
GLB Gilahina Butte 84.44 15 IAmb IAmb 01 39 26.8
comp=Z,21nm,1.0s
BALM Baldy 84.45 16 IAmb IAmb 01 39 27.1
comp=Z,22nm,1.0s
BNM Barren Site 84.51 51 P **P** **01 39 25.1 -1.1**
TX31 Lajitas Ar. Si 84.62 57 IAmb IAmb 01 39 35.2
comp=Z,19nm,1.1s
TX32 Lajitas Array 84.62 57 P **P** **01 39 25.4 -1.3**
TXAR Lajitas Array 84.62 57 P **P** **01 39 28.5 +1.8**
comp=Z,1.7nm,0.8s,baz=216,slow=7.6,SNR=14
BARN Barnard Glacie 84.65 16 IAmb IAmb 01 39 28.4
comp=Z,26nm,1.0s
PV17 East Wray Mesa 84.82 47 P **P** **01 39 26.2 -1.4**
KTH Kantishna Hill 84.84 11 IAmb IAmb 01 39 27.8
comp=Z,16nm,0.9s
ANMO Albuquerque 85.00 50 P **P** **01 39 28.1 -0.5**
DHY Denali Highway 85.08 13 IAmb IAmb 01 39 29.9
comp=Z,11nm,1.0s
IPM Ipoh 85.11 276 P **P** **01 39 28.3 -1.1**
IPM Ipoh 85.11 276 P **P** **01 39 30.0 +0.6**
MNSI Mandailing Nat 85.25 272 P **P** **01 39 29.3 -0.8**
HYT Haines Junctio 85.58 18 IAmb IAmb 01 39 33.4
comp=Z,12nm,1.0s
KULM Kulim 85.73 277 P **P** **01 39 31.9 -0.5**
KULM IAmb IAmb 01 39 34.0
comp=Z,30nm,0.9s
KULM Kulim 85.73 277 P **P** **01 39 33.0 +0.6**
MENT Mentasta 85.76 14 IAmb IAmb 01 39 33.7
comp=Z,19nm,1.0s
WRH Wood River Hil 86.20 12 IAmb IAmb 01 39 35.1
comp=Z,38nm,1.0s
RIDG Independent Ri 86.21 13 IAmb IAmb 01 39 35.5
comp=Z,18nm,1.0s
MLY Manley 86.23 10 IAmb IAmb 01 39 34.8
comp=Z,14nm,1.0s
DOT Dot Lake 86.30 14 IAmb IAmb 01 39 36.0
comp=Z,20nm,0.9s
HDA Harding Lake 86.36 12 IAmb IAmb 01 39 35.9
comp=Z,18nm,0.9s
CCB Clear Creek Bu 86.41 12 IAmb IAmb 01 39 35.8
comp=Z,21nm,0.8s
RPSI Rantau Prapat 86.49 274 IAmb IAmb 01 39 36.6
comp=Z,34nm,1.0s
BJT Baijiatuan 86.56 314 IAmb IAmb 01 39 37.5
comp=Z,23nm,1.0s
BJI Beijing 86.57 314 P **P** **01 39 36.8 +0.9**
BJI pmax pmax
comp=Z,29nm,1.2s
SCRK Sand Creek 86.60 13 IAmb IAmb 01 39 37.7
comp=Z,11nm,0.9s
COLA College 86.61 12 P **P** **01 39 36.0 +0.5**
COLA IAmb IAmb 01 39 36.8
comp=Z,32nm,0.8s
PDAR Pinedale Array 86.64 42 P **P** **01 39 36.4 -0.2**
comp=Z,0.6nm,0.6s,baz=234,slow=3.1,SNR=3.3
IL31 86.70 12 IAmb IAmb 01 39 38.1
comp=Z,11nm,1.1s
ILAR Eielson Array 86.70 12 P **P** **01 39 36.0 +0.1**
comp=Z,8.0nm,1.1s,baz=223,slow=5.3,SNR=35
ILAR PP **PP** **01 42 59.7 -2.5**
comp=Z,1.3nm,0.9s,baz=219,slow=6.6,SNR=5.0
GSI Gunungsitoli 87.30 272 P **P** **01 39 41.1 +1.0**
comp=Z,275nm,1.1s
EGAK Eagle 87.92 14 IAmb IAmb 01 39 44.0
comp=Z,14nm,1.1s
GYA Guiyang 87.93 299 ⇓*i*P **P** **01 39 43.4 +0.5**
GYA pP pwP 01 40 42.8 -1.1
GYA sP sP 01 41 10.5 +4.8
GYA SKS **SKSac** **01 49 48.3 0.0**
GYA S **S** **01 50 09.0 +3.4**
GYA pmax pmax
comp=Z,10.0nm,0.9s
GYA pmax pmax
comp=Z,100nm,3.8s
BILL Bilibino 88.09 353 P **P** **01 39 42.5 0.0**
TIY Taiyuan 88.09 311 *e*P **P** **01 39 45.0 +1.7**
SYO Syowa Base 88.34 192 ⇓*e*P **P** **01 39 43.4 -0.4**
SYO Syowa Base 88.34 192 ⇓*e*PcP **PcP** **01 39 44.8 -0.5**
SYO Syowa Base 88.34 192 ⇓*e*pP pP 01 40 42.0 +0.3
PLCA Paso Flores 88.53 133 P **P** **01 39 46.5 +1.1**
comp=Z,4.1nm,0.9s,baz=222,slow=2.7,SNR=6.5
PLCA Paso Flores 88.53 133 IAmb IAmb 01 39 49.3
comp=Z,1.5nm,1.1s
SNAA Sanae 89.12 178 P **P** **01 39 48.1 +0.5**
SNAA Sanae 89.12 178 P **P** **01 39 47.8 +0.2**
SNAA IAmb IAmb 01 39 48.8
comp=Z,8.6nm,0.9s
XAN Xi'an 89.13 307 P **P** **01 39 49.4 +1.2**
XAN pmax pmax
comp=Z,78nm,1.1s
VNA3 Neumayer Olymp 89.17 176 P **P** **01 39 48.3 +0.5**
MLSI Meulaboh, Aceh 89.38 275 P **P** **01 39 50.1 +0.3**
comp=Z,112nm,0.9s
VNA2 Neumayer--Watz 89.64 176 P **P** **01 39 50.6 +0.7**
baz=184,slow=3.2
VNA1 Neumayer--Stat 89.85 176 P **P** **01 39 51.8 +0.9**
HHC Hu-ho-hao-te 90.07 314 *e*P **P** **01 39 53.6 +1.1**
HHC pmax pmax
comp=Z,20nm,1.2s
HHC pmax pmax
comp=Z,57nm,6.9s
EPYK Eagle Plains 90.29 15 IAmb IAmb 01 39 55.0
comp=Z,14nm,0.9s
KMI Kunming 90.73 296 P **P** **01 39 57.6 +1.5**
KMI pmax pmax
comp=Z,23nm,1.4s
MT01 Popeta 90.81 126 P **P** **01 39 55.2 -1.0**
MT01 IAmb IAmb 01 39 58.5
comp=Z,16nm,0.8s
BTO Baotou 91.03 313 *e*P **P** **01 39 52.4 -4.6**
CMAR Chiang Mai Arr 91.74 289 P **P** **01 40 02.0 +1.4**
comp=Z,17nm,0.8s,baz=117,slow=2.9,SNR=89
CHTO Chiang Mai 91.86 289 P **P** **01 40 00.6 -0.6**
CHTO IAmb IAmb 01 40 03.1
comp=Z,27nm,0.9s
CD2 Chengdu 91.96 302 P **P** **01 40 00.1 -1.4**
CD2 pmax pmax
comp=Z,20nm,1.1s
INK Inuvik 92.58 14 P **P** **01 40 03.7 +0.4**
INK IAmb IAmb 01 40 05.0
comp=Z,16nm,1.0s
LZH Lanzhou 93.76 307 *e*P **P** **01 40 11.3 +1.5**
LZH pP pwP 01 41 11.3 +0.3
LZH sP sP 01 41 38.2 +5.4
LZH *e*PP **PP** **01 44 06.3 +7.4**
LZH pmax pmax
comp=Z,49nm,1.2s
LZH pmax pmax
comp=Z,190nm,4.9s
YKA Yellowknife Ar 94.55 24 P **P** **01 40 13.2 +0.7**
comp=Z,1.9nm,0.9s,baz=231,slow=4.6,SNR=20
ECSD EROS Data Cent 95.58 46 P **P** **01 40 17.3 -0.4**
ECSD IAmb IAmb 01 40 19.7
comp=Z,3.4nm,0.8s
ULN Ulaanbaatar 95.87 319 P **P** **01 40 18.1 -1.0**
SONM Songino Array 96.27 318 P **P** **01 40 20.8 -0.1**
comp=Z,4.9nm,0.9s,baz=134,slow=3.4,SNR=12
GTA Gaotai 97.88 309 ⇑P Pdif 01 40 29.4 +1.0
GTA pP pwP 01 41 32.6 +2.7
GTA sP sP 01 41 57.6 +6.1
GTA sS sS 01 53 21.7 +5.0
GTA pmax pmax
comp=Z,8.0nm,0.9s
GTA pmax pmax
comp=Z,64nm,6.7s
GTA LR LR
comp=Z,60nm,16.8s
GTA LR LR
comp=Z,67nm,17.5s
GTA LR LR
comp=Z,55nm,17.1s
MNMC Minye Minye 98.11 113 P **P** **01 40 28.2 -1.8**
MNMC IAmb IAmb 01 40 34.3
comp=Z,9.4nm,0.8s
TIXI Tiksi 98.16 345 P **P** **01 40 28.3 -0.4**
TIXI IAmb IAmb 01 40 30.0
comp=Z,4.4nm,1.1s
ZALV Zalesovo Beam 110.90 321 PKiKP **PKiKP** **01 45 23.4 -0.5**
comp=Z,3.0nm,0.7s,baz=160,slow=1.6,SNR=12
MKAR Makanchi Array 111.93 314 Pdiff **Pdif** **01 41 32.2 +1.7**
comp=Z,0.6nm,0.6s,baz=90,slow=5.9,SNR=5.0
MKAR PKiKP **PKiKP** **01 45 25.8 -0.4**
comp=Z,3.1nm,0.7s,baz=147,slow=0.7,SNR=20
MKAR PP **PP** **01 46 12.2 -1.5**
comp=Z,0.8nm,0.8s,baz=100,slow=8.3,SNR=3.9
MKAR PKKPbc **PKKPbc** **01 56 20.2 -0.2**
comp=Z,0.8nm,0.6s,baz=282,slow=3.1,SNR=8.4
TKM2 Tokmak 2 116.43 309 P **PKPdf** **01 45 34.9 -0.3**
SNR=10
UCH Uchtor 117.21 308 P **PKiKP** **01 45 37.5 +0.5**
SNR=10
AAK Ala-Archa 117.23 309 PKPdf **PKiKP** **01 45 37.0 +0.2**
USP Ospenovka 117.25 309 P **PKiKP** **01 45 36.7 +0.1**
SNR=8.2
EKS2 Erkin-Say 117.76 309 P **PKiKP** **01 45 38.1 +0.4**
SNR=5.9
AML Almayashu 117.81 308 P **PKiKP** **01 45 38.3 +0.2**
SNR=9.7
BRVK Borovoye 119.59 321 PKPdf **PKiKP** **01 45 41.0 +0.3**
KK31 Karatay Array 120.16 309 PKPdf **PKiKP** **01 45 42.4 +0.1**
SPA0 Spitsbergen Ar 120.80 357 *e*PKPdf **PKiKP** **01 45 42.7 +0.2**
KBL Kabul 121.18 299 PKPdf **PKPdf** **01 45 44.1 -0.5**
ARU Arti 125.42 326 PKPdf **PKiKP** **01 45 52.5 +0.4**
HAMF Hammerfest 127.36 352 *e*PKPdf **PKPdf** **01 45 55.0 0.0**
ARCES ARCESS Array B 128.12 351 PKP **PKPdf** **01 45 56.8 +0.2**
comp=Z,4.8nm,0.5s,baz=15,slow=1.3,SNR=54
ARE0 ARCESS Array S 128.12 351 *e*PKPdf **PKiKP** **01 45 57.8 +0.6**
TRO Tromso 128.89 353 *e*PKPdf **PKPdf** **01 45 58.2 +0.2**
KTK1 Kautokeino 128.93 351 *e*PKPdf **PKiKP** **01 45 58.8 0.0**
GEYT Alibeck 129.92 304 PKP **PKPdf** **01 46 00.7 -0.3**
comp=Z,2.7nm,0.6s,baz=208,slow=2.9,SNR=7.2
LOF Lofoten 130.84 355 *e*PKPdf **PKPdf** **01 46 01.3 -0.4**
STEI Steigen 130.90 355 *e*PKPdf **PKPdf** **01 46 01.9 0.0**
KLMR Klimovskoe 131.62 338 *e*PKPdf **PKPdf** **01 46 01.9 -1.5**
KLMR AMP 01 46 05.2
comp=Z,9.0nm,0.9s
KLMR *e*SKPab **SKPab** **01 49 06.7 -0.1**
KONS Konsvik 132.48 355 *e*PKPdf **PKiKP** **01 46 05.8 -0.2**
NSS Namsos 134.51 355 *e*PKPdf **PKiKP** **01 46 09.5 -0.7**
FINES FINESS Array B 135.20 345 PKhKP PKPpre 01 45 57.8
comp=Z,1.2nm,0.9s,baz=174,slow=3.8,SNR=5.7
FINES PKP **PKPdf** **01 46 08.2 -1.8**
comp=Z,5.9nm,0.8s,baz=93,slow=2.8,SNR=13
MOL Molde 136.72 358 *e*PKPdf **PKPdf** **01 46 13.1 +0.2**
NB2 NORSAR Subarra 138.02 355 PKP **PKPdf** **01 46 07.9 -7.5**
comp=Z,1.4nm,0.8s,baz=17,slow=2.6
NB2 NORSAR Subarra 138.02 355 PKP **PKPdf** **01 46 07.9 -7.5**
baz=17,slow=2.6
NOA NORSAR Array B 138.02 355 PKhKP PKPpre 01 46 04.5
comp=Z,0.6nm,0.9s,baz=86,slow=17,SNR=1.4
NOA PKP **PKPdf** **01 46 15.5 +0.1**
comp=Z,2.3nm,0.7s,baz=14,slow=4.0,SNR=9.8
NOA SKP **SKPbc** **01 49 29.6 +3.2**
comp=Z,1.2nm,1.0s,baz=3.3,slow=2.3,SNR=3.4
SKAR Skarslia 138.57 357 *e*PKPdf **PKPdf** **01 46 16.8 +0.3**
ASK Askoy 138.87 359 *e*PKPdf **PKPdf** **01 46 14.7 -2.1**
BER Bergen 138.96 359 *e*PKPdf **PKPdf** **01 46 16.3 -0.7**
KONO Kongsberg 139.53 356 *e*PKPdf **PKPdf** **01 46 17.5 -0.7**
PABE Paberze 140.91 342 *e*P **PKPdf** **01 46 16.0 -4.8**
PBUR Paburge 141.01 344 *e*P **PKPdf** **01 46 16.5 -4.4**
KMBO Kilima Mbogo 141.78 242 PKhKP **PKPdf** **01 46 21.0 -2.9**
comp=Z,1.6nm,0.6s,baz=39,slow=18,SNR=5.9
KMBO Kilima Mbogo 141.78 242 **PKPdf** **01 46 21.2 -2.8**
SUW Suwalki 142.43 342 *e*PKP **PKPdf** **01 46 20.7 -2.9**
AKASG Malin Array Be 142.96 334 PKhKP **PKPdf** **01 46 21.1 -3.5**
comp=Z,7.5nm,0.5s,baz=40,slow=3.9,SNR=38
AKASG SKP **SKPbc** **01 49 39.3 -0.3**
comp=Z,1.8nm,0.8s,baz=49,slow=4.8,SNR=4.7
KESW Keswick, Cumbr 144.33 7 *e*P **PKPdf** **01 46 26.6 -0.2**
SKMB Sankelmark Bun 144.43 355 *e*PKPbc **PKPdf** **01 46 27.1 +0.1**
baz=11,slow=2.6
IOMK Kirk Michael 144.46 9 *e*P PKPbc 01 46 26.6 +0.3
WIM Isle of Man 144.55 9 *e*P PKPbc 01 46 26.6 +0.1
GKP Gorka Klasztor 144.65 347 *e*PKP **PKPdf** **01 46 27.3 -0.1**
BEL Belsk 145.04 342 *e*PKP **PKPab** **01 46 29.3 +0.9**
HLG Helgoland 145.08 356 *e*PKPbc **PKPab** **01 46 29.5 +1.1**
baz=11,slow=2.6
HPK Haverah Park 145.12 6 *e*P **PKPab** **01 46 28.8 +0.2**
BSEG Bad Segeberg 145.12 354 *e*PKPbc **PKPab** **01 46 29.2 +0.7**
baz=11,slow=2.6
DSB Dublin 145.14 11 PKPdf **PKPbc** **01 46 28.4 0.0**
SORM Soroca 145.25 331 ⇑P **PKPbc** **01 46 28.9 +0.1**
WME Myndd Eilian 145.34 9 *e*P **PKPab** **01 46 29.3 -0.1**
WLF1 Llynfaes 145.43 9 *e*P **PKPab** **01 46 29.8 0.0**
YRC Rhoscolyn 145.44 9 *e*P **PKPab** **01 46 29.7 -0.1**
DIKM Dikmen 145.53 317 ⇑P **PKPab** **01 46 31.3 +0.8**
LBWR Ladybower, Pea 145.66 6 *e*P **PKPab** **01 46 30.7 +0.1**
STNC Stoke 145.91 7 *e*P **PKPbc** **01 46 30.6 -0.1**
MILM Milestii Mici 145.92 329 ⇑P **PKPab** **01 46 31.4 -0.4**
LLW Llanuwchllyn 145.96 9 *e*P **PKPab** **01 46 31.5 -0.3**
FOEL Foel Wylfa 145.99 8 *e*P **PKPab** **01 46 31.7 -0.2**
RUE Ruedersdorf 146.07 350 *e*P **PKPab** **01 46 32.1 -0.1**
RUE Ruedersdorf 146.07 350 *e*PKPbc **PKPab** **01 46 32.1 -0.1**
baz=11,slow=2.6
IAS Iasi 146.30 331 ⇑P **PKPab** **01 46 33.3 0.0**
KWP Kalwaria Pacla 146.34 338 *e*PKP **PKPab** **01 46 32.9 -0.5**
CWF Charnwood Fore 146.35 6 *e*P **PKPbc** **01 46 32.2 +0.2**
HLM1 Long Mynd 146.39 8 *e*P **PKPbc** **01 46 32.6 +0.4**
RETH Rethem/Aller, 146.40 354 *e*PKPbc **PKPab** **01 46 33.2 -0.3**
baz=11,slow=2.6
LEOM Leova 146.51 329 ⇑P **PKPab** **01 46 33.8 -0.3**
WACR West Acre 146.53 4 *e*P **PKPbc** **01 46 32.5 0.0**
NRDL Niedersach Rie 146.57 354 *e*PKPdf **PKPbc** **01 46 31.9 -0.6**
baz=13,slow=1.6
NRDL *e*PKPbc **PKPab** **01 46 33.6 -0.4**
baz=11,slow=2.6
VASR Vaslui 146.60 330 ⇑P **PKPab** **01 46 33.8 -0.8**
OJC Ojcow 146.77 342 *e*PKP **PKPbc** **01 46 34.0 +0.7**
PRAR RASCA 146.78 332 ⇑P **PKPab** **01 46 34.8 -0.4**
ASSE Asse, Remlinge 146.86 353 *e*PKPdf **PKPbc** **01 46 32.4 -1.0**
baz=13,slow=1.6
ASSE *e*PKPbc **PKPab** **01 46 34.4 -0.8**
baz=11,slow=2.6
MCH1 Michaelchurch 146.88 8 *e*P **PKPbc** **01 46 32.9 -0.7**
IBBN Ibbenburen 146.96 356 *e*PKPbc **PKPab** **01 46 34.7 -1.0**
baz=11,slow=2.6
IBBN *e*PKPab **PKiKP** **01 46 36.8 +0.8**
baz=11,slow=4.2
BURAR Bucovina Array 147.01 334 ⇑P **PKPab** **01 46 35.2 -1.1**
MONM Monmouth 147.06 8 *e*P **PKPbc** **01 46 34.1 0.0**
KOLS Kolonicke sedl 147.08 338 *e*PKP **PKPab** **01 46 35.6 -0.8**
VARL Varlezi 147.11 329 ⇓P **PKiKP** **01 46 35.5 -1.0**
KSP Ksiaz 147.12 346 *e*PKP **PKiKP** **01 46 35.5 -1.0**
TLCR 147.13 327 ⇓P **PKiKP** **01 46 35.6 -1.0**
BIZ Bicaz 147.15 332 ⇓P **PKiKP** **01 46 35.8 -0.9**
CLZ Clausthal 147.18 353 *e*PKPdf **PKPbc** **01 46 33.3 -1.1**
baz=13,slow=1.6
CLZ *e*PKPbc **PKiKP** **01 46 35.6 -1.0**
baz=11,slow=2.6
STRD Stroud 147.21 7 *e*P **PKPbc** **01 46 35.0 +0.5**
TESR Tescani 147.23 331 ⇓P **PKPbc** **01 46 35.2 +0.5**
NIE Niedzica 147.32 340 *e*PKP **PKiKP** **01 46 36.3 -0.6**
CLL Collm 147.33 350 *e*PKPdf **PKPbc** **01 46 34.0 -0.8**
CLL ⇓*i*PKPbc **PKiKP** **01 46 36.6 -0.2**
comp=Z,68nm,0.9s
CLL *i* PKPab **PKPab** **01 46 38.7 +1.4**
comp=Z,41nm,1.0s
CLL *e* 01 46 48.0
CLL *e*pPKiKP **pPKiKP** **01 47 39.0 +1.3**
CLL *e* 01 47 45.0
CLL *e*SKPdf **SKPdf** **01 49 44.0 +1.1**
CLL *e*SKPbc **SKiKP** **01 49 54.0 +4.2**
comp=Z,4.0nm,1.0s
CLL *e*PP **PP** **01 50 01.0 -0.8**
comp=Z,7.0nm,1.3s
OSTC Ostas 147.41 346 ⇑*e*PKP **PKPbc** **01 46 33.7 -1.4**
OSTC *e*PKPAB **PKiKP** **01 46 36.3 -0.8**
CHVC Chvalec 147.41 346 ⇑*e*PKP **PKPbc** **01 46 35.7 +0.6**
CFR Carcaliu 147.48 328 ⇑P **PKPbc** **01 46 35.9 +0.5**
UPC Upice 147.50 346 ⇑*e*PKP **PKiKP** **01 46 36.6 -0.6**
UPC *e*PKPAB **PKPab** **01 46 39.6 +1.6**
BATH Bath 147.51 8 *e*P **PKPbc** **01 46 34.2 -1.0**
GTTG Gottingen 147.52 353 *e*PKPbc **PKiKP** **01 46 36.4 -0.8**
baz=11,slow=2.6
GTTG *e*PKPab **PKPab** **01 46 39.0 +1.0**
baz=11,slow=4.2
BRTR Keskin Array B 147.56 315 PKPbc **PKPbc** **01 46 36.3 +0.3**
comp=Z,25nm,0.9s,baz=116,slow=2.9,SNR=50
BRTR SKPbc **SKiKP** **01 49 53.5 +2.6**
comp=Z,1.0nm,1.0s,baz=2.9,slow=2.9,SNR=2.8
TOPG Topolog 147.57 327 ⇓P **PKPbc** **01 46 36.5 +0.9**
DPC Dobruska-Polom 147.57 346 ⇑*e*PKP **PKiKP** **01 46 36.6 -0.9**
DPC *e*PKPAB **PKPab** **01 46 39.5 +1.2**
OKC Ostrava-Krasne 147.58 343 ⇑*e*PKP **PKPbc** **01 46 35.9 +0.4**
BRG Berggiesshubel 147.58 349 *i* PKP **PKPdf** **01 46 33.5 +1.1**
comp=Z,8.8nm,1.2s
BRG Berggiesshubel 147.58 349 *i* PKP **PKiKP** **01 46 36.4 -0.9**
comp=Z,32nm,1.1s
BRG *e*pPKP **pPKPab** **01 47 40.6 +3.3**
comp=Z,8.2nm,1.1s
BRG Berggiesshubel 147.58 349 *e*PKPdf **PKPdf** **01 46 33.7 +1.2**
baz=13,slow=1.6
BRG *e*PKPbc **PKiKP** **01 46 36.6 -0.8**
baz=11,slow=2.6
BRG *e*PKPab **PKPab** **01 46 39.1 +0.8**
baz=11,slow=4.2
ODBI Odobesti 147.59 330 ⇑P **PKiKP** **01 46 37.5 -0.1**
NEUB Neuenburg 147.62 351 *e*PKPdf **PKPdf** **01 46 33.8 +1.2**
baz=13,slow=1.6
NEUB *e*PKPbc **PKiKP** **01 46 36.6 -0.8**
baz=11,slow=2.6
NEUB *e*PKPab **PKPab** **01 46 39.2 +0.9**
baz=11,slow=4.2
FBE Freiberg 147.65 349 *e*PKPdf **PKPdf** **01 46 34.1 +1.5**
baz=13,slow=1.6
FBE *e*PKPbc **PKiKP** **01 46 37.1 -0.4**
baz=11,slow=2.6
FBE *e*PKPab **PKPab** **01 46 39.7 +1.2**
baz=11,slow=4.2
TRPA Tarpa 147.65 337 ⇓P **PKPbc** **01 46 36.5 +0.7**
BMR Baia Mare 147.66 335 ⇑P **PKiKP** **01 46 37.0 -0.6**
VRI Vrincioaia 147.67 330 ⇓P **PKPbc** **01 46 36.4 +0.5**
KRLC Kraliky 147.72 345 *e*PKPDF **PKPdf** **01 46 33.5 +0.7**
KRLC ⇑*e*PKP **PKPbc** **01 46 36.7 +0.7**
PLOR Plostina 147.72 330 ⇑P **PKPbc** **01 46 36.6 +0.5**
WOL Wolverton 147.77 6 *e*P **PKPbc** **01 46 34.6 -1.3**
PVCC Panska Ves 147.79 348 ⇑*e*PKP **PKPbc** **01 46 36.7 +0.6**
PVCC *ex* x 01 46 48.2
MORC Moravsky Berou 147.80 344 ⇓P **PKPbc** **01 46 36.7 +0.5**
MORC Moravsky Berou 147.80 344 *e*PKP **PKPdf** **01 46 33.8 +0.8**
MORC *e* 01 46 37.1
LANS Liptovska Anna 147.81 341 *e*PKP **PKiKP** **01 46 38.2 +0.2**
BUG Bochum--Univer 147.85 356 *e*PKPbc **PKPbc** **01 46 37.0 +0.8**
baz=11,slow=2.6
BUG *e*PKPab **PKPab** **01 46 39.8 +0.5**
baz=11,slow=4.2
BISRR Bisoca 147.91 330 ⇓P **PKiKP** **01 46 38.2 -0.1**
HARR Harsova 147.93 327 ⇑P **PKiKP** **01 46 37.6 -0.7**
OZUR 147.94 331 ⇑P **PKiKP** **01 46 37.9 -0.4**
TLBR Topalu 147.97 327 ⇑P **PKiKP** **01 46 38.0 -0.4**
ANTO Ankara 148.05 316 ⇓P **PKiKP** **01 46 38.0 -0.8**
ANTO Ankara 148.05 316 PKPdf **PKPdf** **01 46 34.0 +0.3**
KECS Kecovo 148.08 339 *e*PKP **PKPab** **01 46 41.8 +1.4**
KDZE Karadeniz Ereo 148.11 319 ⇑P **PKPab** **01 46 44.0 +3.2**
MANR Mangalia 148.19 326 ⇑P **PKiKP** **01 46 38.6 -0.2**
MOX Moxa 148.19 351 *e*PKPdf **PKPdf** **01 46 34.6 +1.1**
baz=13,slow=1.6
MOX *e*PKPbc **PKiKP** **01 46 38.0 -0.6**
baz=11,slow=2.6
MOX *e*PKPab **PKPab** **01 46 41.5 +0.7**
baz=11,slow=4.2

DOPR	**Dopca**	**148.21**	**332**	⇓P	**PKiKP**	**01 46 38.8**	**0.0**
UBBA	**Unterbreizbach**	**148.23**	**353**	*e*PKPdf	**PKPdf**	**01 46 34.6**	**+1.2**
	baz=13,slow=1.6						
UBBA				*e*PKPbc	**PKiKP**	01 46 37.9	-0.7
	baz=11,slow=2.6						
UBBA				*e*PKPab	**PKPab**	01 46 41.5	+0.8
	baz=11,slow=4.2						
PGOR	**Pogoanele**	**148.25**	**329**	⇑P	**PKiKP**	**01 46 39.5**	**+0.6**
PRA	**Prague**	**148.25**	**348**	⇑*e*PKP	**PKiKP**	**01 46 38.2**	**-0.6**
PRA				*e*PKPAB	**PKPab**	01 46 41.8	+0.8
PLN	**Plauen**	**148.27**	**350**	*e*PKPdf	**PKPdf**	**01 46 34.7**	**+1.1**
	baz=13,slow=1.6						
PLN				*e*PKPbc	**PKiKP**	**01 46 38.3**	**-0.5**
	baz=11,slow=2.6						
PLN				*e*PKPab	**PKPab**	01 46 41.9	+0.8
	baz=11,slow=4.2						
TANN	**Tannenbergstha**	**148.28**	**350**	*e*PKPdf	**PKPdf**	**01 46 34.8**	**+1.1**
	baz=13,slow=1.6						
TANN				*e*PKPbc	**PKiKP**	**01 46 38.4**	**-0.5**
	baz=13,slow=2.6						
TANN				*e*PKPab	**PKPab**	01 46 42.1	+0.9
	baz=11,slow=4.2						
PRU	**Pruhonice**	**148.31**	**347**	⇑*e*PKP	**PKiKP**	**01 46 38.2**	**-0.7**
PRU				*e*PKPAB	**PKPab**	01 46 41.4	+0.2
PRU				*ex*	x	01 46 49.0	
ISR	**Istrita**	**148.31**	**329**	⇓P	**PKiKP**	**01 46 38.7**	**-0.4**
MLR	**Muntele Rosu**	**148.32**	**330**	⇑P	**PKPbc**	**01 46 38.1**	**+0.4**
GOPC	**GO Pecny, Ondr**	**148.33**	**347**	⇑*e*PKP	**PKPbc**	**01 46 38.2**	**+0.7**
GOPC				*e*PKPAB	**PKPab**	01 46 42.2	+0.9
GUNZ	**Gunzen**	**148.36**	**350**	*e*PKPdf	**PKPdf**	**01 46 35.2**	**+1.3**
	baz=13,slow=1.6						
GUNZ				*e*PKPbc	**PKiKP**	**01 46 38.8**	**-0.2**
	baz=11,slow=2.6						
GUNZ				*e*PKPab	**PKPab**	01 46 42.4	+0.9
	baz=11,slow=4.2						
CJR	**Cluj-Napoca**	**148.40**	**334**	⇓P	**PKiKP**	**01 46 38.8**	**-0.5**
WERN	**Wernitzgruen**	**148.42**	**350**	*e*PKPdf	**PKPdf**	**01 46 35.2**	**+1.3**
	baz=13,slow=1.6						
WERN				*e*PKPbc	**PKiKP**	**01 46 39.0**	**-0.2**
	baz=11,slow=2.6						
WERN				*e*PKPab	**PKPab**	01 46 42.8	+1.0
	baz=11,slow=4.2						
NKC	**Novy Kostel**	**148.46**	**350**	⇑*e*PKP	**PKiKP**	**01 46 38.6**	**-0.7**
NKC				*e*PKPAB	**PKPab**	01 46 42.5	+0.6
VRAC	**Vranov**	**148.47**	**345**	⇓P	**PKiKP**	**01 46 38.9**	**-0.4**
VRAC	**Vranov**	**148.47**	**345**	*e*PKP	**PKPdf**	**01 46 34.9**	**+0.9**
VRAC				*e*		01 46 38.9	
MDB	**Medias**	**148.52**	**333**	⇓P	**PKiKP**	**01 46 39.5**	**+0.1**
BEBN	**Eben Emael**	**148.56**	**358**	PKPab	**PKPbc**	**01 46 38.6**	**+0.6**
UCC	**Uccle**	**148.58**	**360**	PKPab	**PKPbc**	**01 46 38.6**	**+0.6**
UCC				x	x	01 46 42.7	
VYHS	**Vyhne**	**148.59**	**341**	*e*PKP	**PKiKP**	**01 46 39.3**	**-0.3**
VYHS				*e*		01 46 43.9	
SECR		**148.60**	**330**	⇑P	**PKiKP**	**01 46 39.3**	**-0.4**
JAVC	**Velka Javorina**	**148.60**	**343**	*e*PKP	**PKPdf**	**01 46 36.1**	**+1.8**
JAVC				*e*		01 46 40.2	
LEHL	**Lehliu**	**148.64**	**328**	⇑P	**PKiKP**	**01 46 39.6**	**-0.1**
RASA	**Rasa**	**148.66**	**327**	⇓P	**PKiKP**	**01 46 39.9**	**+0.1**
DRGR		**148.69**	**335**	⇓P	**PKPbc**	**01 46 39.2**	**+0.5**
PBCC	**Pribram**	**148.71**	**348**	⇑*e*PKP	**PKiKP**	**01 46 39.3**	**-0.5**
PBCC				*e*PKPAB	**PKPab**	01 46 43.5	+0.6
MEM	**Membach**	**148.74**	**358**	PKPbc	**PKPdf**	**01 46 35.5**	**+1.1**
MEM				PKPab	**PKiKP**	**01 46 39.2**	**-0.6**
KRUC	**Moravsky**	**148.75**	**345**	*e*PKP	**PKPdf**	**01 46 35.2**	**+0.7**
KRUC				*e*		01 46 39.4	
TREC	**Trest**	**148.75**	**346**	⇑*e*PKP	**PKiKP**	**01 46 39.3**	**-0.6**
TREC				*e*PKPAB	**PKPab**	01 46 43.8	+0.7
AHRW	**Bad Neuenahr-A**	**148.76**	**357**	*e*PKPbc	**PKiKP**	**01 46 39.4**	**-0.4**
	baz=11,slow=2.6						
AHRW				*e*PKPab	**PKPab**	01 46 43.9	+0.9
	baz=11,slow=4.2						
MANZ	**Manzenberg**	**148.76**	**350**	*e*PKPdf	**PKPdf**	**01 46 35.6**	**+1.1**
	baz=13,slow=1.6						
MANZ				*e*PKPbc	**PKiKP**	**01 46 39.7**	**-0.2**
	baz=11,slow=2.6						
PSZ	**Piszkesteto**	**148.76**	**340**	⇓P	**PKiKP**	**01 46 39.5**	**-0.5**
VOIR		**148.77**	**331**	⇑P	**PKiKP**	**01 46 40.1**	**-0.1**
BSTI	**Sart Tilman**	**148.78**	**358**	PKPab	**PKiKP**	**01 46 39.5**	**-0.4**
SNF	**Seneffe**	**148.87**	**360**	PKPab	**PKiKP**	**01 46 39.7**	**-0.3**
SNF				x	x	01 46 43.9	
BCLA	**Clavier**	**148.95**	**359**	PKPab	**PKPbc**	**01 46 39.4**	**+0.3**
BCLA				x	x	01 46 44.3	
ROTZ	**Rotzenmuhle**	**148.95**	**350**	*e*PKPbc	**PKiKP**	**01 46 40.2**	**0.0**
	baz=11,slow=2.6						
ROTZ				*e*PKPab	**PKPab**	01 46 44.9	+1.0
	baz=11,slow=4.2						
TNS	**Taunus Mts**	**148.98**	**355**	*e*PKPbc	**PKiKP**	**01 46 40.1**	**-0.3**
	baz=11,slow=2.6						
TNS				*e*PKPab	**PKPab**	01 46 44.9	+0.8
	baz=11,slow=4.2						
SMOL	**Smolenice**	**148.98**	**343**	*e*PKP	**PKPab**	**01 46 45.7**	**+1.7**
BHOU	**Houvegnez**	**148.99**	**358**	PKPab	**PKiKP**	**01 46 40.2**	**-0.2**
ARR	**Arges**	**149.01**	**332**	⇑P	**PKiKP**	**01 46 40.8**	**+0.2**
MODS	**Modra-Piesok**	**149.15**	**343**	*e*PKP	**PKiKP**	**01 46 40.2**	**-0.5**
GRF	**Grafenberg Arr**	**149.18**	**351**	*e*PKPdf	**PKPdf**	**01 46 36.3**	**+1.2**
	baz=13,slow=1.6						
GRF				*e*PKPbc	**PKiKP**	**01 46 40.5**	**-0.2**
	baz=11,slow=2.6						
GRF				*e*PKPab	**PKPab**	**01 46 46.0**	**+1.2**
	baz=11,slow=4.2						
GRF				*ep*PKPbc	**pPKPab**	**01 47 49.6**	**+5.9**
PRD	**Provadia**	**149.24**	**326**	*i* P	**PKiKP**	**01 46 41.0**	**0.0**
KHC	**Kasperske Hory**	**149.32**	**348**	*e*PKPDF	**PKPdf**	**01 46 35.8**	**+0.4**
KHC				⇑*e*PKP	**PKiKP**	**01 46 41.1**	**0.0**
KHC				*ex*	x	01 46 53.0	
KHC				*ex*	x	01 47 49.0	
LOT	**Lotru**	**149.33**	**333**	⇑P	**PKPbc**	**01 46 40.5**	**+0.2**
DEV	**Deva**	**149.35**	**334**	⇑P	**PKPbc**	**01 46 40.0**	**-0.2**
SRO	**Srobarova**	**149.36**	**341**	*e*PKP	**PKPab**	**01 46 46.7**	**+1.1**
ZST	**Bratislava**	**149.36**	**343**	*e*PKP	**PKiKP**	**01 46 40.7**	**-0.4**
ZST				*e*		01 46 46.4	
SRO2	**Moca**	**149.38**	**341**	*e*PKP	**PKPab**	**01 46 46.1**	**+0.5**
WET	**Wettzell**	**149.44**	**349**	*e*PKPdf	**PKPdf**	**01 46 36.7**	**+1.0**
	baz=13,slow=1.6						
WET				*e*PKPbc	**PKiKP**	**01 46 41.3**	**0.0**
	baz=11,slow=2.6						
WET				*e*PKPab	**PKPab**	**01 46 47.0**	**+1.1**
	baz=11,slow=4.2						
RAZG	**Razgrad**	**149.45**	**327**	⇓P	**PKiKP**	**01 46 41.3**	**-0.1**
HUMR	**Humele**	**149.49**	**330**	⇑P	**PKPbc**	**01 46 40.7**	**+0.1**
SIRR	**Siria**	**149.54**	**336**	⇓P	**PKiKP**	**01 46 41.5**	**-0.1**
GEC2	**GERESS Array S**	**149.57**	**348**	*e*PKPdf	**PKPdf**	**01 46 36.8**	**+0.8**
	baz=13,slow=1.6						
GEC2				*e*PKPbc	**PKiKP**	**01 46 41.6**	**0.0**
	baz=11,slow=2.6						
GERES	**GERESS Array B**	**149.57**	**348**	PKPbc	**PKiKP**	**01 46 41.6**	**0.0**
	comp=Z,12nm,0.8s,baz=43,slow=2.1,SNR=51						
WLF	**Walferdange**	**149.68**	**358**	*e*PKPdf	**PKPdf**	**01 46 37.5**	**+1.6**
	baz=13,slow=1.6						
WLF				*e*PKPbc	**PKiKP**	**01 46 42.4**	**+0.6**
	baz=11,slow=2.6						
JSA	**Saint Aubin**	**149.75**	**8**	*e*P	**PKPbc**	**01 46 38.7**	**-2.3**
GZR	**Gura Zlata**	**149.80**	**334**	⇓P	**PKiKP**	**01 46 42.0**	**-0.2**
CONA	**Conrad Observa**	**149.94**	**344**	*i* PKiKP	**PKiKP**	**01 46 42.8**	**+0.4**
	comp=Z,42nm,1.1s						
CSS	**Mathiatis**	**149.94**	**307**		**PKPbc**	**01 46 42.0**	**0.0**
SZH	**Strazhica**	**149.95**	**327**	*i* P	**PKiKP**	**01 46 42.7**	**+0.2**
ZIMR		**149.96**	**329**	⇑P	**PKiKP**	**01 46 42.2**	**-0.3**
BZS	**Buzias**	**150.09**	**335**	⇓P	**PKiKP**	**01 46 42.7**	**0.0**
VLAD	**Vladila**	**150.16**	**330**	⇓P	**PKiKP**	**01 46 43.9**	**+1.0**
JMB	**Yambol**	**150.18**	**326**	*i* P	**PKiKP**	**01 46 43.6**	**+0.6**
SRE	**Strehaia**	**150.20**	**332**	⇓P	**PKiKP**	**01 46 43.3**	**+0.3**
LEF	**Lefka**	**150.21**	**308**	⇑P	**PKiKP**	**01 46 43.2**	**0.0**
ELND	**Elena**	**150.23**	**327**	⇑P	**PKiKP**	**01 46 43.4**	**+0.3**
HERR	**Herculane**	**150.37**	**333**	⇑P	**PKiKP**	**01 46 43.5**	**+0.2**
MOA	**Molln**	**150.39**	**346**	*i* PKiKP	**PKiKP**	**01 46 43.0**	**-0.3**
	comp=Z,21nm,1.4s,SNR=12						
BANR	**Banloc**	**150.48**	**335**	⇓P	**PKiKP**	**01 46 44.8**	**+1.3**
PLVB	**Pleven**	**150.52**	**329**	⇑P	**PKiKP**	**01 46 43.9**	**+0.2**
PUNG	**Punghina**	**150.62**	**332**	⇑P	**PKiKP**	**01 46 43.9**	**0.0**
BAIL	**Bailesti**	**150.64**	**331**	⇑P	**PKiKP**	**01 46 44.6**	**+0.7**
ARSA	**Arzberg**	**150.65**	**344**	*i* PKPbc	**PKPbc**	**01 46 42.9**	**-0.4**
	comp=Z,9.6nm,0.8s,SNR=6.7						
FUR	**Furstenfeldbru**	**150.66**	**350**	*e*PKPbc	**PKiKP**	**01 46 44.2**	**+0.4**
	baz=11,slow=2.6						
FUR				*e*PKPab	**PKPab**	**01 46 52.0**	**+1.0**
	baz=11,slow=4.2						
MORH	**Mrgy, Hungar**	**150.67**	**339**	⇓*i*P	**PKPbc**	**01 46 43.1**	**-0.2**
MDVR	**Moldovita**	**150.74**	**334**	⇑P	**PKiKP**	**01 46 44.4**	**+0.3**
RJOB	**Jochberg**	**150.81**	**348**	*e*PKPbc	**PKiKP**	**01 46 44.2**	**0.0**
	baz=11,slow=2.6						
RJOB				*e*PKPab	**PKPab**	**01 46 53.0**	**+1.3**
	baz=11,slow=4.2						
BFO	**Black Forest**	**150.86**	**354**		**PKPbc**	**01 46 43.9**	**+0.1**
BFO	**Black Forest**	**150.86**	**354**	*e*PKPbc	**PKiKP**	**01 46 44.6**	**+0.3**
	baz=11,slow=2.6						
BFO				*e*PKPab	**PKPab**	**01 46 52.4**	**+0.6**
	baz=11,slow=4.2						
MPEP	**Malo Peshtene**	**150.97**	**330**	*i* P	**PKiKP**	**01 46 45.2**	**+0.6**
BEHE	**Becsehely**	**151.02**	**342**	⇓*i*P	**PKiKP**	**01 46 47.1**	**+2.5**
FRGS	**Fruska Gora**	**151.17**	**337**	⇓*i*P	**PKiKP**	**01 46 45.0**	**0.0**
KOGS	**Kog**	**151.19**	**343**	*i* PKPbc	**PKPbc**	**01 46 44.5**	**0.0**
KOGS				*e*PKPab	**PKPab**	**01 46 53.6**	**+0.3**
UBR	**Ueberruh**	**151.30**	**352**	*e*PKPdf	**PKPdf**	**01 46 39.4**	**+0.8**
	baz=13,slow=1.6						
UBR				*e*PKPbc	**PKiKP**	**01 46 45.4**	**+0.1**
	baz=11,slow=2.6						
SOKA	**Soboth**	**151.31**	**344**	*i* PKiKP	**PKPbc**	**01 46 45.0**	**+0.1**
	comp=Z,27nm,1.1s						
CLF	**Chambon-Foret**	**151.31**	**3**		**PKPbc**	**01 46 44.3**	**-0.4**
KBA	**Koelnbreinsper**	**151.32**	**347**	*i* PKiKP	**PKPbc**	**01 46 44.9**	**-0.1**
	comp=Z,17nm,0.6s,SNR=16						
PERS	**Pernice**	**151.32**	**344**	*i* PKPbc	**PKPbc**	**01 46 45.0**	**+0.1**
RETA	**Reutte**	**151.40**	**351**	*i* PKiKP	**PKiKP**	**01 46 45.7**	**+0.3**
	comp=Z,28nm,1.5s,SNR=12						
WATA	**Walderalm**	**151.41**	**350**	*i* PKiKP	**PKiKP**	**01 46 45.4**	**-0.2**
	comp=Z,20nm,0.6s,SNR=11						
PLD	**Plovdiv**	**151.42**	**327**	*i* P	**PKiKP**	**01 46 46.1**	**+0.5**
KALN	**Kalnik**	**151.42**	**342**	P	**PKiKP**	**01 46 45.8**	**+0.3**
WTTA	**Wattenberg**	**151.47**	**349**	*i* PKiKP	**PKiKP**	**01 46 45.9**	**+0.2**
	comp=Z,41nm,0.5s,SNR=24						
MOTA	**Moosalm**	**151.48**	**350**	*i* PKiKP	**PKiKP**	**01 46 45.6**	**-0.1**
	comp=Z,32nm,1.0s,SNR=11						
OBKA	**Obir**	**151.59**	**345**	*i* PKiKP	**PKPbc**	**01 46 45.5**	**-0.1**
	comp=Z,3.6nm,0.7s,SNR=7.3						
SQTA	**Sankt Quirin**	**151.59**	**350**	*i* PKiKP	**PKiKP**	**01 46 46.1**	**+0.2**
	comp=Z,25nm,0.7s,SNR=14						
MYKA	**Terra Mystica**	**151.68**	**346**	*i* PKiKP	**PKPbc**	**01 46 45.6**	**-0.1**
	comp=Z,19nm,0.6s,SNR=11						
DAVA	**Damuels**	**151.72**	**352**	*i* PKiKP	**PKiKP**	**01 46 47.0**	**+0.8**
	comp=Z,30nm,0.8s,SNR=14						
VTS	**Vitosha**	**151.77**	**330**	⇓P	**PKiKP**	**01 46 46.6**	**+0.1**
VTS	**Vitosha**	**151.77**	**330**	*i* P	**PKiKP**	**01 46 47.0**	**+0.5**
PTJ	**Puntijarka**	**151.77**	**343**	P	**PKiKP**	**01 46 46.4**	**+0.1**
ABTA	**Abfaltersbach**	**151.81**	**348**	*i* PKiKP	**PKPbc**	**01 46 46.1**	**0.0**
	comp=Z,35nm,0.7s						
FETA	**Feichten**	**151.86**	**351**	*i* PKiKP	**PKiKP**	**01 46 46.6**	**0.0**
	comp=Z,28nm,0.9s						
CRES	**Cresnjev**	**151.98**	**343**	⇓*i*P	**PKiKP**	**01 46 46.6**	**0.0**
DIVS	**Divibare**	**152.00**	**335**	⇓*i*P	**PKPbc**	**01 46 46.6**	**+0.1**
LJU	**Ljubljana**	**152.03**	**345**	*i* PKPdf	**PKPdf**	**01 46 39.6**	**-0.1**
LJU				*e*PKPbc	**PKiKP**	**01 46 46.9**	**+0.2**
LJU	**Ljubljana**	**152.03**	**345**	⇓*i*P	**PKiKP**	**01 46 46.7**	**0.0**
CRNS	**Crni Vrh**	**152.06**	**345**	*i* PKPdf	**PKPdf**	**01 46 39.6**	**-0.2**
CRNS				*i* PKPbc	**PKiKP**	**01 46 46.7**	**-0.1**
OZLJ	**Ozalj**	**152.18**	**343**	P	**PKiKP**	**01 46 47.2**	**+0.2**
CEY	**Cerknica**	**152.34**	**345**	⇓*i*P	**PKPbc**	**01 46 47.2**	**0.0**
BOJS	**Bojanci**	**152.34**	**343**	*i* PKPbc	**PKiKP**	**01 46 48.0**	**+0.7**
KKB	**Krupnik**	**152.41**	**329**	P	**PKiKP**	**01 46 47.9**	**+0.2**
BBLS	**Lazići**	**152.42**	**336**	⇓*i*P	**PKiKP**	**01 46 48.1**	**+0.4**
BLY	**Banja Luka**	**152.44**	**340**	⇓*i*P	**PKPbc**	**01 46 47.1**	**-0.3**
CTI	**Castel Tesino**	**152.65**	**349**		**PKiKP**	**01 46 48.0**	**-0.1**
RIY	**Rijeka**	**152.71**	**344**	*e*P	**PKiKP**	**01 46 48.5**	**+0.4**
MGRS	**Mrkonjic Grad**	**152.77**	**340**	*e*P	**PKPab**	**01 47 01.7**	**+1.7**
BRJN	**Brijuni**	**153.28**	**345**	P	**PKiKP**	**01 46 49.6**	**+0.3**
NVLJ	**Novalja**	**153.31**	**343**	*e*Pn	**PKiKP**	**01 46 49.5**	**+0.1**
KIJV	**Kijevo**	**153.36**	**340**	P	**PKiKP**	**01 46 50.0**	**+0.5**
PDG	**Podgorica**	**153.69**	**334**	⇑P	**PKiKP**	**01 46 50.6**	**+0.4**
PDG	**Podgorica**	**153.69**	**334**	*e*P	**PKPbc**	**01 46 49.7**	**-0.5**
MORI	**Morici**	**153.70**	**341**	P	**PKiKP**	**01 46 50.3**	**+0.1**
MAKA	**Makarska**	**153.79**	**339**	P	**PKPbc**	**01 46 49.8**	**-0.6**
TREB	**Trebinje**	**153.80**	**336**	*e*P	**PKPbc**	**01 46 50.1**	**-0.3**
STON	**Ston**	**153.91**	**337**	P	**PKiKP**	**01 46 50.6**	**-0.1**
STON	**Ston**	**153.91**	**337**	*e*P	**PKPab**	**01 47 04.1**	**-0.7**
ZIRJ	**Zirje**	**153.91**	**341**	P	**PKiKP**	**01 46 50.9**	**+0.2**
DRME	**Dracevica, Mon**	**153.92**	**334**	*e*P	**PKPbc**	**01 46 50.6**	**-0.1**
DBRK	**Dubrovnik**	**153.92**	**336**	P	**PKiKP**	**01 46 51.2**	**+0.4**
HVAR	**Hvar**	**154.08**	**339**	P	**PKPbc**	**01 46 50.0**	**-1.0**
APE	**Apeiranthos**	**154.33**	**318**	⇑P	**PKPab**	**01 47 06.2**	**-0.7**
SANT	**Santorini**	**154.79**	**317**	⇑P	**PKPab**	**01 47 08.6**	**-0.3**
ESDC	**Sonseca Array**	**158.50**	**18**	PKP	**PKPdf**	**01 46 48.8**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=307,slow=1.7,SNR=6.8						
ESDC				PKPab	**PKPab**	**01 47 25.6**	**+0.9**
	comp=Z,4.0nm,0.9s,baz=322,slow=4.0,SNR=16						
DBIC	**Dimbokro**	**164.62**	**144**	PKPab	**PKPab**	**01 47 52.4**	**+0.3**
	comp=Z,5.4nm,0.9s,baz=211,slow=7.2,SNR=5.2						
TORD	**Torodi Ar. Bea**	**173.39**	**158**	PKP	**PKPdf**	**01 47 00.4**	**-0.7**
	comp=Z,2.0nm,1.0s,baz=324,slow=1.6,SNR=7.7						
TORD				PKPab	**PKPab**	**01 48 31.2**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=212,slow=3.3,SNR=8.9						
TORD				PP	**PP**	**01 52 24.1**	**+2.5**
	comp=Z,0.5nm,0.8s,baz=198,slow=2.4,SNR=2.6						

*SOME **03** 01:39:00.5, 41.38N×77.58E, h10km*
*KRNET **03** 01:39:00.3±0.1, 41.39N×77.56E, h17km, mb2.5*
*NNC **03** 01:39:01.2±1.0, 41.43N×77.59E, h0km, mb3.5, mpv3.2,*
Error ellipse: s-maj=6.6km s-min=4.7km az=17.0

ISC 03 01:38:57.0±1.7, 41.22N±0.07×77.38E±0.03, h5km±11km, n50, σ1.943/86, 21C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**0.60**	**32**	⇑*i*P	**Pg**	**01 39 07.9**	**-0.8**
	baz=28						
TARG				⇑*i*S	**Sg**	01 39 13.5	-3.1
	baz=28						
KDJ	**Kajisay**	**0.92**	**351**	⇑*i*P	**Pb**	**01 39 15.0**	**-0.6**
	baz=40						
KDJ				⇑*i*S	**Sb**	**01 39 26.0**	**-2.3**
	baz=40						
ULHL	**Ulahol**	**1.33**	**321**	⇑*i*P	**Pg**	**01 39 24.4**	**+1.9**
	baz=11						
ULHL				⇑*i*S	**Sg**	**01 39 42.3**	**+2.5**
	baz=11						
PRZ	**Przheval'sk**	**1.48**	**31**	⇑*i*P	**Pn**	**01 39 23.6**	**-0.9**
	baz=30						
PRZ				⇑*i*S	**Sn**	**01 39 40.9**	**-3.4**
	baz=30						
ANVS	**Anan'yevo**	**1.58**	**8**	⇓*i*P	**Pn**	**01 39 26.1**	**+0.2**
	baz=3.0						
ANVS				⇓*i*S	**Sn**	**01 39 45.1**	**-1.7**
	baz=3.0						
BOOM	**Boomskoye usch**	**1.66**	**320**	⇓*i*P	**Pg**	**01 39 30.1**	**+1.2**
	baz=13						
BOOM				⇓*i*S	**Sg**	**01 39 52.2**	**+1.8**
	baz=13						
KZA	**Kyzart**	**1.81**	**299**	⇑*i*P	**Pg**	**01 39 34.3**	**+2.6**
	baz=92						
KZA				⇑*i*S	**Sg**	**01 39 59.1**	**+3.9**
	baz=92						
TNSS	**Tian-Shan**	**1.84**	**350**	⇓*i*P	**Pb**	**01 39 32.0**	**+0.6**
	11nm,0.4s						
TNSS				⇑*i*S	**Sb**	**01 39 54.8**	**-0.2**
	19nm,0.4s						
TNSS	**Tian-Shan**	**1.84**	**350**	P	**Pb**	**01 39 32.1**	**+0.6**
	10nm,0.3s						
TNSS				S	**Sb**	**01 39 54.8**	**-0.2**
	19nm,0.4s						
IZV	**Izvestkoviy**	**1.90**	**343**	⇑*i*P	**Pg**	**01 39 33.4**	**-0.1**
	10nm,0.3s						
IZV				⇑*i*S	**Sg**	**01 39 57.4**	**-0.7**
	33nm,0.4s						
IZV	**Izvestkoviy**	**1.90**	**343**	P	**Pg**	**01 39 33.4**	**-0.1**
	10nm,0.3s						
IZV				S	**Sg**	**01 39 57.4**	**-0.7**
	33nm,0.4s						
MDOK	**Medeo**	**1.96**	**353**	⇑*i*P	**Pb**	**01 39 33.7**	**+0.4**
	11nm,0.2s						
MDOK				⇑*i*S	**Sb**	**01 39 57.9**	**-0.1**
	11nm,0.2s						
MDOK	**Medeo**	**1.96**	**353**	⇓P	**Pb**	**01 39 33.3**	**0.0**
	3.3nm,0.3s						
MDOK				⇓S	**Sb**	**01 39 57.8**	**-0.3**
	7.1nm,0.4s						
MDOK	**Medeo**	**1.96**	**353**	Pg	**Pb**	**01 39 33.7**	**+0.4**
	11nm,0.2s						
MDOK				Lg	Lg	01 39 58.1	
	11nm,0.2s						
SATY	**Saty**	**1.99**	**22**	⇓*i*P	**Pn**	**01 39 33.2**	**+1.7**
	9.0nm,0.5s						
SATY				*e*S	**Sn**	**01 39 56.4**	**-0.6**
	32nm,0.3s						
SATY	**Saty**	**1.99**	**22**	P	**Pn**	**01 39 33.2**	**+1.7**
	9.1nm,0.4s						
SATY				S	**Sn**	**01 39 56.4**	**-0.6**
	32nm,0.3s						
KNDC	**Almaty**	**2.02**	**351**	⇓P	**Pn**	**01 39 32.3**	**+0.4**
	12nm,0.2s						
KNDC				⇓S	**Sb**	**01 39 58.3**	**-1.4**
	48nm,0.3s						
KOTS	**Kotyrbulak**	**2.02**	**355**	*e*P	**Pb**	**01 39 34.8**	**+0.4**
	19nm,0.2s						
KOTS				*e*S	**Sb**	**01 39 59.5**	**-0.5**
	26nm,0.3s						
KOTS	**Kotyrbulak**	**2.02**	**355**	P	**Pb**	**01 39 34.7**	**+0.4**
	19nm,0.2s						
KOTS				S	**Sb**	**01 39 59.5**	**-0.5**
	26nm,0.3s						
MTBS	**Maitube**	**2.03**	**340**	*e*P	**Pg**	**01 39 35.9**	**-0.1**
	12nm,0.2s						
MTBS				*e*S	**Sg**	**01 40 01.0**	**-1.4**
	23nm,0.2s						
MTBS	**Maitube**	**2.03**	**340**	P	**Pg**	**01 39 35.9**	**-0.1**
	12nm,0.2s						
MTBS				S	**Sg**	**01 40 01.0**	**-1.4**
	23nm,0.2s						
KST	**Kastek**	**2.10**	**331**	*e*P	**Pg**	**01 39 38.2**	**+0.8**
	3.8nm,0.2s						
KST				*e*S	**Sg**	**01 40 05.2**	**+0.6**
	9.8nm,0.3s						
KST	**Kastek**	**2.10**	**331**	Pg	**Pg**	**01 39 38.1**	**+0.8**
	3.8nm,0.2s						
KST				Lg	Lg	01 40 05.1	
	9.8nm,0.3s						
TKM2	**Tokmak 2**	**2.15**	**323**	⇑*i*P	**Pg**	**01 39 37.7**	**-0.6**
	baz=17						
TKM2				⇑*i*S	**Sg**	**01 40 04.7**	**-1.5**
	baz=17						
UZB	**Uzynbulak**	**2.28**	**32**	*e*P	**Pb**	**01 39 38.4**	**-0.4**
	5.3nm,0.3s						
UZB				*e*S	**Sn**	**01 40 05.3**	**+1.2**
	5.0nm,0.3s						
UZB	**Uzynbulak**	**2.28**	**32**	Pg	**Pb**	**01 39 38.4**	**-0.4**
	5.3nm,0.3s						
UZB				Lg	Lg	01 40 05.4	
	5.0nm,0.3s						
KURS	**Kuram**	**2.34**	**14**	*e*P	**Pb**	**01 39 40.3**	**+0.5**
	4.1nm,0.6s						
KURS				*e*S	**Sb**	**01 40 08.5**	**-0.5**
	10nm,0.5s						
KURS	**Kuram**	**2.34**	**14**	Pg	**Pb**	**01 39 40.2**	**+0.5**
	4.1nm,0.6s						
KURS				Lg	Lg	01 40 08.5	
	11nm,0.6s						
DGS	**Degeres**	**2.34**	**330**	*e*P	**Pg**	**01 39 42.3**	**+0.3**
	4.0nm,0.6s						
DGS				*e*S	**Sg**	**01 40 11.9**	**-0.4**
	13nm,0.5s						
DGS	**Degeres**	**2.34**	**330**	Pg	**Pg**	**01 39 42.3**	**+0.3**
	4.0nm,0.6s						
DGS				Lg	Lg	01 40 11.9	
	13nm,0.5s						
UCH	**Uchtor**	**2.37**	**296**	⇓*i*

	baz=46								
TWD	**Chiawan**	**0.22**	**23**	*i* P		Pb	02 09 45.5	-0.4	
	baz=19								
TWD				*i* S		Sg	02 09 49.0	+0.7	
	baz=19								
EGFH	**Guangfu**	**0.22**	**198**	*e*P		Pg	02 09 45.0	-0.2	
	baz=204								
EGFH				*i* S		Sg	02 09 48.7	+0.2	
	baz=204								
NACB	**Ninganchiao**	**0.30**	**16**	*e*P		Pg	02 09 46.8	+0.2	
	baz=16								
NACB				*e*S		Sg	02 09 51.5	+0.6	
	baz=16								
ETLH	**Xiulin Townshi**	**0.33**	**357**	*e*P		Pg	02 09 47.3	+0.2	
	baz=356								
ETLH				S		Sb	02 09 52.4	-0.6	
	baz=356								
WHF	**Hehuan Shan**	**0.34**	**320**	*i* P		Pg	02 09 47.7	+0.3	
	baz=321								
CHGB	**Renai**	**0.35**	**301**	*e*P		Pb	02 09 48.0	-0.4	
	baz=308								
CHGB				*e*S		Sb	02 09 54.0	+0.2	
	baz=308								
VWDT	**VWDT**	**0.35**	**249**	*e*P		Pb	02 09 48.0	-0.4	
	baz=246								
EHY	**Hungye**	**0.41**	**204**	*e*P		Pg	02 09 48.6	+0.2	
	baz=196								
SSLB	**Suanglung**	**0.51**	**260**	*e*P		Pb	02 09 50.7	-0.3	
	baz=261								
YULB	**Yu-li**	**0.52**	**201**	*e*P		Pg	02 09 49.8	-0.8	
	baz=202								
NNSB	**Datong**	**0.56**	**349**	*e*P		Pb	02 09 51.6	-0.2	
	baz=348								
NNSB				*e*S		Sb	02 10 00.1	+0.4	
	baz=348								
NNSH	**Datong**	**0.56**	**349**	P		Pb	02 09 51.6	-0.3	
	baz=347								
NNSH				*e*S		Sb	02 09 59.4	-0.3	
	baz=347								
TWF1	**Yuli**	**0.56**	**200**	*e*P		Pb	02 09 51.8	0.0	
	baz=205								
NNS	**Nan Shan**	**0.57**	**348**	*i* P		Pg	02 09 51.7	+0.2	
	baz=348								
NNS				*e*S		Sb	02 10 00.4	+0.3	
	baz=348								

*IDC **03** 02:11:46.1±4.2,35°.02N×70°.04E,h84km±37km,mb3.4/5, mb1 3.4/11,mb1mx3.2/54,mbtmp3.7/11,MS3.1/3, Ms1 3.1/3,ms1mx2.4/38,Error ellipse: s-maj=32.2km s-min=22.5km az=163.0*
*NDI **03** 02:11:47.9±2.0,33°.85N×69°.51E,h38km±999km,ML4.0*
*NNC **03** 02:11:52.6±2.0,35°.89N×69°.14E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=16.8km s-min=14.6km az=130.0*

ISC 03 02:11:42.1±0.7,35°.05N±0°.07×69°.97E±0°.08,h35km,n24, σ3s10/25,mb3.8/5,MS3.2/3,2C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMU	**Jammu**	**4.72**	**118**	*e*P	Sn	02 13 33.0	-11
THN	**Thein Dam**	**5.46**	**117**	*e*P	Pn	02 13 12.0	+11
THN				*e*S	**Sn**	**02 14 02.0**	**-0.4**
DHRM	**DHARAMSHALA**	**5.98**	**116**	*e*P	**Pn**	**02 13 11.8**	**+3.6**
DHRM				*e*S	**Sn**	**02 14 14.4**	**-1.2**
DHRM				IAML		02 14 15.4	
	comp=E,199nm,0.1s						
DHRM				IAML		02 14 16.1	
	comp=N,246nm,0.4s						
SMLA	**Simla**	**7.20**	**121**	*e*P	**Pn**	**02 13 27.6**	**+2.8**
SMLA				*e*S	**Sn**	**02 14 41.5**	**-3.8**
SMLA				IAML		02 14 44.7	
	comp=N,142nm,0.3s						
SMLA				IAML		02 14 44.8	
	comp=E,126nm,0.2s						
KK31	**Karatay Array**	**8.05**	**3**	⇓P	**Pn**	**02 13 40.0**	**+3.5**
	comp=E,1.2nm,0.3s,baz=191,slow=13,SNR=49						
KK31				⇑S	**Sn**	**02 15 05.1**	**-1.2**
	comp=E,6.1nm,0.5s,baz=193,slow=29,SNR=6.9						
AAK	**Ala-Archa**	**8.35**	**24**	P	Pn	02 13 46.0	+5.2
	comp=E,1.4nm,0.3s,baz=292,slow=1.2,SNR=5.6						
AAK				S	**Sn**	**02 15 16.7**	**+2.7**
	comp=E,1.0nm,0.3s,baz=349,slow=22,SNR=6.2						
NDI	**New Delhi**	**8.85**	**134**	*e*P	**Pn**	**02 13 46.6**	**-0.9**
NDI				*e*S	Sn	02 15 10.8	-15
GEYT	**Alibeck**	**9.96**	**290**	P	**Pn**	**02 14 06.5**	**+3.7**
	comp=E,0.3nm,0.3s,baz=114,slow=13,SNR=2.4						
BHPL	**Bhopal**	**13.45**	**149**	*e*P	**P**	**02 14 58.8**	**-0.5**
BHPL				*e*S	Sn	02 17 07.0	-12
BHPL				IAML		02 17 10.7	
	comp=E,31nm,0.5s						
BHPL				IAML		02 17 11.6	
	comp=N,7.0nm,0.2s						
MKAR	**Makanchi Array**	**14.95**	**35**	P	**P**	**02 15 13.8**	**-2.1**
	comp=N,0.2nm,0.3s,baz=221,slow=12,SNR=7.8						
AB31	**Akbulak array**	**16.00**	**336**	P	**Pn**	**02 15 25.6**	**+1.3**
	comp=N,1.9nm,0.3s,baz=150,slow=12,SNR=55						
AB31				⇓S	**Sn**	**02 18 11.9**	**-8.6**
	comp=N,12nm,0.5s,baz=156,slow=23,SNR=2.6						
KURBB	**Kurchatov Arra**	**16.76**	**19**	P	**P**	**02 15 36.2**	**+0.3**
	comp=N,0.1nm,0.3s,baz=207,slow=12,SNR=4.8						
AKTO	**Aktyubinsk**	**17.66**	**334**	P	**P**	**02 15 46.5**	**+0.7**
	comp=N,0.3nm,0.3s,baz=135,slow=15,SNR=7.1						
AKTO	**Aktyubinsk**	**17.66**	**334**	⇓P	**P**	**02 15 47.2**	**+1.3**
AKTO				⇑S	**Sn**	**02 18 53.7**	**-7.2**
	comp=N,1.5nm,0.5s						
BVAR	**Borovoye Array**	**17.97**	**1**	P	**Pn**	**02 15 49.1**	**+0.1**
	comp=N,0.4nm,0.3s,baz=182,slow=10,SNR=4.8						
ZALV	**Zalesovo Beam**	**21.58**	**24**	P	**P**	**02 16 28.1**	**-0.4**
	comp=N,0.7nm,0.2s,baz=210,slow=11,SNR=3.0						
ARU	**Arti**	**22.75**	**343**	LR	LR	02 27 37.5	
	comp=N,22nm,20.1s,baz=25,slow=42						
MLR	**Muntele Rosu**	**34.78**	**301**	LR	LR	02 35 02.2	
	comp=N,61nm,18.4s,baz=286,slow=40						
FINES	**FINESS Array B**	**38.23**	**327**	P	**P**	**02 18 58.7**	**+0.3**
	comp=N,0.9nm,0.6s,baz=127,slow=11,SNR=2.1						
NB2	**NORSAR Subarra**	**45.04**	**324**	P	**P**	**02 19 54.4**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=100,slow=7.9						
NOA	**NORSAR Array B**	**45.04**	**324**	P	**P**	**02 19 53.8**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=100,slow=7.9,SNR=4.2						
MJAR	**Matsushiro Arr**	**54.28**	**67**	LR	LR	02 45 05.4	
	comp=Z,25nm,21.0s,baz=90,slow=37						
TORD	**Torodi Ar. Bea**	**64.84**	**269**	P	**P**	**02 22 16.8**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=53,slow=7.3,SNR=9.0						
ASAR	**Alice Springs**	**84.13**	**124**	P	**P**	**02 24 07.6**	**-2.1**
	comp=Z,0.5nm,0.4s,baz=312,slow=5.2,SNR=5.7						

*SJA **03** 02:13:05.4±0.6,22°.60S×68°.76W,h101km±3km,ML3.1, MW3.5*
*GUC **03** 02:13:06.1±0.6,22°.61S×68°.76W,h107km±2km,ML3.5*

ISC 03 02:13:07.1±1.6,22°.63S±0°.05×68°.81W±0°.05,h99km±9km, n21,σ0s54/36,6C-3D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.10**	**280**	*e*P	**Pn**	**02 13 21.0**	**-0.4**
LVC				*i* S	**Sn**	**02 13 31.7**	**-0.3**
LVC	**Limon Verde**	**0.10**	**280**	*i* P	**Pn**	**02 13 20.8**	**-0.6**
LVC				*e*S	**Sn**	**02 13 31.8**	**-0.3**
LVC				IAML		02 13 32.9	
	comp=Z,1μm,0.1s						
PB06	**IPOC Station P**	**0.71**	**264**	⇑*i* P	**Pn**	**02 13 24.3**	**-0.4**
PB06				*e*S	**Sn**	**02 13 38.6**	**+0.6**
PB06				IAML		02 13 39.4	
	comp=N,2μm,0.1s						
PB06	**IPOC Station P**	**0.71**	**264**	*i* P	**Pn**	**02 13 24.5**	**-0.2**
PB06				*e*S	**Sn**	**02 13 38.5**	**+0.6**
PB06				IAML		02 13 40.9	
	comp=Z,1μm,0.1s						
PB15	**IPOC Station P**	**0.84**	**227**	⇑*i* P	**Pn**	**02 13 25.9**	**-0.1**
PB15				*e*S	**Sn**	**02 13 41.3**	**+1.0**
PB15	**IPOC Station P**	**0.84**	**227**	*i* P	**Pn**	**02 13 25.7**	**-0.4**
PB09	**IPOC Station P**	**0.92**	**334**	⇓*i* P	**Pn**	**02 13 27.0**	**+0.2**
PB09				*e*S	**Sn**	**02 13 42.4**	**+0.9**
PB09				IAML		02 13 43.7	
	comp=N,826nm,0.5s						
PB03	**IPOC Station P**	**1.05**	**303**	⇓*i* P	**Pn**	**02 13 27.9**	**-0.3**
PB03				*e*S	**Sn**	**02 13 44.1**	**+0.1**
PB03				IAML		02 13 44.6	
	comp=N,2μm,0.5s						
PB04	**IPOC Station P**	**1.28**	**283**	⇑*i* P	**Pn**	**02 13 30.3**	**-0.4**
PB04				*e*S	**Sn**	**02 13 49.2**	**+0.6**
PB04				IAML		02 13 53.1	
	comp=N,965nm,0.2s						
PB04	**IPOC Station P**	**1.28**	**283**	*i* P	**Pn**	**02 13 30.4**	**-0.3**
PB04				*e*S	**Sn**	**02 13 49.3**	**+0.6**
PB04				IAML		02 13 50.8	
	comp=Z,724nm,0.1s						
PB05	**IPOC Station P**	**1.31**	**260**	⇑*i* P	**Pn**	**02 13 30.6**	**-0.4**
PB05				*e*S	**Sn**	**02 13 50.0**	**+0.7**
PB05				IAML		02 13 51.3	
	comp=E,476nm,0.5s						
PB05	**IPOC Station P**	**1.31**	**260**	*i* P	**Pn**	**02 13 30.7**	**-0.4**
PB05				*e*S	**Sn**	**02 13 50.3**	**+1.0**
PB05				IAML		02 13 50.8	
	comp=Z,503nm,0.4s						
PB07	**IPOC Station P**	**1.34**	**312**	⇑*i* P	**Pn**	**02 13 31.4**	**-0.1**
PB07				*i* S	**Sn**	**02 13 50.0**	**-0.1**
PB07				IAML		02 13 51.3	
	comp=E,1μm,0.2s						
PB02	**IPOC Station P**	**1.65**	**322**	⇓*i* P	**Pn**	**02 13 34.9**	**-0.3**
PB02				*i* S	**Sn**	**02 13 56.6**	**0.0**
PB02				IAML		02 13 57.5	
	comp=E,923nm,0.3s						
PB01	**IPOC Station P**	**1.70**	**338**	⇑*i* P	**Pn**	**02 13 35.6**	**-0.3**
PB01				*e*S	**Sn**	**02 13 57.9**	**+0.1**
PB01				IAML		02 13 59.0	
	comp=E,785nm,0.2s						
PB10	**IPOC Station P**	**1.83**	**241**	*e*P	**Pn**	**02 13 36.9**	**-0.6**
PB10				*e*S	**Sn**	**02 13 59.5**	**-1.2**
PB10	**IPOC Station P**	**1.83**	**241**	*i* P	**Pn**	**02 13 37.6**	**+0.1**
PB10				IAML		02 14 04.8	
	comp=Z,84nm,0.3s						
PATCX	**Punta Patache**	**2.19**	**325**	*e*P	**Pn**	**02 13 41.7**	**-0.5**
PATCX				IAML		02 14 16.3	
	comp=N,231nm,0.6s						
PB08	**IPOC Station P**	**2.50**	**352**	*e*P	**Pn**	**02 13 46.3**	**-0.2**
YJA	**Yavi**	**3.08**	**82**	*i* P	**Pn**	**02 13 54.0**	**-0.2**
YJA				IAML		02 15 06.8	
	comp=Z,4.4nm,4.6s						
AZAP	**Zapla**	**3.79**	**116**	*i* P	**Pn**	**02 14 03.7**	**+0.1**
AZAP				IAML		02 15 32.0	
	comp=Z,16nm,2.9s						

IDC 03 02:19:59.4±1.9,4°.73S×143°.26E,h0km,mb3.6/4, mb1 4.0/5,mb1mx3.7/30,mbtmp3.7/5,ML4.1/1,MS2.6/1, Ms1 2.6/1,ms1mx2.3/25,Error ellipse: s-maj=75.7km s-min=26.8km az=113.0,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.44**	**209**	P	Pn	02 24 02.5	-1.7
	0.7nm,0.3s,baz=31,slow=13,SNR=23						
WRA				S	Sn	02 27 06.3	-13
	0.2nm,0.3s,baz=17,slow=23,SNR=2.2						
ASAR	**Alice Springs**	**20.88**	**205**	P	P	02 24 43.9	+0.6
	2.9nm,0.8s,baz=33,slow=9.6,SNR=22						
FITZ	**Fitzroy Crossi**	**21.75**	**231**	P	P	02 24 53.1	+0.4
	2.1nm,0.8s,baz=73,slow=11,SNR=1.8						
KAPI	**Kappang**	**23.42**	**268**	LR	LR	02 34 47.4	
	comp=Z,15nm,18.8s,baz=200,slow=38						
MKAR	**Makanchi Array**	**74.17**	**321**	P	P	02 31 38.1	+0.2
	0.3nm,0.6s,baz=122,slow=7.0,SNR=2.9						
ILAR	**Eielson Array**	**85.81**	**24**	P	P	02 32 40.3	-0.2
	0.3nm,0.8s,baz=251,slow=5.6,SNR=4.1						

ISC 03 02:24:24.9±0.9,51°.53N±0°.04×16°.14E±0°.03,h0km,n12, σ2s24/24,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.69**	**172**	*i* Pg	**Pg**	**02 24 38.9**	**+0.8**
KSP				*i* Sg	**Sg**	**02 24 47.5**	**+0.4**
BRG	**Berggiesshubel**	**1.53**	**246**	PN	**Pn**	**02 24 52.0**	**-1.4**
BRG				PG	**Pb**	**02 24 54.0**	**-0.1**
BRG				SG	**Sn**	**02 25 14.5**	**+0.4**
	49nm,0.4s						
MORC	**Moravsky Berou**	**1.96**	**152**	*e*PN	**Pn**	**02 24 59.7**	**+0.2**
MORC				*e*SG	**Sb**	**02 25 26.6**	**0.0**
CLL	**Collm**	**1.98**	**265**	*e*Pn	**Pn**	**02 25 01.0**	**+1.4**
CLL				*e*Pg	**Pg**	**02 25 03.0**	**+0.2**
CLL				*e*Sg	**Sg**	**02 25 30.0**	**+1.6**
	comp=Z,7.0nm,0.5s						
VRAC	**Vranov**	**2.24**	**172**	*e*PN	**Pn**	**02 25 03.9**	**+0.6**
VRAC				*e*SG	**Sb**	**02 25 34.5**	**0.0**
KRUC	**Moravsky**	**2.47**	**176**	*e*PN	**Pn**	**02 25 07.4**	**+1.0**
KRUC				*e*SG	**Sg**	**02 25 43.2**	**-1.1**
OJC	**Ojcow**	**2.66**	**118**	*e*Pn	**Pn**	**02 25 08.7**	**-0.3**
OJC				*e*Pg	**Pg**	**02 25 17.6**	**+1.7**
OJC				*e*Sg	**Sg**	**02 25 52.1**	**+1.7**
SMOL	**Smolenice**	**3.13**	**164**	*e*SG	**Sg**	**02 26 10.4**	**+5.1**
SMOL	**Smolenice**	**3.13**	**164**	*e*SN	**Sn**	**02 25 46.4**	**-7.1**
LANS	**Liptovska Anna**	**3.19**	**137**	*e*SG	**Sg**	**02 26 08.9**	**+1.4**
NIE	**Niedzica**	**3.39**	**127**	*e*P	**Pg**	**02 25 30.1**	**+0.1**
NIE				*e*S	**Sg**	**02 26 14.7**	**+0.8**
BSD	**Bornholm Skovb**	**3.67**	**349**	*i* P	**Pn**	**02 25 23.4**	**+0.5**
BSD				*i* S	**Sn**	**02 26 03.6**	**-3.2**

*PDG **03** 02:31:23.1±0.3,43°.28N×19°.87E,h10km,MD3.1/6, ML3.1/13,Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*BEO **03** 02:31:23.8±0.2,43°.24N×19°.91E,h7km±2km,ML3.2/20*
*RHSSO **03** 02:31:24.1±0.4,43°.25N×19°.86E,h3km±2km,ML3.2/14*
*PRU **03** 02:31:25.9±0.0,43°.43N×20°.13E,h0km*

ISC 03 02:31:23.5±0.8,43°.24N±0°.01×19°.88E±0°.01,h8km±5km, n134,σ18s33/236,21C-32D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJES	**Sjenica**	**0.07**	**75**	*e*Pg	**Pg**	**02 31 25.4**	**-0.1**
SJES				*e*Sg	**Sg**	**02 31 27.5**	**+0.5**
SJES	**Sjenica**	**0.07**	**75**	*e*Pg	**Pg**	**02 31 25.4**	**-0.1**
SJES				*e*Sg	**Sg**	**02 31 27.5**	**+0.5**
PLE	**Pljevlja**	**0.37**	**284**	⇑*i*Pg	**Pg**	**02 31 30.2**	**-0.6**
PLE				*e*Sg	**Sg**	**02 31 35.7**	**0.0**
IVA	**Berane**	**0.37**	**179**	⇓*i*Pg	**Pg**	**02 31 30.9**	**+0.1**
IVA				*e*Sg	**Sb**	**02 31 36.9**	**-1.4**
IVAS	**Ivanjica**	**0.39**	**31**	*e*Pg	**Pg**	**02 31 30.2**	**-0.9**
IVAS				*e*Sg	**Sg**	**02 31 35.6**	**-0.6**
IVAS	**Ivanjica**	**0.39**	**31**	*e*Pg	**Pg**	**02 31 30.2**	**-0.9**
IVAS				*e*Sg	**Sg**	**02 31 35.6**	**-0.6**
KOME	**Kolasin**	**0.48**	**214**	⇓*i*Pg	**Pg**	**02 31 32.5**	**-0.2**
KOME				*e*Sg	**Sb**	**02 31 40.3**	**-1.1**
PVY	**Plav**	**0.65**	**175**	⇑*i*Pg	**Pg**	**02 31 35.9**	**-0.1**
PVY				*i* Sg	**Sb**	**02 31 46.1**	**-0.3**
BBLS	**Lazići**	**0.71**	**331**	*e*Pg	**Pg**	**02 31 36.5**	**-0.7**
BBLS				*e*Sg	**Sb**	**02 31 48.2**	**0.0**
BBLS	**Lazići**	**0.71**	**331**	*e*Pg	**Pg**	**02 31 36.5**	**-0.7**
BBLS				*e*Sg	**Sb**	**02 31 48.2**	**0.0**
BBLS	**Lazići**	**0.71**	**331**	⇑*i*Pg	**Pg**	**02 31 36.2**	**-1.0**
BBLS				*e*Sg	**Sg**	**02 31 46.8**	**+0.3**
UPM	**Unac-Piva**	**0.71**	**267**	⇑*i*Pg	**Pg**	**02 31 36.7**	**-0.6**
UPM				*i* Sg	**Sb**	**02 31 47.3**	**-1.0**
UPM	**Unac-Piva**	**0.71**	**267**	⇑*i*Pg	**Pg**	**02 31 36.7**	**-0.6**
UPM				*e*Sg	**Sg**	**02 31 46.4**	**-0.2**
NKY	**Niksic**	**0.78**	**237**	⇓*i*Pg	**Pg**	**02 31 37.7**	**-0.8**
NKY				*i* Sg	**Sb**	**02 31 49.9**	**-0.2**
NKME	**Niksic**	**0.83**	**235**	⇑*i*Pg	**Pg**	**02 31 38.6**	**-0.8**
NKME				*i* Sg	**Sb**	**02 31 51.8**	**+0.3**
DIVS	**Divibare**	**0.86**	**5**	*e*Pg	**Pg**	**02 31 39.3**	**-0.7**
DIVS				*e*Sg	**Sb**	**02 31 52.0**	**-0.4**
DIVS	**Divibare**	**0.86**	**5**	*e*Pg	**Pg**	**02 31 39.3**	**-0.7**
DIVS				*e*Sg	**Sb**	**02 31 52.0**	**-0.4**
DIVS	**Divibare**	**0.86**	**5**	⇓*i*Pg	**Pg**	**02 31 39.1**	**-0.9**
DIVS				*e*Sg	**Sg**	**02 31 51.7**	**+0.5**
GRUS	**Gruza**	**0.89**	**43**	*e*Pg	**Pg**	**02 31 40.3**	**-0.2**
GRUS				*e*Sg	**Sg**	**02 31 52.2**	**+0.2**
GRUS	**Gruza**	**0.89**	**43**	*e*Pg	**Pg**	**02 31 40.3**	**-0.2**
GRUS				*e*Sg	**Sg**	**02 31 51.8**	**-0.2**
SELS	**Selova**	**0.91**	**91**	*e*Pg	**Pg**	**02 31 40.3**	**-0.6**
SELS				*e*Sg	**Sg**	**02 31 52.6**	**0.0**
SELS	**Selova**	**0.91**	**91**	*e*Pg	**Pg**	**02 31 40.3**	**-0.6**
SELS				*e*Sg	**Sg**	**02 31 52.6**	**0.0**
PDG	**Podgorica**	**0.93**	**210**	*e*Pg	**Pg**	**02 31 40.7**	**-0.7**
PDG				*e*Sg	**Sb**	**02 31 54.3**	**-0.1**
PDG	**Podgorica**	**0.93**	**210**	*e*Pg	**Pg**	**02 31 40.7**	**-0.7**
PDG				*e*Sg	**Sb**	**02 31 54.3**	**-0.1**
PDG	**Podgorica**	**0.93**	**210**	⇑P	**Pg**	**02 31 40.6**	**-0.9**
PDG				⇑S	**Sb**	**02 31 54.2**	**-0.1**
PDG	**Podgorica**	**0.93**	**210**	⇓*i*Pg	**Pg**	**02 31 40.3**	**-1.1**
PDG				*e*Sg	**Sb**	**02 31 53.6**	**-0.8**
TTG	**Podgorica**	**0.93**	**210**	⇓*i*Pg	**Pg**	**02 31 40.5**	**-0.9**
TTG				*i* Sg	**Sn**	**02 31 55.6**	**-0.8**
CEME	**Cevo**	**0.99**	**226**	⇓*i*Pg	**Pg**	**02 31 41.2**	**-1.3**
CEME				*i* Sg	**Sn**	**02 31 57.4**	**-0.6**
BRY	**Bratogost**	**1.04**	**251**	⇓*i*Pg	**Pg**	**02 31 42.4**	**-1.1**
BRY				*i* Sg	**Sn**	**02 31 58.9**	**-0.4**
BRY	**Bratogost**	**1.04**	**251**	⇑*i*Pg	**Pg**	**02 31 42.4**	**-1.1**
BRY				*e*Sg	**Sg**	**02 31 56.3**	**-0.7**
TRUS	**Trudelj**	**1.05**	**21**	*e*Pg	**Pg**	**02 31 43.1**	**-0.6**
TRUS				*e*Sg	**Sg**	**02 31 57.3**	**0.0**
TRUS	**Trudelj**	**1.05**	**21**	*e*Pg	**Pg**	**02 31 43.1**	**-0.6**
TRUS				*e*Sg	**Sb**	**02 31 58.3**	**+0.4**
DRME	**Dracevica, Mon**	**1.18**	**206**	⇑*i*Pg	**Pb**	**02 31 45.1**	**-0.9**
DRME				*i* Sg	**Sn**	**02 32 04.2**	**+1.8**
DRME	**Dracevica, Mon**	**1.18**	**206**	*e*Pg	**Pb**	**02 31 45.2**	**-0.8**
DRME				*e*Sg	**Sn**	**02 32 01.6**	**-0.8**
BUM	**Brajici-Budva**	**1.19**	**218**	⇑*i*Pg	**Pb**	**02 31 45.4**	**-0.9**
BUM				*i* Sg	**Sn**	**02 32 04.2**	**+1.3**
TREB	**Trebinje**	**1.24**	**245**	*e*Pg	**Pn**	**02 31 46.3**	**-0.8**
TREB				*e*Sg	**Sn**	**02 32 03.4**	**-0.6**
HCY	**Herceg Novi**	**1.29**	**233**	⇑*i*Pg	**Pn**	**02 31 47.1**	**-0.8**
HCY				*i* Sg	**Sn**	**02 32 07.7**	**+2.3**
HCY	**Herceg Novi**	**1.29**	**233**	*e*Pg	**Pg**	**02 31 47.7**	**-0.6**
HCY				*e*Sg	**Sn**	**02 32 05.5**	**+0.1**
TEKS	**Tekeris**	**1.33**	**349**	*e*Pg	**Pb**	**02 31 48.6**	**-0.1**
TEKS				*e*Sg	**Sg**	**02 32 06.5**	**+0.2**
TEKS	**Tekeris**	**1.33**	**349**	*e*Pg	**Pb**	**02 31 48.6**	**-0.1**
TEKS				*e*Sg	**Sg**	**02 32 07.7**	**+1.4**
TEKS	**Tekeris**	**1.33**	**349**	*e*Pg	**Pn**	**02 31 47.4**	**-1.0**
TEKS				*e*Sg	**Sn**	**02 32 06.2**	**-0.1**
ULC	**Ulcinj**	**1.36**	**200**	⇑*i*Pg	**Pb**	**02 31 48.6**	**-0.6**
ULC				*i* Sg	**Sg**	**02 32 10.3**	**+3.0**
BOVS	**Bovan**	**1.39**	**73**	*e*Sg	**Sb**	**02 32 06.4**	**-1.0**
BOVS	**Bovan**	**1.39**	**73**	*e*Sg	**Sb**	**02 32 06.4**	**-1.0**
DBRK	**Dubrovnik**	**1.40**	**246**	*e*Pn	**Pn**	**02 31 49.1**	**-0.2**
SVIS	**Svilajnac**	**1.41**	**43**	*e*Pg	**Pn**	**02 31 49.2**	**-0.2**
SVIS				*e*Sg	**Sg**	**02 32 09.4**	**+0.7**
SVIS	**Svilajnac**	**1.41**	**43**	*e*Pg	**Pn**	**02 31 49.2**	**-0.2**
SVIS				*e*Sg	**Sg**	**02 32 08.9**	**+0.2**
BARS	**Barje**	**1.48**	**106**	*e*Pg	**Pb**	**02 31 51.0**	**-0.2**
BARS	**Barje**	**1.48**	**106**	*e*Pg	**Pg**	**02 31 55.1**	**+3.2**
BARS				*e*Sg	**Sg**	**02 32 10.4**	**-0.7**
BARS				*e*Sg	Sb	02 32 18.8	+8.6
BARS	**Barje**	**1.48**	**106**	*e*Pg	**Pg**	**02 31 51.2**	**-0.7**
BARS	**Barje**	**1.48**	**106**	*e*Pg	**Pg**	**02 31 55.1**	**+3.2**
BARS				*e*Sg	**Sg**	**02 32 10.8**	**-0.3**
BARS				*e*Sg	Sb	02 32 18.8	+8.6
STON	**Ston**	**1.64**	**258**	*e*Pn	**Pb**	**02 31 52.9**	**-1.1**
STON				Sn	**Sg**	**02 32 15.5**	**-0.7**
STON	**Ston**	**1.64**	**258**	*e*Pn	**Pb**	**02 31 52.9**	**-1.1**
STON				*e*Sn	**Sb**	**02 32 14.8**	**0.0**
SKO	**Skopje**	**1.71**	**137**	*e*Pg	**Pb**	**02 31 54.9**	**-0.3**
SKO				*e*Sg	**Sg**	**02 32 18.1**	**-0.4**
SKO	**Skopje**	**1.71**	**137**	*i* Pn	**Pb**	**02 31 54.9**	**-0.3**
KUBS	**Kucevo**	**1.75**	**47**	*e*Pg	**Pn**	**02 31 53.3**	**-0.8**
KUBS				*e*Sg	**Sg**	**02 32 18.7**	**-0.9**
KUBS	**Kucevo**	**1.75**	**47**	*e*Pg	**Pb**	**02 31 55.7**	**-0.1**
KUBS				*e*Sg	**Sg**	**02 32 18.7**	**-0.9**
ZAGS	**Zajecar**	**1.80**	**71**	*e*Pg	**Pn**	**02 31 54.9**	**+0.1**
ZAGS				*e*Sg	**Sg**	**02 32 21.4**	**0.0**
ZAGS	**Zajecar**	**1.80**	**71**	*e*Pg	**Pn**	**02 31 54.9**	**+0.1**
ZAGS				*e*Sg	**Sg**	**02 32 21.4**	**0.0**
TIR	**Tirane**	**1.90**	**180**	*e*Pg	**Pg**	**02 31 59.1**	**-0.7**
TIR	**Tirane**	**1.90**	**180**	⇓P	**Pg**	**02 31 59.0**	**-0.7**
TIR				⇓S	**Sg**	**02 32 24.1**	**-0.3**
FRGS	**Fruska Gora**	**1.91**	**358**	*e*Pn	**Pn**	**02 31 56.0**	**-0.4**
FRGS				*e*Sg	**Sg**	**02 32 25.0**	**0.0**
FRGS	**Fruska Gora**	**1.91**	**358**	*e*Pg	**Pb**	**02 31 57.6**	**-1.1**
FRGS				*e*Sg	**Sg**	**02 32 25.0**	**0.0**
FRGS	**Fruska Gora**	**1.91**	**358**	*e*Sn	**Sn**	**02 32 21.3**	**+0.6**
ZAPS	**Zavoj**	**2.01**	**88**	*e*Pg	**Pb**	**02 31 59.2**	**-1.1

ARSA	**Arzberg**	**5.05**	**324**	Pn	**Pn**	**02 32 40.0**	**+0.4**
	6.5nm,0.5s,SNR=4.3							
ARSA				*i* Sn	**Sn**	**02 33 37.6**	**-0.4**
	8.1nm,0.6s							
TRPA	**Tarpa**	**5.23**	**20**	⇓P	**Pn**	**02 32 41.5**	**-0.4**
VYHS	**Vyhne**	**5.30**	**352**	*e*PN	**Pn**	**02 32 43.4**	**+0.5**
MODS	**Modra-Piesok**	**5.44**	**341**	*e*PN	**Pn**	**02 32 47.9**	**+3.0**
MODS				*e*SN	**Sn**	**02 33 45.4**	**-2.3**
CONA	**Conrad Observa**	**5.47**	**330**	*i* Pn	**Pn**	**02 32 46.2**	**+0.9**
	0.9nm,0.4s							
CONA				*i* Sn	**Sn**	**02 33 50.0**	**+1.6**
	3.7nm,0.7s							
SMOL	**Smolenice**	**5.54**	**343**	*e*PN	**Pn**	**02 32 48.4**	**+2.2**
SMOL				*e*SN	**Sn**	**02 33 48.8**	**-1.3**
MYKA	**Terra Mystica**	**5.57**	**310**	*i* Pn	**Pn**	**02 32 50.7**	**+3.9**
	1.1nm,0.3s							
KBA	**Koelnbreinsper**	**6.00**	**312**	*i* Pn	**Pn**	**02 32 54.8**	**+2.1**
	1.9nm,0.3s							
KBA				*i* Sn	**Sn**	**02 34 00.7**	**-1.1**
	2.4nm,0.4s							
MOA	**Molln**	**6.06**	**321**	*i* Pn	**Pn**	**02 32 52.6**	**-0.8**
	0.8nm,0.3s							
MOA				*i* Sn	**Sn**	**02 34 01.4**	**-1.5**
	1.2nm,0.3s							
CFR	**Carcaliu**	**6.24**	**69**	⇓P	**Pn**	**02 32 57.3**	**+1.5**
ABTA	**Abfaltersbach**	**6.29**	**306**	Pn	**Pn**	**02 32 58.3**	**+1.7**
	2.4nm,0.6s,SNR=7.9							
ABTA				*i* Sn	**Sn**	**02 34 14.6**	**+5.9**
	3.9nm,0.7s							
WTTA	**Wattenberg**	**7.07**	**307**	*i* Pn	**Pn**	**02 33 10.1**	**+2.7**
	2.3nm,0.4s							
WATA	**Walderalm**	**7.14**	**308**	*i* Pn	**Pn**	**02 33 10.9**	**+2.6**
	2.3nm,0.5s							
SQTA	**Sankt Quirin**	**7.30**	**306**	*i* Pn	**Pn**	**02 33 14.0**	**+3.5**
	2.9nm,0.4s							
SQTA				*i* Sn	**Sn**	**02 34 34.6**	**+1.1**
	3.5nm,0.5s							
KHC	**Kasperske Hory**	**7.33**	**326**	*e*PN	**Pn**	**02 33 12.5**	**+1.7**
KHC				*e*SN	**Sn**	**02 34 34.3**	**+0.1**
MOTA	**Moosalm**	**7.42**	**307**	*i* Pn	**Pn**	**02 33 14.8**	**+2.6**
	4.8nm,0.8s							
MOTA				*i* Sn	**Sn**	**02 34 38.2**	**+1.6**
	2.7nm,0.7s							
FETA	**Feichten**	**7.49**	**303**	*i* Pn	**Pn**	**02 33 16.7**	**+3.5**
	1.0nm,0.4s							
FETA				*i* Sn	**Sn**	**02 34 40.7**	**+2.3**
	0.7nm,0.4s							

NNC ***03*** *02:44:08.4±3.0, 39.°50N×77.°20E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=20.5km s-min=16.7km az=159.0*
SOME ***03*** *02:44:09.5, 39.°58N×77.°32E, h5km*
KRNET ***03*** *02:44:11.7±0.1, 39.°51N×77.°93E, mb3.4*

ISC 03 02:44:15.4±2.2, 39.°76N±0.°09×77.°20E±0.°04, h10km, n50, σ1§46/79, 9C-13D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**2.02**	**13**	⇓*i*P	**Pn**	**02 44 49.0**	**-0.8**
	baz=57						
TARG				⇓*i*S	**Sn**	**02 45 16.3**	**+1.0**
	baz=57						
KDJ	**Kajisay**	**2.37**	**360**	⇑*i*P	**Pn**	**02 44 55.2**	**+0.8**
	baz=48						
KDJ				⇑*i*S	**Sb**	**02 45 27.0**	**-0.5**
	baz=48						
ULHL	**Ulahol**	**2.58**	**344**	⇑*i*P	**Pb**	**02 45 00.1**	**-1.8**
	baz=35						
ULHL				⇑*i*P	**Sb**	**02 45 35.5**	**+1.7**
	baz=35						
KZA	**Kyzart**	**2.75**	**328**	⇓*i*P	**Pb**	**02 45 04.0**	**-0.8**
	baz=22						
KZA				⇓*i*S	**Sb**	**02 45 42.2**	**+3.6**
	baz=22						
PRZ	**Przheval'sk**	**2.86**	**18**	⇓*e*P	**Pn**	**02 44 59.5**	**-1.8**
	baz=7.0						
PRZ				⇓*i*S	**Sn**	**02 45 34.7**	**-1.2**
	baz=7.0						
BOOM	**Boomskoye usch**	**2.89**	**341**	⇓*e*P	**Pb**	**02 45 04.4**	**-2.6**
	baz=34						
BOOM				⇓*i*S	**Sb**	**02 45 43.5**	**+1.0**
	baz=34						
ARLS	**Aral**	**3.03**	**315**	⇑*i*P	**Pb**	**02 45 08.5**	**-0.9**
	baz=12						
ARLS				⇑*i*S	**Sb**	**02 45 49.9**	**+3.4**
	baz=12						
ANVS	**Anan'yevo**	**3.04**	**6**	⇓*i*P	**Pn**	**02 45 03.4**	**-0.3**
	baz=57						
ANVS				⇓*i*S	**Sn**	**02 45 41.5**	**+1.3**
	baz=57						
TNSS	**Tian-Shan**	**3.28**	**357**	*e*P	**Pb**	**02 45 14.4**	**+0.6**
	11nm,0.5s						
TNSS				*e*S	**Sg**	**02 46 00.8**	**+0.2**
	15nm,0.5s						
TNSS	**Tian-Shan**	**3.28**	**357**	Pg	**Pb**	**02 45 13.7**	**-0.2**
	11nm,0.5s						
TNSS				Lg	Lg	02 46 00.8	
	15nm,0.5s						
IZV	**Izvestkoviy**	**3.30**	**352**	*e*P	**Pb**	**02 45 14.6**	**+0.4**
	5.7nm,0.3s						
IZV				*e*S	**Sg**	**02 46 01.4**	**+0.1**
	21nm,0.4s						
IZV	**Izvestkoviy**	**3.30**	**352**	Pg	**Pb**	**02 45 14.5**	**+0.4**
	5.7nm,0.5s						
IZV				Lg	Lg	02 46 01.1	
	21nm,0.4s						
KBK	**Karagaybulak**	**3.35**	**330**	⇑*i*P	**Pb**	**02 45 12.0**	**-3.0**
	baz=25						
KBK				⇑*i*S	**Sb**	**02 45 56.1**	**+0.2**
	baz=25						
MDOK	**Medeo**	**3.40**	**358**	*e*P	**Pb**	**02 45 16.2**	**+0.4**
	6.2nm,0.4s						
MDOK				*e*S	**Sg**	**02 46 04.1**	**-0.4**
	23nm,0.5s						
MDOK	**Medeo**	**3.40**	**358**	Pg	**Pb**	**02 45 12.1**	**-3.6**
	7.4nm,0.6s						
MDOK				Lg	Lg	02 46 05.8	
	20nm,0.6s						
MDOK	**Medeo**	**3.40**	**358**	Pg	**Pb**	**02 45 16.2**	**+0.4**
	6.2nm,0.4s						
MDOK				Lg	Lg	02 46 04.5	
	15nm,0.6s						
KST	**Kastek**	**3.41**	**345**	*e*P	**Pb**	**02 45 16.6**	**+0.8**
	4.6nm,0.4s						
KST				*e*S	**Sg**	**02 46 05.1**	**+0.3**
	12nm,0.4s						
KST	**Kastek**	**3.41**	**345**	Pg	**Pb**	**02 45 16.4**	**+0.5**
	4.3nm,0.4s						
KST				Lg	Lg	02 46 04.5	
	10nm,0.5s						
MTBS	**Maitube**	**3.41**	**350**	*e*P	**Pb**	**02 45 15.9**	**-0.1**
	9.2nm,0.1s						
MTBS				*e*S	**Sg**	**02 46 04.2**	**-0.8**
	19nm,0.4s						
MTBS	**Maitube**	**3.41**	**350**	Pg	**Pb**	**02 45 15.8**	**-0.1**
	9.2nm,0.1s						
MTBS				Lg	Lg	02 46 03.8	
	14nm,0.3s						
SATY	**Saty**	**3.42**	**15**	*e*P	**Pb**	**02 45 15.7**	**-0.3**
	6.0nm,0.5s						
SATY				*e*S	**Sg**	**02 46 03.9**	**-1.1**
	19nm,0.4s						
SATY	**Saty**	**3.42**	**15**	Pg	**Pb**	**02 45 15.7**	**-0.3**
	5.6nm,0.5s						
SATY				Lg	Lg	02 46 03.9	
	19nm,0.4s						
KOTS	**Kotyrbulak**	**3.47**	**359**	*e*P	**Pb**	**02 45 17.4**	**+0.4**
	16nm,0.5s						
KOTS				*e*S	**Sg**	**02 46 06.4**	**-0.4**
	85nm,0.5s						
AML	**Almayashu**	**3.56**	**313**	⇓*i*P	**Pb**	**02 45 16.0**	**-2.6**
	baz=11						
AML				⇓*i*S	**Sb**	**02 46 03.1**	**+1.1**
	baz=11						
DGS	**Degeres**	**3.64**	**343**	*e*P	**Pb**	**02 45 20.7**	**+0.8**
	9.1nm,0.5s						
DGS				*e*S	**Sg**	**02 46 11.7**	**-0.4**
	13nm,0.4s						
DGS	**Degeres**	**3.64**	**343**	Pg	**Pb**	**02 45 20.7**	**+0.8**
	9.1nm,0.5s						
DGS				Lg	Lg	02 46 11.7	
	13nm,0.4s						
UZB	**Uzynbulak**	**3.65**	**21**	*e*P	**Pb**	**02 45 19.9**	**-0.1**
	4.3nm,0.4s						
UZB				*e*S	**Sg**	**02 46 10.6**	**-1.8**
	7.1nm,0.3s						
UZB	**Uzynbulak**	**3.65**	**21**	Pg	**Pb**	**02 45 18.9**	**-1.1**
	4.3nm,0.4s						
UZB				Lg	Lg	02 46 09.4	
	5.0nm,0.3s						
KURS	**Kuram**	**3.79**	**11**	*e*P	**Pb**	**02 45 22.8**	**+0.4**
	3.5nm,0.5s						
KURS				*e*S	**Sg**	**02 46 15.7**	**-1.4**
	7.4nm,0.5s						
KURS	**Kuram**	**3.79**	**11**	Pg	**Pb**	**02 45 22.8**	**+0.4**
	4.1nm,0.8s						
KURS				Lg	Lg	02 46 15.7	
	7.4nm,0.5s						
SHLS	**Shalkode**	**3.79**	**26**	*e*P	**Pb**	**02 45 24.6**	**+2.1**
	5.1nm,0.3s						
SHLS				*e*S	**Sg**	**02 46 19.0**	**+1.9**
	12nm,0.5s						
SHLS	**Shalkode**	**3.79**	**26**	Pg	**Pb**	**02 45 24.6**	**+2.1**
	5.1nm,0.3s						
SHLS				Lg	Lg	02 46 19.0	
	12nm,0.5s						
PDGK	**Podgornoye**	**3.96**	**25**	Pg	**Pb**	**02 45 24.3**	**-0.9**
	2.2nm,0.4s						
PDGK				Lg	Lg	02 46 18.3	
	8.1nm,0.8s						
KTBS	**Karatobe**	**3.96**	**355**	*e*P	**Pb**	**02 45 25.8**	**+0.5**
	4.9nm,0.5s						
KTBS				*e*S	**Sg**	**02 46 20.7**	**-2.0**
	19nm,0.4s						
KTBS	**Karatobe**	**3.96**	**355**	Pg	**Pb**	**02 45 25.8**	**+0.5**
	4.9nm,0.5s						
KTBS				Lg	Lg	02 46 20.7	
	19nm,0.4s						
CHKK	**Chushkaly**	**4.09**	**358**	*e*P	**Pb**	**02 45 28.4**	**+0.9**
	4.4nm,0.3s						
CHKK				*e*S	**Sg**	**02 46 25.0**	**-1.7**
	20nm,0.2s						
CHKK	**Chushkaly**	**4.09**	**358**	Pg	**Pb**	**02 45 28.4**	**+0.9**
	4.4nm,0.3s						
CHKK				Lg	Lg	02 46 25.0	
	20nm,0.2s						
KRBS	**Karabastau**	**4.09**	**344**	*e*P	**Pb**	**02 45 28.7**	**+1.2**
	3.1nm,0.4s						
KRBS				*e*S	**Sg**	**02 46 25.6**	**-1.2**
	10nm,0.4s						
KRBS	**Karabastau**	**4.09**	**344**	Pg	**Pb**	**02 45 28.7**	**+1.2**
	3.1nm,0.4s						
KRBS				Lg	Lg	02 46 25.6	
	10nm,0.4s						
KUU	**Kurty**	**4.18**	**351**	*e*P	**Pb**	**02 45 29.5**	**+0.6**
	2.0nm,0.3s						
KUU				*e*S	**Sg**	**02 46 27.5**	**-2.0**
	13nm,0.6s						
KUU	**Kurty**	**4.18**	**351**	Pg	**Pb**	**02 45 29.5**	**+0.6**
	1.4nm,0.3s						
KUU				Lg	Lg	02 46 27.3	
	13nm,0.6s						
MRKS	**Merke**	**4.22**	**316**	*e*P	**Pb**	**02 45 30.3**	**+0.5**
	5.7nm,0.5s						
MRKS				*e*S	**Sg**	**02 46 28.6**	**-2.4**
	4.3nm,0.3s						
MRKS	**Merke**	**4.22**	**316**	Pg	**Pb**	**02 45 30.3**	**+0.5**
	5.7nm,0.5s						
MRKS				Lg	Lg	02 46 28.6	
	4.3nm,0.3s						
KTMS	**Ketmen**	**4.37**	**32**	*e*P	**Pb**	**02 45 32.8**	**+0.5**
	0.6nm,0.1s						
KTMS				*e*S	**Sg**	**02 46 32.9**	**-2.9**
	3.7nm,0.4s						
KTMS	**Ketmen**	**4.37**	**32**	Pg	**Pb**	**02 45 32.8**	**+0.5**
	2.6nm,0.1s						
KTMS				Lg	Lg	02 46 32.9	
	5.0nm,0.1s						
ARXS	**Arharly**	**4.47**	**6**	*e*P	**Pb**	**02 45 35.0**	**+1.1**
	9.9nm,0.5s						
ARXS				*e*S	**Sg**	**02 46 36.7**	**-2.2**
	12nm,0.5s						
ARXS	**Arharly**	**4.47**	**6**	Pg	**Pb**	**02 45 34.9**	**+1.0**
	9.9nm,0.5s						
ARXS				Lg	Lg	02 46 36.2	
	12nm,0.5s						
DJR	**Jarkent**	**4.96**	**22**	*e*P	**Pb**	**02 45 43.8**	**+1.6**
	1.7nm,0.3s						
DJR				*e*S	**Sg**	**02 46 51.4**	**-3.0**
	5.8nm,0.5s						
DJR	**Jarkent**	**4.96**	**22**	Pg	**Pb**	**02 45 43.8**	**+1.6**
	1.5nm,0.2s						
DJR				Lg	Lg	02 46 51.4	
	5.8nm,0.5s						
KK31	**Karatay Array**	**6.03**	**306**	⇑Pg	**Pb**	**02 46 02.2**	**+1.6**
	1.4nm,0.8s,baz=138,slow=16,SNR=4.2						
KK31				⇓Lg	Lg	02 47 22.4	
	1.0nm,0.5s,baz=132,slow=28						

LDG ***03*** *02:46:14.8±0.0, 46.°65N×7.°59E, h9km, Ml1.7/6, Error ellipse: s-maj=0.9km s-min=0.7km az=52.0*
STR ***03*** *02:46:14.6±1.0, 47.°N±°×±°, h23km±5km, MLv1.6/5, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*

ZUR 03 02:46:14.7, 46.°65N×7.°59E, h8km±1km, MLh1.0/14, 2C-8D, Error ellipse: s-maj=1.8km s-min=0.7km az=60.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WIMIS	**Wimmis**	**0.03**	**62**	⇑Pg	Pg	02 46 16.5	+0.1
WIMIS				⇑Pg	Pg	02 46 16.5	+0.1
	0.7nm,SNR=472						
WIMIS				Sg	Sg	02 46 17.8	+0.3
SINS	**Interlaken, Sc**	**0.20**	**79**	Pg	Pg	02 46 19.3	+0.5
SINS				Pg	Pg	02 46 19.3	+0.5
	0.3nm,SNR=5.1						
LKBD	**Leukerbad**	**0.27**	**174**	Pg	Pg	02 46 20.3	+0.3
	0.1nm,SNR=33						
LKBD				Pg	Pg	02 46 20.3	+0.3
LKBD				Sg	Sg	02 46 24.2	+0.6
LAUCH	**Lauchernalp**	**0.27**	**151**	⇓Pg	Pg	02 46 20.4	+0.3
	0.1nm,SNR=53						
LAUCH				⇓Pg	Pg	02 46 20.4	+0.3
LAUCH				Sg	Sg	02 46 24.5	+0.8
STAF	**Tafers**	**0.30**	**302**	Sg	Sg	02 46 25.5	+0.9
	0.1nm,SNR=5.4						
STAF				Sg	Sg	02 46 25.5	+0.9
SENIN	**Lac Senin/Sane**	**0.35**	**215**	Pg	Pg	02 46 22.2	+0.6
SENIN				Pg	Pg	02 46 22.2	+0.6
	SNR=36						
SENIN				Sg	Sg	02 46 26.7	+0.5
SIEB	**Ecole de Borzu**	**0.36**	**186**	Pg	Pg	02 46 21.9	+0.2
SIEB				Pg	Pg	02 46 21.9	+0.2
	0.1nm,SNR=3.1						
SIEB				Sg	Sg	02 46 26.9	+0.5
HASLI	**Hasliberg/Brie**	**0.40**	**75**	Sg	Sg	02 46 28.7	+0.7
	SNR=19						
HASLI				Sg	Sg	02 46 28.7	+0.7
FIESA	**Fiescheralp**	**0.42**	**121**	⇓Pg	Pg	02 46 23.3	+0.3
	SNR=23						
FIESA				⇓Pg	Pg	02 46 23.3	+0.3
FIESA				Sg	Sg	02 46 29.2	+0.6
TORNY	**Torny/Romont**	**0.45**	**286**	Pg	Pg	02 46 23.8	+0.3
	SNR=4.3						
TORNY				Pg	Pg	02 46 23.8	+0.3
TORNY				Sg	Sg	02 46 30.1	+0.8
EMBD	**Embd, Matterta**	**0.47**	**158**	Pg	Pg	02 46 24.0	+0.2
	SNR=11						
EMBD				Pg	Pg	02 46 24.0	+0.2
EMBD				Sg	Sg	02 46 30.3	+0.4
SIMPL	**Simplonpass**	**0.51**	**144**	Pg	Pg	02 46 24.9	+0.3
	SNR=9.2						
SIMPL				Pg	Pg	02 46 24.9	+0.3
GRIMS	**Grimsel Gerste**	**0.51**	**98**	⇓Pg	Pg	02 46 24.8	+0.2
GRIMS				⇓Pg	Pg	02 46 24.8	+0.2
	SNR=20						
GRIMS				Sg	Sg	02 46 31.6	+0.2
GRYON	**Gryon**	**0.52**	**219**	Sg	Sg	02 46 31.6	+0.1
	SNR=24						
GRYON				Sg	Sg	02 46 31.6	+0.1
BNALP	**Bannalp**	**0.62**	**69**	Sg	Sg	02 46 35.3	+0.5
BNALP				Sg	Sg	02 46 35.3	+0.5
	SNR=7.8						
MMK	**Mattmark**	**0.66**	**156**	⇓Pg	Pg	02 46 27.5	+0.1
	SNR=11						
MMK				⇓Pg	Pg	02 46 27.5	+0.1
MMK				Sg	Sg	02 46 36.0	0.0
BALST	**Balsthal**	**0.69**	**6**	Pg	Pg	02 46 27.9	-0.1
	SNR=11						
BALST				Pg	Pg	02 46 27.9	-0.1
BRANT	**Les Verrieres**	**0.82**	**291**	Pg	Pg	02 46 30.6	+0.1
	SNR=12						
LOMF	**Lomont**	**0.87**	**324**	Pg	Pb	02 46 32.5	+0.3
LOMF	**Lomont**	**0.87**	**324**	Sg	Sb	02 46 44.7	+0.7
CABF	**La Chapelle**	**1.03**	**268**	*e*Pg	Pg	02 46 34.6	+0.1
CABF				*e*Sg	Sg	02 46 48.0	0.0
	1.0nm,0.1s						
MOF	**Molkenrain**	**1.24**	**346**	Sg	Sg	02 46 54.5	-0.2
MOF	**Molkenrain**	**1.24**	**346**	Pg	Pb	02 46 36.9	-1.6
HINF	**Hinteralfeld**	**1.27**	**337**	*e*Pg	Pb	02 46 38.5	-0.3
HINF				*e*Sg	Sb	02 46 54.8	-0.6
	1.1nm,0.2s						
LPL	**La Plagne**	**1.28**	**208**	*e*Pg	Pb	02 46 39.2	0.0
LPG	**La Plagne**	**1.29**	**207**	*e*Pg	Pg	02 46 39.5	0.0
LPG				*e*Sg	Sg	02 46 55.7	-0.5
	0.6nm,0.3s						
KIZ	**Kirchzarten**	**1.33**	**10**	Sn	Sb	02 46 54.5	-2.5
KIZ				Sg	Sg	02 46 56.8	-0.6
KIZ	**Kirchzarten**	**1.33**	**10**	Pn	Pn	02 46 37.9	-1.7
KIZ				Pg	Pb	02 46 39.8	-0.1
OG35	**Corcelles**	**1.52**	**247**	Pg	Pn	02 46 42.5	+0.2
OG35				Sg	Sg	02 47 03.7	+0.1
ECH	**Echery**	**1.59**	**350**	Pg	Pb	02 46 44.2	-0.2
ECH				Sg	Sb	02 47 04.5	-0.3
HAU	**Haudompre**	**1.60**	**329**	*e*Pg	Pb	02 46 44.5	0.0
HAU				*e*Sg	Sn	02 47 03.7	-0.4
OGSM	**Saint Maurice**	**1.68**	**232**	Pn	Pn	02 46 43.0	-1.4
OGSM				Sn	Sn	02 47 03.1	-2.9
CDF	**Champ du Feu**	**1.77**	**353**	*e*Pn	Pn	02 46 45.0	-0.8
CDF	**Champ du Feu**	**1.77**	**353**	*e*Pg	Pb	02 46 48.0	+0.4
CDF				*e*Sn	Sn	02 47 06.6	-2.0
CDF				*e*Sg	Sb	02 47 10.6	+0.6
	0.6nm,0.2s						
LOR	**Lormes**	**2.63**	**285**	*e*Pn	Pn	02 46 56.1	-1.3
LOR	**Lormes**	**2.63**	**285**	*e*Pg	Pg	02 47 03.7	-1.3
LOR				*e*Sn	Sn	02 47 27.1	-2.4
LOR				*e*Sg	Sg	02 47 37.4	-1.6
	0.4nm,0.2s						

ROM 03 02:47:23.6±0.0, 42.°711N±0.°003×13.°268E±0.°004, h8km, ML1.1/6, Error ellipse: s-maj=0.3km s-min=0.2km az=201.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.17**	**317**	P	Pg	02 47 27.7	+0.6
NRCA				S	Sg	02 47 30.5	+0.9
NRCA				AML	AML		
	comp=N,220μm,0.4s						
NRCA				AML	AML		
	comp=E,350μm,0.7s						
LNSS	**Leonessa**	**0.20**	**237**	P	Pg	02 47 28.4	+0.7
LNSS				S	Sg	02 47 31.7	+1.2
LNSS				AML	AML		
	comp=N,196μm,0.1s						
LNSS				AML	AML		
	comp=E,140μm,1.4s						
CAMP	**Campotosto**	**0.20**	**149**	P	Pg	02 47 28.6	+0.8
CAMP				S	Sg	02 47 31.9	+1.3
CAMP				AML	AML		
	comp=N,58μm,0.6s						
CAMP				AML	AML		
	comp=E,48μm,0.2s						
TERO	**Teramo**	**0.26**	**110**	P	Pg	02 47 29.6	+0.8
TERO				S	Sb	02 47 33.9	-1.4
TERO				AML	AML		
	comp=E,75μm,0.1s						
TERO				AML	AML		
	comp=N,105μm,0.1s						
TERO				AML	AML		
	comp=N,105μm,0.1s						
TERO				AML	AML		
	comp=E,75μm,0.1s						
FDMO	**Fiordimonte**	**0.35**	**338**	P	Pg	02 47 31.3	+0.8
FDMO				AML	AML		
	comp=E,22μm,1.6s						
FDMO				AML	AML		
	comp=N,33μm,0.2s						
CSP1	**Cessapalombo**	**0.38**	**353**	P	Pb	02 47 31.9	-0.8
CESI	**CESI - Serrava**	**0.40**	**318**	P	Pg	02 47 31.9	+0.5
CESI				S	Sb	02 47 38.3	-0.9
CESI				AML	AML		
	comp=E,21μm,0.5s						
CESI				AML	AML		
	comp=N,25μm,0.3s						
CESI				AML	AML		
	comp=E,21μm,0.5s						
FIAM	**Fiamignano**	**0.46**	**194**	P	Pg	02 47 29.0	-3.5
EL6	**Elcito**	**0.63**	**349**	P	Pg	02 47 36.3	+0.5

NIED ***03*** *03:05:00, 33.°20N×131.°80E, h77km, Mw3.8 Best double couple: M0 4.91000×10^14 NP1:φ=69.00000°, δ=65.00000°, λ=31.00000°. NP2:φ=325.00000°, δ=63.00000°, λ=152.00000°.*
IDC ***03*** *03:05:58.2±1.5, 33.°12N×131.°81E, h61km±19km, mb2.8/1, mb1 3.6/3, mb1mx3.1/36, mbtmp3.5/3, Error ellipse: s-maj=26.2km s-min=17.1km az=171.0*
JMA ***03*** *03:05:58.4, 33.°17N×131.°83E, h67km±1km, M3.5 Broadband fault plane solution: P waves. NP1: φ=65.00000°, δ=76.00000°, λ=-6.00000°. NP2:φ=156.00000°, δ=84.00000°, λ=-166.00000°. Principal axes: T Plg6.0000°, Azm290.0000°; N Plg75.0000°, Azm177.0000°; P Plg14.0000°, Azm21.0000°;*
JMA Felt I J1.

ISC 03 03:05:58.8±1.1, 33.°14N±0.°06×131.°84E±0.°03, h64km±8km, n15, σ0§61/28, 5C-3D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JUS	**Usuki**	**0.10**	**226**	⇑P	**Pn**	**03 06 08.4**	**0.0**
JUS				S	**Sn**	**03 06 15.5**	**+0.2**
JSKE	**Saikikamae**	**0.34**	**171**	P	**Pn**	**03 06 09.9**	**+0.2**
JSKE				*e*S	**Sn**	**03 06 18.1**	**+0.5**
JBEP	**Beppuamama**	**0.41**	**299**	⇑P	**Pn**	**03 06 10.0**	**-0.3**
JBEP				S	**Sn**	**03 06 18.7**	**-0.1**
UWA2	**Uwa jima 2**	**0.67**	**83**	⇑P	**Pn**	**03 06 12.5**	**-0.5**
UWA2				*e*S	**Sn**	**03 06 23.0**	**-0.3**
JNA	**Nagahama**	**0.68**	**52**	P	**Pn**	**03 06 12.8**	**-0.3**
JNA				*e*S	**Sn**	**03 06 23.3**	**-0.3**
JNU	**Nakatsue**	**0.81**	**269**	P	**Pn**	**03 06 13.8**	**-0.8**
	36nm,0.3s,baz=114,slow=3.8,SNR=573						
JNU				S	**Sn**	**03 06 26.1**	**-0.2**
	264nm,0.3s,baz=48,slow=19,SNR=45						
JNU				LR	LR	03 06 42.8	
	comp=Z,97nm,18.8s,baz=117,slow=57						
JTO	**Tosashimizu**	**0.86**	**108**	⇑P	**Pn**	**03 06 14.6**	**-0.6**
JTO				*e*S	**Sn**	**03 06 27.1**	**-0.2**
JIU3	**Izumi3**	**1.04**	**236**	⇓P	**Pn**	**03 06 17.2**	**-0.4**
JIU3				S	**Sn**	**03 06 31.1**	**-0.4**
JKU	**Kubokawa**	**1.04**	**80**	⇑P	**Pn**	**03 06 16.9**	**-0.7**
JKU				*e*S	**Sn**	**03 06 30.7**	**-0.8**
JHM	**Kurahashi**	**1.16**	**30**	⇓P	**Pn**	**03 06 18.7**	**-0.3**
JHM				*e*S	**Sn**	**03 06 34.4**	**+0.3**
JET	**Tanbara**	**1.20**	**57**	⇓P	**Pn**	**03 06 19.0**	**-0.6**
JET				S	**Sn**	**03 06 33.9**	**-1.3**
KSRS	**Korea Array**	**5.37**	**324**	P	**Pn**	**03 07 15.5**	**-0.7**
	1.0nm,0.3s,baz=145,slow=14,SNR=7.3						
KSRS				S	**Sn**	**03 08 16.9**	**+0.3**
	0.8nm,0.3s,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.10**	**277**⇑	*eP*	**Pg**	**03 37 56.5**	**-1.1**
SCPH				*eS*	**Sg**	**03 38 11.2**	**-0.6**
MSLP	**Maasin**	**1.77**	**286**	*eP*	**Pn**	**03 38 07.7**	**+0.5**
MSLP				*eS*	**Sg**	**03 38 34.0**	**+0.5**
CGP	**Cagayan de Oro**	**2.22**	**238**⇑	*eP*	**Pn**	**03 38 12.1**	**-1.2**
CGP				*i* S	**Sn**	**03 38 41.7**	**+0.8**
BUKP	**Musuan**	**2.33**	**221**	*eP*	**Pn**	**03 38 13.8**	**-1.1**
BUKP				*eS*	**Sn**	**03 38 42.8**	**-0.7**
LLP	**Lapu-Lapu**	**2.67**	**284**⇓	*eP*	**Pn**	**03 38 21.1**	**+1.6**
LLP				*eS*	**Sb**	**03 38 56.5**	**-0.8**
TBP	**Tagbilaran**	**2.69**	**271**	*eP*	**Pn**	**03 38 20.3**	**+0.4**
DAV	**Davao City (W)**	**2.76**	**201**	P	**Pb**	**03 38 28.6**	**+2.7**
	64nm,0.3s,baz=35,slow=12,SNR=1.5						
DAV				S	**Sb**	**03 38 59.9**	**+0.2**
	41nm,0.3s,baz=305,slow=23,SNR=8.6						
DAV	**Davao City (W)**	**2.76**	**201**		**Pb**	**03 38 26.8**	**+0.9**
DAV					LR	03 38 58.0	
CTBH	**Cotabato--PC H**	**3.35**	**224**⇓	*iP*	**Pn**	**03 38 29.1**	**+0.2**
CNP	**Catarman**	**3.41**	**326**	*eP*	**Pn**	**03 38 31.1**	**+1.3**
CNP				*eS*	**Sn**	**03 39 11.8**	**+1.5**
DDMP	**Don Marcelino,**	**3.63**	**194**	*eP*	**Pn**	**03 38 34.2**	**+1.4**
DDMP				*eS*	**Sn**	**03 39 21.2**	**+5.4**
GUIM	**Jordan**	**4.06**	**284**	*eP*	**Pn**	**03 38 40.7**	**+2.1**
GUIM				*eS*	**Sn**	**03 39 26.9**	**+0.6**
RCP	**Roxas**	**4.23**	**297**⇓	*eP*	**Pn**	**03 38 43.5**	**+2.4**
PVCP	**Virac**	**4.59**	**329**	*eP*	**Pn**	**03 38 47.9**	**+2.0**
PVCP				*eS*	**Sn**	**03 39 42.9**	**+3.5**
ZCP	**Zamboanga City**	**5.23**	**239**⇓	*eP*	**Pg**	**03 39 19.1**	**+2.5**
FAKI	**Fak Fak**	**13.70**	**155**	Pn	**Pn**	**03 40 52.2**	**+1.2**
TPUB	**Ta-pu**	**14.72**	**338**		**Pn**	**03 41 06.9**	**+2.0**
NACB	**Ninganchiao**	**15.21**	**342**		**Pn**	**03 41 15.6**	**+4.2**
NACB				IAmb	IAmb	03 41 16.6	
	comp=Z,16nm,0.7s						
KAPI	**Kappang**	**16.09**	**205**	LR	LR	03 48 09.4	
	comp=Z,30nm,18.8s,baz=59,slow=39						
CMAR	**Chiang Mai Arr**	**28.18**	**291**	P	**P**	**03 43 28.2**	**-1.2**
	comp=Z,0.8nm,0.4s,baz=97,slow=7.4,SNR=1.6						
CMAR				LR	LR	03 55 00.1	
	comp=Z,25nm,18.2s,baz=225,slow=37						
WRA	**Warramunga Arr**	**30.38**	**165**	P	**P**	**03 43 49.8**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=343,slow=8.8,SNR=1.0						
USRK	**Ussuriysk Ar.**	**34.73**	**7**	P	**P**	**03 44 28.6**	**+1.9**
	comp=Z,1.2nm,0.6s,baz=190,slow=6.7,SNR=5.0						
MORW	**Morawa**	**39.82**	**194**	P	P	03 45 04.8	-5.2
FORT	**Forrest**	**40.23**	**178**	P	**P**	**03 45 11.3**	**-2.1**
BBOO	**Buckleboo**	**43.18**	**168**	P	**P**	**03 45 35.8**	**-1.8**
BBOO				IAmb	IAmb	03 45 50.0	
	comp=Z,7.1nm,0.9s						
NWAO	**Narrogin (SRO)**	**43.27**	**192**	P	P	03 45 35.5	-2.8
NWAO				IAmb	IAmb	03 45 36.9	
	comp=Z,11nm,0.8s						
MK31	**Makanchi Array**	**52.71**	**323**	P	**P**	**03 46 48.8**	**-2.5**
MKAR	**Makanchi Array**	**52.71**	**323**	P	**P**	**03 46 49.0**	**-2.3**
	comp=Z,1.7nm,0.6s,baz=123,slow=7.9,SNR=13						
MAKZ	**Makanchi**	**52.90**	**323**	P	P	03 46 49.7	-3.1
ZALV	**Zalesovo Beam**	**55.31**	**331**	P	P	03 47 07.5	-2.7
	comp=Z,1.0nm,0.6s,baz=76,slow=6.3,SNR=3.5						
KURK	**Kurchatov**	**56.75**	**326**	P	P	03 47 17.4	-3.2
KURK				IAmb	IAmb	03 47 19.1	
	comp=Z,3.0nm,1.1s						
GAR	**Garm**	**57.93**	**310**	P	P	03 47 26.2	-3.0
KBL	**Kabul**	**57.94**	**305**	P	P	03 47 25.2	-4.4
KBL				IAmb	IAmb	03 47 27.4	
	comp=Z,4.0nm,0.7s						
KK31	**Karatay Array**	**58.91**	**315**	P	P	03 47 32.8	-3.1
KK31				IAmb	IAmb	03 47 34.0	
	comp=Z,2.2nm,0.6s						
TIXI	**Tiksi**	**61.96**	**1**	P	**P**	**03 47 55.3**	**-0.8**
	comp=Z,2.1nm,0.4s,baz=264,slow=0.8,SNR=5.7						
NRIK	**Noril'sk**	**64.69**	**346**	P	**P**	**03 48 12.3**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=126,slow=9.5,SNR=3.7						
RAYN	**Ar Rayn**	**78.09**	**292**	P	P	03 49 32.1	-4.2
RAYN				IAmb	IAmb	03 49 33.9	
	comp=Z,2.7nm,0.7s						
ILAR	**Eielson Array**	**79.85**	**26**	P	**P**	**03 49 43.5**	**-1.5**
	comp=Z,0.3nm,0.7s,baz=257,slow=4.1,SNR=4.1						
KLMR	**Klimovskoe**	**80.22**	**330**	*eP*	P	03 49 43.6	-3.4
KLMR				AMP		03 49 45.1	
	comp=Z,4.0nm,0.6s						
ARCES	**ARCESS Array B**	**84.88**	**340**	P	**P**	**03 50 09.2**	**-2.0**
	comp=Z,3.2nm,0.7s,baz=82,slow=6.9,SNR=18						
FINES	**FINESS Array B**	**86.58**	**332**	P	P	03 50 17.0	-2.8
	comp=Z,1.6nm,0.4s,baz=72,slow=4.5,SNR=19						
NB2	**NORSAR Subarra**	**93.45**	**334**	P	P	03 50 49.3	-2.8
	comp=Z,0.9nm,0.8s,baz=61,slow=5.3						
NOA	**NORSAR Array B**	**93.45**	**334**	P	P	03 50 48.7	-3.5
	comp=Z,0.5nm,0.7s,baz=64,slow=4.8,SNR=3.9						
YKA	**Yellowknife Ar**	**94.19**	**24**	P	**P**	**03 50 54.0**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=283,slow=3.5,SNR=6.1						
GERES	**GERESS Array B**	**97.37**	**322**	LR	LR	04 36 58.4	
	comp=Z,23nm,19.4s,baz=346,slow=36						

*IDC **03** 03:38:37.4±1.3,0.7°28S×132.52E,h0km,mb3.9/4, mb1 4.0/6,mb1mx3.7/30,mbtmp3.8/6,ML3.9/2,Error ellipse: s-maj=23.9km s-min=16.9km az=154.0*
*DJA **03** 03:38:40.2±0.8,0.7°S×9.13°2E±.1°,h10km,M3.8/5,MLv3.8/5*
ISC 03 03:38:42.6±1.0,0.48S±0.09×132.30E±0.07,h33km,n9, σ2.958/12,mb3.8/4,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.10**	**249**	Pg	**Pn**	**03 39 02.6**	**+0.8**
	76nm,0.3s,baz=157,slow=23,SNR=42						
SIJI				Lg	Lg	03 39 21.5	
	97nm,0.3s,baz=165,slow=20,SNR=10						
RKPI	**Ransiki, Papua**	**2.14**	**119**	P	**Pn**	**03 39 16.8**	**+0.7**
RKPI				S	**Sb**	**03 39 47.0**	**0.0**
FAKI	**Fak Fak**	**2.43**	**181**	P	**Pn**	**03 39 22.8**	**+2.8**
FITZ	**Fitzroy Crossi**	**18.69**	**200**	P	**P**	**03 42 59.0**	**+0.7**
	0.1nm,0.3s,baz=346,slow=8.3,SNR=1.7						
FITZ				S	**Sn**	**03 46 23.3**	**-3.8**
	0.1nm,0.3s,baz=165,slow=20,SNR=1.7						
WRA	**Warramunga Ar**	**19.45**	**174**	P	**P**	**03 43 07.8**	**+1.1**
	0.5nm,0.3s,baz=354,slow=12,SNR=8.4						
WRA				S	**S**	**03 46 40.2**	**-4.6**
	0.2nm,0.3s,baz=355,slow=23,SNR=4.4						
ASAR	**Alice Springs**	**23.10**	**176**	P	**P**	**03 43 47.1**	**+1.3**
	7.8nm,0.8s,baz=350,slow=8.9,SNR=44						
STKA	**Stephens Creek**	**32.44**	**165**	P	**P**	**03 45 11.5**	**+1.6**
	1.6nm,0.8s,baz=342,slow=7.7,SNR=2.9						
MKAR	**Makanchi Array**	**64.18**	**324**	P	**P**	**03 49 15.2**	**+1.0**
	0.4nm,0.6s,baz=126,slow=6.7,SNR=2.5						
ILAR	**Eielson Array**	**86.51**	**25**	P	**P**	**03 51 19.1**	**-2.9**
	0.2nm,0.6s,baz=277,slow=3.5,SNR=2.7						

*IDC **03** 03:53:30.7±0.7,4.40S×133.33E,h0km,mb4.4/14, mb1 4.5/18,mb1mx4.4/34,mbtmp4.5/18,ML4.4/3,MS3.6/12, Ms1 3.6/12,ms1mx3.3/33,Error ellipse: s-maj=25.2km s-min=13.5km az=75.0*
*BJI **03** 03:53:30.0±0.0,4.50S×133.40E,h5km,mB4.9/22, mb4.7/36,Ms4.4/6,Ms7 4.1/5*
*DJA **03** 03:53:33.5±0.3,4.5°S×13.3°E±.1°,h31km±3km,M4.6/24, mb4.8/24,mB5.2/7,MLv4.6/13,Mw(mB)4.5/7,Mwp6.0/1*
*NEIC **03** 03:53:34.6±1.6,4.42S±0.06×133.27E±0.06,h32km±5km, mb4.6/33,Error ellipse: s-maj=9.0km s-min=7.5km az=127.0*
ISC 03 03:53:33.1±0.4,4.52S±0.04×133.29E±0.05,h21km,n95, σ1.958/98,mb4.6/36,MS3.5/10,2C,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.90**	**327**	P	**Pn**	**03 54 03.2**	**-1.2**
FAKI				S	**Sn**	**03 54 26.3**	**-1.4**
FAKI	**Fak Fak**	**1.90**	**327**	Pn	**Pn**	**03 54 03.2**	**-1.2**
FAKI				Sn	**Sn**	**03 54 24.8**	**-2.9**
RKPI	**Ransiki, Papua**	**3.12**	**16**	P	**Pn**	**03 54 19.9**	**-1.2**
RKPI				S	**Sn**	**03 54 55.7**	**-2.1**
SIJI	**Sorong**	**4.16**	**331**	Pn	**Pn**	**03 54 33.7**	**-1.7**
	14nm,0.3s,baz=231,slow=22,SNR=25						
SIJI				Sn	**Sn**	**03 55 19.1**	**-4.3**
	35nm,0.3s,baz=113,slow=24,SNR=12						
SIJI				Lg	Lg	03 55 40.8	
	16nm,0.3s,baz=85,slow=19,SNR=3.6						
SIJI				LR	LR	03 56 29.1	
	comp=Z,578nm,21.6s,baz=310,slow=44						
MSAI	**Masohi**	**4.51**	**285**	P	**Pn**	**03 54 41.1**	**+0.8**
AAI	**Ambon**	**5.15**	**279**	P	**Pn**	**03 54 50.4**	**+1.3**
	0.6nm2μm114nm,0.6s						
SMPI	**Sarmi**	**5.96**	**65**	P	**Pn**	**03 55 00.4**	**+0.1**
	0.2nm828nm19nm,1.4s						
NLAI	**Namlea**	**6.31**	**281**	P	**Pn**	**03 55 05.8**	**+0.8**
	0.3nm2μm84nm,0.5s						
LBMI	**Labuha**	**6.95**	**304**	P	**Pn**	**03 55 13.8**	**-0.1**
	0.3nm56nm,0.7s						
GENI	**Genyem**	**7.12**	**75**	P	**Pn**	**03 55 16.4**	**+0.2**
	0.4nm63nm,0.8s						
SANI	**Sanana**	**7.70**	**288**	P	**Pn**	**03 55 21.7**	**-2.4**
	0.2nm2μm47nm,0.7s						
KDU	**Kakadu**	**8.15**	**186**	P	**Pn**	**03 55 32.1**	**+1.7**
	baz=8.3,SNR=21						
MTN	**Manton Dam**	**8.54**	**194**	P	**Pn**	**03 55 37.3**	**+1.6**
	baz=8.7,SNR=44						
MTN	**Manton Dam**	**8.54**	**194**	Pn	**Pn**	**03 55 37.2**	**+1.6**
SOEI	**Soe**	**10.35**	**239**	P	**Pn**	**03 56 00.9**	**+0.2**
	59nm,0.8s						
BATI	**Baumata**	**11.09**	**239**	Pn	**Pn**	**03 56 12.9**	**+2.2**
	7.8nm,0.3s,baz=65,slow=1.0,SNR=4.4						
BATI				Sn	**Sn**	**03 58 14.8**	**+0.5**
	4.5nm,0.3s,baz=80,slow=19,SNR=1.4						
KNRA	**Kununurra**	**11.95**	**202**	P	**Pn**	**03 56 23.6**	**+1.2**
	baz=12,SNR=18						
KNRA	**Kununurra**	**11.95**	**202**	Pn	**Pn**	**03 56 22.5**	**+0.2**
MRSI	**Marisa**	**12.38**	**293**	P	**Pn**	**03 56 27.2**	**-1.1**
	815nm13nm,0.7s						
COEN	**Coen**	**13.52**	**135**	P	**Pn**	**03 56 43.5**	**-0.4**
	baz=14,SNR=7.8						
COEN	**Coen**	**13.52**	**135**	Pn	**Pn**	**03 56 43.4**	**-0.4**
MPSI	**Mapaga**	**14.23**	**289**	P	**Pn**	**03 56 55.0**	**+1.5**
	18nm,0.6s						
PMG	**Port Moresby**	**14.59**	**110**	Pn	**Pn**	**03 56 58.7**	**+0.2**
	1.6nm,0.3s,baz=304,slow=11,SNR=1.7						
PMG				LR	LR	04 03 51.0	
	comp=Z,213nm,19.4s,baz=340,slow=42						
PMG	**Port Moresby**	**14.59**	**110**		**Pn**	**03 56 58.0**	**-0.5**
WB0	**Warramunga Ar**	**15.19**	**176**		**Pn**	**03 57 04.5**	**-2.1**
WRAB	**Tennant Creek**	**15.35**	**176**		**Pn**	**03 57 07.7**	**-1.0**
WRAB				IAmb	IAmb	03 57 17.1	
	comp=Z,29nm,0.8s						
WRA	**Warramunga Arr**	**15.36**	**176**	Pn	**Pn**	**03 57 06.3**	**-2.5**
	comp=Z,0.7nm,0.3s,baz=3.9,slow=13,SNR=19						
WRA				Sn	**Sn**	**03 59 52.2**	**-6.3**
	comp=Z,1.3nm,0.3s,baz=357,slow=22,SNR=8.2						
WRA				LR	LR	04 03 44.1	
	comp=Z,467nm,19.0s,baz=0.0,slow=40						
WB2	**Warramunga Arr**	**15.36**	**176**	Pn	**Pn**	**03 57 07.0**	**-1.9**
WB2				IAmb	IAmb	03 57 17.1	
	comp=Z,33nm,0.9s						
WR0	**Warramunga Arr**	**15.39**	**176**	Pn	**Pn**	**03 57 07.8**	**-1.4**
WR0				IAmb	IAmb	03 57 17.5	
	comp=Z,51nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.43**	**208**	P	**Pn**	**03 57 08.3**	**-1.5**
	baz=16,SNR=32						
FITZ	**Fitzroy Crossi**	**15.43**	**208**	Pn	**Pn**	**03 57 07.5**	**-2.2**
	comp=Z,1.3nm,0.3s,baz=38,slow=11,SNR=76						
FITZ				Sn	Sn	03 59 51.1	-9.1
	comp=Z,2.0nm,0.3s,baz=151,slow=11,SNR=6.7						
FITZ	**Fitzroy Crossi**	**15.43**	**208**	Pn	**Pn**	**03 57 07.5**	**-2.2**
QIS	**Mount Isa**	**17.08**	**159**	P	**Pn**	**03 57 30.4**	**-0.4**
	baz=17,SNR=7.4						
MTSU	**Mount Surprise**	**17.30**	**142**	P	**Pn**	**03 57 33.7**	**+0.1**
	baz=17,SNR=8.1						
KRVT	**Keravat (AS076**	**18.68**	**90**	LR	LR	04 05 41.5	
	comp=Z,167nm,21.8s,baz=292,slow=39						
AS31	**Alice Springs**	**19.04**	**178**	P	**P**	**03 57 54.7**	**+0.6**
ASAR	**Alice Springs**	**19.04**	**178**	P	**P**	**03 57 54.9**	**+0.8**
	comp=Z,0.8nm,0.3s,baz=356,slow=12,SNR=50						
ASAR				S	**Sn**	**04 01 23.3**	**-4.5**
	comp=Z,0.4nm,0.3s,baz=304,slow=40,SNR=5.8						
ASAR				LR	LR	04 06 06.8	
	comp=Z,436nm,18.1s,baz=357,slow=40						
KKM	**Kota Kinabalu**	**20.02**	**301**		**P**	**03 58 03.7**	**-1.2**
KKM				IAmb	IAmb	03 58 08.5	
	comp=Z,36nm,0.8s						
WRKA	**Warakurna**	**20.96**	**193**	P	**P**	**03 58 17.4**	**+2.5**
	baz=21,SNR=31						
PSA00	**Pilbara Seismi**	**21.39**	**216**	P	**P**	**03 58 19.8**	**+0.2**
PSA00				IAmb	IAmb	03 58 25.5	
	comp=Z,38nm,1.1s						
LEM	**Lembang**	**25.65**	**264**	LR	LR	04 10 01.4	
	comp=Z,129nm,20.8s,baz=40,slow=38						
FORT	**Forrest**	**26.58**	**190**	P	**P**	**03 59 11.7**	**+1.7**
	baz=27,SNR=11						
FORT	**Forrest**	**26.58**	**190**	P	**P**	**03 59 10.8**	**+0.9**
BBOO	**Buckleboo**	**28.26**	**175**	P	**P**	**03 59 27.5**	**+2.5**
	baz=28,SNR=5.4						
STKA	**Stephens Creek**	**28.31**	**165**	P	**P**	**03 59 26.6**	**+1.2**
	comp=Z,1.9nm,0.7s,baz=317,slow=11,SNR=4.8						
STKA				LR	LR	04 11 40.7	
	comp=Z,131nm,18.6s,baz=350,slow=38						
STKA	**Stephens Creek**	**28.31**	**165**	P	**P**	**03 59 25.5**	**+0.1**
JNU	**Nakatsue**	**37.51**	**357**	P	**P**	**04 00 45.0**	**-0.6**
	comp=Z,11nm,0.8s,baz=56,slow=4.9,SNR=5.1						
JNU	**Nakatsue**	**37.51**	**357**	P	**P**	**04 00 43.4**	**-2.2**
JHJ	**Hachijo jima 2**	**37.94**	**9**	LR	LR	04 15 31.0	
	comp=Z,76nm,18.1s,baz=170,slow=35						
NJ2	**Nanjing**	**38.88**	**340**	*eP*	**P**	**04 00 58.9**	**+1.7**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
WHN	**Wuhan**	**39.30**	**334**	P	**P**	**04 01 02.2**	**+1.5**
GYA	**Guiyang**	**40.16**	**321**⇑	*iP*	**P**	**04 01 09.1**	**+0.9**
GYA				PP	**PnPn**	**04 02 45.3**	**+0.9**
GYA				S	**S**	**04 07 16.5**	**+2.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
GYA				pmax	pmax		
	comp=Z,80nm,4.1s						
GYA				LR	LR		
	comp=Z,120nm,3.7s						
GYA				LR	LR		
	comp=Z,90nm,3.5s						
GYA				LR	LR		
	comp=Z,70nm,5.3s						
CMAR	**Chiang Mai Arr**	**40.83**	**305**	P	**P**	**04 01 14.5**	**+0.8**
	comp=Z,6.3nm,0.8s,baz=134,slow=7.2,SNR=25						
CMAR				LR	LR	04 19 29.2	
	comp=Z,35nm,21.9s,baz=172,slow=38						
CHTO	**Chiang Mai**	**41.02**	**305**	P	**P**	**04 01 15.1**	**-0.1**
MJAR	**Matsushiro Ar**	**41.11**	**6**	P	**P**	**04 01 15.1**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=180,slow=8.8,SNR=6.8						
MJAR				LR	LR	04 17 01.3	
	comp=Z,61nm,19.4s,baz=250,slow=34						
ENH	**Enshi**	**41.43**	**328**	P	**P**	**04 01 17.5**	**-0.9**
ENH				IAmb	IAmb	04 01 19.7	
	comp=Z,14nm,0.9s						
KMI	**Kunming**	**41.83**	**316**	P	**P**	**04 01 25.3**	**+3.3**
KMI				pmax	pmax		
	comp=Z,11nm,0.7s						
KSRS	**Korea Array**	**42.06**	**354**	P	**P**	**04 01 23.5**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=173,slow=13,SNR=4.0						
KSRS				LR	LR	04 17 22.9	
	comp=Z,74nm,20.7s,baz=164,slow=34						
XAN	**Xi'an**	**44.73**	**331**	P	**P**	**04 01 44.5**	**-0.6**
XAN				pP	pP	04 01 51.9	+1.0
XAN				pmax	pmax		
	comp=Z,14nm,1.0s						
XAN				pmax	pmax		
	comp=Z,76nm,3.6s						
CD2	**Chengdu**	**45.13**	**323**	P	**P**	**04 01 48.9**	**+0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**48.51**	**359**	P	**P**	**04 02 14.5**	**0.0**
	comp=Z,4.1nm,0.8s,baz=193,slow=12,SNR=6.4						
LZH	**Lanzhou**	**48.91**	**328**	*eP*	**P**	**04 02 19.0**	**+1.0**
LZH				pP	pwP	04 02 26.8	-0.3
LZH				sP	sP	04 02 30.3	+4.2
LZH				pmax	pmax		
	comp=Z,13nm,1.1s						
HHC	**Hu-ho-hao-te**	**49.34**	**338**	*eP*	**P**	**04 02 21.7**	**+0.6**
HHC				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,57nm,5.2s						
HHC				LR	LR		
	comp=Z,120nm,18.9s						
HHC				LR	LR		
	comp=Z,110nm,18.9s						
SHL	**Shillong**	**50.08**	**309**	P	**P**	**04 02 26.1**	**-1.0**
GTA	**Gaotai**	**53.51**	**328**	⇑P	**P**	**04 02 53.3**	**+0.9**
GTA				pP	pP	04 02 59.5	+1.2
GTA				sP	pwP	04 03 03.0	+1.4
GTA				S	S	**04 10 24.3**	**-0.1**
GTA				sS	sS	04 10 37.0	+1.5
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,59nm,6.2s						
GTA				LR	LR		
	comp=Z,44nm,15.6s						
GTA				LR	LR		
	comp=Z,58nm,15.2s						
PETK	**Petropavlovsk-**	**61.00**	**17**	P	**P**	**04 03 46.1**	**+1.2**
	comp=Z,4.0nm,0.8s,baz=165,slow=6.9,SNR=6.5						
TLY	**Talaya**	**61.44**	**339**	LR	LR	04 31 27.9	
	comp=Z,30nm,19.6s,baz=138,slow=37						
WMQ	**Urumqi**	**63.20**	**325**	*eP*	**P**	**04 04 02.0**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,29nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,77nm,4.1s						
WMQ				LR	LR		
	comp=Z,190nm,18.1s						
WMQ				LR	LR		
	comp=Z,220nm,23.7s						
MK31	**Makanchi Array**	**68.03**	**325**	P	**P**	**04 04 31.9**	**+0.8**
MKAR	**Makanchi Array**	**68.03**	**325**	P	**P**	**04 04 31.9**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=110,slow=8.1,SNR=14						
MAKZ	**Makanchi**	**68.22**	**325**	P	**P**	**04 04 32.8**	**+0.5**
MAKZ				IAmb	IAmb	04 04 34.3	
	comp=Z,4.4nm,1.0s						
ZAA0	**Zalesovo Array**	**70.88**	**332**	P	**P**	**04 04 46.9**	**-1.6**
ZAA0				IAmb	IAmb	04 04 49.9	
	comp=Z,5.1nm,0.8s						
ZALV	**Zalesovo Beam**	**70.88**	**332**	P	**P**	**04 04 48.5**	**0.0**
	comp=Z,5.7nm,0.8s,baz=118,slow=5.9,SNR=16						
KURK	**Kurchatov**	**72.18**	**327**	P	**P**	**04 04 55.6**	**-0.8**
KURK				IAmb	IAmb	04 04 59.6	
	comp=Z,5.5nm,0.9s						
GAR	**Garm**	**72.31**	**313**	P	**P**	**04 04 55.9**	**-1.7**
GAR				IAmb	IAmb	04 04 59.5	
	comp=Z,5.5nm,0.9s						
KK31	**Karatay Array**	**73.70**	**317**	P	**P**	**04 05 06.0**	**+0.3**
VNDA	**Vanda**	**74.52**	**174**	P	**P**	**04 05 12.2**	**+2.4**
	comp=Z,2.2nm,0.8s,baz=316,slow=5.9,SNR=16						
VNDA	**Vanda**	**74.52**	**174**	P	**P**	**04 05 08.9**	**-0.8**
BRVK	**Borovoye**	**77.84**	**327**	P	**P**	**04 05 28.0**	**-1.0**
BRVK				IAmb	IAmb	04 05 38.3	
	comp=Z,8.3nm,1.1s						
NRIK	**Noril'sk**	**80.00**	**345**	P	**P**	**04 05 40.5**	**0.0**
	comp=Z,3.3nm,0.7s,baz=159,slow=6.8,SNR=4.4						
GEYT	**Alibeck**	**81.16**	**309**	P	**P**	**04 05 47.3**	**-0.2**
	comp=Z,1.9nm,0.5s,baz=148,slow=8.4,SNR=4.4						
TTA	**Tatalina**	**85.34**	**26**	P	**P**	**04 06 08.2**	**-0.4**
TTA				IAmb	IAmb	04 06 11.3	
	comp=Z,3.7nm,1.0s						
KDAK	**Kodiak Island**	**85.41**	**31**	P	**P**	**04 06 09.5**	**+0.6**
	comp=Z,5.5nm,0.8s,baz=185,slow=11,SNR=2.7						
KDAK	**Kodiak Island**	**85.41**	**31**	P	**P**	**04 06 08.6**	**-0.3**
PMR	**Palmer**	**88.06**	**28**	P	**P**	**04 06 22.6**	**+0.8**
MLY	**Manley**	**88.18**	**24**	P	**P**	**04 06 23.1**	**+0.7**
MLY				IAmb	IAmb	04 06 25.5	
	comp=Z,3.1nm,0.8s						
RND	**Reindeer**	**88.60**	**26**	P	**P**	**04 06 24.4**	**0.0**
WRH	**Wood River Hil**	**89.16**	**25**	IAmb	IAmb	04 06 28.5	
	comp=Z,3.9nm,0.9s						
DHY	**Denali Highway**	**89.18**	**27**	IAmb	IAmb	04 06 37.7	
	comp=Z,3.6nm,1.0s						
CCB	**Clear Creek Bu**	**89.32**	**25**	IAmb	IAmb	04 06 29.0	
	comp=Z,3.6nm,0.8s						
HDA	**Harding Lake**	**89.63**	**25**	P	**P**	**04 06 28.2**	**-0.9**
HDA				IAmb	IAmb	04 06 31.3	
	comp=Z,3.3nm,0.8s						
ILAR	**Eielson Array**	**89.73**	**25**	P	**P**	**04 06 29.3**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=257,slow=3.9,SNR=12						
ARCES	**ARCESS Array B**	**100.39**	**340**	P	**Pdif**	**04 07 18.1**	**0.0**
	comp=Z,1.5nm,0.7s,baz=73,slow=5.9,SNR=5.8						
FINES	**FINESS Array B**	**102.15**	**332**	P	**Pdif**	**04 07 26.0**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=151,slow=6.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**131.49**	**283**	PKP	**PKiKP**	**04 12 46.2**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=60,slow=2.6,SNR=2.5						

INET 03 03:54:56.9,11.28N×87.23W,h15km,ML3.7,Near coast of Nicaragua

*IDC **03** 04:08:33.9±0.5,67.94N×162.51W,h0km,mb4.2/22, mb1 4.4/26,mb1mx4.2/46,mbtmp4.2/26,ML3.6/4,MS3.2/15, Ms1 3.2/15,ms1mx3.1/46,Error ellipse: s-maj=16.2km s-min=10.0km az=24.0*
*AEIC **03** 04:08:33.8±1.8,67.67N±0.06×162.3W±0.1,h12km±4km, ML4.2/36,mb4.5/75(NEIC),Error ellipse: s-maj=9.6km s-min=6.1km az=157.0*
*UNK **03** 04:08:33.0,67.67N×162.29W,h12km*
*ANF **03** 04:08:40.4±1.7,67.84N×161.77W,h34km±13km,

baz=289
EPYK Eagle Plains 9.99 86 Pn **Pn** 04 10 59.1 +2.0
GLB Gilahina Butte 10.06 120 Pn **Pn** 04 10 57.3 -0.8
VRDI Verde Repeater 10.34 120 **Pn** 04 11 04.8 +2.8
INK Inuvik 10.69 74 Pn **Pn** 04 11 07.0 +0.4
1.5nm,0.3s,baz=303,slow=14,SNR=44
INK Sn **Sn** 04 13 03.3 -2.9
0.9nm,0.3s,baz=330,slow=18,SNR=10
INK LR LR 04 16 03.4
comp=Z,326nm,20.0s,baz=281,slow=42
INK Inuvik 10.69 74 Pn **Pn** 04 11 07.2 +0.6
KDAK Kodiak Island 10.89 152 Pn **Pn** 04 11 11.5 +2.2
0.3nm,0.3s,baz=348,slow=8.0,SNR=5.1
KDAK LR LR 04 14 52.3
comp=Z,87nm,20.4s,baz=42,slow=34
KDAK Kodiak Island 10.89 152 **Pn** 04 11 09.2 -0.1
BILL Bilibino 11.83 286 Pn **Pn** 04 11 19.3 -2.9
A36M Sachs Harbour 13.23 55 P **Pn** 04 11 42.7 +1.4
baz=269,SNR=7.5
A36M S **Sn** 04 14 00.9 -7.2
baz=269
C36M Paulatuk 13.88 66 P **Pn** 04 11 49.4 -0.6
baz=281
C36M S **Sn** 04 14 16.3 -7.6
baz=281
C36M Paulatuk 13.88 66 Pn **Pn** 04 11 48.6 -1.4
DLBC Dease Lake 17.05 107 P **P** 04 12 34.0 +0.3
0.0nm,0.3s,baz=292,slow=9.1,SNR=2.3
SEY Seymchan 19.20 277 P **Pn** 04 12 58.9 +0.7
0.2nm,0.3s,baz=42,slow=7.7,SNR=12
YKA Yellowknife Ar 20.23 82 P Pn 04 13 10.5 0.0
4.0nm,0.6s,baz=305,slow=11,SNR=38
YKA S **S** 04 16 47.6 -7.5
1.9nm,0.9s,baz=301,slow=23,SNR=6.3
YKA LR LR 04 21 29.3
comp=Z,82nm,19.0s,baz=0.0,slow=38
RES Resolute Bay 21.50 42 P **P** 04 13 22.3 +0.2
4.6nm,1.0s,baz=180,slow=1.0,SNR=2.2
RES S **S** 04 17 17.4 -2.5
5.7nm,1.0s,baz=34,slow=18,SNR=1.9
RES Resolute Bay 21.50 42 P **P** 04 13 22.6 +0.6
RES IAmb IAmb 04 14 10.4
comp=Z,41nm,1.7s
MA2 Magadan 21.89 271 P **P** 04 13 26.4 +0.1
comp=Z,4.3nm,0.3s,baz=25,slow=14,SNR=2.1
MA2 LR LR 04 22 12.9
comp=Z,125nm,19.4s,baz=79,slow=38
MA2 Magadan 21.89 271 P **P** 04 13 24.2 -2.2
TIXI Tiksi 23.04 311 P **P** 04 13 37.6 -0.9
comp=Z,2.1nm,0.3s,baz=72,slow=13,SNR=5.2
TIXI LR LR 04 24 51.2
comp=Z,38nm,18.5s,baz=41,slow=43
TIXI Tiksi 23.04 311 P **P** 04 13 37.9 -0.6
PETK Petropavlovsk- 24.04 253 LR LR 04 23 18.6
comp=Z,81nm,21.3s,baz=61,slow=37
MSO Missoula 32.16 106 P **P** 04 15 02.9 +1.6
baz=328
J05D Fort Rock, OR 32.66 118 P **P** 04 15 08.4 +2.7
baz=332
MCMT McKenzie Canyo 34.27 107 P **P** 04 15 17.9 -2.0
YHB Horse Butte 34.94 105 P **P** 04 15 24.9 -0.8
YHH Holmes Hill 35.04 105 P **P** 04 15 25.5 -1.0
YMR Madison River 35.10 105 P **P** 04 15 25.5 -1.5
O03E Paynes Creek 35.14 121 P **P** 04 15 29.5 +2.3
baz=335
YNE Yellowstone No 35.16 103 P **P** 04 15 27.1 -0.4
NRIK Noril'sk 35.17 325 P **P** 04 15 26.7 -0.4
comp=Z,6.2nm,0.7s,baz=50,slow=7.1,SNR=9.4
IMW Indian Meadow 35.77 105 P **P** 04 15 32.1 -0.7
IMW IAmb IAmb 04 15 39.4
comp=Z,7.7nm,1.2s
TPAW Teton Pass 36.12 106 P **P** 04 15 35.2 -0.6
ULM Lac du Bonnet 36.17 85 LR LR 04 31 55.2
comp=Z,42nm,18.6s,baz=333,slow=39
VCNR Virginia City 36.76 119 P **P** 04 15 40.8 -0.4
VCNR IAmb IAmb 04 15 45.7
comp=Z,11nm,1.5s
KLR Kul'dur 36.93 274 P **P** 04 15 42.0 -0.3
comp=Z,0.8nm,0.7s,baz=243,slow=2.3,SNR=2.0
PNTR Pine Nut 36.96 119 P **P** 04 15 42.5 -0.5
PNTR IAmb IAmb 04 15 47.7
comp=Z,5.3nm,0.7s
ELK Elko 36.97 113 P **P** 04 15 41.7 -1.4
BW06 Boulder Array 37.25 105 P **P** 04 15 47.9 +2.5
baz=330
BW06 Boulder Array 37.25 105 P **P** 04 15 44.6 -0.8
PD31 Pinedale Array 37.25 105 P **P** 04 15 44.1 -1.3
PDAR Pinedale Array 37.25 105 P **P** 04 15 48.4 +3.0
comp=Z,3.0nm,0.5s,baz=326,slow=7.7,SNR=22
PDAR PcP **PcP** 04 18 05.7 +1.0
comp=Z,0.5nm,0.6s,baz=335,slow=4.1,SNR=2.4
PDAR LR LR 04 30 31.2
comp=Z,31nm,21.4s,baz=352,slow=35
WAKR Walker 37.54 119 P **P** 04 15 46.7 -1.2
NVAR Mina Array Bea 37.99 118 P **P** 04 15 55.0 +3.3
comp=Z,4.2nm,0.8s,baz=317,slow=6.9,SNR=26
TCUT Toone Canyon 38.01 108 P **P** 04 15 51.4 -0.5
NV11 Mina Array Sit 38.03 118 P **P** 04 15 51.5 -0.5
DUG Dugway, Tooele 38.32 110 P **P** 04 15 56.2 +1.8
baz=332
DUG Dugway, Tooele 38.32 110 P **P** 04 15 54.0 -0.3
K22A Casper 38.48 102 P **P** 04 15 57.3 +1.7
baz=330
OMMB Old Mammoth Mi 38.49 119 P **P** 04 15 54.5 -1.5
OMMB IAmb IAmb 04 16 01.2
comp=Z,7.1nm,1.0s
R11A Troy Canyon, C 38.99 115 P **P** 04 16 02.2 +2.2
baz=334
R11A Troy Canyon, C 38.99 115 P **P** 04 15 58.2 -1.8
PSUT Pine Spring 39.43 113 P **P** 04 16 03.5 -0.2
F33A 5 Mile Ranch, 39.64 89 P **P** 04 16 04.9 -0.3
F33A IAmb IAmb 04 16 08.2
comp=Z,12nm,1.2s
CWC Cottonwood Cre 39.86 119 P **P** 04 16 09.9 +2.5
baz=336
TPNV Topopah Spring 40.02 117 P **P** 04 16 11.2 +2.5
baz=335
TPNV Topopah Spring 40.02 117 P **P** 04 16 06.0 -2.7
Q16A Castle Valley 40.04 110 P **P** 04 16 07.2 -1.6
MSU Marysvale 40.04 111 P **P** 04 16 07.4 -1.4
VES Vestal, Richgr 40.08 120 P **P** 04 16 09.5 +0.6
baz=336
SRU San Rafael Swe 40.10 109 P **P** 04 16 07.7 -1.6
N23A Red Feather La 40.22 103 P **P** 04 16 10.6 +0.3
baz=331
FURC Furnace Creek, 40.25 118 P **P** 04 16 12.6 +2.4
baz=335
MPMC Manual Prospec 40.41 119 P **P** 04 16 15.2 +3.3
baz=336
ISA Isabella, Lake 40.44 120 P **P** 04 16 14.2 +2.2
baz=336
CCUT Cedar City 40.48 113 P **P** 04 16 11.4 -1.1
SZCU Shurtz Canyon 40.53 113 P **P** 04 16 12.3 -0.6
PKM Mcpherson Peak 40.71 122 P **P** 04 16 16.9 +2.5
baz=337
ARVC Arvin 40.81 121 P **P** 04 16 17.3 +2.3
baz=336
LRMC Laurel Mtn Rad 40.87 119 P **P** 04 16 17.8 +2.2
baz=336
LCMT Little Creek M 41.00 113 P **P** 04 16 16.2 -0.5
PV09 Paradox Valley 41.15 108 P **P** 04 16 17.1 -1.0
PV21 Cone Mtn., Par 41.15 107 P **P** 04 16 17.7 -0.3
PV21 IAmb IAmb 04 16 21.3
comp=Z,19nm,1.5s
PV22 Blue Mesa, Par 41.24 107 P **P** 04 16 18.5 -0.2
PV22 IAmb IAmb 04 16 22.0
comp=Z,9.6nm,0.8s
ISCO Idaho Springs 41.29 103 P **P** 04 16 20.8 +1.5
baz=331
ISCO Idaho Springs 41.29 103 P **P** 04 16 18.6 -0.7
ECSD EROS Data Cent 41.30 91 P **P** 04 16 19.9 +1.0
baz=328
ECSD EROS Data Cent 41.30 91 P **P** 04 16 19.1 +0.2
ECSD IAmb IAmb 04 16 21.0
comp=Z,24nm,1.9s
PV04 Paradox Valley 41.32 108 P **P** 04 16 18.2 -1.1
PV04 IAmb IAmb 04 16 22.9
comp=Z,6.6nm,0.9s
GSC Goldstone, Bar 41.33 118 P **P** 04 16 21.9 +2.6
baz=336
GSC Goldstone, Bar 41.33 118 P **P** 04 16 18.9 -0.4
PV07 Paradox Valley 41.38 107 P **P** 04 16 18.9 -0.9
PV07 IAmb IAmb 04 16 23.0
comp=Z,5.9nm,0.8s
PV17 East Wray Mesa 41.40 108 P **P** 04 16 19.2 -0.8
PV17 IAmb IAmb 04 16 23.6
comp=Z,9.3nm,1.2s
PV11 David Mesa, Pa 41.42 108 P **P** 04 16 19.9 -0.3
PV11 IAmb IAmb 04 16 23.7
comp=Z,16nm,1.4s
PV12 Saucer Basin, 41.43 107 P **P** 04 16 19.8 -0.5
PV12 IAmb IAmb 04 16 23.8
comp=Z,7.3nm,0.8s
PV03 Paradox Valley 41.47 108 P **P** 04 16 20.2 -0.4
PV15 Paradox Valley 41.52 107 P **P** 04 16 19.7 -1.4
PV15 IAmb IAmb 04 16 24.3
comp=Z,7.1nm,0.8s
PV05 Paradox Valley 41.53 108 P **P** 04 16 19.3 -1.8
PV05 IAmb IAmb 04 16 24.5
comp=Z,20nm,1.7s
PV13 Radium Mtn., P 41.56 108 P **P** 04 16 20.8 -0.6
PV13 IAmb IAmb 04 16 24.9
comp=Z,8.6nm,0.9s
PV01 Paradox Valley 41.67 107 P **P** 04 16 21.8 -0.5
BFSC Mount Baldy Ra 42.01 120 P **P** 04 16 26.7 +1.7
baz=336
GMRC Granite Mounta 42.18 117 P **P** 04 16 27.7 +1.3
baz=336
S22A 4UR Ranch, Cre 42.65 106 P **P** 04 16 34.0 +3.6
baz=332
ARCES ARCESS Array B 42.89 356 P **P** 04 16 32.9 +1.3
comp=Z,3.2nm,1.0s,baz=14,slow=8.4,SNR=3.7
ARCES PcP **PcP** 04 18 21.9 -0.1
comp=Z,1.8nm,0.8s,baz=34,slow=5.5,SNR=6.0
ARCES LR LR 04 34 50.9
comp=Z,28nm,18.6s,baz=10,slow=37
IRM Iron Mountain 42.93 117 P **P** 04 16 34.2 +1.9
baz=336
WUAZ Wupatki 43.00 112 P **P** 04 16 35.6 +2.5
baz=334
WUAZ Wupatki 43.00 112 P **P** 04 16 31.6 -1.4
WUAZ IAmb IAmb 04 16 37.1
comp=Z,10nm,1.1s
SDCO Great Sand Dun 43.14 104 P **P** 04 16 36.3 +2.0
baz=332
Y12C Blythe 43.51 117 P **P** 04 16 39.3 +2.3
baz=336
MONP2 Monument Peak 43.65 119 P **P** 04 16 40.9 +2.5
baz=337
Y14A Wickenburg 43.86 115 P **P** 04 16 39.7 -0.2
N35A Tabor 44.13 93 P **P** 04 16 41.9 -0.1
X18A Snowflake 44.40 111 P **P** 04 16 43.6 -0.7
X18A IAmb IAmb 04 16 48.4
comp=Z,8.4nm,1.2s
ANMO Albuquerque 45.28 107 P **P** 04 16 54.3 +2.9
baz=334
ANMO Albuquerque 45.28 107 P **P** 04 16 50.5 -0.8
ANMO IAmb IAmb 04 16 55.3
comp=Z,4.2nm,0.9s
KSU1 Kansas State U 45.29 95 P **P** 04 16 52.6 +1.4
baz=331
KSU1 Kansas State U 45.29 95 P **P** 04 16 50.3 -0.9
MJAR Matsushiro Arr 45.31 258 P **P** 04 16 52.1 +0.7
comp=Z,2.3nm,0.6s,baz=17,slow=7.9,SNR=5.5
MJAR LR LR 04 37 37.4
comp=Z,49nm,18.1s,baz=25,slow=39
214A Organ Pipe Nat 45.73 116 P **P** 04 16 55.4 +0.6
baz=336
214A Organ Pipe Nat 45.73 116 P **P** 04 16 54.1 -0.7
214A IAmb IAmb 04 16 58.7
comp=Z,3.8nm,0.8s
P38A Dawn 46.01 91 P **P** 04 16 56.7 -0.1
TUC Tucson 46.11 113 P **P** 04 16 59.6 +1.8
baz=336
E53A Dumoine, Ponti 46.17 73 P **P** 04 16 58.4 +0.3
baz=328
E54A Lac Daplat, Po 46.30 72 P **P** 04 17 01.0 +2.0
baz=328
P40A Paris 46.65 90 P **P** 04 17 01.8 -0.1
T35A Sooner Cattle 47.24 96 P **P** 04 17 06.0 -0.5
D58A Chemin du LacG 47.28 68 P **P** 04 17 08.2 +1.5
baz=329
MSTX Muleshoe 47.51 104 P **P** 04 17 10.1 +1.3
baz=334
MSTX Muleshoe 47.51 104 P **P** 04 17 08.3 -0.5
R40A Maddies Statio 47.65 91 P **P** 04 17 09.8 +0.1
R40A IAmb IAmb 04 17 11.6
comp=Z,4.0nm,0.8s
N47A Urbana 47.90 83 P **P** 04 17 11.4 -0.2
CCM Cathedral Cave 48.24 90 P **P** 04 17 15.2 +0.9
baz=331
CCM Cathedral Cave 48.24 90 P **P** 04 17 14.1 -0.2
CCM IAmb IAmb 04 17 16.3
comp=Z,5.1nm,0.8s
WMOK Wichita Mounta 48.31 100 P **P** 04 17 15.4 +0.5
baz=333
KSRS Korea Array 48.40 268 P **P** 04 17 16.4 +0.9
comp=Z,2.5nm,0.8s,baz=22,slow=7.9,SNR=6.6
KSRS LR LR 04 37 59.1
comp=Z,23nm,18.7s,baz=100,slow=37
E60A Ste Agathe de 48.41 68 P **P** 04 17 16.1 +0.6
baz=329
MNTX Cornudas Mount 48.59 108 P **P** 04 17 18.9 +1.9
baz=335
MNTX Cornudas Mount 48.59 108 P **P** 04 17 16.2 -0.9
MNTX IAmb IAmb 04 17 20.4
comp=Z,4.4nm,0.8s
O48A Farmland 48.64 83 P **P** 04 17 17.8 +0.4
baz=330
MGMO Mountain Grove 48.65 92 P **P** 04 17 17.5 +0.1
MGMO IAmb IAmb 04 17 19.3
comp=Z,7.3nm,1.0s
LONY Lake Ozonia 48.80 71 P **P** 04 17 19.2 +0.7
baz=330
OLIL Olney 48.85 87 P **P** 04 17 18.8 -0.2
ZALV Zalesovo Beam 48.88 314 P **P** 04 17 18.8 -0.2
comp=Z,4.4nm,0.6s,baz=30,slow=6.8,SNR=12
H58A Gabriels 49.12 71 P **P** 04 17 21.2 +0.2
baz=330
U40A Yellville 49.12 93 P **P** 04 17 21.6 +0.5
baz=332
T42A Van Buren 49.20 91 P **P** 04 17 21.7 0.0
T42A IAmb IAmb 04 17 23.5
comp=Z,3.7nm,0.7s
FCAR Ozark Folk Cen 49.81 93 P **P** 04 17 26.6 +0.3
FCAR IAmb IAmb 04 17 27.6
comp=Z,4.3nm,0.7s
MIAR Mount Ida 50.45 95 P **P** 04 17 31.7 +0.6
baz=333
MIAR Mount Ida 50.45 95 P **P** 04 17 31.2 +0.1
MIAR IAmb IAmb 04 17 35.8
comp=Z,9.1nm,1.1s
N55A Marion Center 50.51 78 P **P** 04 17 31.5 -0.1
baz=331
KLMR Klimovskoe 50.74 346 *e*P **P** 04 17 33.5 +0.5
KLMR AMP 04 17 34.8
comp=Z,10.0nm,0.9s
T47A Sharon Grove 50.76 87 P **P** 04 17 33.4 -0.1
T47A IAmb IAmb 04 17 35.8
comp=Z,6.1nm,0.8s
X40A Basin Creek Fa 50.78 94 P **P** 04 17 33.8 +0.1
baz=333
FINES FINESS Array B 50.98 355 P **P** 04 17 34.8 0.0
comp=Z,1.9nm,0.8s,baz=15,slow=6.0,SNR=7.3
FINES LR LR 04 40 31.7
comp=Z,16nm,19.3s,baz=32,slow=38
WVT Waverly 51.24 88 P **P** 04 17 37.6 +0.5
baz=332
TX31 Lajitas Ar. Si 51.35 108 P **P** 04 17 37.8 -0.3
TX32 Lajitas Array 51.35 108 P **P** 04 17 38.6 +0.5
TXAR Lajitas Array 51.35 108 P **P** 04 17 40.5 +2.4
comp=Z,9.3nm,0.8s,baz=334,slow=5.6,SNR=72
NOA NORSAR Array B 51.44 4 P **P** 04 17 38.6 +0.3
comp=Z,0.6nm,0.8s,baz=355,slow=7.7,SNR=3.2
NOA LR LR 04 41 44.5
comp=Z,9.4nm,18.0s,baz=35,slow=39
HHC Hu-ho-hao-te 51.60 285 *e*P **P** 04 17 41.0 +1.1
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,46nm,6.6s
HHC LR LR
comp=N,72nm,16.8s
HHC LR LR
comp=E,110nm,15.8s
HHC LR LR
comp=Z,36nm,15.7s
JCT Junction City 51.73 103 P **P** 04 17 40.0 -1.0
S53A Williamson 52.04 82 P **P** 04 17 45.6 +2.5
baz=332
OXF Oxford 52.06 91 P **P** 04 17 44.6 +1.4
baz=332
OXF Oxford 52.06 91 P **P** 04 17 43.2 0.0
PLAL Pickwick Lake 52.16 89 P **P** 04 17 43.8 -0.1
PLAL IAmb IAmb 04 17 46.1
comp=Z,4.6nm,0.8s
TZTN Tazewell 52.50 84 P **P** 04 17 48.6 +2.1
baz=332
BRVK Borovoye 53.35 323 P **P** 04 17 52.9 +0.3
BRVK IAmb IAmb 04 17 54.0
comp=Z,4.5nm,0.7s
KURK Kurchatov 53.46 316 P **P** 04 17 53.2 -0.2
KURK IAmb IAmb 04 17 54.6
comp=Z,5.9nm,0.8s
U57A Blanch 54.19 81 P **P** 04 17 59.3 +0.4
baz=332
X54A Belton 54.71 84 P **P** 04 18 04.0 +1.3
baz=333
MK31 Makanchi Array 56.03 312 P **P** 04 18 11.6 -0.5
MKAR Makanchi Array 56.03 312 P **P** 04 18 11.3 -0.8
comp=Z,2.1nm,0.7s,baz=42,slow=6.5,SNR=20
GTA Gaotai 57.09 294 *e*P **P** 04 18 20.1 +0.2
GTA pP sP 04 18 28.7 +4.3
GTA sP pP 04 18 32.4 +9.3
GTA pmax pmax
comp=Z,2.0nm,0.8s
GTA pmax pmax
comp=Z,31nm,6.8s
GTA LR LR
comp=N,69nm,17.1s
GTA LR LR
comp=E,100nm,19.4s
GTA LR LR
comp=Z,70nm,14.6s
WMQ Urumqi 57.12 306 *e*P **P** 04 18 20.1 +0.1
AKASG Malin Array Be 61.58 352 P **P** 04 18 50.9 +0.3
comp=Z,4.3nm,0.7s,baz=8.4,slow=6.7,SNR=8.4
AKASG LR LR 04 45 20.5
comp=Z,27nm,21.5s,baz=45,slow=36
AKBB Malin Array Si 61.58 352 P **P** 04 18 50.6 +0.1
GERES GERESS Array B 63.71 3 P **P** 04 19 06.2 +1.2
comp=Z,0.9nm,0.7s,baz=12,slow=5.0,SNR=10
FETA Feichten 65.45 5 *i* pP **P** 04 19 18.6 +2.2
comp=Z,2.8nm,0.8s
KBA Koelnbreinsper 65.47 3 *i* pP **P** 04 19 17.8 +1.3
comp=Z,2.0nm,0.7s
OBKA Obir 66.06 2 *i* pP **P** 04 19 22.0 +1.7
comp=Z,4.5nm,0.8s
GAR Garm 66.51 318 P **P** 04 19 22.9 -0.5
CHGR Chuyangaron 67.13 318 P **P** 04 19 26.1 -1.2
KBZ Khabaz 67.26 341 P **P** 04 19 29.3 +1.5
comp=Z,2.7nm,0.9s,baz=75,slow=5.9,SNR=3.6
ESDC Sonseca Array 71.65 18 P **P** 04 19 56.4 +1.3
comp=Z,1.0nm,0.7s,baz=349,slow=6.2,SNR=11
BRTR Keskin Array B 72.20 347 P **P** 04 19 58.2 -0.3
comp=Z,0.8nm,0.7s,baz=15,slow=5.4,SNR=4.9
CMAR Chiang Mai Arr 76.41 285 P **P** 04 20 23.6 +0.5
comp=Z,1.3nm,0.3s,baz=15,slow=6.6,SNR=5.7
VNDA Vanda 146.65 193 PKPbc **PKPab** 04 28 14.4 -0.2
comp=Z,2.0nm,0.7s,baz=329,slow=4.8,SNR=14

MOS ***03*** *04:11:46.6±1.3,45°.89N×150°.41E,h114km,mb3.8/5, Error ellipse: s-maj=14.9km s-min=9.5km az=46.9*
SKHL ***03*** *04:11:46.1±0.4,45°.58N×150°.65E,h116km±24km,mb4.9/4, msh5.7/4*
IDC ***03*** *04:11:50.2±2.9,46°.07N×150°.26E,h128km±27km,mb3.3/4, mb1 3.4/8,mb1mx3.2/34,mbtmp3.7/8, Error ellipse: s-maj=34.5km s-min=19.4km az=127.0*

ISC 03 04:11:45.8±0.8,45°.61N±0°.09×150°.60E±0°.09,h100km,n60, σ2s26/71,mb3.5/6,1C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.96**	**260**	*i* P	**Pn**	**04 12 19.1**	**+1.3**
KUR				AMB	AMB	04 12 20.3	
	120nm,0.2s						
KUR				*i* S	**Sn**	**04 12 44.1**	**+1.8**
KUR				A	A	04 12 47.3	
	1μm,0.6s						
KUR				A	A	04 12 47.3	
	630nm,0.6s						
KUR	**Kuril'sk**	**1.96**	**260**	*d* iPN	**Pn**	**04 12 19.1**	**+1.3**
KUR				*i* S	**Sn**	**04 12 44.1**	**+1.8**
KUR				pmax	pmax		
	comp=N,54nm,0.3s						
KUR				pmax	pmax		
	comp=Z,131nm,0.3s						
KUR				pmax	pmax		
	comp=E,32nm,0.1s						
KUR				smax	smax		
	comp=N,596nm,0.6s						
KUR				smax	smax		
	comp=E,269nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.72**	**247**	*e*P	**Pn**	**04 12 42.6**	**+1.4**
YUK				AMB	AMB	04 12 46.6	
	comp=E,150nm,0.4s						
YUK				*e*S	**Sn**	**04 13 24.7**	**+0.7**
YUK				A	A	04 13 39.0	
	comp=E,240nm,0.5s						
YUK				A	A	04 13 39.0	
	comp=E,420nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.72**	**247**	*e*PN	**Pn**	**04 12 42.6**	**+1.4**
YUK				*e*S	**Sn**	**04 13 28.5**	**+4.5**
YUK				pmax	pmax		
	comp=Z,153nm,0.2s						
YUK				pmax	pmax		
	comp=N,38nm,0.1s						
YUK				pmax	pmax		
	comp=E,45nm,0.1s						
YUK				smax	smax		
	comp=E,420nm,0.4s						
YUK				smax	smax		
	comp=N,235nm,0.3s						
GRPR	**Tuman**	**3.80**	**246**	*e*P	**Pn**	**04 12 44.0**	**+1.8**
GRPR				AMB	AMB	04 12 51.0	
	comp=N,90nm,0.4s						
GRPR				*e*S	**Sn**	**04 13 27.0**	**+1.1**
GRPR				A	A	04 13 39.0	
	comp=N,90nm,0.4s						
GRPR				A	A	04 13 39.0	
	comp=N,280nm,0.4s						
GRPR	**Tuman**	**3.80**	**246**	*e*PN	**Pn**	**04 12 44.0**	**+1.8**
GRPR				*e*S	**Sn**	**04 13 27.7**	**+1.8**
GRPR				pmax	pmax		
	comp=Z,93nm,0.2s						
GRPR				pmax	pmax		
	comp=N,49nm,0.1s						
GRPR				pmax	pmax		
	comp=E,39nm,0.2s						
GRPR				smax	smax		
	comp=E,278nm,0.4s						
GRPR				smax	smax		
	comp=N,90nm,0.2s						
GLVR	**Golovnino**	**4.08**	**244**	*e*P	**Pn**	**04 12 47.9**	**+1.9**
GLVR				*e*S	**Sn**	**04 13 33.0**	**+0.3**
GLVR				A	A	04 13 40.0	
	comp=N,290nm,0.4s						
GLVR				A	A	04 13 40.0	
	comp=N,270nm,0.4s						
GLVR	**Golovnino**	**4.08**	**244**	*e*PN	**Pn**	**04 12 47.6**	**+1.6**
GLVR				*e*S	**Sn**	**04 13 33.6**	**+0.9**
GLVR				smax	smax		
	comp=N,289nm,0.3s						
GLVR				smax	smax		
	comp=E,269nm,0.3s						
NEM2	**Nemuro 2**	**4.14**	**239**	P	**Pn**	**04 12 47.6**	**+0.8**
NEM2				*e*S	**Sn**	**04 13 34.3**	**+0.2**
NMR	**Nemuro--Hokkai**	**4.14**	**239**	*i* P	**Pn**	**04 12 47.0**	**+0.1**
NMR				*i* S	**Sn**	**04 13 33.0**	**-1.2**
NMR	**Nemuro--Hokkai**	**4.14**	**239**	‖ *i* PN	**Pn**	**04 12 47.7**	**+0.8**
NMR				*i* S	**Sn**	**04 13 33.4**	**-0.8**
JNK	**Nakash**	**4.66**	**246**	P	**Pn**	**04 12 56.0**	**+2.1**
JNK				*e*S	**Sn**	**04 13 49.1**	**+2.3**
JAK	**Akkeshi**	**4.98**	**240**	P	**Pn**	**04 12 59.1**	**+1.0**
JAK				*e*S	**Sn**	**04 13 54.3**	**-0.2**
JAR	**Ashorobuto**	**5.41**	**247**	P	**Pn**	**04 13 06.5**	**+2.5**
JAR				*e*S	**Sn**	**04 14 06.8**	**+1.9**
JOB	**Onbets**	**5.56**	**243**	P	**Pn**	**04 13 07.6**	**+1.5**
JOB				*e*S	**Sn**	**04 14 09.4**	**+0.8**
YSS	**Yuzh-Sakhalins**	**5.60**	**287**	*e*P	**Pn**	**04 13 08.6**	**+2.0**
YSS				AMB	AMB	04 13 09.7	
	comp=E,20nm,0.3s						
YSS	**Yuzh-Sakhalins**	**5.60**	**287**	*e*PN	**Pn**	**04 13 09.3**	**+2.7**
JKA	**Kamikawa-asahi**	**5.88**	**258**	*e*P	**Pn**	**04 13 13.4**	**+3.0**
ASAJ	**Asahikawa**	**5.88**	**258**	P	**Pn**	**04 13 13.4**	**+3.0**
	comp=E,3.3nm,0.3s,baz=75,slow=9.9,SNR=9.4						
JCH	**Churui**	**6.01**	**243**	P	**Pn**	**04 13 13.5**	**+1.3**

JCH				*e*S		**Sn**	04 14 18.6	**-0.9**
JFR	**Furan**	**6.24**	**250**	P		**Pn**	04 13 18.4	**+3.1**
SKR	**Severo-Kuril's**	**6.27**	**34**	*e*P		**Pn**	04 13 17.3	**+1.6**
SKR	**Severo-Kuril's**	**6.27**	**34**	*e*PN		Pn	04 13 26.2	+11
SKR				pmax	pmax			
	comp=Z,75nm,1.0s							
JEM	**Erimo**	**6.47**	**239**	P		**Pn**	04 13 20.8	**+2.4**
ERM	**Erimo**	**6.47**	**239**	*i* PN		**Pn**	04 13 20.8	**+2.4**
JBT2	**Biratori 2**	**6.56**	**247**	P		**Pn**	04 13 21.9	**+2.2**
JNBK	**Urakawa-nobuka**	**6.57**	**242**	P		**Pn**	04 13 20.9	**+1.1**
JNBK				*e*S		**Sn**	04 14 29.6	**-3.6**
JNB	**Noboribetsu**	**7.57**	**249**	P		**Pn**	04 13 35.8	**+2.4**
JNB				*e*S		**Sn**	04 14 57.4	**-0.1**
JKB	**Kayabe**	**7.86**	**245**	P		**Pn**	04 13 38.2	**+0.9**
JKB				*e*S		**Sn**	04 15 01.4	**-3.2**
JANG	**Nango**	**8.47**	**235**	*e*S		**Sn**	04 15 12.9	**-6.5**
JTM	**Tenmabayashi**	**8.47**	**239**	*e*S		**Sn**	04 15 14.0	**-5.3**
PETK	**Petropavlovsk-**	**8.81**	**29**	P		**Pn**	04 13 50.2	**0.0**
	comp=Z,0.6nm,0.3s,baz=210,slow=12,SNR=7.6							
JRG	**Rokugo**	**9.62**	**233**	P		**Pn**	04 14 01.6	**+0.3**
JRG				*e*S		**Sn**	04 15 45.3	**-2.3**
KLR	**Kul'dur**	**13.26**	**293**	P		**Pn**	04 14 48.8	**-1.2**
	comp=Z,0.1nm,0.3s,baz=93,slow=15,SNR=4.6							
KLR	**Kul'dur**	**13.26**	**293**	*e*P		**Pn**	04 14 48.0	**-2.0**
KLR	**Kul'dur**	**13.26**	**293**	*i* PN		**Pn**	04 14 48.0	**-2.0**
KLR				pmax	pmax			
	comp=Z,2.0nm,1.0s							
USRK	**Ussuriysk Ar.**	**13.27**	**271**	P		**Pn**	04 14 51.2	**+1.1**
	baz=61,slow=11,SNR=3.0							
EKMR	**Ekimchan**	**13.69**	**309**	*e*P		**Pn**	04 14 55.0	**-0.5**
BMKR	**Bomnak**	**16.59**	**311**	*e*P		**Pn**	04 15 30.8	**-1.3**
YAK	**Yakutsk**	**20.41**	**331**	*i* P		**P**	04 16 10.9	**-3.6**
YAK				pmax	pmax			
	comp=Z,6.0nm,0.7s							
BILL	**Bilibino**	**23.91**	**15**	*e*P		**P**	04 16 49.0	**-1.0**
BILL	**Bilibino**	**23.91**	**15**	*e*P		**P**	04 16 49.0	**-1.0**
BILL				*PP		**pwP**	04 17 14.0	**+3.0**
BILL				S		S	04 20 34.0	-25
BILL				pmax	pmax			
	comp=Z,8.0nm,1.1s							
TIXI	**Tiksi**	**28.10**	**346**	*e*P		**P**	04 17 25.4	**-2.2**
TIXI	**Tiksi**	**28.10**	**346**	*i* P		**P**	04 17 25.4	**-2.2**
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**29.11**	**147**	T		T	04 49 15.2	
	baz=337							
H11N1	**WAKE ISLAND Hy**	**29.12**	**147**	T		T	04 49 14.0	
	baz=337,slow=74							
H11N3	**WAKE ISLAND Hy**	**29.13**	**147**	T		T	04 49 14.9	
	baz=337,slow=74							
H11S1	**WAKE ISLAND Hy**	**30.15**	**148**	T		T	04 50 32.1	
	baz=338,slow=76							
H11S3	**WAKE ISLAND Hy**	**30.16**	**148**	T		T	04 50 32.5	
	baz=338,slow=76							
H11S2	**WAKE ISLAND Hy**	**30.17**	**148**	T		T	04 50 33.1	
	baz=338,slow=76							
ILAR	**Eielson Array**	**38.52**	**38**	P		**P**	04 18 58.3	**+0.3**
	comp=Z,0.2nm,0.5s,baz=267,slow=7.4,SNR=2.9							
CMAR	**Chiang Mai Arr**	**50.40**	**255**	*i* P		**P**	04 20 32.9	**-0.1**
CMAR				pmax	pmax			
	comp=Z,1.0nm,0.3s							
FINES	**FINESS Array B**	**64.31**	**334**	P		**P**	04 22 07.7	**-2.5**
	comp=Z,0.9nm,0.5s,baz=46,slow=8.1,SNR=5.0							
FINES	**FINESS Array B**	**64.31**	**334**	*e*P		**P**	04 22 08.1	**-2.0**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
WRA	**Warramunga Arr**	**66.89**	**197**	P		**P**	04 22 30.2	**+3.0**
	comp=Z,0.5nm,0.7s,baz=12,slow=6.2,SNR=4.9							
WRA	**Warramunga Arr**	**66.89**	**197**	*i* P		**P**	04 22 31.3	**+4.1**
WRA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**70.60**	**196**	P		**P**	04 22 54.3	**+4.2**
	comp=Z,0.4nm,0.6s,baz=14,slow=5.3,SNR=2.9							
H03N2	**Juan Fernandez**	**140.50**	**90**	T		T	07 07 54.5	
	baz=307,slow=77							
H03N1	**Juan Fernandez**	**140.51**	**90**	T		T	07 07 55.6	
	baz=307,slow=77							
H03N3	**Juan Fernandez**	**140.51**	**90**	T		T	07 07 55.1	
	baz=307,slow=77							

ASRS 03 04:27:20.6±0.3, 51.°N×2.°×9.°7E±.°, h5km, MLh3.6/14, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDJR	**Todzha**	**1.77**	**345**	Pg	Pg	04 28 00.4	+5.8
TDJR				Sg	Sg	04 28 24.3	+6.9
KZLR	**Kyzyl**	**1.82**	**305**	Pg	Pg	04 28 00.1	+4.6
KZLR				Sg	Sg	04 28 25.3	+6.2
ORL	**Orlik**	**2.60**	**44**	Pg	Pg	04 28 13.0	+2.5
ORL				Sg	Sg	04 28 48.3	+4.1
ARDR	**Aradan**	**2.85**	**313**	Pg	Pg	04 28 14.9	-0.3
ARDR				Sg	Sg	04 28 54.4	+2.3
DJOS	**Djoyskaya Sosn**	**3.99**	**304**	Sg	Sg	04 29 33.0	+4.2
CERR	**Cheremushki**	**4.01**	**305**	Sg	Sg	04 29 32.3	+2.8
DJO	**Djoy, Khakassi**	**4.08**	**303**	Pg	Pg	04 28 39.8	+1.0
DJO				Sg	Sg	04 29 33.2	+1.5
ZAK	**Zakamensk**	**4.10**	**92**	Pg	Pg	04 28 39.2	0.0
ZAK				Sg	Sg	04 29 32.9	+0.6
TLY	**Talaya**	**4.38**	**74**	Pg	Pg	04 28 44.4	0.0
TLY				Sg	Sg	04 29 40.6	-0.4
ORY	**Orie**	**4.44**	**347**	Sg	Sg	04 29 46.2	+3.1
MINR	**Mina**	**4.51**	**340**	Pg	Pg	04 28 49.7	+2.7
MINR				Sg	Sg	04 29 48.6	+3.3
VEH	**Verkhnyaya Baz**	**4.79**	**305**	Pg	Pg	04 28 51.8	-0.5
VEH				Sg	Sg	04 29 58.2	+3.9
SLNR	**Muhor-Tarhata,**	**5.47**	**264**	Pg	Pg	04 29 05.8	+0.5
SLNR				Sg	Sg	04 30 20.1	+4.0
CUR	**Chagan-Uzun**	**5.48**	**267**	P	Pn	04 28 47.3	+4.3
CUR				Pg	Pg	04 29 05.0	-0.5
CUR				S	Sn	04 29 50.7	+4.2
CUR				Sg	Sg	04 30 17.9	+1.4
LUZB	**Luzhba, Kemero**	**5.73**	**304**	Sg	Sg	04 30 26.9	+2.5
AKAR	**Aktash**	**5.91**	**270**	P	Pn	04 28 49.5	+0.6
AKAR				Pg	Pg	04 29 14.2	+0.5
AKAR				S	Sn	04 29 59.6	+2.5
AKAR				Sg	Sg	04 30 31.8	+1.5
GZLN	**Zheleznogorsk**	**5.98**	**343**	Sg	Sg	04 30 35.4	+2.8
CHBI	**Chibit, Altay**	**5.99**	**270**	Pg	Pg	04 29 17.8	+2.5
CHBI				Sg	Sg	04 30 35.4	+2.6
DGZ	**Jazzator, Alta**	**6.14**	**264**	Pg	Pg	04 29 16.8	-1.4
DGZ				S	Sn	04 30 05.5	+2.8
DGZ				Sg	Sg	04 30 42.2	+4.6
TUNR	**Tungur**	**6.75**	**269**	Pg	Pg	04 29 30.9	+1.0
TUNR				Sg	Sg	04 31 00.6	+3.3
ELDR	**Elanda**	**6.83**	**279**	Pg	Pg	04 29 31.6	+0.3
ELDR				Sg	Sg	04 31 01.3	+1.6
ULN	**Ulaanbaatar**	**7.24**	**109**	Sg	Sg	04 31 11.6	-1.3

IDC 03 04:34:44.8±2.5, 6.°00S×130.°40E, h0km, mb3.5/1, mb1 3.7/3, mb1mx3.4/31, mbtmp3.5/3, ML3.8/2, Error ellipse: s-maj=140.5km s-min=33.3km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.38**	**165**	Pn	Pn	04 38 10.1	**+0.3**
	0.6nm,0.3s,baz=348,slow=13,SNR=7.6						
WRA				Sn	Sn	04 40 37.5	-13
	0.7nm,0.3s,baz=342,slow=22,SNR=4.0						
ASAR	**Alice Springs**	**17.89**	**169**	P	Pn	04 38 54.8	-0.4
	0.1nm,0.3s,baz=346,slow=10,SNR=5.8						
ASAR				S	Sn	04 42 02.5	-13
	0.1nm,0.3s,baz=359,slow=27,SNR=3.7						
MKAR	**Makanchi Array**	**67.61**	**326**	P	P	04 45 43.5	+0.1
	0.2nm,0.4s,baz=130,slow=6.6,SNR=3.0						

*EAF **03** 04:39:29.4±0.6, 16.°56S×28.°25E, h1km±20km, MD3.8*
*LSZ **03** 04:39:31.3±0.3, 15.°60S×28.°33E, h10km, MD3.1*
*PRE **03** 04:39:34.8±0.8, 17.°28S×27.°86E, h5km, ML3.4*

ISC 03 04:39:26.6±1.2, 16.°60S±0.°07×28.°16E±0.°08, h7km, n23, σ2=76/32, Zambia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**1.31**	**1**	*i* P	**Pn**	**04 39 52.2**	**+0.7**
LSZ	**Lusaka**	**1.31**	**1**	*i* P	**Pn**	**04 39 52.2**	**+0.7**
LSZ	**Lusaka**	**1.31**	**1**	*i* P	**Pn**	**04 39 52.2**	**+0.7**
ITZ	**Itezhi-Tezhi**	**2.23**	**292**	*e*P	**Pg**	**04 40 08.6**	**-0.7**
ITZ				*i*		04 40 08.6	
	baz=86,slow=14						
ITZ				*e*S	**Sg**	**04 40 35.8**	**-2.4**
MATP	**Matopo**	**3.82**	**175**	*i* P	**Pn**	**04 40 29.8**	**+3.8**
MATP				*i* S	**Sn**	**04 41 13.1**	**+1.8**
MATP	**Matopo**	**3.82**	**175**	*i* P	**Pn**	**04 40 29.8**	**+3.8**
MATP				*i* S	**Sn**	**04 41 13.1**	**+1.8**
MATP	**Matopo**	**3.82**	**175**	*i* P	**Pn**	**04 40 29.8**	**+3.8**
MATP				*i* S	**Sn**	**04 41 13.1**	**+1.8**
MSNA	**Messina**	**5.98**	**163**	*e*P	**Pn**	**04 40 58.3**	**+2.6**
MSNA				*e*S	**Sn**	**04 41 59.6**	**-4.8**
MSNA				AML	AML	04 42 35.5	
	comp=Z,85nm,0.4s						
MOPA	**Mopani**	**7.53**	**157**	*e*P	**Pn**	**04 41 20.0**	**+3.1**
MOPA				*e*S	**Sn**	**04 42 35.5**	**-7.0**
MOPA				AML	AML	04 43 27.5	
	comp=Z,30nm,1.0s						
LBTB	**Lobatse**	**8.71**	**196**	*e*P	**Pn**	**04 41 32.9**	**-0.3**
LBTB	**Lobatse**	**8.71**	**196**	*i* P	**Pn**	**04 41 35.0**	**+1.8**
LBTB				*i* S	**Sn**	**04 43 08.1**	**-3.7**
LBTB	**Lobatse**	**8.71**	**196**	*i* P	**Pn**	**04 41 35.0**	**+1.8**
LBTB				*i* S	**Sn**	**04 43 08.1**	**-3.7**
LBTB	**Lobatse**	**8.71**	**196**	*i* P	**Pn**	**04 41 35.0**	**+1.8**
LBTB				*i* S	**Sn**	**04 43 08.1**	**-3.7**
PRYS	**Parys**	**10.30**	**184**	*e*P	**Pn**	**04 41 55.8**	**+0.7**
TSUM	**Tsumeb**	**10.39**	**254**	*e*P	**Pn**	**04 41 59.5**	**+3.1**
TSUM	**Tsumeb**	**10.39**	**254**	*i* P	**Pn**	**04 41 58.2**	**+1.8**
TSUM	**Tsumeb**	**10.39**	**254**	*i* P	**Pn**	**04 41 58.2**	**+1.8**
TSUM	**Tsumeb**	**10.39**	**254**	*i* P	**Pn**	**04 41 58.2**	**+1.8**
BOSA	**Boshof**	**12.25**	**192**	*e*P	**Pn**	**04 42 21.8**	**0.0**
BOSA	**Boshof**	**12.25**	**192**	*i* P	**Pn**	**04 42 22.3**	**+0.6**
BOSA				*i* S	Sn	04 44 28.6	-10
BOSA	**Boshof**	**12.25**	**192**	*i* P	**Pn**	**04 42 22.3**	**+0.6**
BOSA				*i* S	Sn	04 44 28.6	-10
BOSA	**Boshof**	**12.25**	**192**	*i* P	**Pn**	**04 42 22.3**	**+0.6**
BOSA				*i* S	Sn	04 44 28.6	-10
PKA	**Prieska**	**13.92**	**200**	*e*P	**Pn**	**04 42 44.9**	**+0.4**

*IDC **03** 04:39:55.2±0.5, 54.°96S×129.°90W, h0km, mb4.5/13, mb1 4.6/13, mb1mx4.5/32, mbtmp4.5/13, MS4.7/24, Ms1 4.7/24, ms1mx4.6/30, Error ellipse: s-maj=22.7km s-min=15.5km az=164.0*
*MOS **03** 04:39:55.7±1.2, 55.°09S×129.°55W, h10km, mb5.2/13, Error ellipse: s-maj=23.7km s-min=17.2km az=55.0*
*NEIC **03** 04:39:57.7±1.6, 55.°0S±0.°1×129.°6W±0.°1, h13km±4km, mb5.2/47, Ms_20 5.0/257, Mwcs5.6(GCMT), Error ellipse: s-maj=16.2km s-min=8.5km az=199.0*
*BJI **03** 04:39:58.0±0.0, 55.°20S×129.°30W, h5km, mB5.4/10, Ms5.4/8, Ms7 5.1/7*
*GCMT **03** 04:40:01.7±0.1, 55.°21S±0.°01×129.°65W±0.°01, h16km, MW5.5/149, Moment Tensor Solution. s140,c248; s149,c291; Duration: 1ś4 Moment tensor: Scale 10^17 Nm; Mrr=0.25±.02; Mθθ 1.49±.03; Mφφ=1.24±.02; Mrθ=0.19±.06; Mθφ 1.68±.02; Mφr=0.05±.05; Best double couple: Mo2.17200×10^17 NP1:φs 199.00000°, δ86.00000°, λ178.00000°. NP2:φs 290.00000°, δ88.00000°, λ4.00000°. Principal axes: T 2.3040, Plg4.0000°, Azm155.0000°; N -0.2630, Plg85.0000°, Azm318.0000°; P -2.0410, Plg1.0000°, Azm64.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 04:40:02.55.°17S×129.°62W, h21km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=0.26; Mθθ 1.77; Mφφ=1.51; Mrθ=0.20; Mθφ 1.95; Mφr=0.22; Fault plane solution: Mo2.58000×10^17 NP1:φs 110.00000°, δ84.00000°, λ2.00000°. NP2:φs 20.00000°, δ88.00000°, λ174.00000°. Principal axes: T 2.7044, Plg5.0000°, Azm335.0000°; N -0.2814, Plg84.0000°, Azm185.0000°; P -2.4230, Plg3.0000°, Azm65.0000°;*

ISC 03 04:39:57.8±0.3, 55.°04S±0.°07×129.°56W±0.°06, h10km, n357, σ1ś69/197, mb5.1/38, MS5.0/155, 6C-7D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTCN	**Pitcairn Islan**	**29.94**	**359**	P	**P**	**04 46 05.2**	**-0.7**
VNDA	**Vanda**	**32.45**	**202**	P	**P**	**04 46 30.6**	**+3.0**
	2.9nm,0.8s,baz=88,slow=8.1,SNR=16						
VNDA				LR	LR	04 56 51.5	
	comp=Z,1μm,18.5s,baz=82,slow=31						
VNDA	**Vanda**	**32.45**	**202**	P	**P**	**04 46 27.7**	**+0.1**
VNDA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
VNDA	**Vanda**	**32.45**	**202**	P	**P**	**04 46 27.7**	**+0.1**
PMSA	**Palmer Station**	**32.74**	**134**	P	**P**	**04 46 29.7**	**-0.6**
PMSA				IAmb	IAmb	04 46 39.6	
	comp=Z,43nm,1.6s						
TBI	**Tubuai**	**34.95**	**327**	*e*S	**S**	**04 52 21.8**	**+0.6**
	comp=Z,336nm,29.1s						
TBI				*e*LR	LR	04 55 53.4	
	comp=Z,5μm,29.8s,baz=163						
TBI	**Tubuai**	**34.95**	**327**	*e*T	T	05 23 19.7	
	comp=Z,311nm,0.4s						
QSPA	**South Pole Qui**	**35.14**	**180**	P	**P**	**04 46 52.3**	**+1.0**
	comp=Z,30nm,1.1s,baz=99,slow=3.1,SNR=44						
QSPA	**South Pole Qui**	**35.14**	**180**	P	**P**	**04 46 52.1**	**+0.8**
QSPA				IAmb	IAmb	04 46 54.3	
	comp=Z,75nm,1.3s						
QSPA	**South Pole Qui**	**35.14**	**180**	IAMs_20	IAMs_20	04 58 46.3	
	comp=Z,3μm,21.0s						
BFZ	**Birch Farm**	**38.09**	**269**	IAMs_20	IAMs_20	05 02 25.4	
	comp=Z,2μm,19.0s						
MSWZ	**Moikau Station**	**38.19**	**267**	P	**P**	**04 47 15.4**	**-1.9**
ODZ	**Otahua Downs**	**38.56**	**259**	IAMs_20	IAMs_20	04 59 34.9	
	comp=Z,2μm,18.0s						
LL01	**San Ignacio de**	**38.69**	**95**	IAMs_20	IAMs_20	04 59 38.2	
	comp=Z,2μm,18.0s						
BKZ	**Black Stump Fm**	**38.95**	**271**	IAMs_20	IAMs_20	05 00 03.2	
	comp=Z,2μm,18.0s						
RPZ	**Rata Peaks**	**39.14**	**261**	LR	LR	04 59 33.3	
	comp=Z,2μm,20.8s,baz=118,slow=30						
LBZ	**Lake Benmore**	**39.22**	**260**	IAMs_20	IAMs_20	04 59 45.3	
	comp=Z,2μm,19.0s						
MCQ	**Macquarie Isla**	**39.57**	**240**	P	**P**	**04 47 29.4**	**+0.7**
MCQ				pmax	pmax		
	comp=Z,516nm,1.9s						
MCQ	**Macquarie Isla**	**39.57**	**240**	P	**P**	**04 47 29.4**	**+0.7**
MEH	**Mehetia**	**39.71**	**332**	*e*T	T	05 29 13.9	
	comp=Z,29nm,0.2s						
FOZ	**Fox Glacier**	**39.95**	**261**	IAMs_20	IAMs_20	05 00 09.8	
	comp=Z,3μm,22.0s						
TVO	**Taravao**	**40.13**	**330**	*e*T	T	05 29 46.4	
	comp=Z,3.2nm,0.3s						
PAE	**Paea**	**40.34**	**330**	*e*T	T	05 30 02.3	
	comp=Z,2.1nm,0.3s						
TIAR	**Tiarei**	**40.37**	**330**	*e*T	T	05 30 04.5	
	comp=Z,3.4nm,0.3s						
PPT2	**Papeete2**	**40.41**	**330**	*e*S	**S**	**04 53 45.2**	**+0.9**
	comp=Z,814nm,25.8s						
PPT2				*e*LQ	LQ	04 56 44.7	
	comp=Z,979nm,24.5s						
PPT2				*e*LR	LR	04 58 37.4	
	comp=Z,6μm,26.5s,baz=169						
PPT2	**Papeete2**	**40.41**	**330**	*e*T	T	05 30 07.2	
	comp=Z,5.9nm,0.3s						
PPT	**Papeete**	**40.43**	**330**	LR	LR	05 00 24.1	
	comp=Z,1μm,18.4s,baz=158,slow=30						
RAR	**Rarotonga**	**40.69**	**314**	LR	LR	04 59 23.0	
	comp=Z,574nm,20.4s,baz=144,slow=29						
H03S2	**Juan Fernandez**	**40.79**	**80**	T	T	05 31 00.2	
	baz=221,slow=74						
H03S1	**Juan Fernandez**	**40.80**	**80**	T	T	05 31 01.5	
	baz=221,slow=74						
H03S3	**Juan Fernandez**	**40.81**	**80**	T	T	05 31 00.6	
	baz=221,slow=74						
PLCA	**Paso Flores**	**40.82**	**95**	P	**P**	**04 47 39.9**	**+0.5**
	comp=Z,8.4nm,1.0s,baz=240,slow=10,SNR=7.5						
PLCA				LR	LR	05 00 29.6	
	comp=Z,1μm,19.5s,baz=226,slow=30						
PLCA	**Paso Flores**	**40.82**	**95**	P	**P**	**04 47 38.2**	**-1.2**
PLCA				pmax	pmax		
	comp=Z,141nm,1.9s						
PLCA	**Paso Flores**	**40.82**	**95**	P	**P**	**04 47 38.2**	**-1.2**
PLCA				IAmb	IAmb	04 47 44.0	
	comp=Z,141nm,1.9s						
PLCA	**Paso Flores**	**40.82**	**95**	*e*P	**P**	**04 47 40.8**	**+1.4**
PLCA	**Paso Flores**	**40.82**	**95**	*e*P	**P**	**04 47 40.8**	**+1.4**
H03N3	**Juan Fernandez**	**41.07**	**80**	T	T	05 31 17.9	
	baz=224,slow=72						
H03N2	**Juan Fernandez**	**41.08**	**80**	T	T	05 31 16.7	
	baz=224,slow=72						
H03N1	**Juan Fernandez**	**41.09**	**80**	T	T	05 31 16.4	
	baz=224,slow=72						
RAO	**Raoul Island**	**42.97**	**287**	LR	LR	05 00 57.1	
	comp=Z,371nm,21.6s,baz=155,slow=30						
BI02	**San Fabin de**	**43.16**	**90**	P	**P**	**04 47 57.9**	**-0.6**
BI02				IAmb	IAmb	04 48 10.3	
	comp=Z,21nm,0.8s						
BO02	**Sierra Bellavi**	**44.76**	**88**	P	**P**	**04 48 11.9**	**+0.5**
BO02				IAmb	IAmb	04 48 23.7	
	comp=Z,43nm,0.7s						
MT05	**Renca**	**45.79**	**87**	P	**P**	**04 48 19.9**	**+0.3**
ROC1	**El Roble**	**45.94**	**86**	P	**P**	**04 48 19.4**	**-1.5**
PEL	**Peldehue**	**46.00**	**87**	P	**P**	**04 48 21.0**	**-0.2**
PEL				pmax	pmax		
	comp=Z,48nm,0.9s						
PEL	**Peldehue**	**46.00**	**87**	P	**P**	**04 48 21.0**	**-0.2**
VA03	**San Esteban**	**46.36**	**86**	P	**P**	**04 48 23.9**	**-0.1**
TAOE	**Nuku Hiva Isla**	**46.83**	**346**	*e*S	**S**	**04 55 17.5**	**-0.7**
	comp=Z,761nm,24.4s						
TAOE				*e*LR	LR	05 01 33.0	
	comp=Z,4μm,28.4s,baz=185						
TAOE	**Nuku Hiva Isla**	**46.83**	**346**	*e*T	T	05 37 58.5	
	comp=Z,27nm,0.2s						
VNA3	**Neumayer Olymp**	**47.08**	**157**	P	**P**	**04 48 29.3**	**+0.2**
CO02	**Combarbal**	**47.25**	**85**	P	**P**	**04 48 30.3**	**-0.8**
CO03	**El Pedregal**	**47.70**	**85**	P	**P**	**04 48 33.8**	**-0.7**
CO03				IAmb	IAmb	04 48 48.7	
	comp=Z,23nm,0.9s						
VNA2	**Neumayer--Watz**	**47.81**	**158**	P	**P**	**04 48 35.1**	**+0.2**
	baz=219,slow=8.8						
VNA1	**Neumayer--Stat**	**47.83**	**157**	P	**P**	**04 48 34.9**	**0.0**
GO04	**Tololo Observa**	**48.13**	**84**	P	**P**	**04 48 37.7**	**-0.4**
SNAA	**Sanae**	**48.18**	**160**	P	**P**	**04 48 37.3**	**-0.4**
SNAA	**Sanae**	**48.18**	**160**	P	**P**	**04 48 37.0**	**-0.7**
	comp=Z,2.6nm,0.4s,baz=207,slow=9.3,SNR=21						
SNAA	**Sanae**	**48.18**	**160**	*i* P	**P**	**04 48 37.0**	**-0.7**
SNAA	**Sanae**	**48.18**	**160**	P	**P**	**04 48 37.0**	**-0.7**
SNAA				IAmb	IAmb	04 48 48.9	
	comp=Z,16nm,1.1s						
ZON	**Zonda**	**48.33**	**87**	P	**P**	**04 48 39.4**	**0.0**
ZON				pmax	pmax		
	comp=Z,32nm,0.7s						
ZON	**Zonda**	**48.33**	**87**	P	**P**	**04 48 39.4**	**0.0**
CO01	**Juntas del Tor**	**48.68**	**84**	P	**P**	**04 48 42.2**	**-0.2**
CO01				IAmb	IAmb	04 48 46.2	
	comp=Z,32nm,1.8s						
AC05	**El Transito**	**49.43**	**83**	P	**P**	**04 48 48.0**	**+0.1**
AC05				IAmb	IAmb	04 49 05.8	
	comp=Z,22nm,0.9s						
HOPE	**Hope Point**	**49.88**	**130**	IAMs_20	IAMs_20	05 04 26.2	
	comp=Z,1μm,20.0s						
CASY	**Casey**	**50.82**	**207**	P	**P**	**04 48 57.4**	**-0.4**
NVL	**N'lazarevskaya**	**51.50**	**165**	*e*P	P	04 48 58.0	-4.9
NVL				*e*		04 50 54.5	
NVL				*e*S	**S**	**04 56 22.1**	**-0.5**
NVL				*e*SS	**SS**	**04 59 56.0**	**-1.6**
NVL				*e*SSS	SSS	05 01 29.3	
NVL				pmax	pmax		
	comp=Z,4.0nm,0.5s						
GO02	**Mina Guanaco**	**52.64**	**81**	P	**P**	**04 49 10.8**	**-1.6**
PB15	**IPOC Station P**	**54.23**	**79**	P	**P**	**04 49 24.2**	**+0.2**
PB15				IAmb	IAmb	04 49 37.1	
	comp=Z,59nm,1.5s						
PB06	**IPOC Station P**	**54.57**	**79**	P	**P**	**04 49 25.9**	**-0.4**
PB06				IAmb	IAmb	04 49 27.2	
	comp=Z,27nm,1.1s						
LVC	**Limon Verde**	**55.02**	**79**	P	**P**	**04 49 30.2**	**+0.3**
LVC				pmax	pmax		
	comp=Z,30nm,1.4s						
LVC	**Limon Verde**	**55.02**	**79**	P	**P**	**04 49 30.2**	**+0.3**
LVC				IAmb	IAmb	04 49 43.4	
	comp=Z,30nm,1.4s						
LVC	**Limon Verde**	**55.02**	**79**	*e*P	**P**	**04 49 30.6**	**+0.7**
LVC	**Limon Verde**	**55.02**	**79**	*e*P	**P**	**04 49 30.6**	**+0.7**
PB01	**IPOC Station P**	**55.93**	**78**	P	**P**	**04 49 36.3**	**+0.2**
PB01				IAmb	IAmb	04 49 42.2	
	comp=Z,15nm,1.1s						
SYO	**Syowa Base**	**56.01**	**175**	*i* P	**P**	**04 49 34.6**	**-1.2**
SYO	**Syowa Base**	**56.01**	**175**	*i* pP	pP	04 49 38.6	+1.2
PLTB	**Pedras Altas**	**56.81**	**99**	*e*P	**P**	**04 49 42.5**	**+0.4**
PLTB	**Pedras Altas**	**56.81**	**99**	*e*P	**P**	**04 49 42.5**	**+0.4**
PB11	**IPOC Station P**	**56.86**	**77**	IAmb	IAmb	04 49 48.6	
	comp=Z,22nm,1.0s						
GO01	**Chusmiza**	**57.19**	**77**	P	**P**	**04 49 45.1**	**-0.5**
GO01				IAmb	IAmb	04 50 00.2	
	comp=Z,25nm,1.4s						
MAW	**Mawson**	**57.32**	**186**	LR	LR	05 11 48.2	
	comp=Z,860nm,20.7s,baz=165,slow=33						
MAW	**Mawson**	**57.32**	**186**	P	**P**	**04 49 45.3**	**+0.1**
MAW				pmax	pmax		
	comp=Z,3.0nm,1.2s						
MAW	**Mawson

comp=Z,5.8nm,0.9s,baz=178,slow=3.6,SNR=6.7
BDFB LR LR 05 19 28.8
comp=Z,881nm,20.7s,baz=210,slow=33
BDFB Brasilia 72.50 92 P **P 04 51 24.0 -0.9**
BDFB pmax pmax
comp=Z,9.0nm,1.0s
BDFB Brasilia 72.50 92 P **P 04 51 24.0 -0.9**
BDFB IAMs_20 IAMs_20 05 19 06.6
comp=Z,1µm,21.0s
MACC Macarena, Meta 72.92 60 *e*P **P 04 51 27.8 +0.5**
ORTC Ortega, Tolima 73.76 58 *e*P **P 04 51 32.4 +0.2**
PRAC Prado 73.77 58 *e*P **P 04 51 33.0 +0.8**
SJMB Sao Joao De Ma 73.97 100 *e*P **P 04 51 33.6 +0.2**
SJMB Sao Joao De Ma 73.97 100 *e*P **P 04 51 33.6 +0.2**
TOLC Tolima 74.31 57 *e*P **P 04 51 35.8 0.0**
AS31 Alice Springs 74.56 251 P **P 04 51 35.3 -1.6**
ASAR Alice Springs 74.56 251 P **P 04 51 34.9 -2.0**
comp=Z,2.6nm,0.8s,baz=140,slow=5.7,SNR=8.9
ASAR LR LR 05 20 30.5
comp=Z,918nm,19.2s,baz=145,slow=33
RREF El Recreo 74.57 57 *e*P **P 04 51 41.9 +4.2**
GUY2C Guyana, Caldas 74.84 57 *e*P **P 04 51 39.2 +0.1**
ROSC El Rosal 75.02 58 P **P 04 51 40.1 +0.2**
comp=Z,13nm,0.9s,baz=314,slow=3.0,SNR=10
ROSC LR LR 05 18 50.7
comp=Z,514nm,18.8s,baz=216,slow=31
ROSC El Rosal 75.02 58 *e*P **P 04 51 41.0 +1.0**
ROSC El Rosal 75.02 58 P **P 04 51 38.1 -1.8**
ROSC IAmb IAmb 04 51 46.2
comp=Z,26nm,0.9s
CBOC Ciudad Bolivar 75.09 56 *e*P **P 04 51 41.3 +1.2**
JANB Januaria 75.10 95 *e*P **P 04 51 40.4 +0.4**
JANB Januaria 75.10 95 *e*P **P 04 51 40.4 +0.4**
CHIC Chingaza 75.12 59 *e*P **P 04 51 41.3 +0.7**
H01W1 Cape Leeuwin H 75.16 230 T T 06 15 17.1
baz=146,slow=76
H01W2 Cape Leeuwin H 75.17 230 T T 06 15 01.0
baz=146,slow=76
PEXB Peixe 75.17 90 *e*P **P 04 51 39.6 -0.8**
PEXB Peixe 75.17 90 *e*P **P 04 51 39.6 -0.8**
H01W3 Cape Leeuwin H 75.18 230 T T 06 15 12.1
baz=146,slow=76
NPGB Novo Progresso 75.21 81 *e*P **P 04 51 40.1 -0.6**
NPGB Novo Progresso 75.21 81 *e*P **P 04 51 40.1 -0.6**
NORC Norcasia 75.38 57 *e*P **P 04 51 41.8 +0.2**
MACA Manacapuru-AM 75.41 74 *e*P **P 04 51 40.7 -1.0**
MACA Manacapuru-AM 75.41 74 *e*P **P 04 51 40.7 -1.0**
CRIN San Cristobal 76.38 43 P **P 04 51 46.8 -0.5**
PTBC PUERTO BERRIO, 76.43 57 *e*P **P 04 51 46.4 -1.1**
RUSC La Rusia 76.53 59 *e*P **P 04 51 46.4 -2.3**
RUSC La Rusia 76.53 59 P **P 04 51 47.7 -1.0**
ZARC Zaragoza, Cauc 77.06 56 *e*P **P 04 51 49.1 -2.0**
WR0 Warramunga Arr 77.19 254 P **P 04 51 50.4 -1.5**
WR0 IAmb IAmb 04 52 01.2
comp=Z,41nm,1.8s
WR8 Warramunga Arr 77.21 254 IAMs_20 IAMs_20 05 22 12.3
comp=Z,846nm,19.0s
WR6 Warramunga Arr 77.24 254 IAMs_20 IAMs_20 05 24 41.0
comp=Z,819nm,18.0s
WR4 Warramunga Arr 77.27 254 IAMs_20 IAMs_20 05 26 15.8
comp=Z,939nm,20.0s
WC3 Warramunga Arr 77.28 254 IAMs_20 IAMs_20 05 26 35.1
comp=Z,649nm,19.0s
WRA Warramunga Arr 77.31 254 P **P 04 51 50.3 -2.2**
comp=Z,2.0nm,0.7s,baz=144,slow=5.1,SNR=6.4
WRA LR LR 05 22 28.2
comp=Z,607nm,19.2s,baz=145,slow=33
WRAB Tennant Creek 77.31 254‖ *e*P **P 04 51 54.1 +1.5**
WRAB pmax pmax
comp=Z,9.0nm,1.3s
PTGA Pitinga 77.81 73 P **P 04 51 54.0 -1.4**
PTGA IAmb IAmb 04 52 07.5
comp=Z,39nm,1.8s
PTGA Pitinga 77.81 73 *e*P **P 04 51 55.4 0.0**
PTGA Pitinga 77.81 73 *e*P **P 04 51 55.4 0.0**
SMTB Santa Maria do 78.19 89 *e*P **P 04 51 57.1 -0.4**
SMTB Santa Maria do 78.19 89 *e*P **P 04 51 57.1 -0.4**
PMG Port Moresby 78.51 270 LR LR 05 20 48.2
comp=Z,294nm,21.4s,baz=151,slow=31
PMG Port Moresby 78.51 270‖ *e*P **P 04 52 00.4 +1.2**
PMG pmax pmax
comp=Z,33nm,1.4s
LPIG La Paz 80.53 18 LR LR 05 19 25.9
comp=Z,270nm,19.9s,baz=198,slow=29
TEIG Tepich 82.81 39 LR LR 05 23 10.6
comp=Z,228nm,18.4s,baz=229,slow=31
FITZ Fitzroy Crossi 83.53 248 P **P 04 52 24.6 -1.4**
comp=Z,20nm,1.0s,baz=181,slow=7.2,SNR=4.2
FITZ Fitzroy Crossi 83.53 248 P **P 04 52 25.5 -0.5**
FITZ IAmb IAmb 04 52 31.4
comp=Z,27nm,1.1s
PSAA1 Pilbara Seismi 83.66 241 IAMs_20 IAMs_20 05 28 53.4
comp=Z,891nm,21.0s
TX31 Lajitas Ar. Si 86.93 22 P **P 04 52 41.2 -1.4**
TX32 Lajitas Array 86.93 22 P **P 04 52 41.1 -1.5**
TXAR Lajitas Array 86.93 22 P **P 04 52 41.9 -0.8**
comp=Z,0.6nm,0.7s,baz=190,slow=8.1,SNR=6.7
BAR Barrett 88.06 11 IAMs_20 IAMs_20 05 22 11.9
comp=Z,666nm,22.0s
109C Camp Elliot, M 88.22 10 IAMs_20 IAMs_20 05 22 28.2
comp=Z,594nm,22.0s
TUC Tucson 88.48 16 IAMs_20 IAMs_20 05 22 39.0
comp=Z,519nm,22.0s
113A Mohawk Valley, 88.50 13 IAMs_20 IAMs_20 05 23 01.6
comp=Z,590nm,20.0s
GLA Glamis 88.64 12 IAMs_20 IAMs_20 05 22 28.4
comp=Z,516nm,20.0s
MNTX Cornudas Mount 88.85 20 P **P 04 52 50.8 -0.9**
JCT Junction City 88.93 25 P **P 04 52 50.5 -1.6**
JCT pmax pmax
comp=Z,40nm,2.0s
JCT Junction City 88.93 25 P **P 04 52 50.5 -1.6**
JCT IAmb IAmb 04 52 57.5
comp=Z,40nm,2.0s
PFO Pinyon Flats O 89.01 11 LR LR 05 23 03.8
comp=Z,502nm,21.1s,baz=198,slow=29
PFO Pinyon Flats O 89.01 11 IAMs_20 IAMs_20 05 22 41.6
comp=Z,588nm,22.0s
Y12C Blythe 89.37 12 IAMs_20 IAMs_20 05 23 11.8
comp=Z,531nm,22.0s
PASC Pasadena Art C 89.39 9 IAMs_20 IAMs_20 05 25 25.9
comp=Z,575nm,18.0s
Y14A Wickenburg 89.75 14 IAMs_20 IAMs_20 05 23 28.8
comp=Z,628nm,22.0s
OSI Osito Audit: C 89.78 9 IAMs_20 IAMs_20 05 23 10.3
comp=Z,654nm,21.0s
GSC Goldstone, Bar 90.64 10 IAMs_20 IAMs_20 05 24 22.2
comp=Z,467nm,20.0s
PAGB Antelope Grade 90.76 8 IAMs_20 IAMs_20 05 23 22.2
comp=Z,595nm,20.0s
W13A Hualapai Mount 90.78 13 IAMs_20 IAMs_20 05 23 54.9
comp=Z,578nm,21.0s
ISA Isabella, Lake 90.84 9 IAMs_20 IAMs_20 05 23 55.4
comp=Z,654nm,20.0s
PMPB Monarch Peak 91.20 7 IAMs_20 IAMs_20 05 26 29.9
comp=Z,656nm,19.0s
SAO San Andreas Ge 91.70 7 IAMs_20 IAMs_20 05 23 43.1
comp=Z,688nm,21.0s
ANMO Albuquerque 91.80 19‖ *e*P **P 04 53 06.0 +0.4**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
ANMO Albuquerque 91.80 19 P **P 04 53 04.1 -1.5**
SHPR Sheep Range 92.01 12 IAMs_20 IAMs_20 05 24 29.5
comp=Z,616nm,22.0s
ANWB Willy Bob 92.24 62 IAMs_20 IAMs_20 05 27 56.5
comp=Z,521nm,21.0s
U15A North Rim 92.30 14 IAMs_20 IAMs_20 05 25 20.2
comp=Z,506nm,20.0s
OMMB Old Mammoth Mi 92.73 8 IAMs_20 IAMs_20 05 26 37.4
comp=Z,485nm,19.0s
MDPB Devils Postpil 92.74 8 IAMs_20 IAMs_20 05 26 53.7
comp=Z,429nm,18.0s
CMB Columbia Colle 93.04 7 IAMs_20 IAMs_20 05 24 20.6
comp=Z,452nm,20.0s
MMRI Maumere 93.20 250 IAMs_20 IAMs_20 05 31 45.4
comp=Z,645nm,20.0s
WAKR Walker 93.58 8 IAMs_20 IAMs_20 05 26 03.8
comp=Z,638nm,20.0s
NVAR Mina Array Bea 93.60 9 P **P 04 53 13.7 -0.2**
comp=Z,0.5nm,0.8s,baz=187,slow=7.0,SNR=2.8
NVAR LR LR 05 25 46.9
comp=Z,531nm,21.6s,baz=171,slow=29
NV11 Mina Array Sit 93.61 9 IAMs_20 IAMs_20 05 25 55.9
comp=Z,577nm,20.0s
BOSA Boshof 93.92 158 LR LR 05 30 12.1
comp=Z,679nm,20.7s,baz=193,slow=32

RUBR Rubicon Trail 94.07 7 IAMs_20 IAMs_20 05 25 02.8
comp=Z,612nm,21.0s
YERR Yerington 94.07 8 IAMs_20 IAMs_20 05 26 49.9
comp=Z,496nm,20.0s
PNTR Pine Nut 94.15 8 IAMs_20 IAMs_20 05 25 31.9
comp=Z,618nm,22.0s
KVN Kaiserville 94.23 9 IAMs_20 IAMs_20 05 26 04.1
comp=Z,528nm,20.0s
VCNR Virginia City 94.35 8 IAMs_20 IAMs_20 05 25 13.2
comp=Z,601nm,22.0s
ORV Oroville 94.48 6 IAMs_20 IAMs_20 05 26 20.6
comp=Z,500nm,21.0s
PAHR Pah Rah Range 94.78 8 IAMs_20 IAMs_20 05 26 42.7
comp=Z,594nm,20.0s
BEKR Beckworth 94.86 7 IAMs_20 IAMs_20 05 25 25.8
comp=Z,429nm,21.0s
ISCO Idaho Springs 96.67 18 IAMs_20 IAMs_20 05 29 28.7
comp=Z,357nm,18.0s
MOD Modoc Plateau 96.89 7 IAMs_20 IAMs_20 05 28 57.5
comp=Z,426nm,20.0s
WVOR Wild Horse Val 97.55 8 IAMs_20 IAMs_20 05 28 08.9
comp=Z,443nm,20.0s
KAPI Kappang 97.56 250 IAMs_20 IAMs_20 05 34 21.0
comp=Z,535nm,20.0s
OGNE Ogallala 98.46 21 IAMs_20 IAMs_20 05 30 46.3
comp=Z,404nm,21.0s
J08A Circle Bar Ran 98.48 8 IAMs_20 IAMs_20 05 31 08.5
comp=Z,482nm,18.0s
MFID Camas Ranch 98.78 10 IAMs_20 IAMs_20 05 29 14.4
comp=Z,582nm,22.0s
BW06 Boulder Array 98.91 15 IAMs_20 IAMs_20 05 29 31.1
comp=Z,535nm,20.0s
PDAR Pinedale Array 98.91 15 LR LR 05 29 42.0
comp=Z,458nm,20.7s,baz=202,slow=30
RLMT Red Lodge 101.26 14 IAMs_20 IAMs_20 05 30 33.4
comp=Z,615nm,22.0s
D08A Wollman Farm, 102.12 7 IAMs_20 IAMs_20 05 31 43.9
comp=Z,404nm,20.0s
LTY Liberty 102.20 6 IAMs_20 IAMs_20 05 30 37.9
comp=Z,508nm,20.0s
JTMT Jette 103.22 11 IAMs_20 IAMs_20 05 31 56.1
comp=Z,515nm,20.0s
B08A Colville Reser 103.38 7 IAMs_20 IAMs_20 05 30 35.3
comp=Z,491nm,21.0s
NEW Newport 103.46 9 IAMs_20 IAMs_20 05 33 45.4
comp=Z,374nm,20.0s
WALA Waterton Lakes 104.56 11 IAMs_20 IAMs_20 05 32 47.4
comp=Z,517nm,20.0s
MVL Millersville 104.99 40 IAMs_20 IAMs_20 05 35 34.6
comp=Z,339nm,19.0s
MYKOM Kota Tinggi 111.61 240 IAMs_20 IAMs_20 05 49 09.2
comp=Z,348nm,18.0s
FFC Flin Flon 111.72 17 IAMs_20 IAMs_20 05 37 22.9
comp=Z,443nm,18.0s
SIT Sitka 111.84 357 IAMs_20 IAMs_20 05 36 23.6
comp=Z,474nm,18.0s
NIKH Nikolski High 112.45 336 IAMs_20 IAMs_20 05 34 47.7
comp=Z,576nm,22.0s
SDPT Sand Point 112.90 341 IAMs_20 IAMs_20 05 36 45.8
comp=Z,491nm,20.0s
FALS False Pass 113.00 340 IAMs_20 IAMs_20 05 35 29.4
comp=Z,479nm,22.0s
JIS Juneau Island 113.03 357 IAMs_20 IAMs_20 05 37 03.1
comp=Z,477nm,19.0s
ATKA Atka Island 113.11 332 IAMs_20 IAMs_20 05 34 25.1
comp=Z,473nm,22.0s
SKAG Skagway 114.24 357 IAMs_20 IAMs_20 05 36 33.2
comp=Z,454nm,21.0s
MESA MESA 115.29 353 IAMs_20 IAMs_20 05 42 20.0
comp=Z,446nm,18.0s
IPM Ipoh 115.33 238 IAMs_20 IAMs_20 05 45 47.5
comp=Z,331nm,22.0s
WAX Wagnell Ridge 115.63 353 IAMs_20 IAMs_20 05 41 48.7
comp=Z,341nm,19.0s
BARN Barnard Glacie 116.15 353 IAMs_20 IAMs_20 05 36 16.6
comp=Z,384nm,20.0s
BALM Baldy 116.17 353 IAMs_20 IAMs_20 05 35 04.2
comp=Z,458nm,22.0s
VRDI Verde Repeater 116.44 353 IAMs_20 IAMs_20 05 35 45.6
comp=Z,444nm,22.0s
SPIA Saint Paul Isl 116.62 337 IAMs_20 IAMs_20 05 39 29.1
comp=Z,423nm,20.0s
GLB Gilahina Butte 116.68 352 IAMs_20 IAMs_20 05 35 53.7
comp=Z,466nm,22.0s
PMR Palmer 117.31 350 IAMs_20 IAMs_20 05 38 12.2
comp=Z,458nm,20.0s
SCM Sheep Creek Mo 117.37 351 IAMs_20 IAMs_20 05 37 57.8
comp=Z,492nm,21.0s
SML Sawmill 117.44 350 IAMs_20 IAMs_20 05 36 44.7
comp=Z,530nm,22.0s
GHO Glory Hole Cre 117.47 350 IAMs_20 IAMs_20 05 35 16.6
comp=Z,497nm,22.0s
DLV T Lat 117.79 250 IAMs_20 IAMs_20 05 47 00.4
comp=Z,398nm,18.0s
MENT Mentasta 118.16 353 IAMs_20 IAMs_20 05 37 39.7
comp=Z,386nm,21.0s
DOT Dot Lake 118.89 353 IAMs_20 IAMs_20 05 37 60.0
comp=Z,444nm,22.0s
TRF Thorofare Moun 119.25 349 IAMs_20 IAMs_20 05 37 05.5
comp=Z,489nm,22.0s
EGAK Eagle 119.82 354 IAMs_20 IAMs_20 05 40 58.6
comp=Z,425nm,20.0s
BPAW Bear Paw Mtn. 119.95 349 IAMs_20 IAMs_20 05 39 50.2
comp=Z,414nm,21.0s
ILAR Eielson Array 120.22 352 PKP **PKPdf 04 58 46.6 -0.9**
comp=Z,0.8nm,0.6s,baz=200,slow=1.8,SNR=4.5
COLA College 120.41 351 IAMs_20 IAMs_20 05 39 13.1
comp=Z,465nm,20.0s
MLY Manley 120.84 350 IAMs_20 IAMs_20 05 39 13.5
comp=Z,362nm,20.0s
FYU Fort Yukon 121.86 353 IAMs_20 IAMs_20 05 38 46.5
comp=Z,427nm,22.0s
PET Petropavlovsk 122.89 317 IAMs_20 IAMs_20 05 39 01.3
comp=Z,335nm,22.0s
PETK Petropavlovsk- 123.33 316 PKP **PKPdf 04 58 52.2 -1.6**
comp=Z,0.9nm,0.5s,baz=163,slow=5.9,SNR=1.2
TORD Torodi Ar. Bea 123.68 118 PKP **PKPdf 04 58 54.7 -1.0**
comp=Z,1.3nm,0.6s,baz=218,slow=1.3,SNR=11
TOLK Tolulik Lake Re 124.25 351 IAMs_20 IAMs_20 05 42 37.6
comp=Z,411nm,20.0s
RDOG Red Dog Mine 125.24 345 IAMs_20 IAMs_20 05 43 08.9
comp=Z,408nm,22.0s
YSS Yuzh-Sakhalins 125.44 303 *e*PKIKP **PKPdf 04 58 54.1 -3.9**
YSS *e* 04 58 58.1
NJ2 Nanjing 127.71 274 *e*PKP **PKiKP 04 59 06.1 +2.7**
SLVN Son La 127.97 252 IAMs_20 IAMs_20 05 44 39.2
comp=Z,331nm,22.0s
CMAR Chiang Mai Arr 128.27 245 PKP **PKPdf 04 59 02.1 -2.2**
comp=Z,1.4nm,0.4s,baz=273,slow=28,SNR=4.9
CMAR Chiang Mai Arr 128.27 245 *i* PKIKP **PKPdf 04 59 02.0 -2.4**
CMAR pmax pmax
comp=Z,1.0nm,0.4s
GYA Guiyang 130.49 258 *e*PKP **PKiKP 04 59 09.8 +0.4**
GYA SKKS 05 08 23.6
GYA SS **SS 05 18 50.2 -0.9**
GYA AMB AMB
comp=Z,40nm,5.3s
GYA LR LR
comp=Z,120nm,4.0s
GYA LR LR
comp=Z,160nm,3.7s
MDJ Mudanjiang 130.52 293 PKP **PKiKP 04 59 12.2 +3.5**
BILL Bilibino 131.56 333‖ *e*PKIKP **PKPdf 04 59 09.3 +0.3**
BILL 05 06 21.0
BILL pmax pmax
comp=Z,4.0nm,1.5s
KLR Kul'dur 132.42 299‖ *i* PKIKP **PKiKP 04 59 14.8 +2.5**
BJT Baijiatuan 134.87 279 IAMs_20 IAMs_20 05 48 21.2
comp=Z,236nm,20.0s
CD2 Chengdu 135.52 260 PKP **PKiKP 04 59 19.0 -0.3**
ATD Arta Tunnel 136.19 169 IAMs_20 IAMs_20 05 54 58.6
comp=Z,375nm,20.0s
TULEG Thule 136.81 17 IAMs_20 IAMs_20 05 50 47.0
comp=Z,353nm,21.0s
HHC Hu-ho-hao-te 138.05 276 *e*PKP **PKPdf 04 59 21.2 -1.0**
HHC LR LR
comp=Z,310nm,16.7s
HHC LR LR
comp=Z,310nm,15.4s
HHC LR LR
comp=Z,330nm,19.7s
LZH Lanzhou 139.25 265 *e*PKP **PKPdf 04 59 23.0 -1.6**
LZH LR LR
comp=Z,170nm,17.3s
LZH LR LR
comp=Z,170nm,16.3s
LZH LR LR
comp=Z,180nm,19.8s

ESDC Sonseca Array 141.13 90 PKP **PKPdf 04 59 27.4 -0.4**
comp=Z,1.0nm,0.8s,baz=280,slow=2.2,SNR=6.2
ALE Alert 141.38 11 IAMs_20 IAMs_20 05 56 20.9
comp=Z,308nm,20.0s
GTA Gaotai 143.85 265 ⇑PKP PKPbc 04 59 30.7 +0.2
GTA PP **PP 05 02 49.5 +2.8**
GTA SKKS 05 09 41.2
GTA SS **SS 05 21 33.5 +3.5**
GTA AMB AMB
comp=Z,97nm,8.1s
GTA LR LR
comp=Z,96nm,21.6s
GTA LR LR
comp=Z,140nm,21.9s
GTA LR LR
comp=Z,140nm,19.7s
TIXI Tiksi 144.31 328 *e*PKIKP PKPbc 04 59 30.9 +0.2
ULN Ulaanbaatar 144.87 282 *d* PKIKP PKPbc 04 59 33.7 +0.2
SONM Songino Array 145.22 282 PKPbc **PKPbc 04 59 34.1 -0.5**
comp=Z,2.7nm,0.7s,baz=89,slow=2.4,SNR=3.5
BOD Bodaibo 145.89 301 *e*PKP2 **PKPab 04 59 37.3 +0.7**
BOD pmax pmax
comp=Z,15nm,1.4s
KEST Kesra 145.93 107 PKPbc **PKPbc 04 59 37.0 0.0**
comp=Z,6.4nm,1.0s,baz=277,slow=12,SNR=2.1
NOR Nord 147.32 15 *i* P **PKiKP 04 59 42.0 0.0**
NOR Nord 147.32 15 *i* PKP2 **PKiKP 04 59 42.0 0.0**
DAG Danmarks Havn 147.46 24 *i* P **PKPdf 04 59 38.8 +1.2**
DAG Danmarks Havn 147.46 24 *i* PKP2 **PKPdf 04 59 38.8 +1.2**
ZAK Zakamensk 148.30 284 *e*PKP2 **PKPbc 04 59 42.4 -0.9**
ZAK pmax pmax
comp=Z,9.0nm,1.3s
TLY Talaya 148.71 286‖ *e*PKP2 **PKPbc 04 59 42.5 -1.7**
TLY Talaya 148.71 286 IAMs_20 IAMs_20 05 52 15.3
comp=Z,283nm,19.0s
UOSS Minazif 149.64 190 IAMs_20 IAMs_20 06 01 45.1
comp=Z,277nm,19.0s
CEL Celeste 151.34 111 IAMs_20 IAMs_20 06 12 38.0
comp=Z,323nm,22.0s
SENIN Lac Senin/Sane 151.73 90 IAMs_20 IAMs_20 05 59 47.6
comp=Z,252nm,22.0s
OSSC Osservatorio P 152.33 98 IAMs_20 IAMs_20 06 20 14.6
comp=Z,228nm,20.0s
TIP Timpagrande 152.47 111 IAMs_20 IAMs_20 06 17 11.9
comp=Z,254nm,21.0s
PAOL Paolisi 152.57 106 IAMs_20 IAMs_20 06 01 25.8
comp=Z,196nm,21.0s
WLF Walferdange 152.78 83 IAMs_20 IAMs_20 06 08 12.3
comp=Z,189nm,19.0s
AQU L'Aquila 152.81 102 IAMs_20 IAMs_20 06 20 29.9
comp=Z,262nm,19.0s
SALO Salr 153.17 94 IAMs_20 IAMs_20 06 18 07.5
comp=Z,223nm,20.0s
IDI Anoyia 153.52 128 IAMs_20 IAMs_20 06 09 57.3
comp=Z,290nm,22.0s
FUORN Ofenpass-Fuorn 153.58 92 IAMs_20 IAMs_20 06 03 52.5
comp=Z,228nm,21.0s
WMQ Urumqi 153.62 260 *e*PKPbc **PKPdf 04 59 50.0 +1.8**
DAVA Damuels 153.72 90 *i* pPKPbc **PKiKP 04 59 59.8 +3.5**
comp=Z,5.5nm,0.8s
SPITS Spitsbergen Ar 153.96 15 PKPbc **PKPbc 04 59 54.7 -1.0**
comp=Z,4.4nm,0.8s,baz=106,slow=14,SNR=2.0
FETA Feichten 154.07 91 *i* PKiKP **PKiKP 04 59 58.1 +1.1**
comp=Z,8.4nm,1.3s
RETA Reutte 154.34 91 *i* pPKiKP **PKiKP 05 00 02.8 +5.3**
comp=Z,3.3nm,0.7s
SQTA Sankt Quirin 154.45 91 *i* pPKiKP **PKiKP 05 00 03.3 +5.5**
comp=Z,14nm,1.1s
MOTA Moosalm 154.46 91 *i* PKPbc **PKPbc 04 59 56.9 -0.9**
comp=Z,5.8nm,1.1s
CIMO Cimolais 154.66 94 IAMs_20 IAMs_20 06 25 39.1
comp=Z,249nm,22.0s
WTTA Wattenberg 154.72 92 *i* pPKPdf **PKPdf 04 59 53.5 +3.7**
comp=Z,9.2nm,1.5s
WATA Walderalm 154.73 91 *i* pPKiKP **PKiKP 05 00 05.4 +7.1**
comp=Z,3.2nm,0.5s
ABTA Abfaltersbach 154.94 93 *i* pPKPbc **PKiKP 05 00 01.8 +3.0**
comp=Z,10nm,1.4s
ZOU Zoufplan 155.10 94 IAMs_20 IAMs_20 06 02 56.8
comp=Z,214nm,21.0s
AGG Agios Georgios 155.26 119 IAMs_20 IAMs_20 06 21 47.7
comp=Z,203nm,20.0s
PRED Cave del Predi 155.38 95 IAMs_20 IAMs_20 06 03 14.1
comp=Z,269nm,21.0s
MYKA Terra Mystica 155.53 95 *i* PKPab **PKPab 05 00 18.3 +1.5**
comp=Z,4.3nm,0.9s
KBA Koelnbreinsper 155.60 94 *i* pPKPdf **PKPdf 04 59 55.1 +4.0**
comp=Z,2.7nm,0.9s
TIR Tirane 155.68 112 IAMs_20 IAMs_20 06 21 38.9
comp=Z,307nm,22.0s
KBL Kabul 155.77 220 IAMs_20 IAMs_20 05 53 02.6
comp=Z,187nm,19.0s
OBKA Obir 155.98 96 *i* pPKPab **PKPab 05 00 21.4 +2.7**
comp=Z,5.3nm,0.9s
PDG Podgorica 156.10 109 IAMs_20 IAMs_20 06 09 31.1
comp=Z,270nm,21.0s
SOKA Soboth 156.35 96 *i* pPKPdf **PKPdf 04 59 56.2 +4.3**
comp=Z,4.6nm,1.2s
MOA Molln 156.54 93 *i* pPKPdf PKPbc 05 00 00.2
comp=Z,4.7nm,1.1s
GERES GERESS Array B 156.72 90 PKP **PKPdf 04 59 50.1 -2.2**
comp=Z,1.4nm,0.9s,baz=202,slow=1.1,SNR=9.0
KHC Kasperske Hory 156.79 89 *e*PKPDF **PKPdf 04 59 56.0 +3.7**
KHC *ex* x 05 00 03.5
KHC Kasperske Hory 156.79 89‖ *e*PKIKP **PKPdf 04 59 53.4 +1.1**
ARSA Arzberg 156.95 95 *i* PKPab **PKPab 05 00 25.1 +2.2**
comp=Z,6.2nm,1.1s
CLL Collm 157.43 84 *e*(PKPdf) **PKPdf 04 59 58.0 +5.0**
CLL *e*PKPab **PKPab 05 00 26.0 +1.2**
CLL *e*PSKS 05 14 31.0
CLL *e*PPS PPS 05 17 18.0
CLL *e*SS SS 05 23 49.0 -12
CLL *e*SSS SSS 05 29 58.0
CLL *e* 05 32 36.0
CLL *e*SSSS 05 34 12.0
CLL *e* 05 40 12.0
CLL Collm 157.43 84 *e*PKP2 **PKPab 05 00 26.0 +1.2**
CONA Conrad Observa 157.50 94 *i* pPKPdf PKPbc 05 00 00.1
comp=Z,8.1nm,1.8s
DIVS Divibare 157.60 107 IAMs_20 IAMs_20 06 24 04.9
comp=Z,226nm,22.0s
TARG Taragay, Kyrgy 157.65 245 IAMs_20 IAMs_20 06 09 26.9
comp=Z,213nm,21.0s
BRG Berggiesshubel 157.79 86 *e*PKP **PKPdf 04 59 56.8 +3.3**
comp=Z,5.9nm,1.3s
BRG Berggiesshubel 157.79 86 *e*PKIKP **PKPdf 04 59 56.8 +3.3**
BRG pmax pmax
comp=Z,6.0nm,1.3s
ISP Isparta 158.11 134 IAMs_20 IAMs_20 06 15 01.8
comp=Z,225nm,20.0s
VTS Vitosha 158.36 114 IAMs_20 IAMs_20 06 12 53.8
comp=Z,220nm,22.0s
MKAR Makanchi Array 158.45 261 PKPab **PKPab 05 00 27.4 -2.0**
comp=Z,2.4nm,0.7s,baz=131,slow=3.5,SNR=12
NB2 NORSAR Subarra158.65 58 P **PKPab 05 00 30.0 +0.2**
comp=Z,12nm,1.7s,baz=269,slow=4.8
NOA NORSAR Array B158.65 58 PKPab **PKPab 05 00 28.5 -1.3**
comp=Z,0.6nm,0.8s,baz=269,slow=4.4,SNR=3.4
MORC Moravsky Berou 159.38 91 IAMs_20 IAMs_20 06 08 35.8
comp=Z,191nm,22.0s
PSZ Piszkesteto 159.81 98 IAMs_20 IAMs_20 06 21 13.2
comp=Z,264nm,21.0s
ZALV Zalesovo Beam 160.12 281 PKPab **PKPab 05 00 34.1 -2.3**
comp=Z,1.6nm,0.7s,baz=61,slow=3.6,SNR=4.4
BRTR Keskin Array B 161.00 137 PKPab **PKPab 05 00 40.0 -0.6**
comp=Z,3.8nm,0.7s,baz=181,slow=6.2,SNR=13
ARCES ARCESS Array B 161.63 28 PKPab **PKPab 05 00 41.1 -1.4**
comp=Z,0.9nm,0.7s,baz=311,slow=5.8,SNR=1.9

IDC ***03*** *04:40:35.6± 1.1, 4˚.40S× 133˚.29E, h0km, mb4.0/5, mb1 4.3/7, mb1mx3.9/29, mbtmp4.1/7, ML3.9/2, MS3.2/3, Ms1 3.2/3, ms1mx2.8/32, Error ellipse: s-maj=52.5km s-min=17.8km az=61.0*
NEIC ***03*** *04:40:37.5± 1.7, 4˚.59S± 0˚.07× 133˚.2E± 0˚.1, h26km± 6km, mb4.3/19, Error ellipse: s-maj=19.4km s-min=8.7km az=70.0*
DJA ***03*** *04:40:38.2± 1.7, 4˚S± 2˚× 13˚3E± °, h26km± 15km, M4.4/10, mb4.5/10, mB5.2/1, MLv4.3/6, Mw(mB)4.6/1*
ISC 03 04:40:35.0± 0.6, 4˚.59S± 0˚.05× 133˚.18E± 0˚.07, h10km, n39, σ1§97/44, mb4.3/11, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.90**	**331**	P		Pn	**04 41 08.1**	**+0.5**

FAKI				S	Sn	04 41 29.4	-2.2	
FAKI	**Fak Fak**	**1.90**	**331**	Pn	Pn	04 41 08.3	+0.7	
FAKI				Sn	Sn	04 41 30.4	-1.2	
RKPI	**Ransiki, Papua**	**3.22**	**18**	P	Pn	04 41 27.1	+1.5	
RKPI				S	Sn	04 42 01.0	-3.1	
SIJI	**Sorong**	**4.16**	**333**	Pn	Pn	04 41 38.5	-0.1	
	4.8nm,0.3s,baz=146,slow=3.6,SNR=20							
SIJI				Sn	Sn	04 42 23.9	-3.5	
	6.7nm,0.3s,baz=197,slow=23,SNR=6.2							
SIJI				Lg	Lg	04 42 45.9		
	7.7nm,0.3s,baz=0.0,slow=20,SNR=2.1							
AAI	**Ambon**	**5.05**	**280**	P	Pn	04 41 53.3	+2.4	
	0.4nm91nm,0.7s							
SANI	**Sanana**	**7.61**	**289**	P	Pn	04 42 27.7	+1.6	
	0.1nm2μm23nm,0.5s							
JAY	**Jayapura**	**7.79**	**75**	LR	LR	04 45 35.2		
	comp=Z,98nm,19.4s,baz=176,slow=39							
MTN	**Manton Dam**	**8.45**	**194**	Pn	Pn	04 42 38.7	+1.2	
KNRA	**Kununurra**	**11.84**	**201**		Pn	04 43 24.6	+0.6	
COEN	**Coen**	**13.55**	**134**	Pn	Pn	04 43 48.3	+0.8	
WB0	**Warramunga Arr**	**15.13**	**176**	Pn	Pn	04 44 09.3	+0.3	
WRA	**Warramunga Arr**	**15.30**	**176**	Pn	Pn	04 44 11.2	0.0	
	0.4nm,0.3s,baz=105,slow=11,SNR=6.4							
WRA				Sn	Sn	04 46 55.5	-5.5	
	0.3nm,0.3s,baz=1.3,slow=22,SNR=4.6							
WB2	**Warramunga Arr**	**15.30**	**176**	Pn	Pn	04 44 11.9	+0.6	
WB2				IAmb	IAmb	04 44 22.7		
	comp=Z,9.5nm,0.7s							
FITZ	**Fitzroy Crossi**	**15.32**	**208**	Pn	Pn	04 44 11.6	+0.2	
	comp=Z,1.6nm,0.3s,baz=34,slow=9.8,SNR=23							
FITZ				Sn	Sn	04 46 56.0	-5.2	
	comp=Z,2.6nm,0.3s,baz=187,slow=17,SNR=9.3							
FITZ	**Fitzroy Crossi**	**15.32**	**208**	Pn	Pn	04 44 11.8	+0.4	
WR0	**Warramunga Arr**	**15.33**	**175**	P	Pn	04 44 11.6	0.0	
WR0				IAmb	IAmb	04 44 22.6		
	comp=Z,14nm,0.9s							
AS31	**Alice Springs**	**18.98**	**178**	P	Pn	04 44 58.5	+1.1	
ASAR	**Alice Springs**	**18.98**	**178**	P	Pn	04 45 00.1	+2.7	
	comp=Z,0.6nm,0.3s,baz=4.5,slow=11,SNR=37							
ASAR				S	Sn	04 48 25.7	-4.4	
	comp=Z,0.2nm,0.3s,baz=358,slow=30,SNR=4.6							
ASAR				LR	LR	04 53 11.6		
	comp=Z,187nm,19.5s,baz=355,slow=39							
KKM	**Kota Kinabalu**	**19.96**	**302**	P	P	04 45 08.0	+0.3	
KKM				IAmb	IAmb	04 45 13.5		
	comp=Z,21nm,0.8s							
CTA	**Charters Tower**	**19.98**	**142**	P	Pn	04 45 12.3	+2.9	
	comp=Z,6.6nm,0.7s,baz=311,slow=13,SNR=9.7							
CTAO	**Charters Tower**	**19.98**	**142**	P	P	04 45 07.6	-0.1	
CTAO				IAmb	IAmb	04 45 24.8		
	comp=Z,16nm,1.1s							
PSAD1	**Pilbara Seismi**	**21.19**	**217**	P	P	04 45 20.9	+0.1	
PSAD1				IAmb	IAmb	04 45 27.4		
	comp=Z,25nm,1.1s							
PSAC1	**Pilbara Seismi**	**21.26**	**216**	P	P	04 45 22.8	+1.2	
PSAC1				IAmb	IAmb	04 45 28.6		
	comp=Z,13nm,0.7s							
PSAA2	**Pilbara Seismi**	**21.26**	**216**	P	P	04 45 21.3	-0.3	
PSAA2				IAmb	IAmb	04 45 28.7		
	comp=Z,8.0nm,0.7s							
PSAA3	**Pilbara Seismi**	**21.27**	**216**	P	P	04 45 21.9	+0.2	
PSAA3				IAmb	IAmb	04 45 36.1		
	comp=Z,11nm,0.9s							
PSA00	**Pilbara Seismi**	**21.27**	**216**	P	P	04 45 23.4	+1.8	
PSA00				IAmb	IAmb	04 45 28.8		
	comp=Z,9.5nm,0.7s							
FORT	**Forrest**	**26.49**	**190**	P	P	04 46 13.7	+1.1	
JOW	**Kunigami**	**31.60**	**352**	P	P	04 46 57.2	-0.8	
CM31	**Chiang Mai Arr**	**40.78**	**305**	P	P	04 48 16.8	0.0	
CMAR	**Chiang Mai Arr**	**40.78**	**305**	P	P	04 48 18.8	+2.0	
	comp=Z,1.8nm,0.5s,baz=134,slow=6.8,SNR=14							
KSRS	**Korea Array**	**42.12**	**354**	LR	LR	05 07 13.1		
	comp=Z,20nm,18.4s,baz=165,slow=38							
MSWZ	**Moikau Station**	**52.48**	**141**	P	P	04 49 47.9	-0.4	
ULN	**Ulaanbaatar**	**57.05**	**339**	P	P	04 50 19.7	-1.8	
MK31	**Makanchi Array**	**68.02**	**325**	P	P	04 51 35.2	+0.5	
MKAR	**Makanchi Array**	**68.02**	**325**	P	P	04 51 36.7	+2.1	
	comp=Z,0.8nm,0.5s,baz=113,slow=7.9,SNR=9.8							
ZALV	**Zalesovo Beam**	**70.89**	**332**	P	P	04 51 53.5	+1.3	
	comp=Z,2.3nm,0.8s,baz=111,slow=3.2,SNR=7.4							
KURK	**Kurchatov**	**72.18**	**327**	P	P	04 52 01.2	+1.2	
KURK				IAmb	IAmb	04 52 10.4		
	comp=Z,3.2nm,1.1s							
MLY	**Manley**	**88.29**	**24**	P	P	04 53 27.6	+1.0	
MLY				IAmb	IAmb	04 53 30.2		
	comp=Z,1.8nm,0.7s							
ILAR	**Eielson Array**	**89.84**	**25**	P	P	04 53 34.2	+0.4	
	comp=Z,0.3nm,0.8s,baz=273,slow=4.6,SNR=5.8							

IDC 03 04:54:31.2±3.7, 6°63S×155°79E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/26, mbtmp3.8/3, Error ellipse: s-maj=101.2km s-min=46.7km az=106.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.68**	**236**	P	P	04 59 53.1	-1.0
	0.6nm,0.5s,baz=60,slow=9.7,SNR=1.3						
ASAR	**Alice Springs**	**27.01**	**229**	P	P	05 00 16.2	+1.0
	0.5nm,0.6s,baz=59,slow=9.4,SNR=2.6						
CMAR	**Chiang Mai Arr**	**61.34**	**295**	P	P	05 04 50.2	+0.9
	1.4nm,0.3s,baz=124,slow=5.8,SNR=5.6						
TORD	**Torodi Ar. Bea**	**153.69**	**286**	PKPbc	PKPbc	05 14 33.1	-0.2
	0.2nm,0.6s,baz=104,slow=3.9,SNR=1.6						
TORD				PKPab	PKPab	05 14 44.0	-1.9
	0.2nm,0.5s,baz=66,slow=4.0,SNR=2.4						

*NEIC **03** 04:54:44.1±2.5, 12°.83N±0°.10×88°.9W±0°.1, h47km±21km, Error ellipse: s-maj=19.1km s-min=6.6km az=45.0*
*GCG **03** 04:54:46.6±0.5, 12°.75N×88°.80W, h35km±315km, MD4.2*
*INET **03** 04:54:48.9, 12°.83N×88°.75W, h15km, ML4.1*
*SNET **03** 04:54:48.0±0.9, 12°.91N×88°.89W, h45km±12km, ML4.2*
*UCR **03** 04:54:48.0±0.9, 12°.91N×88°.89W, h45km±11km, ML4.2, mb4.0(NEIC)*
*IDC **03** 04:54:50.0±2.1, 13°.06N×88°.57W, h82km±22km, mb3.2/4, mb1 3.7/7, mb1mx3.4/34, mbtmp3.7/7, MS2.7/1, Ms1 2.7/1, ms1mx2.4/21, Error ellipse: s-maj=53.1km s-min=15.0km az=45.0*

ISC 03 04:54:47.0±1.2, 12°.90N±0°.08×88°.85W±0°.04, h54km±9km, n79, σ1°47/116, mb3.9/9, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.51**	**33**	eP	Pn	04 54 59.3	+0.7
ALJI				IAML		04 55 07.8	
	comp=Z,18μm,0.2s						
ALJI				eS	Sn	04 55 08.1	+1.0
ALJI	**Alcalda de J**	**0.51**	**33**	eP	Pn	04 54 59.3	+0.7
ALJI				IAML		04 55 07.8	
	comp=Z,18μm,0.2s						
ALJI				eS	Sn	04 55 08.1	+1.0
TECA	**Tecapa**	**0.68**	**30**	eP	Pn	04 55 01.8	+0.8
TECA	**Tecapa**	**0.68**	**30**	eP	Pn	04 55 01.8	+0.8
JUCU	**Jucuaŗan**	**0.69**	**59**	eP	Pn	04 55 01.4	+0.5
JUCU				eS	Sn	04 55 12.0	+1.1
JUCU				IAML		04 55 17.0	
	comp=Z,13μm,0.3s						
JUCU	**Jucuaŗan**	**0.69**	**59**	eP	Pn	04 55 01.4	+0.5
JUCU				eS	Sn	04 55 12.0	+1.1
JUCU				IAML		04 55 17.0	
	comp=Z,13μm,0.3s						
LALI	**Alcalda de L**	**0.74**	**322**	eP	Pn	04 55 01.6	+0.1
LALI				IAML		04 55 11.8	
	comp=Z,5μm,0.3s						
LALI				eS	Sn	04 55 12.3	+0.3
LALI	**Alcalda de L**	**0.74**	**322**	eP	Pn	04 55 01.6	+0.1
LALI				IAML		04 55 11.8	
	comp=Z,5μm,0.3s						
LALI				eS	Sn	04 55 12.3	+0.3
LFRS	**El Faro**	**0.75**	**344**	eP	Pn	04 55 01.9	+0.2
LFRS	**El Faro**	**0.75**	**344**	eP	Pn	04 55 01.9	+0.2
LCY	**Lacayo**	**0.75**	**46**	eP	Pn	04 55 02.7	+0.9
LCY	**Lacayo**	**0.75**	**46**	eP	Pn	04 55 02.7	+0.9
PACA	**Pacayal**	**0.77**	**42**	eP	Pn	04 55 02.9	+1.0
PACA				eS	Sn	04 55 14.5	+1.7
PACA	**Pacayal**	**0.77**	**42**	eP	Pn	04 55 02.9	+1.0
PACA				eS	Sn	04 55 14.5	+1.7
BLLM	**Bellamira**	**0.81**	**48**	eP	Pn	04 55 03.4	+0.9
BLLM	**Bellamira**	**0.81**	**48**	eP	Pn	04 55 03.4	+0.9
PAVA	**Las Pavas**	**0.81**	**354**	eP	Pn	04 55 03.3	+0.8
PAVA				eS	Sn	04 55 15.1	+1.2
PAVA	**Las Pavas**	**0.81**	**354**	eP	Pn	04 55 03.3	+0.8
PAVA				eS	Sn	04 55 15.1	+1.2
AEIL	**Aeropuerto Ilo**	**0.83**	**342**	eP	Pn	04 55 03.5	+0.8
AEIL				eS	Sn	04 55 16.0	+1.8
AEIL				IAML		04 55 18.1	
	comp=Z,11μm,0.3s						
AEIL	**Aeropuerto Ilo**	**0.83**	**342**	eP	Pn	04 55 03.5	+0.8
AEIL				eS	Sn	04 55 16.0	+1.8
AEIL				IAML		04 55 18.1	
	comp=Z,11μm,0.3s						
LBRS	**Las Brisas**	**0.85**	**348**	eP	Pn	04 55 03.8	+0.8
LBRS	**Las Brisas**	**0.85**	**348**	eP	Pn	04 55 03.8	+0.8
UDBS	**Universidad Do**	**0.86**	**340**	eP	Pn	04 55 03.9	+0.7
UDBS				eS	Sn	04 55 16.0	+1.1
UDBS	**Universidad Do**	**0.86**	**340**	eP	Pn	04 55 03.9	+0.7
UDBS				eS	Sn	04 55 16.0	+1.1
SNET	**Serv Nac Est T**	**0.86**	**335**	eP	Pn	04 55 03.6	+0.4
SNET				eS	Sn	04 55 15.1	+0.1
SNET				IAML		04 55 17.3	
	comp=Z,5μm,0.2s						
SNET	**Serv Nac Est T**	**0.86**	**335**		Pn	04 54 59.7	-3.5
SNET				Sn	Sn	04 55 13.7	-1.3
SNET	**Serv Nac Est T**	**0.86**	**335**	eP	Pn	04 55 03.6	+0.4
SNET				eS	Sn	04 55 15.1	+0.1
SNET				IAML		04 55 17.3	
	comp=Z,5μm,0.2s						
OPAM	**Oficina de Pla**	**0.87**	**337**	eP	Pn	04 55 04.0	+0.6
OPAM				eS	Sn	04 55 16.1	+0.9
OPAM	**Oficina de Pla**	**0.87**	**337**	eP	Pn	04 55 04.0	+0.6
OPAM				eS	Sn	04 55 16.1	+0.9
UESS	**Universidad de**	**0.88**	**338**	eP	Pn	04 55 04.0	+0.6
UEES	**Universidad Ev**	**0.89**	**335**	eP	Pn	04 55 04.0	+0.4
UEES				eS	Sn	04 55 16.4	+0.6
UEES	**Universidad Ev**	**0.89**	**335**	eP	Pn	04 55 04.0	+0.4
UEES				eS	Sn	04 55 16.4	+0.6
BOQS	**Boqueron**	**0.93**	**333**	eP	Pn	04 55 04.8	+0.6
BOQS	**Boqueron**	**0.93**	**333**	eP	Pn	04 55 04.8	+0.6
LCND	**La Caada**	**1.02**	**66**	eP	Pn	04 55 06.2	+1.1
LCND				eS	Sn	04 55 20.7	+2.1
LCND				IAML		04 55 22.2	
	comp=Z,8μm,0.2s						
LCND	**La Caada**	**1.02**	**66**	eP	Pn	04 55 06.2	+1.1
LCND				eP		04 55 06.3	
LCND				eS	Sn	04 55 20.6	+2.1
LCND				eS		04 55 20.7	
LCND				IAML		04 55 22.2	
	comp=Z,8μm,0.2s						
CEDA	**San Andres**	**1.04**	**330**	eP	Pn	04 55 05.9	+0.4
CEDA				eS	Sn	04 55 19.7	+0.6
CEDA	**San Andres**	**1.04**	**330**	eP	Pn	04 55 05.9	+0.4
CEDA				eS	Sn	04 55 19.7	+0.6
FAGO	**Alcalda de S**	**1.07**	**43**	eP	Pn	04 55 06.9	+1.0
FAGO	**Alcalda de S**	**1.07**	**43**	eP	Pn	04 55 06.9	+1.0
CEVE	**Cerro Verde**	**1.19**	**321**	eP	Pn	04 55 07.9	+0.3
CEVE				eS	Sn	04 55 23.7	+0.7
CEVE				IAML		04 55 32.0	
	comp=Z,10μm,0.5s						
CEVE	**Cerro Verde**	**1.19**	**321**	eP	Pn	04 55 07.9	+0.3
CEVE				eS	Sn	04 55 23.7	+0.7
CEVE				IAML		04 55 32.0	
	comp=Z,10μm,0.5s						
SBLS	**San Blas**	**1.20**	**321**	eP	Pn	04 55 09.0	+1.2
SBLS	**San Blas**	**1.20**	**321**	eP	Pn	04 55 09.0	+1.2
RTR	**El Retiro**	**1.26**	**322**	eP	Pn	04 55 09.5	+1.0
RTR	**El Retiro**	**1.26**	**322**	eP	Pn	04 55 09.5	+1.0
LLGN	**La Laguna**	**1.26**	**356**	eP	Pn	04 55 09.4	+0.9
LLGN	**La Laguna**	**1.26**	**356**	eP	Pn	04 55 09.4	+0.9
UNIC	**Universidad Ca**	**1.27**	**328**	eP	Pn	04 55 09.4	+0.8
UNIC				eS	Sn	04 55 25.6	+1.0
UNIC	**Universidad Ca**	**1.27**	**328**	eP	Pn	04 55 09.4	+0.8
UNIC				eS	Sn	04 55 25.6	+1.0
NUBE	**Las Nubes**	**1.34**	**318**	eP	Pn	04 55 10.2	+0.5
NUBE				eS	Sn	04 55 26.8	+0.3
NUBE				IAML		04 55 27.6	
	comp=Z,2μm,0.5s						
NUBE	**Las Nubes**	**1.34**	**318**	eP	Pn	04 55 10.2	+0.5
NUBE				eS	Sn	04 55 26.8	+0.3
NUBE				IAML		04 55 27.6	
	comp=Z,2μm,0.5s						
MTO3	**Montecristo**	**1.57**	**342**	iP	Pn	04 55 13.7	+0.9
MTO3	**Montecristo**	**1.57**	**342**	iP	Pn	04 55 13.7	+0.9
ESQI	**Esquipulas**	**1.72**	**344**	eP	Pn	04 55 16.0	+1.3
ESQI				eS	Sn	04 55 37.2	+1.6
IXG	**Ixpaco**	**2.00**	**309**	eP	Pn	04 55 20.2	+1.7
NBG	**Las Nubes**	**2.22**	**319**	eP	Pn	04 55 24.2	+2.5
MRL	**Marmol**	**2.31**	**340**	eP	Pn	04 55 25.2	+2.2
FUG	**Fuego 3**	**2.47**	**309**	eP	Pn	04 55 29.2	+4.2
FUG				eS	Sn	04 55 58.4	+4.3
MATN	**Matagalpa**	**2.85**	**89**	Pn	Pn	04 55 28.0	-2.2
MATN				Sn	Sn	04 56 03.0	-0.5
ACON	**Acoyapa**	**3.71**	**104**		Pn	04 55 39.7	-2.2
JTS	**Las Juntas de**	**4.62**	**124**	P	Pn	04 55 56.6	+2.2
	comp=Z,2.4nm,0.3s,baz=4.6,slow=23,SNR=25						
JTS				S	Sn	04 56 46.7	-0.1
	comp=Z,7.9nm,0.3s,baz=359,slow=23,SNR=5.7						
JTS				LR	LR	04 58 00.7	
	comp=Z,79nm,19.7s,baz=22,slow=42						
JTS	**Las Juntas de**	**4.62**	**124**	Pn	Pn	04 55 52.7	-1.7
CCIG	**Comitan**	**4.63**	**317**	Pn	Pn	04 55 51.1	-3.5
CMIG	**Matias Romero**	**7.16**	**306**	P	Pn	04 56 32.9	+3.6
	comp=Z,0.5nm,0.3s,baz=144,slow=9.0,SNR=8.5						
CMIG				S	Sn	04 57 47.5	-1.8
	comp=Z,0.3nm,0.3s,baz=90,slow=2.0,SNR=1.7						
TEIG	**Tepich**	**7.31**	**4**	P	Pn	04 56 32.9	+1.7
	comp=Z,2.6nm,0.3s,baz=319,slow=3.6,SNR=25						
GOGA	**Godfrey**	**21.00**	**13**	P	P	04 59 23.7	-2.4
TXAR	**Lajitas Array**	**21.37**	**322**	P	P	04 59 31.7	+1.5
	comp=Z,1.2nm,0.6s,baz=145,slow=2,SNR=17						
TX31	**Lajitas Ar. Si**	**21.37**	**322**	P	P	04 59 28.0	-2.2
TX32	**Lajitas Array**	**21.37**	**322**	P	P	04 59 28.0	-2.1
MIAR	**Mount Ida**	**21.97**	**350**	P	P	04 59 33.5	-2.9
MIAR				IAmb	IAmb	04 59 40.8	
	comp=Z,2.8nm,0.6s						
FCAR	**Ozark Folk Cen**	**23.08**	**353**	P	P	04 59 44.0	-4.1
FCAR				IAmb	IAmb	04 59 50.8	
	comp=Z,5.7nm,0.9s						
X34A	**Smith Ranch, M**	**23.09**	**341**	P	P	04 59 46.3	-2.0
X34A				IAmb	IAmb	04 59 51.2	
	comp=Z,6.5nm,0.8s						
U40A	**Yellville**	**23.63**	**352**	P	P	04 59 51.3	-2.1
HHAR	**Hobbs**	**23.73**	**350**	P	P	04 59 55.4	+1.2
HHAR				IAmb	IAmb	04 59 57.6	
	comp=Z,2.4nm,0.7s						
MGMO	**Mountain Grove**	**24.34**	**353**	P	P	04 59 60.0	+0.1
MGMO				IAmb	IAmb	05 00 17.2	
	comp=Z,4.1nm,0.9s						
NVAR	**Mina Array Bea**	**36.47**	**319**	P	P	05 01 48.3	+1.1
	comp=Z,0.3nm,0.7s,baz=136,slow=7.1,SNR=2.0						
NVAR				PcP	PcP	05 04 11.6	+1.2
	comp=Z,0.6nm,0.7s,baz=126,slow=4.7,SNR=4.5						
YKA	**Yellowknife Ar**	**52.83**	**345**	P	P	05 03 55.6	-1.2
	comp=Z,0.8nm,0.4s,baz=148,slow=7.4,SNR=16						
ILAR	**Eielson Array**	**65.06**	**336**	P	P	05 05 19.9	-1.6
	comp=Z,0.3nm,0.5s,baz=156,slow=4.4,SNR=5.1						

IDC 03 04:57:09.9±1.2, 57°.33S×25°.16W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.7/28, mbtmp3.8/3, Error ellipse: s-maj=50.6km s-min=33.0km az=86.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**45.34**	**182**	P	P	05 05 29.3	+0.3
	0.5nm,0.6s,baz=196,slow=5.6,SNR=5.8						
LPAZ	**La Paz**	**52.02**	**304**	P	P	05 06 22.3	+0.5
	1.0nm,0.6s,baz=172,slow=4.6,SNR=7.1						
TORD	**Torodi Ar. Bea**	**73.65**	**27**	P	P	05 08 45.5	+0.5
	0.6nm,0.6s,baz=200,slow=5.6,SNR=6.2						
YKA	**Yellowknife Ar**	**137.87**	**316**	PKP	PKPdf	05 16 33.8	-0.9
	0.3nm,0.7s,baz=99,slow=3.2,SNR=3.3						
ILAR	**Eielson Array**	**151.80**	**310**	PKPbc	PKPbc	05 17 03.4	-1.5
	0.7nm,0.9s,baz=97,slow=2.8,SNR=6.3						

*BJI **03** 05:00:15.5±0.0, 23°.17S×179°.87W, h523km, mB4.8/18, mb4.8/34*
*NEIC **03** 05:00:16.4±2.0, 23°.56S±0°.09×180°.0W±0°.1, h532km±2km, mb4.7/166, Error ellipse: s-maj=13.8km s-min=12.3km az=104.0*
*UNK **03** 05:00:16.9, 23°.53S×180°.00W, h540km*
*IDC **03** 05:00:17.4±0.8, 23°.60S×179°.91E, h537km±8km, mb4.1/24, mb1 4.2/26, mb1mx4.1/37, mbtmp4.9/26, Error ellipse: s-maj=9.9km s-min=8.1km az=158.0*
*BGR **03** 05:00:18.6±0.0, 23°.71S×178°.62W, h566km±2km*

ISC 03 05:00:17.1±0.5, 23°.62S±0°.05×180°.00W±0°.05, h544km±5km, h544km; pP-P, n549, σ1°46/579, mb4.7/111, 38C-4D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**5.90**	**162**	P	P	05 01 54.8	+0.5
RAO	**Raoul Island**	**5.91**	**162**	P	P	05 01 55.0	+0.6
	416nm,0.3s,baz=190,slow=24,SNR=19						
RAO				S	S	05 03 12.8	-1.3
	60nm,0.3s,baz=94,slow=23,SNR=1.6						
GLKZ	**Green Lake**	**5.92**	**162**	P	P	05 01 54.8	+0.3
GLKZ				S	S	05 03 10.8	-3.5
MSVF	**Nonsavu**	**6.14**	**342**	P	P	05 01 56.9	0.0
NIUE	**Niue**	**10.42**	**66**	P	P	05 02 39.0	-0.3
	baz=10,SNR=22						
NIUE	**Niue**	**10.42**	**66**	P	P	05 02 38.9	-0.4
AFI	**Afiamalu**	**12.40**	**40**	P	P	05 02 56.1	-3.9
DZM	**Mont Dzumac**	**12.60**	**274**	P	P	05 03 01.3	-0.6
	2.3nm,0.3s,baz=65,slow=20,SNR=18						
DZM	**Mont Dzumac**	**12.60**	**274**	P	P	05 03 01.7	-0.3
OUZ	**Omahuta**	**12.83**	**204**	P	P	05 03 06.3	+2.4
KUZ	**Kuaotunu**	**13.59**	**195**	P	P	05 03 18.2	+6.4
MXZ	**Matakaoa Point**	**13.97**	**186**	P	P	05 03 14.9	-0.9
KARZ	**Kaharoa**	**14.71**	**192**	P	P	05 03 26.3	+2.9
OMRZ	**Omania**	**14.77**	**191**	P	P	05 03 26.6	+2.5
URZ	**Urewera**	**14.80**	**189**	P	P	05 03 20.8	-3.6
URZ				S	S	05 05 50.2	-8.6
MWZ	**Matawai**	**14.81**	**188**	P	P	05 03 22.0	-2.6
MWZ				S	S	05 05 56.6	-2.5
TARZ	**Mount Tarawera**	**14.87**	**191**	P	P	05 03 27.2	+2.0
HLRZ	**Highlands Stat**	**14.91**	**191**	P	P	05 03 23.4	-2.2
RRRZ	**Republican Roa**	**14.97**	**191**	P	P	05 03 26.0	-0.2
TLZ	**Tolley Road**	**15.15**	**194**	P	P	05 03 28.3	+0.3
RIGZ	**Rimuhau**	**15.16**	**187**	P	P	05 03 25.8	-2.3
RTZ	**Ruatahuna**	**15.16**	**189**	P	P	05 03 27.4	-0.8
WATZ	**Wairara**	**15.47**	**193**	P	P	05 03 32.3	+1.0
HIZ	**Hauiti**	**15.48**	**195**	P	P	05 03 32.0	+0.6
HIZ	**Hauiti**	**15.48**	**195**	P	P	05 03 31.3	-0.1
KNZ	**Kokohu**	**15.48**	**187**	P	P	05 03 30.6	-0.7
MHGZ	**Mahia Peninsul**	**15.58**	**186**	P	P	05 03 32.2	-0.3
MHGZ				S	S	05 06 09.0	-3.7
RATZ	**Rangitukua**	**15.62**	**192**	P	P	05 03 33.3	+0.4
RITZ	**Rihia Road**	**15.71**	**192**	P	P	05 03 34.3	+0.6
BKZ	**Black Stump Fm**	**15.78**	**190**	P	P	05 03 27.0	-7.5
BKZ				S	S	05 06 14.7	-1.4
BKZ	**Black Stump Fm**	**15.78**	**190**	P	P	05 03 32.0	-2.5
KRVZ	**Karewarewa**	**15.86**	**192**	P	P	05 03 35.0	-0.4
TWVZ	**Taurewa**	**15.88**	**193**	P	P	05 03 34.7	-0.9
WTVZ	**West Tongariro**	**15.89**	**193**	P	P	05 03 33.2	-2.5
NGZ	**Ngauruhoe**	**15.95**	**193**	P	P	05 03 34.9	-1.4
TUVZ	**Tukino**	**16.03**	**192**	P	P	05 03 34.8	-2.2
FWVZ	**Far West T-bar**	**16.03**	**193**	P	P	05 03 35.1	-2.1
FWVZ				S	S	05 05 54.0	-27
WHVZ	**Whangaehu Hut**	**16.05**	**192**	P	P	05 03 35.2	-2.2
TRVZ	**Turoa**	**16.08**	**193**	P	P	05 03 36.5	-1.1
VRZ	**Vera Road**	**16.08**	**195**	P	P	05 03 39.3	+1.9
PKVZ	**Pokaka**	**16.11**	**193**	P	P	05 03 36.9	-0.9
MHEZ	**Mangahewa**	**16.14**	**196**	P	P	05 03 45.5	+7.5
BHHZ	**Black Hill Sta**	**16.17**	**191**	P	P	05 03 34.2	-4.1
KRHZ	**Kereru**	**16.26**	**190**	P	P	05 03 35.1	-4.1
KAHZ	**Kahuranaki**	**16.34**	**189**	P	P	05 03 38.1	-1.7
PKE	**Pukeiti**	**16.34**	**197**	P	P	05 03 42.6	+2.7
KHEZ	**Kahui Hut**	**16.43**	**197**	P	P	05 03 43.7	+2.9
NBEZ	**Newall Road No**	**16.44**	**197**	P	P	05 03 44.2	+3.5
LREZ	**Lake Rotokare**	**16.49**	**195**	P	P	05 03 43.2	+2.0
PNHZ	**Pukenui**	**16.56**	**190**	P	P	05 03 39.8	-2.1
PXZ	**Pawanui**	**16.57**	**188**	P	P	05 03 40.7	-1.2
NMEZ	**Namu Road**	**16.58**	**197**	P	P	05 03 44.8	+2.8
WAZ	**Wanganui**	**16.63**	**194**	P	P	05 03 42.1	-0.4
TSZ	**Takapari Road**	**16.74**	**191**	P	P	05 03 42.6	-1.0
PRHZ	**Porangahau**	**16.84**	**189**	P	P	05 03 42.2	-2.2
DVHZ	**Dannevirke**	**16.94**	**190**	P	P	05 03 43.4	-2.0
ANWZ	**Angora Road**	**17.05**	**189**	P	P	05 03 45.8	-0.5
POWZ	**Post Office Ro

PMG Port Moresby 34.41 289 P **P** 05 06 19.6 +0.1
comp=Z,49nm,0.8s,baz=120,slow=5.8,SNR=11
PMG Port Moresby 34.41 289 P **P** 05 06 20.1 +0.6
STKA Stephens Creek 34.83 248 P **P** 05 06 23.9 +1.0
baz=35,SNR=28
STKA Stephens Creek 34.83 248 P **P** 05 06 23.6 +0.8
comp=Z,13nm,0.5s,baz=96,slow=11,SNR=57
STKA PcP **PcP** 05 08 42.0 +1.4
comp=Z,2.5nm,0.5s,baz=101,slow=4.2,SNR=2.5
STKA S **S** 05 11 14.4 -0.9
comp=Z,0.5nm,0.4s,baz=322,slow=22,SNR=1.3
STKA Stephens Creek 34.83 248 P **P** 05 06 23.8 +1.0
ARPS Mount Arapiles 35.26 239 P **P** 05 06 27.3 +1.0
baz=35,SNR=9.3
COEN Coen 36.07 279 P **P** 05 06 33.9 +0.6
baz=36,SNR=8.7
COEN Coen 36.07 279 P **P** 05 06 33.3 -0.1
PATS Pohnpei 36.95 322 P **P** 05 06 40.3 -0.3
HTT Hallett 37.19 245 P **P** 05 06 42.9 +0.6
baz=37,SNR=20
QIS Mount Isa 37.47 267 P **P** 05 06 44.6 -0.2
baz=38,SNR=4.4
BBOO Buckleboo 39.55 247 P **P** 05 07 01.3 -0.2
baz=40,SNR=34
BBOO Buckleboo 39.55 247 IAmb IAmb 05 07 02.0
comp=Z,21nm,0.6s
ASAR Alice Springs 42.08 260 P **P** 05 07 22.0 +0.2
comp=Z,29nm,0.8s,baz=97,slow=7.9,SNR=208
ASAR PcP **PcP** 05 09 04.5 +0.5
comp=Z,5.7nm,1.0s,baz=95,slow=5.3,SNR=6.5
ASAR ScP **ScP** 05 12 04.7 +1.9
comp=Z,5.4nm,0.8s,baz=108,slow=4.1,SNR=15
ASAR S **S** 05 13 00.7 -1.5
comp=Z,1.8nm,0.6s,baz=98,slow=16,SNR=9.9
WR0 Warramunga Arr 42.24 266 IAmb IAmb 05 07 23.2
comp=Z,16nm,0.7s
WB0 Warramunga Arr 42.42 266 P **P** 05 07 24.0 -0.4
WRAB Tennant Creek 42.42 266 P **P** 05 07 23.9 -0.6
WRAB IAmb IAmb 05 07 24.7
comp=Z,30nm,0.8s
WRA Warramunga Ar 42.43 266 P **P** 05 07 24.1 -0.4
comp=Z,30nm,0.7s,baz=90,slow=5.8,SNR=286
WRA PcP **PcP** 05 09 05.0 -0.1
comp=Z,4.2nm,0.9s,baz=104,slow=3.7,SNR=5.8
WRA ScP **ScP** 05 12 07.0 +2.8
comp=Z,3.6nm,0.9s,baz=104,slow=4.0,SNR=7.6
WRA S **S** 05 13 03.2 -4.0
comp=Z,4.8nm,0.9s,baz=104,slow=13,SNR=8.8
JAY Jayapura 43.41 293 P **P** 05 07 31.7 -0.6
comp=Z,26nm,0.7s
GENI Genyem 43.82 292 P **P** 05 07 35.4 0.0
comp=Z,55nm,0.6s
WAKE Wake Island 44.59 342 P **P** 05 07 39.6 -1.5
KDU Kakadu 46.26 275 P **P** 05 07 53.5 -0.6
baz=46,SNR=12
FORT Forrest 46.41 249 P **P** 05 07 54.5 -0.5
baz=47,SNR=76
WRKA Warakurna 46.90 257 P **P** 05 07 58.7 -0.2
baz=47,SNR=54
MTN Manton Dam 47.44 274 P **P** 05 08 02.1 -0.9
baz=48,SNR=10
MTN Manton Dam 47.44 274 P **P** 05 08 02.4 -0.6
MTN IAmb IAmb 05 08 02.8
comp=Z,17nm,0.7s
KNRA Kununurra 48.69 270 P **P** 05 08 12.3 +0.1
baz=49,SNR=7.8
KNRA Kununurra 48.69 270 P **P** 05 08 12.4 +0.1
KNRA IAmb IAmb 05 08 13.6
comp=Z,31nm,0.7s
FITZ Fitzroy Crossi 50.85 265 P **P** 05 08 28.1 0.0
baz=51,SNR=13
FITZ Fitzroy Crossi 50.85 265 IAmb IAmb 05 08 29.4
comp=Z,20nm,0.9s
VNDA Vanda 54.65 185 P **P** 05 08 56.5 +2.2
comp=Z,3.7nm,0.7s,baz=22,slow=6.5,SNR=24
VNDA PcP **PcP** 05 09 50.1 +1.3
comp=Z,2.2nm,0.6s,baz=359,slow=5.8,SNR=5.1
VNDA ScP **ScP** 05 12 56.1 +1.0
comp=Z,0.8nm,0.9s,baz=336,slow=5.9,SNR=6.0
VNDA Vanda 54.65 185 P **P** 05 08 56.1 +1.8
SOEI Soe 54.82 275 P P 05 09 04.3 +7.6
KLBR Kellerberrin 55.09 247 P **P** 05 08 58.2 0.0
baz=55,SNR=9.2
MEEK Meekatharra 55.19 253 P **P** 05 08 58.6 -0.4
baz=55,SNR=5.5
PSA00 Pilbara Seismi 55.21 259 P **P** 05 08 59.1 -0.1
NWAO Narrogin (SRO) 55.35 245 P **P** 05 09 00.0 +0.1
NWAO IAmb IAmb 05 09 01.2
comp=Z,28nm,1.1s
BLDU Ballidu 56.13 248 P **P** 05 09 05.1 -0.4
baz=56,SNR=22
SANI Sanana 56.44 284 P **P** 05 09 03.4 -4.4
comp=Z,1μmcomp=Z,21nm,0.6s
MORW Morawa 56.97 250 P **P** 05 09 11.1 -0.1
baz=57,SNR=11
MORW Morawa 56.97 250 P **P** 05 09 10.8 -0.4
EDFI Ende, Flores 57.55 275 P **P** 05 09 14.8 -0.7
comp=Z,423nmcomp=Z,29nm,0.9s
GIRL Giralia 59.98 257 P **P** 05 09 32.6 +1.0
baz=60,SNR=3.7
GIRL Giralia 59.98 257 P **P** 05 09 31.9 +0.3
BKSI Bulukumba 60.33 278 P **P** 05 09 32.2 -1.8
comp=Z,35nm,0.8s
CASY Casey 60.36 206 P **P** 05 09 33.5 +0.2
CASY IAmb IAmb 05 09 34.1
comp=Z,13nm,0.6s
TBP Tagbilaran 64.08 294 *eP* **P** 05 10 02.7 +4.4
QSPA South Pole Qui 66.46 180 P **P** 05 10 14.1 +1.6
QSPA IAmb IAmb 05 10 15.0
comp=Z,24nm,0.7s
UGM Wanagama 68.10 271 P **P** 05 10 23.1 -0.2
KKM Kota Kinabalu 68.82 287 P **P** 05 10 27.8 0.0
KKM IAmb IAmb 05 10 28.6
comp=Z,15nm,0.6s
MJAR Matsushiro Arr 71.67 326 P **P** 05 10 44.3 +0.3
comp=Z,11nm,0.8s,baz=158,slow=5.9,SNR=23
MAT Matsushiro 71.67 326 P **P** 05 10 43.6 -0.5
KSM Kuching 72.06 280 P **P** 05 10 46.9 +0.1
KSM IAmb IAmb 05 10 47.8
comp=Z,27nm,0.7s
NACB Ninganchiao 73.94 306 P **P** 05 10 57.1 -0.3
ADK Adak 75.24 2 P **P** 05 11 04.2 +0.2
GSTR Great Sitkin T 75.47 3 P **P** 05 11 05.2 -0.1
ATKA Atka Island 75.67 4 P **P** 05 11 06.2 -0.2
MAW Mawson 78.01 200 P **P** 05 11 20.0 +1.0
comp=Z,11nm,0.7s,baz=130,slow=5.9,SNR=36
MAW Mawson 78.01 200 P **P** 05 11 20.3 +1.3
UNV Unalaska Valle 78.03 8 P **P** 05 11 19.0 -0.2
UNV IAmb IAmb 05 11 19.7
comp=Z,24nm,0.8s
KSRS Korea Array 78.04 320 P **P** 05 11 20.7 +1.1
comp=Z,4.7nm,0.7s,baz=138,slow=6.1,SNR=19
AKUT Akutan 78.41 8 P **P** 05 11 20.9 -0.3
AKUT IAmb IAmb 05 11 30.1
comp=Z,26nm,1.0s
PEA0B Petropavlovsk- 78.83 347 P **P** 05 11 24.0 +0.4
PEA0B IAmb IAmb 05 11 25.1
comp=Z,61nm,1.4s
PETK Petropavlovsk- 78.83 347 P **P** 05 11 24.0 +0.4
comp=Z,14nm,0.7s,baz=141,slow=7.6,SNR=24
NJ2 Nanjing 80.48 311 *eP* **P** 05 11 33.6 +0.9
NJ2 pmax pmax
comp=Z,21nm,0.5s
USRK Ussuriysk Ar. 80.53 327 P **P** 05 11 33.9 +1.2
comp=Z,3.9nm,0.4s,baz=135,slow=4.0,SNR=23
SNCC San Nicolas Is 80.72 48 P **P** 05 11 35.6 +1.7
baz=234
SCZ2 Santa Cruz Isl 81.08 47 P **P** 05 11 37.3 +1.4
baz=234
PKM Mcpherson Peak 81.49 46 P **P** 05 11 39.8 +1.7
baz=234
MNSI Mandailing Nat 81.54 275 P **P** 05 11 38.7 +0.1
comp=Z,35nm,0.5s
CHGN Chignik 81.69 12 IAmb IAmb 05 11 39.6
comp=Z,30nm,1.0s
GO10 Punta Arenas 82.03 145 P **P** 05 11 42.4 +2.0
OSI Osito Audit: C 82.06 47 P **P** 05 11 42.3 +1.5
baz=234
109C Camp Elliot, M 82.17 49 P **P** 05 11 42.5 +1.1
baz=235
ARVC Arvin 82.28 46 P **P** 05 11 43.4 +1.5
baz=234
KULM Kulim 82.40 279 P **P** 05 11 43.5 +0.5
MURC Murrieta 82.51 48 P **P** 05 11 44.3 +1.2
baz=235
VES Vestal, Richgr 82.53 46 P **P** 05 11 44.1 +1.0
baz=234

BFSC Mount Baldy Ra 82.56 48 P **P** 05 11 44.5 +1.0
baz=235
VOG Valley Oaks Go 82.62 45 P **P** 05 11 44.8 +1.3
baz=234
MONP2 Monument Peak 82.64 49 P **P** 05 11 45.7 +1.6
baz=236
SLBS Sierra La Lagu 82.67 60 P **P** 05 11 46.1 +1.9
EDW2 Edwards Air Fo 82.70 47 P **P** 05 11 45.6 +1.5
baz=235
IKP In-Ko-Pah, Jac 82.73 50 P **P** 05 11 45.6 +1.2
baz=236
ISA Isabella, Lake 82.83 46 P **P** 05 11 45.9 +1.2
baz=234,SNR=9.1
ISA Isabella, Lake 82.83 46 IAmb IAmb 05 11 47.4
comp=Z,15nm,0.9s
O02D Mt. Diablo Mer 82.85 40 P **P** 05 11 47.0 +2.2
baz=231,SNR=6.0
PFO Pinyon Flats O 83.02 49 P **P** 05 11 47.4 +1.6
baz=236
SWSC Sam W. Stewart 83.11 50 P **P** 05 11 47.7 +1.6
baz=236
ORV Oroville 83.24 42 P **P** 05 11 47.6 +1.0
LRMC Laurel Mtn Rad 83.25 47 P **P** 05 11 48.3 +1.4
baz=235
SYO Syowa Base 83.28 193⍰ *eP* **P** 05 11 44.8 -1.5
SYO Syowa Base 83.28 193⍰ *ePcP* **P** 05 11 47.0 +0.7
RRX Edison Barstow 83.37 48 P **P** 05 11 48.6 +1.3
baz=235
N02D Trinity Center 83.40 40 P **P** 05 11 49.5 +2.0
baz=231
O03E Paynes Creek 83.51 41 P **P** 05 11 49.2 +1.2
baz=232
CWC Cottonwood Cre 83.54 46 P **P** 05 11 49.6 +1.2
baz=234
BELC Belle Mtn. Jos 83.56 49 P **P** 05 11 50.2 +1.7
baz=236,SNR=7.7
M02C Callahan 83.58 39 P **P** 05 11 50.5 +2.2
baz=231
GSI Gunungsitoli 83.58 274 P **P** 05 11 49.5 +0.6
comp=Z,129nm,0.7s
GSI Gunungsitoli 83.58 274 IAmb IAmb 05 11 50.4
comp=Z,16nm,0.6s
OHAK Old Harbor 83.61 14 P **P** 05 11 49.1 +1.2
OHAK IAmb IAmb 05 11 49.7
comp=Z,20nm,1.1s
OMMB Old Mammoth Mi 83.63 44 P **P** 05 11 50.4 +1.4
CN2 Changchun 83.67 324 *eP* **P** 05 11 48.9 +0.3
CN2 pmax pmax
comp=Z,20nm,0.9s
MPMC Manual Prospec 83.71 46 P **P** 05 11 50.4 +1.2
baz=235,SNR=6.5
GSC Goldstone, Bar 83.74 47 P **P** 05 11 50.6 +1.4
baz=235,SNR=6.6
BC3 Big Chuckawall 83.74 49 P **P** 05 11 51.1 +1.7
baz=236
MLAC Mammoth, Mammo 83.75 44 P **P** 05 11 51.0 +1.6
baz=234
HEC Hector,Ludlow 83.79 48 P **P** 05 11 50.8 +1.3
baz=236,SNR=6.3
GLA Glamis 83.85 50 P **P** 05 11 51.7 +1.9
baz=237,SNR=5.9
GLA Glamis 83.85 50 IAmb IAmb 05 11 53.1
comp=Z,21nm,0.9s
YBH Yreka Blue Hor 83.87 39 P **P** 05 11 51.9 +2.1
comp=Z,4.7nm,0.8s,baz=177,slow=5.0,SNR=7.2
WAKR Walker 83.88 43 P **P** 05 11 51.2 +1.2
WAKR IAmb IAmb 05 11 52.9
comp=Z,14nm,1.0s
K02D Willamette Mer 83.94 38 P **P** 05 11 51.9 +1.8
baz=230
BEKR Beckworth 84.12 42 P **P** 05 11 51.7 +0.5
PNTR Pine Nut 84.13 43 P **P** 05 11 52.2 +0.9
PNTR IAmb IAmb 05 11 53.9
comp=Z,19nm,1.0s
GMRC Granite Mounta 84.23 48 P **P** 05 11 53.3 +1.5
baz=236,SNR=5.6
IRM Iron Mountain 84.23 49 P **P** 05 11 53.6 +1.9
baz=236,SNR=5.3
YERR Yerington 84.29 43 IAmb IAmb 05 11 54.5
comp=Z,16nm,1.2s
GRAC Grapevine Rang 84.33 46 P **P** 05 11 53.6 +1.5
baz=235,SNR=6.4
FURC Furnace Creek, 84.36 46 P **P** 05 11 53.5 +1.3
baz=235
M04C Macdoel 84.41 40 P **P** 05 11 53.9 +1.4
baz=232
L04D Klamath Falls 84.41 39 P **P** 05 11 54.1 +1.6
baz=231
Y12C Blythe 84.44 50 P **P** 05 11 54.2 +1.5
baz=237
NVAR Mina Array Bea 84.55 44 P **P** 05 11 54.8 +1.4
comp=Z,4.4nm,0.9s,baz=219,slow=7.5,SNR=18
214A Organ Pipe Nat 84.70 52 P **P** 05 11 56.1 +2.0
baz=238,SNR=6.7
I02D Swisshome 84.74 37 P **P** 05 11 56.4 +2.5
baz=230
NEE2 Needles Airpor 84.93 49 P **P** 05 11 56.6 +1.6
baz=237
SNAA Sanae 84.94 179 P **P** 05 11 54.4 -0.2
PDMCI Parker Dam,Lak 85.01 49 P **P** 05 11 57.3 +1.9
baz=237,SNR=5.2
TPNV Topopah Spring 85.04 46 P **P** 05 11 57.0 +1.3
baz=236,SNR=6.9
VNA3 Neumayer Olymp 85.15 177 P **P** 05 11 55.5 -0.1
J04D Umpqua Nationa 85.17 38 P **P** 05 11 58.1 +1.8
baz=231
K05A Summer Lake 85.55 39 IAmb IAmb 05 12 00.5
comp=Z,18nm,1.1s
VNA2 Neumayer--Watz 85.57 178 P **P** 05 11 57.7 +0.1
baz=186,slow=3.9
J05D Fort Rock, OR 85.69 39 P **P** 05 12 00.5 +1.7
baz=232
VNA1 Neumayer--Stat 85.81 177 P **P** 05 11 57.9 -0.7
H04A Detroit Lake 86.03 37 IAmb IAmb 05 12 01.7
comp=Z,13nm,1.1s
PINE Pine Mountain 86.17 38 P **P** 05 12 02.3 +1.3
PINE IAmb IAmb 05 12 04.1
comp=Z,33nm,1.3s
R11A Troy Canyon, C 86.26 45 P **P** 05 12 02.6 +1.0
baz=236
ENH Enshi 86.28 305 IAmb IAmb 05 12 03.7
comp=Z,23nm,0.8s
I05D Terrebonne, OR 86.29 38 P **P** 05 12 02.7 +1.3
baz=232
MA2 Magadan 86.31 346 P **P** 05 12 00.6 -0.5
MA2 IAmb IAmb 05 12 02.2
comp=Z,25nm,1.0s
TUC Tucson 86.35 52 P **P** 05 12 04.0 +2.0
baz=239
TUC Tucson 86.35 52 P **P** 05 12 04.0 +2.0
TUC IAmb IAmb 05 12 05.5
comp=Z,12nm,0.9s
GYA Guiyang 86.61 301 *eP* **P** 05 12 06.2 +2.8
GYA pmax pmax
comp=Z,10.0nm,0.8s
BJI Beijing 86.83 316 P **P** 05 12 05.2 +1.3
BJI pmax pmax
comp=Z,11nm,0.6s
319A Douglas 86.98 54 IAmb IAmb 05 12 08.7
comp=Z,21nm,1.1s
E04D Cinebar 87.00 36 P **P** 05 12 06.6 +2.0
baz=231
J08A Circle Bar Ran 87.34 40 IAmb IAmb 05 12 09.1
comp=Z,19nm,1.1s
D03D Eldon 87.35 35 P **P** 05 12 07.8 +1.6
baz=230
U15A North Rim 87.42 48 P **P** 05 12 08.5 +1.3
U15A IAmb IAmb 05 12 10.2
comp=Z,16nm,0.9s
WUAZ Wupatki 87.58 49 P **P** 05 12 09.4 +1.6
baz=239
HPIG 87.62 59 IAmb IAmb 05 12 10.7
comp=Z,8.2nm,0.9s
ELK Elko 87.82 43 P **P** 05 12 10.1 +1.2
comp=Z,4.2nm,1.0s,baz=242,slow=4.2,SNR=11
RC01 Rabbit Creek A 87.90 14 IAmb IAmb 05 12 09.8
comp=Z,19nm,0.9s
TIY Taiyuan 88.00 313 *eP* **P** 05 12 11.3 +1.7
TIY pmax pmax
comp=Z,27nm,0.9s
BBB Bella Bella 88.02 29 P **P** 05 12 10.4 +1.3
comp=Z,26nm,1.1s,baz=141,slow=3.0,SNR=2.5
BBB Bella Bella 88.02 29 IAmb IAmb 05 12 20.0
comp=Z,72nm,1.2s
G08A Pilot Rock 88.21 38 IAmb IAmb 05 12 13.0
comp=Z,17nm,1.1s
A04D Lummi Island 88.30 34 P **P** 05 12 12.2 +1.6
baz=230
B05A Bryant 88.33 34 P **P** 05 12 12.3 +1.5
baz=231
TTA Tatalina 88.34 11 IAmb IAmb 05 12 12.1
comp=Z,9.9nm,1.1s
FID Port Fidalgo 88.37 16 P **P** 05 12 10.6 -0.1
FID IAmb IAmb 05 12 11.8
comp=Z,19nm,1.1s
EYAK Cordova Ski Ar 88.38 16 IAmb IAmb 05 12 12.1
comp=Z,17nm,1.0s
LTY Liberty 88.46 36 IAmb IAmb 05 12 13.6
comp=Z,7.5nm,0.9s
KNK Knik Glacier 88.47 15 IAmb IAmb 05 12 12.5
comp=Z,16nm,0.9s
PMR Palmer 88.48 14 IAmb IAmb 05 12 12.2
comp=Z,16nm,1.0s
HAWA Hanford 88.55 37 P **P** 05 12 13.7 +1.9
HAWA IAmb IAmb 05 12 14.5
comp=Z,16nm,0.9s
XAN Xi'an 88.57 308 P **P** 05 12 13.1 +0.8
XAN pmax pmax
comp=Z,20nm,0.8s
XAN pmax pmax
comp=Z,110nm,3.5s
XAN Xi'an 88.57 308 IAmb IAmb 05 12 14.5
comp=Z,13nm,0.7s
121A Cookes Peak, D 88.66 54 P **P** 05 12 14.3 +1.3
baz=241
BMO Blue Mountains 88.90 39 IAmb IAmb 05 12 15.9
comp=Z,9.1nm,1.4s
MFID Camas Ranch 88.95 41 IAmb IAmb 05 12 16.4
comp=Z,14nm,1.0s
DUG Dugway, Tooele 89.07 45 P **P** 05 12 15.8 +1.2
baz=238
SCM Sheep Creek Mo 89.11 15 P **P** 05 12 14.1 -0.1
CMAR Chiang Mai Arr 89.43 290 P **P** 05 12 18.3 +1.7
comp=Z,4.7nm,0.8s,baz=135,slow=3.2,SNR=35
VRDI Verde Repeater 89.56 17 IAmb IAmb 05 12 18.1
comp=Z,16nm,1.2s
CHTO Chiang Mai 89.58 291 P **P** 05 12 18.6 +1.3
CHTO IAmb IAmb 05 12 19.9
comp=Z,14nm,1.0s
F10A Beach Ranch, E 89.59 38 IAmb IAmb 05 12 18.6
comp=Z,5.8nm,0.8s
GLB Gilahina Butte 89.64 16 IAmb IAmb 05 12 18.2
comp=Z,7.8nm,1.0s
BALM Baldy 89.69 17 IAmb IAmb 05 12 18.7
comp=Z,11nm,1.0s
KTH Kantishna Hill 89.85 13 IAmb IAmb 05 12 18.2
comp=Z,8.5nm,0.9s
TRF Thorofare Moun 89.89 13 P **P** 05 12 16.9 -1.0
TRF IAmb IAmb 05 12 18.4
comp=Z,13nm,0.9s
BARN Barnard Glacie 89.90 18 IAmb IAmb 05 12 19.9
comp=Z,23nm,1.2s
MNTX Cornudas Mount 90.06 55 P **P** 05 12 20.8 +1.6
baz=242
MNTX Cornudas Mount 90.06 55 IAmb IAmb 05 12 21.9
comp=Z,6.4nm,0.9s
RND Reindeer 90.15 13 P **P** 05 12 18.2 -0.8
HHC Hu-ho-hao-te 90.22 315 *eP* **P** 05 12 20.9 +1.0
HHC pmax pmax
comp=Z,8.0nm,1.1s
HHC pmax pmax
comp=Z,51nm,5.3s
TX32 Lajitas Array 90.28 58 IAmb IAmb 05 12 23.4
comp=Z,5.7nm,0.9s
TXAR Lajitas Array 90.29 58 P **P** 05 12 22.3 +1.8
comp=Z,3.5nm,0.7s,baz=214,slow=6.7,SNR=51
MCK McKinley 90.42 13 IAmb IAmb 05 12 21.5
comp=Z,6.3nm,1.0s
HWUT Hardware Ranch 90.62 44 IAmb IAmb 05 12 23.6
comp=Z,4.8nm,0.8s
PV12 Saucer Basin, 90.77 48 IAmb IAmb 05 12 24.8
comp=Z,9.1nm,1.3s
ANMO Albuquerque 90.79 52 P **P** 05 12 23.8 +1.1
baz=242
ANMO Albuquerque 90.79 52 P **P** 05 12 24.2 +1.4
comp=Z,3.9nm,1.0s,baz=214,slow=5.9,SNR=11
ANMO Albuquerque 90.79 52 P **P** 05 12 24.0 +1.2
ANMO IAmb IAmb 05 12 25.1
comp=Z,6.7nm,1.1s
PV01 Paradox Valley 90.84 48 IAmb IAmb 05 12 24.8
comp=Z,5.0nm,0.9s
CD2 Chengdu 90.93 303 P **P** 05 12 22.7 -0.6
CD2 pmax pmax
comp=Z,30nm,1.2s
WRH Wood River Hil 91.25 13 IAmb IAmb 05 12 24.5
comp=Z,11nm,1.2s
HDA Harding Lake 91.44 14 IAmb IAmb 05 12 26.5
comp=Z,4.8nm,0.9s
CCB Clear Creek Bu 91.46 13 IAmb IAmb 05 12 25.3
comp=Z,4.1nm,0.8s
AHID Auburn Hatcher 91.51 43 P **P** 05 12 26.8 +0.8
AHID IAmb IAmb 05 12 28.9
comp=Z,7.0nm,1.0s
ILAR Eielson Array 91.76 14 P **P** 05 12 25.6 -0.7
comp=Z,1.6nm,0.8s,baz=236,slow=5.6,SNR=13
ILAR PP **PP** 05 16 08.2 -7.0
comp=Z,0.1nm,0.5s,baz=219,slow=5.6,SNR=4.6
S22A 4UR Ranch, Cre 91.86 49 P **P** 05 12 28.9 +1.1
baz=241
O20A White River Ci 92.05 47 P **P** 05 12 29.3 +0.8
baz=241
SNOW Snow King Moun 92.09 43 IAmb IAmb 05 12 32.3
comp=Z,8.3nm,1.4s
BW06 Boulder Array 92.49 44 P **P** 05 12 31.0 +0.5
baz=240
PDAR Pinedale Array 92.49 44 P **P** 05 12 31.0 +0.5
comp=Z,1.9nm,0.7s,baz=193,slow=4.1,SNR=14
H17A Grant Village 92.68 42 P **P** 05 12 32.6 +1.3
baz=239
SDCO Great Sand Dun 92.78 50 P **P** 05 12 32.8 +0.8
baz=242
SDCO Great Sand Dun 92.78 50 IAmb IAmb 05 12 34.0
comp=Z,4.6nm,1.0s
EGAK Eagle 93.09 16 IAmb IAmb 05 12 33.6
comp=Z,6.0nm,0.9s
LZH Lanzhou 93.21 308 *eP* **P** 05 12 35.2 +1.4
LZH pP pP 05 14 34.3 +2.0
LZH sP sP 05 15 23.5 -2.9
LZH pmax pmax
comp=Z,24nm,1.1s
LZH pmax pmax
comp=Z,140nm,4.7s
KSCO Kaye Shedlock' 95.37 50 P **P** 05 12 44.2 +0.7
baz=244
EPYK Eagle Plains 95.48 16 P **P** 05 12 43.7 +0.5
baz=219
SONM Songino Array 96.89 319 P **P** 05 12 51.3 +1.1
comp=Z,1.1nm,0.5s,baz=134,slow=4.2,SNR=2.7
GTA Gaotai 97.52 310 *eP* Pdif 05 12 52.7 -0.5
GTA pP pP 05 14 50.4 -1.6
GTA sP sP 05 15 45.9 -0.1
GTA pmax pmax
comp=Z,3.0nm,1.0s
YKA Yellowknife Ar 100.11 25 P **Pdif** 05 13 04.0 +0.1
comp=Z,0.5nm,0.7s,baz=234,slow=5.0,SNR=3.7
MKAR Makanchi Array 111.97 313 Pdiff **Pdif** 05 14 01.4 +4.3
comp=Z,0.2nm,0.4s,baz=90,slow=5.4,SNR=2.9
MKAR PKiKP **PKiKP** 05 17 49.9 -0.6
comp=Z,1.3nm,0.5s,baz=202,slow=1.1,SNR=16
KURK Kurchatov 115.00 317 **PKPdf** 05 17 55.3 -0.8
KK31 Karatay Array 119.70 307 PKPdf **PKPdf** 05 18 04.6 -0.9
BRVK Borovoye 120.30 319 PKPdf **PKPdf** 05 18 06.2 -0.1
BOSA Boshof 122.65 206 PKP **PKiKP** 05 18 12.3 +0.3
comp=Z,5.0nm,0.9s,baz=125,slow=3.3,SNR=5.2
SPA0 Spitsbergen Ar 124.85 356 *eP* **PKPdf** 05 18 14.2 -0.1
SUMG Summit 126.61 13 PKPdf **PKPdf** 05 18 18.2 -0.2
ARU Arti 126.66 324 PKPdf **PKPdf** 05 18 18.4 0.0
GEYT Alibeck 128.83 300 PKP **PKiKP** 05 18 23.9 -0.1
comp=Z,2.6nm,0.5s,baz=129,slow=4.0,SNR=4.2
UOSS Minazif 129.07 284 PKPpre 05 18 18.1
ARCES ARCESS Array B 131.62 348 PKP **PKPdf** 05 18 27.2 -0.2
comp=Z,3.9nm,0.6s,baz=49,slow=1.4,SNR=25
ARCES SKPbc **SKPab** 05 21 03.2 -0.4
comp=Z,4.3nm,1.0s,baz=13,slow=4.9,SNR=5.9
ARE0 ARCESS Array S 131.62 348 *eP* **PKPdf** 05 18 27.0 -0.4
KTK1 Kautokeino 132.48 349 *eP* **PKPdf** 05 18 28.8 -0.3
KLMR Klimovskoe 133.93 334 *ePKPdf* **PKPdf** 05 18 30.7 -1.3
KLMR AMP 05 18 32.8
comp=Z,6.0nm,1.0s
FINES FINESS Array B 138.19 342 PKhKP PKPpre 05 18 29.1
comp=Z,1.5nm,0.4s,baz=43,slow=3.2,SNR=14
FINES PKP **PKPdf** 05 18 40.7 +0.8
comp=Z,2.6nm,0.3s,baz=94,slow=3.6,SNR=6.1
FINES SKP **SKPab** 05 21 23.8 -8.8

comp=Z,3.3nm,0.8s,baz=64,slow=4.8,SNR=6.8
NB2 NORSAR Subarra 141.81 351 PKP **PKPdf 05 18 41.7 -4.8**
comp=Z,5.6nm,0.7s,baz=13,slow=3.1
NOA NORSAR Array B 141.81 351 PKhKP PKPpre 05 18 42.3
comp=Z,4.2nm,0.6s,baz=16,slow=4.7,SNR=20
NOA PKP **PKPdf 05 18 47.7 +1.2**
comp=Z,0.3nm,0.4s,baz=14,slow=4.1,SNR=4.0
FOO Floro 141.89 356 *e*P **PKPdf 05 18 43.4 -3.1**
NC602 NORSAR Array S 142.06 351 *e*P **PKPdf 05 18 42.6 -4.3**
HYA Hoyanger 142.24 355 *e*P **PKPdf 05 18 42.9 -4.2**
BNGB Bingl 142.35 304 *e*P **PKPdf 05 18 45.9 -2.3**
SLIT Slitere, Latvi 142.41 340 *e*P **PKPdf 05 18 43.5 -4.0**
SUE Sulen 142.44 356 *e*P **PKPdf 05 18 44.5 -3.0**
SKAR Skarslia 142.52 353 *e*P **PKPdf 05 18 44.7 -3.1**
IZAR Zarasai 142.54 336 *e*P **PKPdf 05 18 45.9 -1.9**
ISAL Salakas 142.72 336 *e*P **PKPdf 05 18 45.7 -2.4**
MAZI Mazidag 142.82 301 *e*P **PKPdf 05 18 46.8 -2.3**
IIGN Ignalina 142.85 335 *e*P **PKPdf 05 18 46.1 -2.4**
DYBB Diyarbakir 142.97 302 *e*P **PKPdf 05 18 47.1 -2.2**
ASK Askoy 142.99 356 *e*P **PKPdf 05 18 46.3 -2.2**
BER Bergen 143.08 356 *e*P PKPbc 05 18 46.6 -0.1
PTK Pertek 143.35 304 *e*P **PKPdf 05 18 49.5 -0.6**
KONO Kongsberg 143.37 352 PKPdf PKPab 05 18 46.9 -0.5
KONO Kongsberg 143.37 352 *e*P PKPab 05 18 47.3 -0.1
SVRC Sivrice-ELAZID 143.53 303 *e*P **PKPdf 05 18 50.0 -0.4**
PABE Paberze 143.56 337 *e*P PKPbc 05 18 48.5 +0.1
PBUR Paburge 143.84 339 *e*P PKPbc 05 18 49.2 0.0
BLS5 Blasjo 143.94 354 *e*P PKPab 05 18 49.7 0.0
URFA Urfa 144.09 302 *e*P **PKPdf 05 18 51.6 +0.3**
MALT Malatya 144.22 303 *e*P **PKPab 05 18 52.2 +0.6**
RSDY Resadiye-TOKAT 144.51 307 *e*P **PKPab 05 18 52.9 +0.4**
AKASG Malin Array Be 144.74 327 PKP **PKPdf 05 18 51.7 -0.1**
comp=Z,15nm,0.5s,baz=44,slow=4.2,SNR=62
AKASG SKPbc **SKiKP 05 21 40.4 -0.1**
comp=Z,1.8nm,0.5s,baz=57,slow=2.7,SNR=6.8
HOMB Homborsund 144.85 352 *e*P **PKPdf 05 18 50.7 -1.1**
DARE Darende-Malaty 144.88 304 *e*P **PKPab 05 18 54.4 +0.3**
SVSK Karacayir 144.89 306 *e*P **PKPab 05 18 54.2 +0.3**
SNART Snartemo 144.93 353 *e*P **PKPdf 05 18 51.5 -0.4**
SUW Suwalki 145.00 336 *e*PKP **PKPbc 05 18 53.0 +0.1**
GAZ Gaziantep 145.41 302 *e*P **PKPab 05 18 55.6 -0.5**
KMRS Kahramanmaras 145.58 302 *e*P **PKPbc 05 18 55.8 +0.6**
SARI SarD1z-Kayseri 145.73 304 *e*P **PKPbc 05 18 56.4 +0.6**
BNN Bunyan 146.04 305 *e*P **PKPbc 05 18 56.9 +0.3**
YOZ Yozgat 146.21 307 *e*P **PKPbc 05 18 57.2 +0.1**
TAHT Tahtakopru-Hat 146.38 301 *e*P **PKPbc 05 18 58.1 +0.6**
KOZT Kozan 146.41 303 *e*P **PKPbc 05 18 57.1 -0.4**
CORM Corum 146.54 308 *e*P **PKPbc 05 18 58.9 +0.9**
BSD Bornholm Skovb 146.65 344 *i* P **PKPbc 05 18 57.3 -0.2**
comp=Z,10nm,0.4s
YURE YUREGIR 146.72 302 *e*P **PKPbc 05 18 59.1 +0.7**
SORM Soroca 146.78 325 ⇑P **PKPdf 05 18 51.0 -4.3**
CMRD Camardi-Nigde 147.01 303 *e*P **PKPbc 05 18 59.8 +0.5**
CANT Cankiri 147.12 309 *e*P **PKPbc 05 18 59.8 +0.4**
BRTR Keskin Array B 147.41 308 PKPbc **PKPbc 05 19 00.1 -0.2**
comp=Z,4.4nm,0.6s,baz=141,slow=4.6,SNR=22
BRTR Keskin Array B 147.41 308 *e*P **PKPbc 05 18 58.9 -1.4**
BEL Belsk 147.62 336 *e*PKP **PKiKP 05 19 01.0 -0.7**
MMLI Mount Malkishu 147.64 294 *e*P **PKPbc 05 19 01.3 +0.3**
GKP Gorka Klasztor 147.64 341 *e*PKP **PKPbc 05 19 00.8 +0.6**
AFSR Afar-Bala (An 147.92 307 *e*P **PKPbc 05 19 01.9 +0.4**
ANTO Ankara 147.97 308 ⇑P **Pn 05 19 01.8 +0.8**
ANTO Ankara 147.97 308 *e*P **PKPbc 05 19 01.9 +0.3**
ANTO Ankara 147.97 308 PKPbc 05 19 02.0 +1.0
KULU Kulu 148.10 307 *e*P **PKPbc 05 19 02.6 +0.6**
SKMB Sankelmark Bun 148.16 350 *e*PKPbc **PKiKP 05 19 02.4 -0.3**
baz=20,slow=2.2
HRFI Mount Harif 148.18 289 *e*P **PKiKP 05 19 03.2 -0.4**
CHBY Cihanbeyli 148.33 306 *e*P **PKPbc 05 19 02.4 -0.2**
KWP Kalwaria Pacla 148.53 331 *e*PKP **PKiKP 05 19 03.2 -0.5**
GHRR 148.53 322 ⇑P **PKPdf 05 18 57.6 -0.8**
YUVA Yuva-Kibriscik 148.57 310 *e*P **PKPbc 05 19 03.6 +0.4**
CFR Carcaliu 148.62 320 ⇑P **PKPdf 05 18 58.5 0.0**
TOPG Topolog 148.65 320 ⇓P **PKPdf 05 18 54.2 -4.3**
BIZ Bicaz 148.71 325 ⇑P **PKPdf 05 19 00.1 +1.5**
BURAR Bucovina Array 148.74 326 ⇑P **PKPdf 05 19 00.5 +1.8**
BSEG Bad Segeberg 148.75 348 *e*PKPbc **PKiKP 05 19 03.5 -0.4**
baz=20,slow=2.2
BSEG *e*PKPab **PKPab 05 19 09.6 +0.7**
baz=19,slow=4.2
TEKE Tekeli-Mersin 148.85 301 *e*P **PKPbc 05 19 03.6 -0.2**
TIRR Tirgusor 148.85 319 ⇑P **PKPdf 05 18 53.5 -5.3**
TIRR Tirgusor 148.85 319 **PKiKP 05 19 04.1 -0.4**
MDUB Mudurnu 148.89 310 *e*P **PKPbc 05 19 03.9 0.0**
CSS Mathiatis 148.95 299 *e*P **PKPbc 05 19 04.3 +0.2**
CSS Mathiatis 148.95 299 **PKPbc 05 19 03.0 -1.1**
KIZT Kizilcal 148.98 307 *e*P **PKPbc 05 19 04.3 +0.1**
HARR Harsova 149.01 320 ⇑P **PKPdf 05 18 59.4 +0.2**
AUSIV SIVRIHISAR 149.03 308 *e*P **PKPbc 05 19 03.9 -0.4**
VRI Vrincioaia 149.03 322 ⇑P **PKPdf 05 18 56.0 -3.2**
VRI Vrincioaia 149.03 322 *e*P **PKPbc 05 19 03.6 -0.4**
PLOR Plostina 149.09 322 ⇓P **PKPbc 05 19 03.9 -0.3**
KOLS Kolonicke sedl 149.23 331 *e*PKP **PKiKP 05 19 05.4 +0.2**
LEF Lefka 149.27 299 *e*P **PKPbc 05 19 04.3 -0.6**
OJC Ojcow 149.29 335 *e*PKP **PKiKP 05 19 04.9 -0.4**
CIFT Cifteler, Eski 149.41 308 *e*P **PKPbc 05 19 05.0 -0.2**
GAZI Gazipasa 149.45 302 *e*P **PKPbc 05 19 04.5 -0.8**
SRCK Saricakaya, Es 149.46 310 *e*P **PKPbc 05 19 05.1 -0.1**
SEYD Seydisehir-KON 149.49 304 *e*P **PKiKP 05 19 05.9 -0.3**
BORA Eskisehir 149.64 309 *e*P **PKPbc 05 19 05.6 -0.1**
TRPA Tarpa 149.69 329 ⇓P **PKPbc 05 19 05.6 +0.2**
MLR Muntele Rosu 149.70 322 ⇑P **PKPdf 05 18 58.5 -1.8**
DOPR Dopca 149.71 324 ⇑P **PKPdf 05 19 00.8 +0.5**
NIE Niedzica 149.72 333 *e*PKP **PKiKP 05 19 06.8 +0.6**
HRT Hereke 149.80 312 *e*P **PKPbc 05 19 05.7 -0.3**
AUBOZ BOZOYUK 149.93 310 *e*P **PKPbc 05 19 06.2 -0.2**
KSP Ksiaz 150.03 339 *e*PKP **PKiKP 05 19 07.1 +0.3**
RETH Rethem/Aller, 150.07 349 *e*PKPbc **PKiKP 05 19 06.6 -0.1**
baz=20,slow=2.2
RETH *e*PKPab **PKPab 05 19 14.8 +0.4**
baz=19,slow=4.2
RETH *e*pPKPbc **pPKPab 05 21 17.6 +2.6**
baz=19,slow=2.3
SHUT Suhut-Afyon 150.07 307 *e*P **PKiKP 05 19 07.9 +0.5**
ISK Istanbul-Kandi 150.11 313 *e*P **PKPbc 05 19 06.2 -0.4**
YLV Yalova 150.12 311 *e*P **PKPbc 05 19 06.4 -0.4**
NRDL Niedersach Rie 150.16 348 *e*PKPbc **PKiKP 05 19 06.8 0.0**
baz=20,slow=2.2
NRDL *e*pPKPbc **pPKPab 05 21 17.6 +2.4**
baz=19,slow=2.3
OKC Ostrava-Krasne 150.23 336⇑ *e*PKP **PKiKP 05 19 07.0 -0.2**
OKC *e*PKPAB **PKPab 05 19 15.7 +0.5**
VOIR 150.23 323 ⇑P **PKPdf 05 19 00.2 -1.0**
LANS Liptovska Anna 150.26 334 *e*PKP **PKiKP 05 19 08.5 +1.1**
OSTC Ostas 150.30 339⇑ *e*PKP **PKiKP 05 19 07.4 0.0**
OSTC *e*PKPAB **PKPab 05 19 17.9 +0.4**
CHVC Chvalec 150.33 339⇑ *e*PKP **PKiKP 05 19 07.5 +0.1**
ISP Isparta 150.34 306 *e*P **PKPbc 05 19 05.5 -2.0**
ASSE Asse, Remlinge 150.38 347 *e*PKPbc **PKiKP 05 19 07.3 0.0**
baz=20,slow=2.2
ASSE *e*PKPab **PKPab 05 19 16.3 +0.6**
baz=19,slow=4.2
ASSE *e*pPKPbc **pPKPab 05 21 18.4 +2.2**
baz=19,slow=2.3
CTKS Kestanelik-??a 150.40 313 *e*P **PKPbc 05 19 07.1 -0.2**
UPC Upice 150.41 339⇑ *e*PKP **PKiKP 05 19 07.7 +0.1**
DPC Dobruska-Polom 150.44 339⇑ *e*PKP **PKiKP 05 19 07.9 +0.2**
DPC *e*PKPAB **PKPab 05 19 15.7 -0.5**
ARMT Armutlu 150.47 312 *e*P **PKPbc 05 19 07.4 -0.1**
ARR Arges 150.50 323 ⇑P **PKPdf 05 19 02.1 +0.6**
MORC Moravsky Berou 150.50 337 ⇑P **PKiKP 05 19 07.9 0.0**
MORC Moravsky Berou 150.50 337 *e* **PKPab 05 19 17.0 +0.6**
MORC Moravsky Berou 150.50 337 *e*PKP **PKiKP 05 19 07.8 0.0**
TVSB Tavsanli 150.52 309 *e*P **PKPbc 05 19 08.0 +0.2**
KRLC Kraliky 150.52 338⇑ *e*PKP **PKPbc 05 19 07.6 +0.2**
KRLC *e*PKPAB **PKPab 05 19 17.1 +0.6**
MDNY Mudanya-Bursa 150.54 311 *e*P **PKPbc 05 19 07.5 -0.2**
DRGR 150.56 327 ⇑P **PKPdf 05 19 02.5 +0.9**
CLL Collm 150.59 343⇓ *i*PKPbc **PKiKP 05 19 08.8 +0.9**
comp=Z,40nm,0.9s
CLL ⇑ *i*PKPab **PKPab 05 19 17.9 +1.2**
comp=Z,14nm,0.8s
CLL *e*pPKPab **pPKPab 05 21 20.0 +2.9**
CLZ Clausthal 150.72 347 *e*PKPbc **PKiKP 05 19 08.5 +0.3**
baz=20,slow=2.2
CLZ *e*PKPab **PKPab 05 19 17.9 +0.6**
baz=19,slow=4.2
CLZ *e*pPKPbc **pPKPab 05 21 19.4 +1.7**
baz=19,slow=2.3
BRG Berggiesshubel 150.72 342 *e*PKP **PKPdf 05 19 02.0 +0.4**
comp=Z,5.0nm,1.1s
BRG Berggiesshubel 150.72 342 *i* PKP **PKiKP 05 19 08.2 0.0**
comp=Z,29nm,0.5s
BRG *e*pPKP **pPKPbc 05 21 15.0 +1.4**
comp=Z,9.5nm,1.0s
comp=N,139nm,21.3s
comp=E,144nm,22.4s
comp=Z,177nm,17.1s
BRG Berggiesshubel 150.72 342 *e*PKPbc **PKiKP 05 19 08.4 +0.2**
baz=20,slow=2.2
BRG *e*pPKPbc **pPKPab 05 21 19.4 +1.8**
baz=19,slow=2.3
IBBN Ibbenburen 150.75 350 *e*PKPbc **PKiKP 05 19 08.2 0.0**
baz=20,slow=2.2
IBBN *e*PKPab **PKPab 05 19 17.6 +0.3**
baz=19,slow=4.2
HUMR Humele 150.82 322 ⇑P **PKPdf 05 18 59.3 -2.7**
FBE Freiberg 150.85 343 *e*PKPbc **PKiKP 05 19 08.9 +0.5**
baz=20,slow=2.2
FBE *e*PKPab **PKPab 05 19 18.8 +1.0**
baz=19,slow=4.2
FBE *e*pPKPbc **pPKPab 05 21 20.0 +1.8**
baz=19,slow=2.3
KCTX Karacabey (Bur 150.94 312 *e*P **PKPbc 05 19 08.4 -0.3**
NEUB Neuenburg 150.99 345 *e*PKPbc **PKiKP 05 19 08.8 +0.1**
baz=20,slow=2.2
NEUB *e*PKPab **PKPab 05 19 18.8 +0.4**
baz=19,slow=4.2
VYHS Vyhne 151.04 334 *e* **PKPab 05 19 19.7 +1.0**
VYHS Vyhne 151.04 334 *e*PKP **PKiKP 05 19 09.0 0.0**
GTTG Gottingen 151.09 347 *e*PKPbc **PKiKP 05 19 09.1 +0.2**
baz=20,slow=2.2
GTTG *e*PKPab **PKPab 05 19 19.4 +0.7**
baz=19,slow=4.2
JAVC Velka Javorina 151.21 335 *e* **PKPab 05 19 21.3 +1.9**
JAVC Velka Javorina 151.21 335 *e*PKP **PKiKP 05 19 10.4 +1.1**
ELND Elena 151.23 318 ⇑P **PKiKP 05 19 09.5 0.0**
VRAC Vranov 151.23 337 *e* **PKPab 05 19 20.4 +0.9**
VRAC Vranov 151.23 337 *e*PKP **PKiKP 05 19 09.4 +0.1**
MRMT Marmara Adasi 151.31 313 *e*P **PKPbc 05 19 08.9 -0.6**
GOPC GO Pecny, Ondr 151.32 340⇑ *e*PKP **PKiKP 05 19 09.8 +0.3**
GOPC *e*PKPAB **PKPab 05 19 20.2 +0.4**
PRU Pruhonice 151.33 340⇑ *e*PKP **PKPbc 05 19 09.0 -0.2**
PRU *e*PKPAB **PKPab 05 19 20.4 +0.6**
SIRR Siria 151.44 328 ⇑P **PKPdf 05 19 02.6 -0.2**
GZR Gura Zlata 151.48 325 ⇑P **PKPdf 05 19 03.8 +0.8**
GZR Gura Zlata 151.48 325 ⇑P **PKPdf 05 19 03.8 +0.8**
KRUC Moravsky 151.51 337 *e* **PKPab 05 19 21.4 +0.8**
KRUC Moravsky 151.51 337 *e*PKP **PKiKP 05 19 09.9 0.0**
TANN Tannenbergstha 151.55 343 *e*PKPbc **PKiKP 05 19 10.1 +0.1**
baz=20,slow=2.2
TANN *e*PKPab **PKPab 05 19 21.5 +0.7**
baz=19,slow=4.2
TANN *e*pPKPbc **pPKPab 05 21 21.3 +0.1**
baz=19,slow=2.3
MOX Moxa 151.55 344 *e*PKPbc **PKiKP 05 19 09.9 0.0**
baz=20,slow=2.2
MOX *e*PKPab **PKPab 05 19 21.2 +0.4**
baz=19,slow=4.2
MOX *e*pPKPbc **pPKPab 05 21 21.2 +0.2**
baz=19,slow=2.3
PLN Plauen 151.56 344 *e*PKPbc **PKiKP 05 19 10.2 +0.2**
baz=20,slow=2.2
PLN *e*PKPab **PKPab 05 19 21.5 +0.6**
baz=19,slow=4.2
PLN *e*pPKPbc **pPKPab 05 21 21.2 +0.1**
baz=19,slow=2.3
SMOL Smolenice 151.58 335 *e*PKP **PKPab 05 19 22.2 +1.2**
KRBG Karabiga-Canak 151.61 313 *e*P **PKPbc 05 19 09.9 -0.2**
GUNZ Gunzen 151.63 343 *e*PKPbc **PKiKP 05 19 10.5 +0.3**
baz=20,slow=2.2
GUNZ *e*PKPab **PKPab 05 19 22.0 +0.8**
baz=19,slow=4.2
GUNZ *e*pPKPbc **pPKPab 05 21 21.7 +0.2**
baz=19,slow=2.3
BUG Bochum--Univer 151.67 350 *e*PKPbc **PKiKP 05 19 10.0 -0.1**
baz=20,slow=2.2
BUG *e*PKPab **PKPab 05 19 21.2 0.0**
baz=19,slow=4.2
WERN Wernitzgruen 151.69 343 *e*PKPbc **PKiKP 05 19 10.5 +0.3**
baz=20,slow=2.2
WERN *e*PKPab **PKPab 05 19 22.4 +1.0**
baz=19,slow=4.2
PLVB Pleven 151.72 320 ⇑P **PKPdf 05 19 02.9 -0.4**
MODS Modra-Piesok 151.75 335 *e* **PKPab 05 19 21.8 +0.1**
MODS Modra-Piesok 151.75 335 *e*PKP **PKPbc 05 19 10.3 +0.1**
UBBA Unterbreizbach 151.76 347 *e*PKPbc **PKiKP 05 19 10.1 -0.1**
baz=20,slow=2.2
UBBA *e*PKPab **PKPab 05 19 21.8 +0.3**
baz=19,slow=4.2
PBCC Pribram 151.76 341⇑ *e*PKP **PKiKP 05 19 10.4 0.0**
BZS Buzias 151.92 327 ⇑P **PKPdf 05 19 04.3 +0.7**
LPK Lapseki 151.98 313 *e*P **PKPbc 05 19 10.7 -0.2**
HERR Herculane 152.01 325 ⇑P **PKPdf 05 19 04.9 +1.2**
MANZ Manzenberg 152.03 343 *e*PKPbc **PKiKP 05 19 11.2 +0.2**
baz=20,slow=2.2
MANZ *e*PKPab **PKPab 05 19 23.5 +0.7**
baz=19,slow=4.2
GELI Tayfur-Gelibol 152.16 313 *e*P **PKPbc 05 19 10.7 -0.6**
ROTZ Rotzenmuhle 152.21 343 *e*PKPbc **PKiKP 05 19 11.2 -0.1**
baz=20,slow=2.2
ROTZ *e*PKPab **PKPab 05 19 24.5 +0.9**
baz=19,slow=4.2
KHC Kasperske Hory 152.38 341⇑ *e*PKP **PKiKP 05 19 11.8 +0.1**
KHC *e*PKPAB **PKPab 05 19 24.8 +0.4**
RDO Rodhopi 152.40 315 *e*P **PKPbc 05 19 11.4 -0.4**
MDVR Moldovita 152.45 325 ⇑P **PKPdf 05 19 04.2 -0.2**
GRF Grafenberg Arr 152.53 344 *e*PKPbc **PKiKP 05 19 12.1 +0.1**
baz=20,slow=2.2
GRF *e*PKPab **PKPab 05 19 25.9 +1.0**
baz=19,slow=4.2
WET Wettzell 152.58 341 *e*PKPbc **PKiKP 05 19 12.2 +0.1**
baz=20,slow=2.2
WET *e*PKPab **PKPab 05 19 26.2 +1.0**
baz=19,slow=4.2
GEC2 GERESS Array S 152.60 340 *e*PKPbc **PKiKP 05 19 12.3 0.0**
baz=20,slow=2.2
GEC2 *e*PKPab **PKPab 05 19 25.8 +0.4**
baz=19,slow=4.2
GEC2 *e*pPKPbc **pPKPab 05 21 23.7 -1.9**
baz=19,slow=2.3
GERES GERESS Array B 152.60 340 PKP **PKPdf 05 19 03.8 -0.8**
comp=Z,0.3nm,0.2s,baz=90,slow=4.0,SNR=5.0
GERES PKPbc **PKPbc 05 19 12.2 0.0**
comp=Z,1.9nm,0.5s,baz=48,slow=2.0,SNR=20
GERES PKPab **PKPab 05 19 25.8 +0.4**
comp=Z,0.8nm,0.4s,baz=26,slow=4.6,SNR=6.3
TNS Taunus Mts 152.64 348 *e*PKPbc **PKPbc 05 19 12.2 +0.1**
baz=20,slow=2.2
TNS *e*PKPab **PKPab 05 19 25.8 +0.4**
baz=19,slow=4.2
CONA Conrad Observa 152.65 336 *i* PKiKP **PKiKP 05 19 12.6 +0.2**
comp=Z,5.2nm,0.8s
CONA *i* PKPab **PKPab 05 19 26.4 +0.8**
comp=Z,10nm,0.7s
BCLA Clavier 152.94 353 PKPdf **PKPdf 05 19 05.3 +0.4**
BCLA PKPbc **PKPbc 05 19 12.1 -0.6**
BCLA x x 05 19 16.3
BCLA PKPab **PKPab 05 19 26.4 -0.2**
SNF Seneffe 152.96 354 PKPab **PKPab 05 19 26.9 +0.2**
VTS Vitosha 152.99 320 ⇑P **PKPbc 05 19 13.0 -0.3**
VTS Vitosha 152.99 320 PKPbc **PKPbc 05 19 10.8 -2.5**
BMRD Maredsous 153.11 353 PKPdf **PKPdf 05 19 05.9 +0.8**
BMRD PKPbc **PKiKP 05 19 13.2 +0.1**
BMRD PKPab **PKPab 05 19 27.2 -0.1**
MOA Molln 153.28 338 *i* PKPbc **PKiKP 05 19 13.6 0.0**
comp=Z,2.5nm,0.6s
MOA *i* PKPab **PKPab 05 19 28.8 +0.5**
comp=Z,7.5nm,1.0s
ARSA Arzberg 153.35 336 *i* PKPab **PKPab 05 19 29.2 +0.6**
comp=Z,4.2nm,0.6s
WLF Walferdange 153.56 351 *e*PKPbc **PKiKP 05 19 14.8 +0.7**
baz=20,slow=2.2
WLF *e*PKPab **PKPab 05 19 30.0 +0.7**
baz=19,slow=4.2
RJOB Jochberg 153.86 340 *e*PKPab **PKPab 05 19 31.9 +1.2**
baz=19,slow=4.2
FUR Furstenfeldbru 153.92 343 *e*PKPab **PKPab 05 19 32.1 +1.1**
baz=19,slow=4.2
SOKA Soboth 154.01 336 *i* PKPdf **PKPdf 05 19 05.6 -1.1**
comp=Z,1.8nm,0.7s
SOKA *i* PKPab **PKPab 05 19 31.8 +0.3**
comp=Z,3.2nm,0.4s
GROS Grobnik 154.01 335 *e*PKPdf **PKPdf 05 19 06.1 -0.6**
GROS *e*PKPab **PKPab 05 19 31.5 0.0**
KBA Koelnbreinsper 154.26 339 *i* PKPdf **PKPdf 05 19 07.0 -0.2**
comp=Z,5.5nm,1.4s
KBA *i* PKPab **PKPab 05 19 33.3 +0.6**
comp=Z,2.2nm,0.4s
OBKA Obir 154.33 336 *i* PKPab **PKPab 05 19 30.7 -2.1**
comp=Z,4.4nm,0.8s
BFO Black Forest 154.47 347 PKPbc **PKiKP 05 19 13.1 -3.0**
BFO PKPab **PKPab 05 19 32.6 -0.7**
BFO Black Forest 154.47 347 *e*PKPab **PKPab 05 19 33.6 +0.3**
baz=19,slow=4.2
MYKA Terra Mystica 154.55 338 *i* PKPab **PKPab 05 19 33.7 -0.1**
comp=Z,4.7nm,0.5s
WATA Walderalm 154.59 341 *i* PKPab **PKPab 05 19 34.6 +0.6**
comp=Z,13nm,1.2s
WTTA Wattenberg 154.64 341 *i* PKPab **PKPab 05 19 34.5 +0.2**
comp=Z,8.8nm,0.5s
UBR Ueberruh 154.67 344 *e*PKPab **PKPab 05 19 34.5 +0.3**
baz=19,slow=4.2
RETA Reutte 154.68 343 *i* PKPab **PKPab 05 19 34.5 +0.2**
comp=Z,6.2nm,0.6s
MOTA Moosalm 154.72 342 *i* PKPab **PKPab 05 19 34.9 +0.4**
comp=Z,16nm,1.2s
LJU Ljubljana 154.73 336 *i* PKPdf **PKPdf 05 19 07.7 +0.2**
LJU *e* 05 19 16.5
SQTA Sankt Quirin 154.80 342 *i* PKPdf **PKPdf 05 19 06.3 -1.5**
comp=Z,3.9nm,0.8s
SQTA *i* PKPab **PKPab 05 19 34.6 -0.3**
comp=Z,4.6nm,0.5s
VISS Visnje 154.82 335 *e*PKPdf **PKPdf 05 19 07.6 0.0**
VISS *e* 05 19 16.7
VISS *e*PKPab **PKPab 05 19 34.8 0.0**
ABTA Abfaltersbach 154.83 339 *i* PKPdf **PKPdf 05 19 06.1 -1.7**
comp=Z,8.2nm,1.2s
ABTA *i* PKPab **PKPab 05 19 35.1 +0.1**
comp=Z,10nm,1.2s
BOJS Bojanci 154.90 334 *e*PKPdf **PKPdf 05 19 08.1 +0.3**
BOJS *e* 05 19 17.3
BOJS *i* PKPab **PKPab 05 19 35.4 +0.1**
DAVA Damuels 155.10 344 *i* PKPab **PKPab 05 19 36.5 +0.3**
comp=Z,8.5nm,0.6s,SNR=4.1
FETA Feichten 155.12 342 *i* PKPdf **PKPdf 05 19 07.7 -0.5**
comp=Z,6.8nm,1.3s
FETA *i* PKPab **PKPab 05 19 36.7 +0.4**
comp=Z,10nm,1.2s
FUORN Ofenpass-Fuorn 155.61 343 PKPdf **PKPdf 05 19 09.0 0.0**
FUORN PKPab **PKPab 05 19 39.4 +0.8**
NRCA Norcia 157.97 334 PKPdf **PKPdf 05 19 12.4 +0.5**
DBIC Dimbokro 162.51 164 PKP **PKPdf 05 19 17.3 -0.3**
comp=Z,2.2nm,0.7s,baz=146,slow=5.7,SNR=3.6
DBIC PKPab **PKPab 05 20 10.3 +1.3**
comp=Z,7.6nm,1.2s,baz=177,slow=6.7,SNR=2.5
ESDC Sonseca Array 163.65 11 PKPab **PKPab 05 20 13.8 +0.3**
comp=Z,3.5nm,0.9s,baz=339,slow=4.1,SNR=20
TORD Torodi Ar. Bea 169.46 189 PKP **PKPdf 05 19 22.0 -0.9**
comp=Z,4.6nm,1.2s,baz=287,slow=0.9,SNR=9.5
TORD PKPab **PKPab 05 20 40.0 +0.3**
comp=Z,2.7nm,0.8s,baz=173,slow=4.3,SNR=12
TORD PP **PP 05 24 29.9 +1.0**
comp=Z,0.9nm,0.8s,baz=192,slow=4.0,SNR=4.2

DRS **03** *05:14:30.9±0.0, 42.86N×47.89E, h14km, Felt I=III MSK at Kaspiysk*
MOS **03** *05:14:31.5±0.0, 42.76N×47.70E, h6km, MPVA4.3*
ISC 03 05:14:32.7±0.9, 42.82N±0.02×47.70E±0.03, h18km±6km, n79, σ1.9s66/136, 8C-4D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAK	**Makhachkala**	**0.20**	**316**	*e*Pg	**Pg**	**05 14 37.8**	**+0.2**
MAK				*e*Sg	**Sg**	**05 14 41.2**	**+0.2**
MAK	**Makhachkala**	**0.20**	**316**	*e*PG	**Pg**	**05 14 37.5**	**-0.1**
MAK				*e*		05 14 41.3	
MAK				pmax	pmax		
	comp=Z,130nm,0.3s						
MAK				smax	smax		
	comp=E,5μm,0.6s						
MAK				smax	smax		
	comp=E,4μm,0.3s						
BUJR	**Buynaksk**	**0.43**	**271**	*e*Pg	**Pb**	**05 14 41.6**	**-0.2**
BUJR				*e*Sg	**Sb**	**05 14 49.4**	**+1.4**
BUJR	**Buynaksk**	**0.43**	**271**⇑	*e*PG	**Pb**	**05 14 41.7**	**-0.2**
BUJR				*e*		05 14 49.4	
BUJR				pmax	pmax		
	comp=Z,618nm,0.5s						
BUJR				smax	smax		
	comp=N,4μm,0.6s						
ARKR	**Arakani**	**0.56**	**248**	*e*Pg	**Pb**	**05 14 44.0**	**0.0**
ARKR				*e*Sg	**Sb**	**05 14 52.0**	**+0.4**
ARKR	**Arakani**	**0.56**	**248**	*e*PG	**Pb**	**05 14 44.0**	**0.0**
ARKR				*e*S	**Sb**	**05 14 52.0**	**+0.4**
URKR	**Urkarakh**	**0.65**	**184**	*e*Pg	**Pb**	**05 14 45.1**	**-0.5**
URKR				*e*Sg	**Sb**	**05 14 54.8**	**+0.4**
URKR	**Urkarakh**	**0.65**	**184**	*e*PG	**Pb**	**05 14 45.1**	**-0.5**
URKR				*e*S	**Sb**	**05 14 54.8**	**+0.4**
DBC	**Dubki**	**0.67**	**288**	*i* Pg	**Pb**	**05 14 46.3**	**+0.4**
DBC				*e*Sg	**Sn**	**05 14 58.1**	**+0.6**
DBC	**Dubki**	**0.67**	**288**⇓	*e*PG	**Pb**	**05 14 46.2**	**+0.4**
DBC				*e*		05 14 58.1	
DBC				pmax	pmax		
	comp=Z,157nm,0.5s						
DBC				smax	smax		
	comp=N,412nm,0.6s						
UNCR	**Uncukul**	**0.67**	**262**	*e*Pg	**Pb**	**05 14 46.0**	**+0.1**
UNCR				*e*Sg	**Sb**	**05 14 55.5**	**+0.6**
UNCR	**Uncukul**	**0.67**	**262**	*e*PG	**Pb**	**05 14 46.0**	**+0.1**
UNCR				*e*S	**Sb**	**05 14 55.5**	**+0.6**
GNBR	**Gunib**	**0.69**	**232**	*i* Pg	**Pn**	**05 14 46.6**	**-1.0**
GNBR				*e*Sg	**Sn**	**05 14 58.5**	**+0.6**
GNBR	**Gunib**	**0.69**	**232**⇓	*e*PG	**Pb**	**05 14 46.4**	**+0.2**
GNBR				*e*		05 14 58.8	
GNBR				pmax	pmax		
	comp=Z,598nm,0.6s						
GNBR				smax	smax		
	comp=N,1μm,1.1s						
XNZR	**Khunzakh**	**0.78**	**250**	*e*Pg	**Pn**	**05 14 48.2**	**-0.7**
XNZR				*e*Sg	**Sn**	**05 14 59.9**	**-0.4**
XNZR	**Khunzakh**	**0.78**	**250**	*e*PG	**Pn**	**05 14 48.2**	**-0.7**
XNZR				*e*S	**Sn**	**05 14 59.9**	**-0.4**
KMKR	**Kumukh**	**0.81**	**213**	*e*Pg	**Pn**	**05 14 49.0**	**-0.5**
KMKR				*e*Sg	**Sn**	**05 15 02.5**	**+1.3**
KMKR	**Kumukh**	**0.81**	**213**	*e*PG	**Pn**	**05 14 49.0**	**-0.5**
KMKR				S	**Sn**	**05 15 02.5**	**+1.3**

KMKR				pmax	pmax		
	comp=Z,386nm,0.3s						
DRN	**Derbent**	**0.91**	**149**	*e*Pg	**Pn**	**05 14 50.7**	**+0.1**
DRN				*e*Sg	**Sn**	**05 15 04.3**	**+1.0**
DRN	**Derbent**	**0.91**	**149**	*e*PG	**Pn**	**05 14 50.6**	**0.0**
DRN				*e*S	**Sn**	**05 15 04.4**	**+1.1**
DRN				pmax	pmax		
	comp=Z,226nm,0.7s						
BTLR	**Botlikh**	**1.10**	**263**	*e*Pg	**Pn**	**05 14 54.0**	**+0.8**
BTLR				*e*Sg	**Sn**	**05 15 11.1**	**+3.1**
BTLR	**Botlikh**	**1.10**	**263**	*e*PG	**Pn**	**05 14 53.8**	**+0.6**
BTLR				pmax	pmax		
	comp=Z,70nm,0.3s						
AKT	**Akhty**	**1.33**	**179**	*e*Pg	**Pb**	**05 14 57.5**	**+0.2**
AKT				*e*Sg	**Sn**	**05 15 14.8**	**+0.9**
AKT	**Akhty**	**1.33**	**179**	*e*PG	**Pb**	**05 14 57.1**	**-0.1**
AKT				*e*		05 15 14.5	
AKT				pmax	pmax		
	comp=Z,201nm,0.3s						
AKT				smax	smax		
	comp=E,840nm,0.2s						
AKT				smax	smax		
	comp=E,750nm,0.2s						
AKT				smax	smax		
	comp=N,303nm,0.3s						
ZKTA	**Zakatala**	**1.42**	**214**	PG	**Pg**	**05 14 59.0**	**-1.0**
LGD	**Lagodekhi**	**1.46**	**228**	P	**Pg**	**05 14 59.8**	**-0.9**
LGD				S	**Sg**	**05 15 23.0**	**+3.3**
LGD	**Lagodekhi**	**1.46**	**228**	*e*Pg	**Pg**	**05 14 59.5**	**-1.2**
LGD				*e*Sg	**Sg**	**05 15 20.5**	**+0.8**
LGD	**Lagodekhi**	**1.46**	**228**	*e*PG	**Pg**	**05 14 59.5**	**-1.2**
SEKA	**Sheki**	**1.65**	**193**	PN	**Pg**	**05 15 02.4**	**-2.0**
DDFL	**Dedoflistskaro**	**1.80**	**221**	P	**Pg**	**05 15 09.4**	**+2.1**
MNGR	**Mingechevir, A**	**2.09**	**193**	PN	**Pb**	**05 15 09.5**	**-0.6**
KMGR	**Komgaron**	**2.09**	**278**	*e*Pg	**Pb**	**05 15 10.7**	**+0.6**
KMGR				*e*Sg	**Sb**	**05 15 36.1**	**+0.3**
KMGR	**Komgaron**	**2.09**	**278**	*e*PN	**Pb**	**05 15 10.7**	**+0.6**
KMGR				*e*S	**Sb**	**05 15 34.7**	**+2.2**
VLKR	**Vladikavkaz**	**2.23**	**277**	*e*Pg	**Pb**	**05 15 11.2**	**-1.3**
VLKR				*e*Sg	**Sb**	**05 15 41.6**	**+1.9**
VLKR	**Vladikavkaz**	**2.23**	**277**	*e*PN	**Pb**	**05 15 11.2**	**-1.3**
VLKR				*e*S	**Sb**	**05 15 41.6**	**+1.9**
PNSH	**Pansheti**	**2.28**	**267**	P	**Pb**	**05 15 13.5**	**+0.2**
PNSH				S	**Sg**	**05 15 44.1**	**-1.8**
BTKR	**Batakoyurt**	**2.38**	**285**	*e*Pn	**Pb**	**05 15 14.4**	**-0.5**
BTKR				*e*Sn	**Sb**	**05 15 42.8**	**-1.1**
BTKR	**Batakoyurt**	**2.38**	**285**	*e*PN	**Pb**	**05 15 14.4**	**-0.5**
BTKR				*e*S	**Sb**	**05 15 42.8**	**-1.1**
GANJ	**Ganja**	**2.40**	**206**	PN	**Pb**	**05 15 13.5**	**-1.8**
GUDG	**Gudauri**	**2.40**	**263**	P	**Pg**	**05 15 16.5**	**-2.2**
GUDG	**Gudauri**	**2.40**	**263**	*e*Pn	**Pb**	**05 15 14.5**	**-1.0**
GUDG				*e*Sn	**Sb**	**05 15 43.6**	**-1.2**
GUDG	**Gudauri**	**2.40**	**263**	*e*PN	**Pb**	**05 15 14.9**	**-0.6**
GUDG				*e*S	**Sb**	**05 15 43.7**	**-1.2**
LACR	**Lac**	**2.50**	**271**	*e*Pn	**Pb**	**05 15 15.2**	**-2.0**
LACR				*e*Sn	**Sb**	**05 15 46.5**	**-1.2**
LACR	**Lac**	**2.50**	**271**	*e*PN	**Pb**	**05 15 15.1**	**-2.0**
LACR				*e*S	**Sg**	**05 15 50.8**	**-2.3**
ARNR	**Ardon**	**2.53**	**279**	*e*Pn	**Pn**	**05 15 13.8**	**+0.9**
ARNR				*e*Sn	**Sb**	**05 15 46.8**	**-1.6**
ARNR	**Ardon**	**2.53**	**279**	*e*PN	**Pn**	**05 15 13.8**	**+0.9**
ARNR				*e*S	**Sb**	**05 15 46.8**	**-1.6**
KORR	**Kora**	**2.68**	**277**	*e*Pn	**Pn**	**05 15 15.3**	**+0.4**
KORR				*e*Sn	**Sb**	**05 15 51.4**	**-1.2**
KORR	**Kora**	**2.68**	**277**	*e*PN	**Pn**	**05 15 15.3**	**+0.4**
KORR				*e*S	**Sb**	**05 15 51.4**	**-1.2**
STDR	**Stavd-Durt**	**2.72**	**283**	*e*Pn	**Pb**	**05 15 21.1**	**+0.4**
STDR				*e*Sn	**Sb**	**05 15 52.8**	**-1.0**
STDR	**Stavd-Durt**	**2.72**	**283**	*e*PN	**Pb**	**05 15 21.1**	**+0.4**
STDR				*e*S	**Sb**	**05 15 52.8**	**-1.0**
ZEI	**Tsey**	**2.79**	**271**	*e*Pn	**Pn**	**05 15 19.0**	**+2.3**
ZEI				*e*Sn	**Sb**	**05 15 55.1**	**-1.0**
ZEI	**Tsey**	**2.79**	**271**	*e*PN	**Pb**	**05 15 20.9**	**-1.3**
ZEI				*e*S	**Sb**	**05 15 57.0**	**+0.9**
LSNR	**Lesken**	**2.87**	**281**	*e*Pn	**Pn**	**05 15 20.4**	**+2.8**
LSNR				*e*Sn	**Sb**	**05 15 56.2**	**-2.1**
LSNR	**Lesken**	**2.87**	**281**	*e*PN	**Pn**	**05 15 20.4**	**+2.8**
LSNR				*e*S	**Sb**	**05 15 57.8**	**-0.5**
DIGR	**Digorskoe uzhe**	**3.03**	**273**	*e*Pn	**Pn**	**05 15 21.2**	**+1.3**
DIGR				*e*Sn	**Sb**	**05 16 00.5**	**-2.3**
DIGR	**Digorskoe uzhe**	**3.03**	**273**	*e*PN	**Pn**	**05 15 21.2**	**+1.3**
DIGR				*e*S	**Sb**	**05 16 00.5**	**-2.3**
ONI	**Oni**	**3.14**	**267**	P	**Pb**	**05 15 26.2**	**-1.7**
ONI	**Oni**	**3.14**	**267**	*e*PN	**Pb**	**05 15 25.8**	**-2.1**
ONI				*e*S	**Sb**	**05 16 04.0**	**-1.8**
AKH	**Akhalkalaki**	**3.43**	**247**	*e*Pn	**Pb**	**05 15 29.7**	**-3.3**
AKH				*e*Sn	**Sn**	**05 16 08.7**	**+3.0**
AKH	**Akhalkalaki**	**3.43**	**247**	*e*PN	**Pb**	**05 15 29.7**	**-3.3**
AKH				*e*S	**Sn**	**05 16 08.7**	**+3.0**
KBZ	**Khabaz**	**3.62**	**286**	*e*Pn	**Pb**	**05 15 29.2**	**+1.4**
KBZ				*e*Sn	**Sn**	**05 16 12.2**	**+2.1**
KBZ	**Khabaz**	**3.62**	**286**	*e*PN	**Pn**	**05 15 29.2**	**+1.4**
KBZ				*e*S	**Sn**	**05 16 12.2**	**+2.1**
NEY	**Neytrino**	**3.67**	**278**	*e*Pn	**Pn**	**05 15 30.8**	**+2.1**
NEY				*e*Sn	**Sn**	**05 16 14.9**	**+3.2**
NEY	**Neytrino**	**3.67**	**278**	*e*PN	**Pn**	**05 15 30.8**	**+2.1**
NEY				*e*S	**Sn**	**05 16 14.9**	**+3.2**
SHA1	**Shidzhatmaz**	**3.79**	**286**	*e*Pn	**Pn**	**05 15 32.1**	**+1.7**
SHA1				*e*Sn	**Sn**	**05 16 17.0**	**+2.3**
SHA1	**Shidzhatmaz**	**3.79**	**286**	*e*PN	**Pn**	**05 15 32.1**	**+1.7**
SHA1				*e*S	**Sn**	**05 16 17.0**	**+2.3**
KIV0	**Kislovodsk Arr**	**3.82**	**289**	*e*Pn	**Pn**	**05 15 34.2**	**+3.6**
KIV0				*e*Sn	**Sn**	**05 16 17.6**	**+2.4**
KIV	**Kislovodsk**	**3.83**	**289**⇑	*e*PN	**Pn**	**05 15 32.1**	**+1.3**
KIV				PPP	PPP	05 15 46.0	
KIV				S	**Sb**	**05 16 22.0**	**-3.7**
KIV				SS	**SbSb**	**05 16 32.0**	**+1.2**
KIV				SSS	SSS	05 16 39.0	
KIV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NAX	**Nakhchivan**	**4.00**	**205**	PN	**Pn**	**05 15 36.5**	**+3.3**
GOF	**Gofitskoye**	**4.04**	**305**	*e*Pn	**Pn**	**05 15 36.5**	**+2.9**
GOF	**Gofitskoye**	**4.04**	**305**⇑	*e*PN	**Pb**	**05 15 40.8**	**-2.5**
GOF				*e*S	**Sg**	**05 16 39.4**	**-2.9**
GOF				pmax	pmax		
	comp=Z,23nm,0.6s						
GOF				smax	smax		
	comp=E,40nm,0.6s						
GOF				smax	smax		
	comp=N,38nm,0.6s						
RPOR	**Krasnaya Polya**	**5.50**	**282**	*e*Pn	**Pn**	**05 15 54.7**	**+1.0**
RPOR	**Krasnaya Polya**	**5.50**	**282**⇓	*e*P	**Pn**	**05 15 53.7**	**0.0**
SOC	**Sochi**	**5.88**	**280**	*e*P	**Pn**	**05 15 57.7**	**-1.2**
SOC				*e*		05 17 06.3	
SOC				MLR	MLR		
	comp=Z,90nm,13.0s						
ANN	**Anapa**	**7.69**	**288**⇑	*e*P	**Pn**	**05 16 23.8**	**+0.2**
AKTO	**Aktyubinsk**	**10.41**	**39** ⇓	P	**Pn**	**05 17 02.0**	**+1.1**
	comp=Z,2.2nm,0.7s						
AKTO				⇑S	**Sn**	**05 18 53.7**	**-3.3**
	comp=Z,5.1nm,0.9s						
AB31	**Akbulak array**	**10.67**	**49**	⇑P	**Pn**	**05 17 07.5**	**+3.0**
	comp=Z,2.4nm,0.3s,baz=236,slow=13						
AB31				⇑S	**Sn**	**05 19 01.5**	**-2.0**
	comp=Z,1.8nm,0.5s,baz=236,slow=24						
KURK	**Kurchatov**	**22.48**	**59**⇑	*e*P	**P**	**05 19 29.7**	**-1.1**
KURK	**Kurchatov**	**22.48**	**59**	pmax	pmax		
	comp=Z,2.0nm,1.2s						

*GII **03** 05:17:26.0±0.0, 34°.35N×28°.21E, h25km, MD2.4/3*
*ISK **03** 05:17:31.8, 34°.64N×28°.38E, h1km, ML3.0/18*
*NIC **03** 05:17:34.9±0.0, 34°.52N×28°.52E, h34km±31km, Ml2.5/3*
*HLW **03** 05:17:36.3, 34°.46N×28°.85E, h7km±12km, Md3.4, Ml3.9*
*DDA **03** 05:17:42.0, 35°.34N×28°.41E, h19km±1km, ML2.6*
ISC 03 05:17:30.8±1.4**, 34°.55N**±0°.04×**28°.46E**±0°.04**, h15**km±10km**, n53, σ2s**48**/62, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.46**	**313**	PN	**Pg**	**05 17 59.3**	**+0.5**
KARP				SN	**Sg**	**05 18 18.1**	**+0.3**
KARP	**Karpathos**	**1.46**	**313**	P	**Pg**	**05 17 60.0**	**+1.1**
KARP				S	**Sg**	**05 18 19.3**	**+1.5**
KARP				AML	AML	05 18 19.7	
	0.2nm,0.3s						
KARP				AML	AML	05 18 19.7	
	0.2nm,0.3s						
KARP				AML	AML	05 18 20.7	
	0.2nm,0.4s						
KARP				AML	AML	05 18 20.7	
	0.2nm,0.4s						
ARG	**Arkhangelos**	**1.68**	**351**	PN	**Pg**	**05 18 01.9**	**-1.2**
ARG				SN	**Sg**	**05 18 23.9**	**-1.1**
ARG	**Arkhangelos**	**1.68**	**351**	P	**Pg**	**05 18 02.5**	**-0.7**
ARG				S	**Sg**	**05 18 23.7**	**-1.3**
KSL	**Kastellorizon**	**1.84**	**30**	P	**Pb**	**05 18 04.8**	**+0.7**
KSL				S	**Sb**	**05 18 27.6**	**+0.7**
KSL				AML	AML	05 18 29.1	
	0.1nm,0.8s						
KSL				AML	AML	05 18 29.1	
	0.1nm,0.8s						
AKAS	**Kas**	**1.92**	**29**	PN	**Pb**	**05 18 06.1**	**+0.6**
AKAS	**Kas**	**1.92**	**29**	*i* P	**Pb**	**05 18 06.2**	**+0.6**
AKAS				*i* S	**Sn**	**05 18 25.5**	**-1.4**
ZKR	**Zakros**	**1.93**	**287**	P	**Pb**	**05 18 06.3**	**+0.7**
ZKR				AML	AML	05 18 30.3	
	0.2nm,0.3s						
ZKR				AML	AML	05 18 30.3	
	0.2nm,0.3s						
ZKR				S	**Sg**	**05 18 30.5**	**-2.4**
ZKR				AML	AML	05 18 31.9	
	0.1nm,0.4s						
ZKR				AML	AML	05 18 31.9	
	0.1nm,0.4s						
FETY	**Fethiye**	**2.14**	**14**	PN	**Pb**	**05 18 08.6**	**-0.6**
FETY	**Fethiye**	**2.14**	**14**	*i* P	**Pb**	**05 18 08.2**	**-1.1**
FETY				*i* S	**Sn**	**05 18 27.8**	**-4.4**
MRSB	**Marmaris-Mugla**	**2.17**	**354**	PN	**Pb**	**05 18 08.9**	**-0.9**
MRSB				SN	**Sb**	**05 18 36.0**	**-0.4**
DALY	**Dalyan (Mula)**	**2.26**	**4**	PN	**Pb**	**05 18 10.4**	**-0.9**
DALY	**Dalyan (Mula)**	**2.26**	**4**	*i* P	**Pb**	**05 18 10.1**	**-1.3**
DALY				*i* S	**Sn**	**05 18 32.5**	**-2.8**
DAT	**Datca**	**2.29**	**342**	PN	**Pb**	**05 18 10.5**	**-1.3**
DAT	**Datca**	**2.29**	**342**	*i* P	**Pb**	**05 18 10.5**	**-1.3**
DAT				*i* S	**Sn**	**05 18 29.6**	**-6.4**
TURN	**Turunc**	**2.32**	**3**	PN	**Pn**	**05 18 09.7**	**+1.4**
TURN	**Turunc**	**2.32**	**3**	*i* P	**Pn**	**05 18 09.8**	**+1.4**
TURN				*i* S	**Sn**	**05 18 33.0**	**-3.6**
ELL	**Elmali**	**2.49**	**28**	PN	**Pb**	**05 18 14.1**	**-1.1**
YER	**Yerkesik**	**2.58**	**357**	PN	**Pb**	**05 18 14.8**	**-2.0**
BODT	**Bodrum**	**2.67**	**340**	PN	**Pn**	**05 18 15.5**	**+2.2**
GOLH	**Golhisar**	**2.82**	**18**	*i* P	**Pb**	**05 18 19.5**	**-1.5**
GOLH				*i* S	**Sn**	**05 18 49.2**	**0.0**
GOLH				IAML		05 18 54.0	
	comp=N,41nm,0.2s						
TAVA	**DENIZLI_Tavas**	**2.93**	**7**	*i* P	**Pn**	**05 18 19.9**	**+3.0**
TAVA				*i* S	**Sn**	**05 18 48.0**	**-3.8**
IDI	**Anoyia**	**3.03**	**285**	PN	**Pn**	**05 18 21.2**	**+3.0**
SANT	**Santorini**	**3.05**	**307**	PN	**Pn**	**05 18 21.3**	**+2.8**
AKMS	**Akamas**	**3.22**	**81**	P	**Pn**	**05 18 23.2**	**+2.3**
AKMS				S	**Sn**	**05 18 59.7**	**+0.8**
GCAM	**G?zelcaml?**	**3.29**	**343**	PN	**Pn**	**05 18 24.9**	**+3.1**
AYDB	**Zeytinkoy-Aydi**	**3.42**	**352**	PN	**Pn**	**05 18 26.7**	**+3.1**
ALFC	**Alefka**	**3.45**	**79**	S	**Sn**	**05 19 05.1**	**+0.3**
APE	**Apeiranthos**	**3.46**	**317**	PN	**Pn**	**05 18 27.1**	**+2.9**
GAZI	**Gazipasa**	**3.57**	**61**	PN	Pn	05 18 30.4	+4.8
SZAC	**Souni**	**3.65**	**86**	S	**Sn**	**05 19 10.8**	**+1.2**
KHAL	**Karahalli**	**3.90**	**12**	*i* P	**Pn**	**05 18 32.3**	**+2.1**
KHAL				*i* S	Sn	05 19 02.2	-14
MANT	**Manisa**	**3.93**	**1**	*i* P	**Pn**	**05 18 32.4**	**+1.6**
MANT				*i* S	Sn	05 19 07.1	-10
ASGA	**Asgata**	**3.95**	**85**	S	**Sn**	**05 19 18.9**	**+2.0**
KULA	**Kula-Manisa**	**3.96**	**2**	PN	**Pn**	**05 18 34.5**	**+3.5**
CSS	**Mathiatis**	**4.03**	**83**	Sn	**Sn**	**05 19 19.0**	**+0.1**
URLA	**Izmir**	**4.09**	**339**	PN	**Pn**	**05 18 36.1**	**+3.4**
KONT	**Konya--Tatoy**	**4.62**	**42**	PN	Pn	05 18 45.0	+4.9
KERG	**Konya-Eregli**	**5.41**	**57**	*i* P	Pb	05 19 00.3	-4.7
KERG				*i* S	Sn	05 19 42.8	-10
KERG				IAML		05 20 01.0	
	comp=N,5.4nm,1.0s						
KERG				IAML		05 21 12.0	
	comp=E,8.0nm,1.7s						
MMA0B	**Mount Meron ar**	**5.98**	**103**	Sn	**Sn**	**05 20 05.2**	**-1.8**
KZIT	**Kziot**	**6.18**	**124**	Sn	**Sn**	**05 20 08.1**	**-3.9**
NATI	**Neve Ativ**	**6.18**	**100**	Pn	**Pn**	**05 18 59.5**	**-2.0**
NATI				Sn	**Sn**	**05 20 10.7**	**-1.2**
MMLI	**Mount Malkishu**	**6.18**	**108**	Sn	**Sn**	**05 20 09.2**	**-2.9**
HMDT	**Nahal Hemdat**	**6.34**	**109**	Pn	Pn	05 18 59.4	-4.2
HMDT				Sn	**Sn**	**05 20 13.4**	**-2.3**
SHMJ	**Saham**	**6.36**	**105**	Pn	Pn	05 19 00.5	-3.4
YTIR	**Yattir**	**6.43**	**118**	Sn	**Sn**	**05 20 14.8**	**-3.5**
DSI	**Dead Sea**	**6.52**	**115**	Pn	Pn	05 19 01.7	-4.5
KRMI	**Paran Flat**	**6.90**	**128**	Sn	Sn	05 20 24.9	-4.8
ZFRI	**Zfri**	**6.93**	**123**	Sn	**Sn**	**05 20 25.9**	**-4.4**
PRNI	**Paran**	**6.94**	**125**	Sn	**Sn**	**05 20 26.2**	**-4.4**
HRFI	**Mount Harif**	**7.16**	**127**	Sn	**Sn**	**05 20 31.9**	**-4.2**
MBRI	**Mt Berech**	**7.24**	**129**	Sn	**Sn**	**05 20 34.1**	**-4.0**
EIL	**Elat**	**7.35**	**130**	Sn	Sn	05 20 35.4	-5.3

*MDD **03** 05:22:02.2±1.8, 32°.82N×13°.12W, h0km, mb4.2/7, Error ellipse: s-maj=35.5km s-min=7.2km az=156.0, PRXIMO*
*CNRM **03** 05:22:04.9±2.5, 32°.27N×13°.02W, h103km±110km, Error ellipse: s-maj=29.0km s-min=9.8km az=11.0*
*IGIL **03** 05:22:04.0, 32°.93N×13°.16W, h0km, ML2.2*
*INMG **03** 05:22:06.5±2.6, 32°.44N×13°.05W, h10km, ML2.6, Error ellipse: s-maj=8.0km s-min=5.6km az=150.0*
ISC 03 05:21:59.1±1.0**, 32°.72N**±0°.05×**13°.05W**±0°.04**, h10**km**, n43, σ2s63/73, Madeira Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMPS	**Porto Santo**	**2.78**	**278**	P	**Pn**	**05 22 46.5**	**+2.8**
PMPS				S	**Sn**	**05 23 13.6**	**-3.7**
	12nm,0.6s						
PMPS	**Porto Santo**	**2.78**	**278**	*e*Pn	**Pn**	**05 22 46.5**	**+2.8**
PMPS				*e*Sn	**Sn**	**05 23 13.6**	**-3.7**
PMPS				A	A	05 23 18.6	
	24nm,0.6s						
PMPST	**Porto Santo, M**	**2.78**	**278**	*e*Pn	**Pn**	**05 22 46.2**	**+2.5**
PMPST				*e*Sn	**Sn**	**05 23 14.9**	**-2.5**
PMPST				A	A	05 23 16.9	
	32nm,0.3s						
PMAR	**Madeira**	**3.25**	**271**	P	**Pn**	**05 22 53.0**	**+2.6**
PMAR				S	**Sn**	**05 23 28.6**	**-0.7**
	27nm,0.2s						
PMAR	**Madeira**	**3.25**	**271**	P	**Pb**	**05 22 56.3**	**-0.8**
PMAR				S	**Sn**	**05 23 33.9**	**+4.6**
PMAR	**Madeira**	**3.25**	**271**	*e*Pn	**Pn**	**05 22 53.0**	**+2.6**
PMAR				*e*Sn	**Sn**	**05 23 28.6**	**-0.7**
PMAR				A	A	05 23 34.2	
	54nm,0.2s						
PMOZ	**Porto Moniz, M**	**3.49**	**273**	S	**Sn**	**05 23 35.4**	**+0.3**
	562nm,1.7s,SNR=7.9						
PMOZ	**Porto Moniz, M**	**3.49**	**273**	*e*Sn	**Sn**	**05 23 35.4**	**+0.3**
SRHM	**Skhour des Reh**	**4.36**	**92**	P	**Pn**	**05 23 07.1**	**+1.6**
SRHM				S	**Sn**	**05 23 57.6**	**+1.2**
OUK	**Oukaimeden**	**4.66**	**107**	P	**Pn**	**05 23 07.6**	**-2.2**
OUK				S	**Sn**	**05 24 02.9**	**-1.2**
PFVI	**Vila Bisbo**	**5.61**	**37**	P	**Pn**	**05 23 24.5**	**+2.0**
	1.9nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**5.61**	**37**	*e*Pn	**Pn**	**05 23 24.6**	**+2.0**
PFVI				*e*Sn	**Sn**	**05 24 24.9**	**-2.2**
OUZM	**OUZ**	**5.65**	**107**	P	**Pn**	**05 23 23.3**	**0.0**
OUZM				S	**Sn**	**05 24 25.0**	**-3.4**
MORF	**Marmelete**	**5.83**	**37**	*e*P	**Pn**	**05 23 27.7**	**+2.0**
MORF	**Marmelete**	**5.83**	**37**	P	**Pn**	**05 23 27.9**	**+2.2**
MORF	**Marmelete**	**5.83**	**37**	*e*Pn	**Pn**	**05 23 27.9**	**+2.2**
PTEO	**Sao Teotonio**	**5.98**	**35**	P	**Pn**	**05 23 31.5**	**+3.8**
PTEO				S	**Sn**	**05 24 34.6**	**-1.7**
	3.9nm,0.7s						
PTEO	**Sao Teotonio**	**5.98**	**35**	*e*Pn	**Pn**	**05 23 31.5**	**+3.8**
PTEO				*e*Sn	**Sn**	**05 24 34.6**	**-1.7**
PTEO				A	A	05 24 40.7	
	7.8nm,0.7s						
PCVE	**Castro Verde**	**6.40**	**39**	P	**Pn**	**05 23 35.6**	**+2.2**
PCVE				S	**Sn**	**05 24 46.3**	**-0.2**
	2.7nm,0.5s						
PCVE	**Castro Verde**	**6.40**	**39**	*e*Pn	**Pn**	**05 23 35.6**	**+2.2**
PCVE				*e*Sn	**Sn**	**05 24 46.3**	**-0.2**
PCVE				A	A	05 24 53.7	
	2.7nm,0.5s						
PVAQ	**Vaqueiros**	**6.40**	**42**	P	**Pn**	**05 23 35.9**	**+2.4**
PVAQ				S	**Sn**	**05 24 45.3**	**-1.4**
	2.2nm,0.4s						
PVAQ	**Vaqueiros**	**6.40**	**42**	*e*Pn	**Pn**	**05 23 35.9**	**+2.4**
PVAQ				*e*Sn	**Sn**	**05 24 45.3**	**-1.4**
PVAQ				A	A	05 24 50.1	
	2.2nm,0.4s						
MESJ	**Messejana**	**6.46**	**36**	*e*P	**Pn**	**05 23 36.0**	**+1.8**
MESJ				*e*S	**Sn**	**05 24 43.8**	**-4.3**
MESJ				AML	AML	05 24 49.7	
	comp=E,2.6nm,0.4s						
MESJ	**Messejana**	**6.46**	**36**	P	**Pn**	**05 23 36.7**	**+2.4**
MESJ				S	**Sn**	**05 24 47.3**	**-0.8**
	comp=E,2.5nm,0.7s						
MESJ	**Messejana**	**6.46**	**36**	*e*Pn	**Pn**	**05 23 36.7**	**+2.4**
MESJ				*e*Sn	**Sn**	**05 24 47.3**	**-0.8**
MESJ				A	A	05 24 59.4	
	comp=E,2.5nm,0.7s						
PNCL	**Nicolau / Gran**	**6.53**	**33**	P	**Pn**	**05 23 37.2**	**+2.0**
PNCL				S	**Sn**	**05 24 47.0**	**-2.7**
	comp=E,2.8nm,0.6s						
PNCL	**Nicolau / Gran**	**6.53**	**33**	*e*Pn	**Pn**	**05 23 37.2**	**+2.0**
PNCL				*e*Sn	**Sn**	**05 24 47.0**	**-2.7**
PNCL				A	A	05 24 50.1	
	comp=E,2.8nm,0.6s						
EGRO	**El Granado**	**6.63**	**42**	P	**Pn**	**05 23 39.3**	**+2.7**
	comp=E,1.0nm,0.1s,SNR=4.9						
EGRO				S	**Sn**	**05 24 50.7**	**-1.4**
	comp=E,1.6nm,0.1s,SNR=7.9						
TZRR	**Tazzarine**	**6.66**	**105**	P	**Pn**	**05 23 41.4**	**+4.3**
CHEFC	**Chefchaouen**	**6.84**	**67**	P	Pn	05 23 46.8	+7.2
CHEFC				S	**Sn**	**05 25 02.3**	**+4.7**
ECEU	**Ceuta**	**7.10**	**61**	P	**Pn**	**05 23 46.0**	**+2.9**
	comp=E,1.0nm,0.1s,SNR=7.9						
EVO	**Evora**	**7.11**	**34**	P	**Pn**	**05 23 44.9**	**+1.8**
EVO				S	**Sn**	**05 25 01.9**	**-2.1**
EVO	**Evora**	**7.11**	**34**	*e*Pn	**Pn**	**05 23 44.9**	**+1.8**
EVO				*e*Sn	**Sn**	**05 25 01.9**	**-2.1**
MDT	**Midelt**	**7.12**	**87**	P	**Pn**	**05 23 43.9**	**+0.5**
EMIN	**Mina Concepcio**	**7.25**	**44**	P	**Pn**	**05 23 47.2**	**+2.0**
	comp=E,1.3nm,0.2s,SNR=8.7						
EMIN				S	**Sn**	**05 25 04.6**	**-3.0**
	comp=E,0.5nm,0.1s,SNR=7.9						
PMTG	**Montargil**	**7.45**	**30**	P	**Pn**	**05 23 50.5**	**+2.6**
PMTG	**Montargil**	**7.45**	**30**	*e*Pn	**Pn**	**05 23 50.5**	**+2.6**
EBAD	**Badajoz**	**7.77**	**37**	P	**Pn**	**05 23 54.5**	**+2.2**
	comp=E,0.7nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**05 25 17.4**	**-3.0**
	comp=E,0.5nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**8.12**	**33**	P	**Pn**	**05 23 59.1**	**+2.1**
PMRV				S	**Sn**	**05 25 24.7**	**-4.1**
	comp=E,1.8nm,0.9s						
PMRV	**Marv??o**	**8.12**	**33**	*e*Pn	**Pn**	**05 23 59.1**	**+2.1**
PMRV				*e*Sn	**Sn**	**05 25 24.7**	**-4.1**
PMRV				A	A	05 25 26.2	
	comp=E,1.8nm,0.9s						
ECAB	**El Cabril**	**8.21**	**47**	P	**Pn**	**05 24 00.5**	**+2.1**
	comp=E,0.9nm,0.3s,SNR=7.9						
ECAB				S	**Sn**	**05 25 26.7**	**-4.5**
	comp=E,0.2nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**9.07**	**58**	P	**Pn**	**05 24 14.7**	**+4.5**
	comp=E,0.9nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**10.13**	**55**	P	**Pn**	**05 24 26.9**	**+2.1**
	comp=E,0.8nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**05 26 13.6**	**-4.8**
	comp=E,0.9nm,0.3s,SNR=7.9						

*IDC **03** 05:34:47.5±0.6, 24°.87N×97°.69E, h0km, mb4.0/23, mb1 4.2/24, mb1mx4.1/50, mbtmp4.0/24, ML4.8/1, MS3.7/5, Ms1 3.7/5, ms1mx3.3/37, Error ellipse: s-maj=18.3km s-min=11.1km az=58.0*
*BJI **03** 05:34:48.2±0.0, 24°.99N×97°.86E, h11km, mB4.4/16, mb4.3/23, ML4.3/10, Ms4.2/30, Ms7 4.1/22*
*NEIC **03** 05:34:50.1±1.3, 24°.88N±0°.07×97°.75E±0°.08, h18km±3km, mb4.5/14, Error ellipse: s-maj=12.3km s-min=8.6km az=224.0*
ISC 03 05:34:48.5±0.4**, 24°.81N**±0°.04×**97°.73E**±0°.04**, h10**km**, n115, σ2s90/145, mb4.2/44, MS3.8/7, 1C, Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKP	**Lekhapani**	**3.03**	**326**	*e*P	**

GYA	**Guiyang**	**8.23**	**77**	⇑*i*P		**Pn**	**05 36 45.5**	**-2.6**
GYA				S		**Sn**	**05 38 17.6**	**-3.6**
GYA				smax	smax			
	comp=N,30nm,1.8s							
GYA				smax	smax			
	comp=N,30nm,2.2s							
GYA				LR	LR			
	comp=N,730nm,5.6s							
GYA				LR	LR			
	comp=N,2µm,10.3s							
TAPN	**Taplejung**	**9.36**	**288**	*e*P		**Pn**	**05 37 03.3**	**-0.5**
	comp=N,87nm,0.8s							
ODAN	**Odare**	**9.54**	**285**	*e*P		**Pn**	**05 37 06.5**	**+0.3**
RAMN	**Ramite**	**10.25**	**284**	*e*P		**Pn**	**05 37 15.9**	**0.0**
	comp=N,57nm,0.6s							
JIRN	**Jiri**	**10.74**	**288**	*e*P		**Pn**	**05 37 22.1**	**-0.7**
	comp=N,156nm,1.0s							
GUN	**Gumba**	**11.07**	**289**	*e*P		**Pn**	**05 37 26.5**	**-0.7**
	comp=N,199nm,1.0s							
PKI	**Pulchoki**	**11.40**	**287**	*e*P		**Pn**	**05 37 30.3**	**-1.5**
	comp=N,44nm,0.7s							
PKIN	**Phulchoki**	**11.41**	**287**	*e*P		**Pn**	**05 37 30.8**	**-1.1**
	comp=N,42nm,0.7s							
DMN	**Daman**	**11.67**	**287**	*e*P		**Pn**	**05 37 34.1**	**-1.4**
	comp=N,44nm,0.9s							
GKN	**Gorkha**	**12.16**	**288**	*e*P		**Pn**	**05 37 40.4**	**-1.6**
	comp=N,45nm,0.8s							
LZH	**Lanzhou**	**12.41**	**24**	*e*P		**Pn**	**05 37 46.7**	**+1.3**
LZH				pP			05 37 50.8	
LZH				sP			05 37 53.3	
LZH				pmax	pmax			
	comp=N,26nm,1.1s							
LZH				pmax	pmax			
	comp=N,130nm,4.9s							
LZH				LR	LR			
	comp=N,780nm,10.8s							
LZH				LR	LR			
	comp=N,980nm,13.6s							
QIZ	**Qiongzhong**	**12.62**	**115**	P		**Pn**	**05 37 44.7**	**-3.6**
QIZ				S		**Sn**	**05 40 05.0**	**-4.0**
QIZ				LR	LR			
	comp=N,470nm,15.3s							
QIZ				LR	LR			
	comp=E,580nm,11.2s							
QIZ				LR	LR			
	comp=Z,900nm,10.3s							
DANN	**Dangsing**	**12.99**	**289**	*e*P		**Pn**	**05 37 50.3**	**-3.2**
	comp=Z,17nm,0.6s							
KOLN	**Koldanda**	**13.02**	**286**	*e*P		**Pn**	**05 37 51.5**	**-2.3**
	comp=Z,32nm,0.9s							
GTA	**Gaotai**	**14.66**	**6**	*e*P		**Pn**	**05 38 13.8**	**-2.4**
GTA				pP		P	05 38 21.4	-1.1
GTA				sP			05 38 24.4	
GTA				pmax	pmax			
	comp=Z,3.0nm,0.6s							
WHN	**Wuhan**	**15.79**	**65**	P		**P**	**05 38 41.7**	**+6.9**
WHN				S		**S**	**05 41 35.8**	**-4.9**
WHN				LR	LR			
	comp=N,3µm,9.3s							
WHN				LR	LR			
	comp=E,2µm,10.1s							
WHN				LR	LR			
	comp=Z,1µm,6.6s							
BTO	**Baotou**	**18.81**	**30**	*e*P		**P**	**05 39 05.6**	**-2.7**
WMQ	**Urumqi**	**20.66**	**339**	*e*P		**P**	**05 39 25.9**	**-2.6**
WMQ				pmax	pmax			
	comp=Z,15nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,59nm,3.7s							
WMQ				LR	LR			
	comp=Z,100nm,16.9s							
WMQ				LR	LR			
	comp=Z,140nm,15.9s							
KCSI	**Kotacane, Aceh**	**21.17**	**180**	P		**P**	**05 39 36.1**	**+2.0**
	comp=Z,15nm,0.9s							
BJI	**Beijing**	**21.68**	**41**	P		**P**	**05 39 39.3**	**-0.1**
BJI				pmax	pmax			
	comp=Z,15nm,1.1s							
BJI				LR	LR			
	comp=Z,630nm,14.7s							
BJI				LR	LR			
	comp=Z,600nm,13.5s							
PSI	**Prapat**	**21.91**	**177**	P		**P**	**05 39 44.9**	**+2.7**
	comp=Z,3.7nm,0.6s,baz=0.2,slow=13,SNR=4.1							
RPSI	**Rantau Prapat**	**22.02**	**177**	P		**P**	**05 39 44.9**	**+1.7**
NIL	**Nilore**	**23.06**	**298**	P		**P**	**05 39 54.4**	**+0.1**
NIL				IAmb	IAmb		05 40 13.4	
	comp=Z,23nm,0.9s							
KSH	**Kashi**	**23.46**	**314**	P		**P**	**05 39 59.6**	**+1.3**
KSH				pP		sP	05 40 06.1	+2.8
KSH				S		**S**	**05 44 08.0**	**-3.9**
KSH				sS		sS	05 44 18.0	+0.7
KSH				pmax	pmax			
	comp=Z,52nm,1.0s							
KSH				LR	LR			
	comp=Z,470nm,14.0s							
KSH				LR	LR			
	comp=Z,240nm,11.7s							
TARG	**Taragay, Kyrgy**	**23.62**	**320**	P		**P**	**05 40 00.8**	**+0.6**
TARG				IAmb	IAmb		05 40 08.9	
	comp=Z,20nm,1.1s							
SHLS	**Shalkode**	**23.67**	**325**	*e*P		**P**	**05 39 58.6**	**-1.7**
	comp=Z,4.0nm,0.9s,baz=326							
UZB	**Uzynbulak**	**23.89**	**325**	*e*P		**P**	**05 40 02.7**	**+0.2**
	comp=Z,3.8nm,1.9s,baz=325							
UZB				*e*S		**S**	**05 44 18.1**	**-0.7**
	baz=325							
SONM	**Songino Array**	**23.98**	**14**	P		**P**	**05 40 02.9**	**-0.4**
	comp=Z,1.9nm,0.6s,baz=206,slow=9.9,SNR=5.3							
SONM				LR	LR		05 50 20.5	
	comp=Z,340nm,19.2s,baz=108,slow=39							
SATY	**Saty**	**24.16**	**324**	*e*P		**P**	**05 40 05.1**	**+0.1**
	comp=Z,3.6nm,0.9s,baz=324							
ULN	**Ulaanbaatar**	**24.17**	**15**	P		**P**	**05 40 04.7**	**-0.3**
KDJ	**Kajisay**	**24.23**	**320**	P		**P**	**05 40 06.1**	**+0.3**
TGY	**Tagaytay City**	**24.30**	**112**	LR		LR	05 49 18.2	
	comp=Z,113nm,20.0s,baz=233,slow=36							
ZSN	**Zaisan**	**24.80**	**339**	*e*P		**P**	**05 40 11.7**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=339							
ULHL	**Ulahol**	**24.85**	**320**	P		**P**	**05 40 13.5**	**+2.1**
	SNR=9.6							
TNSS	**Tian-Shan**	**24.94**	**322**	*e*P		**P**	**05 40 12.7**	**+0.2**
	comp=Z,132nm,0.8s,baz=322							
MDOK	**Medeo**	**24.97**	**322**	*e*P		**P**	**05 40 13.0**	**+0.6**
	comp=Z,142nm,0.8s,baz=323							
MDOK				LR	LR		05 50 42.2	
	comp=Z,138nm,13.7s,baz=323							
MK31	**Makanchi Array**	**25.17**	**335**	P		**P**	**05 40 13.4**	**-0.6**
MK31				IAmb	IAmb		05 40 16.1	
	comp=Z,5.7nm,0.8s							
MKAR	**Makanchi Array**	**25.17**	**335**	P		**P**	**05 40 14.0**	**0.0**
	comp=Z,7.2nm,0.8s,baz=145,slow=9.1,SNR=45							
BOOM	**Boomskoye usch**	**25.18**	**320**	P		**P**	**05 40 14.8**	**+0.5**
BOOM				IAmb	IAmb		05 40 17.3	
	comp=Z,17nm,0.9s							
MAKZ	**Makanchi**	**25.30**	**334**	P		**P**	**05 40 15.3**	**+0.1**
MAKZ				IAmb	IAmb		05 40 18.4	
	comp=Z,9.7nm,0.9s							
KZA	**Kyzart**	**25.34**	**318**	P		**P**	**05 40 17.8**	**+1.7**
	SNR=5.3							
TKM2	**Tokmak 2**	**25.64**	**320**	P		**P**	**05 40 19.8**	**+1.2**
	SNR=9.1							
KUU	**Kurty**	**25.84**	**323**	*e*P		**P**	**05 40 20.8**	**+0.7**
	comp=Z,6.9nm,1.1s,baz=323							
SDSI	**Sungai Dareh**	**25.84**	**171**	P		**P**	**05 40 21.8**	**+1.5**
	comp=Z,18µmcomp=Z,27nm,1.1s							
UCH	**Uchtor**	**25.88**	**318**	P		**P**	**05 40 21.4**	**+0.5**
	SNR=12							
AAK	**Ala-Archa**	**26.12**	**319**	P		**P**	**05 40 23.4**	**+0.5**
	comp=Z,7.2nm,0.8s,baz=116,slow=7.4,SNR=17							
AAK				LR	LR		05 52 07.2	
	comp=Z,160nm,19.7s,baz=270,slow=40							
AAK	**Ala-Archa**	**26.12**	**319**	P		**P**	**05 40 25.1**	**+2.2**
	SNR=8.0							
AAK	**Ala-Archa**	**26.12**	**319**	P		**P**	**05 40 23.0**	**+0.1**
AAK				IAmb	IAmb		05 40 27.6	
	comp=Z,11nm,0.9s							
AML	**Almayashu**	**26.33**	**317**	P		**P**	**05 40 25.4**	**+0.4**
	SNR=22							
SGDS	**Sogindy**	**26.53**	**320**	*e*P		**P**	**05 40 26.7**	**+0.3**
	comp=Z,2.7nm,0.8s,baz=320							
EKS2	**Erkin-Say**	**26.57**	**318**	P		**P**	**05 40 27.5**	**+0.6**
	SNR=9.7							
KBL	**Kabul**	**26.67**	**298**	P		**P**	**05 40 27.2**	**-0.8**
TLY	**Talaya**	**27.21**	**8**	LR		LR	05 52 18.1	
	comp=Z,270nm,21.4s,baz=132,slow=39							
BTLS	**Baital**	**27.83**	**322**	*e*P		**P**	**05 40 38.0**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=323							
KSRS	**Korea Array**	**28.62**	**57**	P		**P**	**05 40 46.6**	**+1.5**
	comp=Z,1.5nm,0.9s,baz=250,slow=9.0,SNR=4.6							
KURBB	**Kurchatov Arra**	**29.73**	**335**	P		**P**	**05 40 54.6**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=141,slow=9.1,SNR=8.8							
KURK	**Kurchatov**	**29.77**	**335**	P		**P**	**05 40 57.3**	**+2.1**
ZAA0	**Zalesovo Array**	**30.66**	**345**	P		**P**	**05 41 02.2**	**-0.8**
ZAA0				IAmb	IAmb		05 41 06.1	
	comp=Z,4.9nm,0.9s							
ZALV	**Zalesovo Beam**	**30.66**	**345**	P		**P**	**05 41 02.9**	**-0.1**
	comp=Z,3.6nm,0.6s,baz=168,slow=9.7,SNR=14							
BRZS	**Berezniki**	**31.77**	**329**	*e*P		**P**	**05 41 13.8**	**+0.9**
	comp=Z,3.8nm,1.0s,baz=329							
USRK	**Ussuriysk Ar.**	**33.88**	**47**	P		**P**	**05 41 30.0**	**-1.4**
	comp=Z,3.9nm,0.9s,baz=240,slow=6.9,SNR=9.1							
BVAR	**Borovoye Array**	**34.90**	**331**	P		**P**	**05 41 40.6**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=123,slow=11,SNR=7.1							
GEYT	**Alibeck**	**36.00**	**301**	P		**P**	**05 41 51.1**	**+1.3**
	comp=Z,4.9nm,0.8s,baz=133,slow=6.3,SNR=6.9							
JCJ	**Chichijima**	**39.88**	**77**	P		**P**	**05 42 24.3**	**+1.6**
	comp=Z,76nm,0.4s,baz=286,slow=2.2,SNR=20							
NRIK	**Noril'sk**	**44.96**	**355**	P		**P**	**05 43 03.7**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=144,slow=8.7,SNR=3.6							
KLMR	**Klimovskoe**	**53.26**	**329**	*e*P		**P**	**05 44 06.6**	**-0.5**
KLMR				AMP			05 44 08.3	
	comp=Z,16nm,1.1s							
BRTR	**Keskin Array B**	**55.12**	**302**	P		**P**	**05 44 20.2**	**-1.0**
	comp=Z,1.1nm,0.7s,baz=113,slow=8.4,SNR=6.3							
WRA	**Warramunga Arr**	**56.99**	**138**	P		**P**	**05 44 34.6**	**0.0**
	comp=Z,1.6nm,0.9s,baz=326,slow=7.3,SNR=9.2							
AKASG	**Malin Array Be**	**57.74**	**316**	P		**P**	**05 44 38.6**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=79,slow=6.9,SNR=5.1							
ASAR	**Alice Springs**	**59.60**	**141**	P		**P**	**05 44 53.4**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=322,slow=6.7,SNR=4.4							
FINES	**FINESS Array B**	**59.77**	**328**	P		**P**	**05 44 53.6**	**+0.1**
	comp=Z,4.6nm,1.0s,baz=95,slow=8.2,SNR=6.6							
MLR	**Muntele Rosu**	**60.24**	**310**	P		**P**	**05 44 56.9**	**-0.3**
KRLC	**Kraliky**	**65.72**	**316**	*e*P		**P**	**05 45 33.6**	**+0.2**
CHVC	**Chvalec**	**66.08**	**316**	*e*P		**P**	**05 45 37.1**	**+1.4**
NOA	**NORSAR Array B**	**66.96**	**328**	P		**P**	**05 45 40.7**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=69,slow=19,SNR=5.2							
CLL	**Collm**	**67.84**	**318**	*e*P		**P**	**05 45 48.0**	**+1.2**
GERES	**GERESS Array B**	**67.93**	**315**	P		**P**	**05 45 47.3**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=86,slow=6.8,SNR=15							
STKA	**Stephens Creek**	**70.24**	**141**	P		**P**	**05 46 04.1**	**+2.2**
	comp=Z,1.7nm,0.9s,baz=312,slow=12,SNR=2.7							
STKA	**Stephens Creek**	**70.24**	**141**	IAmb	IAmb		05 46 08.3	
	comp=Z,1.4nm,1.2s							
ILAR	**Eielson Array**	**77.87**	**23**	P		**P**	**05 46 46.6**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=292,slow=4.8,SNR=2.3							
ESDC	**Sonseca Array**	**82.92**	**310**	P		**P**	**05 47 13.9**	**0.0**
	comp=Z,1.3nm,0.9s,baz=44,slow=5.9,SNR=6.2							
YKA	**Yellowknife Ar**	**89.25**	**14**	P		**P**	**05 47 44.8**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=332,slow=3.6,SNR=4.6							
TORD	**Torodi Ar. Bea**	**89.93**	**284**	P		**P**	**05 47 50.5**	**+1.9**
	comp=Z,0.6nm,1.0s,baz=81,slow=6.3,SNR=2.2							

IDC ***03*** *06:04:07.4±1.1, 47.°32N×155.°81E, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.8/34, mbtmp3.7/13, ML2.6/2, MS3.1/2, Ms1 3.1/2, ms1mx2.5/43, Error ellipse: s-maj=27.6km s-min=20.7km az=158.0*

SKHL ***03*** *06:04:09.7±0.6, 47.°25N×155.°68E, h47km±6km, mb4.1/3*

NEIC ***03*** *06:04:12.3±1.6, 47.°3N±0.°1×155.°7E±0.°2, h35km±6km, mb4.1/5, Error ellipse: s-maj=21.1km s-min=12.2km az=128.0*

MOS ***03*** *06:04:13.0±0.9, 47.°56N×155.°94E, h50km, mb4.3/6, Error ellipse: s-maj=19.8km s-min=4.4km az=83.0*

ISC 03 06:04:09.7±0.8, 47°29N±0°.08×155°68E±0°.08, h18km, n72, σ1°67/84, mb3.9/19, MS3.1/3, 6C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**3.41**	**5**	*e*P		**Pn**	**06 05 02.2**	**+0.3**
SKR				AMB		AMB	06 05 03.6	
	20nm,0.3s							
SKR				*e*S		**Sn**	**06 05 41.1**	**-0.8**
SKR				A		A	06 05 42.9	
	50nm,0.3s							
SKR				A		A	06 05 42.9	
	120nm,0.3s							
SKR	**Severo-Kuril's**	**3.41**	**5**	*e*PN		**Pn**	**06 05 03.2**	**+1.3**
SKR				*e*S		**Sn**	**06 05 42.0**	**+0.1**
SKR				pmax	pmax			
	comp=Z,14nm,0.4s							
SKR				smax	smax			
	comp=N,22nm,0.2s							
SKR				smax	smax			
	comp=E,48nm,0.3s							
ALID	**Alaid**	**3.59**	**359**	PN		**Pn**	**06 05 04.7**	**+0.2**
ALID				S		**Sn**	**06 05 48.0**	**+1.6**
PAU	**Pauzhetka**	**4.25**	**10**	*e*P		**Pn**	**06 05 12.6**	**-0.8**
PAU				AMB		AMB	06 05 14.5	
	comp=E,10.0nm,0.3s							
PAU				*e*S		**Sn**	**06 06 00.1**	**-2.4**
PAU				A		A	06 06 03.8	
	comp=E,20nm,0.3s							
PAU				A		A	06 06 03.8	
	comp=E,80nm,0.3s							
PAU	**Pauzhetka**	**4.25**	**10**	PN		**Pn**	**06 05 12.8**	**-0.6**
PAU				S		**Sn**	**06 05 59.9**	**-2.6**
MIPR	**Malaya Ipel'ka**	**5.04**	**8**	PN		**Pn**	**06 05 24.0**	**-0.4**
ASAK	**Asacha**	**5.30**	**15**	PN		**Pn**	**06 05 27.3**	**-0.7**
ASAK				S		**Sn**	**06 06 26.0**	**-2.6**
MTVR	**Mutnovka**	**5.45**	**16**	PN		**Pn**	**06 05 28.5**	**-1.5**
MTVR				S		**Sn**	**06 06 29.3**	**-3.0**
RUS	**Russkaya**	**5.47**	**19**	*e*P		**Pn**	**06 05 28.0**	**-2.2**
RUS	**Russkaya**	**5.47**	**19**	PN		**Pn**	**06 05 28.0**	**-2.2**
RUS				S		**Sn**	**06 06 28.7**	**-3.8**
GRL	**Gorelyy**	**5.49**	**15**	PN		**Pn**	**06 05 29.8**	**-0.8**
GRL				S		**Sn**	**06 06 30.6**	**-2.8**
KRMR	**Karymshinskiy**	**5.77**	**15**	PN		**Pn**	**06 05 33.4**	**-0.9**
KRMR				S		**Sn**	**06 06 38.1**	**-1.9**
KUR	**Kuril'sk**	**5.79**	**252**	*e*P		**Pn**	**06 05 34.1**	**-0.5**
KUR				AMB		AMB	06 05 43.9	
	comp=E,10.0nm,0.4s							
KUR				*e*S		**Sn**	**06 06 37.5**	**-3.1**
KUR				A		A	06 06 40.0	
	comp=E,60nm,0.4s							
KUR				A		A	06 06 40.0	
	comp=E,20nm,0.4s							
KUR	**Kuril'sk**	**5.79**	**252**	*e*PN		**Pn**	**06 05 33.7**	**-0.9**
KUR				pmax	pmax			
	comp=Z,51nm,0.5s							
KUR				pmax	pmax			
	comp=E,23nm,0.3s							
PEA0B	**Petropavlovsk-**	**5.97**	**12**	⇑*e*PN		**Pn**	**06 05 36.8**	**-0.3**
PEA0B	**Petropavlovsk-**	**5.97**	**12**	Pn		**Pn**	**06 05 37.2**	**+0.1**
PETK	**Petropavlovsk-**	**5.97**	**12**	Pn		**Pn**	**06 05 36.9**	**-0.2**
	comp=E,1.8nm,0.3s,baz=180,slow=15,SNR=29							
PETK				Sn		**Sn**	**06 06 46.7**	**+1.8**
	baz=146,slow=16,SNR=0.9							
PET	**Petropavlovsk**	**6.05**	**17**	*e*P		**Pn**	**06 05 39.1**	**+0.9**
PET				*e*S		**Sn**	**06 06 45.0**	**-1.9**
PET				A		A	06 06 48.9	
	comp=E,40nm,0.4s							
PET				A		A	06 06 48.9	
	comp=E,40nm,0.4s							
PET	**Petropavlovsk**	**6.05**	**17**	PN		**Pn**	**06 05 36.7**	**-1.5**
PET				S		**Sn**	**06 06 45.0**	**-1.9**
DALK	**Dalny**	**6.08**	**18**	PN		**Pn**	**06 05 36.8**	**-1.8**
DALK				S		**Sn**	**06 06 44.5**	**-3.1**
UGLR	**Uglovaya**	**6.26**	**18**	PN		**Pn**	**06 05 40.3**	**-0.9**
UGLR				S		**Sn**	**06 06 51.2**	**-1.1**
AVH	**Avacha**	**6.30**	**17**	*e*P		**Pn**	**06 05 41.0**	**-0.6**
AVH	**Avacha**	**6.30**	**17**	PN		**Pn**	**06 05 41.0**	**-0.6**
AVH				S		**Sn**	**06 06 51.1**	**-2.0**
KOK	**Koryaka**	**6.30**	**16**	*e*P		**Pn**	**06 05 41.5**	**-0.2**
KOK	**Koryaka**	**6.30**	**16**	PN		**Pn**	**06 05 41.5**	**-0.2**
KOK				S		**Sn**	**06 06 52.8**	**-0.5**
SMAR	**Somma**	**6.31**	**17**	PN		**Pn**	**06 05 41.3**	**-0.6**
SMAR				S		**Sn**	**06 06 52.7**	**-0.9**
KRER	**Koryakskii**	**6.34**	**17**	PN		**Pn**	**06 05 41.5**	**-0.8**
KRER				S		**Sn**	**06 06 51.7**	**-2.5**
SDLR	**Sedlovina**	**6.34**	**18**	PN		**Pn**	**06 05 40.4**	**-1.9**
KRX	**Arik**	**6.37**	**16**	PN		**Pn**	**06 05 42.1**	**-0.6**
KRX				S		**Sn**	**06 06 51.7**	**-3.3**
SPN	**Mys Shipunski**	**6.45**	**24**	PN		**Pn**	**06 05 42.1**	**-1.6**
GRPR	**Tuman**	**7.68**	**248**	*e*S		**Sn**	**06 07 21.0**	**-6.1**
NMR	**Nemuro--Hokkai**	**8.03**	**244**	*e*PN		Pn	06 06 01.2	-4.1
ERM	**Erimo**	**10.36**	**244**	PN		**Pn**	**06 06 36.1**	**-1.1**
ERM	**Erimo**	**10.36**	**244**	Pn		**Pn**	**06 06 36.1**	**-1.1**
SEY	**Seymchan**	**15.79**	**354**	*e*P		**Pn**	**06 07 49.6**	**-1.2**
SEY	**Seymchan**	**15.79**	**354**	⇑*e*P		**Pn**	**06 07 49.6**	**-1.2**
USRK	**Ussuriysk Ar.**	**16.81**	**268**	Pn		**Pn**	**06 08 04.5**	**+0.6**
	baz=72,slow=14,SNR=3.1							
YAK	**Yakutsk**	**20.86**	**325**	*e*P		Pn	06 08 52.3	-0.5
YAK	**Yakutsk**	**20.86**	**325**	⇑*e*P		Pn	06 08 52.3	-0.5
YAK				pmax	pmax			
	comp=Z,9.0nm,0.6s							
BILL	**Bilibino**	**21.50**	**11**	*e*P		**P**	**06 08 58.4**	**+1.2**
BILL	**Bilibino**	**21.50**	**11**	⇑*e*P		**P**	**06 08 58.4**	**+1.2**
BILL				*SP		pwP	06 09 29.0	+20
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BILL				MLR	MLR			
	comp=Z,55nm,15.0s							
TIXI	**Tiksi**	**27.47**	**342**	*e*P		**P**	**06 09 53.5**	**-0.8**
TIXI	**Tiksi**	**27.47**	**342**	⇑*e*P		**P**	**06 09 53.5**	**-0.8**
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.1s							
H11S1	**WAKE ISLAND Hy**	**30.09**	**159**	T		T	06 41 30.3	
	baz=346							
H11S3	**WAKE ISLAND Hy**	**30.10**	**159**	T		T	06 41 29.1	
	baz=346							
H11S2	**WAKE ISLAND Hy**	**30.11**	**159**	T		T	06 41 30.7	
	baz=346							
ULN	**Ulaanbaatar**	**32.38**	**289**	⇑*e*P		**P**	**06 10 42.7**	**+4.5**
ULN				pmax	pmax			
	comp=Z,2.0nm,0.4s							
KTH	**Kantishna Hill**	**33.21**	**41**	P		**P**	**06 10 45.7**	**+0.6**
BPAW	**Bear Paw Mtn.**	**33.22**	**40**	P		**P**	**06 10 47.9**	**+2.8**
BPAW				IAmb	IAmb		06 10 48.8	
	comp=Z,4.1nm,1.4s							
COLA	**College**	**34.62**	**39**	⇓*e*P		**P**	**06 10 57.7**	**+0.4**
COLA				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ILAR	**Eielson Array**	**35.03**	**39**	P		**P**	**06 11 00.2**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=251,slow=6.9,SNR=5.2							
EGAK	**Eagle**	**37.48**	**39**	P		**P**	**06 11 21.5**	**-0.2**
EGAK				IAmb	IAmb		06 11 22.4	
	comp=Z,2.6nm,0.8s							
INK	**Inuvik**	**40.25**	**33**	P		**P**	**06 11 44.6**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=255,slow=10.0,SNR=3.8							
INK	**Inuvik**	**40.25**	**33**	IAmb	IAmb		06 11 46.5	
	comp=Z,2.4nm,0.9s							
ZALV	**Zalesovo Beam**	**43.72**	**306**	P		**P**	**06 12 13.8**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=54,slow=7.5,SNR=3.6							
MKAR	**Makanchi Array**	**48.25**	**298**	P		**P**	**06 12 49.8**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=75,slow=6.4,SNR=4.4							
KURK	**Kurchatov**	**48.52**	**304**	*e*P		**P**	**06 12 51.4**	**+0.2**
KURK	**Kurchatov**	**48.52**	**304**	P		**P**	**06 12 51.4**	**+0.2**
KURK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
KURK	**Kurchatov**	**48.52**	**304**	P		**P**	**06 12 51.4**	**+0.2**
YKA	**Yellowknife Ar**	**49.44**	**38**	P		**P**	**06 12 58.4**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=291,slow=7.3,SNR=6.8							
HNR	**Honiara**	**56.59**	**175**	LR		LR	06 33 52.3	
	comp=Z,15nm,19.7s,baz=335,slow=32							
ARCES	**ARCESS Array B**	**57.91**	**342**	P		**P**	**06 14 00.7**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=40,slow=9.6,SNR=5.5							
ARCES	**ARCESS Array B**	**57.91**	**342**	*e*P		**P**	**06 14 00.3**	**+0.2**
ARCES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NVAR	**Mina Array Bea**	**60.62**	**64**	P		**P**	**06 14 19.5**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=302,slow=8.4,SNR=4.5							
KAPI	**Kappang**	**60.95**	**222**	LR		LR	06 41 23.0	
	comp=Z,14nm,18.8s,baz=208,slow=37							
FINES	**FINESS Array B**	**64.29**	**336**	P		**P**	**06 14 43.9**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=20,slow=6.1,SNR=6.6							
FINES	**FINESS Array B**	**64.29**	**336**	*i* P		**P**	**06 14 43.5**	**+0.1**
FINES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
NOA	**NORSAR Array B**	**68.27**	**342**	P		**P**	**06 15 10.3**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=25,slow=6.1,SNR=1.9							
KIV	**Kislovodsk**	**71.66**	**316**	*e*P		**P**	**06 15 30.6**	**+0.4**
KIV	**Kislovodsk**	**71.66**	**316**	⇓*e*P		**P**	**06 15 30.6**	**+0.4**
KIV							06 15 50.0	
KIV				pmax	pmax			
	comp=Z,10.0nm,1.1s							
ASAR	**Alice Springs**	**73.30**	**201**	P		**P**	**06 15 41.6**	**+1.7**
	comp=Z,0.4nm,1.0s,baz=18,slow=6.8,SNR=2.4							
TXAR	**Lajitas Array**	**75.69**	**62**	P		**P**	**06 15 53.4**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=287,slow=3.9,SNR=4.8							

MAN ***03*** *06:20:33.9, 4.°52N×127.°22E, h43km, mb5.1, ML4.1, MS4.2*

IDC ***03*** *06:

H11N3	**WAKE ISLAND Hy**	**39.23**	**58**	T	T	07 19 32.1	
	baz=245,slow=75,SNR=6.5						
MKAR	**Makanchi Array**	**64.10**	**324**	P	**P**	**06 40 55.0**	**+0.1**
	0.5nm,0.8s,baz=123,slow=5.3,SNR=3.6						
ILAR	**Eielson Array**	**86.31**	**25**	P	**P**	**06 43 01.5**	**-0.7**
	0.3nm,0.9s,baz=262,slow=6.3,SNR=3.7						

*STR **03** 06:37:22.9±0.2, 45˚N±1˚×˚±˚, h15km±2km, MLv1.9/7, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*ROM **03** 06:37:23.8±0.3, 44˚.545N±0˚.007×6˚.76E±0˚.02, h10km±1km, ML2.1/12, Error ellipse: s-maj=1.3km s-min=0.2km az=64.0*
*GEN **03** 06:37:23.1, 44˚.52N×6˚.65E, h5km±1km, Ml2.0*
*LDG **03** 06:37:23.6±0.1, 44˚.53N×6˚.70E, h2km, Md2.7/2, Ml2.5/14, Error ellipse: s-maj=1.9km s-min=1.3km az=53.0*

ISC 03 06:37:23.2±0.8, 44˚56N±0˚.01×6˚72E±0˚.01, h18km±5km, n75, σ1°08/137, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.11**	**141**	Pg	**Pg**	**06 37 26.1**	**-1.0**
SURF				Sg	**Sg**	**06 37 28.0**	**-1.7**
OGAG	**Argentiere**	**0.17**	**230**	Pg	**Pb**	**06 37 28.7**	**+0.8**
OGAG				Sg	**Sg**	**06 37 32.6**	**+1.8**
MBDF	**Montbardon**	**0.17**	**13**	*e*Pg	**Pb**	**06 37 28.0**	**+0.1**
MBDF				*e*Sg	**Sg**	**06 37 30.5**	**-0.4**
	125nm,0.4s						
PZZ	**Stroppo**	**0.29**	**101**	P	**Pg**	**06 37 29.6**	**0.0**
PZZ				S	**Sg**	**06 37 34.1**	**+0.1**
PZZ	**Stroppo**	**0.29**	**101**	P	**Pg**	**06 37 29.6**	**0.0**
PZZ				S	**Sg**	**06 37 33.9**	**-0.1**
PZZ				AML	AML		
	comp=E,1285μm,0.6s						
PZZ				AML	AML		
	comp=N,1570μm,0.6s						
RRL	**Rocca Remolon**	**0.36**	**8**	P	**Pb**	**06 37 31.3**	**0.0**
RRL				S	**Sb**	**06 37 36.8**	**+0.1**
RRL	**Rocca Remolon**	**0.36**	**8**	P	**Pb**	**06 37 31.3**	**0.0**
RRL				S	**Sb**	**06 37 36.9**	**+0.1**
RRL				AML	AML		
	comp=E,180μm,0.4s						
RRL				AML	AML		
	comp=N,168μm,1.0s						
RRL				AML	AML		
	comp=E,180μm,0.4s						
RRL				AML	AML		
	comp=N,167μm,1.0s						
DOI	**San Damiano**	**0.38**	**99**	P	**Pg**	**06 37 31.1**	**-0.1**
DOI				S	**Sg**	**06 37 36.9**	**+0.4**
ISO	**Isola**	**0.45**	**148**	Pg	**Pg**	**06 37 31.5**	**-0.8**
ISO				Sg	**Sg**	**06 37 36.9**	**-1.5**
BHB	**Bricherasio**	**0.48**	**54**	P	**Pb**	**06 37 33.4**	**+0.2**
BHB				S	**Sb**	**06 37 40.3**	**+0.4**
BHB	**Bricherasio**	**0.48**	**54**	P	**Pb**	**06 37 33.3**	**+0.2**
BHB				S	**Sb**	**06 37 40.2**	**+0.3**
BHB				AML	AML		
	comp=N,222μm,0.7s						
BHB				AML	AML		
	comp=E,174μm,0.3s						
BNI	**Bardonecchia**	**0.49**	**357**	P	**Pb**	**06 37 33.7**	**+0.3**
BNI				S	**Sb**	**06 37 40.8**	**+0.5**
STV	**Sant Anna di V**	**0.54**	**126**	P	**Pg**	**06 37 33.8**	**-0.3**
STV				S	**Sg**	**06 37 40.6**	**-0.6**
STV	**Sant Anna di V**	**0.54**	**126**	P	**Pg**	**06 37 33.7**	**-0.3**
STV				S	**Sg**	**06 37 40.4**	**-0.8**
STV				AML	AML		
	comp=N,351μm,0.6s						
STV				AML	AML		
	comp=E,224μm,0.9s						
OGDI	**Digne**	**0.54**	**214**	Pg	**Pb**	**06 37 34.5**	**+0.2**
OGDI				Sg	**Sb**	**06 37 41.9**	**+0.1**
ENR	**Entracque**	**0.60**	**124**	P	**Pg**	**06 37 34.8**	**-0.4**
ENR				S	**Sg**	**06 37 42.9**	**-0.5**
ENR	**Entracque**	**0.60**	**124**	P	**Pg**	**06 37 34.9**	**-0.3**
ENR				S	**Sg**	**06 37 43.2**	**-0.1**
ENR				AML	AML		
	comp=E,308μm,0.4s						
ENR				AML	AML		
	comp=N,270μm,0.4s						
ENR				AML	AML		
	comp=E,308μm,0.4s						
ORIF	**Oris-en-Rattie**	**0.70**	**301**	*e*Pg	**Pg**	**06 37 35.9**	**-1.0**
ORIF				*e*Sg	**Sg**	**06 37 44.9**	**-1.3**
	comp=E,46nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.70**	**301**	P	**Pg**	**06 37 36.0**	**-1.0**
ORIF				S	**Sg**	**06 37 45.0**	**-1.3**
ORIF				AML	AML		
	comp=N,85μm,0.4s						
ORIF				AML	AML		
	comp=E,97μm,1.0s						
ORIF	**Oris-en-Rattie**	**0.70**	**301**	Pg	**Pg**	**06 37 35.9**	**-1.0**
ORIF				Sg	**Sg**	**06 37 44.8**	**-1.3**
RSP	**Reno Superiore**	**0.70**	**33**	P	**Pb**	**06 37 37.8**	**+0.7**
RSP				S	**Sb**	**06 37 47.8**	**+1.3**
RSP	**Reno Superiore**	**0.70**	**33**	P	**Pb**	**06 37 37.8**	**+0.7**
RSP				S	**Sb**	**06 37 47.5**	**+1.1**
RSP				AML	AML		
	comp=N,92μm,0.4s						
RSP				AML	AML		
	comp=E,97μm,0.9s						
TURF	**col de Turini**	**0.76**	**140**	P	**Pg**	**06 37 35.9**	**-2.2**
TURF				Pg	**Pb**	**06 37 37.2**	**-0.8**
TURF				Sg	**Sg**	**06 37 47.8**	**-0.4**
GDM	**Grand'Maison**	**0.77**	**326**	Pg	**Pb**	**06 37 37.9**	**-0.3**
GDM				Sg	**Sb**	**06 37 48.1**	**-0.3**
BLAF	**les Blancs**	**0.78**	**219**	Pg	**Pg**	**06 37 37.8**	**-0.6**
BLAF				Sg	**Sg**	**06 37 48.5**	**-0.3**
CALF	**Calern**	**0.82**	**170**	Pg	**Pg**	**06 37 38.7**	**-0.6**
CALF				Sg	**Sg**	**06 37 49.4**	**-0.8**
SAOF	**Saorge**	**0.83**	**134**	P	**Pg**	**06 37 39.1**	**-0.4**
SAOF				S	**Sg**	**06 37 49.6**	**-0.8**
SAOF	**Saorge**	**0.83**	**134**	AML	AML		
	comp=E,164μm,0.3s						
SAOF				AML	AML		
	comp=N,165μm,0.4s						
SAOF	**Saorge**	**0.83**	**134**	Pg	**Pg**	**06 37 38.9**	**-0.5**
SAOF				Sg	**Sg**	**06 37 49.5**	**-0.9**
GBOS	**Grotte di Boss**	**0.86**	**111**	P	**Pg**	**06 37 39.8**	**-0.3**
GBOS				S	**Sg**	**06 37 50.8**	**-0.7**
GBOS	**Grotte di Boss**	**0.86**	**111**	P	**Pg**	**06 37 39.6**	**-0.5**
GBOS				S	**Sg**	**06 37 50.8**	**-0.7**
GBOS				AML	AML		
	comp=E,142μm,0.3s						
GBOS				AML	AML		
	comp=N,140μm,0.3s						
SBF	**Sospel**	**0.87**	**143**	*e*Pg	**Pg**	**06 37 39.5**	**-0.6**
SBF				*e*Sg	**Sg**	**06 37 50.9**	**-0.7**
	comp=N,72nm,0.3s						
ESCA	**l'Escarene**	**0.87**	**147**	Pg	**Pg**	**06 37 39.6**	**-0.6**
ESCA				Sg	**Sg**	**06 37 50.9**	**-0.7**
MLYF	**Mely**	**0.89**	**230**	Pg	**Pb**	**06 37 40.7**	**+0.4**
MLYF				Sg	**Sb**	**06 37 53.0**	**+1.2**
LPG	**La Plagne**	**0.94**	**1**	*e*Pg	**Pn**	**06 37 41.6**	**-0.2**
LPG				*e*Sg	**Sn**	**06 37 54.3**	**-0.6**
LPG				*e*Sn	**Sb**	**06 37 57.1**	**+3.8**
	comp=N,24nm,0.3s						
LSD	**Lago del Serru**	**0.94**	**18**	P	**Pn**	**06 37 42.3**	**+0.4**
LSD				S	**Sn**	**06 37 54.6**	**-0.5**
LSD	**Lago del Serru**	**0.94**	**18**	P	**Pn**	**06 37 42.3**	**+0.4**
LSD				S	**Sn**	**06 37 54.5**	**-0.5**
LPL	**La Plagne**	**0.95**	**1**	*e*Pg	**Pn**	**06 37 41.8**	**-0.2**
LPL				*e*Sn	**Sn**	**06 37 55.2**	**-0.1**
	comp=N,9.8nm,0.2s						
GRN	**Grenoble**	**0.97**	**315**	Pg	**Pn**	**06 37 41.8**	**-0.3**
GRN				Sg	**Sn**	**06 37 55.0**	**-0.5**
FRF	**La Foret Royal**	**1.00**	**183**	*e*Pg	**Pb**	**06 37 42.7**	**+0.6**
FRF				*e*Sg	**Sg**	**06 37 54.6**	**-1.2**
	comp=N,32nm,0.2s						
NEGI	**Seborga**	**1.01**	**135**	P	**Pg**	**06 37 42.3**	**-0.5**
NEGI				S	**Sg**	**06 37 55.2**	**-0.8**
NEGI	**Seborga**	**1.01**	**135**	P	**Pg**	**06 37 42.4**	**-0.3**
NEGI				S	**Sg**	**06 37 55.0**	**-1.0**
NEGI				AML	AML		
	comp=N,145μm,1.4s						
NEGI				AML	AML		
	comp=E,221μm,0.3s						
SMRF	**Simiane la Rot**	**1.01**	**235**	*e*Pg	**Pg**	**06 37 42.4**	**-0.4**
SMRF				*e*Sg	**Sg**	**06 37 55.0**	**-1.1**
	comp=E,23nm,0.3s						
BSTF	**la Bastide-des**	**1.03**	**229**	Pg	**Pn**	**06 37 44.1**	**+1.2**
BSTF				Sg	**Sn**	**06 37 58.5**	**+1.7**
IMI	**Imperia**	**1.07**	**127**	P	**Pb**	**06 37 43.3**	**+0.1**
IMI				S	**Sb**	**06 37 56.7**	**-0.2**
IMI	**Imperia**	**1.07**	**127**	P	**Pb**	**06 37 43.3**	**+0.1**
IMI				S	**Sb**	**06 37 56.6**	**-0.2**
IMI				AML	AML		
	comp=E,120μm,0.2s						
IMI				AML	AML		
	comp=N,206μm,0.3s						
RUSF	**Rustrel**	**1.08**	**235**	Pg	**Pn**	**06 37 44.0**	**+0.4**
RUSF				Sg	**Sg**	**06 37 58.5**	**+0.1**
ARTF	**Artigues**	**1.18**	**214**	Pg	**Pg**	**06 37 45.8**	**-0.2**
ARTF				Sg	**Sg**	**06 38 01.2**	**-0.2**
QLNO	**Quiliano**	**1.19**	**101**	P	**Pb**	**06 37 45.8**	**+0.5**
QLNO				S	**Sb**	**06 38 00.9**	**+0.5**
QLNO				AML	AML		
	comp=N,44μm,1.6s						
QLNO				AML	AML		
	comp=E,69μm,1.3s						
LMR	**La Mourre**	**1.24**	**187**	*e*Pg	**Pn**	**06 37 46.2**	**+0.5**
LMR				*e*Sg	**Sb**	**06 38 01.2**	**-0.5**
	comp=E,26nm,0.2s						
OGSM	**Saint Maurice**	**1.27**	**326**	Pg	**Pg**	**06 37 47.7**	**-0.1**
OGSM				Sg	**Sn**	**06 38 05.1**	**+2.2**
VIVF	**Saint-Julien-l**	**1.49**	**282**	*e*Pg	**Pn**	**06 37 49.5**	**+0.3**
VIVF				*e*Sn	**Sn**	**06 38 08.5**	**+0.3**
	comp=E,9.9nm,0.3s						
OG35	**Corcelles**	**1.69**	**332**	Pg	**Pg**	**06 37 54.4**	**-1.3**
SSB	**Saint Sauveur**	**1.71**	**296**	Pn	**Pn**	**06 37 52.9**	**+0.7**
SSB				Sn	**Sn**	**06 38 14.0**	**+0.5**
TRBF	**Trabuc cave**	**2.03**	**258**	Pn	**Pn**	**06 37 56.8**	**+0.2**
TRBF				Sn	**Sn**	**06 38 20.6**	**-0.9**
CABF	**La Chapelle**	**2.10**	**348**	*e*P	**Pb**	**06 38 00.3**	**-0.5**
CABF	**La Chapelle**	**2.10**	**348**	*e*Pg	**Pg**	**06 38 02.9**	**-0.6**
CABF				*e*Sn	**Sn**	**06 38 23.7**	**+0.4**
CABF				*e*Sg	**Sg**	**06 38 31.0**	**+0.3**
	comp=E,3.0nm,0.3s						
LASF	**Ste Croix**	**2.11**	**258**	*e*Pg	**Pn**	**06 37 58.1**	**+0.4**
LASF				*e*Sn	**Sn**	**06 38 22.1**	**-1.4**
	comp=E,2.1nm,0.2s						
PGF	**Pioggiola**	**2.61**	**140**	*e*Pn	**Pn**	**06 38 05.4**	**+0.8**
PGF				*e*Sn	**Sn**	**06 38 36.0**	**+0.1**
	comp=E,4.4nm,0.3s						
PGF	**Pioggiola**	**2.61**	**140**	P	**Pn**	**06 38 06.2**	**+1.6**
PGF				AML	AML		
	comp=E,18μm,1.2s						
PGF				AML	AML		
	comp=N,19μm,1.6s						
SMF	**Signal de Mont**	**2.90**	**317**	*e*Pn	**Pn**	**06 38 09.4**	**+0.8**
SMF	**Signal de Mont**	**2.90**	**317**	*e*Pg	**Pg**	**06 38 17.9**	**-0.9**
SMF				*e*Sg	**Sg**	**06 38 55.5**	**-0.9**
	comp=N,1.7nm,0.2s						
MNTV	**Mantova**	**2.95**	**77**	S	**Sb**	**06 38 52.0**	**+0.9**
AVF	**Avril sur Loir**	**3.25**	**315**	*e*Pn	**Pn**	**06 38 15.0**	**+1.7**
ROVR	**Rover Verones**	**3.27**	**69**	S	**Sg**	**06 39 05.0**	**-3.2**
CAF	**Calviac**	**3.34**	**278**	*e*Pn	**Pn**	**06 38 15.1**	**+0.5**
SSF	**Saint Saulge**	**3.36**	**319**	*e*Pn	**Pn**	**06 38 16.4**	**+1.5**
LOR	**Lormes**	**3.36**	**325**	*e*Pn	**Pn**	**06 38 16.4**	**+1.5**
	baz=143						
LOR				*e*Sn	**Sn**	**06 38 53.3**	**-1.1**
	comp=N,3.1nm,0.4s						
BGF	**Bois d'Agland**	**3.37**	**308**	*e*Pn	**Pn**	**06 38 16.5**	**+1.5**
MTLF	**Montolieu**	**3.47**	**251**	*e*Pn	**Pn**	**06 38 16.4**	**0.0**
MTLF				*e*Sn	**Sn**	**06 38 55.2**	**-1.9**
	comp=N,1.1nm,0.3s						
TCF	**Toulx Ste Croi**	**3.61**	**300**	*e*Pn	**Pn**	**06 38 20.1**	**+1.7**
TCF				*e*Sn	**Sn**	**06 38 59.8**	**-0.8**
	comp=N,0.7nm,0.2s						
SFI	**Santa Sofia**	**3.74**	**98**	S	**Sb**	**06 39 16.0**	**+2.1**
HYF	**Humbligny**	**3.93**	**315**	*e*P	**Pn**	**06 38 25.6**	**+2.9**
MURB	**Monte Urbino**	**4.39**	**105**	P	**Pg**	**06 38 43.9**	**-3.4**
GUMA	**Gualdo di Mace**	**5.43**	**104**	P	**Pn**	**06 38 47.8**	**+4.4**

IDC 03 07:20:08.4±1.8, 6˚88S×154˚58E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/35, mbtmp3.7/4, Error ellipse: s-maj=75.9km s-min=30.7km az=131.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.55**	**235**	P	P	07 25 19.9	-0.7
	1.4nm,0.9s,baz=56,slow=9.2,SNR=5.2						
ASAR	**Alice Springs**	**25.94**	**228**	P	P	07 25 42.5	-0.2
	0.9nm,0.9s,baz=54,slow=9.2,SNR=7.5						
MKAR	**Makanchi Array**	**83.05**	**319**	P	P	07 32 36.9	+1.0
	0.8nm,0.9s,baz=101,slow=4.6,SNR=6.1						
NVAR	**Mina Array Bea**	**91.97**	**52**	P	P	07 33 19.0	-0.6
	0.2nm,0.5s,baz=252,slow=8.3,SNR=3.7						

*IDC **03** 07:20:19.6±1.4, 7˚07S×154˚81E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/35, mbtmp3.8/6, MS3.1/4, Ms1 3.1/4, ms1mx2.6/36, Error ellipse: s-maj=58.8km s-min=26.8km az=134.0*

ISC 03 07:20:25.6±1.3, 7˚1S±0˚3×154˚8E±0˚3, h41km, n12, σ0965/8, mb3.9/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**5.58**	**114**	LR	LR	07 24 04.8	
	comp=Z,98nm,19.8s,baz=186,slow=40						
PMG	**Port Moresby**	**7.89**	**253**	LR	LR	07 25 21.1	
	comp=Z,73nm,18.1s,baz=326,slow=38						
DZM	**Mont Dzumac**	**18.61**	**144**	LR	LR	07 30 06.5	
	comp=Z,74nm,19.2s,baz=198,slow=31						
WRA	**Warramunga Arr**	**23.58**	**235**	P	**P**	**07 25 32.9**	**+0.1**
	2.5nm,0.7s,baz=56,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**25.94**	**228**	P	**P**	**07 25 53.9**	**-0.5**
	0.7nm,0.8s,baz=67,slow=8.5,SNR=6.9						
FITZ	**Fitzroy Crossi**	**30.42**	**246**	LR	LR	07 39 43.7	
	comp=Z,49nm,18.2s,baz=113,slow=38						
CMAR	**Chiang Mai Arr**	**60.68**	**296**	P	**P**	**07 30 33.9**	**+0.7**
	0.5nm,0.2s,baz=111,slow=4.9,SNR=1.5						
MKAR	**Makanchi Array**	**83.39**	**319**	P	**P**	**07 32 48.0**	**-0.7**
	1.3nm,0.7s,baz=102,slow=5.4,SNR=12						
NVAR	**Mina Array Bea**	**91.96**	**52**	P	**P**	**07 33 31.2**	**+0.7**
	0.1nm,0.3s,baz=232,slow=6.7,SNR=2.6						
YKA	**Yellowknife Ar**	**96.55**	**28**	P	**P**	**07 33 50.0**	**-0.7**
	0.3nm,0.6s,baz=270,slow=4.4,SNR=3.8						
GERES	**GERESS Array B**	**127.08**	**329**	PKP	**PKPdf**	**07 39 25.8**	**+0.2**
	0.3nm,0.4s,baz=45,slow=0.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**152.88**	**285**	PKPbc	**PKiKP**	**07 40 19.7**	**+0.1**
	0.7nm,0.8s,baz=64,slow=2.4,SNR=4.7						

MAN 03 07:20:38.6, 15˚40N×119˚86E, h32km, mb4.8, ML3.7, MS3.7, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	**0.37**	**8**	*e*P	Pn	07 20 47.7	-0.1
SCZP				*e*S	Sn	07 20 55.6	+1.7
BOLP	**Bolinao**	**0.97**	**3**	*e*P	Pb	07 20 56.6	-0.4
BOLP				*e*S	Sb	07 21 09.9	+0.4
SMPP	**San Manuel, Pa**	**1.08**	**47**	*e*P	Pn	07 20 57.0	-0.6
SMPP				*e*S	Sn	07 21 11.6	+0.1
PCPH	**Palayan**	**1.20**	**82**	*ie*P	Pn	07 20 58.8	-0.3
PCPH				*e*S	Sn	07 21 14.5	+0.1
LUBP	**Lubang**	**1.70**	**167**	*e*P	Pn	07 21 06.3	+0.3
LUBP				*e*S	Sb	07 21 29.7	-0.6
LQP	**Lukban**	**2.07**	**128**	*e*P	Pb	07 21 13.5	-2.1

*ATH **03** 07:38:44.4, 38˚43N×20˚50E, h11km±2km, ML2.6/12, Error ellipse: s-maj=2.2km s-min=0.6km az=275.0*
*THE **03** 07:38:44.2, 38˚42N×20˚47E, h0km±1km, ML2.4/7, Error ellipse: s-maj=1.1km s-min=0.5km az=103.0*

ISC 03 07:38:43.3±0.8, 38˚44N±0˚02×20˚46E±0˚02, h14km±4km, n46, σ1°04/80, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FSK	**Fiskardo**	**0.08**	**73**	P	**Pg**	**07 38 46.3**	**+0.1**
FSK				S	**Sg**	**07 38 47.7**	**-0.5**
FSK	**Fiskardo**	**0.08**	**73**	P	**Pg**	**07 38 46.3**	**+0.1**
FSK				S	**Sg**	**07 38 47.9**	**-0.3**
FSK				AML	AML	07 38 48.2	
	comp=N,9704μm,0.2s						
FSK				AML	AML	07 38 48.3	
	comp=E,39584μm,0.3s						
VSK1	**VASILIKIADES**	**0.08**	**108**	P	**Pg**	**07 38 46.2**	**0.0**
VSK1				S	**Sg**	**07 38 47.6**	**-0.6**
KEF4	**Livadi, Kephal**	**0.18**	**190**	P	**Pg**	**07 38 48.1**	**+0.7**
KEF4				S	**Sg**	**07 38 51.3**	**+1.0**
AGT1	**Agia Thekli**	**0.20**	**199**	P	**Pg**	**07 38 48.4**	**+0.7**
AGT1				S	**Sg**	**07 38 51.4**	**+0.7**
LXRA	**Lixouri, Kepha**	**0.24**	**185**	P	**Pb**	**07 38 49.2**	**-0.2**
LXRA				S	**Sb**	**07 38 53.3**	**-0.1**
EVGI	**Lefkada island**	**0.24**	**39**	P	**Pb**	**07 38 49.2**	**-0.3**
EVGI				S	**Sg**	**07 38 52.7**	**+0.7**
EVGI	**Lefkada island**	**0.24**	**39**	P	**Pb**	**07 38 49.2**	**-0.3**
EVGI				S	**Sb**	**07 38 53.1**	**-0.5**
KEF3	**Kipouria, Keph**	**0.25**	**201**	P	**Pg**	**07 38 49.3**	**+0.7**
KEF3				S	**Sb**	**07 38 53.4**	**-0.4**
ARGA	**Argostoli. Kep**	**0.26**	**177**	P	**Pg**	**07 38 49.3**	**+0.5**
ARGA				S	**Sg**	**07 38 53.2**	**+0.7**
ARGA				AML	AML	07 38 53.6	
	comp=E,11644μm,0.3s						
ARGA				AML	AML	07 38 54.4	
	comp=N,16218μm,0.2s						
VLS	**Valsamata**	**0.28**	**159**	P	**Pg**	**07 38 49.4**	**+0.3**
VLS				S	**Sg**	**07 38 53.6**	**+0.5**
	comp=N,3μm,0.1s						
VLS	**Valsamata**	**0.28**	**159**	P	**Pg**	**07 38 49.4**	**+0.3**
VLS				S	**Sg**	**07 38 53.5**	**+0.5**
VLS				AML	AML	07 38 54.4	
	comp=E,7682μm,0.1s						
VLS				AML	AML	07 38 54.9	
	comp=N,4719μm,0.3s						
MGNA	**Meganis**	**0.34**	**49**	P	**Pg**	**07 38 50.7**	**+0.5**
MGNA				S	**Sb**	**07 38 55.8**	**-0.6**
LKD2	**Lefkada island**	**0.38**	**23**	P	**Pg**	**07 38 51.6**	**+0.5**
LKD2				S	**Sb**	**07 38 57.3**	**-0.5**
	comp=N,550nm,0.4s						
LKD2	**Lefkada island**	**0.38**	**23**	P	**Pg**	**07 38 51.6**	**+0.5**
LKD2				S	**Sb**	**07 38 57.3**	**-0.5**
LKD2				AML	AML	07 38 58.6	
	comp=N,1236μm,0.4s						
LKD2				AML	AML	07 39 03.0	
	comp=E,1051μm,0.4s						
KFL	**Anninata**	**0.41**	**142**	P	**Pg**	**07 38 51.8**	**+0.3**
KFL				S	**Sg**	**07 38 57.6**	**+0.4**
	comp=E,3μm,0.3s						
KFL	**Anninata**	**0.41**	**142**	P	**Pg**	**07 38 51.9**	**+0.3**
KFL				S	**Sb**	**07 38 58.1**	**-0.4**
KFL				AML	AML	07 38 59.0	
	comp=N,7618μm,0.3s						
KFL				AML	AML	07 38 59.4	
	comp=E,5218μm,0.3s						
TSLK	**Tsoukalades, L**	**0.42**	**21**	P	**Pb**	**07 38 52.4**	**-0.1**
TSLK				S	**Sb**	**07 38 59.0**	**+0.3**
	comp=E,748nm,0.3s						
TSLK	**Tsoukalades, L**	**0.42**	**21**	P	**Pb**	**07 38 52.5**	**-0.1**
TSLK				S	**Sg**	**07 38 57.9**	**+0.6**
TSLK				AML	AML	07 39 00.3	
	comp=E,1442μm,0.3s						
TSLK				AML	AML	07 39 06.8	
	comp=N,1639μm,0.7s						
VLMS	**Volimes, Zakyn**	**0.58**	**164**	P	**Pg**	**07 38 54.8**	**+0.1**
VLMS				S	**Sb**	**07 39 03.4**	**+0.1**
VLMS				AML	AML	07 39 06.6	
	comp=E,4088μm,0.2s						
VLMS				AML	AML	07 39 08.0	
	comp=N,4636μm,0.4s						
PDO	**Prodromos**	**0.59**	**74**	P	**Pb**	**07 38 55.2**	**-0.2**
PDO				S	**Sb**	**07 39 04.2**	**+0.6**
PDO	**Prodromos**	**0.59**	**74**	P	**Pb**	**07 38 55.2**	**-0.2**
PVO	**Paravola**	**0.85**	**77**	P	**Pb**	**07 39 00.3**	**+0.4**
PVO				S	**Sn**	**07 39 13.4**	**+0.2**
	comp=N,408nm,0.6s						
PVO	**Paravola**	**0.85**	**77**	P	**Pb**	**07 39 00.2**	**+0.4**
PVO				S	**Sb**	**07 39 11.9**	**+0.7**
PVO				AML	AML	07 39 20.5	
	comp=N,898μm,0.6s						
PVO				AML	AML	07 39 21.1	
	comp=E,722μm,0.6s						
RLS	**Riolos of Patr**	**0.88**	**115**	P	**Pb**	**07 39 00.1**	**-0.2**
RLS	**Riolos of Patr**	**0.88**	**115**	P	**Pg**	**07 39 00.3**	**+0.1**
RLS				S	**Sb**	**07 39 12.6**	**+0.8**
RLS				AML	AML	07 39 19.7	
	comp=N,309μm,0.5s						
RLS				AML	AML	07 39 22.7	
	comp=E,165μm,0.5s						
DRO	**Drossia**	**1.09**	**116**	P	**Pn**	**07 39 04.2**	**-0.1**
DRO	**Drossia**	**1.09**	**116**	P	**Pn**	**07 39 04.2**	**-0.1**
DRO				S	**Sn**	**07 39 19.6**	**+0.4**
DRO				AML	AML	07 39 26.5	
	comp=N,608μm,0.6s						
DRO				AML	AML	07 39 27.4	
	comp=E,1155μm,0.4s						
IGT	**Igoumenitsa**	**1.10**	**355**	P	**Pg**	**07 39 06.1**	**+1.6**
IGT				S	**Sn**	**07 39 21.3**	**+2.0**
IGT				AML	AML	07 39 26.3	
	comp=E,370μm,0.3s						
IGT				AML	AML	07 39 26.5	
	comp=N,448μm,0.5s						
SERG	**Sergoula**	**1.25**	**91**	P	**Pb**	**07 39 06.7**	**0.0**
TRIZ	**Trizonia**	**1.27**	**93**	P	**Pn**	**07 39 06.7**	**+0.1**
AMT	**Artemida-Makis**	**1.33**	**132**	P	**Pg**	**07 39 09.2**	**+0.2**
KEK	**Kerkira**	**1.38**	**338**	P	**Pg**	**07 39 09.8**	**0.0**
KEK				S	**Sg**	**07 39 30.4**	**+2.7**
	comp=N,70nm,0.4s						
KLV	**Kalavryta, Ach**	**1.38**	**106**	P	**Pb**	**07 39 08.8**	**-0.2**
KLV				AML	AML	07 39 40.9	
	comp=E,83μm,0.4s						
KLV				AML	AML	07 39 43.0	
	comp=N,111μm,0.8s						
MAKR	**Makrakomi, Fth**	**1.43**	**66**	P	**Pg**	**07 39 10.5**	**-0.2**
GUR	**Goura**	**1.56**	**108**	P	**Pb**	**07 39 11.7**	**-0.4**
AGG	**Agios Georgios**	**1.57**	**68**	P	**Pg**	**07 39 13.2**	**-0.3**
AGG				S	**Sg**	**07 39 35.3**	**+1.3**
	comp=N,72nm,0.7s						
DBRK	**Dubrovnik**	**4.58**	**338**	Sn	**Sn**	**07 40 42.9**	**-2.3**
STON	**Ston**	**4.91**	**336**	Sn	**Sn**	**07 40 51.0**	**-2.1**
MAKA	**Makarska**	**5.50**	**333**	Sn	**Sn**	**07 41 06.6**	**-1.3**

CBE	**Ff, Capester**	**1.14 343**	*e*P		Pn	07 50 36.1	+1.1
CBE			*e*S		Sn	07 50 58.5	0.0
SLB	**Belfond**	**1.16 170**	*e*P		Pn	07 50 36.8	+1.7
SLB			*e*S		Sn	07 50 59.8	+1.0
SLPA	**Patience**	**1.16 164**	*e*P		Pn	07 50 37.6	+2.5
SLPA			*e*S		Sn	07 50 57.2	-1.4
SLDE	**Delcer**	**1.18 171**	*e*		Pn	07 50 36.3	+1.0
SLDE			*e*S		Sn	07 50 57.7	-1.2
MCLT	**Moule a Chique**	**1.29 166**	*e*P		Pn	07 50 37.4	+1.2
MCLT			*e*S		Sn	07 50 59.8	-0.8
ABD	**La Joyeuse, An**	**1.51 352**	*e*P		Pn	07 50 39.0	+1.0
ABD			*e*S		Sn	07 51 03.0	-1.0
SFAN	**Fancy Village**	**1.58 177**	*e*P		Pn	07 50 40.1	+1.3
SFAN			*e*S		Sn	07 51 04.9	-0.3
SSV	**Crater Summit**	**1.64 178**	*e*P		Pn	07 50 40.7	+1.3
SSV			*e*S		Sn	07 51 05.0	-1.2
SVV	**Soufriere Volc**	**1.65 179**	*e*P		Pn	07 50 40.2	+0.9
SVV			*e*S		Sn	07 51 06.0	-0.2
SVB	**Belmont**	**1.69 180**	*e*P		Pn	07 50 40.5	+0.7
SVB			*e*S		Sn	07 51 06.4	-0.6
SVCV	**St. Vincent, C**	**1.69 176**	*e*P		Pn	07 50 40.5	+0.6
SVCV			*e*S		Sn	07 51 06.5	-0.6
MLYT	**Lee's Yard**	**1.96 333**	*e*P		Pn	07 50 43.5	+1.1
MLYT			*e*S		Sn	07 51 11.6	-0.2
BCHC	**Barbados, Cave**	**2.42 139**	*e*P		Pn	07 50 47.8	+0.5
BCHC			*e*S		Sn	07 51 19.9	-0.6
BBGH	**Gun Hill**	**2.45 138**	*e*P		Pn	07 50 51.7	+3.9
BBGH			*e*S		Sn	07 51 19.6	-1.7
GCMP	**Grenada, Carri**	**2.48 184**	*e*P		Pn	07 50 48.2	+0.1
GCMP			*e*S		Sn	07 51 21.3	-0.5
NVDO	**Nevis, Disaste**	**2.50 329**	*e*P		Pn	07 50 49.3	+1.0
NVDO			*e*S		Sn	07 51 21.6	-0.7
BBSP	**Saint Philip**	**2.55 137**	*e*P		Pn	07 50 49.2	+0.3
BBSP			*e*S		Sn	07 51 21.6	-1.7
SKOC	**St. Kitts, UWI**	**2.71 329**	*e*P		Pn	07 50 52.0	+1.3
SKOC	**St. Kitts, UWI**	**2.71 329**	*e*		Sn	07 51 26.3	-0.3
ANWB	**Willy Bob**	**2.73 349**	*e*P		Pn	07 50 51.0	+0.1
ANWB			*e*S		Sn	07 51 25.9	-1.1
SKI	**Saint Kitts**	**2.75 329**	*e*P		Pn	07 50 51.9	+0.7
SKI			*e*S		Sn	07 51 26.4	-1.0
GRGR	**Grenville**	**2.85 188**	*e*P		Pn	07 50 53.2	+0.8
GRGR			*e*S		Sn	07 51 28.7	-0.9
SEUS	**St. Eustatius**	**3.00 327**	*e*P		Pn	07 50 54.6	+0.5
SEUS	**St. Eustatius**	**3.00 327**	*e*		Sn	07 51 34.3	+1.5
SABA	**Saba**	**3.25 324**	*e*P		Pn	07 50 56.7	-0.4
SMRT	**St. Maarten**	**3.52 331**	*e*P		Pn	07 51 00.4	-0.1
SMRT			*e*S		Sn	07 51 40.9	-3.3
TOSP	**Speyside**	**3.72 169**	*e*P		Pn	07 51 03.8	+0.9
TOSP			*e*S		Sn	07 51 46.6	-1.9
TRN	**Trinidad (W)**	**4.30 182**	*e*P		Pn	07 51 11.2	+1.1
TRN	**Trinidad (W)**	**4.30 182**	*e*S		Sn	07 51 58.8	-2.8
CDVI	**St. Croix**	**4.36 310**	*e*P		Pn	07 51 10.6	-0.3
GUIV	**Guiria**	**4.40 192**	*e*P		Pn	07 51 11.2	-0.3
GUIV	**Guiria**	**4.40 192**	*e*S		Sn	07 52 00.9	-2.9
SJG	**San Juan**	**5.64 304**	*e*P		Pn	07 51 28.3	+1.1
AOPR	**Arecibo Observ**	**6.25 303**	*e*P		Pn	07 51 36.6	+1.4

IDC 03 07:55:03.5±53.0, 16°89S×178°91W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/44, mbtmp3.9/3, Error ellipse: s-maj=975.4km s-min=162.4km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.71**	**240**	P	P	08 02 29.4	0.0
	0.6nm,0.5s,baz=87,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**44.35**	**259**	P	P	08 03 15.5	-0.5
	0.7nm,0.5s,baz=94,slow=7.3,SNR=9.6						
ASAR	**Alice Springs**	**44.62**	**253**	P	P	08 03 18.1	+0.1
	2.1nm,0.5s,baz=88,slow=8.8,SNR=30						

IDC 03 07:56:25.6±2.3, 31°03N×85°87E, h0km, mb3.5/4, mb1 3.6/5, mb1mx3.3/53, mbtmp3.5/5, ML3.0/1, Error ellipse: s-maj=79.4km s-min=25.9km az=74.0, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**15.99**	**351**	Pn	Pn	08 00 12.0	+0.2
	0.1nm,0.3s,baz=174,slow=12,SNR=2.9						
KURBB	**Kurchatov Arra**	**20.33**	**346**	P	P	08 01 02.4	-0.8
	0.8nm,0.7s,baz=162,slow=10,SNR=5.1						
SONM	**Songino Array**	**22.98**	**37**	P	P	08 01 32.0	+0.2
	0.7nm,0.5s,baz=218,slow=10,SNR=1.8						
WRA	**Warramunga Arr**	**68.80**	**131**	P	P	08 07 31.8	-0.1
	0.4nm,0.5s,baz=326,slow=6.6,SNR=6.1						
ASAR	**Alice Springs**	**71.24**	**134**	P	P	08 07 46.9	+0.1
	0.3nm,0.4s,baz=321,slow=6.0,SNR=8.6						

VIE 03 08:13:43.1±0.7, 46°73N×13°78E, h0km, ml0.9/2, Error ellipse: s-maj=6.9km s-min=1.1km az=167.0 2 km WSW of Afritz Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MYKA	**Terra Mystica**	**0.14**	**225**	*i* Pg	Pg	08 13 45.8	+0.1
	2.4nm,0.1s						
MYKA				*i* Sg	Sg	08 13 47.6	+0.2
	2.1nm,0.1s						
OBKA	**Obir**	**0.57**	**112**	*i* Pg	Pg	08 13 54.1	+0.1
	0.3nm,0.1s						
OBKA				*i* Sg	Sg	08 14 02.7	+1.2
	1.6nm,0.2s						

*KRAR **03** 08:47:07.8±0.1, 54°31N×86°85E, M2.2, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

IDC 03 08:47:10.5±2.7, 54°02N×87°18E, h0km, mb1 2.9/2, mb1mx2.9/43, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=23.0km s-min=17.5km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**268**	*i*		08 52 40.0	
	baz=90,slow=320,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.40**	**268**	Pg	Pn	08 47 34.6	-2.6
	0.6nm,0.3s,baz=85,slow=16,SNR=4.1						
ZALV				Lg	Lg	08 47 56.6	
	2.9nm,0.3s,baz=82,slow=25,SNR=7.5						
KURBB	**Kurchatov Arra**	**6.30**	**241**	Pn	Pn	08 48 45.1	+0.5
	0.2nm,0.3s,baz=54,slow=13,SNR=8.1						
KURBB				Sn	Sn	08 49 55.2	-2.0
	0.0nm,0.3s,baz=35,slow=21,SNR=4.5						
KURBB				Lg	Lg	08 50 33.2	
	0.1nm,0.3s,baz=52,slow=33,SNR=2.4						
MKAR	**Makanchi Array**	**7.88**	**205**	Pn	Pn	08 49 08.1	+1.8
	0.2nm,0.3s,baz=25,slow=14,SNR=5.8						
MKAR				Lg	Lg	08 51 20.4	
	0.0nm,0.3s,baz=25,slow=29,SNR=2.3						

*NCEDC **03** 08:53:42.7±1.5, 35°73N±0°03×121°11W±0°08, h4km±7km, Mwr3.5/6, Error ellipse: s-maj=10.8km s-min=1.8km az=64.0*

*NEIC **03** 08:53:42.7, 35°73N×121°11W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}1.98; $M_{\theta\theta}$-1.22; $M_{\phi\phi}$-0.76; $M_{r\theta}$0.11; $M_{r\phi}$1.01; $M_{\theta\phi}$-0.86; Fault plane solution: M_{o}2.18000×10^{14} NP1:ϕ_s143.72000°, δ55.57000°, λ107.71000°. NP2:ϕ_s294.26000°, δ38.21000°, λ66.07000°. Principal axes: T 2.2358, Plg73.0000°, Azm100.0000°; N -0.1100, Plg15.0000°, Azm313.0000°; P -2.1258, Plg9.0000°, Azm221.0000°;*

NEIC 03 08:53:41.7±2.2, 35°69N±0°02×121°30W±0°03, h9km±7km Error ellipse: s-maj=3.7km s-min=2.0km az=65.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHCM	**Hearst Castle**	**0.12**	**92**		Pg	08 53 44.7	+0.3
PAPM	**Alder Peak**	**0.23**	**347**		Pg	08 53 48.1	+1.7
PCBM	**Cambria**	**0.26**	**131**		Pg	08 53 47.4	+0.6
PANM	**San Antonio Re**	**0.33**	**74**		Pb	08 53 49.1	-0.8
ARDC	**Alexander Ranc**	**0.34**	**130**		Pg	08 53 48.8	+0.3
ARDC					Sg	08 53 53.0	0.0
RAMR	**Ramage Ranch**	**0.35**	**98**		Pg	08 53 47.6	-1.0
RAMR					Sg	08 53 51.4	-1.9
BLDC	**Black Mountain**	**0.35**	**115**		Pg	08 53 48.6	0.0
BLDC					Sg	08 53 52.9	-0.4
BLDC	**Black Mountain**	**0.35**	**115**		Pg	08 53 48.6	-0.1
PCCM	**Crazy Canyon**	**0.42**	**15**		Pb	08 53 51.7	+0.4
LSDC	**Los Osos Digit**	**0.54**	**136**		Pg	08 53 51.4	-0.7
PTAM	**Tassajara Cree**	**0.56**	**121**		Pg	08 53 52.5	-0.1
VPDC	**Valencia Peak**	**0.57**	**142**		Pb	08 53 53.7	-0.2
EFD	**Emergency Oper**	**0.59**	**128**		Pg	08 53 52.9	-0.3
DCD	**Diablo Creek**	**0.60**	**142**		Pg	08 53 53.9	+0.5
DPD	**Davis Peak**	**0.62**	**137**		Pb	08 53 54.3	-0.4
PMPB	**Monarch Peak**	**0.66**	**37**		Pg	08 53 53.4	-1.1
PKD	**Bear Valley Ra**	**0.67**	**67**		Pg	08 53 52.7	-1.9
TCHL	**Shandon**	**0.73**	**90**		Pg	08 53 53.7	-2.1
PHFM	**Heflinger Ranc**	**0.75**	**75**		Pg	08 53 54.5	-1.7
PMCM	**McMillan Canyo**	**0.76**	**87**		Pg	08 53 54.4	-1.9
PHRM	**Hernandez Vall**	**0.79**	**29**		Pg	08 53 56.1	-0.8
TSCN	**Private Proper**	**0.79**	**100**		Pg	08 53 55.5	-1.4
TRAM	**Private Proper**	**0.84**	**90**		Pg	08 53 56.1	-1.7
PSRM	**Scobie Ranch**	**0.84**	**78**		Pg	08 53 56.1	-1.9
PMRM	**Maxey Ranch**	**0.87**	**83**		Pg	08 53 56.4	-2.0
THIS	**South End of C**	**0.87**	**87**		Pg	08 53 56.6	-1.9
PTRM	**Twissleman Ran**	**0.89**	**92**		Pg	08 53 57.2	-1.5
SCZ	**Santa Cruz**	**0.91**	**355**		Pb	08 54 00.1	+0.4
BBGB	**Big Mountain B**	**0.91**	**13**		Pb	08 53 59.7	-0.1
BPCNC	**Pine Canyon**	**0.92**	**343**		Pn	08 54 00.6	-0.4
BJOM	**Mount Johnson**	**0.94**	**359**		Pb	08 54 00.2	0.0
PARM	**Anticline Ridg**	**0.96**	**54**		Pg	08 53 59.4	-0.7
PMLM	**Mount Lospe**	**0.97**	**144**		Pg	08 54 00.1	-0.2
BAVM	**Antelope Valle**	**0.98**	**13**		Pb	08 54 00.8	-0.2
BEHM	**Elkhorn Ranch**	**0.98**	**6**		Pn	08 54 01.4	-0.3
BSRM	**Salinas Radio**	**0.99**	**350**		Pb	08 54 01.3	+0.1
BCGM	**Cienega Road**	**1.02**	**358**		Pn	08 54 02.0	-0.3
PKEM	**Kettleman Hill**	**1.04**	**68**		Pg	08 54 00.8	-0.8
BHRM	**Hodges Ranch**	**1.04**	**2**		Pn	08 54 02.5	0.0
BMSM	**Mercy Hot Spri**	**1.05**	**23**		Pg	08 54 02.0	0.0
FRP	**Fremont Peak**	**1.08**	**352**		Pg	08 54 02.4	+0.1
SAO	**San Andreas Ge**	**1.08**	**354**	Sg	Sb	08 54 16.8	-0.2
SAO	**San Andreas Ge**	**1.08**	**354**	Pg	Pn	08 54 02.9	-0.2
SAO	**San Andreas Ge**	**1.08**	**354**		Pn	08 54 03.5	+0.3
BSLM	**Silva Ranch**	**1.09**	**358**		Pn	08 54 03.4	+0.2
HJSM	**John Smith Roa**	**1.13**	**360**		Pn	08 54 03.6	-0.2
HJGM	**San Juan Grade**	**1.13**	**349**		Pn	08 54 03.7	-0.1
PWMM	**Westland Maint**	**1.15**	**49**		Pb	08 54 03.1	-0.8
HERM	**Elkhorn Road**	**1.16**	**343**		Pn	08 54 04.8	+0.7
HTUM	**Tustin Road**	**1.17**	**346**		Pn	08 54 04.9	+0.6
HBTM	**San Juan Bauti**	**1.18**	**350**		Pn	08 54 05.6	+1.1
BRMM	**Rolling Bench**	**1.21**	**18**		Pg	08 54 05.0	+0.1
ANZ	**Anzar Road**	**1.22**	**349**		Pg	08 54 05.3	+0.2
MOBB	**Monterey Bay O**	**1.22**	**325**		Pg	08 54 06.0	+0.8
OCR	**O'Connell Ranc**	**1.24**	**352**		Pg	08 54 06.4	+0.9
HCOM	**Corn Cob Canyo**	**1.24**	**345**		Pn	08 54 05.2	-0.1
CARC	**Carrizo Plain**	**1.24**	**107**		Pg	08 54 04.2	-1.1
CBC	**Chamberlain**	**1.28**	**347**		Pg	08 54 06.8	+0.6
HFEM	**San Felipe**	**1.30**	**356**		Pg	08 54 06.8	+0.2
GATR	**Gnd/Air Tx Cnt**	**1.31**	**150**		Pn	08 54 05.6	-0.7
JELB	**Ellicott, Sant**	**1.31**	**341**		Pb	08 54 06.4	-0.1
HPCM	**Pacheco Lake**	**1.37**	**1**		Pb	08 54 07.4	-0.2
HLPM	**Lions Peak**	**1.38**	**349**		Pb	08 54 07.8	+0.1
SLD	**San Luis Dam**	**1.39**	**3**		Pn	08 54 07.6	+0.3
FIGC	**Figueroa Mtn.**	**1.44**	**131**		Pn	08 54 06.9	-1.2
JRGM	**Rodeo Gulch Ro**	**1.45**	**338**		Pn	08 54 08.0	-0.2
PKM	**Mcpherson Peak**	**1.45**	**123**		Pn	08 54 06.9	-1.4
JHLM	**Holstrom Ranch**	**1.48**	**343**		Pn	08 54 08.4	-0.4
CADM	**Anderson Res.**	**1.50**	**350**		Pn	08 54 08.6	-0.2
JLAB	**Laurel Hill**	**1.51**	**347**		Pn	08 54 08.8	-0.1
JUMM	**Mount Umunhum**	**1.55**	**342**		Pn	08 54 09.2	-0.4
JSTM	**Santa Teresa H**	**1.57**	**345**		Pn	08 54 09.6	-0.2
SYP	**Santa Ynez Pea**	**1.58**	**137**		Pn	08 54 08.9	-1.3
JBNB	**Ben Lomond Mou**	**1.59**	**334**		Pn	08 54 09.8	-0.4
CCOB	**Coe Ranch Numb**	**1.60**	**349**		Pn	08 54 10.5	+0.2
CMPM	**Mikes Peak**	**1.67**	**359**		Pn	08 54 11.1	-0.1
ARN	**Arnold Ranch**	**1.67**	**354**		Pn	08 54 11.0	-0.3
MHC	**Mount Hamilton**	**1.68**	**351**		Pn	08 54 11.3	0.0
JSGM	**Saratoga Golf**	**1.70**	**339**		Pn	08 54 11.7	+0.1
BCW	**Bitter Crk WRg**	**1.71**	**115**		Pn	08 54 10.7	-1.1
CMMM	**Mount Mocho**	**1.77**	**355**		Pn	08 54 12.4	-0.3
SBC	**Santa Barbara**	**1.80**	**133**		Pn	08 54 11.9	-1.0
JJRM	**Joaquin Road**	**1.81**	**337**		Pn	08 54 12.9	-0.2
VES	**Vestal, Richgr**	**1.81**	**84**		Pn	08 54 10.7	-2.4
CMLM	**Mount Lewis**	**1.81**	**351**		Pn	08 54 13.2	0.0
BAKC	**Calstate**	**1.82**	**100**		Pn	08 54 11.6	-1.7
FRI	**Friant**	**1.83**	**44**		Pn	08 54 11.5	-1.8
MYLM	**Yosemite Lake**	**1.83**	**22**		Pn	08 54 12.0	-1.5
BGH	**Bear Gulch**	**1.85**	**333**		Pn	08 54 13.6	-0.1
JSFB	**Stanford Teles**	**1.85**	**338**		Pn	08 54 13.6	-0.1
JRSC	**Jasper Ridge**	**1.87**	**336**		Pn	08 54 13.3	-0.7
MRHM	**Rocky Hill**	**1.89**	**71**		Pn	08 54 12.2	-2.1
ABL	**Mount Abel**	**1.89**	**116**		Pn	08 54 12.6	-1.9
MPI	**Mount Pinos, F**	**1.97**	**116**		Pn	08 54 14.5	-1.1
CVLM	**Vallecito**	**1.98**	**348**		Pn	08 54 15.4	-0.1
CNIC	**Niles Canyon**	**1.99**	**345**		Pn	08 54 15.2	-0.5
JCPM	**Coyote Point**	**2.07**	**337**		Pn	08 54 16.3	-0.3
HELL	**Mitchell Peak,**	**2.09**	**61**		Pn	08 54 15.7	-1.4
ARVC	**Arvin**	**2.09**	**105**		Pn	08 54 15.3	-1.7
SPG2	**Springville 2**	**2.12**	**75**		Pn	08 54 15.4	-2.0
CLCB	**Lake Chabot**	**2.14**	**343**		Pn	08 54 17.6	-0.1
CSLM	**San Leandro Hi**	**2.14**	**342**		Pn	08 54 17.1	-0.5
TEJ	**El Tejon**	**2.18**	**101**		Pn	08 54 15.8	-2.4
CRHM	**Round Hill Res**	**2.24**	**346**		Pn	08 54 19.0	0.0
KCC	**Kaiser Creek**	**2.28**	**44**		Pn	08 54 18.7	-1.0
ISA	**Isabella, Lake**	**2.30**	**90**		Pn	08 54 17.8	-2.1
QAL	**Quail Lake**	**2.31**	**113**		Pn	08 54 19.5	-0.6
CVPM	**Vollmer Peak**	**2.31**	**342**		Pn	08 54 20.2	+0.1
BRIB	**Briones**	**2.33**	**343**		Pn	08 54 20.2	-0.1
MCUB	**Copperopolis B**	**2.35**	**13**		Pn	08 54 19.8	-0.7
PYR	**Pyramid**	**2.38**	**117**		Pn	08 54 20.3	-0.7
CPIM	**Pinole Ridge**	**2.41**	**343**		Pn	08 54 21.4	0.0
FARB	**Farallon Islan**	**2.43**	**326**		Pn	08 54 21.4	-0.2
CMB	**Columbia Colle**	**2.46**	**17**		Pn	08 54 21.8	-0.2
MNHB	**New Hogan Dam**	**2.48**	**9**		Pn	08 54 21.0	-1.4
WORM	**Onyx Ranch**	**2.49**	**89**		Pn	08 54 21.1	-1.4
WCHM	**Chimney Peak**	**2.63**	**85**		Pn	08 54 23.7	-0.9
MINS	**Minaret Summit**	**2.66**	**42**		Pn	08 54 25.2	+0.1
OMMB	**Old Mammoth Mi**	**2.67**	**43**		Pn	08 54 25.3	+0.1
SCHCA	**Scheelite**	**2.68**	**51**		Pn	08 54 25.2	-0.2
MMLB	**Mammoth Lakes**	**2.71**	**43**		Pn	08 54 25.4	-0.4
CWC	**Cottonwood Cre**	**2.71**	**73**		Pn	08 54 25.4	-0.3
MDCM	**Deadman Creek**	**2.71**	**41**		Pn	08 54 25.6	-0.2
MLCM	**Laurel Creek C**	**2.71**	**44**		Pn	08 54 26.3	+0.5
MGPM	**Gravel Pit**	**2.73**	**44**		Pn	08 54 26.4	+0.4
MCMM	**Convict Lake**	**2.74**	**45**		Pn	08 54 26.2	+0.1
RCCR	**Rock Creek Can**	**2.74**	**48**		Pn	08 54 26.8	+0.1
DECC	**Green Verdugo**	**2.82**	**120**		Pn	08 54 26.0	-1.3
CGO	**Cerro Gordo**	**2.96**	**72**		Pn	08 54 31.0	+1.8
GDXM	**Geysers**	**3.34**	**339**		Pn	08 54 35.5	+1.3
ORV	**Oroville**	**3.86**	**358**		Pn	08 54 42.7	+1.3
BEKR	**Beckworth**	**4.24**	**10**		Pn	08 54 47.6	+0.9
PAHR	**Pah Rah Range**	**4.29**	**20**		Pn	08 54 48.8	+1.5
R11A	**Troy Canyon, C**	**5.29**	**58**		Pn	08 55 00.3	-0.7
Y12C	**Blythe**	**5.90**	**107**		Pn	08 55 07.6	-1.8
KRMB	**Red Mountain**	**6.17**	**341**	Pn	Pn	08 55 15.2	+2.0

*GEN **03** 09:11:51.0, 44°52N×6°65E, h7km±1km, Ml1.9*

*LDG **03** 09:11:51.5±0.1, 44°55N×6°71E, h2km, Md2.5/3, Ml2.4/9, Error ellipse: s-maj=1.5km s-min=1.1km az=59.0*

*ROM **03** 09:11:51.8±0.2, 44°545N±0°007×6°75E±0°02, h14km±1km, ML1.8/14, Error ellipse: s-maj=1.2km s-min=0.6km az=63.0*

*STR **03** 09:11:51.1±0.2, 45°N±1°×°±°, h9km±2km, MLv1.8/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*

ISC 03 09:11:50.7±0.8, 44°56N±0°01×6°73E±0°01, h14km±5km, n65, σ0°98/116, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.10**	**143**	Pg	**Pg**	**09 11 54.0**	**0.0**
SURF				Sg	**Sg**	**09 11 56.1**	**-0.2**
MBDF	**Montbardon**	**0.17**	**10**	*e*Pg	**Pg**	**09 11 55.2**	**+0.2**
MBDF				*e*Sg	**Sg**	**09 11 57.9**	**0.0**
	40nm,0.2s						
OGAG	**Argentiere**	**0.17**	**232**	Pg	**Pb**	**09 11 56.6**	**+0.9**
OGAG				Sg	**Sb**	**09 12 00.5**	**+1.4**
PZZ	**Stroppo**	**0.28**	**101**	P	**Pb**	**09 11 57.5**	**-0.1**
PZZ				S	**Sb**	**09 12 02.1**	**-0.2**
PZZ	**Stroppo**	**0.28**	**101**	P	**Pb**	**09 11 57.5**	**-0.1**
PZZ				S	**Sb**	**09 12 02.1**	**-0.2**
PZZ				AML	AML		
	comp=E,971μm,0.2s						
PZZ				AML	AML		
	comp=N,900μm,0.6s						
PZZ				AML	AML		
	comp=N,899μm,0.6s						
PZZ				AML	AML		
	comp=E,970μm,0.2s						
RRL	**Rocca Remolon**	**0.36**	**7**	P	**Pb**	**09 11 59.3**	**+0.2**
RRL				S	**Sb**	**09 12 04.6**	**-0.1**
RRL	**Rocca Remolon**	**0.36**	**7**	P	**Pb**	**09 11 59.3**	**+0.2**
RRL				S	**Sb**	**09 12 04.9**	**+0.1**
RRL				AML	AML		
	comp=E,126μm,0.4s						
RRL				AML	AML		
	comp=N,124μm,1.1s						
RRL				AML	AML		
	comp=N,124μm,1.1s						
RRL				AML	AML		
	comp=E,126μm,0.4s						
DOI	**San Damiano**	**0.37**	**98**	P	**Pb**	**09 11 59.1**	**-0.1**
DOI				S	**Sb**	**09 12 04.2**	**-0.7**
DOI				AML	AML		
	comp=E,202μm,0.4s						
DOI				AML	AML		
	comp=N,306μm,0.2s						
ISO	**Isola**	**0.44**	**149**	Pg	**Pg**	**09 11 59.5**	**-0.1**
ISO				Sg	**Sg**	**09 12 04.9**	**-0.6**
BHB	**Bricherasio**	**0.47**	**53**	P	**Pb**	**09 12 01.3**	**+0.5**
BHB				S	**Sb**	**09 12 08.5**	**+0.9**
BHB	**Bricherasio**	**0.47**	**53**	P	**Pb**	**09 12 01.4**	**+0.6**
BHB				S	**Sb**	**09 12 08.6**	**+0.9**
BHB				AML	AML		
	comp=E,118μm,1.1s						
BHB				AML	AML		
	comp=N,174μm,0.7s						
BHB				AML	AML		
	comp=N,175μm,0.7s						
BHB				AML	AML		
	comp=E,118μm,1.1s						
BNI	**Bardonecchia**	**0.49**	**356**	P	**Pb**	**09 12 01.6**	**+0.4**
BNI				S	**Sb**	**09 12 08.6**	**+0.2**
BNI				AML	AML		
	comp=N,31μm,0.4s						
BNI				AML	AML		
	comp=E,39μm,0.3s						
BNI				AML	AML		
	comp=N,31μm,0.4s						
STV	**Sant Anna di V**	**0.53**	**126**	P	**Pb**	**09 12 01.7**	**-0.1**
STV				S	**Sg**	**09 12 08.5**	**+0.3**
STV	**Sant Anna di V**	**0.53**	**126**	P	**Pb**	**09 12 01.7**	**-0.1**
STV				S	**Sg**	**09 12 08.6**	**+0.4**
STV				AML	AML		
	comp=N,188μm,0.6s						
STV				AML	AML		
	comp=E,160μm,1.2s						
OGDI	**Digne**	**0.55**	**215**	Pg	**Pg**	**09 12 02.0**	**+0.6**
ENR	**Entracque**	**0.60**	**124**	P	**Pb**	**09 12 02.9**	**0.0**
ENR				S	**Sb**	**09 12 10.8**	**-0.4**
ENR	**Entracque**	**0.60**	**124**	P	**Pb**	**09 12 03.0**	**0.0**
ENR				AML	AML		
	comp=E,346μm,0.2s						
ENR				AML	AML		
	comp=N,293μm,1.2s						
OGMO	**Fort Saint-Gob**	**0.65**	**357**	Pg	**Pg**	**09 12 03.4**	**-0.1**
OGMO				Sg	**Sb**	**09 12 13.0**	**+0.2**
RSP	**Reno Superiore**	**0.70**	**33**	P	**Pn**	**09 12 05.7**	**-0.6**
RSP				S	**Sb**	**09 12 15.4**	**+1.0**
RSP	**Reno Superiore**	**0.70**	**33**	P	**Pn**	**09 12 05.8**	**-0.5**
RSP				S	**Sn**	**09 12 15.9**	**-1.1**
RSP				AML	AML		
	comp=N,68μm,0.4s						
RSP				AML	AML		
	comp=N,67μm,0.4s						
RSP				AML	AML		
	comp=E,81μm,0.9s						
ORIF	**Oris-en-Rattie**	**0.70**	**301**	*e*Pg	**Pg**	**09 12 04.1**	**-0.4**
ORIF				*e*Sg	**Sg**	**09 12 12.9**	**-0.9**
	comp=E,30nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.70**	**301**	P	**Pg**	**09 12 03.6**	**-0.9**
ORIF				AML	AML		
	comp=N,45μm,0.4s						
ORIF				AML	AML		
	comp=E,52μm,1.0s						
ORIF	**Oris-en-Rattie**	**0.70**	**301**	Pg	**Pg**	**09 12 03.9**	**-0.6**
ORIF				Sg	**Sg**	**09 12 12.9**	**-

OG35	**Corcelles**	**1.70**	**332**	Pg	**Pg**	**09 12 23.6**	**+0.4**
OG35				Sg	**Sg**	**09 12 46.0**	**+0.7**
GORR	**Gorreto**	**1.83**	**88**	S	**Sg**	**09 12 49.0**	**-0.7**
LASF	**Ste Croix**	**2.12**	**258**	*e*Pn	**Pn**	**09 12 25.0**	**-0.7**
LASF				*e*Sn	**Sn**	**09 12 50.6**	**-1.2**
	comp=N,1.0nm,0.3s						
PGF	**Pioggiola**	**2.60**	**140**	*e*Pn	**Pn**	**09 12 32.9**	**+0.5**
PGF				*e*Sn	**Sn**	**09 13 03.0**	**-0.8**
	comp=N,1.3nm,0.2s						
PGF	**Pioggiola**	**2.60**	**140**	P	**Pn**	**09 12 34.7**	**+2.3**
ERBM	**Eremo**	**2.64**	**92**	P	**Pg**	**09 12 45.1**	**+3.8**
POPM	**Popiglio**	**2.94**	**99**	P	**Pg**	**09 12 47.4**	**+0.4**
POPM				S	**Sg**	**09 13 22.0**	**-3.0**
FNVD	**Fontana Vidola**	**3.17**	**96**	S	**Sg**	**09 13 34.0**	**+1.3**
SSF	**Saint Saulge**	**3.37**	**319**	*e*Pn	**Pn**	**09 12 43.5**	**+0.6**
LOR	**Lormes**	**3.37**	**325**	*e*Pn	**Pn**	**09 12 43.6**	**+0.7**
	baz=144						
CAFI	**Castiglion Fio**	**3.98**	**106**	P	**Pb**	**09 13 01.8**	**+1.3**
CRND	**Cornuda**	**3.99**	**69**	S	**Sb**	**09 13 46.0**	**-2.8**
PE3	**Peglio**	**4.24**	**100**	S	**Sb**	**09 13 50.0**	**-6.1**
MIDA	**Miranda**	**6.23**	**115**	P	**Pn**	**09 13 24.9**	**+2.6**

*IDC **03** 09:14:11.6±0.7, 33°.87N×136°.45E, h385km±10km, mb3.2/4, mb1 3.1/10, mb1mx2.8/44, mbtmp3.8/10, Error ellipse: s-maj=21.5km s-min=11.9km az=70.0*
*NEIC **03** 09:14:11.2±0.6, 33°.8N±0°.1×136°.60E±0°.05, h380km±10km, mb4.0/3, Error ellipse: s-maj=16.1km s-min=5.9km az=186.0*
*JMA **03** 09:14:11.7±0.2, 33°.79N×136°.56E, h380km±2km, M2.7*
ISC 03 09:14:11.8±0.8, 33°.87N±0°.08×136°.51E±0°.07, h382km±7km, n37, σ0s97/45, mb3.6/6, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**0.34**	**137**	P	**Pn**	**09 14 59.3**	**+0.3**
JMMH	**Miemihama**	**0.41**	**263**	P	**Pn**	**09 14 59.1**	**-0.3**
JMMH				S	**S**	**09 15 36.4**	**-1.3**
JKN2	**Miekihoku**	**0.42**	**332**	P	**Pn**	**09 14 59.4**	**0.0**
JKN2				S	**S**	**09 15 36.9**	**-0.9**
JIE	**Ise**	**0.55**	**17**	P	**Pn**	**09 14 59.9**	**+0.3**
JIE				*e*S	**S**	**09 15 37.7**	**-0.5**
JTNC	**Tanabenakahech**	**0.75**	**267**	P	**Pn**	**09 15 00.2**	**0.0**
JWY	**Kouya**	**0.84**	**295**	P	**Pn**	**09 15 00.9**	**+0.4**
TK02	**Tokai 2**	**1.04**	**85**	P	**Pn**	**09 15 00.8**	**0.0**
INU	**Inuyama**	**1.54**	**16**		**Pn**	**09 15 03.1**	**-0.1**
JWT	**Wachi**	**1.68**	**327**	P	**Pn**	**09 15 04.7**	**+0.7**
JWT				*e*S	**S**	**09 15 45.9**	**-0.3**
JAI	**Aioi**	**1.71**	**268**	P	**Pn**	**09 15 04.6**	**+0.3**
JYTA	**Yamagatataniai**	**1.73**	**6**	P	**Pn**	**09 15 04.8**	**+0.5**
JMN	**Monobe**	**2.19**	**267**	P	**Pn**	**09 15 08.0**	**+0.6**
JKG	**Kaga**	**2.41**	**357**	P	**Pn**	**09 15 09.3**	**+0.5**
JOD2	**Odawara 2**	**2.54**	**56**	P	**Pn**	**09 15 10.2**	**+0.3**
JHJ	**Hachijo jima 2**	**2.84**	**104**	P	**Pn**	**09 15 11.3**	**-0.9**
	8.1nm,0.3s,baz=321,slow=21,SNR=9.0						
JHJ				S	**S**	**09 16 05.2**	**+4.1**
	6.8nm,0.3s,baz=104,slow=21,SNR=6.7						
JHJ2	**Mitsune**	**2.87**	**104**	Pn	**Pn**	**09 15 11.3**	**-1.2**
JRY	**Ryogami san**	**2.91**	**42**	P	**Pn**	**09 15 13.1**	**+0.3**
MAJO	**Matsushiro**	**3.01**	**27**		**Pn**	**09 15 13.3**	**-0.3**
MAT	**Matsushiro**	**3.01**	**27**	P	**Pn**	**09 15 13.2**	**-0.4**
MAT				S	**S**	**09 16 02.2**	**-1.4**
MAT	**Matsushiro**	**3.01**	**27**	P	**Pn**	**09 15 13.4**	**-0.2**
MAT				*e*S	**S**	**09 16 02.7**	**-0.9**
MJAR	**Matsushiro Arr**	**3.01**	**27**	P	**Pn**	**09 15 13.4**	**-0.2**
	0.5nm,0.3s,baz=194,slow=7.1,SNR=23						
MJAR				S	**S**	**09 16 02.5**	**-1.1**
	0.1nm,0.3s,baz=178,slow=15,SNR=9.7						
MJB9	**Matsu-Tunnel**	**3.01**	**27**		**Pn**	**09 15 13.3**	**-0.3**
JNU	**Nakatsue**	**4.76**	**263**	P	**Pn**	**09 15 30.5**	**0.0**
	1.3nm,0.3s,baz=78,slow=1.1,SNR=7.9						
JNU	**Nakatsue**	**4.76**	**263**	Pn	**Pn**	**09 15 30.9**	**+0.4**
KSRS	**Korea Array**	**7.85**	**300**	P	**Pn**	**09 16 05.2**	**+0.6**
	0.4nm,0.3s,baz=114,slow=12,SNR=7.7						
ERM	**Erimo**	**9.68**	**31**		**Pn**	**09 16 25.1**	**-0.7**
USRK	**Ussuriysk Ar.**	**10.90**	**343**	P	**P**	**09 16 40.1**	**+0.4**
	baz=162,slow=11,SNR=9.6						
ASAJ	**Asahikawa**	**11.27**	**23**	P	**P**	**09 16 44.3**	**+0.4**
	0.9nm,0.3s,baz=236,slow=9.8,SNR=4.9						
JKA	**Kamikawa-asahi**	**11.27**	**23**	P	**P**	**09 16 44.3**	**+0.4**
KLR	**Kul'dur**	**15.75**	**348**	P	**Pn**	**09 17 37.5**	**+1.4**
	0.2nm,0.3s,baz=308,slow=19,SNR=2.8						
WB2	**Warramunga Arr**	**53.55**	**183**	P	**P**	**09 22 53.5**	**-1.4**
WB2				IAmb	IAmb	09 22 57.5	
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**53.55**	**183**	P	**P**	**09 22 53.6**	**-1.3**
	comp=Z,1.0nm,0.4s,baz=0.2,slow=7.6,SNR=47						
WR0	**Warramunga Arr**	**53.56**	**182**	P	**P**	**09 22 53.8**	**-1.2**
WR0				IAmb	IAmb	09 23 11.1	
	comp=Z,10nm,1.3s						
AS31	**Alice Springs**	**57.27**	**183**	P	**P**	**09 23 20.2**	**-0.9**
ASAR	**Alice Springs**	**57.27**	**183**	P	**P**	**09 23 20.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=356,slow=3.7,SNR=17						
ARCES	**ARCESS Array B**	**65.52**	**339**	P	**P**	**09 24 15.3**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=45,slow=8.7,SNR=4.1						
FINES	**FINESS Array B**	**69.70**	**331**	P	**P**	**09 24 41.2**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=150,slow=31,SNR=4.0						

*LDG **03** 09:17:05.9±0.1, 44°.54N×6°.68E, h2km, Md2.4/2, Ml2.7/9, Error ellipse: s-maj=1.7km s-min=1.3km az=59.0*
*GEN **03** 09:17:05.7, 44°.52N×6°.65E, h5km±2km, Ml2.0*
*STR **03** 09:17:05.8±0.2, 45°N±1°×°±°, h9km±2km, MLv1.9/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*ROM **03** 09:17:06.3±0.2, 44°.542N±0°.005×6°.74E±0°.01, h12km±1km, ML2.0/13, Error ellipse: s-maj=0.9km s-min=0.6km az=65.0*
ISC 03 09:17:06.2±0.8, 44°.55N±0°.01×6°.73E±0°.02, h15km±5km, n63, σ0s96/116, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.09**	**138**	Pg	**Pg**	**09 17 08.7**	**-0.9**
SURF				Sg	**Sg**	**09 17 10.2**	**-1.7**
OGAG	**Argentiere**	**0.16**	**234**	Pg	**Pg**	**09 17 11.3**	**+0.9**
OGAG				Sg	**Sg**	**09 17 15.1**	**+1.8**
MBDF	**Montbardon**	**0.18**	**10**	*e*Pg	**Pg**	**09 17 10.2**	**-0.5**
MBDF				*e*Sg	**Sg**	**09 17 12.9**	**-0.8**
	61nm,0.2s						
PZZ	**Stroppo**	**0.28**	**99**	P	**Pb**	**09 17 12.2**	**-0.9**
PZZ				S	**Sb**	**09 17 16.6**	**-1.1**
PZZ	**Stroppo**	**0.28**	**99**	P	**Pb**	**09 17 12.2**	**-0.9**
PZZ				S	**Sb**	**09 17 16.6**	**-1.1**
PZZ				AML	AML		
	comp=E,1158μm,0.2s						
PZZ				AML	AML		
	comp=N,1230μm,0.6s						
RRL	**Rocca Remolon**	**0.37**	**7**	P	**Pg**	**09 17 13.9**	**-0.1**
RRL				S	**Sg**	**09 17 19.4**	**+0.2**
RRL	**Rocca Remolon**	**0.37**	**7**	P	**Pg**	**09 17 14.0**	**0.0**
RRL				S	**Sg**	**09 17 19.5**	**+0.2**
RRL				AML	AML		
	comp=E,210μm,0.4s						
RRL				AML	AML		
	comp=N,207μm,0.3s						
DOI	**San Damiano**	**0.38**	**97**	P	**Pg**	**09 17 13.8**	**-0.1**
DOI				S	**Sb**	**09 17 19.2**	**-1.1**
DOI				AML	AML		
	comp=E,270μm,0.3s						
DOI				AML	AML		
	comp=N,420μm,0.2s						
DOI				AML	AML		
	comp=E,270μm,0.3s						
ISO	**Isola**	**0.43**	**148**	Pg	**Pg**	**09 17 14.1**	**-0.9**
ISO				Sg	**Sg**	**09 17 19.6**	**-1.3**
BHB	**Bricherasio**	**0.48**	**53**	P	**Pb**	**09 17 16.0**	**-0.4**
BHB				S	**Sb**	**09 17 23.1**	**-0.2**
BHB	**Bricherasio**	**0.48**	**53**	P	**Pb**	**09 17 16.0**	**-0.4**
BHB				S	**Sb**	**09 17 23.4**	**+0.1**
BHB				AML	AML		
	comp=E,114μm,0.4s						
BHB				AML	AML		
	comp=E,114μm,0.4s						
BHB				AML	AML		
	comp=N,176μm,0.7s						
BHB				AML	AML		
	comp=E,114μm,0.4s						
BNI	**Bardonecchia**	**0.50**	**356**	P	**Pg**	**09 17 16.0**	**-0.3**
BNI				S	**Sg**	**09 17 23.5**	**+0.5**
STV	**Sant Anna di V**	**0.53**	**125**	P	**Pg**	**09 17 16.4**	**-0.3**
STV				S	**Sg**	**09 17 23.2**	**-0.6**
STV	**Sant Anna di V**	**0.53**	**125**	P	**Pg**	**09 17 16.4**	**-0.3**
STV				S	**Sg**	**09 17 23.3**	**-0.5**
STV				AML	AML		
	comp=E,177μm,0.1s						
STV				AML	AML		
	comp=N,274μm,0.6s						
OGDI	**Digne**	**0.54**	**215**	Pg	**Pb**	**09 17 17.4**	**+0.1**
ENR	**Entracque**	**0.59**	**123**	P	**Pg**	**09 17 17.6**	**-0.3**
ENR				S	**Sg**	**09 17 25.5**	**-0.4**
ENR	**Entracque**	**0.59**	**123**	P	**Pg**	**09 17 17.7**	**-0.3**
ENR				S	**Sg**	**09 17 25.4**	**-0.5**
ENR				AML	AML		
	comp=E,248μm,0.2s						
ENR				AML	AML		
	comp=E,249μm,0.2s						
ENR				AML	AML		
	comp=N,302μm,1.1s						
ORIF	**Oris-en-Rattie**	**0.71**	**302**	*e*Pg	**Pg**	**09 17 18.3**	**-1.8**
ORIF				*e*Sg	**Sg**	**09 17 27.4**	**-2.0**
	comp=N,38nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.71**	**302**	P	**Pg**	**09 17 18.8**	**-1.3**
ORIF				S	**Sg**	**09 17 27.6**	**-1.8**
ORIF				AML	AML		
	comp=E,79μm,1.0s						
ORIF				AML	AML		
	comp=N,66μm,1.0s						
ORIF	**Oris-en-Rattie**	**0.71**	**302**	Pg	**Pg**	**09 17 18.6**	**-1.5**
ORIF				Sg	**Sg**	**09 17 27.8**	**-1.7**
RSP	**Reno Superiore**	**0.71**	**32**	P	**Pb**	**09 17 20.5**	**+0.1**
RSP				S	**Sb**	**09 17 30.2**	**+0.2**
RSP	**Reno Superiore**	**0.71**	**32**	P	**Pb**	**09 17 20.6**	**+0.1**
RSP				S	**Sb**	**09 17 30.3**	**+0.3**
RSP				AML	AML		
	comp=N,75μm,0.2s						
RSP				AML	AML		
	comp=E,76μm,0.9s						
RSP				AML	AML		
	comp=E,76μm,0.9s						
TURF	**col de Turini**	**0.75**	**140**	Pg	**Pg**	**09 17 20.2**	**-0.6**
TURF				Sg	**Sg**	**09 17 30.4**	**-0.3**
BLAF	**les Blancs**	**0.77**	**220**	Pg	**Pg**	**09 17 20.9**	**-0.4**
BLAF				Sg	**Sb**	**09 17 32.3**	**+0.5**
GDM	**Grand'Maison**	**0.79**	**327**	Pg	**Pg**	**09 17 20.6**	**-0.9**
GDM				Sg	**Sg**	**09 17 30.7**	**-1.3**
CALF	**Calern**	**0.81**	**170**	Pg	**Pg**	**09 17 21.3**	**-0.7**
CALF				Sg	**Sg**	**09 17 32.0**	**-0.7**
SAOF	**Saorge**	**0.82**	**133**	P	**Pg**	**09 17 21.7**	**-0.5**
SAOF				S	**Sg**	**09 17 32.1**	**-0.8**
SAOF	**Saorge**	**0.82**	**133**	AML	AML		
	comp=N,157μm,0.4s						
SAOF				AML	AML		
	comp=E,140μm,1.5s						
SAOF	**Saorge**	**0.82**	**133**	Pg	**Pg**	**09 17 21.6**	**-0.5**
SAOF				Sg	**Sg**	**09 17 32.1**	**-0.8**
SBF	**Sospel**	**0.85**	**143**	*e*Pg	**Pg**	**09 17 22.1**	**-0.7**
SBF				*e*Sg	**Sg**	**09 17 33.4**	**-0.7**
	comp=E,75nm,0.4s						
GBOS	**Grotte di Boss**	**0.86**	**111**	P	**Pb**	**09 17 22.5**	**-0.4**
GBOS				S	**Sg**	**09 17 33.5**	**-0.6**
GBOS	**Grotte di Boss**	**0.86**	**111**	P	**Pb**	**09 17 22.6**	**-0.2**
GBOS				S	**Sb**	**09 17 33.7**	**-0.4**
GBOS				AML	AML		
	comp=E,99μm,0.2s						
GBOS				AML	AML		
	comp=N,100μm,0.2s						
ESCA	**l'Escarene**	**0.86**	**147**	Pg	**Pg**	**09 17 22.3**	**-0.5**
ESCA				Sg	**Sb**	**09 17 33.7**	**-0.4**
MLYF	**Mely**	**0.89**	**231**	Pg	**Pb**	**09 17 23.7**	**+0.3**
MLYF				Sg	**Sb**	**09 17 36.1**	**+1.0**
LPG	**La Plagne**	**0.95**	**1**	*e*Pg	**Pg**	**09 17 24.0**	**-0.7**
LPG				*e*Sg	**Sg**	**09 17 35.9**	**-1.2**
	comp=N,22nm,0.3s						
LSD	**Lago del Serru**	**0.95**	**18**	P	**Pg**	**09 17 24.6**	**-0.2**
LSD				S	**Sg**	**09 17 37.0**	**-0.3**
LSD	**Lago del Serru**	**0.95**	**18**	P	**Pg**	**09 17 24.6**	**-0.2**
LSD				S	**Sg**	**09 17 37.1**	**-0.2**
LSD				AML	AML		
	comp=E,61μm,1.0s						
LSD				AML	AML		
	comp=E,61μm,1.0s						
LSD				AML	AML		
	comp=N,40μm,0.4s						
MON	**Monaco**	**0.96**	**148**	Pg	**Pb**	**09 17 24.4**	**-0.2**
MON				Sg	**Sb**	**09 17 37.0**	**0.0**
LPL	**La Plagne**	**0.97**	**0**	*e*Pg	**Pg**	**09 17 24.4**	**-0.6**
LPL				*e*Sg	**Sg**	**09 17 37.5**	**-0.2**
	comp=N,15nm,0.3s						
GRN	**Grenoble**	**0.98**	**315**	Pg	**Pg**	**09 17 24.5**	**-0.8**
GRN				Sg	**Sg**	**09 17 37.6**	**-0.5**
FRF	**La Foret Royal**	**0.99**	**183**	*e*Pg	**Pg**	**09 17 24.2**	**-1.2**
FRF				*e*Sg	**Sg**	**09 17 36.9**	**-1.4**
	comp=N,29nm,0.2s						
NEGI	**Seborga**	**0.99**	**135**	P	**Pg**	**09 17 24.9**	**-0.6**
NEGI				S	**Sg**	**09 17 37.7**	**-0.7**
NEGI	**Seborga**	**0.99**	**135**	P	**Pb**	**09 17 25.1**	**-0.1**
NEGI				S	**Sb**	**09 17 37.8**	**-0.2**
NEGI				AML	AML		
	comp=E,154μm,0.5s						
NEGI				AML	AML		
	comp=N,141μm,0.5s						
SMRF	**Simiane la Rot**	**1.01**	**236**	*e*Pg	**Pg**	**09 17 24.7**	**-1.0**
SMRF				*e*Sg	**Sg**	**09 17 37.5**	**-1.4**
	comp=N,15nm,0.3s						
BSTF	**la Bastide-des**	**1.03**	**230**	Pg	**Pn**	**09 17 27.1**	**+1.0**
BSTF				Sg	**Sn**	**09 17 41.7**	**+1.5**
IMI	**Imperia**	**1.05**	**127**	P	**Pg**	**09 17 25.9**	**-0.7**
IMI				S	**Sg**	**09 17 39.5**	**-0.9**
IMI	**Imperia**	**1.05**	**127**	P	**Pg**	**09 17 26.0**	**-0.7**
IMI				S	**Sg**	**09 17 39.4**	**-1.0**
RORO	**Rocca Rossa**	**1.06**	**114**	P	**Pg**	**09 17 25.9**	**-0.7**
RORO				S	**Sg**	**09 17 39.5**	**-0.9**
RORO	**Rocca Rossa**	**1.06**	**114**	P	**Pg**	**09 17 25.9**	**-0.7**
RORO				S	**Sg**	**09 17 39.6**	**-0.8**
RORO				AML	AML		
	comp=N,91μm,0.7s						
RORO				AML	AML		
	comp=E,84μm,0.3s						
RUSF	**Rustrel**	**1.08**	**236**	Pg	**Pg**	**09 17 26.8**	**-0.3**
RUSF				Sg	**Sb**	**09 17 41.7**	**+1.1**
RSL	**Roselend**	**1.14**	**356**	Pn	**Pn**	**09 17 28.3**	**+0.5**
ARTF	**Artigues**	**1.17**	**215**	Pg	**Pn**	**09 17 28.5**	**+0.4**
ARTF				Sg	**Sb**	**09 17 44.0**	**+0.9**
CIRO	**Champorcher**	**1.21**	**29**	P	**Pg**	**09 17 28.6**	**-1.0**
CIRO				S	**Sg**	**09 17 44.3**	**-1.1**
LMR	**La Mourre**	**1.23**	**187**	*e*Pg	**Pb**	**09 17 28.9**	**-0.2**
LMR				*e*Sg	**Sb**	**09 17 43.9**	**-0.8**
	comp=E,15nm,0.2s						
OGSM	**Saint Maurice**	**1.29**	**326**	Pg	**Pn**	**09 17 30.3**	**+0.6**
OGSM				Sg	**Sb**	**09 17 47.3**	**+0.8**
PCP	**Piancastagn**	**1.30**	**90**	AML	AML		
	comp=N,31μm,1.1s						
PCP				AML	AML		
	comp=E,35μm,1.6s						
PCP				AML	AML		
	comp=N,31μm,1.1s						
PCP				AML	AML		
	comp=E,35μm,1.6s						
VIVF	**Saint-Julien-l**	**1.50**	**283**	*e*Pg	**Pn**	**09 17 32.2**	**-0.4**
VIVF				*e*Sg	**Sn**	**09 17 49.9**	**-2.0**
	comp=E,6.0nm,0.2s						
OG35	**Corcelles**	**1.70**	**332**	Pn	**Pn**	**09 17 36.1**	**+0.7**
OG35				Sn	**Sn**	**09 17 56.9**	**-0.1**
ASEAF	**Site Antares,**	**1.80**	**193**	Pn	**Pn**	**09 17 37.5**	**+1.0**
ASEAF				Sn	**Sn**	**09 17 60.0**	**+1.2**
GIMEL	**St. Georges /**	**2.01**	**351**	AML	AML		
	comp=N,14μm,1.6s						
GIMEL				AML	AML		
	comp=E,12μm,1.5s						
PGF	**Pioggiola**	**2.59**	**140**	*e*Pn	**Pn**	**09 17 48.2**	**+0.5**
PGF				*e*Sn	**Sn**	**09 18 17.9**	**-1.2**
	comp=E,3.4nm,0.2s						
PE3	**Peglio**	**4.24**	**100**	S	**Sn**	**09 19 03.0**	**+3.5**
PP3	**Marolino**	**5.11**	**101**	P	**Pb**	**09 18 38.6**	**+3.4**

*IDC **03** 09:33:26.9±0.8, 44°.79N×110°.73W, h0km, mb3.9/1, mb1 3.7/7, mb1mx3.4/40, mbtmp3.3/7, ML3.5/5, MS2.8/4, Ms1 2.8/4, ms1mx2.5/46, Error ellipse: s-maj=12.7km s-min=6.8km az=63.0*
*UUSS **03** 09:33:27.7±2.7, 44°.80N±0°.03×110°.77W±0°.07, h10km±2km, ML3.4/14, mb3.7/2(NEIC), Mwr3.8/23(SLM), Error ellipse: s-maj=6.9km s-min=4.1km az=101.0, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr2.03; Mθθ-2.70; Mφφ0.68; Mrθ1.18; Mrφ-4.95; Mθφ-2.82;*
*NEIC **03** 09:33:29.2±2.7, 44°.79N±0°.04×110°.71W±0°.06, h12km±5km Error ellipse: s-maj=6.7km s-min=5.1km az=88.0*
*ANF **03** 09:33:29.2±0.3, 44°.80N×110°.73W, ML3.8/9, Error ellipse: s-maj=4.0km s-min=2.9km az=82.0*
ISC 03 09:33:28.9±0.8, 44°.81N±0°.03×110°.76W±0°.02, h8km±6km, n98, σ1s70/109, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHH	**Holmes Hill**	**0.06**	**254**	Pg	**Pg**	**09 33 30.9**	**-0.2**
YNM	**Yellowstone No**	**0.09**	**152**	Pg	**Pg**	**09 33 31.2**	**-0.2**
YNM				Sg	**Sg**	**09 33 32.5**	**-0.6**
YMR	**Madison River**	**0.20**	**226**	Pg	**Pg**	**09 33 33.3**	**+0.3**
YMR				Sg	**Sg**	**09 33 36.7**	**+0.8**
YUF	**Upper Falls**	**0.20**	**117**	Pg	**Pg**	**09 33 33.6**	**+0.5**
YUF				Sg	**Sg**	**09 33 36.9**	**+0.9**
YHB	**Horse Butte**	**0.31**	**260**	Pg	**Pg**	**09 33 35.5**	**+0.4**
YHB				Sg	**Sg**	**09 33 40.0**	**+0.7**
LKWY	**Lake**	**0.35**	**133**		**Pg**	**09 33 36.4**	**+0.4**
H17A	**Grant Village**	**0.43**	**162**	P	**Pg**	**09 33 37.5**	**+0.1**
	baz=343,SNR=685						
H17A				S	**Sg**	**09 33 42.3**	**-0.7**
	baz=343						
H17A	**Grant Village**	**0.43**	**162**	Pg	**Pg**	**09 33 37.8**	**+0.4**
YMP	**Mirror Lake Pl**	**0.44**	**98**		**Pb**	**09 33 38.6**	**-0.4**
QLMT	**Earthquake Lak**	**0.47**	**273**	Pg	**Pg**	**09 33 38.4**	**+0.3**
YPP	**Pitchstone Pla**	**0.54**	**183**	Pg	**Pg**	**09 33 39.7**	**+0.4**
YNE	**Yellowstone No**	**0.57**	**69**	Pg	**Pg**	**09 33 40.5**	**+0.5**
FLWY	**Flagg Ranch**	**0.72**	**176**	Pg	**Pg**	**09 33 42.8**	**0.0**
IMW	**Indian Meadow**	**0.92**	**188**	Pg	**Pg**	**09 33 46.1**	**-0.4**
BOZ	**Bozeman (W)**	**1.00**	**323**	Pg	**Pg**	**09 33 48.0**	**-0.1**
RLMT	**Red Lodge**	**1.11**	**73**	P	**Pg**	**09 33 50.0**	**-0.1**
	baz=254,SNR=212						
RLMT				S	**Sg**	**09 34 04.3**	**-0.2**
	baz=254						
RLMT	**Red Lodge**	**1.11**	**73**		**Pg**	**09 33 50.0**	**-0.1**
FXWY	**Fox Creek**	**1.18**	**189**	Pn	**Pg**	**09 33 50.4**	**-1.2**
GCMT	**Greyciff**	**1.25**	**38**	Pn	**Pn**	**09 33 52.8**	**0.0**
TPAW	**Teton Pass**	**1.32**	**186**	Pn	**Pn**	**09 33 53.0**	**-0.9**
SNOW	**Snow King Moun**	**1.34**	**180**	Pn	**Pn**	**09 33 53.7**	**-0.4**
DLMT	**Dillon**	**1.41**	**294**	Pn	**Pb**	**09 33 55.5**	**0.0**
MCMT	**McKenzie Canyo**	**1.48**	**272**	Pn	**Pb**	**09 33 57.0**	**+0.2**
LRM	**Limekiln Ridge**	**1.56**	**311**		**Pb**	**09 33 58.2**	**0.0**
AHID	**Auburn Hatcher**	**2.06**	**187**	Pn	**Pn**	**09 34 04.6**	**+0.8**
BW06	**Boulder Array**	**2.22**	**156**	P	**Pb**	**09 34 07.8**	**-1.6**
	baz=337,SNR=51						
BW06	**Boulder Array**	**2.22**	**156**		**Pn**	**09 34 07.2**	**+1.1**
PD31	**Pinedale Array**	**2.22**	**156**	Pn	**Pb**	**09 34 07.7**	**-1.6**
PDAR	**Pinedale Array**	**2.22**	**156**	Pn	**Pn**	**09 34 05.7**	**-0.4**
	4.1nm,0.3s,baz=344,slow=16,SNR=74						
PDAR				Lg	Lg	09 34 38.0	
	1.5nm,0.3s,baz=293,slow=13,SNR=1.5						
MSO	**Missoula**	**3.00**	**313**	P	**Pn**	**09 34 18.1**	**+1.3**
	baz=131,SNR=72						
MSO				Sb	**Sg**	**09 35 03.2**	**-2.1**
	baz=131						
MSO	**Missoula**	**3.00**	**313**	Pn	**Pn**	**09 34 17.2**	**+0.4**
HWUT	**Hardware Ranch**	**3.25**	**191**		**Pn**	**09 34 19.1**	**-1.1**
EGMT	**Eagleton**	**3.29**	**12**	P	**Pn**	**09 34 22.6**	**+1.8**
	baz=192,SNR=84						
EGMT				Sb	**Sb**	**09 35 09.6**	**+1.8**
	baz=192						
EGMT	**Eagleton**	**3.29**	**12**		**Pn**	**09 34 22.6**	**+1.8**
HVU	**Hansel Valley**	**3.36**	**207**	Pn	**Pn**	**09 34 22.3**	**+0.5**
LAO	**LASA Array**	**3.69**	**58**	P	**Pn**	**09 34 27.6**	**+1.3**
	baz=241						
LAO				Sb	**Sb**	**09 35 21.8**	**+2.5**
	baz=241						
LAO	**LASA Array**	**3.69**	**58**		**Pn**	**09 34 26.2**	**0.0**
SPUT	**South Promonto**	**3.71**	**200**	Pn	**Pn**	**09 34 26.3**	**-0.2**
TCUT	**Toone Canyon**	**3.72**	**188**	Pn	**Pn**	**09 34 26.6**	**-0.1**
K22A	**Casper**	**3.75**	**124**		**Pn**	**09 34 28.2**	**+1.1**
JTMT	**Jette**	**3.82**	**322**		**Pn**	**09 34 28.8**	**+0.7**
MFID	**Camas Ranch**	**3.90**	**251**	Pn	**Pn**	**09 34 29.0**	**-0.2**
RWWY	**Rawlins**	**4.06**	**139**	Pn	**Pn**	**09 34 32.4**	**+0.9**
CTU	**Camp Tracy**	**4.17**	**190**		**Pn**	**09 34 33.6**	**+0.7**
BGU	**Big Grassy Mou**	**4.22**	**204**		**Pn**	**09 34 34.5**	**+0.9**
JLU	**Jordanelle**	**4.23**	**187**		**Pn**	**09 34 36.2**	**+2.4**
RDMU	**Red Mountain**	**4.32**	**168**	Pn	**Pn**	**09 34 34.5**	**-0.5**
BMO	**Blue Mountains**	**4.65**	**273**	Pn	**Pn**	**09 34 40.7**	**+1.2**
F10A	**Beach Ranch, E**	**4.70**	**287**	Pn	**Pn**	**09 34 40.4**	**+0.3**
WALA	**Waterton Lakes**	**4.77**	**334**	Pn	**Pn**	**09 34 41.0**	**-0.1**
MPU	**Maple Canyon**	**4.83**	**188**	Pn	**Pn**	**09 34 43.0**	**+1.0**
DUG	**Dugway, Tooele**	**4.85**	**199**	P	**Pn**	**09 34 44.1**	**+1.9**
	baz=18,SNR=8.3						
DUG	**Dugway, Tooele**	**4.85**	**199**		**Pn**	**09 34 43.6**	**+1.3**
RSSD	**Black Hills**	**4.87**	**96**	Sb	**Sb**	**09 35 57.9**	**+4.7**
	baz=280						
RSSD	**Black Hills**	**4.87**	**96**	Pn	**

YKA				Sn	Sn	09 40 42.4	-14	
	comp=Z,0.1nm,0.3s,baz=166,slow=24,SNR=2.8							
YKA				Lg	Lg	09 42 37.3		
	comp=Z,0.1nm,0.3s,baz=165,slow=28,SNR=5.0							
IL31		**28.24 328**	P	**P**		**09 39 19.4**	**-2.4**	
IL31			IAmb	IAmb		09 39 26.2		
	comp=Z,2.5nm,1.0s							
ILAR	**Eielson Array**	**28.24 328**	P	**P**		**09 39 23.1**	**+1.1**	
	comp=Z,1.3nm,0.8s,baz=126,slow=8.0,SNR=13							
KBZ	**Khabaz**	**88.78 19**	LR	LR		10 28 06.4		
	comp=Z,21nm,19.5s,baz=108,slow=37							

*JMA **03** 09:35:34.2±0.2,36°.30N×142°.59E, h49km, M3.1*
*IDC **03** 09:35:41.0±3.3,36°.30N×141°.76E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/35, mbtmp3.4/4, ML2.2/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/32, Error ellipse: s-maj=85.0km s-min=31.9km az=52.0*
ISC 03 09:35:35.1±2.9, 36°.29N±0°.08×142°.6E±0°.1, h35km, n17, σ1§14/20, mb3.7/3, Off east coast of Honshu

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.64 272**	P	**Pn**	**09 36 01.0**	**-0.3**
JHYU			*e*S	**Sn**	**09 36 20.2**	**-0.9**
ONAJ	**Iwakimizuishiy**	**1.67 300**	P	**Pn**	**09 36 01.2**	**-0.6**
JHO	**Hitachi**	**1.68 282**	P	**Pn**	**09 36 01.3**	**-0.6**
JHO			*e*S	**Sn**	**09 36 21.6**	**-0.6**
BSO1	**Boso 1**	**2.11 220**	P	**Pn**	**09 36 07.3**	**0.0**
JMM	**Marumori**	**2.14 318**	P	**Pn**	**09 36 08.4**	**+0.1**
JFT	**Otama**	**2.20 305**	P	**Pn**	**09 36 09.3**	**+0.2**
JFT			*e*S	**Sn**	**09 36 35.9**	**+0.9**
JAG	**Ashikaga**	**2.55 274**	P	**Pn**	**09 36 13.7**	**-0.3**
JAG			S	**Sn**	**09 36 44.0**	**+0.2**
JRY	**Ryogami san**	**3.02 266**	P	**Pn**	**09 36 20.2**	**-0.1**
JRY			*e*S	**Sn**	**09 36 55.2**	**0.0**
JOD2	**Odawara 2**	**3.04 251**	P	**Pn**	**09 36 21.1**	**+0.4**
JYK	**Kaneyama**	**3.17 326**	P	**Pn**	**09 36 22.1**	**-0.4**
JYN	**Shimob**	**3.40 258**	*e*S	**Sn**	**09 37 04.4**	**-0.3**
MJAR	**Matsushiro Arr**	**3.56 275**	Pn	**Pn**	**09 36 28.2**	**+0.4**
	0.4nm,0.3s,baz=97,slow=13,SNR=20					
MJAR			Sn	**Sn**	**09 37 12.3**	**+3.6**
	0.2nm,0.3s,baz=72,slow=13,SNR=5.2					
MAT	**Matsushiro**	**3.56 275**	P	**Pn**	**09 36 28.3**	**+0.5**
MAT			*e*S	**Sn**	**09 37 06.5**	**-2.2**
KSRS	**Korea Array**	**11.82 280**	LR	LR	09 43 01.2	
	comp=Z,23nm,18.3s,baz=245,slow=39					
MKAR	**Makanchi Array**	**45.33 303**	P	P	09 43 55.7	+6.1
	0.9nm,0.9s,baz=91,slow=8.6,SNR=2.3					
WRA	**Warramunga Arr**	**56.47 189**	P	P	09 45 23.3	+10
	0.4nm,0.5s,baz=0.5,slow=7.3,SNR=2.7					
ASAR	**Alice Springs**	**60.20 189**	P	P	09 45 50.8	+11
	0.3nm,0.8s,baz=8.9,slow=6.6,SNR=2.7					

*TEH **03** 09:50:34.0,29°.97N×57°.71E, h8km, ML3.6*
*THR **03** 09:50:34.3±1.0,29°.94N×57°.70E, h14km±9km, ML3.5*
ISC 03 09:50:32.0±0.9, 30°.08N±0°.04×57°.73E±0°.03, h15km, n29, σ1§59/30, Northern and central Iran

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMN	**Cheshme madani**	**0.27 217**	*e*Pg	**Pb**	**09 50 38.1**	**-0.7**
TVBK	**TV Kerman**	**0.84 264**	*e*Pg	**Pn**	**09 50 49.9**	**+0.3**
TVBK			*e*		09 51 01.3	
KRBR	**Kerman**	**0.84 264**	*e*Pg	**Pn**	**09 50 50.1**	**+0.5**
KRBR			*e*Sg	**Sn**	**09 51 01.0**	**-0.9**
KRBR	**Kerman**	**0.84 264**	*e*Pg	**Pn**	**09 50 50.1**	**+0.5**
NGRK	**Negar Kerman**	**0.97 244**	*e*Pg	**Pn**	**09 50 51.2**	**-0.2**
NGRK			*e*		09 51 04.4	
KHGB	**Koh Gabri**	**1.12 285**	*e*Pg	**Pg**	**09 50 55.2**	**+1.5**
KHNJ	**Kahnooj**	**2.12 181**	*e*Pn	**Pb**	**09 51 09.6**	**-0.6**
BSRN	**Basiran**	**2.23 32**	*e*Pn	**Pg**	**09 51 13.9**	**-0.8**
BSRN			*e*Sg	**Sg**	**09 51 48.5**	**+4.8**
BSRN			IAML		09 51 50.0	
	comp=E,302nm,0.3s					
BSRN			IAML		09 51 56.3	
	comp=N,153nm,0.3s					
BSRN	**Basiran**	**2.23 32**	*e*Pn	**Pg**	**09 51 14.0**	**-0.8**
NHDN	**Nehbandan**	**2.39 56**	*e*Pn	**Pg**	**09 51 17.0**	**-0.8**
IBAF	**Bafgh**	**2.39 310**	*e*Pn	**Pg**	**09 51 17.0**	**-0.9**
IBAF			*e*		09 51 20.1	
ZHSF	**Zahedan**	**2.69 99**	*e*Pn	**Pb**	**09 51 19.4**	**-0.5**
ZHSF	**Zahedan**	**2.69 99**	*e*Pn	**Pb**	**09 51 19.4**	**-0.5**
SZD1	**Zahaedan-tmp**	**2.79 101**	*e*Pn	**Pb**	**09 51 21.7**	**+0.1**
ITEG	**Tejag**	**2.94 17**	*e*Pn	**Pb**	**09 51 24.4**	**+0.2**
ITEG			*e*		09 52 20.4	
IMEH	**Mehriz**	**2.98 297**	*e*Pn	**Pb**	**09 51 24.7**	**-0.3**
IMEH			*e*		09 52 12.9	
GENO	**Geno**	**3.00 207**	*e*Pn	**Pb**	**09 51 23.6**	**-1.6**
GENO			*e*		09 51 29.9	
TPRV	**Parvadeh(Tabas**	**3.07 343**	*e*Pn	**Pb**	**09 51 26.3**	**-0.1**
IDAH	**Dahanechah**	**3.22 34**	*e*Pn	**Pb**	**09 51 29.5**	**+0.5**
AFRZ	**Afriz**	**3.51 18**	*e*Pn	**Pb**	**09 51 32.3**	**-1.6**
IMON	**Monand**	**3.52 28**	*e*Pn	**Pb**	**09 51 33.8**	**-0.2**
IMON			*e*		09 51 46.2	
YZKH	**Yazd**	**3.54 311**	*e*Pn	**Pb**	**09 51 32.8**	**-1.5**
YZKH	**Yazd**	**3.54 311**	*e*Pn	**Pb**	**09 51 32.8**	**-1.5**
TKDS	**Koohdasht(Taba**	**3.56 352**	*e*Pn	**Pb**	**09 51 33.6**	**-1.1**
TKDS			*e*		09 52 37.1	
TABS	**Tabas**	**3.59 352**	*e*Pn	**Pb**	**09 51 33.8**	**-1.5**
TABS	**Tabas**	**3.59 352**	*e*Pn	**Pb**	**09 51 33.8**	**-1.5**
SHRT	**Shahrakht**	**4.17 31**	*e*Pn	**Pb**	**09 51 41.8**	**-3.3**
SHRT	**Shahrakht**	**4.17 31**	*e*Pn	**Pb**	**09 51 41.8**	**-3.3**
ANAR	**Anarak**	**4.61 313**	*e*Pn	Pb	09 51 47.2	-5.4

*KRAR **03** 09:50:42.4±0.1,53°.61N×88°.17E, M1.8, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
IDC 03 09:50:40.8±3.1, 53°.61N×87°.92E, h0km, mb1 2.8/2, mb1mx2.7/35, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=27.9km s-min=18.5km az=57.0, Southwestern Siberia

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.87 282**	*i*		10 02 32.0	
	baz=96,slow=323,SNR=4.8					
ZALV	**Zalesovo Beam**	**1.87 282**	Pn	Pn	09 51 13.8	-0.3
	0.9nm,0.3s,baz=100,slow=12,SNR=18					
ZALV			Lg	Lg	09 51 40.1	
	2.0nm,0.3s,baz=100,slow=23,SNR=9.1					
KURBB	**Kurchatov Arra**	**6.51 246**	Pn	Pn	09 52 18.2	+0.4
	0.1nm,0.3s,baz=62,slow=14,SNR=8.6					
KURBB			Lg	Lg	09 54 07.5	
	0.0nm,0.3s,baz=63,slow=33,SNR=6.2					
MKAR	**Makanchi Array**	**7.72 210**	Pn	Pn	09 52 36.0	+1.6
	0.1nm,0.3s,baz=28,slow=15,SNR=2.2					
MKAR			Lg	Lg	09 54 43.2	
	0.1nm,0.3s,baz=31,slow=26,SNR=4.1					

*NNC **03** 09:59:17.4±14.0,41°.17N×71°.66E, h0km, mb2.5, mpv2.7, Error ellipse: s-maj=120.3km s-min=47.1km az=176.0*
*KRNET **03** 09:59:18.0±0.1,42°.14N×69°.89E, mb2.7*
*SOME **03** 09:59:21.5,41°.67N×71°.73E, h5km*
ISC 03 09:59:30.8±1.0, 41°.53N±0°.06×70°.67E±0°.04, h10km, n9, σ3§46/16, 2C-7D, Kyrgyzstan

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**0.78 323**	*e*P	**Pn**	**09 59 47.2**	**-0.8**
	2.8nm,0.1s					
IUG			*e*S	**Sn**	**10 00 05.5**	**+5.6**
	20nm,0.2s					
IUG	**Iuzhnay**	**0.78 323**	P	**Pn**	**09 59 47.6**	**-0.4**
	2.6nm,0.1s					
IUG			S	**Sn**	**10 00 06.1**	**+6.3**
	20nm,0.2s					
ARK	**Arkit**	**1.01 74**	⇓*i*P	**Pg**	**09 59 48.1**	**-2.1**
	baz=2.0					
ARK			⇓*i*S	**Sn**	**10 00 10.0**	**+4.5**
	baz=2.0					
BTK	**Batken**	**1.47 176**	⇓*i*P	**Pg**	**09 59 57.8**	**-1.3**
	baz=61					
BTK			⇓*i*S	Sg	10 00 26.7	+8.5
	baz=61					
KK31	**Karatay Array**	**1.58 356**	⇓Pg	**Pb**	**09 59 59.2**	**-0.9**
	0.3nm,0.2s,baz=188,slow=15,SNR=16					
KK31			Lg	Lg	10 00 27.2	
	0.6nm,0.3s,baz=187,slow=30,SNR=7.5					
BRLS	**Borolday**	**1.62 338**	*e*P	**Pn**	**09 59 57.1**	**-2.5**
	2.3nm,0.1s					
BRLS			*e*S	**Sg**	**10 00 22.6**	**-0.5**
	5.5nm,0.1s					
BRLS	**Borolday**	**1.62 338**	P	**Pn**	**09 59 57.1**	**-2.5**
	2.8nm,0.2s					
BRLS			S	**Sg**	**10 00 22.5**	**-0.5**
	5.3nm,0.3s					
ARSB	**Arslanbob**	**1.75 96**	⇑*i*P	**Pb**	**10 00 01.2**	**-2.0**
	baz=8.0					
ARSB			⇑*i*S	**Sg**	**10 00 33.1**	**+5.9**
	baz=8.0					
ARLS	**Aral**	**2.76 82**	⇓*i*P	**Pn**	**10 00 13.2**	**-2.1**
	baz=93					
ARLS			⇓*i*S	**Sb**	**10 00 53.5**	**-0.7**
	baz=93					

*KRNET **03** 10:15:56.1±0.1, 42°.75N×70°.45E, mb2.5*
*SOME **03** 10:15:57.7, 42°.45N×70°.98E, h0km*
ISC 03 10:16:02.7±1.4, 42°.71N±0°.07×71°.00E±0°.04, h3km±15km, n11, σ1§35/20, 12C-4D, Kyrgyzstan

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**0.53 317**	⇑P	**Pg**	**10 16 12.9**	**-0.1**
	0.7nm,0.3s,baz=158,slow=17,SNR=13					
KK31			⇑S	**Sb**	**10 16 23.5**	**+0.6**
	1.8nm,0.3s,baz=153,slow=30,SNR=12					
BRLS	**Borolday**	**0.92 291**	*e*P	**Pg**	**10 16 18.7**	**-1.6**
	1.5nm,0.1s					
BRLS			*e*S	**Sg**	**10 16 33.2**	**+1.1**
	6.0nm,0.4s					
IUG	**Iuzhnay**	**0.92 232**	*e*P	Pg	10 16 13.4	-6.9
	1.1nm,0.2s					
IUG			*e*S	Sg	10 16 24.5	-7.6
	90nm,0.5s					
ARK	**Arkit**	**1.16 142**	⇑*i*P	**Pg**	**10 16 23.9**	**-1.0**
	baz=30					
ARK			⇑*i*S	**Sb**	**10 16 43.7**	**+2.7**
	baz=30					
MRKS	**Merke**	**1.64 88**	*e*P	**Pn**	**10 16 32.7**	**+0.1**
	3.7nm,0.4s					
MRKS			*e*S	**Sg**	**10 16 57.2**	**+1.9**
	11nm,0.6s					
ARSB	**Arslanbob**	**2.02 133**	⇑*i*P	**Pn**	**10 16 37.2**	**-0.7**
	baz=26					
ARSB			⇑*i*S	**Sb**	**10 17 07.3**	**+1.4**
	baz=26					
EKS2	**Erkin-Say**	**2.04 90**	⇑*e*P	**Pn**	**10 16 38.7**	**+0.5**
	baz=91					
EKS2			⇑*i*S	**Sg**	**10 17 09.7**	**+1.3**
	baz=91					
AML	**Almayashu**	**2.08 105**	⇑*e*P	**Pn**	**10 16 38.4**	**-0.5**
	baz=3.0					
AML			⇑*i*S	**Sg**	**10 17 09.7**	**+0.3**
	baz=3.0					
ARLS	**Aral**	**2.60 108**	⇓*i*P	**Pn**	**10 16 46.1**	**+0.1**
	baz=6.0					
ARLS			⇓*i*S	**Sb**	**10 17 22.3**	**-0.4**
	baz=6.0					
UCH	**Uchtor**	**2.64 99**	⇓*i*P	**Pn**	**10 16 46.6**	**-0.1**
	baz=98					
UCH			⇓*i*S	**Sb**	**10 17 23.5**	**-0.5**
	baz=98					
KZA	**Kyzart**	**3.21 100**	⇑*i*P	**Pn**	**10 16 54.3**	**-0.2**
	baz=99					
KZA			⇑*i*S	**Sb**	**10 17 37.4**	**-2.9**
	baz=99					

IDC 03 10:16:53.6±2.5, 21°.05S×168°.63E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/33, mbtmp3.8/4, ML3.8/1, MS2.7/2, Ms1 2.7/2, ms1mx2.4/21, Error ellipse: s-maj=93.0km s-min=25.2km az=145.0, Loyalty Islands

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.27 243**	Pn	Pn	10 17 32.4	-0.1
	25nm,0.3s,baz=120,slow=18,SNR=262					
DZM			Sn	Sn	10 18 00.5	-0.8
	15nm,0.3s,baz=24,slow=22,SNR=3.2					
DZM			LR	LR	10 18 01.2	
	comp=Z,63nm,19.9s,baz=31,slow=30					
STKA	**Stephens Creek**	**26.43 240**	LR	LR	10 32 09.9	
	comp=Z,39nm,20.2s,baz=31,slow=35					
ASAR	**Alice Springs**	**32.18 259**	P	P	10 23 23.9	+0.4
	0.6nm,0.7s,baz=88,slow=9.0,SNR=5.1					
USRK	**Ussuriysk Ar.**	**73.09 333**	P	P	10 28 25.2	-0.4
	0.7nm,0.5s,baz=153,slow=5.8,SNR=4.1					
NVAR	**Mina Array Bea**	**90.42 49**	P	P	10 29 56.9	-0.6
	0.3nm,0.6s,baz=215,slow=6.2,SNR=2.8					
GERES	**GERESS Array B**	**145.79 330**	PKPbc	PKPdf	10 36 34.5	+0.2
	1.3nm,0.7s,baz=46,slow=3.9,SNR=12					

*IDC **03** 10:18:25.7±1.6, 6°.04S×146°.61E, h0km, mb3.4/3, mb1 3.6/5, mb1mx3.4/29, mbtmp3.4/5, ML3.3/1, MS2.7/2, Ms1 2.7/2, ms1mx2.3/20, Error ellipse: s-maj=57.3km s-min=26.9km az=118.0*
ISC 03 10:18:32.6±1.4, 6°.2S±0°.1×146°.7E±0°.2, h52km, n7, σ0§45/7, mb3.6/3, Eastern New Guinea region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.18 172**	Pn	**Pn**	**10 19 20.3**	**+0.2**
	2.1nm,0.3s,baz=350,slow=12,SNR=1.9					
PMG			Sn	**Sn**	**10 19 56.4**	**-0.3**
	4.7nm,0.3s,baz=2.3,slow=6.5,SNR=4.0					
PMG			LR	LR	10 20 35.5	
	comp=Z,66nm,18.5s,baz=144,slow=38					
HNR	**Honiara**	**13.52 104**	LR	LR	10 26 28.2	
	comp=Z,40nm,18.9s,baz=0.5,slow=35					
WRA	**Warramunga Arr**	**18.15 220**	P	**Pn**	**10 22 41.5**	**+0.5**
	0.1nm,0.3s,baz=42,slow=12,SNR=13					
ASAR	**Alice Springs**	**21.24 214**	P	**P**	**10 23 14.6**	**+0.1**
	0.2nm,0.5s,baz=52,slow=9.4,SNR=7.4					
FITZ	**Fitzroy Crossi**	**23.67 238**	P	**P**	**10 23 39.2**	**-0.4**
	2.1nm,0.8s,baz=49,slow=9.3,SNR=1.6					
ILAR	**Eielson Array**	**85.83 23**	P	**P**	**10 31 06.4**	**+0.1**
	0.3nm,0.6s,baz=260,slow=3.9,SNR=5.9					
TORD	**Torodi Ar. Bea**	**144.84 284**	PKP	**PKPdf**	**10 38 04.5**	**-0.4**
	2.0nm,0.8s,baz=80,slow=3.5,SNR=5.8					

*IDC **03** 10:19:33.6±0.5, 59°.00S×25°.51W, h0km, mb4.5/12, mb1 4.6/14, mb1mx4.4/30, mbtmp4.6/14, ML5.0/2, MS3.8/12, Ms1 3.8/12, ms1mx3.6/22, Error ellipse: s-maj=18.9km s-min=15.6km az=60.0*
*NEIC **03** 10:19:38.7±1.3, 58°.98S±0°.10×25°.5W±0°.2, h35km±1km, mb4.9/35, Error ellipse: s-maj=20.4km s-min=12.3km az=225.0*
ISC 03 10:19:38.7±0.4, 59°.03S±0°.08×25°.56W±0°.08, h35km, n91, σ0§83/85, mb4.8/28, MS3.8/11, 1C, South Sandwich Islands region

Code	Station Name	Δ° AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.67 304**	Pn	**Pn**	**10 21 28.3**	**+0.6**
VNA1	**Neumayer--Stat**	**13.71 155**	P	**Pn**	**10 22 49.8**	**-0.4**
VNA3	**Neumayer Olymp**	**13.89 158**	P	**Pn**	**10 22 51.8**	**-0.9**
VNA2	**Neumayer--Watz**	**14.10 155**	P	**Pn**	**10 22 54.7**	**-0.9**
	baz=313,slow=14					
SNAA	**Sanae**	**15.67 153**	P	**Pn**	**10 23 16.0**	**-0.5**
SNAA	**Sanae**	**15.67 153**	Pn	**Pn**	**10 23 15.9**	**-0.5**
	12nm,0.3s,baz=314,slow=14,SNR=425					
SNAA			Sn	Sn	10 25 56.9	-12
	0.9nm,0.3s,baz=358,slow=19,SNR=3.5					
SNAA	**Sanae**	**15.67 153**	Pn	**Pn**	**10 23 16.1**	**-0.5**
SNAA			IAmb	IAmb	10 23 17.1	
	comp=Z,44nm,0.6s					
PMSA	**Palmer Station**	**18.77 236**	P	**Pn**	**10 23 55.5**	**+0.4**
	comp=Z,2.1nm,0.3s,baz=357,slow=14,SNR=16					
PMSA			LR	LR	10 29 39.1	
	comp=Z,154nm,19.8s,baz=86,slow=32					
PMSA	**Palmer Station**	**18.77 236**	P	**P**	**10 23 54.2**	**-0.2**
EFI	**East Falkland**	**19.73 278**	P	**P**	**10 24 04.9**	**-0.1**
SYO	**Syowa Base**	**28.75 137**	⇓ePg	pP	10 25 39.0	-2.6
QSPA	**South Pole Qui**	**31.21 180**	P	**P**	**10 25 55.5**	**+1.2**
	comp=Z,8.1nm,0.5s,baz=214,slow=1.5,SNR=125					
QSPA	**South Pole Qui**	**31.21 180**	P	**P**	**10 25 55.6**	**+1.2**
QSPA			IAmb	IAmb	10 25 56.1	
	comp=Z,11nm,0.7s					
PLCA	**Paso Flores**	**33.46 283**	P	**P**	**10 26 14.4**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=161,slow=13,SNR=2.2					
PLCA			LR	LR	10 40 10.2	
	comp=Z,86nm,18.7s,baz=120,slow=37					
PLCA	**Paso Flores**	**33.46 283**	P	**P**	**10 26 14.6**	**+0.4**
PLCA			IAmb	IAmb	10 26 31.3	
	comp=Z,18nm,1.4s					
LC01	**Cunco**	**35.51 284**	P	**P**	**10 26 27.6**	**-4.3**
LC01			IAmb	IAmb	10 26 39.3	
	comp=Z,18nm,1.4s					
MAW	**Mawson**	**37.25 141**	P	**P**	**10 26 45.4**	**-0.9**
	comp=Z,3.7nm,0.8s,baz=239,slow=7.5,SNR=14					
MAW			LR	LR	10 40 01.5	
	comp=Z,215nm,21.6s,baz=242,slow=33					
MAW	**Mawson**	**37.25 141**	P	**P**	**10 26 46.4**	**+0.1**
BO02	**Sierra Bellavi**	**38.19 289**	P	**P**	**10 26 55.2**	**+0.4**
BO02			IAmb	IAmb	10 27 06.3	
	comp=Z,30nm,1.4s					
GO05	**Huala**	**38.58 288**	P	**P**	**10 26 58.5**	**+0.5**
PEL	**Peldehue**	**39.48 291**	P	**P**	**10 27 06.4**	**+0.9**
CFA	**Coronel Fontan**	**39.58 295**	P	**P**	**10 27 06.3**	**-0.1**
	comp=Z,18nm,0.8s,baz=155,slow=8.1,SNR=25					
MT02	**Curacav**	**39.60 290**	P	**P**	**10 27 06.0**	**-0.5**
MT02			IAmb	IAmb	10 27 09.8	
	comp=Z,20nm,0.8s					
VA03	**San Esteban**	**39.72 291**	P	**P**	**10 27 07.9**	**+0.3**
VA03			IAmb	IAmb	10 27 24.4	
	comp=Z,37nm,1.2s					
ZON	**Zonda**	**39.83 294**	P	**P**	**10 27 08.2**	**-0.3**
ZON			IAmb	IAmb	10 27 24.5	
	comp=Z,12nm,0.6s					
CO02	**Combarbal**	**41.22 292**	P	**P**	**10 27 20.0**	**-0.1**
CO02			IAmb	IAmb	10 27 38.8	
	comp=Z,20nm,0.9s					
CO03	**El Pedregal**	**41.37 293**	P	**P**	**10 27 21.3**	**+0.1**
CO01	**Juntas del Tor**	**41.81 294**	P	**P**	**10 27 25.9**	**+0.9**
CO01			IAmb	IAmb	10 27 43.5	
	comp=Z,21nm,0.8s					
GO04	**Tololo Observa**	**41.98 293**	P	**P**	**10 27 26.4**	**0.0**
GO04			IAmb	IAmb	10 27 45.3	
	comp=Z,18nm,0.8s					
AC05	**El Transito**	**42.85 295**	P	**P**	**10 27 33.7**	**+0.4**
VNDA	**Vanda**	**43.63 182**	P	**P**	**10 27 40.5**	**+1.6**
	comp=Z,6.3nm,0.8s,baz=186,slow=6.9,SNR=50					
VNDA			LR	LR	10 44 25.3	
	comp=Z,94nm,21.9s,baz=187,slow=34					
VNDA	**Vanda**	**43.63 182**	P	**P**	**10 27 40.6**	**+1.7**
AC04	**Llanos de Chal**	**43.76 294**	P	**P**	**10 27 39.5**	**-1.1**
AC01	**Pan de Azucar**	**45.28 296**	P	**P**	**10 27 52.9**	**+0.2**
GO02	**Mina Guanaco**	**45.66 298**	P	**P**	**10 27 56.2**	**+0.1**
BOSA	**Boshof**	**45.97 71**	P	**P**	**10 27 58.5**	**+0.2**
	comp=Z,8.3nm,1.0s,baz=178,slow=8.5,SNR=5.8					
BOSA			LR	LR	10 42 37.6	
	comp=Z,73nm,18.4s,baz=209,slow=30					
BOSA	**Boshof**	**45.97 71**	P	**P**	**10 27 57.9**	**-0.4**
BOSA			IAmb	IAmb	10 28 00.2	
	comp=Z,14nm,1.1s					
BDFB	**Brasilia**	**46.38 329**	LR	LR	10 45 23.9	
	comp=Z,95nm,19.1s,baz=142,slow=33					
LVC	**Limon Verde**	**47.57 301**	P	**P**	**10 28 11.5**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=107,slow=7.6,SNR=2.3					
LVC	**Limon Verde**	**47.57 301**	P	**P**	**10 28 10.7**	**-0.4**
PB07	**IPOC Station P**	**48.77 300**	P	**P**	**10 28 19.2**	**-1.0**
PB07			IAmb	IAmb	10 28 34.8	
	comp=Z,18nm,1.1s					
PB01	**IPOC Station P**	**49.20 301**	P	**P**	**10 28 23.2**	**-0.1**
PB01			IAmb	IAmb	10 28 38.9	
	comp=Z,6.5nm,0.8s					
TSUM	**Tsumeb**	**50.48 57**	P	**P**	**10 28 33.2**	**+0.1**
H10S2	**ASCENSION HYDR**	**50.65 14**	T	T	11 23 05.5	
	baz=187,slow=74,SNR=12					
H10S3	**ASCENSION HYDR**	**50.65 14**	T	T	11 23 07.8	
	baz=33,slow=74,SNR=18					
CASY	**Casey**	**50.80 159**	P	**P**	**10 28 35.3**	**+0.5**
CASY			IAmb	IAmb	10 28 36.8	
	comp=Z,18nm,1.2s					
MNMC	**Minye Minye**	**50.92 302**	P	**P**	**10 28 36.9**	**+0.2**
MNMC			IAmb	IAmb	10 28 53.1	
	comp=Z,8.0nm,0.7s					
H10N1	**ASCENSION HYDR**	**51.76 14**	T	T	11 24 29.7	
	baz=181,slow=72,SNR=10					
H10N3	**ASCENSION HYDR**	**51.77 14**	T	T	11 24 30.1	
	baz=181,slow=72,SNR=30					
H10N2	**ASCENSION HYDR**	**51.78 14**	T	T	11 24 32.6	
	baz=181,slow=72,SNR=16					
LPAZ	**La Paz**	**52.82 305**	P	**P**	**10 28 50.2**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=120,slow=11,SNR=6.2					
LPAZ			LR	LR	10 52 27.4	
	comp=Z,50nm,20.8s,baz=138,slow=37					
LPAZ	**La Paz**	**52.82 305**	P	**P**	**10 28 49.8**	**-1.4**
LSZ	**Lusaka**	**58.72 66**	P	**P**	**10 29 32.8**	**-0.1**
LSZ			IAmb	IAmb	10 29 34.3	
	comp=Z,9.1nm,0.8s					
LIC	**Lamto**	**67.09 22**	*e*P	**P**	**10 30 29.2**	**+0.9**
	comp=Z,37nm,1.1s					
KIC	**Kosan Boka**	**67.28 23**	*e*P	**P**	**10 30 30.2**	**+0.7**
	comp=Z,12nm,0.9s					
TIC	**Toumodi**	**67.50 22**	*e*P	**P**	**10 30 31.7**	**+0.7**
DBIC	**Dimbokro**	**67.56 22**	P	**P**	**10 30 32.1**	**+0.8**
	comp=Z,3.0nm,0.5s,baz=192,slow=8.5,SNR=7.1					
DBIC			LR	LR	10 52 54.7	
	comp=Z,47nm,20.0s,baz=106,slow=30					
DBIC	**Dimbokro**	**67.56 22**	P	**P**	**10 30 31.7**	**+0.5**
DBIC			IAmb	IAmb	10 30 33.5	
	comp=Z,20nm,1.5s					
ROSC	**El Rosal**	**74.45 309**	LR	LR	11 06 40.9	
	comp=Z,92nm,18.8s,baz=133,slow=38					
TOA0	**Torodi Ar. Sit**	**75.26 27**	P	**P**	**10 31 18.6**	**+0.9**
TOA0			IAmb	IAmb	10 31 19.8	
	comp=Z,13nm,0.8s					
TORD	**Torodi Ar. Bea**	**75.26 27**	P	**P**	**10 31 18.9**	**+1.2**
	comp=Z,13nm,0.7s,baz=196,slow=6.1,SNR=66					
FORT	**Forrest**	**87.88 158**	P	**P**	**10 32 23.9**	**-0.4**
STKA	**Stephens Creek**	**88.81 169**	P	**P**	**10 32 28.6**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=184,slow=8.4,SNR=3.2					
STKA			LR	LR	11 11 04.4	
	comp=Z,130nm,18.7s,baz=205,slow=35					
STKA	**Stephens Creek**	**88.81 169

Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARCES	**ARCESS Array B**	**131.51**	**21**	PKP	PKPdf	10 42 15.2	-0.5
	0.7nm,0.5s,baz=208,slow=2.3,SNR=6.2						
MKAR	**Makanchi Array**	**135.68**	**71**	PKP	PKPdf	10 42 23.2	-1.0
	0.5nm,0.7s,baz=200,slow=3.8,SNR=3.2						
KURBB	**Kurchatov Arra**	**136.31**	**64**	PKP	PKPdf	10 42 25.5	+0.4
	0.6nm,0.9s,baz=232,slow=3.0,SNR=3.1						
YKA	**Yellowknife Ar**	**138.28**	**316**	PKP	PKPdf	10 42 28.0	-0.4
	1.0nm,0.9s,baz=126,slow=2.1,SNR=6.7						

*IDC **03** 10:29:23.4±2.3, 0.°63S±18.°24W, h0km, mb3.9/5, mb1 4.2/7, mb1mx3.8/43, mbtmp4.1/7, ML4.6/2, MS3.4/8, Ms1 3.4/8, ms1mx3.1/29, Error ellipse: s-maj=79.0km s-min=31.0km az=152.0*

*NEIC **03** 10:29:25.0±0.3, 0.°7S±0.°3×18.°2W±0.°2, h10km±2km, mb4.5/3, Error ellipse: s-maj=67.3km s-min=14.5km az=147.0*

ISC 03 10:29:24.9±1.3, 0.°7S±0.°3×18.°2W±0.°2, h10km, n23, σ0s60/14, mb4.0/6, MS3.3/7, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**8.04**	**153**	T	T	10 40 42.4	
	baz=334,slow=74,SNR=296						
H10N3	**ASCENSION HYDR**	**8.05**	**153**	T	T	10 40 28.4	
	baz=334,slow=74,SNR=548						
H10N1	**ASCENSION HYDR**	**8.06**	**153**	T	T	10 40 38.7	
	baz=334,slow=74,SNR=359						
H10S3	**ASCENSION HYDR**	**8.98**	**157**	T	T	10 41 39.6	
	baz=338,slow=74,SNR=61						
H10S2	**ASCENSION HYDR**	**8.99**	**157**	T	T	10 41 41.5	
	baz=242,slow=74,SNR=36						
LIC	**Lamto**	**14.83**	**62**	*e*P	**Pn**	**10 32 55.4**	**+0.4**
	18nm,0.4s						
TIC	**Toumodi**	**15.04**	**61**	*e*P	**Pn**	**10 32 56.0**	**-1.7**
KIC	**Kosan Boka**	**15.15**	**62**	*e*P	**Pn**	**10 32 59.4**	**+0.2**
	22nm,0.5s						
DBIC	**Dimbokro**	**15.19**	**61**	Pn	**Pn**	**10 32 59.5**	**-0.3**
	6.0nm,0.3s,baz=235,slow=15,SNR=46						
DBIC				Sn	Sn	10 35 35.4	-13
	2.0nm,0.3s,baz=135,slow=14,SNR=4.3						
DBIC				LR	LR	10 36 53.7	
	comp=Z,103nm,21.7s,baz=210,slow=30						
DBIC	**Dimbokro**	**15.19**	**61**		**Pn**	**10 32 59.6**	**-0.1**
DBIC				IAmb	IAmb	10 33 03.0	
	comp=Z,13nm,0.7s						
RCBR	**Riachuelo**	**18.38**	**253**	P	**P**	**10 33 39.6**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=95,slow=9.8,SNR=4.6						
RCBR	**Riachuelo**	**18.38**	**253**	P	**Pn**	**10 33 40.7**	**+0.5**
RCBR				IAmb	IAmb	10 33 53.8	
	comp=Z,28nm,1.4s						
TOA0	**Torodi Ar. Sit**	**24.04**	**55**	P	**P**	**10 34 40.8**	**+0.3**
TOA0				IAmb	IAmb	10 34 42.8	
	comp=Z,21nm,1.2s						
TORD	**Torodi Ar. Bea**	**24.04**	**55**	P	**P**	**10 34 40.6**	**+0.2**
	comp=Z,5.4nm,0.4s,baz=241,slow=10,SNR=30						
TORD				LR	LR	10 43 00.8	
	comp=Z,98nm,18.9s,baz=200,slow=34						
ESDC	**Sonseca Array**	**42.20**	**16**	P	**P**	**10 37 18.3**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=218,slow=9.2,SNR=4.1						
ESDC				LR	LR	10 54 34.6	
	comp=Z,37nm,19.5s,baz=295,slow=36						
KEST	**Kesra**	**44.39**	**33**	LR	LR	10 57 26.2	
	comp=Z,111nm,18.8s,baz=110,slow=38						
GERES	**GERESS Array B**	**56.48**	**25**	P	**P**	**10 39 07.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=205,slow=6.5,SNR=3.6						
PLCA	**Paso Flores**	**61.86**	**223**	LR	LR	11 06 11.9	
	comp=Z,19nm,18.2s,baz=127,slow=36						
BRTR	**Keskin Array B**	**62.02**	**43**	LR	LR	11 08 23.9	
	comp=Z,22nm,19.4s,baz=196,slow=38						
AKASG	**Malin Array Be**	**65.08**	**31**	P	**P**	**10 40 05.7**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=233,slow=7.8,SNR=4.4						
FINES	**FINESS Array B**	**70.49**	**21**	P	**P**	**10 40 39.5**	**0.0**
	comp=Z,1.7nm,0.8s,baz=220,slow=13,SNR=2.3						
FINES				LR	LR	11 12 52.9	
	comp=Z,33nm,18.4s,baz=200,slow=37						
TXAR	**Lajitas Array**	**86.34**	**299**	LR	LR	11 19 25.8	
	comp=Z,12nm,18.1s,baz=0.0,slow=35						
ASAR	**Alice Springs**	**143.70**	**134**	PKP	**PKPdf**	**10 49 01.2**	**0.0**
	comp=Z,0.3nm,0.6s,baz=223,slow=2.0,SNR=2.0						

*IDC **03** 10:34:40.2±2.3, 16.°66S×173.°19W, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/31, mbtmp3.8/6, Error ellipse: s-maj=99.9km s-min=24.7km az=140.0*

*NEIC **03** 10:34:40.8±2.7, 16.°41S±0.°04×173.°3W±0.°1, h10km±1km, mb4.3/5, Error ellipse: s-maj=21.3km s-min=6.3km az=270.0*

ISC 03 10:34:44.2±0.7, 16.°44S±0.°08×173.°2W±0.°1, h32km, n16, σ1s56/16, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.88**	**29**	Pn	**Pn**	**10 35 25.5**	**-2.5**
NIUE	**Niue**	**4.10**	**130**	Pn	**Pn**	**10 35 43.7**	**-1.0**
RAO	**Raoul Island**	**13.46**	**198**	Pn	**Pn**	**10 37 51.6**	**-1.5**
KNTN	**Kanton**	**13.66**	**6**	Pn	**Pn**	**10 37 54.7**	**-1.1**
STKA	**Stephens Creek**	**43.67**	**241**	P	**P**	**10 42 46.4**	**+0.1**
	2.2nm,0.9s,baz=103,slow=16,SNR=3.1						
STKA	**Stephens Creek**	**43.67**	**241**	P	**P**	**10 42 46.9**	**+0.6**
WR0	**Warramunga Arr**	**49.59**	**258**	P	**P**	**10 43 31.0**	**-1.8**
WB0	**Warramunga Arr**	**49.74**	**258**	P	**P**	**10 43 32.2**	**-1.8**
WB0				IAmb	IAmb	10 43 42.3	
	comp=Z,6.3nm,1.1s						
WRAB	**Tennant Creek**	**49.77**	**258**	P	**P**	**10 43 33.4**	**-0.8**
WRAB				IAmb	IAmb	10 43 52.5	
	comp=Z,4.0nm,0.9s						
WRA	**Warramunga Arr**	**49.78**	**258**	P	**P**	**10 43 34.5**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=93,slow=7.1,SNR=9.0						
AS31	**Alice Springs**	**49.95**	**253**	P	**P**	**10 43 34.4**	**-1.2**
AS31				IAmb	IAmb	10 43 36.4	
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**49.95**	**253**	P	**P**	**10 43 36.0**	**+0.3**
	comp=Z,4.0nm,0.8s,baz=88,slow=8.3,SNR=42						
PETK	**Petropavlovsk-**	**73.66**	**342**	P	**P**	**10 46 17.1**	**+2.6**
	comp=Z,2.2nm,0.8s,baz=150,slow=9.4,SNR=3.7						
NVAR	**Mina Array Bea**	**74.99**	**42**	P	**P**	**10 46 24.6**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=233,slow=8.9,SNR=3.0						
ILAR	**Eielson Array**	**83.42**	**11**	P	**P**	**10 47 09.4**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=228,slow=6.6,SNR=6.7						
BRTR	**Keskin Array B**	**147.06**	**320**	PKPbc	**PKiKP**	**10 54 27.1**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=43,slow=1.6,SNR=3.3						

*KRNET **03** 10:40:46.2±0.1, 42.°87N×75.°97E, h6km, mb1.8*
*SOME **03** 10:40:47.2, 42.°85N×75.°90E*
*NNC **03** 10:40:47.1±0.3, 42.°84N×75.°92E, h0km, mpv2.8, Error ellipse: s-maj=1.8km s-min=0.9km az=21.0, Suspected Mining explosion.*

ISC 03 10:40:47.1±0.9, 42.°83N±0.°02×75.°89E±0.°02, h0km, n16, σ0s50/31, 18C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KST	**Kastek**	**0.22**	**14**	P	**Pg**	**10 40 51.5**	**+0.2**
KST	21nm,0.2s			S	**Sg**	**10 40 54.7**	**+0.6**
	5.9nm,0.2s						
TKM2	**Tokmak 2**	**0.24**	**292**	⇑*i*P	**Pg**	**10 40 51.8**	**+0.2**
TKM2	baz=81			⇑*i*S	**Sg**	**10 40 55.6**	**+0.9**
	baz=81						
BOOM	**Boomskoye usch**	**0.34**	**174**	⇑*i*P	**Pg**	**10 40 53.8**	**+0.2**
BOOM	baz=83			⇑*i*S	**Sg**	**10 40 59.1**	**+1.0**
	baz=83						
DGS	**Degeres**	**0.42**	**348**	P	**Pg**	**10 40 55.4**	**+0.3**
DGS	2.8nm,0.2s			S	**Sg**	**10 41 01.3**	**+0.7**
	1.8nm,0.2s						
MTBS	**Maitube**	**0.49**	**53**	P	**Pg**	**10 40 56.8**	**+0.3**
MTBS	8.8nm,0.2s			S	**Sg**	**10 41 03.6**	**+0.7**
	8.0nm,0.3s						
ULHL	**Ulahol**	**0.64**	**156**	⇑*i*P	**Pg**	**10 40 59.3**	**0.0**
ULHL	baz=62			⇑*i*S	**Sg**	**10 41 08.1**	**+0.5**
	baz=62						
KBK	**Karagaybulak**	**0.72**	**256**	⇑*i*P	**Pg**	**10 41 01.3**	**+0.5**
KBK	baz=55			⇑*i*S	**Sb**	**10 41 12.7**	**-0.4**
	baz=55						
TNSS	**Tian-Shan**	**0.80**	**75**	P	**Pg**	**10 41 02.7**	**+0.3**
	1.1nm,0.1s						
TNSS				S	**Sg**	**10 41 13.5**	**+0.7**
	2.7nm,0.5s						
CHMS	**Chumysh**	**0.86**	**282**	⇑*i*P	**Pg**	**10 41 03.5**	**0.0**
CHMS	baz=79			⇑*i*S	**Sb**	**10 41 16.5**	**-0.4**
	baz=79						
KNDC	**Almaty**	**0.88**	**64**	⇑P	**Pg**	**10 41 03.8**	**0.0**
KNDC	10nm,0.3s			⇑S	**Sg**	**10 41 15.7**	**+0.5**
	17nm,0.3s						
KZA	**Kyzart**	**0.89**	**213**	⇑*i*P	**Pg**	**10 41 04.5**	**+0.3**
KZA	baz=14			⇑*i*S	**Sb**	**10 41 18.0**	**-0.3**
	baz=14						
MDOK	**Medeo**	**0.91**	**68**	⇓P	**Pg**	**10 41 04.4**	**-0.1**
MDOK	2.0nm,0.4s			⇓S	**Sg**	**10 41 17.0**	**+0.7**
	1.6nm,0.5s						
MDOK	**Medeo**	**0.91**	**68**	Pg	**Pg**	**10 41 04.3**	**-0.2**
	3.8nm,0.2s						
MDOK				Lg	Lg	10 41 16.6	
	1.9nm,0.3s						
KTBS	**Karatobe**	**1.05**	**33**	P	**Pg**	**10 41 06.9**	**-0.3**
	4.1nm,0.1s						
KTBS				S	**Sg**	**10 41 21.3**	**+0.4**
	3.2nm,0.3s						
USP	**Ospenovka**	**1.11**	**294**	⇑*i*P	**Pg**	**10 41 08.2**	**-0.2**
USP	baz=91			⇑*i*S	**Sb**	**10 41 24.2**	**0.0**
	baz=91						
UCH	**Uchtor**	**1.19**	**240**	⇑*e*P	**Pb**	**10 41 10.3**	**-0.4**
UCH	baz=40			⇑*i*S	**Sn**	**10 41 27.6**	**-0.8**
	baz=40						

IDC 03 10:43:02.6±2.4, 6.°13S×129.°49E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.3/35, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=156.7km s-min=33.0km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.52**	**161**	Pn	Pn	10 46 29.8	+0.3
	0.2nm,0.3s,baz=344,slow=12,SNR=18						
WRA				Sn	Sn	10 48 56.9	-14
	0.2nm,0.3s,baz=334,slow=22,SNR=6.8						
ASAR	**Alice Springs**	**17.95**	**167**	P	Pn	10 47 13.4	-0.3
	0.0nm,0.3s,baz=346,slow=11,SNR=2.3						
MKAR	**Makanchi Array**	**67.22**	**327**	P	P	10 53 58.8	0.0
	0.3nm,0.4s,baz=115,slow=8.1,SNR=3.7						

IDC 03 10:45:26.6±2.4, 54.°69N×83.°83E, h0km, mb1 2.9/2, mb1mx2.8/36, mbtmp2.9/2, ML2.3/2, Error ellipse: s-maj=18.3km s-min=11.1km az=168.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**142**	*i*		10 50 56.3	
	baz=319,slow=344,SNR=3.4						
ZALV	**Zalesovo Beam**	**0.94**	**142**	Pg	Pg	10 45 44.0	-0.6
	1.6nm,0.3s,baz=326,slow=17,SNR=12						
ZALV				Lg	Lg	10 45 58.4	
	3.9nm,0.3s,baz=323,slow=29,SNR=18						
ZALV				Rg	Rg	10 46 03.2	
	7.0nm,0.3s,baz=317,slow=22,SNR=9.5						
ZALV				*i*		10 51 00.6	
	1.0nm,0.3s,baz=303,slow=33,SNR=8.7						
KURBB	**Kurchatov Arra**	**5.19**	**221**	Pn	Pn	10 46 45.2	-0.2
	0.0nm,0.3s,baz=37,slow=14,SNR=4.1						
KURBB				Lg	Lg	10 48 14.4	
	0.1nm,0.3s,baz=42,slow=31,SNR=8.0						
MKAR	**Makanchi Array**	**7.96**	**188**	Pn	Pn	10 47 23.5	0.0
	0.1nm,0.3s,baz=11,slow=14,SNR=3.8						
MKAR				Lg	Lg	10 49 42.5	
	0.1nm,0.3s,baz=8.1,slow=23,SNR=3.7						

*NEIC **03** 11:02:00.3±2.2, 11.°29S±0.°09×163.°4E±0.°2, h27km±9km, mb4.4/7, Error ellipse: s-maj=23.1km s-min=10.5km az=68.0*

*IDC **03** 11:02:02.4±3.9, 11.°24S×163.°34E, h40km±36km, mb3.6/4, mb1 3.9/7, mb1mx3.5/29, mbtmp3.9/7, ML4.0/3, MS3.1/3, Ms1 3.1/3, ms1mx2.7/23, Error ellipse: s-maj=34.3km s-min=33.0km az=133.0*

ISC 03 11:02:01.3±1.4, 11.°3S±0.°1×163.°4E±0.°1, h35km, n18, σ1s64/17, mb4.3/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.89**	**298**	P	**Pn**	**11 02 58.5**	**-0.1**
	12nm,0.3s,baz=148,slow=9.5,SNR=1.5						
HNR				S	**Sn**	**11 03 45.5**	**+2.3**
	12nm,0.3s,baz=156,slow=15,SNR=1.5						
HNR				LR	LR	11 04 42.8	
	comp=Z,281nm,18.3s,baz=125,slow=42						
HNR	**Honiara**	**3.89**	**298**		**Pn**	**11 02 56.6**	**-2.0**
DZM	**Mont Dzumac**	**11.08**	**165**	P	**Pn**	**11 04 39.3**	**+1.8**
	0.5nm,0.3s,baz=330,slow=20,SNR=15						
DZM	**Mont Dzumac**	**11.08**	**165**		**Pn**	**11 04 37.1**	**-0.4**
KRVT	**Keravat (AS076**	**13.25**	**301**	LR	LR	11 10 45.0	
	comp=Z,59nm,19.2s,baz=102,slow=40						
PMG	**Port Moresby**	**16.10**	**275**	LR	LR	11 11 38.4	
	comp=Z,84nm,18.9s,baz=125,slow=36						
CTA	**Charters Tower**	**18.67**	**240**	P	**Pn**	**11 06 16.8**	**-0.2**
	0.5nm,0.3s,baz=75,slow=14,SNR=1.5						
WR0	**Warramunga Arr**	**29.07**	**249**	P	**P**	**11 07 59.8**	**+1.1**
WR0				IAmb	IAmb	11 08 07.8	
	comp=Z,11nm,1.5s						
WB0	**Warramunga Arr**	**29.16**	**250**	P	**P**	**11 07 59.5**	**0.0**
WB0				IAmb	IAmb	11 08 18.2	
	comp=Z,9.5nm,1.3s						
WRAB	**Tennant Creek**	**29.23**	**249**	P	**P**	**11 07 57.2**	**-3.0**
WRAB				IAmb	IAmb	11 08 03.5	
	comp=Z,8.6nm,1.2s						
WB2	**Warramunga Arr**	**29.23**	**249**	P	**P**	**11 08 01.0**	**+0.8**
WB2				IAmb	IAmb	11 08 03.8	
	comp=Z,7.3nm,1.4s						
WRA	**Warramunga Arr**	**29.25**	**249**	P	**P**	**11 08 00.6**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=80,slow=9.1,SNR=14						
AS31	**Alice Springs**	**30.63**	**242**	P	**P**	**11 08 09.0**	**-3.6**
ASAR	**Alice Springs**	**30.63**	**242**	P	**P**	**11 08 13.1**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=63,slow=9.9,SNR=12						
KNRA	**Kununurra**	**33.95**	**259**	P	**P**	**11 08 41.3**	**-0.4**
FITZ	**Fitzroy Crossi**	**37.10**	**255**	P	**P**	**11 09 08.3**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=67,slow=13,SNR=1.3						
FITZ	**Fitzroy Crossi**	**37.10**	**255**	P	**P**	**11 09 08.1**	**-0.7**
FITZ				IAmb	IAmb	11 09 21.3	
	comp=Z,12nm,1.4s						
ILAR	**Eielson Array**	**84.50**	**19**	P	**P**	**11 14 30.5**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=230,slow=7.0,SNR=2.1						

*NIED **03** 11:30:00.42.°00N×142.°60E, h50km, Mw3.7 Best double couple: M0 4.48000×10^14 NP1:φs34.00000°, δ59.00000°, λ89.00000°. NP2:φs215.00000°, δ31.00000°, λ91.00000°.*

*IDC **03** 11:30:24.8±1.8, 42.°01N×142.°63E, h67km±15km, mb3.5/7, mb1 3.6/12, mb1mx3.4/49, mbtmp3.8/12, MS2.2/1, Ms1 2.2/1, ms1mx1.9/36, Error ellipse: s-maj=25.6km s-min=11.6km az=105.0*

*JMA **03** 11:30:24.6±0.1, 42.°04N×142.°60E, h61km±2km, M3.8 Broadband fault plane solution: P waves. NP1: φs227.00000°, δ31.00000°, λ111.00000°. NP2: φs22.00000°, δ61.00000°, λ78.00000°. Principal axes: T Plg71.0000°, Azm264.0000°; N Plg11.0000°, Azm28.0000°; P Plg15.0000°, Azm121.0000°;*

JMA Felt I J1.

*NEIC **03** 11:30:24.2±1.4, 41.°91N±0.°06×142.°51E±0.°09, h65km±8km, mb4.1/9 Error ellipse: s-maj=10.8km s-min=7.8km az=134.0*

ISC 03 11:30:24.1±0.8, 41.°95N±0.°05×142.°57E±0.°04, h62km±6km, n53, σ1s16/57, mb4.0/11, 7C-8D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.36**	**23**	⇑P	**Pn**	**11 30 34.5**	**-0.4**
JNBK				*e*S	**Sn**	**11 30 42.1**	**-0.6**
ERM	**Erimo**	**0.45**	**81**		**Pn**	**11 30 36.0**	**+0.3**
JEM	**Erimo**	**0.45**	**81**	⇑P	**Pn**	**11 30 36.1**	**+0.5**
JSHD	**Hidakashinhida**	**0.47**	**351**	⇑P	**Pn**	**11 30 35.6**	**-0.3**
JSHD				*e*S	**Sn**	**11 30 44.4**	**-0.1**
JTHR	**Tokachihiroo**	**0.65**	**57**	⇑P	**Pn**	**11 30 37.7**	**-0.1**
JTHR				*e*S	**Sn**	**11 30 47.5**	**-0.3**
JIAM	**Iburiatsuma**	**0.83**	**325**	⇓P	**Pn**	**11 30 40.5**	**+0.5**
JBT2	**Biratori 2**	**0.85**	**350**	⇓P	**Pn**	**11 30 39.5**	**-0.8**
JBT2				*e*S	**Sn**	**11 30 51.0**	**-1.1**
JCH	**Churui**	**0.89**	**41**	⇑P	**Pn**	**11 30 40.3**	**-0.5**
JCH				*e*S	**Sn**	**11 30 52.1**	**-1.1**
JKB	**Kayabe**	**1.15**	**268**	⇓P	**Pn**	**11 30 44.7**	**+0.6**
JKB				*e*S	**Sn**	**11 30 59.7**	**+0.7**
JEW	**Eniwo**	**1.22**	**318**	⇓P	**Pn**	**11 30 45.0**	**-0.1**
JFR	**Furan**	**1.22**	**1**	⇓P	**Pn**	**11 30 44.2**	**-0.9**
JNB	**Noboribetsu**	**1.25**	**295**	⇓P	**Pn**	**11 30 45.0**	**-0.5**
JNB				*e*S	**Sn**	**11 30 59.8**	**-1.6**
JOT	**Ohata**	**1.27**	**244**	⇓P	**Pn**	**11 30 46.8**	**+1.1**
JOT				*e*S	**Sn**	**11 31 03.6**	**+1.7**
JOB	**Onbets**	**1.34**	**44**	⇑P	**Pn**	**11 30 47.1**	**+0.4**
JOB				*e*S	**Sn**	**11 31 03.9**	**+0.3**
JISS	**Ishikarishitsu**	**1.58**	**328**	⇓P	**Pn**	**11 30 49.8**	**0.0**
JISS				*e*S	**Sn**	**11 31 09.1**	**-0.1**
JAB	**Ashibetsu**	**1.58**	**351**	P	**Pn**	**11 30 49.7**	**-0.2**
JAR	**Ashorobuto**	**1.62**	**33**	⇑P	**Pn**	**11 30 49.8**	**-0.6**
JAR				*e*S	**Sn**	**11 31 08.9**	**-1.4**
ASAJ	**Asahikawa**	**2.17**	**1**	P	**Pn**	**11 30 58.1**	**+0.2**
	42nm,0.3s,baz=208,slow=11,SNR=284						
ASAJ				S	**Sn**	**11 31 23.6**	**-0.1**
	17nm,0.3s,baz=80,slow=27,SNR=10.0						
JKA	**Kamikawa-asahi**	**2.17**	**1**		**Pn**	**11 30 58.1**	**+0.2**
JKA					**Sn**	**11 31 23.6**	**-0.1**
JKA	**Kamikawa-asahi**	**2.17**	**1**	Pn	**Pn**	**11 30 58.0**	**+0.1**
MJB9	**Matsu-Tunnel**	**6.37**	**214**	Pn	**Pn**	**11 31 54.6**	**-0.8**
MAJO	**Matsushiro**	**6.37**	**213**	Pn	**Pn**	**11 31 54.7**	**-0.6**
MJAR	**Matsushiro Arr**	**6.37**	**213**	P	**Pn**	**11 31 58.0**	**+2.7**
	0.1nm,0.3s,baz=27,slow=14,SNR=3.8						
USRK	**Ussuriysk Ar.**	**8.06**	**290**	P	**Pn**	**11 32 19.2**	**+0.7**
	baz=66,slow=12,SNR=5.3						
JHJ	**Hachijo jima 2**	**9.08**	**195**	P	**Pn**	**11 32 32.2**	**-0.3**
	3.0nm,0.3s,baz=234,slow=24,SNR=1.1						
JHJ				S	**Sn**	**11 34 08.3**	**-4.9**
	1.9nm,0.3s,baz=92,slow=22,SNR=1.3						
JHJ2	**Mitsune**	**9.08**	**195**	Pn	**Pn**	**11 32 30.0**	**-2.5**
KSRS	**Korea Array**	**12.13**	**253**	P	**Pn**	**11 33 17.6**	**+3.5**
	0.2nm,0.3s,baz=61,slow=14,SNR=6.5						
KSRS				LR	LR	11 37 50.6	
	comp=Z,11nm,18.9s,baz=235,slow=36						
H11N2	**WAKE ISLAND Hy**	**30.25**	**130**	T	T	12 08 01.4	
	baz=323,slow=75,SNR=53						
H11N1	**WAKE ISLAND Hy**	**30.26**	**130**	T	T	12 08 06.6	
	baz=323,slow=75,SNR=71						
H11N3	**WAKE ISLAND Hy**	**30.27**	**130**	T	T	12 07 57.4	
	baz=323,slow=75,SNR=44						
H11S1	**WAKE ISLAND Hy**	**31.11**	**131**	T	T	12 09 00.9	
	baz=325,slow=76,SNR=50						
H11S3	**WAKE ISLAND Hy**	**31.12**	**131**	T	T	12 08 57.7	
	baz=325,slow=76,SNR=53						
H11S2	**WAKE ISLAND Hy**	**31.13**	**131**	T	T	12 09 09.1	
	baz=325,slow=76,SNR=51						
ZALV	**Zalesovo Beam**	**39.42**	**308**	P	**P**	**11 37 48.0**	**+0.2**
	1.8nm,0.7s,baz=79,slow=7.7,SNR=6.2						
MKAR	**Makanchi Array**	**42.44**	**298**	P	**P**	**11 38 13.1**	**+0.4**
	0.8nm,0.7s,baz=138,slow=5.7,SNR=6.1						
MAKZ	**Makanchi**	**42.64**	**298**	P	**P**	**11 38 14.0**	**-0.3**
PPLA	**Purkeypile**	**42.69**	**38**	P	P	11 38 19.2	+4.6
PPLA				IAmb	IAmb	11 38 33.3	
	comp=Z,3.6nm,0.9s						
KURK	**Kurchatov**	**43.75**	**304**	P	**P**	**11 38 22.1**	**-1.0**
KURK				IAmb	IAmb	11 38 23.5	
	comp=Z,1.7nm,0.7s						
GHO	**Glory Hole Cre**	**44.29**	**39**	P	**P**	**11 38 27.7**	**+0.2**
IL31		**44.92**	**35**	P	**P**	**11 38 32.5**	**+0.2**
IL31				IAmb	IAmb	11 38 35.4	
	comp=Z,4.0nm,1.4s						
PRP	**Porcupine Dome**	**45.42**	**34**	P	**P**	**11 38 37.0**	**+0.5**
SCRK	**Sand Creek**	**46.26**	**36**	P	**P**	**11 38 42.8**	**-0.3**
SCRK				IAmb	IAmb	11 38 48.5	
	comp=Z,4.6nm,1.4s						
INK	**Inuvik**	**49.64**	**29**	P	**P**	**11 39 08.6**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=302,slow=9.9,SNR=8.4						
INK	**Inuvik**	**49.64**	**29**	P	**P**	**11 39 08.7**	**-0.2**
INK				IAmb	IAmb	11 39 24.1	
	comp=Z,2.6nm,1.4s						
C36M	**Paulatuk**	**52.62**	**26**	P	**P**	**11 39 31.2**	**0.0**
WRA	**Warramunga Arr**	**62.04**	**189**	P	**P**	**11 40 38.2**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=5.3,slow=6.7,SNR=6.9						
FINES	**FINESS Array B**	**64.90**	**332**	P	**P**	**11 40 56.0**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=64,slow=8.7,SNR=6.4						
NB2	**NORSAR Subarra**	**70.01**	**337**	P	**P**	**11 41 28.1**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=36,slow=6.2						
NOA	**NORSAR Array B**	**70.01**	**337**	P	**P**	**11 41 27.9**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=37,slow=6.1,SNR=4.1						
TXAR	**Lajitas Array**	**86.44**	**53**	P	**P**	**11 43 01.0**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=317,slow=4.8,SNR=3.7						
H03N2	**Juan Fernandez**	**146.35**	**89**	T	T	14 33 16.4	
	baz=300,slow=76,SNR=6.6						
H03N3	**Juan Fernandez**	**146.37**	**89**	T	T	14 33 17.4	
	baz=300,slow=76,SNR=4.0						
H03N1	**Juan Fernandez**	**146.37**	**89**	T	T	14 33 17.5	
	baz=300,slow=76,SNR=5.9						

*NEIC **03** 11:37:46.1±2.1, 3.°57S±0.°07×135.°53E±0.°07, h42km±7km, mb4.4/29, Error ellipse: s-maj=10.9km s-min=9.9km az=206.0*

*DJA **03** 11:37:46.8±0.2, 4.°S±3.°×13.°5E±.°, h63km±9km, M4.3/13, mb4.6/13, mB4.8/7, MLv4.4/6, Mw(mB)4.0/7*

*IDC **03** 11:37:47.5±0.8, 3.°47S×135.°61E, h46km±7km, mb4.1/9, mb1 4.2/13, mb1mx3.9/31, mbtmp4.4/13, ML4.5/4, MS3.2/4, Ms1 3.2/4, ms1mx2.7/32, Error ellipse: s-maj=21.4km s-min=14.1km az=61.0*

ISC 03 11:37:44.2±0.4, 3.°71S±0.°05×135.°46E±0.°04, h22km, n74, σ2s05/88, mb4.5/23, Irian Jaya region

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC |

WRA	**Warramunga Arr**	**16.17**	**184**	P	**Pn**	**11 41 30.0**	**-0.2**
	comp=Z,3.1nm,0.3s,baz=8.3,slow=13,SNR=85						
WRA				S	**Sn**	**11 44 21.1**	**-8.0**
	comp=Z,1.4nm,0.3s,baz=8.0,slow=22,SNR=8.6						
WR0	**Warramunga Ar**	**16.18**	**183**	Pn	**Pn**	**11 41 30.4**	**+0.1**
WR0				IAmb	IAmb	11 41 40.0	
	comp=Z,14nm,0.6s						
FITZ	**Fitzroy Crossi**	**17.23**	**213**	P	**Pn**	**11 41 44.5**	**+0.8**
	comp=Z,1.6nm,0.3s,baz=28,slow=7.9,SNR=63						
FITZ				S	**Sn**	**11 44 47.4**	**-7.4**
	comp=Z,1.4nm,0.3s,baz=181,slow=12,SNR=8.5						
FITZ				LR	LR	11 48 33.4	
	comp=Z,74nm,19.1s,baz=24,slow=37						
FITZ	**Fitzroy Crossi**	**17.23**	**213**	Pn	**Pn**	**11 41 44.4**	**+0.7**
CTA	**Charters Tower**	**19.39**	**148**	P	**Pn**	**11 42 11.9**	**+2.0**
	comp=Z,0.9nm,0.3s,baz=322,slow=11,SNR=13						
CTAO	**Charters Tower**	**19.39**	**148**	P	**P**	**11 42 09.3**	**+0.5**
AS31	**Alice Springs**	**19.90**	**184**	P	**P**	**11 42 15.8**	**+1.5**
AS31				IAmb	IAmb	11 42 34.1	
	comp=Z,10.0nm,0.5s						
ASAR	**Alice Springs**	**19.90**	**184**	P	**Pn**	**11 42 18.2**	**+2.2**
	comp=Z,20nm,0.7s,baz=5.0,slow=11,SNR=109						
ASAR				S	**S**	**11 45 51.5**	**-6.0**
	comp=Z,4.2nm,0.7s,baz=7.3,slow=29,SNR=4.6						
KKM	**Kota Kinabalu**	**21.52**	**297**	P	**P**	**11 42 33.1**	**+1.0**
PSA00	**Pilbara Seismi**	**23.35**	**219**	P	**P**	**11 42 52.1**	**+0.9**
PSA00				IAmb	IAmb	11 42 55.9	
	comp=Z,14nm,0.7s						
SBUM	**Sibu**	**24.02**	**284**	P	**P**	**11 42 57.1**	**-0.6**
FORT	**Forrest**	**27.82**	**194**	P	**P**	**11 43 32.1**	**+0.2**
STKA	**Stephens Creek**	**28.61**	**169**	P	**P**	**11 43 40.7**	**+1.7**
	comp=Z,2.3nm,0.6s,baz=343,slow=7.7,SNR=10						
STKA				LR	LR	11 56 33.4	
	comp=Z,62nm,19.7s,baz=24,slow=39						
STKA	**Stephens Creek**	**28.61**	**169**	P	**P**	**11 43 41.1**	**+2.1**
BBOO	**Buckleboo**	**28.96**	**179**	P	**P**	**11 43 43.0**	**+0.9**
IPM	**Ipoh**	**35.35**	**283**	P	**P**	**11 44 36.2**	**-2.2**
IPM				IAmb	IAmb	11 44 39.2	
	comp=Z,6.1nm,1.1s						
CM31	**Chiang Mai Arr**	**42.18**	**303**	P	**P**	**11 45 35.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**42.18**	**303**	P	**P**	**11 45 36.0**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=123,slow=6.4,SNR=15						
CHTO	**Chiang Mai**	**42.34**	**303**	P	**P**	**11 45 36.9**	**0.0**
CHTO				IAmb	IAmb	11 45 37.6	
	comp=Z,4.1nm,0.7s						
XAN	**Xi'an**	**45.12**	**328**	P	**P**	**11 45 58.6**	**-0.6**
XAN				pmax	pmax		
	comp=Z,7.0nm,1.5s						
XAN				pmax	pmax		
	comp=Z,92nm,3.9s						
ASAJ	**Asahikawa**	**48.04**	**7**	P	**P**	**11 46 20.8**	**-1.0**
	comp=Z,2.3nm,0.5s,baz=227,slow=9.2,SNR=7.2						
JKA	**Kamikawa-asahi**	**48.04**	**7**	P	**P**	**11 46 20.8**	**-1.0**
HHC	**Hu-ho-hao-te**	**49.44**	**336**	*eP*	**P**	**11 46 33.8**	**+1.1**
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,36nm,5.2s						
GTA	**Gaotai**	**54.01**	**326**	*eP*	**P**	**11 47 07.4**	**+0.4**
GTA				pP	sP	11 47 21.4	+4.7
GTA				sP	pP	11 47 26.6	+13
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,32nm,7.3s						
GTA				LR	LR		
	comp=N,44nm,16.5s						
GTA				LR	LR		
	comp=E,44nm,16.2s						
GTA				LR	LR		
	comp=Z,32nm,17.5s						
ODAN	**Odare**	**55.47**	**306**	*eP*	**P**	**11 47 17.9**	**0.0**
	comp=Z,23nm,0.7s						
RAMN	**Ramite**	**56.14**	**306**	*eP*	**P**	**11 47 23.1**	**+0.3**
	comp=Z,24nm,0.6s						
GUN	**Gumba**	**57.13**	**307**	*eP*	**P**	**11 47 30.0**	**+0.1**
	comp=Z,27nm,0.7s						
PKI	**Pulchoki**	**57.37**	**306**	*eP*	**P**	**11 47 31.2**	**-0.3**
	comp=Z,7.0nm,0.5s						
KOLN	**Koldanda**	**58.91**	**306**	*eP*	**P**	**11 47 42.2**	**0.0**
	comp=Z,13nm,0.7s						
DANN	**Dangsing**	**59.02**	**306**	*eP*	**P**	**11 47 43.1**	**+0.1**
	comp=Z,18nm,0.6s						
WMQ	**Urumqi**	**63.82**	**323**	*eP*	**P**	**11 48 15.8**	**+0.8**
WMQ				pmax	pmax		
	comp=Z,39nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,110nm,5.3s						
MK31	**Makanchi Array**	**68.63**	**324**	P	**P**	**11 48 46.0**	**+0.3**
MK31				IAmb	IAmb	11 49 00.9	
	comp=Z,3.8nm,1.1s						
MKAR	**Makanchi Array**	**68.63**	**324**	P	**P**	**11 48 45.8**	**+0.1**
	comp=Z,2.4nm,0.5s,baz=112,slow=8.1,SNR=41						
MKAR				pP	**sP**	**11 48 59.5**	**+3.9**
	comp=Z,2.1nm,0.5s,baz=115,slow=7.9,SNR=9.0						
MAKZ	**Makanchi**	**68.83**	**324**	P	**P**	**11 48 44.8**	**-2.1**
ZAA0	**Zalesovo Array**	**71.20**	**331**	P	**P**	**11 49 00.1**	**-1.2**
ZAA0				IAmb	IAmb	11 49 15.7	
	comp=Z,2.9nm,0.9s						
ZALV	**Zalesovo Beam**	**71.20**	**331**	P	**P**	**11 49 00.1**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=119,slow=5.5,SNR=5.9						
ZALV				pP	**sP**	**11 49 14.2**	**+3.0**
	comp=Z,2.2nm,0.8s,baz=117,slow=5.2,SNR=3.6						
KURK	**Kurchatov**	**72.70**	**326**	P	**P**	**11 49 09.4**	**-1.0**
KURK				IAmb	IAmb	11 49 10.7	
	comp=Z,3.1nm,0.9s						
GAR	**Garm**	**73.34**	**312**	P	**P**	**11 49 13.5**	**-1.2**
CHGR	**Chuyangaron**	**74.09**	**312**	P	**P**	**11 49 18.2**	**-0.8**
KK31	**Karatay Array**	**74.59**	**317**	P	**P**	**11 49 21.4**	**-0.3**
KK31				IAmb	IAmb	11 49 22.3	
	comp=Z,3.4nm,0.6s						
HRA	**Herat**	**78.33**	**306**	P	**P**	**11 49 41.8**	**-1.6**
HRA				IAmb	IAmb	11 49 43.7	
	comp=Z,3.3nm,0.7s						
BRVK	**Borovoye**	**78.37**	**326**	P	**P**	**11 49 41.8**	**-1.1**
BRVK				IAmb	IAmb	11 49 43.3	
	comp=Z,4.8nm,0.8s						
MAW	**Mawson**	**79.99**	**202**	P	**P**	**11 49 53.2**	**+1.7**
	comp=Z,2.4nm,0.9s,baz=82,slow=11,SNR=3.5						
GEYT	**Alibeck**	**82.32**	**309**	P	**P**	**11 50 05.1**	**+0.6**
	comp=Z,2.3nm,0.6s,baz=46,slow=4.3,SNR=4.0						
SOCY	**Socotra**	**82.46**	**283**	P	**P**	**11 50 05.0**	**-0.8**
TTA	**Tatalina**	**83.69**	**25**	P	**P**	**11 50 10.6**	**-0.5**
TTA				IAmb	IAmb	11 50 27.5	
	comp=Z,5.6nm,1.4s						
MLY	**Manley**	**86.56**	**24**	P	**P**	**11 50 22.8**	**-2.6**
MLY				IAmb	IAmb	11 50 26.0	
	comp=Z,2.3nm,0.6s						
RND	**Reindeer**	**86.93**	**26**	P	**P**	**11 50 25.6**	**-1.7**
ILAR	**Eielson Array**	**88.09**	**25**	P	**P**	**11 50 30.3**	**-2.5**
	comp=Z,1.1nm,0.7s,baz=267,slow=4.2,SNR=16						
ILAR				pP	**sP**	**11 50 44.0**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=264,slow=4.4,SNR=4.0						
ARCES	**ARCESS Array B**	**100.36**	**340**	P	**Pdif**	**11 51 26.7**	**-2.2**
	comp=Z,2.7nm,0.7s,baz=77,slow=5.2,SNR=11						
LPAZ	**La Paz**	**149.36**	**131**	PKPbc	**PKPbc**	**11 57 33.4**	**+0.1**
	comp=Z,3.2nm,1.0s,baz=158,slow=0.6,SNR=7.6						

IDC 03 11:45:31.3±1.3, 57.70S×25.61W, h0km, mb4.0/3, mb1 4.0/3, mb1mx3.8/18, mbtmp3.9/3, Error ellipse: s-maj=99.9km s-min=34.9km az=98.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**44.95**	**182**	P	P	11 53 48.5	+1.2
	0.5nm,0.5s,baz=179,slow=7.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**74.10**	**28**	P	P	11 57 09.5	+0.5
	0.6nm,0.5s,baz=192,slow=6.3,SNR=6.2						
ASAR	**Alice Springs**	**97.14**	**161**	P	P	11 59 03.6	-1.9
	0.7nm,1.1s,baz=195,slow=3.1,SNR=4.1						
ILAR	**Eielson Array**	**151.85**	**309**	PKPbc	PKPbc	12 05 25.9	-0.4
	0.6nm,0.5s,baz=131,slow=2.8,SNR=7.1						

*IDC **03** 12:09:17.6±1.8, 1.86N×96.57E, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.6/45, mbtmp3.8/6, ML2.6/1, MS3.2/2, Ms1 3.2/2, ms1mx2.5/33, Error ellipse: s-maj=40.3km s-min=24.5km az=37.0*
*DJA **03** 12:09:20.9±0.5, 2°N±3°×9°7E±°, h30km±9km, M3.6/8, mb4.0/2, MLv3.5/8*
*NEIC **03** 12:09:22.2±0.6, 1.91N±0.07×96.65E±0.10, h28km±6km, mb4.2/5, Error ellipse: s-maj=16.1km s-min=5.0km az=56.0*

ISC 03 12:09:20.3±1.6, 1.95N±0.05×96.63E±0.06, h15km±10km, n33, σ0.81/32, mb4.1/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.55**	**327**	P	**Pg**	**12 09 31.0**	**-0.1**
SNSI				S	**Sn**	**12 09 42.1**	**-0.4**
GSI	**Gunungsitoli**	**1.15**	**124**	P	**Pg**	**12 09 42.3**	**-0.1**
GSI				S	**Sb**	**12 09 56.8**	**+0.3**
GSI	**Gunungsitoli**	**1.15**	**124**		**Pn**	**12 09 41.9**	**+0.1**
TPTI		**1.42**	**23**	P	**Pn**	**12 09 44.6**	**-1.0**
TPTI				S	**Sn**	**12 10 02.0**	**-2.0**
KCSI	**Kotacane, Aceh**	**1.94**	**36**	P	**Pn**	**12 09 52.7**	**-0.1**
KCSI				S	**Sn**	**12 10 16.8**	**-0.1**
MLSI	**Meulaboh, Aceh**	**2.31**	**355**	S	**Sn**	**12 10 25.7**	**-0.5**
RPSI	**Rantau Prapat**	**2.41**	**72**		**Pn**	**12 09 59.5**	**+0.2**
RPSI	**Rantau Prapat**	**2.41**	**72**		**Pn**	**12 09 59.5**	**+0.2**
RPSI					**Sb**	**12 10 31.8**	**-1.3**
PSI	**Prapat**	**2.45**	**70**	Pn	**Pn**	**12 09 59.5**	**-0.4**
	1.3nm,0.3s,baz=0.3,slow=6.9,SNR=3.9						
PSI				Sn	**Sn**	**12 10 31.8**	**+2.2**
	3.1nm,0.3s,baz=180,slow=2.9,SNR=6.3						
PBSI	**Pulau Batu**	**2.59**	**140**	P	**Pn**	**12 10 01.9**	**+0.2**
PBSI				S	**Sn**	**12 10 31.3**	**-1.6**
MNSI	**Mandailing Nat**	**3.17**	**111**	P	**Pn**	**12 10 09.9**	**+0.2**
LHMI	**Lhok Sumawe**	**3.28**	**6**	Pn	**Pn**	**12 10 12.3**	**+1.2**
IPM	**Ipoh**	**5.06**	**60**	Pn	**Pn**	**12 10 36.2**	**+0.4**
KULM	**Kulim**	**5.21**	**50**	Pn	**Pn**	**12 10 38.2**	**+0.4**
LEM	**Lembang**	**14.01**	**129**	LR	LR	12 18 45.5	
	comp=Z,73nm,18.4s,baz=327,slow=41						
CMAR	**Chiang Mai Arr**	**16.57**	**8**	Pn	**Pn**	**12 13 12.9**	**+0.7**
	baz=199,slow=12,SNR=7.7						
H08S2	**Diego Garcia H**	**25.89**	**248**	T	T	12 41 41.3	
	baz=69,slow=76,SNR=215						
H08S3	**Diego Garcia H**	**25.89**	**248**	T	T	12 41 41.5	
	baz=69,slow=76,SNR=221						
H08S1	**Diego Garcia H**	**25.91**	**248**	T	T	12 41 44.7	
	baz=69,slow=76,SNR=103						
H01W3	**Cape Leeuwin H**	**40.15**	**157**	T	T	12 59 41.0	
	baz=334,slow=76,SNR=11						
H01W2	**Cape Leeuwin H**	**40.16**	**157**	T	T	12 59 30.6	
	baz=334,slow=76,SNR=13						
H01W1	**Cape Leeuwin H**	**40.17**	**157**	T	T	12 59 42.3	
	baz=334,slow=76,SNR=14						
WB0	**Warramunga Arr**	**42.88**	**122**	P	**P**	**12 17 18.4**	**-0.2**
WB0				IAmb	IAmb	12 17 23.2	
	comp=Z,8.1nm,1.4s						
WRA	**Warramunga Arr**	**42.92**	**122**	P	**P**	**12 17 18.4**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=302,slow=8.9,SNR=6.9						
WB2	**Warramunga Arr**	**42.93**	**122**	P	**P**	**12 17 18.9**	**-0.1**
WR0	**Warramunga Ar**	**43.09**	**122**	P	**P**	**12 17 19.7**	**-0.6**
WR0				IAmb	IAmb	12 17 36.9	
	comp=Z,6.5nm,1.2s						
MK31	**Makanchi Array**	**46.38**	**346**	P	**P**	**12 17 46.7**	**+0.5**
MKAR	**Makanchi Array**	**46.38**	**346**	P	**P**	**12 17 46.3**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=158,slow=6.8,SNR=9.1						
SONM	**Songino Array**	**46.49**	**9**	P	**P**	**12 17 47.5**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=186,slow=12,SNR=2.5						
ZAA0	**Zalesovo Array**	**52.74**	**351**	P	**P**	**12 18 34.2**	**-0.2**
ZAA0				IAmb	IAmb	12 18 35.7	
	comp=Z,2.9nm,0.9s						
ZALV	**Zalesovo Beam**	**52.74**	**351**	P	**P**	**12 18 34.3**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=169,slow=8.5,SNR=6.5						
ARCES	**ARCESS Array B**	**81.64**	**340**	P	**P**	**12 21 37.7**	**+0.1**
	comp=Z,1.8nm,1.0s,baz=101,slow=6.3,SNR=4.1						
GERES	**GERESS Array B**	**83.88**	**319**	LR	LR	13 03 40.5	
	comp=Z,13nm,19.0s,baz=317,slow=39						

*JMA **03** 12:18:08.0±0.2, 30.65N×139.15E, h441km, M3.6*
*IDC **03** 12:18:09.9±1.0, 30.51N×138.76E, h401km±27km, mb3.5/3, mb1 3.3/8, mb1mx2.9/41, mbtmp4.0/8, Error ellipse: s-maj=57.5km s-min=22.1km az=69.0*

ISC 03 12:18:09.9±0.9, 30.60N±0.07×139.0E±0.1, h411km, n21, σ1.9/31/28, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**2.56**	**15**	P	**P**	**12 19 11.5**	**+1.1**
JHJ	**Hachijo jima 2**	**2.60**	**15**	P	**P**	**12 19 11.8**	**+1.2**
	35nm,0.3s,baz=85,slow=22,SNR=42						
JHJ				S	**S**	**12 20 00.8**	**+0.6**
	23nm,0.3s,baz=241,slow=20,SNR=4.6						
JMKN	**Mikurajimanish**	**3.32**	**9**	P	**P**	**12 19 16.6**	**+0.3**
JIE	**Ise**	**4.24**	**334**	P	**P**	**12 19 26.0**	**+1.4**
JKN2	**Miekihoku**	**4.29**	**328**	P	**P**	**12 19 25.9**	**+0.8**
JTNC	**Tanabenakahech**	**4.30**	**319**	P	**P**	**12 19 25.6**	**+0.4**
BSO1	**Boso 1**	**4.38**	**22**	P	**P**	**12 19 26.1**	**+0.8**
BSO1				S	**S**	**12 20 27.4**	**+0.4**
BSO3	**Boso 3**	**4.38**	**17**	P	**P**	**12 19 25.9**	**+0.3**
BSO3				*eS*	**S**	**12 20 27.1**	**-0.5**
CBIJ	**Chichi jima**	**4.48**	**140**	P	**P**	**12 19 26.7**	**-0.4**
CBIJ				*eS*	**S**	**12 20 27.9**	**-2.2**
JHU	**Hanno**	**5.24**	**3**	P	**P**	**12 19 34.2**	**-0.3**
JHU				*eS*	**S**	**12 20 41.2**	**-2.7**
JRY	**Ryogami san**	**5.40**	**359**	P	**P**	**12 19 36.8**	**+0.6**
JYT	**Yasato**	**5.70**	**10**	P	**P**	**12 19 38.8**	**-0.5**
JYT				S	**S**	**12 20 49.2**	**-3.4**
JAG	**Ashikaga**	**5.82**	**4**	P	**P**	**12 19 39.7**	**-0.9**
MJAR	**Matsushiro Arr**	**5.96**	**354**	P	**P**	**12 19 42.9**	**+0.8**
	0.1nm,0.3s,baz=169,slow=10.0,SNR=7.5						
MJAR				S	**S**	**12 20 57.4**	**-0.4**
	0.1nm,0.3s,baz=6.3,slow=18,SNR=5.3						
JHO	**Hitachi**	**6.14**	**12**	P	**P**	**12 19 43.6**	**-0.3**
KSRS	**Korea Array**	**11.44**	**310**	P	**P**	**12 20 43.0**	**+0.1**
	0.7nm,0.3s,baz=123,slow=10,SNR=15						
ASAJ	**Asahikawa**	**13.79**	**11**	P	**P**	**12 21 11.6**	**+3.0**
	0.5nm,0.3s,baz=211,slow=16,SNR=4.0						
USRK	**Ussuriysk Ar.**	**14.66**	**340**	P	**P**	**12 21 18.5**	**+0.5**
	baz=152,slow=13,SNR=3.9						
WRA	**Warramunga Arr**	**50.45**	**186**	P	**P**	**12 26 27.8**	**-0.2**
	1.8nm,0.4s,baz=3.2,slow=8.6,SNR=51						
ASAR	**Alice Springs**	**54.18**	**186**	P	**P**	**12 26 54.9**	**-0.1**
	1.3nm,0.5s,baz=16,slow=12,SNR=30						
STKA	**Stephens Creek**	**62.19**	**177**	P	**P**	**12 27 49.9**	**+0.4**
	0.5nm,0.2s,baz=324,slow=10,SNR=3.8						

WEL 03 12:32:12.8, 36°S±11'×17°8E±1'5, h231km±14km, M3.8/18, MLv3.8/18, Error ellipse: s-maj=0.0km s-min=0.0km az=98.8, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.71**	**183**	P	Pn	12 32 51.0	0.0
MXZ				S	S	12 33 18.9	-2.2
WMGZ	**Waiomatatini S**	**1.97**	**180**	P	Pn	12 32 54.1	+0.8
HAZ	**Te Kaha**	**1.97**	**195**	P	Pn	12 32 53.4	+0.1
PKGZ	**Pakihiroa**	**2.06**	**187**	P	Pn	12 32 54.7	+0.5
PKGZ				S	S	12 33 25.0	-1.7
RUGZ	**Raukumara Rang**	**2.20**	**195**	P	Pn	12 32 55.4	-0.2
PUZ	**Puketiti**	**2.23**	**183**	P	Pn	12 32 56.5	+0.6
PUZ				S	S	12 33 28.3	-1.4
TWGZ	**Tauwhareparae**	**2.35**	**188**	P	Pn	12 32 58.3	+1.2
TWGZ				S	S	12 33 31.1	-1.0
OPRZ	**Ohinepanea**	**2.49**	**216**	P	Pn	12 32 59.6	+1.1
MARZ	**Manawahe**	**2.55**	**213**	P	Pn	12 33 00.7	+1.5
MWZ	**Matawai**	**2.58**	**196**	P	Pn	12 33 00.3	+0.8
MWZ				S	S	12 33 35.2	-1.1
URZ	**Urewera**	**2.62**	**203**	P	Pn	12 33 00.4	+0.5
TKGZ	**Te Karaka**	**2.63**	**190**	P	Pn	12 33 00.8	+0.9
TKGZ				S	S	12 33 35.7	-1.4
WIAZ	**Waiheke Island**	**2.81**	**249**	P	Pn	12 33 00.8	-1.2
KMRZ	**Kaimai**	**2.81**	**224**	P	Pn	12 33 03.8	+1.7
RIGZ	**Rimuhau**	**2.90**	**190**	P	Pn	12 33 03.2	+0.2
RIGZ				S	S	12 33 41.5	-1.0
MUGZ	**Murupara**	**2.94**	**206**	P	Pn	12 33 04.0	+0.6
MUGZ				S	S	12 33 42.1	-1.0
RTZ	**Ruatahuna**	**2.99**	**202**	P	Pn	12 33 04.1	+0.1
PRGZ	**Paritu Road**	**3.10**	**188**	P	Pn	12 33 06.3	+1.1
ALRZ	**Allen Road**	**3.17**	**211**	P	Pn	12 33 07.5	+1.5
KNZ	**Kokohu**	**3.23**	**190**	P	Pn	12 33 06.8	+0.3
RAHZ	**Arahi**	**3.24**	**199**	P	Pn	12 33 07.6	+0.8
RAHZ				S	S	12 33 49.1	-0.3
MTHZ	**Maungataniwha**	**3.25**	**202**	P	Pn	12 33 07.5	+0.5
MHGZ	**Mahia Peninsul**	**3.33**	**187**	P	Pn	12 33 08.5	+0.8
WHHZ	**Waihua**	**3.36**	**196**	P	Pn	12 33 09.1	+1.0
MRHZ	**Matea Rd**	**3.38**	**207**	P	Pn	12 33 08.8	+0.4
TLZ	**Tolley Road**	**3.38**	**222**	P	Pn	12 33 10.9	+2.5
NMHZ	**Naumai**	**3.49**	**201**	P	Pn	12 33 10.7	+1.0
HATZ	**Hinemaiaia**	**3.56**	**211**	P	Pn	12 33 11.1	+0.6
BKZ	**Black Stump Fm**	**3.65**	**204**	P	Pn	12 33 12.0	+0.4
RATZ	**Rangitukua**	**3.68**	**214**	P	Pn	12 33 14.2	+2.3
MCHZ	**McNeill Hill**	**3.84**	**200**	P	Pn	12 33 14.6	+0.8
HIZ	**Hauiti**	**3.89**	**226**	P	Pn	12 33 17.1	+2.7
KWHZ	**Kaweka Forest**	**3.91**	**203**	P	Pn	12 33 15.4	+0.8
WTVZ	**West Tongariro**	**3.96**	**214**	P	Pn	12 33 16.3	+0.9
TWVZ	**Taurewa**	**4.00**	**215**	P	Pn	12 33 17.1	+1.4
NGZ	**Ngauruhoe**	**4.01**	**213**	P	Pn	12 33 17.1	+1.2
BHHZ	**Black Hill Sta**	**4.09**	**206**	P	Pn	12 33 16.8	0.0
FWVZ	**Far West T-bar**	**4.09**	**213**	P	Pn	12 33 17.8	+0.8
KRHZ	**Kereru**	**4.12**	**203**	P	Pn	12 33 17.2	0.0
KAHZ	**Kahuranaki**	**4.12**	**197**	P	Pn	12 33 17.6	+0.4
MOVZ	**Moawhango**	**4.13**	**210**	P	Pn	12 33 17.3	-0.1
PKVZ	**Pokaka**	**4.21**	**214**	P	Pn	12 33 19.8	+1.5
PXZ	**Pawanui**	**4.35**	**196**	P	Pn	12 33 20.0	+0.1
PNHZ	**Pukenui**	**4.42**	**203**	P	Pn	12 33 20.5	-0.3
PRHZ	**Porangahau**	**4.63**	**197**	P	Pn	12 33 23.3	-0.1
WAZ	**Wanganui**	**4.75**	**214**	P	Pn	12 33 25.6	+0.8
DVHZ	**Dannevirke**	**4.79**	**201**	P	Pn	12 33 24.9	-0.3
ANWZ	**Angora Road**	**4.85**	**198**	P	Pn	12 33 26.0	0.0
POWZ	**Post Office Ro**	**5.00**	**204**	P	Pn	12 33 27.5	-0.3
PRWZ	**Pori Road**	**5.08**	**202**	P	Pn	12 33 29.3	+0.4
BFZ	**Birch Farm**	**5.12**	**199**	P	Pn	12 33 28.9	-0.4
MRZ	**Mangatainoka R**	**5.30**	**204**	P	Pn	12 33 30.6	-1.0
TIWZ	**Tintock**	**5.31**	**201**	P	Pn	12 33 31.4	-0.4
HOWZ	**Holdsworth Sta**	**5.53**	**203**	P	Pn	12 33 33.7	-0.9
OGWZ	**Otaki Gorge**	**5.58**	**206**	P	Pn	12 33 34.5	-0.6
TMWZ	**Te Maipa**	**5.61**	**200**	P	Pn	12 33 34.8	-0.7
KIW	**Kapiti Island**	**5.71**	**208**	P	Pn	12 33 35.9	-1.0
TRWZ	**Traveller**	**5.94**	**200**	P	Pn	12 33 38.7	-1.0
PAWZ	**Paruwai Farm**	**6.00**	**202**	P	Pn	12 33 39.2	-1.3
MSWZ	**Moikau Station**	**6.09**	**203**	P	Pn	12 33 40.4	-1.1

IDC 03 12:36:40.3±4.7, 3.24S×128.28E, h112km±49km, mb3.2/2, mb1 3.3/4, mb1mx3.1/36, mbtmp3.6/4, Error ellipse: s-maj=44.2km s-min=17.3km az=73.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**3.80**	**52**	P	Pn	12 37 36.8	-0.3
	9.0nm,0.3s,baz=236,slow=23,SNR=39						
SIJI				S	Sn	12 38 21.6	+0.6
	5.7nm,0.3s,baz=47,slow=23,SNR=15						
WRA	**Warramunga Arr**	**17.63**	**161**	P	P	12 40 38.1	-0.3
	0.2nm,0.3s,baz=340,slow=11,SNR=13						
ASAR	**Alice Springs**	**21.03**	**165**	P	P	12 41 15.4	+0.2
	0.8nm,0.3s,baz=344,slow=11,SNR=21						
ASAR				S	S	12 45 04.0	+0.7
	0.7nm,1.1s,baz=338,slow=17,SNR=4.1						
MKAR	**Makanchi Array**	**64.16**	**327**	P		12 47 03.0	+0.1
	0.4nm,0.7s,baz=128,slow=7.9,SNR=4.3						

JMA 03 13:02:19.5±0.2, 38.49N×144.61E, h42km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**2.37**	**285**	P	Pn	13 02 57.3	+1.4
OFUJ				*eS*	Sn	13 03 25.4	+1.6
MIYJ	**Miyakonagasawa**	**2.43**	**297**	P	Pn	13 02 57.7	+1.0
MIYJ				*eS*	Sn	13 03 26.4	+1.2
JKMT	**Kesennumamotoy**	**2.48**	**278**	P	Pn	13 02 58.7	+1.4
JKMT				S	Sn	13 03 28.1	+1.8
JIKH	**Ishinomakikobu**	**2.48**	**267**	P	Pn	13 02 58.6	+1.3
JIKH				S	Sn	13 03 27.3	+1.0
JMK	**Ichinoseki**	**2.69**	**281**	P	Pn	13 03 02.1	+1.8
JMK				*eS*	Sn	13 03 33.5	+1.9
JOM	**Ohasama**	**2.77**	**292**	P	Pn	13 03 03.1	+1.8
JOM				*eS*	Sn	13 03 35.0	+1.5
JANG	**Nango**	**3.05**	**309**	P	Pn	13 03 06.1	+0.9
JYK	**Kaneyama**	**3.35**	**279**	P	Pn	13 03 11.9	+2.5
JYK				*eS*	Sn	13 03 51.1	+3.2
JFT	**Otama**	**3.51**	**255**	P	Pn	13 03 13.9	+2.3
JFT				S	Sn	13 03 54.1

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJES	**Sjenica**	**0.03**	**284**	*e*Pg	Pg	13 12 44.6	-0.2
SJES				*e*Sg	Sg	13 12 46.4	+0.5
IVAS	**Ivanjica**	**0.34**	**17**	*e*Pg	Pg	13 12 49.5	-0.3
IVAS				*e*Sg	Sg	13 12 54.8	+0.5
BBLS	**Lazići**	**0.76**	**324**	*e*Pg	Pg	13 12 55.4	-2.4
BBLS				*e*Sg	Sg	13 13 08.0	+0.3
DIVS	**Divibare**	**0.84**	**359**	*e*Pg	Pg	13 12 59.0	-0.5
DIVS				*e*Sg	Sg	13 13 11.0	+0.5
TRUS	**Trudelj**	**1.01**	**16**	*e*Pg	Pg	13 13 01.2	-1.4
TRUS				*e*Sg	Sg	13 13 14.7	-1.0
TRUS	**Trudelj**	**1.01**	**16**	*e*Pg	Pg	13 13 01.2	-1.4
TEKS	**Tekeris**	**1.34**	**345**	*e*Pn	Pn	13 13 07.2	-1.2
TEKS				*e*Sg	Sg	13 13 26.3	-0.1
BARS	**Barje**	**1.39**	**108**	*e*Pg	Pn	13 13 08.4	-0.6
ZAPS	**Zavoj**	**1.91**	**88**	*e*Pg	Pb	13 13 17.5	-0.9

*TAP **03** 13:12:44.5,24°.49N×122°.91E,h94km,ML3.0,C*
*JMA **03** 13:12:44.7±0.1,24°.48N×122°.88E,h94km±1km,M2.6*
ISC 03 13:12:45.0±1.3,24°.46N±0°.04×122°.88E±0°.02,h91km±7km, n64,σ0s79/111,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.06**	**94**	P	**Pn**	**13 12 57.9**	**+0.2**
JYNG				S	**Sn**	**13 13 07.6**	**+0.4**
YOJ	**Yonaguni jima** baz=112	**0.12**	**87**	P	**Pn**	**13 12 58.0**	**+0.2**
YOJ	baz=112			S	**Sn**	**13 13 07.7**	**+0.3**
YOJ	**Yonaguni jima**	**0.12**	**87**	P	**Pn**	**13 12 58.0**	**+0.2**
YOJ				S	**Sn**	**13 13 07.4**	**0.0**
IRIF	**Iriomote-Funau**	**0.79**	**99**	P	**Pn**	**13 13 02.4**	**0.0**
IRIF				S	**Sn**	**13 13 15.3**	**-0.1**
HATJ	**Hateruma jima**	**0.94**	**115**	P	**Pn**	**13 13 04.5**	**+0.5**
HATJ				*e*S	**Sn**	**13 13 18.4**	**+0.2**
TWC	**Suao** baz=282	**0.95**	**279**	*i* P	**Pn**	**13 13 04.0**	**-0.1**
TWC	baz=282			*i* S	**Sn**	**13 13 17.6**	**-0.9**
TWB1	**Santiao Chiao** baz=296	**0.98**	**304**	*e*P	**Pn**	**13 13 04.8**	**+0.3**
TWB1	baz=296			*e*S	**Sn**	**13 13 18.6**	**-0.5**
NTC	**Toucheng** baz=290	**1.03**	**293**	P	**Pn**	**13 13 05.5**	**+0.4**
NTC	baz=290			S	**Sn**	**13 13 19.5**	**-0.7**
ENA	**Nanau** baz=266	**1.04**	**269**	*i* P	**Pn**	**13 13 05.4**	**+0.2**
ENA	baz=266			*i* S	**Sn**	**13 13 20.8**	**+0.5**
JKRS	**Kuro-shima**	**1.05**	**102**	P	**Pn**	**13 13 05.7**	**+0.4**
JKRS				S	**Sn**	**13 13 21.0**	**+0.4**
TIPB	**Shuangxi** baz=290	**1.09**	**298**	*i* P	**Pn**	**13 13 06.0**	**+0.2**
TIPB	baz=290			*i* S	**Sn**	**13 13 20.6**	**-0.8**
TWE	**Neicheng** baz=281	**1.13**	**284**	*i* P	**Pn**	**13 13 06.5**	**+0.3**
TWE	baz=281			S	**Sn**	**13 13 22.2**	**-0.1**
JIJ	**Ishigaki jima**	**1.16**	**94**	P	**Pn**	**13 13 06.5**	**0.0**
JIJ				S	**Sn**	**13 13 21.7**	**-1.1**
WFSB	**Wu-fen Shan** baz=292	**1.17**	**302**	*e*S	**Sn**	**13 13 23.0**	**-0.1**
NACB	**Ninganchiao** baz=255	**1.20**	**257**	P	**Pn**	**13 13 07.0**	**-0.1**
NACB	baz=255			S	**Sn**	**13 13 22.9**	**-0.9**
TWD	**Chiawan** baz=251	**1.23**	**253**	*i* P	**Pn**	**13 13 07.2**	**-0.2**
TWD	baz=251			*i* S	**Sn**	**13 13 23.3**	**-1.0**
NDT	**Datong Townshi** baz=279	**1.25**	**277**	*i* P	**Pn**	**13 13 08.5**	**+0.8**
NDT	baz=279			S	**Sn**	**13 13 24.7**	**-0.1**
HWA	**Hwalien** baz=247	**1.26**	**248**	P	**Pn**	**13 13 07.9**	**+0.2**
NWLT	**Wulai** baz=282	**1.29**	**285**	P	**Pn**	**13 13 08.7**	**+0.5**
NWLT	baz=282			S	**Sn**	**13 13 25.8**	**0.0**
ETLH	**Xiulin Townshi** baz=252	**1.30**	**259**	P	**Pn**	**13 13 08.1**	**-0.2**
ETLH	baz=252			S	**Sn**	**13 13 25.2**	**-0.8**
JISG	**Ishigakijimahi**	**1.31**	**84**	P	**Pn**	**13 13 08.0**	**-0.4**
JISG				S	**Sn**	**13 13 25.0**	**-1.1**
NNSB	**Datong** baz=260	**1.36**	**269**	P	**Pn**	**13 13 09.3**	**+0.1**
NNSB	baz=260			S	**Sn**	**13 13 27.0**	**-0.5**
NNSH	**Datong** baz=260	**1.36**	**269**	*i* P	**Pn**	**13 13 09.2**	**+0.1**
NNSH	baz=260			S	**Sn**	**13 13 26.4**	**-1.1**
NNS	**Nan Shan** baz=260	**1.37**	**270**	*i* P	**Pn**	**13 13 09.7**	**+0.4**
NNS	baz=260			S	**Sn**	**13 13 27.2**	**-0.5**
YM11	**YM11** baz=291	**1.38**	**301**	P	**Pn**	**13 13 09.8**	**+0.5**
YM11	baz=291			*e*S	**Sn**	**13 13 28.6**	**+0.8**
YHNB	**Yeheng** baz=277	**1.38**	**279**	P	**Pn**	**13 13 10.1**	**+0.7**
YHNB	baz=277			S	**Sn**	**13 13 28.1**	**+0.2**
YM10	**YM10** baz=291	**1.39**	**300**	P	**Pn**	**13 13 10.1**	**+0.7**
YM10	baz=291			S	**Sn**	**13 13 28.2**	**+0.4**
NSK	**Sanguang** baz=277	**1.40**	**279**	*i* P	**Pn**	**13 13 10.2**	**+0.6**
NSK	baz=277			*i* S	**Sn**	**13 13 28.2**	**0.0**
YM03	**YM03** baz=289	**1.41**	**301**	*e*S	**Sn**	**13 13 28.1**	**-0.4**
ANP	**Anpu** baz=288	**1.43**	**301**	*e*P	**Pn**	**13 13 10.3**	**+0.3**
ESL	**Shilin** baz=238	**1.47**	**244**	*i* P	**Pn**	**13 13 10.1**	**-0.2**
ESL	baz=238			*i* S	**Sn**	**13 13 28.2**	**-1.3**
WHF	**Hehuan Shan** baz=264	**1.50**	**258**	*i* P	**Pn**	**13 13 11.3**	**+0.1**
WHF	baz=264			*i* S	**Sn**	**13 13 30.6**	**-0.4**
EGFH	**Guangfu** baz=234	**1.54**	**240**	*i* P	**Pn**	**13 13 11.2**	**-0.1**
EGFH	baz=234			S	**Sn**	**13 13 30.4**	**-0.8**
TWT	**Tachien** baz=261	**1.56**	**263**	*i* P	**Pn**	**13 13 13.2**	**+1.4**
TWT	baz=261			*i* S	**Sn**	**13 13 32.0**	**0.0**
TDCB	**Techi** baz=261	**1.58**	**263**	P	**Pn**	**13 13 13.0**	**+1.1**
TDCB	baz=261			S	**Sn**	**13 13 32.1**	**-0.3**
CHGB	**Renai** baz=248	**1.60**	**256**	P	**Pn**	**13 13 12.9**	**+0.6**
CHGB	baz=248			S	**Sn**	**13 13 32.6**	**-0.4**
HGSD	**Ruisui** baz=230	**1.64**	**234**	*e*P	**Pn**	**13 13 12.5**	**0.0**
HGSD	baz=230			*e*S	**Sn**	**13 13 32.1**	**-1.4**
JTJ	**Tarama**	**1.67**	**83**	P	**Pn**	**13 13 12.9**	**0.0**
JTJ				S	**Sn**	**13 13 34.2**	**0.0**
LIOB	**Emei** baz=274	**1.71**	**277**	*i* P	**Pn**	**13 13 14.0**	**+0.6**
LIOB	baz=274			S	**Sn**	**13 13 35.5**	**+0.5**
EHY	**Hungye** baz=243	**1.71**	**237**	*e*P	**Pn**	**13 13 12.9**	**-0.5**
EHY	baz=243			*e*S	**Sn**	**13 13 34.2**	**-0.8**
NSTT	**Nanjuang** baz=274	**1.72**	**276**	P	**Pn**	**13 13 13.9**	**+0.4**
NSTT	baz=274			S	**Sn**	**13 13 35.3**	**0.0**
VWDT	**VWDT** baz=239	**1.73**	**247**	*e*P	**Pn**	**13 13 14.3**	**+0.5**
VWDT	baz=239			S	**Sn**	**13 13 35.1**	**-0.5**
WHP	**Taichung City** baz=263	**1.77**	**265**	*i* P	**Pn**	**13 13 15.9**	**+1.6**
WHP	baz=263			S	**Sn**	**13 13 37.3**	**+0.6**
YULB	**Yu-li** baz=243	**1.79**	**234**	P	**Pn**	**13 13 14.3**	**-0.2**
YULB	baz=243			S	**Sn**	**13 13 35.9**	**-1.1**
TWF1	**Yuli** baz=229	**1.82**	**233**	*i* P	**Pn**	**13 13 14.9**	**+0.1**
TWF1	baz=229			*i* S	**Sn**	**13 13 37.2**	**-0.4**
SSLB	**Suanglung** baz=251	**1.88**	**250**	*e*P	**Pn**	**13 13 15.2**	**-0.5**
SSLB	baz=251			*e*S	**Sn**	**13 13 38.6**	**-0.5**
SMLT	**Sun Moon Lake** baz=249	**1.89**	**253**	P	**Pn**	**13 13 16.9**	**+0.9**
SMLT	baz=249			S	**Sn**	**13 13 40.1**	**+0.6**
TYC	**Yuchr** baz=249	**1.93**	**254**	*e*S	**Sn**	**13 13 40.8**	**+0.8**
CHKT	**Chengkung** baz=225	**1.94**	**226**	P	**Pn**	**13 13 15.8**	**-0.5**
WHYT	**Xinyi Township** baz=249	**2.00**	**248**	S	**Sn**	**13 13 43.1**	**+1.3**
WJS	**Zhushan** baz=250	**2.06**	**253**	*e*S	**Sn**	**13 13 45.6**	**+2.4**
ALS	**Alishan** baz=237	**2.12**	**244**	*e*S	**Sn**	**13 13 45.1**	**+0.1**
ELDTW	**Lidau** baz=227	**2.12**	**234**	*e*P	**Pn**	**13 13 19.1**	**+0.1**
JIRB	**Irabujima**	**2.12**	**79**	S	**Sn**	**13 13 43.3**	**-1.3**
JIKM	**Ikemajima**	**2.21**	**77**	*e*S	**Sn**	**13 13 45.3**	**-1.3**
JMJ	**Miyako jima 2** baz=82	**2.23**	**80**	*e*P	**Pn**	**13 13 21.7**	**+1.5**
JMJ	baz=82			S	**Sn**	**13 13 47.5**	**+0.4**
JMJ2	**Miyako jima3**	**2.25**	**82**	P	**Pn**	**13 13 20.7**	**+0.2**
JMJ2				S	**Sn**	**13 13 47.8**	**+0.2**
JOGS	**Gusukube**	**2.32**	**82**	S	**Sn**	**13 13 49.6**	**+0.2**
CHN1	**Nanshi** baz=239	**2.50**	**240**	*e*S	**Sn**	**13 13 55.2**	**+1.6**
SNST	**Tainan City** baz=240	**2.50**	**241**	*e*S	**Sn**	**13 13 55.5**	**+1.7**
MASBT	**Mashibuluo** baz=225	**2.76**	**229**	*e*P	**Pn**	**13 13 28.3**	**+1.0**
EAST	**Anshuo** baz=226	**2.78**	**223**	*e*P	**Pn**	**13 13 27.7**	**+0.1**
VWUC	**VWUC** baz=270	**3.16**	**280**	P	**Pn**	**13 13 32.4**	**-0.3**
VWUC	baz=270			*e*S	**Sn**	**13 14 06.7**	**-2.8**
PTMZ	**Houxiangcun** baz=270	**3.47**	**280**	*e*P	**Pn**	**13 13 36.9**	**+0.1**
PTMZ	baz=270			*e*S	**Sn**	**13 14 14.3**	**-2.5**

BEO 03 13:12:51.9±0.6,43°.75N×20°.65E,h2km±4km,ML1.3/3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRUS	**Gruza**	**0.15**	**18**	*e*Pg	Pg	13 12 54.3	-0.5
GRUS				*e*Sg	Sg	13 12 57.0	+0.2
TRUS	**Trudelj**	**0.51**	**340**	*e*Sg	Sg	13 13 08.5	+0.2
SELS	**Selova**	**0.63**	**147**	*e*Pg	Pg	13 13 02.7	-1.2
SELS				*e*Sg	Sg	13 13 12.2	+0.2
ZAGS	**Zajecar**	**1.15**	**86**	*e*Pg	Pg	13 13 12.7	-1.2
ZAGS				*e*Sg	Sg	13 13 28.4	-0.3

TAP 03 13:12:55.6,23°.36N×121°.31E,h32km,ML1.7,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWF1	**Yuli** baz=170	**0.01**	**231**	*i* P	Pb	13 13 00.8	-0.3
TWF1	baz=170			*i* S	Sb	13 13 04.7	0.0
YULB	**Yu-li** baz=342	**0.03**	**339**	P	Pb	13 13 00.8	-0.3
YULB	baz=342			S	Sb	13 13 04.7	-0.1
EHY	**Hungye** baz=8.0	**0.14**	**4**	*e*P	Pn	13 13 01.4	-0.3
EHY	baz=8.0			S	Sn	13 13 05.4	+0.1
HGSD	**Ruisui** baz=35	**0.17**	**39**	P	Pn	13 13 02.1	+0.2
HGSD	baz=35			S	Sb	13 13 07.5	+1.4
CHKT	**Chengkung** baz=166	**0.27**	**169**	*e*P	Pn	13 13 03.2	-0.1
CHKT	baz=166			*e*S	Sn	13 13 08.8	+0.5
ELDTW	**Lidau** baz=231	**0.32**	**237**	*i* P	Pb	13 13 03.5	-0.2
ELDTW	baz=231			*i* S	Sn	13 13 09.5	-0.3
VWDT	**VWDT** baz=342	**0.42**	**338**	*e*P	Pn	13 13 05.3	-0.1
VWDT	baz=342			*e*S	Sn	13 13 12.1	+0.1
STYT	**Tauyuan** baz=244	**0.55**	**249**	*e*P	Pn	13 13 07.7	+0.5
STYT	baz=244			*e*S	Sn	13 13 16.1	+0.8
TWH	**Lutao** baz=212	**0.67**	**167**	*e*P	Sn	13 13 18.5	+0.3
TWH	**Lutao** baz=165	**0.67**	**167**	S	Sn	13 13 18.9	+0.8

*IDC **03** 13:22:03.0±1.2,37°.14N×144°.82E,h0km,mb3.6/5, mb1 3.8/8,mb1mx3.5/43,mbtmp3.7/8,ML3.4/3,Error ellipse: s-maj=33.9km s-min=20.1km az=103.0*
*JMA **03** 13:22:08.8±0.2,37°.22N×144°.34E,h50km,M3.4*
*NEIC **03** 13:22:08.3±1.5,37°.17N±0°.08×144°.6E±0°.1,h36km±8km, mb4.6/6,Error ellipse: s-maj=17.6km s-min=11.3km az=112.0*
ISC 03 13:22:07.0±0.9,37°.23N±0°.06×144°.53E±0°.08,h26km,n40, σ1s84/51,mb3.9/7,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.65**	**295**	P	**Pn**	**13 22 48.6**	**+0.5**
JIKH				*e*S	**Sn**	**13 23 18.2**	**-1.2**
JIO	**Ouri**	**2.80**	**297**	P	**Pn**	**13 22 50.8**	**+0.8**
JIO				*e*S	**Sn**	**13 23 22.0**	**-0.9**
JKMT	**Kesennumamotoy**	**2.88**	**304**	P	**Pn**	**13 22 51.8**	**+0.6**
JKMT				S	**Sn**	**13 23 23.8**	**-1.2**
OFUJ	**Ofunato**	**2.91**	**310**	P	**Pn**	**13 22 52.0**	**+0.3**
OFUJ				*e*S	**Sn**	**13 23 24.7**	**-1.1**
JFK	**Kawauchi**	**2.91**	**274**	P	**Pn**	**13 22 51.7**	**0.0**
JFK				*e*S	**Sn**	**13 23 23.9**	**-2.0**
JMST	**Minamisoumatoc**	**2.94**	**281**	P	**Pn**	**13 22 52.0**	**0.0**
JMST				S	**Sn**	**13 23 24.6**	**-1.8**
JMK	**Ichinoseki**	**3.12**	**304**	P	**Pn**	**13 22 56.2**	**+1.6**
JMK				*e*S	**Sn**	**13 23 31.6**	**+0.6**
JFT	**Otama**	**3.35**	**276**	P	**Pn**	**13 22 59.1**	**+1.4**
BSO1	**Boso 1**	**3.86**	**229**	*e*S	**Sn**	**13 23 47.6**	**-0.8**
JRY	**Ryogami san**	**4.68**	**257**	P	**Pn**	**13 23 15.7**	**-0.3**
JRY				*e*S	**Sn**	**13 24 06.9**	**-2.6**
JOD2	**Odawara 2**	**4.81**	**248**	P	**Pn**	**13 23 18.6**	**+0.8**
JOD2				*e*S	**Sn**	**13 24 09.2**	**-3.5**
ERM	**Erimo**	**4.89**	**348**	Pn	**Pn**	**13 23 19.6**	**+0.7**
JOT	**Ohata**	**4.95**	**328**	P	**Pn**	**13 23 21.3**	**+1.7**
JOT				*e*S	**Sn**	**13 24 16.2**	**+0.3**
MJAR	**Matsushiro Arr** 0.3nm,0.3s,baz=75,slow=10,SNR=16	**5.11**	**264**	Pn	**Pn**	**13 23 22.9**	**+1.1**
MJAR	0.1nm,0.3s,baz=143,slow=17,SNR=4.8			Sn	**Sn**	**13 24 20.4**	**+0.3**
MAJO	**Matsushiro**	**5.11**	**264**		**Pn**	**13 23 23.3**	**+1.4**
MJB9	**Matsu-Tunnel**	**5.11**	**264**		**Pn**	**13 23 23.5**	**+1.6**
JKB	**Kayabe**	**5.38**	**331**	P	**Pn**	**13 23 27.5**	**+2.0**
JCH	**Churui**	**5.45**	**351**	P	**Pn**	**13 23 26.8**	**+0.3**
JCH				*e*S	**Sn**	**13 24 25.4**	**-3.0**
JHJ2	**Mitsune**	**5.63**	**225**	Pn	**Pn**	**13 23 27.7**	**-1.3**
JHJ	**Hachijo jima 2** 3.6nm,0.3s,baz=356,slow=21,SNR=20	**5.65**	**225**	Pn	**Pn**	**13 23 27.4**	**-1.8**
JHJ	12nm,0.3s,baz=129,slow=22,SNR=5.8			Sn	**Sn**	**13 24 27.9**	**-5.4**
NEM2	**Nemuro 2**	**6.20**	**8**	P	**Pn**	**13 23 35.0**	**-1.8**
NEM2				*e*S	**Sn**	**13 24 42.0**	**-4.7**
JTKR	**Abashiri--Toko**	**6.75**	**356**	P	**Pn**	**13 23 44.5**	**+0.2**
JTKR				*e*S	**Sn**	**13 24 56.3**	**-4.0**
JKA	**Kamikawa-asahi**	**7.03**	**349**		**Pn**	**13 23 49.6**	**+1.3**
JKA	**Kamikawa-asahi**	**7.03**	**349**	Pn	**Pn**	**13 23 49.3**	**+1.1**
ASAJ	**Asahikawa** 1.5nm,0.3s,baz=177,slow=7.2,SNR=18	**7.03**	**349**	Pn	**Pn**	**13 23 49.6**	**+1.3**
MA2	**Magadan** 2.3nm,0.5s,baz=192,slow=20,SNR=2.0	**22.72**	**8**	P	**P**	**13 27 05.1**	**-1.6**
MA2	**Magadan** comp=Z,3.2nm,0.6s	**22.72**	**8**	IAmb	IAmb	13 27 09.4	
H11N2	**WAKE ISLAND Hy** baz=317,slow=74,SNR=32	**26.17**	**126**	T	T	13 54 43.9	
H11N1	**WAKE ISLAND Hy** baz=317,slow=74,SNR=13	**26.18**	**126**	T	T	13 54 44.0	
H11N3	**WAKE ISLAND Hy** baz=317,slow=74,SNR=23	**26.19**	**126**	T	T	13 54 42.3	
MKAR	**Makanchi Array** comp=Z,0.7nm,0.8s,baz=76,slow=10,SNR=5.2	**46.12**	**302**	P	**P**	**13 30 31.9**	**+3.0**
KTH	**Kantishna Hill**	**46.19**	**34**		**S**	**13 37 12.6**	**-1.3**
KURK	**Kurchatov**	**47.76**	**308**	P	**P**	**13 30 44.1**	**+2.4**
KURK	comp=Z,1.5nm,0.5s			IAmb	IAmb	13 30 44.6	
WB0	**Warramunga Arr**	**57.49**	**191**	P	**P**	**13 31 53.5**	**-0.4**
WR0	**Warramunga Arr**	**57.66**	**191**	P	**P**	**13 31 54.6**	**-0.5**
WR0	comp=Z,21nm,1.8s			IAmb	IAmb	13 32 29.3	
WRA	**Warramunga Arr** comp=Z,0.5nm,0.4s,baz=8.6,slow=6.9,SNR=12	**57.67**	**191**	P	**P**	**13 31 55.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**57.84**	**201**	P	**P**	**13 31 56.5**	**+0.1**
ASAR	**Alice Springs** comp=Z,0.2nm,0.5s,baz=12,slow=7.9,SNR=2.0	**61.39**	**191**	P	**P**	**13 32 20.9**	**0.0**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.7s,baz=297,slow=6.9,SNR=2.6	**62.38**	**31**	P	**P**	**13 32 27.0**	**0.0**
KEV	**Kevo**	**64.13**	**340**	P	**P**	**13 32 39.5**	**+1.0**

IDC 03 13:28:10.0±1.7,4°.51S×128°.92E,h0km,mb3.6/1, mb1 3.7/4,mb1mx3.4/32,mbtmp3.5/4,ML3.4/3,Error ellipse: s-maj=57.6km s-min=27.8km az=83.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 5.6nm,0.3s,baz=18,slow=4.2,SNR=33	**4.31**	**33**	Pn	Pn	13 29 16.6	-0.4
SIJI	5.4nm,0.3s,baz=231,slow=22,SNR=9.9			Sn	Sn	13 30 02.3	-5.7
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=338,slow=11,SNR=1.9	**16.22**	**161**	Pn	Pn	13 32 00.4	+0.9
ASAR	**Alice Springs** 0.2nm,0.3s,baz=348,slow=11,SNR=16	**19.64**	**166**	P	P	13 32 40.1	-0.4
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=116,slow=6.6,SNR=3.7	**65.57**	**327**	P	P	13 38 55.8	+0.2

IDC 03 13:44:30.9±999.0,16°.39S×71°.05W,h0km,Error ellipse: s-maj=493.2km s-min=58.7km az=87.0,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I08BO	**LAS PENAS INFR** baz=266,slow=302,SNR=7.6	**2.50**	**86**	*i*		13 59 35.0	
I41PY	**VILLA FLORIDA** baz=305,slow=321,SNR=3.1	**16.17**	**130**	*i*		15 25 40.0	
I09BR	**BRASILIA INFRA** baz=265,slow=318,SNR=1.9	**22.15**	**91**	*i*		16 01 00.0	

*ISK **03** 13:46:34.3,40°.56N×38°.05E,h19km,ML2.6/8*
*DDA **03** 13:46:35.0,40°.67N×37°.99E,h9km±1km,ML1.9*
ISC 03 13:46:34.9±1.0,40°.66N±0°.04×38°.02E±0°.03,h16km±10km, n17,σ1s09/23,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORDU	**Ordu-Boztepe**	**0.35**	**339**	*i* P	**Pg**	**13 46 42.0**	**-0.2**
ORDU				*i* S	**Sg**	**13 46 47.0**	**-0.2**
ORDU	comp=E,199nm,0.2s			IAML		13 46 47.0	
RSDY	**Resadiye-TOKAT**	**0.59**	**244**	PG	**Pb**	**13 46 46.2**	**-0.7**
RSDY				SG	**Sb**	**13 46 54.9**	**-0.1**
ESPY	**Espiye-Giresun**	**0.59**	**64**	PG	**Pb**	**13 46 47.2**	**+0.3**
ESPY				SG	**Sb**	**13 46 56.4**	**+1.3**
CUZAR	**Zara_SIVAS**	**0.80**	**194**	*i* P	**Pn**	**13 46 50.5**	**-1.1**
ERBA	**Erbaa**	**0.96**	**272**	*i* P	**Pb**	**13 46 52.4**	**-0.8**
KELT	**Kelkit**	**1.07**	**118**	*i* P	**Pn**	**13 46 55.9**	**+0.4**
KELT				*i* S	**Sn**	**13 47 10.8**	**+0.7**
SVSK	**Karacayir**	**1.08**	**227**	PG	**Pb**	**13 46 54.3**	**-0.9**
REFA	**Refahiye_ERZN**	**1.39**	**155**	*i* P	Pn	13 46 53.5	-6.2
REFA				*i* S	Sb	13 47 07.4	-11
KEMA	**Kemaliye**	**1.44**	**165**	*i* P	**Pg**	**13 47 02.4**	**-0.1**
KEMA				*i* S	**Sg**	**13 47 24.5**	**+3.2**
KVT	**Kavak**	**1.56**	**286**	PN	**Pn**	**13 47 02.5**	**+0.5**
BAYT	**Aydıntepe-Bayb**	**1.64**	**99**	PN	**Pn**	**13 47 02.5**	**-0.7**
BAYB	**BAYBURT**	**1.75**	**103**	*i* P	**Pg**	**13 47 08.2**	**-0.3**
BAYB				*i* S	**Sg**	**13 47 31.9**	**+0.5**
BAYB	comp=N,13nm,0.2s			IAML		13 47 34.0	
KOPT	**Kop Dagi**	**2.00**	**108**	*i* P	**Pg**	**13 47 12.1**	**-1.1**
CHOM	**Cayeli-Rize**	**2.12**	**77**	PN	**Pn**	**13 47 09.7**	**0.0**
YOZ	**Yozgat**	**2.31**	**245**	PN	**Pn**	**13 47 12.3**	**-0.1**
DIKM	**Dikmen**	**2.31**	**296**	PN	**Pn**	**13 47 13.5**	**+1.2**
DBAD	**Bademkaya**	**2.81**	**82**	*i* P	**Pb**	**13 47 23.3**	**-1.4**
DBAD				*i* S	**Sb**	**13 47 58.3**	**-0.6**
DBAD	comp=N,4.8nm,0.7s			IAML		13 48 04.0	

*UCR **03** 13:52:41.4±1.3,11°.41N×87°.15W,h37km±686km,ML3.6*
*INET **03** 13:52:41.4,11°.38N×87°.17W,h32km,ML3.7*
*SNET **03** 13:52:42.5±0.9,11°.43N×87°.28W,h62km±145km,ML3.7*
ISC 03 13:52:42.1±1.4,11°.43N±0°.08×87°.12W±0°.08,h49km,n37, σ0s77/43,2C,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.26**	**3**	*e*P	**Pn**	**13 53 03.3**	**-0.2**
GBS3	**Finca Las Img**	**1.76**	**111**	*e*P	**Pn**	**13 53 09.6**	**-0.6**
LAPC	**Finca La Feria**	**1.79**	**112**	*e*P	**Pn**	**13 53 09.7**	**-0.8**
BUEV	**Buena Vista**	**1.80**	**110**	*e*P	**Pn**	**13 53 10.3**	**-0.5**
GB1A	**Borinquen Arri**	**1.80**	**110**	*e*P	**Pn**	**13 53 10.3**	**-0.5**
BUAI	**Buenos Aires**	**1.84**	**107**	*e*P	**Pn**	**13 53 10.7**	**-0.7**
GPS3	**Bodega del ICE**	**1.85**	**111**	*e*P	**Pn**	**13 53 10.8**	**-0.7**
GPS1	**Guardaparques**	**1.86**	**110**	*e*P	**Pn**	**13 53 11.0**	**-0.6**
GPS2	**Hotel Rincn d**	**1.87**	**111**	*e*P	**Pn**	**13 53 09.9**	**-1.7**
MATN	**Matagalpa**	**1.90**	**38**	*e*P	**Pn**	**13 53 11.7**	**-0.4**
GUAI	**GUAI**	**1.96**	**126**	*i*P	**Pn**	**13 53 11.7**	**-1.2**
LIM1	**Limonal**	**1.98**	**111**	*e*P	**Pn**	**13 53 13.2**	**0.0**
ACON	**Acoyapa**	**1.98**	**74**	*e*P	**Pn**	**13 53 12.1**	**-1.2**
LCND	**La Caada**	**2.01**	**338**	*e*P	**Pn**	**13 53 13.7**	**+0.1**
LCND	comp=Z,482nm,0.3s			IAML		13 53 23.4	
LCND	**La Caada**	**2.01**	**338**	*e*P	**Pn**	**13 53 13.7**	**+0.1**
LCND	comp=Z,482nm,0.3s			IAML		13 53 23.4	
HORNC	**Hornillas**	**2.04**	**110**	*e*P	**Pn**	**13 53 14.2**	**+0.1**
PLVR	**Palo Verde**	**2.05**	**122**	*e*P	**Pn**	**13 53 13.0**	**-1.3**
CUI	**Cuipilapa**	**2.07**	**112**	*e*P	**Pn**	**13 53 14.2**	**-0.3**
JUCU	**Jucuarın**	**2.12**	**329**	*e*P	**Pn**	**13 53 14.7**	**-0.4**
JUCU				*e*S	**Sn**	**13 53 40.0**	**-0.3**
JUCU	**Jucuarın**	**2.12**	**329**	*e*P	**Pn**	**13 53 14.7**	**-0.4**
JUCU				*e*S	**Sn**	**13 53 40.0**	**-0.3**
ACAL	**Aguas Claras**	**2.20**	**111**	*e*P	**Pn**	**13 53 16.3**	**0.0**
PTEN	**Parque Tenorio**	**2.21**	**109**	*e*P	**Pn**	**13 53 16.4**	**-0.1**
PACA	**Pacayal**	**2.34**	**330**	*e*P	**Pn**	**13 53 18.3**	**+0.1**
PACA				*e*S	**Sn**	**13 53 47.0**	**+1.2**
PACA	**Pacayal**	**2.34**	**330**	*e*P	**Pn**	**13 53 18.3**	**+0.1**
PACA				*e*S	**Sn**	**13 53 47.0**	**+1.2**
JTS	**Las Juntas de**	**2.42**	**118**	*e*P	**Pn**	**13 53 19.0**	**-0.2**
FAGO	**Alcalda de S**	**2.45**	**337**	*e*S	**Sn**	**13 53 48.1**	**-0.2**
FAGO	comp=Z,535nm,1.1s			IAML		13 54 17.4	
**FAG

ESPN	**Las Esperanzas**	**2.87**	**74**	*e*P	**Pn**	**13 53 25.7**	**+0.3**
LFRS	**El Faro**	**2.88**	**319**	*e*P	**Pn**	**13 53 25.6**	**-0.1**
LFRS				*e*S	**Sn**	**13 53 58.6**	**-0.6**
LFRS	**El Faro**	**2.88**	**319**	*e*P	**Pn**	**13 53 25.6**	**-0.1**
LFRS				*e*S	**Sn**	**13 53 58.6**	**-0.6**
LCR2	**La Lucha 2**	**3.50**	**118**	*e*P	**Pn**	**13 53 35.3**	**+1.1**
CVTR	**Volcan Turrial**	**3.59**	**113**	*e*P	**Pn**	**13 53 38.4**	**+2.7**

*IDC **03** 13:54:45.6±1.6, 22°.97N×11°.90W, h0km, mb3.6/5, mb1 3.7/8, mb1mx3.6/32, mbtmp3.6/8, ML4.0/3, Error ellipse: s-maj=47.8km s-min=28.4km az=81.0*
*NEIC **03** 13:54:46.9±2.2, 22°.8N±0°.1×11°.8W±0°.2, h15km±6km, mb4.1/3, Error ellipse: s-maj=26.5km s-min=8.9km az=47.0*

ISC 03 13:54:45.3±1.1, 22°.76N±0°.10×11°.9W±0°.2, h10km, n16, σ1§41/16, mb3.7/6, 1C, Mauritania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDT	**Midelt**	**11.93**	**31**	Lg	Lg	14 01 00.6	
	0.3nm,0.3s,baz=321,slow=14,SNR=2.3						
PVAQ	**Vaqueiros**	**15.04**	**13**	Pn	**Pn**	**13 58 17.5**	**-0.5**
TOA0	**Torodi Ar. Sit**	**16.09**	**124**	Pn	**Pn**	**13 58 32.1**	**+0.3**
TOA0				IAmb	IAmb	13 59 30.0	
	comp=Z,8.4nm,1.4s						
TORD	**Torodi Ar. Bea**	**16.09**	**124**	Pn	**Pn**	**13 58 32.8**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=313,slow=11,SNR=9.3						
TORD				Sn	**Sn**	**14 01 28.5**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=306,slow=22,SNR=3.5						
DBIC	**Dimbokro**	**17.39**	**156**	Pn	**P**	**13 58 51.0**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=321,slow=12,SNR=1.5						
DBIC				Lg	Lg	14 03 44.5	
	comp=Z,0.5nm,0.3s,baz=60,slow=22,SNR=6.8						
DBIC	**Dimbokro**	**17.39**	**156**	Pn	**Pn**	**13 58 48.8**	**+0.7**
DBIC				IAmb	IAmb	13 59 22.7	
	comp=Z,13nm,1.2s						
ESDC	**Sonseca Array**	**18.18**	**20**	P	**P**	**13 58 58.1**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=214,slow=10,SNR=4.8						
CLF	**Chambon-Foret**	**27.65**	**21**	P	**P**	**14 00 31.9**	**-1.3**
CLF				IAmb	IAmb	14 01 23.2	
	comp=Z,79nm,2.0s						
GERES	**GERESS Array B**	**33.02**	**32**	P	**P**	**14 01 18.9**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=218,slow=9.5,SNR=5.3						
BRTR	**Keskin Array B**	**42.00**	**55**	P	**P**	**14 02 38.9**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=270,slow=6.9,SNR=2.9						
FINES	**FINESS Array B**	**46.62**	**24**	P	**P**	**14 03 14.2**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=204,slow=4.2,SNR=6.2						
YKA	**Yellowknife Ar**	**75.72**	**332**	P	**P**	**14 06 31.4**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=79,slow=6.4,SNR=2.4						
MKAR	**Makanchi Array**	**76.54**	**45**	P	**P**	**14 06 36.1**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=286,slow=5.9,SNR=5.6						
SYO	**Syowa Base**	**98.73**	**163**⇑	*e*P	**P**	**14 08 21.6**	**-2.8**
WRA	**Warramunga Arr**	**148.50**	**91**	PKPbc	**PKiKP**	**14 14 35.0**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=302,slow=2.3,SNR=7.9						
ASAR	**Alice Springs**	**148.63**	**98**	PKPbc	**PKiKP**	**14 14 35.5**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=300,slow=1.8,SNR=9.8						

*STR **03** 14:03:01.9±0.2, 45°.N±1°×°±°, h9km±3km, MLv1.6/7, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
*LDG **03** 14:03:01.8±0.0, 44°.53N×6°.67E, h4km, Md2.5/1, Ml2.2/11, Error ellipse: s-maj=0.8km s-min=0.5km az=60.0*
*GEN **03** 14:03:01.8, 44°.52N×6°.65E, h5km±1km, Ml1.6*
*ROM **03** 14:03:02.0±0.2, 44°.531N±0°.005×6°.70E±0°.01, h14km±2km, ML1.6/12, Error ellipse: s-maj=1.1km s-min=0.1km az=249.0*

ISC 03 14:03:01.5±0.8, 44°.54N±0°.01×6°.69E±0°.01, h15km±5km, n70, σ0§93/122, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.10**	**123**	Pg	**Pg**	**14 03 04.8**	**-0.2**
SURF				Sg	**Sg**	**14 03 06.8**	**-0.5**
OGAG	**Argentiere**	**0.14**	**233**	Pg	**Pb**	**14 03 07.3**	**+1.5**
OGAG				Sg	**Sb**	**14 03 11.2**	**+2.5**
MBDF	**Montbardon**	**0.20**	**16**	*e*Pg	**Pg**	**14 03 06.3**	**0.0**
MBDF				*e*Sg	**Sg**	**14 03 09.1**	**-0.4**
	26nm,0.2s						
PZZ	**Stroppo**	**0.30**	**95**	P	**Pg**	**14 03 08.2**	**+0.3**
PZZ				S	**Sg**	**14 03 12.6**	**+0.3**
PZZ	**Stroppo**	**0.30**	**95**	P	**Pg**	**14 03 08.2**	**+0.3**
PZZ				S	**Sg**	**14 03 12.9**	**+0.6**
PZZ				AML	AML		
	comp=N,726μm,0.3s						
PZZ				AML	AML		
	comp=N,726μm,0.3s						
PZZ				AML	AML		
	comp=E,624μm,0.8s						
RRL	**Rocca Remolon**	**0.39**	**10**	P	**Pg**	**14 03 09.9**	**+0.4**
RRL				S	**Sg**	**14 03 15.5**	**+0.5**
RRL	**Rocca Remolon**	**0.39**	**10**	P	**Pg**	**14 03 10.0**	**+0.4**
RRL				S	**Sg**	**14 03 15.7**	**+0.7**
RRL				AML	AML		
	comp=E,92μm,0.3s						
RRL				AML	AML		
	comp=N,104μm,0.2s						
RRL				AML	AML		
	comp=E,92μm,0.3s						
RRL				AML	AML		
	comp=N,104μm,0.2s						
ISO	**Isola**	**0.44**	**144**	Pg	**Pg**	**14 03 10.2**	**-0.1**
ISO				Sg	**Sg**	**14 03 15.5**	**-0.6**
BHB	**Bricherasio**	**0.51**	**53**	P	**Pg**	**14 03 12.1**	**+0.5**
BHB				S	**Sg**	**14 03 19.1**	**+0.6**
BHB	**Bricherasio**	**0.51**	**53**	P	**Pb**	**14 03 12.3**	**+0.1**
BHB				S	**Sb**	**14 03 19.4**	**0.0**
BHB				AML	AML		
	comp=E,83μm,0.1s						
BHB				AML	AML		
	comp=E,83μm,0.1s						
BHB				AML	AML		
	comp=N,83μm,1.6s						
BNI	**Bardonecchia**	**0.52**	**359**	P	**Pg**	**14 03 12.1**	**+0.3**
BNI				S	**Sg**	**14 03 19.4**	**+0.6**
BNI				AML	AML		
	comp=N,16μm,0.4s						
BNI				AML	AML		
	comp=E,21μm,0.4s						
BNI				AML	AML		
	comp=N,16μm,0.4s						
STV	**Sant Anna di V**	**0.54**	**122**	P	**Pg**	**14 03 12.4**	**+0.2**
STV				S	**Sg**	**14 03 19.1**	**-0.2**
STV	**Sant Anna di V**	**0.54**	**122**	P	**Pg**	**14 03 12.3**	**+0.2**
STV				S	**Sg**	**14 03 19.4**	**+0.1**
STV				AML	AML		
	comp=E,97μm,0.8s						
STV				AML	AML		
	comp=N,122μm,0.6s						
ENR	**Entracque**	**0.61**	**120**	P	**Pg**	**14 03 13.7**	**+0.3**
ENR				S	**Sg**	**14 03 21.6**	**+0.1**
ENR	**Entracque**	**0.61**	**120**	P	**Pg**	**14 03 13.7**	**+0.3**
ENR				S	**Sg**	**14 03 22.0**	**+0.5**
ENR				AML	AML		
	comp=N,164μm,1.1s						
ENR				AML	AML		
	comp=E,160μm,0.3s						
ORIF	**Oris-en-Rattie**	**0.69**	**304**	*e*Pg	**Pg**	**14 03 14.6**	**-0.5**
ORIF				*e*Sg	**Sg**	**14 03 23.8**	**-0.5**
	comp=E,16nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.69**	**304**	P	**Pg**	**14 03 14.6**	**-0.5**
ORIF				AML	AML		
	comp=N,26μm,1.6s						
ORIF				AML	AML		
	comp=E,34μm,1.0s						
ORIF				AML	AML		
	comp=N,26μm,1.6s						
ORIF	**Oris-en-Rattie**	**0.69**	**304**	Pg	**Pg**	**14 03 14.6**	**-0.5**
ORIF				Sg	**Sg**	**14 03 23.4**	**-0.8**
RSP	**Reno Superiore**	**0.73**	**33**	P	**Pb**	**14 03 16.4**	**+0.4**
RSP				S	**Sg**	**14 03 26.1**	**+0.5**
RSP	**Reno Superiore**	**0.73**	**33**	P	**Pb**	**14 03 16.5**	**+0.4**
RSP				S	**Sb**	**14 03 26.3**	**+0.2**
RSP				AML	AML		
	comp=E,43μm,0.1s						
RSP				AML	AML		
	comp=N,37μm,0.4s						
RSP				AML	AML		
	comp=N,37μm,0.4s						
TURF	**col de Turini**	**0.75**	**138**	Pg	**Pg**	**14 03 16.2**	**0.0**
TURF				Sg	**Sg**	**14 03 26.4**	**+0.3**
GDM	**Grand'Maison**	**0.78**	**329**	Pg	**Pg**	**14 03 16.6**	**-0.2**
GDM				Sg	**Sg**	**14 03 26.7**	**-0.4**
CALF	**Calern**	**0.80**	**168**	Pg	**Pb**	**14 03 17.3**	**+0.1**
CALF				Sg	**Sg**	**14 03 27.5**	**-0.1**
SAOF	**Saorge**	**0.83**	**131**	P	**Pb**	**14 03 17.6**	**0.0**
SAOF				S	**Sb**	**14 03 28.6**	**0.0**
SAOF	**Saorge**	**0.83**	**131**	Pg	**Pb**	**14 03 17.7**	**0.0**
SAOF				Sg	**Sb**	**14 03 28.2**	**-0.4**
SBF	**Sospel**	**0.86**	**141**	*e*Pg	**Pb**	**14 03 18.2**	**+0.1**
SBF				*e*Sg	**Sb**	**14 03 29.5**	**0.0**
	comp=N,30nm,0.4s						
MLYF	**Mely**	**0.86**	**231**	Pg	**Pn**	**14 03 19.4**	**+0.2**
MLYF				Sg	**Sn**	**14 03 31.5**	**-0.1**
GBOS	**Grotte di Boss**	**0.87**	**109**	P	**Pb**	**14 03 18.4**	**0.0**
GBOS				S	**Sb**	**14 03 29.5**	**-0.5**
GBOS	**Grotte di Boss**	**0.87**	**109**	P	**Pb**	**14 03 18.7**	**+0.3**
GBOS				S	**Sb**	**14 03 29.6**	**-0.3**
GBOS				AML	AML		
	comp=E,46μm,0.2s						
GBOS				AML	AML		
	comp=N,48μm,0.3s						
LPG	**La Plagne**	**0.96**	**2**	*e*Pg	**Pb**	**14 03 20.3**	**+0.2**
LPG				*e*Sg	**Sb**	**14 03 32.9**	**+0.2**
	comp=N,12nm,0.4s						
FRF	**La Foret Royal**	**0.97**	**182**	*e*Pg	**Pb**	**14 03 20.0**	**-0.1**
FRF				*e*Sg	**Sb**	**14 03 32.4**	**-0.4**
	comp=N,14nm,0.2s						
LSD	**Lago del Serru**	**0.97**	**19**	P	**Pg**	**14 03 20.9**	**+0.4**
LSD				S	**Sb**	**14 03 33.2**	**+0.1**
LSD				AML	AML		
	comp=E,23μm,0.3s						
LSD				AML	AML		
	comp=N,18μm,0.4s						
GRN	**Grenoble**	**0.98**	**317**	Pg	**Pg**	**14 03 20.5**	**+0.1**
GRN				Sg	**Sg**	**14 03 33.4**	**+0.2**
SMRF	**Simiane la Rot**	**0.98**	**236**	*e*Pg	**Pb**	**14 03 19.7**	**-0.5**
SMRF				*e*Sg	**Sb**	**14 03 32.1**	**-0.8**
	comp=N,7.5nm,0.3s						
LPL	**La Plagne**	**0.98**	**2**	*e*Pg	**Pb**	**14 03 20.6**	**+0.2**
LPL				*e*Sg	**Sb**	**14 03 33.4**	**+0.2**
	comp=N,4.7nm,0.2s						
BSTF	**la Bastide-des**	**1.00**	**229**	Pg	**Pn**	**14 03 22.7**	**+1.7**
BSTF				Sg	**Sn**	**14 03 36.9**	**+2.1**
NEGI	**Seborga**	**1.00**	**133**	P	**Pb**	**14 03 21.0**	**+0.4**
NEGI				S	**Sb**	**14 03 33.7**	**+0.1**
NEGI	**Seborga**	**1.00**	**133**	P	**Pg**	**14 03 21.2**	**+0.3**
NEGI				S	**Sb**	**14 03 34.0**	**+0.4**
NEGI				AML	AML		
	comp=E,72μm,0.3s						
NEGI				AML	AML		
	comp=N,59μm,0.7s						
IMI	**Imperia**	**1.06**	**126**	P	**Pb**	**14 03 21.9**	**+0.2**
IMI				S	**Sb**	**14 03 35.6**	**+0.1**
IMI	**Imperia**	**1.06**	**126**	P	**Pb**	**14 03 22.0**	**+0.3**
IMI				S	**Sb**	**14 03 35.8**	**+0.3**
RORO	**Rocca Rossa**	**1.07**	**113**	P	**Pb**	**14 03 21.9**	**+0.1**
RORO				S	**Sb**	**14 03 35.4**	**-0.1**
RORO	**Rocca Rossa**	**1.07**	**113**	P	**Pb**	**14 03 21.9**	**+0.1**
RORO				S	**Sb**	**14 03 36.4**	**+0.8**
RORO				AML	AML		
	comp=E,41μm,0.3s						
RORO				AML	AML		
	comp=N,41μm,1.0s						
ARTF	**Artigues**	**1.14**	**214**	Pg	**Pg**	**14 03 24.3**	**+0.7**
ARTF				Sg	**Sg**	**14 03 39.1**	**+0.6**
RSL	**Roselend**	**1.15**	**358**	Pg	**Pg**	**14 03 24.4**	**+0.7**
LMR	**La Mourre**	**1.21**	**186**	*e*Pn	**Pn**	**14 03 23.8**	**-0.1**
LMR	**La Mourre**	**1.21**	**186**	*e*P	**Pg**	**14 03 25.5**	**+0.7**
LMR				*e*Sg	**Sb**	**14 03 39.7**	**+0.2**
	comp=N,8.9nm,0.3s						
CIRO	**Champorcher**	**1.23**	**30**	P	**Pb**	**14 03 25.1**	**+0.4**
CIRO				S	**Sn**	**14 03 41.4**	**+0.3**
OGSM	**Saint Maurice**	**1.28**	**327**	Pg	**Pg**	**14 03 26.5**	**+0.3**
OGSM				Sg	**Sg**	**14 03 43.0**	**+0.1**
VIVF	**Saint-Julien-l**	**1.48**	**283**	*e*Pn	**Pn**	**14 03 27.3**	**-0.3**
VIVF	**Saint-Julien-l**	**1.48**	**283**	*e*P	**Pb**	**14 03 28.4**	**-0.3**
VIVF				*e*Sn	**Sn**	**14 03 45.9**	**-0.8**
	comp=N,2.7nm,0.3s						
OG35	**Corcelles**	**1.70**	**333**	Pg	**Pg**	**14 03 34.5**	**+0.2**
OG35				Sg	**Sg**	**14 03 56.5**	**+0.1**
ASEAF	**Site Antares,**	**1.78**	**193**	Pn	**Pb**	**14 03 33.1**	**-0.6**
ASEAF				Sg	**Sg**	**14 03 59.5**	**+0.8**
BOB	**Bobbio (Coli)**	**1.98**	**82**	P	**Pn**	**14 03 35.8**	**+1.3**
LASF	**Ste Croix**	**2.09**	**258**	*e*P	**Pb**	**14 03 37.7**	**-1.4**
LASF				*e*Sn	**Sn**	**14 04 00.6**	**-1.1**
	comp=N,0.9nm,0.2s						
CABF	**La Chapelle**	**2.12**	**349**	*e*Pn	**Pn**	**14 03 36.7**	**+0.2**
CABF	**La Chapelle**	**2.12**	**349**	*e*Pg	**Pg**	**14 03 41.4**	**-0.7**
CABF				*e*Sn	**Sn**	**14 04 01.7**	**-0.9**
CABF				*e*Sg	**Sg**	**14 04 09.2**	**-0.4**
	comp=N,1.5nm,0.3s						
PGF	**Pioggiola**	**2.60**	**139**	*e*Pn	**Pn**	**14 03 43.2**	**+0.1**
PGF				*e*Sn	**Sn**	**14 04 13.6**	**-0.9**
	comp=N,1.3nm,0.2s						
LEOD	**Capriano del C**	**2.60**	**68**	S	**Sb**	**14 04 19.0**	**-0.6**
ERBM	**Eremo**	**2.67**	**91**	S	**Sb**	**14 04 22.0**	**+0.5**
VOBA	**Vobarno**	**2.92**	**66**	P	**Pn**	**14 03 48.4**	**+1.0**
RAVA	**Ravarino**	**3.17**	**84**	P	**Pb**	**14 03 55.0**	**-2.4**
RAVA				AML	AML		
	comp=E,1360μm,0.2s						
RAVA				AML	AML		
	comp=N,611μm,0.2s						
BORM	**Bormio**	**3.23**	**52**	S	**Sg**	**14 04 44.0**	**-1.3**
OPPE	**Oppeano**	**3.27**	**75**	S	**Sg**	**14 04 50.0**	**+3.4**
CSNT	**Castellina Chi**	**3.48**	**106**	S	**Sb**	**14 04 41.0**	**-4.0**
CRND	**Cornuda**	**4.02**	**69**	P	**Pg**	**14 04 17.1**	**-1.4**
CDCA	**Citt' di Caste**	**4.14**	**103**	P	**Pb**	**14 04 16.7**	**+2.7**
LATE	**Laterza**	**4.18**	**116**	P	**Pg**	**14 04 18.6**	**-2.9**
APEC	**Apecchio**	**4.24**	**101**	P	**Pg**	**14 04 21.0**	**-1.7**
SNTG	**Esanatoglia**	**4.69**	**104**	P	**Pn**	**14 04 14.2**	**+2.3**
LATB	**Latina**	**5.51**	**121**	P	**Pb**	**14 04 36.1**	**-1.3**

MAN 03 14:04:24.5, 12°.67N×120°.71E, h28km, mb4.2, ML3.0, MS2.6, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJMP	**San Jose**	**0.45**	**117**	*e*P	Pn	14 04 34.8	-0.2
SJMP				*e*S	Sn	14 04 42.8	+0.6
PGP	**Puerto Galera**	**0.86**	**16**⇑	*i*P	Pn	14 04 37.0	-3.9
PGP				*e*S	Sb	14 04 45.2	-7.0
LUBP	**Lubang**	**1.15**	**337**	*e*P	Pn	14 04 44.3	-0.5
LUBP				*e*S	Sn	14 04 59.7	+0.1
OTRP	**Odiongan**	**1.32**	**103**	*e*P	Pn	14 04 47.4	+0.4
OTRP				*e*S	Sn	14 05 03.7	+0.1
LQP	**Lukban**	**1.65**	**29**	*e*P	Pb	14 05 06.9	+13

*IDC **03** 14:19:34.2±1.1, 32°.72N×86°.23E, h0km, mb3.6/7, mb1 3.7/10, mb1mx3.5/35, mbtmp3.6/10, ML3.1/3, MS3.0/6, Ms1 3.0/6, ms1mx2.7/46, Error ellipse: s-maj=31.7km s-min=20.0km az=59.0*

ISC 03 14:19:39.4±1.0, 32°.8N±0°.1×86°.3E±0°.2, h35km, n14, σ0§67/10, mb3.6/7, MS2.9/4, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**13.53**	**320**	LR	LR	14 28 53.2	
	comp=Z,33nm,18.8s,baz=138,slow=41						
MKAR	**Makanchi Array**	**14.30**	**349**	Pn	**Pn**	**14 22 58.8**	**-0.5**
	0.1nm,0.3s,baz=184,slow=9.5,SNR=3.6						
MKAR				LR	LR	14 29 18.7	
	comp=Z,29nm,21.1s,baz=165,slow=41						
CMAR	**Chiang Mai Arr**	**18.26**	**138**	P	**Pn**	**14 23 49.6**	**-0.4**
	0.0nm,0.3s,baz=291,slow=8.6,SNR=1.3						
KURBB	**Kurchatov Arra**	**18.70**	**344**	P	**Pn**	**14 23 55.1**	**-0.1**
	0.0nm,0.3s,baz=161,slow=11,SNR=25						
ZALV	**Zalesovo Beam**	**21.16**	**358**	P	**P**	**14 24 21.1**	**-0.2**
	1.5nm,0.9s,baz=181,slow=13,SNR=6.9						
ZALV				LR	LR	14 34 04.3	
	comp=Z,47nm,18.8s,baz=129,slow=41						
SONM	**Songino Array**	**21.37**	**39**	P	**P**	**14 24 23.9**	**+0.1**
	1.1nm,0.7s,baz=228,slow=9.3,SNR=6.0						
TLY	**Talaya**	**22.72**	**29**	LR	LR	14 34 09.7	
	comp=Z,42nm,21.8s,baz=196,slow=38						
AKTO	**Aktyubinsk**	**27.27**	**319**	LR	LR	14 36 09.4	
	comp=Z,15nm,18.2s,baz=147,slow=36						
KSRS	**Korea Array**	**34.17**	**70**	P	**P**	**14 26 21.4**	**+0.1**
	0.7nm,0.8s,baz=253,slow=7.5,SNR=3.2						
FINES	**FINESS Array B**	**47.63**	**326**	P	**P**	**14 28 12.2**	**+0.6**
	1.3nm,1.0s,baz=123,slow=15,SNR=1.4						
FITZ	**Fitzroy Crossi**	**63.07**	**137**	LR	LR	15 03 28.1	
	comp=Z,39nm,18.5s,baz=18,slow=42						
WRA	**Warramunga Arr**	**69.71**	**132**	P	**P**	**14 30 47.0**	**+1.2**
	0.7nm,1.1s,baz=325,slow=6.5,SNR=2.9						
ASAR	**Alice Springs**	**72.23**	**135**	P	**P**	**14 31 00.1**	**-0.9**
	0.2nm,0.8s,baz=314,slow=5.8,SNR=4.6						
TORD	**Torodi Ar. Bea**	**78.51**	**278**	P	**P**	**14 31 37.3**	**-0.1**
	0.8nm,0.8s,baz=48,slow=4.9,SNR=4.2						

*IDC **03** 14:58:51.0±2.3, 9°.29N×124°.50E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/42, mbtmp3.5/4, MS3.0/3, Ms1 3.0/3, ms1mx2.4/36, Error ellipse: s-maj=103.0km s-min=23.4km az=56.0*
*MAN **03** 14:58:56.2, 8°.51N×122°.33E, h31km, mb4.9, ML3.8, MS3.8*

ISC 03 14:58:57.5±0.9, 8°.52N±0°.03×122°.32E±0°.04, h35km, n28, σ1§60/38, mb3.5/4, 3C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**1.22**	**48**	*i* P	**Pn**	**14 59 18.0**	**-0.1**
SNPH				*i* S	**Sn**	**14 59 34.1**	**+0.6**
PAGZ	**Pagadian**	**1.25**	**122**	*e*P	**Pn**	**14 59 16.5**	**-1.9**
PAGZ				*e*S	**Sn**	**14 59 33.0**	**-1.1**
CNOP	**Candoni, Negro**	**1.34**	**14**	*e*P	**Pn**	**14 59 18.4**	**-1.3**
CNOP				*e*S	**Sn**	**14 59 35.2**	**-1.1**
ZCP	**Zamboanga City**	**1.59**	**189**⇓	*i*P	**Pn**	**14 59 24.1**	**+0.9**
ZCP				*i* S	**Sn**	**14 59 43.3**	**+0.7**
TBP	**Tagbilaran**	**1.92**	**53**	*e*P	**Pn**	**14 59 27.3**	**-0.4**
TBP				*i* S	**Sn**	**14 59 50.5**	**-0.2**
GUIM	**Jordan**	**2.11**	**7**	*e*P	**Pn**	**14 59 29.8**	**-0.5**
GUIM				*e*S	**Sn**	**14 59 55.3**	**-0.1**
JAP	**San Jose, Anti**	**2.24**	**351**⇓	*e*P	**Pn**	**14 59 33.0**	**+0.8**
CTBH	**Cotabato--PC H**	**2.31**	**124**⇑	*i*P	**Pn**	**14 59 32.2**	**-0.8**
CGP	**Cagayan de Oro**	**2.35**	**91**⇓	*e*P	**Pn**	**14 59 32.6**	**-1.1**
LLP	**Lapu-Lapu**	**2.42**	**42**	*e*P	**Pn**	**14 59 34.2**	**-0.3**
LLP				*e*S	**Sn**	**15 00 01.7**	**-1.3**
CUYO	**Cuyo Island**	**2.65**	**331**	*e*P	**Pn**	**14 59 38.7**	**+0.9**
CUYO				*e*S	**Sn**	**15 00 07.7**	**-1.0**
BUKP	**Musuan**	**2.79**	**103**	*e*P	**Pn**	**14 59 41.4**	**+1.7**
BUKP				*e*S	**Sn**	**15 00 17.7**	**+5.5**
SKMP	**Bagumbayan, Su**	**2.97**	**132**	*e*P	**Pn**	**14 59 40.5**	**-1.7**
MSLP	**Maasin**	**2.98**	**57**	*e*P	**Pn**	**14 59 42.4**	**+0.1**
MSLP				*e*S	**Sn**	**15 00 17.4**	**+0.6**
RCP	**Roxas**	**3.05**	**8**⇑	*e*P	**Pn**	**14 59 44.8**	**+1.5**
KCP	**Kidapawan**	**3.13**	**116**⇓	*e*P	**Pn**	**14 59 44.0**	**-0.4**
KCP				*i* S	Sn	15 00 02.7	-18
DAV	**Davao City (W)**	**3.54**	**114**	Sn	Sn	15 00 03.9	-27
	29nm,0.3s,baz=71,slow=14,SNR=1.3						
ENPP	**El Nido**	**3.91**	**313**	*e*P	**Pn**	**14 59 55.5**	**+0.5**
ENPP				*e*S	**Sn**	**15 00 37.6**	**-2.1**
BUSP	**Coron**	**4.04**	**329**	*e*P	**Pn**	**14 59 57.4**	**+0.5**
BUSP				*e*S	**Sn**	**15 00 41.4**	**-1.7**
SJMP	**San Jose**	**4.09**	**343**	*e*P	**Pn**	**14 59 58.2**	**+0.7**
SJMP				*e*S	**Sn**	**15 00 43.0**	**-1.3**
PGP	**Puerto Galera**	**5.13**	**345**⇑	*e*P	**Sn**	**15 01 13.9**	**+4.0**
LUBP	**Lubang**	**5.57**	**339**	*e*P	**Pn**	**15 00 18.5**	**+0.6**
LUBP				*e*S	**Sn**	**15 01 19.1**	**-1.6**
TGY	**Tagaytay City**	**5.71**	**346**	LR	LR	15 02 52.7	
	comp=Z,66nm,19.8s,baz=181,slow=41						
CMAR	**Chiang Mai Arr**	**24.75**	**296**	P	P	15 04 31.4	+15
	0.6nm,0.5s,baz=116,slow=8.1,SNR=6.3						
WRA	**Warramunga Arr**	**30.66**	**157**	P	**P**	**15 05 07.1**	**-1.8**
	0.2nm,0.6s,baz=331,slow=11,SNR=2.2						
ASAR	**Alice Springs**	**33.93**	**161**	P	**P**	**15 05 36.8**	**-0.8**
	0.4nm,0.6s,baz=341,slow=6.7,SNR=13						
TLY	**Talaya**	**45.69**	**344**	LR	LR	15 27 15.3	
	comp=Z,24nm,18.3s,baz=314,slow=37						
MKAR	**Makanchi Array**	**51.15**	**325**	P	**P**	**15 07 58.6**	**+1.5**
	0.3nm,0.5s,baz=123,slow=7.1,SNR=3.8						
MKAR				LR	LR	15 31 05.4	
	comp=Z,16nm,19.8s,baz=190,slow=37						

*NEIC **03** 14:59:18.4±1.3, 17°.23N±0°.05×101°.26W±0°.04, h17km±5km, mb4.0/6, Md4.1/23(MEX), Error ellipse: s-maj=8.6km s-min=2.7km az=218.0*
*IDC **03** 14:59:20.4±3.5, 17°.58N×102°.03W, h0km, mb3.7/6, mb1 3.9/9, mb1mx3.7/37, mbtmp3.6/9, ML3.5/3, MS2.9/4, Ms1 2.9/4, ms1mx2.6/35, Error ellipse: s-maj=74.9km s-min=30.5km az=25.0*
*MEX **03** 14:59:20.6±0.7, 17°.29N×101°.26W, h12km±9km, MD4.1*

ISC 03 14:59:17.9±1.3, 17°.18N±0°.05×101°.28W±0°.04, h18km±7km, n53, σ1§75/65, mb3.9/7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.46**	**338**		**Pg**	**14 59 27.4**	**+0.1**
ZIIG					**Sg**	**14 59 33.0**	**-0.6**
ZIIG	**Zihuatanejo**	**0.46**	**338**	*e*P	**Pg**	**14 59 27.4**	**+0.1**
ZIIG				*i* S	**Sg**	**14 59 33.0**	**-0.6**
CAIG	**El Cayaco**	**0.98**	**97**		**Pg**	**14 59 36.7**	**-0.2**
CAIG					**Sb**	**14 59 48.9**	**-0.1**
CAIG	**El Cayaco**	**0.98**	**97**	*e*P	**Pb**	**14 59 36.6**	**+0.2**
CAIG				*i* S	**Sb**	**14 59 48.9**	**-0.1**

TKL	**Tuckaleechee C**	**24.11**	**37**	P		**P**	**15 04 39.5**	**+6.8**
	comp=Z,1.8nm,0.4s,baz=231,slow=8.0,SNR=3.7							
NVAR	**Mina Array Bea**	**25.89**	**328**	P		**P**	**15 04 49.2**	**0.0**
	comp=Z,2.3nm,0.8s,baz=154,slow=9.6,SNR=15							
ELK	**Elko**	**26.40**	**336**	LR		LR	15 16 19.8	
	comp=Z,38nm,19.5s,baz=170,slow=40							
PDAR	**Pinedale Array**	**26.46**	**346**	P		**P**	**15 04 54.3**	**0.0**
	comp=Z,0.2nm,0.3s,baz=137,slow=14,SNR=2.0							
YKA	**Yellowknife Ar**	**46.22**	**351**	P		**P**	**15 07 41.1**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=167,slow=7.5,SNR=4.4							
H03N2	**Juan Fernandez**	**54.67**	**157**	T		T	16 08 15.0	
	baz=335,slow=77,SNR=11							
H03N1	**Juan Fernandez**	**54.68**	**157**	T		T	16 08 14.0	
	baz=335,slow=77,SNR=18							
H03N3	**Juan Fernandez**	**54.69**	**157**	T		T	16 08 15.8	
	baz=335,slow=77,SNR=13							
ILAR	**Eielson Array**	**56.51**	**338**	P		**P**	**15 08 58.7**	**-0.1**
	comp=Z,0.6nm,1.0s,baz=159,slow=8.1,SNR=7.0							
ARCES	**ARCESS Array B**	**85.79**	**16**	P		P	15 12 01.5	+5.6
	comp=Z,1.8nm,1.0s,baz=316,slow=5.0,SNR=1.4							

*IDC **03** 15:02:41.3±3.7,39°.99N×142°.88E,h39km±33km,mb3.0/2, mb1 3.4/5,mb1mx3.1/50,mbtmp3.5/5,ML3.0/3,MS2.4/4, Ms1 2.4/4,ms1mx2.3/13,Error ellipse: s-maj=64.3km s-min=23.0km az=94.0*

*JMA **03** 15:02:41.5±0.1,40°.11N×142°.44E,h34km±1km,M3.4*

ISC 03 15:02:40.7±1.8,40°.08N±0°.04×142°.50E±0°.08,h27km±12km, n19,σ1§21/30,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.51**	**254**	P	**Pb**	**15 02 51.7**	**+0.6**
JTH				*eS*	**Sn**	**15 02 59.3**	**-0.6**
JKEN	**Kujiedanarisaw**	**0.61**	**282**	P	**Pb**	**15 02 52.8**	**-0.1**
JKEN				*eS*	**Sb**	**15 03 01.0**	**-0.1**
MIYJ	**Miyakonagasawa**	**0.72**	**226**	P	**Pb**	**15 02 54.8**	**+0.1**
MIYJ				*eS*	**Sb**	**15 03 03.9**	**-0.4**
JANG	**Nango**	**0.81**	**291**	P	**Pb**	**15 02 55.5**	**-0.6**
JANG				S	**Sb**	**15 03 05.2**	**-1.4**
JKZ	**Kuzumaki**	**0.90**	**264**	P	**Pn**	**15 02 57.6**	**0.0**
JKZ				S	**Sb**	**15 03 08.5**	**-0.8**
JOM	**Ohasama**	**1.11**	**237**	P	**Pn**	**15 03 01.0**	**+0.6**
JOM				*eS*	**Sb**	**15 03 15.3**	**+0.1**
OFUJ	**Ofunato**	**1.19**	**213**	P	**Pn**	**15 03 02.3**	**+0.8**
OFUJ				S	**Sn**	**15 03 17.0**	**+0.3**
JARK	**Aomorirokkasho**	**1.26**	**317**	P	**Pn**	**15 03 02.4**	**-0.1**
JARK				*eS*	**Sn**	**15 03 18.0**	**-0.5**
JTM	**Tenmabayashi**	**1.30**	**303**	P	**Pn**	**15 03 03.2**	**+0.2**
JTM				*eS*	**Sn**	**15 03 18.9**	**-0.5**
JAH	**Hinai**	**1.43**	**275**	P	**Pn**	**15 03 05.4**	**+0.6**
JAH				S	**Sn**	**15 03 23.2**	**+0.5**
JMK	**Ichinoseki**	**1.50**	**222**	P	**Pn**	**15 03 06.8**	**+1.1**
JMK				S	**Sb**	**15 03 26.2**	**-0.2**
JRG	**Rokugo**	**1.59**	**245**	P	**Pn**	**15 03 08.7**	**+1.7**
ASAJ	**Asahikawa**	**4.03**	**1**	Pn	**Pn**	**15 03 42.5**	**+2.0**
	1.0nm,0.3s,baz=216,slow=15,SNR=12						
ASAJ				Sn	**Sn**	**15 04 27.2**	**+0.3**
	0.3nm,0.3s,baz=192,slow=16,SNR=1.9						
ASAJ				LR	LR	15 05 31.7	
	comp=Z,24nm,20.8s,baz=316,slow=41						
MJAR	**Matsushiro Arr**	**4.88**	**225**	Pn	**Pn**	**15 03 54.5**	**+2.2**
	0.1nm,0.3s,baz=36,slow=15,SNR=20						
MJAR				LR	LR	15 06 01.8	
	comp=Z,23nm,21.9s,baz=260,slow=40						
JHJ	**Hachijo jima 2**	**7.28**	**198**	Pn	**Pn**	**15 04 24.8**	**-0.5**
	1.6nm,0.3s,baz=320,slow=23,SNR=6.3						
JHJ				Sn	**Sn**	**15 05 43.2**	**-3.9**
	2.1nm,0.3s,baz=82,slow=20,SNR=1.5						
KSRS	**Korea Array**	**11.68**	**262**	LR	LR	15 09 30.4	
	comp=Z,18nm,19.0s,baz=230,slow=34						
SONM	**Songino Array**	**26.92**	**299**	LR	LR	15 19 21.0	
	comp=Z,33nm,19.7s,baz=256,slow=37						
MKAR	**Makanchi Array**	**43.28**	**300**	P	**P**	**15 10 41.3**	**+1.5**
	0.2nm,0.5s,baz=76,slow=9.1,SNR=2.6						
WRA	**Warramunga Arr**	**60.20**	**189**	P	**P**	**15 12 44.9**	**-1.2**
	0.3nm,0.7s,baz=6.3,slow=7.4,SNR=1.2						

*IDC **03** 15:14:50.6±0.7,12°.46N×141°.78E,h0km,mb4.0/14, mb1 4.1/15,mb1mx3.8/51,mbtmp4.0/15,ML3.7/1,MS3.0/6, Ms1 3.0/6,ms1mx2.7/41,Error ellipse: s-maj=25.9km s-min=15.7km az=79.0*

*NEIC **03** 15:14:59.2±1.0,12°.35N±0°.09×141°.71E±0°.08,h65km±8km, mb4.5/31,Error ellipse: s-maj=16.9km s-min=4.7km az=139.0*

ISC 03 15:14:55.9±0.6,12°.35N±0°.08×141°.6E±0°.1,h33km,n51, σ0§96/48,mb4.5/31,MS3.0/5,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.42**	**68**	Pn	**Pn**	**15 15 48.5**	**+1.6**
JAY	**Jayapura**	**14.79**	**184**	Pn	**Pn**	**15 18 24.3**	**+1.4**
	0.3nm,0.3s,baz=191,slow=16,SNR=2.3						
JAY				LR	LR	15 23 02.9	
	comp=Z,63nm,19.2s,baz=1.0,slow=33						
TGY	**Tagaytay City**	**20.19**	**277**	LR	LR	15 25 40.3	
	comp=Z,71nm,20.6s,baz=281,slow=32						
JHJ	**Hachijo jima 2**	**20.74**	**356**	LR	LR	15 25 49.0	
	comp=Z,36nm,19.0s,baz=79,slow=32						
PMG	**Port Moresby**	**22.30**	**165**	LR	LR	15 27 22.6	
	comp=Z,52nm,19.2s,baz=129,slow=34						
KSRS	**Korea Array**	**27.84**	**336**	LR	LR	15 31 31.7	
	comp=Z,15nm,18.4s,baz=179,slow=36						
USRK	**Ussuriysk Ar.**	**32.80**	**347**	P	**P**	**15 21 26.9**	**+0.8**
	0.7nm,0.7s,baz=168,slow=2.8,SNR=1.5						
WR0	**Warramunga Arr**	**32.85**	**192**	P	**P**	**15 21 27.6**	**+0.8**
WR0				IAmb	IAmb	15 21 46.7	
	comp=Z,18nm,1.6s						
WB2	**Warramunga Arr**	**32.87**	**193**	P	**P**	**15 21 27.8**	**+0.8**
WB2				IAmb	IAmb	15 21 37.5	
	comp=Z,39nm,2.0s						
WRA	**Warramunga Arr**	**32.87**	**193**	P	**P**	**15 21 27.6**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=11,slow=9.6,SNR=5.7						
YSS	**Yuzh-Sakhalins**	**34.51**	**1**	P	**P**	**15 21 42.1**	**+1.2**
ASAR	**Alice Springs**	**36.58**	**192**	P	**P**	**15 21 59.8**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=22,slow=11,SNR=12						
CMAR	**Chiang Mai Arr**	**41.59**	**284**	P	**P**	**15 22 41.5**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=86,slow=6.6,SNR=14						
STKA	**Stephens Creek**	**43.97**	**180**	P	**P**	**15 22 59.8**	**-0.3**
	comp=Z,2.9nm,1.1s,baz=346,slow=8.3,SNR=3.1						
SONM	**Songino Array**	**45.98**	**327**	P	**P**	**15 23 16.5**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=108,slow=9.4,SNR=1.5						
SONM				LR	LR	15 43 51.3	
	comp=Z,22nm,18.2s,baz=220,slow=38						
MKAR	**Makanchi Array**	**60.20**	**317**	P	**P**	**15 25 01.1**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=91,slow=11,SNR=7.4						
MAKZ	**Makanchi**	**60.41**	**317**	P	**P**	**15 25 02.7**	**+0.5**
MAKZ				IAmb	IAmb	15 25 03.6	
	comp=Z,2.8nm,0.9s						
ZALV	**Zalesovo Beam**	**60.80**	**325**	P	**P**	**15 25 04.5**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=118,slow=9.1,SNR=3.9						
KURK	**Kurchatov**	**63.50**	**321**	P	**P**	**15 25 22.7**	**-0.1**
KURK				IAmb	IAmb	15 25 24.7	
	comp=Z,3.8nm,0.7s						
KURBB	**Kurchatov Arra**	**63.53**	**321**	P	**P**	**15 25 22.9**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=104,slow=6.9,SNR=14						
TTA	**Tatalina**	**66.66**	**26**	P	**P**	**15 25 42.9**	**-0.3**
KDAK	**Kodiak Island**	**66.81**	**32**	P	**P**	**15 25 43.6**	**-0.5**
CNPM	**China Poot**	**67.91**	**30**	P	**P**	**15 25 49.9**	**-1.2**
BRLK	**Bradley Lake**	**68.14**	**30**	P	**P**	**15 25 51.9**	**-0.7**
MCQ	**Macquarie Isla**	**68.19**	**169**	P	**P**	**15 25 49.9**	**-2.9**
PPLA	**Purkeypile**	**68.32**	**27**	P	**P**	**15 25 52.7**	**-1.1**
PPLA				IAmb	IAmb	15 28 01.7	
	comp=Z,19nm,1.8s						
BVAR	**Borovoye Array**	**68.94**	**322**	P	**P**	**15 25 57.5**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=100,slow=8.0,SNR=16						
BRVK	**Borovoye**	**69.00**	**322**	P	**P**	**15 25 58.3**	**+0.2**
BRVK				IAmb	IAmb	15 25 59.5	
	comp=Z,3.7nm,0.6s						
KTH	**Kantishna Hill**	**69.05**	**26**	P	**P**	**15 25 58.1**	**-0.1**
BPAW	**Bear Paw Mtn.**	**69.16**	**26**	P	**P**	**15 25 58.5**	**-0.4**
MLY	**Manley**	**69.51**	**25**	P	**P**	**15 26 00.9**	**-0.1**
MLY				IAmb	IAmb	15 26 01.8	
	comp=Z,3.4nm,0.8s						
GHO	**Glory Hole Cre**	**69.53**	**28**	P	**P**	**15 26 00.6**	**-0.7**
GHO				IAmb	IAmb	15 27 54.7	
	comp=Z,18nm,1.7s						
RND	**Reindeer**	**69.92**	**27**	P	**P**	**15 26 02.9**	**-0.7**
SCM	**Sheep Creek Mo**	**70.28**	**28**	P	**P**	**15 26 05.8**	**-0.1**
WRH	**Wood River Hil**	**70.48**	**26**	P	**P**	**15 26 06.0**	**-1.0**
WRH				IAmb	IAmb	15 26 07.2	
	comp=Z,9.2nm,1.5s						
FID	**Port Fidalgo**	**70.49**	**30**	P	**P**	**15 26 06.5**	**-0.6**
FID				IAmb	IAmb	15 27 39.9	
	comp=Z,7.2nm,1.0s						
DHY	**Denali Highway**	**70.50**	**27**	P	**P**	**15 26 07.5**	**+0.2**
CCB	**Clear Creek Bu**	**70.64**	**25**	P	**P**	**15 26 07.5**	**-0.4**
TOLK	**Toolik Lake Re**	**70.91**	**21**	P	**P**	**15 26 09.6**	**0.0**
TOLK				IAmb	IAmb	15 26 10.4	
	comp=Z,15nm,1.7s						
HDA	**Harding Lake**	**70.95**	**26**	P	**P**	**15 26 08.8**	**-1.1**
HDA				IAmb	IAmb	15 27 23.0	
	comp=Z,7.4nm,1.7s						
IL31		**71.05**	**25**	P	**P**	**15 26 08.5**	**-1.8**
ILAR	**Eielson Array**	**71.05**	**25**	P	**P**	**15 26 08.8**	**-1.7**
	comp=Z,1.5nm,0.6s,baz=248,slow=5.9,SNR=22						
PAX	**Paxson**	**71.33**	**27**	P	**P**	**15 26 11.3**	**-1.0**
PAX				IAmb	IAmb	15 28 29.9	
	comp=Z,12nm,1.4s						
RIDG	**Independent Ri**	**71.74**	**27**	P	**P**	**15 26 13.8**	**-0.9**
RIDG				IAmb	IAmb	15 26 14.9	
	comp=Z,6.8nm,1.1s						
VRDI	**Verde Repeater**	**72.02**	**29**	P	**P**	**15 26 15.7**	**-0.9**
VRDI				IAmb	IAmb	15 27 43.6	
	comp=Z,6.7nm,1.4s						
DOT	**Dot Lake**	**72.07**	**27**	P	**P**	**15 26 16.0**	**-0.7**
DOT				IAmb	IAmb	15 26 16.8	
	comp=Z,3.7nm,0.8s						
SCRK	**Sand Creek**	**72.15**	**27**	P	**P**	**15 26 16.5**	**-0.7**
SCRK				IAmb	IAmb	15 26 34.6	
	comp=Z,13nm,1.8s						
ARCES	**ARCESS Array B**	**87.27**	**342**	P	**P**	**15 27 37.9**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=59,slow=7.2,SNR=12						
NVAR	**Mina Array Bea**	**90.17**	**51**	P	**P**	**15 27 52.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=298,slow=1.9,SNR=2.0						
FINES	**FINESS Array B**	**90.92**	**334**	P	**P**	**15 27 54.5**	**-1.7**
	comp=Z,2.2nm,0.6s,baz=50,slow=4.2,SNR=11						
LPAZ	**La Paz**	**150.94**	**101**	PKPbc	**PKPbc**	**15 34 46.9**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=274,slow=3.8,SNR=4.0						
LPAZ				PKPab	**PKPab**	**15 34 54.7**	**+0.2**
	comp=Z,4.1nm,1.0s,baz=235,slow=4.0,SNR=10						

*RHSSO **03** 15:17:01.9±0.4,43°.26N×19°.86E,h4km±2km,ML2.4/9 BEO **03** 15:17:02.1±0.2,43°.22N×19°.90E,h3km±3km,ML2.3/13 PDG **03** 15:17:02.3±0.2,43°.23N×19°.77E,h5km,MD2.5/2, ML2.3/13,Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*

ISC 03 15:17:01.3±1.0,43°.26N±0°.02×19°.80E±0°.02,h5km±8km, n47,σ1§16/91,15C-5D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJES	**Sjenica**	**0.13**	**91**	*e*Pg	**Pg**	**15 17 03.4**	**-0.5**
SJES				*e*Sg	**Sg**	**15 17 05.2**	**-0.5**
PLE	**Pljevlja**	**0.30**	**283**	⇑*i*Pg	**Pg**	**15 17 07.9**	**+0.7**
PLE				*i* Sg	**Sg**	**15 17 12.6**	**+1.3**
IVA	**Berane**	**0.40**	**170**	⇑*i*Pg	**Pg**	**15 17 08.9**	**-0.1**
IVA				*i* Sg	**Sg**	**15 17 14.4**	**+0.2**
IVAS	**Ivanjica**	**0.41**	**40**	*e*Pg	**Pg**	**15 17 08.3**	**-0.8**
IVAS				*e*Sg	**Sg**	**15 17 14.7**	**+0.2**
KOME	**Kolasin**	**0.46**	**207**	⇑*i*Pg	**Pg**	**15 17 10.4**	**+0.2**
KOME				*i* Sg	**Sg**	**15 17 16.8**	**+0.6**
RUDO	**Rudo**	**0.47**	**319**	*e*Sg	**Sb**	**15 17 19.0**	**-0.3**
UPM	**Unac-Piva**	**0.66**	**265**	⇑*i*Pg	**Pg**	**15 17 14.1**	**+0.2**
UPM				*i* Sg	**Sb**	**15 17 23.7**	**-1.1**
UPM	**Unac-Piva**	**0.66**	**265**	*e*Pg	**Pg**	**15 17 14.4**	**+0.5**
UPM				*e*Sg	**Sb**	**15 17 24.1**	**-0.7**
BBLS	**Lazi?i**	**0.67**	**335**	*e*Pg	**Pg**	**15 17 14.4**	**+0.3**
BBLS				*e*Sg	**Sn**	**15 17 26.7**	**-1.6**
BBLS	**Lazi?i**	**0.67**	**335**	⇑*i*Pg	**Pg**	**15 17 14.2**	**+0.1**
BBLS				*e*Sg	**Sb**	**15 17 24.4**	**-0.6**
PVY	**Plav**	**0.68**	**170**	⇑*i*Pg	**Pg**	**15 17 13.9**	**-0.4**
PVY				*i* Sg	**Sb**	**15 17 24.2**	**-1.2**
NKY	**Niksic**	**0.74**	**233**	*e*Pg	**Pg**	**15 17 15.5**	**0.0**
NKY				*i* Sg	**Sb**	**15 17 26.4**	**-0.8**
NKME	**Niksic**	**0.79**	**232**	⇑*i*Pg	**Pg**	**15 17 16.1**	**-0.4**
NKME				*i* Sg	**Sb**	**15 17 27.8**	**-0.8**
DIVS	**Divibare**	**0.85**	**10**	*e*Pg	**Pg**	**15 17 17.2**	**-0.3**
DIVS				*e*Sg	**Sb**	**15 17 30.9**	**+0.7**
DIVS	**Divibare**	**0.85**	**10**	⇓*i*Pg	**Pg**	**15 17 17.1**	**-0.4**
DIVS				*e*Sg	**Sg**	**15 17 28.3**	**-0.2**
GRUS	**Gruza**	**0.91**	**47**	*e*Pg	**Pg**	**15 17 18.3**	**-0.5**
GRUS				*e*Sg	**Sg**	**15 17 31.3**	**+0.6**
PDG	**Podgorica**	**0.92**	**206**	*e*Pg	**Pg**	**15 17 18.7**	**-0.3**
PDG				*e*Sg	**Sb**	**15 17 31.7**	**-0.6**
PDG	**Podgorica**	**0.92**	**206**	⇑*i*Pg	**Pg**	**15 17 18.6**	**-0.4**
PDG				*e*Sg	**Sb**	**15 17 31.5**	**-0.8**
TTG	**Podgorica**	**0.92**	**206**	⇓*i*Pg	**Pg**	**15 17 18.5**	**-0.4**
TTG				*i* Sg	**Sb**	**15 17 32.1**	**-0.2**
CEME	**Cevo**	**0.96**	**222**	⇓*i*Pg	**Pg**	**15 17 19.0**	**-0.8**
CEME				*i* Sg	**Sb**	**15 17 33.9**	**+0.3**
SELS	**Selova**	**0.97**	**92**	*e*Pg	**Pg**	**15 17 18.3**	**-1.5**
SELS				*e*Sg	**Sg**	**15 17 30.7**	**-1.6**
BRY	**Bratogost**	**0.99**	**249**	⇑*i*Pg	**Pg**	**15 17 20.0**	**-0.3**
BRY				*i* Sg	**Sn**	**15 17 35.0**	**-1.4**
BRY	**Bratogost**	**0.99**	**249**	⇑*i*Pg	**Pg**	**15 17 19.9**	**-0.3**
BRY				*e*Sg	**Sb**	**15 17 34.7**	**+0.3**
TRUS	**Trudelj**	**1.06**	**25**	*e*Pg	**Pg**	**15 17 21.3**	**-0.2**
TRUS				*e*Sg	**Sb**	**15 17 36.8**	**+0.7**
DRME	**Dracevica, Mon**	**1.17**	**203**	⇑*i*Pg	**Pg**	**15 17 23.4**	**-0.2**
DRME				*e*Sg	**Sn**	**15 17 39.8**	**-0.7**
BUM	**Brajici-Budva**	**1.17**	**215**	⇑*i*Pg	**Pg**	**15 17 23.3**	**-0.4**
BUM				*i* Sg	**Sn**	**15 17 40.8**	**+0.1**
TREB	**Trebinje**	**1.19**	**243**	*e*Pg	**Pn**	**15 17 24.8**	**+0.2**
TREB				*e*Sg	**Sn**	**15 17 41.1**	**-0.1**
TREB	**Trebinje**	**1.19**	**243**	⇑*i*Pg	**Pn**	**15 17 24.2**	**-0.4**
TREB				*e*Sg	**Sn**	**15 17 41.2**	**0.0**
HCY	**Herceg Novi**	**1.26**	**230**	⇓*i*Pg	**Pn**	**15 17 25.0**	**-0.5**
HCY				*i* Sg	**Sn**	**15 17 44.0**	**+1.2**
HCY	**Herceg Novi**	**1.26**	**230**	⇑*i*Pg	**Pn**	**15 17 25.0**	**-0.5**
HCY				*e*Sg	**Sn**	**15 17 42.8**	**0.0**
TEKS	**Tekeris**	**1.30**	**352**	*e*Pg	**Pg**	**15 17 27.5**	**+1.3**
TEKS				*e*Sg	**Sn**	**15 17 44.3**	**+0.4**
TEKS	**Tekeris**	**1.30**	**352**	⇑*i*Pg	**Pn**	**15 17 25.4**	**-0.7**
TEKS				*e*Sg	**Sn**	**15 17 44.2**	**+0.4**
DBRK	**Dubrovnik**	**1.35**	**244**	*e*Pg	**Pg**	**15 17 27.2**	**+0.1**
DBRK				Sg	**Sg**	**15 17 47.1**	**+2.5**
ULC	**Ulcinj**	**1.36**	**198**	⇓*i*Pg	**Pb**	**15 17 26.8**	**-0.4**
ULC				*i* Sg	**Sg**	**15 17 47.7**	**+2.7**
BARS	**Barje**	**1.55**	**106**	*e*Pg	**Pn**	**15 17 29.2**	**-0.2**
BARS	**Barje**	**1.55**	**106**	*e*Pg	**Pg**	**15 17 33.7**	**+2.8**
BARS				*e*Sg	**Sn**	**15 17 48.7**	**-1.2**
BARS				*e*Sg	**Sg**	**15 17 57.6**	**+6.7**
STON	**Ston**	**1.59**	**256**	*e*Pn	**Pg**	**15 17 31.8**	**+0.2**
STON				Sg	**Sg**	**15 17 54.7**	**+2.5**
STON	**Ston**	**1.59**	**256**	*e*Pn	**Pb**	**15 17 31.0**	**0.0**
STON				*e*Sn	**Sg**	**15 17 53.0**	**+0.8**
KUBS	**Kucevo**	**1.78**	**49**	*e*Pg	**Pb**	**15 17 33.7**	**-0.6**
ZAGS	**Zajecar**	**1.85**	**72**	*e*Pg	**Pb**	**15 17 35.0**	**-0.6**
ZAGS				*e*Sg	**Sb**	**15 17 59.6**	**+0.5**
FRGS	**Fruska Gora**	**1.89**	**0**	*e*Pg	**Pg**	**15 17 35.5**	**0.0**
FRGS	**Fruska Gora**	**1.89**	**0**	*e*Pn	**Pb**	**15 17 35.4**	**-0.9**
FRGS				*e*Sn	**Sn**	**15 17 58.8**	**+0.3**
ZAPS	**Zavoj**	**2.07**	**89**	*e*Pg	**Pn**	**15 17 37.3**	**+0.6**
ZAPS				*e*Sg	**Sb**	**15 18 05.6**	**+0.2**
BOSS	**Bosilegrad**	**2.12**	**110**	*e*Pg	**Pn**	**15 17 37.2**	**-0.1**
BOSS				*e*Sg	**Sb**	**15 18 06.0**	**-0.6**
HVAR	**Hvar**	**2.45**	**269**	*e*Pn	**Pb**	**15 17 44.4**	**-1.3**
HVAR				Sn	**Sg**	**15 18 17.9**	**-1.9**
ZIRJ	**Zirje**	**3.05**	**279**	*e*Pn	**Pb**	**15 17 54.4**	**-1.5**
ZIRJ				Sn	**Sb**	**15 18 34.4**	**+1.0**
MORH	**Mrgy, Hungar**	**3.06**	**345**	*e*Pn	**Pn**	**15 17 51.3**	**+1.0**
MORH				*e*Sn	**Sn**	**15 18 28.3**	**+1.0**

TAP 03 15:19:35.6,24°.86N×122°.09E,h6km,ML2.2,3C-1D,D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.18**	**329**	⇑*i*P	Pg	15 19 39.1	-0.1
	baz=330						
TWB1				*i* S	Sg	15 19 41.7	+0.1
	baz=330						
NTC	**Toucheng**	**0.24**	**270**	*e*P	Pg	15 19 40.1	-0.1
	baz=269						
NTC				*e*S	Sg	15 19 43.5	+0.1
	baz=269						
TIPB	**Shuangxi**	**0.27**	**296**	⇑*i*P	Pg	15 19 40.8	0.0
	baz=295						
TIPB				*i* S	Sg	15 19 44.3	-0.1
	baz=295						
ILA	**Ilan**	**0.32**	**254**	S	Sg	15 19 46.5	+0.3
	baz=253						
TWC	**Suao**	**0.33**	**222**	*i* P	Pg	15 19 41.6	-0.5
	baz=220						
TWC				S	Sg	15 19 47.1	+0.7
	baz=220						
NWF	**Wu-fen Shan**	**0.35**	**308**	P	Pg	15 19 42.5	0.0
	baz=307						
NWF				*e*S	Sg	15 19 47.8	+0.6
	baz=307						
WFSB	**Wu-fen Shan**	**0.35**	**308**	P	Pg	15 19 42.6	+0.1
	baz=307						
WFSB				*e*S	Sg	15 19 47.5	+0.3
	baz=307						
TWE	**Neicheng**	**0.41**	**251**	⇑*i*P	Pg	15 19 43.1	-0.4
	baz=249						
TWE				*e*S	Sg	15 19 48.7	-0.1
	baz=249						
TWA	**Mucha**	**0.47**	**285**	*e*P	Pg	15 19 44.2	-0.6
	baz=285						
TWA				*e*S	Sg	15 19 51.2	+0.2
	baz=285						
ENA	**Nanau**	**0.53**	**217**	P	Pg	15 19 46.0	+0.1
	baz=215						
ENA				S	Sg	15 19 53.8	+1.0
	baz=215						
NWLT	**Wulai**	**0.54**	**262**	*e*P	Pg	15 19 45.3	-0.7
	baz=261						
NWLT				S	Sg	15 19 53.6	+0.5
	baz=261						
YM01	**YM01**	**0.55**	**302**	P	Pg	15 19 46.5	+0.2
	baz=301						
YM11	**YM11**	**0.56**	**304**	*e*P	Pg	15 19 46.1	-0.3
	baz=303						
YM08	**YM08**	**0.56**	**306**	P	Pg	15 19 46.4	-0.1
	baz=306						
YM10	**YM10**	**0.56**	**302**	*e*P	Pg	15 19 46.9	+0.3
	baz=301						
NDT	**Datong Townshi**	**0.58**	**244**	P	Pg	15 19 46.7	-0.2
	baz=244						
NDT				S	Sg	15 19 55.1	+0.7
	baz=244						
YM04	**YM04**	**0.58**	**301**	*e*P	Pg	15 19 47.0	+0.2
	baz=300						
TWY	**Chenhua**	**0.61**	**313**	P	Pg	15 19 47.4	0.0
	baz=313						
TWY				*e*S	Sg	15 19 56.0	+0.7
	baz=313						
ANP	**Anpu**	**0.61**	**303**	*e*P	Pg	15 19 47.0	-0.4
	baz=302						
ANP				*e*S	Sg	15 19 56.0	+0.5
	baz=302						
TWS1	**Kuangyinshan**	**0.66**	**292**	*e*S	Sg	15 19 57.4	+0.6
	baz=292						
YHNB	**Yeheng**	**0.67**	**254**	⇓P	Pg	15 19 48.0	-0.6
	baz=254						
YHNB				*e*S	Sg	15 19 57.7	+0.3
	baz=254						
NSK	**Sanguang**	**0.69**	**255**	*e*P	Pg	15 19 48.0	-0.9
	baz=254						
NNSB	**Datong**	**0.77**	**237**	*e*P	Pg	15 19 50.0	-0.5
	baz=236						
NNSB				*e*S	Sg	15 20 01.2	+0.7
	baz=236						
NNSH	**Datong**	**0.77**	**237**	*e*P	Pg	15 19 50.4	-0.1
	baz=236						
NNS	**Nan Shan**	**0.77**	**238**	*e*P	Pg	15 19 50.5	+0.1
	baz=237						
NACB	**Ninganchiao**	**0.81**	**214**	*e*P	Pg	15 19 51.1	-0.2
	baz=213						
NACB	**Ninganchiao**	**0.81**	**214**	P	Pg	15 19 51.0	-0.3
ETLH	**Xiulin Townshi**	**0.85**	**221**	*e*P	Pg	15 19 51.6	-0.4
	baz=220						

*IDC **03** 15:23:34.0±1.0,16°.95N×119°.31E,h0km,mb3.8/6, mb1 3.9/7,mb1mx3.6/48,mbtmp3.7/7,ML3.4/1,MS2.9/2, Ms1 3.0/2,ms1mx2.4/40,Error ellipse: s-maj=41.9km s-min=17.8km az=66.0*

*MAN **03** 15:23:34.7,17°.01N×119°.09E,h14km,mb4.7,ML3.6, MS3.6*

*NEIC **03** 15:23:40.1±1.2,17°.0N±0°.1×119°.42E±0°.08,h46km±9km, mb4.5/11,Error ellipse: s-maj=17.6km s-min=7.8km az

AOPR					Sn	15 30 00.7	-0.1
MPR	**Mayaguez**	**0.93 175**		Pg	Pn	15 29 47.9	-1.0
MPR	**Mayaguez**	**0.93 175**	*i*	P	Pn	15 29 48.0	-0.9
MPR				eS	Sn	15 30 01.6	+0.4
MPR				IAML		15 30 03.4	
	comp=Z,378nm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.14 174**	⇑	*e*P	Pn	15 29 51.2	-0.5
CRPR	**Cabo Rojo, PR**	**1.14 174**		*e*S	Sn	15 30 06.8	+0.5
CRPR	**Cabo Rojo, PR**	**1.14 174**			Pn	15 29 51.2	-0.5
CRPR					Sn	15 30 06.8	+0.5
GBPR	**Guanica, Bosqu**	**1.21 164**	⇑	*e*P	Pb	15 29 53.2	-0.7
GBPR	**Guanica, Bosqu**	**1.21 164**			Pb	15 29 53.2	-0.7
OBIP	**Obispado Ponce**	**1.25 151**	⇓	*e*P	Pn	15 29 53.2	0.0
OBIP	**Obispado Ponce**	**1.25 151**			Pn	15 29 53.2	0.0
PCDR	**Punta Cana, DR**	**1.26 240**	⇑	*e*P	Pn	15 29 52.8	-0.5
PCDR	**Punta Cana, DR**	**1.26 240**		*e*S	Sn	15 30 08.9	-0.3
PCDR	**Punta Cana, DR**	**1.26 240**			Pn	15 29 52.8	-0.5
PCDR					Sn	15 30 08.9	-0.3
PCDR	**Punta Cana, DR**	**1.26 240**	*i*	P	Pn	15 29 52.7	-0.6
PCDR				eS	Sn	15 30 10.3	+1.1
PCDR				IAML		15 30 17.2	
	comp=Z,743nm,0.7s						
GCPR	**Guaynabo City**	**1.37 127**	⇑	*e*P	Pn	15 29 54.5	-0.3
GCPR	**Guaynabo City**	**1.37 127**			Pn	15 29 54.5	-0.3
ICMP	**Isla Caja de M**	**1.42 152**	⇑	*e*P	Pn	15 29 55.5	0.0
ICMP	**Isla Caja de M**	**1.42 152**			Pn	15 29 55.5	0.0
SJG	**San Juan**	**1.45 135**			Pb	15 29 56.7	-1.4
CBYP	**Canovanas**	**1.57 123**	⇑	*e*P	Pn	15 29 57.1	-0.5
CBYP	**Canovanas**	**1.57 123**			Pn	15 29 57.1	-0.5
IGPR	**InterUniversit**	**1.58 137**	⇑	*e*P	Pn	15 29 57.5	-0.4
IGPR	**InterUniversit**	**1.58 137**		*e*S	Sn	15 30 18.3	+0.9
IGPR	**InterUniversit**	**1.58 137**			Pn	15 29 57.8	-0.1
IGPR	**InterUniversit**	**1.58 137**			Sn	15 30 18.3	+0.9
PDPR	**Patillas Dam,**	**1.60 134**	⇑	*e*P	Pn	15 29 57.9	-0.2
PDPR	**Patillas Dam,**	**1.60 134**		*e*S	Sn	15 30 18.3	+0.5
PDPR	**Patillas Dam,**	**1.60 134**			Pn	15 29 57.9	-0.2
PDPR					Sn	15 30 18.3	+0.5
HUMP	**Col San Antoni**	**1.65 127**	⇑	*e*P	Pn	15 29 58.5	-0.1
HUMP	**Col San Antoni**	**1.65 127**			Pn	15 29 58.5	-0.1
MTP	**Monte Pirata**	**1.90 123**	⇑	*e*P	Pn	15 30 01.6	-0.6
MTP	**Monte Pirata**	**1.90 123**			Pn	15 30 01.6	-0.6
CUPR	**Culebra, Puert**	**2.03 114**		*e*S	Sn	15 30 28.7	+0.4
CUPR	**Culebra, Puert**	**2.03 114**	⇑	*e*P	Pn	15 30 03.5	-0.4
CUPR	**Culebra, Puert**	**2.03 114**			Pn	15 30 03.2	-0.7
CUPR	**Culebra, Puert**	**2.03 114**			Sn	15 30 28.7	+0.4
DR12	**Loma Pena Alta**	**2.06 260**			Pn	15 30 03.9	-0.6
STVI	**Saint Thomas**	**2.30 110**			Pn	15 30 06.7	-1.0
BANI	**BANI**	**3.05 256**		Pn	Pn	15 30 18.4	+0.2
SDDR	**Presa de Saban**	**3.84 268**			Pn	15 30 29.1	+0.2
SDDR	**Presa de Saban**	**3.84 268**	*i*	P	Pn	15 30 29.3	+0.4
SDDR				IAML		15 31 33.7	
	comp=Z,101nm,1.2s						
SEUS	**St. Eustatius**	**4.36 111**		Pn	Pn	15 30 37.4	+1.4

*JMA **03** 15:39:00.8, 24.12N × 122.13E, h39km ± 1km, M2.0*
*TAP **03** 15:39:01.2, 24.22N × 122.12E, h32km, ML2.8, D*
ISC 03 15:39:01.1±1.0, **24.19N**±0.02×**122.15E**±0.02, **h27**km±10km, **n88**, σ0**99**/159, **1C-3D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.44**	**302**	⇓*i*P		**Pb**	**15 39 10.4**	**0.0**
ENA	baz=305			*i* S		**Sb**	**15 39 17.0**	**+0.2**
TWC	**Suao**	**0.50**	**327**	*i* P		**Pb**	**15 39 10.9**	**-0.4**
TWC	baz=331			*i* S		**Sb**	**15 39 17.4**	**-0.9**
NACB	**Ninganchiao**	**0.51**	**268**	⇑P		**Pb**	**15 39 11.5**	**0.0**
NACB	baz=264			S		**Sb**	**15 39 19.2**	**+0.6**
TWD	**Chiawan**	**0.52**	**258**	⇓*i*P		**Pb**	**15 39 11.7**	**+0.1**
TWD	baz=242			S		**Sb**	**15 39 19.0**	**+0.2**
HWA	**Hwalien**	**0.54**	**247**	P		**Pb**	**15 39 12.3**	**+0.3**
ETLH	baz=242			S		**Sb**	**15 39 22.1**	**+0.6**
TWE	**Neicheng**	**0.69**	**320**	*i* P		**Pb**	**15 39 14.2**	**-0.2**
TWE	baz=321			S		**Sb**	**15 39 23.0**	**-0.6**
NDT	**Datong Townshi**	**0.71**	**305**	*i* P		**Pn**	**15 39 15.0**	**-0.3**
NDT	baz=311			S		**Sb**	**15 39 24.6**	**+0.3**
NTC	**Toucheng**	**0.72**	**336**	*e*P		**Pn**	**15 39 14.9**	**-0.6**
NTC	baz=347			*e*S		**Sb**	**15 39 25.0**	**+0.4**
NNSB	**Datong**	**0.74**	**289**	P		**Pn**	**15 39 15.1**	**-0.8**
NNSB	baz=287			S		**Sb**	**15 39 25.0**	**-0.2**
NNSH	**Datong**	**0.74**	**289**	*e*P		**Pn**	**15 39 15.2**	**-0.6**
NNSH	baz=287			*e*S		**Sb**	**15 39 25.3**	**+0.1**
NNS	**Nan Shan**	**0.75**	**289**	*i* P		**Pn**	**15 39 15.4**	**-0.6**
NNS	baz=288			*i* S		**Sb**	**15 39 25.2**	**-0.3**
ESL	**Shilin**	**0.75**	**240**	*i* P		**Pn**	**15 39 14.8**	**-1.2**
ESL	baz=236			S		**Sb**	**15 39 25.2**	**-0.3**
JYNG	**Yonagunijimaku**	**0.77**	**70**	P		**Pn**	**15 39 15.9**	**-0.3**
JYNG				eS		**Sb**	**15 39 27.0**	**+1.0**
WHF	**Hehuan Shan**	**0.81**	**267**	*i* P		**Pn**	**15 39 16.0**	**-1.1**
WHF	baz=264			*i* S		**Sb**	**15 39 27.2**	**-0.3**
TWB1	**Santiao Chiao**	**0.83**	**350**	P		**Pn**	**15 39 16.6**	**-0.3**
TWB1	baz=343			S		**Sn**	**15 39 27.6**	**-0.7**
NWLT	**Wulai**	**0.83**	**315**	*e*P		**Pn**	**15 39 17.1**	**+0.1**
NWLT	baz=318			*e*S		**Sn**	**15 39 27.2**	**-1.2**
TIPB	**Shuangxi**	**0.83**	**339**	⇓*i*P		**Pn**	**15 39 16.9**	**-0.1**
TIPB	baz=347			*i* S		**Sn**	**15 39 27.5**	**-0.9**
YOJ	**Yonaguni jima**	**0.83**	**71**	*e*S		**Sn**	**15 39 28.7**	**+0.3**
EGFH	**Guangfu**	**0.84**	**232**	*e*P		**Pn**	**15 39 16.3**	**-0.9**
EGFH	baz=217			*e*S		**Sn**	**15 39 27.7**	**-0.9**
YHNB	**Yeheng**	**0.85**	**304**	P		**Pn**	**15 39 17.1**	**-0.3**
YHNB	baz=293			S		**Sn**	**15 39 27.9**	**-1.1**
NSK	**Sanguang**	**0.87**	**304**	*i* P		**Pn**	**15 39 17.4**	**-0.2**
NSK	baz=293			*i* S		**Sn**	**15 39 28.2**	**-1.2**
TWT	**Tachien**	**0.89**	**274**	*i* P		**Pn**	**15 39 18.8**	**+0.8**
TWT	baz=264			*i* S		**Sn**	**15 39 29.8**	**-0.3**
CHGB	**Renai**	**0.90**	**262**	P		**Pn**	**15 39 17.6**	**-0.5**
CHGB	baz=247			S		**Sn**	**15 39 29.7**	**-0.6**
TDCB	**Techi**	**0.91**	**274**	P		**Pn**	**15 39 18.2**	**0.0**
TDCB	baz=265			S		**Sn**	**15 39 29.7**	**-0.7**
NWF	**Wu-fen Shan**	**0.94**	**339**	P		**Pn**	**15 39 18.3**	**-0.2**
NWF	baz=353			S		**Sn**	**15 39 31.0**	**-0.1**
WFSB	**Wu-fen Shan**	**0.94**	**339**	P		**Pn**	**15 39 18.5**	**0.0**
WFSB	baz=353			eS		**Sn**	**15 39 30.7**	**-0.3**
TWA	**Mucha**	**0.94**	**327**	P		**Pn**	**15 39 20.4**	**+1.8**
TWA	baz=327			S		**Sn**	**15 39 31.3**	**+0.2**
NHDH	**Xindian Distri**	**0.95**	**324**	P		**Pn**	**15 39 19.0**	**+0.3**
NHDH	baz=317			S		**Sn**	**15 39 31.9**	**+0.5**
HGSD	**Ruisui**	**0.96**	**224**	*e*P		**Pn**	**15 39 18.0**	**-0.8**
HGSD	baz=212			*e*S		**Sn**	**15 39 30.8**	**-0.8**
TATO	**Taipei**	**0.98**	**323**	*e*P		**Pn**	**15 39 20.0**	**+0.9**
TATO	baz=322			*e*S		**Sn**	**15 39 32.7**	**+0.5**
TAP1	**Taipei**	**1.02**	**326**	*e*P		**Pn**	**15 39 18.6**	**-1.0**
TAP1	baz=325			*e*S		**Sn**	**15 39 32.6**	**-0.3**
EHY	**Hungye**	**1.02**	**228**	P		**Pn**	**15 39 18.1**	**-1.5**
EHY	baz=225			S		**Sn**	**15 39 32.6**	**-0.4**
VWDT	**VWDT**	**1.02**	**245**	P		**Pn**	**15 39 19.3**	**-0.3**
VWDT	baz=230			S		**Sn**	**15 39 32.2**	**-0.8**
TAP	**Taipei**	**1.03**	**325**	*e*P		**Pn**	**15 39 20.2**	**+0.5**
TAP	baz=325			*e*S		**Sn**	**15 39 34.7**	**+1.5**
YM01	**YM01**	**1.09**	**331**	*e*P		**Pn**	**15 39 20.3**	**-0.3**
YM01	baz=342			S		**Sn**	**15 39 34.2**	**-0.6**
YM10	**YM10**	**1.10**	**331**	P		**Pn**	**15 39 22.0**	**+1.2**
WHP	**Taichung City**	**1.10**	**275**	P		**Pn**	**15 39 20.6**	**-0.2**
WHP	baz=273			S		**Sn**	**15 39 35.1**	**0.0**
YM11	**YM11**	**1.10**	**332**	*e*P		**Pn**	**15 39 22.0**	**+1.2**
YM04	**YM04**	**1.11**	**330**	*e*P		**Pn**	**15 39 21.3**	**+0.4**
YM04	baz=340			*e*S		**Sn**	**15 39 34.8**	**-0.5**
YULB	**Yu-li**	**1.11**	**225**	P		**Pn**	**15 39 19.7**	**-1.2**
YULB	baz=222			S		**Sn**	**15 39 33.3**	**-2.1**
YM08	**YM08**	**1.11**	**333**	*e*P		**Pn**	**15 39 20.9**	**-0.1**
TWS1	**Kuangyinshan**	**1.12**	**324**	*e*P		**Pn**	**15 39 20.4**	**-0.6**
TWS1	baz=334			*e*S		**Sn**	**15 39 34.6**	**-1.0**
DPDB	**Guoxing**	**1.13**	**262**	P		**Pn**	**15 39 21.1**	**-0.1**
DPDB	baz=252			S		**Sn**	**15 39 35.6**	**-0.2**
YM03	**YM03**	**1.13**	**331**	*e*P		**Pn**	**15 39 21.7**	**+0.6**
NSTT	**Nanjuang**	**1.13**	**293**	P		**Pn**	**15 39 21.5**	**+0.4**
NSTT	baz=292			S		**Sn**	**15 39 36.3**	**+0.4**
TWF1	**Yuli**	**1.14**	**223**	*i* P		**Pn**	**15 39 20.3**	**-1.0**
TWF1	baz=235			S		**Sn**	**15 39 35.7**	**-0.4**
ANP	**Anpu**	**1.14**	**330**	*e*P		**Pn**	**15 39 23.4**	**+2.0**
SSLB	**Suanglung**	**1.16**	**250**	P		**Pn**	**15 39 21.4**	**-0.2**
SSLB	baz=248			S		**Sn**	**15 39 36.0**	**-0.6**
SMLT	**Sun Moon Lake**	**1.18**	**255**	*i* P		**Pn**	**15 39 22.0**	**+0.1**
SMLT	baz=247			*i* S		**Sn**	**15 39 37.7**	**+0.5**
TWY	**Chenhua**	**1.19**	**335**	*e*P		**Pn**	**15 39 20.9**	**-1.1**
TWY	baz=335			*e*S		**Sn**	**15 39 36.7**	**-0.5**
TYC	**Yuchr**	**1.22**	**257**	P		**Pn**	**15 39 22.0**	**-0.3**
TYC	baz=245			S		**Sn**	**15 39 37.7**	**-0.2**
FULB	**Fuli**	**1.26**	**219**	P		**Pn**	**15 39 21.8**	**-1.2**
FULB	baz=205			S		**Sn**	**15 39 39.3**	**+0.2**
TWQ1	**Liyutan**	**1.27**	**277**	*e*S		**Sn**	**15 39 39.3**	**+0.2**
WHYT	**Xinyi Township**	**1.28**	**248**	P		**Pn**	**15 39 23.9**	**+0.6**
WHYT	baz=246			*e*S		**Sn**	**15 39 39.9**	**+0.2**
YUS	**Yu-Shan**	**1.30**	**238**	P		**Pn**	**15 39 23.8**	**-0.1**
YUS	baz=235			*e*S		**Sn**	**15 39 40.5**	**-0.1**
CHKT	**Chengkung**	**1.30**	**214**	P		**Pn**	**15 39 23.1**	**-0.3**
CHKT	baz=200			S		**Sn**	**15 39 38.4**	**-1.6**
WJS	**Zhushan**	**1.35**	**254**	*e*P		**Pn**	**15 39 24.8**	**+0.6**
WJS	baz=253			*e*S		**Sn**	**15 39 43.6**	**+2.5**
ALS	**Alishan**	**1.40**	**241**	P		**Pn**	**15 39 25.9**	**+0.7**
ALS	baz=229			S		**Sn**	**15 39 43.1**	**+0.2**
ELDTW	**Lidau**	**1.44**	**226**	P		**Pn**	**15 39 24.8**	**-0.7**
ELDTW	baz=224			S		**Sn**	**15 39 42.3**	**-1.3**
IRIF	**Iriomote-Funau**	**1.45**	**84**	*e*S		**Sn**	**15 39 43.7**	**0.0**
WGK	**Gukeng**	**1.54**	**251**	*e*P		**Pn**	**15 39 28.4**	**+1.8**
WGK	baz=249			*e*S		**Sn**	**15 39 47.3**	**+1.6**
WDLH	**Douliu**	**1.56**	**252**	*e*P		**Pn**	**15 39 28.2**	**+1.2**
WDLH	baz=250			*e*S		**Sn**	**15 39 48.0**	**+1.8**
TWH	**Lutao**	**1.60**	**203**	P		**Pn**	**15 39 26.8**	**-0.7**
TWH	baz=200			S		**Sn**	**15 39 45.3**	**-2.0**
STYT	**Tauyuan**	**1.64**	**232**	P		**Pn**	**15 39 28.7**	**+0.5**
STYT	baz=220			*e*S		**Sn**	**15 39 48.0**	**-0.3**
TPUB	**Ta-pu**	**1.65**	**238**	*e*P		**Pn**	**15 39 28.7**	**+0.4**
TPUB	baz=227			*e*S		**Sn**	**15 39 49.1**	**+0.4**
TWGBT	**Beinan**	**1.68**	**216**	P		**Pn**	**15 39 27.5**	**-1.2**
TWGBT	baz=214			*e*S		**Sn**	**15 39 47.6**	**-1.8**
TWG	**Pinlang**	**1.68**	**216**	P		**Pn**	**15 39 28.0**	**-0.8**
TWG	baz=214			S		**Sn**	**15 39 48.0**	**-1.4**
WTP	**Ta-pu**	**1.69**	**237**	P		**Pn**	**15 39 30.5**	**+1.6**
WTP	baz=235			*e*S		**Sn**	**15 39 51.3**	**+1.6**
WTCT	**Ta-ch'eng**	**1.74**	**260**	*e*S		**Sn**	**15 39 52.2**	**+1.4**
TWK	**Hsinying**	**1.78**	**239**	P		**Pn**	**15 39 31.0**	**+0.9**
TWK	baz=225			S		**Sn**	**15 39 53.3**	**+1.5**
CHN1	**Nanshi**	**1.79**	**236**	P		**Pn**	**15 39 32.1**	**+1.9**
CHN1	baz=235			S		**Sn**	**15 39 54.0**	**+1.9**
SNST	**Tainan City**	**1.80**	**238**	*e*S		**Sn**	**15 39 54.2**	**+2.0**
SGST	**Jiashian**	**1.81**	**233**	*e*P		**Pn**	**15 39 31.0**	**+0.5**
SGST	baz=222			S		**Sn**	**15 39 54.0**	**+1.4**
SLGT	**Liugui**	**1.82**	**229**	*e*P		**Pn**	**15 39 31.7**	**+1.0**
SLGT	baz=228			*e*S		**Sn**	**15 39 55.4**	**+2.5**
JIJ	**Ishigaki jima**	**1.83**	**84**	S		**Sn**	**15 39 53.0**	**0.0**
WSF	**Szhu**	**1.85**	**253**	S		**Sn**	**15 39 56.3**	**+2.9**
ECL	**Taimali**	**1.93**	**215**	*e*P		**Pn**	**15 39 32.1**	**0.0**
ECL	baz=213			*e*S		**Sn**	**15 39 54.7**	**-0.8**
SSD	**Sandimen**	**2.00**	**224**	P		**Pn**	**15 39 34.7**	**+1.5**
SSD	baz=222			*e*S		**Sn**	**15 39 59.1**	**+1.8**
JISG	**Ishigakijimahi**	**2.01**	**78**	*e*S		**Sn**	**15 39 57.9**	**+0.4**
MASBT	**Mashibuluo**	**2.10**	**222**	*e*P		**Pn**	**15 39 35.3**	**+0.8**
MASBT	baz=217			*e*S		**Sn**	**15 40 02.3**	**+2.6**
EAST	**Anshuo**	**2.16**	**214**	*e*P		**Pn**	**15 39 34.4**	**-0.9**
EAST	baz=202			*e*S		**Sn**	**15 40 01.2**	**-0.1**
SCZT	**Fangliau**	**2.29**	**218**	P		**Pn**	**15 39 37.2**	**+0.1**
SCZT	baz=210			*e*S		**Sn**	**15 40 06.7**	**+2.2**
JTJ	**Tarama**	**2.37**	**79**	*e*S		**Sn**	**15 40 07.6**	**+1.2**
PHUB	**P'eng-hu**	**2.45**	**255**	*e*S		**Sn**	**15 40 06.7**	**-1.7**
PNG	**Penghu**	**2.45**	**256**	*e*P		**Pn**	**15 39 38.1**	**-1.2**
PNG	baz=254			*e*S		**Sn**	**15 40 07.4**	**-1.1**
WDGT	**Dungji**	**2.46**	**248**	*e*P		**Pn**	**15 39 40.2**	**+0.8**
WDGT	baz=247			*e*S		**Sn**	**15 40 08.3**	**-0.3**
VWUC	**VWUC**	**2.58**	**289**	*e*P		**Pn**	**15 39 40.4**	**-0.7**
	baz=285							

IDC 03 15:52:58.4±48.0, **23.21S**×**177.23W**, **h0**km, **mb3.6**/3, **mb1 3.8**/3, **mb1mx3.5**/20, **mbtmpg3.6**/3, **Error ellipse: s-maj=882.5km s-min=158.4km az=87.0, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.34**	**247**		P	P	16 00 11.9	-0.7
	1.3nm,0.8s,baz=91,slow=12,SNR=5.9							
ASAR	**Alice Springs**	**44.66**	**259**		P	P	16 01 12.8	-0.3
	0.2nm,0.4s,baz=91,slow=7.2,SNR=20							
WRA	**Warramunga Arr**	**45.00**	**265**		P	P	16 01 16.5	+0.6
	0.3nm,0.4s,baz=102,slow=7.9,SNR=11							

*JMA **03** 16:13:49.7±0.1, 41.90N × 142.52E, h63km±2km, M3.2*
Broadband fault plane solution: P waves. NP1: φs128.00000°, δ7.00000°, λ13.00000°. NP2:φs25.00000°, δ88.00000°, λ97.00000°. Principal axes: T Plg46.0000°, Azm302.0000°; N Plg7.0000°, Azm205.0000°; P Plg43.0000°, Azm109.0000°;
*IDC **03** 16:13:54.1±8.2, 41.86N × 142.48E, h101km±65km, mb3.4/4, mb1 3.3/5, mb1mx3.0/51, mbtmp3.6/5, ML1.8/1, MS3.7/1, Ms1 3.7/1, ms1mx2.3/30 Error ellipse: s-maj=94.4km s-min=28.4km az=75.0*
ISC 03 16:13:50.3±0.9, **41.92N**±0.04×**142.50E**±0.04, **h59**km±8km, **n25**, σ0**88**/42, **mb3.8**/4, **3C-9D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.41**	**28**	⇓P		**Pn**	**16 14 00.9**	**-0.3**
JNBK				eS		**Sn**	**16 14 09.4**	**+0.3**
JSHD	**Hidakashinhida**	**0.49**	**358**	⇓P		**Pn**	**16 14 02.2**	**+0.2**
JSHD				eS		**Sn**	**16 14 11.9**	**+1.4**
JEM	**Erimo**	**0.50**	**79**	⇑P		**Pn**	**16 14 01.8**	**-0.4**
JEM				eS		**Sn**	**16 14 11.3**	**+0.5**
JTHR	**Tokachihiroo**	**0.70**	**58**	⇑P		**Pn**	**16 14 04.3**	**-0.2**
JTHR				eS		**Sn**	**16 14 15.0**	**+0.1**
JIAM	**Iburiatsuma**	**0.82**	**329**	⇓P		**Pn**	**16 14 06.8**	**+0.9**
JBT2	**Biratori 2**	**0.86**	**354**	⇓P		**Pn**	**16 14 06.4**	**-0.1**
JBT2				eS		**Sn**	**16 14 18.9**	**+0.5**
JCH	**Churui**	**0.94**	**43**	⇑P		**Pn**	**16 14 07.4**	**-0.1**
JCH				eS		**Sn**	**16 14 20.6**	**+0.3**
JKB	**Kayabe**	**1.09**	**269**	⇓P		**Pn**	**16 14 09.2**	**-0.2**
JKB				eS		**Sn**	**16 14 23.7**	**0.0**
JEW	**Eniwo**	**1.20**	**320**	⇓P		**Pn**	**16 14 11.3**	**+0.4**
JEW				eS		**Sn**	**16 14 27.5**	**+1.2**
JOT	**Ohata**	**1.21**	**244**	⇓P		**Pn**	**16 14 10.9**	**-0.1**
JOT				eS		**Sn**	**16 14 26.4**	**-0.1**
JNB	**Noboribetsu**	**1.21**	**297**	⇓P		**Pn**	**16 14 10.5**	**-0.5**
JNB				eS		**Sn**	**16 14 26.3**	**-0.3**
JFR	**Furan**	**1.24**	**3**	P		**Pn**	**16 14 11.6**	**+0.1**
JFR				eS		**Sn**	**16 14 28.6**	**+1.3**
JOB	**Onbets**	**1.40**	**45**	P		**Pn**	**16 14 14.4**	**+0.9**
JOB				eS		**Sn**	**16 14 32.6**	**+1.7**
JTM	**Tenmabayashi**	**1.56**	**224**	P		**Pn**	**16 14 16.2**	**+0.4**
JTM				eS		**Sn**	**16 14 35.7**	**+0.7**
JISS	**Ishikarishitsu**	**1.57**	**330**	⇓P		**Pn**	**16 14 16.2**	**+0.4**
JISS				eS		**Sn**	**16 14 36.1**	**+1.0**
JAB	**Ashibetsu**	**1.59**	**353**	P		**Pn**	**16 14 16.9**	**+0.7**
JAB				eS		**Sn**	**16 14 37.4**	**+1.7**
JYM2	**Yakumo 2**	**1.59**	**278**	P		**Pn**	**16 14 16.0**	**-0.2**
JYM2				eS		**Sn**	**16 14 36.6**	**+0.8**
JSR	**Shiriuchi**	**1.60**	**257**	P		**Pn**	**16 14 16.2**	**-0.1**
JSR				eS		**Sn**	**16 14 36.7**	**+0.8**
JAR	**Ashorobuto**	**1.67**	**34**	P		**Pn**	**16 14 17.5**	**+0.3**
JAR				eS		**Sn**	**16 14 37.9**	**+0.4**
MJAR	**Matsushiro Arr**	**6.32**	**213**	P		**Pn**	**16 15 24.0**	**+3.1**
	0.0nm,0.3s,baz=31,slow=15,SNR=1.9							
MKAR	**Makanchi Array**	**42.40**	**298**	P		**P**	**16 21 38.4**	**-0.4**
	0.3nm,0.6s,baz=70,slow=8.4,SNR=4.1							
KRVT	**Keravat (AS076**	**46.82**	**167**	LR		LR	16 37 55.1	
	comp=Z,88nm,21.4s,baz=110,slow=31							
WRA	**Warramunga Arr**	**62.01**	**189**	P		**P**	**16 24 03.1**	**-1.2**
	0.7nm,1.0s,baz=7.0,slow=6.9,SNR=4.5							
FINES	**FINESS Array B**	**64.90**	**332**	P		**P**	**16 24 22.5**	**-0.4**
	0.7nm,0.5s,baz=60,slow=7.5,SNR=4.4							
HFS	**Hagfors**	**69.99**	**335**	P		**P**	**16 24 54.7**	**-0.4**
	0.6nm,0.3s,baz=46,slow=6.4,SNR=6.1							

ISC 03 16:16:10.4±2.3, **51.5N**±0.1×**16.14E**±0.08, **h0**km, **n11**, σ0**37**/20, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**172**	*e*Pg		**Pg**	**16 16 23.3**	**+0.2**
KSP				*e*Sg		**Sg**	**16 16 32.2**	**+0.6**
CHVC	**Chvalec**	**0.92**	**184**	*e*PG		**Pg**	**16 16 28.0**	**+0.1**
CHVC				*e*SG		**Sg**	**16 16 40.4**	**+0.7**
	comp=Z,7.4nm,0.6s							
OSTC	**Ostas**	**0.95**	**177**	*e*PG		**Pg**	**16 16 28.7**	**+0.2**
OSTC				*e*SG		**Sg**	**16 16 41.2**	**+0.5**
	comp=Z,4.0nm,0.3s							
UPC	**Upice**	**1.00**	**185**	*e*PG		**Pb**	**16 16 30.3**	**-0.2**
UPC				*e*SG		**Sg**	**16 16 42.5**	**+0.1**
	comp=Z,6.5nm,0.3s							
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*PG		**Pg**	**16 16 32.1**	**-0.4**
DPC				*e*SG		**Sg**	**16 16 47.3**	**-0.2**
	comp=Z,3.7nm,0.4s							
PVCC	**Panska Ves**	**1.39**	**226**	*e*PG		**Pn**	**16 16 36.6**	**-0.4**
PVCC				*e*SG		**Sg**	**16 16 55.4**	**+0.4**
	comp=Z,12nm,0.3s							
KRLC	**Kraliky**	**1.48**	**164**	*e*PG		**Pn**	**16 16 38.1**	**-0.2**
KRLC				*e*SG		**Sb**	**16 16 58.2**	**0.0**
	comp=Z,3.9nm,0.3s							
BRG	**Berggiesshubel**	**1.52**	**246**	PG		**Pn**	**16 16 38.9**	**+0.1**
BRG				SG		**Sg**	**16 16 58.9**	**-0.2**
	4.8nm,0.4s							
GOPC	**GO Pecny, Ondr**	**1.81**	**209**	*e*PG		**Pb**	**16 16 44.3**	**0.0**
GOPC				*e*SG		**Sg**	**16 17 08.3**	**-0.1**
	comp=Z,2.8nm,0.6s							
CLL	**Collm**	**1.98**	**266**	*i* Sg		**Sg**	**16 17 14.4**	**+0.6**
KHC	**Kasperske Hory**	**2.89**	**216**	*e*SG		**Sg**	**16 17 42.7**	**-0.3**

*IDC **03** 16:21:00.6±0.8, 51.40N × 16.13E, h0km, mb1 3.3/6, mb1mx3.1/46, mbtmp3.2/6, ML3.1/6, Error ellipse: s-maj=17.2km s-min=7.4km az=100.0*
ISC 03 16:20:60.0±1.2, **51.49N**±0.03×**16.18E**±0.02, **h15**km±9km, **n36**, σ1**51**/72, **Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**174**	*i* Pg	**Pb**	**16 21 13.1**	**0.0**
KSP				*e*Sg	**Sb**	**16 21 21.4**	**-0.6**
CHVC	**Chvalec**	**0.91**	**185**	*e*PG	**Pb**	**16 21 17.9**	**+0.4**
CHVC				*e*SG	**Sb**	**16 21 29.4**	**0.0**
	comp=Z,71nm,0.5s						
OSTC	**Ostas**	**0.94**	**179**	*e*PG	**Pb**	**16 21 18.3**	**+0.4**
OSTC				*e*SG	**Sn**	**16 21 30.9**	**-0.9**
	comp=Z,62nm,0.3s						
UPC	**Upice**	**0.99**	**186**	*e*PG	**Pb**	**16 21 19.1**	**+0.2**
UPC				*e*SG	**Sb**	**16 21 31.6**	**-0.1**
	comp=Z,184nm,0.4s						
DPC	**Dobruska-Polom**	**1.15**	**176**	*e*PG	**Pn**	**16 21 21.8**	**+0.2**
DPC				*e*SG	**Sg**	**16 21 36.4**	**-0.6**
	comp=Z,42nm,0.4s						
PVCC	**Panska Ves**	**1.40**	**227**	*e*PG	**Pb**	**16 21 26.3**	**+0.4**
PVCC				*e*SG	**Sg**	**16 21 45.0**	**-0.2**
	comp=Z,148nm,0.3s						
KRLC	**Kraliky**	**1.47**	**165**	*e*PG	**Pg**	**16 21 27.5**	**-0.7**
KRLC				*e*SG	**Sg**	**16 21 46.6**	**-0.7**
	comp=Z,84nm,0.7s						
BRG	**Berggiesshubel**	**1.54**	**247**	PN	**Pn**	**16 21 27.4**	**+0.5**
BRG				PG	**Pg**	**16 21 29.8**	**+0.2**
BRG				SG	**Sg**	**16 21 48.9**	**-0.6**
	151nm,0.5s						
PRA	**Prague**	**1.81**	**219**	*e*PG	**Pn**	**16 21 31.9**	**+1.4**
PRA				*e*SG	**Sg**	**16 21 57.7**	**-0.3**
	comp=Z,15nm,0.7s						
GOPC	**GO Pecny, Ondr**	**1.81**	**210**	*e*PG	**Pb**	**16 21 32.6**	**-0.3**
GOPC				*e*SG	**Sg**	**16 21 56.8**	**-1.5**
	comp=Z,16nm,0.3s						
PRU	**Pruhonice**	**1.83**	**215**	*e*PN	**Pn**	**16 21 32.2**	**+1.3**
PRU				*e*PG	**Pb**	**16 21 33.1**	**-0.1**
PRU				*e*SG	**Sg**	**16 21 58.7**	**-0.2**
	comp=Z,36nm,0.5s						
MORC	**Moravsky Berou**	**1.92**	**153**	*e*PN	**Pb**	**16 21 33.7**	**-1.1**
MORC				*e*SG	**Sg**	**16 22 00.8**	**-1.0**
CLL	**Collm**	**2.00**	**266**	*e*Pn	**Pn**	**16 21 35.0**	**+1.8**
CLL				*e*Pg	**Pg**	**16 21 38.0**	**-0.4**
CLL				*i*		16 21 41.8	
CLL				*e*		16 21 52.0	
CLL				*e*Sg	**Sg**	**16 22 04.0**	**-0.3**
	comp=Z,28nm,0.4s						
OKC	**Ostrava-Krasne**	**2.08**	**142**	*e*PG	**Pg**	**16 21 38.7**	**-1.1**
OKC				*e*SG	**Sg**	**16 22 06.3**	**-0.4**
	comp=Z,62nm,0.7s						
VRAC	**Vranov**	**2.20**	**173**	Pg	**Pb**	**16 21 38.8**	**-0.6**
	comp=Z,3.2nm,0.3s,baz=341,slow=17,SNR=11						
VRAC				Lg	Lg	16 22 09.3	
	comp=Z,7.9nm,0.3s,baz=98,slow=22,SNR=10						
VRAC	**Vranov**	**2.20**	**173**	*e*PN	**Pb**	**16 21 38.9**	**-0.6**
VRAC				*e*SG	**Sg**	**16 22 09.5**	**-1.2**
TREC	**Trest**	**2.24**	**192**	*e*PN	**Pb**	**16 21 39.2**	**-1.0**
TREC				*e*PG	**Pg**	**16 21 41.6**	**-1.4**
TREC				*e*SG	**Sg**	**16 22 10.9**	**-1.2**
	comp=Z,26nm,0.6s						
PBCC	**Pribram**	**2.28**	**218**	*e*PG	**Pb**	**16 21 41.3**	**+0.4**
PBCC				*e*SG	**Sg**	**16 22 12.1**	**-1.2**
KRUC	**Moravsky**	**2.44**	**177**	*e*PN	**Pb**	**16 21 41.5**	**-2.0**
KRUC				*e*SG	**Sg**	**16 22 17.8**	**-0.5**
OJC	**Ojcow**	**2.62**	**118**	*e*Pg	**Pg**	**16 21 52.3**	**+2.1**
OJC				*e*Sn	**Sn**	**16 22 13.8**	**+0.5**
OJC				*e*Sg	**Sg**	**16 22 26.6**	**+2.4**
NKC	**Novy Kostel**	**2.68**	**243**	*e*PN	**Pn**	**16 21 44.5**	**+1.9**
NKC				*e*PG	**Pb**	**16 21 49.2**	**+1.5**
NKC				*e*SG	**Sg**	**16 22 25.5**	**-0.6**
	comp=Z,47nm,0.3s						
JAVC	**Velka Javorina**	**2.80**	**159**	*e*PN	**Pb**	**16 21 47.6**	**-2.2**
KHC	**Kasperske Hory**	**2.89**	**216**	*e*PN	**Pn**	**16 21 47.2**	**+1.6**
KHC				*e*PG	**Pb**	**16 21 52.6**	**+1.3**
KHC				*e*SN	**Sn**	**16 22 21.0**	**+0.9**
KHC				*e*SG	**Sg**	**16 22 31.2**	**-1.7**
	comp=Z,18nm,0.5s						
GERES	**GERESS Array B**	**3.09**	**212**	Pn	**Pn**	**16 21 50.6**	**+2.2**
	comp=Z,1.2nm,0.3s,baz=26,slow=13,SNR=25						
GERES				Lg	Lg	16 22 36.9	
	comp=Z,4.6nm,0.3s,baz=31,slow=29,SNR=10						
LANS	**Liptovska Anna**	**3.15**	**137**	*e*PN	**Pn**	**16 21 51.6**	**+2.5**
LANS				*e*SG	**Sg**	**16 22 41.3**	**+0.2**
VYHS	**Vyhne**	**3.46**	**149**	*e*PN	**Pn**	**16 21 55.2**	**+1.9**
CONA	**Conrad Observa**	**3.57**	**183**	*e*Pn	**Pn**	**16 21 57.5**	**+2.5**
	comp=Z,3.0nm,0.5s,SNR=5.6						
CONA				*e*Pg	**Pg**	**16 22 07.6**	**-0.8**
	comp=Z,7.1nm,0.3s						
CONA				Sg	**Sg**	**16 22 56.7**	**+2.0**
	comp=Z,13nm,0.3s						
BSD	**Bornholm Skovb**	**3.71**	**349**	*i* P	**Pn**	**16 21 57.5**	**+0.8**
BSD				*i* S	**Sn**	**16 22 38.7**	**-1.3**
MOA	**Molln**	**3.85**	**200**	*e*Pn	**Pn**	**16 22 00.9**	**+2.2**
	comp=Z,2.1nm,0.3s						
MOA				Sg	**Sg**	**16 23 02.9**	**-0.8**
	comp=Z,8.8nm,0.3s						
ARSA	**Arzberg**	**4.27**	**186**	*e*Pn	**Pn**	**16 22 08.5**	**+4.1**
	comp=Z,1.5nm,0.3s						
ARSA				Sg	**Sg**	**16 23 20.8**	**+3.9**
	comp=Z,25nm,0.9s						
WTTA	**Wattenberg**	**5.17**	**217**	*e*Pn	**Pn**	**16 22 19.6**	**+2.7**
	comp=Z,1.2nm,0.3s						
DAVOX	**Davos/Dischmat**	**6.27**	**224**	Pn	**Pn**	**16 22 33.3**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=314,slow=21,SNR=1.8						
DAVOX				Lg	Lg	16 24 17.2	
	comp=Z,0.2nm,0.3s,baz=187,slow=21,SNR=2.2						
HFS	**Hagfors**	**8.77**	**352**	Pn	**Pn**	**16 23 06.6**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=170,slow=11,SNR=5.8						
FINES	**FINESS Array B**	**11.36**	**25**	Pn	**Pn**	**16 23 41.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=208,slow=12,SNR=8.6						
FINES				Sn	**Sn**	**16 25 43.7**	**-4.3**
	comp=Z,0.2nm,0.3s,baz=196,slow=20,SNR=3.9						
EKA	**Eskdalemuir Ar**	**12.15**	**296**	Pn	**Pn**	**16 23 53.3**	**+0.9**
	baz=107,slow=13,SNR=3.8						
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn	**P**	**16 25 15.1**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=197,slow=12,SNR=10.0						

*NIED **03** 16:30:00,38.˚70N×142.˚20E,h44km,Mw4.0 Best double couple: M0 1.06000×10^15 NP1:φs=257.00000°,δ76.00000°, λ-145.00000°. NP2:φs=157.00000°,δ56.00000°, λ-17.00000°.*
*JMA **03** 16:30:07.0±0.1,38.˚72N×142.˚20E,h40km±1km,M4.1*
JMA Felt II J1.
*NEIC **03** 16:30:07.5±1.5,38.˚63N±0.˚05×142.˚5E±0.˚1,h43km±8km, mb4.4/10,Error ellipse: s-maj=13.5km s-min=7.5km az=103.0*
*IDC **03** 16:30:08.3±1.7,38.˚63N×142.˚38E,h48km±16km,mb3.6/10, mb1 3.8/15,mb1mx3.6/47,mbtmp3.9/15,ML3.5/5,MS3.0/11, Ms1 3.0/11,ms1mx2.8/47,Error ellipse: s-maj=19.8km s-min=9.9km az=106.0*

ISC 03 16:30:07.6±1.6,38.˚71N±0.˚05×142.˚22E±0.˚09,h40km±15km, n59,σ1°66/62,mb4.0/16,MS3.2/6,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.56**	**311**	P	**Pn**	**16 30 18.5**	**-0.7**
OFUJ				S	**Sn**	**16 30 26.3**	**-1.2**
JKMT	**Kesennumamotoy**	**0.59**	**280**	P	**Pn**	**16 30 18.8**	**-0.7**
JKMT				S	**Sn**	**16 30 26.8**	**-1.2**
JIKH	**Ishinomakikobu**	**0.71**	**236**	P	**Pn**	**16 30 20.5**	**-0.7**
JIKH				S	**Sn**	**16 30 29.7**	**-1.3**
JIO	**Ouri**	**0.73**	**250**	P	**Pn**	**16 30 20.6**	**-0.8**
JIO				S	**Sn**	**16 30 29.9**	**-1.4**
JMK	**Ichinoseki**	**0.81**	**287**	P	**Pn**	**16 30 22.1**	**-0.5**
JMK				S	**Sn**	**16 30 33.0**	**-0.5**
JOM	**Ohasama**	**1.05**	**317**	P	**Pn**	**16 30 25.5**	**-0.3**
JOM				S	**Sn**	**16 30 38.7**	**-0.5**
JTH	**Tanohata**	**1.25**	**347**	P	**Pn**	**16 30 28.0**	**-0.7**
JTH				S	**Sn**	**16 30 43.4**	**-1.0**
JOU	**Okura**	**1.27**	**255**	P	**Pn**	**16 30 28.7**	**-0.1**
JOU				S	**Sn**	**16 30 44.5**	**-0.1**
JMM	**Marumori**	**1.40**	**233**	P	**Pn**	**16 30 30.0**	**-0.7**
JMM				*e*S	**Sn**	**16 30 46.3**	**-1.7**
JRG	**Rokugo**	**1.41**	**299**	P	**Pn**	**16 30 30.7**	**-0.1**
JRG				*e*S	**Sn**	**16 30 48.8**	**+0.7**
JYK	**Kaneyama**	**1.47**	**279**	P	**Pn**	**16 30 31.4**	**-0.2**
JYK				S	**Sn**	**16 30 46.7**	**-2.8**
ERM	**Erimo**	**3.38**	**12**		**Pn**	**16 30 57.8**	**0.0**
MJAR	**Matsushiro Arr**	**3.85**	**237**	P	**Pn**	**16 31 05.4**	**+1.1**
	1.0nm,0.3s,baz=45,slow=13,SNR=37						
MJAR				S	**Sn**	**16 31 52.8**	**+4.4**
	0.5nm,0.3s,baz=60,slow=14,SNR=5.0						
MJAR				LR	LR	16 32 52.1	
	comp=Z,102nm,18.7s,baz=65,slow=42						
MAJO	**Matsushiro**	**3.85**	**237**		**Pn**	**16 31 05.9**	**+1.6**
MAT	**Matsushiro**	**3.85**	**237**	P	**Pn**	**16 31 05.7**	**+1.4**
MAT				*e*S	**Sn**	**16 31 54.3**	**+6.0**
MJB9	**Matsu-Tunnel**	**3.85**	**237**		**Pn**	**16 31 06.0**	**+1.6**
INU	**Inuyama**	**5.34**	**233**	Pn	**Pn**	**16 31 27.6**	**+2.7**
ASAJ	**Asahikawa**	**5.41**	**3**	P	**Pn**	**16 31 25.8**	**+0.1**
	2.6nm,0.3s,baz=212,slow=16,SNR=32						
ASAJ				S	**Sn**	**16 32 29.4**	**+2.8**
	1.7nm,0.3s,baz=39,slow=32,SNR=3.7						
ASAJ				LR	LR	16 34 04.1	
	comp=Z,88nm,21.1s,baz=163,slow=43						
JKA	**Kamikawa-asahi**	**5.41**	**3**		**Pn**	**16 31 25.8**	**+0.1**
JKA					**Sn**	**16 32 29.4**	**+2.8**
JKA	**Kamikawa-asahi**	**5.41**	**3**	Pn	**Pn**	**16 31 26.5**	**+0.8**
JHJ2	**Mitsune**	**5.92**	**200**		**Pn**	**16 31 32.1**	**-0.6**
JHJ	**Hachijo jima 2**	**5.92**	**200**	P	**Pn**	**16 31 32.3**	**-0.5**
	18nm,0.3s,baz=150,slow=23,SNR=30						
JHJ				S	**Sn**	**16 32 36.4**	**-2.9**
	16nm,0.3s,baz=82,slow=22,SNR=2.7						
JHJ				LR	LR	16 33 58.1	
	comp=Z,66nm,20.7s,baz=91,slow=39						
YSS	**Yuzh-Sakhalins**	**8.25**	**3**	Pn	**Pn**	**16 32 05.4**	**+0.8**
USA0B	**Ussuriysk Arra**	**9.43**	**309**	Pn	**Pn**	**16 32 23.6**	**+2.8**
USRK	**Ussuriysk Ar.**	**9.43**	**309**	P	Pn	16 32 25.3	+4.4
	baz=119,slow=16,SNR=12						
KSRS	**Korea Array**	**11.34**	**268**	P	**Pn**	**16 32 50.9**	**+3.9**
	0.1nm,0.3s,baz=76,slow=15,SNR=3.0						
KSRS				LR	LR	16 36 27.0	
	comp=Z,45nm,19.5s,baz=125,slow=33						
PETK	**Petropavlovsk-**	**17.92**	**32**	LR	LR	16 40 48.1	
	comp=Z,26nm,18.3s,baz=229,slow=36						
MA2	**Magadan**	**21.58**	**12**	LR	LR	16 43 31.2	
	comp=Z,25nm,18.1s,baz=164,slow=37						
SEY	**Seymchan**	**25.02**	**11**	P	**P**	**16 35 28.6**	**+1.0**
	3.7nm,1.1s,baz=228,slow=6.4,SNR=4.7						
SONM	**Songino Array**	**27.42**	**301**	LR	LR	16 46 29.4	
	comp=Z,47nm,18.6s,baz=107,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.52**	**125**	T	T	17 06 17.7	
	baz=317,slow=75,SNR=708						
H11N1	**WAKE ISLAND Hy**	**28.53**	**125**	T	T	17 06 18.5	
	baz=317,slow=75,SNR=625						
H11N3	**WAKE ISLAND Hy**	**28.53**	**125**	T	T	17 06 19.2	
	baz=317,slow=75,SNR=459						
H11S1	**WAKE ISLAND Hy**	**29.29**	**127**	T	T	17 07 16.7	
	baz=318,slow=76,SNR=82						
H11S3	**WAKE ISLAND Hy**	**29.29**	**127**	T	T	17 07 17.3	
	baz=318,slow=76,SNR=102						
H11S2	**WAKE ISLAND Hy**	**29.31**	**127**	T	T	17 07 18.7	
	baz=318,slow=76,SNR=43						
TLY	**Talaya**	**29.75**	**309**	LR	LR	16 48 16.9	
	comp=Z,50nm,18.0s,baz=112,slow=36						
ZAA0	**Zalesovo Array**	**41.27**	**311**	P	**P**	**16 37 49.9**	**+1.2**
ZALV	**Zalesovo Beam**	**41.27**	**311**	P	**P**	**16 37 50.0**	**+1.3**
	1.2nm,0.4s,baz=88,slow=7.2,SNR=5.7						
ZALV				LR	LR	16 55 40.1	
	comp=Z,37nm,18.1s,baz=44,slow=37						
MK31	**Makanchi Array**	**43.79**	**301**	P	**P**	**16 38 10.1**	**+0.8**
MKAR	**Makanchi Array**	**43.79**	**301**	P	**P**	**16 38 10.4**	**+1.2**
	0.5nm,0.4s,baz=86,slow=10,SNR=14						
MAKZ	**Makanchi**	**43.99**	**301**	P	**P**	**16 38 11.5**	**+0.5**
MAKZ				IAmb	IAmb	16 38 26.4	
	comp=Z,2.4nm,1.1s						
RSO	**Redoubt South**	**45.20**	**39**	P	**P**	**16 38 19.6**	**-1.0**
KURK	**Kurchatov**	**45.42**	**307**	P	**P**	**16 38 22.7**	**+0.6**
KURK				IAmb	IAmb	16 38 24.3	
	comp=Z,2.8nm,0.8s						
KURBB	**Kurchatov Arra**	**45.49**	**307**	P	**P**	**16 38 22.1**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=82,slow=8.2,SNR=19						
ILAR	**Eielson Array**	**47.74**	**33**	P	**P**	**16 38 40.8**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=262,slow=6.7,SNR=5.5						
SCRK	**Sand Creek**	**49.06**	**34**	P	**P**	**16 38 49.0**	**-1.5**
SCRK				IAmb	IAmb	16 39 02.6	
	comp=Z,3.5nm,1.3s						
RAGM	**Ragged Mountai**	**49.19**	**39**	P	**P**	**16 38 49.8**	**-1.7**
DLBC	**Dease Lake**	**56.92**	**39**	LR	LR	17 04 49.0	
	comp=Z,32nm,18.3s,baz=120,slow=37						
WB0	**Warramunga Arr**	**58.63**	**189**	P	**P**	**16 40 00.1**	**-0.6**
WR0	**Warramunga Arr**	**58.80**	**188**	P	**P**	**16 40 01.3**	**-0.6**
WR0				IAmb	IAmb	16 41 54.5	
	comp=Z,26nm,1.8s						
WB2	**Warramunga Arr**	**58.81**	**189**	P	**P**	**16 40 01.1**	**-0.8**
WB2				IAmb	IAmb	16 41 37.8	
	comp=Z,24nm,1.8s						
WRA	**Warramunga Arr**	**58.81**	**189**	P	**P**	**16 40 01.1**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=6.8,slow=7.0,SNR=16						
AS31	**Alice Springs**	**62.54**	**189**	P	**P**	**16 40 27.3**	**0.0**
AS31				IAmb	IAmb	16 42 29.0	
	comp=Z,1.6nm,1.4s						
ASAR	**Alice Springs**	**62.54**	**189**	P	**P**	**16 40 26.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=10,slow=5.3,SNR=22						
FINES	**FINESS Array B**	**67.63**	**332**	P	**P**	**16 40 58.7**	**-1.1**
	comp=Z,1.4nm,1.0s,baz=221,slow=32,SNR=2.2						
NOA	**NORSAR Array B**	**72.89**	**337**	LR	LR	17 18 08.8	
	comp=Z,11nm,18.3s,baz=255,slow=40						
PDAR	**Pinedale Array**	**76.04**	**46**	P	**P**	**16 41 51.7**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=298,slow=3.2,SNR=4.0						
TXAR	**Lajitas Array**	**88.60**	**53**	P	**P**	**16 42 57.0**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=318,slow=5.0,SNR=3.7						

*NAO **03** 16:36:08.1±2.2,79.˚90N×4.˚46E,ML3.0*
*BER **03** 16:36:12.0±2.6,79.˚64N×4.˚50E,h10km,ML1.9, ML3.0(NAO),Confirmed Earthquake*
*IEPN **03** 16:36:14.0,79.˚56N×5.˚38E,h15km*

ISC 03 16:36:11.9±3.1,79.˚66N±0.˚08×5.˚6E±0.˚2,h10km,n22, σ1°36/32,2C,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.40**	**119**	Pn	**Pn**	**16 36 37.7**	**+0.3**
KBS				Sn	**Sn**	**16 36 57.2**	**+1.3**
KBS	**Kingsbay**	**1.40**	**119**	*i* P	**Pn**	**16 36 37.7**	**+0.3**
KBS				*e*S	**Sn**	**16 36 53.6**	**-2.3**
KBS	**Kingsbay**	**1.40**	**119**	*e*P	**Pn**	**16 36 37.8**	**+0.4**
KBS				*e*S	**Sn**	**16 36 56.8**	**+1.0**
KBS				IAML		16 37 03.7	
	comp=Z,12nm,0.2s						
BRBA	**Barentsburg A**	**2.32**	**130**	Pn	**Pn**	**16 36 51.6**	**+1.5**
BRBA				Sn	**Sn**	**16 37 20.8**	**+2.1**
BRBA	**Barentsburg A**	**2.32**	**130**	*e*P	**Pn**	**16 36 51.8**	**+1.7**
BRBA				*e*S	**Sn**	**16 37 18.2**	**-0.5**
BRBA				IAML		16 37 26.8	
	comp=Z,7.9nm,0.3s						
SPA0	**Spitsbergen Ar**	**2.56**	**120**	Pn	**Pn**	**16 36 54.5**	**+1.1**
	baz=324,slow=7.9						
SPA0				Sn	**Sn**	**16 37 25.7**	**+1.2**
	baz=342,slow=11						
SPA0	**Spitsbergen Ar**	**2.56**	**120**	*i* P	**Pn**	**16 36 54.6**	**+1.2**
SPA0				*i* S	**Sn**	**16 36 57.4**	**+0.3**
SPA0	**Spitsbergen Ar**	**2.56**	**120**	Pn	**Pn**	**16 36 54.5**	**+1.1**
	baz=324,slow=7.9						
SPA0				*e*S	**Sn**	**16 37 26.0**	**+1.5**
HSPB	**Hornsund (broa**	**3.35**	**138**	Pn	**Pn**	**16 37 04.3**	**+0.2**
HSPB				Sn	**Sn**	**16 37 41.9**	**-1.9**
HSPB	**Hornsund (broa**	**3.35**	**138**	*e*P	**Pn**	**16 37 04.1**	**-0.1**
HSPB				*e*S	**Sn**	**16 37 41.8**	**-2.1**
HSPB	**Hornsund (broa**	**3.35**	**138**	*e*P	**Pn**	**16 37 04.3**	**+0.2**
HSPB				*e*S	**Sn**	**16 37 42.0**	**-1.9**
HSPB				IAML		16 37 50.5	
	comp=Z,4.6nm,0.5s						
NOR	**Nord**	**4.10**	**309**	Pn	Pn	16 37 07.8	-6.7
NOR	**Nord**	**4.10**	**309**	*i* P	Pn	16 37 09.6	-4.9
NOR	**Nord**	**4.10**	**309**	Pn	Pn	16 37 07.8	-6.7
HOPEN	**Hopen**	**5.09**	**118**	Pn	**Pn**	**16 37 28.9**	**+0.9**
HOPEN	**Hopen**	**5.09**	**118**	*e*P	**Pn**	**16 37 28.5**	**+0.4**
HOPEN				*e*S	**Sn**	**16 38 24.7**	**-2.1**
HOPEN	**Hopen**	**5.09**	**118**	*e*P	**Pn**	**16 37 29.1**	**+1.0**
HOPEN				*e*S	**Sn**	**16 38 24.7**	**-2.1**
HOPEN				IAML		16 38 35.8	
	comp=Z,12nm,0.6s						
DAG	**Danmarks Havn**	**5.71**	**252**	*i* P	Pn	16 37 27.5	-9.0
DAG				*i* S	Sn	16 38 22.6	-19
BJO1	**Bjornoya**	**5.97**	**143**	Pn	**Pn**	**16 37 41.0**	**+0.8**
ZFI2	**Zemlya Franca-**	**7.11**	**61**	*e*P	**Pn**	**16 37 56.9**	**+1.3**
ZFI2				*e*S	**Sn**	**16 39 14.3**	**-2.0**
	comp=Z,4.6nm,0.9s						
ARA0	**ARCESS Array S**	**11.35**	**143**	Pn	**Pn**	**16 38 53.6**	**-0.2**
	baz=334,slow=16						
ARA0	**ARCESS Array S**	**11.35**	**143**	Pn	**Pn**	**16 38 53.6**	**-0.2**
	baz=334,slow=16						

WEL 03 16:55:55.0±0.7,35˚S±10˚×17˚9E±1˚3,h250km±9km,

M3.9/14,ML4.0/12,MLv3.9/14,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.51**	**199**	P	Pn	16 56 42.4	+0.2
MXZ				S	S	16 57 19.9	+0.2
HAZ	**Te Kaha**	**2.85**	**205**	P	Pn	16 56 46.5	+0.7
HAZ				S	S	16 57 25.7	-0.3
PUZ	**Puketiti**	**3.01**	**196**	S	S	16 57 30.8	+1.7
MWZ	**Matawai**	**3.46**	**204**	P	Pn	16 56 52.6	+0.1
MWZ				S	S	16 57 38.7	+0.5
URZ	**Urewera**	**3.55**	**209**	P	Pn	16 56 53.3	-0.2
URZ				S	S	16 57 40.2	+0.4
MUGZ	**Murupara**	**3.87**	**211**	P	Pn	16 56 57.1	-0.1
RTZ	**Ruatahuna**	**3.91**	**208**	P	Pn	16 56 56.6	-1.0
RTZ				S	S	16 57 47.4	0.0
BKZ	**Black Stump Fm**	**4.57**	**209**	P	Pn	16 57 05.6	+0.1
BKZ				S	S	16 58 01.4	-0.3
MCHZ	**McNeill Hill**	**4.74**	**205**	P	Pn	16 57 07.8	+0.3
MCHZ				S	S	16 58 07.4	+2.1
KWHZ	**Kaweka Forest**	**4.82**	**208**	P	Pn	16 57 08.8	+0.2
KWHZ				S	S	16 58 06.9	-0.3
HIZ	**Hauiti**	**4.88**	**226**	P	Pn	16 57 10.9	+1.6
KAHZ	**Kahuranaki**	**5.00**	**202**	P	Pn	16 57 10.9	+0.3
KAHZ				S	S	16 58 12.7	+1.7
BHHZ	**Black Hill Sta**	**5.02**	**210**	P	Pn	16 57 10.2	-0.8
BHHZ				S	S	16 58 11.8	+0.2
KRHZ	**Kereru**	**5.03**	**207**	P	Pn	16 57 10.4	-0.7
KRHZ				S	S	16 58 12.2	+0.3
FWVZ	**Far West T-bar**	**5.06**	**215**	P	Pn	16 57 11.3	-0.2
PXZ	**Pawanui**	**5.22**	**201**	P	Pn	16 57 13.2	-0.1
PNHZ	**Pukenui**	**5.33**	**207**	P	Pn	16 57 13.9	-0.9
VRZ	**Vera Road**	**5.36**	**221**	P	Pn	16 57 15.8	+0.7
PRHZ	**Porangahau**	**5.50**	**202**	P	Pn	16 57 16.6	-0.2

TRN 03 16:59:27.4,17.˚06N×60.˚22W,h30km,MD3.9,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**1.09**	**227**	*e*P	Pb	16 59 47.7	-0.1
DEG				*e*S	Sb	17 00 03.3	+1.6
ABD	**La Joyeuse, An**	**1.35**	**245**	*e*P	Pb	16 59 51.6	-0.5
ABD				*e*S	Sb	17 00 08.8	-0.1
MAGL	**Barre de l'ile**	**1.50**	**223**	*e*P	Pn	16 59 53.4	+1.1
MAGL				*e*S	Sn	17 00 12.1	+1.2
ANWB	**Willy Bob**	**1.61**	**292**	*e*P	Pn	16 59 54.5	+0.7
ANWB				*e*S	Sn	17 00 14.1	+0.5
CBE	**Ff, Capester**	**1.65**	**234**	*e*P	Pb	16 59 56.1	-1.2
CBE				*e*S	Sb	17 00 17.7	0.0
TDBA	**Terre de Bas,**	**1.81**	**229**	*e*P	Pb	16 59 59.2	-0.9
TDBA				*e*S	Sb	17 00 20.6	-1.7
MLYT	**Lee's Yard**	**1.92**	**260**	*e*P	Pb	17 00 00.7	-1.0
MLYT				*e*S	Sn	17 00 22.7	+1.5
BBL	**Barber's Block**	**1.94**	**218**	*e*P	Pb	17 00 00.4	-1.8
BBL				*e*S	Sb	17 00 24.1	-1.9
DLPL	**La Plaine**	**1.98**	**210**	*e*S	Sn	17 00 23.6	+0.8
NVDO	**Nevis, Disaste**	**2.29**	**272**	*e*S	Sn	17 00 31.9	+1.5
ILAM	**Ilet Lapin Mar**	**2.36**	**196**	*e*P	Pn	17 00 05.6	+1.5
ILAM				*e*S	Sn	17 00 34.3	+2.3
BAMF	**Morne Balai**	**2.40**	**202**	*e*P	Pn	17 00 06.3	+1.4
CXM	**Morne La Croix**	**2.41**	**202**	*e*P	Pn	17 00 06.5	+1.5
SKI	**Saint Kitts**	**2.42**	**277**	*e*P	Pn	17 00 06.8	+1.7
SKI				*e*S	Sn	17 00 35.5	+1.8
GBMF	**Grand Be**	**2.43**	**202**	*e*P	Pn	17 00 06.3	+1.2
PCM	**Pelee Case Pet**	**2.43**	**203**	*e*P	Pn	17 00 07.1	+2.0
PML	**Morne Lenard**	**2.45**	**202**	*e*P	Pn	17 00 06.6	+1.2
FDF	**Fort de France**	**2.48**	**201**	*e*P	Pn	17 00 07.5	+1.6
FDF				*e*S	Sn	17 00 37.2	+2.0
MVM	**Montagne Vaucl**	**2.57**	**195**	*e*P	Pn	17 00 09.2	+2.1
ZAM	**Aeronautique**	**2.59**	**198**	*e*P	Pn	17 00 08.7	+1.3
BIM	**

comp=Z,0.2nm,0.3s,baz=342,slow=13,SNR=8.3
FINES Sn **Sn** **17 05 57.6 -1.2**
comp=Z,0.3nm,0.3s,baz=349,slow=22,SNR=6.2
NOA NORSAR Array B 7.39 219 Pn **Pn** **17 05 05.7 -0.6**
comp=Z,0.0nm,0.3s,baz=30,slow=12,SNR=1.6
HFS Hagfors 7.67 208 Pn **Pn** **17 05 10.3 +0.2**
comp=Z,0.1nm,0.3s,baz=30,slow=12,SNR=3.2

NIED ***03*** *17:22:00, 36˚.50N× 140˚.60E, h59km, Mw4.3 Best double couple: M₀2.92000×10¹⁵ NP1:φ₀20.00000°, δ72.00000°, λ98.00000°. NP2:φ₀177.00000°, δ20.00000°, λ68.00000°.*
MOS ***03*** *17:22:17.3±0.9, 36˚.42N× 140˚.72E, h24km, mb4.7/19, Error ellipse: s-maj=7.9km s-min=4.9km az=95.4*
BJI ***03*** *17:22:21.4±0.0, 36˚.54N× 140˚.60E, h60km, mB4.8/31, mb4.5/43, Ms4.4/3*
NEIC ***03*** *17:22:23.7±1.4, 36˚.49N±0˚.06× 140˚.62E±0˚.09, h60km±6km, mb4.6/78, Error ellipse: s-maj=10.8km s-min=7.8km az=107.0*
JMA ***03*** *17:22:23.5±0.1, 36˚.46N× 140˚.60E, h56km±1km, M4.3 Broadband fault plane solution: P waves. NP1: φ₀196.00000°, δ24.00000°, λ94.00000°. NP2:φ₀12.00000°, δ66.00000°, λ88.00000°. Principal axes: T Plg69.0000°, Azm278.0000°; N Plg2.0000°, Azm12.0000°; P Plg21.0000°, Azm103.0000°;*
JMA Felt III J1.
IDC ***03*** *17:22:25.1±1.6, 36˚.44N× 140˚.50E, h70km±15km, mb4.0/23, mb1 4.1/27, mb1mx4.0/40, mbtmp4.3/27, MS3.2/15, Ms1 3.2/15, ms1mx3.1/37 Error ellipse: s-maj=14.8km s-min=10.4km az=85.0*
BGR ***03*** *17:22:31.8±0.0, 37˚.97N× 139˚.32E, h33km, mb4.6*
ISC 03 17:22:22.5±0.6, 36˚.46N±0˚.04× 140˚.73E±0˚.04, h51km±5km, n242, σ1$30/256, mb4.5/90, MS3.4/12, 14C-16D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
JHYU	**Hitachinakayam**	**0.17**	**225**	↑P		**Pn**	**17 22 32.2**		**+1.5**
JHYU				S		Sn	17 22 38.2		+1.7
JHO	**Hitachi**	**0.20**	**319**	↑P		**Pn**	**17 22 32.3**		**+1.4**
JHO				S		Sn	17 22 38.2		+1.2
JYT	**Yasato**	**0.49**	**242**	↓P		**Pn**	**17 22 34.3**		**+0.6**
JYT				S		Sn	17 22 41.6		-0.1
ONAJ	**Iwakimizuishiy**	**0.64**	**5**	↑P		**Pn**	**17 22 36.6**		**+1.0**
ONAJ				S		Sn	17 22 46.1		+1.0
JSB	**Shiboa**	**0.83**	**308**	↓P		**Pn**	**17 22 38.4**		**+0.5**
JSB				S		Sn	17 22 49.2		-0.1
JFK	**Kawauchi**	**0.91**	**7**	↑P		**Pn**	**17 22 39.9**		**+0.8**
JFK				S		Sn	17 22 51.9		+0.6
JAG	**Ashikaga**	**1.03**	**268**	↓P		**Pn**	**17 22 40.8**		**+0.2**
JAG				S		Sn	17 22 52.9		-1.2
JFT	**Otama**	**1.10**	**343**	↓P		**Pn**	**17 22 42.6**		**+1.0**
JFT				S		Sn	17 22 56.5		+0.7
JKT	**Katashina**	**1.23**	**285**	↓P		**Pn**	**17 22 43.7**		**+0.3**
JKT				S		Sn	17 22 58.5		-0.6
JFY	**Yanaizu**	**1.25**	**319**	↓P		**Pn**	**17 22 44.4**		**+0.7**
JFY				*e*S		Sn	17 22 59.7		+0.2
JMM	**Marumori**	**1.41**	**2**	↓P		**Pn**	**17 22 47.0**		**+1.3**
JMM				S		Sn	17 23 04.2		+1.1
JSGW	**Sagamiharawaka**	**1.50**	**236**	S		**Sn**	**17 23 05.2**		**-0.3**
MJAR	**Matsushiro Arr**	**2.04**	**273**	P		**Pn**	**17 22 54.1**		**-0.2**
	28nm,0.3s,baz=96,slow=9.0,SNR=386								
MJAR				LR		LR	17 23 38.6		
	comp=Z,399nm,21.5s,baz=100,slow=40								
MAJO	**Matsushiro**	**2.04**	**273**	*d*	*i*P	**Pn**	**17 22 55.3**		**+1.0**
MAJO	**Matsushiro**	**2.04**	**273**			**Pn**	**17 22 55.1**		**+0.8**
MAT	**Matsushiro**	**2.04**	**273**	P		**Pn**	**17 22 54.5**		**+0.2**
MAT				*e*S		Sn	17 23 19.4		+0.8
MJB9	**Matsu-Tunnel**	**2.04**	**273**			**Pn**	**17 22 55.1**		**+0.7**
INU	**Inuyama**	**3.21**	**251**			**Pn**	**17 23 11.8**		**+1.4**
JHJ	**Hachijo jima 2**	**3.42**	**193**	P		**Pn**	**17 23 14.7**		**+1.4**
	44nm,0.3s,baz=338,slow=23,SNR=8.0								
JHJ				S		**Sn**	**17 23 54.6**		**+2.0**
	31nm,0.3s,baz=61,slow=21,SNR=2.3								
JHJ				LR		LR	17 24 09.0		
	comp=Z,75nm,19.1s,baz=46,slow=31								
JHJ2	**Mitsune**	**3.42**	**193**			**Pn**	**17 23 14.9**		**+1.5**
ERM	**Erimo**	**5.86**	**18**	↑*e*P		**Pn**	**17 23 46.8**		**+0.2**
ERM	**Erimo**	**5.86**	**18**	Pn		**Pn**	**17 23 47.0**		**+0.4**
ERM				Sn		**Sn**	**17 24 51.7**		**-0.7**
ASAJ	**Asahikawa**	**7.78**	**10**	P		**Pn**	**17 24 12.9**		**-0.1**
	4.6nm,0.3s,baz=220,slow=10,SNR=47								
ASAJ				S		**Sn**	**17 25 41.5**		**+1.9**
	2.4nm,0.3s,baz=238,slow=33,SNR=4.2								
ASAJ				LR		LR	17 28 10.0		
	comp=Z,44nm,20.3s,baz=182,slow=44								
JKA	**Kamikawa-asahi**	**7.78**	**10**			**Pn**	**17 24 12.9**		**-0.1**
JKA						**Sn**	**17 25 41.5**		**+1.9**
NMR	**Nemuro--Hokkai**	**7.89**	**28**	↓*i*P		**Pn**	**17 24 13.3**		**-1.3**
NMR				*i*S		**Sn**	**17 25 37.0**		**-5.4**
GLVR	**Golovnino**	**8.14**	**25**	P		**Pn**	**17 24 17.5**		**-0.4**
GLVR				*i*S		**Sn**	**17 25 44.9**		**-3.6**
GLVR				pmax	pmax				
	comp=Z,80nm,0.7s								
GLVR				pmax	pmax				
	comp=N,40nm,0.6s								
GRPR	**Tuman**	**8.45**	**26**	*e*P		**Pn**	**17 24 21.3**		**-0.9**
GRPR				*i*S		**Sn**	**17 25 51.0**		**-5.1**
GRPR				pmax	pmax				
	comp=Z,68nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**8.52**	**26**	*e*P		**Pn**	**17 24 22.4**		**-0.7**
YUK				*i*S		**Sn**	**17 25 53.0**		**-4.8**
YUK				pmax	pmax				
	comp=N,18μm,0.3s								
YUK				pmax	pmax				
	comp=Z,47μm,0.3s								
YUK				pmax	pmax				
	comp=E,24μm,0.2s								
YUK				pmax	pmax				
	comp=Z,146nm,1.2s								
YUK				smax	smax				
	comp=E,253nm,1.0s								
YUK				smax	smax				
	comp=N,357nm,1.2s								
JNU	**Nakatsue**	**8.76**	**251**	P		**Pn**	**17 24 26.4**		**-0.2**
	comp=N,0.5nm,0.3s,baz=3.5,slow=22,SNR=2.3								
JNU				LR		LR	17 28 15.6		
	comp=N,105nm,18.8s,baz=12,slow=41								
JNU	**Nakatsue**	**8.76**	**251**	Pn		**Pn**	**17 24 27.5**		**+1.0**
TEY	**Ternei**	**9.12**	**341**	↑*e*P		**Pn**	**17 24 31.6**		**+0.3**
TEY				pmax	pmax				
	comp=Z,10.0nm,1.4s								
VLA	**Vladivostok**	**9.52**	**317**	↑*e*P		**Pn**	**17 24 41.2**		**+4.5**
MSHR	**Mys Shultsa**	**9.59**	**312**	↓*e*P		**Pn**	**17 24 41.5**		**+3.7**
USA0B	**Ussuriysk Arra**	**10.21**	**322**	P		**Pn**	**17 24 46.4**		**+0.2**
USA0B	**Ussuriysk Arra**	**10.21**	**322**	Pn		**Pn**	**17 24 46.4**		**+0.2**
USRK	**Ussuriysk Ar.**	**10.21**	**322**	P		**Pn**	**17 24 46.9**		**+0.6**
	baz=123,slow=13,SNR=24								
USRK				LR		LR	17 28 36.5		
	comp=Z,89nm,19.1s,baz=145,slow=37								
KUR	**Kuril'sk**	**10.29**	**29**	*e*P		**Pn**	**17 24 47.5**		**+0.2**
KUR				*i*S		**Sn**	**17 26 36.5**		**-4.7**
KUR				pmax	pmax				
	comp=Z,18nm,0.4s								
KUR				pmax	pmax				
	comp=N,8.0nm,0.2s								
KUR				pmax	pmax				
	comp=E,14nm,0.3s								
KUR				smax	smax				
	comp=E,112nm,1.3s								
KUR				smax	smax				
	comp=N,105nm,1.0s								
KSRS	**Korea Array**	**10.30**	**279**	P		**Pn**	**17 24 49.8**		**+2.3**
	comp=N,0.6nm,0.3s,baz=94,slow=14,SNR=29								
KSRS				LR		LR	17 28 35.2		
	comp=N,83nm,21.3s,baz=107,slow=36								
KS19	**Wonju Array Si**	**10.35**	**280**			**Pn**	**17 24 49.1**		**+0.9**
YSS	**Yuzh-Sakhalins**	**10.59**	**8**	*e*P		**Pn**	**17 24 50.3**		**-1.2**
YSS				MLR		MLR			
	comp=Z,100nm,15.0s								
YSS	**Yuzh-Sakhalins**	**10.59**	**8**	Pn		**Pn**	**17 24 49.8**		**-1.7**
MDJ	**Mudanjiang**	**11.75**	**317**			**Pn**	**17 25 09.8**		**+2.6**
CN2	**Changchun**	**13.79**	**307**	*e*P		**P**	**17 25 43.1**		**+0.9**
NJ2	**Nanjing**	**18.60**	**263**	*e*P		**P**	**17 26 35.5**		**0.0**
NJ2				pmax	pmax				
	comp=Z,12nm,0.6s								
YOJ	**Yonaguni jima**	**19.36**	**237**	P		**P**	**17 26 43.5**		**-0.4**
YOJ				pmax	pmax				
	comp=Z,63nm,1.0s								
YOJ	**Yonaguni jima**	**19.36**	**237**			**P**	**17 26 43.5**		**-0.4**
YOJ				IAmb	IAmb		17 26 53.3		
	comp=Z,63nm,1.0s								
ZEA	**Zeya**	**19.67**	**336**	*e*P		**P**	**17 26 43.8**		**-3.2**
YHNB	**Yeheng**	**20.35**	**240**	P		**P**	**17 26 52.7**		**-2.0**
YHNB				IAmb	IAmb		17 27 25.4		
	comp=Z,65nm,1.5s								
PEA0B	**Petropavlovsk-**	**20.46**	**30**	P		**P**	**17 26 55.7**		**+0.1**
PEA0B				pmax	pmax				
	comp=Z,32nm,1.6s								
PEA0B	**Petropavlovsk-**	**20.46**	**30**	P		**P**	**17 26 55.7**		**+0.1**
PEA0B				IAmb	IAmb		17 27 05.9		
	comp=Z,32nm,1.6s								
PETK	**Petropavlovsk-**	**20.46**	**30**	P		Pn	17 26 58.1		0.0
	comp=Z,1.2nm,0.8s,baz=315,slow=0.4,SNR=5.2								
PETK				LR		LR	17 35 01.2		
	comp=Z,32nm,19.0s,baz=239,slow=37								
NACB	**Ninganchiao**	**20.52**	**239**	P		**P**	**17 26 53.6**		**-2.9**
PET	**Petropavlovsk**	**20.79**	**32**	P		**P**	**17 26 59.8**		**+0.7**
PET				pmax	pmax				
	comp=Z,47nm,1.6s								
PET	**Petropavlovsk**	**20.79**	**32**	P		**P**	**17 26 59.8**		**+0.7**
PET				IAmb	IAmb		17 27 20.1		
	comp=Z,47nm,1.6s								
SSLB	**Suanglung**	**21.21**	**239**	P		**P**	**17 27 01.2**		**-2.8**
YULB	**Yu-li**	**21.24**	**238**	P		**P**	**17 27 00.8**		**-3.5**
WHN	**Wuhan**	**22.74**	**263**	P		P	17 27 31.2		+11
HHC	**Hu-ho-hao-te**	**23.14**	**290**	*e*P		**P**	**17 27 24.5**		**+0.1**
HHC				pmax	pmax				
	comp=Z,12nm,0.8s								
HHC				pmax	pmax				
	comp=Z,31nm,5.1s								
MA2	**Magadan**	**24.03**	**13**	↑*e*P		**P**	**17 27 34.7**		**+2.3**
MA2				pmax	pmax				
	comp=Z,4.0nm,0.7s								
MA2	**Magadan**	**24.03**	**13**	P		**P**	**17 27 30.2**		**-2.1**
XAN	**Xi'an**	**26.03**	**274**	P		**P**	**17 27 49.9**		**-1.0**
XAN				pP	sP		17 28 07.0		-3.0
XAN				sP	pP		17 28 15.4		+12
XAN				pmax	pmax				
	comp=Z,6.0nm,0.5s								
XAN				pmax	pmax				
	comp=Z,77nm,3.5s								
XAN	**Xi'an**	**26.03**	**274**	P		**P**	**17 27 49.1**		**-1.8**
XAN				pmax	pmax				
	comp=Z,5.0nm,0.4s								
XAN	**Xi'an**	**26.03**	**274**	P		**P**	**17 27 49.1**		**-1.8**
YAK	**Yakutsk**	**26.52**	**348**	P		**P**	**17 27 54.5**		**-0.4**
	comp=Z,8.8nm,0.7s,baz=52,slow=1.2,SNR=10								
YAK	**Yakutsk**	**26.52**	**348**	*e*P		**P**	**17 27 54.0**		**-0.8**
YAK				pmax	pmax				
	comp=Z,15nm,1.1s								
YAK				pmax	pmax				
	comp=N,9.0nm,1.1s								
YAK				pmax	pmax				
	comp=E,3.0nm,1.1s								
YAK	**Yakutsk**	**26.52**	**348**	P		**P**	**17 27 53.6**		**-1.3**
YAK				IAmb	IAmb		17 27 56.2		
	comp=Z,15nm,0.7s								
ENH	**Enshi**	**26.74**	**266**	P		**P**	**17 27 55.1**		**-2.2**
ENH				IAmb	IAmb		17 27 57.1		
	comp=Z,16nm,0.8s								
ULN	**Ulaanbaatar**	**27.23**	**305**	*de*P		**P**	**17 28 00.7**		**-1.0**
ULN				pmax	pmax				
	comp=Z,3.0nm,0.7s								
ULN	**Ulaanbaatar**	**27.23**	**305**	P		**P**	**17 28 00.2**		**-1.5**
SEY	**Seymchan**	**27.46**	**12**	P		**P**	**17 28 05.6**		**+2.3**
	comp=Z,3.8nm,0.8s,baz=206,slow=5.7,SNR=7.7								
SEY	**Seymchan**	**27.46**	**12**	↑*e*P		**P**	**17 28 05.8**		**+2.5**
SONM	**Songino Array**	**27.66**	**305**	P		**P**	**17 28 04.7**		**-0.8**
	comp=Z,3.9nm,0.6s,baz=106,slow=9.1,SNR=25								
SONM				LR		LR	17 39 08.3		
	comp=Z,31nm,20.0s,baz=90,slow=36								
BOD	**Bodaibo**	**27.73**	**329**	*e*P		**P**	**17 28 04.8**		**-1.0**
BOD				pmax	pmax				
	comp=Z,6.0nm,0.9s								
H11N2	**WAKE ISLAND Hy**	**28.34**	**119**	T		T	17 58 20.9		
	baz=313,slow=75,SNR=86								
H11N1	**WAKE ISLAND Hy**	**28.34**	**119**	T		T	17 58 21.5		
	baz=313,slow=75,SNR=93								
H11N3	**WAKE ISLAND Hy**	**28.35**	**119**	T		T	17 58 22.3		
	baz=313,slow=75,SNR=75								
H11S1	**WAKE ISLAND Hy**	**29.02**	**121**	T		T	17 59 06.1		
	baz=314,slow=76,SNR=182								
H11S3	**WAKE ISLAND Hy**	**29.02**	**121**	T		T	17 59 06.2		
	baz=314,slow=76,SNR=123								
H11S2	**WAKE ISLAND Hy**	**29.04**	**121**	T		T	17 59 06.3		
	baz=314,slow=76,SNR=130								
LZH	**Lanzhou**	**29.63**	**280**	*e*P		**P**	**17 28 24.4**		**+1.2**
LZH				pP		pP	17 28 38.7		+2.4
LZH				sP		sP	17 28 45.7		+3.4
LZH				pmax	pmax				
	comp=Z,18nm,0.9s								
TLY	**Talaya**	**30.30**	**312**	*de*P		**P**	**17 28 28.8**		**0.0**
TLY				pmax	pmax				
	comp=Z,8.0nm,0.8s								
GYA	**Guiyang**	**30.59**	**261**	↓*i*P		**P**	**17 28 30.2**		**-1.5**
GYA				pP		sP	17 28 49.2		-1.6
GYA				PP		**PnPn**	**17 29 34.3**		**+1.9**
GYA				S		**S**	**17 33 29.9**		**-0.3**
GYA				pmax	pmax				
	comp=Z,10.0nm,0.8s								
GYA				pmax	pmax				
	comp=Z,60nm,4.4s								
GYA				LR	LR				
	comp=Z,90nm,4.4s								
GYA				LR	LR				
	comp=Z,90nm,4.4s								
GTA	**Gaotai**	**32.21**	**288**	*e*P		**P**	**17 28 44.8**		**-1.1**
GTA				pP		pP	17 28 59.1		+0.1
GTA				sP		sP	17 29 04.3		-0.8
GTA				S		**S**	**17 33 56.0**		**+0.5**
GTA				pmax	pmax				
	comp=Z,2.0nm,1.0s								
GTA				pmax	pmax				
	comp=Z,37nm,6.2s								
PATS	**Pohnpei**	**33.58**	**147**	P		**P**	**17 28 59.3**		**+1.5**
BILL	**Bilibino**	**34.73**	**17**	↓*e*P		**P**	**17 29 07.0**		**-0.2**
BILL				*e**PP		**pP**	**17 29 18.4**		**-2.0**
BILL				pmax	pmax				
	comp=Z,1.0nm,0.4s								
TIXI	**Tiksi**	**35.80**	**354**	P		**P**	**17 29 15.6**		**-0.7**
TIXI				pmax	pmax				
	comp=Z,7.0nm,0.6s								
TIXI	**Tiksi**	**35.80**	**354**	P		**P**	**17 29 15.6**		**-0.7**
TIXI				IAmb	IAmb		17 29 16.9		
	comp=Z,6.9nm,0.6s								
FAKI	**Fak Fak**	**39.97**	**193**	P		**P**	**17 29 53.0**		**+0.9**
DGZ	**Jazzator, Alta**	**40.29**	**306**	*c*	*i*P	**P**	**17 29 55.3**		**+0.7**
DGZ				pmax	pmax				
	comp=Z,19nm,0.8s								
PBKT	**Sadao Pong**	**40.36**	**251**	P		**P**	**17 29 55.0**		**-0.3**
WMQ	**Urumqi**	**40.61**	**297**	*e*P		**P**	**17 29 58.4**		**+1.1**
WMQ				pP		sP	17 30 14.1		-2.7
WMQ				pmax	pmax				
	comp=Z,27nm,0.7s								
WMQ				pmax	pmax				
	comp=Z,100nm,4.3s								
WMQ				LR	LR				
	comp=Z,140nm,17.5s								
CHTO	**Chiang Mai**	**40.62**	**256**	P		**P**	**17 29 56.2**		**-1.3**
CHTO				pmax	pmax				
	comp=Z,2.0nm,0.7s								
CHTO	**Chiang Mai**	**40.62**	**256**	P		**P**	**17 29 56.2**		**-1.3**
CM31	**Chiang Mai Arr**	**40.82**	**255**	P		**P**	**17 29 58.2**		**-1.0**
CMAR	**Chiang Mai Arr**	**40.82**	**255**	P		**P**	**17 29 58.5**		**-0.8**
	comp=Z,0.6nm,0.6s,baz=46,slow=8.7,SNR=6.9								
CMAR				LR		LR	17 48 25.8		
	comp=Z,33nm,20.2s,baz=4.5,slow=38								
LUWI	**Luwuk**	**40.88**	**208**	P		**P**	**17 29 57.6**		**-2.0**
LSA	**Lhasa**	**41.72**	**275**	P		**P**	**17 30 05.0**		**-2.0**
LSA				pmax	pmax				
	comp=Z,4.0nm,0.9s								
LSA	**Lhasa**	**41.72**	**275**	P		**P**	**17 30 05.0**		**-2.0**
ZAA0	**Zalesovo Array**	**41.90**	**313**	P		**P**	**17 30 06.9**		**-0.7**
ZAA0				IAmb	IAmb		17 30 08.5		
	comp=Z,13nm,0.6s								
ZALV	**Zalesovo Beam**	**41.90**	**313**	P		**P**	**17 30 07.5**		**-0.2**
	comp=Z,12nm,0.5s,baz=93,slow=7.0,SNR=56								
NRIK	**Noril'sk**	**43.56**	**336**	P		**P**	**17 30 20.6**		**-0.2**
	comp=Z,1.4nm,0.3s,baz=144,slow=1.3,SNR=4.1								
MK31	**Makanchi Array**	**43.96**	**303**	P		**P**	**17 30 23.9**		**-0.6**
MK31				pmax	pmax				
	comp=Z,6.0nm,0.8s								
MK31	**Makanchi Array**	**43.96**	**303**	P		**P**	**17 30 23.9**		**-0.6**
MK31				IAmb	IAmb		17 30 25.7		
	comp=Z,5.8nm,0.8s								
MKAR	**Makanchi Array**	**43.96**	**303**	P		**P**	**17 30 24.5**		**0.0**
	comp=Z,4.9nm,0.6s,baz=89,slow=9.9,SNR=57								
MKAR				LR		LR	17 49 07.0		
	comp=Z,29nm,21.3s,baz=84,slow=37								
MAKZ	**Makanchi**	**44.17**	**303**	P		**P**	**17 30 25.8**		**-0.3**
MAKZ				pmax	pmax				
	comp=Z,7.0nm,1.0s								
MAKZ	**Makanchi**	**44.17**	**303**	P		**P**	**17 30 25.8**		**-0.3**
MAKZ				IAmb	IAmb		17 30 27.5		
	comp=Z,7.5nm,1.0s								
KSM	**Kuching**	**44.76**	**226**	P		**P**	**17 30 30.8**		**-0.3**
KURK	**Kurchatov**	**45.86**	**308**	*c*	*i*P	**P**	**17 30 38.5**		**-0.9**
KURK				pmax	pmax				
	comp=Z,9.0nm,1.0s								
KURK	**Kurchatov**	**45.86**	**308**	P		**P**	**17 30 38.6**		**-0.8**
KURK				IAmb	IAmb		17 30 41.0		
	comp=Z,6.7nm,0.7s								
ODAN	**Odare**	**45.90**	**274**	*e*P		**P**	**17 30 40.4**		**0.0**
	comp=Z,11nm,0.5s								
RAMN	**Ramite**	**46.50**	**274**	*e*P		**P**	**17 30 44.7**		**-0.4**
	comp=Z,40nm,0.7s								
JIRN	**Jiri**	**46.53**	**275**	*e*P		**P**	**17 30 45.4**		**0.0**
	comp=Z,42nm,0.7s								
GUN	**Gumba**	**46.67**	**276**	*e*P		**P**	**17 30 46.3**		**-0.2**
	comp=Z,26nm,0.6s								
PKI	**Pulchoki**	**47.19**	**276**	*e*P		**P**	**17 30 50.0**		**-0.6**
	comp=Z,19nm,0.9s								
PKIN	**Phulchoki**	**47.20**	**276**	*e*P		**P**	**17 30 50.0**		**-0.6**
	comp=Z,12nm,0.6s								
GKN	**Gorkha**	**47.63**	**277**	*e*P		**P**	**17 30 53.5**		**-0.2**
	comp=Z,42nm,0.7s								
RSO	**Redoubt South**	**47.69**	**38**	P		**P**	**17 30 54.7**		**+0.8**
KDAK	**Kodiak Island**	**47.89**	**42**	P		**P**	**17 30 56.8**		**+1.6**
	comp=Z,2.4nm,0.7s,baz=140,slow=17,SNR=5.0								
KDAK	**Kodiak Island**	**47.89**	**42**	P		**P**	**17 30 55.3**		**+0.1**
PPLA	**Purkeypile**	**47.95**	**35**	P		**P**	**17 30 57.1**		**+1.4**
PPLA				IAmb	IAmb		17 31 17.1		
	comp=Z,6.7nm,1.4s								
KULM	**Kulim**	**48.05**	**240**	P		**P**	**17 30 57.1**		**+0.2**
KULM				IAmb	IAmb		17 31 12.5		
	comp=Z,9.1nm,1.3s								
DANN	**Dangsing**	**48.18**	**277**	*e*P		**P**	**17 30 58.3**		**+0.1**
	comp=Z,68nm,0.7s								
IPM	**Ipoh**	**48.38**	**238**	P		**P**	**17 30 58.6**		**-0.8**
IPM				IAmb	IAmb		17 31 04.6		
	comp=Z,7.4nm,1.1s								
KOLN	**Koldanda**	**48.55**	**277**	*e*P		**P**	**17 31 00.7**		**-0.3**
PYUN	**Piuthan**	**48.90**	**278**	*e*P		**P**	**17 31 03.5**		**-0.1**
	comp=Z,39nm,0.5s								
WRH	**Wood River Hil**	**49.76**	**32**	P		**P**	**17 31 10.0**		**+0.6**
SML	**Sawmill**	**49.78**	**36**	P		**P**	**17 31 09.7**		**0.0**
SML				IAmb	IAmb		17 31 14.6		
	comp=Z,7.3nm,0.8s								
MTN	**Manton Dam**	**49.87**	**192**	P		**P**	**17 31 11.3**		**+0.6**
ILAR	**Eielson Array**	**50.27**	**32**	P		**P**	**17 31 14.8**		**+1.5**
	comp=Z,1.5nm,0.6s,baz=266,slow=6.4,SNR=18								
AAK	**Ala-Archa**	**50.28**	**299**	↑*e*P		**P**	**17 31 13.5**		**-0.4**
AAK				pmax	pmax				
	comp=Z,4.0nm,1.7s								
AAK	**Ala-Archa**	**50.28**	**299**	P		**P**	**17 31 13.5**		**-0.4**
AAK				IAmb	IAmb		17 31 51.6		
	comp=Z,8.4nm,1.6s								
BRVK	**Borovoye**	**50.61**	**313**	*de*P		**P**	**17 31 15.8**		**-0.2**
BRVK				pmax	pmax				
	comp=Z,4.0nm,1.2s								
BRVK	**Borovoye**	**50.61**	**313**	P		**P**	**17 31 16.0**		**0.0**
BRVK				IAmb	IAmb		17 31 18.0		
	comp=Z,2.6nm,0.5s								
JAGI	**Jajag, Banyuwa**	**51.20**	**215**	P		**P**	**17 31 19.7**		**-1.1**
RIDG	**Independent Ri**	**51.23**	**33**	P		**P**	**17 31 21.4**		**+0.8**
RIDG				IAmb	IAmb		17 31 26.6		
	comp=Z,12nm,1.7s								
SCRK	**Sand Creek**	**51.59**	**33**	P		**P**	**17 31 24.8**		**+1.4**
SCRK				IAmb	IAmb		17 31 31.3		
	comp=Z,7.1nm,1.6s								
KK31	**Karatay Array**	**52.94**	**300**	P		**P**	**17 31 33.7**		**+0.1**
KK31				pmax	pmax				
	comp=Z,5.0nm,1.2s								
KK31	**Karatay Array**	**52.94**	**300**	P		**P**	**17 31 33.7**		**+0.1**
KK31				IAmb	IAmb		17 31 34.4		
	comp=Z,5.0nm,1.2s								
GSI	**Gunungsitoli**	**53.04**	**239**	P		**P**	**17 31 34.2**		**-0.3**
KNRA	**Kununurra**	**53.07**	**194**	P		**P**	**17 31 35.1**		**+0.5**
GAR	**Garm**	**54.45**	**296**	P		**P**	**17 31 44.4**		**-0.4**
INK	**Inuvik**	**55.14**	**27**	P		**P**	**17 31 50.4**		**+1.2**
	comp=Z,0.7nm,0.5s,baz=171,slow=5.9,SNR=3.3								
INK	**Inuvik**	**55.14**	**27**	P		**P**	**17 31 50.1**		**+0.9**
CHGR	**Chuyangaron**	**55.42**	**296**	P		**P**	**17 31 51.7**		**-0.1**
WB0	**Warramunga Arr**	**56.24**	**187**	P		**P**	**17 31 57.2**		**-0.3**
WB0				IAmb	IAmb		17 32 06.2		
	comp=Z,6.3nm

KIV				IAmb	IAmb	17 33 35.8		
	comp=Z,9.0nm,0.8s							
SUMG	**Summit**	**71.26**	**360**	P	**P**	**17 33 36.5**	**+0.2**	
SUMG				pmax	pmax			
	comp=Z,4.0nm,0.9s							
SUMG	**Summit**	**71.26**	**360**	P	**P**	**17 33 36.5**	**+0.2**	
NC405	**NORSAR Array S**	**74.29**	**337**	P	**P**	**17 33 53.8**	**-0.2**	
NC303	**NORSAR Array S**	**74.31**	**337**	P	**P**	**17 33 53.9**	**-0.2**	
NC303				IAmb	IAmb	17 33 55.4		
	comp=Z,13nm,1.1s							
AKASG	**Malin Array Be**	**74.42**	**322**	P	**P**	**17 33 54.4**	**-0.4**	
	comp=Z,3.8nm,0.4s,baz=47,slow=6.1,SNR=28							
AKASG				LR	LR	18 07 59.5		
	comp=Z,25nm,21.9s,baz=310,slow=37							
AKBB	**Malin Array Si**	**74.42**	**322**	P	**P**	**17 33 54.2**	**-0.7**	
AKBB				pmax	pmax			
	comp=Z,7.0nm,0.8s							
AKBB	**Malin Array Si**	**74.42**	**322**	P	**P**	**17 33 54.2**	**-0.7**	
AKBB				IAmb	IAmb	17 33 55.2		
	comp=Z,7.0nm,0.8s							
NC204	**NORSAR Array S**	**74.46**	**337**	P	**P**	**17 33 54.8**	**-0.3**	
NB201	**NORSAR Array S**	**74.47**	**337**	P	**P**	**17 33 54.5**	**-0.5**	
NB2	**NORSAR Subarra**	**74.50**	**337**	P	**P**	**17 33 55.2**	**-0.1**	
	comp=Z,3.6nm,0.6s,baz=40,slow=6.2							
NOA	**NORSAR Array B**	**74.50**	**337**	P	**P**	**17 33 55.4**	**+0.2**	
	comp=Z,4.8nm,0.7s,baz=39,slow=5.8,SNR=31							
NOA				LR	LR	18 09 49.3		
	comp=Z,9.8nm,18.3s,baz=290,slow=38							
NBO00	**NORSAR Array S**	**74.65**	**337**	P	**P**	**17 33 55.8**	**-0.2**	
NBO00				IAmb	IAmb	17 33 57.9		
	comp=Z,14nm,1.0s							
NVAR	**Mina Array Bea**	**75.77**	**53**	P	**P**	**17 34 05.0**	**+1.8**	
	comp=Z,0.5nm,0.6s,baz=302,slow=6.0,SNR=6.1							
BUR08	**Bucovina Ar. S**	**78.41**	**321**	P	**P**	**17 34 17.9**	**+0.2**	
BUR08				IAmb	IAmb	17 34 18.8		
	comp=Z,3.5nm,0.8s							
BR131	**Keskin Array S**	**78.82**	**311**	P	**P**	**17 34 20.0**	**-0.2**	
BR131				pmax	pmax			
	comp=Z,6.0nm,1.3s							
BR131	**Keskin Array S**	**78.82**	**311**	P	**P**	**17 34 20.0**	**-0.2**	
BRTR	**Keskin Array B**	**78.82**	**311**	P	**P**	**17 34 20.4**	**+0.2**	
	comp=Z,2.0nm,0.8s,baz=101,slow=5.2,SNR=9.8							
BRTR				LR	LR	18 13 55.1		
	comp=Z,16nm,19.0s,baz=164,slow=39							
KOLS	**Kolonicke sedl**	**78.96**	**324**	*e*P	**P**	**17 34 21.4**	**+0.8**	
KOLS				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KOLS	**Kolonicke sedl**	**78.96**	**324**	*e*P	**P**	**17 34 21.3**	**+0.7**	
OJC	**Ojcow**	**79.21**	**326**	P	**P**	**17 34 21.8**	**-0.1**	
OJC				pmax	pmax			
	comp=Z,8.0nm,1.0s							
OJC	**Ojcow**	**79.21**	**326**	P	**P**	**17 34 21.8**	**-0.1**	
OJC				IAmb	IAmb	17 34 23.3		
	comp=Z,8.4nm,1.0s							
LANS	**Liptovska Anna**	**80.12**	**325**	*e*P	**P**	**17 34 28.1**	**+1.2**	
LANS				pmax	pmax			
	comp=Z,2.0nm,0.8s							
LANS	**Liptovska Anna**	**80.12**	**325**	*e*P	**P**	**17 34 28.1**	**+1.2**	
PKCU	**Pink Cliffs**	**80.15**	**51**	P	**P**	**17 34 26.7**	**-1.0**	
BSEG	**Bad Segeberg**	**80.32**	**333**	*e*P	**P**	**17 34 28.3**	**+0.5**	
	comp=Z,7.4nm,0.6s,baz=39,slow=5.3							
RAYN	**Ar Rayn**	**80.37**	**292**	P	**P**	**17 34 28.3**	**-0.4**	
RAYN				pmax	pmax			
	comp=Z,3.0nm,0.7s							
RAYN	**Ar Rayn**	**80.37**	**292**	P	**P**	**17 34 28.2**	**-0.4**	
DPC	**Dobruska-Polom**	**80.65**	**328**	*e*P	**P**	**17 34 30.6**	**+0.8**	
VYHS	**Vyhne**	**80.88**	**325**	*e*P	**P**	**17 34 31.6**	**+0.6**	
VYHS				pmax	pmax			
	comp=Z,5.0nm,1.3s							
VYHS	**Vyhne**	**80.88**	**325**	*e*P	**P**	**17 34 31.6**	**+0.6**	
BRG	**Berggiesshubel**	**81.27**	**329**	*e*PKP	**P**	**17 34 33.2**	**+0.3**	
	comp=Z,3.8nm,0.7s							
BRG	**Berggiesshubel**	**81.27**	**329**	*e*P	**P**	**17 34 33.2**	**+0.3**	
BRG				pmax	pmax			
	comp=Z,4.0nm,0.7s							
BRG	**Berggiesshubel**	**81.27**	**329**	*e*P	**P**	**17 34 33.2**	**+0.3**	
	comp=Z,3.8nm,0.7s,baz=39,slow=5.3							
CLL	**Collm**	**81.32**	**330**	*i* P	**P**	**17 34 34.2**	**+1.0**	
	comp=Z,8.0nm,0.8s							
CLL	**Collm**	**81.32**	**330**	*i* P	**P**	**17 34 34.2**	**+1.0**	
CLL				pmax	pmax			
	comp=Z,8.0nm,0.8s							
CLL	**Collm**	**81.32**	**330**	P	**P**	**17 34 33.4**	**+0.2**	
CLL				IAmb	IAmb	17 34 35.1		
	comp=Z,7.4nm,0.8s							
FBE	**Freiberg**	**81.47**	**329**	*e*P	**P**	**17 34 34.7**	**+0.7**	
	comp=Z,7.2nm,0.6s,baz=39,slow=5.3							
GOPC	**GO Pecny, Ondr**	**81.64**	**328**	*e*P	**P**	**17 34 35.4**	**+0.4**	
NEUB	**Neuenburg**	**81.89**	**330**	*e*P	**P**	**17 34 36.4**	**+0.2**	
	comp=Z,8.2nm,0.8s,baz=39,slow=5.3							
CLZ	**Clausthal**	**81.94**	**331**	*e*P	**P**	**17 34 37.0**	**+0.4**	
	comp=Z,7.7nm,1.2s,baz=39,slow=5.3							
GUNZ	**Gunzen**	**82.32**	**330**	*e*P	**P**	**17 34 38.7**	**+0.1**	
	comp=Z,5.7nm,1.3s,baz=39,slow=5.3							
WERN	**Wernitzgruen**	**82.36**	**330**	*e*P	**P**	**17 34 39.3**	**+0.5**	
	comp=Z,3.0nm,0.5s,baz=39,slow=5.3							
MOX	**Moxa**	**82.39**	**330**	*e*P	**P**	**17 34 39.1**	**+0.2**	
	comp=Z,2.5nm,0.7s,baz=39,slow=5.3							
MANZ	**Manzenberg**	**82.70**	**329**	*e*P	**P**	**17 34 41.0**	**+0.4**	
	comp=Z,2.6nm,0.7s,baz=39,slow=5.3							
KHC	**Kasperske Hory**	**82.74**	**328**	*e*P	**P**	**17 34 41.0**	**+0.2**	
KHC	**Kasperske Hory**	**82.74**	**328**	*e*P	**P**	**17 34 41.0**	**+0.2**	
KHC	**Kasperske Hory**	**82.74**	**328**	P	**P**	**17 34 40.0**	**-0.8**	
ROTZ	**Rotzenmuhle**	**82.83**	**329**	*e*P	**P**	**17 34 41.8**	**+0.6**	
	comp=Z,2.8nm,0.7s,baz=39,slow=5.3							
VTS	**Vitosha**	**82.85**	**319**	P	**P**	**17 34 41.7**	**+0.1**	
VTS				pmax	pmax			
	comp=Z,3.0nm,0.7s							
VTS	**Vitosha**	**82.85**	**319**	P	**P**	**17 34 41.7**	**+0.1**	
VTS				IAmb	IAmb	17 34 43.2		
	comp=Z,3.4nm,0.7s							
GERES	**GERESS Array B**	**82.91**	**328**	P	**P**	**17 34 41.9**	**+0.2**	
	comp=Z,1.4nm,0.4s,baz=38,slow=5.9,SNR=17							
GERES				LR	LR	18 15 27.3		
	comp=Z,25nm,18.7s,baz=268,slow=38							
WET	**Wettzell**	**83.03**	**329**	*e*P	**P**	**17 34 42.6**	**+0.4**	
	comp=Z,3.5nm,1.3s,baz=39,slow=5.3							
GRF	**Grafenberg Arr**	**83.29**	**330**	*e*P	**P**	**17 34 44.2**	**+0.7**	
	comp=Z,8.5nm,0.8s,baz=39,slow=5.3							
RJOB	**Jochberg**	**84.15**	**328**	*e*P	**P**	**17 34 48.6**	**+0.6**	
	comp=Z,2.8nm,0.7s,baz=39,slow=5.3							
RPZ	**Rata Peaks**	**84.42**	**158**	LR	LR	18 05 34.2		
	comp=Z,91nm,21.5s,baz=64,slow=31							
STAL	**STALIGIAL**	**85.32**	**327**	P	**P**	**17 34 52.1**	**-1.9**	
STAL				IAmb	IAmb	17 34 53.4		
	comp=Z,4.4nm,0.6s							
BFO	**Black Forest**	**85.53**	**330**	P	**P**	**17 34 53.7**	**-1.3**	
BFO				pmax	pmax			
	comp=Z,4.0nm,0.8s							
BFO	**Black Forest**	**85.53**	**330**	P	**P**	**17 34 53.7**	**-1.3**	
BFO				IAmb	IAmb	17 34 55.9		
	comp=Z,4.1nm,0.8s							
ECH	**Echery**	**86.09**	**331**	P	**P**	**17 34 57.2**	**-0.5**	
ECH				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ECH	**Echery**	**86.09**	**331**	P	**P**	**17 34 57.2**	**-0.5**	
ECH				IAmb	IAmb	17 34 58.3		
	comp=Z,3.4nm,0.8s							
FUORN	**Ofenpass-Fuorn**	**86.10**	**328**	P	**P**	**17 34 58.4**	**+0.3**	
FUORN				IAmb	IAmb	17 34 59.0		
	comp=Z,10nm,1.3s							
TXAR	**Lajitas Array**	**90.90**	**52**	P	**P**	**17 35 22.6**	**+1.6**	
	comp=Z,0.1nm,0.3s,baz=347,slow=3.9,SNR=3.4							
ESDC	**Sonseca Array**	**97.56**	**333**	LR	LR	18 22 53.2		
	comp=Z,30nm,19.4s,baz=140,slow=37							
H03N2	**Juan Fernandez**	**147.50**	**97**	T	T	20 27 12.8		
	baz=291,slow=76,SNR=17							
H03N3	**Juan Fernandez**	**147.51**	**97**	T	T	20 27 13.8		
	baz=291,slow=76,SNR=15							
H03N1	**Juan Fernandez**	**147.52**	**97**	T	T	20 27 14.0		
	baz=291,slow=76,SNR=18							

ROM 03 17:32:22.4±0.2, 43.412N±0.004×12.457E±0.006, h6km±1km, ML0.9/4, Error ellipse: s-maj=0.5km s-min=0.1km az=231.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATPI	**Pietralunga -**	**0.06**	**314**	P	Pg	17 32 24.1	+0.1
ATPI				S	Sg	17 32 25.3	+0.2
ATFO	**Monte Foce - G**	**0.10**	**119**	P	Pg	17 32 24.7	+0.2
ATFO				S	Sg	17 32 26.6	+0.5
ATFO				AML	AML		
	comp=E,102μm,0.5s						
ATFO				AML	AML		
	comp=N,75μm,1.5s						
ATFO				AML	AML		
	comp=E,102μm,0.5s						
ATFO				AML	AML		
	comp=N,75μm,1.5s						
PIEI	**Pieia**	**0.14**	**25**	P	Pg	17 32 25.6	+0.3
PIEI				S	Sg	17 32 28.3	+1.1
PIEI				AML	AML		
	comp=N,32μm,0.8s						
PIEI				AML	AML		
	comp=E,46μm,1.1s						
PIEI				AML	AML		
	comp=N,32μm,0.8s						
MURB	**Monte Urbino**	**0.16**	**162**	P	Pg	17 32 26.0	+0.4
MURB				S	Sg	17 32 29.1	+1.4
MURB				AML	AML		
	comp=N,82μm,0.5s						
MURB				AML	AML		
	comp=E,91μm,0.6s						
BADI	**Badiali**	**0.18**	**302**	P	Pg	17 32 26.5	+0.4
BADI				S	Sg	17 32 30.0	+1.4
BADI				AML	AML		
	comp=E,77μm,0.1s						
BADI				AML	AML		
	comp=N,60μm,0.5s						
IMOL	**Imola, Italy**	**1.08**	**332**	S	Sn	17 32 59.0	-0.3
GUMA	**Gualdo di Mace**	**1.14**	**107**	AML	AML		
	comp=N,90μm,0.3s						
GUMA				AML	AML		
	comp=E,82μm,0.4s						

JMA 03 17:46:24.5, 34.87N×137.03E, h13km, M2.7, 4D
Broadband fault plane solution: P waves. NP1: φs126.00000°, δ28.00000°, λ84.00000°. NP2: φs312.00000°, δ62.00000°, λ93.00000°. Principal axes: T Plg73.0000°, Azm230.0000°; N Plg3.0000°, Azm131.0000°; P Plg17.0000°, Azm40.0000°; Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAA	**Atsumi**	**0.26**	**159**	⇓P	Pg	17 46 29.8	-0.1
JAA				S	Sg	17 46 33.5	0.0
JICN	**Ichinomiyachia**	**0.46**	**340**	P	Pg	17 46 33.5	-0.1
JICN				S	Sg	17 46 39.5	-0.2
TSUJ	**Tsu 2**	**0.53**	**253**	⇓P	Pg	17 46 34.2	-0.7
TSUJ				S	Sg	17 46 41.3	-0.6
JIE	**Ise**	**0.55**	**209**	⇓P	Pg	17 46 34.7	-0.5
JYTA	**Yamagatataniai**	**0.76**	**342**	⇓P	Pg	17 46 38.8	-0.5
JYTA				S	Sg	17 46 48.4	-0.9
MAT	**Matsushiro**	**1.92**	**30**	P	Pb	17 46 58.3	-1.2
MAT				S	Sb	17 47 22.8	-0.6

ISC 03 17:51:55.0±1.0, 44.48N±0.02×17.03E±0.03, h4km±10km, n14, σ0.59/28, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGRS	**Mrkonjic Grad**	**0.07**	**150**	*e*Pg	**Pg**	**17 51 56.6**	**0.0**
MGRS				*e*Sg	**Sg**	**17 51 57.6**	**-0.2**
BLY	**Banja Luka**	**0.29**	**22**	*e*Pg	**Pg**	**17 52 00.1**	**-0.5**
BLY				*e*Sg	**Sg**	**17 52 05.0**	**+0.6**
KIJV	**Kijevo**	**0.66**	**224**	*e*Pg	**Pg**	**17 52 06.9**	**-0.6**
KIJV				Sg	**Sg**	**17 52 16.6**	**+0.5**
MORI	**Morici**	**1.14**	**238**	*e*Pg	**Pb**	**17 52 16.3**	**-0.8**
MORI				Sg	**Sb**	**17 52 31.8**	**-0.4**
MAKA	**Makarska**	**1.19**	**180**	*e*Pg	**Pn**	**17 52 17.5**	**-0.9**
MAKA				Sg	**Sb**	**17 52 34.0**	**+0.1**
ZIRJ	**Zirje**	**1.30**	**231**	*e*Pg	**Pn**	**17 52 19.0**	**-0.8**
ZIRJ				Sg	**Sb**	**17 52 36.8**	**-0.1**
HVAR	**Hvar**	**1.37**	**198**	*e*Pg	**Pb**	**17 52 21.2**	**+0.1**
HVAR				Sg	**Sg**	**17 52 40.4**	**+1.4**
DUGI	**Dugi Otok**	**1.50**	**252**	*e*Pn	**Pg**	**17 52 24.3**	**+0.5**
DUGI				Sg	**Sg**	**17 52 44.1**	**+0.9**
NVLJ	**Novalja**	**1.55**	**274**	*e*Pn	**Pb**	**17 52 24.4**	**+0.2**
NVLJ				Sg	**Sg**	**17 52 45.1**	**+0.5**
OZLJ	**Ozalj**	**1.58**	**316**	*e*Pn	**Pn**	**17 52 23.9**	**+0.2**
OZLJ				Sn	**Sg**	**17 52 45.9**	**0.0**
PTJ	**Puntijarka**	**1.61**	**333**	*e*Pn	**Pb**	**17 52 25.4**	**+0.1**
PTJ				Sn	**Sg**	**17 52 46.6**	**-0.2**
STON	**Ston**	**1.68**	**163**	*e*Pn	**Pg**	**17 52 27.4**	**+0.2**
STON				Sn	**Sg**	**17 52 49.4**	**+0.4**
KALN	**Kalnik**	**1.70**	**346**	*e*Pn	**Pn**	**17 52 26.0**	**+0.6**
KALN				Sn	**Sg**	**17 52 49.2**	**-0.4**
DBRK	**Dubrovnik**	**1.98**	**156**	*e*Pn	**Pb**	**17 52 31.5**	**-0.1**
DBRK				Sn	**Sb**	**17 52 57.4**	**+0.8**

*GUC **03** 17:55:30.3±0.7, 37.17S×75.01W, h24km±7km, ML4.0*
*SJA **03** 17:55:46.6±0.5, 36.20S×73.91W, h27km±29km, ML3.6, MW3.6*
ISC 03 17:55:30.8±2.6, 37.17S±0.06×75.1W±0.2, h35km, n18, σ1.953/25, 6C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BI04	**Isla Mocha**	**1.59**	**142**	⇑*i*P	**Pn**	**17 55 55.8**	**-0.8**
BI04				*e*S	**Sn**	**17 56 15.1**	**-0.8**
BI04				IAML		17 56 15.5	
	comp=N,4μm,0.1s						
CCSP	**San Pedro de C**	**1.66**	**79**	⇑*i*P	**Pn**	**17 55 55.7**	**-1.7**
CCSP				*e*S	**Sn**	**17 56 16.2**	**-1.3**
CCSP				IAML		17 56 19.7	
	comp=N,4μm,0.3s						
BI03	**Tigo**	**1.73**	**80**	⇑*i*P	**Pn**	**17 55 57.3**	**-1.1**
BI03				*e*S	**Sn**	**17 56 17.9**	**-1.3**
BI03				IAML		17 56 18.9	
	comp=N,9μm,0.3s						
LAJA	**Laja**	**1.94**	**94**	⇑*i*P	**Pn**	**17 56 00.9**	**-0.5**
LAJA				*e*S	**Sn**	**17 56 23.4**	**-1.1**
LAJA				IAML		17 56 24.4	
	comp=N,786nm,0.2s						
LC01	**Cunco**	**3.10**	**125**	*i* P	**Pn**	**17 56 18.6**	**+1.2**
LC01				*e*S	**Sn**	**17 56 53.3**	**0.0**
LC01				IAML		17 56 55.6	
	comp=N,268nm,0.2s						
GO05	**Huala**	**3.38**	**51**	⇑*i*P	**Pn**	**17 56 20.5**	**-0.6**
GO05				*e*S	**Sn**	**17 56 59.0**	**-0.9**
GO05	**Huala**	**3.38**	**51**	*i* P	**Pn**	**17 56 20.8**	**-0.3**
GO05				*e*S	Sn	17 56 46.4	-14
BO02	**Sierra Bellavi**	**4.26**	**57**	⇑*i*P	**Pn**	**17 56 33.4**	**+0.1**
BO02				*e*S	**Sn**	**17 57 21.1**	**-0.6**
EDS3	**Malargue**	**4.83**	**75**	*i* P	**Pn**	**17 56 44.8**	**+3.5**
PUMA	**Malargue**	**4.89**	**72**	*i* P	**Pn**	**17 56 45.3**	**+3.4**
PUMA				*e*S	Sn	17 57 28.1	-9.2
COIS	**El Sosneado**	**4.94**	**67**	*i* P	**Pn**	**17 56 45.0**	**+2.4**
ROL1	**El Roble**	**5.38**	**40**	*i* P	**Pn**	**17 56 48.3**	**-0.5**
PEL	**Peldehue**	**5.42**	**44**	*i* P	**Pn**	**17 56 50.1**	**+0.8**
AUSP	**Uspallata**	**6.84**	**46**	*i* P	**Pn**	**17 57 10.6**	**+1.7**
RTLS	**Leoncito**	**7.21**	**44**	*i* P	**Pn**	**17 57 15.6**	**+1.6**
RTLS				IAML		17 58 54.7	
	comp=Z,14nm,0.6s						
RTCV	**Cerro Valdivia**	**7.59**	**48**	*i* P	**Pn**	**17 57 19.8**	**+0.7**
RTCV				IAML		17 59 41.0	
	comp=Z,29nm,4.1s						
ACAN	**Cantantal**	**8.16**	**56**	*i* P	**Pn**	**17 57 27.9**	**+1.0**
AMOG	**MOGNA**	**8.31**	**44**	*i* P	**Pn**	**17 57 29.4**	**+0.5**

*KRNET **03** 17:58:53.7±0.1, 43.11N×76.69E, h18km, mb2.3*
*NNC **03** 17:58:53.9±0.2, 43.12N×76.69E, h0km, mb2.4, mpv2.6,*
Error ellipse: s-maj=2.0km s-min=0.9km az=170.0
*SOME **03** 17:58:54.0, 43.13N×76.68E, h5km*
ISC 03 17:58:54.1±0.8, 43.10N±0.02×76.69E±0.01, h10km±5km, n47, σ0.945/93, 19C-5D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IZV	**Izvestkoviy**	**0.09**	**220**	*e*P	**Pg**	**17 58 56.5**	**-0.1**
	baz=19						
IZV				*e*S	**Sg**	**17 58 58.1**	**-0.4**
	baz=19						
IZV	**Izvestkoviy**	**0.09**	**220**	*e*P	**Pg**	**17 58 56.5**	**-0.1**
	43nm,0.1s						
IZV				*e*S	**Sg**	**17 58 58.1**	**-0.4**
	160nm,0.1s						
IZV	**Izvestkoviy**	**0.09**	**220**	P	**Pg**	**17 58 56.5**	**-0.1**
	43nm,0.1s						
IZV				S	**Sg**	**17 58 58.1**	**-0.4**
	160nm,0.1s						
MTBS	**Maitube**	**0.19**	**278**	*e*P	**Pg**	**17 58 58.1**	**-0.1**
	baz=78						
MTBS				*e*S	**Sg**	**17 59 01.1**	**+0.1**
	baz=78						
MTBS	**Maitube**	**0.19**	**278**	*e*P	**Pg**	**17 58 58.1**	**-0.1**
	9.5nm,0.1s						
MTBS				*e*S	**Sg**	**17 59 01.1**	**+0.1**
	26nm,0.2s						
MTBS	**Maitube**	**0.19**	**278**	P	**Pg**	**17 58 58.1**	**-0.1**
	9.5nm,0.1s						
MTBS				S	**Sg**	**17 59 01.1**	**+0.1**
	26nm,0.2s						
TNSS	**Tian-Shan**	**0.20**	**109**	*e*P	**Pg**	**17 58 58.2**	**-0.3**
	baz=10.0						
TNSS				*e*S	**Sg**	**17 59 01.5**	**-0.1**
	baz=10.0						
TNSS	**Tian-Shan**	**0.20**	**109**	*e*P	**Pg**	**17 58 58.2**	**-0.3**
	5.1nm,0.1s						
TNSS				*e*S	**Sg**	**17 59 01.5**	**-0.1**
	59nm,0.2s						
TNSS	**Tian-Shan**	**0.20**	**109**	P	**Pg**	**17 58 58.2**	**-0.3**
	5.1nm,0.1s						
TNSS				S	**Sg**	**17 59 01.5**	**-0.1**
	59nm,0.2s						
KNDC	**Almaty**	**0.23**	**60**	⇑P	**Pg**	**17 58 58.3**	**-0.6**
	4.2nm,0.3s						
KNDC				⇑S	**Sg**	**17 59 01.8**	**-0.4**
	21nm,0.3s						
MDOK	**Medeo**	**0.27**	**77**	*e*P	**Pg**	**17 58 59.4**	**-0.2**
	baz=77						
MDOK				*e*S	**Sg**	**17 59 03.4**	**+0.1**
	baz=77						
MDOK	**Medeo**	**0.27**	**77**	*e*P	**Pg**	**17 58 59.4**	**-0.2**
	10nm,0.2s						
MDOK				*e*S	**Sg**	**17 59 03.4**	**+0.1**
	14nm,0.1s						
MDOK	**Medeo**	**0.27**	**77**	⇓P	**Pg**	**17 58 59.2**	**-0.4**
	2.4nm,0.2s						
MDOK				⇑S	**Sg**	**17 59 03.0**	**-0.3**
	8.8nm,0.4s						
MDOK	**Medeo**	**0.27**	**77**	Pg	**Pg**	**17 58 59.4**	**-0.2**
	10nm,0.2s						
MDOK				Lg	Lg	17 59 03.4	
	14nm,0.1s						
KOTS	**Kotyrbulak**	**0.34**	**67**	*e*P	**Pg**	**17 59 00.8**	**0.0**
	baz=68						
KOTS				*e*S	**Sg**	**17 59 05.7**	**+0.4**
	baz=68						
KOTS	**Kotyrbulak**	**0.34**	**67**	*e*P	**Pg**	**17 59 00.8**	**0.0**
	8.3nm,0.2s						
KOTS				*e*S	**Sg**	**17 59 05.7**	**+0.4**
	10nm,0.2s						
KOTS	**Kotyrbulak**	**0.34**	**67**	P	**Pg**	**17 59 00.8**	**0.0**
	8.3nm,0.2s						
KOTS				S	**Sg**	**17 59 05.7**	**+0.4**
	10nm,0.2s						
KST	**Kastek**	**0.54**	**264**	*e*P	**Pg**	**17 59 04.4**	**-0.1**
	baz=64						
KST				*e*S	**Sg**	**17 59 11.9**	**+0.3**
	baz=64						
KST	**Kastek**	**0.54**	**264**	*e*P	**Pg**	**17 59 04.4**	**-0.1**
	3.8nm,0.1s						
KST				*e*S	**Sg**	**17 59 11.9**	**+0.3**
	5.1nm,0.2s						
KST	**Kastek**	**0.54**	**264**	P	**Pg**	**17 59 04.4**	**-0.1**
	3.8nm,0.1s						
KST				S	**Sg**	**17 59 11.9**	**+0.3**
	5.1nm,0.2s						
KTBS	**Karatobe**	**0.61**	**360**	*e*P	**Pg**	**17 59 05.6**	**-0.3**
	4.4nm,0.1s						
KTBS				*e*S	**Sg**	**17 59 14.1**	**+0.1**
	7.0nm,0.2s						
KTBS	**Karatobe**	**0.61**	**360**	P	**Pg**	**17 59 05.6**	**-0.3**
	4.4nm,0.1s						
KTBS				S	**Sg**	**17 59 14.1**	**+0.1**
	7.0nm,0.2s						
DGS	**Degeres**	**0.69**	**282**	*e*P	**Pg**	**17 59 07.0**	**-0.4**
	baz=82						
DGS				*e*S	**Sg**	**17 59 16.1**	**-0.2**
	baz=82						
DGS	**Degeres**	**0.69**	**282**	*e*P	**Pg**	**17 59 07.0**	**-0.4**
	0.7nm,0.1s						
DGS				*e*S	**Sg**	**17 59 16.1**	**-0.2**
	3.7nm,0.2s						
DGS	**Degeres**	**0.69**	**282**	P	**Pg**	**17 59 07.0**	**-0.4**
	0.7nm,0.1s						
DGS				S	**Sg**	**17 59 16.1**	**-0.2**
	3.7nm,0.2s						
CHKK	**Chushkaly**	**0.78**	**16**	*e*P	**Pg**	**17 59 08.6**	**-0.6**
	baz=17						
CHKK				*e*S	**Sg**	**17 59 19.0**	**-0.4**
	baz=17						
CHKK	**Chushkaly**	**0.78**	**16**	*e*P	**Pg**	**17 59 08.6**	**-0.6**
	1.1nm,0.1s						
CHKK				*e*S	**Sg**	**17 59 19.0**	**-0.4**
	5.1nm,0.2s						
CHKK	**Chushkaly**	**0.78**	**16**	P	**Pg**	**17 59 08.6**	**-0.6**
	1.1nm,0.1s						
CHKK				S	**Sg**	**17 59 19.0**	**-0.4**
	5.1nm,0.2s						
ANVS	**Anan'yevo**	**0.79**	**114**	⇑*i*P	**Pg**	**17 59 08.6**	**-0.7**
	baz=14						
ANVS				⇑*i*S	**Sg**	**17 59 19.2**	**-0.3**
	baz=14						
TKM2	**Tokmak 2**	**0.82**	**258**	⇓*i*P	**Pg**	**17 59 09.6**	**-0.3**
	baz=57						
TKM2				⇓*i*S	**Sg**	**17 59 21.2**	**+0.5**
	baz=57						
BOOM	**Boomskoye usch**	**0.82**	**222**	⇑*i*P	**Pg**	**17 59 09.3**	**-0.7**
	baz=22						
BOOM				⇑*i*S	**Sg**	**17 59 20.5**	**-0.2**
	baz=22						
ULHL	**Ulahol**	**0.92**	**201**	⇑*i*P	**Pg**	**17 59 10.8**	**-1.0**
	baz=1.0						
ULHL				⇑*i*S	**Sg**	**17 59 23.5**	**-0.2**
	baz=1.0						
KRBS	**Karabastau**	**0.95**	**309**	*e*P	**Pg**	**17 59 11.6**	**-0.7**
	1.2nm,0.1s						
KRBS

UZB					S		Sb	17 59 47.7	+0.4
	1.5nm,0.1s								
UCH	**Uchtor**	**1.83**	**242**	⇑	*e*P		**Pb**	**17 59 27.6**	**-0.3**
	baz=42								
UCH				⇑	*i*S		**Sb**	**17 59 51.2**	**+0.2**
	baz=42								

NNC ***03*** *18:00:15.3±1.6,36°.57N×69°.79E,h0km,mb5.1,mpv5.4, Error ellipse: s-maj=16.9km s-min=8.6km az=162.0*
IDC ***03*** *18:00:19.4±2.4,36°.13N×69°.90E,h130km±22km,mb3.9/24, mb1 4.0/27,mb1mx3.8/44,mbtmp4.3/27,MS3.4/2, Ms1 3.4/2,ms1mx2.6/39,Error ellipse: s-maj=13.7km s-min=10.0km az=8.0*
MOS ***03*** *18:00:19.1±1.0,36°.34N×69°.99E,h134km,mb4.4/22,Error ellipse: s-maj=5.4km s-min=3.4km az=80.2*
BJI ***03*** *18:00:20.3±0.0,36°.39N×69°.97E,h144km,mb4.6/29, mb4.4/37*
NEIC ***03*** *18:00:21.2±1.6,36°.34N±0°.05×69°.95E±0°.08,h142km±5km, mb4.6/86,Error ellipse: s-maj=8.8km s-min=6.7km az=95.0*

ISC 03 18:00:21.4±0.3,36°.33N±0°.03×69°.95E±0°.03,h150km,n318, σ1193/360,mb4.4/94,21C-26D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**1.93**	**203**	P		**Pn**	**18 00 55.9**	**-0.2**
KBL				S		**Sn**	**18 01 21.8**	**-0.7**
KBL	**Kabul**	**1.93**	**203**	PN		**Pn**	**18 00 55.8**	**-0.2**
KBL	**Kabul**	**1.93**	**203**	Pn		**Pn**	**18 00 55.8**	**-0.2**
CHGR	**Chuyangaron**	**2.41**	**345**	Pn		**Pn**	**18 01 00.3**	**-1.2**
GAR	**Garm**	**2.69**	**6**	Pn		**Pn**	**18 01 04.0**	**-0.9**
CEP	**Cherat**	**2.97**	**147**	P		**Pn**	**18 01 08.6**	**+0.1**
CEP				S		**Sn**	**18 01 45.0**	**+0.1**
NIL	**Nilore**	**3.80**	**134**	PN		**Pn**	**18 01 19.2**	**+0.1**
NIL	**Nilore**	**3.80**	**134**	Pn		**Pn**	**18 01 19.2**	**+0.1**
CHCP	**Chirah Chowk**	**3.81**	**133**	P		**Pn**	**18 01 19.1**	**-0.1**
THW	**Thamme Wali**	**3.82**	**157**	P		**Pn**	**18 01 18.7**	**-0.7**
SARP	**Sargodha**	**4.94**	**152**	P		**Pn**	**18 01 32.6**	**-1.4**
TAS	**Tashkent**	**5.02**	**354**	PN		**Pn**	**18 01 34.6**	**-0.4**
TAS	**Tashkent**	**5.02**	**354**	Pn		**Pn**	**18 01 34.6**	**-0.4**
JMU	**Jammu**	**5.44**	**130**	*i* x		Pn	18 01 30.0	-11
JMU				*i* x		x	18 02 29.0	
KSH	**Kashi**	**5.73**	**54**	P		**Pn**	**18 01 39.9**	**-4.6**
KSH				sP			18 02 12.4	
KSH				S		Sn	18 02 39.8	-10
KSH	comp=N,7μm,0.8s			smax		smax		
KSH	comp=E,3μm,0.7s			smax		smax		
IUG	**luzhnay**	**5.81**	**1**	⇑ *i* P		**Pn**	**18 01 45.2**	**-0.4**
IUG	13nm,0.2s,baz=360			*i* S		**Sn**	**18 02 47.5**	**-4.1**
	baz=360							
IUG	**luzhnay**	**5.81**	**1**	*c i* PN		**Pn**	**18 01 45.2**	**-0.4**
IUG	comp=Z,13nm,0.2s			pmax		pmax		
THN	**Thein Dam**	**6.15**	**128**	*e*P		**Pn**	**18 01 49.0**	**-1.0**
THN				*ex*		x	18 02 50.0	
AML	**Almayashu**	**6.48**	**25**	P		**Pn**	**18 01 53.9**	**-1.0**
	SNR=398							
HRA	**Herat**	**6.59**	**255**	Pn		**Pn**	**18 01 56.1**	**0.0**
DHRM	**DHARAMSHALA**	**6.64**	**126**	*e*P		**Pn**	**18 01 55.4**	**-1.5**
DHRM				*i* pP			18 02 19.8	
DHRM				*e*S		**Sn**	**18 03 07.6**	**-4.0**
DHRM	comp=N,2μm,0.4s			IAML			18 03 09.6	
DHRM	comp=E,1μm,0.5s			IAML			18 03 12.0	
DZA	**Taraz**	**6.64**	**9**	*i* P		**Pn**	**18 01 56.2**	**-0.5**
DZA	comp=E,290nm,0.5s,baz=8.2			*i* S		**Sn**	**18 03 08.3**	**-2.9**
	baz=8.2							
DZA	**Taraz**	**6.64**	**9**	*i* PN		**Pn**	**18 01 56.1**	**-0.5**
DZA	comp=Z,290nm,0.5s			pmax		pmax		
BRLS	**Borolday**	**6.70**	**359**	*e*P		**Pn**	**18 01 53.4**	**-3.9**
BRLS	comp=Z,72nm,1.1s,baz=357			*i* S		Sn	18 03 00.2	-12
	baz=357							
BRLS	**Borolday**	**6.70**	**359**	*e*PN		**Pn**	**18 01 53.4**	**-3.9**
BRLS	comp=Z,73nm,1.1s			pmax		pmax		
KK31	**Karatay Array**	**6.78**	**3**	⇑P		**Pn**	**18 01 54.4**	**-4.1**
KK31	comp=Z,72nm,0.6s,baz=198,slow=14,SNR=534			⇑S		**Sn**	**18 03 09.3**	**-5.3**
	comp=Z,161nm,0.4s,baz=197,slow=25,SNR=13							
KK31	**Karatay Array**	**6.78**	**3**	*e*PN		**Pn**	**18 01 57.3**	**-1.2**
KK31	**Karatay Array**	**6.78**	**3**	Pn		**Pn**	**18 01 57.5**	**-1.0**
UCH	**Uchtor**	**6.87**	**30**	P		**Pn**	**18 01 59.0**	**-1.1**
	SNR=410							
EKS2	**Erkin-Say**	**6.98**	**24**	P		**Pn**	**18 02 00.6**	**-0.7**
	SNR=365							
KZA	**Kyzart**	**7.06**	**34**	P		**Pn**	**18 02 01.2**	**-1.4**
	SNR=232							
AAK	**Ala-Archa**	**7.21**	**28**	P		**Pn**	**18 02 03.7**	**-0.7**
AAK	comp=Z,96nm,0.3s,baz=180,slow=5.9,SNR=559			S		**Sn**	**18 03 21.9**	**-3.2**
	comp=Z,29nm,0.3s,baz=116,slow=22,SNR=12							
AAK	**Ala-Archa**	**7.21**	**28**	P		**Pn**	**18 02 03.7**	**-0.7**
	SNR=134							
AAK	**Ala-Archa**	**7.21**	**28**	P		**Pn**	**18 02 03.7**	**-0.7**
AAK				S		**Sn**	**18 03 24.8**	**-0.4**
AAK	**Ala-Archa**	**7.21**	**28**	*d* PN		**Pn**	**18 02 03.6**	**-0.8**
AAK	**Ala-Archa**	**7.21**	**28**	Pn		**Pn**	**18 02 03.5**	**-0.9**
BHK	**Bhakra**	**7.27**	**130**	*e*P		**Pn**	**18 02 03.0**	**-2.1**
BHK				*ex*		x	18 03 20.8	
KBK	**Karagaybulak**	**7.41**	**30**	P		**Pn**	**18 02 06.5**	**-0.5**
	SNR=264							
FRU1	**Bishkek**	**7.41**	**28**	PN		**Pn**	**18 02 06.6**	**-0.3**
FRU1	**Bishkek**	**7.41**	**28**			**Pn**	**18 02 06.6**	**-0.3**
CHMS	**Chumysh**	**7.62**	**28**	P		**Pn**	**18 02 08.6**	**-1.1**
	SNR=876							
ULHL	**Ulahol**	**7.66**	**38**	P		**Pn**	**18 02 08.9**	**-1.4**
	SNR=54							
USP	**Ospenovka**	**7.76**	**25**	P		**Pn**	**18 02 10.2**	**-1.4**
	SNR=229							
TKM2	**Tokmak 2**	**7.89**	**32**	P		**Pn**	**18 02 12.5**	**-1.0**
	SNR=670							
SMLA	**Simla**	**7.94**	**129**	*e*P		**Pn**	**18 02 12.2**	**-1.8**
SMLA				*e*S		**Sn**	**18 03 36.7**	**-5.6**
SMLA	comp=E,494nm,0.4s			IAML			18 03 41.9	
SGDS	**Sogindy**	**7.97**	**25**	⇓ *i* P		**Pn**	**18 02 12.9**	**-1.6**
SGDS	comp=E,110nm,0.6s,baz=25			*i* S		**Sn**	**18 03 39.7**	**-3.5**
	baz=25							
SGDS	**Sogindy**	**7.97**	**25**	*d* PN		**Pn**	**18 02 12.8**	**-1.6**
SGDS	comp=Z,110nm,0.6s			pmax		pmax		
KDJ	**Kajisay**	**8.06**	**42**	PN		**Pn**	**18 02 14.1**	**-1.6**
KDJ	**Kajisay**	**8.06**	**42**	Pn		**Pn**	**18 02 14.1**	**-1.6**
TARG	**Taragay, Kyrgy**	**8.15**	**46**	Pn		**Pn**	**18 02 15.3**	**-1.8**
MTBS	**Maitube**	**8.43**	**34**	*i* P		**Pn**	**18 02 19.5**	**-1.0**
MTBS	baz=35			*i* S		**Sn**	**18 03 51.4**	**-2.9**
	baz=35							
MTBS	**Maitube**	**8.43**	**34**	*i* PN		**Pn**	**18 02 19.5**	**-1.0**
TNSS	**Tian-Shan**	**8.60**	**37**	⇓ *i* P		**Pn**	**18 02 21.6**	**-1.5**
	baz=37							
TNSS				*i* S		**Sn**	**18 03 56.5**	**-2.4**
	baz=37							
TNSS	**Tian-Shan**	**8.60**	**37**	*d i* PN		**Pn**	**18 02 21.6**	**-1.5**
AAA	**Alma-Ata**	**8.71**	**36**	*e*P		**Pn**	**18 02 23.9**	**-0.5**
AAA	comp=Z,60nm,0.5s,baz=36			*e*S		**Sn**	**18 03 57.8**	**-3.3**
	baz=36							
AAA	**Alma-Ata**	**8.71**	**36**	*e*PN		**Pn**	**18 02 23.8**	**-0.5**
AAA	comp=Z,60nm,0.5s			pmax		pmax		
MDOK	**Medeo**	**8.74**	**36**	*e*P		**Pn**	**18 02 23.8**	**-1.0**
	baz=37							
MDOK				*e*S		**Sn**	**18 04 00.8**	**-1.1**
	baz=37							
MDOK	**Medeo**	**8.74**	**36**	⇓P		**Pn**	**18 02 23.6**	**-1.1**
MDOK	comp=Z,111nm,0.6s			⇓S		**Sn**	**18 04 00.3**	**-1.6**
	comp=Z,68nm,0.8s							
MDOK	**Medeo**	**8.74**	**36**	*e*PN		**Pn**	**18 02 23.7**	**-1.0**
KNDC	**Almaty**	**8.74**	**36**	⇓P		**Pn**	**18 02 21.6**	**-3.1**
KNDC	comp=Z,133nm,0.4s			⇑S		**Sn**	**18 04 00.1**	**-1.7**
	comp=Z,130nm,0.9s							

KNDC	**Almaty**	**8.74**	**36**	PN		**Pn**	**18 02 24.4**	**-0.3**
KUU	**Kurty**	**9.00**	**31**	*e*P		**Pn**	**18 02 25.6**	**-2.5**
	comp=Z,24nm,0.7s,baz=31							
KUU	**Kurty**	**9.00**	**31**	*e*PN		**Pn**	**18 02 25.5**	**-2.5**
KUU	comp=Z,24nm,0.7s			pmax		pmax		
DDI	**Dehra Dun**	**9.04**	**129**	*e*P		**Pn**	**18 02 27.4**	**-1.4**
DDI				*ex*		x	18 04 22.3	
BTLS	**Baital**	**9.24**	**18**	⇓ *i* P		**Pn**	**18 02 29.5**	**-1.8**
	comp=Z,11nm,0.5s,baz=18							
BTLS	**Baital**	**9.24**	**18**	*d i* P		**Pn**	**18 02 29.4**	**-1.8**
BTLS	comp=Z,11nm,0.5s			pmax		pmax		
CHKK	**Chushkaly**	**9.25**	**33**	*e*P		**Pn**	**18 02 29.1**	**-2.2**
	baz=34							
CHKK	**Chushkaly**	**9.25**	**33**	*e*P		**Pn**	**18 02 29.1**	**-2.2**
SATY	**Saty**	**9.36**	**42**	*e*P		**Pn**	**18 02 30.9**	**-2.0**
	comp=Z,10nm,0.9s,baz=42							
SATY	**Saty**	**9.36**	**42**	*e*P		**Pn**	**18 02 30.9**	**-2.0**
SATY	comp=Z,10.0nm,0.9s			pmax		pmax		
GEYT	**Alibeck**	**9.59**	**283**	P		**Pn**	**18 02 33.2**	**-2.7**
	comp=Z,7.3nm,0.3s,baz=101,slow=12,SNR=68							
GEYT				S		**Sn**	**18 04 16.4**	**-5.7**
	comp=Z,9.4nm,0.3s,baz=131,slow=32,SNR=8.6							
GYA0	**ALIBECK ARRAY**	**9.59**	**283**	P		**Pn**	**18 02 33.0**	**-2.9**
GYA0				S		**Sn**	**18 04 19.6**	**-2.5**
GYA0B	**ALIBECK ARRAY**	**9.59**	**283**	⇑P		**Pn**	**18 02 33.1**	**-2.8**
GYA0B				⇑S		**Sn**	**18 04 18.3**	**-3.8**
GYA0B	**ALIBECK ARRAY**	**9.59**	**283**	Pn		**Pn**	**18 02 33.2**	**-2.7**
UZB	**Uzynbulak**	**9.75**	**43**	⇓ *i* P		**Pn**	**18 02 36.1**	**-2.1**
	comp=Z,12nm,0.5s,baz=43							
UZB	**Uzynbulak**	**9.75**	**43**	*d i* P		**Pn**	**18 02 36.1**	**-2.1**
UZB	comp=Z,12nm,0.5s			pmax		pmax		
NDI	**New Delhi**	**9.78**	**139**	*e*P		**Pn**	**18 02 36.0**	**-2.5**
NDI				*e*S		Sn	18 04 16.5	-10
SHLS	**Shalkode**	**10.00**	**44**	*i* P		**Pn**	**18 02 42.9**	**+1.4**
	comp=Z,14nm,0.7s,baz=46							
SHLS	**Shalkode**	**10.00**	**44**	*i* P		**Pn**	**18 02 42.9**	**+1.4**
SHLS	comp=Z,14nm,0.7s			pmax		pmax		
PDGK	**Podgornoye**	**10.13**	**43**	⇓P		**Pn**	**18 02 40.7**	**-2.5**
	comp=Z,18nm,0.7s							
PDGK				⇑S		**Sn**	**18 04 36.4**	**+1.1**
	comp=Z,73nm,1.2s							
PDGK	**Podgornoye**	**10.13**	**43**	P		**Pn**	**18 02 40.6**	**-2.5**
PDGK				S		**Sn**	**18 04 33.1**	**-2.2**
AJM	**Ajmer**	**10.60**	**157**	*e*P		**Pn**	**18 02 46.0**	**-3.4**
AJM				*i* x		x	18 04 39.0	
TDK	**Taldyqorghan**	**10.78**	**34**	⇓ *e*P		**Pn**	**18 02 49.8**	**-1.8**
	comp=Z,36nm,0.8s,baz=34							
TDK	**Taldyqorghan**	**10.78**	**34**	*de*P		**Pn**	**18 02 49.8**	**-1.8**
TDK	comp=Z,36nm,0.8s			pmax		pmax		
PYUN	**Piuthan**	**13.74**	**123**	*e*P		**Pn**	**18 03 26.9**	**-3.4**
BRZS	**Berezniki**	**13.79**	**7**	*e*P		**Pn**	**18 03 30.0**	**-0.6**
	comp=Z,37nm,1.6s,baz=7.2							
BRZS	**Berezniki**	**13.79**	**7**	*e*P		**Pn**	**18 03 29.9**	**-0.6**
BRZS	comp=Z,37nm,1.6s			pmax		pmax		
MAKZ	**Makanchi**	**13.79**	**37**	P		**Pn**	**18 03 27.8**	**-2.7**
MAKZ	**Makanchi**	**13.79**	**37**			**Pn**	**18 03 27.8**	**-2.7**
MK31	**Makanchi Array**	**13.94**	**38**	P		**Pn**	**18 03 30.1**	**-2.3**
	comp=Z,14nm,0.5s,baz=220,slow=11,SNR=216							
MK31	**Makanchi Array**	**13.94**	**38**	*i* P		**Pn**	**18 03 30.0**	**-2.3**
MK31	**Makanchi Array**	**13.94**	**38**	Pn		**Pn**	**18 03 29.7**	**-2.7**
MKAR	**Makanchi Array**	**13.94**	**38**	P		**Pn**	**18 03 30.6**	**-1.8**
	comp=Z,1.4nm,0.3s,baz=230,slow=16,SNR=46							
MKAR				S		**S**	**18 06 14.1**	**-2.5**
	baz=271,slow=8.2,SNR=1.4							
DANN	**Dangsing**	**14.11**	**120**	*e*P		**Pn**	**18 03 31.9**	**-3.1**
	comp=Z,242nm,0.6s							
KOLN	**Koldanda**	**14.37**	**123**	*e*P		**Pn**	**18 03 34.8**	**-3.3**
AB31	**Akbulak array**	**14.85**	**334**	⇑P		**Pn**	**18 03 42.2**	**-1.5**
	comp=Z,13nm,0.5s							
AB31				⇑S		**Sn**	**18 06 27.5**	**-0.9**
	comp=Z,23nm,0.3s,baz=153,slow=24,SNR=8.3							
AB31	**Akbulak array**	**14.85**	**334**	P		**Pn**	**18 03 42.1**	**-1.6**
GKN	**Gorkha**	**14.94**	**120**	*e*P		**Pn**	**18 03 42.3**	**-2.9**
	comp=Z,119nm,0.2s							
WMQ	**Urumqi**	**15.49**	**56**	*e*P		**P**	**18 03 53.0**	**0.0**
WMQ	comp=Z,25nm,0.9s			pmax		pmax		
WMQ	comp=Z,57nm,4.7s			pmax		pmax		
DMN	**Daman**	**15.51**	**120**	*e*P		**Pn**	**18 03 49.5**	**-2.9**
	comp=Z,53nm,0.4s							
KURBB	**Kurchatov Arra**	**15.57**	**21**	P		**Pn**	**18 03 49.8**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=211,slow=11,SNR=85							
KURBB	**Kurchatov Arra**	**15.57**	**21**	⇑P		**Pn**	**18 03 52.0**	**-0.6**
	comp=Z,48nm,0.8s							
KURBB	**Kurchatov Arra**	**15.57**	**21**	P		**Pn**	**18 03 49.7**	**-2.9**
BANOM	**Banah**	**15.61**	**232**	P		**Pn**	**18 03 53.9**	**+0.5**
KURK	**Kurchatov**	**15.68**	**21**	P		**Pn**	**18 03 51.2**	**-2.8**
KURK	**Kurchatov**	**15.68**	**21**	*d* P		**Pn**	**18 03 50.9**	**-3.1**
KURK	comp=Z,32nm,1.0s			pmax		pmax		
KURK	**Kurchatov**	**15.68**	**21**			**Pn**	**18 03 50.9**	**-3.1**
KURK				IAmb		IAmb	18 03 58.9	
	comp=Z,28nm,0.8s							
JBP	**Jabalpur**	**15.73**	**144**	*e*P		**Pn**	**18 03 54.7**	**-0.1**
JBP				*i* x		x	18 03 56.0	
PKIN	**Phulchoki**	**15.73**	**119**	*e*P		**Pn**	**18 03 52.1**	**-3.0**
	comp=Z,317nm,0.6s							
PKI	**Pulchoki**	**15.74**	**119**	*e*P		**Pn**	**18 03 52.2**	**-3.1**
	comp=Z,267nm,0.6s							
GUN	**Gumba**	**15.88**	**117**	*e*P		**Pn**	**18 03 54.5**	**-2.5**
SEM	**Semipalatinsk**	**15.92**	**25**	*e*P		**Pn**	**18 03 55.6**	**-1.6**
	comp=Z,7.8nm,0.8s,baz=25							
SEM				*e*S		**Sn**	**18 06 50.0**	**-4.5**
	baz=25							
SEM	**Semipalatinsk**	**15.92**	**25**	*e*P		**Pn**	**18 03 55.6**	**-1.6**
SEM				*e*S		**Sn**	**18 06 49.9**	**-4.5**
SEM	comp=Z,8.0nm,0.8s			pmax		pmax		
JIRN	**Jiri**	**16.25**	**118**	*e*P		**Pn**	**18 04 00.1**	**-1.4**
	comp=Z,113nm,0.3s							
WSAR	**Wadi Sarin**	**16.31**	**220**	P		**Pn**	**18 03 58.5**	**-3.5**
	comp=Z,0.3nm,0.3s,baz=40,slow=7.9,SNR=4.7							
WSAR	**Wadi Sarin**	**16.31**	**220**	P		**Pn**	**18 04 01.2**	**-0.8**
UOSS	**Minazif**	**16.37**	**230**	P		**P**	**18 04 03.5**	**+0.8**
UOSS	**Minazif**	**16.37**	**230**			**Pn**	**18 04 02.9**	**+0.2**
UOSS	comp=Z,28nm,1.5s			IAmb		IAmb	18 04 13.6	
AKTO	**Aktyubinsk**	**16.52**	**332**	P		**Pn**	**18 04 04.5**	**+0.2**
	comp=Z,1.3nm,0.3s,baz=141,slow=14,SNR=58							
AKTO				S		**S**	**18 06 58.4**	**-9.4**
	comp=Z,1.4nm,0.3s,baz=207,slow=18,SNR=6.1							
AKTO	**Aktyubinsk**	**16.52**	**332**	⇑P		**Pn**	**18 04 04.3**	**0.0**
	comp=Z,16nm,0.7s							
AKTO				⇓S		**S**	**18 07 07.7**	**-0.1**
	comp=Z,27nm,0.8s							
ASHO	**Ashiyiah**	**16.65**	**230**	P		**Pn**	**18 04 07.7**	**+1.5**
WBK	**Wadi Bani Khal**	**16.66**	**218**	P		**Pn**	**18 04 07.4**	**+1.2**
BVAR	**Borovoye Array**	**16.70**	**1**	P		**P**	**18 04 05.1**	**-1.1**
	comp=Z,4.0nm,0.3s,baz=159,slow=13,SNR=81							
BVAR				S		**Sn**	**18 07 14.8**	**+2.0**
	comp=Z,1.8nm,0.3s,baz=164,slow=24,SNR=4.2							
BRVK	**Borovoye**	**16.73**	**1**	*d i* P		**P**	**18 04 05.2**	**-1.3**
BRVK	comp=Z,47nm,1.7s			pmax		pmax		
BRVK	**Borovoye**	**16.73**	**1**	P		**P**	**18 04 04.8**	**-1.7**
BRVK				IAmb		IAmb	18 04 08.3	
	comp=Z,18nm,0.6s							
SMDO	**Samad**	**16.76**	**221**	P		**P**	**18 04 07.9**	**+0.7**
RAMN	**Ramite**	**16.96**	**119**	*e*P		**P**	**18 04 08.0**	**-1.5**
	comp=Z,251nm,0.7s							
JMDO	**Jabal Madar**	**17.30**	**220**	P		**Pn**	**18 04 16.9**	**+2.9**
	SNR=5.4							
ARQ	**Araqi**	**17.39**	**226**	P		**Pn**	**18 04 16.6**	**+1.6**
ARQ				P		**P**	**18 04 18.4**	**+4.4**
BSY	**Bisya**	**17.48**	**223**	P		**Pn**	**18 04 17.8**	**+1.8**
TAPN	**Taplejung**	**17.52**	**116**	*e*P		**P**	**18 04 15.4**	**-0.4**
	comp=Z,290nm,0.5s							
ODAN	**Odare**	**17.58**	**118**	*e*P		**Pn**	**18 04 16.7**	**-0.7**
	comp=Z,140nm,0.6s							
POO	**Poona**	**18.06**	**168**	*ex*		**Pn**	**18 04 23.0**	**0.0**
DGZ	**Jazzator, Alta**	**18.43**	**38**	*d i* P		**Pn**	**18 04 26.2**	**-1.1**
LSA	**Lhasa**	**18.95**	**104**	P		**Pn**	**18 04 33.7**	**-0.1**
LSA	comp=Z,71nm,1.3s			pmax		pmax		
LSA	**Lhasa**	**18.95**	**104**	P		**Pn**	**18 04 33.3**	**-0.5**
LSA	comp=Z,25nm,0.6s			pmax		pmax		

LSA	**Lhasa**	**18.95**	**104**			**Pn**	**18 04 33.2**	**-0.5**
LSA	comp=Z,25nm,0.6s			IAmb		IAmb	18 04 37.4	
TBLG	**Delisi**	**20.29**	**293**	P		**P**	**18 04 46.6**	**+1.3**
TBLG	comp=Z,11nm,0.6s			pmax		pmax		
TBLG	**Delisi**	**20.29**	**293**	P		**P**	**18 04 46.6**	**+1.3**
TBLG	comp=Z,11nm,0.6s			IAmb		IAmb	18 04 52.3	
HYB	**Hyderabad**	**20.32**	**156**	*i* P		**P**	**18 04 46.0**	**+0.2**
HYB	comp=Z,62nm,0.8s			*e*S		**S**	**18 08 22.0**	**-3.5**
ZAA0	**Zalesovo Array**	**20.43**	**26**	⇑P		Pn	18 04 51.7	+1.2
	comp=Z,5.6nm,0.5s							
ZAA0	**Zalesovo Array**	**20.43**	**26**	P		**P**	**18 04 46.9**	**+0.3**
ZALV	**Zalesovo Beam**	**20.43**	**26**	P		**P**	**18 04 47.0**	**+0.4**
	comp=Z,66nm,0.6s,baz=214,slow=11,SNR=218							
ZEI	**Tsey**	**21.05**	**296**	*e*P		**P**	**18 04 53.9**	**+0.2**
ZEI	comp=Z,4.0nm,0.5s			pmax		pmax		
AKH	**Akhalkalaki**	**21.18**	**292**	P		**P**	**18 04 56.3**	**+1.3**
AKH	comp=Z,5.0nm,0.7s			pmax		pmax		
AKH	**Akhalkalaki**	**21.18**	**292**	P		**P**	**18 04 56.3**	**+1.3**
NCK	**Nalchik**	**21.39**	**298**	⇑ *e*P		**P**	**18 04 58.6**	**+1.5**
NCK	comp=Z,6.0nm,0.3s			pmax		pmax		
SVE	**Sverdlovsk**	**21.45**	**346**	⇓ *e*P		**P**	**18 04 58.9**	**+1.4**
SVE				*e*S		**S**	**18 08 52.1**	**+6.1**
SVE	comp=Z,27nm,0.7s			pmax		pmax		
ARU	**Arti**	**21.53**	**343**	P		**P**	**18 04 59.4**	**+0.9**
	comp=Z,2.7nm,0.4s,baz=160,slow=9.8,SNR=18							
ARU				S		**S**	**18 08 54.4**	**+6.9**
	comp=Z,2.1nm,0.4s,baz=300,slow=23,SNR=5.5							
ARU	**Arti**	**21.53**	**343**	*c i* P		**P**	**18 04 58.7**	**+0.3**
ARU							18 05 31.0	
ARU				S		**S**	**18 08 50.3**	**+2.8**
ARU				*SS		**sS**	**18 09 31.2**	**-3.3**
ARU	comp=Z,10.0nm,0.7s			pmax		pmax		
ARU	**Arti**	**21.53**	**343**	P		**P**	**18 04 58.9**	**+0.4**
ARU	comp=Z,11nm,0.7s			IAmb		IAmb	18 05 49.1	
ARU				S		**S**	**18 08 52.7**	**+5.2**
SHL	**Shillong**	**21.61**	**114**	P		**P**	**18 04 59.9**	**+0.1**
	SNR=13							
SHL	**Shillong**	**21.61**	**114**	P		**P**	**18 04 59.2**	**-0.5**
SHL	comp=Z,45nm,1.0s			pmax		pmax		
SHL	**Shillong**	**21.61**	**114**	P		**P**	**18 04 59.2**	**-0.5**
KBZ	**Khabaz**	**21.93**	**298**	P		**P**	**18 05 03.2**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=72,slow=9.1,SNR=4.3							
KBZ	**Khabaz**	**21.93**	**298**	⇑ *e*P		**P**	**18 05 03.1**	**+0.4**
KBZ	comp=Z,4.0nm,1.0s			pmax		pmax		
NEY	**Neytrino**	**21.98**	**297**	⇑ *e*P		**P**	**18 05 03.7**	**+0.3**
NEY	comp=Z,1.0nm,1.1s			pmax		pmax		
KIV	**Kislovodsk**	**22.12**	**299**	⇑ *e*P		**P**	**18 05 06.2**	**+1.4**
KIV				*e**PP		**pP**	**18 05 31.5**	**-0.4**
KIV				*SP		**sP**	**18 05 49.0**	**-1.7**
KIV				*SS		**sS**	**18 09 41.0**	**-5.8**
KIV	comp=Z,9.0nm,1.2s			pmax		pmax		
KIV	comp=Z,21nm,18.0s			MLR		MLR		
KIV	**Kislovodsk**	**22.12**	**299**	P		**P**	**18 05 06.7**	**+1.9**
KIV				IAmb		IAmb	18 05 59.0	
	comp=Z,9.8nm,0.7s							
WHFO	**Wadi Hawf**	**23.25**	**222**	P		**P**	**18 05 17.0**	**+1.4**
	SNR=8.4							
GTA	**Gaotai**	**23.73**	**73**	*e*P		**P**	**18 05 21.4**	**+1.6**
GTA				pP		pP	18 05 52.5	+2.1
GTA				sP		sP	18 06 08.8	-1.0
GTA				S		**S**	**18 09 21.6**	**-2.4**
GTA				sS		sS	18 10 10.1	-8.6
GTA	comp=Z,6.0nm,1.1s			pmax		pmax		
GTA	comp=Z,41nm,7.0s			pmax		pmax		
GTA	comp=Z,47nm,15.9s			LR		LR		
GTA	comp=Z,38nm,15.9s			LR		LR		
GTA	comp=Z,35nm,16.8s			LR		LR		
ABTO	**Aybut**	**23.97**	**222**	P		**P**	**18 05 25.0**	**+2.8**
	SNR=14							
RAYN	**Ar Rayn**	**24.66**	**246**	P		**P**	**18 05 28.9**	**+0.6**
RAYN	comp=Z,7.0nm,1.3s			pmax		pmax		
RAYN	**Ar Rayn**	**24.66**	**246**	P		**P**	**18 05 28.9**	**+0.6**
VRH	**Novokhopyorsk**	**25.03**	**315**	*e*P		**P**	**18 05 33.9**	**+2.6**
VRH				*e**SP		**pP**	**18 06 10.0**	**+7.3**
VRH	comp=Z,10.0nm,1.7s			pmax		pmax		
KIRV	**Kirov**	**26.04**	**335**	P		**P**	**18 05 41.9**	**+1.6**
	comp=Z,21nm,0.5s,baz=215,slow=2.5,SNR=6.2							
VORD	**Divnogorie**	**26.34**	**313**

KLMR pmax pmax
comp=Z,13nm,1.4s
KLMR Klimovskoe 31.22 331 *e*P **P 18 06 26.3 0.0**
KLMR AMP 18 06 29.2
comp=Z,13nm,1.4s
XAN Xi'an 31.79 82 P **P 18 06 32.4 +0.7**
XAN pmax pmax
comp=Z,6.0nm,1.0s
XAN Xi'an 31.79 82 P **P 18 06 31.7 +0.1**
XAN pmax pmax
comp=Z,12nm,1.5s
XAN Xi'an 31.79 82 P **P 18 06 31.7 +0.1**
XAN IAmb IAmb 18 06 34.6
comp=Z,12nm,1.5s
ELL Elmali 32.02 283 P **P 18 06 35.3 +1.6**
ELL pmax pmax
comp=Z,95nm,1.7s
ELL Elmali 32.02 283 P **P 18 06 35.3 +1.6**
PBA Port Blair 32.03 134 P P 18 06 35.2 +1.4
AKASG Malin Array Be 32.40 309 P **P 18 06 37.5 +0.8**
comp=Z,1.1nm,0.5s,baz=84,slow=7.0,SNR=6.2
HHC Hu-ho-hao-te 32.62 69 *e*P **P 18 06 40.6 +1.7**
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,52nm,5.7s
GYA Guiyang 32.68 97⇑ *i*P **P 18 06 40.6 +1.0**
GYA pmax pmax
comp=Z,10.0nm,1.2s
ENH Enshi 33.42 89 P **P 18 06 46.4 +0.5**
ENH IAmb IAmb 18 06 47.7
comp=Z,20nm,1.5s
PBKT Sadao Pong 33.81 117 **P 18 06 50.3 +1.0**
PBKT IAmb IAmb 18 06 52.7
comp=Z,11nm,0.8s
MLR Muntele Rosu 34.13 299 P **P 18 06 54.4 +2.4**
MLR pmax pmax
comp=Z,6.0nm,1.0s
MLR Muntele Rosu 34.13 299 P **P 18 06 54.4 +2.4**
ALN Alexandroupoli 34.34 291 P **P 18 06 53.8 +0.2**
ALN pmax pmax
comp=Z,10.0nm,0.7s
ALN Alexandroupoli 34.34 291 P **P 18 06 53.8 +0.2**
ALN IAmb IAmb 18 08 09.2
comp=Z,10nm,0.7s
NRIK Noril'sk 34.45 11 P **P 18 06 55.9 +1.6**
comp=Z,3.3nm,0.4s,baz=206,slow=6.3,SNR=8.9
BOD Bodaibo 36.02 39 *e*P **P 18 07 08.7 +0.9**
BOD pmax pmax
comp=Z,8.0nm,0.8s
VTS Vitosha 36.24 295 P **P 18 07 11.0 +0.9**
VTS pmax pmax
comp=Z,4.0nm,1.2s
VTS Vitosha 36.24 295 P **P 18 07 11.0 +0.9**
FIA1 FINESS Array S 37.16 327 P **P 18 07 18.4 +1.1**
FIA1 IAmb IAmb 18 07 19.4
comp=Z,8.5nm,0.8s
FINES FINESS Array B 37.16 327 P **P 18 07 18.8 +1.4**
comp=Z,6.7nm,0.6s,baz=111,slow=10,SNR=32
FINES LR LR 18 24 57.8
comp=Z,30nm,19.1s,baz=23,slow=40
WHN Wuhan 37.25 86 P P 18 07 28.2 +10
LVZ Lovozero 37.31 339 P **P 18 07 19.9 +1.3**
LVZ pmax pmax
comp=Z,57nm,1.7s
LVZ Lovozero 37.31 339 P **P 18 07 19.9 +1.3**
ITM Ithomi 38.16 286 P **P 18 07 26.7 +0.6**
OJC Ojcow 38.34 307 P **P 18 07 27.6 +0.2**
OJC pmax pmax
comp=Z,9.0nm,1.2s
OJC Ojcow 38.34 307 P **P 18 07 27.6 +0.2**
OJC IAmb IAmb 18 08 02.0
comp=Z,8.6nm,1.2s
DIVS Divibare 38.44 297 P **P 18 07 29.5 +1.0**
DIVS IAmb IAmb 18 08 53.7
comp=Z,15nm,1.8s
MORC Moravsky Berou 39.79 307 P **P 18 07 41.2 +1.6**
MORC pmax pmax
comp=Z,3.0nm,0.8s
MORC Moravsky Berou 39.79 307 P **P 18 07 41.2 +1.6**
NJ2 Nanjing 40.34 81 *e*P **P 18 07 44.8 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
KEV Kevo 40.65 339 P **P 18 07 47.9 +1.6**
KEV pmax pmax
comp=Z,53nm,1.6s
KEV Kevo 40.65 339 P **P 18 07 47.9 +1.6**
ARCES ARCESS Array B 40.98 338 P **P 18 07 50.6 +1.5**
comp=Z,6.0nm,0.4s,baz=112,slow=7.8,SNR=96
ARE0 ARCESS Array S 40.98 338 P **P 18 07 50.6 +1.5**
KULM Kulim 41.80 130 P **P 18 07 56.5 +0.1**
KULM IAmb IAmb 18 07 58.0
comp=Z,9.5nm,1.0s
SGRT San Giovanni R 41.87 295 P **P 18 07 56.5 -0.3**
GERES GERESS Array B 42.34 305 P **P 18 08 00.9 +0.4**
comp=Z,0.2nm,0.2s,baz=91,slow=7.8,SNR=1.8
IPM Ipoh 42.66 131 P **P 18 08 02.6 -0.8**
PRED Cave del Predi 42.68 302 P **P 18 08 04.0 +0.8**
PSI Prapat 42.75 135 LR LR 18 26 43.7
comp=Z,85nm,18.5s,baz=268,slow=37
PSI Prapat 42.75 135 P **P 18 08 03.8 -0.4**
PSI pmax pmax
comp=Z,14nm,0.9s
ZEA Zeya 42.81 47 *e*P **P 18 08 06.4 +2.3**
RPSI Rantau Prapat 42.84 135 P **P 18 08 03.8 -0.9**
RPSI IAmb IAmb 18 08 05.1
comp=Z,14nm,0.9s
KNMB Chin-men Tao 43.02 92 P **P 18 08 05.5 -0.7**
GSI Gunungsitoli 43.23 137 P **P 18 08 08.6 +0.7**
CIMO Cimolais 43.47 302 P **P 18 08 09.6 +0.1**
NC405 NORSAR Array S 43.78 323 P **P 18 08 12.2 +0.4**
NC405 IAmb IAmb 18 08 14.0
comp=Z,23nm,1.3s
NC602 NORSAR Array S 43.82 323 P **P 18 08 12.5 +0.5**
NC602 IAmb IAmb 18 09 27.0
comp=Z,41nm,1.8s
NC303 NORSAR Array S 43.96 323 P **P 18 08 14.2 +1.0**
NC303 IAmb IAmb 18 08 15.3
comp=Z,17nm,1.0s
NB201 NORSAR Array S 43.97 323 P **P 18 08 13.9 +0.5**
NB201 IAmb IAmb 18 08 14.8
comp=Z,26nm,1.1s
NB2 NORSAR Subarra 44.01 323 P **P 18 08 13.9 +0.2**
comp=Z,2.1nm,0.4s,baz=99,slow=7.9
NOA NORSAR Array B 44.01 323 P **P 18 08 14.1 +0.4**
comp=Z,3.9nm,0.7s,baz=98,slow=7.8,SNR=21
CTI Castel Tesino 44.05 302 P **P 18 08 14.7 +0.5**
CTI pmax pmax
comp=Z,3.0nm,0.7s
CTI Castel Tesino 44.05 302 P **P 18 08 14.7 +0.5**
NAO01 NORSAR Array S 44.15 323 P **P 18 08 15.0 +0.3**
NAO01 IAmb IAmb 18 09 57.2
comp=Z,21nm,1.2s
NBO00 NORSAR Array S 44.22 323 P **P 18 08 15.6 +0.3**
NBO00 IAmb IAmb 18 08 17.1
comp=Z,30nm,1.3s
NC204 NORSAR Array S 44.26 324 P **P 18 08 16.3 +0.7**
NC204 IAmb IAmb 18 08 17.2
comp=Z,13nm,1.1s
YAK Yakutsk 44.60 35 *e*P **P 18 08 18.5 +0.3**
YAK *e**PP **pP 18 08 49.8 -2.6**
YAK *e* 18 10 05.0
YAK *e*S **S 18 14 44.1 +1.7**
YAK *e**SS **sS 18 15 41.3 -0.5**
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=Z,76nm,5.2s
YAK pmax pmax
comp=N,24nm,3.2s
YAK pmax pmax
comp=E,95nm,5.2s
YAK smax smax
comp=E,54nm,1.9s
YAK smax smax
comp=N,48nm,2.0s
YAK Yakutsk 44.60 35 P **P 18 08 18.9 +0.7**
YAK IAmb IAmb 18 08 20.0
comp=Z,17nm,0.8s
KONO Kongsberg 44.69 321 P **P 18 08 19.2 +0.2**
KONO pmax pmax
comp=Z,29nm,1.7s
KONO Kongsberg 44.69 321 P **P 18 08 19.2 +0.2**
KONO IAmb IAmb 18 08 58.4
comp=Z,29nm,1.6s
SSLB Suanglung 45.41 91 P **P 18 08 26.8 +1.6**
KSRS Korea Array 45.73 70 P **P 18 08 27.9 +0.4**
comp=Z,0.4nm,0.5s,baz=270,slow=6.4,SNR=7.0
MSSA Maissana 45.84 300 P **P 18 08 28.5 +0.1**
MSSA IAmb IAmb 18 09 03.5
comp=Z,10nm,1.1s
YULB Yu-li 45.87 92 P **P 18 08 29.9 +1.1**
YULB IAmb IAmb 18 08 31.3
comp=Z,12nm,1.0s
BKNI Bangkinang 45.98 134 P **P 18 08 29.4 -0.3**
TIXI Tiksi 46.25 22 P **P 18 08 32.2 +1.1**
TIXI pmax pmax
comp=Z,11nm,0.6s
TIXI Tiksi 46.25 22 P **P 18 08 32.2 +1.1**
TIXI IAmb IAmb 18 09 05.8
comp=Z,10nm,0.6s
MYKOM Kota Tinggi 46.51 130 P **P 18 08 33.8 0.0**
MYKOM IAmb IAmb 18 08 35.1
comp=Z,6.8nm,0.7s
ECH Echery 46.73 305 P **P 18 08 35.9 +0.7**
ECH pmax pmax
comp=Z,15nm,2.0s
ECH Echery 46.73 305 P **P 18 08 35.9 +0.7**
YOJ Yonaguni jima 46.75 89 P **P 18 08 35.7 0.0**
YOJ pmax pmax
comp=Z,291nm,1.8s
YOJ Yonaguni jima 46.75 89 P **P 18 08 35.7 0.0**
SENIN Lac Senin/Sane 46.97 303 P **P 18 08 37.0 -0.4**
SENIN IAmb IAmb 18 08 44.7
comp=Z,13nm,1.6s
USRK Ussuriysk Ar. 46.99 60 P **P 18 08 39.6 +2.4**
comp=Z,1.2nm,0.6s,baz=272,slow=7.1,SNR=2.7
WLF Walferdange 47.16 307 P **P 18 08 39.2 +0.7**
WLF pmax pmax
comp=Z,12nm,1.3s
WLF Walferdange 47.16 307 P **P 18 08 39.2 +0.7**
WLF IAmb IAmb 18 08 41.1
comp=Z,12nm,1.3s
SPA0 Spitsbergen Ar 47.47 347 P **P 18 08 42.0 +1.5**
KEST Kesra 48.29 288 P **P 18 08 49.1 +1.6**
KBS Kingsbay 48.59 347 *de*P **P 18 08 51.2 +2.1**
KBS pmax pmax
comp=Z,19nm,1.0s
KBS Kingsbay 48.59 347 P **P 18 08 51.2 +2.1**
KBS IAmb IAmb 18 08 52.4
comp=Z,19nm,1.0s
SSB Saint Sauveur 49.09 302 P **P 18 08 54.6 +1.2**
SSB pmax pmax
comp=Z,3.0nm,0.7s
SSB Saint Sauveur 49.09 302 P **P 18 08 54.6 +1.2**
KSM Kuching 50.93 124 P **P 18 09 07.9 +0.3**
KSM IAmb IAmb 18 09 09.2
comp=Z,7.0nm,1.0s
SBUM Sibu 51.53 121 P **P 18 09 12.8 +0.8**
MBAR Mbarara 51.72 234⇑ *e*P **P 18 09 14.9 +1.2**
MBAR pmax pmax
comp=Z,4.0nm,0.8s
MBAR Mbarara 51.72 234 P **P 18 09 14.3 +0.6**
KKM Kota Kinabalu 51.91 114 P **P 18 09 15.9 +0.9**
KKM IAmb IAmb 18 09 17.0
comp=Z,16nm,1.0s
YSS Yuzh-Sakhalins 53.61 54 *e*P P 18 09 19.4 -7.6
MJB9 Matsu-Tunnel 53.80 68 P **P 18 09 28.1 -0.5**
MAJO Matsushiro 53.80 68 P **P 18 09 28.1 -0.5**
MAJO pmax pmax
comp=Z,6.0nm,1.2s
MAJO Matsushiro 53.80 68 P **P 18 09 28.1 -0.5**
MAJO IAmb IAmb 18 10 59.4
comp=Z,5.6nm,1.1s
NOR Nord 53.82 350 *i* P **P 18 09 29.4 +1.4**
NOR Nord 53.82 350 *i* P **P 18 09 29.4 +1.4**
DAG Danmarks Havn 54.66 344 *i* P **P 18 09 35.4 +1.3**
comp=Z,9.5nm,0.7s
DAG Danmarks Havn 54.66 344 *i* P **P 18 09 35.4 +1.3**
DAG pmax pmax
comp=Z,10.0nm,0.7s
SEY Seymchan 55.03 34⇓ *e*P **P 18 09 38.1 +1.1**
CART Cartagena 55.42 294 P **P 18 09 39.6 -0.5**
ERM Erimo 55.45 60 P **P 18 09 39.9 -0.3**
ERM pmax pmax
comp=Z,22nm,1.2s
ERM Erimo 55.45 60 P **P 18 09 39.9 -0.3**
ESDC Sonseca Array 56.79 298 P **P 18 09 50.7 +0.8**
comp=Z,1.1nm,0.7s,baz=57,slow=7.6,SNR=8.2
BILL Bilibino 59.13 26 *e*P **P 18 10 07.5 +1.8**
BILL *e**PP **pP 18 10 41.2 -0.3**
BILL *e* 18 10 53.3
BILL S S 18 18 23.0 +22
BILL SSS SSS 18 24 27.0
BILL pmax pmax
comp=Z,6.0nm,1.2s
BILL Bilibino 59.13 26 P **P 18 10 07.0 +1.3**
BILL IAmb IAmb 18 10 08.1
comp=Z,3.9nm,0.9s
PETK Petropavlovsk- 60.68 44 P **P 18 10 17.2 +0.7**
comp=Z,0.8nm,0.6s,baz=251,slow=9.0,SNR=1.9
SUMG Summit 60.95 341 *i* P **P 18 10 20.4 +1.9**
comp=Z,18nm,0.8s
SUMG *i* 18 10 55.0
SUMG Summit 60.95 341 *i* P **P 18 10 20.4 +1.9**
SUMG *i* 18 10 55.0
SUMG pmax pmax
comp=Z,19nm,0.8s
SUMG Summit 60.95 341 P **P 18 10 19.7 +1.2**
SUMG IAmb IAmb 18 10 21.3
comp=Z,7.2nm,0.8s
TORD Torodi Ar. Bea 64.87 268 P **P 18 10 43.9 -0.9**
comp=Z,1.3nm,0.4s,baz=49,slow=6.1,SNR=23
TOLK Toolik Lake Re 71.30 14 P **P 18 11 25.4 +1.2**
TOLK IAmb IAmb 18 11 26.2
comp=Z,8.7nm,0.7s
COLD Coldfoot 72.36 15 P **P 18 11 31.9 +1.4**
FYU Fort Yukon 73.94 14 P **P 18 11 40.9 +1.2**
FYU IAmb IAmb 18 11 42.5
comp=Z,6.4nm,0.8s
C36M Paulatuk 74.13 5 P **P 18 11 41.1 +0.5**
C36M IAmb IAmb 18 11 42.2
comp=Z,9.6nm,0.7s
INK Inuvik 74.21 9 P **P 18 11 42.4 +1.3**
INK pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 74.21 9 P **P 18 11 42.4 +1.3**
INK IAmb IAmb 18 11 43.4
comp=Z,6.1nm,0.7s
BPAW Bear Paw Mtn. 74.81 17 P **P 18 11 44.5 -0.3**
CCB Clear Creek Bu 75.08 16 P **P 18 11 46.4 +0.1**
ILAR Eielson Array 75.17 15 P **P 18 11 47.2 +0.4**
comp=Z,1.9nm,0.8s,baz=316,slow=4.3,SNR=16
KTH Kantishna Hill 75.29 18 P **P 18 11 48.4 +0.8**
SCRK Sand Creek 76.48 15 P **P 18 11 54.8 +0.4**
BOSA Boshof 77.07 219 P **P 18 11 57.8 -0.3**
comp=Z,3.0nm,0.7s,baz=18,slow=5.4,SNR=6.3
BOSA Boshof 77.07 219 P **P 18 11 57.7 -0.4**
BOSA pmax pmax
comp=Z,54nm,1.9s
BOSA Boshof 77.07 219 P **P 18 11 57.7 -0.4**
YKA Yellowknife Ar 81.45 2 P **P 18 12 22.4 +1.1**
comp=Z,3.2nm,1.0s,baz=346,slow=4.6,SNR=12
WRA Warramunga Arr 82.62 121 P **P 18 12 26.8 -1.2**
comp=Z,1.3nm,0.6s,baz=324,slow=4.9,SNR=12
ASAR Alice Springs 84.85 124 P **P 18 12 38.3 -1.1**
comp=Z,1.4nm,0.7s,baz=314,slow=4.8,SNR=23

NEIC ***03*** *18:09:58.6±2.0, 20.°0S±0.°1×177.°50W±0.°08, h360km±5km, mb4.1/14, Error ellipse: s-maj=21.4km s-min=10.3km az=168.0*

IDC ***03*** *18:10:04.0±6.9, 19.°96S×177.°77W, h402km±74km, mb3.2/10, mb1 3.5/11, mb1mx3.2/33, mbtmp4.0/11, Error ellipse: s-maj=31.2km s-min=27.7km az=175.0*

ISC 03 18:10:02.4±0.6, 20.°22S±0.°06×177.°6W±0.°1, h400km, n52, σ1°77/56, mb4.0/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.80**	**300**		**Pn**	**18 11 18.4**	**-4.2**
NIUE	**Niue**	**7.32**	**82**	Pn	Pn	18 11 42.5	-7.2
AFI	**Afiamalu**	**8.39**	**42**	Pn	Pn	18 11 51.6	-10
GLKZ	**Green Lake**	**9.01**	**182**	P	**Pn**	**18 12 06.3**	**-2.5**
GLKZ				S	**S**	**18 13 49.1**	**-3.5**
DZM	**Mont Dzumac**	**15.00**	**260**	P	**P**	**18 13 16.7**	**+1.7**
	1.3nm,0.3s,baz=109,slow=23,SNR=15						
DZM	**Mont Dzumac**	**15.00**	**260**	P	**P**	**18 13 17.2**	**+2.2**
DZM				IAmb	IAmb	18 13 22.1	
	comp=Z,17nm,0.8s						
MXZ	**Matakaoa Point**	**17.64**	**191**	P	**P**	**18 13 44.7**	**+1.8**
WMGZ	**Waiomatatini S**	**17.87**	**190**	P	**P**	**18 13 46.1**	**+0.7**
WMGZ				S	**S**	**18 16 52.5**	**+2.4**
HAZ	**Te Kaha**	**17.93**	**192**	P	**P**	**18 13 47.3**	**+1.3**
PKGZ	**Pakihiroa**	**18.00**	**191**	P	**P**	**18 13 47.7**	**+0.9**
PKGZ				S	**S**	**18 16 48.8**	**-3.8**
RUGZ	**Raukumara Rang**	**18.15**	**192**	P	**P**	**18 13 49.0**	**+0.5**
KNTN	**Kanton**	**18.27**	**19**	P	**P**	**18 13 47.2**	**-2.7**
TWGZ	**Tauwhareparae**	**18.30**	**191**	P	**P**	**18 13 51.2**	**+1.2**
TWGZ				S	**S**	**18 16 58.8**	**+0.9**
MWZ	**Matawai**	**18.54**	**192**	P	**P**	**18 13 52.9**	**+0.4**
URZ	**Urewera**	**18.55**	**193**	P	**P**	**18 13 52.6**	**0.0**
URZ				S	**S**	**18 16 59.8**	**-2.5**
TKGZ	**Te Karaka**	**18.58**	**191**	P	**P**	**18 13 53.7**	**+0.8**
MUGZ	**Murupara**	**18.83**	**194**	P	**P**	**18 13 57.0**	**+1.5**
RTZ	**Ruatahuna**	**18.92**	**193**	P	**P**	**18 13 57.4**	**+0.9**
SNGZ	**Shannon Statio**	**19.01**	**192**	P	**P**	**18 13 59.1**	**+1.8**
RAHZ	**Arahi**	**19.19**	**193**	P	**P**	**18 14 01.3**	**+2.2**
RAHZ				S	**S**	**18 17 15.6**	**+2.5**
BKZ	**Black Stump Fm**	**19.55**	**194**	P	**P**	**18 14 02.5**	**-0.2**
KWHZ	**Kaweka Forest**	**19.82**	**194**	P	**P**	**18 14 06.8**	**+1.7**
BHHZ	**Black Hill Sta**	**19.96**	**194**	P	**P**	**18 14 07.3**	**+0.9**
KRHZ	**Kereru**	**20.04**	**194**	P	**P**	**18 14 09.9**	**+2.8**
KAHZ	**Kahuranaki**	**20.08**	**192**	P	**P**	**18 14 09.8**	**+2.4**
PXZ	**Pawanui**	**20.31**	**192**	P	**P**	**18 14 11.7**	**+2.3**
MRZ	**Mangatainoka R**	**21.19**	**194**	P	**P**	**18 14 17.6**	**+0.1**
RPZ	**Rata Peaks**	**25.27**	**200**	P	**P**	**18 14 57.6**	**+3.2**
	comp=Z,4.9nm,0.6s,baz=201,slow=22,SNR=2.2						
RPZ	**Rata Peaks**	**25.27**	**200**	P	**P**	**18 14 57.9**	**+3.6**
CTA	**Charters Tower**	**33.89**	**264**	P	**P**	**18 16 10.6**	**+0.7**
	comp=Z,3.4nm,0.4s,baz=92,slow=10,SNR=14						
CTAO	**Charters Tower**	**33.89**	**264**	P	**P**	**18 16 10.5**	**+0.7**
CTAO				IAmb	IAmb	18 16 20.4	
	comp=Z,11nm,1.2s						
BBOO	**Buckleboo**	**43.01**	**243**	P	**P**	**18 17 25.2**	**+0.7**
BBOO				IAmb	IAmb	18 17 26.8	
	comp=Z,12nm,1.2s						
AS31	**Alice Springs**	**44.95**	**256**	P	**P**	**18 17 39.9**	**0.0**
ASAR	**Alice Springs**	**44.95**	**256**	P	**P**	**18 17 40.2**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=94,slow=8.3,SNR=35						
WB0	**Warramunga Arr**	**44.99**	**262**	P	**P**	**18 17 39.9**	**-0.3**
WB2	**Warramunga Arr**	**45.00**	**262**	P	**P**	**18 17 40.3**	**0.0**
WB2				IAmb	IAmb	18 17 41.8	
	comp=Z,13nm,1.4s						
WRAB	**Tennant Creek**	**45.00**	**262**	P	**P**	**18 17 40.1**	**-0.3**
WRAB				IAmb	IAmb	18 18 07.9	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**45.01**	**262**	P	**P**	**18 17 40.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=96,slow=7.5,SNR=9.3						
FORT	**Forrest**	**49.75**	**246**	P	**P**	**18 18 16.9**	**+0.7**
FORT				IAmb	IAmb	18 18 54.0	
	comp=Z,18nm,1.1s						
KNRA	**Kununurra**	**51.05**	**266**	P	**P**	**18 18 26.9**	**+0.8**
NWAO	**Narrogin (SRO)**	**58.83**	**243**	P	**P**	**18 19 19.5**	**-1.4**
QSPA	**South Pole Qui**	**69.84**	**180**	P	**P**	**18 20 33.0**	**+2.0**
MJAR	**Matsushiro Arr**	**70.21**	**323**	P	**P**	**18 20 32.8**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=144,slow=5.9,SNR=11						
MAJO	**Matsushiro**	**70.21**	**323**	P	**P**	**18 20 33.0**	**-0.5**
MAJO				IAmb	IAmb	18 21 11.2	
	comp=Z,7.8nm,1.4s						
MAT	**Matsushiro**	**70.21**	**323**	P	**P**	**18 20 32.6**	**-0.8**
MJB9	**Matsu-Tunnel**	**70.22**	**323**	P	**P**	**18 20 33.0**	**-0.5**
MJB9				IAmb	IAmb	18 20 33.4	
	comp=Z,2.1nm,0.5s						
PETK	**Petropavlovsk-**	**76.10**	**345**	P	**P**	**18 21 07.0**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=108,slow=7.7,SNR=5.2						
NVAR	**Mina Array Bea**	**80.57**	**43**	P	**P**	**18 21 32.5**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=234,slow=6.2,SNR=3.5						
TXAR	**Lajitas Array**	**86.59**	**57**	P	**P**	**18 22 03.9**	**+1.8**
	comp=Z,0.1nm,0.4s,baz=256,slow=5.3,SNR=2.0						
ILAR	**Eielson Array**	**87.96**	**13**	P	**P**	**18 22 07.1**	**-0.5**
	comp=Z,0.5nm,0.8s,baz=231,slow=5.7,SNR=3.3						
CMAR	**Chiang Mai Arr**	**90.38**	**289**	P	**P**	**18 22 21.6**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=100,slow=5.6,SNR=2.8						
GERES	**GERESS Array B**	**150.03**	**345**	PKPbc	**PKiKP**	**18 29 07.4**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=356,slow=2.0,SNR=5.7						

IDC 03 18:13:53.3±1.6, 6.°98S×155.°28E, h88km±24km, mb3.1/3, mb1 3.3/5, mb1mx3.1/32, mbtmp3.6/5, MS2.6/2, Ms1 2.6/2, ms1mx2.3/9, Error ellipse: s-maj=37.4km s-min=12.3km az=34.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**4.18**	**309**	P	Pn	18 14 53.1	-1.7
	1.3nm,0.3s,baz=334,slow=15,SNR=1.9						
KRVT				S	Sn	18 15 43.9	+1.4
	6.7nm,0.3s,baz=28,slow=6.2,SNR=3.7						
KRVT				LR	LR	18 16 54.1	
	comp=Z,69nm,19.6s,baz=167,slow=43						
HNR	**Honiara**	**5.23**	**118**	P	Pn	18 15 08.3	-0.7
	3.0nm,0.3s,baz=132,slow=1.8,SNR=1.7						
HNR				S	Sn	18 16 09.4	+1.4
	2.4nm,0.3s,baz=66,slow=19,SNR=0.9						
HNR				LR	LR	18 17 22.2	
	comp=Z,56nm,18.7s,baz=322,slow=40						
WRA	**Warramunga Arr**	**24.06**	**236**	P	P	18 19 00.8	+0.2
	0.6nm,0.5s,baz=60,slow=9.8,SNR=4.7						
ASAR	**Alice Springs**	**26.39**	**229**	P	P	18 19 21.1	-0.7
	0.2nm,0.4s,baz=60,slow=9.7,SNR=4.2						
MKAR	**Makanchi Array**	**83.58**	**319**	P	P	18 26 12.3	+0.4
	0.4nm,0.7s,baz=90,slow=6.6,SNR=3.7						

WEL 03 18:14:09.8±0.2, 42.°5S±2.°×174.°4E±.°, h11km±1km, M2.6/21, ML2.8/21, MLv2.6/21, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.09**	**145**	P	Pg	18 14 13.1	+0.7
BSWZ	**Blackbirch Sta**	**0.20**	**259**	P	Pg	18 14 14.8	+0.6
BSWZ				S	Sg	18 14 18.5	+1.3
TUWZ	**Tuamarina**	**0.29**	**328**	P	Pb	18 14 16.7	-0.3
TUWZ				S	Sb	18 14 21.5	-0.4
TCW	**Tory Channel**	**0.47**	**12**	P	Pb	18 14 19.7	-0.5
TCW				S	Sb	18 14 27.0	-0.2
BHW	**Baring Head**	**0.61**	**64**	P	Pb	18 14 22.3	-0.1
BHW				S	Sn	18 14 33.5	-0.7
WEL	**Wellington**	**0.61**	**50**	P	Pb	18 14 22.4	-0.1
WEL				S	Sb	18 14 32.6	+1.5
NNZ	**Nelson**	**0.73**	**308**	P	Pb	18 14 24.4	-0.3
PLWZ	**Palliser**	**0.84**	**83**	P	Pb	18 14 26.3	-0.1
KHZ	**Kahutara**	**0.87**	**211**	P	Pb	18 14 26.8	-0.1
KHZ				S	Sn	18 14 40.0	-0.7
MSWZ	**Moikau Station**	**0.87**	**73**	P	Pb	18 14 27.1	+0.1
DUWZ	**D'Urville Isla**	**0.89**	**349**	P	Pg	18 14 27.0	+0.1
CAW	**Cannon Point**	**0.90**	**51**	P	Pb	18 14 27.3	-0.1
THZ	**Tophouse**	**0.93**	**264**	P	Pg	18 14 26.4	-1.4
KIW	**Kapiti Island**	**1.00**	**36**	P	Pg	18 14 28.7	-0.3
PAWZ	**Paruwai Farm**	**1.01**	**74**	P	Pg	18 14 28.8	-0.4
OGWZ	**Otaki Gorge**	**1.16**	**42**	P	Pb	18 14 31.7	-0.1
TRWZ	**Traveller**	**1.19**	**77**	P	Pb	18 14 31.5	-0.9
HOWZ	**Holdsworth Sta**	**1.29**	**54**	P	Pn	18 14 32.9	-0.9
TMWZ	**Te Maipa**	**1.43**	**67**	P	Pn	18 14 34.6	-1.2
MRZ	**Mangatainoka R**	**1.48**	**47**	P	Pn	18 14 35.8	-0.7
QRZ	**Quartz Range**	**1.48**	**304**	P	Pb	18 14 37.5	+0.1
GVZ	**Greta Valley S**	**1.53**	**212**	P	Pn	18 14 36.2	-1.0
TIWZ	**Tintock**	**1.59**	**56**	P	Pn	18 14 37.1	-0.9
OHWZ	**Ohakea**	**1.71**	**32**	P	Pb	18 14 42.0	+0.6
DSZ	**Denniston Nort**	**1.75**	**267**	P	Pn	18 14 40.5	+0.3
POWZ	**Post Office Ro**	**1.77**	**44**	P	Pn	18 14 40.0	-0.5
PRWZ	**Pori Road**	**1.78**	**52**	P	Pn	18 14 39.6	-0.9
LTZ	**Lake Taylor**	**1.78**	**231**	P	Pn	18 14 41.4	+0.8
AMCZ	**Amberley**	**1.86**	**216**	P	Pg	18 14 45.7	+0.1
BFZ	**Birch Farm**	**1.87**	**59**	P	Pg	18 14 46.1	+0.4
WAZ	**Wanganui**	**2.02**	**19**	P	Pb	18 14 45.9	-0.7
DVHZ	**Dannevirke**	**2.06**	**49**	P	Pb	18 14 47.9	+0.7
OKCZ	**Okains Bay**	**2.20**	**201**	P	Pn	18 14 43.9	-2.5
LREZ	**Lake Rotokare**	**2.22**	**5**	P	Pb	18 14 49.8	-0.2
INZ	**Inchbonnie**	**2.26**	**241**	P	Pn	18 14 47.1	-0.1
OXZ	**Oxford**	**2.27**	**223**	P	Pb	18 14 49.2	-1.6
PREZ	**Palmer Road**	**2.33**	**0**	P	Pb	18 14 52.4	+0.5
PNHZ	**Pukenui**	**2.35**	**42**	P	Pn	18 14 47.5	-1.0
KHEZ	**Kahui Hut**	**2.38**	**358**	P	Pb	18 14 52.2	-0.6
NBEZ	**Newall Road No**	**2.41**	**355**	P	Pb	18 14 53.8	+0.5
PKE	**Pukeiti**	**2.48**	**357**	P	Pb	18 14 54.1	-0.3
PKVZ	**Pokaka**	**2.55**	**21**	P	Pn	18 14 52.7	+1.4

MOVZ	**Moawhango**	**2.58**	**29**	P		Pb	18 14 55.6	-0.5
VRZ	**Vera Road**	**2.59**	**11**	P		Pn	18 14 53.6	+1.9
TRVZ	**Turoa**	**2.60**	**25**	P		Pn	18 14 54.0	+1.9
BHHZ	**Black Hill Sta**	**2.63**	**34**	P		Pb	18 14 56.3	-0.6
WHVZ	**Whangaehu Hut**	**2.63**	**25**	P		Pb	18 14 56.0	-1.1
KRHZ	**Kereru**	**2.64**	**41**	P		Pb	18 14 58.1	+0.9
FWVZ	**Far West T-bar**	**2.65**	**24**	P		Pn	18 14 54.7	+2.0
TUVZ	**Tukino**	**2.67**	**26**	P		Pn	18 14 53.6	+0.7
NGZ	**Ngauruhoe**	**2.73**	**24**	P		Pb	18 14 58.0	-0.8
WTVZ	**West Tongariro**	**2.78**	**24**	P		Pb	18 14 58.8	-0.9
KRVZ	**Karewarewa**	**2.82**	**24**	P		Pb	18 15 00.4	+0.1
KWHZ	**Kaweka Forest**	**2.84**	**38**	P		Pb	18 15 01.7	+1.1
KATZ	**Kakaramea**	**2.95**	**24**	P		Pb	18 15 03.3	+0.9
BKZ	**Black Stump Fm**	**3.08**	**36**	P		Pb	18 15 05.0	+0.3
HIZ	**Hauiti**	**3.21**	**10**	P		Pn	18 15 02.0	+1.8
TLZ	**Tolley Road**	**3.51**	**18**	P		Pb	18 15 09.4	-2.6

IDC 03 18:18:19.4±2.2, 2°.04N×126°.56E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.3/35, mbtmp3.3/3, Error ellipse: s-maj=181.6km s-min=26.6km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.14**	**161**	P	P	18 23 26.1	-1.5
	0.6nm,0.5s,baz=340,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**26.53**	**165**	P	P	18 24 00.7	+1.5
	0.2nm,0.4s,baz=347,slow=12,SNR=4.9						
MKAR	**Makanchi Array**	**58.84**	**326**	P	P	18 28 19.7	-0.3
	0.1nm,0.4s,baz=120,slow=8.1,SNR=4.8						

IDC 03 18:34:01.9±18.0, 37°.84S×48°.61E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/31, mbtmp3.9/4, MS3.4/3, Ms1 3.4/3, ms1mx2.9/38, Error ellipse: s-maj=512.1km s-min=59.8km az=80.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**30.88**	**169**	LR	LR	18 49 47.0	
	comp=Z,93nm,18.9s,baz=62,slow=31						
H08S1	**Diego Garcia H**	**37.02**	**42**	T	T	19 20 03.6	
	baz=211,slow=76,SNR=15						
H08S2	**Diego Garcia H**	**37.03**	**42**	T	T	19 20 04.2	
	baz=211,slow=76,SNR=8.6						
H08S3	**Diego Garcia H**	**37.04**	**42**	T	T	19 20 03.8	
	baz=211,slow=76,SNR=18						
VNDA	**Vanda**	**58.12**	**166**	LR	LR	19 06 20.5	
	comp=Z,28nm,20.1s,baz=223,slow=33						
ASAR	**Alice Springs**	**72.34**	**106**	P	P	18 45 29.9	+0.1
	0.8nm,0.6s,baz=232,slow=5.6,SNR=13						
CMAR	**Chiang Mai Arr**	**73.29**	**50**	P	P	18 45 35.3	0.0
	0.6nm,0.8s,baz=227,slow=6.6,SNR=6.3						
CMAR				LR	LR	19 12 02.0	
	comp=Z,17nm,21.2s,baz=192,slow=31						
STKA	**Stephens Creek**	**73.39**	**118**	P	P	18 45 35.5	-0.3
	1.0nm,0.5s,baz=250,slow=3.5,SNR=4.6						
WRA	**Warramunga Arr**	**74.78**	**104**	P	P	18 45 44.6	+0.4
	1.5nm,0.9s,baz=231,slow=5.6,SNR=6.9						

*IDC **03** 18:53:56.6±1.4, 11°.43S×161°.80E, h0km, mb3.9/6, mb1 4.0/8, mb1mx3.8/28, mbtmp3.9/8, ML3.3/2, MS3.2/4, Ms1 3.2/4, ms1mx2.8/28, Error ellipse: s-maj=36.1km s-min=27.7km az=100.0*

*NEIC **03** 18:53:59.8±1.9, 11°.4S±0°.2×161°.7E±0°.1, h19km±4km, mb4.3/11, Error ellipse: s-maj=22.4km s-min=19.1km az=179.0*

ISC 03 18:53:58.3±0.9, 11°.41S±0°.09×161°.8E±0°.1, h10km, n23, σ0°.82/21, mb4.1/10, MS3.3/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.65**	**318**	Pn	**Pn**	**18 54 41.2**	**+0.1**
	3.7nm,0.3s,baz=228,slow=18,SNR=1.6						
HNR				Sn	**Sn**	**18 55 12.7**	**-0.6**
	42nm,0.3s,baz=176,slow=11,SNR=4.0						
HNR	**Honiara**	**2.65**	**318**		**Pn**	**18 54 41.1**	**0.0**
DZM	**Mont Dzumac**	**11.51**	**158**	Pn	**Pn**	**18 56 42.8**	**-0.1**
	0.3nm,0.3s,baz=0.9,slow=9.5,SNR=8.7						
PMG	**Port Moresby**	**14.49**	**277**	LR	LR	19 02 01.0	
	comp=Z,61nm,19.6s,baz=86,slow=33						
EIDS	**Eidsvold**	**17.17**	**215**	P	**P**	**18 57 59.0**	**-1.1**
CTAO	**Charters Tower**	**17.22**	**238**	P	**Pn**	**18 57 58.5**	**-0.6**
CTAO				IAmb	IAmb	18 58 03.6	
	comp=Z,7.8nm,0.9s						
COEN	**Coen**	**18.30**	**260**	P	**P**	**18 58 14.3**	**+1.6**
COEN				IAmb	IAmb	18 58 21.9	
	comp=Z,34nm,1.6s						
WR0	**Warramunga Arr**	**27.51**	**249**	P	**P**	**18 59 46.5**	**+1.2**
WR0				IAmb	IAmb	19 00 10.7	
	comp=Z,14nm,1.5s						
STKA	**Stephens Creek**	**27.58**	**219**	LR	LR	19 09 44.8	
	comp=Z,89nm,21.1s,baz=25,slow=34						
STKA	**Stephens Creek**	**27.58**	**219**	P	**P**	**18 59 46.5**	**+0.8**
WB0	**Warramunga Arr**	**27.60**	**249**	P	**P**	**18 59 46.5**	**+0.4**
WB0				IAmb	IAmb	19 00 10.2	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**27.68**	**249**	P	**P**	**18 59 45.4**	**-1.4**
WB2				IAmb	IAmb	19 00 01.9	
	comp=Z,9.7nm,1.3s						
WRA	**Warramunga Arr**	**27.69**	**249**	P	**P**	**18 59 47.0**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=78,slow=9.6,SNR=5.5						
ASAR	**Alice Springs**	**29.15**	**242**	P	**P**	**18 59 59.5**	**-0.4**
	comp=Z,1.2nm,0.9s,baz=74,slow=8.9,SNR=10						
ASAR				LR	LR	19 10 32.8	
	comp=Z,73nm,18.3s,baz=72,slow=34						
FITZ	**Fitzroy Crossi**	**35.51**	**255**	P	**P**	**19 00 55.4**	**-0.2**
BKB	**Balikpapan**	**45.64**	**279**	P	**P**	**19 02 18.6**	**-0.9**
KSRS	**Korea Array**	**58.05**	**329**	LR	LR	19 26 26.9	
	comp=Z,13nm,20.9s,baz=140,slow=34						
CMAR	**Chiang Mai Arr**	**68.69**	**295**	P	**P**	**19 05 03.9**	**+1.3**
	comp=Z,1.1nm,1.0s,baz=106,slow=3.6,SNR=8.2						
SONM	**Songino Arr**	**76.69**	**325**	P	**P**	**19 05 49.9**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=142,slow=5.7,SNR=9.7						
HDA	**Harding Lake**	**84.88**	**20**	P	**P**	**19 06 33.1**	**+0.1**
IL31		**85.13**	**20**	P	**P**	**19 06 34.3**	**+0.1**
IL31				IAmb	IAmb	19 06 38.6	
	comp=Z,5.1nm,1.5s						
ILAR	**Eielson Array**	**85.13**	**20**	P	**P**	**19 06 34.1**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=246,slow=5.4,SNR=4.0						
MKAR	**Makanchi Array**	**91.13**	**317**	P	**P**	**19 07 02.7**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=96,slow=7.7,SNR=5.2						

*IDC **03** 19:07:33.9±3.0, 17°.59S×176°.23E, h0km, mb3.8/4, mb1 4.2/4, mb1mx3.7/23, mbtmp3.8/4, MS3.6/12, Ms1 3.6/12, ms1mx3.3/38, Error ellipse: s-maj=165.6km s-min=31.5km az=153.0*

*NEIC **03** 19:07:38.5±2.4, 17°.2S±0°.2×175°.8E±0°.1, h18km±4km, mb4.6/4, Error ellipse: s-maj=22.9km s-min=16.1km az=206.0*

ISC 03 19:07:40.7±0.9, 17°.2S±0°.2×175°.9E±0°.1, h35km, n29, σ1°.30/10, mb3.8/6, MS3.8/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.12**	**105**		**Pn**	**19 08 14.6**	**+0.8**
DZM	**Mont Dzumac**	**10.15**	**240**	*e*LR	LR	19 12 42.7	
	comp=Z,470nm,25.4s						
DZM	**Mont Dzumac**	**10.15**	**240**	LR	LR	19 13 34.1	
	comp=Z,355nm,20.1s,baz=53,slow=35						
HNR	**Honiara**	**17.32**	**294**	LR	LR	19 17 35.2	
	comp=Z,92nm,18.3s,baz=108,slow=34						
EIDS	**Eidsvold**	**24.49**	**246**	P	**P**	**19 12 58.0**	**+1.2**
RPZ	**Rata Peaks**	**26.77**	**188**	LR	LR	19 23 09.6	
	comp=Z,149nm,19.0s,baz=330,slow=35						
PPT	**Papeete**	**32.92**	**96**	LR	LR	19 26 18.9	
	comp=Z,11nm,18.1s,baz=8.0,slow=34						
STKA	**Stephens Creek**	**34.30**	**238**	LR	LR	19 27 10.1	
	comp=Z,76nm,19.9s,baz=28,slow=34						
H11S2	**WAKE ISLAND Hy**	**36.58**	**345**	T	T	19 52 38.4	
	baz=166,slow=76,SNR=51						
H11S3	**WAKE ISLAND Hy**	**36.59**	**345**	T	T	19 52 41.4	
	baz=166,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**36.60**	**345**	T	T	19 52 39.3	
	baz=166,slow=76,SNR=53						
H11N1	**WAKE ISLAND Hy**	**37.72**	**346**	T	T	19 54 03.3	
	baz=164,slow=76,SNR=42						
H11N3	**WAKE ISLAND Hy**	**37.72**	**346**	T	T	19 54 03.4	
	baz=164,slow=76,SNR=39						
H11N2	**WAKE ISLAND Hy**	**37.73**	**346**	T	T	19 54 06.0	
	baz=164,slow=76,SNR=35						
BBOO	**Buckleboo**	**39.07**	**239**	P	**P**	**19 15 04.3**	**-0.2**
BBOO				IAmb	IAmb	19 15 14.8	
	comp=Z,15nm,1.4s						
WB0	**Warramunga Arr**	**39.39**	**260**	P	**P**	**19 15 06.7**	**-0.7**
WB0				IAmb	IAmb	19 15 26.2	
	comp=Z,20nm,1.6s						
WRA	**Warramunga Arr**	**39.43**	**259**	P	**P**	**19 15 06.5**	**-1.2**
	comp=Z,1.7nm,0.9s,baz=90,slow=8.9,SNR=5.9						
ASAR	**Alice Springs**	**39.77**	**254**	P	**P**	**19 15 10.8**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=81,slow=8.9,SNR=16						
BATI	**Baumata**	**51.10**	**271**	LR	LR	19 36 47.4	
	comp=Z,88nm,19.1s,baz=135,slow=34						
VNDA	**Vanda**	**60.77**	**183**	LR	LR	19 39 58.4	
	comp=Z,45nm,20.2s,baz=6.5,slow=32						
CASY	**Casey**	**64.55**	**204**	P	**P**	**19 18 12.8**	**-1.2**
NVAR	**Mina Array Bea**	**82.76**	**46**	P	**P**	**19 20 00.1**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=225,slow=7.5,SNR=3.7						
CMAR	**Chiang Mai Arr**	**83.55**	**291**	P	**P**	**19 20 07.8**	**+2.1**
	comp=Z,0.6nm,0.9s,baz=120,slow=5.3,SNR=4.3						
BBB	**Bella Bella**	**84.38**	**31**	LR	LR	19 51 10.2	
	comp=Z,59nm,19.3s,baz=222,slow=31						
ILAR	**Eielson Array**	**86.50**	**15**	LR	LR	19 52 17.2	
	comp=Z,48nm,19.7s,baz=218,slow=31						
NEW	**Newport**	**88.20**	**38**	LR	LR	19 54 24.2	
	comp=Z,37nm,19.0s,baz=292,slow=32						
TXAR	**Lajitas Array**	**90.25**	**59**	LR	LR	19 53 06.8	
	comp=Z,50nm,20.5s,baz=0.0,slow=30						
PDAR	**Pinedale Array**	**90.63**	**45**	LR	LR	19 56 41.1	
	comp=Z,34nm,18.9s,baz=276,slow=32						
GERES	**GERESS Array B**	**145.25**	**339**	PKPbc	**PKPbc**	**19 27 14.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=86,slow=4.0,SNR=2.2						

*ATH **03** 19:14:35.8, 38°.27N×20°.42E, h15km±1km, ML2.4/3, Error ellipse: s-maj=2.0km s-min=0.7km az=254.0*

*THE **03** 19:14:36.0, 38°.27N×20°.42E, h12km, ML2.5/7, Error ellipse: s-maj=1.0km s-min=0.3km az=242.0*

ISC 03 19:14:36.0±1.0, 38°.27N±0°.02×20°.42E±0°.05, h14km±5km, n29, σ0°.30/51, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF4	**Livadi, Kephal**	**0.02**	**168**	P	**Pg**	**19 14 38.2**	**-0.1**
KEF4				S	**Sg**	**19 14 39.9**	**-0.1**
AGT1	**Agia Thekli**	**0.04**	**231**	P	**Pg**	**19 14 38.4**	**0.0**
AGT1				S	**Sg**	**19 14 39.9**	**-0.2**
	7μm,0.1s						
LXRA	**Lixouri, Kepha**	**0.07**	**170**	P	**Pg**	**19 14 38.9**	**+0.1**
LXRA				S	**Sg**	**19 14 41.0**	**+0.4**
KEF3	**Kipouria, Keph**	**0.09**	**219**	P	**Pg**	**19 14 39.0**	**+0.1**
KEF3				S	**Sg**	**19 14 41.2**	**+0.2**
ARGA	**Argostoli. Kep**	**0.11**	**154**	P	**Pg**	**19 14 39.0**	**-0.1**
ARGA				S	**Sg**	**19 14 41.0**	**-0.2**
ARG2	**Argostoli**	**0.11**	**151**	P	**Pg**	**19 14 39.1**	**0.0**
ARG2				S	**Sg**	**19 14 41.2**	**-0.1**
	11μm,0.2s						
VLS	**Valsamata**	**0.17**	**126**	P	**Pg**	**19 14 39.8**	**-0.2**
VLS				S	**Sg**	**19 14 42.4**	**-0.2**
	4μm,0.1s						
VLS	**Valsamata**	**0.17**	**126**	P	**Pg**	**19 14 39.8**	**-0.2**
VLS				S	**Sg**	**19 14 42.5**	**-0.2**
VLS				AML	AML	19 14 42.6	
	comp=E,7655μm,0.1s						
VLS				AML	AML	19 14 42.6	
	comp=N,6098μm,0.1s						
VSK1	**VASILIKIADES**	**0.18**	**40**	P	**Pg**	**19 14 40.0**	**-0.1**
VSK1				S	**Sg**	**19 14 43.1**	**+0.1**
	comp=N,2μm,0.2s						
FSK	**Fiskardo**	**0.22**	**31**	P	**Pg**	**19 14 40.7**	**-0.1**
FSK				S	**Sg**	**19 14 44.3**	**+0.3**
	comp=N,1μm,0.2s						
FSK	**Fiskardo**	**0.22**	**31**	P	**Pg**	**19 14 40.7**	**-0.1**
FSK				S	**Sg**	**19 14 44.3**	**+0.3**
FSK				AML	AML	19 14 44.5	
	comp=N,1278μm,0.3s						
FSK				AML	AML	19 14 44.6	
	comp=E,2826μm,0.2s						
KFL	**Anninata**	**0.33**	**119**	P	**Pg**	**19 14 42.7**	**-0.1**
KFL				S	**Sg**	**19 14 47.9**	**+0.5**
	comp=E,730nm,0.3s						
KFL	**Anninata**	**0.33**	**119**	P	**Pg**	**19 14 42.6**	**-0.1**
KFL				S	**Sg**	**19 14 47.9**	**+0.5**
KFL				AML	AML	19 14 48.2	
	comp=N,1409μm,0.2s						
KFL				AML	AML	19 14 48.7	
	comp=E,1478μm,0.3s						
EVGI	**Lefkada island**	**0.39**	**28**	P	**Pg**	**19 14 43.8**	**-0.1**
EVGI				S	**Sg**	**19 14 49.6**	**+0.4**
EVGI	**Lefkada island**	**0.39**	**28**	P	**Pg**	**19 14 43.8**	**-0.1**
EVGI				S	**Sg**	**19 14 50.0**	**+0.7**
VLMS	**Volimes, Zakyn**	**0.44**	**154**	P	**Pg**	**19 14 44.5**	**-0.2**
VLMS				S	**Sg**	**19 14 50.9**	**+0.3**
MGNA	**Meganis**	**0.48**	**37**	P	**Pg**	**19 14 45.3**	**-0.2**
MGNA				S	**Sb**	**19 14 52.7**	**-0.5**
LKD2	**Lefkada island**	**0.55**	**20**	P	**Pg**	**19 14 46.4**	**-0.3**
LKD2	**Lefkada island**	**0.55**	**20**	P	**Pg**	**19 14 46.2**	**-0.6**
LKD2				S	**Sb**	**19 14 55.2**	**0.0**
TSLK	**Tsoukalades, L**	**0.58**	**18**	P	**Pg**	**19 14 47.0**	**-0.4**
TSLK				S	**Sb**	**19 14 56.1**	**0.0**
TSLK	**Tsoukalades, L**	**0.58**	**18**	P	**Pg**	**19 14 46.8**	**-0.5**
TSLK				S	**Sb**	**19 14 56.4**	**+0.3**
PDO	**Prodromos**	**0.68**	**61**	P	**Pg**	**19 14 48.9**	**-0.3**
PDO				S	**Sb**	**19 14 59.6**	**+0.6**
	comp=E,212nm,0.2s						
PDO	**Prodromos**	**0.68**	**61**	P	**Pg**	**19 14 49.0**	**-0.3**
PDO				S	**Sb**	**19 14 59.5**	**+0.5**
PVO	**Paravola**	**0.93**	**68**	P	**Pb**	**19 14 54.0**	**0.0**
DRO	**Drossia**	**1.07**	**107**	P	**Pb**	**19 14 56.4**	**+0.1**
ANX	**Ano Chora**	**1.22**	**74**	P	**Pn**	**19 14 58.8**	**0.0**
LAKA	**Lakka**	**1.23**	**91**	P	**Pn**	**19 14 58.5**	**-0.3**
IGT	**Igoumenitsa**	**1.26**	**357**	P	**Pg**	**19 15 00.3**	**+0.1**
KLV	**Kalavryta, Ach**	**1.38**	**99**	P	**Pb**	**19 15 01.5**	**-0.2**

*NIED **03** 19:26:00, 37°.70N×141°.70E, h53km, Mw3.5 Best double couple: M0 2.32000×10^14 NP1:φs 42.00000°, δ47.00000°, λ81.00000°. NP2:φs 234.00000°, δ43.00000°, λ99.00000°.*

*IDC **03** 19:26:47.0±2.5, 37°.72N×142°.20E, h53km±23km, mb3.2/4, mb1 3.4/7, mb1mx3.1/52, mbtmp3.5/7, ML3.2/3, Error ellipse: s-maj=24.3km s-min=13.8km az=112.0*

*JMA **03** 19:26:48.4, 37°.66N×141°.72E, h48km±1km, M3.7*

ISC 03 19:26:47.5±1.7, 37°.64N±0°.05×141°.8E±0°.1, h43km±16km, n27, σ1°.08/36, mb3.6/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.72**	**338**	P	**Pn**	**19 27 01.9**	**+0.6**
JIKH				S	**Sn**	**19 27 11.2**	**0.0**
JMST	**Minamisoumatoc**	**0.74**	**277**	P	**Pn**	**19 27 01.5**	**0.0**
JMST				S	**Sn**	**19 27 11.1**	**-0.5**
JFK	**Kawauchi**	**0.80**	**250**	P	**Pn**	**19 27 02.5**	**+0.2**
JFK				S	**Sn**	**19 27 12.5**	**-0.5**
JMM	**Marumori**	**0.84**	**286**	P	**Pn**	**19 27 03.0**	**+0.2**
JMM				S	**Sn**	**19 27 13.6**	**-0.4**
JIO	**Ouri**	**0.89**	**336**	P	**Pn**	**19 27 04.2**	**+0.7**
JIO				S	**Sn**	**19 27 15.1**	**-0.2**
ONAJ	**Iwakimizuishiy**	**0.97**	**237**	P	**Pn**	**19 27 05.0**	**+0.3**
ONAJ				S	**Sn**	**19 27 16.6**	**-0.7**
JOU	**Okura**	**1.16**	**309**	P	**Pn**	**19 27 07.6**	**+0.4**
JOU				S	**Sn**	**19 27 22.3**	**+0.4**
JFT	**Otama**	**1.18**	**264**	P	**Pn**	**19 27 08.3**	**+0.8**
JFT				S	**Sn**	**19 27 22.8**	**+0.4**
JKMT	**Kesennumamotoy**	**1.20**	**347**	P	**Pn**	**19 27 08.5**	**+0.8**
JKMT				S	**Sn**	**19 27 22.7**	**-0.1**
JMK	**Ichinoseki**	**1.39**	**341**	P	**Pn**	**19 27 11.3**	**+1.0**
JMK				*e*S	**Sn**	**19 27 28.1**	**+0.6**
JYS	**Shirataka**	**1.50**	**293**	S	**Sn**	**19 27 31.6**	**+1.4**
JFY	**Yanaizu**	**1.69**	**263**	P	**Pn**	**19 27 15.2**	**+0.7**
JFY				S	**Sn**	**19 27 35.4**	**+0.4**
JYK	**Kaneyama**	**1.71**	**319**	P	**Pn**	**19 27 15.5**	**+0.7**
JYK				*e*S	**Sn**	**19 27 35.8**	**+0.3**
MJAR	**Matsushiro Arr**	**3.08**	**250**	P	**Pn**	**19 27 36.0**	**+2.3**
	0.4nm,0.3s,baz=82,slow=18,SNR=16						
MJAR				S	Sn	19 28 17.5	+8.2
	0.2nm,0.3s,baz=99,slow=25,SNR=4.8						
MAT	**Matsushiro**	**3.08**	**250**	P	**Pn**	**19 27 35.4**	**+1.7**
MAT				*e*S	**Sn**	**19 28 11.0**	**+1.7**
JHJ	**Hachijo jima 2**	**4.81**	**201**	P	**Pn**	**19 27 57.5**	**+0.2**
	5.0nm,0.3s,baz=318,slow=20,SNR=13						
JHJ				S	**Sn**	**19 28 48.9**	**-2.8**
	8.2nm,0.3s,baz=262,slow=21,SNR=8.4						
ASAJ	**Asahikawa**	**6.50**	**5**	P	**Pn**	**19 28 20.5**	**+0.1**
	0.8nm,0.3s,baz=245,slow=11,SNR=8.7						
ASAJ				S	**Sn**	**19 29 30.5**	**-2.7**
	0.2nm,0.3s,baz=355,slow=12,SNR=1.5						
H11N2	**WAKE ISLAND Hy**	**28.19**	**122**	T	T	20 02 59.3	
	baz=315,slow=75,SNR=26						
H11N1	**WAKE ISLAND Hy**	**28.20**	**122**	T	T	20 03 00.0	
	baz=315,slow=75,SNR=40						
H11N3	**WAKE ISLAND Hy**	**28.21**	**122**	T	T	20 03 00.6	
	baz=315,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hy**	**28.93**	**124**	T	T	20 03 47.4	
	baz=317,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**28.93**	**124**	T	T	20 03 59.0	
	baz=317,slow=76,SNR=22						
H11S2	**WAKE ISLAND Hy**	**28.95**	**124**	T	T	20 03 57.9	
	baz=317,slow=76,SNR=4.7						
MKAR	**Makanchi Array**	**44.07**	**302**	P	**P**	**19 34 49.8**	**-1.3**
	0.2nm,0.7s,baz=81,slow=9.3,SNR=2.5						
KURBB	**Kurchatov Arra**	**45.88**	**308**	P	**P**	**19 35 05.0**	**-0.3**
	0.5nm,0.4s,baz=81,slow=7.9,SNR=8.4						
WRA	**Warramunga Arr**	**57.71**	**188**	P	**P**	**19 36 33.4**	**-0.4**
	0.6nm,0.5s,baz=5.5,slow=7.3,SNR=12						
ASAR	**Alice Springs**	**61.43**	**188**	P	**P**	**19 36 59.5**	**+0.1**
	0.3nm,0.7s,baz=5.3,slow=5.5,SNR=5.5						

IDC 03 19:33:15.6±2.6, 3°.33N×127°.80E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.1/46, mbtmp3.2/3, Error ellipse: s-maj=189.8km s-min=29.1km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**7.43**	**328**	*e*P	Pg	19 35 36.7	-1.5
WRA	**Warramunga Arr**	**24.00**	**165**	P	P	19 38 31.0	-1.2
	0.3nm,0.4s,baz=345,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**27.48**	**168**	P	P	19 39 05.7	+1.9
	0.2nm,0.7s,baz=346,slow=12,SNR=1.7						
MKAR	**Makanchi Array**	**58.49**	**325**	P	P	19 43 13.2	-0.5
	0.2nm,0.5s,baz=120,slow=8.5,SNR=2.0						

ISC 03 19:36:06.5±1.6, 51°.46N±0°.07×16°.13E±0°.04, h0km, n18, σ0°.60/32, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.63**	**170**	*e*Pg	**Pg**	**19 36 19.2**	**+0.7**
KSP				*e*Sg	**Sg**	**19 36 28.1**	**+1.4**
CHVC	**Chvalec**	**0.88**	**183**	*e*PG	**Pg**	**19 36 23.9**	**+0.6**
CHVC				*e*SG	**Sb**	**19 36 36.4**	**-0.5**
	comp=Z,16nm,0.5s						
OSTC	**Ostas**	**0.91**	**176**	*e*PG	**Pg**	**19 36 24.7**	**+0.8**
OSTC				*e*SG	**Sb**	**19 36 37.0**	**-0.8**
	comp=Z,17nm,0.3s						
UPC	**Upice**	**0.96**	**184**	*e*PG	**Pg**	**19 36 25.1**	**+0.2**
UPC				*e*SG	**Sg**	**19 36 38.2**	**+0.9**
	comp=Z,35nm,0.6s						
DPC	**Dobruska-Polom**	**1.12**	**174**	*e*PG	**Pg**	**19 36 27.8**	**-0.2**
DPC				*e*SG	**Sb**	**19 36 43.5**	**-0.4**
	comp=Z,18nm,0.6s						
PVCC	**Panska Ves**	**1.36**	**227**	*e*PG	**Pg**	**19 36 32.4**	**-0.1**
PVCC				*e*SG	**Sb**	**19 36 51.0**	**+0.3**
	comp=Z,50nm,0.2s						
KRLC	**Kraliky**	**1.45**	**163**	*e*PG	**Pn**	**19 36 34.0**	**0.0**
KRLC				*e*SG	**Sb**	**19 36 53.6**	**+0.2**
	comp=Z,12nm,0.6s						
BRG	**Berggiesshubel**	**1.50**	**248**	PG	**Pn**	**19 36 34.9**	**+0.2**
BRG				SG	**Sg**	**19 36 54.6**	**+0.1**
	20nm,0.4s						
GOPC	**GO Pecny, Ondr**	**1.77**	**209**	*e*SG	**Sg**	**19 37 03.1**	**-0.2**
	comp=Z,7.8nm,0.7s						
PRU	**Pruhonice**	**1.79**	**215**	*e*PG	**Pb**	**19 36 39.8**	**-0.3**
PRU				*e*SG	**Sg**	**19 37 04.7**	**+0.8**
	comp=Z,6.7nm,0.4s						
MORC	**Moravsky Berou**	**1.91**	**151**	*e*PN	**Pn**	**19 36 39.8**	**-0.6**
MORC				*e*SG	**Sb**	**19 37 07.1**	**+0.4**
CLL	**Collm**	**1.96**	**267**	*e*Pg	**Pb**	**19 36 43.0**	**-0.1**
CLL				*e*Sg	**Sg**	**19 37 10.0**	**+0.5**
	comp=Z,7.0nm,0.7s						
OKC	**Ostrava-Krasne**	**2.07**	**141**	*e*PG	**Pb**	**19 36 45.2**	**+0.2**
OKC				*e*SG	**Sg**	**19 37 12.7**	**-0.4**
	comp=Z,6.1nm,0.4s						
VRAC	**Vranov**	**2.18**	**172**	*e*SG	**Sg**	**19 37 16.1**	**-0.3**
TREC	**Trest**	**2.21**	**191**	*e*SG	**Sg**	**19 37 16.9**	**-0.5**
	comp=Z,11nm,1.0s						
KRUC	**Moravsky**	**2.41**	**176**	*e*SG	**Sg**	**19 37 23.5**	**-0.4**
NKC	**Novy Kostel**	**2.64**	**244**	*e*SG	**Sg**	**19 37 31.2**	**0.0**
	comp=Z,12nm,0.3s						
KHC	**Kasperske Hory**	**2.85**	**216**	*e*PG	**Pb**	**19 36 59.3**	**+1.1**
KHC				*e*SN	**Sn**	**19 37 27.0**	**-1.3**
KHC				*e*S

BKZ Black Stump Fm 7.94 200 P **Pn** 19 43 51.6 -1.0
BKZ S **S** 19 45 20.3 -5.9
HIZ Hauiti 7.95 210 P **P** 19 43 55.7 +2.6
HIZ Hauiti 7.95 210 P **P** 19 43 55.3 +2.2
RITZ Rihia Road 7.97 204 P **P** 19 43 55.7 +2.3
KATZ Kakaramea 8.02 205 P **P** 19 43 56.6 +2.6
MCHZ McNeill Hill 8.14 198 P **P** 19 43 57.4 +2.1
KRVZ Karewarewa 8.15 205 P **P** 19 43 56.7 +1.3
WTVZ West Tongariro 8.18 205 P **Pn** 19 43 56.6 +1.1
KWHZ Kaweka Forest 8.20 200 P **Pn** 19 43 55.5 -0.1
TWVZ Taurewa 8.20 206 P **P** 19 43 57.4 +1.4
NGZ Ngauruhoe 8.23 204 P **Pn** 19 43 56.2 0.0
CKHZ Cape Kidnapper 8.25 196 P **Pn** 19 43 56.1 +0.1
CKHZ S **S** 19 45 31.6 -0.9
TUVZ Tukino 8.30 204 P **Pn** 19 43 57.3 +0.4
FWVZ Far West T-bar 8.32 204 P **Pn** 19 43 58.2 +1.0
DRZ Dome Shelter 8.34 204 P **P** 19 44 00.6 +2.8
TRVZ Turoa 8.36 204 P **Pn** 19 43 58.7 +1.0
BHHZ Black Hill Sta 8.36 201 P **Pn** 19 43 56.1 -1.4
BHHZ P **S** 19 45 33.0 -2.2
MOVZ Moawhango 8.39 203 P **Pn** 19 43 57.5 -0.3
KRHZ Kereru 8.41 199 P **Pn** 19 43 56.1 -1.9
KRHZ P **S** 19 45 35.4 -0.8
KAHZ Kahuranaki 8.42 197 P **P** 19 44 00.5 +2.0
KAHZ P **S** 19 45 34.6 -1.8
PKVZ Pokaka 8.43 205 P **Pn** 19 43 58.1 -0.1
MTVZ Mangateitei 8.46 204 P Pn 19 43 53.9 -4.8
VRZ Vera Road 8.51 209 P **P** 19 44 01.1 +1.8
PXZ Pawanui 8.65 196 P **Pn** 19 44 00.5 -0.3
PXZ P **S** 19 45 39.1 -1.9
PNHZ Pukenui 8.71 200 P **Pn** 19 44 00.5 -1.0
PNHZ P **S** 19 45 38.5 -4.0
WPHZ Waipukurau 8.79 198 P **Pn** 19 44 03.5 +1.2
WPHZ P **S** 19 45 43.4 -0.7
PKE Pukeiti 8.90 212 P **P** 19 44 06.9 +3.3
TSZ Takapari Road 8.92 200 P **Pn** 19 44 03.5 -0.3
TSZ P **S** 19 45 43.5 -3.3
PRHZ Porangahau 8.93 197 P **Pn** 19 44 04.2 +0.2
PRHZ P **S** 19 45 44.0 -3.0
LREZ Lake Rotokare 8.94 209 P **P** 19 44 07.4 +3.3
WAZ Wanganui 8.97 205 P **P** 19 44 05.8 +1.4
KHEZ Kahui Hut 8.97 211 P **P** 19 44 07.8 +3.3
DVHZ Dannevirke 9.08 199 P **S** 19 45 46.1 -4.2
ANWZ Angora Road 9.15 197 P **S** 19 45 50.7 -0.9
OHWZ Ohakea 9.25 203 P **Pn** 19 44 09.2 +1.5
POWZ Post Office Ro 9.28 200 P **P** 19 44 08.1 +0.2
PRWZ Pori Road 9.37 199 P **P** 19 44 09.7 +0.8
BFZ Birch Farm 9.42 198 P **P** 19 44 09.6 +0.2
BFZ Birch Farm 9.42 198 P **P** 19 44 08.0 -1.5
BFZ S 19 45 49.6 -7.6
MRZ Mangatainoka R 9.59 201 P **P** 19 44 10.8 -0.5
TIWZ Tintock 9.60 199 P **P** 19 44 11.2 -0.3
CPWZ Castlepoint 9.64 197 P **Pn** 19 44 14.0 +1.8
HOWZ Holdsworth Sta 9.82 200 P P 19 44 09.7 -4.3
OGWZ Otaki Gorge 9.85 202 P **P** 19 44 12.4 -1.8
TMWZ Te Maipa 9.91 198 P **P** 19 44 15.4 +0.5
KIW Kapiti Island 9.98 203 P **P** 19 44 13.8 -1.9
CAW Cannon Point 10.15 202 P **P** 19 44 16.1 -1.4
TRWZ Traveller 10.24 198 P **P** 19 44 19.0 +0.5
DUWZ D'Urville Isla 10.28 207 P **P** 19 44 17.0 -2.0
PAWZ Paruwai Farm 10.29 200 P **P** 19 44 18.9 -0.3
MSWZ Moikau Station 10.38 200 P **P** 19 44 19.9 -0.2
MSWZ Moikau Station 10.38 200 P **P** 19 44 17.9 -2.1
MSWZ S 19 46 07.4 -9.4
WEL Wellington 10.40 202 P **P** 19 44 20.7 +0.3
SNZO South Karori 10.45 202 P **P** 19 44 19.3 -1.5
BHW Baring Head 10.48 202 P **P** 19 44 19.6 -1.3
BHW Baring Head 10.48 202 P **P** 19 44 19.5 -1.7
BHW S **S** 19 46 13.8 -5.2
TCW Tory Channel 10.50 204 P **P** 19 44 20.3 -1.2
PLWZ Palliser 10.52 200 P **P** 19 44 20.8 -0.8
PLWZ Palliser 10.52 200 P **P** 19 44 19.4 -2.2
PLWZ S **S** 19 46 13.3 -6.5
TUWZ Tuamarina 10.82 205 P **P** 19 44 23.4 -1.5
TUWZ Tuamarina 10.82 205 P **P** 19 44 22.4 -2.4
TUWZ S **S** 19 46 20.5 -5.2
NNZ Nelson 10.84 207 P **P** 19 44 24.4 -0.8
NNZ Nelson 10.84 207 P **P** 19 44 24.4 -0.8
NNZ S **S** 19 46 22.5 -3.8
QRZ Quartz Range 10.87 211 P **P** 19 44 24.2 -1.4
CMWZ Cape Campbell 11.01 203 P **P** 19 44 27.7 +0.7
CMWZ Cape Campbell 11.01 203 P **P** 19 44 27.5 +0.5
CMWZ S **S** 19 46 26.2 -3.4
BSWZ Blackbirch Sta 11.09 204 P **P** 19 44 28.7 +0.8
BSWZ Blackbirch Sta 11.09 204 P **P** 19 44 28.5 +0.4
BSWZ S **S** 19 46 31.1 -0.3
THZ Tophouse 11.49 208 P **P** 19 44 31.7 -0.7
THZ Tophouse 11.49 208 P **P** 19 44 30.9 -1.6
THZ S **S** 19 46 34.7 -4.9
KHZ Kahutara 11.83 204 P **P** 19 44 34.9 -1.1
KHZ Kahutara 11.83 204 P **P** 19 44 34.7 -1.3
KHZ S **S** 19 46 42.7 -3.6
DSZ Denniston Nort 11.94 211 P **P** 19 44 37.3 0.0
GVZ Greta Valley S 12.49 204 P **P** 19 44 43.6 +0.3
LTZ Lake Taylor 12.61 207 P **P** 19 44 44.2 -0.5
LTZ Lake Taylor 12.61 207 P **P** 19 44 42.8 -1.9
AMCZ Amberley 12.81 205 P **P** 19 44 48.2 +1.4
INZ Inchbonnie 12.89 209 P **P** 19 44 48.0 +0.2
OKCZ Okains Bay 13.15 203 P **P** 19 44 51.9 +1.3
OXZ Oxford 13.16 206 P **P** 19 44 50.5 -0.2
OXZ Oxford 13.16 206 P **P** 19 44 49.2 -1.5
OXZ S **S** 19 47 07.7 -5.5
MQZ McQueen's Vall 13.27 204 P **P** 19 44 51.8 -0.1
MQZ McQueen's Vall 13.27 204 P **P** 19 44 51.4 -0.5
RPZ Rata Peaks 13.87 208 P **P** 19 44 58.7 +0.1
4.4nm,0.3s,baz=33,slow=2.2,SNR=21
RPZ Rata Peaks 13.87 208 P **P** 19 44 58.8 +0.3
RPZ Rata Peaks 13.87 208 P **P** 19 44 56.9 -1.6
MSVF Nonsavu 14.05 352 P **P** 19 45 00.5 -0.3
FOZ Fox Glacier 14.25 211 P **P** 19 45 02.2 -0.3
LBZ Lake Benmore 14.78 209 P **P** 19 45 07.9 -0.4
ODZ Otahua Downs 15.15 206 P **P** 19 45 11.4 -0.9
DZM Mont Dzumac 15.43 305 P **P** 19 45 18.0 +2.2
0.9nm,0.3s,baz=182,slow=16,SNR=8.5
DZM Mont Dzumac 15.43 305 P **P** 19 45 16.7 +0.9
WKZ Wanaka 15.62 210 P **P** 19 45 17.7 -1.8
MLZ Mavora Lakes 16.44 211 P **P** 19 45 25.1 -1.2
MLZ IAmb IAmb 19 45 42.9
comp=Z,25nm,1.4s
DCZ Deep Cove 16.95 212 P **P** 19 45 29.7 -1.9
ARMA Armidale 24.29 266 P **P** 19 46 44.9 +2.9
ARMA IAmb IAmb 19 47 03.1
comp=Z,15nm,1.6s
CAN Canberra 26.02 254 P **P** 19 46 59.6 +2.4
CAN IAmb IAmb 19 47 07.5
comp=Z,27nm,1.6s
TOO Toolangi 28.85 249 P **P** 19 47 24.0 +1.8
TOO IAmb IAmb 19 47 34.7
comp=Z,28nm,1.6s
CTA Charters Tower 32.35 283 P **P** 19 47 54.6 +1.9
comp=Z,6.6nm,0.6s,baz=113,slow=12,SNR=12
CTAO Charters Tower 32.35 283 P **P** 19 47 53.7 +1.0
CTAO IAmb IAmb 19 48 06.9
comp=Z,30nm,1.4s
STKA Stephens Creek 32.51 259 P **P** 19 47 56.0 +2.1
comp=Z,5.8nm,0.6s,baz=102,slow=10,SNR=13
STKA Stephens Creek 32.51 259 P **P** 19 47 55.0 +1.0
BBOO Buckleboo 36.95 256 P **P** 19 48 31.2 -0.2
BBOO IAmb IAmb 19 48 33.1
comp=Z,9.4nm,0.7s
KRVT Keravat (AS076 37.85 310 P **P** 19 48 38.3 -0.8
comp=Z,43nm,0.7s,baz=320,slow=3.4,SNR=5.2
ASAR Alice Springs 41.33 269 P **P** 19 49 07.8 +0.4
comp=Z,1.3nm,0.6s,baz=110,slow=8.1,SNR=9.2
WR0 Warramunga Arr 42.27 275 P **P** 19 49 14.7 -0.1
WR0 IAmb IAmb 19 49 31.9
comp=Z,24nm,1.6s
WB2 Warramunga Arr 42.43 275 P **P** 19 49 15.6 -0.6
WRA Warramunga Arr 42.44 275 P **P** 19 49 16.1 -0.2
comp=Z,1.8nm,0.4s,baz=113,slow=7.7,SNR=15
WB0 Warramunga Arr 42.47 275 P **P** 19 49 16.4 -0.1
WB0 IAmb IAmb 19 49 25.3
comp=Z,22nm,1.6s
FORT Forrest 44.04 257 P **P** 19 49 28.6 -0.1
FORT IAmb IAmb 19 49 34.6
comp=Z,14nm,1.1s
VNDA Vanda 46.60 185 P **P** 19 49 50.0 +2.2
comp=Z,0.6nm,0.5s,baz=6.4,slow=7.4,SNR=12
VNDA Vanda 46.60 185 P **P** 19 49 50.0 +2.2
MTN Manton Dam 48.51 281 P **P** 19 50 02.9 -0.3
KNRA Kununurra 49.10 277 P **P** 19 50 07.6 0.0
KNRA IAmb IAmb 19 50 11.8
comp=Z,35nm,1.4s
FITZ Fitzroy Crossi 50.65 272 P **P** 19 50 19.3 +0.3
comp=Z,2.4nm,0.7s,baz=122,slow=3.6,SNR=7.2
FITZ Fitzroy Crossi 50.65 272 P **P** 19 50 19.3 +0.3
FITZ IAmb IAmb 19 50 35.3
comp=Z,16nm,1.6s
CASY Casey 53.15 208 P **P** 19 50 36.7 +0.2
MORW Morawa 54.50 255 P **P** 19 50 46.6 -0.2
MORW IAmb IAmb 19 50 59.9
comp=Z,12nm,1.2s
SOEI Soe 55.85 280 P **P** 19 50 57.0 +0.3
QSPA South Pole Qui 58.37 180 P **P** 19 51 15.3 +1.9
QSPA IAmb IAmb 19 51 16.5
comp=Z,15nm,0.8s
MAW Mawson 70.44 201 P **P** 19 52 31.1 +0.8
SNAA Sanae 76.86 179 P **P** 19 53 07.9 +0.7
SNAA Sanae 76.86 179 P **P** 19 53 08.1 +0.9
VNA3 Neumayer Olymp 77.08 177 P **P** 19 53 09.1 +0.8
VNA2 Neumayer--Watz 77.49 178 P **P** 19 53 11.5 +0.9
baz=176,slow=5.2
PETK Petropavlovsk- 86.69 347 P **P** 19 53 57.4 -0.3
comp=Z,1.1nm,0.6s,baz=145,slow=8.8,SNR=2.4
HHC Hu-ho-hao-te 95.93 315 *e*P **P** 19 54 41.5 +0.6
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,23nm,6.2s
MKAR Makanchi Array 117.30 310 PKP **PKPdf** 19 59 54.6 -2.1
comp=Z,0.2nm,0.7s,baz=53,slow=2.1,SNR=1.5
KURK Kurchatov 120.71 314 **PKPdf** 20 00 00.9 -2.3
KURBB Kurchatov Arra 120.75 313 PKP **PKPdf** 20 00 01.4 -1.8
comp=Z,0.5nm,0.6s,baz=113,slow=2.1,SNR=6.7
BVAR Borovoye Array 126.14 315 PKP **PKPdf** 20 00 12.7 -0.8
comp=Z,0.5nm,0.5s,baz=153,slow=1.7,SNR=5.5
ARCES ARCESS Array B 139.50 347 PKP **PKPdf** 20 00 36.9 -1.2
comp=Z,0.6nm,0.6s,baz=35,slow=3.3,SNR=4.2
FINES FINESS Array B 145.77 338 PKPbc **PKPdf** 20 00 49.1 -0.2
comp=Z,4.3nm,0.7s,baz=48,slow=4.1,SNR=27
NB2 NORSAR Subarra 149.77 349 PKP **PKPbc** 20 00 59.8 -1.4
comp=Z,0.9nm,0.6s,baz=17,slow=2.6
NOA NORSAR Array B 149.77 349 PKPbc **PKPbc** 20 00 59.9 -1.3
comp=Z,1.0nm,0.6s,baz=14,slow=4.1,SNR=7.4
AKASG Malin Array Be 151.25 320 PKPbc **PKPbc** 20 01 03.3 -1.6
comp=Z,0.7nm,0.5s,baz=60,slow=3.3,SNR=1.7
BRTR Keskin Array B 151.66 296 PKPbc **PKPbc** 20 01 05.2 -1.2
comp=Z,0.7nm,0.5s,baz=144,slow=3.3,SNR=4.5
TORD Torodi Ar. Bea 161.43 185 PKPab **PKPab** 20 01 59.3 +0.1
comp=Z,0.1nm,100.0s,baz=159,slow=4.3,SNR=5.4

*IDC **03** 19:43:06.8± 1.6, 3°.03S× 128°.17E, h0km, mb3.6/2, mb1 3.9/5, mb1mx3.5/47, mbtmp3.8/5, ML3.6/3, MS2.9/3, Ms1 2.9/3, ms1mx2.6/32, Error ellipse: s-maj=35.1km s-min=24.1km az=93.0*
*DJA **03** 19:43:10.0± 0.4, 3°.5S± 3°× 12°.8E± °, h12km± 5km, M4.3/16, mB5.1/5, mb4.8/6, MLv4.0/16, Mw(mB)4.4/5*
ISC 03 19:43:09.4± 0.7, 2°.99S± 0.07° × 128°.24E± 0.04, h10km, n19, σ 1§87/23, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.78**	**117**	P	**Pg**	**19 43 26.6**	**+2.2**
MSAI				S	**Sb**	**19 43 37.3**	**+1.7**
NLAI	**Namlea**	**1.16**	**258**	P	**Pb**	**19 43 33.0**	**+1.5**
NLAI				S	**Sb**	**19 43 49.6**	**+3.0**
SANI	**Sanana**	**2.43**	**293**	P	**Pn**	**19 43 48.2**	**-1.0**
SANI				S	**Sn**	**19 44 16.1**	**-2.9**
LBMI	**Labuha**	**2.45**	**343**	P	**Pn**	**19 43 50.9**	**+1.4**
LBMI				S	**Sn**	**19 44 18.7**	**-0.8**
SIJI	**Sorong**	**3.69**	**55**	Pn	**Pn**	**19 44 07.5**	**+1.0**
	14nm,0.3s,baz=77,slow=8.7,SNR=99						
SIJI				Sn	**Sn**	**19 44 51.2**	**+1.1**
	7.1nm,0.3s,baz=194,slow=22,SNR=12						
TNTI	**Ternate**	**3.84**	**347**	P	**Pn**	**19 44 07.8**	**-0.8**
FAKI	**Fak Fak**	**4.01**	**89**	P	**Pn**	**19 44 11.3**	**+0.4**
FAKI				S	**Sn**	**19 44 53.9**	**-4.1**
KMSI	**Cibinong**	**5.54**	**310**	P	**Pn**	**19 44 30.0**	**-1.9**
	0.4nm751nm66nm,0.6s						
LUWI	**Luwuk**	**5.79**	**289**	P	**Pn**	**19 44 35.2**	**-0.2**
	0.2nm59nm,1.0s						
SAUI	**Saumlaki**	**5.82**	**149**	P	**Pn**	**19 44 35.9**	**+0.1**
	1.8nm412nm,1.2s						
RKPI	**Ransiki, Papua**	**6.12**	**76**	P	**Pn**	**19 44 39.9**	**0.0**
	1.7nm10μm164nm,0.7s						
APSI	**Ampana**	**6.90**	**287**	P	**Pn**	**19 44 52.4**	**+1.8**
	0.2nm589nm44nm,0.4s						
MRSI	**Marisa**	**7.17**	**299**	P	**Pn**	**19 44 53.9**	**-0.5**
	0.1nm278nm16nm,0.5s						
KAPI	**Kappang**	**8.70**	**256**	LR	LR	19 49 18.3	
	comp=Z,31nm,20.6s,baz=56,slow=43						
FITZ	**Fitzroy Crossi**	**15.22**	**189**	Pn	**Pn**	**19 46 44.1**	**-0.5**
	0.1nm,0.3s,baz=145,slow=18,SNR=1.7						
FITZ				LR	LR	19 52 17.1	
	comp=Z,44nm,19.5s,baz=86,slow=36						
WRA	**Warramunga Arr**	**17.87**	**161**	P	**Pn**	**19 47 15.5**	**-2.8**
	0.2nm,0.3s,baz=341,slow=12,SNR=12						
LEM	**Lembang**	**20.89**	**259**	LR	LR	19 58 07.1	
	comp=Z,66nm,19.2s,baz=126,slow=43						
ASAR	**Alice Springs**	**21.27**	**166**	P	**P**	**19 47 54.4**	**-1.7**
	2.6nm,0.7s,baz=344,slow=11,SNR=23						
MKAR	**Makanchi Array**	**63.93**	**327**	P	**P**	**19 53 41.8**	**-0.9**
	0.3nm,0.5s,baz=123,slow=7.8,SNR=4.5						

*PRU **03** 19:46:00.4± 0.0, 50°.23N× 19°.07E, h0km*
*IDC **03** 19:46:01.7± 2.7, 50°.13N× 19°.10E, h0km, mb1 3.1/3, mb1mx3.0/33, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=45.8km s-min=11.3km az=134.0*
ISC 03 19:45:58.2± 0.8, 50°.25N± 0.04 × 19°.20E± 0.03, h0km, n24, σ 1§27/41, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.39**	**95**	*i* Pg	**Pb**	**19 46 09.2**	**+1.2**
OJC				*e*Sg	**Sb**	**19 46 15.5**	**+1.0**
OKC	**Ostrava-Krasne**	**0.80**	**239**	*e*PG	**Pg**	**19 46 13.6**	**+0.1**
OKC				*e*SG	**Sg**	**19 46 24.0**	**+0.2**
	comp=Z,40nm,1.0s						
NIE	**Niedzica**	**1.10**	**139**	*e*Pg	**Pn**	**19 46 21.3**	**+0.4**
NIE				*e*Sg	**Sn**	**19 46 36.5**	**-0.3**
LANS	**Liptovska Anna**	**1.12**	**171**	*e*PG	**Pn**	**19 46 21.3**	**+0.1**
LANS				*e*SG	**Sb**	**19 46 36.1**	**+0.6**
LANS				*e*LG	Lg	19 46 37.7	
MORC	**Moravsky Berou**	**1.17**	**247**	*e*PG	**Pg**	**19 46 20.5**	**-0.1**
MORC				*e*SG	**Sg**	**19 46 36.1**	**+0.3**
KRLC	**Kraliky**	**1.57**	**264**	*e*PG	**Pn**	**19 46 26.8**	**-0.5**
KRLC				*e*SG	**Sn**	**19 46 47.7**	**-0.6**
	comp=Z,22nm,0.5s						
JAVC	**Velka Javorina**	**1.71**	**216**	*e*PN	**Pn**	**19 46 30.2**	**+0.8**
VYHS	**Vyhne**	**1.78**	**188**	*e*PN	**Pn**	**19 46 30.8**	**+0.6**
VYHS				*e*SN	**Sb**	**19 46 54.6**	**+0.1**
DPC	**Dobruska-Polom**	**1.85**	**274**	*e*PG	**Pn**	**19 46 31.7**	**+0.5**
DPC				*e*SG	**Sg**	**19 46 57.2**	**-0.4**
	comp=Z,21nm,0.5s						
OSTC	**Ostas**	**1.93**	**280**	*e*PG	**Pn**	**19 46 33.3**	**+0.9**
OSTC				*e*SG	**Sg**	**19 46 59.7**	**-0.6**
	comp=Z,8.8nm,0.8s						
VRAC	**Vranov**	**1.94**	**242**	*e*PN	**Pb**	**19 46 33.9**	**-0.5**
VRAC				*e*SG	**Sb**	**19 46 58.7**	**-0.4**
KSP	**Ksiaz**	**1.95**	**289**	*e*Pg	**Pg**	**19 46 37.1**	**+1.6**
KSP				*e*Sg	**Sg**	**19 47 01.5**	**+0.8**
KECS	**Kecovo**	**1.96**	**154**	*e*PN	**Pb**	**19 46 34.8**	**0.0**
CHVC	**Chvalec**	**2.04**	**281**	*e*PG	**Pn**	**19 46 34.5**	**+0.7**
CHVC				*e*SG	**Sg**	**19 47 03.0**	**-0.7**
	comp=Z,20nm,1.1s						
UPC	**Upice**	**2.06**	**278**	*e*SG	**Sg**	**19 47 04.4**	**+0.1**
	comp=Z,13nm,0.9s						
KRUC	**Moravsky**	**2.18**	**238**	*e*PN	**Pn**	**19 46 36.2**	**+0.5**
KRUC				*e*SG	**Sb**	**19 47 06.3**	**+0.3**
GOPC	**GO Pecny, Ondr**	**2.86**	**265**	*e*SG	**Sg**	**19 47 29.1**	**-1.1**
	comp=Z,6.9nm,0.8s						
PRU	**Pruhonice**	**3.01**	**267**	*e*SG	**Sg**	**19 47 34.1**	**-0.8**
	comp=Z,7.5nm,0.5s						
BRG	**Berggiesshubel**	**3.41**	**283**	PG	**Pg**	**19 47 03.1**	**-0.5**
BRG				SG	**Sg**	**19 47 48.8**	**+1.1**
	3.2nm,0.7s						
KHC	**Kasperske Hory**	**3.82**	**255**	*e*PN	**Pn**	**19 46 57.5**	**-0.8**
KHC				*e*SG	**Sg**	**19 47 59.2**	**-1.7**
	comp=Z,7.3nm,0.9s						
GERES	**GERESS Array B**	**3.85**	**251**	Pn	**Pn**	**19 47 00.2**	**+1.5**
	0.2nm,0.3s,baz=69,slow=14,SNR=6.7						
GERES				Pg	**Pb**	**19 47 09.3**	**+2.3**
	0.5nm,0.3s,baz=66,slow=17,SNR=8.5						
GERES				Lg	Lg	19 48 00.6	
	1.0nm,0.3s,baz=68,slow=29,SNR=13						
CLL	**Collm**	**4.07**	**287**	*e*Sg	**Sg**	**19 48 12.0**	**+3.0**
FINES	**FINESS Array B**	**11.85**	**16**	Pn	**Pn**	**19 48 47.9**	**-0.4**
	0.1nm,0.3s,baz=207,slow=15,SNR=4.5						
FINES				Sn	**Sn**	**19 50 56.1**	**-5.1**
	0.1nm,0.3s,baz=217,slow=21,SNR=1.8						
ARCES	**ARCESS Array B**	**19.58**	**7**	Pn	**Pn**	**19 50 29.6**	**+0.9**
	0.1nm,0.3s,baz=192,slow=13,SNR=1.4						

*BJI **03** 19:53:04.0± 0.0, 16°.60S× 175°.80E, h10km, mB5.2/30, mb4.8/40, Ms4.8/25, Ms7 4.5/25*
*IDC **03** 19:53:05.1± 0.5, 16°.60S× 175°.69E, h0km, mb4.5/22, mb1 4.6/22, mb1mx4.4/37, mbtmp4.5/22, MS4.3/25, Ms1 4.3/25, ms1mx4.2/40, Error ellipse: s-maj=18.3km s-min=14.9km az=136.0*
*NEIC **03** 19:53:06.7± 1.6, 16°.66S± 0°.07× 175°.73E± 0°.07, h15km± 3km, mb5.0/127, Error ellipse: s-maj=10.4km s-min=9.9km az=179.0*
*GCMT **03** 19:53:08.7± 0.2, 16°.49S± 0°.01× 175°.83E± 0°.01, h12km, MW5.1/120, Moment Tensor Solution. s58,c77; s120,c202; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.00±.09; Mθθ-3.08±.08; Mϕϕ3.08±.07; Mrθ1.39±.24; Mθϕ3.57±.07; Mϕr0.55±.20; Best double couple: Mo4.94600×10¹⁶ NP1:ϕs340.00000°, δ72.00000°, λ180.00000°. NP2:ϕs70.00000°, δ90.00000°, λ18.00000°. Principal axes: T 4.9530, Plg13.0000°, Azm296.0000°; N -0.0160, Plg72.0000°, Azm70.0000°; P -4.9380, Plg12.0000°, Azm203.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 19:53:05.5± 0.3, 16°.67S± 0°.06× 175°.83E± 0°.05, h10km, n249, σ 1§36/245, mb4.9/91, MS4.4/34, 4C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.38**	**117**		**Pn**	**19 53 42.8**	**-1.9**
FUNA	**Funafuti**	**8.73**	**23**	Pn	**Pn**	**19 55 08.9**	**-3.1**
DZM	**Mont Dzumac**	**10.36**	**237**	*e*LQ	LQ	19 57 25.7	
	5μm,25.6s						
DZM				*e*LR	LR	19 57 55.0	
	comp=Z,3μm,24.1s						
DZM	**Mont Dzumac**	**10.36**	**237**	LR	LR	19 58 52.1	
	comp=Z,2μm,20.7s,baz=64,slow=34						
DZM	**Mont Dzumac**	**10.36**	**237**	Pn	**Pn**	**19 55 30.8**	**-3.6**
AFI	**Afiamalu**	**12.27**	**79**	Pn	**Pn**	**19 55 58.2**	**-2.4**
LHI	**Lord Howe Isla**	**21.24**	**223**		**P**	**19 57 48.3**	**-3.5**
LHI				IAmb	IAmb	19 57 49.7	
	comp=Z,120nm,1.1s						
HIZ	**Hauiti**	**21.78**	**182**	P	**P**	**19 57 54.3**	**-3.2**
HIZ				IAmb	IAmb	19 58 36.1	
	comp=Z,125nm,1.5s						
BKZ	**Black Stump Fm**	**22.42**	**179**	P	**P**	**19 58 04.8**	**+0.3**
BKZ				IAmb	IAmb	19 59 03.1	
	comp=Z,64nm,1.6s						
RAR	**Rarotonga**	**23.51**	**105**	P	**P**	**19 58 16.9**	**+1.1**
	comp=Z,11nm,0.7s,baz=277,slow=13,SNR=2.0						
RAR				LR	LR	20 05 42.7	
	comp=Z,607nm,21.2s,baz=280,slow=32						
RAR	**Rarotonga**	**23.51**	**105**	P	**P**	**19 58 17.2**	**+1.4**
QRZ	**Quartz Range**	**24.24**	**186**	P	**P**	**19 58 24.3**	**+1.6**
QRZ				IAmb	IAmb	19 58 51.2	
	comp=Z,58nm,1.2s						
NNZ	**Nelson**	**24.55**	**184**	P	**P**	**19 58 26.6**	**+1.1**
NNZ				IAmb	IAmb	19 58 29.2	
	comp=Z,77nm,1.2s						
EIDS	**Eidsvold**	**24.64**	**245**	P	**P**	**19 58 25.9**	**-0.5**
TUWZ	**Tuamarina**	**24.73**	**183**	P	**P**	**19 58 27.8**	**+0.7**
THZ	**Tophouse**	**25.14**	**185**	P	**P**	**19 58 29.1**	**-1.7**
THZ				IAmb	IAmb	19 58 36.7	
	comp=Z,25nm,0.9s						
KHZ	**Kahutara**	**25.74**	**184**	P	**P**	**19 58 36.1**	**0.0**
KHZ				IAmb	IAmb	19 58 44.1	
	comp=Z,78nm,1.7s						
ARMA	**Armidale**	**25.99**	**234**	P	**P**	**19 58 37.0**	**-1.8**
LTZ	**Lake Taylor**	**26.20**	**186**	P	**P**	**19 58 41.9**	**+1.4**
RABL	**Rabaul**	**26.32**	**295**	P	**P**	**19 58 40.9**	**-0.9**
RABL				IAmb	IAmb	19 58 48.0	
	comp=Z,54nm,1.0s						
KRVT	**Keravat (AS076**	**26.39**	**295**	P	**P**	**19 58 40.7**	**-1.7**
	comp=Z,55nm,0.9s,baz=306,slow=7.8,SNR=9.3						
KRVT				LR	LR	20 09 02.6	
	comp=Z,690nm,18.5s,baz=116,slow=36						
KWAJ	**Kwajalein Atol**	**26.58**	**342**	P	**P**	**19 58 44.2**	**+0.2**
OXZ	**Oxford**	**26.77**	**186**	P	**P**	**19 58 46.2**	**+0.7**
MQZ	**McQueen's Vall**	**27.09**	**185**	P	**P**	**19 58 47.6**	**-0.7**
MQZ				IAmb	IAmb	19 59 00.2	
	comp=Z,84nm,1.9s						
FOZ	**Fox Glacier**	**27.26**	**190**	P	**P**	**19 58 51.1**	**+1.2**
FOZ				IAmb	IAmb	19 58 57.2	
	comp=Z,49nm,1.0s						
RPZ	**Rata Peaks**	**27.26**	**188**	P	**P**	**19 58 50.8**	**+0.8**
	comp=Z,13nm,0.7s,baz=354,slow=6.1,SNR=8.4						
RPZ				LR	LR	20 08 27.3	
	comp=Z,1μm,20.1s,baz=17,slow=34						
RPZ	**Rata Peaks**	**27.26**	**188**	P	**P**	**19 58 51.0**	**+1.0**
LBZ	**Lake Benmore**	**28.04**	**189**	P	**P**	**19 58 57.7**	**+0.7**
LBZ				IAmb	IAmb	19 59 10.4	
	comp=Z,34nm,1.2s						
CTA	**Charters Tower**	**28.25**	**259**	LR	LR	20 09 31.2	
	comp=Z,951nm,18.9s,baz=73,slow=35						
ODZ	**Otahua Downs**	**28.62**	**188**	P	**P**	**19 59 02.3**	**+0.2**
WKZ	**Wanaka**	**28.65**	**190**	P	**P**	**19 59 04.7**	**+2.3**
MLZ	**Mavora Lakes**	**29.33**	**191**	P	**P**	**19 59 11.4**	**+2.9**
PPT2	**Papeete2**	**33.05**	**97**	*e*S	**S**	**20 04 54.9**	**-5.7**
	comp=Z,210nm,29.2s						
PPT2				*e*LQ	LQ	20 07 05.5	
	comp=Z,2μm,25.5s						
PPT2				*e*LR	LR	20 08 29.0	
	comp=Z,1μm,28.8s						
PPT	**Papeete**	**33.05**	**97**	LR	LR	20 09 56.2	
	comp=Z,128nm,18.6s,baz=268,slow=30						
STKA	**Stephens Creek**	**34.51**	**238**	P	**P**	**19 59 55.3**	**+1.3**
	comp=Z,4.8nm,1.0s,baz=69,slow=8.9,SNR=6.2						
STKA				LR	LR	20 12 58.8	
	comp=Z,494nm,19.8s,baz=64,slow=35						
STKA	**Stephens Creek**	**34.51**	**238**	P	**P**	**19 59 55.4**	**+1.3**
H11S2	**WAKE ISLAND Hy**	**36.07**	**345**	T	T	20 38 09.3	
	baz=166,slow=76,SNR=184						
H11S3	**WAKE ISLAND Hy**	**36.08**	**345**	T	T	20 38 07.0	
	baz=166,slow=76,SNR=64

NWAO Narrogin (SRO) 54.95 241 P P 20 02 37.1 +0.1
KCP Kidapawan 55.42 291 ⇓ iP P 20 02 41.4 +0.7
APSI Ampana 55.57 281 P P 20 02 42.5 +0.8
comp=Z,379nmcomp=Z,18nm,1.4s
JHJ Hachijo jima 2 60.30 325 LR LR 20 25 24.4
comp=Z,99nm,20.1s,baz=142,slow=32
VNDA Vanda 61.28 183 P P 20 03 22.6 +2.0
comp=Z,1.1nm,1.0s,baz=357,slow=6.7,SNR=4.7
VNDA LR LR 20 26 28.5
comp=Z,329nm,19.7s,baz=26,slow=33
VNDA Vanda 61.28 183 P P 20 03 21.8 +1.2
VNDA IAmb IAmb 20 03 46.7
comp=Z,10nm,1.4s
INU Inuyama 63.49 325 P P 20 03 35.5 -0.4
INU IAmb IAmb 20 04 28.0
comp=Z,16nm,1.1s
MJAR Matsushiro Arr 63.74 327 P P 20 03 37.6 0.0
comp=Z,3.6nm,1.0s,baz=155,slow=6.9,SNR=9.8
MAJO Matsushiro 63.74 327 P P 20 03 37.0 -0.6
MAJO IAmb IAmb 20 03 45.2
comp=Z,22nm,1.4s
MAT Matsushiro 63.74 327 P P 20 03 37.3 -0.3
MJB9 Matsu-Tunnel 63.75 327 P P 20 03 37.3 -0.4
MJB9 IAmb IAmb 20 04 34.3
comp=Z,5.8nm,0.7s
CASY Casey 64.99 204 P P 20 03 45.9 +0.5
CASY IAmb IAmb 20 03 51.2
comp=Z,24nm,1.5s
JNU Nakatsue 65.53 319 LR LR 20 28 11.1
comp=Z,141nm,20.8s,baz=164,slow=32
SBUM Sibu 65.57 281 P P 20 03 50.0 0.0
ERM Erimo 65.72 334 P P 20 03 51.2 +0.8
YOJ Yonaguni jima 65.76 307 P P 20 03 51.0 0.0
YULB Yu-li 66.52 305 P P 20 03 54.7 -1.2
NACB Ninganchiao 66.70 306 P P 20 03 55.7 -1.3
CISI Cisompet, Garu 66.86 269 P P 20 03 56.8 -1.6
SSLB Suanglung 66.99 306 P P 20 03 57.5 -1.5
TPUB Ta-pu 66.99 305 P P 20 03 58.3 -0.7
KSM Kuching 67.06 279 P P 20 03 59.5 -0.1
KSM IAmb IAmb 20 04 03.4
comp=Z,11nm,1.2s
LEM Lembang 67.23 269 LR LR 20 33 37.7
comp=Z,134nm,19.4s,baz=103,slow=36
KSRS Korea Array 70.20 321 P P 20 04 18.8 +0.1
comp=Z,0.5nm,0.6s,baz=146,slow=3.2,SNR=2.5
KSRS LR LR 20 33 06.3
comp=Z,74nm,19.2s,baz=128,slow=34
PETK Petropavlovsk- 71.23 349 LR LR 20 29 50.1
comp=Z,147nm,21.6s,baz=191,slow=31
DLV T Lat 72.38 289 P P 20 04 33.6 +1.0
NJ2 Nanjing 72.96 312 eP P 20 04 36.4 +1.0
NJ2 pmax pmax
comp=Z,14nm,0.6s
QSPA South Pole Qui 73.38 180 LR LR 20 33 19.3
comp=Z,118nm,19.5s,baz=39,slow=33
QSPA South Pole Qui 73.38 180 P P 20 04 38.7 +1.1
QSPA IAmb IAmb 20 04 41.1
comp=Z,28nm,1.2s
CN2 Changchun 75.76 325 eP P 20 04 52.0 +0.5
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,180nm,18.0s
CN2 LR LR
comp=Z,150nm,18.0s
CN2 LR LR
comp=Z,160nm,17.0s
COCO West Island 76.19 261 P P 20 04 54.3 -0.3
IPM Ipoh 76.80 279 P P 20 04 58.1 0.0
IPM IAmb IAmb 20 05 03.2
comp=Z,42nm,1.9s
OHAK Old Harbor 77.98 17 P P 20 05 04.4 +0.7
RPSI Rantau Prapat 78.25 276 P P 20 05 05.8 -0.4
RPSI IAmb IAmb 20 05 09.7
comp=Z,19nm,1.3s
PSI Prapat 78.28 277 LR LR 20 40 32.5
comp=Z,6.9nm,20.0s,baz=93,slow=36
KDAK Kodiak Island 78.66 17 P P 20 05 09.0 +1.5
comp=Z,7.8nm,1.1s,baz=109,slow=9.4,SNR=3.6
KDAK Kodiak Island 78.66 17 P P 20 05 08.9 +1.5
MA2 Magadan 78.67 347 P P 20 05 08.5 +1.0
MA2 IAmb IAmb 20 05 13.5
comp=Z,14nm,1.2s
ENH Enshi 79.06 306 P P 20 05 09.9 -0.5
ENH IAmb IAmb 20 05 20.5
comp=Z,32nm,1.3s
BJT Baijiatuau 79.09 318 P P 20 05 10.1 -0.2
BJT IAmb IAmb 20 05 15.3
comp=Z,42nm,2.0s
BJI Beijing 79.10 318 P P 20 05 11.3 +1.0
BJI S S 20 15 12.4 +2.6
BJI LR LR
comp=Z,150nm,12.8s
BJI LR LR
comp=Z,81nm,9.6s
GSI Gunungsitoli 79.12 275 P P 20 05 09.6 -1.5
GSI IAmb IAmb 20 05 14.0
comp=Z,36nm,1.4s
GYA Guiyang 79.67 302 ⇑ iP P 20 05 15.4 +1.5
GYA pP pwP 20 05 18.5 -0.8
GYA sP sP 20 05 19.7 +2.2
GYA S S 20 15 09.1 -7.6
GYA SKS SKSac 20 15 24.1 -7.2
GYA SS SS 20 20 22.2 -3.4
GYA pmax pmax
comp=Z,10.0nm,0.6s
GYA pmax pmax
comp=Z,100nm,4.7s
GYA LR LR
comp=Z,40nm,5.3s
GYA LR LR
comp=Z,110nm,3.8s
GYA LR LR
comp=Z,40nm,3.8s
KMRM Mail Ridge 79.72 43 P P 20 05 14.8 +0.9
PAGB Antelope Grade 79.80 48 P P 20 05 14.7 +0.4
PAGB IAmb IAmb 20 05 17.1
comp=Z,25nm,1.7s
SLVN Son La 79.97 296 P P 20 05 15.6 0.0
SLVN IAmb IAmb 20 05 27.5
comp=Z,24nm,1.6s
KHMM Horse Mountain 80.05 42 P P 20 05 16.6 +0.9
WDC Whiskeytown Da 80.67 43 P P 20 05 19.6 +0.8
109C Camp Elliot, M 80.78 52 P P 20 05 20.8 +1.2
109C IAmb IAmb 20 05 59.9
comp=Z,33nm,1.4s
BRLK Bradley Lake 80.81 16 P P 20 05 20.4 +1.2
BRLK IAmb IAmb 20 05 25.8
comp=Z,16nm,1.1s
CMB Columbia Colle 80.83 46 P P 20 05 20.4 +0.6
ORV Oroville 80.83 44 P P 20 05 20.1 +0.4
PBKT Sadao Pong 80.83 290 P P 20 05 20.2 +0.1
AFDM Forest Hills D 80.88 45 P P 20 05 20.8 +0.7
RSO Redoubt South 80.93 15 P P 20 05 20.8 +0.8
ISA Isabella, Lake 81.04 49 P P 20 05 22.7 +1.7
YBH Yreka Blue Hor 81.16 42 P P 20 05 22.8 +1.2
YBH IAmb IAmb 20 06 32.5
comp=Z,23nm,1.6s
XAN Xi'an 81.18 309 P P 20 05 22.2 +0.4
XAN pmax pmax
comp=Z,13nm,1.4s
XAN LR LR
comp=Z,160nm,20.6s
XAN LR LR
comp=Z,290nm,22.8s
XAN Xi'an 81.18 309 P P 20 05 21.9 +0.2
XAN IAmb IAmb 20 05 28.1
comp=Z,19nm,1.3s
SEY Seymchan 81.44 349 P P 20 05 22.8 +0.5
comp=Z,12nm,0.9s,baz=171,slow=7.0,SNR=7.3
RUBR Rubicon Trail 81.48 45 P P 20 05 23.4 -0.1
SEW Seward 81.49 17 P P 20 05 24.1 +1.4
SEW IAmb IAmb 20 05 32.7
comp=Z,12nm,1.3s
MDPB Devils Postpil 81.54 47 P P 20 05 24.1 +0.3
MDPB IAmb IAmb 20 06 14.7
comp=Z,20nm,1.4s
OMMB Old Mammoth Mi 81.58 47 P P 20 05 25.9 +1.7
WAKR Walker 81.71 46 P P 20 05 27.1 +2.4
WAKR IAmb IAmb 20 05 40.8
comp=Z,12nm,1.4s
BEKR Beckworth 81.75 44 P P 20 05 25.1 +0.3
BEKR IAmb IAmb 20 05 27.0
comp=Z,22nm,1.6s
PNTR Pine Nut 81.88 45 P P 20 05 26.9 +1.3
PNTR IAmb IAmb 20 05 33.2
comp=Z,9.5nm,1.1s
YERR Yerington 82.07 45 P P 20 05 27.1 +0.5
GSC Goldstone, Bar 82.08 50 P P 20 05 27.9 +1.3
GSC IAmb IAmb 20 06 56.0
comp=Z,24nm,2.0s
PAHR Pah Rah Range 82.32 45 P P 20 05 28.7 +0.9
TTA Tatalina 82.35 13 P P 20 05 28.8 +1.5
KMI Kunming 82.39 299 P P 20 05 29.8 +1.2
KMI pmax pmax
comp=Z,11nm,1.2s
RYN Ryan 82.40 46 P P 20 05 29.3 +1.1
NVAR Mina Array Bea 82.45 46 P P 20 05 30.8 +2.2
comp=Z,3.9nm,1.0s,baz=228,slow=8.3,SNR=15
NVAR LR LR 20 34 18.2
comp=Z,534nm,21.0s,baz=230,slow=30
HHC Hu-ho-hao-te 82.53 316 eP P 20 05 29.7 +0.9
HHC pmax pmax
comp=Z,10.0nm,1.2s
HHC pmax pmax
comp=Z,45nm,6.6s
HHC LR LR
comp=Z,140nm,17.5s
HHC LR LR
comp=Z,110nm,17.7s
HHC LR LR
comp=Z,110nm,16.5s
NV11 Mina Array Sit 82.56 46 P P 20 05 30.4 +1.4
NV11 IAmb IAmb 20 05 53.1
comp=Z,8.9nm,1.2s
K05A Summer Lake 82.83 42 P P 20 05 30.4 -0.1
KVN Kaiserville 82.89 46 P P 20 05 32.4 +1.6
KVN IAmb IAmb 20 05 43.3
comp=Z,16nm,1.7s
MAW Mawson 83.11 201 P P 20 05 33.3 +2.1
comp=Z,7.0nm,1.1s,baz=104,slow=4.8,SNR=9.5
MAW LR LR 20 39 37.0
comp=Z,193nm,18.0s,baz=74,slow=34
MAW Mawson 83.11 201 P P 20 05 32.9 +1.7
TPNV Topopah Spring 83.22 48 P P 20 05 34.4 +1.9
CMAR Chiang Mai Arr 83.30 291 P P 20 05 34.8 +1.6
comp=Z,3.4nm,1.0s,baz=117,slow=3.6,SNR=24
CMAR LR LR 20 39 09.3
comp=Z,119nm,21.8s,baz=168,slow=33
CHTO Chiang Mai 83.42 292 P P 20 05 34.0 +0.3
214A Organ Pipe Nat 83.67 54 P P 20 05 36.2 +1.4
214A IAmb IAmb 20 05 48.3
comp=Z,14nm,1.6s
CD2 Chengdu 83.80 305 P P 20 05 35.3 -0.2
CD2 S S 20 15 59.9 +0.8
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 pmax pmax
comp=Z,70nm,6.9s
CD2 LR LR
comp=Z,270nm,19.8s
CD2 LR LR
comp=Z,290nm,21.7s
CD2 LR LR
comp=Z,330nm,24.0s
SHPR Sheep Range 83.81 49 P P 20 05 36.1 +0.5
SHPR IAmb IAmb 20 05 44.3
comp=Z,11nm,1.5s
TRF Thorofare Moun 84.09 15 P P 20 05 37.3 +0.9
TRF IAmb IAmb 20 05 44.2
comp=Z,8.7nm,1.2s
WVOR Wild Horse Val 84.13 43 P P 20 05 37.9 +0.8
WVOR IAmb IAmb 20 05 44.6
comp=Z,15nm,1.5s
VRDI Verde Repeater 84.15 18 P P 20 05 37.6 +0.8
W13A Hualapai Mount 84.15 51 P P 20 05 37.5 +0.1
W13A IAmb IAmb 20 05 46.0
comp=Z,14nm,1.8s
BALM Baldy 84.34 19 P P 20 05 38.2 +0.6
BALM IAmb IAmb 20 05 49.5
comp=Z,6.7nm,1.1s
RND Reindeer 84.41 15 P P 20 05 38.4 +0.5
RND IAmb IAmb 20 05 48.3
comp=Z,12nm,1.1s
BARN Barnard Glacie 84.57 19 P P 20 05 39.7 +0.7
BARN IAmb IAmb 20 05 44.2
comp=Z,10.0nm,1.0s
J08A Circle Bar Ran 84.68 42 P P 20 05 40.2 +0.4
J08A IAmb IAmb 20 06 31.9
comp=Z,23nm,1.9s
G08A Pilot Rock 85.31 40 P P 20 05 43.0 +0.1
TUC Tucson 85.39 54 P P 20 05 43.9 +0.3
WRH Wood River Hil 85.48 15 P P 20 05 43.7 +0.5
CCUT Cedar City 85.56 49 P P 20 05 46.0 +1.5
ELK Elko 85.62 45 P P 20 05 45.1 +0.4
ELK IAmb IAmb 20 08 25.3
comp=Z,6.1nm,1.0s
PSUT Pine Spring 85.62 48 P P 20 05 45.1 +0.3
CCB Clear Creek Bu 85.70 15 P P 20 05 45.0 +0.8
X16A Lo Mia Camp, P 85.71 52 P P 20 05 45.3 0.0
HDA Harding Lake 85.72 15 P P 20 05 44.1 -0.3
HDA IAmb IAmb 20 06 09.2
comp=Z,16nm,1.5s
RIDG Independent Ri 85.73 16 P P 20 05 44.7 +0.2
RIDG IAmb IAmb 20 05 49.0
comp=Z,6.5nm,1.0s
LZH Lanzhou 85.81 309 eP P 20 05 47.6 +1.9
LZH PP PP 20 09 07.5 +2.1
LZH pmax pmax
comp=Z,23nm,1.0s
LZH pmax pmax
comp=Z,160nm,5.4s
LZH LR LR
comp=Z,170nm,15.2s
LZH LR LR
comp=Z,170nm,15.9s
LZH LR LR
comp=Z,190nm,16.2s
U15A North Rim 85.88 50 P P 20 05 46.7 +0.5
U15A IAmb IAmb 20 05 55.8
comp=Z,12nm,1.4s
ILAR Eielson Array 86.03 15 P P 20 05 46.5 +0.6
comp=Z,1.8nm,0.9s,baz=228,slow=5.8,SNR=11
ILAR LR LR 20 37 24.1
comp=Z,346nm,21.4s,baz=222,slow=31
SCRK Sand Creek 86.15 17 P P 20 05 46.5 -0.2
SCRK IAmb IAmb 20 05 55.0
comp=Z,10nm,1.6s
MFID Camas Ranch 86.42 43 P P 20 05 48.1 -0.3
MFID IAmb IAmb 20 06 15.5
comp=Z,20nm,1.8s
YAK Yakutsk 86.46 340 P P 20 05 48.1 +0.1
comp=Z,3.5nm,0.4s,baz=321,slow=1.5,SNR=2.2
YAK Yakutsk 86.46 340 P P 20 05 47.3 -0.7
MTPU Mount Pierson 86.61 49 P P 20 05 49.5 -0.4
MSU Marysvale 86.81 48 P P 20 05 50.7 0.0
DLBC Dease Lake 86.97 25 P P 20 05 51.5 +0.8
comp=Z,2.7nm,0.9s,baz=237,slow=9.9,SNR=3.3
DLBC Dease Lake 86.97 25 P P 20 05 50.9 +0.2
DLBC IAmb IAmb 20 05 54.9
comp=Z,9.0nm,1.2s
EGAK Eagle 87.55 17 P P 20 05 53.6 +0.3
ULN Ulaanbaatar 88.69 321 P P 20 05 59.6 +0.2
MCMT McKenzie Canyo 88.96 42 P P 20 06 01.1 +0.3
SYO Syowa Base 89.06 194 ⇓ eP P 20 06 00.8 +0.3
SYO Syowa Base 89.06 194 ⇓ epP pP 20 06 06.0 +3.0
SONM Songino Array 89.07 321 P P 20 06 02.1 +1.0
comp=Z,2.4nm,1.1s,baz=134,slow=4.8,SNR=8.7
SONM LR LR 20 44 08.0
comp=Z,57nm,20.3s,baz=106,slow=34
PV22 Blue Mesa, Par 89.27 49 P P 20 06 01.5 -0.8
PV22 IAmb IAmb 20 06 06.0
comp=Z,8.4nm,1.1s
DLMT Dillon 89.35 42 P P 20 06 01.8 -0.6
DLMT IAmb IAmb 20 06 10.8
comp=Z,13nm,1.2s
LRM Limekiln Ridge 89.63 42 P P 20 06 03.4 -0.5
ANMO Albuquerque 89.72 53 P P 20 06 04.2 -0.3
GTA Gaotai 90.04 311 ⇑ P P 20 06 06.8 +0.9
GTA pP pwP 20 06 11.5 +0.2
GTA sP sP 20 06 13.9 +4.4
GTA S S 20 17 00.1 +0.8
GTA sS sS 20 17 10.2 +6.7
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA pmax pmax
comp=Z,72nm,6.7s
GTA LR LR
comp=Z,87nm,18.1s
GTA LR LR
comp=Z,160nm,21.3s
GTA LR LR
comp=Z,190nm,22.2s
TXAR Lajitas Array 90.05 59 P P 20 06 08.1 +2.0
comp=Z,1.5nm,1.0s,baz=235,slow=4.4,SNR=8.4
TXAR LR LR 20 38 03.6
comp=Z,351nm,20.9s,baz=0.0,slow=30
PDAR Pinedale Array 90.32 45 P P 20 06 08.7 +1.5
comp=Z,2.5nm,1.1s,baz=237,slow=8.3,SNR=2.3
PDAR LR LR 20 43 14.3
comp=Z,145nm,18.1s,baz=262,slow=33
SNAA Sanae 91.88 180 P P 20 06 13.3 -0.4
SNAA Sanae 91.88 180 P P 20 06 13.4 -0.4
SNAA IAmb IAmb 20 06 17.7
comp=Z,12nm,1.4s
VNA2 Neumayer--Watz 92.60 179 P P 20 06 16.7 -0.4
baz=179,slow=2.8
VNA1 Neumayer--Stat 92.86 179 P P 20 06 18.3 +0.1
YKA Yellowknife Ar 95.57 26 P P 20 06 32.8 +2.1
comp=Z,1.6nm,1.0s,baz=250,slow=5.2,SNR=4.2
YKA LR LR 20 47 01.4
comp=Z,202nm,18.3s,baz=0.0,slow=34
PLCA Paso Flores 96.12 136 LR LR 20 39 59.9
comp=Z,77nm,21.3s,baz=253,slow=29
KSU1 Kansas State U 98.47 52 P P 20 06 42.6 -1.8
WMQ Urumqi 100.02 313 eP Pdif 20 06 52.5 +1.2
WMQ pmax pmax
comp=Z,69nm,4.7s
WMQ LR LR
comp=Z,85nm,23.7s
WMQ LR LR
comp=Z,200nm,26.1s
WMQ LR LR
comp=Z,200nm,24.9s
ARCES ARCESS Array B 124.04 348 PKP PKPdf 20 12 03.6 +0.1
comp=Z,2.2nm,0.6s,baz=129,slow=1.7,SNR=15
KLMR Klimovskoe 126.00 335 ePKPdf PKPdf 20 12 06.7 -0.8
KLMR AMP 20 12 10.3
comp=Z,8.0nm,1.5s
BRTR Keskin Array B 139.95 313 PKP PKPdf 20 12 36.2 +1.6
comp=Z,9.0nm,0.9s,baz=180,slow=2.5,SNR=2.4
BRG Berggiesshubel 142.91 341 ePKP PKPdf 20 12 41.2 +1.8
comp=Z,7.2nm,1.5s
BRG e 20 25 08.7
comp=Z,4.0nm,1.4s
VYHS Vyhne 143.10 334 ePKP PKPdf 20 12 40.9 +1.1
KHC Kasperske Hory 144.54 340 ePKP PKPdf 20 12 42.4 0.0
KHC Kasperske Hory 144.54 340 PKPdf PKPab 20 12 40.7 0.0
CONA Conrad Observa 144.74 336 ePKPdf PKPdf 20 12 42.9 +0.1
comp=Z,7.1nm,0.9s,SNR=7.3
GEC2 GERESS Array S 144.75 339 PKPbc 20 12 42.2 +0.5
GERES GERESS Array B 144.75 339 PKP PKPbc 20 12 42.5 +0.8
comp=Z,3.7nm,0.9s,baz=27,slow=3.6,SNR=16
GRA1 Grafenberg Arr 144.78 343 PKPdf PKPab 20 12 42.0 +0.4
GRF Grafenberg Arr 144.78 343 ePKPbc PKPdf 20 12 42.9 +0.2
baz=26,slow=3.1
VTS Vitosha 145.13 324 PKPbc 20 12 42.7 -0.5
MOA Molln 145.40 338 ePKPdf PKPdf 20 12 44.7 +0.8
comp=Z,17nm,1.3s,SNR=12
ARSA Arzberg 145.43 336 ePKPdf PKPbc 20 12 43.9 +0.1
comp=Z,8.2nm,1.2s
SNF Seneffe 145.56 350 x PKiKP 20 12 48.2 +0.2
BMRD Maredsous 145.68 350 x PKiKP 20 12 49.3 +1.0
DIVS Divibare 145.87 328 PKPdf 20 12 45.2 +0.3
DOU Dourbes 145.91 350 x PKPab 20 12 46.6 +0.9
KALN Kalnik 145.96 334 P PKPab 20 12 46.5 +0.5
WLF Walferdange 146.04 348 PKiKP PKPab 20 12 47.0 +0.8
WLF pPKiKP sPKPab 20 12 51.1 +1.3
WLF Walferdange 146.04 348 PKPdf 20 12 45.0 +0.1
SOKA Soboth 146.09 336 ePKPab PKPab 20 12 47.1 +0.5
comp=Z,11nm,1.1s
PTJ Puntijarka 146.35 334 P PKPbc 20 12 47.3 +0.4
KBA Koelnbreinsper 146.39 338 ePKPab PKPbc 20 12 47.0 0.0
comp=Z,11nm,1.1s
MYKA Terra Mystica 146.66 337 ePKPab PKPbc 20 12 48.5 +0.8
comp=Z,6.5nm,0.9s
WATA Walderalm 146.76 340 ePKPab PKPbc 20 12 48.4 +0.3
comp=Z,6.5nm,0.8s
BFO Black Forest 146.80 345 PKPbc 20 12 48.4 +0.4
WTTA Wattenberg 146.81 340 ePKPab PKPbc 20 12 48.9 +0.6
comp=Z,8.1nm,0.9s
RETA Reutte 146.89 341 ePKPab PKPbc 20 12 49.4 +1.0
comp=Z,8.9nm,1.3s
MOTA Moosalm 146.91 341 iPKPab PKPbc 20 12 49.2 +0.7
comp=Z,9.9nm,1.0s,SNR=9.6
ABTA Abfaltersbach 146.97 339 ePKPab PKPbc 20 12 49.1 +0.5
comp=Z,10nm,1.4s
SQTA Sankt Quirin 146.99 341 ePKPab PKPbc 20 12 49.4 +0.7
comp=Z,15nm,1.2s,SNR=7.8
ECH Echery 147.19 346 PKPbc 20 12 49.0 -0.1
FETA Feichten 147.31 341 ePKPab PKPbc 20 12 50.1 +0.4
comp=Z,19nm,1.2s
STAL STALIGIAL 147.31 338 PKPdf 20 12 47.4 +0.2
DAVA Damuels 147.33 342 ePKPab PKPbc 20 12 50.7 +1.0
comp=Z,7.8nm,0.9s
CIMO Cimolais 147.37 338 PKPbc 20 12 49.1 -0.6
FNA Florina 147.37 323 PKPbc 20 12 49.5 -0.4
DAVOX Davos/Dischmat 147.79 342 PKPbc PKPbc 20 12 51.7 +0.7
comp=Z,5.0nm,0.8s,baz=250,slow=2.2,SNR=10
FUORN Ofenpass-Fuorn 147.81 341 PKPbc 20 12 51.2 0.0
CTI Castel Tesino 147.87 339 PKPbc 20 12 51.0 -0.1
BRJN Brijuni 148.06 336 P PKPbc 20 12 51.5 0.0
TUE Stuetta 148.22 342 PKPbc 20 12 51.8 -0.4
SENIN Lac Senin/Sane 148.89 345 PKPbc 20 12 53.0 -1.0
ZCCA Zocca 149.58 338 PKPbc 20 12 55.8 +0.3
NRCA Norcia 150.03 334 PKPbc 20 12 56.1 +0.6
BNI Bardonecchia 150.27 344 PKPbc 20 12 57.8 +0.5
AQU L'Aquila 150.30 333 PKPdf PKPdf 20 12 51.1 -1.1
AQU PKiKP 20 12 58.2 +0.1
INTR Introdacqua 150.36 332 PKPdf PKPdf 20 12 50.5 -1.8
INTR PKPbc 20 12 58.1 +0.6
SSB Saint Sauveur 150.55 347 PKPdf PKPdf 20 12 50.6 -1.9
SSB PKiKP 20 12 58.8 +0.2
TIP Timpagrande 151.07 325 PKPdf PKPdf 20 12 50.8 -2.7
TIP PKiKP 20 13 00.1 +0.2
ESDC Sonseca Array 157.08 360 PKPab PKPab 20 13 33.5 +1.3
comp=Z,1.6nm,1.1s,baz=333,slow=5.2,SNR=5.8
TORD Torodi Ar. Bea 173.34 239 PKP PKPdf 20 13 15.0 -1.1
comp=Z,1.9nm,1.1s,baz=28,slow=3.5,SNR=4.9
TORD PKPab PKPab 20 14 44.3 -0.1
comp=Z,1.4nm,1.1s,baz=174,slow=1.3,SNR=4.4

MAN 03 19:54:01.4, 9.69N×126.39E, h1km, mb4.7, ML3.6, MS3.5, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
SCPH	Surigao	0.90	276 ⇓	eP		Pg 19 54 18.9	+0.3
MSLP	Maasin	1.57	286	eP		Pn 19 54 30.0	-0.5
MSLP				eS		Sg 19 54 57.8	+5.7
BUKP	Musuan	2.23	216	eP		Pn 19 54 36.8	-2.8
BUKP				eS		Sn 19 55 04.7	-3.1
LLP	Lapu-Lapu	2.47	285	eP		Pn 19 54 44.0	+1.2
LLP				i S		Sg 19 55 19.6	-1.3
TBP	Tagbilaran	2.50	270	eP		Pn 19 54 42.7	-0.5
KCP	Kidapawan	2.96	206 ⇑	iP		Pn 19 54 48.1	-1.5
KCP				i S		Sn 19 55 21.5	-4.4
CNP	Catarman	3.28	329	eP		Pn 19 54 54.1	+0.2
CNP				eS		Sn 19 55 35.2	+1.6
DDMP	Don Marcelino,	3.63	191	eP		Pn 19 55 00.8	+2.0
DDMP				eS		Sn 19 55 43.6	+1.4
RCP	Roxas	4.04	298 ⇑	eP		Pn 19 55 06.6	+2.1
PVCP	Virac	4.46	331	eP		Pn 19 55 12.4	+2.2
PVCP				eS		Sn 19 56 04.4	+1.7
PCPH	Palayan	7.79	319 ⇑	eP		Sn 19 57 19.4	-5.7

*IDC **03** 19:54:47.3±1.1, 33.90N×45.79E, h0km, mb3.6/8, mb1 3.7/13, mb1mx3.5/56, mbtmp3.7/13, ML3.7/5, MS2.8/2, Ms1 2.8/2, ms1mx2.2/51, Error ellipse: s-maj=28.0km s-min=14.2km az=166.0*

*ISN **03** 19:54:49.9±0.9, 34.32N×45.61E, h14km±5km, ML3.6*

*THR **03** 19:54:50.4±0.3, 34.35N×45.72E, h15km±10km, ML3.7*

*TEH **03** 19:54:50.1, 34.31N×45.64E, h12km, ML3.7*

*OMAN **03** 19:54:57.5±0.1, 33.25N×45.70E, h18km, Error ellipse: s-maj=4.7km s-min=2.4km az=294.0*

ISC 03 19:54:51.5±1.2, 34.23N±0.03×45.71E±0.03, h32km±10km, n86, σ2s42/98, mb3.5/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
IGHG	Ghaleghazi	0.72	82	e		19 55 20.7	
IGHG				eP	g	Pb 19 55 05.2	-0.6

IDHR	Dehrash	0.73	50	ePg		Pb	19 55 03.9 -2.1
IVIS	Veis	0.99	72	eSg		Sn	19 55 24.8 +2.6
IVIS				eSg		Pb	19 55 09.7 -0.5
IVIS				e			19 55 28.0
KCHF	Cheshme Sefid,	1.10	87	ePg		Pb	19 55 12.2 0.0
IBDR	Badra	1.13	171	ePg		Pb	19 55 13.0 +0.5
IBDR				eSg		Sn	19 55 29.0 +3.5
IBDR	comp=N,1μm,0.9s			AML		AML	19 55 34.9
IBDR	comp=E,2μm,0.3s			AML		AML	19 55 34.9
IBDR	Badra	1.13	171	ePg		Pb	19 55 13.0 +0.5
KER	Kermanshah	1.19	82	ePg		Pb	19 55 14.3 +0.7
ILIN	Lien	1.24	56	ePg		Pb	19 55 13.8 -0.8
ILIN				e			19 55 34.3
BHD	Baghdad	1.47	230	ePn		Pb	19 55 18.0 -0.2
BHD				eSn		Sb	19 55 38.0 +1.6
BHD	Baghdad	1.47	230	ePg		Pb	19 55 18.0 -0.2
IKOM	Komasi	1.49	92	ePg		Pb	19 55 19.8 +1.1
SNGE	Sanandaj	1.60	57	eP		Pn	19 55 18.2 +0.4
SNGE				eSg		Sn	19 55 39.3 +1.8
SNGE	Sanandaj	1.60	57	ePn		Pn	19 55 18.2 +0.4
IKRK	Kirkuk	1.63	316	ePg		Pn	19 55 17.8 -0.2
IKRK				eSg		Sn	19 55 37.0 -0.8
IKRK	Kirkuk	1.63	316	ePn		Pn	19 55 17.8 -0.2
IBZA	Bozab	1.79	82	ePn		Pb	19 55 23.8 -0.1
IDOB	Doab	2.09	101	ePn		Pb	19 55 27.8 -1.2
IDOB				e			19 56 12.9
IALM	Almabolaq	2.12	72	ePn		Pb	19 55 27.8 -1.7
IKMR	Kamar-syah	2.33	107	ePn		Pb	19 55 30.9 -2.0
HSAM	Samen	2.39	90	ePn		Pb	19 55 31.8 -2.3
MAHB	Mahabad	2.53	360	ePn		Pn	19 55 32.2 +1.6
MAHB				e			19 56 12.6
BMDN	Meydan	2.65	101	ePn		Pn	19 55 35.3 +3.1
HAGD	Aghdareh	2.89	77	ePn		Pn	19 55 39.1 +3.5
HAGD				e			19 56 27.3
MSL	Mosul	3.04	316	ePn		Pn	19 55 38.0 +0.6
MSL				eSn		Sn	19 56 13.0 +0.4
MSL	Mosul	3.04	316	ePn		Pn	19 55 38.0 +0.6
SHGR	Shooshtar-Gavs	3.34	128	eP		Pn	19 55 45.1 +3.5
SHGR	comp=N,120nm,0.6s			IAML			19 56 49.9
SHGR	Shooshtar-Gavs	3.34	128	ePn		Pn	19 55 45.1 +3.5
IAZR	Azarshahr	3.45	4	ePn		Pn	19 55 44.9 +1.6
QABG	Abgarm-Qazvin	3.50	64	ePn		Pn	19 55 46.1 +2.1
KHMZ	Khomeyn	3.56	97	eP		Pn	19 55 47.7 +2.9
KHMZ	Khomeyn	3.56	97	ePn		Pn	19 55 47.7 +2.9
ASAO	Ashtian	3.58	84	eP		Pn	19 55 47.4 +2.3
ASAO	Ashtian	3.58	84	ePn		Pn	19 55 47.4 +2.3
QSDN	Sirdan	3.63	50	ePn		Pn	19 55 48.3 +2.6
IRAZ	Razeghan	3.66	70	ePn		Pn	19 55 49.5 +3.3
ISRB	Sarab	3.92	23	ePn		Pn	19 55 51.9 +2.1
ITBZ	Tabriz	4.01	5	ePn		Pn	19 55 52.2 +1.3
IQOM	Qom	4.46	81	ePn		Pn	19 55 59.4 +2.2
IPIR	Pirpir	4.59	108	ePn		Pn	19 56 00.9 +1.8
JHBN	Jahan bin	4.60	114	ePn		Pn	19 56 01.2 +2.0
ROKH	ROKH	4.84	111	ePn		Pn	19 56 04.4 +2.1
IKLH	Kolahrood	4.97	99	ePn		Pn	19 56 07.2 +3.0
IVRN	Varamin	5.02	80	ePn		Pn	19 56 07.2 +2.5
IGAR	Gharneh	5.60	107	ePn		Pn	19 56 15.0 +2.1
IZEF	Zefreh	5.68	102	ePn		Pn	19 56 16.1 +2.1
KLNJ	Kolanjah	5.91	121	ePn		Pn	19 56 18.5 +1.3
IRAM	Ramesheh	6.10	111	ePn		Pn	19 56 20.7 +1.0
ASF	Jabal al Asfar	7.67	257	Pn		Pn	19 56 39.4 -1.7
ASF	comp=N,0.5nm,0.3s,baz=16,slow=5.5,SNR=3.6			Sn		Sn	19 58 03.5 -3.4
ASF	comp=N,0.4nm,0.3s,baz=328,slow=11,SNR=0.9			Lg		Lg	19 58 51.8
MMAI	comp=N,0.8nm,0.3s,baz=22,slow=21,SNR=9.2 Mount Meron Ar	8.68	265	Pn		Pn	19 56 54.0 -1.0
MMAI	comp=N,0.8nm,0.3s,baz=91,slow=15,SNR=3.0			Lg		Lg	19 59 24.0
MMAI	comp=N,1.4nm,0.3s,baz=332,slow=16,SNR=2.5			LR		LR	20 01 00.4
EIL	comp=N,38nm,20.3s,baz=220,slow=43 Elat	10.21	246	Pn		Pn	19 57 13.6 -2.2
EIL	comp=N,0.4nm,0.3s,baz=85,slow=5.4,SNR=5.6			Lg		Lg	20 00 16.3
BANOM	comp=N,0.4nm,0.3s,baz=19,slow=15,SNR=2.5 Banah	12.34	129	P		Pn	19 57 44.4 -0.7
BANOM	SNR=6.1			S		Sn	19 59 56.4 -5.2
MDH	Madha	12.79	131	P		Pn	19 57 50.4 -0.7
UOSS	Minazif	12.99	133	P		Pn	19 57 53.3 -0.6
UOSS				S		Sn	20 00 10.7 -6.6
HATD	Hatta, Dubai	13.03	133	P		Pn	19 57 53.7 -0.8
HATD				S		Sn	20 00 12.5 -5.9
ASHO	Ashiyiah	13.09	134	P		Pn	19 57 54.7 -0.6
ASHO	SNR=9.5			S		Sn	20 00 12.6 -7.3
SOHO	SOHO	13.79	134	P		Pn	19 58 03.9 -1.0
SOHO				S		Sn	20 00 32.4 -4.5
ARQ	Araqi	14.39	136	P		Pn	19 58 12.0 -1.2
ARQ				S		Sn	20 00 45.8 -5.9
BSY	Bisya	15.25	136	P		Pn	19 58 22.6 -1.9
BSY				S		Sn	20 01 05.1 -7.3
WSAR	Wadi Sarin	15.74	131	Pn		Pn	19 58 28.9 -2.0
WSAR	comp=N,1.1nm,0.3s,baz=345,slow=8.9,SNR=15			Sn		Sn	20 01 17.9 -6.4
JMDO	comp=N,0.2nm,0.3s,baz=159,slow=21,SNR=2.9 Jabal Madar	16.06	134	P		Pn	19 58 34.0 -1.1
WBK	Wadi Bani Khal	16.41	131	P		Pn	19 58 38.8 -0.7
MHTO	SNR=8.6 MHTO	17.07	137	P		Pn	19 58 45.5 -2.3
MHTO				S		Sn	20 01 47.1 -9.4
WHFO	Wadi Hawf	17.77	154	P		Pn	19 58 53.6 -2.9
WHFO				S		Sn	20 02 00.9 -13
DMTO	DMTO	18.40	151	P		P	19 59 02.1 -2.0
DMTO	SNR=8.6			S		Sn	20 02 17.4 -12
AKTO	Aktyubinsk	18.53	25	P		P	19 59 01.3 -4.0
MLR	comp=N,0.2nm,0.3s,baz=21,slow=8.6,SNR=2.1 Muntele Rosu	18.84	313	P		Pn	19 59 12.1 +2.6
AKASG	comp=N,0.1nm,0.3s,baz=256,slow=17,SNR=2.2 Malin Array Be	20.39	329	P		P	19 59 24.2 -1.4
SOCY	comp=N,0.2nm,0.2s,baz=131,slow=10,SNR=1.8 Socotra	23.20	159	P		P	19 59 53.4 -2.4
BVAR	SNR=6.5 Borovoye Array	25.71	36	P		P	20 00 21.8 +3.1
VRAC	comp=N,0.4nm,0.5s,baz=238,slow=8.2,SNR=2.1 Vranov	26.22	314	LR		LR	20 12 26.8
KURBB	comp=N,30nm,18.4s,baz=82,slow=40 Kurchatov Arra	28.94	46	P		P	20 00 49.3 +1.6
MKAR	comp=N,0.7nm,0.7s,baz=252,slow=8.6,SNR=6.2 Makanchi Array	30.23	54	P		P	20 01 00.4 +1.1
DANN	comp=N,0.1nm,0.3s,baz=244,slow=9.5,SNR=4.1 Dangsing	32.90	90	eP		P	20 01 24.8 +1.6
ZALV	Zalesovo Beam	33.73	42	P		P	20 01 30.4 +0.6
GKN	comp=N,0.4nm,0.4s,baz=246,slow=6.1,SNR=2.5 Gorkha	33.75	90	eP		P	20 01 31.6 +1.1
DMN	Daman	34.28	90	eP		P	20 01 36.3 +1.1
PKIN	Phulchoki	34.53	90	eP		P	20 01 38.7 +1.3
PKI	comp=N,6.6nm,0.6s Pulchoki	34.54	90	eP		P	20 01 38.7 +1.2
GUN	comp=N,6.2nm,0.5s Gumba	34.81	89	eP		P	20 01 41.3 +1.4
JIRN	comp=N,6.7nm,0.4s Jiri	35.16	90	eP		P	20 01 44.4 +1.5
RAMN	comp=N,17nm,0.5s Ramite	35.75	90	eP		P	20 01 48.7 +0.8
TAPN	comp=N,17nm,0.6s Taplejung	36.53	89	eP		P	20 01 55.9 +1.3
ARCES	comp=N,8.9nm,0.5s ARCESS Array B	37.10	348	P		P	20 02 02.3 +3.7
TORD	comp=N,0.3nm,0.4s,baz=146,slow=8.3,SNR=5.9 Torodi Ar. Bea	45.01	253	P		P	20 03 04.3 +0.1
SPITS	comp=N,0.2nm,0.5s,baz=61,slow=5.2,SNR=1.7 Spitsbergen Ar	45.83	352	P		P	20 03 13.6 +3.6
CMAR	comp=N,0.8nm,0.4s,baz=143,slow=12,SNR=1.8 Chiang Mai Arr	49.69	94	P		P	20 03 40.6 0.0
	comp=N,0.9nm,0.6s,baz=295,slow=9.1,SNR=10						

*IDC **03** 20:01:04.9±0.6,23°.38N×143°.77E, h0km, mb4.2/24, mb1 4.3/27, mb1mx4.2/53, mbtmp4.2/27, ML3.8/3, MS3.2/2, Ms1 3.2/2, ms1mx2.8/47, Error ellipse: s-maj=19.9km s-min=12.5km az=78.0*

*NEIC **03** 20:01:08.9±2.0, 23°.32N±0°.03×143°.6E±0°.1, h25km±4km, mb4.6/56, Error ellipse: s-maj=14.3km s-min=3.9km az=92.0*

ISC 03 20:01:09.6±0.4, 23°.35N±0°.06×143°.64E±0°.08, h31km, n101, σ1§13/95, mb4.4/48, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	Chichijima	3.95	341	Pn	Pn	20 02 07.5	-0.6
JHJ2	Mitsune	10.29	342	Pn	Pn	20 03 36.0	+1.0
JHJ	Hachijo jima 2	10.30	342	Pn	Pn	20 03 33.9	-1.4
	2.7nm,0.3s,baz=250,slow=15,SNR=1.2						
INU	Inuyama	13.27	336	Pn	Pn	20 04 17.2	+1.4
MJAR	Matsushiro Arr	13.95	342	Pn	Pn	20 04 23.7	-1.6
	0.2nm,0.3s,baz=155,slow=10,SNR=8.4						
MAJO	Matsushiro	13.96	342	Pn	Pn	20 04 24.6	-0.7
MAT	Matsushiro	13.96	342	P	Pn	20 04 24.3	-1.0
MAT				eS	Sn	20 06 44.0	-15
MJB9	Matsu-Tunnel	13.96	342	Pn	Pn	20 04 24.3	-1.1
JOW	Kunigami	14.34	287	Pn	Pn	20 04 31.9	+1.4
JNU	Nakatsue	14.86	314	Pn	P	20 04 41.0	-2.0
	0.3nm,0.3s,baz=325,slow=19,SNR=1.6						
JNU				LR	LR	20 09 21.9	
	comp=Z,72nm,20.6s,baz=171,slow=33						
JNU	Nakatsue	14.86	314	P	P	20 04 41.4	-1.6
ERM	Erimo	18.61	359		Pn	20 05 25.2	+0.4
KSRS	Korea Array	19.48	320	P	Pn	20 05 34.3	-1.1
	0.6nm,0.3s,baz=139,slow=11,SNR=21						
KSRS				LR	LR	20 12 42.4	
	comp=Z,102nm,19.3s,baz=143,slow=36						
KS19	Wonju Array Si	19.55	320	P	P	20 05 33.6	-1.2
YULB	Yu-li	20.51	275		P	20 05 45.1	-0.2
ASAJ	Asahikawa	20.73	358	P	Pn	20 05 50.8	+0.8
	3.6nm,1.0s,baz=181,slow=18,SNR=2.4						
JKA	Kamikawa-asahi	20.73	358		Pn	20 05 50.8	+0.8
JKA	Kamikawa-asahi	20.73	358	P	Pn	20 05 51.3	+1.4
JKA				IAmb	IAmb	20 06 07.5	
	comp=Z,31nm,1.6s						
SSLB	Suanglung	20.79	276		Pn	20 05 51.7	+0.7
SSLB				IAmb	IAmb	20 06 11.1	
	comp=Z,43nm,1.4s						
USA0B	Ussuriysk Arra	22.89	338	P	P	20 06 14.8	+4.2
USRK	Ussuriysk Ar.	22.89	338	P	P	20 06 10.8	+0.1
	comp=Z,5.4nm,0.6s,baz=154,slow=11,SNR=12						
COEN	Coen	37.09	181	P	P	20 08 18.3	+1.0
ULN	Ulaanbaatar	37.97	319	P	P	20 08 24.7	0.0
SONM	Songino Array	38.35	319	P	P	20 08 28.6	+0.7
	comp=Z,1.3nm,0.7s,baz=124,slow=7.4,SNR=6.9						
PBKT	Sadao Pong	40.55	268	P	P	20 08 48.2	+1.8
TLY	Talaya	41.68	323	P	P	20 08 54.5	-0.8
TLY				IAmb	IAmb	20 08 57.9	
	comp=Z,11nm,1.5s						
CHTO	Chiang Mai	41.82	273	P	P	20 08 54.6	-2.3
CM31	Chiang Mai Arr	41.91	272	P	P	20 08 57.1	-0.5
CMAR	Chiang Mai Arr	41.91	272	P	P	20 08 59.5	+1.9
	comp=Z,2.2nm,0.7s,baz=61,slow=7.4,SNR=24						
ATKA	Atka Island	43.12	37	P	P	20 09 11.1	+4.1
CTA	Charters Tower	43.26	176	P	P	20 09 08.4	0.0
	comp=Z,5.6nm,0.7s,baz=4.8,slow=8.4,SNR=6.2						
CTAO	Charters Tower	43.26	176	P	P	20 09 08.2	-0.2
CTAO				IAmb	IAmb	20 09 09.9	
	comp=Z,9.4nm,0.9s						
WB0	Warramunga Arr	43.80	193	P	P	20 09 12.8	0.0
WB0				IAmb	IAmb	20 09 15.7	
	comp=Z,6.9nm,1.1s						
WR0	Warramunga Arr	43.96	192	P	P	20 09 14.1	+0.1
WR0				IAmb	IAmb	20 09 21.1	
	comp=Z,8.0nm,1.2s						
WRAB	Tennant Creek	43.97	193	P	P	20 09 14.1	0.0
WRAB				IAmb	IAmb	20 09 14.8	
	comp=Z,15nm,1.4s						
WB2	Warramunga Arr	43.98	193	P	P	20 09 14.0	-0.2
WB2				IAmb	IAmb	20 09 15.3	
	comp=Z,8.3nm,1.1s						
WRA	Warramunga Arr	43.98	193	P	P	20 09 14.8	+0.5
	comp=Z,1.9nm,0.5s,baz=7.9,slow=8.0,SNR=35						
FITZ	Fitzroy Crossi	44.79	205	P	P	20 09 20.8	+0.1
FITZ				IAmb	IAmb	20 09 40.2	
	comp=Z,14nm,1.4s						
KULM	Kulim	45.12	253	P	P	20 09 21.4	-2.2
KULM				IAmb	IAmb	20 09 27.5	
	comp=Z,4.9nm,0.9s						
SHL	Shillong	46.92	284	P	P	20 09 38.6	+0.8
LSA	Lhasa	47.06	289	P	P	20 09 41.8	+2.6
LSA				IAmb	IAmb	20 09 43.5	
	comp=Z,12nm,1.2s						
AS31	Alice Springs	47.69	192	P	P	20 09 43.3	-0.2
ASAR	Alice Springs	47.69	192	P	P	20 09 43.3	-0.2
	comp=Z,1.0nm,0.6s,baz=14,slow=8.0,SNR=24						
EIDS	Eidsvold	48.97	171	P	P	20 09 56.8	+3.5
EIDS				IAmb	IAmb	20 10 01.9	
	comp=Z,10nm,1.5s						
TIXI	Tiksi	49.05	354	P	P	20 09 58.7	+5.3
GSI	Gunungsitoli	49.72	251	P	P	20 09 58.5	-0.8
GSI				IAmb	IAmb	20 10 28.9	
	comp=Z,9.0nm,0.9s						
DZM	Mont Dzumac	50.31	152	P	P	20 10 04.8	+1.1
ZAA0	Zalesovo Array	53.19	321	P	P	20 10 24.4	-0.3
ZALV	Zalesovo Beam	53.19	321	P	P	20 10 25.0	+0.3
	comp=Z,1.9nm,0.4s,baz=109,slow=7.7,SNR=12						
MK31	Makanchi Array	53.90	312	P	P	20 10 30.9	+0.8
MKAR	Makanchi Array	53.90	312	P	P	20 10 31.2	+1.1
	comp=Z,1.3nm,0.5s,baz=87,slow=9.4,SNR=31						
MAKZ	Makanchi	54.12	312	P	P	20 10 32.9	+1.2
MAKZ				IAmb	IAmb	20 10 45.5	
	comp=Z,3.4nm,0.9s						
STKA	Stephens Creek	54.95	182	P	P	20 10 37.3	-0.5
	comp=Z,1.9nm,0.6s,baz=345,slow=10,SNR=7.5						
STKA	Stephens Creek	54.95	182	P	P	20 10 36.6	-1.1
FORT	Forrest	55.86	196	P	P	20 10 43.7	-0.6
FORT				IAmb	IAmb	20 11 04.0	
	comp=Z,14nm,1.0s						
KKH	Kailua Kona	55.92	81	P	P	20 10 45.2	+0.1
MLH	Mauna Loa	56.54	81	P	P	20 10 50.1	+0.4
KURK	Kurchatov	56.56	316	P	P	20 10 49.6	+0.4
KURK				IAmb	IAmb	20 10 51.0	
	comp=Z,3.7nm,0.7s						
NRIK	Noril'sk	56.60	339	P	P	20 10 49.8	+0.7
	comp=Z,1.6nm,0.5s,baz=124,slow=12,SNR=1.9						
KDAK	Kodiak Island	56.61	35	P	P	20 10 50.5	+1.1
	comp=Z,5.5nm,1.1s,baz=208,slow=1.4,SNR=3.4						
KDAK	Kodiak Island	56.61	35	P	P	20 10 50.2	+0.8
KURBB	Kurchatov Arra	56.61	316	P	P	20 10 50.2	+0.7
	comp=Z,3.8nm,0.5s,baz=91,slow=8.0,SNR=101						
PPLA	Purkeypile	57.74	29	P	P	20 10 57.0	-0.5
PPLA				IAmb	IAmb	20 11 09.6	
	comp=Z,12nm,1.5s						
MORW	Morawa	58.50	208	P	P	20 11 02.4	-0.6
BPAW	Bear Paw Mtn.	58.51	28	P	P	20 11 03.2	+0.4
BPAW				IAmb	IAmb	20 11 06.5	
	comp=Z,3.4nm,1.0s						
AAK	Ala-Archa	59.50	307	P	P	20 11 10.6	+0.4
	comp=Z,1.2nm,0.6s,baz=94,slow=11,SNR=4.5						
AAK	Ala-Archa	59.50	307	P	P	20 11 10.1	0.0
AAK				IAmb	IAmb	20 11 36.3	
	comp=Z,6.3nm,1.6s						
SCM	Sheep Creek Mo	59.80	31	P	P	20 11 11.8	0.0
SCM				IAmb	IAmb	20 11 16.6	
	comp=Z,8.9nm,1.1s						
FID	Port Fidalgo	60.09	32	P	P	20 11 12.4	-1.3
FID				IAmb	IAmb	20 11 44.2	
	comp=Z,6.5nm,0.9s						
ILAR	Eielson Array	60.38	27	P	P	20 11 13.7	-1.9
	comp=Z,1.5nm,0.9s,baz=261,slow=6.0,SNR=10						
ARSB	Arslanbob	60.75	305	P	P	20 11 20.8	+2.1
RIDG	Independent Ri	61.14	29	P	P	20 11 19.9	-0.9
RIDG				IAmb	IAmb	20 11 34.1	
	comp=Z,4.4nm,1.1s						
NWAO	Narrogin (SRO)	61.38	205	P	P	20 11 21.8	-0.9
DOT	Dot Lake	61.48	29	P	P	20 11 22.2	-0.9
DOT				IAmb	IAmb	20 11 36.5	
	comp=Z,6.8nm,1.5s						
SCRK	Sand Creek	61.54	29	P	P	20 11 23.1	-0.5
SCRK				IAmb	IAmb	20 11 34.0	
	comp=Z,2.9nm,0.7s						
BVAR	Borovoye Array	61.70	319	P	P	20 11 25.7	+0.9
	comp=Z,9.5nm,0.5s,baz=89,slow=7.3,SNR=85						
BRVK	Borovoye	61.76	319	P	P	20 11 25.4	+0.2
BRVK				IAmb	IAmb	20 11 26.9	
	comp=Z,7.0nm,0.7s						
KK31	Karatay Array	62.37	308	P	P	20 11 29.9	+0.4
KK31				IAmb	IAmb	20 11 53.0	
	comp=Z,2.9nm,0.8s						
GAR	Garm	63.09	303	P	P	20 11 34.2	-0.2
CHGR	Chuyangaron	64.04	303		P	20 11 42.3	+1.6
ARU	Arti	68.19	323	P	P	20 12 07.0	+0.2
ARU				IAmb	IAmb	20 12 19.9	
	comp=Z,4.7nm,0.8s						
MXZ	Matakaoa Point	68.82	151	P	P	20 12 12.4	+1.5
QRZ	Quartz Range	69.27	157	P	P	20 12 13.4	-0.3
NNZ	Nelson	69.92	157	P	P	20 12 17.6	0.0
SPITS	Spitsbergen Ar	74.28	350	P	P	20 12 44.4	+1.0
	comp=Z,2.3nm,0.8s,baz=118,slow=12,SNR=1.5						
YKA	Yellowknife Ar	74.80	28	P	P	20 12 46.4	-0.2
	comp=Z,0.5nm,0.5s,baz=285,slow=5.7,SNR=4.2						
ARCES	ARCESS Array B	77.49	341	P	P	20 13 02.7	+0.9
	comp=Z,2.2nm,0.7s,baz=69,slow=6.8,SNR=7.9						
KBZ	Khabaz	81.53	314	P	P	20 13 23.2	-1.0
	comp=Z,2.3nm,0.7s,baz=81,slow=8.0,SNR=4.4						
NVAR	Mina Array Bea	81.79	52	P	P	20 13 26.2	+0.1
	comp=Z,1.0nm,0.7s,baz=278,slow=5.6,SNR=7.2						
FINES	FINESS Array B	81.87	335	P	P	20 13 25.5	-0.2
	comp=Z,1.0nm,0.4s,baz=64,slow=4.6,SNR=20						
FFC	Flin Flon	84.20	32	P	P	20 13 37.6	-0.3
FFC				IAmb	IAmb	20 13 51.6	
	comp=Z,5.1nm,1.1s						
BW06	Boulder Array	85.93	45	P	P	20 13 46.5	-0.6
KNB	Kanab	86.33	51	P	P	20 13 48.9	-0.2
AKASG	Malin Array Be	86.41	325	P	P	20 13 47.9	-1.0
	comp=Z,0.6nm,0.4s,baz=57,slow=4.5,SNR=1.9						
NB2	NORSAR Subarra	87.56	339	P	P	20 13 53.3	-1.2
	comp=Z,0.5nm,0.6s,baz=55,slow=4.8						
NOA	NORSAR Array B	87.56	339	P	P	20 13 53.6	-0.8
	comp=Z,0.9nm,0.7s,baz=45,slow=4.7,SNR=7.2						
BRTR	Keskin Array B	89.51	314	P	P	20 14 03.2	-1.1
	comp=Z,0.5nm,0.7s,baz=128,slow=3.5,SNR=3.1						
PLCA	Paso Flores	146.51	129	PKPbc	PKPab	20 20 48.0	-1.0
	comp=Z,1.8nm,0.6s,baz=259,slow=1.9,SNR=4.4						
PLCA	Paso Flores	146.51	129		PKPab	20 20 48.7	-0.4
LPAZ	La Paz	149.35	83	PKPbc	PKiKP	20 20 57.3	-0.8
	comp=Z,2.1nm,0.7s,baz=282,slow=0.6,SNR=2.2						
LPAZ	La Paz	149.35	83		PKPdf	20 20 52.6	0.0

*IDC **03** 20:18:52.8±1.8, 9°.15N×126°.72E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/42, mbtmp3.7/4, MS3.8/4, Ms1 3.8/4, ms1mx3.0/52, Error ellipse: s-maj=168.7km s-min=24.4km az=69.0*

*MAN **03** 20:18:56.5, 9°.28N×126°.80E, h4km, mb4.7, ML3.6, MS3.5*

ISC 03 20:18:54.1±1.8, 9°.19N±0°.04×126°.73E±0°.07, h11km±11km, n19, σ2§01/24, mb3.5/4, MS3.9/4, 3C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	Maasin	2.07	297	eP	Pg	20 19 32.8	-1.0
MSLP				eS	Sg	20 20 02.8	+2.0
BUKP	Musuan	2.10	232	eP	Pb	20 19 33.1	+0.8
BUKP				eS	Sg	20 20 03.6	+1.8
CGP	Cagayan de Oro	2.14	250	eP	Pg	20 19 35.6	+0.4
CGP				eS	Sg	20 20 03.1	+0.1
MATI	Mati	2.28	192	eP	Pg	20 19 38.3	+0.5
MATI				eS	Sn	20 19 56.6	-3.1
KCP	Kidapawan	2.71	217	eP	Pb	20 19 42.9	+0.2
KCP				i S	Sg	20 20 21.5	+0.3
TBP	Tagbilaran	2.88	280	eP	Pb	20 19 43.9	-1.6
LLP	Lapu-Lapu	2.95	293	eP	Pb	20 19 45.4	-1.3
LLP				eS	Sb	20 20 24.6	+1.9
CTBH	Cotabato--PC H	3.15	232	i P	Pb	20 19 47.9	-2.1
DDMP	Don Marcelino,	3.23	198	eP	Pb	20 19 51.0	-0.5
DDMP				eS	Sg	20 20 37.7	-0.2
PAGZ	Pagadian	3.57	248	eP	Pb	20 19 54.8	-2.5
PAGZ				eS	Sn	20 20 28.4	-3.3
CNP	Catarman	3.88	329	eP	Pb	20 19 58.6	-3.9
CNP				eS	Sn	20 20 43.0	+3.9
RCP	Roxas	4.58	301	eP	Pn	20 20 08.3	+5.1
WRA	Warramunga Arr	29.90	166	P	P	20 25 01.7	-0.4
	0.3nm,0.5s,baz=346,slow=8.7,SNR=1.6						
ASAR	Alice Springs	33.40	168	P	P	20 25 33.3	+0.5
	0.2nm,0.4s,baz=352,slow=6.7,SNR=11						
MKAR	Makanchi Array	53.16	323	P	P	20 28 12.8	+0.8
	0.5nm,0.6s,baz=126,slow=8.7,SNR=6.3						
MKAR				LR	LR	20 51 35.4	
	comp=Z,106nm,21.0s,baz=92,slow=37						
ARCES	ARCESS Array B	85.36	340	P	P	20 31 31.8	+0.7
	1.2nm,0.9s,baz=90,slow=5.4,SNR=4.4						
MMAI	Mount Meron Ar	86.17	303	LR	LR	21 14 19.3	
	comp=Z,44nm,21.2s,baz=280,slow=39						
AKASG	Malin Array Be	87.69	321	LR	LR	21 14 41.5	
	comp=Z,67nm,18.8s,baz=30,slow=38						
IDI	Anoyia	94.27	307	LR	LR	21 18 43.2	
	comp=Z,31nm,21.5s,baz=64,slow=38						

*IDC **03** 20:42:42.4±1.3, 1°.62N×127°.03E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/36, mbtmp3.7/5, ML3.2/1, Error ellipse: s-maj=46.3km s-min=23.2km az=66.0*

*NEIC **03** 20:42:57.2±0.8, 1°.42N±0°.07×126°.91E±0°.09, h129km±9km, mb4.3/7, Error ellipse: s-maj=14.3km s-min=7.8km az=116

ASAR				LR	LR	21 17 18.4			
	comp=Z,38nm,19.7s,baz=234,slow=34								
KNRA	**Kununurra**	**49.94**	**264**	P	**P**	**21 01 06.4**	**-0.1**		
KNRA				IAmb	IAmb	21 01 30.7			
	comp=Z,32nm,1.3s								
FITZ	**Fitzroy Crossi**	**52.55**	**260**	P	**P**	**21 01 25.0**	**-0.6**		
FITZ				IAmb	IAmb	21 01 48.2			
	comp=Z,42nm,1.8s								
SOEI	**Soe**	**55.41**	**270**	P	**P**	**21 01 46.5**	**+0.3**		
ILAR	**Eielson Array**	**85.03**	**13**	P	**P**	**21 04 41.6**	**-0.7**		
	comp=Z,0.4nm,0.6s,baz=219,slow=5.6,SNR=3.2								
HWUT	**Hardware Ranch**	**85.20**	**44**	P	**P**	**21 04 43.5**	**-0.4**		
HWUT				IAmb	IAmb	21 04 44.8			
	comp=Z,5.5nm,0.7s								
TXAR	**Lajitas Array**	**86.00**	**58**	P	**P**	**21 04 47.9**	**-0.1**		
	comp=Z,0.3nm,0.6s,baz=212,slow=6.9,SNR=4.8								
WMOK	**Wichita Mounta**	**91.78**	**54**		pP	21 06 47.1	+0.5		
BRTR	**Keskin Array B**	**143.58**	**315**	PKP	**PKiKP**	**21 11 46.1**	**+3.2**		
	comp=Z,0.2nm,0.3s,baz=116,slow=1.4,SNR=1.9								

*IDC **03** 21:04:00.2±1.3, 60.08N×17.83E, h0km, mb1 2.9/2, mb1mx2.7/57, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=18.7km s-min=5.5km az=170.0*
*HEL **03** 21:04:00.8±0.1, 60.20N×17.86E, h0km, ML1.6, ML2.2(UPP), Explosion*
ISC 03 21:04:00.4±0.8, 60.23N±0.03×17.86E±0.03, h0km, n19, σ1s87/29, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
FLYU	**Flymyra**	**0.10**	**173**	*i* P		**Pg**	**21 04 01.5**	**-0.8**
FLYU				*i* S		**Sg**	**21 04 03.0**	**-0.5**
FORU	**Forsmark**	**0.23**	**44**	*i* P		**Pg**	**21 04 05.0**	**+0.3**
FORU				*i* S		**Sg**	**21 04 08.0**	**+0.3**
OSTU	**Oestervaala**	**0.36**	**271**	*i* P		**Pg**	**21 04 07.2**	**-0.1**
OSTU				*i* S		**Sg**	**21 04 12.0**	**0.0**
UPP	**Uppsala**	**0.39**	**198**	*i* P		**Pg**	**21 04 07.3**	**-0.5**
UPP				*i* S		**Sg**	**21 04 12.4**	**-0.3**
NRTU	**Norrtaelje**	**0.67**	**144**	*i* P		**Pg**	**21 04 12.5**	**-0.7**
HFS	**Hagfors**	**2.08**	**269**	Pg		**Pn**	**21 04 37.5**	**+0.9**
	1.8nm,0.3s,baz=93,slow=15,SNR=24							
HFS				Lg		Lg	21 05 04.2	
	3.1nm,0.3s,baz=92,slow=32,SNR=20							
HEMU	**Hemsoen**	**2.46**	**2**	*e*P		**Pn**	**21 04 43.5**	**+1.8**
HEMU				*e*S		**Sn**	**21 05 13.1**	**+0.7**
MEF	**Metsahovi**	**3.26**	**87**	*e*S		**Sn**	**21 05 32.5**	**+0.3**
MEF				MSG			21 05 41.6	
	comp=Z,1.3nm,0.2s							
NOA	**NORSAR Array B**	**3.37**	**287**	Pg		**Pb**	**21 05 01.4**	**+0.4**
	comp=Z,0.0nm,0.3s,baz=105,slow=15,SNR=3.9							
NOA				Lg		Lg	21 05 46.7	
	comp=Z,0.1nm,0.3s,baz=263,slow=5.8,SNR=5.6							
VAF	**Ylistaro**	**3.64**	**37**	*e*P		**Pn**	**21 05 00.5**	**+2.5**
VAF				*e*S		**Sn**	**21 05 40.4**	**-1.1**
KEF	**Keuruu**	**3.91**	**57**	*e*P		**Pn**	**21 05 03.4**	**+1.8**
KEF				*e*S		**Sn**	**21 05 48.2**	**0.0**
PVF	**Pernaja**	**3.98**	**82**	*e*S		**Sn**	**21 05 49.6**	**-0.4**
FIA0	**FINESS Array S**	**4.20**	**70**	*e*P		**Pn**	**21 05 07.0**	**+1.4**
FIA0				*e*S		**Sn**	**21 05 54.7**	**-0.7**
FINES	**FINESS Array B**	**4.20**	**70**	Pn		**Pn**	**21 05 07.3**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=256,slow=11,SNR=7.3							
FINES				Sn		**Sn**	**21 05 56.4**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=254,slow=21,SNR=14							
FINES				Lg		Lg	21 06 10.7	
	comp=Z,1.0nm,0.3s,baz=252,slow=26,SNR=10.0							
KAF	**Kangasniemi**	**4.51**	**62**	*e*S		**Sn**	**21 06 02.1**	**-0.7**
SUF	**Sumiainen**	**4.70**	**54**	*e*S		**Sn**	**21 06 05.9**	**-1.6**
OUF	**Merijarvi**	**5.25**	**35**	*e*S		**Sn**	**21 06 19.8**	**-1.2**
TOF	**Tornio**	**6.56**	**24**	*e*S		**Sn**	**21 06 50.3**	**-3.2**
ARCES	**ARCESS Array B**	**9.88**	**16**	Pn		**Pn**	**21 06 22.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=197,slow=12,SNR=4.1							
ARCES				Sn		**Sn**	**21 08 07.9**	**-7.2**
	comp=Z,0.1nm,0.3s,baz=192,slow=21,SNR=1.0							

MAN 03 21:11:38.1, 5.77N×125.36E, h20km, mb4.2, ML3.0, MS2.7, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DDMP	**Don Marcelino,**	**0.48**	**46**	*e*P		Pb	21 11 48.7	+0.8
DDMP				*e*S		Sn	21 11 59.0	+1.2
GSPH	**General Santos**	**0.52**	**308**	⇑*i*P		Pb	21 11 47.1	-1.6
SKMP	**Bagumbayan, Su**	**1.11**	**313**	*e*P		Pn	21 11 57.5	-1.0
SKMP				*e*S		Sn	21 12 13.8	+0.6
KCP	**Kidapawan**	**1.26**	**348**	⇓*i*P		Pb	21 12 02.5	+1.2
KCP				*i* S		Sb	21 12 20.2	+3.0
BUKP	**Musuan**	**2.12**	**352**	*e*P		Pb	21 12 16.4	+0.5
BUKP				*e*S		Sb	21 12 47.1	+5.3

*MAN **03** 21:14:15.2, 2.99N×125.03E, h3km, mb5.2, ML4.1, MS4.3*
*KLM **03** 21:14:17.0, 3.72N×124.78E, h315km, mb4.7*
*NEIC **03** 21:14:18.7±1.8, 3.69N±0.07×124.65E±0.09, h321km±6km, mb4.3/38, Error ellipse: s-maj=13.0km s-min=9.9km az=67.0*
*IDC **03** 21:14:18.2±1.6, 3.66N×124.55E, h317km±16km, mb3.5/21, mb1 3.6/23, mb1mx3.5/33, mbtmp4.2/23, Error ellipse: s-maj=17.4km s-min=8.6km az=75.0*
*DJA **03** 21:14:18.5±0.9, 4.1N±7.7×12.5E±.1°, h290km±9km, M4.6/10, mB4.9/3, mb4.6/4, MLv4.6/10, Mw(mB)4.2/3*
ISC 03 21:14:16.9±0.4, 3.68N±0.04×124.63E±0.06, h300km, n103, σ1s44/116, mb4.1/39, 1C-1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DDMP	**Don Marcelino,**	**2.63**	**24**	*e*P		**Pn**	**21 15 10.7**	**+1.5**
DDMP				*e*S		**S**	**21 15 52.7**	**+1.8**
SKMP	**Bagumbayan, Su**	**2.82**	**358**	*e*P		**Pn**	**21 15 12.1**	**+1.2**
SKMP				*e*S		**S**	**21 15 54.9**	**+0.8**
KMSI	**Cibinong**	**3.16**	**192**	P		**Pn**	**21 15 16.3**	**+2.0**
KCP	**Kidapawan**	**3.33**	**8**	⇓*i*P		**Pn**	**21 15 19.2**	**+3.1**
KCP				*i* S		**S**	**21 16 06.5**	**+3.0**
MATI	**Mati**	**3.62**	**26**	*e*P		**Pn**	**21 15 19.5**	**+0.4**
MATI				*e*S		**S**	**21 16 10.0**	**+1.1**
TNTI	**Ternate**	**3.98**	**137**	P		**Pn**	**21 15 23.7**	**+0.8**
TNTI	**Ternate**	**3.98**	**137**	Pn		**Pn**	**21 15 24.3**	**+1.3**
MRSI	**Marisa**	**4.17**	**220**	P		**Pn**	**21 15 27.4**	**+2.3**
MRSI				S		**S**	**21 16 21.0**	**+1.3**
BUKP	**Musuan**	**4.19**	**6**	*e*P		**Pn**	**21 15 28.1**	**+2.8**
BUKP				*e*S		**S**	**21 16 26.0**	**+5.9**
LUWI	**Luwuk**	**5.05**	**202**	P		**Pn**	**21 15 35.9**	**+0.8**
	0.7nm2µm74nm,0.7s							
LUWI	**Luwuk**	**5.05**	**202**	Pn		**Pn**	**21 15 39.1**	**+4.1**
LUWI						**S**	**21 16 36.9**	**-1.0**
LBMI	**Labuha**	**5.16**	**146**	P		**Pn**	**21 15 37.2**	**+0.8**
	6.6nm10µm371nm,0.4s							
APSI	**Ampana**	**5.45**	**213**	P		**Pn**	**21 15 41.1**	**+1.3**
	0.1nm24nm,0.7s							
MPSI	**Mapaga**	**5.78**	**235**	P		**Pn**	**21 15 44.9**	**+1.2**
SIJI	**Sorong**	**8.02**	**124**	P		**Pn**	**21 16 13.1**	**+2.3**
	2.5nm,0.3s,baz=342,slow=18,SNR=7.8							
SPMM	**Sapulut**	**8.21**	**277**	P		**Pn**	**21 16 16.0**	**+2.8**
KKM	**Kota Kinabalu**	**8.71**	**286**	Pn		**Pn**	**21 16 20.3**	**+0.9**
FAKI	**Fak Fak**	**10.05**	**131**	P		**Pn**	**21 16 36.9**	**+1.2**
SBUM	**Sibu**	**12.46**	**265**	P		**P**	**21 17 07.5**	**+1.4**
SBUM	**Sibu**	**12.46**	**265**	P		**P**	**21 17 08.0**	**+2.0**
BATI	**Baumata**	**13.83**	**184**	P		**Pn**	**21 17 24.7**	**+3.1**
	4.7nm,0.3s,baz=15,slow=2.3,SNR=5.9							
KSM	**Kuching**	**14.48**	**262**			**Pn**	**21 17 30.7**	**+1.4**
KSM	**Kuching**	**14.48**	**262**	P		**Pn**	**21 17 31.0**	**+1.7**
JAGI	**Jajag, Banyuwa**	**15.97**	**221**	P		**P**	**21 17 46.2**	**+1.5**
JAY	**Jayapura**	**17.20**	**111**	P		**P**	**21 17 59.3**	**+1.1**
	0.8nm,0.3s,baz=245,slow=6.3,SNR=7.2							
TWG	**Pinlang**	**19.34**	**350**	P		**P**	**21 18 20.2**	**-0.7**
YULB	**Yu-li**	**19.86**	**351**	P		**P**	**21 18 25.1**	**-1.3**
YULB						IAmb	IAmb	21 18 27.6
	comp=Z,10.0nm,0.6s							
TPUB	**Ta-pu**	**19.88**	**349**	P		**P**	**21 18 27.0**	**+0.3**
SSLB	**Suanglung**	**20.30**	**350**	P		**P**	**21 18 30.3**	**-0.7**
SSLB						IAmb	IAmb	21 18 35.3
	comp=Z,15nm,0.7s							
NACB	**Ninganchiao**	**20.58**	**352**	P		**P**	**21 18 33.1**	**-0.7**
NACB						IAmb	IAmb	21 18 50.0
	comp=Z,17nm,0.8s							
YHNB	**Yeheng**	**21.10**	**352**	P		**P**	**21 18 39.1**	**+0.3**
YHNB						IAmb	IAmb	21 18 40.2
	comp=Z,26nm,1.0s							
FITZ	**Fitzroy Crossi**	**21.67**	**177**	P		**P**	**21 18 43.4**	**-0.6**
	comp=Z,2.2nm,0.5s,baz=317,slow=4.8,SNR=23							
FITZ	**Fitzroy Crossi**	**21.67**	**177**	P		**P**	**21 18 43.9**	**-0.1**
FITZ						IAmb	IAmb	21 18 52.9
	comp=Z,17nm,1.4s							
WB0	**Warramunga Arr**	**25.20**	**158**	P		**P**	**21 19 15.6**	**-0.4**
WRA	**Warramunga Arr**	**25.34**	**158**	P		**P**	**21 19 17.1**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=333,slow=11,SNR=36							
WB2	**Warramunga Arr**	**25.35**	**158**	P		**P**	**21 19 17.2**	**-0.1**
PSA00	**Pilbara Seismi**	**25.54**	**190**	P		**P**	**21 19 19.8**	**+0.8**
PSA00						IAmb	IAmb	21 19 26.2
	comp=Z,16nm,1.3s							
PBKT	**Sadao Pong**	**26.54**	**301**	P		**P**	**21 19 28.8**	**+0.9**
ASAR	**Alice Springs**	**28.65**	**162**	P		**P**	**21 19 46.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=342,slow=7.2,SNR=7.6							
ASAR				PcP		**PcP**	**21 22 49.0**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=332,slow=2.0,SNR=6.6							
ASAR				ScP		**ScP**	**21 26 00.4**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=310,slow=3.3,SNR=2.5							
JCJ	**Chichijima**	**28.70**	**34**	P		**P**	**21 19 47.0**	**0.0**
CMAR	**Chiang Mai Arr**	**29.11**	**302**	P		**P**	**21 19 51.8**	**+1.0**
	comp=Z,1.9nm,0.9s,baz=116,slow=6.7,SNR=12							
CMAR				PcP		**PcP**	**21 22 50.9**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=104,slow=0.4,SNR=4.6							
CHTO	**Chiang Mai**	**29.27**	**303**	P		**P**	**21 19 52.4**	**+0.2**
XAN	**Xi'an**	**33.56**	**336**	P		**P**	**21 20 28.7**	**-0.7**
XAN				pmax		pmax		
	comp=Z,14nm,0.8s							
XAN	**Xi'an**	**33.56**	**336**	P		**P**	**21 20 29.6**	**+0.2**
XAN				IAmb		IAmb	21 20 30.1	
	comp=Z,9.0nm,0.8s							
KSRS	**Korea Array**	**33.74**	**5**	P		**P**	**21 20 30.5**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=180,slow=9.6,SNR=4.3							
FORT	**Forrest**	**34.42**	**175**	P		**P**	**21 20 36.4**	**-0.4**
FORT				IAmb		IAmb	21 20 38.8	
	comp=Z,16nm,1.1s							
MAJO	**Matsushiro**	**35.01**	**19**	P		**P**	**21 20 41.4**	**-0.2**
MAJO				IAmb		IAmb	21 20 42.0	
	comp=Z,5.7nm,0.7s							
MAT	**Matsushiro**	**35.01**	**19**	P		**P**	**21 20 40.8**	**-0.9**
MJAR	**Matsushiro Arr**	**35.01**	**19**	P		**P**	**21 20 41.4**	**-0.3**
	comp=Z,3.9nm,0.6s,baz=192,slow=8.7,SNR=14							
BBOO	**Buckleboo**	**37.88**	**164**	P		**P**	**21 21 05.9**	**+0.1**
BBOO				IAmb		IAmb	21 21 13.7	
	comp=Z,24nm,1.5s							
SHL	**Shillong**	**38.24**	**308**	P		**P**	**21 21 09.2**	**+0.1**
SHL				IAmb		IAmb	21 21 10.1	
	comp=Z,8.3nm,0.6s							
USRK	**Ussuriysk Ar.**	**40.87**	**8**	P		**P**	**21 21 30.2**	**0.0**
	comp=Z,1.2nm,0.5s,baz=186,slow=8.1,SNR=7.2							
LSA	**Lhasa**	**40.92**	**313**	P		**P**	**21 21 32.5**	**+1.1**
ERM	**Erimo**	**41.61**	**21**	P		**P**	**21 21 37.8**	**+1.6**
ERM				IAmb		IAmb	21 21 48.8	
	comp=Z,17nm,1.2s							
GTA	**Gaotai**	**42.09**	**331**	⇑P		**P**	**21 21 41.1**	**+0.8**
GTA				pP		pP	21 22 02.6	-37
GTA				sP		pwP	21 22 15.4	-31
GTA				pmax		pmax		
	comp=Z,8.0nm,0.8s							
GTA				pmax		pmax		
	comp=Z,44nm,7.1s							
GTA				LR		LR		
	comp=N,48nm,18.1s							
GTA				LR		LR		
	comp=E,48nm,17.1s							
GTA				LR		LR		
	comp=Z,62nm,18.1s							
TAPN	**Taplejung**	**42.37**	**308**	*e*P		**P**	**21 21 43.8**	**+0.8**
	comp=Z,12nm,0.6s							
ODAN	**Odare**	**42.41**	**307**	*e*P		**P**	**21 21 44.0**	**+0.8**
	comp=Z,29nm,0.8s							
RAMN	**Ramite**	**43.08**	**306**	*e*P		**P**	**21 21 49.6**	**+1.0**
	comp=Z,28nm,0.8s							
JKA	**Kamikawa-asahi**	**43.28**	**19**	P		**P**	**21 21 50.7**	**+1.2**
JKA				IAmb		IAmb	21 21 51.6	
	comp=Z,13nm,0.9s							
GUN	**Gumba**	**44.07**	**307**	*e*P		**P**	**21 21 57.4**	**+0.9**
	comp=Z,63nm,0.5s							
PKI	**Pulchoki**	**44.30**	**307**	*e*P		**P**	**21 21 58.6**	**+0.3**
	comp=Z,11nm,0.4s							
PKIN	**Phulchoki**	**44.31**	**307**	*e*P		**P**	**21 21 58.5**	**+0.1**
	comp=Z,12nm,0.4s							
DMN	**Daman**	**44.56**	**306**	*e*P		**P**	**21 22 00.7**	**+0.4**
	comp=Z,15nm,0.7s							
GKN	**Gorkha**	**45.10**	**307**	*e*P		**P**	**21 22 04.7**	**+0.3**
	comp=Z,15nm,0.4s							
KOLN	**Koldanda**	**45.84**	**306**	*e*P		**P**	**21 22 10.7**	**+0.5**
	comp=Z,65nm,0.5s							
DANN	**Dangsing**	**45.95**	**307**	*e*P		**P**	**21 22 11.3**	**+0.1**
	comp=Z,66nm,0.5s							
PYUN	**Piuthan**	**46.47**	**306**	*e*P		**P**	**21 22 15.7**	**+0.6**
	comp=Z,52nm,0.5s							
ULN	**Ulaanbaatar**	**46.55**	**344**	P		**P**	**21 22 15.9**	**+0.7**
SONM	**Songino Array**	**46.70**	**343**	P		**P**	**21 22 16.8**	**+0.4**
	comp=Z,4.3nm,0.9s,baz=160,slow=8.3,SNR=19							
SONM				PcP		**PcP**	**21 23 44.1**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=155,slow=4.4,SNR=5.2							
PETK	**Petropavlovsk-**	**56.28**	**23**	P		**P**	**21 23 28.0**	**+1.3**
	comp=Z,4.4nm,0.7s,baz=197,slow=4.6,SNR=7.9							
MK31	**Makanchi Array**	**56.42**	**326**	P		**P**	**21 23 27.7**	**-0.1**
MK31				IAmb		IAmb	21 23 28.6	
	comp=Z,4.9nm,0.6s							
MKAR	**Makanchi Array**	**56.42**	**326**	P		**P**	**21 23 27.6**	**-0.2**
	comp=Z,7.7nm,0.4s,baz=121,slow=8.3,SNR=156							
MKAR				PcP		**PcP**	**21 24 19.9**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=110,slow=4.8,SNR=7.4							
MKAR				ScP		**ScP**	**21 27 48.1**	**-3.0**
	comp=Z,0.4nm,0.6s,baz=132,slow=5.4,SNR=3.7							
MAKZ	**Makanchi**	**56.60**	**326**	P		**P**	**21 23 29.0**	**0.0**
MAKZ				IAmb		IAmb	21 23 29.8	
	comp=Z,8.0nm,0.6s							
KSH	**Kashi**	**56.61**	**316**	*e*P		**P**	**21 23 30.7**	**+1.3**
KSH				pmax		pmax		
	comp=Z,12nm,0.8s							
KSH				pmax		pmax		
	comp=Z,190nm,5.0s							
KDJ	**Kajisay**	**57.00**	**319**	P		**P**	**21 23 32.8**	**+0.6**
KDJ				IAmb		IAmb	21 23 33.7	
	comp=Z,25nm,1.1s							
MA2	**Magadan**	**59.28**	**15**	P		**P**	**21 23 48.3**	**+1.0**
ZALV	**Zalesovo Beam**	**59.70**	**334**	P		**P**	**21 23 48.8**	**-1.4**
	comp=Z,2.3nm,0.5s,baz=142,slow=6.0,SNR=13							
KBL	**Kabul**	**59.90**	**308**	P		**P**	**21 23 52.1**	**-0.2**
KBL				IAmb		IAmb	21 23 52.5	
	comp=Z,6.2nm,0.8s							
GAR	**Garm**	**60.42**	**313**	P		**P**	**21 23 55.6**	**-0.1**
KURK	**Kurchatov**	**60.67**	**328**	P		**P**	**21 23 56.3**	**-0.5**
KK31	**Karatay Array**	**61.85**	**318**	P		**P**	**21 24 03.3**	**-1.6**
BRVK	**Borovoye**	**66.30**	**328**	P		**P**	**21 24 32.7**	**-0.8**
BRVK				IAmb		IAmb	21 24 33.0	
	comp=Z,2.6nm,0.6s							
GEYT	**Alibeck**	**69.30**	**309**	P		**P**	**21 24 52.0**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=141,slow=7.1,SNR=4.0							
NRIK	**Noril'sk**	**69.99**	**347**	P		**P**	**21 24 55.0**	**-0.9**
	comp=Z,7.1nm,0.5s,baz=121,slow=4.3,SNR=8.3							
ARU	**Arti**	**73.86**	**328**	P		**P**	**21 25 17.6**	**-1.5**
ARU				IAmb		IAmb	21 25 19.4	
	comp=Z,4.0nm,0.9s							
AKUT	**Akutan**	**75.15**	**35**	P		**P**	**21 25 26.8**	**+0.4**
TTA	**Tatalina**	**81.89**	**27**	P		**P**	**21 26 04.2**	**+1.1**
TTA				IAmb		IAmb	21 26 04.5	
	comp=Z,4.2nm,0.7s							
MAW	**Mawson**	**82.99**	**200**	P		**P**	**21 26 07.3**	**-1.1**
	comp=Z,0.8nm,0.2s,baz=258,slow=10,SNR=7.5							
KDAK	**Kodiak Island**	**83.05**	**32**	P		**P**	**21 26 09.7**	**+0.7**
VNDA	**Vanda**	**83.65**	**172**	P		**P**	**21 26 11.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=312,slow=6.6,SNR=3.7							
KLMR	**Klimovskoe**	**84.42**	**331**	*e*P		**P**	**21 26 13.4**	**-2.4**
KLMR				AMP			21 26 15.1	
	comp=Z,5.0nm,0.6s							
ILAR	**Eielson Array**	**86.04**	**25**	P		**P**	**21 26 22.6**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=263,slow=4.4,SNR=6.3							
BRTR	**Keskin Array B**	**88.44**	**310**	P		**P**	**21 26 33.1**	**-2.7**
	comp=Z,0.7nm,0.8s,baz=143,slow=4.4,SNR=4.0							
ARCES	**ARCESS Array B**	**89.77**	**340**	P		**P**	**21 26 39.5**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=75,slow=5.0,SNR=9.4							
AKASG	**Malin Array Be**	**90.61**	**321**	P		**P**	**21 26 43.1**	**-2.4**
	comp=Z,0.7nm,0.5s,baz=69,slow=5.2,SNR=2.7							
FINES	**FINESS Array B**	**90.88**	**332**	P		**P**	**21 26 44.5**	**-2.0**
	comp=Z,1.7nm,0.5s,baz=62,slow=4.9,SNR=16							
NOA	**NORSAR Array B**	**97.89**	**333**	P		**P**	**21 27 16.3**	**-2.3**
	comp=Z,0.2nm,0.6s,baz=77,slow=4.1,SNR=2.1							
ISCO	**Idaho Springs**	**116.81**	**42**			**PKPdf**	**21 32 24.0**	**-2.6**
SCHQ	**Schefferville**	**120.92**	**8**	PKP		**PKPdf**	**21 32 33.3**	**-0.4**
	comp=Z,1.0nm,0.3s,baz=251,slow=14,SNR=1.9							
TORD	**Torodi Ar. Bea**	**120.94**	**288**	PKP		**PKPdf**	**21 32 33.5**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=77,slow=1.7,SNR=26							
TXAR	**Lajitas Array**	**123.27**	**51**	PKP		**PKPdf**	**21 32 39.4**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=178,slow=3.5,SNR=5.3							
R53A	**Hurricane**	**131.49**	**28**			PKPpre	21 32 44.5	
R53A				PKPdf		**PKPdf**	**21 32 52.8**	**-1.6**
CFA	**Coronel Fontan**	**149.70**	**158**	PKPbc		**PKPbc**	**21 33 31.7**	**-0.3**
	comp=Z,4.1nm,0.5s,baz=162,slow=2.9,SNR=3.0							

*TAP **03** 21:15:32.3, 21.86N×121.72E, h10km, ML2.8, D*
*JMA **03** 21:15:33.0±0.1, 21.89N×121.70E, h49km, M3.5*
ISC 03 21:15:32.2±3.1, 21.89N±0.05×121.73E±0.03, h16km±22km, n45, σ0s86/87, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LAY	**Lan-yu**	**0.22**	**311**	*i* P		**Pb**	**21 15 37.1**	**-0.7**
	baz=319							
LAY				*i* S		**Sb**	**21 15 40.6**	**-1.0**
	baz=319							
TSEB	**Hengchuen, Pin**	**0.77**	**271**	P		**Pb**	**21 15 47.4**	**+0.2**
	baz=272							
TSEB				S		**Sn**	**21 15 57.9**	**-1.8**
	baz=272							
TWH	**Lutao**	**0.85**	**344**	*e*P		**Pb**	**21 15 46.3**	**-2.2**
	baz=344							
TWH				*e*S		**Sn**	**21 16 00.7**	**-0.9**
	baz=344							
TWKBT	**Hengchun**	**0.85**	**273**	*e*P		**Pb**	**21 15 47.9**	**-0.7**
	baz=275							
TWKBT				*e*S		**Sb**	**21 15 59.7**	**-0.1**
	baz=275							
TWK1	**Hengchun**	**0.86**	**273**	P		**Pb**	**21 15 48.3**	**-0.4**
	baz=275							
TWK1				S		**Sn**	**21 16 00.5**	**-1.4**
	baz=275							
TAW	**Tawu**	**0.90**	**301**	*e*P		**Pn**	**21 15 50.3**	**+0.1**
	baz=303							
TAW				S		**Sb**	**21 16 00.8**	**-0.4**
	baz=303							
HEN	**Hengchun**	**0.93**	**277**	*e*P		**Pb**	**21 15 49.7**	**-0.1**
	baz=279							
HEN				S		**Sb**	**21 16 01.9**	**0.0**
	baz=279							
EAST	**Anshuo**	**0.95**	**301**	P		**Pb**	**21 15 49.4**	**-0.9**
	baz=302							
EAST				S		**Sn**	**21 16 03.7**	**-0.5**
	baz=302							
ECL	**Taimali**	**1.00**	**314**	P		**Pb**	**21 15 50.3**	**-0.9**
	baz=316							
ECL				S		**Sn**	**21 16 04.5**	**-0.9**
	baz=316							
TTN	**Taitung**	**1.01**	**328**	P		**Pn**	**21 15 51.8**	**0.0**
	baz=329							
TTN				S		**Sn**	**21 16 06.6**	**+1.0**
	baz=329							
TWGBT	**Beinan**	**1.10**	**327**	P		**Pb**	**21 15 52.9**	**+0.1**
	baz=328							
TWGBT				S		**Sn**	**21 16 07.4**	**-0.4**
	baz=328							
TWG	**Pinlang**	**1.10**	**327**	*e*P		**Pn**	**21 15 52.4**	**-0.7**
	baz=328							
TWG				*e*S		**Sn**	**21 16 08.9**	**+0.9**
	baz=328							
SCZT	**Fangliau**	**1.13**	**295**	P		**Pb**	**21 15 54.1**	**+0.7**
	baz=296							
SCZT				S		**Sn**	**21 16 07.7**	**-0.9**
	baz=296							
SSPT	**Xinbi**	**1.23**	**299**	P		**Pb**	**21 15 56.4**	**+1.4**
	baz=300							
MASBT	**Mashibuluo**	**1.24**	**305**	*e*P		**Pb**	**21 15 56.7**	**+1.4**
	baz=306							
MASBT				*e*S		**Sn**	**21 16 13.3**	**+1.9**
	baz=306							
CHKT	**Chengkung**	**1.25**	**344**	P		**Pn**	**21 15 53.2**	**-1.7**
	baz=345							
CHKT				*e*S		**Sn**	**21 16 13.0**	**+1.6**
	baz=345							
SSD	**Sandimen**	**1.32**	**310**	P		**Pn**	**21 15 56.1**	**+0.1**
	baz=311							

JISG	**Ishigakijimahi**	**3.58**	**41**	P		**Pn**	**21 16 27.7**	**+0.6**
JISG				S		**Sn**	**21 17 08.2**	**-0.8**
JTJ	**Tarama**	**3.87**	**44**	P		**Pn**	**21 16 31.8**	**+0.8**
JTJ				S		**Sn**	**21 17 15.5**	**-0.6**
JMJ2	**Miyako jima3**	**4.36**	**49**	P		**Pn**	**21 16 38.2**	**+0.5**

VAO ***03*** *21:34:08.8±0.6, 12.˙44S×77.˙03W, h10km, mb5.2*
ARE ***03*** *21:34:10±4.2, 12.˙59S±0.˙05×77.˙37W±0.˙08, h38km±4km, Error ellipse: s-maj=0.0km s-min=0.0km az=186.0*
NEIC ***03*** *21:34:11.9±2.6, 12.˙51S±0.˙04×76.˙93W±0.˙08, h36km±4km, mb5.2/309, ML5.4(ARE), Error ellipse: s-maj=11.9km s-min=5.9km az=80.0*
MOS ***03*** *21:34:14.0±1.2, 12.˙28S×76.˙77W, h55km, mb5.2/5, Error ellipse: s-maj=12.6km s-min=8.7km az=117.2*
IDC ***03*** *21:34:14.6±0.4, 12.˙34S×76.˙89W, h49km±3km, mb4.6/21, mb1 4.7/22, mb1mx4.7/27, mbtmp4.9/22, MS4.0/20, Ms1 4.0/20, ms1mx4.0/21, Error ellipse: s-maj=13.4km s-min=6.7km az=97.0*
UNK ***03*** *21:34:14.7, 12.˙48S×76.˙88W, h48km*
GCMT ***03*** *21:34:15.9±0.3, 12.˙51S±0.˙02×76.˙84W±0.˙03, h59km±2km, MW4.9/90, Moment Tensor Solution. s32,c35; s90,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.54±.16; $M_{\theta\theta}$0.24±.12; $M_{\phi\phi}$-2.78±.12; $M_{r\theta}$-1.51±.07; $M_{\theta\phi}$0.58±.11; $M_{\phi r}$0.92±.10; Best double couple: M_o3.25000×10^{16} NP1:ϕ_s191.00000°, δ37.00000°, λ128.00000°. NP2: ϕ_s327.00000°, δ61.00000°, λ65.00000°. Principal axes: T 3.3430, Plg64.0000°, Azm193.0000°; N -0.1850, Plg22.0000°, Azm339.0000°; P -3.1560, Plg13.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 21:34:13.3±0.3, 12.˙59S±0.˙04×76.˙97W±0.˙05, h47km±2km, h47km:pP-P, n794, σ1.9 37/693, mb5.2/178, **MS4.2**/24, **11C-8D, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**0.61**	**12**	P	**Pn**	**21 34 25.5**	**-0.3**
	16μm,0.3s,baz=200,slow=12						
NNA				S	**Sn**	**21 34 33.7**	**-1.2**
	42μm,0.3s,baz=214,slow=15,SNR=57						
NNA	**Nana**	**0.61**	**12**	*ce*P	**Pn**	**21 34 25.3**	**-0.6**
NNA	**Nana**	**0.61**	**12**	Pn	**Pn**	**21 34 25.8**	**-0.1**
NNA					**Sn**	**21 34 30.3**	**-4.6**
ATAH	**Atahualpa**	**5.60**	**345**	P	**Pn**	**21 35 36.8**	**+2.4**
	39nm,0.3s,baz=138,slow=4.1,SNR=75						
ATAH				S	**Sn**	**21 36 42.0**	**+4.3**
	69nm,0.3s,baz=294,slow=4.9,SNR=4.3						
AP01	**Chacalluta**	**8.60**	**133**	Pn	**Pn**	**21 36 13.7**	**-1.4**
AP01					**Sn**	**21 37 45.8**	**-5.0**
PB12	**IPOC Station P**	**8.77**	**134**	Pn	**Pn**	**21 36 18.4**	**+0.8**
LPAZ	**La Paz**	**9.32**	**114**	P	**Pn**	**21 36 29.9**	**+4.2**
	2.6nm,0.3s,baz=283,slow=8.8,SNR=33						
LPAZ				LR	LR	21 40 42.0	
	comp=Z,2μm,21.2s,baz=298,slow=41						
LPAZ	**La Paz**	**9.32**	**114**	P	**Pn**	**21 36 29.1**	**+3.5**
LPAZ	**La Paz**	**9.32**	**114**		**Pn**	**21 36 29.1**	**+3.5**
PSGCX	**Pisagua**	**9.58**	**138**		**Pn**	**21 36 29.6**	**+0.8**
MNMC	**Minye Minye**	**9.62**	**133**	Pn	**Pn**	**21 36 31.1**	**+1.6**
MNMC					**Sn**	**21 36 16.1**	**-0.4**
PB11	**IPOC Station P**	**10.01**	**136**		**Pn**	**21 36 34.6**	**-0.1**
PB11					**Sn**	**21 38 24.7**	**-1.1**
TA01	**Diego Aracena**	**10.26**	**142**	Pn	**Pn**	**21 36 37.4**	**-0.6**
TA01					**Sn**	**21 38 28.9**	**-2.8**
GO01	**Chusmiza**	**10.26**	**134**		**Pn**	**21 36 37.6**	**-0.9**
PATCX	**Punta Patache**	**10.47**	**142**		**Pn**	**21 36 41.5**	**+0.6**
PATCX					**Sn**	**21 38 31.9**	**-5.0**
PB08	**IPOC Station P**	**10.61**	**136**		**Pn**	**21 36 42.4**	**-0.7**
PB01	**IPOC Station P**	**11.04**	**141**		**Pn**	**21 36 49.3**	**+0.5**
PB07	**IPOC Station P**	**11.33**	**144**		**Pn**	**21 36 52.8**	**0.0**
PB07					**Sn**	**21 38 56.0**	**-2.1**
PB04	**IPOC Station P**	**11.67**	**147**	Pn	**Pn**	**21 36 55.7**	**-1.7**
PB09	**IPOC Station P**	**11.76**	**142**	Pn	**Pn**	**21 36 56.5**	**-2.1**
PB06	**IPOC Station P**	**12.28**	**146**		**Pn**	**21 37 03.9**	**-1.9**
PB10	**IPOC Station P**	**12.46**	**152**	Pn	**Pn**	**21 37 04.7**	**-3.4**
LVC	**Limon Verde**	**12.58**	**143**	LR	LR	21 41 56.2	
	comp=Z,332nm,21.6s,baz=322,slow=36						
PB15	**IPOC Station P**	**12.74**	**147**	Pn	**Pn**	**21 37 09.3**	**-2.8**
PTLC	**Puerto Leguiza**	**12.86**	**10**	*e*P	Pn	21 37 07.4	-6.2
CUSE	**Cuicocha Este**	**12.89**	**354**	*e*P	**Pn**	**21 37 17.6**	**+3.3**
PAC1	**Pacto, Paraso**	**12.90**	**352**	*e*P	**Pn**	**21 37 16.1**	**+1.9**
PUAC	**Puerto Asis, P**	**13.06**	**2**	*e*P	**Pn**	**21 37 16.1**	**-0.2**
GCUF	**Volcan Galeras**	**13.73**	**358**	*e*P	**Pn**	**21 37 23.9**	**-2.0**
SAML	**Samuel**	**14.02**	**76**	P	**Pn**	**21 37 27.7**	**-1.7**
SAML	**Samuel**	**14.02**	**76**	Pn	**Pn**	**21 37 27.7**	**-1.7**
CRUC	**La Cruz**	**14.06**	**0**	*e*P	**Pn**	**21 37 30.8**	**+0.5**
GO02	**Mina Guanaco**	**14.32**	**152**	Pn	**Pn**	**21 37 34.5**	**+0.8**
BBAC	**Balboa, Cauca**	**14.52**	**359**	*e*P	**P**	**21 37 39.5**	**-2.3**
SOTA	**Rioblanco**	**14.63**	**1**	*e*P	**Pn**	**21 37 38.4**	**+0.4**
GARC	**Garzon, Huila**	**14.75**	**6**	*e*P	**Pn**	**21 37 38.7**	**-0.7**
AC01	**Pan de Azucar**	**14.76**	**157**	Pn	**Pn**	**21 37 38.4**	**-0.9**
PCON	**Cinco Dias**	**14.83**	**2**	*e*P	**Pn**	**21 37 41.5**	**+0.8**
MACC	**Macarena, Meta**	**14.96**	**12**	*e*P	**Pn**	**21 37 40.2**	**-1.7**
BETC	**Betania**	**15.25**	**6**	*e*P	**P**	**21 37 48.7**	**-1.0**
GR1C	**Gorgona, Isla**	**15.54**	**356**	*e*P	**P**	**21 37 52.6**	**-0.3**
SIV	**San Ignacio**	**15.78**	**104**	P	**Pn**	**21 37 53.4**	**+1.0**
	0.3nm,0.3s,baz=292,slow=13,SNR=26						
AC02	**Maricunga**	**15.97**	**154**	Pn	**Pn**	**21 37 54.9**	**-0.4**
GO03	**Copiap**	**16.21**	**158**		**Pn**	**21 37 58.8**	**+0.9**
PRAC	**Prado**	**16.33**	**7**	*e*P	**P**	**21 38 01.1**	**-0.7**
VILB	**Vilhena**	**16.36**	**93**	*e*P	**Pn**	**21 37 59.6**	**-0.3**
VILB	**Vilhena**	**16.36**	**93**	*e*P	**Pn**	**21 37 59.6**	**-0.3**
YOTC	**Yotoco, Valle**	**16.48**	**2**	*e*P	**P**	**21 38 04.7**	**+1.2**
ORTC	**Ortega, Tolima**	**16.48**	**6**	*e*P	**Pn**	**21 38 02.1**	**+0.7**
AC04	**Llanos de Chal**	**16.48**	**161**		**Pn**	**21 38 01.8**	**+0.4**
VILC	**Villavicencio,**	**16.91**	**11**	*e*P	**P**	**21 38 08.3**	**0.0**
ANIL	**Santa Ana**	**17.04**	**5**	*e*P	**P**	**21 38 14.5**	**+4.6**
TOLC	**Tolima**	**17.14**	**6**	*e*P	**P**	**21 38 16.9**	**+5.9**
AC05	**El Transito**	**17.33**	**160**	Pn	**Pn**	**21 38 11.3**	**-0.7**
PTGC	**Puerto Gaitan,**	**17.36**	**16**	*e*P	**Pn**	**21 38 11.3**	**-1.0**
CHIC	**Chingaza**	**17.41**	**11**	*e*P	**P**	**21 38 14.9**	**+0.8**
RREF	**El Recreo**	**17.45**	**5**	*e*P	**P**	**21 38 17.4**	**+2.6**
ROSC	**El Rosal**	**17.51**	**9**	P	**P**	**21 38 20.3**	**+5.1**
	4.0nm,0.3s,baz=156,slow=3.7,SNR=11						
ROSC				LR	LR	21 46 14.2	
	comp=Z,2μm,19.2s,baz=214,slow=42						
ROSC	**El Rosal**	**17.51**	**9**	*e*P	**P**	**21 38 18.8**	**+3.5**
ROSC	**El Rosal**	**17.51**	**9**	Pn	**Pn**	**21 38 12.6**	**-2.0**
PTLB	**Pontes e Lacer**	**17.54**	**101**	*e*P	**P**	**21 38 14.9**	**-0.2**
PTLB	**Pontes e Lacer**	**17.54**	**101**	*e*P	**P**	**21 38 14.9**	**-0.2**
PAYG	**Puerto Ayora**	**17.73**	**311**	Pn	**Pn**	**21 38 14.4**	**-2.6**
GUY2C	**Guyana, Caldas**	**17.77**	**5**	*e*P	**P**	**21 38 19.4**	**+1.2**
VCA	**Vinchina**	**18.02**	**154**	*i* P	**P**	**21 38 25.2**	**+4.6**
NORC	**Norcasia**	**18.15**	**7**	*e*P	**Pn**	**21 38 25.1**	**+3.0**
SPBC	**San Pablo de B**	**18.35**	**9**	*e*P	**Pn**	**21 38 27.1**	**+2.6**
CBOC	**Ciudad Bolivar**	**18.36**	**3**	*e*P	**Pn**	**21 38 27.7**	**+3.0**
GO04	**Tololo Observa**	**18.41**	**163**		**Pn**	**21 38 25.1**	**-0.2**
GO04				IAmb	IAmb	21 38 31.4	
	comp=Z,149nm,0.8s						
GO04	**Tololo Observa**	**18.41**	**163**	*i* P	**Pn**	**21 38 28.1**	**+2.8**
CO01	**Juntas del Tor**	**18.44**	**161**	P	**Pn**	**21 38 24.1**	**-1.2**
AGUA	**GUANDACOL**	**18.57**	**156**	*i* P	**Pn**	**21 38 30.9**	**+3.8**
MACA	**Manacapuru-AM**	**18.64**	**61**	*e*P	**P**	**21 38 25.9**	**-1.4**
MACA	**Manacapuru-AM**	**18.64**	**61**	*e*P	**P**	**21 38 25.9**	**-1.4**
RUSC	**La Rusia**	**18.76**	**12**	*e*P	**Pn**	**21 38 29.7**	**-0.2**
RUSC	**La Rusia**	**18.76**	**12**		**P**	**21 38 28.0**	**-1.1**
AROD	**Rodeo**	**18.82**	**159**	*i* P	**Pn**	**21 38 33.9**	**+3.5**
CYA	**Choya**	**18.91**	**148**	*i* P	**Pn**	**21 38 34.0**	**+2.9**
CO03	**El Pedregal**	**19.07**	**163**	P	**P**	**21 38 31.9**	**-0.1**
PTBC	**PUERTO BERRIO,**	**19.17**	**8**	*e*P	**P**	**21 38 33.5**	**+0.4**
CO02	**Combarbal**	**19.33**	**164**	P	**P**	**21 38 35.5**	**+0.6**
CO02				IAmb	IAmb	21 38 42.0	
	comp=Z,126nm,0.8s						
ACCO	**Cerro Coronel**	**19.35**	**159**	*i* P	**Pn**	**21 38 39.4**	**+2.7**
BARC	**Barichara**	**19.42**	**11**	*e*P	**Pn**	**21 38 37.2**	**-0.3**
TAMC	**Tame, Arauca**	**19.59**	**16**	*e*P	**Pn**	**21 38 40.8**	**+1.4**
AMOG	**MOGNA**	**19.87**	**158**	*i* P	**Pn**	**21 38 44.1**	**+1.5**
ZARC	**Zaragoza, Cauc**	**20.06**	**6**	*e*P	**P**	**21 38 43.6**	**+0.8**
RTLL	**Cerro Villicun**	**20.23**	**159**	*i* P	Pn	21 38 48.3	+1.4
PAMC	**Pamplona, Colo**	**20.25**	**12**	*e*P	Pn	21 38 46.5	-1.1
UREC	**San Jos de Ur**	**20.26**	**4**	*e*P	Pn	21 38 49.1	+1.8
ZON	**Zonda**	**20.36**	**159**	P	**P**	**21 38 46.3**	**+0.3**
ZON				pmax	pmax		
	comp=Z,110nm,1.4s						
ZON	**Zonda**	**20.36**	**159**	P	**P**	**21 38 46.2**	**+0.3**
ZON	**Zonda**	**20.36**	**159**	*i* P	Pn	21 38 49.5	+1.2
RTLS	**Leoncito**	**20.38**	**161**	*i* P	Pn	21 38 50.4	+1.5
CFA	**Coronel Fontan**	**20.57**	**158**	P	Pn	21 38 51.6	+0.8
	comp=Z,102nm,0.7s,baz=337,slow=9.7,SNR=73						
PTGA	**Pitinga**	**20.57**	**56**	P	**P**	**21 38 48.4**	**+0.1**
	comp=Z,25nm,0.4s,baz=249,slow=14,SNR=45						
PTGA	**Pitinga**	**20.57**	**56**	P	**P**	**21 38 48.6**	**+0.3**
PTGA				IAmb	IAmb	21 39 09.0	
	comp=Z,90nm,0.9s						
PTGA	**Pitinga**	**20.57**	**56**	*e*P	**P**	**21 38 48.5**	**+0.1**
PTGA	**Pitinga**	**20.57**	**56**	*e*P	**P**	**21 38 48.5**	**+0.1**
RTCV	**Cerro Valdivia**	**20.69**	**159**	*i* P	Pn	21 38 53.1	+0.8
AUSP	**Uspallata**	**20.75**	**162**	*i* P	Pn	21 38 55.0	+1.7
CLDB	**Colider**	**20.80**	**88**	*e*P	**P**	**21 38 50.4**	**-0.5**
CLDB	**Colider**	**20.80**	**88**	*e*P	**P**	**21 38 50.4**	**-0.5**
H03N1	**Juan Fernandez**	**20.83**	**185**	T	T	22 01 13.7	
	baz=3.6,slow=75,SNR=216						
H03N2	**Juan Fernandez**	**20.83**	**185**	T	T	22 01 12.9	
	baz=3.6,slow=75,SNR=388						
H03N3	**Juan Fernandez**	**20.85**	**185**	T	T	22 01 20.6	
	baz=3.6,slow=75,SNR=340						
SALV	**Santo Antonio**	**20.88**	**102**	*e*P	**P**	**21 38 52.8**	**+1.1**
SALV	**Santo Antonio**	**20.88**	**102**	*e*P	**P**	**21 38 52.8**	**+1.1**
OCAC	**Ocana**	**21.01**	**10**	*e*P	**P**	**21 38 53.0**	**-0.2**
ROC1	**El Roble**	**21.01**	**166**	*i* P	**P**	**21 38 55.7**	**+2.4**
PEL	**Peldehue**	**21.25**	**165**	*i* P	**P**	**21 38 58.9**	**+3.3**
MT02	**Curacav**	**21.26**	**166**	IAmb	IAmb	21 39 05.0	
	comp=Z,104nm,1.2s						
SMLC	**San Martn de**	**21.44**	**8**	*e*P	**P**	**21 38 58.0**	**+0.3**
ACAN	**Cantantal**	**21.55**	**157**	*i* P	**P**	**21 39 02.7**	**+3.9**
MT01	**Popeta**	**21.81**	**167**	P	**P**	**21 39 00.5**	**-1.0**
AQDB	**Aquidauana**	**21.83**	**114**	*e*P	**P**	**21 39 03.1**	**+1.3**
AQDB	**Aquidauana**	**21.83**	**114**	*e*P	**P**	**21 39 03.1**	**+1.3**
TCA	**Tanti**	**21.87**	**151**	*i* P	**P**	**21 39 04.5**	**+2.2**
NPGB	**Novo Progresso**	**21.99**	**78**	*e*P	**P**	**21 39 03.2**	**-0.4**
NPGB	**Novo Progresso**	**21.99**	**78**	*e*P	**P**	**21 39 03.2**	**-0.4**
SDV	**Santo Domingo**	**22.25**	**17**	P	**P**	**21 39 06.9**	**+0.3**
	comp=Z,23nm,0.6s,baz=207,slow=9.4,SNR=14						
SDV	**Santo Domingo**	**22.25**	**17**	*e*P	**P**	**21 39 07.1**	**+0.6**
SDV	**Santo Domingo**	**22.25**	**17**	P	**P**	**21 39 06.8**	**+0.3**
SDV				IAmb	IAmb	21 39 52.9	
	comp=Z,52nm,0.7s						
MRA	**San Martin**	**22.28**	**154**	*i* P	**P**	**21 39 09.0**	**+2.4**
SJCC	**San Jacinto, C**	**22.41**	**5**	*e*P	**P**	**21 39 10.0**	**+1.9**
ITTB	**Itaituba**	**22.52**	**71**	*e*P	**P**	**21 39 09.2**	**-0.1**
ITTB				*e*S	**S**	**21 43 18.2**	**+4.7**
ITTB	**Itaituba**	**22.52**	**71**	*e*P	**P**	**21 39 09.2**	**-0.1**
ITTB				*e*S	**S**	**21 43 18.2**	**+4.7**
GO05	**Huala**	**22.79**	**169**	P	**P**	**21 39 11.3**	**-0.6**
GO05				IAmb	IAmb	21 39 16.4	
	comp=Z,119nm,0.9s						
GO05	**Huala**	**22.79**	**169**	*i* P	**P**	**21 39 14.8**	**+2.9**
BO02	**Sierra Bellavi**	**22.81**	**167**	P	**P**	**21 39 11.6**	**-0.7**
BO02				IAmb	IAmb	21 39 41.9	
	comp=Z,52nm,0.8s						
C2SB	**Chapadao do Su**	**24.02**	**108**	*e*P	**P**	**21 39 25.1**	**+1.1**
C2SB	**Chapadao do Su**	**24.02**	**108**	*e*P	**P**	**21 39 25.1**	**+1.1**
JTS	**Las Juntas de**	**24.07**	**340**	P	**P**	**21 39 26.9**	**+2.5**
	comp=Z,2.6nm,0.4s,baz=265,slow=9.1,SNR=4.0						
JTS	**Las Juntas de**	**24.07**	**340**	*de*P	**P**	**21 39 26.5**	**+2.0**
JTS				pmax	pmax		
	comp=Z,37nm,1.8s						
JTS	**Las Juntas de**	**24.07**	**340**	P	**P**	**21 39 23.5**	**-0.9**
BI03	**Tigo**	**24.41**	**172**	IAmb	IAmb	21 39 30.3	
	comp=Z,79nm,0.8s						
ARAG	**Araguaiana, MT**	**24.59**	**100**	*e*P	**P**	**21 39 29.7**	**+0.5**
ARAG	**Araguaiana, MT**	**24.59**	**100**	*e*P	**P**	**21 39 29.7**	**+0.5**
URIC	**Uribia, Colomb**	**24.63**	**12**	*e*P	**P**	**21 39 25.9**	**-3.6**
URIC	**Uribia, Colomb**	**24.63**	**12**	P	**P**	**21 39 27.5**	**-2.0**
MALB	**Monte Alegre**	**24.89**	**66**	*e*P	**P**	**21 39 32.3**	**+0.3**
MALB	**Monte Alegre**	**24.89**	**66**	*e*P	**P**	**21 39 32.3**	**+0.3**
ESPN	**Las Esperanzas**	**25.67**	**343**	P	**P**	**21 39 36.5**	**-2.5**
ESPN				IAmb	IAmb	21 39 55.2	
	comp=Z,59nm,1.1s						
PCRV	**Puerto La Cruz**	**25.72**	**29**	P	**P**	**21 39 41.8**	**+2.3**
	comp=Z,22nm,0.9s,baz=164,slow=7.4,SNR=3.2						
PLCV	**Puerto La Cruz**	**25.73**	**29**	P	**P**	**21 39 41.8**	**+2.2**
PCMB	**Pacaembu**	**26.13**	**114**	*e*P	**P**	**21 39 45.0**	**+1.8**
PCMB	**Pacaembu**	**26.13**	**114**	*e*P	**P**	**21 39 45.0**	**+1.8**
PTGB	**Pitanga**	**26.45**	**121**	*e*P	**P**	**21 39 48.0**	**+1.9**
PTGB	**Pitanga**	**26.45**	**121**	*e*P	**P**	**21 39 48.0**	**+1.9**
ITRB	**Iturama**	**26.50**	**109**	*e*P	**P**	**21 39 48.0**	**+1.4**
ITRB	**Iturama**	**26.50**	**109**	*e*P	**P**	**21 39 48.0**	**+1.4**
MATN	**Matagalpa**	**26.86**	**340**	P	**P**	**21 39 49.3**	**-0.6**
PRPB	**Paraupebas**	**27.52**	**79**	*e*P	**P**	**21 39 55.7**	**-0.2**
PRPB	**Paraupebas**	**27.52**	**79**	*e*P	**P**	**21 39 55.7**	**-0.2**
PEXB	**Peixe**	**28.01**	**92**	*e*P	**P**	**21 40 00.5**	**+0.4**
PEXB	**Peixe**	**28.01**	**92**	*e*P	**P**	**21 40 00.5**	**+0.4**
CPSB	**Cacapava Do Su**	**28.07**	**133**	*e*P	**P**	**21 40 01.5**	**+1.0**
CPSB	**Cacapava Do Su**	**28.07**	**133**	*e*P	**P**	**21 40 01.5**	**+1.0**
FRTB	**Fartura**	**28.13**	**116**	*e*P	**P**	**21 40 02.7**	**+1.6**
FRTB	**Fartura**	**28.13**	**116**	*e*P	**P**	**21 40 02.7**	**+1.6**
BDFB	**Brasilia**	**28.24**	**100**	P	**P**	**21 40 02.9**	**+0.7**
	comp=Z,7.2nm,0.9s,baz=270,slow=12,SNR=9.6						
BDFB				LR	LR	21 52 11.2	
	comp=Z,814nm,19.7s,baz=292,slow=38						
BDFB	**Brasilia**	**28.24**	**100**	P	**P**	**21 40 00.8**	**-1.5**
BDFB				pmax	pmax		
	comp=Z,12nm,0.9s						
BDFB	**Brasilia**	**28.24**	**100**	P	**P**	**21 40 00.8**	**-1.5**
IPMB	**Ipameri, GO**	**28.24**	**105**	*e*P	**P**	**21 40 02.0**	**-0.2**
IPMB	**Ipameri, GO**	**28.24**	**105**	*e*P	**P**	**21 40 02.0**	**-0.2**
PLCA	**Paso Flores**	**28.60**	**170**	P	**P**	**21 40 07.3**	**+2.1**
	comp=Z,61nm,0.8s,baz=344,slow=10,SNR=122						
PLCA				LR	LR	21 49 19.1	
	comp=Z,201nm,21.3s,baz=340,slow=31						
PLCA	**Paso Flores**	**28.60**	**170**	P	**P**	**21 40 06.8**	**+1.7**
PLCA				pmax	pmax		
	comp=Z,72nm,0.9s						
PLCA	**Paso Flores**	**28.60**	**170**	P	**P**	**21 40 06.8**	**+1.7**
PLCA				IAmb	IAmb	21 40 08.3	
	comp=Z,72nm,0.8s						
PLCA	**Paso Flores**	**28.60**	**170**	*e*P	**P**	**21 40 07.2**	**+2.1**
PLCA	**Paso Flores**	**28.60**	**170**	*e*P	**P**	**21 40 07.2**	**+2.1**
PLTB	**Pedras Altas**	**28.74**	**135**	*e*P	**P**	**21 40 07.5**	**+1.1**
PLTB	**Pedras Altas**	**28.74**	**135**	*e*P	**P**	**21 40 07.5**	**+1.1**
SMTB	**Santa Maria do**	**29.10**	**86**	*e*P	**P**	**21 40 10.8**	**+0.9**
SMTB	**Santa Maria do**	**29.10**	**86**	*e*P	**P**	**21 40 10.8**	**+0.9**
CNLB	**Canela**	**29.42**	**128**	*e*P	**P**	**21 40 13.8**	**+1.2**
CNLB	**Canela**	**29.42**	**128**	*e*P	**P**	**21 40 13.8**	**+1.2**
MDP	**Montagnes des**	**29.89**	**55**	P	**P**	**21 40 16.3**	**-0.5**
	comp=Z,17nm,0.7s,baz=249,slow=6.2,SNR=5.6						
LL01	**San Ignacio de**	**29.94**	**173**	IAmb	IAmb	21 40 19.6	
	comp=Z,39nm,0.7s						
SPB	**Sao Paulo**	**30.07**	**115**	P	**P**	**21 40 16.4**	**-2.0**
JANB	**Januaria**	**31.79**	**98**	*e*P	**P**	**21 40 33.3**	**-0.4**
JANB	**Januaria**	**31.79**	**98**	*e*P	**P**	**21 40 33.3**	**-0.4**
BSCB	**Bom Sucesso**	**31.89**	**110**	*e*P	**P**	**21 40 35.5**	**+1.0**
BSCB	**Bom Sucesso**	**31.89**	**110**	*e*P	**P**	**21 40 35.5**	**+1.0**
MC01	**Montes Claros**	**32.20**	**101**	*e*P	**P**	**21 40 38.3**	**+1.1**
MC01	**Montes Claros**	**32.20**	**101**	*e*P	**P**	**21 40 38.3**	**+1.1**
PDPR	**Patillas Dam,**	**32.27**	**20**	IAmb	IAmb	21 40 55.0	
	comp=Z,20nm,0.7s						
SJG	**San Juan**	**32.32**	**20**	P	**P**	**21 40 35.9**	**-2.2**
SJG				pmax	pmax		
	comp=Z,22nm,0.7s						
SJG	**San Juan**	**32.32**	**20**	P	**P**	**21 40 35.9**	**-2.2**
SJG				IAmb	IAmb	21 41 16.0	
	comp=Z,22nm,0.7s						
GCPR	**Guaynabo City**	**32.53**	**19**	IAmb	IAmb	21 40 56.9	
	comp=Z,39nm,0.8s						
CUPR	**Culebra, Puert**	**32.80**	**21**	P	**P**	**21 40 40.2**	**-2.1**
CUPR				IAmb	IAmb	21 41 15.5	
	comp=Z,31nm,0.8s						
ROSB	**Rosrio**	**33.90**	**76**	*e*P	**P**	**21 40 51.9**	**-0.1**
ROSB	**Rosrio**	**33.90**	**76**	*e*P	**P**	**21 40 51.9**	**-0.1**
TEIG	**Tepich**	**34.45**	**341**	P	**P**	**21 40 54.3**	**-2.3**
BSFB	**Barra de Sao F**	**35.28**	**105**	*e*P	**P**	**21 41 03.9**	**0.0**
BSFB	**Barra de Sao F**	**35.28**	**105**	*e*P	**P**	**21 41 03.9**	**0.0**
RIB01	**Linhares ES**	**35.75**	**106**	*e*P	**P**	**21 41 08.1**	**+0.2**
RIB01	**Linhares ES**	**35.75**	**106**	*e*P	**P**	**21 41 08.1**	**+0.2**
GDU01	**Guandu, BA**	**36.41**	**96**	*e*P	**P**	**21 41 13.6**	**0.0**
GDU01	**Guandu, BA**	**36.41**	**96**	*e*P	**P**	**21 41 13.6**	**0.0**
RCBR	**Riachuelo**	**41.05**	**84**	P	**P**	**21 41 52.6**	**-0.1**
	comp=Z,6.0nm,0.7s,baz=261,slow=6.4,SNR=4.3						
RCBR	**Riachuelo**	**41.05**	**84**	P	**P**	**21 41 52.6**	**-0.1**
RCBR				pmax	pmax		
	comp=Z,39nm,1.6s						
RCBR	**Riachuelo**	**41.05**	**84**	IAmb	IAmb	21 41 55.2	
	comp=Z,39nm,1.6s						
USHA	**Ushuaia**	**42.68**	**173**	P	**P**	**21 42 07.1**	**+1.9**
	comp=Z,23nm,0.6s,baz=7.9,slow=2.1,SNR=4.0						
ZAIG	**Zacatecas**	**43.17**	**324**	P	**P**	**21 42 09.0**	**-1.0**
152A	**Waverly Hall**	**45.61**	**351**	IAmb	IAmb	21 42 42.5	
	comp=Z,29nm,1.0s						
344A	**Westbrook Farm**	**45.74**	**344**	IAmb	IAmb	21 42 47.2	
	comp=Z,41nm,0.9s						
Z56A	**Williston**	**45.85**	**355**	P	**P**	**21 42 29.9**	**-1.0**
	baz=174						
833A	**Chaparral WMA,**	**46.10**	**332**	P	**P**	**21 42 33.0**	**+0.1**
	baz=149						
GOGA	**Godfrey**	**46.16**	**352**	P	**P**	**21 42 32.1**	**-1.2**
	baz=171						
LRAL	**Lakeview Retre**	**46.37**	**348**	P	**P**	**21 42 34.1**	**-0.8**
	baz=166,SNR=6.3						
LRAL	**Lakeview Retre**	**46.37**	**348**	IAmb	IAmb	21 42 48.7	
	comp=Z,28nm,0.9s						
Y55A	**Saluda**	**46.50**	**354**	P	**P**	**21 42 35.2**	**-0.8**
	baz=173,SNR=6.6						
HODGE	**Hodges**	**46.83**	**354**	IAmb	IAmb	21 43 13.1	
	comp=Z,33nm,1.5s						
X56A	**White Oak**	**46.98**	**355**	P	**P**	**21 42 38.9**	**-0.8**
	baz=174						
X55A	**Gracelyn & Ava**	**47.01**	**355**	P	**P**	**21 42 39.1**	**-0.8**
	baz=174						
X54A	**Belton**	**47.16**	**354**	P	**P**	**21 42 40.4**	**-0.7**
	baz=173						
NATX	**Nacogdoches**	**47.24**	**339**	P	**P**	**21 42 41.6**	**-0.3**
	baz=156						
NATX	**Nacogdoches**	**47.24**	**339**	P	**P**	**21 42 40.4**	**-1.5**
W60A	**Pink Hill**	**47.38**	**359**	P	**P**	**21 42 42.5**	**-0.4**
	baz=179						
W58A	**Raeford**	**47.40**	**357**	P	**P**	**21 42 42.2**	**-0.7**
	baz=177						
W57A	**Gilead**	**47.56**	**357**	P	**P**	**21 42 43.2**	**-1.1**
	baz=176						
FPAL	**Fort Paine**	**47.58**	**350**	IAmb	IAmb	21 42 57.2	
	comp=Z,20nm,1.0s						
W56A	**Indian Trail**	**47.58**	**356**	P	**P**	**21 42 43.5**	**-0.9**
	baz=175						
KMSC	**Kings Mountain**	**47.65**	**355**	P	**P**	**21 42 44.1**	**-0.9**
	baz=174,SNR=5.8				

baz=176
R53A Hurricane 50.87 355 P P 21 43 08.4 -1.0
baz=174
U40A Yellville 50.94 343 P P 21 43 09.9 -0.2
baz=160,SNR=23
Q58A Fox Den Farm, 51.26 359 P P 21 43 12.1 -0.3
baz=179
USIN University of 51.28 349 P P 21 43 11.8 -0.7
USIN IAmb IAmb 21 43 25.2
comp=Z,29nm,0.8s
USIN PcP PcP 21 44 26.4 -0.7
WCI Wyandotte Cave 51.30 351 P P 21 43 11.6 -1.0
baz=168
Q53A Leroy 51.35 355 P P 21 43 12.2 -0.9
baz=174
Q57A Strasburg 51.37 359 P P 21 43 13.0 -0.3
baz=178
Q55A Buckhannon 51.40 357 P P 21 43 13.3 -0.1
baz=176
Q56A Snyder Ridge, 51.40 358 P P 21 43 13.0 -0.4
baz=177
Q56A Snyder Ridge, 51.40 358 P P 21 43 12.6 -0.9
Q56A IAmb IAmb 21 43 27.6
comp=Z,18nm,0.8s
Q56A PcP PcP 21 44 26.8 -0.8
TUL1 Leonard 51.41 340 P P 21 43 13.7 +0.1
baz=156,SNR=5.6
WMOK Wichita Mounta 51.42 337 P P 21 43 13.2 -0.5
baz=152,SNR=6.7
WMOK Wichita Mounta 51.42 337 P P 21 43 12.5 -1.2
WMOK pmax pmax
comp=Z,15nm,0.7s
WMOK Wichita Mounta 51.42 337 P P 21 43 12.5 -1.2
WMOK PcP PcP 21 44 27.6 -0.2
WMOK IAmb IAmb 21 44 29.2
comp=Z,15nm,0.7s
Q54A Coxs Mills 51.43 356 P P 21 43 12.6 -1.1
baz=175
Q54A Coxs Mills 51.43 356 IAmb IAmb 21 43 26.6
comp=Z,17nm,0.7s
Q52A Bidwell 51.52 355 P P 21 43 13.4 -0.9
baz=173
MNTX Cornudas Mount 51.78 329 P P 21 43 16.4 -0.1
baz=144
MNTX Cornudas Mount 51.78 329 IAmb IAmb 21 43 31.6
comp=Z,33nm,1.3s
P58A Pank, Wackersv 51.81 360 P P 21 43 16.2 -0.3
baz=180
P57A Homestead Farm 51.81 359 P P 21 43 16.0 -0.5
baz=179
P56A Dayton Farm, R 51.85 358 P P 21 43 16.2 -0.6
baz=178
P53A Whipple 51.97 356 P P 21 43 16.7 -1.0
baz=174
P54A Burton 52.02 357 P P 21 43 17.2 -0.9
baz=176
MCWV Mont Chateau 52.05 357 P P 21 43 17.6 -0.7
baz=176
OLIL Olney 52.10 349 IAmb IAmb 21 43 31.5
comp=Z,30nm,0.8s
P51A Williamsport 52.11 354 P P 21 43 18.1 -0.6
baz=172
CCM Cathedral Cave 52.12 346 P P 21 43 17.3 -1.5
baz=162
P60A Greenville 52.14 1 P P 21 43 18.0 -1.0
baz=182
P52A Corning 52.17 355 P P 21 43 17.6 -1.6
baz=174
BLO Bloomington 52.26 351 IAmb IAmb 21 43 32.6
comp=Z,29nm,0.7s
P49A Miami Univ. Ec 52.35 352 P P 21 43 19.0 -1.5
baz=170
MSTX Muleshoe 52.41 333 P P 21 43 20.8 -0.4
baz=148
O58A Lewisberry 52.44 0 P P 21 43 21.1 -0.1
baz=180
O57A Amberson 52.53 359 P P 21 43 21.7 -0.2
baz=179,SNR=7.5
O55A Ligonier 52.57 358 P P 21 43 21.6 -0.6
baz=177
O56A Blue Knob Stat 52.61 358 P P 21 43 22.1 -0.4
baz=178
O52A Adamsville 52.63 355 P P 21 43 21.2 -1.4
baz=174
O52A Adamsville 52.63 355 IAmb IAmb 21 43 55.4
comp=Z,17nm,0.8s
O59A Robesonia 52.63 1 P P 21 43 22.6 0.0
baz=181
O60A Telford 52.66 2 P P 21 43 22.4 -0.3
baz=182
O51A Pataskala 52.73 355 P P 21 43 22.7 -0.6
baz=173
ACSO Alum Creek Sta 52.84 354 P P 21 43 22.9 -1.3
baz=172
ACSO Alum Creek Sta 52.84 354 IAmb IAmb 21 43 37.0
comp=Z,25nm,0.7s
O49A Covington 52.95 353 IAmb IAmb 21 43 37.6
comp=Z,18nm,0.9s
N57A Milroy 53.08 359 P P 21 43 25.1 -0.8
baz=179
O48A Farmland 53.12 352 P P 21 43 24.7 -1.5
baz=170,SNR=14
N61A South Mountain 53.13 3 P P 21 43 24.4 -1.8
baz=183
N55A Marion Center 53.13 358 P P 21 43 25.5 -0.8
baz=177
N58A Sunbury 53.16 0 P P 21 43 26.1 -0.3
baz=180
N58A Sunbury 53.16 0 IAmb IAmb 21 43 40.5
comp=Z,16nm,0.8s
N60A Cedar Hill Far 53.22 2 P P 21 43 26.7 -0.2
baz=182
N59A State Game Lan 53.24 1 P P 21 43 27.1 0.0
baz=181
N56A West Decatur 53.25 359 P P 21 43 26.7 -0.5
baz=178
N54A Moraine State 53.35 357 P P 21 43 27.1 -0.8
baz=176
SFIN Lafayette 53.53 350 P P 21 43 28.3 -0.8
baz=168
SFIN Lafayette 53.53 350 IAmb IAmb 21 43 41.3
comp=Z,15nm,0.7s
M57A Sunshine Farm, 53.65 360 P P 21 43 29.6 -0.5
baz=180
M57A Sunshine Farm, 53.65 360 IAmb IAmb 21 43 44.2
comp=Z,20nm,0.7s
N49A Columbus Grove 53.66 353 IAmb IAmb 21 43 42.9
comp=Z,31nm,1.1s
121A Cookes Peak, D 53.67 328 P P 21 43 31.7 +1.1
baz=142,SNR=6.5
121A Cookes Peak, D 53.67 328 IAmb IAmb 21 43 47.1
comp=Z,26nm,0.9s
M58A Price's Panora 53.69 0 P P 21 43 30.3 -0.1
baz=180
N48A Decatur 53.70 352 P P 21 43 29.6 -0.8
baz=170
M61A Granite Spring 53.71 3 P P 21 43 30.2 -0.3
baz=184
N47A Urbana 53.81 352 IAmb IAmb 21 43 43.6
comp=Z,29nm,0.8s
M55A Ridgway 53.81 358 P P 21 43 30.5 -0.8
baz=178
M56A Emporium 53.81 359 P P 21 43 30.5 -0.7
baz=178
M53A WI Miller and 53.86 357 P P 21 43 31.3 -0.3
baz=175
M59A Waymart 53.88 1 P P 21 43 31.5 -0.2
baz=182
M54A Oil Creek Stat 53.88 357 P P 21 43 30.9 -0.8
baz=177
M62A Hamden 53.89 4 P P 21 43 32.0 +0.3
baz=185
M63A Gales Ferry 53.91 5 P P 21 43 31.4 -0.5
baz=186
M52A Chesterland 54.01 356 P P 21 43 31.9 -0.8
baz=175
HDIL Hopedale 54.09 348 P P 21 43 32.7 -0.6
baz=165
M47A Cromwell 54.27 352 P P 21 43 33.7 -0.8
baz=170
L57A Andrews Acres 54.32 0 P P 21 43 34.8 -0.2
baz=180
L53A Girard 54.35 357 P P 21 43 34.7 -0.5
baz=176
L60A Shokan 54.36 3 P P 21 43 35.3 +0.1
baz=183
BNM Barren Site 54.37 330 P P 21 43 35.0 -0.8
L58A Harry Jones Me 54.37 1 P P 21 43 35.3 0.0
baz=181
L63A North Scituate 54.40 5 P P 21 43 35.5 0.0
baz=186
L56A Greenwood 54.45 359 P P 21 43 35.4 -0.5
baz=179
L55A Hinsdale 54.52 359 P P 21 43 35.8 -0.6
baz=178
BINY Binghamton 54.52 1 P P 21 43 36.5 +0.1
baz=181,SNR=6.1
BINY Binghamton 54.52 1 IAmb IAmb 21 43 50.6
comp=Z,22nm,0.7s
L59A Walton 54.53 2 P P 21 43 36.4 -0.1
baz=182,SNR=5.7
L59A Walton 54.53 2 IAmb IAmb 21 43 51.0
comp=Z,22nm,0.8s
L64A Middleborough 54.55 6 P P 21 43 36.0 -0.5
baz=187
N41A Harden Midland 54.56 347 IAmb IAmb 21 43 49.6
comp=Z,25nm,0.8s
L54A Sinclairville 54.59 358 P P 21 43 36.4 -0.5
baz=177
L61A Hillsdale 1, H 54.60 3 P P 21 43 37.0 +0.1
baz=184
L61B Northampton 54.91 4 P P 21 43 38.7 -0.4
baz=185
ANMO Albuquerque 54.92 330 P P 21 43 40.1 +0.4
baz=144
ANMO Albuquerque 54.92 330 *c* P P 21 43 40.1 +0.4
ANMO pmax pmax
comp=Z,18nm,1.3s
ANMO Albuquerque 54.92 330 P P 21 43 39.0 -0.7
ANMO IAmb IAmb 21 43 56.6
comp=Z,29nm,1.1s
K54A Basiliko Farm, 54.95 358 P P 21 43 38.8 -0.7
baz=178
HRV Adam Dziewonsk 55.05 5 P P 21 43 40.3 +0.1
baz=186
K57A Scipio Center 55.05 0 P P 21 43 39.5 -0.7
baz=180
K61A Williamstown 55.09 3 P P 21 43 40.1 -0.5
baz=184
K58A Earlville 55.09 1 P P 21 43 40.3 -0.2
baz=182
K58A Earlville 55.09 1 IAmb IAmb 21 43 54.6
comp=Z,30nm,1.3s
K59A Cooperstown 55.12 2 P P 21 43 40.6 -0.2
baz=182
TRY Troy 55.13 3 P P 21 43 39.6 -1.2
TRY IAmb IAmb 21 43 55.6
comp=Z,28nm,1.0s
TUC Tucson 55.13 325 P P 21 43 41.7 +0.6
baz=138
TUC Tucson 55.13 325 P P 21 43 41.2 +0.1
TUC pmax pmax
comp=Z,13nm,1.0s
TUC Tucson 55.13 325 P P 21 43 41.2 +0.1
K62A Royalston 55.15 4 P P 21 43 41.2 +0.2
baz=186
CBKS Cedar Bluff 55.38 338 P P 21 43 42.4 -0.3
baz=153
K47A Vermontville 55.48 353 P P 21 43 42.7 -0.5
baz=170
K48A Perry 55.51 354 P P 21 43 41.9 -1.6
baz=171
J56A Wolcott 55.59 0 P P 21 43 42.5 -1.6
baz=180
J56A Wolcott 55.59 0 IAmb IAmb 21 43 57.4
comp=Z,22nm,0.8s
J52A Paris 55.65 357 P P 21 43 43.2 -1.3
baz=176,SNR=5.3
J60A Lant Hill Farm 55.65 3 P P 21 43 44.9 +0.3
baz=184,SNR=5.3
J58A Remsen 55.70 1 P P 21 43 44.7 -0.2
baz=182
J57A Williamstown 55.73 1 P P 21 43 44.7 -0.4
baz=181
J62A Henniker 55.74 5 P P 21 43 44.8 -0.4
baz=186
ACCN Adirondack Com 55.78 3 IAmb IAmb 21 44 00.3
comp=Z,53nm,1.4s
T25A Trinidad 55.79 334 P P 21 43 46.3 +0.3
baz=147,SNR=8.2
J61A Chester 55.81 4 P P 21 43 45.4 -0.2
baz=185
J59A Piesco 55.83 2 P P 21 43 45.7 -0.1
baz=183
J63A Strafford 55.85 5 P P 21 43 46.2 +0.2
baz=187
J49A Marlette 55.96 355 P P 21 43 45.9 -0.8
baz=173
J48A Bridge Port 55.96 354 P P 21 43 46.1 -0.6
baz=172
K43A Bungon 56.00 350 IAmb IAmb 21 43 47.0
comp=Z,44nm,1.1s
J47A Sunmer 56.02 353 P P 21 43 46.5 -0.6
baz=171
214A Organ Pipe Nat 56.03 323 P P 21 43 48.0 +0.4
baz=136,SNR=5.6
214A Organ Pipe Nat 56.03 323 IAmb IAmb 21 44 03.9
comp=Z,16nm,0.8s
I58A Old Forge 56.03 2 P P 21 43 47.1 -0.2
baz=182
I59A Olmsteadville 56.18 3 P P 21 43 48.0 -0.3
baz=184
I51A Listowel 56.24 356 P P 21 43 47.1 -1.6
baz=175
I60A Shoreham 56.26 3 P P 21 43 48.8 -0.1
baz=184,SNR=5.7
I57A Carthage 56.27 1 P P 21 43 48.6 -0.3
baz=181
I61A Oroboro, Fairl 56.41 4 P P 21 43 50.5 +0.5
baz=186,SNR=5.1
I55A Frankford 56.53 359 P P 21 43 50.8 0.0
baz=179
JFWS Jewell Farm 56.56 348 P P 21 43 50.5 -0.6
baz=164
I64A Boothbay 56.63 6 P P 21 43 51.0 -0.4
baz=188
KSCO Kaye Shedlock' 56.64 336 P P 21 43 51.4 -0.4
baz=186
KSCO Kaye Shedlock' 56.64 336 IAmb IAmb 21 44 06.4
comp=Z,24nm,0.8s
I63A Otisfield 56.67 6 P P 21 43 51.9 +0.1
baz=187
W18A Petrified Fore 56.70 328 P P 21 43 53.0 +0.6
baz=141
LBNH Lisbon 56.74 4 P P 21 43 52.5 +0.2
baz=186
LBNH Lisbon 56.74 4 IAmb IAmb 21 44 07.2
comp=Z,39nm,1.4s
SDCO Great Sand Dun 56.77 333 P P 21 43 53.5 +0.5
baz=146,SNR=12
SDCO Great Sand Dun 56.77 333 IAmb IAmb 21 44 08.5
comp=Z,27nm,0.9s
H58A Gabriels 56.79 2 P P 21 43 52.6 -0.1
baz=183
DELO Deloro Mine 56.84 359 IAmb IAmb 21 43 53.0
comp=Z,31nm,1.4s
H55A Twed 56.87 360 P P 21 43 52.5 -0.6
baz=180
H53A Bobcaygeon 56.91 359 P P 21 43 52.9 -0.6
baz=178
H56A Elgin 56.91 1 P P 21 43 53.1 -0.4
baz=181
LONY Lake Ozonia 56.98 2 P P 21 43 54.0 0.0
baz=183
H60A Morristown 57.01 4 P P 21 43 54.0 -0.2
baz=185
H61A Lyndonville 57.03 4 P P 21 43 54.7 +0.3
baz=186
H59A Cadyville 57.04 3 P P 21 43 54.7 +0.3
baz=184
X16A Lo Mia Camp, P 57.08 326 IAmb IAmb 21 44 12.0
comp=Z,20nm,0.9s
H62A Milan 57.13 5 P P 21 43 54.7 -0.3
baz=187
BGNE Belgrade 57.17 341 P P 21 43 54.9 -0.6
baz=155
FRNY Flat Rock 57.23 3 IAmb IAmb 21 44 11.6
comp=Z,29nm,1.1s
H48A Harrisville 57.31 355 P P 21 43 55.4 -0.9
baz=172
H46A Fife Lake 57.34 353 P P 21 43 55.2 -1.3
baz=170
H64A Troy 57.39 7 P P 21 43 56.7 -0.2
baz=189
G57A Newington 57.45 2 P P 21 43 56.7 -0.6
baz=182
G58A Ormstown 57.52 2 P P 21 43 57.6 -0.2
baz=183
H65A Eastbrook 57.56 7 P P 21 43 58.0 0.0
baz=190
G60A Masonville 57.57 4 P P 21 43 57.5 -0.6
baz=185
G55A Calabogie 57.57 0 P P 21 43 57.3 -0.8
baz=180
Q24A Divide 57.64 334 P P 21 43 58.3 -0.8
baz=147
G54A Lake Saint Pet 57.72 359 P P 21 43 59.0 -0.3
baz=179
MVCO Mesa Verde 57.73 330 P P 21 44 00.1 +0.4
baz=143
MVCO Mesa Verde 57.73 330 IAmb IAmb 21 44 15.2
comp=Z,18nm,0.9s
H66A Whiting 57.77 8 P P 21 43 60.0 +0.5
baz=191
ORIO Orleans, Innes 57.78 1 P P 21 43 59.0 -0.6
baz=182
G61A St-Isidore-de- 57.81 5 P P 21 44 00.6 +0.8
baz=186,SNR=10
G63A Kingsbury 57.81 6 P P 21 44 00.3 +0.4
baz=188
G47A Hillman 57.83 354 P P 21 43 59.6 -0.3
baz=172
G62A West of Eustis 57.83 5 P P 21 44 00.3 +0.3
baz=187,SNR=8.6
G62A West of Eustis 57.83 5 P P 21 43 58.6 -1.4
G62A IAmb IAmb 21 44 15.3
comp=Z,35nm,1.0s
WUAZ Wupatki 57.87 327 P P 21 44 01.8 +1.2
baz=139,SNR=6.5
WUAZ Wupatki 57.87 327 IAmb IAmb 21 44 17.6
comp=Z,28nm,0.9s
PKME Peaks-Kenny Pk 58.00 6 P P 21 44 00.4 -0.7
baz=189
G64A Maxfield 58.05 7 P P 21 44 01.5 0.0
baz=189
G46A Petoskey 58.07 353 P P 21 44 00.7 -1.0
baz=171
OGNE Ogallala 58.09 338 P P 21 44 02.0 0.0
baz=151
G65A Princeton 58.14 8 P P 21 44 02.6 +0.5
baz=191,SNR=6.8
G65A Princeton 58.14 8 IAmb IAmb 21 44 03.6
comp=Z,24nm,0.9s
F52A Sundridge 58.15 358 P P 21 44 01.8 -0.4
baz=177
ALGO Algonquin Park 58.28 359 P P 21 44 02.4 -0.6
baz=179
Y12C Blythe 58.32 323 P P 21 44 03.6 -0.1
baz=136
Y12C Blythe 58.32 323 IAmb IAmb 21 44 21.2
comp=Z,14nm,0.9s
F63A Nahmakanta, Br 58.45 6 P P 21 44 03.6 -0.7
baz=189
F60A Warwick 58.46 4 P P 21 44 04.2 -0.1
baz=186,SNR=5.2
IKP In-Ko-Pah, Jac 58.50 321 P P 21 44 05.7 +0.7
baz=134
PDMCI Parker Dam,Lak 58.50 324 P P 21 44 04.9 +0.1
baz=136
ISCO Idaho Springs 58.53 334 P P 21 44 05.5 +0.1
baz=147,SNR=5.8
ISCO Idaho Springs 58.53 334 IAmb IAmb 21 44 20.2
comp=Z,14nm,0.8s
F61A St Evariste 58.54 5 P P 21 44 04.9 0.0
baz=187
E53A Dumoine, Ponti 58.70 359 P P 21 44 05.9 -0.1
baz=179
F64A Sherman 58.70 7 P P 21 44 06.4 +0.4
baz=190
F64A Sherman 58.70 7 P P 21 44 05.8 -0.2
F64A IAmb IAmb 21 44 20.8
comp=Z,20nm,1.0s
PV18 Skein Mesa, Pa 58.75 331 IAmb IAmb 21 44 21.8
comp=Z,19nm,1.0s
E54A Lac Daplat, Po 58.75 360 P P 21 44 05.7 -0.7
baz=180
PV12 Saucer Basin, 58.75 331 IAmb IAmb 21 44 23.4
comp=Z,32nm,1.0s
PV11 David Mesa, Pa 58.77 331 IAmb IAmb 21 44 58.3
comp=Z,16nm,0.8s
PV07 Paradox Valley 58.77 331 IAmb IAmb 21 44 22.9
comp=Z,16nm,1.1s
E57A Chemin Saint G 58.78 2 P P 21 44 06.3 -0.3
baz=183,SNR=7.2
E58A La Victoria 58.78 3 P P 21 44 06.4 -0.1
baz=184
BC3 Big Chuckawall 58.80 323 P P 21 44 08.2 +1.1
baz=135,SNR=7.0
ECSD EROS Data Cent 58.85 343 P P 21 44 06.0 -1.1
baz=157,SNR=16
ECSD EROS Data Cent 58.85 343 IAmb IAmb 21 44 21.3
comp=Z,20nm,0.9s
MONP2 Monument Peak 58.85 321 P P 21 44 07.1 -0.5
baz=134
E56A St. Veronique 58.88 2 P P 21 44 06.5 -0.8
baz=182,SNR=7.8
E51A G1948 Merrick 58.89 358 P P 21 44 06.1 -1.3
baz=177
E60A Ste Agathe de 58.89 4 P P 21 44 06.8 -0.5
baz=186
W13A Hualapai Mount 58.93 325 IAmb IAmb 21 44 25.3
comp=Z,25nm,1.0s
IRM Iron Mountain 58.98 323 P P 21 44 08.1 -0.1
baz=135,SNR=28
E61A Lac Etchemin 59.03 5 P P 21 44 08.6 +0.2
baz=187
U15A North Rim 59.04 327 IAmb IAmb 21 44 25.5
comp=Z,19nm,0.9s
E47A Iron Bridge 59.04 355 P P 21 44 07.7 -0.6
baz=173
NEE2 Needles Airpor 59.11 324 P P 21 44 09.5 +0.4
baz=136
LMN Caledonia Moun 59.19 10 IAmb IAmb 21 44 23.9
comp=Z,18nm,0.9s
E63A Oxbow 59.24 7 P P 21 44 10.0 +0.3
baz=190
SPMN Marine on St. 59.30 347 P P 21 44 09.2 -0.9
baz=162
SPMN Marine on St. 59.30 347 IAmb IAmb 21 44 25.6
comp=Z,25nm,1.1s
D52A ZEK Kipawa Sen 59.30 359 P P 21 44 10.0 -0.2
baz=178
E64A Bridgewater 59.31 7 P P 21 44 10.4 +0.2
baz=190
E62A Clayton Lake 59.31 6 P P 21 44 10.8 +0.5
baz=188
E62A Clayton Lake 59.31 6 IAmb IAmb 21 44 25.5
comp=Z,40nm,1.3s
D55A Sainte-Anne-du 59.35 1 P P 21 44 09.9 -0.6
baz=182,SNR=6.0
BELC Belle Mtn. Jos 59.37 323 P P 21 44 11.7 +0.6
baz=134,SNR=6.4
PFO Pinyon Flats O 59.37 322 P P 21 44 12.1 +1.0
PFO Pinyon Flats O 59.37 322 P P 21 44 09.8 -1.3
PFO pmax pmax
comp=Z,14nm,1.2s
PFO Pinyon Flats O 59.37 322 P P 21 44 09.8 -1.3
D56A ZEC Mazanza, M 59.40 2 P P 21 44 10.2 -0.7
baz=182,SNR=5.2
D57A Chemin Vers le 59.40 2 P P 21 44 10.7 -0.2
baz=183,SNR=5.4
D53A Lac Vacive, Po 59.40 359 P P 21 44 10.1 -0.8
baz=179
D54A Lac Fusel, La 59.47 0 P P 21 44 09.9 -1.4
baz=180
D60A Saint Jean D'O 59.48 5 P P 21 44 10.9 -0.5
baz=187
D58A Chemin du LacG 59.52 3 P P 21 44 11.7 0.0
baz=184,SNR=12
PQI Presque Isle 59.53 7 IAmb IAmb 21 44 27.1
comp=Z,30nm,1.1s
D50A G1974 Best Tow 59.54 358 P P 21 44 11.1 -0.7
baz=177
N23A Red Feather La 59.59 335 P P 21 44 12.2 -0.4
baz=147
D48A Paudash Townsh 59.65 356 P P 21 44 12.6 0.0
baz=174
GMRC Granite Mounta 59.72 323 P P 21 44 14.4 +1.0
baz=135,SNR=12
LATQ La Tuque 59.82 3 P P 21 44 13.7 0.0
baz=185
D62A Allapoint, All 59.82 6 P P 21 44 13.7 0.0
baz=189,SNR=6.5

D61A	**St Aubert, Com**	**59.83**	**5**	P		**P**		**21 44 13.4**	**-0.3**
	baz=188								
D63A	**Stockholm**	**59.88**	**7**	P		**P**		**21 44 13.9**	**-0.2**
	baz=190								
O20A	**White River Ci**	**59.95**	**333**	P		**P**		**21 44 14.7**	**-0.4**
	baz=144								
O20A	**White River Ci**	**59.95**	**333**	IAmb		IAmb		21 44 30.6	
	comp=Z,19nm,0.8s								
F36A	**Milaca**	**60.06**	**347**	IAmb		IAmb		21 44 15.7	
	comp=Z,21nm,0.8s								
BBRC	**Big Bear Solar**	**60.10**	**322**	P		**P**		**21 44 16.4**	**+0.1**
	baz=134								
HEC	**Hector,Ludlow**	**60.15**	**323**	P		**P**		**21 44 17.6**	**+1.2**
	baz=134								
SUSD	**Miller**	**60.18**	**342**	P		**P**		**21 44 15.3**	**-0.9**
	baz=155								
TUQ	**Turquoise Moun**	**60.33**	**324**	P		**P**		**21 44 18.5**	**+0.8**
	baz=135								
BATG	**Bathurst New B**	**60.39**	**9**	P		**P**		**21 44 17.9**	**+0.3**
BATG				IAmb		IAmb		21 44 19.0	
	comp=Z,23nm,1.0s								
BFSC	**Mount Baldy Ra**	**60.53**	**322**	P		**P**		**21 44 20.0**	**+1.0**
	baz=133,SNR=5.6								
MSU	**Marysvale**	**60.56**	**329**	P		**P**		**21 44 20.3**	**+1.0**
MSU								21 45 04.7	
MSU	**Marysvale**	**60.56**	**329**	P		**P**		**21 44 20.3**	**+1.0**
MSU				PcP		**PcP**		**21 45 04.7**	**+1.3**
SHPR	**Sheep Range**	**60.66**	**325**	P		**P**		**21 44 20.2**	**+0.3**
SHPR				IAmb		IAmb		21 44 36.0	
	comp=Z,17nm,1.0s								
GSC	**Goldstone, Bar**	**60.75**	**323**	P		**P**		**21 44 21.7**	**+1.2**
	baz=134,SNR=5.8								
GSC	**Goldstone, Bar**	**60.75**	**323**	IAmb		IAmb		21 44 36.7	
	comp=Z,15nm,1.0s								
MWC	**Mount Wilson**	**60.76**	**321**	IAmb		IAmb		21 44 37.4	
	comp=Z,18nm,0.8s								
SHOC	**Shoshone, Teco**	**60.86**	**324**	P		**P**		**21 44 22.2**	**+1.1**
	baz=135								
EDW2	**Edwards Air Fo**	**61.17**	**322**	P		**P**		**21 44 24.2**	**+1.0**
	baz=133,SNR=12								
K22A	**Casper**	**61.29**	**335**	P		**P**		**21 44 24.2**	**+0.1**
	baz=147,SNR=9.2								
LRMC	**Laurel Mtn Rad**	**61.39**	**323**	P		**P**		**21 44 25.7**	**+0.8**
	baz=134								
RSSD	**Black Hills**	**61.58**	**338**	P		**P**		**21 44 26.0**	**-0.1**
	baz=150								
RSSD	**Black Hills**	**61.58**	**338**	P		**P**		**21 44 26.4**	**+0.3**
RSSD				pmax		pmax			
	comp=Z,20nm,0.9s								
RSSD	**Black Hills**	**61.58**	**338**	P		**P**		**21 44 26.4**	**+0.3**
RSSD				IAmb		IAmb		21 44 41.0	
	comp=Z,20nm,0.9s								
TPNV	**Topopah Spring**	**61.59**	**325**	P		**P**		**21 44 27.2**	**+1.0**
	baz=135,SNR=12								
TPNV	**Topopah Spring**	**61.59**	**325**	P		**P**		**21 44 27.0**	**+0.8**
TPNV				pmax		pmax			
	comp=Z,14nm,0.9s								
TPNV	**Topopah Spring**	**61.59**	**325**	P		**P**		**21 44 27.0**	**+0.8**
TPNV				IAmb		IAmb		21 44 43.4	
	comp=Z,14nm,0.9s								
FURC	**Furnace Creek,**	**61.60**	**324**	P		**P**		**21 44 27.2**	**+1.2**
	baz=135								
EYMN	**Ely**	**61.64**	**349**	P		**P**		**21 44 24.8**	**-1.3**
	baz=164								
MPMC	**Manual Prospec**	**61.67**	**323**	P		**P**		**21 44 27.2**	**+0.4**
	baz=134,SNR=10								
ISA	**Isabella, Lake**	**61.98**	**322**	P		**P**		**21 44 29.9**	**+1.1**
	baz=133								
TAOE	**Nuku Hiva Isla**	**62.06**	**267**	*e*T		T		22 51 09.5	
	comp=Z,109nm,0.3s								
MATQ	**Matagami**	**62.08**	**360**	P		**P**		**21 44 27.9**	**-1.1**
	baz=179,SNR=7.6								
DUG	**Dugway, Tooele**	**62.16**	**330**	P		**P**		**21 44 31.0**	**+1.0**
	baz=140,SNR=14								
R11A	**Troy Canyon, C**	**62.23**	**326**	P		**P**		**21 44 31.8**	**+1.3**
	baz=136,SNR=13								
CHGQ	**Chibougamau**	**62.27**	**2**	P		**P**		**21 44 29.3**	**-1.0**
	baz=183								
PKM	**Mcpherson Peak**	**62.28**	**321**	P		**P**		**21 44 31.9**	**+0.9**
	baz=131								
B35A	**Bob, Littlefor**	**62.48**	**347**	IAmb		IAmb		21 44 31.8	
	comp=Z,17nm,0.8s								
PDAR	**Pinedale Array**	**62.66**	**333**	P		**P**		**21 44 33.1**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=134,slow=8.5,SNR=20								
PDAR				pP		**pP**		**21 44 46.7**	**-0.1**
	comp=Z,8.2nm,0.9s,baz=142,slow=7.5,SNR=14								
PDAR				LR		LR		22 12 55.3	
	comp=Z,68nm,18.4s,baz=112,slow=37								
SMMC	**Simmler**	**62.67**	**321**	P		**P**		**21 44 34.5**	**+1.2**
	baz=131								
TIN	**Tinemaha, Big**	**62.79**	**324**	P		**P**		**21 44 35.6**	**+1.3**
	baz=134								
AGMN	**Agassiz Nation**	**62.90**	**346**	P		**P**		**21 44 34.2**	**-0.3**
	baz=159,SNR=34								
AHID	**Auburn Hatcher**	**63.34**	**332**	IAmb		IAmb		21 44 53.1	
	comp=Z,22nm,0.9s								
MDND	**Maddock**	**63.45**	**343**	P		**P**		**21 44 38.4**	**+0.1**
	baz=155,SNR=13								
MDPB	**Devils Postpil**	**63.68**	**324**	IAmb		IAmb		21 44 56.7	
	comp=Z,20nm,0.9s								
NV11	**Mina Array Sit**	**63.70**	**325**	IAmb		IAmb		21 44 56.3	
	comp=Z,15nm,0.9s								
NVAR	**Mina Array Bea**	**63.79**	**325**	P		**P**		**21 44 42.0**	**+1.1**
	comp=Z,8.3nm,0.8s,baz=139,slow=6.6,SNR=62								
NVAR				pP		**pP**		**21 44 54.8**	**+0.5**
	comp=Z,2.3nm,0.8s,baz=140,slow=4.6,SNR=23								
NVAR				LR		LR		22 10 22.3	
	comp=Z,74nm,20.5s,baz=40,slow=34								
ELK	**Elko**	**63.80**	**328**	IAmb		IAmb		21 44 57.0	
	comp=Z,20nm,0.9s								
DRLN	**Deer Lake**	**63.93**	**14**	P		**P**		**21 44 41.4**	**+0.1**
RLMT	**Red Lodge**	**64.45**	**335**	P		**P**		**21 44 45.2**	**+0.1**
	baz=145,SNR=6.9								
RLMT	**Red Lodge**	**64.45**	**335**	IAmb		IAmb		21 45 00.0	
	comp=Z,16nm,0.8s								
WAKR	**Walker**	**64.48**	**324**	IAmb		IAmb		21 45 01.9	
	comp=Z,19nm,1.0s								
YERR	**Yerington**	**64.70**	**325**	IAmb		IAmb		21 44 49.3	
	comp=Z,46nm,1.4s								
ULM	**Lac du Bonnet**	**64.73**	**347**	P		**P**		**21 44 45.9**	**-0.6**
	comp=Z,44nm,0.7s,baz=159,slow=6.3,SNR=42								
ULM				LR		LR		22 14 28.4	
	comp=Z,45nm,19.9s,baz=106,slow=37								
PNTR	**Pine Nut**	**64.97**	**324**	IAmb		IAmb		21 45 05.1	
	comp=Z,20nm,1.1s								
PAHR	**Pah Rah Range**	**65.28**	**325**	IAmb		IAmb		21 45 06.9	
	comp=Z,32nm,0.9s								
DGMT	**Dagmar**	**65.41**	**340**	P		**P**		**21 44 51.4**	**+0.3**
	baz=150								
BEKR	**Beckworth**	**65.93**	**325**	IAmb		IAmb		21 44 57.2	
	comp=Z,18nm,0.9s								
DLMT	**Dillon**	**66.05**	**333**	IAmb		IAmb		21 45 10.9	
	comp=Z,17nm,0.9s								
WVOR	**Wild Horse Val**	**66.78**	**328**	IAmb		IAmb		21 47 26.9	
	comp=Z,20nm,1.0s								
EGMT	**Eagleton**	**67.02**	**337**	P		**P**		**21 45 01.6**	**+0.2**
	baz=145								
EGMT	**Eagleton**	**67.02**	**337**	IAmb		IAmb		21 45 16.4	
	comp=Z,19nm,0.9s								
O03E	**Paynes Creek**	**67.04**	**324**	P		**P**		**21 45 01.8**	**0.0**
	baz=132,SNR=5.9								
MOD	**Modoc Plateau**	**67.29**	**326**	IAmb		IAmb		21 45 19.4	
	comp=Z,27nm,0.9s								
J08A	**Circle Bar Ran**	**67.35**	**328**	IAmb		IAmb		21 47 28.9	
	comp=Z,16nm,0.6s								
O02D	**Mt. Diablo Mer**	**67.53**	**324**	P		**P**		**21 45 05.2**	**+0.4**
	baz=131								
SCHQ	**Schefferville**	**67.70**	**6**	P		**P**		**21 45 05.1**	**-0.4**
	comp=Z,10nm,0.7s,baz=197,slow=5.4,SNR=17								
SCHQ				LR		LR		22 14 28.1	
	comp=Z,111nm,21.8s,baz=246,slow=36								
SCHQ	**Schefferville**	**67.70**	**6**	P		**P**		**21 45 04.4**	**-1.1**
MSO	**Missoula**	**67.78**	**334**	P		**P**		**21 45 07.3**	**+0.9**
	baz=141,SNR=8.6								
MSO	**Missoula**	**67.78**	**334**	IAmb		IAmb		21 45 22.7	
	comp=Z,34nm,1.1s								
N02D	**Trinity Center**	**68.01**	**324**	P		**P**		**21 45 08.2**	**+0.4**
	baz=131								
M04C	**Macdoel**	**68.05**	**325**	P		**P**		**21 45 09.0**	**+0.8**
	baz=132,SNR=5.9								
K05A	**Summer Lake**	**68.17**	**327**	IAmb		IAmb		21 45 26.3	
	comp=Z,33nm,1.1s								
M02C	**Callahan**	**68.36**	**324**	P		**P**		**21 45 10.8**	**+0.7**
	baz=131								
KHMM	**Horse Mountain**	**68.53**	**324**	IAmb		IAmb		21 45 46.0	
	comp=Z,33nm,1.2s								
K04D	**Chiloquin, OR**	**68.57**	**326**	P		**P**		**21 45 12.1**	**+0.8**
	baz=132								
L04D	**Klamath Falls**	**68.60**	**325**	P		**P**		**21 45 11.8**	**+0.2**
	baz=132,SNR=5.7								
F10A	**Beach Ranch, E**	**68.63**	**331**	IAmb		IAmb		21 45 14.0	
	comp=Z,13nm,0.7s								
J05D	**Fort Rock, OR**	**68.74**	**327**	P		**P**		**21 45 13.5**	**+1.1**
	baz=133,SNR=8.7								
PINE	**Pine Mountain**	**68.93**	**327**	IAmb		IAmb		21 45 30.0	
	comp=Z,26nm,0.9s								
J04D	**Umpqua Nationa**	**69.18**	**326**	P		**P**		**21 45 16.2**	**+1.0**
	baz=132								
E09A	**Wood Farm, Sta**	**69.46**	**331**	IAmb		IAmb		21 45 32.0	
	comp=Z,18nm,1.0s								
I05D	**Terrebonne, OR**	**69.52**	**328**	P		**P**		**21 45 18.4**	**+1.3**
	baz=133,SNR=7.0								
K02D	**Willamette Mer**	**69.67**	**325**	P		**P**		**21 45 19.4**	**+1.2**
	baz=131								
TIAR	**Tiarei**	**69.70**	**256**	*e*T		T		23 00 46.3	
	comp=Z,2.0nm,0.2s								
I04A	**Tendick Farm,**	**69.71**	**327**	P		**P**		**21 45 19.0**	**+0.6**
	baz=132								
PPT2	**Papeete2**	**69.91**	**256**	*e*LR		LR		22 06 12.6	
	comp=Z,248nm,27.8s								
G05D	**Wamic, OR**	**70.12**	**328**	P		**P**		**21 45 21.6**	**+0.8**
	baz=133								
I03D	**Drain, OR**	**70.16**	**326**	P		**P**		**21 45 21.7**	**+0.8**
	baz=131								
NEW	**Newport**	**70.28**	**333**	P		**P**		**21 45 22.1**	**+0.4**
	baz=138,SNR=6.9								
FFC	**Flin Flon**	**70.32**	**345**	P		**P**		**21 45 20.8**	**-0.9**
FFC				pmax		pmax			
	comp=Z,13nm,0.9s								
FFC	**Flin Flon**	**70.32**	**345**	P		**P**		**21 45 20.8**	**-0.9**
H04D	**Lebanon**	**70.38**	**327**	P		**P**		**21 45 23.1**	**+0.8**
	baz=132								
F05D	**White Salmon**	**70.64**	**329**	P		**P**		**21 45 24.7**	**+0.8**
	baz=134								
VNA3	**Neumayer Olymp**	**70.93**	**162**	P		**P**		**21 45 27.2**	**+1.9**
F04A	**Amboy**	**71.16**	**328**	IAmb		IAmb		21 45 42.8	
	comp=Z,27nm,0.8s								
VNA1	**Neumayer--Stat**	**71.20**	**161**	P		**P**		**21 45 29.1**	**+2.2**
VNA2	**Neumayer--Watz**	**71.55**	**161**	P		**P**		**21 45 30.8**	**+1.7**
	baz=294,slow=6.5								
E04D	**Cinebar**	**71.66**	**329**	P		**P**		**21 45 31.5**	**+1.5**
	baz=133								
D05A	**Enumclaw**	**71.80**	**329**	IAmb		IAmb		21 45 32.6	
	comp=Z,30nm,0.8s								
D03D	**Eldon**	**72.58**	**329**	P		**P**		**21 45 36.1**	**+0.6**
	baz=132								
B05A	**Bryant**	**72.59**	**330**	P		**P**		**21 45 35.9**	**+0.4**
	baz=134,SNR=5.6								
NLWA	**Neilton Lookou**	**72.88**	**329**	IAmb		IAmb		21 45 54.0	
	comp=Z,27nm,0.8s								
SNAA	**Sanae**	**73.15**	**161**	P		**P**		**21 45 40.2**	**+1.5**
SNAA	**Sanae**	**73.15**	**161**	*c i*P		**P**		**21 45 40.0**	**+1.3**
SNAA	**Sanae**	**73.15**	**161**	P		**P**		**21 45 39.9**	**+1.2**
SNAA				IAmb		IAmb		21 45 41.6	
	comp=Z,39nm,1.3s								
A04D	**Lummi Island**	**73.20**	**330**	P		**P**		**21 45 40.1**	**+1.0**
	baz=133								
DBIC	**Dimbokro**	**74.17**	**79**	P		**P**		**21 45 46.0**	**+0.4**
	comp=Z,8.0nm,0.6s,baz=241,slow=6.2,SNR=13								
DBIC				LR		LR		22 16 26.3	
	comp=Z,161nm,20.2s,baz=241,slow=34								
QSPA	**South Pole Qui**	**77.55**	**180**	P		**P**		**21 46 05.1**	**+1.0**
QSPA				IAmb		IAmb		21 46 07.9	
	comp=Z,34nm,1.0s								
NVL	**N'lazarevskaya**	**77.81**	**160**	*e*P		**P**		**21 46 06.3**	**+1.0**
NVL				pmax		pmax			
	comp=Z,25nm,1.0s								
YKA	**Yellowknife Ar**	**80.38**	**343**	P		**P**		**21 46 19.0**	**-0.3**
	comp=Z,5.9nm,0.7s,baz=144,slow=5.8,SNR=33								
YKA				pP		**pP**		**21 46 33.1**	**0.0**
	comp=Z,14nm,1.0s,baz=141,slow=5.9,SNR=13								
YKA				LR		LR		22 23 08.1	
	comp=Z,44nm,21.1s,baz=0.0,slow=37								
PNCL	**Nicolau / Gran**	**81.38**	**48**	*e*P		**P**		**21 46 25.6**	**+0.4**
PNCL				*e*pP		**pP**		**21 46 40.5**	**+1.5**
PCVE	**Castro Verde**	**81.55**	**49**	*e*P		**P**		**21 46 28.0**	**+1.8**
	comp=Z,39nm,1.0s								
PCVE				*e*pP		**sP**		**21 46 43.0**	**-2.2**
PVAQ	**Vaqueiros**	**81.70**	**49**	*e*LR		LR		22 13 32.5	
	comp=Z,105nm,20.0s								
PBEJ	**Beja**	**81.83**	**48**	*e*pP		pP		21 46 42.6	+1.2
EVO	**Evora**	**81.92**	**48**	*e*P		**P**		**21 46 30.1**	**+2.0**
	comp=Z,19nm,1.6s								
EVO				*e*pP		**sP**		**21 46 44.2**	**-3.0**
PMTG	**Montargil**	**81.98**	**47**	*e*P		**P**		**21 46 29.9**	**+1.5**
	comp=Z,38nm,1.0s								
PMTG				*e*pP		**pP**		**21 46 43.5**	**+1.3**
TOA0	**Torodi Ar. Sit**	**82.07**	**75**	IAmb		IAmb		21 46 31.1	
	comp=Z,27nm,0.9s								
TORD	**Torodi Ar. Bea**	**82.07**	**75**	P		**P**		**21 46 30.1**	**+0.7**
	comp=Z,19nm,0.8s,baz=264,slow=5.0,SNR=90								
TORD				LR		LR		22 20 21.7	
	comp=Z,188nm,22.0s,baz=170,slow=34								
PCAS	**Casmilo, Conde**	**82.17**	**46**	*e*P		**P**		**21 46 27.7**	**-1.7**
PCAS				*e*pP		**pP**		**21 46 41.7**	**-1.5**
PMRV	**Marv??o**	**82.71**	**47**	*e*P		**P**		**21 46 33.4**	**+1.2**
	comp=Z,20nm,1.6s								
PMRV				*e*pP		**pP**		**21 46 46.5**	**+0.4**
PMRV	**Marv??o**	**82.71**	**47**	*e*LR		LR		22 14 55.1	
	comp=Z,134nm,22.0s								
PCBR	**Castelo Branco**	**82.81**	**47**	*e*P		**P**		**21 46 33.4**	**+0.7**
	comp=Z,33nm,1.1s								
PCBR				*e*pP		**pP**		**21 46 47.4**	**+0.9**
PVIS	**Viseu**	**82.86**	**46**	*e*P		**P**		**21 46 34.3**	**+1.3**
PVIS				*e*pP		**pP**		**21 46 47.9**	**+1.0**
MTE	**Manteigas**	**82.98**	**46**	*e*P		**P**		**21 46 34.7**	**+1.0**
	comp=Z,25nm,1.1s								
MTE				*e*pP		**pP**		**21 46 48.7**	**+1.2**
MTE	**Manteigas**	**82.98**	**46**	*e*LR		LR		22 14 15.4	
	comp=Z,131nm,22.0s								
PVRL	**Vila Real**	**83.20**	**45**	*e*P		**P**		**21 46 36.0**	**+1.2**
	comp=Z,30nm,1.3s								
PVRL				*e*pP		**pP**		**21 46 49.5**	**+0.9**
MVO	**Moncorvo**	**83.64**	**46**	*e*P		**P**		**21 46 36.4**	**-0.7**
	comp=Z,22nm,1.5s								
MVO				*e*pP		**pP**		**21 46 52.7**	**+1.8**
MVO	**Moncorvo**	**83.64**	**46**	*e*LR		LR		22 14 34.5	
	comp=Z,79nm,20.0s								
PBRG	**Braganca**	**84.08**	**45**	*e*P		**P**		**21 46 40.4**	**+1.1**
	comp=Z,31nm,1.6s								
PBRG				*e*pP		**pP**		**21 46 54.4**	**+1.3**
VNDA	**Vanda**	**84.18**	**191**	P		**P**		**21 46 41.7**	**+2.6**
	comp=Z,4.7nm,0.9s,baz=123,slow=4.4,SNR=24								
VNDA				pP		**sP**		**21 46 56.4**	**-1.8**
	comp=Z,3.7nm,0.9s,baz=123,slow=4.8,SNR=7.8								
VNDA				LR		LR		22 16 35.5	
	comp=Z,77nm,22.0s,baz=136,slow=30								
VNDA	**Vanda**	**84.18**	**191**	P		**P**		**21 46 36.5**	**-2.6**
VNDA				PP		**PP**		**21 49 50.3**	**-3.1**
PAB	**San Pablo**	**84.94**	**48**	P		**P**		**21 46 41.3**	**-2.5**
PAB				pmax		pmax			
	comp=Z,9.0nm,1.0s								
PAB	**San Pablo**	**84.94**	**48**	P		**P**		**21 46 41.3**	**-2.5**
ESDC	**Sonseca Array**	**85.27**	**48**	P		**P**		**21 46 46.0**	**+0.7**
	comp=Z,3.2nm,0.7s,baz=256,slow=5.5,SNR=28								
ESDC				pP		**pP**		**21 47 00.8**	**+1.6**
	comp=Z,1.9nm,0.6s,baz=258,slow=5.3,SNR=6.7								
ESDC				LR		LR		22 20 04.8	
	comp=Z,136nm,21.7s,baz=230,slow=32								
HYT	**Haines Junctio**	**87.33**	**335**	IAmb		IAmb		21 47 11.8	
	comp=Z,20nm,1.5s								
SYO	**Syowa Base**	**87.44**	**161**	‖ *e*P		**P**		**21 46 55.2**	**-0.1**
SYO	**Syowa Base**	**87.44**	**161**	‖ *i*PcP		**PcP**		**21 46 56.9**	**-0.4**
TAM	**Tamanrasset**	**88.04**	**66**	P		**P**		**21 46 56.3**	**-3.0**
TAM				pmax		pmax			
	comp=Z,10.0nm,1.2s								
TAM	**Tamanrasset**	**88.04**	**66**	P		**P**		**21 46 56.3**	**-3.0**
PCA	**Pinnacle**	**88.14**	**333**	IAmb		IAmb		21 47 01.4	
	comp=Z,20nm,1.1s								
SUMG	**Summit**	**88.65**	**11**	*i* P		**P**		**21 47 01.9**	**+0.5**
SUMG				*i*				21 47 16.8	
SUMG	**Summit**	**88.65**	**11**	*i* P		**P**		**21 47 01.9**	**+0.5**
SUMG				*i*				21 47 16.8	
YAH	**Yahtse**	**88.92**	**333**	IAmb		IAmb		21 47 51.0	
	comp=Z,14nm,0.9s								
BALM	**Baldy**	**89.49**	**334**	IAmb		IAmb		21 47 21.2	
	comp=Z,26nm,1.5s								
EPYK	**Eagle Plains**	**90.00**	**340**	P		**P**		**21 47 07.5**	**+0.1**
	baz=122								
EPYK	**Eagle Plains**	**90.00**	**340**	IAmb		IAmb		21 47 23.1	
	comp=Z,23nm,1.2s								
VRDI	**Verde Repeater**	**90.06**	**334**	IAmb		IAmb		21 47 10.1	
	comp=Z,26nm,1.5s								
A36M	**Sachs Harbour**	**90.21**	**347**	P		**P**		**21 47 07.7**	**-0.5**
	baz=133								
GLB	**Gilahina Butte**	**90.31**	**334**	IAmb		IAmb		21 47 10.4	
	comp=Z,26nm,1.6s								
SCO	**Scoresbysund**	**90.91**	**16**	*i* P		**P**		**21 47 11.9**	**+0.4**
SCO				*i*				21 47 26.1	
SCO	**Scoresbysund**	**90.91**	**16**	*e*P		**P**		**21 47 11.9**	**+0.4**
SCO				*i*				21 47 26.1	
DOT	**Dot Lake**	**91.39**	**336**	IAmb		IAmb		21 47 15.0	
	comp=Z,12nm,1.0s								
SCRK	**Sand Creek**	**91.50**	**336**	IAmb		IAmb		21 47 15.6	
	comp=Z,12nm,1.1s								
SML	**Sawmill**	**92.43**	**333**	IAmb		IAmb		21 47 19.6	
	comp=Z,18nm,1.2s								
DHY	**Denali Highway**	**92.51**	**335**	IAmb		IAmb		21 47 20.1	
	comp=Z,13nm,1.3s								
GHO	**Glory Hole Cre**	**92.68**	**333**	IAmb		IAmb		21 47 20.8	
	comp=Z,12nm,1.2s								
PRP	**Porcupine Dome**	**92.76**	**337**	IAmb		IAmb		21 47 36.0	
	comp=Z,10nm,1.1s								
HDA	**Harding Lake**	**92.86**	**336**	P		**P**		**21 47 20.3**	**-0.3**
	baz=113								
ILAR	**Eielson Array**	**92.98**	**336**	P		**P**		**21 47 20.9**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=152,slow=3.4,SNR=18								
ILAR				PP		PP		21 51 14.3	+10
	comp=Z,1.5nm,0.9s,baz=109,slow=7.3,SNR=7.2								
ILAR				LR		LR		22 33 03.1	
	comp=Z,36nm,19.5s,baz=117,slow=38								
POKR	**Poker Plat Res**	**93.33**	**336**	P		**P**		**21 47 22.9**	**+0.1**
	baz=113								
WRH	**Wood River Hil**	**93.34**	**336**	IAmb		IAmb		21 47 23.7	
	comp=Z,8.3nm,0.9s								
COLA	**College**	**93.40**	**336**	*d i*P		**P**		**21 47 23.2**	**+0.1**
COLA				pmax		pmax			
	comp=Z,12nm,1.0s								
TRF	**Thorofare Moun**	**93.87**	**334**	IAmb		IAmb		21 47 41.9	
	comp=Z,21nm,1.6s								
KTH	**Kantishna Hill**	**94.17**	**334**	IAmb		IAmb		21 47 27.5	
	comp=Z,10nm,1.0s								
KEST	**Kesra**	**94.30**	**55**	LR		LR		22 29 38.1	
	comp=Z,59nm,19.8s,baz=254,slow=35								
BMRD	**Maredsous**	**94.37**	**40**	PcP		**P**		**21 47 27.8**	**-0.1**
BOSA	**Boshof**	**94.51**	**120**	LR		LR		22 28 49.6	
	comp=Z,92nm,19.0s,baz=260,slow=35								
MAW	**Mawson**	**94.93**	**166**	P		**P**		**21 47 31.1**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=193,slow=7.4,SNR=8.4								
MAW				LR		LR		22 26 54.4	
	comp=Z,87nm,21.9s,baz=236,slow=33								
TOLK	**Toolik Lake Re**	**95.43**	**339**	P		**P**		**21 47 32.3**	**-0.2**
	baz=110								
TOLK	**Toolik Lake Re**	**95.43**	**339**	IAmb		IAmb		21 47 44.7	
	comp=Z,4.8nm,0.7s								
DAVA	**Damuels**	**97.02**	**43**	*e*PcP		**P**		**21 47 41.5**	**+1.2**
	comp=Z,3.2nm,0.8s								
RETA	**Reutte**	**97.64**	**43**	*e*PcP		Pdif		21 47 43.5	+0.4
	comp=Z,2.6nm,0.8s								
MOTA	**Moosalm**	**97.84**	**43**	*e*PcP		Pdif		21 47 44.3	+0.2
	comp=Z,4.8nm,0.9s								
SQTA	**Sankt Quirin**	**97.89**	**43**	*e*PcP		**P**		**21 47 44.9**	**+0.7**
	comp=Z,5.9nm,1.2s								
CTI	**Castel Tesino**	**97.99**	**45**	IAmb		IAmb		21 47 45.8	
	comp=Z,7.6nm,0.8s								
WATA	**Walderalm**	**98.16**	**43**	*e*PcP		**P**		**21 47 46.0**	**+0.6**
	comp=Z,4.4nm,1.1s								
WTTA	**Wattenberg**	**98.19**	**43**	*e*PcP		**P**		**21 47 45.7**	**+0.1**
	comp=Z,4.3nm,0.7s								
CIMO	**Cimolais**	**98.58**	**45**	P		**P**		**21 47 45.9**	**-1.2**
ABTA	**Abfaltersbach**	**98.70**	**44**	*e*Pdiff		Pdif		21 47 48.4	+0.7
	comp=Z,4.8nm,0.9s								
KBA	**Koelnbreinsper**	**99.31**	**44**	*e*Pdiff		**Pdif**		**21 47 51.1**	**+0.4**
	comp=Z,3.6nm,1.1s								
KHC	**Kasperske Hory**	**99.76**	**42**	‖ *e*P		**Pdif**		**21 47 52.5**	**+0.1**
KHC				pmax		pmax			
	comp=Z,3.0nm,1.2s				

comp=Z,1.6nm,0.6s,baz=359,slow=2.7,SNR=12
ZAK Zakamensk 142.31 360 *e*PKHKP PKPpre 21 53 36.0
ZAK pmax pmax
comp=Z,4.0nm,1.3s
KSH Kashi 144.07 37 PKP **PKPdf 21 53 43.6 -0.7**
KSH PKS **PKSdf 21 57 15.9 -4.1**
KSH SKS **SKSdf 22 00 45.5 -4.7**
KSH LR LR
comp=Z,120nm,10.5s
ULN Ulaanbaatar 144.67 355 *ce*PKIKP PKPbc 21 53 44.5 +0.5
ULN Ulaanbaatar 144.67 355 PKPdf **PKPdf 21 53 44.9 -0.2**
SONM Songino Array 144.75 356 PKP **PKPdf 21 53 44.8 -0.4**
comp=Z,27nm,0.7s,baz=325,slow=2.3,SNR=165
SONM pPKP **pPKPdf 21 54 00.5 +0.8**
comp=Z,11nm,0.8s,baz=342,slow=2.4,SNR=6.8
NIL Nilore 145.72 47 PKIKP **PKPbc 21 53 47.7 +0.1**
NIL Nilore 145.72 47 PKPdf **PKPbc 21 53 47.7 +0.1**
WMQ Urumqi 146.19 20 *e*PKPbc **PKPbc 21 53 48.8 0.0**
WMQ LR LR
comp=Z,100nm,20.9s
WMQ LR LR
comp=Z,120nm,26.3s
WMQ LR LR
comp=Z,170nm,22.7s
KSRS Korea Array 146.71 322 PKPbc **PKPbc 21 53 49.9 -0.5**
comp=Z,12nm,0.8s,baz=50,slow=2.1,SNR=48
KSRS pPKPbc pPKPab 21 54 05.7 0.0
comp=Z,17nm,0.8s,baz=46,slow=2.0,SNR=15
DL2 Dalian 149.02 331 PKPbc **PKPbc 21 53 55.9 -0.6**
SOEI Soe 149.38 225 **PKPbc 21 53 58.9 +0.5**
BJI Beijing 150.30 339 PKPbc **PKPbc 21 53 59.5 -0.1**
BJI sPKP 21 54 14.9
BJT Baijiatuau 150.32 339 PKIKP **PKPdf 21 53 53.1 -1.4**
BJT Baijiatuau 150.32 339 PKPdf **PKPdf 21 53 53.1 -1.4**
BJT **PKPbc 21 53 59.6 -0.1**
HHC Hu-ho-hao-te 150.87 347 *e*P **PKiKP 21 54 01.9 +0.1**
HHC sP pPKPbc 21 54 17.2 +1.7
HHC LR LR
comp=N,180nm,22.4s
HHC LR LR
comp=E,170nm,20.8s
HHC LR LR
comp=Z,63nm,21.5s
BTO Baotou 151.42 349 *e*P **PKPbc 21 54 01.8 -0.6**
GTA Gaotai 153.13 6 ⇑PKPbc **PKPdf 21 54 00.1 +1.1**
GTA PKPab **pPKPbc 21 54 21.9 +1.1**
GTA PP **PP 21 57 55.0 +4.8**
GTA SS SS 22 17 24.2 +4.8
GTA AMB AMB
comp=Z,37nm,8.6s
GTA LR LR
comp=Z,53nm,19.4s
GTA LR LR
comp=Z,60nm,20.6s
GTA LR LR
comp=Z,94nm,19.4s
PYUN Piuthan 155.75 47 *e*P **PKPab 21 54 30.5 +0.9**
NJ2 Nanjing 155.78 326 *e*PKP **PKPdf 21 54 03.0 +0.4**
DANN Dangsing 156.15 46 *e*P **PKPab 21 54 32.4 +1.0**
comp=Z,72nm,0.8s
KOLN Koldanda 156.38 47 *e*P **PKPab 21 54 32.4 +0.1**
LZH Lanzhou 156.59 358 *e*PKP **PKPdf 21 54 06.5 +2.6**
LZH pPKP pPKPdf 21 54 16.2 -2.1
LZH sPKP 21 54 22.3
LZH LR LR
comp=Z,110nm,15.6s
LZH LR LR
comp=Z,110nm,17.0s
LZH LR LR
comp=Z,140nm,18.5s
GKN Gorkha 156.97 45 *e*P **PKPab 21 54 35.5 +0.8**
comp=Z,43nm,0.8s
DMN Daman 157.54 46 *e*P **PKPab 21 54 38.3 +1.0**
comp=Z,55nm,0.7s
PKIN Phulchoki 157.76 45 *e*P **PKPab 21 54 38.8 +0.5**
comp=Z,35nm,0.6s
PKI Pulchoki 157.77 45 *e*P **PKPab 21 54 38.9 +0.5**
comp=Z,34nm,0.7s
GUN Gumba 157.88 44 *e*P **PKPab 21 54 40.0 +1.1**
comp=Z,105nm,1.1s
XAN Xi'an 157.98 347 PKP **PKPdf 21 54 06.1 +0.6**
XAN pPKP pPKPdf 21 54 20.7 +0.7
XAN sPKP 21 54 28.2
JIRN Jiri 158.25 44 *e*P **PKPab 21 54 41.2 +0.7**
comp=Z,35nm,1.0s
RAMN Ramite 158.99 45 *e*Pn **PKPab 21 54 43.4 -0.2**
LSA Lhasa 159.71 31 PKP **PKPdf 21 54 09.7 +1.5**
CD2 Chengdu 161.75 358 PKP **PKPdf 21 54 08.8 -1.1**
SHL Shillong 163.35 38 PKIKP **PKPdf 21 54 11.6 -0.2**
SHL Shillong 163.35 38 PKPdf **PKPdf 21 54 11.6 -0.2**
SHL **PKPab 21 55 03.2 +0.7**
GYA Guiyang 165.78 347 ⇓*i*PKP **PKPdf 21 54 15.0 +1.2**
GYA pPKP pPKPdf 21 54 27.6 -0.7
GYA PKPab **PKPab 21 55 14.9 +1.9**
GYA SKS **SKSdf 22 01 09.5 -5.0**
GYA SKKS **SKKSac 22 05 39.5 -4.7**
GYA AMB AMB
comp=Z,50nm,5.0s
GYA LR LR
comp=Z,30nm,4.7s
KSM Kuching 166.81 214 **PKPdf 21 54 13.9 -0.9**
KSM PKPab **PKPab 21 55 19.5 +1.7**
SLVN Son La 171.26 355 PKPdf **PKPdf 21 54 17.8 +0.3**
CMAR Chiang Mai Arr 172.96 33 PKP **PKPdf 21 54 19.1 +0.8**
comp=Z,3.8nm,0.8s,baz=283,slow=1.7,SNR=21
CMAR pPKP **pPKPdf 21 54 33.8 +1.1**
comp=Z,2.9nm,1.0s,baz=291,slow=1.7,SNR=4.4
CMAR PKPab **PKPab 21 55 45.2 +0.3**
comp=Z,1.2nm,0.8s,baz=318,slow=6.1,SNR=5.3
PBKT Sadao Pong 175.57 26 **PKPdf 21 54 16.2 -2.9**
PBKT PKPab **PKPab 21 55 54.5 -1.9**

*MDD **03** 21:47:27.6±1.6, 37°.25N×13°.94W, h0km, mb4.4/14, Error ellipse: s-maj=14.0km s-min=11.1km az=59.0, PRXIMO*
*IGIL **03** 21:47:27.3, 37°.01N×14°.32W, h31km, ML2.8*
*INMG **03** 21:47:29.2±1.9, 37°.08N×14°.33W, h10km, ML2.8, Error ellipse: s-maj=6.1km s-min=4.9km az=81.0*
ISC 03 21:47:27.1±3.5, 37°.35N±0°.09×13°.9W±0°.2, h10km, n70, σ1s74/132, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**3.97**	**65**	P			**Pn**	**21 48 29.9**	**+1.9**
	6.5nm,0.1s,SNR=7.9								
PMAFR				S			**Sn**	**21 49 15.5**	**+0.9**
	15nm,0.3s,SNR=7.9								
PMAFR	**Mafra**	**3.97**	**65**	*e*Pn			**Pn**	**21 48 30.2**	**+2.2**
PMAFR				*e*Sn			**Sn**	**21 49 16.7**	**+2.1**
PMAFR				A			A	21 49 23.1	
	27nm,0.3s								
PFVI	**Vila Bisbo**	**4.04**	**92**	P			**Pn**	**21 48 29.8**	**+0.8**
	3.4nm,0.1s,SNR=7.9								
PFVI				S			**Sn**	**21 49 14.6**	**-1.9**
	0.1nm,0.4s,SNR=7.9								
PFVI	**Vila Bisbo**	**4.04**	**92**	*e*Pn			**Pn**	**21 48 30.0**	**+0.9**
PFVI				*e*Sn			**Sn**	**21 49 14.9**	**-1.6**
PFVI				A			A	21 49 24.2	
	11nm,0.4s								
PTEO	**Sao Teotonio**	**4.11**	**86**	P			**Pn**	**21 48 31.0**	**+1.0**
PTEO				S			**Sn**	**21 49 17.4**	**-0.8**
	5.1nm,0.6s								
PTEO	**Sao Teotonio**	**4.11**	**86**	*e*Pn			**Pn**	**21 48 31.0**	**+1.0**
PTEO				*e*Sn			**Sn**	**21 49 17.4**	**-0.8**
PTEO				A			A	21 49 22.2	
	10nm,0.6s								
MORF	**Marmelete**	**4.17**	**89**	*e*P			**Pn**	**21 48 31.7**	**+0.8**
MORF				*e*S			**Sn**	**21 49 18.6**	**-1.2**
MORF				AML			AML	21 49 23.1	
	comp=N,18nm,0.2s								
MORF	**Marmelete**	**4.17**	**89**	P			**Pn**	**21 48 32.0**	**+1.1**
MORF				S			**Sn**	**21 49 19.6**	**-0.2**
	comp=N,8.8nm,0.1s								
MORF	**Marmelete**	**4.17**	**89**	*e*Pn			**Pn**	**21 48 32.0**	**+1.1**
MORF				*e*Sn			**Sn**	**21 49 19.6**	**-0.2**
MORF				A			A	21 49 25.0	
	comp=N,8.8nm,0.1s								
PNCL	**Nicolau / Gran**	**4.32**	**78**	P			**Pn**	**21 48 34.0**	**+1.2**
PNCL				S			**Sn**	**21 49 22.9**	**-0.3**
	comp=N,7.0nm,0.3s								
PNCL	**Nicolau / Gran**	**4.32**	**78**	*e*Pn			**Pn**	**21 48 34.0**	**+1.2**
PNCL				*e*Sn			**Sn**	**21 49 22.9**	**-0.3**
PNCL				A			A	21 49 27.6	
	comp=N,7.0nm,0.3s								
MESJ	**Messejana**	**4.53**	**82**	*e*P			**Pn**	**21 48 36.9**	**+1.2**
MESJ				*e*S			**Sn**	**21 49 27.6**	**-0.8**
MESJ	**Messejana**	**4.53**	**82**	P			**Pn**	**21 48 36.9**	**+1.2**
MESJ				S			**Sn**	**21 49 27.8**	**-0.6**
	comp=N,6.2nm,0.5s								
MESJ	**Messejana**	**4.53**	**82**	*e*Pn			**Pn**	**21 48 36.9**	**+1.2**
MESJ				*e*Sn			**Sn**	**21 49 27.8**	**-0.6**
MESJ				A			A	21 49 33.2	
	comp=N,6.2nm,0.5s								
PSBE	**So Bento**	**4.54**	**60**	*e*Pn			**Pn**	**21 48 38.2**	**+2.2**
PSBE				*e*Sn			**Sn**	**21 49 30.8**	**+2.0**
PSBE				A			A	21 49 44.9	
	comp=N,12nm,0.8s								
PCVE	**Castro Verde**	**4.66**	**85**	P			**Pn**	**21 48 38.5**	**+1.0**
PCVE				S			**Sn**	**21 49 30.6**	**-1.1**
	comp=N,3.7nm,0.4s								
PCVE	**Castro Verde**	**4.66**	**85**	*e*Pn			**Pn**	**21 48 38.5**	**+1.0**
PCVE				*e*Sn			**Sn**	**21 49 30.6**	**-1.1**
PCVE				A			A	21 49 35.8	
	comp=N,3.7nm,0.4s								
PBDV	**Barranco-do-Ve**	**4.75**	**90**	P			**Pn**	**21 48 39.8**	**+1.0**
PBDV				S			**Sn**	**21 49 33.2**	**-0.8**
	comp=N,5.4nm,0.5s								
PBDV	**Barranco-do-Ve**	**4.75**	**90**	*e*Pn			**Pn**	**21 48 39.8**	**+1.0**
PBDV				*e*Sn			**Sn**	**21 49 33.2**	**-0.8**
PBDV				A			A	21 49 37.8	
	comp=N,5.4nm,0.5s								
PMTG	**Montargil**	**4.78**	**67**	P			**Pn**	**21 48 40.4**	**+1.3**
PMTG				S			**Sn**	**21 49 35.0**	**+0.4**
	comp=N,6.0nm,0.2s								
PMTG	**Montargil**	**4.78**	**67**	*e*Pn			**Pn**	**21 48 40.4**	**+1.3**
PMTG				*e*Sn			**Sn**	**21 49 35.0**	**+0.4**
PMTG				A			A	21 49 39.2	
	comp=N,6.0nm,0.2s								
EVO	**Evora**	**4.79**	**74**	P			**Pn**	**21 48 40.9**	**+1.6**
EVO				S			**Sn**	**21 49 34.2**	**-0.7**
	comp=N,9.2nm,0.1s								
EVO	**Evora**	**4.79**	**74**	*e*Pn			**Pn**	**21 48 40.9**	**+1.6**
EVO				*e*Sn			**Sn**	**21 49 34.2**	**-0.7**
EVO				A			A	21 49 43.1	
	comp=N,9.2nm,0.1s								
PBEJ	**Beja**	**4.82**	**80**	P			**Pn**	**21 48 41.4**	**+1.6**
PBEJ				S			**Sn**	**21 49 35.0**	**-0.7**
	comp=N,1.8nm,0.1s								
PBEJ	**Beja**	**4.82**	**80**	*e*Pn			**Pn**	**21 48 41.4**	**+1.6**
PBEJ				*e*Sn			**Sn**	**21 49 35.0**	**-0.7**
PBEJ				A			A	21 49 45.4	
	comp=N,3.5nm,0.1s								
PVAQ	**Vaqueiros**	**4.92**	**88**	P			**Pn**	**21 48 42.0**	**+1.0**
PVAQ				S			**Sn**	**21 49 36.7**	**-1.3**
	comp=N,6.7nm,0.8s								
PVAQ	**Vaqueiros**	**4.92**	**88**	*e*Pn			**Pn**	**21 48 42.0**	**+1.0**
PVAQ				*e*Sn			**Sn**	**21 49 36.7**	**-1.3**
PVAQ				A			A	21 49 50.6	
	comp=N,6.7nm,0.8s								
PCAS	**Casmilo, Conde**	**5.00**	**56**	P			**Pn**	**21 48 40.6**	**-1.7**
PCAS				S			**Sn**	**21 49 38.6**	**-1.6**
	comp=N,4.6nm,0.8s								
PCAS	**Casmilo, Conde**	**5.00**	**56**	*e*Pn			**Pn**	**21 48 40.6**	**-1.7**
PCAS				*e*Sn			**Sn**	**21 49 38.6**	**-1.6**
PCAS				A			A	21 49 44.0	
	comp=N,4.6nm,0.8s								
EGRO	**El Granado**	**5.10**	**86**	P			**Pn**	**21 48 44.8**	**+1.3**
	comp=N,1.5nm,0.1s,SNR=7.9								
EGRO				S			**Sn**	**21 49 41.3**	**-1.2**
	comp=N,2.9nm,0.3s,SNR=7.9								
PESTR	**Estremoz**	**5.19**	**71**	*e*Pn			**Pn**	**21 48 46.7**	**+1.9**
PESTR				*e*Sn			**Sn**	**21 49 45.3**	**+0.5**
PESTR				A			A	21 49 48.5	
	comp=N,4.2nm,0.2s								
PBAR	**Barrancos**	**5.49**	**79**	S			**Sn**	**21 49 52.6**	**+0.5**
PBAR	**Barrancos**	**5.49**	**79**	*e*Sn			**Sn**	**21 49 52.6**	**+0.5**
PMRV	**Marv??o**	**5.51**	**66**	P			**Pn**	**21 48 50.9**	**+1.7**
PMRV				S			**Sn**	**21 49 52.0**	**-0.6**
	comp=N,6.2nm,0.4s								
PMRV	**Marv??o**	**5.51**	**66**	*e*Pn			**Pn**	**21 48 50.9**	**+1.7**
PMRV				*e*Sn			**Sn**	**21 49 52.0**	**-0.6**
PMRV				A			A	21 50 00.2	
	comp=N,6.2nm,0.4s								
PCBR	**Castelo Branco**	**5.60**	**62**	P			**Pn**	**21 48 52.5**	**+2.0**
PCBR				S			**Sn**	**21 49 55.3**	**+0.4**
	comp=N,1.2nm,0.3s								
PCBR	**Castelo Branco**	**5.60**	**62**	*e*Pn			**Pn**	**21 48 52.5**	**+2.0**
PCBR				*e*Sn			**Sn**	**21 49 55.3**	**+0.4**
PCBR				A			A	21 49 58.4	
	comp=N,2.5nm,0.3s								
EBAD	**Badajoz**	**5.60**	**73**	P			**Pn**	**21 48 51.7**	**+1.2**
	comp=N,2.0nm,0.1s,SNR=7.9								
EBAD				S			**Sn**	**21 49 53.7**	**-1.2**
	comp=N,3.7nm,0.3s,SNR=7.9								
EMIN	**Mina Concepcio**	**5.75**	**84**	P			**Pn**	**21 48 53.0**	**+0.6**
	comp=N,1.5nm,0.1s,SNR=7.9								
EMIN				S			**Sn**	**21 49 56.3**	**-2.2**
	comp=N,2.8nm,0.3s,SNR=7.9								
PVIS	**Viseu**	**5.75**	**52**	P			**Pn**	**21 48 55.8**	**+3.3**
PVIS				S			**Sn**	**21 49 58.4**	**-0.2**
	comp=N,2.1nm,0.6s								
PVIS	**Viseu**	**5.75**	**52**	*e*Pn			**Pn**	**21 48 55.8**	**+3.3**
PVIS				*e*Sn			**Sn**	**21 49 58.4**	**-0.2**
PVIS				A			A	21 50 04.3	
	comp=N,4.2nm,0.6s								
MTE	**Manteigas**	**5.81**	**56**	S			**Sn**	**21 50 00.5**	**+0.4**
	comp=N,3.3nm,0.4s								
MTE	**Manteigas**	**5.81**	**56**	*e*Sn			**Sn**	**21 50 00.5**	**+0.4**
MTE				A			A	21 50 05.9	
	comp=N,6.7nm,0.4s								
PVRL	**Vila Real**	**6.18**	**49**	S			**Sn**	**21 50 08.4**	**-0.9**
	comp=N,2.9nm,0.8s								
PVRL	**Vila Real**	**6.18**	**49**	*e*Sn			**Sn**	**21 50 08.4**	**-0.9**
PVRL				A			A	21 50 14.1	
	comp=N,5.8nm,0.8s								
EZAM	**Zamans**	**6.24**	**38**	P			**Pn**	**21 49 00.6**	**+1.4**
	comp=N,2.1nm,0.2s,SNR=7.9								
EZAM				S			**Sn**	**21 50 06.2**	**-4.4**
	comp=N,1.4nm,0.4s,SNR=7.9								
PCAB	**Cabril**	**6.28**	**44**	P			**Pn**	**21 49 02.0**	**+2.2**
PCAB				S			**Sn**	**21 50 10.6**	**-1.0**
	comp=N,3.7nm,0.3s								
PCAB	**Cabril**	**6.28**	**44**	*e*Pn			**Pn**	**21 49 02.0**	**+2.2**
PCAB				*e*Sn			**Sn**	**21 50 10.6**	**-1.0**
PCAB				A			A	21 50 26.7	
	comp=N,7.4nm,0.3s								
PGAV	**Gavieira, Arco**	**6.33**	**42**	P			**Pn**	**21 49 03.3**	**+2.8**
PGAV				S			**Sn**	**21 50 11.8**	**-1.0**
	comp=N,7.8nm,0.5s								
PGAV	**Gavieira, Arco**	**6.33**	**42**	*e*Pn			**Pn**	**21 49 03.3**	**+2.8**
PGAV				*e*Sn			**Sn**	**21 50 11.8**	**-1.0**
PGAV				A			A	21 50 18.7	
	comp=N,7.8nm,0.5s								
ELOB	**Lobios**	**6.37**	**43**	P			**Pn**	**21 49 02.3**	**+1.3**
	comp=N,1.3nm,0.2s,SNR=7.9								
ELOB				S			**Sn**	**21 50 11.8**	**-2.1**
	comp=N,0.7nm,0.3s,SNR=7.9								
ESPR	**Espera**	**6.44**	**92**	P			**Pn**	**21 49 02.5**	**+0.6**
	comp=N,2.8nm,0.2s,SNR=7.9								
ESPR				S			**Sn**	**21 50 14.3**	**-1.2**
	comp=N,3.1nm,0.2s,SNR=7.9								
MVO	**Moncorvo**	**6.54**	**52**	P			**Pn**	**21 49 04.6**	**+1.1**
	comp=N,1.7nm,0.3s,SNR=7.9								
MVO				S			**Sn**	**21 50 15.8**	**-2.3**
	comp=N,0.7nm,0.3s,SNR=7.9								
MVO	**Moncorvo**	**6.54**	**52**	*e*Pn			**Pn**	**21 49 05.0**	**+1.6**
MVO				*e*Sn			**Sn**	**21 50 17.2**	**-1.0**
MVO				A			A	21 50 20.9	
	comp=N,7.9nm,0.4s								
EPLA	**Plasencia**	**6.68**	**64**	P			**Pn**	**21 49 07.2**	**+2.0**
	comp=N,1.8nm,0.2s,SNR=7.9								
EPLA				S			**Sn**	**21 50 18.9**	**-2.6**
	comp=N,4.8nm,0.4s,SNR=7.9								
EMAZ	**Mazaricos**	**6.74**	**32**	S			**Sn**	**21 50 19.4**	**-3.4**
	comp=N,4.2nm,0.3s,SNR=7.9								
ECAB	**El Cabril**	**6.75**	**81**	P			**Pn**	**21 49 07.6**	**+1.3**
	comp=N,1.0nm,0.1s,SNR=7.9								
ECAB				S			**Sn**	**21 50 20.9**	**-2.4**
	comp=N,0.3nm,0.3s,SNR=7.9								
EAGO	**Agolada(Pontev**	**7.03**	**37**	P			**Pn**	**21 49 11.6**	**+1.6**
	comp=N,0.9nm,0.2s,SNR=7.9								
EAGO				S			**Sn**	**21 50 26.0**	**-4.0**
	comp=N,2.2nm,0.3s,SNR=7.9								
PBRG	**Braganca**	**7.09**	**49**	P			**Pn**	**21 49 13.4**	**+2.5**
PBRG				S			**Sn**	**21 50 31.6**	**+0.1**
	comp=N,1.7nm,0.8s								
PBRG	**Braganca**	**7.09**	**49**	*e*Pn			**Pn**	**21 49 13.4**	**+2.5**
PBRG				*e*Sn			**Sn**	**21 50 31.6**	**+0.1**
PBRG				A			A	21 50 33.7	
	comp=N,3.4nm,0.8s								
ECAL	**Calabor**	**7.17**	**48**	P			**Pn**	**21 49 15.2**	**+3.1**
	comp=N,2.3nm,0.2s,SNR=7.9								
ECAL				S			**Sn**	**21 50 30.9**	**-2.7**
	comp=N,7.6nm,0.3s,SNR=7.9								
EADA	**Adamuz**	**7.42**	**81**	P			**Pn**	**21 49 16.2**	**+0.7**
	comp=N,1.2nm,0.1s,SNR=7.9								
EADA				S			**Sn**	**21 50 37.9**	**-1.9**
	comp=N,4.0nm,0.3s,SNR=7.9								
PAB	**San Pablo**	**7.80**	**71**	P			**Pn**	**21 49 21.7**	**+1.0**
	comp=N,0.9nm,0.1s,SNR=7.9								
PAB				S			**Sn**	**21 50 46.0**	**-3.1**
	comp=N,0.4nm,0.1s,SNR=7.9								
EPON	**Pontenova**	**7.88**	**39**	P			**Pn**	**21 49 22.8**	**+1.1**
	comp=N,0.5nm,0.2s,SNR=7.9								
EPON				S			**Sn**	**21 50 46.4**	**-4.5**
	comp=N,0.1nm,0.4s,SNR=7.9								
ESDC	**Sonseca Array**	**8.12**	**70**	P			**Pn**	**21 49 26.5**	**+1.4**
	comp=N,2.2nm,0.3s,baz=256,slow=13,SNR=54								
ESDC				S			**Sn**	**21 50 56.4**	**-0.5**
	comp=N,0.4nm,0.3s,baz=256,slow=23,SNR=3.9								
GUD	**Guadarrama**	**8.26**	**64**	P			**Pn**	**21 49 28.8**	**+1.7**
	comp=N,0.8nm,0.4s,SNR=7.9								
GUD				S			**Sn**	**21 50 58.6**	**-1.9**
	comp=N,0.4nm,0.2s,SNR=7.9								
EQES	**Quesada**	**8.60**	**84**	P			**Pn**	**21 49 32.9**	**+1.1**
	comp=N,0.4nm,0.2s,SNR=7.9								
EQES				S			**Sn**	**21 51 05.0**	**-3.9**
	comp=N,0.4nm,0.5s,SNR=7.9								
EARI	**Arriondas**	**8.90**	**45**	P			**Pn**	**21 49 38.3**	**+2.6**
	comp=N,0.6nm,0.3s,SNR=7.9								
EARI				S			**Sn**	**21 51 11.6**	**-4.4**
	comp=N,0.2nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**9.83**	**79**	P			**Pn**	**21 49 49.1**	**+0.6**
	comp=N,0.2nm,0.1s,SNR=7.9								
ETOR	**Torete**	**9.83**	**66**	P			**Pn**	**21 49 50.7**	**+2.1**
	comp=N,7.7nm,0.3s,SNR=7.9								
ETOR				S			**Sn**	**21 51 35.4**	**-3.6**
	comp=N,0.1nm,0.3s,SNR=7.9								

SOME 03 21:54:25.0, 40°.68N×76°.00E, h10km, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KST	**Kastek**	**2.36**	**359**	*e*P			Pb	21 55 08.0	+0.4
	2.1nm,0.3s								
KST				*e*S			Sg	21 55 39.0	-1.8
	15nm,0.6s								
TNSS	**Tian-Shan**	**2.46**	**16**	*e*P			Pg	21 55 11.3	-0.8
	0.6nm,0.1s								
MDOK	**Medeo**	**2.60**	**17**	*e*P			Pg	21 55 13.5	-1.3
	1.2nm,0.2s								
MDOK				*e*S			Sg	21 55 48.5	0.0
	5.6nm,0.9s								
KOTS	**Kotyrbulak**	**2.68**	**18**	*e*P			Pg	21 55 15.3	-1.0
	3.7nm,0.3s								
KOTS				*e*S			Sg	21 55 51.5	+0.4
	32nm,0.7s								
KTBS	**Karatobe**	**3.07**	**9**	*e*P			Pb	21 55 21.7	+2.0
	1.0nm,0.4s								
UZB	**Uzynbulak**	**3.34**	**41**	*e*P			Pb	21 55 25.9	+1.5
	0.4nm,0.3s								
SHLS	**Shalkode**	**3.58**	**45**	*e*P			Pg	21 55 35.3	+1.8
	3.7nm,0.6s								
SHLS				*e*S			Sg	21 56 26.2	+6.4
	8.5nm,0.5s								

NNC 03 21:55:24.9±1.2, 42°.60N×77°.35E, h0km, mb2.4, mpv2.3, 5C-1D, Error ellipse: s-maj=9.7km s-min=3.2km az=32.0, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNSS	**Tian-Shan**	**0.53**	**326**	P			Pg	21 55 35.0	0.0
	0.9nm,0.2s								
TNSS				S			Sb	21 55 44.5	-1.1
	6.0nm,0.4s								
TNSS	**Tian-Shan**	**0.53**	**326**	*e*S			Sb	21 55 44.6	-1.0
	6.9nm,0.6s								
MDOK	**Medeo**	**0.60**	**339**	⇑P			Pg	21 55 36.7	+0.2
	7.0nm,1.1s								
MDOK				⇑S			Sg	21 55 45.3	+1.0
	5.3nm,0.6s								
MDOK	**Medeo**	**0.60**	**339**	Pg			Pg	21 55 37.4	+0.9
	1.5nm,0.4s								
MDOK				Lg			Lg	21 55 46.7	
	5.0nm,0.6s								
KNDC	**Almaty**	**0.68**	**336**	⇑P			Pg	21 55 38.2	+0.3
	15nm,0.8s								
KNDC				⇓S			Sg	21 55 47.7	+1.0
	6.0nm,0.4s								
KTBS	**Karatobe**	**1.21**	**337**	P			Pg	21 55 46.7	-1.5
	0.9nm,0.4s								
KTBS				S			Sg	21 56 02.7	-1.2
	3.8nm,0.4s								
KTBS	**Karatobe**	**1.21**	**337**	*e*S			Sg	21 56 02.7	-1.2
	3.8nm,0.4s								
UZB	**Uzynbulak**	**1.35**	**66**	P			Pg	21 55 50.7	0.0
	1.3nm,0.5s								
UZB				S			Sn	21 56 09.8	0.0
	4.0nm,0.8s								
UZB	**Uzynbulak**	**1.35**	**66**	*e*S			Sn	21 56 09.5	-0.3
	4.0nm,0.8s								
SHLS	**Shalkode**	**1.65**	**70**	P			Pg	21 55 59.5	+3.0
	2.8nm,0.3s								
SHLS				S			Sg	21 56 24.9	+6.9
	8.5nm,0.5s								
PDGK	**Podgornoye**	**1.73**	**64**	P			Pn	21 55 56.6	+0.2
	1.0nm,0.5s								
PDGK				S			Sb	21 56 20.0	-0.1
	2.5nm,0.5s								
PDGK	**Podgornoye**	**1.73**	**64**	⇑P			Pn	21 55 56.0	-0.4
	4.1nm,1.1s								
PDGK				⇑S			Sn	21 56 19.5	+0.1
	3.0nm,0.5s								

*KRNET **03** 21:58:44.9±0.1, 39°.26N×77°.80E, mb2.4*
SOME 03 21:58:44.4, 42°.40N×81°.00E, h5km, 4C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.36**	**304**	*e*P			Pn	21 59 05.7	-4.5
	1.8nm,0.2s								
SHLS				*e*S			Sg	21 59 21.3	-6.9
	6.0nm,0.3s								
UZB	**Uzynbulak**	**1.64**	**298**	*e*P			Pb	21 59 15.3

IRIF				*e*S		Sn	22 45 08.7	+0.5
JIJ	**Ishigaki jima**	**1.26**	**130**	P		Pn	22 44 48.0	0.0
JIJ				S		Sn	22 45 10.4	-1.1
JKRS	**Kuro-shima**	**1.26**	**138**	P		Pn	22 44 48.4	+0.4
JKRS				S		Sn	22 45 11.5	0.0
JISG	**Ishigakijimahi**	**1.26**	**118**	P		Pn	22 44 48.1	+0.1
JISG				S		Sn	22 45 11.0	-0.5
HATJ	**Hateruma jima**	**1.30**	**149**	P		Pn	22 44 48.9	+0.6
HATJ				*e*S		Sn	22 45 12.3	+0.2
JTJ	**Tarama**	**1.57**	**110**	P		Pn	22 44 51.0	+0.3
JTJ				S		Sn	22 45 15.8	-0.5
JIRB	**Irabujima**	**1.93**	**100**	P		Pn	22 44 54.4	+0.1
JIRB				S		Sn	22 45 21.5	-1.4
JIKM	**Ikemajima**	**1.98**	**97**	P		Pn	22 44 55.2	+0.4
JIKM				*e*S		Sn	22 45 22.9	-0.9
JMJ2	**Miyako jima3**	**2.09**	**102**	P		Pn	22 44 56.4	+0.4
JMJ2				*e*S		Sn	22 45 25.9	+0.1
JOGS	**Gusukube**	**2.15**	**101**	*e*S		Sn	22 45 26.7	-0.4

TAP 03 22:45:02.5, 24°.63N×121°.54E, h58km, ML2.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NDT	**Datong Townshi**	**0.03**	**225**	*e*S	Sn	22 45 16.9	-0.4
	baz=224						
YHNB	**Yeheng**	**0.15**	**287**	*e*P	Pn	22 45 11.3	-0.3
	baz=294						
YHNB				S	Sn	22 45 17.6	-0.5
	baz=294						
NNS	**Nan Shan**	**0.24**	**219**	*e*P	Pn	22 45 13.2	+1.2
	baz=217						
NNS				S	Sn	22 45 19.9	+0.9
	baz=217						
NNSB	**Datong**	**0.24**	**216**	*e*P	Pn	22 45 13.4	+1.3
	baz=216						
NNSB				S	Sn	22 45 19.4	+0.3
	baz=216						
NNSH	**Datong**	**0.24**	**216**	*e*S	Sn	22 45 19.7	+0.7
	baz=217						
ENA	**Nanau**	**0.27**	**137**	*e*P	Pn	22 45 12.2	+0.1
	baz=136						
TWC	**Suao**	**0.28**	**93**	*e*S	Sn	22 45 18.4	-0.9
	baz=93						
ETLH	**Xiulin Townshi**	**0.42**	**187**	*e*P	Pn	22 45 14.5	+1.0
	baz=180						
NACB	**Ninganchiao**	**0.45**	**173**	P	Pn	22 45 13.3	-0.5
	baz=161						
TWT	**Tachien**	**0.49**	**222**	S	Sn	22 45 24.8	+1.7
	baz=230						
TDCB	**Techi**	**0.51**	**223**	S	Sn	22 45 24.4	+1.2
	baz=230						
WHF	**Hehuan Shan**	**0.54**	**207**	*e*S	Sn	22 45 26.2	+1.9
	baz=201						
TWD	**Chiawan**	**0.55**	**174**	P	Pn	22 45 14.9	+0.1
	baz=164						
WHP	**Taichung City**	**0.64**	**237**	S	Sn	22 45 27.0	+1.2
	baz=245						
HWA	**Hwalien**	**0.65**	**174**	*e*P	Pn	22 45 16.2	+0.2
	baz=174						
CHGB	**Renai**	**0.65**	**211**	*e*S	Sn	22 45 28.0	+1.8
	baz=218						

IDC 03 22:56:04.4±1.9, 3°.64S×145°.89E, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.7/29, mbtmp3.8/5, ML3.7/1, MS3.3/10, Ms1 3.4/10, ms1mx3.1/23, Error ellipse: s-maj=78.5km s-min=25.2km az=115.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**15.10**	**113**	LR	LR	23 05 23.0	
	comp=Z,34nm,19.8s,baz=268,slow=37						
WRA	**Warramunga Arr**	**19.73**	**214**	P	P	23 00 36.4	+0.5
	0.2nm,0.3s,baz=39,slow=12,SNR=15						
BATI	**Baumata**	**22.99**	**252**	LR	LR	23 11 25.5	
	comp=Z,125nm,21.0s,baz=117,slow=40						
ASAR	**Alice Springs**	**23.03**	**209**	P	P	23 01 11.7	+0.3
	2.4nm,0.9s,baz=39,slow=8.6,SNR=17						
ASAR				LR	LR	23 11 41.6	
	comp=Z,93nm,18.4s,baz=39,slow=41						
FITZ	**Fitzroy Crossi**	**24.48**	**233**	P	P	23 01 24.6	-0.9
	2.5nm,0.7s,baz=41,slow=13,SNR=7.8						
FITZ				LR	LR	23 11 42.9	
	comp=Z,74nm,21.9s,baz=60,slow=38						
DZM	**Mont Dzumac**	**27.08**	**134**	LR	LR	23 11 00.7	
	comp=Z,77nm,18.2s,baz=38,slow=33						
KSRS	**Korea Array**	**44.17**	**339**	LR	LR	23 22 24.3	
	comp=Z,14nm,18.1s,baz=255,slow=36						
SONM	**Songino Array**	**61.82**	**331**	LR	LR	23 32 15.0	
	comp=Z,24nm,20.4s,baz=152,slow=35						
VNDA	**Vanda**	**74.32**	**176**	LR	LR	23 37 59.1	
	comp=Z,50nm,19.2s,baz=327,slow=34						
MKAR	**Makanchi Array**	**74.98**	**320**	P	P	23 07 48.2	+0.4
	0.2nm,0.5s,baz=108,slow=9.5,SNR=2.2						
MKAR				LR	LR	23 42 05.3	
	comp=Z,14nm,19.3s,baz=154,slow=37						
ILAR	**Eielson Array**	**83.77**	**23**	P	P	23 08 35.2	-0.1
	0.6nm,0.9s,baz=252,slow=5.4,SNR=4.5						
NVAR	**Mina Array Bea**	**96.80**	**52**	LR	LR	23 45 16.6	
	comp=Z,38nm,20.9s,baz=218,slow=30						

*IDC **03** 23:50:54.2±1.2, 11°.10S×161°.75E, h0km, mb3.9/7, mb1 4.1/10, mb1mx3.9/34, mbtmp4.0/10, ML4.1/3, MS2.9/4, Ms1 3.0/4, ms1mx2.8/27, Error ellipse: s-maj=26.8km s-min=24.7km az=19.0*

ISC 03 23:50:58.8±0.8, 11°.3S×161°.8E±0°.1, h35km, n12, σ1s72/12, mb3.9/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.54**	**316**	Pn	**Pn**	**23 51 35.8**	**-1.7**
	42nm,0.3s,baz=99,slow=1.6,SNR=5.9						
HNR				Sn	**Sn**	**23 52 07.3**	**0.0**
	146nm,0.3s,baz=2.6,slow=19,SNR=9.2						
HNR				LR	LR	23 52 36.3	
	comp=Z,177nm,18.8s,baz=142,slow=42						
DZM	**Mont Dzumac**	**11.64**	**158**	Pn	**Pn**	**23 53 44.5**	**+1.8**
	0.5nm,0.3s,baz=148,slow=23,SNR=7.3						
DZM				Sn	**Sn**	**23 55 47.6**	**-3.9**
	0.3nm,0.3s,baz=99,slow=23,SNR=1.5						
DZM				LR	LR	23 56 59.5	
	comp=Z,16nm,19.0s,baz=124,slow=31						
CTA	**Charters Tower**	**17.30**	**238**	P	**P**	**23 55 00.3**	**+1.5**
	0.6nm,0.3s,baz=68,slow=15,SNR=6.6						
JAY	**Jayapura**	**22.61**	**291**	P	**P**	**23 55 56.7**	**-0.1**
	5.1nm,0.7s,baz=353,slow=14,SNR=2.5						
STKA	**Stephens Creek**	**27.69**	**219**	LR	LR	00 06 47.5	
	comp=Z,110nm,19.8s,baz=26,slow=34						
WRA	**Warramunga Arr**	**27.74**	**249**	P	**P**	**23 56 44.8**	**+0.4**
	1.9nm,0.7s,baz=76,slow=10,SNR=5.1						
FITZ	**Fitzroy Crossi**	**35.54**	**255**	P	**P**	**23 57 53.2**	**+0.4**
	1.7nm,0.7s,baz=35,slow=12,SNR=1.5						
KSRS	**Korea Array**	**57.93**	**328**	LR	LR	00 25 24.0	
	comp=Z,14nm,18.2s,baz=205,slow=36						
SONM	**Songino Array**	**76.57**	**325**	P	**P**	**00 02 46.0**	**+0.3**
	0.8nm,0.7s,baz=139,slow=5.6,SNR=3.9						
ILAR	**Eielson Array**	**85.00**	**20**	P	**P**	**00 03 29.9**	**-0.3**
	0.5nm,0.7s,baz=226,slow=5.0,SNR=1.8						
NVAR	**Mina Array Bea**	**89.18**	**51**	P	**P**	**00 03 52.7**	**+1.3**
	0.4nm,0.6s,baz=234,slow=7.7,SNR=4.7						
MKAR	**Makanchi Array**	**91.02**	**318**	P	**P**	**00 03 58.8**	**-0.8**
	0.1nm,0.4s,baz=95,slow=6.9,SNR=2.2						

*MEX **04** 00:15:23.6±0.6, 30°.29N×116°.32W, h5km, MD3.9*

ECX 04 00:15:22.7±0.8, 31°.59N×114°.45W, h20km±13km, MD3.2, ML3.4, 5C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ECBX	**El Chinero**	**0.53**	**257**	⇑*e*P	Pb	00 15 32.3	-1.0
ECBX				*e*S	Sb	00 15 40.0	-0.6
SFX	**San Felipe**	**0.65**	**212**	⇑*e*P	Pb	00 15 34.0	-1.4
SFX				*e*S	Sb	00 15 42.9	-1.2
PIX	**Pinacate**	**0.84**	**92**	*e*P	Pb	00 15 37.2	-1.4
PIX				*e*S	Sb	00 15 49.2	-0.4
SPIG	**San Pedro Mart**	**1.03**	**238**	*e*P	Pb	00 15 41.2	-0.8
SPIG				*e*S	Sb	00 15 55.0	-0.3
SPIG	**San Pedro Mart**	**1.03**	**238**	⇑*e*P	Pb	00 15 41.2	-0.9
	baz=0.3						
SPIG				*i* S	Sb	00 15 54.9	-0.3
SPX	**San Pedro Mart**	**1.03**	**238**	*e*P	Pb	00 15 41.2	-0.9
SPX				*e*S	Sb	00 15 54.8	-0.5
SPX				⇑*e*		00 15 55.6	
SPX				IAML		00 15 55.6	
	comp=E,795nm,0.6s						
SPX				IAML		00 15 55.6	
	comp=N,960nm,0.4s						
SPX	**San Pedro Mart**	**1.03**	**238**	*e*P	Pb	00 15 41.2	-0.9
SPX				*i* S	Sb	00 15 55.0	-0.4
CPBX	**Cerro Prieto**	**1.10**	**319**	IAML		00 16 11.8	
	comp=E,2μm,0.3s						
CPBX				⇑*e*		00 16 11.8	
VTX	**Valle De La Tr**	**1.16**	**260**	*e*P	Pn	00 15 42.9	-1.0
ESJX	**Sierra Juarez**	**1.34**	**288**	*e*P	Pn	00 15 45.2	-1.2
GLA	**Glamis**	**1.49**	**348**	*e*P	Pn	00 15 47.9	-0.5
SQX	**San Quintin**	**1.59**	**231**	*e*P	Pn	00 15 49.2	-0.5
SQX				*e*S	Sn	00 16 10.1	+0.4
CBX	**Cerro Bola**	**2.02**	**291**	*e*P	Pn	00 15 55.2	-0.5
CBX	**Cerro Bola**	**2.02**	**291**	*i* P	Pn	00 15 55.1	-0.6
CBX				*i* S	Sn	00 16 19.8	-0.6

*NEIC **04** 00:23:42.2±1.1, 13°.41N±0°.09×121°.1E±0°.2, h116km±6km, mb4.4/19, Error ellipse: s-maj=23.8km s-min=11.6km az=78.0*

*IDC **04** 00:23:42.2±1.4, 13°.32N×121°.04E, h117km±9km, mb3.8/11, mb1 3.8/11, mb1mx3.6/34, mbtmp4.2/11, MS2.6/1, Ms1 2.6/1, ms1mx2.3/25, Error ellipse: s-maj=34.9km s-min=22.4km az=60.0*

*MAN **04** 00:23:44.9, 13°.66N×120°.60E, h91km, MS3.0*

ISC 04 00:23:44.3±0.7, 13°.63N±0°.04×120°.63E±0°.06, h108km±5km, n59, σ1s17/67, mb4.3/18, 3C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**0.33**	**112**	⇑*e*P	**Pn**	**00 24 00.5**	**+0.4**
PGP				*e*S	**Sn**	**00 24 11.3**	**-0.6**
LUBP	**Lubang**	**0.39**	**286**	*e*P	**Pn**	**00 24 00.7**	**+0.4**
LUBP				*e*S	**Sn**	**00 24 12.0**	**-0.3**
TGY	**Tagaytay City**	**0.56**	**32**	P	**Pn**	**00 24 02.3**	**+0.8**
	966nm,0.3s,baz=232,slow=2.1,SNR=62						
TGY				LR	LR	00 24 11.1	
	comp=Z,210nm,18.1s,baz=28,slow=37						
TGY				S	**Sn**	**00 24 14.7**	**+0.3**
	2μm,0.3s,baz=251,slow=23,SNR=11						
TGY	**Tagaytay City**	**0.56**	**32**	⇑*i*P	**Pn**	**00 24 01.4**	**-0.1**
TGY				*i* S	**Sn**	**00 24 14.2**	**-0.2**
LQP	**Lukban**	**1.00**	**61**	⇓*i*P	**Pn**	**00 24 07.0**	**+1.4**
LQP				*i* S	**Sn**	**00 24 20.4**	**-1.3**
SJMP	**San Jose**	**1.25**	**158**	*e*P	**Pn**	**00 24 09.4**	**+1.3**
SJMP				*e*S	**Sn**	**00 24 23.9**	**-2.2**
GQP	**Guinayangan**	**1.78**	**81**	⇓*e*P	**Pn**	**00 24 16.8**	**+2.3**
GQP				*e*S	**Sn**	**00 24 36.7**	**-0.8**
OTRP	**Odiongan**	**1.84**	**133**	*e*P	**Pn**	**00 24 16.6**	**+1.3**
OTRP				*e*S	Sn	00 24 24.4	-15
PCPH	**Palayan**	**1.98**	**13**	⇓*i*P	**Pn**	**00 24 17.3**	**+0.3**
PCPH				*i* S	**Sn**	**00 24 42.6**	**+0.7**
BALP	**Baler**	**2.29**	**23**	*e*P	**Pn**	**00 24 23.0**	**+2.0**
BALP				*e*S	**Sn**	**00 24 48.9**	**-0.3**
SMPP	**San Manuel, Pa**	**2.51**	**1**	*e*P	**Pn**	**00 24 24.2**	**+0.3**
SMPP				*e*S	**Sn**	**00 24 53.3**	**-0.9**
ENPP	**El Nido**	**2.68**	**206**	*e*P	**Pn**	**00 24 27.1**	**+1.1**
ENPP				*e*S	**Sn**	**00 24 58.7**	**+0.5**
CUYO	**Cuyo Island**	**2.78**	**172**	*e*P	**Pn**	**00 24 28.2**	**+0.7**
RCP	**Roxas**	**2.91**	**135**	⇑*e*P	**Pn**	**00 24 31.2**	**+2.1**
SZP	**Santa**	**3.91**	**358**	Pn	**Pn**	**00 24 44.0**	**+1.6**
DAV	**Davao City (W)**	**8.13**	**143**	LR	LR	00 28 20.1	
	comp=Z,41nm,18.2s,baz=325,slow=36						
SBUM	**Sibu**	**13.87**	**218**	Pn	**Pn**	**00 26 56.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**21.39**	**286**	P	**P**	**00 28 25.6**	**+2.1**
	3.6nm,0.7s,baz=92,slow=7.3,SNR=17						
CHTO	**Chiang Mai**	**21.45**	**287**	P	**P**	**00 28 26.7**	**+2.6**
XAN	**Xi'an**	**22.94**	**334**	P	**P**	**00 28 39.0**	**-0.4**
SHL	**Shillong**	**29.50**	**298**	P	**P**	**00 29 39.2**	**+0.4**
LSA	**Lhasa**	**31.60**	**305**	P	**P**	**00 29 58.7**	**+1.2**
LSA				IAmb	IAmb	00 30 01.5	
	comp=Z,5.8nm,0.6s						
ODAN	**Odare**	**33.74**	**298**	*e*P	**P**	**00 30 17.3**	**+1.3**
	comp=Z,39nm,0.7s						
RAMN	**Ramite**	**34.44**	**298**	*e*P	**P**	**00 30 23.6**	**+1.5**
	comp=Z,24nm,0.6s						
JIRN	**Jiri**	**34.99**	**299**	*e*P	**P**	**00 30 28.3**	**+1.4**
	comp=Z,44nm,0.5s						
GUN	**Gumba**	**35.32**	**299**	*e*P	**P**	**00 30 31.0**	**+1.2**
	comp=Z,26nm,0.4s						
PKI	**Pulchoki**	**35.63**	**298**	*e*P	**P**	**00 30 33.0**	**+0.6**
PKIN	**Phulchoki**	**35.64**	**298**	*e*P	**P**	**00 30 33.3**	**+0.9**
	comp=Z,14nm,0.4s						
DMN	**Daman**	**35.90**	**298**	*e*P	**P**	**00 30 35.9**	**+1.3**
	comp=Z,14nm,0.5s						
WRA	**Warramunga Arr**	**35.98**	**158**	P	**P**	00 30 28.3	-6.6
	comp=Z,0.8nm,0.6s,baz=331,slow=10,SNR=2.4						
SONM	**Songino Array**	**36.11**	**344**	P	**P**	**00 30 36.3**	**+0.4**
	comp=Z,3.3nm,0.7s,baz=162,slow=11,SNR=20						
GKN	**Gorkha**	**36.41**	**299**	*e*P	**P**	**00 30 40.0**	**+1.2**
	comp=Z,11nm,0.5s						
KOLN	**Koldanda**	**37.23**	**298**	*e*P	**P**	**00 30 46.0**	**+0.2**
DANN	**Dangsing**	**37.24**	**299**	*e*P	**P**	**00 30 46.7**	**+0.7**
	comp=Z,16nm,0.5s						
CTAO	**Charters Tower**	**41.92**	**143**		pP	00 31 43.6	-6.2
MK31	**Makanchi Array**	**46.05**	**324**	P	**P**	**00 31 58.0**	**+0.7**
MK31				IAmb	IAmb	00 31 59.4	
	comp=Z,5.0nm,0.8s						
MKAR	**Makanchi Array**	**46.05**	**324**	P	**P**	**00 31 58.5**	**+1.2**
	comp=Z,7.6nm,0.8s,baz=131,slow=8.9,SNR=54						
MAKZ	**Makanchi**	**46.24**	**324**	P	**P**	**00 31 58.9**	**+0.2**
MAKZ				IAmb	IAmb	00 32 00.7	
	comp=Z,5.3nm,0.6s						
NIL	**Nilore**	**47.30**	**303**	P	**P**	**00 32 07.7**	**+0.5**
NIL				IAmb	IAmb	00 32 08.6	
	comp=Z,4.1nm,0.9s						
ZAA0	**Zalesovo Array**	**49.09**	**333**	P	**P**	**00 32 19.3**	**-1.2**
ZALV	**Zalesovo Beam**	**49.09**	**333**	P	**P**	**00 32 20.6**	**0.0**
	comp=Z,3.4nm,0.3s,baz=123,slow=6.2,SNR=11						
KURK	**Kurchatov**	**50.22**	**326**	P	**P**	**00 32 29.5**	**+0.3**
KBL	**Kabul**	**50.90**	**304**	P	**P**	**00 32 34.8**	**-0.1**
KBL				IAmb	IAmb	00 32 36.2	
	comp=Z,3.1nm,0.7s						
GAR	**Garm**	**50.92**	**309**	P	**P**	**00 32 34.0**	**-0.8**
CHGR	**Chuyangaron**	**51.70**	**309**	P	**P**	**00 32 41.2**	**+0.5**
KK31	**Karatay Array**	**51.98**	**314**	P	**P**	**00 32 43.0**	**+0.5**
KK31				IAmb	IAmb	00 32 44.3	
	comp=Z,3.6nm,0.8s						
BRVK	**Borovoye**	**55.87**	**326**	P	**P**	**00 33 10.7**	**+0.1**
NRIK	**Noril'sk**	**59.47**	**347**	P	**P**	**00 33 35.0**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=153,slow=5.7,SNR=5.7						
GEYT	**Alibeck**	**60.13**	**306**	P	**P**	**00 33 41.0**	**+0.4**
	comp=Z,4.3nm,0.8s,baz=164,slow=6.8,SNR=7.6						
GYA0B	**ALIBECK ARRAY**	**60.13**	**306**	P	**P**	**00 33 40.4**	**-0.3**
ARU	**Arti**	**63.41**	**327**	P	**P**	**00 34 01.1**	**-1.2**
RAYN	**Ar Rayn**	**71.22**	**290**	P	**P**	**00 34 52.2**	**-0.1**
RAYN				IAmb	IAmb	00 34 54.1	
	comp=Z,4.3nm,0.9s						
KIV	**Kislovodsk**	**72.03**	**312**	P	**P**	**00 34 56.6**	**-0.1**
ARCES	**ARCESS Array B**	**79.13**	**339**	P	**P**	**00 35 36.2**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=82,slow=7.0,SNR=16						
BRTR	**Keskin Array B**	**79.15**	**308**	P	**P**	**00 35 36.7**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=130,slow=3.9,SNR=5.0						
FINES	**FINESS Array B**	**80.32**	**331**	P	**P**	**00 35 41.6**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=46,slow=5.5,SNR=5.8						
NB2	**NORSAR Subarra**	**87.30**	**333**	P	**P**	**00 36 17.4**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=69,slow=4.4						
NOA	**NORSAR Array B**	**87.30**	**333**	P	**P**	**00 36 17.6**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=68,slow=4.6,SNR=5.9						
TXAR	**Lajitas Array**	**119.57**	**45**	PKP	**PKPdf**	**00 42 18.8**	**-3.4**
	comp=Z,0.1nm,0.3s,baz=265,slow=2.3,SNR=2.1						

*ROM **04** 00:26:11.2±0.2, 44°.831N±0°.009×6°.73E±0°.01, h9km±1km, ML2.2/21, Error ellipse: s-maj=1.1km s-min=0.8km az=257.0*

*STR **04** 00:26:11.6±0.2, 45°.N±1°×±°, h0km, MLv2.2/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*

*GEN **04** 00:26:11.5, 44°.83N×6°.74E, h2km±1km, Ml2.1*

*LDG **04** 00:26:12.0±0.1, 44°.84N×6°.76E, h2km, Md2.3/2, Ml2.5/26, Error ellipse: s-maj=1.6km s-min=1.1km az=70.0*

ISC 04 00:26:11.7±0.8, 44°.84N±0°.01×6°.73E±0°.01, h9km±5km, n99, σ1s65/170, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RRL	**Rocca Remolon**	**0.10**	**27**	P	**Pg**	**00 26 13.9**	**-0.4**
RRL				S	**Sg**	**00 26 15.8**	**-0.4**
MBDF	**Montbardon**	**0.11**	**165**	*e*Pg	**Pg**	**00 26 13.7**	**-0.7**
MBDF				*e*Sg	**Sg**	**00 26 15.6**	**-0.8**
	406nm,0.2s						
BNI	**Bardonecchia**	**0.22**	**350**	P	**Pg**	**00 26 16.3**	**+0.1**
BNI				S	**Sg**	**00 26 19.6**	**+0.2**
BNI				AML	AML		
	comp=E,174μm,1.1s						
BNI				AML	AML		
	comp=N,218μm,1.2s						
BNI				AML	AML		
	comp=N,185μm,0.6s						
BNI				AML	AML		
	comp=E,194μm,1.4s						
BNI				AML	AML		
	comp=E,175μm,1.1s						
BNI				AML	AML		
	comp=N,184μm,0.6s						
BNI				AML	AML		
	comp=N,217μm,1.2s						
SURF	**Saint Ours**	**0.36**	**171**	Pg	**Pg**	**00 26 18.6**	**-0.2**
SURF				Sg	**Sg**	**00 26 24.2**	**+0.6**
OGMO	**Fort Saint-Gob**	**0.37**	**355**	Pg	**Pg**	**00 26 19.0**	**-0.1**
OGMO				Sg	**Sg**	**00 26 24.3**	**+0.3**
BHB	**Bricherasio**	**0.38**	**89**	P	**Pg**	**00 26 19.0**	**-0.2**
BHB				S	**Sg**	**00 26 24.9**	**+0.7**
BHB	**Bricherasio**	**0.38**	**89**	P	**Pg**	**00 26 19.0**	**-0.2**
BHB				S	**Sb**	**00 26 25.1**	**-1.5**
BHB				AML	AML		
	comp=E,374μm,0.9s						
BHB				AML	AML		
	comp=N,517μm,0.1s						
OGAG	**Argentiere**	**0.41**	**200**	Pg	Pg	00 26 14.7	-4.9
OGAG				Sg	**Sg**	**00 26 17.0**	**-8.0**
PZZ	**Stroppo**	**0.43**	**140**	P	**Pg**	**00 26 19.5**	**-0.5**
PZZ				S	**Sg**	**00 26 25.5**	**-0.3**
PZZ	**Stroppo**	**0.43**	**140**	P	**Pg**	**00 26 19.6**	**-0.5**
PZZ				S	**Sg**	**00 26 25.6**	**-0.1**
PZZ				AML	AML		
	comp=E,1890μm,0.3s						
PZZ				AML	AML		
	comp=N,2500μm,0.2s						
RSP	**Reno Superiore**	**0.49**	**50**	P	**Pg**	**00 26 21.3**	**0.0**
RSP				S	**Sg**	**00 26 28.0**	**+0.2**
RSP	**Reno Superiore**	**0.49**	**50**	P	**Pg**	**00 26 21.3**	**0.0**
RSP				AML	AML		
	comp=N,280μm,0.5s						
RSP				AML	AML		
	comp=E,286μm,1.2s						
DOI	**San Damiano**	**0.49**	**132**	P	**Pg**	**00 26 20.9**	**-0.4**
DOI				S	**Sg**	**00 26 27.3**	**-0.5**
DOI				AML	AML		
	comp=N,702μm,0.3s						
DOI				AML	AML		
	comp=E,894μm,0.8s						
GDM	**Grand'Maison**	**0.57**	**310**	Pg	**Pg**	**00 26 23.1**	**+0.3**
GDM				Sg	**Sg**	**00 26 31.1**	**+0.8**
ORIF	**Oris-en-Rattie**	**0.61**	**278**	*e*Pg	**Pg**	**00 26 23.6**	**0.0**
ORIF				*e*Sg	**Sg**	**00 26 31.7**	**+0.2**
	comp=E,384nm,0.3s						
ORIF	**Oris-en-Rattie**	**0.61**	**278**	P	**Pg**	**00 26 23.5**	**0.0**
ORIF				S	**Sg**	**00 26 31.7**	**+0.2**
ORIF				AML	AML		
	comp=N,313μm,0.3s						
ORIF				AML	AML		
	comp=E,258μm,0.5s						
ORIF	**Oris-en-Rattie**	**0.61**	**278**	Pg	**Pg**	**00 26 23.5**	**0.0**
ORIF				Sg	**Sg**	**00 26 31.7**	**+0.2**
LPG	**La Plagne**	**0.66**	**1**	*e*Pg	**Pg**	**00 26 24.6**	**+0.1**
LPG				*e*Sg	**Sg**	**00 26 33.5**	**+0.3**
	comp=E,45nm,0.3s						
LPL	**La Plagne**	**0.68**	**0**	*e*Pg	**Pg**	**00 26 24.8**	**-0.1**
LPL				*e*Sg	**Sg**	**00 26 33.8**	**0.0**
	comp=E,40nm,0.3s						
LPL				*e*Sn	**Sb**	**00 26 37.7**	**+2.2**
LSD	**Lago del Serru**	**0.69**	**24**	P	**Pg**	**00 26 24.7**	**-0.2**
LSD				S	**Sg**	**00 26 33.5**	**-0.5**
LSD	**Lago del Serru**	**0.69**	**24**	P	**Pg**	**00 26 24.7**	**-0.2**
LSD				S	**Sg**	**00 26 33.6**	**-0.3**
LSD				AML	AML		
	comp=E,286μm,1.2s						
LSD				AML	AML		
	comp=N,190μm,0.3s						
ISO	**Isola**	**0.69**	**161**	Pg	**Pg**	**00 26 24.7**	**-0.3**
ISO				Sg	**Sg**	**00 26 34.5**	**+0.4**
STV	**Sant Anna di V**	**0.73**	**144**	P	**Pg**	**00 26 25.1**	**-0.6**
STV				S	**Sg**	**00 26 35.1**	**-0.1**
STV	**Sant Anna di V**	**0.73**	**144**	P	**Pg**	**00 26 25.1**	**-0.6**
STV				S	**Sg**	**00 26 35.2**	**-0.1**
STV				AML	AML		
	comp=E,142μm,1.4s						
STV				AML	AML		
	comp=N,124μm,0.9s						
ENR	**Entracque**	**0.78**	**141**	P	**Pg**	**00 26 26.4**	**-0.3**
ENR				S	**Sg**	**00 26 37.0**	**0.0**
ENR	**Entracque**	**0.78**	**141**	P	**Pg**	**00 26 26.5**	**-0.3**
ENR				S	**Sg**	**00 26 37.4**	**+0.4**
ENR				AML	AML		
	comp=N,267μm,0.5s						
ENR				AML	AML		
	comp=E,323μm,0.7s						
OGDI	**Digne**	**0.79**	**203**	Pg	**Pb**	**00 26 28.3**	**+0.7**
GRN	**Grenoble**	**0.81**	**301**	Pg	**Pg**	**00 26 27.8**	**+0.5**
GRN				Sg	**Sb**	**00 26 39.2**	**+0.1**
MONC	**Moncucco Torin**	**0.88**	**74**	P	**Pb**	**00 26 29.4**	**+0.2**
MONC				AML	AML		
	comp=E,242μm,1.6s						
MONC				AML	AML		
	comp=N,259

ROTM				AML	AML			
	comp=N,406µm,0.6s							
SMRF	**Simiane la Rot**	**1.19**	**224**	*e*Pg	**Pb**	**00 26 35.4**	**+0.9**
SMRF				*e*Sg	**Sg**	**00 26 49.8**	**-0.3**
	comp=N,105nm,0.6s							
RORO	**Rocca Rossa**	**1.20**	**127**	P	**Pg**	**00 26 33.7**	**-1.0**
RORO				S	**Sg**	**00 26 48.7**	**-1.5**
RORO				AML	AML			
	comp=E,104µm,1.0s							
RORO				AML	AML			
	comp=N,84µm,0.2s							
NEGI	**Seborga**	**1.21**	**144**	P	**Pg**	**00 26 34.3**	**-0.6**
NEGI				AML	AML			
	comp=E,118µm,0.4s							
NEGI				AML	AML			
	comp=N,110µm,0.9s							
MON	**Monaco**	**1.21**	**155**	Pg	**Pg**	**00 26 34.8**	**-0.1**
BSTF	**la Bastide-des**	**1.23**	**220**	Pn	**Pn**	**00 26 37.0**	**+1.8**
BSTF				Sn	**Sn**	**00 26 55.9**	**+3.9**
IMI	**Imperia**	**1.25**	**138**	P	**Pg**	**00 26 34.8**	**-0.8**
IMI				AML	AML			
	comp=E,136µm,0.7s							
IMI				AML	AML			
	comp=N,150µm,0.3s							
QLNO	**Quiliano**	**1.26**	**113**	P	**Pg**	**00 26 35.0**	**-0.9**
QLNO				S	**Sg**	**00 26 50.9**	**-1.3**
QLNO				AML	AML			
	comp=N,65µm,0.3s							
QLNO				AML	AML			
	comp=E,76µm,1.2s							
RUSF	**Rustrel**	**1.27**	**225**	Pn	**Pn**	**00 26 37.0**	**+1.4**
FRF	**La Foret Royal**	**1.28**	**183**	*e*Pg	**Pg**	**00 26 35.5**	**-0.7**
FRF	**La Foret Royal**	**1.28**	**183**	*e*P	**Pn**	**00 26 36.9**	**+1.2**
FRF				*e*Sg	**Sg**	**00 26 51.8**	**-0.9**
	comp=E,30nm,0.3s							
FINB	**Finale Ligure**	**1.32**	**119**	P	**Pg**	**00 26 36.0**	**-1.0**
FINB				AML	AML			
	comp=N,51µm,0.8s							
FINB				AML	AML			
	comp=E,72µm,1.4s							
ARTF	**Artigues**	**1.42**	**208**	Pn	**Pg**	**00 26 39.2**	**+0.4**
OG35	**Corcelles**	**1.46**	**326**	Pn	**Pg**	**00 26 39.9**	**+0.2**
OG35				Sn	**Sn**	**00 26 59.2**	**+1.5**
VIVF	**Saint-Julien-l**	**1.46**	**272**	*e*Pg	**Pn**	**00 26 39.4**	**+1.0**
VIVF				*e*Sg	**Sb**	**00 26 58.6**	**+0.7**
	comp=E,17nm,0.2s							
MMK	**Mattmark**	**1.49**	**35**	P	**Pn**	**00 26 39.7**	**+0.7**
MMK				AML	AML			
	comp=N,45µm,0.8s							
MMK				AML	AML			
	comp=E,55µm,0.8s							
LMR	**La Mourre**	**1.51**	**186**	*e*Pg	**Pn**	**00 26 39.8**	**+0.9**
LMR				*e*Sg	**Sn**	**00 26 59.2**	**+0.5**
	comp=E,16nm,0.2s							
CABF	**La Chapelle**	**1.83**	**346**	*e*P	**Pn**	**00 26 44.7**	**+1.2**
CABF	**La Chapelle**	**1.83**	**346**	*e*Pg	**Pb**	**00 26 46.0**	**+0.6**
CABF				*e*Sg	**Sb**	**00 27 09.7**	**+1.2**
	comp=E,3.6nm,0.3s							
LASF	**Ste Croix**	**2.19**	**251**	*e*Pn	**Pn**	**00 26 49.0**	**+0.6**
LASF				*e*Sn	**Sn**	**00 27 13.8**	**-1.9**
	comp=E,2.1nm,0.2s							
LEOD	**Capriano del C**	**2.48**	**74**	S	**Sg**	**00 27 37.0**	**+5.7**
SMF	**Signal de Mont**	**2.71**	**313**	*e*P	**Pn**	**00 26 57.2**	**+1.7**
SMF				*e*Sn	**Sn**	**00 27 26.1**	**-2.4**
SMF				*e*Sg	**Sg**	**00 27 37.4**	**-1.5**
	comp=E,4.1nm,0.3s							
PGF	**Pioggiola**	**2.82**	**143**	*e*Pn	**Pn**	**00 26 55.9**	**-1.1**
PGF				*e*Sn	**Sn**	**00 27 28.2**	**-3.0**
	comp=E,5.6nm,0.3s							
PGF	**Pioggiola**	**2.82**	**143**	P	**Pn**	**00 26 58.8**	**+1.8**
HINF	**Hinteralfeld**	**2.98**	**2**	*e*P	**Pn**	**00 27 01.0**	**+1.8**
HINF				*e*Sn	**Sn**	**00 27 32.6**	**-2.6**
HINF				*e*Sg	**Sg**	**00 27 45.7**	**-1.8**
	comp=E,2.0nm,0.4s							
AVF	**Avril sur Loir**	**3.07**	**311**	*e*P	**Pn**	**00 27 02.2**	**+1.9**
AVF				*e*Sn	**Sn**	**00 27 34.6**	**-2.5**
AVF				*e*Sg	**Sg**	**00 27 48.3**	**-1.8**
	comp=E,1.0nm,0.3s							
LOR	**Lormes**	**3.15**	**322**	*e*P	**Pn**	**00 27 03.4**	**+1.9**
	baz=141							
LOR	**Lormes**	**3.15**	**322**	*e*Pg	**Pg**	**00 27 10.3**	**-1.7**
	baz=141							
LOR				*e*Sn	**Sn**	**00 27 36.7**	**-2.5**
	baz=142							
LOR				*e*Sg	**Sg**	**00 27 50.9**	**-1.9**
	comp=E,1.7nm,0.2s,baz=142							
SSF	**Saint Saulge**	**3.17**	**316**	*e*P	**Pn**	**00 27 03.8**	**+2.1**
SSF	**Saint Saulge**	**3.17**	**316**	*e*Pg	**Pb**	**00 27 10.4**	**+2.3**
SSF				*e*Sg	**Sg**	**00 27 51.3**	**-2.0**
	comp=E,3.2nm,0.4s							
HAU	**Haudompre**	**3.18**	**355**	*e*P	**Pn**	**00 27 03.7**	**+1.7**
BGF	**Bois d'Agland**	**3.22**	**304**	*e*P	**Pn**	**00 27 04.6**	**+2.1**
BGF				*e*Sn	**Sn**	**00 27 38.2**	**-2.8**
	comp=E,5.2nm,0.3s							
DAVA	**Damuels**	**3.29**	**41**	*e*Pn	**Pb**	**00 27 07.4**	**-2.9**
	comp=E,0.3nm,0.1s							
CAF	**Calviac**	**3.32**	**273**	*e*P	**Pn**	**00 27 05.5**	**+1.7**
CAF				*e*Sn	**Sn**	**00 27 40.6**	**-2.8**
	comp=E,1.6nm,0.4s							
TCF	**Toulx Ste Croi**	**3.49**	**296**	*e*P	**Pn**	**00 27 07.7**	**+1.5**
TCF				*e*Sn	**Sn**	**00 27 45.3**	**-2.4**
TCF				*e*Sg	**Sg**	**00 28 03.1**	**-0.7**
	comp=E,0.9nm,0.2s							
FETA	**Feichten**	**3.54**	**51**	*e*Pn	**Pn**	**00 27 10.7**	**+3.6**
	comp=E,0.5nm,0.3s							
SFTF	**Sexfontaines**	**3.57**	**341**	*e*P	**Pn**	**00 27 09.4**	**+2.2**
SFTF				*e*Sn	**Sn**	**00 27 46.7**	**-2.8**
	comp=E,1.4nm,0.2s							
MTLF	**Montolieu**	**3.58**	**247**	*e*Pn	**Pn**	**00 27 07.6**	**+0.2**
MTLF	**Montolieu**	**3.58**	**247**	*e*P	**Pn**	**00 27 09.9**	**+2.5**
MTLF				*e*Sn	**Sn**	**00 27 46.9**	**-2.9**
	comp=E,0.7nm,0.2s							
CDF	**Champ du Feu**	**3.60**	**6**	*e*P	**Pn**	**00 27 08.9**	**+1.2**
CDF				*e*Sn	**Sn**	**00 27 47.6**	**-2.8**
CDF				*e*Sg	**Sg**	**00 28 04.9**	**-2.3**
	comp=E,1.0nm,0.3s							
RJF	**Les Rejaudoux**	**3.72**	**279**	*e*P	**Pn**	**00 27 11.5**	**+2.1**
RJF				*e*Sg	**Sg**	**00 28 08.7**	**-2.5**
	comp=E,4.1nm,0.4s							
PAGF	**Fort de Pagny**	**3.78**	**350**	*e*P	**Pn**	**00 27 12.2**	**+2.0**
	baz=169							
PAGF				*e*Sn	**Sn**	**00 27 51.5**	**-3.4**
PAGF				*e*Sg	**Sg**	**00 28 10.6**	**-2.6**
	comp=E,0.8nm,0.2s							
SQTA	**Sankt Quirin**	**3.93**	**51**	*e*Pn	**Pn**	**00 27 16.3**	**+4.0**
	comp=E,0.4nm,0.2s							
MOTA	**Moosalm**	**3.94**	**49**	*e*Pn	**Pn**	**00 27 14.0**	**+1.5**
	comp=E,0.8nm,0.3s							
WTTA	**Wattenberg**	**4.19**	**53**	*e*Pn	**Pn**	**00 27 17.9**	**+2.0**
	comp=E,0.8nm,0.2s							
LFF	**La Frestale**	**4.26**	**273**	*e*P	**Pn**	**00 27 19.2**	**+2.5**
LFF				*e*Sg	**Sg**	**00 28 25.6**	**-2.8**
	comp=E,4.7nm,0.5s							
MURB	**Monte Urbino**	**4.46**	**109**	P	**Pn**	**00 27 22.6**	**+3.0**
MFF	**Saint Martin d**	**5.13**	**293**	*e*P	**Pn**	**00 27 31.3**	**+2.6**
BAIF	**Baives**	**5.50**	**343**	*e*P	**Pn**	**00 27 36.0**	**+2.3**
LDF	**La Druitiere**	**6.03**	**311**	*e*P	**Pn**	**00 27 43.6**	**+2.6**
GRR	**Gorron**	**6.32**	**307**	*e*P	**Pn**	**00 27 47.6**	**+2.6**

*IDC **04** 00:57:41.2±9.2, 37.50N×71.80E, h151km±106km, mb1 2.9/3, mb1mx2.7/48, mbtmp3.5/3, Error ellipse: s-maj=158.0km s-min=33.4km az=161.0*
*NNC **04** 00:57:47.1±3.0, 37.77N×71.86E, h160km±47km, mb3.0, mpv3.9, Error ellipse: s-maj=28.1km s-min=15.6km az=15.0*

ISC 04 00:57:40.4±0.9, **37°39N**±0.07×**71°81E**±0.07, **h130**km, **n17**, σ2°**00**/23, **2C-4D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.95**	**16**	P	**Pn**	**00 58 55.3**	**+2.2**
	SNR=32						
UCH	**Uchtor**	**5.26**	**22**	P	**Pn**	**00 58 58.9**	**+1.6**
	SNR=32						
KZA	**Kyzart**	**5.38**	**28**	P	**Pn**	**00 59 00.3**	**+1.5**
	SNR=7.5						
EKS2	**Erkin-Say**	**5.48**	**15**	P	**Pn**	**00 59 03.2**	**+3.3**
	SNR=5.3						
AAK	**Ala-Archa**	**5.63**	**21**	P	**Pn**	**00 59 04.3**	**+2.3**
	SNR=14						
AAK	**Ala-Archa**	**5.63**	**21**	⇓P	**Pn**	**00 59 03.9**	**+1.9**
	11nm,0.5s						
AAK				⇑S	**Sn**	**01 00 04.8**	**-0.8**
	19nm,0.7s						
KK31	**Karatay Array**	**5.79**	**351**	P	**Pn**	**00 59 07.0**	**+2.9**
	4.7nm,0.3s,baz=18,slow=10,SNR=84						
KK31				S	**Sn**	**01 00 08.6**	**-0.8**
	11nm,0.4s,baz=173,slow=21,SNR=20						
THN	**Thein Dam**	**5.89**	**146**	*e*P	**Pn**	**00 59 06.0**	**+0.6**
THN				*e*S	**Sn**	**01 00 10.0**	**-1.8**
CHMS	**Chumysh**	**6.04**	**21**	P	**Pn**	**00 59 09.2**	**+1.9**
	SNR=10						
TKM2	**Tokmak 2**	**6.24**	**26**	P	**Pn**	**00 59 11.9**	**+1.7**
	SNR=5.4						
TKM2	**Tokmak 2**	**6.24**	**26**	⇓P	**Pn**	**00 59 11.6**	**+1.4**
	6.0nm,0.7s						
TKM2				⇓S	**Sn**	**01 00 20.5**	**+0.2**
	2.3nm,0.5s						
GEYT	**Alibeck**	**10.87**	**277**	P	**Pn**	**01 00 13.7**	**+1.4**
	0.2nm,0.3s,baz=91,slow=10,SNR=1.8						
GEYT				S	**Sn**	**01 02 10.6**	**-1.6**
	0.6nm,0.3s,baz=215,slow=31,SNR=2.5						
MK31	**Makanchi Array**	**12.19**	**36**	P	**Pn**	**01 00 29.9**	**+0.3**
	0.7nm,0.9s,baz=220,slow=14,SNR=4.0						
MKAR	**Makanchi Array**	**12.19**	**36**	P	**Pn**	**01 00 28.8**	**-0.8**
	0.0nm,0.3s,baz=209,slow=15,SNR=4.1						
AB31	**Akbulak array**	**14.65**	**328**	P	**P**	**01 01 02.8**	**-1.0**
	1.8nm,0.2s,baz=132,slow=15,SNR=59						
AB31				⇓S	**Sn**	**01 03 39.9**	**-3.2**
	1.6nm,0.6s						
AKTO	**Aktyubinsk**	**16.36**	**327**	⇑P	**P**	**01 01 25.8**	**+3.0**
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**18.84**	**24**	P	**P**	**01 01 47.9**	**-2.0**
	0.2nm,0.3s,baz=218,slow=12,SNR=4.0						

*KRSC **04** 01:00:14.7±1.1, 55.58N×160.54E, h186km±10km, ML3.9*
*IDC **04** 01:00:17.2±2.2, 55.69N×159.79E, h195km±27km, mb3.0/4, mb1 3.2/5, mb1mx2.9/47, mbtmp3.5/5, Error ellipse: s-maj=35.6km s-min=30.0km az=61.0*

ISC 04 01:00:15.6±0.8, **55°60N**±0.05×**160°48E**±0.05, **h188**km±6km, **n40**, σ1°**34**/58, **mb3.3**/4, **Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**0.21**	**320**	*i* P	**Pn**	**01 00 41.0**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**0.37**	**19**	*e*P	**Pn**	**01 00 41.1**	**+0.1**
KIRR	**Kirishev**	**0.37**	**348**	*e*P	**Pn**	**01 00 41.0**	**0.0**
KIRR				*e*S	**Sn**	**01 01 00.6**	**-0.2**
TUMR	**Tumrok**	**0.37**	**212**	*e*P	**Pn**	**01 00 41.8**	**+0.7**
TUMR				*e*S	**Sn**	**01 01 01.6**	**+1.0**
BZWR	**Bezymyannyi-We**	**0.37**	**1**	*e*P	**Pn**	**01 00 41.3**	**+0.2**
TUMD	**Tumrok D**	**0.40**	**187**	*e*P	**Pn**	**01 00 41.3**	**+0.3**
TUMD				*e*S	**Sn**	**01 01 00.8**	**+0.3**
KPT	**Kopyto**	**0.40**	**339**	*e*P	**Pn**	**01 00 41.0**	**-0.1**
ZLN	**Zelenaya**	**0.46**	**23**	*e*P	**Pn**	**01 00 42.0**	**+0.7**
KZV	**Kizimen**	**0.49**	**193**	*e*P	**Pn**	**01 00 42.1**	**+0.6**
LGNR	**Loginova**	**0.50**	**13**	*i* P	**Pn**	**01 00 42.4**	**+0.7**
CIRR	**Tsirk**	**0.54**	**16**	*e*P	**Pn**	**01 00 42.3**	**+0.7**
KOZ	**Kozyrevsk**	**0.58**	**324**	*e*P	**Pn**	**01 00 41.7**	**+0.1**
KOZ				*e*S	**Sn**	**01 01 01.6**	**-0.3**
KRSR	**Krestovskiy**	**0.62**	**4**	*e*P	**Pn**	**01 00 41.8**	**-0.2**
KLY	**Klyuchi**	**0.73**	**8**	*e*P	**Pn**	**01 00 42.7**	**+0.4**
KLY				*e*S	**Sn**	**01 01 04.2**	**+1.0**
SRDR	**Sredinnyy**	**0.84**	**330**	*e*P	**Pn**	**01 00 42.9**	**-0.2**
SRDR				*e*S	**Sn**	**01 01 03.9**	**-0.6**
BDR	**Baidarnaya**	**1.06**	**22**	*e*P	**Pn**	**01 00 45.1**	**+0.5**
BDR				*e*S	**Sn**	**01 01 06.9**	**-0.3**
ESO	**Esso**	**1.06**	**289**	*e*P	**Pn**	**01 00 44.4**	**-0.2**
ESO				*e*S	**Sn**	**01 01 06.0**	**-1.0**
SRKR	**Sorokina**	**1.13**	**20**	*e*P	**Pn**	**01 00 45.5**	**+0.4**
KBG	**Krutoberegovo**	**1.42**	**61**	*e*P	**Pn**	**01 00 47.4**	**0.0**
KBG				*e*S	**Sn**	**01 01 11.6**	**-0.5**
KBTR	**Krutoberegovo**	**1.45**	**64**	*e*P	**Pn**	**01 00 47.7**	**0.0**
KBTR				*e*S	**Sn**	**01 01 11.6**	**-1.1**
KRX	**Arik**	**2.48**	**206**	*e*P	**Pn**	**01 01 00.1**	**+1.4**
SDLR	**Sedlovina**	**2.50**	**203**	*e*P	**Pn**	**01 00 59.6**	**+0.7**
SPN	**Mys Shipunski**	**2.52**	**186**	*e*P	**Pn**	**01 00 57.5**	**-1.4**
SPN				*e*S	**Sn**	**01 01 29.0**	**-3.6**
NLC	**Nalytchevo**	**2.52**	**196**	*e*P	**Pn**	**01 00 58.9**	**0.0**
NLC				*e*S	**Sn**	**01 01 31.0**	**-1.6**
SMAR	**Somma**	**2.54**	**203**	*e*P	**Pn**	**01 01 00.5**	**+1.1**
AVH	**Avacha**	**2.55**	**204**	*e*P	**Pn**	**01 01 00.6**	**+1.2**
KOK	**Koryaka**	**2.55**	**206**	*e*P	**Pn**	**01 01 00.9**	**+1.5**
UGLR	**Uglovaya**	**2.58**	**203**	*e*P	**Pn**	**01 01 00.5**	**+0.7**
PET	**Petropavlovsk**	**2.79**	**203**	*e*S	**Sn**	**01 01 37.4**	**-0.9**
PETK	**Petropavlovsk-**	**2.98**	**214**	P	**Pn**	**01 01 05.0**	**+0.6**
	2.1nm,0.3s,baz=13,slow=8.9,SNR=18						
PETK				S	**Sn**	**01 01 48.1**	**+5.8**
	1.2nm,0.3s,baz=80,slow=38,SNR=2.6						
KRMR	**Karymshinskiy**	**3.10**	**207**	*e*P	**Pn**	**01 01 06.0**	**+0.3**
KRMR				*e*S	**Sn**	**01 01 44.7**	**-0.2**
BKI	**Bering**	**3.16**	**95**	*e*P	**Pn**	**01 01 45.7**	**+1.1**
BKI				*e*S	**Sn**	**01 01 45.5**	**-0.6**
GRL	**Gorelyy**	**3.36**	**206**	*i* P	**Pn**	**01 01 10.3**	**+1.2**
RUS	**Russkaya**	**3.37**	**201**	*e*P	**Pn**	**01 01 08.6**	**-0.5**
RUS				*e*S	**Sn**	**01 01 48.0**	**-2.9**
MTVR	**Mutnovka**	**3.40**	**204**	*e*P	**Pn**	**01 01 10.1**	**+0.5**
MTVR				*e*S	**Sn**	**01 01 52.0**	**+0.2**
ASAK	**Asacha**	**3.56**	**206**	*e*P	**Pn**	**01 01 12.0**	**+0.5**
ASAK				*e*S	**Sn**	**01 01 54.6**	**-0.6**
MKAR	**Makanchi Array**	**47.31**	**294**	P	**P**	**01 08 27.3**	**-2.6**
	0.2nm,0.4s,baz=50,slow=6.3,SNR=1.9						
FINES	**FINESS Array B**	**57.91**	**336**	P	**P**	**01 09 46.6**	**-0.7**
	0.3nm,0.3s,baz=30,slow=7.9,SNR=10						
TXAR	**Lajitas Array**	**59.47**	**68**	P	**P**	**01 11 06.0**	**+2.6**
	0.2nm,0.5s,baz=311,slow=6.8,SNR=3.0						
WRA	**Warramunga Arr**	**78.45**	**205**	P	**P**	**01 11 56.0**	**+0.7**
	0.9nm,0.9s,baz=18,slow=6.1,SNR=2.6						

IDC 04 01:09:51.4±33.0, **20°84S**×**179°04W**, **h563**km±345km, **mb2.8**/4, **mb1 3.0**/4, **mb1mx2.8**/24, **mbtmp3.8**/4, **Error ellipse: s-maj=213.6km s-min=38.5km az=56.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.49**	**265**	P	P	01 15 36.7	+0.1
	1.5nm,0.4s,baz=84,slow=9.2,SNR=1.7						
STKA	**Stephens Creek**	**36.76**	**244**	P	P	01 16 11.9	-0.1
	1.1nm,0.6s,baz=69,slow=8.6,SNR=3.4						
WRA	**Warramunga Arr**	**43.59**	**263**	P	P	01 17 06.3	-0.4
	1.0nm,0.8s,baz=95,slow=8.2,SNR=5.9						
VNDA	**Vanda**	**57.49**	**185**	P	P	01 18 46.6	-0.2
	0.4nm,1.0s,baz=2.4,slow=4.7,SNR=2.0						
AKASG	**Malin Array Be**	**142.83**	**330**	PKP	PKPdf	01 28 19.2	-1.8
	1.5nm,0.5s,baz=43,slow=4.4,SNR=7.4						
GERES	**GERESS Array B**	**150.25**	**343**	PKPbc	PKiKP	01 28 40.1	+0.2
	0.2nm,0.3s,baz=9.5,slow=1.2,SNR=2.1						

MAN 04 01:13:58.3, 9°21N×126°70E, h23km**, MS3.5, 2C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.33**	**296**	⇓*e*P	Pn	01 14 20.1	-1.3
SCPH				*e*S	Sb	01 14 38.9	-0.2
BUKP	**Musuan**	**2.09**	**231**	*e*P	Pb	01 14 34.1	-1.5
BUKP				*e*S	Sb	01 15 02.2	+1.0
CGP	**Cagayan de Oro**	**2.12**	**249**	⇓*e*P	Pn	01 14 33.7	+1.3
CGP				*e*S	Sn	01 14 57.7	-0.3
TBP	**Tagbilaran**	**2.84**	**280**	*e*P	Pn	01 14 41.7	-0.6
DDMP	**Don Marcelino,**	**3.24**	**198**	*e*P	Pn	01 14 48.8	+1.1
DDMP				*e*S	Sn	01 15 26.7	+1.1
PAGZ	**Pagadian**	**3.55**	**248**	*e*P	Pn	01 14 53.7	+1.6
PAGZ				*e*S	Sn	01 15 21.9	-1.1
RCP	**Roxas**	**4.54**	**301**	⇑*e*P	Pn	01 15 07.4	+1.8
ZCP	**Zamboanga City**	**5.11**	**244**	⇑*e*P	Sn	01 16 16.9	+5.1

*NNC **04** 01:31:32.2±2.0, 39.46N×73.28E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=15.0km s-min=8.3km az=170.0*
*KRNET **04** 01:31:38.0±0.1, 39.57N×73.96E, mb2.5*

ISC 04 01:31:44.3±2.1, **39.7N**±0.1×**73.72E**±0.07, **h29**km, **n14**, σ1°**93**/17, **9C-3D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARSB	**Arslanbob**	**1.70**	**341**	⇓*i*P	**Pb**	**01 32 13.1**	**-2.0**
	baz=37						
ARSB				⇓*i*S	**Sb**	**01 32 38.8**	**+2.7**
	baz=37						
BTK	**Batken**	**2.26**	**280**	⇑*i*P	**Pn**	**01 32 21.2**	**+1.4**
	baz=82						
BTK				⇑*i*S	**Sb**	**01 32 52.3**	**+0.2**
	baz=82						
ARK	**Arkit**	**2.47**	**328**	⇑*i*P	**Pn**	**01 32 24.1**	**+1.3**
	baz=26						
ARK				⇑*i*S	**Sb**	**01 32 57.1**	**-1.1**
	baz=26						
AAK	**Ala-Archa**	**2.98**	**11**	⇑Pg	**Pn**	**01 32 30.4**	**+0.7**
	1.3nm,0.3s						
AAK				⇑Lg	Lg	01 33 18.2	
	11nm,0.9s						
MRKS	**Merke**	**3.05**	**353**	Pg	**Pn**	**01 32 32.5**	**+1.8**
	2.4nm,0.3s						
MRKS				Lg	Lg	01 33 16.4	
	8.0nm,0.5s						
TKM2	**Tokmak 2**	**3.50**	**23**	⇑Pg	**Pb**	**01 32 41.1**	**-4.6**
	0.7nm,0.6s						
TKM2				⇑Lg	Lg	01 33 34.6	
	2.1nm,0.5s						
IUG	**Iuzhnay**	**3.70**	**312**	Pg	**Pn**	**01 32 39.0**	**-0.6**
	0.9nm,0.2s						
IUG				Lg	Lg	01 33 27.7	
	7.1nm,0.4s						
KST	**Kastek**	**3.73**	**26**	Pg	**Pb**	**01 32 48.2**	**-1.3**
	2.6nm,0.5s						
KST				Lg	Lg	01 33 43.4	
	6.3nm,0.5s						
DGS	**Degeres**	**3.84**	**23**	Pg	**Pb**	**01 32 50.1**	**-1.4**
	1.7nm,0.3s						
DGS				Lg	Lg	01 33 46.8	
	4.4nm,0.6s						
IZV	**Izvestkoviy**	**3.97**	**32**	Pg	**Pb**	**01 32 52.5**	**-1.1**
	1.4nm,0.2s						
IZV				Lg	Lg	01 33 50.8	
	7.7nm,0.6s						
TNSS	**Tian-Shan**	**4.11**	**35**	Pg	**Pb**	**01 32 55.9**	**-0.3**
	3.3nm,0.6s						
TNSS				Lg	Lg	01 33 56.5	
	4.7nm,0.6s						
KK31	**Karatay Array**	**4.16**	**326**	⇓Pg	**Pn**	**01 32 48.0**	**+2.2**
	0.2nm,0.2s,baz=147,slow=17,SNR=4.7						
KK31				⇑Lg	Lg	01 33 47.2	
	0.8nm,0.3s,baz=144,slow=34,SNR=4.0						
KRBS	**Karabastau**	**4.24**	**20**	Pg	**Pb**	**01 32 57.5**	**-0.6**
	1.3nm,0.7s						
KRBS				Lg	Lg	01 33 59.1	
	2.6nm,0.7s						
KTBS	**Karatobe**	**4.57**	**28**	Pg	**Pb**	**01 33 03.2**	**-0.5**
	1.5nm,0.6s						
KTBS				Lg	Lg	01 34 08.7	
	5.4nm,0.7s						

*ECX **04** 01:40:47.0±0.7, 31.59N×114.43W, h20km±14km, MD2.6, ML2.8*
*MEX **04** 01:40:48.0±0.7, 31.27N×114.21W, h11km±999km, MD3.8*

ISC 04 01:40:46.8±1.2, **31°43N**±0.05×**114°38W**±0.04, **h32**km±13km, **n12**, σ0°**97**/19, **1D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.56**	**226**	*e*P	**Pn**	**01 40 58.6**	**+0.1**
SFX				*e*S	**Sn**	**01 41 07.4**	**+0.7**
ECBX	**El Chinero**	**0.58**	**275**	*e*P	**Pb**	**01 40 56.9**	**-1.6**
PIX	**Pinacate**	**0.80**	**80**	*e*P	**Pn**	**01 41 01.7**	**-0.1**
PIX				*e*S	**Sb**	**01 41 12.6**	**0.0**
SPIG	**San Pedro Mart**	**1.01**	**248**	*e*P	**Pn**	**01 41 05.5**	**+0.6**
SPIG				*e*S	**Sb**	**01 41 19.5**	**+0.5**
SPIG	**San Pedro Mart**	**1.01**	**248**	*e*P	**Pn**	**01 41 05.3**	**+0.4**
SPIG				*i* S	**Sb**	**01 41 19.5**	**+0.5**
SPX	**San Pedro Mart**	**1.01**	**248**	*e*P	**Pn**	**01 41 05.6**	**+0.6**
SPX				*e*S	**Sb**	**01 41 19.5**	**+0.4**
SPX				IAML		01 41 20.1	
	comp=N,150nm,0.3s						
SPX	**San Pedro Mart**	**1.01**	**248**	*i* P	**Pb**	**01 41 05.8**	**-0.2**
SPX				*e*S	**Sb**	**01 41 19.5**	**+0.4**
MBIG	**Mexicali**	**1.20**	**325**	*e*P	**Pb**	**01 41 09.8**	**+0.9**
MBIG				*i* S	**Sb**	**01 41 26.4**	**+2.2**
CPBX	**Cerro Prieto**	**1.27**	**322**	⇓*e*	Sn	01 41 35.8	+12
CPBX				IAML		01 41 35.8	
	comp=E,486nm,0.3s						
CBX	**Cerro Bola**	**2.14**	**295**	*e*P	**Pn**	**01 41 19.9**	**-0.4**
CBX				IAML		01 42 03.2	
	comp=E,85nm,0.6s						
CBX	**Cerro Bola**	**2.14**	**295**	*e*P	**Pn**	**01 41 19.8**	**-0.5**
CBX				*i* S	**Sn**	**01 41 44.6**	**-1.2**
BAR	**Barrett**	**2.31**	**303**	*e*P	**Pn**	**01 41 21.4**	**-1.3**

*IDC **04** 02:19:56.2±4.7, 12.81N×144.91E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.6/41, mbtmp3.8/5, Error ellipse: s-maj=104.0km s-min=55.2km az=1.0*
*NEIC **04** 02:20:12.9±1.7, 13.1N±0.1×144.7E±0.1, h125km±7km, mb4.2/11, Error ellipse: s-maj=19.0km s-min=14.3km az=59.0*

ISC 04 02:20:10.8±0.7, **13°04N**±0.10×**144°51E**±0.09, **h100**km, **n18**, σ1°**67**/19, **mb3.9**/12, **Mariana

baz=3.3,SNR=480
BBOO Buckleboo 3.27 203 Pn **Pn** **02 29 59.4 +1.7**
BBOO Sn **Sn** **02 30 37.9 +1.2**
INKA Innaminka 3.47 55 P **Pn** **02 30 03.2 +2.7**
baz=3.4,SNR=26
INKA S **Sn** **02 30 46.1 +4.4**
baz=3.4
HTT Hallett 3.81 162 P **Pn** **02 30 06.5 +1.2**
baz=3.7,SNR=134
STKA Stephens Creek 4.05 122 P **Pn** **02 30 09.2 +0.7**
baz=3.9,SNR=214
STKA S **Sn** **02 30 55.4 -0.7**
baz=3.9
STKA Stephens Creek 4.05 122 Pn **Pn** **02 30 09.2 +0.7**
24nm,0.3s,baz=305,slow=13,SNR=162
STKA Sn **Sn** **02 30 54.6 -1.5**
163nm,0.3s,baz=343,slow=16,SNR=7.2
STKA Lg Lg 02 31 09.8
162nm,0.3s,baz=26,slow=20,SNR=5.0
STKA LR LR 02 31 52.2
comp=Z,432nm,19.7s,baz=302,slow=41
STKA Stephens Creek 4.05 122 Pn **Pn** **02 30 08.9 +0.3**
STKA **Sn** **02 30 53.9 -2.2**
QLP Quilpie 6.71 63 P **Pn** **02 30 48.0 +3.0**
baz=6.6,SNR=14
QLP S **Sn** **02 32 00.0 -1.6**
baz=6.6
CMSA Cobar Meteorol 7.22 106 P **Pn** **02 30 53.0 +0.9**
baz=7.1
ARPS Mount Arapiles 7.83 154 P **Pn** **02 31 00.5 +0.1**
baz=7.7
FORT Forrest 8.27 261 P **Pn** **02 31 07.8 +1.4**
baz=8.4,SNR=40
FORT S **Sn** **02 32 37.2 -2.7**
baz=8.4
FORT Forrest 8.27 261 Pn **Pn** **02 31 07.7 +1.2**
QIS Mount Isa 9.38 12 P **Pn** **02 31 23.6 +1.8**
baz=9.5,SNR=36
QIS S **Sn** **02 33 07.5 0.0**
baz=9.5
WRKA Warakurna 9.49 298 P **Pn** **02 31 24.7 +1.5**
baz=9.6,SNR=23
WR0 Warramunga Arr 10.16 344 Pn **Pn** **02 31 34.6 +2.0**
TOO Toolangi 10.19 142 P **Pn** **02 31 32.7 -0.2**
baz=10,SNR=32
TOO Toolangi 10.19 142 Pn **Pn** **02 31 32.6 -0.2**
WB2 Warramunga Arr 10.23 343 Pn **Pn** **02 31 35.5 +2.1**
WRA Warramunga Arr 10.23 343 Pn **Pn** **02 31 34.2 +0.8**
5.2nm,0.3s,baz=152,slow=13,SNR=58
WRA Sn **Sn** **02 33 26.6 -1.7**
4.6nm,0.3s,baz=158,slow=25,SNR=6.2
WRA Lg Lg 02 34 32.8
2.2nm,0.3s,baz=169,slow=26,SNR=5.4
WRAB Tennant Creek 10.24 343 **Pn** **02 31 35.1 +1.6**
YNG Young 10.24 119 P **Pn** **02 31 34.1 +0.6**
baz=10,SNR=10
YNG S **Sn** **02 33 24.1 -4.2**
baz=10
WB0 Warramunga Arr 10.38 343 **Pn** **02 31 37.0 +1.5**
RMQ Roma 10.43 74 P **Pn** **02 31 37.2 +1.1**
baz=10,SNR=5.0
CAN Canberra 11.12 123 P **Pn** **02 31 44.8 -0.7**
baz=11
CAN Canberra 11.12 123 Pn **Pn** **02 31 45.0 -0.5**
CNB Canberra Magne 11.38 122 P **Pn** **02 31 49.0 -0.2**
baz=11,SNR=18
CNB S **Sn** **02 33 50.5 -5.9**
baz=11
MGCD Mangrove Creek 12.06 110 P **Pn** **02 31 58.3 -0.1**
baz=12,SNR=20
MGCD S **Sn** **02 34 08.0 -5.0**
baz=12
ARMA Armidale 12.21 96 Pn **Pn** **02 31 59.9 -0.7**
CTA Charters Tower 12.47 41 Pn **Pn** **02 32 04.5 +0.5**
7.4nm,0.3s,baz=211,slow=12,SNR=36
CTA Sn **Sn** **02 34 18.2 -5.0**
2.7nm,0.3s,baz=44,slow=14,SNR=3.7
CTA Lg Lg 02 35 45.2
0.6nm,0.3s,baz=334,slow=22,SNR=1.8
CTAO Charters Tower 12.47 41 Pn **Pn** **02 32 04.8 +0.7**
CTAO Sn **Sn** **02 34 19.7 -3.5**
EIDS Eidsvold 12.78 73 P **Pn** **02 32 09.5 +1.2**
baz=13,SNR=3.9
EIDS Eidsvold 12.78 73 Pn **Pn** **02 32 07.7 -0.6**
MTSU Mount Surprise 13.14 30 P **Pn** **02 32 13.7 +0.4**
baz=13,SNR=15
FITZ Fitzroy Crossi 15.93 314 Pn **Pn** **02 32 49.0 -1.8**
1.6nm,0.3s,baz=149,slow=8.5,SNR=19
FITZ Sn **Sn** **02 35 40.5 -6.9**
1.2nm,0.3s,baz=265,slow=20,SNR=2.6
FITZ LR LR 02 38 15.4
comp=Z,98nm,19.2s,baz=132,slow=35
FITZ Fitzroy Crossi 15.93 314 **Pn** **02 32 49.3 -1.5**
FITZ IAmb IAmb 02 32 57.4
comp=Z,16nm,0.7s
KNRA Kununurra 16.21 328 Pn **Pn** **02 32 53.4 -1.0**
COEN Coen 16.59 19 **Pn** **02 32 58.9 -0.5**
COEN IAmb IAmb 02 33 08.2
comp=Z,19nm,1.1s
NWAO Narrogin (SRO) 17.63 255 P **Pn** **02 33 12.2 0.0**
comp=Z,0.8nm,0.3s,baz=75,slow=7.3,SNR=5.9
NWAO S Sn 02 36 17.6 -11
comp=Z,1.6nm,0.3s,baz=30,slow=13,SNR=4.1
NWAO Lg Lg 02 38 12.1
comp=Z,3.4nm,0.3s,baz=21,slow=23,SNR=3.2
NWAO Narrogin (SRO) 17.63 255 P **Pn** **02 33 12.7 +0.4**
NWAO IAmb IAmb 02 33 13.9
comp=Z,27nm,1.4s
NWAO Narrogin (SRO) 17.63 255 Pn **Pn** **02 33 13.0 +0.7**
NWAO IAmb IAmb 02 33 13.9
comp=Z,33nm,1.4s
PSAD2 Pilbara Seismi 17.80 293 Pn **Pn** **02 33 09.9 -4.6**
PSAC2 Pilbara Seismi 17.88 293 Pn **Pn** **02 33 11.9 -3.5**
PSAC2 IAmb IAmb 02 33 18.9
comp=Z,17nm,0.8s
MTN Manton Dam 17.89 339 P **Pn** **02 33 12.0 -3.5**
PSAB3 Pilbara Seismi 17.90 293 Pn **Pn** **02 33 11.8 -3.9**
PSAB3 IAmb IAmb 02 33 19.1
comp=Z,14nm,0.7s
PSA00 Pilbara Seismi 17.92 293 Pn **Pn** **02 33 11.9 -4.0**
MORW Morawa 18.75 267 **P** **02 33 23.7 -1.9**
MORW IAmb IAmb 02 33 28.8
comp=Z,14nm,0.8s
GIRL Giralia 22.07 283 P **P** **02 34 04.6 +2.9**
PMG Port Moresby 22.19 26 LR LR 02 42 26.7
comp=Z,72nm,19.2s,baz=140,slow=36
DZM Mont Dzumac 27.05 80 LR LR 02 45 30.9
comp=Z,116nm,18.1s,baz=222,slow=36
DZM Mont Dzumac 27.05 80 P **P** **02 34 51.3 +2.1**
JAY Jayapura 27.29 7 LR LR 02 46 52.0
comp=Z,82nm,19.8s,baz=170,slow=39
KRVT Keravat (AS076 28.81 31 LR LR 02 47 00.8
comp=Z,53nm,19.7s,baz=151,slow=37
HNR Honiara 29.14 51 LR LR 02 46 11.0
comp=Z,63nm,18.9s,baz=120,slow=35
CMWZ Cape Campbell 31.82 122 P **P** **02 35 34.1 +2.7**
CASY Casey 40.06 197 P **P** **02 36 42.1 +0.6**
VNDA Vanda 49.09 173 P **P** **02 37 54.4 +0.9**
comp=Z,0.5nm,0.5s,baz=330,slow=8.6,SNR=8.6
VNDA LR LR 02 56 45.6
comp=Z,46nm,18.8s,baz=292,slow=34
VNDA Vanda 49.09 173 P **P** **02 37 54.4 +0.9**
VNDA IAmb IAmb 02 37 55.7
comp=Z,4.2nm,1.4s
MAW Mawson 57.00 206 P **P** **02 38 53.4 +1.5**
QSPA South Pole Qui 60.30 180 P **P** **02 39 15.8 +0.6**
comp=Z,1.4nm,0.6s,baz=220,slow=0.7,SNR=9.6
QSPA South Pole Qui 60.30 180 P **P** **02 39 15.3 +0.2**
QSPA IAmb IAmb 02 39 23.0
comp=Z,2.8nm,1.1s
CMAR Chiang Mai Arr 60.71 317 P **P** **02 39 18.5 +0.1**
comp=Z,1.1nm,0.6s,baz=152,slow=6.0,SNR=4.6
CMAR LR LR 03 07 18.4
comp=Z,19nm,19.9s,baz=350,slow=38
PPT Papeete 66.89 98 LR LR 03 05 56.3
comp=Z,21nm,20.4s,baz=272,slow=33
SNAA Sanae 75.10 192 P **P** **02 40 49.4 +1.1**
SNAA IAmb IAmb 02 41 05.4
comp=Z,5.3nm,1.5s
SONM Songino Array 82.19 339 P **P** **02 41 28.9 +1.4**
comp=Z,0.8nm,0.5s,baz=153,slow=6.0,SNR=2.8
PETK Petropavlovsk- 84.40 12 P **P** **02 41 39.6 +1.0**
comp=Z,1.6nm,0.9s,baz=177,slow=5.1,SNR=1.7
MKAR Makanchi Array 91.08 326 P **P** **02 42 11.2 +0.2**
comp=Z,0.4nm,0.8s,baz=134,slow=6.2,SNR=3.0

*NNC **04** 02:57:29.0±2.2, 36°.83N×71°.10E, h194km±40km, mb2.8, mpv3.7, Error ellipse: s-maj=24.4km s-min=15.8km az=44.0*
*IDC **04** 02:57:32.5±10.0, 36°.34N×71°.76E, h196km±108km, mb3.1/4, mb1 3.1/7, mb1mx2.9/40, mbtmp3.6/7, MS3.4/1, Ms1 3.4/1, ms1mx2.3/19, Error ellipse: s-maj=56.3km s-min=54.9km az=131.0*
ISC 04 02:57:36.7±1.6, 37°.2N±0°.1×71°.3E±0°.1, h200km, n12, σ3s23/15, mb3.3/4, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.90**	**354**	P		**Pn**		**02 58 59.8**	**-2.7**
	4.8nm,0.4s,baz=178,slow=13,SNR=63								
KK31				S		**Sn**		**03 00 12.0**	**+1.5**
	4.8nm,0.6s,baz=181,slow=18,SNR=7.4								
AAK	**Ala-Archa**	**5.92**	**23**	⇑P		**Pn**		**02 59 00.7**	**-2.3**
	1.8nm,0.4s								
AAK					⇓S	**Sn**		**03 00 14.3**	**+3.0**
	6.0nm,1.0s								
TKM2	**Tokmak 2**	**6.55**	**29**	⇑P		**Pn**		**02 59 08.9**	**-2.3**
	1.7nm,0.5s								
MKAR	**Makanchi Array**	**12.54**	**37**	P		**P**		**03 00 31.8**	**-0.4**
	0.1nm,0.3s,baz=217,slow=11,SNR=2.4								
AB31	**Akbulak array**	**14.58**	**329**	P		**Pn**		**03 00 50.3**	**-3.3**
	0.9nm,0.3s,baz=136,slow=12,SNR=32								
AB31					⇓S	**S**		**03 03 33.5**	**-2.0**
	1.0nm,0.8s								
AKTO	**Aktyubinsk**	**16.29**	**328**	P		**Pn**		**03 01 19.2**	**+5.0**
	baz=139,slow=9.3								
ZALV	**Zalesovo Beam**	**19.14**	**25**	P		**Pn**		**03 01 47.5**	**-0.3**
	1.0nm,0.3s,baz=214,slow=11,SNR=11								
FINES	**FINESS Array B**	**37.03**	**325**	P		**P**		**03 04 31.0**	**+4.2**
	0.3nm,0.3s,baz=121,slow=10,SNR=6.9								
FINES					LR	LR		03 20 56.2	
	comp=Z,49nm,18.5s,baz=224,slow=37								
HFS	**Hagfors**	**42.66**	**321**	P		**P**		**03 05 17.2**	**+3.9**
	1.1nm,0.6s,baz=99,slow=7.4,SNR=3.0								
NB2	**NORSAR Subarra**	**43.96**	**323**	P		**P**		**03 05 27.0**	**+3.3**
	comp=Z,0.6nm,0.6s,baz=97,slow=8.6								
NOA	**NORSAR Array B**	**43.96**	**323**	P		**P**		**03 05 26.7**	**+3.0**
	comp=Z,0.3nm,0.6s,baz=96,slow=7.7,SNR=5.7								
TORD	**Torodi Ar. Bea**	**66.00**	**269**	P		**P**		**03 08 00.2**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=48,slow=5.9,SNR=5.1								

*BJI **04** 03:01:44.5±0.0, 24°.97N×97°.83E, h13km, ML3.7/5*
ISC 04 03:01:42.8±0.9, 24°.82N±0°.05×97°.84E±0°.06, h10km, n37, σ2s10/39, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**4.46**	**85**	Pg		**Pg**		**03 03 08.2**	**-0.1**
KMI				Sg		**Sg**		**03 04 04.5**	**-1.6**
KMI				smax		smax			
	comp=N,110nm,0.8s								
KMI				smax		smax			
	comp=E,83nm,0.9s								
CRAI	**Chiangrai**	**5.14**	**152**	P		**Pn**		**03 03 02.0**	**+2.2**
CRAI				S		**Sg**		**03 04 28.8**	**+0.9**
PAYA	**Payao**	**5.75**	**160**	P		**Pn**		**03 03 11.5**	**+3.2**
PAYA				S		**Sg**		**03 04 48.5**	**+0.9**
CMMT	**Chiang Mai**	**6.07**	**170**	P		**Pn**		**03 03 17.1**	**+4.4**
CMMT				S		**Sg**		**03 04 55.8**	**-1.6**
CMMT	**Chiang Mai**	**6.07**	**170**	P		**Sg**		**03 04 52.2**	**-5.6**
CM09	**Chiang Mai Arr**	**6.44**	**170**	P		Pn		03 03 23.0	+5.3
CM09	**Chiang Mai Arr**	**6.44**	**170**	P		**Sb**		**03 04 54.2**	**+2.1**
CM02	**Chiang Mai Arr**	**6.44**	**171**	P		**Pn**		**03 03 20.3**	**+2.6**
CM02	**Chiang Mai Arr**	**6.44**	**171**	P		**Sb**		**03 04 52.0**	**-0.2**
CM01	**Chiang Mai Arr**	**6.46**	**170**	P		**Pn**		**03 03 20.8**	**+2.9**
CM01	**Chiang Mai Arr**	**6.46**	**170**	P		**Sb**		**03 04 53.2**	**+0.6**
CM05	**Chiang Mai Arr**	**6.47**	**171**	P		**Pn**		**03 03 20.8**	**+2.6**
CM04	**Chiang Mai Arr**	**6.48**	**170**	P		**Pn**		**03 03 20.1**	**+1.8**
CM04	**Chiang Mai Arr**	**6.48**	**170**	P		**Sb**		**04 04 53.3**	**+0.1**
LAMP	**Lampang**	**6.49**	**165**	P		Pn		03 03 26.8	+8.4
LAMP	**Lampang**	**6.49**	**165**	P		**Sb**		**04 04 53.3**	**-0.2**
MHMT	**Maesarieng**	**6.62**	**179**	P		**Pn**		**03 03 24.5**	**+4.4**
MHMT	**Maesarieng**	**6.62**	**179**	P		**Sb**		**04 04 52.8**	**-4.3**
UTTA	**Uttaradit**	**7.49**	**160**	P		**Pn**		**03 03 34.2**	**+2.1**
UTTA	**Uttaradit**	**7.49**	**160**	P		**Sn**		**03 04 55.0**	**-2.1**
TAPN	**Taplejung**	**9.45**	**288**	*e*P		**Pn**		**03 03 59.3**	**+0.1**
	comp=E,16nm,0.6s								
TAPN	**Taplejung**	**9.45**	**288**	*e*P		**Pn**		**03 03 59.3**	**+0.1**
	comp=E,16nm,0.6s								
ODAN	**Odare**	**9.63**	**284**	*e*P		**Pn**		**03 04 02.6**	**+0.9**
	comp=E,16nm,0.5s								
ODAN	**Odare**	**9.63**	**284**	*e*P		**Pn**		**03 04 02.7**	**+1.0**
	comp=E,16nm,0.5s								
RAMN	**Ramite**	**10.34**	**284**	*e*P		**Pn**		**03 04 11.5**	**+0.1**
RAMN	**Ramite**	**10.34**	**284**	*e*P		**Pn**		**03 04 12.2**	**+0.8**
	comp=E,7.4nm,0.4s								
JIRN	**Jiri**	**10.83**	**288**	*e*P		**Pn**		**03 04 18.0**	**-0.3**
	comp=E,14nm,0.6s								
JIRN	**Jiri**	**10.83**	**288**	*e*P		**Pn**		**03 04 18.2**	**-0.1**
	comp=E,14nm,0.6s								
GUN	**Gumba**	**11.15**	**289**	*e*P		**Pn**		**03 04 22.2**	**-0.5**
	comp=E,13nm,0.6s								
GUN	**Gumba**	**11.15**	**289**	*e*P		**Pn**		**03 04 22.2**	**-0.5**
	comp=E,13nm,0.6s								
PKI	**Pulchoki**	**11.49**	**286**	*e*P		**Pn**		**03 04 26.4**	**-0.9**
	comp=E,11nm,0.6s								
PKI	**Pulchoki**	**11.49**	**286**	*e*P		**Pn**		**03 04 26.9**	**-0.4**
	comp=E,11nm,0.6s								
PKIN	**Phulchoki**	**11.50**	**286**	*e*P		**Pn**		**03 04 26.9**	**-0.5**
PKIN	**Phulchoki**	**11.50**	**286**	*e*P		**Pn**		**03 04 27.1**	**-0.3**
	comp=E,12nm,0.6s								
DMN	**Daman**	**11.76**	**286**	*e*P		**Pn**		**03 04 30.9**	**0.0**
	comp=E,9.5nm,0.8s								
DMN	**Daman**	**11.76**	**286**	*e*P		**Pn**		**03 04 31.0**	**0.0**
	comp=E,9.5nm,0.8s								
WMQ	**Urumqi**	**20.69**	**339**	*e*P		**P**		**03 06 20.9**	**-2.1**

TRN 04 03:12:58.2, 14°.23N×60°.85W, h92km, MD3.6, 1C-6D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MPOM	**Morne Pois Mar**	**0.22**	**357**	*e*P		Pn		03 13 12.2	+0.6
MPOM				*e*S		Sn		03 13 22.3	+0.8
SLW	**Petit Monier**	**0.22**	**204**	*e*P		Pn		03 13 14.1	+2.5
SLW				*e*S		Sn		03 13 24.0	+2.5
SLBI	**Saint Lucia, B**	**0.24**	**212**	*e*P		Pn		03 13 12.1	+0.4
SLBI				*e*S		Sn		03 13 21.9	+0.4
SLAC	**Saint Lucia, A**	**0.33**	**188**	*e*P		Pn		03 13 12.6	+0.5
SLAC				*e*S		Sn		03 13 22.8	+0.4
MVM	**Montagne Vaucl**	**0.33**	**352**	*i*P		Pn		03 13 13.0	+0.8
BIM	**Bigot**	**0.36**	**323**	*e*P		Pn		03 13 13.2	+0.9
BIM				*e*S		Sn		03 13 24.1	+1.4
LPMF	**Morne Lapointe**	**0.37**	**341**	*i*P		Pn		03 13 13.1	+0.8
TRMF	**Trois Ilets**	**0.37**	**327**	*e*P		Pn		03 13 13.2	+0.9
SLPA	**Patience**	**0.38**	**191**	*e*P		Pn		03 13 14.9	+2.5
SLPA				*e*S		Sn		03 13 25.0	+2.2
ZAM	**Aeronautique**	**0.39**	**333**	*i*P		Pn		03 13 13.5	+1.1
SLB	**Belfond**	**0.44**	**206**	*e*P		Pn		03 13 15.1	+2.2
SLB				*e*S		Sn		03 13 26.1	+2.5
SLDE	**Delcer**	**0.47**	**206**	*e*P		Pn		03 13 16.3	+3.3
SLDE				*e*S		Sn		03 13 26.2	+2.3
MCLT	**Moule a Chique**	**0.52**	**190**	⇑*i*P		Pn		03 13 13.7	+0.3
MCLT				*e*S		Sn		03 13 24.8	+0.1
ILAM	**Ilet Lapin Mar**	**0.55**	**357**	*e*P		Pn		03 13 14.6	+1.0
ILAM				*e*S		Sn		03 13 25.9	+1.0
FDF	**Fort de France**	**0.58**	**330**	*e*P		Pn		03 13 15.5	+1.5
FDF				*e*S		Sn		03 13 27.7	+2.0
PML	**Morne Lenard**	**0.64**	**329**	*e*P		Pn		03 13 16.0	+1.5
GBMF	**Grand Be**	**0.65**	**332**	*e*P		Pn		03 13 16.0	+1.5
BAMF	**Morne Balai**	**0.66**	**334**	*i*P		Pn		03 13 16.0	+1.4
CXM	**Morne La Croix**	**0.66**	**332**	*i*P		Pn		03 13 16.3	+1.5
PCM	**Pelee Case Pet**	**0.69**	**329**	*i*P		Pn		03 13 16.2	+1.3
SVN	**Savane Anatole**	**0.69**	**333**	*e*P		Pn		03 13 16.3	+1.4
SFAN	**Fancy Village**	**0.89**	**201**	*e*P		Pn		03 13 17.8	+0.8
SFAN				*e*S		Sn		03 13 31.9	+0.9
SSV	**Crater Summit**	**0.95**	**201**	*e*		Pn		03 13 19.5	+1.8
SSV				*e*S		Sn		03 13 34.2	+2.0
BHS	**Barnard House**	**0.96**	**197**	*e*P		Pn		03 13 19.2	+1.5
BHS				*e*S		Sn		03 13 33.5	+1.2
SVV	**Soufriere Volc**	**0.97**	**202**	*e*P		Pn		03 13 19.6	+1.8
SVV				*e*S		Sn		03 13 34.1	+1.7
SVCV	**St. Vincent, C**	**0.99**	**197**	*e*P		Pn		03 13 18.6	+0.6
SVCV				*e*S		Sn		03 13 33.3	+0.5
SVB	**Belmont**	**1.03**	**203**	*e*P		Pn		03 13 19.1	+0.6
SVB				*e*S		Sn		03 13 34.5	+0.9
DLPL	**La Plaine**	**1.17**	**341**	*e*P		Pn		03 13 20.9	+0.9
DLPL				*e*S		Sn		03 13 37.4	+0.9
BCHC	**Barbados, Cave**	**1.60**	**132**	*e*P		Pn		03 13 26.9	+1.5
BCHC				*e*S		Sn		03 13 49.0	+3.0
BBGH	**Gun Hill**	**1.65**	**131**	*e*P		Pn		03 13 27.1	+1.1
BBGH				*e*S		Sn		03 13 47.6	+0.5
BBSP	**Saint Philip**	**1.75**	**129**	*e*P		Pn		03 13 29.1	+1.8
BBSP				*e*S		Sn		03 13 50.4	+1.0
MAGL	**Barre de l'ile**	**1.77**	**346**	*e*P		Pn		03 13 28.0	+0.5
MAGL				*e*S		Sn		03 13 50.1	+0.3
TDBA	**Terre de Bas,**	**1.79**	**335**	*e*P		Pn		03 13 29.6	+1.8
TDBA				*e*S		Sn		03 13 52.4	+2.2
GCMP	**Grenada, Carri**	**1.82**	**198**	*e*P		Pn		03 13 28.7	+0.5
GCMP				*e*S		Sn		03 13 51.2	+0.3
CBE	**Ff, Capester**	**1.98**	**338**	*e*P		Pn		03 13 31.5	+1.2
CBE				*e*S		Sn		03 13 56.3	+1.6
GRSS	**Sisters**	**2.06**	**201**	*e*S		Sn		03 13 56.8	+0.3
GRGR	**Grenville**	**2.22**	**201**	*e*P		Pn		03 13 34.5	+1.0
GRGR				*e*S		Sn		03 14 01.7	+1.2
ABD	**La Joyeuse, An**	**2.32**	**345**	*e*P		Pn		03 13 35.7	+0.9
ABD				*e*S		Sn		03 14 03.5	+0.8
MLYT	**Lee's Yard**	**2.80**	**333**	*e*		Pn		03 13 44.5	+3.3
MLYT	**Lee's Yard**	**2.80**	**333**	*e*		Sn		03 14 20.5	+6.3
TOSP	**Speyside**	**2.92**	**174**	*e*P		Pn		03 13 44.7	+1.9
TOSP				*e*S		Sn		03 14 17.4	+0.3
ANWB	**Willy Bob**	**3.54**	**345**	*e*P		Pn		03 13 51.7	+0.6
ANWB				*e*S		Sn		03 14 31.1	-1.0
SKOC	**St. Kitts, UWI**	**3.55**	**329**	*e*P		Pn		03 13 52.8	+1.6
SKI	**Saint Kitts**	**3.59**	**330**	*e*P		Pn		03 13 52.8	+1.0
SKI				*e*S		Sn		03 14 34.3	+1.1
TRN	**Trinidad (W)**	**3.60**	**189**	*e*P		Pn		03 13 52.5	+0.7
TRN				*e*S		Sn		03 13 53.8	+0.4
GUIV	**Guiria**	**3.80**	**201**	*e*P		Pn		03 13 56.3	+1.6
GUIV				*e*S		Sn		03 14 38.5	+0.2
SMRT	**St. Maarten**	**4.37**	**331**	*e*S		Sn		03 14 51.8	-0.2
BAUV	**El Baul**	**8.79**	**234**	*e*		Pn		03 15 08.2	+5.6

*NEIC **04** 03:17:20.0±1.8, 3°.84N±0°.08×71°.42W±0°.08, h13km±5km, mb4.2/9, Mwr3.8(RSNC), Error ellipse: s-maj=13.7km s-min=10.3km az=129.0*
*IDC **04** 03:17:21.3±2.0, 4°.44N×71°.25W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.8/22, mbtmp3.9/7, ML2.4/1, Error ellipse: s-maj=64.9km s-min=20.2km az=5.0*
*RSNC **04** 03:17:23.5±0.8, 3°.88N×71°.58W, h4km±5km, ML3.6, Mw3.8*
ISC 04 03:17:19.3±1.7, 3°.88N±0°.03×71°.42W±0°.05, h2km±10km, n53, σ2s08/83, mb4.0/10, 4D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTGC	**Puerto Gaitan,**	**0.78**	**294**	⇓*i*Pg		**Pg**		**03 17 33.9**	**-0.5**
PTGC				*e*Sg		**Sg**		**03 17 43.2**	**-1.4**
PTGC				*i*				03 17 59.2	
	comp=Z,2μm,0.5s								
GUVC	**San Jose del G**	**1.79**	**222**	*e*P		**Pn**		**03 17 52.1**	**+0.8**
GUVC				*e*S		**Sn**		**03 18 14.8**	**0.0**
GUVC				*i*				03 18 19.4	
	comp=Z,616nm,0.2s								
VILC	**Villavicencio,**	**2.28**	**276**	*e*P		**Pn**		**03 17 58.9**	**+0.6**
VILC				*e*S		**Sn**		**03 18 25.9**	**-1.2**
VILC				*i*				03 18 31.4	
	comp=Z,782nm,0.5s								
CHIC	**Chingaza**	**2.43**	**288**	⇓*e*P		**Pn**		**03 18 01.1**	**+0.6**
CHIC				*e*S		**Sn**		**03 18 30.4**	**-0.6**
CHIC				*i*				03 18 39.9	
	comp=Z,332nm,0.6s								
TAMC	**Tame, Arauca**	**2.57**	**352**	*e*P		**Pn**		**03 18 04.5**	**+2.5**
TAMC				*e*S		**Sn**		**03 18 35.9**	**+2.0**
TAMC				*i*				03 18 58.7	
	comp=Z,509nm,0.6s								
RUSC	**La Rusia**	**2.60**	**320**	*e*P		**Pn**		**03 18 04.2**	**+1.3**
RUSC				*e*S		**Sn**		**03 18 36.7**	**+1.4**
RUSC				*i*				03 18 55.5	
	comp=Z,210nm,0.9s								
RUSC	**La Rusia**	**2.60**	**320**			**Pn**		**03 18 04.0**	**+1.1**
RUSC					Sn	**Sn**		**03 18 34.6**	**-0.7**
MACC	**Macarena, Meta**	**2.98**	**235**	*e*P		**Pn**		**03 18 10.1**	**+2.5**
MACC				*e*S		**Sb**		**03 18 48.1**	**-2.0**
MACC				*i*				03 18 59.1	
	comp=Z,411nm,0.5s								
ROSC	**El Rosal**	**3.05**	**288**	Pn		**Pn**		**03 18 10.8**	**+1.9**
	comp=Z,11nm,0.3s,baz=103,slow=8.2,SNR=15								
ROSC				Pg		**Pg**		**03 18 19.4**	**+1.5**
	comp=Z,40nm,0.3s,baz=121,slow=14,SNR=27								
ROSC				Sn		**Sn**		**03 18 46.9**	**+0.6**
	comp=Z,20nm,0.3s,baz=244,slow=22,SNR=3.9								
ROSC				Lg		Lg		03 18 56.9	
	comp=Z,33nm,0.3s,baz=358,slow=22,SNR=3.8								
ROSC	**El Rosal**	**3.05**	**288**	*e*P		**Pn**		**03 18 10.8**	**+1.9**
ROSC				*e*S		**Sn**		**03 18 46.2**	**-0.1**
ROSC				*i*				03 19 11.8	
	comp=Z,148nm,1.1s								
ROSC	**El Rosal**	**3.05**	**288**			**Pn**		**03 18 09.4**	**+0.4**
ROSC						**Sn**		**03 18 44.4**	**-1.9**
SPBC	**San Pablo de B**	**3.18**	**304**	*e*P		**Pn**		**03 18 10.8**	**+0.3**
SPBC				*e*S		**Sb**		**03 18 55.5**	**-0.4**
SPBC				*i*				03 19 01.6	
	comp=Z,157nm,0.3s								
BARC	**Barichara**	**3.22**	**327**	*e*P		**Pn**		**03 18 12.1**	**+0.9**
BARC				*e*S		**Sb**		**03 19 00.6**	**+3.4**
BARC				*i*				03 19 14.3	
	comp=Z,365nm,1.1s								
PRAC	**Prado**	**3.47**	**267**	*e*P		**Pn**		**03 18 16.0**	**+1.6**
PRAC				*e*S		**Sg**		**03 19 11.2**	**+0.3**
PRAC				*i*				03 19 17.2	
	comp=Z,87nm,1.0s								
PAMC	**Pamplona, Colo**	**3.67**	**340**	*e*P		**Pn**		**03 18 19.0**	**+1.5**
PAMC				*e*S		**Sb**		**03 19 09.1**	**-1.2**
PAMC				*i*				03 19 31.7	
	comp=Z,229nm,0.5s								
ORTC	**Ortega, Tolima**	**3.82**	**271**	⇓*i*P		**Pn**		**03 18 20.0**	**+0.6**
ORTC				*e*S		**Sb**		**

comp=Z,135nm,0.6s
SDV Santo Domingo 5.03 9 *e*S **Sb 03 19 54.6 +5.1**
SDV Santo Domingo 5.03 9 **Pn 03 18 36.6 +0.5**
PCON Cinco Dias 5.21 253 *e*P **Pb 03 18 54.3 +2.7**
PCON *e*S **Sb 03 19 59.4 +4.5**
PCON *i* 03 20 07.3
comp=Z,123nm,1.3s
SMLC San Martn de 5.56 332 *e*P **Pn 03 18 42.9 -0.2**
SMLC *e*S **Sn 03 19 46.1 -1.5**
SMLC *i* 03 19 57.5
comp=Z,28nm,0.5s
PUAC Puerto Asis, P 6.12 237 *e*P **Pb 03 19 09.9 +3.2**
PUAC *e*S **Sb 03 20 26.1 +5.5**
GCUF Volcan Galeras 6.48 246 *e*P **Pb 03 19 14.8 +1.6**
GCUF *e*S **Sg 03 20 39.3 -8.5**
GCUF *i* 03 20 58.5
comp=Z,34nm,1.8s
SJCC San Jacinto, C 7.05 328 *e*P **Pn 03 19 02.5 -1.2**
SJCC *e*S **Sn 03 20 20.0 -4.6**
SJCC *i* 03 20 31.8
comp=Z,16nm,0.5s
URIC Uribia, Colomb 7.79 356 Pn **Pn 03 19 13.3 -0.6**
BCIP Isla Barro Col 9.88 303 Pn **Pn 03 19 41.8 -0.7**
GO01 Chusmiza 23.50 175 P **P 03 22 28.8 -2.5**
PB11 IPOC Station P 23.56 176 P **P 03 22 29.3 -2.2**
PB11 IAmb IAmb 03 22 36.6
comp=Z,5.8nm,0.9s
AC01 Pan de Azucar 29.86 179 P **P 03 23 27.7 -0.7**
CCM Cathedral Cave 38.54 335 P **P 03 24 42.6 -0.8**
CCM IAmb IAmb 03 24 44.0
comp=Z,5.1nm,0.7s
TXAR Lajitas Array 39.69 313 P **P 03 24 52.3 -1.0**
comp=Z,1.0nm,0.7s,baz=129,slow=8.6,SNR=16
TX31 Lajitas Ar. Si 39.69 313 P **P 03 24 52.0 -1.4**
TX31 IAmb IAmb 03 25 01.9
comp=Z,4.3nm,1.1s
TX32 Lajitas Array 39.69 313 P **P 03 24 52.4 -0.9**
MNTX Cornudas Mount 42.23 315 P **P 03 25 13.3 -0.8**
MNTX IAmb IAmb 03 25 15.1
comp=Z,5.2nm,0.8s
SCHQ Schefferville 50.93 3 P P 03 26 19.6 -2.5
comp=Z,1.6nm,0.6s,baz=158,slow=19,SNR=2.0
SCHQ Schefferville 50.93 3 P P 03 26 20.4 -1.7
SCHQ IAmb IAmb 03 26 23.6
comp=Z,3.1nm,0.9s
PDAR Pinedale Array 51.44 324 P **P 03 26 26.4 0.0**
comp=Z,0.4nm,0.3s,baz=100,slow=10,SNR=1.2
SUMG Summit 71.56 10 P P 03 28 41.3 -0.8
TORD Torodi Ar. Bea 72.69 78 P **P 03 28 49.5 0.0**
comp=Z,0.4nm,0.5s,baz=285,slow=4.9,SNR=11
GERES GERESS Array B 83.88 41 P **P 03 29 52.1 +1.1**
comp=Z,0.3nm,0.5s,baz=282,slow=4.7,SNR=4.9
ARCES ARCESS Array B 88.82 20 P **P 03 30 14.3 -0.4**
comp=Z,0.7nm,0.8s,baz=276,slow=2.6,SNR=3.6

IDC ***04*** *03:46:05.4±15.0, 20.˚88S×71.˚08W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.6/26, mbtmp4.0/2, Error ellipse: s-maj=641.8km s-min=66.0km az=21.0*
GUC ***04*** *03:46:12.5±0.6, 20.˚22S×70.˚91W, h33km±2km, ML3.6*
ISC 04 03:46:09.6±1.9**, 20.˚19S**±0.˚04×**70.˚96W**±0.˚08**, h14**km±10km**, n18**, σ0**49**/25**, 5C-2D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.78**	**96**	*e*P		**Pb**	**03 46 24.9**	**0.0**
TA02				*i* S		**Sg**	**03 46 35.1**	**+0.2**
TA01	**Diego Aracena**	**0.82**	**117**	*e*P		**Pg**	**03 46 25.6**	**+0.2**
TA01				*i* S		**Sg**	**03 46 35.7**	**-0.5**
TA01				IAML			03 46 37.9	
	comp=N,4μm,0.4s							
PATCX	**Punta Patache**	**0.98**	**130**	*e*P		**Pb**	**03 46 28.2**	**-0.2**
PATCX				*i* S		**Sb**	**03 46 40.5**	**-0.7**
PATCX				IAML			03 46 42.5	
	comp=E,2μm,0.5s							
PSGC	**Pisagua**	**0.98**	**53**	⇓*i* P		**Pg**	**03 46 28.6**	**+0.1**
PSGC				*i* S		**Sg**	**03 46 41.6**	**+0.1**
PB11	**IPOC Station P**	**1.30**	**71**	⇓*i* P		**Pn**	**03 46 33.5**	**+0.1**
PB11				*i* S		**Sb**	**03 46 50.0**	**-0.4**
PB11				IAML			03 46 55.4	
	comp=N,1μm,0.4s							
PB02	**IPOC Station P**	**1.50**	**139**	⇑*i* P		**Pn**	**03 46 36.6**	**+0.4**
PB02				*i* S		**Sn**	**03 46 55.3**	**-0.3**
PB02				IAML			03 47 01.1	
	comp=E,2μm,0.4s							
PB01	**IPOC Station P**	**1.62**	**122**	⇑*i* P		**Pn**	**03 46 38.5**	**+0.7**
PB01				*i* S		**Sn**	**03 46 57.9**	**-0.6**
PB01				IAML			03 47 04.9	
	comp=N,2μm,0.4s							
MNMC	**Minye Minye**	**1.66**	**51**	⇑*i* P		**Pb**	**03 46 39.6**	**-0.6**
MNMC				*i* S		**Sb**	**03 47 01.3**	**+0.2**
PB12	**IPOC Station P**	**1.68**	**21**	*e*P		**Pb**	**03 46 39.6**	**-0.7**
PB12				IAML			03 47 13.9	
	comp=E,620nm,0.8s							
PB08	**IPOC Station P**	**1.69**	**89**	⇑*i* P		**Pn**	**03 46 39.9**	**+0.7**
PB08				*i* S		**Sn**	**03 47 01.0**	**+0.2**
PB08				IAML			03 47 04.4	
	comp=N,563nm,0.3s							
GO01	**Chusmiza**	**1.74**	**73**	*e*P		**Pn**	**03 46 40.6**	**+0.8**
GO01				*i* S		**Sb**	**03 47 03.4**	**-0.1**
GO01				IAML			03 47 05.7	
	comp=N,2μm,0.1s							
PB07	**IPOC Station P**	**1.82**	**147**	⇑*i* P		**Pn**	**03 46 41.1**	**+0.3**
H03N1	**Juan Fernandez**	**14.98**	**207**	T		T	04 05 13.3	
	baz=33,slow=72,SNR=36							
H03N2	**Juan Fernandez**	**14.98**	**207**	T		T	04 05 07.2	
	baz=33,slow=72,SNR=33							
H03N3	**Juan Fernandez**	**14.99**	**207**	T		T	04 05 06.0	
	baz=33,slow=72,SNR=19							
TORD	**Torodi Ar. Bea**	**78.74**	**71**	P		**P**	**03 58 11.9**	**-0.4**
	comp=N,1.2nm,0.7s,baz=261,slow=5.5,SNR=9.2							
YKA	**Yellowknife Ar**	**89.33**	**341**	P		**P**	**03 59 05.7**	**+0.6**
	comp=N,0.5nm,0.7s,baz=143,slow=5.2,SNR=3.5							
MKAR	**Makanchi Array**	**145.65**	**33**	PKPbc		**PKPab**	**04 05 48.1**	**-0.2**
	comp=N,0.5nm,0.7s,baz=329,slow=3.6,SNR=3.4							

IDC ***04*** *03:54:11.7±0.8, 36.˚25N×21.˚92E, h0km, mb4.1/18, mb1 4.0/29, mb1mx3.9/54, mbtmp4.0/29, ML3.6/11, MS3.2/14, Ms1 3.2/14, ms1mx2.9/50, Error ellipse: s-maj=15.7km s-min=13.5km az=28.0*
ATH ***04*** *03:54:15.9, 36.˚17N×21.˚83E, h27km, ML3.8/15, Error ellipse: s-maj=1.9km s-min=0.8km az=47.0*
THE ***04*** *03:54:16.8, 36.˚15N×21.˚86E, h12km±1km, ML3.8/9, Error ellipse: s-maj=1.7km s-min=0.7km az=234.0*
NEIC ***04*** *03:54:16.4±1.6, 36.˚23N±0.˚06×21.˚85E±0.˚05, h36km±8km, Error ellipse: s-maj=9.2km s-min=6.5km az=182.0*
ISC 04 03:54:16.6±1.0**, 36.˚22N**±0.˚05×**21.˚70E**±0.˚03**, h44**km±10km**, n294, σ2**8**44/368, mb4.3/33, MS3.1/8, 14C-15D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.68**	**3**	P		**Pn**	**03 54 31.1**	**+1.3**
PYL				S		**Sn**	**03 54 42.7**	**+3.4**
	7μm,0.6s							
PYL	**PYLOS**	**0.68**	**3**	P		**Pn**	**03 54 30.8**	**+1.0**
PYL				S		**Sn**	**03 54 40.7**	**+1.4**
PYL				AML	AML		03 54 44.4	
	comp=E,15152μm,0.4s							
PYL				AML	AML		03 54 45.5	
	comp=N,11855μm,0.4s							
ITM	**Ithomi**	**0.98**	**11**	P		**Pn**	**03 54 35.5**	**+1.6**
ITM				S		**Sn**	**03 54 51.8**	**+5.2**
	comp=N,4μm,0.5s							
ITM	**Ithomi**	**0.98**	**11**	P		**Pn**	**03 54 35.2**	**+1.3**
ITM				S		**Sn**	**03 54 49.3**	**+2.7**
ITM				AML	AML		03 54 57.1	
	comp=E,9067μm,0.5s							
ITM				AML	AML		03 54 59.0	
	comp=N,8734μm,0.4s							
ITM	**Ithomi**	**0.98**	**11**	P		**Pn**	**03 54 35.5**	**+1.6**
ITM				S		**Sn**	**03 54 50.1**	**+3.5**
ITM				AML	AML			
	comp=N,1160μm,0.9s							
ITM				AML	AML			
	comp=E,1170μm,0.5s							
ITM	**Ithomi**	**0.98**	**11**			**Pn**	**03 54 34.3**	**+0.4**
ITM				Sn		**Sn**	**03 54 47.3**	**+0.7**
KTHA	**Kythira Island**	**1.11**	**88**	P		**Pn**	**03 54 36.1**	**+0.4**
KTHA				S		**Sn**	**03 54 48.4**	**-1.4**
	comp=E,8μm,0.8s							
KTHA	**Kythira Island**	**1.11**	**88**	P		**Pn**	**03 54 35.8**	**+0.1**
KTHA				S		**Sn**	**03 54 49.4**	**-0.3**
KTHA				AML	AML		03 54 58.2	
	comp=N,11427μm,0.9s							
KTHA				AML	AML		03 54 59.7	
	comp=E,20219μm,0.8s							
VLI	**Veliai**	**1.12**	**63**	P		**Pn**	**03 54 35.9**	**+0.1**
VLI				S		**Sn**	**03 54 51.8**	**+1.8**
	comp=E,9μm,0.7s							
VLI	**Veliai**	**1.12**	**63**	P		**Pn**	**03 54 36.2**	**+0.4**
VLI				S		**Sn**	**03 54 51.2**	**+1.2**
VLI				AML	AML		03 54 54.7	
	comp=N,12426μm,0.7s							
VLI				AML	AML		03 55 00.9	
	comp=E,21896μm,0.8s							
MNVA	**Monemvasia**	**1.18**	**66**	P		**Pn**	**03 54 37.1**	**+0.5**
MNVA				S		**Sn**	**03 54 52.4**	**+0.9**
MNVA				AML	AML		03 54 54.7	
	comp=E,7513μm,0.7s							
MNVA				AML	AML		03 54 59.8	
	comp=N,4740μm,0.6s							
VLX	**Vlachokerasia**	**1.27**	**25**	P		**Pn**	**03 54 38.8**	**+0.8**
VLX				S		**Sn**	**03 54 57.1**	**+3.2**
	comp=N,6μm,0.6s							
VLX	**Vlachokerasia**	**1.27**	**25**	P		**Pn**	**03 54 40.0**	**+2.0**
VLX				S		**Sn**	**03 54 57.2**	**+3.2**
VLX				AML	AML		03 55 02.3	
	comp=E,10746μm,0.5s							
VLX				AML	AML		03 55 04.1	
	comp=N,12575μm,0.7s							
AMT	**Artemida-Makis**	**1.31**	**0**	P		**Pn**	**03 54 40.8**	**+2.3**
AMT				S		**Sn**	**03 55 00.7**	**+5.9**
	comp=N,6μm,0.6s							
AMT	**Artemida-Makis**	**1.31**	**0**	P		**Pn**	**03 54 41.1**	**+2.6**
AMT				S		**Sn**	**03 55 00.0**	**+5.2**
AMT				AML	AML		03 55 08.7	
	comp=N,12438μm,0.5s							
AMT				AML	AML		03 55 12.8	
	comp=E,10566μm,0.5s							
ANKY	**Antikythira Is**	**1.35**	**105**	P		**Pn**	**03 54 39.1**	**+0.1**
ANKY				S		**Sn**	**03 54 56.2**	**+0.5**
	comp=E,3μm,0.5s							
ANKY	**Antikythira Is**	**1.35**	**105**	P		**Pn**	**03 54 39.6**	**+0.6**
ANKY				S		**Sn**	**03 54 56.4**	**+0.7**
ANKY				AML	AML		03 55 07.9	
	comp=N,6240μm,0.8s							
ANKY				AML	AML		03 55 08.8	
	comp=E,6702μm,0.5s							
TRIP	**Tripoli**	**1.39**	**19**	P		**Pn**	**03 54 41.4**	**+1.9**
TRIP				S		**Sn**	**03 55 01.4**	**+4.7**
	comp=E,3μm,0.6s							
TRIP	**Tripoli**	**1.39**	**19**	P		**Pn**	**03 54 41.8**	**+2.2**
TRIP				S		**Sn**	**03 55 00.8**	**+4.1**
TRIP				AML	AML		03 55 06.9	
	comp=N,6962μm,0.5s							
TRIP				AML	AML		03 55 09.6	
	comp=E,5803μm,0.6s							
DRO	**Drossia**	**1.73**	**0**	P		**Pn**	**03 54 47.0**	**+2.8**
DRO	**Drossia**	**1.73**	**0**	P		**Pn**	**03 54 47.1**	**+2.8**
DRO				S		**Sn**	**03 55 10.4**	**+5.3**
DRO				AML	AML		03 55 31.4	
	comp=N,6553μm,0.6s							
DRO				AML	AML		03 55 34.8	
	comp=E,2303μm,0.5s							
GUR	**Goura**	**1.79**	**17**	P		**Pn**	**03 54 47.8**	**+2.7**
GUR	**Goura**	**1.79**	**17**	P		**Pn**	**03 54 47.9**	**+2.7**
GUR				S		**Sn**	**03 55 10.8**	**+4.1**
GUR				AML	AML		03 55 25.5	
	comp=N,6285μm,0.6s							
GUR				AML	AML		03 55 25.8	
	comp=E,5637μm,0.5s							
YDRA	**Hydra**	**1.81**	**51**	P		**Pn**	**03 54 46.3**	**+1.0**
RLS	**Riolos of Patr**	**1.84**	**354**	P		**Pn**	**03 54 49.1**	**+3.4**
RLS	**Riolos of Patr**	**1.84**	**354**	P		**Pn**	**03 54 49.1**	**+3.4**
RLS				S		**Sn**	**03 55 13.2**	**+5.4**
RLS				AML	AML		03 55 30.5	
	comp=E,1566μm,0.9s							
RLS				AML	AML		03 55 34.8	
	comp=N,2014μm,0.6s							
VLMS	**Volimes, Zakyn**	**1.85**	**334**	P		**Pn**	**03 54 49.0**	**+3.1**
VLMS				S		**Sn**	**03 55 13.6**	**+5.6**
VLMS				AML	AML		03 55 17.8	
	comp=E,2266μm,0.4s							
VLMS				AML	AML		03 55 21.4	
	comp=N,3265μm,0.4s							
KLV	**Kalavryta, Ach**	**1.86**	**11**	P		**Pn**	**03 54 48.7**	**+2.7**
KLV				S		**Sn**	**03 55 12.8**	**+4.6**
	comp=N,1μm,0.7s							
KLV	**Kalavryta, Ach**	**1.86**	**11**	P		**Pn**	**03 54 48.8**	**+2.8**
KLV				S		**Sn**	**03 55 12.9**	**+4.6**
KLV				AML	AML		03 55 33.0	
	comp=N,2378μm,0.8s							
KLV				AML	AML		03 55 33.0	
	comp=E,2605μm,0.8s							
KLV	**Kalavryta, Ach**	**1.86**	**11**	P		**Pn**	**03 54 48.9**	**+2.9**
KLV				AML	AML			
	comp=N,1555μm,0.6s							
KLV				AML	AML			
	comp=E,1565μm,0.8s							
IMMV	**Iera Moni Meta**	**2.01**	**112**	P		**Pn**	**03 54 48.2**	**+0.2**
IMMV	**Iera Moni Meta**	**2.01**	**112**	P		**Pn**	**03 54 48.1**	**+0.2**
KFL	**Anninata**	**2.02**	**339**	P		**Pn**	**03 54 51.5**	**+3.4**
KFL	**Anninata**	**2.02**	**339**	P		**Pn**	**03 54 51.6**	**+3.4**
LAKA	**Lakka**	**2.03**	**6**	P		**Pn**	**03 54 51.8**	**+3.5**
LAKA	**Lakka**	**2.03**	**6**	P		**Pn**	**03 54 51.6**	**+3.3**
LOUT	**Loutraki**	**2.04**	**30**	P		**Pn**	**03 54 50.5**	**+2.0**
LOUT	**Loutraki**	**2.04**	**30**	P		**Pn**	**03 54 50.8**	**+2.4**
VLS	**Valsamata**	**2.14**	**336**	P		**Pn**	**03 54 52.8**	**+3.0**
VLS				S		**Sn**	**03 55 20.6**	**+5.3**
VLS				AML	AML		03 55 25.4	
	comp=E,643μm,0.2s							
VLS				AML	AML		03 55 32.5	
	comp=N,1013μm,0.6s							
VLS	**Valsamata**	**2.14**	**336**	P		**Pn**	**03 54 52.6**	**+2.7**
VLS				S		**Sn**	**03 55 18.7**	**+3.4**
VLS				AML	AML			
	comp=N,170μm,1.3s							
VLS				AML	AML			
	comp=E,162μm,0.9s							
TRIZ	**Trizonia**	**2.16**	**8**	P		**Pn**	**03 54 53.0**	**+2.9**
TRIZ	**Trizonia**	**2.16**	**8**	P		**Pn**	**03 54 53.1**	**+3.0**
VAM	**Vamos**	**2.19**	**111**	P		**Pn**	**03 54 50.5**	**0.0**
VAM	**Vamos**	**2.19**	**111**	P		**Pn**	**03 54 50.6**	**+0.1**
KALE	**Kalithea**	**2.20**	**9**	P		**Pn**	**03 54 53.4**	**+2.7**
KALE	**Kalithea**	**2.20**	**9**	P		**Pn**	**03 54 53.4**	**+2.7**
SERG	**Sergoula**	**2.21**	**7**	P		**Pn**	**03 54 54.0**	**+3.2**
MHLO	**Agia Marina, M**	**2.23**	**77**	P		**Pn**	**03 54 50.0**	**-1.1**
PROD	**Prodromos**	**2.25**	**25**	P		**Pn**	**03 54 52.7**	**+1.3**
KEF3	**Kipouria, Keph**	**2.25**	**332**	P		**Pn**	**03 54 54.3**	**+2.9**
KEF4	**Livadi, Kephal**	**2.27**	**334**	P		**Pn**	**03 54 54.7**	**+3.1**
VILL	**Villia**	**2.33**	**33**	P		**Pn**	**03 54 52.8**	**+0.3**
VLY	**Voula,Athens**	**2.34**	**45**	P		**Pn**	**03 54 52.4**	**-0.2**
VLY	**Voula,Athens**	**2.34**	**45**	P		**Pn**	**03 54 53.9**	**+1.3**
VIL2	**Platees**	**2.35**	**32**	P		**Pn**	**03 54 53.4**	**+0.7**
ANX	**Ano Chora**	**2.38**	**4**	P		**Pn**	**03 54 56.6**	**+3.4**
ANX	**Ano Chora**	**2.38**	**4**	P		**Pn**	**03 54 56.5**	**+3.4**
ATH	**Athens Observa**	**2.38**	**42**	P		**Pn**	**03 54 55.1**	**+2.0**
PVO	**Paravola**	**2.40**	**357**	P		**Pn**	**03 54 57.9**	**+4.6**
PVO	**Paravola**	**2.40**	**357**	P		**Pn**	**03 54 57.5**	**+4.2**
PDO	**Prodromos**	**2.41**	**350**	P		**Pn**	**03 54 57.2**	**+3.7**
PDO	**Prodromos**	**2.41**	**350**	P		**Pn**	**03 54 57.3**	**+3.8**
FSK	**Fiskardo**	**2.41**	**338**	P		**Pn**	**03 54 56.1**	**+2.6**
ATHU	**Athens Univers**	**2.42**	**43**	P		**Pn**	**03 54 54.1**	**+0.5**
ATHU	**Athens Univers**	**2.42**	**43**	P		**Pn**	**03 54 54.3**	**+0.7**
PTL	**Penteli**	**2.52**	**43**	P		**Pn**	**03 54 55.8**	**+0.8**
EVGI	**Lefkada island**	**2.54**	**341**	P		**Pn**	**03 54 58.3**	**+3.0**
DION	**Dionisos Attik**	**2.58**	**43**	P		**Pn**	**03 54 56.0**	**+0.2**
LKR	**Lokris**	**2.64**	**23**	P		**Pn**	**03 54 57.5**	**+0.8**
AXAR	**Agios Charalam**	**2.66**	**17**	P		**Pn**	**03 54 58.7**	**+1.8**
AXAR	**Agios Charalam**	**2.66**	**17**	P		**Pn**	**03 54 59.0**	**+2.1**
EVR	**Evrytania**	**2.69**	**2**	P		**Pn**	**03 55 01.5**	**+4.0**
EVR	**Evrytania**	**2.69**	**2**	P		**Pn**	**03 55 01.3**	**+3.8**
LKD2	**Lefkada island**	**2.69**	**342**	P		**Pn**	**03 55 01.1**	**+3.6**
TSLK	**Tsoukalades, L**	**2.73**	**343**	P		**Pn**	**03 55 01.3**	**+3.4**
IDI	**Anoyia**	**2.76**	**109**	P		**Pn**	**03 54 57.6**	**-0.8**
IDI	**Anoyia**	**2.76**	**109**	Pn		**Pn**	**03 54 56.6**	**-1.8**
	comp=E,1.9nm,0.3s,baz=295,slow=17,SNR=2.8							
IDI				LR		LR	03 56 15.8	
	comp=E,292nm,18.8s,baz=258,slow=48							
IDI	**Anoyia**	**2.76**	**109**	⇓P		**Pn**	**03 54 58.4**	**0.0**
IDI	**Anoyia**	**2.76**	**109**			**Pn**	**03 54 56.5**	**-1.9**
MAKR	**Makrakomi, Fth**	**2.81**	**7**	P		**Pn**	**03 55 03.3**	**+4.2**
AGG	**Agios Georgios**	**2.84**	**10**	P		**Pn**	**03 55 01.4**	**+1.9**
AGG	**Agios Georgios**	**2.84**	**10**	Pn		**Pn**	**03 54 59.4**	**-0.1**
MRKA	**Markates**	**2.90**	**31**	P		**Pn**	**03 55 01.0**	**+0.7**
SANT	**Santorini**	**3.04**	**86**	⇓P		**Pn**	**03 55 01.5**	**-0.8**
KYMI	**Kymi, Euboea I**	**3.08**	**38**	P		**Pn**	**03 55 03.1**	**+0.4**
APE	**Apeiranthos**	**3.20**	**74**	⇓P		**Pn**	**03 55 04.0**	**-0.4**
THL	**Klokotos Trika**	**3.35**	**4**	P		**Pn**	**03 55 08.9**	**+2.5**
THL	**Klokotos Trika**	**3.35**	**4**	P		**Pn**	**03 55 09.0**	**+2.5**
THL				S		**Sn**	**03 55 45.3**	**+0.4**
THL				AML	AML			
	comp=E,41μm,0.7s							
THL				AML	AML			
	comp=N,31μm,1.2s							
IGT	**Igoumenitsa**	**3.48**	**342**	P		**Pn**	**03 55 10.6**	**+2.4**
JAN	**Janina**	**3.50**	**349**	P		**Pn**	**03 55 11.9**	**+3.4**
MEV	**Metsovon**	**3.58**	**354**	P		**Pn**	**03 55 13.6**	**+3.9**
KPRO	**Kipourio**	**3.74**	**356**	P		**Pn**	**03 55 15.3**	**+3.5**
KEK	**Kerkira**	**3.79**	**337**	P		**Pn**	**03 55 14.6**	**+2.1**
KEK	**Kerkira**	**3.79**	**337**	P		**Pn**	**03 55 14.7**	**+2.2**
KEK				S		**Sn**	**03 55 55.1**	**-0.8**
KEK				AML	AML			
	comp=E,91μm,0.4s							
KEK				AML	AML			
	comp=N,77μm,0.4s							
SRN	**Sarande**	**3.89**	**340**	P		**Pn**	**03 55 15.9**	**+2.1**
LIT	**Litokhoron**	**3.92**	**9**	P		**Pn**	**03 55 16.6**	**+2.2**
LIT	**Litokhoron**	**3.92**	**9**			**Pn**	**03 55 14.3**	**0.0**
KZN	**Kozani**	**4.08**	**1**	P		**Pn**	**03 55 18.9**	**+2.4**
NEST	**Nestorio**	**4.22**	**353**	P		**Pn**	**03 55 22.2**	**+3.7**
FNA	**Florina**	**4.56**	**357**	P		**Pn**	**03 55 25.3**	**+2.1**
FNA	**Florina**	**4.56**	**357**	Pn		**Pn**	**03 55 23.6**	**+0.5**
SCTE	**Santa Cesarea**	**4.61**	**327**	P		**Pn**	**03 55 25.9**	**+2.2**
SCTE				S		**Sn**	**03 56 16.0**	**0.0**
SCTE				AML	AML			
	comp=E,394μm,0.6s							
SCTE				AML	AML			
	comp=N,413μm,0.9s							
LADO	**San Nicola del**	**4.83**	**311**	P		**Pn**	**03 55 31.1**	**+4.4**
LADO				AML	AML			
	comp=N,91μm,0.8s							
LADO				AML	AML			
	comp=E,124μm,0.8s							
MPAZ	**Palizzi**	**4.87**	**293**	P		**Pn**	**03 55 30.2**	**+2.9**
MPAZ				S		**Sn**	**03 56 21.9**	**-0.4**
MPAZ				AML	AML			
	comp=E,242μm,0.5s							
MPAZ				AML	AML			
	comp=N,260μm,0.8s							
SERS	**Sersale**	**4.87**	**307**	P		**Pn**	**03 55 29.6**	**+2.2**
SERS				S		**Sn**	**03 56 18.8**	**-3.7**
SERS				AML	AML			
	comp=E,126μm,1.1s							
SERS				AML	AML			
	comp=N,101μm,0.5s							
SOI	**Samo**	**4.87**	**294**	P		**Pn**	**03 55 30.6**	**+3.2**
SOI				S		**Sn**	**03 56 22.0**	**-0.4**
TIP	**Timpagrande**	**4.90**	**309**	⇑P		**Pn**	**03 55 30.4**	**+2.6**
TIP				⇓S		**Sn**	**03 56 19.4**	**-3.9**
TIP	**Timpagrande**	**4.90**	**309**	P		**Pn**	**03 55 30.1**	**+2.3**
TIP				AML	AML			
	comp=N,69μm,1.1s							
TIP				AML	AML			
	comp=E,83μm,0.5s							
TIP				AML	AML			
	comp=E,79μm,0.5s							
TIP				AML	AML			
	comp=N,82μm,1.2s							
TIP	**Timpagrande**	**4.90**	**309**	Pn		**Pn**	**03 55 29.0**	**+1.2**
OHR	**Ohrid**	**4.93**	**352**	*i* Pn		**Pn**	**03 55 31.1**	**+2.9**
OHR				*e*Sn		**Sn**	**03 56 24.1**	**+0.1**
PIPA	**Pietrapaola**	**5.05**	**312**	P		**Pn**	**03 55 32.7**	**+2.9**
PIPA				S		**Sn**	**03 56 24.0**	**-2.9**
PIPA				AML	AML			
	comp=E,288μm,0.2s							
PIPA				AML	AML			
	comp=N,174μm,0.5s							
MTTG	**Motta San Giov**	**5.12**	**292**	P		**Pn**	**03 55 33.7**	**+3.0**
VAY	**Valandovo**	**5.14**	**7**	*i* Pn		**Pn**	**03 55 32.6**	**+1.6**
CELI	**Celico**	**5.19**	**309**	P		**Pn**	**03 55 35.2**	**+3.4**
CELI				AML	AML			
	comp=E,234μm,1.4s							
CELI				AML	AML			
	comp=N,288μm,1.0s							
JOPP	**Joppolo**	**5.20**	**299**	P		**Pn**	**03 55 35.4**	**+3.5**
JOPP				AML	AML			
	comp=E,202μm,0.6s							
JOPP				AML	AML			
	comp=N,184μm,1.2s							
CAR1	**CAROLEI**	**5.30**	**307**	P		**Pn**	**03 55 36.5**	**+3.3**
CAR1				AML	AML			
	comp=N,368μm,0.9s							
CAR1				AML	AML			
	comp=E,353μm,0.8s							
TIR	**Tirane**	**5.32**	**345**	⇓P		**Pn**	**03 55 35.5**	**+2.1**
TIR				⇓S		**Sn**	**03 56 33.7**	**+0.4**
TIR	**Tirane**	**5.32**	**345**	P		**Pn**	**03 55 34.8**	**+1.4**
TIR				AML	AML			
	comp=N,347μm,0.5s							
TIR				AML	AML			
	comp=E,249μm,0.5s							
TIR	**Tirane**	**5.32**	**345**			**Pn**	**03 55 34.4**	**+1.0**
TIR				Sn		**Sn**	**03 56 33.5**	**+0.2**
HPAC	**Pachino**	**5.33**	**277**	P		**Pn**	**03 55 37.0**	**+3.5**
HAVL	**Avola**	**5.34**	**280**	P		**Pn**	**03 55 35.7**	**+1.9**
HAVL				AML	AML			
	comp=E,556μm,1.3s							
HAVL				AML	AML			
	comp=N,508μm,0.9s							
TDS	**Terranova Siba**	**5.45**	**311**	P		**Pn**	**03 55 38.9**	**+3.6**
TDS				AML	AML			
	comp=N,85μm,1.2s							
TDS				AML	AML			
	comp=E,86μm,1.2s							
AIO	**Antillo**	**5.45**	**291**	P		**Pn**	**03 55 38.9**	**+3.6**
AIO				AML	AML			
	comp=N,151μm,0.7s							
AIO				AML	AML			
	comp=E,128μm,0.2s							
HCRL	**Carlentini**	**5

SLCN	**Sala Consilina**	**6.33**	**313**	P		**Pn**	**03 55 51.2 +3.8**
ACER	**Acerenza**	**6.41**	**317**	P		**Pn**	**03 55 52.1 +3.6**
BUM	**Brajici-Budva**	**6.45**	**341**	⇓*i*Pn		**Pn**	**03 55 49.7 +0.7**
MRVN	**Minervino Murg**	**6.47**	**320**	P		**Pn**	**03 55 51.8 +2.5**
PDG	**Podgorica**	**6.48**	**344**	⇓P		**Pn**	**03 55 50.4 +0.9**
PDG				⇑S		**Sn**	**03 56 60.0 -2.0**
PDG	**Podgorica**	**6.48**	**344**	P		**Pn**	**03 55 50.4 +0.9**
PDG	**Podgorica**	**6.48**	**344**	Pn		**Pn**	**03 55 50.3 +0.9**
PDG						**Sn**	**03 57 00.5 -1.5**
PDG	**Podgorica**	**6.48**	**344**	*e*Pn		**Pn**	**03 55 50.1 +0.7**
TTG	**Podgorica**	**6.48**	**344**	⇑*i*Pn		**Pn**	**03 55 50.2 +0.8**
TTG				*i* Sn		**Sn**	**03 57 02.1 +0.1**
VTS	**Vitosha**	**6.50**	**10**	⇑P		**Pn**	**03 55 51.8 +2.0**
VTS	**Vitosha**	**6.50**	**10**	P		**Pn**	**03 55 51.7 +1.9**
VTS	**Vitosha**	**6.50**	**10**	P		**Pn**	**03 55 51.7 +1.9**
VTS	**Vitosha**	**6.50**	**10**	Pn		**Pn**	**03 55 50.2 +0.4**
PVY	**Plav**	**6.51**	**349**	⇑*i*Pn		**Pn**	**03 55 51.0 +1.1**
PVY				*i* Sn		**Sn**	**03 57 02.7 -0.1**
PALZ	**Palazzo San Ge**	**6.51**	**318**	P		**Pn**	**03 55 52.0 +2.2**
CDRU	**Civita di Ruta**	**6.59**	**312**	P		**Pn**	**03 55 55.0 +4.0**
MRLC	**Muro Lucano**	**6.65**	**315**	P		**Pn**	**03 55 54.8 +3.1**
CEME	**Cevo**	**6.67**	**342**	⇑*i*Pn		**Pn**	**03 55 52.3 +0.2**
CEME				*i* Sn		**Sn**	**03 57 06.6 -0.2**
HCY	**Herceg Novi**	**6.70**	**339**	⇑*i*Pn		**Pn**	**03 55 52.3 0.0**
HCY				*i* Sn		**Sn**	**03 57 06.8 -0.5**
HCY	**Herceg Novi**	**6.70**	**339**	*e*Pn		**Pn**	**03 55 52.3 0.0**
IVA	**Berane**	**6.79**	**349**	⇑*i*Pn		**Pn**	**03 55 54.6 +0.9**
IVA				*i* Sn		**Sn**	**03 57 09.2 -0.5**
KOME	**Kolasin**	**6.83**	**346**	⇑*i*Pn		**Pn**	**03 55 55.4 +1.1**
KOME				*i* Sn		**Sn**	**03 57 10.2 -0.6**
NKME	**Niksic**	**6.87**	**343**	⇓*i*Pn		**Pn**	**03 55 55.4 +0.6**
NKME				*i* Sn		**Sn**	**03 57 11.3 -0.4**
NKY	**Niksic**	**6.91**	**343**	⇓*i*Pn		**Pn**	**03 55 56.2 +0.9**
NKY				*i* Sn		**Sn**	**03 57 11.8 -0.8**
TREB	**Trebinje**	**6.99**	**339**	*e*Pn		**Pn**	**03 55 56.1 -0.2**
DBRK	**Dubrovnik**	**7.00**	**338**	*e*Pn		**Pn**	**03 55 56.2 -0.3**
DBRK				Sn		**Sn**	**03 57 09.2 -5.6**
MSAG	**Monte S. Angel**	**7.10**	**322**	P		**Pn**	**03 55 59.5 +1.6**
BRY	**Bratogost**	**7.10**	**341**	⇓*i*Pn		**Pn**	**03 55 58.4 +0.3**
BRY				*i* Sn		**Sn**	**03 57 16.5 -1.0**
BRY	**Bratogost**	**7.10**	**341**	*e*Pn		**Pn**	**03 55 58.4 +0.3**
SGRT	**San Giovanni R**	**7.21**	**322**	P		**Pn**	**03 56 00.8 +1.3**
SGRT	**San Giovanni R**	**7.21**	**322**	Pn		**Pn**	**03 56 00.8 +1.3**
SGRT						**Sn**	**03 57 20.8 +0.8**
UPM	**Unac-Piva**	**7.30**	**344**	⇑*i*Pn		**Pn**	**03 56 01.7 +0.9**
UPM				*i* Sn		**Sn**	**03 57 21.3 -1.1**
UPM	**Unac-Piva**	**7.30**	**344**	*e*Pn		**Pn**	**03 56 02.2 +1.4**
MPEP	**Malo Peshtene**	**7.30**	**12**	*i* P		**Pn**	**03 56 03.1 +2.5**
PLE	**Pljevlja**	**7.32**	**347**	⇓*i*Pn		**Pn**	**03 56 02.1 +1.1**
PLE				*i* Sn		**Sn**	**03 57 21.3 -1.5**
STON	**Ston**	**7.32**	**336**	*e*Pn		**Pn**	**03 56 00.7 -0.2**
STON				Sn		**Sn**	**03 57 17.2 -5.4**
STON	**Ston**	**7.32**	**336**	*e*Pn		**Pn**	**03 56 00.7 -0.2**
VITU	**Vitulano (BN)**	**7.42**	**314**	P		**Pn**	**03 56 05.3 +3.0**
MELA	**Melanico ??? S**	**7.49**	**319**	P		**Pn**	**03 56 05.8 +2.5**
PTRJ	**Pietraroja**	**7.59**	**315**	P		Pn	03 56 10.3 +5.6
BSSO	**Busso**	**7.68**	**316**	P		**Pn**	**03 56 09.5 +3.6**
BBLS	**Lazići**	**7.84**	**348**	*e*Pn		**Pn**	**03 56 08.0 0.0**
MAKA	**Makarska**	**7.92**	**334**	*e*Pn		**Pn**	**03 56 08.8 -0.3**
MAKA				Sn		**Sn**	**03 57 32.3 -5.1**
DIVS	**Divibare**	**7.98**	**351**	P		**Pn**	**03 56 09.8 -0.2**
DIVS	**Divibare**	**7.98**	**351**			**Pn**	**03 56 10.1 +0.1**
DIVS	**Divibare**	**7.98**	**351**	*e*Pn		**Pn**	**03 56 09.8 -0.2**
HVAR	**Hvar**	**8.04**	**331**	*e*Pn		**Pn**	**03 56 11.0 +0.3**
HVAR				Sn		**Sn**	**03 57 34.6 -5.6**
TEKS	**Tekeris**	**8.48**	**349**	*e*Pn		**Pn**	**03 56 16.7 -0.1**
ZIRJ	**Zirje**	**8.76**	**330**	*e*Pn		**Pn**	**03 56 20.8 -0.2**
ZIRJ				Sn		**Sn**	**03 57 51.7 -6.2**
KIJV	**Kijevo**	**8.77**	**334**	*e*Pn		**Pn**	**03 56 21.4 +0.7**
KIJV				Sn		**Sn**	**03 57 53.9 -4.2**
MORI	**Morici**	**8.91**	**331**	*e*Pn		**Pn**	**03 56 23.2 +0.5**
MORI				Sn		**Sn**	**03 57 57.1 -4.4**
MGRS	**Mrkonjic Grad**	**8.91**	**338**	*e*Pn		**Pn**	**03 56 24.3 +1.6**
FRGS	**Fruska Gora**	**9.04**	**351**	*e*Pn		**Pn**	**03 56 23.7 -0.8**
BLY	**Banja Luka**	**9.18**	**339**	*e*Pn		**Pn**	**03 56 26.3 -0.1**
DUGI	**Dugi Otok**	**9.28**	**329**	*e*Pn		**Pn**	**03 56 29.3 +1.6**
DUGI				Sn		**Sn**	**03 58 04.8 -5.9**
BZS	**Buzias**	**9.39**	**360**	⇑P		**Pn**	**03 56 26.0 -3.2**
MLR	**Muntele Rosu**	**9.80**	**18**	Pn		**Pn**	**03 56 34.5 -0.6**
	comp=E,0.2nm,0.3s,baz=246,slow=4.7,SNR=4.4						
MLR				LR		LR	04 01 16.9
	comp=E,218nm,18.0s,baz=122,slow=44						
NVLJ	**Novalja**	**9.82**	**330**	*e*Pn		**Pn**	**03 56 35.6 +0.5**
NVLJ				Sn		**Sn**	**03 58 19.3 -4.7**
BR131	**Keskin Array S**	**10.06**	**66**	Pn		**Pn**	**03 56 35.8 -2.8**
BRTR	**Keskin Array B**	**10.06**	**66**	Pn		**Pn**	**03 56 37.9 -0.7**
	comp=E,0.1nm,0.3s,baz=255,slow=14,SNR=16						
BRTR				LR		LR	04 01 11.0
	comp=E,97nm,19.3s,baz=242,slow=42						
MORH	**Mrgy, Hungar**	**10.25**	**348**	*e*Pn		**Pn**	**03 56 39.5 -1.4**
OZLJ	**Ozalj**	**10.50**	**335**	*e*Pn		**Pn**	**03 56 45.2 +0.9**
OZLJ				Sn		**Sn**	**03 58 34.5 -6.1**
BRJN	**Brijuni**	**10.57**	**328**	*e*Pn		**Pn**	**03 56 47.1 +1.8**
BRJN				Sn		**Sn**	**03 58 37.1 -5.1**
PTJ	**Puntijarka**	**10.60**	**338**	*e*Pn		**Pn**	**03 56 38.8 +1.0**
PTJ				Sn		**Sn**	**03 58 36.5 -6.6**
RIY	**Rijeka**	**10.61**	**331**	*e*Pn		**Pn**	**03 56 46.8 +0.9**
KALN	**Kalnik**	**10.66**	**340**	*e*Pn		**Pn**	**03 56 46.8 +0.2**
KALN				Sn		**Sn**	**03 58 38.4 -6.1**
CRES	**Cresnjev**	**10.69**	**336**	*e*Pn		**Pn**	**03 56 46.3 -0.7**
CEY	**Cerknica**	**10.98**	**332**	*e*Pn		**Pn**	**03 56 51.2 +0.2**
SOKA	**Soboth**	**11.58**	**337**	*e*Pn		**Pn**	**03 56 58.2 -1.0**
	comp=E,2.9nm,0.3s						
OBKA	**Obir**	**11.59**	**335**	*e*Pn		**Pn**	**03 56 58.7 -0.7**
	comp=E,1.1nm,0.2s						
MMAI	**Mount Meron Ar**	**11.74**	**102**	Pn		**Pn**	**03 56 57.9 -3.6**
	comp=E,0.4nm,0.3s,baz=293,slow=12,SNR=2.1						
PSZ	**Piszkesteto**	**11.77**	**354**	Pn		**Pn**	**03 57 02.3 +0.5**
ARSA	**Arzberg**	**11.94**	**339**	*e*Pn		**Pn**	**03 57 04.5 +0.3**
	comp=E,2.1nm,0.4s						
ZOU	**Zoufplan**	**12.22**	**330**			**Pn**	**03 57 07.6 -0.5**
CIMO	**Cimolais**	**12.24**	**328**			**Pn**	**03 57 09.1 +0.8**
VYHS	**Vyhne**	**12.45**	**351**	*e*PN		**Pn**	**03 57 12.4 +1.4**
KBA	**Koelnbreinsper**	**12.51**	**333**	*e*Pn		**Pn**	**03 57 13.2 +1.2**
	comp=E,0.6nm,0.3s						
EIL	**Elat**	**12.90**	**117**	Pn		**Pn**	**03 57 15.3 -2.0**
	comp=E,0.3nm,0.3s,baz=304,slow=13,SNR=2.1						
EIL				Sn		Sn	03 59 23.9 -16
	comp=E,0.4nm,0.3s,baz=284,slow=23,SNR=1.9						
VRAC	**Vranov**	**13.60**	**346**	Pn		**Pn**	**03 57 27.0 +0.2**
	comp=E,0.2nm,0.3s,baz=198,slow=16,SNR=1.7						
VRAC				LR		LR	04 04 25.4
	comp=E,78nm,18.8s,baz=168,slow=45						
DAVOX	**Davos/Dischmat**	**13.76**	**324**	Pn		**Pn**	**03 57 29.9 +0.8**
	comp=E,0.1nm,0.3s,baz=346,slow=22,SNR=1.5						
DAVOX				Sn		**Sn**	**03 59 57.7 -2.7**
	comp=E,0.5nm,0.3s,baz=294,slow=16,SNR=4.9						
MORC	**Moravsky Berou**	**13.88**	**349**	P		**Pn**	**03 57 29.5 -1.2**
GERES	**GERESS Array B**	**13.91**	**338**	Pn		**Pn**	**03 57 29.9 -1.2**
	comp=E,0.3nm,0.3s,baz=155,slow=14,SNR=7.8						
GERES				Sn		**Sn**	**03 59 57.8 -6.3**
	comp=E,0.3nm,0.3s,baz=153,slow=25,SNR=5.4						
GERES				LR		LR	04 04 16.0
	comp=E,205nm,20.2s,baz=134,slow=43						
AKASG	**Malin Array Be**	**15.46**	**18**	Pn		**Pn**	**03 57 49.1 -2.4**
	comp=E,0.9nm,0.3s,baz=208,slow=12,SNR=4.1						
AKBB	**Malin Array Si**	**15.46**	**18**	Pn		**Pn**	**03 57 50.5 -1.0**
CLL	**Collm**	**16.32**	**340**	*e*P		**P**	**03 58 05.0 +0.2**
CLL				*e*			03 58 08.0
	comp=E,6.0nm,0.4s						
CLL	**Collm**	**16.32**	**340**	Pn		**Pn**	**03 58 03.1 +0.7**
KIV	**Kislovodsk**	**17.79**	**58**	Pn		**Pn**	**03 58 17.2 -3.8**
KBZ	**Khabaz**	**17.87**	**59**	P		**Pn**	**03 58 19.9 -1.9**
	comp=E,0.6nm,0.3s,baz=274,slow=6.8,SNR=10						
KBZ				LR		LR	04 07 03.1
	comp=E,59nm,20.0s,baz=276,slow=44						
TBLG	**Delisi**	**18.72**	**66**	P		**P**	**03 58 30.2 -1.3**
TBLG				IAmb		IAmb	03 58 38.8
	comp=E,9.1nm,0.7s						
NACGM	**Naroch**	**19.01**	**9**	*e*P		**P**	**03 58 34.0 -0.5**
NACGM				*e*S		Sn	04 01 56.0 -11
ESDC	**Sonseca Array**	**20.50**	**287**	P		Pn	03 58 53.5 +0.1
	comp=E,0.8nm,0.8s,baz=80,slow=9.3,SNR=4.7						
OBN	**Obninsk**	**21.48**	**24**	P		**P**	**03 59 00.6 -0.7**
	comp=E,4.7nm,0.5s,baz=219,slow=23,SNR=5.9						
OBN	**Obninsk**	**21.48**	**24**	P		**P**	**03 59 00.5 -0.7**
SFS	**San Fernando**	**22.45**	**279**	P		**P**	**03 59 12.9 +1.1**
HFS	**Hagfors**	**24.48**	**350**	P		**P**	**03 59 32.1 +0.8**
	comp=E,2.1nm,0.3s,baz=161,slow=11,SNR=27						
HFS				LR		LR	04 09 57.8
	comp=E,34nm,21.5s,baz=172,slow=39						
NC602	**NORSAR Array S**	**25.38**	**348**	P		**P**	**03 59 40.8 +1.4**
NC602				IAmb		IAmb	03 59 52.9
	comp=E,11nm,1.1s						
FINES	**FINESS Array B**	**25.40**	**5**	P		**P**	**03 59 40.2 +0.7**
	comp=E,1.3nm,0.4s,baz=167,slow=11,SNR=18						
FINES				LR		LR	04 10 57.5
	comp=E,68nm,18.5s,baz=210,slow=40						
FIA1	**FINESS Array S**	**25.40**	**5**	P		**P**	**03 59 39.9 +0.3**
FIA1				IAmb		IAmb	03 59 40.4
	comp=E,7.3nm,1.1s						
EKA	**Eskdalemuir Ar**	**25.57**	**326**	P		**P**	**03 59 43.2 +1.9**
	comp=E,0.7nm,0.5s,baz=128,slow=8.9,SNR=7.3						
NAO01	**NORSAR Array S**	**25.59**	**348**	P		**P**	**03 59 40.8 -0.6**
NAO01				IAmb		IAmb	03 59 56.4
	comp=E,9.7nm,0.9s						
NC405	**NORSAR Array S**	**25.71**	**349**	P		**P**	**03 59 43.3 +0.9**
NC405				IAmb		IAmb	03 59 47.1
	comp=E,11nm,1.1s						
NB201	**NORSAR Array S**	**25.72**	**348**	P		**P**	**03 59 42.8 +0.2**
NB201				IAmb		IAmb	03 59 45.1
	comp=E,12nm,1.1s						
NB2	**NORSAR Subarra**	**25.72**	**348**	P		**P**	**03 59 43.1 +0.5**
	comp=E,1.5nm,0.8s,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**25.72**	**348**	P		**P**	**03 59 44.1 +1.6**
	comp=E,0.6nm,0.5s,baz=160,slow=10,SNR=10						
NOA				LR		LR	04 10 21.7
	comp=E,21nm,19.8s,baz=170,slow=38						
NBO00	**NORSAR Array S**	**25.79**	**348**	P		**P**	**03 59 44.4 +1.2**
NBO00				IAmb		IAmb	03 59 57.6
	comp=E,8.0nm,0.9s						
NC303	**NORSAR Array S**	**25.87**	**349**	P		**P**	**03 59 44.7 +0.8**
NC303				IAmb		IAmb	04 00 00.9
	comp=E,5.4nm,0.9s						
NC204	**NORSAR Array S**	**26.02**	**348**	P		**P**	**03 59 46.4 +1.1**
NC204				IAmb		IAmb	03 59 48.0
	comp=E,11nm,1.1s						
KLMR	**Klimovskoe**	**27.15**	**19**	*e*P		**P**	**03 59 56.3 +0.9**
KLMR				AMP			03 59 59.2
	comp=E,6.0nm,0.6s						
KIRV	**Kirov**	**28.83**	**30**	P		**P**	**04 00 09.8 -0.6**
	comp=E,11nm,0.4s,baz=220,slow=3.8,SNR=4.0						
KIRV				LR		LR	04 13 00.5
	comp=E,31nm,18.0s,baz=227,slow=39						
TORD	**Torodi Ar. Bea**	**29.17**	**223**	P		**P**	**04 00 15.9 +2.1**
	comp=E,0.6nm,0.8s,baz=31,slow=8.4,SNR=4.9						
TORD				LR		LR	04 12 32.4
	comp=E,88nm,18.6s,baz=130,slow=38						
AKTO	**Aktyubinsk**	**29.67**	**50**	P		**P**	**04 00 16.7 -1.3**
	comp=E,1.1nm,0.4s,baz=278,slow=9.3,SNR=5.6						
AKTO				LR		LR	04 15 03.0
	comp=E,24nm,18.9s,baz=266,slow=42						
UOSS	**Minazif**	**31.61**	**101**	P		**P**	**04 00 35.0 -0.3**
UOSS				IAmb		IAmb	04 00 46.5
	comp=E,6.4nm,1.1s						
ARCES	**ARCESS Array B**	**33.44**	**2**	P		**P**	**04 00 51.5 +0.7**
	comp=E,2.0nm,0.5s,baz=185,slow=9.4,SNR=42						
ARCES				LR		LR	04 15 39.3
	comp=E,53nm,18.8s,baz=184,slow=38						
ARE0	**ARCESS Array S**	**33.44**	**2**	P		**P**	**04 00 51.9 +1.0**
KEV	**Kevo**	**33.72**	**3**	P		**P**	**04 00 54.3 +1.0**
KEV				IAmb		IAmb	04 01 11.1
	comp=E,2.1nm,0.7s						
KK31	**Karatay Array**	**37.77**	**64**	P		**P**	**04 01 28.6 +0.2**
KK31				IAmb		IAmb	04 01 29.4
	comp=E,2.4nm,0.5s						
KKAR	**Karatay Array**	**37.77**	**64**	P		**P**	**04 01 28.6 +0.2**
KKAR				IAmb		IAmb	04 01 29.4
	comp=E,2.4nm,0.5s						
GAR	**Garm**	**38.26**	**71**	P		**P**	**04 01 32.2 -0.4**
AAK	**Ala-Archa**	**40.73**	**64**	P		**P**	**04 01 52.9 -0.4**
NIL	**Nilore**	**41.94**	**78**	P		**P**	**04 02 02.8 -0.3**
SPITS	**Spitsbergen Ar**	**42.12**	**358**	P		**P**	**04 02 05.4 +1.4**
	comp=E,1.5nm,0.5s,baz=153,slow=11,SNR=16						
MAKZ	**Makanchi**	**45.34**	**57**	P		**P**	**04 02 29.1 -1.2**
MAKZ				IAmb		IAmb	04 02 30.7
	comp=E,1.8nm,0.4s						
MK31	**Makanchi Array**	**45.55**	**57**	P		**P**	**04 02 31.3 -0.7**
MKAR	**Makanchi Array**	**45.55**	**57**	P		**P**	**04 02 31.3 -0.7**
	comp=E,2.0nm,0.3s,baz=269,slow=7.8,SNR=45						
ZAA0	**Zalesovo Array**	**46.32**	**47**	P		**P**	**04 02 36.6 -1.2**
ZAA0				IAmb		IAmb	04 02 41.8
	comp=E,2.7nm,0.6s						
ZALV	**Zalesovo Beam**	**46.32**	**47**	P		**P**	**04 02 37.0 -0.9**
	comp=E,2.3nm,0.3s,baz=270,slow=9.1,SNR=17						
NRIK	**Noril'sk**	**48.13**	**26**	P		**P**	**04 02 51.8 0.0**
	comp=E,1.6nm,0.4s,baz=240,slow=2.9,SNR=3.6						
NRIK				LR		LR	04 23 43.9
	comp=E,36nm,18.3s,baz=242,slow=37						
LSA	**Lhasa**	**57.53**	**75**	P		**P**	**04 04 01.4 -0.9**
SHL	**Shillong**	**60.00**	**79**	P		**P**	**04 04 17.7 -1.4**
SCHQ	**Schefferville**	**60.54**	**318**	P		**P**	**04 04 24.2 +2.0**
	comp=E,2.3nm,0.8s,baz=38,slow=18,SNR=2.7						
SONM	**Songino Array**	**60.98**	**50**	P		**P**	**04 04 24.9 -0.5**
	comp=E,2.0nm,0.6s,baz=280,slow=8.6,SNR=2.6						
BOSA	**Boshof**	**64.58**	**177**	P		**P**	**04 04 50.6 +1.3**
	comp=E,5.4nm,1.2s,baz=330,slow=16,SNR=1.9						
CMAR	**Chiang Mai Arr**	**69.23**	**82**	P		**P**	**04 05 20.7 +1.4**
	comp=E,1.5nm,0.3s,baz=304,slow=9.7,SNR=2.0						
YKA	**Yellowknife Ar**	**75.55**	**341**	P		**P**	**04 05 58.0 +1.9**
	comp=E,0.2nm,0.5s,baz=44,slow=5.4,SNR=1.8						
KSRS	**Korea Array**	**79.84**	**51**	P		**P**	**04 06 20.5 0.0**
	comp=E,1.0nm,0.6s,baz=313,slow=4.2,SNR=3.4						

IDC 04 04:14:12.5±1.8, 7°42.5S×154°83.8E, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.7/38, mbtmp3.9/4, ML4.1/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/27, Error ellipse: s-maj=56.6km s-min=34.2km az=128.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**4.16**	**318**	Pn	Pn	04 15 18.2	+0.9
	10nm,0.3s,baz=212,slow=5.2,SNR=2.3						
KRVT				Sn	Sn	04 16 01.8	-4.9
	4.5nm,0.3s,baz=4.7,slow=23,SNR=1.9						
PMG	**Port Moresby**	**7.84**	**255**	LR	LR	04 18 58.2	
	comp=Z,102nm,18.5s,baz=214,slow=36						
WRA	**Warramunga Arr**	**23.44**	**236**	P	P	04 19 22.7	-1.0
	0.7nm,0.6s,baz=57,slow=8.9,SNR=7.3						
ILAR	**Eielson Array**	**83.82**	**22**	P	P	04 26 43.5	-0.1
	0.5nm,0.6s,baz=252,slow=5.3,SNR=6.4						
ZALV	**Zalesovo Beam**	**84.43**	**326**	P	P	04 26 47.0	+0.1
	1.1nm,0.5s,baz=114,slow=6.9,SNR=3.8						
TORD	**Torodi Ar. Bea**	**152.97**	**284**	PKPbc	PKiKP	04 34 13.5	+0.4
	0.7nm,0.9s,baz=104,slow=1.9,SNR=3.5						

*BJI **04** 04:17:04.0±0.0, 6°.50N×126°.80E, h20km, mB4.8/18, mb4.7/30, Ms4.1/7, Ms7 3.8/7*
*MAN **04** 04:17:08.5, 6°.05N×126°.47E, h70km, mb5.7, ML4.7, MS5.0*
MAN Intensity III - Governor Generoso Davao Oriental; Intensity II - General Santos City.
*DJA **04** 04:17:09.9±0.7, 6°.N±5°×12°.6E±°, h81km±5km, M4.8/31, mb5.0/31, mB5.2/15, MLv5.4/7, Mw(mB)4.6/15, Mwp4.8/1*
*KLM **04** 04:17:09.0, 6°.35N×126°.93E, h98km, mb4.7*
*GCMT **04** 04:17:10.9±0.4, 6°.22N±0.03°×126°.37E±0°.03, h91km±3km, MW4.8/77, Moment Tensor Solution. s31,c33; s77,c95; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.51±.09; Mθθ 0.30±.12; Mϕϕ -1.81±.15; Mrθ -0.36±.06; Mθϕ -1.50±.11; Mϕr -0.70±.09; Best double couple: Mo 2.19600×10^16 NP1 :ϕ 28.00000°, δ 34.00000°, λ 91.00000°. NP2: ϕ 207.00000°, δ 56.00000°, λ 89.00000°. Principal axes: T 1.6560, Plg 79.0000°, Azm 114.0000°; N 1.0760, Plg 1.0000°, Azm 207.0000°; P -2.7360, Plg 11.0000°, Azm 297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **04** 04:17:10.9±1.2, 6°.20N±0°.06×126°.40E±0°.09, h93km±4km, mb4.9/81 Error ellipse: s-maj=13.6km s-min=7.2km az=61.0*
*IDC **04** 04:17:11.5±0.8, 6°.23N×126°.40E, h98km±6km, mb4.3/25, mb1 4.4/29, mb1mx4.3/43, mbtmp4.6/29, MS3.4/19, Ms1 3.5/19, ms1mx3.3/31, Error ellipse: s-maj=16.0km s-min=8.0km az=68.0*

ISC 04 04:17:10.5±0.7, 6°.18N±0°.04×126°.48E±0°.05, h88km±6km, n203, σ1§38/204, mb4.8/70, 3C-7D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.26**	**315**	P	Pn	**04 17 33.4**	**+0.2**
	381nm,0.3s,baz=261,slow=4.0,SNR=39						
DAV				S	Sn	**04 17 50.7**	**+0.5**
	1μm,0.3s,baz=269,slow=24,SNR=8.1						
DAV				LR	LR	04 18 19.1	
	comp=Z,5μm,20.8s,baz=139,slow=58						
DAV	**Davao City (W)**	**1.26**	**315**		**Pn**	**04 17 33.3**	**+0.1**
DAV					**Sn**	**04 17 47.6**	**-2.6**
DMPH	**Davao City--Mi**	**1.32**	**313**	⇓*i*P	**Pn**	**04 17 33.5**	**-0.4**
DMPH				*i* S	**Sn**	**04 17 51.9**	**+0.3**
GSPH	**General Santos**	**1.52**	**267**	⇑*i*P	**Pn**	**04 17 33.6**	**-3.0**
GSPH				*i* S	**Sn**	**04 17 52.4**	**-4.0**
KCP	**Kidapawan**	**1.61**	**301**	⇓*i*P	**Pn**	**04 17 36.9**	**-0.7**
KCP				*i* S	**Sn**	**04 17 57.0**	**-1.2**
CTBH	**Cotabato--PC H**	**2.45**	**295**	⇓*i*P	**Pn**	**04 17 47.6**	**-0.9**
CGP	**Cagayan de Oro**	**2.87**	**322**	⇓*i*P	**Pn**	**04 17 55.1**	**+0.8**
CGP				*i* S	**Sn**	**04 18 30.9**	**+3.0**
TBP	**Tagbilaran**	**4.35**	**324**	*e*P	**Pn**	**04 18 12.6**	**-1.7**
ZCP	**Zamboanga City**	**4.44**	**280**	⇓*i*P	**Pn**	**04 18 15.9**	**+0.3**
ZCP				*i* S	**Sn**	**04 19 10.3**	**+4.3**
SNPH	**Sibulan**	**4.49**	**315**	⇓*e*P	**Pn**	**04 18 18.0**	**+1.7**
LLP	**Lapu-Lapu**	**4.80**	**329**	*e*P	**Pn**	**04 18 19.9**	**-0.7**
LLP				*e*S	**Sn**	**04 19 17.6**	**+2.6**
TNTI	**Ternate**	**5.45**	**171**	P	**Pn**	**04 18 31.2**	**+2.0**
	1.5nm2μm5μm312nm,0.8s						
TNTI	**Ternate**	**5.45**	**171**	Pn	**Pn**	**04 18 29.9**	**+0.7**
TNTI				Sn	**Sn**	**04 19 31.5**	**+0.9**
KMSI	**Cibinong**	**6.10**	**204**	P	**Pn**	**04 18 40.8**	**+2.6**
	1.9nm4μm279nm,0.6s						
RCP	**Roxas**	**6.50**	**326**	⇑*e*P	**Pn**	**04 18 45.4**	**+1.9**
LBMI	**Labuha**	**6.85**	**171**	P	**Pn**	**04 18 50.7**	**+2.3**
	2.0nm3μm249nm,0.8s						
MRSI	**Marisa**	**7.25**	**219**	P	**Pn**	**04 18 54.7**	**+0.8**
	1.5nm3μm218nm,0.6s						
LUWI	**Luwuk**	**8.07**	**207**	P	**Pn**	**04 19 07.5**	**+2.4**
	3μm178nm,0.9s						
LUWI	**Luwuk**	**8.07**	**207**	Pn	**Pn**	**04 19 05.1**	**0.0**
SIJI	**Sorong**	**8.48**	**146**	P	**Pn**	**04 19 11.2**	**+0.5**
	4.3nm,0.3s,baz=259,slow=22,SNR=9.5						
SIJI				S	**Sn**	**04 20 38.5**	**-6.2**
	baz=182,slow=22,SNR=0.7						
MPSI	**Mapaga**	**8.76**	**229**	P	**Pn**	**04 19 15.6**	**+1.1**
	1μm26nm,0.7s						
PGP	**Puerto Galera**	**9.09**	**324**	⇓*e*P	**Pn**	**04 19 20.5**	**+1.6**
LQP	**Lukban**	**9.26**	**329**	*i* P	**Pn**	**04 19 26.2**	**+4.7**
NLAI	**Namlea**	**9.38**	**176**	P	**Pn**	**04 19 22.7**	**-0.2**
	5μm199nm,0.4s						
TGY	**Tagaytay City**	**9.58**	**326**	LR	LR	04 23 35.7	
	comp=Z,324nm,21.2s,baz=2.5,slow=40						
KKM	**Kota Kinabalu**	**10.21**	**270**	Pn	**Pn**	**04 19 33.5**	**-0.8**
TTSI	**Tana Toraja**	**11.32**	**216**	P	**Pn**	**04 19 52.0**	**+2.6**
	2μm148nm,0.8s						
SPSI	**Sidrap Palu**	**12.10**	**214**	P	**Pn**	**04 20 00.7**	**+0.8**
	884nm45nm,0.7s					

DL2	**Dalian**	**32.87**	**353**	P	**P**	**04 23 38.4**	**+2.3**		
DL2				pmax	pmax				
	comp=Z,25nm,0.6s								
MEEK	**Meekatharra**	**33.50**	**193**	P	**P**	**04 23 41.4**	**-0.3**		
	baz=34,SNR=23								
BJT	**Baijiatuau**	**34.94**	**346**	P	**P**	**04 23 53.6**	**-0.4**		
BJT				IAmb	IAmb	04 23 58.1			
	comp=Z,9.4nm,0.6s								
LZH	**Lanzhou**	**36.29**	**328**	*e*P	**P**	**04 24 08.7**	**+2.9**		
LZH				pP	pP	04 24 15.3	-11		
LZH				sP	sP	04 24 19.6	-17		
LZH				pmax	pmax				
	comp=Z,23nm,1.0s								
MORW	**Morawa**	**36.46**	**195**	P	**P**	**04 24 07.6**	**+0.5**		
	baz=36,SNR=5.0								
MORW	**Morawa**	**36.46**	**195**	P	**P**	**04 24 07.1**	**0.0**		
FORT	**Forrest**	**36.78**	**178**	P	**P**	**04 24 10.6**	**+0.8**		
	baz=37,SNR=26								
FORT	**Forrest**	**36.78**	**178**	P	**P**	**04 24 10.6**	**+0.8**		
QLP	**Quilpie**	**36.84**	**153**	P	**P**	**04 24 11.9**	**+1.6**		
	baz=37,SNR=7.3								
CN2	**Changchun**	**37.48**	**359**	*e*P	**P**	**04 24 16.9**	**+1.3**		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
KMBL	**Kambalda**	**37.59**	**186**	P	**P**	**04 24 17.2**	**+0.5**		
	baz=38,SNR=9.6								
BLDU	**Ballidu**	**37.76**	**194**	P	**P**	**04 24 18.0**	**-0.1**		
	baz=38,SNR=18								
USRK	**Ussuriysk Ar.**	**38.18**	**6**	P	**P**	**04 24 21.4**	**0.0**		
	comp=Z,2.6nm,0.6s,baz=172,slow=9.2,SNR=8.1								
USRK				LR	LR	04 38 03.4			
	comp=Z,45nm,21.4s,baz=178,slow=33								
SHL	**Shillong**	**38.27**	**304**	P	**P**	**04 24 22.4**	**-0.4**		
SHL				IAmb	IAmb	04 24 24.1			
	comp=Z,8.9nm,0.8s								
KLBR	**Kellerberrin**	**38.47**	**192**	P	**P**	**04 24 24.3**	**+0.3**		
	baz=38,SNR=16								
MUN	**Mundaring**	**39.19**	**194**	P	**P**	**04 24 30.6**	**+0.5**		
	baz=39,SNR=7.6								
EIDS	**Eidsvold**	**39.44**	**144**	P	**P**	**04 24 34.1**	**+1.9**		
	baz=40,SNR=3.1								
EIDS	**Eidsvold**	**39.44**	**144**	P	**P**	**04 24 32.4**	**+0.1**		
EIDS				IAmb	IAmb	04 24 34.8			
	comp=Z,14nm,0.9s								
BBOO	**Buckleboo**	**39.83**	**167**	P	**P**	**04 24 36.3**	**+1.0**		
	baz=40,SNR=35								
NWAO	**Narrogin (SRO)**	**39.87**	**192**	P	**P**	**04 24 36.3**	**+0.6**		
	baz=40,SNR=12								
NWAO	**Narrogin (SRO)**	**39.87**	**192**	P	**P**	**04 24 36.5**	**+0.8**		
STKA	**Stephens Creek**	**40.50**	**160**	P	**P**	**04 24 42.0**	**+1.0**		
	baz=41,SNR=39								
STKA	**Stephens Creek**	**40.50**	**160**	P	**P**	**04 24 41.7**	**+0.8**		
	comp=Z,27nm,0.8s,baz=338,slow=8.1,SNR=59								
STKA				PcP	**PcP**	**04 26 41.7**	**-0.3**		
	comp=Z,6.8nm,0.7s,baz=341,slow=7.9,SNR=4.4								
STKA	**Stephens Creek**	**40.50**	**160**	P	**P**	**04 24 41.3**	**+0.3**		
STKA					**PcP**	**04 26 42.2**	**+0.2**		
GTA	**Gaotai**	**40.89**	**328**	⇑P	**P**	**04 24 46.6**	**+2.4**		
GTA				pP	pP	04 24 59.0	-6.1		
GTA				PcP	**PcP**	**04 26 44.5**	**+1.1**		
GTA				pmax	pmax				
	comp=Z,7.0nm,0.7s								
GTA				pmax	pmax				
	comp=Z,84nm,7.6s								
GTA				LR	LR				
	comp=Z,78nm,17.1s								
GTA				LR	LR				
	comp=Z,75nm,18.7s								
GTA				LR	LR				
	comp=Z,130nm,18.1s								
H11S3	**WAKE ISLAND Hy**	**41.03**	**69**	T	T	05 08 44.5			
	baz=258,slow=75,SNR=91								
H11S1	**WAKE ISLAND Hy**	**41.05**	**69**	T	T	05 08 45.7			
	baz=258,slow=75,SNR=64								
H11S2	**WAKE ISLAND Hy**	**41.05**	**69**	T	T	05 08 45.7			
	baz=258,slow=75,SNR=107								
HTT	**Hallett**	**41.12**	**164**	P	**P**	**04 24 47.4**	**+1.3**		
	baz=41,SNR=6.0								
H11N1	**WAKE ISLAND Hy**	**41.49**	**67**	T	T	05 09 24.6			
	baz=254,slow=75,SNR=42								
H11N2	**WAKE ISLAND Hy**	**41.50**	**67**	T	T	05 09 47.6			
	baz=254,slow=75,SNR=18								
H11N3	**WAKE ISLAND Hy**	**41.51**	**67**	T	T	05 09 26.1			
	baz=254,slow=75,SNR=34								
RKGY	**Rocky Gully**	**41.55**	**192**	P	**P**	**04 24 51.2**	**+1.7**		
	baz=42,SNR=19								
CMSA	**Cobar Meteorol**	**41.75**	**155**	P	**P**	**04 24 53.9**	**+2.7**		
	baz=42,SNR=6.9								
ODAN	**Odare**	**42.48**	**303**	*e*P	**P**	**04 25 01.9**	**+4.3**		
RAMN	**Ramite**	**43.17**	**303**	*e*P	**P**	**04 25 06.7**	**+3.5**		
ARMA	**Armidale**	**43.65**	**148**	P	**P**	**04 25 08.6**	**+1.9**		
	baz=44,SNR=7.5								
ARMA	**Armidale**	**43.65**	**148**	P	**P**	**04 25 07.1**	**+0.4**		
ARMA				IAmb	IAmb	04 25 09.8			
	comp=Z,18nm,0.8s								
GUN	**Gumba**	**44.12**	**304**	*e*P	**P**	**04 25 12.2**	**+1.3**		
PKI	**Pulchoki**	**44.39**	**304**	*e*P	**P**	**04 25 14.2**	**+1.2**		
ULN	**Ulaanbaatar**	**44.73**	**341**	P	**P**	**04 25 14.5**	**-0.7**		
SONM	**Songino Array**	**44.91**	**341**	P	**P**	**04 25 15.8**	**-0.8**		
	comp=Z,2.6nm,0.6s,baz=165,slow=7.1,SNR=8.2								
SONM				PcP	**PcP**	**04 26 55.9**	**-0.8**		
	comp=Z,3.9nm,0.7s,baz=164,slow=4.3,SNR=8.5								
SONM				ScP	**ScP**	**04 30 39.8**	**-1.5**		
	comp=Z,0.6nm,0.7s,baz=160,slow=4.6,SNR=2.0								
SONM				LR	LR	04 45 48.5			
	comp=Z,36nm,18.0s,baz=72,slow=38								
KOLN	**Koldanda**	**45.96**	**303**	*e*P	**P**	**04 25 25.4**	**+0.1**		
DANN	**Dangsing**	**46.02**	**304**	*e*P	**P**	**04 25 25.3**	**-0.6**		
DZM	**Mont Dzumac**	**48.17**	**127**	P	**P**	**04 25 43.4**	**+1.0**		
	comp=Z,9.4nm,0.7s,baz=128,slow=19,SNR=7.8								
DZM	**Mont Dzumac**	**48.17**	**127**	P	**P**	**04 25 41.8**	**-0.6**		
TLY	**Talaya**	**49.14**	**341**	P	**P**	**04 25 48.8**	**-0.5**		
PETK	**Petropavlovsk-**	**53.28**	**23**	P	**P**	**04 26 20.6**	**+0.5**		
	comp=Z,3.3nm,0.6s,baz=188,slow=6.6,SNR=5.8								
PETK				PcP	**PcP**	**04 27 26.2**	**-0.6**		
	comp=Z,6.7nm,0.9s,baz=191,slow=6.9,SNR=4.9								
PETK				LR	LR	04 48 52.1			
	comp=Z,32nm,21.0s,baz=242,slow=36								
MK31	**Makanchi Array**	**55.42**	**324**	P	**P**	**04 26 35.4**	**-0.5**		
MK31				IAmb	IAmb	04 26 38.7			
	comp=Z,5.5nm,0.7s								
MKAR	**Makanchi Array**	**55.42**	**324**	P	**P**	**04 26 35.0**	**-1.0**		
	comp=Z,8.9nm,0.6s,baz=124,slow=8.4,SNR=42								
MKAR				PcP	**PcP**	**04 27 34.5**	**-0.7**		
	comp=Z,3.6nm,0.7s,baz=108,slow=4.0,SNR=5.4								
MKAR				LR	LR	04 51 38.4			
	comp=Z,47nm,21.9s,baz=108,slow=37								
MAKZ	**Makanchi**	**55.61**	**324**	P	**P**	**04 26 36.3**	**-0.9**		
MAKZ				IAmb	IAmb	04 26 40.0			
	comp=Z,7.4nm,0.7s								
ZAA0	**Zalesovo Array**	**58.31**	**332**	P	**P**	**04 26 55.6**	**-0.5**		
ZAA0				IAmb	IAmb	04 26 57.9			
	comp=Z,8.2nm,0.8s								
ZALV	**Zalesovo Beam**	**58.31**	**332**	P	**P**	**04 26 55.3**	**-0.9**		
	comp=Z,9.1nm,0.8s,baz=131,slow=7.0,SNR=25								
ZALV				LR	LR	04 53 28.2			
	comp=Z,49nm,19.2s,baz=110,slow=37								
KURK	**Kurchatov**	**59.56**	**327**	P	**P**	**04 27 04.6**	**-0.3**		
KURBB	**Kurchatov Arra**	**59.56**	**327**	P	**P**	**04 27 04.2**	**-0.6**		
	comp=Z,15nm,0.7s,baz=125,slow=6.1,SNR=7.8								
GAR	**Garm**	**60.10**	**312**	IAmb	IAmb	04 27 41.2			
	comp=Z,10nm,1.1s								
KK31	**Karatay Array**	**61.29**	**316**	P	**P**	**04 27 16.2**	**-0.7**		
KKAR	**Karatay Array**	**61.29**	**316**	P	**P**	**04 27 16.3**	**-0.6**		
BRVK	**Borovoye**	**65.22**	**326**	P	**P**	**04 27 42.5**	**-0.1**		
NRIK	**Noril'sk**	**68.01**	**346**	P	**P**	**04 27 59.2**	**-0.8**		
	comp=Z,3.7nm,0.7s,baz=165,slow=7.7,SNR=7.4								
NRIK				LR	LR	05 01 09.2			
	comp=Z,44nm,18.0s,baz=149,slow=39								
GEYT	**Alibeck**	**69.18**	**308**	LR	LR	05 00 50.0			
	comp=Z,36nm,21.9s,baz=225,slow=38								
ARU	**Arti**	**72.75**	**327**	P	**P**	**04 28 29.1**	**0.0**		
ARU				IAmb	IAmb	04 28 31.4			
	comp=Z,8.0nm,0.6s								
CASY	**Casey**	**73.20**	**187**	P	**P**	**04 28 32.5**	**+1.0**		
CASY				IAmb	IAmb	04 28 33.5			
	comp=Z,11nm,0.8s								
TTA	**Tatalina**	**78.84**	**27**	P	**P**	**04 29 04.0**	**+0.1**		
RAYN	**Ar Rayn**	**79.31**	**293**	P	**P**	**04 29 06.1**	**-1.0**		
RAYN				IAmb	IAmb	04 29 08.1			
	comp=Z,11nm,0.8s								
OHAK	**Old Harbor**	**79.54**	**33**	P	**P**	**04 29 07.4**	**-0.2**		
OHAK				IAmb	IAmb	04 29 09.7			
	comp=Z,13nm,0.8s								
KDAK	**Kodiak Island**	**79.97**	**32**	P	**P**	**04 29 10.4**	**+0.5**		
KDAK				IAmb	IAmb	04 29 12.0			
	comp=Z,19nm,0.8s								
PPLA	**Purkeypile**	**80.58**	**27**	P	**P**	**04 29 13.2**	**-0.1**		
CNPM	**China Poot**	**80.79**	**31**	P	**P**	**04 29 14.5**	**+0.2**		
CNPM				IAmb	IAmb	04 29 15.6			
	comp=Z,14nm,0.9s								
BRLK	**Bradley Lake**	**80.98**	**31**	P	**P**	**04 29 15.3**	**-0.1**		
BRLK				IAmb	IAmb	04 29 18.8			
	comp=Z,13nm,0.8s								
KBZ	**Khabaz**	**81.13**	**313**	LR	LR	05 10 24.0			
	comp=Z,21nm,18.2s,baz=89,slow=39								
KTH	**Kantishna Hill**	**81.20**	**27**	P	**P**	**04 29 15.9**	**-0.6**		
BPAW	**Bear Paw Mtn.**	**81.21**	**26**	P	**P**	**04 29 17.8**	**+1.3**		
BPAW				IAmb	IAmb	04 29 18.8			
	comp=Z,17nm,0.8s								
MLY	**Manley**	**81.38**	**25**	IAmb	IAmb	04 29 19.8			
	comp=Z,13nm,0.8s								
RC01	**Rabbit Creek A**	**81.62**	**29**	IAmb	IAmb	04 29 20.4			
	comp=Z,36nm,1.4s								
PMR	**Palmer**	**81.93**	**29**	IAmb	IAmb	04 29 21.7			
	comp=Z,12nm,0.8s								
TOLK	**Toolik Lake Re**	**82.07**	**22**	P	**P**	**04 29 22.1**	**+1.1**		
TOLK				IAmb	IAmb	04 29 23.8			
	comp=Z,15nm,0.8s								
SML	**Sawmill**	**82.32**	**29**	IAmb	IAmb	04 29 24.3			
	comp=Z,16nm,0.8s								
WRH	**Wood River Hil**	**82.49**	**26**	P	**P**	**04 29 23.6**	**+0.5**		
WRH				IAmb	IAmb	04 29 25.5			
	comp=Z,16nm,1.2s								
CCB	**Clear Creek Bu**	**82.62**	**26**	IAmb	IAmb	04 29 26.0			
	comp=Z,34nm,1.6s								
DHY	**Denali Highway**	**82.78**	**27**	IAmb	IAmb	04 29 28.0			
	comp=Z,32nm,2.0s								
SCM	**Sheep Creek Mo**	**82.79**	**29**	IAmb	IAmb	04 29 27.1			
	comp=Z,24nm,1.1s								
GLI	**Glacier Island**	**82.90**	**29**	IAmb	IAmb	04 29 27.3			
	comp=Z,16nm,0.8s								
HDA	**Harding Lake**	**82.98**	**26**	IAmb	IAmb	04 29 26.6			
	comp=Z,10nm,0.7s								
IL31		**83.01**	**26**	P	**P**	**04 29 26.7**	**+0.9**		
ILAR	**Eielson Array**	**83.01**	**26**	P	**P**	**04 29 25.3**	**-0.6**		
	comp=Z,4.6nm,0.6s,baz=244,slow=5.4,SNR=41								
KLMR	**Klimovskoe**	**83.16**	**331**	*e*P	**P**	**04 29 25.9**	**-0.8**		
KLMR				AMP		04 29 29.4			
	comp=Z,6.0nm,0.9s								
FYU	**Fort Yukon**	**83.69**	**24**	P	**P**	**04 29 29.6**	**+0.3**		
HARP	**HAARP**	**83.81**	**28**	P	**P**	**04 29 27.1**	**-3.0**		
HARP				IAmb	IAmb	04 29 52.0			
	comp=Z,19nm,1.0s								
RIDG	**Independent Ri**	**83.92**	**27**	P	**P**	**04 29 29.6**	**-1.0**		
DOT	**Dot Lake**	**84.27**	**27**	P	**P**	**04 29 32.1**	**-0.2**		
DOT				IAmb	IAmb	04 29 34.2			
	comp=Z,10.0nm,0.8s								
SCRK	**Sand Creek**	**84.29**	**26**	P	**P**	**04 29 32.5**	**-0.1**		
MENT	**Mentasta**	**84.45**	**27**	IAmb	IAmb	04 29 35.7			
	comp=Z,9.2nm,0.8s								
EGAK	**Eagle**	**85.47**	**25**	P	**P**	**04 29 38.9**	**+0.6**		
EGAK				IAmb	IAmb	04 29 40.5			
	comp=Z,7.4nm,0.7s								
VNDA	**Vanda**	**85.87**	**173**	P	**P**	**04 29 40.3**	**+0.3**		
	comp=Z,5.1nm,0.8s,baz=312,slow=5.9,SNR=30								
VNDA	**Vanda**	**85.87**	**173**	P	**P**	**04 29 40.8**	**+0.8**		
MAW	**Mawson**	**85.95**	**200**	P	**P**	**04 29 40.5**	**0.0**		
	comp=Z,2.6nm,0.7s,baz=39,slow=4.4,SNR=8.8								
MAW	**Mawson**	**85.95**	**200**	P	**P**	**04 29 41.7**	**+1.2**		
EPYK	**Eagle Plains**	**87.11**	**24**	IAmb	IAmb	04 29 48.4			
	comp=Z,8.4nm,0.8s								
INK	**Inuvik**	**87.99**	**21**	IAmb	IAmb	04 29 51.8			
	comp=Z,8.1nm,0.8s								
ARCES	**ARCESS Array B**	**88.08**	**340**	P	**P**	**04 29 50.9**	**0.0**		
	comp=Z,3.8nm,0.6s,baz=82,slow=6.0,SNR=49								
BRTR	**Kein Array B**	**88.28**	**310**	P	**P**	**04 29 51.6**	**-1.1**		
	comp=Z,0.5nm,0.5s,baz=87,slow=4.7,SNR=4.6								
BRTR				LR	LR	05 14 26.8			
	comp=Z,12nm,19.9s,baz=8.5,slow=39								
FINES	**FINESS Array B**	**89.57**	**332**	P	**P**	**04 29 57.1**	**-0.9**		
	comp=Z,1.7nm,0.6s,baz=73,slow=6.4,SNR=10								
FINES				LR	LR	05 12 56.7			
	comp=Z,36nm,20.8s,baz=42,slow=37								
AKASG	**Malin Array Be**	**89.85**	**321**	P	**P**	**04 29 58.0**	**-1.6**		
	comp=Z,0.9nm,0.6s,baz=70,slow=4.3,SNR=1.6								
C36M	**Paulatuk**	**91.00**	**20**	P	**P**	**04 30 04.9**	**+0.3**		
C36M				IAmb	IAmb	04 30 05.7			
	comp=Z,6.8nm,0.7s								
BUR08	**Bucovina Ar. S**	**93.02**	**318**	IAmb	IAmb	04 33 02.0			
	comp=Z,6.6nm,1.5s								
DAG	**Danmarks Havn**	**94.81**	**352**	*i* P	**P**	**04 30 21.2**	**-0.8**		
	comp=Z,7.6nm,0.8s								
QSPA	**South Pole Qui**	**96.07**	**180**	P	**P**	**04 30 28.5**	**+0.5**		
QSPA				IAmb	IAmb	04 30 29.9			
	comp=Z,5.7nm,1.1s								
NB2	**NORSAR Subarra**	**96.49**	**334**	P	**P**	**04 30 28.7**	**-1.3**		
	comp=Z,0.9nm,0.7s,baz=65,slow=4.6								
NOA	**NORSAR Array B**	**96.49**	**334**	P	**P**	**04 30 28.9**	**-1.1**		
	comp=Z,0.8nm,0.6s,baz=64,slow=4.6,SNR=9.6								
NOA				LR	LR	05 17 40.3			
	comp=Z,35nm,21.2s,baz=65,slow=38								
YKA	**Yellowknife Ar**	**97.38**	**24**	P	**P**	**04 30 33.7**	**-0.2**		
	comp=Z,2.9nm,0.8s,baz=295,slow=4.7,SNR=13								
GERES	**GERESS Array B**	**100.02**	**322**	LR	LR	05 17 40.3			
	comp=Z,31nm,18.2s,baz=98,slow=36								
PDAR	**Pinedale Array**	**109.67**	**40**	PKKPab	PKKPab	04 46 45.9	-3.1		
	comp=Z,0.8nm,0.6s,baz=109,slow=4.9,SNR=6.0								
SCHQ	**Schefferville**	**118.20**	**9**	PKP	**PKiKP**	**04 35 47.7**	**+0.2**		
	comp=Z,2.1nm,0.6s,baz=244,slow=18,SNR=5.3								
TXAR	**Lajitas Array**	**120.28**	**51**	PKP	**PKiKP**	**04 35 52.4**	**0.0**		
	comp=Z,0.7nm,0.7s,baz=224,slow=1.8,SNR=7.9								
TORD	**Torodi Ar. Bea**	**121.89**	**290**	PKP	**PKPdf**	**04 35 55.0**	**-0.6**		
	comp=Z,2.2nm,0.6s,baz=46,slow=2.4,SNR=24								
TORD				PKKPbc	**PKKPbc**	**04 45 53.6**	**0.0**		
	comp=Z,0.9nm,0.8s,baz=258,slow=4.2,SNR=5.2								
JCT	**Junction City**	**122.63**	**48**	PKPdf	**PKiKP**	**04 35 58.1**	**+1.1**		
J48A	**Bridge Port**	**123.63**	**26**	PKPdf	**PKiKP**	**04 35 58.5**	**0.0**		
MIAR	**Mount Ida**	**124.60**	**40**	PKPdf	**PKPdf**	**04 35 59.9**	**-0.5**		
LCAR	**Lake Charles**	**125.12**	**37**		**PKPdf**	**04 36 01.4**	**+0.1**		
WVT	**Waverly**	**127.02**	**35**	PKPdf	**PKPdf**	**04 36 05.0**	**+0.1**		
J59A	**Piesco**	**127.06**	**19**		**PKPdf**	**04 36 04.0**	**-0.9**		
JTS	**Las Juntas de**	**144.68**	**63**	PKPdf	**PKPdf**	**04 36 37.7**	**-0.5**		
BCIP	**Isla Barro Col**	**149.66**	**60**		**PKPdf**	**04 36 47.8**	**+1.4**		
CO01	**Juntas del Tor**	**151.65**	**149**		**PKPbc**	**04 36 53.7**	**-2.1**		
AC05	**El Transito**	**152.45**	**147**	PKPdf	**PKPdf**	**04 36 49.6**	**-1.0**		
GO02	**Mina Guanaco**	**155.65**	**143**	PKPab	**PKPab**	**04 37 22.2**	**+0.5**		
SDV	**Santo Domingo**	**157.31**	**49**	PKPdf	**PKPdf**	**04 36 54.5**	**-3.1**		
LPAZ	**La Paz**	**162.51**	**126**	PKP	**PKPdf**	**04 37 03.5**	**-0.5**		
	comp=Z,2.8nm,0.9s,baz=16,slow=4.5,SNR=5.4								
SAML	**Samuel**	**170.03**	**107**		**PKPdf**	**04 37 08.1**	**-1.0**		

*IDC **04** 04:28:19.8±2.2,43°.05N×87°.66E,h0km,mb3.5/2,*
mb1 3.6/6,mb1mx3.4/40,mbtmp3.6/6,ML3.3/4,Error
ellipse: s-maj=59.8km s-min=27.8km az=58.0
*NNC **04** 04:28:25.8±1.9,43°.25N×87°.17E,h0km,mb4.1,mpv3.8,*
Error ellipse: s-maj=15.1km s-min=10.6km az=139.0
ISC 04 04:28:21.4±1.8,43°.1N±0°.1×87°.7E±0°.1,h10km,n20,
σ1§52/26,8C-2D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**4.80**	**337**	Pg	**Pn**	**04 29 34.6**	**+0.9**
	9.6nm,0.2s						
ZSN				Lg	Lg	04 30 55.8	
	8.9nm,0.7s						
MK31	**Makanchi Array**	**5.33**	**316**	Pn	**Pn**	**04 29 41.5**	**+0.6**
	1.2nm,0.3s,baz=133,slow=14,SNR=83						
MK31				⇑Pg	**Pb**	**04 29 56.8**	**+2.3**
	2.1nm,0.5s,baz=128,slow=16,SNR=4.7						
MK31				⇑Lg	Lg	04 31 01.1	
	4.7nm,0.5s,baz=132,slow=28,SNR=5.3						
MKAR	**Makanchi Array**	**5.33**	**316**	Pn	**Pn**	**04 29 41.4**	**+0.4**
	2.9nm,0.3s,baz=131,slow=14,SNR=38						
MKAR				Sn	**Sn**	**04 30 43.2**	**+0.9**
	0.8nm,0.3s,baz=130,slow=27,SNR=1.6						
MKAR				Lg	Lg	04 31 02.1	
	1.8nm,0.3s,baz=130,slow=29,SNR=3.9						
MAKZ	**Makanchi**	**5.50**	**315**	⇓Pn	**Pn**	**04 29 44.0**	**+0.7**
	2.5nm,0.3s						
MAKZ				⇓Pg	**Pb**	**04 29 59.1**	**+1.7**
	3.1nm,0.6s						
MAKZ				⇑Lg	Lg	04 31 06.3	
	17nm,1.2s						
DJR	**Jarkent**	**5.84**	**285**	Pg	**Pn**	**04 29 49.5**	**+1.4**
	3.9nm,0.3s						
DJR				Lg	Lg	04 31 22.5	
	9.4nm,0.4s						
PDGK	**Podgornoye**	**5.98**	**275**	⇑Pn	**Pn**	**04 29 50.3**	**+0.2**
	10.0nm,1.1s						
PDGK				⇑Sn	**Sn**	**04 30 57.9**	**-0.7**
	6.4nm,0.5s						
PDGK				⇑Lg	Lg	04 31 24.6	
	20nm,0.9s						
SHLS	**Shalkode**	**6.00**	**274**	Pg	Pn	04 29 46.3	-4.1
	4.2nm,0.2s						
SHLS				Lg	Lg	04 31 16.4	
	34nm,0.4s						
UZB	**Uzynbulak**	**6.32**	**274**	Pg	**Pn**	**04 29 54.7**	**-0.1**
	6.6nm,0.4s						
UZB				Lg	Lg	04 31 32.0	
	7.7nm,0.4s						
KAPS	**Kapalarasan**	**6.37**	**293**	Pg	**Pn**	**04 29 56.9**	**+1.6**
	2.1nm,0.2s						
KAPS				Lg	Lg	04 31 35.5	
	9.8nm,0.6s						
SATY	**Saty**	**6.78**	**273**	Pg	**Pn**	**04 30 01.6**	**+0.6**
	5.8nm,0.5s						
SATY				Lg	Lg	04 31 44.4	
	7.2nm,0.5s						
KURS	**Kuram**	**6.94**	**277**	Pg	**Pn**	**04 30 03.6**	**+0.4**
	3.9nm,0.8s						
KURS				Lg	Lg	04 31 47.8	
	5.0nm,1.6s						
ARXS	**Arharly**	**7.22**	**282**	Pg	**Pn**	**04 30 07.7**	**+0.6**
	6.4nm,0.3s						
ARXS				Lg	Lg	04 31 56.1	
	8.4nm,0.8s						
TNSS	**Tian-Shan**	**7.85**	**273**	Pg	**Pn**	**04 30 16.4**	**+0.4**
	6.6nm,0.6s						
TNSS				Lg	Lg	04 32 10.7	
	3.3nm,0.3s						
KST	**Kastek**	**8.57**	**274**	Pg	**Pn**	**04 30 25.1**	**-0.5**
	2.4nm,0.3s						
KST				Lg	Lg	04 32 26.6	
	1.9nm,0.6s						
KURBB	**Kurchatov Arra**	**9.80**	**324**	Pn	**Pn**	**04 30 40.8**	**-1.4**
	0.2nm,0.3s,baz=136,slow=13,SNR=7.5						
KURBB				Sn	**Sn**	**04 32 28.1**	**-4.1**
	0.0nm,0.3s,baz=149,slow=29,SNR=1.2						
KURBB	**Kurchatov Arra**	**9.80**	**324**	⇑Pn	**Pn**	**04 30 42.0**	**-0.2**
	1.2nm,0.4s						
KURBB				⇑Sn	**Sn**	**04 32 30.8**	**-1.5**
	3.8nm,0.7s						
ZALV	**Zalesovo Beam**	**11.04**	**351**	Pn	**Pn**	**04 30 57.8**	**-1.4**
	0.2nm,0.3s,baz=174,slow=14,SNR=2.6						
BVAR	**Borovoye Array**	**15.21**	**317**	Pn	**Pn**	**04 31 52.8**	**-3.3**
	0.4nm,0.3s,baz=128,slow=12,SNR=3.4						
ARCES	**ARCESS Array B**	**40.77**	**332**	P	**P**	**04 36 03.4**	**+1.2**
	1.0nm,0.9s,baz=91,slow=9.0,SNR=3.6						
ARCES				PcP	**PcP**	**04 38 03.0**	**-0.2**
	0.5nm,0.7s,baz=97,slow=4.6,SNR=6.5						
TORD	**Torodi Ar. Bea**	**78.23**	**277**	P	**P**	**04 40 20.8**	**-0.7**
	0.2nm,0.6s,baz=35,slow=5.0,SNR=1.3						

*DDA **04** 04:48:41.8,38°.53N×44°.01E,h2km±2km,ML2.2*
*ISK **04** 04:48:42.3,38°.55N×44°.03E,h4km,ML2.5/4*
ISC 04 04:48:41.8±1.5,38°.54N±0°.03×44°.06E±0°.05,h4km±17km,
n11,σ0°.94/18,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.51**	**268**	*i* P	**Pg**	**04 48 52.2**	**+0.6**
TVAN				*i* S	**Sb**	**04 49 03.0**	**+1.7**
TVAN				IAML		04 49 08.0	
	comp=E,152nm,0.5s						
TVAN				IAML		04 49 11.0	
	comp=N,170nm,0.5s						
VANB	**Van**	**0.53**	**276**	PG	**Pg**	**04 48 52.4**	**+0.5**
VANB				SG	**Sg**	**04 48 59.6**	**+0.9**
CLDR	**Caldiran**	**0.61**	**350**	PG	**Pb**	**04 48 54.

CEVE				IAML		04 49 52.0	
	comp=Z,2μm,0.3s						
NUBE	**Las Nubes**	**1.60**	**211**	*eP*	**Pn**	**04 49 48.0**	**-0.4**
NUBE				*eS*	**Sb**	**04 50 09.8**	**-0.2**
NUBE	**Las Nubes**	**1.60**	**211**	*eP*	**Pn**	**04 49 48.0**	**-0.4**
NUBE				*eS*	**Sb**	**04 50 09.8**	**-0.2**
SNET	**Serv Nac Est T**	**1.61**	**191**	*eP*	**Pn**	**04 49 49.1**	**+0.6**
SNET				*eS*	**Sb**	**04 50 10.7**	**+0.3**
SNET				IAML		04 50 16.4	
	comp=Z,1μm,0.4s						
SNET	**Serv Nac Est T**	**1.61**	**191**	*eP*	**Pn**	**04 49 49.1**	**+0.6**
SNET				*eS*	**Sb**	**04 50 10.7**	**+0.3**
SNET				IAML		04 50 16.4	
	comp=Z,1μm,0.4s						
UESV	**Universidad de**	**1.64**	**175**	*eP*	**Pn**	**04 49 49.3**	**+0.5**
UESV	**Universidad de**	**1.64**	**175**	*eP*	**Pn**	**04 49 49.3**	**+0.5**
LFRS	**El Faro**	**1.66**	**185**	*eP*	**Pn**	**04 49 49.7**	**+0.6**
LFRS	**El Faro**	**1.66**	**185**	*eP*	**Pn**	**04 49 49.7**	**+0.6**
FAGO	**Alcalda de S**	**1.77**	**153**	*eP*	**Pn**	**04 49 51.1**	**+0.6**
FAGO	**Alcalda de S**	**1.77**	**153**	*eP*	**Pn**	**04 49 51.1**	**+0.6**
COEB	**Comit de Eme**	**1.81**	**168**	*eP*	**Pn**	**04 49 52.4**	**+1.2**
COEB				*eS*	**Sb**	**04 50 16.2**	**+0.1**
COEB				IAML		04 50 21.1	
	comp=Z,1μm,0.4s						
COEB	**Comit de Eme**	**1.81**	**168**	*eP*	**Pn**	**04 49 52.4**	**+1.2**
COEB				*eS*	**Sb**	**04 50 16.2**	**+0.1**
COEB				IAML		04 50 21.1	
	comp=Z,1μm,0.4s						
LALI	**Alcalda de L**	**1.82**	**192**	*eP*	**Pn**	**04 49 52.2**	**+0.9**
LALI				IAML		04 49 54.6	
	comp=Z,926nm,0.5s						
LALI				*eS*	**Sb**	**04 50 15.7**	**-0.6**
LALI	**Alcalda de L**	**1.82**	**192**	*eP*	**Pn**	**04 49 52.2**	**+0.9**
LALI				IAML		04 49 54.6	
	comp=Z,926nm,0.5s						
LALI				*eS*	**Sb**	**04 50 15.7**	**-0.6**
IXG	**Ixpaco**	**1.84**	**233**	*eP*	**Pn**	**04 49 51.9**	**+0.3**
PCG	**Pacaya**	**1.86**	**242**	*eP*	**Pb**	**04 49 53.8**	**-0.2**
PCG				*eS*	**Sg**	**04 50 21.6**	**+1.9**
FUG	**Fuego 3**	**2.03**	**246**	*eP*	**Pb**	**04 49 55.7**	**-1.4**
FUG				*eS*	**Sg**	**04 50 25.0**	**-0.3**
LCND	**La Caada**	**2.20**	**153**	IAML		04 50 33.2	
	comp=Z,1μm,0.2s						
LCND	**La Caada**	**2.20**	**153**	IAML		04 50 33.2	
	comp=Z,1μm,0.2s						

HEL ***04*** *04:55:10.2±0.1,60.19N×17.79E,h0km,ML1.5, ML1.4(UPP),Suspected explosion*
IDC ***04*** *04:55:16.1±1.8,60.32N×18.39E,h0km,mb1 2.7/3, mb1mx2.6/35,mbtmp2.6/3,ML2.0/3,Error ellipse: s-maj=33.6km s-min=8.6km az=175.0*
ISC 04 04:55:08.6±0.9**,60.17N**±0.05×**17.69E**±0.04**,h0km,n13,** σ**1§21/22,Sweden**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
FLYU	**Flymyra**	**0.11**	**114**	*i*	S	**Sg**	**04 55 12.2**	**+0.3**
OSTU	**Oestervaala**	**0.28**	**282**	*i*	P	**Pb**	**04 55 15.9**	**-0.7**
OSTU				*i*	S	**Sb**	**04 55 21.1**	**-0.8**
NRTU	**Norrtaelje**	**0.69**	**136**	*i*	P	**Pg**	**04 55 22.3**	**+0.6**
NRTU				*i*	S	**Sg**	**04 55 30.7**	**+0.1**
IGGU	**Iggoen**	**0.73**	**345**	*i*	P	**Pg**	**04 55 22.8**	**+0.2**
IGGU				*i*	S	**Sg**	**04 55 32.9**	**+0.9**
NOA	**NORSAR Array B**	**3.31**	**288**	Pn		**Pg**	**04 56 12.4**	**+0.4**
	0.0nm,0.3s,baz=98,slow=19,SNR=6.8							
NOA				Sn		**Sg**	**04 56 55.4**	**+0.5**
	0.1nm,0.3s,baz=54,slow=23,SNR=4.8							
VAF	**Ylistaro**	**3.73**	**37**	MSG			04 57 07.0	
	comp=Z,0.5nm,0.1s							
KEF	**Keuruu**	**4.01**	**57**	*eP*		**Pn**	**04 56 12.9**	**+1.7**
KEF				*eS*		**Sn**	**04 56 58.2**	**-0.6**
KEF				MSG			04 57 14.2	
	comp=Z,0.7nm,0.2s							
PVF	**Pernaja**	**4.08**	**81**	*eS*		**Sn**	**04 56 57.8**	**-2.6**
FIA0	**FINESS Array S**	**4.30**	**69**	*eP*		**Pn**	**04 56 15.9**	**+0.7**
FIA0				*eS*		**Sn**	**04 57 04.7**	**-1.3**
FINES	**FINESS Array B**	**4.30**	**69**	Pn		**Pn**	**04 56 17.6**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=258,slow=12,SNR=7.3							
FINES				Pg		**Pb**	**04 56 24.6**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=254,slow=15,SNR=4.0							
FINES				Sn		**Sn**	**04 57 05.4**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=251,slow=26,SNR=2.3							
FINES				Lg		Lg	04 57 19.4	
	comp=Z,0.4nm,0.3s,baz=261,slow=24,SNR=3.4							
FIA1	**FINESS Array S**	**4.30**	**69**	*eP*		**Pn**	**04 56 15.9**	**+0.7**
FIA1				*eS*		**Sn**	**04 57 04.7**	**-1.3**
KAF	**Kangasniemi**	**4.61**	**61**	*eP*		**Pn**	**04 56 20.6**	**+1.2**
KAF				*eS*		**Sn**	**04 57 11.9**	**-1.6**
ARCES	**ARCESS Array B**	**9.96**	**16**	Pn		**Pn**	**04 57 33.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=194,slow=13,SNR=2.2							

MEX ***04*** *04:55:30.7±0.4,31.19N×115.15W,h5km,MD3.7*
ECX ***04*** *04:55:30.6±0.6,31.31N×115.29W,h6km±3km,MD2.2, ML2.4*
ISC 04 04:55:29.3±1.1**,31.31N**±0.03×**115.31W**±0.03**,h20**km±4km**, n11,**σ**0.46/20,6C-3D,Baja California**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ECBX	**El Chinero**	**0.28**	**53**	⇑*iP*	P	**Pb**	**04 55 35.4**	**-0.2**
ECBX				*eS*		**Sb**	**04 55 39.1**	**-0.6**
SPIG	**San Pedro Mart**	**0.29**	**208**	*eP*		**Pg**	**04 55 36.2**	**+0.1**
SPIG				*eS*		**Sg**	**04 55 41.0**	**+0.2**
SPIG	**San Pedro Mart**	**0.29**	**208**	⇑*iP*		**Pg**	**04 55 36.4**	**+0.3**
	baz=61,slow=7.9							
SPIG				*i*	S	**Sb**	**04 55 40.4**	**-0.1**
SPX	**San Pedro Mart**	**0.30**	**207**	⇑*eP*		**Pg**	**04 55 36.5**	**+0.2**
SPX				*eS*		**Sg**	**04 55 41.2**	**+0.3**
SPX				⇓*e*			04 55 41.7	
SPX				IAML			04 55 41.7	
	comp=E,330nm,0.1s							
SPX				⇓*e*			04 55 41.8	
SPX				IAML			04 55 41.8	
	comp=N,604nm,0.1s							
SPX	**San Pedro Mart**	**0.30**	**207**	*eP*		**Pb**	**04 55 36.1**	**0.0**
SPX				*i*	S	**Sg**	**04 55 40.9**	**0.0**
VTX	**Valle De La Tr**	**0.42**	**282**	⇑*iP*		**Pg**	**04 55 37.5**	**-0.5**
VTX				*eS*		**Sg**	**04 55 43.4**	**-0.5**
SFX	**San Felipe**	**0.47**	**124**	⇑*eP*		**Pg**	**04 55 39.3**	**+0.3**
SFX				*eS*		**Sg**	**04 55 45.6**	**+0.1**
SQX	**San Quintin**	**0.88**	**214**	⇑*eP*		**Pb**	**04 55 45.3**	**-0.6**
SQX				*eS*		**Sb**	**04 55 57.1**	**0.0**
ESJX	**Sierra Juarez**	**0.89**	**322**	*eP*		**Pg**	**04 55 46.6**	**-0.1**
ESJX				*eS*		**Sg**	**04 55 58.5**	**+0.1**
CBX	**Cerro Bola**	**1.53**	**311**	IAML			04 56 20.9	
	comp=E,44nm,0.2s							
CBX				⇓*e*			04 56 20.9	
CBX	**Cerro Bola**	**1.53**	**311**	*eP*		**Pg**	**04 55 58.2**	**-0.7**
CBX				*eS*		**Sb**	**04 56 17.2**	**+1.1**

NEIC ***04*** *05:02:11.8±1.5,30.51S±0.08×178.0W±0.2,h62km±6km, mb4.3/5,Error ellipse: s-maj=21.6km s-min=10.3km az=102.0*
IDC ***04*** *05:02:13.1±1.8,30.44S×178.05W,h69km±16km,mb4.1/6, mb1 4.3/6,mb1mx3.9/31,mbtmp4.4/6,Error ellipse: s-maj=26.1km s-min=19.2km az=105.0*
ISC 04 05:02:10.4±0.6**,30.58S**±0.07×**177.9W**±0.1**,h46**km**,n31,** σ**1§48/31,2C,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.32**	**360**	P		**Pn**	**05 02 33.4**	**+0.9**
	298nm,0.3s,baz=63,slow=21,SNR=16							
RAO				S		**Sn**	**05 02 49.6**	**+0.6**
	1μm,0.3s,baz=77,slow=23,SNR=10							
RAO	**Raoul Island**	**1.32**	**360**			**Pn**	**05 02 33.8**	**+1.3**
OUZ	**Omahuta**	**8.51**	**235**	Pn		**Pn**	**05 04 13.9**	**+2.8**
BKZ	**Black Stump Fm**	**9.72**	**207**	Pn		**Pn**	**05 04 27.9**	**+0.2**
HIZ	**Hauiti**	**9.91**	**215**	Pn		**Pn**	**05 04 32.9**	**+2.7**
THZ	**Tophouse**	**13.39**	**211**	Pn		**Pn**	**05 05 16.7**	**-1.1**
CTA	**Charters Tower**	**33.91**	**279**	P		**P**	**05 08 49.5**	**+0.3**
	4.2nm,0.4s,baz=80,slow=11,SNR=2.5							
CTAO	**Charters Tower**	**33.91**	**279**	P		**P**	**05 08 47.8**	**-1.4**
STKA	**Stephens Creek**	**34.52**	**257**	P		**P**	**05 08 54.2**	**-0.2**
	14nm,0.8s,baz=92,slow=11,SNR=14							
STKA	**Stephens Creek**	**34.52**	**257**	P		**P**	**05 08 54.1**	**-0.2**
STKA					IAmb	IAmb	05 08 55.2	
	comp=Z,2.7nm,0.8s							
BBOO	**Buckleboo**	**39.00**	**254**	P		**P**	**05 09 32.6**	**+0.1**
WRA	**Warramunga Arr**	**44.18**	**272**	P		**P**	**05 10 13.9**	**-1.1**
	comp=Z,5.4nm,0.5s,baz=110,slow=8.0,SNR=2.6							
VNDA	**Vanda**	**47.92**	**186**	P		**P**	**05 10 45.0**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=13,slow=7.1,SNR=2.2							
QSPA	**South Pole Qui**	**59.53**	**180**	P		**P**	**05 12 10.2**	**+1.2**
	comp=Z,5.0nm,0.9s,baz=35,slow=1.5,SNR=22							
QSPA	**South Pole Qui**	**59.53**	**180**	P		**P**	**05 12 10.1**	**+1.2**
SYO	**Syowa Base**	**76.96**	**193**	⇑*eP*		**P**	**05 13 55.7**	**-2.0**
SYO	**Syowa Base**	**76.96**	**193**	⇑*eP*		P	05 14 05.2	+7.5
SNAA	**Sanae**	**77.97**	**178**	P		**P**	**05 14 03.0**	**-0.4**
SNAA					IAmb	IAmb	05 14 04.1	
	comp=Z,5.9nm,1.3s							
VNA1	**Neumayer--Stat**	**78.78**	**176**	P		**P**	**05 14 07.7**	**-0.1**
NVAR	**Mina Array Bea**	**88.32**	**43**	P		**P**	**05 14 58.6**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=216,slow=7.5,SNR=4.9							
MKAR	**Makanchi Array**	**117.95**	**310**	PKP		**PKPdf**	**05 20 49.1**	**-2.6**
	comp=Z,0.3nm,0.5s,baz=220,slow=1.0,SNR=4.8							
ARCES	**ARCESS Array B**	**138.78**	**348**	PKhKP		PKPpre	05 21 23.4	
	comp=Z,0.2nm,0.3s,baz=37,slow=3.0,SNR=3.6							
KBZ	**Khabaz**	**145.28**	**304**	PKPbc		**PKPbc**	**05 21 41.6**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=90,slow=1.0,SNR=2.9							
FIA1	**FINESS Array S**	**145.34**	**340**			**PKPbc**	**05 21 41.1**	**-1.3**
FINES	**FINESS Array B**	**145.34**	**340**	PKPbc		**PKPbc**	**05 21 41.0**	**-1.4**
	comp=Z,8.2nm,0.5s,baz=61,slow=3.5,SNR=70							
NB2	**NORSAR Subarra**	**148.94**	**351**	PKP		**PKPbc**	**05 21 51.6**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=13,slow=4.3							
NOA	**NORSAR Array B**	**148.94**	**351**	PKPbc		**PKPbc**	**05 21 51.5**	**-1.0**
	comp=Z,2.0nm,0.8s,baz=14,slow=4.3,SNR=6.7							
AKASG	**Malin Array Be**	**151.49**	**323**	PKPbc		**PKPbc**	**05 21 57.6**	**-1.3**
	comp=Z,2.8nm,0.6s,baz=50,slow=2.6,SNR=7.8							
BRTR	**Keskin Array B**	**152.75**	**298**	PKPbc		**PKPbc**	**05 22 01.1**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=138,slow=4.4,SNR=6.1							
DBIC	**Dimbokro**	**155.34**	**163**	PKPab		**PKPab**	**05 22 27.9**	**+3.2**
	comp=Z,6.5nm,0.6s,baz=78,slow=6.9,SNR=4.7							
TORD	**Torodi Ar. Bea**	**162.65**	**179**	PKP		**PKPdf**	**05 22 08.0**	**0.0**
	comp=Z,1.5nm,0.8s,baz=178,slow=1.6,SNR=7.2							
TORD				PKPab		**PKPab**	**05 22 56.0**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=179,slow=3.0,SNR=7.3							

BJI ***04*** *05:02:33.3±0.0,4.16S×142.77E,h78km,mB5.0/40, mb5.1/60,Ms4.5/17,Ms7 4.1/12*
MOS ***04*** *05:02:34.0±0.8,4.14S×142.44E,h69km,mb5.2/36,Error ellipse: s-maj=11.4km s-min=5.9km az=102.4*
GCMT ***04*** *05:02:34.0±0.4,4.09S±0.03×142.47E±0.03,h63km±2km, MW4.8/63,Moment Tensor Solution. s34,c37; s63,c76; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-2.19±. 13; Mθθ0.11±.11; Mϕϕ2.08±.09; Mrθ-0.49±.07; Mθϕ-0.30±. 12; Mϕr0.48±.09; Best double couple: Mo2.26100×10^16 NP1:ϕs1.00000°,δ39.00000°,λ-75.00000°. NP2: ϕs162.00000°,δ53.00000°,λ-102.00000°. Principal axes: T 2.1920, Plg7.0000°, Azm260.0000°; N 0.1330, Plg10.0000°, Azm169.0000°; P -2.3290, Plg78.0000°, Azm26.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
UNK ***04*** *05:02:36.8,4.12S×142.47E,h79km*
NEIC ***04*** *05:02:36.0±2.0,4.14S±0.04×142.45E±0.05,h73km±4km, mb5.0/102,Error ellipse: s-maj=8.0km s-min=5.7km az=118.0*
IDC ***04*** *05:02:36.4±1.4,4.12S×142.44E,h72km±12km,mb4.6/24, mb1 4.7/29,mb1mx4.6/35,mbtmp4.9/29,MS3.6/25, Ms1 3.6/25,ms1mx3.6/31,Error ellipse: s-maj=12.0km s-min=8.7km az=76.0*
DJA ***04*** *05:02:37.5±0.5,4.3S×14.3E±,h77km±4km,M4.8/31, mb5.0/31,mB5.2/13,MLv5.1/6,Mw(mB)4.6/13,Mwp6.0/1*
ISC 04 05:02:36.5±0.5**,4.18S**±0.04×**142.46E**±0.05**,h79**km±3km**, h79**km**:pP-P,n308,**σ**1§43/324,mb5.0/108,11C-16D,New Guinea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.41**	**313**	P		**Pn**	**05 03 12.2**	**-1.6**
	125nm,0.3s,baz=160,slow=9.1,SNR=448							
JAY				S		**Sn**	**05 03 41.2**	**-1.3**
	178nm,0.3s,baz=305,slow=16,SNR=5.8							
JAY				LR		LR	05 04 14.4	
	comp=Z,3μm,19.7s,baz=139,slow=42							
JAY	**Jayapura**	**2.41**	**313**	P		**Pn**	**05 03 12.3**	**-1.6**
JAY				S		**Sn**	**05 03 42.9**	**+0.4**
GENI	**Genyem**	**2.78**	**305**	P		**Pn**	**05 03 17.9**	**-0.9**
GENI				S		**Sn**	**05 03 53.8**	**+2.4**
SMPI	**Sarmi**	**4.33**	**300**	P		**Pn**	**05 03 41.6**	**+1.7**
MMPI	**Merauke**	**4.73**	**206**	P		Pn	05 03 52.7	+7.3
MMPI				S		**Sn**	**05 04 41.6**	**+2.6**
SRPI	**Serui, Papua**	**6.62**	**290**	P		**Pn**	**05 04 12.5**	**+1.3**
	0.0nm0.8nm,0.4s							
PMG	**Port Moresby**	**6.98**	**138**	P		**Pn**	**05 04 17.5**	**+1.3**
	7.4nm,0.3s,baz=94,slow=22,SNR=7.8							
PMG				S		**Sn**	**05 05 33.6**	**-0.6**
	baz=330,slow=20,SNR=1.4							
PMG				LR		LR	05 07 36.9	
	comp=Z,871nm,19.2s,baz=320,slow=43							
PMG	**Port Moresby**	**6.98**	**138**	*d iP*		**Pn**	**05 04 17.3**	**+1.1**
PMG				pmax		pmax		
	comp=Z,265nm,0.7s							
PMG	**Port Moresby**	**6.98**	**138**	Pn		**Pn**	**05 04 17.8**	**+1.6**
KRVT	**Keravat (AS076**	**9.55**	**91**	P		Pn	05 04 57.2	+6.0
	baz=194,slow=18,SNR=1.6							
KRVT				LR		LR	05 08 04.3	
	comp=Z,798nm,21.2s,baz=269,slow=34							
RABL	**Rabaul**	**9.68**	**90**	Pn		**Pn**	**05 04 54.2**	**+1.1**
COEN	**Coen**	**9.74**	**176**	Pn		**Pn**	**05 04 54.0**	**+0.2**
FAKI	**Fak Fak**	**10.26**	**277**	P		**Pn**	**05 05 00.6**	**-0.4**
	comp=Z,997nmcomp=Z,113nm,0.7s							
FAKI	**Fak Fak**	**10.26**	**277**	Pn		**Pn**	**05 05 00.4**	**-0.6**
SIJI	**Sorong**	**11.65**	**286**	P		**Pn**	**05 05 20.3**	**+0.4**
	comp=Z,4.1nm,0.3s,baz=77,slow=13,SNR=10.0							
SIJI				LR		LR	05 10 50.7	
	comp=Z,603nm,19.2s,baz=156,slow=42							
SAUI	**Saumlaki**	**11.72**	**251**	P		Pn	05 05 32.7	+12
SAUI	**Saumlaki**	**11.72**	**251**	Pn		**Pn**	**05 05 21.4**	**+0.6**
MTN	**Manton Dam**	**14.11**	**232**	Pn		**Pn**	**05 05 51.8**	**-1.0**
LBMI	**Labuha**	**15.35**	**283**	P		**P**	**05 06 11.6**	**-0.2**
	comp=Z,2μmcomp=Z,94nm,0.9s							
TNTI	**Ternate**	**15.86**	**288**	P		**P**	**05 06 17.1**	**-0.4**
	comp=Z,66nm,0.9s							
TNTI	**Ternate**	**15.86**	**288**	Pn		**Pn**	**05 06 15.2**	**0.0**
CTA	**Charters Tower**	**16.24**	**167**	P		**P**	**05 06 23.2**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=8.1,slow=14,SNR=2.0							
CTA				LR		LR	05 11 59.5	
	comp=Z,152nm,21.5s,baz=32,slow=35							
WB0	**Warramunga Arr**	**17.37**	**206**	P		**Pn**	**05 06 33.6**	**-0.3**
WR0	**Warramunga Arr**	**17.48**	**206**			**Pn**	**05 06 34.7**	**-0.5**
WR0					IAmb	IAmb	05 06 39.4	
	comp=Z,55nm,0.8s							
WRAB	**Tennant Creek**	**17.54**	**206**	*de*P		**Pn**	**05 06 34.7**	**-1.3**
WRAB					pmax	pmax		
	comp=Z,60nm,1.3s							
WRAB	**Tennant Creek**	**17.54**	**206**	P		**Pn**	**05 06 35.7**	**-0.3**
WB2	**Warramunga Arr**	**17.54**	**206**			**Pn**	**05 06 35.8**	**-0.2**
WRA	**Warramunga Arr**	**17.55**	**206**	P		**Pn**	**05 06 35.5**	**-0.6**
	comp=Z,4.7nm,0.3s,baz=31,slow=10,SNR=86							
WRA				S		**Sn**	**05 09 42.0**	**-9.2**
	comp=Z,0.9nm,0.3s,baz=28,slow=24,SNR=3.7							
WRA				LR		LR	05 13 43.3	
	comp=Z,430nm,21.3s,baz=25,slow=38							
WRA	**Warramunga Arr**	**17.55**	**206**	*i* P		**Pn**	**05 06 35.5**	**-0.6**
WRA				pmax		pmax		
	comp=Z,15nm,0.5s							
KNRA	**Kununurra**	**17.66**	**229**			**Pn**	**05 06 37.4**	**-0.1**
KNRA					IAmb	IAmb	05 06 39.7	
	comp=Z,103nm,0.8s							
HNR	**Honiara**	**18.13**	**108**	LR		LR	05 14 14.8	
	comp=Z,113nm,19.1s,baz=216,slow=38							
SOEI	**Soe**	**18.88**	**252**	P		**Pn**	**05 06 52.8**	**+0.5**
	comp=Z,3μmcomp=Z,283nm,0.9s							
SOEI	**Soe**	**18.88**	**252**	P		**P**	**05 06 51.3**	**+0.4**
SOEI						**Sn**	**05 10 25.4**	**+1.9**
KMSI	**Cibinong**	**19.05**	**284**	P		**Pn**	**05 06 54.9**	**+0.6**
	comp=Z,243nm,0.7s							
BATI	**Baumata**	**19.57**	**251**	P		**P**	**05 06 59.1**	**+0.7**
	comp=Z,11nm,0.3s,baz=12,slow=2.3,SNR=10							
BATI				S		**S**	**05 10 36.8**	**+1.4**
	comp=Z,5.2nm,0.3s,baz=348,slow=20,SNR=1.8							
BATI	**Baumata**	**19.57**	**251**	P		**Pn**	**05 07 01.8**	**+1.4**
	comp=Z,107nm,0.7s							
DAV	**Davao City (W)**	**20.21**	**304**	⇑*eP*		Pn	05 07 12.0	+4.1
MMRI	**Maumere**	**20.57**	**257**	P		Pn	05 07 13.2	+1.1
MMRI	**Maumere**	**20.57**	**257**	P		**P**	**05 07 08.8**	**-0.4**
MMRI					IAmb	IAmb	05 07 25.8	
	comp=Z,76nm,1.0s							
KCP	**Kidapawan**	**20.59**	**303**	⇓*iP*		Pn	05 07 13.9	+1.5
MRSI	**Marisa**	**21.01**	**282**	P		**P**	**05 07 17.6**	**+3.7**
	comp=Z,1μmcomp=Z,144nm,0.9s							
EDFI	**Ende, Flores**	**21.12**	**257**	P		**P**	**05 07 15.5**	**+0.3**
	comp=Z,374nmcomp=Z,28nm,1.0s							
FITZ	**Fitzroy Crossi**	**21.50**	**229**	P		**P**	**05 07 19.0**	**0.0**
	comp=Z,29nm,0.8s,baz=48,slow=9.4,SNR=37							
FITZ				S		**S**	**05 11 12.2**	**-1.1**
	comp=Z,32nm,0.9s,baz=134,slow=9.8,SNR=5.0							
FITZ				LR		LR	05 15 58.0	
	comp=Z,290nm,18.7s,baz=62,slow=37							
FITZ	**Fitzroy Crossi**	**21.50**	**229**	P		**P**	**05 07 19.4**	**+0.4**
FITZ						**S**	**05 11 12.6**	**-0.7**
BKSI	**Bulukumba**	**22.28**	**266**	P		**P**	**05 07 31.2**	**+3.7**
	comp=Z,938nmcomp=Z,101nm,0.9s							
BNSI	**Bone**	**22.29**	**269**	P		**P**	**05 07 30.8**	**+3.2**
	comp=Z,123nm,1.0s							
BASI	**Baing, Sumba**	**22.51**	**253**	P		P	05 07 48.2	+18
TTSI	**Tana Toraja**	**22.62**	**272**	P		**P**	**05 07 32.6**	**+1.5**
	comp=Z,2μmcomp=Z,59nm,0.9s							
SPSI	**Sidrap Palu**	**22.63**	**270**	P		**P**	**05 07 27.4**	**-3.8**
EIDS	**Eidsvold**	**22.64**	**159**	P		**P**	**05 07 31.6**	**+0.4**
EIDS					IAmb	IAmb	05 07 35.0	
	comp=Z,39nm,1.0s							
KAPI	**Kappang**	**22.64**	**267**	P		**P**	**05 07 33.3**	**+1.9**
	comp=Z,5.9nm,0.3s,baz=116,slow=11,SNR=4.3							
KAPI	**Kappang**	**22.64**	**267**	P		**P**	**05 07 31.0**	**-0.4**
KAPI					pmax	pmax		
	comp=Z,46nm,1.1s							
KAPI	**Kappang**	**22.64**	**267**	P		**P**	**05 07 31.0**	**-0.4**
KAPI					IAmb	IAmb	05 07 47.7	
	comp=Z,46nm,1.1s							
MPSI	**Mapaga**	**22.98**	**281**	P		**P**	**05 07 34.2**	**-0.6**
	comp=Z,493nmcomp=Z,23nm,0.7s							
WBSI	**Waikabubak, Su**	**23.52**	**255**	P		**P**	**05 07 36.0**	**-3.9**
STKA	**Stephens Creek**	**27.56**	**182**	P		**P**	**05 08 16.0**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=2.2,slow=12,SNR=4.9							
STKA				LR		LR	05 21 09.7	
	comp=Z,234nm,19.8s,baz=13,slow=40							
STKA	**Stephens Creek**	**27.56**	**182**	P		**P**	**05 08 16.0**	**-0.2**
STKA					pmax	pmax		
	comp=Z,1.0nm,0.7s							
TGY	**Tagaytay City**	**28.03**	**311**	LR		LR	05 19 02.5	
	comp=Z,92nm,21.0s,baz=158,slow=35							
KKM	**Kota Kinabalu**	**28.10**	**291**	P		**P**	**05 08 20.9**	**-0.5**
DZM	**Mont Dzumac**	**29.27**	**130**	P		**P**	**05 08 32.9**	**+1.3**
	comp=Z,19nm,0.8s,baz=252,slow=11,SNR=11							
DZM				LR		LR	05 19 22.4	
	comp=Z,146nm,21.7s,baz=327,slow=34							
DZM	**Mont Dzumac**	**29.27**	**130**	P		**P**	**05 08 32.4**	**+0.7**
DZM					IAmb	IAmb	05 08 33.5	
	comp=Z,21nm,0.8s							
FORT	**Forrest**	**29.73**	**206**	P		**P**	**05 08 35.8**	**+0.3**
FORT					IAmb	IAmb	05 08 49.1	
	comp=Z,20nm,0.9s							
SBUM	**Sibu**	**30.93**	**282**	P		**P**	**05 08 46.0**	**-0.3**
CAN	**Canberra**	**31.57**	**170**	P		**P**	**05 08 52.4**	**+0.7**
CAN					pmax	pmax		
	comp=Z,30nm,0.7s							
CAN	**Canberra**	**31.57**	**170**	P		**P**	**05 08 52.4**	**+0.7**
KSM	**Kuching**	**32.61**	**279**	P		**P**	**05 09 00.7**	**-0.3**
NACB	**Ninganchiao**	**34.74**	**325**	P		**P**	**05 09 18.8**	**-0.6**
SSLB	**Suanglung**	**34.81**	**324**	P		**P**	**05 09 19.7**	**-0.4**
SSLB					IAmb	IAmb	05 09 22.8	
	comp=Z,21nm,0.8s							
MORW	**Morawa**	**35.22**	**222**	P		**P**	**05 09 24.0**	**+0.6**
KNMB	**Chin-men Tao**	**36.87**	**322**	P		**P**	**05 09 37.5**	**0.0**
NWAO	**Narrogin (SRO)**	**37.06**	**216**	P		**P**	**05 09 40.4**	**+1.3**
	comp=Z,3.5nm,0.3s,baz=78,slow=10.0,SNR=5.6							
NWAO	**Narrogin (SRO)**	**37.06**	**216**	P		**P**	**05 09 40.4**	**+1.3**
NWAO			

USA0B Ussuriysk Arra 49.07 350 P P 05 11 17.0 +1.2
USRK Ussuriysk Ar. 49.07 350 P P 05 11 16.4 +0.7
comp=Z,23nm,0.8s,baz=175,slow=8.2,SNR=50
USRK LR LR 05 29 55.9
comp=Z,51nm,20.7s,baz=183,slow=34
KUR Kuril'sk 49.43 5⇑ eP P 05 11 19.2 +0.7
XAN Xi'an 49.46 323 P P 05 11 19.2 +0.2
XAN pP pP 05 11 35.9 -2.6
XAN sP sP 05 11 44.2 -3.3
XAN PcP PcP **05 12 39.8 -0.3**
XAN S S **05 18 18.3 -2.3**
XAN pmax pmax
comp=Z,77nm,3.7s
XAN LR LR
comp=Z,100nm,17.3s
XAN LR LR
comp=Z,120nm,18.4s
XAN Xi'an 49.46 323 P P 05 11 19.5 +0.5
XAN *PP pP **05 11 37.6 -0.9**
XAN pmax pmax
comp=Z,33nm,1.2s
XAN Xi'an 49.46 323 P P 05 11 19.5 +0.5
XAN pP pP **05 11 37.6 -0.9**
MDJ Mudanjiang 49.93 348 P P 05 11 23.0 +0.7
MDJ pmax pmax
comp=Z,21nm,0.7s
MDJ pmax pmax
comp=Z,76nm,2.9s
CN2 Changchun 50.16 344 eP P 05 11 24.1 0.0
CN2 epP pP 05 11 44.3 +0.6
CN2 pmax pmax
comp=Z,20nm,0.8s
BJI Beijing 50.20 334 P P 05 11 24.3 -0.1
BJI pP pP **05 11 43.2 -0.8**
BJI pmax pmax
comp=Z,9.0nm,0.9s
CD2 Chengdu 50.80 316⇓ iP P 05 11 30.1 +0.9
CD2 S S **05 18 39.2 -0.2**
CD2 pmax pmax
comp=Z,100nm,0.9s
CD2 pmax pmax
comp=Z,90nm,3.8s
YSS Yuzh-Sakhalins 50.92 0⇓ eP P 05 11 29.8 +0.1
YSS e 05 11 51.4
YSS pmax pmax
comp=Z,50nm,0.6s
YSS MLR MLR
comp=Z,100nm,13.0s
YSS Yuzh-Sakhalins 50.92 0 P P 05 11 29.2 -0.5
HHC Hu-ho-hao-te 52.98 331 eP P 05 11 46.9 +1.6
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,35nm,4.8s
HHC LR LR
comp=Z,120nm,17.2s
HHC LR LR
comp=Z,99nm,21.1s
LZH Lanzhou 53.93 321 eP P 05 11 54.0 +1.6
LZH pP pP 05 12 12.1 -0.1
LZH sP sP 05 12 21.2 +0.1
LZH ePP PP **05 13 59.0 +4.5**
LZH pmax pmax
comp=Z,32nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.3s
LZH LR LR
comp=Z,87nm,13.0s
LZH LR LR
comp=Z,130nm,13.6s
LZH LR LR
comp=Z,140nm,14.0s
TYV Tymovskoe 54.83 0 eP P 05 11 59.5 +1.1
TYV pmax pmax
comp=Z,13nm,1.5s
TYV pmax pmax
comp=Z,100nm,5.5s
GRNR Gornyy 54.98 355⇓ iP P 05 12 00.0 +0.5
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=E,60nm,13.0s
GRNR MLR MLR
comp=Z,50nm,18.0s
SKR Severo-Kuril's 55.90 10⇑ eP P 05 12 06.6 +0.5
HIA Hailar 56.77 342⇑ eP P 05 12 13.1 +0.7
HIA pmax pmax
comp=Z,14nm,1.1s
SHL Shillong 57.25 304 P P 05 12 16.7 +0.3
SHL pmax pmax
comp=Z,9.0nm,0.8s
SHL Shillong 57.25 304 P P 05 12 16.6 +0.3
SHL IAmb IAmb 05 12 17.6
comp=Z,9.4nm,0.8s
GTA Gaotai 58.49 322 eP P 05 12 25.4 +0.6
GTA pP pP 05 12 43.8 -1.1
GTA sP sP 05 12 52.5 -1.2
GTA pmax pmax
comp=Z,13nm,1.2s
GTA pmax pmax
comp=Z,63nm,7.3s
GTA LR LR
comp=Z,55nm,17.1s
GTA LR LR
comp=Z,79nm,19.7s
PEA0B Petropavlovsk- 58.51 11 P P 05 12 25.0 +0.5
PEA0B pmax pmax
comp=Z,33nm,1.0s
PEA0B Petropavlovsk- 58.51 11 P P 05 12 25.0 +0.5
PETK Petropavlovsk- 58.51 11 P P 05 12 25.4 +0.9
comp=Z,24nm,0.9s,baz=180,slow=5.9,SNR=22
PETK LR LR 05 38 07.3
comp=Z,28nm,19.4s,baz=241,slow=36
ZEA Zeya 59.10 350 eP P 05 12 29.6 +1.0
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=Z,64nm,1.2s
ULN Ulaanbaatar 60.41 333 d iP P 05 12 38.5 +0.6
ULN pmax pmax
comp=Z,8.0nm,0.7s
ULN Ulaanbaatar 60.41 333 P P 05 12 38.8 +0.9
ULN IAmb IAmb 05 12 39.6
comp=Z,9.4nm,0.9s
SONM Songino Array 60.68 333 P P 05 12 40.6 +0.9
comp=Z,2.8nm,0.7s,baz=160,slow=8.2,SNR=6.9
SONM PKP2bc 05 42 09.5
comp=Z,0.4nm,0.4s,baz=262,slow=4.4,SNR=5.8
ODAN Odare 61.47 304 eP P 05 12 46.2 +0.6
comp=Z,30nm,0.9s
RAMN Ramite 62.16 303 eP P 05 12 51.2 +1.0
JIRN Jiri 62.75 304 eP P 05 12 55.2 +0.9
GUN Gumba 63.10 304 eP P 05 12 57.1 +0.5
comp=Z,37nm,0.8s
PKI Pulchoki 63.37 304 eP P 05 12 58.5 +0.2
PKIN Phulchoki 63.38 304 eP P 05 12 58.5 +0.1
comp=Z,9.2nm,0.5s
DMN Daman 63.63 303 eP P 05 13 00.9 +0.9
MA2 Magadan 63.90 5 d iP P 05 13 00.7 -0.1
MA2 pmax pmax
comp=Z,50nm,2.5s
MA2 Magadan 63.90 5 P P 05 13 01.4 +0.6
ZAK Zakamensk 63.94 333 eP P 05 13 01.3 -0.1
ZAK e 05 13 20.5
ZAK pmax pmax
comp=Z,12nm,1.1s
ZAK pmax pmax
comp=Z,5.0nm,1.1s
TLY Talaya 64.71 334 eP P 05 13 07.6 +1.3
TLY pmax pmax
comp=Z,19nm,0.6s
TLY MLR MLR
comp=Z,78nm,13.0s
TLY Talaya 64.71 334 P P 05 13 07.4 +1.1
TLY IAmb IAmb 05 13 08.1
comp=Z,9.1nm,0.8s
KOLN Koldanda 64.94 303 eP P 05 13 09.1 +0.6
comp=Z,33nm,0.9s
DANN Dangsing 65.00 304 eP P 05 13 09.3 +0.3
comp=Z,42nm,0.6s
CASY Casey 65.87 194 P P 05 13 14.1 +0.6
CASY IAmb IAmb 05 13 15.2
comp=Z,13nm,0.9s
BOD Bodaibo 65.92 344 eP P 05 13 13.9 0.0
BOD pmax pmax
comp=Z,9.0nm,1.4s
YAK Yakutsk 66.75 353 eP P 05 13 19.2 +0.1
YAK pmax pmax
comp=Z,26nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.4s
YAK pmax pmax
comp=N,17nm,1.2s
YAK Yakutsk 66.75 353 P P 05 13 19.4 +0.3
YAK IAmb IAmb 05 13 20.4
comp=Z,22nm,0.9s
ATKA Atka Island 67.09 27 P P 05 13 20.6 -0.9
SEY Seymchan 67.36 5 ceP P 05 13 23.7 +0.8
PPT Papeete 67.75 107 LR LR 05 39 03.5
comp=Z,37nm,21.7s,baz=289,slow=32
WMQ Urumqi 68.50 321 eP P 05 13 31.0 +0.4
WMQ pP pP 05 13 52.5 +1.3
WMQ sP sP 05 14 03.9 +4.0
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ pmax pmax
comp=Z,81nm,5.5s
WMQ LR LR
comp=Z,70nm,21.5s
WMQ LR LR
comp=Z,210nm,19.5s
WMQ LR LR
comp=Z,94nm,23.5s
DGZ Jazzator, Alta 71.57 326 deP P 05 13 49.7 +0.3
DGZ pmax pmax
comp=Z,10.0nm,0.9s
MK31 Makanchi Array 73.25 322 P P 05 13 59.7 +0.4
MK31 pmax pmax
comp=Z,12nm,1.1s
MK31 Makanchi Array 73.25 322 P P 05 13 59.7 +0.4
MKAR Makanchi Array 73.25 322 P P 05 13 59.6 +0.3
comp=Z,9.7nm,0.9s,baz=108,slow=7.8,SNR=59
MAKZ Makanchi 73.45 321 P P 05 14 00.5 0.0
MAKZ pmax pmax
comp=Z,18nm,1.1s
MAKZ Makanchi 73.45 321 P P 05 14 00.5 0.0
MAKZ IAmb IAmb 05 14 01.8
comp=Z,18nm,1.1s
BILL Bilibino 73.97 9⇓ eP P 05 14 03.0 -0.1
BILL pmax pmax
comp=Z,5.0nm,0.7s
BILL Bilibino 73.97 9 P P 05 14 02.7 -0.4
VNDA Vanda 74.02 176 P P 05 14 04.3 +1.0
comp=Z,6.7nm,0.8s,baz=324,slow=6.3,SNR=33
VNDA LR LR 05 47 54.9
comp=Z,53nm,18.2s,baz=335,slow=37
VNDA Vanda 74.02 176 P P 05 14 03.4 +0.2
VNDA pmax pmax
comp=Z,11nm,1.0s
VNDA Vanda 74.02 176 P P 05 14 03.4 +0.2
VNDA IAmb IAmb 05 14 05.2
comp=Z,11nm,0.9s
ZAA0 Zalesovo Array 75.10 329 P P 05 14 09.3 -0.5
ZALV Zalesovo Beam 75.10 329 P P 05 14 09.3 -0.5
comp=Z,7.4nm,0.7s,baz=114,slow=5.2,SNR=34
ZALV LR LR 05 46 48.2
comp=Z,22nm,21.8s,baz=90,slow=35
NIL Nilore 75.20 306 P P 05 14 11.2 +0.2
NIL *PP pP **05 14 29.0 -2.8**
NIL pmax pmax
comp=Z,25nm,0.8s
NIL Nilore 75.20 306 P P 05 14 11.2 +0.2
NIL pP pP **05 14 29.0 -2.8**
KZA Kyzart 76.16 315 P P 05 14 18.2 +1.5
SNR=7.7
TKM2 Tokmak 2 76.19 316 P P 05 14 17.0 +0.4
SNR=6.4
UCH Uchtor 76.72 315 P P 05 14 21.1 +1.1
SNR=8.9
AAK Ala-Archa 76.86 315 deP P 05 14 20.8 +0.4
AAK pmax pmax
comp=Z,5.0nm,1.7s
AAK Ala-Archa 76.86 315 P P 05 14 20.4 0.0
AAK P P **05 14 21.0 +0.6**
USP Ospenovka 77.06 316 P P 05 14 22.1 +0.8
SNR=5.2
KURK Kurchatov 77.08 324 d iP P 05 14 20.7 -0.5
KURK pmax pmax
comp=Z,23nm,1.7s
KURK Kurchatov 77.08 324 P P 05 14 20.9 -0.3
KURK IAmb IAmb 05 14 22.2
comp=Z,12nm,1.0s
AML Almayashu 77.27 315 P P 05 14 23.8 +0.8
SNR=7.8
EKS2 Erkin-Say 77.37 315 P P 05 14 24.3 +1.1
SNR=5.6
GAR Garm 78.87 311 P P 05 14 30.6 -1.0
GAR IAmb IAmb 05 14 32.6
comp=Z,16nm,1.0s
CHGR Chuyangaron 79.67 310 P P 05 14 35.0 -0.9
CHGR IAmb IAmb 05 14 36.8
comp=Z,20nm,0.9s
CHGR pP **05 14 55.5 -1.4**
KK31 Karatay Array 79.80 315 P P 05 14 36.8 +0.4
KK31 pmax pmax
comp=Z,4.0nm,0.8s
KK31 Karatay Array 79.80 315 P P 05 14 36.8 +0.4
KKAR Karatay Array 79.80 315 P P 05 14 36.8 +0.4
KKAR pmax pmax
comp=Z,4.0nm,0.8s
KKAR Karatay Array 79.80 315 P P 05 14 36.8 +0.4
OHAK Old Harbor 79.93 30 P P 05 14 36.6 -0.1
TTA Tatalina 81.19 24 P P 05 14 44.1 +0.6
TTA pmax pmax
comp=Z,10.0nm,1.0s
TTA Tatalina 81.19 24 P P 05 14 44.1 +0.6
RDOG Red Dog Mine 81.38 18 P P 05 14 44.4 +0.1
RDOG IAmb IAmb 05 14 45.9
comp=Z,16nm,0.7s
CNPM China Poot 81.84 28 P P 05 14 47.0 +0.1
CNPM IAmb IAmb 05 14 47.7
comp=Z,17nm,0.8s
MAW Mawson 82.18 202 P P 05 14 49.9 +1.4
comp=Z,19nm,0.8s,baz=83,slow=7.1,SNR=30
MAW LR LR 05 50 10.5
comp=Z,50nm,18.2s,baz=58,slow=35
MAW Mawson 82.18 202 P P 05 14 49.9 +1.4
MAW pmax pmax
comp=Z,5.0nm,0.9s
MAW Mawson 82.18 202 IAmb IAmb 05 14 50.8
comp=Z,4.8nm,0.8s
NRIK Noril'sk 82.19 343 P P 05 14 48.5 0.0
comp=Z,17nm,0.8s,baz=115,slow=4.8,SNR=22
NRIK LR LR 05 53 16.7
comp=Z,41nm,18.2s,baz=86,slow=37
BRVK Borovoye 82.73 325 d iP P 05 14 51.9 +0.2
BRVK pmax pmax
comp=Z,32nm,1.3s
BRVK Borovoye 82.73 325 P P 05 14 52.2 +0.6
BRVK IAmb IAmb 05 14 53.6
comp=Z,22nm,1.0s
PPLA Purkeypile 82.76 25 P P 05 14 51.5 -0.2
SEW Seward 82.89 28 P P 05 14 52.8 +0.5
SEW IAmb IAmb 05 14 52.9
comp=Z,20nm,1.2s
O22K Cooper Landing 82.91 28 P P 05 14 52.5 +0.1
baz=248
RC01 Rabbit Creek A 83.12 27 P P 05 14 51.4 -2.1
RC01 IAmb IAmb 05 14 53.9
comp=Z,26nm,1.1s
CUT Chulitna 83.38 26 P P 05 14 54.5 -0.3
baz=248
KTH Kantishna Hill 83.55 24 P P 05 14 54.5 -1.3
KTH IAmb IAmb 05 14 55.9
comp=Z,17nm,1.0s
KTH pP **05 15 18.2 +1.3**
PMR Palmer 83.58 27 P P 05 14 55.4 -0.4
PMR pmax pmax
comp=Z,17nm,1.1s
PMR Palmer 83.58 27 P P 05 14 55.4 -0.4
PMR IAmb IAmb 05 14 56.1
comp=Z,17nm,1.1s
BPAW Bear Paw Mtn. 83.73 24 P P 05 14 55.3 -1.3
GHO Glory Hole Cre 83.73 26 P P 05 14 55.4 -1.4
GHO IAmb IAmb 05 14 57.2
comp=Z,12nm,1.0s
TRF Thorofare Moun 83.77 25 P P 05 14 56.2 -0.8
KNK Knik Glacier 83.82 27 P P 05 14 57.3 +0.2
KNK IAmb IAmb 05 14 58.5
comp=Z,23nm,1.0s
SML Sawmill 84.01 27 P P 05 14 57.9 -0.2
MLY Manley 84.20 23 P P 05 14 58.7 -0.3
MLY IAmb IAmb 05 15 00.6
comp=Z,10nm,0.8s
GLI Glacier Island 84.26 28 P P 05 14 59.3 0.0
GLI IAmb IAmb 05 14 59.9
comp=Z,18nm,1.0s
RND Reindeer 84.35 25 P P 05 14 59.2 -0.7
RND pmax pmax
comp=Z,26nm,0.8s
RND Reindeer 84.35 25 P P 05 14 59.2 -0.7
MCK McKinley 84.44 25 P P 05 14 59.3 -0.9
MCK pmax pmax
comp=Z,23nm,0.9s
MCK McKinley 84.44 25 P P 05 14 59.3 -0.9
SCM Sheep Creek Mo 84.47 27 P P 05 15 00.2 -0.3
SCM pmax pmax
comp=Z,19nm,0.9s
SCM Sheep Creek Mo 84.47 27 P P 05 15 00.2 -0.3
SCM IAmb IAmb 05 15 01.3
comp=Z,19nm,0.9s
FID Port Fidalgo 84.50 28 P P 05 15 00.7 +0.1
FID IAmb IAmb 05 15 01.7
comp=Z,13nm,0.9s
DHY Denali Highway 84.86 25 P P 05 15 02.5 0.0
DHY IAmb IAmb 05 15 03.3
comp=Z,19nm,0.9s
WRH Wood River Hil 85.05 24 P P 05 15 02.4 -0.8
WRH IAmb IAmb 05 15 03.1
comp=Z,19nm,0.9s
CCB Clear Creek Bu 85.22 24 P P 05 15 02.8 -1.3
COLD Coldfoot 85.25 21 P P 05 15 05.1 +0.9
COLA College 85.28 24 c iP P 05 15 03.2 -1.1
COLA pmax pmax
comp=Z,14nm,0.9s
COLA College 85.28 24 P P 05 15 03.2 -1.1
COLA IAmb IAmb 05 15 04.6
comp=Z,15nm,0.8s
HDA Harding Lake 85.49 24 P P 05 15 04.3 -1.1
baz=251
HDA Harding Lake 85.49 24 P P 05 15 03.9 -1.5
HDA IAmb IAmb 05 15 05.0
comp=Z,7.5nm,0.8s
POKR Poker Plat Res 85.53 24 P P 05 15 04.4 -1.2
baz=250
IL31 85.64 24 P P 05 15 04.7 -1.4
IL31 IAmb IAmb 05 15 05.4
comp=Z,17nm,0.8s
ILAR Eielson Array 85.64 24 P P 05 15 04.8 -1.4
comp=Z,15nm,0.7s,baz=257,slow=4.9,SNR=122
ILAR LR LR 05 49 02.8
comp=Z,15nm,20.8s,baz=278,slow=33
QSPA South Pole Qui 85.77 180 P P 05 15 07.4 +0.4
comp=Z,36nm,0.8s,baz=348,slow=1.6,SNR=72
QSPA South Pole Qui 85.77 180 P P 05 15 07.0 -0.1
GLB Gilahina Butte 85.95 28 P P 05 15 07.2 -0.7
GLB IAmb IAmb 05 15 08.7
comp=Z,12nm,0.9s
TOLK Toolik Lake Re 86.01 20 P P 05 15 08.8 +0.8
baz=248
TOLK Toolik Lake Re 86.01 20 P P 05 15 08.4 +0.4
TOLK IAmb IAmb 05 15 10.2
comp=Z,16nm,0.7s
VRDI Verde Repeater 86.05 28 P P 05 15 08.6 0.0
WAX Waxell Ridge 86.12 29 P P 05 15 09.3 +0.6
WAX IAmb IAmb 05 15 10.1
comp=Z,18nm,1.1s
RIDG Independent Ri 86.16 25 P P 05 15 07.7 -1.2
RIDG IAmb IAmb 05 15 09.4
comp=Z,17nm,1.0s
PRP Porcupine Dome 86.42 23 P P 05 15 08.3 -1.9
DOT Dot Lake 86.46 25 P P 05 15 10.4 +0.1
DOT IAmb IAmb 05 15 11.1
comp=Z,16nm,1.0s
BALM Baldy 86.52 28 P P 05 15 10.5 -0.3
BALM IAmb IAmb 05 15 11.7
comp=Z,13nm,0.9s
SCRK Sand Creek 86.59 25 P P 05 15 10.9 -0.1
BARN Barnard Glacie 86.85 28 P P 05 15 12.4 0.0
FYU Fort Yukon 86.86 22 P P 05 15 13.0 +0.9
FYU IAmb IAmb 05 15 14.5
comp=Z,15nm,0.8s
PCA Pinnacle 87.29 29 P P 05 15 14.8 +0.3
PCA IAmb IAmb 05 15 15.5
comp=Z,15nm,0.9s
EGAK Eagle 87.99 25 P P 05 15 16.6 -0.9
EGAK IAmb IAmb 05 15 18.6
comp=Z,14nm,0.8s
GEYT Alibeck 88.08 308 P P 05 15 19.4 +0.7
comp=Z,1.2nm,0.5s,baz=114,slow=7.0,SNR=3.9
HYT Haines Junctio 88.78 29 P P 05 15 22.0 +0.5
HYT IAmb IAmb 05 15 23.0
comp=Z,11nm,1.0s
HYT pP pP **05 15 40.5 -2.5**
ARU Arti 90.07 326 d iP P 05 15 25.8 -1.7
ARU *PP pP **05 15 44.5 -4.5**
ARU 05 19 00.6
ARU S SKSac **05 25 49.1 -2.3**
ARU SP SP **05 27 20.6 +0.2**
ARU SS SS **05 32 09.3 -5.2**
ARU pmax pmax
comp=Z,10.0nm,1.3s
EPYK Eagle Plains 90.13 23 P P 05 15 27.8 +0.2
baz=260
EPYK Eagle Plains 90.13 23 P P 05 15 27.8 +0.2
EPYK IAmb IAmb 05 15 28.6
comp=Z,9.1nm,1.1s
SYO Syowa Base 90.71 201⇑ eP P 05 15 29.8 -0.5
NVL N'lazarevskaya 98.44 195 eP P 05 16 05.4 -0.2
NVL pmax pmax
comp=Z,12nm,0.8s
YKA Yellowknife Ar 99.66 27 P Pdif 05 16 10.3 -0.8
comp=Z,1.1nm,0.9s,baz=280,slow=4.6,SNR=5.4
YKA PKKPbc **PKKPbc 05 32 31.7 -3.3**
comp=Z,0.6nm,0.8s,baz=92,slow=3.8,SNR=4.2
YKA LR LR 05 57 18.9
comp=Z,19nm,21.9s,baz=0.0,slow=33
NVAR Mina Array Bea 99.83 52 P Pdif 05 16 12.9 +0.2
comp=Z,0.4nm,0.7s,baz=276,slow=9.0,SNR=2.8
NVAR LR LR 05 54 41.6
comp=Z,34nm,19.6s,baz=257,slow=31
KIV Kislovodsk 99.92 314 eP Pdif 05 16 11.7 -1.2
KIV e 05 20 17.5
KIV pmax pmax
comp=Z,2.0nm,0.8s
TMCR Tamitsa 100.02 334 eP Pdif 05 16 10.8 -1.9
SNAA Sanae 100.99 191 Pdiff Pdif 05 16 17.8 +0.8
OBN Obninsk 102.48 326 eP Pdif 05 16 22.7 -1.1
OBN pmax pmax
comp=Z,14nm,0.5s
VNA3 Neumayer Olymp 102.51 189 Pdiff Pdif 05 16 24.4 +0.6
ARCES ARCESS Array B 103.11 341 Pdiff Pdif 05 16 25.4 -1.0
comp=Z,1.2nm,0.8s,baz=86,slow=6.2,SNR=6.3
ARCES PKKPbc **PKKPbc 05 32 23.7 -1.5**
comp=Z,0.8nm,0.9s,baz=242,slow=3.6,SNR=3.7
FINES FINESS Array B 106.05 333 Pdiff Pdif 05 16 37.4 -2.2
comp=Z,1.1nm,0.7s,baz=56,slow=7.1,SNR=4.9
TXAR Lajitas Array 112.82 60 PKiKP PKiKP 05 21 05.2 +0.1
comp=Z,0.3nm,0.8s,baz=222,slow=1.7,SNR=3.4
TXAR PKKPbc **PKKPbc 05 31 53.0 -0.4**
comp=Z,0.2nm,0.5s,baz=100,slow=3.7,SNR=2.7
GERES GERESS Array B 117.83 324 PKP PKPdf 05 21 13.8 -0.3
comp=Z,0.4nm,0.2s,baz=42,slow=2.2,SNR=3.9
PLCA Paso Flores 126.05 149 PKP PKiKP 05 21 31.3 +0.6
comp=Z,7.4nm,0.7s,baz=225,slow=2.0,SNR=24
PLCA Paso Flores 126.05 149 PKPdf PKiKP 05 21 31.2 +0.5
AC05 El Transito 134.54 138 PKPdf PKiKP 05 21 47.6 -0.5
PB07 IPOC Station P 139.19 130 PKPdf 05 21 56.5 +1.0
TORD Torodi Ar. Bea 140.25 285 PKhKP PKPpre 05 21 48.3
comp=Z,1.0nm,0.8s,baz=43,slow=2.2,SNR=2.7
TORD PKP **PKiKP 05 21 59.7 -0.2**
comp=Z,1.6nm,0.7s,baz=78,slow=1.9,SNR=7.3
PB11 IPOC Station P 140.47 128 PKPpre 05 21 52.3
MNMC Minye Minye 140.86 127 PKPpre 05 21 52.9
HELC Santa Helena 142.12 85 eP PKPdf 05 21 58.9 -2.4
GUY2C Guyana, Caldas 142.30 87 eP PKPdf 05 21 57.4 -4.4
TOLC Tolima 142.34 88 eP PKPdf 05 21 58.2 -3.4
ORTC Ortega, Tolima 142.39 89 eP PKPdf 05 21 56.9 -4.4
PRAC Prado 142.75 89 eP PKPdf 05 21 57.9 -4.1
PTBC PUERTO BERRIO 143.18 85 eP PKPab 05 21 58.1 -0.4
ROSC El Rosal 143.34 88 PKP PKPbc 05 22 01.2 +0.5
comp=Z,16nm,0.5s,baz=116,slow=3.8,SNR=12
ROSC El Rosal 143.34 88 eP PKPbc 05 22 00.9 +0.2
SPBC San Pablo de B 143.58 86 eP PKPab 05 22 00.2 0.0
MACC Macarena, Meta 143.70 92 eP PKPab 05 22 00.4 -0.2

CHIC	**Chingaza**	**143.92**	**88**	*eP*	PKPab	05 22 00.9	-1.0	
RUSC	**La Rusia**	**144.56**	**86**	*eP*	**PKPab**	**05 22 02.9**	**-1.4**	
GUVC	**San Jose del G**	**144.94**	**92**	*eP*	**PKiKP**	**05 22 09.8**	**+0.2**	
SDV	**Santo Domingo**	**146.81**	**80**	*eP*	**PKPdf**	**05 22 09.8**	**+0.7**	
SDV	**Santo Domingo**	**146.81**	**80**		**PKPdf**	**05 22 09.5**	**+0.4**	
KIC	**Kosan Boka**	**147.27**	**275**	*e*PKP2	**PKPbc**	**05 22 11.9**	**-0.2**	
	comp=Z,11nm,0.4s							
DBIC	**Dimbokro**	**147.37**	**276**	PKPbc	**PKPbc**	**05 22 12.1**	**-0.3**	
	comp=Z,7.0nm,0.5s,baz=51,slow=1.7,SNR=17							
DBIC	**Dimbokro**	**147.37**	**276**	PKP2	**PKPbc**	**05 22 12.7**	**+0.3**	
DBIC	**Dimbokro**	**147.37**	**276**		**PKPbc**	**05 22 12.7**	**+0.3**	
TIC	**Toumodi**	**147.53**	**276**	*e*PKP2	**PKPbc**	**05 22 12.9**	**0.0**	
LIC	**Lamto**	**147.56**	**275**	*e*PKP2	**PKPbc**	**05 22 13.0**	**+0.1**	
	comp=Z,37nm,0.6s							
CRPR	**Cabo Rojo, PR**	**147.97**	**62**		**PKPdf**	**05 22 12.3**	**+1.6**	
MLPR	**Magueyes Islan**	**148.05**	**62**		**PKPbc**	**05 22 13.0**	**-1.0**	
OBIP	**Obispado Ponce**	**148.41**	**62**		**PKPbc**	**05 22 14.4**	**-0.6**	
GCPR	**Guaynabo City**	**148.76**	**61**		**PKPbc**	**05 22 14.7**	**-1.2**	
SJG	**San Juan**	**148.78**	**61**	PKP2	**PKPbc**	**05 22 14.8**	**-1.1**	
SJG	**San Juan**	**148.78**	**61**		**PKPbc**	**05 22 14.8**	**-1.1**	
PDPR	**Patillas Dam,**	**148.93**	**62**		**PKPbc**	**05 22 15.7**	**-0.6**	
HUMP	**Col San Antoni**	**149.03**	**61**		**PKPbc**	**05 22 16.3**	**-0.3**	
STVI	**Saint Thomas**	**149.72**	**60**		**PKPbc**	**05 22 17.6**	**-0.7**	
CDVI	**St. Croix**	**150.13**	**61**		**PKPbc**	**05 22 18.8**	**-0.5**	
SPB	**Sao Paulo**	**150.76**	**161**		**PKiKP**	**05 22 22.3**	**+1.0**	
SAML	**Samuel**	**151.30**	**117**	PKIKP	**PKPdf**	**05 22 16.6**	**+0.4**	
SAML	**Samuel**	**151.30**	**117**		**PKPdf**	**05 22 16.6**	**+0.4**	
SMRT	**St. Maarten**	**151.47**	**59**		**PKPbc**	**05 22 21.5**	**-1.0**	
BDFB	**Brasilia**	**157.74**	**152**	PKP	**PKPdf**	**05 22 25.0**	**-0.1**	
	comp=Z,4.1nm,0.8s,baz=203,slow=4.8,SNR=8.4							

*JMA **04** 05:33:04.3±0.1,23.°96N×121.°67E,h29km±1km,M2.6*
*TAP **04** 05:33:05.9,24.°04N×121.°63E,h30km,ML3.0,B*
ISC 04 05:33:05.3±0.9,**24.°01N**±0.°02×**121.°64E**±0.°02,**h33**km±4km,
n84,σ0=**68**/152,**Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.05**	**220**	P	**Pb**	**05 33 11.2**	**+0.3**
	baz=189						
HWA				S	**Sb**	**05 33 14.9**	**+0.3**
	baz=189						
TWD	**Chiawan**	**0.08**	**330**	P	**Pb**	**05 33 10.7**	**-0.3**
	baz=338						
TWD				S	**Sb**	**05 33 14.7**	**-0.2**
	baz=338						
NACB	**Ninganchiao**	**0.17**	**346**	P	**Pb**	**05 33 11.0**	**-0.6**
	baz=348						
NACB				S	**Sb**	**05 33 15.4**	**-0.5**
	baz=348						
ETLH	**Xiulin Townshi**	**0.24**	**324**	P	**Pb**	**05 33 11.9**	**-0.6**
	baz=322						
ETLH				*e*S	**Sb**	**05 33 16.6**	**-0.7**
	baz=322						
ESL	**Shilin**	**0.27**	**223**	P	**Pb**	**05 33 12.4**	**-0.4**
	baz=216						
ESL				*e*S	**Sn**	**05 33 18.9**	**+1.5**
	baz=216						
WHF	**Hehuan Shan**	**0.36**	**291**	P	**Pb**	**05 33 13.8**	**-0.6**
	baz=288						
WHF				S	**Sb**	**05 33 19.5**	**-1.0**
	baz=288						
EGFH	**Guangfu**	**0.39**	**209**	*e*P	**Pb**	**05 33 14.0**	**-0.3**
	baz=206						
EGFH				*e*S	**Sn**	**05 33 21.4**	**+0.5**
	baz=206						
ENA	**Nanau**	**0.42**	**13**	*e*P	**Pb**	**05 33 14.8**	**0.0**
	baz=16						
ENA				S	**Sb**	**05 33 20.8**	**-0.5**
	baz=16						
CHGB	**Renai**	**0.43**	**276**	P	**Pb**	**05 33 14.7**	**-0.3**
	baz=273						
CHGB				S	**Sb**	**05 33 21.1**	**-0.6**
	baz=273						
OWD	**Renai**	**0.43**	**262**	*e*P	**Pb**	**05 33 14.6**	**-0.3**
	baz=258						
OWD				*e*S	**Sb**	**05 33 20.8**	**-0.7**
	baz=258						
NNSB	**Datong**	**0.47**	**331**	P	**Pb**	**05 33 15.2**	**-0.4**
	baz=330						
NNSB				S	**Sb**	**05 33 22.3**	**-0.5**
	baz=330						
NNSH	**Datong**	**0.47**	**331**	P	**Pb**	**05 33 15.2**	**-0.5**
	baz=330						
NNSH				*e*S	**Sb**	**05 33 22.2**	**-0.5**
	baz=330						
TWT	**Tachien**	**0.48**	**300**	P	**Pb**	**05 33 16.0**	**+0.2**
	baz=296						
TWT				S	**Sb**	**05 33 23.1**	**0.0**
	baz=296						
NNS	**Nan Shan**	**0.49**	**330**	P	**Pb**	**05 33 15.6**	**-0.3**
	baz=330						
NNS				S	**Sb**	**05 33 22.8**	**-0.3**
	baz=330						
TDCB	**Techi**	**0.50**	**299**	P	**Pb**	**05 33 15.9**	**-0.1**
	baz=296						
TDCB				S	**Sb**	**05 33 23.1**	**-0.3**
	baz=296						
VWDT	**VWDT**	**0.52**	**241**	P	**Pb**	**05 33 16.1**	**-0.2**
	baz=237						
VWDT				*e*S	**Sn**	**05 33 24.1**	**-0.1**
	baz=237						
HGSD	**Ruisui**	**0.55**	**201**	P	**Pn**	**05 33 17.0**	**+0.1**
	baz=198						
HGSD				*e*S	**Sn**	**05 33 26.4**	**+1.5**
	baz=198						
EHY	**Hungye**	**0.58**	**210**	*e*P	**Pn**	**05 33 17.3**	**0.0**
	baz=207						
EHY				*e*S	**Sn**	**05 33 26.6**	**+1.0**
	baz=207						
NDT	**Datong Townshi**	**0.60**	**349**	*e*P	**Pb**	**05 33 17.3**	**-0.3**
	baz=349						
NDT				S	**Sb**	**05 33 24.9**	**-1.0**
	baz=349						
TWC	**Suao**	**0.62**	**18**	P	**Pb**	**05 33 17.8**	**-0.2**
	baz=20						
TWC				S	**Sb**	**05 33 26.7**	**+0.1**
	baz=20						
DPDB	**Guoxing**	**0.65**	**272**	*e*P	**Pb**	**05 33 18.2**	**-0.2**
	baz=269						
DPDB				S	**Sn**	**05 33 27.8**	**+0.3**
	baz=269						
SSLB	**Suanglung**	**0.67**	**250**	*e*P	**Pb**	**05 33 18.1**	**-0.5**
	baz=248						
SSLB				S	**Sb**	**05 33 27.5**	**-0.2**
	baz=248						
WHP	**Taichung City**	**0.69**	**293**	*e*P	**Pb**	**05 33 18.8**	**-0.2**
	baz=291						
WHP				*e*S	**Sb**	**05 33 28.4**	**0.0**
	baz=291						
SMLT	**Sun Moon Lake**	**0.69**	**259**	P	**Pn**	**05 33 19.0**	**+0.2**
	baz=256						
SMLT				S	**Sb**	**05 33 27.9**	**-0.5**
	baz=256						
YULB	**Yu-li**	**0.69**	**207**	*e*P	**Pn**	**05 33 19.1**	**+0.3**
	baz=205						
YHNB	**Yeheng**	**0.70**	**340**	P	**Pb**	**05 33 18.7**	**-0.5**
	baz=340						
YHNB				S	**Sb**	**05 33 27.6**	**-1.0**
	baz=340						
TWE	**Neicheng**	**0.71**	**2**	*e*P	**Pn**	**05 33 19.3**	**+0.3**
	baz=4.0						
TWE				*e*S	**Sn**	**05 33 29.1**	**+0.4**
	baz=4.0						
NSK	**Sanguang**	**0.71**	**339**	P	**Pb**	**05 33 18.9**	**-0.5**
	baz=339						
NSK				S	**Sb**	**05 33 27.9**	**-1.0**
	baz=339						
TYC	**Yuchr**	**0.72**	**262**	P	**Pn**	**05 33 19.5**	**+0.3**
	baz=259						
TYC				S	**Sb**	**05 33 28.2**	**-1.0**
	baz=259						
TWF1	**Yuli**	**0.73**	**205**	*e*P	**Pn**	**05 33 19.6**	**+0.3**
	baz=203						
NWLT	**Wulai**	**0.77**	**351**	*e*P	**Pn**	**05 33 19.6**	**-0.3**
	baz=351						
NWLT				S	**Sb**	**05 33 29.4**	**-1.2**
	baz=351						
WHYT	**Xinyi Township**	**0.79**	**246**	*e*P	**Pb**	**05 33 20.6**	**0.0**
	baz=244						
WHYT				S	**Sn**	**05 33 31.5**	**+0.8**
	baz=244						
NSTT	**Nanjuang**	**0.85**	**317**	*e*P	**Pn**	**05 33 21.4**	**+0.4**
	baz=316						
NSTT				*e*S	**Sb**	**05 33 32.2**	**-0.5**
	baz=316						
LIOB	**Emei**	**0.85**	**318**	*e*P	**Pn**	**05 33 21.2**	**+0.2**
	baz=317						
LIOB				*e*S	**Sb**	**05 33 32.8**	**0.0**
	baz=317						
WJS	**Zhushan**	**0.85**	**257**	*e*P	**Pb**	**05 33 21.6**	**-0.1**
	baz=255						
WJS				*e*S	**Sn**	**05 33 33.5**	**+1.2**
	baz=255						
NTC	**Toucheng**	**0.86**	**12**	*e*P	**Pb**	**05 33 21.8**	**0.0**
	baz=12						
NTC				*e*S	**Sn**	**05 33 33.5**	**+1.1**
	baz=12						
TWQ1	**Liyutan**	**0.86**	**293**	*e*P	**Pb**	**05 33 21.9**	**+0.1**
	baz=291						
TWQ1				*e*S	**Sn**	**05 33 33.5**	**+1.0**
	baz=291						
WNT	**Mingjian**	**0.88**	**261**	*e*P	**Pb**	**05 33 22.2**	**-0.1**
	baz=259						
WNT				*e*S	**Sb**	**05 33 33.8**	**+0.1**
	baz=259						
NSY	**Sanyi**	**0.90**	**297**	*e*P	**Pn**	**05 33 22.0**	**+0.4**
	baz=295						
NSY				*e*S	**Sn**	**05 33 33.9**	**+0.4**
	baz=295						
WLTB	**Daxi**	**0.91**	**337**	*e*P	**Pn**	**05 33 21.5**	**-0.2**
	baz=337						
WLTB				*e*S	**Sb**	**05 33 34.9**	**+0.5**
	baz=337						
ALS	**Alishan**	**0.91**	**237**	*e*P	**Pb**	**05 33 22.9**	**0.0**
	baz=234						
ALS				*e*S	**Sn**	**05 33 34.8**	**+0.5**
	baz=234						
NMLH	**Miaoli**	**0.93**	**304**	*e*P	**Pn**	**05 33 22.4**	**+0.3**
	baz=303						
CHKT	**Chengkung**	**0.94**	**195**	*e*P	**Pb**	**05 33 23.6**	**+0.4**
	baz=193						
CHKT				*e*S	**Sb**	**05 33 36.2**	**+0.8**
	baz=193						
NHDH	**Xindian Distri**	**0.95**	**354**	*e*P	**Pn**	**05 33 22.7**	**+0.3**
	baz=354						
NHDH				*e*S	**Sb**	**05 33 35.6**	**-0.1**
	baz=354						
PTSB	**Yuanli**	**0.95**	**297**	*e*P	**Pn**	**05 33 22.6**	**+0.2**
	baz=295						
TWA	**Mucha**	**0.96**	**357**	*e*P	**Pb**	**05 33 23.4**	**-0.2**
	baz=358						
TWA				*e*S	**Sn**	**05 33 35.9**	**+0.7**
	baz=358						
TIPB	**Shuangxi**	**0.97**	**10**	*e*P	**Pb**	**05 33 23.9**	**+0.1**
	baz=11						
TIPB				*e*S	**Sb**	**05 33 36.2**	**0.0**
	baz=11						
ELDTW	**Lidau**	**1.00**	**215**	*e*P	**Pn**	**05 33 23.3**	**+0.2**
	baz=213						
TWB1	**Santiao Chiao**	**1.04**	**18**	*e*P	**Pb**	**05 33 24.8**	**-0.1**
	baz=19						
TWB1				*e*S	**Sb**	**05 33 38.6**	**+0.4**
	baz=19						
WDLH	**Douliu**	**1.06**	**252**	*e*P	**Pb**	**05 33 24.6**	**-0.6**
	baz=250						
NWF	**Wu-fen Shan**	**1.06**	**7**	*e*P	**Pb**	**05 33 24.8**	**-0.5**
	baz=7.0						
NWF				*e*S	**Sb**	**05 33 38.7**	**-0.2**
	baz=7.0						
WFSB	**Wu-fen Shan**	**1.06**	**7**	*e*P	**Pb**	**05 33 25.0**	**-0.2**
	baz=7.0						
WFSB				*e*S	**Sn**	**05 33 38.4**	**+0.8**
	baz=7.0						
YM01	**YM01**	**1.13**	**357**	*e*P	**Pn**	**05 33 25.7**	**+0.8**
	baz=357						
YM01				*e*S	**Sb**	**05 33 40.8**	**-0.1**
	baz=357						
YM04	**YM04**	**1.14**	**355**	*e*P	**Pn**	**05 33 25.5**	**+0.5**
	baz=355						
YM04				*e*S	**Sn**	**05 33 39.9**	**+0.4**
	baz=355						
YM10	**YM10**	**1.14**	**356**	*e*P	**Pn**	**05 33 25.9**	**+0.8**
	baz=357						
YM10				*e*S	**Sn**	**05 33 40.4**	**+0.8**
	baz=357						
YM11	**YM11**	**1.15**	**357**	*e*P	**Pn**	**05 33 25.9**	**+0.7**
	baz=357						
TPUB	**Ta-pu**	**1.17**	**233**	*e*P	**Pb**	**05 33 26.4**	**-0.5**
	baz=231						
TPUB				*e*S	**Sb**	**05 33 41.9**	**+0.2**
	baz=231						
STYT	**Tauyuan**	**1.17**	**224**	*e*P	**Pb**	**05 33 27.0**	**-0.1**
	baz=222						
STYT				*e*S	**Sb**	**05 33 42.0**	**+0.1**
	baz=222						
YM08	**YM08**	**1.17**	**358**	*e*P	**Pb**	**05 33 26.5**	**-0.5**
	baz=358						
ANP	**Anpu**	**1.17**	**355**	*e*P	**Pb**	**05 33 26.5**	**-0.7**
	baz=355						
WTP	**Ta-pu**	**1.21**	**231**	*e*P	**Pb**	**05 33 27.3**	**-0.5**
	baz=229						
WTP				*e*S	**Sb**	**05 33 42.8**	**-0.3**
	baz=229						
CHY	**Chiayi**	**1.23**	**245**	*e*P	**Pb**	**05 33 27.4**	**-0.6**
	baz=243						
CHY				*e*S	**Sb**	**05 33 43.1**	**-0.3**
	baz=243						
TWK	**Hsinying**	**1.29**	**235**	*e*P	**Pb**	**05 33 28.3**	**-0.8**
	baz=233						
TWK				*e*S	**Sb**	**05 33 44.7**	**-0.7**
	baz=233						
TWG	**Pinlang**	**1.29**	**204**	*e*P	**Pb**	**05 33 28.5**	**-0.6**
	baz=202						
TWGBT	**Beinan**	**1.29**	**203**	*e*P	**Pb**	**05 33 28.0**	**-1.2**
	baz=202						
TWGBT				*e*S	**Sb**	**05 33 45.6**	**+0.1**
	baz=202						
TWH	**Lutao**	**1.30**	**187**	*e*P	**Pb**	**05 33 28.8**	**-0.5**
	baz=185						
TWH				*e*S	**Sb**	**05 33 45.8**	**0.0**
	baz=185						
CHN1	**Nanshi**	**1.31**	**231**	*e*P	**Pb**	**05 33 28.4**	**-1.0**
	baz=229						
CHN1				*e*S	**Sb**	**05 33 45.2**	**-0.7**
	baz=229						
SNST	**Tainan City**	**1.31**	**233**	*e*P	**Pb**	**05 33 28.4**	**-1.0**
	baz=231						
SNST				*e*S	**Sb**	**05 33 45.2**	**-0.7**
	baz=231						
YOJ	**Yonaguni jima**	**1.33**	**70**	*e*P	**Pn**	**05 33 28.2**	**+0.6**
	baz=71						
YOJ				*e*S	**Sb**	**05 33 45.6**	**-0.9**
	baz=71						
SGST	**Jiashian**	**1.34**	**226**	*e*P	**Pb**	**05 33 29.1**	**-0.8**
	baz=224						
SGST				*e*S	**Sb**	**05 33 46.1**	**-0.7**
	baz=224						
SLGT	**Liugui**	**1.36**	**222**	*e*P	**Pb**	**05 33 29.5**	**-0.8**
	baz=220						
SLGT				*e*S	**Sb**	**05 33 46.5**	**-0.9**
	baz=220						
SSD	**Sandimen**	**1.56**	**216**	*e*P	**Pb**	**05 33 32.2**	**-1.5**
	baz=215						
SSD				*e*S	**Sb**	**05 33 52.0**	**-1.1**
	baz=215						
MASBT	**Mashibuluo**	**1.67**	**214**	*e*P	**Pb**	**05 33 34.1**	**-1.4**
	baz=212						
MASBT				*e*S	**Sb**	**05 33 54.6**	**-1.7**
	baz=212						
EAST	**Anshuo**	**1.78**	**204**	*e*P	**Pb**	**05 33 35.7**	**-1.6**
	baz=203						
EAST				*e*S	**Sb**	**05 33 59.3**	**0.0**
	baz=203						
IRIF	**Iriomote-Funau**	**1.94**	**80**	S	**Sn**	**05 33 59.9**	**+0.8**
PNG	**Penghu**	**1.96**	**257**	*e*P	**Pn**	**05 33 37.5**	**+1.3**
	baz=256						
PNG				*e*S	**Sn**	**05 34 00.7**	**+1.1**
	baz=256						
WDGT	**Dungji**	**1.96**	**248**	*e*P	**Pn**	**05 33 38.1**	**+1.9**
	baz=246						
WDGT				*e*S	**Sn**	**05 34 01.4**	**+1.6**
	baz=246						
HATJ	**Hateruma jima**	**1.98**	**88**	*e*S	**Sn**	**05 33 59.6**	**-0.6**
JKRS	**Kuro-shima**	**2.18**	**84**	*e*S	**Sn**	**05 34 05.1**	**0.0**
VCHM	**Qimei**	**2.18**	**249**	*e*S	**Sn**	**05 34 06.4**	**+1.3**
	baz=247						
VWUC	**VWUC**	**2.22**	**296**	*e*P	**Pn**	**05 33 39.9**	**+0.1**
	baz=295						
VWUC				*e*S	**Sn**	**05 34 05.8**	**-0.3**
	baz=295						
JIJ	**Ishigaki jima**	**2.31**	**81**	S	**Sn**	**05 34 07.9**	**-0.5**
JISG	**Ishigakijimahi**	**2.50**	**76**	*e*S	**Sn**	**05 34 13.0**	**-0.1**
PTMZ	**Houxiangcun**	**2.51**	**295**	*e*P	**Pb**	**05 33 47.8**	**-1.9**
	baz=293						
PTMZ				*e*S	**Sn**	**05 34 13.0**	**-0.3**
	baz=293						

*KRNET **04** 05:34:14.8±0.1,42.°52N×79.°56E,h14km,mb3.4*
*SOME **04** 05:34:14.9,42.°52N×79.°53E,h10km*
*NNC **04** 05:34:15.1±0.5,42.°58N×79.°58E,h0km,mb3.6,mpv3.5,*
Error ellipse: s-maj=3.2km s-min=1.7km az=141.0
ISC 04 05:34:14.0±1.1,**42.°47N**±0.°04×**79.°63E**±0.°03,**h10**km,**n62**,
σ1=**40**/105,**27C-16D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.70**	**350**	⇓*e*P	**Pb**	**05 34 27.7**	**-0.6**
	baz=20						
SHLS				⇓*e*S	**Sb**	**05 34 37.1**	**-0.9**
	baz=20						
SHLS	**Shalkode**	**0.70**	**350**	⇓*e*P	**Pb**	**05 34 27.7**	**-0.6**
	244nm,0.1s						
SHLS				*e*S	**Sb**	**05 34 37.1**	**-0.9**
	377nm,0.2s						
SHLS	**Shalkode**	**0.70**	**350**	P	**Pb**	**05 34 27.7**	**-0.6**
	178nm,0.1s						
SHLS				S	**Sb**	**05 34 37.1**	**-0.9**
	418nm,0.3s						
UZB	**Uzynbulak**	**0.81**	**327**	⇑*e*P	**Pg**	**05 34 29.0**	**-0.6**
	baz=28						
UZB				⇑*e*S	**Sg**	**05 34 39.3**	**-1.0**
	baz=28						
UZB	**Uzynbulak**	**0.81**	**327**	⇑*e*P	**Pg**	**05 34 29.0**	**-0.6**
	8.8nm,0.1s						
UZB				*e*S	**Sg**	**05 34 39.2**	**-1.0**
	114nm,0.2s						
UZB	**Uzynbulak**	**0.81**	**327**	P	**Pg**	**05 34 29.0**	**-0.6**
	8.8nm,0.1s						
UZB				S	**Sg**	**05 34 39.2**	**-1.0**
	114nm,0.2s						
PDGK	**Podgornoye**	**0.86**	**353**	P	**Pg**	**05 34 29.7**	**-1.0**
	11nm,0.1s						
PDGK				S	**Sg**	**05 34 40.2**	**-1.7**
	41nm,0.1s						
PDGK	**Podgornoye**	**0.86**	**353**	⇑P	**Pg**	**05 34 29.5**	**-1.1**
	3.9nm,0.2s						
PDGK				⇓S	**Sg**	**05 34 40.2**	**-1.7**
	31nm,0.3s						
PRZ	**Przheval'sk**	**0.91**	**271**	⇑*i*P	**Pg**	**05 34 31.1**	**-0.5**
	baz=68						
PRZ				⇑*i*S	**Sg**	**05 34 42.6**	**-0.9**
	baz=68						
SATY	**Saty**	**1.08**	**303**	*e*P	**Pg**	**05 34 34.2**	**-0.5**
	14nm,0.1s						
SATY				*e*S	**Sg**	**05 34 48.0**	**-0.7**
	73nm,0.1s						
SATY	**Saty**	**1.08**	**303**	P	**Pg**	**05 34 34.2**	**-0.5**
	14nm,0.1s						
SATY				S	**Sg**	**05 34 48.0**	**-0.7**
	73nm,0.1s						
KTMS	**Ketmen**	**1.11**	**28**	*e*P	**Pg**	**05 34 34.4**	**-0.9**
	14nm,0.1s						
KTMS				*e*S	**Sg**	**05 34 48.2**	**-1.4**
	46nm,0.2s						
KTMS	**Ketmen**	**1.11**	**28**	P	**Pg**	**05 34 34.4**	**-0.9**
	14nm,0.1s						
KTMS				S	**Sg**	**05 34 48.2**	**-1.4**
	46nm,0.2s						
KURS	**Kuram**	**1.48**	**314**	*e*P	**Pg**	**05 34 41.5**	**-0.8**
	baz=14						
KURS				⇓*i*S	**Sg**	**05 35 00.4**	**-1.1**
	baz=14						
KURS	**Kuram**	**1.48**	**314**	*e*P	**Pg**	**05 34 41.5**	**-0.8**
	2.8nm,0.1s						
KURS				⇓*i*S	**Sg**	**05 35 00.4**	**-1.1**
	9.3nm,0.2s						
KURS	**Kuram**	**1.48**	**314**	P	**Pg**	**05 34 41.5**	**-0.8**
	4.4nm,0.3s						
KURS				S	**Sg**	**05 35 00.4**	**-1.1**
	29nm,0.5s						
ANVS	**Anan'yevo**	**1.48**	**283**	⇓*i*P	**Pb**	**05 34 41.6**	**-0.1**
	baz=81						
ANVS				⇓*i*S	**Sg**	**05 35 00.9**	**-0.8**
	baz=81						
TARG	**Taragay, Kyrgy**	**1.55**	**242**	⇑*i*P	**Pg**	**05 34 43.3**	**-0.4**
	baz=39						
TARG				⇑*i*S	**Sg**	**05 35 04.3**	**+0.4**
	baz=39						
KDJ	**Kajisay**	**1.85**	**260**	⇑*i*P	**Pb**	**05 34 48.3**	**+0.3**
	baz=58						
KDJ				⇑*i*S	**Sg**	**05 35 12.5**	**-1.0**
	baz=58						
DJR	**Jarkent**	**1.86**	**3**	⇓*e*P	**Pb**	**05 34 47.7**	**-0.4**
	15nm,0.2s						
DJR				*e*S	**Sb**	**05 35 11.5**	**0.0**
	44nm,0.2s						
DJR	**Jarkent**	**1.86**	**3**	P	**Pb**	**05 34 47.7**	**-0.4**
	17nm,0.3s						
DJR				S	**Sb**	**05 35 11.5**	**0.0**
	44nm,0.2s						
KOTS	**Kotyrbulak**	**2.00**	**293**	*e*P	**Pb**	**05 34 50.8**	**+0.2**
	baz=92						
KOTS				*e*S	**Sg**	**05 35 16.9**	**-1.5**
	baz=92						
KOTS	**Kotyrbulak**	**2.00**	**293**	*e*P	**Pb**	**05 34 50.8**	**+0.2**
	34nm,0.1s						
KOTS				*e*S	**Sg**	**05 35 16.9**	**-1.5**
	114nm,0.2s						
KOTS	**Kotyrbulak**	**2.00**	**293**	Pg	**Pb**	**05 34 50.8**	**+0.2**
	34nm,0.1s						
KOTS				Lg	Lg	05 35 16.9	
	114nm,0.2s						
MDOK	**Medeo**	**2.02**	**291**	*e*P	**Pb**	**05 34 51.2**	**+0.3**
	baz=90						
MDOK				*e*S	**Sg**	**05 35 17.1**	**-1.9**
	baz=90						
MDOK	**Medeo**	**2.02**	**291**	*e*P	**Pb**	**05 34 51.2**	**+0.3**
	10.0nm,0.2s						
MDOK				*e*S	**Sg**	**05 35 17.1**	**-1.9**
	35nm,0.3s						
MDOK	**Medeo**	**2.02**	**291**	⇑Pg	**Pb**	**05 34 50.6**	**-0.3**
	5.0nm,0.5s						
MDOK				⇓Lg	Lg	05 35 15.8	
	37nm,0.8s						
MDOK	**Medeo**	**2.02**	**291**	Pg	**Pb**	**05 34 51.2**	**+0.3**
	10.0nm,0.2s						
MDOK				Lg	Lg	05 35 17.1	
	28nm,0.7s						
TNSS	**Tian-Shan**	**2.06**	**287**	⇓*e*P	**Pb**	**05 34 51.6**	**-0.1**
	baz=86						
TNSS				⇑*i*S	**Sg**	**05 35 18.5**	**-1.7**
	baz=86						
TNSS	**Tian-Shan**	**2.06**	**287**	⇓*e*P	**Pb**	**05 34 51.6**	**-0.1**
	10.0nm,0.2s						
TNSS				⇑*i*S	**Sg**	**05 35 18.4**	**-1.7**
	46nm,0.1s						
TNSS	**Tian-Shan**	**2.06**	**287**	Pg	**Pb**	**05 34 51.5**	**-0.1**
	14nm,0.4s						
TNSS				Lg	Lg	05 35 18.4	
	45nm,0.3s						
AAA	**Alma-Ata**	**2.13**	**291**	*e*P	**Pb**	**05 34 52.3**	**-0.4**
	baz=90						
AAA				*e*S	**Sb**	**05 35 19.8**	**+0.6**
	baz=90						
AAA	**Alma-Ata**	**2.13**	**291**	*e*P	**Pb**	**05 34 52.3**	**-0.4**
	47nm,0.1s						
AAA				*e*S	**Sb**	**05 35 19.8**	**+0.6**
	74nm,0.0s						
AAA	**Alma-Ata**	**2.13**	**291**	Pg	**Pb**	**05 34 52.3**	**-0.4**
	47nm,0.1s						
AAA				Lg	Lg	05 35 19.8	
	74nm,0.0s						
ARXS	**Arharly**	**2.18**	**323**	*e*P	**Pb**	**05 34 53.4**	**-0.2**
	18nm,0.3s						
ARXS				*e*S	**Sb**	**05 35 21.2**	**+0.5**
	65nm,0.3s						
ARXS

MTBS			⇑*iS*		**Sg**	**05 35 29.9**	**-2.7**
	54nm,0.2s							
MTBS	**Maitube**	**2.45 287**	Pg		**Pb**	**05 34 58.6**	**+0.5**
	21nm,0.2s							
MTBS			Lg		Lg	05 35 29.9		
	54nm,0.2s							
KTBS	**Karatobe**	**2.49 301**	*e*P		**Pb**	**05 34 58.9**	**+0.1**
	5.3nm,0.1s							
KTBS			*e*S		**Sb**	**05 35 30.7**	**+1.1**
	57nm,0.5s							
KTBS	**Karatobe**	**2.49 301**	Pg		**Pb**	**05 34 58.9**	**+0.1**
	5.3nm,0.1s							
KTBS			Lg		Lg	05 35 30.7		
	57nm,0.5s							
ULHL	**Ulahol**	**2.52 266**	⇓*iP*		**Pb**	**05 34 58.0**	**-1.5**
	baz=65							
ULHL			⇓*iS*		**Sb**	**05 35 29.4**	**-1.3**
	baz=65							
BOOM	**Boomskoye usch**	**2.73 272**	⇑*iP*		**Pb**	**05 35 00.7**	**-2.3**
	baz=71							
BOOM			⇑*iS*		**Sb**	**05 35 34.2**	**-2.4**
	baz=71							
KST	**Kastek**	**2.76 283**	*e*P		**Pb**	**05 35 03.9**	**+0.4**
	11nm,0.3s							
KST			⇑*iS*		**Sb**	**05 35 39.3**	**+1.9**
	33nm,0.5s							
KST	**Kastek**	**2.76 283**	Pg		**Pb**	**05 35 03.9**	**+0.4**
	11nm,0.3s							
KST			Lg		Lg	05 35 39.3		
	33nm,0.5s							
KUU	**Kurty**	**2.80 302**	*e*P		**Pb**	**05 35 03.8**	**-0.2**
	1.9nm,0.2s							
KUU			*e*S		**Sb**	**05 35 39.6**	**+1.2**
	24nm,0.2s							
KUU	**Kurty**	**2.80 302**	Pg		**Pb**	**05 35 03.8**	**-0.2**
	1.9nm,0.2s							
KUU			Lg		Lg	05 35 39.6		
	24nm,0.2s							
KAPS	**Kapalarasan**	**2.82 356**	*e*P		**Pb**	**05 35 03.8**	**-0.6**
	1.7nm,0.1s							
KAPS			*e*S		**Sb**	**05 35 39.0**	**0.0**
	13nm,0.3s							
KAPS	**Kapalarasan**	**2.82 356**	Pg		**Pb**	**05 35 03.8**	**-0.6**
	1.7nm,0.1s							
KAPS			Lg		Lg	05 35 39.0		
	13nm,0.3s							
DGS	**Degeres**	**2.94 286**	*e*P		**Pb**	**05 35 07.5**	**+1.0**
	8.8nm,0.2s							
DGS			*e*S		**Sg**	**05 35 45.5**	**-2.9**
	71nm,0.5s							
DGS	**Degeres**	**2.94 286**	Pg		**Pb**	**05 35 07.6**	**+1.0**
	8.8nm,0.2s							
DGS			Lg		Lg	05 35 45.5		
	71nm,0.5s							
TKM2	**Tokmak 2**	**3.01 280**	⇑*iP*		**Pb**	**05 35 04.6**	**-3.2**
	baz=79							
TKM2			⇑*iS*		**Sn**	**05 35 40.8**	**+2.7**
	baz=79							
TKM2	**Tokmak 2**	**3.01 280**	⇑Pn		**Pb**	**05 35 04.8**	**-2.9**
	2.2nm,0.4s							
TKM2			⇑Lg		Lg	05 35 48.1		
	8.4nm,0.3s							
KRBS	**Karabastau**	**3.15 294**	*e*P		**Pb**	**05 35 09.7**	**-0.3**
	3.3nm,0.1s							
KRBS			*e*S		**Sb**	**05 35 49.5**	**+1.0**
	7.2nm,0.3s							
KZA	**Kyzart**	**3.28 265**	⇑*iP*		**Pn**	**05 35 08.6**	**+2.9**
	baz=64							
KZA			⇑*iS*		**Sn**	**05 35 47.8**	**+2.8**
	baz=64							
AAK	**Ala-Archa**	**3.80 274**	⇑Lg		Lg	05 36 13.4		
	6.2nm,0.5s							
MAKZ	**Makanchi**	**4.65 20**	⇑Pn		**Pn**	**05 35 25.7**	**+1.4**
	0.7nm,0.2s							
MAKZ			⇓Lg		Lg	05 36 40.0		
	1.1nm,0.6s							
MK31	**Makanchi Array**	**4.72 23**	Pn		**Pn**	**05 35 26.3**	**+1.1**
	0.4nm,0.2s,baz=206,slow=13,SNR=32							
MK31			⇓Sn		**Sn**	**05 36 22.3**	**+2.3**
	0.2nm,0.2s,baz=188,slow=14,SNR=5.1							
MK31			⇑Lg		Lg	05 36 42.1		
	1.3nm,0.5s,baz=208,slow=26,SNR=4.3							
MRKS	**Merke**	**4.74 275**	*e*P		**Pg**	**05 35 40.7**	**-4.0**
	2.5nm,0.3s							
MRKS			*e*S		**Sg**	**05 36 42.0**	**-4.0**
	7.4nm,0.2s							
MRKS	**Merke**	**4.74 275**	Pg		**Pg**	**05 35 40.7**	**-4.0**
	3.7nm,0.4s							
MRKS			Lg		Lg	05 36 42.0		
	7.4nm,0.2s							
BTLS	**Baital**	**4.79 304**	Pg		**Pb**	**05 35 40.8**	**+2.8**
	0.9nm,0.3s							
BTLS			Lg		Lg	05 36 42.6		
	1.2nm,0.3s							

*BJI **04** 06:21:40.2±0.0, 42°.29N×85°.38E, h10km, ML3.4/10*
*NNC **04** 06:21:44.4±2.1, 42°.66N×85°.05E, h8km±6km, mb3.7, mpv3.3, Error ellipse: s-maj=15.5km s-min=7.0km az=129.0*

ISC 04 06:21:42.5±1.2, 42°.55N±0°.08×85°.32E±0°.05, h10km, n8, σ1§79/15, 12C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.15**	**53**	Pn	**Pn**		**06 22 16.2**	**-2.3**
WMQ				Sn	**Sb**		**06 22 46.7**	**-1.7**
WMQ				smax	smax			
	comp=N,150nm,0.7s							
WMQ				smax	smax			
	comp=E,290nm,1.1s							
PDGK	**Podgornoye**	**4.35 282**		⇑Pn	**Pn**		**06 22 47.1**	**-1.7**
	2.8nm,0.5s							
PDGK				⇑Pg	**Pb**		**06 23 00.6**	**+1.5**
	9.6nm,0.5s							
PDGK				⇑Sn	**Sn**		**06 23 37.9**	**-1.8**
	18nm,0.5s							
PDGK				⇑Lg	Lg		06 23 56.3	
	58nm,0.7s							
MK31	**Makanchi Array**	**4.76 334**		⇑Pn	**Pn**		**06 22 54.8**	**+0.4**
	0.3nm,0.2s,baz=141,slow=16,SNR=37							
MK31				⇑Pg	**Pb**		**06 23 07.4**	**+1.3**
	1.6nm,0.3s,baz=146,slow=14,SNR=9.0							
MK31				⇑Sn	**Sn**		**06 23 48.8**	**-0.8**
	2.8nm,0.3s							
MK31				Lg	Lg		06 24 09.5	
	27nm,0.7s,baz=142,slow=29,SNR=10							
MAKZ	**Makanchi**	**4.88 332**		⇑Pn	**Pn**		**06 22 56.1**	**+0.1**
MAKZ				⇓Pg	**Pb**		**06 23 10.0**	**+2.0**
	5.8nm,0.8s							
MAKZ				⇑Sn	**Sn**		**06 23 51.2**	**-1.4**
	4.9nm,0.8s							
MAKZ				⇓Lg	Lg		06 24 12.9	
	9.4nm,0.5s							
MDOK	**Medeo**	**6.11 279**		⇓Sn	**Sn**		**06 24 20.6**	**-2.5**
	9.0nm,0.5s							
MDOK				⇓Lg	Lg		06 24 51.9	
	24nm,1.1s							
TKM2	**Tokmak 2**	**7.17 276**		⇑Sn	**Sn**		**06 24 48.2**	**-1.0**
	3.7nm,0.5s							
TKM2				⇑Lg	Lg		06 25 24.7	
	8.0nm,0.6s							
KURBB	**Kurchatov Arra**	**9.33 332**		⇓Sn	**Sn**		**06 25 40.5**	**-1.3**
	5.1nm,0.7s							
KURBB				⇑Lg	Lg		06 26 33.9	
	17nm,0.8s							
GTA	**Gaotai**	**11.39 101**		*e*P	**Pn**		**06 24 27.6**	**+2.2**
GTA				pP			06 24 32.5	
GTA				sP			06 24 35.1	

IDC 04 06:58:49.0±2.8, 53°.67N×87°.01E, h0km, mb1 2.8/2, mb1mx2.8/33, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=26.3km s-min=16.6km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.33 283**		*i*			07 07 20.0	
	baz=102,slow=318,SNR=2.5							
ZALV	**Zalesovo Beam**	**1.33 283**		Pg	Pg		06 59 13.0	-1.4
	0.8nm,0.3s,baz=101,slow=18,SNR=11							
ZALV				Lg	Lg		06 59 31.9	
	1.1nm,0.3s,baz=110,slow=29,SNR=21							
KURBB	**Kurchatov Arra**	**6.05 243**		Pn	Pn		07 00 20.6	+1.0
	0.0nm,0.3s,baz=60,slow=14,SNR=5.2							
KURBB				Lg	Lg		07 01 59.2	
	0.0nm,0.3s,baz=68,slow=34,SNR=5.3							
MKAR	**Makanchi Array**	**7.52 206**		Pn	Pn		07 00 41.1	+1.3
	0.1nm,0.3s,baz=24,slow=14,SNR=5.4							
SONM	**Songino Array**	**13.57 108**		Lg	Lg		07 05 58.3	
	0.1nm,0.3s,baz=297,slow=22,SNR=2.7							

*ASRS **04** 07:00:03.9, 53°.74N×91°.05E, M2.3, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*NNC **04** 07:00:09.6±2.8, 53°.82N×90°.54E, h0km±13km, mb3.5, mpv3.2, Error ellipse: s-maj=21.2km s-min=17.5km az=31.0, Suspected Mining explosion.*
*IDC **04** 07:00:10.0±3.2, 53°.67N×90°.78E, h0km, mb1 3.4/3, mb1mx3.2/35, mbtmp3.4/3, ML2.9/3, Error ellipse: s-maj=28.0km s-min=23.2km az=45.0*

ISC 04 07:00:12.1±4.1, 53°.7N±0°.1×90°.4E±0°.2, h0km, n11, σ1§94/12, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.30 276**		*i*			07 22 00.0	
	baz=89,slow=302,SNR=2.8							
ZAA0	**Zalesovo Array**	**3.30 276**		⇑Pg	**Pb**		**07 01 10.7**	**-0.8**
	1.6nm,0.6s							
ZAA0				⇑Lg	Lg		07 01 58.2	
	6.3nm,0.7s							
ZALV	**Zalesovo Beam**	**3.30 276**		Pn	**Pn**		**07 01 07.3**	**+2.3**
	1.6nm,0.3s,baz=97,slow=12,SNR=9.0							
ZALV				Lg	Lg		07 02 01.2	
	4.4nm,0.3s,baz=81,slow=28,SNR=8.9							
KURBB	**Kurchatov Arra**	**7.92 252**		Pn	**Pn**		**07 02 09.0**	**+0.6**
	0.2nm,0.3s,baz=68,slow=15,SNR=11							
KURBB				Sn	**Sn**		**07 03 40.3**	**+1.7**
	0.1nm,0.3s,baz=68,slow=25,SNR=4.2							
KURBB				Lg	Lg		07 04 29.9	
	0.2nm,0.3s,baz=61,slow=31,SNR=12							
KURBB	**Kurchatov Arra**	**7.92 252**		⇑Pn	**Pn**		**07 02 08.1**	**-0.3**
	2.2nm,0.5s							
KURBB				⇓Sn	**Sn**		**07 03 40.3**	**+1.7**
	19nm,0.7s							
KURBB				⇓Lg	Lg		07 04 25.6	
	50nm,1.0s							
TLY	**Talaya**	**8.32 99**		Lg	Lg		07 04 16.6	
	0.0nm,0.3s,baz=209,slow=19,SNR=1.6							
MK31	**Makanchi Array**	**8.65 220**		Pn	**Pn**		**07 02 18.5**	**0.0**
	0.4nm,0.4s,baz=36,slow=11,SNR=12							
MK31				⇑Sn	**Sn**		**07 03 59.8**	**+3.0**
	1.2nm,0.5s,baz=40,slow=24,SNR=4.1							
MK31				⇑Lg	Lg		07 04 49.2	
	8.4nm,0.8s,baz=54,slow=31,SNR=5.5							
MKAR	**Makanchi Array**	**8.65 220**		Pn	**Pn**		**07 02 18.5**	**-0.1**
	0.4nm,0.3s,baz=41,slow=14,SNR=15							
MKAR				Sn	**Sn**		**07 03 56.7**	**-0.2**
	0.2nm,0.3s,baz=55,slow=30,SNR=2.7							
MKAR				Lg	Lg		07 04 46.2	
	0.2nm,0.3s,baz=34,slow=30,SNR=3.7							
MAKZ	**Makanchi**	**8.76 221**		⇑Sn	**Sn**		**07 03 59.8**	**+0.3**
	1.7nm,0.5s							
MAKZ				⇓Lg	Lg		07 04 53.7	
	18nm,1.6s							
BVAR	**Borovoye Array**	**11.96 275**		Sn	**Sn**		**07 05 14.1**	**-3.5**
	0.3nm,0.3s,baz=75,slow=24,SNR=1.9							
AAK	**Ala-Archa**	**15.30 230**		Lg	Lg		07 08 17.8	
	0.3nm,0.3s,baz=208,slow=17,SNR=1.8							

*NDI **04** 07:20:12.7±16.0, 22°.75N×93°.38E, h54km, mb4.6(NEIC)*
*BJI **04** 07:20:12.3±0.0, 22°.51N×93°.34E, h55km, mB4.4/24, mb4.7/33, ML4.2/1, Ms3.9/8, Ms7 3.6/7*
*NEIC **04** 07:20:14.2±1.2, 22°.54N±0°.05×93°.39E±0°.04, h55km±6km, mb4.6/60, Error ellipse: s-maj=7.8km s-min=4.2km az=143.0*
*IDC **04** 07:20:15.3±1.2, 22°.44N×93°.36E, h67km±11km, mb4.1/27, mb1 4.2/28, mb1mx4.0/60, mbtmp4.4/28, MS3.3/12, Ms1 3.3/12, ms1mx3.1/35, Error ellipse: s-maj=14.5km s-min=8.1km az=37.0*

ISC 04 07:20:14.1±0.3, 22°.47N±0°.05×93°.26E±0°.04, h59km, n163, σ1§64/177, mb4.5/57, MS3.3/11, 12C-1D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**1.50 278**		P	**Pn**		**07 20 40.8**	**+1.9**
	2.7nm,0.3s,baz=258,slow=24,SNR=56							
BRDH				S	**Sn**		**07 21 01.3**	**+3.8**
	3.5nm,0.3s,baz=128,slow=24,SNR=14							
SHL	**Shillong**	**3.33 338**		Pn	**Pn**		**07 21 03.8**	**-0.1**
MHMT	**Maesarieng**	**6.12 133**		P	**Pn**		**07 21 42.5**	**+0.4**
CHTO	**Chiang Mai**	**6.45 123**		Pn	**Pn**		**07 21 45.3**	**-1.3**
CM15	**Chiang Mai Arr**	**6.65 126**		P	**Pn**		**07 21 49.4**	**+0.1**
CM13	**Chiang Mai Arr**	**6.66 126**		P	**Pn**		**07 21 49.1**	**-0.3**
CM31	**Chiang Mai Arr**	**6.66 126**			**Pn**		**07 21 48.5**	**-1.0**
CMAR	**Chiang Mai Arr**	**6.66 126**		P	**Pn**		**07 21 49.0**	**-0.5**
	3.8nm,0.3s,baz=303,slow=14,SNR=52							
CMAR				S	**Sn**		**07 23 05.6**	**+1.6**
	baz=315,slow=16,SNR=1.2							
CMAR				LR	LR		07 24 38.9	
	comp=Z,304nm,18.8s,baz=330,slow=40							
CM02	**Chiang Mai Arr**	**6.68 126**		P	**Pn**		**07 21 49.5**	**-0.2**
CM01	**Chiang Mai Arr**	**6.70 126**		P	**Pn**		**07 21 49.7**	**-0.2**
CM05	**Chiang Mai Arr**	**6.70 126**		P	**Pn**		**07 21 49.6**	**-0.4**
CM09	**Chiang Mai Arr**	**6.71 126**		P	**Pn**		**07 21 50.1**	**0.0**
CM04	**Chiang Mai Arr**	**6.72 126**		P	**Pn**		**07 21 49.9**	**-0.4**
ODAN	**Odare**	**6.89 310**		*e*Pn	**Pn**		**07 21 53.8**	**+1.0**
ODAN				*e*Sn	**Sn**		**07 23 07.4**	**-2.6**
	370nm,0.3s							
PAYA	**Payao**	**6.91 115**		P	**Pn**		**07 21 52.2**	**-0.7**
TAPN	**Taplejung**	**6.99 315**		*e*Pn	**Pn**		**07 21 55.0**	**+0.8**
TAPN				*e*Sn	**Sn**		**07 23 10.1**	**-2.4**
	347nm,0.3s							
LAMP	**Lampang**	**7.15 122**		P	**Pn**		**07 21 57.2**	**+1.0**
BWNR	**Bhubaneshwar**	**7.27 254**		*e*P	**Pn**		**07 21 57.6**	**-0.2**
BWNR				IAmb	IAmb		07 21 59.5	
	comp=Z,84nm,0.2s							
BWNR				*e*S	**Sn**		**07 23 13.2**	**-5.8**
LSA	**Lhasa**	**7.44 346**		P	**Pn**		**07 22 01.7**	**+1.2**
LSA				S	**Sn**		**07 23 24.3**	**+0.6**
LSA				LR	LR			
	comp=Z,480nm,6.4s							
LSA				LR	LR			
	comp=Z,880nm,9.3s							
LSA				LR	LR			
	comp=Z,300nm,6.4s							
LSA	**Lhasa**	**7.44 346**		Pn	**Pn**		**07 22 01.3**	**+0.8**
RAMN	**Ramite**	**7.51 308**		*e*Pn	**Pn**		**07 22 02.0**	**+0.7**
NANT	**Nan**	**7.87 116**		P	**Pn**		**07 22 05.4**	**-0.6**
UMPA	**Umpang Tak**	**8.18 139**		P	**Pn**		**07 22 10.6**	**+0.4**
JIRN	**Jiri**	**8.23 310**		*e*Pn	**Pn**		**07 22 11.6**	**+0.4**
JIRN				*e*Sn	**Sn**		**07 23 39.6**	**-3.3**
	comp=Z,498nm,0.5s							
UTTA	**Uttaradit**	**8.31 123**		P	**Pn**		**07 22 11.8**	**-0.3**
GUN	**Gumba**	**8.60 311**		*e*Pn	**Pn**		**07 22 16.5**	**+0.3**
GUN				*e*Sn	**Sn**		**07 23 47.8**	**-4.1**
	comp=Z,385nm,0.5s							
PKI	**Pulchoki**	**8.74 307**		*e*Pn	**Pn**		**07 22 18.1**	**-0.1**
PKI				*e*Sn	**Sn**		**07 23 51.4**	**-4.0**
PKIN	**Phulchoki**	**8.75 307**		*e*Pn	**Pn**		**07 22 18.4**	**+0.1**
PKIN				*e*Sn	**Sn**		**07 23 51.8**	**-3.8**
	comp=Z,183nm,0.4s							
DMN	**Daman**	**8.98 306**		*e*Pn	**Pn**		**07 22 21.5**	**0.0**
DMN				*e*Sn	**Sn**		**07 23 55.9**	**-5.4**
	comp=Z,251nm,0.7s							
PBKT	**Sadao Pong**	**9.35 128**		Pn	**Pn**		**07 22 26.1**	**-0.1**
GKN	**Gorkha**	**9.55 307**		*e*Pn	**Pn**		**07 22 29.2**	**+0.1**
GKN				*e*Sn	**Sn**		**07 24 10.0**	**-4.9**
SLVN	**Son La**	**9.95 95**		Pn	**Pn**		**07 22 35.1**	**+0.6**
KOLN	**Koldanda**	**10.21 303**		*e*Pn	**Pn**		**07 22 37.2**	**-1.0**
DANN	**Dangsing**	**10.38 306**		*e*Pn	**Pn**		**07 22 39.1**	**-1.5**
PVM	**Polavaram**	**12.11 247**		*e*P	**Pn**		**07 23 03.8**	**-0.2**
PVM				*e*			07 25 08.0	
JBP	**Jabalpur**	**12.26 276**		*e*P	**Pn**		**07 23 08.2**	**+2.2**
JBP				*e*S	**Sn**		**07 25 14.7**	**-6.4**
CD2	**Chengdu**	**12.59 46**		P	**Pn**		**07 23 07.6**	**-2.9**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
GYA	**Guiyang**	**12.84 69**		*e*P	**Pn**		**07 23 16.4**	**+2.4**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
NGP	**Nagpur**	**13.26 267**		*e*P	**Pn**		**07 23 18.3**	**-1.4**
NGP				IVmB_BB			07 23 20.5	
	comp=Z,289nm,1.8s							
NGP				*ex*	x		07 25 36.2	

RPR	**Rampur**	**13.55 257**		*e*P		**Pn**	**07 23 25.5**	**+1.9**
RPR				*e*			07 25 41.0	
ADKI	**Addanki**	**14.18 245**		*e*P		**Pn**	**07 23 29.4**	**-2.6**
ADKI				*e*			07 25 55.5	
SRSP	**Sriramsagar**	**14.39 259**		*e*P		**Pn**	**07 23 33.0**	**-1.8**
SRSP				*e*			07 26 01.4	
NJS	**Nagarjunasagar**	**14.40 248**		*e*P		**Pn**	**07 23 35.1**	**+0.1**
NJS				*e*			07 26 01.6	
HYB	**Hyderabad**	**14.71 253**		*i* P		**P**	**07 23 43.0**	**-0.7**
HYB				*e*			07 26 08.0	
HYB				*e*S		**Sn**	**07 26 20.0**	**-0.8**
HYBB	**Hyderabad (bro**	**14.71 253**		*e*P		**Pn**	**07 23 35.0**	**-4.0**
HYBB				*e*			07 26 07.6	
SRLM	**Srisailam**	**14.96 247**		*e*P		**Pn**	**07 23 39.6**	**-2.7**
SRLM				*e*			07 26 15.8	
NDI	**New Delhi**	**15.73 296**		*e*P		**Pn**	**07 23 50.0**	**-2.1**
NDI				*e*S		Sn	07 26 30.0	-15
KLRI	**Killari**	**16.23 257**		*e*P		**Pn**	**07 23 58.1**	**-0.3**
KLRI				*e*			07 26 43.1	
LZH	**Lanzhou**	**16.39 32**		*e*P		**P**	**07 24 04.3**	**+1.8**
LZH				pP		pP	07 24 14.2	-1.4
LZH				sP		sP	07 24 19.7	-3.6
LZH				pmax		pmax		
	comp=Z,23nm,1.1s							
LHMI	**Lhok Sumawe**	**17.51 168**				**P**	**07 24 15.1**	**+0.3**
GTA	**Gaotai**	**17.79 17**		⇑P		**P**	**07 24 17.9**	**+0.1**
GTA				pP		pP	07 24 29.1	-1.9
GTA				sP		sP	07 24 34.4	-4.3
GTA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,41nm,7.0s							
GTA				LR		LR		
	comp=Z,85nm,11.1s							
GTA				LR		LR		
	comp=Z,110nm,14.6s							
GTA				LR		LR		
	comp=Z,81nm,13.3s							
XAN	**Xi'an**	**17.95 47**		P		**Pn**	**07 24 25.6**	**+5.9**
XAN				pP		sP	07 24 37.4	-2.7
XAN				sP		pP	07 24 43.0	+10
XAN				pmax		pmax		
	comp=Z,7.0nm,0.8s							
XAN				pmax		pmax		
	comp=Z,68nm,4.4s							
XAN				LR		LR		
	comp=N,140nm,19.5s							
KCSI	**Kotacane, Aceh**	**19.34 166**		P		**Pn**	**07 24 38.9**	**+2.4**
	comp=N,25nm,1.1s							
PSI	**Prapat**	**20.32 163**		P		Pn	07 24 48.4	+0.3
	comp=N,3.5nm,0.4s,baz=0.0,slow=3.0,SNR=2.6							
PSI				LR		LR	07 33 22.3	
	comp=N,102nm,19.9s,baz=271,slow=39							
RPSI	**Rantau Prapat**	**20.42 164**		P		Pn	07 24 48.4	-0.7
NIL	**Nilore**	**20.83 307**		P		**P**	**07 24 51.9**	**+0.9**
NIL				IAmb		IAmb	07 25 07.1	
	comp=Z,26nm,0.8s							
WMQ	**Urumqi**	**21.78 349**		*e*P		**P**	**07 25 02.1**	**+1.0**
WMQ				sP		sP	07 25 19.4	-2.5
WMQ				pmax		pmax		
	comp=Z,36nm,0.9s							
WMQ				pmax		pmax		
	comp=Z,79nm,4.7s							
KSH	**Kashi**	**22.47 323**		*e*P		**P**	**07 25 09.2**	**+0.5**
KSH				PcS		**PcS**	**07 32 44.1**	**+4.2**
KSH				pmax		pmax		
	comp=Z,39nm,0.9s							
KSH				pmax		pmax		
	comp=Z,160nm,4.7s							
TARG	**Taragay, Kyrgy**	**23.17 330**				P	07 25 08.7	-7.4
HHC	**Hu-ho-hao-te**	**23.96 36**		*e*P		**P**	**07 25 20.8**	**-2.3**
HHC				pmax		pmax		
	comp=Z,6.0nm,1.0s							
HHC				pmax		pmax		
	comp=Z,25nm,6.4s							
KBL	**Kabul**	**24.37 305**		P		**P**	**07 25 28.4**	**+1.4**
NJ2	**Nanjing**	**24.62 62**		*e*P		**P**	**07 25 27.8**	**-1.3**
NJ2				pmax		pmax		
	comp=Z,16nm,0.5s							
ARSB	**Arslanbob**	**25.38 322**		P		**P**	**07 25 35.0**	**-1.0**
AAK	**Ala-Archa**	**25.47 327**		P		**P**	**07 25 39.1**	**+2.2**
	comp=Z,5.7nm,0.7s,baz=152,slow=7.6,SNR=8.5							
AAK				LR		LR	07 38 01.8	
	comp=Z,53nm,19.1s,baz=140,slow=42							
AAK	**Ala-Archa**	**25.47 327**		P		**P**	**07 25 37.5**	**+0.6**
GAR	**Garm**	**25.58 315**		P		**P**	**07 25 38.8**	**+0.9**
GAR				IAmb		IAmb	07 25 40.1	
	comp=Z,27nm,0.8s							
MK31	**Makanchi Array**	**25.83 343**		P		**P**	**07 25 40.8**	**+0.9**
MK31				IAmb		IAmb	07 25 43.4	
	comp=Z,18nm,1.1s							
MKAR	**Makanchi Array**	**25.83 343**		P		**P**	**07 25 41.3**	**+1.3**
	comp=Z,9.2nm,0.5s,baz=148,slow=10,SNR=18							
BTK	**Batken**	**25.87 318**		P		**P**	**07 25 41.8**	**+1.4**
BTK				IAmb		IAmb	07 25 57.6	
	comp=Z,13nm,0.8s							
MAKZ	**Makanchi**	**25.93 342**		P		**P**	**07 25 41.6**	**+0.7**
CHGR	**Chuyangaron**	**26.17 314**		P		**P**	**07 25 44.4**	**+1.3**
CHGR				IAmb		IAmb	07 25 44.9	
	comp=Z,21nm,0.7s							
SONM	**Songino Array**	**27.41 19**		P		**P**	**07 25 54.8**	**+0.5**
	comp=Z,5.0nm,0.7s,baz=199,slow=9.7,SNR=24							
SONM				LR		LR	07 39 04.7	
	comp=Z,57nm,21.8s,baz=244,slow=41							
HRA	**Herat**	**29.62 300**		P		**P**	**07 26 15.2**	**+0.9**
HRA				IAmb		IAmb	07 26 16.3	
	comp=Z,5.4nm,0.6s							
TLY	**Talaya**	**30.25 13**		LR		LR	07 39 51.2	
	comp=Z,14nm,20.8s,baz=192,slow=39							
KURBB	**Kurchatov Arra**	**30.37 341**		P		**P**	**07 26 21.3**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=159,slow=8.4,SNR=9.6							
KURBB				PcP		**PcP**	**07 29 19.2**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=162,slow=2.4,SNR=5.5							
KURK	**Kurchatov**	**30.42 342**		P		**P**	**07 26 20.5**	**-0.3**
KURK	**Kurchatov**	**30.42 342**				**PcP**	**07 29 19.2**	**+0.1**
ZAA0	**Zalesov

MLR	**Muntele Rosu**	**58.59**	**311**	⇑P		**P**	**07 30 06.5**	**+1.3**
MLR	**Muntele Rosu**	**58.59**	**311**	P		**P**	**07 30 06.1**	**+1.0**
DOPR	**Dopca**	**58.98**	**311**	⇑P		**P**	**07 30 09.1**	**+1.5**
BURAR	**Bucovina Array**	**59.08**	**313**	⇑P		**P**	**07 30 09.5**	**+1.1**
BUR08	**Bucovina Ar. S**	**59.09**	**313**	P		**P**	**07 30 08.4**	**-0.1**
BUR08				IAmb	IAmb		07 30 10.3	
	comp=Z,3.3nm,0.7s							
VOIR		**59.22**	**310**	⇑P		**P**	**07 30 09.5**	**0.0**
FIA1	**FINESS Array S**	**59.62**	**329**	P		**P**	**07 30 12.2**	**+0.4**
FIA1				IAmb	IAmb		07 30 13.1	
	comp=Z,4.4nm,0.6s							
FINES	**FINESS Array B**	**59.62**	**329**	P		**P**	**07 30 12.3**	**+0.6**
	comp=Z,3.9nm,0.6s,baz=100,slow=8.1,SNR=26							
FINES				LR	LR		07 58 13.8	
	comp=Z,54nm,20.8s,baz=168,slow=38							
AS31	**Alice Springs**	**60.54**	**137**	P		**P**	**07 30 18.1**	**-0.5**
AS31				IAmb	IAmb		07 30 20.0	
	comp=Z,1.9nm,0.5s							
ASAR	**Alice Springs**	**60.54**	**137**	P		**P**	**07 30 18.4**	**-0.3**
	comp=Z,2.9nm,0.5s,baz=315,slow=6.6,SNR=26							
VTS	**Vitosha**	**60.68**	**307**	⇑P		**P**	**07 30 20.3**	**+0.8**
VTS	**Vitosha**	**60.68**	**307**	P		**P**	**07 30 20.1**	**+0.5**
VTS				IAmb	IAmb		07 30 21.2	
	comp=Z,4.5nm,0.6s							
KWP	**Kalwaria Pacla**	**60.72**	**315**	P		**P**	**07 30 20.4**	**+0.8**
KEV	**Kevo**	**60.92**	**339**	P		**P**	**07 30 20.2**	**-0.3**
ARCES	**ARCESS Array B**	**61.38**	**338**	P		**P**	**07 30 24.4**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=97,slow=7.7,SNR=23							
ARE0	**ARCESS Array S**	**61.38**	**338**	P		**P**	**07 30 23.7**	**0.0**
MDVR	**Moldovita**	**61.62**	**310**	⇑P		**P**	**07 30 27.0**	**+1.2**
DIVS	**Divibare**	**62.91**	**309**	P		**P**	**07 30 35.4**	**+0.9**
SPA0	**Spitsbergen Ar**	**65.47**	**347**	P		**P**	**07 30 51.1**	**+0.6**
BRG	**Berggiesshubel**	**66.25**	**317**	*i* P		**P**	**07 30 57.1**	**+1.1**
	comp=Z,5.2nm,0.6s							
BRG				*ep*P		**pP**	**07 31 11.8**	**-0.5**
	comp=Z,2.7nm,0.8s							
KBS	**Kingsbay**	**66.43**	**348**	P		**P**	**07 30 57.2**	**+0.5**
KBS				IAmb	IAmb		07 31 12.0	
	comp=Z,12nm,1.3s							
NC405	**NORSAR Array S**	**66.53**	**328**	P		**P**	**07 30 57.3**	**-0.3**
NC602	**NORSAR Array S**	**66.64**	**328**	P		**P**	**07 30 58.4**	**+0.1**
NC602				IAmb	IAmb		07 30 59.3	
	comp=Z,7.9nm,0.8s							
GEC2	**GERESS Array S**	**66.67**	**315**	P		**P**	**07 30 59.9**	**+1.1**
GEC2				IAmb	IAmb		07 31 00.6	
	comp=Z,6.8nm,0.7s							
GERES	**GERESS Array B**	**66.67**	**315**	P		**P**	**07 30 59.9**	**+1.1**
	comp=Z,6.2nm,0.7s,baz=77,slow=6.0,SNR=40							
NC303	**NORSAR Array S**	**66.69**	**329**	P		**P**	**07 30 59.0**	**+0.4**
NOA	**NORSAR Array B**	**66.78**	**328**	P		**P**	**07 30 59.2**	**0.0**
	comp=Z,3.0nm,0.6s,baz=86,slow=6.3,SNR=17							
NOA				LR	LR		08 02 34.7	
	comp=Z,23nm,20.9s,baz=205,slow=38							
NAO01	**NORSAR Array S**	**66.95**	**328**	P		**P**	**07 31 00.5**	**+0.2**
NAO01				IAmb	IAmb		07 31 00.7	
	comp=Z,8.4nm,0.8s							
NC204	**NORSAR Array S**	**66.97**	**329**	P		**P**	**07 31 01.0**	**+0.5**
BBOO	**Buckleboo**	**68.50**	**142**	P		**P**	**07 31 10.5**	**+0.1**
BBOO				IAmb	IAmb		07 31 10.6	
	comp=Z,13nm,1.1s							
OSSC	**Osservatorio P**	**69.25**	**310**	P		**P**	**07 31 16.9**	**+1.9**
STKA	**Stephens Creek**	**71.14**	**138**	P		**P**	**07 31 26.6**	**0.0**
	comp=Z,1.5nm,0.6s,baz=312,slow=13,SNR=2.8							
TOLK	**Toolik Lake Re**	**78.53**	**19**	P		**P**	**07 32 09.6**	**+0.8**
TOLK				IAmb	IAmb		07 32 10.5	
	comp=Z,3.8nm,0.8s							
TTA	**Tatalina**	**79.16**	**26**	P		**P**	**07 32 12.3**	**-0.1**
SUMG	**Summit**	**79.81**	**347**	P		**P**	**07 32 16.2**	**+0.1**
SUMG				IAmb	IAmb		07 32 17.1	
	comp=Z,6.6nm,1.1s							
MLY	**Manley**	**80.10**	**23**	P		**P**	**07 32 17.6**	**+0.2**
MLY				IAmb	IAmb		07 32 18.9	
	comp=Z,4.5nm,0.9s							
MLY						**pP**	**07 32 31.9**	**-2.5**
BPAW	**Bear Paw Mtn.**	**80.51**	**24**	P		**P**	**07 32 20.1**	**+0.4**
TULEG	**Thule**	**80.60**	**356**	P		**P**	**07 32 19.6**	**-0.3**
PPLA	**Purkeypile**	**80.69**	**25**	P		**P**	**07 32 21.3**	**+0.5**
LBTB	**Lobatse**	**80.84**	**238**	P		**P**	**07 32 22.9**	**+0.7**
LBTB				IAmb	IAmb		07 32 24.0	
	comp=Z,4.9nm,0.8s							
ESDC	**Sonseca Array**	**81.26**	**309**	P		**P**	**07 32 25.2**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=56,slow=3.7,SNR=4.6							
MCK	**McKinley**	**81.47**	**23**	P		**P**	**07 32 24.9**	**+0.1**
ILAR	**Eielson Array**	**81.60**	**22**	P		**P**	**07 32 24.6**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=297,slow=5.1,SNR=11							
PRP	**Porcupine Dome**	**81.62**	**21**	pP		pP	07 32 40.7	-1.9
RND	**Reindeer**	**81.68**	**24**	P		**P**	**07 32 25.6**	**-0.3**
RND				*pP*		**pP**	**07 32 42.2**	**-0.7**
PMR	**Palmer**	**82.60**	**25**	P		**P**	**07 32 31.0**	**+0.3**
CNPM	**China Poot**	**82.88**	**28**	P		**P**	**07 32 32.5**	**+0.3**
CNPM				IAmb	IAmb		07 32 35.9	
	comp=Z,5.6nm,1.0s							
BRLK	**Bradley Lake**	**82.90**	**27**	P		**P**	**07 32 31.6**	**-0.7**
BRLK				IAmb	IAmb		07 32 32.0	
	comp=Z,5.8nm,0.5s							
BOSA	**Boshof**	**82.90**	**235**	P		**P**	**07 32 33.6**	**+0.7**
	comp=Z,3.9nm,0.6s,baz=102,slow=2.4,SNR=6.8							
RES	**Resolute Bay**	**82.93**	**2**	P		**P**	**07 32 31.8**	**-0.4**
RES				IAmb	IAmb		07 32 33.6	
	comp=Z,7.1nm,0.9s							
RIDG	**Independent Ri**	**82.94**	**22**	IAmb	IAmb		07 32 47.0	
	comp=Z,4.2nm,0.9s							
SCRK	**Sand Creek**	**83.09**	**22**	P		**P**	**07 32 33.7**	**+0.3**
SCRK				IAmb	IAmb		07 32 34.3	
	comp=Z,4.1nm,0.8s							
OHAK	**Old Harbor**	**83.19**	**30**	P		**P**	**07 32 33.5**	**-0.3**
OHAK				IAmb	IAmb		07 32 33.9	
	comp=Z,3.0nm,0.6s							
KDAK	**Kodiak Island**	**83.22**	**29**	P		**P**	**07 32 33.5**	**-0.4**
KDAK				IAmb	IAmb		07 32 37.5	
	comp=Z,8.7nm,1.1s							
INK	**Inuvik**	**83.26**	**16**	P		**P**	**07 32 33.8**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=312,slow=6.8,SNR=9.5							
INK	**Inuvik**	**83.26**	**16**	P		**P**	**07 32 32.0**	**-2.0**
INK				IAmb	IAmb		07 32 35.2	
	comp=Z,5.3nm,1.1s							
C36M	**Paulatuk**	**84.58**	**12**	P		**P**	**07 32 40.6**	**-0.1**
C36M				IAmb	IAmb		07 32 41.2	
	comp=Z,6.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**86.48**	**283**	P		**P**	**07 32 52.4**	**+1.2**
	comp=Z,1.2nm,0.6s,baz=64,slow=3.7,SNR=10							
YKA	**Yellowknife Ar**	**92.47**	**13**	P		**P**	**07 33 18.2**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=328,slow=4.5,SNR=3.7							
TXAR	**Lajitas Array**	**125.97**	**18**	PKP		**PKPdf**	**07 39 10.3**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=94,slow=1.9,SNR=5.0							
ROSC	**El Rosal**	**150.26**	**334**	PKPbc		**PKiKP**	**07 40 01.8**	**+0.9**
	comp=Z,15nm,0.7s,baz=121,slow=8.0,SNR=7.6							
PLCA	**Paso Flores**	**157.23**	**213**	PKPab		**PKPab**	**07 40 34.0**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=3.6,slow=16,SNR=1.3							
LPAZ	**La Paz**	**161.40**	**286**	PKPab		**PKPab**	**07 40 53.1**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=96,slow=9.8,SNR=2.5							

*NNC **04** 07:20:44.2±0.3,50.°0N×78.°72E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=3.2km s-min=1.5km az=76.0, Suspected Mining explosion.*
*IDC **04** 07:20:45.1±0.8,50.°07N×78.°76E, h0km, mb3.5/2, mb1 3.5/5, mb1mx3.3/53, mbtmp3.4/5, ML3.1/3, Error ellipse: s-maj=10.7km s-min=6.3km az=57.0*

ISC 04 07:20:42.3±0.7, 49°88N±0.°03×78°76E±0.°03, h0km, n47,
σ1s57/60, 23C-14D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.72**	**348**	⇑P		**Pg**	**07 20 55.3**	**-0.8**
KUR07				⇓S		**Sg**	**07 21 03.9**	**-1.5**
KUR06	**Kurchatov Arra**	**0.74**	**348**	⇑P		**Pg**	**07 20 55.6**	**-0.8**
KUR06				⇑S		**Sg**	**07 21 04.6**	**-1.4**
KUR14	**Kurchatov Arra**	**0.74**	**352**	⇑P		**Pg**	**07 20 55.6**	**-0.9**
KUR14				⇑S		**Sg**	**07 21 04.3**	**-1.9**
KUR15	**Kurchatov Arra**	**0.75**	**350**	⇑P		**Pg**	**07 20 55.8**	**-0.8**
KUR15				⇑S		**Sg**	**07 21 04.7**	**-1.7**
KURBB	**Kurchatov Arra**	**0.76**	**349**	Pg		**Pg**	**07 20 56.1**	**-0.7**
	11nm,0.3s,baz=166,slow=17,SNR=552							
KURBB				Lg		Lg	07 21 04.3	
	12nm,0.3s,baz=168,slow=33,SNR=29							
KURBB	**Kurchatov Arra**	**0.76**	**349**	⇑P		**Pg**	**07 20 55.8**	**-1.0**
	82nm,0.3s							
KURBB				⇑S		**Sg**	**07 21 04.7**	**-1.9**
	335nm,0.6s							
KUR16	**Kurchatov Arra**	**0.76**	**347**	⇓P		**Pg**	**07 20 56.0**	**-1.0**
KUR16				⇓S		**Sg**	**07 21 04.6**	**-2.2**
KUR17	**Kurchatov Arra**	**0.77**	**346**	⇑P		**Pg**	**07 20 56.1**	**-1.0**
KUR17				⇑S		**Sg**	**07 21 04.7**	**-2.5**
KUR05	**Kurchatov Arra**	**0.77**	**349**	⇓P		**Pg**	**07 20 56.1**	**-1.1**
KUR05				⇓S		**Sg**	**07 21 05.2**	**-2.0**
KUR04	**Kurchatov Arra**	**0.79**	**350**	⇑P		**Pg**	**07 20 56.6**	**-0.9**
KUR04				⇑S		**Sg**	**07 21 05.7**	**-2.1**
SEM	**Semipalatinsk**	**1.09**	**61**	P		**Pb**	**07 21 04.0**	**-0.3**
	28nm,0.1s							
SEM				S		**Sg**	**07 21 18.1**	**+0.6**
	144nm,0.2s							
MAKZ	**Makanchi**	**3.75**	**144**	⇑Pn		**Pb**	**07 21 45.7**	**-3.7**
	0.7nm,0.3s							
MAKZ				⇓Pg		**Pg**	**07 21 55.0**	**+0.8**
	4.0nm,0.4s							
MAKZ				⇓Lg		Lg	07 22 47.0	
	23nm,0.6s							
MK31	**Makanchi Array**	**3.88**	**141**	⇑Pn		**Pb**	**07 21 47.9**	**-3.8**
	0.5nm,0.1s,baz=278,slow=6.3,SNR=152							
MK31				⇓Pg		**Pg**	**07 21 57.3**	**+0.5**
	2.1nm,0.2s,baz=334,slow=11,SNR=34							
MK31				⇓Lg		Lg	07 22 51.4	
	28nm,0.6s,baz=334,slow=33,SNR=20							
MKAR	**Makanchi Array**	**3.88**	**141**	Pn		**Pb**	**07 21 48.5**	**-3.3**
	1.4nm,0.3s,baz=322,slow=10,SNR=271							
MKAR				Pg		**Pg**	**07 21 55.5**	**-1.3**
	3.7nm,0.3s,baz=325,slow=14,SNR=29							
MKAR				Lg		Lg	07 22 50.4	
	5.4nm,0.3s,baz=329,slow=28,SNR=13							
BRZS	**Berezniki**	**3.93**	**274**	Pg		**Pb**	**07 21 53.5**	**+1.1**
	16nm,0.3s							
BRZS				Lg		Lg	07 22 42.2	
	28nm,0.5s							
OTUK	**Ortayu**	**4.53**	**251**	⇑Pn		**Pn**	**07 21 55.0**	**+2.9**
	4.7nm,0.3s							
OTUK				⇓Lg		Lg	07 23 09.4	
	9.7nm,0.5s							
KAPS	**Kapalarasan**	**4.62**	**175**	Pg		**Pg**	**07 22 11.1**	**+0.3**
	3.0nm,0.1s							
KAPS				Lg		Lg	07 23 13.2	
	32nm,0.5s							
ZSN	**Zaisan**	**4.72**	**119**	Pg		**Pg**	**07 22 11.9**	**-0.9**
	5.6nm,0.1s							
ZSN				Lg		Lg	07 23 14.4	
	17nm,0.5s							
TDK	**Taldyqorghan**	**4.89**	**183**	Pg		**Pg**	**07 22 15.6**	**-0.4**
	61nm,0.3s							
TDK				Lg		Lg	07 23 21.0	
	110nm,0.5s							
ZAA0	**Zalesovo Array**	**5.53**	**40**	⇑Pn		**Pn**	**07 22 07.3**	**+1.4**
	0.3nm,0.2s							
ZAA0				⇑Sn		**Sn**	**07 23 10.4**	**+0.3**
	0.6nm,0.5s							
ZAA0				⇑Lg		Lg	07 23 35.1	
	1.4nm,0.6s							
ZALV	**Zalesovo Beam**	**5.53**	**40**	Pn		**Pn**	**07 22 08.5**	**+2.6**
	2.3nm,0.3s,baz=231,slow=14,SNR=43							
ZALV				Sn		**Sn**	**07 23 12.2**	**+2.1**
	0.7nm,0.3s,baz=232,slow=17,SNR=2.1							
ZALV				Lg		Lg	07 23 32.8	
	0.9nm,0.3s,baz=228,slow=19,SNR=1.9							
DJR	**Jarkent**	**5.60**	**172**	Pg		**Pg**	**07 22 28.5**	**-1.1**
	8.6nm,0.2s							
DJR				Lg		Lg	07 23 42.1	
	10nm,0.4s							
ARXS	**Arharly**	**5.71**	**187**	Pg		**Pg**	**07 22 30.8**	**-0.9**
	6.2nm,0.3s							
ARXS				Lg		Lg	07 23 47.0	
	32nm,0.7s							
BTLS	**Baital**	**5.80**	**215**	Pg		**Pg**	**07 22 31.3**	**-2.2**
	2.1nm,0.3s							
BTLS				Lg		Lg	07 23 47.9	
	8.2nm,0.4s							
MNBS	**Baschi**	**5.81**	**183**	Pg		**Pg**	**07 22 33.2**	**-0.5**
	4.6nm,0.4s							
MNBS				Lg		Lg	07 23 51.0	
	33nm,0.5s							
BVAR	**Borovoye Array**	**6.11**	**304**	Pn		**Pn**	**07 22 15.3**	**+1.6**
	0.6nm,0.3s,baz=118,slow=14,SNR=11							
BVAR				Sn		**Sn**	**07 23 23.2**	**-1.1**
	2.1nm,0.3s,baz=113,slow=23,SNR=10							
BVAR				Lg		Lg	07 23 52.8	
	1.0nm,0.3s,baz=113,slow=24,SNR=2.1							
CHKK	**Chushkaly**	**6.15**	**192**	Pg		**Pg**	**07 22 39.4**	**-0.7**
	2.2nm,0.3s							
CHKK				Lg		Lg	07 24 02.3	
	19nm,0.6s							
BRVK	**Borovoye**	**6.18**	**304**	⇑Pn		**Pn**	**07 22 16.1**	**+1.4**
	1.4nm,0.5s							
BRVK				⇑Sn		**Sn**	**07 23 27.2**	**+1.2**
	5.5nm,0.5s							
BRVK				⇓Lg		Lg	07 23 57.6	
	3.4nm,0.5s							
KUU	**Kurty**	**6.22**	**196**	Pg		**Pg**	**07 22 40.1**	**-1.3**
	2.7nm,0.2s							
KUU				Lg		Lg	07 24 03.0	
	20nm,0.4s							
KTBS	**Karatobe**	**6.33**	**194**	Pg		**Pg**	**07 22 43.0**	**-0.7**
	1.6nm,0.4s							
KTBS				Lg		Lg	07 24 07.7	
	20nm,0.7s							
KURS	**Kuram**	**6.41**	**184**	Pg		**Pg**	**07 22 45.9**	**+0.8**
	2.1nm,0.4s							
KURS				Lg		Lg	07 24 12.8	
	8.3nm,0.7s							
PDGK	**Podgornoye**	**6.58**	**175**	Pg		**Pg**	**07 22 48.2**	**-0.1**
	1.0nm,0.4s							
PDGK				Lg		Lg	07 24 16.5	
	8.4nm,0.5s							
PDGK	**Podgornoye**	**6.58**	**175**	⇑Lg		Lg	07 24 17.0	
	15nm,0.6s							
UZB	**Uzynbulak**	**6.74**	**178**	Pg		**Pg**	**07 22 52.0**	**+0.6**
	1.4nm,0.2s							
UZB				Lg		Lg	07 24 23.1	
	8.5nm,0.6s							
SHLS	**Shalkode**	**6.75**	**176**	Pg		**Pg**	**07 22 53.9**	**+2.4**
	7.0nm,0.2s							
SHLS				Lg		Lg	07 24 27.0	
	18nm,0.4s							
SATY	**Saty**	**6.83**	**182**	Pg		**Pg**	**07 22 54.0**	**+0.9**
	1.5nm,0.2s							
SATY				Lg		Lg	07 24 26.7	
	15nm,0.3s							
MTBS	**Maitube**	**6.94**	**194**	Pg		**Pg**	**07 22 55.5**	**+0.2**
	3.6nm,0.2s							
MTBS				Lg		Lg	07 24 29.0	
	12nm,0.4s							
DGS	**Degeres**	**6.95**	**198**	Pg		**Pg**	**07 22 53.8**	**-1.7**
	6.7nm,0.4s							
DGS				Lg		Lg	07 24 26.1	
	26nm,0.6s							
TNSS	**Tian-Shan**	**6.96**	**191**	Pg		**Pg**	**07 22 56.2**	**+0.5**
	1.8nm,0.2s							
TNSS				Lg		Lg	07 24 29.9	
	15nm,0.8s							
IZV	**Izvestkoviy**	**7.01**	**193**	Pg		**Pg**	**07 22 55.6**	**-0.9**
IZV				Lg		Lg	07 24 28.8	
	15nm,0.6s							
KST	**Kastek**	**7.11**	**197**	Pg		**Pg**	**07 22 57.0**	**-1.5**
	2.3nm,0.2s							
KST				Lg		Lg	07 24 31.6	
	12nm,0.6s							
TKM2	**Tokmak 2**	**7.30**	**199**	⇓Lg		Lg	07 24 40.9	
	7.5nm,0.7s							
AAK	**Ala-Archa**	**7.83**	**204**	Lg		Lg	07 24 55.5	
	0.4nm,0.3s,baz=75,slow=20,SNR=1.7							
AAK	**Ala-Archa**	**7.83**	**204**	⇓Lg		Lg	07 24 57.6	
	7.2nm,0.7s							
KK31	**Karatay Array**	**8.85**	**223**	⇓Pn		**Pn**	**07 22 52.6**	**+1.2**
	0.2nm,0.2s,baz=323,slow=12,SNR=7.5							
KK31				⇓Lg		Lg	07 25 29.4	
	1.3nm,0.5s,baz=42,slow=31,SNR=4.9							
ARCES	**ARCESS Array B**	**31.79**	**328**	P		**P**	**07 27 08.2**	**+0.2**
	0.7nm,0.8s,baz=90,slow=12,SNR=1.5							
NOA	**NORSAR Array B**	**38.15**	**313**	P		**P**	**07 28 02.9**	**0.0**
	0.2nm,0.4s,baz=76,slow=8.7,SNR=3.5							

*IDC **04** 07:23:08.2±0.9,3.°60S×137.°07E, h0km, mb4.0/7, mb1 4.1/10, mb1mx3.9/45, mbtmp4.0/10, ML3.8/3, MS2.9/2, Ms1 2.9/2, ms1mx2.5/27, Error ellipse: s-maj=26.6km s-min=19.9km az=82.0*
*NEIC **04** 07:23:13.9±3.0, 3.°81S±0.°07×137.°19E±0.°06, h45km±5km, mb4.1/9, Error ellipse: s-maj=10.3km s-min=9.1km az=164.0*

ISC 04 07:23:13.6±0.7, 3°93S±0.°06×137°15E±0.°06, h35km, n25,
σ2s28/30, mb3.8/7, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**3.82**	**69**	Pn		**Pn**	**07 24 09.2**	**-0.9**
	2.8nm,0.3s,baz=222,slow=8.7,SNR=9.0							
JAY				Sn		**Sn**	**07 24 53.9**	**+0.1**
	1.1nm,0.3s,baz=288,slow=20,SNR=1.9							
FAKI	**Fak Fak**	**4.99**	**281**			**Pn**	**07 24 28.5**	**+2.4**
SIJI	**Sorong**	**6.61**	**297**	Pn		**Pn**	**07 24 48.8**	**+0.4**
	8.4nm,0.3s,baz=102,slow=11,SNR=11							
SIJI				Sn		**Sn**	**07 26 00.8**	**-1.9**
	baz=221,slow=19,SNR=2.0							
SIJI				LR	LR		07 27 18.1	
	comp=Z,38nm,21.3s,baz=102,slow=39							
MTN	**Manton Dam**	**10.67**	**213**			**Pn**	**07 25 46.3**	**+2.3**
COEN	**Coen**	**11.61**	**150**	Pn		**Pn**	**07 25 57.3**	**+0.3**
KNRA	**Kununurra**	**14.29**	**215**	Pn		**Pn**	**07 26 35.4**	**+1.7**
WB0	**Warramunga Arr**	**15.97**	**189**	Pn		**Pn**	**07 26 54.2**	**-1.6**
WB0				IAmb	IAmb		07 27 05.4	
	comp=Z,13nm,1.0s							
WR0	**Warramunga Arr**	**16.14**	**189**	Pn		**Pn**	**07 26 57.3**	**-0.7**
WR0				IAmb	IAmb		07 27 09.1	
	comp=Z,14nm,0.9s							
WB2	**Warramunga Arr**	**16.15**	**189**	Pn		**Pn**	**07 26 56.6**	**-1.6**
WB2				IAmb	IAmb		07 27 07.9	
	comp=Z,13nm,0.9s							
WRA	**Warramunga Arr**	**16.15**	**190**	Pn		**Pn**	**07 26 56.2**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=17,slow=13,SNR=16							
WRA				Sn		**Sn**	**07 29 50.3**	**-6.1**
	comp=Z,0.2nm,0.3s,baz=11,slow=22,SNR=5.0							
FITZ	**Fitzroy Crossi**	**18.04**	**218**	P		**P**	**07 27 21.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=43,slow=14,SNR=1.6							
FITZ				S		**Sn**	**07 30 36.5**	**-5.5**
	comp=Z,0.2nm,0.3s,baz=218,slow=9.7,SNR=3.5							
CTA	**Charters Tower**	**18.36**	**152**	P		**Pn**	**07 27 27.4**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=329,slow=14,SNR=5.8							
AS31	**Alice Springs**	**19.87**	**189**	P		**P**	**07 27 42.4**	**+0.3**
AS31				IAmb	IAmb		07 27 51.9	
	comp=Z,7.8nm,1.0s							
ASAR	**Alice Springs**	**19.87**	**189**	P		**Pn**	**07 27 45.1**	**+1.3**
	comp=Z,12nm,0.8s,baz=15,slow=12,SNR=76							
ASAR				S		**S**	**07 31 22.6**	**-1.4**
	comp=Z,1.3nm,1.0s,baz=8.4,slow=18,SNR=4.6							
ASAR				LR	LR		07 37 06.6	
	comp=Z,87nm,19.2s,baz=20,slow=42							
FORT	**Forrest**	**28.05**	**197**	P		**P**	**07 29 03.3**	**+1.5**
STKA	**Stephens Creek**	**28.12**	**172**	P		**P**	**07 29 05.6**	**+3.2**
	comp=Z,0.4nm,0.2s,baz=8.1,slow=14,SNR=2.0							
MKAR	**Makanchi Array**	**69.81**	**323**	P		**P**	**07 34 19.6**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=108,slow=7.8,SNR=3.6							
ZALV	**Zalesovo Beam**	**72.21**	**331**	P		**P**	**07 34 32.9**	**-2.1**
	comp=Z,0.6nm,0.4s,baz=111,slow=7.9,SNR=2.3							
KURK	**Kurchatov**	**73.82**	**326**	P		**P**	**07 34 42.6**	**-1.9**
KURBB	**Kurchatov Arra**	**73.83**	**326**	P		**P**	**07 34 42.6**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=120,slow=4.8,SNR=5.2							
BVAR	**Borovoye Array**	**79.42**	**326**	P		**P**	**07 35 15.4**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=108,slow=8.4,SNR=4.7							
RND	**Reindeer**	**86.39**	**26**	P		**P**	**07 35 50.7**	**-1.5**
DHY	**Denali Highway**	**86.94**	**26**	P		**P**	**07 35 54.3**	**-0.8**
DHY				IAmb	IAmb		07 35 56.6	
	comp=Z,2.5nm,0.8s							
ILAR	**Eielson Array**	**87.58**	**25**	P		**P**	**07 35 55.4**	**-2.5**
	comp=Z,2.2nm,0.9s,baz=267,slow=4.2,SNR=12							
TORD	**Torodi Ar. Bea**	**135.07**	**285**	PKP		**PKiKP**	**07 42 33.6**	**+1.8**
	comp=Z,0.8nm,0.9s,baz=105,slow=1.9,SNR=4.0							

*IDC **04** 07:26:21.1±0.8,23.°32N×143.°99E, h0km, mb3.9/15, mb1 4.0/17, mb1mx3.9/56, mbtmp3.9/17, ML3.4/2, MS2.6/2, Ms1 2.6/2, ms1mx2.4/34, Error ellipse: s-maj=31.6km s-min=15.2km az=78.0*

ISC 04 07:26:25.3±0.8, 23.°3N±0.°1×144.°0E±0.°2, h28km, n19,
σ0s78/18, mb3.9/15, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**14.10**	**341**	Pn		**Pn**	**07 29 42.7**	**-0.4**
	0.1nm,0.3s,baz=142,slow=11,SNR=2.0							
MJAR				LR	LR		07 34 52.8	
	comp=Z,24nm,19.6s,baz=215,slow=36							
JNU	**Nakatsue**	**15.11**	**313**	LR	LR		07 34 12.6	
	comp=Z,20nm,20.1s,baz=174,slow=31							
KSRS	**

STVI	**Saint Thomas**	**3.20**	**86**		**Pn**	**07 32 23.1**	**+0.6**

*RSPR **04** 07:38:08.8, 19°.28N×67°.29W, h16km±3km, MD3.2/14*
*NEIC **04** 07:38:09.7±1.1, 19°.12N±0°.03×67°.210W±0°.009, h32km±10km, Error ellipse: s-maj=4.6km s-min=1.3km az=183.0*

ISC 04 07:38:09.3±1.4, **19°.13N**±0°.07×**67°.26W**±0°.03, **h27**km, **n62, σ0959/71, 15C-3D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.67**	**168**	*eP*		**Pb**	**07 38 22.1**	**-0.4**
AGPR	**Aguadilla, PR**	**0.67**	**168**	*eS*		**Sn**	**07 38 33.2**	**+0.5**
AGPR	**Aguadilla, PR**	**0.67**	**168**			**Pb**	**07 38 22.1**	**-0.4**
AGPR						**Sn**	**07 38 33.2**	**+0.5**
AOPR	**Arecibo Observ**	**0.91**	**148**	*eP*		**Pn**	**07 38 25.8**	**-0.7**
AOPR	**Arecibo Observ**	**0.91**	**148**	*eS*		**Sn**	**07 38 39.3**	**+0.6**
AOPR	**Arecibo Observ**	**0.91**	**148**			**Pn**	**07 38 25.8**	**-0.7**
AOPR						**Sn**	**07 38 39.3**	**+0.6**
MPR	**Mayaguez**	**0.92**	**173**	Pg		**Pn**	**07 38 25.8**	**-0.7**
EMPR	**Esperanza - Ma**	**0.95**	**133**	*eP*		**Pn**	**07 38 26.6**	**-0.3**
EMPR	**Esperanza - Ma**	**0.95**	**133**	*eS*		**Sn**	**07 38 39.8**	**+0.3**
EMPR	**Esperanza - Ma**	**0.95**	**133**			**Sn**	**07 38 39.8**	**+0.3**
LSP	**Las Mesas**	**0.96**	**170**	*eP*		**Pn**	**07 38 26.6**	**-0.5**
LSP	**Las Mesas**	**0.96**	**170**			**Pn**	**07 38 26.6**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.12**	**173**	*eP*		**Pn**	**07 38 28.7**	**-0.6**
CRPR	**Cabo Rojo, PR**	**1.12**	**173**	*eS*		**Sb**	**07 38 44.8**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.12**	**173**			**Pn**	**07 38 28.7**	**-0.6**
CRPR						**Sb**	**07 38 44.8**	**+0.4**
MLPR	**Magueyes Islan**	**1.17**	**170**	*eP*		**Pn**	**07 38 29.5**	**-0.4**
MLPR	**Magueyes Islan**	**1.17**	**170**	*eS*		**Sb**	**07 38 45.9**	**+0.3**
MLPR	**Magueyes Islan**	**1.17**	**170**			**Pn**	**07 38 29.5**	**-0.4**
MLPR						**Sb**	**07 38 45.9**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.20**	**163**	*eP*		**Pn**	**07 38 30.2**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.20**	**163**	*eS*		**Sb**	**07 38 47.1**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.20**	**163**			**Pn**	**07 38 30.2**	**-0.2**
GBPR						**Sb**	**07 38 47.1**	**+0.5**
PCDR	**Punta Cana, DR**	**1.23**	**240**	*eS*		**Sn**	**07 38 45.2**	**-1.2**
PCDR	**Punta Cana, DR**	**1.23**	**240**			**Pn**	**07 38 30.3**	**-0.4**
PCDR	**Punta Cana, DR**	**1.23**	**240**			**Sn**	**07 38 45.2**	**-1.2**
CELP	**Cerrillos**	**1.23**	**148**	*eP*		**Pn**	**07 38 30.6**	**-0.2**
CELP	**Cerrillos**	**1.23**	**148**	*eS*		**Sb**	**07 38 47.9**	**+0.5**
CELP	**Cerrillos**	**1.23**	**148**			**Pn**	**07 38 30.6**	**-0.2**
CELP						**Sb**	**07 38 47.9**	**+0.5**
OBIP	**Obispado Ponce**	**1.24**	**150**	*eP*		**Pn**	**07 38 30.8**	**-0.2**
OBIP	**Obispado Ponce**	**1.24**	**150**	*eS*		**Sb**	**07 38 47.7**	**-0.1**
OBIP	**Obispado Ponce**	**1.24**	**150**			**Pn**	**07 38 30.8**	**-0.2**
OBIP						**Sb**	**07 38 47.7**	**-0.1**
GCPR	**Guaynabo City**	**1.38**	**126**	*eP*		**Pn**	**07 38 32.1**	**-0.7**
GCPR	**Guaynabo City**	**1.38**	**126**	*eS*		**Sn**	**07 38 50.3**	**+0.1**
GCPR	**Guaynabo City**	**1.38**	**126**			**Pn**	**07 38 32.0**	**-0.7**
GCPR	**Guaynabo City**	**1.38**	**126**			**Sn**	**07 38 50.3**	**+0.1**
ICMP	**Isla Caja de M**	**1.42**	**151**	*eP*		**Pn**	**07 38 33.3**	**0.0**
ICMP	**Isla Caja de M**	**1.42**	**151**	*eS*		**Sb**	**07 38 52.5**	**-0.2**
ICMP	**Isla Caja de M**	**1.42**	**151**			**Pn**	**07 38 33.3**	**0.0**
ICMP						**Sb**	**07 38 52.5**	**-0.2**
SJG	**San Juan**	**1.46**	**134**			**Pn**	**07 38 33.7**	**-0.2**
CBYP	**Canovanas**	**1.58**	**123**			**Pn**	**07 38 35.0**	**-0.6**
IGPR	**InterUniversit**	**1.59**	**137**	*eP*		**Pn**	**07 38 35.8**	**+0.1**
IGPR	**InterUniversit**	**1.59**	**137**	*eS*		**Sn**	**07 38 56.0**	**+0.7**
IGPR	**InterUniversit**	**1.59**	**137**			**Pn**	**07 38 36.5**	**+0.8**
IGPR	**InterUniversit**	**1.59**	**137**			**Sn**	**07 38 56.0**	**+0.7**
PDPR	**Patillas Dam,**	**1.61**	**133**	*eP*		**Pn**	**07 38 35.8**	**-0.1**
PDPR	**Patillas Dam,**	**1.61**	**133**	*eS*		**Sn**	**07 38 56.3**	**+0.4**
PDPR	**Patillas Dam,**	**1.61**	**133**			**Pn**	**07 38 35.8**	**-0.1**
PDPR						**Sn**	**07 38 56.3**	**+0.4**
HUMP	**Col San Antoni**	**1.66**	**126**	*eP*		**Pn**	**07 38 36.2**	**-0.4**
HUMP	**Col San Antoni**	**1.66**	**126**	*eP*		**Pn**	**07 38 36.3**	**-0.3**
HUMP	**Col San Antoni**	**1.66**	**126**			**Pn**	**07 38 36.3**	**-0.3**
MTP	**Monte Pirata**	**1.91**	**122**	*eP*		**Pn**	**07 38 39.6**	**-0.6**
MTP	**Monte Pirata**	**1.91**	**122**			**Pn**	**07 38 39.6**	**-0.6**
DR12	**Loma Pena Alta**	**2.04**	**261**			**Pn**	**07 38 41.3**	**-0.6**
CUPR	**Culebra, Puert**	**2.04**	**113**	*eP*		**Pn**	**07 38 40.7**	**-1.2**
CUPR	**Culebra, Puert**	**2.04**	**113**			**Pn**	**07 38 40.7**	**-1.2**
STVI	**Saint Thomas**	**2.31**	**109**	*eP*		**Pn**	**07 38 44.9**	**-0.7**
STVI	**Saint Thomas**	**2.31**	**109**			**Pn**	**07 38 44.9**	**-0.7**
SDD	**Santo Domingo**	**2.60**	**256**	Pn		**Pn**	**07 38 50.4**	**+0.7**
CDVI	**St. Croix**	**2.73**	**120**	Pn		**Pn**	**07 38 53.1**	**+1.7**
BANI	**BANI**	**3.03**	**256**	Pn		**Pn**	**07 38 55.7**	**+0.1**
SC01	**Santiago de lo**	**3.29**	**276**	Pn		**Pn**	**07 38 59.8**	**+0.6**
SDDR	**Presa de Saban**	**3.82**	**268**			**Pn**	**07 39 07.3**	**+0.9**
PAPH	**Port-au-Prince**	**4.81**	**264**	Pn		**Pn**	**07 39 20.7**	**+0.6**

*NNC **04** 07:55:06.9±1.0, 54°.39N×86°.80E, h0km, mb2.9, mpv2.8, Error ellipse: s-maj=10.4km s-min=6.3km az=174.0, Suspected Mining explosion.*
*ASRS **04** 07:55:07.3, 54°.34N×86°.94E, M1.7, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*IDC **04** 07:55:07.7±2.7, 54°.37N×86°.84E, h0km, mb1 3.2/2, mb1mx3.0/34, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=22.6km s-min=15.8km az=55.0*

ISC 04 07:55:05.7±3.7, **54°.5N**±0°.2×**86°.7E**±0°.2, **h0**km, **n11, σ1957/12, 2C-7D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**242**	*i*			08 03 20.0	
	baz=68,slow=313,SNR=1.7							
ZAA0	**Zalesovo Array**	**1.26**	**242**	⇓P		**Pb**	**07 55 30.2**	**0.0**
	1.0nm,0.7s							
ZAA0				⇓S		**Sb**	**07 55 47.6**	**+0.6**
	5.4nm,0.9s							
ZALV	**Zalesovo Beam**	**1.26**	**242**	Pg		**Pn**	**07 55 30.3**	**-0.2**
	1.7nm,0.3s,baz=67,slow=16,SNR=29							
ZALV				Lg		Lg	07 55 48.8	
	1.9nm,0.3s,baz=72,slow=27,SNR=13							
KURBB	**Kurchatov Arra**	**6.34**	**235**	Pn		**Pn**	**07 56 43.0**	**+2.7**
	0.1nm,0.3s,baz=54,slow=14,SNR=21							
KURBB				Sn		**Sn**	**07 57 53.2**	**-0.2**
	baz=45,slow=21,SNR=1.4							
KURBB				Lg		Lg	07 58 28.0	
	0.0nm,0.3s,baz=53,slow=31,SNR=8.2							
KURBB	**Kurchatov Arra**	**6.34**	**235**	⇓Pn		**Pn**	**07 56 41.7**	**+1.4**
	0.8nm,0.2s							
KURBB				⇓Sn		**Sn**	**07 57 54.2**	**+0.8**
	4.9nm,0.7s							
KURBB				⇓Lg		Lg	07 58 28.2	
	20nm,1.2s							
MK31	**Makanchi Array**	**8.25**	**202**	⇓Pn		**Pn**	**07 57 06.4**	**-0.1**
	0.4nm,0.5s,baz=26,slow=14,SNR=9.7							
MK31				⇑Sn		**Sn**	**07 58 40.0**	**-0.4**
	2.0nm,1.1s,baz=27,slow=31,SNR=4.7							
MK31				⇓Lg		Lg	07 59 24.6	
	6.3nm,1.0s,baz=31,slow=30,SNR=6.3							
MKAR	**Makanchi Array**	**8.25**	**202**	Pn		**Pn**	**07 57 07.8**	**+1.2**
	0.2nm,0.3s,baz=26,slow=13,SNR=9.7							
MKAR				Sn		**Sn**	**07 58 38.4**	**-2.0**
	0.1nm,0.3s,baz=25,slow=26,SNR=4.2							
MKAR				Lg		Lg	07 59 24.2	
	0.0nm,0.3s,baz=32,slow=30,SNR=9.3							
MAKZ	**Makanchi**	**8.30**	**203**	⇑Lg		Lg	07 59 26.0	
	6.7nm,1.1s							
BVAR	**Borovoye Array**	**9.78**	**268**	Sn		**Sn**	**07 59 15.3**	**-2.5**
	0.1nm,0.3s,baz=71,slow=26,SNR=3.4							
SONM	**Songino Array**	**14.03**	**111**	Lg		Lg	08 02 32.2	
	baz=290,slow=21,SNR=1.3							
AAK	**Ala-Archa**	**14.37**	**219**	Lg		Lg	08 02 39.5	
	0.1nm,0.3s,baz=108,slow=19,SNR=1.2							

*IDC **04** 08:26:55.0±0.7, 11°.43S×161°.87E, h0km, mb4.2/15, mb1 4.3/18, mb1mx4.3/28, mbtmp4.2/18, ML3.9/3, MS3.5/15, Ms1 3.5/15, ms1mx3.3/23, Error ellipse: s-maj=22.6km s-min=16.1km az=108.0*
*NEIC **04** 08:26:56.7±1.6, 11°.50S±0°.07×161°.82E±0°.10, h10km±1km, mb4.7/32, Error ellipse: s-maj=17.5km s-min=10.3km az=239.0*

ISC 04 08:26:57.0±0.6, **11°.48S**±0°.07×**161°.86E**±0°.09, **h10**km, **n62, σ1948/39, mb4.6/29, MS3.6/13, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.77**	**317**	Pn		**Pn**	**08 27 41.2**	**-0.3**
	9.7nm,0.3s,baz=257,slow=7.5,SNR=1.5							
HNR				Sn		**Sn**	**08 28 10.6**	**-4.4**
	62nm,0.3s,baz=130,slow=10,SNR=3.7							
HNR	**Honiara**	**2.77**	**317**			**Pb**	**08 27 50.8**	**+4.1**
DZM	**Mont Dzumac**	**11.41**	**158**	Pn		**Pn**	**08 29 41.6**	**+1.3**
	0.6nm,0.3s,baz=120,slow=18,SNR=35							
DZM				Sn		Sn	08 31 41.1	-6.9
	0.2nm,0.3s,baz=127,slow=20,SNR=1.9							
DZM				LR		LR	08 33 14.4	
	comp=Z,246nm,20.1s,baz=28,slow=33							
DZM	**Mont Dzumac**	**11.41**	**158**			**Pn**	**08 29 40.3**	**0.0**
PMG	**Port Moresby**	**14.60**	**277**	LR		LR	08 35 02.9	
	comp=Z,150nm,19.4s,baz=80,slow=33							
EIDS	**Eidsvold**	**17.17**	**215**	P		**Pn**	**08 30 58.4**	**+1.2**
CTA	**Charters Tower**	**17.27**	**238**	P		**Pn**	**08 30 59.5**	**+0.9**
	0.5nm,0.3s,baz=76,slow=15,SNR=8.4							
CTAO	**Charters Tower**	**17.27**	**238**			**Pn**	**08 30 58.9**	**+0.4**
COEN	**Coen**	**18.39**	**260**	P		**Pn**	**08 31 15.1**	**+2.7**
PATS	**Pohnpei**	**18.53**	**349**	P		**P**	**08 31 16.2**	**+2.3**
PATS				IAmb		IAmb	08 31 18.6	
	comp=Z,72nm,1.0s							
STKA	**Stephens Creek**	**27.59**	**220**	P		**P**	**08 32 44.0**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=1.2,slow=11,SNR=4.1							
STKA				LR		LR	08 43 16.3	
	comp=Z,313nm,18.9s,baz=29,slow=36							
WB0	**Warramunga Arr**	**27.67**	**249**	P		**P**	**08 32 43.1**	**-2.4**
WB2	**Warramunga Arr**	**27.75**	**249**	P		**P**	**08 32 45.3**	**-0.9**
WB2				IAmb		IAmb	08 32 51.5	
	comp=Z,18nm,1.4s							
WRA	**Warramunga Arr**	**27.76**	**249**	P		**P**	**08 32 45.4**	**-0.9**
	comp=Z,3.3nm,0.9s,baz=79,slow=9.1,SNR=11							
ASAR	**Alice Springs**	**29.21**	**242**	P		**P**	**08 32 57.7**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=66,slow=9.9,SNR=18							
ASAR				LR		LR	08 43 31.6	
	comp=Z,102nm,20.2s,baz=77,slow=34							
TOO	**Toolangi**	**29.85**	**207**	P		**P**	**08 33 04.6**	**-0.1**
TOO				IAmb		IAmb	08 33 15.8	
	comp=Z,13nm,1.2s							
H11S2	**WAKE ISLAND Hy**	**30.16**		9	T	T	09 04 08.0	
	baz=188,slow=76,SNR=34							
H11S3	**WAKE ISLAND Hy**	**30.16**		9	T	T	09 04 08.4	
	baz=188,slow=76,SNR=26							
H11S1	**WAKE ISLAND Hy**	**30.18**		9	T	T	09 04 09.3	
	baz=188,slow=76,SNR=20							
H11N1	**WAKE ISLAND Hy**	**31.39**		9	T	T	09 05 37.4	
	baz=188,slow=76,SNR=16							
H11N3	**WAKE ISLAND Hy**	**31.39**		9	T	T	09 05 39.3	
	baz=188,slow=76,SNR=17							
H11N2	**WAKE ISLAND Hy**	**31.41**		9	T	T	09 05 37.8	
	baz=188,slow=76,SNR=13							
BBOO	**Buckleboo**	**31.81**	**224**	P		**P**	**08 33 21.5**	**-0.5**
FORT	**Forrest**	**36.70**	**233**	P		**P**	**08 34 04.6**	**+0.1**
MORW	**Morawa**	**46.08**	**241**	P		**P**	**08 35 20.4**	**-1.2**
MJAR	**Matsushiro Arr**	**52.70**	**336**	P		**P**	**08 36 11.3**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=161,slow=7.8,SNR=2.2							
MJAR				LR		LR	08 57 44.4	
	comp=Z,16nm,21.8s,baz=60,slow=35							
KSRS	**Korea Array**	**58.16**	**328**	P		**P**	**08 36 50.4**	**-0.8**
	comp=Z,1.7nm,1.0s,baz=126,slow=7.7,SNR=6.3							
KSRS				LR		LR	08 59 02.6	
	comp=Z,28nm,21.9s,baz=158,slow=33							
USRK	**Ussuriysk Ar.**	**61.70**	**336**	P		P	08 37 14.3	-1.1
	comp=Z,2.7nm,0.8s,baz=111,slow=3.2,SNR=7.6							
USRK				LR		LR	09 00 05.4	
	comp=Z,27nm,21.6s,baz=107,slow=32							
PETK	**Petropavlovsk-**	**64.42**	**357**	P		**P**	**08 37 32.7**	**-0.7**
	comp=Z,2.9nm,1.0s,baz=180,slow=12,SNR=2.8							
PETK				LR		LR	09 02 25.9	
	comp=Z,20nm,20.5s,baz=223,slow=33							
VNDA	**Vanda**	**66.03**	**180**	P		**P**	**08 37 44.0**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=352,slow=5.6,SNR=7.9							
VNDA				LR		LR	09 01 17.8	
	comp=Z,38nm,20.3s,baz=356,slow=31							
CMAR	**Chiang Mai Arr**	**68.81**	**295**	P		**P**	**08 38 02.8**	**+0.7**
	comp=Z,1.6nm,0.4s,baz=111,slow=4.5,SNR=13							
SONM	**Songino Array**	**76.80**	**325**	P		**P**	**08 38 48.7**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=142,slow=5.7,SNR=11							
KDAK	**Kodiak Island**	**78.42**	**23**	P		**P**	**08 38 57.3**	**-0.5**
	comp=Z,3.8nm,0.9s,baz=198,slow=12,SNR=4.6							
KDAK	**Kodiak Island**	**78.42**	**23**	IAmb		IAmb	08 39 03.7	
	comp=Z,8.4nm,1.1s							
CNPM	**China Poot**	**80.14**	**22**	IAmb		IAmb	08 39 11.3	
	comp=Z,7.8nm,1.0s							
MAW	**Mawson**	**82.88**	**202**	LR		LR	09 13 41.6	
	comp=Z,26nm,18.1s,baz=60,slow=34							
KTH	**Kantishna Hill**	**83.03**	**19**	IAmb		IAmb	08 39 22.4	
	comp=Z,4.3nm,0.9s							
RDOG	**Red Dog Mine**	**83.24**	**13**	P		**P**	**08 39 23.4**	**+0.1**
RND	**Reindeer**	**83.61**	**20**	IAmb		IAmb	08 39 29.1	
	comp=Z,7.1nm,1.2s							
DHY	**Denali Highway**	**83.90**	**21**	IAmb		IAmb	08 39 34.3	
	comp=Z,6.9nm,1.3s							
MLY	**Manley**	**84.11**	**18**	P		**P**	**08 39 28.0**	**0.0**
MLY				IAmb		IAmb	08 39 28.7	
	comp=Z,3.3nm,0.8s							
BALM	**Baldy**	**84.52**	**24**	IAmb		IAmb	08 39 33.2	
	comp=Z,2.9nm,0.7s							
WRH	**Wood River Hil**	**84.57**	**19**	IAmb		IAmb	08 39 32.2	
	comp=Z,5.3nm,0.9s							
CCB	**Clear Creek Bu**	**84.78**	**19**	IAmb		IAmb	08 39 32.6	
	comp=Z,5.3nm,1.1s							
HDA	**Harding Lake**	**84.91**	**20**	P		**P**	**08 39 32.0**	**0.0**
ILAR	**Eielson Array**	**85.16**	**20**	P		P	08 39 32.1	-1.1
	comp=Z,1.0nm,0.8s,baz=233,slow=4.8,SNR=10							
ILAR				LR		LR	09 10 52.3	
	comp=Z,34nm,21.7s,baz=169,slow=31							
RIDG	**Independent Ri**	**85.20**	**21**	P		**P**	**08 39 33.6**	**+0.1**
DOT	**Dot Lake**	**85.43**	**21**	P		**P**	**08 39 34.6**	**0.0**
DOT				IAmb		IAmb	08 39 43.5	
	comp=Z,3.8nm,1.0s							
SCRK	**Sand Creek**	**85.65**	**21**	IAmb		IAmb	08 39 39.8	
	comp=Z,6.0nm,1.3s							
NVAR	**Mina Array Bea**	**89.23**	**51**	P		**P**	**08 39 53.0**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=234,slow=6.4,SNR=4.1							
WVOR	**Wild Horse Val**	**90.04**	**47**	IAmb		IAmb	08 40 01.9	
	comp=Z,4.7nm,1.2s							
J08A	**Circle Bar Ran**	**90.40**	**46**	P		**P**	**08 40 00.3**	**+1.3**
J08A				IAmb		IAmb	08 40 01.5	
	comp=Z,5.1nm,1.0s							
MKAR	**Makanchi Array**	**91.24**	**317**	P		P	08 40 01.6	-1.2
	comp=Z,0.4nm,0.5s,baz=96,slow=6.2,SNR=6.0							
R11A	**Troy Canyon, C**	**91.28**	**51**			**P**	**08 40 04.8**	**+1.5**
ZALV	**Zalesovo Beam**	**91.69**	**325**	LR		LR	09 24 10.1	
	comp=Z,12nm,18.1s,baz=54,slow=38							
NRIK	**Noril'sk**	**95.20**	**340**	LR		LR	09 20 43.5	
	comp=Z,33nm,21.9s,baz=82,slow=34							
PDAR	**Pinedale Array**	**96.66**	**48**	LR		LR	09 17 59.9	
	comp=Z,18nm,18.8s,baz=126,slow=32							
YKA	**Yellowknife Ar**	**97.11**	**28**	P		**P**	**08 40 28.4**	**-0.9**
	comp=Z,1.1nm,0.9s,baz=255,slow=5.0,SNR=5.8							
TXAR	**Lajitas Array**	**99.39**	**62**	LR		LR	09 16 52.0	
	comp=Z,23nm,20.7s,baz=0.0,slow=30							
NOA	**NORSAR Array B**	**126.05**	**343**	PKP		**PKPdf**	**08 45 57.9**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=40,slow=2.4,SNR=2.3							
BRTR	**Keskin Array B**	**126.41**	**311**	PKP		**PKPdf**	**08 45 59.4**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=225,slow=1.6,SNR=3.6							
TORD	**Torodi Ar. Bea**	**160.55**	**277**	PKP		**PKPdf**	**08 46 57.4**	**-0.9**
	comp=Z,2.0nm,1.1s,baz=16,slow=3.3,SNR=4.9							
TORD				PKPab		**PKPab**	**08 47 40.0**	**+0.4**
	comp=Z,2.6nm,1.1s,baz=48,slow=2.9,SNR=5.9							

*MEX **04** 08:50:16.9±2.5, 28°.17N×112°.31W, h16km±999km, MD3.6*
*ECX **04** 08:50:18.3±0.6, 27°.98N×112°.04W, h1km±7km, MD2.6*

ISC 04 08:50:17.5±1.4, **27°.98N**±0°.07×**112°.00W**±0°.07, **h17**km±18km, **n7, σ0844/12, 1D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.69**	**199**	*eP*		**Pg**	**08 50 31.0**	**-0.1**
SRIG				*eS*		**Sg**	**08 50 40.5**	**+0.2**
SRIG	**Santa Rosalia**	**0.69**	**199**	⇓*eP*		**Pg**	**08 50 31.0**	**-0.1**
	baz=351,slow=6.2							
SRIG				*i* S		**Sg**	**08 50 40.2**	**-0.1**
GUYB	**Guaymas**	**1.00**	**94**	*eP*		**Pg**	**08 50 36.7**	**-0.2**
GUYB				*eS*		**Sg**	**08 50 50.4**	**+0.4**
GUYB	**Guaymas**	**1.00**	**94**	*eP*		**Pg**	**08 50 36.2**	**-0.6**
GUYB				*i* S		**Sg**	**08 50 50.3**	**+0.4**
HSIG		**1.39**	**41**	*eP*		**Pn**	**08 50 42.6**	**+0.6**
HSIG				*eS*		**Sg**	**08 51 02.6**	**+0.2**
HSIG		**1.39**	**41**	*eP*		**Pn**	**08 50 41.6**	**-0.5**
HSIG				*i* S		**Sg**	**08 51 02.6**	**+0.2**
BAHB	**Baha de los**	**2.39**	**325**	*eP*		Pn	08 50 46.9	-9.0
BAHB				*eS*		Sn	08 51 09.2	-16

*BJI **04** 09:01:39.0±0.0, 10°.90S×109°.90E, h5km, mB4.8/16, mb4.6/19, Ms4.1/2, Ms7 4.1/1*
*NEIC **04** 09:01:41.3±2.6, 10°.94S±0°.06×110°.04E±0°.06, h10km±1km, mb4.4/26, Error ellipse: s-maj=10.7km s-min=10.1km az=156.0*
*IDC **04** 09:01:42.0±0.5, 10°.54S×110°.27E, h0km, mb4.4/20, mb1 4.5/23, mb1mx4.4/31, mbtmp4.4/23, ML4.5/3, MS3.1/9, Ms1 3.2/9, ms1mx3.0/29, Error ellipse: s-maj=19.4km s-min=12.7km az=61.0*
*DJA **04** 09:01:44.8±0.5, 11°.5S±5°×11°.0E±°, h67km±22km, M4.8/13, mB5.2/4, mb4.8/6, MLv4.9/13, Mw(mB)4.6/4*

ISC 04 09:01:45.4±0.4, **10°.87S**±0°.05×**110°.05E**±0°.04, **h35**km, **n121, σ1993/123, mb4.4/32, South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**2.97**	**9**	P		**Pn**	**09 02 28.8**	**-1.4**
UGM				S		Sn	**09 03 01.2**	**-3.4**
UGM	**Wanagama**	**2.97**	**9**			**Pn**	**09 02 29.1**	**-1.0**
UGM				Sn		**Sn**	**09 03 01.2**	**-3.4**
WOJI	**Wonogiri, Jawa**	**3.13**	**16**	P		**Pn**	**09 02 31.5**	**-0.8**
WOJI				S		**Sn**	**09 03 05.3**	**-3.2**
SMRI	**Semarang**	**3.81**	**6**	P		**Pn**	**09 02 41.3**	**-0.4**
SMRI	**Semarang**	**3.81**	**6**			**Pn**	**09 02 42.7**	**+1.0**
SMRI				Sn		**Sn**	**09 03 23.9**	**-1.5**
CISI	**Cisompet, Garu**	**3.96**	**326**	P		**Pn**	**09 02 40.9**	**-2.8**
CISI	**Cisompet, Garu**	**3.96**	**326**	Pn		Pn	**09 02 40.8**	**-2.9**
CISI				Sn		**Sn**	**09 03 23.6**	**-5.4**
XMIS	**Christmas Isla**	**4.34**	**275**	Pn		**Pn**	**09 02 46.0**	**-2.9**
XMIS				Sn		**Sn**	**09 03 31.1**	**-7.2**
CNJI	**Cibinong**	**4.56**	**321**	P		**Pn**	**09 02 49.2**	**-2.7**
GRJI	**Gresik**	**4.60**	**32**	P		**Pn**	**09 02 51.0**	**-1.6**
LEM	**Lembang**	**4.68**	**329**	Pn		**Pn**	**09 02 54.8**	**+1.1**
	7.7nm,0.3s,baz=139,slow=19,SNR=1.9							
LEM				Sn		**Sn**	**09 03 46.5**	**-0.4**
	13nm,0.3s,baz=171,slow=20,SNR=3.9							
JAGI	**Jajag, Banyuwa**	**4.70**	**60**	P		**Pn**	**09 02 53.5**	**-0.3**
JAGI	**Jajag, Banyuwa**	**4.70**	**60**			**Pn**	**09 02 53.6**	**-0.3**
JAGI				Sn		**Sn**	**09 03 42.0**	**-5.2**
TNG	**Tangerang**	**5.75**	**324**	P		**Pn**	**09 03 10.1**	**+1.8**
SRBI	**Singaraja**	**5.80**	**62**	P		**Pn**	**09 03 09.3**	**+0.3**
	0.9nm3µm202nm,0.6s							
KASI	**Kota Agung**	**7.64**	**314**	P		**Pn**	**09 03 33.2**	**-1.1**
	0.3nm33nm,0.5s							
PLAI	**Plampang**	**7.88**	**76**	P		**Pn**	**09 03 36.5**	**-1.1**
	0.4nm101nm,0.7s							
MNAI	**Manna**	**9.54**	**312**	Pn		**Pn**	**09 03 57.3**	**-3.2**
MNAI				Sn		**Sn**	**09 05 42.7**	**-3.9**
KAPI	**Kappang**	**11.23**	**60**	Pn		**Pn**	**09 04 20.3**	**-3.2**
	1.4nm,0.3s,baz=101,slow=15,SNR=2.0							
KAPI	**Kappang**	**11.23**	**60**			**Pn**	**09 04 21.5**	**-2.1**
EDFI	**Ende, Flores**	**11.67**	**81**	P		**Pn**	**09 04 28.6**	**-1.0**
	17nm,0.6s							
BKB	**Balikpapan**	**11.72**	**36**	Pn		**Pn**	**09 04 30.2**	**0.0**
GIRL	**Giralia**	**12.38**	**162**	Pn		**Pn**	**09 04 35.8**	**-3.4**
BATI	**Baumata**	**13.40**	**88**	Pn		**Pn**	**09 04 51.2**	**-2.2**
	5.8nm,0.3s,baz=60,

AAK				IAmb	IAmb	09 12 10.5		
	comp=Z,1.8nm,1.0s							
MK31	**Makanchi Array**	**62.54**	**339**	P	**P**	**09 12 05.5**	**-0.1**	
MK31				IAmb	IAmb	09 12 06.5		
	comp=Z,1.3nm,0.6s							
MKAR	**Makanchi Array**	**62.54**	**339**	P	**P**	**09 12 06.1**	**+0.4**	
	comp=Z,2.0nm,0.5s,baz=145,slow=7.7,SNR=26							
MAKZ	**Makanchi**	**62.66**	**339**	P	**P**	**09 12 05.8**	**-0.7**	
MAKZ				IAmb	IAmb	09 12 07.1		
	comp=Z,2.6nm,1.2s							
MAW	**Mawson**	**64.61**	**198**	P	P	09 12 24.2	+5.2	
	comp=Z,2.8nm,0.7s,baz=55,slow=9.4,SNR=9.2							
MAW				LR	LR	09 33 25.0		
	comp=Z,39nm,21.2s,baz=62,slow=29							
MAW	**Mawson**	**64.61**	**198**	P	**P**	**09 12 18.7**	**-0.3**	
KK31	**Karatay Array**	**64.70**	**329**	P	**P**	**09 12 19.8**	**-0.2**	
KK31				IAmb	IAmb	09 12 21.4		
	comp=Z,1.6nm,0.8s							
KKAR	**Karatay Array**	**64.70**	**329**	P	**P**	**09 12 19.6**	**-0.4**	
KKAR				IAmb	IAmb	09 12 21.4		
	comp=Z,1.6nm,0.8s							
KURK	**Kurchatov**	**67.15**	**339**	P	**P**	**09 12 35.9**	**+0.3**	
ZAA0	**Zalesovo Array**	**68.03**	**344**	P	**P**	**09 12 40.7**	**-0.3**	
ZAA0				IAmb	IAmb	09 12 42.0		
	comp=Z,4.3nm,1.2s							
ZALV	**Zalesovo Beam**	**68.03**	**344**	P	**P**	**09 12 40.5**	**-0.6**	
	comp=Z,1.0nm,0.5s,baz=110,slow=3.5,SNR=5.9							
GEYT	**Alibeck**	**68.63**	**318**	P	**P**	**09 12 47.6**	**+2.4**	
	comp=Z,1.2nm,0.4s,baz=147,slow=3.4,SNR=1.6							
VNDA	**Vanda**	**71.64**	**170**	P	**P**	**09 13 05.3**	**+2.2**	
	comp=Z,2.7nm,0.8s,baz=295,slow=7.8,SNR=13							
VNDA	**Vanda**	**71.64**	**170**	P	**P**	**09 13 02.1**	**-0.9**	
VNDA				IAmb	IAmb	09 13 09.0		
	comp=Z,3.8nm,1.0s							
RAYN	**Ar Rayn**	**71.75**	**299**	P	**P**	**09 13 02.8**	**-1.8**	
YAK	**Yakutsk**	**74.28**	**9**	P	**P**	**09 13 18.8**	**+0.1**	
PEA0B	**Petropavlovsk-**	**75.55**	**27**	P	**P**	**09 13 24.9**	**-1.4**	
PETK	**Petropavlovsk-**	**75.55**	**27**	P	**P**	**09 13 26.1**	**-0.1**	
	comp=Z,3.0nm,0.7s,baz=207,slow=5.8,SNR=6.4							
QSPA	**South Pole Qui**	**79.15**	**180**	P	**P**	**09 13 46.5**	**0.0**	
QSPA				IAmb	IAmb	09 13 49.9		
	comp=Z,8.9nm,1.3s							
KBZ	**Khabaz**	**81.52**	**318**	P	**P**	**09 14 01.3**	**+2.0**	
	comp=Z,4.9nm,0.9s,baz=249,slow=2.6,SNR=6.7							
NRIK	**Noril'sk**	**81.55**	**352**	P	**P**	**09 13 59.1**	**+0.1**	
	comp=Z,1.9nm,0.5s,baz=137,slow=6.6,SNR=4.8							
SNAA	**Sanae**	**86.74**	**197**	P	P	09 14 16.5	-9.2	
VNA2	**Neumayer--Watz**	**88.39**	**197**	P	P	**09 14 36.4**	**+2.9**	
VNA1	**Neumayer--Stat**	**88.78**	**197**	P	P	09 14 40.8	+5.5	
VNA3	**Neumayer Olymp**	**88.87**	**196**	P	P	09 14 41.0	+5.3	
KLMR	**Klimovskoe**	**90.17**	**333**	*eP*	**P**	**09 14 41.0**	**-0.8**	
KLMR				AMP		09 14 53.2		
	comp=Z,11nm,1.3s							
AKASG	**Malin Array Be**	**92.57**	**321**	P	**P**	**09 14 53.3**	**0.0**	
	comp=Z,1.1nm,0.5s,baz=80,slow=4.4,SNR=2.7							
FINES	**FINESS Array B**	**96.58**	**331**	P	**P**	**09 15 12.0**	**+0.7**	
	comp=Z,1.2nm,0.9s,baz=208,slow=4.7,SNR=3.0							
ARCES	**ARCESS Array B**	**98.19**	**339**	P	Pdif	09 15 19.0	+0.5	
	comp=Z,0.5nm,0.7s,baz=114,slow=6.0,SNR=1.6							
YKA	**Yellowknife Ar**	**119.36**	**22**	PKP	**PKiKP**	**09 20 32.2**	**+1.3**	
	comp=Z,0.9nm,0.7s,baz=292,slow=1.5,SNR=5.5							
NVAR	**Mina Array Bea**	**128.95**	**49**	PKP	**PKiKP**	**09 20 52.5**	**+1.7**	
	comp=Z,0.5nm,0.7s,baz=250,slow=5.4,SNR=1.9							
TX31	**Lajitas Ar. Si**	**143.59**	**55**		**PKPdf**	**09 21 17.1**	**-0.2**	
TXAR	**Lajitas Array**	**143.59**	**55**	PKP	**PKPdf**	**09 21 17.0**	**-0.4**	
	comp=Z,1.4nm,0.8s,baz=234,slow=2.0,SNR=14							
L42A	**Oliver, Polo**	**144.50**	**26**		**PKPdf**	**09 21 18.5**	**+0.1**	
P38A	**Dawn**	**144.52**	**32**		**PKPdf**	**09 21 18.9**	**+0.4**	
WMOK	**Wichita Mounta**	**144.58**	**43**		**PKPdf**	**09 21 19.5**	**+0.6**	
ABTX	**Abilene, Hawle**	**145.15**	**47**		**PKPbc**	**09 21 19.4**	**-0.1**	
FNO	**Franklin**	**145.19**	**41**		**PKPdf**	**09 21 21.8**	**+1.9**	
J48A	**Bridge Port**	**145.52**	**18**		**PKPab**	**09 21 21.8**	**+1.3**	
M44A	**Midewin, Midew**	**145.69**	**24**		**PKPab**	**09 21 22.3**	**+1.1**	
PKME	**Peaks-Kenny Pk**	**145.72**	**359**		**PKPab**	**09 21 21.0**	**-0.1**	
TUL1	**Leonard**	**145.80**	**39**		**PKPab**	**09 21 23.2**	**+1.4**	
BDFB	**Brasília**	**145.86**	**220**	PKPbc	**PKiKP**	**09 21 25.2**	**-0.6**	
	comp=Z,2.3nm,0.5s,baz=175,slow=8.8,SNR=4.0							
JCT	**Junction City**	**146.10**	**50**		**PKiKP**	**09 21 24.6**	**-1.3**	
R40A	**Maddies Statio**	**146.17**	**32**		**PKPab**	**09 21 23.3**	**+0.2**	
U38A	**Gravette**	**146.30**	**37**		**PKPab**	**09 21 23.5**	**-0.2**	
U40A	**Yellville**	**147.25**	**35**		**PKPab**	**09 21 26.8**	**-0.6**	
PAGS	**Pennsylvania G**	**150.15**	**10**		**PKPdf**	**09 21 27.2**	**-0.7**	
PAGS				PKPab	**PKPab**	**09 21 38.5**	**-0.4**	
U49A	**Red Boiling Sp**	**150.73**	**27**	PKPab	**PKPab**	**09 21 43.0**	**+1.6**	
X48A	**Hartselle**	**151.81**	**31**		**PKiKP**	**09 21 38.2**	**+0.8**	
V51A	**Loudon**	**151.95**	**25**	PKPdf	**PKPdf**	**09 21 30.3**	**-0.5**	

*UCR **04** 09:12:45.3±1.3, 9.°52N×83.°75W, h13km±4km, MD3.9*
*UPA **04** 09:12:45.4±1.2, 9.°67N×83.°44W, h3km±9km, MW3.7*
ISC 04 09:12:44.1±1.0, 9.°61N±0.°05×83.°64W±0.°04, h17km±9km, n26,σ0°87/41, 11C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EDLM	**Las Mercedes**	**0.34**	**171**	↑ *eP*		**Pg**	**09 12 51.5**	**+0.2**
EDLM				*eS*		**Sg**	**09 12 56.4**	**+0.4**
LCR2	**La Lucha 2**	**0.38**	**290**	↑ *iP*		**Pg**	**09 12 52.5**	**+0.5**
LCR2				*eS*		**Sg**	**09 12 58.1**	**+0.7**
EDDO	**Dominical**	**0.42**	**212**	↓ *eP*		**Pg**	**09 12 51.7**	**-1.0**
EDDO				*eS*		**Sg**	**09 12 56.8**	**-1.6**
CVTR	**Volcan Turrial**	**0.42**	**344**	*eP*		**Pn**	**09 12 55.6**	**-0.2**
CVTR				*eS*		**Sn**	**09 13 03.0**	**-0.4**
DRK0	**Durika**	**0.52**	**132**	↑ *iP*		**Pb**	**09 12 55.2**	**+0.2**
DRK0				*eS*		**Sb**	**09 13 02.9**	**+0.5**
DRK0	**Durika**	**0.52**	**132**	↑ *eP*		**Pb**	**09 12 55.1**	**+0.2**
EDBA	**Buenos Aires**	**0.57**	**141**	↑ *iP*		**Pb**	**09 12 55.4**	**-0.4**
EDPN	**Palmar Norte**	**0.67**	**164**	↑ *eP*		**Pb**	**09 12 57.0**	**-0.4**
EDPN				*eS*		**Sb**	**09 13 06.4**	**-0.1**
SRA1	**San Ramn**	**0.95**	**300**	↑ *eP*		**Pb**	**09 13 01.6**	**-0.7**
SRA1				*eS*		**Sb**	**09 13 14.4**	**-0.3**
EDSV	**San Vito**	**1.03**	**140**	*eP*		**Pg**	**09 13 03.9**	**-0.2**
EDSV				*eS*		**Sg**	**09 13 19.6**	**+2.0**
PTJ1	**Puerto Jimnez**	**1.12**	**163**	*eS*		**Sg**	**09 13 23.5**	**+3.0**
BRU2	**Volcan**	**1.24**	**131**	*eP*		**Pb**	**09 13 07.0**	**-0.2**
BRU2				*eS*		**Sg**	**09 13 24.0**	**-0.4**
BRU2	**Volcan**	**1.24**	**131**	↑ *eP*		**Pb**	**09 13 07.0**	**-0.2**
BC3P	**Paso Ancho**	**1.29**	**128**	↑ *eP*		**Pb**	**09 13 07.9**	**-0.2**
BC3P				*eS*		**Sg**	**09 13 25.2**	**-0.8**
FORC	**Fortuna**	**1.32**	**310**	*iP*		**Pb**	**09 13 08.5**	**-0.1**
CASO	**Castillo**	**1.35**	**307**	*iS*		**Sb**	**09 13 26.5**	**+0.4**
ARE1	**Arenal 1**	**1.35**	**309**	↑ *iP*		**Pb**	**09 13 09.1**	**0.0**
ARE1				*eS*		**Sg**	**09 13 27.5**	**-0.5**
CEDE	**Laguna Cedeo**	**1.36**	**310**	*iP*		**Pb**	**09 13 09.2**	**-0.1**
CEDE				*iS*		**Sb**	**09 13 27.3**	**+0.9**
BCO2	**Palmira**	**1.41**	**129**	*eP*		**Pb**	**09 13 09.7**	**-0.5**
BCO2				*eS*		**Sb**	**09 13 27.7**	**-0.3**
JTS	**Las Juntas de**	**1.46**	**298**	*eP*		**Pn**	**09 13 09.7**	**-0.1**
JTS				*eS*		**Sn**	**09 13 29.1**	**+0.6**
CHGR2	**Aguacate**	**1.62**	**114**	*eP*		**Pb**	**09 13 12.6**	**-1.1**
CHGR2				*eS*		**Sb**	**09 13 33.4**	**-0.5**
ACAL	**Aguas Claras**	**1.71**	**307**	*iP*		**Pb**	**09 13 14.4**	**-0.7**
CHIR3	**Chiriqui UPA,**	**1.77**	**133**	*eP*		**Pb**	**09 13 14.9**	**-1.4**
CUI	**Cuipilapa**	**1.82**	**305**	*iP*		**Pn**	**09 13 15.8**	**+1.0**
PLVR	**Palo Verde**	**1.84**	**294**	*eP*		**Pn**	**09 13 15.7**	**+0.5**
LIM1	**Limonal**	**1.92**	**304**	*iP*		**Pb**	**09 13 17.7**	**-1.1**

*ATH **04** 09:18:16.3, 36.°05N×27.°29E, h30km±1km, ML3.3/5, Error ellipse: s-maj=2.3km s-min=0.8km az=106.0*
*NIC **04** 09:18:16.5±0.0, 36.°09N×27.°27E, h8km±2km, Ml3.0/3*
*THE **04** 09:18:17.2, 36.°05N×27.°33E, h2km±2km, ML3.2/5, Error ellipse: s-maj=2.2km s-min=0.7km az=111.0*
*ISK **04** 09:18:18.4, 36.°18N×27.°44E, h5km, ML3.2/11*
*DDA **04** 09:18:18.3, 36.°09N×27.°36E, h14km±2km, MW3.9*
ISC 04 09:18:17.6±1.1, 36.°05N±0.°02×27.°34E±0.°02, h24km±12km, n58,σ1°46/81, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.52**	**196**	P		**Pb**	**09 18 27.3**	**-0.9**
KARP				S		**Sb**	**09 18 34.9**	**-0.4**
	3μm,0.5s							
KARP	**Karpathos**	**0.52**	**196**	P		**Pb**	**09 18 27.4**	**-0.9**
KARP				S		**Sb**	**09 18 34.7**	**-0.6**
KARP				AML	AML	09 18 36.0		
	comp=E,6904μm,0.4s							
KARP				AML	AML	09 18 36.2		
	comp=N,5755μm,0.6s							
KARP	**Karpathos**	**0.52**	**196**	P		**Pb**	**09 18 27.2**	**-0.9**
KARP				AML	AML	09 18 35.6		
	comp=N,6.9nm,0.4s							
KARP				S		**Sb**	**09 18 35.7**	**+0.4**
KARP				AML	AML	09 18 35.9		
	comp=N,5.7nm,0.6s							
KARP				AML	AML	09 18 35.9		
	comp=N,5.7nm,0.6s							
NISR	**Nisiros**	**0.59**	**343**	P		**Pn**	**09 18 29.1**	**-1.4**
NISR				S		**Sn**	**09 18 38.1**	**-1.2**
	comp=N,1μm,0.3s							
NISR	**Nisiros**	**0.59**	**343**	P		**Pb**	**09 18 28.7**	**-0.7**
NISR				S		**Sn**	**09 18 37.8**	**-1.6**
ARG	**Arkhangelos**	**0.66**	**75**	P		**Pn**	**09 18 30.7**	**-0.7**
ARG				S		**Sn**	**09 18 40.0**	**-1.0**
	comp=N,5μm,0.4s							
ARG	**Arkhangelos**	**0.66**	**75**	P		**Pn**	**09 18 30.8**	**-0.7**
ARG				S		**Sn**	**09 18 39.9**	**-1.0**
ARG				AML	AML	09 18 43.6		
	comp=N,7787μm,0.3s							
ARG				AML	AML	09 18 44.4		
	comp=E,11643μm,0.4s							
ARG	**Arkhangelos**	**0.66**	**75**	P		**Pn**	**09 18 30.7**	**-0.7**
ARG				S		**Sn**	**09 18 40.6**	**-0.4**
DAT	**Datca**	**0.71**	**16**	P		**Pn**	**09 18 30.6**	**-1.6**
DAT				S		**Sn**	**09 18 41.9**	**-0.5**
DAT	**Datca**	**0.71**	**16**	PG		**Pb**	**09 18 30.3**	**-1.1**
BODT	**Bodrum**	**1.01**	**359**	P		**Pn**	**09 18 36.6**	**+0.2**
BODT				S		**Sn**	**09 18 50.3**	**+0.4**
BODT	**Bodrum**	**1.01**	**359**	PG		**Pn**	**09 18 36.5**	**+0.2**
BODT				SG		**Sn**	**09 18 50.1**	**+0.2**
BDRM	**Kayabasi**	**1.02**	**5**	*i* P		**Pn**	**09 18 36.7**	**+0.3**
BDRM				*i* S		**Sn**	**09 18 50.6**	**+0.6**
ZKR	**Zakros**	**1.30**	**225**	P		**Pb**	**09 18 41.1**	**-0.4**
ZKR				S		**Sb**	**09 18 59.8**	**+2.0**
	comp=E,530nm,0.5s							
ZKR	**Zakros**	**1.30**	**225**	P		**Pb**	**09 18 41.0**	**-0.5**
ZKR				S		**Sb**	**09 18 57.8**	**0.0**
ZKR				AML	AML	09 19 00.3		
	comp=E,1160μm,0.5s							
ZKR				AML	AML	09 19 02.9		
	comp=N,961μm,0.5s							
ZKR	**Zakros**	**1.30**	**225**	P		**Pb**	**09 18 41.1**	**-0.4**
ZKR				S		**Sb**	**09 18 59.6**	**+1.8**
ZKR				AML	AML	09 18 59.7		
	comp=N,1.2nm,0.5s							
ZKR				AML	AML	09 18 59.7		
	comp=N,1.2nm,0.5s							
ZKR				AML	AML	09 19 02.5		
	comp=N,1.0nm,0.5s							
ZKR				AML	AML	09 19 02.5		
	comp=N,1.0nm,0.5s							
ANAF	**Anafi Island**	**1.31**	**284**	P		**Pn**	**09 18 40.2**	**-0.1**
ANAF				S		**Sb**	**09 18 59.0**	**+1.2**
	comp=N,2μm,0.3s							
ANAF	**Anafi Island**	**1.31**	**284**	P		**Pn**	**09 18 39.5**	**-0.8**
ANAF				AML	AML	09 19 01.2		
	comp=N,5461μm,0.3s							
ANAF				AML	AML	09 19 02.7		
	comp=E,4254μm,0.4s							
DALY	**Dalyan (Mula)**	**1.31**	**54**	PN		**Pb**	**09 18 41.8**	**+0.3**
TURN	**Turunc**	**1.31**	**51**	PG		**Pn**	**09 18 36.5**	**-3.8**
TURN	**Turunc**	**1.31**	**51**	*i* P		**Pn**	**09 18 36.5**	**-3.8**
TURN				*i* S		**Sn**	**09 18 51.1**	**-6.0**
STIA	**Sitia Lasithi**	**1.32**	**231**	P		**Pb**	**09 18 41.8**	**+0.1**
YER	**Yerkesik**	**1.32**	**35**	P		**Pb**	**09 18 41.8**	**-0.1**
YER				S		**Sb**	**09 18 59.6**	**+1.2**
YER	**Yerkesik**	**1.32**	**35**	PN		**Pb**	**09 18 42.0**	**+0.1**
FETY	**Fethiye**	**1.52**	**67**	PN		**Pb**	**09 18 45.8**	**+0.6**
THR6	**Thira Island,**	**1.60**	**282**	P		**Pn**	**09 18 44.2**	**-0.2**
THR6	**Thira Island,**	**1.60**	**282**	P		**Pn**	**09 18 43.9**	**-0.5**
STAX	**Taxiarchis Har**	**1.60**	**283**	P		**Pn**	**09 18 44.8**	**-0.6**
NPS	**Neapolis**	**1.61**	**241**	P		**Pn**	**09 18 44.3**	**-0.2**
NPS				S		**Sn**	**09 19 04.2**	**-0.3**
NPS				AML	AML	09 19 06.7		
	comp=E,1219μm,0.3s							
NPS				AML	AML	09 19 06.8		
	comp=N,957μm,0.3s							
GCAM	**G?zelcaml?**	**1.65**	**357**	*i* P		**Pb**	**09 18 48.3**	**+0.9**
AYDN	**Tasoluk**	**1.67**	**15**	*i* P		**Pb**	**09 18 49.4**	**+1.7**
LAST	**Lasithi**	**1.76**	**240**	P		**Pn**	**09 18 46.7**	**+0.1**
LAST	**Lasithi**	**1.76**	**240**	P		**Pn**	**09 18 46.2**	**-0.3**
LAST				S		**Sn**	**09 19 07.9**	**-0.4**
APE	**Apeiranthos**	**1.78**	**306**	P		**Pn**	**09 18 46.3**	**-0.6**
APE	**Apeiranthos**	**1.78**	**306**	*i* P		**Pn**	**09 18 46.7**	**-0.2**
APE	**Apeiranthos**	**1.78**	**306**	P		**Pn**	**09 18 46.0**	**-0.9**
APE				AML	AML	09 19 16.7		
	comp=N,0.3nm,0.8s							
APE				AML	AML	09 19 16.7		
	comp=N,0.3nm,0.4s							
IOSP	**Ios island**	**1.79**	**293**	P		**Pn**	**09 18 46.3**	**-0.7**
AKAS	**Kas**	**1.84**	**84**	PN		**Pb**	**09 18 51.5**	**+0.8**
TAVA	**DENIZLI_Tavas**	**1.90**	**41**	*i* P		**Pb**	**09 18 51.5**	**-0.2**
TAVA				*i* S		**Sb**	**09 19 16.9**	**+1.9**
AYDB	**Zeytinkoy-Aydi**	**1.95**	**13**	PN		**Pb**	**09 18 51.7**	**-0.8**
IDI	**Anoyia**	**2.13**	**250**	P		**Pn**	**09 18 51.8**	**0.0**
IDI	**Anoyia**	**2.13**	**250**	P		**Pn**	**09 18 51.4**	**-0.4**
IDI				S		**Sn**	**09 19 16.3**	**-1.2**
GOLH	**Golhisar**	**2.15**	**56**	*i* P		**Pb**	**09 18 57.4**	**+1.6**
GOLH				*i* S		**Sb**	**09 19 25.5**	**+3.4**
ELL	**Elmali**	**2.19**	**71**	PN		**Pb**	**09 18 56.1**	**-0.5**
SIVA	**Sivas**	**2.31**	**244**	P		**Pn**	**09 18 54.6**	**+0.5**
URLA	**Izmir**	**2.39**	**346**	PN		**Pb**	**09 18 58.9**	**-1.0**
AKUM	**Antalya-Kumluc**	**2.44**	**83**	*i* P		**Pb**	**09 18 57.7**	**-3.2**
SERI	**Serifos**	**2.55**	**297**	P		**Pn**	**09 18 57.6**	**+0.1**
KORT	**Korkueli**	**2.60**	**68**	PN		**Pb**	**09 19 01.7**	**-2.0**
IMMV	**Iera Moni Meta**	**2.79**	**259**	P		**Pn**	**09 19 00.2**	**-0.6**
KTHA	**Kythira Island**	**3.47**	**275**	P		**Pn**	**09 19 10.4**	**+0.3**
DID	**Dídima**	**3.60**	**295**	P		**Pn**	**09 19 11.7**	**-0.2**
VLI	**Veliai**	**3.62**	**282**	P		**Pn**	**09 19 13.7**	**+1.6**
AKMS	**Akamas**	**4.20**	**103**	P		**Pn**	**09 19 22.0**	**+1.9**
ALFC	**Alefka**	**4.38**	**100**	P		**Pn**	**09 19 24.4**	**+1.9**
NATA	**Nata**	**4.45**	**105**	P		**Pn**	**09 19 26.0**	**+2.4**
SZAC	**Souni**	**4.71**	**104**	P		**Pn**	**09 19 29.5**	**+2.4**
ASGA	**Asgata**	**4.99**	**103**	P		**Pn**	**09 19 33.4**	**+2.4**

*DDA **04** 09:18:23.9, 38.°98N×34.°93E, h16km±2km, MW2.5*
*ISK **04** 09:18:23.6, 38.°95N×35.°02E, h5km, ML2.0/8*
ISC 04 09:18:24.4±1.0, 38.°97N±0.°04×34.°93E±0.°03, h15km±8km, n18,σ1°31/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AVNS	**Nevsehir-Avano**	**0.18**	**201**	*i* P		**Pg**	**09 18 28.4**	**-0.4**
SIRC	**Yozgat**	**0.40**	**25**	*i* P		**Pg**	**09 18 32.1**	**-0.5**
SIRC				*i* S		**Sg**	**09 18 38.5**	**+0.4**
SIRC				IAML			09 18 47.0	
	comp=E,16nm,0.3s							
YOZ	**Yozgat**	**0.73**	**24**	PG		**Pg**	**09 18 38.1**	**-0.6**
YOZ				SG		**Sb**	**09 18 49.4**	**+0.6**
CDAG	**Cicekdag**	**0.78**	**327**	*i* P		**Pg**	**09 18 38.5**	**-1.2**
CDAG				*i* S		**Sg**	**09 18 49.9**	**-0.1**
CDAG				IAML			09 18 59.0	
	comp=E,13nm,0.2s							
KIRS	**Kırehir-Merke**	**0.80**	**282**	*i* P		**Pb**	**09 18 39.8**	**-0.3**
KIRS				*i* S		**Sb**	**09 18 50.8**	**0.0**
KIRS				IAML			09 18 59.0	
	comp=N,5.6nm,0.3s							
YAYX	**Yaylak**	**0.87**	**268**	PG		**Pn**	**09 18 42.5**	**+0.3**
AKSY	**AKSARAY - Alti**	**0.97**	**251**	*i* P		**Pg**	**09 18 43.3**	**+0.2**
AKSY				IAML			09 18 57.0	
	comp=N,8.5nm,0.7s							
AKSY				*i* S		**Sn**	**09 18 57.3**	**+0.3**
SERE	**Sereflikochisa**	**1.06**	**269**	PN		**Pg**	**09 18 46.4**	**+1.4**
CUSAR	**Sarkisla-SIVAS**	**1.12**	**66**	*i* P		**Pb**	**09 18 44.3**	**-1.2**
CUSAR				*i* S		**Sb**	**09 19 00.5**	**+0.7**
CUSAR				IAML			09 19 09.0	
	comp=E,6.7nm,0.5s							
CORM	**Corum**	**1.23**	**349**	PN		**Pg**	**09 18 49.2**	**+1.1**
CORM				SN		**Sg**	**09 19 07.7**	**+3.6**
COAL	**Corum-Alaca**	**1.28**	**2**	*i* P		**Pn**	**09 18 48.0**	**+0.1**
COAL				*i* S		**Sg**	**09 19 08.2**	**+2.4**
COAL				IAML			09 19 10.0	
	comp=E,12nm,0.3s							
DELI	**KIRIKKALE**	**1.29**	**323**	*i* P		**Pn**	**09 18 47.5**	**-0.4**
DELI				*i* S		**Sg**	**09 19 06.7**	**+0.7**
DELI				IAML			09 19 09.0	
	comp=E,6.6nm,0.9s							
SARI	**SarD1z-Kayseri**	**1.29**	**115**	PN		**Pn**	**09 18 48.2**	**+0.1**
SULT	**Sultanhanı-AKS**	**1.35**	**236**	PN		**Pg**	**09 18 51.4**	**+1.0**
AFSR	**Afar-Bala (An**	**1.52**	**289**	PN		**Pg**	**09 18 53.9**	**+0.3**
KKUL	**Konya-Kulu**	**1.58**	**278**	*i* P		**Pn**	**09 18 48.5**	**-3.4**
KKUL				*i* S		**Sg**	**09 19 16.1**	**+0.8**
KKUL				IAML			09 19 17.0	
	comp=N,12nm,2.4s							
SVSK	**Karacayir**	**1.86**	**59**	PN		**Pb**	**09 18 57.4**	**-0.6**
ELDT	**Eldivan**	**1.91**	**323**	*i* P		**Pb**	**09 18 58.2**	**-0.8**
ELDT				*i* S		**Sg**	**09 19 24.6**	**-1.2**
ELDT				IAML			09 19 50.0	
	comp=N,9.3nm,1.2s							

*ATH **04** 09:40:21.4, 36.°06N×27.°27E, h27km±1km, ML3.1/4, Error ellipse: s-maj=2.4km s-min=1.0km az=98.0*
*THE **04** 09:40:22.1, 36.°04N×27.°32E, h5km±3km, ML2.9/3, Error ellipse: s-maj=3.7km s-min=0.9km az=107.0*
*DDA **04** 09:40:22.0, 36.°03N×27.°36E, h5km±3km, ML3.0*
*ISK **04** 09:40:23.5, 36.°16N×27.°40E, h2km, ML2.9/10*
ISC 04 09:40:21.8±1.0, 36.°06N±0.°02×27.°35E±0.°02, h13km±9km, n37,σ1°64/61, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.54**	**196**	P		**Pg**	**09 40 32.4**	**+0.1**
KARP				S		**Sg**	**09 40 39.8**	**+0.4**
	2μm,0.2s							
KARP	**Karpathos**	**0.54**	**196**	P		**Pg**	**09 40 32.3**	**0.0**
KARP				S		**Sg**	**09 40 39.7**	**+0.2**
KARP				AML	AML	09 40 41.4		
	comp=E,4912μm,0.3s							
KARP				AML	AML	09 40 41.5		
	comp=N,3848μm,0.2s							
NISR	**Nisiros**	**0.58**	**342**	P		**Pg**	**09 40 32.8**	**-0.3**
NISR				S		**Sb**	**09 40 41.7**	**-0.2**
ARG	**Arkhangelos**	**0.65**	**76**	P		**Pb**	**09 40 35.7**	**+0.7**
ARG				S		**Sb**	**09 40 45.3**	**+1.3**
	comp=N,2μm,0.4s							
ARG	**Arkhangelos**	**0.65**	**76**	P		**Pb**	**09 40 35.7**	**+0.7**
ARG				S		**Sb**	**09 40 45.5**	**+1.5**
ARG				AML	AML	09 40 48.6		
	comp=N,3130μm,0.3s							
ARG				AML	AML	09 40 49.4		
	comp=E,4716μm,0.6s							
DAT	**Datca**	**0.69**	**16**	P		**Pg**	**09 40 35.6**	**+0.3**
DAT				S		**Sb**	**09 40 46.9**	**+1.6**
DAT	**Datca**	**0.69**	**16**	PG		**Pb**	**09 40 36.0**	**+0.2**
DAT				SG		**Sg**	**09 40 44.9**	**+0.5**
DAT	**Datca**	**0.69**	**16**	*i* P		**Pb**	**09 40 36.3**	**+0.5**
DAT				*i* S		**Sb**	**09 40 47.0**	**+1.6**
BODT	**Bodrum**	**1.00**	**358**	PG		**Pn**	**09 40 41.8**	**+0.2**
BODT				SG		**Sb**	**09 40 54.8**	**+0.7**
BDRM	**Kayabasi**	**1.00**	**4**	*i* P		**Pb**	**09 40 41.2**	**+0.1**
BDRM				*i* S		**Sn**	**09 40 55.9**	**+0.2**
DALY	**Dalyan (Mula)**	**1.29**	**54**	PN		**Pg**	**09 40 47.1**	**+0.4**
DALY				SN		**Sn**	**09 41 05.0**	**+2.2**
DALY	**Dalyan (Mula)**	**1.29**	**54**	*i* P		**Pg**	**09 40 46.8**	**+0.1**
DALY				*i* S		**Sn**	**09 41 05.8**	**+2.2**
TURN	**Turunc**	**1.30**	**51**	PG		**Pn**	**09 40 42.2**	**-3.4**
TURN				SG		**Sb**	**09 40 55.9**	**-6.7**
TURN	**Turunc**	**1.30**	**51**	*i* P		**Pn**	**09 40 41.7**	**-3.9**
TURN				*i* S		**Sb**	**09 40 56.5**	**-6.1**
ANAF	**Anafi Island**	**1.31**	**283**	P		**Pn**	**09 40 44.7**	**-1.1**
ANAF				S		**Sb**	**09 41 02.1

mb5.0/37,mB5.3/13,MLv5.1/19,Mw(mB)4.8/13
*BJI **04** 10:59:42.0±0.0,8°.30S×109°.30E,h49km,mB5.0/11,*
mb4.7/16,Ms4.3/5,Ms7 4.0/4
*IDC **04** 10:59:43.8±1.1,7°.97S×109°.49E,h102km±10km,mb4.2/25,*
mb1 4.3/27,mb1mx4.2/38,mbtmp4.5/27,MS3.3/14,
Ms1 3.3/14,ms1mx3.2/36,Error ellipse: s-maj=13.5km
s-min=8.9km az=43.0

ISC 04 10:59:41.3±0.7,8°.47S±0°.04×109°.30E±0°.03,h75km±6km,
n381,σ1§98/377,mb4.8/46,2C-1D,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**1.33**	**66**	P	**Pn**	**11 00 03.9**	**-0.3**
UGM				S	**Sn**	**11 00 20.3**	**-1.2**
UGM	**Wanagama**	**1.33**	**66**		**Pn**	**11 00 04.0**	**-0.2**
UGM				Sn	**Sn**	**11 00 19.8**	**-1.7**
WOJI	**Wonogiri, Jawa**	**1.72**	**69**	P	**Pn**	**11 00 08.5**	**-0.9**
CISI	**Cisompet, Garu**	**1.73**	**301**	P	**Pn**	**11 00 08.5**	**-1.0**
CISI				S	**Sn**	**11 00 28.7**	**-2.2**
CISI	**Cisompet, Garu**	**1.73**	**301**		**Pn**	**11 00 08.8**	**-0.7**
CISI				Sn	**Sn**	**11 00 29.2**	**-1.7**
SMRI	**Semarang**	**1.81**	**39**	P	**Pn**	**11 00 10.4**	**0.0**
SMRI				S	**Sn**	**11 00 32.2**	**-0.4**
SMRI	**Semarang**	**1.81**	**39**	Pn	**Pn**	**11 00 10.5**	**0.0**
LEM	**Lembang**	**2.33**	**314**	P	**Pn**	**11 00 18.3**	**+0.6**
	175nm,0.3s,baz=6.1,slow=19,SNR=66						
LEM				S	**Sn**	**11 00 46.9**	**+1.4**
	173nm,0.3s,baz=13,slow=20,SNR=12						
LEM				LR	LR	11 00 51.9	
	comp=Z,295nm,21.9s,baz=134,slow=31						
LEM	**Lembang**	**2.33**	**314**	P	**Pn**	**11 00 18.2**	**+0.6**
LEM				S	**Sn**	**11 00 46.4**	**+0.9**
CNJI	**Cibinong**	**2.44**	**298**	P	**Pn**	**11 00 17.9**	**-1.1**
CNJI				S	**Sn**	**11 00 45.5**	**-2.3**
DBJI	**Dramaga**	**3.16**	**307**	P	**Pn**	**11 00 29.3**	**+0.5**
DBJI				S	**Sn**	**11 01 06.4**	**+0.9**
GRJI	**Gresik**	**3.51**	**64**	P	**Pn**	**11 00 34.1**	**+0.6**
GRJI				S	**Sn**	**11 01 14.3**	**+0.5**
XMIS	**Christmas Isla**	**4.12**	**241**	Pn	**Pn**	**11 00 41.0**	**-0.8**
XMIS				Sn	**Sn**	**11 01 23.1**	**-5.7**
JAGI	**Jajag, Banyuwa**	**4.80**	**90**	P	**Pn**	**11 00 52.5**	**+1.4**
JAGI	**Jajag, Banyuwa**	**4.80**	**90**	Pn	Pn	11 00 52.7	+1.5
JAGI				Sn	**Sn**	**11 01 47.0**	**+1.5**
KMMI	**Kalianget**	**4.83**	**73**	P	**Pn**	**11 00 53.1**	**+1.5**
BLSI	**Bandar Lampung**	**5.07**	**307**	P	**Pn**	**11 00 56.4**	**+1.6**
	1.3nm216nm,0.4s						
KASI	**Kota Agung**	**5.59**	**301**	P	Pn	11 01 03.8	+1.8
	0.7nm1μm91nm,0.6s						
DNP	**Denpasar**	**5.85**	**92**	P	Pn	11 01 19.8	+14
SRBI	**Singaraja**	**5.86**	**87**	P	**Pn**	**11 01 06.6**	**+1.0**
	1.6nm5μm265nm,0.9s						
TPI	**Tanjungpandan**	**5.90**	**344**	P	**Pn**	**11 01 06.0**	**-0.2**
	0.8nm1μm83nm,0.9s						
LWLI	**Liwa**	**6.23**	**303**	P	**Pn**	**11 01 15.4**	**+4.6**
MDSI	**Maura Dua**	**6.45**	**308**	P	**Pn**	**11 01 13.9**	**+0.3**
	0.2nm694nm60nm,0.8s						
PMBI	**Palembang**	**7.11**	**320**	Pn	**Pn**	**11 01 24.0**	**+1.3**
LHSI	**Lahat**	**7.36**	**308**	P	**Pn**	**11 01 27.9**	**+1.7**
	0.3nm1μm62nm,0.9s						
MNAI	**Manna**	**7.51**	**303**	P	**Pn**	**11 01 28.7**	**+0.5**
	1.1nm175nm,1.4s						
MNAI	**Manna**	**7.51**	**303**	Pn	**Pn**	**11 01 27.4**	**-0.7**
PLAI	**Plampang**	**8.39**	**93**	P	**Pn**	**11 01 40.9**	**+0.7**
	4μm391nm,0.9s						
KSM	**Kuching**	**9.92**	**6**	Pn	**Pn**	**11 02 00.6**	**-0.6**
KSM	**Kuching**	**9.92**	**6**	P	**Pn**	**11 02 03.0**	**+1.8**
WBSI	**Waikabubak, Su**	**10.03**	**97**	P	**Pn**	**11 01 59.7**	**-3.0**
KAPI	**Kappang**	**10.93**	**72**	P	Pn	11 02 17.5	+2.6
	2.7nm,0.3s,baz=334,slow=2.2,SNR=5.3						
KAPI				LR	LR	11 07 16.5	
	comp=Z,155nm,19.3s,baz=270,slow=43						
KAPI	**Kappang**	**10.93**	**72**	Pn	Pn	11 02 09.2	-5.7
BKSI	**Bulukumba**	**11.19**	**74**	P	**Pn**	**11 02 19.7**	**+1.3**
	534nm55nm,0.9s						
SBUM	**Sibu**	**11.23**	**15**	Pn	**Pn**	**11 02 18.1**	**-0.9**
SBUM	**Sibu**	**11.23**	**15**	P	**Pn**	**11 02 21.0**	**+2.1**
BASI	**Baing, Sumba**	**11.26**	**100**	P	**Pn**	**11 02 18.1**	**-1.3**
BNSI	**Bone**	**11.47**	**70**	P	**Pn**	**11 02 23.9**	**+1.6**
	36nm,1.1s						
MYKOM	**Kota Tinggi**	**11.55**	**332**		**Pn**	**11 02 23.9**	**+0.6**
MYKOM	**Kota Tinggi**	**11.55**	**332**	P	**Pn**	**11 02 25.0**	**+1.7**
TTSI	**Tana Toraja**	**11.77**	**63**	P	**Pn**	**11 02 28.8**	**+2.5**
EDFI	**Ende, Flores**	**12.25**	**92**	P	**Pn**	**11 02 29.9**	**-3.1**
MMRI	**Maumere**	**12.79**	**92**	Pn	**Pn**	**11 02 38.1**	**-2.2**
MNSI	**Mandailing Nat**	**13.36**	**313**	P	Pn	11 02 51.5	+3.6
MPSI	**Mapaga**	**13.71**	**51**	P	**P**	**11 02 57.7**	**-0.9**
BATI	**Baumata**	**14.28**	**98**	P	**Pn**	**11 02 57.2**	**-2.8**
	17nm,0.3s,baz=309,slow=2.9,SNR=12						
BATI				S	Sn	11 05 25.2	-12
	5.4nm,0.3s,baz=96,slow=15,SNR=1.8						
BATI	**Baumata**	**14.28**	**98**	P	**Pn**	**11 02 57.6**	**-2.3**
APSI	**Ampana**	**14.41**	**59**	P	**Pn**	**11 03 02.7**	**+1.1**
	43nm,0.7s						
SOEI	**Soe**	**14.83**	**96**	P	**Pn**	**11 03 05.1**	**-2.2**
SOEI	**Soe**	**14.83**	**96**	Pn	**Pn**	**11 03 05.0**	**-2.2**
GIRL	**Giralia**	**14.87**	**162**	P	**Pn**	**11 03 06.5**	**-1.0**
	baz=15,SNR=37						
GIRL	**Giralia**	**14.87**	**162**	Pn	**Pn**	**11 03 06.7**	**-0.8**
PSI	**Prapat**	**15.24**	**317**	LR	LR	11 09 36.5	
	comp=Z,272nm,18.3s,baz=92,slow=40						
IPM	**Ipoh**	**15.28**	**327**	Pn	**Pn**	**11 03 14.1**	**+1.2**
LUWI	**Luwuk**	**15.31**	**62**	Pn	**Pn**	**11 03 13.7**	**+0.5**
LUWI				IAmb	IAmb	11 03 16.9	
	comp=Z,45nm,1.0s						
MRSI	**Marisa**	**15.41**	**55**	P	**Pn**	**11 03 15.8**	**+1.3**
	comp=Z,922nmcomp=Z,47nm,0.8s						
KKM	**Kota Kinabalu**	**15.98**	**26**	Pn	**Pn**	**11 03 23.1**	**+1.3**
PSA00	**Pilbara Seismi**	**16.52**	**143**	P	**P**	**11 03 29.5**	**-0.3**
NLAI	**Namlea**	**18.45**	**75**	P	**Pn**	**11 03 52.4**	**+0.4**
	comp=Z,104nm,0.5s						
FITZ	**Fitzroy Crossi**	**18.55**	**123**	P	**Pn**	**11 03 54.5**	**+1.3**
	baz=19,SNR=31						
FITZ	**Fitzroy Crossi**	**18.55**	**123**	P	**Pn**	**11 03 54.5**	**+1.3**
	comp=Z,1.6nm,0.3s,baz=298,slow=6.8,SNR=48						
FITZ				S	**S**	**11 07 08.8**	**-11**
	comp=Z,0.6nm,0.3s,baz=174,slow=21,SNR=2.5						
FITZ	**Fitzroy Crossi**	**18.55**	**123**	P	**Pn**	**11 03 53.7**	**+0.5**
AAI	**Ambon**	**19.37**	**77**	P	**P**	**11 04 00.3**	**-0.9**
	comp=Z,3μmcomp=Z,306nm,0.6s						
MEEK	**Meekatharra**	**20.12**	**155**	P	**Pn**	**11 04 12.8**	**+1.0**
	baz=20,SNR=5.2						
TNTI	**Ternate**	**20.21**	**64**	P	**P**	**11 04 10.6**	**+0.3**
TNTI				IAmb	IAmb	11 04 13.7	
	comp=Z,57nm,0.9s						
DLV	**T Lat**	**20.29**	**358**	P	Pn	11 04 14.5	+0.5
KNRA	**Kununurra**	**20.32**	**112**	P	**P**	**11 04 12.7**	**+1.2**
	baz=20,SNR=119						
KNRA	**Kununurra**	**20.32**	**112**	P	Pn	11 04 13.0	-1.2
MORW	**Morawa**	**21.45**	**164**	P	**P**	**11 04 26.8**	**+3.3**
	baz=22,SNR=6.1						
MORW	**Morawa**	**21.45**	**164**	P	**P**	**11 04 27.4**	**+3.8**
MTN	**Manton Dam**	**21.89**	**103**	P	**P**	**11 04 28.4**	**+0.1**
	baz=22,SNR=19						
MTN	**Manton Dam**	**21.89**	**103**	P	**P**	**11 04 29.2**	**+0.9**
BLDU	**Ballidu**	**23.10**	**164**	P	**P**	**11 04 43.3**	**+2.4**
	baz=23,SNR=6.7						
SIJI	**Sorong**	**23.14**	**72**	P	**P**	**11 04 37.9**	**-3.6**
	comp=Z,28nm,0.7s,baz=272,slow=4.9,SNR=16						
KDU	**Kakadu**	**23.16**	**102**	P	**P**	**11 04 41.2**	**-0.4**
	baz=23,SNR=17						
FAKI	**Fak Fak**	**23.48**	**78**	P	**P**	**11 04 41.0**	**-3.7**
FAKI				IAmb	IAmb	11 04 60.0	
	comp=Z,49nm,1.2s						
WRKA	**Warakurna**	**24.49**	**135**	P	**P**	**11 04 55.1**	**+1.4**
	baz=25,SNR=33						
NWAO	**Narrogin (SRO)**	**25.43**	**164**	P	**P**	**11 05 02.1**	**+0.1**
NWAO				IAmb	IAmb	11 05 19.5	
	comp=Z,25nm,1.4s						
WB0	**Warramunga Arr**	**26.76**	**117**	P	**P**	**11 05 15.3**	**+1.0**
WB0				IAmb	IAmb	11 05 16.0	
	comp=Z,23nm,0.6s						
WRA	**Warramunga Arr**	**26.77**	**118**	P	**P**	**11 05 15.2**	**+0.7**
	comp=Z,18nm,0.6s,baz=288,slow=9.8,SNR=159						
WRA				PcP	**PcP**	**11 08 35.4**	**-0.6**
	comp=Z,2.2nm,0.4s,baz=319,slow=2.0,SNR=6.1						
WRAB	**Tennant Creek**	**26.78**	**118**	P	**P**	**11 05 15.6**	**+1.1**
WRAB				IAmb	IAmb	11 05 16.3	
	comp=Z,41nm,0.8s						
WB2	**Warramunga Arr**	**26.79**	**118**	P	**P**	**11 05 15.7**	**+1.1**
WB2				IAmb	IAmb	11 05 16.3	
	comp=Z,41nm,0.9s						
WR0	**Warramunga Arr**	**26.96**	**118**	P	**P**	**11 05 17.3**	**+1.3**
ASAR	**Alice Springs**	**27.99**	**126**	P	**P**	**11 05 26.4**	**+1.2**
	comp=Z,29nm,0.7s,baz=304,slow=9.4,SNR=284						
ASAR				PcP	**PcP**	**11 08 38.8**	**-0.1**
	comp=Z,3.2nm,0.4s,baz=315,slow=2.1,SNR=14						
ASAR				ScP	**ScP**	**11 12 11.4**	**-1.9**
	comp=Z,0.7nm,0.8s,baz=316,slow=3.5,SNR=4.4						
AS31	**Alice Springs**	**27.99**	**126**	P	**P**	**11 05 26.7**	**+1.5**
AS31				IAmb	IAmb	11 05 27.3	
	comp=Z,12nm,0.5s						
FORT	**Forrest**	**28.28**	**144**	P	**P**	**11 05 29.6**	**+1.9**
FORT				IAmb	IAmb	11 05 33.7	
	comp=Z,16nm,0.6s						
CMAR	**Chiang Mai Arr**	**28.64**	**339**	P	**P**	**11 05 27.6**	**-3.4**
	comp=Z,0.6nm,0.4s,baz=173,slow=9.1,SNR=1.5						
CMAR				PcP	**PcP**	**11 08 39.6**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=188,slow=3.3,SNR=7.0						
CMAR				LR	LR	11 17 26.1	
	comp=Z,79nm,18.1s,baz=185,slow=38						
QIS	**Mount Isa**	**31.64**	**116**	P	**P**		
	baz=32,SNR=25					**11 05 58.6**	**+1.1**
JAY	**Jayapura**	**31.80**	**81**	LR	LR	11 20 36.0	
	comp=Z,46nm,18.4s,baz=192,slow=40						
COEN	**Coen**	**33.65**	**102**	P	**P**	**11 06 15.3**	**+0.1**
	baz=34,SNR=33						
COEN	**Coen**	**33.65**	**102**	P	**P**	**11 06 15.3**	**+0.1**
BBOO	**Buckleboo**	**34.64**	**138**	P	**P**	**11 06 24.7**	**+1.2**
	baz=35,SNR=58						
BBOO	**Buckleboo**	**34.64**	**138**	P	**P**	**11 06 24.9**	**+1.3**
MTSU	**Mount Surprise**	**35.34**	**109**	P	**P**	**11 06 31.3**	**+1.5**
	baz=36,SNR=93						
H08S2	**Diego Garcia H**	**36.45**	**269**	T	T	11 45 06.0	
	baz=93,slow=76,SNR=161						
H08S3	**Diego Garcia H**	**36.46**	**269**	T	T	11 45 11.3	
	baz=93,slow=76,SNR=174						
H08S1	**Diego Garcia H**	**36.46**	**269**	T	T	11 45 20.9	
	baz=93,slow=76,SNR=127						
HTT	**Hallett**	**36.93**	**137**	P	**P**		
	baz=37,SNR=21					**11 06 45.1**	**+1.8**
PMG	**Port Moresby**	**37.40**	**94**	P	**P**		
	comp=Z,14nm,0.6s,baz=351,slow=3.8,SNR=4.0					**11 06 46.7**	**-0.7**
PMG	**Port Moresby**	**37.40**	**94**	P	**P**	**11 06 48.0**	**+0.7**
CTAO	**Charters Tower**	**37.54**	**112**	P	**P**	**11 06 50.3**	**+1.8**
CTAO				IAmb	IAmb	11 06 51.2	
	comp=Z,29nm,1.1s						
QLP	**Quilpie**	**37.69**	**123**	P	**P**	**11 06 52.1**	**+2.5**
	baz=38,SNR=23						
STKA	**Stephens Creek**	**37.97**	**132**	P	**P**	**11 06 53.8**	**+1.8**
	baz=38,SNR=8.2						
STKA	**Stephens Creek**	**37.97**	**132**	P	**P**	**11 06 53.9**	**+1.8**
	comp=Z,23nm,0.4s,baz=320,slow=8.4,SNR=115						
STKA				PcP	**PcP**	**11 09 06.4**	**-0.1**
	comp=Z,7.4nm,0.6s,baz=341,slow=5.6,SNR=4.3						
STKA	**Stephens Creek**	**37.97**	**132**	P	**P**	**11 06 54.1**	**+2.1**
STKA				IAmb	IAmb	11 06 55.4	
	comp=Z,9.2nm,0.9s						
ARPS	**Mount Arapiles**	**40.81**	**139**	P	**P**	**11 07 17.8**	**+2.2**
	baz=41,SNR=34						
CMSA	**Cobar Meteorol**	**40.88**	**129**	P	**P**	**11 07 18.5**	**+2.3**
	baz=41,SNR=56						
NJ2	**Nanjing**	**41.31**	**12**	*e*P	**P**	**11 07 24.4**	**+4.8**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						
RMQ	**Roma**	**41.46**	**121**	P	**P**	**11 07 23.6**	**+2.6**
	baz=42,SNR=7.1						
EIDS	**Eidsvold**	**43.14**	**118**	P	**P**	**11 07 35.5**	**+0.8**
TOO	**Toolangi**	**43.68**	**137**	P	**P**	**11 07 42.2**	**+3.3**
	baz=44,SNR=5.9						
TOO	**Toolangi**	**43.68**	**137**	P	**P**	**11 07 38.9**	**0.0**
TOO				IAmb	IAmb	11 07 43.2	
	comp=Z,17nm,0.9s						
YNG	**Young**	**44.14**	**131**	P	**P**	**11 07 44.9**	**+2.2**
	baz=44,SNR=22						
LZH	**Lanzhou**	**44.61**	**354**	*e*P	P	11 07 53.4	+7.0
LZH				pP	pP	11 08 03.0	-1.8
LZH				sP	sP	11 08 09.2	-4.1
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
LZH				pmax	pmax		
	comp=Z,160nm,4.3s						
LZH				LR	LR		
	comp=Z,150nm,15.4s						
LZH				LR	LR		
	comp=Z,160nm,15.7s						
LZH				LR	LR		
	comp=Z,200nm,16.2s						
CAN	**Canberra**	**45.04**	**132**	P	**P**	**11 07 50.7**	**+0.8**
CAN				IAmb	IAmb	11 07 53.3	
	comp=Z,18nm,0.9s						
ARMA	**Armidale**	**45.13**	**125**	P	**P**	**11 07 53.9**	**+3.1**
	baz=45,SNR=15						
ARMA	**Armidale**	**45.13**	**125**	P	**P**	**11 07 53.0**	**+2.3**
ARMA				IAmb	IAmb	11 07 54.3	
	comp=Z,11nm,0.5s						
CNB	**Canberra Magne**	**45.30**	**132**	P	**P**	**11 07 54.4**	**+2.4**
	baz=46,SNR=5.1						
GTA	**Gaotai**	**48.44**	**350**	*e*P	P	11 08 23.1	+6.8
GTA				pP	pP	11 08 33.2	-1.7
GTA				sP	sP	11 08 37.2	-6.2
GTA				S	**S**	**11 15 20.7**	**+9.0**
GTA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,40nm,7.3s						
GTA				LR	LR		
	comp=Z,55nm,17.5s						
GTA				LR	LR		
	comp=Z,86nm,19.4s						
GTA				LR	LR		
	comp=Z,36nm,17.8s						
KSRS	**Korea Array**	**48.89**	**20**	P	**P**	**11 08 16.0**	**-3.6**
	comp=Z,0.3nm,0.4s,baz=198,slow=5.5,SNR=3.6						
KSRS				PcP	**PcP**	**11 09 41.5**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=208,slow=3.6,SNR=5.8						
KSRS				LR	LR	11 29 12.5	
	comp=Z,18nm,21.9s,baz=170,slow=37						
HHC	**Hu-ho-hao-te**	**49.11**	**2**	*e*P	**P**	**11 08 25.4**	**+4.0**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,29nm,5.3s						
MJAR	**Matsushiro Arr**	**52.36**	**29**	P	P	11 08 40.4	-5.5
	comp=Z,1.7nm,0.6s,baz=209,slow=8.7,SNR=5.6						
MJAR				PcP	**PcP**	**11 09 54.8**	**-1.1**
	comp=Z,3.3nm,0.7s,baz=211,slow=4.9,SNR=6.3						
MJAR				LR	LR	11 31 08.6	
	comp=Z,18nm,20.6s,baz=245,slow=36						
WMQ	**Urumqi**	**55.61**	**341**	*e*P	**P**	**11 09 14.2**	**+4.8**
WMQ				pmax	pmax		
	comp=Z,22nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,28nm,4.1s						
WMQ				LR	LR		
	comp=Z,340nm,23.1s						
WMQ				LR	LR		
	comp=Z,190nm,23.1s						
WMQ				LR	LR		
	comp=Z,140nm,24.5s						
SONM	**Songino Array**	**56.11**	**358**	P	**P**	**11 09 10.1**	**-2.9**
	comp=Z,0.8nm,0.5s,baz=185,slow=7.9,SNR=5.5						
SONM				ScP	**ScP**	**11 13 59.7**	**-3.2**
	comp=Z,0.2nm,0.3s,baz=180,slow=4.9,SNR=3.8						
SONM				LR	LR	11 34 21.2	
	comp=Z,42nm,20.7s,baz=99,slow=37						
USRK	**Ussuriysk Ar.**	**56.30**	**19**	P	P	11 09 09.9	-4.3
	comp=Z,2.2nm,0.8s,baz=213,slow=3.2,SNR=4.1						
SOCY	**Socotra**	**58.68**	**290**	P	**P**	**11 09 34.1**	**+2.5**
AAK	**Ala-Archa**	**59.96**	**331**	LR	LR	11 40 41.0	
	comp=Z,23nm,20.3s,baz=144,slow=41						
MK31	**Makanchi Array**	**60.05**	**339**	P	P	11 09 35.6	-4.8
MKAR	**Makanchi Array**	**60.05**	**339**	P	P	11 09 36.0	-4.4
	comp=Z,1.8nm,0.5s,baz=144,slow=8.4,SNR=19						
MKAR				LR	LR	11 41 10.8	
	comp=Z,18nm,19.1s,baz=138,slow=42						
TLY	**Talaya**	**60.10**	**356**	P	**P**	**11 09 43.5**	**+2.9**
TLY				IAmb	IAmb	11 09 53.6	
	comp=Z,5.8nm,0.6s						
MAKZ	**Makanchi**	**60.17**	**339**	P	**P**	**11 09 40.4**	**-0.9**
ASAJ	**Asahikawa**	**60.39**	**27**	P	P	11 09 38.4	-4.4
	comp=Z,3.5nm,0.6s,baz=211,slow=7.4,SNR=3.1						
JKA	**Kamikawa-asahi**	**60.39**	**27**	P	P	11 09 38.4	-4.4
WKZ	**Wanaka**	**62.76**	**136**	P	**P**	**11 10 00.2**	**+1.3**
ZALV	**Zalesovo Beam**	**65.53**	**344**	P	P	11 10 12.3	-4.3
	comp=Z,1.1nm,0.3s,baz=158,slow=4.3,SNR=5.9						
ZALV				LR	LR	11 41 21.3	
	comp=Z,36nm,18.9s,baz=210,slow=38						
GEYT	**Alibeck**	**66.37**	**318**	P	**P**	**11 10 21.0**	**-1.5**
	comp=Z,2.0nm,0.5s,baz=144,slow=11,SNR=2.9						
GEYT				LR	LR	11 41 42.9	
	comp=Z,27nm,18.6s,baz=45,slow=38						
MAW	**Mawson**	**66.65**	**198**	P	**P**	**11 10 25.9**	**+2.3**
	baz=67,SNR=10						
MAW	**Mawson**	**66.65**	**198**	P	**P**	**11 10 25.6**	**+2.0**
	comp=Z,7.4nm,0.8s,baz=45,slow=7.6,SNR=13						
MAW				LR	LR	11 33 14.9	
	comp=Z,28nm,20.5s,baz=66,slow=30						
MAW	**Mawson**	**66.65**	**198**	P	**P**	**11 10 25.6**	**+2.0**
BKZ	**Black Stump Fm**	**67.04**	**129**	P	**P**	**11 10 28.0**	**+1.2**
MSVF	**Nonsavu**	**67.29**	**106**	P	**P**	**11 10 29.7**	**+0.9**
MSVF				IAmb	IAmb	11 10 42.7	
	comp=Z,15nm,1.1s						
ATD	**Arta Tunnel**	**69.01**	**286**	LR	LR	11 34 27.0	
	comp=Z,16nm,20.7s,baz=22,slow=30						
KMBO	**Kilima Mbogo**	**72.08**	**272**	P	**P**	**11 11 00.4**	**+1.9**
	comp=Z,1.1nm,0.3s,baz=64,slow=14,SNR=3.6						
PETK	**Petropavlovsk-**	**73.78**	**28**	P	**P**	**11 11 04.1**	**-3.4**
	comp=Z,1.4nm,0.6s,baz=203,slow=4.7,SNR=12						
VNDA	**Vanda**	**74.12**	**170**	P	**P**	**11 11 10.9**	**+1.8**
	comp=Z,3.7nm,0.6s,baz=315,slow=6.2,SNR=44						
VNDA	**Vanda**	**74.12**	**170**	P	**P**	**11 11 10.9**	**+1.8**
VNDA				IAmb	IAmb	11 11 11.9	
	comp=Z,8.0nm,0.9s						
SYO	**Syowa Base**	**74.93**	**200**	*e*P	**P**	**11 11 14.0**	**+0.2**
SYO	**Syowa Base**	**74.93**	**200**	*e*pP	pP	11 11 24.0	-8.6
SYO	**Syowa Base**	**74.93**	**200**	*e*sP	sP	11 11 34.5	-5.9
MA2	**Magadan**	**75.44**	**20**	P	**P**	**11 11 15.6**	**-1.3**
MA2				IAmb	IAmb	11 11 21.5	
	comp=Z,13nm,1.2s						
NRIK	**Noril'sk**	**79.08**	**352**	P	**P**	**11 11 33.4**	**-3.7**
	comp=Z,1.8nm,0.6s,baz=128,slow=4.9,SNR=2.1						
KBZ	**Khabaz**	**79.26**	**317**	P	**P**	**11 11 36.6**	**-2.0**
	comp=Z,3.5nm,0.9s,baz=120,slow=3.9,SNR=7.3						
MIDW	**Midway**	**79.53**	**59**	P	**P**	**11 11 41.0**	**+0.6**
BOSA	**Boshof**	**80.80**	**242**	P	**P**	**11 11 48.8**	**+1.3**
	comp=Z,2.0nm,0.5s,baz=110,slow=5.2,SNR=7.4						
BOSA	**Boshof**	**80.80**	**242**	P	**P**	**11 11 48.8**	**+1.3**
BOSA				IAmb	IAmb	11 12 07.3	
	comp=Z,20nm,1.4s						
QSPA	**South Pole Qui**	**81.53**	**180**	P	**P**	**11 11 52.0**	**+1.4**
QSPA				IAmb	IAmb	11 11 53.1	
	comp=Z,17nm,1.1s						
BR131	**Keskin Array S**	**84.50**	**311**	P	**P**	**11 12 04.3**	**-2.1**
BR131				IAmb	IAmb	11 12 05.0	
	comp=Z,7.7nm,0.7s						
BRTR	**Keskin Array B**	**84.50**	**311**	P	**P**	**11 12 04.3**	**-2.1**
	comp=Z,5.2nm,0.7s,baz=136,slow=7.2,SNR=29						
KLMR	**Klimovskoe**	**87.72**	**333**	*e*P	P	11 12 17.7	-3.8
KLMR				AMP		11 12 21.5	
	comp=Z,6.0nm,0.6s						
SNAA	**Sanae**	**88.81**	**197**	P	**P**	**11 12 28.5**	**+1.8**
SNAA	**Sanae**	**88.81**	**197**	P	**P**	**11 12 28.5**	**+1.8**
SNAA				IAmb	IAmb	11 12 29.6	
	comp=Z,12nm,1.1s						
AKASG	**Malin Array Be**	**90.26**	**321**	P	**P**	**11 12 30.2**	**-3.4**
	comp=Z,0.8nm,0.4s,baz=88,slow=4.6,SNR=5.7						
VNA2	**Neumayer--Watz**	**90.46**	**197**	P	**P**	**11 12 35.3**	**+1.0**
VNA1	**Neumayer--Stat**	**90.84**	**197**	P	**P**	**11 12 39.0**	**+2.9**
VNA3	**Neumayer Olymp**	**90.95**	**196**	P	**P**	**11 12 38.3**	**+1.6**
FINES	**FINESS Array B**	**94.14**	**331**	P	**P**	**11 12 48.8**	**-2.6**
	comp=Z,2.3nm,0.8s,baz=108,slow=10,SNR=9.4						
ARCES	**ARCESS Array B**	**95.70**	**339**	P	**P**	**11 12 54.8**	**-3.6**
	comp=Z,0.8nm,0.6s,baz=117,slow=4.2,SNR=5.8						
KEST	**Kesra**	**102.95**	**305**	P	**Pdif**	**11 13 32.4**	**+0.6**
	comp=Z,1.8nm,0.4s,baz=79,slow=9.5,SNR=9.7						
TORD	**Torodi Ar. Bea**	**108.94**	**281**	PKiKP	**PKiKP**	**11 18 01.4**	**-1.8**
	comp=Z,0.7nm,0.9s,baz=98,slow=1.8,SNR=2.8						
YKA	**Yellowknife Ar**	**117.42**	**21**	PKP	**PKPdf**	**11 18 15.8**	**-2.2**
	comp=Z,1.2nm,0.6s,baz=311,slow=1.2,SNR=8.5						
NVAR	**Mina Array Bea**	**127.91**	**47**	PKP	**PKPdf**	**11 18 39.3**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=243,slow=1.3,SNR=4.4						
MNTX	**Cornudas Mount**	**140.34**	**49**		**PKPdf**	**11 19 03.1**	**+0.7**
N38A	**Joes South For**	**142.08**	**28**		**PKPdf**	**11 19 06.7**	**+1.5**
TX32	**Lajitas Array**	**142.75**	**52**

M54A	Oil Creek Stat	146.15	12	P		PKPdf	11 19 11.3	-1.0
	baz=344,SNR=6.2							
L57A	Andrews Acres	146.16	8	P		PKPdf	11 19 11.2	-1.1
	baz=349,SNR=6.3							
L59A	Walton	146.19	6	P		PKPdf	11 19 11.3	-1.1
	baz=352,SNR=7.0							
L58A	Harry Jones Me	146.25	7	P		PKPdf	11 19 11.6	-0.8
	baz=351,SNR=10							
ZAIG	Zacatecas	146.28	61			PKPdf	11 19 14.6	+1.2
L61A	Hillsdale 1, H	146.31	4	P		PKPdf	11 19 11.9	-0.7
	baz=355							
N52A	McGinn's Farm,	146.34	15	P		PKPdf	11 19 11.7	-0.9
	baz=340							
M55A	Ridgway	146.36	11	P		PKPdf	11 19 11.8	-0.9
	baz=346,SNR=6.4							
M56A	Emporium	146.46	10	P		PKPdf	11 19 12.0	-0.8
	baz=347,SNR=6.4							
L60A	Shokan	146.47	5	P		PKPdf	11 19 12.3	-0.5
	baz=354							
833A	Chaparral WMA,	146.52	50	P		PKPdf	11 19 14.0	+0.7
	baz=301							
ACSO	Alum Creek Sta	146.52	17	P		PKPdf	11 19 12.6	-0.4
	baz=338							
N53A	Lisbon	146.55	14	P		PKPdf	11 19 12.5	-0.5
	baz=342							
GO02	Mina Guanaco	146.56	182			PKPbc	11 19 15.7	+0.3
N54A	Moraine State	146.60	13	P		PKPdf	11 19 12.5	-0.6
	baz=343							
MIAR	Mount Ida	146.60	36	P		PKPdf	11 19 13.4	+0.2
	baz=316							
P49A	Miami Univ. Ec	146.61	20	P		PKPdf	11 19 12.5	-0.6
	baz=334,SNR=7.7							
O51A	Pataskala	146.71	17	P		PKPdf	11 19 12.9	-0.4
	baz=338,SNR=6.4							
M57A	Sunshine Farm,	146.77	9	P		PKPdf	11 19 13.2	-0.1
	baz=348,SNR=8.7							
M59A	Waymart	146.79	6	P		PKPdf	11 19 13.4	0.0
	baz=352,SNR=8.9							
M58A	Price's Panora	146.83	8	P		PKPdf	11 19 13.5	0.0
	baz=350,SNR=9.9							
W41B	Gary Mavity, V	146.89	33	P		PKPdf	11 19 13.6	-0.1
	baz=318							
237A	Washetta, Mont	146.95	41			PKPbc	11 19 15.8	-0.1
O52A	Adamsville	146.95	16	P		PKPdf	11 19 13.5	-0.2
	baz=340							
N55A	Marion Center	146.99	12	P		PKPdf	11 19 13.5	-0.2
	baz=345,SNR=6.8							
N56A	West Decatur	146.99	11	P		PKPdf	11 19 13.7	-0.1
	baz=346							
O53A	New Philadelph	146.99	15	P		PKPdf	11 19 13.9	+0.2
	baz=341							
M64A	Tiverton	147.05	1	P		PKPdf	11 19 13.7	-0.1
	baz=359							
X40A	Basin Creek Fa	147.07	35	P		PKPdf	11 19 15.0	+1.0
	baz=317							
X40A	Basin Creek Fa	147.07	35			PKPdf	11 19 15.5	+1.5
M60A	Port Jervis	147.09	5	P		PKPdf	11 19 14.0	+0.2
	baz=353,SNR=6.5							
UALR	University of	147.14	34			PKPdf	11 19 15.2	+1.1
BDFB	Brasilia	147.16	223		PKPbc	PKPbc	11 19 17.7	+0.7
	comp=Z,5.1nm,0.5s,baz=98,slow=3.7,SNR=7.8							
BDFB	Brasilia	147.16	223			PKPdf	11 19 16.3	+1.5
M61A	Granite Spring	147.18	4	P		PKPdf	11 19 14.4	+0.4
	baz=354							
P51A	Williamsport	147.19	18	P		PKPdf	11 19 14.0	0.0
	baz=337,SNR=5.2							
WCI	Wyandotte Cave	147.20	23	P		PKPdf	11 19 14.5	+0.4
	baz=331							
O54A	Avella	147.26	14	P		PKPdf	11 19 14.6	+0.4
	baz=342,SNR=6.6							
N57A	Milroy	147.27	10	P		PKPdf	11 19 14.5	+0.3
	baz=347,SNR=7.9							
N58A	Sunbury	147.32	8	P		PKPdf	11 19 14.8	+0.6
	baz=349,SNR=10							
P52A	Corning	147.32	16	P		PKPdf	11 19 14.4	+0.1
	baz=339,SNR=6.8							
N59A	State Game Lan	147.37	7	P		PKPdf	11 19 15.2	+0.8
	baz=351,SNR=12							
PAL	Palisades	147.47	5	P		PKPdf	11 19 15.4	+0.9
	baz=354							
PAL	Palisades	147.47	5			PKPdf	11 19 15.6	+1.1
O55A	Ligonier	147.47	12	P		PKPdf	11 19 14.7	+0.1
	baz=344							
WLAR	White Oak Lake	147.49	36			PKPdf	11 19 16.3	+1.6
N60A	Cedar Hill Far	147.49	6	P		PKPdf	11 19 15.1	+0.6
	baz=352,SNR=7.0							
O56A	Blue Knob Stat	147.56	11	P		PKPdf	11 19 15.7	+0.9
	baz=345							
P53A	Whipple	147.66	16	P		PKPdf	11 19 15.9	+1.0
	baz=340,SNR=6.8							
N61A	South Mountain	147.69	5	P		PKPdf	11 19 16.1	+1.2
	baz=353							
P54A	Burton	147.78	14	P		PKPdf	11 19 16.3	+1.2
	baz=342,SNR=6.5							
O57A	Amberson	147.79	10	P		PKPdf	11 19 16.0	+0.9
	baz=347							
MCWV	Mont Chateau	147.88	13	P		PKPdf	11 19 16.4	+1.2
	baz=343							
Q52A	Bidwell	147.91	17	P		PKPdf	11 19 16.2	+0.9
	baz=338							
O59A	Robesonia	147.91	8	P		PKPdf	11 19 16.4	+1.1
	baz=350,SNR=7.3							
Z41A	Richland Creek	147.97	36	P		PKPdf	11 19 17.5	+2.0
	baz=316							
O58A	Lewisberry	147.99	9	P		PKPdf	11 19 16.5	+1.1
	baz=348							
O60A	Telford	148.00	7	P		PKPdf	11 19 16.5	+1.1
	baz=351							
P55A	Reedsville	148.03	13	P		PKPdf	11 19 16.8	+1.2
	baz=343							
MVL	Millersville	148.20	8			PKPdf	11 19 17.1	+1.4
HKT	Hockley	148.20	44			PKPbc	11 19 18.9	-0.4
Q53A	Leroy	148.21	16	P		PKPdf	11 19 17.3	+1.5
	baz=339							
P56A	Dayton Farm, R	148.25	12	P		PKPdf	11 19 17.4	+1.6
	baz=345,SNR=6.4							
Q54A	Coxs Mills	148.28	15	P		PKPdf	11 19 17.4	+1.5
	baz=341,SNR=9.4							
Q54A	Coxs Mills	148.28	15			PKPdf	11 19 17.5	+1.6
WVT	Waverly	148.34	27	P		PKPdf	11 19 18.0	+1.9
	baz=326							
WVT	Waverly	148.34	27			PKPdf	11 19 17.5	+1.4
PSUB	Penn St. - Bra	148.38	7			PKPdf	11 19 17.4	+1.4
P57A	Homestead Farm	148.43	11	P		PKPdf	11 19 17.7	+1.6
	baz=346,SNR=7.3							
P57A	Homestead Farm	148.43	11			PKPdf	11 19 18.0	+1.9
Q55A	Buckhannon	148.46	14	P		PKPdf	11 19 17.9	+1.7
	baz=342,SNR=6.7							
P60A	Greenville	148.48	7	P		PKPdf	11 19 17.7	+1.5
	baz=351							
P60A	Greenville	148.48	7			PKPdf	11 19 18.3	+2.1
W45A	Hickory Valley	148.50	30			PKPdf	11 19 18.6	+2.3
P58A	Pank, Wackersv	148.55	10	P		PKPdf	11 19 18.0	+1.7
	baz=348							
P59A	Jarrettsville	148.57	9	P		PKPdf	11 19 18.1	+1.7
	baz=349							
R53A	Hurricane	148.58	17	P		PKPdf	11 19 18.3	+1.9
	baz=338,SNR=5.8							
R53A	Hurricane	148.58	17			PKPdf	11 19 18.1	+1.7
Q56A	Snyder Ridge,	148.62	13	P		PKPdf	11 19 18.5	+2.0
	baz=344,SNR=5.8							
Q56A	Snyder Ridge,	148.62	13			PKPdf	11 19 18.4	+2.0
S51A	Beattyville	148.70	20			PKPdf	11 19 18.4	+1.8
Q57A	Strasburg	148.78	12	P		PKPdf	11 19 18.7	+1.9
	baz=345							
T50A	Nancy	148.81	22			PKPdf	11 19 18.2	+1.4
U49A	Red Boiling Sp	148.89	24			PKPdf	11 19 18.9	+1.9
U49A					PKPbc	PKiKP	11 19 23.0	+0.7
OXF	Oxford	148.89	31	P		PKPdf	11 19 19.3	+2.3
	baz=322							
OXF	Oxford	148.89	31			PKPdf	11 19 19.1	+2.1
OXF					PKPbc	PKiKP	11 19 23.4	+1.0
R54A	Victor	148.99	16	P		PKPdf	11 19 18.8	+1.6
	baz=340							
Q58A	Fox Den Farm,	149.01	11	P		PKPdf	11 19 19.4	+2.3
	baz=347,SNR=6.0							
CLTN	Cedars of Leba	149.03	25			PKPdf	11 19 19.2	+2.0
LVC	Limon Verde	149.07	183			PKiKP	11 19 24.2	+0.7
V48A	Smith Brothers	149.11	26			PKPdf	11 19 19.2	+1.9
R55A	Marlinton	149.12	15	P		PKPdf	11 19 19.7	+2.3
	baz=342							
S53A	Williamson	149.13	18	P		PKPdf	11 19 19.3	+2.0
	baz=338							
PLAL	Pickwick Lake	149.17	29			PKPdf	11 19 19.5	+2.0
S54A	Dingess, Beckl	149.26	17	P		PKPdf	11 19 19.9	+2.3
	baz=339							
Y45A	Yeager Farm, C	149.33	32			PKPdf	11 19 19.3	+1.6
R57A	Stanardsville	149.47	12	P		PKPdf	11 19 20.9	+3.0
	baz=345,SNR=6.6							
S55A	Lewisburg	149.51	15	P		PKPdf	11 19 20.2	+2.2
	baz=341							
R58A	Rapidan	149.58	11	P		PKPdf	11 19 20.9	+2.9
	baz=346,SNR=8.2							
T53A	Wise	149.65	19	P		PKPdf	11 19 21.2	+2.9
	baz=336							
TZTN	Tazewell	149.70	21	P		PKPdf	11 19 21.4	+3.1
	baz=334							
TZTN	Tazewell	149.70	21			PKPdf	11 19 21.1	+2.8
T54A	Tazewell	149.87	18	P		PKPdf	11 19 21.5	+2.9
	baz=338,SNR=7.8							
PB09	IPOC Station P	149.89	183			PKiKP	11 19 25.9	+0.9
S57A	Dark Hollow, R	149.90	13	P		PKPdf	11 19 21.6	+3.0
	baz=344							
S57A	Dark Hollow, R	149.90	13			PKPdf	11 19 21.6	+3.0
R58B	Mineral	149.92	11	P		PKPdf	11 19 21.7	+3.2
	baz=346							
SWET	Sewanee	149.94	25			PKPdf	11 19 21.1	+2.4
T55A	Pulaski	150.04	16	P		PKPdf	11 19 22.0	+3.2
	baz=340,SNR=6.9							
BLA	Blacksburg	150.06	16	P		PKPdf	11 19 21.9	+3.1
	baz=340							
V51A	Loudon	150.07	23			PKPbc	11 19 22.4	-1.5
X48A	Hartselle	150.09	28			PKPdf	11 19 19.7	+0.7
W50A	Signal Mountai	150.21	25			PKPbc	11 19 22.6	-1.7
S58A	Poland Farm, P	150.23	12	P		PKPdf	11 19 22.5	+3.4
	baz=345,SNR=6.9							
S58A	Poland Farm, P	150.23	12			PKPdf	11 19 22.4	+3.4
U54A	Nelsons Funny	150.29	18	P		PKPdf	11 19 22.4	+3.1
	baz=337							
CPCT	Cooper Cave	150.31	23			PKPdf	11 19 22.6	+3.4
V52A	Sevierville	150.31	21			PKPbc	11 19 23.1	-1.4
T56A	Rocky Mt	150.33	15	P		PKPdf	11 19 22.4	+3.1
	baz=341,SNR=7.3							
TKL	Tuckaleechee C	150.41	22			PKPbc	11 19 23.4	-1.3
U55A	TA2, Sparta	150.54	17	P		PKPdf	11 19 23.2	+3.5
	baz=339,SNR=9.2							
T57A	Hurt	150.55	14	P		PKPdf	11 19 23.0	+3.5
	baz=343							
T57A	Hurt	150.55	14			PKPbc	11 19 23.3	-1.7
Z47A	Carrollton	150.61	31			PKPbc	11 19 24.0	-1.3
FPAL	Fort Paine	150.65	26			PKPbc	11 19 23.6	-1.8
V53A	Saluda	150.75	20			PKPbc	11 19 24.2	-1.3
T58A	Grand View Acr	150.77	13	P		PKPbc	11 19 23.9	-1.6
	baz=344,SNR=6.4							
Y49A	Blount Mountai	150.87	28			PKPbc	11 19 24.2	-1.7
U56A	King	150.88	16	P		PKPbc	11 19 24.0	-1.8
	baz=340							
T60A	Surry	150.93	10	P		PKPbc	11 19 24.2	-1.7
	baz=348							
V54A	Nebo	150.94	19	P		PKPbc	11 19 24.1	-1.9
	baz=337,SNR=6.1							
T59A	Double "B" Far	150.95	11	P		PKPbc	11 19 24.5	-1.4
	baz=346,SNR=14							
T59A	Double "B" Far	150.95	11			PKPdf	11 19 23.5	+3.3
X51A	Calhoun	150.95	25			PKPdf	11 19 23.2	+2.9
U57A	Blanch	151.07	14	P		PKPbc	11 19 24.2	-2.0
	baz=342,SNR=5.6							
V55A	Taylorsville	151.10	18	P		PKPbc	11 19 24.5	-1.8
	baz=338,SNR=5.3							
V55A	Taylorsville	151.10	18			PKPdf	11 19 22.9	+2.4
LRAL	Lakeview Retre	151.28	29	P		PKPbc	11 19 24.9	-1.9
	baz=325,SNR=6.0							
LRAL	Lakeview Retre	151.28	29			PKPdf	11 19 24.0	+3.2
U58A	Oxford	151.29	13	P		PKPbc	11 19 25.0	-1.8
	baz=344							
BG3	Lake Jocassee	151.31	21			PKPdf	11 19 23.5	+2.7
V56A	Mocksville	151.35	17	P		PKPdf	11 19 24.7	+3.9
	baz=340							
V57A	Coltrane Farms	151.47	16	P		PKPbc	11 19 25.4	-1.8
	baz=341,SNR=6.0							
W54A	Cherokee Point	151.49	20	P		PKPbc	11 19 25.3	-2.0
	baz=336							
U59A	Littleton	151.50	12	P		PKPbc	11 19 25.3	-1.9
	baz=345							
U60A	Pendleton	151.51	11	P		PKPbc	11 19 25.9	-1.4
	baz=347							
KMSC	Kings Mountain	151.72	19	P		PKPbc	11 19 25.9	-1.8
	baz=337,SNR=5.1							
KMSC	Kings Mountain	151.72	19			PKPdf	11 19 23.7	+2.3
V58A	Windy Hill, Pi	151.73	15	P		PKPbc	11 19 25.9	-1.9
	baz=342							
X54A	Belton	151.91	21	P		PKPbc	11 19 26.6	-1.6
	baz=335,SNR=7.2							
W56A	Indian Trail	151.95	17	P		PKPbc	11 19 26.4	-1.9
	baz=339							
V59A	Middlesex	151.97	13	P		PKPbc	11 19 26.6	-1.7
	baz=344							
GO01	Chusmiza	152.00	183			PKiKP	11 19 30.4	+0.6
W57A	Gilead	152.11	16	P		PKPbc	11 19 26.8	-1.9
	baz=340							
X55A	Gracelyn & Ava	152.24	20	P		PKPbc	11 19 27.2	-1.8
	baz=336,SNR=7.0							
X56A	White Oak	152.41	19	P		PKPbc	11 19 27.5	-1.9
	baz=338							
W58A	Raeford	152.44	15	P		PKPbc	11 19 27.5	-1.9
	baz=342							
GOGA	Godfrey	152.52	24	P		PKPbc	11 19 28.0	-1.7
	baz=332							
Y55A	Saluda	152.64	20	P		PKPbc	11 19 28.5	-1.4
	baz=335							
W60A	Pink Hill	152.77	13	P		PKPbc	11 19 28.4	-1.7
	baz=345							
Z56A	Williston	153.37	20			PKiKP	11 19 35.5	+3.8

*KRNET **04** 11:03:37.2±0.1, 40°35N×72°89E, h17km, mb2.4*
*SOME **04** 11:03:38.0, 40°40N×72°95E, h10km*
*NNC **04** 11:03:39.8±2.2, 40°43N×72°93E, h0km, mb3.1, mpv2.7, Error ellipse: s-maj=16.5km s-min=7.2km az=167.0*

ISC 04 11:03:36.1±2.2, 40°32N±0°09×73°03E±0°04, h3km±15km, n17, σ0s74/27, 9C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ARSB	Arslanbob	1.01	358	⇓*i*	P	Pg	11 03 55.7	+0.2
	baz=4.0							
ARSB				⇓*i*	S	Sb	11 04 09.4	-0.7
	baz=4.0							
BTK	Batken	1.71	262	⇓*i*	P	Pn	11 04 07.4	+0.4
	baz=60							
BTK				⇓*i*	S	Sn	11 04 29.1	-0.4
	baz=60							
ARLS	Aral	1.83	32	⇑*i*	P	Pg	11 04 11.7	+0.5
	baz=35							
ARLS				⇑*i*	S	Sg	11 04 36.9	+2.0
	baz=35							
AML	Almayashu	1.88	15	⇑*i*	P	Pb	11 04 11.9	+0.5
	baz=19							
AML				⇑*i*	S	Sg	11 04 37.4	+0.8
	baz=19							
UCH	Uchtor	2.21	30	⇓*i*	P	Pb	11 04 17.4	+0.3
	baz=33							
UCH				⇓*i*	S	Sg	11 04 46.6	-0.7
	baz=33							
EKS2	Erkin-Say	2.41	13	⇓*i*	P	Pb	11 04 19.6	-0.7
	baz=16							
EKS2				⇓*i*	S	Sb	11 04 50.4	-0.1
	baz=16							
KZA	Kyzart	2.43	43	⇑*e*P		Pb	11 04 20.8	0.0
	baz=45							
KZA				⇑*i*	S	Sb	11 04 52.3	+1.0
	baz=45							
MRKS	Merke	2.43	3	*e*P		Pg	11 04 22.6	-0.1
	5.4nm,0.3s							
MRKS				*e*S		Sg	11 04 54.0	-0.2
	13nm,0.3s							
MRKS	Merke	2.43	3	Pg		Pg	11 04 22.6	-0.1
	5.4nm,0.3s							
MRKS				Lg		Lg	11 04 54.0	
	13nm,0.3s							
AAK	Ala-Archa	2.57	25	⇓*i*	P	Pb	11 04 22.0	-1.0
	baz=27							
AAK				⇓*i*	S	Sb	11 04 54.8	-0.2
	baz=27							
AAK	Ala-Archa	2.57	25	⇑Pg		Pg	11 04 25.1	-0.2
	1.3nm,0.6s							
AAK				⇓Lg		Lg	11 05 00.0	
	4.8nm,0.4s							
IUG	luzhnay	2.91	310	*e*P		Pg	11 04 31.4	-0.4
	3.2nm,0.2s							
IUG				*e*S		Sg	11 05 09.3	-0.2
	10nm,0.4s							
IUG	luzhnay	2.91	310	Pg		Pg	11 04 31.4	-0.4
	3.2nm,0.2s							
IUG				Lg		Lg	11 05 09.3	
	10nm,0.4s							
TKM2	Tokmak 2	3.24	36	⇓Lg		Lg	11 05 21.4	
	1.5nm,0.6s							
KK31	Karatay Array	3.36	327	⇑Pg		Pb	11 04 37.4	+0.9
	0.2nm,0.3s							
KK31				⇑Lg		Lg	11 05 21.3	
	1.1nm,0.3s,baz=172,slow=28,SNR=4.3							
KST	Kastek	3.50	38	*e*P		Pg	11 04 42.4	-0.9
	0.9nm,0.3s							
KST				*e*S		Sg	11 05 27.7	-0.9
	1.9nm,0.7s							
KRBS	Karabastau	3.91	29	Pg		Pg	11 04 50.4	-0.7
	0.3nm,0.2s							
KRBS				Lg		Lg	11 05 41.8	
	1.8nm,0.4s							

*AEIC **04** 11:07:30±1.7, 67°64N±0°10×162°4W±0°2, h10km±7km, ML3.5/34, Error ellipse: s-maj=16.5km s-min=8.0km az=140.0*
*NEIC **04** 11:07:32.4±2.3, 67°58N±0°06×162°6W±0°2, h29km±6km, Error ellipse: s-maj=13.8km s-min=5.6km az=126.0*
*IDC **04** 11:07:33.8±13.0, 68°19N×162°91W, h39km±59km, mb3.5/4, mb1 4.1/7, mb1mx3.5/45, mbtmp3.9/7, ML4.1/3, MS3.1/9, Ms1 3.1/9, ms1mx2.9/40, Error ellipse: s-maj=143.0km s-min=36.5km az=121.0*

ISC 04 11:07:30.8±1.0, 67°74N±0°07×162°36W±0°07, h10km, n55, σ1s46/55, mb3.6/3, MS2.9/7, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
RDOG	Red Dog Mine	0.37	327			Pb	11 07 39.1	-0.5
RDOG					Sg	Sb	11 07 44.7	-0.8
ANM	Nome	3.42	202			Pn	11 08 22.0	-2.2
ANM						Pn	11 08 22.6	-1.6
IM03		3.83	113			Pn	11 08 29.4	-0.4
IM03						Sn	11 09 14.9	+0.2
PS05	TAPS Pump Stn5	4.63	96			Pn	11 08 40.7	-0.1
COLD	Coldfoot	4.70	91		Pn	Pn	11 08 43.7	+1.9
TOLK	Toolik Lake Re	4.85	73			Sn	11 09 39.9	-0.2
TOLK	Toolik Lake Re	4.85	73		Pn	Pn	11 08 45.1	+1.2
TOLK						Pn	11 08 45.5	+1.6
PS04	TAPS Pump Stn4	4.92	76			Pn	11 08 46.4	+1.6
PS04						Sn	11 09 43.4	+1.6
MLY	Manley	5.41	115			Pn	11 08 51.1	-0.3
TTA	Tatalina	5.51	148			Pn	11 08 52.3	-0.6
TT01	Tatalina	5.53	148			Pn	11 08 52.5	-0.6
PS01	TAPS Pump Stn	5.55	57			Pn	11 08 54.5	+1.2
BPAW	Bear Paw Mtn.	5.92	123			Pn	11 08 58.3	-0.2
PS07	TAPS Pump Stn7	6.13	107			Pn	11 09 01.6	+0.3
KTH	Kantishna Hill	6.32	126			Pn	11 09 04.2	+0.1
MDM	Murphy Dome	6.33	110			Pn	11 09 02.9	-1.3
PPLA	Purkeypile	6.46	134			Pn	11 09 04.4	-1.6
COLA	College	6.51	109			Pn	11 09 05.1	-1.4
TRF	Thorofare Moun	6.59	125			Pn	11 09 07.8	-0.1
CCB	Clear Creek Bu	6.66	111			Pn	11 09 08.6	+0.1
WRH	Wood River Hil	6.66	113			Pn	11 09 08.6	0.0
FYU	Fort Yukon	6.77	92		Pn	Pn	11 09 11.0	+1.0
BM03	Burnt Mountain	6.79	85			Pn	11 09 11.2	+0.8
MCK	McKinley	6.83	120			Pn	11 09 10.4	-0.6
IL31		6.92	108			Pn	11 09 12.3	+0.2
ILAR	Eielson Array	6.92	108		Pn	Pn	11 09 12.3	+0.2
	6.5nm,0.3s,baz=304,slow=14,SNR=242							
ILAR					Sn	Sn	11 10 27.8	-2.9
	0.7nm,0.3s,baz=277,slow=19,SNR=0.6							
PRP	Porcupine Dome	7.05	101			Pn	11 09 12.8	-1.3
RND	Reindeer	7.08	122			Pn	11 09 12.8	-1.7
HDA	Harding Lake	7.10	111		Pn	Pn	11 09 13.5	-1.1
DHY	Denali Highway	7.80	120			Pn	11 09 24.3	-0.1
RIDG	Independent Ri	8.24	111		Pn	Pn	11 09 30.0	-0.3
GHO	Glory Hole Cre	8.28	130			Pn	11 09 31.2	+0.3
SCRK	Sand Creek	8.41	108		Pn	Pn	11 09 32.2	-0.4
SML	Sawmill	8.43	128			Pn	11 09 32.5	-0.4
DOT	Dot Lake	8.57	110			Pn	11 09 35.0	+0.2
EGAK	Eagle	9.03	99			Pn	11 09 40.5	-0.6
MENT	Mentasta	9.14	113			Pn	11 09 41.4	-1.1
GLI	Glacier Island	9.53	129		Pn	Pn	11 09 46.9	-1.1
FID	Port Fidalgo	9.82	128		Pn	Pn	11 09 51.5	-0.3
EPYK	Eagle Plains	10.07	86		Pn	Pn	11 09 55.5	+0.2
INK	Inuvik	10.77	74		Pn	Pn	11 10 04.3	-0.5
	2.0nm,0.3s,baz=291,slow=12,SNR=54							
INK					Sn	Sn	11 11 59.5	-5.7
	0.5nm,0.3s,baz=338,slow=7.6,SNR=7.7							
INK					LR	LR	11 14 58.9	
	comp=Z,112nm,18.3s,baz=239,slow=41							
INK	Inuvik	10.77	74		Pn	Pn	11 10 04.5	-0.2
KDAK	Kodiak Island	10.93	151		Pn	Pn	11 10 09.6	+2.5
	0.2nm,0.3s,baz=341,slow=10,SNR=2.2							
KDAK					LR	LR	11 14 56.0	
	comp=Z,98nm,18.1s,baz=354,slow=39							
C36M	Paulatuk	13.94	66		Pn	Pn	11 10 44.5	-3.6
YKA	Yellowknife Ar	20.31	82		P	P	11 12 07.4	+0.9
	1.9nm,0.5s,baz=301,slow=10,SNR=12							
RES	Resolute Bay	21.54	42		LR	LR	11 22 22.2	
	comp=Z,45nm,20.1s,baz=78,slow=42							
BBB	Bella Bella	22.71	116		LR	LR	11 21 12.2	
	comp=Z,42nm,18.1s,baz=237,slow=35							
PETK	Petropavlovsk-	23.97	252		LR	LR	11 22 24.8	
	comp=Z,42nm,19.0s,baz=219,slow=37							
NEW	Newport	29.87	108		LR	LR	11 26 21.0	
	comp=Z,22nm,18.5s,baz=128,slow=37							
PDAR	Pinedale Array	37.33	105		P	P	11 14 45.3	+2.1
	0.3nm,0.4s,baz=290,slow=6.1,SNR=4.7							
NVAR	Mina Array Bea	38.06	118

WRA	Warramunga Arr	28.08	249	P		P	11 22 52.1	+2.4
	comp=Z,0.9nm,0.6s,baz=78,slow=9.5,SNR=11							
NIUE	Niue	28.09	110	P		P	11 22 50.5	+0.8
AS31	Alice Springs	29.54	241	P		P	11 23 03.5	+0.8
ASAR	Alice Springs	29.54	241	P		P	11 23 06.5	+3.7
	comp=Z,0.4nm,0.5s,baz=63,slow=10.0,SNR=10							
H11S2	WAKE ISLAND Hy	29.85	9	T		T	11 54 15.8	
	baz=188,slow=76,SNR=98							
H11S3	WAKE ISLAND Hy	29.86	9	T		T	11 54 16.1	
	baz=188,slow=76,SNR=61							
H11S1	WAKE ISLAND Hy	29.87	9	T		T	11 54 17.2	
	baz=188,slow=76,SNR=45							
MTN	Manton Dam	30.32	264	P		P	11 23 07.3	-2.2
MTN				IAmb		IAmb	11 23 10.7	
	comp=Z,41nm,1.4s							
SAUI	Saumlaki	30.52	273	P		P	11 23 11.3	-0.2
H11N1	WAKE ISLAND Hy	31.08	9	T		T	11 55 48.1	
	baz=188,slow=76,SNR=24							
H11N3	WAKE ISLAND Hy	31.09	9	T		T	11 55 50.3	
	baz=188,slow=76,SNR=23							
H11N2	WAKE ISLAND Hy	31.10	9	T		T	11 55 47.7	
	baz=188,slow=76,SNR=11							
BBOO	Buckleboo	32.16	224	P		P	11 23 32.0	+6.3
KNRA	Kununurra	32.70	258	P		P	11 23 29.1	-1.5
FITZ	Fitzroy Crossi	35.88	255	P		P	11 23 58.5	+0.4
FORT	Forrest	37.05	233	P		P	11 24 08.5	+0.6
FORT				IAmb		IAmb	11 24 16.2	
	comp=Z,8.7nm,0.9s							
VNDA	Vanda	66.31	180	P		P	11 27 52.5	+7.0
	comp=Z,0.4nm,0.6s,baz=357,slow=5.5,SNR=3.5							
SONM	Songino Array	76.71	325	P		P	11 28 49.7	+0.8
	comp=Z,0.5nm,0.4s,baz=140,slow=6.2,SNR=2.7							
ILAR	Eielson Array	84.83	20	P		P	11 29 32.6	+0.9
	comp=Z,0.2nm,0.5s,baz=232,slow=5.5,SNR=5.5							

IDC ***04*** *11:28:06.7±1.9,8.7S×108.9E,h0km,mb3.5/3, mb1 3.6/4,mb1mx3.3/38,mbtmp3.5/4,ML3.3/1,Error ellipse: s-maj=91.9km s-min=27.6km az=47.0*

DJA ***04*** *11:28:10.1±0.5,8.2S±4.1×109.2E±1.0,h10km,M3.5/6,MLv3.5/6*

ISC 04 11:28:12.8±1.0,**8.5S**±0.1×**109.17E**±0.05,**h55**km,**n13,** σ1**8**/**10**/14,**mb3.0**/**3,Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
UGM	Wanagama	1.45	68	P		Pn	11 28 36.5	-0.3
UGM				S		Sn	11 28 53.5	-1.3
CISI	Cisompet, Garu	1.61	304	P		Pn	11 28 38.5	-0.5
CISI				S		Sn	11 28 57.3	-1.4
WOJI	Wonogiri, Jawa	1.85	71	P		Pn	11 28 41.4	-0.8
SMRI	Semarang	1.89	42	P		Pn	11 28 42.5	-0.2
LEM	Lembang	2.23	316	Pn		Pn	11 28 48.0	+0.4
	6.7nm,0.3s,baz=147,slow=21,SNR=3.7							
LEM				Sn		Sn	11 29 15.7	+1.7
	7.0nm,0.3s,baz=353,slow=23,SNR=4.4							
LEM	Lembang	2.23	316	P		Pn	11 28 46.6	-1.0
CNJI	Cibinong	2.32	299	P		Pn	11 28 47.0	-1.6
WRA	Warramunga Arr	26.90	118	P		P	11 33 48.7	-0.3
	0.3nm,0.8s,baz=286,slow=12,SNR=1.3							
ASAR	Alice Springs	28.10	125	P		P	11 34 00.7	+1.0
	0.3nm,0.7s,baz=305,slow=9.5,SNR=4.7							
ASAR				PcP		PcP	11 37 14.3	+1.2
	0.3nm,0.7s,baz=324,slow=1.6,SNR=4.6							
H08S2	Diego Garcia H	36.31	269	T		T	12 13 38.9	
	baz=94							
H08S3	Diego Garcia H	36.32	269	T		T	12 13 36.5	
	baz=94							
H08S1	Diego Carcia H	36.33	269	T		T	12 13 40.0	
	baz=94							
STKA	Stephens Creek	38.08	132	P		P	11 35 26.3	-0.1
	1.1nm,0.7s,baz=326,slow=15,SNR=2.1							

BJI ***04*** *11:58:55.0±0.0,59.3N×136.72W,h7km,mB5.9/70, mb5.8/86,Ms6.0/92,Ms7 6.0/81*

IDC ***04*** *11:58:56.8±0.3,59.0N×136.89W,h0km,mb5.6/39, mb1 5.6/45,mb1mx5.6/49,mbtmp5.6/45,ML4.5/7,MS5.3/53, Ms1 5.4/53,ms1mx5.2/67,Error ellipse: s-maj=7.8km s-min=6.0km az=32.0*

AEIC ***04*** *11:58:56.7±2.2,58.9N±0.0×136.73W±0.06,h8km±2km, Error ellipse: s-maj=5.0km s-min=3.5km az=50.0*

PGC ***04*** *11:58:57.3±0.0,58.9N×136.73W,h10km,ML6.2/10, Mw5.6*

PGC 87km west of Haines, Ak Southeastern Alaska Felt (I) at Whitehorse and Haines Junction, Yk.

NEIC ***04*** *11:58:58.6,59.02N×136.74W,h11km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.63; Mθθ-0.63; Mϕϕ-2.00; Mrθ0.33; Mrϕ1.38; Mθϕ1.36; Fault plane solution: Mo3.08000×10¹⁷ NP1:ϕs130.44000°, δ37.99000°,λ60.15000°. NP2:ϕs346.50000°,δ57.73000°, λ111.24000°. Principal axes: T 3.1326, Plg69.0000°, Azm303.0000°; N -0.0997, Plg18.0000°, Azm155.0000°; P -3.0328, Plg10.0000°, Azm61.0000°;*

NEIC ***04*** *11:58:58.6±1.5,59.03N±0.03×136.75W±0.06,h12km±1km, mb5.8/654,Ms_20 5.5/695,Mwb5.6/94,Mwr5.6/33,Mww5.7, ML5.9/123(AEIC),Mwc5.8(GCMT),Mwr5.6(OTT) Error ellipse: s-maj=6.1km s-min=4.3km az=41.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.37; Mθθ0.41; Mθϕ-1.24; Mrθ0.76; Mθϕ2.15; Mϕr1.00; Fault plane solution: Mo2.70000×10¹⁷ NP1:ϕs7.00000°, δ76.00000°,λ153.00000°. NP2:ϕs104.00000°,δ64.00000°, λ16.00000°. Principal axes: T 2.7012, Plg29.0000°, Azm323.0000°; N -0.0819, Plg60.0000°, Azm161.0000°; P -2.6193, Plg8.0000°, Azm58.0000°;*

MOS ***04*** *11:58:58.1±0.9,59.13N×136.79W,h19km,mb6.1/135, MS5.4/95 Error ellipse: s-maj=7.7km s-min=3.2km az=100.3*

NEIC ***04*** *11:58:58.2,59.01N×136.71W,h15km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.48; Mθθ-0.49; Mθϕ-1.99; Mrθ0.33; Mθϕ1.76; Mϕr0.88; Fault plane solution: Mo3.03000×10¹⁷ NP1:ϕs344.76000°, δ53.61000°,λ114.37000°. NP2:ϕs127.40000°,δ42.84000°, λ60.76000°. Principal axes: T 2.8032, Plg70.0000°, Azm312.0000°; N 0.4042, Plg19.0000°, Azm150.0000°; P -3.2074, Plg6.0000°, Azm58.0000°;*

NEIC ***04*** *11:59:00,58.90N×136.66W,h18km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr4.46; Mθθ-1.18; Mθϕ-3.27; Mrθ0.59; Mθϕ1.84; Mϕr0.79; Fault plane solution: Mo4.51000×10¹⁷ NP1:ϕs139.00000°, δ43.00000°,λ74.00000°. NP2:ϕs340.00000°,δ48.00000°, λ104.00000°. Principal axes: T 4.6450, Plg79.0000°, Azm317.0000°; N -0.2811, Plg11.0000°, Azm151.0000°; P -4.3639, Plg3.0000°, Azm60.0000°;*

GCMT ***04*** *11:59:00.6±0.1,59.16N±0.01×136.74W±0.01,h19km, MW5.7/166,Moment Tensor Solution. s152,c313; s166,c363; Duration: 1s8 Moment tensor: Scale 10¹⁷ Nm; Mrr4.17±.05; Mθθ-0.69±.04; Mθϕ-3.48±.04; Mrθ0.86±.10; Mθϕ2.63±.03; Mϕr1.74±.10; Best double couple: Mo5.06200×10¹⁷ NP1:ϕs128.00000°,δ43.00000°, λ57.00000°. NP2:ϕs349.00000°,δ55.00000°,λ117.00000°. Principal axes: T 4.9390, Plg67.0000°, Azm314.0000°; N 0.2460, Plg22.0000°, Azm153.0000°; P -5.1850, Plg7.0000°, Azm61.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***04*** *11:59:02,59.08N×136.71W,h18km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr4.22; Mθθ-0.60; Mθϕ-3.62; Mrθ2.14; Mθϕ2.55; Mϕr0.49; Fault plane solution: Mo5.19000×10¹⁷ NP1:ϕs354.00000°, δ46.00000°,λ126.00000°. NP2:ϕs127.00000°,δ54.00000°, λ58.00000°. Principal axes: T 5.2627, Plg64.0000°, Azm338.0000°; N -0.1430, Plg25.0000°, Azm147.0000°; P -5.1197, Plg4.0000°, Azm239.0000°;*

BGR ***04*** *11:59:09.2±0.0,60.08N×137.09W,h33km,mb6.3, mB_BB6.5,Ms5.5*

ISC 04 11:58:58.6±0.3,**59.03N**±0.02×**136.78W**±0.02,**h13**km±1km, **h13**km:**pP-P,n2451,**σ1**38**/2335,**mb5.8**/567,**MS5.5**/504, **210C-49D,Southeastern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PLBC	Pleasant Camp	0.48	26	P		Pg	11 59 06.6	-1.5
PLBC				S		Sg	11 59 13.2	-1.2
PLBC	Pleasant Camp	0.48	26			Pg	11 59 06.5	-1.5
PLBC						Sg	11 59 13.3	-1.2
DHAK	Deception Hill	0.74	275			Pg	11 59 11.4	-1.6
DHAK	Deception Hill	0.74	275		Sg	Sb	11 59 23.3	-0.3
DHAK	Deception Hill	0.74	275			Sg	11 59 21.5	-1.3
SKAG	Skagway	0.86	59	Pg		Pg	11 59 13.4	-1.9
SKAG					Sg	Sg	11 59 24.9	-1.7
BESE	Bessie Mountai	1.10	113	P		Pb	11 59 16.6	-2.9
BESE				S		Sb	11 59 31.1	-2.7
BESE	Bessie Mountai	1.10	113			Pb	11 59 17.4	-2.1
BESE					Sn	Sb	11 59 31.6	-2.1
JIS	Juneau Island	1.46	120			Pn	11 59 23.0	-1.6
JIS					Sn	Sn	11 59 42.4	-1.2
PNL	Peninsula	1.49	297	Pn		Pn	11 59 23.8	-1.3
PNL					Sg	Sb	11 59 45.3	+0.4
PNL	Peninsula	1.49	297			Pn	11 59 23.5	-1.6
PNL						Sn	11 59 44.5	+0.1
YKU2	Yakutat	1.56	289			Pn	11 59 26.1	+0.1
YUK7	Dusty Glacier	1.66	336	Pn		Pn	11 59 26.9	-0.7
YUK7					Sg	Sb	11 59 50.9	+1.0
YUK7	Dusty Glacier	1.66	336			Pn	11 59 26.9	-0.7
HYT	Haines Junctio	1.84	349	Pn		Pn	11 59 29.8	-0.2
HYT					Sg	Sb	11 59 55.9	+0.8
HYT	Haines Junctio	1.84	349	Pn		Pn	11 59 30.1	0.0
HYT					Sn	Sb	11 59 54.3	-0.8
WHY	Whitehorse	1.90	30			Pb	11 59 32.1	-1.1
WHY					Sn	Sn	11 59 54.3	-0.3
PCA	Pinnacle	2.07	303	Pn		Pn	11 59 32.8	-0.4
PCA					Sg	Sb	12 00 01.1	-0.6
PCA	Pinnacle	2.07	303			Pn	11 59 33.0	-0.1
PCA					Sn	Sn	11 59 59.4	+0.6
YUK6	Outpost Mounta	2.08	338	Pn		Pn	11 59 32.8	-0.6
YUK6					Sg	Sg	12 00 04.2	-1.2
YUK6	Outpost Mounta	2.08	338			Pn	11 59 32.5	-0.9
SIT	Sitka	2.12	158	P		Pn	11 59 33.6	-0.1
SIT	Sitka	2.12	158	Pn		Pn	11 59 33.6	-0.1
YUK5	Granite Creek	2.18	346	Pn		Pn	11 59 34.5	-0.2
YUK5					Sg	Sb	12 00 06.2	+1.3
YUK5	Granite Creek	2.18	346			Pn	11 59 34.5	-0.2
CHX	Chaix Hills	2.44	297			Pn	11 59 37.8	-0.4
YUK4	Talbot Arm	2.50	339	Pn		Pn	11 59 40.3	+1.1
YUK4	Talbot Arm	2.50	339			Pn	11 59 39.9	+0.7
RKAV	Rock Avalanche	2.65	301	Pn		Pn	11 59 40.6	-0.5
RKAV					Sn	Sn	12 00 12.1	-1.0
RKAV					Sg	Sb	12 00 19.4	+1.1
RKAV	Rock Avalanche	2.65	301			Pn	11 59 40.6	-0.5
RKAV						Sb	12 00 16.5	-1.8
YAH	Yahtse	2.85	300			Pn	11 59 44.2	+0.2
YAH					Sn	Sn	12 00 17.6	-0.6
MESA	MESA	2.87	296	Pn		Pn	11 59 43.4	-0.8
MESA					Sn	Sn	12 00 16.8	-1.9
MESA	MESA	2.87	296			Pn	11 59 43.8	-0.4
CYK	Cape Yakataga	3.09	292			Pn	11 59 47.3	+0.3
BARN	Barnard Glacie	3.19	312			Pn	11 59 48.6	0.0
KULT	Kultieth River	3.26	295			Pn	11 59 48.8	-0.7
YUK3	Moose Creek	3.31	328	Pn		Pn	11 59 50.4	+0.2
YUK3					Sn	Sn	12 00 29.5	0.0
YUK3	Moose Creek	3.31	328			Pn	11 59 49.9	-0.3
KIAG	Kiagna River	3.39	307	Pn		Pn	11 59 50.6	-0.7
KIAG	Kiagna River	3.39	307			Pn	11 59 50.5	-0.8
WAX	Waxell Ridge	3.39	297			Pn	11 59 50.9	-0.3
WAX					Sn	Sn	12 00 30.2	-1.0
YUK2	White River	3.42	326	Pn		Pn	11 59 51.5	-0.3
YUK2					Sg	Sg	12 00 45.5	-2.9
YUK2	White River	3.42	326			Pn	11 59 51.1	-0.6
BALM	Baldy	3.44	308	Pn		Pn	11 59 52.1	0.0
BALM	Baldy	3.44	308			Pn	11 59 52.0	0.0
BGLC	Bering Glacier	3.49	291			Pn	11 59 52.0	-0.4
WRAK	Wrangell Islan	3.53	136			Pn	11 59 51.0	-2.2
GRIN	Grindle Hills	3.55	294			Pn	11 59 53.1	-0.3
DLBC	Dease Lake	3.57	97	Pn		Pn	11 59 52.0	-1.7
	90nm,0.3s,baz=283,slow=8.2,SNR=717							
DLBC					Pg	Pb	12 00 01.0	-0.6
	692nm,0.3s,baz=282,slow=16,SNR=68							
DLBC					Lg	Lg	12 00 48.1	
	3μm,0.3s,baz=219,slow=27,SNR=16							
DLBC					LR	LR	12 01 37.5	
	comp=Z,84μm,18.9s,baz=288,slow=44							
DLBC	Dease Lake	3.57	97	Pn		Pn	11 59 52.0	-1.7
DLBC					Sg	Sb	12 00 45.9	+1.1
KHIT	Khitrov Hills	3.57	296			Pn	11 59 52.8	-0.9
YUK1	Sand Pete Hill	3.64	331	Pn		Pn	11 59 54.8	0.0
YUK1					Sg	Sg	12 00 53.0	-2.4
YUK1	Sand Pete Hill	3.64	331			Pn	11 59 54.5	-0.2
BERG	Berg Lake	3.77	294			Pn	11 59 55.8	-0.5
BVCY	Beaver Creek	3.94	331	Pn		Pn	11 59 58.6	-0.2
BVCY					Sg	Sg	12 01 00.7	-4.5
BVCY	Beaver Creek	3.94	331			Pn	11 59 58.2	-0.6
VRDI	Verde Repeater	4.00	306			Pn	11 59 59.8	+0.1
CRAG	Craig	4.08	149	Pn		Pn	12 00 00.7	0.0
RAGM	Ragged Mountai	4.23	292			Pn	12 00 02.7	0.0
GLB	Gilahina Butte	4.26	308	Pn		Pn	12 00 03.4	+0.2
BC03		4.72	331			Pn	12 00 08.6	-0.9
EYAK	Cordova Ski Ar	4.78	292	Pn		Pn	12 00 10.5	+0.2
MID	Middleton Isla	4.93	279	P		Pn	12 00 12.1	-0.1
MID	Middleton Isla	4.93	279	Pn		Pn	12 00 12.1	-0.1
HIN	Hinchinbrook I	5.11	290	Pn		Pn	12 00 14.8	-0.1
MENT	Mentasta	5.18	322			Pn	12 00 16.0	+0.3
FID	Port Fidalgo	5.18	294			Pn	12 00 16.3	+0.5
LIB	Langara Island	5.21	155	Pn		Pn	12 00 12.8	-3.2
PS11	TAPS Pump St11	5.27	309			Pn	12 00 18.3	+1.3
HARP	HAARP	5.32	313	Pn		Pg	12 00 37.8	-2.6
GLI	Glacier Island	5.51	294			Pn	12 00 19.9	-0.3
NDB	Naden	5.51	156	Pn		Pn	12 00 15.6	-4.7
PAX	Paxson	5.79	317	Pn		Pn	12 00 23.9	-0.2
PAX	Paxson	5.79	317	P		Pn	12 00 24.6	+0.4
PAX	Paxson	5.79	317			Pn	12 00 24.6	+0.4
DOT	Dot Lake	5.81	326	Pn		Pn	12 00 23.9	-0.5
DOT					Sg	Sg	12 01 58.7	-6.2
DOT	Dot Lake	5.81	326			Pn	12 00 24.4	0.0
RUBB	Prince Rupert	5.93	140	Pn		Pn	12 00 23.9	-2.1
RUBB					Sg	Sb	12 01 58.7	+6.2
RUBB	Prince Rupert	5.93	140			Pn	12 00 24.6	-1.4
SCRK	Sand Creek	6.04	328	Pn		Pn	12 00 27.0	-0.1
PWL	Port Wells	6.09	292			Pn	12 00 27.9	-0.4
RIDG	Independent Ri	6.11	324	Pn		Pn	12 00 28.4	-0.2
EGAK	Eagle	6.13	342			Pn	12 00 29.3	+0.5
VIB	Van Inlet	6.25	156	Pn		Pn	12 00 29.0	-1.5
VIB	Van Inlet	6.25	156			Pn	12 00 29.5	-1.1
H02N1	VAN INLET T-PH	6.25	156	Pn		Pn	12 00 30.5	0.0
KNK	Knik Glacier	6.29	297			Pn	12 00 31.6	+0.6
DIB	Dawson Inlet,	6.32	156	Pn		Pn	12 00 29.8	-1.6
DIB	Dawson Inlet,	6.32	156			Pn	12 00 30.5	-0.8
H02S1	DAWSON INLET T	6.32	156	Pn		Pn	12 00 30.1	-1.2
SML	Sawmill	6.36	301			Pn	12 00 31.8	-0.3
MOBC	Moresby Island	6.48	153	Pn		Pn	12 00 32.4	-1.2
MOBC	Moresby Island	6.48	153			Pn	12 00 32.5	-1.2
BNAB	Bonilla	6.52	146	Pn		Pn	12 00 32.1	-2.0
SEW	Seward	6.53	285	Pn		Pn	12 00 33.3	-0.9
DHY	Denali Highway	6.55	313			Pn	12 00 35.0	+0.3
GHO	Glory Hole Cre	6.62	300			Pn	12 00 35.5	+0.4
PMR	Palmer	6.65	298	P		Pn	12 00 36.4	+0.5
PMR	Palmer	6.65	298			Pn	12 00 36.4	+0.5
RC01	Rabbit Creek A	6.81	293			Pn	12 00 37.7	-0.4
SLKM	Skilak Lake	6.95	288			Pn	12 00 38.9	-1.1
WAT2	Susitna Watana	6.96	310			Pn	12 00 41.0	+0.7
BNB	Barry Inlet	7.06	154	Pn		Pn	12 00 40.7	-0.9
FNBB	Fort Nelson	7.12	85	Pn		Pn	12 00 40.9	-1.6
FNBB					Sg	Sg	12 02 39.2	-7.7
FNBB	Fort Nelson	7.12	85			Pn	12 00 40.9	-1.6
HG3B	Hotspring	7.13	153	Pn		Pn	12 00 41.3	-1.2
BRSE	Bradley Lake S	7.17	282			Pn	12 00 42.6	-0.4
HDA	Harding Lake	7.24	323	P		Pn	12 00 42.4	-1.5
	baz=134,SNR=278							
HDA	Harding Lake	7.24	323			Pn	12 00 42.8	-1.2
BRLK	Bradley Lake	7.24	282			Pn	12 00 43.5	-0.6
PS08	TAPS Pump Stn8	7.29	324			Pn	12 00 43.7	-1.0
RND	Reindeer	7.29	312	P		Pn	12 00 44.9	+0.1
RND	Reindeer	7.29	312	Pn		Pn	12 00 44.9	+0.1
NBC2	NorthernBC 2	7.33	78	Pn		Pn	12 00 44.5	-0.9
NBC2					Sg	Sg	12 02 45.5	-8.2
EPYK	Eagle Plains	7.37	0	P		Pn	12 00 45.6	-0.2
	baz=180,SNR=571							
EPYK	Eagle Plains	7.37	0			Pn	12 00 46.0	+0.2
CNPM	China Poot	7.42	280	Pn		Pn	12 00 46.1	-0.4
IL31		7.47	325			Pn	12 00 45.7	-1.4
ILAR	Eielson Array	7.47	325	Pn		Pn	12 00 45.8	-1.5
	10nm,0.3s,baz=141,slow=12,SNR=970							
ILAR					Pg	Pb	12 01 12.4	+4.5
	16nm,0.3s,baz=133,slow=19,SNR=11							
ILAR					Lg	Lg	12 02 54.6	
	44nm,0.3s,baz=133,slow=14,SNR=2.7							
ILAR					LR	LR	12 04 08.3	
	comp=Z,33μm,18.1s,baz=150,slow=42							
ILAR					P3KPbc		12 38 15.8	
	0.1nm,0.3s,baz=242,slow=4.5,SNR=4.7							
NBC5	NorthernBC 5	7.59	95	Pn		Pn	12 00 47.3	-1.6
HOM	Homer	7.63	281			Pn	12 00 49.9	+0.6
WRH	Wood River Hil	7.65	320			Pn	12 00 48.6	-0.9
CCB	Clear Creek Bu	7.67	322			Pn	12 00 48.6	-1.3
PRP	Porcupine Dome	7.68	332			Pn	12 00 49.8	-0.3
COLA	College	7.84	323	*i* P		Pn	12 00 51.1	-1.1
COLA	College	7.84	323			Pn	12 00 50.5	-1.7
COLA	College	7.84	323			Pn	12 00 50.6	-1.6
TCOL	CIGO, UAF Yank	7.84	323	P		Pn	12 00 50.1	-2.1
	baz=133,SNR=31							
TCOL	CIGO, UAF Yank	7.84	323			Pn	12 00 51.2	-1.1
I53US	FAIRBANKS INFR	7.84	323	Pg		Pb	12 01 16.9	+2.7
	baz=115,slow=20,SNR=9.4							
I53US				*i*			12 30 00.0	
	baz=132,slow=324,SNR=1.0							
POKR	Poker Plat Res	7.89	325	P		Pn	12 00 51.4	-1.5
	baz=136,SNR=38							
POKR	Poker Plat Res	7.89	325			Pn	12 00 52.0	-0.9
SPCG	Spurr Capps Gl	7.93	293			Pn	12 00 53.0	-0.6
SPCR	Spurr Chakacha	8.01	292			Pn	12 00 53.9	-0.7
NBC6	NorthernBC 6	8.03	87	Pn		Pn	12 00 53.6	-1.3
SPBG	Spurr Blockage	8.09	293			Pn	12 00 55.2	-0.6
DFR	Drift River	8.17	288			Pn	12 00 55.5	-1.3
KTH	Kantishna Hill	8.17	310			Pn	12 00 57.1	+0.3
RED	Redoubt Volcan	8.20	287			Pn	12 00 57.0	-0.3
RDJH	Redoubt Jeurge	8.23	288			Pn	12 00 56.7	-1.0
RDWB	Redoubt West	8.24	287			Pn	12 00 56.6	-1.2
NBC3	NorthernBC 3	8.26	79	Pn		Pn	12 00 57.8	-0.2
SPNN	North Nagishla	8.27	293			Pn	12 00 57.8	-0.4
PS07	TAPS Pump Stn7	8.28	324			Pn	12 00 57.8	-0.3
KDAK	Kodiak Island	8.39	268	Pn		Pn	12 00 58.0	-1.8
	17nm,0.3s,baz=77,slow=4.5,SNR=206							
KDAK					Sn	Sn	12 02 31.4	-2.9
	30nm,0.3s,baz=208,slow=18,SNR=5.8							
KDAK					LR	LR	12 04 28.8	
	comp=Z,43μm,18.4s,baz=129,slow=40							
KDAK	Kodiak Island	8.39	268	P		Pn	12 00 59.1	-0.7
KDAK	Kodiak Island	8.39	268	Pn		Pn	12 00 59.0	-0.7
BBB	Bella Bella	8.43	141	Pn		Pn	12 01 00.1	-0.1
	4.7nm,0.3s,baz=315,slow=7.2,SNR=32							
BBB					Lg	Lg	12 03 18.6	
	12nm,0.3s,baz=36,slow=22,SNR=2.2							
BBB					LR	LR	12 04 05.8	
	comp=Z,24μm,21.9s,baz=323,slow=36							
BBB	Bella Bella	8.43	141	Pn		Pn	12 01 00.1	-0.1
BBB	Bella Bella	8.43	141	Pn		Pn	12 00 59.8	-0.5
BMBC	Bull Mountain	8.43	104	Pn		Pn	12 01 00.6	+0.2
BMBC	Bull Mountain	8.43	104			Pn	12 01 00.3	-0.1
PPLA	Purkeypile	8.43	304	Pn		Pn	12 01 00.4	-0.1
BPAW	Bear Paw Mtn.	8.46	313	Pn		Pn	12 00 60.0	-0.8
FYU	Fort Yukon	8.49	337			Pn	12 01 01.7	+0.6
AU22	Augustine Moun	8.52	279			Pn	12 01 02.1	+0.7
AUP	Augustine Pinn	8.55	279	P		Pn	12 01 03.0	+1.0
AUP	Augustine Pinn	8.55	279			Pn	12 01 03.0	+1.0
CAST	Castle Rocks	8.59	307			Pn	12 01 03.6	+1.1
OHAK	Old Harbor	8.92	265			Pn	12 01 05.5	+1.5
BM03	Burnt Mountain	9.12	341			Pn	12 01 10.1	+0.3
NBC4	NorthernBC 4	9.33	104	Pn		Pn	12 01 12.3	-0.3
UBRB	Upper Baezaeko	9.40	125	Pn		Pn	12 01 14.0	+0.3
INK	Inuvik	9.43	7	Pn		Pn	12 01 13.2	-0.6
	1.0nm,0.3s,baz=186,slow=13,SNR=72							
INK					Lg	Lg	12 03 52.9	
	47nm,0.3s,baz=66,slow=19,SNR=8.2							
INK	Inuvik	9.43	7	Pn		Pn	12 01 13.4	-0.5
HOLB	Holberg	9.76	146	P		Pn	12 01 17.2	-1.4
PHC	Port Hardy	9.92	143	P		Pn	12 01 19.8	-0.8
TTA	Tatalina	10.11	301	P		Pn	12 01 21.8	-1.6
TTA	Tatalina	10.11	301	Pn		Pn	12 01 21.8	-1.6
PACB	Port Alice, BC	10.14	144	P		Pn	12 01 22.7	-1.0
COLD	Coldfoot	10.20	329	P		Pn	12 01 25.2	+0.7
TLCB	Telegraph Cove	10.24	142	P		Pn	12 01 26.6	+1.4
HILA	High Level	10.26	84	P		Pn	12 01 23.8	-1.5
MAYB	Maynard	10.26	143	P		Pn

E03A Lebam 14.80 142 Pn **Pn** **12 02 26.7 -0.7**
B08A Colville Reser 14.81 129 P **P** **12 02 30.7 -2.8**
B08A Colville Reser 14.81 129 Pn **Pn** **12 02 29.4 +1.8**
J29C J29C 14.87 155 P **P** **12 02 34.0 +0.4**
J29C S **S** **12 05 27.9 -2.3**
FALS False Pass 15.07 265 **Pn** **12 02 30.3 -0.7**
FALS IAmb IAmb 12 02 44.9
comp=Z,694nm,1.1s
FMW Mount Fremont 15.10 137 P **P** **12 02 34.5 -2.4**
E04D Cinebar 15.12 139 P **Pn** **12 02 30.0 -1.7**
baz=331,SNR=23
LTY Liberty 15.19 134 P **Pn** **12 02 34.5 +1.8**
LTY Liberty 15.19 134 **Pn** **12 02 34.5 +1.8**
LTY IAmb IAmb 12 02 41.5
comp=Z,972nm,1.4s
LON Longmire 15.21 137 P **P** **12 02 37.0 -1.0**
LON Longmire 15.21 137 P **Pn** **12 02 32.6 -0.4**
LON pmax pmax
comp=Z,492nm,1.5s
LON Longmire 15.21 137 **Pn** **12 02 32.6 -0.4**
LON IAmb IAmb 12 02 50.7
comp=Z,492nm,1.5s
PRDA Priddis 15.22 113 P **Pn** **12 02 32.7 -0.5**
F03A Seaside 15.35 143 **Pn** **12 02 33.7 -1.0**
F03A IAmb IAmb 12 02 52.0
comp=Z,549nm,1.2s
F04D Rainier, OR 15.39 141 P **Pn** **12 02 33.9 -1.4**
baz=332
NEW Newport 15.80 124 P **Pn** **12 02 38.1 -2.6**
baz=320,SNR=37
NEW Newport 15.80 124 Pn **Pn** **12 02 41.5 +0.8**
comp=Z,0.6nm,0.3s,baz=328,slow=13,SNR=20
NEW Lg Lg 12 07 14.3
comp=Z,0.3nm,0.3s,baz=140,slow=0.6,SNR=7.7
NEW LR LR 12 09 17.1
comp=Z,14µm,20.3s,baz=319,slow=39
NEW Newport 15.80 124 P **Pn** **12 02 40.3 -0.4**
NEW pmax pmax
comp=Z,374nm,1.3s
NEW Newport 15.80 124 Pn **Pn** **12 02 40.3 -0.4**
D08A Wollman Farm, 16.03 131 P **P** **12 02 45.6 -1.3**
F05D White Salmon 16.08 138 P **Pn** **12 02 42.4 -1.8**
baz=330,SNR=6.7
E07A Sunnyside 16.08 134 **P** **12 02 46.8 -0.8**
G03D McMinnville, O 16.09 143 P **Pn** **12 02 43.8 -0.5**
baz=334
HAWA Hanford 16.34 133 P **P** **12 02 49.6 -0.9**
E08A Dider Farm, El 16.44 132 P **P** **12 02 50.9 -0.6**
F07A Phinny Hill Vi 16.61 135 P **P** **12 02 53.9 +0.4**
AKUT Akutan 16.62 266 **Pn** **12 02 51.1 +0.1**
AKUT IAmb IAmb 12 03 00.6
comp=Z,823nm,1.2s
COR Corvallis 16.64 144 P **P** **12 02 53.9 +0.2**
COR pmax pmax
comp=Z,359nm,1.2s
COR Corvallis 16.64 144 P **P** **12 02 53.9 +0.2**
WALA Waterton Lakes 16.64 117 P **Pn** **12 02 51.9 +0.4**
WALA Waterton Lakes 16.64 117 Pn **Pn** **12 02 51.1 -0.4**
WALA IAmb IAmb 12 03 01.5
comp=Z,959nm,1.1s
G05D Wamic, OR 16.69 139 P **Pn** **12 02 50.1 -1.9**
baz=331,SNR=30
H04D Lebanon 16.87 143 P **Pn** **12 02 52.9 -1.4**
baz=334,SNR=24
H04A Detroit Lake 16.90 142 **P** **12 02 57.0 +0.4**
I02D Swisshome 16.92 146 P **Pn** **12 02 52.8 -2.0**
baz=337,SNR=5.7
UNV Unalaska Valle 17.14 265 **Pn** **12 02 58.1 +0.5**
UNV IAmb IAmb 12 03 07.4
comp=Z,537nm,1.0s
I03D Drain, OR 17.43 146 P **Pn** **12 03 00.1 -1.2**
baz=336,SNR=14
I05D Terrebonne, OR 17.48 141 P **Pn** **12 03 00.0 -1.9**
baz=333,SNR=56
I04A Tendick Farm, 17.63 144 P **Pn** **12 03 01.9 -1.9**
baz=335,SNR=9.7
SPIA Saint Paul Isl 17.68 278 P **P** **12 03 05.1 0.0**
SPIA IAmb IAmb 12 03 08.8
comp=Z,1µm,1.4s
J01E Myrtle Point 17.76 148 P **Pn** **12 03 02.5 -2.8**
baz=338
SLMT Seeley Lake 18.17 120 P **P** **12 03 12.1 +1.3**
J04D Umpqua Nationa 18.22 144 P **Pn** **12 03 07.8 -3.5**
baz=335,SNR=39
K02D Willamette Mer 18.27 148 P **Pn** **12 03 09.3 -2.4**
baz=338,SNR=12
MSO Missoula 18.29 122 P **Pn** **12 03 11.9 -0.1**
baz=320,SNR=195
MSO Missoula 18.29 122 IAmb IAmb 12 03 19.4
comp=Z,523nm,1.2s
J05D Fort Rock, OR 18.46 142 P **P** **12 03 11.8 -2.1**
baz=334,SNR=52
OVMT Ovando 18.53 120 P **Pn** **12 03 16.0 +1.1**
NIKH Nikolski High 18.80 265 **P** **12 03 17.2 -0.3**
NIKH IAmb IAmb 12 03 35.5
comp=Z,945nm,1.1s
BPMT Black Pine Rid 18.80 122 P **Pn** **12 03 19.1 +0.8**
K04D Chiloquin, OR 18.89 144 P **P** **12 03 17.2 -1.5**
baz=336,SNR=18
L04D Klamath Falls 19.10 145 P **P** **12 03 21.4 +0.4**
baz=337,SNR=18
KRMB Red Mountain 19.30 150 P **Pn** **12 03 24.9 +0.7**
EGMT Eagleton 19.33 113 P **P** **12 03 23.2 -0.2**
baz=315,SNR=261
EGMT Eagleton 19.33 113 P **P** **12 03 23.8 +0.4**
EGMT IAmb IAmb 12 03 31.1
comp=Z,854nm,1.1s
FFC Flin Flon 19.35 88 P **P** **12 03 22.6 -0.9**
FFC pmax pmax
comp=Z,440nm,0.9s
FFC Flin Flon 19.35 88 P **P** **12 03 22.6 -0.9**
FFC IAmb IAmb 12 03 29.1
comp=Z,440nm,0.8s
YBH Yreka Blue Hor 19.43 147 P **Pn** **12 03 26.2 +0.5**
comp=Z,0.3nm,0.3s,baz=356,slow=5.9,SNR=28
YBH S **S** **12 07 14.6 +11**
comp=Z,0.0nm,0.3s,baz=124,slow=7.4,SNR=1.3
YBH LR LR 12 10 10.3
comp=Z,15µm,18.4s,baz=332,slow=34
M04C Macdoel 19.63 145 P **Pn** **12 03 27.8 -0.4**
baz=337,SNR=61
HBMT Mount Humbug 19.67 122 P **Pn** **12 03 29.5 +0.6**
M02C Callahan 19.70 148 P **Pn** **12 03 28.6 -0.4**
baz=338,SNR=21
LRM Limekiln Ridge 19.72 121 P **Pn** **12 03 29.9 +0.5**
KHMM Horse Mountain 19.95 150 P **P** **12 03 29.9 -0.4**
DLMT Dillon 20.02 122 IAmb IAmb 12 03 40.7
comp=Z,794nm,1.5s
N02D Trinity Center 20.13 148 P **P** **12 03 32.2 -0.1**
baz=339,SNR=64
BOZ Bozeman (W) 20.26 120 P **P** **12 03 34.1 +0.5**
BOZ pmax pmax
comp=Z,682nm,1.2s
BOZ Bozeman (W) 20.26 120 P **P** **12 03 34.1 +0.5**
BOZ IAmb IAmb 12 03 43.3
comp=Z,682nm,1.2s
MFID Camas Ranch 20.27 131 P **P** **12 03 34.0 +0.3**
WDC Whiskeytown Da 20.54 148 P Pn 12 03 38.7 -0.1
WDC pmax pmax
comp=Z,473nm,1.4s
WDC MLR MLR
comp=Z,17µm,18.0s
WDC Whiskeytown Da 20.54 148 P Pn 12 03 38.7 -0.1
WDC IAmb IAmb 12 03 44.9
comp=Z,473nm,1.4s
WDC IAMs_20 IAMs_20 12 10 32.0
comp=Z,17µm,18.0s
KMRM Mail Ridge 20.57 150 Pn 12 03 38.2 -1.0
KMRM IAmb IAmb 12 03 48.1
comp=Z,362nm,1.1s
KMRM IAMs_20 IAMs_20 12 10 14.2
comp=Z,14µm,18.0s
MOMT Monida 20.71 123 P Pn 12 03 40.5 -0.5
O02D Mt. Diablo Mer 20.85 149 P **P** **12 03 40.3 +0.2**
baz=340,SNR=79
TPMT Tepee Creek 20.92 122 P Pn 12 03 42.7 -0.8
O03E Paynes Creek 21.02 147 P **P** **12 03 42.6 +0.8**
baz=338,SNR=63
KCPM Cahto Peak 21.11 151 P **P** **12 03 44.8 +2.0**
KCPM IAmb IAmb 12 03 50.0
comp=Z,354nm,1.3s
YHB Horse Butte 21.11 121 P **P** **12 03 44.2 +1.2**
YHH Holmes Hill 21.23 121 P **P** **12 03 45.5 +1.1**
YMR Madison River 21.28 121 P **P** **12 03 45.3 +0.5**
YMP Mirror Lake Pl 21.58 120 P **P** **12 03 49.1 +1.0**

LKWY Lake 21.61 120 P **P** **12 03 49.6 +1.2**
LKWY pmax pmax
comp=Z,334nm,1.1s
LKWY MLR MLR
comp=Z,13µm,18.0s
LKWY Lake 21.61 120 P **P** **12 03 49.5 +1.2**
LKWY IAmb IAmb 12 03 59.3
comp=Z,334nm,1.1s
LKWY IAMs_20 IAMs_20 12 11 59.5
comp=Z,13µm,18.0s
YPP Pitchstone Pla 21.66 122 P **P** **12 03 50.4 +1.4**
H17A Grant Village 21.66 121 P **P** **12 03 48.6 -0.3**
baz=322,SNR=76
H17A Grant Village 21.66 121 P **P** **12 03 51.2 +2.3**
H17A IAmb IAmb 12 03 58.8
comp=Z,463nm,1.4s
RLMT Red Lodge 21.69 118 P **P** **12 03 49.4 +0.2**
baz=320,SNR=138
RLMT Red Lodge 21.69 118 P **P** **12 03 49.6 +0.4**
RLMT IAmb IAmb 12 03 58.9
comp=Z,402nm,1.1s
DGMT Dagmar 21.75 105 P **P** **12 03 49.6 0.0**
baz=311,SNR=49
DGMT Dagmar 21.75 105 P **P** **12 03 50.0 +0.5**
FCC Fort Churchill 21.79 72 P **P** **12 03 49.6 -0.2**
FCC Fort Churchill 21.79 72 P **P** **12 03 50.1 +0.3**
FCC pmax pmax
comp=Z,616nm,1.4s
FCC MLR MLR
comp=Z,10µm,21.0s
FCC Fort Churchill 21.79 72 P **P** **12 03 50.1 +0.3**
FCC IAmb IAmb 12 03 59.7
comp=Z,616nm,1.4s
ORV Oroville 21.79 147 P **P** **12 03 49.9 -0.1**
ORV pmax pmax
comp=Z,159nm,1.5s
ORV MLR MLR
comp=Z,8µm,18.0s
ORV Oroville 21.79 147 P **P** **12 03 49.9 -0.1**
BEKR Beckworth 21.84 144 P **P** **12 03 50.4 -0.3**
BEKR IAMs_20 IAMs_20 12 11 42.1
comp=Z,20µm,18.0s
FLWY Flagg Ranch 21.86 122 IAmb IAmb 12 04 07.2
comp=Z,500nm,1.1s
FLWY IAMs_20 IAMs_20 12 11 20.0
comp=Z,11µm,19.0s
HOPS Hopland Field 21.89 150 P **P** **12 03 52.5 +1.4**
HOPS IAmb IAmb 12 03 58.6
comp=Z,457nm,1.4s
IMW Indian Meadow 21.90 122 IAmb IAmb 12 04 02.3
comp=Z,601nm,1.1s
RES Resolute Bay 21.96 28 P **P** **12 03 51.6 +0.1**
comp=Z,175nm,0.9s,baz=239,slow=10,SNR=68
RES S **S** **12 07 56.4 +3.0**
comp=Z,53nm,1.1s,baz=288,slow=16,SNR=1.5
RES Lg Lg 12 10 19.2
comp=Z,243nm,1.1s,baz=151,slow=20,SNR=4.3
RES LR LR 12 11 44.6
comp=Z,3µm,19.2s,baz=246,slow=35
RES Resolute Bay 21.96 28 P **P** **12 03 51.7 +0.1**
RES Resolute Bay 21.96 28 P **P** **12 03 51.8 +0.2**
RES pmax pmax
comp=Z,349nm,1.0s
RES Resolute Bay 21.96 28 P **P** **12 03 51.8 +0.2**
RES IAmb IAmb 12 04 05.3
comp=Z,349nm,1.0s
ATKA Atka Island 21.97 268 P **P** **12 03 51.2 -0.6**
ATKA IAmb IAmb 12 04 09.5
comp=Z,447nm,1.0s
LAO LASA Array 21.97 111 P **P** **12 03 52.6 +0.6**
baz=315,SNR=93
FXWY Fox Creek 22.07 123 IAmb IAmb 12 04 01.9
comp=Z,588nm,1.4s
GDXM Geysers 22.14 150 P **P** **12 03 55.7 +1.9**
PAHR Pah Rah Range 22.28 143 P **P** **12 03 55.4 -0.1**
PAHR IAmb IAmb 12 04 03.5
comp=Z,286nm,1.4s
SNOW Snow King Moun 22.32 123 IAmb IAmb 12 04 04.2
comp=Z,736nm,1.5s
AFDM Forest Hills D 22.50 146 P **P** **12 03 58.1 +0.4**
VCNR Virginia City 22.58 143 P **P** **12 03 58.9 +0.2**
VCNR IAMs_20 IAMs_20 12 12 00.6
comp=Z,12µm,18.0s
RUBR Rubicon Trail 22.65 145 P **P** **12 03 59.4 -0.1**
RUBR IAMs_20 IAMs_20 12 12 05.5
comp=Z,17µm,18.0s
AHID Auburn Hatcher 22.74 124 P **P** **12 04 01.2 +0.8**
AHID IAMs_20 IAMs_20 12 12 45.5
comp=Z,16µm,19.0s
PNTR Pine Nut 22.78 144 P **P** **12 04 00.8 -0.1**
PNTR IAMs_20 IAMs_20 12 12 14.1
comp=Z,20µm,18.0s
ELK Elko 22.79 134 P **P** **12 04 02.5 +1.5**
comp=Z,20nm,1.0s,baz=341,slow=6.5,SNR=58
ELK Lg Lg 12 11 00.1
comp=Z,3.5nm,1.1s,baz=145,slow=18,SNR=4.1
ELK LR LR 12 14 09.6
comp=Z,7µm,19.3s,baz=334,slow=40
ELK Elko 22.79 134 P **P** **12 04 02.4 +1.5**
ELK pmax pmax
comp=Z,284nm,1.5s
ELK MLR MLR
comp=Z,6µm,18.0s
ELK Elko 22.79 134 P **P** **12 04 02.4 +1.5**
ELK IAmb IAmb 12 04 09.7
comp=Z,284nm,1.5s
HVU Hansel Valley 22.86 128 P **P** **12 04 03.5 +1.9**
HVU pmax pmax
comp=Z,347nm,1.5s
HVU Hansel Valley 22.86 128 P **P** **12 04 03.5 +1.9**
YERR Yerington 22.99 143 P **P** **12 04 03.6 +0.6**
YERR IAMs_20 IAMs_20 12 12 24.5
comp=Z,16µm,18.0s
WAKR Walker 23.37 144 P **P** **12 04 07.5 +0.6**
WAKR IAMs_20 IAMs_20 12 12 40.6
comp=Z,19µm,18.0s
SPUT South Promonto 23.39 129 P **P** **12 04 08.1 +1.0**
BW06 Boulder Array 23.41 122 P **P** **12 04 08.0 +0.7**
baz=324,SNR=122
PDAR Pinedale Array 23.41 122 P **P** **12 04 08.7 +1.4**
comp=Z,15nm,0.8s,baz=324,slow=7.3,SNR=49
PDAR Lg Lg 12 11 09.1
comp=Z,0.3nm,0.4s,baz=234,slow=44,SNR=2.6
PDAR LR LR 12 12 58.1
comp=Z,7µm,19.1s,baz=328,slow=36
ADK Adak 23.43 270 P **P** **12 04 07.4 +0.2**
ADK pmax pmax
comp=Z,139nm,1.1s
ADK MLR MLR
comp=Z,13µm,20.0s
ADK Adak 23.43 270 P **P** **12 04 07.3 +0.2**
ADK Adak 23.43 270 IAMs_20 IAMs_20 12 12 54.5
comp=Z,13µm,20.0s
BGU Big Grassy Mou 23.48 130 P **P** **12 04 08.0 0.0**
RYN Ryan 23.54 142 P **P** **12 04 09.2 +0.6**
RYN IAMs_20 IAMs_20 12 12 45.1
comp=Z,10µm,19.0s
NVAR Mina Array Bea 23.79 142 P **P** **12 04 12.7 +1.6**
comp=Z,10nm,0.8s,baz=321,slow=7.4,SNR=70
NVAR PcP **PcP** **12 07 55.9 +1.7**
comp=Z,7.6nm,0.7s,baz=275,slow=1.4,SNR=3.5
NVAR S **S** **12 08 31.8 +5.5**
comp=Z,3.0nm,0.9s,baz=134,slow=40,SNR=1.1
NVAR LR LR 12 13 16.4
comp=Z,12µm,18.0s,baz=320,slow=36
NVAR P3KPbc 12 37 32.1
comp=Z,0.9nm,0.7s,baz=155,slow=4.9,SNR=5.5
NV11 Mina Array Sit 23.84 142 P **P** **12 04 12.6 +1.2**
NV11 IAmb IAmb 12 04 28.8
comp=Z,247nm,1.4s
NV11 IAMs_20 IAMs_20 12 13 13.9
comp=Z,13µm,18.0s
TCUT Toone Canyon 23.97 127 P **P** **12 04 13.2 +0.4**
DUG Dugway, Tooele 24.19 131 P **P** **12 04 15.6 +0.9**
baz=329,SNR=77
DUG Dugway, Tooele 24.19 131 P **P** **12 04 15.3 +0.6**
DUG pmax pmax
comp=Z,181nm,1.3s
DUG MLR MLR
comp=Z,8µm,20.0s
DUG Dugway, Tooele 24.19 131 P **P** **12 04 15.3 +0.6**
DUG IAmb IAmb 12 04 34.9
comp=Z,181nm,1.2s
CTU Camp Tracy 24.19 128 P **P** **12 04 14.7 -0.1**
MLAC Mammoth, Mammc 24.36 144 P **P** **12 04 17.9 +1.5**
baz=337,SNR=15

JLU Jordanelle 24.39 128 P **P** **12 04 16.6 0.0**
SAO San Andreas Ge 24.41 149 P **P** **12 04 17.2 +0.6**
SAO pmax pmax
comp=Z,43nm,0.9s
SAO MLR MLR
comp=Z,5µm,19.0s
SAO San Andreas Ge 24.41 149 P **P** **12 04 17.2 +0.6**
MDND Maddock 24.47 101 P **P** **12 04 18.3 +1.2**
baz=311,SNR=64
MDND Maddock 24.47 101 IAMs_20 IAMs_20 12 13 41.1
comp=Z,12µm,18.0s
R11A Troy Canyon, C 24.77 137 P **P** **12 04 19.3 -0.8**
baz=334,SNR=117
R11A Troy Canyon, C 24.77 137 IAMs_20 IAMs_20 12 14 21.7
comp=Z,11µm,19.0s
K22A Casper 24.86 118 P **P** **12 04 20.6 -0.2**
baz=322,SNR=52
K22A Casper 24.86 118 P **P** **12 04 21.0 +0.2**
K22A IAmb IAmb 12 04 29.2
comp=Z,308nm,1.3s
ULM Lac du Bonnet 24.88 93 P **P** **12 04 21.8 +1.1**
comp=Z,53nm,1.0s,baz=300,slow=10,SNR=23
ULM S **S** **12 08 49.7 +6.4**
comp=Z,12nm,0.9s,baz=341,slow=22,SNR=1.3
ULM Lg Lg 12 11 46.1
comp=Z,47nm,1.0s,baz=238,slow=21,SNR=3.1
ULM LR LR 12 14 38.7
comp=Z,28µm,18.7s,baz=312,slow=38
ULM P3KPbc 12 37 25.6
comp=Z,2.9nm,0.5s,baz=164,slow=3.4,SNR=3.1
ULM PKP2ab 12 41 26.9
comp=Z,2.4nm,0.5s,baz=186,slow=1.2,SNR=3.0
ULM Lac du Bonnet 24.88 93 P **P** **12 04 21.3 +0.6**
ULM Lac du Bonnet 24.88 93 IAmb IAmb 12 04 27.6
comp=Z,174nm,1.0s
RSSD Black Hills 24.90 112 P **P** **12 04 22.2 +1.0**
baz=318
RSSD Black Hills 24.90 112 P **P** **12 04 22.5 +1.3**
RSSD pmax pmax
comp=Z,783nm,1.5s
RSSD MLR MLR
comp=Z,12µm,19.0s
RSSD Black Hills 24.90 112 P **P** **12 04 22.5 +1.3**
RSSD Black Hills 24.90 112 IAMs_20 IAMs_20 12 14 02.4
comp=Z,11µm,19.0s
TIN Tinemaha, Big 25.07 143 P **P** **12 04 23.2 +0.5**
baz=337
ILON Igloolik, Nuna 25.10 43 P **P** **12 04 23.5 +1.1**
PMPB Monarch Peak 25.11 148 P **P** **12 04 23.5 +0.6**
PMPB IAmb IAmb 12 04 33.3
comp=Z,208nm,1.1s
RDMU Red Mountain 25.20 125 P **P** **12 04 24.1 +0.2**
PSUT Pine Spring 25.23 134 P **P** **12 04 24.3 +0.1**
RWWY Rawlins 25.31 120 P **P** **12 04 24.2 -0.8**
RWWY IAmb IAmb 12 04 31.9
comp=Z,281nm,1.2s
GRAC Grapevine Rang 25.40 142 P **P** **12 04 26.5 +0.9**
baz=336,SNR=12
VOG Valley Oaks Go 25.41 146 P **P** **12 04 26.2 +0.7**
baz=339
TMUT Trail Mountain 25.59 129 P **P** **12 04 28.4 +0.8**
P17A Butcher Ranch, 25.63 128 P **P** **12 04 28.5 +0.7**
CWC Cottonwood Cre 25.69 143 P **P** **12 04 29.8 +1.5**
baz=338
PAGB Antelope Grade 25.71 148 P **P** **12 04 28.7 +0.3**
PAGB IAmb IAmb 12 04 37.9
comp=Z,216nm,1.3s
TPNV Topopah Spring 25.81 140 P **P** **12 04 29.4 -0.1**
baz=335,SNR=60
TPNV Topopah Spring 25.81 140 IAMs_20 IAMs_20 12 14 33.1
comp=Z,8µm,18.0s
EUNU Eureka 25.81 18 P **P** **12 04 31.1 +2.1**
Q16A Castle Valley 25.93 130 P **P** **12 04 31.1 +0.5**
VES Vestal, Richgr 25.94 146 P **P** **12 04 30.8 +0.4**
baz=339
BILL Bilibino 25.96 314*c* iP **P** **12 04 30.4 +0.1**
BILL *e*PPP PPP 12 05 13.7
BILL *e* 12 07 58.3
BILL *e*S **S** **12 09 02.2 +2.2**
BILL pmax pmax
comp=Z,456nm,1.7s
BILL MLR MLR
comp=Z,14µm,15.0s
BILL Bilibino 25.96 314 P **P** **12 04 30.1 -0.2**
BILL IAmb IAmb 12 04 33.0
comp=Z,397nm,1.4s
BILL IAMs_20 IAMs_20 12 16 02.6
comp=Z,18µm,20.0s
SRU San Rafael Swe 26.03 128 P **P** **12 04 31.4 -0.1**
SRU pmax pmax
comp=Z,120nm,1.4s
SRU San Rafael Swe 26.03 128 P **P** **12 04 31.4 -0.1**
FURC Furnace Creek, 26.05 141 P **P** **12 04 31.8 +0.4**
baz=336,SNR=18
AGMN Agassiz Nation 26.09 96 P **P** **12 04 31.9 +0.1**
baz=310,SNR=30
AGMN Agassiz Nation 26.09 96 P **P** **12 04 32.0 +0.3**
O20A White River Ci 26.12 124 P **P** **12 04 31.7 -0.6**
baz=326,SNR=42
O20A White River Ci 26.12 124 P **P** **12 04 32.9 +0.6**
SMMC Simmler 26.17 148 P **P** **12 04 33.5 +0.9**
baz=340
MPMC Manual Prospec 26.22 143 P **P** **12 04 32.7 -0.5**
baz=337,SNR=38
CCUT Cedar City 26.28 134 P **P** **12 04 34.1 +0.3**
ISA Isabella, Lake 26.29 145 P **P** **12 04 33.7 0.0**
baz=339,SNR=27
MTPU Mount Pierson 26.30 132 P **P** **12 04 34.8 +0.7**
EPLO Experimental L 26.34 92 P **P** **12 04 34.4 +0.5**
PHWY Pilot Hill 26.41 118 IAMs_20 IAMs_20 12 15 20.5
comp=Z,11µm,20.0s
N23A Red Feather La 26.52 120 P **P** **12 04 36.8 +0.9**
baz=324,SNR=49
N23A Red Feather La 26.52 120 IAmb IAmb 12 04 42.1
comp=Z,204nm,1.4s
N23A IAMs_20 IAMs_20 12 14 51.4
comp=Z,13µm,20.0s
SHPR Sheep Range 26.58 138 P **P** **12 04 36.0 -0.4**
SHPR IAMs_20 IAMs_20 12 15 17.5
comp=Z,10µm,19.0s
PKM Mcpherson Peak 26.62 148 P **P** **12 04 37.8 +1.0**
baz=340
ARVC Arvin 26.68 146 P **P** **12 04 38.3 +1.2**
baz=339
LRMC Laurel Mtn Rad 26.70 144 P **P** **12 04 37.9 +0.5**
baz=338
SHOC Shoshone, Teco 26.75 141 P **P** **12 04 38.7 +0.8**
baz=336
PKCU Pink Cliffs 26.77 133 P **P** **12 04 39.8 +1.4**
LCMT Little Creek M 26.80 135 P **P** **12 04 39.1 +0.7**
KNB Kanab 26.96 134 P **P** **12 04 40.7 +0.9**
KNB pmax pmax
comp=Z,112nm,1.3s
KNB Kanab 26.96 134 P **P** **12 04 40.7 +0.9**
SOLO Sioux Lookout 26.98 90 P **P** **12 04 40.2 +0.5**
PKLO Pickle Lake 27.02 86 P **P** **12 04 39.8 -0.2**
SBC Santa Barbara 27.07 148 P **P** **12 04 40.8 +0.2**
baz=341
PV09 Paradox Valley 27.12 127 P **P** **12 04 41.9 +0.5**
GSC Goldstone, Bar 27.13 142 P **P** **12 04 41.9 +0.6**
baz=337,SNR=25
GSC Goldstone, Bar 27.13 142 P **P** **12 04 41.9 +0.6**
GSC pmax pmax
comp=Z,44nm,1.1s
GSC MLR MLR
comp=Z,8µm,19.0s
GSC Goldstone, Bar 27.13 142 P **P** **12 04 41.9 +0.6**
GSC IAMs_20 IAMs_20 12 15 07.2
comp=Z,8µm,19.0s
PV21 Cone Mtn., Par 27.13 127 P **P** **12 04 41.9 +0.4**
PV21 IAMs_20 IAMs_20 12 15 28.8
comp=Z,18µm,20.0s
SUSD Miller 27.15 106 P **P** **12 04 42.0 +0.8**
baz=316,SNR=11
SUSD Miller 27.15 106 P **P** **12 04 42.1 +0.8**
SUSD IAmb IAmb 12 04 47.7
comp=Z,247nm,1.0s
EDW2 Edwards Air Fo 27.16 145 P **P** **12 04 41.3 -0.2**
baz=339,SNR=7.3
OSI Osito Audit: C 27.19 146 P **P** **12 04 42.1 +0.3**
baz=340
PV23 Carpenter Ridg 27.21 127 P **P** **12 04 42.4 +0.2**
PV22 Blue Mesa, Par 27.23 126 P **P** **12 04 42.8 +0.5**
PV10 Paradox Valley 27.26 127 P **P** **12 04 43.6 +1.0**
PV10 IAMs_20 IAMs_20 12 15 36.4
comp=Z,19µm,20.0s

TUQ Turquoise Moun 27.29 141 P **P** **12 04 43.3 +0.5**
baz=336,SNR=23
PV04 Paradox Valley 27.30 127 P **P** **12 04 43.6 +0.7**
PV04 IAmb IAmb 12 04 49.6
comp=Z,150nm,1.3s
PV20 West Nyswonger 27.32 127 P **P** **12 04 43.5 +0.4**
PV20 IAMs_20 IAMs_20 12 15 34.7
comp=Z,18µm,19.0s
PV19 Morning Glory 27.34 127 P **P** **12 04 43.5 +0.2**
PV19 IAMs_20 IAMs_20 12 15 35.4
comp=Z,17µm,20.0s
PV07 Paradox Valley 27.37 126 P **P** **12 04 43.6 +0.1**
PV17 East Wray Mesa 27.38 127 IAMs_20 IAMs_20 12 15 36.4
comp=Z,20µm,20.0s
PV11 David Mesa, Pa 27.40 127 P **P** **12 04 44.3 +0.5**
PV11 IAMs_20 IAMs_20 12 15 36.9
comp=Z,19µm,20.0s
PV12 Saucer Basin, 27.41 127 P **P** **12 04 44.0 +0.1**
PV12 IAMs_20 IAMs_20 12 15 38.2
comp=Z,19µm,22.0s
PV18 Skein Mesa, Pa 27.43 127 P **P** **12 04 44.3 +0.2**
PV18 IAMs_20 IAMs_20 12 15 38.6
comp=Z,16µm,20.0s
PV03 Paradox Valley 27.45 127 IAMs_20 IAMs_20 12 15 38.1
comp=Z,15µm,19.0s
RRX Edison Barstow 27.46 143 P **P** **12 04 45.1 +0.9**
baz=338
F33A 5 Mile Ranch, 27.50 101 IAmb IAmb 12 04 53.2
comp=Z,236nm,1.1s
SCZ2 Santa Cruz Isl 27.51 148 P **P** **12 04 44.5 -0.1**
baz=341
PV15 Paradox Valley 27.52 126 IAMs_20 IAMs_20 12 15 41.2
comp=Z,12µm,18.0s
PV02 Paradox Valley 27.53 127 P **P** **12 04 45.4 +0.3**
PV13 Radium Mtn., P 27.54 127 IAmb IAmb 12 04 48.1
comp=Z,168nm,1.4s
PV13 IAMs_20 IAMs_20 12 15 40.6
comp=Z,14µm,19.0s
ISCO Idaho Springs 27.55 120 P **P** **12 04 46.4 +1.2**
baz=325,SNR=84
ISCO Idaho Springs 27.55 120 P **P** **12 04 44.7 -0.6**
ISCO pmax pmax
comp=Z,328nm,1.5s
ISCO MLR MLR
comp=Z,13µm,19.0s
ISCO Idaho Springs 27.55 120 P **P** **12 04 44.7 -0.6**
ISCO IAmb IAmb 12 04 55.8
comp=Z,328nm,1.4s
ISCO IAMs_20 IAMs_20 12 15 37.8
comp=Z,13µm,19.0s
DECC Green Verdugo 27.64 146 P **P** **12 04 45.9 +0.1**
baz=339
PV01 Paradox Valley 27.66 127 P **P** **12 04 47.0 +0.7**
PV01 IAMs_20 IAMs_20 12 15 45.9
comp=Z,12µm,22.0s
U15A North Rim 27.67 134 P **P** **12 04 46.4 0.0**
HEC Hector,Ludlow 27.72 142 P **P** **12 04 47.9 +1.3**
baz=337
MWC Mount Wilson 27.75 145 P **P** **12 04 47.8 +0.9**
MWC pmax pmax
comp=Z,59nm,1.5s
MWC MLR MLR
comp=Z,6µm,19.0s
MWC Mount Wilson 27.75 145 P **P** **12 04 47.8 +0.9**
PASC Pasadena Art C 27.76 145 P **P** **12 04 46.9 +0.1**
BFSC Mount Baldy Ra 27.85 144 P **P** **12 04 48.7 +0.9**
baz=339,SNR=12
ATKO Atikokan Iron 27.96 91 P **P** **12 04 49.3 +0.8**
GMRC Granite Mounta 27.98 141 P **P** **12 04 49.7 +0.8**
baz=337,SNR=20
BBRC Big Bear Solar 28.05 143 P **P** **12 04 50.4 +0.6**
baz=338
FMP Fort Macarthur 28.16 146 P **P** **12 04 50.2 -0.1**
baz=340
SNCC San Nicolas Is 28.25 148 P **P** **12 04 51.1 -0.1**
baz=341
OGNE Ogallala 28.28 114 P **P** **12 04 52.3 +0.7**
baz=322,SNR=6.1
OGNE Ogallala 28.28 114 P **P** **12 04 52.1 +0.6**
OGNE IAmb IAmb 12 05 02.8
comp=Z,222nm,1.1s
W13A Hualapai Mount 28.29 138 P **P** **12 04 52.8 +1.0**
NEE2 Needles Airpor 28.34 139 P **P** **12 04 52.8 +0.9**
baz=336
CIS Catalina Islan 28.41 146 P **P** **12 04 53.6 +0.9**
baz=340
Q24A Divide 28.44 121 P **P** **12 04 53.4 +0.2**
baz=325
Q24A Divide 28.44 121 IAMs_20 IAMs_20 12 16 06.3
comp=Z,14µm,19.0s
MVCO Mesa Verde 28.48 128 P **P** **12 04 53.4 -0.1**
baz=329,SNR=19
MVCO Mesa Verde 28.48 128 P **P** **12 04 53.1 -0.4**
MVCO IAMs_20 IAMs_20 12 16 39.4
comp=Z,15µm,18.0s
EYMN Ely 28.57 93 P **P** **12 04 54.3 +0.3**
baz=310,SNR=73
EYMN Ely 28.57 93 P **P** **12 04 54.4 +0.4**
EYMN IAmb IAmb 12 04 59.7
comp=Z,100nm,1.0s
K31A O'Neill 28.58 108 P **P** **12 04 54.8 +0.7**
K31A IAmb IAmb 12 05 03.8
comp=Z,183nm,1.4s
MURC Murrieta 28.59 144 P **P** **12 04 55.1 +0.9**
baz=339
BELC Belle Mtn. Jos 28.59 142 P **P** **12 04 55.5 +1.1**
baz=338,SNR=12
TULEG Thule 28.65 27 P **P** **12 04 55.1 +0.7**
TULEG IAmb IAmb 12 04 57.1
comp=Z,402nm,1.5s
TULEG IAMs_20 IAMs_20 12 16 15.1
comp=Z,9µm,22.0s
IRM Iron Mountain 28.72 140 P **P** **12 04 56.7 +1.2**
baz=337,SNR=9.9
S22A 4UR Ranch, Cre 28.72 125 P **P** **12 04 56.1 +0.4**
baz=328,SNR=48
S22A 4UR Ranch, Cre 28.72 125 IAMs_20 IAMs_20 12 16 34.8
comp=Z,9µm,19.0s
SCI2 San Clemente I 28.77 147 P **P** **12 04 57.1 +1.3**
baz=340
PFO Pinyon Flats O 28.80 143 P **P** **12 04 57.3 +1.1**
baz=338
PFO Pinyon Flats O 28.80 143 P **P** **12 04 56.6 +0.3**
comp=Z,6.2nm,1.0s,baz=321,slow=7.6,SNR=8.5
PFO LR LR 12 17 19.7
comp=Z,6µm,19.1s,baz=329,slow=38
PFO Pinyon Flats O 28.80 143 P **P** **12 04 57.2 +0.9**
PFO pmax pmax
comp=Z,37nm,1.4s
PFO MLR MLR
comp=Z,9µm,19.0s
PFO Pinyon Flats O 28.80 143 P **P** **12 04 57.2 +0.9**
PFO Pinyon Flats O 28.80 143 IAMs_20 IAMs_20 12 17 17.2
comp=Z,9µm,19.0s
XPFO Pion Flat 28.80 143 P **P** **12 04 56.9 +0.6**
XPFO Pion Flat 28.80 143 IAMs_20 IAMs_20 12 17 16.2
comp=Z,9µm,19.0s
WUAZ Wupatki 28.82 133 P **P** **12 04 57.5 +1.0**
baz=333,SNR=44
WUAZ Wupatki 28.82 133 IAmb IAmb 12 05 04.0
comp=Z,191nm,1.5s
ECSD EROS Data Cent 28.83 104 P **P** **12 04 56.1 -0.1**
baz=316,SNR=76
ECSD EROS Data Cent 28.83 104 IAmb IAmb 12 05 02.5
comp=Z,166nm,1.2s
ECSD EROS Data Cent 28.83 104 IAMs_20 IAMs_20 12 15 52.3
comp=Z,10µm,19.0s
F36A Milaca 28.90 98 IAMs_20 IAMs_20 12 16 02.3
comp=Z,7µm,19.0s
PDMCI Parker Dam,Lak 28.92 139 P **P** **12 04 58.1 +1.0**
baz=336,SNR=6.8
BC3 Big Chuckawall 29.08 141 P **P** **12 04 59.3 +0.6**
baz=337,SNR=8.3
109C Camp Elliot, M 29.27 145 P **P** **12 05 01.8 +1.5**
baz=339
109C Camp Elliot, M 29.27 145 P **P** **12 05 00.4 +0.1**
SDCO Great Sand Dun 29.29 123 P **P** **12 05 01.5 +0.7**
baz=327,SNR=32
Y12C Blythe 29.30 140 P **P** **12 05 01.8 +1.3**
baz=336,SNR=5.2
Y12C Blythe 29.30 140 P **P** **12 05 02.0 +1.5**
Y12C IAMs_20 IAMs_20 12 16 29.2
comp=Z,11µm,19.0s
E38A The Farm, Brul 29.41 95 IAmb IAmb 12 05 03.6
comp=Z,103nm,1.0s
CLRN Clyde River 29.46 39 P **P** **12 05 02.3 +0.7**
MONP2 Monument Peak 29.48 144 P **P** **12 05 03.1 +0.7**
baz=339
KSCO Kaye Shedlock' 29.54 117 P **P** **12 05 04.0 +1.2**
baz=324
KSCO Kaye Shedlock' 29.54 117 P **P** **12 05 04.3 +1.5**
KSCO IAmb IAmb 12 05 11.1
comp=Z,248nm,1.4s
KSCO IAMs_20 IAMs_20 12 16 59.3
comp=Z,12µm,21.0s
SWSC Sam W. Stewart 29.62 142 P **P** **12 05 04.1 +0.7**
baz=338
Y14A Wickenburg 29.65 137 IAMs_20 IAMs_20 12 17 07.4
comp=Z,7µm,19.0s
VIMO Victor Mine 29.66 79 P **P** **12 05 03.6 +0.1**
SPMN Marine on St. 29.71 98 P **P** **12 05 05.0 +1.0**
baz=314,SNR=13
SPMN Marine on St. 29.71 98 P **P** **12 05 05.1 +1.0**
BGNE Belgrade 29.79 109 P **P** **12 05 05.9 +1.0**
baz=320,SNR=14
BGNE Belgrade 29.79 109 IAMs_20 IAMs_20 12 15 29.8
comp=Z,9µm,20.0s
GTO Geraldton 29.79 86 P **P** **12 05 05.9 +1.1**
IKP In-Ko-Pah, Jac 29.80 143 P **P** **12 05 06.7 +1.7**
baz=338
W18A Petrified Fore 29.80 131 P **P** **12 05 06.7 +1.5**
baz=332,SNR=12
W18A Petrified Fore 29.80 131 IAmb IAmb 12 05 08.3
W18A IAMs_20 IAMs_20 12 17 54.4
comp=Z,7µm,19.0s
GLA Glamis 29.84 141 P **P** **12 05 06.2 +0.8**
baz=337
GLA Glamis 29.84 141 P **P** **12 05 06.2 +0.8**
GLA pmax pmax
comp=Z,57nm,1.5s
GLA MLR MLR
comp=Z,6µm,21.0s
GLA Glamis 29.84 141 P **P** **12 05 06.2 +0.8**
ALE Alert 29.92 15 IAMs_20 IAMs_20 12 16 07.9
comp=Z,8µm,18.0s
X18A Snowflake 30.24 132 IAmb IAmb 12 05 12.3
comp=Z,126nm,1.3s
X18A IAMs_20 IAMs_20 12 17 43.0
comp=Z,12µm,18.0s
L34A Svendsen Farm, 30.24 106 IAmb IAmb 12 05 14.2
comp=Z,116nm,0.8s
I37A Lemond, Waseca 30.25 100 IAmb IAmb 12 05 13.9
comp=Z,143nm,1.1s
T25A Trinidad 30.28 122 P **P** **12 05 10.4 +1.0**
baz=327,SNR=17
T25A Trinidad 30.28 122 P **P** **12 05 10.3 +0.9**
113A Mohawk Valley, 30.45 139 P **P** **12 05 11.2 +0.5**
113A IAMs_20 IAMs_20 12 17 24.0
comp=Z,8µm,18.0s
N33A J Bar K, Exete 30.64 109 IAMs_20 IAMs_20 12 16 05.4
comp=Z,12µm,19.0s
D41A Chassel 30.66 91 P **P** **12 05 13.3 +0.9**
D41A IAmb IAmb 12 05 26.4
comp=Z,196nm,1.4s
G40A Rib Lake 31.02 95 P **P** **12 05 16.2 +0.6**
CBKS Cedar Bluff 31.04 114 P **P** **12 05 16.9 +0.9**
baz=323
CBKS Cedar Bluff 31.04 114 P **P** **12 05 16.6 +0.6**
CBKS Cedar Bluff 31.04 114 P **P** **12 05 16.6 +0.6**
CBKS IAmb IAmb 12 05 23.1
comp=Z,195nm,1.4s
CBKS IAMs_20 IAMs_20 12 17 37.1
comp=Z,13µm,19.0s
ANMO Albuquerque 31.27 127 P **P** **12 05 18.8 +0.7**
baz=330
ANMO Albuquerque 31.27 127 LR LR 12 18 42.5
comp=Z,12µm,18.4s,baz=325,slow=38
ANMO Albuquerque 31.27 127 *c i* P **P** **12 05 19.5 +1.4**
ANMO pmax pmax
comp=Z,71nm,1.3s
ANMO MLR MLR
comp=Z,12µm,14.0s
ANMO Albuquerque 31.27 127 P **P** **12 05 18.6 +0.5**
ANMO IAmb IAmb 12 05 22.2
comp=Z,112nm,1.5s
ANMO Albuquerque 31.27 127 IAMs_20 IAMs_20 12 18 23.1
comp=Z,12µm,19.0s
214A Organ Pipe Nat 31.51 139 P **P** **12 05 21.4 +1.2**
baz=336,SNR=15
214A Organ Pipe Nat 31.51 139 P **P** **12 05 21.0 +0.8**
214A IAMs_20 IAMs_20 12 18 08.9
comp=Z,8µm,18.0s
K38A Parkersburg 31.55 102 P **P** **12 05 21.1 +0.7**
K38A IAmb IAmb 12 05 25.1
comp=Z,225nm,1.5s
FRB Frobisher Bay 31.58 52 P **P** **12 05 21.5 +1.2**
comp=Z,103nm,1.0s,baz=291,slow=9.7,SNR=42
FRB Frobisher Bay 31.58 52 P **P** **12 05 21.2 +0.9**
I40A Norwalk 31.76 98 P **P** **12 05 23.0 +0.8**
I40A IAmb IAmb 12 05 28.1
comp=Z,98nm,0.8s
KULLO Kullorsuaq 31.81 30⇑ *i* P **P** **12 05 23.9 +1.6**
comp=Z,399nm,1.2s
comp=Z,8µm,14.0s
KULLO Kullorsuaq 31.81 30⇑ *i* P **P** **12 05 23.9 +1.6**
KULLO pmax pmax
comp=Z,400nm,1.2s
KULLO MLR MLR
comp=Z,8µm,14.0s
Y22D IRIS PASSCAL I 31.83 128 P **P** **12 05 24.4 +1.3**
baz=331
Y22D IRIS PASSCAL I 31.83 128 IAMs_20 IAMs_20 12 19 25.1
comp=Z,12µm,19.0s
R32A Long Quarter, 31.84 113 P **P** **12 05 23.5 +0.5**
SCIA State Center 31.87 103 P **P** **12 05 23.2 0.0**
baz=318
SCIA State Center 31.87 103 P **P** **12 05 23.2 0.0**
SCIA IAmb IAmb 12 05 35.3
comp=Z,97nm,1.2s
SCIA IAMs_20 IAMs_20 12 17 59.8
comp=Z,10µm,20.0s
TUC Tucson 31.91 135 P **P** **12 05 25.5 +1.8**
baz=335
TUC Tucson 31.91 135 P **P** **12 05 25.8 +2.1**
TUC pmax pmax
comp=Z,124nm,1.3s
TUC MLR MLR
comp=Z,8µm,18.0s
TUC Tucson 31.91 135 P **P** **12 05 25.8 +2.1**
TUC IAmb IAmb 12 05 31.7
comp=Z,124nm,1.2s
TUC Tucson 31.91 135 IAMs_20 IAMs_20 12 18 59.3
comp=Z,8µm,18.0s
E43A Lone Tree Farm 31.92 91 IAmb IAmb 12 05 29.6
comp=Z,84nm,0.8s
KAPO Kapuskasing 32.27 83 P **P** **12 05 27.6 +1.0**
KSU1 Kansas State U 32.32 110 P **P** **12 05 27.9 +0.8**
baz=321,SNR=34
KSU1 Kansas State U 32.32 110 IAMs_20 IAMs_20 12 16 57.7
comp=Z,7µm,21.0s
I42A Draeger Farm, 32.63 96 IAmb IAmb 12 05 34.8
comp=Z,120nm,1.2s
JFWS Jewell Farm 32.64 99 P **P** **12 05 30.5 +0.6**
baz=316,SNR=32
JFWS Jewell Farm 32.64 99 IAmb IAmb 12 05 34.2
comp=Z,136nm,1.1s
N38A Joes South For 32.69 104 P **P** **12 05 30.6 +0.3**
N38A IAmb IAmb 12 05 36.2
comp=Z,131nm,1.1s
L40A Anamosa 32.76 101 IAmb IAmb 12 05 37.0
comp=Z,176nm,1.2s
H43A Windswept, Lux 32.82 94 IAmb IAmb 12 05 37.4
comp=Z,97nm,0.8s
121A Cookes Peak, D 32.84 131 P **P** **12 05 33.4 +1.5**
baz=332,SNR=29
121A Cookes Peak, D 32.84 131 IAmb IAmb 12 05 39.9
comp=Z,198nm,1.4s
121A IAMs_20 IAMs_20 12 19 17.9
comp=Z,6µm,20.0s
SEY Seymchan 32.99 307 LR LR 12 19 40.9
comp=Z,6µm,21.2s,baz=81,slow=38
SEY Seymchan 32.99 307 *c i* P **P** **12 05 33.4 +0.6**
D46A Sault St. Mari 33.11 88 P **P** **12 05 34.7 +0.8**
baz=311,SNR=30
F45A CMU Biological 33.15 91 P **P** **12 05 35.3 +0.9**
baz=312
319A Douglas 33.30 134 P **P** **12 05 38.5 +2.6**
319A IAmb IAmb 12 05 44.0
comp=Z,146nm,1.3s
319A IAMs_20 IAMs_20 12 19 14.1
comp=Z,7µm,21.0s
AMTX Amarillo 33.37 121 P **P** **12 05 37.4 +1.0**
baz=327
AMTX Amarillo 33.37 121 IAmb IAmb 12 05 40.2
comp=Z,89nm,1.1s
P38A Dawn 33.42 106 IAMs_20 IAMs_20 12 18 08.0
comp=Z,9µm,19.0s
D47A Chapleau 33.48 87 P **P** **12 05 38.3 +1.0**
baz=311,SNR=50
G45A Suttons Bay 33.52 92 P **P** **12 05 38.4 +0.9**
baz=313
G45A Suttons Bay 33.52 92 IAmb IAmb 12 05 46.5
comp=Z,92nm,0.8s
L42A Oliver, Polo 33.60 99 IAMs_20 IAMs_20 12 18 51.5
comp=Z,8µm,20.0s
H45A Beulah 33.60 93 P **P** **12 05 39.5 +1.2**
baz=314
MSTX Muleshoe 33.66 123 P **P** **12 05 40.2 +1.1**
baz=329,SNR=5.2
MSTX Muleshoe 33.66 123 P **P** **12 05 40.6 +1.5**
MSTX IAmb IAmb 12 05 42.6
comp=Z,252nm,1.4s
MSTX IAMs_20 IAMs_20 12 19 27.6
comp=Z,10µm,19.0s
G46A Petoskey 33.74 91 P **P** **12 05 40.4 +0.9**
baz=313
K43A Burlington 33.77 97 IAmb IAmb 12 05 45.4
comp=Z,118nm,0.8s
E47A Iron Bridge 33.79 88 P **P** **12 05 40.7 +0.7**
baz=312,SNR=29
I45A Fountain 33.91 93 P **P** **12 05 41.4 +0.4**
baz=314
N41A Harden Midland 33.95 102 P **P** **12 05 41.5 +0.2**
N41A IAmb IAmb 12 05 47.2
comp=Z,246nm,1.4s
N41A IAMs_20 IAMs_20 12 19 21.8
comp=Z,9µm,18.0s
EPT El Paso 34.02 130 IAMs_20 IAMs_20 12 20 32.0
comp=Z,6µm,18.0s
D48A Paudsh Townsh 34.08 86 P **P** **12 05 42.8 +0.4**
baz=311,SNR=73
H46A Fife Lake 34.09 92 P **P** **12 05 43.7 +1.2**
baz=314
GLMI Grayling 34.20 91 P **P** **12 05 44.9 +1.4**
baz=313
P40A Paris 34.24 105 IAmb IAmb 12 05 49.9
comp=Z,229nm,1.2s
P40A IAMs_20 IAMs_20 12 19 22.7
comp=Z,8µm,19.0s
D49A Beulah Townshi 34.24 85 P **P** **12 05 45.1 +1.3**
baz=311,SNR=55
J45A Montague 34.25 94 P **P** **12 05 45.2 +1.2**
baz=315
KILO Kirkland Lake 34.29 82 P **P** **12 05 45.2 +1.0**
E48A Lockeyer 34.35 87 P **P** **12 05 45.2 +0.4**
baz=312,SNR=41
G47A Hillman 34.36 90 P **P** **12 05 45.0 +0.2**
baz=313,SNR=27
L44A Lake County Fo 34.37 97 P **P** **12 05 45.2 +0.3**
baz=316,SNR=13
I46A Reed City 34.38 93 P **P** **12 05 45.5 +0.4**
baz=314
MNTX Cornudas Mount 34.53 128 P **P** **12 05 47.8 +1.4**
baz=332,SNR=86
MNTX Cornudas Mount 34.53 128 IAmb IAmb 12 05 54.2
comp=Z,98nm,1.3s
MNTX IAMs_20 IAMs_20 12 21 08.6
comp=Z,12µm,18.0s
F48A Evansville 34.55 88 P **P** **12 05 47.2 +0.7**
baz=312,SNR=14
MATQ Matagami 34.56 79 P **P** **12 05 46.6 +0.1**
baz=308,SNR=32
H47A Mio 34.57 91 P **P** **12 05 47.6 +0.9**
baz=314
SUNO Sudbury Onapin 34.66 86 P **P** **12 05 48.5 +1.0**
J46A Howard City 34.70 94 P **P** **12 05 48.4 +0.7**
baz=315
WMOK Wichita Mounta 34.80 117 P **P** **12 05 49.6 +0.8**
baz=326,SNR=124
WMOK Wichita Mounta 34.80 117 IAmb IAmb 12 05 56.0
comp=Z,225nm,1.2s
I47A Gladwin 34.81 92 P **P** **12 05 49.8 +1.1**
baz=314,SNR=18
HSIG 34.84 138 P **P** **12 05 51.1 +1.9**
HSIG IAMs_20 IAMs_20 12 19 29.0
comp=Z,7µm,20.0s
HDIL Hopedale 34.85 101 P **P** **12 05 49.2 0.0**
baz=318,SNR=16
HDIL Hopedale 34.85 101 IAmb IAmb 12 05 53.2
comp=Z,258nm,1.3s
OKCFA Oklahoma City 34.86 115 P **P** **12 05 50.3 +1.0**
M44A Midewin, Midew 34.88 98 IAMs_20 IAMs_20 12 18 38.4
comp=Z,6µm,18.0s
F49A Sandfield 34.89 88 P **P** **12 05 49.6 +0.2**
baz=312,SNR=16
H48A Harrisville 34.95 90 P **P** **12 05 51.0 +1.0**
baz=314,SNR=11
FNO Franklin 35.02 115 P **P** **12 05 51.9 +1.2**
R40A Maddies Statio 35.08 106 IAMs_20 IAMs_20 12 19 08.8
comp=Z,10µm,22.0s
D50A G1974 Best Tow 35.09 84 P **P** **12 05 51.6 +0.4**
baz=311,SNR=57
I48A Sherman Twp 35.12 91 P **P** **12 05 52.4 +1.0**
baz=314,SNR=31
E50A Wahnapitae 35.12 86 P **P** **12 05 52.3 +0.8**
baz=312,SNR=17
J47A Sunmer 35.20 93 P **P** **12 05 53.0 +0.9**
baz=315
J47A Sunmer 35.20 93 IAmb IAmb 12 05 58.5
comp=Z,124nm,1.0s
TUL1 Leonard 35.24 113 P **P** **12 05 53.5 +0.9**
baz=324,SNR=25
PET Petropavlovsk 35.29 289α *i* P **P** **12 05 53.4 +0.7**
PET *e* 12 07 19.1
PET *e* 12 08 21.0
PET *eS* **S** **12 11 24.0 -2.0**
PET pmax pmax
comp=Z,2µm,10.2s
PET pmax pmax
comp=Z,106nm,1.4s
PET pmax pmax
comp=Z,2µm,10.7s
PET pmax pmax
comp=Z,77nm,1.6s
PET pmax pmax
comp=Z,2µm,8.4s
PET pmax pmax
comp=Z,2µm,7.6s
PET MLR MLR
comp=Z,7µm,18.0s
PET MLR MLR
comp=Z,7µm,17.0s
PET Petropavlovsk 35.29 289 P **P** **12 05 52.1 -0.6**
PET IAmb IAmb 12 05 54.9
comp=Z,200nm,1.4s
PET IAMs_20 IAMs_20 12 22 41.7
comp=Z,6µm,18.0s
MA2 Magadan 35.30 303 P **P** **12 05 53.5 +0.7**
comp=Z,431nm,1.1s,baz=58,slow=8.4,SNR=97
MA2 LR LR 12 21 34.4
comp=Z,7µm,19.5s,baz=66,slow=38
MA2 Magadan 35.30 303 *c i* P **P** **12 05 53.9 +1.1**
MA2 pmax pmax
comp=Z,746nm,1.3s
MA2 MLR MLR
comp=Z,11µm,17.0s
MA2 Magadan 35.30 303 IAmb IAmb 12 05 55.6
comp=Z,777nm,1.2s
MA2 IAMs_20 IAMs_20 12 22 28.8
comp=Z,14µm,18.0s
L46A Eue Claire 35.32 96 P **P** **12 05 54.2 +1.0**
LSQQ Lebel-sur-Quev 35.34 79 P **P** **12 05 53.5 +0.2**
baz=309
X34A Smith Ranch, M 35.35 116 IAmb IAmb 12 06 06.8
comp=Z,125nm,1.4s
D51A Lot 18 Range I 35.38 84 P **P** **12 05 54.6 +0.9**
baz=311,SNR=29
P43A Skaggs, Pawnee 35.42 102 IAMs_20 IAMs_20 12 19 31.9
comp=Z,6µm,22.0s
U38A Gravette 35.50 111 IAMs_20 IAMs_20 12 18 57.9
comp=Z,6µm,21.0s
K47A Vermontville 35.51 94 P **P** **12 05 55.8 +1.0**
baz=316,SNR=16
ILULI Ilulissat 35.57 38⇑ *i* P **P** **12 05 56.3 +1.3**
comp=Z,97nm,1.1s
comp=Z,19µm,13.0s
ILULI Ilulissat 35.57 38⇑ *i* P **P** **12 05 56.3 +1.3**
ILULI pmax pmax
comp=Z,97nm,1.1s
ILULI MLR MLR
comp=Z,19µm,13.0s

ILULI Ilulissat 35.57 38 IAMs_20 IAMs_20 12 20 49.7
comp=Z,12µm,20.0s
O44A Mansfield 35.58 100 P **P** **12 05 55.8 +0.5**
O44A IAmb IAmb 12 06 02.4
comp=Z,187nm,1.4s
O44A IAMs_20 IAMs_20 12 20 02.8
comp=Z,6µm,20.0s
E51A G1948 Merrick 35.69 85 P **P** **12 05 57.1 +0.8**
baz=312,SNR=23
J48A Bridge Port 35.70 92 P **P** **12 05 57.5 +1.1**
baz=315,SNR=14
J48A Bridge Port 35.70 92 P **P** **12 05 56.8 +0.5**
J48A IAmb IAmb 12 06 02.7
comp=Z,136nm,0.9s
VLDQ Val d'Or 35.70 81 P **P** **12 05 55.9 -0.5**
VLDQ Val d'Or 35.70 81 P **P** **12 05 54.6 -1.8**
VLDQ IAmb IAmb 12 06 01.4
comp=Z,217nm,1.3s
PETK Petropavlovsk- 35.70 290 P **P** **12 05 56.8 +0.5**
comp=Z,74nm,1.1s,baz=76,slow=10,SNR=60
PETK PcP **PcP** **12 08 24.0 -0.2**
comp=Z,28nm,1.1s,baz=92,slow=9.2,SNR=3.8
PETK LR LR 12 21 39.0
comp=Z,4µm,21.3s,baz=63,slow=38
PETK PKKP **PKKPdf** **12 30 33.7 +3.1**
comp=Z,1.8nm,0.9s,baz=279,slow=9.9,SNR=3.6
I49A Point Hope 35.74 91 P **P** **12 05 58.1 +1.4**
baz=314,SNR=23
CCM Cathedral Cave 35.77 105 P **P** **12 05 56.5 -0.5**
baz=321
CCM Cathedral Cave 35.77 105 P **P** **12 05 56.6 -0.5**
CCM pmax pmax
comp=Z,65nm,1.2s
CCM MLR MLR
comp=Z,34µm,20.0s
CCM Cathedral Cave 35.77 105 P **P** **12 05 56.6 -0.5**
SLM Saint Louis 35.83 104 P **P** **12 05 57.2 -0.4**
SLM pmax pmax
comp=Z,75nm,1.3s
SLM Saint Louis 35.83 104 P **P** **12 05 57.2 -0.4**
SLM IAMs_20 IAMs_20 12 18 47.6
comp=Z,6µm,21.0s
HHAR Hobbs 35.84 110 IAmb IAmb 12 06 02.4
comp=Z,143nm,1.4s
K48A Perry 35.87 93 P **P** **12 05 59.3 +1.4**
baz=316,SNR=34
F51A Arnstein 35.88 86 P **P** **12 05 58.7 +0.8**
baz=312,SNR=18
D52A ZEK Kipawa Sen 35.95 83 P **P** **12 05 59.4 +0.9**
baz=311,SNR=35
MGMO Mountain Grove 35.97 108 IAmb IAmb 12 06 04.2
comp=Z,299nm,1.5s
MGMO IAMs_20 IAMs_20 12 18 56.3
comp=Z,7µm,19.0s
J49A Marlette 35.98 92 P **P** **12 05 59.8 +1.0**
baz=315,SNR=44
NOR Nord 36.05 12⇑*i*P **P** **12 05 59.8 +0.7**
comp=Z,669nm,1.6s
NOR Nord 36.05 12⇑*i*P **P** **12 05 59.8 +0.7**
NOR pmax pmax
comp=Z,670nm,1.6s
SFIN Lafayette 36.10 99 P **P** **12 06 00.8 +0.9**
baz=318,SNR=46
SFIN Lafayette 36.10 99 IAmb IAmb 12 06 04.7
comp=Z,122nm,1.1s
CHGQ Chibougamau 36.11 76 P **P** **12 05 59.7 -0.2**
baz=309,SNR=21
M47A Cromwell 36.14 96 P **P** **12 06 01.0 +0.8**
baz=317,SNR=14
ABTX Abilene, Hawle 36.18 120 P **P** **12 06 01.3 +0.6**
baz=328,SNR=10
ABTX Abilene, Hawle 36.18 120 P **P** **12 06 00.9 +0.3**
ABTX IAMs_20 IAMs_20 12 20 49.2
comp=Z,8µm,19.0s
K49A Clarkson 36.23 93 P **P** **12 06 02.1 +1.1**
baz=315
Q44A Meyer Farm, Va 36.24 102 IAmb IAmb 12 06 06.9
comp=Z,159nm,1.2s
D53A Lac Vacive, Po 36.25 83 P **P** **12 06 02.2 +1.1**
baz=311,SNR=37
D53A Lac Vacive, Po 36.25 83 IAmb IAmb 12 06 14.4
comp=Z,114nm,1.1s
F52A Sundridge 36.28 85 P **P** **12 06 01.8 +0.5**
baz=312,SNR=33
E52A Mattawa 36.29 84 P **P** **12 06 02.0 +0.6**
baz=312,SNR=27
U40A Yellville 36.31 109 P **P** **12 06 01.1 -0.6**
baz=323,SNR=35
U40A Yellville 36.31 109 IAmb IAmb 12 06 07.1
comp=Z,215nm,1.5s
U40A IAMs_20 IAMs_20 12 20 58.4
comp=Z,9µm,21.0s
L48A N Adams 36.33 94 IAMs_20 IAMs_20 12 18 42.7
comp=Z,5µm,18.0s
AAM Ann Arbor 36.47 93 P **P** **12 06 03.6 +0.6**
baz=316
P46A Rosedale 36.62 100 IAmb IAmb 12 06 10.0
comp=Z,190nm,0.9s
T42A Van Buren 36.64 106 IAMs_20 IAMs_20 12 20 55.2
comp=Z,7µm,18.0s
K50A Casco 36.67 92 P **P** **12 06 05.6 +0.9**
baz=315
E53A Dumoine, Ponti 36.74 83 P **P** **12 06 06.0 +0.8**
baz=312,SNR=42
D54A Lac Fusel, La 36.74 82 P **P** **12 06 05.7 +0.4**
baz=311,SNR=39
I51A Listowel 36.77 89 P **P** **12 06 07.1 +1.5**
baz=314,SNR=52
H52A Wyevale 36.77 87 P **P** **12 06 05.8 +0.3**
baz=314
W39A Magazine 36.78 111 P **P** **12 06 05.7 -0.1**
baz=324,SNR=86
W39A Magazine 36.78 111 IAMs_20 IAMs_20 12 21 19.0
comp=Z,9µm,18.0s
SCHQ Scheffer ville 36.80 65 P **P** **12 06 06.5 +0.8**
comp=Z,70nm,1.0s,baz=312,slow=8.6,SNR=46
SCHQ S **S** **12 11 50.4 +1.2**
comp=Z,8.5nm,0.9s,baz=279,slow=16,SNR=1.5
SCHQ LR LR 12 21 36.8
comp=Z,12µm,19.2s,baz=306,slow=37
SCHQ Schefferville 36.80 65 P **P** **12 06 06.5 +0.8**
SCHQ Schefferville 36.80 65 P **P** **12 06 06.6 +0.9**
SCHQ IAmb IAmb 12 06 08.1
comp=Z,108nm,1.1s
SFJD Kangerlussuaq 36.81 41 P **P** **12 06 06.8 +1.2**
comp=Z,41nm,0.9s,baz=305,slow=11,SNR=26
SFJD S **S** **12 11 51.1 +2.2**
comp=Z,3.9nm,0.8s,baz=336,slow=7.5,SNR=1.1
SFJD LR LR 12 21 39.1
comp=Z,11µm,18.5s,baz=308,slow=37
SFJD Kangerlussuaq 36.81 41⇑*i*P **P** **12 06 07.2 +1.6**
comp=Z,800nm,14.0s
SFJD Kangerlussuaq 36.81 41⇑*i*P **P** **12 06 07.2 +1.6**
SFJD MLR MLR
comp=Z,820nm,14.0s
SFJD Kangerlussuaq 36.81 41 P **P** **12 06 07.2 +1.6**
SFJD IAmb IAmb 12 06 20.0
comp=Z,242nm,1.5s
N48A Decatur 36.81 96 P **P** **12 06 06.2 +0.3**
baz=317,SNR=46
ALGO Algonquin Park 36.82 84 P **P** **12 06 06.4 +0.5**
baz=312,SNR=51
OLIL Olney 36.83 102 IAmb IAmb 12 06 11.5
comp=Z,147nm,0.8s
OLIL IAMs_20 IAMs_20 12 21 03.1
comp=Z,10µm,19.0s
TIXI Tiksi 36.93 328*c*i P **P** **12 06 06.2 -0.4**
TIXI pmax pmax
comp=Z,346nm,2.5s
TIXI MLR MLR
comp=Z,4µm,15.0s
TIXI Tiksi 36.93 328 P **P** **12 06 06.2 -0.4**
TIXI IAmb IAmb 12 06 07.1
comp=Z,107nm,1.1s
E54A Lac Daplat, Po 36.95 83 P **P** **12 06 07.7 +0.7**
baz=312,SNR=41
I52A Shelburne 37.02 88 P **P** **12 06 08.5 +0.8**
baz=314
S44A Carbondale 37.05 104 IAmb IAmb 12 06 13.8
comp=Z,120nm,1.1s
S44A IAMs_20 IAMs_20 12 20 59.8
comp=Z,8µm,21.0s
SADO Sadowa 37.07 87 LR LR 12 21 38.8
comp=Z,12µm,19.8s,baz=337,slow=37
SADO Sadowa 37.07 87 P **P** **12 06 09.5 +1.4**
SADO Sadowa 37.07 87 P **P** **12 06 08.7 +0.6**
SADO IAmb IAmb 12 06 14.6
comp=Z,158nm,1.4s
G53A Haliburton 37.09 86 P **P** **12 06 09.1 +0.8**
baz=313,SNR=29
L50A Kingsville 37.09 93 P **P** **12 06 09.8 +1.5**
baz=316,SNR=18
CRLO Chalk River 37.11 84 P **P** **12 06 10.0 +1.6**
G54A Lake Saint Pet 37.18 85 P **P** **12 06 09.9 +0.8**
baz=313,SNR=39
O48A Farmland 37.19 97 P **P** **12 06 09.0 -0.2**
baz=318,SNR=20
N49A Columbus Grove 37.20 95 IAMs_20 IAMs_20 12 19 12.8
comp=Z,6µm,21.0s
K51A Iona Station 37.28 91 P **P** **12 06 11.3 +1.4**
baz=316
BLO Bloomington 37.30 100 P **P** **12 06 10.4 +0.3**
BLO pmax pmax
comp=Z,139nm,0.9s
BLO Bloomington 37.30 100 P **P** **12 06 10.4 +0.3**
BLO IAmb IAmb 12 06 15.6
comp=Z,139nm,0.9s
TXAR Lajitas Array 37.31 128 P **P** **12 06 11.8 +1.4**
comp=Z,28nm,1.1s,baz=329,slow=4.7,SNR=95
TXAR PcP **PcP** **12 08 28.2 -1.2**
comp=Z,17nm,1.1s,baz=320,slow=3.3,SNR=4.3
TXAR LR LR 12 22 37.6
comp=Z,8µm,19.2s,baz=0.0,slow=38
LCAR Lake Charles 37.37 107 IAmb IAmb 12 06 15.6
comp=Z,121nm,1.3s
LCAR IAMs_20 IAMs_20 12 21 31.5
comp=Z,10µm,18.0s
MIAR Mount Ida 37.41 112 P **P** **12 06 11.4 +0.4**
baz=324,SNR=74
MIAR Mount Ida 37.41 112 IAMs_20 IAMs_20 12 22 42.6
comp=Z,11µm,19.0s
D55A Sainte-Anne-du 37.43 81 P **P** **12 06 11.9 +0.7**
baz=312,SNR=52
WHAR Wooly Hollow 37.43 109 IAMs_20 IAMs_20 12 20 38.2
comp=Z,10µm,19.0s
M50A Fremont 37.44 94 IAmb IAmb 12 06 17.2
comp=Z,122nm,1.1s
J52A Paris 37.45 89 P **P** **12 06 12.3 +1.0**
baz=315,SNR=8.1
SUMG Summit 37.48 29⇑*i*P **P** **12 06 12.6 +0.9**
comp=Z,1µm,1.3s
comp=Z,26µm,11.0s
SUMG Summit 37.48 29⇑*i*P **P** **12 06 12.6 +0.9**
SUMG pmax pmax
comp=Z,2µm,1.3s
SUMG MLR MLR
comp=Z,26µm,11.0s
SUMG Summit 37.48 29 P **P** **12 06 12.5 +0.7**
H53A Bobcaygeon 37.49 86 P **P** **12 06 12.2 +0.5**
baz=314,SNR=19
I53A Kortright Cn E 37.49 88 P **P** **12 06 12.8 +1.1**
baz=314
GRQ Grand Remous 37.51 82 P **P** **12 06 12.9 +1.1**
E55A Montcerf-Lytto 37.51 82 P **P** **12 06 12.3 +0.5**
baz=312,SNR=12
W41B Gary Mavity, V 37.55 109 P **P** **12 06 11.4 -0.8**
baz=324,SNR=5.3
PARMO Parma 37.60 105 IAMs_20 IAMs_20 12 21 26.5
comp=Z,6µm,18.0s
P48A Milroy 37.65 98 IAmb IAmb 12 06 18.6
comp=Z,275nm,1.5s
K52A Tillsonburg 37.65 90 P **P** **12 06 14.4 +1.4**
baz=315
O49A Covington 37.66 96 IAmb IAmb 12 06 25.4
comp=Z,170nm,1.3s
HENM Henderson Moun 37.70 105 P **P** **12 06 13.5 +0.1**
HENM IAmb IAmb 12 06 19.4
comp=Z,308nm,1.2s
HENM IAMs_20 IAMs_20 12 21 05.1
comp=Z,7µm,20.0s
WHTX Lake Whitney, 37.70 118 P **P** **12 06 14.3 +0.7**
baz=328,SNR=15
WHTX Lake Whitney, 37.70 118 P **P** **12 06 14.2 +0.6**
WHTX IAmb IAmb 12 06 20.3
comp=Z,285nm,1.4s
D56A ZEC Mazanza, M 37.78 80 P **P** **12 06 14.8 +0.7**
baz=312,SNR=105
F55A Otter Lake 37.78 83 P **P** **12 06 14.6 +0.5**
baz=313
X40A Basin Creek Fa 37.81 111 P **P** **12 06 14.2 -0.3**
baz=324,SNR=17
PVMO Portageville 37.82 106 IAMs_20 IAMs_20 12 19 47.3
comp=Z,7µm,18.0s
UALR University of 37.82 110 P **P** **12 06 14.3 -0.2**
T45A Paducah 37.88 104 P **P** **12 06 15.3 +0.3**
T45A IAmb IAmb 12 06 20.1
comp=Z,132nm,0.8s
T45A IAMs_20 IAMs_20 12 23 12.8
comp=Z,11µm,18.0s
M51A Elyria 37.93 93 P **P** **12 06 16.2 +0.8**
baz=317,SNR=6.6
JCT Junction City 37.94 122 P **P** **12 06 16.3 +0.6**
baz=330,SNR=13
PLVO Plevna 37.95 85 IAmb IAmb 12 06 22.5
comp=Z,301nm,1.4s
P49A Miami Univ. Ec 37.95 97 P **P** **12 06 15.2 -0.4**
baz=318
HICK Hickman 37.95 105 P **P** **12 06 14.6 -1.0**
HICK IAmb IAmb 12 06 19.5
comp=Z,313nm,1.3s
HICK IAMs_20 IAMs_20 12 23 00.9
comp=Z,10µm,22.0s
SKR Severo-Kuril's 37.97 288⇑*i*P **P** **12 06 15.5 -0.1**
SKR *e* 12 07 41.9
SKR *e*PPP PPP 12 08 28.1
SKR *e*S **S** **12 12 10.5 +3.7**
SKR *e*SS **SnSn** **12 14 47.7 -0.7**
SKR pmax pmax
comp=Z,242nm,1.1s
SKR pmax pmax
comp=Z,1µm,4.1s
SKR pmax pmax
comp=Z,600nm,14.7s
SKR MLR MLR
comp=Z,2µm,18.0s
SKR MLR MLR
comp=Z,2µm,18.0s
E56A St. Veronique 37.97 81 P **P** **12 06 16.6 +0.8**
baz=312,SNR=12
G55A Calabogie 37.99 84 P **P** **12 06 16.6 +0.8**
baz=313,SNR=41
GNAR Gosnell 38.02 106 P **P** **12 06 16.4 +0.2**
GNAR IAmb IAmb 12 06 22.2
comp=Z,297nm,1.3s
HBAR Harrisburg 38.02 107 P **P** **12 06 16.1 -0.1**
HBAR IAMs_20 IAMs_20 12 20 33.8
comp=Z,7µm,19.0s
DELO Deloro Mine 38.03 86 P **P** **12 06 17.3 +1.1**
DELO IAmb IAmb 12 06 23.1
comp=Z,288nm,1.4s
WCI Wyandotte Cave 38.13 100 P **P** **12 06 17.3 +0.2**
baz=320
WCI Wyandotte Cave 38.13 100 P **P** **12 06 17.5 +0.3**
WCI pmax pmax
comp=Z,160nm,1.1s
WCI MLR MLR
comp=Z,6µm,18.0s
WCI Wyandotte Cave 38.13 100 P **P** **12 06 17.5 +0.3**
WCI IAmb IAmb 12 06 23.1
comp=Z,160nm,1.1s
WCI Wyandotte Cave 38.13 100 IAMs_20 IAMs_20 12 21 31.5
comp=Z,5µm,18.0s
N51A Ashland 38.13 94 P **P** **12 06 17.9 +0.7**
baz=317,SNR=10
N51A Ashland 38.13 94 P **P** **12 06 17.9 +0.7**
N51A IAmb IAmb 12 06 29.8
comp=Z,205nm,1.2s
GLAT Glass 38.14 105 P **P** **12 06 17.5 +0.3**
GLAT IAmb IAmb 12 06 19.5
comp=Z,188nm,1.2s
LPAR Lepanto 38.16 107 P **P** **12 06 17.7 +0.3**
LPAR IAmb IAmb 12 06 22.9
comp=Z,260nm,1.4s
LPAR IAMs_20 IAMs_20 12 20 53.4
comp=Z,5µm,20.0s
LNXT Lenox 38.17 106 P **P** **12 06 18.1 +0.6**
LNXT IAMs_20 IAMs_20 12 24 35.6
comp=Z,8µm,18.0s
I55A Frankford 38.21 86 P **P** **12 06 18.6 +0.9**
baz=314,SNR=28
M52A Chesterland 38.21 92 P **P** **12 06 19.0 +1.2**
baz=316,SNR=29
H55A Tweed 38.23 85 P **P** **12 06 19.1 +1.2**
baz=314,SNR=45
D57A Chemin Vers le 38.24 80 P **P** **12 06 18.7 +0.7**
baz=312,SNR=117
UTMT University of 38.29 105 P **P** **12 06 18.5 0.0**
GAC Glen Almond 38.31 83 P **P** **12 06 19.7 +1.2**
ACSO Alum Creek Sta 38.33 95 P **P** **12 06 19.4 +0.7**
baz=318,SNR=38
WLAR White Oak Lake 38.33 112 P **P** **12 06 19.6 +0.7**
WLAR IAmb IAmb 12 06 25.4
comp=Z,295nm,1.3s
WLAR IAMs_20 IAMs_20 12 21 51.0
comp=Z,6µm,21.0s
J54A Appleton 38.37 88 P **P** **12 06 20.4 +1.3**
baz=315,SNR=26
J54A Appleton 38.37 88 P **P** **12 06 21.0 +1.9**
HALT Halls 38.40 106 P **P** **12 06 19.4 0.0**
TRQ Mont Tremblant 38.44 81 P **P** **12 06 20.4 +0.7**
237A Washetta, Mont 38.45 116 P **P** **12 06 20.6 +0.7**
237A IAmb IAmb 12 06 26.8
comp=Z,316nm,1.3s
ORIO Orleans, Innes 38.47 83 P **P** **12 06 20.2 +0.4**
baz=313,SNR=5.8
L53A Girard 38.48 91 P **P** **12 06 21.1 +1.1**
baz=316,SNR=26
ERPA Erie 38.50 90 P **P** **12 06 21.2 +1.0**
baz=316,SNR=18
ERPA Erie 38.50 90 IAmb IAmb 12 06 26.6
comp=Z,197nm,0.8s
MNQ Manicouagan 38.51 72 P **P** **12 06 21.1 +0.9**
E57A Chemin Saint G 38.52 81 P **P** **12 06 20.9 +0.6**
baz=312,SNR=50
LATQ La Tuque 38.56 78 P **P** **12 06 21.3 +0.7**
baz=312
N52A McGinn's Farm, 38.57 93 P **P** **12 06 20.8 0.0**
baz=317
O51A Pataskala 38.58 95 P **P** **12 06 21.4 +0.5**
baz=318,SNR=42
M53A WI Miller and 38.63 92 P **P** **12 06 22.6 +1.2**
baz=317,SNR=74
HDBT Hernando Brdge 38.64 107 IAMs_20 IAMs_20 12 22 21.0
comp=Z,8µm,18.0s
HPIG 38.66 132 IAMs_20 IAMs_20 12 23 25.9
comp=Z,9µm,18.0s
435B Jarrell 38.67 119 P **P** **12 06 22.2 +0.5**
baz=328
T47A Sharon Grove 38.67 102 IAmb IAmb 12 06 27.1
comp=Z,112nm,0.9s
T47A IAMs_20 IAMs_20 12 22 02.9
comp=Z,8µm,18.0s
H56A Elgin 38.68 84 P **P** **12 06 22.5 +0.9**
baz=314,SNR=32
D58A Chemin du LacG 38.70 79 P **P** **12 06 22.1 +0.3**
baz=312,SNR=38
X43A Marvell 38.74 109 P **P** **12 06 21.8 -0.5**
baz=324
ALLY Alegheny Colle 38.76 91 IAmb IAmb 12 06 35.7
comp=Z,166nm,1.1s
PECO Prince Edward 38.76 86 P **P** **12 06 23.4 +1.1**
L54A Sinclairville 38.76 90 P **P** **12 06 23.4 +1.0**
baz=316,SNR=36
CCAR Cane Creek 38.79 110 P **P** **12 06 24.0 +1.3**
CCAR IAmb IAmb 12 06 35.0
comp=Z,241nm,1.4s
J55A Hilton 38.80 87 P **P** **12 06 23.7 +1.0**
baz=315,SNR=24
J55A Hilton 38.80 87 P **P** **12 06 24.1 +1.3**
J55A IAmb IAmb 12 06 29.6
comp=Z,409nm,1.4s
J55A IAMs_20 IAMs_20 12 20 03.2
comp=Z,6µm,20.0s
K54A Basiliko Farm, 38.82 89 P **P** **12 06 24.0 +1.1**
baz=316,SNR=23
Z41A Richland Creek 38.83 112 P **P** **12 06 22.9 -0.1**
baz=325
P51A Williamsport 38.84 96 P **P** **12 06 23.3 +0.2**
baz=318,SNR=14
P51A Williamsport 38.84 96 P **P** **12 06 23.2 +0.1**
P51A IAmb IAmb 12 06 29.1
comp=Z,184nm,1.1s
WBO Williamsburg 38.90 83 P **P** **12 06 24.3 +0.8**
DAQ Lac Daran 38.95 77 P **P** **12 06 24.8 +0.8**
WVT Waverly 38.98 104 P **P** **12 06 24.2 0.0**
baz=322
WVT Waverly 38.98 104 P **P** **12 06 24.3 0.0**
WVT pmax pmax
comp=Z,149nm,1.4s
WVT MLR MLR
comp=Z,7µm,21.0s
WVT Waverly 38.98 104 P **P** **12 06 24.3 0.0**
WVT Waverly 38.98 104 IAMs_20 IAMs_20 12 21 43.3
comp=Z,7µm,21.0s
G57A Newington 38.98 83 P **P** **12 06 24.7 +0.5**
baz=314,SNR=22
E58A La Victoria 38.99 80 P **P** **12 06 24.7 +0.5**
baz=313,SNR=48
O52A Adamsville 39.00 94 P **P** **12 06 24.9 +0.4**
baz=318,SNR=29
O52A Adamsville 39.00 94 IAMs_20 IAMs_20 12 23 59.5
comp=Z,5µm,18.0s
WVNY West Valley, N 39.01 89 IAmb IAmb 12 06 31.4
comp=Z,402nm,1.2s
N53A Lisbon 39.01 92 P **P** **12 06 25.2 +0.7**
baz=317,SNR=61
DPQ Saint Jean 39.03 79 P **P** **12 06 25.0 +0.4**
DAG Danmarks Havn 39.04 19⇑*i*P **P** **12 06 24.4 +0.1**
comp=Z,291nm,1.0s
DAG Danmarks Havn 39.04 19⇑*i*P **P** **12 06 24.4 +0.1**
DAG pmax pmax
comp=Z,290nm,1.0s
Q51A Peebles 39.04 97 IAmb IAmb 12 06 30.9
comp=Z,214nm,1.3s
K55A Perry 39.05 88 P **P** **12 06 25.6 +0.8**
baz=316,SNR=23
F58A St-Lin Laurent 39.06 81 P **P** **12 06 24.7 -0.1**
baz=313
M54A Oil Creek Stat 39.11 91 P **P** **12 06 26.1 +0.8**
baz=316,SNR=50
M54A Oil Creek Stat 39.11 91 IAmb IAmb 12 06 30.3
comp=Z,236nm,1.5s
NATX Nacogdoches 39.19 115 P **P** **12 06 26.2 +0.2**
baz=327
NATX Nacogdoches 39.19 115 IAmb IAmb 12 06 33.0
comp=Z,185nm,1.1s
P52A Corning 39.21 95 P **P** **12 06 26.2 +0.1**
baz=318,SNR=23
O53A New Philadelph 39.23 93 P **P** **12 06 26.6 +0.2**
baz=318,SNR=22
L55A Hinsdale 39.25 89 P **P** **12 06 27.6 +1.0**
baz=316,SNR=67
D59A Saint-Raymond 39.29 78 P **P** **12 06 27.2 +0.4**
baz=312
J56A Wolcott 39.29 86 P **P** **12 06 27.4 +0.6**
baz=315,SNR=7.6
J56A Wolcott 39.29 86 IAmb IAmb 12 06 33.6
comp=Z,280nm,1.5s
E59A St. Maurice 39.30 79 P **P** **12 06 26.8 -0.1**
baz=313
N54A Moraine State 39.34 92 P **P** **12 06 28.0 +0.8**
baz=317,SNR=68
G58A Ormstown 39.42 82 P **P** **12 06 28.2 +0.3**
baz=314,SNR=22
I57A Carthage 39.44 85 P **P** **12 06 28.8 +0.7**
baz=315,SNR=42
K56A Middlesex 39.46 87 P **P** **12 06 29.2 +0.9**
baz=316,SNR=36
OXF Oxford 39.47 107 P **P** **12 06 28.4 0.0**
baz=323,SNR=53
OXF Oxford 39.47 107 IAMs_20 IAMs_20 12 22 55.1
comp=Z,7µm,18.0s
LONY Lake Ozonia 39.52 83 P **P** **12 06 29.0 +0.3**
baz=314,SNR=27
LPIG La Paz 39.59 140 LR LR 12 23 18.2
comp=Z,4µm,18.5s,baz=326,slow=37
F59A Saint Guilaume 39.59 80 P **P** **12 06 29.5 +0.2**
baz=313,SNR=7.3
M55A Ridgway 39.60 90 P **P** **12 06 30.4 +1.0**
baz=316,SNR=69
M55A Ridgway 39.60 90 IAmb IAmb 12 06 36.4
comp=Z,437nm,1.3s
Q52A Bidwell 39.64 96 P **P** **12 06 29.6 -0.1**
baz=319,SNR=48
J57A Williamstown 39.64 86 P **P** **12 06 30.0 +0.2**
baz=315,SNR=31
J57A Williamstown 39.64 86 IAmb IAmb 12 06 36.4
comp=Z,192nm,1.2s
CNQ Baie Comeau 39.65 73 P **P** **12 06 31.1 +1.4**
P53A Whipple 39.70 94 P **P** **12 06 30.6 +0.4**
baz=318,SNR=28

P53A	**Whipple**	**39.70**	**94**	IAmb	IAmb	12 06 34.6		
	comp=Z,120nm,1.0s							
A54	**Misere**	**39.70**	**77**	P	**P**	**12 06 31.4**	**+1.1**	
O54A	**Avella**	**39.71**	**93**	P	**P**	**12 06 30.4**	**+0.1**	
	baz=318,SNR=33							
A61	**Sainte Mathild**	**39.71**	**76**	P	**P**	**12 06 30.0**	**-0.3**	
U49A	**Red Boiling Sp**	**39.71**	**102**	IAmb	IAmb	12 06 36.6		
	comp=Z,357nm,1.5s							
U49A				IAMs_20	IAMs_20	12 21 35.4		
	comp=Z,5µm,22.0s							
A64	**Saint Simeon**	**39.72**	**76**	P	**P**	**12 06 30.9**	**+0.6**	
L56A	**Greenwood**	**39.74**	**88**	P	**P**	**12 06 31.4**	**+0.7**	
	baz=316,SNR=51							
L56A	**Greenwood**	**39.74**	**88**	P	**P**	**12 06 31.3**	**+0.7**	
L56A				IAmb	IAmb	12 06 37.5		
	comp=Z,232nm,1.1s							
PLAL	**Pickwick Lake**	**39.76**	**105**	P	**P**	**12 06 30.6**	**-0.2**	
PLAL				IAmb	IAmb	12 06 36.8		
	comp=Z,124nm,1.0s							
PLAL				IAMs_20	IAMs_20	12 21 51.7		
	comp=Z,6µm,18.0s							
CLTN	**Cedars of Leba**	**39.76**	**102**	IAmb	IAmb	12 06 37.5		
	comp=Z,277nm,1.2s							
CLTN				IAMs_20	IAMs_20	12 22 43.7		
	comp=Z,8µm,18.0s							
V48A	**Smith Brothers**	**39.79**	**103**	IAmb	IAmb	12 06 37.4		
	comp=Z,186nm,1.1s							
V48A				IAMs_20	IAMs_20	12 22 19.5		
	comp=Z,8µm,19.0s							
T50A	**Nancy**	**39.80**	**100**	IAmb	IAmb	12 06 37.4		
	comp=Z,320nm,1.4s							
D60A	**Saint Jean D'O**	**39.81**	**78**	P	**P**	**12 06 31.4**	**+0.3**	
	baz=312,SNR=38							
K57A	**Scipio Center**	**39.85**	**87**	P	**P**	**12 06 32.2**	**+0.6**	
	baz=316,SNR=7.4							
H58A	**Gabriels**	**39.87**	**83**	P	**P**	**12 06 31.5**	**-0.1**	
	baz=314,SNR=23							
M56A	**Emporium**	**39.89**	**89**	P	**P**	**12 06 32.7**	**+0.9**	
	baz=316,SNR=76							
M56A	**Emporium**	**39.89**	**89**	IAmb	IAmb	12 06 38.7		
	comp=Z,457nm,1.4s							
ICQ	**Pointe Anglais**	**39.90**	**72**	P	**P**	**12 06 31.5**	**-0.3**	
A21	**Saint Andre**	**39.90**	**76**	P	**P**	**12 06 32.8**	**+0.9**	
E60A	**Ste Agathe de**	**39.92**	**79**	P	**P**	**12 06 33.0**	**+1.0**	
	baz=313							
G59A	**Clarenceville**	**39.92**	**81**	P	**P**	**12 06 32.1**	**+0.1**	
	baz=314,SNR=14							
Y45A	**Yeager Farm, C**	**39.92**	**108**	P	**P**	**12 06 32.4**	**+0.2**	
Y45A				IAmb	IAmb	12 06 36.4		
	comp=Z,204nm,1.4s							
Y45A				IAMs_20	IAMs_20	12 22 24.0		
	comp=Z,7µm,18.0s							
F60A	**Warwick**	**39.94**	**80**	P	**P**	**12 06 32.4**	**+0.3**	
	baz=313,SNR=54							
143A	**Socs Landing,**	**39.96**	**111**	IAMs_20	IAMs_20	12 21 15.0		
	comp=Z,8µm,20.0s							
H59A	**Cadyville**	**39.96**	**82**	P	**P**	**12 06 32.8**	**+0.4**	
	baz=314,SNR=66							
I58A	**Old Forge**	**39.97**	**84**	P	**P**	**12 06 33.1**	**+0.6**	
	baz=315,SNR=38							
833A	**Chaparral WMA,**	**39.98**	**124**	P	**P**	**12 06 33.9**	**+1.2**	
	baz=331							
N55A	**Marion Center**	**39.99**	**91**	P	**P**	**12 06 33.0**	**+0.4**	
	baz=317,SNR=104							
D61A	**St Aubert, Com**	**39.99**	**77**	P	**P**	**12 06 33.2**	**+0.6**	
	baz=312,SNR=15							
J58A	**Remsen**	**40.04**	**85**	P	**P**	**12 06 33.8**	**+0.7**	
	baz=315,SNR=36							
J58A	**Remsen**	**40.04**	**85**	IAmb	IAmb	12 06 39.9		
	comp=Z,178nm,1.1s							
J58A				IAMs_20	IAMs_20	12 21 39.9		
	comp=Z,6µm,21.0s							
P54A	**Burton**	**40.08**	**93**	P	**P**	**12 06 33.7**	**+0.2**	
	baz=318,SNR=47							
SLBS	**Sierra La Lagu**	**40.10**	**140**	P	**P**	**12 06 33.8**	**0.0**	
Q53A	**Leroy**	**40.10**	**95**	P	**P**	**12 06 34.0**	**+0.4**	
	baz=319,SNR=48							
NCB	**Newcomb**	**40.16**	**84**	IAmb	IAmb	12 06 40.9		
	comp=Z,343nm,1.5s							
HKT	**Hockley**	**40.17**	**118**	P	**P**	**12 06 35.9**	**+1.8**	
HKT				pmax	pmax			
	comp=Z,259nm,1.5s							
HKT				MLR	MLR			
	comp=Z,16µm,21.0s							
HKT	**Hockley**	**40.17**	**118**	P	**P**	**12 06 35.9**	**+1.8**	
HKT				IAmb	IAmb	12 06 42.4		
	comp=Z,259nm,1.5s							
L57A	**Andrews Acres**	**40.21**	**88**	P	**P**	**12 06 35.1**	**+0.6**	
	baz=316,SNR=63							
O55A	**Ligonier**	**40.24**	**92**	P	**P**	**12 06 35.3**	**+0.5**	
	baz=318,SNR=36							
N56A	**West Decatur**	**40.24**	**90**	P	**P**	**12 06 35.5**	**+0.7**	
	baz=317,SNR=17							
R53A	**Hurricane**	**40.28**	**96**	P	**P**	**12 06 35.1**	**+0.1**	
	baz=319,SNR=35							
R53A	**Hurricane**	**40.28**	**96**	IAmb	IAmb	12 06 41.3		
	comp=Z,410nm,1.3s							
K58A	**Earlville**	**40.28**	**86**	P	**P**	**12 06 35.6**	**+0.5**	
	baz=316,SNR=20							
G60A	**Masonville**	**40.34**	**81**	P	**P**	**12 06 36.1**	**+0.6**	
	baz=314,SNR=33							
E61A	**Lac Etchemin**	**40.36**	**78**	P	**P**	**12 06 36.4**	**+0.7**	
	baz=313,SNR=46							
Q54A	**Coxs Mills**	**40.36**	**94**	P	**P**	**12 06 35.9**	**+0.2**	
	baz=319,SNR=34							
Q54A	**Coxs Mills**	**40.36**	**94**	IAmb	IAmb	12 06 42.0		
	comp=Z,283nm,1.4s							
MCWV	**Mont Chateau**	**40.37**	**93**	P	**P**	**12 06 36.1**	**+0.2**	
	baz=318,SNR=21							
J59A	**Piesco**	**40.37**	**84**	P	**P**	**12 06 36.3**	**+0.5**	
	baz=315,SNR=27							
J59A	**Piesco**	**40.37**	**84**	P	**P**	**12 06 35.5**	**-0.4**	
GSQ	**Grosses Roches**	**40.38**	**73**	P	**P**	**12 06 37.9**	**+2.1**	
F61A	**St Evariste**	**40.42**	**79**	P	**P**	**12 06 37.0**	**+0.9**	
	baz=313,SNR=17							
I59A	**Olmsteadville**	**40.46**	**83**	P	**P**	**12 06 37.3**	**+0.7**	
	baz=315,SNR=37							
P55A	**Reedsville**	**40.49**	**93**	P	**P**	**12 06 37.2**	**+0.3**	
	baz=318,SNR=48							
BINY	**Binghamton**	**40.51**	**87**	P	**P**	**12 06 37.9**	**+0.9**	
	baz=316,SNR=50							
BINY	**Binghamton**	**40.51**	**87**	IAmb	IAmb	12 06 43.9		
	comp=Z,360nm,1.2s							
H60A	**Morristown**	**40.53**	**82**	P	**P**	**12 06 37.5**	**+0.4**	
	baz=314,SNR=15							
KIP	**Kipapa**	**40.54**	**211**	*ce*P	**P**	**12 06 39.9**	**+2.5**	
KIP				pmax	pmax			
	comp=Z,364nm,2.5s							
KIP				MLR	MLR			
	comp=Z,1µm,16.0s							
KIP	**Kipapa**	**40.54**	**211**	P	**P**	**12 06 36.9**	**-0.5**	
KIP				IAmb	IAmb	12 06 41.0		
	comp=Z,261nm,1.4s							
M57A	**Sunshine Farm,**	**40.54**	**89**	P	**P**	**12 06 38.0**	**+0.8**	
	baz=317,SNR=32							
M57A	**Sunshine Farm,**	**40.54**	**89**	IAmb	IAmb	12 06 43.3		
	comp=Z,144nm,1.0s							
O56A	**Blue Knob Stat**	**40.58**	**91**	P	**P**	**12 06 38.0**	**+0.3**	
	baz=318,SNR=48							
O56A	**Blue Knob Stat**	**40.58**	**91**	IAmb	IAmb	12 06 50.0		
	comp=Z,134nm,1.1s							
342A	**Flagon Creek P**	**40.61**	**113**	P	**P**	**12 06 39.1**	**+1.2**	
342A				IAmb	IAmb	12 06 45.3		
	comp=Z,272nm,1.4s							
G61A	**St-Isidore-de-**	**40.62**	**80**	P	**P**	**12 06 38.3**	**+0.5**	
	baz=314,SNR=21							
KHLH	**Kahului Airpor**	**40.63**	**209**	P	**P**	**12 06 38.8**	**+0.7**	
KHLH				IAmb	IAmb	12 06 42.1		
	comp=Z,246nm,1.3s							
D62A	**Allapoint, All**	**40.64**	**76**	P	**P**	**12 06 38.9**	**+0.9**	
	baz=313,SNR=38							
D62A	**Allapoint, All**	**40.64**	**76**	IAmb	IAmb	12 06 44.9		
	comp=Z,197nm,1.2s							
SWET	**Sewanee**	**40.65**	**103**	IAmb	IAmb	12 06 44.0		
	comp=Z,181nm,1.3s							
SWET				IAMs_20	IAMs_20	12 22 59.2		
	comp=Z,7µm,21.0s							
VT1	**Waterbury**	**40.66**	**82**	P	**P**	**12 06 38.1**	**-0.1**	
S53A	**Williamson**	**40.68**	**97**	P	**P**	**12 06 38.8**	**+0.3**	
	baz=320							
K59A	**Cooperstown**	**40.68**	**85**	P	**P**	**12 06 39.2**	**+0.8**	
	baz=316,SNR=25							
L58A	**Harry Jones Me**	**40.69**	**87**	P	**P**	**12 06 39.5**	**+1.0**	
	baz=316,SNR=50							
X48A	**Hartselle**	**40.69**	**105**	IAmb	IAmb	12 06 44.5		
	comp=Z,170nm,1.1s							
E62A	**Clayton Lake**	**40.72**	**77**	P	**P**	**12 06 39.4**	**+0.7**	
	baz=313,SNR=53							
E62A	**Clayton Lake**	**40.72**	**77**	IAmb	IAmb	12 06 44.6		
	comp=Z,126nm,0.9s							
E62A				IAMs_20	IAMs_20	12 22 53.8		
	comp=Z,7µm,20.0s							
I60A	**Shoreham**	**40.73**	**83**	P	**P**	**12 06 39.2**	**+0.5**	
	baz=315,SNR=22							
Q55A	**Buckhannon**	**40.74**	**94**	P	**P**	**12 06 39.4**	**+0.4**	
	baz=319,SNR=21							
N57A	**Milroy**	**40.75**	**90**	P	**P**	**12 06 39.6**	**+0.7**	
	baz=317,SNR=56							
VBMS	**Vicksburg**	**40.78**	**110**	P	**P**	**12 06 40.0**	**+0.7**	
	baz=325,SNR=5.9							
TZTN	**Tazewell**	**40.82**	**99**	P	**P**	**12 06 39.7**	**+0.1**	
	baz=321,SNR=25							
TZTN	**Tazewell**	**40.82**	**99**	IAmb	IAmb	12 06 46.1		
	comp=Z,302nm,1.5s							
ACCN	**Adirondack Com**	**40.86**	**84**	IAmb	IAmb	12 06 46.7		
	comp=Z,180nm,1.2s							
M58A	**Price's Panora**	**40.86**	**88**	P	**P**	**12 06 40.4**	**+0.5**	
	baz=317,SNR=34							
R54A	**Victor**	**40.89**	**95**	P	**P**	**12 06 40.5**	**+0.4**	
	baz=319,SNR=26							
H61A	**Lyndonville**	**40.94**	**81**	P	**P**	**12 06 41.2**	**+0.7**	
	baz=314,SNR=37							
W50A	**Signal Mountai**	**40.98**	**102**	P	**P**	**12 06 41.2**	**+0.3**	
W50A				IAmb	IAmb	12 06 48.0		
	comp=Z,145nm,1.3s							
W50A				IAMs_20	IAMs_20	12 23 23.8		
	comp=Z,9µm,19.0s							
IVI	**Ivigtut**	**40.98**	**48**	IAmb	IAmb	12 06 47.6		
	comp=Z,176nm,1.5s							
V51A	**Loudon**	**40.99**	**101**	P	**P**	**12 06 40.8**	**-0.2**	
V51A				IAmb	IAmb	12 06 46.5		
	comp=Z,137nm,1.2s							
V51A				IAMs_20	IAMs_20	12 22 14.2		
	comp=Z,7µm,19.0s							
L59A	**Walton**	**41.00**	**86**	P	**P**	**12 06 41.8**	**+0.7**	
	baz=316,SNR=50							
L59A	**Walton**	**41.00**	**86**	IAmb	IAmb	12 06 48.1		
	comp=Z,437nm,1.5s							
P56A	**Dayton Farm, R**	**41.00**	**92**	P	**P**	**12 06 41.5**	**+0.4**	
	baz=318,SNR=22							
T53A	**Wise**	**41.01**	**98**	P	**P**	**12 06 41.7**	**+0.5**	
	baz=320,SNR=39							
S54A	**Dingess, Beckl**	**41.01**	**96**	P	**P**	**12 06 41.3**	**+0.1**	
	baz=320,SNR=15							
KBS	**Kingsbay**	**41.04**	**9**	*c iP*	**P**	**12 06 42.2**	**+1.4**	
KBS				pmax	pmax			
	comp=Z,532nm,1.3s							
KBS				MLR	MLR			
	comp=Z,4µm,16.0s							
KBS	**Kingsbay**	**41.04**	**9**	P	**P**	**12 06 42.3**	**+1.4**	
KBS	**Kingsbay**	**41.04**	**9**	IAMs_20	IAMs_20	12 25 23.9		
	comp=Z,4µm,20.0s							
KBS	**Kingsbay**	**41.04**	**9**	*i iP*	**P**	**12 06 42.0**	**+1.2**	
J60A	**Land Hill Farm**	**41.09**	**84**	P	**P**	**12 06 42.8**	**+1.1**	
	baz=315,SNR=47							
KSPA	**Keystone Colle**	**41.09**	**87**	IAMs_20	IAMs_20	12 22 42.6		
	comp=Z,4µm,21.0s							
O57A	**Amberson**	**41.10**	**90**	P	**P**	**12 06 42.4**	**+0.5**	
	baz=318,SNR=53							
N58A	**Sunbury**	**41.12**	**89**	P	**P**	**12 06 42.4**	**+0.4**	
	baz=317,SNR=25							
N58A	**Sunbury**	**41.12**	**89**	IAmb	IAmb	12 06 47.9		
	comp=Z,140nm,1.1s							
N58A				IAMs_20	IAMs_20	12 22 43.4		
	comp=Z,7µm,22.0s							
D63A	**Stockholm**	**41.15**	**76**	P	**P**	**12 06 42.9**	**+0.7**	
	baz=313,SNR=34							
LBNH	**Lisbon**	**41.15**	**81**	P	**P**	**12 06 43.1**	**+0.9**	
	baz=315,SNR=22							
LBNH	**Lisbon**	**41.15**	**81**	P	**P**	**12 06 43.1**	**+0.9**	
LBNH				pmax	pmax			
	comp=Z,110nm,1.4s							
LBNH	**Lisbon**	**41.15**	**81**	P	**P**	**12 06 43.1**	**+0.9**	
Q56A	**Snyder Ridge,**	**41.17**	**93**	P	**P**	**12 06 43.0**	**+0.5**	
	baz=318,SNR=35							
Q56A	**Snyder Ridge,**	**41.17**	**93**	IAmb	IAmb	12 06 48.9		
	comp=Z,262nm,1.2s							
G62A	**West of Eustis**	**41.17**	**79**	P	**P**	**12 06 43.3**	**+0.9**	
	baz=314,SNR=22							
G62A	**West of Eustis**	**41.17**	**79**	IAMs_20	IAMs_20	12 22 23.8		
	comp=Z,5µm,19.0s							
CPCT	**Cooper Cave**	**41.18**	**101**	P	**P**	**12 06 42.8**	**+0.2**	
CPCT				IAMs_20	IAMs_20	12 23 39.2		
	comp=Z,8µm,18.0s							
Z47A	**Carrollton**	**41.19**	**107**	IAMs_20	IAMs_20	12 21 54.5		
	comp=Z,7µm,21.0s							
I61A	**Oroboro, Fairl**	**41.22**	**82**	P	**P**	**12 06 43.9**	**+1.1**	
	baz=315,SNR=41							
R55A	**Marlinton**	**41.26**	**94**	P	**P**	**12 06 43.6**	**+0.4**	
	baz=319,SNR=48							
R55A	**Marlinton**	**41.26**	**94**	IAmb	IAmb	12 06 49.9		
	comp=Z,384nm,1.4s							
R55A				IAMs_20	IAMs_20	12 23 19.2		
	comp=Z,4µm,20.0s							
M59A	**Waymart**	**41.27**	**87**	P	**P**	**12 06 44.0**	**+0.7**	
	baz=317,SNR=29							
HPAH	**Hawaii Prepara**	**41.29**	**208**	P	**P**	**12 06 46.3**	**+2.7**	
HPAH				IAmb	IAmb	12 07 05.0		
	comp=Z,225nm,1.1s							
K60A	**Five Rivers En**	**41.29**	**85**	P	**P**	**12 06 43.9**	**+0.5**	
	baz=316							
H62A	**Milan**	**41.31**	**80**	P	**P**	**12 06 44.0**	**+0.5**	
	baz=314,SNR=14							
H62A	**Milan**	**41.31**	**80**	IAMs_20	IAMs_20	12 24 40.3		
	comp=Z,6µm,21.0s							
344A	**Westbrook Farm**	**41.31**	**111**	P	**P**	**12 06 45.0**	**+1.3**	
344A				IAmb	IAmb	12 06 46.6		
	comp=Z,251nm,1.4s							
TRY	**Troy**	**41.32**	**84**	P	**P**	**12 06 43.3**	**-0.3**	
HNH	**Hanover**	**41.34**	**82**	P	**P**	**12 06 44.7**	**+0.9**	
FPAL	**Fort Paine**	**41.34**	**103**	IAmb	IAmb	12 06 50.0		
	comp=Z,282nm,1.1s							
FPAL				IAMs_20	IAMs_20	12 22 56.6		
	comp=Z,8µm,21.0s							
V52A	**Sevierville**	**41.34**	**100**	IAmb	IAmb	12 06 50.5		
	comp=Z,328nm,1.4s							
TKL	**Tuckaleechee C**	**41.40**	**100**	LR	LR	12 24 31.9		
	comp=Z,30µm,18.0s,baz=329,slow=37							
TKL	**Tuckaleechee C**	**41.40**	**100**	IAMs_20	IAMs_20	12 23 16.0		
	comp=Z,4µm,18.0s							
E63A	**Oxbow**	**41.41**	**76**	P	**P**	**12 06 44.0**	**-0.3**	
	baz=313,SNR=41							
E63A	**Oxbow**	**41.41**	**76**	IAmb	IAmb	12 06 50.5		
	comp=Z,228nm,1.4s							
T54A	**Tazewell**	**41.44**	**97**	P	**P**	**12 06 44.8**	**+0.1**	
	baz=320,SNR=36							
PQI	**Presque Isle**	**41.44**	**76**	P	**P**	**12 06 44.8**	**+0.3**	
PQI				IAmb	IAmb	12 06 50.9		
	comp=Z,234nm,1.2s							
P57A	**Homestead Farm**	**41.45**	**91**	P	**P**	**12 06 45.2**	**+0.5**	
	baz=318,SNR=69							
S55A	**Lewisburg**	**41.45**	**95**	P	**P**	**12 06 45.0**	**+0.2**	
	baz=320,SNR=34							
J61A	**Chester**	**41.46**	**83**	P	**P**	**12 06 45.8**	**+1.0**	
	baz=315,SNR=19							
Y49A	**Blount Mountai**	**41.48**	**105**	IAmb	IAmb	12 06 50.5		
	comp=Z,100nm,0.9s							
Y49A				IAMs_20	IAMs_20	12 25 08.3		
	comp=Z,8µm,19.0s							
MIDW	**Midway**	**41.49**	**240**	P	**P**	**12 06 45.4**	**+0.3**	
O58A	**Lewisberry**	**41.54**	**90**	P	**P**	**12 06 46.2**	**+0.8**	
	baz=318,SNR=72							
N59A	**State Game Lan**	**41.55**	**88**	P	**P**	**12 06 46.1**	**+0.5**	
	baz=317,SNR=26							
N59A	**State Game Lan**	**41.55**	**88**	IAmb	IAmb	12 06 52.3		
	comp=Z,194nm,1.4s							
F63A	**Nahmakanta, Br**	**41.56**	**78**	P	**P**	**12 06 46.0**	**+0.4**	
	baz=314,SNR=48							
F63A	**Nahmakanta, Br**	**41.56**	**78**	IAmb	IAmb	12 06 52.1		
	comp=Z,165nm,0.9s							
F63A				IAMs_20	IAMs_20	12 22 39.1		
	comp=Z,5µm,22.0s							
L60A	**Shokan**	**41.57**	**86**	P	**P**	**12 06 46.8**	**+1.1**	
	baz=316,SNR=35							
K61A	**Williamstown**	**41.57**	**84**	P	**P**	**12 06 46.3**	**+0.6**	
	baz=316,SNR=14							
Q57A	**Strasburg**	**41.58**	**92**	P	**P**	**12 06 46.1**	**+0.3**	
	baz=318,SNR=33							
HMH	**Humu'ula Sheep**	**41.65**	**207**	P	**P**	**12 06 46.5**	**-0.3**	
X51A	**Calhoun**	**41.70**	**102**	IAmb	IAmb	12 06 52.4		
	comp=Z,142nm,1.1s							
X51A				IAMs_20	IAMs_20	12 23 34.1		
	comp=Z,7µm,20.0s							
I62A	**Tamworth**	**41.71**	**81**	P	**P**	**12 06 47.8**	**+1.0**	
	baz=315							
E64A	**Bridgewater**	**41.71**	**76**	P	**P**	**12 06 47.3**	**+0.5**	
	baz=314,SNR=58							
G63A	**Kingsbury**	**41.71**	**79**	P	**P**	**12 06 47.8**	**+1.0**	
	baz=314,SNR=40							
U54A	**Nelsons Funny**	**41.73**	**98**	P	**P**	**12 06 47.7**	**+0.6**	
	baz=320,SNR=16							
U54A	**Nelsons Funny**	**41.73**	**98**	IAmb	IAmb	12 06 53.2		
	comp=Z,266nm,1.1s							
MLOA	**Mauna Loa Obse**	**41.73**	**207**	P	**P**	**12 06 50.9**	**+3.2**	
KHLU	**Kahalu`u**	**41.76**	**208**	P	**P**	**12 06 47.5**	**0.0**	
KHLU				IAmb	IAmb	12 06 57.3		
	comp=Z,401nm,1.4s							
W52A	**Murphy**	**41.76**	**101**	IAMs_20	IAMs_20	12 23 27.6		
	comp=Z,7µm,18.0s							
L61A	**Hillsdale 1, H**	**41.77**	**85**	P	**P**	**12 06 48.2**	**+0.9**	
	baz=316,SNR=7.6							
PKME	**Peaks-Kenny Pk**	**41.77**	**78**	P	**P**	**12 06 48.0**	**+0.7**	
	baz=314,SNR=37							
PKME	**Peaks-Kenny Pk**	**41.77**	**78**	IAmb	IAmb	12 06 53.3		
	comp=Z,107nm,0.9s							
PKME				IAMs_20	IAMs_20	12 24 35.6		
	comp=Z,9µm,18.0s							
O59A	**Robesonia**	**41.78**	**89**	P	**P**	**12 06 48.2**	**+0.8**	
	baz=318,SNR=41							
MWH	**Moku'aweowe**	**41.79**	**207**	P	**P**	**12 06 51.3**	**+3.0**	
MWH				IAmb	IAmb	12 06 52.3		
	comp=Z,302nm,1.4s							
T55A	**Pulaski**	**41.80**	**96**	P	**P**	**12 06 48.4**	**+0.7**	
	baz=320,SNR=15							
P58A	**Pank, Wackersv**	**41.81**	**91**	P	**P**	**12 06 47.8**	**+0.1**	
	baz=318,SNR=5.3							
H63A	**New Sharon**	**41.82**	**80**	P	**P**	**12 06 48.1**	**+0.4**	
	baz=315							
F64A	**Sherman**	**41.83**	**77**	P	**P**	**12 06 48.2**	**+0.5**	
	baz=314,SNR=36							
F64A	**Sherman**	**41.83**	**77**	P	**P**	**12 06 47.6**	**-0.2**	
F64A				IAmb	IAmb	12 06 53.6		
	comp=Z,119nm,0.9s							
M60A	**Port Jervis**	**41.84**	**87**	P	**P**	**12 06 48.2**	**+0.2**	
	baz=317,SNR=29							
LRAL	**Lakeview Retre**	**41.85**	**106**	P	**P**	**12 06 48.2**	**+0.2**	
	baz=324,SNR=25							
LRAL	**Lakeview Retre**	**41.85**	**106**	IAMs_20	IAMs_20	12 22 26.0		
	comp=Z,6µm,19.0s							
AIN	**Ainahou**	**41.86**	**207**	P	**P**	**12 06 51.6**	**+3.2**	
BLA	**Blacksburg**	**41.91**	**96**	P	**P**	**12 06 49.2**	**+0.6**	
	baz=320,SNR=30							
BLA	**Blacksburg**	**41.91**	**96**	IAmb	IAmb	12 06 55.1		
	comp=Z,202nm,1.2s							
J62A	**Henniker**	**41.92**	**82**	P	**P**	**12 06 49.4**	**+0.8**	
	baz=316,SNR=17							
MVL	**Millersville**	**41.92**	**89**	IAMs_20	IAMs_20	12 23 11.8		
	comp=Z,6µm,18.0s							
N60A	**Cedar Hill Far**	**41.93**	**87**	P	**P**	**12 06 49.2**	**+0.6**	
	baz=317,SNR=6.6							
I63A	**Otisfield**	**41.97**	**81**	P	**P**	**12 06 49.6**	**+0.7**	
	baz=315,SNR=14							
I63A	**Otisfield**	**41.97**	**81**	P	**P**	**12 06 49.8**	**+0.9**	
I63A				IAmb	IAmb	12 06 56.1		
	comp=Z,176nm,1.3s							
346A	**Big Creek Wild**	**41.97**	**110**	P	**P**	**12 06 49.3**	**+0.2**	
S56A	**Natural Bridge**	**42.00**	**95**	P	**P**	**12 06 49.6**	**+0.3**	
	baz=320							
BATG	**Bathurst New B**	**42.00**	**74**	P	**P**	**12 06 50.0**	**+0.9**	
BATG	**Bathurst New B**	**42.00**	**74**	P	**P**	**12 06 50.1**	**+0.9**	
BATG				IAmb	IAmb	12 06 56.0		
	comp=Z,235nm,1.1s							
KHU	**Kahuku**	**42.02**	**207**	P	**P**	**12 06 52.7**	**+2.9**	
KHU				pmax	pmax			
	comp=Z,500nm,1.3s							
KHU				MLR	MLR			
	comp=Z,2µm,19.0s							
KHU	**Kahuku**	**42.02**	**207**	P	**P**	**12 06 52.7**	**+2.9**	
Q58A	**Fox Den Farm,**	**42.02**	**92**	P	**P**	**12 06 49.5**	**+0.1**	
	baz=318,SNR=24							
ODNJ	**Ogdensburg**	**42.03**	**87**	P	**P**	**12 06 50.1**	**+0.6**	
NRS	**Narsarsuaq**	**42.05**	**46**	*i* P	**P**	**12 06 49.9**	**+0.6**	
	comp=Z,16µm,15.0s							
NRS	**Narsarsuaq**	**42.05**	**46**	*i* P	**P**	**12 06 49.9**	**+0.6**	
NRS				MLR	MLR			
	comp=Z,17µm,15.0s							
G64A	**Maxfield**	**42.05**	**78**	P	**P**	**12 06 49.9**	**+0.4**	
	baz=314,SNR=35							
SPA0	**Spitsbergen Ar**	**42.07**	**8**	*i* P	**P**	**12 06 49.0**	**-0.4**	
SPITS	**Spitsbergen Ar**	**42.07**	**8**	P	**P**	**12 06 49.4**	**+0.1**	
	comp=Z,307nm,1.1s,baz=90,slow=1.2,SNR=98							
SPITS				PcP	**PcP**	**12 08 43.7**	**0.0**	
	comp=Z,59nm,0.9s,baz=110,slow=7.2,SNR=4.8							
R57A	**Stanardsville**	**42.07**	**93**	P	**P**	**12 06 49.5**	**-0.3**	
	baz=319,SNR=37							
WVL	**Waterville**	**42.08**	**79**	P	**P**	**12 06 50.0**	**+0.3**	
WVL				IAMs_20	IAMs_20	12 23 40.6		
	comp=Z,6µm,18.0s							
K62A	**Royalston**	**42.11**	**83**	P	**P**	**12 06 50.9**	**+0.8**	
	baz=316,SNR=12							
K62A	**Royalston**	**42.11**	**83**	P	**P**	**12 06 50.0**	**-0.1**	
K62A				IAmb	IAmb	12 06 57.3		
	comp=Z,170nm,1.2s							

PAL pmax pmax
comp=Z,159nm,1.3s
PAL MLR MLR
comp=Z,14µm,19.0s
PAL Palisades 42.45 86 P **P** **12 06 52.7 -0.1**
PAL IAmb IAmb 12 06 59.5
comp=Z,158nm,1.3s
K63A Dunstable 42.45 83 P **P** **12 06 53.9 +1.0**
baz=316,SNR=13
I64A Boothbay 42.54 80 P **P** **12 06 54.6 +1.0**
baz=315,SNR=16
V55A Taylorsville 42.55 98 P **P** **12 06 54.4 +0.6**
baz=321,SNR=26
V55A Taylorsville 42.55 98 IAmb IAmb 12 06 59.9
comp=Z,141nm,1.1s
HRV Adam Dziewonsk 42.57 83 P **P** **12 06 53.2 -0.6**
baz=316
HRV Adam Dziewonsk 42.57 83 P **P** **12 06 54.1 +0.3**
HRV pmax pmax
comp=Z,26nm,1.1s
HRV MLR MLR
comp=Z,2µm,19.0s
HRV Adam Dziewonsk 42.57 83 P **P** **12 06 54.0 +0.3**
U56A King 42.60 97 P **P** **12 06 54.4 +0.3**
baz=320,SNR=13
U56A King 42.60 97 IAmb IAmb 12 07 00.9
comp=Z,300nm,1.5s
Q59A Harwood 42.61 91 P **P** **12 06 54.5 +0.3**
baz=319
WSPT Westport, CT 42.62 86 P **P** **12 06 54.8 +0.5**
WSPT IAmb IAmb 12 07 00.9
comp=Z,127nm,1.1s
M62A Hamden 42.65 85 P **P** **12 06 55.2 +0.8**
baz=317,SNR=28
W54A Cherokee Point 42.65 99 P **P** **12 06 55.1 +0.6**
baz=322,SNR=27
R58B Mineral 42.66 93 P **P** **12 06 55.2 +0.7**
baz=319,SNR=29
R58B Mineral 42.66 93 IAmb IAmb 12 07 01.3
comp=Z,233nm,1.4s
T57A Hurt 42.68 95 P **P** **12 06 55.2 +0.4**
baz=320,SNR=19
T57A Hurt 42.68 95 P **P** **12 06 53.9 -0.9**
G65A Princeton 42.69 77 P **P** **12 06 55.4 +0.7**
baz=314,SNR=18
G65A Princeton 42.69 77 P **P** **12 06 54.7 0.0**
G65A IAMs_20 IAMs_20 12 24 04.9
comp=Z,10µm,20.0s
H65A Eastbrook 42.70 78 P **P** **12 06 55.5 +0.7**
baz=315,SNR=27
YLE Yale 42.72 85 P **P** **12 06 54.5 -0.6**
YLE IAmb IAmb 12 07 02.0
comp=Z,307nm,1.0s
N62A Caumsett State 42.73 86 P **P** **12 06 55.1 0.0**
baz=317
CBN Corbin Frederi 42.73 92 P **P** **12 06 55.5 +0.3**
baz=319
CBN Corbin Frederi 42.73 92 P **P** **12 06 53.8 -1.4**
CBN IAmb IAmb 12 07 01.7
comp=Z,163nm,1.4s
WES Weston 42.78 83 P **P** **12 06 55.3 -0.2**
WES pmax pmax
comp=Z,113nm,1.2s
WES Weston 42.78 83 P **P** **12 06 55.3 -0.2**
O61A Allentown 42.78 88 P **P** **12 06 55.3 -0.3**
baz=318
S58A Poland Farm, P 42.83 93 P **P** **12 06 56.6 +0.6**
baz=320,SNR=19
S58A Poland Farm, P 42.83 93 IAmb IAmb 12 07 02.7
comp=Z,278nm,1.5s
SCO Scoresbysund 42.85 27 *i* P **P** **12 06 56.5 +0.7**
comp=Z,13µm,12.0s
SCO Scoresbysund 42.85 27 *i* P **P** **12 06 56.5 +0.7**
SCO MLR MLR
comp=Z,13µm,12.0s
R59A King George, V 42.87 92 P **P** **12 06 56.9 +0.6**
baz=319
BCX Boston College 42.89 83 IAMs_20 IAMs_20 12 27 08.3
comp=Z,4µm,18.0s
Q60A Greensboro 42.93 90 P **P** **12 06 57.1 +0.3**
baz=318
V56A Mocksville 42.95 97 P **P** **12 06 57.6 +0.6**
baz=321,SNR=19
P61A Hammonton 42.97 88 P **P** **12 06 57.9 +0.8**
baz=318
X54A Belton 42.98 100 P **P** **12 06 57.7 +0.5**
baz=322,SNR=32
BRYW Bryant College 43.00 84 P **P** **12 06 57.3 -0.1**
L63A North Scituate 43.01 84 P **P** **12 06 58.1 +0.8**
baz=317
KMSC Kings Mountain 43.04 99 P **P** **12 06 58.0 +0.2**
baz=321,SNR=25
KMSC Kings Mountain 43.04 99 IAmb IAmb 12 07 04.3
comp=Z,143nm,1.1s
PAULI Pauline 43.05 99 IAmb IAmb 12 07 03.5
comp=Z,130nm,1.1s
250A Grady 43.06 106 IAmb IAmb 12 07 04.2
comp=Z,187nm,1.1s
U57A Blanch 43.07 96 P **P** **12 06 58.2 +0.3**
baz=320,SNR=21
EMMW East Machias 43.09 78 IAmb IAmb 12 07 04.0
comp=Z,130nm,0.8s
T58A Grand View Acr 43.09 94 P **P** **12 06 58.2 +0.1**
baz=320,SNR=24
R60A Leonardtown, M 43.10 91 P **P** **12 06 57.9 -0.2**
baz=319
H66A Whiting 43.11 77 P **P** **12 06 58.8 +0.7**
baz=315,SNR=27
S59A Mechanicsville 43.11 92 P **P** **12 06 58.6 +0.3**
baz=319
GGN Saint George 43.11 77 P **P** **12 06 58.9 +0.7**
GGN Saint George 43.11 77 IAmb IAmb 12 07 04.7
comp=Z,250nm,1.3s
HSPB Hornsund (broa 43.11 9 *e* P **P** **12 06 56.6 -1.2**
HSPB Hornsund (broa 43.11 9 ⇑ *i* P **P** **12 06 57.4 -0.4**
M63A Gales Ferry 43.12 84 P **P** **12 06 59.3 +1.1**
baz=317,SNR=16
N63A Mattituck 43.18 85 P **P** **12 06 58.4 -0.3**
baz=317
V57A Coltrane Farms 43.26 96 P **P** **12 06 59.6 +0.1**
baz=321,SNR=10
152A Waverly Hall 43.28 104 IAmb IAmb 12 07 05.8
comp=Z,141nm,1.1s
152A IAMs_20 IAMs_20 12 24 17.9
comp=Z,8µm,21.0s
HODGE Hodges 43.28 100 IAmb IAmb 12 07 05.5
comp=Z,103nm,1.0s
Q61A Milford 43.29 90 P **P** **12 07 00.2 +0.6**
baz=318
GOGA Godfrey 43.32 102 P **P** **12 07 00.1 +0.1**
baz=323,SNR=20
GOGA Godfrey 43.32 102 IAMs_20 IAMs_20 12 24 46.9
comp=Z,8µm,21.0s
L64A Middleborough 43.35 83 P **P** **12 07 01.4 +1.3**
baz=317
X55A Gracelyn & Ava 43.42 99 P **P** **12 07 01.4 +0.7**
baz=322,SNR=34
W56A Indian Trail 43.43 98 P **P** **12 07 01.2 +0.3**
baz=321,SNR=31
M64A Tiverton 43.44 84 P **P** **12 07 01.6 +0.8**
baz=317
ELNB Elgin, New Bru 43.44 75 P **P** **12 07 01.8 +1.0**
S60A Water View 43.48 92 P **P** **12 07 02.1 +0.9**
baz=319
U58A Oxford 43.50 95 P **P** **12 07 01.7 +0.3**
baz=320,SNR=15
T59A Double "B" Far 43.58 93 P **P** **12 07 02.4 +0.4**
baz=320,SNR=14
T59A Double "B" Far 43.58 93 IAMs_20 IAMs_20 12 24 44.6
comp=Z,4µm,19.0s
ZAIG Zacatecas 43.61 131 P **P** **12 07 04.4 +1.7**
LMN Caledonia Moun 43.62 74 P **P** **12 07 03.1 +0.8**
LMN Caledonia Moun 43.62 74 IAmb IAmb 12 07 08.8
comp=Z,252nm,1.1s
NKL Nikolayevsk 43.64 300 *e* P **P** **12 07 02.3 0.0**
NKL *e* 12 08 45.9
NKL *e* S **S** **12 13 38.5 +7.3**
NKL pmax pmax
comp=Z,662nm,1.5s
NKL pmax pmax
comp=N,2.0nm,0.6s
NKL pmax pmax
comp=E,7.0nm,1.5s
NKL pmax pmax
comp=Z,619nm,2.3s
V58A Windy Hill, Pi 43.68 96 P **P** **12 07 03.0 +0.2**
baz=321,SNR=14

V58A Windy Hill, Pi 43.68 96 IAmb IAmb 12 07 15.6
comp=Z,132nm,1.4s
L65A Cape Cod Natio 43.69 82 P **P** **12 07 03.0 +0.2**
baz=317
R61A Willards 43.69 90 P **P** **12 07 04.0 +1.1**
baz=319
X56A White Oak 43.71 99 P **P** **12 07 03.7 +0.6**
baz=322,SNR=34
M65A Busby, Falmout 43.72 83 P **P** **12 07 03.1 -0.1**
baz=317
M65A Busby, Falmout 43.72 83 IAMs_20 IAMs_20 12 23 37.3
comp=Z,8µm,19.0s
Y55A Saluda 43.72 100 P **P** **12 07 03.6 +0.4**
baz=322,SNR=36
W57A Gilead 43.72 97 P **P** **12 07 03.5 +0.3**
baz=321,SNR=33
W57A Gilead 43.72 97 IAmb IAmb 12 07 09.6
comp=Z,147nm,1.1s
T60A Surry 43.87 93 P **P** **12 07 04.7 +0.4**
baz=320,SNR=8.1
BIRD Birdtown, Kers 43.88 98 IAmb IAmb 12 07 11.2
comp=Z,211nm,1.3s
U59A Littleton 43.93 94 P **P** **12 07 05.2 +0.4**
baz=320,SNR=15
U59A Littleton 43.93 94 IAmb IAmb 12 07 11.4
comp=Z,120nm,1.2s
S61A Accomac 44.01 91 P **P** **12 07 06.4 +0.9**
baz=319
Y56A Pelion 44.12 100 P **P** **12 07 06.6 +0.2**
baz=322
352A Blakely 44.14 105 IAMs_20 IAMs_20 12 24 56.6
comp=Z,5µm,19.0s
154A Montrose 44.14 102 P **P** **12 07 06.5 -0.1**
154A IAmb IAmb 12 07 12.5
comp=Z,151nm,1.1s
154A IAMs_20 IAMs_20 12 25 20.6
comp=Z,7µm,20.0s
V59A Middlesex 44.15 95 P **P** **12 07 06.8 +0.2**
baz=321,SNR=11
U60A Pendleton 44.16 94 P **P** **12 07 06.8 +0.1**
baz=320
X57A Johnson Farm, 44.21 98 P **P** **12 07 07.3 +0.2**
baz=322
W58A Raeford 44.21 97 P **P** **12 07 07.6 +0.4**
baz=321,SNR=14
HOPEN Hopen 44.22 6 ⇑ *i* P **P** **12 07 06.5 -0.2**
TYV Tymovskoe 44.29 296 *e* P **P** **12 07 08.9 +1.3**
TYV *e* S **S** **12 13 46.0 +5.2**
TYV pmax pmax
comp=Z,3µm,3.0s
TYV pmax pmax
comp=Z,405nm,1.3s
TYV smax smax
comp=N,800nm,9.2s
Y57A Sumter 44.41 99 P **P** **12 07 08.6 -0.1**
baz=322
451A Vernon 44.43 107 P **P** **12 07 10.7 +1.7**
Z56A Williston 44.45 100 P **P** **12 07 09.4 +0.3**
baz=323,SNR=9.0
W59A Clinton 44.51 96 P **P** **12 07 09.6 +0.1**
baz=321
X58A Rowland 44.52 97 P **P** **12 07 09.8 +0.2**
baz=322
U61A Possum Corner 44.64 93 P **P** **12 07 10.9 +0.4**
baz=320
U61A Possum Corner 44.64 93 IAMs_20 IAMs_20 12 25 15.6
comp=Z,3µm,19.0s
V60A Jim Taylor Roa 44.65 94 P **P** **12 07 09.7 -1.0**
baz=321
CNNC Cliffs of the 44.73 95 P **P** **12 07 12.0 +0.7**
baz=321
DRLN Deer Lake 44.79 66 P **P** **12 07 12.5 +0.8**
DRLN Deer Lake 44.79 66 P **P** **12 07 12.7 +1.1**
Z57A Bowman 44.81 100 P **P** **12 07 12.5 +0.5**
baz=323,SNR=18
TIGA Tifton 44.84 104 P **P** **12 07 11.9 -0.2**
baz=324
TIGA Tifton 44.84 104 P **P** **12 07 12.5 +0.3**
TIGA IAmb IAmb 12 07 18.0
comp=Z,186nm,0.9s
Y58A Scranton 44.86 98 P **P** **12 07 12.8 +0.5**
baz=322
X59A McDuffie Farm, 44.89 97 P **P** **12 07 12.7 +0.2**
baz=322
W60A Pink Hill 44.97 95 P **P** **12 07 13.6 +0.4**
baz=321
CHEG Cheticamp, Nov 44.98 71 P **P** **12 07 14.3 +1.1**
V61A Roper 44.98 94 P **P** **12 07 14.2 +0.9**
baz=321
255A Hazlehurst 45.01 102 IAMs_20 IAMs_20 12 25 48.6
comp=Z,7µm,21.0s
HAL Halifax 45.08 75 P **P** **12 07 14.1 +0.1**
HAL pmax pmax
comp=Z,126nm,1.1s
HAL Halifax 45.08 75 P **P** **12 07 14.1 +0.1**
HAL IAmb IAmb 12 07 20.4
comp=Z,126nm,1.1s
157A Early Branch 45.16 100 P **P** **12 07 15.2 +0.5**
baz=323
Y59A Loris 45.20 97 P **P** **12 07 15.8 +0.7**
baz=322
X60A Albert Glenn T 45.21 96 P **P** **12 07 14.7 -0.4**
baz=322
NHSC New Hope 45.23 99 P **P** **12 07 16.2 +0.9**
baz=323,SNR=9.4
NHSC New Hope 45.23 99 P **P** **12 07 16.3 +1.0**
Z58A St. Stephen 45.24 99 P **P** **12 07 16.5 +1.1**
baz=322,SNR=6.2
W61A Ground Anchor 45.25 95 P **P** **12 07 15.8 +0.4**
baz=321
CSU Charleston Sou 45.38 99 P **P** **12 07 18.4 +1.9**
V62A Hyde County Ai 45.48 93 P **P** **12 07 17.9 +0.7**
baz=321
158A Hollywood 45.52 100 P **P** **12 07 17.0 -0.6**
baz=323
Y60A Bolivia 45.53 97 P **P** **12 07 17.3 -0.4**
baz=322
GBN Guysborough 45.56 73 P **P** **12 07 18.1 +0.4**
GBN Guysborough 45.56 73 P **P** **12 07 18.7 +1.0**
Z59A Georgetown, SC 45.59 98 P **P** **12 07 19.1 +1.0**
baz=322
KUR Kuril'sk 45.73 287 *c i* P **P** **12 07 19.7 +0.6**
KUR *i* 12 07 25.4
KUR *e* 12 09 10.0
KUR *e* S **S** **12 14 04.0 +2.3**
KUR pmax pmax
comp=Z,758nm,1.4s
KUR pmax pmax
comp=E,240nm,1.6s
KUR pmax pmax
comp=N,151nm,2.3s
KUR pmax pmax
comp=Z,400nm,4.9s
KUR pmax pmax
comp=E,200nm,4.3s
KUR pmax pmax
comp=N,100nm,4.8s
KUR MLR MLR
comp=E,2µm,15.0s
KUR MLR MLR
comp=Z,2µm,15.0s
BJO1 Bjornoya 45.77 9 ⇑ *i* P **P** **12 07 19.1 0.0**
YSS Yuzh-Sakhalins 46.98 292 ⇑ *i* P **P** **12 07 30.0 +1.1**
YSS *e* * SP **sP** **12 07 34.1 -0.8**
YSS *e* 12 08 55.5
YSS *e* 12 09 19.2
YSS *e* PPP PPP 12 10 07.2
YSS *e* S **S** **12 14 20.7 +1.0**
YSS *e* SS **ScS** **12 17 25.1 +2.5**
YSS pmax pmax
comp=Z,4µm,3.4s
YSS pmax pmax
comp=N,1µm,3.5s
YSS pmax pmax
comp=E,2µm,2.0s
YSS pmax pmax
comp=Z,570nm,1.1s
YSS Yuzh-Sakhalins 46.98 292 P **P** **12 07 29.4 +0.5**
YSS IAMs_20 IAMs_20 12 28 41.8
comp=Z,6µm,20.0s
656A Willston 47.05 105 IAMs_20 IAMs_20 12 27 01.7
comp=Z,4µm,20.0s
GRNR Gornyy 47.19 300 ⇑ *i* P **P** **12 07 31.3 +0.7**
GRNR *e* 12 09 18.3
GRNR *e* S **S** **12 14 27.8 +5.2**
GRNR pmax pmax
comp=E,30nm,1.2s
GRNR pmax pmax
comp=N,50nm,1.3s
GRNR pmax pmax
comp=Z,130nm,1.2s
GRNR smax smax
comp=N,8.0nm,0.8s
GRNR MLR MLR
comp=E,3µm,16.0s
GRNR MLR MLR
comp=N,4µm,15.0s
GRNR MLR MLR
comp=Z,6µm,15.0s
BORG Borgarnes 47.33 32 P **P** **12 07 32.4 +1.1**
comp=Z,62nm,0.9s,baz=4.2,slow=4.5,SNR=11
BORG LR LR 12 28 10.7
comp=Z,6µm,18.9s,baz=328,slow=37
BORG Borgarnes 47.33 32 P **P** **12 07 33.5 +2.1**
BORG Borgarnes 47.33 32 IAMs_20 IAMs_20 12 27 59.5
comp=Z,6µm,19.0s
YUK Yuzh-Kuril'sk 47.59 288 *i* P P 12 07 21.3 -12
YUK pmax pmax
comp=Z,836nm,1.4s
YUK pmax pmax
comp=E,344nm,1.3s
YUK pmax pmax
comp=N,237nm,1.4s
YUK pmax pmax
comp=Z,1µm,1.7s
YUK MLR MLR
comp=Z,2µm,18.0s
YUK MLR MLR
comp=E,1µm,16.0s
YUK MLR MLR
comp=N,695nm,18.0s
NRIK Noril'sk 48.02 341 P **P** **12 07 36.3 -0.4**
comp=N,114nm,0.9s,baz=45,slow=5.9,SNR=189
NRIK LR LR 12 28 41.5
comp=N,3µm,21.5s,baz=45,slow=37
DWPF Disney Wildern 48.63 104 P **P** **12 07 42.3 +0.4**
baz=326
ZEA Zeya 48.96 308 *ce* P **P** **12 07 44.4 +0.2**
ZEA *e* 12 09 39.0
ZEA *eS* **S** **12 14 55.0 +7.4**
ZEA pmax pmax
comp=E,150nm,1.6s
ZEA pmax pmax
comp=N,43nm,1.2s
ZEA pmax pmax
comp=Z,250nm,1.2s
ZEA pmax pmax
comp=E,600nm,8.0s
ZEA pmax pmax
comp=Z,2µm,8.0s
ZEA pmax pmax
comp=N,600nm,9.0s
ZEA pmax pmax
comp=Z,2µm,10.0s
ZEA pmax pmax
comp=E,600nm,8.0s
ZEA pmax pmax
comp=N,800nm,9.0s
ZEA smax smax
comp=N,1µm,7.0s
ZEA MLR MLR
comp=Z,21µm,15.0s
ZEA MLR MLR
comp=N,7µm,16.0s
ZEA MLR MLR
comp=E,12µm,16.0s
JKA Kamikawa-asahi 49.12 290 P **P** **12 07 46.0 +0.5**
ASAJ Asahikawa 49.12 290 P **P** **12 07 46.3 +0.8**
comp=E,136nm,1.0s,baz=21,slow=5.9,SNR=54
HAMF Hammerfest 49.88 8 ⇑ *i* P **P** **12 07 49.8 -1.1**
TLIG Tlapa 49.88 129 P **P** **12 07 53.5 +1.8**
TLIG IAMs_20 IAMs_20 12 31 06.3
comp=Z,7µm,18.0s
ERM Erimo 50.41 288 *c i* P **P** **12 07 56.6 +1.3**
ERM pmax pmax
comp=Z,500nm,1.3s
ERM Erimo 50.41 288 P **P** **12 07 56.7 +1.3**
TRO Tromso 50.45 11 ⇑ *i* P **P** **12 07 55.0 -0.2**
061Z Ochoppi 50.74 106 P **P** **12 08 00.5 +2.4**
061Z IAmb IAmb 12 08 01.3
comp=Z,202nm,1.1s
BOD Bodaibo 50.81 319 *e* P **P** **12 07 56.9 -1.2**
BOD pmax pmax
comp=Z,338nm,1.4s
KEV Kevo 50.99 7 P **P** **12 07 58.3 -1.0**
KEV pmax pmax
comp=Z,119nm,1.0s
KEV MLR MLR
comp=Z,2µm,20.0s
KEV Kevo 50.99 7 P **P** **12 07 58.2 -1.0**
KEV IAmb IAmb 12 07 59.0
comp=Z,119nm,1.0s
ARCES ARCESS Array B 51.10 8 P **P** **12 07 58.8 -1.4**
comp=Z,48nm,0.8s,baz=354,slow=8.5,SNR=149
ARCES PcP **PcP** **12 09 15.4 -0.3**
comp=Z,60nm,1.0s,baz=333,slow=4.3,SNR=9.1
ARCES LR LR 12 33 11.4
comp=Z,760nm,18.8s,baz=346,slow=40
N2VI Vinje 51.20 13 ⇑ *i* P **P** **12 08 00.3 -0.6**
LOF Lofoten 51.30 14 ⇑ *i* P **P** **12 08 01.1 -0.5**
TEY Ternei 51.30 295 ⇑ *i* P **P** **12 08 01.6 -0.4**
TEY *e* 12 09 16.7
TEY pmax pmax
comp=N,20nm,1.5s
TEY pmax pmax
comp=Z,90nm,1.3s
TEY pmax pmax
comp=E,60nm,1.0s
TEY pmax pmax
comp=Z,100nm,2.2s
TEY pmax pmax
comp=Z,60nm,1.2s
TEY pmax pmax
comp=E,20nm,1.2s
TEY pmax pmax
comp=N,20nm,1.1s
TEY pmax pmax
comp=E,100nm,9.1s
TEY pmax pmax
comp=N,100nm,7.9s
TEY pmax pmax
comp=Z,200nm,7.9s
TEY MLR MLR
comp=E,200nm,15.0s
TEY MLR MLR
comp=N,100nm,21.0s
TEY MLR MLR
comp=Z,200nm,17.0s
KTK1 Kautokeino 51.44 9 *e* P **P** **12 08 02.5 -0.3**
N2VA Vr_y 51.64 14 ⇑ *i* P **P** **12 08 03.5 -0.7**
STEI Steigen 51.70 13 ⇑ *i* P **P** **12 08 04.1 -0.5**
N2RO R_st 51.70 15 ⇑ *i* P **P** **12 08 03.9 -0.8**
N2IH Innhavet 51.74 13 ⇑ *e* P **P** **12 08 04.8 -0.2**
TEIG Tepich 51.98 117 LR LR 12 34 56.5
comp=Z,5µm,18.9s,baz=318,slow=42
TEIG Tepich 51.98 117 P **P** **12 08 08.3 +1.0**
TEIG IAmb IAmb 12 08 14.3
comp=Z,176nm,0.9s
TEIG Tepich 51.98 117 IAMs_20 IAMs_20 12 33 42.9
comp=Z,3µm,19.0s
N2TV Tvrnvik 52.03 13 ⇑ *i* P **P** **12 08 06.3 -0.8**
N2ST Straumen 52.29 13 *e* P **P** **12 08 08.6 -0.5**
NBB28 Valnes 52.31 14 ⇑ *i* P **P** **12 08 09.0 -0.2**
NBB05 Inndyr 52.40 14 ⇑ *i* P **P** **12 08 08.9 -1.0**
NBB17 Glomfjord Bvr 52.60 14 ⇑ *i* P **P** **12 08 11.2 -0.2**
KONS Konsvik 52.80 15 ⇑ *i* P **P** **12 08 12.4 -0.4**
STOK Stokkvaagen 52.94 15 *e* P **P** **12 08 13.8 -0.1**
LVZ Lovozero 53.22 4 *c i* P **P** **12 08 15.1 -0.9**
LVZ pmax pmax
comp=Z,417nm,1.7s
LVZ Lovozero 53.22 4 P **P** **12 08 14.8 -1.3**
LVZ IAMs_20 IAMs_20 12 30 28.7
comp=Z,4µm,21.0s
MOR8 Moi Rana 53.28 14 ⇑ *i* P **P** **12 08 15.2 -1.3**
APA Apatity 53.50 5 ⇓ *i* P **P** **12 08 15.7 -2.3**
APA *i* 12 09 25.0
APA *i* 12 10 25.0
APA *i* S **S** **12 15 45.0 -4.9**
APA pmax pmax
comp=Z,44nm,0.8s
CCIG Comitan 53.71 123 IAmb IAmb 12 08 23.4
comp=Z,183nm,1.4s
CCIG IAMs_20 IAMs_20 12 34 51.5

comp=Z,4µm,19.0s
BBSR BB Station 53.79 86 P **P** **12 08 21.4 +0.8**
BBSR IAmb IAmb 12 08 32.9
comp=Z,130nm,1.1s
BBSR BB Station 53.79 86 IAMs_20 IAMs_20 12 32 00.9
comp=Z,3µm,19.0s
USRK Ussuriysk Ar. 54.08 297 P **P** **12 08 22.8 +0.3**
comp=Z,44nm,1.0s,baz=46,slow=8.2,SNR=88
USRK PcP **PcP** **12 09 27.9 +0.6**
comp=Z,8.0nm,0.9s,baz=44,slow=8.5,SNR=4.3
USRK LR LR 12 34 37.0
comp=Z,9µm,18.1s,baz=31,slow=40
NSS Namsos 54.51 16⇑*i*P **P** **12 08 24.9 -0.4**
MDJ Mudanjiang 54.85 299 P **P** **12 08 28.5 +0.3**
MDJ pP pP 12 08 32.7 +0.2
MDJ sP sP 12 08 35.7 +1.5
MDJ PP **PP** **12 10 31.9 +1.3**
MDJ ScP **ScP** **12 13 22.5 -5.6**
MDJ PcS **PcS** **12 13 25.8 -4.1**
MDJ S **S** **12 16 12.2 +3.5**
MDJ pmax pmax
comp=Z,80nm,1.2s
MDJ pmax pmax
comp=Z,1µm,3.0s
MDJ LR LR
comp=Z,7µm,13.9s
MDJ LR LR
comp=Z,2µm,14.4s
MDJ LR LR
comp=Z,8µm,16.3s
MDJ Mudanjiang 54.85 299 IAmb IAmb 12 08 29.3
comp=Z,74nm,1.1s
MDJ IAMs_20 IAMs_20 12 34 07.8
comp=Z,5µm,18.0s
VLA Vladivostok 54.96 297*c i*P **P** **12 08 29.5 +0.5**
VLA pmax pmax
comp=Z,222nm,1.1s
VLA MLR MLR
comp=Z,6µm,18.0s
TBLU Trondheim 55.47 17⇑*i*P **P** **12 08 30.9 -1.4**
CIT Chita 55.57 315 *e*P **P** **12 08 34.0 +0.7**
CIT *e* 12 08 42.2
CIT *e* 12 09 34.8
CIT pmax pmax
comp=Z,617nm,1.4s
MOL Molde 55.67 19⇑*i*P **P** **12 08 33.8 0.0**
MSHR Mys Shultsa 55.72 297*c i*P **P** **12 08 35.3 +0.9**
MSHR pmax pmax
comp=Z,201nm,1.7s
MSHR MLR MLR
comp=Z,4µm,18.0s
WAL1 Walls 56.01 25 *e*P **P** **12 08 35.8 -0.4**
H11N2 WAKE ISLAND Hy 56.13 251 T T 13 08 17.2
baz=31,slow=76,SNR=4134
H11N3 WAKE ISLAND Hy 56.13 251 T T 13 08 17.7
baz=31,slow=76,SNR=4295
H11N1 WAKE ISLAND Hy 56.14 251 T T 13 08 19.5
baz=31,slow=76,SNR=3697
LRW Lerwick 56.22 25 *e*P **P** **12 08 37.5 -0.2**
LRW IAmb IAmb 12 08 38.9
comp=Z,263nm,1.3s
LRW IAMs_20 IAMs_20 12 33 49.4
comp=Z,5µm,15.5s
MTO3 Montecristo 56.59 121 IAMs_20 IAMs_20 12 36 25.9
comp=Z,3µm,20.0s
WAKE Wake Island 56.63 251 IAMs_20 IAMs_20 12 29 27.2
comp=Z,3µm,19.0s
LEWI Lewis, Hebride 56.66 29 *e*P **P** **12 08 40.7 -0.2**
LEWI IAmb IAmb 12 08 42.1
comp=Z,372nm,1.7s
LEWI IAMs_20 IAMs_20 12 34 49.6
comp=Z,8µm,14.1s
TMCR Tamitsa 57.07 3 *e*P **P** **12 08 39.7 -4.0**
TMCR pmax pmax
comp=Z,120nm,0.7s
MJB9 Matsu-Tunnel 57.07 287 P **P** **12 08 45.0 +0.8**
MJB9 IAmb IAmb 12 08 46.7
comp=Z,129nm,1.1s
BIGH Upper Bighouse 57.07 27 *e*P **P** **12 08 43.3 -0.5**
BIGH IAMs_20 IAMs_20 12 33 59.8
comp=Z,5µm,14.9s
MAJO Matsushiro 57.07 287*c i*P **P** **12 08 45.0 +0.8**
MAJO pmax pmax
comp=Z,336nm,1.3s
MAJO MLR MLR
comp=Z,3µm,19.0s
MAJO Matsushiro 57.07 287 P **P** **12 08 44.9 +0.7**
MAJO Matsushiro 57.07 287 IAMs_20 IAMs_20 12 35 29.2
comp=Z,3µm,19.0s
MAT Matsushiro 57.07 287 P **P** **12 08 44.7 +0.5**
MAT S **S** **12 16 41.0 +2.5**
MJAR Matsushiro Arr 57.07 287 P **P** **12 08 44.9 +0.7**
comp=Z,98nm,1.1s,baz=9.9,slow=5.9,SNR=139
MJAR LR LR 12 35 40.5
comp=Z,2µm,19.6s,baz=65,slow=39
MJAR P4KPbc 12 45 58.9
comp=Z,1.5nm,0.9s,baz=347,slow=5.1,SNR=4.0
ASK Askoy 57.19 21⇑*i*P **P** **12 08 44.8 +0.1**
H11S1 WAKE ISLAND Hy 57.26 250 T T 13 09 37.8
baz=31,slow=76,SNR=1592
H11S2 WAKE ISLAND Hy 57.28 250 T T 13 09 39.5
baz=31,slow=76,SNR=728
SNET Serv Nac Est T 57.28 122 IAMs_20 IAMs_20 12 37 23.1
comp=Z,5µm,18.0s
H11S3 WAKE ISLAND Hy 57.28 250 T T 13 09 40.6
baz=31,slow=76,SNR=629
BER Bergen 57.31 21⇑*i*P **P** **12 08 45.4 -0.1**
CN2 Changchun 57.34 302⇑*i*P **P** **12 08 45.7 -0.2**
CN2 *es*P sP 12 08 53.2 +1.2
CN2 PP **PP** **12 10 51.3 -1.5**
CN2 *e*S **S** **12 16 37.8 -3.9**
CN2 pmax pmax
comp=Z,160nm,1.1s
CN2 pmax pmax
comp=Z,1µm,3.0s
CN2 LR LR
comp=Z,4µm,16.0s
CN2 LR LR
comp=Z,4µm,16.0s
CN2 LR LR
comp=Z,5µm,16.0s
MLA1 Latheron 57.37 27 *e*P **P** **12 08 45.5 -0.4**
SKAR Skarslia 57.57 19⇑*i*P **P** **12 08 47.0 -0.4**
KPL Plockton 57.68 29 *e*P **P** **12 08 48.0 -0.1**
KPL IAMs_20 IAMs_20 12 34 41.6
comp=Z,6µm,14.5s
NB2 NORSAR Subarra 57.71 18 P **P** **12 08 47.9 -0.5**
comp=Z,311nm,1.2s,baz=342,slow=7.4
NB2 NORSAR Subarra 57.71 18 P **P** **12 08 47.9 -0.5**
baz=342,slow=7.4
NOA NORSAR Array B 57.71 18 P **P** **12 08 47.6 -0.8**
comp=Z,98nm,1.0s,baz=343,slow=8.9,SNR=196
NOA LR LR 12 34 07.7
comp=Z,3µm,20.6s,baz=335,slow=37
TGUH Tegucigalpa,Un 57.83 119 IAMs_20 IAMs_20 12 36 33.3
comp=Z,4µm,21.0s
MCD Coleburn Disti 58.04 27 *e*P **P** **12 08 50.8 +0.1**
NC602 NORSAR Array S 58.05 18 IAmb IAmb 12 08 51.0
comp=Z,163nm,1.2s
IRK Irkutsk 58.60 321 *e*P **P** **12 08 53.9 -0.8**
IRK pmax pmax
comp=Z,245nm,3.0s
KRAR Krasnoyarsk 58.66 330⇓*i*P **P** **12 08 54.0 -1.0**
LAWE Loch Awe, Argy 58.70 29 *e*P **P** **12 08 55.0 -0.3**
LAWE IAmb IAmb 12 08 56.4
comp=Z,165nm,1.3s
LAWE IAMs_20 IAMs_20 12 36 07.3
comp=Z,9µm,13.7s
KONO Kongsberg 58.76 19*c i*P **P** **12 08 55.8 +0.1**
KONO pmax pmax
comp=Z,279nm,1.3s
KONO MLR MLR
comp=Z,2µm,17.0s
KONO Kongsberg 58.76 19 P **P** **12 08 55.8 +0.1**
KONO Kongsberg 58.76 19 IAMs_20 IAMs_20 12 35 14.8
comp=Z,3µm,21.0s
KONO Kongsberg 58.76 19 *e*P **P** **12 08 56.3 +0.6**
DRUM Mains of Drumt 58.83 27 *e*P **P** **12 08 55.9 -0.3**
DRUM IAmb IAmb 12 08 57.2
comp=Z,399nm,1.1s
DRUM IAMs_20 IAMs_20 12 35 09.1
comp=Z,5µm,15.9s
MTDJ Mount Denham 58.84 107 *e*P **P** **12 08 56.1 -0.8**
INVG Invergeldie, C 58.89 28 *e*P **P** **12 08 56.4 -0.2**
INVG IAmb IAmb 12 08 57.7
comp=Z,212nm,1.4s
INVG IAMs_20 IAMs_20 12 35 11.0
comp=Z,8µm,16.5s
HFS Hagfors 58.95 17 LR LR 12 36 17.2
comp=Z,3µm,18.1s,baz=337,slow=38
EAB Aberfoyle 59.03 29 *e*P **P** **12 08 57.5 -0.1**
CRIN San Cristobal 59.12 120 IAMs_20 IAMs_20 12 39 06.2
comp=Z,4µm,18.0s
FINES FINESS Array B 59.13 9 P **P** **12 08 57.1 -1.0**
comp=Z,73nm,0.9s,baz=5.6,slow=7.9,SNR=179
FINES PcP **PcP** **12 09 45.8 -0.9**
comp=Z,73nm,1.2s,baz=40,slow=6.2,SNR=5.4
FINES LR LR 12 36 19.7
comp=Z,2µm,20.1s,baz=358,slow=38
FINES PKPPKP **P'P'df** **12 38 37.9 -1.0**
comp=Z,14nm,1.2s,baz=158,slow=6.2,SNR=15
FINES FINESS Array B 59.13 9 *i* P **P** **12 08 57.0 -1.2**
FINES pmax pmax
comp=Z,73nm,0.9s
IDGL Inch Island, C 59.21 31 *e*P **P** **12 08 58.0 -0.9**
IDGL IAMs_20 IAMs_20 12 36 08.6
comp=Z,7µm,14.4s
TLY Talaya 59.28 321 P **P** **12 08 59.6 +0.2**
TLY P **P** **12 08 59.6 +0.2**
TLY Talaya 59.28 321*c i*P **P** **12 08 59.0 -0.5**
TLY *e* 12 11 11.1
TLY *e*PPP PPP 12 12 30.7
TLY *e*S **S** **12 17 09.1 +2.2**
TLY pmax pmax
comp=Z,395nm,1.2s
TLY MLR MLR
comp=Z,19µm,16.0s
TLY Talaya 59.28 321 P **P** **12 08 59.7 +0.2**
TLY IAMs_20 IAMs_20 12 36 29.4
comp=Z,5µm,22.0s
GRTK Grand Turk 59.30 99 IAMs_20 IAMs_20 12 36 09.3
comp=Z,5µm,18.0s
MATN Matagalpa 59.43 119 IAMs_20 IAMs_20 12 36 35.9
comp=Z,4µm,22.0s
SNART Snartemo 59.57 21 *e*P **P** **12 09 01.9 +0.7**
ESY Stoneypath 59.70 28 *e*P **P** **12 09 01.9 -0.4**
EBL Broad Law 59.73 28 *e*P **P** **12 09 02.5 +0.1**
EKA Eskdalemuir Ar 60.10 29 PKPPKP 12 38 36.6
comp=Z,3.4nm,0.9s,baz=154,slow=4.4,SNR=5.0
ESK Eskdalemuir 60.10 29 *e*P **P** **12 09 04.8 -0.2**
ESK IAmb IAmb 12 09 06.1
comp=Z,256nm,1.4s
ESK IAMs_20 IAMs_20 12 36 05.1
comp=Z,8µm,15.7s
ESK Eskdalemuir 60.10 29 P **P** **12 09 04.8 -0.2**
ESK pmax pmax
comp=Z,232nm,1.3s
ESK MLR MLR
comp=Z,8µm,18.0s
ESK Eskdalemuir 60.10 29 P **P** **12 09 04.8 -0.2**
GAL1 Galloway 60.13 30 *e*P **P** **12 09 05.0 -0.1**
GAL1 IAMs_20 IAMs_20 12 36 35.6
comp=Z,4µm,16.3s
MOY Mondy 60.14 323 *e*P **P** **12 09 06.0 +0.5**
MOY pmax pmax
comp=Z,421nm,1.8s
IGLA Glengowla, Co 60.16 33 *e*P **P** **12 09 04.6 -0.7**
IGLA IAMs_20 IAMs_20 12 34 18.3
comp=Z,7µm,16.3s
GMM Mts of Mourne 60.37 31 *e*P **P** **12 09 06.3 -0.5**
KLMR Klimovskoe 60.42 2*c i*P **P** **12 09 06.1 -1.0**
KLMR *e* 12 11 19.0
KLMR pmax pmax
comp=Z,602nm,1.5s
KLMR MLR MLR
comp=Z,2µm,19.0s
KLMR Klimovskoe 60.42 2⇑*i*P **P** **12 09 06.1 -1.0**
KLMR ⇓*i*P **P** **12 09 06.1 -1.0**
KLMR ⇓*i*P **P** **12 09 06.1 -1.0**
KLMR AMP 12 09 07.8
comp=Z,602nm,1.5s
KLMR *e*PP **PP** **12 11 19.1 -0.5**
KLMR LQ LQ 12 29 15.0
KLMR LQ LQ 12 29 15.0
KLMR LR LR 12 32 15.1
KLMR AMP 12 35 32.0
comp=Z,2µm,19.1s
ZAK Zakamensk 60.51 320 *e*P **P** **12 09 07.4 -0.6**
ZAK pmax pmax
comp=Z,38nm,1.3s
ACON Acoyapa 60.62 118 IAmb IAmb 12 09 10.4
comp=Z,140nm,1.3s
ACON IAMs_20 IAMs_20 12 37 05.4
comp=Z,3µm,20.0s
IOMK Kirk Michael 60.71 30 *e*P **P** **12 09 08.6 -0.6**
IOMK IAMs_20 IAMs_20 12 36 03.4
comp=Z,9µm,16.5s
KESW Keswick, Cumbr 60.78 29 *e*P **P** **12 09 09.3 -0.4**
KESW IAmb IAmb 12 09 10.7
comp=Z,248nm,1.4s
KESW IAMs_20 IAMs_20 12 37 42.9
comp=Z,7µm,13.7s
WIM Isle of Man 60.78 30 *e*P **P** **12 09 09.4 -0.3**
ESPN Las Esperanzas 60.82 117 IAMs_20 IAMs_20 12 38 58.1
comp=Z,2µm,18.0s
PUL Pulkovo 61.11 7*c i*P **P** **12 09 11.6 -0.1**
PUL pmax pmax
comp=Z,168nm,0.5s
PUL MLR MLR
comp=Z,1µm,15.0s
DSB Dublin 61.14 32 IAMs_20 IAMs_20 12 34 57.7
comp=Z,3µm,19.0s
PRVC Isla de Provid 61.16 114 *e*P **P** **12 09 14.2 +1.5**
GOET G??ttrup 61.17 20⇑*i*P **P** **12 09 13.0 +0.8**
KSRS Korea Array 61.30 295 P **P** **12 09 14.2 +0.9**
comp=Z,131nm,1.0s,baz=32,slow=6.3,SNR=274
KSRS LR LR 12 37 34.8
comp=Z,2µm,20.0s,baz=38,slow=38
KSRS P4KPbc 12 46 16.9
comp=Z,2.2nm,0.9s,baz=34,slow=3.9,SNR=8.3
SDDR Presa de Saban 61.33 101 P **P** **12 09 13.9 0.0**
SDDR IAmb IAmb 12 09 20.3
comp=Z,76nm,1.1s
SDDR IAMs_20 IAMs_20 12 36 26.3
comp=Z,3µm,18.0s
ULN Ulaanbaatar 61.37 316 P **P** **12 09 14.2 +0.2**
ULN P **P** **12 09 14.2 +0.2**
ULN Ulaanbaatar 61.37 316*c i*P **P** **12 09 14.0 +0.1**
ULN pmax pmax
comp=Z,110nm,1.3s
ULN MLR MLR
comp=Z,6µm,18.0s
ULN Ulaanbaatar 61.37 316 P **P** **12 09 14.1 +0.2**
ULN IAmb IAmb 12 09 15.6
comp=Z,84nm,1.1s
GDLE Glaisdale, N Y 61.49 28 *e*P **P** **12 09 14.1 -0.3**
GDLE IAmb IAmb 12 09 15.9
comp=Z,142nm,1.1s
GDLE IAMs_20 IAMs_20 12 36 58.2
comp=Z,6µm,17.1s
WPS Cemaes, Angles 61.50 30 *e*P **P** **12 09 13.7 -0.8**
WPS IAmb IAmb 12 09 15.6
comp=Z,289nm,1.5s
WPS IAMs_20 IAMs_20 12 37 48.0
comp=Z,4µm,14.1s
WME Myndd Eilian 61.55 30 *e*P **P** **12 09 14.5 -0.4**
SONM Songino Array 61.63 317 P **P** **12 09 16.1 +0.4**
comp=Z,52nm,1.1s,baz=31,slow=5.8,SNR=148
SONM PKPPKP P'P'df 12 38 22.8 -11
comp=Z,1.6nm,1.0s,baz=222,slow=2.0,SNR=5.8
SONM LR LR 12 38 26.0
comp=Z,7µm,19.7s,baz=32,slow=38
SONM P4KPbc 12 46 18.4
comp=Z,1.1nm,1.1s,baz=5.7,slow=6.0,SNR=5.5
WLF1 Llynfaes 61.63 30 *e*P **P** **12 09 15.0 -0.4**
WLF1 IAmb IAmb 12 09 18.0
comp=Z,582nm,1.8s
WLF1 IAMs_20 IAMs_20 12 37 59.6
comp=Z,8µm,13.7s
MUD Monsted U'grnd 61.71 21⇑*i*P **P** **12 09 16.2 +0.4**
comp=Z,237nm,1.2s
comp=Z,4µm,19.0s
MUD Monsted U'grnd 61.71 21⇑*i*P **P** **12 09 16.2 +0.4**
MUD pmax pmax
comp=Z,240nm,1.2s
MUD MLR MLR
comp=Z,4µm,19.0s
HPK Haverah Park 61.72 28 *e*P **P** **12 09 16.1 +0.1**
HPK IAmb IAmb 12 09 17.3
comp=Z,544nm,1.9s
HPK IAMs_20 IAMs_20 12 37 04.2
comp=Z,7µm,16.8s
INCN Inchon 61.87 296 P **P** **12 09 17.7 +0.4**
INCN P **P** **12 09 17.7 +0.4**
INCN Inchon 61.87 296 P **P** **12 09 17.7 +0.4**
INCN pmax pmax
comp=Z,176nm,1.0s
INCN MLR MLR
comp=Z,3µm,20.0s
INCN Inchon 61.87 296 P **P** **12 09 17.7 +0.4**
INCN Inchon 61.87 296 IAMs_20 IAMs_20 12 36 13.2
comp=Z,3µm,20.0s
VSU Vasula 62.13 10 *e*P **P** **12 09 17.7 -0.9**
VSU Vasula 62.13 10*c i*P **P** **12 09 18.2 -0.5**
VSU pmax pmax
comp=Z,714nm,0.9s
VSU MLR MLR
comp=Z,8µm,17.0s
JTS Las Juntas de 62.20 119 IAMs_20 IAMs_20 12 38 16.3
comp=Z,3µm,21.0s
LBWR Ladybower, Pea 62.20 29 *e*P **P** **12 09 19.2 -0.1**
LBWR IAmb IAmb 12 09 20.4
comp=Z,240nm,1.2s
LBWR IAMs_20 IAMs_20 12 37 19.4
comp=Z,7µm,17.6s
LLW Llanuwychllyn 62.22 30 *e*P **P** **12 09 18.6 -0.7**
LLW IAMs_20 IAMs_20 12 36 50.4
comp=Z,2µm,15.5s
FOEL Foel Wylfa 62.30 30 *e*P **P** **12 09 19.7 -0.2**
FOEL IAmb IAmb 12 09 20.8
comp=Z,123nm,0.7s
FOEL IAMs_20 IAMs_20 12 37 01.1
comp=Z,4µm,16.5s
STNC Stoke 62.37 29 *e*P **P** **12 09 19.9 -0.5**
STNC IAmb IAmb 12 09 21.8
comp=Z,389nm,1.6s
STNC IAMs_20 IAMs_20 12 38 41.4
comp=Z,5µm,15.3s
TJN Taejon 62.43 295*c i*P **P** **12 09 22.0 +1.0**
DR12 Loma Pena Alta 62.47 99 P **P** **12 09 21.2 -0.4**
LMK Market Rasen 62.49 28 *e*P **P** **12 09 20.7 -0.5**
LMK IAmb IAmb 12 09 22.6
comp=Z,516nm,1.4s
LMK IAMs_20 IAMs_20 12 38 39.5
comp=Z,7µm,14.3s
ZAA0 Zalesovo Array 62.50 334 P **P** **12 09 20.1 -1.2**
ZAA0 IAmb IAmb 12 09 21.3
comp=Z,102nm,1.1s
ZAA0 IAMs_20 IAMs_20 12 40 45.0
comp=Z,3µm,18.0s
ZALV Zalesovo Beam 62.50 334 P **P** **12 09 19.8 -1.5**
comp=Z,47nm,0.9s,baz=15,slow=6.3,SNR=165
ZALV PKPPKP P'P'df 12 38 24.1 -8.8
comp=Z,1.0nm,0.9s,baz=194,slow=3.1,SNR=4.6
ZALV LR LR 12 40 56.0
comp=Z,3µm,18.4s,baz=25,slow=40
SLIT Slitere, Latvi 62.51 13 *e*P **P** **12 09 20.2 -1.0**
HLM1 Long Mynd 62.72 30 *e*P **P** **12 09 22.4 -0.4**
HLM1 IAmb IAmb 12 09 24.0
comp=Z,190nm,1.3s
CWF Charnwood Fore 62.91 29 *e*P **P** **12 09 24.0 0.0**
CWF IAmb IAmb 12 09 25.4
comp=Z,308nm,1.4s
CWF IAMs_20 IAMs_20 12 37 49.8
comp=Z,6µm,17.2s
DL2 Dalian 62.98 301 P **P** **12 09 25.3 +0.6**
DL2 S **S** **12 17 56.4 +2.1**
DL2 pmax pmax
comp=Z,240nm,1.2s
DL2 pmax pmax
comp=Z,2µm,3.8s
DL2 LR LR
comp=Z,4µm,19.2s
DL2 LR LR
comp=Z,4µm,21.2s
DL2 LR LR
comp=Z,5µm,15.3s
MCH1 Michaelchurch 63.16 30 *e*P **P** **12 09 25.3 -0.4**
MCH1 IAmb IAmb 12 09 26.8
comp=Z,327nm,1.5s
MCH1 IAMs_20 IAMs_20 12 37 28.2
comp=Z,4µm,14.2s
MONM Monmouth 63.35 30 *e*P **P** **12 09 26.6 -0.4**
MONM IAmb IAmb 12 09 28.2
comp=Z,411nm,1.7s
MONM IAMs_20 IAMs_20 12 37 34.2
comp=Z,4µm,15.1s
WACR West Acre 63.40 27 *e*P **P** **12 09 26.8 -0.3**
WACR IAmb IAmb 12 09 28.0
comp=Z,349nm,1.2s
WACR IAMs_20 IAMs_20 12 39 24.4
comp=Z,6µm,14.9s
JNU Nakatsue 63.40 290 P **P** **12 09 28.3 +0.7**
SKMB Sankelmark Bun 63.40 21 *e*P **P** **12 09 28.1 +0.9**
comp=Z,663nm,1.6s,baz=344,slow=6.3
STRD Stroud 63.58 30 *e*P **P** **12 09 28.6 +0.2**
STRD IAmb IAmb 12 09 29.8
comp=Z,965nm,1.7s
STRD IAMs_20 IAMs_20 12 38 48.7
comp=Z,4µm,15.8s
OLDB Oldbury-Upon-S 63.58 30 *e*P **P** **12 09 28.0 -0.5**
OLDB IAmb IAmb 12 09 29.6
comp=Z,264nm,1.5s
OLDB IAMs_20 IAMs_20 12 37 41.3
comp=Z,4µm,15.9s
HLG Helgoland 63.61 22 *e*P **P** **12 09 29.4 +0.8**
comp=Z,491nm,1.3s,baz=344,slow=6.3
SVE Sverdlovsk 63.66 349*d i*P **P** **12 09 28.4 -0.5**
SVE *e*S **S** **12 18 00.7 -1.6**
SVE pmax pmax
comp=Z,223nm,1.5s
SVE MLR MLR
comp=Z,1µm,24.0s
BSD Bornholm Skovb 63.96 18⇑*i*P **P** **12 09 30.5 -0.4**
comp=Z,267nm,1.2s
comp=Z,3µm,18.0s
BSD Bornholm Skovb 63.96 18⇑iP **P** **12 09 30.5 -0.4**
BSD pmax pmax
comp=Z,270nm,1.2s
BSD MLR MLR
comp=Z,3µm,18.0s
PBUR Paburge 64.04 13 *e*P **P** **12 09 30.7 -0.7**
AOPR Arecibo Observ 64.18 97 P **P** **12 09 33.0 +0.2**
AOPR IAmb IAmb 12 09 34.0
comp=Z,82nm,1.4s
ARU Arti 64.24 351 PKPPKP PKPPKPdf 12 38 19.3
comp=Z,1.7nm,0.3s,baz=157,slow=4.3,SNR=6.5
ARU LR LR 12 40 08.5
comp=Z,1µm,20.6s,baz=4.0,slow=38
ARU Arti 64.24 351*c i*P **P** **12 09 31.6 -1.1**
ARU S **S** **12 18 11.8 +2.3**
ARU 12 19 20.2
ARU SSS SSS 12 25 12.8
ARU pmax pmax
comp=Z,264nm,1.5s
ARU MLR MLR
comp=Z,2µm,21.0s
ARU Arti 64.24 351 P **P** **12 09 31.8 -0.9**
RGN Rugen 64.25 19 *e*P **P** **12 09 33.1 +0.3**
RGN Rugen 64.25 19 IAMs_20 IAMs_20 12 37 33.0
comp=Z,3µm,21.0s
RGN Rugen 64.25 19 *e*P **P** **12 09 33.6 +0.8**
comp=Z,481nm,1.3s,baz=344,slow=6.3
CRPR Cabo Rojo, PR 64.28 98 P **P** **12 09 31.9 -1.5**
CRPR IAmb IAmb 12 09 47.1
comp=Z,120nm,1.3s
BSEG Bad Segeberg 64.31 21 *e*P **P** **12 09 33.9 +0.7**
comp=Z,353nm,1.4s,baz=344,slow=6.3
H07S1 FLORES T-PHASE 64.33 56 *e*P **P** **12 09 30.1 -3.5**
MLPR Magueyes Islan 64.34 98 P **P** **12 09 34.4 +0.5**
MLPR IAmb IAmb 12 09 40.3
comp=Z,81nm,1.1s
BJI Beijing 64.40 306 P **P** **12 09 34.4 +0.4**
BJI PP **PP** **12 11 53.8 -1.4**
BJI S **S** **12 18 11.0 -0.9**
BJI pmax pmax
comp=Z,72nm,2.1s
BJI LR LR
comp=Z,3µm,14.9s
BJI LR LR
comp=Z,3µm,15.3s
BJT Baijiatuau 64.42 306 P **P** **12 09 34.3 +0.1**
BJT pmax pmax
comp=Z,135nm,1.5s
BJT MLR MLR
comp=Z,2µm,18.0s
BJT Baijiatuau 64.42 306 P **P** **12 09 34.3 +0.1**
BJT IAmb IAmb 12 09 50.7

comp=Z,135nm,1.5s
BJT Baijiatuau 64.42 306 IAMs_20 IAMs_20 12 40 23.8
comp=Z,2µm,18.0s
OBIP Obispado Ponce 64.51 97 P **P** **12 09 34.9 0.0**
OBIP IAmb IAmb 12 09 41.5
comp=Z,144nm,1.4s
GCPR Guaynabo City 64.55 97 P **P** **12 09 35.1 -0.2**
SJG San Juan 64.69 97⇑ *e*P **P** **12 09 35.5 -0.7**
SJG San Juan 64.69 97 P **P** **12 09 36.0 -0.1**
SJG pmax pmax
comp=Z,47nm,1.2s
SJG MLR MLR
comp=Z,4µm,18.0s
SJG San Juan 64.69 97 P **P** **12 09 36.0 -0.1**
SJG IAmb IAmb 12 09 48.6
comp=Z,47nm,1.2s
SJG San Juan 64.69 97 IAMs_20 IAMs_20 12 43 06.1
comp=Z,4µm,18.0s
CBYP Canovanas 64.70 97 P **P** **12 09 35.4 -0.9**
CBYP IAmb IAmb 12 09 48.4
comp=Z,66nm,1.3s
IZAR Zarasai 64.77 11 *e*P **P** **12 09 36.4 +0.3**
PABE Paberze 64.78 12 *e*P **P** **12 09 36.0 -0.2**
HUMP Col San Antoni 64.81 97 P **P** **12 09 36.5 -0.4**
HUMP IAmb IAmb 12 09 38.1
comp=Z,98nm,1.4s
PDPR Patillas Dam, 64.83 97 P **P** **12 09 36.6 -0.4**
PDPR IAmb IAmb 12 09 39.4
comp=Z,73nm,1.3s
ISAL Salakas 64.93 11 *e*P **P** **12 09 37.5 +0.3**
CUPR Culebra, Puert 64.97 96 P **P** **12 09 37.5 -0.4**
CUPR IAmb IAmb 12 09 38.9
comp=Z,78nm,1.3s
MTP Monte Pirata 65.00 96 P **P** **12 09 38.0 -0.2**
MTP IAmb IAmb 12 09 40.4
comp=Z,116nm,1.4s
HMNX Herstmonceux 65.04 28 *e*P **P** **12 09 37.9 -0.1**
HMNX IAMs_20 IAMs_20 12 37 23.3
comp=Z,5µm,19.4s
STVI Saint Thomas 65.10 96 P **P** **12 09 37.9 -0.9**
STVI IAmb IAmb 12 09 51.1
comp=Z,51nm,1.1s
IIGN Ignalina 65.16 11 *e*P **P** **12 09 39.0 +0.2**
KWAJ Kwajalein Atol 65.24 244 IAMs_20 IAMs_20 12 31 46.3
comp=Z,3µm,20.0s
RETH Rethem/Aller, 65.27 22 *e*P **P** **12 09 40.2 +0.7**
comp=Z,269nm,1.3s,baz=344,slow=6.3
IBBN Ibbenburen 65.36 23 *e*P **P** **12 09 40.7 +0.6**
comp=Z,454nm,1.5s,baz=344,slow=6.3
MOS Moscow 65.50 3 *e*P **P** **12 09 37.2 -3.7**
MOS *e* 12 09 44.7
MOS *e* 12 10 10.6
MOS *e*S **S** **12 18 24.2 -0.7**
MOS *e* 12 19 30.5
MOS pmax pmax
comp=Z,570nm,1.5s
MOS pmax pmax
comp=Z,600nm,1.1s
MOS MLR MLR
comp=Z,2µm,20.0s
BCIP Isla Barro Col 65.54 115⇑ *e*P **P** **12 09 41.1 -0.6**
BCIP Isla Barro Col 65.54 115 P **P** **12 09 41.3 -0.4**
BCIP pmax pmax
comp=Z,230nm,1.4s
BCIP MLR MLR
comp=Z,2µm,18.0s
BCIP Isla Barro Col 65.54 115 P **P** **12 09 41.3 -0.4**
BCIP IAMs_20 IAMs_20 12 41 03.3
comp=Z,2µm,18.0s
HHC Hu-ho-hao-te 65.61 309 *e*P **P** **12 09 42.2 +0.1**
HHC sP sP 12 09 49.8 +1.6
HHC S **S** **12 18 22.7 -4.4**
HHC sS sS 12 18 40.2 +5.9
HHC pmax pmax
comp=Z,46nm,1.4s
HHC pmax pmax
comp=Z,670nm,7.0s
HHC LR LR
comp=Z,4µm,12.4s
HHC LR LR
comp=Z,2µm,13.0s
HHC LR LR
comp=Z,6µm,12.3s
NRDL Niedersach Rie 65.64 22 *e*P **P** **12 09 42.3 +0.5**
comp=Z,258nm,1.2s,baz=344,slow=6.3
NACGM Naroch 65.65 10 *e*P **P** **12 09 40.0 -1.9**
NACGM *e*P **P** **12 09 41.0 -0.9**
NACGM *e*PP **PP** **12 12 11.0 +5.3**
NACGM *e*PPP PPP 12 13 51.0
NACGM *e*S **S** **12 18 26.0 -0.9**
NACGM *e*SS **SS** **12 22 44.0 +4.3**
NACGM *e*SSS SSS 12 25 42.0
NACGM *e*LQ LQ 12 29 24.0
NACGM *e*LR LR 12 34 50.0
NACGM LRM MLR 12 39 35.0
comp=Z,15nm,17.0s
DGZ Jazzator, Alta 65.78 330 *c iP* **P** **12 09 42.4 -0.7**
DGZ pmax pmax
comp=Z,44nm,1.5s
DGZ MLR MLR
comp=Z,3µm,16.0s
PNME Penonome 65.91 115 *e*P **P** **12 09 43.8 -0.3**
SRBC Serra Branca 65.95 54 *e*P **P** **12 09 45.3 +1.2**
comp=Z,509nm,1.2s
PGRA Graciosa 65.98 54 *e*P **P** **12 09 44.7 +0.4**
comp=Z,294nm,1.4s
PGRA Graciosa 65.98 54 *e*LQ LQ 12 25 51.5
PCED Cedros 66.02 55 *e*P **P** **12 09 45.4 +0.8**
comp=Z,195nm,1.2s
UCC Uccle 66.05 26 P **P** **12 09 44.6 0.0**
UCC pmax pmax
comp=Z,188nm,1.4s
UCC MLR MLR
comp=Z,4µm,18.0s
UCC Uccle 66.05 26 P **P** **12 09 44.5 0.0**
UCC IAMs_20 IAMs_20 12 40 17.6
comp=Z,4µm,18.0s
CALA Caldeira 66.06 55 *e*P **P** **12 09 44.7 -0.2**
comp=Z,308nm,1.2s
BUG Bochum–Univer 66.08 24 *e*P **P** **12 09 45.0 +0.3**
comp=Z,336nm,1.4s,baz=344,slow=6.3
OBN Obninsk 66.08 4 LR LR 12 38 47.7
comp=Z,281nm,21.7s,baz=360,slow=36
OBN Obninsk 66.08 4 *c iP* **P** **12 09 44.1 -0.5**
OBN *e* 12 09 53.9
OBN *e* 12 10 13.4
OBN *e* 12 12 08.7
OBN *e*S **S** **12 18 27.2 -4.8**
OBN *e*SS **SS** **12 22 40.2 -6.1**
OBN pmax pmax
comp=Z,516nm,0.9s
OBN MLR MLR
comp=Z,2µm,15.0s
OBN Obninsk 66.08 4 P **P** **12 09 44.1 -0.5**
ASSE Asse, Remlinge 66.10 21 *e*P **P** **12 09 45.2 +0.4**
comp=Z,244nm,1.2s,baz=344,slow=6.3
GKP Gorka Klasztor 66.10 17 *e*P **P** **12 09 44.8 0.0**
GKP *e*L L 12 40 32.4
comp=Z,4µm,18.0s
ROSA Rosais 66.14 54 *e*P **P** **12 09 44.7 -0.6**
comp=Z,307nm,1.4s
ROSA Rosais 66.14 54 eLQ LQ 12 26 08.2
BRVK Borovoye 66.14 343 P **P** **12 09 44.3 -0.8**
BRVK P **P** **12 09 44.3 -0.8**
BRVK Borovoye 66.14 343 *c iP* **P** **12 09 44.4 -0.8**
BRVK pmax pmax
comp=Z,245nm,1.8s
BRVK Borovoye 66.14 343 P **P** **12 09 44.4 -0.8**
BRVK Borovoye 66.14 343 IAMs_20 IAMs_20 12 40 57.0
comp=Z,2µm,21.0s
MICGM Minsk 66.15 10 ⇓*i*P **P** **12 09 44.0 -1.1**
MICGM PM 12 09 45.0
comp=Z,1.6nm,1.0s
MICGM PM 12 09 46.0
comp=N,1.1nm,1.0s
MICGM *e*PcP **sP** **12 09 57.0 +5.7**
MICGM *e*PP **PP** **12 12 10.0 0.0**
MICGM *e*PPP PPP 12 13 58.0
MICGM *e*S **S** **12 18 38.0 +5.1**
MICGM *e*SS SS 12 22 22.0 -25
MICGM *e*SSS SSS 12 26 20.0
MICGM *e*LQ LQ 12 30 44.0
MICGM *e*LR LR 12 35 24.0
MICGM LRM MLR 12 39 50.0
comp=Z,4.2nm,14.0s
MICGM LRM MLR 12 39 52.0
comp=E,1.5nm,14.0s
MNK Minsk 66.15 10 ⇓*i*P **P** **12 09 44.0 -1.1**
MNK *e* 12 09 57.0
MNK *e*S **S** **12 18 38.0 +5.1**
MNK pmax pmax
comp=Z,2µm,1.0s
MNK MLR MLR
comp=Z,4µm,14.0s
BVAR Borovoye Array 66.16 342 PKPPKP PKPPKPdf12 38 25.5
comp=Z,1.6nm,0.9s,baz=202,slow=3.2,SNR=4.4
PICO Pico 66.24 54 *e*P **P** **12 09 44.8 -1.3**
comp=Z,130nm,1.0s
PMAN Manadas 66.27 54 *e*P **P** **12 09 45.4 -0.8**
comp=Z,176nm,1.1s
CLZ Clausthal 66.31 22 *e*P **P** **12 09 47.2 +0.9**
comp=Z,390nm,1.2s,baz=344,slow=6.3
RUE Ruedersdorf 66.32 19 *e*P **P** **12 09 46.2 0.0**
RUE Ruedersdorf 66.32 19 *e*P **P** **12 09 46.7 +0.5**
comp=Z,610nm,1.6s,baz=344,slow=6.3
SMRT St. Maarten 66.32 94 IAMs_20 IAMs_20 12 38 16.2
comp=Z,4µm,19.0s
BTO Baotou 66.44 310 *e*P **P** **12 09 45.5 -1.8**
BTO S **S** **12 18 31.1 -6.0**
SMRC Santa Marta, M 66.51 108⇑ *e*P **P** **12 09 47.2 -0.7**
GTTG Gottingen 66.52 22 *e*P **P** **12 09 48.4 +0.8**
comp=Z,408nm,1.2s,baz=344,slow=6.3
AZU Azuero 66.54 116⇑ *e*P **P** **12 09 47.3 -0.8**
SEM Semipalatinsk 66.82 335 *i* P **P** **12 09 48.1 -1.7**
comp=Z,101nm,2.1s,baz=335
SEM *e*S **S** **12 18 41.1 -0.7**
baz=335
SEM Semipalatinsk 66.82 335 *i* P **P** **12 09 48.1 -1.7**
SEM *e*S **S** **12 18 41.0 -0.7**
SEM pmax pmax
comp=Z,101nm,2.1s
SEUS St. Eustatius 66.83 95 IAMs_20 IAMs_20 12 38 20.9
comp=Z,4µm,20.0s
KURK Kurchatov 66.88 336 P **P** **12 09 48.5 -1.4**
KURK P **P** **12 09 48.5 -1.4**
KURK Kurchatov 66.88 336 *c iP* **P** **12 09 48.5 -1.4**
KURK pmax pmax
comp=Z,186nm,1.7s
KURK MLR MLR
comp=Z,3µm,19.0s
KURK Kurchatov 66.88 336 P **P** **12 09 48.6 -1.2**
KURK IAmb IAmb 12 09 49.5
comp=Z,85nm,1.1s
KURK Kurchatov 66.88 336 IAMs_20 IAMs_20 12 41 58.7
comp=Z,3µm,20.0s
AHRW Bad Neuenahr-A 66.89 24 *e*P **P** **12 09 50.5 +0.6**
comp=Z,190nm,1.4s,baz=344,slow=6.3
UPD2 Meteti 66.94 113 *e*P **P** **12 09 49.6 -1.1**
KURBB Kurchatov Arra 66.98 336 PKPPKP PKPPKPdf12 38 13.1
comp=Z,4.3nm,1.1s,baz=202,slow=2.8,SNR=16
KURBB Kurchatov Arra 66.98 336 P **P** **12 09 48.9 -1.6**
SKI Saint Kitts 67.09 94 IAMs_20 IAMs_20 12 38 22.7
comp=Z,5µm,21.0s
SJCC San Jacinto, C 67.14 110⇑ *e*P **P** **12 09 52.8 +0.7**
URIC Uribia, Colomb 67.15 106⇑ *e*P **P** **12 09 50.9 -1.2**
NEUB Neuenburg 67.18 21 *e*P **P** **12 09 52.2 +0.4**
comp=Z,352nm,1.2s,baz=344,slow=6.3
CAPC Capurgana 67.18 113⇑ *e*P **P** **12 09 51.9 -0.3**
TIA Tai'an 67.20 303 P **P** **12 09 52.3 +0.1**
TIA S **S** **12 18 44.7 -1.5**
TIA pmax pmax
comp=Z,120nm,1.6s
TIA pmax pmax
comp=Z,1µm,8.0s
TIA LR LR
comp=Z,3µm,22.1s
TIA LR LR
comp=Z,4µm,20.6s
TIA LR LR
comp=Z,6µm,21.6s
UBBA Unterbreizbach 67.22 22 *e*P **P** **12 09 52.5 +0.6**
comp=Z,175nm,1.4s,baz=344,slow=6.3
ANWB Willy Bob 67.30 93 IAMs_20 IAMs_20 12 40 07.3
comp=Z,3µm,20.0s
CLL Collm 67.31 20⇑ *i*P **P** **12 09 53.4 +0.8**
comp=Z,140nm,1.1s
CLL *e*Pmax 12 09 56.0
CLL *e*PP **PP** **12 12 21.0 +0.8**
CLL *e*S **S** **12 18 51.0 +4.0**
CLL *e*SS **SS** **12 23 06.0 +0.5**
CLL *e*SSS SSS 12 26 30.0
CLL *e*SSSS 12 27 06.0
CLL *e*PKPPKPdf P'P'df 12 38 17.0 -7.9
comp=Z,122nm,2.0s
CLL Lm MLR 12 40 00.0
comp=N,2µm,18.4s
CLL Lm MLR 12 40 00.0
comp=E,1µm,21.6s
CLL Lm MLR 12 40 00.0
comp=Z,3µm,19.7s
CLL Lmax 12 44 00.0
CLL Collm 67.31 20⇑ *i*P **P** **12 09 53.4 +0.8**
CLL *e*S **S** **12 18 51.0 +4.0**
CLL pmax pmax
comp=Z,140nm,1.1s
CLL MLR MLR
comp=Z,3µm,19.7s
CLL Collm 67.31 20 IAMs_20 IAMs_20 12 40 07.9
comp=Z,3µm,19.0s
LCBC Los crdobas, 67.46 112⇑ *e*P **P** **12 09 55.0 +1.0**
TNS Taunus Mts 67.47 23 *e*P **P** **12 09 54.1 +0.3**
comp=Z,234nm,1.7s,baz=344,slow=6.3
WLF Walferdange 67.52 25 P **P** **12 09 54.6 +0.7**
WLF pmax pmax
comp=Z,150nm,1.2s
WLF MLR MLR
comp=Z,3µm,19.0s
WLF Walferdange 67.52 25 P **P** **12 09 54.6 +0.7**
WLF IAMs_20 IAMs_20 12 40 21.3
comp=Z,3µm,19.0s
WLF Walferdange 67.52 25 *e*P **P** **12 09 54.9 +0.9**
comp=Z,203nm,1.3s,baz=344,slow=6.3
KNTN Kanton 67.52 218 IAMs_20 IAMs_20 12 31 42.5
comp=Z,2µm,20.0s
ARGC Ariguani, Magd 67.63 109⇑ *e*P **P** **12 09 56.6 +1.5**
MOX Moxa 67.69 21 *e*P **P** **12 09 55.4 +0.3**
comp=Z,220nm,1.2s,baz=344,slow=6.3
MOX *e*L L 12 40 20.6
comp=Z,2µm,20.8s
TAOE Nuku Hiva Isla 67.71 184 *e*S **S** **12 18 54.0 +1.3**
comp=Z,376nm,31.4s
TAOE *e*LQ LQ 12 27 26.9
comp=Z,4µm,26.0s
TAOE *e*LR LR 12 30 24.3
comp=Z,987nm,27.2s
TAOE Nuku Hiva Isla 67.71 184 P **P** **12 09 55.3 -0.3**
FBE Freiberg 67.74 20 *e*P **P** **12 09 55.9 +0.5**
comp=Z,207nm,1.3s,baz=344,slow=6.3
BRG Berggiesshubel 67.89 20 *i* P **P** **12 09 56.4 +0.1**
comp=Z,231nm,1.3s
BRG *i* PCP **PcP** **12 10 21.7 -1.0**
comp=Z,68nm,1.3s
BRG PP PP 12 12 17.0 -8.3
BRG S **S** **12 18 55.0 +1.0**
BRG SS **SS** **12 23 09.0 -5.5**
BRG *e*PKPPKP P'P'df 12 38 14.8 -9.1
comp=Z,115nm,1.7s
comp=N,2µm,19.5s
comp=E,1µm,17.8s
comp=Z,2µm,17.8s
BRG Berggiesshubel 67.89 20 *i* P **P** **12 09 56.4 +0.1**
BRG *i* 12 10 21.7
BRG S **S** **12 18 55.0 +1.0**
BRG SS **SS** **12 23 09.0 -5.5**
BRG pmax pmax
comp=Z,231nm,1.3s
BRG pmax pmax
comp=Z,68nm,1.3s
BRG pmax pmax
comp=Z,115nm,1.7s
BRG MLR MLR
comp=N,2µm,19.5s
BRG MLR MLR
comp=E,1µm,17.8s
BRG MLR MLR
comp=Z,2µm,17.8s
BRG Berggiesshubel 67.89 20 *e*P **P** **12 09 56.6 +0.3**
comp=Z,230nm,1.3s,baz=344,slow=6.3
TIY Taiyuan 67.93 307 *e*P **P** **12 09 57.0 +0.2**
TIY PP **PP** **12 12 27.6 +1.5**
TIY S **S** **12 18 56.1 +1.1**
TIY pmax pmax
comp=Z,120nm,1.5s
TIY pmax pmax
comp=Z,700nm,3.6s
TIY LR LR
comp=Z,4µm,12.6s
TIY LR LR
comp=Z,810nm,10.6s
TIY LR LR
comp=Z,4µm,16.8s
PSET Sete Cidades 67.94 53 *e*LQ LQ 12 26 48.9
PLN Plauen 67.95 21 *e*P **P** **12 09 56.9 +0.3**
comp=Z,186nm,1.2s,baz=344,slow=6.3
BEL Belsk 68.00 15 *e*P **P** **12 09 56.9 0.0**
BEL *e*L L 12 39 36.4
comp=Z,3µm,20.8s
TANN Tannenbergstha 68.07 21 *e*P **P** **12 09 57.9 +0.4**
comp=Z,290nm,1.2s,baz=344,slow=6.3
CMLA Cha da Macela 68.08 53 *e*P **P** **12 09 55.2 -2.5**
comp=Z,90nm,0.8s
CMLA Cha da Macela 68.08 53 *e*LQ LQ 12 26 52.6
GUNZ Gunzen 68.09 21 *e*P **P** **12 09 58.0 +0.3**
comp=Z,162nm,1.3s,baz=344,slow=6.3
CLF Chambon-Foret 68.15 28 P **P** **12 09 58.3 +0.4**
CLF IAMs_20 IAMs_20 12 39 28.0
comp=Z,4µm,21.0s
WERN Wernitzgruen 68.17 21 *e*P **P** **12 09 58.6 +0.4**
comp=Z,207nm,1.4s,baz=344,slow=6.3
BART Pico Bartolome 68.21 53 *e*P **P** **12 09 57.1 -1.5**
comp=Z,178nm,1.6s
NKC Novy Kostel 68.24 21 *e*P **P** **12 09 58.8 +0.3**
NKC *e*x x 12 10 18.5
NKC AMS AMS 12 41 50.0
comp=Z,2µm,16.9s
HATO Hato, Curacao 68.27 103 IAMs_20 IAMs_20 12 41 24.1
comp=Z,3µm,19.0s
KSP Ksiaz 68.31 18 *e*P **P** **12 09 58.8 -0.2**
KSP *e*S **S** **12 19 00.7 +1.6**
KSP *e*L L 12 40 23.7
comp=Z,2µm,20.6s
PVCC Panska Ves 68.33 19 *e*P **P** **12 09 59.9 +0.9**
PVCC *e*S **S** **12 19 01.7 +2.4**
PVCC AMS AMS 12 44 10.0
comp=Z,2µm,16.8s
PVCC Panska Ves 68.33 19 *e*P **P** **12 09 59.9 +0.9**
PVCC *e*S **S** **12 19 01.7 +2.4**
PVCC MLR MLR
comp=Z,2µm,16.8s
MANZ Manzenberg 68.42 21 *e*P **P** **12 09 59.7 0.0**
comp=Z,124nm,1.4s,baz=344,slow=6.3
ZSN Zaisan 68.51 331⇑ *i*P **P** **12 09 59.6 -0.7**
comp=Z,180nm,2.3s,baz=331
ZSN *e*S **S** **12 19 02.2 +0.6**
baz=331
ZSN Zaisan 68.51 331 *c i*P **P** **12 09 59.6 -0.7**
ZSN *e*S **S** **12 19 02.2 +0.6**
ZSN pmax pmax
comp=Z,180nm,2.3s
CHVC Chvalec 68.52 18 *e*P **P** **12 10 00.8 +0.5**
GRA1 Grafenberg Arr 68.53 22 IAMs_20 IAMs_20 12 40 45.2
comp=Z,3µm,20.0s
GRF Grafenberg Arr 68.53 22 *e*P **P** **12 10 01.0 +0.6**
comp=Z,224nm,1.3s,baz=344,slow=6.3
GRF *e*PP **PP** **12 12 29.7 -1.1**
GRF *e*L L 12 40 35.6
comp=Z,3µm,20.8s
OSTC Ostas 68.58 18 *e*P **P** **12 10 01.1 +0.5**
OSTC *e*PP **PP** **12 12 28.0 -3.3**
OSTC *e*S **S** **12 19 06.1 +3.8**
OSTC AMS AMS 12 40 30.0
comp=Z,2µm,18.1s
UPC Upice 68.59 18 *e*P **P** **12 10 01.0 +0.3**
UPC *e*x x 12 10 15.7
UPC *e*S **S** **12 19 04.2 +1.8**
UPC AMS AMS 12 39 20.0
comp=Z,3µm,19.5s
UPC Upice 68.59 18 *e*P **P** **12 10 01.0 +0.3**
UPC *e*S **S** **12 19 04.2 +1.8**
UPC MLR MLR
comp=Z,3µm,19.5s
SMLC San Martn de 68.62 109⇑ *e*P **P** **12 10 01.3 0.0**
ROTZ Rotzenmuhle 68.64 21 *e*P **P** **12 10 01.3 +0.3**
comp=Z,205nm,1.7s,baz=344,slow=6.3
LPSR Galich'ya Gora 68.67 3 *e*P **P** **12 10 00.2 -0.9**
LPSR pmax pmax
comp=Z,220nm,0.9s
LPSR pmax pmax
comp=Z,400nm,1.1s
LPSR MLR MLR
comp=Z,1µm,14.0s
BRZS Berezniki 68.72 340⇑ *i*P **P** **12 10 00.1 -1.4**
comp=Z,218nm,1.9s,baz=340
BRZS Berezniki 68.72 340 *c iP* **P** **12 10 00.1 -1.4**
BRZS pmax pmax
comp=Z,218nm,1.9s
PRA Prague 68.75 19 *e*P **P** **12 10 02.4 +0.8**
PRA *e*PP **PP** **12 12 28.1 -4.6**
PRA *e*S **S** **12 19 06.7 +2.4**
PRA AMS AMS 12 44 50.0
comp=Z,1µm,14.3s
PRA Prague 68.75 19 *e*P **P** **12 10 02.4 +0.8**
PRA *e*S **S** **12 19 06.7 +2.4**
PRA MLR MLR
comp=Z,1µm,14.3s
DPC Dobruska-Polom 68.79 18 *e*P **P** **12 10 02.5 +0.5**
DPC *e*PP **PP** **12 12 31.6 -1.6**
DPC *e*S **S** **12 19 08.3 +3.4**
DPC AMS AMS 12 39 30.0
comp=Z,2µm,18.9s
UREC San Jos de Ur 68.83 111⇑ *e*P **P** **12 10 01.8 -0.8**
PRU Pruhonice 68.85 19 *e*P **P** **12 10 02.7 +0.4**
PRU *e*PP **PP** **12 12 33.2 -0.4**
PRU *e*S **S** **12 19 07.6 +2.1**
PRU AMS AMS 12 45 10.0
comp=Z,2µm,14.8s
PRU Pruhonice 68.85 19 *e*P **P** **12 10 02.7 +0.4**
PRU *e* 12 12 33.2
PRU *e*S **S** **12 19 07.6 +2.1**
PRU MLR MLR
comp=Z,2µm,14.8s
PSMA Santa Maria 68.90 53 *e*P **P** **12 09 58.9 -3.9**
comp=Z,57nm,1.7s
PSMN Pico do Norte, 68.92 53 *e*P **P** **12 10 02.9 0.0**
comp=Z,165nm,1.3s
PSMN Pico do Norte, 68.92 53 *e*LQ LQ 12 27 05.5
GOPC GO Pecny, Ondr 68.96 19 *e*P **P** **12 10 03.6 +0.6**
GOPC *e*S **S** **12 19 09.8 +2.9**
GOPC AMS AMS 12 44 20.0
comp=Z,2µm,14.9s
GOPC GO Pecny, Ondr 68.96 19 *e*P **P** **12 09 58.8 -4.2**
GOPC MLR MLR
comp=Z,2µm,16.9s
PBCC Pribram 69.05 20 *e*P **P** **12 10 04.0 +0.5**
ECH Echery 69.10 25 IAMs_20 IAMs_20 12 41 27.3
comp=Z,3µm,19.0s
KRLC Kraliky 69.13 18 *e*P **P** **12 10 04.4 +0.3**
KRLC *e*S **S** **12 19 12.0 +3.0**
KRLC AMS AMS 12 42 20.0
comp=Z,2µm,15.0s
KRLC Kraliky 69.13 18 *e*P **P** **12 10 04.4 +0.3**
KRLC *e*S **S** **12 19 12.0 +3.0**
KRLC MLR MLR
comp=Z,2µm,15.0s
BFO Black Forest 69.25 24 P **P** **12 10 04.9 +0.1**
BFO pmax pmax
comp=Z,159nm,1.2s
BFO MLR MLR
comp=Z,3µm,19.0s
BFO Black Forest 69.25 24 P **P** **12 10 04.9 +0.1**
BFO IAMs_20 IAMs_20 12 42 01.1
comp=Z,3µm,19.0s
BFO Black Forest 69.25 24 *e*P **P** **12 10 05.3 +0.4**
comp=Z,210nm,1.3s,baz=344,slow=6.3
WET Wettzell 69.36 21 *e*P **P** **12 10 06.1 +0.5**
comp=Z,229nm,1.4s,baz=344,slow=6.3
ZARC Zaragoza, Cauc 69.38 111⇑ *e*P **P** **12 10 05.9 -0.1**
OJC Ojcow 69.45 16 *e*P **P** **12 10 05.6 -0.3**
OJC *e*S **S** **12 19 14.6 +2.0**
OJC *e*L L 12 42 53.4
comp=Z,4µm,17.5s
OJC Ojcow 69.45 16 P **P** **12 10 06.0 0.0**
OJC pmax pmax
comp=Z,107nm,1.0s
OJC Ojcow 69.45 16 P **P** **12 10 06.0 0.0**
OJC IAmb IAmb 12 10 07.4

comp=Z,107nm,1.0s
OCAC Ocana 69.48 109⇑ *e*P **P** **12 10 06.7 -0.1**
TARA Tarawa 69.49 235 P **P** **12 10 07.3 +0.7**
TARA Tarawa 69.49 235 IAMs_20 IAMs_20 12 37 50.5
comp=Z,3μm,19.0s
KHC Kasperske Hory 69.50 20 *e*P **P** **12 10 06.7 +0.3**
KHC *ex* x 12 10 17.0
KHC *e*PP **PP** **12 12 38.9 -0.4**
KHC *e*S **S** **12 19 17.5 +4.1**
KHC AMS AMS 12 44 50.0
comp=Z,2μm,15.3s
KHC Kasperske Hory 69.50 20 *e*P **P** **12 10 06.7 +0.3**
KHC *e* 12 10 17.0
KHC *e* 12 12 38.9
KHC *e*S **S** **12 19 17.5 +4.1**
KHC MLR MLR
comp=Z,2μm,15.3s
KHC Kasperske Hory 69.50 20 P **P** **12 10 07.0 +0.6**
KHC IAmb IAmb 12 10 08.6
comp=Z,99nm,1.3s
MORC Moravsky Berou 69.54 17 ⇓P **P** **12 10 07.1 +0.4**
MORC Moravsky Berou 69.54 17 *e*P **P** **12 10 06.5 -0.1**
MORC *e*PP **PP** **12 12 39.5 -0.2**
MORC *e*S **S** **12 19 16.7 +2.9**
MORC *e*PKPPKP P'P'df 12 38 10.0 -11
MORC Moravsky Berou 69.54 17 IAmb IAmb 12 10 07.5
comp=Z,71nm,1.1s
MORC IAMs_20 IAMs_20 12 41 12.0
comp=Z,2μm,22.0s
OKC Ostrava-Krasne 69.58 17 *e*P **P** **12 10 06.6 -0.2**
OKC *e*S **S** **12 19 16.9 +2.8**
OKC AMS AMS 12 44 50.0
comp=Z,2μm,14.6s
VORR Voronezh 69.61 3 *e*P **P** **12 10 04.0 -2.9**
VORR pmax pmax
comp=Z,300nm,1.6s
SSE Sheshan 69.67 297 P **P** **12 10 08.8 +1.2**
SSE S **S** **12 19 21.2 +5.5**
SSE pmax pmax
comp=Z,110nm,1.5s
SSE pmax pmax
comp=Z,900nm,7.7s
SSE LR LR
comp=Z,720nm,16.6s
SSE LR LR
comp=Z,1μm,16.4s
SSE Sheshan 69.67 297 P **P** **12 10 08.3 +0.7**
SSE Sheshan 69.67 297 IAMs_20 IAMs_20 12 45 15.0
comp=Z,3μm,18.0s
TREC Trest 69.68 19 *e*P **P** **12 10 08.0 +0.5**
TREC AMS AMS 12 45 50.0
comp=Z,2μm,15.0s
TREC Trest 69.68 19 *e*P **P** **12 10 08.0 +0.5**
TREC MLR MLR
comp=Z,2μm,15.0s
MK31 Makanchi Array 69.76 333 *i*P **P** **12 10 06.1 -1.9**
MKAR Makanchi Array 69.76 333 P **P** **12 10 06.3 -1.7**
comp=Z,23nm,0.6s,baz=39,slow=6.2,SNR=138
MKAR PKP2bc 12 38 08.9
comp=Z,3.9nm,1.0s,baz=197,slow=3.8,SNR=7.5
MKAR LR LR 12 43 29.4
comp=Z,2μm,18.1s,baz=20,slow=38
MKAR Makanchi Array 69.76 333 *i*P **P** **12 10 06.3 -1.7**
MKAR pmax pmax
comp=Z,24nm,0.8s
GEC2 GERESS Array S 69.80 20 IAmb IAmb 12 10 10.0
comp=Z,130nm,1.2s
GEC2 IAMs_20 IAMs_20 12 44 13.8
comp=Z,2μm,20.0s
GEC2 GERESS Array S 69.80 20 *e*P **P** **12 10 08.7 +0.4**
comp=Z,197nm,1.5s,baz=344,slow=6.3
GERES GERESS Array B 69.80 20 P **P** **12 10 08.5 +0.1**
comp=Z,49nm,1.0s,baz=345,slow=4.1,SNR=188
GERES PcP **PcP** **12 10 33.8 +2.9**
comp=Z,9.1nm,1.0s,baz=345,slow=4.6,SNR=3.7
GERES PKP2bc 12 38 09.1
comp=Z,4.8nm,1.1s,baz=151,slow=3.8,SNR=22
GERES LR LR 12 42 01.3
comp=Z,2μm,18.0s,baz=341,slow=37
MAKZ Makanchi 69.82 333 P **P** **12 10 06.8 -1.5**
MAKZ pmax pmax
comp=Z,69nm,1.1s
MAKZ MLR MLR
comp=Z,3μm,18.0s
MAKZ Makanchi 69.82 333 P **P** **12 10 06.8 -1.5**
MAKZ IAmb IAmb 12 10 07.7
comp=Z,69nm,1.1s
MAKZ IAMs_20 IAMs_20 12 44 39.6
comp=Z,3μm,18.0s
VRAC Vranov 69.85 18 PKPPKP PKPPKPbc 2 38 09.6
comp=Z,1.5nm,0.3s,baz=172,slow=5.4,SNR=8.9
VRAC LR LR 12 40 44.4
comp=Z,2μm,21.8s,baz=340,slow=36
VRAC Vranov 69.85 18 ⇓P **P** **12 10 09.3 +0.9**
VRAC Vranov 69.85 18 *e*P **P** **12 10 08.6 +0.1**
VRAC *e*PP **PP** **12 12 43.3 +1.1**
VRAC *e*S **S** **12 19 20.8 +3.5**
VRAC *e*PKPPKP P'P'df 12 38 08.9 -12
NJ2 Nanjing 69.94 299⇑ *i*P **P** **12 10 09.4 +0.1**
NJ2 pP **pP** **12 10 11.5 -2.2**
NJ2 sP **sP** **12 10 14.5 -0.9**
NJ2 PP **PP** **12 12 48.7 +5.2**
NJ2 S **S** **12 19 21.3 +2.5**
NJ2 sS **sS** **12 19 28.6 +2.4**
NJ2 ScS **SKSac** **12 20 07.4 -2.4**
NJ2 pmax pmax
comp=Z,240nm,1.1s
NJ2 pmax pmax
comp=Z,2μm,3.5s
NJ2 LR LR
comp=Z,3μm,18.2s
NJ2 LR LR
comp=Z,5μm,18.8s
NJ2 LR LR
comp=Z,5μm,18.0s
FUR Furstenfeldbru 70.00 22 *e*P **P** **12 10 10.0 +0.5**
comp=Z,186nm,1.1s,baz=344,slow=6.3
AKASG Malin Array Be 70.03 9 P **P** **12 10 08.5 -1.1**
comp=Z,175nm,0.7s,baz=357,slow=6.2,SNR=143
AKASG PKPPKP P'P'df 12 38 06.4 -14
comp=Z,0.7nm,0.5s,baz=171,slow=3.7,SNR=6.7
AKASG LR LR 12 42 01.1
comp=Z,2μm,21.4s,baz=350,slow=37
AKBB Malin Array Si 70.03 9 P **P** **12 10 08.9 -0.6**
AKBB pmax pmax
comp=Z,322nm,0.8s
AKBB MLR MLR
comp=Z,3μm,18.0s
AKBB Malin Array Si 70.03 9 P **P** **12 10 08.9 -0.6**
AKBB IAMs_20 IAMs_20 12 42 11.1
comp=Z,3μm,18.0s
KRUC Moravsky 70.05 18 *e*P **P** **12 10 09.7 0.0**
KRUC *e*PP **PP** **12 12 43.3 -0.7**
KRUC *e*S **S** **12 19 20.9 +1.2**
KRUC *e*PKPPKP P'P'df 12 38 08.1 -12
VSR Storozhevoye 70.06 3 *e*P **P** **12 10 08.2 -1.5**
VSR pmax pmax
comp=Z,260nm,1.7s
VSR pmax pmax
comp=Z,760nm,2.1s
VSR MLR MLR
comp=Z,2μm,23.0s
FDF Fort de France 70.09 95 IAMs_20 IAMs_20 12 42 16.3
comp=Z,4μm,19.0s
VRH Novokhopyorsk 70.12 1 *e*P **P** **12 10 08.8 -1.3**
VRH pmax pmax
comp=Z,160nm,1.2s
VRH pmax pmax
comp=Z,460nm,1.7s
VRH MLR MLR
comp=Z,2μm,15.0s
HELC Santa Helena 70.18 112⇑ *e*P **P** **12 10 11.1 -0.3**
AKTO Aktyubinsk 70.23 350 PKPPKP PKPPKPab 2 38 10.8
comp=Z,0.7nm,0.5s,baz=141,slow=5.5,SNR=4.8
AKTO LR LR 12 42 56.5
comp=Z,270nm,20.6s,baz=1.2,slow=38
AKTO Aktyubinsk 70.23 350 P **P** **12 10 09.4 -1.4**
UBR Ueberruh 70.23 23 *e*P **P** **12 10 11.7 +0.8**
comp=Z,244nm,1.4s,baz=344,slow=6.3
CBOC Ciudad Bolivar 70.24 113⇑ *e*P **P** **12 10 11.7 +0.2**
SDV Santo Domingo 70.24 106 PKPPKP PKPPKPab 2 38 11.8
comp=Z,2.9nm,0.3s,baz=151,slow=5.0,SNR=4.0
SDV LR LR 12 40 44.0
comp=Z,754nm,20.4s,baz=331,slow=36
SDV Santo Domingo 70.24 106⇑ *e*P **P** **12 10 11.5 -0.1**
SDV Santo Domingo 70.24 106 P **P** **12 10 10.9 -0.7**
SDV IAmb IAmb 12 10 13.6
comp=Z,139nm,1.4s
SDV Santo Domingo 70.24 106 *e*P **P** **12 10 11.5 -0.1**
SDV Santo Domingo 70.24 106 *e*P **P** **12 10 11.5 -0.1**
BRRC Barranca, Sant 70.27 110⇑ *e*P **P** **12 10 11.7 +0.2**
NIE Niedzica 70.30 16 *e*P **P** **12 10 11.6 +0.3**
NIE *e*S **S** **12 19 26.3 +3.7**
NIE *e*L L 12 41 58.7
comp=Z,3μm,19.8s
VORD Divnogorie 70.32 3 *e*P **P** **12 10 10.0 -1.3**
VORD pmax pmax
comp=Z,110nm,0.9s
LVV L'vov 70.38 13 *e*P **P** **12 10 10.6 -1.1**
LVV *e* 12 10 33.1
LVV *e* 12 12 47.9
LVV *e*PPP PPP 12 14 36.3
LVV *e*S **S** **12 19 24.4 +0.9**
LVV *e*PS **PnS** **12 20 01.4 +11**
LVV *e*SSS SSS 12 26 59.1
LVV MLR MLR
comp=Z,1μm,17.0s
LVV MLR MLR
comp=N,1μm,16.0s
LVV MLR MLR
comp=Z,2μm,18.0s
PTBC PUERTO BERRIO, 70.40 111⇑ *e*P **P** **12 10 11.9 -0.4**
KWP Kalwaria Pacla 70.41 14 *e*P **P** **12 10 11.7 -0.2**
KWP *e*L L 12 41 05.0
comp=Z,2μm,21.0s
KWP Kalwaria Pacla 70.41 14 IAMs_20 IAMs_20 12 41 12.0
comp=Z,2μm,20.0s
LANS Liptovska Anna 70.44 16 *e*P **P** **12 10 13.6 +1.4**
LANS pmax pmax
comp=Z,124nm,1.4s
LANS Liptovska Anna 70.44 16 *e*P **P** **12 10 13.6 +1.4**
OTUK Ortayu 70.45 340 P **P** **12 10 10.9 -1.3**
JAVC Velka Javorina 70.45 18 *e*P **P** **12 10 12.6 +0.3**
JAVC *e*S **S** **12 19 28.5 +4.0**
JAVC *e*PKPPKP P'P'df 12 38 07.9 -12
RETA Reutte 70.55 23 *i*P **P** **12 10 13.2 +0.3**
comp=Z,69nm,1.2s,SNR=20
RETA *i*P'P'bc P'P'bc 12 38 05.3 -12
comp=Z,44nm,1.7s,SNR=12
PAMC Pamplona, Colo 70.56 109 *e*P **P** **12 10 14.1 +0.3**
DAVA Damuels 70.56 23 *i*pP **P** **12 10 13.5 +0.4**
comp=Z,92nm,1.4s,SNR=25
DAVA *i*P'P'bc P'P'bc 12 38 09.1 -8.0
comp=Z,31nm,1.5s,SNR=8.1
SOCV Socops 70.65 107⇑ *e*P **P** **12 10 14.0 +0.2**
RJOB Jochberg 70.70 21 *e*P **P** **12 10 14.2 +0.4**
comp=Z,80nm,1.1s,baz=344,slow=6.3
PGAV Gavieira, Arco 70.73 38 *e*P **P** **12 10 13.3 -0.8**
comp=Z,167nm,1.6s
PGAV Gavieira, Arco 70.73 38 *e*LR LR 12 38 37.9
comp=Z,2μm,18.0s
MOTA Mosalm 70.75 23 *i*P **P** **12 10 14.5 +0.2**
comp=Z,43nm,1.0s,SNR=25
MOTA *i*P'P'bc P'P'bc 12 38 06.0 -11
comp=Z,33nm,1.7s,SNR=9.4
SMOL Smolenice 70.75 18 *e*P **P** **12 10 14.8 +0.8**
SMOL pmax pmax
comp=Z,113nm,1.5s
SMOL Smolenice 70.75 18 *e*P **P** **12 10 14.8 +0.8**
WATA Walderalm 70.86 22 *i*pP **P** **12 10 15.3 +0.5**
comp=Z,217nm,1.2s,SNR=44
WATA *i*P'P'bc P'P'bc 12 38 06.5 -10
comp=Z,20nm,1.3s
MOA Molln 70.86 20 *i*P **P** **12 10 14.9 +0.2**
comp=Z,81nm,1.6s,SNR=27
MOA *i*P'P'bc P'P'bc 12 38 05.9 -10
comp=Z,36nm,1.6s,SNR=15
MODS Modra-Piesok 70.86 18 *e*P **P** **12 10 14.5 -0.2**
MODS pmax pmax
comp=Z,319nm,1.4s
MODS Modra-Piesok 70.86 18 *e*P **P** **12 10 14.5 -0.2**
SENIN La Senin/Sane 70.89 25 IAMs_20 IAMs_20 12 43 18.5
comp=Z,3μm,18.0s
SQTA Sankt Quirin 70.89 22 *i*pP **P** **12 10 15.7 +0.6**
comp=Z,185nm,1.6s,SNR=40
SQTA *i*P'P'bc P'P'bc 12 38 06.4 -10
comp=Z,29nm,1.7s
WTTA Wattenberg 70.94 22 *i*pP **P** **12 10 16.0 +0.6**
comp=Z,302nm,1.3s,SNR=81
WTTA *i*P'P'bc P'P'bc 12 38 06.3 -10
comp=Z,21nm,1.3s
BARC Barichara 70.97 110 *e*P **P** **12 10 16.3 +0.3**
FETA Feichten 70.99 23 *i*pP **P** **12 10 16.3 +0.7**
comp=Z,123nm,1.2s,SNR=55
FETA *i*P'P'bc P'P'bc 12 38 05.1 -11
comp=Z,21nm,1.3s
VYHS Vyhne 70.99 17 *e*P **P** **12 10 15.7 +0.2**
VYHS pmax pmax
comp=Z,168nm,1.4s
VYHS Vyhne 70.99 17 *e*P **P** **12 10 15.7 +0.2**
ZST Bratislava 71.01 18 *e*P **P** **12 10 15.3 -0.3**
ZST pmax pmax
comp=Z,305nm,1.4s
ZST Bratislava 71.01 18 *e*P **P** **12 10 15.3 -0.3**
KOLS Kolonicke sedl 71.04 14 *e*P **P** **12 10 16.3 +0.5**
KOLS pmax pmax
comp=Z,200nm,1.5s
KOLS Kolonicke sedl 71.04 14 *e*P **P** **12 10 16.2 +0.5**
DAVOX Davos/Dischmat 71.04 24 PKPPKP PKPPKPbc 2 38 07.2
comp=Z,1.0nm,0.4s,baz=161,slow=12,SNR=6.1
DAVOX LR LR 12 42 22.8
comp=Z,2μm,21.8s,baz=342,slow=37
NORC Norcasia 71.05 112⇑ *e*P **P** **12 10 16.6 +0.3**
CONA Conrad Observa 71.06 19 *i*pP **P** **12 10 16.6 +0.5**
comp=Z,279nm,1.6s,SNR=106
CONA *i*P'P'bc P'P'bc 12 38 04.9 -11
comp=Z,16nm,1.6s,SNR=6.9
GUY2C Guyana, Caldas 71.10 112⇑ *e*P **P** **12 10 17.6 +0.5**
WMQ Urumqi 71.13 328 *e*P **P** **12 10 16.4 -0.1**
WMQ sP sP 12 10 26.7 +4.1
WMQ PcP **PcP** **12 10 38.8 +2.2**
WMQ PP **PP** **12 12 55.7 +2.2**
WMQ pmax pmax
comp=Z,53nm,1.1s
WMQ pmax pmax
comp=Z,510nm,6.7s
WMQ LR LR
comp=Z,2μm,16.9s
WMQ LR LR
comp=Z,2μm,17.7s
WMQ LR LR
comp=Z,2μm,19.5s
WMQ Urumqi 71.13 328 IAMs_20 IAMs_20 12 46 46.2
comp=Z,3μm,20.0s
AB31 Akbulak array 71.21 349 *i*P **P** **12 10 15.7 -1.1**
ABKAR Akbulak array 71.21 349 P **P** **12 10 16.1 -0.7**
TUE Stuetta 71.23 24 IAmb IAmb 12 10 19.7
comp=Z,107nm,1.1s
TUE IAMs_20 IAMs_20 12 43 23.5
comp=Z,4μm,19.0s
KECS Kecovo 71.24 16 *e*P **P** **12 10 17.2 +0.2**
KECS pmax pmax
comp=Z,59nm,1.0s
KECS Kecovo 71.24 16 *e*P **P** **12 10 17.2 +0.2**
SVB Belmont 71.27 95 IAMs_20 IAMs_20 12 40 48.5
comp=Z,4μm,21.0s
SSB Saint Sauveur 71.27 28 IAmb IAmb 12 10 19.1
comp=Z,147nm,1.4s
FUORN Ofenpass-Fuorn 71.28 23 IAMs_20 IAMs_20 12 41 34.8
comp=Z,3μm,21.0s
GTA Gaotai 71.30 317 ⇑P **P** **12 10 17.2 -0.5**
GTA pP sP 12 10 23.6 -0.2
GTA sP pP 12 10 26.8 +4.7
GTA PP **PP** **12 12 58.3 +3.1**
GTA S **S** **12 19 35.3 +0.5**
GTA sS sS 12 19 43.4 +1.2
GTA SS **SS** **12 24 11.3 +3.5**
GTA pmax pmax
comp=Z,52nm,1.5s
GTA pmax pmax
comp=Z,940nm,8.7s
GTA LR LR
comp=Z,5μm,16.2s
GTA LR LR
comp=Z,3μm,16.8s
GTA LR LR
comp=Z,6μm,16.2s
UZH Uzhgorod 71.34 14 *e*P **P** **12 10 15.0 -2.5**
UZH *e* 12 10 25.6
UZH *e* 12 10 36.7
UZH *i* 12 12 51.0
UZH *e*S **S** **12 19 28.2 -6.4**
UZH MLR MLR
comp=Z,400nm,20.0s
SPBC San Pablo de B 71.35 111⇑ *e*P **P** **12 10 17.4 -0.8**
PBRG Braganca 71.36 37 *e*P **P** **12 10 17.9 0.0**
comp=Z,99nm,1.8s
RREF El Recreo 71.39 113⇑ *e*P **P** **12 10 19.2 +0.1**
PATS Pohnpei 71.40 252 P **P** **12 10 18.3 -0.1**
PATS IAMs_20 IAMs_20 12 37 16.6
comp=Z,3μm,20.0s
KBA Koelnbreinsper 71.44 21 *i*pP **P** **12 10 18.9 +0.5**
comp=Z,309nm,1.3s,SNR=146
PVRL Vila Real 71.53 38 *e*P **P** **12 10 19.0 +0.1**
comp=Z,119nm,1.5s
ABTA Abfaltersbach 71.60 22 *i*P **P** **12 10 19.3 0.0**
comp=Z,92nm,1.6s,SNR=27
ABTA *e*P'P'df P'P'df 12 38 04.1 -13
comp=Z,13nm,1.3s,SNR=6.9
RUSC La Rusia 71.62 110⇑ *e*P **P** **12 10 20.4 +0.1**
ARSA Arzberg 71.66 19 *i*pP **P** **12 10 20.2 +0.7**
comp=Z,142nm,1.3s,SNR=50
ARSA *e*P'P'df P'P'df 12 38 03.6 -14
comp=Z,14nm,1.4s
TOLC Tolima 71.68 113⇑ *e*P **P** **12 10 20.7 +0.3**
PSZ Piszkesteto 71.71 16 ⇓P **P** **12 10 21.2 +1.3**
PSZ Piszkesteto 71.71 16 IAMs_20 IAMs_20 12 43 47.3
comp=Z,2μm,18.0s
YOTC Yotoco, Valle 71.72 114⇑ *e*P **P** **12 10 20.0 -0.4**
ANIL Santa Ana 71.72 113⇑ *e*P **P** **12 10 21.0 +0.3**
TAMC Tame, Arauca 71.78 109 *e*P **P** **12 10 18.1 -2.6**
MVO Moncorvo 71.85 38 *e*P **P** **12 10 20.3 -0.6**
comp=Z,107nm,1.5s
MVO *e*S **S** **12 19 45.4 +4.5**
MVO Moncorvo 71.85 38 *e*LR LR 12 39 16.1
comp=Z,3μm,18.0s
ZOU Zoufplan 71.87 21 IAmb IAmb 12 10 27.4
comp=Z,103nm,1.4s
ZOU IAMs_20 IAMs_20 12 42 42.6
comp=Z,3μm,20.0s
MYKA Terra Mystica 71.93 21 *e*P **P** **12 10 21.0 -0.2**
comp=Z,82nm,1.1s,SNR=31
ROSC El Rosal 71.94 112 P **P** **12 10 22.8 +0.8**
comp=Z,72nm,1.0s,baz=29,slow=2.9,SNR=43
ROSC LR LR 12 44 40.4
comp=Z,4μm,20.1s,baz=16,slow=38
ROSC El Rosal 71.94 112⇑ *e*P **P** **12 10 23.2 +1.2**
ROSC El Rosal 71.94 112 P **P** **12 10 23.1 +1.0**
PVIS Viseu 71.98 38 *e*P **P** **12 10 21.4 -0.2**
comp=Z,102nm,1.6s
BNI Bardonecchia 71.99 26 IAmb IAmb 12 10 24.4
comp=Z,124nm,1.3s
CIMO Cimolais 72.01 22 IAMs_20 IAMs_20 12 42 25.1
comp=Z,3μm,20.0s
GRGR Grenville 72.03 96 IAMs_20 IAMs_20 12 46 13.6
comp=Z,2μm,20.0s
PRED Cave del Predi 72.09 21 IAmb IAmb 12 10 23.1
comp=Z,55nm,1.0s
PRED IAMs_20 IAMs_20 12 43 10.4
comp=Z,3μm,19.0s
CTI Castel Tesino 72.10 23 P **P** **12 10 22.1 -0.2**
CTI pmax pmax
comp=Z,178nm,1.4s
CTI MLR MLR
comp=Z,2μm,18.0s
CTI Castel Tesino 72.10 23 P **P** **12 10 22.1 -0.2**
CTI IAmb IAmb 12 10 23.6
comp=Z,178nm,1.4s
CTI IAMs_20 IAMs_20 12 44 33.7
comp=Z,3μm,18.0s
STAL STALIGIAL 72.11 22 P **P** **12 10 21.2 -1.1**
SOKA Soboth 72.13 20 *i*P **P** **12 10 22.7 +0.2**
comp=Z,224nm,1.4s,SNR=123
SOKA *e*P'P'df P'P'df 12 38 04.4 -12
comp=Z,2.4nm,1.0s
PERS Pernice 72.19 20 *e*P **P** **12 10 22.7 -0.1**
OBKA Obir 72.21 20 *i*P **P** **12 10 23.1 +0.2**
comp=Z,262nm,1.0s,SNR=84
COI Coimbra 72.27 39 P **P** **12 10 22.8 -0.5**
COI pmax pmax
comp=Z,189nm,1.3s
COI Coimbra 72.27 39 *e*P **P** **12 10 22.8 -0.5**
comp=Z,210nm,1.9s
COI Coimbra 72.27 39 P **P** **12 10 22.8 -0.5**
COI IAMs_20 IAMs_20 12 39 58.2
comp=Z,2μm,20.0s
SALO Salr 72.29 23 P **P** **12 10 23.2 -0.1**
SALO IAmb IAmb 12 10 24.5
comp=Z,97nm,0.8s
ORTC Ortega, Tolima 72.31 113⇑ *e*P **P** **12 10 23.5 -0.4**
CADS Cadrg 72.33 21 *e*P **P** **12 10 22.8 -0.8**
CVER Cruz Verde, Cu 72.33 112 *e*P **P** **12 10 25.4 +0.9**
TDK Taldyqorghan 72.34 335 *e*P **P** **12 10 23.1 -0.7**
comp=Z,78nm,1.2s,baz=335
TDK *e*S **S** **12 19 48.4 +1.9**
baz=335
TDK LR LR 12 44 52.3
comp=Z,2μm,13.6s,baz=335
TDK Taldyqorghan 72.34 335 *e*P **P** **12 10 23.0 -0.7**
TDK *e*S **S** **12 19 48.3 +1.9**
TDK pmax pmax
comp=Z,78nm,1.2s
TDK MLR MLR
comp=Z,2μm,14.0s
MTE Manteigas 72.38 38 *e*P **P** **12 10 23.8 -0.2**
comp=Z,137nm,1.5s
MTE Manteigas 72.38 38 *e*LR LR 12 39 40.5
comp=Z,2μm,18.0s
MTE Manteigas 72.38 38 IAmb IAmb 12 10 25.4
comp=Z,118nm,1.3s
MTE IAMs_20 IAMs_20 12 40 25.0
comp=Z,2μm,19.0s
PCAS Casmilo, Conde 72.38 39 *e*P **P** **12 10 19.9 -4.1**
comp=Z,231nm,1.4s
PCAS *e*S **S** **12 19 46.3 -0.7**
CHIC Chingaza 72.41 111⇑ *e*P **P** **12 10 24.6 -0.3**
GROS Grobnik 72.42 20 *i*P **P** **12 10 24.1 -0.1**
GROS *i*pP **pP** **12 10 28.0 -0.7**
GROS *e*S **S** **12 19 50.0 +2.7**
BMR Baia Mare 72.43 14 ⇑P **P** **12 10 24.8 +0.7**
ELOV Elorza 72.44 106⇑ *e*P **P** **12 10 25.6 +1.0**
GUMO Guam 72.46 267 P **P** **12 10 23.3 -1.4**
GUMO pmax pmax
comp=Z,126nm,1.1s
GUMO MLR MLR
comp=Z,700nm,20.0s
GUMO Guam 72.46 267 P **P** **12 10 23.3 -1.4**
GUMO IAmb IAmb 12 10 24.1
comp=Z,126nm,1.1s
SORM Soroca 72.50 10 ⇓P **P** **12 10 24.3 -0.3**
XAN Xi'an 72.53 307 P **P** **12 10 24.0 -1.0**
XAN pP sP 12 10 32.7 +1.5
XAN sP PcP 12 10 37.4 -5.3
XAN PP **PP** **12 13 06.6 +0.8**
XAN S **S** **12 19 49.9 +1.0**
XAN ScS **SKKSac** **12 20 29.6 0.0**
XAN SS **SS** **12 24 21.5 -5.3**
XAN pmax pmax
comp=Z,110nm,1.5s
XAN pmax pmax
comp=Z,1μm,4.1s
XAN LR LR
comp=Z,5μm,21.6s
XAN LR LR
comp=Z,8μm,18.6s
XAN LR LR
comp=Z,7μm,15.7s
XAN Xi'an 72.53 307 IAmb IAmb 12 10 34.3
comp=Z,144nm,1.4s
XAN Xi'an 72.53 307 IAMs_20 IAMs_20 12 41 35.4
comp=Z,3μm,20.0s
VOJS Vojsko 72.55 21 *e*P **P** **12 10 24.1 -0.9**
BEHE Becsehely 72.63 19 ⇑*i*P **P** **12 10 26.0 +0.6**
PRAC Prado 72.65 113⇑ *e*P **P** **12 10 25.5 -0.4**
LJU Ljubljana 72.65 21 *i*P **P** **12 10 25.2 -0.3**
LJU *i*pP **pP** **12 10 28.9 -1.1**
LJU *i*PP **PP** **12 13 08.0 +1.6**
LJU *e*S **S** **12 19 50.1 +0.2**
LJU *e* 12 20 22.8
LJU *e* 12 28 14.2
LJU Ljubljana 72.65 21 ⇑*i*P **P** **12 10 25.0 -0.5**
BUR08 Bucovina Ar. S 72.66 13 P **P** **12 10 25.6 0.0**
BUR08 IAmb IAmb 12 10 26.6
comp=Z,63nm,1.1s
JAVS Javornik 72.71 21 *i*P **P** **12 10 25.1 -0.8**

JAVS *i* pP **pP** **12 10 28.7 -1.8**
LZH Lanzhou 72.76 312 *e*P **P** **12 10 26.3 -0.2**
LZH pP sP 12 10 34.2 +1.6
LZH sP PcP 12 10 39.3 -4.4
LZH PP **PP** **12 13 07.0 -0.8**
LZH S **S** **12 19 48.8 -2.9**
LZH sS SKiKP 12 20 00.7 +1.2
LZH pmax pmax
comp=Z,170nm,1.1s
LZH pmax pmax
comp=Z,1µm,6.7s
LZH LR LR
comp=Z,7µm,16.3s
LZH LR LR
comp=Z,5µm,16.8s
LZH LR LR
comp=Z,7µm,17.9s
PSBE So Bento 72.77 40 *e*P **P** **12 10 26.3 0.0**
comp=Z,125nm,1.4s
VILC Villavicencio, 72.87 111 *e*P **P** **12 10 27.4 +0.1**
PCBR Castelo Branco 72.91 39 *e*P **P** **12 10 26.4 -0.7**
comp=Z,85nm,1.4s
KALN Kalnik 72.91 19 P **P** **12 10 25.6 -1.4**
CEY Cerknica 72.93 21 *i*P **P** **12 10 26.4 -0.8**
BBAC Balboa, Cauca 73.02 116 *e*P **P** **12 10 28.1 -0.2**
CRES Cresnjev 73.03 20 *i*P **P** **12 10 26.8 -1.0**
PTJ Puntijarka 73.04 20 P **P** **12 10 26.9 -1.1**
PRAR RASCA 73.06 12 P **P** **12 10 28.2 +0.3**
PRMA PARMA 73.06 24 P **P** **12 10 28.8 +0.9**
PRMA IAMs_20 IAMs_20 12 45 10.0
comp=Z,3µm,18.0s
PMAFR Mafra 73.11 40 *e*P **P** **12 10 27.6 -0.8**
comp=Z,242nm,1.9s
PMAFR eS **SKiKP** **12 19 59.3 -0.5**
ARCR ARCALIA 73.11 13 P **P** **12 10 29.1 +0.9**
PCON Cinco Dias 73.15 115 *e*P **P** **12 10 30.3 +0.8**
MORH Mrgy, Hungar 73.18 18 *i*P **P** **12 10 28.3 -0.3**
DRGR 73.20 15 P **P** **12 10 29.6 +0.8**
BTLS Baital 73.22 338 *i*P **P** **12 10 27.9 -1.0**
comp=Z,84nm,1.6s,baz=338
BTLS *e*S **S** **12 19 56.5 +0.1**
baz=338
BTLS LR LR 12 46 20.0
comp=Z,477nm,13.8s,baz=338
BTLS Baital 73.22 338 *c i*P **P** **12 10 27.8 -1.1**
BTLS *e*S **S** **12 19 56.4 +0.1**
BTLS pmax pmax
comp=Z,84nm,1.6s
SOTA Rioblanco 73.22 115 *e*P **P** **12 10 30.0 +0.2**
WHN Wuhan 73.23 302 P **P** **12 10 29.3 +0.2**
WHN sP **sP** **12 10 36.5 +1.2**
WHN PP **PP** **12 13 12.3 +0.5**
WHN pmax pmax
comp=Z,400nm,1.1s
WHN pmax pmax
comp=Z,3µm,2.6s
WHN LR LR
comp=Z,4µm,16.7s
WHN LR LR
comp=Z,5µm,14.3s
WHN LR LR
comp=Z,6µm,16.2s
OZLJ Ozalj 73.24 20 P **P** **12 10 26.9 -2.0**
BETC Betania 73.29 114 *e*P **P** **12 10 30.0 +0.3**
PMRV Marv??o 73.31 39 *e*P **P** **12 10 28.5 -1.0**
comp=Z,62nm,1.6s
PMRV *e*S **SKiKP** **12 20 01.4 +1.3**
PMRV Marv??o 73.31 39 *e*LR LR 12 39 42.6
comp=Z,2µm,18.0s
TOSP Speyside 73.31 96 P **P** **12 10 28.6 -1.1**
TOSP IAmb IAmb 12 10 31.7
comp=Z,134nm,1.1s
MSSA Maissana 73.32 25 P **P** **12 10 28.9 -0.6**
MSSA IAmb IAmb 12 10 30.6
comp=Z,132nm,1.2s
MSSA IAMs_20 IAMs_20 12 44 23.9
comp=Z,3µm,20.0s
RIY Rijeka 73.34 21 P **P** **12 10 28.8 -0.7**
RIY Rijeka 73.34 21 *i*P **P** **12 10 29.0 -0.5**
PMTG Montargil 73.36 39 *e*P **P** **12 10 29.0 -0.8**
comp=Z,81nm,2.1s
LIS Lisbon 73.37 40 *e*P **P** **12 10 29.9 0.0**
LIS *e*PP **PP** **12 13 13.1 +0.4**
LIS AMS AMS 12 41 01.7
comp=Z,4µm,19.7s
LIS Lisbon 73.37 40 *e*P **P** **12 10 29.8 0.0**
LIS *e* 12 13 13.0
CJR Cluj-Napoca 73.39 14 P **P** **12 10 31.0 +1.1**
BIZ Bicaz 73.46 12 P **P** **12 10 30.9 +0.7**
PTGC Puerto Gaitan, 73.55 110 *e*P **P** **12 10 30.7 -0.5**
SIRR Siria 73.57 15 P **P** **12 10 31.6 +0.7**
ZCCA Zocca 73.59 24 P **P** **12 10 31.0 -0.2**
ZCCA IAmb IAmb 12 10 34.0
comp=Z,102nm,1.3s
ZCCA IAMs_20 IAMs_20 12 43 37.1
comp=Z,3µm,22.0s
BRJN Brijuni 73.61 21 P **P** **12 10 30.4 -0.8**
VLC Villacollemand 73.65 24 P **P** **12 10 31.7 +0.3**
VLC IAMs_20 IAMs_20 12 45 41.7
comp=Z,3µm,18.0s
GCUF Volcan Galeras 73.67 116 *e*P **P** **12 10 33.1 +0.7**
KIS Kishinev 73.67 10 *i*P **P** **12 10 30.4 -1.1**
comp=Z,600nm,2.1s
KIS Kishinev 73.67 10 *c e*P **P** **12 10 30.4 -1.1**
KIS pmax pmax
comp=Z,600nm,2.1s
PDGK Podgornoye 73.68 333 P **P** **12 10 30.4 -1.4**
GARC Garzon, Huila 73.70 114 *e*P **P** **12 10 32.2 -0.1**
CHKK Chushkaly 73.75 335 *e*P **P** **12 10 31.1 -1.0**
comp=Z,626nm,1.5s,baz=335
CHKK Chushkaly 73.75 335 *e*P **P** **12 10 31.0 -1.0**
CHKK pmax pmax
comp=Z,626nm,1.5s
MILM Milestii Mici 73.75 10 P **P** **12 10 31.6 -0.4**
PESTR Estremoz 73.75 39 *e*S **S** **12 20 03.6 +1.0**
KUU Kurty 73.85 336 *i*P **P** **12 10 31.2 -1.5**
comp=Z,32nm,1.3s,baz=336
KUU *e*S **S** **12 20 05.1 +1.5**
baz=336
KUU LR LR 12 47 08.9
comp=Z,1µm,12.9s,baz=336
KUU Kurty 73.85 336 *i*P **P** **12 10 31.1 -1.5**
KUU *e*S **S** **12 20 05.0 +1.5**
KUU pmax pmax
comp=Z,32nm,1.3s
SHLS Shalkode 73.85 333 *i*P **P** **12 10 31.9 -0.9**
comp=Z,133nm,1.2s,baz=333
SHLS LR LR 12 46 36.2
comp=Z,465nm,12.9s,baz=333
SHLS Shalkode 73.85 333 *c i*P **P** **12 10 31.9 -0.9**
SHLS pmax pmax
comp=Z,133nm,1.2s
PAC1 Pacto, Paraso 73.85 118 *e*P **P** **12 10 31.6 -1.5**
EVO Evora 73.92 40 *e*P **P** **12 10 32.6 -0.5**
comp=Z,130nm,1.4s
VASR Vaslui 73.93 11 P **P** **12 10 33.2 +0.2**
TESR Tescani 73.94 12 P **P** **12 10 33.2 +0.1**
UZB Uzynbulak 73.96 334 *i*P **P** **12 10 32.7 -0.9**
comp=Z,122nm,2.5s,baz=334
UZB LR LR 12 47 08.2
comp=Z,890nm,13.3s,baz=334
UZB Uzynbulak 73.96 334 *c i*P **P** **12 10 32.6 -0.9**
UZB pmax pmax
comp=Z,122nm,2.5s
UZB MLR MLR
comp=Z,890nm,13.0s
CUSE Cuicocha Este 74.00 118 *e*P **P** **12 10 34.7 +0.4**
PNCL Nicolau / Gran 74.13 40 *e*P **P** **12 10 34.0 -0.3**
comp=Z,174nm,1.4s
PNCL *e*S **S** **12 20 10.1 +3.4**
ES18 SONSECA Array 74.13 36 IAMs_20 IAMs_20 12 42 24.4
comp=Z,2µm,19.0s
ES17 SONSECA Array 74.13 36 IAMs_20 IAMs_20 12 42 24.5
comp=Z,2µm,20.0s
ES16 SONSECA Array 74.14 36 IAMs_20 IAMs_20 12 42 24.6
comp=Z,2µm,18.0s
LEOM Leova 74.14 11 P **P** **12 10 34.5 +0.3**
NVLJ Novalja 74.15 21 P **P** **12 10 33.6 -0.6**
ES07 SONSECA Array 74.15 36 IAMs_20 IAMs_20 12 42 25.0
comp=Z,2µm,19.0s
ES08 SONSECA Array 74.15 36 IAMs_20 IAMs_20 12 44 26.0
comp=Z,2µm,19.0s
ES19 SONSECA Array 74.15 36 IAMs_20 IAMs_20 12 42 25.1
comp=Z,2µm,19.0s
ES15 SONSECA Array 74.16 36 IAMs_20 IAMs_20 12 42 25.1
comp=Z,2µm,19.0s
ESBB Sonseca Array 74.16 36 IAMs_20 IAMs_20 12 42 27.1
comp=Z,2µm,19.0s
ESDC Sonseca Array 74.16 36 P **P** **12 10 34.8 +0.2**
comp=Z,47nm,0.9s,baz=330,slow=5.8,SNR=149
ESDC PKP2ab 12 37 57.0
comp=Z,0.7nm,0.9s,baz=129,slow=4.7,SNR=4.9
PAB San Pablo 74.16 36 P **P** **12 10 34.8 +0.2**
PAB pmax pmax
comp=Z,100nm,1.3s
PAB MLR MLR
comp=Z,2µm,18.0s
PAB San Pablo 74.16 36 P **P** **12 10 34.8 +0.2**
PAB IAmb IAmb 12 10 46.6
comp=Z,100nm,1.3s
PAB San Pablo 74.16 36 IAMs_20 IAMs_20 12 43 05.2
comp=Z,2µm,18.0s
ES06 SONSECA Array 74.16 36 IAMs_20 IAMs_20 12 42 25.2
comp=Z,2µm,19.0s
ES02 SONSECA Array 74.17 36 IAMs_20 IAMs_20 12 42 25.3
comp=Z,2µm,19.0s
ES01 SONSECA Array 74.17 36 IAMs_20 IAMs_20 12 42 25.4
comp=Z,2µm,19.0s
ES05 SONSECA Array 74.17 36 IAMs_20 IAMs_20 12 42 26.5
comp=Z,2µm,19.0s
ES14 SONSECA Array 74.17 36 IAMs_20 IAMs_20 12 42 26.5
comp=Z,2µm,19.0s
ES03 SONSECA Array 74.17 36 IAMs_20 IAMs_20 12 42 25.6
comp=Z,2µm,19.0s
ES09 SONSECA Array 74.17 36 IAMs_20 IAMs_20 12 41 33.6
comp=Z,2µm,19.0s
ES13 SONSECA Array 74.18 36 IAMs_20 IAMs_20 12 42 26.7
comp=Z,2µm,19.0s
ES04 SONSECA Array 74.18 36 IAMs_20 IAMs_20 12 42 25.8
comp=Z,2µm,19.0s
SATY Saty 74.19 334 *i*P **P** **12 10 34.0 -0.8**
comp=Z,116nm,1.9s,baz=334
SATY Saty 74.19 334 *c i*P **P** **12 10 34.0 -0.8**
SATY pmax pmax
comp=Z,116nm,1.9s
ES10 SONSECA Array 74.19 36 IAMs_20 IAMs_20 12 45 47.1
comp=Z,2µm,18.0s
ES11 SONSECA Array 74.20 36 IAMs_20 IAMs_20 12 42 26.1
comp=Z,2µm,19.0s
ES12 SONSECA Array 74.20 36 IAMs_20 IAMs_20 12 42 26.2
comp=Z,2µm,19.0s
BZS Buzias 74.20 16 P **P** **12 10 35.0 +0.4**
OZUR 74.26 13 P **P** **12 10 35.9 +0.9**
DOPR Dopca 74.34 13 P **P** **12 10 36.1 +0.7**
BLY Banja Luka 74.37 19 *i*P **P** **12 10 35.0 -0.6**
AAA Alma-Ata 74.38 335 *e*P **P** **12 10 35.5 -0.3**
comp=Z,666nm,2.3s,baz=335
AAA *e*S **S** **12 20 11.8 +2.1**
baz=335
AAA LR LR 12 47 52.7
comp=Z,1µm,15.0s,baz=335
AAA Alma-Ata 74.38 335 *e*P **P** **12 10 35.5 -0.3**
AAA *e*S **S** **12 20 11.7 +2.1**
AAA pmax pmax
comp=Z,666nm,2.3s
FRGS Fruska Gora 74.39 17 *i*P **P** **12 10 35.5 -0.3**
MDOK Medeo 74.39 335 *i* P **P** **12 10 34.1 -1.9**
comp=Z,1µm,1.9s,baz=335
MDOK *e*S **S** **12 20 10.1 +0.1**
baz=335
MDOK LR LR 12 47 22.3
comp=Z,2µm,13.3s,baz=335
MDOK Medeo 74.39 335 *i* P **P** **12 10 34.9 -1.1**
MDOK *e*S **S** **12 20 10.0 +0.1**
MDOK pmax pmax
comp=Z,1µm,1.9s
YOJ Yonaguni jima 74.40 291 IAMs_20 IAMs_20 12 45 47.4
comp=Z,2µm,18.0s
PBEJ Beja 74.42 40 *e*P **P** **12 10 35.7 -0.3**
comp=Z,91nm,1.9s
OSSC Osservatorio P 74.44 24 IAmb IAmb 12 10 37.0
comp=Z,74nm,1.0s
OSSC IAMs_20 IAMs_20 12 44 35.6
comp=Z,3µm,22.0s
GHRR 74.47 11 P **P** **12 10 37.5 +1.3**
MESJ Messejana 74.48 40 *e*P **P** **12 10 36.3 -0.1**
MESJ *e*PP **PP** **12 13 22.8 +0.7**
MESJ *e*S **S** **12 20 11.5 +0.8**
MESJ AMS AMS 12 42 11.9
comp=Z,4µm,18.5s
MESJ Messejana 74.48 40 *e*P **P** **12 10 36.2 -0.1**
MESJ *e* 12 13 22.7
MESJ *e*S **S** **12 20 11.5 +0.8**
MESJ Messejana 74.48 40 *e*P **P** **12 10 35.9 -0.4**
comp=Z,105nm,1.6s
MACC Macarena, Meta 74.51 113 *e*P **P** **12 10 35.4 -1.5**
TNSS Tian-Shan 74.53 335 *i*P **P** **12 10 36.2 -0.9**
comp=Z,441nm,1.1s,baz=335
TNSS Tian-Shan 74.53 335 *c i*P **P** **12 10 36.2 -0.9**
TNSS pmax pmax
comp=Z,441nm,1.1s
MTBS Maitube 74.56 335 *e*P **P** **12 10 36.4 -0.5**
comp=Z,540nm,1.0s,baz=336
MTBS Maitube 74.56 335 *e*P **P** **12 10 36.3 -0.5**
MTBS pmax pmax
comp=Z,540nm,1.0s
PTEO Sao Teotonio 74.57 40 *e*P **P** **12 10 36.7 -0.2**
comp=Z,156nm,1.9s
GZR Gura Zlata 74.58 15 P **P** **12 10 37.3 +0.3**
VRI Vrincioaia 74.59 12 P **P** **12 10 37.4 +0.5**
PLOR Plostina 74.59 12 P **P** **12 10 37.5 +0.6**
SGDS Sogindy 74.63 337 *i*P **P** **12 10 36.6 -0.6**
comp=Z,188nm,1.7s,baz=337
SGDS *e*S **S** **12 20 14.0 +1.6**
baz=337
SGDS LR LR 12 46 29.1
comp=Z,731nm,13.2s,baz=337
SGDS Sogindy 74.63 337 *c i*P **P** **12 10 36.6 -0.6**
SGDS *e*S **S** **12 20 13.9 +1.6**
SGDS pmax pmax
comp=Z,188nm,1.7s
SGDS MLR MLR
comp=Z,731nm,13.0s
LOT Lotru 74.66 14 P **P** **12 10 37.2 -0.2**
VARL Varlezi 74.67 11 P **P** **12 10 38.0 +0.7**
MGRS Mrkonjic Grad 74.68 19 *i*P **P** **12 10 39.0 +1.6**
TATO Taipei 74.70 293 P **P** **12 10 37.7 0.0**
ODBI Odobesti 74.72 12 P **P** **12 10 38.9 +1.3**
PCVE Castro Verde 74.72 40 *e*P **P** **12 10 36.8 -1.0**
comp=Z,76nm,1.7s
DUGI Dugi Otok 74.73 21 P **P** **12 10 37.2 -0.6**
PRZ Przheval'sk 74.74 334 P **P** **12 10 38.0 0.0**
PRZ pmax pmax
comp=Z,88nm,1.1s
PRZ MLR MLR
comp=Z,5µm,18.0s
PRZ Przheval'sk 74.74 334 P **P** **12 10 38.0 0.0**
PRZ IAmb IAmb 12 10 39.5
comp=Z,88nm,1.1s
PETR Petresti 74.78 12 P **P** **12 10 38.5 +0.6**
MORF Marmelete 74.82 41 *e*P **P** **12 10 38.4 -0.1**
MORF *e*PP **PP** **12 13 25.8 +0.7**
MORF *e*S **S** **12 20 15.4 +0.8**
MORF *e*SS **SS** **12 25 04.5 +3.1**
MORF AMS AMS 12 41 31.2
comp=Z,4µm,19.1s
MORF Marmelete 74.82 41 *e*P **P** **12 10 38.3 -0.1**
MORF *e* 12 13 25.7
MORF *e*S **S** **12 20 15.4 +0.8**
MORF *e*SS **SS** **12 25 04.4 +3.1**
MORF Marmelete 74.82 41 *e*P **P** **12 10 37.6 -0.8**
comp=Z,157nm,1.7s
MORF *e*S **S** **12 20 19.2 +4.6**
VOIR 74.82 13 P **P** **12 10 38.5 +0.1**
USP Ospenovka 74.83 337 P **P** **12 10 38.0 -0.4**
SNR=48
ARR Arges 74.84 13 P **P** **12 10 38.9 +0.5**
MLR Muntele Rosu 74.87 12 P **P** **12 10 39.4 +0.7**
MLR Muntele Rosu 74.87 12 P **P** **12 10 38.6 -0.1**
MLR pmax pmax
comp=Z,175nm,1.3s
MLR MLR
comp=Z,3µm,19.0s
MLR Muntele Rosu 74.87 12 P **P** **12 10 38.6 -0.1**
MLR IAmb IAmb 12 10 40.6
comp=Z,175nm,1.3s
MLR IAMs_20 IAMs_20 12 45 10.0
comp=Z,3µm,19.0s
BISRR Bisoca 74.90 12 P **P** **12 10 39.9 +1.2**
PFVI Vila Bisbo 74.91 41 *e*P **P** **12 10 38.8 -0.1**
comp=Z,297nm,1.6s
PFVI Vila Bisbo 74.91 41 P **P** **12 10 38.6 -0.2**
PFVI IAmb IAmb 12 10 40.4
comp=Z,195nm,1.3s
PFVI IAMs_20 IAMs_20 12 40 48.6
comp=Z,3µm,20.0s
TKM2 Tokmak 2 74.94 336 P **P** **12 10 39.0 -0.3**
SNR=128
TEKS Tekeris 74.94 17 *i*P **P** **12 10 38.9 -0.1**
MURB Monte Urbino 74.95 23 P **P** **12 10 39.0 -0.1**
KJJV Kijevo 74.96 20 P **P** **12 10 38.8 -0.2**
MORI Morici 74.97 20 P **P** **12 10 38.9 -0.2**
YHNB Yeheng 75.01 293 P **P** **12 10 39.0 -0.7**
HERR Herculane 75.04 15 P **P** **12 10 39.6 +0.2**
CHMS Chumysh 75.04 337 P **P** **12 10 39.4 -0.2**
SNR=34
MDVR Moldovita 75.04 16 P **P** **12 10 39.9 +0.4**
PVAQ Vaqueiros 75.04 40 P **P** **12 10 40.3 +0.7**
SNR=6.3
PVAQ P **P** **12 10 40.3 +0.7**
SNR=6.3
PVAQ Vaqueiros 75.04 40 *e*P **P** **12 10 39.4 -0.2**
comp=Z,183nm,1.6s
PVAQ *e*S **S** **12 20 19.3 +2.3**
PVAQ Vaqueiros 75.04 40 *e*LR LR 12 39 24.6
comp=Z,3µm,18.0s
PVAQ Vaqueiros 75.04 40 P **P** **12 10 39.9 +0.3**
PVAQ IAmb IAmb 12 10 41.2
comp=Z,182nm,1.3s
PVAQ IAMs_20 IAMs_20 12 40 59.5
comp=Z,3µm,20.0s
SCHL Schela 75.06 11 P **P** **12 10 39.7 +0.2**
CASP Castiglione de 75.06 24 P **P** **12 10 39.5 -0.1**
PBDV Barranco-do-Ve 75.11 40 *e*P **P** **12 10 40.4 +0.3**
comp=Z,205nm,1.6s
PBDV *e*S **S** **12 20 21.2 +3.3**
ZIRJ Zirje 75.17 20 P **P** **12 10 39.5 -0.7**
FRU1 Bishkek 75.24 337 P **P** **12 10 41.0 +0.2**
FRU1 pmax pmax
comp=Z,223nm,1.2s
FRU1 MLR MLR
comp=Z,3µm,19.0s
FRU1 Bishkek 75.24 337 P **P** **12 10 41.0 +0.2**
FRU1 IAMs_20 IAMs_20 12 47 18.0
comp=Z,3µm,19.0s
BOOM Boomskoye usch 75.28 336 P **P** **12 10 41.1 0.0**
BOOM pmax pmax
comp=Z,90nm,1.3s
BOOM MLR MLR
comp=Z,3µm,20.0s
BOOM Boomskoye usch 75.28 336 P **P** **12 10 41.0 0.0**
BOOM IAmb IAmb 12 10 42.2
comp=Z,90nm,1.2s
BOOM IAMs_20 IAMs_20 12 46 07.5
comp=Z,3µm,20.0s
NACB Ninganchiao 75.32 292 P **P** **12 10 41.1 -0.4**
NACB IAMs_20 IAMs_20 12 49 29.4
comp=Z,2µm,18.0s
KBK Karagaybulak 75.33 336 P **P** **12 10 41.3 -0.1**
SNR=55
KDJ Kajisay 75.35 335 P **P** **12 10 41.1 -0.5**
KDJ pmax pmax
comp=Z,86nm,1.2s
KDJ MLR MLR
comp=Z,3µm,20.0s
KDJ Kajisay 75.35 335 P **P** **12 10 41.1 -0.5**
KDJ IAmb IAmb 12 10 41.8
comp=Z,86nm,1.1s
KDJ IAMs_20 IAMs_20 12 47 34.1
comp=Z,3µm,20.0s
SRE Strehaia 75.36 15 P **P** **12 10 42.0 +0.6**
GOLR 75.40 13 P **P** **12 10 42.5 +0.9**
CFR Carcaliu 75.41 11 P **P** **12 10 41.3 -0.2**
HORN Hornachuelos 75.43 38 P **P** **12 10 42.1 +0.2**
SNR=15
AAK Ala-Archa 75.44 337 P **P** **12 10 41.8 -0.2**
SNR=56
AAK Ala-Archa 75.44 337 *i* P **P** **12 10 41.4 -0.7**
SNR=64
AAK Ala-Archa 75.44 337 P **P** **12 10 41.7 -0.4**
AAK Ala-Archa 75.44 337 *c i*P **P** **12 10 41.6 -0.4**
AAK pmax pmax
comp=Z,178nm,1.7s
AAK Ala-Archa 75.44 337 P **P** **12 10 41.7 -0.4**
AAK IAmb IAmb 12 10 43.3
comp=Z,150nm,1.3s
AAK Ala-Archa 75.44 337 IAMs_20 IAMs_20 12 47 22.1
comp=Z,3µm,19.0s
ULHL Ulahol 75.44 335 P **P** **12 10 41.6 -0.5**
SNR=14
DIVS Divibare 75.45 17 IAmb IAmb 12 10 43.3
comp=Z,111nm,1.1s
DIVS IAMs_20 IAMs_20 12 49 15.4
comp=Z,1µm,18.0s
DIVS Divibare 75.45 17 *i*P **P** **12 10 41.7 -0.3**
TLCR 75.47 10 P **P** **12 10 42.5 +0.6**
EKS2 Erkin-Say 75.56 337 P **P** **12 10 42.7 0.0**
SNR=84
ENH Enshi 75.57 305 IAMs_20 IAMs_20 12 49 58.6
comp=Z,3µm,18.0s
TARG Taragay, Kyrgy 75.59 334 IAmb IAmb 12 10 55.8
comp=Z,93nm,1.5s
BBLS Lazići 75.59 18 *i*P **P** **12 10 43.1 +0.3**
PUNG Punghina 75.70 15 P **P** **12 10 43.7 +0.4**
HUMR Humele 75.71 13 P **P** **12 10 43.4 +0.1**
PMOZ Porto Moniz, M 75.71 49 *e*P **P** **12 10 42.8 -0.9**
PMOZ *e*S S 12 20 36.9 +12
PMOZ Porto Moniz, M 75.71 49 *e*LR LR 12 38 13.0
comp=Z,2µm,18.0s
TOPG Topolog 75.73 11 P **P** **12 10 43.7 +0.3**
KK31 Karatay Array 75.75 340 *i* P **P** **12 10 42.4 -1.2**
KK31 Karatay Array 75.75 340 IAmb IAmb 12 10 44.5
comp=Z,186nm,1.5s
KKAR Karatay Array 75.75 340 IAmb IAmb 12 10 44.5
comp=Z,186nm,1.5s
MAKA Makarska 75.76 19 P **P** **12 10 42.4 -1.2**
HVAR Hvar 75.77 20 P **P** **12 10 42.4 -1.3**
PTLC Puerto Leguiza 75.79 114 *e*P **P** **12 10 46.6 +2.5**
DZA Taraz 75.81 339 *i* LR LR 12 49 43.9
comp=Z,376nm,12.6s,baz=339
KZA Kyzart 75.82 336 P **P** **12 10 44.3 -0.2**
SNR=27
PMPST Porto Santo, M 75.82 48 *e*P **P** **12 10 43.2 -1.0**
comp=Z,239nm,1.6s
PMPST *e*S S 12 20 35.8 +10
UCH Uchtor 75.83 337 P **P** **12 10 44.4 -0.2**
SNR=28
PMPS Porto Santo 75.84 48 *e*P **P** **12 10 43.8 -0.5**
PMAR Madeira 75.91 49 *e*P **P** **12 10 44.7 -0.2**
comp=Z,224nm,1.4s
SSLB Suanglung 75.96 293 P **P** **12 10 44.7 -0.4**
SSLB IAmb IAmb 12 10 48.5
comp=Z,94nm,1.2s
SSLB IAMs_20 IAMs_20 12 50 35.2
comp=Z,2µm,18.0s
AQU L'Aquila 76.00 22 P **P** **12 10 45.6 +0.5**
AQU L'Aquila 76.00 22 P **P** **12 10 45.6 +0.5**
AQU IAmb IAmb 12 10 54.7
comp=Z,114nm,1.1s
AQU IAMs_20 IAMs_20 12 46 49.2
comp=Z,3µm,19.0s
AQU L'Aquila 76.00 22 *i*P **P** **12 10 45.2 +0.1**
SESP Santiago Espad 76.02 36 P **P** **12 10 46.5 +1.1**
SNR=12
TLBR Topalu 76.03 11 P **P** **12 10 45.7 +0.6**
AML Almayashu 76.08 337 P **P** **12 10 46.2 +0.2**
SNR=102
QZH Quanzhou 76.09 295 *i*P **P** **12 10 45.7 -0.1**
QZH PP **PP** **12 13 35.7 -0.4**
QZH S **S** **12 20 32.3 +3.4**
QZH pmax pmax
comp=Z,96nm,1.3s
QZH pmax pmax
comp=Z,990nm,7.2s
QZH LR LR
comp=Z,3µm,15.2s
QZH LR LR
comp=Z,1µm,14.2s
QZH LR LR
comp=Z,2µm,13.7s
PLE Pljevlja 76.11 18 *i*P **P** **12 10 46.2 +0.4**
SIM Simferopol' 76.11 7 *c e*P **P** **12 10 45.4 -0.2**
SIM 12 13 45.2
SIM *e*S **S** **12 20 31.5 +2.9**
SIM pmax pmax
comp=Z,49nm,1.0s

SIM pmax pmax
comp=Z,360nm,9.5s
SIM MLR MLR
comp=Z,2μm,16.0s
YULB Yu-li 76.13 292 P **P** **12 10 45.3 -0.8**
YULB IAmb IAmb 12 10 56.9
comp=Z,90nm,1.4s
TIRR Tirgusor 76.15 11 ⇓P **P** **12 10 46.1 +0.2**
TIRR Tirgusor 76.15 11 P **P** **12 10 45.4 -0.4**
TIRR pmax pmax
comp=Z,402nm,1.3s
TIRR MLR MLR
comp=Z,7μm,21.0s
TIRR Tirgusor 76.15 11 P **P** **12 10 45.4 -0.4**
VLAD Vladila 76.16 14 ⇑P **P** **12 10 46.5 +0.6**
RASA Rasa 76.26 12 ⇑P **P** **12 10 46.2 -0.3**
GOF Gofitskoye 76.28 0 ⇑*i*P **P** **12 10 45.7 -0.9**
GOF pmax pmax
comp=Z,592nm,1.8s
STON Ston 76.28 19 P **P** **12 10 45.8 -0.8**
STON Ston 76.28 19 ⇑*i*P **P** **12 10 45.6 -1.0**
SFS San Fernando 76.39 39 IAMs_20 IAMs_20 12 44 05.2
comp=Z,2μm,18.0s
BRY Bratogost 76.39 18 ⇑*i*P **P** **12 10 46.8 -0.7**
BRY Bratogost 76.39 18 ⇓*i*P **P** **12 10 47.3 -0.2**
ANN Anapa 76.42 4 *e*P **P** **12 10 46.1 -1.3**
ANN *e*S **S** **12 20 31.5 -0.5**
ANN pmax pmax
comp=Z,199nm,1.3s
ICOR Ion Corvin 76.43 11 ⇓P **P** **12 10 48.1 +0.6**
INTR Introdacqua 76.43 22 P **P** **12 10 47.4 -0.2**
INTR IAmb IAmb 12 10 48.1
comp=Z,80nm,1.2s
MFTR Murfatlar 76.43 11 ⇑P **P** **12 10 48.2 +0.7**
TPUB Ta-pu 76.53 293 P **P** **12 10 47.5 -0.8**
TPUB IAmb IAmb 12 10 49.8
comp=Z,135nm,1.1s
TPUB IAMs_20 IAMs_20 12 51 12.2
comp=Z,2μm,18.0s
NKY Niksic 76.55 18 ⇑*i*P **P** **12 10 47.8 -0.5**
DBRK Dubrovnik 76.56 19 P **P** **12 10 47.1 -1.1**
NKME Niksic 76.59 18 ⇑*i*P **P** **12 10 48.1 -0.4**
KNMB Chin-men Tao 76.59 295 IAMs_20 IAMs_20 12 44 54.9
comp=Z,2μm,20.0s
KOME Kolasin 76.60 18 ⇑*i*P **P** **12 10 48.2 -0.4**
IVA Berane 76.64 17 ⇑*i*P **P** **12 10 48.5 -0.3**
CHM Chimkent 76.67 340 *e*P **P** **12 10 49.2 +0.3**
comp=Z,66nm,1.6s,baz=340
CHM *e*S **S** **12 20 36.8 +1.8**
baz=340
CHM Chimkent 76.67 340 *e*P **P** **12 10 49.2 +0.3**
CHM *e*S **S** **12 20 36.7 +1.8**
CHM pmax pmax
comp=Z,66nm,1.6s
MPEP Malo Peshtene 76.71 14 P **P** **12 10 48.9 -0.2**
TWG Pinlang 76.72 292 P **P** **12 10 48.5 -0.9**
TWG IAmb IAmb 12 10 55.8
comp=Z,148nm,1.1s
TWG IAMs_20 IAMs_20 12 46 10.5
comp=Z,4μm,21.0s
IUG luzhnay 76.76 340 ⇑*i*P **P** **12 10 49.4 -0.1**
comp=Z,34nm,1.6s,baz=340
IUG *e*S **S** **12 20 37.4 +1.2**
baz=340
IUG LR LR 12 48 34.2
comp=Z,52nm,12.0s,baz=340
IUG luzhnay 76.76 340*c i*P **P** **12 10 49.4 -0.1**
IUG *e*S **S** **12 20 37.3 +1.2**
IUG pmax pmax
comp=Z,34nm,1.6s
PLVB Pleven 76.79 14 ⇓P **P** **12 10 49.1 -0.4**
CEME Cevo 76.80 18 ⇑*i*P **P** **12 10 49.3 -0.4**
MANR Mangalia 76.80 11 ⇓P **P** **12 10 50.4 +0.8**
HCY Herceg Novi 76.83 19 ⇑*i*P **P** **12 10 49.6 -0.1**
HCY Herceg Novi 76.83 19 ⇓*i*P **P** **12 10 49.3 -0.4**
RAZG Razgrad 76.83 12 ⇓P **P** **12 10 49.2 -0.6**
PVY Plav 76.92 17 ⇑*i*P **P** **12 10 50.0 -0.4**
PDG Podgorica 76.97 18 IAMs_20 IAMs_20 12 46 07.5
comp=Z,2μm,18.0s
PDG Podgorica 76.97 18 ⇑*i*P **P** **12 10 49.8 -0.7**
TTG Podgorica 76.97 18 ⇑*i*P **P** **12 10 50.4 -0.1**
CART Cartagena 76.97 35 P **P** **12 10 50.8 +0.2**
CART IAMs_20 IAMs_20 12 48 19.6
comp=Z,2μm,18.0s
TIAR Tiarei 77.00 192 *e*P **P** **12 10 51.8 +1.0**
comp=Z,39nm,1.3s
TIAR Tiarei 77.00 192 *e*T T 13 33 58.9
comp=Z,38nm,0.2s
ARSB Arslanbob 77.00 337 P **P** **12 10 50.7 -0.2**
ARSB pmax pmax
comp=Z,161nm,1.4s
ARSB Arslanbob 77.00 337 P **P** **12 10 50.7 -0.2**
ARSB IAmb IAmb 12 10 52.0
comp=Z,161nm,1.4s
SGRT San Giovanni R 77.02 21 P **P** **12 10 50.7 -0.2**
SGRT IAmb IAmb 12 10 51.6
comp=Z,119nm,1.3s
SGRT IAMs_20 IAMs_20 12 49 08.9
comp=Z,2μm,18.0s
BUM Brajici-Budva 77.04 18 ⇑*i*P **P** **12 10 50.6 -0.4**
PPT Papeete 77.04 193 P **P** **12 10 52.6 +1.6**
comp=Z,66nm,1.0s,baz=54,slow=12,SNR=5.0
PPT LR LR 12 39 38.5
comp=Z,530nm,18.7s,baz=356,slow=32
PPT2 Papeete2 77.06 193 *e*P **P** **12 10 52.6 +1.4**
comp=Z,146nm,1.4s
PPT2 *e*S **S** **12 20 39.7 +0.3**
comp=Z,1μm,28.5s
PPT2 Papeete2 77.06 193 *e*LQ LQ 12 31 26.1
comp=Z,2μm,25.5s
PPT2 *e*LR LR 12 34 37.7
comp=Z,982nm,22.5s,baz=6.0
PPT2 Papeete2 77.06 193 *e*T T 13 34 03.1
comp=Z,16nm,0.3s
SZH Strazhica 77.07 13 P **P** **12 10 50.6 -0.5**
PAE Paea 77.13 193 *e*P **P** **12 10 52.7 +1.2**
comp=Z,19nm,1.2s
PAE Paea 77.13 193 *e*T T 13 34 08.1
comp=Z,5.5nm,0.3s
DRME Dracevica, Mon 77.20 18 ⇑*i*P **P** **12 10 51.6 -0.2**
DRME Dracevica, Mon 77.20 18 ⇑*i*P **P** **12 10 51.4 -0.4**
TVO Taravao 77.21 192 *e*P **P** **12 10 53.0 +1.0**
comp=Z,36nm,1.3s
TVO Taravao 77.21 192 *e*T T 13 34 15.5
comp=Z,31nm,0.3s
NEF NEVSHA 77.22 12 P **P** **12 10 51.9 0.0**
PRD Provadia 77.29 12 P **P** **12 10 52.2 -0.1**
CD2 Chengdu 77.36 310 ⇑*i*P **P** **12 10 52.4 -0.6**
CD2 sP sP 12 10 59.2 +0.1
CD2 PcP **PcP** **12 11 05.6 +2.1**
CD2 PP **PP** **12 13 48.6 +1.9**
CD2 S **S** **12 20 41.7 -1.1**
CD2 sS pS 12 20 49.0 +0.6
CD2 pmax pmax
comp=Z,100nm,1.1s
CD2 pmax pmax
comp=Z,1μm,8.4s
CD2 LR LR
comp=Z,6μm,21.5s
CD2 LR LR
comp=Z,7μm,20.2s
CD2 LR LR
comp=Z,8μm,15.7s
VTS Vitosha 77.37 15 P **P** **12 10 51.9 -1.1**
VTS Vitosha 77.37 15 IAmb IAmb 12 10 53.8
comp=Z,136nm,1.2s
VTS IAMs_20 IAMs_20 12 46 12.1
comp=Z,2μm,19.0s
KIV Kislovodsk 77.38 0 *i*P **P** **12 10 51.9 -1.0**
SNR=20
KIV Kislovodsk 77.38 0 P **P** **12 10 52.4 -0.5**
KIV Kislovodsk 77.38 0*c i*P **P** **12 10 52.4 -0.5**
KIV *e* 12 11 01.2
KIV *e* 12 13 45.6
KIV *e*PPP PPP 12 15 33.1
KIV *e*S **S** **12 20 41.9 -0.8**
KIV *e*SS **SS** **12 25 40.1 +0.4**
KIV pmax pmax
comp=Z,144nm,1.7s
KIV Kislovodsk 77.38 0 P **P** **12 10 52.5 -0.4**
KIV IAmb IAmb 12 10 53.9
comp=Z,84nm,1.1s
ULC Ulcinj 77.42 18 ⇑*i*P **P** **12 10 52.7 -0.4**
PAOL Paolisi 77.50 22 IAmb IAmb 12 10 54.8
comp=Z,162nm,1.4s
PAOL IAMs_20 IAMs_20 12 48 09.6
comp=Z,3μm,19.0s
PGB Panagyurishte 77.56 14 P **P** **12 10 53.3 -0.6**
SHA1 Shidzhatmaz 77.59 0*c i*P **P** **12 10 53.7 -0.6**
KBZ Khabaz 77.61 0 P **P** **12 10 54.0 0.0**
comp=Z,25nm,0.9s,baz=341,slow=4.5,SNR=47
KBZ LR LR 12 50 55.3
comp=Z,761nm,20.3s,baz=352,slow=40
KBZ Khabaz 77.61 0*c i*P **P** **12 10 53.2 -0.8**
KBZ MLR MLR
comp=Z,749nm,15.0s
TAS Tashkent 77.69 340 IAMs_20 IAMs_20 12 51 49.5
comp=Z,2μm,18.0s
SOC Sochi 77.71 3*c i*P **P** **12 10 54.1 -0.5**
SOC *e**SP **pP** **12 10 58.0 -1.2**
SOC *e* 12 13 54.8
SOC *e*PPP PPP 12 15 34.2
SOC *e*S **S** **12 20 50.2 +4.1**
SOC *e*SSS SSS 12 28 57.7
SOC pmax pmax
comp=Z,99nm,1.1s
SOC MLR MLR
comp=Z,1μm,15.0s
SKO Skopje 77.75 16 *i*P **P** **12 10 55.0 +0.1**
NCK Nalchik 77.84 360 ⇓*i*P **P** **12 10 54.0 -1.4**
NCK pmax pmax
comp=Z,64nm,1.1s
NCK MLR MLR
comp=Z,1μm,19.0s
VSL Villasalto 77.89 26 P **P** **12 10 56.2 +0.5**
VSL IAmb IAmb 12 10 57.5
comp=Z,97nm,1.1s
VSL IAMs_20 IAMs_20 12 45 09.8
comp=Z,3μm,20.0s
CHEFC Chefchaouen 77.91 39 P **P** **12 10 58.0 +1.9**
SNR=9.0
CHEFC P **P** **12 10 58.0 +1.9**
SNR=9.0
JMB Yambol 77.93 13 P **P** **12 10 55.6 -0.3**
RSA Sarsar 77.96 39 P **P** **12 10 57.1 +0.9**
SNR=30
RSA P **P** **12 10 57.1 +0.9**
SNR=30
PLD Plovdiv 78.06 14 P **P** **12 10 56.1 -0.5**
NEY Neytrino 78.08 0 ⇓*i*P **P** **12 10 57.5 +0.5**
NEY pmax pmax
comp=Z,38nm,1.5s
NEY MLR MLR
comp=Z,332nm,17.0s
KKB Krupnik 78.09 15 P **P** **12 10 56.5 -0.3**
GROC Groznyy 78.11 358 *e*P **P** **12 10 56.3 -0.6**
GROC *e* 12 11 06.5
GROC *e* 12 13 56.4
GROC pmax pmax
comp=Z,34nm,0.4s
KSH Kashi 78.11 335 P **P** **12 10 58.9 +1.8**
KSH sP PcP 12 11 06.8 +0.1
KSH S **S** **12 20 50.7 -0.2**
KSH ScS **SKKSac** **12 21 13.4 +1.5**
KSH pmax pmax
comp=Z,190nm,1.2s
KSH pmax pmax
comp=Z,2μm,5.0s
KSH LR LR
comp=Z,3μm,13.3s
KSH LR LR
comp=Z,2μm,14.0s
KSH LR LR
comp=Z,7μm,19.2s
TIR Tirane 78.12 18 IAmb IAmb 12 10 58.2
comp=Z,149nm,1.1s
TIR IAMs_20 IAMs_20 12 50 49.0
comp=Z,2μm,20.0s
MAK Makhachkala 78.31 357 *e*P **P** **12 10 53.7 -4.3**
MAK *e*S **S** **12 20 45.2 -7.3**
MAK *e*SS **SS** **12 25 49.9 -3.6**
MAK *e*SSS SSS 12 29 15.5
MAK pmax pmax
comp=Z,401nm,1.3s
MMB Musomiste 78.45 15 P **P** **12 10 58.7 -0.1**
RZN Rozhen 78.48 14 P **P** **12 10 59.3 +0.1**
OHR Ohrid 78.50 17 *i*P **P** **12 10 58.9 -0.2**
ZEI Tsey 78.54 359 *e*P **P** **12 10 56.8 -2.8**
ZEI *e*S **S** **12 20 55.0 -0.5**
ZEI pmax pmax
comp=Z,55nm,1.5s
VAY Valandovo 78.55 16 *i*P **P** **12 10 59.6 +0.2**
SICH Sidi Chahed 78.84 39 P **P** **12 11 02.1 +1.0**
SNR=13
SICH P **P** **12 11 02.1 +1.0**
SNR=13
OKGL Djebel Kef Gue 78.89 34 P **P** **12 11 04.0 +2.6**
AKLM AKL 78.94 38 P **P** **12 11 01.0 -0.7**
SNR=11
AKLM P **P** **12 11 01.0 -0.7**
SNR=11
ZHG ZHG 79.00 41 P **P** **12 11 02.1 +0.1**
SNR=9.7
ZHG P **P** **12 11 02.1 +0.1**
SNR=9.7
CTYL Yalikoy Yolu 79.09 11 *e*P **P** **12 11 02.2 -0.1**
TAF Taforalt 79.11 37 P **P** **12 11 03.0 +0.3**
SNR=10.0
TAF P **P** **12 11 03.0 +0.3**
SNR=10.0
OTSS Djebel Tessala 79.17 35 P **P** **12 11 05.0 +2.0**
OJBR Djebel Berber 79.23 34 P **P** **12 11 03.0 -0.3**
ODJA Bouhanifia 79.32 35 P **P** **12 11 03.0 -0.7**
SLVT Slivri 79.33 11 *e*P **P** **12 11 02.8 -0.8**
CTKS Kestanelik-??a 79.35 11 *e*P **P** **12 11 02.8 -0.9**
CRLT Corlu 79.38 12 *e*P **P** **12 11 04.1 +0.2**
KLYT Kilyos 79.39 11 *e*P **P** **12 11 03.9 0.0**
ALN Alexandroupoli 79.42 13 P **P** **12 11 04.0 -0.1**
ALN pmax pmax
comp=Z,317nm,1.3s
ALN MLR MLR
comp=Z,2μm,20.0s
ALN Alexandroupoli 79.42 13 P **P** **12 11 04.0 -0.1**
ALN IAMs_20 IAMs_20 12 47 26.4
comp=Z,2μm,20.0s
OJGS Djebel Guires 79.42 34 P **P** **12 11 04.0 -0.3**
BGKT Bogazkoy 79.43 11 *e*P **P** **12 11 03.0 -1.2**
SRHM Skhour des Reh 79.46 42 P **P** **12 11 05.0 +0.4**
SNR=16
SRHM P **P** **12 11 05.0 +0.4**
SNR=16
DIKM Dikmen 79.47 6 *e*P **P** **12 11 04.7 +0.3**
SILT Sile 79.54 10 *e*P **P** **12 11 04.1 -0.7**
ISK Istanbul-Kandi 79.58 11 *e*P **P** **12 11 04.5 -0.4**
KAVV Kandilli-Istan 79.58 11 *e*P **P** **12 11 04.5 -0.5**
ENEZ Enez 79.59 13 *e*P **P** **12 11 04.5 -0.5**
ERIK Erikli-Kesan 79.70 13 *e*P **P** **12 11 05.6 0.0**
TIP Timpagrande 79.71 21 ⇓P **P** **12 11 06.1 +0.2**
TIP Timpagrande 79.71 21 P **P** **12 11 05.6 -0.3**
TIP IAMs_20 IAMs_20 12 49 16.9
comp=Z,2μm,18.0s
LIT Litokhoron 79.74 16 IAMs_20 IAMs_20 12 51 57.8
comp=Z,1μm,18.0s
RKY Sarkoy-Tekirda 79.75 12 *e*P **P** **12 11 05.7 -0.3**
AKT Akhty 79.78 357 *e*P **P** **12 11 05.2 -1.0**
AKT *e* 12 11 12.2
AKT *e* 12 14 07.9
AKT pmax pmax
comp=Z,72nm,1.1s
DFRA Djebel Bou Aff 79.84 30 P **P** **12 11 07.2 +0.5**
CAEH Ain El Ouahch 79.87 29 P **P** **12 11 06.8 +0.1**
HRT Hereke 79.88 10 *e*P **P** **12 11 06.6 -0.1**
BCA Borcka 79.88 1 *e*P **P** **12 11 05.3 -1.4**
MRMT Marmara Adasi 79.88 12 *e*P **P** **12 11 05.7 -1.0**
CZD Col de Zad 79.91 40 P **P** **12 11 09.0 +1.7**
SNR=24
AKH Akhalkalaki 79.92 360 ⇓P **P** **12 11 07.3 +0.2**
AKH Akhalkalaki 79.92 360 P **P** **12 11 06.8 -0.3**
AKH pmax pmax
comp=Z,56nm,1.3s
AKH Akhalkalaki 79.92 360 P **P** **12 11 06.8 -0.3**
GELI Tayfur-Gelibol 79.96 13 *e*P **P** **12 11 06.8 -0.2**
ILGA Ilgaz 79.97 7 P **P** **12 11 07.8 +0.4**
ILGA IAmb IAmb 12 11 09.3
comp=Z,165nm,1.2s
ILGA IAMs_20 IAMs_20 12 49 39.0
comp=Z,2μm,18.0s
SAUV Serdivan-Sakar 80.02 10 *e*P **P** **12 11 06.9 -0.5**
LPK Lapseki 80.02 13 *e*P **P** **12 11 06.9 -0.5**
ARMT Armutlu 80.05 11 *e*P **P** **12 11 06.9 -0.7**
KRBG Karabiga-Canak 80.06 12 *e*P **P** **12 11 07.7 +0.1**
SPNC Sapanca-Adapaz 80.07 10 *e*P **P** **12 11 07.2 -0.4**
KVT Kavak 80.07 6 *e*P **P** **12 11 08.4 +0.7**
GYA Guiyang 80.09 306 ⇑*i*P **P** **12 11 08.1 -0.1**
GYA PP **PP** **12 14 14.7 +5.0**
GYA S **S** **12 21 11.8 -0.5**
GYA SKS **SKSac** **12 21 21.5 -3.8**
GYA pmax pmax
comp=Z,50nm,1.1s
GYA pmax pmax
comp=Z,740nm,4.4s
GYA LR LR
comp=Z,1μm,19.7s
GYA LR LR
comp=Z,1μm,20.3s
YLV Yalova 80.10 11 *e*P **P** **12 11 07.8 -0.1**
GZH Guangzhou 80.11 298 P **P** **12 11 04.9 -3.2**
GZH PP **PP** **12 14 06.2 -3.5**
GZH LR LR
comp=Z,3μm,17.5s
GZH LR LR
comp=Z,3μm,17.5s
SGCP Mt. Cagua 80.15 289 *e*P **P** **12 11 07.9 -0.5**
CMAH Djebel Manchou 80.16 29 P **P** **12 11 08.5 +0.2**
EDC Edincik 80.17 12 *e*P **P** **12 11 08.4 +0.2**
CKFL Kef-Lekhel 80.19 29 P **P** **12 11 08.8 +0.2**
GEMT Gemlik 80.21 11 *e*P **P** **12 11 08.2 -0.2**
CHOM Cayeli-Rize 80.22 2 *e*P **P** **12 11 07.6 -0.9**
MDNY Mudanya-Bursa 80.25 11 *e*P **P** **12 11 07.8 -0.8**
CKHR Kef el Ahmar 80.25 30 P **P** **12 11 09.7 +0.8**
MDT Midelt 80.26 39 P **P** **12 11 09.4 +0.5**
comp=Z,79nm,1.1s,baz=342,slow=4.9,SNR=68
MDT Midelt 80.26 39 P **P** **12 11 09.5 +0.5**
SNR=62
ADVT Abdulvahap 80.27 10 *e*P **P** **12 11 08.0 -0.7**
KCTX Karacabey (Bur 80.30 11 *e*P **P** **12 11 08.0 -0.9**
KTUT Trabzon 80.30 3 ⇓P **P** **12 11 09.4 +0.5**
KTUT Trabzon 80.30 3 *e*P **P** **12 11 08.4 -0.5**
GULT Gulveren 80.34 10 *e*P **P** **12 11 07.8 -1.4**
ESPY Espiye-Giresun 80.35 3 *e*P **P** **12 11 08.4 -0.8**
MDUB Mudurnu 80.36 9 *e*P **P** **12 11 09.8 +0.4**
CANT Cankiri 80.41 7 *e*P **P** **12 11 10.3 +0.7**
BOZC Bozcaada 80.46 13 *e*P **P** **12 11 09.5 -0.3**
EZN Ezine 80.51 13 *e*P **P** **12 11 08.2 -1.8**
CLTB Caltabellotta 80.56 24 IAmb IAmb 12 11 13.2
comp=Z,98nm,1.0s
OUK Oukaimeden 80.62 43 P **P** **12 11 12.0 +0.8**
SNR=15
OUK P **P** **12 11 12.0 +0.8**
SNR=15
SRCK Saricakaya, Es 80.74 10 *e*P **P** **12 11 10.5 -0.8**
SENK Senkaya-Erzuru 80.77 1 *e*P **P** **12 11 11.3 -0.4**
AGG Agios Georgios 80.77 16 IAmb IAmb 12 11 12.2
comp=Z,135nm,1.2s
AGG IAMs_20 IAMs_20 12 52 22.3
comp=Z,2μm,18.0s
RSDY Resadiye-TOKAT 80.81 5 *e*P **P** **12 11 12.4 +0.7**
TOKT Tokat 80.86 5 *e*P **P** **12 11 12.8 +0.8**
BALB Balikesir 80.87 12 *e*P **P** **12 11 11.6 -0.3**
APYP Conner 80.87 289 *e*P **P** **12 11 11.8 -0.4**
TDRA Tendrara 80.87 37 P **P** **12 11 13.0 +0.6**
SNR=22
TDRA P **P** **12 11 13.0 +0.6**
SNR=22
CORM Corum 80.89 7 *e*P **P** **12 11 12.8 +0.5**
PALP Palanan 80.97 288 *e*P **P** **12 11 12.3 -0.5**
TTIG Tnine Tigouga, 81.02 43 P **P** **12 11 13.0 -0.1**
SNR=5.5
TTIG P **P** **12 11 13.0 -0.1**
SNR=5.5
LOD Lodumlu 81.06 8 *e*P **P** **12 11 13.2 +0.1**
ANTO Ankara 81.08 8 *e*P **P** **12 11 13.2 0.0**
ANTO Ankara 81.08 8 P **P** **12 11 13.3 +0.2**
ANTO Ankara 81.08 8 P **P** **12 11 13.4 +0.2**
ANTO pmax pmax
comp=Z,257nm,1.2s
ANTO MLR MLR
comp=Z,2μm,20.0s
ANTO Ankara 81.08 8 P **P** **12 11 13.4 +0.2**
ANTO Ankara 81.08 8 IAMs_20 IAMs_20 12 49 35.5
comp=Z,2μm,20.0s
GOLM Goulmima 81.16 40 P **P** **12 11 15.1 +1.3**
SNR=20
GOLM P **P** **12 11 15.1 +1.3**
SNR=20
TVSB Tavsanli 81.22 11 *e*P **P** **12 11 13.4 -0.6**
OUZM OUZ 81.28 42 P **P** **12 11 15.0 +0.5**
SNR=7.1
OUZM P **P** **12 11 15.0 +0.5**
SNR=7.1
SVSK Karacayir 81.28 5 *e*P **P** **12 11 14.7 +0.6**
BR131 Keskin Array S 81.28 7 P **P** **12 11 14.3 -0.1**
SNR=34
BR131 Keskin Array S 81.28 7 IAmb IAmb 12 11 15.4
comp=Z,115nm,1.1s
BRTR Keskin Array B 81.28 7 P **P** **12 11 13.9 -0.5**
comp=Z,50nm,1.0s,baz=352,slow=2.5,SNR=137
BRTR PP **PP** **12 14 22.9 +3.8**
comp=Z,18nm,1.2s,baz=354,slow=3.7,SNR=5.0
BRTR PKKPbc **PKKPbc** **12 29 47.9 +1.5**
comp=Z,2.2nm,0.9s,baz=186,slow=4.8,SNR=9.2
BRTR PKPPKP **P'P'df** **12 37 54.9 -5.2**
comp=Z,0.8nm,0.6s,baz=181,slow=8.3,SNR=7.0
BRTR LR LR 12 50 12.9
comp=Z,1μm,20.9s,baz=341,slow=38
DKL Dikili 81.32 13 *e*P **P** **12 11 13.6 -0.7**
KOPR Koprukoy-ERZUR 81.33 1 *e*P **P** **12 11 14.3 -0.4**
TASB TASBURUN-IGDIR 81.34 359 *e*P **P** **12 11 14.5 -0.1**
CAUP Cauayan 81.37 288 *e*P **P** **12 11 16.0 +1.1**
SVRH Sivrihisar-ESK 81.40 9 *e*P **P** **12 11 14.3 -0.6**
CIFT Cifteler, Eski 81.45 10 *e*P **P** **12 11 14.7 -0.5**
YOZ Yozgat 81.47 6 *e*P **P** **12 11 15.5 +0.1**
KEST Kesra 81.47 27 P **P** **12 11 15.8 +0.5**
comp=Z,78nm,1.0s,baz=281,slow=1.8,SNR=46
KEST LR LR 12 47 55.8
comp=Z,2μm,18.9s,baz=286,slow=36
KEST Kesra 81.47 27 IAmb IAmb 12 11 17.4
comp=Z,126nm,1.1s
KEST IAMs_20 IAMs_20 12 47 44.7
comp=Z,3μm,18.0s
SZP Santa 81.52 290 P **P** **12 11 16.2 +0.6**
AGRB Hanur-Agry 81.75 0 *e*P **P** **12 11 17.5 +0.6**
TZRR Tazzarine 81.80 41 P **P** **12 11 18.0 +0.8**
SNR=6.5
TZRR P **P** **12 11 18.0 +0.8**
SNR=6.5
RKT Rikitea 81.85 178 *e*LQ LQ 12 33 15.5
comp=Z,2μm,33.8s
YEDI Yedisu-Bingol 81.87 2 *e*P **P** **12 11 18.3 +0.8**
KULU Kulu 81.92 8 *e*P **P** **12 11 16.9 -0.8**
URLA Izmir 81.99 13 *e*P **P** **12 11 17.2 -0.8**
KIZT Kizilcal 81.99 9 *e*P **P** **12 11 17.8 -0.3**
BLCB Balcova 82.01 13 *e*P **P** **12 11 17.4 -0.6**
SERE Serefiikochisa 82.05 8 *e*P **P** **12 11 18.2 -0.2**
KULA Kula-Manisa 82.06 11 *e*P **P** **12 11 17.8 -0.6**
MANT Manisa 82.08 12 P **P** **12 11 17.8 -0.8**
YAYX Yaylak 82.08 7 *e*P **P** **12 11 18.6 +0.1**
VRTB Varto-Mus 82.16 1 *e*P **P** **12 11 19.5 +0.5**
RAR Rarotonga 82.17 202 P **P** **12 11 20.0 +1.3**
comp=Z,61nm,1.2s,baz=148,slow=4.1,SNR=4.4
RAR Rarotonga 82.17 202 P **P** **12 11 19.8 +1.0**
RAR pmax pmax
comp=Z,212nm,1.5s
RAR Rarotonga 82.17 202 P **P** **12 11 19.8 +1.0**
MLAZ Malazgirt-MUS 82.19 1 *e*P **P** **12 11 19.2 0.0**
SHUT Suhut-Afyon 82.21 10 *e*P **P** **12 11 19.0 -0.2**
BNN Bunyan 82.28 6 *e*P **P** **12 11 20.2 +0.6**
BNGB Bingl 82.32 2 *e*P **P** **12 11 20.1 +0.3**
CHBY Cihanbeyli 82.37 8 *e*P **P** **12 11 19.0 -1.0**
PTK Pertek 82.39 3 *e*P **P** **12 11 20.5 +0.2**
ZGR Zagora 82.39 41 P **P** **12 11 21.0 +0.7**
SNR=19
ZGR P **P** **12 11 21.0 +0.7**
SNR=19
WDD Wied Dalam 82.51 23 IAMs_20 IAMs_20 12 49 51.2
comp=Z,2μm,20.0s
BALP Baler 82.52 288 *e*P **P** **12 11 21.1 +0.1**
ITM Ithomi 82.52 17 IAMs_20 IAMs_20 12 49 20.5
comp=Z,2μm,21.0s
AYDB Zeytinkoy-Aydi 82.54 12 *e*P **P** **12 11 19.9 -1.1**
ASHT Ashkhabad 82.56 348 P **P** **12 11 20.9 -0.1**
ASHT pmax pmax
comp=Z,292nm,1.1s

ASHT	**Ashkhabad**	**82.56**	**348**	P	**P**	**12 11 20.9**	**-0.1**
GEYT	**Alibeck**	**82.61**	**348**	P	**P**	**12 11 20.9**	**-0.3**
	comp=Z,36nm,1.0s,baz=319,slow=4.3,SNR=59						
GEYT				PP	**PP**	**12 14 30.9**	**+1.1**
	comp=Z,21nm,1.2s,baz=313,slow=13,SNR=5.2						
GEYT				LR	LR	12 54 34.3	
	comp=Z,742nm,18.5s,baz=20,slow=40						
GYA0	**ALIBECK ARRAY**	**82.61**	**348**	P	**P**	**12 11 20.2**	**-1.0**
GYA0B	**ALIBECK ARRAY**	**82.61**	**348**	P	**P**	**12 11 21.1**	**-0.1**
GYA0B				IAmb	IAmb	12 11 22.5	
	comp=Z,105nm,1.2s						
SMPP	**San Manuel, Pa**	**82.61**	**289**	*e*P	**P**	**12 11 20.4**	**-1.0**
DARE	**Darende-Malaty**	**82.64**	**5**	*e*P	**P**	**12 11 22.7**	**+1.2**
LADK	**Ladik-KONYA**	**82.71**	**9**	*e*P	**P**	**12 11 21.6**	**-0.2**
VANB	**Van**	**82.73**	**360**	*e*P	**P**	**12 11 22.6**	**+0.6**
SARI	**SarD1z-Kayseri**	**82.76**	**5**	*e*P	**P**	**12 11 22.6**	**+0.4**
GURO	**Guroymak-BITLI**	**82.77**	**1**	*e*P	**P**	**12 11 22.4**	**+0.2**
BOLP	**Bolinao**	**82.78**	**290**	*e*P	**P**	**12 11 21.6**	**-0.7**
SULT	**Sultanhani-AKS**	**82.79**	**8**	*e*P	**P**	**12 11 21.9**	**-0.3**
SVRC	**Sivrice-ELAZID**	**82.90**	**3**	*e*P	**P**	**12 11 23.9**	**+1.0**
KMI	**Kunming**	**82.90**	**308**	P	**P**	**12 11 22.0**	**-1.2**
KMI				pP	pP	12 11 27.4	-0.3
KMI				PP	**PP**	**12 14 33.9**	**+0.9**
KMI				S	**S**	**12 21 40.4**	**-1.2**
KMI				sS	sS	12 21 49.7	+0.6
KMI				pmax	pmax		
	comp=Z,59nm,1.3s						
KMI				pmax	pmax		
	comp=Z,940nm,8.3s						
KMI				LR	LR		
	comp=Z,3µm,20.5s						
KMI				LR	LR		
	comp=Z,4µm,23.2s						
KMI				LR	LR		
	comp=Z,2µm,22.6s						
KMI	**Kunming**	**82.90**	**308**	P	**P**	**12 11 23.0**	**-0.2**
KMI				pmax	pmax		
	comp=Z,109nm,1.3s						
KMI	**Kunming**	**82.90**	**308**	P	**P**	**12 11 23.0**	**-0.2**
KMI				IAmb	IAmb	12 11 24.1	
	comp=Z,109nm,1.3s						
KMI	**Kunming**	**82.90**	**308**	IAMs_20	IAMs_20	12 53 17.9	
	comp=Z,3µm,18.0s						
ISP	**Isparta**	**82.93**	**10**	P	**P**	**12 11 22.6**	**-0.4**
ISP				pmax	pmax		
	comp=Z,262nm,1.2s						
ISP	**Isparta**	**82.93**	**10**	P	**P**	**12 11 22.6**	**-0.4**
MALT	**Malatya**	**82.93**	**4**	*e*P	**P**	**12 11 23.7**	**+0.7**
KONT	**Konya--Tatoy**	**82.96**	**9**	*e*P	**P**	**12 11 22.2**	**-0.8**
AKDM	**Akdamar-Van**	**83.00**	**0**	*e*P	**P**	**12 11 23.8**	**+0.4**
PVCP	**Virac**	**83.07**	**285**	*e*P	**P**	**12 11 24.0**	**+0.2**
LSA	**Lhasa**	**83.08**	**319**	P	**P**	**12 11 25.4**	**+1.0**
LSA				pP	**sP**	**12 11 30.0**	**-0.6**
LSA				S	**S**	**12 21 38.9**	**-5.0**
LSA				pmax	pmax		
	comp=Z,330nm,1.9s						
LSA				pmax	pmax		
	comp=Z,340nm,3.1s						
LSA				LR	LR		
	comp=Z,5µm,22.8s						
LSA				LR	LR		
	comp=Z,8µm,18.5s						
LSA				LR	LR		
	comp=Z,13µm,18.5s						
LSA	**Lhasa**	**83.08**	**319**	P	**P**	**12 11 25.2**	**+0.9**
LSA	**Lhasa**	**83.08**	**319**	IAmb	IAmb	12 11 26.9	
	comp=Z,74nm,0.9s						
LSA				IAMs_20	IAMs_20	12 51 10.3	
	comp=Z,2µm,19.0s						
SVAN	**Silvan-Diyarba**	**83.16**	**2**	*e*P	**P**	**12 11 24.0**	**-0.1**
POLP	**Polilio Island**	**83.20**	**287**	*e*P	**P**	**12 11 25.1**	**+0.6**
BCK	**Bucak**	**83.29**	**10**	*e*P	**P**	**12 11 23.8**	**-1.0**
LKP	**Lekhapani**	**83.59**	**315**	*i* P	**P**	**12 11 26.7**	**+0.3**
KOZT	**Kozan**	**83.65**	**6**	*e*P	**P**	**12 11 26.1**	**-0.5**
KMRS	**Kahramanmaras**	**83.68**	**5**	*e*P	**P**	**12 11 26.3**	**-0.5**
KORT	**Korkueli**	**83.73**	**10**	*e*P	**P**	**12 11 27.2**	**+0.1**
CNP	**Catarman**	**83.74**	**284**	*e*P	**P**	**12 11 28.2**	**+1.0**
URFA	**Urfa**	**83.82**	**4**	*e*P	**P**	**12 11 27.9**	**+0.4**
SIRT	**Sirnak**	**83.82**	**1**	*e*P	**P**	**12 11 27.4**	**-0.2**
MAZI	**Mazidag**	**83.84**	**2**	*e*P	**P**	**12 11 27.2**	**-0.5**
PTGA	**Pitinga**	**83.85**	**102**	P	**P**	**12 11 28.2**	**+0.4**
PTGA				IAMs_20	IAMs_20	12 53 10.1	
	comp=Z,2µm,18.0s						
PTGA	**Pitinga**	**83.85**	**102**	*e*P	**P**	**12 11 28.6**	**+0.7**
PTGA	**Pitinga**	**83.85**	**102**	*e*P	**P**	**12 11 28.6**	**+0.7**
LQP	**Lukban**	**83.93**	**287**	*e*P	**P**	**12 11 29.0**	**+0.5**
ELL	**Elmali**	**83.94**	**11**	*e*P	**P**	**12 11 26.5**	**-1.7**
ELL	**Elmali**	**83.94**	**11**	P	**P**	**12 11 27.5**	**-0.7**
ELL				pmax	pmax		
	comp=Z,286nm,1.1s						
ELL				MLR	MLR		
	comp=Z,7µm,20.0s						
ELL	**Elmali**	**83.94**	**11**	P	**P**	**12 11 27.5**	**-0.7**
RABL	**Rabaul**	**83.95**	**252**	P	**P**	**12 11 27.7**	**-0.6**
RABL				IAMs_20	IAMs_20	12 42 18.4	
	comp=Z,2µm,21.0s						
GAZ	**Gaziantep**	**84.02**	**5**	*e*P	**P**	**12 11 28.8**	**+0.2**
GAZ	**Gaziantep**	**84.02**	**5**	IAMs_20	IAMs_20	12 52 02.4	
	comp=Z,2µm,21.0s						
CUKT	**Cukurca**	**84.08**	**360**	*e*P	**P**	**12 11 28.6**	**-0.3**
CEYT	**Ceyhan**	**84.11**	**6**	*e*P	**P**	**12 11 29.2**	**+0.3**
KRVT	**Keravat (AS076**	**84.12**	**252**	P	**P**	**12 11 27.6**	**-1.6**
	comp=Z,103nm,1.3s,baz=193,slow=3.1,SNR=13						
ZIRO	**ZIRO**	**84.14**	**316**	*e*P	**P**	**12 11 29.9**	**+0.4**
MERS	**Mersin**	**84.18**	**7**	*e*P	**P**	**12 11 27.4**	**-2.0**
TGY	**Tagaytay City**	**84.23**	**288**	P	**P**	**12 11 30.8**	**+0.9**
	comp=Z,187nm,0.4s,baz=333,slow=4.2,SNR=10						
YURE	**YUREGIR**	**84.29**	**6**	*e*P	**P**	**12 11 30.1**	**+0.2**
KBL	**Kabul**	**84.33**	**339**	P	**P**	**12 11 28.6**	**-1.8**
KBL	**Kabul**	**84.33**	**339**	P	**P**	**12 11 29.3**	**-1.1**
KBL				pmax	pmax		
	comp=Z,54nm,1.1s						
KBL				MLR	MLR		
	comp=Z,1µm,20.0s						
KBL	**Kabul**	**84.33**	**339**	P	**P**	**12 11 29.3**	**-1.1**
KBL				IAmb	IAmb	12 11 31.1	
	comp=Z,54nm,1.1s						
BOAC	**Boac**	**84.34**	**287**	*e*P	**P**	**12 11 30.5**	**+0.2**
NIL	**Nilore**	**84.34**	**335**	P	**P**	**12 11 29.5**	**-0.7**
NIL	**Nilore**	**84.34**	**335**	P	**P**	**12 11 29.7**	**-0.5**
NIL				pmax	pmax		
	comp=Z,289nm,1.5s						
NIL	**Nilore**	**84.34**	**335**	P	**P**	**12 11 29.7**	**-0.5**
NIL	**Nilore**	**84.34**	**335**	IAMs_20	IAMs_20	12 53 35.7	
	comp=Z,2µm,20.0s						
TEVE	**Tevekalti-Mers**	**84.54**	**8**	*e*P	**P**	**12 11 29.9**	**-1.3**
KIZK	**Mersin**	**84.55**	**7**	*e*P	**P**	**12 11 29.6**	**-1.5**
KEBE	**Keben-Mersin**	**84.55**	**8**	*e*P	**P**	**12 11 30.1**	**-1.1**
BERE	**Bereket-Mersin**	**84.61**	**8**	*e*P	**P**	**12 11 30.8**	**-0.9**
PGP	**Puerto Galera**	**84.74**	**287**	*e*P	**P**	**12 11 31.6**	**-0.8**
IKL	**Isikli**	**84.75**	**8**	*e*P	**P**	**12 11 30.9**	**-1.3**
TAHT	**Tahtakopru-Hat**	**84.77**	**6**	*e*P	**P**	**12 11 32.1**	**-0.2**
IDI	**Anoyia**	**84.80**	**15**	P	**P**	**12 11 31.0**	**-1.5**
IDI				IAmb	IAmb	12 11 34.4	
	comp=Z,104nm,1.1s						
TEKE	**Tekeli-Mersin**	**84.81**	**8**	*e*P	**P**	**12 11 30.9**	**-1.6**
AKKU	**Akkuyu-Mersin**	**84.82**	**8**	*e*P	**P**	**12 11 30.5**	**-2.0**
HNR	**Honiara**	**84.83**	**242**	P	**P**	**12 11 33.4**	**+0.7**
	comp=Z,50nm,0.6s,baz=208,slow=7.1,SNR=4.7						
HNR	**Honiara**	**84.83**	**242**	P	**P**	**12 11 33.4**	**+0.7**
HNR				pmax	pmax		
	comp=Z,325nm,1.3s						
HNR	**Honiara**	**84.83**	**242**	IAMs_20	IAMs_20	12 42 03.0	
	comp=Z,2µm,21.0s						
HNR	**Honiara**	**84.83**	**242**	IAmb	IAmb	12 11 39.9	
	comp=Z,325nm,1.3s						
LUBP	**Lubang**	**84.89**	**288**	*e*P	**P**	**12 11 30.9**	**-2.2**
MSVF	**Nonsavu**	**84.93**	**223**	P	**P**	**12 11 34.6**	**+1.4**
MSVF				pmax	pmax		
	comp=Z,72nm,1.2s						
MSVF				MLR	MLR		
	comp=Z,2µm,18.0s						
MSVF	**Nonsavu**	**84.93**	**223**	P	**P**	**12 11 34.6**	**+1.4**
MSVF				IAmb	IAmb	12 11 35.6	
	comp=Z,72nm,1.2s						
MSVF	**Nonsavu**	**84.93**	**223**	IAMs_20	IAMs_20	12 53 09.6	
	comp=Z,2µm,18.0s						
DHRM	**DHARAMSHALA**	**84.99**	**332**	*e*P	**P**	**12 11 33.0**	**-0.8**
DHRM				IAmb	IAmb	12 11 38.9	
	comp=Z,89nm,1.3s						
OTRP	**Odiongan**	**85.19**	**286**	*e*P	**P**	**12 11 35.8**	**+1.1**
QIZ	**Qiongzhong**	**85.22**	**299**	P	**P**	**12 11 34.3**	**-0.5**
QIZ				PP	**PP**	**12 14 50.4**	**-1.4**
QIZ				S	**S**	**12 22 04.2**	**-0.4**
QIZ				SS	**SS**	**12 27 38.9**	**+1.2**
QIZ				pmax	pmax		
	comp=Z,85nm,1.3s						
QIZ				LR	LR		
	comp=Z,3µm,15.0s						
QIZ				LR	LR		
	comp=Z,910nm,16.7s						
QIZ				LR	LR		
	comp=Z,4µm,16.0s						
RCP	**Roxas**	**85.51**	**285**	*e*P	**P**	**12 11 40.5**	**+4.3**
SJMP	**San Jose**	**85.55**	**287**	*e*P	**P**	**12 11 35.7**	**-0.7**
MACA	**Manacapuru-AM**	**85.57**	**104**	*e*P	**P**	**12 11 36.6**	**+0.1**
MACA	**Manacapuru-AM**	**85.57**	**104**	*e*P	**P**	**12 11 36.6**	**+0.1**
NNA	**Nana**	**85.59**	**122**	P	**P**	**12 11 36.8**	**+0.2**
NNA				pmax	pmax		
	comp=Z,117nm,1.3s						
NNA	**Nana**	**85.59**	**122**	P	**P**	**12 11 36.8**	**+0.2**
NNA				IAmb	IAmb	12 11 37.7	
	comp=Z,118nm,1.2s						
NNA				IAMs_20	IAMs_20	12 56 53.4	
	comp=Z,2µm,18.0s						
HRA	**Herat**	**85.59**	**344**	P	**P**	**12 11 36.5**	**-0.3**
HRA				IAmb	IAmb	12 11 37.3	
	comp=Z,82nm,1.4s						
HRA				IAMs_20	IAMs_20	12 53 23.6	
	comp=Z,2µm,19.0s						
MSLP	**Maasin**	**85.67**	**282**	*e*P	**P**	**12 11 37.0**	**0.0**
KOHI	**KOHIMA**	**85.69**	**315**	*i* P	**P**	**12 11 37.0**	**-0.2**
KOHI				*i* x	x	12 14 57.1	
KOHI				*e*x	x	12 47 36.1	
GTK	**Tadong**	**86.13**	**321**	*e*P	**P**	**12 11 39.5**	**+0.2**
GTK				*i* x	x	12 48 48.4	
GUIM	**Jordan**	**86.39**	**285**	*e*P	**P**	**12 11 39.7**	**-0.9**
DDI	**Dehra Dun**	**86.39**	**330**	*e*P	**P**	**12 11 40.2**	**-0.4**
DDI				IAmb	IAmb	12 11 51.8	
	comp=Z,135nm,0.9s						
BUSP	**Coron**	**86.40**	**287**	*e*P	**P**	**12 11 40.3**	**-0.3**
SHL	**Shillong**	**86.63**	**317**	*i* P	**P**	**12 11 40.8**	**-1.1**
SHL				IAmb	IAmb	12 11 46.8	
	comp=Z,29nm,0.9s						
SHL				*i* x	x	12 47 35.5	
SHL	**Shillong**	**86.63**	**317**	P	**P**	**12 11 41.0**	**-0.9**
	SNR=46						
SHL	**Shillong**	**86.63**	**317**	P	**P**	**12 11 41.0**	**-0.9**
SHL				pmax	pmax		
	comp=Z,115nm,1.0s						
SHL				MLR	MLR		
	comp=Z,6µm,18.0s						
SHL	**Shillong**	**86.63**	**317**	P	**P**	**12 11 41.0**	**-0.9**
CUYO	**Cuyo Island**	**86.98**	**286**	*e*P	**P**	**12 11 43.0**	**-0.5**
CNOP	**Candoni, Negro**	**87.05**	**284**	*e*P	**P**	**12 11 40.9**	**-2.9**
BHL	**Bhannes**	**87.20**	**6**	*e*P	**P**	**12 11 43.5**	**-1.0**
ENPP	**El Nido**	**87.46**	**287**	*e*P	**P**	**12 11 46.0**	**+0.2**
BUKP	**Musuan**	**87.49**	**281**	*e*P	**P**	**12 11 45.6**	**-0.4**
QRWL	**Qaraoun**	**87.56**	**6**	*e*P	**P**	**12 11 45.8**	**-0.3**
MALB	**Monte Alegre**	**87.72**	**97**	*e*P	**P**	**12 11 47.0**	**0.0**
MALB	**Monte Alegre**	**87.72**	**97**	*e*P	**P**	**12 11 47.0**	**0.0**
SHBL	**Chebaa**	**87.76**	**6**	*e*P	**P**	**12 11 46.8**	**-0.4**
DAV	**Davao City (W)**	**87.91**	**280**	P	**P**	**12 11 47.8**	**-0.2**
	comp=Z,146nm,0.4s,baz=153,slow=5.2,SNR=1.5						
KCP	**Kidapawan**	**88.22**	**281**	*e*P	**P**	**12 11 49.5**	**0.0**
JAY	**Jayapura**	**88.28**	**262**	P	**P**	**12 11 48.6**	**-1.1**
	comp=Z,39nm,1.1s,baz=268,slow=3.9,SNR=7.9						
DDMP	**Don Marcelino,**	**88.67**	**280**	*e*P	**P**	**12 11 49.6**	**-2.0**
ITTB	**Itaituba**	**89.11**	**100**	*e*P	**P**	**12 11 54.7**	**+1.1**
ITTB	**Itaituba**	**89.11**	**100**	*e*P	**P**	**12 11 54.7**	**+1.1**
SAML	**Samuel**	**89.31**	**109**	*e*P	**P**	**12 11 54.0**	**-0.4**
SAML	**Samuel**	**89.31**	**109**	P	**P**	**12 11 54.1**	**-0.4**
SAML				pmax	pmax		
	comp=Z,186nm,1.1s						
SAML				MLR	MLR		
	comp=Z,2µm,20.0s						
SAML	**Samuel**	**89.31**	**109**	P	**P**	**12 11 54.1**	**-0.3**
SAML	**Samuel**	**89.31**	**109**	IAMs_20	IAMs_20	12 55 12.0	
	comp=Z,2µm,20.0s						
SAML	**Samuel**	**89.31**	**109**	*e*P	**P**	**12 11 54.2**	**-0.3**
SAML	**Samuel**	**89.31**	**109**	*e*P	**P**	**12 11 54.2**	**-0.3**
CHTO	**Chiang Mai**	**90.09**	**308**	P	**P**	**12 11 57.9**	**-0.3**
CHTO	**Chiang Mai**	**90.09**	**308**	P	**P**	**12 11 58.0**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,172nm,1.3s						
CHTO	**Chiang Mai**	**90.09**	**308**	P	**P**	**12 11 58.0**	**-0.2**
BOK	**Bokaro**	**90.28**	**322**	*e*P	**P**	**12 11 58.4**	**-0.7**
BOK				IAmb	IAmb	12 11 59.6	
	comp=Z,46nm,0.9s						
BATP	**Bataraza**	**90.34**	**288**	*e*P	**P**	**12 12 00.0**	**+0.6**
CM31	**Chiang Mai Arr**	**90.41**	**308**	P	**P**	**12 12 00.2**	**+0.5**
	SNR=100						
CMAR	**Chiang Mai Arr**	**90.41**	**308**	P	**P**	**12 11 60.0**	**+0.3**
	comp=Z,119nm,1.0s,baz=3.6,slow=5.1,SNR=409						
CMAR				LR	LR	12 54 08.0	
	comp=Z,2µm,20.3s,baz=69,slow=37						
CMAR	**Chiang Mai Arr**	**90.41**	**308**	*i* P	**P**	**12 12 00.0**	**+0.3**
CMAR				pmax	pmax		
	comp=Z,122nm,1.0s						
PMG	**Port Moresby**	**90.92**	**253**	P	**P**	**12 12 02.1**	**+0.2**
	comp=Z,16nm,1.0s,baz=336,slow=5.8,SNR=4.4						
PMG	**Port Moresby**	**90.92**	**253**	P	**P**	**12 12 00.8**	**-1.1**
PMG				IAmb	IAmb	12 12 06.0	
	comp=Z,41nm,1.2s						
PBKT	**Sadao Pong**	**91.27**	**306**	IAmb	IAmb	12 12 05.1	
	comp=Z,60nm,1.0s						
PBKT				IAMs_20	IAMs_20	12 57 56.9	
	comp=Z,2µm,18.0s						
NPGB	**Novo Progresso**	**91.59**	**101**	*e*P	**P**	**12 12 05.1**	**0.0**
NPGB	**Novo Progresso**	**91.59**	**101**	*e*P	**P**	**12 12 05.1**	**0.0**
TNTI	**Ternate**	**92.37**	**275**	P	**P**	**12 12 08.7**	**-0.1**
	comp=Z,893nmcomp=Z,48nm,1.3s						
TNTI	**Ternate**	**92.37**	**275**	P	**P**	**12 12 07.2**	**-1.5**
TNTI				IAmb	IAmb	12 12 08.9	
	comp=Z,45nm,1.0s						
TAM	**Tamanrasset**	**92.75**	**34**	IAmb	IAmb	12 12 12.4	
	comp=Z,56nm,1.3s						
TAM				IAMs_20	IAMs_20	12 56 12.6	
	comp=Z,2µm,19.0s						
FAKI	**Fak Fak**	**92.98**	**269**	IAMs_20	IAMs_20	12 50 09.5	
	comp=Z,1µm,20.0s						
DZM	**Mont Dzumac**	**93.26**	**231**	*e*P	**P**	**12 12 12.9**	**+0.2**
	comp=Z,74nm,1.4s						
DZM	**Mont Dzumac**	**93.26**	**231**	*e*PP	PP	12 15 51.3	-5.5
	comp=Z,170nm,25.7s						
DZM				*e*SP	SP	12 24 27.3	-5.0
	comp=Z,718nm,32.1s						
DZM				*e*SS	**SS**	**12 29 32.4**	**-3.4**
	comp=Z,1µm,27.8s						
DZM	**Mont Dzumac**	**93.26**	**231**	*e*LR	LR	12 41 55.2	
	comp=Z,2µm,22.9s						
DZM	**Mont Dzumac**	**93.26**	**231**	P	**P**	**12 12 13.2**	**+0.5**
	comp=Z,12nm,1.0s,baz=37,slow=8.4,SNR=4.8						
DZM				LR	LR	12 51 28.6	
	comp=Z,1µm,18.0s,baz=16,slow=34						
DZM	**Mont Dzumac**	**93.26**	**231**	P	**P**	**12 12 12.5**	**-0.2**
DZM				IAmb	IAmb	12 12 14.8	
	comp=Z,67nm,1.5s						
DZM				IAMs_20	IAMs_20	12 51 45.5	
	comp=Z,2µm,19.0s						
BWNR	**Bhubaneshwar**	**93.57**	**320**	*e*P	**P**	**12 12 12.8**	**-1.5**
BWNR				IAmb	IAmb	12 12 20.4	
	comp=Z,25nm,0.3s						
PRPB	**Parauapebas**	**93.68**	**96**	*e*P	**P**	**12 12 15.2**	**+0.4**
PRPB	**Parauapebas**	**93.68**	**96**	*e*P	**P**	**12 12 15.2**	**+0.4**
ROSB	**Rosrio**	**93.83**	**89**	*e*P	**P**	**12 12 16.5**	**+1.0**
ROSB	**Rosrio**	**93.83**	**89**	*e*P	**P**	**12 12 16.5**	**+1.0**
VILB	**Vilhena**	**94.22**	**108**	*e*P	**P**	**12 12 17.9**	**+0.7**
VILB	**Vilhena**	**94.22**	**108**	*e*P	**P**	**12 12 17.9**	**+0.7**
PB12	**IPOC Station P**	**94.34**	**119**	IAmb	IAmb	12 12 18.2	
	comp=Z,89nm,1.4s						
RAO	**Raoul Island**	**94.34**	**215**	LR	LR	12 50 01.7	
	comp=Z,1µm,18.2s,baz=76,slow=32						
SHME	**Shamm**	**94.57**	**348**	P	**P**	**12 12 17.2**	**-1.7**
CLDB	**Colider**	**94.63**	**103**	*e*P	**P**	**12 12 17.8**	**-1.3**
CLDB	**Colider**	**94.63**	**103**	*e*P	**P**	**12 12 17.8**	**-1.3**
BANOM	**Banah**	**94.67**	**348**	P	**P**	**12 12 17.9**	**-1.5**
MNMC	**Minye Minye**	**95.12**	**119**	IAmb	IAmb	12 12 22.5	
	comp=Z,59nm,1.3s						
MSFE	**Esma-Masafi**	**95.25**	**348**	P	**P**	**12 12 20.3**	**-1.7**
PSGCX	**Pisagua**	**95.29**	**120**	P	**P**	**12 12 20.6**	**-1.5**
PSGCX				IAmb	IAmb	12 12 26.5	
	comp=Z,32nm,1.3s						
PB11	**IPOC Station P**	**95.64**	**119**	P	**P**	**12 12 23.2**	**-0.6**
PB11				IAmb	IAmb	12 12 37.1	
	comp=Z,38nm,1.1s						
UOSS	**Minazif**	**95.65**	**348**	P	**P**	**12 12 21.6**	**-2.2**
UOSS	**Minazif**	**95.65**	**348**	P	**P**	**12 12 22.1**	**-1.7**
GO01	**Chusmiza**	**95.77**	**119**	P	**P**	**12 12 24.6**	**-0.2**
GO01				IAmb	IAmb	12 12 38.0	
	comp=Z,25nm,1.2s						
HATD	**Hatta, Dubai**	**95.78**	**348**	P	**P**	**12 12 24.0**	**-0.4**
	SNR=5.0						
ASHO	**Ashiyiah**	**95.93**	**348**	P	**P**	**12 12 23.0**	**-2.0**
PB08	**IPOC Station P**	**96.20**	**119**	IAmb	IAmb	12 12 27.6	
	comp=Z,33nm,1.3s						
LUWI	**Luwuk**	**96.27**	**278**	P	**P**	**12 12 25.3**	**-1.4**
SIV	**San Ignacio**	**96.40**	**110**	PKKPbc	PKKPbc	12 29 13.4	+3.6
	comp=Z,1.9nm,1.1s,baz=147,slow=9.1,SNR=4.7						
COEN	**Coen**	**96.80**	**254**	IAMs_20	IAMs_20	12 51 07.7	
	comp=Z,1µm,20.0s						
PB01	**IPOC Station P**	**96.84**	**120**	P	**P**	**12 12 28.2**	**-0.9**
PB01				IAmb	IAmb	12 12 41.9	
	comp=Z,23nm,1.0s						
HOQ	**Hoqain**	**96.88**	**347**	P	**P**	**12 12 30.3**	**+0.9**
PTLB	**Pontes e Lacer**	**96.88**	**108**	*e*P	**P**	**12 12 28.9**	**-0.4**
PTLB	**Pontes e Lacer**	**96.88**	**108**	*e*P	**P**	**12 12 28.9**	**-0.4**
RPR	**Rampur**	**96.94**	**326**	*e*P	**P**	**12 12 28.7**	**-1.0**
RPR				*e*PP	**PP**	**12 16 20.7**	**-3.6**
SMTB	**Santa Maria do**	**97.11**	**95**	*e*P	Pdif	12 12 30.7	+0.1
SMTB	**Santa Maria do**	**97.11**	**95**	*e*P	Pdif	12 12 30.7	+0.1
SRSP	**Sriramsagar**	**97.15**	**327**	*e*P	**P**	**12 12 29.0**	**-1.6**
SRSP				*e*PP	**PP**	**12 16 22.7**	**-3.2**
SRSP				IVMs_BB	IVMs_BB	13 02 24.1	
	comp=Z,306nm,19.2s						
ARQ	**Araqi**	**97.21**	**348**	P	Pdif	12 12 31.0	0.0
	SNR=6.2						
DGPR	**DIGLIPUR**	**97.58**	**311**	*e*P	**P**	**12 12 30.9**	**-1.7**
BSY	**Bisya**	**97.72**	**347**	P	**P**	**12 12 33.0**	**-0.2**
	SNR=9.6						
RAYN	**Ar Rayn**	**97.74**	**358**	*i* P	**P**	**12 12 32.9**	**-0.4**
	SNR=31						
RAYN	**Ar Rayn**	**97.74**	**358**	P	**P**	**12 12 33.0**	**-0.4**
RAYN				pmax	pmax		
	comp=Z,53nm,1.2s						
RAYN	**Ar Rayn**	**97.74**	**358**	P	**P**	**12 12 33.0**	**-0.4**
PVM	**Polavaram**	**97.76**	**323**	*e*PcP	**P**	**12 12 32.6**	**-0.8**
PVM				*e*PP	**PP**	**12 16 29.0**	**-1.7**
PVM				IVMs_BB	IVMs_BB	13 01 24.5	
	comp=Z,514nm,14.2s						
KLRI	**Killari**	**98.45**	**328**	*e*Pdif	**P**	**12 12 35.4**	**-1.2**
KLRI				*e*PP	**PP**	**12 16 32.8**	**-3.1**
KLRI				IVMs_BB	IVMs_BB	13 04 39.2	
	comp=Z,426nm,16.2s						
LVC	**Limon Verde**	**98.46**	**120**	PKKPbc	PKKPbc	12 29 08.5	+3.8
	comp=Z,2.0nm,0.8s,baz=256,slow=1.3,SNR=3.1						
LVC	**Limon Verde**	**98.46**	**120**	P	Pdif	12 12 37.0	+0.3
LVC				pmax	pmax		
	comp=Z,20nm,1.4s						
LVC	**Limon Verde**	**98.46**	**120**	P	Pdif	12 12 37.0	+0.3
LVC				IAmb	IAmb	12 12 50.0	
	comp=Z,20nm,1.4s						
LVC	**Limon Verde**	**98.46**	**120**	*e*P	Pdif	12 12 36.8	0.0
LVC	**Limon Verde**	**98.46**	**120**	*e*P	Pdif	12 12 36.8	0.0
HYBB	**Hyderabad (bro**	**98.52**	**326**	*e*Pdif	**P**	**12 12 35.5**	**-1.4**
HYBB				*e*PP	**PP**	**12 16 33.6**	**-2.9**
HYBB				IVMs_BB	IVMs_BB	13 02 20.1	
	comp=Z,402nm,16.3s						
HYB	**Hyderabad**	**98.52**	**326**	*i* P	**P**	**12 12 35.0**	**-1.9**
HYB				*e*PP	**PP**	**12 16 33.0**	**-3.5**
HYB	**Hyderabad**	**98.52**	**326**	IAmb	IAmb	12 16 39.8	
	comp=Z,28nm,1.2s						
POO	**Poona**	**98.73**	**331**	IAmb	IAmb	12 12 16.4	
	comp=Z,24nm,0.4s						
SALV	**Santo Antonio**	**98.97**	**106**	*e*P	**P**	**12 12 39.0**	**+0.4**
SALV	**Santo Antonio**	**98.97**	**106**	*e*P	**P**	**12 12 39.0**	**+0.4**
NJS	**Nagarjunasagar**	**99.12**	**325**	*e*Pdif	**Pdif**	**12 12 38.6**	**-0.9**
NJS				*e*PP	**PP**	**12 16 38.1**	**-2.9**
NJS				IVMs_BB	IVMs_BB	13 02 58.6	
	comp=Z,309nm,13.7s						
PEXB	**Peixe**	**99.49**	**98**	*e*P	**Pdif**	**12 12 41.5**	**+0.4**
PEXB	**Peixe**	**99.49**	**98**	*e*P	**Pdif**	**12 12 41.5**	**+0.4**
ADKI	**Addanki**	**99.59**	**324**	*e*Pdif	**Pdif**	**12 12 40.9**	**-0.7**

	comp=Z,1μm,20.0s							
WR2	**Warramunga Arr**	**106.29**	**258**	IAMs_20	IAMs_20	12 59 04.7		
	comp=Z,1μm,21.0s							
WB2	**Warramunga Arr**	**106.30**	**259**	IAMs_20	IAMs_20	13 03 37.8		
	comp=Z,1μm,18.0s							
WRA	**Warramunga Arr**	**106.30**	**259**	Pdiff	**Pdif**	**12 13 10.9**	**-0.4**	
	comp=Z,2.8nm,1.2s,baz=35,slow=5.5,SNR=6.3							
WRA				PKiKP	**PKiKP**	**12 17 22.4**	**-0.2**	
	comp=Z,2.6nm,1.1s,baz=42,slow=2.7,SNR=5.2							
WRA				PP	**PP**	**12 17 31.1**	**-4.8**	
	comp=Z,16nm,1.2s,baz=36,slow=7.2,SNR=12							
WC4	**Warramunga Arr**	**106.32**	**259**	IAMs_20	IAMs_20	13 03 26.4		
	comp=Z,1μm,20.0s							
BFZ	**Birch Farm**	**106.70**	**215**	IAMs_20	IAMs_20	12 59 27.4		
	comp=Z,2μm,19.0s							
ARMA	**Armidale**	**106.86**	**239**	IAMs_20	IAMs_20	12 56 06.8		
	comp=Z,2μm,19.0s							
MT05	**Renca**	**107.05**	**127**	IAMs_20	IAMs_20	12 59 48.9		
	comp=Z,947nm,20.0s							
PALK	**Pallekele**	**107.43**	**321**	IAMs_20	IAMs_20	13 06 29.2		
	comp=Z,2μm,21.0s							
QRZ	**Quartz Range**	**107.98**	**218**	IAMs_20	IAMs_20	12 56 32.4		
	comp=Z,1μm,19.0s							
THZ	**Tophouse**	**108.72**	**217**	IAMs_20	IAMs_20	12 58 36.7		
	comp=Z,1μm,20.0s							
SPB	**Sao Paulo**	**109.58**	**103**	IAMs_20	IAMs_20	13 05 58.1		
	comp=Z,1μm,21.0s							
ASAR	**Alice Springs**	**109.63**	**257**	Pdiff	**Pdif**	**12 13 25.1**	**-0.9**	
	comp=Z,0.2nm,0.9s,baz=54,slow=7.2,SNR=2.0							
ASAR				PKiKP	**PKiKP**	**12 17 27.8**	**-1.0**	
	comp=Z,2.4nm,0.9s,baz=41,slow=1.8,SNR=11							
ASAR				PP	**PP**	**12 18 03.5**	**+3.3**	
	comp=Z,3.3nm,1.0s,baz=39,slow=7.1,SNR=6.5							
ASAR				PKKPbc	**PKKPab**	**12 28 43.5**	**+0.7**	
	comp=Z,3.3nm,1.2s,baz=196,slow=4.9,SNR=7.8							
FURI	**Furi**	**112.20**	**5**	IAMs_20	IAMs_20	13 15 15.8		
	comp=Z,767nm,19.0s							
STKA	**Stephens Creek**	**112.69**	**246**	PKiKP	**PKiKP**	**12 17 33.1**	**-1.1**	
	comp=Z,2.2nm,0.4s,baz=19,slow=4.7,SNR=6.4							
PLCA	**Paso Flores**	**113.45**	**131**	PKiKP	**PKiKP**	**12 17 33.5**	**-1.9**	
	comp=Z,2.9nm,0.9s,baz=338,slow=7.9,SNR=3.2							
PLCA				PKKPbc	**PKKPbc**	**12 28 19.1**	**+0.6**	
	comp=Z,1.5nm,0.8s,baz=358,slow=6.5,SNR=3.3							
PSAA2	**Pilbara Seismi**	**115.09**	**270**	IAMs_20	IAMs_20	13 06 38.8		
	comp=Z,1μm,22.0s							
PSAA1	**Pilbara Seismi**	**115.11**	**270**	IAMs_20	IAMs_20	13 06 54.3		
	comp=Z,1μm,19.0s							
FORT	**Forrest**	**118.42**	**257**	PKPdf	**PKPdf**	**12 17 43.4**	**-1.8**	
FORT				IAMs_20	IAMs_20	13 00 57.3		
	comp=Z,2μm,21.0s							
MBAR	**Mbarara**	**120.92**	**15**	PKP	**PKPdf**	**12 17 50.2**	**-0.7**	
	comp=Z,1.8nm,0.2s,baz=342,slow=4.4,SNR=3.5							
MBAR				PP	**PP**	**12 19 20.2**	**+1.3**	
	comp=Z,1.5nm,0.3s,baz=308,slow=5.0,SNR=4.9							
MBAR	**Mbarara**	**120.92**	**15**	IAMs_20	IAMs_20	13 15 27.7		
	comp=Z,1μm,18.0s							
KMBO	**Kilima Mbogo**	**122.07**	**7**	PKP	**PKiKP**	**12 17 54.2**	**+0.9**	
	comp=Z,14nm,0.9s,baz=11,slow=3.4,SNR=20							
KMBO				PP	**PP**	**12 19 27.5**	**+0.7**	
	comp=Z,1.3nm,0.3s,baz=348,slow=9.0,SNR=4.2							
KMBO	**Kilima Mbogo**	**122.07**	**7**	*i* P	**PKPdf**	**12 17 52.1**	**-1.1**	
	SNR=8.7							
KMBO	**Kilima Mbogo**	**122.07**	**7**	PKiKP	**PKPdf**	**12 17 53.1**	**-0.1**	
KMBO	**Kilima Mbogo**	**122.07**	**7**	PKPdf	**PKPdf**	**12 17 53.1**	**-0.1**	
KMBO	**Kilima Mbogo**	**122.07**	**7**	IAMs_20	IAMs_20	13 15 30.2		
	comp=Z,700nm,20.0s							
NWAO	**Narrogin (SRO)**	**125.65**	**264**	PKP	**PKPdf**	**12 17 57.7**	**-1.4**	
	comp=Z,33nm,1.2s,baz=93,slow=4.1,SNR=5.3							
NWAO				PP	**PP**	**12 19 49.2**	**-2.3**	
	comp=Z,8.0nm,0.9s,baz=48,slow=13,SNR=3.3							
NWAO	**Narrogin (SRO)**	**125.65**	**264**	PKiKP	**PKPdf**	**12 17 57.6**	**-1.5**	
NWAO	**Narrogin (SRO)**	**125.65**	**264**	PKPdf	**PKPdf**	**12 17 57.4**	**-1.6**	
NWAO	**Narrogin (SRO)**	**125.65**	**264**	PKPdf	**PKPdf**	**12 17 57.6**	**-1.5**	
LSZ	**Lusaka**	**134.92**	**21**	PP	PP	12 20 54.8	+3.7	
	comp=Z,1.6nm,0.2s,baz=360,slow=23,SNR=6.7							
LSZ	**Lusaka**	**134.92**	**21**	PKiKP	**PKPdf**	**12 18 16.8**	**-0.5**	
LSZ				MLR	MLR			
	comp=Z,2μm,22.0s							
LSZ	**Lusaka**	**134.92**	**21**	PKPdf	**PKPdf**	**12 18 16.8**	**-0.5**	
TSUM	**Tsumeb**	**136.09**	**36**	PKhKP	PKPpre	12 18 12.2		
	comp=Z,3.3nm,0.8s,baz=31,slow=7.7,SNR=3.7							
TSUM				PKP	**PKPdf**	**12 18 18.5**	**-0.9**	
	comp=Z,9.4nm,1.0s,baz=353,slow=3.7,SNR=7.1							
OPO	**Ambohidratompo**	**139.49**	**354**	PKP	**PKPdf**	**12 18 25.0**	**-0.7**	
	comp=Z,9.3nm,1.0s,baz=2.1,slow=2.3							
OPO				PP	PP	**12 21 17.7**	**-1.9**	
	comp=Z,7.1nm,1.3s,baz=72,slow=2.1,SNR=3.3							
MATP	**Matopo**	**140.00**	**22**	PP	PP	12 21 22.8	0.0	
	comp=Z,11nm,1.2s,baz=25,slow=4.8,SNR=4.9							
VNDA	**Vanda**	**141.40**	**198**	PKhKP	PKPpre	12 18 21.9		
	comp=Z,5.6nm,1.2s,baz=343,slow=4.2,SNR=9.6							
BOSA	**Boshof**	**147.17**	**30**	PKPbc	**PKPdf**	**12 18 39.5**	**+0.5**	
	comp=Z,89nm,1.0s,baz=354,slow=2.8,SNR=35							
QSPA	**South Pole Qui**	**148.84**	**180**	PKP	**PKPdf**	**12 18 37.9**	**-2.4**	
	comp=Z,9.0nm,1.2s,baz=80,slow=0.9,SNR=9.8							
QSPA				PKPbc	**PKPbc**	**12 18 44.4**	**+0.1**	
	comp=Z,279nm,1.1s,baz=81,slow=0.8,SNR=167							
QSPA	**South Pole Qui**	**148.84**	**180**	IAMs_20	IAMs_20	13 22 04.7		
	comp=Z,918nm,19.0s							
SUR	**Sutherland**	**149.40**	**39**	PKPbc	**PKPbc**	**12 18 47.3**	**+0.4**	
	comp=Z,40nm,0.9s,baz=240,slow=1.5,SNR=12							
SUR	**Sutherland**	**149.40**	**39**		**PKiKP**	**12 18 47.7**	**-0.4**	
CASY	**Casey**	**149.70**	**228**	PKPdf	**PKPdf**	**12 18 43.5**	**+1.9**	
VNA3	**Neumayer Olymp**	**155.62**	**141**	PKPab	**PKPab**	**12 19 17.0**	**+0.4**	
VNA1	**Neumayer--Stat**	**156.10**	**140**	PKPab	**PKPab**	**12 19 19.3**	**+0.6**	
VNA2	**Neumayer--Watz**	**156.38**	**141**	PKPdf	**PKPdf**	**12 18 50.5**	**-0.7**	
SNAA	**Sanae**	**157.74**	**143**	PKPab	**PKPab**	**12 19 26.2**	**+0.4**	
SNAA	**Sanae**	**157.74**	**143**	PKP	**PKPdf**	**12 18 49.2**	**-3.9**	
	comp=Z,5.3nm,1.1s,baz=231,slow=3.2,SNR=9.5							
SNAA				PKPab	**PKPab**	**12 19 26.1**	**+0.3**	
	comp=Z,29nm,1.1s,baz=268,slow=3.9,SNR=15							
SNAA	**Sanae**	**157.74**	**143**	PKP2	**PKPab**	**12 19 26.4**	**+0.6**	
SNAA						13 18 53.6		
SNAA	**Sanae**	**157.74**	**143**	PKPdf	**PKPdf**	**12 18 53.6**	**+0.6**	
SNAA					**PKPab**	**12 19 26.4**	**+0.6**	
SNAA				IAMs_20	IAMs_20	13 36 12.4		
	comp=Z,1μm,20.0s							
NVL	**N'lazarevskaya**	**162.52**	**145**	*e*PKP2	**PKPab**	**12 19 47.0**	**+0.5**	
NVL				pmax	pmax			
	comp=Z,14nm,0.8s							
MAW	**Mawson**	**167.74**	**217**	PKP	**PKPdf**	**12 19 00.9**	**-1.9**	
	comp=Z,7.2nm,1.0s,baz=54,slow=1.7,SNR=9.8							
MAW				PKPab	**PKPab**	**12 20 09.5**	**0.0**	
	comp=Z,28nm,1.2s,baz=112,slow=6.1,SNR=11							
SYO	**Syowa Base**	**169.86**	**173**	*e*PKPdf	**PKPdf**	**12 19 05.6**	**+1.5**	
SYO	**Syowa Base**	**169.86**	**173**	*es*PKPdf	sPKPdf	12 19 12.0	+1.6	
SYO	**Syowa Base**	**169.86**	**173**	*i*PKPab	**PKPab**	**12 20 17.2**	**-1.7**	
SYO	**Syowa Base**	**169.86**	**173**	*i*pPKPab	pPKPab	12 20 22.0	-1.5	
SYO	**Syowa Base**	**169.86**	**173**	*is*PKPab	sPKPab	12 20 26.0	+0.8	

*ATH **04** 12:04:24.5,40.41N×26.05E,h28km±2km, ML2.5/6, Error ellipse: s-maj=2.8km s-min=1.1km az=302.0*
*DDA **04** 12:04:24.3,40.38N×26.14E,h16km±1km, ML2.8*
*THE **04** 12:04:24.8,40.39N×26.11E,h13km±1km, ML2.4/7, Error ellipse: s-maj=1.1km s-min=0.5km az=66.0*
*ISK **04** 12:04:24.4,40.39N×26.14E,h8km, ML2.8/16*

ISC 04 12:04:24.5±0.9, 40.38N±0.02×26.16E±0.02, h18km±4km, n48, σ1°29/72, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GELI	**Tayfur-Gelibol**	**0.24**	**84**	PG		**Pg**	**12 04 30.4**	**+0.4**
GELI				SG		**Sg**	**12 04 34.2**	**+0.4**
GOKA	**anakkale-Gk**	**0.27**	**227**	*i* P		**Pg**	**12 04 30.3**	**-0.2**
GOKA				*i* S		**Sg**	**12 04 34.9**	**+0.3**
GOKA				IAML			12 04 35.0	
	comp=N,3μm,0.5s							
GOKA				IAML			12 04 35.0	
	comp=E,2μm,0.2s							
GADA	**Gvkgeada**	**0.27**	**228**	P		**Pg**	**12 04 30.4**	**-0.2**
GADA				S		**Sg**	**12 04 34.8**	**+0.1**
	comp=E,905nm,0.2s							
GADA	**Gvkgeada**	**0.27**	**228**	PG		**Pg**	**12 04 30.4**	**-0.2**
GADA				SG		**Sg**	**12 04 34.5**	**-0.2**
ENEZ	**Enez**	**0.36**	**359**	P		**Pg**	**12 04 31.7**	**-0.4**
ENEZ				S		**Sg**	**12 04 37.0**	**-0.3**
	comp=E,970nm,0.3s							
ENEZ	**Enez**	**0.36**	**359**	PG		**Pg**	**12 04 31.9**	**-0.2**
ERIK	**Erikli-Kesan**	**0.40**	**42**	PG		**Pg**	**12 04 32.7**	**-0.1**
ERIK				SG		**Sg**	**12 04 38.5**	**+0.2**
LPK	**Lapseki**	**0.46**	**90**	PG		**Pb**	**12 04 34.4**	**+0.3**
SMTH	**Samothraki Isl**	**0.49**	**281**	P		**Pg**	**12 04 33.5**	**-1.0**
SMTH	**Samothraki Isl**	**0.49**	**281**	P		**Pg**	**12 04 33.4**	**-1.1**
SMTH				S		**Sg**	**12 04 40.4**	**-0.7**
SMTH				AML		AML	12 04 44.0	
	comp=E,622μm,0.1s							
SMTH				AML		AML	12 04 44.7	
	comp=N,679μm,0.2s							
ALN	**Alexandroupoli**	**0.53**	**350**	P		**Pg**	**12 04 34.7**	**-0.4**
ALN	**Alexandroupoli**	**0.53**	**350**	P		**Pg**	**12 04 34.6**	**-0.6**
BOZC	**Bozcaada**	**0.54**	**189**	PG		**Pg**	**12 04 35.1**	**-0.2**
BOZC				SG		**Sb**	**12 04 43.8**	**+1.0**
BOZC	**Bozcaada**	**0.54**	**189**	*i* P		**Pg**	**12 04 35.1**	**-0.2**
BOZC				*i* S		**Sb**	**12 04 43.0**	**+0.1**
EZN	**Ezine**	**0.56**	**167**	P		**Pb**	**12 04 35.7**	**-0.1**
EZN				S		**Sb**	**12 04 44.5**	**+1.0**
	comp=N,285nm,0.1s							
EZN	**Ezine**	**0.56**	**167**	PG		**Pb**	**12 04 35.6**	**-0.2**
KESN	**Edirne-Kesan**	**0.60**	**41**	*i* P		**Pg**	**12 04 35.9**	**-0.7**
KESN				IAML			12 04 49.0	
	comp=N,576nm,0.2s							
KESN				IAML			12 04 50.0	
	comp=E,559nm,0.2s							
BAYC	**CANAKKALE_Bayr**	**0.70**	**155**	*i* P		**Pn**	**12 04 38.5**	**-1.1**
BAYC				*i* S		**Sn**	**12 04 48.8**	**-1.1**
RKY	**Sarkoy-Tekirda**	**0.83**	**68**	PG		**Pb**	**12 04 40.3**	**-0.2**
KRBG	**Karabiga-Canak**	**0.87**	**88**	PG		**Pn**	**12 04 41.9**	**+0.1**
LIA	**Limnos Island**	**0.89**	**238**	P		**Pg**	**12 04 41.4**	**-0.5**
LIA				S		**Sg**	**12 04 53.2**	**-0.4**
	comp=E,348nm,0.4s							
LIA	**Limnos Island**	**0.89**	**238**	P		**Pg**	**12 04 41.3**	**-0.5**
LIA				S		**Sg**	**12 04 52.4**	**-1.2**
LIA				AML		AML	12 04 54.6	
	comp=N,718μm,0.4s							
LIA				AML		AML	12 04 55.3	
	comp=E,664μm,0.4s							
RDO	**Rodhopi**	**0.91**	**329**	P		Pg	12 04 40.9	-1.2
RDO				S		**Sg**	**12 04 54.1**	**0.0**
	comp=E,195nm,0.2s							
RDO	**Rodhopi**	**0.91**	**329**	P		Pg	12 04 41.0	-1.2
RDO				S		**Sg**	**12 04 52.5**	**-1.6**
RDO				AML		AML	12 04 55.7	
	comp=N,322μm,0.2s							
RDO				AML		AML	12 04 56.7	
	comp=E,457μm,0.2s							
MRMT	**Marmara Adasi**	**1.12**	**78**	PN		**Pn**	**12 04 46.3**	**+1.0**
THAS	**Thassos island**	**1.12**	**282**	P		Pn	12 04 44.4	-1.0
THAS				S		**Sb**	**12 04 59.7**	**0.0**
	comp=E,128nm,0.4s							
THAS	**Thassos island**	**1.12**	**282**	P		Pn	12 04 44.8	-0.6
THAS				S		**Sb**	**12 04 58.9**	**-0.9**
THAS				AML		AML	12 05 01.2	
	comp=N,327μm,0.6s							
THAS				AML		AML	12 05 02.0	
	comp=E,177μm,0.4s							
PRK	**Paraskevi**	**1.13**	**176**	P		**Pn**	**12 04 46.2**	**+0.8**
PRK	**Paraskevi**	**1.13**	**176**	P		**Pn**	**12 04 47.5**	**+2.0**
PRK				S		**Sn**	**12 05 03.3**	**+2.8**
PRK				AML		AML	12 05 04.4	
	comp=E,1744μm,0.4s							
PRK				AML		AML	12 05 04.7	
	comp=N,2777μm,0.7s							
SIGR	**SIGRI**	**1.19**	**192**	P		**Pb**	**12 04 46.7**	**+0.2**
SIGR				S		**Sn**	**12 05 02.6**	**+0.7**
	comp=N,445nm,0.4s							
SIGR	**SIGRI**	**1.19**	**192**	P		**Pg**	**12 04 46.5**	**-0.9**
SIGR				S		**Sn**	**12 05 03.1**	**+1.3**
SIGR				AML		AML	12 05 04.4	
	comp=N,1038μm,0.3s							
SIGR				AML		AML	12 05 04.5	
	comp=E,742μm,0.5s							
BALY	**Balya**	**1.28**	**119**	*i* P		**Pn**	**12 04 49.2**	**+1.6**
BALY				*i* S		**Sn**	**12 05 06.9**	**+2.5**
BALY				IAML			12 05 09.0	
	comp=E,132nm,0.3s							
EDC	**Edincik**	**1.30**	**91**	PN		**Pn**	**12 04 48.7**	**+0.9**
KAVA	**Kavala**	**1.40**	**297**	P		**Pn**	**12 04 48.9**	**-0.3**
CRLT	**Corlu**	**1.41**	**57**	PN		**Pg**	**12 04 51.3**	**-0.5**
DKL	**Dikili**	**1.42**	**156**	PN		**Pg**	**12 04 51.7**	**-0.2**
DKL				SN		**Sn**	**12 05 10.4**	**+2.7**
BALB	**Balikesir**	**1.51**	**119**	PN		**Pg**	**12 04 52.9**	**-0.7**
BALB				SN		**Sn**	**12 05 12.7**	**+2.9**
EDRB	**Edirne**	**1.54**	**16**	P		**Pn**	**12 04 50.9**	**-0.1**
EDRB	**Edirne**	**1.54**	**16**	PN		**Pn**	**12 04 52.6**	**+1.6**
STEP	**BALIKESIR_Sava**	**1.56**	**129**	*i* P		**Pg**	**12 04 52.9**	**-1.6**
STEP				*i* S		**Sn**	**12 05 14.6**	**+3.4**
KIRK	**Kırklareli**	**1.57**	**26**	*i* P		**Pn**	**12 04 51.2**	**-0.4**
KIRK				*i* S		**Sg**	**12 05 10.8**	**-0.6**
ZEDA	**zmir-Bergama**	**1.57**	**153**	*i* P		**Pg**	**12 04 53.0**	**-1.8**
ZEDA				*i* S		**Sg**	**12 05 13.1**	**-2.2**
ZEDA				IAML			12 05 16.0	
	comp=N,200nm,0.3s							
ZEDA				IAML			12 05 16.0	
	comp=E,190nm,0.4s							
KCTX	**Karacabey (Bur**	**1.68**	**93**	PN		**Pg**	**12 04 55.3**	**-1.6**
SLVT	**Silivri**	**1.77**	**61**	PN		**Pn**	**12 04 56.0**	**+1.7**
DURS	**Dursunbey**	**1.94**	**113**	*i* P		**Pg**	**12 04 59.0**	**-2.7**
DURS				*i* S		**Sg**	**12 05 23.4**	**-3.4**
DURS				IAML			12 05 30.0	
	comp=N,49nm,0.2s							
DURS				IAML			12 05 36.0	
	comp=E,74nm,0.7s							
URLA	**Izmir**	**2.04**	**170**	PN		**Pb**	**12 04 59.9**	**-1.2**
URLA	**Izmir**	**2.04**	**170**	*i* P		**Pn**	**12 04 58.7**	**+0.7**
URLA				*i* S		**Sb**	**12 05 24.3**	**-1.8**
BLCB	**Balcova**	**2.10**	**161**	PN		**Pb**	**12 05 01.1**	**-1.0**

*IDC **04** 12:15:58.3±2.1,45.12N×109.79W,h0km,mb1 3.8/5, mb1mx3.4/61,mbtmp3.4/5,ML3.6/4, Error ellipse: s-maj=29.3km s-min=9.3km az=62.0*
*UUSS **04** 12:16:03.3±3.1,44.79N±0.03×110.77W±0.06,h8km±5km, ML3.5/5, Error ellipse: s-maj=6.4km s-min=4.1km az=100.0*

ISC 04 12:16:03.6±0.9, 44.74N±0.03×110.80W±0.03, h10km, n45, σ1°35/45, Yellowstone region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
YHH	**Holmes Hill**	**0.06**	**322**			**Pg**	**12 16 05.9**	**-0.2**
YNM	**Yellowstone No**	**0.07**	**100**			**Pg**	**12 16 06.2**	**+0.2**
YNM				Sg		**Sg**	**12 16 07.5**	**-0.4**
YMR	**Madison River**	**0.14**	**240**			**Pg**	**12 16 08.3**	**+1.4**
YUF	**Upper Falls**	**0.20**	**97**			**Pg**	**12 16 08.7**	**+0.7**
YHB	**Horse Butte**	**0.28**	**273**			**Pg**	**12 16 10.4**	**+1.0**
YMP	**Mirror Lake Pl**	**0.46**	**90**			**Pb**	**12 16 14.0**	**+0.1**
QLMT	**Earthquake Lak**	**0.46**	**282**			**Pg**	**12 16 13.2**	**+0.6**
YPP	**Pitchstone Pla**	**0.47**	**181**			**Pb**	**12 16 14.9**	**+0.8**
YNE	**Yellowstone No**	**0.62**	**64**			**Pg**	**12 16 15.6**	**-0.1**
FLWY	**Flagg Ranch**	**0.66**	**174**			**Pb**	**12 16 17.8**	**+0.5**
IMW	**Indian Meadow**	**0.85**	**187**			**Pb**	**12 16 21.1**	**+0.6**
BOZ	**Bozeman (W)**	**1.04**	**326**	Pg		**Pg**	**12 16 22.9**	**-0.7**
FXWY	**Fox Creek**	**1.11**	**189**			**Pg**	**12 16 25.5**	**+0.5**
RLMT	**Red Lodge**	**1.15**	**70**			**Pg**	**12 16 25.1**	**-0.6**
TPAW	**Teton Pass**	**1.25**	**185**			**Pg**	**12 16 28.1**	**+0.7**
SNOW	**Snow King Moun**	**1.28**	**179**			**Pg**	**12 16 29.1**	**+1.0**
GCMT	**Greycliff**	**1.32**	**37**			**Pb**	**12 16 28.1**	**-0.4**
REDW	**Red Top Meadow**	**1.38**	**182**			**Pg**	**12 16 30.6**	**+0.6**
DLMT	**Dillon**	**1.42**	**297**			**Pg**	**12 16 31.2**	**+0.4**
MCMT	**McKenzie Canyo**	**1.47**	**274**			**Pg**	**12 16 32.5**	**+0.8**
LRM	**Limekiln Ridge**	**1.59**	**313**			**Pb**	**12 16 33.7**	**+0.4**
AHID	**Auburn Hatcher**	**1.98**	**186**			**Pb**	**12 16 39.4**	**-0.5**
BW06	**Boulder Array**	**2.17**	**155**			**Pn**	**12 16 39.9**	**0.0**
PD31	**Pinedale Array**	**2.17**	**155**			**Pn**	**12 16 40.0**	**+0.1**
PDAR	**Pinedale Array**	**2.17**	**155**	Pn		**Pb**	**12 16 43.0**	**0.0**
	2.8nm,0.3s,baz=351,slow=15,SNR=16							
PDAR				Lg		Lg	12 17 13.3	
	1.0nm,0.3s,baz=348,slow=34,SNR=3.1							
PDAR	**Pinedale Array**	**2.17**	**155**			**Pb**	**12 16 43.0**	**0.0**
MSO	**Missoula**	**3.04**	**315**	Pn		**Pn**	**12 16 53.2**	**+1.4**
HWUT	**Hardware Ranch**	**3.18**	**190**	Pn		**Pn**	**12 16 57.4**	**+3.6**
EGMT	**Eagleton**	**3.37**	**12**	Pn		**Pn**	**12 16 57.9**	**+1.7**
SPUT	**South Promonto**	**3.64**	**200**	Pn		**Pn**	**12 16 57.6**	**-2.4**
MFID	**Camas Ranch**	**3.86**	**252**	Pn		**Pn**	**12 17 05.5**	**+2.5**
RWWY	**Rawlins**	**4.02**	**138**	Pn		**Pn**	**12 17 07.6**	**+2.1**
CTU	**Camp Tracy**	**4.10**	**190**			**Pn**	**12 17 05.2**	**-1.4**
BGU	**Big Grassy Mou**	**4.15**	**204**	Pn		**Pn**	**12 17 06.7**	**-0.4**
JLU	**Jordanelle**	**4.16**	**187**	Pn		**Pn**	**12 17 07.5**	**+0.1**
DUG	**Dugway, Tooele**	**4.78**	**199**	Pn		**Pn**	**12 17 13.6**	**-2.1**
WALA	**Waterton Lakes**	**4.82**	**335**	Pn		**Pn**	**12 17 18.2**	**+1.9**
ELK	**Elko**	**5.16**	**221**	Pn		**Pb**	**12 17 30.2**	**-3.8**
	0.7nm,0.3s,baz=23,slow=11,SNR=11							
NEW	**Newport**	**5.61**	**311**	Pn		**Pn**	**12 17 28.3**	**+1.2**
	0.9nm,0.3s,baz=123,slow=11,SNR=7.7							
NEW				Lg		Lg	12 18 59.8	
	1.5nm,0.3s,baz=28,slow=15,SNR=7.0							
NEW	**Newport**	**5.61**	**311**	Pn		**Pn**	**12 17 28.9**	**+1.8**
J08A	**Circle Bar Ran**	**5.70**	**259**	Pn		**Pn**	**12 17 28.6**	**+0.2**
G08A	**Pilot Rock**	**5.81**	**278**	Pn		**Pn**	**12 17 29.4**	**-0.6**
LTY	**Liberty**	**7.32**	**294**	Pn		**Pn**	**12 17 50.1**	**-0.5**
NVAR	**Mina Árray Bea**	**8.45**	**224**	Pn		Pn	12 18 17.0	+11
	0.1nm,0.3s,baz=40,slow=14,SNR=2.3							
NVAR				Pg		Pg	12 18 40.4	-4.8
	0.2nm,0.3s,baz=35,slow=16,SNR=3.9							
TXAR	**Lajitas Array**	**16.38**	**157**	Pn		**Pn**	**12 19 52.2**	**-1.5**
	baz=4.8,slow=12,SNR=4.8							

*NEIC **04** 12:29:10.0±1.7,19.95S±0.02×71.02W±0.04,h13km±2km, mb4.3/10,Mwr4.2/50,ML3.9(GUC), Error ellipse: s-maj=6.0km s-min=2.9km az=106.0*
*IDC **04** 12:29:09.9±1.1,19.68S×70.61W,h0km,mb4.0/6, mb1 4.2/7,mb1mx4.0/35,mbtmp4.1/7,ML4.0/1, Error ellipse: s-maj=32.4km s-min=17.2km az=70.0*
*NEIC **04** 12:29:10,19.95S×71.02W,h17km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.15; $M_{\theta\theta}$-0.05; $M_{\phi\phi}$-2.10; $M_{r\theta}$0.45; $M_{\theta\phi}$0.94; $M_{\phi r}$-1.44; Fault plane solution: $M_0$2.77000×10^{15} NP1:ϕ_s161.05000°, δ61.58000°, λ92.43000°. NP2:ϕ_s335.95000°, δ28.52000°, λ85.52000°. Principal axes: T 2.6027, Plg73.0000°, Azm77.0000°; N 0.3124, Plg2.0000°, Azm340.0000°; P -2.9151, Plg17.0000°, Azm249.0000°;*
*GUC **04** 12:29:11.6±0.9, 19.90S×71.06W, h34km±3km, ML4.0*
*VAO **04** 12:29:11.5±1.1,20.01S×71.30W, h66km±7km, mb4.2*

ISC 04 12:29:07.8±2.5, 19.94S±0.03×71.11W±0.05, h2km±15km, n109, σ1°39/127, mb4.1/7, 10C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TA02	**Huaiquique**	**0.97**	**110**	*i* P		**Pb**	**12 29 27.9**	**+0.5**
TA02				*i* S		**Sb**	**12 29 39.7**	**-1.0**
PSGC	**Pisagua**	**0.99**	**70**	⇓*i*P		**Pb**	**12 29 27.1**	**-0.7**
PSGC				*i* S		**Sb**	**12 29 39.1**	**-2.2**
PSGCX	**Pisagua**	**0.99**	**70**			**Pb**	**12 29 27.1**	**-0.7**
PSGCX				Sg		**Sb**	**12 29 39.4**	**-1.9**
TA01	**Diego Aracena**	**1.07**	**126**	⇑*i*P		**Pb**	**12 29 29.7**	**+0.6**
TA01				*i* S		**Sb**	**12 29 42.9**	**-0.6**
TA01				IAML			12 29 44.2	
	comp=E,5μm,0.6s							
TA01	**Diego Aracena**	**1.07**	**126**			**Pb**	**12 29 29.7**	**+0.6**
TA01						**Sb**	**12 29 43.1**	**-0.4**
PATCX	**Punta Patache**	**1.25**	**135**	⇑*i*P		**Pn**	**12 29 32.5**	**0.0**
PATCX				*i* S		**Sb**	**12 29 47.7**	**-1.1**
PATCX				IAML			12 29 57.6	
	comp=N,4μm,0.5s							
PATCX	**Punta Patache**	**1.25

NPGB	**Novo Progresso**	**19.94**	**52**	*e*P		**P**	**12 33 40.4**	**-0.9**
FRTB	**Fartura**	**20.30**	**103**	*e*P		**P**	**12 33 43.4**	**-1.9**
FRTB	**Fartura**	**20.30**	**103**	*e*P		**P**	**12 33 43.4**	**-1.9**
PLCA	**Paso Flores**	**20.73**	**179**	P		Pn	12 33 55.2	+3.1
	comp=E,2.9nm,0.9s,baz=3.4,slow=9.3,SNR=4.9							
BB19B	**Bebedouro**	**21.18**	**97**	*e*P		**P**	**12 33 52.7**	**-2.0**
BB19B	**Bebedouro**	**21.18**	**97**	*e*P		**P**	**12 33 52.7**	**-2.0**
IPMB	**Ipameri, GO**	**21.74**	**89**	*e*P		**P**	**12 33 59.5**	**-1.3**
IPMB	**Ipameri, GO**	**21.74**	**89**	*e*P		**P**	**12 33 59.5**	**-1.3**
PTGA	**Pitinga**	**21.99**	**31**	P		**P**	**12 34 00.9**	**-2.5**
	comp=E,5.6nm,0.5s,baz=199,slow=15,SNR=13							
PTGA	**Pitinga**	**21.99**	**31**	P		**P**	**12 34 01.9**	**-1.5**
PTGA				IAmb		IAmb	12 34 05.1	
	comp=Z,7.2nm,0.6s							
PTGA	**Pitinga**	**21.99**	**31**	*e*P		**P**	**12 34 01.3**	**-2.1**
PTGA	**Pitinga**	**21.99**	**31**	*e*P		**P**	**12 34 01.3**	**-2.1**
BDFB	**Brasília**	**22.39**	**83**	P		**P**	**12 34 06.1**	**-1.8**
	comp=Z,2.2nm,0.5s,baz=257,slow=15,SNR=3.8							
PEXB	**Peixe**	**23.24**	**74**	*e*P		**P**	**12 34 15.5**	**-1.3**
PEXB	**Peixe**	**23.24**	**74**	*e*P		**P**	**12 34 15.5**	**-1.3**
SMTB	**Santa Maria do**	**25.26**	**68**	*e*P		**P**	**12 34 34.6**	**-1.1**
SMTB	**Santa Maria do**	**25.26**	**68**	*e*P		**P**	**12 34 34.6**	**-1.1**
RUSC	**La Rusia**	**25.75**	**355**	P		**P**	**12 34 41.6**	**+1.0**
JANB	**Januaria**	**26.00**	**84**	*e*P		**P**	**12 34 40.7**	**-1.8**
JANB	**Januaria**	**26.00**	**84**	*e*P		**P**	**12 34 40.7**	**-1.8**
MPR	**Mayaguez**	**38.11**	**6**	P		**P**	**12 36 28.3**	**-0.1**
N49A	**Columbus Grove**	**61.76**	**349**	P		**P**	**12 39 28.7**	**+0.8**
I62A	**Tamworth**	**63.50**	**360**	P		**P**	**12 39 39.6**	**+0.2**
LBNH	**Lisbon**	**63.87**	**359**	P		**P**	**12 39 41.5**	**-0.3**
TRQ	**Mont Tremblant**	**65.92**	**357**	P		**P**	**12 39 56.1**	**+0.9**
NVAR	**Mina Array Bea**	**73.01**	**323**	P		P	12 40 43.2	+3.6
	comp=Z,0.6nm,0.8s,baz=166,slow=7.1,SNR=3.6							
YNE	**Yellowstone No**	**73.72**	**332**	P		**P**	**12 40 44.4**	**+0.8**
YHH	**Holmes Hill**	**73.92**	**332**	P		**P**	**12 40 45.6**	**+0.8**
SCHQ	**Schefferville**	**74.56**	**3**	P		**P**	**12 40 48.8**	**+0.9**
SCHQ				IAmb		IAmb	12 41 06.8	
	comp=Z,1.9nm,0.9s							
TOA0	**Torodi Ar. Sit**	**78.79**	**72**	P		**P**	**12 41 11.4**	**-1.4**
TOA0				IAmb		IAmb	12 41 12.5	
	comp=Z,6.1nm,0.8s							
TORD	**Torodi Ar. Bea**	**78.79**	**72**	P		**P**	**12 41 11.7**	**-1.1**
	comp=Z,3.6nm,0.6s,baz=253,slow=5.6,SNR=17							
YKA	**Yellowknife Ar**	**89.05**	**341**	P		**P**	**12 42 05.0**	**+1.0**
	comp=Z,1.2nm,1.0s,baz=146,slow=5.1,SNR=2.7							
H11S2	**WAKE ISLAND Hyl**	**25.63**	**279**	T		T	15 07 35.8	
	baz=101,slow=74,SNR=17							
H11S1	**WAKE ISLAND Hyl**	**25.64**	**279**	T		T	15 07 36.8	
	baz=101,slow=74,SNR=4.8							
H11S3	**WAKE ISLAND Hyl**	**25.64**	**279**	T		T	15 07 36.8	
	baz=101,slow=74,SNR=4.5							
H11N3	**WAKE ISLAND Hyl**	**25.67**	**280**	T		T	15 07 38.9	
	baz=100,slow=75,SNR=2.7							
H11N2	**WAKE ISLAND Hyl**	**25.69**	**280**	T		T	15 07 40.0	
	baz=100,slow=75,SNR=3.7							
H11N1	**WAKE ISLAND Hyl**	**25.69**	**280**	T		T	15 07 36.1	
	baz=100,slow=75,SNR=3.7							
ZALV	**Zalesovo Beam**	**141.37**	**23**	PKP		**PKPdf**	**12 48 41.0**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=316,slow=3.0,SNR=5.2							
MAKZ	**Makanchi**	**145.34**	**33**			**PKPdf**	**12 48 47.5**	**+0.1**
MK31	**Makanchi Array**	**145.51**	**33**			**PKPab**	**12 48 48.5**	**+0.4**
MKAR	**Makanchi Array**	**145.51**	**33**	PKPbc		**PKPab**	**12 48 48.4**	**+0.4**
	comp=Z,2.6nm,1.1s,baz=333,slow=4.1,SNR=9.5							
SONM	**Songino Array**	**152.10**	**4**	PKPbc		**PKiKP**	**12 49 06.1**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=337,slow=1.5,SNR=5.2							

JMA 04 12:42:44.1±0.1, 24°.91N×123°.35E, h27km, M1.2, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.54**	**215**	P	Pb	12 42 54.7	-0.4
YOJ				*e*S	Sb	12 43 02.1	-0.5
JYNG	**Yonagunijimaku**	**0.59**	**219**	P	Pb	12 42 55.6	-0.2
JYNG				S	Sb	12 43 03.3	-0.5
IRIF	**Iriomote-Funau**	**0.67**	**149**	P	Pb	12 42 56.7	-0.5
IRIF				*e*S	Sb	12 43 06.0	-0.1
JKRS	**Kuro-shima**	**0.90**	**138**	P	Pn	12 43 00.5	-0.5
JKRS				S	Sb	12 43 12.4	-0.3
JIJ	**Ishigaki jima**	**0.90**	**127**	P	Pn	12 43 00.3	-0.7
JISG	**Ishigakijimahi**	**0.93**	**110**	P	Pn	12 43 01.0	-0.4
HATJ	**Hateruma jima**	**0.94**	**154**	P	Pn	12 43 01.1	-0.5
HATJ				*e*S	Sn	12 43 14.4	+0.2

TAP 04 12:42:57.5, 24°.46N×121°.41E, h4km, ML0.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNS	**Nan Shan**	**0.04**	**235**	P	Pg	12 42 58.9	+0.2
	baz=226						
NNS				S	Sg	12 42 59.8	+0.3
	baz=226						
NNSB	**Datong**	**0.04**	**216**	P	Pg	12 42 58.9	+0.2
	baz=216						
NNSB				S	Sg	12 42 59.7	+0.2
	baz=216						
NNSH	**Datong**	**0.04**	**216**	*i* P	Pg	12 42 58.8	+0.1
	baz=225						
NNSH				S	Sg	12 42 59.6	+0.1
	baz=225						
NDT	**Datong Townshi**	**0.17**	**34**	P	Pg	12 43 01.3	+0.5
	baz=34						
NDT				*e*S	Sg	12 43 04.2	+1.2
	baz=34						
ETLH	**Xiulin Townshi**	**0.26**	**166**	*e*P	Pg	12 43 03.7	+1.1
	baz=165						
ETLH				*e*S	Sg	12 43 07.7	+1.6
	baz=165						
NWLT	**Wulai**	**0.32**	**15**	*e*P	Pg	12 43 04.5	+0.8
	baz=15						
NWLT				*e*S	Sg	12 43 08.7	+0.7
	baz=15						

IDC 04 12:49:57.1±17.0, 24°.34S×177°.08W, h89km±143km, mb3.5/5, mb1 3.8/5, mb1mx3.4/32, mbtmp3.8/5, Error ellipse: s-maj=100.1km s-min=38.4km az=144.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.59**	**260**	P	P	12 58 00.7	0.0
	2.0nm,0.9s,baz=99,slow=8.3,SNR=15						
ASAR				PcP	PcP	12 59 41.8	-0.6
	0.3nm,0.8s,baz=114,slow=4.5,SNR=2.3						
WRA	**Warramunga Arr**	**45.03**	**266**	P	P	12 58 04.0	-0.2
	0.9nm,0.5s,baz=105,slow=8.2,SNR=17						
PETK	**Petropavlovsk-**	**80.18**	**345**	P	P	13 01 57.3	0.0
	0.8nm,0.5s,baz=125,slow=8.0,SNR=6.2						
NVAR	**Mina Array Bea**	**83.24**	**43**	P	P	13 02 14.4	+0.3
	0.2nm,0.5s,baz=234,slow=7.6,SNR=1.5						
ILAR	**Eielson Array**	**91.86**	**12**	P	P	13 02 54.1	-0.6
	0.2nm,0.6s,baz=193,slow=3.7,SNR=2.0						
AKASG	**Malin Array Be**	**146.75**	**329**	PKPbc	PKPdf	13 09 27.5	+0.8
	0.5nm,0.3s,baz=46,slow=3.7,SNR=2.6						
BRTR	**Keskin Array B**	**149.96**	**308**	PKPbc	PKPbc	13 09 37.1	-0.4
	0.2nm,0.4s,baz=141,slow=7.4,SNR=2.6						
BRTR				PKPab	PKPab	13 09 43.6	+0.2
	0.6nm,0.6s,baz=84,slow=6.3,SNR=3.9						

*THR **04** 12:56:27.9±0.8, 28°.04N×56°.92E, h14km±7km, ML3.1*
*OMAN **04** 12:56:31.6±0.2, 27°.96N×57°.69E, h20km±87km, ml3.0/3, Error ellipse: s-maj=16.3km s-min=2.8km az=301.0*
*TEH **04** 12:56:31.5, 28°.19N×56°.91E, h17km, ML3.1*
ISC 04 12:56:31.2±1.0, 28°.05N±0°.03×56°.79E±0°.06, h24km, n16, σ2§2.2/20, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.82**	**97**	*e*Pg	**Pb**	**12 56 45.3**	**-1.5**
GENO	**Geno**	**0.85**	**220**	*e*Pg	**Pn**	**12 56 51.4**	**+3.6**
GENO				*e*		12 57 10.9	
BNDS	**Bandar-Abbas**	**0.85**	**220**	*e*Pg	**Pb**	**12 56 44.8**	**-2.5**
BNDS				*e*Sg	**Sb**	**12 56 58.6**	**+0.2**
NGRK	**Negar Kerman**	**1.59**	**358**	*e*Pg	**Pb**	**12 56 59.4**	**-0.7**
NGRK				*e*		12 57 25.4	
KRBR	**Kerman**	**1.92**	**359**	*e*Pn	**Pn**	**12 57 02.6**	**-0.1**
KRBR				*e*Sg	**Sb**	**12 57 29.5**	**0.0**
KRBR				IAML		12 57 32.5	
	comp=N,156nm,0.3s						
KRBR				IAML		12 57 32.6	
	comp=E,149nm,0.3s						
KRBR	**Kerman**	**1.92**	**359**	*e*Pn	**Pn**	**12 57 02.6**	**-0.1**
TVBK	**TV Kerman**	**1.93**	**359**	*e*		12 57 05.9	
TVBK				*e*Pn	**Pb**	**12 57 04.1**	**-1.7**
BANOM	**Banah**	**2.16**	**192**	P	**Pb**	**12 57 09.3**	**-0.4**
	SNR=23						
BANOM				S	**Sb**	**12 57 39.1**	**+3.0**
KHGB	**Koh Gabri**	**2.33**	**353**	*e*		12 57 47.5	
KHGB				*e*Pn	**Pn**	**12 57 09.8**	**+1.6**
ASHO	**Ashiyiah**	**3.42**	**191**	P	**Pb**	**12 57 26.4**	**-4.6**
FAQ	**Al Faqa, Dubai**	**3.46**	**198**	P	**Pb**	**12 57 28.2**	**-3.6**
	SNR=6.3						
NHDN	**Nehbandan**	**4.38**	**40**	*e*Pn	**Pn**	**12 57 37.8**	**+1.5**
BSRN	**Basiran**	**4.40**	**27**	*e*Pn	**Pn**	**12 57 36.1**	**-0.5**
BSRN				*e*Sg	**Sb**	**12 58 43.2**	**+2.7**
BSRN	**Basiran**	**4.40**	**27**	*e*Pn	**Pn**	**12 57 36.1**	**-0.5**
YZKH	**Yazd**	**4.72**	**337**	*e*Pn	**Pn**	**12 57 42.1**	**+1.1**
YZKH	**Yazd**	**4.72**	**337**	*e*Pn	**Pn**	**12 57 42.1**	**+1.1**

*JMA **04** 12:58:11.3±0.4, 34°.49N×136°.93E, h357km±4km, M2.5*
*IDC **04** 12:58:12.1±0.8, 34°.43N×136°.95E, h354km±12km, mb2.8/3, mb1 2.8/9, mb1mx2.6/63, mbtmp3.5/9, Error ellipse: s-maj=26.4km s-min=14.0km az=59.0*
ISC 04 12:58:11.6±0.9, 34°.55N±0°.08×136°.98E±0°.06, h356km±7km, n20, σ1§31/31, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TK02	**Tokai 2**	**0.88**	**133**	P	Pn	**12 58 57.6**	**+0.3**
JYTA	**Yamagatataniai**	**1.06**	**349**	P	Pn	**12 58 58.8**	**+0.7**
JYTA				*e*S	**S**	**12 59 35.0**	**-0.5**
JWT	**Wachi**	**1.49**	**300**	P	Pn	**12 59 00.3**	**+0.1**
JWT				*e*S	**S**	**12 59 37.1**	**-2.2**
JKG	**Kaga**	**1.81**	**343**	P	Pn	**12 59 02.6**	**+0.6**
JOD2	**Odawara 2**	**1.87**	**67**	P	Pn	**12 59 03.5**	**+0.9**
JOD2				*e*S	**S**	**12 59 44.3**	**+0.8**
JRY	**Ryogami san**	**2.15**	**46**	P	Pn	**12 59 05.6**	**+1.1**
JRY				S	**S**	**12 59 47.1**	**+0.1**
MAT	**Matsushiro**	**2.23**	**26**	P	Pn	**12 59 05.6**	**+0.6**
MAT				S	**S**	**12 59 46.0**	**-2.0**
MAT	**Matsushiro**	**2.23**	**26**	P	Pn	**12 59 05.8**	**+0.8**
MAT				*e*S	**S**	**12 59 48.0**	**0.0**
MJAR	**Matsushiro Arr**	**2.23**	**26**	P	Pn	**12 59 05.7**	**+0.7**
	0.1nm,0.3s,baz=188,slow=8.2,SNR=8.1						
MJAR				S	**S**	**12 59 46.4**	**-1.6**
	0.1nm,0.3s,baz=221,slow=18,SNR=4.3						
JHJ	**Hachijo jima 2**	**2.73**	**121**	P	Pn	**12 59 08.4**	**-0.7**
	7.4nm,0.3s,baz=270,slow=20,SNR=2.0						
JHJ				S	**S**	**12 59 56.8**	**+1.5**
	3.7nm,0.3s,baz=32,slow=17,SNR=1.7						
JAG	**Ashikaga**	**2.75**	**46**	P	Pn	**12 59 08.9**	**-0.3**
JAG				S	**S**	**12 59 53.3**	**-2.3**
JHS	**Saijyo**	**3.21**	**279**	S	**S**	**13 00 02.5**	**-0.5**
BSO1	**Boso 1**	**3.30**	**87**	P	Pn	**12 59 12.3**	**-1.2**
BSO1				S	**S**	**13 00 01.9**	**-1.5**
JNU	**Nakatsue**	**5.27**	**256**	P	Pn	**12 59 33.7**	**-0.8**
	0.5nm,0.3s,baz=23,slow=7.7,SNR=1.3						
KSRS	**Korea Array**	**7.89**	**294**	P	**P**	**13 00 05.3**	**-0.3**
	0.1nm,0.3s,baz=99,slow=14,SNR=2.5						
USRK	**Ussuriysk Ar.**	**10.38**	**340**	P	**P**	**13 00 36.2**	**+1.3**
	baz=157,slow=10,SNR=5.0						
ASAJ	**Asahikawa**	**10.50**	**23**	P	Pn	**13 00 35.8**	**+0.5**
	0.5nm,0.3s,baz=218,slow=18,SNR=7.9						
ASAJ				S	**S**	**13 02 29.7**	**-3.6**
	0.1nm,0.3s,baz=119,slow=27,SNR=1.2						
KURBB	**Kurchatov Arra**	**44.74**	**310**	P	**P**	**13 05 52.2**	**+1.5**
	0.1nm,0.3s,baz=96,slow=6.7,SNR=4.5						
WRA	**Warramunga Arr**	**54.24**	**183**	P	**P**	**13 07 01.2**	**-0.8**
	0.5nm,0.3s,baz=360,slow=7.7,SNR=27						
ASAR	**Alice Springs**	**57.97**	**183**	P	**P**	**13 07 28.2**	**+0.1**
	0.3nm,0.6s,baz=12,slow=12,SNR=6.8						

*TIF **04** 13:01:25.2, 42°.32N×43°.08E, h0km±1km*
*NORS **04** 13:01:25.0±0.0, 42°.26N×42°.97E, h14km, MPVA3.6*
*DDA **04** 13:01:25.7, 42°.34N×43°.02E, h5km±1km, ML2.6*
ISC 04 13:01:25.8±0.9, 42°.32N±0°.02×43°.04E±0°.02, h6km±6km, n28, σ0§89/52, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKB	**Tkibuli**	**0.04**	**314**	P	**Pg**	**13 01 27.2**	**0.0**
TKB				S	**Sg**	**13 01 28.3**	**+0.1**
ONI	**Oni**	**0.41**	**49**	P	**Pg**	**13 01 34.2**	**+0.4**
ONI				S	**Sb**	**13 01 40.8**	**-1.3**
ONI	**Oni**	**0.41**	**49**	*e*Pg	**Pb**	**13 01 34.4**	**-1.1**
ONI				*e*Sg	**Sb**	**13 01 42.0**	**-0.1**
BKRG	**Bakuriani**	**0.67**	**147**	P	**Pb**	**13 01 40.1**	**+0.1**
BKRG				S	**Sb**	**13 01 50.3**	**+0.7**
DIGR	**Digorskoe uzhe**	**0.70**	**35**	*e*Pg	**Pb**	**13 01 39.6**	**-1.1**
DIGR				*e*Sg	**Sb**	**13 01 50.4**	**-0.3**
ZEI	**Tsey**	**0.79**	**54**	*e*Pg	**Pb**	**13 01 41.6**	**-0.5**
ZEI				*e*Sg	**Sb**	**13 01 53.8**	**+0.6**
NEY	**Neytrino**	**0.96**	**346**	*e*Pg	**Pb**	**13 01 44.4**	**-0.5**
NEY				*e*Sg	**Sn**	**13 01 58.9**	**-1.1**
AKH	**Akhalkalaki**	**0.97**	**159**	P	**Pn**	**13 01 45.6**	**-0.6**
LACR	**Lac**	**1.06**	**61**	*e*Pg	**Pb**	**13 01 46.4**	**-0.2**
LACR				*e*Sg	**Sn**	**13 02 03.0**	**+0.4**
GUDG	**Gudauri**	**1.08**	**82**	P	**Pb**	**13 01 46.4**	**-0.6**
GUDG	**Gudauri**	**1.08**	**82**	*e*Pg	**Pb**	**13 01 46.8**	**-0.2**
GUDG				*e*Sg	**Sn**	**13 02 02.8**	**-0.3**
KORR	**Kora**	**1.08**	**44**	*e*Pg	**Pn**	**13 01 48.3**	**+0.7**
KORR				*e*Sg	**Sn**	**13 02 03.5**	**+0.6**
BGD	**Bogdanovka**	**1.14**	**158**	P	**Pn**	**13 01 47.8**	**-0.7**
BGD				S	**Sn**	**13 02 04.3**	**-0.2**
BATM	**Batumi**	**1.23**	**235**	P	**Pn**	**13 01 50.0**	**+0.4**
BATM				S	**Sn**	**13 02 08.4**	**+1.8**
BATM	**Batumi**	**1.23**	**235**	*i* P	**Pn**	**13 01 49.4**	**-0.2**
BATM				*i* S	**Sn**	**13 02 07.6**	**+1.0**
TBLG	**Delisi**	**1.40**	**114**	P	**Pg**	**13 01 52.4**	**-0.2**
TBLG				S	**Sg**	**13 02 12.0**	**+1.3**
DBOC	**Borcka**	**1.41**	**227**	*i* P	**Pg**	**13 01 52.8**	**-0.1**
DBOC				*i* S	**Sn**	**13 02 12.7**	**+1.5**
DBOC				IAML		13 02 15.0	
	comp=E,111nm,0.3s						
SHA1	**Shidzhatmaz**	**1.44**	**349**	*e*Pg	**Pg**	**13 01 53.7**	**+0.2**
SHA1				*e*Sg	**Sn**	**13 02 13.1**	**+0.9**
BTNK	**Botanikuri**	**1.46**	**115**	P	**Pg**	**13 01 53.4**	**-0.5**
BTNK	**Botanikuri**	**1.46**	**115**	*i* P	**Pg**	**13 01 53.3**	**-0.5**
BTNK				*i* S	**Sg**	**13 02 13.8**	**+1.1**
DAGI	**Agillar**	**1.50**	**214**	*i* P	**Pg**	**13 01 54.7**	**+0.2**
DAGI				*i* S	**Sg**	**13 02 13.2**	**-0.7**
DAGI				IAML		13 02 19.0	
	comp=E,50nm,0.7s						
DAGI				IAML		13 02 22.0	
	comp=N,58nm,0.8s						
DBAD	**Bademkaya**	**1.64**	**218**	*i* P	**Pg**	**13 01 57.0**	**-0.3**
DBAD				*i* S	**Sg**	**13 02 19.2**	**+0.6**
DBAD				IAML		13 02 24.0	
	comp=E,162nm,0.7s						
DBAD				IAML		13 02 24.0	
	comp=N,196nm,0.7s						
EAK	**Akyaka**	**1.69**	**165**	*i* P	**Pb**	**13 01 57.2**	**-0.2**
EAK				*i* S	**Sn**	**13 02 16.4**	**-1.7**
EAK				IAML		13 02 28.0	
	comp=E,57nm,0.5s						
EAK				IAML		13 02 30.0	
	comp=N,50nm,1.0s						
DDEM	**Demirkent**	**1.72**	**214**	*i* P	**Pg**	**13 01 58.4**	**-0.4**
DDEM				*i* S	**Sg**	**13 02 21.5**	**+0.4**
DDEM				IAML		13 02 25.0	
	comp=E,94nm,0.3s						
DDEM				IAML		13 02 28.0	
	comp=N,190nm,0.5s						
DIGO	**Kars**	**1.92**	**172**	*i* P	**Pg**	**13 02 02.3**	**-0.3**
DIGO				*i* S	**Sg**	**13 02 29.5**	**+2.0**
DIGO				IAML		13 02 31.0	
	comp=E,56nm,0.8s						
DIGO				IAML		13 02 32.0	
	comp=N,35nm,0.8s						
LGD	**Lagodekhi**	**2.44**	**100**	P	**Pb**	**13 02 09.6**	**-0.4**
LGD				S	**Sg**	**13 02 43.0**	**-1.0**
DDFL	**Dedoflistskaro**	**2.46**	**110**	*i* S	**Sg**	**13 02 47.2**	**+2.4**
EATA	**Eleskirt**	**2.49**	**190**	*i* P	**Pb**	**13 02 09.7**	**-1.5**
EATA				*i* S	**Sg**	**13 02 46.3**	**+0.5**

*IDC **04** 13:06:50.8±0.8, 11°.85N×86°.27W, h0km, mb3.9/8, mb1 4.2/9, mb1mx3.9/36, mbtmp3.9/9, ML3.0/2, Error ellipse: s-maj=58.1km s-min=15.0km az=54.0*
*INET **04** 13:06:51.2, 10°.99N×87°.06W, h85km, ML3.6*
*NEIC **04** 13:06:52.9±1.5, 11°.00N±0°.02×86°.97W±0°.07, h39km±12km, mb4.5/93, Error ellipse: s-maj=10.1km s-min=2.1km az=99.0*
ISC 04 13:06:53.0±0.6, 11°.10N±0°.08×86°.89W±0°.07, h30km, n126, σ1§30/129, mb4.5/55, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS3	**Finca Las Img**	**1.44**	**103**	*e*P	**Pn**	**13 07 16.6**	**-0.6**
LAPC	**Finca la Perla**	**1.47**	**103**	*e*P	**Pn**	**13 07 18.3**	**+0.8**
BUEV	**Buena Vista**	**1.49**	**102**	*e*P	**Pn**	**13 07 18.3**	**+0.5**
GB1A	**Borinquen Arri**	**1.49**	**101**	*e*P	**Pn**	**13 07 19.0**	**+1.1**
BUAI	**Buenos Aires**	**1.54**	**98**	*e*P	**Pn**	**13 07 19.4**	**+0.8**
GPS1	**Guardaparques**	**1.54**	**102**	*e*P	**Pn**	**13 07 19.8**	**+1.1**
GPS2	**Hotel Rincn d**	**1.55**	**103**	*e*P	**Pn**	**13 07 19.4**	**+0.7**
GUAI	**GUAI**	**1.59**	**121**	*e*P	**Pn**	**13 07 18.8**	**-0.3**
CRIN	**San Cristobal**	**1.60**	**354**		**Pn**	**13 07 19.7**	**+0.3**
COLC	**Colonia**	**1.71**	**104**	*e*P	**Pb**	**13 07 22.9**	**-1.0**
HORNC	**Hornillas**	**1.72**	**103**	*e*P	**Pn**	**13 07 21.7**	**+0.7**
CUI	**Cuipilapa**	**1.75**	**104**	*e*P	**Pn**	**13 07 22.5**	**+1.1**
ACAL	**Aguas Claras**	**1.88**	**104**	*e*P	**Pn**	**13 07 24.9**	**+1.7**
ACON	**Acoyapa**	**1.89**	**63**		**Pn**	**13 07 24.1**	**+0.8**
PTEN	**Parque Tenorio**	**1.91**	**101**	*e*P	**Pn**	**13 07 25.0**	**+1.4**
MATN	**Matagalpa**	**2.05**	**27**		**Pn**	**13 07 26.0**	**+0.4**
JTS	**Las Juntas de**	**2.07**	**113**	Pn	**Pn**	**13 07 25.9**	**+0.2**
	1.0nm,0.3s,baz=16,slow=5.7,SNR=7.9						
JTS				Sn	**Sb**	**13 07 53.6**	**-1.6**
	8.7nm,0.3s,baz=307,slow=22,SNR=7.2						
JTS	**Las Juntas de**	**2.07**	**113**		**Pn**	**13 07 25.6**	**-0.2**
ESPN	**Las Esperanzas**	**2.76**	**67**	Pn	**Pn**	**13 07 36.5**	**+1.3**
MTO3	**Montecristo**	**4.07**	**324**		**Pn**	**13 07 52.1**	**-1.4**
CMIG	**Matias Romero**	**9.78**	**308**	Pn	**Pn**	**13 09 11.9**	**+0.2**
	0.6nm,0.3s,baz=106,slow=9.2,SNR=6.4						
TLIG	**Tlapa**	**13.01**	**301**	Pn	**Pn**	**13 09 57.9**	**+1.9**
SDV	**Santo Domingo**	**16.16**	**96**	Pn	**Pn**	**13 10 36.7**	**-1.6**
	0.6nm,0.3s,baz=294,slow=20,SNR=1.0						
SDV	**Santo Domingo**	**16.16**	**96**	P	**P**	**13 10 42.8**	**+1.5**
152A	**Waverly Hall**	**21.56**	**5**	P	**P**	**13 11 41.0**	**+0.9**
152A				IAmb	IAmb	13 11 44.4	
	comp=Z,19nm,0.9s						
LRAL	**Lakeview Retre**	**21.83**	**360**	P	**P**	**13 11 43.2**	**+0.2**
STVI	**Saint Thomas**	**22.39**	**69**	P	**P**	**13 11 50.6**	**+1.5**
GOGA	**Godfrey**	**22.43**	**8**	P	**P**	**13 11 50.5**	**+1.1**
GOGA				IAmb	IAmb	13 11 52.2	
	comp=Z,14nm,0.8s						
Y49A	**Blount Mountai**	**22.66**	**1**	P	**P**	**13 11 52.0**	**+0.1**
JSC	**Jenkinsville**	**23.64**	**12**	P	**P**	**13 12 02.4**	**+0.6**
TX32	**Lajitas Array**	**23.96**	**322**	P	**P**	**13 12 04.8**	**-0.2**
TXAR	**Lajitas Array**	**23.96**	**322**	P	**P**	**13 12 05.0**	**0.0**
	comp=Z,3.2nm,0.9s,baz=138,slow=10.0,SNR=21						
TXAR				PcP	**PcP**	**13 15 50.5**	**+3.5**
	comp=Z,1.1nm,0.9s,baz=134,slow=5.4,SNR=5.9						
TXAR				ScP	**ScP**	**13 19 32.5**	**+9.1**
	comp=Z,0.1nm,0.3s,baz=152,slow=5.7,SNR=3.7						
TX31	**Lajitas Ar. Si**	**23.96**	**322**	P	**P**	**13 12 04.8**	**-0.3**
TX31				IAmb	IAmb	13 12 17.1	
	comp=Z,24nm,1.4s						
SWET	**Sewanee**	**24.02**	**2**	P	**P**	**13 12 05.8**	**+0.3**
SWET				IAmb	IAmb	13 12 06.5	
	comp=Z,9.2nm,0.9s						
W50A	**Signal Mountai**	**24.03**	**3**	P	**P**	**13 12 05.5**	**0.0**
W50A				IAmb	IAmb	13 12 07.2	
	comp=Z,12nm,0.9s						
W52A	**Murphy**	**24.04**	**6**	P	**P**	**13 12 05.7**	**+0.2**
BG3	**Lake Jocassee**	**24.06**	**8**	P	**P**	**13 12 06.0**	**+0.3**
PAULI	**Pauline**	**24.06**	**10**	P	**P**	**13 12 06.7**	**+0.9**
MIAR	**Mount Ida**	**24.12**	**346**	P	**P**	**13 12 06.2**	**-0.2**
BIRD	**Birdtown, Kers**	**24.16**	**13**	P	**P**	**13 12 06.7**	**0.0**
BIRD				IAmb	IAmb	13 13 03.2	
	comp=Z,26nm,1.6s						
CPCT	**Cooper Cave**	**24.34**	**5**	P	**P**	**13 12 08.2**	**-0.1**
CPCT				IAmb	IAmb	13 12 10.8	
	comp=Z,11nm,0.8s						
X58A	**Rowland**	**24.34**	**15**	P	**P**	**13 12 09.2**	**+0.9**
KMSC	**Kings Mountain**	**24.46**	**11**	P	**P**	**13 12 09.4**	**0.

K58A	**Earlville**	**33.03**	**15**	P	**P**		**13 13 25.3**	**-0.5**
K58A				IAmb	IAmb		13 13 26.1	
	comp=Z,7.4nm,0.7s							
J56A	**Wolcott**	**33.22**	**13**	P	**P**		**13 13 26.6**	**-0.7**
PV03	**Paradox Valley**	**33.42**	**328**	P	**P**		**13 13 28.0**	**-1.4**
PV12	**Saucer Basin,**	**33.45**	**328**	P	**P**		**13 13 29.4**	**-0.2**
PV12				IAmb	IAmb		13 13 33.5	
	comp=Z,4.3nm,0.6s							
PV18	**Skein Mesa, Pa**	**33.45**	**328**	P	**P**		**13 13 29.2**	**-0.5**
PV18				IAmb	IAmb		13 13 30.5	
	comp=Z,3.8nm,0.8s							
PV17	**East Wray Mesa**	**33.50**	**328**	P	**P**		**13 13 29.8**	**-0.4**
PV17				IAmb	IAmb		13 13 30.9	
	comp=Z,4.3nm,0.7s							
J57A	**Williamstown**	**33.55**	**14**	P	**P**		**13 13 29.7**	**-0.5**
ECSD	**EROS Data Cent**	**33.59**	**347**	P	**P**		**13 13 28.6**	**-2.0**
PV14	**Lion Creek, Pa**	**33.60**	**328**	P	**P**		**13 13 29.6**	**-1.4**
J58A	**Remsen**	**33.68**	**15**	P	**P**		**13 13 30.0**	**-1.4**
PECO	**Prince Edward**	**33.82**	**13**	P	**P**		**13 13 31.3**	**-1.2**
SADO	**Sadowa**	**34.20**	**10**	P	**P**		**13 13 34.3**	**-1.5**
SADO				IAmb	IAmb		13 13 34.6	
	comp=Z,9.5nm,1.2s							
O20A	**White River Ci**	**34.55**	**331**	P	**P**		**13 13 39.0**	**-0.2**
O20A				IAmb	IAmb		13 13 41.5	
	comp=Z,6.1nm,1.1s							
SUSD	**Miller**	**34.81**	**345**	P	**P**		**13 13 39.8**	**-1.5**
LONY	**Lake Ozonia**	**35.04**	**15**	P	**P**		**13 13 42.1**	**-1.1**
LONY				IAmb	IAmb		13 13 43.2	
	comp=Z,5.1nm,0.8s							
F36A	**Milaca**	**35.10**	**352**	P	**P**		**13 13 42.4**	**-1.2**
F36A				IAmb	IAmb		13 13 43.1	
	comp=Z,3.3nm,0.8s							
E43A	**Lone Tree Farm**	**35.16**	**360**	P	**P**		**13 13 42.2**	**-1.9**
E43A				IAmb	IAmb		13 13 42.8	
	comp=Z,7.8nm,1.1s							
F33A	**5 Mile Ranch,**	**35.54**	**349**	P	**P**		**13 13 45.2**	**-2.2**
F33A				IAmb	IAmb		13 13 46.1	
	comp=Z,5.0nm,0.7s							
E38A	**The Farm, Brul**	**35.61**	**354**	P	**P**		**13 13 46.1**	**-1.9**
E38A				IAmb	IAmb		13 13 47.7	
	comp=Z,4.8nm,0.9s							
D53A	**Lac Vacive, Po**	**36.69**	**11**	P	**P**		**13 13 56.5**	**-0.7**
D53A				IAmb	IAmb		13 13 57.4	
	comp=Z,5.3nm,0.8s							
G62A	**West of Eustis**	**36.78**	**19**	P	**P**		**13 13 57.7**	**-0.3**
PDAR	**Pinedale Array**	**37.22**	**332**	P	**P**		**13 14 01.1**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=129,slow=12,SNR=5.0							
HWUT	**Hardware Ranch**	**37.31**	**329**	P	**P**		**13 14 02.5**	**-0.3**
HWUT				IAmb	IAmb		13 14 15.4	
	comp=Z,3.8nm,0.8s							
G65A	**Princeton**	**37.80**	**22**	P	**P**		**13 14 05.5**	**-1.2**
G65A				IAmb	IAmb		13 14 07.6	
	comp=Z,12nm,1.1s							
AGMN	**Agassiz Nation**	**37.83**	**350**	P	**P**		**13 14 05.0**	**-1.9**
AGMN				IAmb	IAmb		13 14 06.9	
	comp=Z,8.6nm,1.4s							
REDW	**Red Top Meadow**	**38.28**	**331**	P	**P**		**13 14 10.3**	**-0.7**
REDW				IAmb	IAmb		13 14 24.1	
	comp=Z,8.2nm,1.2s							
TPAW	**Teton Pass**	**38.42**	**331**	P	**P**		**13 14 12.2**	**-0.1**
NVAR	**Mina Array Bea**	**39.08**	**320**	P	**P**		**13 14 18.4**	**+0.6**
	comp=Z,1.1nm,1.0s,baz=129,slow=12,SNR=2.7							
NVAR				PcP	**PcP**		**13 16 28.7**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=106,slow=2.9,SNR=2.6							
LMN	**Caledonia Moun**	**39.42**	**24**	P	**P**		**13 14 19.6**	**-0.6**
LMN				IAmb	IAmb		13 14 21.9	
	comp=Z,11nm,1.1s							
ULM	**Lac du Bonnet**	**39.73**	**351**	P	**P**		**13 14 20.4**	**-2.4**
	comp=Z,3.6nm,0.8s,baz=163,slow=7.9,SNR=2.2							
MCMT	**McKenzie Canyo**	**40.33**	**331**	P	**P**		**13 14 28.1**	**0.0**
AC02	**Maricunga**	**41.47**	**156**	P	**P**		**13 14 35.8**	**-2.2**
EGMT	**Eagleton**	**41.51**	**337**	P	**P**		**13 14 36.4**	**-1.2**
HAWA	**Hanford**	**44.76**	**328**	P	**P**		**13 15 02.4**	**-1.4**
BDFB	**Brasilia**	**46.77**	**124**	P	**P**		**13 15 20.7**	**+0.5**
	comp=Z,1.6nm,0.5s,baz=274,slow=11,SNR=3.5							
PLCA	**Paso Flores**	**53.74**	**165**	P	P		13 16 19.3	+6.7
	comp=Z,2.2nm,0.9s,baz=330,slow=6.8,SNR=3.3							
YKA	**Yellowknife Ar**	**55.05**	**345**	P	**P**		**13 16 19.7**	**-2.1**
	comp=Z,0.6nm,0.7s,baz=154,slow=6.4,SNR=4.0							
ILAR	**Eielson Array**	**67.47**	**336**	P	**P**		**13 17 44.9**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=123,slow=5.7,SNR=4.4							
KSRS	**Korea Array**	**121.70**	**328**	PKP	**PKiKP**		**13 25 46.9**	**+2.2**
	comp=Z,1.3nm,0.9s,baz=0.6,slow=1.6,SNR=4.8							
CMAR	**Chiang Mai Arr**	**150.07**	**349**	PKPbc	**PKPbc**		**13 26 42.2**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=342,slow=3.6,SNR=7.3							

NIED ***04*** *13:15:00, 32.˚50N×141.˚90E, h8km, Mw5.0 Best double couple: M0 3.24000×10^16 NP1:φ=25.00000°, δ=64.00000°, λ=100.00000°. NP2:φ=183.00000°, δ=28.00000°, λ=70.00000°.*

JMA ***04*** *13:15:49.4±0.3, 32.˚51N×141.˚88E, h35km, M4.9*

IDC ***04*** *13:15:50.4±4.2, 32.˚41N×141.˚71E, h21km±26km, mb4.4/25, mb1 4.5/27, mb1mx4.5/34, mbtmp4.5/27, ML3.1/2, MS4.4/37, Ms1 4.4/37, ms1mx4.3/57, Error ellipse: s-maj=13.2km s-min=12.8km az=74.0*

BJI ***04*** *13:15:50.0±0.0, 32.˚41N×141.˚74E, h51km, mB5.0/53, mb4.7/73, Ms4.9/72, Ms7 4.7/69*

MOS ***04*** *13:15:51.2±1.0, 32.˚42N×141.˚66E, h41km, mb5.2/70, MS4.5/14, Error ellipse: s-maj=7.1km s-min=3.8km az=118.1*

GCMT ***04*** *13:15:52.3±0.2, 32.˚45N±0.˚02×141.˚84E±0.˚02, h18km, MW5.1/110, Moment Tensor Solution. s51,c64; s110,c181; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=5.17±.20; Mθθ=0.67±.11; Mφφ=-4.50±.13; Mrθ=-0.04±.31; Mθφ=-0.70±.07; Mφr=1.68±.25; Best double couple: M=5.17600×10^16 NP1:φ=193.00000°, δ=36.00000°, λ=95.00000°. NP2:φ=7.00000°, δ=54.00000°, λ=86.00000°. Principal axes: T 5.4570, Plg=80.0000°, Azm=261.0000°; N -0.5600, Plg=3.0000°, Azm=9.0000°; P -4.8940, Plg=9.0000°, Azm=99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***04*** *13:15:53.3±1.6, 32.˚42N±0.˚08×141.˚6E±0.˚1, h47km±5km, mb4.9/209 Error ellipse: s-maj=12.7km s-min=11.4km az=81.0*

BGR ***04*** *13:15:53.8±0.0, 32.˚86N×142.˚66E, h33km, mb5.1*

UNK ***04*** *13:15:53.8, 32.˚46N×141.˚57E, h52km*

ISC 04 13:15:52.4±0.3, 32.˚42N±0.˚03×141.˚78E±0.˚04, h37km±1km, h37km:pP-P, n654, σ1s32/701, mb5.0/211, MS4.6/71, 41C-13D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.71**	**272**	P	**Pn**	**13 16 19.1**	**-0.5**
JHJ2	**Mitsune**	**1.79**	**293**	P	**Pn**	**13 16 19.7**	**-1.1**
JHJ2				*e*S	**Sn**	**13 16 42.0**	**-0.3**
JHJ2	**Mitsune**	**1.79**	**293**	Pn	**Pn**	**13 16 19.3**	**-1.5**
JHCJ	**Hachijojimakas**	**1.79**	**292**	P	**Pn**	**13 16 19.8**	**-1.0**
JHJ	**Hachijo jima 2**	**1.82**	**293**	Pn	**Pn**	**13 16 19.7**	**-1.4**
	303nm,0.3s,baz=320,slow=3.2,SNR=80						
JHJ				Sn	**Sn**	**13 16 43.4**	**+0.4**
	724nm,0.3s,baz=100,slow=23,SNR=9.1						
JHJ				LR	LR	13 17 16.0	
	comp=Z,10μm,19.7s,baz=84,slow=49						
BSO1	**Boso 1**	**2.33**	**343**	P	**Pn**	**13 16 26.1**	**-1.5**
JMKN	**Mikurajimanish**	**2.35**	**309**	P	**Pn**	**13 16 27.2**	**-1.3**
BSO3	**Boso 3**	**2.60**	**336**	P	**Pn**	**13 16 30.3**	**-1.3**
JOD2	**Odawara 2**	**3.61**	**322**	P	**Pn**	**13 16 45.0**	**-0.8**
TK02	**Tokai 2**	**3.70**	**295**	P	**Pn**	**13 16 47.3**	**+0.5**
JRY	**Ryogami san**	**4.31**	**327**	P	**Pn**	**13 16 53.9**	**-1.5**
TTO1	**TONANKAI O.B.S**	**4.37**	**287**	P	**Pn**	**13 16 56.4**	**+0.5**
JAG	**Ashikaga**	**4.43**	**335**	P	**Pn**	**13 16 55.8**	**-1.3**
JAG				*e*S	**Sn**	**13 17 46.0**	**-1.4**
JIE	**Ise**	**4.68**	**296**	P	**Pn**	**13 17 00.6**	**+0.2**
INU	**Inuyama**	**4.92**	**308**	Pn	**Pn**	**13 17 03.5**	**-0.3**
MJAR	**Matsushiro Arr**	**5.06**	**325**	Pn	**Pn**	**13 17 04.6**	**-1.1**
	2.4nm,0.3s,baz=150,slow=10,SNR=87						
MJAR				LR	LR	13 19 28.4	
	comp=Z,3μm,18.4s,baz=150,slow=44						
MAJO	**Matsushiro**	**5.06**	**325**	*c* *i*P	**Pn**	**13 17 04.8**	**-1.0**
MAJO	**Matsushiro**	**5.06**	**325**	Pn	**Pn**	**13 17 04.7**	**-1.0**
MAT	**Matsushiro**	**5.06**	**325**	P	**Pn**	**13 17 04.8**	**-0.9**
MAT				S	**Sn**	**13 18 02.6**	**-0.3**
MAT	**Matsushiro**	**5.06**	**325**	P	**Pn**	**13 17 04.5**	**-1.2**
MJB9	**Matsu-Tunnel**	**5.07**	**325**	Pn	**Pn**	**13 17 05.1**	**-0.7**
JFT	**Otama**	**5.22**	**347**	P	**Pn**	**13 17 05.8**	**-2.1**
JFT				S	**Sn**	**13 18 04.1**	**-2.7**
JYTA	**Yamagatataniai**	**5.25**	**308**	P	**Pn**	**13 17 09.4**	**+1.1**
CBIJ	**Chichi jima**	**5.32**	**176**	P	**Pn**	**13 17 06.3**	**-3.0**
CBIJ				*e*S	**Sn**	**13 18 05.2**	**-4.1**
JMK	**Ichinoseki**	**6.53**	**356**	P	**Pn**	**13 17 23.3**	**-2.6**
JMK				S	**Sn**	**13 18 33.2**	**-5.9**
JNU	**Nakatsue**	**9.21**	**277**	Pn	**Pn**	**13 18 05.6**	**+2.9**
	1.2nm,0.3s,baz=76,slow=6.7,SNR=13						
JNU				LR	LR	13 21 58.6	
	comp=Z,3μm,18.1s,baz=126,slow=40						
JNU	**Nakatsue**	**9.21**	**277**	Pn	**Pn**	**13 18 04.6**	**+2.0**
ERM	**Erimo**	**9.64**	**6**	*c*eP	Pn	13 18 03.8	-4.7
ERM				pmax	pmax		
	comp=Z,48nm,1.3s						
ERM	**Erimo**	**9.64**	**6**	Pn	Pn	13 18 03.3	-5.2
NMR	**Nemuro--Hokkai**	**11.36**	**15**	*i*P	**Pn**	**13 18 29.2**	**-2.8**
GLVR	**Golovnino**	**11.67**	**14**	*e*P	**Pn**	**13 18 32.8**	**-3.5**
JKA	**Kamikawa-asahi**	**11.69**	**3**		**Pn**	**13 18 32.5**	**-4.1**
JKA					Sn	13 20 34.9	-11
ASAJ	**Asahikawa**	**11.69**	**3**	Pn	**Pn**	**13 18 32.5**	**-4.1**
	comp=Z,4.3nm,0.3s,baz=226,slow=10,SNR=28						
ASAJ				Sn	Sn	13 20 34.9	-11
	comp=Z,0.8nm,0.3s,baz=24,slow=26,SNR=4.7						
ASAJ				LR	LR	13 23 53.1	
	comp=Z,2μm,19.9s,baz=196,slow=41						
GRPR	**Tuman**	**11.97**	**14**	P	**Pn**	**13 18 37.2**	**-3.1**
GRPR				pmax	pmax		
	comp=N,197nm,0.1s						
GRPR				pmax	pmax		
	comp=E,57nm,0.1s						
GRPR				pmax	pmax		
	comp=Z,216nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**12.03**	**14**	*i*P	**Pn**	**13 18 38.0**	**-3.1**
YUK				pmax	pmax		
	comp=Z,53nm,0.4s						
YUK				pmax	pmax		
	comp=E,23nm,0.5s						
YUK				pmax	pmax		
	comp=N,33nm,0.6s						
KSRS	**Korea Array**	**12.43**	**298**	Pn	**Pn**	**13 18 49.0**	**+2.3**
	comp=N,0.3nm,0.3s,baz=108,slow=13,SNR=13						
KSRS				LR	LR	13 23 44.0	
	comp=N,2μm,19.1s,baz=118,slow=38						
KSRS	**Korea Array**	**12.43**	**298**	P	**Pn**	**13 18 49.0**	**+2.3**
KS19	**Wonju Array Si**	**12.49**	**298**		**Pn**	**13 18 47.8**	**+0.3**
TJN	**Taejon**	**12.54**	**292**	*i* P	**Pn**	**13 18 50.0**	**+1.8**
MSHR	**Mys Shultsa**	**13.18**	**323**	*c*eP	**Pn**	**13 18 56.4**	**-0.5**
TEY	**Ternei**	**13.22**	**344**	*e*P	Pn	13 18 52.2	-5.3
VLA	**Vladivostok**	**13.23**	**327**	*i* P	**Pn**	**13 18 56.9**	**-0.7**
VLA				pmax	pmax		
	comp=Z,21nm,1.0s						
INCN	**Inchon**	**13.41**	**296**	P	**P**	**13 19 05.2**	**-3.8**
KUR	**Kuril'sk**	**13.64**	**19**	*i* P	**Pn**	**13 18 58.9**	**-4.2**
USA0B	**Ussuriysk Arra**	**14.04**	**330**	P	**Pn**	**13 19 07.4**	**-1.2**
USA0B	**Ussuriysk Arra**	**14.04**	**330**	Pn	**Pn**	**13 19 07.3**	**-1.2**
USRK	**Ussuriysk Ar.**	**14.04**	**330**	Pn	**Pn**	**13 19 06.4**	**-2.2**
	baz=128,slow=12,SNR=17						
USRK				LR	LR	13 24 21.7	
	comp=Z,1μm,19.4s,baz=136,slow=36						
YSS	**Yuzh-Sakhalins**	**14.53**	**3**	*e*P	**Pn**	**13 19 11.8**	**-3.5**
YSS				pmax	pmax		
	comp=Z,30nm,1.2s						
YSS	**Yuzh-Sakhalins**	**14.53**	**3**	Pn	**Pn**	**13 19 11.0**	**-4.3**
MDJ	**Mudanjiang**	**15.45**	**326**	P	**Pn**	**13 19 26.7**	**-0.7**
MDJ				pmax	pmax		
	comp=Z,23nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,390nm,11.8s						
MDJ				LR	LR		
	comp=Z,2μm,15.7s						
MDJ				LR	LR		
	comp=Z,2μm,14.0s						
MDJ				LR	LR		
	comp=Z,3μm,17.2s						
MDJ	**Mudanjiang**	**15.45**	**326**	Pn	**Pn**	**13 19 25.2**	**-2.3**
UGL	**Uglegorsk**	**16.64**	**1**	P	**P**	**13 19 45.0**	**+0.3**
UGL				pmax	pmax		
	comp=Z,89nm,1.1s						
UGL				MLR	MLR		
	comp=Z,2μm,18.0s						
UGL				MLR	MLR		
	comp=N,1μm,14.0s						
UGL				MLR	MLR		
	comp=E,2μm,14.0s						
CN2	**Changchun**	**17.12**	**316**	*e*P	**Pn**	**13 19 48.0**	**-0.7**
CN2				pmax	pmax		
	comp=E,20nm,1.4s						
CN2				LR	LR		
	comp=E,2μm,11.0s						
CN2				LR	LR		
	comp=E,2μm,11.0s						
CN2				LR	LR		
	comp=E,2μm,12.0s						
SSE	**Sheshan**	**17.57**	**271**	P	**Pn**	**13 19 53.6**	**-0.7**
SSE				S	**Sn**	**13 23 11.5**	**+2.6**
SSE				pmax	pmax		
	comp=E,19nm,0.7s						
SSE				pmax	pmax		
	comp=E,380nm,10.0s						
SSE				LR	LR		
	comp=E,650nm,16.0s						
SSE				LR	LR		
	comp=E,580nm,22.0s						
DL2	**Dalian**	**17.59**	**297**	P	**Pn**	**13 19 54.0**	**-0.6**
DL2				S	**Sn**	**13 23 09.6**	**+0.2**
DL2				pmax	pmax		
	comp=E,11nm,1.1s						
DL2				pmax	pmax		
	comp=E,380nm,8.2s						
DL2				LR	LR		
	comp=E,2μm,14.1s						
DL2				LR	LR		
	comp=E,2μm,15.3s						
DL2				LR	LR		
	comp=E,3μm,16.1s						
YOJ	**Yonaguni jima**	**18.30**	**249**	P	**P**	**13 20 01.8**	**-1.4**
YOJ				pmax	pmax		
	comp=Z,274nm,1.1s						
YOJ	**Yonaguni jima**	**18.30**	**249**	P	**P**	**13 20 01.8**	**-1.4**
TYV	**Tymovskoe**	**18.44**	**2**	*e*P	**P**	**13 20 04.2**	**-0.3**
TYV				*e*S	**S**	**13 23 33.0**	**0.0**
TYV				pmax	pmax		
	comp=Z,300nm,4.3s						
TYV				pmax	pmax		
	comp=Z,17nm,1.2s						
TYV				smax	smax		
	comp=E,500nm,8.6s						
TYV				smax	smax		
	comp=N,10.0nm,1.8s						
GRNR	**Gornyy**	**18.76**	**349**	*i*P	**P**	**13 20 05.2**	**-2.9**
GRNR				*e*S	**Sn**	**13 23 32.9**	**-4.5**
GRNR				pmax	pmax		
	comp=N,5.0nm,1.1s						
GRNR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
GRNR				smax	smax		
	comp=N,3.0nm,0.6s						
GRNR				MLR	MLR		
	comp=E,700nm,15.0s						
GRNR				MLR	MLR		
	comp=N,460nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,920nm,15.0s						
GUMO	**Guam**	**18.96**	**171**	P	**Pn**	**13 20 11.6**	**+0.2**
GUMO				pmax	pmax		
	comp=Z,441nm,1.2s						
GUMO	**Guam**	**18.96**	**171**		**Pn**	**13 20 11.6**	**+0.2**
TATO	**Taipei**	**19.27**	**253**	P	**P**	**13 20 11.9**	**-1.9**
TATO				IAmb	IAmb	13 20 29.4	
	comp=Z,146nm,1.2s						
NJ2	**Nanjing**	**19.40**	**275**	*e*P	**P**	**13 20 15.3**	**+0.1**
NJ2				sP	**sP**	**13 20 30.4**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,20nm,0.7s						
NJ2				LR	LR		
	comp=Z,800nm,12.8s						
NJ2				LR	LR		
	comp=Z,970nm,15.4s						
NJ2				LR	LR		
	comp=Z,1μm,17.5s						
YHNB	**Yeheng**	**19.50**	**252**	P	**P**	**13 20 14.2**	**-2.3**
NACB	**Ninganchiao**	**19.56**	**250**	P	**P**	**13 20 14.6**	**-2.4**
YULB	**Yu-li**	**20.19**	**249**	P	**P**	**13 20 22.1**	**-1.8**
SSLB	**Suanglung**	**20.26**	**250**	P	**P**	**13 20 22.8**	**-2.0**
SSLB				IAmb	IAmb	13 20 43.1	
	comp=Z,81nm,1.4s						
TWG	**Pinlang**	**20.66**	**248**	P	**P**	**13 20 27.5**	**-1.6**
TIA	**Tai'an**	**20.70**	**287**	P	**P**	**13 20 27.6**	**-1.8**
TIA				pmax	pmax		
	comp=Z,12nm,1.2s						
TIA				pmax	pmax		
	comp=Z,430nm,12.0s						
TIA				LR	LR		
	comp=Z,1μm,14.2s						
TIA				LR	LR		
	comp=Z,4μm,16.1s						
TIA				LR	LR		
	comp=Z,4μm,16.2s						
NKL	**Nikolayevsk**	**20.73**	**358**	*e*P	**P**	**13 20 29.5**	**0.0**
NKL				*e*S	S	13 24 05.6	-13
NKL				pmax	pmax		
	comp=Z,22nm,1.3s						
NKL				pmax	pmax		
	comp=E,1.0nm,1.1s						
TPUB	**Ta-pu**	**20.76**	**249**	P	**P**	**13 20 28.9**	**-1.2**
SKR	**Severo-Kuril's**	**21.10**	**26**	*i* P	**P**	**13 20 30.7**	**-2.8**
QZH	**Quanzhou**	**21.64**	**256**	*e*P	**P**	**13 20 38.5**	**-1.0**
QZH				S	**S**	**13 24 36.7**	**-0.5**
QZH				LR	LR		
	comp=E,1μm,15.2s						
QZH				LR	LR		
	comp=E,1μm,17.1s						
QZH				LR	LR		
	comp=E,2μm,17.5s						
BJI	**Beijing**	**21.96**	**297**	P	**P**	**13 20 40.4**	**-2.5**
BJI				S	**S**	**13 24 37.0**	**-6.2**
BJI				pmax	pmax		
	comp=E,14nm,1.1s						
BJI				LR	LR		
	comp=E,1μm,15.3s						
BJI				LR	LR		
	comp=E,1μm,17.3s						
WHN	**Wuhan**	**23.45**	**273**	*i*P	**P**	**13 20 56.3**	**-2.1**
WHN				LR	LR		
	comp=E,5μm,16.3s						
WHN				LR	LR		
	comp=E,2μm,15.0s						
WHN				LR	LR		
	comp=E,3μm,15.6s						
HIA	**Hailar**	**23.55**	**322**	*c* *i*P	**P**	**13 20 56.4**	**-2.9**
HIA				pmax	pmax		
	comp=Z,19nm,1.0s						
HIA	**Hailar**	**23.55**	**322**	P	**P**	**13 20 57.1**	**-2.2**
HIA				IAmb	IAmb	13 20 58.4	
	comp=Z,54nm,1.3s						
PETK	**Petropavlovsk-**	**23.64**	**24**	P	**P**	**13 21 01.1**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=179,slow=8.3,SNR=2.6						
PETK				LR	LR	13 30 59.1	
	comp=Z,861nm,21.0s,baz=235,slow=38						
ZEA	**Zeya**	**23.71**	**338**	*e*P	**P**	**13 21 00.5**	**-0.2**
ZEA				*e*S	**S**	**13 25 14.0**	**+0.9**
ZEA				pmax	pmax		
	comp=N,130nm,1.2s						
ZEA				pmax	pmax		
	comp=E,58nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,21nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,1μm,11.0s						
ZEA				pmax	pmax		
	comp=N,700nm,8.0s						
ZEA				smax	smax		
	comp=N,1μm,14.0s						
ZEA				smax	smax		
	comp=E,600nm,14.0s						
TIY	**Taiyuan**	**24.54**	**291**	*e*P	**P**	**13 21 08.0**	**-0.6**
TIY				S	**S**	**13 25 19.0**	**-7.9**
TIY				SS		13 26 12.9	
TIY				pmax	pmax		
	comp=E,12nm,0.7s						
TIY				pmax	pmax		
	comp=E,350nm,8.3s						
TIY				LR	LR		
	comp=E,2μm,13.9s						
TIY				LR	LR		
	comp=E,3μm,16.8s						
TIY				LR	LR		
	comp=E,3μm,16.0s						
HHC	**Hu-ho-hao-te**	**25.57**	**298**	*e*P	**P**	**13 21 16.3**	**-1.7**
HHC				pP	pP	13 21 26.1	-1.1
HHC				PP	**PnPn**	**13 21 57.5**	**+2.9**
HHC				S	**S**	**13 25 40.1**	**-3.3**
HHC				sS	sS	13 25 56.2	-1.6
HHC				pmax	pmax		
	comp=E,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=E,78nm,5.7s						
HHC				LR	LR		
	comp=E,390nm,15.3s						
HHC				LR	LR		
	comp=E,690nm,12.8s						
HHC				LR	LR		
	comp=E,820nm,13.3s						
H11N2	**WAKE ISLAND Hy**	**25.78**	**113**	T	T	13 48 27.7	
	baz=307						
H11N1	**WAKE ISLAND Hy**	**25.79**	**113**	T	T	13 48 39.1	
	baz=307,slow=74,SNR=9.1						
H11N3	**WAKE ISLAND Hy**	**25.80**	**113**	T	T	13 48 35.7	
	baz=307,slow=74,SNR=6.4						
TGY	**Tagaytay City**	**26.36**	**231**	LR	LR	13 31 44.6	
	comp=E,942nm,18.8s,baz=32,slow=36						
HKPS	**Hong Kong Po S**	**26.48**	**255**	P	**P**	**13 21 23.8**	**-2.4**
HKPS				IAmb	IAmb	13 22 20.2	
	comp=Z,28nm,0.9s						
BTO	**Baotou**	**26.69**	**297**	*e*P	**P**	**13 21 25.9**	**-2.2**
BTO				*e*PP	**PnPn**	**13 22 09.2**	**-0.8**
XAN	**Xi'an**	**27.47**	**282**	P	**P**	**13 21 32.1**	**-3.0**
XAN				pP	sP	13 21 47.8	-1.3
XAN				sP	pwP	13 21 54.2	+4.4
XAN				pmax	pmax		
	comp=Z,46nm,1.5s						
XAN				pmax	pmax		
	comp=Z,320nm,7.9s						
XAN				LR	LR		
	comp=Z,1μm,15.2s						
XAN				LR	LR		
	comp=Z,1μm,16.3s						
XAN				LR	LR		
	comp=Z,1μm,15.2s						
XAN	**Xi'an**	**27.47**	**282**	P	**P**	**13 21 32.5**	**-2.7**
XAN				pmax	pmax		
	comp=Z,60nm,1.3s						
XAN	**Xi'an**	**27.47**	**282**	P	**P**	**13 21 32.5**	**-2.7**
XAN				IAmb	IAmb	13 21 33.9	
	comp=Z,60nm,1.3s						
ENH	**Enshi**	**27.61**	**274**	P	**P**	**13 21 33.9**	**-2.5**
ENH				IAmb	IAmb	13 21 40.9	
	comp=Z,48nm,1.6s						
MA2	**Magadan**	**27.82**	**10**	LR	LR	13 34 51.1	
	comp=Z,581nm,18.9s,baz=176,slow=41						
MA2	**Magadan**	**27.82**	**10**	*i* P	**P**	**13 21 34.5**	**-3.3**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.1s						
CIT	**Chita**	**28.36**	**322**	*e*P	**P**	**13 21 43.2**	**+0.3**
CIT				*e*		13 21 55.6	
CIT				pmax	pmax		
	comp=Z,276nm,1.8s						
ULN	**Ulaanbaatar**	**30.40**	**311**	P	**P**	**13 22 01.6**	**+0.5**
ULN				P	**P**	**13 22 01.6**	**+0.5**
ULN	**Ulaanbaatar**	**30.40**	**311**	*ce*P	**P**	**13 22 01.0**	**-

YAK MLR MLR
comp=E,297nm,16.0s
YAK Yakutsk 30.64 349 P **P** **13 22 01.8 -0.9**
YAK IAmb IAmb 13 22 03.4
comp=Z,51nm,1.4s
SONM Songino Array 30.81 310 P **P** **13 22 05.5 +0.7**
comp=Z,20nm,0.8s,baz=115,slow=8.6,SNR=41
SONM LR LR 13 35 03.7
comp=Z,1μm,18.4s,baz=105,slow=38
GYA Guiyang 31.06 268 P **P** **13 22 06.3 -0.8**
GYA pmax pmax
comp=Z,7.0nm,1.1s
SEY Seymchan 31.27 9 P **P** **13 22 08.1 -0.3**
comp=Z,2.9nm,0.8s,baz=199,slow=5.0,SNR=3.6
LZH Lanzhou 31.44 287 *e*P **P** **13 22 07.9 -2.5**
LZH pP pP 13 22 21.0 +1.3
LZH sP pwP 13 22 26.7 +1.7
LZH pmax pmax
comp=Z,21nm,1.0s
LZH LR LR
comp=Z,1μm,11.4s
LZH LR LR
comp=Z,2μm,12.5s
LZH LR LR
comp=Z,2μm,14.2s
QIZ Qiongzhong 31.58 253 P **P** **13 22 09.1 -2.5**
QIZ S **S** **13 27 14.1 -3.9**
QIZ LR LR
comp=Z,650nm,17.5s
QIZ LR LR
comp=Z,540nm,16.0s
QIZ LR LR
comp=Z,760nm,18.7s
BOD Bodaibo 31.66 332 *e*P **P** **13 22 11.4 -0.5**
BOD pmax pmax
comp=Z,45nm,1.6s
CD2 Chengdu 32.29 278⇓ *i*P **P** **13 22 15.0 -2.8**
CD2 S **S** **13 27 24.1 -4.9**
CD2 pmax pmax
comp=Z,40nm,1.2s
CD2 LR LR
comp=Z,2μm,14.7s
CD2 LR LR
comp=Z,3μm,15.9s
CD2 LR LR
comp=Z,3μm,16.7s
ZAK Zakamensk 33.53 314 *e*P **P** **13 22 28.2 -0.3**
ZAK pmax pmax
comp=Z,17nm,1.4s
TLY Talaya 33.73 316 P **P** **13 22 31.0 +0.9**
TLY Talaya 33.73 316 *c i*P **P** **13 22 30.2 +0.1**
TLY *e*S **S** **13 27 56.3 +5.5**
TLY pmax pmax
comp=Z,63nm,1.2s
TLY MLR MLR
comp=Z,3μm,17.0s
TNTI Ternate 34.29 206 P **P** **13 22 33.7 -1.6**
SMPI Sarmi 34.35 185 P **P** **13 22 35.3 -0.4**
comp=Z,16nm,1.4s
GTA Gaotai 34.46 294⇑ P **P** **13 22 34.9 -1.8**
GTA pP sP 13 22 48.6 -2.2
GTA sP pwP 13 22 53.6 +1.0
GTA PcP **PcP** **13 25 12.0 +0.5**
GTA pmax pmax
comp=Z,11nm,1.3s
GTA pmax pmax
comp=Z,77nm,7.5s
GTA LR LR
comp=Z,910nm,15.6s
GTA LR LR
comp=Z,1μm,15.9s
GTA LR LR
comp=Z,1μm,15.9s
JAY Jayapura 34.76 182 LR LR 13 35 17.0
comp=Z,685nm,19.2s,baz=358,slow=34
MOY Mondy 35.29 315 *e*P **P** **13 22 43.6 -0.1**
MOY pmax pmax
comp=Z,29nm,1.8s
MRSI Marisa 36.88 214 P **P** **13 22 56.7 -0.8**
comp=Z,1μmcomp=Z,25nm,1.3s
KRVT Keravat (AS076 37.80 163 LR LR 13 37 41.1
comp=Z,215nm,19.2s,baz=345,slow=35
APSI Ampana 38.23 214 P **P** **13 23 06.7 -2.2**
comp=Z,21nm,0.9s
BILL Bilibino 38.38 15 *e*P **P** **13 23 09.2 -0.4**
BILL pmax pmax
comp=Z,8.0nm,1.7s
BILL Bilibino 38.38 15 P **P** **13 23 08.1 -1.5**
BILL IAmb IAmb 13 23 24.1
comp=Z,20nm,1.6s
BNDI Bandanaira 38.44 199 P **P** **13 23 06.8 -3.8**
TIXI Tiksi 39.90 354 *ce*P **P** **13 23 21.7 -0.5**
TIXI pmax pmax
comp=Z,8.0nm,1.0s
TIXI Tiksi 39.90 354 P **P** **13 23 20.8 -1.4**
PBKT Sadao Pong 40.09 257 P **P** **13 23 21.9 -2.5**
PBKT IAmb IAmb 13 23 42.1
comp=Z,17nm,1.2s
CHTO Chiang Mai 40.67 261 P **P** **13 23 26.6 -2.7**
CHTO pmax pmax
comp=Z,25nm,1.8s
CHTO Chiang Mai 40.67 261 P **P** **13 23 26.6 -2.7**
SBUM Sibu 40.74 229 P **P** **13 23 27.6 -2.3**
SBUM Sibu 40.74 229 P **P** **13 23 29.0 -0.9**
CMAR Chiang Mai Arr 40.84 261 P **P** **13 23 28.8 -1.9**
comp=Z,1.2nm,0.6s,baz=52,slow=6.4,SNR=8.0
CMAR PcP **PcP** **13 25 32.7 +1.5**
comp=Z,2.8nm,1.1s,baz=5.5,slow=1.8,SNR=7.5
CMAR LR LR 13 43 26.6
comp=Z,312nm,18.1s,baz=108,slow=41
CMAR Chiang Mai Arr 40.84 261 *i*P **P** **13 23 30.6 -0.1**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
KRAR Krasnoyarsk 41.09 320 *i*P **P** **13 23 31.9 -0.4**
PMG Port Moresby 41.91 172 *i*P **P** **13 23 38.7 -0.7**
PMG pmax pmax
comp=Z,76nm,1.0s
KSM Kuching 42.72 230 P **P** **13 23 44.0 -2.0**
KSM Kuching 42.72 230 P **P** **13 23 46.0 -0.1**
WMQ Urumqi 43.34 301 *e*P **P** **13 23 51.7 +0.7**
WMQ sP pwP 13 24 12.0 +5.6
WMQ pmax pmax
comp=Z,26nm,1.9s
WMQ pmax pmax
comp=Z,140nm,5.9s
WMQ LR LR
comp=Z,440nm,20.3s
WMQ LR LR
comp=Z,350nm,16.9s
WMQ LR LR
comp=Z,420nm,19.1s
DGZ Jazzator, Alta 43.46 310 *c i*P **P** **13 23 51.5 -0.4**
DGZ pmax pmax
comp=Z,35nm,1.1s
ZSN Zaisan 45.15 307 *e*P **P** **13 24 05.7 +0.4**
comp=Z,77nm,1.6s,baz=306
ZSN *e*S **S** **13 30 43.5 +1.2**
baz=306
ZSN *i* LR LR 13 43 20.9
comp=Z,222nm,14.4s,baz=306
ZSN Zaisan 45.15 307 *e*P **P** **13 24 05.7 +0.4**
ZSN *e*S **S** **13 30 43.5 +1.2**
ZSN pmax pmax
comp=Z,77nm,1.6s
ZSN MLR MLR
comp=Z,222nm,14.0s
ZAA0 Zalesovo Array 45.34 316 P **P** **13 24 05.5 -1.1**
ZAA0 IAmb IAmb 13 24 07.2
comp=Z,23nm,1.1s
ZALV Zalesovo Beam 45.34 316 P **P** **13 24 06.3 -0.4**
comp=Z,7.5nm,0.8s,baz=101,slow=6.3,SNR=34
ZALV PcP **PcP** **13 25 45.9 +0.2**
comp=Z,4.4nm,0.5s,baz=109,slow=3.5,SNR=6.9
ZALV ScP **ScP** **13 29 35.7 +0.2**
comp=Z,0.3nm,0.3s,baz=96,slow=1.4,SNR=1.4
ZALV LR LR 13 43 49.6
comp=Z,501nm,18.6s,baz=94,slow=37
MTN Manton Dam 46.15 194 P **P** **13 24 11.9 -1.4**
TAPN Taplejung 46.74 279 *e*P **P** **13 24 17.1 -1.4**
MK31 Makanchi Array 46.95 306 *i*P **P** **13 24 18.9 -0.6**
MK31 Makanchi Array 46.95 306 P **P** **13 24 18.9 -0.6**
MK31 IAmb IAmb 13 24 35.5
comp=Z,17nm,0.8s
MKAR Makanchi Array 46.95 306 P **P** **13 24 19.6 +0.1**
comp=Z,16nm,0.7s,baz=90,slow=9.6,SNR=104
MKAR LR LR 13 44 46.9
comp=Z,435nm,20.8s,baz=63,slow=37
IPM Ipoh 47.15 243 P **P** **13 24 21.0 -0.4**
MAKZ Makanchi 47.16 306 P **P** **13 24 19.2 -1.9**
MAKZ pmax pmax
comp=Z,101nm,1.6s
MAKZ Makanchi 47.16 306 P **P** **13 24 19.2 -1.9**
ODAN Odare 47.18 278 *e*P **P** **13 24 19.8 -2.0**
NRIK Noril'sk 47.60 337 P **P** **13 24 24.4 +0.2**
comp=Z,12nm,1.1s,baz=115,slow=9.3,SNR=21
NRIK LR LR 13 48 01.1
comp=Z,447nm,18.2s,baz=120,slow=41
RAMN Ramite 47.81 278 *e*P **P** **13 24 24.9 -1.8**
comp=Z,67nm,1.1s
JIRN Jiri 47.91 280 *e*P **P** **13 24 26.2 -1.4**
GUN Gumba 48.08 280 *e*P **P** **13 24 27.6 -1.3**
comp=Z,118nm,1.3s
SEM Semipalatinsk 48.09 311 *e*P **P** **13 24 27.3 -1.2**
comp=Z,33nm,1.5s,baz=310
SEM *i* S **S** **13 31 23.9 -0.6**
baz=310
SEM Semipalatinsk 48.09 311 *e*P **P** **13 24 27.3 -1.2**
SEM *i* S **S** **13 31 23.9 -0.6**
SEM pmax pmax
comp=Z,33nm,1.5s
PKI Pulchoki 48.59 280 *e*P **P** **13 24 31.1 -1.7**
comp=Z,39nm,1.0s
PKIN Phulchoki 48.60 280 *e*P **P** **13 24 31.1 -1.7**
DMN Daman 48.83 280 *e*P **P** **13 24 33.2 -1.4**
GKN Gorkha 49.09 281 *e*P **P** **13 24 34.8 -1.6**
KURK Kurchatov 49.11 311 P **P** **13 24 35.3 -0.7**
KURK P **P** **13 24 35.3 -0.7**
KURK Kurchatov 49.11 311 *ce*P **P** **13 24 35.0 -1.0**
KURK pmax pmax
comp=Z,71nm,1.7s
KURK Kurchatov 49.11 311 P **P** **13 24 34.5 -1.6**
KURBB Kurchatov Arra 49.17 311 P **P** **13 24 35.9 -0.7**
comp=Z,9.5nm,0.5s,baz=87,slow=8.1,SNR=70
KURBB Kurchatov Arra 49.17 311 P **P** **13 24 35.3 -1.2**
PDGK Podgornoye 49.32 302 P **P** **13 24 36.8 -1.2**
SHLS Shalkode 49.37 301 *e*P **P** **13 24 35.4 -3.0**
comp=Z,55nm,2.5s,baz=301
SHLS *i* LR LR 13 46 17.2
comp=Z,322nm,16.5s,baz=301
SHLS Shalkode 49.37 301 *e*P **P** **13 24 35.3 -3.0**
SHLS pmax pmax
comp=Z,55nm,2.5s
SHLS MLR MLR
comp=Z,322nm,16.0s
KNRA Kununurra 49.42 197 P **P** **13 24 37.8 -0.9**
UZB Uzynbulak 49.69 301⇑ *i*P **P** **13 24 40.0 -0.9**
comp=Z,24nm,2.2s,baz=301
UZB *e*S **S** **13 31 47.2 0.0**
baz=301
UZB Uzynbulak 49.69 301 *c i*P **P** **13 24 39.9 -0.9**
UZB *e*S **S** **13 31 47.2 0.0**
UZB pmax pmax
comp=Z,24nm,2.2s
DANN Dangsing 49.70 281 *e*P **P** **13 24 40.1 -1.1**
comp=Z,151nm,1.1s
TDK Taldyqorghan 49.84 304 *e*P **P** **13 24 41.7 -0.1**
comp=Z,14nm,0.7s,baz=304
TDK *e*S **S** **13 31 49.9 +1.0**
baz=304
TDK *i* LR LR 13 46 18.0
comp=Z,733nm,17.5s,baz=304
TDK Taldyqorghan 49.84 304 *e*P **P** **13 24 41.7 -0.1**
TDK *e*S **S** **13 31 49.8 +0.9**
TDK pmax pmax
comp=Z,14nm,0.7s
TDK MLR MLR
comp=Z,733nm,17.0s
OHAK Old Harbor 50.01 40 P **P** **13 24 42.7 0.0**
OHAK pP **sP** **13 24 55.1 +0.3**
KOLN Koldanda 50.03 281 *e*P **P** **13 24 42.3 -1.4**
comp=Z,75nm,1.2s
SATY Saty 50.15 301 *e*P **P** **13 24 42.8 -1.5**
comp=Z,30nm,2.4s,baz=301
SATY *e*S **S** **13 31 53.0 -0.6**
baz=301
SATY *i* LR LR 13 46 25.6
comp=Z,98nm,13.0s,baz=301
SATY Saty 50.15 301 *e*P **P** **13 24 42.8 -1.5**
SATY *e*S **S** **13 31 52.9 -0.6**
SATY pmax pmax
comp=Z,30nm,2.4s
SATY MLR MLR
comp=Z,98nm,13.0s
PRZ Przheval'sk 50.26 301 P **P** **13 24 45.7 +0.5**
PRZ pmax pmax
comp=Z,27nm,1.0s
PRZ Przheval'sk 50.26 301 P **P** **13 24 45.7 +0.5**
KDAK Kodiak Island 50.40 39 P **P** **13 24 44.7 -1.0**
comp=Z,10nm,0.8s,baz=264,slow=4.7,SNR=14
KDAK LR LR 13 44 03.7
comp=Z,545nm,20.7s,baz=256,slow=34
KDAK Kodiak Island 50.40 39 P **P** **13 24 45.4 -0.3**
KDAK *PP **sP** **13 24 58.4 +0.8**
KDAK pmax pmax
comp=Z,13nm,0.8s
KDAK Kodiak Island 50.40 39 P **P** **13 24 45.4 -0.3**
KDAK pP **sP** **13 24 58.4 +0.8**
KDAK IAmb IAmb 13 24 59.3
comp=Z,12nm,0.8s
PYUN Piuthan 50.42 281 *e*P **P** **13 24 44.6 -2.0**
comp=Z,118nm,0.8s
PPLA Purkeypile 50.82 33 P **P** **13 24 49.6 +0.5**
PPLA IAmb IAmb 13 25 27.2
comp=Z,45nm,1.8s
TARG Taragay, Kyrgy 50.83 300 P **P** **13 24 47.7 -2.2**
TARG IAmb IAmb 13 25 03.5
comp=Z,15nm,1.0s
CHKK Chushkaly 51.03 303⇑ *i*P **P** **13 24 50.1 -0.7**
baz=302
CHKK *e*S **S** **13 32 06.0 +0.5**
baz=302
CHKK Chushkaly 51.03 303⇑ *i*P **P** **13 24 50.0 -0.7**
CHKK *e*S **S** **13 32 05.9 +0.5**
MDOK Medeo 51.11 302 *i*P **P** **13 24 51.7 +0.1**
comp=Z,312nm,0.7s,baz=301
MDOK *e*S **S** **13 32 07.9 +1.0**
baz=301
MDOK *i* LR LR 13 45 19.9
comp=Z,287nm,16.3s,baz=301
MDOK Medeo 51.11 302 *i*P **P** **13 24 51.6 +0.1**
MDOK *e*S **S** **13 32 07.9 +1.0**
MDOK pmax pmax
comp=Z,312nm,0.7s
MDOK MLR MLR
comp=Z,287nm,16.0s
CNPM China Poot 51.12 37 P **P** **13 24 51.9 +0.7**
AAA Alma-Ata 51.20 302 *e*P **P** **13 24 52.6 +0.4**
comp=Z,12nm,0.7s,baz=302
AAA *e*S **S** **13 32 09.1 +1.1**
baz=302
AAA *i* LR LR 13 48 27.5
comp=Z,184nm,14.1s,baz=302
AAA Alma-Ata 51.20 302 *e*P **P** **13 24 52.5 +0.4**
AAA *e*S **S** **13 32 09.0 +1.1**
AAA pmax pmax
comp=Z,12nm,0.7s
AAA MLR MLR
comp=Z,184nm,14.0s
MDSI Maura Dua 51.20 231 P **P** **13 24 51.0 -1.3**
comp=Z,20nm,1.2s
TNSS Tian-Shan 51.21 302 *e*P **P** **13 24 52.8 +0.2**
comp=Z,156nm,0.8s,baz=301
TNSS *e*S **S** **13 32 09.1 +1.1**
baz=302
TNSS pmax pmax
comp=Z,156nm,0.8s
KDJ Kajisay 51.21 300 P **P** **13 24 51.8 -0.6**
KDJ pmax pmax
comp=Z,11nm,1.1s
KDJ Kajisay 51.21 300 P **P** **13 24 51.8 -0.6**
KDJ IAmb IAmb 13 24 57.8
comp=Z,11nm,1.1s
KUU Kurty 51.48 303 *e*P **P** **13 24 53.8 -0.4**
comp=Z,78nm,1.6s,baz=302
KUU Kurty 51.48 303 *e*P **P** **13 24 53.7 -0.4**
KUU pmax pmax
comp=Z,78nm,1.6s
MTBS Maitube 51.56 302 *e*P **P** **13 24 55.0 +0.2**
baz=302
MTBS Maitube 51.56 302 *e*P **P** **13 24 55.0 +0.2**
MLY Manley 51.64 30 P **P** **13 24 55.9 +0.8**
MLY pP **sP** **13 25 08.4 +1.8**
TRF Thorofare Moun 51.72 32 P **P** **13 24 56.8 +1.0**
TRF IAmb IAmb 13 25 26.3
comp=Z,11nm,1.2s
SEW Seward 52.03 36 P **P** **13 24 58.6 +0.7**
COLD Coldfoot 52.07 27 P **P** **13 24 58.6 +0.5**
PMR Palmer 52.19 34 P **P** **13 24 59.3 +0.2**
PMR Palmer 52.19 34 P **P** **13 24 59.3 +0.2**
TKM2 Tokmak 2 52.20 302 P **P** **13 25 00.5 +0.8**
SNR=29
GHO Glory Hole Cre 52.30 34 P **P** **13 25 00.0 0.0**
GHO IAmb IAmb 13 25 13.8
comp=Z,11nm,1.0s
MCK McKinley 52.34 32 P **P** **13 25 00.6 +0.3**
MCK pmax pmax
comp=Z,17nm,1.4s
MCK McKinley 52.34 32 P **P** **13 25 00.6 +0.3**
MCK IAmb IAmb 13 25 20.2
comp=Z,17nm,1.4s
RND Reindeer 52.37 32 P **P** **13 25 00.5 0.0**
RND pmax pmax
comp=Z,10.0nm,1.1s
RND Reindeer 52.37 32 P **P** **13 25 00.5 0.0**
RND IAmb IAmb 13 25 15.0
comp=Z,10nm,1.1s
WB0 Warramunga Arr 52.37 189 P **P** **13 24 59.8 -1.1**
TOLK Toolik Lake Re 52.46 25 P **P** **13 25 01.6 +0.5**
baz=264
TOLK Toolik Lake Re 52.46 25 P **P** **13 25 02.2 +1.1**
TOLK IAmb IAmb 13 25 15.2
comp=Z,20nm,1.4s
KNK Knik Glacier 52.52 35 P **P** **13 25 01.8 +0.2**
KNK pP **sP** **13 25 14.2 +0.7**
KNK IAmb IAmb 13 25 28.5
comp=Z,12nm,1.0s
WRAB Tennant Creek 52.54 189 *ce*P **P** **13 25 01.3 -0.8**
WRAB pmax pmax
comp=Z,72nm,1.3s
WRAB Tennant Creek 52.54 189 P **P** **13 25 01.2 -1.0**
WR0 Warramunga Arr 52.54 189 P **P** **13 25 01.3 -0.9**
WB2 Warramunga Arr 52.55 189 P **P** **13 25 01.2 -1.0**
WRA Warramunga Arr 52.55 189 P **P** **13 25 01.3 -0.9**
comp=Z,26nm,0.5s,baz=4.8,slow=7.6,SNR=444
FITZ Fitzroy Crossi 52.56 199 P **P** **13 25 01.9 -0.3**
FITZ IAmb IAmb 13 25 03.2
comp=Z,10.0nm,0.7s
SML Sawmill 52.58 34 P **P** **13 25 02.7 +0.6**
SML IAmb IAmb 13 25 28.9
comp=Z,9.1nm,0.9s
KZA Kyzart 52.63 301 P **P** **13 25 04.5 +1.3**
SNR=9.8
KSH Kashi 52.68 297 P **P** **13 25 07.0 +3.7**
KSH sP pwP 13 25 25.8 +6.5
KSH S **S** **13 32 27.7 -0.8**
KSH ScS **ScS** **13 34 48.8 -1.5**
KSH pmax pmax
comp=Z,35nm,0.7s
KSH pmax pmax
comp=Z,430nm,9.3s
KSH LR LR
comp=Z,760nm,14.4s
KSH LR LR
comp=Z,270nm,11.1s
KSH LR LR
comp=Z,900nm,13.9s
MDM Murphy Dome 52.70 30 P **P** **13 25 03.7 +0.8**
KBK Karagaybulak 52.72 302 P **P** **13 25 03.6 0.0**
SNR=15
WRH Wood River Hil 52.74 31 P **P** **13 25 03.3 +0.2**
WRH pP **sP** **13 25 16.0 +1.3**
SGDS Sogindy 52.78 303⇑ *i*P **P** **13 25 03.6 -0.3**
comp=Z,31nm,1.8s,baz=302
SGDS *e*S **S** **13 32 30.1 +0.4**
baz=302
SGDS Sogindy 52.78 303 *c i*P **P** **13 25 03.6 -0.3**
SGDS *e*S **S** **13 32 30.1 +0.4**
SGDS pmax pmax
comp=Z,31nm,1.8s
TCOL CIGO, UAF Yank 52.85 30 P **P** **13 25 03.5 -0.4**
baz=268
COLA College 52.85 30 *i*P **P** **13 25 02.2 -1.8**
COLA pmax pmax
comp=Z,3.0nm,1.1s
CCB Clear Creek Bu 52.87 31 P **P** **13 25 04.2 +0.1**
USP Ospenovka 52.92 302 P **P** **13 25 05.1 +0.3**
SNR=12
BRZS Berezniki 52.97 311⇑ *i*P **P** **13 25 04.4 -0.8**
comp=Z,34nm,1.3s,baz=311
BRZS Berezniki 52.97 311 *c i*P **P** **13 25 04.3 -0.8**
BRZS pmax pmax
comp=Z,34nm,1.3s
DHY Denali Highway 53.03 33 P **P** **13 25 05.1 -0.4**
DHY IAmb IAmb 13 25 38.2
comp=Z,16nm,1.7s
POKR Poker Plat Res 53.04 30 P **P** **13 25 05.4 0.0**
baz=268
AAK Ala-Archa 53.05 302 LR LR 13 49 05.7
comp=Z,509nm,18.4s,baz=76,slow=38
AAK Ala-Archa 53.05 302 P **P** **13 25 06.5 +0.4**
SNR=7.4
AAK Ala-Archa 53.05 302 P **P** **13 25 06.0 0.0**
AAK Ala-Archa 53.05 302 *ce*P **P** **13 25 05.5 -0.5**
AAK pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 53.05 302 P **P** **13 25 03.8 -2.2**
AAK IAmb IAmb 13 25 07.0
comp=Z,27nm,1.6s
SCM Sheep Creek Mo 53.05 34 P **P** **13 25 05.8 +0.2**
SCM *PP **sP** **13 25 18.7 +1.2**
SCM pmax pmax
comp=Z,15nm,1.1s
SCM Sheep Creek Mo 53.05 34 P **P** **13 25 05.8 +0.2**
SCM pP **sP** **13 25 18.7 +1.2**
SCM IAmb IAmb 13 25 20.7
comp=Z,15nm,1.1s
UCH Uchtor 53.13 301 P **P** **13 25 07.4 +0.5**
SNR=12
GLI Glacier Island 53.18 35 P **P** **13 25 06.8 +0.3**
GLI pP **sP** **13 25 19.1 +0.5**
GLI IAmb IAmb 13 25 20.1
comp=Z,8.8nm,1.0s
HDA Harding Lake 53.23 31 P **P** **13 25 06.8 0.0**
baz=269
HDA Harding Lake 53.23 31 P **P** **13 25 06.4 -0.4**
HDA pP **sP** **13 25 19.2 +0.8**
IL31 53.26 30 P **P** **13 25 06.6 -0.4**
IL31 pP **sP** **13 25 19.7 +1.2**
IL31 IAmb IAmb 13 25 21.3
comp=Z,13nm,1.1s
ILAR Eielson Array 53.26 30 P **P** **13 25 07.0 0.0**
comp=Z,7.7nm,1.1s,baz=267,slow=6.2,SNR=25
ILAR LR LR 13 49 50.5
comp=Z,108nm,19.8s,baz=316,slow=38
ILAR Eielson Array 53.26 30 P **P** **13 25 07.0 0.0**
OTUK Ortayu 53.46 309 P **P** **13 25 08.4 -0.4**
FID Port Fidalgo 53.49 35 P **P** **13 25 08.3 -0.4**
FID IAmb IAmb 13 25 22.5
comp=Z,19nm,1.3s
AML Almayashu 53.74 301 P **P** **13 25 12.3 +0.9**
SNR=36
PRP Porcupine Dome 53.85 30 P **P** **13 25 11.4 -0.1**
PAX Paxson 53.90 33 P **P** **13 25 11.7 -0.1**
PAX pmax pmax
comp=Z,6.0nm,1.1s
PAX Paxson 53.90 33 P **P** **13 25 11.7 -0.1**
BRVK Borovoye 54.03 315 P **P** **13 25 13.2 +0.4**
BRVK P **P** **13 25 13.2 +0.4**
BRVK Borovoye 54.03 315 *ce*P **P** **13 25 12.4 -0.4**
BRVK pmax pmax
comp=Z,57nm,2.5s
BRVK Borovoye 54.03 315 P **P** **13 25 11.8 -1.0**
BRVK IAmb IAmb 13 25 17.5
comp=Z,22nm,1.1s
RIDG Independent Ri 54.16 32 P **P** **13 25 13.8 +0.1**
RIDG IAmb IAmb 13 25 28.8
comp=Z,11nm,1.2s
DOT Dot Lake 54.51 32 P **P** **13 25 16.2 0.0**
SCRK Sand Creek 54.53 31 P **P** **13 25 16.2 -0.2**
SCRK IAmb IAmb 13 25 47.2
comp=Z,10nm,1.1s
BHK Bhakra 54.68 288 *e*P **P** **13 25 18.0 +0.1**
VRDI Verde Repeater 54.94 35 P **P** **13 25 19.8 +0.3**
NDI New Delhi 54.98 284 *e*P **P** **13 25 18.0 -2.0**
DZA Taraz 55.26 303 *e*P **P** **13 25 21.9 0.0**
baz=302
DZA *i* LR LR 13 49 31.3
comp=Z,73nm,12.7s,baz=302

DZA Taraz 55.26 303 *e*P P **13 25 21.9 0.0**
DZA MLR MLR
comp=Z,73nm,13.0s
WAX Waxell Ridge 55.30 36 P P **13 25 22.5 +0.6**
WAX IAmb IAmb 13 27 04.5
comp=Z,12nm,1.1s
EGAK Eagle 55.72 30 P P **13 25 24.9 +0.1**
KK31 Karatay Array 55.79 303 *i* P P **13 25 25.4 -0.3**
KK31 Karatay Array 55.79 303 P P **13 25 25.2 -0.6**
KKAR Karatay Array 55.79 303 P P **13 25 25.0 -0.7**
KKAR pmax pmax
comp=Z,43nm,1.1s
KKAR Karatay Array 55.79 303 P P **13 25 25.0 -0.7**
AS31 Alice Springs 56.28 189 P P **13 25 28.8 -0.5**
ASAR Alice Springs 56.28 189 P P **13 25 28.5 -0.8**
comp=Z,4.3nm,0.5s,baz=358,slow=6.5,SNR=96
NIL Nilore 56.46 291 P P **13 25 30.7 0.0**
NIL P P **13 25 30.7 0.0**
NIL Nilore 56.46 291 P P **13 25 30.2 -0.5**
NIL pmax pmax
comp=Z,32nm,0.9s
NIL Nilore 56.46 291 P P **13 25 30.2 -0.5**
GAR Garm 57.05 298 P P **13 25 33.9 -1.0**
EPYK Eagle Plains 57.40 28 P P **13 25 37.5 +0.7**
baz=277
EPYK Eagle Plains 57.40 28 P P **13 25 37.6 +0.7**
HYT Haines Junctio 57.86 35 P P **13 25 40.5 +0.3**
HYT IAmb IAmb 13 26 08.5
comp=Z,26nm,1.5s
CHGR Chuyangaron 58.02 298 P P **13 25 40.8 -0.8**
EIDS Eidsvold 58.15 170 P P **13 25 42.5 +0.1**
EIDS pP **sP** **13 25 55.4 +0.5**
INK Inuvik 58.37 26 P P **13 25 44.0 +0.6**
comp=Z,5.4nm,1.0s,baz=301,slow=4.7,SNR=12
INK Inuvik 58.37 26 P P **13 25 43.9 +0.4**
HYB Hyderabad 58.50 271 *i* P P **13 25 44.5 -0.8**
SVE Sverdlovsk 58.85 321 *e*P P **13 25 46.7 -0.3**
SVE *e*S **S** **13 33 48.8 -1.1**
SVE pmax pmax
comp=Z,36nm,1.2s
DZM Mont Dzumac 59.09 153 *e*S **S** **13 33 51.4 -2.5**
comp=Z,598nm,28.8s
DZM *e*LR LR 13 43 12.3
comp=Z,556nm,20.4s
KBL Kabul 59.45 294 P P **13 25 51.5 -0.4**
KBL P P **13 25 51.5 -0.4**
KBL Kabul 59.45 294 P P **13 25 50.6 -1.2**
KBL pmax pmax
comp=Z,20nm,1.0s
KBL Kabul 59.45 294 P P **13 25 50.6 -1.2**
KBL IAmb IAmb 13 26 05.3
comp=Z,20nm,1.0s
ARU Arti 60.06 320 LR LR 13 56 09.4
comp=Z,382nm,18.2s,baz=72,slow=40
ARU Arti 60.06 320 *c i* P P **13 25 54.7 -0.7**
ARU 13 26 36.6
ARU 13 28 06.4
ARU S **S** **13 34 06.5 +1.0**
ARU SS **SS** **13 37 54.6 -7.4**
ARU pmax pmax
comp=Z,38nm,1.1s
ARU MLR MLR
comp=Z,601nm,16.0s
ARU Arti 60.06 320 P P **13 25 54.0 -1.4**
A36M Sachs Harbour 60.43 21 P P **13 25 58.7 +1.1**
baz=284
C36M Paulatuk 61.50 24 P P **13 26 05.0 +0.1**
baz=286
C36M Paulatuk 61.50 24 P P **13 26 05.0 +0.1**
C36M IAmb IAmb 13 26 20.2
comp=Z,9.7nm,1.1s
AKTO Aktyubinsk 62.03 314 LR LR 13 53 23.9
comp=Z,135nm,21.1s,baz=74,slow=36
STKA Stephens Creek 63.95 180 P P **13 26 22.2 +0.6**
comp=Z,3.8nm,0.6s,baz=348,slow=7.6,SNR=11
STKA Stephens Creek 63.95 180 P P **13 26 21.7 0.0**
KIRV Kirov 64.14 324 LR LR 13 56 55.6
comp=Z,895nm,18.4s,baz=66,slow=38
FORT Forrest 64.19 193 P P **13 26 22.9 -0.3**
HRA Herat 64.72 296 P P **13 26 27.0 -0.2**
SPITS Spitsbergen Ar 65.10 349 LR LR 13 56 29.7
comp=Z,148nm,20.7s,baz=55,slow=38
BBOO Buckleboo 65.11 185 P P **13 26 29.1 -0.1**
BBB Bella Bella 65.20 43 LR LR 13 51 42.8
comp=Z,171nm,19.8s,baz=319,slow=33
KBS Kingsbay 65.24 351 P P **13 26 30.3 +0.7**
KBS pmax pmax
comp=Z,11nm,0.9s
KBS Kingsbay 65.24 351 P P **13 26 30.2 +0.7**
KBS IAmb IAmb 13 26 32.8
comp=Z,11nm,0.9s
MORW Morawa 65.86 205 P P **13 26 33.3 -0.9**
GEYT Alibeck 66.40 301 P P **13 26 38.4 +0.7**
comp=Z,6.1nm,0.8s,baz=48,slow=2.2,SNR=11
GEYT LR LR 13 58 18.3
comp=Z,282nm,18.0s,baz=35,slow=38
GYA0 ALIBECK ARRAY 66.40 301 P P **13 26 37.7 -0.1**
GYA0B ALIBECK ARRAY 66.40 301 P P **13 26 37.5 -0.2**
GYA0B IAmb IAmb 13 26 42.2
comp=Z,13nm,1.0s
LVZ Lovozero 66.44 337 P P **13 26 36.2 -1.3**
LVZ pmax pmax
comp=Z,10.0nm,0.5s
LVZ Lovozero 66.44 337 P P **13 26 36.2 -1.3**
LVZ IAmb IAmb 13 27 34.5
comp=Z,9.8nm,0.5s
TMCR Tamitsa 66.95 332 *e*P P **13 26 40.4 -0.3**
TMCR pmax pmax
comp=Z,27nm,1.1s
RES Resolute Bay 66.99 14 P P **13 26 41.2 +0.4**
RES pmax pmax
comp=Z,8.0nm,0.8s
RES Resolute Bay 66.99 14 P P **13 26 41.2 +0.4**
RES IAmb IAmb 13 26 56.1
comp=Z,8.4nm,0.8s
YKA Yellowknife Ar 67.66 29 P P **13 26 45.6 +0.3**
comp=Z,1.4nm,0.6s,baz=295,slow=6.4,SNR=10
YKA LR LR 14 03 35.2
comp=Z,63nm,18.7s,baz=0.0,slow=42
KLMR Klimovskoe 67.83 329 *e*P P **13 26 43.7 -2.7**
KLMR *e* 13 29 12.3
KLMR pmax pmax
comp=Z,25nm,1.3s
KLMR Klimovskoe 67.83 329 *e*P P **13 26 43.7 -2.7**
KLMR AMP 13 26 47.4
comp=Z,25nm,1.3s
KLMR *e*PP **PP** **13 29 12.3 -3.4**
ARCES ARCESS Array B 68.42 340 P P **13 26 48.8 -1.2**
comp=Z,1.6nm,0.7s,baz=46,slow=7.0,SNR=5.1
ARCES LR LR 14 02 21.8
comp=Z,345nm,18.6s,baz=74,slow=41
NWAO Narrogin (SRO) 69.00 202 P P **13 26 53.5 -0.5**
NWAO pmax pmax
comp=Z,55nm,1.1s
NWAO Narrogin (SRO) 69.00 202 P P **13 26 53.5 -0.5**
NWAO Narrogin (SRO) 69.00 202 P P **13 26 53.3 -0.6**
NWAO IAmb IAmb 13 26 55.8
comp=Z,44nm,1.1s
D03D Eldon 70.05 46 P P **13 27 01.6 +1.1**
baz=297
B05A Bryant 70.32 45 P P **13 27 02.4 +0.4**
baz=297
DAG Danmarks Havn 70.38 355 *i* P P **13 27 01.4 -0.6**
comp=Z,7.6nm,0.9s
DAG Danmarks Havn 70.38 355 *i* P P **13 27 01.4 -0.6**
DAG pmax pmax
comp=Z,8.0nm,0.9s
E04D Cinebar 70.81 47 P P **13 27 07.0 +1.9**
baz=297
G03D McMinnville, O 70.99 48 P P **13 27 06.8 +0.6**
baz=297
I02D Swisshome 71.12 49 P P **13 27 08.1 +1.2**
baz=297
MOS Moscow 71.15 325 *e*P P **13 27 05.6 -1.4**
MOS *e* 13 27 18.3
MOS MLR MLR
comp=Z,900nm,20.0s
VRH Novokhopyorsk 71.23 319 *e*P P **13 27 06.7 -0.8**
VRH pmax pmax
comp=Z,9.0nm,0.4s
I03D Drain, OR 71.62 50 P P **13 27 11.7 +1.7**
baz=298
B08A Colville Reser 71.91 44 P P **13 27 12.3 +0.5**
OBN Obninsk 71.99 324 LR LR 14 01 40.3
comp=Z,207nm,18.6s,baz=53,slow=38
OBN Obninsk 71.99 324 *e*P P **13 27 11.1 -0.9**
OBN *e* 13 27 27.1
OBN *e* 13 29 52.6
OBN *e*PPP PPP 13 31 32.0
OBN pmax pmax
comp=Z,8.0nm,0.5s
LPSR Galich'ya Gora 72.06 321 *e*P P **13 27 12.1 -0.4**
LPSR pmax pmax
comp=Z,20nm,1.5s
AKT Akhty 72.11 308 *e*P P **13 27 13.8 +0.6**
AKT *e* 13 27 32.0
AKT pmax pmax
comp=Z,52nm,1.3s
I04A Tendick Farm, 72.18 49 P P **13 27 15.0 +1.6**
baz=298
WBK Wadi Bani Khal 72.44 286 P P **13 27 15.9 +0.6**
SNR=5.8
WBK P P **13 27 15.9 +0.6**
SNR=5.8
GROC Groznyy 72.57 310 *e*P P **13 27 15.9 +0.2**
GROC *e**PP **sP** **13 27 30.5 +0.4**
GROC *e* 13 27 33.6
GROC *e* 13 29 57.9
GROC pmax pmax
comp=Z,41nm,1.2s
I05D Terrebonne, OR 72.61 48 P P **13 27 16.8 +0.8**
baz=299
VSR Storozhevoye 72.62 320 *e*P P **13 27 15.5 -0.4**
VSR pmax pmax
comp=Z,30nm,1.4s
J04D Umpqua Nationa 72.63 50 P P **13 27 18.0 +1.6**
baz=298
VORD Divnogorie 72.68 320 *e*P P **13 27 15.4 -0.8**
VORD pmax pmax
comp=Z,10.0nm,1.2s
BIDO Bidbid 72.69 287 P P **13 27 18.0 +1.2**
SNR=8.9
SMDO Samad 72.97 287 P P **13 27 20.0 +1.4**
SNR=6.5
FIA1 FINESS Array S 73.04 333 P P **13 27 17.4 -0.7**
FINES FINESS Array B 73.04 333 P P **13 27 17.9 -0.2**
comp=Z,2.5nm,0.5s,baz=60,slow=6.2,SNR=21
FINES LR LR 14 01 47.6
comp=Z,275nm,18.0s,baz=46,slow=38
FINES FINESS Array B 73.04 333 *i* P P **13 27 18.0 -0.2**
FINES pmax pmax
comp=Z,3.0nm,0.5s
PINE Pine Mountain 73.12 49 P P **13 27 20.2 +1.0**
PINE IAmb IAmb 13 27 35.8
comp=Z,40nm,1.3s
J05D Fort Rock, OR 73.17 49 P P **13 27 21.5 +1.9**
baz=299
NEW Newport 73.25 43 P P **13 27 20.9 +1.2**
baz=300
JMDO Jabal Madar 73.26 286 P P **13 27 21.0 +0.8**
SNR=5.7
JMDO P P **13 27 21.0 +0.8**
SNR=5.7
HOQ Hoqain 73.32 288 P P **13 27 22.0 +1.4**
SNR=8.5
GOF Gofitskoye 73.42 313 *e*P P **13 27 21.7 +1.0**
GOF pmax pmax
comp=Z,62nm,1.4s
UOSS Minazif 73.56 289 P P **13 27 21.6 -0.4**
UOSS Minazif 73.56 289 P P **13 27 21.3 -0.6**
UOSS IAmb IAmb 13 27 25.1
comp=Z,24nm,1.4s
K05A Summer Lake 73.66 50 P P **13 27 23.0 +0.5**
K05A IAmb IAmb 13 27 38.3
comp=Z,31nm,1.1s
SOHO SOHO 73.68 288 P P **13 27 23.1 +0.5**
SNR=6.3
BSY Bisya 73.81 287 P P **13 27 23.7 +0.2**
SNR=10.0
ZEI Tsey 73.99 311 *e*P P **13 27 22.8 -1.6**
ZEI pmax pmax
comp=Z,15nm,1.1s
MHTO MHTO 74.03 285 P P **13 27 24.5 -0.1**
SNR=10.0
MHTO P P **13 27 24.5 -0.1**
SNR=10.0
ARQ Araqi 74.07 288 P P **13 27 25.0 0.0**
SNR=6.4
KBZ Khabaz 74.17 312 P P **13 27 25.0 -0.1**
comp=Z,111nm,0.9s,baz=66,slow=3.2,SNR=14
KBZ LR LR 14 03 02.2
comp=Z,332nm,18.2s,baz=78,slow=38
KIV Kislovodsk 74.19 312 P P **13 27 25.9 +0.5**
KIV Kislovodsk 74.19 312 *e*P P **13 27 25.7 +0.3**
KIV *e* 13 27 38.3
KIV *e* 13 30 09.2
KIV pmax pmax
comp=Z,36nm,1.4s
KIV Kislovodsk 74.19 312 P P **13 27 25.2 -0.2**
SHA1 Shidzhatmaz 74.31 312 *c i* P P **13 27 26.0 -0.3**
NEY Neytrino 74.52 312 *i* P P **13 27 28.4 +1.0**
NEY pmax pmax
comp=Z,2.0nm,1.0s
VSU Vasula 74.59 330 *c i* P P **13 27 27.0 -0.3**
VSU pmax pmax
comp=Z,33nm,1.4s
WALA Waterton Lakes 74.67 41 P P **13 27 28.9 +0.8**
WALA IAmb IAmb 13 27 44.6
comp=Z,18nm,1.1s
BMO Blue Mountains 74.86 46 P P **13 27 29.6 +0.3**
BMO Blue Mountains 74.86 46 P P **13 27 29.6 +0.3**
J08A Circle Bar Ran 74.89 48 P P **13 27 29.6 +0.1**
J08A IAmb IAmb 13 27 46.3
comp=Z,15nm,1.2s
WVOR Wild Horse Val 75.26 49 P P **13 27 32.0 +0.4**
WVOR pmax pmax
comp=Z,17nm,1.5s
WVOR Wild Horse Val 75.26 49 P P **13 27 32.0 +0.4**
WVOR IAmb IAmb 13 28 02.6
comp=Z,17nm,1.4s
SUMG Summit 75.29 0 *i* P P **13 27 33.0 +1.4**
comp=Z,26nm,0.9s
SUMG Summit 75.29 0 *i* P P **13 27 33.0 +1.4**
SUMG pmax pmax
comp=Z,26nm,0.9s
SUMG Summit 75.29 0 P P **13 27 30.3 -1.3**
SUMG IAmb IAmb 13 27 35.6
comp=Z,41nm,1.5s
BEKR Beckworth 75.42 52 P P **13 27 32.0 -0.7**
MSO Missoula 75.83 43 P P **13 27 35.1 +0.2**
MSO IAmb IAmb 13 27 50.9
comp=Z,16nm,1.3s
SOC Sochi 76.23 313 *e*P P **13 27 35.6 -1.4**
SOC *e* 13 30 29.9
SOC *e*PPP PPP 13 32 20.3
SOC *e*S **S** **13 37 17.4 -1.2**
SOC pmax pmax
comp=Z,22nm,0.6s
SOC MLR MLR
comp=Z,233nm,14.0s
CMB Columbia Colle 76.33 54 P P **13 27 38.2 +0.5**
CMB pmax pmax
comp=Z,6.0nm,0.9s
CMB Columbia Colle 76.33 54 P P **13 27 38.2 +0.5**
MFID Camas Ranch 76.52 47 P P **13 27 39.5 +0.8**
MFID IAmb IAmb 13 27 54.8
comp=Z,20nm,1.4s
YERR Yerington 76.62 52 P P **13 27 40.4 +0.8**
YERR IAmb IAmb 13 27 45.4
comp=Z,16nm,1.4s
LRM Limekiln Ridge 77.25 44 P P **13 27 43.4 +0.3**
RYN Ryan 77.28 52 P P **13 27 43.5 +0.2**
KVN Kaiserville 77.34 52 P P **13 27 44.1 +0.5**
KVN pmax pmax
comp=Z,19nm,1.7s
KVN Kaiserville 77.34 52 P P **13 27 44.1 +0.5**
KVN IAmb IAmb 13 27 49.4
comp=Z,19nm,1.7s
DLMT Dillon 77.42 44 P P **13 27 44.2 +0.4**
DLMT IAmb IAmb 13 28 00.3
comp=Z,15nm,1.0s
FFC Flin Flon 77.42 32 P P **13 27 44.0 +0.5**
FFC pmax pmax
comp=Z,12nm,0.9s
FFC Flin Flon 77.42 32 P P **13 27 44.0 +0.5**
FFC IAmb IAmb 13 27 58.5
comp=Z,12nm,0.9s
NVAR Mina Array Bea 77.53 52 P P **13 27 46.2 +1.5**
comp=Z,1.9nm,0.8s,baz=285,slow=5.7,SNR=11
NVAR LR LR 13 58 07.9
comp=Z,425nm,19.3s,baz=289,slow=33
EGMT Eagleton 77.54 41 P P **13 27 44.6 +0.2**
EGMT IAmb IAmb 13 28 00.7
comp=Z,28nm,1.4s
MCMT McKenzie Canyo 77.56 45 P P **13 27 44.9 +0.1**
NV11 Mina Array Sit 77.63 52 P P **13 27 45.3 +0.2**
FCC Fort Churchill 77.99 26 P P **13 27 46.1 -0.5**
FCC pmax pmax
comp=Z,10.0nm,1.1s
FCC Fort Churchill 77.99 26 P P **13 27 46.0 -0.5**
FCC IAmb IAmb 13 28 02.3
comp=Z,10nm,1.1s
AKASG Malin Array Be 78.14 323 P P **13 27 47.6 0.0**
comp=Z,5.0nm,0.5s,baz=47,slow=6.1,SNR=20
AKASG LR LR 14 05 34.3
comp=Z,786nm,18.1s,baz=50,slow=38
AKBB Malin Array Si 78.14 323 P P **13 27 46.6 -1.0**
AKBB pmax pmax
comp=Z,20nm,1.3s
AKBB Malin Array Si 78.14 323 P P **13 27 46.6 -1.0**
AKBB IAmb IAmb 13 27 47.8
comp=Z,20nm,1.3s
BKZ Black Stump Fm 78.18 153 P P **13 27 48.5 +0.8**
BKZ IAmb IAmb 13 29 38.9
comp=Z,34nm,1.6s
ELK Elko 78.31 49 P P **13 27 49.4 +0.4**
ELK pmax pmax
comp=Z,8.0nm,1.2s
ELK Elko 78.31 49 P P **13 27 49.4 +0.4**
NC405 NORSAR Array S 78.34 338 P P **13 27 48.2 -0.3**
NC303 NORSAR Array S 78.36 338 P P **13 27 48.5 -0.2**
NC204 NORSAR Array S 78.52 338 P P **13 27 48.9 -0.6**
NB201 NORSAR Array S 78.52 338 P P **13 27 49.2 -0.3**
NB201 IAmb IAmb 13 27 52.8
comp=Z,28nm,1.1s
NB2 NORSAR Subarra 78.56 338 P P **13 27 49.3 -0.4**
comp=Z,23nm,1.2s,baz=41,slow=5.6
NB2 NORSAR Subarra 78.56 338 P P **13 27 49.3 -0.4**
baz=41,slow=5.6
NOA NORSAR Array B 78.56 338 P P **13 27 49.3 -0.4**
comp=Z,5.3nm,0.8s,baz=40,slow=4.4,SNR=12
NOA LR LR 14 05 47.1
comp=Z,323nm,19.6s,baz=45,slow=38
YHB Horse Butte 78.58 44 P P **13 27 50.5 +0.1**
NC602 NORSAR Array S 78.68 338 P P **13 27 49.7 -0.6**
NC602 IAmb IAmb 13 27 51.3
comp=Z,34nm,1.6s
NBO00 NORSAR Array S 78.70 338 P P **13 27 50.3 -0.2**
NBO00 IAmb IAmb 13 27 51.1
comp=Z,19nm,1.1s
NAO01 NORSAR Array S 78.81 338 P P **13 27 50.5 -0.6**
NAO01 IAmb IAmb 13 27 51.4
comp=Z,17nm,1.1s
GCMT Greycliff 78.87 43 P P **13 27 51.5 -0.4**
GRAC Grapevine Rang 78.92 53 P P **13 27 54.0 +1.8**
baz=302
YNE Yellowstone No 79.13 43 P P **13 27 53.4 -0.1**
H17A Grant Village 79.15 44 P P **13 27 56.0 +2.4**
baz=305
IMW Indian Meadow 79.22 45 P P **13 27 53.2 -0.9**
IMW IAmb IAmb 13 27 59.3
comp=Z,16nm,1.4s
FLWY Flagg Ranch 79.25 44 P P **13 27 54.0 -0.1**
FLWY IAmb IAmb 13 28 13.0
comp=Z,28nm,1.6s
FXWY Fox Creek 79.31 45 P P **13 27 55.6 +1.1**
MPMC Manual Prospec 79.33 54 P P **13 27 55.3 +0.6**
baz=302
R11A Troy Canyon, C 79.38 51 P P **13 27 54.9 0.0**
baz=303
R11A Troy Canyon, C 79.38 51 P P **13 27 55.6 +0.7**
BFZ Birch Farm 79.41 154 P P **13 27 55.0 +0.6**
TPAW Teton Pass 79.44 45 P P **13 27 57.3 +2.0**
RLMT Red Lodge 79.49 43 P P **13 27 56.3 +0.8**
baz=306
RLMT Red Lodge 79.49 43 P P **13 27 56.7 +1.3**
RLMT IAmb IAmb 13 28 12.2
comp=Z,24nm,1.6s
FURC Furnace Creek, 79.54 53 P P **13 27 57.6 +2.1**
baz=303
ABTO Aybut 79.66 284 P P **13 27 56.1 -0.4**
SNR=7.6
TPNV Topopah Spring 79.70 53 P P **13 27 57.4 +0.8**
baz=303
TPNV Topopah Spring 79.70 53 P P **13 27 57.2 +0.6**
TPNV pmax pmax
comp=Z,8.0nm,0.9s
TPNV Topopah Spring 79.70 53 P P **13 27 57.2 +0.6**
AHID Auburn Hatcher 79.77 46 P P **13 27 57.9 +1.0**
HWUT Hardware Ranch 80.14 47 P P **13 27 59.7 +0.7**
HWUT IAmb IAmb 13 28 15.0
comp=Z,18nm,1.4s
DUG Dugway, Tooele 80.16 49 P P **13 28 00.3 +1.3**
baz=304
DUG Dugway, Tooele 80.16 49 P P **13 28 00.0 +1.0**
DUG pmax pmax
comp=Z,12nm,1.0s
DUG Dugway, Tooele 80.16 49 P P **13 27 60.0 +1.0**
DUG IAmb IAmb 13 28 15.6
comp=Z,12nm,0.9s
GSC Goldstone, Bar 80.21 54 P P **13 27 59.0 -0.3**
baz=303
GSC Goldstone, Bar 80.21 54 P P **13 27 59.7 +0.4**
GSC pmax pmax
comp=Z,10.0nm,1.3s
GSC Goldstone, Bar 80.21 54 P P **13 27 59.7 +0.4**
PSUT Pine Spring 80.42 50 P P **13 28 00.8 +0.3**
TCUT Toone Canyon 80.52 47 P P **13 28 02.2 +1.1**
KIS Kishinev 80.61 320 *i* P P **13 27 51.3 -10**
KIS Kishinev 80.61 320 *eP* P **13 27 51.3 -10**
SHPR Sheep Range 80.67 53 P P **13 28 02.1 +0.2**
BW06 Boulder Array 80.69 45 P P **13 28 02.0 +0.1**
baz=306
BW06 Boulder Array 80.69 45 P P **13 28 02.1 +0.1**
PD31 Pinedale Array 80.69 45 P P **13 28 03.0 +1.1**
PDAR Pinedale Array 80.69 45 P P **13 28 03.0 +1.1**
comp=Z,1.6nm,0.7s,baz=270,slow=4.0,SNR=12
PDAR LR LR 14 00 43.6
comp=Z,115nm,19.2s,baz=333,slow=33
TUQ Turquoise Moun 80.74 54 P P **13 28 03.3 +1.1**
baz=303
NLU North Lily Min 80.76 48 P P **13 28 02.1 -0.3**
JLU Jordanelle 80.78 48 P P **13 28 02.6 +0.1**
HEC Hector,Ludlow 80.79 55 P P **13 28 03.1 +0.7**
baz=303
GMRC Granite Mounta 81.28 54 P P **13 28 05.7 +0.6**
baz=304
LVV L'vov 81.29 325 *eP* P **13 28 04.7 0.0**
PFO Pinyon Flats O 81.36 56 P P **13 28 05.7 +0.1**
baz=303
PFO Pinyon Flats O 81.36 56 P P **13 28 05.1 -0.5**
PFO pmax pmax
comp=Z,14nm,1.2s
PFO Pinyon Flats O 81.36 56 P P **13 28 05.1 -0.5**
PFO IAmb IAmb 13 28 10.1
comp=Z,14nm,1.1s
XPFO Pion Flat 81.37 56 P P **13 28 05.1 -0.5**
XPFO IAmb IAmb 13 28 10.1
comp=Z,14nm,1.1s
TPFO Pinon Flats 81.37 56 P P **13 28 06.2 +0.6**
baz=303
SZCU Shurtz Canyon 81.44 51 P P **13 28 06.5 +0.5**
BELC Belle Mtn. Jos 81.47 55 P P **13 28 06.5 +0.4**
baz=304
MSU Marysvale 81.52 50 P P **13 28 06.1 -0.3**
MSU Marysvale 81.52 50 P P **13 28 06.1 -0.3**
LCMT Little Creek M 81.67 51 P P **13 28 07.8 +0.7**
MTPU Mount Pierson 81.78 50 P P **13 28 08.9 +1.0**
MONP2 Monument Peak 81.78 56 P P **13 28 07.4 -0.5**
baz=304
P17A Butcher Ranch, 81.88 48 P P **13 28 08.9 +0.6**
Q16A Castle Valley 81.93 49 P P **13 28 09.8 +1.3**
KNB Kanab 81.94 51 P P **13 28 09.9 +1.3**
KNB pmax pmax
comp=Z,16nm,1.0s
KNB Kanab 81.94 51 P P **13 28 09.9 +1.3**
RDMU Red Mountain 81.97 47 P P **13 28 08.6 -0.2**
IRM Iron Mountain 81.98 55 P P **13 28 09.1 +0.5**
baz=304
BC3 Big Chuckawall 82.04 55 P P **13 28 10.0 +0.9**
baz=304
KWP Kalwaria Pacla 82.06 325 *eP* P **13 28 09.3 +0.5**
KWP Kalwaria Pacla 82.06 325 P P **13 28 08.7 -0.1**
KWP pmax pmax
comp=Z,72nm,1.3s

KWP	**Kalwaria Pacla**	**82.06**	**325**	P		**P**	**13 28 08.7**	**-0.1**
TESR	**Tescani**	**82.08**	**321**	⇑P		**P**	**13 28 09.6**	**+0.7**
BIZ	**Bicaz**	**82.10**	**321**	⇑P		**P**	**13 28 10.2**	**+1.2**
CFR	**Carcaliu**	**82.11**	**319**	⇓P		**P**	**13 28 10.5**	**+1.5**
CFR	**Carcaliu**	**82.11**	**319**	⇓P		**P**	**13 28 10.5**	**+1.5**
BUR08	**Bucovina Ar. S**	**82.11**	**322**	P		**P**	**13 28 09.0**	**-0.3**
BUR08	comp=Z,18nm,1.4s			IAmb	IAmb		13 28 10.8	
BURAR	**Bucovina Array**	**82.12**	**322**	⇓P		**P**	**13 28 10.2**	**+0.9**
BURAR	**Bucovina Array**	**82.12**	**322**	⇓P		**P**	**13 28 10.2**	**+0.9**
IKP	**In-Ko-Pah, Jac**	**82.14**	**56**	P		**P**	**13 28 10.5**	**+1.0**
BR131	**Keskin Array S**	**82.15**	**312**	P		**P**	**13 28 09.3**	**-0.3**
BR131	comp=Z,8.0nm,0.9s			pmax	pmax			
BR131	**Keskin Array S**	**82.15**	**312**	P		**P**	**13 28 09.3**	**-0.3**
BR131	comp=Z,7.6nm,0.8s			IAmb	IAmb		13 28 11.1	
BRTR	**Keskin Array B**	**82.15**	**312**	P		**P**	**13 28 09.9**	**+0.3**
BRTR	comp=Z,3.7nm,0.7s,baz=116,slow=3.4,SNR=20			LR	LR		14 10 41.7	
TOPG	**Topolog**	**82.16**	**319**	⇓P		**P**	**13 28 10.1**	**+0.7**
SRU	**San Rafael Swe**	**82.23**	**48**	P		**P**	**13 28 10.2**	**+0.1**
SRU	comp=Z,13nm,0.7s			pmax	pmax			
SRU	**San Rafael Swe**	**82.23**	**48**	P		**P**	**13 28 10.2**	**+0.1**
PPT	**Papeete**	**82.31**	**116**	LR		LR	14 01 45.9	
W13A	**Hualapai Mount**	**82.31**	**53**	P		**P**	**13 28 11.3**	**+0.7**
PPT2	**Papeete2**	**82.33**	**116**	eLR		LR	13 54 00.5	
VRI	**Vrincioaia**	**82.45**	**320**	⇓P		**P**	**13 28 12.4**	**+1.5**
VRI	**Vrincioaia**	**82.45**	**320**	⇓P		**P**	**13 28 12.4**	**+1.5**
K22A	**Casper**	**82.56**	**44**	P		**P**	**13 28 10.8**	**-0.9**
RAYN	**Ar Rayn**	**82.71**	**293**	P		**P**	**13 28 12.1**	**-0.6**
RAYN	comp=Z,12nm,0.7s			pmax	pmax			
RAYN	**Ar Rayn**	**82.71**	**293**	P		**P**	**13 28 12.1**	**-0.6**
RAYN	comp=Z,12nm,0.7s			IAmb	IAmb		13 28 14.4	
KOLS	**Kolonicke sedl**	**82.74**	**325**	*e*P		**P**	**13 28 12.8**	**+0.5**
KOLS	comp=Z,7.0nm,1.2s			pmax	pmax			
KOLS	**Kolonicke sedl**	**82.74**	**325**	*e*P		**P**	**13 28 12.8**	**+0.5**
OZUR		**82.81**	**321**	⇑P		**P**	**13 28 13.7**	**+0.9**
GLA	**Glamis**	**82.81**	**55**	P		**P**	**13 28 14.0**	**+1.0**
GLA	baz=304 **Glamis**	**82.81**	**55**	P		**P**	**13 28 13.8**	**+0.7**
GLA	comp=Z,8.0nm,0.9s			pmax	pmax			
GLA	**Glamis**	**82.81**	**55**	P		**P**	**13 28 13.8**	**+0.7**
GLA	comp=Z,7.9nm,0.8s			IAmb	IAmb		13 28 28.0	
UZH	**Uzhgorod**	**82.93**	**324**	*e*P		**P**	**13 28 12.9**	**-0.4**
UZH				*e*			13 28 29.3	
OJC	**Ojcow**	**83.04**	**327**	*e*P		**P**	**13 28 14.4**	**+0.6**
OJC	**Ojcow**	**83.04**	**327**	P		**P**	**13 28 13.7**	**-0.2**
OJC	comp=Z,33nm,1.3s			pmax	pmax			
OJC	**Ojcow**	**83.04**	**327**	P		**P**	**13 28 13.7**	**-0.2**
O20A	**White River Ci**	**83.05**	**47**	P		**P**	**13 28 14.4**	**+0.1**
O20A	baz=307 **White River Ci**	**83.05**	**47**	P		**P**	**13 28 14.1**	**-0.2**
O20A	comp=Z,9.4nm,0.9s			IAmb	IAmb		13 28 32.8	
RSSD	**Black Hills**	**83.07**	**41**	P		**P**	**13 28 14.4**	**0.0**
DOPR	baz=309 **Dopca**	**83.10**	**321**	⇑P		**P**	**13 28 15.6**	**+1.3**
MLR	**Muntele Rosu**	**83.11**	**320**	⇑P		**P**	**13 28 15.7**	**+1.2**
MLR	**Muntele Rosu**	**83.11**	**320**	⇑P		**P**	**13 28 15.7**	**+1.2**
TRPA	**Tarpa**	**83.14**	**324**	⇑P		**P**	**13 28 15.6**	**+1.2**
NIE	**Niedzica**	**83.36**	**326**	*e*P		**P**	**13 28 16.6**	**+1.0**
PV09	**Paradox Valley**	**83.47**	**48**	P		**P**	**13 28 17.8**	**+1.1**
PV21	**Cone Mtn., Par**	**83.53**	**48**	P		**P**	**13 28 17.9**	**+1.0**
PV21	comp=Z,14nm,0.9s			IAmb	IAmb		13 28 21.9	
Y14A	**Wickenburg**	**83.57**	**54**	P		**P**	**13 28 18.1**	**+1.1**
PV23	**Carpenter Ridg**	**83.57**	**48**	P		**P**	**13 28 18.5**	**+1.3**
PV10	**Paradox Valley**	**83.60**	**48**	P		**P**	**13 28 18.9**	**+1.6**
PV14	**Lion Creek, Pa**	**83.61**	**48**	P		**P**	**13 28 17.9**	**+0.6**
VOIR		**83.62**	**321**	⇑P		**P**	**13 28 18.1**	**+1.1**
VOIR		**83.62**	**321**	⇑P		**P**	**13 28 18.1**	**+1.1**
PV22	**Blue Mesa, Par**	**83.66**	**48**	P		**P**	**13 28 18.6**	**+1.0**
PV22	comp=Z,28nm,1.5s			IAmb	IAmb		13 28 33.9	
PV20	**West Nyswonger**	**83.66**	**48**	P		**P**	**13 28 17.4**	**-0.2**
PV20	comp=Z,14nm,0.8s			IAmb	IAmb		13 28 33.8	
PV04	**Paradox Valley**	**83.67**	**48**	P		**P**	**13 28 18.8**	**+1.2**
PV04	comp=Z,21nm,1.1s			IAmb	IAmb		13 28 34.0	
PV19	**Morning Glory**	**83.67**	**48**	P		**P**	**13 28 17.8**	**+0.1**
PV19	comp=Z,21nm,0.9s			IAmb	IAmb		13 28 33.9	
PV17	**East Wray Mesa**	**83.70**	**48**	P		**P**	**13 28 18.4**	**+0.6**
PV05	**Paradox Valley**	**83.74**	**49**	P		**P**	**13 28 19.2**	**+1.2**
PV05	comp=Z,13nm,0.9s			IAmb	IAmb		13 28 43.0	
PV11	**David Mesa, Pa**	**83.75**	**48**	P		**P**	**13 28 19.1**	**+1.1**
PV18	**Skein Mesa, Pa**	**83.76**	**48**	P		**P**	**13 28 19.3**	**+1.2**
PV18	comp=Z,17nm,1.0s			IAmb	IAmb		13 28 23.0	
WUAZ	**Wupatki**	**83.76**	**52**	P		**P**	**13 28 19.3**	**+1.3**
WUAZ	baz=306 **Wupatki**	**83.76**	**52**	P		**P**	**13 28 19.4**	**+1.3**
PV12	**Saucer Basin,**	**83.78**	**48**	P		**P**	**13 28 19.3**	**+1.1**
PV12	comp=Z,15nm,0.9s			IAmb	IAmb		13 28 34.0	
PV03	**Paradox Valley**	**83.79**	**48**	P		**P**	**13 28 19.2**	**+1.0**
PV03	comp=Z,14nm,1.0s			IAmb	IAmb		13 28 23.2	
PV13	**Radium Mtn., P**	**83.86**	**48**	P		**P**	**13 28 19.7**	**+1.0**
PV13	comp=Z,26nm,1.3s			IAmb	IAmb		13 28 34.1	
PV02	**Paradox Valley**	**83.89**	**48**	P		**P**	**13 28 19.9**	**+1.2**
PV02	comp=Z,12nm,1.0s			IAmb	IAmb		13 28 21.6	
ARR	**Arges**	**83.89**	**321**	⇓P		**P**	**13 28 19.6**	**+1.1**
LANS	**Liptovska Anna**	**83.94**	**326**	*e*P		**P**	**13 28 20.1**	**+1.6**
LANS	comp=Z,8.0nm,0.8s			pmax	pmax			
LANS	**Liptovska Anna**	**83.94**	**326**	*e*P		**P**	**13 28 20.1**	**+1.6**
N23A	**Red Feather La**	**83.97**	**45**	P		**P**	**13 28 19.9**	**+0.7**
N23A	baz=308 **Red Feather La**	**83.97**	**45**	P		**P**	**13 28 19.9**	**+0.7**
N23A	comp=Z,15nm,1.1s			IAmb	IAmb		13 28 24.7	
PHWY	**Pilot Hill**	**84.01**	**44**	P		**P**	**13 28 19.8**	**+0.3**
PHWY	comp=Z,18nm,1.8s			IAmb	IAmb		13 28 41.1	
OKC	**Ostrava-Krasne**	**84.07**	**327**	AMS		AMS	14 10 10.0	
KSP	comp=Z,500nm,14.8s **Ksiaz**	**84.18**	**329**	*e*P		**P**	**13 28 20.5**	**+0.8**
BSEG	**Bad Segeberg**	**84.31**	**334**	*e*P		**P**	**13 28 20.7**	**+0.5**
X16A	comp=Z,24nm,1.4s,baz=39,slow=4.8 **Lo Mia Camp, P**	**84.35**	**53**	P		**P**	**13 28 21.9**	**+0.7**
MORC	**Moravsky Berou**	**84.39**	**327**	⇓P		**P**	**13 28 21.3**	**+0.4**
MORC	**Moravsky Berou**	**84.39**	**327**	*e*P		**P**	**13 28 21.0**	**+0.2**
MORC	**Moravsky Berou**	**84.39**	**327**	⇓P		**P**	**13 28 21.3**	**+0.4**
MORC	**Moravsky Berou**	**84.39**	**327**	P		**P**	**13 28 20.5**	**-0.3**
MORC	comp=Z,32nm,1.5s			IAmb	IAmb		13 28 22.3	
OSTC	**Ostas**	**84.42**	**329**	AMS		AMS	14 10 10.0	
CHVC	comp=Z,500nm,15.5s **Chvalec**	**84.47**	**329**	*e*P		**P**	**13 28 21.8**	**+0.6**
CHVC	comp=Z,500nm,17.1s			AMS		AMS	14 10 00.0	
KRLC	**Kraliky**	**84.52**	**328**	*e*P		**P**	**13 28 22.2**	**+0.7**
KRLC	comp=Z,300nm,16.9s			AMS		AMS	14 10 30.0	
KRLC	**Kraliky**	**84.52**	**328**	*e*P		**P**	**13 28 22.2**	**+0.7**
KRLC	comp=Z,300nm,16.9s			MLR	MLR			
DPC	**Dobruska-Polom**	**84.53**	**328**	*e*P		**P**	**13 28 22.5**	**+1.0**
DPC	comp=Z,500nm,14.3s			AMS		AMS	14 10 00.0	
UPC	**Upice**	**84.55**	**329**	*e*P		**P**	**13 28 22.5**	**+0.9**
UPC	comp=Z,500nm,16.1s			AMS		AMS	14 10 00.0	
UPC	**Upice**	**84.55**	**329**	*e*P		**P**	**13 28 22.5**	**+0.9**
UPC	comp=Z,500nm,16.1s			MLR	MLR			

AGMN	**Agassiz Nation**	**84.55**	**35**	P		**P**	**13 28 21.7**	**+0.1**
VYHS	baz=314 **Vyhne**	**84.69**	**326**	*e*P		**P**	**13 28 23.2**	**+0.8**
VYHS	**Vyhne**	**84.69**	**326**	*e*P		**P**	**13 28 23.2**	**+0.8**
TAOE	**Nuku Hiva Isla**	**84.77**	**104**	eLR		LR	13 55 11.2	
214A	comp=Z,519nm,20.5s **Organ Pipe Nat**	**84.83**	**55**	P		**P**	**13 28 23.1**	**-0.3**
GZR	baz=305 **Gura Zlata**	**84.86**	**322**	⇑P		**P**	**13 28 23.7**	**+0.4**
GZR	**Gura Zlata**	**84.86**	**322**	⇑P		**P**	**13 28 23.7**	**+0.4**
JAVC	**Velka Javorina**	**84.98**	**327**	*e*P		**P**	**13 28 24.8**	**+0.9**
VRAC	**Vranov**	**85.16**	**328**	⇑P		**P**	**13 28 25.8**	**+1.1**
VRAC	**Vranov**	**85.16**	**328**	*e*P		**P**	**13 28 24.9**	**+0.2**
VRAC	**Vranov**	**85.16**	**328**	⇑P		**P**	**13 28 25.8**	**+1.1**
PVCC	**Panska Ves**	**85.16**	**329**	AMS		AMS	14 13 00.0	
BRG	comp=Z,500nm,16.5s **Berggiesshubel**	**85.18**	**330**	*i* P		**P**	**13 28 24.5**	**-0.2**
BRG	comp=Z,11nm,1.1s			*e*PP		**PP**	**13 31 41.6**	**0.0**
BRG	**Berggiesshubel**	**85.18**	**330**	*i* P		**P**	**13 28 24.5**	**-0.2**
BRG				*e*			13 31 41.6	
BRG	comp=Z,11nm,1.1s			pmax	pmax			
BRG	comp=Z,4.0nm,1.1s			pmax	pmax			
BRG	**Berggiesshubel**	**85.18**	**330**	*e*P		**P**	**13 28 25.2**	**+0.5**
CLL	comp=Z,11nm,1.1s,baz=39,slow=4.8 **Collm**	**85.25**	**331**	*i* P		**P**	**13 28 25.5**	**+0.5**
CLL	comp=Z,23nm,1.2s			*e*PP		**PP**	**13 31 41.0**	**-1.2**
CLL	**Collm**	**85.25**	**331**	*i* P		**P**	**13 28 25.5**	**+0.5**
CLL	comp=Z,23nm,1.2s			pmax	pmax			
CLL	**Collm**	**85.25**	**331**	P		**P**	**13 28 24.9**	**-0.1**
CLL	comp=Z,18nm,1.0s			IAmb	IAmb		13 28 26.9	
S22A	**4UR Ranch, Cre**	**85.37**	**48**	P		**P**	**13 28 28.0**	**+1.7**
S22A	baz=308 **4UR Ranch, Cre**	**85.37**	**48**	P		**P**	**13 28 26.1**	**-0.2**
FBE	**Freiberg**	**85.39**	**330**	*e*P		**P**	**13 28 26.5**	**+0.7**
KRUC	comp=Z,43nm,1.4s,baz=39,slow=4.8 **Moravsky**	**85.42**	**327**	*e*P		**P**	**13 28 25.9**	**-0.1**
NRDL	**Niedersach Rie**	**85.50**	**333**	*e*P		**P**	**13 28 26.7**	**+0.5**
MODS	comp=Z,16nm,1.4s,baz=39,slow=4.8 **Modra-Piesok**	**85.51**	**327**	*e*P		**P**	**13 28 26.2**	**-0.3**
MODS	comp=Z,33nm,1.5s			pmax	pmax			
MODS	**Modra-Piesok**	**85.51**	**327**	*e*P		**P**	**13 28 26.2**	**-0.3**
B35A	**Bob, Littlefor**	**85.52**	**33**	P		**P**	**13 28 26.6**	**+0.2**
B35A	comp=Z,14nm,1.6s			IAmb	IAmb		13 28 27.5	
GOPC	**GO Pecny, Ondr**	**85.52**	**329**	*e*P		**P**	**13 28 27.3**	**+0.8**
GOPC	comp=Z,500nm,14.5s			AMS	AMS		14 10 50.0	
PRA	**Prague**	**85.56**	**329**	AMS		AMS	14 10 50.0	
ASSE	comp=Z,200nm,15.3s **Asse, Remlinge**	**85.56**	**332**	*e*P		**P**	**13 28 26.9**	**+0.4**
PRU	comp=Z,16nm,1.3s,baz=39,slow=4.8 **Pruhonice**	**85.57**	**329**	AMS		AMS	14 10 50.0	
RETH	comp=Z,400nm,15.3s **Rethem/Aller,**	**85.60**	**333**	*e*P		**P**	**13 28 27.2**	**+0.5**
TREC	comp=Z,50nm,1.9s,baz=39,slow=4.8 **Trest**	**85.67**	**328**	AMS		AMS	14 11 30.0	
MDVR	comp=Z,400nm,17.1s **Moldovita**	**85.83**	**322**	⇑P		**P**	**13 28 28.4**	**+0.3**
NEUB	**Neuenburg**	**85.83**	**331**	*e*P		**P**	**13 28 28.3**	**+0.4**
CLZ	comp=Z,28nm,0.9s,baz=39,slow=4.8 **Clausthal**	**85.90**	**332**	*e*P		**P**	**13 28 29.0**	**+0.7**
TUC	comp=Z,40nm,1.6s,baz=39,slow=4.8 **Tucson**	**86.03**	**54**	P		**P**	**13 28 30.2**	**+0.8**
F33A	baz=306 **5 Mile Ranch,**	**86.05**	**36**	P		**P**	**13 28 29.2**	**0.0**
F33A	comp=Z,11nm,1.1s			IAmb	IAmb		13 28 44.7	
TANN	**Tannenbergstha**	**86.14**	**330**	*e*P		**P**	**13 28 29.9**	**+0.3**
SDCO	comp=Z,46nm,1.9s,baz=39,slow=4.8 **Great Sand Dun**	**86.19**	**47**	P		**P**	**13 28 31.6**	**+1.2**
PLN	baz=309 **Plauen**	**86.22**	**330**	*e*P		**P**	**13 28 30.5**	**+0.6**
GUNZ	comp=Z,14nm,1.5s,baz=39,slow=4.8 **Gunzen**	**86.24**	**330**	*e*P		**P**	**13 28 30.6**	**+0.5**
WERN	comp=Z,19nm,1.5s,baz=39,slow=4.8 **Wernitzgruen**	**86.28**	**330**	*e*P		**P**	**13 28 30.6**	**+0.4**
GTTG	comp=Z,13nm,1.1s,baz=39,slow=4.8 **Gottingen**	**86.30**	**332**	*e*P		**P**	**13 28 30.8**	**+0.6**
MOX	comp=Z,29nm,1.5s,baz=39,slow=4.8 **Moxa**	**86.32**	**331**	*e*P		**P**	**13 28 30.7**	**+0.3**
IBBN	comp=Z,11nm,1.4s,baz=39,slow=4.8 **Ibbenburen**	**86.55**	**334**	*e*P		**P**	**13 28 31.7**	**+0.3**
MANZ	comp=Z,28nm,1.2s,baz=39,slow=4.8 **Manzberg**	**86.62**	**330**	*e*P		**P**	**13 28 32.3**	**+0.4**
KHC	comp=Z,6.4nm,1.1s,baz=39,slow=4.8 **Kasperske Hory**	**86.63**	**329**	*e*P		**P**	**13 28 32.4**	**+0.4**
KHC	comp=Z,400nm,17.2s			AMS	AMS		14 15 20.0	
KHC	**Kasperske Hory**	**86.63**	**329**	*e*P		**P**	**13 28 32.4**	**+0.4**
KHC	comp=Z,400nm,17.2s			MLR	MLR			
KHC	**Kasperske Hory**	**86.63**	**329**	P		**P**	**13 28 30.7**	**-1.3**
ROTZ	**Rotzenmuhle**	**86.74**	**330**	*e*P		**P**	**13 28 33.2**	**+0.7**
GEC2	comp=Z,25nm,1.7s,baz=39,slow=4.8 **GERESS Array S**	**86.79**	**329**	P		**P**	**13 28 33.1**	**+0.2**
GERES	comp=Z,8.8nm,1.6s,baz=39,slow=4.8 **GERESS Array B**	**86.79**	**329**	P		**P**	**13 28 32.6**	**-0.2**
GERES	comp=Z,0.4nm,0.5s,baz=77,slow=5.9,SNR=6.1			LR	LR		14 10 03.9	
EYMN	comp=Z,145nm,19.1s,baz=61,slow=38 **Ely**	**86.85**	**33**	P		**P**	**13 28 33.0**	**0.0**
EYMN	baz=318 **Ely**	**86.85**	**33**	P		**P**	**13 28 33.1**	**0.0**
EYMN	comp=Z,6.3nm,1.1s			IAmb	IAmb		13 28 48.2	
WET	**Wettzell**	**86.93**	**329**	*e*P		**P**	**13 28 34.1**	**+0.7**
GRF	comp=Z,5.6nm,1.3s,baz=39,slow=4.8 **Grafenberg Arr**	**87.21**	**330**	*e*P		**P**	**13 28 35.6**	**+0.8**
ANMO	comp=Z,35nm,1.6s,baz=39,slow=4.8 **Albuquerque**	**87.32**	**50**	P		**P**	**13 28 36.9**	**+1.1**
ANMO	baz=308 **Albuquerque**	**87.32**	**50**	*i* P		**P**	**13 28 34.3**	**-1.6**
ANMO	comp=Z,2.0nm,1.1s			pmax	pmax			
ECSD	**EROS Data Cent**	**87.35**	**38**	P		**P**	**13 28 35.6**	**+0.1**
ECSD	baz=314 **EROS Data Cent**	**87.35**	**38**	P		**P**	**13 28 35.0**	**-0.6**
ECSD	comp=Z,12nm,1.1s			IAmb	IAmb		13 28 50.8	
E38A	**The Farm, Brul**	**87.80**	**34**	P		**P**	**13 28 37.9**	**+0.2**
E38A	comp=Z,12nm,1.1s			IAmb	IAmb		13 28 52.6	
AHRW	**Bad Neuenahr-A**	**88.21**	**333**	*e*P		**P**	**13 28 40.0**	**+0.5**
I37A	comp=Z,13nm,1.2s,baz=39,slow=4.8 **Lemond, Waseca**	**88.79**	**36**	P		**P**	**13 28 43.0**	**+0.6**
COWI	**Conover**	**89.30**	**33**	P		**P**	**13 28 45.2**	**+0.5**
G40A	**Rib Lake**	**89.43**	**34**	P		**P**	**13 28 45.6**	**+0.2**
G40A	comp=Z,5.0nm,0.7s			IAmb	IAmb		13 29 59.5	
BFO	**Black Forest**	**89.47**	**331**	*e*P		**P**	**13 28 45.6**	**0.0**
FUORN	comp=Z,20nm,2.0s,baz=39,slow=4.8 **Ofenpass-Fuorn**	**89.99**	**329**	P		**P**	**13 28 47.4**	**-0.9**
TX31	**Lajitas Ar. Si**	**92.68**	**53**	P		**P**	**13 29 01.5**	**+0.6**
TX32	**Lajitas Array**	**92.68**	**53**	P		**P**	**13 29 01.4**	**+0.5**
TX32	comp=Z,15nm,1.6s			IAmb	IAmb		13 29 03.1	
TXAR	**Lajitas Array**	**92.68**	**53**	P		**P**	**13 29 02.1**	**+1.2**
TXAR	comp=Z,2.7nm,0.8s,baz=304,slow=2.9,SNR=23			LR	LR		14 06 24.9	
P40A	comp=Z,332nm,20.4s,baz=0.0,slow=33 **Paris**	**92.74**	**39**	P		**P**	**13 28 59.3**	**-1.5**
U40A	**Yellville**	**94.60**	**41**	P		**P**	**13 29 08.9**	**-0.6**
MIAR	**Mount Ida**	**95.49**	**43**	P		**P**	**13 29 13.3**	**-0.2**
MIAR	comp=Z,8.0nm,0.8s			pmax	pmax			
MIAR	**Mount Ida**	**95.49**	**43**	P		**P**	**13 29 13.3**	**-0.2**
N54A	**Moraine State**	**97.43**	**31**	P		Pdif	13 29 22.4	+0.1
TORD	**Torodi Ar. Bea**	**120.75**	**313**	PKP		**PKPdf**	**13 34 40.8**	**-0.3**
QSPA	comp=Z,1.2nm,0.5s,baz=37,slow=1.3,SNR=9.8 **South Pole Qui**	**122.17**	**180**			**PKPdf**	**13 34 42.3**	**0.0**
BOSA	**Boshof**	**125.90**	**256**	PKIKP		**PKPdf**	**13 34 49.9**	**-0.8**
BOSA	**Boshof**	**125.90**	**256**			**PKPdf**	**13 34 49.9**	**-0.8**
DBIC	**Dimbokro**	**129.80**	**315**	PKP		**PKPdf**	**13 34 58.6**	**+0.1**
SNAA	comp=Z,1.7nm,0.5s,baz=335,slow=7.3,SNR=3.6 **Sanae**	**136.41**	**195**	PKPdf		**PKiKP**	**13 35 10.7**	**-0.3**
VNA2	**Neumayer--Watz**	**137.96**	**195**	PKPdf		**PKPdf**	**13 35 12.7**	**+0.7**
MNMC	**Minye Minye**	**148.93**	**73**			**PKPbc**	**13 35 37.3**	**+0.2**
PB11	**IPOC Station P**	**149.20**	**74**			**PKPbc**	**13 35 36.6**	**-1.0**
AC05	**El Transito**	**152.24**	**91**			**PKPbc**	**13 35 43.8**	**-0.8**
PLCA	**Paso Flores**	**152.86**	**117**	PKPbc		**PKiKP**	**13 35 47.7**	**+2.0**
	comp=Z,2.1nm,0.9s,baz=288,slow=3.2,SNR=2.8							

*IDC **04** 13:30:50.5±0.9, 9°.50N×126°.24E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.8/48, mbtmp4.0/11, ML5.1/1, Error ellipse: s-maj=48.0km s-min=17.3km az=75.0*
*MAN **04** 13:30:51.5, 9°.71N×126°.82E, h16km, mb4.7, ML3.6, MS3.5*
*NEIC **04** 13:30:51.5±1.4, 9°.53N±0°.08×126°.5E±0°.1, h10km±1km, mb4.8/20, Error ellipse: s-maj=19.8km s-min=13.7km az=258.0*

ISC 04 13:30:51.2±0.5, 9°.54N±0°.04×126°.55E±0°.06, h10km, n51, σ1°89/48, mb4.5/19, 3C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.07**	**283**		*e*P	**Pn**	**13 31 15.3**	**+2.9**
CGP	**Cagayan de Oro**	**2.13**	**240**		*e*P	**Pg**	**13 31 31.2**	**-0.8**
CGP					*e*S	**Sg**	**13 32 05.2**	**+5.5**
DAV	**Davao City (W)**	**2.63**	**202**	Pn		**Pg**	**13 31 39.9**	**-1.8**
	74nm,0.3s,baz=45,slow=7.1,SNR=2.0							
TBP	**Tagbilaran**	**2.66**	**274**		*e*P	**Pb**	**13 31 38.2**	**-0.8**
LLP	**Lapu-Lapu**	**2.66**	**287**		*e*P	**Pb**	**13 31 36.6**	**-2.5**
LLP					*e*S	**Sg**	**13 32 14.5**	**-2.4**
KCP	**Kidapawan**	**2.90**	**210**		⇓*e*P	**Pb**	**13 31 43.7**	**+0.6**
KCP					*i* S	**Sg**	**13 32 23.1**	**-1.4**
CTBH	**Cotabato--PC H**	**3.24**	**225**		⇑*i* P	**Pn**	**13 31 44.6**	**+2.4**
RCP	**Roxas**	**4.25**	**299**		⇓*e*P	**Pb**	**13 32 03.7**	**-2.4**
SZP	**Santa**	**9.93**	**324**	Pn		**Pn**	**13 33 14.2**	**+0.1**
FAKI	**Fak Fak**	**13.61**	**155**	Pn		**Pn**	**13 34 02.0**	**-2.5**
TWG	**Pinlang**	**14.21**	**339**	Pn		**Pn**	**13 34 14.9**	**+2.1**
BKB	**Balikpapan**	**14.41**	**222**		P	**Pn**	**13 34 18.6**	**-3.8**
SBUM	**Sibu**	**15.89**	**245**		P	**P**	**13 34 39.5**	**+0.6**
KNMB	**Chin-men Tao**	**16.76**	**333**		P	**P**	**13 34 50.0**	**+1.5**
KNMB					IAmb	IAmb	13 35 01.9	
	comp=Z,32nm,0.9s							
HKPS	**Hong Kong Po S**	**17.39**	**318**			**P**	**13 34 55.9**	**+0.5**
KSM	**Kuching**	**18.03**	**245**		P	**P**	**13 35 07.7**	**+5.1**
BATI	**Baumata**	**19.82**	**188**		P	**Pn**	**13 35 23.8**	**0.0**
	comp=Z,5.3nm,0.3s,baz=41,slow=0.6,SNR=6.7							
KNRA	**Kununurra**	**25.15**	**175**		P	**P**	**13 36 17.5**	**+0.7**
KNRA					IAmb	IAmb	13 36 31.9	
	comp=Z,31nm,1.3s							
IPM	**Ipoh**	**25.82**	**261**		P	**P**	**13 36 21.5**	**-1.5**
IPM					IAmb	IAmb	13 36 44.2	
	comp=Z,26nm,1.4s							
FITZ	**Fitzroy Crossi**	**27.47**	**182**		P	**P**	**13 36 37.8**	**0.0**
CMAR	**Chiang Mai Arr**	**28.18**	**291**		P	**P**	**13 36 43.9**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=96,slow=7.3,SNR=2.1							
WRA	**Warramunga Arr**	**30.28**	**165**		P	**P**	**13 37 03.6**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=350,slow=9.7,SNR=1.8							
WR0	**Warramunga Arr**	**30.35**	**165**		P	**P**	**13 37 04.1**	**+0.7**
WR0					IAmb	IAmb	13 37 57.5	
	comp=Z,14nm,1.4s							
PSA00	**Pilbara Seismi**	**31.61**	**192**		P	**P**	**13 37 12.6**	**-1.9**
ASAR	**Alice Springs**	**33.77**	**168**		P	**P**	**13 37 33.8**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=348,slow=6.9,SNR=10							
CTAO	**Charters Tower**	**35.25**	**147**		P	**P**	**13 37 47.1**	**+0.7**
CTAO					IAmb	IAmb	13 37 57.6	
	comp=Z,26nm,1.4s							
MORW	**Morawa**	**39.70**	**194**		P	**P**	**13 38 21.6**	**-2.2**
MORW					IAmb	IAmb	13 39 07.5	
	comp=Z,46nm,1.6s							
H11S3	**WAKE ISLAND Hy**	**39.87**	**73**		T	T	14 21 24.8	
	baz=261							
H11S1	**WAKE ISLAND Hy**	**39.88**	**73**		T	T	14 21 28.7	
	baz=261							
H11S2	**WAKE ISLAND Hy**	**39.88**	**73**		T	T	14 21 35.0	
	baz=261							
FORT	**Forrest**	**40.11**	**178**		P	**P**	**13 38 27.6**	**+0.4**
FORT					IAmb	IAmb	13 39 06.3	
	comp=Z,18nm,1.1s							
H11N1	**WAKE ISLAND Hy**	**40.23**	**71**		T	T	14 22 12.5	
	baz=271							
H11N2	**WAKE ISLAND Hy**	**40.23**	**71**		T	T	14 22 13.3	
	baz=271							
H11N3	**WAKE ISLAND Hy**	**40.24**	**71**		T	T	14 22 14.3	
	baz=271							
SONM	**Songino Array**	**41.80**	**340**		P	**P**	**13 38 41.9**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=154,slow=6.0,SNR=4.8							
EIDS	**Eidsvold**	**42.13**	**146**		P	**P**	**13 38 44.5**	**+0.5**
EIDS					IAmb	IAmb	13 38 49.8	
	comp=Z,34nm,1.9s							
BBOO	**Buckleboo**	**43.08**	**168**		P	**P**	**13 38 51.7**	**+0.1**
NWAO	**Narrogin (SRO)**	**43.15**	**191**		P	**P**	**13 38 51.9**	**-0.2**
NWAO	**Narrogin (SRO)**	**43.15**	**191**		P	**P**	**13 38 52.6**	**+0.4**
NWAO					IAmb	IAmb

MIPR	**Malaya Ipel'ka**	**2.54**	**318**	PN	**Pn**	**13 38 16.7**	**+0.5**
MIPR				S	**Sn**	**13 38 46.3**	**-0.7**
ALID	**Alaid**	**2.55**	**282**	*eP*	**Pn**	**13 38 16.5**	**-0.1**
ALID				*eS*	**Sn**	**13 38 44.9**	**-2.7**
ALID	**Alaid**	**2.55**	**282**	PN	**Pn**	**13 38 16.5**	**-0.1**
ALID				S	**Sn**	**13 38 44.9**	**-2.7**
KRMR	**Karymshinskiy**	**2.57**	**341**	*eP*	**Pn**	**13 38 17.4**	**+0.8**
KRMR				*eS*	**Sn**	**13 38 47.1**	**-0.7**
KRMR	**Karymshinskiy**	**2.57**	**341**	PN	**Pn**	**13 38 17.4**	**+0.8**
KRMR				S	**Sn**	**13 38 47.1**	**-0.7**
DALK	**Dalny**	**2.67**	**350**	*eP*	**Pn**	**13 38 17.6**	**-0.4**
DALK				*eS*	**Sn**	**13 38 47.0**	**-3.1**
DALK	**Dalny**	**2.67**	**350**	PN	**Pn**	**13 38 17.6**	**-0.4**
DALK				S	**Sn**	**13 38 47.0**	**-3.1**
PET	**Petropavlovsk**	**2.67**	**349**	*eP*	**Pn**	**13 38 17.3**	**-0.8**
PET				*eS*	**Sn**	**13 38 48.0**	**-2.2**
PET	**Petropavlovsk**	**2.67**	**349**	*e*PN	**Pn**	**13 38 17.5**	**-0.5**
PET				*eS*	**Sn**	**13 38 47.8**	**-2.4**
PET				pmax	pmax		
	comp=Z,43nm,0.5s						
PET				smax	smax		
	comp=N,690nm,0.4s						
PET				smax	smax		
	comp=E,268nm,0.5s						
PET	**Petropavlovsk**	**2.67**	**349**	Pn	**Pn**	**13 38 17.3**	**-0.8**
SPN	**Mys Shipunski**	**2.71**	**7**	PN	**Pn**	**13 38 18.7**	**+0.1**
SPN				S	**Sn**	**13 38 48.8**	**-2.5**
NLC	**Nalytchevo**	**2.77**	**358**	*eP*	**Pn**	**13 38 18.8**	**-0.6**
NLC				*eS*	**Sn**	**13 38 50.8**	**-1.8**
NLC	**Nalytchevo**	**2.77**	**358**	PN	**Pn**	**13 38 18.8**	**-0.6**
NLC				S	**Sn**	**13 38 50.8**	**-1.8**
UGLR	**Uglovaya**	**2.83**	**352**	*eP*	**Pn**	**13 38 20.5**	**+0.1**
UGLR	**Uglovaya**	**2.83**	**352**	PN	**Pn**	**13 38 20.5**	**+0.1**
SMAR	**Somma**	**2.89**	**352**	*eP*	**Pn**	**13 38 21.2**	**-0.1**
SMAR	**Somma**	**2.89**	**352**	PN	**Pn**	**13 38 21.2**	**-0.1**
AVH	**Avacha**	**2.90**	**351**	*eP*	**Pn**	**13 38 21.5**	**+0.2**
AVH	**Avacha**	**2.90**	**351**	PN	**Pn**	**13 38 21.5**	**+0.2**
SDLR	**Sedlovina**	**2.90**	**353**	*eP*	**Pn**	**13 38 20.9**	**-0.4**
SDLR	**Sedlovina**	**2.90**	**353**	PN	**Pn**	**13 38 20.9**	**-0.4**
APC	**Apacha**	**2.91**	**331**	*eP*	**Pn**	**13 38 21.9**	**+0.6**
APC				*eS*	**Sn**	**13 38 56.4**	**+0.3**
PEA0B	**Petropavlovsk-**	**2.92**	**338**	PN	**Pn**	**13 38 21.7**	**+0.2**
PEA0B	**Petropavlovsk-**	**2.92**	**338**	Pn	**Pn**	**13 38 21.7**	**+0.2**
PETK	**Petropavlovsk-**	**2.92**	**338**	Pn	**Pn**	**13 38 22.0**	**+0.4**
	comp=E,6.7nm,0.3s,baz=139,slow=17,SNR=176						
KOK	**Koryaka**	**2.94**	**350**	*eP*	**Pn**	**13 38 22.1**	**+0.3**
KOK	**Koryaka**	**2.94**	**350**	PN	**Pn**	**13 38 22.1**	**+0.3**
KRER	**Koryakskii**	**2.94**	**351**	*eP*	**Pn**	**13 38 22.6**	**+0.7**
KRER	**Koryakskii**	**2.94**	**351**	PN	**Pn**	**13 38 22.6**	**+0.7**
KRX	**Arik**	**3.00**	**350**	*eP*	**Pn**	**13 38 22.6**	**-0.1**
KRX	**Arik**	**3.00**	**350**	PN	**Pn**	**13 38 22.6**	**-0.1**
KII	**Karymskiy**	**3.63**	**360**	*eP*	**Pn**	**13 38 32.3**	**+1.0**
KII				*eS*	**Sn**	**13 39 13.1**	**-1.0**
KII	**Karymskiy**	**3.63**	**360**	PN	**Pn**	**13 38 32.3**	**+1.0**
KII				S	**Sn**	**13 39 13.1**	**-1.0**
KZV	**Kizimen**	**4.74**	**6**	*eP*	**Pn**	**13 38 48.8**	**+2.2**
KZV				*eS*	**Sn**	**13 39 39.8**	**-1.6**
KZV	**Kizimen**	**4.74**	**6**	PN	**Pn**	**13 38 48.8**	**+2.2**
KZV				S	**Sn**	**13 39 39.8**	**-1.6**
TUMD	**Tumrok D**	**4.83**	**6**	*eP*	**Pn**	**13 38 48.5**	**+0.7**
TUMD				*eS*	**Sn**	**13 39 40.7**	**-2.9**
TUMR	**Tumrok**	**4.90**	**4**	*eP*	**Pn**	**13 38 50.4**	**+1.6**
TUMR	**Tumrok**	**4.90**	**4**	PN	**Pn**	**13 38 48.5**	**-0.3**
KMNR	**Kamenistaya**	**5.38**	**4**	*eP*	**Pn**	**13 38 57.6**	**+2.3**
KMNR	**Kamenistaya**	**5.38**	**4**	PN	**Pn**	**13 38 57.6**	**+2.3**
ESO	**Esso**	**5.55**	**355**	PN	**Pn**	**13 38 58.6**	**+1.0**
BZMR	**Bezymyannaya**	**5.57**	**6**	*eP*	**Pn**	**13 39 00.2**	**+2.2**
KIRR	**Kirishev**	**5.58**	**5**	*eP*	**Pn**	**13 39 00.2**	**+2.1**
KIRR	**Kirishev**	**5.58**	**5**	PN	**Pn**	**13 39 00.2**	**+2.1**
KPT	**Kopyto**	**5.58**	**4**	*eP*	**Pn**	**13 39 00.1**	**+2.0**
KPT	**Kopyto**	**5.58**	**4**	PN	**Pn**	**13 39 00.1**	**+2.0**
BZGR	**Bezymyannyi-Gr**	**5.59**	**7**	*eP*	**Pn**	**13 38 59.7**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**5.59**	**7**	PN	**Pn**	**13 38 59.7**	**+1.5**
BZWR	**Bezymyannyi-We**	**5.60**	**6**	*eP*	**Pn**	**13 39 00.6**	**+2.2**
BZWR	**Bezymyannyi-We**	**5.60**	**6**	PN	**Pn**	**13 39 00.6**	**+2.2**
KOZ	**Kozyrevsk**	**5.66**	**2**	*eP*	**Pn**	**13 39 01.2**	**+2.0**
KOZ	**Kozyrevsk**	**5.66**	**2**	PN	**Pn**	**13 39 01.1**	**+1.9**
ZLN	**Zelenaya**	**5.67**	**7**	*eP*	**Pn**	**13 39 01.6**	**+2.2**
ZLN	**Zelenaya**	**5.67**	**7**	PN	**Pn**	**13 39 01.6**	**+2.2**
LGNR	**Loginova**	**5.73**	**7**	*eP*	**Pn**	**13 39 02.8**	**+2.5**
LGNR				*eS*	**Sn**	**13 40 04.2**	**-1.8**
LGNR	**Loginova**	**5.73**	**7**	PN	**Pn**	**13 39 02.8**	**+2.5**
CIRR	**Tsirk**	**5.77**	**7**	*eP*	**Pn**	**13 39 02.6**	**+1.9**
CIRR	**Tsirk**	**5.77**	**7**	PN	**Pn**	**13 39 02.6**	**+1.9**
KRSR	**Krestovskiy**	**5.85**	**6**	*eP*	**Pn**	**13 39 03.1**	**+1.2**
KRSR	**Krestovskiy**	**5.85**	**6**	PN	**Pn**	**13 39 03.1**	**+1.2**
SRDR	**Sredinnyy**	**5.92**	**1**	*eP*	**Pn**	**13 39 04.2**	**+1.5**
SRDR	**Sredinnyy**	**5.92**	**1**	PN	**Pn**	**13 39 04.2**	**+1.5**
KLY	**Klyuchi**	**5.96**	**6**	*eP*	**Pn**	**13 39 05.0**	**+1.9**
KLY	**Klyuchi**	**5.96**	**6**	PN	**Pn**	**13 39 05.0**	**+1.9**
KBTR	**Krutoberegovo**	**6.14**	**18**	PN	**Pn**	**13 39 05.9**	**+0.2**
KBG	**Krutoberegovo**	**6.16**	**17**	*eP*	**Pn**	**13 39 05.0**	**-1.0**
KBG				*eS*	**Sn**	**13 40 11.2**	**-5.1**
KBG	**Krutoberegovo**	**6.16**	**17**	PN	**Pn**	**13 39 05.0**	**-1.0**
BKI	**Bering**	**6.20**	**37**	*eP*	**Pn**	**13 39 06.0**	**-0.5**
BKI				*eS*	**Sn**	**13 40 09.9**	**-7.3**
BKI	**Bering**	**6.20**	**37**	PN	**Pn**	**13 39 06.0**	**-0.5**
BDR	**Baidarnaya**	**6.25**	**9**	*eP*	**Pn**	**13 39 09.0**	**+1.7**
BDR	**Baidarnaya**	**6.25**	**9**	PN	**Pn**	**13 39 09.0**	**+1.7**
SMKR	**Semkarok**	**6.30**	**10**	*eP*	**Pn**	**13 39 09.4**	**+1.5**
SMKR	**Semkarok**	**6.30**	**10**	PN	**Pn**	**13 39 09.4**	**+1.5**
SRKR	**Sorokina**	**6.34**	**8**	*eP*	**Pn**	**13 39 10.2**	**+1.8**
SRKR	**Sorokina**	**6.34**	**8**	PN	**Pn**	**13 39 10.2**	**+1.8**
SMY	**Shemya**	**9.39**	**70**	PN	**Pn**	**13 39 51.3**	**+1.1**
SMY	**Shemya**	**9.39**	**70**	Pn	**Pn**	**13 39 51.3**	**+1.1**
TYV	**Tymovskoe**	**10.71**	**279**	*e*PN	Pn	13 40 22.2	+14
TYV				pmax	pmax		
	comp=E,5.0nm,1.0s						
YSS	**Yuzh-Sakhalins**	**11.59**	**259**	*e*PN	**Pn**	**13 40 24.8**	**+4.4**
JKA	**Kamikawa-asahi**	**13.07**	**248**		**Pn**	**13 40 40.2**	**-0.5**
ASAJ	**Asahikawa**	**13.08**	**248**	Pn	**Pn**	**13 40 40.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=99,slow=18,SNR=4.9						
SEY	**Seymchan**	**13.14**	**346**	Pn	**Pn**	**13 40 42.9**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=127,slow=15,SNR=1.8						
ERM	**Erimo**	**14.06**	**240**	P	**Pn**	**13 40 51.3**	**-2.8**
ERM	**Erimo**	**14.06**	**240**	Pn	**Pn**	**13 40 51.3**	**-2.8**
BILL	**Bilibino**	**18.00**	**8**	P	**Pn**	**13 41 42.7**	**-2.2**
BILL				pmax	pmax		
	comp=E,5.0nm,0.8s						
BILL	**Bilibino**	**18.00**	**8**	P	**Pn**	**13 41 42.7**	**-2.2**
USA0B	**Ussuriysk Arra**	**19.59**	**262**	P	**P**	**13 42 02.0**	**-1.0**
USA0B				pmax	pmax		
	comp=Z,12nm,1.5s						
USA0B	**Ussuriysk Arra**	**19.59**	**262**	P	**P**	**13 42 02.0**	**-1.0**
ZEA	**Zeya**	**20.00**	**292**	*eP*	**P**	**13 42 06.2**	**-1.2**
YAK	**Yakutsk**	**20.04**	**317**	P	**P**	**13 42 05.3**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=122,slow=1.2,SNR=7.9						
YAK	**Yakutsk**	**20.04**	**317**	*eP*	**P**	**13 42 04.9**	**-2.8**
YAK				pmax	pmax		
	comp=E,9.0nm,0.9s						
YAK				pmax	pmax		
	comp=Z,24nm,1.0s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
YAK	**Yakutsk**	**20.04**	**317**	P	**P**	**13 42 05.1**	**-2.6**
YAK				IAmb	IAmb	13 42 07.7	
	comp=Z,24nm,0.6s						
MJA0	**Matsu Arr-Jizo**	**20.63**	**236**	*eP*	Pn	13 42 17.9	+1.1
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MJAR	**Matsushiro Arr**	**20.66**	**236**	P	**P**	**13 42 14.4**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=29,slow=7.2,SNR=7.4						
MDJ	**Mudanjiang**	**20.93**	**266**	P	Pn	13 42 21.1	+1.0
MDJ				pmax	pmax		
	comp=Z,18nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,510nm,10.8s						
CN2	**Changchun**	**23.95**	**267**	*eP*	**P**	**13 42 50.6**	**+1.5**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
SDPT	**Sand Point**	**24.40**	**63**	P	**P**	**13 42 55.9**	**+2.8**
CNBA	**Chernabura Isl**	**24.97**	**64**	P	**P**	**13 43 00.5**	**+2.3**
TIXI	**Tiksi**	**25.40**	**338**	P	**P**	**13 43 01.6**	**-0.4**
	comp=Z,7.0nm,0.4s,baz=129,slow=8.9,SNR=34						
TIXI	**Tiksi**	**25.40**	**338**	*e*P	**P**	**13 43 01.1**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
TIXI	**Tiksi**	**25.40**	**338**	P	**P**	**13 43 01.2**	**-0.9**
TIXI				IAmb	IAmb	13 43 02.6	
	comp=Z,18nm,1.1s						
HIA	**Hailar**	**25.46**	**283**	P	**P**	**13 43 02.0**	**-0.8**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HIA	**Hailar**	**25.46**	**283**	P	**P**	**13 43 02.0**	**-0.8**
KSRS	**Korea Array**	**25.95**	**252**	P	**P**	**13 43 08.8**	**+1.5**
	comp=Z,2.8nm,0.8s,baz=47,slow=9.2,SNR=11						
JNU	**Nakatsue**	**27.21**	**242**	LR	LR	13 53 09.1	
	comp=Z,128nm,20.9s,baz=356,slow=34						
BOD	**Bodaibo**	**27.22**	**303**	*eP*	P	13 43 11.8	-6.8
BOD				pmax	pmax		
	comp=Z,4.0nm,1.2s						
OHAK	**Old Harbor**	**28.20**	**58**	P	**P**	**13 43 28.2**	**+0.8**
OHAK				IAmb	IAmb	13 43 56.3	
	comp=Z,21nm,1.8s						
KDAK	**Kodiak Island**	**28.52**	**56**	P	**P**	**13 43 30.3**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=284,slow=5.1,SNR=3.9						
KDAK	**Kodiak Island**	**28.52**	**56**	P	**P**	**13 43 30.8**	**+0.6**
KDAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KDAK	**Kodiak Island**	**28.52**	**56**	P	**P**	**13 43 30.8**	**+0.6**
ILAR	**Eielson Array**	**31.02**	**42**	P	**P**	**13 43 52.9**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=240,slow=8.0,SNR=11						
H11N2	**WAKE ISLAND Hy**	**31.17**	**166**	T	T	14 18 13.3	
	baz=350,slow=75,SNR=8.4						
H11N3	**WAKE ISLAND Hy**	**31.19**	**166**	T	T	14 18 13.9	
	baz=350,slow=75,SNR=6.8						
H11N1	**WAKE ISLAND Hy**	**31.19**	**166**	T	T	14 18 21.6	
	baz=350,slow=75,SNR=8.1						
HHC	**Hu-ho-hao-te**	**34.32**	**273**	*eP*	**P**	**13 44 23.1**	**+1.6**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,70nm,5.2s						
NJ2	**Nanjing**	**35.10**	**254**	*eP*	**P**	**13 44 29.4**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
XAN	**Xi'an**	**40.04**	**266**	P	**P**	**13 45 10.1**	**0.0**
XAN				pP	pwP	13 45 18.0	-3.0
XAN				pmax	pmax		
	comp=Z,5.0nm,1.2s						
LZH	**Lanzhou**	**42.01**	**272**	*eP*	**P**	**13 45 28.0**	**+1.6**
LZH				pP	pwP	13 45 37.4	+0.1
LZH				sP	sP	13 45 42.9	+14
LZH				pmax	pmax		
	comp=Z,16nm,1.1s						
GTA	**Gaotai**	**42.59**	**279**	*eP*	**P**	**13 45 32.3**	**+1.2**
GTA				pP	pwP	13 45 43.1	+1.4
GTA				sP	sP	13 45 46.9	+13
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,230nm,6.3s						
GTA				LR	LR		
	comp=Z,140nm,15.6s						
GTA				LR	LR		
	comp=Z,240nm,15.2s						
GTA				LR	LR		
	comp=Z,200nm,14.6s						
ZALV	**Zalesovo Beam**	**43.96**	**305**	P	**P**	**13 45 39.6**	**-2.1**
	comp=Z,1.0nm,0.5s,baz=69,slow=8.3,SNR=4.9						
DGZ	**Jazzator, Alta**	**44.57**	**298**	*i* P	**P**	**13 45 46.1**	**-0.8**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
RES	**Resolute Bay**	**45.96**	**21**	P	**P**	**13 45 56.5**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=297,slow=8.3,SNR=3.9						
RES	**Resolute Bay**	**45.96**	**21**	IAmb	IAmb	13 45 59.7	
	comp=Z,16nm,2.0s						
GYA	**Guiyang**	**46.60**	**259**	P	**P**	**13 46 03.3**	**+0.1**
GYA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
WMQ	**Urumqi**	**47.55**	**291**	*eP*	**P**	**13 46 11.8**	**+1.4**
WMQ				sP	pwP	13 46 26.0	+4.6
WMQ				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,79nm,6.3s						
WMQ				LR	LR		
	comp=Z,180nm,14.9s						
WMQ				LR	LR		
	comp=Z,240nm,15.9s						
WMQ				LR	LR		
	comp=Z,200nm,18.9s						
KURK	**Kurchatov**	**48.87**	**304**	*ce*P	**P**	**13 46 19.1**	**-1.3**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.4s						
KURK	**Kurchatov**	**48.87**	**304**	P	**P**	**13 46 19.1**	**-1.3**
KURK				IAmb	IAmb	13 46 21.1	
	comp=Z,7.2nm,0.7s						
KURBB	**Kurchatov Arra**	**48.97**	**304**	P	**P**	**13 46 19.9**	**-1.2**
	comp=Z,3.5nm,0.4s,baz=60,slow=7.5,SNR=28						
MK31	**Makanchi Array**	**49.02**	**297**	P	**P**	**13 46 20.5**	**-1.2**
MK31				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MK31	**Makanchi Array**	**49.02**	**297**	P	**P**	**13 46 20.5**	**-1.2**
MKAR	**Makanchi Array**	**49.02**	**297**	P	**P**	**13 46 20.5**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=56,slow=6.4,SNR=7.8						
MAKZ	**Makanchi**	**49.19**	**298**	P	**P**	**13 46 21.8**	**-1.2**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MAKZ	**Makanchi**	**49.19**	**298**	P	**P**	**13 46 21.8**	**-1.2**
SPITS	**Spitsbergen Ar**	**49.73**	**351**	P	**P**	**13 46 26.7**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=68,slow=9.5,SNR=7.3						
B08A	**Colville Reser**	**50.35**	**59**	P	**P**	**13 46 32.5**	**+0.8**
B08A				IAmb	IAmb	13 46 34.9	
	comp=Z,18nm,1.9s						
BVAR	**Borovoye Array**	**51.80**	**310**	P	**P**	**13 46 41.5**	**-1.0**
	comp=Z,1.6nm,0.4s,baz=60,slow=7.6,SNR=12						
MOD	**Modoc Plateau**	**53.66**	**66**	P	**P**	**13 46 58.9**	**+2.3**
MOD				IAmb	IAmb	13 46 59.8	
	comp=Z,3.5nm,0.8s						
LVZ	**Lovozero**	**55.04**	**338**	*ce*P	**P**	**13 47 06.5**	**+0.4**
LVZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
LVZ	**Lovozero**	**55.04**	**338**	P	**P**	**13 47 05.9**	**-0.2**
LVZ				IAmb	IAmb	13 47 07.3	
	comp=Z,9.6nm,1.0s						
ARU	**Arti**	**55.14**	**318**	P	**P**	**13 47 06.1**	**-0.9**
	comp=Z,1.8nm,0.4s,baz=94,slow=23,SNR=3.8						
ARU	**Arti**	**55.14**	**318**	IAmb	IAmb	13 47 07.4	
	comp=Z,4.2nm,0.5s						
ARCES	**ARCESS Array B**	**55.73**	**342**	P	**P**	**13 47 11.2**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=32,slow=10,SNR=14						
PNTR	**Pine Nut**	**55.85**	**68**	P	**P**	**13 47 14.9**	**+2.3**
PNTR				IAmb	IAmb	13 47 15.8	
	comp=Z,5.2nm,0.8s						
AAK	**Ala-Archa**	**55.96**	**297**	P	**P**	**13 47 12.9**	**-0.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AAK	**Ala-Archa**	**55.96**	**297**	P	**P**	**13 47 12.9**	**-0.4**
RYN	**Ryan**	**56.79**	**68**	P	**P**	**13 47 20.9**	**+1.6**
RYN				IAmb	IAmb	13 47 27.9	
	comp=Z,4.9nm,1.4s						
YHB	**Horse Butte**	**56.99**	**58**	P	**P**	**13 47 21.8**	**+1.1**
CHTO	**Chiang Mai**	**57.02**	**260**	P	**P**	**13 47 21.9**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CHTO	**Chiang Mai**	**57.02**	**260**	P	**P**	**13 47 21.9**	**+1.0**
CHTO				IAmb	IAmb	13 47 23.1	
	comp=Z,3.6nm,0.9s						
NVAR	**Mina Array Bea**	**57.05**	**68**	P	**P**	**13 47 23.4**	**+2.2**
	comp=Z,1.2nm,0.8s,baz=294,slow=7.7,SNR=8.0						
CMAR	**Chiang Mai Arr**	**57.29**	**259**	P	**P**	**13 47 24.5**	**+1.7**
	comp=Z,1.6nm,0.7s,baz=32,slow=7.5,SNR=12						
ELK	**Elko**	**57.33**	**64**	P	**P**	**13 47 24.8**	**+1.6**
	comp=Z,0.8nm,0.6s,baz=328,slow=12,SNR=4.5						
ELK	**Elko**	**57.33**	**64**	IAmb	IAmb	13 47 26.4	
	comp=Z,0.9nm,0.8s						
R11A	**Troy Canyon, C**	**58.71**	**66**	P	**P**	**13 47 34.5**	**+1.8**
R11A				IAmb	IAmb	13 48 30.6	
	comp=Z,4.7nm,1.8s						
KLMR	**Klimovskoe**	**59.09**	**330**	*eP*	**P**	**13 47 34.3**	**-0.5**
KLMR				pmax	pmax		
	comp=Z,13nm,0.8s						
KLMR	**Klimovskoe**	**59.09**	**330**	*eP*	**P**	**13 47 34.4**	**-0.4**
KLMR				AMP		13 47 35.9	
	comp=Z,13nm,0.8s						
PDAR	**Pinedale Array**	**59.19**	**59**	P	**P**	**13 47 37.7**	**+1.6**
	comp=Z,0.4nm,0.5s,baz=149,slow=3.1,SNR=4.3						
AKTO	**Aktyubinsk**	**59.38**	**313**	P	**P**	**13 47 36.4**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=69,slow=8.4,SNR=7.2						
GAR	**Garm**	**60.74**	**297**	P	**P**	**13 47 46.7**	**+0.1**
LCMT	**Little Creek M**	**60.98**	**66**	P	**P**	**13 47 50.0**	**+1.7**
CHGR	**Chuyangaron**	**61.63**	**297**	P	**P**	**13 47 52.6**	**-0.1**
FIA1	**FINESS Array S**	**62.44**	**337**	P	**P**	**13 47 57.6**	**0.0**
FIA1				IAmb	IAmb	13 47 58.8	
	comp=Z,14nm,1.5s						
FINES	**FINESS Array B**	**62.44**	**337**	P	**P**	**13 47 57.8**	**+0.2**
	comp=Z,1.9nm,0.4s,baz=44,slow=6.2,SNR=22						
KBL	**Kabul**	**64.56**	**294**	P	**P**	**13 48 11.3**	**-1.0**
KBL				pmax	pmax		
	comp=Z,14nm,1.6s						
KBL	**Kabul**	**64.56**	**294**	P	**P**	**13 48 11.3**	**-1.0**
KBL				IAmb	IAmb	13 48 12.0	
	comp=Z,14nm,1.6s						
OBN	**Obninsk**	**64.58**	**328**	*eP*	**P**	**13 48 10.5**	**-1.3**
OBN				*e*		13 48 44.4	
OBN				*e*		13 50 33.0	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NC303	**NORSAR Array S**	**65.82**	**344**	P	**P**	**13 48 19.8**	**0.0**
NC405	**NORSAR Array S**	**65.86**	**344**	P	**P**	**13 48 20.3**	**+0.2**
NC204	**NORSAR Array S**	**65.88**	**344**	P	**P**	**13 48 20.5**	**+0.3**
NC204				IAmb	IAmb	13 48 23.1	
	comp=Z,6.6nm,0.8s						
NB201	**NORSAR Array S**	**66.00**	**344**	P	**P**	**13 48 21.0**	**0.0**
NB2	**NORSAR Subarra**	**66.02**	**344**	P	**P**	**13 48 21.1**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=25,slow=6.9						
NOA	**NORSAR Array B**	**66.02**	**344**	P	**P**	**13 48 21.3**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=23,slow=6.6,SNR=11						
NC602	**NORSAR Array S**	**66.24**	**343**	P	**P**	**13 48 23.0**	**+0.4**
NAO01	**NORSAR Array S**	**66.26**	**344**	P	**P**	**13 48 22.6**	**0.0**
SCHQ	**Schefferville**	**68.21**	**27**	P	**P**	**13 48 37.5**	**+2.4**
	comp=Z,2.9nm,0.4s,baz=267,slow=19,SNR=3.9						
SCHQ	**Schefferville**	**68.21**	**27**	IAmb	IAmb	13 50 06.8	
	comp=Z,20nm,1.8s						
GEYT	**Alibeck**	**68.25**	**303**	P	**P**	**13 48 36.4**	**+0.7**
	comp=Z,3.6nm,0.6s,baz=28,slow=4.2,SNR=7.4						
AKASG	**Malin Array Be**	**70.73**	**329**	P	**P**	**13 48 50.6**	**-0.1**
	comp=Z,3.5nm,0.5s,baz=30,slow=6.3,SNR=13						
AKBB	**Malin Array Si**	**70.73**	**329**	P	**P**	**13 48 50.2**	**-0.5**
AKBB				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AKBB	**Malin Array Si**	**70.73**	**329**	P	**P**	**13 48 50.2**	**-0.5**
AKBB				IAmb	IAmb	13 48 51.1	
	comp=Z,4.2nm,0.8s						
WMOK	**Wichita Mounta**	**70.80**	**59**	P	**P**	**13 48 52.1**	**+0.6**
WMOK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WMOK	**Wichita Mounta**	**70.80**	**59**	P	**P**	**13 48 52.1**	**+0.6**
KIV	**Kislovodsk**	**71.15**	**317**	*eP*	**P**	**13 48 53.3**	**-0.2**
KIV				*e*		13 49 13.5	
KIV				*e*		13 51 29.3	
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KBZ	**Khabaz**	**71.24**	**317**	P	**P**	**13 48 54.9**	**+1.0**
	comp=Z,6.6nm,0.8s,baz=71,slow=0.6,SNR=11						
ZEI	**Tsey**	**71.54**	**316**	*eP*	**P**	**13 48 54.7**	**-1.4**
ZEI				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TXAR	**Lajitas Array**	**72.06**	**66**	P	**P**	**13 49 00.5**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=295,slow=4.4,SNR=7.2						
WB0	**Warramunga Arr**	**73.30**	**205**	P	**P**	**13 49 06.5**	**+0.1**
WR0	**Warramunga Arr**	**73.45**	**204**	P	**P**	**13 49 07.5**	**+0.2**
WR0				IAmb	IAmb	13 51 14.1	
	comp=Z,18nm,1.5s						
FCAR	**Ozark Folk Cen**	**73.46**	**54**	P	**P**	**13 49 07.3**	**-0.1**
FCAR				IAmb	IAmb	13 51 38.1	
	comp=Z,3.7nm,1.0s						
WB2	**Warramunga Arr**	**73.48**	**205**	P	**P**	**13 49 07.5**	**+0.1**
WB2				IAmb	IAmb	13 49 53.2	
	comp=Z,18nm,1.6s						
WRA	**Warramunga Arr**	**73.48**	**205**	P	**P**	**13 49 07.7**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=20,slow=6.1,SNR=12						
BUR08	**Bucovina Ar. S**	**74.69**	**330**	P	**P**	**

mb1 4.2/30,mb1mx4.2/39,mbtmp4.3/30,ML4.3/2,MS3.7/1, Ms1 3.7/1,ms1mx2.8/39,Error ellipse: s-maj=18.9km s-min=10.5km az=79.0

BJI ***04*** *13:53:34.0±0.0,9.24N±0.04×126.60E±0.07,h57km,mB4.9/19, mb4.7/35,Ms4.2/7,Ms7 3.9/6*

ISC 04 13:53:36.9±1.0,9°24N±0.04×126°60E±0".07,h66km±9km, n163,σ1°36/162,mb4.6/65,4C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CGP	**Cagayan de Oro**	**2.04**	**248**	*i*	**Pn**	**13 54 07.4**	**-1.7**
CGP				*i*	**Sn**	**13 54 35.0**	**+1.5**
DAV	**Davao City (W)**	**2.38**	**205**	Pn	**Pn**	**13 54 13.2**	**-0.4**
	54nm,0.3s,baz=104,slow=4.9,SNR=7.2						
DAV				Sn	**Sn**	**13 54 46.3**	**+4.6**
	172nm,0.3s,baz=300,slow=15,SNR=5.7						
DAV				LR	LR	13 55 19.4	
	comp=Z,2μm,19.4s,baz=54,slow=46						
KCP	**Kidapawan**	**2.67**	**214**	*eP*	**Pn**	**13 54 16.8**	**-0.9**
KCP				*i*	**Sn**	**13 54 48.4**	**-0.6**
TBP	**Tagbilaran**	**2.74**	**280**	*eP*	**Pn**	**13 54 17.2**	**-1.3**
TBP				*i*	**Sn**	**13 54 51.8**	**+1.2**
LLP	**Lapu-Lapu**	**2.81**	**293**	*eP*	**Pn**	**13 54 19.5**	**-0.1**
LLP				*eS*	**Sn**	**13 54 58.4**	**+6.1**
CTBH	**Cotabato--PC H**	**3.07**	**230**	*eP*	**Pn**	**13 54 22.1**	**-1.0**
SNPH	**Sibulan**	**3.32**	**272**	*eP*	**Pn**	**13 54 28.3**	**+1.8**
SNPH				*i*	Sn	13 55 14.0	+9.1
GSPH	**General Santos**	**3.53**	**208**	*iP*	Pn	13 54 34.9	+5.4
RCP	**Roxas**	**4.44**	**302**	*eP*	**Pn**	**13 54 42.6**	**+0.8**
LQP	**Lukban**	**6.93**	**315**	*eP*	**Pn**	**13 55 14.0**	**-2.1**
TGY	**Tagaytay City**	**7.36**	**312**	Pn	**Pn**	**13 55 21.0**	**-0.8**
	27nm,0.3s,baz=106,slow=16,SNR=1.3						
PCPH	**Palayan**	**8.27**	**320**	*eP*	**Pn**	**13 55 32.2**	**-2.0**
TNTI	**Ternate**	**8.44**	**175**	P	**Pn**	**13 55 37.7**	**+1.1**
	43nm,1.3s						
TNTI	**Ternate**	**8.44**	**175**	Pn	Pn	13 55 31.0	-5.6
KMSI	**Cibinong**	**8.99**	**197**	P	**Pn**	**13 55 46.8**	**+2.7**
	62nm,0.8s						
LBMI	**Labuha**	**9.85**	**175**	P	**Pn**	**13 55 58.2**	**+2.4**
	908nm39nm,0.9s						
MRSI	**Marisa**	**9.86**	**208**	P	**Pn**	**13 55 55.5**	**-0.5**
	27nm,0.9s						
SZP	**Santa**	**10.20**	**325**	Pn	**Pn**	**13 55 55.9**	**-4.6**
SIJI	**Sorong**	**11.06**	**155**	Pn	**Pn**	**13 56 12.1**	**-0.3**
	1.3nm,0.3s,baz=356,slow=15,SNR=5.4						
FAKI	**Fak Fak**	**13.32**	**155**	P	**Pn**	**13 56 44.1**	**+0.9**
	37nm,1.4s						
FAKI	**Fak Fak**	**13.32**	**155**	Pn	**Pn**	**13 56 39.0**	**-4.2**
TTSI	**Tana Toraja**	**13.95**	**209**	P	**P**	**13 56 59.8**	**+2.3**
	1μm19nm,1.4s						
YULB	**Yu-li**	**14.96**	**341**		**Pn**	**13 57 05.3**	**+0.5**
BNSI	**Bone**	**15.01**	**206**	P	**P**	**13 57 10.3**	**+0.9**
	38nm,1.1s						
TPUB	**Ta-pu**	**15.11**	**338**		**Pn**	**13 57 06.8**	**+0.2**
SSLB	**Suanglung**	**15.45**	**340**		**Pn**	**13 57 10.9**	**0.0**
YOJ	**Yonaguni jima**	**15.53**	**348**	P	**P**	**13 57 14.9**	**-0.1**
YOJ				IAmb	IAmb	13 57 32.0	
	comp=Z,50nm,0.9s						
SBUM	**Sibu**	**15.81**	**246**	P	**Pn**	**13 57 15.6**	**0.0**
YHNB	**Yeheng**	**16.14**	**343**	P	**P**	**13 57 22.4**	**+0.5**
JAY	**Jayapura**	**18.27**	**129**	P	**Pn**	**13 57 46.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=107,slow=7.0,SNR=3.7						
EDFI	**Ende, Flores**	**18.52**	**195**	P	Pn	13 57 58.6	+9.4
BATI	**Baumata**	**19.54**	**189**	P	**P**	**13 57 59.1**	**-0.1**
	comp=Z,4.6nm,0.3s,baz=312,slow=1.5,SNR=5.9						
NJ2	**Nanjing**	**23.81**	**344**	*eP*	**P**	**13 58 45.3**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
JNU	**Nakatsue**	**24.10**	**9**	P	**P**	**13 58 46.3**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=278,slow=2.9,SNR=3.8						
JNU	**Nakatsue**	**24.10**	**9**	P	**P**	**13 58 47.1**	**+0.7**
KNRA	**Kununurra**	**24.84**	**175**	P	**P**	**13 58 52.5**	**-0.7**
KNRA				IAmb	IAmb	13 59 06.9	
	comp=Z,31nm,1.1s						
SLVN	**Son La**	**24.94**	**301**	P	**P**	**13 58 52.2**	**-2.0**
PBKT	**Sadao Pong**	**26.00**	**289**	P	**P**	**13 59 01.4**	**-2.5**
KULM	**Kulim**	**26.03**	**263**	P	**P**	**13 59 03.1**	**-1.1**
KULM				IAmb	IAmb	13 59 10.6	
	comp=Z,25nm,1.3s						
FITZ	**Fitzroy Crossi**	**27.18**	**182**	P	**P**	**13 59 13.5**	**-0.8**
	comp=Z,18nm,1.0s,baz=28,slow=5.4,SNR=14						
KMI	**Kunming**	**27.66**	**308**	P	**P**	**13 59 19.8**	**+0.8**
KMI				pmax	pmax		
	comp=Z,12nm,0.6s						
KSRS	**Korea Array**	**28.12**	**2**	P	**P**	**13 59 22.9**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=183,slow=9.1,SNR=7.8						
PSI	**Prapat**	**28.24**	**259**	P	**P**	**13 59 24.0**	**-0.1**
	comp=Z,10nm,1.0s,baz=166,slow=0.4,SNR=5.7						
RPSI	**Rantau Prapat**	**28.27**	**258**	P	**P**	**13 59 24.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**28.34**	**292**	P	**P**	**13 59 24.8**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=105,slow=6.8,SNR=11						
CMAR				PcP	**PcP**	**14 02 37.2**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=87,slow=0.9,SNR=4.3						
MAJO	**Matsushiro**	**29.16**	**19**	P	**P**	**13 59 32.3**	**+0.4**
MAT	**Matsushiro**	**29.16**	**19**	P	**P**	**13 59 33.9**	**+2.0**
MJB9	**Matsu-Tunnel**	**29.16**	**19**	P	**P**	**13 59 32.1**	**+0.2**
XAN	**Xi'an**	**29.55**	**329**	P	**P**	**13 59 33.1**	**-2.4**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
XAN				LR	LR		
	comp=Z,130nm,15.2s						
XAN				LR	LR		
	comp=Z,180nm,17.3s						
WB0	**Warramunga Arr**	**29.82**	**165**	P	**P**	**13 59 36.2**	**-1.7**
WRA	**Warramunga Arr**	**29.98**	**165**	P	**P**	**13 59 37.5**	**-1.8**
	comp=Z,2.2nm,0.7s,baz=347,slow=9.3,SNR=11						
WB2	**Warramunga Arr**	**29.98**	**165**	P	**P**	**13 59 36.8**	**-2.5**
WB2				IAmb	IAmb	13 59 46.4	
	comp=Z,24nm,1.7s						
WR0	**Warramunga Arr**	**30.05**	**165**	P	**P**	**13 59 37.9**	**-2.0**
WR0				IAmb	IAmb	14 00 14.8	
	comp=Z,12nm,1.3s						
PSA00	**Pilbara Seismi**	**31.33**	**192**	P	**P**	**13 59 50.7**	**-0.5**
PSA00				IAmb	IAmb	13 59 52.3	
	comp=Z,15nm,0.9s						
BJT	**Baijiatuan**	**32.03**	**345**	P	**P**	**13 59 56.2**	**-1.0**
BJT				IAmb	IAmb	13 59 57.9	
	comp=Z,12nm,1.0s						
BJI	**Beijing**	**32.05**	**345**	P	**P**	**13 59 57.1**	**-0.3**
BJI				pmax	pmax		
	comp=Z,12nm,0.9s						
ASAR	**Alice Springs**	**33.47**	**168**	P	**P**	**14 00 08.6**	**-1.4**
	comp=Z,2.5nm,0.8s,baz=18,slow=10,SNR=20						
ASAR				PcP	**PcP**	**14 02 50.3**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=343,slow=2.3,SNR=5.6						
LZH	**Lanzhou**	**33.81**	**326**	*eP*	**P**	**14 00 14.8**	**+1.8**
LZH				pP	pP	14 00 25.4	-2.9
LZH				sP	pwP	14 00 33.5	+1.6
LZH				pmax	pmax		
	comp=Z,12nm,1.1s						
GIRL	**Giralia**	**33.92**	**201**	P	**P**	**14 00 14.4**	**+0.6**
HHC	**Hu-ho-hao-te**	**34.19**	**340**	*eP*	**P**	**14 00 16.0**	**-0.2**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,62nm,6.1s						
USA0B	**Ussuriysk Arra**	**35.15**	**7**	P	**P**	**14 00 24.6**	**+0.4**
USRK	**Ussuriysk Ar.**	**35.15**	**7**	P	**P**	**14 00 25.0**	**+0.8**
	comp=Z,4.6nm,0.8s,baz=183,slow=5.7,SNR=8.3						
SHL	**Shillong**	**36.74**	**301**	P	**P**	**14 00 37.0**	**-1.4**
SHL				IAmb	IAmb	14 00 38.7	
	comp=Z,13nm,0.8s						
ASAJ	**Asahikawa**	**37.43**	**19**	P	**P**	**14 00 45.4**	**+1.7**
	comp=Z,4.7nm,0.9s,baz=252,slow=14,SNR=4.9						
JKA	**Kamikawa-asahi**	**37.43**	**19**	P	**P**	**14 00 45.4**	**+1.7**
GTA	**Gaotai**	**38.41**	**326**	*eP*	**P**	**14 00 51.3**	**-0.9**
GTA				pP	pP	14 01 04.8	-3.0
GTA				sP	pwP	14 01 09.7	-1.5
GTA				PcP	**PcP**	**14 03 07.1**	**+2.6**
GTA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
GTA				pmax	pmax		
	comp=Z,37nm,5.2s						
GTA				LR	LR		
	comp=Z,110nm,14.0s						
GTA				LR	LR		
	comp=Z,140nm,13.0s						
GTA				LR	LR		
	comp=Z,120nm,16.2s						
MORW	**Morawa**	**39.42**	**195**	P	**P**	**14 01 00.5**	**0.0**
MORW				IAmb	IAmb	14 01 01.6	
	comp=Z,14nm,1.0s						
FORT	**Forrest**	**39.81**	**178**	P	**P**	**14 01 03.5**	**-0.3**
FORT				IAmb	IAmb	14 01 20.1	
	comp=Z,17nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**39.91**	**72**	T	T	14 44 00.6	
	baz=264,slow=73,SNR=21						
H11S1	**WAKE ISLAND Hy**	**39.92**	**72**	T	T	14 44 04.5	
	baz=264,slow=73,SNR=21						
H11S2	**WAKE ISLAND Hy**	**39.93**	**72**	T	T	14 44 02.3	
	baz=264,slow=73,SNR=17						
H11N1	**WAKE ISLAND Hy**	**40.28**	**70**	T	T	14 44 45.0	
	baz=265,slow=74,SNR=27						
H11N2	**WAKE ISLAND Hy**	**40.29**	**70**	T	T	14 44 44.7	
	baz=265,slow=74,SNR=18						
H11N3	**WAKE ISLAND Hy**	**40.30**	**70**	T	T	14 44 39.3	
	baz=265,slow=74,SNR=22						
TAPN	**Taplejung**	**40.86**	**301**	*eP*	**P**	**14 01 12.2**	**-0.8**
ODAN	**Odare**	**40.98**	**301**	*eP*	**P**	**14 01 12.7**	**-1.2**
	comp=Z,39nm,0.7s						
RAMN	**Ramite**	**41.68**	**300**	*eP*	**P**	**14 01 18.5**	**-1.1**
EIDS	**Eidsvold**	**41.85**	**146**	P	**P**	**14 01 20.5**	**-0.2**
EIDS				IAmb	IAmb	14 01 23.5	
	comp=Z,29nm,1.7s						
ULN	**Ulaanbaatar**	**41.90**	**340**	P	**P**	**14 01 20.6**	**-0.4**
SONM	**Songino Array**	**42.10**	**340**	P	**P**	**14 01 21.1**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=158,slow=8.7,SNR=3.3						
JIRN	**Jiri**	**42.24**	**301**	*eP*	**P**	**14 01 23.3**	**-1.0**
GUN	**Gumba**	**42.58**	**301**	*eP*	**P**	**14 01 26.0**	**-1.0**
	comp=Z,38nm,0.8s						
BBOO	**Buckleboo**	**42.77**	**168**	P	**P**	**14 01 27.5**	**-0.5**
BBOO				IAmb	IAmb	14 02 10.0	
	comp=Z,36nm,1.5s						
NWAO	**Narrogin (SRO)**	**42.87**	**192**	P	**P**	**14 01 29.0**	**+0.2**
NWAO				IAmb	IAmb	14 01 30.2	
	comp=Z,22nm,1.0s						
PKI	**Pulchoki**	**42.87**	**301**	*eP*	**P**	**14 01 27.9**	**-1.5**
	comp=Z,7.9nm,0.6s						
PKIN	**Phulchoki**	**42.88**	**301**	*eP*	**P**	**14 01 28.0**	**-1.4**
DMN	**Daman**	**43.14**	**301**	*eP*	**P**	**14 01 30.9**	**-0.6**
STKA	**Stephens Creek**	**43.32**	**161**	P	**P**	**14 01 31.8**	**-0.7**
	comp=Z,2.3nm,0.5s,baz=343,slow=7.6,SNR=6.2						
KOLN	**Koldanda**	**44.47**	**300**	*eP*	**P**	**14 01 40.8**	**-1.3**
	comp=Z,38nm,0.8s						
DANN	**Dangsing**	**44.49**	**301**	*eP*	**P**	**14 01 41.0**	**-1.4**
	comp=Z,24nm,0.7s						
PYUN	**Piuthan**	**45.08**	**301**	*eP*	**P**	**14 01 45.8**	**-1.1**
	comp=Z,74nm,0.9s						
TLY	**Talaya**	**46.31**	**340**	P	**P**	**14 01 56.2**	**+0.2**
	comp=Z,4.9nm,0.7s,baz=317,slow=2.6,SNR=4.4						
TLY	**Talaya**	**46.31**	**340**	IAmb	IAmb	14 01 59.3	
	comp=Z,5.5nm,0.7s						
WMQ	**Urumqi**	**48.24**	**322**	*eP*	**P**	**14 02 13.4**	**+2.2**
WMQ				pP	pP	14 02 27.1	-0.2
WMQ				ScP	**ScP**	**14 07 27.8**	**+1.3**
WMQ				S	**S**	**14 09 08.0**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,19nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,98nm,6.9s						
WMQ				LR	LR		
	comp=Z,150nm,20.7s						
WMQ				LR	LR		
	comp=Z,180nm,16.9s						
WMQ				LR	LR		
	comp=Z,76nm,21.5s						
PETK	**Petropavlovsk-**	**50.44**	**24**	P	**P**	**14 02 28.7**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=181,slow=4.9,SNR=4.5						
MK31	**Makanchi Array**	**53.04**	**323**	P	**P**	**14 02 46.2**	**-1.2**
MKAR	**Makanchi Array**	**53.04**	**323**	P	**P**	**14 02 46.8**	**-0.6**
	comp=Z,6.6nm,0.7s,baz=122,slow=8.1,SNR=73						
MAKZ	**Makanchi**	**53.24**	**323**	P	**P**	**14 02 47.7**	**-1.1**
NIL	**Nilore**	**54.59**	**305**	P	**P**	**14 02 57.8**	**-1.0**
KZA	**Kyzart**	**55.57**	**315**	P	**P**	**14 03 06.3**	**+0.1**
	SNR=8.3						
TKM2	**Tokmak 2**	**55.63**	**316**	P	**P**	**14 03 06.1**	**-0.4**
	SNR=9.5						
ZAA0	**Zalesovo Array**	**55.69**	**332**	P	**P**	**14 03 05.2**	**-1.1**
ZALV	**Zalesovo Beam**	**55.69**	**332**	P	**P**	**14 03 04.9**	**-1.4**
	comp=Z,2.1nm,0.7s,baz=125,slow=5.6,SNR=9.3						
UCH	**Uchtor**	**56.13**	**315**	P	**P**	**14 03 10.4**	**0.0**
	SNR=20						
AAK	**Ala-Archa**	**56.29**	**316**	P	**P**	**14 03 10.4**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=161,slow=15,SNR=5.4						
AAK	**Ala-Archa**	**56.29**	**316**	P	**P**	**14 03 10.7**	**-0.4**
USP	**Ospenovka**	**56.51**	**316**	P	**P**	**14 03 12.0**	**-0.5**
	SNR=6.3						
AML	**Almayashu**	**56.67**	**315**	P	**P**	**14 03 14.2**	**+0.1**
	SNR=15						
EKS2	**Erkin-Say**	**56.79**	**315**	P	**P**	**14 03 14.4**	**-0.2**
	SNR=7.5						
ARSB	**Arslanbob**	**56.91**	**314**	P	**P**	**14 03 14.8**	**-0.7**
KURK	**Kurchatov**	**57.10**	**326**	P	**P**	**14 03 15.6**	**-0.9**
GAR	**Garm**	**58.20**	**310**	P	**P**	**14 03 23.8**	**-0.8**
CHGR	**Chuyangaron**	**58.99**	**310**	P	**P**	**14 03 29.1**	**-1.0**
KK31	**Karatay Array**	**59.21**	**315**	P	**P**	**14 03 30.2**	**-1.1**
KKAR	**Karatay Array**	**59.21**	**315**	P	**P**	**14 03 30.2**	**-1.2**
KKAR				IAmb	IAmb	14 03 31.2	
	comp=Z,4.8nm,0.8s						
TIXI	**Tiksi**	**62.38**	**1**	P	**P**	**14 03 52.3**	**0.0**
TIXI				IAmb	IAmb	14 03 53.8	
	comp=Z,9.4nm,1.1s						
BRVK	**Borovoye**	**62.77**	**326**	P	**P**	**14 03 54.3**	**-1.0**
BILL	**Bilibino**	**64.31**	**15**	P	**P**	**14 04 05.7**	**+0.5**
BILL				IAmb	IAmb	14 04 24.3	
	comp=Z,4.4nm,0.9s						
NRIK	**Noril'sk**	**65.09**	**346**	P	**P**	**14 04 10.1**	**-0.1**
	comp=Z,5.0nm,0.5s,baz=145,slow=7.0,SNR=7.7						
BKZ	**Black Stump Fm**	**66.79**	**140**	P	**P**	**14 04 22.5**	**+0.8**
GEYT	**Alibeck**	**67.42**	**307**	P	**P**	**14 04 25.6**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=106,slow=3.2,SNR=3.8						
ARU	**Arti**	**70.27**	**327**	P	**P**	**14 04 41.8**	**-1.3**
ARU				IAmb	IAmb	14 04 42.7	
	comp=Z,7.7nm,0.7s						
FALS	**False Pass**	**71.00**	**35**	P	**P**	**14 04 48.5**	**+1.0**
SOCY	**Socotra**	**71.22**	**280**	P	**P**	**14 04 48.3**	**-1.5**
CHGN	**Chignik**	**74.04**	**34**	P	**P**	**14 05 04.6**	**-1.0**
OHAK	**Old Harbor**	**76.94**	**33**	P	**P**	**14 05 22.6**	**+0.5**
KDAK	**Kodiak Island**	**77.35**	**33**	P	**P**	**14 05 25.2**	**+0.8**
KDAK				IAmb	IAmb	14 05 38.9	
	comp=Z,5.6nm,0.8s						
RAYN	**Ar Rayn**	**78.26**	**292**	P	**P**	**14 05 28.6**	**-1.7**
RAYN				IAmb	IAmb	14 05 30.4	
	comp=Z,6.8nm,0.8s						
BPAW	**Bear Paw Mtn.**	**78.43**	**26**	P	**P**	**14 05 31.3**	**+0.9**
BPAW				IAmb	IAmb	14 05 44.1	
	comp=Z,8.7nm,1.2s						
MLY	**Manley**	**78.58**	**25**	P	**P**	**14 05 32.3**	**+1.0**
KBZ	**Khabaz**	**79.15**	**313**	P	**P**	**14 05 34.1**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=97,slow=5.9,SNR=4.8						
TOLK	**Toolik Lake Re**	**79.21**	**22**	P	**P**	**14 05 35.8**	**+1.2**
TOLK				IAmb	IAmb	14 05 37.9	
	comp=Z,15nm,1.6s						
MCK	**McKinley**	**79.33**	**27**	P	**P**	**14 05 36.0**	**+0.7**
MCK				IAmb	IAmb	14 05 48.2	
	comp=Z,22nm,1.6s						
RND	**Reindeer**	**79.36**	**27**	P	**P**	**14 05 36.2**	**+0.6**
RND				IAmb	IAmb	14 05 48.8	
	comp=Z,14nm,1.5s						
WRH	**Wood River Hil**	**79.71**	**26**	P	**P**	**14 05 37.8**	**+0.5**
WRH				IAmb	IAmb	14 05 60.0	
	comp=Z,12nm,1.7s						
CCB	**Clear Creek Bu**	**79.83**	**26**	P	**P**	**14 05 37.9**	**-0.1**
DHY	**Denali Highway**	**80.03**	**27**	P	**P**	**14 05 39.5**	**+0.2**
DHY				IAmb	IAmb	14 05 54.4	
	comp=Z,16nm,2.0s						
HDA	**Harding Lake**	**80.20**	**26**	P	**P**	**14 05 39.5**	**-0.5**
ILAR	**Eielson Array**	**80.22**	**26**	P	**P**	**14 05 40.0**	**0.0**
	comp=Z,0.9nm,0.7s,baz=230,slow=5.0,SNR=9.6						
KLMR	**Klimovskoe**	**80.58**	**330**	*eP*	**P**	**14 05 40.3**	**-1.8**
KLMR				AMP		14 05 42.3	
	comp=Z,12nm,0.9s						
RIDG	**Independent Ri**	**81.15**	**27**	P	**P**	**14 05 45.8**	**+0.7**
RIDG				IAmb	IAmb	14 06 00.3	
	comp=Z,6.3nm,0.9s						
GLB	**Gilahina Butte**	**81.77**	**29**	P	**P**	**14 05 49.6**	**+1.2**
GLB				IAmb	IAmb	14 06 26.5	
	comp=Z,21nm,1.7s						
BARN	**Barnard Glacie**	**82.83**	**29**	P	**P**	**14 05 55.8**	**+1.6**
BARN				IAmb	IAmb	14 05 57.9	
	comp=Z,6.3nm,0.7s						
EPYK	**Eagle Plains**	**84.28**	**24**	P	**P**	**14 06 02.6**	**+1.3**
HYT	**Haines Junctio**	**84.88**	**29**	P	**P**	**14 06 06.4**	**+1.8**
HYT				IAmb	IAmb	14 06 08.8	
	comp=Z,5.6nm,0.9s						
INK	**Inuvik**	**85.12**	**22**	P	**P**	**14 06 06.3**	**+0.9**
INK				IAmb	IAmb	14 06 18.3	
	comp=Z,5.0nm,1.0s						
ARCES	**ARCESS Array B**	**85.27**	**340**	P	**P**	**14 06 06.1**	**-0.1**
	comp=Z,3.6nm,0.6s,baz=82,slow=6.2,SNR=22						
BRTR	**Keskin Array B**	**86.44**	**309**	P	**P**	**14 06 12.8**	**0.0**
	comp=Z,0.3nm,0.5s,baz=140,slow=4.4,SNR=3.5						
FINES	**FINESS Array B**	**86.95**	**332**	P	**P**	**14 06 13.7**	**-0.9**
	comp=Z,2.6nm,0.9s,baz=90,slow=7.6,SNR=9.4						
AKASG	**Malin Array Be**	**87.57**	**321**	P	**P**	**14 06 16.9**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=66,slow=4.2,SNR=1.5						
C36M	**Paulatuk**	**88.10**	**20**	P	**P**	**14 06 20.4**	**+0.5**
VNDA	**Vanda**	**88.87**	**173**	P	**P**	**14 06 23.2**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=316,slow=6.1,SNR=5.6						
KMBO	**Kilima Mbogo**	**89.54**	**269**	P	**P**	**14 06 29.5**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=70,slow=5.6,SNR=4.1						
KMBO	**Kilima Mbogo**	**89.54**	**269**	IAmb	IAmb	14 07 51.1	
	comp=Z,7.8nm,1.4s						
RES	**Resolute Bay**	**92.45**	**10**	P	**P**	**14 06 40.9**	**+0.8**
NB2	**NORSAR Subarra**	**93.83**	**334**	P	**P**	**14 06 45.7**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=63,slow=4.6						
NOA	**NORSAR Array B**	**93.83**	**334**	P	**P**	**14 06 46.0**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=62,slow=4.6,SNR=4.8						
YKA	**Yellowknife Ar**	**94.56**	**24**	P	**P**	**14 06 51.0**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=294,slow=4.4,SNR=7.1						
TXAR	**Lajitas Array**	**118.25**	**50**	PKP	**PKiKP**	**14 12 18.8**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=180,slow=2.4,SNR=4.5						
TORD	**Torodi Ar. Bea**	**120.95**	**291**	PKP	**PKPdf**	**14 12 22.7**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=54,slow=1.4,SNR=4.0						
U40A	**Yellville**	**121.41**	**37**	PKPdf	**PKiKP**	**14 12 23.6**	**+0.2**
WVT	**Waverly**	**124.44**	**34**	PKPdf	**PKiKP**	**14 12 29.6**	**+0.2**
PLCA	**Paso Flores**	**145.13**	**157**	PKPbc	**PKPdf**	**14 13 08.2**	**+0.8**
	comp=Z,3.3nm,0.8s,baz=154,slow=2.5,SNR=5.6						

NIED ***04*** *14:08:00,32.60N×141.80E,h5km,Mw4.0 Best double couple: M0 1.20000×10^15 NP1:φ=347.00000°,δ=58.00000°, λ=83.00000°. NP2:φ=180.00000°,δ=32.00000°,λ=101.00000°.*

IDC ***04*** *14:08:08.2±0.8,32.39N×141.86E,h0km,mb3.9/10, mb1 4.1/11,mb1mx3.8/34,mbtmp3.9/11,ML2.8/1,Error ellipse: s-maj=21.1km s-min=19.3km az=73.0*

NEIC ***04*** *14:08:11.3±1.3,32.40N±0.07×141.77E±0.07,h20km±3km, mb4.6/21,Error ellipse: s-maj=10.5km s-min=8.7km az=203.0*

JMA ***04*** *14:08:11.8±0.1,32.56N×141.80E,h33km,M3.7*

ISC 04 14:08:09.5±4.6,32°48N±0°06×141°83E±0°06,h9km±29km, n58,σ1°08/67,mb4.3/17,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.75**	**270**	P	**Pn**	**14 08 40.5**	**+0.5**
JAOM				*eS*	**Sn**	**14 09 01.8**	**-0.6**
JHJ2	**Mitsune**	**1.81**	**291**	P	**Pn**	**14 08 41.2**	**+0.3**
JHJ2				*eS*	**Sn**	**14 09 02.8**	**-1.1**
JHJ2	**Mitsune**	**1.81**	**291**	Pn	**Pn**	**14 08 41.0**	**+0.1**
JHCJ	**Hachijojimakas**	**1.81**	**290**	P	**Pn**	**14 08 41.0**	**+0.1**
JHCJ				*eS*	**Sn**	**14 09 02.0**	**-2.0**
JHJ	**Hachijo jima 2**	**1.84**	**291**	Pn	**Pn**	**14 08 41.5**	**+0.2**
	57nm,0.3s,baz=69,slow=18,SNR=15						
JHJ				Sn	**Sn**	**14 09 02.5**	**-2.2**
	59nm,0.3s,baz=73,slow=18,SNR=4.6						
BSO1	**Boso 1**	**2.29**	**342**	P	**Pn**	**14 08 47.5**	**+0.6**
BSO1				*eS*	**Sn**	**14 09 13.9**	**-1.0**
JMKN	**Mikurajimanish**	**2.35**	**308**	*eS*	**Sn**	**14 09 16.5**	**-0.8**
BSO3	**Boso 3**	**2.57**	**335**	P	**Pn**	**14 08 51.6**	**+0.6**
BSO3				*eS*	**Sn**	**14 09 20.7**	**-1.5**
BSO4	**Boso 4**	**2.80**	**334**	*eS*	**Sn**	**14 09 27.8**	**-0.4**
JOD2	**Odawara 2**	**3.60**	**321**	P	**Pn**	**14 09 06.2**	**+0.8**
JHU	**Hanno**	**3.98**	**329**	*eS*	**Sn**	**14 09 55.5**	**-1.9**
JYT	**Yasato**	**3.98**	**341**	P	**Pn**	**14 09 11.6**	**+0.9**
JYT				*eS*	**Sn**	**14 09 57.0**	**-0.4**
JHO	**Hitachi**	**4.25**	**346**	P	**Pn**	**14 09 14.1**	**-0.4**
JHO				*eS*	**Sn**	**14 10 01.9**	**-2.3**
JRY	**Ryogami san**	**4.29**	**326**	P	**Pn**	**14 09 15.3**	**+0.4**
JAG	**Ashikaga**	**4.40**	**334**

TXAR **Lajitas Array** 92.61 53 P P 14 21 22.9 +0.9
comp=Z,0.5nm,0.7s,baz=310,slow=4.3,SNR=4.3

IDC 04 14:38:33.0±8.8, 7°.45S×156°.09E, h121km±62km, mb3.2/3, mb1 3.3/4, mb1mx3.1/23, mbtmp3.6/4, Error ellipse: s-maj=78.1km s-min=31.9km az=96.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**5.11**	**307**	P	Pn	14 39 46.1	-1.4
	1.2nm,0.3s,baz=180,slow=20,SNR=2.3						
KRVT				S	Sn	14 40 47.4	+1.9
	1.5nm,0.3s,baz=180,slow=20,SNR=1.8						
WRA	**Warramunga Arr**	**24.47**	**237**	P	P	14 43 41.5	+0.5
	1.2nm,0.6s,baz=61,slow=9.5,SNR=10						
ASAR	**Alice Springs**	**26.70**	**230**	P	P	14 44 00.1	-1.1
	0.2nm,0.5s,baz=57,slow=9.7,SNR=5.8						
ASAR				PcP	PcP	14 47 22.7	+0.8
	0.2nm,0.8s,baz=90,slow=1.3,SNR=1.6						
H11S3	**WAKE ISLAND Hy**	**27.82**	**22**	T	T	15 12 28.8	
	baz=202,slow=76,SNR=36						
H11S2	**WAKE ISLAND Hy**	**27.82**	**22**	T	T	15 12 28.0	
	baz=202,slow=76,SNR=32						
H11S1	**WAKE ISLAND Hy**	**27.84**	**22**	T	T	15 12 30.1	
	baz=202,slow=76,SNR=17						
MKAR	**Makanchi Array**	**84.46**	**318**	P	P	14 50 51.9	-0.5
	0.3nm,0.5s,baz=100,slow=6.3,SNR=3.4						

JMA 04 14:42:38.0±0.3, 32°.46N×142°.07E, h37km, M3.5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.95**	**271**	P	Pn	14 43 09.9	+1.4
JHO	**Hitachi**	**4.32**	**344**	P	Pn	14 43 43.6	+2.5
JFT	**Otama**	**5.24**	**345**	*e*S	Sn	14 44 53.2	+0.2

IDC 04 15:15:06.2±6.1, 28°.25N×142°.85E, h0km, mb3.3/3, mb1 3.5/4, mb1mx3.3/30, mbtmp3.3/4, ML2.5/1, Error ellipse: s-maj=242.2km s-min=29.2km az=74.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**9.15**	**336**	Pn	Pn	15 17 19.1	-0.4
	0.1nm,0.3s,baz=155,slow=12,SNR=2.1						
WRA	**Warramunga Arr**	**48.61**	**191**	P	P	15 23 51.4	-0.3
	0.3nm,0.4s,baz=12,slow=8.5,SNR=2.4						
MKAR	**Makanchi Array**	**50.21**	**309**	P	P	15 24 03.7	-0.1
	0.1nm,0.4s,baz=87,slow=8.8,SNR=2.2						
ASAR	**Alice Springs**	**52.33**	**190**	P	P	15 24 19.9	+0.1
	0.3nm,0.9s,baz=14,slow=8.6,SNR=2.2						

*JMA **04** 15:17:01.9±0.4, 32°.67N×141°.90E, h40km, M3.2*
*IDC **04** 15:17:02.7±1.5, 31°.80N×139°.43E, h0km, mb3.4/2, mb1 3.5/3, mb1mx3.2/35, mbtmp3.3/3, ML2.1/1, Error ellipse: s-maj=105.3km s-min=19.2km az=98.0*
ISC 04 15:17:02.0±1.5, 32°.46N±0°.10×141°.6E±0°.1, h39km, n5, σ1s83/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.68**	**294**	Pn	**Pn**	**15 17 28.8**	**0.0**
	7.2nm,0.3s,baz=266,slow=17,SNR=1.2						
JHJ				Sn	**Sn**	**15 17 47.9**	**-1.2**
	8.5nm,0.3s,baz=250,slow=22,SNR=1.9						
JHO	**Hitachi**	**4.23**	**348**	P	**Pn**	**15 18 03.6**	**-0.3**
JHO				*e*S	**Sn**	**15 18 50.7**	**-1.4**
MJAR	**Matsushiro Arr**	**4.95**	**326**	Pn	**Pn**	**15 18 16.9**	**+3.1**
	0.1nm,0.3s,baz=174,slow=14,SNR=4.9						
WRA	**Warramunga Arr**	**52.56**	**189**	P	**P**	**15 26 11.8**	**+0.1**
	0.3nm,0.5s,baz=5.2,slow=7.7,SNR=2.4						
ASAR	**Alice Springs**	**56.29**	**189**	P	**P**	**15 26 38.4**	**-0.4**
	0.3nm,0.8s,baz=0.7,slow=7.4,SNR=2.0						

IDC 04 15:28:53.0±4.8, 8°.25S×158°.74E, h155km±77km, mb3.0/3, mb1 3.2/3, mb1mx2.9/38, mbtmp3.4/3, Error ellipse: s-maj=108.4km s-min=40.5km az=126.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.67**	**135**	P	Pn	15 29 25.0	+0.3
	17nm,0.3s,baz=243,slow=4.5,SNR=25						
HNR				S	Sn	15 29 49.1	0.0
	34nm,0.3s,baz=231,slow=21,SNR=6.7						
WRA	**Warramunga Arr**	**26.32**	**241**	P	P	15 34 14.8	+0.1
	0.4nm,0.5s,baz=68,slow=9.0,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	**27.71**	**16**	T	T	16 03 13.9	
	baz=198,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**27.71**	**16**	T	T	16 03 14.8	
	baz=198,slow=76,SNR=25						
H11S1	**WAKE ISLAND Hy**	**27.73**	**16**	T	T	16 03 15.9	
	baz=198,slow=76,SNR=12						
ASAR	**Alice Springs**	**28.30**	**234**	P	P	15 34 32.1	-0.2
	0.2nm,0.5s,baz=64,slow=9.6,SNR=9.2						
H11N1	**WAKE ISLAND Hy**	**28.93**	**16**	T	T	16 04 59.6	
	baz=196,slow=76,SNR=3.7						
H11N3	**WAKE ISLAND Hy**	**28.93**	**16**	T	T	16 05 01.2	
	baz=196,slow=76,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**28.94**	**16**	T	T	16 05 00.2	
	baz=196,slow=76,SNR=3.2						
MKAR	**Makanchi Array**	**86.81**	**318**	P	P	15 41 19.9	0.0
	0.1nm,0.5s,baz=90,slow=4.3,SNR=1.8						

*GEN **04** 15:50:46.5, 44°.52N×6°.66E, h6km±2km, MI1.6*
LDG 04 15:50:46.7±0.1, 44°.53N×6°.68E, h2km, MI1.7/5, Error ellipse: s-maj=1.2km s-min=0.8km az=56.0, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.21**	**17**	*e*Pg	Pg	15 50 51.2	+0.4
MBDF				*e*Sg	Sg	15 50 54.1	+0.5
	8.6nm,0.2s						
PZZ	**Stroppo**	**0.31**	**93**	P	Pg	15 50 53.0	+0.3
BHB	**Bricherasio**	**0.52**	**52**	P	Pg	15 50 56.5	-0.1
BHB				S	Sg	15 51 03.7	+0.2
STV	**Sant Anna di V**	**0.54**	**121**	P	Pg	15 50 57.1	+0.1
STV				S	Sg	15 51 04.0	0.0
ENR	**Entracque**	**0.61**	**119**	P	Pg	15 50 58.2	-0.1
ENR				S	Sg	15 51 06.2	0.0
ORIF	**Oris-en-Rattie**	**0.69**	**305**	*e*Pg	Pg	15 50 59.4	-0.6
ORIF				*e*Sg	Sg	15 51 08.5	-0.5
	9.2nm,0.2s						
RSP	**Reno Superiore**	**0.75**	**33**	P	Pg	15 51 01.1	0.0
RSP				S	Sg	15 51 10.8	+0.1
GBOS	**Grotte di Boss**	**0.88**	**109**	P	Pg	15 51 03.0	-0.4
GBOS				S	Sg	15 51 14.3	-0.5
FRF	**La Foret Royal**	**0.96**	**182**	*e*Pg	Pg	15 51 05.1	-0.1
FRF				*e*Sg	Sg	15 51 17.5	-0.2
	1.1nm,0.2s						
SMRF	**Simiane la Rot**	**0.97**	**236**	*e*Pg	Pg	15 51 05.2	0.0
SMRF				*e*Sg	Sg	15 51 17.6	-0.2
	1.6nm,0.2s						
LPG	**La Plagne**	**0.97**	**3**	*e*Pg	Pg	15 51 05.3	-0.1
LPG				*e*Sg	Sg	15 51 17.9	-0.1
	2.6nm,0.2s						
LPL	**La Plagne**	**0.99**	**2**	*e*Pg	Pg	15 51 05.8	+0.1
LPL				*e*Sg	Sg	15 51 18.1	-0.5
	1.3nm,0.2s						
IMI	**Imperia**	**1.06**	**125**	P	Pg	15 51 06.7	-0.4
IMI				S	Sg	15 51 19.2	-1.7
RORO	**Rocca Rossa**	**1.07**	**112**	P	Pg	15 51 06.5	-0.7
RORO				S	Sg	15 51 19.2	-2.1
LMR	**La Mourre**	**1.20**	**186**	*e*Pn	Pg	15 51 09.0	-0.6
LMR				*e*Sg	Sg	15 51 24.4	-0.8
	0.9nm,0.2s						
VIVF	**Saint-Julien-l**	**1.47**	**284**	*e*Pn	Pn	15 51 12.9	-1.4

*ROM **04** 15:50:51.1±0.3, 44°.52N±0°.01×6°.70E±0°.02, h8km±1km, ML1.7/7, Error ellipse: s-maj=1.4km s-min=0.7km az=59.0*
*STR **04** 15:50:51.1±0.5, 45°.N±3°×±°, h9km±19km, MLv1.6/5, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
LDG 04 15:50:51.8±0.1, 44°.54N×6°.67E, h2km, Md2.2/3, MI2.2/9, Error ellipse: s-maj=2.8km s-min=1.7km az=65.0,

France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGAG	**Argentiere**	**0.12**	**227**	Pg	Pg	15 50 56.2	+2.0
OGAG				Sg	Sg	15 51 01.0	+5.2
MBDF	**Montbardon**	**0.20**	**22**	*e*Pg	Pg	15 50 56.6	+0.8
MBDF				*e*Sg	Sg	15 50 59.6	+1.1
	38nm,0.3s						
PZZ	**Stroppo**	**0.32**	**95**	P	Pg	15 50 57.5	-0.6
PZZ				S	Sg	15 51 02.5	+0.3
PZZ				AML	AML		
	comp=E,552μm,0.2s						
PZZ				AML	AML		
	comp=N,600μm,0.7s						
PZZ				AML	AML		
	comp=N,599μm,0.7s						
PZZ	**Stroppo**	**0.32**	**95**	S	Pg	15 50 57.5	-0.5
RRL	**Rocca Remolon**	**0.39**	**13**	AML	AML		
	comp=N,76μm,1.1s						
RRL				AML	AML		
	comp=E,70μm,0.3s						
DOI	**San Damiano**	**0.42**	**94**	P	Pg	15 50 59.5	-0.3
DOI				S	Sg	15 51 05.7	+0.4
ISO	**Isola**	**0.45**	**142**	Pg	Pg	15 50 59.9	-0.2
ISO				Sg	Sg	15 51 05.2	-1.0
BNI	**Bardonecchia**	**0.51**	**1**	P	Pg	15 51 02.5	+0.8
BNI				S	Sg	15 51 09.1	+0.7
BHB	**Bricherasio**	**0.52**	**54**	P	Pg	15 51 02.1	+0.3
BHB				S	Sg	15 51 09.5	+0.9
BHB				AML	AML		
	comp=N,93μm,0.7s						
BHB				AML	AML		
	comp=E,67μm,0.6s						
STV	**Sant Anna di V**	**0.56**	**121**	P	Pg	15 51 02.1	-0.4
STV				S	Sg	15 51 08.9	-0.8
STV				AML	AML		
	comp=E,93μm,1.2s						
STV				AML	AML		
	comp=N,123μm,0.6s						
ENR	**Entracque**	**0.62**	**120**	P	Pg	15 51 03.6	-0.1
ENR				S	Sg	15 51 11.6	-0.3
ENR				AML	AML		
	comp=N,163μm,0.2s						
ENR				AML	AML		
	comp=E,154μm,0.1s						
OGMO	**Fort Saint-Gob**	**0.67**	**1**	Pg	Pg	15 51 03.7	-1.0
OGMO				Sg	Sg	15 51 13.9	+0.5
ORIF	**Oris-en-Rattie**	**0.68**	**304**	*e*Pg	Pg	15 51 04.4	-0.4
ORIF				*e*Sg	Sg	15 51 13.1	-0.5
	comp=E,19nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.68**	**304**	P	Pg	15 51 04.3	-0.4
ORIF				AML	AML		
	comp=E,33μm,0.4s						
ORIF				AML	AML		
	comp=N,29μm,1.0s						
ORIF	**Oris-en-Rattie**	**0.68**	**304**	Pg	Pg	15 51 04.4	-0.4
ORIF				Sg	Sg	15 51 13.3	-0.3
RSP	**Reno Superiore**	**0.74**	**35**	P	Pg	15 51 06.1	0.0
RSP				S	Sg	15 51 16.4	+0.6
RSP				AML	AML		
	comp=E,53μm,0.8s						
RSP				AML	AML		
	comp=N,43μm,1.6s						
RSP				AML	AML		
	comp=N,43μm,1.6s						
TURF	**col de Turini**	**0.77**	**137**	Pg	Pg	15 51 05.4	-1.1
TURF				Sg	Sg	15 51 15.9	-0.6
GDM	**Grand'Maison**	**0.77**	**330**	Pg	Pg	15 51 06.2	-0.4
GDM				Sg	Sg	15 51 16.3	-0.3
SAOF	**Saorge**	**0.84**	**130**	P	Pg	15 51 07.1	-0.9
SAOF				S	Sg	15 51 17.9	-1.0
SAOF	**Saorge**	**0.84**	**130**	AML	AML		
	comp=E,71μm,1.5s						
SAOF				AML	AML		
	comp=N,67μm,0.5s						
SAOF				AML	AML		
	comp=N,67μm,0.5s						
SAOF				AML	AML		
	comp=E,71μm,1.5s						
SAOF	**Saorge**	**0.84**	**130**	Pg	Pg	15 51 07.2	-0.8
SAOF				Sg	Sg	15 51 18.3	-0.6
ESCA	**l'Escarene**	**0.87**	**144**	Pg	Pg	15 51 07.8	-0.7
ESCA				Sg	Sg	15 51 18.9	-0.8
LPG	**La Plagne**	**0.96**	**4**	*e*Pg	Pg	15 51 10.7	+0.4
LPG				*e*Sg	Sg	15 51 23.0	+0.3
	comp=E,8.5nm,0.3s						
SMRF	**Simiane la Rot**	**0.96**	**235**	*e*Pg	Pg	15 51 10.1	-0.2
SMRF				*e*Sg	Sg	15 51 22.3	-0.4
	comp=E,6.9nm,0.3s						
FRF	**La Foret Royal**	**0.98**	**181**	*e*Pg	Pg	15 51 10.2	-0.3
FRF				*e*Sg	Sb	15 51 24.6	-0.2
	comp=E,12nm,0.2s						
LPL	**La Plagne**	**0.98**	**3**	*e*Pg	Pb	15 51 11.2	-0.4
LPL				*e*Sg	Sg	15 51 23.4	+0.1
	comp=E,4.4nm,0.3s						
IMI	**Imperia**	**1.08**	**125**	P	Pg	15 51 11.8	-0.8
IMI				S	Sg	15 51 25.4	-1.1
IMI				AML	AML		
	comp=E,58μm,1.5s						
IMI				AML	AML		
	comp=N,76μm,1.6s						
LMR	**La Mourre**	**1.21**	**185**	*e*Pn	Pg	15 51 14.7	-0.2
LMR				*e*Sg	Sg	15 51 30.2	-0.4
	comp=N,10nm,0.3s						
VIVF	**Saint-Julien-l**	**1.46**	**283**	*e*Pn	Pn	15 51 18.1	-1.1
VIVF				*e*Sn	Sg	15 51 35.6	-3.0
	comp=N,5.4nm,0.4s						
LASF	**Ste Croix**	**2.07**	**258**	*e*Pn	Pn	15 51 25.9	-1.7
LASF				*e*Sn	Sn	15 51 50.4	-3.5
	comp=N,0.8nm,0.3s						
PGF	**Pioggiola**	**2.61**	**139**	*e*Pn	Pn	15 51 34.0	-1.1
PGF				*e*Sn	Sn	15 52 04.8	-2.7
	comp=N,1.3nm,0.2s						

*NEIC **04** 15:51:28.7±2.4, 20°.9S±0°.1×178°.6W±0°.1, h588km±4km, mb4.5/50, Error ellipse: s-maj=19.9km s-min=15.4km az=139.0*
*IDC **04** 15:51:29.8±3.7, 20°.80S×178°.71W, h592km±44km, mb3.3/13, mb1 3.5/13, mb1mx3.3/41, mbtmp4.2/13, Error ellipse: s-maj=21.5km s-min=18.4km az=160.0*
ISC 04 15:51:27.9±0.5, 20°.89S±0°.06×178°.53W±0°.09, h579km, n110, σ2s02/122, mb4.3/36, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.50**	**314**	P	**P**	**15 52 58.2**	**+2.5**
GLKZ	**Green Lake**	**8.35**	**176**	S	**S**	**15 55 07.8**	**-2.0**
AFI	**Afiamalu**	**9.47**	**44**	P	**P**	**15 53 41.0**	**-0.2**
FUNA	**Funafuti**	**12.49**	**350**	P	**P**	**15 54 07.7**	**-3.9**
DZM	**Mont Dzumac**	**14.04**	**262**	P	**P**	**15 54 28.8**	**+1.2**
OUZ	**Omahuta**	**15.87**	**204**	P	**P**	**15 54 47.4**	**+2.6**
WCZ	**Waipu Caves**	**16.24**	**201**	P	**P**	**15 54 50.2**	**+2.0**
KUZ	**Kuaotunu**	**16.57**	**196**	P	**P**	**15 54 53.7**	**+2.4**
MXZ	**Matakaoa Point**	**16.84**	**189**	P	**P**	**15 54 55.8**	**+2.1**
WMGZ	**Waiomatatini S**	**17.08**	**188**	P	**P**	**15 54 58.3**	**+2.5**
HAZ	**Te Kaha**	**17.11**	**190**	P	**P**	**15 54 56.0**	**-0.1**
PKGZ	**Pakihiroa**	**17.19**	**189**	P	**P**	**15 54 56.8**	**-0.2**
PKGZ				S	**S**	**15 57 46.1**	**-1.0**
RUGZ	**Raukumara Rang**	**17.33**	**190**	P	**P**	**15 54 58.3**	**0.0**
PUZ	**Puketiti**	**17.35**	**189**	P	**P**	**15 54 58.7**	**+0.4**
PUZ				S	**S**	**15 57 48.0**	**-1.6**
TWGZ	**Tauwhareparae**	**17.49**	**189**	P	**P**	**15 55 00.2**	**+0.6**
TWGZ				S	**S**	**15 57 46.9**	**-5.0**
TOZ	**Tahuroa Road**	**17.56**	**196**	P	**P**	**15 55 02.3**	**+2.1**
KMRZ	**Kaimai**	**17.56**	**195**	P	**P**	**15 55 02.2**	**+1.9**
MWZ	**Matawai**	**17.71**	**190**	P	**P**	**15 55 00.5**	**-1.1**
MWZ				S	**S**	**15 57 49.0**	**-6.6**
URZ	**Urewera**	**17.71**	**191**	P	**P**	**15 54 59.5**	**-2.1**
RAGZ	**Rawiri**	**17.89**	**190**	P	**P**	**15 55 03.1**	**-0.3**
RIGZ	**Rimuhau**	**18.04**	**189**	P	**P**	**15 55 04.1**	**-0.6**
RIGZ				S	**S**	**15 57 58.6**	**-2.3**
TLZ	**Tolley Road**	**18.12**	**195**	P	**P**	**15 55 07.8**	**+2.5**
SNGZ	**Shannon Statio**	**18.18**	**190**	P	**P**	**15 55 05.4**	**-0.5**
MTHZ	**Maungataniwha**	**18.34**	**192**	P	**P**	**15 55 06.8**	**-0.6**
MTHZ				S	**S**	**15 58 00.9**	**-4.8**
RAHZ	**Arahi**	**18.36**	**191**	P	**P**	**15 55 07.0**	**-0.5**
MRHZ	**Matea Rd**	**18.41**	**193**	P	**P**	**15 55 07.2**	**-0.8**
HIZ	**Hauiti**	**18.47**	**197**	P	**P**	**15 55 11.9**	**+3.4**
BKZ	**Black Stump Fm**	**18.71**	**192**	P	**P**	**15 55 09.0**	**-1.8**
BKZ				S	**S**	**15 58 03.1**	**-8.6**
BKZ	**Black Stump Fm**	**18.71**	**192**	P	**P**	**15 55 09.3**	**-1.5**
BKZ				IAmb	IAmb	15 56 04.9	
	comp=Z,39nm,1.6s						
TUVZ	**Tukino**	**18.99**	**194**	P	**P**	**15 55 12.9**	**-0.4**
TUVZ				S	**S**	**15 58 18.3**	**+2.0**
VRZ	**Vera Road**	**19.07**	**196**	P	**P**	**15 55 15.9**	**+2.0**
BHHZ	**Black Hill Sta**	**19.11**	**193**	P	**P**	**15 55 13.3**	**-1.1**
BHHZ				S	**S**	**15 58 16.0**	**-2.1**
KRHZ	**Kereru**	**19.20**	**192**	P	**P**	**15 55 15.0**	**-0.1**
KRHZ				S	**S**	**15 58 24.7**	**+5.3**
KAHZ	**Kahuranaki**	**19.25**	**191**	P	**P**	**15 55 15.5**	**-0.1**
KAHZ				S	**S**	**15 58 27.3**	**+7.0**
BFZ	**Birch Farm**	**20.22**	**192**	P	**P**	**15 55 23.9**	**-0.5**
BFZ				S	**S**	**15 58 43.1**	**+7.4**
BFZ	**Birch Farm**	**20.22**	**192**	P	**P**	**15 55 23.7**	**-0.7**
MSWZ	**Moikau Station**	**21.13**	**193**	P	**P**	**15 55 31.5**	**-1.1**
PLWZ	**Palliser**	**21.28**	**193**	P	**P**	**15 55 33.2**	**-0.7**
QRZ	**Quartz Range**	**21.28**	**199**	P	**P**	**15 55 34.6**	**+0.7**
QRZ				IAmb	IAmb	15 55 40.3	
	comp=Z,20nm,1.0s						
NNZ	**Nelson**	**21.39**	**197**	P	**P**	**15 55 34.3**	**-0.6**
NNZ				IAmb	IAmb	15 56 28.9	
	comp=Z,26nm,1.1s						
BSWZ	**Blackbirch Sta**	**21.73**	**195**	P	**P**	**15 55 38.6**	**+0.7**
THZ	**Tophouse**	**22.03**	**197**	P	**P**	**15 55 40.2**	**-0.5**
THZ				IAmb	IAmb	15 55 46.4	
	comp=Z,20nm,1.1s						
KHZ	**Kahutara**	**22.48**	**196**	P	**P**	**15 55 43.6**	**-1.0**
LTZ	**Lake Taylor**	**23.15**	**197**	P	**P**	**15 55 49.0**	**-1.6**
MQZ	**McQueen's Vall**	**23.91**	**196**	P	**P**	**15 55 56.5**	**-0.7**
RPZ	**Rata Peaks**	**24.36**	**199**	P	**P**	**15 56 01.6**	**+0.3**
	comp=Z,5.9nm,0.7s,baz=60,slow=20,SNR=1.8						
RPZ	**Rata Peaks**	**24.36**	**199**	P	**P**	**15 56 01.4**	**+0.1**
FOZ	**Fox Glacier**	**24.59**	**201**	P	**P**	**15 56 03.5**	**+0.3**
MLZ	**Mavora Lakes**	**26.77**	**201**	P	**P**	**15 56 23.7**	**+1.1**
CTA	**Charters Tower**	**32.96**	**265**	P	**P**	**15 57 16.3**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=90,slow=15,SNR=0.8						
CTAO	**Charters Tower**	**32.96**	**265**	P	**P**	**15 57 16.5**	**+0.4**
RABL	**Rabaul**	**32.97**	**296**	P	**P**	**15 57 16.1**	**-0.2**
STKA	**Stephens Creek**	**37.17**	**245**	P	**P**	**15 57 50.1**	**-0.8**
WR0	**Warramunga Arr**	**43.87**	**263**	P	**P**	**15 58 44.1**	**-0.1**
WR0				IAmb	IAmb	16 00 14.0	
	comp=Z,31nm,1.9s						
AS31	**Alice Springs**	**43.95**	**257**	P	**P**	**15 58 45.0**	**+0.2**
ASAR	**Alice Springs**	**43.95**	**257**	P	**P**	**15 58 44.8**	**0.0**
	comp=Z,1.2nm,0.5s,baz=93,slow=7.4,SNR=36						
ASAR				PcP	**PcP**	**16 00 17.5**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=107,slow=3.9,SNR=12						
WB0	**Warramunga Arr**	**44.03**	**263**	P	**P**	**15 58 45.1**	**-0.5**
WB0				IAmb	IAmb	15 58 59.9	
	comp=Z,19nm,1.6s						
WB2	**Warramunga Arr**	**44.04**	**263**	P	**P**	**15 58 45.0**	**-0.6**
WB2				IAmb	IAmb	16 00 26.0	
	comp=Z,18nm,1.6s						
WRA	**Warramunga Arr**	**44.05**	**263**	P	**P**	**15 58 45.2**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=98,slow=7.8,SNR=17						
KNRA	**Kununurra**	**50.14**	**267**	P	**P**	**15 59 29.7**	**-1.6**
FITZ	**Fitzroy Crossi**	**52.48**	**263**	P	**P**	**15 59 47.6**	**-0.6**
	comp=Z,4.6nm,1.2s,baz=104,slow=8.5,SNR=1.4						
FITZ	**Fitzroy Crossi**	**52.48**	**263**	IAmb	IAmb	16 01 04.1	
	comp=Z,14nm,1.3s						
VNDA	**Vanda**	**57.48**	**185**	P	**P**	**16 00 24.1**	**+2.2**
	comp=Z,0.6nm,0.6s,baz=1.2,slow=6.9,SNR=7.1						
VNDA	**Vanda**	**57.48**	**185**	P	**P**	**16 00 23.9**	**+1.9**
TPUB	**Ta-pu**	**73.77**	**303**	P	**P**	**16 02 02.0**	**-2.3**
TPUB				IAmb	IAmb	16 04 00.8	
	comp=Z,47nm,1.7s						
PETK	**Petropavlovsk-**	**76.52**	**346**	P	**P**	**16 02 19.0**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=142,slow=7.5,SNR=6.9						
WAKR	**Walker**	**80.97**	**43**	P	**P**	**16 02 44.2**	**+1.1**
PNTR	**Pine Nut**	**81.20**	**42**	P	**P**	**16 02 45.4**	**+1.1**
PNTR				IAmb	IAmb	16 02 46.9	
	comp=Z,8.5nm,0.8s						
NVAR	**Mina Array Bea**	**81.65**	**44**	P	**P**	**16 02 48.0**	**+1.4**
	comp=Z,2.1nm,0.6s,baz=225,slow=8.1,SNR=19						
NV11	**Mina Array Sit**	**81.75**	**44**	P	**P**	**16 02 48.2**	**+1.2**
KVN	**Kaiserville**	**82.13**	**43**	P	**P**	**16 02 49.8**	**+0.8**
TPNV	**Topopah Spring**	**82.17**	**46**	P	**P**	**16 02 50.7**	**+1.5**
PINE	**Pine Mountain**	**83.20**	**38**	P	**P**	**16 02 55.8**	**+1.6**
PINE				IAmb	IAmb	16 04 59.9	
	comp=Z,30nm,2.0s						
BRLK	**Bradley Lake**	**83.48**	**14**	P	**P**	**16 02 54.9**	**-0.2**
U15A	**North Rim**	**84.59**	**48**	P	**P**	**16 03 02.9**	**+1.4**
U15A				IAmb	IAmb	16 03 04.1	
	comp=Z,4.8nm,0.7s						
MTPU	**Mount Pierson**	**85.49**	**47**	P	**P**	**16 03 07.6**	**+1.8**
BMO	**Blue Mountains**	**85.93**	**39**	P	**P**	**16 03 08.2**	**+0.8**
F10A	**Beach Ranch, E**	**86.61**	**38**	P	**P**	**16 03 11.4**	**+0.7**
F10A				IAmb	IAmb	16 03 12.4	
	comp=Z,7.7nm,0.8s						
SEY	**Seymchan**	**86.64**	**347**	P	**P**	**16 03 10.5**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=214,slow=11,SNR=4.0						
BARN	**Barnard Glacie**	**86.90**	**17**	P	**P**	**16 03 12.2**	**+0.5**
BARN				IAmb	IAmb	16 03 13.2	
	comp=Z,4.5nm,0.8s						
KTH	**Kantishna Hill**	**86.90**	**12**	P	**P**	**16 03 10.2**	**-1.3**
KTH				IAmb	IAmb	16 03 26.9	
	comp=Z,11nm,1.6s						
TRF	**Thorofare Moun**	**86.93**	**12**	P	**P**	**16 03 10.9**	**-0.8**
TRF				IAmb	IAmb	16 03 12.8	
	comp=Z,6.2nm,0.7s						
RND	**Reindeer**	**87.19**	**13**	P	**P**	**16 03 12.3**	**-0.5**
RND				IAmb	IAmb	16 03 13.7	
	comp=Z,9.2nm,0.8s						
MNTX	**Cornudas Mount**	**87.38**	**55**	P	**P**	**16 03 15.5**	**+1.1**
TX31	**Lajitas Ar. Si**	**87.68**	**58**	P	**P**	**16 03 17.3**	**+1.3**
TX31				IAmb	IAmb	16 03 18.9	
	comp=Z,7.6nm,0.9s						
TX32	**Lajitas Array**	**87.68**	**58**	P	**P**	**16 03 17.5**	**+1.5**
TXAR	**Lajitas Array**	**87.68**	**58**	P	**P**	**16 03 17.8**	**+1.8**
	com

TORD Torodi Ar. Bea 172.30 182 PKP **PKPdf 16 10 30.7 -1.0**
comp=Z,0.5nm,0.7s,baz=137,slow=1.9,SNR=2.8

IDC 04 15:55:47.0±2.0, 0.16S×132.44E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.4/38, mbtmp3.5/4, ML3.4/2, MS3.1/1, Ms1 3.1/1, ms1mx2.4/22, Error ellipse: s-maj=31.2km s-min=27.8km az=94.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**1.36**	**239**	Pn	Pg	15 56 13.3	+0.1
	55nm,0.3s,baz=15,slow=21,SNR=179						
SIJI				Sn	Sn	15 56 33.0	+0.8
	25nm,0.3s,baz=27,slow=4.3,SNR=8.1						
FITZ	**Fitzroy Crossi**	**19.04**	**200**	P	Pn	16 00 12.6	+1.2
	0.1nm,0.3s,baz=24,slow=12,SNR=1.5						
WRA	**Warramunga Arr**	**19.75**	**175**	P	P	16 00 17.2	-1.5
	0.1nm,0.3s,baz=354,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**23.41**	**177**	P	P	16 00 57.8	-0.1
	1.6nm,0.8s,baz=357,slow=8.7,SNR=13						
HNR	**Honiara**	**28.89**	**109**	LR	LR	16 13 03.1	
	comp=Z,36nm,18.2s,baz=213,slow=36						
MKAR	**Makanchi Array**	**64.01**	**324**	P	P	16 06 22.6	+0.1
	0.2nm,0.5s,baz=106,slow=7.7,SNR=2.5						

IDC 04 16:06:35.1±2.2, 2.19N×125.64E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.2/36, mbtmp3.2/3, MS3.0/1, Ms1 3.0/1, ms1mx2.2/17, Error ellipse: s-maj=201.2km s-min=28.0km az=65.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.16**	**180**	LR	LR	16 19 27.6	
	comp=Z,44nm,18.5s,baz=250,slow=38						
WRA	**Warramunga Arr**	**23.59**	**159**	P	P	16 11 47.4	-0.4
	0.5nm,0.7s,baz=338,slow=10,SNR=5.8						
ASAR	**Alice Springs**	**26.93**	**163**	P	P	16 12 18.6	+0.3
	0.1nm,0.3s,baz=345,slow=11,SNR=9.1						
MKAR	**Makanchi Array**	**58.21**	**326**	P	P	16 16 31.1	-0.1
	0.1nm,0.5s,baz=134,slow=6.7,SNR=2.0						

ISC 04 16:23:15.5±1.2, 49.70N±0.05×17.37E±0.05, h6km±11km, n7, σ0.59/10, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORC	**Moravsky Berou**	**0.14**	**56**	*e*PG	**Pg**	**16 23 18.1**	**-0.2**
MORC				*e*SG	**Sg**	**16 23 20.3**	**+0.1**
VRAC	**Vranov**	**0.64**	**232**	*e*PG	**Pg**	**16 23 28.1**	**+0.3**
JAVC	**Velka Javorina**	**0.87**	**167**	*e*PG	**Pb**	**16 23 33.7**	**+0.8**
KRUC	**Moravsky**	**0.90**	**225**	*e*PG	**Pb**	**16 23 33.0**	**-0.5**
KSP	**Ksiaz**	**1.34**	**329**	*e*Pg	**Pn**	**16 23 40.9**	**+0.2**
KSP				*e*Sg	**Sn**	**16 23 59.4**	**+0.6**
VYHS	**Vyhne**	**1.55**	**141**	*e*PN	**Pn**	**16 23 43.2**	**-0.4**
VYHS				*e*SN	**Sn**	**16 24 03.8**	**-0.2**
BRG	**Berggiesshubel**	**2.49**	**299**	SG	**Sb**	**16 24 30.8**	**-0.7**
	3.0nm,0.8s						

SOME 04 16:29:05.0, 46.28N×85.48E, h0km
NNC 04 16:29:07.1±5.9, 48.75N×84.91E, h0km, mb2.6, mpv2.2, 5C-1D, Error ellipse: s-maj=50.4km s-min=24.3km az=64.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**1.30**	**181**	*e*P	Pn	16 29 33.0	+0.5
	2.4nm,0.2s						
ZSN				*e*S	Sn	16 29 50.3	-0.3
	21nm,0.6s						
MK31	**Makanchi Array**	**2.64**	**223**	⇑Pn	Pn	16 29 52.0	+1.0
	0.9nm,0.5s,baz=43,slow=13,SNR=32						
MK31				⇑Lg	Lg	16 30 30.2	
	1.4nm,0.4s,baz=47,slow=26,SNR=5.6						
MAKZ	**Makanchi**	**2.77**	**227**	⇑Pn	Pn	16 29 53.6	+0.7
	0.4nm,0.3s						
MAKZ				⇓Lg	Lg	16 30 34.1	
	1.6nm,0.6s						
KURBB	**Kurchatov Arra**	**4.55**	**297**	⇑Sn	Sn	16 31 10.2	-0.5
	2.1nm,0.6s						
KURBB				⇑Lg	Lg	16 31 30.7	
	8.0nm,0.5s						
KAPS	**Kapalarasan**	**5.14**	**230**	*e*P	Pn	16 30 27.9	+2.5
	0.4nm,0.2s						
KAPS				*e*S	Sn	16 31 26.2	+0.7
	0.7nm,0.4s						

IDC 04 16:53:44.5±7.7, 30.35S×177.46W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/27, mbtmp3.3/2, Error ellipse: s-maj=318.4km s-min=63.2km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.58**	**267**	P	P	17 01 50.2	-0.4
	0.1nm,0.3s,baz=105,slow=7.2,SNR=6.6						
WRA	**Warramunga Arr**	**44.56**	**272**	P	P	17 01 58.5	+0.1
	0.3nm,0.3s,baz=110,slow=8.1,SNR=7.2						
FINES	**FINESS Array B**	**145.26**	**340**	PKPbc	PKPbc	17 13 22.3	-0.8
	1.0nm,0.9s,baz=68,slow=5.2,SNR=2.0						

IDC 04 16:55:36.3±1.6, 10.66N×91.90E, h0km, mb3.5/5, mb1 3.5/6, mb1mx3.3/34, mbtmp3.4/6, ML3.0/1, MS3.2/2, Ms1 3.2/2, ms1mx2.6/34, Error ellipse: s-maj=63.2km s-min=21.7km az=60.0
ISC 04 16:55:40.9±1.5, 10.8N±0.2×92.0E±0.2, h29km, n11, σ0.973/6, mb3.6/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.18**	**40**	Pn	**Pn**	**16 58 05.0**	**-0.2**
	0.0nm,0.3s,baz=234,slow=15,SNR=1.6						
LEM	**Lembang**	**23.36**	**138**	LR	LR	17 10 43.9	
	comp=Z,45nm,18.2s,baz=336,slow=39						
H08S3	**Diego Garcia H**	**26.67**	**228**	T	T	17 29 15.8	
	baz=47,slow=76,SNR=166						
H08S2	**Diego Garcia H**	**26.68**	**228**	T	T	17 29 15.8	
	baz=47,slow=76,SNR=220						
H08S1	**Diego Carcia H**	**26.69**	**228**	T	T	17 29 15.2	
	baz=47,slow=76,SNR=175						
MKAR	**Makanchi Array**	**36.86**	**349**	P	**P**	**17 02 47.4**	**+0.6**
	0.5nm,0.6s,baz=164,slow=8.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**43.47**	**354**	P	**P**	**17 03 42.1**	**+0.7**
	0.4nm,0.3s,baz=161,slow=9.4,SNR=3.7						
WRA	**Warramunga Arr**	**51.63**	**126**	P	**P**	**17 04 45.1**	**-0.2**
	0.3nm,0.4s,baz=300,slow=10.0,SNR=7.7						
ASAR	**Alice Springs**	**53.35**	**130**	P	**P**	**17 04 58.4**	**+0.3**
	0.2nm,0.6s,baz=306,slow=7.0,SNR=9.3						
TIXI	**Tiksi**	**64.86**	**12**	LR	LR	17 39 34.0	
	comp=Z,20nm,18.5s,baz=272,slow=41						
FINES	**FINESS Array B**	**69.21**	**332**	P	**P**	**17 06 44.0**	**-0.8**
	0.5nm,0.7s,baz=86,slow=6.1,SNR=1.6						

IDC 04 17:04:26.4±0.5, 20.51S×70.54W, h0km, mb4.6/20, mb1 4.7/23, mb1mx4.6/34, mbtmp4.6/23, ML4.1/3, MS4.4/18, Ms1 4.3/18, ms1mx4.3/25, Error ellipse: s-maj=17.4km s-min=11.7km az=74.0
UNK 04 17:04:27.3, 20.65S×70.81W, h14km
SJA 04 17:04:27.2±1.2, 20.68S×70.79W, h33km±5km, ML4.9, MW4.9
NEIC 04 17:04:27.7±2.1, 20.65S±0.04×70.78W±0.04, h16km±2km, Error ellipse: s-maj=5.9km s-min=5.1km az=67.0
NEIC 04 17:04:27.1, 20.66S×70.83W, h22km, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=2.97; Mθθ=0.15; Mϕϕ=-2.82; Mrθ=0.25; Mrϕ=0.62; Mθϕ=-2.19; Fault plane solution: Mo=3.69000×10^16 NP1:ϕs=171.08000°, δ=63.31000°, λ=93.13000°. NP2:ϕs=344.13000°, δ=26.86000°, λ=83.79000°. Principal axes: T 3.7008, Plg72.0000°, Azm88.0000°; N -0.0216, Plg3.0000°, Azm350.0000°; P -3.6792, Plg18.0000°, Azm259.0000°;
VAO 04 17:04:29.4±0.5, 20.62S×70.85W, h33km, mb4.9
GUC 04 17:04:29.5±0.7, 20.65S×70.79W, h24km±4km, ML4.9
MOS 04 17:04:30.8±1.3, 20.21S×70.62W, h33km, mb5.1/5, Error ellipse: s-maj=16.2km s-min=7.7km az=109.3
BJI 04 17:04:31.0±0.0, 20.60S×70.80W, h25km, mB4.8/11, Ms5.1/10, Ms7 4.8/10

GCMT 04 17:04:33.0±0.2, 20.66S±0.02×70.97W±0.02, h22km, MW5.1/97, Moment Tensor Solution. s62,c71; s97,c132; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=4.39±.19; Mθθ=0.27±.11; Mϕϕ=-4.66±.14; Mrθ=0.72±.20; Mϕθ=1.10±.08; Mrϕ=-3.62±.24; Best double couple: Mo=5.93100×10^16 NP1:ϕs=347.00000°, δ=26.00000°, λ=89.00000°. NP2: ϕs=168.00000°, δ=64.00000°, λ=90.00000°. Principal axes: T 5.6790, Plg71.0000°, Azm79.0000°; N 0.5070, Plg0.0000°, Azm348.0000°; P -6.1830, Plg19.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 04 17:04:26.5±1.2, 20.66S±0.02×70.80W±0.04, h8km±7km, n752, σ1§17/766, mb5.0/131, MS4.5/22, 13C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TA01	**Diego Aracena**	**0.59**	**81**		**Pb**	**17 04 39.2**	**+0.2**
PATCX	**Punta Patache**	**0.63**	**104**	⇓*i*P	**Pb**	**17 04 40.2**	**+0.5**
PATCX				*e*P	**Pb**	**17 04 40.2**	**+0.5**
PATCX				*i*S	**Sb**	**17 04 48.6**	**-0.1**
PATCX				IAML		17 04 53.7	
	comp=N,54μm,0.4s						
PATCX	**Punta Patache**	**0.63**	**104**		**Pb**	**17 04 39.6**	**-0.2**
PATCX	**Punta Patache**	**0.63**	**104**	*i*P	**Pb**	**17 04 40.2**	**+0.5**
PATCX				*e*S	**Sg**	**17 04 47.7**	**+0.9**
PATCX				IAML		17 04 52.1	
	comp=Z,42μm,1.0s						
TA02	**Huaiquique**	**0.74**	**58**	⇓*i*P	**Pb**	**17 04 41.9**	**+0.3**
TA02				*i*S	**Sb**	**17 04 51.8**	**-0.1**
TA02				IAML		17 04 54.3	
	comp=E,95μm,0.2s						
PB02	**IPOC Station P**	**1.07**	**128**	⇓*i*P	**Pg**	**17 04 47.6**	**+0.6**
PB02				*i*S	**Sb**	**17 05 01.7**	**+0.2**
PB02				IAML		17 05 05.8	
	comp=E,105μm,0.3s						
PB02	**IPOC Station P**	**1.07**	**128**	*i*P	**Pg**	**17 04 47.7**	**+0.7**
PB02				*e*S	**Sn**	**17 05 02.6**	**-0.3**
PB02				IAML		17 05 06.1	
	comp=Z,86μm,0.3s						
PSGC	**Pisagua**	**1.24**	**31**	⇑*i*P	**Pn**	**17 04 49.7**	**-0.5**
PSGC				*e*S	**Sb**	**17 05 05.2**	**-1.2**
PSGC				IAML		17 05 10.6	
	comp=N,26μm,0.6s						
PSGCX	**Pisagua**	**1.24**	**31**		**Pn**	**17 04 49.3**	**-0.8**
PSGCX	**Pisagua**	**1.24**	**31**	*i*P	**Pn**	**17 04 50.3**	**+0.1**
PSGCX				*e*S	**Sg**	**17 05 06.9**	**+0.5**
PSGCX				IAML		17 05 09.7	
	comp=Z,17μm,1.1s						
PB01	**IPOC Station P**	**1.29**	**107**	⇓*i*P	**Pn**	**17 04 51.0**	**+0.2**
PB01				*i*S	**Sb**	**17 05 07.4**	**-0.3**
PB01				IAML		17 05 09.8	
	comp=N,118μm,0.3s						
PB01	**IPOC Station P**	**1.29**	**107**		**Pn**	**17 04 50.8**	**0.0**
PB01	**IPOC Station P**	**1.29**	**107**	*i*P	**Pb**	**17 04 51.1**	**+0.1**
PB01				*e*S	**Sb**	**17 05 07.9**	**+0.2**
PB01				IAML		17 05 09.6	
	comp=Z,51μm,0.3s						
PB07	**IPOC Station P**	**1.36**	**141**	⇑*i*P	**Pn**	**17 04 52.2**	**+0.3**
PB07				*i*S	**Sn**	**17 05 10.3**	**+0.1**
PB07				IAML		17 05 17.4	
	comp=E,22μm,0.5s						
PB07	**IPOC Station P**	**1.36**	**141**		**Pn**	**17 04 52.2**	**+0.3**
PB11	**IPOC Station P**	**1.40**	**50**	⇑*e*P	**Pn**	**17 04 52.5**	**0.0**
PB11				*i*S	**Sn**	**17 05 10.0**	**-1.2**
PB11	**IPOC Station P**	**1.40**	**50**	Pn	**Pn**	**17 04 52.5**	**0.0**
PB11	**IPOC Station P**	**1.40**	**50**	*i*P	**Pb**	**17 04 53.0**	**+0.1**
PB11				*e*S	**Sn**	**17 05 10.9**	**-0.4**
PB11				IAML		17 05 15.8	
	comp=Z,31μm,0.4s						
PB08	**IPOC Station P**	**1.63**	**72**	⇑*i*P	**Pn**	**17 04 56.3**	**+0.5**
PB08				*i*S	**Sb**	**17 05 17.7**	**-0.2**
PB08				IAML		17 05 21.6	
	comp=N,21μm,0.2s						
PB08	**IPOC Station P**	**1.63**	**72**	Pn	**Pn**	**17 04 56.4**	**+0.5**
PB03	**IPOC Station P**	**1.69**	**145**	⇑*i*P	**Pn**	**17 04 56.8**	**+0.4**
PB03				*i*S	**Sb**	**17 05 19.1**	**-0.3**
PB03				IAML		17 05 26.8	
	comp=E,11μm,0.2s						
PB04	**IPOC Station P**	**1.77**	**160**	IAML		17 05 32.4	
	comp=N,21μm,0.2s						
PB04	**IPOC Station P**	**1.77**	**160**		**Pn**	**17 04 57.5**	**-0.1**
PB04	**IPOC Station P**	**1.77**	**160**	*i*P	**Pn**	**17 04 57.6**	**+0.1**
PB04				*i*Sg	**Sb**	**17 05 21.5**	**-0.2**
PB04				IAML		17 05 32.1	
	comp=Z,16μm,0.4s						
GO01	**Chusmiza**	**1.81**	**57**	⇑*i*P	**Pn**	**17 04 58.9**	**+0.6**
GO01				*i*S	**Sb**	**17 05 22.5**	**-0.6**
GO01	**Chusmiza**	**1.81**	**57**		**Pn**	**17 04 58.9**	**+0.6**
PB09	**IPOC Station P**	**1.84**	**128**	⇑*e*P	**Pb**	**17 05 00.2**	**-0.3**
PB09				*e*S	**Sn**	**17 05 22.5**	**+0.4**
PB09				IAML		17 05 36.9	
	comp=E,20μm,0.3s						
PB09	**IPOC Station P**	**1.84**	**128**		**Pb**	**17 05 00.2**	**-0.3**
PB09	**IPOC Station P**	**1.84**	**128**	*i*P	**Pb**	**17 05 00.1**	**-0.3**
PB09				*i*Sg	**Sg**	**17 05 26.4**	**+0.7**
PB09				IAML		17 05 30.2	
	comp=Z,21μm,1.0s						
MNMC	**Minye Minye**	**1.90**	**37**	⇑*i*P	**Pn**	**17 04 59.9**	**+0.5**
MNMC				IAML		17 05 31.3	
	comp=N,42μm,0.3s						
MNMC	**Minye Minye**	**1.90**	**37**	Pn	**Pn**	**17 04 59.8**	**+0.3**
PB12	**IPOC Station P**	**2.09**	**12**	Pn	**Pn**	**17 05 01.6**	**-0.2**
PB05	**IPOC Station P**	**2.25**	**166**	IAML		17 05 49.2	
	comp=E,8μm,0.5s						
PB05	**IPOC Station P**	**2.25**	**166**	*i*P	**Pn**	**17 05 04.0**	**-0.1**
PB05				IAML		17 05 52.7	
	comp=Z,6μm,0.6s						
AP01	**Chacalluta**	**2.32**	**11**		**Pn**	**17 05 05.6**	**+0.7**
PB06	**IPOC Station P**	**2.33**	**151**	IAML		17 05 46.2	
	comp=N,12μm,0.7s						
PB06	**IPOC Station P**	**2.33**	**151**		**Pn**	**17 05 05.5**	**+0.2**
PB06	**IPOC Station P**	**2.33**	**151**	*i*P	**Pn**	**17 05 05.5**	**+0.2**
PB06				IAML		17 05 44.7	
	comp=Z,7μm,0.8s						
LVC	**Limon Verde**	**2.62**	**138**	Pn	**Pn**	**17 05 11.6**	**+2.3**
	comp=Z,184nm,0.3s,baz=334,slow=9.4,SNR=613						
LVC				Sn	**Sn**	**17 05 44.4**	**-1.8**
	comp=Z,324nm,0.3s,baz=82,slow=4.8,SNR=6.7						
LVC	**Limon Verde**	**2.62**	**138**	*e*P	**Pn**	**17 05 11.3**	**+2.0**
LVC				*e*S	**Sn**	**17 05 43.7**	**+2.2**
LVC	**Limon Verde**	**2.62**	**138**	Pn	**Pn**	**17 05 11.5**	**+2.1**
LVC	**Limon Verde**	**2.62**	**138**	*i*P	**Pn**	**17 05 10.9**	**+1.5**
LVC				IAML		17 05 55.6	
	comp=Z,4μm,1.3s						
LVC	**Limon Verde**	**2.62**	**138**	*e*P	**Pn**	**17 05 11.4**	**+2.0**
LVC				*e*S	**Sn**	**17 05 43.4**	**+1.9**
LVC	**Limon Verde**	**2.62**	**138**	*e*P	**Pn**	**17 05 11.4**	**+2.0**
LVC				*e*S	**Sn**	**17 05 43.4**	**+1.9**
PB15	**IPOC Station P**	**2.82**	**154**		**Pn**	**17 05 12.0**	**0.0**
PB15	**IPOC Station P**	**2.82**	**154**	*i*P	**Pn**	**17 05 12.4**	**+0.4**
PB15				*e*S	**Sg**	**17 05 56.5**	**-0.6**
PB15				IAML		17 06 03.6	
	comp=Z,10μm,0.4s						
PB10	**IPOC Station P**	**2.84**	**175**	Pn	**Pn**	**17 05 11.3**	**-0.8**
PB10	**IPOC Station P**	**2.84**	**175**	*i*P	**Pn**	**17 05 11.9**	**-0.3**
PB10				IAML		17 06 18.1	
	comp=Z,2μm,1.5s						
GO02	**Mina Guanaco**	**4.62**	**166**	Pn	**Pn**	**17 05 36.9**	**+0.1**
LPAZ	**La Paz**	**5.04**	**31**	P	**Pn**	**17 05 45.1**	**+2.2**
LPAZ	**La Paz**	**5.04**	**31**	Pn	**Pn**	**17 05 45.1**	**+2.2**
YJA	**Yavi**	**5.15**	**108**	*i*P	**Pn**	**17 05 48.5**	**+4.2**
YJA				IAML		17 07 37.8	
	comp=Z,127nm,2.3s						
AC01	**Pan de Azucar**	**5.46**	**178**	Pn	**Pn**	**17 05 46.5**	**-1.6**
AC02	**Maricunga**	**6.33**	**166**	Pn	**Pn**	**17 06 00.5**	**-0.1**
GO03	**Copiap**	**6.92**	**176**		**Pn**	**17 06 07.4**	**-0.8**
AC04	**Llanos de Chal**	**7.51**	**182**	Pn	**Pn**	**17 06 13.6**	**-2.7**
AC05	**El Transito**	**8.15**	**177**	Pn	**Pn**	**17 06 24.3**	**-0.9**
CO01	**Juntas del Tor**	**9.29**	**176**	Pn	**Pn**	**17 06 42.8**	**+1.8**
GO04	**Tololo Observa**	**9.47**	**180**	Pn	**Pn**	**17 06 40.3**	**-3.1**
CO03	**El Pedregal**	**10.13**	**179**	Pn	**Pn**	**17 06 50.5**	**-1.8**
SIV	**San Ignacio**	**10.34**	**65**	LR	LR	17 11 30.3	
	comp=Z,3μm,20.1s,baz=277,slow=42						
NNA	**Nana**	**10.39**	**325**	Pn	**Pn**	**17 06 57.9**	**+2.0**
	comp=Z,2.1nm,0.3s,baz=127,slow=10,SNR=2.0						
NNA				LR	LR	17 11 03.6	
	comp=Z,977nm,18.5s,baz=158,slow=38						
CO02	**Combarbal**	**10.50**	**181**	Pn	**Pn**	**17 06 57.0**	**-0.3**
ZON	**Zonda**	**11.00**	**170**	Pn	**Pn**	**17 07 04.1**	**-0.2**
VA03	**San Esteban**	**12.05**	**179**	Pn	**Pn**	**17 07 19.6**	**+1.0**
PTLB	**Pontes e Lacer**	**12.24**	**67**	*e*P	**Pn**	**17 07 20.9**	**-0.3**
PTLB				*e*S	**Sn**	**17 09 38.1**	**+0.1**
PTLB	**Pontes e Lacer**	**12.24**	**67**	*e*P	**Pn**	**17 07 20.9**	**-0.3**
PTLB				*e*S	**Sn**	**17 09 38.1**	**+0.1**
VILB	**Vilhena**	**12.72**	**55**	*e*P	**Pn**	**17 07 27.8**	**0.0**
VILB	**Vilhena**	**12.72**	**55**	*e*P	**Pn**	**17 07 27.8**	**0.0**
AQDB	**Aquidauana**	**14.15**	**92**	*e*P	**Pn**	**17 07 47.6**	**+0.3**
AQDB	**Aquidauana**	**14.15**	**92**	*e*P	**Pn**	**17 07 47.6**	**+0.3**
H03N1	**Juan Fernandez**	**14.62**	**208**	T	T	17 23 04.9	
	baz=34,slow=72,SNR=817						
H03N2	**Juan Fernandez**	**14.63**	**208**	T	T	17 23 04.4	
	baz=34,slow=72,SNR=523						
H03N3	**Juan Fernandez**	**14.64**	**208**	T	T	17 23 04.2	
	baz=34,slow=72,SNR=410						
SALV	**Santo Antonio**	**15.11**	**74**	*e*P	**Pn**	**17 07 60.0**	**-0.4**
SALV	**Santo Antonio**	**15.11**	**74**	*e*P	**Pn**	**17 07 60.0**	**-0.4**
ATAH	**Atahualpa**	**15.33**	**330**	Pn	**Pn**	**17 08 05.6**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=101,slow=9.0,SNR=3.6						
TRCB	**Terra Rica**	**17.02**	**100**	*e*P	**P**	**17 08 26.7**	**-0.1**
TRCB	**Terra Rica**	**17.02**	**100**	*e*P	**P**	**17 08 26.7**	**-0.1**
C2SB	**Chapadao do Su**	**17.02**	**87**	*e*P	**Pn**	**17 08 25.5**	**+0.5**
C2SB	**Chapadao do Su**	**17.02**	**87**	*e*P	**Pn**	**17 08 25.5**	**+0.5**
PTGB	**Pitanga**	**17.75**	**107**	*e*P	**P**	**17 08 36.2**	**+1.2**
PTGB	**Pitanga**	**17.75**	**107**	*e*P	**P**	**17 08 36.2**	**+1.2**
LPA	**La Plata**	**18.17**	**144**	*e*P	**Pn**	**17 08 36.0**	**-3.1**
LPA				pPP		17 08 55.7	
LPA				S	**Sn**	**17 11 59.6**	**-2.4**
LPA				SS	**SnSn**	**17 12 15.6**	**-0.3**
LPA				SSS	SSS	17 12 28.8	
LPA				PCP	**PcP**	**17 13 06.0**	**-6.5**
LPA				PKIKP	**PKiKP**	**17 21 03.6**	**-0.3**
LPA				SKIKS		17 27 59.7	
PCMB	**Pacaembu**	**18.25**	**96**	*e*P	**P**	**17 08 41.7**	**+1.2**
PCMB	**Pacaembu**	**18.25**	**96**	*e*P	**P**	**17 08 41.7**	**+1.2**
ITAB	**Concordia**	**18.27**	**115**	*e*P	**Pn**	**17 08 40.5**	**+0.1**
ITAB	**Concordia**	**18.27**	**115**	*e*P	**Pn**	**17 08 40.5**	**+0.1**
CPSB	**Cacapava Do Su**	**18.41**	**125**	*e*P	**P**	**17 08 41.9**	**-0.2**
CPSB	**Cacapava Do Su**	**18.41**	**125**	*e*P	**P**	**17 08 41.9**	**-0.2**
ARAG	**Araguaiana, MT**	**18.70**	**78**	*e*P	**P**	**17 08 44.4**	**-1.0**
ARAG	**Araguaiana, MT**	**18.70**	**78**	*e*P	**P**	**17 08 44.4**	**-1.0**
PLTB	**Pedras Altas**	**18.95**	**129**	*e*P	**P**	**17 08 48.0**	**-0.1**
PLTB	**Pedras Altas**	**18.95**	**129**	*e*P	**P**	**17 08 48.0**	**-0.1**
ITRB	**Iturama**	**19.21**	**91**	*e*P	**P**	**17 08 51.2**	**+0.1**
ITRB	**Iturama**	**19.21**	**91**	*e*P	**P**	**17 08 51.2**	**+0.1**
FRTB	**Fartura**	**19.87**	**102**	*e*P	**P**	**17 08 58.7**	**+0.5**
FRTB	**Fartura**	**19.87**	**102**	*e*P	**P**	**17 08 58.7**	**+0.5**
MACA	**Manacapuru-AM**	**20.00**	**31**	*e*P	**P**	**17 08 59.5**	**-0.1**
MACA	**Manacapuru-AM**	**20.00**	**31**	*e*P	**P**	**17 08 59.5**	**-0.1**
PLCA	**Paso Flores**	**20.01**	**179**	P	Pn	17 09 01.5	+0.2
	comp=Z,9.4nm,1.0s,baz=360,slow=12,SNR=9.6						
PLCA				LR	LR	17 16 11.3	
	comp=Z,664nm,21.3s,baz=356,slow=35						
PLCA	**Paso Flores**	**20.01**	**179**	P	Pn	17 09 01.4	+0.1
PLCA				pmax	pmax		
	comp=Z,44nm,1.3s						
PLCA	**Paso Flores**	**20.01**	**179**		Pn	17 09 01.4	0.0
PLCA	**Paso Flores**	**20.01**	**179**	*e*P	**P**	**17 08 58.3**	**-1.3**
PLCA	**Paso Flores**	**20.01**	**179**	*e*P	**P**	**17 08 58.3**	**-1.3**
NPGB	**Novo Progresso**	**20.18**	**50**	*e*P	**P**	**17 09 00.5**	**-1.1**
NPGB	**Novo Progresso**	**20.18**	**50**	*e*P	**P**	**17 09 00.5**	**-1.1**
TIJ01	**Guaruva-PR**	**20.59**	**107**	*e*P	**P**	**17 09 05.3**	**-0.8**
TIJ01	**Guaruva-PR**	**20.59**	**107**	*e*P	**P**	**17 09 05.3**	**-0.8**
PTLC	**Puerto Leguiza**	**21.07**	**349**	*e*P	**P**	**17 09 11.3**	**0.0**
IPMB	**Ipameri, GO**	**21.48**	**87**	*e*P	**P**	**17 09 15.5**	**-0.2**
IPMB	**Ipameri, GO**	**21.48**	**87**	*e*P	**P**	**17 09 15.5**	**-0.2**
LL01	**San Ignacio de**	**21.69**	**183**	P	**P**	**17 09 17.2**	**-0.4**
LL01				IAmb	IAmb	17 09 38.7	
	comp=Z,53nm,1.1s						
SPB	**Sao Paulo**	**21.84**	**102**	P	**P**	**17 09 18.3**	**-1.2**
SPB				IAmb	IAmb	17 09 23.2	
	comp=Z,41nm,1.0s						
SPB	**Sao Paulo**	**21.84**	**102**	*e*P	**P**	**17 09 20.2**	**+0.7**
SPB	**Sao Paulo**	**21.84**	**102**	*e*P	**P**	**17 09 20.2**	**+0.7**
ITTB	**Itaituba**	**21.85**	**44**	*e*P	**P**	**17 09 19.5**	**-0.1**
ITTB	**Itaituba**	**21.85**	**44**	*e*P	**P**	**17 09 19.5**	**-0.1**
PET01	**Itanhaem-SP**	**22.03**	**104**	*e*P	**P**	**17 09 21.8**	**+0.3**
PET01	**Itanhaem-SP**	**22.03**	**104**	*e*P	**P**	**17 09 21.8**	**+0.3**
BDFB	**Brasilia**	**22.21**	**81**	P	**P**	**17 09 21.7**	**-2.0**
	comp=Z,7.4nm,0.8s,baz=263,slow=13,SNR=9.8						
BDFB				LR	LR	17 19 28.3	
	comp=Z,5μm,18.3s,baz=276,slow=41						
BDFB	**Brasilia**	**22.21**	**81**	P	**P**	**17 09 23.1**	**-0.6**
BDFB				pmax	pmax		
	comp=Z,47nm,1.0s						
BDFB	**Brasilia**	**22.21**	**81**	P	**P**	**

SJCC San Jacinto, C 30.67 352 *e*P P 17 10 41.5 -0.2
MDP Montagnes des 31.20 37 P P 17 10 46.0 -0.4
comp=Z,45nm,1.0s,baz=193,slow=8.2,SNR=4.9
ROSB Rosrio 31.43 59 *e*P P 17 10 48.7 +0.3
ROSB Rosrio 31.43 59 *e*P P 17 10 48.7 +0.3
RCBR Riachuelo 36.92 71 P P 17 11 35.4 -0.7
comp=Z,51nm,0.9s,baz=230,slow=10,SNR=14
RCBR Riachuelo 36.92 71 P P 17 11 36.0 -0.2
RCBR pmax pmax
comp=Z,70nm,1.1s
RCBR Riachuelo 36.92 71 P P 17 11 36.0 -0.2
RCBR Riachuelo 36.92 71 *e*P P 17 11 36.2 +0.1
RCBR Riachuelo 36.92 71 *e*P P 17 11 36.2 +0.1
ICMP Isla Caja de M 38.54 7 P P 17 11 48.6 -1.0
MLPR Magueyes Islan 38.57 6 P P 17 11 49.8 -0.1
SKI Saint Kitts 38.58 12 P P 17 11 49.0 -1.1
SKI pmax pmax
comp=Z,73nm,0.9s
SKI Saint Kitts 38.58 12 P P 17 11 49.0 -1.1
CRPR Cabo Rojo, PR 38.60 6 P P 17 11 48.5 -1.7
OBIP Obispado Ponce 38.69 6 P P 17 11 49.6 -1.3
PDPR Patillas Dam, 38.73 7 P P 17 11 49.5 -1.7
MPR Mayaguez 38.80 6 P P 17 11 49.9 -2.0
MPR IAmb IAmb 17 12 14.0
comp=Z,36nm,1.0s
SJG San Juan 38.80 7 P P 17 11 50.4 -1.4
comp=Z,13nm,0.4s,baz=151,slow=1.9,SNR=9.1
SJG San Juan 38.80 7 P P 17 11 50.4 -1.4
SJG pmax pmax
comp=Z,25nm,0.8s
SJG San Juan 38.80 7 P P 17 11 50.4 -1.4
SJG IAmb IAmb 17 11 51.4
comp=Z,25nm,0.8s
MTP Monte Pirata 38.86 8 P P 17 11 50.5 -1.8
MTP IAmb IAmb 17 11 51.7
comp=Z,43nm,1.1s
HUMP Col San Antoni 38.87 8 P P 17 11 50.3 -2.1
HUMP IAmb IAmb 17 11 53.6
comp=Z,38nm,1.2s
AOPR Arecibo Observ 38.97 6 P P 17 11 52.0 -1.3
AOPR IAmb IAmb 17 11 52.9
comp=Z,36nm,1.1s
CBYP Canovanas 39.00 7 P P 17 11 51.9 -1.6
GCPR Guaynabo City 39.01 7 P P 17 11 51.5 -2.1
ANWB Willy Bob 39.11 14 P P 17 11 51.3 -3.1
SMRT St. Maarten 39.21 12 P P 17 11 52.4 -2.9
MTO3 Montecristo 39.33 331 P P 17 11 58.2 +1.7
MTO3 IAmb IAmb 17 12 10.2
comp=Z,18nm,1.2s
154A Montrose 54.27 347 P P 17 13 53.4 +0.4
250A Grady 54.40 344 P P 17 13 52.1 -1.9
Z57A Bowman 54.48 350 P P 17 13 55.6 +1.1
baz=169
152A Waverly Hall 54.68 346 P P 17 13 54.5 -1.5
152A IAmb IAmb 17 14 03.1
comp=Z,9.9nm,0.8s
Y60A Bolivia 54.82 352 P P 17 13 58.1 +1.1
baz=172
Y55A Saluda 55.31 349 P P 17 14 01.5 +0.9
baz=167
JSC Jenkinsville 55.54 349 P P 17 14 01.8 -0.4
JSC pmax pmax
comp=Z,9.0nm,1.2s
JSC Jenkinsville 55.54 349 P P 17 14 01.8 -0.4
LRAL Lakeview Retre 55.59 344 P P 17 14 03.2 +0.6
baz=162
LRAL Lakeview Retre 55.59 344 P P 17 14 02.7 +0.1
LRAL IAmb IAmb 17 14 03.8
comp=Z,16nm,1.4s
HODGE Hodges 55.67 349 P P 17 14 02.1 -1.0
X56A White Oak 55.71 350 P P 17 14 04.3 +1.0
baz=168
BIRD Birdtown, Kers 55.77 350 P P 17 14 04.0 +0.2
BIRD IAmb IAmb 17 14 05.7
comp=Z,17nm,1.0s
X55A Gracelyn & Ava 55.79 349 P P 17 14 05.0 +1.0
baz=168
HKT Hockley 55.80 334 P P 17 14 05.1 +1.1
HKT pmax pmax
comp=Z,7.0nm,1.2s
HKT Hockley 55.80 334 P P 17 14 05.1 +1.1
W61A Ground Anchor 55.84 354 P P 17 14 05.6 +1.3
baz=173
X54A Belton 56.00 348 P P 17 14 06.1 +0.6
baz=167
W56A Indian Trail 56.26 350 P P 17 14 08.0 +0.6
baz=169
KMSC Kings Mountain 56.39 350 P P 17 14 09.2 +0.9
baz=168
W54A Cherokee Point 56.49 349 P P 17 14 09.8 +0.8
baz=167
X51A Calhoun 56.53 346 P P 17 14 07.5 -1.8
X51A IAmb IAmb 17 14 10.5
comp=Z,16nm,1.1s
BG3 Lake Jocassee 56.54 348 P P 17 14 09.2 -0.2
V59A Middlesex 56.56 353 P P 17 14 10.4 +0.9
baz=172,SNR=5.4
FPAL Fort Paine 56.68 345 P P 17 14 09.9 -0.5
FPAL IAmb IAmb 17 14 11.3
comp=Z,10nm,1.2s
V58A Windy Hill, Pi 56.70 352 P P 17 14 11.1 +0.7
baz=171
V57A Coltrane Farms 56.88 351 P P 17 14 12.6 +0.9
baz=170
V56A Mocksville 56.91 351 P P 17 14 12.8 +0.9
baz=169
NATX Nacogdoches 56.92 336 P P 17 14 13.0 +0.9
NATX IAmb IAmb 17 14 25.9
comp=Z,16nm,0.8s
U61A Possum Corner 56.94 355 P P 17 14 12.9 +0.8
baz=174
X48A Hartselle 56.95 344 P P 17 14 12.2 -0.1
X48A IAmb IAmb 17 14 13.4
comp=Z,10nm,0.9s
V55A Taylorsville 57.07 350 P P 17 14 14.3 +1.2
baz=168
U59A Littleton 57.09 353 P P 17 14 14.2 +1.0
baz=172
V54A Nebo 57.12 349 P P 17 14 14.1 +0.6
baz=168,SNR=6.2
V53A Saluda 57.17 348 P P 17 14 14.1 +0.2
V53A IAmb IAmb 17 14 15.4
comp=Z,9.7nm,1.1s
U58A Oxford 57.22 353 P P 17 14 15.2 +1.1
baz=171
W50A Signal Mountai 57.24 346 P P 17 14 14.5 +0.2
W50A IAmb IAmb 17 14 17.5
comp=Z,13nm,1.1s
CPCT Cooper Cave 57.30 347 P P 17 14 15.0 +0.2
CPCT IAmb IAmb 17 14 16.1
comp=Z,12nm,1.1s
TKL Tuckaleechee C 57.35 347 P P 17 14 14.6 -0.5
TKL pmax pmax
comp=Z,11nm,0.9s
TKL Tuckaleechee C 57.35 347 P P 17 14 14.6 -0.5
TKL IAmb IAmb 17 14 16.2
comp=Z,11nm,0.9s
U57A Blanch 57.36 352 P P 17 14 15.9 +0.8
baz=171
SWET Sewanee 57.40 345 P P 17 14 15.5 0.0
SWET IAmb IAmb 17 14 16.5
comp=Z,11nm,1.0s
U56A King 57.42 351 P P 17 14 16.7 +1.1
baz=169
V52A Sevierville 57.49 348 P P 17 14 16.3 +0.2
V52A IAmb IAmb 17 14 17.3
comp=Z,19nm,0.9s
OXF Oxford 57.66 342 P P 17 14 17.6 +0.4
baz=159
U55A TA2, Sparta 57.67 350 P P 17 14 18.0 +0.5
baz=169
T59A Double "B" Far 57.68 354 P P 17 14 18.4 +1.0
baz=173,SNR=9.1
PLAL Pickwick Lake 57.72 343 P P 17 14 16.6 -1.1
PLAL IAmb IAmb 17 14 27.1
comp=Z,12nm,1.2s
T58A Grand View Acr 57.76 353 P P 17 14 19.0 +1.0
baz=172,SNR=7.6
T60A Surry 57.76 354 P P 17 14 18.8 +0.9
baz=174
U54A Nelsons Funny 57.82 350 P P 17 14 19.1 +0.6
baz=168
CCAR Cane Creek 57.84 339 P P 17 14 17.2 -1.4
T57A Hurt 57.90 352 P P 17 14 19.9 +1.0
baz=171
JCT Junction City 57.99 330 P P 17 14 19.0 -0.8
JCT pmax pmax
comp=Z,10.0nm,1.3s
JCT Junction City 57.99 330 P P 17 14 19.0 -0.8
JCT IAmb IAmb 17 14 38.8
comp=Z,10.0nm,1.2s
T56A Rocky Mt 58.04 351 P P 17 14 21.0 +1.1
baz=170
WLAR White Oak Lake 58.08 338 P P 17 14 21.6 +1.3
V48A Smith Brothers 58.11 345 P P 17 14 20.1 -0.3
TZTN Tazewell 58.16 348 P P 17 14 21.8 +1.0
baz=166
W45A Hickory Valley 58.19 342 P P 17 14 20.5 -0.6
T55A Pulaski 58.24 351 P P 17 14 22.3 +1.0
baz=169
BLA Blacksburg 58.27 351 P P 17 14 22.5 +0.9
baz=170
BLA Blacksburg 58.27 351 P P 17 14 21.7 +0.1
BLA pmax pmax
comp=Z,28nm,1.5s
BLA Blacksburg 58.27 351 P P 17 14 21.7 +0.1
BLA IAmb IAmb 17 14 35.1
comp=Z,28nm,1.4s
T54A Tazewell 58.31 350 P P 17 14 22.8 +0.9
baz=168
CLTN Cedars of Leba 58.33 345 P P 17 14 21.9 0.0
S58A Poland Farm, P 58.37 353 P P 17 14 23.2 +1.0
baz=172
T53A Wise 58.40 349 P P 17 14 23.5 +1.0
baz=167
U49A Red Boiling Sp 58.60 346 P P 17 14 23.0 -0.8
U49A IAmb IAmb 17 14 24.9
comp=Z,12nm,1.2s
S56A Natural Bridge 58.61 352 P P 17 14 25.1 +1.2
baz=170
S57A Dark Hollow, R 58.62 352 P P 17 14 24.9 +1.0
baz=171
R58B Mineral 58.69 353 P P 17 14 25.5 +1.1
baz=172,SNR=8.5
WVT Waverly 58.74 344 P P 17 14 25.4 +0.6
baz=161
WVT Waverly 58.74 344 P P 17 14 23.8 -1.0
WVT pmax pmax
comp=Z,13nm,1.1s
WVT Waverly 58.74 344 P P 17 14 23.8 -1.0
WVT IAmb IAmb 17 14 25.4
comp=Z,13nm,1.1s
UALR University of 58.81 339 P P 17 14 24.6 -0.7
UALR IAmb IAmb 17 14 35.4
comp=Z,21nm,1.3s
S55A Lewisburg 58.84 351 P P 17 14 26.5 +0.9
baz=169
T50A Nancy 58.88 347 P P 17 14 25.8 0.0
T50A IAmb IAmb 17 14 26.8
comp=Z,7.7nm,1.0s
TX32 Lajitas Array 58.95 326 P P 17 14 27.3 +0.7
TXAR Lajitas Array 58.95 326 P P 17 14 27.9 +1.3
comp=Z,1.3nm,1.0s,baz=133,slow=9.1,SNR=8.3
TXAR LR LR 17 37 06.3
comp=Z,137nm,20.5s,baz=0.0,slow=33
TX31 Lajitas Ar. Si 58.95 326 P P 17 14 27.7 +1.1
TX31 IAmb IAmb 17 14 40.7
comp=Z,18nm,1.4s
S54A Dingess, Beckl 58.99 350 P P 17 14 27.4 +0.8
baz=169
MIAR Mount Ida 59.02 338 P P 17 14 27.7 +0.8
baz=155
MIAR Mount Ida 59.02 338 P P 17 14 27.3 +0.5
MIAR pmax pmax
comp=Z,14nm,1.0s
MIAR Mount Ida 59.02 338 P P 17 14 27.3 +0.5
MIAR IAmb IAmb 17 14 37.7
comp=Z,14nm,0.9s
R58A Rapidan 59.04 353 P P 17 14 28.1 +1.3
baz=172
R57A Stanardsville 59.09 353 P P 17 14 28.5 +1.3
baz=172,SNR=7.0
W41B Gary Mavity, V 59.15 340 P P 17 14 28.3 +0.6
baz=157
WHAR Wooly Hollow 59.27 340 P P 17 14 28.6 +0.1
WHAR IAmb IAmb 17 14 30.0
comp=Z,12nm,1.1s
R55A Marlinton 59.28 351 P P 17 14 29.7 +1.0
baz=170
R54A Victor 59.31 351 P P 17 14 29.6 +0.8
baz=169
Z35A Perchaven, San 59.33 334 P P 17 14 28.1 -0.9
T47A Sharon Grove 59.37 345 P P 17 14 28.6 -0.6
R53A Hurricane 59.61 350 P P 17 14 31.9 +1.1
baz=168
LCAR Lake Charles 59.62 341 P P 17 14 29.8 -1.1
LCAR IAmb IAmb 17 14 32.0
comp=Z,15nm,1.2s
Q58A Fox Den Farm, 59.64 354 P P 17 14 32.1 +1.1
baz=173
W39A Magazine 59.68 338 P P 17 14 32.3 +0.9
baz=155
X37A Clayton 59.71 337 P P 17 14 32.8 +1.3
ABTX Abilene, Hawle 59.74 332 P P 17 14 32.8 +0.9
baz=149
Q57A Strasburg 59.81 353 P P 17 14 33.8 +1.6
baz=172,SNR=10
Q56A Snyder Ridge, 59.91 352 P P 17 14 34.2 +1.3
baz=171,SNR=6.9
Q55A Buckhannon 59.98 352 P P 17 14 34.8 +1.4
baz=170
R50A Paris 59.99 348 P P 17 14 33.3 -0.2
R50A IAmb IAmb 17 14 34.5
comp=Z,16nm,1.3s
Q53A Leroy 60.06 350 P P 17 14 35.1 +1.2
baz=168
Q54A Coxs Mills 60.07 351 P P 17 14 35.1 +1.2
baz=169
P58A Pank, Wackersv 60.15 354 P P 17 14 35.9 +1.4
baz=173
P59A Jarrettsville 60.19 355 P P 17 14 36.1 +1.3
baz=174
P57A Homestead Farm 60.21 354 P P 17 14 36.5 +1.6
baz=172,SNR=5.6
P56A Dayton Farm, R 60.32 353 P P 17 14 37.0 +1.3
baz=171
P60A Greenville 60.33 356 P P 17 14 37.4 +1.7
baz=175
WCI Wyandotte Cave 60.36 346 P P 17 14 34.2 -1.8
WCI pmax pmax
comp=Z,14nm,1.1s
WCI Wyandotte Cave 60.36 346 P P 17 14 34.2 -1.8
WCI IAmb IAmb 17 15 03.0
comp=Z,14nm,1.1s
U40A Yellville 60.42 340 P P 17 14 36.8 +0.4
baz=156
P55A Reedsville 60.45 352 P P 17 14 37.6 +1.0
baz=170
T42A Van Buren 60.49 341 P P 17 14 36.9 0.0
Q51A Peebles 60.53 349 P P 17 14 36.7 -0.4
Q51A IAmb IAmb 17 14 38.1
comp=Z,13nm,1.1s
MVL Millersville 60.57 355 P P 17 14 38.1 +0.7
MVL IAmb IAmb 17 14 39.7
comp=Z,12nm,0.9s
S44A Carbondale 60.59 343 P P 17 14 37.8 +0.3
S44A IAmb IAmb 17 14 59.0
comp=Z,12nm,0.7s
MCWV Mont Chateau 60.60 352 P P 17 14 37.1 -0.4
MCWV IAmb IAmb 17 14 39.7
comp=Z,20nm,1.4s
P54A Burton 60.63 351 P P 17 14 38.4 +0.6
baz=170,SNR=7.3
P53A Whipple 60.65 351 P P 17 14 38.4 +0.4
baz=169
X34A Smith Ranch, M 60.67 335 P P 17 14 38.8 +0.6
X34A IAmb IAmb 17 14 48.6
comp=Z,12nm,0.9s
HHAR Hobbs 60.72 339 P P 17 14 38.8 +0.3
HHAR IAmb IAmb 17 14 50.3
comp=Z,16nm,1.1s
O58A Lewisberry 60.74 355 P P 17 14 39.4 +0.9
baz=174
O60A Telford 60.82 356 P P 17 14 39.8 +0.8
baz=175
O59A Robesonia 60.87 355 P P 17 14 40.5 +1.1
baz=174
O57A Amberson 60.89 354 P P 17 14 40.9 +1.3
baz=173,SNR=8.0
U38A Gravette 61.01 338 P P 17 14 38.8 -1.7
U38A IAmb IAmb 17 14 47.7
comp=Z,6.7nm,0.9s
TUL1 Leonard 61.04 337 P P 17 14 39.5 -1.1
TUL1 IAmb IAmb 17 15 02.4
comp=Z,17nm,1.0s
O56A Blue Knob Stat 61.05 353 P P 17 14 41.8 +1.1
baz=172,SNR=11
O55A Ligonier 61.07 353 P P 17 14 42.1 +1.2
baz=171
OLIL Olney 61.27 345 P P 17 14 41.5 -0.7
OLIL IAmb IAmb 17 14 43.5
comp=Z,13nm,1.1s
P49A Miami Univ. Ec 61.28 348 P P 17 14 42.9 +0.7
baz=165
BLO Bloomington 61.31 346 P P 17 14 41.4 -1.1
BLO pmax pmax
comp=Z,10.0nm,0.7s
BLO Bloomington 61.31 346 P P 17 14 41.4 -1.1
BLO IAmb IAmb 17 14 49.5
comp=Z,9.9nm,0.7s
SSPA Standing Stone 61.34 354 P P 17 14 42.9 +0.3
SSPA IAmb IAmb 17 14 45.0
comp=Z,27nm,1.4s
N60A Cedar Hill Far 61.35 356 P P 17 14 43.4 +0.8
baz=175
P48A Milroy 61.35 347 P P 17 14 41.8 -1.0
P48A IAmb IAmb 17 14 43.0
comp=Z,16nm,1.3s
O53A New Philadelph 61.37 351 P P 17 14 42.9 +0.1
baz=169
N57A Milroy 61.42 354 P P 17 14 44.1 +0.9
baz=173
VNA3 Neumayer Olymp 61.43 161 P P 17 14 44.3 +1.4
N58A Sunbury 61.43 355 P P 17 14 44.2 +0.9
baz=174
N59A State Game Lan 61.44 356 P P 17 14 44.6 +1.3
baz=175
CCM Cathedral Cave 61.49 342 P P 17 14 44.0 +0.4
baz=158
CCM Cathedral Cave 61.49 342 P P 17 14 43.6 0.0
CCM pmax pmax
comp=Z,10.0nm,1.0s
CCM Cathedral Cave 61.49 342 P P 17 14 43.6 0.0
CCM IAmb IAmb 17 14 55.6
comp=Z,10nm,1.0s
O51A Pataskala 61.49 350 P P 17 14 45.0 +1.4
baz=168
WSPT Westport, CT 61.56 358 P P 17 14 45.5 +1.5
N55A Marion Center 61.60 353 P P 17 14 45.6 +1.2
baz=171,SNR=13
GDL2 Guadalupe Moun 61.61 328 P P 17 14 43.1 -1.6
ACSO Alum Creek Sta 61.64 349 P P 17 14 45.9 +1.3
baz=167
ACSO Alum Creek Sta 61.64 349 P P 17 14 43.8 -0.8
N56A West Decatur 61.66 354 P P 17 14 45.9 +1.1
baz=172
VNA1 Neumayer--Stat 61.66 160 P P 17 14 46.6 +2.2
Q44A Meyer Farm, Va 61.66 344 P P 17 14 43.7 -1.1
Q44A IAmb IAmb 17 14 51.0
comp=Z,12nm,0.9s
M61A Granite Spring 61.72 357 P P 17 14 46.6 +1.5
baz=177
MNTX Cornudas Mount 61.72 327 P P 17 14 46.0 +0.6
baz=143
MNTX Cornudas Mount 61.72 327 P P 17 14 45.5 +0.1
SLM Saint Louis 61.74 343 P P 17 14 44.7 -0.7
SLM pmax pmax
comp=Z,19nm,0.5s
SLM Saint Louis 61.74 343 P P 17 14 44.6 -0.7
M63A Gales Ferry 61.76 359 P P 17 14 47.2 +1.8
baz=179
M60A Port Jervis 61.77 357 P P 17 14 46.5 +0.9
baz=176
M62A Hamden 61.82 358 P P 17 14 46.9 +1.1
baz=178
O49A Covington 61.84 348 P P 17 14 45.6 -0.4
P46A Rosedale 61.90 346 P P 17 14 45.5 -0.8
P46A IAmb IAmb 17 14 46.8
comp=Z,19nm,1.0s
N54A Moraine State 61.90 352 P P 17 14 47.4 +1.0
baz=170
M58A Price's Panora 61.94 355 P P 17 14 47.8 +1.2
baz=174,SNR=7.1
M57A Sunshine Farm, 61.96 355 P P 17 14 48.3 +1.5
baz=173
R40A Maddies Statio 62.01 341 P P 17 14 46.9 -0.3
R40A IAmb IAmb 17 14 48.5
comp=Z,17nm,1.3s
VNA2 Neumayer--Watz 62.02 161 P P 17 14 48.2 +1.3
M59A Waymart 62.04 356 P P 17 14 48.6 +1.3
baz=175,SNR=6.8
O48A Farmland 62.07 348 P P 17 14 48.5 +1.0
baz=165
KSPA Keystone Colle 62.08 356 P P 17 14 48.5 +1.0
KSPA IAmb IAmb 17 14 49.2
comp=Z,15nm,1.1s
T35A Sooner Cattle 62.20 337 P P 17 14 49.2 +0.7
M56A Emporium 62.21 354 P P 17 14 49.4 +0.9
baz=172,SNR=6.1
L63A North Scituate 62.21 359 P P 17 14 49.7 +1.3
baz=179
M55A Ridgway 62.26 353 P P 17 14 49.8 +1.0
baz=172,SNR=8.7
BRYW Bryant College 62.27 359 P P 17 14 49.6 +0.7
L64A Middleborough 62.28 360 P P 17 14 49.6 +0.7
baz=180
MSTX Muleshoe 62.28 330 P P 17 14 49.5 +0.2
baz=146
M54A Oil Creek Stat 62.40 352 P P 17 14 50.2 +0.5
baz=171,SNR=6.2
L60A Shokan 62.42 357 P P 17 14 51.1 +1.3
baz=176
M53A Wf Miller and 62.46 352 P P 17 14 51.3 +1.2
baz=170
P43A Skaggs, Pawnee 62.49 344 P P 17 14 50.4 0.0
N49A Columbus Grove 62.52 349 P P 17 14 50.2 -0.4
L58A Harry Jones Me 62.57 356 P P 17 14 51.9 +1.1
baz=175,SNR=6.1
L61A Hillsdale 1, H 62.59 358 P P 17 14 52.0 +1.0
baz=177
SFIN Lafayette 62.60 346 P P 17 14 51.5 +0.5
baz=163
N48A Decatur 62.62 348 P P 17 14 51.9 +0.7
baz=165
M52A Chesterland 62.66 351 P P 17 14 52.6 +1.2
baz=169
L59A Walton 62.66 356 P P 17 14 52.6 +1.1
baz=176,SNR=9.5
BINY Binghamton 62.73 356 P P 17 14 53.0 +1.0
baz=175,SNR=5.1
BINY Binghamton 62.73 356 P P 17 14 52.9 +1.0
L56A Greenwood 62.80 354 P P 17 14 53.5 +1.1
baz=173
HRV Adam Dziewonsk 62.86 359 P P 17 14 53.3 +0.6
baz=179
HRV Adam Dziewonsk 62.86 359 P P 17 14 54.3 +1.6
HRV pmax pmax
comp=Z,35nm,1.2s
HRV Adam Dziewonsk 62.86 359 P P 17 14 54.3 +1.6
L53A Girard 62.91 352 P P 17 14 53.8 +0.6
baz=170
L55A Hinsdale 62.93 354 P P 17 14 54.0 +0.7
baz=172
K63A Dunstable 63.04 359 P P 17 14 55.2 +1.2
baz=179
ERPA Erie 63.04 352 P P 17 14 54.7 +0.8
baz=170
ERPA Erie 63.04 352 P P 17 14 54.0 +0.1
K61A Williamstown 63.06 358 P P 17 14 55.3 +1.2
baz=177
L54A Sinclairville 63.07 353 P P 17 14 55.0 +0.8
baz=171
P40A Paris 63.09 342 P P 17 14 54.2 -0.1
P40A IAmb IAmb 17 14 55.7
comp=Z,15nm,1.2s
TRY Troy 63.13 358 P P 17 14 55.5 +0.9
WVNY West Valley, N 63.16 354 P P 17 14 55.8 +1.0
K59A Cooperstown 63.23 357 P P 17 14 56.5 +1.2
baz=176,SNR=8.5
K58A Earlville 63.27 356 P P 17 14 56.4 +0.9
baz=175,SNR=6.0
HDIL Hopedale 63.29 344 P P 17 14 54.9 -0.8
HDIL IAmb IAmb 17 14 56.2
comp=Z,14nm,0.8s
K57A Scipio Center 63.30 355 P P 17 14 56.4 +0.7
baz=174
K56A Middlesex 63.33 355 P P 17 14 56.7 +0.8
baz=173
K54A Basiliko Farm, 63.38 353 P P 17 14 56.9 +0.7
baz=172

MMNY **Mt. Morris Dam** 63.42 354 P **P** 17 14 57.4 +0.9
K55A **Perry** 63.43 354 P **P** 17 14 57.2 +0.7
baz=172
J62A **Henniker** 63.58 359 P **P** 17 14 58.6 +1.1
baz=179
J63A **Strafford** 63.62 360 P **P** 17 14 59.1 +1.3
baz=180
P38A **Dawn** 63.63 341 P **P** 17 14 57.6 -0.3
P38A IAmb IAmb 17 15 04.8
comp=Z,9.9nm,0.9s
J60A **Lant Hill Farm** 63.63 358 P **P** 17 14 59.0 +1.1
baz=177
SNAA **Sanae** 63.64 161 P **P** 17 14 58.9 +1.2
SNAA **Sanae** 63.64 161 P **P** 17 14 58.9 +1.2
comp=Z,10nm,1.0s,baz=282,slow=5.8,SNR=24
SNAA **Sanae** 63.64 161 P **P** 17 14 59.0 +1.2
SNAA pmax pmax
comp=Z,30nm,1.3s
SNAA **Sanae** 63.64 161 P **P** 17 14 59.0 +1.2
J61A **Chester** 63.71 359 P **P** 17 14 59.5 +1.1
baz=178
ACCN **Adirondack Com** 63.78 358 P **P** 17 14 59.2 +0.4
N41A **Harden Midland** 63.84 343 P **P** 17 14 58.9 -0.4
N41A IAmb IAmb 17 15 00.1
comp=Z,25nm,1.2s
J56A **Wolcott** 63.87 355 P **P** 17 15 00.0 +0.7
baz=174
J56A **Wolcott** 63.87 355 P **P** 17 14 59.1 -0.3
J59A **Piesco** 63.90 357 P **P** 17 15 00.8 +1.1
baz=176,SNR=9.0
J57A **Williamstown** 63.93 356 P **P** 17 15 00.8 +1.0
baz=175
J55A **Hilton** 63.94 354 P **P** 17 15 00.4 +0.6
baz=173
J54A **Appleton** 64.03 354 P **P** 17 15 00.9 +0.5
baz=172
HNH **Hanover** 64.06 359 P **P** 17 15 01.8 +1.1
I58A **Old Forge** 64.15 357 P **P** 17 15 02.1 +0.7
baz=176
I59A **Olmsteadville** 64.20 358 P **P** 17 15 02.4 +0.8
baz=177
J52A **Paris** 64.21 352 P **P** 17 15 02.3 +0.6
baz=170
I62A **Tamworth** 64.22 360 P **P** 17 15 02.6 +0.9
baz=180
I60A **Shoreham** 64.23 358 P **P** 17 15 02.8 +1.1
baz=177
K48A **Perry** 64.33 349 P **P** 17 15 03.3 +0.8
baz=166
K47A **Vermontville** 64.36 348 P **P** 17 15 03.3 +0.6
baz=165
NCB **Newcomb** 64.39 357 P **P** 17 15 03.4 +0.5
NCB IAmb IAmb 17 15 05.8
comp=Z,18nm,1.4s
I63A **Otisfield** 64.40 0 P **P** 17 15 03.9 +1.0
baz=180
I57A **Carthage** 64.44 356 P **P** 17 15 04.1 +0.9
baz=175
LBNH **Lisbon** 64.59 359 P **P** 17 15 05.2 +1.0
baz=179,SNR=5.6
LBNH **Lisbon** 64.59 359 P **P** 17 15 04.7 +0.5
LBNH pmax pmax
comp=Z,32nm,1.2s
LBNH **Lisbon** 64.59 359 P **P** 17 15 04.7 +0.5
N38A **Joes South For** 64.60 341 P **P** 17 15 02.4 -1.9
N38A IAmb IAmb 17 15 05.6
comp=Z,12nm,0.9s
VT1 **Waterbury** 64.70 358 P **P** 17 15 05.6 +0.7
J49A **Marlette** 64.71 350 P **P** 17 15 05.5 +0.6
baz=167
J48A **Bridge Port** 64.76 350 P **P** 17 15 05.8 +0.6
baz=167
I51A **Listowel** 64.83 352 P **P** 17 15 06.4 +0.6
baz=170
H58A **Gabriels** 64.84 357 P **P** 17 15 06.6 +0.9
baz=176,SNR=5.2
ANMO **Albuquerque** 64.85 328 *ce*P **P** 17 15 08.3 +2.0
ANMO pmax pmax
comp=Z,12nm,2.5s
I55A **Frankford** 64.87 355 P **P** 17 15 06.5 +0.5
baz=173,SNR=5.3
J47A **Sunmer** 64.88 349 P **P** 17 15 05.9 -0.1
H61A **Lyndonville** 64.89 359 P **P** 17 15 07.4 +1.3
baz=179
H62A **Milan** 64.92 360 P **P** 17 15 07.8 +1.5
baz=180
H60A **Morristown** 64.93 359 P **P** 17 15 07.6 +1.2
baz=178
H64A **Troy** 65.00 1 P **P** 17 15 08.0 +1.2
baz=182
H59A **Cadyville** 65.04 358 P **P** 17 15 08.3 +1.2
baz=177
LONY **Lake Ozonia** 65.06 357 P **P** 17 15 08.3 +1.1
baz=176
LONY **Lake Ozonia** 65.06 357 P **P** 17 15 08.0 +0.8
LONY IAmb IAmb 17 15 09.4
comp=Z,16nm,1.2s
H65A **Eastbrook** 65.08 2 P **P** 17 15 08.6 +1.3
baz=183
H55A **Tweed** 65.16 355 P **P** 17 15 08.6 +0.8
baz=173
L40A **Anamosa** 65.21 343 P **P** 17 15 08.0 -0.2
L40A IAmb IAmb 17 15 09.9
comp=Z,32nm,1.4s
H66A **Whiting** 65.21 3 P **P** 17 15 09.2 +1.1
baz=184
FRNY **Flat Rock** 65.23 358 P **P** 17 15 09.1 +0.8
FRNY IAmb IAmb 17 15 10.7
comp=Z,22nm,1.1s
H53A **Bobcaygeon** 65.31 354 P **P** 17 15 09.5 +0.7
baz=172
N35A **Tabor** 65.42 339 P **P** 17 15 09.6 0.0
N35A IAmb IAmb 17 15 19.8
comp=Z,14nm,0.7s
G60A **Masonville** 65.46 359 P **P** 17 15 10.9 +1.2
baz=178
G63A **Kingsbury** 65.47 1 P **P** 17 15 11.1 +1.2
baz=181
SADO **Sadowa** 65.56 353 P **P** 17 15 10.5 0.0
SADO IAmb IAmb 17 15 11.7
comp=Z,18nm,1.1s
G57A **Newington** 65.56 357 P **P** 17 15 11.5 +1.1
baz=176
GGN **Saint George** 65.56 3 P **P** 17 15 10.7 +0.3
GGN IAmb IAmb 17 15 12.8
comp=Z,19nm,1.3s
G62A **West of Eustis** 65.56 0 P **P** 17 15 12.0 +1.5
baz=180,SNR=9.3
G62A **West of Eustis** 65.56 0 P **P** 17 15 11.9 +1.5
I48A **Sherman Twp** 65.61 350 P **P** 17 15 11.6 +0.8
baz=167
G65A **Princeton** 65.61 3 P **P** 17 15 12.0 +1.3
baz=183
SCIA **State Center** 65.62 342 P **P** 17 15 10.9 0.0
PKME **Peaks-Kenny Pk** 65.62 1 P **P** 17 15 12.0 +1.2
baz=182
G64A **Maxfield** 65.62 2 P **P** 17 15 11.9 +1.1
baz=182
G61A **St-Isidore-de-** 65.63 359 P **P** 17 15 12.3 +1.4
baz=179,SNR=6.4
I46A **Reed City** 65.68 348 P **P** 17 15 12.0 +0.8
baz=165
JFWS **Jewell Farm** 65.75 344 P **P** 17 15 11.8 0.0
baz=160
G55A **Calabogie** 65.82 355 P **P** 17 15 12.6 +0.5
baz=174
G53A **Haliburton** 65.86 354 P **P** 17 15 13.2 +0.9
baz=172
ORIO **Orleans, Innes** 65.94 356 P **P** 17 15 11.8 -1.1
F63A **Nahmakanta, Br** 66.07 1 P **P** 17 15 14.7 +1.0
baz=182
G54A **Lake Saint Pet** 66.08 354 P **P** 17 15 14.2 +0.4
baz=173
K38A **Parkersburg** 66.18 342 P **P** 17 15 13.4 -1.1
K38A IAmb IAmb 17 15 25.6
comp=Z,20nm,1.2s
F64A **Sherman** 66.25 2 P **P** 17 15 15.5 +0.7
baz=182
F60A **Warwick** 66.32 359 P **P** 17 15 16.1 +0.8
baz=179
I42A **Draeger Farm,** 66.35 346 P **P** 17 15 16.2 +0.7
I42A IAmb IAmb 17 15 26.7
comp=Z,23nm,1.5s
GLMI **Grayling** 66.38 349 P **P** 17 15 15.6 -0.1
LMN **Caledonia Moun** 66.42 5 P **P** 17 15 15.8 -0.2
LMN IAmb IAmb 17 15 17.7
comp=Z,20nm,1.3s

KSCO **Kaye Shedlock'** 66.42 333 P **P** 17 15 14.6 -1.7
KSCO IAmb IAmb 17 15 38.4
comp=Z,31nm,1.4s
F52A **Sundridge** 66.59 354 P **P** 17 15 17.5 +0.4
baz=171
SDCO **Great Sand Dun** 66.64 331 P **P** 17 15 18.4 +0.5
TRQ **Mont Tremblant** 66.66 357 P **P** 17 15 18.0 +0.4
W18A **Petrified Fore** 66.66 326 P **P** 17 15 18.4 +0.4
L34A **Svendsen Farm,** 66.66 339 P **P** 17 15 17.1 -0.5
L34A IAmb IAmb 17 15 27.8
comp=Z,26nm,1.1s
E60A **Ste Agathe de** 66.72 360 P **P** 17 15 18.8 +1.0
baz=179
E58A **La Victoria** 66.75 358 P **P** 17 15 18.8 +0.7
baz=178
I40A **Norwalk** 66.76 345 P **P** 17 15 18.6 +0.5
I40A IAmb IAmb 17 15 29.5
comp=Z,20nm,1.4s
BGNE **Belgrade** 66.76 338 P **P** 17 15 17.7 -0.6
E61A **Lac Etchemin** 66.78 0 P **P** 17 15 19.4 +1.1
baz=180
F51A **Arnstein** 66.79 353 P **P** 17 15 19.5 +1.2
baz=171
E63A **Oxbow** 66.80 2 P **P** 17 15 19.4 +1.1
baz=182
E57A **Chemin Saint G** 66.83 357 P **P** 17 15 19.2 +0.7
baz=177
E62A **Clayton Lake** 66.98 1 P **P** 17 15 20.6 +1.1
baz=181
E56A **St. Veronique** 67.00 357 P **P** 17 15 20.0 +0.4
baz=176,SNR=5.0
E52A **Mattawa** 67.01 354 P **P** 17 15 19.6 -0.1
baz=172
E53A **Dumoine, Ponti** 67.01 355 P **P** 17 15 20.1 +0.4
baz=173
E54A **Lac Daplat, Po** 67.03 355 P **P** 17 15 20.0 +0.2
baz=174
X16A **Lo Mia Camp, P** 67.04 324 P **P** 17 15 20.8 +0.3
PQI **Presque Isle** 67.06 2 P **P** 17 15 21.1 +1.1
PQI IAmb IAmb 17 15 22.4
comp=Z,14nm,1.1s
E51A **G1948 Merrick** 67.34 354 P **P** 17 15 22.0 +0.2
baz=171
E50A **Wahnapitae** 67.37 353 P **P** 17 15 22.0 0.0
baz=170
D57A **Chemin Vers le** 67.42 358 P **P** 17 15 22.7 +0.4
baz=177,SNR=6.4
D63A **Stockholm** 67.43 2 P **P** 17 15 22.5 +0.2
baz=183
D62A **Allapoint, All** 67.45 1 P **P** 17 15 23.2 +0.7
baz=182
D62A **Allapoint, All** 67.45 1 P **P** 17 15 22.9 +0.5
D62A IAmb IAmb 17 15 24.7
comp=Z,20nm,1.2s
D58A **Chemin du LacG** 67.47 358 P **P** 17 15 23.4 +0.8
baz=178,SNR=6.2
Q24A **Divide** 67.48 332 P **P** 17 15 23.6 +0.4
Q24A IAmb IAmb 17 15 52.9
comp=Z,5.0nm,0.6s
D56A **ZEC Mazanza, M** 67.49 357 P **P** 17 15 23.0 +0.2
baz=176
D55A **Sainte-Anne-du** 67.50 357 P **P** 17 15 23.0 +0.2
baz=175,SNR=5.4
Y14A **Wickenburg** 67.56 323 P **P** 17 15 23.4 -0.1
I37A **Lemond, Waseca** 67.61 343 P **P** 17 15 23.1 -0.5
I37A IAmb IAmb 17 15 37.1
comp=Z,12nm,0.8s
TAOE **Nuku Hiva Isla** 67.66 269 *e*LR LR 17 35 37.5
comp=Z,336nm,26.3s
D52A **ZEK Kipawa Sen** 67.67 354 P **P** 17 15 24.4 +0.5
baz=172
D54A **Lac Fusel, La** 67.70 356 P **P** 17 15 24.5 +0.4
baz=174
D53A **Lac Vacive, Po** 67.71 355 P **P** 17 15 24.3 +0.2
baz=173
D53A **Lac Vacive, Po** 67.71 355 P **P** 17 15 24.6 +0.4
D53A IAmb IAmb 17 15 25.1
comp=Z,8.3nm,0.9s
WUAZ **Wupatki** 67.83 325 P **P** 17 15 27.6 +2.2
D50A **G1974 Best Tow** 68.00 353 P **P** 17 15 26.3 +0.3
baz=171
K31A **O'Neill** 68.05 338 P **P** 17 15 27.1 +0.7
NVL **N'lazarevskaya** 68.24 159 *e*P **P** 17 15 24.4 -2.8
NVL *e*S **S** 17 24 28.8 +1.2
NVL pmax pmax
comp=Z,23nm,1.2s
D49A **Beulah Townshi** 68.28 352 P **P** 17 15 28.4 +0.6
baz=169
E43A **Lone Tree Farm** 68.32 348 P **P** 17 15 27.0 -1.0
ECSD **EROS Data Cent** 68.32 340 P **P** 17 15 28.3 +0.2
baz=154
ECSD **EROS Data Cent** 68.32 340 P **P** 17 15 28.5 +0.4
ECSD IAmb IAmb 17 15 39.7
comp=Z,24nm,1.5s
PV15 **Paradox Valley** 68.53 329 P **P** 17 15 27.9 -1.9
PV15 IAmb IAmb 17 15 45.9
comp=Z,9.6nm,1.0s
SPMN **Marine on St.** 68.57 343 P **P** 17 15 29.4 -0.2
SPMN IAmb IAmb 17 15 40.7
comp=Z,13nm,1.1s
PV05 **Paradox Valley** 68.62 328 P **P** 17 15 30.2 -0.2
PV03 **Paradox Valley** 68.64 329 P **P** 17 15 30.5 +0.1
VLDQ **Val d'Or** 68.72 355 P **P** 17 15 31.1 +0.7
VLDQ IAmb IAmb 17 15 32.3
comp=Z,13nm,1.1s
PV22 **Blue Mesa, Par** 68.83 329 P **P** 17 15 31.7 +0.1
PV23 **Carpenter Ridg** 68.87 329 P **P** 17 15 32.2 +0.3
W13A **Hualapai Mount** 68.90 323 P **P** 17 15 31.9 -0.3
U15A **North Rim** 69.00 325 P **P** 17 15 32.9 +0.1
D41A **Chassel** 69.29 347 P **P** 17 15 33.9 -0.1
D41A IAmb IAmb 17 15 35.5
comp=Z,25nm,1.3s
XPFO **Pion Flat** 69.33 320 P **P** 17 15 33.0 -1.7
F36A **Milaca** 69.35 343 P **P** 17 15 34.0 -0.4
F36A IAmb IAmb 17 15 35.6
comp=Z,11nm,1.2s
QSPA **South Pole Qui** 69.52 180 P **P** 17 15 37.7 +2.2
comp=Z,4.3nm,0.6s,baz=298,slow=0.6,SNR=33
QSPA **South Pole Qui** 69.52 180 P **P** 17 15 36.9 +1.4
QSPA IAmb IAmb 17 15 39.0
comp=Z,9.2nm,0.9s
PHWY **Pilot Hill** 69.53 333 P **P** 17 15 36.0 0.0
PHWY IAmb IAmb 17 15 48.0
comp=Z,12nm,1.4s
E38A **The Farm, Brul** 69.53 345 P **P** 17 15 35.0 -0.6
E38A IAmb IAmb 17 15 36.8
comp=Z,14nm,1.3s
LSQQ **Lebel-sur-Quev** 69.62 356 P **P** 17 15 36.3 +0.3
baz=174
SUSD **Miller** 69.72 339 P **P** 17 15 34.6 -2.1
SUSD IAmb IAmb 17 15 54.1
comp=Z,8.9nm,0.7s
KNB **Kanab** 69.72 325 P **P** 17 15 38.6 +1.4
KNB pmax pmax
comp=Z,24nm,1.4s
KNB **Kanab** 69.72 325 P **P** 17 15 38.6 +1.4
LIC **Lamto** 69.87 75 *e*P **P** 17 15 37.2 -1.1
comp=Z,63nm,1.3s
TIC **Toumodi** 70.05 75 *e*P **P** 17 15 38.6 -0.9
F33A **5 Mile Ranch,** 70.12 341 P **P** 17 15 37.6 -1.5
SRU **San Rafael Swe** 70.12 328 P **P** 17 15 40.5 +0.9
SRU pmax pmax
comp=Z,6.0nm,0.8s
SRU **San Rafael Swe** 70.12 328 P **P** 17 15 40.5 +0.9
KIC **Kosan Boka** 70.18 75 *e*P **P** 17 15 39.3 -1.0
comp=Z,54nm,1.3s
DBIC **Dimbokro** 70.20 75 P **P** 17 15 39.8 -0.6
comp=Z,16nm,0.9s,baz=212,slow=6.2,SNR=8.4
DBIC LR LR 17 45 05.3
comp=Z,634nm,19.8s,baz=224,slow=35
DBIC **Dimbokro** 70.20 75 P **P** 17 15 39.4 -1.0
DBIC pmax pmax
comp=Z,23nm,1.0s
DBIC **Dimbokro** 70.20 75 P **P** 17 15 39.4 -1.0
DBIC IAmb IAmb 17 15 40.2
comp=Z,23nm,0.9s
SZCU **Shurtz Canyon** 70.30 325 P **P** 17 15 40.0 -0.7
Q16A **Castle Valley** 70.30 328 P **P** 17 15 40.3 -0.4
CHGQ **Chibougamau** 70.33 358 P **P** 17 15 40.7 +0.3
baz=176
MATQ **Matagami** 70.37 355 P **P** 17 15 41.2 +0.7
baz=173
CCUT **Cedar City** 70.41 325 P **P** 17 15 44.4 +3.0
MSU **Marysvale** 70.50 327 P **P** 17 15 44.1 +2.1
MSU **Marysvale** 70.50 327 P **P** 17 15 44.1 +2.1
P17A **Butcher Ranch,** 70.51 328 P **P** 17 15 43.6 +1.6

DRLN **Deer Lake** 70.61 9 P **P** 17 15 42.4 +0.4
SHPR **Sheep Range** 70.63 323 P **P** 17 15 43.0 +0.3
EYMN **Ely** 70.78 345 P **P** 17 15 43.2 0.0
baz=160
EYMN **Ely** 70.78 345 P **P** 17 15 43.0 -0.1
RSSD **Black Hills** 71.29 335 P **P** 17 15 45.6 -1.1
RSSD pmax pmax
comp=Z,4.0nm,0.8s
RSSD **Black Hills** 71.29 335 P **P** 17 15 45.6 -1.1
TPNV **Topopah Spring** 71.56 323 P **P** 17 15 48.6 +0.2
TPNV pmax pmax
comp=Z,8.0nm,1.1s
TPNV **Topopah Spring** 71.56 323 P **P** 17 15 48.6 +0.2
B35A **Bob, Littlefor** 71.71 344 P **P** 17 15 48.0 -0.8
JLU **Jordanelle** 71.73 329 P **P** 17 15 51.5 +2.1
DUG **Dugway, Tooele** 72.09 327 P **P** 17 15 49.4 -2.1
DUG pmax pmax
comp=Z,12nm,1.3s
DUG **Dugway, Tooele** 72.09 327 P **P** 17 15 49.4 -2.1
TCUT **Toone Canyon** 72.10 329 P **P** 17 15 50.5 -1.1
E28A **Huff** 72.18 339 P **P** 17 15 51.2 -0.5
E28A IAmb IAmb 17 16 05.0
comp=Z,28nm,1.2s
R11A **Troy Canyon, C** 72.19 324 P **P** 17 15 52.0 -0.1
AGMN **Agassiz Nation** 72.22 343 P **P** 17 15 51.1 -0.7
PDAR **Pinedale Array** 72.52 331 P **P** 17 15 56.0 +1.9
comp=Z,0.4nm,0.6s,baz=136,slow=7.2,SNR=2.1
PDAR LR LR 17 49 09.7
comp=Z,87nm,19.9s,baz=120,slow=37
HWUT **Hardware Ranch** 72.55 329 P **P** 17 15 53.7 -0.6
BGU **Big Grassy Mou** 72.75 328 P **P** 17 15 56.0 +0.6
MDND **Maddock** 72.94 340 P **P** 17 15 55.8 -0.4
AHID **Auburn Hatcher** 73.22 330 P **P** 17 15 59.6 +1.4
AHID IAmb IAmb 17 16 13.4
comp=Z,11nm,1.1s
OMMB **Old Mammoth Mi** 73.59 322 P **P** 17 16 02.5 +1.9
SNOW **Snow King Moun** 73.61 331 P **P** 17 15 60.0 -0.6
SNOW IAmb IAmb 17 16 19.0
comp=Z,10nm,0.3s
ELK **Elko** 73.74 326 P **P** 17 16 01.1 -0.3
ELK pmax pmax
comp=Z,3.0nm,1.2s
ELK **Elko** 73.74 326 P **P** 17 16 01.1 -0.3
NVAR **Mina Array Bea** 73.76 323 P **P** 17 16 04.0 +2.6
comp=Z,0.9nm,0.8s,baz=159,slow=6.3,SNR=6.2
PPT2 **Papeete2** 73.78 257 *e*S **S** 17 25 39.1 +5.2
comp=Z,597nm,25.8s
PPT2 **Papeete2** 73.78 257 *e*LR LR 17 38 47.5
comp=Z,487nm,24.5s,baz=112
PPT **Papeete** 73.79 257 LR LR 17 38 39.3
comp=Z,41nm,21.8s,baz=114,slow=28
ULM **Lac du Bonnet** 74.00 344 P **P** 17 16 02.5 +0.2
comp=Z,3.9nm,0.9s,baz=153,slow=7.3,SNR=3.5
ULM LR LR 17 50 48.6
comp=Z,153nm,21.2s,baz=152,slow=38
ULM **Lac du Bonnet** 74.00 344 P **P** 17 16 02.2 -0.2
ULM pmax pmax
comp=Z,15nm,1.4s
ULM **Lac du Bonnet** 74.00 344 P **P** 17 16 02.2 -0.2
ULM IAmb IAmb 17 16 03.5
comp=Z,14nm,1.4s
IMW **Indian Meadow** 74.03 331 P **P** 17 16 02.6 -0.4
FLWY **Flagg Ranch** 74.06 331 P **P** 17 16 01.9 -1.3
KVN **Kaiserville** 74.07 323 P **P** 17 16 05.3 +2.0
KVN pmax pmax
comp=Z,6.0nm,1.2s
KVN **Kaiserville** 74.07 323 P **P** 17 16 05.3 +2.0
H17A **Grant Village** 74.25 332 P **P** 17 16 07.2 +2.9
LAO **LASA Array** 74.28 336 P **P** 17 16 04.8 +0.6
baz=146
LAO **LASA Array** 74.28 336 P **P** 17 16 05.5 +1.4
LAO IAmb IAmb 17 16 07.7
comp=Z,17nm,1.4s
YNE **Yellowstone No** 74.48 332 P **P** 17 16 06.2 +0.6
YMR **Madison River** 74.64 331 P **P** 17 16 08.1 +1.6
YERR **Yerington** 74.67 323 P **P** 17 16 05.8 -1.0
DGMT **Dagmar** 75.02 338 P **P** 17 16 09.6 +1.2
DGMT IAmb IAmb 17 16 23.6
comp=Z,18nm,1.1s
PAHR **Pah Rah Range** 75.25 323 P **P** 17 16 07.1 -2.9
SCHQ **Schefferville** 75.27 2 P **P** 17 16 10.1 +0.5
comp=Z,4.3nm,1.0s,baz=138,slow=5.9,SNR=4.5
SCHQ LR LR 17 48 43.6
comp=Z,199nm,21.9s,baz=234,slow=35
SCHQ **Schefferville** 75.27 2 P **P** 17 16 09.7 +0.1
SCHQ IAmb IAmb 17 16 33.7
comp=Z,12nm,1.1s
AFDM **Forest Hills D** 75.64 322 P **P** 17 16 11.6 -0.5
MFID **Camas Ranch** 75.99 328 P **P** 17 16 13.1 -1.0
LRM **Limekiln Ridge** 76.20 331 P **P** 17 16 16.3 +0.8
ORV **Oroville** 76.35 322 P **P** 17 16 14.9 -1.2
ORV pmax pmax
comp=Z,15nm,1.4s
ORV **Oroville** 76.35 322 P **P** 17 16 14.9 -1.2
ORV IAmb IAmb 17 16 37.0
comp=Z,15nm,1.4s
EGMT **Eagleton** 76.77 334 P **P** 17 16 19.1 +0.7
baz=143
EGMT **Eagleton** 76.77 334 P **P** 17 16 15.6 -2.8
EGMT IAmb IAmb 17 16 31.9
comp=Z,11nm,1.2s
VNDA **Vanda** 77.36 190 P **P** 17 16 24.1 +2.8
comp=Z,0.8nm,0.9s,baz=168,slow=2.9,SNR=4.4
VNDA **Vanda** 77.36 190 P **P** 17 16 23.9 +2.6
VNDA pmax pmax
comp=Z,9.0nm,1.4s
VNDA **Vanda** 77.36 190 P **P** 17 16 23.9 +2.6
BMO **Blue Mountains** 77.77 328 P **P** 17 16 25.7 +1.6
BMO pmax pmax
comp=Z,4.0nm,1.0s
BMO **Blue Mountains** 77.77 328 P **P** 17 16 25.6 +1.6
SYO **Syowa Base** 77.90 160 *i*X **P** 17 16 24.4 0.0
TOA0 **Torodi Ar. Sit** 78.75 71 P **P** 17 16 28.9 -1.2
TORD **Torodi Ar. Bea** 78.75 71 P **P** 17 16 29.3 -0.8
comp=Z,24nm,0.9s,baz=255,slow=5.2,SNR=69
TORD LR LR 17 50 50.7
comp=Z,957nm,18.9s,baz=240,slow=36
FFC **Flin Flon** 79.69 342 P **P** 17 16 34.2 -0.1
FFC pmax pmax
comp=Z,2.0nm,0.8s
FFC **Flin Flon** 79.69 342 P **P** 17 16 34.2 -0.1
C09A **Chrisman Ranch** 80.35 330 P **P** 17 16 37.7 -0.4
FCC **Fort Churchill** 81.44 348 P **P** 17 16 44.6 +1.0
FCC pmax pmax
comp=Z,17nm,1.3s
FCC **Fort Churchill** 81.44 348 P **P** 17 16 44.6 +1.0
FCC IAmb IAmb 17 16 45.6
comp=Z,16nm,1.3s
TSUM **Tsumeb** 81.97 107 P **P** 17 16 48.4 +0.8
MESJ **Messejana** 82.70 45 *e*P **P** 17 16 50.5 -0.2
MESJ AMb AMB 17 17 00.6
comp=Z,26nm,1.9s
LLLB **Lillooet** 84.00 330 P **P** 17 16 57.5 +0.2
MTE **Manteigas** 84.53 43 P **P** 17 16 59.7 -0.5
MTE IAmb IAmb 17 17 01.6
comp=Z,19nm,1.0s
BOSA **Boshof** 85.40 119 P **P** 17 17 05.3 +0.3
comp=Z,8.7nm,1.0s,baz=230,slow=9.3,SNR=4.0
BOSA LR LR 17 52 52.6
comp=Z,303nm,18.9s,baz=245,slow=34
BOSA **Boshof** 85.40 119 P **P** 17 17 05.3 +0.3
BOSA pmax pmax
comp=Z,20nm,1.2s
BOSA **Boshof** 85.40 119 IAmb IAmb 17 17 07.0
comp=Z,20nm,1.1s
MAW **Mawson** 85.63 164 LR LR 17 55 35.0
comp=Z,162nm,18.2s,baz=236,slow=36
TAM **Tamanrasset** 86.03 64 P **P** 17 17 08.7 +0.5
TAM pmax pmax
comp=Z,22nm,1.1s
TAM **Tamanrasset** 86.03 64 P **P** 17 17 08.7 +0.5
ESDC **Sonseca Array** 86.49 45 P **P** 17 17 10.3 +0.3
comp=Z,4.4nm,1.1s,baz=237,slow=5.2,SNR=11
ESDC LR LR 17 51 34.9
comp=Z,224nm,21.9s,baz=230,slow=33
YKA **Yellowknife Ar** 89.82 341 P **P** 17 17 25.4 +0.2
comp=Z,3.8nm,0.9s,baz=144,slow=4.8,SNR=29
YKA LR LR 18 00 25.7
comp=Z,128nm,21.9s,baz=0.0,slow=37
KEST **Kesra** 94.22 53 LR LR 18 00 14.2
comp=Z,353nm,20.1s,baz=203,slow=36
SUMG **Summit** 95.52 9 P **P** 17 17 53.3 +1.5
SUMG pmax pmax
comp=Z,10.0nm,1.3s
SUMG **Summit** 95.52 9 P **P** 17 17 53.3 +1.5

SUMG					IAmb	IAmb	17 18 06.9	
	comp=Z,10nm,1.3s							
KHC	**Kasperske Hory**	**101.79**	**42**	*i* P		**Pdif**	**17 18 15.4**	**-4.7**
DZM	**Mont Dzumac**	**109.81**	**236**	*e*SP		SP	17 32 59.7	+1.5
	comp=Z,60nm,24.4s							
DZM	**Mont Dzumac**	**109.81**	**236**	*e*LR		LR	17 55 31.0	
	comp=Z,225nm,24.5s							
OBN	**Obninsk**	**116.60**	**38**	*e*PKIKP		**PKPdf**	**17 23 07.5**	**-3.3**
OBN				pmax		pmax		
	comp=Z,3.0nm,0.8s							
KLMR	**Klimovskoe**	**117.72**	**31**	*e*PKIKP		**PKPdf**	**17 23 12.6**	**-0.2**
KLMR				pmax		pmax		
	comp=Z,12nm,1.5s							
KLMR	**Klimovskoe**	**117.72**	**31**	*e*PKPdf		**PKPdf**	**17 23 12.7**	**-0.1**
KLMR				AMP			17 23 15.6	
	comp=Z,12nm,1.5s							
KIV	**Kislovodsk**	**120.81**	**50**	*e*PKIKP		**PKPdf**	**17 23 18.3**	**-1.1**
KIV				pmax		pmax		
	comp=Z,3.0nm,1.1s							
KBZ	**Khabaz**	**120.97**	**51**	PKP		**PKiKP**	**17 23 20.6**	**+1.0**
	comp=Z,4.0nm,1.1s,baz=330,slow=4.6,SNR=4.7							
BILL	**Bilibino**	**121.10**	**338**	*i* PKIKP		**PKiKP**	**17 23 19.3**	**+0.1**
H11S2	**WAKE ISLAND Hyl**	**126.01**	**278**	T		T	19 42 41.5	
	baz=102,slow=74,SNR=409							
H11S1	**WAKE ISLAND Hyl**	**126.02**	**278**	T		T	19 42 42.5	
	baz=102,slow=74,SNR=202							
H11S3	**WAKE ISLAND Hyl**	**126.03**	**278**	T		T	19 42 39.8	
	baz=102,slow=74,SNR=243							
H11N3	**WAKE ISLAND Hyl**	**126.08**	**280**	T		T	19 42 40.7	
	baz=102,slow=74,SNR=130							
H11N2	**WAKE ISLAND Hyl**	**126.09**	**280**	T		T	19 42 37.3	
	baz=102,slow=74,SNR=123							
H11N1	**WAKE ISLAND Hyl**	**126.09**	**280**	T		T	19 42 41.9	
	baz=102,slow=74,SNR=147							
TIXI	**Tiksi**	**127.74**	**352**	*c* iPKIKP		**PKiKP**	**17 23 32.0**	**-0.3**
TIXI				pmax		pmax		
	comp=Z,1.0nm,0.7s							
TIXI	**Tiksi**	**127.74**	**352**	PKPdf		**PKPdf**	**17 23 31.5**	**-0.2**
ARU	**Arti**	**128.44**	**33**	*i* PKIKP		**PKPdf**	**17 23 32.3**	**-1.2**
ARU							17 25 35.8	
ARU							17 30 43.3	
ARU				SS		SS	17 42 49.0	-5.4
ARU	**Arti**	**128.44**	**33**	PKPdf		**PKiKP**	**17 23 34.7**	**+0.6**
SEY	**Seymchan**	**128.63**	**336**	*i* PKIKP		**PKPdf**	**17 23 33.1**	**-0.5**
ASAR	**Alice Springs**	**129.79**	**210**	PKP		**PKiKP**	**17 23 38.0**	**0.0**
	comp=Z,1.9nm,1.0s,baz=148,slow=2.3,SNR=11							
ASAR	**Alice Springs**	**129.79**	**210**	PKIKP		**PKiKP**	**17 23 38.0**	**0.0**
WRA	**Warramunga Arr**	**132.73**	**213**	PKP		**PKiKP**	**17 23 43.7**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=156,slow=1.7,SNR=6.3							
BRVK	**Borovoye**	**136.01**	**33**	*i* PKIKP		**PKPdf**	**17 23 45.9**	**-2.0**
KURK	**Kurchatov**	**141.57**	**31**	*i* PKIKP		**PKPdf**	**17 23 57.1**	**-1.0**
KURK	**Kurchatov**	**141.57**	**31**	PKPdf		**PKPdf**	**17 23 55.3**	**-2.8**
ZAA0	**Zalesovo Array**	**141.92**	**23**	PKPdf		**PKPdf**	**17 23 55.0**	**-3.6**
ZALV	**Zalesovo Beam**	**141.92**	**23**	PKiKP		**PKPdf**	**17 23 54.2**	**-4.4**
	comp=Z,3.3nm,0.8s,baz=302,slow=3.3,SNR=8.2							
AAK	**Ala-Archa**	**143.60**	**45**	*i* PKIKP		**PKPdf**	**17 24 01.9**	**-0.3**
AAK	**Ala-Archa**	**143.60**	**45**	PKPdf		**PKPdf**	**17 24 01.5**	**-0.7**
ZEA	**Zeya**	**144.21**	**342**	*e*PKIKP		**PKPdf**	**17 24 02.4**	**-0.3**
NIL	**Nilore**	**145.68**	**60**	PKIKP		**PKPbc**	**17 24 06.4**	**+0.1**
NIL	**Nilore**	**145.68**	**60**			**PKPbc**	**17 24 06.4**	**+0.1**
MAKZ	**Makanchi**	**145.79**	**34**	PKIKP		**PKPab**	**17 24 06.7**	**+0.1**
MAKZ	**Makanchi**	**145.79**	**34**			**PKPab**	**17 24 06.7**	**+0.1**
KSH	**Kashi**	**145.92**	**49**	PKPbc		**PKPab**	**17 24 08.4**	**+1.0**
MK31	**Makanchi Array**	**145.96**	**34**	PKIKP		**PKPbc**	**17 24 06.6**	**-0.1**
MK31	**Makanchi Array**	**145.96**	**34**	PKPdf		**PKPbc**	**17 24 06.5**	**-0.1**
MKAR	**Makanchi Array**	**145.96**	**34**	PKPbc		**PKPab**	**17 24 07.3**	**+0.1**
	comp=Z,11nm,0.8s,baz=322,slow=2.2,SNR=101							
MKAR	**Makanchi Array**	**145.96**	**34**	*c* iPKIKP		**PKPab**	**17 24 07.0**	**-0.2**
MKAR				pmax		pmax		
	comp=Z,11nm,0.8s							
TARG	**Taragay, Kyrgy**	**146.20**	**44**			**PKPdf**	**17 24 07.1**	**0.0**
IRK	**Irkutsk**	**148.25**	**6**	*e*PKIKP		**PKPdf**	**17 24 10.9**	**+1.3**
IRK				pmax		pmax		
	comp=Z,34nm,2.1s							
MOY	**Mondy**	**148.40**	**10**	*e*PKP2		**PKiKP**	**17 24 15.1**	**0.0**
MOY				pmax		pmax		
	comp=Z,35nm,1.6s							
TLY	**Talaya**	**148.74**	**7⇑**	*e*PKP2		**PKPbc**	**17 24 14.6**	**+0.3**
TLY				*e*SS		SS	17 46 49.4	-3.5
TLY				pmax		pmax		
	comp=Z,23nm,1.1s							
USA0B	**Ussuriysk Arra**	**149.85**	**326**	PKP2		**PKiKP**	**17 24 18.0**	**-0.2**
USA0B	**Ussuriysk Arra**	**149.85**	**326**			**PKiKP**	**17 24 18.0**	**-0.2**
USRK	**Ussuriysk Ar.**	**149.85**	**326**	PKPbc		**PKiKP**	**17 24 18.8**	**+0.6**
	comp=Z,6.1nm,0.9s,baz=7.0,slow=3.1,SNR=17							
ZAK	**Zakamensk**	**149.98**	**8**	*e*PKHKP		**PKPdf**	**17 24 14.6**	**+2.0**
ZAK				pmax		pmax		
	comp=Z,10.0nm,1.4s							
MJAR	**Matsushiro Arr**	**150.17**	**308**	PKPbc		**PKiKP**	**17 24 19.2**	**0.0**
	comp=Z,3.7nm,0.9s,baz=71,slow=1.0,SNR=11							
MAJO	**Matsushiro**	**150.17**	**308**	PKiKP		**PKiKP**	**17 24 18.9**	**-0.2**
MAJO	**Matsushiro**	**150.17**	**308**	PKPdf		**PKiKP**	**17 24 18.9**	**-0.2**
MAT	**Matsushiro**	**150.17**	**308**	PKP		**PKPbc**	**17 24 16.9**	**-1.4**
MJB9	**Matsu-Tunnel**	**150.17**	**308**			**PKiKP**	**17 24 20.0**	**+0.9**
WMQ	**Urumqi**	**150.78**	**33**	*e*PKPbc		**PKPdf**	**17 24 11.9**	**-2.1**
WMQ				sPKP			17 24 26.3	
WMQ				PP		**PP**	**17 27 58.6**	**+2.7**
WMQ				AMB		AMB		
	comp=Z,75nm,6.1s							
WMQ				LR		LR		
	comp=Z,140nm,15.5s							
WMQ				LR		LR		
	comp=Z,100nm,15.5s							
WMQ				LR		LR		
	comp=Z,390nm,21.5s							
HYB	**Hyderabad**	**150.88**	**91**	*i* PKP		**PKiKP**	**17 24 21.0**	**-0.1**
SONM	**Songino Array**	**152.80**	**4**	PKP		**PKPdf**	**17 24 18.5**	**+1.5**
	comp=Z,2.3nm,1.1s,baz=318,slow=1.9,SNR=9.0							
SONM				PKPbc		**PKiKP**	**17 24 25.1**	**+0.8**
	comp=Z,2.8nm,0.9s,baz=329,slow=0.9,SNR=12							
ULN	**Ulaanbaatar**	**152.81**	**3**	PKIKP		**PKPdf**	**17 24 18.3**	**+1.2**
ULN							17 24 25.7	
ULN	**Ulaanbaatar**	**152.81**	**3**	PKPdf		**PKPdf**	**17 24 18.3**	**+1.2**
ULN						**PKiKP**	**17 24 25.7**	**+1.3**
PYUN	**Piuthan**	**155.04**	**68**	*e*P		**PKPab**	**17 24 45.8**	**+0.5**
	comp=Z,74nm,1.2s							
KOLN	**Koldanda**	**155.64**	**68**	*e*P		**PKPab**	**17 24 47.7**	**-0.2**
	comp=Z,33nm,1.3s							
DANN	**Dangsing**	**155.66**	**67**	*e*P		**PKPab**	**17 24 48.5**	**+0.5**
	comp=Z,77nm,0.9s							
GKN	**Gorkha**	**156.49**	**67**	*e*P		**PKPab**	**17 24 51.6**	**+0.2**
KSRS	**Korea Array**	**156.67**	**320**	PKP		**PKPdf**	**17 24 23.9**	**+1.5**
	comp=Z,2.2nm,1.1s,baz=112,slow=1.3,SNR=6.8							
KSRS	**Korea Array**	**156.67**	**320**	PKiKP		**PKPdf**	**17 24 24.0**	**+1.5**
DMN	**Daman**	**156.98**	**68**	*e*P		**PKPab**	**17 24 54.1**	**+0.4**
	comp=Z,46nm,1.1s							
PKIN	**Phulchoki**	**157.24**	**68**	*e*P		**PKPab**	**17 24 54.6**	**-0.2**
	comp=Z,43nm,1.4s							
PKI	**Pulchoki**	**157.25**	**68**	*e*P		**PKPab**	**17 24 54.7**	**-0.2**
	comp=Z,43nm,1.3s							
GUN	**Gumba**	**157.58**	**67**	*e*P		**PKPab**	**17 24 56.7**	**+0.3**
	comp=Z,94nm,1.3s							
JIRN	**Jiri**	**157.90**	**67**	*e*P		**PKPab**	**17 24 57.9**	**+0.1**
	comp=Z,41nm,1.2s							
RAMN	**Ramite**	**158.41**	**69**	*e*P		**PKPab**	**17 24 59.9**	**0.0**
	comp=Z,30nm,1.1s							
ODAN	**Odare**	**159.12**	**69**	*e*P		**PKPab**	**17 25 03.1**	**+0.1**
	comp=Z,40nm,1.1s							
TAPN	**Taplejung**	**159.29**	**67**	*e*P		**PKPab**	**17 25 03.9**	**+0.1**
	comp=Z,31nm,1.4s							
GTA	**Gaotai**	**159.65**	**21**	*e*PKP		**PKPdf**	**17 24 27.6**	**+1.3**
GTA				PKPab		**PKPab**	**17 25 04.7**	**+0.1**
GTA				PP		PP	17 28 54.7	+9.5
GTA				AMB		AMB		
	comp=Z,58nm,7.6s							
GTA				LR		LR		
	comp=Z,82nm,20.3s							
GTA				LR		LR		
	comp=Z,100nm,20.0s							
GTA				LR		LR		
	comp=Z,120nm,20.3s							
HHC	**Hu-ho-hao-te**	**159.78**	**355**	*e*PKP		**PKPdf**	**17 24 27.6**	**+1.3**
HHC				PP		**PP**	**17 28 48.7**	**+3.1**
HHC				LR		LR		
	comp=Z,130nm,21.8s							
HHC				LR		LR		
	comp=Z,120nm,21.8s							
HHC				LR		LR		
	comp=Z,52nm,21.6s							
SHL	**Shillong**	**163.35**	**70**	PKP2		**PKPab**	**17 25 21.2**	**-0.2**
SHL							18 24 29.6	
SHL	**Shillong**	**163.35**	**70**	PKPdf		**PKPdf**	**17 24 29.6**	**-1.0**
SHL				PKPab		**PKPab**	**17 25 21.2**	**-0.2**
LZH	**Lanzhou**	**163.93**	**16**	*e*PKP		**PKPdf**	**17 24 28.3**	**-2.5**
LZH				pPKP		sPKPdf	17 24 39.7	+6.0
LZH				sPKP			17 24 45.8	
NJ2	**Nanjing**	**165.74**	**325**	*e*PKP		**PKPdf**	**17 24 31.4**	**-0.9**
XAN	**Xi'an**	**166.67**	**1**	PKP		**PKPdf**	17 24 41.8	+8.8
XAN				pPKP		sPKPdf	17 24 53.6	+18
XAN				PP		**PP**	**17 29 16.9**	**-5.0**
XAN				AMB		AMB		
	comp=Z,130nm,6.5s							
XAN				LR		LR		
	comp=N,110nm,18.4s							
XAN				LR		LR		
	comp=Z,180nm,23.9s							
CD2	**Chengdu**	**168.69**	**25**	PKP		**PKPdf**	**17 24 33.4**	**-1.1**
CMAR	**Chiang Mai Arr**	**170.09**	**101**	PKP		**PKPdf**	**17 24 36.6**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=254,slow=1.5,SNR=7.0							
CMAR				PKPab		**PKPab**	**17 25 51.4**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=272,slow=4.0,SNR=4.5							

*INET **04** 17:18:37.9, 11°.08N×85°.76W, h83km, ML2.8*
UCR 04 17:18:37.7±0.7, 11°.09N×85°.83W, h76km±3km, MD3.7, 2C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS3	**Finca Las Img**	**0.48**	**129**	*i* P	Pn	17 18 50.9	0.0
GBS3				*i* S	Sn	17 19 00.9	+0.4
GB1A	**Borinquen Arri**	**0.50**	**122**	*i* P	Pn	17 18 51.7	+0.5
GB1A				*i* S	Sn	17 19 01.7	+0.7
LAPC	**Finca la Perla**	**0.50**	**129**	*i* S	Sn	17 19 01.2	+0.2
BUAI	**Buenos Aires**	**0.53**	**113**	*i* P	Pn	17 18 51.6	+0.2
GPS1	**Guardaparques**	**0.56**	**123**	*i* P	Pn	17 18 52.1	+0.3
GPS1				*i* S	Sn	17 19 02.8	+0.7
GPS2	**Hotel Rincn d**	**0.57**	**125⇑**	*e*P	Pn	17 18 52.0	+0.2
GPS2				*e*S	Sn	17 19 03.0	+0.8
HORNC	**Hornillas**	**0.74**	**120**	*i* P	Pn	17 18 53.3	-0.2
CUI	**Cuipilapa**	**0.78**	**123**	*i* P	Pn	17 18 54.1	+0.1
ACON	**Acoyapa**	**1.09**	**36⇑**	*i* P	Pn	17 18 57.8	+0.2
ACON				*e*S	Sn	17 19 13.1	+0.6
JTS	**Las Juntas de**	**1.17**	**132**	*e*P	Pn	17 18 58.2	-0.5
JTS				*e*S	Sn	17 19 12.6	-1.7
ARE1	**Arenal 1**	**1.25**	**120**	⇓*i* P	Pn	17 19 00.1	+0.4
ARE1				*e*S	Sn	17 19 17.6	+1.4
LCR2	**La Lucha 2**	**2.24**	**126**	*e*P	Pn	17 19 12.9	0.0

*NORS **04** 17:38:27.4±0.0, 42°.19N×44°.28E, h5km, MPVA3.8*
*DDA **04** 17:38:29.4, 42°.32N×44°.22E, h7km±2km, ML1.9*
*TIF **04** 17:38:29.4, 42°.30N×44°.25E, h15km±1km*
ISC 04 17:38:29.9±1.1, 42°.32N±0°.02×44°.24E±0°.02, h5km±9km, n32, σ1°.44/64, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUDG	**Gudauri**	**0.23**	**51**	P	**Pg**	**17 38 32.9**	**-1.6**
GUDG				S	**Sg**	**17 38 36.6**	**-1.0**
GUDG	**Gudauri**	**0.23**	**51**	*i* Pg	**Pg**	**17 38 33.0**	**-1.6**
GUDG				*e*Sg	**Sg**	**17 38 38.1**	**+0.5**
PNSH	**Pansheti**	**0.42**	**41**	P	**Pg**	**17 38 37.6**	**-0.6**
PNSH				S	**Sb**	**17 38 45.0**	**-1.9**
LACR	**Lac**	**0.51**	**5**	*e*Pg	**Pg**	**17 38 39.2**	**-0.6**
LACR				*e*Sg	**Sb**	**17 38 48.4**	**-1.0**
ZEI	**Tsey**	**0.53**	**332**	*e*Pg	**Pg**	**17 38 40.1**	**-0.1**
ZEI				*e*Sg	**Sb**	**17 38 49.4**	**-0.6**
ONI	**Oni**	**0.64**	**296**	P	**Pg**	**17 38 42.7**	**+0.4**
ONI				S	**Sb**	**17 38 52.9**	**-0.1**
ONI	**Oni**	**0.64**	**296**	*e*Pg	**Pg**	**17 38 42.7**	**+0.4**
ONI				*e*Sg	**Sb**	**17 38 53.5**	**+0.5**
TBLG	**Delisi**	**0.70**	**147**	P	**Pg**	**17 38 43.3**	**0.0**
TBLG				S	**Sb**	**17 38 53.2**	**-1.3**
TBLG	**Delisi**	**0.70**	**147**	*i* P	**Pg**	**17 38 43.3**	**0.0**
TBLG				IAML		17 38 54.0	
	comp=E,40nm,0.4s						
TBLG				*i* S	**Sb**	**17 38 54.1**	**-0.5**
DIGR	**Digorskoe uzhe**	**0.76**	**321**	*e*Pg	**Pg**	**17 38 43.9**	**-0.6**
DIGR				*e*Sg	**Sg**	**17 38 55.3**	**+1.0**
BTNK	**Botanikuri**	**0.76**	**146**	P	**Pg**	**17 38 44.3**	**-0.2**
BTNK	**Botanikuri**	**0.76**	**146**	*i* P	**Pg**	**17 38 44.3**	**-0.2**
BKRG	**Bakuriani**	**0.77**	**224**	P	**Pg**	**17 38 44.7**	**0.0**
BKRG				S	**Sb**	**17 38 56.1**	**-0.7**
KORR	**Kora**	**0.78**	**351**	*e*Pg	**Pg**	**17 38 45.4**	**-0.6**
KORR				*e*Sg	**Sn**	**17 38 59.9**	**0.0**
VLKR	**Vladikavkaz**	**0.80**	**24**	*e*Pg	**Pn**	**17 38 46.7**	**-1.3**
VLKR				*e*Pg	**Pb**	**17 38 47.0**	**+0.6**
VLKR				*e*Sg	**Sn**	**17 38 59.9**	**-0.4**
VLKR				*e*Sg	**Sn**	**17 38 60.0**	**-0.4**
ARNR	**Ardon**	**0.86**	**2**	*e*Pg	**Pg**	**17 38 46.7**	**+0.2**
ARNR				*e*Sg	**Sn**	**17 39 00.9**	**-1.0**
TKB	**Tkibuli**	**0.92**	**273**	P	**Pg**	**17 38 47.5**	**0.0**
TKB				S	**Sb**	**17 39 00.8**	**-0.2**
KZRT	**Kazreti**	**0.94**	**172**	P	**Pg**	**17 38 47.2**	**-0.7**
KZRT				S	**Sb**	**17 39 00.5**	**-1.0**
KZRT	**Kazreti**	**0.94**	**172**	*i* P	**Pg**	**17 38 47.2**	**-0.7**
KZRT				*i* S	**Sb**	**17 39 00.6**	**-0.9**
LSNR	**Lesken**	**1.01**	**343**	*e*Pg	**Pn**	**17 38 50.2**	**-0.6**
LSNR				*e*Sg	**Sn**	**17 39 05.5**	**0.0**
STDR	**Stavd-Durt**	**1.06**	**353**	*e*Pg	**Pn**	**17 38 52.7**	**+1.2**
STDR				*e*Sg	**Sn**	**17 39 10.2**	**+3.5**
AKH	**Akhalkalaki**	**1.06**	**212**	P	**Pg**	**17 38 50.0**	**-0.3**
AKH				S	**Sn**	**17 39 05.4**	**-1.6**
BGD	**Bogdanovka**	**1.15**	**205**	P	**Pg**	**17 38 50.4**	**-1.7**
BGD				S	**Sg**	**17 39 07.0**	**-0.1**
EPOS	**Posof**	**1.39**	**235**	*i* P	**Pb**	**17 38 55.9**	**-0.6**
EPOS				*i* S	**Sg**	**17 39 15.5**	**+0.9**
EPOS				IAML		17 39 16.0	
	comp=E,15nm,0.5s						
EPOS				IAML		17 39 17.0	
	comp=N,25nm,0.5s						
NEY	**Neytrino**	**1.45**	**310**	*e*Pg	**Pb**	**17 38 57.1**	**-0.5**
NEY				*e*Sg	**Sg**	**17 39 19.0**	**+2.4**
LGD	**Lagodekhi**	**1.57**	**107**	P	**Pb**	**17 38 58.8**	**-0.7**
LGD				S	**Sg**	**17 39 20.5**	**+0.1**
DDFL	**Dedoflistskaro**	**1.65**	**121**	P	**Pg**	**17 39 03.1**	**+1.4**
DDFL				S	**Sg**	**17 39 25.5**	**+2.4**
DDFL	**Dedoflistskaro**	**1.65**	**121**	*i* P	**Pg**	**17 39 03.2**	**+1.6**
DDFL				*i* S	**Sg**	**17 39 30.8**	**+7.7**
EAK	**Akyaka**	**1.70**	**196**	*i* P	**Pn**	**17 39 00.4**	**-0.1**
EAK				*i* S	**Sg**	**17 39 24.2**	**-0.3**
EAK				IAML		17 39 25.0	
	comp=E,20nm,0.5s						
SHA1	**Shidzhatmaz**	**1.83**	**321**	*e*Pg	**Pb**	**17 39 04.2**	**+0.1**
SHA1				*e*Sg	**Sg**	**17 39 29.7**	**+0.9**
DAGI	**Agillar**	**2.13**	**235**	*i* P	**Pb**	**17 39 09.4**	**+0.2**
DAGI				*i* S	**Sg**	**17 39 37.7**	**-0.8**
DAGI				IAML		17 39 41.0	
	comp=N,5.8nm,0.5s						
DAGI				IAML		17 39 41.0	
	comp=E,6.4nm,0.3s						
DBOC	**Borcka**	**2.15**	**244**	*i* P	**Pb**	**17 39 09.0**	**-0.4**
DBOC				*i* S	**Sb**	**17 39 37.5**	**+1.1**
DBOC				IAML		17 39 38.0	
	comp=E,13nm,0.3s						

*KRNET **04** 17:47:30.0±0.1, 42°.91N×78°.18E, h18km, mb3.1*
*NNC **04** 17:47:29.3±0.4, 42°.90N×78°.18E, h0km±2km, mb3.3, mpv3.5, Error ellipse: s-maj=4.4km s-min=1.4km az=173.0*
*SOME **04** 17:47:30.6, 42°.88N×78°.05E, h5km*
ISC 04 17:47:29.2±1.0, 42°.91N±0°.02×78°.11E±0°.01, h12km±9km, n89, σ1°.52/157, 34C-25D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.27**	**55**	*e*P	**Pb**	**17 47 35.1**	**-0.9**
	41nm,0.1s						
SATY				*e*S	**Sb**	**17 47 38.6**	**-2.0**
	3μm,0.1s						
SATY	**Saty**	**0.27**	**55**	P	**Pb**	**17 47 35.1**	**-0.9**
	41nm,0.1s						
SATY				S	**Sb**	**17 47 38.6**	**-2.0**
	3μm,0.1s						
PRZ	**Przheval'sk**	**0.47**	**153**	⇓*i* P	**Pb**	**17 47 39.2**	**-0.4**
	baz=58						
PRZ				⇓*i* S	**Sb**	**17 47 45.6**	**-1.0**
	baz=58						
KURS	**Kuram**	**0.58**	**4**	⇓*i* P	**Pb**	**17 47 41.3**	**-0.1**
	baz=59						
KURS				⇓*e*S	**Sb**	**17 47 49.1**	**-0.5**
	baz=59						
KURS	**Kuram**	**0.58**	**4**	⇓*i* P	**Pb**	**17 47 41.3**	**-0.1**
	21nm,0.2s						
KURS				*e*S	**Sb**	**17 47 49.1**	**-0.5**
	352nm,0.3s						
KURS	**Kuram**	**0.58**	**4**	P	**Pb**	**17 47 41.3**	**-0.1**
	21nm,0.2s						
KURS				S	**Sb**	**17 47 49.1**	**-0.5**
	352nm,0.3s						
UZB	**Uzynbulak**	**0.71**	**70**	*e*P	**Pb**	**17 47 42.6**	**-1.0**
	baz=69						
UZB				*e*S	**Sg**	**17 47 51.4**	**-1.1**
	baz=69						
UZB	**Uzynbulak**	**0.71**	**70**	*e*P	**Pb**	**17 47 42.5**	**-1.0**
	28nm,0.1s						
UZB				*e*S	**Sg**	**17 47 51.3**	**-1.1**
	168nm,0.1s						
UZB	**Uzynbulak**	**0.71**	**70**	P	**Pb**	**17 47 42.5**	**-1.0**
	28nm,0.1s						
UZB				S	**Sg**	**17 47 51.3**	**-1.1**
	168nm,0.1s						
KOTS	**Kotyrbulak**	**0.80**	**294**	*e*P	**Pn**	**17 47 46.0**	**-0.4**
	baz=92						
KOTS				*e*S	**Sn**	**17 47 57.5**	**-0.9**
	baz=92						
KOTS	**Kotyrbulak**	**0.80**	**294**	*e*P	**Pn**	**17 47 46.0**	**-0.4**
	20nm,0.1s						
KOTS				*e*S	**Sn**	**17 47 57.5**	**-0.9**
	54nm,0.2s						
KOTS	**Kotyrbulak**	**0.80**	**294**	P	**Pn**	**17 47 46.0**	**-0.4**
	20nm,0.1s						
KOTS				S	**Sn**	**17 47 57.5**	**-0.9**
	54nm,0.2s						
MDOK	**Medeo**	**0.82**	**289**	*e*P	**Pn**	**17 47 46.0**	**-0.7**
	baz=87						
MDOK				*e*S	**Sb**	**17 47 57.5**	**+1.0**
	baz=87						
MDOK	**Medeo**	**0.82**	**289**	*e*P	**Pn**	**17 47 46.0**	**-0.7**
	6.2nm,0.3s						
MDOK				*e*S	**Sb**	**17 47 57.4**	**+1.0**
	35nm,0.2s						
MDOK	**Medeo**	**0.82**	**289**	⇑P	**Pn**	**17 47 45.7**	**-1.0**
	5.1nm,0.4s						
MDOK				⇑S	**Sn**	**17 47 57.8**	**-1.0**
	28nm,0.5s						
MDOK	**Medeo**	**0.82**	**289**	Pg	**Pn**	**17 47 46.0**	**-0.7**
	6.2nm,0.3s						
MDOK				Lg	Lg	17 47 57.4	
	35nm,0.2s						
TNSS	**Tian-Shan**	**0.86**	**279**	*e*P	**Pn**	**17 47 47.1**	**-0.4**
	baz=78						
TNSS				*e*S	**Sn**	**17 47 59.2**	**-1.0**
	baz=78						
TNSS	**Tian-Shan**	**0.86**	**279**	*e*P	**Pn**	**17 47 47.1**	**-0.4**
	6.2nm,0.2s						
TNSS				*e*S	**Sn**	**17 47 59.2**	**-1.0**
	73nm,0.2s						
TNSS	**Tian-Shan**	**0.86**	**279**	P	**Pn**	**17 47 47.1**	**-0.4**
	6.2nm,0.2s						
TNSS				S	**Sn**	**17 47 59.2**	**-1.0**
	73nm,0.2s						
KNDC	**Almaty**	**0.89**	**291**	P	**Pn**	**17 47 50.4**	**+2.8**
KNDC				⇑S	**Sn**	**17 48 00.8**	**+0.3**
	74nm,0.9s						
AAA	**Alma-Ata**	**0.93**	**289**	*e*P	**Pn**	**17 47 49.2**	**+1.1**
	28nm,0.1s						
AAA				*e*S	**Sn**	**17 48 02.6**	**+1.3**
	8.0nm,0.1s						
AAA	**Alma-Ata**	**0.93**	**289**	P	**Pn**	**17 47 49.2**	**+1.1**
	28nm,0.1s						
AAA				S	**Sn**	**17 48 02.6**	**+1.3**
	8.0nm,0.1s						
SHLS	**Shalkode**	**1.02**	**75**	*e*P	Pn	17 47 53.7	+4.2
	baz=78						
SHLS				*e*S	**Sn**	**17 48 10.6**	**+6.8**
	baz=78						
SHLS	**Shalkode**	**1.02**	**75**	*e*P	Pn	17 47 53.7	+4.2
	23nm,0.1s						
SHLS				*e*S	**Sn**	**17 48 10.6**	**+6.8**
	216nm,0.4s						
SHLS	**Shalkode**	**1.02**	**75**	P	Pn	17 47 53.7	+4.2
	23nm,0.1s						
SHLS				S	**Sn**	**17 48 10.6**	**+6.8**
	216nm,0.4s						
KDJ	**Kajisay**	**1.04**	**222⇑**	*i* P	**Pn**	**17 47 49.9**	**+0.2**
	baz=23						
KDJ				⇑*i* S	**Sn**	**17 48 04.2**	**0.0**
	baz=23						
PDGK	**Podgornoye**	**1.10**	**67**	P	Pn	**17 47 49.0**	**-1.2**
	8.2nm,0.2s						
PDGK				S	**Sb**	**17 48 02.5**	**-1.9**
	39nm,0.3s						
PDGK	**Podgornoye**	**1.10**	**67

58nm,0.5s
KST Kastek 1.58 276 P Pg 17 47 59.9 +0.4
7.6nm,0.3s
KST S Sg 17 48 21.4 +1.3
58nm,0.5s
KUU Kurty 1.62 308 ⇑*i*P Pg 17 48 00.2 -0.1
baz=7.0
KUU ⇑*i*S Sg 17 48 21.9 +0.5
baz=7.0
KUU Kurty 1.62 308 ⇑*i*P Pg 17 48 00.2 -0.1
10nm,0.2s
KUU ⇑*i*S Sg 17 48 21.9 +0.5
169nm,0.2s
KUU Kurty 1.62 308 P Pg 17 48 00.2 -0.1
10nm,0.2s
KUU S Sg 17 48 21.9 +0.5
169nm,0.2s
BOOM Boomskoye usch 1.65 256 ⇑*i*P Pg 17 48 01.1 +0.2
baz=56
BOOM ⇑*i*S Sg 17 48 23.9 +1.5
baz=56
KTMS Ketmen 1.73 71 *e*P Pb 17 48 00.2 -0.7
17nm,0.1s
KTMS *e*S Sb 17 48 21.8 -0.8
98nm,0.3s
KTMS Ketmen 1.73 71 P Pb 17 48 00.2 -0.7
17nm,0.1s
KTMS S Sb 17 48 21.8 -0.8
98nm,0.3s
DGS Degeres 1.75 282 *e*P Pg 17 48 03.2 +0.5
baz=81
DGS *e*S Sg 17 48 27.0 +1.7
baz=81
DGS Degeres 1.75 282 *e*P Pg 17 48 03.2 +0.5
3.5nm,0.1s
DGS *e*S Sg 17 48 27.0 +1.7
119nm,0.4s
DGS Degeres 1.75 282 P Pg 17 48 03.2 +0.5
3.5nm,0.1s
DGS S Sg 17 48 27.0 +1.7
119nm,0.4s
TKM2 Tokmak 2 1.84 271 ⇑*i*P Pg 17 48 04.1 -0.5
baz=71
TKM2 ⇑*i*S Sg 17 48 28.9 +0.3
baz=71
TKM2 Tokmak 2 1.84 271 P Pg 17 48 05.2 +0.6
SNR=5.3
TKM2 Tokmak 2 1.84 271 ⇓Pn Pb 17 48 03.3 +0.4
1.4nm,0.2s
TKM2 ⇓Sn Sg 17 48 30.0 +1.4
15nm,0.5s
DJR Jarkent 1.88 40 *e*P Pb 17 48 03.2 -0.2
50nm,0.2s
DJR *e*S Sb 17 48 27.1 +0.3
130nm,0.3s
DJR Jarkent 1.88 40 P Pb 17 48 03.2 -0.2
50nm,0.2s
DJR S Sb 17 48 27.1 +0.3
130nm,0.3s
KRBS Karabastau 1.94 295 *e*P Pg 17 48 05.8 -0.7
9.1nm,0.3s
KRBS *e*S Sg 17 48 31.4 -0.3
10.0nm,0.5s
KRBS Karabastau 1.94 295 Pg Pg 17 48 05.8 -0.7
9.1nm,0.3s
KRBS Lg Lg 17 48 31.4
10.0nm,0.5s
TDK Taldyqorghan 2.10 6 *e*P Pg 17 48 08.1 -1.5
66nm,0.2s
TDK *e*S Sg 17 48 35.1 -1.8
115nm,0.3s
TDK Taldyqorghan 2.10 6 Pg Pg 17 48 08.1 -1.5
66nm,0.2s
TDK Lg Lg 17 48 35.1
115nm,0.3s
KZA Kyzart 2.27 250 ⇓*e*P Pb 17 48 10.4 +0.1
baz=50
KZA ⇓*i*S Sb 17 48 39.3 +0.8
baz=50
KBK Karagaybulak 2.34 265 ⇑*i*P Pb 17 48 10.9 -0.5
baz=65
KBK ⇑*i*S Sb 17 48 40.7 +0.4
baz=65
KBK Karagaybulak 2.34 265 P Pg 17 48 13.8 -0.3
SNR=11
CHMS Chumysh 2.47 273 ⇓*e*P Pb 17 48 12.5 -0.9
baz=73
CHMS ⇓*i*S Sb 17 48 43.5 -0.3
baz=73
CHMS Chumysh 2.47 273 P Pg 17 48 15.8 -0.7
SNR=7.3
KAPS Kapalarasan 2.54 20 *e*P Pb 17 48 15.4 +0.7
5.5nm,0.3s
KAPS *e*S Sg 17 48 47.8 -3.1
19nm,0.2s
KAPS Kapalarasan 2.54 20 Pg Pb 17 48 15.4 +0.7
5.5nm,0.3s
KAPS Lg Lg 17 48 47.8
19nm,0.2s
FRU1 Bishkek 2.56 269 ⇑*e*P Pb 17 48 14.3 -0.8
baz=69
FRU1 ⇑*i*S Sb 17 48 46.2 -0.3
baz=69
USP Ospenovka 2.67 279 P Pg 17 48 20.4 +0.1
SNR=5.1
AAK Ala-Archa 2.67 265 ⇑*e*P Pb 17 48 15.5 -1.6
baz=65
AAK ⇑*i*S Sb 17 48 48.7 -1.2
baz=65
AAK Ala-Archa 2.67 265 P Pg 17 48 23.6 +3.1
SNR=6.8
AAK Ala-Archa 2.67 265 ⇑Pg Pg 17 48 19.5 -1.0
1.8nm,0.4s
AAK ⇑Lg Lg 17 48 56.6
14nm,0.5s
UCH Uchtor 2.74 257 ⇓*i*P Pb 17 48 16.6 -1.8
baz=57
UCH ⇓*i*S Sb 17 48 50.5 -1.6
baz=57
ARLS Aral 2.99 251 ⇑*i*P Pb 17 48 20.0 -2.5
baz=51
ARLS ⇑*i*S Sb 17 48 56.2 -2.8
baz=51
EKS2 Erkin-Say 3.20 267 ⇑*i*P Pb 17 48 23.2 -2.8
baz=67
EKS2 ⇑*i*S Sb 17 49 01.2 -3.7
baz=67
MRKS Merke 3.59 269 *e*P Pg 17 48 35.9 -2.2
1.1nm,0.1s
MRKS ⇑*i*S Sg 17 49 23.2 -1.4
14nm,0.2s
MRKS Merke 3.59 269 Pg Pg 17 48 35.8 -2.2
1.1nm,0.1s
MRKS Lg Lg 17 49 23.2
14nm,0.2s
MAKZ Makanchi 4.77 34 ⇑Pn Pn 17 48 40.7 -0.2
1.2nm,0.9s
MAKZ ⇓Sn Sn 17 49 38.7 +2.6
0.7nm,0.6s
MAKZ ⇑Lg Lg 17 49 58.6
3.1nm,1.1s
MK31 Makanchi Array 4.89 36 ⇑Pn Pn 17 48 43.4 +0.9
0.8nm,0.2s,baz=212,slow=12,SNR=50
⇑Sn
MK31 Sn 17 49 40.2 +1.1
0.3nm,0.3s,baz=230,slow=16,SNR=5.1
MK31 Lg Lg 17 50 01.6
0.6nm,0.4s,baz=214,slow=25,SNR=6.9
KK31 Karatay Array 5.58 275 Lg Lg 17 50 28.1
0.7nm,0.3s,baz=335,slow=40,SNR=6.9
OTUK Ortayu 6.70 325 ⇑Lg Lg 17 51 03.2
7.6nm,0.9s
KURBB Kurchatov Arra 7.72 2 ⇓Lg Lg 17 51 34.4
6.6nm,0.7s

*KRSZO **04** 17:56:28.1±1.1, 47.˚98N×20.˚56E, h3km±8km, ML3.0, Error ellipse: s-maj=4.5km s-min=3.5km az=143.0*
*PRU **04** 17:56:30.5±0.0, 48.˚05N×20.˚45E, h10km*
BUD 04 17:56:28.9, 48.˚04N×20.˚56E, h8km±2km, ML3.0/18,
19C-21D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KECS	**Kecovo**	**0.45**	**354**	*e*Pg	Pg	17 56 37.9	+0.3
KECS				*e*Sg	Sg	17 56 44.3	+0.7
KECS	**Kecovo**	**0.45**	**354**	*e*Pb	Pg	17 56 37.9	+0.3
KECS				*e*Sg	Sg	17 56 44.3	+0.7
KECS	**Kecovo**	**0.45**	**354**	*e*PG	Pg	17 56 37.9	+0.3
KECS				*e*LG	Lg	17 56 44.3	+0.7
PSZ	**Piszkesteto**	**0.46**	**255**	*e*Pg	Pg	17 56 38.5	+0.7
PSZ				*e*Sg	Sb	17 56 45.2	-1.2
PSZ	**Piszkesteto**	**0.46**	**255**	⇑P	Pg	17 56 37.8	0.0
PSZ	**Piszkesteto**	**0.46**	**255**	*e*Pg	Pg	17 56 38.5	+0.6
PSZ				*e*Lg	Lg	17 56 45.2	
BSZH	**Besenyszg**	**0.76**	**195**	⇓*e*Pg	Pb	17 56 44.4	0.0
BSZH				⇓*e*Sg	Sn	17 56 56.7	-1.0
BSZH	**Besenyszg**	**0.76**	**195**	*e*Pn	Pb	17 56 44.4	0.0
BSZH				*e*Lg	Lg	17 56 56.7	
IZAB	**Izabela**	**0.78**	**314**	*e*Pg	Pg	17 56 43.7	-0.1
IZAB				*e*Sg	Sb	17 56 55.3	-0.1
IZAB	**Izabela**	**0.78**	**314**	*e*Pg	Pg	17 56 43.7	-0.1
IZAB				*e*Lg	Lg	17 56 55.3	
CRVS	**Cervenica-Dubn**	**1.06**	**34**	*e*Pn	Pg	17 56 49.2	0.0
CRVS				*e*Sn	Sb	17 57 03.5	0.0
CRVS	**Cervenica-Dubn**	**1.06**	**34**	*e*Pn	Pg	17 56 49.2	0.0
CRVS				*e*Sb	Sb	17 57 03.5	0.0
CRVS	**Cervenica-Dubn**	**1.06**	**34**	*e*PG	Pg	17 56 49.2	0.0
CRVS				*e*SG	Sb	17 57 03.5	0.0
CRVS				*e*LG	Lg	17 57 04.4	
LTVH	**Ltavrtes, Hu**	**1.12**	**125**	⇓*e*Pn	Pg	17 56 50.4	+0.1
LTVH				⇓*e*Sn	Sn	17 57 07.3	+0.8
LTVH	**Ltavrtes, Hu**	**1.12**	**125**	*e*Pn	Pg	17 56 50.4	+0.1
LTVH				*e*Sn	Sn	17 57 07.3	+0.8
BUD	**Budapest**	**1.17**	**242**	⇑*e*Pn	Pg	17 56 50.6	-0.8
BUD				⇑*e*Sn	Sn	17 57 08.6	+0.8
BUD	**Budapest**	**1.17**	**242**	*e*Pn	Pg	17 56 50.6	-0.8
BUD				*e*Lg	Lg	17 57 08.6	
VYHS	**Vyhne**	**1.24**	**292**	*e*Pn	Pb	17 56 52.2	-0.4
VYHS				*e*Sn	Sb	17 57 08.7	0.0
VYHS	**Vyhne**	**1.24**	**292**	*e*Pn	Pb	17 56 52.2	-0.4
VYHS				*e*Sb	Sb	17 57 08.7	0.0
VYHS	**Vyhne**	**1.24**	**292**	*e*PG	Pb	17 56 52.2	-0.4
VYHS				*e*SG	Sb	17 57 08.7	0.0
LANS	**Liptovska Anna**	**1.33**	**327**	*e*Pn	Pg	17 56 54.3	-0.1
LANS				*e*Sn	Sn	17 57 12.3	+0.5
LANS	**Liptovska Anna**	**1.33**	**327**	*e*Pg	Pg	17 56 54.3	-0.1
LANS				*e*Sn	Sn	17 57 12.3	+0.5
LANS	**Liptovska Anna**	**1.33**	**327**	*e*PG	Pg	17 56 54.3	-0.1
LANS				*e*SG	Sn	17 57 12.3	+0.5
LANS				*e*LG	Lg	17 57 16.7	
TRPA	**Tarpa**	**1.33**	**85**	*e*Pn	Pn	17 56 52.8	-1.0
TRPA				*e*Sn	Sb	17 57 11.4	0.0
TRPA	**Tarpa**	**1.33**	**85**	⇓P	Pn	17 56 51.8	-2.0
TRPA	**Tarpa**	**1.33**	**85**	*e*Pn	Pn	17 56 52.8	-1.0
TRPA				*e*Sn	Sb	17 57 11.4	0.0
NIE	**Niedzica**	**1.39**	**353**	*e*Pg	Pg	17 56 55.6	0.0
NIE				*e*Sg	Sg	17 57 15.8	+2.1
KOLS	**Kolonicke sedl**	**1.45**	**51**	*e*n		17 56 54.3	
KOLS				*e*Sn	Sg	17 57 17.8	+2.2
KOLS	**Kolonicke sedl**	**1.45**	**51**	*e*Pn	Pn	17 56 54.3	-1.2
KOLS				*e*Sn	Sg	17 57 17.8	+2.2
KOLS	**Kolonicke sedl**	**1.45**	**51**	*e*	Pn	17 56 54.3	-1.2
KOLS	**Kolonicke sedl**	**1.45**	**51**	*e*PG	Pb	17 56 56.4	+0.2
KOLS				*e*SN	Sg	17 57 17.8	+2.2
STHS	**Stebnicka Huta**	**1.46**	**18**	*e*n		17 56 57.9	
STHS				*e*Sn	Sg	17 57 17.4	+1.7
STHS	**Stebnicka Huta**	**1.46**	**18**	*e*Pg	Pg	17 56 57.9	+1.1
STHS				*e*Lg	Lg	17 57 17.4	
STHS	**Stebnicka Huta**	**1.46**	**18**	*e*	Pg	17 56 57.9	+1.1
CSKK	**Cskako**	**1.69**	**247**	⇑*e*Pn	Pn	17 56 59.0	+0.2
CSKK				⇑*e*Sn	Sg	17 57 26.0	+2.8
CSKK	**Cskako**	**1.69**	**247**	*e*Pn	Pn	17 56 59.0	+0.3
CSKK				*e*Lg	Lg	17 57 26.0	
AMBH	**Ambrzfalva**	**1.69**	**176**	*e*Pn	Pn	17 56 53.2	-5.6
AMBH	**Ambrzfalva**	**1.69**	**176**	*e*Pn	Pn	17 56 53.2	-5.5
DRGR		**1.92**	**130**	⇓P	Pn	17 57 00.8	-1.2
DRGR				⇑S	Sn	17 57 25.3	-1.2
SIRR	**Siria**	**1.92**	**157**	⇓P	Pn	17 57 00.7	-1.3
BMR	**Baia Mare**	**2.01**	**99**	⇓P	Pn	17 57 01.7	-1.5
JAVC	**Velka Javorina**	**2.09**	**294**	*e*PN	Pn	17 57 04.7	+0.4
JAVC				*e*SN	Sn	17 57 31.5	+0.9
TIH	**Tihany**	**2.13**	**239**	*e*Pn	Pb	17 57 08.8	+1.0
TIH	**Tihany**	**2.13**	**239**	*e*Pg	Pg	17 57 08.8	-1.0
MPLH	**Magyarpolny**	**2.22**	**248**	⇑*e*Pn	Pn	17 57 06.3	+0.3
MPLH	**Magyarpolny**	**2.22**	**248**	*e*Pn	Pn	17 57 06.3	+0.2
MODS	**Modra-Piesok**	**2.22**	**280**	*e*Pn	Pg	17 57 10.7	-0.7
MODS	**Modra-Piesok**	**2.22**	**280**	*e*Pg	Pg	17 57 10.7	-0.7
MODS	**Modra-Piesok**	**2.22**	**280**	*e*PG	Pg	17 57 10.7	-0.7
MODS				*e*		17 57 33.3	
MODS				*e*LG	Lg	17 57 44.8	
OJC	**Ojcow**	**2.24**	**347**	*e*Pg	Pg	17 57 11.4	-0.4
OJC				*e*Sg	Sg	17 57 40.5	-0.4
MORH	**Mrgy, Hungar**	**2.24**	**216**	⇑*e*Pn	Pn	17 57 04.6	-1.7
MORH	**Mrgy, Hungar**	**2.24**	**216**	*e*Pn	Pn	17 57 04.6	-1.7
OKC	**Ostrava-Krasne**	**2.40**	**320**	*e*Pn	Pn	17 57 08.4	-0.2
OKC	**Ostrava-Krasne**	**2.40**	**320**	*e*PN	Pn	17 57 08.4	-0.2
OKC	**Ostrava-Krasne**	**2.40**	**320**	*e*Pn	Pn	17 57 08.4	-0.2
CJR	**Cluj-Napoca**	**2.45**	**122**	⇑P	Pn	17 57 08.5	-0.8
BZS	**Buzias**	**2.53**	**163**	⇓P	Pn	17 57 09.6	-0.7
MORC	**Moravsky Berou**	**2.64**	**312**	⇓P	Pn	17 57 12.2	+0.2
MORC	**Moravsky Berou**	**2.64**	**312**	*e*PN	Pn	17 57 12.5	+0.6
MORC				*e*SN	Sn	17 57 44.3	+0.1
SOP	**Sopron**	**2.71**	**264**	*e*Pn	Pg	17 57 27.0	+6.1
SOP	**Sopron**	**2.71**	**264**	*e*Pg	Pg	17 57 27.0	+6.1
ARCR	**ARCALIA**	**2.74**	**109**	⇑P	Pn	17 57 12.3	-0.9
ARCR				⇑S	Sn	17 57 45.3	-1.3
VRAC	**Vranov**	**2.92**	**297**	⇓P	Pn	17 57 15.7	0.0
VRAC				⇓S	Sn	17 57 53.1	+2.1
VRAC	**Vranov**	**2.92**	**297**	*e*PN	Pn	17 57 15.3	-0.4
VRAC				*e*SN	Sn	17 57 51.5	+0.5
KRUC	**Moravsky**	**2.95**	**292**	*e*PN	Pn	17 57 15.4	-0.5
KRUC				*e*SN	Sn	17 57 51.0	-0.7
GZR	**Gura Zlata**	**3.05**	**149**	⇓P	Pn	17 57 17.2	-0.4
GZR				⇓S	Sn	17 57 52.1	-2.3
CONA	**Conrad Observa**	**3.15**	**270**	Pn	Pn	17 57 19.0	0.0
CONA				Sn	Sn	17 57 54.1	-2.8
CONA	**Conrad Observa** 0.9nm,0.2s	**3.15**	**270**	*i* Pn	Pn	17 57 19.0	0.0
CONA	4.7nm,0.3s			*i* Sn	Sn	17 57 54.1	-2.8
CONA	**Conrad Observa**	**3.15**	**270**	Pn	Pn	17 57 19.0	0.0
CONA				Sn	Sn	17 57 54.1	-2.8
BURAR	**Bucovina Array**	**3.17**	**96**	⇓P	Pn	17 57 18.5	-0.7
KRLC	**Kraliky**	**3.21**	**311**	*e*Pn	Pn	17 57 20.3	+0.5
KRLC	**Kraliky**	**3.21**	**311**	*e*PN	Pn	17 57 20.3	+0.5
KRLC				*ex*	x	17 58 05.0	
KRLC				*ex*	x	17 58 48.0	
KRLC	**Kraliky**	**3.21**	**311**	*e*Pn	Pn	17 57 20.3	+0.5
MDB	**Medias**	**3.23**	**125**	⇓S	Sn	17 57 58.5	-0.1
MDVR	**Moldovita**	**3.35**	**166**	⇑P	Pn	17 57 20.7	-1.0
KALN	**Kalnik**	**3.39**	**237**	*e*Pn	Pb	17 57 30.0	+0.8
LOT	**Lotru**	**3.40**	**138**	⇑P	Pn	17 57 21.8	-0.7
HERR	**Herculane**	**3.41**	**157**	⇓P	Pn	17 57 21.6	-0.8
HERR				⇓S	Sn	17 58 01.8	-1.1
ARSA	**Arzberg**	**3.49**	**259**	Pn	Pn	17 57 24.4	+0.8
ARSA	**Arzberg** 1.8nm,0.4s	**3.49**	**259**	*i* Pn	Pn	17 57 24.4	+0.8
ARSA	**Arzberg**	**3.49**	**259**	Pn	Pn	17 57 24.4	+0.8
PTJ	**Puntijarka**	**3.79**	**238**	*e*Pn	Pb	17 57 33.5	-2.7
ARR	**Arges**	**3.87**	**132**	⇑P	Pn	17 57 28.4	-0.4
DOPR	**Dopca**	**3.90**	**120**	⇑P	Pn	17 57 29.1	-0.1
DOPR				⇓S	Sn	17 58 13.6	-1.5
VOIR		**4.04**	**128**	⇑P	Pn	17 57 30.9	-0.2
VOIR				⇑S	Sn	17 58 18.6	0.0
OZUR		**4.07**	**117**	⇑P	Pn	17 57 31.6	+0.1
GOPC	**GO Pecny, Ondr**	**4.24**	**298**	*e*Pn	Pn	17 57 33.6	-0.2
GOPC	**GO Pecny, Ondr**	**4.24**	**298**	*e*PN	Pn	17 57 33.6	-0.2
GOPC	**GO Pecny, Ondr**	**4.24**	**298**	*e*Pn	Pn	17 57 33.6	-0.2
MLR	**Muntele Rosu**	**4.49**	**123**	⇓P	Pn	17 57 37.3	-0.1
PLOR	**Plostina**	**4.71**	**115**	⇓P	Pn	17 57 39.0	-1.4
VRI	**Vrincioaia**	**4.75**	**115**	⇑P	Pn	17 57 40.4	-0.5
KHC	**Kasperske Hory**	**4.76**	**286**	*e*Pn	Pn	17 57 41.5	+0.5
KHC	**Kasperske Hory**	**4.76**	**286**	*e*PN	Pn	17 57 41.5	+0.5
KHC	**Kasperske Hory**	**4.76**	**286**	*e*Pn	Pn	17 57 41.5	+0.5
KBA	**Koelnbreinsper**	**4.98**	**262**	Pn	Pn	17 57 45.3	+1.2
KBA	**Koelnbreinsper** 0.9nm,0.3s	**4.98**	**262**	*e*Pn	Pn	17 57 45.3	+1.2
KBA	**Koelnbreinsper**	**4.98**	**262**	Pn	Pn	17 57 45.3	+1.2
BRG	**Berggiesshubel** 5.3nm,1.0s	**5.16**	**306**	SG	Sg	17 59 11.1	-3.5
NVLJ	**Novalja**	**5.25**	**231**	*e*Pn	Pn	17 57 49.0	+1.4
MORI	**Morici**	**5.37**	**221**	*e*Pn	Pn	17 57 50.1	+0.8
ZIRJ	**Zirje**	**5.56**	**220**	*e*Pn	Pn	17 57 52.7	+0.7
DUGI	**Dugi Otok**	**5.57**	**225**	*e*Pn	Pn	17 57 53.4	+1.4

*PRU **04** 17:56:49.9±0.0, 47.˚93N×20.˚76E, h10km*
*KRSZO **04** 17:56:52.9±1.4, 48.˚03N×20.˚57E, h5km±10km, ML3.2, Error ellipse: s-maj=5.3km s-min=4.0km az=142.0*
BUD 04 17:56:53.3, 48.˚07N×20.˚57E, h7km±2km, ML3.2/1, **Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KECS	**Kecovo**	**0.41**	**352**	*e*Pg	Pg	17 57 02.1	+0.7
KECS				*e*Sg	Sb	17 57 08.7	-0.7
KECS	**Kecovo**	**0.41**	**352**	*e*Pg	Pg	17 57 02.1	+0.7
KECS				*e*Lg	Lg	17 57 08.7	
KECS	**Kecovo**	**0.41**	**352**	*e*PG	Pg	17 57 02.1	+0.7
KECS				*e*SG	Sb	17 57 08.7	-0.7
KECS				*e*LG	Lg	17 57 08.7	
KECS	**Kecovo**	**0.41**	**352**	Pg	Pg	17 57 02.1	+0.7
KECS				Lg	Lg	17 57 08.7	
PSZ	**Piszkesteto**	**0.48**	**251**	*e*Pg	Pg	17 57 02.6	0.0
PSZ				*e*Sg	Sg	17 57 10.1	+1.2
PSZ	**Piszkesteto**	**0.48**	**251**	*e*Pg	Pg	17 57 02.6	0.0
PSZ				*e*Lg	Lg	17 57 10.1	
PSZ	**Piszkesteto**	**0.48**	**251**	Pb	Pg	17 57 02.6	0.0
PSZ				Sb	Sg	17 57 10.1	+1.2
IZAB	**Izabela**	**0.76**	**311**	*e*Pg	Pg	17 57 08.3	+0.4
IZAB				*e*Sg	Sb	17 57 19.6	+0.3
IZAB	**Izabela**	**0.76**	**311**	*e*Pg	Pg	17 57 08.3	+0.4
IZAB				*e*Lg	Lg	17 57 19.6	
IZAB	**Izabela**	**0.76**	**311**	Pn	Pg	17 57 08.3	+0.4
IZAB				Sn	Sb	17 57 19.6	+0.3
BSZH	**Besenyszg**	**0.80**	**195**	*e*Pg	Pb	17 57 09.1	-0.4
BSZH				*e*Sg	Sb	17 57 21.0	+0.5
BSZH	**Besenyszg**	**0.80**	**195**	*e*Pn	Pb	17 57 09.2	-0.3
BSZH				*e*Lg	Lg	17 57 21.0	
BSZH	**Besenyszg**	**0.80**	**195**	Pg	Pb	17 57 09.1	-0.4
BSZH				Sn	Sb	17 57 21.0	+0.5
CRVS	**Cervenica-Dubn**	**1.02**	**35**	*e*Sn	Sb	17 57 27.7	+0.9
CRVS	**Cervenica-Dubn**	**1.02**	**35**	*e*Lg	Lg	17 57 27.7	
CRVS	**Cervenica-Dubn**	**1.02**	**35**	*e*SG	Sb	17 57 27.7	+0.9
CRVS				*e*LG	Lg	17 57 28.7	
CRVS	**Cervenica-Dubn**	**1.02**	**35**	Lg	Lg	17 57 27.7	
LTVH	**Ltavrtes, Hu**	**1.13**	**127**	*e*Pn	Pg	17 57 14.8	-0.2
LTVH				*e*Sn	Sn	17 57 31.5	+0.3
LTVH	**Ltavrtes, Hu**	**1.13**	**127**	*e*Pn	Pg	17 57 14.8	-0.2
LTVH				*e*Sn	Sn	17 57 31.5	+0.3
LTVH	**Ltavrtes, Hu**	**1.13**	**127**	Pb	Pg	17 57 14.8	-0.2
LTVH				Sb	Sn	17 57 31.5	+0.3
BUD	**Budapest**	**1.20**	**241**	*e*Sn	Sn	17 57 34.0	+1.1
BUD	**Budapest**	**1.20**	**241**	*e*Lg	Lg	17 57 34.0	
BUD	**Budapest**	**1.20**	**241**	Sn	Sn	17 57 34.0	+1.1
VYHS	**Vyhne**	**1.23**	**291**	*e*Sn	Sb	17 57 33.1	+0.1
VYHS	**Vyhne**	**1.23**	**291**	*e*Sn	Sb	17 57 33.1	+0.1
VYHS	**Vyhne**	**1.23**	**291**	*e*SG	Sb	17 57 33.1	+0.1
LANS	**Liptovska Anna**	**1.30**	**326**	*e*Sn	Sn	17 57 36.8	+1.2
LANS	**Liptovska Anna**	**1.30**	**326**	*e*Lg	Lg	17 57 36.8	
LANS	**Liptovska Anna**	**1.30**	**326**	*e*SG	Sn	17 57 36.8	+1.2
LANS				*e*LG	Lg	17 57 40.9	
TRPA	**Tarpa**	**1.32**	**87**	*e*Sn	Sn	17 57 35.8	-0.1
TRPA	**Tarpa**	**1.32**	**87**	*e*Sn	Sn	17 57 35.8	-0.1
TRPA	**Tarpa**	**1.32**	**87**	Lg	Lg	17 57 35.8	
KOLS	**Kolonicke sedl**	**1.42**	**52**	*e*Sn	Sg	17 57 42.9	+3.9
KOLS	**Kolonicke sedl**	**1.42**	**52**	*e*Lg	Lg	17 57 42.9	
KOLS	**Kolonicke sedl**	**1.42**	**52**	Lg	Lg	17 57 42.9	
KOLS	**Kolonicke sedl**	**1.42**	**52**	*e*SG	Sg	17 57 42.9	+3.9
SMOL	**Smolenice**	**2.15**	**283**	*e*Sn	Sg	17 58 03.1	+0.9
SMOL	**Smolenice**	**2.15**	**283**	*e*Lg	Lg	17 58 03.1	
SMOL	**Smolenice**	**2.15**	**283**	*e*SG	Sg	17 58 03.0	+0.8
MODS	**Modra-Piesok**	**2.22**	**279**	*e*Sn	Sg	17 58 05.8	+1.1
MODS	**Modra-Piesok**	**2.22**	**279**	*e*Lg	Lg	17 58 05.8	
MODS	**Modra-Piesok**	**2.22**	**279**	*e*SG	Sg	17 58 05.8	+1.1
MORH	**Mrgy, Hungar**	**2.28**	**216**	*e*Sn	Sg	17 58 06.3	-0.1
MORH	**Mrgy, Hungar**	**2.28**	**216**	*e*Lg	Lg	17 58 06.3	
ZST	**Bratislava**	**2.33**	**274**	*en*	Pb	17 57 35.1	-0.4
ZST	**Bratislava**	**2.33**	**274**	*x*	Pb	17 57 35.1	-0.4
ZST	**Bratislava**	**2.33**	**274**	*e*Pn	Pb	17 57 35.1	-0.4
ZST	**Bratislava**	**2.33**	**274**	*e*	Pb	17 57 35.1	-0.4
OKC	**Ostrava-Krasne**	**2.38**	**319**	*e*SG	Sg	17 58 11.7	+1.9
KHG	**Kasperske Hory**	**4.76**	**285**	*e*SN	Sn	17 58 58.3	-2.5
BRG	**Berggiesshubel**	**5.15**	**305**	*e*	Pn	17 58 09.6	-1.2
BRG	**Berggiesshubel**	**5.15**	**305**	Pg	Pn	17 58 09.6	-1.2

*NEIC **04** 18:42:12.5±1.1, 59.˚00N±0.˚03×136.˚74W±0.˚03, h6km±6km, Error ellipse: s-maj=3.8km s-min=2.5km az=192.0*
*AEIC **04** 18:42:12.5±1.2, 59.˚00N±0.˚05×136.˚75W±0.˚05, h8km±6km, Error ellipse: s-maj=7.7km s-min=2.6km az=200.0*
*PGC **04** 18:42:13.4±0.0, 58.˚99N×136.˚73W, h10km, ML3.3/10, 87km west of Haines, Ak Southeastern Alaska*
ISC 04 18:42:12.3±1.2, 58.˚99N±0.˚03×136.˚75W±0.˚03, h9km±9km, n66, σ1°11/84, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.50**	**23**	P	Pg	18 42 22.4	+0.3
PLBC				S	Sg	18 42 28.7	0.0
PLBC	**Pleasant Camp**	**0.50**	**23**		Pg	18 42 22.3	+0.3
PLBC					Sg	18 42 28.6	0.0
DHAK	**Deception Hill**	**0.77**	**278**		Pg	18 42 27.1	+0.2
DHAK					Sg	18 42 37.2	+0.3
SKAG	**Skagway**	**0.86**	**57**		Pg	18 42 28.8	-0.1
SKAG					Sg	18 42 39.9	-0.2
BESE	**Bessie Mountai**	**1.07**	**112**	P	Pg	18 42 32.3	-0.5
BESE				S	Sg	18 42 47.0	+0.4
BESE	**Bessie Mountai**	**1.07**	**112**		Pg	18 42 32.3	-0.5
BESE					Sg	18 42 47.0	+0.4
JIS	**Juneau Island**	**1.43**	**119**		Pn	18 42 38.6	+0.3
JIS					Sn	18 42 57.8	+0.6
PNL	**Peninsula**	**1.52**	**298**	Pn	Pn	18 42 39.5	-0.2
PNL				Sg	Sn	18 43 00.2	+0.6
PNL	**Peninsula**	**1.52**	**298**		Pn	18 42 39.4	-0.3
PNL					Sn	18 42 59.9	+0.3
YUK7	**Dusty Glacier**	**1.70**	**336**	Pn	Pn	18 42 43.1	+0.9
YUK7				Sg	Sb	18 43 06.7	+1.4
YUK7	**Dusty Glacier**	**1.70**	**336**		Pn	18 42 42.8	+0.5
HYT	**Haines Junctio**	**1.88**	**349**	Pn	Pn	18 42 45.5	+0.8
HYT				Sg	Sb	18 43 11

DAWY	**Dawson**	**5.24**	**347**	Pn	**Pn**	**18 43 32.2**	**+1.3**
DAWY				Sn	**Sn**	**18 44 27.8**	**-3.6**
DAWY				Sg	**Sg**	**18 44 57.2**	**-3.2**
DAWY	**Dawson**	**5.24**	**347**		**Pn**	**18 43 32.1**	**+1.3**
GLI	**Glacier Island**	**5.54**	**294**		**Pn**	**18 43 35.9**	**+1.0**
DOT	**Dot Lake**	**5.85**	**326**	Pn	**Pn**	**18 43 39.6**	**+0.5**
DOT	**Dot Lake**	**5.85**	**326**		**Pn**	**18 43 39.4**	**+0.3**
SCM	**Sheep Creek Mo**	**5.96**	**303**	Pn	**Pn**	**18 43 41.1**	**+0.3**
SCRK	**Sand Creek**	**6.08**	**328**		**Pn**	**18 43 42.2**	**-0.2**
PWL	**Port Wells**	**6.12**	**293**		**Pn**	**18 43 43.3**	**+0.5**
RIDG	**Independent Ri**	**6.15**	**324**		**Pn**	**18 43 44.3**	**+1.0**
EGAK	**Eagle**	**6.17**	**342**		**Pn**	**18 43 44.7**	**+1.3**
SLKM	**Skilak Lake**	**6.98**	**288**		**Pn**	**18 43 54.6**	**0.0**
BRSE	**Bradley Lake S**	**7.19**	**282**		**Pn**	**18 43 58.4**	**+0.9**
CNPM	**China Poot**	**7.45**	**280**		**Pn**	**18 44 01.8**	**+0.7**
TRF	**Thorofare Moun**	**7.91**	**310**		Pn	18 44 12.7	+5.2
KTH	**Kantishna Hill**	**8.21**	**310**		**Pn**	**18 44 11.4**	**-0.2**
PV12	**Saucer Basin,**	**27.38**	**127**	P	**P**	**18 47 56.9**	**-1.0**

*UPA **04** 18:53:45.5±2.4,3.˚14N×76.˚40W, h0km±35km, MW4.5*
*VAO **04** 18:53:49.2±1.6,3.˚45N×76.˚28W, h178km±14km, mb4.5*
*NEIC **04** 18:53:49.2±1.5,3.˚21N±0.˚10×76.˚28W±0.˚09, h164km±8km, mb4.5/85, Error ellipse: s-maj=14.0km s-min=13.0km az=189.0*
*RSNC **04** 18:53:49.3±1.7,3.˚19N×76.˚33W, h141km±6km, ML4.2, Mw4.5, Fault plane solution: NP1:ϕ±9.00000°, δ55.00000°, λ-102.00000°.*
*IDC **04** 18:53:49.2±1.4,3.˚16N×76.˚24W, h168km±11km, mb3.8/11, mb1 4.1/17, mb1mx3.8/32, mbtmp4.5/17, Error ellipse: s-maj=15.4km s-min=13.0km az=41.0*

ISC 04 18:53:47.8±0.6,3.˚18N±0.˚03×76.˚34W±0.˚03, h151km±5km, n224,σ1§29/278, mb4.4/50, 8C-30D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
YOTC	**Yotoco, Valle**	**0.80**	**359**	**Op**	**Pn**	**18 54 11.0**		**-0.2**
YOTC				*eS*	**Sn**	**18 54 27.8**		**-1.4**
YOTC				*i*		18 54 35.1		
	comp=Z,2µm,0.4s							
PCON	**Cinco Dias**	**0.84**	**184**	*iP*	**Pn**	**18 54 12.8**		**+0.7**
PCON				*eS*	**Sn**	**18 54 29.9**		**-0.7**
PCON				*i*		18 54 35.8		
	comp=Z,5µm,0.5s							
BETC	**Betania**	**1.02**	**119**	*iP*	**Pn**	**18 54 13.8**		**+1.0**
BETC				*eS*	**Sn**	**18 54 31.1**		**-0.9**
SOTA	**Rioblanco**	**1.07**	**195**	*iP*	**Pn**	**18 54 14.1**		**+0.3**
SOTA				*eS*	**Sn**	**18 54 33.4**		**-0.3**
SOTA				*i*		18 54 38.0		
	comp=Z,5µm,0.5s							
GARC	**Garzon, Huila**	**1.29**	**139**	*iP*	**Pn**	**18 54 16.2**		**+0.6**
GARC				*i*		18 54 17.1		
	comp=Z,7µm,0.2s							
GARC				*eS*	**Sn**	**18 54 35.9**		**-1.0**
MALC	**Bahia Malaga**	**1.30**	**310**	*iP*	**Pn**	**18 54 16.5**		**+1.1**
MALC				*eS*	**Sn**	**18 54 36.3**		**-0.2**
MALC				*i*		18 54 43.1		
	comp=Z,3µm,0.5s							
ORTC	**Ortega, Tolima**	**1.31**	**56**	*iP*	**Pn**	**18 54 16.2**		**+0.7**
ORTC				*eS*	**Sn**	**18 54 36.0**		**-0.7**
ORTC				*i*		18 54 43.5		
	comp=Z,1µm,0.4s							
BBAC	**Balboa, Cauca**	**1.46**	**219**	*iP*	**Pn**	**18 54 17.3**		**0.0**
BBAC				*eS*	**Sn**	**18 54 39.2**		**-0.6**
PRAC	**Prado**	**1.54**	**70**	*iP*	**Pn**	**18 54 18.8**		**+0.8**
PRAC				*eS*	**Sn**	**18 54 40.4**		**-0.6**
PRAC				*i*		18 54 43.4		
	comp=Z,774nm,0.4s							
ANIL	**Santa Ana**	**1.60**	**35**	*eP*	**Pn**	**18 54 19.0**		**+0.1**
ANIL				*eS*	**Sn**	**18 54 42.1**		**-0.6**
ANIL				*i*		18 54 48.0		
	comp=Z,4µm,0.3s							
CRUC	**La Cruz**	**1.71**	**201**	*eP*	**Pn**	**18 54 21.0**		**+0.9**
PLMC	**San Jos del P**	**1.72**	**2**	*iP*	**Pn**	**18 54 19.8**		**-0.1**
PLMC				*eS*	**Sn**	**18 54 44.3**		**-0.3**
TOLC	**Tolima**	**1.73**	**36**	*eP*	**Pn**	**18 54 20.7**		**+0.5**
TOLC				*eS*	**Sn**	**18 54 45.1**		**0.0**
GR1C	**Gorgona, Isla**	**1.84**	**265**	*iP*	**Pn**	**18 54 20.4**		**-0.7**
GR1C				*i*		18 54 21.8		
	comp=Z,1µm,0.3s							
GR1C				*eS*	**Sn**	**18 54 46.0**		**-0.6**
RREF	**El Recreo**	**1.98**	**30**	*iP*	**Pn**	**18 54 23.9**		**+0.6**
RREF				*i*		18 54 28.5		
	comp=Z,620nm,0.3s							
RREF				*eS*	**Sn**	**18 54 50.6**		**0.0**
PIZC	**Pizarro, Choco**	**2.05**	**330**	*iP*	**Pn**	**18 54 24.6**		**+1.1**
PIZC				*eS*	**Sn**	**18 54 50.3**		**-0.8**
PIZC				*i*		18 54 54.6		
	comp=Z,952nm,0.4s							
GCUF	**Volcan Galeras**	**2.18**	**208**	*eP*	**Pn**	**18 54 25.6**		**0.0**
GCUF				*i*		18 54 57.1		
	comp=Z,3µm,0.4s							
GUY2C	**Guyana, Caldas**	**2.25**	**25**	*iP*	**Pn**	**18 54 26.7**		**+0.2**
GUY2C				*eS*	**Sn**	**18 54 55.7**		**-0.5**
ROSC	**El Rosal**	**2.60**	**50**	P	**Pn**	**18 54 32.8**		**+2.1**
	comp=Z,101nm,0.3s,baz=198,slow=3.9,SNR=99							
ROSC				S	**Sn**	**18 55 05.7**		**+2.1**
	comp=Z,52nm,0.3s,baz=221,slow=22,SNR=5.5							
ROSC	**El Rosal**	**2.60**	**50**	*iP*	**Pn**	**18 54 32.7**		**+2.1**
ROSC				*eS*	**Sn**	**18 55 03.9**		**+0.3**
ROSC				*i*		18 55 28.7		
	comp=Z,294nm,0.5s							
ROSC	**El Rosal**	**2.60**	**50**		**Pn**	**18 54 32.5**		**+1.9**
ROSC				Sn	**Sn**	**18 55 06.6**		**+3.0**
PUAC	**Puerto Asis, P**	**2.62**	**185**	*iP*	**Pn**	**18 54 31.1**		**+0.7**
CVER	**Cruz Verde, Cu**	**2.62**	**59**	*eP*	**Pn**	**18 54 32.8**		**+1.8**
CVER				*eS*	**Sn**	**18 55 05.7**		**+1.5**
CMBC	**Cumbal**	**2.67**	**214**	*eP*	**Pn**	**18 54 32.7**		**+1.2**
MACC	**Macarena, Meta**	**2.69**	**112**	*iP*	**Pn**	**18 54 31.8**		**+0.5**
CBOC	**Ciudad Bolivar**	**2.69**	**7**	*eP*	**Pn**	**18 54 31.0**		**-0.5**
CBOC				*i*		18 54 34.8		
	comp=Z,846nm,0.2s							
CBOC				*eS*	**Sn**	**18 55 04.4**		**-0.9**
NORC	**Norcasia**	**2.79**	**32**	*iP*	**Pn**	**18 54 33.3**		**+0.7**
NORC				*i*		18 54 33.8		
	comp=Z,1µm,0.5s							
NORC				*eS*	**Sn**	**18 55 06.4**		**-0.8**
VILC	**Villavicencio,**	**2.80**	**70**	*iP*	**Pn**	**18 54 35.0**		**+2.2**
VILC				*eS*	**Sn**	**18 55 08.6**		**+1.1**
VILC				*i*		18 55 13.8		
	comp=Z,361nm,0.4s							
CTAB	**Cerro Tablazo,**	**2.80**	**49**	*eP*	**Pn**	**18 54 36.2**		**+3.0**
CTAB				*eS*	**Sn**	**18 55 06.5**		**-1.7**
CHIC	**Chingaza**	**2.97**	**61**	*eP*	**Pn**	**18 54 36.8**		**+1.5**
CHIC				*eS*	**Sn**	**18 55 12.1**		**+0.2**
CHIC				*i*		18 55 19.3		
	comp=Z,298nm,0.6s							
CTAU	**Tausa, Cundina**	**3.05**	**49**	*eP*	Pn	18 54 46.9		+11
CTAU				*eS*	**Sn**	**18 55 19.1**		**+5.4**
HELC	**Santa Helena**	**3.10**	**15**	*iP*	**Pn**	**18 54 37.0**		**+0.1**
HELC				*i*		18 54 38.2		
	comp=Z,556nm,0.5s							
HELC				*eS*	**Sn**	**18 55 14.4**		**-0.4**
HELC	**Santa Helena**	**3.10**	**15**	*eP*	**Pn**	**18 54 37.3**		**+0.4**
HELC				*eS*	**Sn**	**18 55 15.2**		**+0.4**
CASC	**Dorado de Casc**	**3.18**	**198**	*iP*	**Pn**	**18 54 37.8**		**+0.1**
SPBC	**San Pablo de B**	**3.34**	**42**	*iP*	**Pn**	**18 54 40.5**		**+0.9**
SPBC				*i*		18 54 42.2		
	comp=Z,276nm,0.3s							
SPBC				*eS*	**Sn**	**18 55 20.5**		**+0.7**
PTLC	**Puerto Leguiza**	**3.36**	**153**	*iP*	**Pn**	**18 54 44.4**		**+4.6**
PTLC				*i*		18 54 45.5		
	comp=Z,293nm,0.4s							
CUSE	**Cuicocha Este**	**3.52**	**216**	*eP*	Pn	18 54 36.0		-6.3
DBBC	**Dabeiba**	**3.82**	**2**	*iP*	**Pn**	**18 54 46.2**		**+0.4**
DBBC				*i*		18 54 49.2		
	comp=Z,741nm,0.2s							
PTBC	**PUERTO BERRIO,**	**3.83**	**29**	*iP*	**Pn**	**18 54 45.9**		**0.0**
PTBC				*i*		18 54 47.9		
	comp=Z,380nm,0.4s							
PTBC				*eS*	**Sn**	**18 55 29.7**		**-1.4**
PTAC	**Punta Ardita,**	**4.21**	**340**	*eP*	**Pn**	**18 54 50.9**		**+0.1**
RUSC	**La Rusia**	**4.22**	**50**	*eP*	**Pn**	**18 54 52.6**		**+1.2**
RUSC				*eS*	**Sn**	**18 55 41.1**		**+0.3**
RUSC	**La Rusia**	**4.22**	**50**	Pn	**Pn**	**18 54 52.5**		**+1.2**
ZARC	**Zaragoza, Cauc**	**4.53**	**19**	*iP*	**Pn**	**18 54 55.0**		**-0.1**
ZARC				*eS*	**Sn**	**18 55 46.7**		**-0.9**
UREC	**San Jos de Ur**	**4.62**	**10**	*eP*	**Pn**	**18 54 55.8**		**-0.4**
UREC				*i*		18 55 00.7		
	comp=Z,138nm,0.2s							
UREC				*eS*	**Sn**	**18 55 48.2**		**-1.3**

BARC	**Barichara**	**4.62**	**43**	*eP*	**Pn**	**18 54 57.5**	**+1.0**
BARC				*eS*	**Sn**	**18 55 49.2**	**-0.8**
BRRC	**Barranca, Sant**	**4.70**	**34**	*iP*	**Pn**	**18 54 56.7**	**-0.6**
BRRC				*i*		18 54 57.8	
	comp=Z,128nm,0.5s						
BRRC				*eS*	**Sn**	**18 55 50.0**	**-1.5**
PAMC	**Pamplona, Colo**	**5.50**	**41**	*eP*	**Pn**	**18 55 08.6**	**+0.3**
PAMC				*eS*	**Sn**	**18 56 10.7**	**-0.4**
PAMC				*i*		18 56 18.2	
	comp=Z,94nm,0.4s						
CAPC	**Capurgana**	**5.52**	**349**	*eP*	**Pn**	**18 55 08.0**	**-0.1**
CAPC				*i*		18 55 11.2	
	comp=Z,296nm,0.5s						
CAP2	**Capurgana**	**5.53**	**349**	*eP*	**Pn**	**18 55 08.3**	**0.0**
UPD2	**Meteti**	**5.59**	**343**	*eP*	**Pn**	**18 55 10.5**	**+1.4**
UPD2	**Meteti**	**5.59**	**343**	*eP*	**Pn**	**18 55 10.2**	**+1.1**
UPD2				*eS*	**Sn**	**18 56 16.7**	**+4.0**
OCAC	**Ocana**	**5.86**	**31**	*eP*	**Pn**	**18 55 12.4**	**-0.4**
OCAC				*eS*	**Sn**	**18 56 16.6**	**-2.7**
OCAC				*i*		18 56 23.3	
	comp=Z,116nm,0.8s						
SMLC	**San Martn de**	**6.03**	**22**	*eP*	**Pn**	**18 55 13.5**	**-1.4**
SMLC				*i*		18 55 14.0	
	comp=Z,182nm,0.1s						
AZU	**Azuero**	**6.03**	**320**	*iP*	**Pn**	**18 55 15.6**	**+0.6**
AZU				*eS*	**Sn**	**18 56 22.5**	**-0.7**
AZU				*i*		18 56 30.9	
	comp=Z,314nm,0.6s						
AZU	**Azuero**	**6.03**	**320**	*eP*	**Pn**	**18 55 15.3**	**+0.3**
AZU				*eS*	**Sn**	**18 56 22.7**	**-0.6**
CACAO	**El Cacao, Vera**	**6.12**	**313**	*eS*	**Sn**	**18 56 24.3**	**-1.0**
FLAM	**Flamenco Islan**	**6.53**	**331**	*eP*	**Pn**	**18 55 21.8**	**+0.2**
FLAM				*eS*	**Sn**	**18 56 36.8**	**+1.7**
CHPO	**Chepo, Panama**	**6.57**	**335**	*eP*	**Pn**	**18 55 23.8**	**+1.7**
CHPO				*eS*	**Sn**	**18 56 35.3**	**-0.7**
VTON	**El Valle, Cocl**	**6.58**	**325**	*eP*	**Pn**	**18 55 23.6**	**+1.3**
VTON				*eS*	**Sn**	**18 56 38.7**	**+2.3**
UPA	**Univ. de Panam**	**6.59**	**331**	*iP*	**Pn**	**18 55 23.3**	**+1.0**
UPA				*i*		18 55 24.2	
	comp=Z,73nm,0.6s						
UPA				*eS*	**Sn**	**18 56 35.3**	**-1.2**
UPA	**Univ. de Panam**	**6.59**	**331**	*eP*	**Pn**	**18 55 22.4**	**0.0**
UPA				*eS*	**Sn**	**18 56 37.0**	**+0.6**
PNME	**Penonome**	**6.60**	**323**	*eP*	**Pn**	**18 55 23.8**	**+1.2**
PNME				*eS*	**Sn**	**18 56 38.9**	**+2.0**
GMAL	**Guarumal, Vera**	**6.67**	**313**	*eP*	**Pn**	**18 55 25.2**	**+1.6**
GMAL				*eS*	**Sn**	**18 56 40.8**	**+2.2**
ZANG	**Zanguenga, Cho**	**6.73**	**329**	*eP*	**Pn**	**18 55 26.2**	**+1.9**
ZANG				*eS*	**Sn**	**18 56 44.5**	**+4.6**
SJCC	**San Jacinto, C**	**6.78**	**10**	*eP*	**Pn**	**18 55 25.5**	**+0.5**
SJCC				*eS*	**Sn**	**18 56 40.1**	**-1.0**
FRIJ	**El Hiral**	**6.89**	**331**	*eP*	**Pn**	**18 55 27.0**	**+0.6**
BCIP	**Isla Barro Col**	**6.90**	**330**	*eP*	**Pn**	**18 55 27.5**	**+1.0**
BCIP				*i*		18 55 29.6	
	comp=Z,152nm,0.2s						
BCIP				*eS*	**Sn**	**18 56 44.3**	**+0.4**
BCIP	**Isla Barro Col**	**6.90**	**330**	*eP*	**Pn**	**18 55 27.3**	**+0.8**
BCIP				*eS*	**Sn**	**18 56 45.1**	**+1.2**
BCIP	**Isla Barro Col**	**6.90**	**330**	Pn	**Pn**	**18 55 27.3**	**+0.8**
ARGC	**Ariguani, Magd**	**6.96**	**17**	*eP*	**Pn**	**18 55 27.5**	**+0.2**
ARGC				*i*		18 55 29.9	
	comp=Z,89nm,0.4s						
ARGC				*eS*	**Sn**	**18 56 42.3**	**-3.1**
MLIR	**Monte Lirio**	**6.97**	**330**	*eP*	**Pn**	**18 55 28.8**	**+1.4**
MLIR				*eS*	**Sn**	**18 56 45.3**	**-0.3**
SDV	**Santo Domingo**	**8.02**	**45**	P	**Pn**	**18 55 41.3**	**-0.4**
	comp=Z,7.6nm,0.3s,baz=223,slow=11,SNR=23						
SDV				S	**Sn**	**18 57 05.5**	**-5.8**
	comp=Z,1.9nm,0.3s,baz=0.6,slow=10,SNR=3.1						
SDV	**Santo Domingo**	**8.02**	**45**	Pn	**Pn**	**18 55 40.8**	**-0.9**
SDV	**Santo Domingo**	**8.02**	**45**	*eP*	**Pn**	**18 55 41.3**	**-0.4**
SDV				*eS*	**Sn**	**18 57 06.9**	**-4.3**
SDV	**Santo Domingo**	**8.02**	**45**	*eP*	**Pn**	**18 55 41.3**	**-0.4**
SDV				*eS*	**Sn**	**18 57 06.9**	**-4.3**
URIC	**Uribia, Colomb**	**9.50**	**27**	Pn	**Pn**	**18 55 59.2**	**-2.1**
ATAH	**Atahualpa**	**10.45**	**191**	P	**Pn**	**18 56 13.8**	**-0.4**
	comp=Z,2.3nm,0.3s,baz=36,slow=6.8,SNR=19						
PCRV	**Puerto La Cruz**	**13.54**	**59**	P	**P**	**18 56 56.1**	**-1.8**
	comp=Z,2.8nm,0.3s,baz=327,slow=2.0,SNR=8.5						
NNA	**Nana**	**15.07**	**182**		**P**	**18 57 15.1**	**+0.2**
	comp=Z,3.4nm,0.3s,baz=5.2,slow=9.6,SNR=11						
NNA	**Nana**	**15.07**	**182**		**P**	**18 57 15.4**	**+0.5**
SDDR	**Presa de Saban**	**16.47**	**17**	P	**P**	**18 57 29.3**	**-1.0**
SDDR				IAmb	IAmb	18 57 55.3	
	comp=Z,15nm,0.7s						
PTGA	**Pitinga**	**16.82**	**103**	P	**Pn**	**18 57 34.8**	**+0.3**
	comp=Z,13nm,0.3s,baz=294,slow=15,SNR=65						
PTGA	**Pitinga**	**16.82**	**103**		**P**	**18 57 34.2**	**0.0**
PTGA	**Pitinga**	**16.82**	**103**	*eP*	**Pn**	**18 57 34.7**	**+0.2**
PTGA	**Pitinga**	**16.82**	**103**	*eP*	**Pn**	**18 57 34.7**	**+0.2**
MACA	**Manacapuru-AM**	**16.86**	**112**	*eP*	**P**	**18 57 34.1**	**-0.5**
MACA	**Manacapuru-AM**	**16.86**	**112**	*eP*	**P**	**18 57 34.1**	**-0.5**
DR12	**Loma Pena Alta**	**16.94**	**23**		**P**	**18 57 35.6**	**0.0**
TOSP	**Speyside**	**17.62**	**62**	P	**P**	**18 57 42.7**	**-0.3**
SAML	**Samuel**	**17.80**	**133**	*eP*	**P**	**18 57 44.7**	**-0.3**
SAML	**Samuel**	**17.80**	**133**	*eP*	**P**	**18 57 44.7**	**-0.3**
MTP	**Monte Pirata**	**18.21**	**35**	P	**P**	**18 57 49.6**	**+0.2**
MTP				IAmb	IAmb	18 57 51.0	
	comp=Z,32nm,1.4s						
CUPR	**Culebra, Puert**	**18.53**	**35**	P	**P**	**18 57 53.7**	**+0.8**
CUPR				IAmb	IAmb	18 58 02.9	
	comp=Z,17nm,0.7s						
STVI	**Saint Thomas**	**18.75**	**36**	P	**P**	**18 57 54.7**	**-0.6**
STVI				IAmb	IAmb	18 58 30.0	
	comp=Z,21nm,1.0s						
FDF	**Fort de France**	**18.87**	**52**	P	**P**	**18 57 56.5**	**-0.2**
ZAM	**Aeronautique**	**18.87**	**52**	*eP*	**Pn**	**18 58 03.2**	**+4.3**
LPMF	**Morne Lapointe**	**18.92**	**52**	*eP*	**Pn**	**18 58 02.0**	**+2.5**
MVM	**Montagne Vaucl**	**18.97**	**52**	*eP*	**Pn**	**18 58 03.5**	**+3.4**
TEIG	**Tepich**	**20.57**	**326**	P	**P**	**18 58 16.7**	**+1.9**
	comp=Z,6.0nm,0.5s,baz=139,slow=20,SNR=2.4						
TEIG	**Tepich**	**20.57**	**326**	P	**P**	**18 58 13.8**	**-1.0**
LPAZ	**La Paz**	**20.97**	**157**	P	**P**	**18 58 19.1**	**-0.7**
PB12	**IPOC Station P**	**22.45**	**165**	P	**P**	**18 58 33.6**	**-0.9**
PB12				IAmb	IAmb	18 59 05.1	
	comp=Z,24nm,1.1s						
MALB	**Monte Alegre**	**22.62**	**102**	*eP*	**P**	**18 58 35.8**	**-0.3**
MALB	**Monte Alegre**	**22.62**	**102**	*eP*	**P**	**18 58 35.8**	**-0.3**
VILB	**Vilhena**	**22.66**	**135**	*eP*	**P**	**18 58 37.4**	**+0.9**
VILB	**Vilhena**	**22.66**	**135**	*eP*	**P**	**18 58 37.4**	**+0.9**
MNMC	**Minye Minye**	**23.14**	**164**	P	**P**	**18 58 41.2**	**0.0**
NPGB	**Novo Progresso**	**23.27**	**116**	*eP*	**P**	**18 58 41.8**	**-0.4**
NPGB	**Novo Progresso**	**23.27**	**116**	*eP*	**P**	**18 58 41.8**	**-0.4**
PSGCX	**Pisagua**	**23.44**	**165**	P	**P**	**18 58 44.4**	**+0.7**
MDP	**Montagnes des**	**23.71**	**85**	P	**P**	**18 58 44.7**	**-1.4**
	comp=Z,15nm,0.6s,baz=260,slow=7.9,SNR=13						
PB11	**IPOC Station P**	**23.72**	**164**	P	**P**	**18 58 47.1**	**+0.8**
GO01	**Chusmiza**	**23.76**	**163**	P	**P**	**18 58 46.9**	**-0.2**
PB08	**IPOC Station P**	**24.22**	**163**	P	**P**	**18 58 52.4**	**+1.3**
PB08				IAmb	IAmb	18 58 54.9	
	comp=Z,8.2nm,0.7s						
TA01	**Diego Aracena**	**24.35**	**166**	P	**P**	**18 58 53.0**	**+1.1**
PB01	**IPOC Station P**	**24.99**	**165**	P	**P**	**18 58 59.0**	**+1.3**
PB01				IAmb	IAmb	18 59 00.1	
	comp=Z,8.8nm,0.8s						
ARAG	**Araguaiana, MT**	**30.67**	**128**	*eP*	**P**	**18 59 47.4**	**-1.0**
ARAG	**Araguaiana, MT**	**30.67**	**128**	*eP*	**P**	**18 59 47.4**	**-1.0**
SMTB	**Santa Maria do**	**31.05**	**113**	*eP*	**P**	**18 59 51.6**	**-0.2**
SMTB	**Santa Maria do**	**31.05**	**113**	*eP*	**P**	**18 59 51.6**	**-0.2**
PEXB	**Peixe**	**31.73**	**119**	*eP*	**P**	**18 59 57.6**	**-0.2**
PEXB	**Peixe**	**31.73**	**119**	*eP*	**P**	**18 59 57.6**	**-0.2**
Y49A	**Blount Mountai**	**31.94**	**344**	P	**P**	**19 00 00.7**	**+1.3**
Y49A				IAmb	IAmb	19 00 01.6	
	comp=Z,7.9nm,1.0s						
FPAL	**Fort Paine**	**32.38**	**346**	P	**P**	**19 00 04.5**	**+1.3**
ROSB	**Rosrio**	**32.76**	**100**	*eP*	**P**	**19 00 05.9**	**-0.8**
ROSB	**Rosrio**	**32.76**	**100**	*eP*	**P**	**19 00 05.9**	**-0.8**
W50A	**Signal Mountai**	**32.94**	**346**	P	**P**	**19 00 09.6**	**+1.5**
W50A				IAmb	IAmb	19 00 10.3	
	comp=Z,13nm,1.2s						
CPCT	**Cooper Cave**	**33.00**	**348**	P	**P**	**19 00 09.8**	**+1.3**
V48A	**Smith Brothers**	**33.83**	**345**	P	**P**	**19 00 16.9**	**+1.2**
WVT	**Waverly**	**34.47**	**343**	P	**P**	**19 00 21.6**	**+0.4**
WVT				IAmb	IAmb	19 00 22.0	
	comp=Z,5.9nm,0.7s						
X40A	**Basin Creek Fa**	**34.73**	**336**	P	**P**	**19 00 24.3**	**+0.8**
IPMB	**Ipameri, GO**	**34.79**	**128**	*eP*	**P**	**19 00 22.8**	**-1.5**
IPMB	**Ipameri, GO**	**34.79**	**128**	*eP*	**P**	**19 00 22.8**	**-1.5**
JCT	**Junction City**	**35.07**	**323**	P	**P**	**19 00 27.1**	**+0.5**
T47A	**Sharon Grove**	**35.08**	**345**	P	**P**	**19 00 26.9**	**+0.4**
T47A				IAmb	IAmb	19 00 27.7	
	comp=Z,8.8nm,0.7s						

MIAR	**Mount Ida**	**35.09**	**335**	P	**P**	**19 00 26.8**	**+0.2**
WHAR	**Wooly Hollow**	**35.21**	**337**	P	**P**	**19 00 27.9**	**+0.2**
WHAR				IAmb	IAmb	19 01 38.2	
	comp=Z,16nm,1.7s						
LCAR	**Lake Charles**	**35.48**	**339**	P	**P**	**19 00 29.6**	**-0.3**
LCAR				IAmb	IAmb	19 00 30.6	
	comp=Z,11nm,1.4s						
W39A	**Magazine**	**35.74**	**335**	P	**P**	**19 00 32.8**	**+0.7**
W39A				IAmb	IAmb	19 01 18.8	
	comp=Z,19nm,1.8s						
X37A	**Clayton**	**35.92**	**333**	P	**P**	**19 00 34.1**	**+0.4**
X37A				IAmb	IAmb	19 01 08.2	
	comp=Z,24nm,1.8s						
P57A	**Homestead Farm**	**36.17**	**358**	P	**P**	**19 00 34.4**	**-1.4**
P57A				IAmb	IAmb	19 00 37.7	
	comp=Z,12nm,1.1s						
T42A	**Van Buren**	**36.33**	**340**	P	**P**	**19 00 37.0**	**-0.1**
T42A				IAmb	IAmb	19 00 37.5	
	comp=Z,7.3nm,0.8s						
S44A	**Carbondale**	**36.34**	**343**	P	**P**	**19 00 37.3**	**+0.1**
U40A	**Yellville**	**36.37**	**337**	P	**P**	**19 00 37.5**	**+0.1**
U40A				IAmb	IAmb	19 00 38.4	
	comp=Z,9.0nm,0.7s						
BB19B	**Bebedouro**	**36.37**	**133**	*eP*	**P**	**19 00 38.8**	**+1.1**
BB19B	**Bebedouro**	**36.37**	**133**	*eP*	**P**	**19 00 38.8**	**+1.1**
P53A	**Whipple**	**36.44**	**353**	P	**P**	**19 00 38.0**	**0.0**
JANB	**Januaria**	**36.52**	**121**	*eP*	**P**	**19 00 38.6**	**-0.5**
JANB	**Januaria**	**36.52**	**121**	*eP*	**P**	**19 00 38.6**	**-0.5**
HHAR	**Hobbs**	**36.73**	**336**	P	**P**	**19 00 40.5**	**-0.1**
HHAR				IAmb	IAmb	19 00 40.7	
	comp=Z,7.0nm,0.7s						
TXAR	**Lajitas Array**	**36.74**	**318**	P	**P**	**19 00 42.0**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=144,slow=9.2,SNR=8.6						
U38A	**Gravette**	**37.05**	**336**	P	**P**	**19 00 43.2**	**-0.1**
U38A				IAmb	IAmb	19 00 43.7	
	comp=Z,6.5nm,0.8s						
TUL1	**Leonard**	**37.21**	**333**	P	**P**	**19 00 45.1**	**+0.5**
TUL1				IAmb	IAmb	19 00 45.5	
	comp=Z,10nm,0.8s						
CCM	**Cathedral Cave**	**37.30**	**340**	P	**P**	**19 00 45.1**	**-0.2**
CCM				IAmb	IAmb	19 00 45.6	
	comp=Z,8.0nm,1.0s						
Q44A	**Meyer Farm, Va**	**37.39**	**344**	P	**P**	**19 00 45.9**	**-0.1**
P46A	**Rosedale**	**37.59**	**346**	P	**P**	**19 00 47.8**	**0.0**
P46A				IAmb	IAmb	19 00 48.0	
	comp=Z,9.1nm,0.6s						
MC01	**Montes Claros**	**37.60**	**123**	*eP*	**P**	**19 00 47.6**	**-0.6**
MC01	**Montes Claros**	**37.60**	**123**	*eP*	**P**	**19 00 47.6**	**-0.6**
R40A	**Maddies Statio**	**37.87**	**339**	P	**P**	**19 00 49.6**	**-0.4**
M56A	**Emporium**	**38.17**	**358**	P	**P**	**19 00 54.5**	**+1.9**
M56A				IAmb	IAmb	19 00 54.8	
	comp=Z,9.1nm,0.6s						
SFIN	**Lafayette**	**38.29**	**347**	P	**P**	**19 00 53.4**	**-0.3**
SFIN				IAmb	IAmb	19 00 53.5	
	comp=Z,6.8nm,0.5s						
N47A	**Urbana**	**38.47**	**349**	P	**P**	**19 00 55.2**	**+0

DDA 04 19:00:31.7, 38°.35N × 27°.11E, h7km, 2km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGB	**zmir**	**0.35**	**211**	*i* P	Pg	19 00 39.3	+0.7
DGB				*i* S	Sg	19 00 44.4	+1.2
DGB				IAML		19 00 45.0	
	comp=N,35nm,0.6s						
DGB				IAML		19 00 45.0	
	comp=E,34nm,0.9s						
STEP	**BALIKESIR_Sava**	**1.12**	**25**	*i* P	Pg	19 00 53.0	-0.3

ISK 04 19:00:56.2, 40°.19N × 26°.28E, h5km, ML1.7/9, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GELI	**Tayfur-Gelibol**	**0.26**	**36**	PG	Pg	19 01 02.1	+0.8
GADA	**Gvkgeada**	**0.29**	**271**	PG	Pg	19 01 02.7	+0.9
GADA				SG	Sg	19 01 06.5	+0.9
EZN	**Ezine**	**0.36**	**174**	PG	Pb	19 01 04.5	-0.6
BOZC	**Bozcaada**	**0.38**	**207**	PG	Pg	19 01 04.1	+0.5
BOZC				SG	Sb	19 01 10.3	-1.4
ERIK	**Erikli-Kesan**	**0.52**	**20**	PG	Pg	19 01 06.7	+0.6
ERIK				SG	Sb	19 01 14.4	-1.2
ENEZ	**Enez**	**0.56**	**350**	PG	Pb	19 01 08.1	-0.4
ALN	**Alexandroupoli**	**0.73**	**346**	PG	Pb	19 01 11.0	-0.4
RKY	**Sarkoy-Tekirda**	**0.85**	**54**	PG	Pg	19 01 12.6	+0.1
SIGR	**SIGRI**	**1.03**	**199**	PG	Pg	19 01 16.1	+0.2
MRMT	**Marmara Adasi**	**1.09**	**67**	PN	Pg	19 01 16.7	-0.4
RDO	**Rodhopi**	**1.11**	**330**	PN	Pn	19 01 18.5	+0.1
RDO				SN	Sn	19 01 34.2	+0.1

*MEX **04** 19:11:50.3±0.4, 32°.21N × 114°.82W, h10km, MD3.5*
*ECX **04** 19:11:52.1±0.6, 32°.12N × 115°.27W, h9km±2km, MD2.9, ML3.1*
ISC 04 19:11:50.5±1.0, 32°.15N±0°.03 × 115°.20W±0°.04, h28km±9km, n20, σ0s62/34, 2C-2D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBIG	**Mexicali**	**0.26**	**0**	*e*P	**Pb**	**19 11 57.2**	**-0.1**
MBIG	**Mexicali**	**0.26**	**0**	*e*P	**Pb**	**19 11 57.2**	**-0.1**
MBIG				*e*P	**Pn**	**19 11 57.4**	**-1.1**
MBIG				*e*S	**Sb**	**19 12 02.4**	**+0.6**
MBIG				*e*S	**Sn**	**19 12 02.9**	**-0.8**
CPBX	**Cerro Prieto**	**0.29**	**342**	*e*P	**Pb**	**19 11 57.4**	**-0.3**
CPBX				IAML		19 12 05.6	
	comp=E,8µm,0.2s						
CPBX				⇓*e*		19 12 05.6	
CPBX				⇑*e*		19 12 05.8	
CPBX				IAML		19 12 05.8	
	comp=N,8µm,0.2s						
CEA0	**Mexicali**	**0.64**	**322**	*e*P	**Pb**	**19 12 03.4**	**+0.1**
ESJX	**Sierra Juarez**	**0.65**	**258**	*e*P	**Pb**	**19 12 03.5**	**0.0**
ESJX				*e*S	**Sb**	**19 12 12.0**	**-0.3**
ECBX	**El Chinero**	**0.68**	**169**	⇓*e*P	**Pn**	**19 12 04.1**	**-0.2**
ECBX				*e*S	**Sn**	**19 12 13.3**	**-0.8**
WESC	**Westside Schoo**	**0.76**	**324**	*e*P	**Pb**	**19 12 05.3**	**+0.2**
ERMX	**Rumorosa**	**0.81**	**300**	*e*P	**Pb**	**19 12 06.0**	**-0.2**
ERMX				*e*S	**Sb**	**19 12 16.5**	**-0.3**
VTX	**Valle De La Tr**	**0.90**	**214**	*e*P	**Pb**	**19 12 07.0**	**-0.7**
VTX				*e*S	**Sb**	**19 12 18.6**	**-0.7**
IKP	**In-Ko-Pah, Jac**	**0.92**	**303**	*e*P	**Pb**	**19 12 07.5**	**-0.4**
SPIG	**San Pedro Mart**	**1.12**	**192**	*e*P	**Pb**	**19 12 11.2**	**-0.3**
SPIG				*e*S	**Sn**	**19 12 26.0**	**+0.7**
SPIG	**San Pedro Mart**	**1.12**	**192**	*e*P	**Pb**	**19 12 09.9**	**-0.6**
SPIG				*e*S	**Sn**	**19 12 26.9**	**+1.6**
SPX	**San Pedro Mart**	**1.13**	**192**	*e*P	**Pb**	**19 12 11.5**	**-0.1**
SPX	**San Pedro Mart**	**1.13**	**192**	*e*P	**Pn**	**19 12 10.4**	**-0.4**
SPX				*e*S	**Sn**	**19 12 26.7**	**+1.1**
CBX	**Cerro Bola**	**1.25**	**278**	*e*P	**Pn**	**19 12 12.7**	**+0.4**
CBX				⇑*e*		19 12 30.8	
CBX				IAML		19 12 30.8	
	comp=E,373nm,0.2s						
CBX				IAML		19 12 31.0	
	comp=N,578nm,0.4s						
CBX				*e*		19 12 31.0	
CBX	**Cerro Bola**	**1.25**	**278**	*e*P	**Pn**	**19 12 12.5**	**+0.2**
CBX				*e*S	**Sb**	**19 12 29.5**	**+0.1**
MONP2	**Monument Peak**	**1.27**	**306**	*e*P	**Pb**	**19 12 14.1**	**+0.1**
TJIG	**Tijuana**	**1.28**	**283**	*e*P	**Pn**	**19 12 12.6**	**-0.1**
TJIG				*e*S	**Sb**	**19 12 30.2**	**+0.1**
BAR	**Barrett**	**1.36**	**294**	*e*P	**Pn**	**19 12 14.2**	**+0.6**
BAR				*e*S	**Sb**	**19 12 32.4**	**+0.2**
214A	**Organ Pipe Nat**	**2.04**	**95**	*e*P	**Pn**	**19 12 22.7**	**-0.3**
214A				*e*S	**Sb**	**19 12 53.2**	**+1.4**

*NNC **04** 19:19:02.7±0.2, 43°.25N × 78°.13E, h3km±2km, mb3.1, mpv3.2, Error ellipse: s-maj=2.6km s-min=1.2km az=177.0*
*SOME **04** 19:19:03.7, 43°.27N × 78°.08E, h15km*
*KRNET **04** 19:19:03.3±0.1, 43°.28N × 78°.13E, h22km, mb2.8*
ISC 04 19:19:03.2±1.1, 43°.26N±0°.02 × 78°.11E±0°.01, h2km±9km, n71, σ1s32/132, 27C-16D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURS	**Kuram**	**0.23**	**11**	⇓*i*P	**Pg**	**19 19 08.5**	**+0.8**
	baz=8.0						
KURS				⇓*i*S	**Sg**	**19 19 12.0**	**+1.3**
	baz=8.0						
KURS	**Kuram**	**0.23**	**11**	⇓*i*P	**Pg**	**19 19 08.5**	**+0.8**
	32nm,0.1s						
KURS				⇓*i*S	**Sg**	**19 19 12.0**	**+1.3**
	40nm,0.2s						
KURS	**Kuram**	**0.23**	**11**	P	**Pg**	**19 19 08.5**	**+0.8**
	32nm,0.1s						
KURS				S	**Sg**	**19 19 12.0**	**+1.3**
	40nm,0.2s						
SATY	**Saty**	**0.30**	**133**	*e*P	**Pg**	**19 19 09.5**	**+0.5**
	79nm,0.1s						
SATY				*e*S	**Sg**	**19 19 13.5**	**+0.6**
	854nm,0.1s						
SATY	**Saty**	**0.30**	**133**	P	**Pg**	**19 19 09.5**	**+0.5**
	79nm,0.1s						
SATY				S	**Sg**	**19 19 13.5**	**+0.6**
	854nm,0.1s						
ANVS	**Anan'yevo**	**0.58**	**214**	⇓*i*P	**Pg**	**19 19 14.8**	**+0.5**
	baz=15						
ANVS				⇓*i*S	**Sg**	**19 19 23.1**	**+1.3**
	baz=15						
UZB	**Uzynbulak**	**0.68**	**99**	*e*P	**Pg**	**19 19 16.1**	**-0.1**
	baz=1.0						
UZB				*e*S	**Sg**	**19 19 24.8**	**-0.2**
	baz=1.0						
UZB	**Uzynbulak**	**0.68**	**99**	*e*P	**Pg**	**19 19 16.1**	**-0.1**
	39nm,0.1s						
UZB				*e*S	**Sg**	**19 19 24.8**	**-0.2**
	88nm,0.1s						
UZB	**Uzynbulak**	**0.68**	**99**	P	**Pg**	**19 19 16.1**	**-0.1**
	39nm,0.1s						
UZB				S	**Sg**	**19 19 24.8**	**-0.2**
	88nm,0.1s						
KOTS	**Kotyrbulak**	**0.73**	**268**	*e*P	**Pg**	**19 19 17.7**	**+0.5**
	baz=67						
KOTS				*e*S	**Sb**	**19 19 27.9**	**-1.3**
	baz=67						
KOTS	**Kotyrbulak**	**0.73**	**268**	*e*P	**Pg**	**19 19 17.7**	**+0.5**
	24nm,0.2s						
KOTS				*e*S	**Sb**	**19 19 27.9**	**-1.3**
	57nm,0.2s						
KOTS	**Kotyrbulak**	**0.73**	**268**	P	**Pg**	**19 19 17.7**	**+0.5**
	24nm,0.2s						
KOTS				S	**Sb**	**19 19 27.9**	**-1.3**
	57nm,0.2s						
MDOK	**Medeo**	**0.78**	**263**	*e*P	**Pg**	**19 19 18.4**	**+0.2**
	baz=62						
MDOK				*e*S	**Sg**	**19 19 29.0**	**+0.7**
	baz=62						
MDOK	**Medeo**	**0.78**	**263**	*e*P	**Pg**	**19 19 18.4**	**+0.2**
	5.3nm,0.1s						
MDOK				*e*S	**Sg**	**19 19 28.9**	**+0.7**
	20nm,0.2s						
MDOK	**Medeo**	**0.78**	**263**	⇓P	**Pg**	**19 19 18.2**	**0.0**
	0.7nm,0.3s						
MDOK				⇑S	**Sg**	**19 19 29.1**	**+0.8**
	5.9nm,0.4s						
MDOK	**Medeo**	**0.78**	**263**	Pg	**Pg**	**19 19 18.4**	**+0.2**
	5.3nm,0.1s						
MDOK				Lg	Lg	19 19 28.9	
	20nm,0.2s						
PRZ	**Przheval'sk**	**0.81**	**164**	⇑*i*P	**Pg**	**19 19 18.9**	**+0.2**
	baz=65						
PRZ				⇑*i*S	**Sb**	**19 19 30.0**	**-1.5**
	baz=65						
MNBS	**Baschi**	**0.84**	**15**	*e*P	**Pb**	**19 19 19.8**	**-0.9**
	20nm,0.1s						
MNBS				*e*S	**Sb**	**19 19 31.3**	**-1.2**
	16nm,0.2s						
MNBS	**Baschi**	**0.84**	**15**	P	**Pb**	**19 19 19.8**	**-0.9**
	20nm,0.1s						
MNBS				S	**Sb**	**19 19 31.3**	**-1.2**
	16nm,0.2s						
TNSS	**Tian-Shan**	**0.88**	**256**	*e*P	**Pg**	**19 19 20.3**	**+0.2**
	baz=55						
TNSS				*e*S	**Sg**	**19 19 32.3**	**+0.8**
	baz=55						
TNSS	**Tian-Shan**	**0.88**	**256**	*e*P	**Pg**	**19 19 20.3**	**+0.2**
	3.2nm,0.1s						
TNSS				*e*S	**Sg**	**19 19 32.3**	**+0.8**
	26nm,0.2s						
TNSS	**Tian-Shan**	**0.88**	**256**	P	**Pg**	**19 19 20.3**	**+0.2**
	3.2nm,0.1s						
TNSS				S	**Sg**	**19 19 32.3**	**+0.8**
	26nm,0.2s						
ARXS	**Arharly**	**0.97**	**348**	*e*P	**Pb**	**19 19 21.7**	**-1.1**
	5.3nm,0.1s						
ARXS				*e*S	**Sg**	**19 19 34.7**	**+0.2**
	30nm,0.1s						
ARXS	**Arharly**	**0.97**	**348**	P	**Pb**	**19 19 21.7**	**-1.1**
	5.3nm,0.1s						
ARXS				S	**Sg**	**19 19 34.7**	**+0.2**
	30nm,0.1s						
SHLS	**Shalkode**	**1.00**	**96**	*e*P	Pn	19 19 27.5	+3.2
	baz=95						
SHLS				*e*S	**Sn**	**19 19 44.4**	**+5.4**
	baz=95						
SHLS	**Shalkode**	**1.00**	**96**	*e*P	Pn	19 19 27.5	+3.1
	6.9nm,0.1s						
SHLS				*e*S	**Sn**	**19 19 44.4**	**+5.4**
	17nm,0.2s						
SHLS	**Shalkode**	**1.00**	**96**	P	Pn	19 19 27.5	+3.1
	6.9nm,0.1s						
SHLS				S	**Sn**	**19 19 44.4**	**+5.4**
	17nm,0.2s						
CHKK	**Chushkaly**	**1.01**	**306**	*e*P	**Pb**	**19 19 22.2**	**-1.2**
	baz=6.0						
CHKK				*e*S	**Sb**	**19 19 35.6**	**-1.4**
	baz=6.0						
CHKK	**Chushkaly**	**1.01**	**306**	*e*P	**Pb**	**19 19 22.2**	**-1.2**
	4.5nm,0.2s						
CHKK				*e*S	**Sb**	**19 19 35.7**	**-1.4**
	31nm,0.2s						
CHKK	**Chushkaly**	**1.01**	**306**	P	**Pb**	**19 19 22.2**	**-1.2**
	4.5nm,0.2s						
CHKK				S	**Sb**	**19 19 35.7**	**-1.4**
	31nm,0.2s						
PDGK	**Podgornoye**	**1.01**	**86**	P	**Pb**	**19 19 21.9**	**-1.6**
	3.8nm,0.1s						
PDGK				S	**Sb**	**19 19 35.0**	**-2.3**
	7.6nm,0.2s						
PDGK	**Podgornoye**	**1.01**	**86**	⇓P	**Pb**	**19 19 21.9**	**-1.6**
	1.4nm,0.3s						
PDGK				⇓S	**Sb**	**19 19 34.9**	**-2.4**
	7.3nm,0.5s						
IZV	**Izvestkoviy**	**1.12**	**259**	*e*P	**Pb**	**19 19 24.7**	**-0.7**
	baz=58						
IZV				*e*S	**Sg**	**19 19 39.8**	**+0.6**
	baz=58						
IZV	**Izvestkoviy**	**1.12**	**259**	*e*P	**Pb**	**19 19 24.7**	**-0.7**
	4.6nm,0.1s						
IZV				*e*S	**Sg**	**19 19 39.7**	**+0.6**
	35nm,0.2s						
IZV	**Izvestkoviy**	**1.12**	**259**	P	**Pb**	**19 19 24.7**	**-0.7**
	4.6nm,0.1s						
IZV				S	**Sg**	**19 19 39.7**	**+0.6**
	35nm,0.2s						
KTBS	**Karatobe**	**1.13**	**294**	*e*P	**Pb**	**19 19 24.6**	**-0.9**
	11nm,0.2s						
KTBS				*e*S	**Sb**	**19 19 39.5**	**-1.1**
	35nm,0.2s						
KTBS	**Karatobe**	**1.13**	**294**	P	**Pb**	**19 19 24.6**	**-0.9**
	11nm,0.2s						
KTBS				S	**Sb**	**19 19 39.6**	**-1.1**
	35nm,0.2s						
MTBS	**Maitube**	**1.23**	**264**	*e*P	**Pb**	**19 19 26.9**	**-0.4**
	baz=64						
MTBS				*e*S	**Sg**	**19 19 43.4**	**+0.5**
	baz=64						
MTBS	**Maitube**	**1.23**	**264**	*e*P	**Pb**	**19 19 26.9**	**-0.4**
	5.9nm,0.1s						
MTBS				*e*S	**Sg**	**19 19 43.4**	**+0.5**
	20nm,0.2s						
MTBS	**Maitube**	**1.23**	**264**	P	**Pb**	**19 19 26.9**	**-0.4**
	5.9nm,0.1s						
MTBS				S	**Sg**	**19 19 43.4**	**+0.5**
	20nm,0.2s						
KDJ	**Kajisay**	**1.32**	**211**	⇑*i*P	**Pb**	**19 19 28.0**	**-0.8**
	baz=11						
KDJ				⇑*i*S	**Sb**	**19 19 45.7**	**-1.4**
	baz=11						
KUU	**Kurty**	**1.43**	**297**	⇑*i*P	**Pb**	**19 19 29.8**	**-0.9**
	baz=96						
KUU				⇑*i*S	**Sb**	**19 19 48.6**	**-0.7**
	baz=96						
KUU	**Kurty**	**1.43**	**297**	⇑*i*P	**Pb**	**19 19 29.8**	**-0.9**
	6.5nm,0.2s						
KUU				⇑*i*S	**Sb**	**19 19 48.6**	**-0.7**
	13nm,0.2s						
KUU	**Kurty**	**1.43**	**297**	P	**Pb**	**19 19 29.8**	**-0.9**
	6.5nm,0.2s						
KUU				S	**Sb**	**19 19 48.6**	**-0.7**
	13nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.55**	**188**	⇓*e*P	**Pb**	**19 19 31.9**	**-0.9**
	baz=89						
TARG				⇓*i*S	**Sg**	**19 19 52.7**	**-0.3**
	baz=89						
KST	**Kastek**	**1.58**	**263**	*e*P	**Pb**	**19 19 32.8**	**-0.5**
	baz=62						
KST				⇑*i*S	**Sb**	**19 19 53.7**	**-0.1**
	baz=62						
KST	**Kastek**	**1.58**	**263**	*e*P	**Pb**	**19 19 32.8**	**-0.5**
	3.8nm,0.2s						
KST				⇑*i*S	**Sb**	**19 19 53.7**	**-0.1**
	5.2nm,0.3s						
KST	**Kastek**	**1.58**	**263**	P	**Pb**	**19 19 32.8**	**-0.5**
	3.8nm,0.2s						
KST				S	**Sb**	**19 19 53.7**	**-0.1**
	5.2nm,0.3s						
KTMS	**Ketmen**	**1.65**	**83**	*e*P	**Pb**	**19 19 33.1**	**-1.3**
	baz=83						
KTMS				*e*S	**Sb**	**19 19 54.4**	**-1.2**
	baz=83						
KTMS	**Ketmen**	**1.65**	**83**	*e*P	**Pb**	**19 19 33.1**	**-1.3**
	2.8nm,0.1s						
KTMS				*e*S	**Sb**	**19 19 54.4**	**-1.2**
	18nm,0.2s						
KTMS	**Ketmen**	**1.65**	**83**	P	**Pb**	**19 19 33.1**	**-1.3**
	2.8nm,0.1s						
KTMS				S	**Sb**	**19 19 54.4**	**-1.2**
	18nm,0.2s						
DGS	**Degeres**	**1.71**	**270**	*e*P	**Pb**	**19 19 34.4**	**-1.0**
	baz=70						
DGS				*e*S	**Sb**	**19 19 56.8**	**-0.5**
	baz=70						
DGS	**Degeres**	**1.71**	**270**	*e*P	**Pb**	**19 19 34.4**	**-1.0**
	5.3nm,0.3s						
DGS				*e*S	**Sb**	**19 19 56.8**	**-0.5**
	16nm,0.4s						
DGS	**Degeres**	**1.71**	**270**	P	**Pb**	**19 19 34.4**	**-1.0**
	5.3nm,0.3s						
DGS				S	**Sb**	**19 19 56.8**	**-0.5**
	16nm,0.4s						
ULHL	**Ulahol**	**1.71**	**234**	⇑*i*P	**Pb**	**19 19 34.5**	**-1.0**
	baz=34						
ULHL				⇑*i*S	**Sb**	**19 19 57.3**	**-0.2**
	baz=34						
BOOM	**Boomskoye usch**	**1.77**	**245**	⇓*i*P	**Pb**	**19 19 35.4**	**-1.1**
	baz=45						
BOOM				⇓*i*S	**Sb**	**19 19 58.6**	**-0.6**
	baz=45						
KRBS	**Karabastau**	**1.82**	**285**	*e*P	**Pb**	**19 19 36.3**	**-1.0**
	3.0nm,0.3s						
KRBS				*e*S	**Sb**	**19 19 59.6**	**-1.0**
	14nm,0.3s						
KRBS	**Karabastau**	**1.82**	**285**	P	**Pb**	**19 19 36.3**	**-1.0**
	3.0nm,0.3s						
KRBS				S	**Sb**	**19 19 59.7**	**-1.0**
	14nm,0.3s						
TKM2	**Tokmak 2**	**1.87**	**260**	⇑*i*P	**Pb**	**19 19 37.1**	**-1.1**
	baz=60						
TKM2				⇑*i*S	**Sb**	**19 20 01.0**	**-1.1**
	baz=60						
TKM2	**Tokmak 2**	**1.87**	**260**	⇑Pg	**Pb**	**19 19 37.8**	**-0.4**
	0.6nm,0.3s						
TKM2				⇓Lg	Lg	19 20 02.8	
	2.1nm,0.2s						
KAPS	**Kapalarasan**	**2.21**	**23**	*e*P	**Pb**	**19 19 43.2**	**-0.8**
	1.6nm,0.4s						
KAPS				*e*S	**Sb**	**19 20 11.8**	**-0.1**
	4.4nm,0.2s						
KAPS	**Kapalarasan**	**2.21**	**23**	Pg	**Pb**	**19 19 43.2**	**-0.8**
	1.6nm,0.4s						
KAPS				Lg	Lg	19 20 11.8	
	4.4nm,0.2s						
KBK	**Karagaybulak**	**2.40**	**256**	⇑*i*P	**Pb**	**19 19 44.5**	**-2.7**
	baz=56						
KBK				⇑*i*S	**Sn**	**19 20 13.5**	**-0.1**
	baz=56						
KZA	**Kyzart**	**2.42**	**242**	⇓*i*P	**Pn**	**19 19 44.9**	**+0.8**
	baz=42						
KZA				⇓*i*S	**Sn**	**19 20 14.4**	**-0.1**
	baz=42						
CHMS	**Chumysh**	**2.47**	**265**	⇑*i*P	**Pb**	**19 19 45.5**	**-2.9**
	baz=65						
CHMS				⇑*i*S	**Sn**	**19 20 15.5**	**+0.2**
	baz=65						
AAK	**Ala-Archa**	**2.73**	**258**	⇑Lg	Lg	19 20 30.1	
	2.9nm,0.6s						
UCH	**Uchtor**	**2.84**	**250**	⇑*e*P	**Pn**	**19 19 50.6**	**+0.6**
	baz=50						
UCH				⇑*i*S	**Sn**	**19 20 24.8**	**-0.2**
	baz=50						
ARLS	**Aral**	**3.13**	**245**	⇑*i*P	**Pn**	**19 19 54.2**	**+0.6**
	baz=45						
ARLS				⇑*i*S	**Sn**	**19 20 30.9**	**-0.7**
	baz=45						
MRKS	**Merke**	**3.62**	**263**	*e*P	**Pb**	**19 20 09.9**	**+2.0**
	0.8nm,0.1s						
MRKS				*e*S	**Sg**	**19 20 57.5**	**-1.9**
	3.0nm,0.3s						
MRKS	**Merke**	**3.62**	**263**	Pg	**Pb**	**19 20 09.9**	**+2.0**
	0.8nm,0.1s						
MRKS				Lg	Lg	19 20 57.5	
	3.0nm,0.3s						
MK31	**Makanchi Array**	**4.61**	**39**	⇑Pg	**Pg**	**19 20 28.5**	**-3.1**
	baz=104,slow=25,SNR=3.7						
MK31				⇑Lg	Lg	19 21 31.1	
	0.4nm,0.6s,baz=218,slow=29,SNR=6.6						

*SKHL **04** 19:19:55.6±0.6, 47°.91N × 155°.96E, h50km±5km, mb4.0/2*
*KRSC **04** 19:19:55.6±2.1, 49°.47N × 154°.74E, h276km±17km, ML4.0*
*IDC **04** 19:19:59.8±1.7, 50°.31N × 153°.38E, h252km±18km, mb3.0/10, mb1 3.3/14, mb1mx3.1/43, mbtmp3.7/14, Error ellipse: s-maj=23.1km s-min=12.6km az=161.0*
ISC 04 19:19:54.2±1.0, 49°.5N±0°.1 × 154°.8E±0°.1, h300km, n46, σ2s66/57, mb3.2/10, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALID	**Alaid**	**1.48**	**20**	*e*P	**Pn**	**19 20 38.6**	**+1.3**
SKR	**Severo-Kuril's**	**1.49**	**36**	*e*P	**Pn**	**19 20 37.4**	**+0.3**
SKR				*e*S	**S**	**19 21 07.9**	**-3.5**
SKR	**Severo-Kuril's**	**1.49**	**36**	*e*P	**Pn**	**19 20 37.5**	**+0.3**
SKR				*e*S	**S**	**19 21 08.5**	**-2.9**
SKR				A	A	19 21 19.6	
	60nm,0.2s						
SKR				A	A	19 21 19.6	
	90nm,0.2s						
PAU	**Pauzhetka**	**2.39**	**33**	*e*S	**S**	**19 21 23.7**	**-0.1**
PAU	**Pauzhetka**	**2.39**	**33**	*e*P	Pn	19 20 49.8	+5.8
MIPR	**Malaya Ipel'ka**	**3.08**	**24**	*e*P	**Pn**	**19 20 50.6**	**0.0**
MIPR				*e*S	**S**	**19 21 31.2**	**-4.4**
ASAK	**Asacha**	**3.53**	**33**	*e*P	**Pn**	**19 20 57.1**	**+1.9**
ASAK				S	**S**	**19 21 45.8**	**+1.7**
MTVR	**Mutnovka**	**3.71**	**35**	*e*P	**Pn**	**19 20 59.2**	**+1.9**
MTVR				*e*S	**S**	**19 21 45.4**	**-2.3**
GRL	**Gorelyy**	**3.73**	**33**	*e*P	**Pn**	**19 20 59.3**	**+1.9**
GRL				S	**S**	**19 21 48.3**	**+0.3**
RUS	**Russkaya**	**3.80**	**37**	*e*P	**Pn**	**19 20 59.8**	**+1.8**
RUS				*e*S	**S**	**19 21 45.1**	**-4.0**
PETK	**Petropavlovsk-**	**4.08**	**26**	P	**Pn**	**19 21 01.9**	**+0.8**
	1.0nm,0.3s,baz=215,slow=11,SNR=27						
PET	**Petropavlovsk**	**4.31**	**33**	*e*S	**S**	**19 21 58.6**	**-0.9**
DALK	**Dalny**	**4.36**	**34**	*e*S	**S**	**19 21 55.9**	**-4.4**
UGLR	**Uglovaya**	**4.53**	**33**	*e*P	**Pn**	**19 21 09.3**	**+3.1**
UGLR				*e*S	**S**	**19 22 03.6**	**-0.4**
KOK	**Koryaka**	**4.53**	**31**	*e*P	**Pn**	**19 21 09.0**	**+2.8**
KOK				*e*S	**S**	**19 22 02.7**	**-1.3**
AVH	**Avacha**	**4.54**	**32**	*e*P	**Pn**	**19 21 08.5**	**+2.1**
AVH				*e*S	**S**	**19 22 04.9**	**+0.6**
SMAR	**Somma**	**4.56**	**32**	*e*P	**Pn**	**19 21 09.1**	**+2.4**
SMAR				*e*S	**S**	**19 22 05.1**	**+0.2**
KRER	**Koryakskii**	**4.58**	**32**	*e*P	**Pn**	**19 21 09.5**	**+2.6**
KRER				*e*S	**S**	**19 22 04.6**	**-0.6**
KRX	**Arik**	**4.59**	**31**	*e*P	**Pn**	**19 21 08.9**	**+1.9**
KRX				*e*S	**S**	**19 22 04.7**	**-0.7**
SDLR	**Sedlovina**	**4.60**	**33**	*e*P	**Pn**	**19 21 09.8**	**+2.7**
NLC	**Nalytchevo**	**4.69**	**36**	*e*S	**S**	**19 22 03.3**	**-3.8**
SPN	**Mys Shipunski**	**4.91**	**40**	*e*P	**Pn**	**19 21 12.8**	**+2.3**
SPN				*e*S	**S**	**19 22 07.1**	**-4.7**
KUR	**Kuril'sk**	**6.31**	**230**	*i* P	**Pn**	**19 21 25.8**	**-1.4**
KUR				AMB	AMB	19 21 29.9	
	7.0nm,0.4s						
KUR				*e*S	S	19 22 33.1	-9.2
KUR				A	A	19 22 48.9	
	20nm,0.3s						
KUR				A	A	19 22 48.9	
	20nm,0.3s						
KZV	**Kizimen**	**6.59**	**29**	*e*P	**Pn**	**19 21 34.3**	**+3.8**
TUMR	**Tumrok**	**6.69**	**28**	*e*P	**Pn**	**19 21 34.5**	**+2.9**
TUMD	**Tumrok D**	**6.70**	**29**	*e*P	**Pn**	**19 21 35.3**	**+3.6**
KMNR	**Kamenistaya**	**7.12**	**26**	*e*P	**Pn**	**19 21 39.1**	**+2.2**
BDR	**Baidarnaya**	**8.10**	**26**	*e*P	Pn	19 21 54.2	+5.4
BDR				*e*S	**S**	**19 23 20.7**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**8.17**	**232**	*e*P	**Pn**	**19 21 51.1**	**+1.3**
YUK				AMB	AMB	19 21 52.0	
	2.0nm,0.3s						
YUK				*e*S	**S**	**19 23 18.1**	**-5.6**
YUK				A	A	19 23 25.3	
	9.0nm,0.6s						
GRPR	**Tuman**	**8.25**	**232**	*e*P	**Pn**	**19 21 52.2**	**+1.4**
GRPR				*e*S	**S**	**19 23 20.0**	**-5.4**
KBG	**Krutoberegovo**	**8.32**	**32**	*e*P	**Pn**	**19 21 54.2**	**+2.8**
KBTR	**Krutoberegovo**	**8.32**	**33**	*e*P	**Pn**	**19 21 54.0**	**+2.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERCV	**ERCIS-VAN**	**0.29**	**302**	PG	**Pg**	**19 23 34.7**	**-0.1**
VANB	**Van**	**0.34**	**217**	PG	**Pb**	**19 23 37.3**	**-0.4**
VANB				SG	**Sb**	**19 23 43.9**	**+0.5**
CLDR	**Caldiran**	**0.34**	**37**	PG	**Pg**	**19 23 36.1**	**+0.3**
CLDR				SG	**Sb**	**19 23 42.5**	**-1.2**
CLDR	**Caldiran**	**0.34**	**37**	*i* P	**Pg**	**19 23 36.2**	**+0.3**
CLDR				*i* S	**Sb**	**19 23 43.1**	**-0.6**
TVAN	**Van**	**0.39**	**210**	*i* P	**Pg**	**19 23 37.1**	**+0.4**
TVAN				*i* S	**Sb**	**19 23 44.8**	**-0.1**
TVAN				IAML		19 23 45.0	
	comp=E,4μm,0.5s						
DYDN	**Diyadin**	**0.68**	**2**	*i* P	**Pg**	**19 23 41.6**	**-0.5**
DYDN				*i* S	**Sb**	**19 23 52.5**	**-0.7**
DYDN				IAML		19 23 53.0	
	comp=E,1μm,0.3s						
DYDN				IAML		19 23 54.0	
	comp=N,2μm,0.3s						
GEVA	**Gevas**	**0.72**	**220**	*i* P	**Pg**	**19 23 42.2**	**-0.7**
GEVA				*i* S	**Sb**	**19 23 55.1**	**+0.6**
AKDM	**Akdamar-Van**	**0.75**	**225**	PG	**Pg**	**19 23 43.1**	**-0.4**
TUTA	**Tutak**	**0.84**	**310**	*i* P	**Pg**	**19 23 44.5**	**-0.7**
TUTA				*i* S	**Sb**	**19 23 57.4**	**-0.6**
BASK	**Baskale_VAN**	**0.86**	**161**	*i* P	**Pg**	**19 23 45.9**	**+0.3**
AGRB	**Hanur-Agry**	**0.87**	**324**	PG	**Pg**	**19 23 45.5**	**-0.4**
MLAZ	**Malazgirt-MUS**	**0.90**	**288**	PG	**Pg**	**19 23 46.4**	**0.0**
IGDI	**IGDIR**	**1.05**	**18**	*i* P	**Pg**	**19 23 49.0**	**-0.3**
TASB	**TASBURUN-IGDIR**	**1.20**	**22**	PN	**Pn**	**19 23 52.5**	**-0.1**
VNNZ	**Vanand**	**1.24**	**6**	⇑*i* P	**Pn**	**19 23 53.1**	**0.0**
VNNZ				⇓*i* S	**Sn**	**19 24 10.1**	**-0.2**
BLIS	**Bitlis-Merkez**	**1.28**	**250**	*i* P	**Pn**	**19 23 52.2**	**-1.6**
BLIS				*i* S	**Sg**	**19 24 10.2**	**-0.2**
BLIS				IAML		19 24 18.0	
	comp=E,347nm,0.4s						
HAKT	**HAKKARI**	**1.31**	**178**	*i* P	**Pn**	**19 23 52.5**	**-1.7**
METS	**Metsamor**	**1.32**	**14**	⇓*i* P	**Pg**	**19 23 54.6**	**+0.1**
METS				⇓*i* S	**Sn**	**19 24 12.4**	**+0.1**
EATA	**Eleskirt**	**1.34**	**318**	*i* P	**Pn**	**19 23 54.2**	**-0.5**
EATA				*i* S	**Sn**	**19 24 14.5**	**+1.5**
YOVA	**Hakkari_Yksek**	**1.37**	**158**	*i* P	**Pn**	**19 23 54.5**	**-0.5**
NRKZ	**NAREK**	**1.38**	**34**	⇓*i* P	**Pn**	**19 23 54.9**	**-0.1**
NRKZ				⇓*i* S	**Sn**	**19 24 13.4**	**-0.2**
ARUZ	**Aruch**	**1.45**	**13**	⇓*i* P	**Pg**	**19 23 57.0**	**0.0**
ARUZ				⇓*i* S	**Sg**	**19 24 16.8**	**+0.9**
DIGO	**Kars**	**1.56**	**352**	*i* P	**Pg**	**19 23 59.1**	**+0.1**
CUKT	**Cukurca**	**1.62**	**181**	PN	**Pb**	**19 23 59.5**	**0.0**
CUKT	**Cukurca**	**1.62**	**181**	*i* P	**Pn**	**19 23 58.6**	**+0.2**
KAPZ	**Kaputan**	**1.66**	**29**	⇑*i* P	**Pb**	**19 24 00.4**	**+0.1**
KAPZ				⇑*i* S	**Sg**	**19 24 22.5**	**0.0**
SIRT	**Sirnak**	**1.67**	**215**	PN	**Pb**	**19 24 00.3**	**0.0**
MUSM	**Mu-Merkez**	**1.68**	**266**	*i* P	**Pn**	**19 23 58.9**	**-0.3**
MUSM				*i* S	**Sg**	**19 24 23.5**	**+0.5**
VRTB	**Varto-Mus**	**1.73**	**280**	PN	**Pb**	**19 24 01.3**	**-0.2**
VRTB	**Varto-Mus**	**1.73**	**280**	*i* P	**Pb**	**19 24 00.9**	**-0.6**
KOPR	**Koprukoy-ERZUR**	**1.79**	**309**	PN	**Pb**	**19 24 01.7**	**-0.7**
HOMI	**Horasan**	**1.79**	**312**	*i* P	**Pg**	**19 24 03.4**	**0.0**
KARS	**Kars**	**1.81**	**346**	PN	**Pb**	**19 24 01.9**	**-0.9**
EAK	**Akyaka**	**1.82**	**359**	*i* P	**Pg**	**19 24 05.0**	**+1.1**
SEK	**Senkaya-Erzuru**	**1.97**	**330**	PN	**Pn**	**19 24 04.1**	**+0.9**
SVAN	**Silvan-Diyarba**	**2.05**	**250**	PN	**Pn**	**19 24 05.8**	**-1.0**
KARO	**Karliova-Bingo**	**2.07**	**283**	PN	**Pn**	**19 24 05.7**	**+1.0**
BNGB	**Bingl**	**2.32**	**274**	PN	**Pb**	**19 24 09.7**	**-1.8**
YEDI	**Yedisu-Bingol**	**2.48**	**284**	PN	**Pn**	**19 24 11.7**	**+1.4**
AKH	**Akhalkalaki**	**2.54**	**357**	PN	**Pn**	**19 24 12.5**	**+1.4**
MAZI	**Mazidag**	**2.89**	**242**	PN	**Pn**	**19 24 17.3**	**+1.5**
DYBB	**Diyarbakir**	**2.91**	**253**	PN	**Pn**	**19 24 17.9**	**+1.9**

*IDC **04** 19:35:33.3±1.6,20.˚59S×70.˚48W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.8/20,mbtmp4.0/3,MS3.8/2,Ms1 3.8/2, ms1mx3.1/18,Error ellipse: s-maj=65.8km s-min=40.9km az=96.0*

*NEIC **04** 19:35:35.2±0.9,20.˚70S±0.˚04×70.˚77W±0.˚05,h18km±2km, mb4.3/2,Mwr4.1/41,Error ellipse: s-maj=6.2km s-min=6.1km az=197.0*

*NEIC **04** 19:35:35.2,20.˚70S×70.˚77W,h21km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.05; $M_{\theta\theta}$-0.21; $M_{\phi\phi}$-0.83; $M_{r\theta}$0.27; $M_{r\phi}$0.44; $M_{\theta\phi}$-1.51; Fault plane solution: M_o1.86000×10^{15} NP1:ϕ_s166.51000°, δ73.09000°,λ.98.24000°. NP2:ϕ_s320.03000°,δ18.76000°, λ64.74000°. Principal axes: T 1.8805, Plg61.0000°, Azm89.0000°; N -0.0480, Plg8.0000°, Azm344.0000°; P -1.8326, Plg28.0000°, Azm250.0000°;*

*GUC **04** 19:35:36.2±0.9,20.˚68S×70.˚81W,h22km±7km,ML3.9*

*VAO **04** 19:35:37.5±1.1,20.˚73S×70.˚97W,h60km±8km,mb4.0*

ISC 04 19:35:33.7±1.6,**20.˚69S**±0.˚03×**70.˚85W**±0.˚06,**h11**km±10km, **n82,σ1°21/86,mb4.3/3,6C-6D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.64**	**79**	⇓*i* P	**Pg**	**19 35 46.3**	**+0.1**
TA01				*i* S	**Sg**	**19 35 54.0**	**-0.6**
TA01				IAML		19 35 58.2	
	comp=N,5μm,0.3s						
TA01	**Diego Aracena**	**0.64**	**79**		**Pg**	**19 35 46.3**	**+0.1**
PATCX	**Punta Patache**	**0.67**	**101**	⇓*i* P	**Pg**	**19 35 47.1**	**+0.3**
PATCX				IAML		19 35 58.9	
	comp=N,6μm,0.3s						
PATCX	**Punta Patache**	**0.67**	**101**		**Pg**	**19 35 47.0**	**+0.3**
TA02	**Huaiquique**	**0.79**	**58**	⇓*i* P	**Pb**	**19 35 49.1**	**-0.5**
TA02				*i* S	**Sb**	**19 35 59.2**	**-1.2**
TA02				IAML		19 36 01.8	
	comp=N,6μm,0.2s						
PB02	**IPOC Station P**	**1.09**	**125**	⇓*i* P	**Pb**	**19 35 54.5**	**-0.3**
PB02				*i* S	**Sb**	**19 36 08.3**	**-0.8**
PB02				IAML		19 36 11.4	
	comp=E,12μm,0.4s						
PSGC	**Pisagua**	**1.28**	**32**	⇑*i* P	**Pn**	**19 35 56.9**	**-0.9**
PSGC				*e*S	**Sb**	**19 36 12.9**	**-1.8**
PSGC				IAML		19 36 17.1	
	comp=N,3μm,0.5s						
PSGCX	**Pisagua**	**1.28**	**32**		**Pn**	**19 35 56.9**	**-0.9**
PB01	**IPOC Station P**	**1.32**	**106**	⇓*i* P	**Pn**	**19 35 58.0**	**-0.4**
PB01				*i* S	**Sn**	**19 36 14.5**	**-1.5**
PB01				IAML		19 36 17.0	
	comp=N,6μm,0.4s						
PB01	**IPOC Station P**	**1.32**	**106**		**Pn**	**19 35 57.7**	**-0.6**
PB07	**IPOC Station P**	**1.37**	**139**	⇑*i* P	**Pn**	**19 35 59.1**	**0.0**
PB07				*i* S	**Sn**	**19 36 16.5**	**-0.8**
PB07				IAML		19 36 21.8	
	comp=E,4μm,0.5s						
PB07	**IPOC Station P**	**1.37**	**139**		**Pn**	**19 35 58.9**	**-0.2**
PB11	**IPOC Station P**	**1.45**	**51**	⇑*e*P	**Pn**	**19 35 59.7**	**-0.5**
PB11				*i* S	**Sn**	**19 36 18.1**	**-1.3**
PB11				IAML		19 36 22.5	
	comp=E,4μm,0.6s						
PB11	**IPOC Station P**	**1.45**	**51**		**Pn**	**19 35 59.7**	**-0.5**
PB08	**IPOC Station P**	**1.68**	**71**	⇑*i* P	**Pn**	**19 36 03.4**	**-0.1**
PB08				*i* S	**Sn**	**19 36 25.1**	**-0.3**
PB08				IAML		19 36 28.2	
	comp=E,2μm,0.4s						
PB08	**IPOC Station P**	**1.68**	**71**		**Pn**	**19 36 03.5**	**-0.1**
PB03	**IPOC Station P**	**1.70**	**143**	⇑*i* P	**Pn**	**19 36 03.8**	**+0.2**
PB03				*i* S	**Sn**	**19 36 25.3**	**0.0**
PB03				IAML		19 36 33.4	
	comp=E,2μm,0.6s						
PB04	**IPOC Station P**	**1.76**	**158**	IAML		19 36 37.4	
	comp=N,3μm,0.3s						
PB04	**IPOC Station P**	**1.76**	**158**		**Pn**	**19 36 04.5**	**0.0**
GO01	**Chusmiza**	**1.86**	**57**	⇑*i* P	**Pn**	**19 36 06.1**	**0.0**
GO01				*e*S	**Sn**	**19 36 30.1**	**+0.3**
GO01	**Chusmiza**	**1.86**	**57**		**Pn**	**19 36 06.0**	**-0.1**
PB09	**IPOC Station P**	**1.86**	**127**	*e*P	**Pn**	**19 36 07.0**	**+1.2**
PB09				*e*S	**Sn**	**19 36 30.6**	**+1.1**
PB09				IAML		19 36 43.9	
	comp=N,2μm,0.6s						
PB09	**IPOC Station P**	**1.86**	**127**		**Pn**	**19 36 07.2**	**+1.3**
MNMC	**Minye Minye**	**1.95**	**38**	*e*P	**Pn**	**19 36 07.2**	**+0.1**
MNMC				*e*S	**Sn**	**19 36 32.4**	**+0.6**
MNMC				IAML		19 36 38.7	
	comp=N,5μm,0.5s						
MNMC	**Minye Minye**	**1.95**	**38**		**Pn**	**19 36 06.9**	**-0.2**
PB12	**IPOC Station P**	**2.12**	**14**	IAML		19 36 49.4	
	comp=E,966nm,0.7s						
PB12	**IPOC Station P**	**2.12**	**14**		**Pn**	**19 36 09.9**	**+0.6**
PB05	**IPOC Station P**	**2.24**	**164**	⇓*e*P	**Pn**	**19 36 10.8**	**-0.1**
PB05				*i* S	**Sn**	**19 36 36.2**	**-2.4**
PB05				IAML		19 36 50.7	
	comp=E,1μm,0.7s						
AP01	**Chacalluta**	**2.36**	**12**		**Pn**	**19 36 13.6**	**+1.2**
LVC	**Limon Verde**	**2.63**	**137**	*e*P	**Pn**	**19 36 18.3**	**+1.7**
LVC				*i* S	**Sn**	**19 36 50.7**	**+2.0**
LVC	**Limon Verde**	**2.63**	**137**		**Pn**	**19 36 18.2**	**+1.7**
LVC	**Limon Verde**	**2.63**	**137**	*e*P	**Pn**	**19 36 18.2**	**+1.7**
LVC				*e*S	**Sn**	**19 36 50.2**	**+1.6**
LVC	**Limon Verde**	**2.63**	**137**	*e*P	**Pn**	**19 36 18.2**	**+1.7**
LVC				*e*S	**Sn**	**19 36 50.2**	**+1.6**
PB15	**IPOC Station P**	**2.82**	**153**		**Pn**	**19 36 18.9**	**-0.1**
PB10	**IPOC Station P**	**2.82**	**174**		**Pn**	**19 36 18.6**	**-0.3**
GO02	**Mina Guanaco**	**4.60**	**166**	Pn	**Pn**	**19 36 43.9**	**+0.2**
LPAZ	**La Paz**	**5.08**	**31**		**Pn**	**19 36 54.5**	**+4.0**
AC01	**Pan de Azucar**	**5.44**	**178**	Pn	**Pn**	**19 36 53.3**	**-1.5**
PTLB	**Pontes e Lacer**	**12.30**	**67**	*e*P	**Pn**	**19 38 29.9**	**+1.0**
PTLB	**Pontes e Lacer**	**12.30**	**67**	*e*P	**Pn**	**19 38 29.9**	**+1.0**
VILB	**Vilhena**	**12.77**	**55**	*e*P	**Pn**	**19 38 38.9**	**+3.4**
VILB	**Vilhena**	**12.77**	**55**	*e*P	**Pn**	**19 38 38.9**	**+3.4**
SAML	**Samuel**	**13.82**	**33**	*e*P	**Pn**	**19 38 51.8**	**+2.0**
SAML	**Samuel**	**13.82**	**33**	*e*P	**Pn**	**19 38 51.8**	**+2.0**
H03N1	**Juan Fernandez**	**14.58**	**208**	T	T	19 54 08.5	
	baz=34,slow=72,SNR=96						
H03N2	**Juan Fernandez**	**14.59**	**208**	T	T	19 54 11.2	
	baz=34,slow=72,SNR=87						
H03N3	**Juan Fernandez**	**14.60**	**208**	T	T	19 54 07.4	
	baz=34,slow=72,SNR=80						
ITQB	**Itaqui**	**15.67**	**128**	*e*P	**Pn**	**19 39 15.1**	**+0.5**
ITQB	**Itaqui**	**15.67**	**128**	*e*P	**Pn**	**19 39 15.1**	**+0.5**
PTGB	**Pitanga**	**17.79**	**107**	*e*P	**P**	**19 39 42.7**	**+0.3**
PTGB	**Pitanga**	**17.79**	**107**	*e*P	**P**	**19 39 42.7**	**+0.3**
ARAG	**Araguaiana, MT**	**18.75**	**78**	*e*P	**P**	**19 39 53.4**	**+0.5**
ARAG	**Araguaiana, MT**	**18.75**	**78**	*e*P	**P**	**19 39 53.4**	**+0.5**
FRTB	**Fartura**	**19.91**	**102**	*e*P	**P**	**19 40 05.1**	**-0.6**
FRTB	**Fartura**	**19.91**	**102**	*e*P	**P**	**19 40 05.1**	**-0.6**
PLCA	**Paso Flores**	**19.98**	**179**	P	**Pn**	**19 40 08.4**	**+0.4**
	comp=E,3.7nm,1.0s,baz=27,slow=9.0,SNR=1.8						
PLCA	**Paso Flores**	**19.98**	**179**	*e*P	**P**	**19 40 04.3**	**-2.0**
PLCA	**Paso Flores**	**19.98**	**179**	*e*P	**P**	**19 40 04.3**	**-2.0**
MACA	**Manacapuru-AM**	**20.04**	**31**	*e*P	**P**	**19 40 07.1**	**0.0**
MACA	**Manacapuru-AM**	**20.04**	**31**	*e*P	**P**	**19 40 07.1**	**0.0**
NPGB	**Novo Progresso**	**20.23**	**50**	*e*P	**P**	**19 40 08.0**	**-1.1**
NPGB	**Novo Progresso**	**20.23**	**50**	*e*P	**P**	**19 40 08.0**	**-1.1**
BB19B	**Bebedouro**	**20.86**	**95**	*e*P	**P**	**19 40 16.6**	**+0.6**
BB19B	**Bebedouro**	**20.86**	**95**	*e*P	**P**	**19 40 16.6**	**+0.6**
IPMB	**Ipameri, GO**	**21.53**	**87**	*e*P	**P**	**19 40 22.8**	**-0.4**
IPMB	**Ipameri, GO**	**21.53**	**87**	*e*P	**P**	**19 40 22.8**	**-0.4**
BDFB	**Brasilia**	**22.26**	**81**	LR	LR	19 50 35.7	
	comp=E,227nm,18.5s,baz=293,slow=41						
PTGA	**Pitinga**	**22.51**	**30**	P	**P**	**19 40 33.1**	**-0.6**
PTGA				IAmb	IAmb	19 40 35.0	
	comp=Z,8.8nm,0.8s						
PTGA	**Pitinga**	**22.51**	**30**	*e*P	**P**	**19 40 33.8**	**+0.1**
PTGA	**Pitinga**	**22.51**	**30**	*e*P	**P**	**19 40 33.8**	**+0.1**
JANB	**Januaria**	**25.86**	**82**	*e*P	**P**	**19 41 04.2**	**-1.5**
JANB	**Januaria**	**25.86**	**82**	*e*P	**P**	**19 41 04.2**	**-1.5**
RUSC	**La Rusia**	**26.51**	**355**	P	**P**	**19 41 13.2**	**+1.2**
TORD	**Torodi Ar. Bea**	**78.80**	**71**	P	**P**	**19 47 36.5**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=255,slow=5.2,SNR=24						
TORD				LR	LR	20 20 58.2	
	comp=Z,63nm,18.2s,baz=160,slow=35						
YKA	**Yellowknife Ar**	**89.83**	**341**	P	**P**	**19 48 33.0**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=138,slow=4.0,SNR=2.3						
H11S2	**WAKE ISLAND Hy**	**25.97**	**278**	T	T	22 13 37.7	
	baz=102,slow=74,SNR=48						
H11S1	**WAKE ISLAND Hy**	**25.98**	**278**	T	T	22 13 39.5	
	baz=102,slow=74,SNR=31						
H11S3	**WAKE ISLAND Hy**	**25.99**	**278**	T	T	22 13 37.6	
	baz=102,slow=74,SNR=36						
H11N3	**WAKE ISLAND Hy**	**26.04**	**280**	T	T	22 13 58.0	
	baz=102,slow=74,SNR=13						
H11N2	**WAKE ISLAND Hy**	**26.05**	**280**	T	T	22 13 58.0	
	baz=102,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hy**	**26.05**	**280**	T	T	22 13 59.2	
	baz=102,slow=74,SNR=9.4						
MKAR	**Makanchi Array**	**146.01**	**34**	PKPbc	**PKPbc**	**19 55 14.2**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=322,slow=3.4,SNR=12						

*ATH **04** 20:11:24.4,37.˚54N×21.˚05E,h20km±1km,ML2.4/5,Error ellipse: s-maj=1.7km s-min=0.7km az=26.0*

*THE **04** 20:11:25.0,37.˚54N×21.˚06E,h13km±1km,ML2.5/4,Error ellipse: s-maj=1.6km s-min=0.7km az=210.0*

ISC 04 20:11:23.8±1.0,**37.˚53N**±0.˚04×**21.˚02E**±0.˚03,**h28**km±7km, **n66,σ1°48/83,Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	**kERI**	**0.21**	**311**	P	**Pb**	**20 11 30.1**	**+0.2**
KRI1				S	**Sb**	**20 11 34.2**	**+0.1**
	2μm,0.1s						
ZAK2	**Zakynthos**	**0.28**	**341**	P	**Pb**	**20 11 30.8**	**0.0**
ZAK2				S	**Sb**	**20 11 35.3**	**-0.2**
	3μm,0.3s						
VTN	**Vitineika**	**0.41**	**19**	P	**Pb**	**20 11 32.9**	**+0.2**
VTN				S	**Sb**	**20 11 39.2**	**+0.4**
VTN	**Vitineika**	**0.41**	**19**	P	**Pb**	**20 11 33.0**	**+0.2**
VTN				S	**Sb**	**20 11 38.0**	**-0.8**
VLMS	**Volimes, Zakyn**	**0.45**	**322**	P	**Pb**	**20 11 33.5**	**+0.2**
VLMS				S	**Sb**	**20 11 40.0**	**+0.1**
VLMS				AML	AML	20 11 49.9	
	comp=N,1728μm,0.2s						
VLMS				AML	AML	20 11 50.7	
	comp=E,1436μm,0.3s						
AMT	**Artemida-Makis**	**0.55**	**89**	P	**Pb**	**20 11 35.4**	**+0.4**
AMT				S	**Sb**	**20 11 42.5**	**-0.1**
	comp=E,598nm,0.5s						
AMT	**Artemida-Makis**	**0.55**	**89**	P	**Pb**	**20 11 35.5**	**+0.4**
AMT				S	**Sb**	**20 11 42.2**	**-0.4**
AMT				AML	AML	20 11 44.7	
	comp=E,999μm,0.6s						
AMT				AML	AML	20 11 49.6	
	comp=N,1216μm,0.4s						
KFL	**Anninata**	**0.61**	**343**	P	**Pb**	**20 11 36.0**	**+0.1**
KFL				S	**Sb**	**20 11 45.3**	**+1.1**
	comp=N,390nm,0.4s						
KFL	**Anninata**	**0.61**	**343**	P	**Pb**	**20 11 36.1**	**+0.1**
KFL				S	**Sb**	**20 11 44.6**	**+0.3**
KFL				AML	AML	20 11 50.9	
	comp=N,758μm,0.3s						
KFL				AML	AML	20 11 51.8	
	comp=E,898μm,0.3s						
RLS	**Riolos of Patr**	**0.64**	**34**	P	**Pb**	**20 11 36.4**	**0.0**
RLS	**Riolos of Patr**	**0.64**	**34**	P	**Pb**	**20 11 36.5**	**0.0**
RLS				S	**Sb**	**20 11 44.8**	**-0.3**
DRO	**Drossia**	**0.70**	**52**	P	**Pb**	**20 11 37.4**	**0.0**
DRO	**Drossia**	**0.70**	**52**	P	**Pb**	**20 11 37.5**	**0.0**
DRO				S	**Sb**	**20 11 46.6**	**-0.1**
DRO				AML	AML	20 11 53.2	
	comp=E,223μm,0.3s						
DRO				AML	AML	20 11 54.8	
	comp=N,635μm,0.4s						
VLS	**Valsamata**	**0.73**	**333**	P	**Pb**	**20 11 37.9**	**-0.1**
VLS	**Valsamata**	**0.73**	**333**	P	**Pb**	**20 11 37.9**	**-0.1**
VLS				S	**Sb**	**20 11 48.6**	**+0.9**
VLS				AML	AML	20 11 52.9	
	comp=E,445μm,0.2s						
VLS				AML	AML	20 11 54.1	
	comp=N,382μm,0.3s						
ARGA	**Argostoli. Kep**	**0.78**	**327**	P	**Pb**	**20 11 39.5**	**+0.8**
ARGA				S	**Sn**	**20 11 51.2**	**+1.7**
ITM	**Ithomi**	**0.81**	**115**	P	**Pn**	**20 11 39.8**	**+0.6**
ITM	**Ithomi**	**0.81**	**115**	P	**Pn**	**20 11 39.9**	**+0.7**
ITM				S	**Sn**	**20 11 51.2**	**+1.0**
LXRA	**Lixouri, Kepha**	**0.81**	**326**	P	**Pb**	**20 11 40.7**	**+1.4**
PYL	**PYLOS**	**0.86**	**137**	P	**Pn**	**20 11 40.4**	**+0.5**
PYL				S	**Sb**	**20 11 52.1**	**+0.9**
FSK	**Fiskardo**	**1.00**	**339**	P	**Pb**	**20 11 43.2**	**+0.8**
FSK				S	**Sb**	**20 11 57.3**	**+2.1**
TRIP	**Tripoli**	**1.00**	**90**	P	**Pb**	**20 11 43.4**	**+0.9**
TRIP				S	**Sb**	**20 11 55.8**	**+0.5**
KLV	**Kalavryta, Ach**	**1.04**	**60**	P	**Pn**	**20 11 43.2**	**+0.8**
KLV	**Kalavryta, Ach**	**1.04**	**60**	P	**Pn**	**20 11 43.3**	**+0.8**
LAKA	**Lakka**	**1.04**	**47**	P	**Pb**	**20 11 43.6**	**+0.3**
VLX	**Vlachokerasia**	**1.10**	**98**	P	**Pb**	**20 11 45.0**	**+0.9**
EVGI	**Lefkada island**	**1.13**	**346**	P	**Pb**	**20 11 45.5**	**+0.8**
EVGI	**Lefkada island**	**1.13**	**346**	P	**Pb**	**20 11 45.6**	**+1.0**
GUR	**Goura**	**1.13**	**68**	P	**Pn**	**20 11 44.7**	**+0.9**
GUR	**Goura**	**1.13**	**68**	P	**Pn**	**20 11 44.7**	**+0.9**
MGNA	**Meganis**	**1.14**	**351**	P	**Pb**	**20 11 46.7**	**+1.8**
PVO	**Paravola**	**1.16**	**20**	P	**Pb**	**20 11 45.9**	**+0.7**
PVO	**Paravola**	**1.16**	**20**	P	**Pb**	**20 11 45.9**	**+0.7**
TRIZ	**Trizonia**	**1.18**	**45**	P	**Pb**	**20 11 46.2**	**+0.6**
TRIZ	**Trizonia**	**1.18**	**45**	P	**Pb**	**20 11 46.2**	**+0.6**
SERG	**Sergoula**	**1.21**	**43**	P	**Pb**	**20 11 46.7**	**+0.7**
SERG	**Sergoula**	**1.21**	**43**	P	**Pb**	**20 11 46.7**	**+0.7**
KALE	**Kalithea**	**1.24**	**45**	P	**Pb**	**20 11 47.2**	**+0.7**
KALE	**Kalithea**	**1.24**	**45**	P	**Pb**	**20 11 47.3**	**+0.7**
ANX	**Ano Chora**	**1.28**	**34**	P	**Pb**	**20 11 47.8**	**+0.5**
ANX	**Ano Chora**	**1.28**	**34**	P	**Pb**	**20 11 47.9**	**+0.6**
LKD2	**Lefkada island**	**1.29**	**348**	P	**Pb**	**20 11 49.3**	**+1.8**
TSLK	**Tsoukalades, L**	**1.33**	**348**	P	**Pb**	**20 11 50.0**	**+2.0**
EVR	**Evrytania**	**1.52**	**24**	P	**Pb**	**20 11 52.8**	**+1.4**
LOUT	**Loutraki**	**1.62**	**73**	P	**Pb**	**20 11 53.1**	**+0.1**
PROD	**Prodromos**	**1.66**	**63**	P	**Pb**	**20 11 54.4**	**+0.7**
KRND	**KRANIDI**	**1.71**	**94**	P	**Pb**	**20 11 55.8**	**+1.4**
MAKR	**Makrakomi, Fth**	**1.73**	**30**	P	**Pb**	**20 11 56.6**	**+1.8**
VLI	**Valiai**	**1.73**	**117**	P	**Pb**	**20 11 54.4**	**-0.5**
DID	**Didima**	**1.77**	**90**	P	**Pb**	**20 11 54.9**	**-0.6**
AXAR	**Agios Charalam**	**1.79**	**46**	P	**Pb**	**20 11 56.8**	**+0.9**
AGG	**Agios Georgios**	**1.82**	**34**	P	**Pb**	**20 11 57.4**	**+1.0**
VIL2	**Platees**	**1.91**	**68**	P	**Pb**	**20 11 57.4**	**-0.5**
LKR	**Lokris**	**1.93**	**54**	P	**Pb**	**20 11 58.5**	**+0.3**
KTHA	**Kythira Island**	**2.07**	**127**	P	**Pb**	**20 12 01.1**	**+0.4**
IGT	**Igoumenitsa**	**2.07**	**345**	P	**Pn**	**20 11 59.2**	**+2.5**
VLY	**Voula,Athens**	**2.23**	**81**	P	**Pb**	**20 12 02.5**	**-0.8**
DION	**Dionisos Attik**	**2.38**	**76**	P	**Pn**	**20 12 03.6**	**+2.8**
DBRK	**Dubrovnik**	**5.59**	**338**	Sn	**Sn**	**20 13 45.7**	**-2.5**
STON	**Ston**	**5.91**	**336**	*e*Pn	Pn	20 12 43.4	-5.9
STON				Sn	**Sn**	**20 13 52.7**	**-3.4**
MAKA	**Makarska**	**6.51**	**333**	Sn	**Sn**	**20 14 07.3**	**-3.6**
HVAR	**Hvar**	**6.63**	**330**	Sn	**Sn**	**20 14 10.1**	**-3.8**
KIJV	**Kijevo**	**7.36**	**333**	Sn	**Sn**	**20 14 27.8**	**-3.9**
ZIRJ	**Zirje**	**7.36**	**328**	*e*Pn	Pn	20 13 03.9	-5.3
ZIRJ				Sn	**Sn**	**20 14 27.3**	**-4.4**
MORI	**Morici**	**7.51**	**329**	Sn	**Sn**	**20 14 32.1**	**-3.3**
DUGI	**Dugi Otok**	**7.88**	**327**	Sn	**Sn**	**20 14 40.1**	**-4.5**

*IDC **04** 20:20:20.2±0.6,9.˚28N×126.˚58E,h0km,mb4.1/14, mb1 4.2/14,mb1mx3.9/51,mbtmp4.1/14,MS3.4/3, Ms1 3.4/3,ms1mx2.8/48,Error ellipse: s-maj=42.5km s-min=13.1km az=78.0*

*NEIC **04** 20:20:21.6±2.1,9.˚36N±0.˚08×126.˚8E±0.˚1,h10km±1km, mb4.5/10,Error ellipse: s-maj=21.0km s-min=11.6km az=111.0*

*MAN **04** 20:20:25.7,9.˚38N×126.˚68E,h64km,MS3.8*

ISC 04 20:20:21.4±2.3,**9.˚32N**±0.˚05×**126.˚72E**±0.˚07,**h7**km±14km, **n65,σ1°17/62,mb4.1/19,4C-3D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.30**	**291**	⇑*e*P	**Pg**	**20 20 46.6**	**+0.2**
SCPH				*e*S	**Sn**	**20 21 04.9**	**+1.2**
CGP	**Cagayan de Oro**	**2.18**	**247**	⇑*e*P	**Pb**	**20 20 59.6**	**-1.5**
CGP				*e*S	**Sb**	**20 21 27.1**	**-1.3**
DAV	**Davao City (W)**	**2.50**	**207**	Pn	**Pb**	**20 21 05.3**	**-1.4**
	71nm,0.3s,baz=82,slow=6.0,SNR=8.2			

NIED ***04*** *20:29:00,20˙.30N×121˙.50E,h32km,Mw4.4 Best double couple: M₀4.14000×10¹⁵ NP1:φ=249.00000°,δ55.00000°, λ=-64.00000°. NP2:φ=29.00000°,δ42.00000°, λ=-122.00000°.*

IDC ***04*** *20:29:27.9±0.5,20˙.03N×121˙.44E,h0km,mb4.0/26, mb1 4.2/27,mb1mx4.1/55,mbtmp4.1/27,ML3.9/1,MS3.5/13, Ms1 3.5/13,ms1mx3.2/54,Error ellipse: s-maj=20.1km s-min=12.0km az=71.0*

MAN ***04*** *20:29:30.9,20˙.24N×121˙.30E,h42km,MS4.3*

JMA ***04*** *20:29:31.0±0.8,20˙.29N×121˙.54E,h0km,M4.7*

NEIC ***04*** *20:29:33.7±1.2,20˙.08N±0˙.06×121˙.49E±0˙.07,h39km±7km, mb4.5/44,Error ellipse: s-maj=11.8km s-min=3.0km az=132.0*

BJI ***04*** *20:29:36.8±0.0,20˙.43N×121˙.12E,h44km,mB4.4/20, mb4.3/32,ML3.9/3,Ms3.8/18,Ms7 3.6/17*

ISC 04 20:29:33.9±0.4**,20˙.07N**±0˙.03×**121˙.47E**±0˙.06**,h40**km**,n137,** σ**1**ℓ**26**/142**,mb4.3**/51**,MS3.4**/13**,1C-1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBP	**Basco**	**0.59**	**51**	*e*P	**Pn**	**20 29 45.6**	**-0.3**
APYP	**Conner**	**2.21**	**186**	*e*P	**Pn**	**20 30 08.5**	**+0.4**
APYP				*e*S	**Sn**	**20 30 34.6**	**+0.6**
SIPP	**Brgy, Tapao**	**2.34**	**204**	⇓*i*P	**Pn**	**20 30 10.6**	**+0.7**
SZP	**Santa**	**2.68**	**201**		**Pn**	**20 30 14.5**	**-0.1**
TWG	**Pinlang**	**2.77**	**352**		**Pn**	**20 30 14.9**	**-0.8**
CAUP	**Cauayan**	**3.12**	**174**	*e*P	**Pn**	**20 30 23.4**	**+2.7**
TPUB	**Ta-pu**	**3.31**	**346**		**Pn**	**20 30 23.7**	**+0.4**
YULB	**Yu-li**	**3.31**	**357**		**Pn**	**20 30 21.7**	**-1.6**
SSLB	**Suanglung**	**3.73**	**353**		**Pn**	**20 30 29.1**	**0.0**
BOLP	**Bolinao**	**3.96**	**202**	*e*P	**Pn**	**20 30 31.4**	**-0.7**
BOLP				*e*S	**Sn**	**20 31 13.6**	**-3.7**
SMPP	**San Manuel, Pa**	**3.97**	**191**	*e*P	**Pn**	**20 30 32.3**	**0.0**
SMPP				*e*S	**Sn**	**20 31 17.9**	**+0.2**
NACB	**Ninganchiao**	**4.09**	**2**	Pn	**Pn**	**20 30 33.7**	**-0.3**
PCPH	**Palayan**	**4.50**	**185**	⇑*e*P	**Pn**	**20 30 41.4**	**+1.8**
SCZP	**Santa Cruz**	**4.52**	**199**	*e*P	**Pn**	**20 30 40.5**	**+0.7**
SCZP				*e*S	**Sn**	**20 31 28.4**	**-2.8**
HATJ	**Hateruma jima**	**4.52**	**28**	P	**Pn**	**20 30 39.7**	**-0.2**
HATJ				S	**Sn**	**20 31 29.5**	**-1.7**
JYNG	**Yonagunijimaku**	**4.57**	**17**	P	**Pn**	**20 30 40.2**	**-0.4**
JYNG				S	**Sn**	**20 31 33.3**	**+0.9**
YHNB	**Yeheng**	**4.58**	**359**		**Pn**	**20 30 41.8**	**+1.0**
YOJ	**Yonaguni jima**	**4.60**	**18**	P	**Pn**	**20 30 41.4**	**+0.5**
YOJ				S	**Sn**	**20 31 34.1**	**+1.0**
YOJ	**Yonaguni jima**	**4.60**	**18**		**Pn**	**20 30 40.7**	**-0.2**
IRIF	**Iriomote-Funau**	**4.73**	**26**	P	**Pn**	**20 30 42.8**	**0.0**
IRIF				S	**Sn**	**20 31 35.4**	**-1.0**
JKRS	**Kuro-shima**	**4.77**	**29**	P	**Pn**	**20 30 43.2**	**-0.1**
JKRS				S	**Sn**	**20 31 36.6**	**-0.7**
JIJ	**Ishigaki jima**	**4.94**	**30**	P	**Pn**	**20 30 44.9**	**-0.7**
JIJ				S	**Sn**	**20 31 39.5**	**-2.0**
JISG	**Ishigakijimahi**	**5.21**	**30**	P	**Pn**	**20 30 48.4**	**-0.9**
JISG				S	**Sn**	**20 31 46.4**	**-1.8**
JTJ	**Tarama**	**5.45**	**33**	P	**Pn**	**20 30 52.1**	**-0.5**
JTJ				S	**Sn**	**20 31 52.2**	**-1.8**
JIRB	**Irabujima**	**5.84**	**35**	P	**Pn**	**20 30 58.2**	**+0.1**
JIRB				*e*S	**Sn**	**20 32 01.5**	**-2.3**
JOGS	**Gusukube**	**5.92**	**37**	P	**Pn**	**20 31 00.5**	**+1.4**
JOGS				*e*S	**Sn**	**20 32 06.2**	**+0.5**
LQP	**Lukban**	**5.92**	**179**	*e*P	**Pn**	**20 31 01.4**	**+2.0**
TGY	**Tagaytay City**	**5.95**	**185**	Pn	**Pn**	**20 31 00.6**	**+0.9**
	36nm,0.3s,baz=122,slow=8.1,SNR=1.8						
TGY				LR	LR	20 33 30.7	
	comp=Z,286nm,18.8s,baz=35,slow=41						
LUBP	**Lubang**	**6.41**	**191**	*e*P	**Pn**	**20 31 06.4**	**+0.6**
LUBP				*e*S	**Sn**	**20 32 14.2**	**-3.5**
BOAC	**Boac**	**6.58**	**177**	*e*P	**Pn**	**20 31 09.8**	**+1.6**
JKE	**Kume jima 2**	**7.92**	**37**	P	**Pn**	**20 31 25.9**	**-0.6**
ENPP	**El Nido**	**9.03**	**193**	*e*P	**Pn**	**20 31 40.8**	**-1.0**
JIH	**Iheya**	**9.14**	**39**	P	**Pn**	**20 31 43.6**	**+0.3**
JOW	**Kunigami**	**9.18**	**42**	P	**Pn**	**20 31 44.6**	**+0.7**
JOW	**Kunigami**	**9.18**	**42**	Pn	**Pn**	**20 31 43.3**	**-0.5**
NJ2	**Nanjing**	**12.16**	**349**	*e*P	**Pn**	**20 32 25.6**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KKM	**Kota Kinabalu**	**14.85**	**201**	P	**P**	**20 33 06.6**	**+0.1**
GYA	**Guiyang**	**15.02**	**298**	P	**P**	**20 33 09.0**	**+0.6**
GYA				PP	**PnPn**	**20 33 18.8**	**+6.9**
GYA				S	**S**	**20 36 02.7**	**-2.4**
GYA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GYA				LR	LR		
	comp=N,160nm,14.1s						
GYA				LR	LR		
	comp=E,140nm,15.6s						
GYA				LR	LR		
	comp=Z,210nm,18.2s						
JNU	**Nakatsue**	**15.47**	**31**	Pn	**Pn**	**20 33 14.2**	**+4.8**
	comp=Z,0.1nm,0.3s,baz=9.8,slow=9.8,SNR=2.6						
JNU				LR	LR	20 39 07.4	
	comp=Z,167nm,21.4s,baz=196,slow=37						
XAN	**Xi'an**	**17.83**	**324**	P	**Pn**	**20 33 38.8**	**-0.2**
XAN				pP	pP	20 33 48.0	-0.3
XAN				sP	sP	20 33 54.4	+1.5
XAN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KMI	**Kunming**	**18.01**	**290**	P	**Pn**	**20 33 42.6**	**+1.1**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KSRS	**Korea Array**	**18.21**	**17**	P	**P**	**20 33 44.1**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=198,slow=11,SNR=14						
KSRS				LR	LR	20 41 35.2	
	comp=Z,109nm,18.2s,baz=169,slow=40						
CD2	**Chengdu**	**19.27**	**308**	P	**P**	**20 33 54.8**	**-0.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
SBUM	**Sibu**	**19.70**	**208**	P	**P**	**20 34 00.6**	**+0.5**
PBKT	**Sadao Pong**	**19.77**	**263**		**P**	**20 34 00.9**	**+0.1**
BJT	**Baijiatuau**	**20.40**	**348**		**P**	**20 34 07.5**	**+0.1**
BJT				IAmb	IAmb	20 34 19.3	
	comp=Z,14nm,0.7s						
BJI	**Beijing**	**20.42**	**348**	P	**P**	**20 34 07.9**	**+0.3**
BJI				pmax	pmax		
	comp=Z,19nm,0.8s						
CHTO	**Chiang Mai**	**21.28**	**270**	P	**P**	**20 34 16.9**	**-0.2**
CM31	**Chiang Mai Arr**	**21.33**	**269**	P	**P**	**20 34 17.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**21.33**	**269**	P	**P**	**20 34 15.8**	**-1.8**
	comp=Z,2.1nm,0.6s,baz=75,slow=9.0,SNR=23						
CMAR				PcP	**PcP**	**20 38 20.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=101,slow=1.5,SNR=4.8						
CMAR				LR	LR	20 42 24.4	
	comp=Z,115nm,20.6s,baz=168,slow=36						
KSM	**Kuching**	**21.46**	**212**	P	**P**	**20 34 18.6**	**-0.4**
KSM				IAmb	IAmb	20 34 24.3	
	comp=Z,13nm,0.9s						
MJAR	**Matsushiro Arr**	**22.00**	**38**	P	**P**	**20 34 25.0**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=221,slow=3.9,SNR=4.1						
LZH	**Lanzhou**	**22.23**	**320**	*e*P	**P**	**20 34 27.9**	**+0.6**
LZH				pP	pP	20 34 39.9	+3.5
LZH				sP	sP	20 34 45.7	+4.7
LZH				pmax	pmax		
	comp=Z,28nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,4.9s						
LZH				LR	LR		
	comp=Z,170nm,14.6s						
LZH				LR	LR		
	comp=Z,150nm,15.2s						
LZH				LR	LR		
	comp=Z,180nm,15.7s						
HHC	**Hu-ho-hao-te**	**22.38**	**340**	*e*P	**P**	**20 34 29.9**	**+1.1**
HHC				sS	Sn	20 38 44.5	-1.7
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,36nm,4.7s						
HHC				LR	LR		
	comp=Z,570nm,16.7s						
HHC				LR	LR		
	comp=Z,500nm,16.3s						
HHC				LR	LR		
	comp=Z,500nm,18.0s						
SIJI	**Sorong**	**22.91**	**154**	P	**P**	**20 34 34.8**	**+0.2**
	comp=Z,6.4nm,0.7s,baz=44,slow=7.6,SNR=3.9						
KAPI	**Kappang**	**24.98**	**184**	LR	LR	20 45 28.5	
	comp=Z,62nm,18.6s,baz=26,slow=38						
USRK	**Ussuriysk Ar.**	**25.61**	**18**	LR	LR	20 45 56.6	
	comp=Z,84nm,18.8s,baz=185,slow=38						
GTA	**Gaotai**	**26.81**	**321**	*e*P	**P**	**20 35 10.7**	**+0.2**
GTA				pP	pP	20 35 20.7	+0.3
GTA				sP	sP	20 35 25.3	+0.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,20nm,5.6s						
GTA				LR	LR		
	comp=Z,58nm,17.1s						
GTA				LR	LR		
	comp=Z,65nm,17.1s						
GTA				LR	LR		
	comp=Z,87nm,16.5s						
JAY	**Jayapura**	**29.32**	**138**	LR	LR	20 46 23.5	
	comp=Z,40nm,20.6s,baz=280,slow=35						
LEM	**Lembang**	**30.00**	**208**	LR	LR	20 47 30.8	
	comp=Z,74nm,20.4s,baz=351,slow=36						
SONM	**Songino Array**	**30.28**	**340**	P	**P**	**20 35 40.0**	**-1.3**
	comp=Z,0.9nm,0.9s,baz=163,slow=11,SNR=5.2						
SONM				LR	LR	20 49 20.3	
	comp=Z,178nm,18.2s,baz=147,slow=39						
KNRA	**Kununurra**	**36.24**	**168**	P	**P**	**20 36 31.6**	**-1.7**
WMQ	**Urumqi**	**36.78**	**318**	*e*P	**P**	**20 36 39.9**	**+2.0**
WMQ				pmax	pmax		
	comp=Z,46nm,3.9s						
FITZ	**Fitzroy Crossi**	**38.15**	**174**	P	**P**	**20 36 49.3**	**-0.2**
PSA00	**Pilbara Seismi**	**41.42**	**182**	P	**P**	**20 37 16.3**	**-0.3**
MK31	**Makanchi Array**	**41.54**	**319**	P	**P**	**20 37 17.9**	**+0.4**
MKAR	**Makanchi Array**	**41.54**	**319**	P	**P**	**20 37 17.8**	**+0.2**
	comp=Z,3.8nm,0.7s,baz=114,slow=9.3,SNR=44						
WRA	**Warramunga Arr**	**41.71**	**162**	P	**P**	**20 37 17.8**	**-1.4**
	comp=Z,2.3nm,0.4s,baz=343,slow=9.1,SNR=45						
WB2	**Warramunga Arr**	**41.72**	**162**	P	**P**	**20 37 18.1**	**-1.1**
WB2				IAmb	IAmb	20 37 29.7	
	comp=Z,20nm,1.3s						
MAKZ	**Makanchi**	**41.74**	**319**	P	**P**	**20 37 19.6**	**+0.5**
WR0	**Warramunga Arr**	**41.79**	**161**	P	**P**	**20 37 18.6**	**-1.2**
WR0				IAmb	IAmb	20 37 30.8	
	comp=Z,7.1nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**42.61**	**82**	T	T	21 23 18.6	
	baz=278,slow=75,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**42.61**	**82**	T	T	21 23 20.6	
	baz=278,slow=75,SNR=5.9						
H11S3	**WAKE ISLAND Hy**	**42.61**	**84**	T	T	21 22 50.6	
	baz=281,slow=74,SNR=42						
H11S1	**WAKE ISLAND Hy**	**42.62**	**84**	T	T	21 22 41.7	
	baz=281,slow=74,SNR=18						
H11N3	**WAKE ISLAND Hy**	**42.62**	**82**	T	T	21 23 26.0	
	baz=278,slow=75,SNR=5.3						
H11S2	**WAKE ISLAND Hy**	**42.63**	**84**	T	T	21 22 39.2	
	baz=281,slow=74,SNR=25						
GIRL	**Giralia**	**43.03**	**190**	P	**P**	**20 37 30.9**	**+1.1**
PETK	**Petropavlovsk-**	**43.17**	**31**	P	**P**	**20 37 31.4**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=197,slow=4.6,SNR=4.9						
PETK				LR	LR	20 56 33.4	
	comp=Z,40nm,18.3s,baz=240,slow=38						
ZAA0	**Zalesovo Array**	**43.87**	**329**	P	**P**	**20 37 36.1**	**-0.1**
ZAA0				IAmb	IAmb	20 37 36.8	
	comp=Z,5.8nm,0.8s						
ZALV	**Zalesovo Beam**	**43.87**	**329**	P	**P**	**20 37 36.1**	**-0.1**
	comp=Z,5.3nm,0.8s,baz=111,slow=8.1,SNR=27						
NIL	**Nilore**	**44.72**	**298**	P	**P**	**20 37 42.6**	**-0.8**
NIL				IAmb	IAmb	20 37 45.1	
	comp=Z,9.5nm,1.3s						
AS31	**Alice Springs**	**45.13**	**164**	P	**P**	**20 37 46.0**	**-0.6**
AS31				IAmb	IAmb	20 37 49.5	
	comp=Z,2.3nm,0.6s						
ASAR	**Alice Springs**	**45.13**	**164**	P	**P**	**20 37 46.2**	**-0.4**
	comp=Z,2.9nm,0.4s,baz=343,slow=7.0,SNR=47						
AAK	**Ala-Archa**	**45.29**	**311**	P	**P**	**20 37 48.0**	**0.0**
	comp=Z,0.4nm,0.3s,baz=136,slow=5.8,SNR=4.4						
KK31	**Karatay Array**	**48.25**	**310**	P	**P**	**20 38 09.3**	**-1.6**
KKAR	**Karatay Array**	**48.25**	**310**	P	**P**	**20 38 09.5**	**-1.5**
KBL	**Kabul**	**48.27**	**299**	P	**P**	**20 38 12.1**	**+0.7**
KBL				IAmb	IAmb	20 38 12.7	
	comp=Z,4.9nm,1.0s						
FORT	**Forrest**	**50.95**	**173**	P	**P**	**20 38 31.6**	**+0.2**
BVAR	**Borovoye Array**	**51.06**	**323**	P	**P**	**20 38 32.5**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=98,slow=11,SNR=9.8						
BRVK	**Borovoye**	**51.13**	**323**	P	**P**	**20 38 33.0**	**+0.4**
BRVK				IAmb	IAmb	20 38 33.9	
	comp=Z,3.4nm,0.8s						
TIXI	**Tiksi**	**51.77**	**3**	P	**P**	**20 38 37.9**	**+0.8**
	comp=Z,1.4nm,0.4s,baz=160,slow=4.7,SNR=3.8						
TIXI	**Tiksi**	**51.77**	**3**	P	**P**	**20 38 36.7**	**-0.5**
NWAO	**Narrogin (SRO)**	**52.85**	**184**	P	**P**	**20 38 44.5**	**-1.1**
	comp=Z,13nm,0.8s,baz=15,slow=6.6,SNR=6.0						
NWAO	**Narrogin (SRO)**	**52.85**	**184**	P	**P**	**20 38 45.9**	**+0.3**
NWAO	**Narrogin (SRO)**	**52.85**	**184**	P	**P**	**20 38 45.9**	**+0.3**
NWAO				IAmb	IAmb	20 38 46.3	
	comp=Z,16nm,0.8s						
NRIK	**Noril'sk**	**53.43**	**346**	P	**P**	**20 38 49.6**	**+0.1**
	comp=Z,3.6nm,0.7s,baz=142,slow=10,SNR=5.9						
NRIK				LR	LR	21 03 01.8	
	comp=Z,38nm,20.9s,baz=160,slow=38						
BBOO	**Buckleboo**	**54.40**	**165**	P	**P**	**20 38 58.1**	**+1.1**
STKA	**Stephens Creek**	**55.13**	**159**	P	**P**	**20 39 03.1**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=29,slow=1.0,SNR=3.7						
STKA	**Stephens Creek**	**55.13**	**159**	P	**P**	**20 39 03.6**	**+1.3**
GEYT	**Alibeck**	**57.17**	**303**	P	**P**	**20 39 18.4**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=205,slow=9.2,SNR=3.9						
ARU	**Arti**	**58.57**	**325**	P	**P**	**20 39 25.9**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=75,slow=5.9,SNR=4.3						
KLMR	**Klimovskoe**	**68.79**	**329**	P	**P**	**20 40 31.3**	**-2.4**
KLMR				AMP		20 40 46.7	
	comp=Z,7.0nm,1.4s						
TTA	**Tatalina**	**68.94**	**29**	P	**P**	**20 40 35.6**	**+0.9**
RAYN	**Ar Rayn**	**69.84**	**288**	P	**P**	**20 40 40.6**	**-0.5**
RAYN				IAmb	IAmb	20 40 41.4	
	comp=Z,3.5nm,1.0s						
MLY	**Manley**	**71.08**	**27**	P	**P**	**20 40 48.5**	**+0.7**
MLY				IAmb	IAmb	20 41 00.3	
	comp=Z,3.4nm,1.0s						
BPAW	**Bear Paw Mtn.**	**71.08**	**28**	P	**P**	**20 40 47.8**	**0.0**
KDAK	**Kodiak Island**	**71.12**	**34**	P	**P**	**20 40 48.0**	**-0.1**
CNPM	**China Poot**	**71.57**	**32**	P	**P**	**20 40 50.3**	**-0.6**
CNPM				IAmb	IAmb	20 40 53.7	
	comp=Z,3.7nm,0.9s						
RND	**Reindeer**	**72.12**	**28**	P	**P**	**20 40 53.8**	**-0.3**
RND				IAmb	IAmb	20 41 05.3	
	comp=Z,6.6nm,0.8s						
WRH	**Wood River Hil**	**72.28**	**27**	P	**P**	**20 40 55.5**	**+0.6**
WRH				IAmb	IAmb	20 41 07.1	
	comp=Z,3.1nm,1.0s						
ILAR	**Eielson Array**	**72.74**	**27**	P	**P**	**20 40 56.2**	**-1.5**
	comp=Z,0.4nm,0.7s,baz=277,slow=3.8,SNR=4.5						
SCM	**Sheep Creek Mo**	**73.09**	**30**	P	**P**	**20 41 00.1**	**+0.2**
SCM				IAmb	IAmb	20 41 11.2	
	comp=Z,7.3nm,0.9s						
GLI	**Glacier Island**	**73.38**	**31**	P	**P**	**20 41 01.0**	**-0.5**
GLI				IAmb	IAmb	20 41 15.9	
	comp=Z,4.6nm,0.7s						
ARCES	**ARCESS Array B**	**73.44**	**339**	P	**P**	**20 41 02.9**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=77,slow=5.2,SNR=2.5						
HIN	**Hinchinbrook I**	**73.76**	**31**	P	**P**	**20 41 03.8**	**-0.1**
HIN				IAmb	IAmb	20 41 05.0	
	comp=Z,7.8nm,0.9s						
SCRK	**Sand Creek**	**74.14**	**27**	P	**P**	**20 41 05.8**	**-0.3**
DOT	**Dot Lake**	**74.18**	**28**	P	**P**	**20 41 05.7**	**-0.5**
DOT				IAmb	IAmb	20 41 18.6	
	comp=Z,3.7nm,1.2s						
FINES	**FINESS Array B**	**75.13**	**330**	P	**P**	**20 41 11.6**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=46,slow=8.2,SNR=8.2						
EGAK	**Eagle**	**75.14**	**26**	P	**P**	**20 41 11.4**	**-0.3**
EGAK				IAmb	IAmb	20 41 24.7	
	comp=Z,10nm,1.5s						
BRTR	**Keskin Array B**	**75.84**	**307**	P	**P**	**20 41 16.2**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=225,slow=6.8,SNR=2.0						
AKASG	**Malin Array Be**	**76.12**	**319**	P	**P**	**20 41 16.5**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=61,slow=6.4,SNR=4.7						
INK	**Inuvik**	**76.93**	**22**	P	**P**	**20 41 21.9**	**+0.1**
	comp=Z,2.0nm,0.8s,baz=307,slow=10,SNR=3.1						
RPZ	**Rata Peaks**	**78.05**	**146**	LR	LR	21 12 33.3	
	comp=Z,75nm,21.6s,baz=215,slow=33						
KWP	**Kalwaria Pacla**	**80.44**	**319**	P	**P**	**20 41 41.4**	**-0.1**
KWP				IAmb	IAmb	20 41 42.6	
	comp=Z,9.9nm,1.2s						
NC405	**NORSAR Array S**	**81.73**	**332**	P	**P**	**20 41 47.6**	**-0.6**
NB2	**NORSAR Subarra**	**81.98**	**333**	P	**P**	**20 41 48.4**	**-1.1**
	comp=Z,2.3nm,1.0s,baz=64,slow=5.3						
NOA	**NORSAR Array B**	**81.98**	**333**	P	**P**	**20 41 48.5**	**-1.1**
	comp=Z,1.3nm,0.9s,baz=63,slow=5.2,SNR=5.5						
OJC	**Ojcow**	**82.00**	**321**	P	**P**	**20 41 49.2**	**-0.6**
OJC				IAmb	IAmb	20 41 50.6	
	comp=Z,8.3nm,1.0s						
VTS	**Vitosha**	**82.49**	**313**	P	**P**	**20 41 53.1**	**+0.4**
VTS				IAmb	IAmb	20 41 53.8	
	comp=Z,7.2nm,1.0s						
KRLC	**Kraliky**	**83.84**	**321**	*e*P	P	20 41 56.0	-3.4
DPC	**Dobruska-Poloman**	**84.00**	**322**	*e*P	**P**	**20 42 00.7**	**+0.5**
CHVC	**Chvalec**	**84.06**	**322**	*e*P	**P**	**20 42 00.4**	**-0.1**
BRG	**Berggiesshubel**	**85.15**	**323**	*e*PKP	**P**	**20 42 05.9**	**-0.1**
	comp=Z,3.3nm,1.0s						
BRG				*e*		20 42 17.0	
	comp=Z,1.3nm,0.6s						
GERES	**GERESS Array B**	**86.18**	**321**	P	**P**	**20 42 10.6**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=79,slow=8.7,SNR=4.7						
YKA	**Yellowknife Ar**	**86.64**	**23**	P	**P**	**20 42 12.4**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=304,slow=4.4,SNR=7.7						
PPT	**Papeete**	**94.93**	**107**	LR	LR	21 24 56.5	
	comp=Z,34nm,18.4s,baz=259,slow=35						

BEO ***04*** *20:42:57.0±0.7,43˙.44N×16˙.61E,h0km,ML2.9/12*

PDG ***04*** *20:42:59.2±0.3,43˙.52N×17˙.04E,h0km±11km,ML3.1/13, Error ellipse: s-maj=0.6km s-min=1.0km az=0.0*

RHSSO ***04*** *20:43:00.9±0.3,43˙.55N×17˙.16E,h4km±2km,ML2.8/14*

PRU ***04*** *20:43:01.9±0.0,43˙.57N×17˙.30E,h0km*

ISC 04 20:42:59.6±1.1**,43˙.54N**±0˙.02×**17˙.11E**±0˙.02**,h1**km±10km**,**
n86,σ1ℓ**86**/149**,16C-9D,Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKA	**Makarska**	**0.26**	**195**	*e*Pg	**Pg**	**20 43 04.9**	**+0.3**
MAKA				Sg	**Sg**	**20 43 10.0**	**+2.0**
HVAR	**Hvar**	**0.60**	**233**	*i* Pg	**Pg**	**20 43 10.6**	**-0.5**
HVAR				Sg	**Sg**	**20 43 19.7**	**+0.8**
KIJV	**Kijevo**	**0.69**	**312**	*e*Pg	**Pg**	**20 43 11.7**	**-1.1**
KIJV				Sg	**Sg**	**20 43 21.9**	**+0.2**
STON	**Ston**	**0.80**	**147**	*e*Pg	**Pg**	**20 43 14.3**	**-0.5**
STON				*e*Sg	**Sb**	**20 43 27.1**	**-0.4**
STON	**Ston**	**0.80**	**147**	*i* Pg	**Pg**	**20 43 14.3**	**-0.5**
STON				Sg	**Sb**	**20 43 27.0**	**-0.4**
STON	**Ston**	**0.80**	**147**	⇑*i*Pg	**Pg**	**20 43 14.3**	**-0.5**
STON				*e*Sg	**Sb**	**20 43 26.6**	**-0.9**
MGRS	**Mrkonjic Grad**	**0.88**	**359**	⇓*i*Pg	**Pg**	**20 43 17.4**	**+0.7**
MGRS				*e*Sg	**Sb**	**20 43 28.1**	**+0.4**
MORI	**Morici**	**1.07**	**288**	*e*Pg	**Pb**	**20 43 18.6**	**-2.2**
MORI				Sg	**Sg**	**20 43 32.9**	**-1.0**
ZIRJ	**Zirje**	**1.07**	**276**	*e*Pg	**Pb**	**20 43 18.1**	**-2.8**
ZIRJ				Sg	**Sg**	**20 43 33.5**	**-0.5**
DBRK	**Dubrovnik**	**1.16**	**139**	*e*Pn	**Pb**	**20 43 20.8**	**-1.6**
DBRK				Sg	**Sn**	**20 43 39.7**	**+0.3**
BLY	**Banja Luka**	**1.21**	**2**	*e*Pg	**Pn**	**20 43 22.9**	**-0.7**
BLY				*e*Sg	**Sg**	**20 43 39.8**	**+1.4**
BLY	**Banja Luka**	**1.21**	**2**	*e*Pg	**Pn**	**20 43 22.8**	**-0.8**
BLY				*e*Sg	**Sb**	**20 43 39.2**	**-0.2**
BRY	**Bratogost**	**1.23**	**121**	⇑*i*Pg	**Pb**	**20 43 22.2**	**-1.4**
BRY				*i* Sg	**Sn**	**20 43 42.1**	**+0.8**
BRY	**Bratogost**	**1.23**	**121**	*e*Pg	**Pb**	**20 43 22.2**	**-1.4**
BRY				*e*Sg	**Sg**	**20 43 39.1**	**+0.2**
TREB	**Trebinje**	**1.23**	**132**	*e*Pn	**Pb**	**20 43 22.0**	**-1.6**
TREB				*e*Sn	**Sn**	**20 43 43.6**	**+2.5**
TREB	**Trebinje**	**1.23**	**132**	*e*Pg	**Pb**	**20 43 21.9**	**+1.6**
TREB				*e*Sg	**Sn**	**20 43 39.7**	**-1.4**
UPM	**Unac-Piva**	**1.35**	**104**	⇑*i*Pg	**Pn**	**20 43 25.3**	**-0.5**
UPM				*i* Sg	**Sg**	**20 43 46.9**	**+3.9**
PRIJ	**Prijedor**	**1.46**	**349**	*e*Pg	**Pn**	**20 43 27.4**	**+0.3**
PRIJ				*e*Sg	**Sn**	**20 43 46.6**	**-0.3**
HCY	**Herceg Novi**	**1.49**	**137**	⇑*i*Pg	**Pn**	**20 43 26.4**	**-1.1**
HCY				*i* Sg	**Sg**	**20 43 50.9**	**+3.4**
HCY	**Herceg Novi**	**1.49**	**137**	⇑*i*Pg	**Pn**	**20 43 26.8**	**-0.7**
HCY				*e*Sg	**Sg**	**20 43 48.0**	**+0.5**
DUGI	**Dugi Otok**	**1.55**	**288**	*e*Pn	**Pn**	**20 43 28.7**	**+0.3**
DUGI				Sn	**Sg**	**20 43 51.0**	**+1.5**
NKME	**Niksic**	**1.56**	**119**	⇓*i*Pn	**Pb**	**20 43 28.4**	**-0.8**
NKME				*i* Sn	**Sg**	**20 43 53.6**	**+4.1**
NKY	**Niksic**	**1.56**	**117**	⇑*i*Pn	**Pb**	**20 43 28.9**	**-0.4**
NK

0.8nm,0.3s
KBA *i* Sn **Sn** **20 45 04.0 +3.8**
1.5nm,0.4s
GZR Gura Zlata 4.46 64 ⇑P **Pg** **20 44 23.9 -1.1**
CONA Conrad Observa 4.47 349 *e*Pn **Pn** **20 44 09.7 +1.1**
1.6nm,0.3s
CONA *i* Sn **Sn** **20 45 01.1 -0.3**
1.6nm,0.3s
ABTA Abfaltersbach 4.57 316 *i* Pn **Pn** **20 44 12.3 +2.4**
VTS Vitosha 4.58 100 ⇑P **Pn** **20 44 14.1 +3.9**
MOA Molln 4.75 336 *i* Pn **Pn** **20 44 14.1 +1.8**
3.3nm,0.3s,SNR=9.8
MOA *i* Sn **Sn** **20 45 11.4 +3.5**
5.5nm,0.6s
MODS Modra-Piesok 4.83 1 *e*SN **Sn** **20 45 07.1 -3.0**
SMOL Smolenice 4.98 2 *e*SN **Sn** **20 45 11.3 -2.3**
VYHS Vyhne 5.10 13 *e*PN **Pn** **20 44 18.7 +1.6**
VYHS *e*SN **Sn** **20 45 16.6 0.0**
WTTA Wattenberg 5.36 316 *i* Pn **Pn** **20 44 24.5 +3.7**
2.8nm,0.3s,SNR=4.5
WTTA *i* Sn **Sn** **20 45 27.4 +4.1**
3.8nm,0.4s
WATA Walderalm 5.43 316 *i* Pn **Pn** **20 44 25.2 +3.3**
2.1nm,0.2s
SQTA Sankt Quirin 5.55 314 *i* Pn **Pn** **20 44 26.8 +3.4**
0.8nm,0.2s
MOTA Moosalm 5.68 314 *i* Pn **Pn** **20 44 28.2 +2.9**
2.4nm,0.5s
MOTA *i* Sn **Sn** **20 45 34.3 +3.0**
3.1nm,0.5s
FETA Feichten 5.69 310 *i* Pn Pn 20 44 30.0 +4.6
0.8nm,0.4s
KHC Kasperske Hory 6.10 338 *e*PN **Pn** **20 44 32.9 +2.0**
KHC *e*SN **Sn** **20 45 41.4 +0.1**

ANF ***04*** *21:19:23.6±0.6,35°.58N×92°.23W, h4km±4km, ML4.8/15, Error ellipse: s-maj=2.4km s-min=2.0km az=134.0*
IDC ***04*** *21:19:23.7±0.7,35°.66N×92°.24W, h0km, mb3.7/10, mb1 4.0/17,mb1mx3.8/56,mbtmp3.9/17,ML3.0/4,MS3.2/10, Ms1 3.1/10,ms1mx2.8/49,Error ellipse: s-maj=14.1km s-min=8.5km az=172.0*
SLM ***04*** *21:19:24.3±1.5,35°.58N±0°.03×92°.25W±0°.05, h0km±4km, mb3.9/11(NEIC),Mwr3.8/70(NEIC),Error ellipse: s-maj=6.1km s-min=4.1km az=57.0*
NEIC ***04*** *21:19:24.3±1.6,35°.56N±0°.04×92°.25W±0°.05, h5km±4km, Error ellipse: s-maj=6.5km s-min=5.7km az=198.0*
NEIC ***04*** *21:19:24.3,35°.57N×92°.27W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.26; $M_{\theta\theta}$0.08; $M_{\phi\phi}$-0.34; $M_{r\theta}$-0.57; $M_{\theta\phi}$5.26; $M_{r\phi}$2.44; Fault plane solution: M_o5.83000×10^{14} NP1:ϕ_s181.29000°, δ87.25000°, λ-155.64000°. NP2:ϕ_s90.05000°, δ65.67000°, λ-3.02000°. Principal axes: T 5.4703, Plg15.0000°, Azm313.0000°; N 0.6623, Plg65.0000°, Azm187.0000°; P -6.1326, Plg19.0000°, Azm48.0000°;*
CERI ***04*** *21:19:24.3±0.2,35°.58N×92°.25W, h0km, M3.8*
ISC 04 21:19:23.8±1.0,35°.57N±0°.02×92°.24W±0°.03,h8km±7km, n249,σ1°$34/255,mb3.8/9,MS3.0/4,Arkansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHAR	**Wooly Hollow**	**0.28**	**188**	Pg	**Pg**	**21 19 29.6**	**+0.2**
WHAR				Sg	**Sg**	**21 19 33.5**	**+0.3**
FCAR	**Ozark Folk Cen**	**0.33**	**16**		**Pg**	**21 19 30.9**	**+0.6**
FCAR				Sg	**Sg**	**21 19 35.7**	**+1.0**
W41B	**Gary Mavity, V**	**0.40**	**181**	P	**Pg**	**21 19 31.6**	**+0.1**
	baz=0.2,SNR=1000						
W41B				S	**Sg**	**21 19 37.2**	**+0.4**
	baz=0.2						
W41B	**Gary Mavity, V**	**0.40**	**181**		**Pg**	**21 19 31.8**	**+0.3**
UALR	**University of**	**0.80**	**186**		**Pg**	**21 19 39.7**	**+0.6**
U40A	**Yellville**	**0.93**	**328**	P	**Pg**	**21 19 41.8**	**+0.2**
	baz=148,SNR=1000						
U40A				S	**Sg**	**21 19 54.1**	**+0.4**
	baz=148						
U40A	**Yellville**	**0.93**	**328**	Pg	**Pg**	**21 19 41.7**	**+0.1**
U40A				Sg	**Sg**	**21 19 53.4**	**-0.3**
LCAR	**Lake Charles**	**1.01**	**60**	Pg	**Pg**	**21 19 43.1**	**-0.1**
X40A	**Basin Creek Fa**	**1.19**	**205**	P	**Pg**	**21 19 46.1**	**-0.5**
	baz=24,SNR=426						
X40A				S	**Sb**	**21 20 02.6**	**+0.5**
	baz=24						
X40A	**Basin Creek Fa**	**1.19**	**205**		**Pg**	**21 19 46.1**	**-0.5**
HBAR	**Harrisburg**	**1.29**	**90**		**Pn**	**21 19 48.3**	**+0.3**
W39A	**Magazine**	**1.32**	**254**	P	**Pn**	**21 19 48.5**	**+0.1**
	baz=73,SNR=824						
W39A				S	**Sb**	**21 20 06.3**	**+0.6**
	baz=73						
W39A	**Magazine**	**1.32**	**254**		**Pn**	**21 19 48.5**	**+0.1**
MIAR	**Mount Ida**	**1.50**	**227**	P	**Pn**	**21 19 51.6**	**+0.6**
	baz=46,SNR=822						
MIAR				S	**Sg**	**21 20 12.4**	**+0.3**
	baz=46						
MIAR	**Mount Ida**	**1.50**	**227**	Pn	**Pn**	**21 19 51.5**	**+0.5**
X43A	**Marvell**	**1.53**	**133**	P	**Pn**	**21 19 52.4**	**+1.1**
	baz=314,SNR=224						
X43A				S	**Sg**	**21 20 14.3**	**+1.3**
	baz=314						
X43A	**Marvell**	**1.53**	**133**		**Pn**	**21 19 52.2**	**+0.9**
HHAR	**Hobbs**	**1.55**	**298**		**Pn**	**21 19 52.4**	**+0.7**
HHAR				Sn	**Sb**	**21 20 13.2**	**+0.7**
LPAR	**Lepanto**	**1.58**	**88**		**Pn**	**21 19 53.2**	**+1.2**
CCAR	**Cane Creek**	**1.70**	**167**		**Pn**	**21 19 54.9**	**+1.3**
T42A	**Van Buren**	**1.72**	**32**		**Pn**	**21 19 55.9**	**+1.9**
GNAR	**Gosnell**	**1.85**	**77**		**Pb**	**21 19 58.1**	**+0.3**
MET	**Memphis--Engin**	**1.94**	**103**		**Pn**	**21 19 58.3**	**+1.4**
U38A	**Gravette**	**1.94**	**297**		**Pn**	**21 19 58.7**	**+1.6**
PEBM	**Pemiscott Bayo**	**2.00**	**74**		**Pn**	**21 19 59.7**	**+1.9**
WLAR	**White Oak Lake**	**2.02**	**201**	Pn	**Pn**	**21 19 59.7**	**+1.7**
PVMO	**Portageville**	**2.22**	**67**		**Pn**	**21 20 01.9**	**+1.1**
PARMO	**Parma**	**2.29**	**61**		**Pn**	**21 20 04.0**	**+2.3**
PENMO	**Penman**	**2.29**	**67**		**Pn**	**21 20 03.0**	**+1.2**
LNXT	**Lenox**	**2.29**	**76**		**Pn**	**21 20 02.4**	**+0.6**
Z41A	**Richland Creek**	**2.36**	**192**	P	**Pn**	**21 20 03.6**	**+0.9**
	baz=11,SNR=37						
Z41A				S	**Sn**	**21 20 33.4**	**+1.6**
	baz=11						
Z41A	**Richland Creek**	**2.36**	**192**		**Pn**	**21 20 03.8**	**+1.1**
HALT	**Halls**	**2.38**	**81**		**Pn**	**21 20 04.6**	**+1.6**
GLAT	**Glass**	**2.49**	**73**		**Pn**	**21 20 05.7**	**+1.1**
HENM	**Henderson Moun**	**2.51**	**62**		**Pn**	**21 20 06.4**	**+1.6**
W45A	**Hickory Valley**	**2.53**	**99**		**Pn**	**21 20 06.2**	**+1.1**
OXF	**Oxford**	**2.55**	**114**	P	**Pn**	**21 20 06.4**	**+1.0**
	baz=295,SNR=142						
OXF				S	**Sn**	**21 20 38.3**	**+1.8**
	baz=295						
OXF	**Oxford**	**2.55**	**114**	Pn	**Pn**	**21 20 06.3**	**+1.0**
CCM	**Cathedral Cave**	**2.60**	**18**	P	**Pn**	**21 20 07.6**	**+1.5**
	baz=198						
CCM	**Cathedral Cave**	**2.60**	**18**	Pn	**Pn**	**21 20 07.7**	**+1.5**
HICK	**Hickman**	**2.62**	**68**		**Pn**	**21 20 08.3**	**+1.9**
R40A	**Maddies Statio**	**2.71**	**359**		**Pn**	**21 20 09.9**	**+2.3**
X37A	**Clayton**	**2.75**	**250**		**Pn**	**21 20 09.9**	**+1.8**
Y45A	**Yeager Farm, C**	**2.80**	**127**	Pn	**Pn**	**21 20 09.6**	**+0.8**
TUL1	**Leonard**	**2.91**	**278**	P	**Pn**	**21 20 11.1**	**+0.8**
	baz=96,SNR=103						
143A	**Socs Landing,**	**2.94**	**166**	Pg	**Pg**	**21 20 19.9**	**-0.2**
S44A	**Carbondale**	**3.20**	**48**		**Pn**	**21 20 15.8**	**+1.5**
SLM	**Saint Louis**	**3.45**	**27**		**Pn**	**21 20 19.2**	**+1.4**
PLAL	**Pickwick Lake**	**3.46**	**99**		**Pn**	**21 20 18.9**	**+1.0**
WVT	**Waverly**	**3.62**	**80**	P	**Pn**	**21 20 21.2**	**+1.1**
	baz=262						
WVT	**Waverly**	**3.62**	**80**	Pn	**Pn**	**21 20 21.3**	**+1.1**
VBMS	**Vicksburg**	**3.64**	**156**	P	**Pn**	**21 20 21.2**	**+0.9**
	baz=337						
VBMS	**Vicksburg**	**3.64**	**156**		**Pn**	**21 20 20.6**	**+0.3**
342A	**Flagon Creek P**	**4.19**	**181**		**Pn**	**21 20 30.0**	**+2.1**
NATX	**Nacogdoches**	**4.31**	**209**	P	**Pn**	**21 20 30.4**	**+0.9**
	baz=27,SNR=12						
NATX				S	**Sn**	**21 21 19.9**	**0.0**
	baz=27						
NATX	**Nacogdoches**	**4.31**	**209**	Pn	**Pn**	**21 20 30.3**	**+0.8**
X34A	**Smith Ranch, M**	**4.69**	**260**	Pn	**Pn**	**21 20 36.4**	**+1.6**
KSU1	**Kansas State U**	**4.95**	**317**	P	**Pn**	**21 20 39.0**	**+0.6**
	baz=134,SNR=16						
KSU1	**Kansas State U**	**4.95**	**317**	Pn	**Pn**	**21 20 39.4**	**+1.0**
LRAL	**Lakeview Retre**	**5.02**	**119**	P	**Pn**	**21 20 39.9**	**+0.5**
	baz=302,SNR=17						
WMOK	**Wichita Mounta**	**5.42**	**263**	P	**Pn**	**21 20 45.4**	**+0.5**
	baz=79,SNR=25						
WCI	**Wyandotte Cave**	**5.45**	**59**	P	**Pn**	**21 20 46.4**	**+1.2**
	baz=243						
WCI	**Wyandotte Cave**	**5.45**	**59**	Pn	**Pn**	**21 20 46.6**	**+1.4**
HDIL	**Hopedale**	**5.49**	**24**	P	**Pn**	**21 20 47.3**	**+1.5**
	baz=206						
HDIL	**Hopedale**	**5.49**	**24**		**Pn**	**21 20 47.5**	**+1.7**
WHTX	**Lake Whitney,**	**5.62**	**232**	P	**Pn**	**21 20 48.5**	**+0.9**
	baz=49,SNR=11						
SFIN	**Lafayette**	**6.28**	**39**	P	**Pn**	**21 20 58.6**	**+2.0**
	baz=222,SNR=8.4						
SCIA	**State Center**	**6.37**	**353**	P	**Pn**	**21 20 59.1**	**+1.2**
	baz=173						
SCIA	**State Center**	**6.37**	**353**		**Pn**	**21 20 59.1**	**+1.2**
HKT	**Hockley**	**6.37**	**209**	Pn	**Pn**	**21 20 59.3**	**+1.5**
435B	**Jarrell**	**6.55**	**225**	P	**Pn**	**21 21 01.0**	**+0.6**
	baz=42,SNR=13						
CBKS	**Cedar Bluff**	**6.80**	**301**	P	**Pn**	**21 21 04.8**	**+0.9**
	baz=116,SNR=19						
ABTX	**Abilene, Hawle**	**6.81**	**247**	P	**Pn**	**21 21 04.5**	**+0.6**
	baz=62,SNR=8.8						
TKL	**Tuckaleechee C**	**6.89**	**87**	Pn	**Pn**	**21 21 06.1**	**+1.0**
	4.9nm,0.3s,baz=225,slow=9.7,SNR=46						
TKL				Sn	**Sn**	**21 22 22.6**	**-1.1**
	3.1nm,0.3s,baz=157,slow=23,SNR=2.2						
TKL				Lg	Lg	21 22 55.4	
	33nm,0.3s,baz=156,slow=23,SNR=15						
TKL	**Tuckaleechee C**	**6.89**	**87**		**Pn**	**21 21 06.6**	**+1.5**
P49A	**Miami Univ. Ec**	**7.16**	**54**	P	**Pn**	**21 21 08.6**	**-0.1**
	baz=239,SNR=5.5						
O48A	**Farmland**	**7.29**	**48**	P	**Pn**	**21 21 10.6**	**0.0**
	baz=232						
BGNE	**Belgrade**	**7.44**	**323**	P	**Pn**	**21 21 13.0**	**+0.3**
	baz=140						
JFWS	**Jewell Farm**	**7.49**	**11**	P	**Pn**	**21 21 14.3**	**+1.0**
	baz=193						
GOGA	**Godfrey**	**7.55**	**104**	P	**Pn**	**21 21 14.7**	**+0.5**
	baz=289						
N48A	**Decatur**	**7.75**	**45**	P	**Pn**	**21 21 16.6**	**-0.2**
	baz=229,SNR=6.6						
AMTX	**Amarillo**	**7.76**	**268**	P	**Pn**	**21 21 17.8**	**+0.7**
	baz=82						
M47A	**Cromwell**	**7.76**	**40**	P	**Pn**	**21 21 17.7**	**+0.7**
	baz=224						
JCT	**Junction City**	**8.13**	**233**	P	**Pn**	**21 21 21.9**	**-0.2**
	baz=49,SNR=14						
JCT	**Junction City**	**8.13**	**233**	Pn	**Pn**	**21 21 22.5**	**+0.3**
X54A	**Belton**	**8.15**	**94**	P	**Pn**	**21 21 23.1**	**+0.7**
	baz=280						
W54A	**Cherokee Point**	**8.23**	**90**	P	**Pn**	**21 21 24.2**	**+0.8**
	baz=6						
553A	**Crawfordville**	**8.48**	**127**	Pn	**Pn**	**21 21 27.3**	**+0.5**
ACSO	**Alum Creek Sta**	**8.67**	**55**	P	**Pn**	**21 21 30.3**	**+0.9**
	baz=240						
K31A	**O'Neill**	**8.67**	**326**	Pn	**Pn**	**21 21 31.2**	**+1.7**
X55A	**Gracelyn & Ava**	**8.77**	**94**	P	**Pn**	**21 21 31.9**	**+1.1**
	baz=280						
MSTX	**Muleshoe**	**8.81**	**263**	P	**Pn**	**21 21 31.8**	**+0.3**
	baz=76						
ECSD	**EROS Data Cent**	**8.82**	**339**	P	**Pn**	**21 21 32.2**	**+0.7**
	baz=156,SNR=24						
ECSD	**EROS Data Cent**	**8.82**	**339**	Pn	**Pn**	**21 21 32.8**	**+1.3**
KMSC	**Kings Mountain**	**8.92**	**90**	P	**Pn**	**21 21 33.8**	**+0.9**
	baz=276						
KSCO	**Kaye Shedlock'**	**8.96**	**296**	P	**Pn**	**21 21 33.8**	**+0.2**
	baz=109						
V55A	**Taylorsville**	**8.97**	**85**	P	**Pn**	**21 21 34.1**	**+0.6**
	baz=272						
X56A	**White Oak**	**9.25**	**93**	P	**Pn**	**21 21 37.9**	**+0.5**
	baz=280						
OGNE	**Ogalala**	**9.38**	**308**	P	**Pn**	**21 21 38.7**	**-0.6**
	baz=122,SNR=5.9						
O52A	**Adamsville**	**9.39**	**58**	P	**Pn**	**21 21 40.1**	**+0.7**
	baz=244						
N51A	**Ashland**	**9.41**	**53**	P	**Pn**	**21 21 40.3**	**+0.6**
	baz=239						
833A	**Chaparral WMA,**	**9.44**	**222**	P	**Pn**	**21 21 39.4**	**-0.6**
	baz=38,SNR=16						
W56A	**Indian Trail**	**9.53**	**89**	P	**Pn**	**21 21 40.9**	**-0.3**
	baz=276						
V56A	**Mocksville**	**9.55**	**85**	P	**Pn**	**21 21 41.2**	**-0.3**
	baz=272						
K48A	**Perry**	**9.58**	**39**	P	**Pn**	**21 21 42.1**	**+0.2**
	baz=224,SNR=20						
L50A	**Kingsville**	**9.79**	**46**	P	**Pn**	**21 21 45.6**	**+0.9**
	baz=232						
K49A	**Clarkson**	**9.91**	**41**	P	**Pn**	**21 21 47.3**	**+0.9**
	baz=226						
T25A	**Trinidad**	**9.94**	**283**	P	**Pn**	**21 21 47.1**	**0.0**
	baz=95						
J48A	**Bridge Port**	**10.11**	**38**	P	**Pn**	**21 21 49.6**	**+0.5**
	baz=223,SNR=7.8						
V57A	**Coltrane Farms**	**10.14**	**85**	P	**Pn**	**21 21 50.1**	**+0.5**
	baz=272						
P54A	**Burton**	**10.16**	**63**	P	**Pn**	**21 21 50.1**	**+0.2**
	baz=250						
H45A	**Beulah**	**10.20**	**26**	P	**Pn**	**21 21 50.7**	**+0.3**
	baz=210						
SUSD	**Miller**	**10.24**	**332**	P	**Pn**	**21 21 51.2**	**+0.2**
	baz=148						
656A	**Willston**	**10.26**	**124**		**Pn**	**21 21 50.8**	**-0.5**
I47A	**Gladwin**	**10.31**	**33**	P	**Pn**	**21 21 53.1**	**+1.2**
	baz=218						
F36A	**Milaca**	**10.32**	**355**	Pn	**Pn**	**21 21 52.3**	**+0.2**
K50A	**Casco**	**10.36**	**43**	P	**Pn**	**21 21 53.6**	**+1.0**
	baz=229						
N53A	**Lisbon**	**10.38**	**56**	P	**Pn**	**21 21 53.0**	**+0.1**
	baz=243						
J49A	**Marlette**	**10.48**	**39**	P	**Pn**	**21 21 54.3**	**+0.1**
	baz=225,SNR=10.0						
U57A	**Blanch**	**10.49**	**82**	P	**Pn**	**21 21 54.8**	**+0.4**
	baz=269						
P55A	**Reedsville**	**10.61**	**65**	P	**Pn**	**21 21 54.5**	**-1.5**
	baz=252						
W58A	**Raeford**	**10.64**	**89**	P	**Pn**	**21 21 55.5**	**-1.0**
	baz=277						
V58A	**Windy Hill, Pi**	**10.68**	**85**	P	**Pn**	**21 21 55.6**	**-1.4**
	baz=273						
F33A	**5 Mile Ranch,**	**10.71**	**345**		**Pn**	**21 21 57.7**	**+0.4**
COWI	**Conover**	**10.77**	**12**		**Pn**	**21 21 58.1**	**-0.2**
SDCO	**Great Sand Dun**	**10.87**	**285**		**Pn**	**21 22 00.8**	**+0.9**
Q56A	**Snyder Ridge,**	**10.95**	**68**	P	Pn	21 21 55.2	-5.6
	baz=256						
E38A	**The Farm, Brul**	**11.03**	**2**		**Pn**	**21 22 01.5**	**-0.3**
U58A	**Oxford**	**11.12**	**82**	P	**Pn**	**21 22 02.3**	**-0.7**
	baz=270						
T58A	**Grand View Acr**	**11.15**	**79**	P	**Pn**	**21 22 03.5**	**+0.1**
	baz=267						
G46A	**Petoskey**	**11.23**	**28**	P	**Pn**	**21 22 03.8**	**-0.7**
	baz=212						
R57A	**Stanardsville**	**11.31**	**72**	P	**Pn**	**21 22 03.8**	**-1.8**
	baz=260						
P56A	**Dayton Farm, R**	**11.34**	**66**	P	**Pn**	**21 22 06.2**	**+0.2**
	baz=254						
V59A	**Middlesex**	**11.39**	**85**	P	**Pn**	**21 22 05.6**	**-1.0**
	baz=273						
ISCO	**Idaho Springs**	**11.41**	**296**	P	**Pn**	**21 22 06.8**	**-0.4**
	baz=108,SNR=24						
ISCO	**Idaho Springs**	**11.41**	**296**		**Pn**	**21 22 08.0**	**+0.8**
TXAR	**Lajitas Array**	**11.48**	**240**	Pn	**Pn**	**21 22 07.1**	**-1.0**
	1.6nm,0.3s,baz=63,slow=13,SNR=31						
TXAR				Lg	Lg	21 25 19.6	
	0.9nm,0.3s,baz=95,slow=29,SNR=2.1						
TXAR				LR	LR	21 26 43.1	
	comp=Z,113nm,21.3s,baz=0.0,slow=38						
TX32	**Lajitas Array**	**11.48**	**240**	Pn	**Pn**	**21 22 07.2**	**-0.9**
M54A	**Oil Creek Stat**	**11.49**	**55**	P	**Pn**	**21 22 08.1**	**+0.1**
	baz=243						
E43A	**Lone Tree Farm**	**11.49**	**19**	Pn	**Pn**	**21 22 06.7**	**-1.4**
Q57A	**Strasburg**	**11.54**	**68**	P	**Pn**	**21 22 09.0**	**+0.2**
	baz=257						
ERPA	**Erie**	**11.56**	**52**	P	**Pn**	**21 22 09.2**	**+0.1**
	baz=240						
S58A	**Poland Farm, P**	**11.59**	**76**	P	**Pn**	**21 22 09.3**	**-0.1**
	baz=264						
MNTX	**Cornudas Mount**	**11.62**	**254**	P	**Pn**	**21 22 09.4**	**-0.4**
	baz=67,SNR=74						
MNTX	**Cornudas Mount**	**11.62**	**254**	Pn	**Pn**	**21 22 10.0**	**+0.2**
ANMO	**Albuquerque**	**11.64**	**271**	P	**Pn**	**21 22 09.9**	**-0.4**
	baz=83						
ANMO	**Albuquerque**	**11.64**	**271**	Pn	**Pn**	**21 22 09.1**	**-1.2**
	0.1nm,0.3s,baz=96,slow=12,SNR=1.6						
ANMO				Lg	Lg	21 25 30.8	
	2.6nm,0.3s,baz=328,slow=19,SNR=3.7						
N55A	**Marion Center**	**11.65**	**60**	P	**Pn**	**21 22 09.9**	**-0.4**
	baz=248						
U59A	**Littleton**	**11.73**	**82**	P	**Pn**	**21 22 10.7**	**-0.7**
	baz=270						
R58B	**Mineral**	**11.76**	**74**	P	**Pn**	**21 22 11.3**	**-0.4**
	baz=263						
R58B	**Mineral**	**11.76**	**74**		**Pn**	**21 22 11.5**	**-0.3**
O56A	**Blue Knob Stat**	**11.77**	**62**	P	**Pn**	**21 22 11.6**	**-0.3**
	baz=251						
DWPF	**Disney Wildern**	**11.81**	**126**	P	**Pn**	**21 22 12.2**	**-0.3**
	baz=312						
W60A	**Pink Hill**	**11.88**	**88**	P	**Pn**	**21 22 12.8**	**-0.6**
	baz=277						
J52A	**Paris**	**11.88**	**46**	P	**Pn**	**21 22 12.5**	**-0.9**
	baz=234						
S22A	**4UR Ranch, Cre**	**11.92**	**285**	P	**Pn**	**21 22 12.9**	**-1.3**
	baz=96						
T59A	**Double "B" Far**	**11.94**	**79**	P	**Pn**	**21 22 13.7**	**-0.4**
	baz=268						
P57A	**Homestead Farm**	**11.95**	**67**	P	**Pn**	**21 22 14.1**	**-0.2**
	baz=255						
P57A	**Homestead Farm**	**11.95**	**67**		**Pn**	**21 22 14.6**	**+0.3**
N23A	**Red Feather La**	**12.01**	**300**	P	**Pn**	**21 22 14.4**	**-1.0**
	baz=112,SNR=15						
U60A	**Pendleton**	**12.24**	**81**	P	**Pn**	**21 22 17.3**	**-1.1**
	baz=270						
EYMN	**Ely**	**12.38**	**2**	P	**Pn**	**21 22 17.4**	**-2.7**
	baz=183						
SSPA	**Standing Stone**	**12.38**	**62**		**Pn**	**21 22 19.6**	**-0.6**
O57A	**Amberson**	**12.43**	**64**	P	**Pn**	**21 22 19.9**	**-1.0**
	baz=253,SNR=5.2						
RSSD	**Black Hills**	**12.44**	**317**	P	**Pn**	**21 22 20.3**	**-1.0**
	baz=129						
RSSD	**Black Hills**	**12.44**	**317**	Pn	**Pn**	**21 22 21.6**	**+0.4**
M56A	**Emporium**	**12.48**	**58**	P	**Pn**	**21 22 20.1**	**-1.5**
	baz=246						
P58A	**Pank, Wackersv**	**12.48**	**67**	P	**Pn**	**21 22 20.6**	**-1.0**
	baz=256						
N57A	**Milroy**	**12.66**	**62**	P	**Pn**	**21 22 22.3**	**-1.7**
	baz=250,SNR=5.4						
E28A	**Huff**	**12.70**	**333**	Pn	**Pn**	**21 22 22.8**	**-1.8**
D46A	**Sault St. Mari**	**12.87**	**26**	P	**Pn**	**21 22 25.8**	**-1.1**
	baz=211						
O58A	**Lewisberry**	**12.93**	**65**	P	**Pn**	**21 22 26.6**	**-1.1**
	baz=254						
K22A	**Casper**	**13.14**	**307**	P	**Pn**	**21 22 30.0**	**-0.8**
	baz=118						
M57A	**Sunshine Farm,**	**13.16**	**60**	P	**Pn**	**21 22 29.4**	**-1.5**
	baz=249						
L56A	**Greenwood**	**13.18**	**56**	P	**Pn**	**21 22 29.9**	**-1.2**
	baz=245						
E48A	**Lockeyer**	**13.27**	**32**	P	**Pn**	**21 22 30.6**	**-1.8**
	baz=218						
N58A	**Sunbury**	**13.29**	**62**	P	**Pn**	**21 22 31.4**	**-1.2**
	baz=252						
MVL	**Millersville**	**13.32**	**66**	Pn	**Pn**	**21 22 32.1**	**-0.9**
O59A	**Robesonia**	**13.52**	**65**	P	**Pn**	**21 22 33.9**	**-1.9**
	baz=255						
J55A	**Hilton**	**13.53**	**51**	P	**Pn**	**21 22 34.7**	**-1.1**
	baz=240						
SADO	**Sadowa**	**13.57**	**43**	Pn	**Pn**	**21 22 34.1**	**-2.4**
	0.4nm,0.3s,baz=248,slow=12,SNR=7.4						
SADO				Lg	Lg	21 26 24.0	
	2.3nm,0.3s,baz=340,slow=21,SNR=8.6						
SADO				LR	LR	21 27 46.0	
	comp=Z,166nm,18.1s,baz=327,slow=37						
M58A	**Price's Panora**	**13.64**	**60**	P	**Pn**	**21 22 36.6**	**-0.9**
	baz=250						
H53A	**Bobcaygeon**	**13.77**	**45**	P	**Pn**	**21 22 37.5**	**-1.7**
	baz=234						
E50A	**Wahnapitae**	**13.87**	**35**	P	**Pn**	**21 22 38.9**	**-1.6**
	baz=223						
F51A	**Arnstein**	**13.92**	**38**	P	**Pn**	**21 22 39.2**	**-2.0**
	baz=226						
N59A	**State Game Lan**	**13.99**	**63**	P	**Pn**	**21 22 39.9**	**-2.4**
	baz=253						
G53A	**Haliburton**	**14.08**	**43**	P	**Pn**	**21 22 40.5**	**-2.9**
	baz=232,SNR=5.6						
O60A	**Telford**	**14.10**	**65**	P	**Pn**	**21 22 42.4**	**-1.2**
	baz=256						
I55A	**Frankford**	**14.10**	**48**	P	**Pn**	**21 22 41.0**	**-2.7**
	baz=237						
F52A	**Sundridge**	**14.13**	**40**	P	**Pn**	**21 22 42.0**	**-2.2**
	baz=228						
BINY	**Binghamton**	**14.27**	**58**	P	**Pn**	**21 22 44.1**	**-2.0**
	baz=248						
L58A	**Harry Jones Me**	**14.31**	**58**	P	**Pn**	**21 22 44.1**	**-2.5**
	baz=248						
N60A	**Cedar Hill Far**	**14.47**	**63**	P	**Pn**	**21 22 45.9**	**-2.8**
	baz=254						
G54A	**Lake Saint Pet**	**14.55**	**43**	P	**Pn**	**21 22 46.1**	**-3.7**
	baz=232,SNR=7.1						
H55A	**Tweed**	**14.59**	**48**	P	**Pn**	**21 22 47.0**	**-3.4**
	baz=237						
K58A	**Earlville**	**14.72**	**56**	P	**Pn**	**21 22 49.7**	**-2.5**
	baz=246						
J57A	**Williamstown**	**14.77**	**53**	P	**Pn**	**21 22 50.9**	**-1.8**
	baz=243						
ULM	**Lac du Bonnet**	**14.91**	**351**	Pn	**Pn**	**21 22 51.5**	**-3.2**
	0.4nm,0.3s,baz=171,slow=16,SNR=1.5						
ULM				Sn	Sn	21 25 25.6	-14
	0.9nm,0.3s,baz=178,slow=8.1,SNR=2.3						
ULM				Lg	Lg	21 27 04.5	
	0.3nm,0.3s,baz=95,slow=18,SNR=4.2						
ALGO	**Algonquin Park**	**14.91**	**42**	P	**Pn**	**21 22 51.1**	**-3.6**
	baz=231						
L59A	**Walton**	**14.92**	**59**	P	Pn	21 22 51.0	-4.0
	baz=249						
SRU	**San Rafael Swe**	**14.97**	**289**		**Pn**	**21 22 54.6**	**-1.1**
J58A	**Remsen**	**15.21**

comp=Z,108nm,18.5s,baz=64,slow=38
NVAR Mina Array Bea 20.99 286 P **P** **21 24 08.4 +0.7**
comp=Z,1.0nm,0.7s,baz=91,slow=7.4,SNR=11
NEW Newport 22.33 312 LR LR 21 33 40.7
comp=Z,92nm,18.2s,baz=128,slow=38
YBH Yreka Blue Hor 24.50 294 LR LR 21 35 45.4
comp=Z,30nm,18.3s,baz=166,slow=40
CDVI St. Croix 30.14 119 P **P** **21 25 34.5 +0.3**
BBB Bella Bella 30.34 314 LR LR 21 38 55.0
comp=Z,20nm,19.7s,baz=242,slow=39
YKA Yellowknife Ar 30.35 340 P **P** **21 25 35.2 -0.4**
comp=Z,0.8nm,0.8s,baz=143,slow=9.1,SNR=6.8
DLBC Dease Lake 33.75 325 LR LR 21 41 08.7
comp=Z,36nm,20.3s,baz=118,slow=39
INK Inuvik 40.06 338 P **P** **21 26 59.7 +0.7**
comp=Z,2.1nm,0.8s,baz=112,slow=8.9,SNR=8.8
INK Inuvik 40.06 338 P **P** **21 27 00.5 +1.5**
INK IAmb IAmb 21 27 01.2
comp=Z,3.6nm,1.0s
ILAR Eielson Array 43.50 329 P **P** **21 27 28.1 +0.9**
comp=Z,1.3nm,0.7s,baz=104,slow=7.1,SNR=14
TOLK Toolik Lake Re 45.57 334 P **P** **21 27 44.6 +0.9**
baz=106
EKA Eskdalemuir Ar 61.13 41 P **P** **21 29 38.4 +0.1**
comp=Z,0.5nm,0.5s,baz=304,slow=5.9,SNR=3.5
ARCES ARCESS Array B 65.88 20 P **P** **21 30 09.6 +0.1**
comp=Z,1.7nm,0.8s,baz=284,slow=6.1,SNR=4.4
ESDC Sonseca Array 67.22 57 P **P** **21 30 19.7 +1.1**
comp=Z,0.3nm,0.8s,baz=275,slow=5.7,SNR=1.1
FINES FINESS Array B 71.21 27 P **P** **21 30 44.0 +1.2**
comp=Z,0.7nm,0.6s,baz=324,slow=5.9,SNR=8.7
GERES GERESS Array B 73.33 42 P **P** **21 30 56.6 +0.7**
comp=Z,0.3nm,0.5s,baz=289,slow=6.1,SNR=2.7
TORD Torodi Ar. Bea 85.62 77 P **P** **21 32 03.5 +0.3**
comp=Z,0.2nm,0.7s,baz=307,slow=8.7,SNR=4.2

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*LDG **04** 21:20:40.5±0.2, 39.87N×16.02E, h10km, Ml2.9/2, Error ellipse: s-maj=6.3km s-min=4.5km az=37.0*
*PDG **04** 21:20:41.5±0.6, 39.86N×15.99E, h12km, ML3.5/14, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
*BEO **04** 21:20:41.8±0.8, 39.85N×15.99E, h0km, ML3.5/8*
*ROM **04** 21:20:41.1±0.1, 39.859N±0.005×15.99E±0.01, h8km, ML3.7/65, Mw3.7, Error ellipse: s-maj=0.9km s-min=0.3km az=73.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-4.42; $M_{\theta\theta}$0.59; $M_{\phi\phi}$3.83; $M_{r\theta}$0.41; $M_{\theta\phi}$-1.68; $M_{\theta r}$0.89; Fault plane solution: M_o4.58596×10^{14} NP1: ϕ_s328.00000°, δ42.00000°, λ-104.00000°. NP2: ϕ_s166.00000°, δ50.00000°, λ-78.00000°.*
*TIR **04** 21:20:42.0, 40.07N×16.22E, h7km, Md3.7/6*
*IDC **04** 21:20:42.2±0.8, 39.98N×16.05E, h0km, mb3.8/9, mb1 3.9/16, mb1mx3.7/55, mbtmp3.8/16, ML3.8/6, MS3.1/9, Ms1 3.1/9, ms1mx2.8/46, Error ellipse: s-maj=16.1km s-min=10.6km az=122.0*
*NEIC **04** 21:20:44.4±2.9, 39.88N±0.03×15.99E±0.06, h23km±6km, Error ellipse: s-maj=6.6km s-min=4.0km az=83.0*
ISC 04 21:20:42.0±0.8, **39.86N**±0.02×**15.99E**±0.02, **h7**km±5km, **n263**, σ**t**=**41**/330, **mb4.1**/10, **24C-23D**, **Southern Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMN	**Mormanno**	**0.03**	**2**	P	**Pg**	**21 20 43.1**	**-0.4**
MMN				S	**Sg**	**21 20 44.3**	**-0.2**
MMN				AML	AML		
MMN				AML	AML		
MMN				AML	AML		
T0702	**Acquaformosa (**	**0.15**	**152**	P	**Pg**	**21 20 45.4**	**+0.1**
T0702				S	**Sg**	**21 20 48.4**	**+0.8**
T0702				AML	AML		
	comp=E,73400μm,0.3s						
T0702				AML	AML		
	comp=N,54200μm,0.8s						
T0702				AML	AML		
	comp=E,73400μm,0.3s						
T0702				AML	AML		
	comp=N,54150μm,0.8s						
T0702				AML	AML		
	comp=N,54150μm,0.8s						
T0702				AML	AML		
	comp=E,73400μm,0.3s						
CUC	**Castrocucco**	**0.19**	**315**	P	**Pg**	**21 20 45.6**	**-0.3**
CUC				S	**Sg**	**21 20 48.8**	**+0.2**
CUC				AML	AML		
	comp=E,32250μm,0.6s						
CUC				AML	AML		
	comp=N,32950μm,0.8s						
CUC				AML	AML		
	comp=E,32200μm,0.6s						
CUC				AML	AML		
	comp=E,39100μm,0.6s						
CUC				AML	AML		
	comp=N,40300μm,0.8s						
CUC				AML	AML		
	comp=N,40300μm,0.8s						
CUC				AML	AML		
	comp=E,39100μm,0.6s						
SALB	**San Lorenzo Be**	**0.28**	**86**	P	**Pg**	**21 20 46.5**	**-1.0**
SALB				S	**Sg**	**21 20 52.3**	**+1.1**
SALB				AML	AML		
	comp=E,66050μm,0.8s						
SALB				AML	AML		
	comp=N,42550μm,0.3s						
SALB				AML	AML		
	comp=N,40750μm,1.3s						
SALB				AML	AML		
	comp=E,66000μm,0.8s						
SALB				AML	AML		
	comp=N,42550μm,0.3s						
SALB				AML	AML		
	comp=E,70500μm,0.8s						
SALB				AML	AML		
	comp=N,42550μm,0.3s						
CET2	**Cetraro**	**0.33**	**185**	P	**Pg**	**21 20 48.6**	**+0.1**
CET2				S	**Sg**	**21 20 53.9**	**+1.0**
CET2				AML	AML		
	comp=E,75950μm,0.5s						
CET2				AML	AML		
CET2				AML	AML		
	comp=E,75900μm,0.5s						
CET2				AML	AML		
CET2				AML	AML		
	comp=E,75900μm,0.5s						
TDS	**Terranova Siba**	**0.34**	**126**	P	**Pg**	**21 20 48.3**	**-0.3**
TDS				S	**Sb**	**21 20 55.2**	**-0.6**
TDS				AML	AML		
	comp=N,21300μm,0.6s						
TDS				AML	AML		
	comp=E,10500μm,0.6s						
TDS				AML	AML		
	comp=N,21300μm,0.6s						
SIRI	**Monte Sirino -**	**0.34**	**344**	P	**Pg**	**21 20 48.4**	**-0.3**
SIRI				S	**Sb**	**21 20 54.7**	**-1.3**
SIRI				AML	AML		
	comp=E,21750μm,1.2s						
SIRI				AML	AML		
	comp=N,18350μm,1.0s						
SIRI				AML	AML		
	comp=E,22200μm,1.2s						
SIRI				AML	AML		
	comp=N,18400μm,1.0s						
SIRI				AML	AML		
	comp=N,18800μm,1.0s						
SIRI				AML	AML		
	comp=E,21700μm,1.2s						
SIRI				AML	AML		
	comp=E,22200μm,1.2s						
SCHR	**S. Chirico Rap**	**0.35**	**11**	P	**Pg**	**21 20 47.8**	**-1.1**
SCHR				S	**Sg**	**21 20 53.7**	**+0.3**
SCHR				AML	AML		
	comp=E,10460μm,0.5s						
SCHR				AML	AML		
	comp=N,11550μm,1.4s						
SCHR				AML	AML		
	comp=E,10465μm,0.5s						
SCHR				AML	AML		
	comp=E,10500μm,0.5s						
ORI	**Oriolo Calabro**	**0.41**	**60**	P	**Pg**	**21 20 49.0**	**-1.0**
ORI				S	**Sg**	**21 20 55.5**	**+0.1**
ORI				AML	AML		
	comp=E,64300μm,0.4s						
ORI				AML	AML		
	comp=N,49950μm,0.5s						
ORI				AML	AML		
	comp=N,49950μm,0.5s						
ORI				AML	AML		
	comp=E,64300μm,0.4s						
MGR	**Morigerati**	**0.43**	**310**	P	**Pg**	**21 20 49.8**	**-0.6**
MGR				S	**Sb**	**21 20 58.3**	**-0.4**
MGR				AML	AML		
	comp=E,8275μm,0.6s						
MGR				AML	AML		
	comp=E,8390μm,0.6s						
MGR				AML	AML		
	comp=N,8635μm,0.6s						
MGR				AML	AML		
	comp=N,9785μm,0.6s						
MTSN	**Montesano sull**	**0.45**	**336**	P	**Pg**	**21 20 50.2**	**-0.5**
MTSN				S	**Sb**	**21 20 58.7**	**-0.5**
MTSN				AML	AML		
	comp=E,11550μm,0.5s						
MTSN				AML	AML		
	comp=N,10920μm,0.7s						
MCEL	**Monticello**	**0.49**	**343**	P	**Pg**	**21 20 50.8**	**-0.7**
MCEL				S	**Sb**	**21 20 59.6**	**-0.7**
MCEL				AML	AML		
	comp=N,7790μm,0.9s						
MCEL				AML	AML		
	comp=E,7585μm,1.4s						
MCEL				AML	AML		
	comp=N,8020μm,0.9s						
MCEL				AML	AML		
	comp=E,7445μm,1.4s						
BULG	**Bulgheria - Ca**	**0.52**	**295**	P	**Pg**	**21 20 51.6**	**-0.5**
BULG				AML	AML		
	comp=N,9675μm,0.4s						
BULG				AML	AML		
	comp=N,10030μm,0.4s						
BULG				AML	AML		
	comp=N,9655μm,0.4s						
BULG				AML	AML		
	comp=E,9400μm,0.5s						
BULG				AML	AML		
	comp=E,9105μm,0.6s						
SLCN	**Sala Consilina**	**0.60**	**333**	P	**Pg**	**21 20 52.8**	**-0.8**
SLCN				AML	AML		
	comp=E,9455μm,0.5s						
SLCN				AML	AML		
	comp=N,7960μm,0.5s						
CELI	**Celico**	**0.61**	**138**	P	**Pg**	**21 20 53.3**	**-0.4**
CELI				AML	AML		
	comp=E,6780μm,0.8s						
CELI				AML	AML		
	comp=N,9545μm,1.3s						
CELI				AML	AML		
	comp=E,17000μm,0.8s						
CELI				AML	AML		
	comp=N,23950μm,1.3s						
CELI				AML	AML		
	comp=N,9565μm,1.3s						
CELI				AML	AML		
	comp=E,17000μm,0.8s						
CRAC	**Craco**	**0.61**	**34**	P	**Pg**	**21 20 53.3**	**-0.5**
CRAC				AML	AML		
	comp=E,16200μm,0.7s						
CRAC				AML	AML		
	comp=N,12535μm,1.1s						
CRAC				AML	AML		
	comp=E,16200μm,0.7s						
CRAC				AML	AML		
	comp=N,12550μm,1.1s						
CRAC				AML	AML		
	comp=E,16200μm,0.7s						
CAR1	**CAROLEI**	**0.63**	**164**	P	**Pg**	**21 20 53.9**	**-0.2**
CAR1				S	**Sb**	**21 21 04.4**	**+0.1**
CAR1				AML	AML		
	comp=E,45250μm,0.7s						
CAR1				AML	AML		
	comp=N,58400μm,0.8s						
CAR1				AML	AML		
	comp=E,49700μm,0.6s						
CAR1				AML	AML		
	comp=E,45200μm,0.7s						
CAR1				AML	AML		
	comp=N,58450μm,0.8s						
CAR1				AML	AML		
	comp=N,48650μm,0.8s						
CAR1				AML	AML		
	comp=E,49700μm,0.6s						
CAR1				AML	AML		
	comp=N,58450μm,0.8s						
CAR1				AML	AML		
	comp=N,48650μm,0.8s						
CAR1				AML	AML		
	comp=E,45200μm,0.7s						
CMPR	**Campora**	**0.70**	**311**	P	**Pg**	**21 20 54.3**	**-1.1**
CMPR				AML	AML		
	comp=N,8140μm,0.6s						
CMPR				AML	AML		
	comp=E,6280μm,0.7s						
PIPA	**Pietrapaola**	**0.74**	**120**	P	**Pg**	**21 20 56.3**	**+0.1**
PIPA				AML	AML		
	comp=N,4150μm,0.4s						
PIPA				AML	AML		
	comp=E,5710μm,0.5s						
PIPA				AML	AML		
	comp=E,5760μm,0.5s						
PIPA				AML	AML		
	comp=N,4005μm,0.4s						
CDRU	**Civita di Ruta**	**0.82**	**320**	P	**Pg**	**21 20 56.4**	**-1.4**
CDRU				AML	AML		
	comp=E,2730μm,0.7s						
CDRU				AML	AML		
	comp=N,1720μm,0.9s						
MIGL	**Miglionico**	**0.82**	**25**	P	**Pg**	**21 20 56.4**	**-1.4**
MIGL				AML	AML		
	comp=N,12700μm,0.8s						
MIGL				AML	AML		
	comp=E,24350μm,0.6s						
MIGL				AML	AML		
	comp=E,24350μm,0.6s						
TIP	**Timpagrande**	**0.90**	**139**	Pg	**Pg**	**21 20 58.4**	**-1.0**
ACER	**Acerenza**	**0.93**	**358**	P	**Pg**	**21 20 58.6**	**-1.2**
ACER				AML	AML		
	comp=E,5410μm,0.6s						
ACER				AML	AML		
	comp=N,4070μm,0.6s						
ACER				AML	AML		
	comp=E,5685μm,0.6s						
ACER				AML	AML		
	comp=N,4210μm,0.6s						
ACER				AML	AML		
	comp=N,4075μm,0.6s						
LADO	**San Nicola del**	**0.96**	**127**	P	**Pg**	**21 20 59.6**	**-0.8**
LADO				AML	AML		
	comp=N,2080μm,1.0s						
LADO				AML	AML		
	comp=E,2485μm,1.4s						
MATE	**Matera**	**0.96**	**35**	⇑P	**Pg**	**21 20 58.9**	**-1.6**
MATE	**Matera**	**0.96**	**35**	P	**Pg**	**21 20 58.5**	**-2.0**
MATE				AML	AML		
	comp=E,4035μm,0.6s						
MATE				AML	AML		
	comp=N,4105μm,0.5s						
MRLC	**Muro Lucano**	**0.97**	**337**	P	**Pg**	**21 21 00.6**	**-0.2**
MRLC				AML	AML		
	comp=E,2425μm,0.9s						
MRLC				AML	AML		
	comp=N,1970μm,0.5s						
MRLC				AML	AML		
	comp=E,2520μm,0.9s						
MRLC				AML	AML		
	comp=N,1990μm,0.5s						
MRLC				AML	AML		
	comp=N,1965μm,0.5s						
MRLC				AML	AML		
	comp=E,2430μm,0.9s						
LTRZ	**Laterza**	**0.98**	**40**	P	**Pg**	**21 20 58.6**	**-2.2**
LTRZ				AML	AML		
	comp=E,4750μm,0.7s						
LTRZ				AML	AML		
	comp=N,7275μm,1.0s						
SERS	**Sersale**	**0.98**	**146**	P	**Pg**	**21 21 00.4**	**-0.5**
SERS				AML	AML		
	comp=N,3250μm,0.9s						
SERS				AML	AML		
	comp=E,2560μm,1.1s						
SERS				AML	AML		
	comp=N,3245μm,0.9s						
SERS				AML	AML		
	comp=N,2530μm,1.1s						
SERS				AML	AML		
	comp=E,3475μm,0.9s						
PALZ	**Palazzo San Ge**	**1.08**	**359**	P	**Pg**	**21 21 02.9**	**+0.1**
PALZ				AML	AML		
	comp=N,3635μm,1.5s						
PALZ				AML	AML		
	comp=E,4355μm,0.8s						
GRI	**Girifalco**	**1.09**	**162**	P	**Pg**	**21 21 02.4**	**-0.5**
GRI				AML	AML		
	comp=E,3650μm,0.6s						
GRI				AML	AML		
	comp=N,3545μm,0.5s						
GRI				AML	AML		
	comp=E,3655μm,0.6s						
SG1	**Sgolgore (BA)**	**1.11**	**28**	⇑*i*Pn	**Pg**	**21 21 01.8**	**-1.6**
AMUR	**Altamura**	**1.15**	**24**	P	**Pg**	**21 21 02.7**	**-1.3**
AMUR				AML	AML		
	comp=E,2170μm,1.1s						
AMUR				AML	AML		
	comp=N,2770μm,0.7s						
TAR1	**Taranto**	**1.20**	**56**	⇑*i*Pn	**Pb**	**21 21 02.8**	**-2.1**
MRVN	**Minervino Murg**	**1.21**	**7**	P	**Pb**	**21 21 04.5**	**-0.8**
MRVN				AML	AML		
	comp=N,981μm,0.5s						
MRVN				AML	AML		
	comp=E,1480μm,0.9s						
NOCI	**Noci**	**1.24**	**41**	P	**Pn**	**21 21 04.1**	**-1.7**
NOCI				AML	AML		
	comp=E,2620μm,0.6s						
NOCI				AML	AML		
	comp=N,4455μm,1.6s						
JOPP	**Joppolo**	**1.25**	**184**	P	**Pn**	**21 21 04.2**	**-1.7**
JOPP				S	**Sb**	**21 21 21.4**	**-0.8**
JOPP				AML	AML		
	comp=E,2735μm,0.6s						
JOPP				AML	AML		
	comp=N,4565μm,0.3s						
CAFE	**Carife**	**1.30**	**334**	P	**Pn**	**21 21 06.6**	**-0.1**
CAFE				AML	AML		
	comp=E,2600μm,0.8s						
CAFE				AML	AML		
	comp=E,2685μm,0.8s						
CAFE				AML	AML		
	comp=N,1895μm,0.8s						
CAFE				AML	AML		
	comp=N,1855μm,0.8s						
CAPA	**Cerignola FG**	**1.30**	**354**	P	**Pn**	**21 21 05.9**	**-0.7**
CGL1	**Ceglie Messapi**	**1.39**	**55**	⇓*i*Pn	**Pn**	**21 21 07.0**	**-0.8**
CGL1				Sn	**Sg**	**21 21 30.3**	**+3.6**
BAI	**Bari**	**1.42**	**28**	⇑*i*Pn	**Pn**	**21 21 07.5**	**-0.7**
PLAC	**Placanica**	**1.45**	**166**	P	**Pn**	**21 21 07.9**	**-0.8**
PLAC				AML	AML		
	comp=E,2675μm,0.6s						
PLAC				AML	AML		
	comp=N,2560μm,0.6s						
PLAC				AML	AML		
	comp=E,2200μm,0.7s						
PLAC				AML	AML		
	comp=N,2320μm,0.7s						
PAOL	**Paolisi**	**1.60**	**318**	P	**Pn**	**21 21 07.6**	**-3.0**
PAOL				AML	AML		
	comp=N,870μm,1.0s						
PAOL				AML	AML		
	comp=N,837μm,1.0s						
PAOL				AML	AML		
	comp=E,716μm,0.7s						
PAOL				AML	AML		
	comp=E,788μm,0.6s						
PAOL	**Paolisi**	**1.60**	**318**		**Pn**	**21 21 11.2**	**+0.5**
CEL	**Celeste**	**1.60**	**183**	P	**Pn**	**21 21 09.5**	**-1.2**
CEL				AML	AML		
	comp=N,1270μm,0.5s						
CEL				AML	AML		
	comp=N,1530μm,0.5s						
CEL				AML	AML		
	comp=E,1370μm,0.5s						
CEL				AML	AML		
	comp=E,1660μm,0.5s						
CEL	**Celeste**	**1.60**	**183**	Pn	**Pn**	**21 21 09.3**	**-1.3**
CEL					**Sn**	**21 21 29.1**	**-2.4**
LLI	**Lipari**	**1.63**	**210**	P	**Pn**	**21 21 11.0**	**0.0**
LLI				AML	AML		
	comp=N,18800μm,0.5s						
LLI				AML	AML		
	comp=E,10800μm,0.8s						
LLI				AML	AML		
	comp=N,18800μm,0.5s						
MSCL	**Scilla**	**1.63**	**186**	P	**Pn**	**21 21 09.8**	**-1.3**
MSCL				AML	AML		
	comp=N,6210μm,0.5s						
MSCL				AML	AML		
	comp=E,3405μm,0.6s						
MSRU	**Castanea**	**1.64**	**193**	P	**Pn**	**21 21 09.6**	**-1.6**
MSRU				AML	AML		
	comp=N,2765μm,0.7s						
MSRU				AML	AML		
	comp=E,3950μm,0.4s						
VPL	**Vulcano Piano**	**1.67**	**208**	P	**Pn**	**21 21 10.7**	**-1.0**
VPL				AML	AML		
	comp=E,6140μm,0.8s						
VPL				AML	AML		
	comp=N,5785μm,0.6s						
VITU	**Vitulano (BN)**	**1.68**	**322**	P	**Pn**	**21 21 12.4**	**+0.6**
VITU				AML	AML		
	comp=E,1495μm,0.6s						
VITU				AML	AML		
	comp=N,1330μm,0.6s						
GMB	**Gambarie**	**1.69**	**184**	P	**Pn**	**21 21 10.6**	**-1.4**
GMB				AML	AML		
	comp=E,5960μm,0.7s						
GMB				AML	AML		
	comp=N,6370μm,0.6s						
MPNC	**Port Mandanici**	**1.78**	**196**	P	**Pn**	**21 21 11.7**	**-1.4**
MPNC				AML	AML		
	comp=E,3770μm,0.6s						
MPNC				AML	AML		
	comp=N,6780μm,0.7s						
SOI	**Samo**	**1.78**	**178**	P	**Pn**	**21 21 12.2**	**-1.0**
SOI				AML	AML		
	comp=E,1115μm,0.7s						
SOI				AML	AML		
	comp=N,1122μm,0.5s						
IACL	**Alicudi**	**1.83**	**224**	P	**Pn**	**21 21 12.2**	**-1.6**
IACL				AML	AML		
	comp=E,1037μm,0.7s						
IACL				AML	AML		
	comp=N,868μm,1.6s						
MSAG	**Monte S. Angel**	**1.85**	**358**	P	**Pn**	**21 21 14.8**	**+0.6**
MSAG				AML	AML		
	comp=N,1133μm,0.7s						
MSAG				AML	AML		
	comp=E,700μm,0.7s						
MCSR	**Castroreale**	**1.88**	**198**	P	**Pn**	**21 21 13.2**	**-1.4**
MPAZ	**Palizzi**	**1.90**	**180**	P	**Pn**	**21 21 14.2**	**-0.7**
MPAZ				AML	AML		
	comp=N,1270μm,0.4s						
MPAZ				AML	AML		
	comp=E,1032μm,0.5s						
SGRT	**San Giovanni R**	**1.90**	**354**	P	**Pn**	**21 21 15.6**	**+0.7**
SGRT				AML	AML		
	comp=N,542μm,0.6s						
SGRT				AML	AML		
	comp=E,490μm,0.5s						
SGRT	**San Giovanni R**	**1.90**	**354**	Pn	**Pn**	**21 21 13.1**	**-1.8**
SGRT					**Sn**	**21 21 40.2**	**+1.0**
SCTE	**Santa Cesarea**	**1.92**	**83**		**Pn**	**21 21 14.7**	**-0.3**
MELA	**Melanico ??? S**	**1.96**	**341**	P	**Pb**	**21 21 16.9**	**-1.1**
MELA				AML	AML		
	comp=E,1092μm,0.7s						
MELA				AML	AML		
	comp=N,1016μm,1.1s						
MELA				AML	AML		
	comp=N,1028μm,1.1s						
MELA				AML	AML		
	comp=E,1050μm,0.7s						
AIO	**Antillo**	**1.98**	**198**	P	**Pn**	**21 21 14.5**	**-1.3**
AIO				AML	AML		
	comp=E,707μm,1.5s						
AIO				AML	AML		
	comp=N,925μm,0.8s						
BSSO	**Busso**	**1.99**	**328**	P	**Pg**	**21 21 20.1**	**-0.1**
MUCR	**Ucria**	**2.01**	**206**	P	**Pn**	**21 21 15.2**	**-1.2**
MUCR				AML	AML		
	comp=N,1285μm,0.6s						
MUCR				AML	AML		
	comp=E,1040μm,0.5s						
MSFR	**San Fratello**	**2.12**	**211**	P	**Pn**	**21 21 16.7**	**-1.2**

MSFR					AML	AML					
	comp=E,280μm,0.6s										
MSFR					AML	AML					
	comp=N,285μm,0.9s										
MNO	**Monte Soro**	**2.17**	**208**		P	**Pn**	**21**	**21**	**18.6**	**-0.1**
MNO					AML	AML					
	comp=E,1490μm,0.6s										
MNO					AML	AML					
	comp=N,1445μm,0.5s										
EPZF	**Pizzo Felice**	**2.21**	**204**		P	**Pn**	**21**	**21**	**20.2**	**+1.0**
EPZF					AML	AML					
	comp=E,2165μm,0.6s										
EPZF					AML	AML					
	comp=N,2415μm,0.6s										
GIB	**Gibilmanna**	**2.41**	**220**		P	**Pn**	**21**	**21**	**21.0**	**-0.9**
GIB					AML	AML					
	comp=E,502μm,0.8s										
GIB					AML	AML					
	comp=N,538μm,0.6s										
GALF	**Gagliano Caste**	**2.42**	**208**		P	**Pb**	**21**	**21**	**23.9**	**-1.9**
GALF					AML	AML					
	comp=E,998μm,0.6s										
GALF					AML	AML					
	comp=N,875μm,0.6s										
PETRA	**Petralia Sopra**	**2.50**	**216**		P	**Pn**	**21**	**21**	**22.6**	**-0.5**
PETRA					AML	AML					
	comp=N,426μm,0.5s										
PETRA					AML	AML					
	comp=E,477μm,0.6s										
CAGR	**Agira**	**2.52**	**208**		P	**Pb**	**21**	**21**	**25.7**	**-1.9**
HAGA	**Augusta**	**2.65**	**195**		P	**Pn**	**21**	**21**	**25.1**	**0.0**
HAGA					AML	AML					
	comp=N,774μm,0.7s										
HAGA					AML	AML					
	comp=E,707μm,1.6s										
HLNI	**Lentini**	**2.66**	**200**		P	**Pn**	**21**	**21**	**24.6**	**-0.6**
HLNI					AML	AML					
	comp=E,484μm,0.9s										
HLNI					AML	AML					
	comp=N,322μm,0.6s										
AGST	**Augusta-Monte**	**2.67**	**193**		P	**Pn**	**21**	**21**	**25.8**	**+0.5**
AGST					AML	AML					
	comp=N,1002μm,0.5s										
AGST					AML	AML					
	comp=E,1088μm,0.5s										
INTR	**Introdacqua**	**2.67**	**324**		Pn	**Pn**	**21**	**21**	**25.9**	**+0.5**
INTR					Pg	**Pb**	**21**	**21**	**30.6**	**+0.4**
RESU	**Resuttano**	**2.67**	**215**		P	**Pb**	**21**	**21**	**28.1**	**-2.1**
RESU					AML	AML					
	comp=E,260μm,0.7s										
RESU					AML	AML					
	comp=N,258μm,0.7s										
VAE	**Valguarnera**	**2.68**	**208**		Pn	**Pb**	**21**	**21**	**28.9**	**-1.4**
	comp=N,5.3nm,0.3s,baz=139,slow=5.3,SNR=11										
VAE					Lg	Lg	21	22	13.3		
	comp=N,7.9nm,0.3s,baz=105,slow=3.0,SNR=5.8										
HCRL	**Carlentini**	**2.68**	**197**		P	**Pn**	**21**	**21**	**25.4**	**0.0**
HCRL					S	**Sn**	**21**	**21**	**60.0**	**+1.8**
HCRL					AML	AML					
	comp=E,862μm,0.4s										
HCRL					AML	AML					
	comp=N,804μm,0.5s										
VLO	**Vlora**	**2.75**	**76**	*i*	PN	**Pn**	**21**	**21**	**27.9**	**+1.4**
VLO				*i*	SN	**Sn**	**21**	**22**	**02.4**	**+2.4**
SSY	**Sortino**	**2.79**	**195**		P	**Pn**	**21**	**21**	**28.1**	**+1.0**
SSY					AML	AML					
	comp=E,528μm,1.0s										
SSY					AML	AML					
	comp=N,1375μm,0.9s										
CORL	**Corleone**	**2.87**	**228**		P	**Pn**	**21**	**21**	**28.1**	**0.0**
CORL					AML	AML					
	comp=E,154μm,0.5s										
CORL					AML	AML					
	comp=N,168μm,0.9s										
CORL	**Corleone**	**2.87**	**228**		Pn	**Pn**	**21**	**21**	**28.2**	**0.0**
MEU	**Monte Lauro**	**2.88**	**197**		P	**Pn**	**21**	**21**	**28.4**	**+0.1**
MEU					AML	AML					
	comp=E,532μm,1.1s										
MEU					AML	AML					
	comp=N,715μm,0.9s										
HAVL	**Avola**	**2.97**	**193**		P	**Pn**	**21**	**21**	**29.8**	**+0.2**
HAVL					AML	AML					
	comp=N,645μm,1.6s										
HAVL					AML	AML					
	comp=E,523μm,1.1s										
SRN	**Sarande**	**3.09**	**88**	*i*	PN	**Pn**	**21**	**21**	**31.9**	**+0.8**
SRN				*i*	SN	**Sn**	**21**	**22**	**11.3**	**+3.1**
LAV9	**Lanuvio**	**3.09**	**307**		P	**Pn**	**21**	**21**	**33.3**	**+2.1**
TPE	**Tepelena**	**3.12**	**81**	*i*	PN	**Pn**	**21**	**21**	**33.3**	**+1.8**
TPE				*i*	SN	**Sn**	**21**	**22**	**11.7**	**+2.7**
CLTB	**Caltabellotta**	**3.14**	**224**			**Pn**	**21**	**21**	**34.0**	**+2.0**
AQU	**L'Aquila**	**3.17**	**323**			**Pn**	**21**	**21**	**32.9**	**+0.6**
AQU					Pg	**Pb**	**21**	**21**	**39.0**	**+0.4**
AQU	**L'Aquila**	**3.17**	**323**	*e*	Pn	**Pb**	**21**	**21**	**38.4**	**-0.2**
HCY	**Herceg Novi**	**3.20**	**35**	⇓	*i* Pn	**Pn**	**21**	**21**	**32.3**	**-0.4**
HCY					*i* Sn	**Sn**	**21**	**22**	**12.3**	**+1.2**
HCY	**Herceg Novi**	**3.20**	**35**	*e*	Pn	**Pn**	**21**	**21**	**31.4**	**-1.3**
MMGO	**Monte Magaggia**	**3.22**	**228**		P	**Pn**	**21**	**21**	**34.7**	**+1.8**
ULC	**Ulcinj**	**3.24**	**49**	⇑	*i* Pn	**Pn**	**21**	**21**	**32.8**	**-0.5**
ULC					*i* Sn	**Sn**	**21**	**22**	**12.9**	**+0.8**
DBRK	**Dubrovnik**	**3.25**	**29**	*e*	Pn	**Pn**	**21**	**21**	**32.6**	**-0.7**
DBRK					Sn	**Sn**	**21**	**22**	**10.7**	**-1.4**
STON	**Ston**	**3.27**	**23**	*e*	Pn	**Pn**	**21**	**21**	**33.2**	**-0.5**
STON					eSn	**Sn**	**21**	**22**	**13.4**	**+0.6**
STON	**Ston**	**3.27**	**23**	*e*	Pn	**Pn**	**21**	**21**	**33.1**	**-0.5**
STON					Sn	**Sn**	**21**	**22**	**11.7**	**-1.1**
STON	**Ston**	**3.27**	**23**	*e*	Pn	**Pn**	**21**	**21**	**32.8**	**-0.9**
BUM	**Brajici-Budva**	**3.28**	**41**	⇑	*i* Pn	**Pn**	**21**	**21**	**33.6**	**-0.3**
BUM					*i* Sn	**Sn**	**21**	**22**	**14.1**	**+0.9**
TIR	**Tirane**	**3.31**	**62**	*e*	Pn	**Pn**	**21**	**21**	**34.6**	**+0.5**
TIR	**Tirane**	**3.31**	**62**			**Pn**	**21**	**21**	**34.7**	**+0.5**
DRME	**Dracevica, Mon**	**3.35**	**45**	⇓	*i* Pn	**Pn**	**21**	**21**	**34.5**	**-0.3**
DRME					*i* Sn	**Sn**	**21**	**22**	**16.3**	**+1.5**
DRME	**Dracevica, Mon**	**3.35**	**45**	*e*	Pn	**Pn**	**21**	**21**	**34.3**	**-0.5**
TREB	**Trebinje**	**3.37**	**31**	*e*	Pn	**Pn**	**21**	**21**	**36.4**	**+1.5**
TREB					eSn	**Sn**	**21**	**22**	**16.1**	**+1.0**
TREB	**Trebinje**	**3.37**	**31**	*e*	Pn	**Pn**	**21**	**21**	**33.8**	**-1.1**
CEME	**Cevo**	**3.48**	**38**	⇑	*i* Pn	**Pn**	**21**	**21**	**35.8**	**-0.7**
CEME					*i* Sn	**Sn**	**21**	**22**	**18.5**	**+0.5**
MAKA	**Makarska**	**3.51**	**12**	*e*	Pn	**Pn**	**21**	**21**	**36.0**	**-1.0**
PDG	**Podgorica**	**3.56**	**43**	*e*	Pn	**Pn**	**21**	**21**	**37.4**	**-0.2**
PDG					eSn	**Sn**	**21**	**22**	**20.1**	**+0.2**
PDG	**Podgorica**	**3.56**	**43**	⇓	P	**Pn**	**21**	**21**	**37.4**	**-0.2**
PDG	**Podgorica**	**3.56**	**43**		Pn	**Pn**	**21**	**21**	**37.3**	**-0.2**
PDG					Sn	**Sn**	**21**	**22**	**20.2**	**+0.3**
PDG	**Podgorica**	**3.56**	**43**	*e*	Pn	**Pn**	**21**	**21**	**37.2**	**-0.4**
TTG	**Podgorica**	**3.56**	**43**	⇓	*i* Pn	**Pn**	**21**	**21**	**37.3**	**-0.4**
TTG					*i* Sn	**Sn**	**21**	**22**	**21.0**	**+1.1**
BRY	**Bratogost**	**3.59**	**31**	⇑	*i* Pn	**Pn**	**21**	**21**	**37.4**	**-0.8**
BRY					*i* Sn	**Sn**	**21**	**22**	**22.0**	**+1.0**
BRY	**Bratogost**	**3.59**	**31**	*e*	Pn	**Pn**	**21**	**21**	**37.3**	**-0.9**
NKME	**Niksic**	**3.66**	**37**	⇓	*i* Pn	**Pn**	**21**	**21**	**38.8**	**-0.3**
NKME					*i* Sn	**Sn**	**21**	**22**	**23.6**	**+1.1**
PUK	**Puka**	**3.67**	**52**	*i*	PN	**Pn**	**21**	**21**	**39.9**	**+0.6**
PUK				*i*	SN	**Sb**	**21**	**22**	**33.6**	**+1.5**
NRCA	**Norcia**	**3.68**	**325**			**Pn**	**21**	**21**	**38.5**	**-0.7**
NKY	**Niksic**	**3.72**	**36**	⇓	*i* Pn	**Pn**	**21**	**21**	**39.8**	**-0.1**
NKY					*i* Sn	**Sn**	**21**	**22**	**25.0**	**+1.0**
ZIRJ	**Zirje**	**3.80**	**356**	*e*	Pn	**Pn**	**21**	**21**	**40.5**	**-0.4**
PHP	**Peshkopia**	**3.84**	**60**	*i*	PN	**Pn**	**21**	**21**	**42.3**	**+0.8**
PHP				*i*	SN	**Sn**	**21**	**22**	**28.2**	**+1.2**
CSP1	**Cessapalombo**	**3.85**	**328**		P	**Pn**	**21**	**21**	**39.3**	**-2.4**
OHR	**Ohrid**	**3.88**	**70**	*i*	Pn	**Pn**	**21**	**21**	**43.7**	**+1.7**
BCI	**Bajram Curri**	**3.97**	**50**	*i*	PN	**Pn**	**21**	**21**	**44.0**	**+0.7**
BCI				*i*	SN	**Sn**	**21**	**22**	**31.6**	**+1.5**
UPM	**Unac-Piva**	**4.00**	**32**	⇓	*i* Pn	**Pn**	**21**	**21**	**43.6**	**-0.2**
UPM					*i* Sn	**Sn**	**21**	**22**	**31.8**	**+0.9**
KOME	**Kolasin**	**4.00**	**40**	⇓	*i* Pn	**Pn**	**21**	**21**	**43.8**	**+0.1**
KOME					*i* Sn	**Sn**	**21**	**22**	**31.5**	**+0.7**
MORI	**Morici**	**4.01**	**357**	*e*	Pn	**Pn**	**21**	**21**	**43.5**	**-0.3**
MORI					Sn	**Sn**	**21**	**22**	**31.4**	**+0.4**
PVY	**Plav**	**4.05**	**46**	⇑	*i* Pn	**Pn**	**21**	**21**	**44.7**	**+0.2**
PVY					*i* Sn	**Sn**	**21**	**22**	**33.1**	**+0.8**
KIJV	**Kijevo**	**4.16**	**4**	*e*	Pn	**Pn**	**21**	**21**	**46.5**	**+0.7**
KIJV					Sn	**Sn**	**21**	**22**	**34.5**	**-0.1**
WDD	**Wied Dalam**	**4.18**	**197**		Pn	**Pn**	**21**	**21**	**46.7**	**+0.6**
WDD					Sn	**Sn**	**21**	**22**	**35.6**	**+0.5**
LATE	**Laterza**	**4.19**	**312**			**Pn**	**21**	**21**	**47.5**	**+1.3**
DUGI	**Dugi Otok**	**4.19**	**351**	*e*	Pn	**Pn**	**21**	**21**	**47.3**	**+1.1**
DUGI					Sn	**Sn**	**21**	**22**	**34.9**	**-0.5**
IVA	**Berane**	**4.21**	**43**	⇓	*i* Pn	**Pn**	**21**	**21**	**46.9**	**+0.3**
IVA					*i* Sn	**Sn**	**21**	**22**	**36.5**	**+0.5**
FNA	**Florina**	**4.22**	**76**		Pn	**Pn**	**21**	**21**	**48.0**	**+1.2**
MURB	**Monte Urbino**	**4.28**	**324**		S	**Sn**	**21**	**22**	**33.0**	**-4.8**
MURB	**Monte Urbino**	**4.28**	**324**			**Pn**	**21**	**21**	**49.3**	**+1.8**
PLE	**Pljevlja**	**4.30**	**35**	⇑	*i* Pn	**Pn**	**21**	**21**	**48.1**	**+0.1**
PLE					*i* Sn	**Sn**	**21**	**22**	**39.1**	**+0.7**
SJES	**Sjenica**	**4.53**	**40**	*e*	Pn	**Pn**	**21**	**21**	**51.9**	**+0.9**
RUDO	**Rudo**	**4.53**	**33**	*e*	Pn	**Pn**	**21**	**21**	**49.2**	**-1.7**
MGRS	**Mrkonjic Grad**	**4.63**	**10**	*e*	Pn	**Pn**	**21**	**21**	**53.5**	**+1.2**
SKO	**Skopje**	**4.64**	**61**	*i*	Pn	**Pn**	**21**	**21**	**53.4**	**+1.0**
BBLS	**Lazići**	**4.75**	**31**	*e*	Pn	**Pn**	**21**	**21**	**54.9**	**+0.9**
BBLS					eSn	**Sn**	**21**	**22**	**49.1**	**-0.2**
BBLS	**Lazići**	**4.75**	**31**	*e*	Pn	**Pn**	**21**	**21**	**54.8**	**+0.8**
NVLJ	**Novalja**	**4.78**	**350**	*e*	Pn	**Pn**	**21**	**21**	**55.1**	**+0.8**
NVLJ					Sn	**Sn**	**21**	**22**	**49.5**	**-0.3**
CASP	**Castiglione de**	**4.84**	**309**		Pn	**Pn**	**21**	**21**	**55.2**	**-0.1**
CASP					Sn	**Sn**	**21**	**21**	**51.0**	**-0.5**
IVAS	**Ivanjica**	**4.85**	**39**	*e*	Pn	**Pn**	**21**	**21**	**55.1**	**-0.3**
BLY	**Banja Luka**	**4.97**	**10**	*e*	Pn	**Pn**	**21**	**21**	**58.5**	**+1.6**
BLY	**Banja Luka**	**4.97**	**10**	*e*	Pn	**Pn**	**21**	**21**	**56.3**	**-0.6**
AGG	**Agios Georgios**	**4.98**	**98**		Pn	**Pn**	**21**	**21**	**59.8**	**+2.7**
LIT	**Litokhoron**	**5.00**	**85**			**Pn**	**21**	**21**	**59.1**	**+1.6**
SELS	**Selova**	**5.11**	**47**	*e*	Pn	**Pn**	**21**	**21**	**58.6**	**-0.3**
VSL	**Villasalto**	**5.11**	**268**		Pn	**Pn**	**21**	**21**	**57.0**	**-2.0**
KLV	**Kalavryta, Ach**	**5.13**	**109**		P	**Pn**	**21**	**22**	**02.1**	**+2.8**
DIVS	**Divibare**	**5.18**	**34**	*e*	Pn	**Pn**	**21**	**21**	**59.6**	**-0.4**
DIVS					eSn	**Sn**	**21**	**22**	**58.6**	**-1.4**
DIVS	**Divibare**	**5.18**	**34**		P	**Pn**	**21**	**21**	**59.6**	**-0.4**
DIVS	**Divibare**	**5.18**	**34**			**Pn**	**21**	**21**	**59.1**	**-0.9**
DIVS					Sn	**Sn**	**21**	**22**	**58.3**	**-1.7**
DIVS	**Divibare**	**5.18**	**34**	*e*	Pn	**Pn**	**21**	**21**	**59.2**	**-0.8**
CGL	**Cagliari Serpe**	**5.19**	**267**		P	**Pn**	**21**	**21**	**58.1**	**-2.1**
VAY	**Valandovo**	**5.22**	**72**	*i*	Pn	**Pn**	**21**	**21**	**59.9**	**-0.5**
BARS	**Barje**	**5.29**	**54**	*e*	Pn	**Pn**	**21**	**22**	**01.9**	**+0.5**
BARS					eSn	**Sn**	**21**	**23**	**00.8**	**-1.7**
GRUS	**Gruza**	**5.35**	**40**	*e*	Pn	**Pn**	**21**	**22**	**02.1**	**-0.1**
ITM	**Ithomi**	**5.37**	**118**		Pn	**Pn**	**21**	**22**	**04.2**	**+1.7**
ITM					Sn	**Sn**	**21**	**23**	**04.3**	**-0.3**
TRUS	**Trudelj**	**5.46**	**36**	*e*	Pn	**Pn**	**21**	**22**	**03.2**	**-0.5**
BOSS	**Bosilegrad**	**5.56**	**60**	*e*	Sn	**Sn**	**21**	**23**	**08.6**	**-0.7**
RIY	**Rijeka**	**5.58**	**349**	*e*	Pn	**Pn**	**21**	**22**	**07.0**	**+1.7**
BOJS	**Bojanci**	**5.67**	**355**		P	**Pn**	**21**	**22**	**08.0**	**+1.5**
OZLJ	**Ozalj**	**5.77**	**356**	*e*	Pn	**Pn**	**21**	**22**	**08.7**	**+0.8**
PGF	**Pioggiola**	**5.92**	**299**	*e*	P	**Pn**	**21**	**22**	**10.1**	**0.0**
PGF					eSn	**Sn**	**21**	**23**	**09.7**	**-8.4**
	comp=E,3.9nm,0.7s										
CRES	**Cresnjev**	**5.98**	**356**	*e*	Pn	**Pn**	**21**	**22**	**11.7**	**+0.9**
CEY	**Cerknica**	**5.99**	**349**	*e*	Pn	**Pn**	**21**	**22**	**12.0**	**+1.0**
FRGS	**Fruska Gora**	**6.00**	**27**	*e*	Pn	**Pn**	**21**	**22**	**09.6**	**-1.6**
ZAPS	**Zavoj**	**6.04**	**53**	*e*	Pn	**Pn**	**21**	**22**	**12.6**	**+0.9**
ZAPS					eSn	**Sn**	**21**	**23**	**19.4**	**-1.7**
PTJ	**Puntijarka**	**6.04**	**360**	*e*	Pn	**Pn**	**21**	**22**	**11.7**	**-0.1**
PTJ					Sn	**Sn**	**21**	**23**	**20.9**	**-0.3**
ZAGS	**Zajecar**	**6.11**	**48**	*e*	Pn	**Pn**	**21**	**22**	**12.3**	**-0.3**
VTS	**Vitosha**	**6.12**	**61**	⇓	P	**Pn**	**21**	**22**	**13.7**	**+0.8**
VTS	**Vitosha**	**6.12**	**61**		P	**Pn**	**21**	**22**	**13.2**	**+0.3**
VTS	**Vitosha**	**6.12**	**61**		Pn	**Pn**	**21**	**22**	**13.3**	**+0.4**
LJU	**Ljubljana**	**6.27**	**351**	*e*	Pn	**Pn**	**21**	**22**	**14.8**	**-0.1**
KALN	**Kalnik**	**6.28**	**3**	*e*	Pn	**Pn**	**21**	**22**	**15.2**	**+0.2**
MDVR	**Moldovita**	**6.50**	**39**	⇑	P	**Pn**	**21**	**22**	**17.0**	**-1.0**
MORH	**Mrgy, Hungar**	**6.64**	**16**	*e*	Pn	**Pn**	**21**	**22**	**18.2**	**-1.7**
KEST	**Kesra**	**6.68**	**234**		Pn	**Pn**	**21**	**22**	**23.3**	**+2.7**
	comp=E,2.1nm,0.3s,baz=308,slow=5.4,SNR=39										
KEST					LR	LR	21	25	05.4		
	comp=E,149nm,19.4s,baz=333,slow=39										
KEST	**Kesra**	**6.68**	**234**		Pn	**Pn**	**21**	**22**	**22.8**	**+2.2**
OBKA	**Obir**	**6.73**	**351**	*i*	Pn	**Pn**	**21**	**22**	**22.4**	**+1.1**
	comp=E,1.4nm,0.3s										
OBKA					*i* Sn	**Sn**	**21**	**23**	**40.1**	**+1.9**
	comp=E,17nm,0.8s										
PUNG	**Punghina**	**6.79**	**47**	⇑	P	**Pn**	**21**	**22**	**22.3**	**+0.3**
PRED	**Cave del Predi**	**6.81**	**346**		Pn	**Pn**	**21**	**22**	**23.6**	**+1.2**
SOKA	**Soboth**	**6.85**	**354**	*i*	Pn	**Pn**	**21**	**22**	**22.9**	**0.0**
	comp=E,1.1nm,0.4s										
SOKA					eSn	**Sn**	**21**	**23**	**42.1**	**+1.0**
	comp=E,1.4nm,0.5s										
HERR	**Herculane**	**6.92**	**41**	⇓	P	**Pn**	**21**	**22**	**23.3**	**-0.3**
ACOM	**Acomizza, Ital**	**6.93**	**346**		P	**Pn**	**21**	**22**	**25.4**	**+1.4**
CIMO	**Cimolais**	**6.95**	**339**		Pn	**Pn**	**21**	**22**	**24.1**	**-0.1**
CTI	**Castel Tesino**	**6.96**	**334**		Pn	**Pn**	**21**	**22**	**24.9**	**+0.5**
ZOU	**Zoufplan**	**7.05**	**343**			**Pn**	**21**	**22**	**24.8**	**-0.9**
ZOU					Sn	**Sn**	**21**	**23**	**44.0**	**-2.1**
LEOD	**Capriano del C**	**7.07**	**324**		P	**Pn**	**21**	**22**	**25.6**	**-0.1**
BZS	**Buzias**	**7.09**	**34**	⇓	P	**Pn**	**21**	**22**	**25.1**	**-1.0**
ABTA	**Abfaltersbach**	**7.34**	**341**	*e*	Pn	**Pn**	**21**	**22**	**32.6**	**+3.0**
	comp=E,1.7nm,0.5s										
ABTA					eSn	**Sn**	**21**	**23**	**54.4**	**+1.4**
	comp=E,8.3nm,0.6s										
PLVB	**Pleven**	**7.36**	**59**	⇓	P	**Pn**	**21**	**22**	**32.9**	**+3.0**
ARSA	**Arzberg**	**7.40**	**358**	*e*	Pn	**Pn**	**21**	**22**	**30.8**	**+0.5**
	comp=E,2.9nm,0.5s										
GZR	**Gura Zlata**	**7.46**	**40**	⇑	P	**Pn**	**21**	**22**	**31.1**	**-0.1**
KBA	**Koelnbreinsper**	**7.47**	**346**	*i*	Pn	**Pn**	**21**	**22**	**32.6**	**+1.1**
	comp=E,1.2nm,0.4s										
VLAD	**Vladila**	**7.51**	**54**	⇓	P	**Pn**	**21**	**22**	**33.7**	**+1.8**
SIRR	**Siria**	**7.63**	**31**	⇑	P	**Pn**	**21**	**22**	**33.2**	**-0.3**
ALN	**Alexandroupoli**	**7.75**	**79**			**Pn**	**21**	**22**	**36.6**	**+1.5**
DEV	**Deva**	**7.87**	**38**	⇑	P	**Pn**	**21**	**22**	**37.9**	**+1.0**
FUORN	**Ofenpass-Fuorn**	**7.94**	**330**		Pn	**Pn**	**21**	**22**	**40.0**	**+1.9**
LOT	**Lotru**	**8.00**	**43**	⇑	P	**Pn**	**21**	**22**	**39.0**	**+0.3**
CONA	**Conrad Observa**	**8.07**	**359**	*e*	Pn	**Pn**	**21**	**22**	**40.3**	**+0.7**
	comp=E,1.2nm,0.3s										
MOA	**Mollin**	**8.09**	**352**	*i*	Pn	**Pn**	**21**	**22**	**42.4**	**+2.6**
	comp=E,3.1nm,0.5s										
WATA	**Walderalm**	**8.13**	**338**	*e*	Pn	Pn	21	22	45.6	+5.1
	comp=E,3.6nm,0.6s										
HUMR	**Humele**	**8.14**	**52**	⇑	P	**Pn**	**21**	**22**	**41.4**	**+0.9**
DAVOX	**Davos/Dischmat**	**8.23**	**329**		Pn	**Pn**	**21**	**22**	**44.9**	**+3.0**
	comp=E,0.3nm,0.3s,baz=326,slow=23,SNR=7.0										
DAVOX					LR	LR	21	26	36.1		
	comp=E,69nm,19.1s,baz=82,slow=43										
SANT	**Santorini**	**8.24**	**112**		Pn	**Pn**	**21**	**22**	**43.0**	**+1.1**
MOTA	**Moosalm**	**8.28**	**336**	*e*	Pn	**Pn**	**21**	**22**	**46.1**	**+3.5**
	comp=E,2.2nm,0.7s										
MOTA					eSn	**Sn**	**21**	**24**	**19.3**	**+3.0**
	comp=E,5.4nm,0.8s										
IDI	**Anoyia**	**8.41**	**120**		Pn	**Pn**	**21**	**22**	**46.6**	**+2.3**
	comp=E,0.9nm,0.3s,baz=19,slow=9.2,SNR=8.0										
IDI					Sn	**Sn**	**21**	**24**	**15.3**	**-4.2**
	comp=E,0.8nm,0.3s,baz=87,slow=16,SNR=1.6										
IDI	**Anoyia**	**8.41**	**120**		Pn	**Pn**	**21**	**22**	**45.9**	**+1.6**
IDI					Sn	**Sn**	**21**	**24**	**16.5**	**-3.0**
ARR	**Arges**	**8.42**	**46**	⇓	P	**Pn**	**21**	**22**	**44.7**	**+0.3**
DRGR		**8.48**	**33**	⇓	P	**Pn**	**21**	**22**	**45.0**	**-0.3**
SGRR	**Singureni**	**8.61**	**56**	⇑	P	**Pn**	**21**	**22**	**48.7**	**+1.7**
BNI	**Bardonecchia**	**8.62**	**310**		Pn	**Pn**	**21**	**22**	**48.7**	**+1.5**
RAZG	**Razgrad**	**8.70**	**61**	⇓	P	**Pn**	**21**	**22**	**50.8**	**+2.7**
VOIR		**8.70**	**47**	⇓	P	**Pn**	**21**	**22**	**48.9**	**+0.7**
BUC1	**Bucharest**	**8.71**	**56**	⇑	P	**Pn**	**21**	**22**	**50.8**	**+2.6**
GEC2	**GERESS Array S**	**9.13**	**350**		Pn	**Pn**	**21**	**22**	**55.8**	**+1.6**
GEC2					Sn	**Sn**	**21**	**24**	**35.3**	**-1.9**
GERES	**GERESS Array B**	**9.13**	**350**		Pn	**Pn**	**21**	**22**	**54.9**	**+0.7**
	comp=E,0.4nm,0.3s,baz=161,slow=13,SNR=15										
GERES					Sn	**Sn**	**21**	**24**	**32.6**	**-4.6**
	comp=E,0.2nm,0.3s,baz=169,slow=23,SNR=6.4										
MLR	**Muntele Rosu**	**9.24**	**49**		Pn	**Pn**	**21**	**22**	**56.7**	**+1.0**
	comp=E,0.8nm,0.3s,baz=186,slow=7.8,SNR=13										
MLR					Sn	**Sn**	**21**	**24**	**37.0**	**-2.9**
	comp=E,0.1nm,0.3s,baz=308,slow=24,SNR=3.6										
MLR					LR	LR	21	27	33.8		
	comp=E,135nm,18.8s,baz=295,slow=45										
MLR	**Muntele Rosu**	**9.24**	**49**	⇑	P	**Pn**	**21**	**22**	**57.2**	**+1.5**
MLR	**Muntele Rosu**	**9.24**	**49**		Pn	**Pn**	**21**	**22**	**57.4**	**+1.7**
KHC	**Kasperske Hory**	**9.43**	**350**	*e*	PN	**Pn**	**21**	**22**	**58.3**	**+0.1**
OZUR		**9.50**	**46**	⇑	P	**Pn**	**21**	**23**	**00.6**	**+1.3**
TRPA	**Tarpa**	**9.52**	**28**	⇓	P	**Pn**	**21**	**22**	**59.5**	**+0.2**
BISRR	**Bisoca**	**9.72**	**51**	⇓	P	**Pn**	**21**	**23**	**03.1**	**+0.8**
KARP	**Karpathos**	**9.84**	**112**		Pn	**Pn**	**21**	**23**	**03.5**	**-0.4**
PLOR	**Plostina**	**9.85**	**49**	⇑	P	**Pn**	**21**	**23**	**04.2**	**+0.2**
VRI	**Vrincioaia**	**9.90**	**49**	⇓	P	**Pn**	**21**	**23**	**06.2**	**+1.5**
HARR	**Harsova**	**10.08**	**58**	⇑	P	**Pn**	**21**	**23**	**07.8**	**+0.8**
BIZ	**Bicaz**	**10.21**	**43**	⇑	P	**Pn**	**21**	**23**	**10.6**	**+1.9**
BURAR	**Bucovina Array**	**10.23**	**38**	⇓	P	**Pn**	**21**	**23**	**10.0**	**+0.9**
BUR08	**Bucovina Ar. S**	**10.24**	**38**		Pn	**Pn**	**21**	**23**	**11.3**	**+1.9**
TIRR	**Tirgusor**	**10.30**	**59**		Pn	**Pn**	**21**	**23**	**09.7**	**-0.5**
BRTR	**Keskin Array B**	**13.58**	**85**		Pn	**Pn**	**21**	**23**	**56.9**	**+1.9**
	comp=E,0.1nm,0.3s,baz=283,slow=13,SNR=3.5										
BRTR					LR	LR	21	29	39.1		
	comp=E,26nm,21.6s,baz=228,slow=40										
AKASG	**Malin Array Be**	**14.27**	**36**		Pn	**Pn**	**21**	**24**	**04.6**	**+0.2**
	comp=E,0.5nm,0.3s,baz=88,slow=38,SNR=1.9										
MMAI	**Mount Meron Ar**	**17.03**	**108**		P	**Pn**	**21**	**24**	**37.5**	**-3.2**
	comp=E,0.7nm,0.3s,baz=301,slow=11,SNR=2.5										
MDT	**Midelt**	**18.00**	**253**		LR	LR	21	30	25.8		
	comp=E,70nm,20.1s,baz=60,slow=32										
EIL	**Elat**	**18.57**	**117**		P	**P**	**21**	**24**	**58.0**	**-1.4**
	comp=E,0.3nm,0.3s,baz=352,slow=8.2,SNR=3.7										
HFS	**Hagfors**	**20.35**	**357**		P	**P**	**21**	**25**	**18.6**	**0.0**
	comp=E,3.3nm,0.7s,baz=178

ISC 04 22:34:06.7±0.8, 15°23N±0°10×147°8E±0°1, h10km, n41, σ1s17/33, mb4.3/15, MS2.9/3, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.29**	**241**		**Pn**	**22 34 57.3**	**-1.0**
PATS	**Pohnpei**	**13.25**	**128**		**Pn**	**22 37 14.4**	**-0.7**
PATS					Sn	22 39 34.6	-8.0
H11S3	**WAKE ISLAND Hy**	**18.35**	**77**	T	T	22 56 44.0	
	baz=255,SNR=7.8						
H11S1	**WAKE ISLAND Hy**	**18.36**	**77**	T	T	22 56 45.2	
	baz=255,SNR=5.8						
H11S2	**WAKE ISLAND Hy**	**18.36**	**77**	T	T	22 56 54.1	
	baz=255,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**18.73**	**73**	T	T	22 57 29.5	
	baz=266						
H11N2	**WAKE ISLAND Hy**	**18.74**	**73**	T	T	22 57 25.9	
	baz=266						
H11N3	**WAKE ISLAND Hy**	**18.75**	**73**	T	T	22 57 22.7	
	baz=266						
SIJI	**Sorong**	**22.88**	**227**	P	**P**	**22 39 12.1**	**+1.4**
	7.5nm,0.4s,baz=48,slow=7.8,SNR=6.2						
MJAR	**Matsushiro Arr**	**22.89**	**340**	P	**P**	**22 39 10.0**	**-0.6**
	2.0nm,0.6s,baz=155,slow=9.0,SNR=5.1						
MAJO	**Matsushiro**	**22.89**	**340**	P	**P**	**22 39 07.8**	**-2.8**
MAJO				IAmb	IAmb	22 39 14.4	
	comp=Z,6.5nm,0.6s						
MJB9	**Matsu-Tunnel**	**22.89**	**340**	P	**P**	**22 39 08.6**	**-2.1**
SSLB	**Suanglung**	**26.68**	**293**	P	**P**	**22 39 43.4**	**-2.8**
SSLB				IAmb	IAmb	22 39 50.9	
	comp=Z,6.5nm,0.6s						
HNR	**Honiara**	**27.29**	**153**	LR	LR	22 49 03.2	
	comp=Z,18nm,19.9s,baz=180,slow=33						
KSRS	**Korea Array**	**26.30**	**325**	P	**P**	**22 40 00.9**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=142,slow=8.7,SNR=8.9						
KSRS				LR	LR	22 50 09.8	
	comp=Z,29nm,20.1s,baz=70,slow=34						
WB2	**Warramunga Arr**	**37.38**	**201**	P	**P**	**22 41 17.4**	**-2.4**
WB2				IAmb	IAmb	22 41 21.3	
	comp=Z,5.4nm,1.0s						
WRA	**Warramunga Arr**	**37.38**	**201**	P	**P**	**22 41 20.1**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=23,slow=9.4,SNR=8.3						
ASAR	**Alice Springs**	**40.98**	**200**	P	**P**	**22 41 50.9**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=16,slow=7.5,SNR=7.4						
CMAR	**Chiang Mai Arr**	**46.78**	**281**	P	**P**	**22 42 37.9**	**+1.0**
	comp=Z,3.5nm,0.5s,baz=80,slow=6.5,SNR=22						
SONM	**Songino Array**	**47.11**	**323**	P	**P**	**22 42 40.1**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=133,slow=7.8,SNR=9.6						
BBOO	**Buckleboo**	**49.07**	**193**	P	**P**	**22 42 54.4**	**+0.2**
BBOO				IAmb	IAmb	22 43 01.0	
	comp=Z,4.2nm,1.1s						
TLY	**Talaya**	**50.55**	**326**	LR	LR	23 04 06.0	
	comp=Z,29nm,19.5s,baz=104,slow=36						
SHL	**Shillong**	**53.19**	**291**	P	**P**	**22 43 24.1**	**-0.8**
TAPN	**Taplejung**	**56.82**	**293**	*eP*	**P**	**22 43 52.9**	**+0.8**
ODAN	**Odare**	**57.12**	**292**	*eP*	**P**	**22 43 54.8**	**+0.7**
	comp=Z,16nm,0.9s						
RAMN	**Ramite**	**57.82**	**292**	*eP*	**P**	**22 43 59.9**	**+0.8**
JIRN	**Jiri**	**58.17**	**293**	*eP*	**P**	**22 44 02.6**	**+0.9**
	comp=Z,14nm,0.5s						
GUN	**Gumba**	**58.44**	**294**	*eP*	**P**	**22 44 04.3**	**+0.8**
	comp=Z,12nm,0.5s						
PKI	**Pulchoki**	**58.86**	**293**	*eP*	**P**	**22 44 06.7**	**+0.2**
	comp=Z,4.9nm,0.4s						
PKIN	**Phulchoki**	**58.87**	**293**	*eP*	**P**	**22 44 06.7**	**+0.2**
	comp=Z,5.4nm,0.4s						
DMN	**Daman**	**59.13**	**293**	*eP*	**P**	**22 44 08.9**	**+0.7**
	comp=Z,7.2nm,0.5s						
GKN	**Gorkha**	**59.53**	**294**	*eP*	**P**	**22 44 11.5**	**+0.6**
DANN	**Dangsing**	**60.30**	**294**	*eP*	**P**	**22 44 17.0**	**+0.7**
	comp=Z,18nm,0.6s						
KOLN	**Koldanda**	**60.46**	**293**	*eP*	**P**	**22 44 17.8**	**+0.5**
ZALV	**Zalesovo Beam**	**61.99**	**323**	P	**P**	**22 44 26.5**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=115,slow=8.1,SNR=6.1						
MK31	**Makanchi Array**	**62.33**	**315**	P	**P**	**22 44 28.9**	**-0.5**
MKAR	**Makanchi Array**	**62.33**	**315**	P	**P**	**22 44 29.3**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=90,slow=8.4,SNR=18						
KURK	**Kurchatov**	**65.20**	**319**	P	**P**	**22 44 48.6**	**+0.4**
ARCES	**ARCESS Array B**	**86.39**	**343**	P	**P**	**22 46 50.4**	**+1.4**
	comp=Z,1.9nm,0.7s,baz=64,slow=8.2,SNR=7.3						
FINES	**FINESS Array B**	**90.86**	**336**	P	**P**	**22 47 10.4**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=56,slow=4.8,SNR=7.6						
DBIC	**Dimbokro**	**145.26**	**307**	PKPbc	**PKPdf**	**22 53 46.7**	**+0.9**
	comp=Z,3.5nm,0.5s,baz=35,slow=3.3,SNR=9.4						

*IDC **04** 22:40:47.2±5.0, 8°45S×119°42E, h156km±46km, mb3.6/5, mb1 3.7/8, mb1mx3.4/52, mbtmp4.1/8, Error ellipse: s-maj=87.2km s-min=18.2km az=64.0*
*NEIC **04** 22:40:48.9±2.5, 8°45S±0°09×119°62E±0°07, h175km±4km, mb4.1/4, Error ellipse: s-maj=13.4km s-min=8.8km az=200.0*

ISC 04 22:40:48.1±0.7, 8°64S±0°07×119°57E±0°06, h170km, n22, σ2s28/31, mb3.9/4, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**2.63**	**90**		**Pn**	**22 41 31.4**	**-0.5**
MMRI					Sn	22 42 05.0	-0.9
KAPI	**Kappang**	**3.60**	**3**	Pn	**Pn**	**22 41 42.5**	**-1.4**
BATI	**Baumata**	**4.33**	**111**	P	**Pn**	**22 41 55.1**	**+1.9**
	45nm,0.3s,baz=307,slow=3.8,SNR=30						
BATI				S	Sn	22 42 40.6	-3.4
	15nm,0.3s,baz=269,slow=7.0,SNR=2.4						
SOEI	**Soe**	**4.77**	**104**		**Pn**	**22 42 00.1**	**+1.1**
SOEI				Sn	Sn	22 42 54.0	-0.5
JAGI	**Jajag, Banyuwa**	**5.36**	**271**	Pn	**Pn**	**22 42 09.0**	**+2.2**
JAGI					Sn	22 43 06.5	-1.8
UGM	**Wanagama**	**8.99**	**274**	Pn	**Pn**	**22 42 54.3**	**-0.3**
FITZ	**Fitzroy Crossi**	**11.10**	**149**	P	**Pn**	**22 43 24.2**	**+1.9**
	0.2nm,0.3s,baz=317,slow=9.8,SNR=9.3						
FITZ				S	Sn	22 45 20.3	-5.2
	1.3nm,0.3s,baz=310,slow=10,SNR=9.5						
FITZ	**Fitzroy Crossi**	**11.10**	**149**		**Pn**	**22 43 25.2**	**+2.9**
FITZ					Sn	22 45 20.4	-5.1
KNRA	**Kununurra**	**11.38**	**129**		**Pn**	**22 43 26.5**	**+0.5**
MTN	**Manton Dam**	**12.10**	**111**		**Pn**	**22 43 34.9**	**-0.3**
PSA00	**Pilbara Seismi**	**12.87**	**179**	Pn	**Pn**	**22 43 46.3**	**+1.4**
PSA00				S	Sn	22 46 04.5	-3.2
WB0	**Warramunga Arr**	**18.12**	**129**	P	**P**	**22 44 48.7**	**+1.3**
WB0				IAmb	IAmb	22 44 50.5	
	comp=Z,15nm,1.4s						
WB0				S	**S**	**22 48 04.6**	**-1.6**
WRA	**Warramunga Arr**	**18.18**	**130**	P	**P**	**22 44 49.4**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=301,slow=12,SNR=11						
WRA				S	**S**	**22 48 05.5**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=316,slow=24,SNR=7.9						
WB2	**Warramunga Arr**	**18.19**	**130**	P	**P**	**22 44 49.7**	**+1.6**
WB2				IAmb	IAmb	22 45 02.0	
	comp=Z,6.5nm,0.9s						
ASAR	**Alice Springs**	**20.29**	**139**	P	**P**	**22 45 13.7**	**+2.8**
	comp=Z,3.0nm,0.3s,baz=315,slow=8.8,SNR=23						
BBOO	**Buckleboo**	**28.49**	**150**	P	**P**	**22 46 29.4**	**+1.9**
STKA	**Stephens Creek**	**30.88**	**142**	P	**P**	**22 46 51.8**	**+3.1**
	comp=Z,1.4nm,0.4s,baz=321,slow=8.6,SNR=7.6						
SONM	**Songino Array**	**57.42**	**349**	P	**P**	**22 50 18.5**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=168,slow=8.3,SNR=5.2						
MK31	**Makanchi Array**	**64.39**	**333**	P	**P**	**22 51 04.1**	**-1.9**
MKAR	**Makanchi Array**	**64.39**	**333**	P	**P**	**22 51 05.5**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=150,slow=7.2,SNR=16						
ZALV	**Zalesovo Beam**	**68.91**	**339**	P	**P**	**22 51 32.8**	**-1.6**
	comp=Z,1.7nm,0.4s,baz=150,slow=5.2,SNR=10						
TORD	**Torodi Ar. Bea**	**118.95**	**280**	PKP	**PKiKP**	**22 59 17.7**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=46,slow=1.8,SNR=8.2						

IDC 04 22:46:30.4±165.0, 41°38N×155°46E, h0km, Error ellipse: s-maj=359.8km s-min=10.9km az=125.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N2	**WAKE ISLAND Hy**	**23.68**	**152**	H	H	23 16 05.8	
	baz=339,slow=76,SNR=3927						
H11N1	**WAKE ISLAND Hy**	**23.69**	**152**	H	H	23 16 07.0	
	baz=339,slow=76,SNR=2962						
H11N3	**WAKE ISLAND Hy**	**23.69**	**152**	H	H	23 16 07.9	
	baz=339,slow=76,SNR=2782						
H11S1	**WAKE ISLAND Hy**	**24.74**	**154**	H	H	23 17 27.5	
	baz=340,slow=76,SNR=4085						
H11S3	**WAKE ISLAND Hy**	**24.75**	**154**	H	H	23 17 28.3	
	baz=340,slow=76,SNR=5623						
H11S2	**WAKE ISLAND Hy**	**24.76**	**154**	H	H	23 17 29.1	
	baz=340,slow=76,SNR=2602						
H03N2	**Juan Fernandez**	**136.68**	**98**	H	H	01 37 26.0	
	baz=300,slow=76,SNR=295						
H03N3	**Juan Fernandez**	**136.70**	**98**	H	H	01 37 26.4	
	baz=300,slow=76,SNR=321						
H03N1	**Juan Fernandez**	**136.70**	**98**	H	H	01 37 27.3	
	baz=300,slow=76,SNR=328						

*SJA **04** 22:52:48.6±0.8, 24°23S×67°28W, h177km±11km, ML3.3, MW3.5*
*GUC **04** 22:52:50.6±0.6, 24°12S×67°69W, h195km±7km, ML3.7*

ISC 04 22:52:48.4±1.9, 24°17S±0°08×67°36W±0°06, h195km±23km, n23, σ1s18/35, 8C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.10**	**317**	⇓*iP*	**Pn**	**22 53 29.2**	**+1.2**
LVC				*i* S	**Sn**	**22 53 58.1**	**-0.7**
LVC	**Limon Verde**	**2.10**	**317**	*i* P	**Pn**	**22 53 29.0**	**+0.9**
LVC				*eS*	**Sn**	**22 53 58.7**	**-0.1**
LVC				IAML		22 54 00.2	
	comp=Z,40nm,0.5s						
PB15	**IPOC Station P**	**2.16**	**296**	⇑*iP*	**Pn**	**22 53 29.5**	**+1.1**
PB15				*i* S	**Sn**	**22 53 58.8**	**-0.7**
PB15	**IPOC Station P**	**2.16**	**296**	*i* P	**Pn**	**22 53 29.5**	**+1.1**
PB15				*eS*	**Sn**	**22 53 58.9**	**-0.5**
GO02	**Mina Guanaco**	**2.26**	**244**	⇑*iP*	**Pn**	**22 53 30.4**	**+0.9**
GO02				*i* S	**Sn**	**22 54 01.2**	**-0.4**
PB06	**IPOC Station P**	**2.50**	**305**	⇑*iP*	**Pn**	**22 53 33.2**	**+1.1**
PB06				*i* S	**Sn**	**22 54 04.8**	**-1.3**
PB06				IAML		22 54 06.9	
	comp=E,281nm,0.2s						
PB06	**IPOC Station P**	**2.50**	**305**	*i* P	**Pn**	**22 53 33.2**	**+1.1**
PB06				*eS*	**Sn**	**22 54 05.7**	**-0.4**
PB06				IAML		22 54 08.2	
	comp=Z,204nm,0.1s						
YJA	**Yavi**	**2.61**	**41**	*i* P	**Pn**	**22 53 34.3**	**+0.6**
YJA				*eS*	**Sn**	**22 54 07.8**	**-1.2**
PB05	**IPOC Station P**	**2.92**	**296**	⇑*iP*	**Pn**	**22 53 37.6**	**+0.7**
PB05				*i* S	**Sn**	**22 54 12.5**	**-2.2**
PB05				IAML		22 54 14.2	
	comp=N,91nm,0.3s						
PB05	**IPOC Station P**	**2.92**	**296**	*i* P	**Pn**	**22 53 37.9**	**+1.0**
PB05				IAML		22 54 31.9	
	comp=Z,25nm,0.6s						
PB09	**IPOC Station P**	**2.93**	**323**	⇑*iP*	**Pn**	**22 53 38.7**	**+1.6**
PB09				*i* S	**Sn**	**22 54 15.0**	**-0.2**
PB09				IAML		22 54 17.0	
	comp=E,81nm,0.5s						
PB09	**IPOC Station P**	**2.93**	**323**	*i* P	**Pn**	**22 53 38.9**	**+1.8**
PB09				IAML		22 54 19.5	
	comp=Z,43nm,0.3s						
PB10	**IPOC Station P**	**2.99**	**282**	⇑*iP*	**Pn**	**22 53 38.8**	**+1.1**
PB10				*i* S	**Sn**	**22 54 14.9**	**-1.3**
PB10				IAML		22 54 19.9	
	comp=E,46nm,0.3s						
PB10	**IPOC Station P**	**2.99**	**282**	*i* P	**Pn**	**22 53 39.0**	**+1.3**
PB10				IAML		22 54 24.6	
	comp=Z,35nm,1.1s						
PB03	**IPOC Station P**	**3.05**	**313**	⇑*iP*	**Pn**	**22 53 39.4**	**+0.8**
PB03				*i* S	**Sn**	**22 54 15.8**	**-1.9**
PB03				IAML		22 54 16.9	
	comp=E,311nm,0.1s						
PB03	**IPOC Station P**	**3.05**	**313**	*i* P	**Pn**	**22 53 39.5**	**+0.9**
PB03				IAML		22 54 19.2	
	comp=Z,133nm,0.2s						
PB04	**IPOC Station P**	**3.15**	**305**	⇓*iP*	**Pn**	**22 53 40.7**	**+1.0**
PB04				*i* S	**Sn**	**22 54 17.7**	**-2.1**
PB04				IAML		22 54 19.8	
	comp=N,245nm,0.3s						
PB04	**IPOC Station P**	**3.15**	**305**	*i* P	**Pn**	**22 53 40.9**	**+1.1**
PB04				IAML		22 54 22.5	
	comp=Z,108nm,0.2s						
PB07	**IPOC Station P**	**3.36**	**316**	⇑*iP*	**Pn**	**22 53 43.3**	**+0.9**
PB07				IAML		22 54 24.3	
	comp=E,200nm,0.3s						
PB07	**IPOC Station P**	**3.36**	**316**	*i* P	**Pn**	**22 53 43.3**	**+0.9**
PB07				IAML		22 54 26.0	
	comp=Z,124nm,0.1s						
PB02	**IPOC Station P**	**3.67**	**320**	IAML		22 54 36.0	
	comp=E,156nm,0.4s						
GO03	**Copiap**	**4.28**	**217**	*i* P	**Pn**	**22 53 53.7**	**+0.2**
TCA	**Tanti**	**7.55**	**162**	*i* P	**Pn**	**22 54 35.8**	**0.0**
TCA				IAML		22 56 11.3	
	comp=Z,5.9nm,3.1s						

*ASRS **04** 22:57:14.3±0.2, 49°9N±0°9×87°4E±0°9, h5km, MLh4.0/21, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
*SOME **04** 22:57:15.9, 50°30N×86°15E, h15km*
*IDC **04** 22:57:16.8±2.0, 49°91N×87°29E, h0km, mb3.3/1, mb1 3.6/7, mb1mx3.3/50, mbtmp3.6/7, ML3.3/6, Error ellipse: s-maj=20.8km s-min=13.3km az=88.0*
*NNC **04** 22:57:18.8±0.7, 49°96N×87°02E, h0km±4km, mb3.9, mpv3.5, Error ellipse: s-maj=5.8km s-min=3.0km az=107.0*

ISC 04 22:57:15.9±1.1, 49°86N±0°02×87°34E±0°02, h1km±9km, n46, σ1s69/94, 13C-7D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGZ	**Jazzator, Alta**	**0.17**	**159**	Pg	**Pg**	**22 57 18.6**	**-0.8**
DGZ				Sg	**Sg**	**22 57 20.4**	**-1.2**
CHBI	**Chibit, Altay**	**0.46**	**13**	P	**Pg**	**22 57 25.6**	**+0.8**
CHBI				S	**Sg**	**22 57 31.7**	**+0.9**
AKAR	**Aktash**	**0.49**	**22**	P	**Pg**	**22 57 26.1**	**+0.7**
AKAR				S	**Sg**	**22 57 32.9**	**+1.2**
CUR	**Chagan-Uzun**	**0.69**	**70**	P	**Pg**	**22 57 28.6**	**-0.6**
CUR				S	**Sg**	**22 57 37.2**	**-1.1**
TUNR	**Tungur**	**0.71**	**295**	Pg	**Pg**	**22 57 29.8**	**+0.2**
TUNR				Sg	**Sb**	**22 57 40.1**	**-1.5**
SLNR	**Muhor-Tarhata,**	**0.74**	**96**	Pg	**Pg**	**22 57 28.8**	**-1.3**
SLNR				Sg	**Sg**	**22 57 38.3**	**-1.3**
ELDR	**Elanda**	**1.57**	**330**	Pg	**Pg**	**22 57 45.7**	**-0.3**
ELDR				Sg	**Sg**	**22 58 06.8**	**+0.4**
UKR	**Ust'-Kan**	**1.96**	**304**	Pg	**Pb**	**22 57 52.4**	**-0.1**
UKR				Sg	**Sg**	**22 58 20.4**	**+1.5**
GALT	**Gorno-Altaysk,**	**2.27**	**338**	Pg	**Pg**	**22 57 58.6**	**-0.9**
GALT				Sg	**Sg**	**22 58 30.6**	**+1.6**
ZSN	**Zaisan**	**2.92**	**215**	*eP*	**Pb**	**22 58 09.2**	**+0.4**
	79nm,0.5s						
ZSN				*eS*	**Sb**	**22 58 47.9**	**+2.9**
	124nm,0.4s						
TASR	**Tashtagol**	**2.92**	**6**	Pg	**Pb**	**22 58 09.9**	**+1.0**
TASR				Sg	**Sg**	**22 58 47.9**	**-1.8**
ELT	**Eltsovka**	**3.47**	**349**	P	**Pn**	**22 58 13.6**	**+2.5**
ELT				Pg	**Pg**	**22 58 20.3**	**-2.2**
ELT				Sg	**Sg**	**22 59 06.3**	**-1.0**
DJO	**Djoy, Khakassi**	**3.80**	**38**	Pg	**Pg**	**22 58 26.5**	**-2.3**
DJO				Sg	**Sg**	**22 59 17.5**	**-0.5**
VEH	**Verkhnyaya Baz**	**3.87**	**28**	Pg	**Pg**	**22 58 28.0**	**-2.0**
VEH				Sg	**Sg**	**22 59 20.1**	**-0.1**
DJOS	**Djoyskaya Sosn**	**3.88**	**39**	Pg	**Pg**	**22 58 30.6**	**+0.3**
DJOS				Sg	**Sg**	**22 59 20.5**	**-0.1**
LUZB	**Luzhba, Kemero**	**3.92**	**14**	P	**Pn**	**22 58 19.8**	**+2.5**
LUZB				Sg	**Sg**	**22 59 20.5**	**-1.5**
CERR	**Cheremushki**	**3.94**	**39**	Pg	**Pg**	**22 58 29.0**	**-2.3**
CERR				Sg	**Sg**	**22 59 21.1**	**-1.2**
ZAA0	**Zalesovo Array**	**4.38**	**340**	⇓Pn	**Pn**	**22 58 24.7**	**+1.1**
	0.9nm,0.6s						
ZAA0				⇑Sn	**Sn**	**22 59 15.1**	**0.0**
	2.2nm,0.3s						
ZAA0				⇑Lg	Lg	22 59 33.3	
	4.9nm,0.5s						
ZALV	**Zalesovo Beam**	**4.38**	**340**	Pn	**Pn**	**22 58 24.8**	**+1.2**
	3.6nm,0.3s,baz=163,slow=14,SNR=62						
ZALV				Sn	**Sn**	**22 59 16.8**	**+1.7**
	6.0nm,0.3s,baz=166,slow=24,SNR=4.0						
ZALV				Lg	Lg	22 59 32.5	
	6.1nm,0.3s,baz=166,slow=24,SNR=6.0						
MK31	**Makanchi Array**	**4.56**	**230**	⇓Pn	**Pn**	**22 58 27.8**	**+1.7**
	1.6nm,0.3s,baz=59,slow=12,SNR=103						
MK31				⇑Pg	**Pb**	**22 58 40.1**	**+3.4**
	3.6nm,0.3s,baz=58,slow=16,SNR=19						
MK31				⇑Lg	Lg	22 59 40.5	
	22nm,0.5s,baz=41,slow=31,SNR=7.8						
MKAR	**Makanchi Array**	**4.56**	**230**	Pn	**Pn**	**22 58 27.9**	**+1.8**
	1.6nm,0.3s,baz=51,slow=13,SNR=55						
MKAR				Lg	Lg	22 59 40.3	
	11nm,0.3s,baz=44,slow=29,SNR=14						
MKAR	**Makanchi Array**	**4.56**	**230**	P	**Pn**	**22 58 27.9**	**+1.8**
MKAR				Pg	**Pg**	**22 58 41.5**	**-1.7**
MKAR				S	**Sn**	**22 59 18.9**	**-0.8**
MKAR				Sg	**Sg**	**22 59 42.2**	**-0.1**
POMOR	**Pomortsevo, Ku**	**4.58**	**354**	Sg	**Sg**	**22 59 44.1**	**+1.2**
SEM	**Semipalatinsk**	**4.59**	**280**	*eP*	**Pn**	**22 58 28.1**	**+1.4**
	4.8nm,0.4s						
SEM				*eS*	**Sn**	**22 59 20.8**	**0.0**
	45nm,0.2s						
ABNR	**Abakan**	**4.63**	**32**	Sg	**Sg**	**22 59 43.3**	**-1.2**
SALR	**Pechorkino, Sa**	**4.67**	**348**	P	**Pn**	**22 58 30.5**	**+3.0**
SALR				Pg	**Pg**	**22 58 42.0**	**-3.3**
SALR				S	**Sn**	**22 59 22.2**	**-0.2**
SALR				Sg	**Sg**	**22 59 44.8**	**-1.1**
MAKZ	**Makanchi**	**4.70**	**231**	P	**Pn**	**22 58 29.8**	**+1.7**
MAKZ				Pg	**Pg**	**22 58 44.2**	**-1.8**
MAKZ				S	**Sn**	**22 59 23.3**	**0.0**
MAKZ				Sg	**Sg**	**22 59 45.6**	**-1.4**
MAKZ	**Makanchi**	**4.70**	**231**	⇑Pn	**Pn**	**22 58 29.8**	**+1.7**
	1.2nm,0.3s						
MAKZ				⇓Pg	**Pb**	**22 58 42.0**	**+2.8**
	8.2nm,0.4s						
MAKZ				⇑Lg	Lg	22 59 45.3	
	22nm,0.5s						
KZLR	**Kyzyl**	**4.88**	**65**	Pg	**Pb**	**22 58 44.2**	**+2.1**
KZLR				Sg	**Sg**	**22 59 50.6**	**-1.8**
KEM	**Kemerovo**	**5.54**	**353**	Pg	**Pb**	**22 58 56.7**	**+3.3**
KEM				Sg	**Sg**	**23 00 13.5**	**-0.3**
NVSII	**Novosibirsk**	**5.58**	**335**	P	**Pn**	**22 58 39.7**	**-0.4**
NVSII				Pg	**Pg**	**22 58 59.7**	**-3.1**
NVSII				S	**Sn**	**22 59 43.7**	**-1.1**
NVSII				Sg	**Sg**	**23 00 15.3**	**+0.2**
NVS	**Novosibirsk**	**5.58**	**335**	P	**Pn**	**22 58 40.5**	**+0.4**
NVS				Pg	**Pg**	**22 58 59.2**	**-3.6**
NVS				S	**Sn**	**22 59 43.7**	**-1.1**
NVS				Sg	**Sg**	**23 00 14.5**	**-0.6**
KURK	**Kurchatov**	**5.65**	**282**	P	**Pn**	**22 58 41.5**	**+0.5**
KURK				Pg	**Pg**	**22 59 01.3**	**-2.9**
KURK				S	**Sn**	**22 59 46.9**	**+0.3**
KURK				Sg	**Sg**	**23 00 16.7**	**-0.7**
KURBB	**Kurchatov Arra**	**5.70**	**281**	Pn	**Pn**	**22 58 42.8**	**+1.1**
	0.9nm,0.3s,baz=92,slow=15,SNR=49						
KURBB				Sn	**Sn**	**22 59 47.5**	**-0.3**
	1.0nm,0.3s,baz=87,slow=28,SNR=9.6						
KURBB				Lg	Lg	23 00 15.0	
	1.4nm,0.3s,baz=124,slow=35,SNR=4.8						
KURBB	**Kurchatov Arra**	**5.70**	**281**	⇓Pn	**Pn**	**22 58 41.7**	**-0.1**
	14nm,0.6s						
KURBB				⇑Sn	**Sn**	**22 59 47.0**	**-0.8**
	20nm,0.3s						
KURBB				⇑Lg	Lg	23 00 14.0	
	138nm,0.6s						
ALXA	**Alekseevka, NS**	**5.85**	**332**	S	**Sn**	**22 59 49.9**	**-1.5**
TDJR	**Todzha**	**6.07**	**62**	P	**Pn**	**22 58 48.0**	**+1.1**
TDJR				Pg	**Pb**	**22 59 05.2**	**+2.7**
TDJR				Sg	**Sg**	**23 00 29.0**	**-1.8**
PDGK	**Podgornoye**	**8.48**	**223**	⇑Pn	**Pn**	**22 59 21.7**	**+1.7**
	3.5nm,0.7s						
PDGK				⇑Lg	Lg	23 01 45.8	
	13nm,1.1s						
OTUK	**Ortayu**	**9.98**	**266**	⇑Pn	**Pn**	**22 59 40.5**	**0.0**
	1.0nm,0.5s						
OTUK				⇓Sn	**Sn**	**23 01 32.4**	**-0.7**
	2.4nm,0.8s						
OTUK				⇓Lg	Lg	23 02 29.9	
	6.3nm,0.7s						
TKM2	**Tokmak 2**	**10.67**	**234**	⇑Lg	Lg	23 02 53.3	
	6.6nm,0.9s						
BVAR	**Borovoye Array**	**11.04**	**293**	Pn	**Pn**	**22 59 53.8**	**-1.1**
	0.5nm,0.3s,baz=97,slow=14,SNR=7.6						
BVAR				Sn	**Sn**	**23 01 55.2**	**-3.8**
	0.6nm,0.3s,baz=94,slow=21,SNR=5.3						
BRVK	**Borovoye**	**11.11**	**293**	⇓Pn	**Pn**	**22 59 56.3**	**+0.4**
	2.4nm,0.8s						
BRVK				⇑Sn	**Sn**	**23 01 57.4**	**-3.2**
	2.1nm,0.6s						
AAK	**Ala-Archa**	**11.45**	**236**	Pn	**Pn**	**23 00 04.1**	**+3.5**
	0.2nm,0.3s,baz=81,slow=15,SNR=1.4						
AAK				Lg	Lg	23 03 17.5	
	0.2nm,0.3s,baz=90,slow=23,SNR=4.4						
SONM	**Songino Array**	**12.72**	**92**	Lg	Lg	23 03 54.2	
	0.2nm,0.3s,baz=287,slow=28,SNR=4.1						
AKTO	**Aktyubinsk**	**18.75**	**283**	P	**P**	**23 01 35.2**	**-0.9**
	0.1nm,0.3s,baz=86,slow=12,SNR=4.6						
FINES	**FINESS Array B**	**35.10**	**313**	P	**P**	**23 04 09.4**	**-1.0**
	0.2nm,0.5s,baz=45,slow=12,SNR=1.6						

*IDC **04** 23:02:58.7±0.8, 12°65N×87°19W, h0km, mb3.9/9, mb1 4.1/11, mb1mx3.8/43, mbtmp3.9/11, ML3.4/2, MS3.5/6, Ms1 3.5/6

GUAB	**Guayabo de Bag**	**2.85**	**126**	*e*P		**Pn**	**23 03 45.8**	**0.0**
HORNC	**Hornillas**	**2.88**	**125**	*e*P		**Pn**	**23 03 47.0**	**+0.7**
COLC	**Colonia**	**2.89**	**126**	*e*P		**Pn**	**23 03 47.7**	**+1.3**
GUAI	**GUAI**	**2.93**	**136**	*e*P		**Pn**	**23 03 48.6**	**+1.8**
CUI	**Cuipilapa**	**2.93**	**126**	*e*P		**Pn**	**23 03 47.3**	**+0.4**
PLVR	**Palo Verde**	**2.98**	**133**	*e*P		**Pn**	**23 03 48.2**	**+0.4**
PTEN	**Parque Tenorio**	**3.04**	**123**	*e*P		**Pn**	**23 03 48.5**	**+0.1**
ACAL	**Aguas Claras**	**3.04**	**125**	*e*P		**Pn**	**23 03 49.1**	**+0.6**
ESPN	**Las Esperanzas**	**3.21**	**93**			**Pn**	**23 03 53.0**	**+2.3**
JTS	**Las Juntas de**	**3.31**	**129**	Pn		**Pn**	**23 03 52.0**	**-0.2**
	comp=Z,3.5nm,0.3s,baz=58,slow=11,SNR=9.2							
JTS				Lg		Lg	23 04 28.8	
	comp=Z,21nm,0.3s,baz=163,slow=9.0,SNR=5.7							
JTS	**Las Juntas de**	**3.31**	**129**	*e*P		**Pn**	**23 03 52.0**	**-0.2**
CEDE	**Laguna Cedeo**	**3.40**	**124**	*e*P		**Pn**	**23 03 56.2**	**+2.9**
ARE1	**Arenal 1**	**3.40**	**124**	*e*P		**Pn**	**23 03 56.0**	**+2.7**
CASO	**Castillo**	**3.40**	**125**	*e*P		**Pn**	**23 03 54.8**	**+1.4**
LCR2	**La Lucha 2**	**4.39**	**127**	*e*P		**Pn**	**23 04 09.2**	**+2.0**
CVTR	**Volcan Turrial**	**4.43**	**122**	*e*P		**Pn**	**23 04 10.0**	**+2.1**
DRK0	**Durika**	**5.27**	**126**	*e*P		**Pn**	**23 04 22.7**	**+3.5**
CCIG	**Comitan**	**5.87**	**312**	Pn		**Pn**	**23 04 25.9**	**-1.6**
TEIG	**Tepich**	**7.81**	**355**	LR		LR	23 08 25.7	
	comp=Z,328nm,18.8s,baz=50,slow=43							
CMIG	**Matias Romero**	**8.47**	**304**	Pn		**Pn**	**23 05 07.1**	**+4.0**
	comp=Z,0.4nm,0.3s,baz=134,slow=9.1,SNR=4.1							
ROSC	**El Rosal**	**15.10**	**119**	LR		LR	23 13 03.8	
	comp=Z,180nm,18.8s,baz=326,slow=41							
HKT	**Hockley**	**19.07**	**338**	P		**P**	**23 07 20.9**	**-1.3**
152A	**Waverly Hall**	**20.35**	**7**	P		**P**	**23 07 32.5**	**-3.7**
152A				IAmb		IAmb	23 07 50.1	
	comp=Z,8.3nm,0.7s							
CRPR	**Cabo Rojo, PR**	**20.51**	**72**	P		**P**	**23 07 36.5**	**-1.6**
154A	**Montrose**	**20.54**	**11**	P		**P**	**23 07 36.3**	**-1.9**
237A	**Washetta, Mont**	**20.93**	**340**	P		**P**	**23 07 39.1**	**-3.4**
237A				IAmb		IAmb	23 07 42.2	
	comp=Z,9.8nm,0.7s							
GOGA	**Godfrey**	**21.25**	**10**	P		**P**	**23 07 43.6**	**-2.3**
GOGA				IAmb		IAmb	23 07 52.3	
	comp=Z,7.0nm,0.8s							
JCT	**Junction City**	**21.26**	**330**	P		**P**	**23 07 42.5**	**-3.6**
JCT				IAmb		IAmb	23 07 52.1	
	comp=Z,6.1nm,0.6s							
Y49A	**Blount Mountai**	**21.39**	**3**	P		**P**	**23 07 44.8**	**-2.6**
Y49A				IAmb		IAmb	23 07 51.6	
	comp=Z,4.9nm,0.6s							
TX32	**Lajitas Array**	**22.54**	**321**	P		**P**	**23 07 59.6**	**-0.3**
TX32				IAmb		IAmb	23 08 03.7	
	comp=Z,6.3nm,0.8s							
TXAR	**Lajitas Array**	**22.54**	**321**	P		**P**	**23 08 01.8**	**+1.9**
	comp=Z,5.5nm,0.7s,baz=141,slow=9.3,SNR=57							
TX31	**Lajitas Ar. Si**	**22.54**	**321**	P		**P**	**23 07 59.5**	**-0.4**
MIAR	**Mount Ida**	**22.71**	**347**	P		**P**	**23 07 59.5**	**-2.2**
W50A	**Signal Mountai**	**22.80**	**5**	P		**P**	**23 08 00.5**	**-2.0**
BG3	**Lake Jocassee**	**22.89**	**10**	P		**P**	**23 08 02.4**	**-1.0**
BG3				IAmb		IAmb	23 08 16.9	
	comp=Z,5.5nm,0.7s							
X37A	**Clayton**	**23.20**	**343**	P		**P**	**23 08 04.2**	**-2.4**
TKL	**Tuckaleechee C**	**23.41**	**8**	P		**P**	**23 08 10.6**	**+1.9**
	comp=Z,4.3nm,0.7s,baz=194,slow=11,SNR=6.0							
TKL	**Tuckaleechee C**	**23.41**	**8**	P		**P**	**23 08 08.5**	**-0.2**
TKL				IAmb		IAmb	23 08 12.8	
	comp=Z,10nm,1.2s							
V53A	**Saluda**	**23.57**	**10**	P		**P**	**23 08 09.4**	**-0.8**
V53A				IAmb		IAmb	23 08 28.5	
	comp=Z,5.2nm,0.8s							
X34A	**Smith Ranch, M**	**23.99**	**339**	P		**P**	**23 08 12.6**	**-1.6**
X34A				IAmb		IAmb	23 08 18.0	
	comp=Z,9.7nm,0.7s							
U40A	**Yellville**	**24.33**	**350**	P		**P**	**23 08 17.1**	**-0.1**
FNO	**Franklin**	**24.44**	**340**	P		**P**	**23 08 16.8**	**-1.5**
WMOK	**Wichita Mounta**	**24.46**	**337**	P		**P**	**23 08 17.0**	**-1.5**
WMOK				IAmb		IAmb	23 08 22.1	
	comp=Z,5.1nm,0.8s							
T47A	**Sharon Grove**	**24.49**	**1**	P		**P**	**23 08 16.4**	**-2.3**
T47A				IAmb		IAmb	23 08 20.6	
	comp=Z,5.9nm,0.8s							
U54A	**Nelsons Funny**	**24.57**	**11**	P		**P**	**23 08 16.8**	**-2.8**
U54A				IAmb		IAmb	23 08 34.2	
	comp=Z,12nm,0.8s							
T42A	**Van Buren**	**24.73**	**353**	P		**P**	**23 08 17.1**	**-3.8**
MNTX	**Cornudas Mount**	**25.25**	**322**	P		**P**	**23 08 22.9**	**-2.9**
R40A	**Maddies Statio**	**26.13**	**352**	P		**P**	**23 08 31.5**	**-2.1**
R55A	**Marlinton**	**26.62**	**13**	P		**P**	**23 08 37.2**	**-1.0**
R55A				IAmb		IAmb	23 08 40.6	
	comp=Z,7.0nm,1.2s							
P53A	**Whipple**	**27.53**	**10**	P		**P**	**23 08 45.3**	**-0.9**
P53A				IAmb		IAmb	23 08 57.9	
	comp=Z,4.4nm,0.7s							
ANMO	**Albuquerque**	**28.23**	**326**	P		**P**	**23 08 54.4**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=105,slow=6.6,SNR=3.9							
ANMO	**Albuquerque**	**28.23**	**326**	P		**P**	**23 08 51.5**	**-1.2**
PV03	**Paradox Valley**	**31.98**	**327**	P		**P**	**23 09 23.5**	**-2.4**
PV03				IAmb		IAmb	23 09 28.9	
	comp=Z,4.3nm,0.7s							
PV18	**Skein Mesa, Pa**	**32.00**	**327**	P		P	23 09 22.1	-4.0
PV17	**East Wray Mesa**	**32.05**	**327**	P		P	23 09 23.5	-3.0
PV20	**West Nyswonger**	**32.10**	**327**	P		**P**	**23 09 25.4**	**-1.6**
PV20				IAmb		IAmb	23 09 41.5	
	comp=Z,4.2nm,0.7s							
ECSD	**EROS Data Cent**	**32.19**	**348**	P		**P**	**23 09 25.8**	**-1.5**
ECSD				IAmb		IAmb	23 09 28.9	
	comp=Z,3.5nm,0.8s							
W13A	**Hualapai Mount**	**32.84**	**318**	P		P	23 09 30.4	-3.0
O20A	**White River Ci**	**33.09**	**330**	P		**P**	**23 09 33.5**	**-2.1**
O20A				IAmb		IAmb	23 09 39.2	
	comp=Z,5.2nm,0.8s							
LCMT	**Little Creek M**	**33.62**	**321**	P		**P**	**23 09 38.8**	**-1.4**
P17A	**Butcher Ranch,**	**33.87**	**327**	P		**P**	**23 09 41.2**	**-1.2**
F33A	**5 Mile Ranch,**	**34.15**	**349**	P		**P**	**23 09 42.7**	**-1.7**
PSUT	**Pine Spring**	**34.98**	**323**	P		P	23 09 49.1	-2.9
PD31	**Pinedale Array**	**35.76**	**332**	P		**P**	**23 09 56.6**	**-2.1**
PD31				IAmb		IAmb	23 10 05.9	
	comp=Z,3.1nm,1.2s							
PDAR	**Pinedale Array**	**35.76**	**332**	P		**P**	**23 09 59.6**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=131,slow=8.8,SNR=3.7							
BGU	**Big Grassy Mou**	**36.14**	**326**	P		**P**	**23 10 00.2**	**-1.6**
AHID	**Auburn Hatcher**	**36.49**	**330**	P		**P**	**23 10 03.1**	**-1.8**
REDW	**Red Top Meadow**	**36.83**	**331**	P		**P**	**23 10 06.0**	**-1.8**
TPAW	**Teton Pass**	**36.97**	**331**	P		**P**	**23 10 07.3**	**-1.8**
TPAW				IAmb		IAmb	23 10 12.6	
	comp=Z,4.3nm,0.8s							
NVAR	**Mina Array Bea**	**37.66**	**319**	P		**P**	**23 10 16.8**	**+1.8**
	comp=Z,1.1nm,0.8s,baz=130,slow=7.5,SNR=7.2							
NVAR				PcP		**PcP**	**23 12 33.7**	**+1.7**
	comp=Z,0.5nm,0.7s,baz=165,slow=3.8,SNR=4.0							
NVAR				LR		LR	23 28 53.3	
	comp=Z,74nm,18.5s,baz=36,slow=41							
SIV	**San Ignacio**	**38.51**	**136**	P		**P**	**23 10 22.7**	**+0.7**
	comp=Z,26nm,0.9s,baz=303,slow=9.1,SNR=10							
MCMT	**McKenzie Canyo**	**38.87**	**331**	P		**P**	**23 10 22.8**	**-2.3**
LRM	**Limekiln Ridge**	**39.44**	**332**	P		**P**	**23 10 27.8**	**-2.0**
SCHQ	**Schefferville**	**45.37**	**17**	P		**P**	**23 11 17.5**	**-0.1**
	comp=Z,4.2nm,0.9s,baz=229,slow=8.4,SNR=4.1							
SCHQ				LR		LR	23 31 46.2	
	comp=Z,44nm,18.0s,baz=134,slow=38							
H03N2	**Juan Fernandez**	**46.32**	**170**	T		T	23 59 18.9	
	SNR=5.7							
H03N1	**Juan Fernandez**	**46.32**	**170**	T		T	23 59 19.2	
	SNR=13							
H03N3	**Juan Fernandez**	**46.34**	**170**	T		T	23 59 19.3	
	SNR=6.8							
BDFB	**Brasilia**	**48.05**	**124**	LR		LR	23 33 06.7	
	comp=Z,70nm,18.6s,baz=296,slow=38							
YKA	**Yellowknife Ar**	**53.63**	**345**	P		**P**	**23 12 19.2**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=166,slow=27,SNR=4.4							
PLCA	**Paso Flores**	**55.16**	**164**	P		**P**	**23 12 33.6**	**+1.7**
	comp=Z,1.8nm,0.8s,baz=360,slow=5.8,SNR=3.6							
RES	**Resolute Bay**	**62.41**	**359**	P		**P**	**23 13 20.2**	**-1.5**
	comp=Z,3.3nm,0.9s,baz=8.2,slow=6.1,SNR=2.1							
RES	**Resolute Bay**	**62.41**	**358**	IAmb		IAmb	23 13 21.4	
	comp=Z,3.5nm,0.9s							
ILAR	**Eielson Array**	**66.02**	**336**	P		**P**	**23 13 45.5**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=149,slow=5.5,SNR=5.9							
ILAR				LR		LR	23 46 51.1	
	comp=Z,36nm,18.4s,baz=200,slow=40							
ASAR	**Alice Springs**	**139.14**	**248**	PKP		**PKPdf**	**23 22 27.9**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=110,slow=1.9,SNR=7.2							
WRA	**Warramunga Arr**	**139.14**	**254**	PKP		**PKPdf**	**23 22 27.8**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=85,slow=1.6,SNR=5.7							
CMAR	**Chiang Mai Arr**	**148.68**	**348**	PKPbc		**PKPdf**	**23 22 46.2**	**+2.6**
	comp=Z,0.8nm,0.3s,baz=229,slow=46,SNR=1.5							

*IDC **04** 23:06:16.0±1.0, 3°.91N×71°.40W, h0km, mb3.8/6,*

mb1 4.1/10,mb1mx3.9/37,mbtmp3.9/10,ML3.5/4,MS3.2/2,
Ms1 3.2/2,ms1mx2.6/34,Error ellipse: s-maj=22.6km
s-min=14.6km az=19.0

*RSNC **04** 23:06:20.3±1.0, 3°.88N×71°.61W, h0km±5km, ML3.8, Mw4.0*

ISC 04 23:06:18.4±1.5, 3°.98N±0°.03×71°.45W±0°.05, h12km±10km, n45, σ1°76/58, mb3.7/6, 2C-6D, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
PTGC	**Puerto Gaitan,**	**0.71**	**288**	*i*P	**Pg**	**23**	**06**	**31.1**	**-1.1**
PTGC				*e*S	**Sg**	**23**	**06**	**40.5**	**-1.1**
PTGC				*i*		23	06	56.9	
	comp=Z,3μm,0.5s								
GUVC	**San Jose del G**	**1.85**	**219**	*e*P	**Pn**	**23**	**06**	**49.3**	**-0.7**
GUVC				*e*S	**Sn**	**23**	**07**	**12.0**	**-1.3**
GUVC				*i*		23	07	16.1	
	comp=Z,1μm,0.2s								
VILC	**Villavicencio,**	**2.24**	**273**	*i*P	**Pn**	**23**	**06**	**56.4**	**+1.0**
VILC				*e*S	**Sn**	**23**	**07**	**22.4**	**-0.8**
VILC				*i*		23	07	33.0	
	comp=Z,1μm,0.4s								
CHIC	**Chingaza**	**2.36**	**286**	*e*P	**Pn**	**23**	**06**	**58.1**	**+0.6**
CHIC				*e*S	**Sn**	**23**	**07**	**27.8**	**+1.2**
CHIC				*i*		23	07	35.4	
	comp=Z,342nm,0.5s								
TAMC	**Tame, Arauca**	**2.46**	**352**	*e*P	**Pb**	**23**	**07**	**02.0**	**-0.7**
TAMC				*e*S	**Sb**	**23**	**07**	**34.0**	**+1.0**
TAMC				*i*		23	07	44.0	
	comp=Z,719nm,0.4s								
RUSC	**La Rusia**	**2.50**	**320**	*e*P	**Pn**	**23**	**07**	**01.4**	**+2.0**
RUSC				*e*S	**Sb**	**23**	**07**	**34.0**	**-0.6**
RUSC				*i*		23	07	50.3	
	comp=Z,314nm,0.5s								
CVER	**Cruz Verde, Cu**	**2.67**	**282**	*e*P	**Pn**	**23**	**07**	**03.0**	**+1.3**
ROSC	**El Rosal**	**2.98**	**287**	Pn	**Pn**	**23**	**07**	**08.1**	**+2.1**
	comp=Z,16nm,0.3s,baz=116,slow=11,SNR=13								
ROSC				Pg	**Pg**	**23**	**07**	**17.1**	**+1.4**
	comp=Z,71nm,0.3s,baz=126,slow=10,SNR=29								
ROSC				Lg	Lg	23	07	54.6	
	comp=Z,23nm,0.3s,baz=67,slow=24,SNR=1.8								
ROSC	**El Rosal**	**2.98**	**287**	*e*P	**Pn**	**23**	**07**	**08.0**	**+2.1**
MACC	**Macarena, Meta**	**3.01**	**233**	*e*P	**Pn**	**23**	**07**	**07.8**	**+1.8**
MACC				*i*		23	07	52.8	
	comp=Z,582nm,0.5s								
SPBC	**San Pablo de B**	**3.09**	**303**	*e*P	**Pn**	**23**	**07**	**08.1**	**+0.8**
SPBC				*e*S	**Sn**	**23**	**07**	**38.4**	**-5.9**
SPBC				*i*		23	07	58.9	
	comp=Z,185nm,0.4s								
BARC	**Barichara**	**3.11**	**327**	*e*P	**Pn**	**23**	**07**	**09.0**	**+1.4**
BARC				*i*		23	08	12.5	
	comp=Z,610nm,0.6s								
PRAC	**Prado**	**3.44**	**266**	*e*P	**Pn**	**23**	**07**	**13.3**	**+1.4**
PRAC				*e*S	**Sn**	**23**	**07**	**54.2**	**+1.5**
PRAC				*i*		23	08	13.6	
	comp=Z,127nm,0.4s								
PAMC	**Pamplona, Colo**	**3.56**	**340**	*e*P	**Pn**	**23**	**07**	**16.4**	**+2.4**
PAMC				*e*S	**Sn**	**23**	**07**	**57.6**	**+1.4**
PAMC				*i*		23	08	17.4	
	comp=Z,271nm,0.4s								
NORC	**Norcasia**	**3.75**	**295**	*e*P	**Pn**	**23**	**07**	**16.8**	**+0.5**
ORTC	**Ortega, Tolima**	**3.79**	**269**	*e*P	**Pn**	**23**	**07**	**17.1**	**+0.4**
ORTC				*i*		23	08	30.0	
	comp=Z,163nm,0.5s								
BRRC	**Barranca, Sant**	**3.83**	**324**	*e*P	**Pn**	**23**	**07**	**18.7**	**+1.4**
BRRC				*e*S	**Sn**	**23**	**08**	**05.5**	**+3.1**
BRRC				*i*		23	08	22.1	
	comp=Z,90nm,0.4s								
TOLC	**Tolima**	**3.90**	**279**	*e*P	**Pn**	**23**	**07**	**19.8**	**+1.3**
TOLC				*i*		23	08	32.9	
	comp=Z,261nm,0.4s								
PTBC	**PUERTO BERRIO,**	**3.92**	**310**	*e*P	**Pn**	**23**	**07**	**19.0**	**+0.4**
ANIL	**Santa Ana**	**3.97**	**277**	*e*P	**Pn**	**23**	**07**	**19.4**	**-0.1**
GUY2C	**Guyana, Caldas**	**4.09**	**288**	*e*P	**Pn**	**23**	**07**	**22.3**	**+1.0**
BETC	**Betania**	**4.18**	**252**	*e*P	**Pn**	**23**	**07**	**21.8**	**-0.4**
GARC	**Garzon, Huila**	**4.41**	**246**	*e*P	**Pn**	**23**	**07**	**25.8**	**+0.3**
HELC	**Santa Helena**	**4.62**	**299**	*e*P	**Pn**	**23**	**07**	**29.9**	**+1.5**
HELC				*i*		23	08	49.9	
	comp=Z,26nm,0.6s								
ZARC	**Zaragoza, Cauc**	**4.86**	**316**	*e*P	**Pn**	**23**	**07**	**33.0**	**+1.5**
ZARC				*e*S	**Sn**	**23**	**08**	**22.5**	**-5.4**
ZARC				*i*		23	08	46.8	
	comp=Z,34nm,0.4s								
YOTC	**Yotoco, Valle**	**4.88**	**270**	*e*P	**Pn**	**23**	**07**	**31.5**	**-0.4**
PLMC	**San Jos del P**	**4.90**	**281**	*e*P	**Pn**	**23**	**07**	**35.2**	**+3.1**
SDV	**Santo Domingo**	**4.94**	**9**	Pn	**Pn**	**23**	**07**	**34.0**	**+1.2**
	comp=Z,9.6nm,0.3s,baz=163,slow=3.1,SNR=22								
SDV				Sn	**Sn**	**23**	**08**	**30.8**	**+0.8**
	comp=Z,57nm,0.3s,baz=58,slow=21,SNR=12								
SDV				Lg	Lg	23	08	54.7	
	comp=Z,31nm,0.3s,baz=302,slow=15,SNR=4.6								
SDV				LR	LR	23	09	56.5	
	comp=Z,167nm,20.8s,baz=271,slow=44								
SDV	**Santo Domingo**	**4.94**	**9**	*e*P	**Pn**	**23**	**07**	**33.9**	**+1.2**
PTLC	**Puerto Leguiza**	**5.05**	**222**	*e*P	**Pb**	**23**	**07**	**47.8**	**+1.0**
PCON	**Cinco Dias**	**5.20**	**252**	*e*P	**Pn**	**23**	**07**	**40.9**	**+4.2**
PCON				*i*		23	09	04.6	
	comp=Z,206nm,0.5s								
SMLC	**San Martn de**	**5.45**	**332**	*e*P	**Pn**	**23**	**07**	**40.1**	**+0.5**
SOTA	**Rioblanco**	**5.46**	**251**	*e*P	**Pn**	**23**	**07**	**41.1**	**+0.9**
PUAC	**Puerto Asis, P**	**6.14**	**236**	*e*P	**Pb**	**23**	**08**	**06.3**	**+0.8**
SJCC	**San Jacinto, C**	**6.95**	**328**	*e*P	**Pn**	**23**	**08**	**01.3**	**+1.1**
PCRV	**Puerto La Cruz**	**9.14**	**47**	Pn	**Pn**	**23**	**08**	**30.0**	**-0.3**
	comp=Z,4.1nm,0.3s,baz=213,slow=9.7,SNR=10.0								
PTGA	**Pitinga**	**12.40**	**112**	Pn	**Pn**	**23**	**09**	**14.4**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=72,slow=24,SNR=9.2								
PTGA				Sn	**Sn**	**23**	**11**	**32.5**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=348,slow=9.8,SNR=5.6								
PTGA				Lg	Lg	23	12	46.5	
	comp=Z,2.6nm,0.3s,baz=24,slow=23,SNR=8.2								
SJG	**San Juan**	**14.97**	**20**	LR	LR	23	16	24.8	
	comp=Z,143nm,19.3s,baz=266,slow=40								
TXAR	**Lajitas Array**	**39.59**	**313**	P	**P**	**23**	**13**	**49.8**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=128,slow=8.0,SNR=17								
PDAR	**Pinedale Array**	**51.34**	**324**	P	**P**	**23**	**15**	**22.5**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=124,slow=4.8,SNR=2.3								
YKA	**Yellowknife Ar**	**66.48**	**340**	P	**P**	**23**	**17**	**06.9**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=140,slow=5.3,SNR=3.1								
TORD	**Torodi Ar. Bea**	**72.70**	**78**	P	**P**	**23**	**17**	**46.6**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=277,slow=4.7,SNR=8.8								
GERES	**GERESS Array B**	**83.83**	**41**	P	**P**	**23**	**18**	**47.9**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=276,slow=3.9,SNR=5.7								
ARCES	**ARCESS Array B**	**88.74**	**20**	P	**P**	**23**	**19**	**12.0**	**+0.3**
	comp=Z,2.3nm,1.0s,baz=248,slow=4.8,SNR=1.9								
ASAR	**Alice Springs**	**148.66**	**229**	PKPbc	**PKPdf**	**23**	**26**	**04.5**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=125,slow=3.5,SNR=4.7								

*HEL **04** 23:27:51.3, 67°.82N×20°.10E, h0km, ML1.6, Explosion*

UPP 04 23:27:51.7±0.0, 67°.84N×20°.20E, h0km, ML1.7, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KUA	**Kurravaara**	**0.12**	**25**	P	Pg	23	27	54.3	+0.2
KUA				S	Sg	23	27	56.1	+0.5
KUA	**Kurravaara**	**0.12**	**25**	*i* P	Pg	23	27	54.3	+0.2
KUA				*i* S	Sg	23	27	56.1	+0.5
KOVU	**Salmi**	**0.38**	**358**	P	Pg	23	27	59.1	+0.1
KOVU				S	Sg	23	28	04.4	+0.4
KOVU	**Salmi**	**0.38**	**358**	*i* P	Pg	23	27	59.1	+0.1
KOVU				*i* S	Sg	23	28	04.4	+0.4
NIKU	**Nikkaluokta**	**0.44**	**274**	P	Pg	23	28	00.2	0.0
NIKU				S	Sg	23	28	06.5	+0.6
NIKU	**Nikkaluokta**	**0.44**	**274**	*i* P	Pg	23	28	00.2	0.0
NIKU				*i* S	Sg	23	28	06.5	+0.6
LANU	**Lannavaara**	**0.71**	**72**	P	Pg	23	28	05.1	-0.1
LANU	**Lannavaara**	**0.71**	**72**	*e*P	Pg	23	28	04.9	-0.3
	baz=253								
LANU				*e*S	Sg	23	28	14.6	+0.3
DUNU	**Dundret**	**0.74**	**169**	P	Pg	23	28	05.6	-0.2
DUNU				S	Sg	23	28	15.4	+0.1
DUNU	**Dundret**	**0.74**	**169**	*i* P	Pg	23	28	05.6	-0.2
DUNU				*i* S	Sg	23	28	15.4	+0.1
MASU	**Masugnsbyn**	**0.79**	**119**	P	Pg	23	28	06.6	-0.2
MASU	**Masugnsbyn**	**0.79**	**119**	*i* P	Pg	23	28	06.6	-0.2
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*PN	Pn	23	28	16.0	+0.5
KIF				MSG		23	28	29.4	
	comp=Z,7.3nm,0.2s								
KIF				*e*SB	Sb	23	28	30.5	-0.5
KIF	**Kilpisjarvi**	**1.19**	**11**	*e*P	Pb	23	28	14.8	-0.2
PAJU	**Pajala**	**1.39**	**125**	P	Pg	23	28	17.2	-1.2
PAJU				S	Sg	23	28	35.5	-0.8
PAJU	**Pajala**	**1.39**	**125**	*e*P	Pg	23	28	17.2	-1.2
PAJU				*e*S	Sg	23	28	35.5	-0.8
HEF	**Hetta**	**1.42**	**65**	*e*PG	Pn	23	28	17.8	-0.9
HEF				MSG		23	28	35.1	
	comp=Z,3.2nm,0.2s								
HEF	**Hetta**	**1.42**	**65**	*e*P	Pn	23	28	17.7	-0.9
ERTU	**Ertsjaerv**	**1.51**	**148**	P	Pn	23	28	19.2	-0.7
ERTU	**Ertsjaerv**	**1.51**	**148**	*e*PG	Pn	23	28	19.5	-0.4
ERTU				*e*SN	Sn	23	28	40.5	+0.2
HARU	**Harads**	**1.71**	**169**	P	Pn	23	28	22.9	+0.2
HARU	**Harads**	**1.71**	**169**	*e*P	Pn	23	28	22.9	+0.2
TOF	**Tornio**	**2.40**	**136**	*e*PB	Pn	23	28	33.8	+1.7
	baz=321								
TOF				MSG		23	29	02.6	
	comp=Z,2.0nm,0.2s								
TOF				*e*SG	Sb	23	29	05.8	0.0
SGF	**Sodankyl**	**2.45**	**96**	*e*PB	Pb	23	28	34.9	-1.7
SGF				*e*SG	Sg	23	29	09.3	-1.1
ARE0	**ARCESS Array S**	**2.58**	**46**	*e*PB	Pn	23	28	36.2	+1.6
	baz=230								
ARE0				*e*SB	Sb	23	29	09.3	-1.6
RNF	**Rovaniemi**	**2.58**	**116**	*e*PB	Pb	23	28	36.8	-1.9
RNF				*e*SG	Sb	23	29	10.7	-0.2
BURU	**Burvik**	**3.31**	**171**	*e*P	Pn	23	28	46.6	+2.0
KU6	**Riekki**	**4.23**	**111**	*e*SB	Sb	23	29	59.5	+1.2

UPP 04 23:28:04.2±0.3, 67°.83N×20°.26E, h0km, ML1.5, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KUA	**Kurravaara**	**0.13**	**13**	P	Pg	23	28	06.9	+0.2
KUA				S	Sg	23	28	09.0	+0.6
KOVU	**Salmi**	**0.40**	**355**	P	Pg	23	28	11.9	0.0
KOVU				S	Sg	23	28	17.2	+0.2
LANU	**Lannavaara**	**0.69**	**70**	P	Pg	23	28	17.1	-0.3
MASU	**Masugnsbyn**	**0.76**	**118**	S	Sg	23	28	29.2	+0.5

*NEIC **04** 23:37:34.1±1.6, 17°.8S×177°.9W±0°.1, h614km±7km,*
mb4.4/83, Error ellipse: s-maj=19.6km s-min=14.6km
az=145.0

*IDC **04** 23:37:37.6±2.4, 17°.91S×178°.09W, h656km±29km,*
mb3.5/13,mb1 3.8/13,mb1mx3.6/23,mbtmp4.4/13,Error
ellipse: s-maj=19.6km s-min=11.0km az=149.0

**ISC 04 23:37:32.9±0.4, 17°.90S±0°.09

HDA	**Harding Lake**	**85.44**	**13**	IAmb	IAmb	23 49 07.8			
	comp=Z,6.5nm,0.8s								
TX32	**Lajitas Array**	**85.58**	**57**	IAmb	IAmb	23 49 11.8			
	comp=Z,7.9nm,0.9s								
TXAR	**Lajitas Array**	**85.58**	**57**	P	**P**	**23 49 10.8**	**+1.4**		
	comp=Z,5.7nm,0.8s,baz=220,slow=6.0,SNR=80								
ANMO	**Albuquerque**	**85.71**	**51**	P	**P**	**23 49 10.6**	**+0.6**		
IL31		**85.77**	**13**	IAmb	IAmb	23 49 09.2			
	comp=Z,5.2nm,0.5s								
ILAR	**Eielson Array**	**85.77**	**13**	P	**P**	**23 49 08.2**	**-1.1**		
	comp=Z,3.1nm,0.4s,baz=220,slow=5.1,SNR=48								
REDW	**Red Top Meadow**	**86.46**	**42**	IAmb	IAmb	23 49 14.9			
	comp=Z,9.0nm,1.1s								
IMW	**Indian Meadow**	**86.66**	**42**	IAmb	IAmb	23 49 16.0			
	comp=Z,7.1nm,1.0s								
PRP	**Porcupine Dome**	**86.71**	**13**	IAmb	IAmb	23 49 14.8			
	comp=Z,14nm,1.8s								
DAWY	**Dawson**	**86.95**	**16**	IAmb	IAmb	23 49 15.7			
	comp=Z,9.3nm,1.2s								
PDAR	**Pinedale Array**	**87.01**	**43**	P	**P**	**23 49 16.1**	**+0.1**		
	comp=Z,2.8nm,0.7s,baz=220,slow=2.3,SNR=7.4								
EGAK	**Eagle**	**87.08**	**15**	IAmb	IAmb	23 49 16.1			
	comp=Z,4.9nm,0.8s								
HHC	**Hu-ho-hao-te**	**87.62**	**314**	*e*P	**P**	**23 49 19.1**	**+0.4**		
HHC				pmax	pmax				
	comp=Z,8.0nm,0.9s								
HHC				pmax	pmax				
	comp=Z,26nm,4.9s								
EPYK	**Eagle Plains**	**89.47**	**15**	IAmb	IAmb	23 49 27.1			
	comp=Z,5.8nm,0.8s								
SNAA	**Sanae**	**90.59**	**178**	P	**P**	**23 49 30.8**	**-1.1**		
VNA3	**Neumayer Olymp**	**90.71**	**176**	P	**P**	**23 49 31.7**	**-0.8**		
VNA2	**Neumayer--Watz**	**91.16**	**177**	P	**P**	**23 49 34.3**	**-0.2**		
	baz=192,slow=3.6								
SONM	**Songino Array**	**93.86**	**319**	P	**P**	**23 49 46.9**	**-0.4**		
	comp=Z,0.2nm,0.5s,baz=10,slow=9.0,SNR=3.7								
YKA	**Yellowknife Ar**	**94.12**	**25**	P	**P**	**23 49 47.4**	**-0.6**		
	comp=Z,2.0nm,0.8s,baz=236,slow=4.8,SNR=12								
MKAR	**Makanchi Array**	**109.48**	**314**	PKiKP	**PKiKP**	**23 54 54.1**	**-2.1**		
	comp=Z,0.3nm,0.4s,baz=212,slow=0.5,SNR=8.5								
ARCES	**ARCESS Array B**	**126.39**	**350**	PKP	**PKPdf**	**23 55 26.8**	**-1.2**		
	comp=Z,1.1nm,0.4s,baz=58,slow=0.9,SNR=18								
GEYT	**Alibeck**	**127.44**	**304**	PKP	**PKPdf**	**23 55 30.5**	**-0.4**		
	comp=Z,0.7nm,0.4s,baz=161,slow=9.4,SNR=3.9								
FINES	**FINESS Array B**	**133.31**	**344**	PKhKP	PKPpre	23 55 34.5			
	comp=Z,0.5nm,0.6s,baz=11,slow=1.9,SNR=5.9								
NOA	**NORSAR Array B**	**136.43**	**354**	PKP	**PKPdf**	**23 55 46.2**	**-0.9**		
	comp=Z,0.2nm,0.4s,baz=14,slow=3.8,SNR=3.6								
AKASG	**Malin Array Be**	**140.78**	**333**	PKP	**PKPdf**	**23 55 55.0**	**-0.3**		
	comp=Z,0.6nm,0.3s,baz=5.7,slow=1.9,SNR=5.1								
SORM	**Soroca**	**143.03**	**330**	⇓P	PKPab	23 55 56.3	-0.8		
BSEG	**Bad Segeberg**	**143.48**	**352**	*e*PKPbc	PKPab	23 55 58.4	-0.3		
	baz=15,slow=2.7								
LEOM	**Leova**	**144.25**	**329**	⇓P	PKPbc	23 56 01.3	-0.1		
KWP	**Kalwaria Pacla**	**144.26**	**337**	*e*PKP	**PKPdf**	**23 56 01.4**	**-0.1**		
VASR	**Vaslui**	**144.35**	**329**	⇓P	PKPbc	23 56 01.9	+0.1		
RETH	**Rethem/Aller,**	**144.77**	**352**	*e*PKPbc	PKPbc	23 56 02.6	-0.2		
	baz=15,slow=2.7								
BUR08	**Bucovina Ar. S**	**144.82**	**333**	PKPdf	PKPbc	23 56 03.3	0.0		
BURAR	**Bucovina Array**	**144.83**	**333**	⇑P	PKPbc	23 56 03.6	+0.2		
TLCR		**144.84**	**326**	⇑P	PKPbc	23 56 03.2	0.0		
NRDL	**Niedersach Rie**	**144.91**	**351**	*e*PKPbc	PKPbc	23 56 02.9	-0.2		
	baz=15,slow=2.7								
BIZ	**Bicaz**	**144.94**	**331**	⇓P	PKPbc	23 56 03.8	+0.2		
GHRR		**144.95**	**329**	⇓P	PKPbc	23 56 03.5	-0.1		
KOLS	**Kolonicke sedl**	**144.99**	**337**	*e*PKP	PKPbc	23 56 03.9	+0.2		
TESR	**Tescani**	**145.00**	**330**	⇓P	PKPbc	23 56 03.3	-0.4		
BR131	**Keskin Array S**	**145.12**	**315**	PKPdf	**PKPbc**	**23 56 04.2**	**-0.4**		
BRTR	**Keskin Array B**	**145.12**	**315**	PKPbc	**PKPdf**	**23 56 03.5**	**+0.1**		
	comp=Z,3.4nm,0.7s,baz=126,slow=4.1,SNR=15								
CFR	**Carcaliu**	**145.20**	**327**	⇑P	**PKPbc**	**23 56 03.8**	**-0.5**		
KSP	**Ksiaz**	**145.24**	**344**	*e*PKP	**PKPbc**	**23 56 04.6**	**+0.3**		
TOPG	**Topolog**	**145.27**	**326**	⇑P	**PKPbc**	**23 56 04.5**	**-0.1**		
NIE	**Niedzica**	**145.30**	**339**	*e*PKPbc	**PKPbc**	**23 56 05.1**	**+0.5**		
IBBN	**Ibbenburen**	**145.38**	**354**	*e*PKPbc	**PKPab**	**23 56 05.4**	**-0.6**		
	baz=15,slow=2.7								
VRI	**Vrincioaia**	**145.43**	**329**	⇓P	**PKPbc**	**23 56 05.4**	**+0.4**		
CLZ	**Clausthal**	**145.51**	**351**	*e*PKPbc	**PKPbc**	**23 56 05.1**	**0.0**		
	baz=15,slow=2.7								
OSTC	**Ostas**	**145.52**	**344**	*e*PKP	**PKPbc**	**23 56 05.3**	**+0.1**		
BMR	**Baia Mare**	**145.52**	**334**	⇑P	**PKPbc**	**23 56 04.8**	**-0.4**		
TRPA	**Tarpa**	**145.54**	**336**	⇑P	**PKPbc**	**23 56 04.9**	**-0.4**		
CLL	**Collm**	**145.56**	**348**	⇓*i*PKPbc	**PKPbc**	**23 56 05.8**	**+0.6**		
	comp=Z,18nm,0.7s								
UPC	**Upice**	**145.62**	**344**	*e*PKP	**PKPbc**	**23 56 05.4**	**0.0**		
HARR	**Harsova**	**145.63**	**327**	⇑P	**PKPbc**	**23 56 05.1**	**-0.5**		
TLBR	**Topalu**	**145.67**	**326**	⇑P	**PKPbc**	**23 56 05.8**	**+0.1**		
DPC	**Dobruska-Polom**	**145.68**	**344**	*e*PKP	**PKPbc**	**23 56 05.9**	**+0.3**		
OZUR		**145.71**	**330**	⇑P	**PKPbc**	**23 56 05.6**	**-0.3**		
BRG	**Berggiesshubel**	**145.77**	**347**	*i* PKP	**PKPbc**	**23 56 05.3**	**-0.5**		
	comp=Z,7.4nm,0.6s								
BRG	**Berggiesshubel**	**145.77**	**347**	*e*PKPbc	**PKPbc**	**23 56 05.7**	**-0.1**		
	baz=15,slow=2.7								
KRLC	**Kraliky**	**145.81**	**343**	*e*PKP	**PKPbc**	**23 56 06.2**	**+0.2**		
LANS	**Liptovska Anna**	**145.81**	**340**	*e*PKP	**PKPab**	**23 56 06.9**	**-1.1**		
FBE	**Freiberg**	**145.86**	**347**	*e*PKPbc	**PKPbc**	**23 56 06.3**	**+0.3**		
	baz=15,slow=2.7								
MORC	**Moravsky Berou**	**145.86**	**342**	⇑P	**PKPbc**	**23 56 06.3**	**+0.1**		
MORC	**Moravsky Berou**	**145.86**	**342**	*e*PKP	**PKPbc**	**23 56 05.8**	**-0.4**		
NEUB	**Neuenburg**	**145.89**	**349**	*e*PKPbc	**PKPbc**	**23 56 05.9**	**-0.2**		
	baz=15,slow=2.7								
DOPR	**Dopca**	**145.99**	**330**	⇓P	**PKPbc**	**23 56 07.1**	**+0.5**		
MLR	**Muntele Rosu**	**146.08**	**329**	⇑P	**PKPbc**	**23 56 06.7**	**-0.3**		
PRA	**Prague**	**146.41**	**346**	*e*PKP	**PKPbc**	**23 56 07.6**	**0.0**		
MOX	**Moxa**	**146.46**	**349**	*e*PKPbc	**PKPbc**	**23 56 07.5**	**-0.3**		
	baz=15,slow=2.7								
PRU	**Pruhonice**	**146.46**	**345**	*e*PKP	**PKPbc**	**23 56 07.6**	**-0.1**		
PRU				*ex*	x	23 56 10.7			
GOPC	**GO Pecny, Ondr**	**146.47**	**345**	*e*PKP	**PKPbc**	**23 56 07.9**	**+0.1**		
GOPC				*ex*	x	23 56 10.4			
PLN	**Plauen**	**146.51**	**348**	*e*PKPbc	**PKPbc**	**23 56 07.8**	**-0.1**		
	baz=15,slow=2.7								
TANN	**Tannenbergstha**	**146.52**	**348**	*e*PKPbc	**PKPbc**	**23 56 07.8**	**-0.2**		
	baz=15,slow=2.7								
VOIR		**146.54**	**330**	⇑P	**PKiKP**	**23 56 09.4**	**-0.9**		
DRGR		**146.55**	**334**	⇑P	**PKPbc**	**23 56 08.0**	**-0.2**		
VRAC	**Vranov**	**146.55**	**343**	⇓P	**PKPbc**	**23 56 08.7**	**+0.7**		
VRAC	**Vranov**	**146.55**	**343**	*e*PKP	**PKPbc**	**23 56 08.5**	**+0.5**		
VYHS	**Vyhne**	**146.58**	**340**	*e*PKP	**PKPbc**	**23 56 08.3**	**+0.1**		
VYHS				*e*		23 56 11.5			
GUNZ	**Gunzen**	**146.59**	**348**	*e*PKPbc	**PKPbc**	**23 56 08.2**	**+0.1**		
	baz=15,slow=2.7								
JAVC	**Velka Javorina**	**146.63**	**341**	*e*PKP	**PKPbc**	**23 56 08.9**	**+0.6**		
WERN	**Wernitzgruen**	**146.66**	**348**	*e*PKPbc	**PKPbc**	**23 56 08.4**	**0.0**		
	baz=15,slow=2.7								
NKC	**Novy Kostel**	**146.69**	**348**	*e*PKP	**PKPbc**	**23 56 08.2**	**-0.2**		
ARR	**Arges**	**146.79**	**330**	⇑P	**PKPbc**	**23 56 09.4**	**+0.5**		
KRUC	**Moravsky**	**146.83**	**343**	*e*PKP	**PKPbc**	**23 56 08.5**	**-0.3**		
MANZ	**Manzenberg**	**147.00**	**348**	*e*PKPbc	**PKPbc**	**23 56 09.2**	**0.0**		
	baz=15,slow=2.7								
SMOL	**Smolenice**	**147.01**	**341**	*e*PKP	**PKPbc**	**23 56 09.9**	**+0.6**		
LOT	**Lotru**	**147.13**	**331**	⇑P	**PKPbc**	**23 56 10.4**	**+0.6**		
MODS	**Modra-Piesok**	**147.19**	**341**	*e*PKP	**PKPbc**	**23 56 09.4**	**-0.4**		
ROTZ	**Rotzenmuhle**	**147.19**	**348**	*e*PKPbc	**PKPbc**	**23 56 09.7**	**0.0**		
	baz=15,slow=2.7								
AHRW	**Bad Neuenahr-A**	**147.19**	**354**	*e*PKPbc	**PKPbc**	**23 56 09.2**	**-0.4**		
	baz=15,slow=2.7								
MEM	**Membach**	**147.22**	**355**	PKiKP	**PKPbc**	**23 56 09.5**	**-0.3**		
MEM				PKPab	**PKiKP**	**23 56 11.5**	**+0.1**		
BSTI	**Sart Tilman**	**147.28**	**356**	PKiKP	**PKPbc**	**23 56 09.6**	**-0.3**		
TNS	**Taunus Mts**	**147.36**	**352**	*e*PKPbc	**PKPbc**	**23 56 10.0**	**-0.2**		
	baz=15,slow=2.7								
GRF	**Grafenberg Arr**	**147.45**	**349**	*e*PKPbc	**PKPbc**	**23 56 10.2**	**-0.2**		
	baz=15,slow=2.7								
GRF				*e*PKPab	**PKPab**	**23 56 14.6**	**+0.2**		
	baz=15,slow=2.7								
KHC	**Kasperske Hory**	**147.49**	**346**	*e*PKP	**PKPbc**	**23 56 10.4**	**-0.1**		
KHC				*ex*	x	23 56 15.3			
GZR	**Gura Zlata**	**147.62**	**332**	⇓P	**PKPbc**	**23 56 10.2**	**-0.8**		
WET	**Wettzell**	**147.64**	**347**	*e*PKPbc	**PKPbc**	**23 56 10.7**	**-0.2**		
	baz=15,slow=2.7								
GEC2	**GERESS Array S**	**147.73**	**346**		**PKPbc**	**23 56 10.4**	**-0.9**		
GEC2	**GERESS Array S**	**147.73**	**346**	*e*PKPbc	**PKPbc**	**23 56 10.9**	**-0.3**		
	baz=15,slow=2.7								
GERES	**GERESS Array B**	**147.73**	**346**	PKPbc	**PKPbc**	**23 56 10.9**	**-0.3**		
	comp=Z,5.1nm,0.6s,baz=26,slow=3.4,SNR=47								
DOU	**Dourbes**	**147.82**	**357**	PKiKP	**PKPbc**	**23 56 11.0**	**-0.3**		
VLAD	**Vladila**	**147.91**	**329**	⇓P	**PKPbc**	**23 56 11.1**	**-0.6**		
BZS	**Buzias**	**147.94**	**334**	⇓P	**PKPbc**	**23 56 11.4**	**-0.3**		
CONA	**Conrad Observa**	**148.01**	**342**	*i* PKiKP	**PKPbc**	**23 56 12.1**	**+0.1**		
	comp=Z,3.2nm,0.5s,SNR=6.8								
WLF	**Walferdange**	**148.15**	**355**	PKiKP	**PKPbc**	**23 56 12.5**	**+0.3**		
WLF	**Walferdange**	**148.15**	**355**	*e*PKPbc	**PKPbc**	**23 56 12.4**	**+0.3**		
	baz=15,slow=2.7								
HERR	**Herculane**	**148.18**	**332**	⇑P	**PKPbc**	**23 56 11.7**	**-0.6**		
PLVB	**Pleven**	**148.25**	**328**	⇑P	**PKPbc**	**23 56 12.6**	**0.0**		
MDVR	**Moldovita**	**148.57**	**333**	⇓P	**PKPbc**	**23 56 12.7**	**-0.7**		
BFO	**Black Forest**	**149.23**	**352**		**PKPbc**	**23 56 13.0**	**-1.8**		
SOKA	**Soboth**	**149.38**	**342**	*i* PKPbc	**PKPbc**	**23 56 14.7**	**-0.7**		
	comp=Z,1.3nm,0.5s								
KALN	**Kalnik**	**149.44**	**340**	P	**PKPbc**	**23 56 14.8**	**-0.6**		
KBA	**Koelnbreinsper**	**149.46**	**345**	*i* PKPbc	**PKPbc**	**23 56 14.7**	**-0.9**		
	comp=Z,5.0nm,0.5s								
VTS	**Vitosha**	**149.51**	**328**	⇓P	**PKiKP**	**23 56 16.3**	**-0.3**		
UBR	**Ueberruh**	**149.58**	**349**	*e*PKPbc	**PKPbc**	**23 56 15.3**	**-0.5**		
	baz=15,slow=2.7								
WATA	**Walderalm**	**149.63**	**347**	*i* PKiKP	**PKPbc**	**23 56 15.4**	**-0.6**		
	comp=Z,3.5nm,0.3s								
RETA	**Reutte**	**149.65**	**348**	*i* PKiKP	**PKPbc**	**23 56 15.5**	**-0.5**		
	comp=Z,1.7nm,0.5s								
OBKA	**Obir**	**149.67**	**343**	*i* PKPbc	**PKPbc**	**23 56 15.2**	**-0.9**		
	comp=Z,1.3nm,0.5s								
WTTA	**Wattenberg**	**149.69**	**347**	*i* PKiKP	**PKPbc**	**23 56 15.8**	**-0.4**		
	comp=Z,13nm,0.6s,SNR=6.3								
MOTA	**Moosalm**	**149.72**	**348**	*i* PKPbc	**PKPbc**	**23 56 15.6**	**-0.6**		
	comp=Z,2.2nm,0.4s								
MYKA	**Terra Mystica**	**149.81**	**344**	*i* PKPbc	**PKPbc**	**23 56 15.3**	**-1.1**		
	comp=Z,6.3nm,0.6s								
SQTA	**Sankt Quirin**	**149.81**	**348**	*i* PKiKP	**PKPbc**	**23 56 15.9**	**-0.5**		
	comp=Z,6.3nm,0.6s								
ABTA	**Abfaltersbach**	**149.98**	**346**	*i* PKPbc	**PKPbc**	**23 56 15.8**	**-1.0**		
	comp=Z,8.8nm,0.5s,SNR=7.0								
PRED	**Cave del Predi**	**150.00**	**344**		**PKPbc**	**23 56 16.1**	**-0.7**		
DAVA	**Damuels**	**150.00**	**349**	*i* PKiKP	**PKPbc**	**23 56 17.0**	**+0.1**		
	comp=Z,3.9nm,0.5s								
FETA	**Feichten**	**150.10**	**348**	*i* PKiKP	**PKPbc**	**23 56 16.9**	**-0.3**		
	comp=Z,3.7nm,0.6s								
FUORN	**Ofenpass-Fuorn**	**150.58**	**349**		**PKPbc**	**23 56 18.3**	**-0.1**		
KIJV	**Kijevo**	**151.32**	**338**	P	**PKPbc**	**23 56 19.2**	**-0.6**		
NVLJ	**Novalja**	**151.34**	**341**	P	**PKPbc**	**23 56 18.7**	**-1.0**		
MORI	**Morici**	**151.69**	**339**	P	**PKPbc**	**23 56 19.6**	**-1.0**		
MAKA	**Makarska**	**151.72**	**337**	P	**PKPbc**	**23 56 19.4**	**-1.2**		
DUGI	**Dugi Otok**	**151.79**	**340**	P	**PKPbc**	**23 56 19.7**	**-1.1**		
DBRK	**Dubrovnik**	**151.79**	**334**	P	**PKPbc**	**23 56 19.7**	**-1.2**		
STON	**Ston**	**151.80**	**335**	P	**PKPbc**	**23 56 19.6**	**-1.3**		
ZIRJ	**Zirje**	**151.89**	**339**	P	**PKPbc**	**23 56 19.8**	**-1.2**		
ESDC	**Sonseca Array**	**157.68**	**12**	PKPab	**PKPab**	**23 56 57.5**	**-0.7**		
	comp=Z,1.0nm,0.9s,baz=8.8,slow=4.1,SNR=6.3								
KEST	**Kesra**	**161.11**	**342**	PKPab	**PKPab**	**23 57 12.7**	**-0.7**		
	comp=Z,1.9nm,0.6s,baz=247,slow=11,SNR=2.6								

RSNC 04 23:44:55.6±0.8, 8.41°N×73.60°W, h105km±5km, ML3.3, Mw3.6, 4C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
SMLC	**San Martn de**	**0.61**	**310**	⇑*i*P		Pn	23 45 12.0	-0.8
SMLC				*e*S		Sn	23 45 25.5	-0.2
SMLC				*i*			23 45 27.2	
	comp=Z,2μm,0.3s							
BRRC	**Barranca, Sant**	**1.29**	**185**	⇑*e*P		Pn	23 45 19.1	-0.6
BRRC				*e*S		Sn	23 45 37.7	-0.3
BRRC				*i*			23 45 41.0	
	comp=Z,224nm,0.2s							
PAMC	**Pamplona, Colo**	**1.38**	**140**	*e*P		Pn	23 45 21.2	-0.1
PAMC				*e*S		Sn	23 45 40.6	+0.1
PAMC				*i*			23 45 44.1	
	comp=Z,247nm,0.4s							
ZARC	**Zaragoza, Cauc**	**1.54**	**234**	*e*P		Pn	23 45 22.0	-0.7
ZARC				*e*S		Sn	23 45 43.1	-0.2
ZARC				*i*			23 45 48.6	
	comp=Z,356nm,0.3s							
ARGC	**Ariguani, Magd**	**1.58**	**336**	⇑*e*P		Pn	23 45 23.6	+0.4
ARGC				*e*S		Sn	23 45 45.6	+1.5
ARGC				*i*			23 45 49.5	
	comp=Z,219nm,0.3s							
BARC	**Barichara**	**1.85**	**167**	⇓*e*P		Pn	23 45 26.1	-0.7
BARC				*e*S		Sn	23 45 49.5	-0.9
BARC				*i*			23 45 57.0	
	comp=Z,349nm,0.5s							
UREC	**San Jos de Ur**	**2.02**	**251**	*e*P		Pn	23 45 27.5	-1.2
UREC				*e*S		Sn	23 45 52.1	-1.9
UREC				*i*			23 45 59.6	
	comp=Z,304nm,0.2s							
PTBC	**PUERTO BERRIO,**	**2.04**	**205**	*e*P		Pn	23 45 28.7	-0.3
PTBC				*e*S		Sn	23 45 54.5	+0.1
PTBC				*i*			23 45 58.4	
	comp=Z,213nm,0.2s							
SJCC	**San Jacinto, C**	**2.15**	**314**	⇑*e*P		Pn	23 45 29.8	-0.7
SJCC				*e*S		Sn	23 45 56.0	-1.1
SJCC				*i*			23 45 58.2	
	comp=Z,262nm,0.4s							
RUSC	**La Rusia**	**2.55**	**168**	⇓*e*P		Pn	23 45 34.6	-1.4
RUSC				*e*S		Sn	23 46 04.2	-2.7
RUSC				*i*			23 46 10.6	
	comp=Z,73nm,0.3s							
TAMC	**Tame, Arauca**	**2.65**	**137**	*e*P		Pn	23 45 36.5	-0.4
TAMC				*e*S		Sn	23 46 08.0	-0.7
TAMC				*i*			23 46 12.0	
	comp=Z,63nm,0.4s							
SPBC	**San Pablo de B**	**2.78**	**190**	*e*P		Pn	23 45 38.3	-0.3
SPBC				*e*S		Sn	23 46 12.7	+0.9
SPBC				*i*			23 46 16.7	
	comp=Z,81nm,0.3s							
LCBC	**Los crdobas,**	**2.78**	**280**	*e*P		Pn	23 45 40.6	+2.0
LCBC				*e*S		Sn	23 46 12.3	+0.7
LCBC				*i*			23 46 14.3	
	comp=Z,82nm,0.2s							
SMRC	**Santa Marta, M**	**2.81**	**347**	*e*P		Pn	23 45 38.3	-0.7
SMRC				*e*S		Sn	23 46 11.1	-1.3
SMRC				*i*			23 46 13.7	
	comp=Z,58nm,0.2s							
HELC	**Santa Helena**	**2.92**	**221**	*e*P		Pn	23 45 41.4	+0.7
HELC				*e*S		Sn	23 46 21.2	+5.8
HELC				*i*			23 46 25.9	
	comp=Z,97nm,0.3s							
DBBC	**Dabeiba**	**2.93**	**242**	⇓*e*P		Pn	23 45 40.5	-0.2
DBBC				*e*S		Sn	23 46 07.7	-7.7
DBBC				*i*			23 46 30.2	
	comp=Z,198nm,0.4s							
SDV	**Santo Domingo**	**2.97**	**81**	*e*P		Pn	23 45 40.2	-1.1
NORC	**Norcasia**	**3.09**	**204**	*e*P		Pn	23 45 44.5	+1.7
NORC				*e*S		Sn	23 46 19.0	-0.2
NORC				*i*			23 46 28.3	
	comp=Z,74nm,0.3s							
CBOC	**Ciudad Bolivar**	**3.48**	**224**	*e*P		Pn	23 45 49.3	+1.2
CBOC				*i*			23 46 44.1	
	comp=Z,37nm,0.6s							
ROSC	**El Rosal**	**3.61**	**192**	*e*P		Pn	23 45 51.2	+1.1
GUY2C	**Guyana, Caldas**	**3.62**	**209**	*e*P		Pn	23 45 50.2	0.0
GUY2C				*i*			23 46 43.6	
	comp=Z,47nm,0.3s							
URIC	**Uribia, Colomb**	**3.64**	**26**	*e*P		Pn	23 45 47.9	-2.1
CAPC	**Capurgana**	**3.72**	**274**	*e*S		Sn	23 46 29.3	-4.9
CHIC	**Chingaza**	**3.75**	**182**	*e*P		Pn	23 45 53.1	+1.2
CHIC				*e*S		Sn	23 46 40.1	+4.6
CHIC				*i*			23 46 46.5	
	comp=Z,35nm,0.7s							
RREF	**El Recreo**	**3.89**	**207**	*e*P		Pn	23 45 54.1	+0.1
VILC	**Villavicencio,**	**4.27**	**181**	*e*P		Pn	23 46 00.1	+1.5
ORTC	**Ortega, Tolima**	**4.76**	**200**	*e*P		Pn	23 46 06.1	+0.9
PRAC	**Prado**	**4.83**	**195**	*e*P		Pn	23 46 05.8	-0.4
PRAC				*e*S		Sn	23 46 60.0	-1.2
PRAC				*i*			23 47 15.5	
	comp=Z,38nm,0.5s							
YOTC	**Yotoco, Valle**	**5.17**	**212**	*e*P		Pn	23 46 10.6	-0.3

*NEIC **04** 23:53:07.1±1.2, 18.0°S±0.1°×177.9°W±0.1°, h607km±8km, mb4.4/23, Error ellipse: s-maj=17.6km s-min=15.6km az=213.0*

*IDC **04** 23:53:10.1±2.8, 17.89°S×178.12°W, h628km±33km, mb3.3/8, mb1 3.6/9, mb1mx3.3/26, mbtmp4.3/9, Error ellipse: s-maj=31.9km s-min=15.4km az=151.0*

ISC 04 23:53:06.0±0.5, 17.9°S±0.1°×177.9°W±0.1°, h590km, n83, σ1°17/83, mb4.4/20, 12C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MSVF	**Nonsavu**	**3.84**	**272**	P		P	23 54 35.0	+5.3
AFI	**Afiamalu**	**7.13**	**57**	P		**P**	**23 54 58.2**	**+1.3**
DZM	**Mont Dzumac**	**15.26**	**252**	P		**P**	**23 56 18.6**	**+1.5**
	0.4nm,0.3s,baz=221,slow=15,SNR=2.6							
DZM	**Mont Dzumac**	**15.26**	**252**	P		**P**	**23 56 17.4**	**+0.4**
DZM				IAmb		IAmb	23 56 20.6	
	comp=Z,21nm,1.4s							
QRZ	**Quartz Range**	**24.27**	**198**	P		**P**	**23 57 37.6**	**-0.5**
NNZ	**Nelson**	**24.40**	**196**	P		**P**	**23 57 38.6**	**-0.6**
THZ	**Tophouse**	**25.04**	**196**	P		**P**	**23 57 44.6**	**-0.3**
THZ				IAmb		IAmb	23 58 03.2	
	comp=Z,20nm,1.4s							
KHZ	**Kahutara**	**25.49**	**195**	P		**P**	**23 57 47.4**	**-1.4**
EIDS	**Eidsvold**	**29.70**	**250**	P		**P**	**23 58 26.9**	**+1.2**
EIDS				IAmb		IAmb	23 58 33.2	
	comp=Z,17nm,1.3s							
MLZ	**Mavora Lakes**	**29.75**	**200**	P		**P**	**23 58 25.8**	**-0.2**
ARMA	**Armidale**	**30.34**	**240**	P		**P**	**23 58 32.5**	**+1.2**
ARMA				IAmb		IAmb	23 58 36.2	
	comp=Z,22nm,1.4s							
CAN	**Canberra**	**34.07**	**233**	P		**P**	**23 59 04.1**	**+1.4**
TOO	**Toolangi**	**37.53**	**231**	P		**P**	**23 59 32.3**	**+1.2**
COEN	**Coen**	**37.56**	**270**	P		**P**	**23 59 33.0**	**+1.3**
COEN				IAmb		IAmb	23 59 34.7	
	comp=Z,10.0nm,0.8s							
STKA	**Stephens Creek**	**39.03**	**241**	P		**P**	**23 59 44.1**	**+0.7**
	comp=Z,13nm,0.9s,baz=91,slow=9.3,SNR=28							
BBOO	**Buckleboo**	**43.81**	**241**	P		**P**	**00 00 21.6**	**+0.7**
BBOO				IAmb		IAmb	00 00 22.0	
	comp=Z,15nm,0.8s							
WB0	**Warramunga Arr**	**45.05**	**260**	P		**P**	**00 00 31.3**	**+0.6**
WB0				IAmb		IAmb	00 00 31.5	
	comp=Z,8.9nm,0.8s							
WB2	**Warramunga Arr**	**45.07**	**259**	P		**P**	**00 00 31.0**	**+0.2**
WB2				IAmb		IAmb	00 00 31.9	
	comp=Z,15nm,1.1s							
WRA	**Warramunga Arr**	**45.08**	**259**	P		**P**	**00 00 30.9**	**0.0**
	comp=Z,3.1nm,0.3s,baz=96,slow=7.6,SNR=39							
AS31	**Alice Springs**	**45.23**	**254**	P		**P**	**00 00 32.1**	**+0.1**
ASAR	**Alice Springs**	**

0.3nm,0.4s,baz=76,slow=5.9,SNR=2.0

IDC ***05*** *00:16:51.5±1.4,9.°93S×150.°99E,h0km,mb3.7/4, mb1 4.0/6,mb1mx3.7/25,mbtmp3.8/6,ML2.7/2,MS3.0/2, Ms1 3.0/2,ms1mx2.6/27,Error ellipse: s-maj=35.0km s-min=27.6km az=170.0*

ISC 05 00:16:56.7±1.3,10.°0S×0.°2×151.°0E±0.°1,h35km,n9, σ0.°81/8,mb3.8/4,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.84**	**278**	Pn	**Pn**	**00 17 52.8**	**-0.5**
	7.3nm,0.3s,baz=114,slow=9.6,SNR=20						
PMG				Sn	**Sn**	**00 18 38.4**	**+1.1**
	2.2nm,0.3s,baz=9.5,slow=12,SNR=2.0						
KRVT	**Keravat (AS076**	**5.74**	**10**	LR	LR	00 20 22.4	
	comp=Z,84nm,20.0s,baz=182,slow=37						
WRA	**Warramunga Arr**	**18.88**	**237**	P	**P**	**00 21 13.8**	**-0.4**
	0.1nm,0.3s,baz=60,slow=12,SNR=3.8						
ASAR	**Alice Springs**	**21.25**	**228**	P	**P**	**00 21 39.5**	**-0.4**
	1.3nm,0.8s,baz=65,slow=10.0,SNR=7.9						
STKA	**Stephens Creek**	**23.46**	**200**	LR	LR	00 30 41.5	
	comp=Z,55nm,18.1s,baz=205,slow=35						
FITZ	**Fitzroy Crossi**	**25.87**	**249**	P	**P**	**00 22 24.6**	**-0.7**
	3.4nm,0.9s,baz=70,slow=15,SNR=1.8						
VNDA	**Vanda**	**67.74**	**177**	P	**P**	**00 27 51.1**	**+0.9**
	0.6nm,0.5s,baz=12,slow=2.7,SNR=10						
ILAR	**Eielson Array**	**87.61**	**22**	P	**P**	**00 29 41.0**	**0.0**
	0.4nm,0.8s,baz=234,slow=5.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**149.79**	**279**	PKPbc	**PKPbc**	**00 36 43.8**	**-0.2**
	1.2nm,0.6s,baz=66,slow=2.7,SNR=13						

IDC 05 00:26:15.1±163.0,41.°52N×155.°19E,h0km,Error ellipse: s-maj=356.6km s-min=10.5km az=125.0,North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11N2	**WAKE ISLAND Hy**	**23.89**	**152**	H	H	00 56 05.8	
	baz=340,slow=76,SNR=3277						
H11N1	**WAKE ISLAND Hy**	**23.91**	**152**	H	H	00 56 08.3	
	baz=340,slow=76,SNR=2376						
H11N3	**WAKE ISLAND Hy**	**23.91**	**152**	H	H	00 56 08.5	
	baz=340,slow=76,SNR=3123						
H11S1	**WAKE ISLAND Hy**	**24.96**	**153**	H	H	00 57 27.9	
	baz=340,slow=76,SNR=2308						
H11S3	**WAKE ISLAND Hy**	**24.97**	**153**	H	H	00 57 27.3	
	baz=340,slow=76,SNR=2301						
H11S2	**WAKE ISLAND Hy**	**24.98**	**153**	H	H	00 57 28.2	
	baz=340,slow=76,SNR=2661						
H03N2	**Juan Fernandez**	**136.90**	**97**	H	H	03 17 25.9	
	baz=300,slow=76,SNR=319						
H03N3	**Juan Fernandez**	**136.91**	**97**	H	H	03 17 26.9	
	baz=300,slow=76,SNR=439						
H03N1	**Juan Fernandez**	**136.92**	**97**	H	H	03 17 28.9	
	baz=300,slow=76,SNR=387						

RSNC 05 01:04:43.5±0.9,3.°90N×71.°56W,h4km±5km,ML3.6,Mw3.8, 1C,Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTGC	**Puerto Gaitan,**	**0.65**	**297**	*iPg*	Pg	01 04 53.8	-2.2
PTGC				*eSg*	Sg	01 05 03.6	-0.8
PTGC				*i*		01 05 18.7	
	comp=Z,996nm,0.6s						
GUVC	**San Jose del G**	**1.72**	**218**	*eS*	Sn	01 05 35.6	-1.2
VILC	**Villavicencio,**	**2.14**	**276**	*eP*	Pn	01 05 19.0	-1.1
VILC				*eS*	Sn	01 05 46.9	-0.4
VILC				*i*		01 05 57.6	
	comp=Z,1μm,0.4s						
CHIC	**Chingaza**	**2.29**	**288**	*eP*	Pn	01 05 21.2	-1.2
CHIC				*eS*	Sn	01 05 50.8	-0.5
CHIC				*i*		01 05 56.6	
	comp=Z,385nm,0.4s						
RUSC	**La Rusia**	**2.49**	**322**	*eP*	Pn	01 05 24.1	-1.3
RUSC				*eS*	Sn	01 05 56.5	0.0
RUSC				*i*		01 06 15.4	
	comp=Z,175nm,0.8s						
TAMC	**Tame, Arauca**	**2.53**	**355**	*eP*	Pn	01 05 23.7	-1.7
TAMC				*eS*	Sn	01 05 55.8	-0.8
TAMC				*i*		01 06 17.6	
	comp=Z,165nm,0.5s						
MACC	**Macarena, Meta**	**2.88**	**233**	*eP*	Pn	01 05 29.1	-1.1
MACC				*eS*	Sb	01 06 09.6	-1.6
MACC				*i*		01 06 20.5	
	comp=Z,340nm,0.3s						
ROSC	**El Rosal**	**2.91**	**289**	*eP*	Pn	01 05 30.7	-0.3
ROSC				*i*		01 06 31.2	
	comp=Z,85nm,0.3s						
SPBC	**San Pablo de B**	**3.05**	**305**	*eP*	Pn	01 05 30.6	-2.1
SPBC				*eS*	Sb	01 06 16.8	+0.6
SPBC				*i*		01 06 21.2	
	comp=Z,134nm,0.4s						
BARC	**Barichara**	**3.12**	**329**	*eP*	Pb	01 05 38.2	-1.6
BARC				*eS*	Sg	01 06 24.4	+0.4
BARC				*i*		01 06 37.4	
	comp=Z,543nm,1.0s						
PRAC	**Prado**	**3.33**	**267**	*eP*	Pn	01 05 36.1	-0.3
PRAC				*eS*	Sg	01 06 27.8	-2.7
PRAC				*i*		01 06 35.2	
	comp=Z,113nm,0.8s						
PAMC	**Pamplona, Colo**	**3.60**	**342**	*eP*	Pb	01 05 47.1	-0.9
PAMC				*eS*	Sb	01 06 28.2	-4.0
PAMC				*i*		01 06 44.6	
	comp=Z,73nm,1.5s						
ORTC	**Ortega, Tolima**	**3.68**	**270**	*eP*	Pn	01 05 40.1	-1.2
ORTC				*eS*	Sb	01 06 36.2	+1.9
ORTC				*i*		01 06 51.4	
	comp=Z,147nm,0.7s						
NORC	**Norcasia**	**3.69**	**297**	*eP*	Pn	01 05 40.1	-1.3
NORC				*i*		01 06 47.7	
	comp=Z,74nm,1.0s						
TOLC	**Tolima**	**3.82**	**280**	*eP*	Pn	01 05 42.8	-0.6
TOLC				*eS*	Sb	01 06 40.3	+2.0
TOLC				*i*		01 06 52.5	
	comp=Z,327nm,0.8s						
BRRC	**Barranca, Sant**	**3.84**	**326**	*eP*	Pn	01 05 42.1	-1.3
BRRC				*eS*	Sn	01 06 28.0	-1.0
BRRC				*i*		01 06 53.3	
	comp=Z,54nm,0.6s						
ANIL	**Santa Ana**	**3.88**	**279**	*eP*	Pn	01 05 42.8	-1.4
ANIL				*eS*	Sb	01 06 41.2	+1.0
ANIL				*i*		01 06 53.7	
	comp=Z,278nm,0.4s						
PTBC	**PUERTO BERRIO,**	**3.90**	**312**	*eP*	Pn	01 05 40.9	-3.3
PTBC				*i*		01 06 46.4	
	comp=Z,49nm,0.5s						
RREF	**El Recreo**	**3.91**	**285**	*eP*	Pn	01 05 43.4	-1.5
RREF				*eS*	Sb	01 06 42.1	+0.7
RREF				*i*		01 06 53.5	
	comp=Z,73nm,0.3s						
GUY2C	**Guyana, Caldas**	**4.02**	**289**	*eP*	Pn	01 05 45.3	-1.0
GUY2C				*eS*	Sn	01 06 30.9	-3.2
GUY2C				*i*		01 06 52.3	
	comp=Z,69nm,0.5s						
BETC	**Betania**	**4.07**	**253**	*eP*	Pn	01 05 45.8	-0.8
BETC				*eS*	Sg	01 06 50.6	-3.6
GARC	**Garzon, Huila**	**4.29**	**247**	*eP*	Pn	01 05 48.5	-1.3
GARC				*eS*	Sn	01 06 38.9	-1.5
HELC	**Santa Helena**	**4.56**	**300**	*eP*	Pn	01 05 52.8	-0.9
HELC				*eS*	Sn	01 06 46.0	-1.5
OCAC	**Ocana**	**4.65**	**338**	*eP*	Pn	01 05 52.0	-2.7
OCAC				*i*		01 07 09.3	
	comp=Z,34nm,0.6s						
FLOC	**Florencia**	**4.70**	**241**	*eP*	Pb	01 06 05.0	-1.5
FLOC				*eS*	Sb	01 07 03.5	0.0
FLOC				*i*		01 07 16.0	
	comp=Z,214nm,0.8s						
YOTC	**Yotoco, Valle**	**4.78**	**271**	*eP*	Pn	01 05 54.5	-1.9
YOTC				*eS*	Sb	01 07 08.2	+2.2
YOTC				*i*		01 07 13.2	
	comp=Z,26nm,0.4s						
ZARC	**Zaragoza, Cauc**	**4.85**	**317**	*eP*	Pn	01 05 55.9	-1.4
ZARC				*eS*	Sn	01 06 50.7	-3.2
ZARC				*i*		01 07 08.0	
	comp=Z,18nm,0.6s						
CBOC	**Ciudad Bolivar**	**4.85**	**294**	*eP*	Pn	01 05 56.5	-1.0
PTLC	**Puerto Leguiza**	**4.92**	**221**	*eP*	Pg	01 06 14.5	-3.4
PTLC				*eS*	Sg	01 07 22.6	+0.8
SDV	**Santo Domingo**	**5.03**	**10**	*eS*	Sn	01 06 52.5	-6.3
PCON	**Cinco Dias**	**5.08**	**252**	*eP*	Pb	01 06 16.4	+3.0
PCON				*eS*	Sb	01 07 18.1	+3.0
PCON				*i*		01 07 31.3	
	comp=Z,119nm,0.5s						
SOTA	**Rioblanco**	**5.34**	**251**	*eS*	Sb	01 07 27.4	+4.9
SMLC	**San Martn de**	**5.47**	**333**	*eS*	Sn	01 07 09.5	+0.2
PUAC	**Puerto Asis, P**	**6.02**	**236**	*eP*	Pb	01 06 28.4	-0.7
PUAC				*eS*	Sb	01 07 45.1	+3.6
GCUF	**Volcan Galeras**	**6.37**	**245**	*eS*	Sb	01 07 57.4	+5.4
SJCC	**San Jacinto, C**	**6.96**	**329**	*eS*	Sn	01 07 41.0	-5.0

BJI ***05*** *01:16:08.0±0.0,3.°01S×153.°91E,h334km,mB4.6/40, mb4.9/67*

IDC ***05*** *01:16:09.4±0.3,3.°43S×153.°60E,h339km±2km,mb4.5/31, mb1 4.6/35,mb1mx4.5/40,mbtmp5.2/35,Error ellipse: s-maj=8.1km s-min=5.8km az=108.0*

NEIC ***05*** *01:16:09.4±1.7,3.°42S±0.°08×153.°59E±0.°07,h347km±2km, mb5.0/139,Error ellipse: s-maj=11.6km s-min=10.2km az=198.0*

MOS ***05*** *01:16:09.3±1.0,3.°39S×153.°56E,h354km,mb5.1/29,Error ellipse: s-maj=9.0km s-min=6.0km az=104.4*

DJA ***05*** *01:16:10.7±0.4,3.°S±3.°×15.°4E±.°,h352km±4km,M5.1/50, mb5.0/49,mB5.5/50,MLv5.7/2,Mw(mB)5.0/50,Mwp5.1/3*

GCMT ***05*** *01:16:10.4±0.3,3.°30S±0.°04×153.°60E±0.°05,h336km±1km, MW5.3/86,Moment Tensor Solution. s86,c118; Duration: 1s1 Moment tensor: Scale 1017Nm; Mrr-0.23±.04; Mθθ0.51±.05; Mϕϕ-0.27±.06; Mrθ0.61±.04; Mθϕ0.68±.05; Mϕr-0.36±.04; Best double couple: M01.07200×1017 NP1:ϕs21.00000°,δ50.00000°, λ-165.00000°. NP2:ϕs281.00000°,δ79.00000°, λ-41.00000°. Principal axes: T 1.0180, Plg19.0000°, Azm337.00000°; N 0.1080, Plg48.0000°, Azm89.00000°; P -1.1260, Plg36.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 05 01:16:08.1±0.3,3.°41S±0.°04×153.°69E±0.°05,h337km±3km, h338km:pP-P,n408,σ1937/452,mb5.1/163,34C-10D,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.71**	**243**		**Pn**	**01 16 57.9**	**+1.6**
RABL				S	**S**	**01 17 34.8**	**-0.1**
KRVT	**Keravat (AS076**	**1.88**	**242**	P	**Pn**	**01 16 58.8**	**+1.3**
	847nm,0.3s,baz=8.1,slow=4.2,SNR=326						
KRVT				S	**S**	**01 17 37.4**	**+0.5**
	1μm,0.3s,baz=32,slow=20,SNR=31						
HNR	**Honiara**	**8.63**	**134**	P	**P**	**01 18 12.0**	**-0.9**
	196nm,0.3s,baz=244,slow=2.8,SNR=34						
HNR	**Honiara**	**8.63**	**134**	P	**P**	**01 18 12.3**	**-0.7**
HNR	**Honiara**	**8.63**	**134**	Pn	**P**	**01 18 12.3**	**-0.7**
PMG	**Port Moresby**	**8.81**	**227**	P	**P**	**01 18 14.1**	**-0.8**
	54nm,0.3s,baz=41,slow=7.3,SNR=71						
PMG				S	**S**	**01 19 52.0**	**-0.9**
	7.1nm,0.3s,baz=63,slow=11,SNR=3.5						
PMG	**Port Moresby**	**8.81**	**227**	*ceP*	**P**	**01 18 14.5**	**-0.5**
PMG				pmax	pmax		
	comp=Z,3μm,1.0s						
PMG	**Port Moresby**	**8.81**	**227**	Pn	**Pn**	**01 18 13.1**	**+1.2**
PMG					**S**	**01 19 50.9**	**-1.9**
PATS	**Pohnpei**	**11.17**	**24**	P	**P**	**01 18 42.0**	**+0.8**
JAY	**Jayapura**	**12.99**	**274**	P	**Pn**	**01 19 02.5**	**+0.4**
	comp=Z,12nm,0.3s,baz=117,slow=4.5,SNR=35						
JAY				S	**S**	**01 21 23.6**	**-1.3**
	baz=350,slow=19,SNR=1.5						
JAY	**Jayapura**	**12.99**	**274**	P	**Pn**	**01 19 02.7**	**+0.6**
	comp=Z,952nmcomp=Z,102nm,1.0s						
GENI	**Genyem**	**13.53**	**273**	P	**Pn**	**01 19 08.9**	**+0.6**
	comp=Z,4μmcomp=Z,362nm,1.2s						
MMPI	**Merauke**	**14.15**	**249**	P	**Pn**	**01 19 15.7**	**+0.1**
	comp=Z,1μm,0.6s						
COEN	**Coen**	**14.75**	**224**	P	**P**	**01 19 20.7**	**-0.1**
SMPI	**Sarmi**	**15.03**	**275**	P	**Pn**	**01 19 25.1**	**-0.7**
	comp=Z,4μmcomp=Z,230nm,0.5s						
CTA	**Charters Tower**	**18.10**	**203**	P	**P**	**01 19 58.9**	**+1.9**
	comp=Z,34nm,0.3s,baz=25,slow=12,SNR=500						
CTA				S	**S**	**01 23 08.5**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=1.3,slow=13,SNR=1.6						
CTAO	**Charters Tower**	**18.10**	**203**	P	**P**	**01 19 58.0**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,521nm,0.7s						
CTAO	**Charters Tower**	**18.10**	**203**	P	**P**	**01 19 58.0**	**+1.1**
GUMO	**Guam**	**19.02**	**333**	P	**P**	**01 20 07.1**	**+0.4**
GUMO				pmax	pmax		
	comp=Z,593nm,1.0s						
GUMO	**Guam**	**19.02**	**333**	P	**P**	**01 20 07.1**	**+0.4**
RKPI	**Ransiki, Papua**	**19.58**	**275**	P	P	01 20 26.0	+13
FAKI	**Fak Fak**	**21.41**	**271**	P	**P**	**01 20 31.1**	**+0.9**
	comp=Z,5μmcomp=Z,472nm,1.0s						
FAKI	**Fak Fak**	**21.41**	**271**	P	**P**	**01 20 29.9**	**-0.3**
EIDS	**Eidsvold**	**21.98**	**186**	P	**P**	**01 20 35.6**	**+0.4**
DZM	**Mont Dzumac**	**22.31**	**147**	P	**P**	**01 20 39.7**	**+1.4**
	comp=Z,104nm,0.7s,baz=336,slow=8.2,SNR=118						
DZM	**Mont Dzumac**	**22.31**	**147**	P	**P**	**01 20 39.5**	**+1.2**
SIJI	**Sorong**	**22.55**	**276**	P	**P**	**01 20 40.7**	**+0.2**
	comp=Z,158nm,0.7s,baz=82,slow=8.4,SNR=75						
SIJI				S	**S**	**01 24 22.9**	**+0.3**
	comp=Z,3.3nm,0.2s,baz=232,slow=22,SNR=1.4						
MTN	**Manton Dam**	**24.19**	**246**	P	**P**	**01 20 53.6**	**-1.8**
MTN				IAmb	IAmb	01 21 13.2	
	comp=Z,90nm,1.1s						
MSAI	**Masohi**	**24.72**	**269**	P	**P**	**01 21 01.0**	**+0.9**
	comp=Z,682nmcomp=Z,67nm,0.6s						
WB0	**Warramunga Arr**	**24.88**	**228**	P	**P**	**01 21 01.4**	**-0.1**
WR0	**Warramunga Arr**	**24.89**	**227**	P	**P**	**01 21 01.6**	**0.0**
WRAB	**Tennant Creek**	**25.02**	**227**	*ceP*	**P**	**01 21 02.5**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,84nm,0.7s						
WRAB	**Tennant Creek**	**25.02**	**227**	P	**P**	**01 21 02.2**	**-0.6**
WB2	**Warramunga Arr**	**25.02**	**227**	P	**P**	**01 21 02.6**	**-0.2**
WRA	**Warramunga Arr**	**25.03**	**227**	P	**P**	**01 21 03.0**	**+0.1**
	comp=Z,141nm,0.6s,baz=51,slow=8.9,SNR=345						
WRA				PcP	**PcP**	**01 24 28.7**	**+1.0**
	comp=Z,12nm,0.7s,baz=43,slow=2.1,SNR=3.0						
WRA				ScP	**ScP**	**01 27 34.6**	**+0.2**
	comp=Z,13nm,0.7s,baz=52,slow=2.8,SNR=7.8						
AAI	**Ambon**	**25.45**	**269**	P	**P**	**01 21 07.3**	**+0.6**
	comp=Z,3μmcomp=Z,288nm,1.1s						
LBMI	**Labuha**	**26.31**	**275**	P	**P**	**01 21 15.7**	**+1.3**
	comp=Z,2μmcomp=Z,179nm,1.1s						
NLAI	**Namlea**	**26.54**	**270**	P	**P**	**01 21 17.8**	**+1.4**
	comp=Z,3μmcomp=Z,237nm,0.5s						
ARMA	**Armidale**	**26.94**	**184**	P	**P**	**01 21 21.8**	**+1.9**
ARMA				IAmb	IAmb	01 21 22.4	
	comp=Z,44nm,0.9s						
KNRA	**Kununurra**	**27.39**	**242**	P	**P**	**01 21 22.9**	**-1.0**
KNRA				IAmb	IAmb	01 22 07.2	
	comp=Z,108nm,0.9s						
AS31	**Alice Springs**	**27.77**	**222**	P	**P**	**01 21 27.0**	**-0.2**
AS31				IAmb	IAmb	01 21 27.8	
	comp=Z,46nm,0.5s						
ASAR	**Alice Springs**	**27.77**	**222**	P	**P**	**01 21 27.0**	**-0.2**
	comp=Z,146nm,0.8s,baz=55,slow=8.5,SNR=789						
ASAR				PcP	**PcP**	**01 24 35.4**	**+1.2**
	comp=Z,7.3nm,0.7s,baz=35,slow=3.4,SNR=2.8						
ASAR				S	**S**	**01 25 41.2**	**-3.7**
	comp=Z,8.0nm,0.8s,baz=48,slow=14,SNR=4.0						
ASAR				ScP	**ScP**	**01 27 43.2**	**+0.7**
	comp=Z,6.3nm,0.8s,baz=55,slow=2.8,SNR=7.0						
MSVF	**Nonsavu**	**27.80**	**123**	P	**P**	**01 21 28.6**	**+1.0**
MSVF				pmax	pmax		
	comp=Z,52nm,1.5s						
MSVF	**Nonsavu**	**27.80**	**123**	P	**P**	**01 21 28.6**	**+1.0**
SOEI	**Soe**	**29.88**	**256**	P	**P**	**01 21 46.3**	**+0.3**
	comp=Z,115nm,1.4s						
SOEI	**Soe**	**29.88**	**256**	P	**P**	**01 21 47.5**	**+1.5**
SOEI				IAmb	IAmb	01 22 06.1	
	comp=Z,84nm,0.8s						
KMSI	**Cibinong**	**29.95**	**277**	P	**P**	**01 21 47.6**	**+1.1**
	comp=Z,387nm,0.9s						
STKA	**Stephens Creek**	**30.52**	**201**	P	**P**	**01 21 51.4**	**+0.1**
	comp=Z,18nm,0.7s,baz=9.0,slow=8.6,SNR=56						
STKA				ScP	**ScP**	**01 27 52.9**	**+1.8**
	comp=Z,5.8nm,0.8s,baz=15,slow=6.1,SNR=3.2						
STKA	**Stephens Creek**	**30.52**	**201**	P	**P**	**01 21 51.2**	**-0.1**
BATI	**Baumata**	**30.55**	**256**	P	**P**	**01 21 52.4**	**+0.6**
	comp=Z,55nm,0.4s,baz=90,slow=7.7,SNR=8.2						
BATI	**Baumata**	**30.55**	**256**	P	**P**	**01 21 52.5**	**+0.7**
	comp=Z,1μmcomp=Z,70nm,1.2s						
LUWI	**Luwuk**	**30.98**	**274**	P	**P**	**01 21 56.5**	**+1.0**
	comp=Z,5μmcomp=Z,554nm,0.8s						
LUWI	**Luwuk**	**30.98**	**274**	P	**P**	**01 21 56.5**	**+1.0**
BBSI	**Bau Bau**	**31.09**	**265**	P	**P**	**01 21 58.7**	**+2.2**
	comp=Z,299nmcomp=Z,40nm,0.9s						
FITZ	**Fitzroy Crossi**	**31.11**	**240**	P	**P**	**01 21 55.7**	**-0.8**
	comp=Z,101nm,0.7s,baz=57,slow=7.2,SNR=297						
FITZ				ScP	**ScP**	**01 27 53.6**	**+0.3**
	comp=Z,16nm,0.9s,baz=27,slow=2.3,SNR=3.2						
FITZ	**Fitzroy Crossi**	**31.11**	**240**	P	**P**	**01 21 54.9**	**-1.6**
FITZ				IAmb	IAmb	01 21 56.4	
	comp=Z,131nm,1.1s						
MMRI	**Maumere**	**31.69**	**259**	P	**P**	**01 21 59.7**	**-2.0**
MRSI	**Marisa**	**31.96**	**276**	P	**P**	**01 22 03.9**	**-0.1**
	comp=Z,1μmcomp=Z,99nm,0.7s						
CAN	**Canberra**	**32.05**	**187**	P	**P**	**01 22 06.0**	**+1.4**
CAN				pmax	pmax		
	comp=Z,43nm,0.6s						
CAN	**Canberra**	**32.05**	**187**	P	**P**	**01 22 06.0**	**+1.4**
CAN				IAmb	IAmb	01 22 07.0	
	comp=Z,43nm,0.6s						
APSI	**Ampana**	**32.11**	**274**	P	**P**	**01 22 06.1**	**+0.8**
	comp=Z,2μmcomp=Z,226nm,1.0s						
EDFI	**Ende, Flores**	**32.24**	**259**	P	**P**	**01 22 05.2**	**-1.4**
	comp=Z,1μmcomp=Z,131nm,0.9s						
BNSI	**Bone**	**33.52**	**267**	P	**P**	**01 22 18.3**	**+0.9**
	comp=Z,2μmcomp=Z,194nm,1.0s						
BKSI	**Bulukumba**	**33.52**	**266**	P	**P**	**01 22 17.3**	**-0.1**
	comp=Z,592nmcomp=Z,70nm,1.0s						
BASI	**Baing, Sumba**	**33.54**	**257**	P	**P**	**01 22 17.4**	**-0.2**
	comp=Z,285nm,1.0s						
BBOO	**Buckleboo**	**33.59**	**207**	P	**P**	**01 22 17.7**	**-0.1**
WSI	**Waingapu**	**33.73**	**258**	P	**P**	**01 22 20.2**	**+1.0**
	comp=Z,23μmcomp=Z,1μm,0.7s						
TTSI	**Tana Toraja**	**33.81**	**270**	P	**P**	**01 22 21.3**	**+1.3**
	comp=Z,58nm,0.9s						
SPSI	**Sidrap Palu**	**33.85**	**268**	P	**P**	**01 22 20.7**	**+0.4**
	comp=Z,924nmcomp=Z,97nm,1.1s						
KAPI	**Kappang**	**33.88**	**266**	P	**P**	**01 22 21.1**	**+0.6**
	comp=Z,57nm,0.5s,baz=85,slow=5.7,SNR=23						
KAPI	**Kappang**	**33.88**	**266**	P	**P**	**01 22 21.0**	**+0.5**
KAPI				IAmb	IAmb	01 22 22.0	
	comp=Z,83nm,0.7s						
MPSI	**Mapaga**	**33.98**	**276**	P	**P**	**01 22 20.9**	**-0.4**
	comp=Z,3μmcomp=Z,318nm,0.8s						
WBSI	**Waikabubak, Su**	**34.61**	**258**	P	**P**	**01 22 26.2**	**-0.6**
	comp=Z,3μmcomp=Z,278nm,0.8s						
TOO	**Toolangi**	**34.83**	**191**	P	**P**	**01 22 27.8**	**-0.5**
TOO				pmax	pmax		
	comp=Z,23nm,0.8s						
TOO	**Toolangi**	**34.83**	**191**	P	**P**	**01 22 27.8**	**-0.5**
PLAI	**Plampang**	**36.09**	**260**	P	**P**	**01 22 37.4**	**-1.9**
	comp=Z,2μmcomp=Z,259nm,0.6s						
LQP	**Lukban**	**36.32**	**299**	*eP*	**P**	**01 22 42.2**	**+0.8**
SMKI	**Samarinda**	**36.57**	**274**	P	**P**	**01 22 45.4**	**+2.1**
	comp=Z,252nm,1.0s						
TGY	**Tagaytay City**	**36.84**	**299**	P	**P**	**01 22 46.5**	**+0.9**
	comp=Z,134nm,0.3s,baz=263,slow=3.1,SNR=7.9						
KBKI	**Kotabaru**	**37.45**	**269**	P	**P**	**01 22 51.3**	**+0.6**
	comp=Z,2μmcomp=Z,130nm,0.6s						
PSA00	**Pilbara Seismi**	**37.50**	**238**	IAmb	IAmb	01 22 50.5	
	comp=Z,58nm,0.7s						
KKM	**Kota Kinabalu**	**38.58**	**284**	P	**P**	**01 23 00.4**	**+0.2**
KKM				IAmb	IAmb	01 23 03.2	
	comp=Z,43nm,0.8s						
JOW	**Kunigami**	**38.81**	**322**	P	**P**	**01 23 03.2**	**+1.5**
	comp=Z,12nm,0.5s,baz=64,slow=13,SNR=21						
JOW	**Kunigami**	**38.81**	**322**	P	**P**	**01 23 01.3**	**-0.4**
JOW				IAmb	IAmb	01 23 04.2	
	comp=Z,88nm,0.9s						
JAGI	**Jajag, Banyuwa**	**39.62**	**261**	P	**P**	**01 23 06.9**	**-1.7**
	comp=Z,120nm,1.1s						
JAGI	**Jajag, Banyuwa**	**39.62**	**261**	IAmb	IAmb	01 23 07.3	
	comp=Z,114nm,1.0s						
TAU	**Tasmania Unive**	**39.74**	**187**	P	**P**	**01 23 11.0**	**+1.9**
TAU				pmax	pmax		
	comp=Z,142nm,1.6s						
TAU	**Tasmania Unive**	**39.74**	**187**	P	**P**	**01 23 11.0**	**+1.9**
TAU				IAmb	IAmb	01 23 12.2	
	comp=Z,142nm,1.6s						
YOJ	**Yonaguni jima**	**40.70**	**315**	P	**P**	**01 23 15.9**	**-1.3**
YOJ				pmax	pmax		
	comp=Z,173nm,0.7s						
YOJ	**Yonaguni jima**	**40.70**	**315**	P	**P**	**01 23 15.9**	**-1.3**
TWG	**Pinlang**	**41.15**	**311**	IAmb	IAmb	01 23 30.9	
	comp=Z,96nm,0.6s						
TPUB	**Ta-pu**	**41.75**	**311**	P	**P**	**01 23 25.7**	**0.0**
SSLB	**Suanglung**	**41.79**	**312**	P	**P**	**01 23 25.8**	**-0.2**
SSLB				IAmb	IAmb	01 23 28.0	
	comp=Z,58nm,0.8s						
THZ	**Tophouse**	**41.90**	**158**	P	**P**	**01 23 27.4**	**+0.8**
PBKI	**Pangkalan Bun**	**41.96**	**270**	P	**P**	**01 23 29.4**	**+1.9**
	comp=Z,681nm,0.9s						
TUWZ	**Tuamasina**	**42.00**	**157**	P	**P**	**01 23 27.8**	**+0.4**
YHNB	**Yeheng**	**42.01**	**313**	IAmb	IAmb	01 23 31.3	
	comp=Z,103nm,0.9s						
TATO	**Taipei**	**42.11**	**314**	P	**P**	**01 23 26.6**	**-1.8**
TATO				IAmb	IAmb	01 23 30.2	
	comp=Z,104nm,0.9s						
JNU	**Nakatsue**	**42.26**	**331**	P	**P**	**01 23 30.1**	**+0.4**
	comp=Z,111nm,0.8s,baz=141,slow=6.5,

KUR	**Kuril'sk**	**48.70**	**355**	*e*P		**P**		**01 24 19.4**	**0.0**
KUR				*e*				01 26 14.6	
KUR				S		**S**		**01 30 52.3**	**-3.2**
KUR				pmax		pmax			
	comp=Z,301nm,3.5s								
KASI	**Kota Agung**	**49.08**	**266**	P		**P**		**01 24 21.0**	**-1.8**
	comp=Z,2μmcomp=Z,177nm,1.0s								
TPRI	**Tanjung Pinang**	**49.32**	**274**	P		**P**		**01 24 25.2**	**+0.5**
LWLI	**Liwa**	**49.51**	**266**	P		**P**		**01 24 25.7**	**-0.5**
	comp=Z,12μmcomp=Z,342nm,0.7s								
LHSI	**Lahat**	**50.06**	**268**	P		**P**		**01 24 30.2**	**0.0**
	comp=Z,87nm,0.9s								
WHN	**Wuhan**	**50.49**	**315**	⇑P		**P**		**01 24 34.3**	**+1.3**
WHN				S		**S**		**01 31 21.0**	**+0.4**
TEY	**Ternei**	**50.58**	**344**	*e*P		**P**		**01 24 31.2**	**-2.2**
YSS	**Yuzh-Sakhalins**	**51.06**	**350**	*e*P		**P**		**01 24 37.9**	**+0.9**
YSS				*e*				01 25 50.0	
YSS				*e*				01 26 46.7	
YSS				*e*S		**S**		**01 31 25.4**	**-2.5**
YSS				pmax		pmax			
	comp=Z,20nm,0.8s								
YSS				MLR		MLR			
	comp=Z,100nm,17.0s								
USRK	**Ussuriysk Ar.**	**51.23**	**340**	P		**P**		**01 24 39.2**	**+1.0**
	comp=Z,17nm,0.7s,baz=173,slow=8.0,SNR=44								
USRK				PcP		**PcP**		**01 25 49.9**	**+1.7**
	comp=Z,2.2nm,0.5s,baz=172,slow=4.1,SNR=2.1								
MASI	**Maura Aman, Be**	**51.36**	**269**	P		**P**		**01 24 40.1**	**+0.3**
	comp=Z,320nm,0.9s								
RGRI	**Rengat**	**51.41**	**272**	P		P		01 24 51.9	+12
TIA	**Tai'an**	**52.14**	**322**	P		**P**		**01 24 45.5**	**+0.4**
TIA				pmax		pmax			
	comp=Z,70nm,0.6s								
KRJI	**Kerinci**	**52.18**	**270**	P		**P**		**01 24 45.9**	**0.0**
	comp=Z,298nm,0.7s								
SDSI	**Sungai Dareh**	**52.27**	**271**	P		**P**		**01 24 46.2**	**-0.3**
	comp=Z,2μmcomp=Z,182nm,0.8s								
MDJ	**Mudanjiang**	**52.45**	**338**	P		**P**		**01 24 48.0**	**+0.8**
MDJ				PP		**PP**		**01 26 48.0**	**-2.1**
MDJ				ScP		**ScP**		**01 29 16.2**	**-1.0**
MDJ				PcS		**PcS**		**01 29 52.2**	**+0.6**
MDJ				S		**S**		**01 31 47.9**	**+1.2**
MDJ				ScS		**ScS**		**01 34 00.2**	**-0.9**
MDJ				pmax		pmax			
	comp=Z,28nm,0.9s								
MDJ				pmax		pmax			
	comp=Z,130nm,3.2s								
MDJ	**Mudanjiang**	**52.45**	**338**	IAmb		IAmb		01 24 49.1	
	comp=Z,96nm,1.8s								
IPM	**Ipoh**	**53.20**	**278**	IAmb		IAmb		01 24 54.2	
	comp=Z,40nm,0.8s								
PDSI	**Padang**	**53.24**	**271**	P		**P**		**01 24 52.2**	**-1.3**
	comp=Z,4μmcomp=Z,84nm,0.6s								
CN2	**Changchun**	**53.41**	**335**	*e*P		**P**		**01 24 53.7**	**-0.5**
CN2				*e*pP		pwP		01 26 07.5	-0.8
CN2				*e*PP		**PP**		**01 27 00.5**	**+1.7**
CN2				*e*S		**S**		**01 31 57.4**	**-2.3**
CN2				ScS		**ScS**		**01 34 03.5**	**-4.5**
CN2				pmax		pmax			
	comp=Z,40nm,1.0s								
CN2				pmax		pmax			
	comp=Z,100nm,8.0s								
ENH	**Enshi**	**53.88**	**312**	IAmb		IAmb		01 25 00.1	
	comp=Z,104nm,0.9s								
MNSI	**Mandailing Nat**	**54.24**	**273**	P		**P**		**01 25 00.3**	**-0.4**
	comp=Z,145nm,0.8s								
GYA	**Guiyang**	**54.27**	**306**	P		**P**		**01 25 02.8**	**+1.9**
GYA				S		**S**		**01 32 14.3**	**+2.2**
GYA				sS		sS		01 34 18.4	+1.1
GYA				SS		**SS**		**01 36 04.3**	**+4.4**
GYA				pmax		pmax			
	comp=Z,64nm,0.7s								
GYA				pmax		pmax			
	comp=Z,83nm,3.1s								
SISI	**Saibi**	**54.58**	**271**	P		**P**		**01 25 05.0**	**+1.9**
	comp=Z,87nm,0.5s								
BJT	**Baijiatuan**	**55.23**	**325**	IAmb		IAmb		01 25 09.5	
	comp=Z,25nm,0.6s								
BJI	**Beijing**	**55.24**	**325**	P		**P**		**01 25 07.8**	**+0.5**
BJI				S		**S**		**01 32 22.6**	**-1.6**
BJI				pmax		pmax			
	comp=Z,26nm,0.7s								
BJI				pmax		pmax			
	comp=Z,88nm,3.6s								
GRNR	**Gornyy**	**55.96**	**347**	⇑*i*P		**P**		**01 25 13.3**	**+1.1**
GRNR				pmax		pmax			
	comp=Z,10.0nm,1.1s								
GRNR				MLR		MLR			
	comp=N,60nm,16.0s								
GRNR				MLR		MLR			
	comp=Z,40nm,11.0s								
XAN	**Xi'an**	**56.24**	**315**	P		**P**		**01 25 15.1**	**+0.5**
XAN				S		**S**		**01 32 34.1**	**-3.6**
XAN				ScS		**ScS**		**01 34 26.8**	**-2.1**
XAN				pmax		pmax			
	comp=Z,91nm,0.6s								
XAN				pmax		pmax			
	comp=Z,130nm,4.3s								
XAN				LR		LR			
	comp=Z,110nm,17.4s								
XAN				LR		LR			
	comp=Z,100nm,17.3s								
XAN	**Xi'an**	**56.24**	**315**	IAmb		IAmb		01 25 15.9	
	comp=Z,56nm,0.7s								
GSI	**Gunungsitoli**	**56.28**	**274**	P		**P**		**01 25 14.7**	**-0.5**
	comp=Z,513nm,1.3s								
KCSI	**Kotacane, Aceh**	**56.30**	**276**	P		**P**		**01 25 14.2**	**-1.1**
PEA0B	**Petropavlovsk-**	**56.41**	**3**	P		**P**		**01 25 16.7**	**+1.4**
PEA0B	**Petropavlovsk-**	**56.41**	**3**	P		**P**		**01 25 16.7**	**+1.4**
PETK	**Petropavlovsk-**	**56.41**	**3**	P		**P**		**01 25 17.1**	**+1.8**
	comp=Z,19nm,0.7s,baz=178,slow=9.6,SNR=29								
PETK				pP		**pwP**		**01 26 28.8**	**-2.2**
	comp=Z,11nm,0.9s,baz=156,slow=7.6,SNR=4.0								
KMI	**Kunming**	**56.96**	**303**	P		**P**		**01 25 22.7**	**+2.7**
KMI				PP		**PP**		**01 27 35.0**	**+4.1**
KMI				S		**S**		**01 32 49.7**	**+2.0**
KMI				SS		**SS**		**01 36 39.9**	**-2.5**
KMI				pmax		pmax			
	comp=Z,64nm,0.9s								
KMI				pmax		pmax			
	comp=Z,66nm,4.2s								
KMI				LR		LR			
	comp=Z,250nm,20.9s								
KMI				LR		LR			
	comp=Z,160nm,15.9s								
KMI				LR		LR			
	comp=Z,180nm,21.3s								
KMI	**Kunming**	**56.96**	**303**	IAmb		IAmb		01 25 23.7	
	comp=Z,49nm,0.8s								
MLSI	**Meulaboh, Aceh**	**57.74**	**277**	P		**P**		**01 25 25.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**58.10**	**294**	P		**P**		**01 25 29.6**	**+1.8**
	comp=Z,16nm,0.8s,baz=108,slow=5.1,SNR=54								
CHTO	**Chiang Mai**	**58.20**	**294**	P		**P**		**01 25 28.6**	**+0.2**
CHTO				pmax		pmax			
	comp=Z,22nm,1.1s								
CHTO	**Chiang Mai**	**58.20**	**294**	P		**P**		**01 25 28.6**	**+0.2**
HHC	**Hu-ho-hao-te**	**58.45**	**323**	*e*P		**P**		**01 25 30.9**	**+1.1**
HHC				S		**S**		**01 33 05.6**	**-0.5**
HHC				ScS		**ScS**		**01 34 45.1**	**+0.1**
HHC				pmax		pmax			
	comp=Z,19nm,0.8s								
BTO	**Baotou**	**59.23**	**322**	*e*P		**P**		**01 25 36.7**	**+1.5**
HIA	**Hailar**	**60.14**	**335**	*i*P		**P**		**01 25 40.1**	**-0.9**
HIA				pmax		pmax			
	comp=Z,29nm,1.1s								
LZH	**Lanzhou**	**60.87**	**315**	*e*P		**P**		**01 25 47.6**	**+1.3**
LZH				S		**S**		**01 33 35.6**	**-1.5**
LZH				pmax		pmax			
	comp=Z,99nm,1.4s								
LZH				pmax		pmax			
	comp=Z,170nm,5.4s								
ZEA	**Zeya**	**61.08**	**342**	*e*P		**P**		**01 25 48.4**	**+1.2**
ZEA				pmax		pmax			
	comp=N,47nm,1.0s								
ZEA				pmax		pmax			
	comp=Z,64nm,1.0s								
MA2	**Magadan**	**62.83**	**358**	P		**P**		**01 25 59.7**	**+1.1**
	comp=Z,28nm,0.7s,baz=167,slow=7.9,SNR=7.4								
MA2				pP		**pwP**		**01 27 14.7**	**-0.4**
	comp=Z,30nm,0.8s,baz=166,slow=8.3,SNR=6.2								
MA2	**Magadan**	**62.83**	**358**	*ce*P		**P**		**01 25 59.2**	**+0.6**
MA2				pmax		pmax			
	comp=Z,32nm,0.8s								
MA2	**Magadan**	**62.83**	**358**	P		**P**		**01 25 58.9**	**+0.3**
MA2				IAmb		IAmb		01 27 19.1	
	comp=Z,42nm,0.9s								
KOHI	**KOHIMA**	**64.50**	**300**	*e*P		**P**		**01 26 10.6**	**+0.3**
KOHI				IAmb		IAmb		01 26 12.6	
	comp=Z,26nm,0.8s								
GTA	**Gaotai**	**65.25**	**316**	⇑P		**P**		**01 26 16.5**	**+1.7**
GTA				pP		pwP		01 27 32.0	-0.5
GTA				sP		sP		01 28 08.8	+5.1
GTA				S		**S**		**01 34 31.4**	**+0.5**
GTA				sS		sS		01 36 45.6	+4.6
GTA				SS		**SS**		**01 38 55.1**	**+3.9**
GTA				pmax		pmax			
	comp=Z,42nm,0.8s								
GTA				pmax		pmax			
	comp=Z,88nm,7.3s								
GTA				LR		LR			
	comp=Z,51nm,16.2s								
GTA				LR		LR			
	comp=Z,100nm,18.1s								
GTA				LR		LR			
	comp=Z,45nm,17.8s								
ULN	**Ulaanbaatar**	**65.30**	**327**	*ce*P		**P**		**01 26 16.1**	**+1.1**
ULN				pmax		pmax			
	comp=Z,56nm,0.9s								
ULN	**Ulaanbaatar**	**65.30**	**327**	P		**P**		**01 26 15.2**	**+0.2**
SONM	**Songino Array**	**65.63**	**327**	P		**P**		**01 26 18.4**	**+1.3**
	comp=Z,31nm,0.7s,baz=146,slow=5.9,SNR=154								
SONM				PcP		**PcP**		**01 26 46.5**	**+1.0**
	comp=Z,4.8nm,0.6s,baz=150,slow=4.7,SNR=4.6								
SEY	**Seymchan**	**66.17**	**359**	*i*P		**P**		**01 26 19.9**	**0.0**
SHL	**Shillong**	**66.38**	**300**	*e*P		**P**		**01 26 22.8**	**+0.5**
SHL				IAmb		IAmb		01 26 25.1	
	comp=Z,20nm,0.8s								
SHL	**Shillong**	**66.38**	**300**	P		**P**		**01 26 23.0**	**+0.7**
SHL				pmax		pmax			
	comp=Z,41nm,0.6s								
SHL	**Shillong**	**66.38**	**300**	P		**P**		**01 26 23.0**	**+0.7**
YAK	**Yakutsk**	**67.80**	**348**	*e*P		**P**		**01 26 31.0**	**+0.9**
YAK				*e*				01 26 53.2	
YAK				*e*S		**S**		**01 35 01.9**	**+1.8**
YAK				*e*				01 35 50.2	
YAK				pmax		pmax			
	comp=Z,57nm,1.1s								
YAK				pmax		pmax			
	comp=E,9.0nm,1.1s								
YAK				pmax		pmax			
	comp=N,28nm,1.2s								
YAK				smax		smax			
	comp=N,227nm,3.5s								
YAK				smax		smax			
	comp=E,100nm,3.1s								
YAK	**Yakutsk**	**67.80**	**348**	P		**P**		**01 26 30.0**	**-0.1**
LSA	**Lhasa**	**68.19**	**304**	IAmb		IAmb		01 26 36.9	
	comp=Z,20nm,0.7s								
ZAK	**Zakamensk**	**68.78**	**328**	*e*P		**P**		**01 26 37.2**	**+0.6**
ZAK				pmax		pmax			
	comp=Z,43nm,1.0s								
BOD	**Bodaibo**	**68.82**	**339**	*e*P		**P**		**01 26 37.4**	**+0.9**
BOD				pmax		pmax			
	comp=Z,29nm,0.9s								
TLY	**Talaya**	**69.33**	**329**	*e*P		**P**		**01 26 41.4**	**+1.6**
TLY				*e*S		**S**		**01 35 15.0**	**-3.6**
TLY				*e*				01 36 03.8	
TLY				pmax		pmax			
	comp=Z,60nm,1.0s								
TLY	**Talaya**	**69.33**	**329**	P		**P**		**01 26 40.4**	**+0.5**
TLY				IAmb		IAmb		01 26 42.1	
	comp=Z,23nm,1.0s								
CASY	**Casey**	**69.60**	**197**	P		**P**		**01 26 41.3**	**+0.2**
CASY				IAmb		IAmb		01 26 42.7	
	comp=Z,55nm,1.2s								
TAPN	**Taplejung**	**70.46**	**300**	*e*P		**P**		**01 26 48.8**	**+1.3**
	comp=Z,62nm,0.7s								
ODAN	**Odare**	**70.61**	**300**	*e*P		**P**		**01 26 49.7**	**+1.3**
	comp=Z,92nm,0.7s								
MOY	**Mondy**	**70.69**	**328**	*e*P		**P**		**01 26 49.6**	**+1.4**
MOY				pmax		pmax			
	comp=Z,40nm,1.4s								
BOK	**Bokaro**	**71.23**	**296**	*e*P		**P**		**01 26 53.3**	**+1.5**
BOK				IAmb		IAmb		01 26 55.2	
	comp=Z,4.8nm,0.7s								
RAMN	**Ramite**	**71.32**	**300**	*e*P		**P**		**01 26 53.6**	**+1.0**
	comp=Z,13nm,0.4s								
BILL	**Bilibino**	**71.83**	**5**	⇑*i*P		**P**		**01 26 55.5**	**+1.1**
BILL				*e**PP		**pwP**		**01 28 12.5**	**-0.7**
BILL				*e*				01 29 35.1	
BILL				pmax		pmax			
	comp=Z,22nm,1.0s								
BILL	**Bilibino**	**71.83**	**5**	P		**P**		**01 26 55.6**	**+1.1**
BILL				IAmb		IAmb		01 28 17.4	
	comp=Z,19nm,0.8s								
JIRN	**Jiri**	**71.84**	**300**	*e*P		**P**		**01 26 57.1**	**+1.3**
	comp=Z,44nm,0.5s								
GUN	**Gumba**	**72.17**	**301**	*e*P		**P**		**01 26 58.9**	**+1.2**
PKI	**Pulchoki**	**72.49**	**300**	*e*P		**P**		**01 27 00.4**	**+0.8**
PKIN	**Phulchoki**	**72.51**	**300**	*e*P		**P**		**01 27 00.4**	**+0.8**
	comp=Z,34nm,0.5s								
KKN	**Kakani**	**72.66**	**300**	*e*P		**P**		**01 27 01.9**	**+1.5**
DMN	**Daman**	**72.76**	**300**	*e*P		**P**		**01 27 02.4**	**+1.3**
GKN	**Gorkha**	**73.26**	**300**	*e*P		**P**		**01 27 04.8**	**+0.9**
DANN	**Dangsing**	**74.09**	**301**	*e*P		**P**		**01 27 09.5**	**+0.7**
	comp=Z,73nm,0.7s								
KOLN	**Koldanda**	**74.10**	**300**	*e*P		**P**		**01 27 09.6**	**+0.8**
	comp=Z,117nm,0.9s								
VNDA	**Vanda**	**74.19**	**178**	P		**P**		**01 27 09.4**	**+1.4**
	comp=Z,26nm,0.8s,baz=333,slow=6.3,SNR=85								
VNDA				pP		**pwP**		**01 28 25.9**	**-2.6**
	comp=Z,3.0nm,0.6s,baz=353,slow=6.7,SNR=2.2								
VNDA	**Vanda**	**74.19**	**178**	P		**P**		**01 27 09.2**	**+1.2**
VNDA				IAmb		IAmb		01 27 10.4	
	comp=Z,31nm,0.9s								
KDAK	**Kodiak Island**	**74.54**	**27**	P		**P**		**01 27 11.5**	**+1.2**
	comp=Z,6.9nm,0.8s,baz=266,slow=7.9,SNR=4.4								
KDAK				pP		**pwP**		**01 28 28.6**	**-1.0**
	comp=Z,11nm,0.9s,baz=184,slow=6.0,SNR=3.6								
KDAK	**Kodiak Island**	**74.54**	**27**	P		**P**		**01 27 11.8**	**+1.5**
PYUN	**Piuthan**	**74.70**	**300**	*e*P		**P**		**01 27 13.0**	**+0.8**
WMQ	**Urumqi**	**75.33**	**317**	*e*P		**P**		**01 27 16.2**	**+0.9**
WMQ				pmax		pmax			
	comp=Z,27nm,1.5s								
WMQ				pmax		pmax			
	comp=Z,110nm,5.1s								
WMQ				LR		LR			
	comp=Z,140nm,19.3s								
WMQ				LR		LR			
	comp=Z,160nm,18.1s								
WMQ				LR		LR			
	comp=Z,220nm,24.9s								
TTA	**Tatalina**	**76.16**	**21**	P		**P**		**01 27 20.9**	**+1.4**
TTA				pP		**pwP**		**01 28 37.8**	**-1.7**
TTA				IAmb		IAmb		01 28 43.4	
	comp=Z,27nm,1.3s								
TIXI	**Tiksi**	**76.64**	**352**	*ce*P		**P**		**01 27 22.3**	**+0.4**
TIXI				pmax		pmax			
	comp=Z,13nm,1.3s								
HYB	**Hyderabad**	**76.88**	**289**	*i*P		**P**		**01 27 24.5**	**+0.1**
RC01	**Rabbit Creek A**	**77.55**	**25**	P		**P**		**01 27 28.3**	**+1.1**
RC01				IAmb		IAmb		01 28 50.5	
	comp=Z,35nm,1.1s								
PMR	**Palmer**	**78.06**	**24**	IAmb		IAmb		01 28 53.2	
	comp=Z,41nm,1.5s								
KNK	**Knik Glacier**	**78.24**	**25**	IAmb		IAmb		01 28 54.9	
	comp=Z,50nm,1.4s								
KTH	**Kantishna Hill**	**78.40**	**22**	IAmb		IAmb		01 28 54.7	
	comp=Z,18nm,1.1s								
FID	**Port Fidalgo**	**78.76**	**26**	IAmb		IAmb		01 28 57.3	
	comp=Z,14nm,0.9s								
BHPL	**Bhopal**	**78.76**	**294**	*e*P		**P**		**01 27 34.3**	**-0.4**
SCM	**Sheep Creek Mo**	**78.92**	**24**	IAmb		IAmb		01 28 58.8	
	comp=Z,31nm,1.0s								
RND	**Reindeer**	**79.11**	**23**	P		**P**		**01 27 36.6**	**+0.9**
RND				*PP		**pwP**		**01 28 54.4**	**-1.8**
RND				pmax		pmax			
	comp=Z,23nm,0.9s								
RND	**Reindeer**	**79.11**	**23**	P		**P**		**01 27 36.6**	**+0.9**
RND				pP		**pwP**		**01 28 54.4**	**-1.8**
RND				IAmb		IAmb		01 28 58.8	
	comp=Z,23nm,0.9s								
MCK	**McKinley**	**79.24**	**22**	P		**P**		**01 27 36.9**	**+0.6**
MCK				*PP		**pwP**		**01 28 54.6**	**-2.3**
MCK				pmax		pmax			
	comp=Z,48nm,1.2s								
MCK	**McKinley**	**79.24**	**22**	P		**P**		**01 27 36.9**	**+0.6**
MCK				pP		**pwP**		**01 28 54.6**	**-2.3**
MLY	**Manley**	**79.27**	**21**	IAmb		IAmb		01 29 00.5	
	comp=Z,33nm,1.2s								
DHY	**Denali Highway**	**79.52**	**23**	IAmb		IAmb		01 29 01.9	
	comp=Z,16nm,1.0s								
MK31	**Makanchi Array**	**79.87**	**319**	P		**P**		**01 27 40.0**	**0.0**
MK31				pmax		pmax			
	comp=Z,21nm,0.9s								
MK31	**Makanchi Array**	**79.87**	**319**	P		**P**		**01 27 40.0**	**0.0**
MK31				IAmb		IAmb		01 27 42.7	
	comp=Z,21nm,0.9s								
MKAR	**Makanchi Array**	**79.87**	**319**	P		**P**		**01 27 41.2**	**+1.1**
	comp=Z,19nm,0.7s,baz=100,slow=6.6,SNR=118								
WRH	**Wood River Hil**	**79.94**	**22**	P		**P**		**01 27 40.5**	**+0.5**
WRH				pP		**pwP**		**01 28 58.8**	**-1.7**
WRH				IAmb		IAmb		01 29 03.2	
	comp=Z,28nm,1.1s								
MAKZ	**Makanchi**	**80.08**	**319**	P		**P**		**01 27 41.5**	**+0.3**
MAKZ				pmax		pmax			
	comp=Z,34nm,0.9s								
MAKZ	**Makanchi**	**80.08**	**319**	P		**P**		**01 27 41.5**	**+0.3**
MAKZ				IAmb		IAmb		01 27 43.2	
	comp=Z,34nm,0.9s								
CCB	**Clear Creek Bu**	**80.14**	**22**	P		**P**		**01 27 41.0**	**0.0**
CCB				pP		**pwP**		**01 28 59.6**	**-2.0**
CCB				IAmb		IAmb		01 29 04.1	
	comp=Z,22nm,1.1s								
GLB	**Gilahina Butte**	**80.23**	**26**	P		**P**		**01 27 42.8**	**+1.2**
GLB						**pwP**		**01 29 00.6**	**-1.6**
GLB				IAmb		IAmb		01 29 06.0	
	comp=Z,32nm,0.9s								
COLA	**College**	**80.24**	**22**	*i*P		**P**		**01 27 40.7**	**-0.8**
COLA				pmax		pmax			
	comp=Z,16nm,1.0s								
COLA	**College**	**80.24**	**22**	P		**P**		**01 27 41.9**	**+0.3**
COLA				IAmb		IAmb		01 29 04.7	
	comp=Z,22nm,0.8s								
SMLA	**Simla**	**80.26**	**302**	*e*P		**P**		**01 27 43.4**	**+1.0**
VRDI	**Verde Repeater**	**80.29**	**26**	pP		**pP**		**01 29 00.0**	**+1.3**
VRDI				IAmb		IAmb		01 29 06.4	
	comp=Z,18nm,0.9s								
ZAA0	**Zalesovo Array**	**80.50**	**326**	IAmb		IAmb		01 27 44.2	
	comp=Z,18nm,0.7s								
ZALV	**Zalesovo Beam**	**80.50**	**326**	P		**P**		**01 27 43.4**	**+0.3**
	comp=Z,18nm,0.5s,baz=114,slow=6.0,SNR=80								
ZALV	**Zalesovo Beam**	**80.50**	**326**	*i*P		**P**		**01 27 43.4**	**+0.3**
ZALV				pmax		pmax			
	comp=Z,17nm,0.5s								
ILAR	**Eielson Array**	**80.54**	**22**	P		**P**		**01 27 43.2**	**0.0**
	comp=Z,5.7nm,0.9s,baz=254,slow=5.2,SNR=36								
ILAR				pP		**pwP**		**01 29 01.9**	**-2.0**
	comp=Z,7.7nm,0.9s,baz=249,slow=5.5,SNR=9.7								
ILAR				PKKPbc		**PKKPbc**		**01 46 21.2**	**-3.8**
	comp=Z,0.5nm,0.7s,baz=5.1,slow=0.4,SNR=5.4								
RIDG	**Independent Ri**	**80.83**	**23**	P		**P**		**01 27 45.6**	**+0.8**
RIDG						**pwP**		**01 29 03.3**	**-2.3**
RIDG				IAmb		IAmb		01 29 08.9	
	comp=Z,53nm,1.6s								
PDGK	**Podgornoye**	**80.91**	**315**	P		**P**		**01 27 46.4**	**+0.6**
BARN	**Barnard Glacie**	**81.01**	**26**	IAmb		IAmb		01 29 10.6	
	comp=Z,14nm,0.9s								
DOT	**Dot Lake**	**81.11**	**24**	IAmb		IAmb		01 29 10.4	
	comp=Z,27nm,1.0s								
DHRM	**DHARAMSHALA**	**81.18**	**303**	*e*P		**P**		**01 27 48.1**	**+0.6**
SCRK	**Sand Creek**	**81.28**	**23**	P		**P**		**01 27 47.8**	**+0.6**
SCRK				pP		**pP**		**01 29 05.6**	**+1.6**
SCRK				IAmb		IAmb		01 29 11.5	
	comp=Z,22nm,1.0s								
KSH	**Kashi**	**82.71**	**310**	*e*P		**P**		**01 27 58.4**	**+3.2**
KSH				S		**S**		**01 37 43.6**	**-0.7**
KSH				pmax		pmax			
	comp=Z,52nm,0.8s								
KSH				pmax		pmax			
	comp=Z,130nm,4.2s								
EGAK	**Eagle**	**82.74**	**23**	P		**P**		**01 27 55.6**	**+1.0**
EGAK						**pwP**		**01 29 14.0**	**-1.7**
EGAK				IAmb		IAmb		01 29 19.7	
	comp=Z,33nm,1.1s								
ULHL	**Ulahol**	**83.02**	**313**	P		**P**		**01 27 58.3**	**+1.5**
	SNR=21								
DAWY	**Dawson**	**83.16**	**24**			**pP**		**01 29 16.3**	**+2.4**
DAWY				IAmb		IAmb		01 29 22.2	
	comp=Z,19nm,1.1s								
KURK	**Kurchatov**	**83.22**	**322**	*ce*P		**P**		**01 27 57.3**	**0.0**
KURK				pmax		pmax			
	comp=Z,30nm,0.9s								
KURK	**Kurchatov**	**83.22**	**322**	P		**P**		**01 27 57.5**	**+0.2**
KURK				IAmb		IAmb		01 27 58.9	
	comp=Z,33nm,0.8s								
KURBB	**Kurchatov Arra**	**83.26**	**322**	P		**P**		**01 27 57.8**	**+0.3**
BESE	**Bessie Mountai**	**83.34**	**30**	IAmb		IAmb		01 29 23.2	
	comp=Z,19nm,1.1s								
TKM2	**Tokmak 2**	**83.61**	**314**	P		**P**		**01 28 01.1**	**+1.3**
	SNR=84								
KZA	**Kyzart**	**83.71**	**313**	P		**P**		**01 28 02.7**	**+2.2**
	SNR=47								
NIL	**Nilore**	**83.93**	**304**	P		**P**		**01 28 00.1**	**-1.2**
NIL				pmax		pmax			
	comp=Z,25nm,0.8s								
NIL	**Nilore**	**83.93**	**304**	P		**P**		**01 28 00.1**	**-1.2**
NIL				IAmb		IAmb		01 28 03.5	
	comp=Z,25nm,0.8s								
KBK	**Karagaybulak**	**84.03**	**313**	P		**P**		**01 28 03.3**	**+1.5**
	SNR=33								
CHMS	**Chumysh**	**84.23**	**314**	P		**P**		**01 28 04.1**	**+1.4**
	SNR=11								
UCH	**Uchtor**	**84.28**	**313**	P		**P**		**01 28 05.2**	**+1.8**
	SNR=39								
AAK	**Ala-Archa**	**84.36**	**313**	P		**P**		**01 28 05.1**	**+1.6**
	SNR=32								
AAK	**Ala-Archa**	**84.36**	**313**	*

comp=Z,0.1nm,0.5s,baz=96,slow=2.3,SNR=6.1
CCUT Cedar City 94.39 53 P **P** **01 28 51.0 +0.1**
U15A North Rim 95.24 54 P **P** **01 28 55.1 +0.3**
U15A IAmb IAmb 01 30 37.0
comp=Z,12nm,1.8s
SYO Syowa Base 95.27 199⇑ *e*P **P** **01 28 52.3 -1.5**
SYO Syowa Base 95.27 199⇓ *e*PcP **PcP** **01 28 54.8 +0.9**
SYO Syowa Base 95.27 199‖ *e*pP pP 01 30 18.8 +6.6
ARU Arti 95.66 326 *d i* P **P** **01 28 54.6 -1.2**
ARU 01 32 50.4
ARU S **SKSac** **01 38 55.7 -3.0**
ARU SP **SP** **01 41 00.3 -3.1**
ARU pmax pmax
comp=Z,8.0nm,1.2s
ARU Arti 95.66 326 P **P** **01 28 53.8 -2.1**
ARU IAmb IAmb 01 28 55.5
comp=Z,7.8nm,1.1s
GEYT Alibeck 96.47 308 P **P** **01 29 00.5 +0.5**
comp=Z,4.0nm,0.8s,baz=184,slow=2.4,SNR=12
GEYT PP **PP** **01 33 01.0 +1.9**
comp=Z,1.6nm,0.6s,baz=131,slow=4.1,SNR=4.2
PDAR Pinedale Array 97.26 47 P Pdif 01 29 04.7 +0.9
comp=Z,1.2nm,0.8s,baz=216,slow=1.3,SNR=8.0
PDAR pP pwP 01 30 24.0 -2.1
comp=Z,1.3nm,0.8s,baz=252,slow=3.0,SNR=3.9
TXAR Lajitas Array 102.69 61 PKKPbc PKKPbc 01 45 26.2 -0.5
comp=Z,0.4nm,0.7s,baz=118,slow=4.9,SNR=6.1
KLMR Klimovskoe 104.57 333 *e*P **Pdif** **01 29 33.3 -2.2**
KLMR *e* 01 33 57.6
KLMR pmax pmax
comp=Z,4.0nm,1.0s
KLMR Klimovskoe 104.57 333 *e*Pdif **Pdif** **01 29 33.3 -2.2**
KLMR AMP 01 29 36.2
comp=Z,4.0nm,1.0s
KLMR *e*PP **PP** **01 33 57.7 -1.2**
ARCES ARCESS Array B 105.80 343 PKKPbc PKKPbc 01 45 14.8 -4.2
comp=Z,1.7nm,0.7s,baz=264,slow=1.7,SNR=8.3
FINES FINESS Array B 110.15 336 Pdiff **Pdif** **01 30 00.0 -0.3**
comp=Z,0.4nm,0.5s,baz=38,slow=5.3,SNR=2.6
FINES PKIKP **PKiKP** **01 34 00.1 +0.3**
comp=Z,0.5nm,0.6s,baz=132,slow=2.1,SNR=2.0
FINES PKKPbc **PKKPbc** **01 45 02.1 -3.0**
comp=Z,0.6nm,0.4s,baz=180,slow=1.1,SNR=6.4
AKASG Malin Array Be 113.88 325 PKiKP **PKiKP** **01 34 07.2 0.0**
comp=Z,2.6nm,0.6s,baz=68,slow=1.8,SNR=11
BRTR Keskin Array B 115.03 313 PKiKP **PKiKP** **01 34 09.9 -0.1**
comp=Z,0.4nm,0.5s,baz=148,slow=4.1,SNR=2.1
BRTR PP **PP** **01 35 14.3 -0.5**
comp=Z,1.6nm,0.9s,baz=106,slow=8.3,SNR=5.3
SORM Soroca 115.50 323 ⇑P **PKiKP** **01 34 10.5 +0.1**
SORM Soroca 115.50 323 ⇑PKIKP **PKiKP** **01 34 10.5 +0.1**
NB2 NORSAR Subarra 115.90 341 PKPdf **PKPdf** **01 34 10.6 -0.3**
comp=Z,0.5nm,0.6s,baz=39,slow=1.9
NOA NORSAR Array B 115.90 341 PKP **PKiKP** **01 34 11.3 +0.4**
comp=Z,0.7nm,0.6s,baz=46,slow=2.0,SNR=8.6
KMBO Kilima Mbogo 116.31 267 PKP **PKiKP** **01 34 14.8 +1.5**
comp=Z,0.6nm,0.4s,baz=61,slow=4.0,SNR=4.4
GHRR 116.98 321 ⇓P **PKiKP** **01 34 20.0 +6.7**
BIZ Bicaz 117.40 322 ⇑P **PKiKP** **01 34 15.2 +1.0**
PLOR Plostina 117.55 321 ⇑P PKiKP 01 34 24.2 +10
PLOR Plostina 117.55 321 ⇑PKIKP PKiKP 01 34 24.2 +10
BUR08 Bucovina Ar. S 117.62 323 PKPdf **PKPdf** **01 34 14.4 -0.3**
BURAR Bucovina Array 117.62 323 ⇓P **PKiKP** **01 34 16.9 +2.2**
BURAR Bucovina Array 117.62 323 ⇓PKIKP **PKiKP** **01 34 16.9 +2.2**
MLR Muntele Rosu 118.15 321 ⇓P **PKiKP** **01 34 17.9 +2.1**
SECR 118.27 320 ⇑P **PKiKP** **01 34 16.2 +0.2**
TRPA Tarpa 118.94 325 ⇑P **PKiKP** **01 34 17.4 +0.3**
ARR Arges 119.03 321 ⇑P **PKiKP** **01 34 19.0 +1.5**
HUMR Humele 119.19 320 ⇑P **PKiKP** **01 34 18.1 +0.4**
DRGR 119.51 323 ⇓P **PKiKP** **01 34 18.8 +0.4**
DRGR 119.51 323 ⇓PKIKP **PKiKP** **01 34 18.8 +0.4**
PLVB Pleven 119.94 319 ⇑P **PKiKP** **01 34 19.8 +0.6**
LANS Liptovska Anna 120.11 327 *e*PKIKP **PKiKP** **01 34 21.6 +2.2**
LANS Liptovska Anna 120.11 327 *e*PKP **PKiKP** **01 34 21.6 +2.2**
GZR Gura Zlata 120.17 322 ⇑P **PKiKP** **01 34 20.7 +1.0**
GZR Gura Zlata 120.17 322 ⇑PKIKP **PKiKP** **01 34 20.7 +1.0**
PLCA Paso Flores 120.34 142 PKP **PKiKP** **01 34 21.0 +0.8**
comp=Z,2.4nm,0.5s,baz=221,slow=1.6,SNR=5.5
PLCA Paso Flores 120.34 142 **PKPdf** **01 34 19.7 -0.5**
SIRR Siria 120.41 323 ⇑P **PKiKP** **01 34 20.6 +0.5**
HERR Herculane 120.64 322 ⇑P **PKiKP** **01 34 20.6 +0.1**
BZS Buzias 120.76 323 ⇑P **PKiKP** **01 34 21.3 +0.5**
BZS Buzias 120.76 323 ⇑PKIKP **PKiKP** **01 34 21.3 +0.5**
VYHS Vyhne 120.82 327 *e*PKIKP **PKiKP** **01 34 21.5 +0.7**
VYHS Vyhne 120.82 327 *e*PKP **PKiKP** **01 34 21.5 +0.7**
KRLC Kraliky 120.98 329 *e*PKP **PKiKP** **01 34 21.8 +0.7**
KRLC Kraliky 120.98 329 *e*PKIKP **PKiKP** **01 34 21.8 +0.7**
MDVR Moldovita 121.12 322 ⇑P **PKiKP** **01 34 22.2 +0.6**
BOSA Boshof 121.16 234 PKP **PKiKP** **01 34 22.5 +0.2**
comp=Z,4.8nm,0.6s,baz=104,slow=1.9,SNR=12
BOSA Boshof 121.16 234 **PKPdf** **01 34 19.7 -2.4**
VTS Vitosha 121.19 319 ⇑P **PKiKP** **01 34 22.3 +0.4**
VTS Vitosha 121.19 319 ⇑PKIKP **PKiKP** **01 34 22.3 +0.4**
JAVC Velka Javorina 121.24 328 *e*PKP **PKiKP** **01 34 23.6 +1.9**
VRAC Vranov 121.55 328 ⇓P PKPdf 01 34 06.3 -16
KRUC Moravsky 121.80 328 *e*PKP **PKiKP** **01 34 23.4 +0.7**
BRG Berggiesshubel 121.89 331 *e*PKP **PKiKP** **01 34 23.3 +0.5**
comp=Z,2.4nm,0.6s
BRG Berggiesshubel 121.89 331 *e*PKIKP **PKiKP** **01 34 23.3 +0.5**
BRG pmax pmax
comp=Z,2.0nm,0.6s
CLL Collm 122.05 332 *i* PKPdf **PKiKP** **01 34 24.3 +1.2**
comp=Z,5.0nm,0.7s
CLL Collm 122.05 332 PKIKP **PKPdf** **01 34 22.4 -0.6**
CLL Collm 122.05 332 PKPdf **PKPdf** **01 34 22.4 -0.6**
CONA Conrad Observa 122.77 328 *i* PKiKP **PKiKP** **01 34 25.4 +0.6**
comp=Z,2.0nm,0.5s
LSZ Lusaka 122.96 249 PKIKP **PKPdf** **01 34 23.9 -2.0**
LSZ Lusaka 122.96 249 PKPdf **PKPdf** **01 34 23.9 -2.0**
KHC Kasperske Hory 123.20 330 *e*PKP **PKiKP** **01 34 25.5 0.0**
KHC Kasperske Hory 123.20 330 PKIKP **PKPdf** **01 34 23.6 -1.7**
KHC Kasperske Hory 123.20 330 PKPdf **PKPdf** **01 34 23.6 -1.7**
GERES GERESS Array B 123.32 329 PKP **PKiKP** **01 34 26.4 +0.6**
comp=Z,2.8nm,0.6s,baz=71,slow=1.5,SNR=32
GERES pPKP **pPKPdf** **01 35 51.0 +2.5**
comp=Z,0.3nm,0.5s,baz=31,slow=4.0,SNR=2.1
ARSA Arzberg 123.36 327 *i* PKiKP **PKiKP** **01 34 26.1 +0.2**
comp=Z,2.8nm,1.2s
MOA Moln 123.66 328 *i* PKiKP **PKPdf** **01 34 26.2 0.0**
comp=Z,2.6nm,0.8s
SOKA Soboth 123.97 327 *i* PKiKP **PKiKP** **01 34 27.1 -0.1**
comp=Z,3.8nm,1.1s
GCIS Gornji Cirnik 124.13 326 *i* PKPdf **PKiKP** **01 34 28.1 +0.7**
OBKA Obir 124.34 327 *i* PKiKP **PKiKP** **01 34 28.0 0.0**
comp=Z,4.1nm,1.6s
VNDS Vrh nad Dolski 124.50 326 *i* PKPdf **PKiKP** **01 34 28.7 +0.5**
KBA Koelnbreinsper 124.63 328 *i* PKiKP **PKiKP** **01 34 29.1 +0.5**
comp=Z,1.4nm,0.5s
LJU Ljubljana 124.64 326 *i* PKPdf **PKiKP** **01 34 29.1 +0.6**
MYKA Terra Mystica 124.76 327 *i* PKiKP **PKiKP** **01 34 28.8 +0.1**
comp=Z,1.7nm,0.4s
CEY Cerknica 124.88 326 *i* PKPdf **PKiKP** **01 34 29.4 +0.5**
VOJS Vojsko 125.00 327 *i* PKPdf **PKiKP** **01 34 29.3 +0.1**
ABTA Abfaltersbach 125.28 328 *i* PKiKP **PKPdf** **01 34 29.5 +0.1**
comp=Z,4.2nm,0.6s
WATA Walderalm 125.39 329 *i* PKiKP **PKiKP** **01 34 30.1 +0.1**
comp=Z,2.9nm,0.6s
WTTA Wattenberg 125.40 329 *i* PKiKP **PKiKP** **01 34 30.2 0.0**
comp=Z,3.4nm,0.6s
MOTA Moosalm 125.62 329 *i* PKiKP **PKiKP** **01 34 30.8 +0.3**
comp=Z,6.3nm,0.7s
SQTA Sankt Quirin 125.65 329 *i* PKiKP **PKiKP** **01 34 30.9 +0.3**
comp=Z,3.6nm,0.7s
RETA Reutte 125.70 330 *i* PKiKP **PKiKP** **01 34 31.2 +0.6**
comp=Z,4.9nm,1.6s
FETA Feichten 126.03 329 *i* PKiKP **PKiKP** **01 34 31.3 -0.1**
comp=Z,2.7nm,0.6s
DAVA Damuels 126.28 330 *i* PKiKP **PKiKP** **01 34 32.3 +0.4**
comp=Z,4.9nm,0.8s
TSUM Tsumeb 131.34 241 PKPdf **PKPdf** **01 34 39.4 -2.4**
ROSC El Rosal 132.10 87 PKP **PKiKP** **01 34 44.5 -0.3**
comp=Z,6.9nm,0.5s,baz=33,slow=13,SNR=4.3
RUSC La Rusia 133.33 85 PKPdf **PKPdf** **01 34 45.6 -0.5**
KEST Kesra 133.96 319 PKP **PKiKP** **01 34 47.9 +0.3**
comp=Z,1.9nm,0.6s,baz=82,slow=2.3,SNR=4.9
SDV Santo Domingo 135.63 81 PKPdf **PKPdf** **01 34 49.0 -1.1**
ESDC Sonseca Array 138.60 334 PKP **PKPdf** **01 34 55.4 +0.8**
comp=Z,0.4nm,0.7s,baz=22,slow=4.1,SNR=2.8
ESDC PP **PP** **01 37 41.2 -7.2**
comp=Z,0.8nm,0.8s,baz=29,slow=6.2,SNR=5.2
TAM Tamanrasset 143.65 305 PKIKP PKPbc 01 35 03.2 +0.4
TAM Tamanrasset 143.65 305 PKPdf PKPbc 01 35 03.2 +0.4
SVB Belmont 144.12 72 **PKPab** **01 35 03.4 -0.3**
MDT Midelt 144.37 328 P **PKPdf** **01 35 06.1 +0.8**
SNR=9.8
CZD Col de Zad 144.43 328 P **PKPdf** **01 35 07.3 +1.8**
SNR=25
TOSP Speyside 145.20 75 **PKPdf** **01 35 06.6 -0.4**
PTGA Pitinga 146.11 96 PKPdf **PKPdf** **01 35 07.7 -0.9**
SPB Sao Paulo 146.18 144 **PKPdf** **01 35 07.2 -1.2**
TZRR Tazzarine 146.46 327 P **PKPab** **01 35 12.0 -0.4**
SNR=10
ZGR Zagora 146.99 326 P **PKiKP** **01 35 14.0 -0.5**
SNR=7.0
OUZM OUZ 147.00 328 P **PKiKP** **01 35 14.0 -0.5**
SNR=11
TOA0 Torodi Ar. Sit 150.68 291 PKPdf **PKPdf** **01 35 14.1 -1.8**
TORD Torodi Ar. Bea 150.68 291 PKPbc **PKPbc** **01 35 21.9 +0.1**
comp=Z,18nm,0.7s,baz=54,slow=1.1,SNR=77
TORD pPKPbc **pPKPbc** **01 36 46.2 +1.9**
comp=Z,1.9nm,0.6s,baz=55,slow=1.9,SNR=2.6
BDFB Brasilia 151.38 132 PKPbc **PKiKP** **01 35 24.4 +0.5**
comp=Z,15nm,0.8s,baz=218,slow=3.9,SNR=20
BDFB pPKPbc **pPKPab** **01 36 49.8 -2.9**
comp=Z,3.3nm,0.9s,baz=236,slow=3.6,SNR=2.6
DBIC Dimbokro 158.38 279 PKPab **PKPab** **01 36 03.4 +0.3**
comp=Z,3.9nm,0.5s,baz=42,slow=4.1,SNR=7.6
DBIC Dimbokro 158.38 279 PKIKP **PKPdf** **01 35 25.4 -1.1**
DBIC 01 36 02.8
DBIC Dimbokro 158.38 279 PKPdf **PKPdf** **01 35 25.4 -1.1**
DBIC **PKPab** **01 36 02.8 -0.3**

IDC 05 01:18:25.4±156.0, 41.41N×155.36E, h0km, Error ellipse: s-maj=341.3km s-min=10.7km az=125.0, North Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11N2	**WAKE ISLAND Hy**	**23.74**	**152**	H	H	01 48 06.9	
	baz=339,slow=76,SNR=2022						
H11N1	**WAKE ISLAND Hy**	**23.75**	**152**	H	H	01 48 07.9	
	baz=339,slow=76,SNR=1680						
H11N3	**WAKE ISLAND Hy**	**23.76**	**152**	H	H	01 48 07.3	
	baz=339,slow=76,SNR=1477						
H11S1	**WAKE ISLAND Hy**	**24.81**	**154**	H	H	01 49 25.0	
	baz=340,slow=76						
H11S3	**WAKE ISLAND Hy**	**24.82**	**154**	H	H	01 49 27.0	
	baz=340,slow=76						
H11S2	**WAKE ISLAND Hy**	**24.82**	**154**	H	H	01 49 27.0	
	baz=340,slow=76						
H03N2	**Juan Fernandez**	**136.76**	**98**	H	H	04 09 27.3	
	baz=300,slow=76,SNR=516						
H03N3	**Juan Fernandez**	**136.77**	**98**	H	H	04 09 28.3	
	baz=300,slow=76,SNR=550						
H03N1	**Juan Fernandez**	**136.78**	**98**	H	H	04 09 28.5	
	baz=300,slow=76,SNR=438						

*BJI **05** 01:21:47.4±0.0, 14.30N×145.93E, h69km, mB4.9/17, mb4.9/28, Ms3.9/7, Ms7 3.6/6*
*NEIC **05** 01:21:50.9±1.5, 14.09N±0.08×145.61E±0.10, h91km±6km, mb4.6/45, Error ellipse: s-maj=15.2km s-min=8.9km az=121.0*
*IDC **05** 01:21:51.1±0.8, 14.15N×145.63E, h86km±6km, mb4.1/24, mb1 4.2/24, mb1mx4.1/42, mbtmp4.4/24, MS3.5/7, Ms1 3.5/7, ms1mx3.1/36, Error ellipse: s-maj=16.6km s-min=12.8km az=109.0*

ISC 05 01:21:51.3±0.5, 13.99N±0.08×145.68E±0.08, h100km, n86, σ1s33/84, mb4.6/49, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.88**	**243**	Pn	**Pn**	**01 22 09.3**	**-1.1**
GUMO				Sn	**Sn**	**01 22 22.8**	**-2.1**
PATS	**Pohnpei**	**14.31**	**119**	Pn	**Pn**	**01 25 08.3**	**-1.1**
SIJI	**Sorong**	**20.54**	**225**	P	Pn	01 26 25.2	+0.2
	6.3nm,0.4s,baz=16,slow=7.4,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**20.66**	**75**	T	T	01 48 21.7	
	baz=260,slow=74						
H11S1	**WAKE ISLAND Hy**	**20.68**	**75**	T	T	01 48 21.6	
	baz=260,slow=74						
H11S2	**WAKE ISLAND Hy**	**20.68**	**75**	T	T	01 48 25.4	
	baz=260						
JOW	**Kunigami**	**20.68**	**311**	P	**P**	**01 26 23.8**	**+0.4**
	3.3nm,0.5s,baz=104,slow=11,SNR=6.1						
JOW	**Kunigami**	**20.68**	**311**	P	**P**	**01 26 21.7**	**-1.7**
JOW				IAmb	IAmb	01 26 24.7	
	comp=Z,24nm,1.0s						
JNU	**Nakatsue**	**23.33**	**327**	P	**P**	**01 26 50.5**	**-0.3**
	comp=Z,13nm,0.7s,baz=191,slow=2.0,SNR=5.4						
JNU	**Nakatsue**	**23.33**	**327**	P	**P**	**01 26 49.9**	**-0.9**
MJAR	**Matsushiro Arr**	**23.43**	**345**	P	**P**	**01 26 50.5**	**-1.2**
	comp=Z,5.2nm,0.6s,baz=157,slow=9.6,SNR=7.1						
MJAR				LR	LR	01 35 14.6	
	comp=Z,92nm,20.5s,baz=190,slow=35						
MAT	**Matsushiro**	**23.43**	**345**	P	**P**	**01 26 47.7**	**-4.0**
YULB	**Yu-li**	**24.88**	**296**	P	**P**	**01 27 03.4**	**-1.6**
HNR	**Honiara**	**27.24**	**148**	LR	LR	01 39 06.8	
	comp=Z,48nm,18.3s,baz=134,slow=38						
KSRS	**Korea Array**	**28.21**	**329**	P	**P**	**01 27 34.5**	**-0.1**
	comp=Z,3.1nm,0.5s,baz=146,slow=9.5,SNR=6.5						
KSRS				pP	**pP**	**01 27 54.0**	**-2.4**
	comp=Z,2.4nm,0.7s,baz=137,slow=11,SNR=2.6						
KSRS				LR	LR	01 36 40.7	
	comp=Z,110nm,21.9s,baz=33,slow=32						
NJ2	**Nanjing**	**30.40**	**311**	*e*P	**P**	**01 27 55.2**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**32.30**	**341**	P	**P**	**01 28 10.2**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=152,slow=8.6,SNR=4.3						
WRA	**Warramunga Arr**	**35.52**	**199**	P	**P**	**01 28 40.2**	**+1.4**
	comp=Z,1.8nm,0.5s,baz=20,slow=9.2,SNR=2.5						
BJI	**Beijing**	**36.63**	**321**	P	**P**	**01 28 48.1**	**+0.1**
BJI				S	**S**	**01 34 27.9**	**+4.2**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BJI				LR	LR		
	comp=Z,80nm,13.3s						
BJI				LR	LR		
	comp=Z,96nm,16.5s						
FITZ	**Fitzroy Crossi**	**37.51**	**212**	P	**P**	**01 28 57.4**	**+1.7**
	comp=Z,6.8nm,0.9s,baz=30,slow=6.7,SNR=13						
FITZ	**Fitzroy Crossi**	**37.51**	**212**	P	**P**	**01 28 57.6**	**+1.9**
GYA	**Guiyang**	**38.50**	**295**	P	**P**	**01 29 06.2**	**+2.0**
GYA				pmax	pmax		
	comp=Z,8.0nm,0.6s						
XAN	**Xi'an**	**38.77**	**307**	P	**P**	**01 29 06.7**	**+0.5**
XAN				pP	pP	01 29 21.0	-7.7
XAN				pmax	pmax		
	comp=Z,13nm,0.8s						
XAN				LR	LR		
	comp=Z,120nm,17.3s						
XAN				LR	LR		
	comp=Z,110nm,16.3s						
ASAR	**Alice Springs**	**39.16**	**197**	P	**P**	**01 29 10.4**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=20,slow=11,SNR=1.4						
ASAR				LR	LR	01 46 52.5	
	comp=Z,48nm,18.5s,baz=312,slow=38						
HHC	**Hu-ho-hao-te**	**39.99**	**319**	*e*P	**P**	**01 29 17.2**	**+0.9**
HHC				pmax	pmax		
	comp=Z,14nm,0.6s						
HHC				pmax	pmax		
	comp=Z,35nm,6.1s						
KMI	**Kunming**	**41.78**	**292**	P	**P**	**01 29 34.5**	**+3.0**
KMI				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KMI				pmax	pmax		
	comp=Z,43nm,3.9s						
LZH	**Lanzhou**	**43.39**	**308**	*e*P	**P**	**01 29 46.3**	**+2.1**
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
CM31	**Chiang Mai Arr**	**45.00**	**282**	P	**P**	**01 29 54.2**	**-2.9**
CMAR	**Chiang Mai Arr**	**45.00**	**282**	P	**P**	**01 29 58.2**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=83,slow=5.8,SNR=4.5						
CMAR				pP	**pP**	**01 30 17.4**	**-3.2**
	comp=Z,1.1nm,0.7s,baz=81,slow=5.6,SNR=1.7						
MA2	**Magadan**	**45.66**	**4**	P	**P**	**01 30 01.5**	**-0.2**
	comp=Z,12nm,0.6s,baz=191,slow=10,SNR=3.9						
MA2	**Magadan**	**45.66**	**4**	P	**P**	**01 30 01.4**	**-0.4**
ULN	**Ulaanbaatar**	**46.51**	**325**	P	**P**	**01 30 07.3**	**-1.4**
ULN				IAmb	IAmb	01 30 10.3	
	comp=Z,4.9nm,0.7s						
SONM	**Songino Array**	**46.86**	**324**	P	**P**	**01 30 12.4**	**+0.9**
	comp=Z,3.0nm,0.7s,baz=142,slow=6.6,SNR=5.2						
BBOO	**Buckleboo**	**47.43**	**191**	P	**P**	**01 30 16.4**	**+0.6**
BBOO				IAmb	IAmb	01 30 20.3	
	comp=Z,13nm,1.1s						
SPIA	**Saint Paul Isl**	**54.46**	**28**	P	**P**	**01 31 08.3**	**+0.1**
BILL	**Bilibino**	**55.64**	**9**	P	**P**	**01 31 15.9**	**-0.6**
BILL				IAmb	IAmb	01 31 18.6	
	comp=Z,9.3nm,1.0s						
WMQ	**Urumqi**	**57.43**	**313**	*e*P	**P**	**01 31 32.8**	**+3.0**
WMQ				pmax	pmax		
	comp=Z,26nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,56nm,5.9s						
TIXI	**Tiksi**	**58.52**	**354**	P	**P**	**01 31 35.6**	**-1.2**
TIXI				IAmb	IAmb	01 31 37.6	
	comp=Z,5.2nm,1.1s						
MK31	**Makanchi Array**	**61.75**	**316**	P	**P**	**01 31 58.8**	**-0.6**
MKAR	**Makanchi Array**	**61.75**	**316**	P	**P**	**01 31 59.7**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=92,slow=8.2,SNR=14						
ZALV	**Zalesovo Beam**	**61.76**	**324**	P	**P**	**01 31 59.2**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=110,slow=7.1,SNR=6.2						
KDAK	**Kodiak Island**	**63.32**	**32**	P	**P**	**01 32 10.6**	**+1.2**
	comp=Z,4.6nm,0.6s,baz=272,slow=5.0,SNR=8.2						
KDAK	**Kodiak Island**	**63.32**	**32**	P	**P**	**01 32 09.9**	**+0.4**
KDAK				IAmb	IAmb	01 32 20.3	
	comp=Z,6.5nm,0.9s						
TTA	**Tatalina**	**63.46**	**26**		**P**	**01 32 11.3**	**+0.9**
CNPM	**China Poot**	**64.49**	**30**	P	**P**	**01 32 17.7**	**+0.5**
KURK	**Kurchatov**	**64.79**	**320**	P	**P**	**01 32 18.9**	**-0.3**
KURK				IAmb	IAmb	01 32 20.2	
	comp=Z,6.8nm,0.9s						
PPLA	**Purkeypile**	**65.08**	**27**		**P**	**01 32 21.7**	**+0.6**
RC01	**Rabbit Creek A**	**65.65**	**29**	P	**P**	**01 32 24.9**	**+0.2**
KTH	**Kantishna Hill**	**65.83**	**26**	P	**P**	**01 32 25.8**	**-0.1**
BPAW	**Bear Paw Mtn.**	**65.98**	**25**		**P**	**01 32 26.8**	**+0.1**
BPAW				IAmb	IAmb	01 32 28.6	
	comp=Z,8.3nm,0.8s						
NRIK	**Noril'sk**	**66.01**	**341**	P	**P**	**01 32 27.1**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=107,slow=8.6,SNR=4.1						
PMR	**Palmer**	**66.06**	**28**	P	**P**	**01 32 26.7**	**-0.5**
PMR				IAmb	IAmb	01 32 28.6	
	comp=Z,7.6nm,0.7s						
TRF	**Thorofare Moun**	**66.07**	**26**		**P**	**01 32 27.3**	**-0.2**
TRF				IAmb	IAmb	01 32 28.3	
	comp=Z,5.8nm,0.6s						
MLY	**Manley**	**66.37**	**25**	P	**P**	**01 32 28.8**	**-0.5**
MLY				IAmb	IAmb	01 32 31.2	
	comp=Z,7.4nm,0.6s						
SML	**Sawmill**	**66.49**	**28**	P	**P**	**01 32 30.8**	**+0.7**
RND	**Reindeer**	**66.68**	**26**		**P**	**01 32 31.1**	**-0.2**
RND				IAmb	IAmb	01 32 32.5	
	comp=Z,6.7nm,0.6s						
DHY	**Denali Highway**	**67.24**	**27**	IAmb	IAmb	01 32 37.3	
	comp=Z,5.2nm,0.7s						
WRH	**Wood River Hil**	**67.29**	**25**		**P**	**01 32 35.0**	**0.0**
CCB	**Clear Creek Bu**	**67.46**	**25**	IAmb	IAmb	01 32 37.4	
	comp=Z,4.3nm,0.5s						
HDA	**Harding Lake**	**67.76**	**26**	P	**P**	**01 32 38.1**	**+0.1**
HDA				IAmb	IAmb	01 32 38.5	
	comp=Z,6.0nm,0.7s						
IL31		**67.87**	**25**	P	**P**	**01 32 38.4**	**-0.2**
ILAR	**Eielson Array**	**67.87**	**25**	P	**P**	**01 32 38.3**	**-0.4**
	comp=Z,6.3nm,0.5s,baz=250,slow=5.8,SNR=77						
RIDG	**Independent Ri**	**68.50**	**27**	P	**P**	**01 32 43.5**	**+0.8**
RIDG				IAmb	IAmb	01 32 45.0	
	comp=Z,7.9nm,0.9s						
DOT	**Dot Lake**	**68.82**	**27**	P	**P**	**01 32 45.2**	**+0.5**
DOT				IAmb	IAmb	01 32 46.3	
	comp=Z,8.8nm,0.6s						
SCRK	**Sand Creek**	**68.92**	**26**		**P**	**01 32 46.1**	**+0.7**
PCA	**Pinnacle**	**70.04**	**31**	P	**P**	**01 32 53.2**	**+0.9**
PCA				IAmb	IAmb	01 32 55.1	
	comp=Z,7.7nm,0.9s						
EGAK	**Eagle**	**70.28**	**26**	P	**P**	**01 32 54.8**	**+1.3**
DAWY	**Dawson**	**70.93**	**27**	P	**P**	**01 32 58.3**	**+0.7**
HYT	**Haines Junctio**	**71.47**	**30**		**P**	**01 33 00.7**	**-0.3**
HYT				IAmb	IAmb	01 33 04.1	
	comp=Z,7.9nm,0.7s						
EPYK	**Eagle Plains**	**72.31**	**24**		**P**	**01 33 06.8**	**+0.9**
INK	**Inuvik**	**73.70**	**22**	P	**P**	**01 33 14.6**	**+0.7**
	comp=Z,5.8nm,0.8s,baz=270,slow=5.1,SNR=14						
INK	**Inuvik**	**73.70**	**22**		**P**	**01 33 14.6**	**+0.7**
INK				IAmb	IAmb	01 33 15.4	
	comp=Z,7.7nm,0.9s						
DLBC	**Dease Lake**	**75.22**	**33**	P	**P**	**01 33 24.5**	**+1.4**
C36M	**Paulatuk**	**77.11**	**21**	P	**P**	**01 33 33.6**	**+0.2**
C36M				IAmb	IAmb	01 33 34.6	
	comp=Z,7.5nm,1.1s						
YBH	**Yreka Blue Hor**	**82.02**	**49**	LR	LR	02 07 18.0	
	comp=Z,15nm,18.2s,baz=242,slow=33						
YKA	**Yellowknife Ar**	**82.14**	**28**	P	**P**	**01 34 01.8**	**+1.0**
	comp=Z,4.1nm,0.7s,baz=283,slow=5.5,SNR=23						
YKA				pP	**pP**	**01 34 25.2**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=280,slow=5.3,SNR=3.1						
NVAR	**Mina Array Bea**	**86.06**	**52**	P	**P**	**01 34 23.4**	**+1.9**
	comp=Z,0.8nm,0.6s,baz=289,slow=4.5,SNR=5.0						
NVAR				pP	**pP**	**01 34 45.4**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=273,slow=6.2,SNR=4.0						
ARCES	**ARCESS Array B**	**86.94**	**342**	P	**P**	**01 34 24.5**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=60,slow=7.4,SNR=4.6						
ARCES				LR	LR	02 19 04.7	
	comp=Z,36nm,18.3s,baz=153,slow=40						
ELK	**Elko**	**87.72**	**49**	P	**P**	**01 34 29.7**	**+0.2**
PDAR	**Pinedale Array**	**91.13**	**45**	P	**P**	**01 34 45.9**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=258,slow=1.8,SNR=2.4						
FINES	**FINESS Array B**	**91.13**	**335**	P	**P**	**01 34 43.5**	**-1.1**
	comp=Z,3.2nm,0.5s,baz=70,slow=5.2,SNR=8.4						
FINES				LR	LR	02 16 32.4	
	comp=Z,56nm,18.7s,baz=58,slow=36						
O20A	**White River Ci**	**92.98**	**48**	P	**P**	**01 34 54.0**	**0.0**
AKASG	**Malin Array Be**	**95.14**	**325**	P	**P**	**

LTVH	**Ltavrtes, Hu**	**1.12**	**126**	*e*Pn	**Pg**	**01 44 42.2**	**-0.1**
LTVH				Pn	**Pg**	**01 44 42.2**	**-0.1**
LTVH				Sn	**Sn**	**01 44 58.8**	**+0.8**
LTVH				*e*Sn	**Sn**	**01 44 58.8**	**+0.8**
BUD	**Budapest**	**1.19**	**242**	⇓*e*Pn	**Pb**	**01 44 42.8**	**-0.7**
BUD				⇓*e*Sn	**Sn**	**01 45 00.2**	**+0.4**
BUD	**Budapest**	**1.19**	**242**	*e*Pn	**Pb**	**01 44 42.8**	**-0.7**
BUD				Pn	**Pb**	**01 44 42.8**	**-0.7**
BUD				Sn	**Sn**	**01 45 00.2**	**+0.4**
BUD				*e*Sn	**Sn**	**01 45 00.2**	**+0.4**
VYHS	**Vyhne**	**1.24**	**292**	*e*Pn	**Pn**	**01 44 43.6**	**-0.8**
VYHS				*e*Sn	**Sb**	**01 45 00.3**	**-0.2**
VYHS	**Vyhne**	**1.24**	**292**	Pn	**Pn**	**01 44 43.6**	**-0.8**
VYHS				*e*Pn	**Pn**	**01 44 43.6**	**-0.8**
VYHS				Sn	**Sb**	**01 45 00.3**	**-0.2**
VYHS				*e*Sn	**Sb**	**01 45 00.3**	**-0.2**
VYHS	**Vyhne**	**1.24**	**292**	*e*PG	**Pn**	**01 44 43.6**	**-0.8**
VYHS				*e*SG	**Sb**	**01 45 00.3**	**-0.2**
TRPA	**Tarpa**	**1.32**	**86**	*e*Pn	**Pn**	**01 44 44.5**	**-0.9**
TRPA				*e*Sn	**Sg**	**01 45 03.2**	**-0.2**
TRPA	**Tarpa**	**1.32**	**86**	⇑P	Pg	01 45 03.1	+17
TRPA	**Tarpa**	**1.32**	**86**	*e*Pn	**Pn**	**01 44 44.5**	**-0.9**
TRPA				Pn	**Pn**	**01 44 44.5**	**-0.9**
TRPA				*e*Sn	**Sg**	**01 45 03.2**	**-0.2**
TRPA				Sn	**Sg**	**01 45 03.2**	**-0.2**
LANS	**Liptovska Anna**	**1.32**	**327**	*e*Pn	**Pg**	**01 44 45.9**	**-0.4**
LANS				*e*Sn	**Sg**	**01 45 03.7**	**+0.2**
LANS	**Liptovska Anna**	**1.32**	**327**	Pg	**Pg**	**01 44 45.9**	**-0.4**
LANS				*e*Pg	**Pg**	**01 44 45.9**	**-0.4**
LANS				Sn	**Sg**	**01 45 03.7**	**+0.2**
LANS				*e*Sn	**Sg**	**01 45 03.7**	**+0.2**
LANS	**Liptovska Anna**	**1.32**	**327**	*e*PG	**Pg**	**01 44 45.9**	**-0.4**
LANS				*e*SG	**Sg**	**01 45 03.7**	**+0.2**
LANS				*e*LG	Lg	01 45 08.4	
KOLS	**Kolonicke sedl**	**1.44**	**51**	*e*Pn	**Pg**	**01 44 47.9**	**-0.5**
KOLS	**Kolonicke sedl**	**1.44**	**51**	Pg	**Pg**	**01 44 47.9**	**-0.5**
KOLS				*e*Pg	**Pg**	**01 44 47.9**	**-0.5**
KOLS	**Kolonicke sedl**	**1.44**	**51**	*e*PG	**Pg**	**01 44 47.9**	**-0.5**
SRO2	**Moca**	**1.50**	**260**	*e*Sn	**Sg**	**01 45 09.7**	**+0.8**
SRO2	**Moca**	**1.50**	**260**	Lg	Lg	01 45 09.7	
SRO2				*e*Lg	Lg	01 45 09.7	
SRO2	**Moca**	**1.50**	**260**	*e*SG	**Sg**	**01 45 09.7**	**+0.8**
SRO2				*e*LG	Lg	01 45 12.0	
SRO	**Srobarova**	**1.54**	**262**	*e*Sn	**Sg**	**01 45 11.2**	**+0.8**
SRO	**Srobarova**	**1.54**	**262**	Lg	Lg	01 45 11.2	
SRO				*e*Lg	Lg	01 45 11.2	
SRO	**Srobarova**	**1.54**	**262**	*e*SG	**Sg**	**01 45 11.2**	**+0.8**
SRO				*e*LG	Lg	01 45 14.2	
AMBH	**Ambrzfalva**	**1.70**	**176**	*e*Sn	**Sg**	**01 45 16.6**	**+1.0**
AMBH	**Ambrzfalva**	**1.70**	**176**	Lg	Lg	01 45 16.6	
AMBH				*e*Lg	Lg	01 45 16.6	
CSKK	**Cskako**	**1.71**	**247**	⇑*e*Pn	**Pn**	**01 44 50.6**	**-0.1**
CSKK				⇑*e*Sn	**Sb**	**01 45 13.8**	**-0.1**
CSKK	**Cskako**	**1.71**	**247**	*e*Pn	**Pn**	**01 44 50.6**	**-0.1**
CSKK				Pn	**Pn**	**01 44 50.6**	**-0.1**
CSKK				*e*Sn	**Sb**	**01 45 13.8**	**-0.1**
CSKK				Sn	**Sb**	**01 45 13.8**	**-0.1**
DRGR		**1.92**	**130**	⇑P	**Pn**	**01 44 52.5**	**-1.2**
DRGR		**1.92**	**130**	Pn	**Pn**	**01 44 52.5**	**-1.2**
SIRR	**Siria**	**1.93**	**157**	⇑P	**Pg**	**01 44 58.9**	**+1.0**
SIRR	**Siria**	**1.93**	**157**	Pg	**Pg**	**01 44 58.9**	**+1.0**
BMR	**Baia Mare**	**2.00**	**100**	⇑P	**Pg**	**01 45 02.1**	**+2.8**
BMR	**Baia Mare**	**2.00**	**100**	Pg	**Pg**	**01 45 02.1**	**+2.8**
JAVC	**Velka Javorina**	**2.10**	**294**	*e*PN	**Pn**	**01 44 57.0**	**+0.9**
JAVC				*e*SN	**Sg**	**01 45 28.8**	**+0.6**
JAVC	**Velka Javorina**	**2.10**	**294**	Pn	**Pn**	**01 44 57.0**	**+0.9**
JAVC				Lg	Lg	01 45 28.8	
TIH	**Tihany**	**2.15**	**239**	*e*Pn	**Pn**	**01 44 56.7**	**-0.1**
TIH				*e*Sn	**Sb**	**01 45 27.8**	**+1.1**
TIH	**Tihany**	**2.15**	**239**	Pn	**Pn**	**01 44 56.7**	**-0.1**
TIH				*e*Pn	**Pn**	**01 44 56.7**	**-0.1**
TIH				*e*Sn	**Sb**	**01 45 27.8**	**+1.1**
TIH				Sn	**Sb**	**01 45 27.8**	**+1.1**
MODS	**Modra-Piesok**	**2.23**	**280**	*e*Sn	**Sg**	**01 45 32.8**	**+0.3**
MODS	**Modra-Piesok**	**2.23**	**280**	Lg	Lg	01 45 32.8	
MODS				*e*Lg	Lg	01 45 32.8	
MODS	**Modra-Piesok**	**2.23**	**280**	*e*SG	**Sg**	**01 45 32.8**	**+0.3**
MODS				*e*LG	Lg	01 45 36.4	
MPLH	**Magyarpolny**	**2.23**	**248**	⇑*e*Pn	**Pn**	**01 44 57.8**	**-0.1**
MPLH				⇑*e*Sn	**Sg**	**01 45 36.8**	**+4.2**
MPLH	**Magyarpolny**	**2.23**	**248**	Pn	**Pn**	**01 44 57.8**	**-0.1**
MPLH				*e*Pn	**Pn**	**01 44 57.8**	**-0.1**
MPLH				*e*Lg	Lg	01 45 36.8	
MPLH				Lg	Lg	01 45 36.8	
MORH	**Mrgy, Hungar**	**2.26**	**216**	⇑*e*Pn	**Pn**	**01 44 56.2**	**-2.1**
MORH				⇑*e*Sn	**Sg**	**01 45 32.7**	**-0.8**
MORH	**Mrgy, Hungar**	**2.26**	**216**	*e*Pn	**Pn**	**01 44 56.2**	**-2.1**
MORH				Pn	**Pn**	**01 44 56.2**	**-2.1**
MORH				*e*Lg	Lg	01 45 32.7	
MORH				Lg	Lg	01 45 32.7	
OKC	**Ostrava-Krasne**	**2.40**	**319**	*e*Pn	**Pg**	**01 45 05.6**	**-1.3**
OKC	**Ostrava-Krasne**	**2.40**	**319**	*e*PG	**Pg**	**01 45 05.6**	**-1.3**
OKC	**Ostrava-Krasne**	**2.40**	**319**	*e*Pg	**Pg**	**01 45 05.6**	**-1.3**
OKC				Pg	**Pg**	**01 45 05.6**	**-1.3**
OKC				Pg	**Pg**	**01 45 05.6**	**-1.3**
VRAC	**Vranov**	**2.92**	**297**	⇑P	Pn	01 45 01.0	-6.4
VRAC	**Vranov**	**2.92**	**297**	Pn	Pn	01 45 01.4	-6.0
GZR	**Gura Zlata**	**3.06**	**150**	⇓P	**Pn**	**01 45 09.1**	**-0.3**
GZR	**Gura Zlata**	**3.06**	**150**	Pn	**Pn**	**01 45 09.8**	**+0.5**
BURAR	**Bucovina Array**	**3.16**	**96**	⇑P	**Pg**	**01 45 21.2**	**-0.2**
BURAR	**Bucovina Array**	**3.16**	**96**	Pg	**Pg**	**01 45 21.2**	**-0.2**
CONA	**Conrad Observa**	**3.17**	**270**	Pn	**Pn**	**01 45 10.2**	**-0.7**
CONA	**Conrad Observa** 0.3nm,0.2s	**3.17**	**270**	*i* Pn	**Pn**	**01 45 10.2**	**-0.7**
CONA	**Conrad Observa**	**3.17**	**270**	Pn	**Pn**	**01 45 10.2**	**-0.7**
CONA				Pb	Pb	01 45 10.2	-7.1
KRLC	**Kraliky**	**3.21**	**311**	*e*Pn	**Pn**	**01 45 11.8**	**+0.3**
KRLC				*e*Sn	**Sn**	**01 45 50.4**	**+0.6**
KRLC	**Kraliky**	**3.21**	**311**	*e*PN	**Pn**	**01 45 11.8**	**+0.3**
KRLC				*e*SN	**Sn**	**01 45 50.4**	**+0.6**
KRLC	**Kraliky**	**3.21**	**311**	Pn	**Pn**	**01 45 11.8**	**+0.3**
KRLC				Pn	**Pn**	**01 45 11.8**	**+0.3**
KRLC				*e*Pn	**Pn**	**01 45 11.8**	**+0.3**
KRLC				Sn	**Sn**	**01 45 50.4**	**+0.6**
KRLC				Sn	**Sn**	**01 45 50.4**	**+0.6**
KRLC				*e*Sn	**Sn**	**01 45 50.4**	**+0.6**
MDVR	**Moldovita**	**3.36**	**166**	⇑P	**Pb**	**01 45 17.7**	**-3.0**
MDVR	**Moldovita**	**3.36**	**166**	Pn	**Pb**	**01 45 17.7**	**-3.0**
HERR	**Herculane**	**3.42**	**157**	⇓P	**Pn**	**01 45 13.3**	**-0.9**
HERR	**Herculane**	**3.42**	**157**	Pn	**Pn**	**01 45 13.3**	**-0.9**
ARSA	**Arzberg**	**3.51**	**259**	Pn	**Pn**	**01 45 15.8**	**+0.3**
ARSA	**Arzberg** 0.8nm,0.3s	**3.51**	**259**	*i* Pn	**Pn**	**01 45 15.8**	**+0.3**
ARSA	**Arzberg**	**3.51**	**259**	Pn	**Pn**	**01 45 15.8**	**+0.3**
ARSA				Pb	Pb	01 45 15.8	-7.2
PTJ	**Puntijarka**	**3.81**	**237**	Sn	**Sn**	**01 46 03.9**	**-0.8**
PTJ	**Puntijarka**	**3.81**	**237**	Sn	**Sn**	**01 46 03.9**	**-0.8**
SOKA	**Soboth**	**4.01**	**252**	Pn	**Pn**	**01 45 24.0**	**+1.6**
SOKA	**Soboth** 0.3nm,0.2s	**4.01**	**252**	*i* Pn	**Pn**	**01 45 24.0**	**+1.6**
SOKA	**Soboth**	**4.01**	**252**	Pn	**Pn**	**01 45 24.0**	**+1.6**
SOKA				Pn	**Pn**	**01 45 24.0**	**+1.6**
OBKA	**Obir**	**4.38**	**252**	Pn	**Pn**	**01 45 28.3**	**+0.7**
OBKA	**Obir** 0.4nm,0.2s	**4.38**	**252**	*i* Pn	**Pn**	**01 45 28.3**	**+0.7**
OBKA	**Obir**	**4.38**	**252**	Pn	**Pn**	**01 45 28.3**	**+0.7**
OBKA				Pb	Pb	01 45 28.3	-10
KHC	**Kasperske Hory**	**4.77**	**286**	*e*SN	**Sn**	**01 46 30.0**	**+1.9**
KHC	**Kasperske Hory**	**4.77**	**286**	Sn	**Sn**	**01 46 30.0**	**+1.9**
NVLJ	**Novalja**	**5.27**	**231**	Sn	**Sn**	**01 46 39.7**	**-0.7**
NVLJ	**Novalja**	**5.27**	**231**	Sn	**Sn**	**01 46 39.7**	**-0.7**
MORI	**Morici**	**5.39**	**221**	Pn	**Pn**	**01 45 43.0**	**+1.7**
MORI				Sn	**Sn**	**01 46 43.7**	**+0.5**
MORI	**Morici**	**5.39**	**221**	*e*Pn	**Pn**	**01 45 43.0**	**+1.7**
MORI				Sn	**Sn**	**01 46 43.7**	**+0.5**
STON	**Ston**	**5.56**	**202**	Pn	**Pn**	**01 45 46.7**	**+3.1**
STON				Sn	**Sn**	**01 46 46.9**	**-0.6**
STON	**Ston**	**5.56**	**202**	*e*Pn	**Pn**	**01 45 46.7**	**+3.1**
STON				Sn	**Sn**	**01 46 46.9**	**-0.6**
ZIRJ	**Zirje**	**5.58**	**220**	Pn	**Pn**	**01 45 45.2**	**+1.2**
ZIRJ				Sn	**Sn**	**01 46 47.9**	**-0.2**
ZIRJ	**Zirje**	**5.58**	**220**	*e*Pn	**Pn**	**01 45 45.2**	**+1.2**
ZIRJ				Sn	**Sn**	**01 46 47.9**	**-0.2**
DUGI	**Dugi Otok**	**5.59**	**225**	Pn	**Pn**	**01 45 45.2**	**+1.1**
DUGI				Sn	**Sn**	**01 46 47.4**	**-0.8**
DUGI	**Dugi Otok**	**5.59**	**225**	*e*Pn	**Pn**	**01 45 45.2**	**+1.1**
DUGI				Sn	**Sn**	**01 46 47.4**	**-0.8**

IDC ***05*** *01:52:08.9±6.2,20°.39S×178°.27W,h576km±59km, mb3.6/11,mb1 3.7/12,mb1mx3.4/32,mbtmp4.5/12,Error ellipse: s-maj=53.6km s-min=23.6km az=116.0*
NEIC ***05*** *01:52:10.4±1.2,20°.6S±0°.1×178°.3W±0°.2,h604km±8km, mb4.6/27,Error ellipse: s-maj=23.5km s-min=16.9km az=117.0*

ISC 05 01:52:09.9±0.8,20°.6S±0°.1×178°.3W±0°.1,h600km,n80, σ0ˢ73/82,mb4.4/25,13C-6D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.47**	**308**	P		**P**	**P**	**01 53 39.5**	**+0.5**
FUNA	**Funafuti**	**12.21**	**348**	P		**P**	**P**	**01 54 51.5**	**+0.7**
DZM	**Mont Dzumac**	**14.33**	**261**	P		**P**	**P**	**01 55 12.0**	**-0.1**
	1.4nm,0.3s,baz=133,slow=22,SNR=13								
DZM	**Mont Dzumac**	**14.33**	**261**	P		**P**	**P**	**01 55 11.9**	**-0.2**
ARMA	**Armidale**	**28.82**	**244**	P		**P**	**P**	**01 57 19.1**	**-2.6**
CTA	**Charters Tower**	**33.24**	**264**	P		**P**	**P**	**01 57 59.8**	**+0.5**
	4.6nm,0.3s,baz=91,slow=11,SNR=9.1								
CTAO	**Charters Tower**	**33.24**	**264**	P		**P**	**P**	**01 57 59.6**	**+0.3**
CTAO				IAmb		IAmb	IAmb	01 59 32.9	
	comp=Z,70nm,2.0s								
PATS	**Pohnpei**	**35.65**	**317**	P		**P**	**P**	**01 58 19.2**	**-0.2**
COEN	**Coen**	**37.34**	**274**	P		**P**	**P**	**01 58 33.3**	**+0.1**
COEN				IAmb		IAmb	IAmb	01 59 52.4	
	comp=Z,82nm,1.9s								
STKA	**Stephens Creek**	**37.54**	**244**	P		**P**	**P**	**01 58 36.2**	**+1.5**
	comp=Z,1.2nm,0.3s,baz=83,slow=11,SNR=3.8								
STKA	**Stephens Creek**	**37.54**	**244**	P		**P**	**P**	**01 58 35.7**	**+1.0**
BBOO	**Buckleboo**	**42.30**	**244**	P		**P**	**P**	**01 59 13.5**	**+0.9**
BBOO				IAmb		IAmb	IAmb	01 59 51.1	
	comp=Z,45nm,1.8s								
JAY	**Jayapura**	**43.82**	**289**	P		**P**	**P**	**01 59 24.8**	**+0.2**
	comp=Z,24nm,0.7s,baz=101,slow=3.4,SNR=8.6								
AS31	**Alice Springs**	**44.26**	**257**	P		**P**	**P**	**01 59 28.2**	**+0.2**
ASAR	**Alice Springs**	**44.26**	**257**	P		**P**	**P**	**01 59 28.4**	**+0.5**
	comp=Z,7.5nm,0.7s,baz=90,slow=8.3,SNR=58								
ASAR				PcP		**PcP**	**PcP**	**02 00 59.9**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=104,slow=3.7,SNR=8.2								
WB0	**Warramunga Arr**	**44.33**	**262**	P		**P**	**P**	**01 59 27.9**	**-0.5**
WB2	**Warramunga Arr**	**44.34**	**262**	P		**P**	**P**	**01 59 28.0**	**-0.5**
WB2				IAmb		IAmb	IAmb	02 00 46.6	
	comp=Z,46nm,1.9s								
WRA	**Warramunga Arr**	**44.35**	**262**	P		**P**	**P**	**01 59 28.4**	**-0.2**
	comp=Z,4.1nm,0.4s,baz=97,slow=7.7,SNR=32								
WRA				PcP		**PcP**	**PcP**	**02 01 00.1**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=95,slow=3.6,SNR=2.2								
OPA	**Opana**	**46.41**	**26**	P		**P**	**P**	**01 59 43.4**	**-0.7**
MTN	**Manton Dam**	**48.91**	**271**	P		**P**	**P**	**02 00 02.5**	**-0.4**
FORT	**Forrest**	**49.05**	**247**	P		**P**	**P**	**02 00 03.5**	**-0.2**
FORT				IAmb		IAmb	IAmb	02 00 04.7	
	comp=Z,14nm,0.7s								
KNRA	**Kununurra**	**50.41**	**266**	P		**P**	**P**	**02 00 13.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**52.77**	**262**	P		**P**	**P**	**02 00 29.7**	**-1.1**
FITZ				IAmb		IAmb	IAmb	02 01 38.1	
	comp=Z,43nm,1.6s								
PSA00	**Pilbara Seismi**	**57.41**	**257**	P		**P**	**P**	**02 01 02.5**	**-0.4**
PSA00				IAmb		IAmb	IAmb	02 01 02.9	
	comp=Z,103nm,2.0s								
MORW	**Morawa**	**59.58**	**248**	P		**P**	**P**	**02 01 17.5**	**+0.1**
MORW				IAmb		IAmb	IAmb	02 02 28.1	
	comp=Z,54nm,1.8s								
QSPA	**South Pole Qui**	**69.52**	**180**	P		**P**	**P**	**02 02 19.6**	**+0.3**
MJAR	**Matsushiro Arr**	**70.10**	**324**	P		**P**	**P**	**02 02 21.8**	**-1.3**
	comp=Z,2.5nm,0.5s,baz=131,slow=6.1,SNR=5.1								
ADK	**Adak**	**72.14**	**1**	P		**P**	**P**	**02 02 34.0**	**-0.5**
ADK				IAmb		IAmb	IAmb	02 04 58.5	
	comp=Z,43nm,1.1s								
SSLB	**Suanglung**	**73.80**	**304**	P		**P**	**P**	**02 02 43.6**	**-1.1**
SSLB				IAmb		IAmb	IAmb	02 03 37.2	
	comp=Z,35nm,1.8s								
UNV	**Unalaska Valle**	**74.78**	**7**	P		**P**	**P**	**02 02 49.4**	**-0.1**
PEA0B	**Petropavlovsk-**	**76.26**	**345**	P		**P**	**P**	**02 02 57.5**	**-0.2**
PEA0B				IAmb		IAmb	IAmb	02 05 27.5	
	comp=Z,50nm,1.7s								
PETK	**Petropavlovsk-**	**76.26**	**345**	P		**P**	**P**	**02 02 57.8**	**+0.1**
	comp=Z,3.5nm,0.7s,baz=126,slow=7.5,SNR=8.1								
KSRS	**Korea Array**	**76.76**	**319**	P		**P**	**P**	**02 03 01.7**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=130,slow=7.0,SNR=1.9								
USRK	**Ussuriysk Ar.**	**78.87**	**326**	P		**P**	**P**	**02 03 13.0**	**+1.1**
	comp=Z,2.8nm,0.7s,baz=102,slow=6.0,SNR=9.3								
TRF	**Thorofare Moun**	**86.55**	**12**	P		**P**	**P**	**02 03 50.4**	**+0.2**
RND	**Reindeer**	**86.80**	**13**	P		**P**	**P**	**02 03 51.6**	**+0.4**
RND				IAmb		IAmb	IAmb	02 03 52.7	
	comp=Z,5.2nm,0.7s								
WRH	**Wood River Hil**	**87.91**	**13**	P		**P**	**P**	**02 03 56.2**	**0.0**
WRH				IAmb		IAmb	IAmb	02 03 57.3	
	comp=Z,4.8nm,0.8s								
HDA	**Harding Lake**	**88.09**	**13**	IAmb		IAmb	IAmb	02 03 58.2	
	comp=Z,3.7nm,0.6s								
CCB	**Clear Creek Bu**	**88.12**	**13**	IAmb		IAmb	IAmb	02 03 58.1	
	comp=Z,4.0nm,0.6s								
ILAR	**Eielson Array**	**88.42**	**13**	P		**P**	**P**	**02 03 58.9**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=222,slow=5.3,SNR=11								
CMAR	**Chiang Mai Arr**	**89.90**	**290**	P		**P**	**P**	**02 04 08.5**	**+1.9**
	comp=Z,1.2nm,0.4s,baz=130,slow=3.0,SNR=8.1								
ZALV	**Zalesovo Beam**	**110.38**	**321**	PKiKP		**PKiKP**	**PKiKP**	**02 09 33.8**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=146,slow=0.5,SNR=1.7								
MKAR	**Makanchi Array**	**111.05**	**313**	PKiKP		**PKiKP**	**PKiKP**	**02 09 36.0**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=97,slow=0.7,SNR=7.0								
ARCES	**ARCESS Array B**	**128.93**	**350**	PKP		**PKiKP**	**PKiKP**	**02 10 10.5**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=31,slow=1.3,SNR=7.3								
FINES	**FINESS Array B**	**135.75**	**344**	PKP		**PKiKP**	**PKiKP**	**02 10 24.8**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=62,slow=4.5,SNR=5.8								
NOA	**NORSAR Array B**	**139.00**	**353**	PKhKP		PKPpre		02 10 22.8	
	comp=Z,0.2nm,0.5s,baz=12,slow=2.4,SNR=3.5								
AKASG	**Malin Array Be**	**142.94**	**331**	PKhKP		PKPpre		02 10 33.6	
	comp=Z,5.2nm,0.4s,baz=42,slow=4.2,SNR=29								
SORM	**Soroca**	**145.12**	**328**	⇑P		**PKPab**	**PKPab**	**02 10 41.4**	**-0.8**
BR131	**Keskin Array S**	**146.69**	**312**			**PKPbc**	**PKPbc**	**02 10 44.9**	**-0.9**
BRTR	**Keskin Array B**	**146.69**	**312**	PKPbc		**PKiKP**	**PKiKP**	**02 10 46.2**	**-1.5**
	comp=Z,2.0nm,0.6s,baz=126,slow=3.2,SNR=14								
TLCR		**146.81**	**324**	⇓P		**PKiKP**	**PKiKP**	**02 10 46.9**	**-0.7**
BUR08	**Bucovina Ar. S**	**146.97**	**330**			**PKPbc**	**PKPbc**	**02 10 46.2**	**0.0**
ANTO	**Ankara**	**147.21**	**313**	⇑P		**PKiKP**	**PKiKP**	**02 10 48.2**	**-0.6**
TOPG	**Topolog**	**147.24**	**324**	⇓P		**PKiKP**	**PKiKP**	**02 10 48.5**	**0.0**
EFOR	**EFORIE**	**147.59**	**323**	⇓P		**PKPbc**	**PKiKP**	**02 10 47.3**	**-0.5**
TRPA	**Tarpa**	**147.78**	**333**	⇑P		**PKiKP**	**PKiKP**	**02 10 49.2**	**-0.3**
OSTC	**Ostas**	**147.94**	**343**	⇑*e*PKP		**PKiKP**	**PKiKP**	**02 10 50.1**	**+0.2**
CLL	**Collm**	**148.06**	**347**	⇓*i* PKPbc		**PKiKP**	**PKiKP**	**02 10 50.7**	**+0.7**
	comp=Z,9.0nm,0.7s								
CLL				⇑*i* PKPab		**PKPab**	**PKPab**	**02 10 55.2**	**+1.4**
	comp=Z,5.0nm,0.5s								
CLL	**Collm**	**148.06**	**347**			**PKiKP**	**PKiKP**	**02 10 49.5**	**-0.5**
KRLC	**Kraliky**	**148.21**	**341**	⇑*e*PKP		**PKiKP**	**PKiKP**	**02 10 49.9**	**-0.5**
BRG	**Berggiesshubel**	**148.25**	**345**	*i* PKP		**PKiKP**	**PKiKP**	**02 10 50.3**	**-0.1**
	comp=Z,3.7nm,0.6s								
BRG	**Berggiesshubel**	**148.25**	**345**	*e*PKP		**PKPab**	**PKPab**	**02 10 55.0**	**+0.4**
	comp=Z,3.0nm,0.6s								
DRGR		**148.74**	**332**	⇑P		**PKiKP**	**PKiKP**	**02 10 51.6**	**0.0**
PRU	**Pruhonice**	**148.91**	**344**	⇑*e*PKP		**PKiKP**	**PKiKP**	**02 10 52.0**	**+0.2**
PRU				*e*PKPAB		**PKPab**	**PKiKP**	**02 10 58.2**	**+0.8**
NKC	**Novy Kostel**	**149.19**	**347**	⇑*e*PKP		**PKiKP**	**PKiKP**	**02 10 54.1**	**+1.7**
NKC				*e*PKPAB		**PKPab**	**PKiKP**	**02 10 59.3**	**+0.7**
DEV	**Deva**	**149.34**	**330**	⇓P		**PKiKP**	**PKiKP**	**02 10 53.8**	**+1.0**
SIRR	**Siria**	**149.60**	**332**	⇑P		**PKiKP**	**PKiKP**	**02 10 54.0**	**+0.6**
KHC	**Kasperske Hory**	**149.95**	**344**	⇑*e*PKP		**PKiKP**	**PKiKP**	**02 10 54.5**	**+0.4**
KHC				*e*PKPAB		**PKPab**	**PKiKP**	**02 11 02.5**	**+0.7**
BZS	**Buzias**	**150.12**	**331**	⇑P		**PKiKP**	**PKiKP**	**02 10 54.8**	**+0.4**
GERES	**GERESS Array B**	**150.18**	**344**	PKPbc		**PKiKP**	**PKiKP**	**02 10 55.0**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=42,slow=2.2,SNR=13								
HERR	**Herculane**	**150.31**	**330**	⇓P		**PKiKP**	**PKiKP**	**02 10 54.8**	**-0.1**
CONA	**Conrad Observa**	**150.40**	**341**	*i* PKiKP		**PKiKP**	**PKiKP**	**02 10 55.5**	**+0.4**
	comp=Z,2.6nm,0.7s								
MDVR	**Moldovita**	**150.72**	**330**	⇑P		**PKiKP**	**PKiKP**	**02 10 56.2**	**+0.4**
MOA	**Molln**	**150.94**	**342**	*i* PKiKP		**PKiKP**	**PKiKP**	**02 10 56.0**	**-0.1**
	comp=Z,1.1nm,0.5s								
SOKA	**Soboth**	**151.77**	**340**	*i* PKiKP		**PKiKP**	**PKiKP**	**02 10 57.8**	**-0.2**
	comp=Z,1.2nm,0.7s								
KBA	**Koelnbreinsper**	**151.90**	**343**	*i* PKiKP		**PKiKP**	**PKiKP**	**02 10 58.8**	**+0.5**
	comp=Z,3.4nm,0.9s								
WATA	**Walderalm**	**152.11**	**346**	*i* PKiKP		**PKiKP**	**PKiKP**	**02 10 58.9**	**+0.2**
	comp=Z,1.8nm,0.4s								
WTTA	**Wattenberg**	**152.16**	**345**	*i* PKiKP		**PKiKP**	**PKiKP**	**02 10 59.2**	**+0.4**
	comp=Z,2.8nm,0.4s								
SQTA	**Sankt Quirin**	**152.30**	**346**	*i* PKiKP		**PKiKP**	**PKiKP**	**02 10 59.5**	**+0.4**
	comp=Z,1.6nm,0.6s								
ABTA	**Abfaltersbach**	**152.43**	**344**	*i* PKPbc		**PKiKP**	**PKiKP**	**02 10 58.9**	**-0.4**
	comp=Z,4.2nm,0.9s								

IDC 05 01:56:04.0±29.0,24°.85S×177°.91E,h680km±276km, mb3.2/4,mb1 3.3/4,mb1mx2.8/31,mbtmp4.4/4,Error ellipse: s-maj=255.1km s-min=106.2km az=83.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**29.60**	**273**	P		P	P	02 01 19.2	+0.5
	7.0nm,0.3s,baz=105,slow=8.1,SNR=2.9								
STKA	**Stephens Creek**	**32.60**	**249**	P		P	P	02 01 44.1	+0.1
	1.2nm,0.4s,baz=108,slow=11,SNR=4.1								
ASAR	**Alice Springs**	**40.01**	**262**	P		P	P	02 02 44.2	0.0
	0.9nm,0.4s,baz=101,slow=8.0,SNR=9.3								
WRA	**Warramunga Arr**	**40.46**	**268**	P		P	P	02 02 47.5	-0.2
	5.2nm,0.6s,baz=105,slow=8.0,SNR=13								
BRTR	**Keskin Array B**	**146.60**	**305**	PKPbc		PKPbc	PKPbc	02 14 31.4	-0.7
	0.8nm,0.5s,baz=104,slow=1.3,SNR=5.4								

IDC ***05*** *02:29:58.8±6.0,36°.51N×70°.93E,h198km±56km,mb3.0/2, mb1 3.0/6,mb1mx2.8/47,mbtmp3.6/6,Error ellipse: s-maj=70.8km s-min=41.9km az=136.0*
NNC ***05*** *02:30:06.6±5.2,37°.17N×71°.17E,h0km,mb4.2,mpv3.5, Error ellipse: s-maj=41.3km s-min=35.6km az=151.0*

**ISC 05 02

comp=Z,2.8nm,0.5s,baz=109,slow=7.3,SNR=10
ZALV LR LR 03 22 09.4
comp=Z,15nm,21.5s,baz=94,slow=34
BOOM Boomskoye usch 80.58 315 P **P** **02 49 45.1 -1.4**
KURK Kurchatov 81.47 323 P **P** **02 49 49.1 -1.6**
KURBB Kurchatov Arra 81.49 323 P **P** **02 49 50.2 -0.6**
comp=Z,0.2nm,0.5s,baz=102,slow=4.9,SNR=7.0
RDOG Red Dog Mine 81.62 17 IAmb IAmb 02 49 53.1
comp=Z,4.2nm,0.8s
RND Reindeer 83.95 24 P **P** **02 50 03.2 -0.2**
RND IAmb IAmb 02 50 05.5
comp=Z,3.4nm,0.9s
MLY Manley 83.96 22 IAmb IAmb 02 50 06.4
comp=Z,2.8nm,0.7s
QSPA South Pole Qui 83.96 180 P **P** **02 50 04.3 +0.8**
CCB Clear Creek Bu 84.91 23 P **P** **02 50 07.7 -0.4**
IL31 85.32 23 IAmb IAmb 02 50 09.7
comp=Z,2.5nm,0.8s
ILAR Eielson Array 85.32 23 P **P** **02 50 09.2 -1.0**
comp=Z,1.7nm,0.6s,baz=252,slow=4.9,SNR=29
NRIK Noril'sk 85.41 342 P **P** **02 50 10.3 -0.2**
comp=Z,4.1nm,0.8s,baz=132,slow=2.7,SNR=7.1
DOT Dot Lake 86.01 25 IAmb IAmb 02 50 16.6
comp=Z,2.7nm,0.8s
BVAR Borovoye Array 87.02 324 P **P** **02 50 17.3 -1.5**
comp=Z,1.3nm,0.6s,baz=114,slow=7.3,SNR=8.7
EGAK Eagle 87.60 24 IAmb IAmb 02 50 29.1
comp=Z,2.8nm,1.1s
DAWY Dawson 88.10 25 P **P** **02 50 24.3 +0.5**
DAWY IAmb IAmb 02 50 26.3
comp=Z,4.5nm,1.1s
YKA Yellowknife Ar 98.98 28 P Pdif 02 51 13.7 0.0
comp=Z,0.6nm,0.9s,baz=268,slow=5.1,SNR=5.1
PLCA Paso Flores 121.89 147 PKP **PKiKP** **02 56 28.9 +1.1**
comp=Z,3.2nm,0.8s,baz=223,slow=2.6,SNR=9.0
PLCA Paso Flores 121.89 147 **PKiKP** **02 56 26.7 -1.1**
GERES GERESS Array B 122.15 326 PKP **PKiKP** **02 56 27.5 -0.5**
comp=Z,1.2nm,0.5s,baz=88,slow=1.7,SNR=16
ESDC Sonseca Array 137.73 327 PKP **PKiKP** **02 56 58.9 -0.7**
comp=Z,0.1nm,0.5s,baz=28,slow=1.3,SNR=1.3
TORD Torodi Ar. Bea 145.50 284 PKPbc **PKPab** **02 57 12.0 -0.7**
comp=Z,4.5nm,0.6s,baz=74,slow=3.2,SNR=45
TORD pPKPbc pPKPbc 02 57 42.1 +2.6
comp=Z,7.8nm,0.9s,baz=66,slow=3.8,SNR=9.7
DBIC Dimbokro 152.44 273 PKPbc **PKiKP** **02 57 30.9 +0.4**
comp=Z,3.4nm,0.5s,baz=110,slow=3.7,SNR=5.1
DBIC Dimbokro 152.44 273 **PKiKP** **02 57 29.5 -1.0**
BDFB Brasilia 153.61 145 PKP **PKPdf** **02 57 26.0 +0.9**
comp=Z,5.6nm,0.8s,baz=196,slow=2.6,SNR=10
BDFB PKPbc **PKiKP** **02 57 33.5 +0.5**
comp=Z,8.4nm,0.6s,baz=203,slow=0.5,SNR=16
BDFB Brasilia 153.61 145 **PKPdf** **02 57 24.9 -0.2**
BDFB **PKiKP** **02 57 32.8 -0.2**

*IDC **05** 02:57:50.1±2.6,29.74S×137.78E,h0km,mb1 3.9/5, mb1mx3.6/40,mbtmp3.8/5,ML3.8/5,Error ellipse: s-maj=43.2km s-min=15.1km az=46.0*
*AUST **05** 02:57:51.6±0.3,29.90S×137.65E,h10km,Error ellipse: s-maj=3.7km s-min=3.0km az=45.0*
ISC 05 02:57:49.8±0.7,**29.81S**±0.04×**137.60E**±0.04,**h10**km,**n18, σ2s00/35,South Australia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LCRK	**Leigh Creek**	**0.83**	**140**	P		**Pb**	**02 58 06.2**	**-0.1**
	baz=0.7,SNR=104							
LCRK				S		**Sg**	**02 58 16.5**	**-0.2**
	baz=0.7							
OOD	**Oodnadatta**	**2.61**	**320**	P		**Pb**	**02 58 36.0**	**-0.7**
	baz=2.7,SNR=21							
OOD				S		**Sb**	**02 59 09.6**	**+0.7**
	baz=2.7							
MULG	**Mulgathing**	**3.10**	**260**	P		**Pn**	**02 58 41.0**	**+2.2**
	baz=3.1,SNR=36							
MULG				S		**Sn**	**02 59 19.6**	**+3.6**
	baz=3.1							
BBOO	**Buckleboo**	**3.27**	**203**	P		**Pn**	**02 58 42.3**	**+1.2**
	baz=3.2,SNR=15							
BBOO				S		**Sn**	**02 59 19.7**	**-0.3**
	baz=3.2							
INKA	**Innaminka**	**3.45**	**54**	P		**Pn**	**02 58 46.2**	**+2.7**
	baz=3.5,SNR=6.2							
INKA				S		**Sn**	**02 59 26.0**	**+1.6**
	baz=3.5							
HTT	**Hallett**	**3.78**	**163**	P		**Pn**	**02 58 49.5**	**+1.3**
	baz=3.7,SNR=6.8							
HTT				S		**Sn**	**02 59 32.1**	**-0.7**
	baz=3.7							
STKA	**Stephens Creek**	**4.01**	**122**	P		**Pn**	**02 58 52.5**	**+1.2**
	baz=3.9,SNR=29							
STKA				S		**Sn**	**02 59 38.0**	**-0.3**
	baz=3.9							
STKA	**Stephens Creek**	**4.01**	**122**	Pn		**Pn**	**02 58 52.5**	**+1.2**
	2.1nm,0.3s,baz=301,slow=13,SNR=32							
STKA				Sn		**Sn**	**02 59 38.7**	**+0.4**
	3.5nm,0.3s,baz=54,slow=8.1,SNR=4.1							
STKA				Lg		Lg	02 59 53.6	
	6.8nm,0.3s,baz=33,slow=21,SNR=8.3							
QLP	**Quilpie**	**6.68**	**63**	P		**Pn**	**02 59 30.6**	**+2.6**
	baz=6.7							
QLP				S		**Sn**	**03 00 42.1**	**-2.1**
	baz=6.7							
ASAR	**Alice Springs**	**6.95**	**331**	Pn		**Pn**	**02 59 34.3**	**+2.6**
	1.4nm,0.3s,baz=153,slow=13,SNR=58							
ASAR				Sn		**Sn**	**03 00 51.3**	**+0.3**
	2.3nm,0.3s,baz=157,slow=22,SNR=8.5							
ASAR				Lg		Lg	03 01 31.2	
	0.6nm,0.3s,baz=148,slow=23,SNR=4.0							
CMSA	**Cobar Meteorol**	**7.18**	**106**	P		**Pn**	**02 59 35.8**	**+0.9**
	baz=7.1							
CMSA				S		**Sn**	**03 00 54.8**	**-1.7**
	baz=7.1							
ARPS	**Mount Arapiles**	**7.80**	**154**	P		**Pn**	**02 59 44.5**	**+1.2**
	baz=7.7							
ARPS				S		**Sn**	**03 01 08.4**	**-3.2**
	baz=7.7							
FORT	**Forrest**	**8.30**	**261**	P		**Pn**	**02 59 51.0**	**+0.7**
	baz=8.3,SNR=14							
FORT				S		**Sn**	**03 01 21.4**	**-2.7**
	baz=8.3							
QIS	**Mount Isa**	**9.39**	**12**	P		**Pn**	**03 00 07.5**	**+2.3**
	baz=9.5,SNR=4.0							
QIS				S		**Sn**	**03 01 50.0**	**-0.9**
	baz=9.5							
WRKA	**Warakurna**	**9.53**	**298**	P		**Pn**	**03 00 08.7**	**+1.6**
	baz=9.6,SNR=3.9							
WRA	**Warramunga Arr**	**10.26**	**343**	Pn		**Pn**	**03 00 18.5**	**+1.4**
	0.9nm,0.3s,baz=156,slow=12,SNR=20							
WRA				Sn		**Sn**	**03 02 10.1**	**-2.2**
	0.5nm,0.3s,baz=161,slow=23,SNR=3.8							
WRA				Lg		Lg	03 03 16.1	
	baz=165,slow=23,SNR=1.3							
CTA	**Charters Tower**	**12.46**	**41**	Pn		**Pn**	**03 00 47.4**	**+0.2**
	0.6nm,0.3s,baz=217,slow=13,SNR=5.6							
CTA				Sn		**Sn**	**03 03 04.3**	**-1.8**
	0.4nm,0.3s,baz=0.0,slow=16,SNR=1.7							
FITZ	**Fitzroy Crossi**	**15.96**	**314**	Pn		**Pn**	**03 01 35.1**	**+0.6**
	0.2nm,0.3s,baz=141,slow=9.6,SNR=6.1							
FITZ				Sn		**Sn**	**03 04 25.9**	**-5.7**
	0.1nm,0.3s,baz=302,slow=19,SNR=2.2							

*SNET **05** 03:01:34.0±1.0,13.55N×90.07W,h62km±10km,ML3.4*
*GCG **05** 03:01:35.4±0.6,13.55N×90.20W,h29km±3km,MD3.5*
ISC 05 03:01:34.2±2.7,**13.5N**±0.2×**90.09W**±0.08,**h54**km±25km, **n13,σ0s52/21,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.54**	**34**	*eP*		**Pn**	**03 01 46.1**	**-0.2**
NUBE				*eS*		**Sn**	**03 01 54.9**	**-0.2**
CEVE	**Cerro Verde**	**0.59**	**51**	*eP*		**Pn**	**03 01 46.3**	**-0.7**
CEVE				*eS*		**Sn**	**03 01 57.4**	**+1.2**
CEVE				IAML			03 01 57.7	
	comp=Z,3μm,0.3s							
SBLS	**San Blas**	**0.59**	**50**	*eP*		**Pn**	**03 01 46.9**	**-0.2**
RTR	**El Retiro**	**0.62**	**45**	*eP*		**Pn**	**03 01 47.3**	**0.0**
JAYA	**Jayaque - finc**	**0.66**	**72**	*eP*		**Pn**	**03 01 47.6**	**-0.1**
JAYA				*eS*		**Sn**	**03 01 57.4**	**-0.1**
JAYA				IAML			03 01 58.5	
	comp=Z,1μm,0.2s							
CEDA	**San Andres**	**0.76**	**63**	*eP*		**Pn**	**03 01 48.9**	**0.0**
CEDA				*eS*		**Sn**	**03 02 00.3**	**+0.7**
CEDA				IAML			03 02 07.0	
	comp=Z,607nm,0.3s							

IXG	**Ixpaco**	**0.79**	**335**	*eP*		**Pn**	**03 01 48.9**	**-0.6**
TACO	**Tacachico**	**0.88**	**54**	*eP*		**Pn**	**03 01 50.1**	**-0.4**
TACO				*eS*		**Sn**	**03 02 02.0**	**-0.4**
LFRS	**El Faro**	**1.01**	**80**	*eP*		**Pn**	**03 01 52.4**	**+0.1**
PCG	**Pacaya**	**1.06**	**332**	*eP*		**Pn**	**03 01 53.4**	**+0.3**
PCG				*eS*		**Sn**	**03 02 06.8**	**-0.2**
NBG	**Las Nubes**	**1.15**	**348**	*eP*		**Pn**	**03 01 54.5**	**+0.2**
NBG				*eS*		**Sn**	**03 02 10.2**	**+0.9**
MTO3	**Montecristo**	**1.18**	**37**	*eP*		**Pn**	**03 01 54.0**	**-0.6**
FUG	**Fuego 3**	**1.23**	**324**	*eP*		**Pn**	**03 01 55.1**	**-0.2**
FUG				*eS*		**Sn**	**03 02 10.7**	**-0.2**

IDC 05 03:03:26.4±6.0,**4.52S×153.73E,h127**km±40km,**mb3.0**/2, **mb1 3.4**/3,**mb1mx3.0**/43,**mbtmp3.7**/3,**Error ellipse: s-maj=68.5km s-min=43.8km az=99.0,New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.71**	**277**	P		Pn	03 03 56.6	-0.1
	13nm,0.3s,baz=43,slow=6.0,SNR=6.7							
KRVT				S		Sn	03 04 20.0	+0.2
	9.3nm,0.3s,baz=5.0,slow=23,SNR=9.9							
PMG	**Port Moresby**	**8.13**	**233**	P		Pn	03 05 22.1	+0.6
	3.6nm,0.3s,baz=20,slow=5.5,SNR=2.7							
WRA	**Warramunga Arr**	**24.32**	**229**	P		P	03 08 32.7	+0.2
	0.7nm,0.6s,baz=56,slow=10,SNR=2.2							
ASAR	**Alice Springs**	**26.98**	**223**	P		P	03 08 56.0	-0.5
	0.2nm,0.4s,baz=53,slow=9.2,SNR=4.1							
TORD	**Torodi Ar. Bea**	**151.10**	**289**	PKPbc		PKPbc	03 23 05.5	-0.1
	0.3nm,0.7s,baz=80,slow=3.2,SNR=1.7							

*VAO **05** 03:30:05.3±0.9,20.65S×69.38W,h43km±8km,mb4.5*
*IDC **05** 03:30:15.1±1.3,21.17S×68.21W,h109km±13km,mb4.0/7, mb1 3.9/9,mb1mx3.7/29,mbtmp4.3/9,Error ellipse: s-maj=26.7km s-min=15.6km az=105.0*
*NEIC **05** 03:30:15.3±1.9,21.24S±0.04×68.52W±0.10,h129km±5km, Error ellipse: s-maj=13.2km s-min=4.9km az=97.0*
*GUC **05** 03:30:16.5±0.8,21.23S×68.57W,h134km±5km,ML4.1*
ISC 05 03:30:16.1±0.6,**21.25S**±0.03×**68.53W**±0.05,**h128**km±6km, **n92,σ2s18/102,mb4.2/8,1D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.86**	**230**	*eP*		**Pn**	**03 30 39.4**	**+1.6**
PB09				*eS*		**Sn**	**03 30 56.5**	**+2.2**
PB09				IAML			03 30 58.5	
	comp=E,2μm,0.8s							
PB09	**IPOC Station P**	**0.86**	**230**	Pn		**Pn**	**03 30 38.3**	**+0.5**
PB09				Sn		**Sn**	**03 30 53.7**	**-0.5**
PB01	**IPOC Station P**	**0.92**	**283**	*eS*		**Sn**	**03 30 56.1**	**+1.2**
PB01				IAML			03 30 58.6	
	comp=E,3μm,0.3s							
PB08	**IPOC Station P**	**1.25**	**332**	*eP*		Pn	03 30 47.3	+5.5
PB08				*eS*		**Sn**	**03 31 03.5**	**+2.2**
PB08				IAML			03 31 04.5	
	comp=N,2μm,0.5s							
PB08	**IPOC Station P**	**1.25**	**332**	Pn		**Pn**	**03 30 41.0**	**-0.8**
PB08				Sn		**Sn**	**03 31 01.0**	**-0.3**
PB02	**IPOC Station P**	**1.27**	**267**	*eP*		**Pn**	**03 30 42.8**	**+1.1**
PB02				*eS*		**Sn**	**03 31 03.0**	**+1.7**
PB02				IAML			03 31 04.2	
	comp=E,7μm,0.4s							
PB07	**IPOC Station P**	**1.35**	**249**	*eP*		**Pn**	**03 30 43.6**	**+0.9**
PB07				*eS*		**Sn**	**03 31 04.2**	**+1.5**
PB07				IAML			03 31 05.5	
	comp=N,2μm,0.4s							
PB03	**IPOC Station P**	**1.39**	**235**	*eS*		**Pn**	**03 30 47.2**	**+4.2**
PB03				*eS*		**Sn**	**03 31 04.5**	**+1.0**
PB03				IAML			03 31 05.9	
	comp=E,3μm,0.5s							
LVC	**Limon Verde**	**1.40**	**194**	P		**Pn**	**03 30 43.9**	**+0.5**
	comp=E,68nm,0.3s,baz=30,slow=11,SNR=93							
LVC				S		**Sn**	**03 31 04.2**	**+0.1**
	comp=E,91nm,0.3s,baz=184,slow=16,SNR=45							
LVC	**Limon Verde**	**1.40**	**194**	Pn		**Pn**	**03 30 43.7**	**+0.3**
LVC				Sn		**Sn**	**03 31 03.7**	**-0.4**
LVC	**Limon Verde**	**1.40**	**194**	*eP*		**Pn**	**03 30 38.9**	**-4.5**
LVC	**Limon Verde**	**1.40**	**194**	*eP*		**Pn**	**03 30 38.9**	**-4.5**
PATCX	**Punta Patache**	**1.57**	**285**	*eP*		**Pn**	**03 30 46.3**	**+1.3**
PATCX				*eS*		**Sn**	**03 31 08.5**	**+1.5**
PATCX				IAML			03 31 11.1	
	comp=E,4μm,0.2s							
PATCX	**Punta Patache**	**1.57**	**285**	Pn		**Pn**	**03 30 44.2**	**-0.8**
PATCX				Sn		**Sn**	**03 31 06.3**	**-0.8**
TA01	**Diego Aracena**	**1.69**	**294**	*iP*		**Pn**	**03 30 47.5**	**+1.3**
TA01				*eS*		**Sn**	**03 31 10.7**	**+1.5**
TA01				IAML			03 31 12.7	
	comp=N,3μm,0.3s							
TA01	**Diego Aracena**	**1.69**	**294**	Pn		**Pn**	**03 30 45.3**	**-0.9**
TA01				Sn		**Sn**	**03 31 08.6**	**-0.6**
GO01	**Chusmiza**	**1.69**	**338**	*eP*		Pn	03 30 56.0	+9.1
GO01				*eS*		**Sn**	**03 31 12.0**	**+1.8**
GO01				IAML			03 31 16.4	
	comp=N,2μm,0.2s							
PB06	**IPOC Station P**	**1.74**	**213**	Pn		**Pn**	**03 30 47.4**	**+0.3**
PB06				Sn		**Sn**	**03 31 10.6**	**-0.1**
PB11	**IPOC Station P**	**1.82**	**324**	*eP*		**Pn**	**03 30 48.6**	**+0.6**
PB11				*eS*		**Sn**	**03 31 13.8**	**+1.4**
PB11				IAML			03 31 16.9	
	comp=E,3μm,0.2s							
PB11	**IPOC Station P**	**1.82**	**324**	Pn		**Pn**	**03 30 48.6**	**+0.6**
PB11				Sn		**Sn**	**03 31 12.4**	**+0.1**
PB04	**IPOC Station P**	**1.85**	**234**	*eS*		**Pn**	**03 30 44.0**	**-4.4**
PB04				*eS*		**Sn**	**03 31 14.9**	**+1.9**
PB04				IAML			03 31 20.2	
	comp=E,787nm,0.4s							
PB15	**IPOC Station P**	**2.13**	**204**	Pn		**Pn**	**03 30 52.4**	**+0.5**
PSGC	**Pisagua**	**2.22**	**317**	*eP*		**Pn**	**03 30 51.4**	**-1.5**
PSGC				*eS*		**Sn**	**03 31 22.1**	**+1.1**
PSGC				IAML			03 31 23.3	
	comp=E,2μm,0.3s							
PSGCX	**Pisagua**	**2.22**	**317**	Pn		**Pn**	**03 30 51.2**	**-1.7**
PSGCX				Sn		**Sn**	**03 31 20.4**	**-0.7**
MNMC	**Minye Minye**	**2.33**	**334**	*eS*		**Sn**	**03 31 25.8**	**+2.0**
MNMC				IAML			03 31 29.8	
	comp=N,2μm,0.3s							
MNMC	**Minye Minye**	**2.33**	**334**	Pn		**Pn**	**03 30 55.8**	**+1.3**
MNMC				Sn		**Sn**	**03 31 22.3**	**-1.5**
PB12	**IPOC Station P**	**3.12**	**327**			**Pn**	**03 31 04.4**	**0.0**
GO02	**Mina Guanaco**	**4.01**	**194**	Pn		**Pn**	**03 31 15.4**	**-0.9**
LPAZ	**La Paz**	**4.95**	**4**			**Pn**	**03 31 28.2**	**-0.9**
AC01	**Pan de Azucar**	**5.23**	**201**	Pn		**Pn**	**03 31 30.2**	**-2.0**
AC01						**Sn**	**03 32 31.0**	**-0.6**
GO03	**Copiap**	**6.50**	**193**	Pn		**Pn**	**03 31 47.3**	**-2.2**
AC05	**El Transito**	**7.72**	**191**	Pn		**Pn**	**03 32 03.4**	**-2.5**
CO02	**Combarbal**	**10.16**	**192**	Pn		**Pn**	**03 32 38.6**	**0.0**
VILB	**Vilhena**	**11.46**	**45**	*eP*		Pn	03 32 47.9	-8.2
VILB	**Vilhena**	**11.46**	**45**	*eP*		Pn	03 32 47.9	-8.2
AQDB	**Aquidauana**	**12.02**	**89**	*eP*		**Pn**	**03 32 59.4**	**-4.0**
AQDB	**Aquidauana**	**12.02**	**89**	*eP*		**Pn**	**03 32 59.4**	**-4.0**
SALV	**Santo Antonio**	**13.28**	**69**	*eP*		**Pn**	**03 33 17.5**	**-2.3**
SALV				*eS*		**Sn**	**03 35 48.1**	**+1.7**
SALV	**Santo Antonio**	**13.28**	**69**	*eP*		**Pn**	**03 33 17.5**	**-2.3**
SALV				*eS*		**Sn**	**03 35 48.1**	**+1.7**
TRCB	**Terra Rica**	**14.82**	**99**	*eP*		**P**	**03 33 43.9**	**+1.9**
TRCB	**Terra Rica**	**14.82**	**99**	*eP*		**P**	**03 33 43.9**	**+1.9**
PTGB	**Pitanga**	**15.55**	**106**	*eP*		P	03 33 58.7	+8.6
PTGB	**Pitanga**	**15.55**	**106**	*eP*		P	03 33 58.7	+8.6
CLDB	**Colider**	**15.99**	**52**	*eP*		**Pn**	**03 33 52.4**	**-1.6**
CLDB						**S**	**03 36 59.8**	**+5.0**
CLDB	**Colider**	**15.99**	**52**	*eP*		**Pn**	**03 33 52.4**	**-1.6**
CLDB				*eS*		**S**	**03 36 59.8**	**+5.0**
PCMB	**Pacaembu**	**16.09**	**94**	*eP*		**Pn**	**03 33 51.6**	**-3.5**
PCMB	**Pacaembu**	**16.09**	**94**	*eP*		**Pn**	**03 33 51.6**	**-3.5**
ITAB	**Concordia**	**16.09**	**115**	*eP*		P	03 34 04.4	+8.4
ITAB	**Concordia**	**16.09**	**115**	*eP*		P	03 34 04.4	+8.4
ARAG	**Araguaiana, MT**	**16.79**	**74**	*eP*		**P**	**03 34 05.4**	**+1.7**
ARAG	**Araguaiana, MT**	**16.79**	**74**	*eP*		**P**	**03 34 05.4**	**+1.7**
ITRB	**Iturama**	**17.10**	**88**	*eP*		Pn	03 34 14.9	+7.5
ITRB	**Iturama**	**17.10**	**88**	*eP*		Pn	03 34 14.9	+7.5
FRTB	**Fartura**	**17.68**	**100**	*eP*		**P**	**03 34 12.1**	**-1.4**
FRTB	**Fartura**	**17.68**	**100**	*eP*		**P**	**03 34 12.1**	**-1.4**
NPGB	**Novo Progresso**	**19.02**	**44**	*eP*		**P**	**03 34 25.8**	**-2.4**
NPGB	**Novo Progresso**	**19.02**	**44**	*eP*		**P**	**03 34 25.8**	**-2.4**
IPMB	**Ipameri, GO**	**19.41**	**84**	*eP*		**P**	**03 34 30.3**	**-2.2**
IPMB	**Ipameri, GO**	**19.41**	**84**	*eP*		**P**	**03 34 30.3**	**-2.2**
PLCA	**Paso Flores**	**19.50**	**185**	P		**P**	**03 34 34.2**	**+1.0**
	comp=N,0.1nm,0.3s,baz=4.1,slow=12,SNR=6.9							
PLCA	**Paso Flores**	**19.50**	**185**	P		**P**	**03 34 31.8**	**-1.4**

RCLB	**Rio Claro- Sao**	**19.53**	**97**	*eP*		Pn	03 34 43.2	+6.9
RCLB	**Rio Claro- Sao**	**19.53**	**97**	*eP*		Pn	03 34 43.2	+6.9
SPB	**Sao Paulo**	**19.64**	**101**	P		**P**	**03 34 35.2**	**+0.3**
SPB				IAmb		IAmb	03 34 47.7	
	comp=Z,13nm,1.1s							
PET01	**Itanhaem-SP**	**19.83**	**103**	*eP*		**Pn**	**03 34 45.8**	**+6.1**
PET01	**Itanhaem-SP**	**19.83**	**103**	*eP*		**Pn**	**03 34 45.8**	**+6.1**
VAO	**Valinhos**	**20.05**	**99**	*eP*		Pn	03 34 48.1	+5.7
VAO	**Valinhos**	**20.05**	**99**	*eP*		Pn	03 34 48.1	+5.7
BDFB	**Brasilia**	**20.24**	**77**	P		**P**	**03 34 38.6**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=270,slow=8.1,SNR=2.7							
BDFB	**Brasilia**	**20.24**	**77**	P		**P**	**03 34 39.0**	**-2.5**
BDFB				IAmb		IAmb	03 34 55.0	
	comp=Z,8.7nm,0.9s							
PARB	**Paraibuna**	**21.30**	**100**	*eP*		P	03 35 01.2	+8.4
PARB	**Paraibuna**	**21.30**	**100**	*eP*		**P**	03 35 01.2	+8.4
PEXB	**Peixe**	**21.39**	**68**	*eP*		**P**	**03 34 51.4**	**-2.3**
PEXB	**Peixe**	**21.39**	**68**	*eP*		**P**	**03 34 51.4**	**-2.3**
PTGA	**Pitinga**	**22.04**	**23**	P		**P**	**03 34 58.7**	**-1.9**
	comp=Z,2.3nm,0.3s,baz=270,slow=20,SNR=6.0							
PTGA	**Pitinga**	**22.04**	**23**	P		**P**	**03 34 58.3**	**-2.2**
MALB	**Monte Alegre**	**23.77**	**38**	*eP*		**P**	**03 35 15.3**	**-1.7**
MALB	**Monte Alegre**	**23.77**	**38**	*eP*		**P**	**03 35 15.3**	**-1.7**
JANB	**Januaria**	**23.81**	**79**	*eP*		P	**03 35 14.7**	**-2.8**
JANB	**Januaria**	**23.81**	**79**	*eP*		**P**	**03 35 14.7**	**-2.8**
TXAR	**Lajitas Array**	**60.63**	**325**	P		**P**	**03 40 15.4**	**+1.7**
	comp=Z,0.1nm,0.7s,baz=156,slow=6.7,SNR=2.3							
SNAA	**Sanae**	**62.40**	**161**	P		**P**	**03 40 25.9**	**+0.9**
	comp=Z,1.4nm,0.6s,baz=269,slow=8.7,SNR=15							
SNAA	**Sanae**	**62.40**	**161**	P		**P**	**03 40 24.6**	**-0.4**
SNAA				IAmb		IAmb	03 40 38.9	
	comp=Z,2.1nm,0.8s							
DBIC	**Dimbokro**	**68.33**	**73**	P		**P**	**03 41 03.4**	**-0.6**
	comp=Z,12nm,1.2s,baz=229,slow=11,SNR=1.7							
DBIC	**Dimbokro**	**68.33**	**73**	P		**P**	**03 41 02.5**	**-1.4**
QSPA	**South Pole Qui**	**68.94**	**180**	P		**P**	**03 41 09.0**	**+1.9**
	comp=Z,2.0nm,0.5s,baz=315,slow=1.2,SNR=28							
QSPA	**South Pole Qui**	**68.94**	**180**	P		**P**	**03 41 06.3**	**-0.9**
QSPA				IAmb		IAmb	03 41 09.6	
	comp=Z,2.5nm,0.6s							
TOA0	**Torodi Ar. Sit**	**76.94**	**70**	P		**P**	**03 41 53.9**	**-1.1**
TORD	**Torodi Ar. Bea**	**76.94**	**70**	P		**P**	**03 41 54.2**	**-0.7**
	comp=Z.4.1nm,0.4s,baz=256,slow=5.3,SNR=90							
ESDC	**Sonseca Array**	**85.41**	**44**	P		**P**	**03 42 39.7**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=242,slow=6.3,SNR=4.2							
YKA	**Yellowknife Ar**	**91.07**	**340**	P		**P**	**03 43 06.7**	**+1.2**
	comp=Z,1.3nm,0.6s,baz=137,slow=4.6,SNR=16							
MKAR	**Makanchi Array**	**145.22**	**36**	PKP		**PKPab**	**03 49 39.6**	**+0.9**
	comp=Z,2.6nm,0.7s,baz=324,slow=3.5,SNR=30							

*IDC **05** 03:30:41.0±0.8,22.07S×67.36W,h173km±9km,mb3.6/8, mb1 3.9/11,mb1mx3.7/31,mbtmp4.2/11,Error ellipse: s-maj=17.4km s-min=15.0km az=122.0*
*NEIC **05** 03:30:40.1±1.6,22.11S±0.06×67.32W±0.05,h171km±5km, mb4.2/8,Error ellipse: s-maj=9.1km s-min=7.0km az=172.0*
ISC 05 03:30:39.8±0.8,**22.09S**±0.05×**67.29W**±0.08,**h167**km±8km, **n35,σ1s19/43,mb3.7/9,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.58**	**251**	P		**Pn**	**03 31 13.8**	**+1.9**
	73nm,0.3s,baz=97,slow=16,SNR=18							
LVC				S		**Sn**	**03 31 37.3**	**+0.7**
	23nm,0.3s,baz=294,slow=20,SNR=6.4							
LVC	**Limon Verde**	**1.58**	**251**			**Pn**	**03 31 12.8**	**+0.9**
LVC						**Sn**	**03 31 37.1**	**+0.5**
PB09	**IPOC Station P**	**1.83**	**279**	Pn		**Pn**	**03 31 14.2**	**-0.1**
PB09				Sn		**Sn**	**03 31 41.6**	**+0.6**
PB01	**IPOC Station P**	**2.29**	**297**	Pn		**Pn**	**03 31 19.9**	**+0.4**
PB01				Sn		**Sn**	**03 31 49.6**	**-0.6**
PB15	**IPOC Station P**	**2.30**	**241**	Pn		**Pn**	**03 31 19.2**	**-0.5**
PB15				Sn		**Sn**	**03 31 49.5**	**-0.9**
PB15	**IPOC Station P**	**2.30**	**241**	Sn		**Pn**	**03 31 19.1**	**+0.1**
PB08	**IPOC Station P**	**2.61**	**318**	Pn		**Pn**	**03 31 25.2**	**+1.7**
PB04	**IPOC Station P**	**2.66**	**264**	Pn		**Pn**	**03 31 24.6**	**+0.7**
TA01	**Diego Arac

MTN IAmb IAmb 04 11 36.5
comp=Z,6.7nm,0.9s
GAMB Gambell 46.11 26 P P 04 12 02.4 -2.1
WB0 Warramunga Arr 48.33 190 P P 04 12 22.5 +0.3
WR0 Warramunga Arr 48.49 189 P P 04 12 23.9 +0.5
WR0 IAmb IAmb 04 12 34.8
comp=Z,5.1nm,1.1s
WB2 Warramunga Arr 48.50 190 P P 04 12 23.3 -0.2
WB2 IAmb IAmb 04 12 25.1
comp=Z,3.6nm,0.8s
WRA Warramunga Arr 48.51 190 P P 04 12 24.1 +0.6
comp=Z,1.0nm,0.5s,baz=7.6,slow=7.7,SNR=12
FITZ Fitzroy Crossi 48.76 201 P P 04 12 25.0 -0.6
FINES FINESS Array B 76.86 334 P P 04 15 33.6 +1.5
comp=Z,0.5nm,0.5s,baz=38,slow=7.0,SNR=3.9
BRTR Keskin Array B 85.15 313 P P 04 16 18.9 +2.0
comp=Z,0.5nm,0.7s,baz=56,slow=5.4,SNR=2.5

*BGR **05** 04:16:54.3±0.0, 16.°16S×175.°67W, h33km*
*NEIC **05** 04:17:35.1±1.1, 16.°0S±0.°1×176.°7W±0.°1, h379km±6km, mb4.4/113, Error ellipse: s-maj=21.6km s-min=12.3km az=149.0*
*IDC **05** 04:17:36.5±2.6, 16.°08S×176.°69W, h398km±26km, mb3.8/21, mb1 4.0/22, mb1mx3.8/40, mbtmp4.5/22, Error ellipse: s-maj=19.3km s-min=9.6km az=142.0*
ISC 05 04:17:34.4±0.5, 16.°1S±0.°1×176.°54W±0.°10, h382km, n205, σ0§69/170, mb4.4/72, 12C-15D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**5.10**	**65**	Pn		**Pn**	**04 18 53.9**	**-2.8**
MSVF	**Nonsavu**	**5.42**	**252**			**Pn**	**04 19 01.4**	**+1.3**
DZM	**Mont Dzumac**	**17.13**	**247**	P		**P**	**04 21 10.5**	**-0.1**
	0.2nm,0.3s,baz=108,slow=20,SNR=2.0							
DZM	**Mont Dzumac**	**17.13**	**247**	P		**P**	**04 21 10.3**	**-0.3**
STKA	**Stephens Creek**	**41.06**	**240**	P		**P**	**04 24 42.0**	**-0.4**
	1.0nm,0.4s,baz=98,slow=12,SNR=5.5							
STKA	**Stephens Creek**	**41.06**	**240**	P		**P**	**04 24 42.1**	**-0.4**
WRA	**Warramunga Arr**	**46.73**	**258**	P		**P**	**04 25 26.4**	**-0.8**
	1.7nm,0.6s,baz=90,slow=7.1,SNR=16							
AS31	**Alice Springs**	**47.01**	**253**	P		**P**	**04 25 29.2**	**-0.1**
ASAR	**Alice Springs**	**47.01**	**253**	P		**P**	**04 25 29.1**	**-0.3**
	15nm,0.5s,baz=85,slow=8.3,SNR=111							
ASAR				PcP		**PcP**	**04 26 55.0**	**+0.4**
	1.3nm,0.8s,baz=95,slow=3.8,SNR=5.8							
ASAR				S		**S**	**04 31 49.0**	**-2.7**
	1.9nm,1.0s,baz=85,slow=16,SNR=9.0							
JNU	**Nakatsue**	**70.11**	**315**	P		**P**	**04 28 07.1**	**+0.4**
	6.7nm,0.8s,baz=162,slow=7.0,SNR=2.9							
JNU	**Nakatsue**	**70.11**	**315**	P		**P**	**04 28 05.9**	**-0.7**
PETK	**Petropavlovsk-**	**72.43**	**344**	P		**P**	**04 28 20.1**	**+0.2**
	6.8nm,0.7s,baz=137,slow=8.7,SNR=15							
QSPA	**South Pole Qui**	**73.94**	**180**	P		**P**	**04 28 29.4**	**+0.7**
	3.3nm,0.8s,baz=53,slow=1.1,SNR=17							
QSPA	**South Pole Qui**	**73.94**	**180**	P		**P**	**04 28 29.6**	**+0.9**
KSM	**Kuching**	**74.24**	**276**	P		**P**	**04 28 30.4**	**-0.9**
KSM					IAmb	IAmb	04 28 42.7	
	comp=Z,7.8nm,1.1s							
MWC	**Mount Wilson**	**74.81**	**47**	P		**P**	**04 28 33.8**	**-0.5**
MWC					IAmb	IAmb	04 28 36.7	
	comp=Z,8.5nm,0.8s							
ISA	**Isabella, Lake**	**75.29**	**46**	P		**P**	**04 28 37.1**	**+0.3**
ISA					IAmb	IAmb	04 28 38.9	
	comp=Z,6.2nm,1.0s							
CMB	**Columbia Colle**	**75.31**	**43**	P		**P**	**04 28 37.0**	**+0.1**
CMB					IAmb	IAmb	04 28 38.6	
	comp=Z,7.6nm,0.9s							
AFDM	**Forest Hills D**	**75.45**	**42**	P		**P**	**04 28 38.4**	**+0.8**
AFDM					IAmb	IAmb	04 28 39.3	
	comp=Z,5.9nm,0.9s							
ORV	**Oroville**	**75.47**	**41**			**P**	**04 28 38.8**	**+1.1**
ORV					IAmb	IAmb	04 28 39.4	
	comp=Z,5.2nm,0.9s							
PFO	**Pinyon Flats O**	**75.63**	**48**	P		**P**	**04 28 39.9**	**+1.1**
	comp=Z,3.0nm,0.8s,baz=255,slow=3.7,SNR=3.9							
PFO	**Pinyon Flats O**	**75.63**	**48**	P		**P**	**04 28 39.5**	**+0.7**
MDPB	**Devils Postpil**	**75.95**	**44**	P		**P**	**04 28 41.2**	**+0.4**
MDPB					IAmb	IAmb	04 28 42.6	
	comp=Z,5.9nm,0.8s							
OMMB	**Old Mammoth Mi**	**75.99**	**44**	P		**P**	**04 28 41.8**	**+0.8**
YBH	**Yreka Blue Hor**	**76.01**	**39**	P		**P**	**04 28 41.9**	**+1.2**
	comp=Z,3.2nm,0.5s,baz=253,slow=14,SNR=4.0							
YBH	**Yreka Blue Hor**	**76.01**	**39**		IAmb	IAmb	04 28 43.5	
	comp=Z,6.9nm,1.1s							
WAKR	**Walker**	**76.20**	**43**	P		**P**	**04 28 42.9**	**+0.9**
WAKR					IAmb	IAmb	04 28 44.2	
	comp=Z,6.5nm,0.8s							
KDAK	**Kodiak Island**	**76.25**	**13**	P		**P**	**04 28 41.9**	**+0.4**
	comp=Z,5.9nm,0.6s,baz=206,slow=4.2,SNR=5.5							
KDAK	**Kodiak Island**	**76.25**	**13**	P		**P**	**04 28 40.9**	**-0.7**
KDAK					IAmb	IAmb	04 28 42.6	
	comp=Z,7.0nm,0.7s							
GSC	**Goldstone, Bar**	**76.26**	**47**			**P**	**04 28 43.3**	**+1.0**
GSC					IAmb	IAmb	04 28 44.2	
	comp=Z,5.6nm,0.9s							
BEKR	**Beckworth**	**76.37**	**41**	P		**P**	**04 28 44.0**	**+1.1**
PNTR	**Pine Nut**	**76.42**	**42**	P		**P**	**04 28 43.7**	**+0.5**
VCNR	**Virginia City**	**76.50**	**42**	P		**P**	**04 28 44.6**	**+0.9**
YERR	**Yerington**	**76.59**	**42**	P		**P**	**04 28 44.1**	**0.0**
YERR					IAmb	IAmb	04 28 46.0	
	comp=Z,7.7nm,0.9s							
RYN	**Ryan**	**76.86**	**43**	P		**P**	**04 28 45.9**	**+0.2**
RYN					IAmb	IAmb	04 28 47.6	
	comp=Z,5.8nm,1.0s							
NVAR	**Mina Array Bea**	**76.90**	**43**	P		**P**	**04 28 46.8**	**+0.9**
	comp=Z,4.9nm,0.8s,baz=226,slow=9.4,SNR=29							
PAHR	**Pah Rah Range**	**76.90**	**42**	P		**P**	**04 28 46.5**	**+0.6**
NV11	**Mina Array Sit**	**77.00**	**43**	P		**P**	**04 28 46.6**	**+0.2**
NV11					IAmb	IAmb	04 28 48.4	
	comp=Z,8.3nm,1.1s							
Y12C	**Blythe**	**77.10**	**49**		IAmb	IAmb	04 28 49.1	
	comp=Z,6.7nm,0.8s							
KVN	**Kaiserville**	**77.37**	**43**		IAmb	IAmb	04 28 50.2	
	comp=Z,5.3nm,0.9s							
TPNV	**Topopah Spring**	**77.49**	**45**	P		**P**	**04 28 49.7**	**+0.6**
TPNV					IAmb	IAmb	04 28 51.1	
	comp=Z,6.6nm,0.8s							
SHPR	**Sheep Range**	**78.02**	**46**	P		**P**	**04 28 52.9**	**+0.9**
CNPM	**China Poot**	**78.13**	**13**	P		**P**	**04 28 52.4**	**+0.5**
NJ2	**Nanjing**	**78.20**	**308**	*e*P		**P**	**04 28 54.8**	**+1.9**
NJ2					pmax	pmax		
	comp=Z,12nm,0.5s							
Y14A	**Wickenburg**	**78.30**	**49**		IAmb	IAmb	04 28 55.5	
	comp=Z,6.3nm,1.0s							
TUC	**Tucson**	**79.19**	**52**	P		**P**	**04 28 59.5**	**+1.1**
TUC					IAmb	IAmb	04 29 01.1	
	comp=Z,6.1nm,0.8s							
X16A	**Lo Mia Camp, P**	**79.67**	**50**		IAmb	IAmb	04 29 03.5	
	comp=Z,6.4nm,0.9s							
ELK	**Elko**	**80.13**	**43**	P		**P**	**04 29 04.0**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=239,slow=6.9,SNR=6.6							
ELK	**Elko**	**80.13**	**43**	P		**P**	**04 29 03.9**	**+0.6**
TTA	**Tatalina**	**80.41**	**9**		IAmb	IAmb	04 29 06.0	
	comp=Z,11nm,1.2s							
PMR	**Palmer**	**80.45**	**13**	P		**P**	**04 29 04.5**	**+0.3**
PMR					IAmb	IAmb	04 29 05.7	
	comp=Z,4.7nm,0.8s							
GHO	**Glory Hole Cre**	**80.66**	**13**	P		**P**	**04 29 05.5**	**+0.1**
X18A	**Snowflake**	**80.81**	**50**	P		**P**	**04 29 08.6**	**+1.6**
WAX	**Waxell Ridge**	**80.97**	**16**	P		**P**	**04 29 07.8**	**+0.7**
BMO	**Blue Mountains**	**81.03**	**38**	P		**P**	**04 29 08.5**	**+0.6**
SCM	**Sheep Creek Mo**	**81.06**	**14**	P		**P**	**04 29 08.0**	**+0.4**
MSU	**Marysvale**	**81.07**	**46**	P		**P**	**04 29 08.4**	**0.0**
VRDI	**Verde Repeater**	**81.47**	**15**	P		**P**	**04 29 10.1**	**+0.2**
VRDI					IAmb	IAmb	04 29 10.9	
	comp=Z,8.5nm,1.0s							
BALM	**Baldy**	**81.60**	**16**	P		**P**	**04 29 10.5**	**+0.1**
F10A	**Beach Ranch, E**	**81.69**	**37**		IAmb	IAmb	04 29 12.1	
	comp=Z,4.5nm,0.8s							
BARN	**Barnard Glacie**	**81.80**	**16**	P		**P**	**04 29 12.3**	**+0.8**
KTH	**Kantishna Hill**	**81.86**	**11**	P		**P**	**04 29 11.1**	**-0.6**
KTH					IAmb	IAmb	04 29 12.8	
	comp=Z,6.9nm,1.0s							
TRF	**Thorofare Moun**	**81.89**	**12**	P		**P**	**04 29 11.7**	**-0.2**
RND	**Reindeer**	**82.14**	**12**	P		**P**	**04 29 13.3**	**+0.2**
DHY	**Denali Highway**	**82.15**	**13**	P		**P**	**04 29 13.4**	**+0.2**
DHY					IAmb	IAmb	04 29 14.0	
	comp=Z,6.1nm,1.2s							
BPAW	**Bear Paw Mtn.**	**82.35**	**11**			**P**	**04 29 13.7**	**-0.4**
SKAG	**Skagway**	**82.41**	**20**	P		**P**	**04 29 15.5**	**+1.2**
SKAG					IAmb	IAmb	04 29 17.2	
	comp=Z,6.4nm,0.9s							
MCK	**McKinley**	**82.41**	**12**	P		**P**	**04 29 14.6**	**+0.2**
SEY	**Seymchan**	**82.45**	**346**	P		**P**	**04 29 14.7**	**+0.1**
	comp=Z,8.7nm,0.7s,baz=159,slow=7.6,SNR=13							
HYT	**Haines Junctio**	**82.79**	**18**		IAmb	IAmb	04 29 18.3	
	comp=Z,7.3nm,1.1s							
NEW	**Newport**	**83.02**	**35**	P		**P**	**04 29 18.2**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=54,slow=8.7,SNR=3.5							
MNTX	**Cornudas Mount**	**83.09**	**54**		IAmb	IAmb	04 29 20.9	
	comp=Z,7.1nm,0.8s							
PV17	**East Wray Mesa**	**83.20**	**47**		IAmb	IAmb	04 29 20.5	
	comp=Z,4.6nm,0.7s							
PV20	**West Nyswonger**	**83.22**	**47**		IAmb	IAmb	04 29 21.2	
	comp=Z,6.8nm,0.8s							
MLY	**Manley**	**83.24**	**11**		IAmb	IAmb	04 29 19.1	
	comp=Z,7.3nm,0.9s							
PV03	**Paradox Valley**	**83.27**	**47**		IAmb	IAmb	04 29 20.8	
	comp=Z,5.7nm,1.1s							
PV11	**David Mesa, Pa**	**83.27**	**47**		IAmb	IAmb	04 29 22.1	
	comp=Z,5.4nm,0.9s							
RIDG	**Independent Ri**	**83.29**	**14**		IAmb	IAmb	04 29 20.1	
	comp=Z,9.5nm,1.0s							
PV04	**Paradox Valley**	**83.29**	**47**		IAmb	IAmb	04 29 21.6	
	comp=Z,7.9nm,0.8s							
PV21	**Cone Mtn., Par**	**83.32**	**47**		IAmb	IAmb	04 29 21.8	
	comp=Z,7.6nm,0.7s							
PV12	**Saucer Basin,**	**83.33**	**47**		IAmb	IAmb	04 29 21.8	
	comp=Z,6.6nm,0.8s							
PV01	**Paradox Valley**	**83.41**	**47**		IAmb	IAmb	04 29 22.0	
	comp=Z,6.1nm,1.0s							
PV22	**Blue Mesa, Par**	**83.44**	**47**		IAmb	IAmb	04 29 22.3	
	comp=Z,4.8nm,0.9s							
WHY	**Whitehorse**	**83.47**	**19**	P		**P**	**04 29 20.8**	**+0.8**
DLBC	**Dease Lake**	**83.49**	**23**	P		**P**	**04 29 20.5**	**+0.5**
	comp=Z,3.3nm,0.8s,baz=204,slow=7.3,SNR=7.0							
DLBC	**Dease Lake**	**83.49**	**23**			**P**	**04 29 20.9**	**+0.9**
DLBC					IAmb	IAmb	04 29 21.8	
	comp=Z,4.7nm,0.9s							
TX32	**Lajitas Array**	**83.53**	**57**		IAmb	IAmb	04 29 24.0	
	comp=Z,11nm,1.1s							
TXAR	**Lajitas Array**	**83.53**	**57**	P		**P**	**04 29 22.6**	**+1.7**
	comp=Z,4.3nm,0.9s,baz=218,slow=5.3,SNR=36							
PV15	**Paradox Valley**	**83.57**	**47**		IAmb	IAmb	04 29 22.8	
	comp=Z,5.0nm,0.8s							
ANMO	**Albuquerque**	**83.59**	**51**	P		**P**	**04 29 21.9**	**+0.6**
SCRK	**Sand Creek**	**83.69**	**14**		IAmb	IAmb	04 29 22.2	
	comp=Z,6.5nm,0.9s							
ILAR	**Eielson Array**	**83.75**	**12**	P		**P**	**04 29 21.1**	**0.0**
	comp=Z,5.2nm,0.6s,baz=214,slow=5.4,SNR=53							
BJI	**Beijing**	**83.78**	**315**	P		**P**	**04 29 22.8**	**+1.0**
BJI					pmax	pmax		
	comp=Z,5.0nm,1.0s							
IPM	**Ipoh**	**83.98**	**276**	P		**P**	**04 29 21.8**	**-1.7**
DLMT	**Dillon**	**84.14**	**40**		IAmb	IAmb	04 29 25.8	
	comp=Z,5.9nm,0.8s							
PRP	**Porcupine Dome**	**84.69**	**12**		IAmb	IAmb	04 29 27.5	
	comp=Z,8.6nm,0.9s							
PDAR	**Pinedale Array**	**84.83**	**43**	P		**P**	**04 29 27.4**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=232,slow=3.6,SNR=8.3							
EGAK	**Eagle**	**85.03**	**14**	P		**P**	**04 29 27.4**	**-0.1**
EGAK					IAmb	IAmb	04 29 28.8	
	comp=Z,7.8nm,0.9s							
RLMT	**Red Lodge**	**86.09**	**41**		IAmb	IAmb	04 29 35.4	
	comp=Z,4.3nm,0.9s							
MAW	**Mawson**	**86.14**	**199**	P		**P**	**04 29 33.5**	**+0.6**
	comp=Z,2.6nm,0.9s,baz=160,slow=5.4,SNR=3.5							
MAW	**Mawson**	**86.14**	**199**	P		**P**	**04 29 34.6**	**+1.6**
HHC	**Hu-ho-hao-te**	**87.31**	**314**	*e*P		**P**	**04 29 38.0**	**-1.1**
HHC					pmax	pmax		
	comp=Z,12nm,0.6s							
HHC					pmax	pmax		
	comp=Z,32nm,4.8s							
LAO	**LASA Array**	**88.69**	**40**		IAmb	IAmb	04 29 47.9	
	comp=Z,7.4nm,0.9s							
RSSD	**Black Hills**	**89.04**	**43**	P		**P**	**04 29 46.8**	**-0.6**
RSSD					IAmb	IAmb	04 29 48.5	
	comp=Z,5.0nm,0.8s							
INK	**Inuvik**	**89.70**	**15**	P		**P**	**04 29 49.0**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=230,slow=5.1,SNR=6.3							
CMAR	**Chiang Mai Arr**	**89.97**	**289**	P		**P**	**04 29 53.5**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=120,slow=2.8,SNR=6.6							
YKA	**Yellowknife Ar**	**91.96**	**24**	P		**P**	**04 30 00.2**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=239,slow=4.9,SNR=16							
ECSD	**EROS Data Cent**	**93.91**	**46**		IAmb	IAmb	04 30 09.9	
	comp=Z,2.5nm,0.8s							
MKAR	**Makanchi Array**	**109.16**	**314**		PKiKP	**PKiKP**	**04 35 18.5**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=42,slow=3.3,SNR=4.5							
ARCES	**ARCESS Array B**	**124.85**	**351**		PKP	**PKPdf**	**04 35 48.5**	**-0.4**
	comp=Z,2.1nm,0.5s,baz=14,slow=1.6,SNR=17							
FINES	**FINESS Array B**	**131.93**	**346**		PKP	**PKPdf**	**04 36 02.4**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=219,slow=4.9,SNR=5.4							
NOA	**NORSAR Array B**	**134.78**	**355**		PKP	**PKPdf**	**04 36 07.2**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=13,slow=4.1,SNR=3.1							
AKASG	**Malin Array Be**	**139.75**	**335**		PKhKP	PKPpre	04 36 09.1	
	comp=Z,0.2nm,0.4s,baz=50,slow=3.7,SNR=4.1							
KWP	**Kalwaria Pacla**	**143.09**	**339**		*e*PKP	PKPbc	04 36 21.4	+0.3
OJC	**Ojcow**	**143.50**	**342**		*e*PKP	PKPbc	04 36 22.6	+0.3
BURAR	**Bucovina Array**	**143.81**	**335**		/P	PKPbc	04 36 23.9	+0.5
KOLS	**Kolonicke sedl**	**143.83**	**339**		*e*PKP	**PKPdf**	**04 36 24.0**	**-0.7**
KSP	**Ksiaz**	**143.84**	**346**		*e*PKP	**PKPdf**	**04 36 24.2**	**-0.5**
CLZ	**Clausthal**	**143.93**	**353**		*e*PKPbc	PKPbc	04 36 23.7	+0.1
	baz=12,slow=3.1							
BIZ	**Bicaz**	**143.97**	**333**		↑P	PKPbc	04 36 24.3	+0.5
TLCR		**144.02**	**329**		↓P	PKPbc	04 36 24.5	+0.5
NIE	**Niedzica**	**144.06**	**341**		*e*PKP	**PKPdf**	**04 36 25.0**	**-0.1**
TESR	**Tescani**	**144.06**	**332**		↓P	PKPbc	04 36 24.2	+0.1
CLL	**Collm**	**144.06**	**350**		/PKPdf	**PKPdf**	**04 36 24.8**	**-0.2**
	comp=Z,8.0nm,0.7s							
OSTC	**Ostas**	**144.13**	**346**		*e*PKP	**PKPdf**	**04 36 25.4**	**+0.2**
CHVC	**Chvalec**	**144.14**	**346**		*e*PKP	**PKPdf**	**04 36 24.7**	**-0.5**
UPC	**Upice**	**144.22**	**346**		*e*PKP	**PKPdf**	**04 36 25.2**	**-0.1**
GTTG	**Gottingen**	**144.27**	**353**		*e*PKPbc	PKPbc	04 36 24.9	+0.4
	baz=12,slow=3.1							
DPC	**Dobruska-Polom**	**144.30**	**346**		*e*PKP	**PKPdf**	**04 36 25.5**	**0.0**
BRG	**Berggiesshubel**	**144.31**	**349**		/PKP	**PKPab**	**04 36 25.0**	**+0.2**
	comp=Z,6.0nm,0.7s							
BRG	**Berggiesshubel**	**144.31**	**349**		*e*PKPbc	**PKPab**	**04 36 24.7**	**0.0**
	baz=12,slow=3.1							
CFR	**Carcaliu**	**144.36**	**330**		↑P	PKPbc	04 36 25.0	0.0
FBE	**Freiberg**	**144.37**	**349**		*e*PKPbc	**PKPdf**	**04 36 25.4**	**-0.1**
	baz=12,slow=3.1							
TRPA	**Tarpa**	**144.42**	**338**		↓P	**PKPdf**	**04 36 25.7**	**0.0**
KRLC	**Kraliky**	**144.44**	**345**		*e*PKP	**PKPab**	**04 36 25.5**	**+0.2**
KRLC					*ex*	x	04 36 29.4	
TOPG	**Topolog**	**144.46**	**329**		↑P	**PKPdf**	**04 36 25.8**	**0.0**
VRI	**Vrincioaia**	**144.51**	**332**		↑P	**PKPab**	**04 36 25.8**	**+0.1**
MORC	**Moravsky Berou**	**144.53**	**344**		↑P	PKPbc	04 36 25.5	0.0
MORC	**Moravsky Berou**	**144.53**	**344**		*e*PKP	**PKPdf**	**04 36 25.8**	**-0.1**
LANS	**Liptovska Anna**	**144.55**	**342**		*e*PKP	**PKPdf**	**04 36 27.2**	**+1.2**
PLOR	**Plostina**	**144.56**	**332**		↓P	**PKPdf**	**04 36 26.3**	**+0.3**
ARCR	**ARCALIA**	**144.58**	**335**		↑P	**PKPdf**	**04 36 26.2**	**+0.1**
BR131	**Keskin Array S**	**144.72**	**318**			PKPbc	04 36 25.6	-1.0
BRTR	**Keskin Array B**	**144.72**	**318**		PKP	**PKPab**	**04 36 27.0**	**+0.1**
	comp=Z,4.7nm,0.8s,baz=108,slow=2.3,SNR=21							
OZUR		**144.76**	**333**		↓P	**PKPab**	**04 36 27.4**	**+0.7**
HARR	**Harsova**	**144.81**	**329**		↑P	**PKPab**	**04 36 27.3**	**+0.5**
MOX	**Moxa**	**144.93**	**351**		*e*PKPbc	**PKPab**	**04 36 27.0**	**-0.1**
	baz=12,slow=3.1							
PLN	**Plauen**	**145.00**	**350**		*e*PKPbc	**PKPab**	**04 36 27.3**	**0.0**
	baz=12,slow=3.1							
TANN	**Tannenbergstha**	**145.02**	**350**		*e*PKPbc	**PKPab**	**04 36 27.5**	**0.0**
	baz=12,slow=3.1							
PRU	**Pruhonice**	**145.03**	**347**		*e*PKP	**PKPbc**	**04 36 27.2**	**+0.2**
DOPR	**Dopca**	**145.04**	**333**		↓P	**PKPab**	**04 36 27.9**	**+0.2**
GOPC	**GO Pecny, Ondr**	**145.05**	**347**		*e*PKP	**PKPbc**	**04 36 27.0**	**-0.1**
GUNZ	**Gunzen**	**145.09**	**350**		*e*PKPbc	**PKPab**	**04 36 27.8**	**+0.1**
	baz=12,slow=3.1							
WERN	**Wernitzgruen**	**145.15**	**350**		*e*PKPbc	**PKPab**	**04 36 28.2**	**+0.2**
	baz=12,slow=3.1							
MLR	**Muntele Rosu**	**145.16**	**332**		↑P	**PKPab**	**04 36 28.9**	**+0.6**
NKC	**Novy Kostel**	**145.19**	**350**		*e*PKP	**PKPab**	**04 36 28.0**	**-0.1**
VRAC	**Vranov**	**145.20**	**345**		*e*PKP	**PKPab**	**04 36 28.6**	**+0.4**
VYHS	**Vyhne**	**145.32**	**342**		*e*PKP	**PKPab**	**04 36 28.8**	**+0.1**
JAVC	**Velka Javorina**	**145.33**	**343**		*e*PKP	**PKPab**	**04 36 29.4**	**+0.7**
DRGR		**145.47**	**336**		↓P	**PKPbc**	**04 36 28.7**	**+0.2**
KRUC	**Moravsky**	**145.48**	**345**		*e*PKP	**PKPbc**	**04 36 28.6**	**+0.2**
MANZ	**Manzenberg**	**145.49**	**350**		*e*PKPbc	**PKPab**	**04 36 28.9**	**-0.4**
	baz=12,slow=3.1							
PSZ	**Piszkesteto**	**145.51**	**340**		↓P	**PKPbc**	**04 36 28.8**	**+0.2**
MEM	**Membach**	**145.52**	**357**		PKPab	**PKPbc**	**04 36 28.8**	**+0.3**
MEM					PKiKP	**PKiKP**	**04 36 31.6**	**-0.1**
BSTI	**Sart Tilman**	**145.57**	**358**		PKPab	**PKPbc**	**04 36 29.1**	**-0.4**
BSTI					PKiKP	**PKiKP**	**04 36 31.9**	**+0.2**
VOIR		**145.60**	**333**		↓P	**PKPbc**	**04 36 28.9**	**-0.1**
ROTZ	**Rotzenmuhle**	**145.69**	**350**		*e*PKPbc	**PKPab**	**04 36 29.6**	**-0.4**
	baz=12,slow=3.1							
TNS	**Taunus Mts**	**145.73**	**354**		*e*PKPbc	**PKPbc**	**04 36 29.7**	**+0.5**
	baz=12,slow=3.1							
ARR	**Arges**	**145.84**	**333**		↓P	**PKPbc**	**04 36 29.5**	**-0.1**
MODS	**Modra-Piesok**	**145.88**	**344**		*e*PKP	**PKPbc**	**04 36 29.9**	**+0.3**
GRF	**Grafenberg Arr**	**145.91**	**351**		*e*PKPbc	**PKPbc**	**04 36 30.2**	**+0.5**
	baz=12,slow=3.1							
KHC	**Kasperske Hory**	**146.04**	**348**		*e*PKP	**PKPbc**	**04 36 30.4**	**+0.3**
DOU	**Dourbes**	**146.09**	**359**		PKPab	**PKPbc**	**04 36 30.4**	**+0.3**
GEC2	**GERESS Array S**	**146.29**	**348**		*e*PKPbc	**PKPbc**	**04 36 31.3**	**+0.5**
	baz=12,slow=3.1							
GERES	**GERESS Array B**	**146.29**	**348**		PKPbc	**PKPbc**	**04 36 31.4**	**+0.5**
	comp=Z,2.2nm,0.7s,baz=58,slow=3.3,SNR=11							
SIRR	**Siria**	**146.31**	**337**		↑P	**PKPbc**	**04 36 31.4**	**+0.5**
WLF	**Walferdange**	**146.46**	**357**		PKPab	**PKPab**	**04 36 32.1**	**-0.9**
WLF	**Walferdange**	**146.46**	**357**			**PKPbc**	**04 36 31.7**	**+0.5**
WLF	**Walferdange**	**146.46**	**357**		*e*PKPab	**PKPab**	**04 36 32.1**	**-0.9**
GZR	**Gura Zlata**	**146.60**	**335**		↑P	**PKPbc**	**04 36 32.2**	**+0.4**
CONA	**Conrad Observa**	**146.66**	**345**		*i* PKPbc	**PKPbc**	**04 36 32.5**	**+0.6**
	comp=Z,8.1nm,0.7s,SNR=7.0							
BZS	**Buzias**	**146.87**	**336**		↓P	**PKPbc**	**04 36 32.9**	**+0.5**
MOA	**Molln**	**147.12**	**347**		*i* PKPbc	**PKiKP**	**04 36 34.1**	**-1.0**
	comp=Z,5.8nm,0.8s							
HERR	**Herculane**	**147.16**	**335**		↓P	**PKPbc**	**04 36 33.4**	**+0.1**
ARSA	**Arzberg**	**147.38**	**345**		*i* PKPbc	**PKPbc**	**04 36 34.5**	**+0.7**
	comp=Z,4.3nm,1.0s							
MDVR	**Moldovita**	**147.53**	**335**		↓P	**PKPbc**	**04 36 34.8**	**+0.5**
RJOB	**Jochberg**	**147.53**	**348**		*e*PKPbc	**PKPbc**	**04 36 34.6**	**+0.4**
	baz=12,slow=3.1							
BFO	**Black Forest**	**147.62**	**354**			**PKPbc**	**04 36 35.0**	**+0.6**
BFO	**Black Forest**	**147.62**	**354**		*e*PKPbc	**PKPbc**	**04 36 34.8**	**+0.4**
	baz=12,slow=3.1							
SOKA	**Soboth**	**148.03**	**345**		*i* PKPbc	**PKPbc**	**04 36 35.1**	**-0.5**
	comp=Z,3.9nm,0.9s							
KBA	**Koelnbreinsper**	**148.05**	**347**		*i* PKPbc	**PKPbc**	**04 36 35.2**	**-0.6**
	comp=Z,6.4nm,1.1s							
RETA	**Reutte**	**148.13**	**351**		*i* PKiKP	**PKiKP**	**04 36 36.8**	**-0.5**
	comp=Z,7.0nm,1.2s							
WATA	**Walderalm**	**148.14**	**350**		*i* PKPbc	**PKPbc**	**04 36 35.9**	**0.0**
	comp=Z,8.7nm,1.3s							

comp=Z,0.4nm,0.3s,baz=33,slow=10,SNR=2.9
NOA NORSAR Array B 66.48 351 P **P** **04 32 34.2 -1.0**
comp=Z,0.1nm,0.4s,baz=12,slow=6.4,SNR=2.1

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*IDC **05** 04:45:29.6±1.1,2.06N×126.15E,h0km,mb4.0/6, mb1 4.1/6,mb1mx3.7/37,mbtmp4.0/6, Error ellipse: s-maj=108.4km s-min=18.5km az=70.0*
*DJA **05** 04:45:42.9±1.1,2.1N±4.4×12.6E±.4,h14km±9km, M3.8/8, MLv3.8/8*
ISC 05 04:45:32.4±0.8,2.14N±0.07×126.03E±0.05,h10km,n12, σ2s01/14,mb4.1/5,1D,Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.90**	**135**	P	**Pg**	**04 46 12.0**	**+3.1**
TNTI				S	**Sg**	**04 46 34.5**	**+0.9**
KMSI	**Cibinong**	**2.57**	**233**	P	**Pg**	**04 46 24.0**	**+2.2**
KMSI				S	**Sg**	**04 46 56.9**	**+1.7**
LBMI	**Labuha**	**3.12**	**152**	P	**Pb**	**04 46 29.3**	**+1.3**
SANI	**Sanana**	**4.16**	**181**	P	**Pb**	**04 46 44.4**	**-1.3**
MRSI	**Marisa**	**4.41**	**248**	P	**Pb**	**04 46 50.5**	**+0.4**
KCP	**Kidapawan**	**4.93**	**349**	*jiP*	**Pn**	**04 46 48.1**	**+1.4**
FITZ	**Fitzroy Crossi**	**20.11**	**181**	P	**P**	**04 50 05.0**	**-1.5**
	2.3nm,0.7s,baz=7.6,slow=15,SNR=1.3						
WRA	**Warramunga Arr**	**23.41**	**160**	P	**P**	**04 50 39.1**	**-2.6**
	3.7nm,0.8s,baz=337,slow=11,SNR=11						
ASAR	**Alice Springs**	**26.77**	**164**	P	**P**	**04 51 10.4**	**-2.2**
	0.8nm,0.7s,baz=348,slow=13,SNR=8.0						
STKA	**Stephens Creek**	**36.91**	**158**	P	**P**	**04 52 39.2**	**-2.4**
	2.3nm,0.7s,baz=336,slow=8.6,SNR=7.1						
MKAR	**Makanchi Array**	**58.47**	**326**	P	**P**	**04 55 28.1**	**-0.6**
	1.0nm,0.4s,baz=122,slow=7.8,SNR=14						
NRIK	**Noril'sk**	**71.81**	**347**	P	**P**	**04 56 54.6**	**-0.2**
	1.6nm,0.6s,baz=128,slow=8.0,SNR=4.3						

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*IDC **05** 04:50:25.1±1.3,15.74S×178.26E,h0km,mb3.9/8, mb1 4.2/8,mb1mx4.0/28,mbtmp3.9/8,MS3.6/12, Ms1 3.6/12,ms1mx3.4/30,Error ellipse: s-maj=68.5km s-min=20.8km az=146.0*
*NEIC **05** 04:50:26.2±1.4,16.20S±0.07×178.5E±0.1,h18km±4km, mb4.6/21, Error ellipse: s-maj=15.6km s-min=9.9km az=84.0*
ISC 05 04:50:26.3±0.6,16.15S±0.09×178.4E±0.2,h17km,n57, σ0s91/45,mb4.5/18,MS3.6/13,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**1.60**	**191**		**Pn**	**04 50 53.5**	**-0.5**
MSVF				Sn	**Sn**	**04 51 14.1**	**-0.2**
DZM	**Mont Dzumac**	**12.72**	**241**	*e*LR	LR	04 56 12.9	
	comp=Z,493nm,25.1s						
RAO	**Raoul Island**	**13.47**	**166**	LR	LR	04 57 22.0	
	comp=Z,694nm,20.0s,baz=133,slow=30						
HNR	**Honiara**	**19.17**	**288**	LR	LR	05 01 13.2	
	comp=Z,275nm,19.3s,baz=109,slow=34						
RAR	**Rarotonga**	**21.29**	**107**	LR	LR	05 01 31.5	
	comp=Z,164nm,21.4s,baz=280,slow=31						
LTZ	**Lake Taylor**	**27.05**	**190**	P	**P**	**04 56 07.2**	**-0.6**
LTZ				IAmb	IAmb	04 56 14.2	
	comp=Z,12nm,1.1s						
RPZ	**Rata Peaks**	**28.17**	**191**	LR	LR	05 07 30.2	
	comp=Z,73nm,18.1s,baz=20,slow=36						
ARMA	**Armidale**	**28.29**	**235**	P	**P**	**04 56 18.2**	**-0.9**
KRVT	**Keravat (AS076**	**28.44**	**292**	LR	LR	05 07 07.3	
	comp=Z,181nm,18.1s,baz=114,slow=36						
PPT2	**Papeete2**	**30.68**	**97**	*e*LR	LR	05 04 39.4	
	comp=Z,346nm,29.5s						
PPT	**Papeete**	**30.68**	**97**	LR	LR	05 06 39.3	
	comp=Z,52nm,18.6s,baz=293,slow=32						
TBI	**Tubuai**	**31.05**	**108**	*e*LR	LR	05 04 56.6	
	comp=Z,384nm,29.5s						
STKA	**Stephens Creek**	**36.86**	**238**	P	**P**	**04 57 36.6**	**+2.7**
	comp=Z,4.5nm,0.8s,baz=60,slow=10,SNR=4.8						
STKA				LR	LR	05 10 45.5	
	comp=Z,122nm,21.4s,baz=63,slow=33						
STKA	**Stephens Creek**	**36.86**	**238**	P	**P**	**04 57 34.4**	**+0.5**
TAOE	**Nuku Hiva Isla**	**41.07**	**85**	*e*LR	LR	05 09 22.7	
	comp=Z,315nm,27.7s						
BBOO	**Buckleboo**	**41.63**	**239**	P	**P**	**04 58 12.5**	**-1.3**
WB0	**Warramunga Arr**	**41.91**	**258**	P	**P**	**04 58 15.3**	**-1.0**
WRA	**Warramunga Arr**	**41.96**	**258**	P	**P**	**04 58 17.3**	**+0.7**
	comp=Z,1.7nm,1.2s,baz=99,slow=8.2,SNR=1.0						
WRA				LR	LR	05 15 48.2	
	comp=Z,27nm,20.0s,baz=225,slow=36						
ASAR	**Alice Springs**	**42.35**	**252**	P	**P**	**04 58 21.2**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=86,slow=8.6,SNR=15						
ASAR				LR	LR	05 14 39.7	
	comp=Z,125nm,18.4s,baz=96,slow=34						
VNDA	**Vanda**	**61.95**	**184**	LR	LR	05 23 59.0	
	comp=Z,44nm,19.6s,baz=316,slow=32						
MJAR	**Matsushiro Arr**	**64.69**	**325**	LR	LR	05 24 03.8	
	comp=Z,23nm,21.5s,baz=139,slow=31						
PETK	**Petropavlovsk-**	**71.25**	**347**	P	**P**	**05 01 43.7**	**-0.7**
	comp=Z,2.4nm,1.0s,baz=97,slow=6.0,SNR=3.6						
KSRS	**Korea Array**	**71.37**	**320**	LR	LR	05 27 22.8	
	comp=Z,28nm,20.2s,baz=97,slow=31						
QSPA	**South Pole Qui**	**73.89**	**180**	P	**P**	**05 02 00.4**	**+0.2**
QSPA				IAmb	IAmb	05 02 09.4	
	comp=Z,5.5nm,1.1s						
NVAR	**Mina Array Bea**	**80.34**	**45**	P	**P**	**05 02 37.4**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=227,slow=9.4,SNR=7.9						
TTA	**Tatalina**	**81.34**	**12**	P	**P**	**05 02 42.2**	**+0.7**
TTA				IAmb	IAmb	05 02 43.6	
	comp=Z,5.3nm,1.2s						
RND	**Reindeer**	**83.29**	**14**	P	**P**	**05 02 50.8**	**-0.9**
MCK	**McKinley**	**83.55**	**14**	P	**P**	**05 02 53.4**	**+0.4**
MCK				IAmb	IAmb	05 02 54.6	
	comp=Z,4.8nm,1.1s						
U15A	**North Rim**	**83.67**	**49**	P	**P**	**05 02 53.2**	**-1.4**
U15A				IAmb	IAmb	05 02 56.2	
	comp=Z,3.7nm,1.1s						
MLY	**Manley**	**84.28**	**13**	P	**P**	**05 02 56.6**	**-0.1**
MLY				IAmb	IAmb	05 02 57.2	
	comp=Z,4.1nm,1.1s						
WRH	**Wood River Hil**	**84.38**	**14**	P	**P**	**05 02 57.3**	**+0.1**
MFID	**Camas Ranch**	**84.39**	**42**	P	**P**	**05 02 57.6**	**-0.2**
RIDG	**Independent Ri**	**84.56**	**16**	P	**P**	**05 02 57.5**	**-0.7**
CCB	**Clear Creek Bu**	**84.59**	**14**	P	**P**	**05 02 58.2**	**0.0**
HDA	**Harding Lake**	**84.59**	**14**	P	**P**	**05 02 58.4**	**+0.1**
HDA				IAmb	IAmb	05 02 58.6	
	comp=Z,4.8nm,1.2s						
DOT	**Dot Lake**	**84.69**	**16**	P	**P**	**05 02 58.3**	**-0.6**
DOT				IAmb	IAmb	05 03 00.0	
	comp=Z,6.1nm,1.2s						
IL31		**84.91**	**14**	P	**P**	**05 02 59.7**	**-0.1**
ILAR	**Eielson Array**	**84.91**	**14**	P	**P**	**05 02 59.9**	**0.0**
	comp=Z,3.5nm,0.9s,baz=232,slow=6.2,SNR=23						
SCRK	**Sand Creek**	**84.97**	**16**	P	**P**	**05 03 00.9**	**+0.5**
SCRK				IAmb	IAmb	05 03 03.5	
	comp=Z,4.4nm,1.2s						
DLMT	**Dillon**	**87.34**	**41**	P	**P**	**05 03 11.9**	**-0.6**
DLMT				IAmb	IAmb	05 03 14.9	
	comp=Z,3.4nm,1.1s						
TXAR	**Lajitas Array**	**87.68**	**59**	P	**P**	**05 03 17.0**	**+2.5**
	comp=Z,0.1nm,0.6s,baz=231,slow=5.7,SNR=2.0						
PDAR	**Pinedale Array**	**88.23**	**45**	P	**P**	**05 03 15.6**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=249,slow=4.3,SNR=2.0						
GERES	**GERESS Array B**	**145.07**	**342**	PKP	**PKPdf**	**05 10 03.3**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=8.5,slow=2.7,SNR=15						
CONA	**Conrad Observa**	**145.19**	**339**	*i* PKPdf	**PKPdf**	**05 10 04.1**	**+0.9**
	comp=Z,6.3nm,0.8s						
MOA	**Molln**	**145.79**	**341**	*i* PKPab	**PKPab**	**05 10 05.4**	**+0.5**
	comp=Z,3.6nm,0.9s						
ARSA	**Arzberg**	**145.90**	**339**	*i* PKiKP	**PKiKP**	**05 10 07.3**	**-1.1**
	comp=Z,2.1nm,0.6s						
SOKA	**Soboth**	**146.56**	**339**	*i* PKPab	**PKPab**	**05 10 07.4**	**-0.6**
	comp=Z,3.2nm,0.9s						
KBA	**Koelnbreinsper**	**146.76**	**341**	*i* PKPab	**PKPbc**	**05 10 07.0**	**-0.6**
	comp=Z,3.5nm,1.1s						
OBKA	**Obir**	**146.87**	**339**	*i* PKPdf	**PKPdf**	**05 10 05.2**	**-0.8**
	comp=Z,4.9nm,1.1s						
MYKA	**Terra Mystica**	**147.06**	**341**	*i* PKPab	**PKPbc**	**05 10 08.6**	**+0.2**
	comp=Z,3.3nm,0.6s						
WTTA	**Wattenberg**	**147.09**	**343**	*i* PKPab	**PKPab**	**05 10 09.4**	**-0.7**
	comp=Z,6.4nm,1.0s						
RETA	**Reutte**	**147.12**	**344**	*i* PKPab	**PKPab**	**05 10 09.2**	**-0.9**
	comp=Z,5.4nm,0.8s						
MOTA	**Moosalm**	**147.16**	**344**	*i* PKPab	**PKPab**	**05 10 09.4**	**-1.0**
	comp=Z,2.4nm,0.6s						
SQTA	**Sankt Quirin**	**147.25**	**344**	*i* PKPbc	**PKPdf**	**05 10 07.2**	**+0.5**
	comp=Z,2.5nm,0.7s						
ABTA	**Abfaltersbach**	**147.31**	**342**	*i* PKPab	**PKPbc**	**05 10 08.8**	**-0.2**
	comp=Z,2.3nm,0.6s						
DAVA	**Damuels**	**147.53**	**345**	*i* PKPab	**PKPab**	**05 10 10.8**	**-1.0**
	comp=Z,3.4nm,0.7s						
FETA	**Feichten**	**147.56**	**344**	*i* PKPab	**PKPbc**	**05 10 10.1**	**+0.2**
	comp=Z,3.5nm,1.2s						

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*NEIC **05** 05:05:29.9±1.8,28.7S±0.1×178.4W±0.2,h198km±5km, mb4.4/17, Error ellipse: s-maj=21.9km s-min=12.9km az=66.0*
*IDC **05** 05:05:29.8±0.7,28.69S×178.32W,h194km±6km,mb3.9/13, mb1 4.0/13,mb1mx3.9/30,mbtmp4.4/13, Error ellipse: s-maj=17.0km s-min=15.3km az=83.0*
ISC 05 05:05:30.4±0.5,29.11S±0.06×178.48W±0.09,h200km, n70,σ2s07/79,mb4.2/19,1C-2D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**0.50**	**106**	P	**Pn**	**05 05 57.9**	**+0.4**
RIZ				S	**Sn**	**05 06 17.7**	**-0.7**
RAO	**Raoul Island**	**0.51**	**106**	P	**Pn**	**05 05 57.2**	**-0.4**
	1μm,0.3s,baz=45,slow=10.0,SNR=74						
RAO				S	**Sn**	**05 06 17.3**	**-1.2**
	2μm,0.3s,baz=60,slow=20,SNR=9.1						
RAO	**Raoul Island**	**0.51**	**106**		**Pn**	**05 05 57.5**	**0.0**
RAO	**Raoul Island**	**0.51**	**106**		**Sn**	**05 06 17.8**	**-0.7**
GLKZ	**Green Lake**	**0.51**	**107**	P	**Pn**	**05 05 58.3**	**+0.8**
GLKZ				S	**Sn**	**05 06 17.7**	**-0.8**
WMGZ	**Waiomatatini S**	**9.06**	**196**	P	**Pn**	**05 07 35.2**	**-2.2**
WMGZ				S	**Sn**	**05 09 16.4**	**-2.6**
HAZ	**Te Kaha**	**9.17**	**199**	P	**Pn**	**05 07 36.7**	**-2.0**
HAZ				S	**Sn**	**05 09 20.4**	**-1.1**
PKGZ	**Pakihiroa**	**9.21**	**197**	P	**Pn**	**05 07 35.5**	**-4.0**
PKGZ				S	**Sn**	**05 09 16.6**	**-6.1**
PUZ	**Puketiti**	**9.34**	**196**	P	**Pn**	**05 07 38.1**	**-3.0**
PUZ				S	**Sn**	**05 09 23.0**	**-2.6**
RUGZ	**Raukumara Rang**	**9.39**	**199**	P	**Pn**	**05 07 38.7**	**-3.1**
RUGZ				S	**Sn**	**05 09 23.6**	**-3.4**
CNGZ	**Carnagh Statio**	**9.75**	**196**	P	**Pn**	**05 07 43.5**	**-2.7**
MWZ	**Matawai**	**9.78**	**199**	P	**Pn**	**05 07 42.7**	**-4.1**
TKGZ	**Te Karaka**	**9.79**	**197**	P	**Pn**	**05 07 43.2**	**-3.6**
TKGZ				S	**Sn**	**05 09 33.6**	**-2.7**
RAGZ	**Rawiri**	**9.96**	**199**	P	**Pn**	**05 07 46.6**	**-2.6**
RIGZ	**Rimuhau**	**10.07**	**197**	P	Pn	05 07 45.4	-5.1
MUGZ	**Murupara**	**10.14**	**202**	P	**Pn**	**05 07 48.6**	**-2.8**
MTHZ	**Maungataniwha**	**10.46**	**201**	P	**Pn**	**05 07 52.4**	**-3.2**
MRHZ	**Matea Rd**	**10.58**	**202**	P	**Pn**	**05 07 56.0**	**-1.1**
DZM	**Mont Dzumac**	**15.29**	**294**	P	**P**	**05 08 60.0**	**+3.2**
	0.4nm,0.3s,baz=137,slow=18,SNR=2.2						
DZM	**Mont Dzumac**	**15.29**	**294**		**Pn**	**05 08 53.8**	**-2.5**
DZM				IAmb	IAmb	05 09 11.3	
	comp=Z,18nm,1.3s						
CTA	**Charters Tower**	**33.20**	**278**	P	**P**	**05 11 49.5**	**+1.0**
	comp=Z,3.2nm,0.4s,baz=99,slow=13,SNR=2.4						
CTAO	**Charters Tower**	**33.20**	**278**	P	**P**	**05 11 49.8**	**+1.3**
CTAO				IAmb	IAmb	05 12 01.3	
	comp=Z,21nm,1.5s						
STKA	**Stephens Creek**	**34.38**	**255**	P	**P**	**05 12 01.9**	**+3.3**
	comp=Z,3.0nm,0.4s,baz=96,slow=13,SNR=8.8						
STKA	**Stephens Creek**	**34.38**	**255**	P	**P**	**05 12 01.0**	**+2.4**
BBOO	**Buckleboo**	**38.93**	**253**	P	**P**	**05 12 36.4**	**-0.6**
BBOO				IAmb	IAmb	05 12 53.0	
	comp=Z,20nm,1.4s						
AS31	**Alice Springs**	**42.77**	**266**	P	**P**	**05 13 10.0**	**+1.5**
ASAR	**Alice Springs**	**42.77**	**266**	P	**P**	**05 13 09.2**	**+0.6**
	comp=Z,3.2nm,0.5s,baz=98,slow=6.6,SNR=40						
ASAR				PcP	**PcP**	**05 14 56.0**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=118,slow=4.0,SNR=6.0						
WB2	**Warramunga Arr**	**43.63**	**271**	P	**P**	**05 13 14.9**	**-0.5**
WB2				IAmb	IAmb	05 13 19.6	
	comp=Z,5.6nm,0.7s						
WRA	**Warramunga Arr**	**43.64**	**271**	P	**P**	**05 13 15.2**	**-0.3**
	comp=Z,1.6nm,0.3s,baz=109,slow=7.9,SNR=7.3						
WRA				PcP	**PcP**	**05 14 59.1**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=124,slow=3.4,SNR=5.7						
WB0	**Warramunga Arr**	**43.66**	**271**	P	**P**	**05 13 16.6**	**+0.9**
WB0				IAmb	IAmb	05 13 17.1	
	comp=Z,12nm,1.3s						
FORT	**Forrest**	**45.99**	**254**	P	**P**	**05 13 34.0**	**+0.2**
VNDA	**Vanda**	**49.33**	**186**	P	**P**	**05 14 03.2**	**+4.4**
	comp=Z,2.5nm,0.6s,baz=4.2,slow=7.9,SNR=20						
VNDA	**Vanda**	**49.33**	**186**	P	P	05 14 03.4	+4.6
FITZ	**Fitzroy Crossi**	**51.95**	**269**	P	**P**	**05 14 20.5**	**+1.3**
FITZ				IAmb	IAmb	05 14 34.1	
	comp=Z,9.4nm,1.1s						
PSAB3	**Pilbara Seismi**	**55.69**	**263**	P	**P**	**05 14 46.3**	**0.0**
PSAC3	**Pilbara Seismi**	**55.71**	**263**	P	**P**	**05 14 46.7**	**+0.2**
PSAC3				IAmb	IAmb	05 14 47.9	
	comp=Z,7.3nm,0.9s						
CASY	**Casey**	**56.09**	**207**	P	**P**	**05 14 49.9**	**+1.5**
MORW	**Morawa**	**56.51**	**253**	P	**P**	**05 14 52.6**	**+0.6**
MORW				IAmb	IAmb	05 14 58.7	
	comp=Z,14nm,1.2s						
QSPA	**South Pole Qui**	**61.00**	**180**	P	**P**	**05 15 25.9**	**+3.4**
MAW	**Mawson**	**73.36**	**201**	P	**P**	**05 16 42.2**	**+2.3**
	comp=Z,2.6nm,0.5s,baz=133,slow=8.2,SNR=8.1						
MJAR	**Matsushiro Arr**	**76.95**	**325**	P	**P**	**05 16 59.3**	**-1.5**
	comp=Z,5.7nm,0.9s,baz=152,slow=6.2,SNR=8.2						
MJAR				PP	**pP**	**05 17 43.8**	**-4.4**
	comp=Z,0.7nm,0.3s,baz=134,slow=7.0,SNR=4.2						
SYO	**Syowa Base**	**78.27**	**193**	*i*eP	P	**05 17 07.8**	**+0.2**
SYO	**Syowa Base**	**78.27**	**193**	*i*eP	P	**05 17 09.4**	**+1.8**
SYO	**Syowa Base**	**78.27**	**193**	*i*eP	P	05 17 13.6	+6.0
SNAA	**Sanae**	**79.45**	**179**	P	**P**	**05 17 15.4**	**+1.2**
SNAA	**Sanae**	**79.45**	**179**	P	**P**	**05 17 15.8**	**+1.6**
VNA3	**Neumayer Olymp**	**79.62**	**176**	P	**P**	**05 17 16.3**	**+1.3**
VNA2	**Neumayer--Watz**	**80.05**	**177**	P	**P**	**05 17 19.0**	**+1.7**
VNA1	**Neumayer--Stat**	**80.28**	**177**	P	**P**	**05 17 20.5**	**+2.0**
KSRS	**Korea Array**	**83.10**	**320**	P	**P**	**05 17 33.9**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=140,slow=6.5,SNR=8.5						
PLCA	**Paso Flores**	**83.69**	**133**	P	**P**	**05 17 37.0**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=302,slow=18,SNR=3.4						
PLCA	**Paso Flores**	**83.69**	**133**	P	**P**	**05 17 38.0**	**+1.1**
PLCA				IAmb	IAmb	05 17 42.8	
	comp=Z,12nm,1.4s						
PETK	**Petropavlovsk-**	**84.46**	**346**	P	**P**	**05 17 38.6**	**-1.5**
	comp=Z,1.8nm,0.7s,baz=139,slow=6.9,SNR=6.3						
USRK	**Ussuriysk Ar.**	**85.86**	**327**	P	**P**	**05 17 47.2**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=108,slow=4.2,SNR=9.2						
NVAR	**Mina Array Bea**	**87.58**	**43**	P	**P**	**05 17 54.8**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=222,slow=8.8,SNR=4.9						
ILAR	**Eielson Array**	**96.77**	**13**	P	**P**	**05 18 35.5**	**-2.1**
	comp=Z,0.4nm,0.8s,baz=223,slow=4.9,SNR=2.8						
YKA	**Yellowknife Ar**	**104.46**	**26**	PKKPbc	PKKPbc	05 34 57.5	-1.7
	comp=Z,0.1nm,0.3s,baz=34,slow=3.1,SNR=4.5						
MKAR	**Makanchi Array**	**116.62**	**311**	PKP	**PKPdf**	**05 23 48.8**	**-1.7**
	comp=Z,1.0nm,0.5s,baz=97,slow=0.4,SNR=17						
ZALV	**Zalesovo Beam**	**116.79**	**319**	PKP	**PKPdf**	**05 23 48.8**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=157,slow=3.6,SNR=4.5						
BOSA	**Boshof**	**118.28**	**204**	PKP	**PKiKP**	**05 23 55.1**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=144,slow=4.7,SNR=4.3						
BOSA	**Boshof**	**118.28**	**204**	PKPdf	**PKiKP**	**05 23 55.5**	**+1.0**
ARCES	**ARCESS Array B**	**137.24**	**348**	PKhKP	PKPpre	05 24 20.3	
	comp=Z,3.7nm,1.0s,baz=64,slow=2.1,SNR=1.2						
ARCES				PKP	**PKPdf**	**05 24 28.9**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=29,slow=2.8,SNR=12						
FINES	**FINESS Array B**	**143.79**	**340**	PKhKP	PKPpre	05 24 37.2	
	comp=Z,7.2nm,0.7s,baz=56,slow=3.4,SNR=32						
KBZ	**Khabaz**	**144.04**	**305**	PKP	**PKPab**	**05 24 40.7**	**+0.8**
	comp=Z,3.7nm,1.0s,baz=124,slow=2.8,SNR=3.7						
NB2	**NORSAR Subarra**	**147.42**	**351**	PKP	**PKPdf**	**05 24 48.2**	**+1.0**
	comp=Z,4.4nm,0.6s,baz=12,slow=2.9						
NOA	**NORSAR Array B**	**147.42**	**351**	PKPbc	**PKPdf**	**05 24 48.1**	**+1.0**
	comp=Z,7.1nm,0.8s,baz=16,slow=4.5,SNR=20						
AKASG	**Malin Array Be**	**150.02**	**324**	PKPbc	**PKPbc**	**05 24 56.0**	**-0.9**
	comp=Z,6.2nm,0.4s,baz=46,slow=3.2,SNR=47						
AKASG				PKPab	**PKPab**	**05 25 01.6**	**-1.8**
	comp=Z,4.2nm,0.6s,baz=45,slow=4.7,SNR=7.3						
BRTR	**Keskin Array B**	**151.60**	**300**	PKPbc	**PKPbc**	**05 25 00.5**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=143,slow=4.0,SNR=16						
BRTR				PKPab	**PKPab**	**05 25 09.7**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=113,slow=3.6,SNR=6.8						
CLL	**Collm**	**156.21**	**342**	*e*PKPab	**PKPab**	**05 25 29.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**164.12**	**181**	PKPab	**PKPab**	**05 26 05.8**	**+1.1**
	comp=Z,2.4nm,0.6s,baz=174,slow=3.6,SNR=27						

IDC 05 05:16:05.3±6.8,13.87N×92.62W,h0km,mb3.7/2, mb1 3.9/5,mb1mx3.6/32,mbtmp3.6/5,ML3.3/3,MS2.9/2, Ms1 2.9/2,ms1mx2.3/43,Error ellipse: s-maj=110.7km s-min=49.0km az=173.0,Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**3.87**	**326**	Pn	Pn	05 17 05.4	-0.7
	0.8nm,0.3s,baz=141,slow=12,SNR=12						
CMIG				Sn	Sn	05 17 48.8	-3.6
	2.4nm,0.3s,baz=78,slow=17,SNR=4.3						
TEIG	**Tepich**	**7.56**	**33**	Pn	Pn	05 17 57.1	+0.3
	1.2nm,0.3s,baz=139,slow=16,SNR=11						
TEIG				LR	LR	05 21 14.8	
	comp=Z,87nm,18.4s,baz=229,slow=41						
TXAR	**Lajitas Array**	**18.48**	**328**	P	Pn	05 20 24.0	+1.0
	0.0nm,0.3s,baz=155,slow=15,SNR=8.8						
TKL	**Tuckaleechee C**	**23.11**	**19**	LR	LR	05 30 11.8	
	comp=Z,24nm,21.5s,baz=183,slow=37						
NVAR	**Mina Array Bea**	**33.39**	**322**	P	P	05 22 46.3	+0.4
	0.5nm,0.7s,baz=138,slow=9.6,SNR=4.5						
YKA	**Yellowknife Ar**	**51.01**	**347**	P	P	05 25 08.2	-0.6
	1.2nm,0.7s,baz=154,slow=7.6,SNR=16						

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*NEIC **05** 05:37:59,61.16N×140.25W,h14km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.33; $M_{\theta\theta}$-3.48; $M_{\phi\phi}$3.16; $M_{r\theta}$0.52; $M_{r\phi}$3.46; $M_{\theta\phi}$1.33; Fault plane solution: $M_0$5.01000×10^{16} NP1:ϕ_s336.85000°, δ78.59000°, λ167.64000°. NP2:ϕ_s69.33000°, δ77.89000°, λ11.67000°. Principal axes: T 5.0644, Plg17.0000°, Azm293.0000°; N -0.1039, Plg73.0000°, Azm115.0000°; P -4.9605, Plg0.0000°, Azm23.0000°;*
*BJI **05** 05:37:59.0±0.0,61.30N×140.40W,h5km,mB5.0/33, mb4.8/40,Ms5.2/28,Ms7 5.0/28*
*BGR **05** 05:37:59.1±0.0,59.87N×141.39W,h33km,mb5.0*
*NEIC **05** 05:37:59,61.16N×140.25W,h7km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-2.00; $M_{\theta\theta}$-2.65; $M_{\phi\phi}$2.40; $M_{r\theta}$3.85; $M_{r\phi}$4.02; $M_{\theta\phi}$0.94; Fault plane solution: $M_0$6.30000×10^{16} NP1:ϕ_s250.00000°, δ82.00000°, λ-41.00000°. NP2:ϕ_s347.00000°, δ49.00000°, λ-169.00000°. Principal axes: T 6.4196, Plg21.0000°, Azm305.0000°; N -0.2949, Plg48.0000°, Azm61.0000°; P -6.1247, Plg34.0000°, Azm200.0000°;*
*AEIC **05** 05:38:00.6±2.1,61.17N±0.02×140.24W±0.05,h1km±5km Error ellipse: s-maj=3.7km s-min=2.9km az=117.0*
*IDC **05** 05:38:01.6±0.4,61.36N×140.35W,h0km,mb4.3/34, mb1 4.5/39,mb1mx4.5/48,mbtmp4.4/39,ML4.4/5,MS4.7/8, Ms1 4.8/8,ms1mx4.2/34,Error ellipse: s-maj=13.1km s-min=7.5km az=36.0*
*PGC **05** 05:38:01.4,61.16N×140.27W,h2km,ML4.8/11,Mw5.1*
PGC 154km west of Haines Jct., Yt Southern Yukon Territory, Canada Felt (I) at Whitehorse Yk.
*NEIC **05** 05:38:01.1±2.5,61.18N±0.01×140.26W±0.03,h12km±7km, mb4.9/115,Mwr5.1/48,ML4.9/118(AEIC),Mwr5.1(OTT), Error ellipse: s-maj=2.5km s-min=1.5km az=113.0*
*GCMT **05** 05:38:05.1±0.2,61.28N±0.01×140.30W±0.02,h23km, MW5.2/139,Moment Tensor Solution. s94,c145; s139,c256; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.18±.16; $M_{\theta\theta}$-4.01±.15; $M_{\phi\phi}$4.19±.15; $M_{r\theta}$0.50±.22; $M_{r\phi}$6.29±.14; $M_{\theta r}$-0.37±.23; Best double couple: $M_0$7.53500×10^{16} NP1:ϕ_s253.00000°, δ86.00000°, λ-3.00000°. NP2:ϕ_s344.00000°, δ87.00000°, λ-176.00000°. Principal axes: T 7.5990, Plg1.0000°, Azm118.0000°; N -0.1300, Plg85.0000°, Azm21.0000°; P -7.4710, Plg5.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 05 05:38:01.5±0.7,61.19N±0.02×140.33W±0.02,h3km±4km, n722,σ1s83/698,mb4.9/107,MS4.7/17,16C-8D,Southern Yukon Territory

| Code | Station Name | Δ° | AZ°

FID Port Fidalgo 3.03 264 Pn 05 38 52.5 +2.2
SKAG Skagway 3.04 123 Pn Pn 05 38 49.0 -1.4
HIN Hinchinbrook I 3.13 258 Pn Pn 05 38 52.7 +1.0
SCRK Sand Creek 3.27 330 Pn 05 38 53.4 -0.3
GLI Glacier Island 3.31 268 Pn 05 38 55.4 +1.3
RIDG Independent Ri 3.31 323 Pn 05 38 54.0 -0.2
PS10 TAPS Pump St10 3.38 314 Pn 05 38 56.5 +1.3
SCM Sheep Creek Mo 3.41 284 Pn 05 38 57.5 +1.8
MID Middleton Isla 3.47 242 Pn Pn 05 38 57.1 +0.7
EGAK Eagle 3.62 354 Pn 05 38 58.9 +0.6
BESE Bessie Mountai 3.81 131 Pn Pn 05 38 59.5 -1.5
BESE Sg Sb 05 39 58.7 +2.9
BESE Bessie Mountai 3.81 131 Pn Pn 05 38 59.9 -1.1
DHY Denali Highway 3.81 303 Pn 05 39 02.5 +1.4
SML Sawmill 3.88 283 Pn Pn 05 39 03.4 +1.3
PWL Port Wells 3.91 269 Pn 05 39 03.9 +1.5
KNK Knik Glacier 3.93 277 Pn Pn 05 39 04.3 +1.7
GHO Glory Hole Cre 4.16 282 Pn Pn 05 39 07.3 +1.4
JIS Juneau Island 4.20 132 Pn 05 39 04.6 -1.7
PMR Palmer 4.25 279 Pn Pn 05 39 08.5 +1.5
HDA Harding Lake 4.43 320 P Pn 05 39 08.4 -1.2
baz=134,SNR=198
HDA Harding Lake 4.43 320 Pn Pn 05 39 08.6 -0.9
PS08 TAPS Pump Stn8 4.49 321 Pn 05 39 09.2 -1.0
RND Reindeer 4.55 303 Pn Pn 05 39 13.9 +2.6
RC01 Rabbit Creek A 4.56 273 Pn Pn 05 39 13.1 +1.7
SEW Seward 4.62 260 Pn Pn 05 39 12.6 +0.5
IL31 4.67 323 Pn 05 39 11.7 -1.1
ILAR Eielson Array 4.67 323 Pn Pn 05 39 11.6 -1.3
9.5nm,0.3s,baz=145,slow=13,SNR=458
ILAR Lg Lg 05 40 27.4
76nm,0.3s,baz=129,slow=27,SNR=12
MCK McKinley 4.74 306 Pn 05 39 16.0 +2.2
FIS Fire Island 4.79 274 Pn 05 39 14.5 +0.1
WRH Wood River Hil 4.84 316 Pn Pn 05 39 14.2 -1.0
CCB Clear Creek Bu 4.86 319 Pn Pn 05 39 13.7 -1.8
CUT Chulitna 4.87 289 Pn 05 39 16.0 +0.4
SIT Sitka 4.88 146 Pn 05 39 13.9 -1.9
SLKM Skilak Lake 4.88 266 Pn 05 39 17.0 +1.2
PRP Porcupine Dome 4.93 334 Pn 05 39 16.7 +0.2
COLA College 5.03 320 Pn 05 39 16.4 -1.4
TCOL CIGO, UAF Yank 5.04 320 P Pn 05 39 16.3 -1.5
baz=134,SNR=6.1
TCOL CIGO, UAF Yank 5.04 320 Pn 05 39 18.2 +0.4
I53US FAIRBANKS INFR 5.04 320 Lg Lg 05 40 36.6
baz=127,slow=29,SNR=2.4
POKR Poker Plat Res 5.08 324 P Pn 05 39 17.4 -1.1
baz=138,SNR=26
POKR Poker Plat Res 5.08 324 Pn 05 39 18.0 -0.5
TRF Thorofare Moun 5.17 300 Pn Pn 05 39 21.7 +1.9
MDM Murphy Dome 5.21 320 Pn 05 39 19.5 -0.8
CAPN Captain Cook N 5.29 270 Pn 05 39 23.5 +2.2
BRSE Bradley Lake S 5.35 259 Pn 05 39 22.5 +0.3
BRLK Bradley Lake 5.41 259 Pn 05 39 23.9 +0.8
EPYK Eagle Plains 5.44 16 P Pn 05 39 23.0 -0.4
baz=198,SNR=66
EPYK Eagle Plains 5.44 16 Pn 05 39 23.2 -0.2
KTH Kantishna Hill 5.47 300 Pn Pn 05 39 25.6 +1.7
STLK Strandline Lak 5.54 278 Pn 05 39 26.7 +1.8
SPCG Spurr Capps Gl 5.65 276 Pn 05 39 27.8 +1.5
CNPM China Poot 5.67 258 Pn 05 39 27.2 +0.7
SPU Mount Spurr 5.67 275 Pn Pn 05 39 28.0 +1.4
BPAW Bear Paw Mtn. 5.71 305 Pn Pn 05 39 28.4 +1.3
SPCR Spurr Chakacha 5.74 275 Pn 05 39 29.3 +1.6
HOM Homer 5.81 260 Pn Pn 05 39 29.1 +0.6
FYU Fort Yukon 5.81 340 Pn 05 39 29.0 +0.6
SPBG Spurr Blockage 5.82 276 Pn 05 39 30.0 +1.3
PPLA Purkeypile 5.83 292 Pn 05 39 30.5 +1.6
DLBC Dease Lake 5.89 113 Pn Pn 05 39 27.8 -1.8
3.3nm,0.3s,baz=310,slow=7.9,SNR=30
DLBC Pg Pb 05 39 44.8 +0.1
20nm,0.3s,baz=307,slow=15,SNR=29
DLBC Lg Lg 05 41 05.1
48nm,0.3s,baz=45,slow=20,SNR=7.3
DLBC Dease Lake 5.89 113 Pn Pn 05 39 27.8 -1.8
DLBC Sg Sg 05 41 04.6 -5.7
DLBC Dease Lake 5.89 113 Pn 05 39 28.2 -1.4
DFR Drift River 6.06 270 Pn 05 39 33.0 +1.0
MLY Manley 6.09 314 Pn Pn 05 39 32.1 -0.3
RSO Redoubt South 6.12 269 Pn 05 39 33.5 +0.6
RED Redoubt Volcan 6.14 268 Pn 05 39 33.6 +0.6
RDWB Redoubt West 6.16 269 Pn 05 39 34.1 +0.8
WRAK Wrangell Islan 6.33 136 Pn 05 39 34.1 -1.5
IVE Iliamna Volcan 6.36 265 Pn 05 39 36.7 +0.6
ILW Iliamna West 6.40 265 Pn 05 39 37.6 +0.9
BM03 Burnt Mountain 6.52 345 Pn 05 39 38.8 +0.5
AU22 Augustine Moun 6.73 260 Pn 05 39 42.9 +1.9
CRAG Craig 6.88 143 Pn 05 39 42.8 -0.3
KDAK Kodiak Island 7.11 247 Pn Pn 05 39 46.6 +0.3
21nm,0.3s,baz=66,slow=5.7,SNR=254
KDAK Sn Sn 05 41 03.4 -4.2
3.3nm,0.3s,baz=319,slow=20,SNR=2.2
KDAK LR LR 05 43 05.3
comp=Z,5μm,20.2s,baz=30,slow=42
KDAK Kodiak Island 7.11 247 Pn 05 39 47.2 +0.9
PS05 TAPS Pump Stn5 7.23 326 Pn 05 39 48.2 +0.3
COLD Coldfoot 7.42 329 Pn Pn 05 39 50.6 0.0
COLD Sg Sg 05 41 53.6 -5.8
COLD Coldfoot 7.42 329 Pn Pn 05 39 51.1 +0.5
TTA Tatalina 7.57 290 Pn 05 39 53.0 +0.4
TT01 Tatalina 7.57 290 Pn 05 39 52.8 +0.2
IM03 7.66 315 Pn 05 39 54.1 +0.2
INK Inuvik 7.71 19 Pn Pn 05 39 52.2 -2.2
2.8nm,0.3s,baz=192,slow=15,SNR=62
INK Sn Sn 05 41 15.5 -6.5
18nm,0.3s,baz=187,slow=16,SNR=5.3
INK Lg Lg 05 41 54.7
5.7nm,0.3s,baz=280,slow=18,SNR=4.9
INK Inuvik 7.71 19 Pn Pn 05 39 52.4 -2.0
INK Sn Sn 05 41 15.6 -6.5
INK Inuvik 7.71 19 Pn 05 39 53.3 -1.1
OHAK Old Harbor 7.75 245 Pn 05 39 54.7 -0.2
KAHC Katmai Hardscr 7.80 257 Pn 05 39 56.9 +1.0
KABU Katmai Buttres 8.10 255 Pn 05 40 01.2 +1.3
PS04 TAPS Pump Stn4 8.20 336 Pn 05 40 02.5 +1.1
NDB Naden 8.27 148 Pn Pn 05 40 02.4 +0.1
TOLK Toolik Lake Re 8.43 336 P Pn 05 40 05.8 +1.4
baz=148,SNR=113
RUBB Prince Rupert 8.73 138 Pn Pn 05 40 07.7 -0.8
RUBB Prince Rupert 8.73 138 Pn 05 40 07.9 -0.6
FNBB Fort Nelson 8.97 97 Pn Pn 05 40 10.3 -1.5
FNBB Fort Nelson 8.97 97 Pn 05 40 10.6 -1.1
VIB Van Inlet 9.01 149 Pn Pn 05 40 12.4 +0.1
DIB Dawson Inlet, 9.07 149 Pn Pn 05 40 13.3 +0.2
DIB Dawson Inlet, 9.07 149 Pn 05 40 11.9 -1.2
MOBC Moresby Island 9.25 147 Pn Pn 05 40 16.7 +1.0
BNAB Bonilla 9.32 142 P Pn 05 40 16.9 +0.4
NBC5 NorthernBC 5 9.72 104 P Pn 05 40 21.4 -0.8
BNB Barry Inlet 9.82 148 P Pn 05 40 25.4 +1.8
NBC6 NorthernBC 6 9.89 97 P Pn 05 40 23.0 -1.4
CHGN Chignik 10.58 250 Pn 05 40 35.0 +1.2
C36M Paulatuk 10.60 33 P Pn 05 40 31.6 -2.5
baz=227,SNR=64
C36M Paulatuk 10.60 33 Pn Pn 05 40 31.6 -2.5
DHRN Dharma Camp 10.78 48 P Pn 05 40 34.3 -2.2
BMBC Bull Mountain 10.78 110 P Pn 05 40 40.8 +4.1
VNSS Veniaminof 8 11.10 252 Pn 05 40 39.6 -1.5
BBB Bella Bella 11.23 138 Pn Pn 05 40 43.1 +0.4
1.4nm,0.3s,baz=313,slow=7.8,SNR=19
BBB Lg Lg 05 43 48.8
0.5nm,0.3s,baz=62,slow=24,SNR=4.7
BBB Bella Bella 11.23 138 P Pn 05 40 42.5 -0.2
BBB Bella Bella 11.23 138 Pn 05 40 45.1 +2.4
RDOG Red Dog Mine 11.81 315 Pn 05 40 51.8 +1.1
ANM Nome 11.88 297 Pn 05 40 51.8 +0.3
UBRB Upper Baezaeko 12.11 126 P Pn 05 40 58.0 +3.2
YKW3 Yellowknife Ar 12.18 72 P Pn 05 40 53.0 -2.6
YKW3 Yellowknife Ar 12.18 72 Pn 05 40 53.4 -2.3
YKA Yellowknife Ar 12.19 73 Pn Pn 05 40 53.1 -2.7
3.7nm,0.3s,baz=270,slow=13,SNR=81
YKA Sn Sn 05 43 03.5 -8.6
1.3nm,0.3s,baz=268,slow=23,SNR=4.2
YKA Lg Lg 05 44 11.0
baz=270,slow=28,SNR=1.6
A36M Sachs Harbour 12.32 22 P Pn 05 40 54.8 -2.8
baz=216,SNR=104
KUKN Kugluktuk,NWT 12.66 48 P Pn 05 40 59.6 -2.5
CBB Campbell River 13.97 136 P Pn 05 41 22.7 +2.5
LLLB Lillooet 14.75 128 P Pn 05 41 34.4 +3.5
MNB Mounoet Dainar 14.98 117 P Pn 05 41 35.7 +1.6
WPB Watts Point 15.04 132 P P 05 41 39.1 -1.1
HNBB Haney 15.58 132 P P 05 41 44.8 -1.4

PGC Sidney 15.81 135 P P 05 41 47.4 -1.4
SLEB Sale Mountain 15.84 119 P Pn 05 41 47.4 +2.0
A04D Lummi Island 16.01 133 P Pn 05 41 48.6 +1.3
baz=328
EDM Edmonton 16.55 107 P Pn 05 41 53.8 -0.6
B05A Bryant 16.61 133 P P 05 41 57.5 -0.1
baz=328
D03D Eldon 16.89 136 P P 05 42 01.2 +0.4
baz=330
D04E Lakebay 17.31 136 P P 05 42 06.6 +1.2
baz=331
C06D Leavenworth 17.33 131 P P 05 42 07.1 +1.4
baz=327
B08A Colville Reser 17.55 128 P P 05 42 11.1 +3.0
D05A Enumclaw 17.57 135 P P 05 42 11.9 +3.6
D05A IAmb IAmb 05 42 17.8
comp=Z,215nm,1.5s
PRDA Priddis 17.72 114 P Pn 05 42 09.6 +0.5
E04D Cinebar 17.92 137 P P 05 42 15.3 +3.1
baz=331,SNR=9.5
LTY Liberty 17.97 132 P P 05 42 14.9 +2.1
LTY Liberty 17.97 132 P P 05 42 13.6 +0.8
LTY IAmb IAmb 05 42 19.8
comp=Z,194nm,1.6s
LON Longmire 18.01 135 P P 05 42 13.9 +0.7
LON IAmb IAmb 05 42 20.6
comp=Z,136nm,1.8s
F03A Seaside 18.16 140 P P 05 42 17.5 +2.7
F03A IAmb IAmb 05 42 32.6
comp=Z,179nm,1.5s
F04D Rainier, OR 18.19 138 P P 05 42 17.2 +2.0
baz=333
C09A Chrisman Ranch 18.42 127 P Pn 05 42 18.9 +1.4
C09A IAmb IAmb 05 42 25.3
comp=Z,252nm,1.9s
NEW Newport 18.50 124 P Pn 05 42 20.7 +2.1
baz=323,SNR=23
NEW Newport 18.50 124 P P 05 42 18.5 -0.1
comp=Z,0.2nm,0.3s,baz=320,slow=11,SNR=32
NEW Newport 18.50 124 P Pn 05 42 19.5 +0.9
NEW IAmb IAmb 05 42 23.2
comp=Z,188nm,1.8s
F04A Amboy 18.52 137 P Pn 05 42 22.3 +3.4
E07A Sunnyside 18.86 132 P Pn 05 42 25.4 +2.4
F05D White Salmon 18.88 136 P Pn 05 42 26.1 +2.8
baz=331
G03D McMinnville, O 18.89 140 P Pn 05 42 25.7 +2.3
baz=334
WALA Waterton Lakes 19.22 117 P P 05 42 27.4 +0.9
G05D Wamic, OR 19.49 136 P Pn 05 42 34.4 +3.7
baz=332,SNR=7.4
H04D Lebanon 19.68 140 P Pn 05 42 33.6 +0.8
baz=334
I02D Swisshome 19.72 143 P Pn 05 42 34.8 +1.6
baz=336
I03D Drain, OR 20.24 142 P Pn 05 42 40.2 +0.8
baz=336
I05D Terrebonne, OR 20.29 138 P Pn 05 42 43.3 +3.2
baz=333
I04A Tendick Farm, 20.43 140 P Pn 05 42 43.7 +1.9
baz=335,SNR=8.0
J01E Myrtle Point 20.56 144 P Pn 05 42 45.4 +2.2
baz=337
SLMT Seeley Lake 20.80 120 P Pn 05 42 46.5 +0.3
MSO Missoula 20.94 121 P P 05 42 46.8 +1.6
baz=323,SNR=84
RES Resolute Bay 20.97 32 P P 05 42 44.8 -0.5
comp=Z,8.4nm,0.6s,baz=251,slow=11,SNR=22
RES Resolute Bay 20.97 32 P P 05 42 45.1 -0.1
RES Resolute Bay 20.97 32 P P 05 42 45.1 -0.1
RES IAmb IAmb 05 43 00.2
comp=Z,85nm,1.4s
J04D Umpqua Nationa 21.03 140 P P 05 42 49.8 +3.4
baz=335
K02D Willamette Mer 21.06 144 P P 05 42 50.6 +4.0
baz=337,SNR=8.4
BMO Blue Mountains 21.25 130 P P 05 42 50.1 +1.4
BMO IAmb IAmb 05 42 55.7
comp=Z,123nm,1.8s
J05D Fort Rock, OR 21.26 139 P P 05 42 52.3 +3.4
baz=334,SNR=6.3
K04D Chiloquin, OR 21.70 141 P P 05 42 56.3 +2.8
baz=335
EGMT Eagleton 21.82 113 P P 05 42 54.8 +0.1
baz=318,SNR=54
L04D Klamath Falls 21.90 142 P P 05 42 59.4 +3.7
baz=336,SNR=10.0
YBH Yreka Blue Hor 22.23 143 P P 05 43 02.0 +2.9
comp=Z,26nm,1.0s,baz=357,slow=5.1,SNR=10
YBH LR LR 05 51 58.3
comp=Z,2μm,18.8s,baz=328,slow=37
M04C Macdoel 22.44 142 P P 05 43 05.2 +3.8
baz=336
M02C Callahan 22.50 144 P P 05 43 04.5 +2.5
baz=338,SNR=10
FCC Fort Churchill 22.89 75 P P 05 43 06.8 +0.9
FCC Fort Churchill 22.89 75 IAmb IAmb 05 43 16.5
comp=Z,50nm,1.1s
N02D Trinity Center 22.93 144 P P 05 43 10.0 +3.4
baz=338,SNR=7.5
MFID Camas Ranch 23.03 129 IAmb IAmb 05 43 15.6
comp=Z,62nm,1.6s
O02D Mt. Diablo Mer 23.64 145 P P 05 43 17.9 +4.1
baz=339,SNR=8.2
O03E Paynes Creek 23.82 143 P P 05 43 17.7 +2.2
baz=338,SNR=8.6
DGMT Dagmar 24.03 105 P P 05 43 19.5 +2.0
baz=316,SNR=23
RLMT Red Lodge 24.27 117 P P 05 43 21.6 +1.7
baz=323,SNR=25
H17A Grant Village 24.30 120 P P 05 43 23.2 +3.0
baz=324,SNR=8.6
EUNU Eureka 24.34 20 P P 05 43 21.6 +1.5
LAO LASA Array 24.41 111 P P 05 43 23.0 +2.1
baz=319,SNR=7.5
BEKR Beckworth 24.64 141 IAmb IAmb 05 43 29.8
comp=Z,48nm,1.5s
FXWY Fox Creek 24.73 122 P P 05 43 27.5 +3.4
FXWY IAmb IAmb 05 43 36.2
comp=Z,42nm,1.2s
TPAW Teton Pass 24.89 122 P P 05 43 29.7 +4.1
VCNR Virginia City 25.38 140 IAmb IAmb 05 43 39.5
comp=Z,24nm,1.1s
ELK Elko 25.57 132 P P 05 43 32.6 +0.9
comp=Z,3.9nm,1.1s,baz=330,slow=8.3,SNR=14
ELK LR LR 05 54 01.1
comp=Z,2μm,20.8s,baz=330,slow=37
YERR Yerington 25.79 140 IAmb IAmb 05 43 41.5
comp=Z,44nm,1.3s
BW06 Boulder Array 26.06 121 P P 05 43 37.9 +1.8
baz=326,SNR=11
BW06 Boulder Array 26.06 121 P P 05 43 39.6 +3.5
BW06 IAmb IAmb 05 44 01.9
comp=Z,28nm,1.3s
PDAR Pinedale Array 26.06 121 P P 05 43 36.9 +0.7
comp=Z,7.3nm,0.9s,baz=324,slow=7.3,SNR=30
PDAR PcP PcP 05 47 04.0 +0.3
comp=Z,1.3nm,1.0s,baz=4.8,slow=1.1,SNR=1.4
WAKR Walker 26.17 141 IAmb IAmb 05 43 45.4
comp=Z,43nm,1.2s
NVAR Mina Array Bea 26.60 139 P P 05 43 42.2 +1.2
comp=Z,3.8nm,0.8s,baz=316,slow=8.2,SNR=26
NVAR PcP PcP 05 47 06.2 +1.2
comp=Z,0.4nm,0.7s,baz=336,slow=2.0,SNR=1.7
NVAR LR LR 05 54 29.4
comp=Z,1μm,18.4s,baz=322,slow=37
MDND Maddock 26.64 101 P P 05 43 43.8 +2.7
baz=315
ULM Lac du Bonnet 26.78 94 P P 05 43 44.2 +1.9
comp=Z,2.2nm,0.5s,baz=312,slow=9.1,SNR=2.1
DUG Dugway, Tooele 26.94 129 P P 05 43 45.4 +1.4
baz=330,SNR=6.7
MDPB Devils Postpil 27.09 141 IAmb IAmb 05 43 53.3
comp=Z,40nm,1.4s
OMMB Old Mammoth Mi 27.13 141 IAmb IAmb 05 43 53.9
comp=Z,31nm,1.3s
MLAC Mammoth, Mammc 27.16 140 P P 05 43 49.5 +3.4
baz=337
RSSD Black Hills 27.36 112 P P 05 43 50.4 +2.5
baz=322
RSSD Black Hills 27.36 112 IAmb IAmb 05 44 00.1
comp=Z,41nm,1.1s
K22A Casper 27.44 117 P P 05 43 49.8 +1.3
baz=324,SNR=11
K22A Casper 27.44 117 IAmb IAmb 05 43 59.2
comp=Z,28nm,1.1s
R11A Troy Canyon, C 27.57 135 P P 05 43 51.0 +1.3
baz=334,SNR=19
R11A Troy Canyon, C 27.57 135 IAmb IAmb 05 44 04.4
comp=Z,35nm,1.4s
TIN Tinemaha, Big 27.88 140 P P 05 43 56.5 +4.1
baz=337
GRAC Grapevine Rang 28.21 139 P P 05 43 58.1 +2.9
baz=336
VOG Valley Oaks Go 28.21 142 P P 05 43 57.8 +2.6
baz=339
CWC Cottonwood Cre 28.49 140 P P 05 44 00.8 +2.9
baz=338
TPNV Topopah Spring 28.61 137 P P 05 44 01.9 +2.9
baz=336
TPNV Topopah Spring 28.61 137 IAmb IAmb 05 44 13.6
comp=Z,29nm,1.2s
PKLO Pickle Lake 28.65 87 P P 05 43 58.3 -0.7
VES Vestal, Richgr 28.74 142 P P 05 44 02.8 +2.8
baz=339
O20A White River Ci 28.80 122 P P 05 44 05.4 +4.7
baz=328
O20A White River Ci 28.80 122 IAmb IAmb 05 44 28.8
comp=Z,54nm,1.6s
FURC Furnace Creek, 28.85 138 P P 05 44 04.5 +3.6
baz=336
SMMC Simmler 28.97 144 P P 05 44 03.4 +1.4
baz=340
MPMC Manual Prospec 29.03 140 P P 05 44 04.5 +1.7
baz=337
ISA Isabella, Lake 29.09 141 P P 05 44 04.3 +1.1
baz=338
ISA Isabella, Lake 29.09 141 IAmb IAmb 05 44 09.2
comp=Z,62nm,1.9s
N23A Red Feather La 29.12 118 P P 05 44 05.9 +2.2
baz=326
PKM Mcpherson Peak 29.42 144 P P 05 44 07.7 +1.5
baz=340
SUSD Miller 29.45 106 P P 05 44 08.2 +2.0
baz=319
LRMC Laurel Mtn Rad 29.50 140 P P 05 44 09.4 +2.6
baz=338
SHOC Shoshone, Teco 29.56 138 P P 05 44 09.4 +2.1
baz=336
PV23 Carpenter Ridg 29.93 125 IAmb IAmb 05 44 22.1
comp=Z,16nm,1.0s
GSC Goldstone, Bar 29.94 139 P P 05 44 14.0 +3.3
baz=337,SNR=5.9
PV22 Blue Mesa, Par 29.94 125 IAmb IAmb 05 44 22.2
comp=Z,19nm,1.1s
EDW2 Edwards Air Fo 29.96 141 P P 05 44 13.1 +2.3
baz=338
OSI Osito Audit: C 29.99 143 P P 05 44 13.8 +2.7
baz=339
TUQ Turquoise Moun 30.10 138 P P 05 44 13.9 +1.8
baz=337,SNR=5.9
ISCO Idaho Springs 30.18 119 P P 05 44 15.7 +2.7
baz=327
PV13 Radium Mtn., P 30.25 125 IAmb IAmb 05 44 25.2
comp=Z,18nm,1.1s
RRX Edison Barstow 30.27 140 P P 05 44 16.8 +3.3
baz=338
SEY Seymchan 30.29 303 P P 05 44 13.2 -0.2
comp=Z,2.6nm,0.5s,baz=44,slow=11,SNR=4.7
SCZ2 Santa Cruz Isl 30.31 144 P P 05 44 16.9 +3.1
baz=340
PV01 Paradox Valley 30.37 125 IAmb IAmb 05 44 26.2
comp=Z,29nm,1.2s
DECC Green Verdugo 30.44 142 P P 05 44 18.6 +3.6
baz=339
EYMN Ely 30.46 93 P P 05 44 16.0 +0.9
baz=314,SNR=11
EYMN Ely 30.46 93 IAmb IAmb 05 44 28.7
comp=Z,15nm,1.0s
HEC Hector,Ludlow 30.52 139 P P 05 44 18.3 +2.5
baz=337
BFSC Mount Baldy Ra 30.66 141 P P 05 44 19.8 +2.7
baz=339
GMRC Granite Mounta 30.78 138 P P 05 44 20.1 +1.9
baz=337
KULLO Kullorsuaq 30.85 31 i P P 05 44 21.8 +3.6
comp=Z,11nm,0.9s
BBRC Big Bear Solar 30.86 140 P P 05 44 22.6 +3.6
baz=338
FMP Fort Macarthur 30.96 143 P P 05 44 21.7 +2.2
baz=339
SNCC San Nicolas Is 31.04 145 P P 05 44 23.3 +3.0
baz=341
Q24A Divide 31.07 119 P P 05 44 23.2 +2.3
baz=327
ECSD EROS Data Cent 31.08 104 P P 05 44 21.1 +0.4
baz=320,SNR=30
ECSD EROS Data Cent 31.08 104 IAmb IAmb 05 44 27.9
comp=Z,22nm,1.1s
W13A Hualapai Mount 31.09 135 IAmb IAmb 05 44 28.7
comp=Z,29nm,1.6s
NEE2 Needles Airpor 31.14 136 P P 05 44 23.1 +1.9
baz=336
MVCO Mesa Verde 31.20 126 P P 05 44 23.3 +1.3
baz=330
CIS Catalina Islan 31.21 143 P P 05 44 23.6 +1.8
baz=340
MURC Murrieta 31.39 141 P P 05 44 25.7 +2.2
baz=339
BELC Belle Mtn. Jos 31.39 139 P P 05 44 26.8 +3.2
baz=338
S22A 4UR Ranch, Cre 31.41 123 P P 05 44 27.2 +3.3
baz=329
GTO Geraldton 31.43 87 P P 05 44 24.6 +1.0
IRM Iron Mountain 31.52 138 P P 05 44 26.4 +1.7
baz=337
WUAZ Wupatki 31.60 131 P P 05 44 27.3 +1.9
baz=334,SNR=7.0
PFO Pinyon Flats O 31.61 140 P P 05 44 28.8 +3.4
baz=338
PFO Pinyon Flats O 31.61 140 P P 05 44 29.0 +3.5
comp=Z,3.0nm,0.9s,baz=340,slow=10.0,SNR=5.1
PFO Pinyon Flats O 31.61 140 IAmb IAmb 05 44 32.7
comp=Z,29nm,1.6s
TPFO Pinon Flats 31.61 140 P P 05 44 28.3 +2.8
baz=338
PDMCI Parker Dam,Lak 31.72 136 P P 05 44 28.2 +1.9
baz=336
SPMN Marine on St. 31.78 98 P P 05 44 28.1 +1.3
baz=317
SPMN Marine on St. 31.78 98 IAmb IAmb 05 44 34.8
comp=Z,31nm,1.5s
BC3 Big Chuckawall 31.89 138 P P 05 44 30.6 +2.7
baz=337
SDCO Great Sand Dun 31.95 121 P P 05 44 30.3 +1.6
baz=329,SNR=8.3
109C Camp Elliot, M 32.08 141 P P 05 44 32.8 +3.4
baz=339
Y12C Blythe 32.10 137 P P 05 44 32.3 +2.7
baz=337
BGNE Belgrade 32.17 108 P P 05 44 33.2 +3.0
baz=322
MONP2 Monument Peak 32.28 140 P P 05 44 34.4 +2.9
baz=338
SWSC Sam W. Stewart 32.43 139 P P 05 44 35.8 +3.3
baz=338
W18A Petrified Fore 32.56 129 P P 05 44 36.6 +2.7
baz=333
IKP In-Ko-Pah, Jac 32.61 140 P P 05 44 36.7 +2.5
baz=338
GLA Glamis 32.64 138 P P 05 44 37.5 +3.0
baz=337
MA2 Magadan 32.67 298 P P 05 44 33.9 -0.4
comp=Z,12nm,0.8s,baz=38,slow=12,SNR=3.4
T25A Trinidad 32.92 120 P P 05 44 39.3 +2.2
baz=329
PETK Petropavlovsk- 33.36 285 P P 05 44 40.2 -0.3
comp=Z,7.2nm,0.8s,baz=82,slow=11,SNR=16
CBKS Cedar Bluff 33.55 113 P P 05 44 44.3 +2.0
baz=325
E43A Lone Tree Farm 33.75 91 IAmb IAmb 05 44 58.3
comp=Z,17nm,0.9s
KAPO Kapuskasing 33.78 84 P P 05 44 46.6 +2.5
ANMO Albuquerque 33.98 125 P P 05 44 48.8 +2.5
baz=331
ANMO Albuquerque 33.98 125 P P 05 44 47.4 +1.1
comp=Z,9.4nm,1.1s,baz=323,slow=9.0,SNR=26
TIXI Tiksi 34.14 326 P P 05 44 45.2 -1.9
comp=Z,2.4nm,0.8s,baz=74,slow=9.1,SNR=5.9
214A Organ Pipe Nat 34.32 136 P P 05 44 52.7 +3.7
baz=337
NOR Nord 34.32 13 i P P 05 44 51.5 +3.0
NOR i 05 46 12.1
Y22D IRIS PASSCAL I 34.56 126 P P 05 44 54.3 +3.0
baz=332

TUC	Tucson	34.70	133	P	P	05 44 55.1	+2.7
	baz=335						
KSU1	Kansas State U	34.72	109	P	P	05 44 53.8	+1.4
	baz=324,SNR=5.5						
JFWS	Jewell Farm	34.73	98	P	P	05 44 53.7	+1.2
	baz=319,SNR=8.0						
H43A	Windswept, Lux	34.76	94	IAmb	IAmb	05 44 57.1	
	comp=Z,16nm,1.0s						
D46A	Sault St. Mari	34.81	88	P	P	05 44 53.8	+0.7
	baz=315						
F45A	CMU Biological	34.96	91	P	P	05 44 56.1	+1.7
	baz=316						
D47A	Chapleau	35.15	87	P	P	05 44 56.7	+0.6
	baz=315,SNR=5.5						
H45A	Beulah	35.48	93	P	P	05 45 01.2	+2.3
	baz=317						
E47A	Iron Bridge	35.49	88	P	P	05 45 02.4	+3.4
	baz=316						
G46A	Petoskey	35.54	91	P	P	05 45 01.7	+2.2
	baz=317						
121A	Cookes Peak, D	35.60	129	P	P	05 45 01.6	+1.4
	baz=334,SNR=9.4						
D48A	Paudash Townsh	35.69	86	P	P	05 45 01.0	+0.3
	baz=315,SNR=7.7						
I45A	Fountain	35.82	93	P	P	05 45 03.9	+2.1
	baz=318						
D49A	Beulah Townshi	35.84	85	P	P	05 45 04.8	+2.9
	baz=315						
MATQ	Matagami	35.90	79	P	P	05 45 03.9	+1.4
	baz=313						
H46A	Fife Lake	35.95	92	P	P	05 45 04.9	+2.0
	baz=317						
AMTX	Amarillo	36.00	119	P	P	05 45 05.1	+1.6
	baz=329						
E48A	Lockeyer	36.01	87	P	P	05 45 05.6	+2.1
	baz=316						
GLMI	Grayling	36.02	91	P	P	05 45 06.0	+2.4
	baz=317						
G47A	Hillman	36.13	90	P	P	05 45 06.3	+1.8
	baz=317						
F48A	Evansville	36.26	88	P	P	05 45 06.7	+1.1
	baz=316						
I46A	Reed City	36.27	93	P	P	05 45 06.8	+1.1
	baz=318						
MSTX	Muleshoe	36.33	121	P	P	05 45 08.1	+1.7
	baz=330,SNR=13						
MSTX	Muleshoe	36.33	121	IAmb	IAmb	05 45 13.1	
	comp=Z,32nm,1.1s						
H47A	Mio	36.38	91	P	P	05 45 08.0	+1.3
	baz=317						
L44A	Lake County Fo	36.41	97	P	P	05 45 06.6	-0.3
	baz=320						
SUMG	Summit	36.47	30	*i* P	P	05 45 08.0	+0.4
T35A	Sooner Cattle	36.55	111	IAmb	IAmb	05 45 13.1	
	comp=Z,26nm,1.1s						
F49A	Sandfield	36.59	88	P	P	05 45 09.1	+0.7
	baz=316						
J46A	Howard City	36.62	94	P	P	05 45 11.0	+2.3
	baz=318						
D50A	G1974 Best Tow	36.64	84	P	P	05 45 10.7	+1.8
	baz=315						
I47A	Gladwin	36.67	92	P	P	05 45 11.0	+1.9
	baz=318						
LSQQ	Lebel-sur-Quev	36.69	80	P	P	05 45 09.0	-0.3
	baz=314						
H48A	Harrisville	36.74	90	P	P	05 45 13.1	+3.5
	baz=317						
E50A	Wahnapitae	36.74	86	P	P	05 45 11.1	+1.4
	baz=316						
D51A	Lot 18 Range I	36.92	84	P	P	05 45 13.3	+2.1
	baz=315						
I48A	Sherman Twp	36.93	91	P	P	05 45 13.4	+2.1
	baz=318						
HDIL	Hopedale	37.00	100	P	P	05 45 12.3	+0.4
	baz=321,SNR=11						
J47A	Sunmer	37.10	93	P	P	05 45 14.4	+1.6
	baz=319						
VLDQ	Val d'Or	37.12	81	IAmb	IAmb	05 45 18.9	
	comp=Z,23nm,1.1s						
E51A	G1948 Merrick	37.26	85	P	P	05 45 15.7	+1.5
	baz=316						
MNTX	Cornudas Mount	37.26	126	P	P	05 45 15.4	+1.1
	baz=333,SNR=11						
CHGQ	Chibougamau	37.34	77	P	P	05 45 14.9	+0.1
	baz=313						
WMOK	Wichita Mounta	37.37	116	P	P	05 45 16.9	+1.7
	baz=328,SNR=20						
K47A	Vermontville	37.44	94	P	P	05 45 17.6	+1.9
	baz=319						
D52A	ZEK Kipawa Sen	37.47	83	P	P	05 45 17.2	+1.4
	baz=315						
F51A	Arnstein	37.49	86	P	P	05 45 17.1	+1.0
	baz=316						
SCHQ	Schefferville	37.52	66	P	P	05 45 16.2	0.0
	comp=Z,2.5nm,0.9s,baz=298,slow=13,SNR=2.4						
DAG	Danmarks Havn	37.55	19	*i* P	P	05 45 16.0	-0.3
DAG				*i*		05 46 46.0	
TUL1	Leonard	37.71	111	P	P	05 45 19.9	+1.9
	baz=326						
D53A	Lac Vacive, Po	37.74	83	P	P	05 45 20.6	+2.4
	baz=315						
D53A	Lac Vacive, Po	37.74	83	IAmb	IAmb	05 45 25.8	
	comp=Z,18nm,0.9s						
K48A	Perry	37.76	93	P	P	05 45 21.1	+2.7
	baz=319						
J49A	Marlette	37.82	91	P	P	05 45 20.0	+1.2
	baz=318						
E52A	Mattawa	37.84	84	P	P	05 45 20.2	+1.2
	baz=316						
F52A	Sundridge	37.88	85	P	P	05 45 20.6	+1.2
	baz=316						
CCM	Cathedral Cave	38.05	105	P	P	05 45 22.7	+1.8
	baz=324						
K49A	Clarkson	38.10	92	P	P	05 45 22.2	+0.9
	baz=319						
M47A	Cromwell	38.14	96	P	P	05 45 23.3	+1.7
	baz=320						
SFIN	Lafayette	38.18	98	P	P	05 45 23.8	+1.8
	baz=321						
D54A	Lac Fusel, La	38.19	82	P	P	05 45 22.9	+0.9
	baz=315,SNR=12						
E53A	Dumoine, Ponti	38.26	83	P	P	05 45 23.3	+0.8
	baz=316,SNR=13						
AAM	Ann Arbor	38.37	93	P	P	05 45 25.8	+2.4
	baz=319						
ALGO	Algonquin Park	38.37	84	P	P	05 45 24.0	+0.5
	baz=316,SNR=6.0						
E54A	Lac Daplat, Po	38.44	83	P	P	05 45 24.3	+0.2
	baz=316,SNR=15						
H52A	Wyevale	38.44	87	P	P	05 45 25.7	+1.6
	baz=317						
N47A	Urbana	38.47	96	IAmb	IAmb	05 45 32.2	
	comp=Z,30nm,0.9s						
I51A	Listowel	38.51	89	P	P	05 45 25.3	+0.6
	baz=318,SNR=12						
U40A	Yellville	38.68	108	P	P	05 45 26.3	+0.1
	baz=325,SNR=8.3						
G53A	Haliburton	38.70	86	P	P	05 45 26.3	-0.1
	baz=317,SNR=5.5						
G54A	Lake Saint Pet	38.76	85	P	P	05 45 27.6	+0.8
	baz=317						
ABTX	Abilene, Hawle	38.80	119	P	P	05 45 29.5	+2.3
	baz=330						
N48A	Decatur	38.81	96	P	P	05 45 31.1	+3.9
	baz=321						
D55A	Sainte-Anne-du	38.85	81	P	P	05 45 28.8	+1.3
	baz=316,SNR=16						
GRQ	Grand Remous	38.96	82	P	P	05 45 29.0	+0.6
E55A	Montcerf-Lytto	38.97	82	P	P	05 45 30.8	+2.2
	baz=316						
L50A	Kingsville	38.97	92	P	P	05 45 31.1	+2.5
	baz=320						
H53A	Bobcaygeon	39.12	86	P	P	05 45 29.9	+0.1
	baz=318						
D56A	ZEC Mazanza, M	39.17	80	P	P	05 45 29.9	-0.3
	baz=316,SNR=24						
J52A	Paris	39.20	89	P	P	05 45 32.5	+2.0
	baz=318						
O48A	Farmland	39.21	96	P	P	05 45 31.1	+0.5
	baz=321						
W39A	Magazine	39.21	110	P	P	05 45 30.8	+0.1
	baz=326,SNR=12						
S44A	Carbondale	39.28	103	IAmb	IAmb	05 45 38.9	
	comp=Z,40nm,1.0s						
F55A	Otter Lake	39.28	83	P	P	05 45 33.4	+2.3
	baz=317						
E56A	St. Veronique	39.40	81	P	P	05 45 33.6	+1.5
	baz=316						
K52A	Tillsonburg	39.43	90	P	P	05 45 35.0	+2.6
	baz=319						
G55A	Calabogie	39.53	84	P	P	05 45 34.7	+1.5
	baz=317						
D57A	Chemin Vers le	39.60	80	P	P	05 45 35.1	+1.2
	baz=316,SNR=12						
H55A	Tweed	39.82	85	P	P	05 45 37.2	+1.6
	baz=318						
I55A	Frankford	39.83	86	P	P	05 45 37.0	+1.4
	baz=318						
MIAR	Mount Ida	39.85	110	P	P	05 45 36.8	+0.9
	baz=327,SNR=22						
MIAR	Mount Ida	39.85	110	IAmb	IAmb	05 45 43.6	
	comp=Z,31nm,1.1s						
TRQ	Mont Tremblant	39.86	81	P	P	05 45 36.2	+0.2
LATQ	La Tuque	39.87	78	P	P	05 45 37.2	+1.2
	baz=316						
E57A	Chemin Saint G	39.92	81	P	P	05 45 36.3	-0.2
	baz=316,SNR=27						
W41B	Gary Mavity, V	39.93	108	P	P	05 45 38.9	+2.3
	baz=326						
ORIO	Orleans, Innes	39.96	83	P	P	05 45 37.9	+1.1
	baz=317						
D58A	Chemin du LacG	40.03	79	P	P	05 45 36.6	-0.8
	baz=316						
TXAR	Lajitas Array	40.03	126	P	P	05 45 39.4	+1.8
	comp=Z,4.5nm,1.0s,baz=329,slow=6.0,SNR=27						
TXAR				PcP	PcP	05 47 44.5	+1.9
	comp=Z,2.5nm,0.9s,baz=256,slow=2.7,SNR=5.4						
N51A	Ashland	40.04	93	P	P	05 45 39.4	+1.9
	baz=320						
J54A	Appleton	40.06	88	P	P	05 45 39.7	+2.1
	baz=319						
H56A	Elgin	40.23	84	P	P	05 45 40.5	+1.5
	baz=318						
WCI	Wyandotte Cave	40.26	99	P	P	05 45 42.4	+3.1
	baz=323						
L53A	Girard	40.27	90	P	P	05 45 40.5	+1.1
	baz=320						
ACSO	Alum Creek Sta	40.28	94	P	P	05 45 41.4	+2.0
	baz=321						
ERPA	Erie	40.28	90	P	P	05 45 41.4	+1.9
	baz=319						
WHTX	Lake Whitney,	40.28	117	P	P	05 45 41.5	+1.9
	baz=329						
E58A	La Victoria	40.36	80	P	P	05 45 40.5	+0.4
	baz=316,SNR=11						
WBO	Williamsburg	40.41	83	P	P	05 45 41.8	+1.4
N52A	McGinn's Farm,	40.46	93	P	P	05 45 43.3	+2.4
	baz=320						
M53A	WI Miller and	40.47	91	P	P	05 45 43.0	+2.0
	baz=320						
J55A	Hilton	40.47	87	P	P	05 45 42.1	+1.1
	baz=319						
G57A	Newington	40.47	83	P	P	05 45 42.9	+1.9
	baz=317						
F58A	St-Lin Laurent	40.47	81	P	P	05 45 43.6	+2.6
	baz=317						
L54A	Sinclairville	40.52	89	P	P	05 45 43.9	+2.4
	baz=319						
O51A	Pataskala	40.53	94	P	P	05 45 43.7	+2.2
	baz=321						
K54A	Basiliko Farm,	40.54	88	P	P	05 45 43.7	+2.0
	baz=319						
JCT	Junction City	40.59	120	P	P	05 45 44.8	+2.6
	baz=331						
WVNY	West Valley, N	40.73	88	IAmb	IAmb	05 45 48.8	
	comp=Z,23nm,0.9s						
K55A	Perry	40.75	88	P	P	05 45 44.2	+0.8
	baz=319						
P51A	Williamsport	40.83	95	P	P	05 45 45.7	+1.7
	baz=322						
N53A	Lisbon	40.87	92	P	P	05 45 46.4	+2.0
	baz=320						
G58A	Ormstown	40.88	82	P	P	05 45 45.3	+0.9
	baz=317						
M54A	Oil Creek Stat	40.90	90	P	P	05 45 45.7	+1.0
	baz=320						
J56A	Wolcott	40.92	86	P	P	05 45 46.1	+1.3
	baz=319						
O52A	Adamsville	40.92	93	P	P	05 45 46.6	+1.8
	baz=321						
F59A	Saint Guilaume	40.98	80	P	P	05 45 45.6	+0.5
	baz=317						
L55A	Hinsdale	40.98	88	P	P	05 45 44.9	-0.4
	baz=319,SNR=11						
I57A	Carthage	41.01	84	P	P	05 45 46.0	+0.5
	baz=318						
LONY	Lake Ozonia	41.02	83	P	P	05 45 46.2	+0.7
	baz=318						
D60A	Saint Jean D'O	41.09	78	P	P	05 45 47.9	+1.9
	baz=316						
K56A	Middlesex	41.13	87	P	P	05 45 47.6	+1.0
	baz=319						
P52A	Corning	41.15	94	P	P	05 45 48.3	+1.6
	baz=321						
N54A	Moraine State	41.16	91	P	P	05 45 47.9	+1.1
	baz=320						
WVT	Waverly	41.21	103	P	P	05 45 50.3	+3.1
	baz=324						
D61A	St Aubert, Com	41.23	77	P	P	05 45 46.7	-0.5
	baz=316						
E60A	Ste Agathe de	41.23	79	P	P	05 45 47.1	-0.2
	baz=317,SNR=14						
J57A	Williamstown	41.24	85	P	P	05 45 48.8	+1.5
	baz=319						
Z41A	Richland Creek	41.27	110	P	P	05 45 51.0	+3.3
	baz=327						
F60A	Warwick	41.29	79	P	P	05 45 48.6	+0.9
	baz=317,SNR=6.0						
G59A	Clarenceville	41.35	81	P	P	05 45 48.8	+0.5
	baz=318						
H58A	Gabriels	41.36	83	P	P	05 45 49.6	+1.2
	baz=318						
M55A	Ridgway	41.37	89	P	P	05 45 50.2	+1.8
	baz=320						
H59A	Cadyville	41.43	82	P	P	05 45 50.3	+1.4
	baz=318						
L56A	Greenwood	41.44	88	P	P	05 45 51.0	+1.9
	baz=319						
K57A	Scipio Center	41.50	86	P	P	05 45 50.5	+0.9
	baz=319						
I58A	Old Forge	41.52	84	P	P	05 45 51.0	+1.3
	baz=318,SNR=5.7						
O54A	Avella	41.58	92	P	P	05 45 51.0	+0.8
	baz=321						
Q52A	Bidwell	41.61	95	P	P	05 45 52.1	+1.6
	baz=322						
J58A	Remsen	41.62	85	P	P	05 45 49.7	-0.8
	baz=319,SNR=6.7						
J58A	Remsen	41.62	85	IAmb	IAmb	05 46 00.8	
	comp=Z,24nm,1.1s						
P53A	Whipple	41.63	94	P	P	05 45 52.7	+2.1
	baz=321						
M56A	Emporium	41.64	89	P	P	05 45 51.3	+0.6
	baz=320,SNR=12						
M56A	Emporium	41.64	89	IAmb	IAmb	05 45 56.2	
	comp=Z,9nm,0.7s						
E61A	Lac Etchemin	41.64	78	P	P	05 45 51.9	+1.2
	baz=317						
NATX	Nacogdoches	41.71	114	P	P	05 45 54.8	+3.5
	baz=329						
F61A	St Evariste	41.74	79	P	P	05 45 51.5	+0.1
	baz=317,SNR=5.9						
G60A	Masonville	41.74	81	P	P	05 45 52.4	+0.9
	baz=318						
N55A	Marion Center	41.79	90	P	P	05 45 52.6	+0.6
	baz=320,SNR=10						
OXF	Oxford	41.79	106	P	P	05 45 52.6	+0.6
	baz=326,SNR=8.6						
D62A	Allapoint, All	41.85	76	P	P	05 45 52.8	+0.5
	baz=317,SNR=6.8						
U49A	Red Boiling Sp	41.88	101	IAmb	IAmb	05 45 57.1	
	comp=Z,19nm,0.8s						
L57A	Andrews Acres	41.89	87	P	P	05 45 54.0	+1.2
	baz=320						
K58A	Earlville	41.89	86	P	P	05 45 54.4	+1.7
	baz=319						
T50A	Nancy	41.92	99	IAmb	IAmb	05 46 01.1	
	comp=Z,26nm,1.1s						
J59A	Piesco	41.92	84	P	P	05 45 52.8	-0.2
	baz=319						
CLTN	Cedars of Leba	41.95	101	IAmb	IAmb	05 45 58.8	
	comp=Z,23nm,1.0s						
E62A	Clayton Lake	41.96	77	P	P	05 45 55.5	+2.2
	baz=317						
H60A	Morristown	41.97	81	P	P	05 45 54.9	+1.5
	baz=318						
I59A	Olmsteadville	41.97	83	P	P	05 45 54.8	+1.4
	baz=318						
P54A	Burton	41.98	93	P	P	05 45 54.6	+1.1
	baz=321						
G61A	St-Isidore-de-	41.99	80	P	P	05 45 54.9	+1.4
	baz=318						
N56A	West Decatur	42.02	90	P	P	05 45 53.8	0.0
	baz=320						
PLAL	Pickwick Lake	42.03	104	IAmb	IAmb	05 46 01.1	
	comp=Z,18nm,0.8s						
Q53A	Leroy	42.05	94	P	P	05 45 55.3	+1.2
	baz=322						
O55A	Ligonier	42.08	91	P	P	05 45 55.0	+0.7
	baz=321						
BINY	Binghamton	42.16	86	P	P	05 45 55.8	+0.9
	baz=320						
I60A	Shoreham	42.22	83	P	P	05 45 57.3	+2.0
	baz=318						
M57A	Sunshine Farm,	42.26	88	P	P	05 45 57.4	+1.6
	baz=320						
R53A	Hurricane	42.26	95	P	P	05 45 59.3	+3.5
	baz=322						
K59A	Cooperstown	42.27	85	P	P	05 45 58.0	+2.1
	baz=319						
Q54A	Coxs Mills	42.29	94	P	P	05 45 56.3	+0.3
	baz=322						
D63A	Stockholm	42.32	75	P	P	05 45 56.8	+0.6
	baz=317						
L58A	Harry Jones Me	42.34	86	P	P	05 45 58.4	+2.0
	baz=320						
H61A	Lyndonville	42.36	81	P	P	05 45 57.7	+1.2
	baz=318						
P55A	Reedsville	42.37	92	P	P	05 45 57.7	+1.0
	baz=321						
O56A	Blue Knob Stat	42.39	90	P	P	05 45 57.8	+0.9
	baz=321,SNR=5.7						
N57A	Milroy	42.50	89	P	P	05 45 58.8	+1.1
	baz=320						
G62A	West of Eustis	42.51	79	P	P	05 45 59.6	+1.8
	baz=318						
M58A	Price's Panora	42.56	88	P	P	05 45 59.7	+1.5
	baz=320						
LBNH	Lisbon	42.58	81	P	P	05 46 00.1	+1.8
	baz=318						
J60A	Lant Hill Farm	42.60	83	P	P	05 45 60.0	+1.4
	baz=319						
L59A	Walton	42.62	86	P	P	05 46 00.0	+1.3
	baz=320						
E63A	Oxbow	42.62	76	P	P	05 45 58.5	-0.2
	baz=317						
I61A	Oroboro, Fairl	42.67	82	P	P	05 45 59.9	+0.8
	baz=318,SNR=5.7						
H62A	Milan	42.69	80	P	P	05 46 00.1	+0.8
	baz=318						
F63A	Nahmakanta, Br	42.83	77	P	P	05 46 02.4	+2.0
	baz=318,SNR=8.7						
N58A	Sunbury	42.84	88	P	P	05 46 01.5	+1.0
	baz=320						
O57A	Amberson	42.88	90	P	P	05 46 01.7	+0.8
	baz=321,SNR=15						
E64A	Bridgewater	42.91	76	P	P	05 46 01.8	+0.9
	baz=317						
TZTN	Tazewell	42.92	98	P	P	05 46 02.9	+1.7
	baz=324,SNR=11						
M59A	Waymart	42.93	87	P	P	05 46 02.8	+1.6
	baz=320						
G63A	Kingsbury	43.02	78	P	P	05 46 02.9	+0.9
	baz=318,SNR=10						
T53A	Wise	43.05	97	P	P	05 46 05.8	+3.4
	baz=323						
PKME	Peaks-Kenny Pk	43.07	78	P	P	05 46 03.5	+1.2
	baz=318,SNR=9.9						
F64A	Sherman	43.07	77	P	P	05 46 03.0	+0.8
	baz=318,SNR=12						
K61A	Williamstown	43.11	84	P	P	05 46 04.3	+1.7
	baz=319						
V51A	Loudon	43.13	100	IAmb	IAmb	05 46 10.3	
	comp=Z,39nm,1.4s						
I62A	Tamworth	43.13	81	P	P	05 46 05.1	+2.3
	baz=319						
L60A	Shokan	43.17	85	P	P	05 46 05.2	+2.1
	baz=320						
N59A	State Game Lan	43.24	87	P	P	05 46 05.4	+1.7
	baz=320						
P57A	Homestead Farm	43.27	91	P	P	05 46 04.8	+0.9
	baz=321,SNR=10.0						
P57A	Homestead Farm	43.27	91	IAmb	IAmb	05 46 09.8	
	comp=Z,15nm,0.8s						
O58A	Lewisberry	43.30	89	P	P	05 46 04.1	-0.1
	baz=321,SNR=7.2						
G64A	Maxfield	43.33	78	P	P	05 46 05.4	+1.0
	baz=318,SNR=9.7						
L61A	Hillsdale 1, H	43.34	84	P	P	05 46 05.1	+0.6
	baz=320						
I63A	Otisfield	43.36	80	P	P	05 46 07.1	+2.5
	baz=319						
J62A	Henniker	43.39	82	P	P	05 46 07.0	+2.1
	baz=319						
S55A	Lewisburg	43.40	94	P	P	05 46 06.7	+1.6
	baz=322						
Q57A	Strasburg	43.42	91	P	P	05 46 06.6	+1.4
	baz=322						
T54A	Tazewell	43.45	96	P	P	05 46 07.2	+1.6
	baz=323						
V52A	Sevierville	43.46	99	IAmb	IAmb	05 46 13.8	
	comp=Z,23nm,1.1s						
M60A	Port Jervis	43.48	86	P	P	05 46 06.4	+0.7
	baz=320						
O59A	Robesonia	43.51	88	P	P	05 46 07.6	+1.8
	baz=321						
TKL	Tuckaleechee C	43.52	99	IAmb	IAmb	05 46 10.2	
	comp=Z,17nm,0.8s						
FPAL	Fort Paine	43.55	102	IAmb	IAmb	05 46 13.5	
	comp=Z,16nm,0.9s						
H64A	Troy	43.57	79	P	P	05 46 09.1	+2.8
	baz=318						
N60A	Cedar Hill Far	43.60	87	P	P	05 46 08.0	+1.4
	baz=320						
P58A	Pank, Wackersv	43.60	90	P	P	05 46 08.8	+2.2
	baz=321						
K62A	Royalston	43.61	83	P	P	05 46 07.4	+0.7
	baz=319						
T55A	Pulaski	43.79	95	P	P	05 46 10.1	+1.9
	baz=323						
Q58A	Fox Den Farm,	43.85	91	P	P	05 46 08.9	+0.2
	baz=322						
O60A	Telford	43.88	88	P	P	05 46 10.3	+1.4
	baz=321						
BLA	Blacksburg	43.89	95	P	P	05 46 10.6	+1.6
	baz=323						
M61A	Granite Spring	43.91	85	P	P	05 46 09.4	+0.4
	baz=320						
I64A	Boothbay	43.91	80	P	P	05 46 10.0	+1.0
	baz=319						
P59A	Jarrettsville	43.93	89	P	P	05 46 09.7	+0.4
	baz=321						
G65A	Princeton	43.93	77	P	P	05 46 11.3	+2.1
	baz=318						
K63A	Dunstable	43.93	82	P	P	05 46 11.0	+1.8
	baz=319						
H65A	Eastbrook	43.99	78	P	P	05 46 09.8	+0.2
	baz=318						
N61A	South Mountain	44.08	86	P	P	05 46 13.4	+3.0
	baz=320						
LRAL	Lakeview Retre	44.14	105	P	P	05 46 12.8	+1.8
	baz=326						
U55A	TA2, Sparta	44.15	96	P	P	05 46 12.8	+1.6
	baz=323						
R58A	Rapidan	44.20	92	P	P	05 46 12.8	+1.4
	baz=322						
T56A	Rocky Mt	44.22	95	P	P	05 46 12.1	+0.4
	baz=323						
M62A	Hamden	44.23	84	P	P	05 46 13.3	+1.7
	baz=320						
V54A	Nebo	44.30	97	P	P	05 46 14.3	+2.0
	baz=324						
H66A	Whiting	44.36	77	P	P	05 46 13.3	+0.6
	baz=318						
R58B	Mineral	44.52	92	P	P	05 46 15.1	+1.1
	baz=322						
V55A	Taylorsville	44.59	97	P	P	05 46 16.9	+2.2
	baz=324						
M63A	Gales Ferry	44.66	84	P	P	05 46 15.0	-0.1
	baz=320						
R59A	King George, V	44.70	91	P	P	05 46 17.6	+2.2
	baz=322						
S58A	Poland Farm, P	44.72	92	P	P	05 46 17.3	+1.7
	baz=322						

W54A Cherokee Point 44.74 98 P **P** **05 46 17.9 +2.0**
baz=324

T58A Grand View Acr 45.01 93 P **P** **05 46 18.8 +0.9**
baz=323

X54A Belton 45.09 99 P **P** **05 46 20.1 +1.5**
baz=325,SNR=7.5

V57A Coltrane Farms 45.26 95 P **P** **05 46 21.7 +1.8**
baz=324

NRIK Noril'sk 45.36 338 P **P** **05 46 20.0 -0.3**
comp=Z,3.4nm,0.5s,baz=48,slow=7.0,SNR=7.9

HODGE **Hodges 45.40 99** IAmb IAmb 05 46 29.3
comp=Z,13nm,0.9s

U58A Oxford 45.44 94 P **P** **05 46 22.2 +0.9**
baz=323

T59A Double "B" Far 45.46 92 P **P** **05 46 22.6 +1.1**
baz=323

GOGA Godfrey 45.50 101 P **P** **05 46 23.6 +1.8**
baz=325

X55A Gracelyn & Ava 45.51 98 P **P** **05 46 23.6 +1.7**
baz=325

X56A White Oak 45.78 98 P **P** **05 46 26.2 +2.2**
baz=325

Y55A Saluda 45.84 99 P **P** **05 46 26.5 +2.0**
baz=325

U59A Littleton 45.84 93 P **P** **05 46 25.6 +1.1**
baz=323

TIGA Tifton 47.07 103 P **P** **05 46 35.4 +1.1**
baz=326

ARCES **ARCESS Array B 49.17 7** P **P** **05 46 52.0 +2.0**
comp=Z,4.7nm,0.8s,baz=356,slow=6.6,SNR=2.4

USRK Ussuriysk Ar. 51.54 293 P **P** **05 47 07.4 -0.8**
comp=Z,1.5nm,0.6s,baz=75,slow=11,SNR=2.9

USRK LR LR 06 11 25.6
comp=Z,752nm,18.4s,baz=43,slow=39

CMIG Matias Romero 54.51 123 P **P** **05 47 31.4 +1.0**
comp=Z,4.9nm,0.8s,baz=15,slow=5.6,SNR=5.9

TEIG Tepich 54.52 115 P **P** **05 47 32.2 +1.8**
comp=Z,6.8nm,0.5s,baz=319,slow=9.5,SNR=2.9

CN2 Changchun 54.72 298 *e*P **P** **05 47 28.5 -3.2**
CN2 *e*sP sP 05 47 35.5 +1.5
CN2 *e*S **S** **05 55 04.8 -7.6**
CN2 *e*SS **SKiKP** **05 58 46.4 +6.1**
CN2 LR LR
comp=Z,840nm,16.0s
CN2 LR LR
comp=Z,770nm,16.0s
CN2 LR LR
comp=Z,520nm,16.0s

MJAR Matsushiro Arr 54.79 283 P **P** **05 47 31.1 -1.2**
comp=Z,0.9nm,0.3s,baz=3.4,slow=6.3,SNR=4.2
MJAR PcP **PcP** **05 48 35.0 +0.3**
comp=Z,1.3nm,0.3s,baz=78,slow=2.9,SNR=2.1
MJAR LR LR 06 11 51.4
comp=Z,843nm,21.6s,baz=45,slow=37

NB2 NORSAR Subarra 56.15 16 P **P** **05 47 41.1 -0.7**
comp=Z,29nm,1.7s,baz=346,slow=2.4

NOA NORSAR Array B 56.15 16 P **P** **05 47 41.2 -0.6**
comp=Z,1.5nm,0.9s,baz=344,slow=7.2,SNR=5.6

FINES FINESS Array B 57.24 8 P **P** **05 47 49.5 0.0**
comp=Z,2.8nm,0.8s,baz=6.6,slow=8.3,SNR=6.3

KLMR Klimovskoe 58.28 0 *e*P **P** **05 47 55.0 -1.8**
KLMR AMP 05 48 06.0
comp=Z,36nm,1.2s
KLMR LQ LQ 06 08 35.3
KLMR LQ LQ 06 08 35.3
KLMR LR LR 06 13 38.0

ULN Ulaanbaatar 58.57 313 IAmb IAmb 05 48 12.0
comp=Z,6.4nm,0.8s

KSRS Korea Array 58.80 292 P **P** **05 48 00.7 -0.1**
comp=Z,4.2nm,0.8s,baz=30,slow=6.4,SNR=14
KSRS LR LR 06 14 19.5
comp=Z,522nm,20.8s,baz=34,slow=37

SONM Songino Array 58.83 314 P **P** **05 48 01.0 0.0**
comp=Z,2.0nm,0.8s,baz=28,slow=7.6,SNR=14

ZALV Zalesovo Beam 59.75 331 P **P** **05 48 05.7 -1.4**
comp=Z,1.1nm,0.4s,baz=32,slow=8.5,SNR=3.1

HHC Hu-ho-hao-te 62.88 306 *e*P **P** **05 48 30.0 +1.4**
HHC S **S** **05 56 58.3 -0.5**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,61nm,6.1s
HHC LR LR
comp=Z,680nm,17.0s
HHC LR LR
comp=Z,630nm,17.9s
HHC LR LR
comp=Z,940nm,17.9s

CLL Collm 65.83 18 *e*sP **sP** **05 48 52.0 +2.2**
comp=Z,14nm,1.2s
CLL *e*SS SS 06 01 54.0 +5.9

BRG Berggiesshubel 66.40 17 *e*P **P** **05 48 50.6 -0.7**
comp=Z,14nm,1.7s
BRG *i* 05 48 56.5
comp=Z,20nm,1.3s

NKC Novy Kostel 66.80 19 *e*P P 05 49 01.4 +7.5
CHVC Chvalec 66.97 16 *e*P **P** **05 48 58.1 +3.1**
CHVC *ex* x 05 49 03.5

MKAR Makanchi Array 67.00 330 P **P** **05 48 56.3 +1.1**
comp=Z,0.5nm,0.7s,baz=44,slow=7.2,SNR=4.4
MKAR PKP2bc 06 17 26.1
comp=Z,0.3nm,0.6s,baz=186,slow=1.4,SNR=3.5

OSTC Ostas 67.02 16 *e*P P 05 49 03.1 +7.8
GRF Grafenberg Arr 67.13 20 *e*P **P** **05 48 56.8 +0.8**
comp=Z,17nm,1.5s,baz=344,slow=5.8

DPC Dobruska-Polom 67.24 16 *e*P **P** **05 48 58.1 +1.4**
DPC *ex* x 05 49 04.7

PRU Pruhonice 67.35 17 *e*P P 05 49 05.7 +8.4
NJ2 Nanjing 67.36 295 *e*P **P** **05 48 58.7 +1.0**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 LR LR
comp=Z,770nm,17.1s
NJ2 LR LR
comp=Z,750nm,18.9s
NJ2 LR LR
comp=Z,800nm,18.9s

KRLC Kraliky 67.57 16 *e*P **P** **05 48 59.2 +0.4**
KRLC *ex* x 05 49 06.4
MORC Moravsky Berou 67.96 15 *e*P **P** **05 49 00.5 -0.8**
KHC Kasperske Hory 68.04 18 *e*P P 05 49 07.6 +5.8

AKASG **Malin Array Be 68.14 7** P **P** **05 49 01.4 -0.9**
comp=Z,6.7nm,0.6s,baz=358,slow=6.3,SNR=11

VRAC Vranov 68.30 16 ⇓P **P** **05 49 03.6 +0.2**
VRAC Vranov 68.30 16 *e*P **P** **05 49 03.9 +0.5**
WMQ Urumqi 68.33 325 *e*P **P** **05 49 02.7 -1.1**
WMQ sP sP 05 49 10.1 +4.0
WMQ pmax pmax
comp=Z,12nm,1.1s
WMQ pmax pmax
comp=Z,30nm,4.3s
WMQ LR LR
comp=Z,570nm,15.9s
WMQ LR LR
comp=Z,480nm,23.3s
WMQ LR LR
comp=Z,640nm,20.1s

GERES **GERESS Array B 68.34 18** P **P** **05 49 04.0 +0.2**
comp=Z,0.3nm,0.2s,baz=322,slow=7.7,SNR=1.8

GTA Gaotai 68.50 314 *e*P **P** **05 49 04.7 -0.3**
GTA pP sP 05 49 09.6 +2.3
GTA sP pP 05 49 12.1 +5.4
GTA S **S** **05 58 06.8 -0.8**
GTA sS sS 05 58 18.1 +7.7
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,37nm,7.1s
GTA LR LR
comp=Z,960nm,15.9s
GTA LR LR
comp=Z,930nm,16.5s

KRUC Moravsky 68.51 16 *e*P **P** **05 49 04.8 +0.1**
LANS Liptovska Anna 68.81 14 *e*P **P** **05 49 07.5 +0.9**
LANS *e* 05 49 13.1

DAVA Damuels 69.23 21 *i* pP **P** **05 49 08.4 -1.0**
comp=Z,5.1nm,0.9s

MODS Modra-Piesok 69.30 16 *e*P **P** **05 49 09.3 -0.3**
MODS *e* 05 49 17.2
KOLS Kolonicke sedl 69.33 12 *e* P 05 49 19.3 +9.5
MOTA Moosalm 69.38 20 *i* pP **P** **05 49 10.5 +0.2**
comp=Z,3.7nm,1.0s

VYHS Vyhne 69.38 15 *e*P **P** **05 49 09.8 -0.3**
VYHS *e* 05 49 18.0

MOA Molln 69.39 18 *i* pP **P** **05 49 11.2 +1.0**
comp=Z,8.5nm,1.0s

WATA Walderalm 69.47 20 *i* sP sP 05 49 13.2 +0.2
comp=Z,12nm,0.8s

SQTA Sankt Quirin 69.52 20 *i* pP **P** **05 49 10.5 -0.6**
comp=Z,8.6nm,1.0s

CONA Conrad Observa 69.55 17 *i* pP **P** **05 49 11.6 +0.4**
comp=Z,17nm,1.0s

WTTA Wattenberg 69.55 20 *i* pP **P** **05 49 12.0 +0.6**
comp=Z,25nm,1.4s

FETA Feichten 69.63 21 *i* pP **P** **05 49 12.4 +0.5**
comp=Z,8.5nm,1.1s

XAN Xi'an 69.82 304 P P 05 49 23.9 +11
XAN pP PcP 05 49 44.3 +8.6
XAN pmax pmax
comp=Z,26nm,0.8s
XAN pmax pmax
comp=Z,68nm,3.5s

LZH Lanzhou 69.99 309 *e*P **P** **05 49 10.7 -3.6**
LZH pP pP 05 49 15.1 -0.9
LZH sP sP 05 49 19.1 +2.5
LZH *e*PP **PP** **05 51 45.7 -2.8**
LZH pmax pmax
comp=Z,24nm,1.0s
LZH LR LR
comp=Z,190nm,13.7s
LZH LR LR
comp=Z,190nm,13.6s
LZH LR LR
comp=Z,230nm,14.0s

KBA Koelnbreinsper 70.00 19 *i* pP **P** **05 49 14.9 +0.7**
comp=Z,24nm,1.1s

PGAV Gavieira, Arco 70.07 36 *e*LR LR 06 11 22.5
comp=Z,563nm,18.0s

PSZ Piszkesteto 70.08 14 ⇑P **P** **05 49 15.5 +1.0**
TRPA Tarpa 70.16 12 ⇑P **P** **05 49 15.6 +0.8**
ARSA Arzberg 70.16 17 *i* pP **P** **05 49 15.1 +0.2**
comp=Z,12nm,1.1s

MYKA Terra Mystica 70.49 19 *i* pP **P** **05 49 17.1 +0.1**
comp=Z,6.4nm,1.1s

SORM Soroca 70.64 8 ⇑P **P** **05 49 16.7 -1.1**
SOKA Soboth 70.65 18 *i* pP **P** **05 49 17.9 -0.1**
comp=Z,18nm,1.3s

OBKA Obir 70.74 18 *i* pP **P** **05 49 18.0 -0.6**
comp=Z,5.8nm,0.8s

BURAR **Bucovina Array 70.92 10** ⇑P **P** **05 49 19.9 +0.2**
MVO Moncorvo 71.16 35 *e*P **P** **05 49 20.7 -0.5**
MVO Moncorvo 71.16 35 *e*LR LR 06 12 05.3
comp=Z,522nm,18.0s

DRGR 71.50 12 ⇑P **P** **05 49 22.5 -0.6**
BIZ Bicaz 71.67 10 ⇓P **P** **05 49 24.3 +0.2**
MTE Manteigas 71.73 36 *e*LR LR 06 10 45.1
comp=Z,313nm,18.0s

PCAS Casmilo, Conde 71.77 37 *e*P **P** **05 49 24.7 -0.1**
SIRR Siria 71.91 13 ⇓P **P** **05 49 24.8 -0.8**
TESR Tescani 72.13 9 ⇓P **P** **05 49 25.3 -1.5**
OZUR 72.48 10 ⇑P **P** **05 49 28.6 -0.4**
SDV Santo Domingo 72.52 104 P **P** **05 49 30.7 +0.8**
comp=Z,3.5nm,0.7s,baz=340,slow=5.8,SNR=4.5

BZS Buzias 72.54 13 ⇑P **P** **05 49 29.5 +0.2**
PMRV Marv??o 72.67 36 *e*LR LR 06 12 49.3
comp=Z,275nm,18.0s

PMTG Montargil 72.76 37 *e*P **P** **05 49 35.4 +4.7**
VRI Vrincioaia 72.78 9 ⇑P **P** **05 49 30.5 -0.3**
PLOR Plostina 72.79 9 ⇑P **P** **05 49 31.2 +0.3**
GZR Gura Zlata 72.89 12 ⇓P **P** **05 49 31.3 -0.2**
VOIR 73.06 11 ⇑P **P** **05 49 32.1 -0.5**
MLR Muntele Rosu 73.09 10 ⇓P **P** **05 49 33.2 +0.4**
ARR Arges 73.10 11 ⇑P **P** **05 49 33.4 +0.6**
EVO Evora 73.32 37 *e*P **P** **05 49 34.7 +0.6**
HERR Herculane 73.36 13 ⇑P **P** **05 49 34.1 -0.1**
MDVR Moldovita 73.38 13 ⇓P **P** **05 49 34.2 -0.1**
ESDC Sonseca Array 73.40 34 P **P** **05 49 34.7 +0.1**
comp=Z,2.7nm,0.8s,baz=340,slow=6.1,SNR=8.5

PNCL Nicolau / Gran 73.56 38 *e*P **P** **05 49 32.2 -3.2**
CFR Carcaliu 73.57 8 ⇑P **P** **05 49 34.6 -0.8**
PTEO Sao Teotonio 74.02 38 *e*P P 05 49 32.6 -5.6
HARR Harsova 74.04 9 ⇑P **P** **05 49 37.6 -0.6**
PCVE Castro Verde 74.15 38 *e*P P 05 49 34.0 -4.9
PVAQ Vaqueiros 74.45 37 *e*LR LR 06 13 52.3
comp=Z,378nm,22.0s

KBZ Khabaz 75.40 358 P **P** **05 49 45.7 -0.3**
comp=Z,6.8nm,0.8s,baz=322,slow=5.2,SNR=9.3

PDG Podgorica 75.40 15 ⇑P **P** **05 49 45.6 -0.4**
PMOZ Porto Moniz, M 75.58 47 *e*LR LR 06 14 52.4
comp=Z,203nm,18.0s

VTS Vitosha 75.68 12 ⇑P **P** **05 49 47.5 -0.4**
GYA Guiyang 77.41 302 P P 05 50 05.1 +7.2
GYA pmax pmax
comp=Z,12nm,1.2s

PPT2 Papeete2 78.86 189 *e*S **S** **06 00 06.9 +2.5**
comp=Z,291nm,26.0s

PPT2 Papeete2 78.86 189 *e*LR LR 06 14 24.0
comp=Z,316nm,23.5s,baz=352

BRTR Keskin Array B 79.31 5 P **P** **05 50 07.7 -0.6**
comp=Z,2.8nm,0.8s,baz=354,slow=3.4,SNR=8.4

GEYT Alibeck 80.08 345 P **P** **05 50 12.1 -0.3**
comp=Z,3.6nm,0.8s,baz=358,slow=7.4,SNR=5.3

KMI Kunming 80.18 305 P P 05 50 21.6 +8.3
KMI pP PcP 05 50 33.3 +13
KMI pmax pmax
comp=Z,15nm,0.5s
KMI pmax pmax
comp=Z,69nm,4.6s
KMI LR LR
comp=N,540nm,20.6s
KMI LR LR
comp=E,410nm,19.5s
KMI LR LR
comp=Z,310nm,29.7s

KEST Kesra 80.30 25 P **P** **05 50 13.2 -0.4**
comp=Z,3.4nm,0.7s,baz=272,slow=6.2,SNR=5.4

KEST Kesra 80.30 25 IAmb IAmb 05 50 22.9
comp=Z,15nm,1.0s

TBI Tubuai 84.56 188 *e*LQ LQ 06 13 33.0
comp=Z,337nm,32.5s
TBI *e*LR LR 06 17 05.5
comp=Z,341nm,31.8s,baz=356

ZCP Zamboanga City 87.63 280 ⇓*e*P **P** **05 50 49.1 -2.0**
CMAR Chiang Mai Arr 87.68 305 P **P** **05 50 50.8 -0.7**
comp=Z,1.8nm,0.7s,baz=358,slow=5.7,SNR=10
CMAR LR LR 06 33 39.6
comp=Z,773nm,18.2s,baz=60,slow=38

DZM Mont Dzumac 93.32 228 *e*LR LR 06 21 18.7
comp=Z,358nm,25.1s

VNDA Vanda 142.92 198 PKP **PKPdf** **05 57 35.4 +0.9**
comp=Z,0.8nm,0.8s,baz=3.6,slow=5.2,SNR=4.0

BOSA Boshof 146.02 23 PKPbc **PKPdf** **05 57 41.0 -0.5**
comp=Z,5.3nm,0.7s,baz=348,slow=1.9,SNR=10

VNA3 Neumayer Olymp 158.42 138 PKPab **PKPab** **05 58 32.7 -0.6**
SNAA Sanae 160.54 140 PKPab **PKPab** **05 58 42.5 -0.1**

VAO ***05*** *05:41:03.0±1.4, 19°.89S×71°.19W, h18km±10km, mb4.3*
NEIC ***05*** *05:41:03.8, 19°.99S×71°.03W, h18km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_n5.74; $M_{\theta\theta}$-1.37; $M_{\phi\phi}$-4.37; $M_{r\theta}$1.28; $M_{\theta\phi}$4.16; $M_{\phi r}$-6.65; Fault plane solution: $M_0$9.49000×10^{15} NP1:$\phi_0$303.29000°, δ26.48000°, λ53.04000°. NP2:$\phi_0$163.35000°, δ69.13000°, λ106.67000°. Principal axes: T 9.0910, Plg62.0000°, Azm99.0000°; N 0.7609, Plg16.0000°, Azm337.0000°; P -9.8519, Plg22.0000°, Azm241.0000°;*
NEIC ***05*** *05:41:04.0±2.0, 19°.96S±0°.04×71°.06W±0°.02, h16km±3km, mb4.9/37, Mwr4.6/51, ML4.5(GUC) Error ellipse: s-maj=5.1km s-min=2.8km az=171.0*
GUC ***05*** *05:41:05.1±0.9, 19°.89S×71°.12W, h37km±4km, ML4.5*
IDC ***05*** *05:41:09.7±2.5, 19°.89S×70°.78W, h47km±21km, mb4.0/9, mb1 4.1/10, mb1mx3.9/34, mbtmp4.3/10, ML4.4/2, MS3.8/5, Ms1 3.8/5, ms1mx3.5/28, Error ellipse: s-maj=27.9km s-min=15.0km az=87.0*

ISC 05 05:41:02.7±1.5, 19°.95S±0°.03×71°.12W±0°.05, h8km±9km, n201,σ1$34/213, mb4.8/20, MS3.8/3, 10C-2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TA02	**Huaiquique**	**0.98**	**109**	⇑*i*P	**Pb**	**05 41 22.1**	**+0.2**
TA02				*e*S	**Sg**	**05 41 34.8**	**+0.5**
PSGC	**Pisagua**	**1.00**	**70**	⇓*i*P	**Pg**	**05 41 21.3**	**-0.6**
PSGC				*e*S	**Sg**	**05 41 34.9**	**-0.1**
PSGCX	**Pisagua**	**1.00**	**70**		**Pg**	**05 41 21.4**	**-0.6**
PSGCX				Sg	**Sg**	**05 41 33.9**	**-1.0**
TA01	**Diego Aracena**	**1.07**	**125**	⇓*i*P	**Pb**	**05 41 23.7**	**+0.3**
TA01				*e*S	**Sb**	**05 41 37.6**	**0.0**
TA01	**Diego Aracena**	**1.07**	**125**		**Pb**	**05 41 23.8**	**+0.3**

PATCX Punta Patache 1.25 134 ⇑*i*P **Pn** **05 41 26.4 -0.2**
PATCX *e*S **Sb** **05 41 42.0 -1.0**
PATCX Punta Patache 1.25 134 **Pn** **05 41 26.3 -0.3**
PB11 IPOC Station P 1.39 83 ⇑*i*P **Pn** **05 41 28.1 -0.4**
PB11 *e*S **Sb** **05 41 46.1 -0.8**
PB11 IAML 05 41 47.5
comp=N,18μm,0.4s
PB11 IPOC Station P 1.39 83 **Pn** **05 41 27.9 -0.6**
PB11 **Sb** **05 41 45.9 -1.0**
PB12 IPOC Station P 1.52 29 ⇑*i*P **Pn** **05 41 29.6 -0.6**
PB12 *i* S **Sn** **05 41 48.4 -1.9**
PB12 IAML 05 42 00.1
comp=N,6μm,0.5s
PB12 IPOC Station P 1.52 29 **Pn** **05 41 29.7 -0.6**
PB12 Sn **Sn** **05 41 50.1 -0.3**
MNMC Minye Minye 1.65 61 ⇑*i*P **Pn** **05 41 32.0 -0.2**
MNMC *e*S **Sn** **05 41 52.9 -0.8**
MNMC IAML 05 42 01.3
comp=E,18μm,0.2s
MNMC Minye Minye 1.65 61 **Pn** **05 41 32.1 -0.2**
AP01 Chacalluta 1.73 25 *e*P **Pn** **05 41 32.1 -1.0**
AP01 *i* S **Sn** **05 41 52.2 -3.1**
AP01 IAML 05 42 04.3
comp=E,16μm,0.3s
AP01 Chacalluta 1.73 25 **Pn** **05 41 32.8 -0.3**
PB02 IPOC Station P 1.78 140 ⇑*i*P **Pn** **05 41 34.3 +0.4**
PB02 *e*S **Sn** **05 41 55.3 -1.4**
PB02 IAML 05 42 08.4
comp=N,12μm,0.4s
GO01 Chusmiza 1.83 82 ⇑*i*P **Pn** **05 41 34.9 0.0**
GO01 *e*S **Sn** **05 41 58.0 -0.5**
GO01 Chusmiza 1.83 82 **Pn** **05 41 35.0 0.0**
PB08 IPOC Station P 1.86 96 ⇑*i*P **Pn** **05 41 35.3 +0.2**
PB08 *e*S **Sn** **05 41 59.2 +0.2**
PB08 IAML 05 42 02.6
comp=N,4μm,0.3s
PB08 IPOC Station P 1.86 96 **Pn** **05 41 35.4 +0.2**
PB01 IPOC Station P 1.88 126 ⇑*i*P **Pn** **05 41 35.7 +0.5**
PB01 *e*S **Sn** **05 41 59.0 -0.1**
PB01 IAML 05 42 07.1
comp=N,5μm,0.5s
PB01 IPOC Station P 1.88 126 **Pn** **05 41 35.7 +0.5**
PB07 IPOC Station P 2.11 147 **Pn** **05 41 38.8 +0.3**
PB03 IPOC Station P 2.45 149 ⇑*e*P **Pn** **05 41 43.4 +0.4**
PB03 *e*S **Sn** **05 42 11.8 -1.5**
PB03 IAML 05 42 33.0
comp=E,1μm,0.4s
PB04 IPOC Station P 2.54 159 **Pn** **05 41 44.5 +0.1**
PB04 Sn **Sn** **05 42 12.7 -2.8**
PB09 IPOC Station P 2.54 137 **Pn** **05 41 44.1 -0.3**
PB06 IPOC Station P 3.10 153 **Pn** **05 41 52.0 0.0**
LVC Limon Verde 3.35 143 P **Pn** **05 41 57.3 +1.6**
comp=E,26nm,0.3s,baz=310,slow=9.3,SNR=113
LVC S **Sn** **05 42 36.0 +0.1**
comp=E,78nm,0.3s,baz=100,slow=17,SNR=3.8
LVC Limon Verde 3.35 143 Pn **Pn** **05 41 57.1 +1.3**
LVC **Sn** **05 42 35.2 -0.8**
LVC Limon Verde 3.35 143 *e*P **Pn** **05 41 57.5 +1.8**
LVC *e*S **Sn** **05 42 36.5 +0.6**
LVC Limon Verde 3.35 143 *e*P **Pn** **05 41 57.5 +1.8**
LVC *e*S **Sn** **05 42 36.5 +0.6**
PB10 IPOC Station P 3.59 172 Pn **Pn** **05 41 58.2 -0.4**
PB15 IPOC Station P 3.59 155 **Pn** **05 41 58.8 0.0**
LPAZ La Paz 4.62 38 P **Pn** **05 42 15.8 +2.4**
baz=211,slow=6.8
GO02 Mina Guanaco 5.38 165 Pn **Pn** **05 42 23.5 0.0**
GO02 **Sn** **05 43 25.6 -0.2**
AC01 Pan de Azucar 6.19 176 Pn **Pn** **05 42 33.8 -0.6**
AC01 **Sn** **05 43 43.5 -1.9**
AC02 Maricunga 7.09 165 **Pn** **05 42 48.0 +0.8**
GO03 Copiap 7.65 174 Pn **Pn** **05 42 55.7 +1.1**
AC04 Llanos de Chal 8.22 180 Pn **Pn** **05 42 59.6 -2.7**
AC05 El Transito 8.88 175 Pn **Pn** **05 43 10.9 -0.6**
NNA Nana 9.64 324 LR LR 05 46 56.3
comp=E,224nm,18.4s,baz=154,slow=35
CO01 Juntas del Tor 10.03 175 Pn **Pn** **05 43 28.0 +0.7**
GO04 Tololo Observa 10.18 178 Pn **Pn** **05 43 28.3 -1.1**
SIV San Ignacio 10.34 69 P **Pn** **05 43 31.3 0.0**
comp=E,6.2nm,0.3s,baz=270,slow=10.0,SNR=35
CO03 El Pedregal 10.85 178 Pn **Pn** **05 43 37.6 -0.9**
CO02 Combarbal 11.21 179 Pn **Pn** **05 43 42.8 -0.6**
PTLB Pontes e Lacer 12.26 70 *e*P **Pn** **05 43 55.7 -2.0**
PTLB Pontes e Lacer 12.26 70 *e*P **Pn** **05 43 55.7 -2.0**
VILB Vilhena 12.57 58 *e*P **Pn** **05 44 03.1 +1.1**
VILB *e*S **Sn** **05 46 24.2 +2.0**
VILB Vilhena 12.57 58 *e*P **Pn** **05 44 03.1 +1.1**
VILB *e*S **Sn** **05 46 24.2 +2.0**
VA03 San Esteban 12.77 178 Pn **Pn** **05 44 04.4 -0.3**
MT02 Curacav 13.26 180 Pn **Pn** **05 44 13.0 +1.7**
SAML Samuel 13.36 36 Pn **Pn** **05 44 12.8 +0.1**
SAML Samuel 13.36 36 *e*P **Pn** **05 44 11.3 -1.4**
SAML Samuel 13.36 36 *e*P **Pn** **05 44 11.3 -1.4**
AQDB Aquidauana 14.48 95 *e*P **Pn** **05 44 28.6 +0.5**
AQDB Aquidauana 14.48 95 *e*P **Pn** **05 44 28.6 +0.5**
ATAH Atahualpa 14.56 330 LR LR 05 50 04.6
comp=E,251nm,18.6s,baz=342,slow=36
BO02 Sierra Bellavi 14.79 179 Pn **Pn** **05 44 32.3 +0.1**
H03N1 Juan Fernandez 15.13 206 T T 06 00 32.6
baz=32,slow=72,SNR=63
H03N2 Juan Fernandez 15.13 206 T T 06 00 40.6
baz=32,slow=72,SNR=52
H03N3 Juan Fernandez 15.14 206 T T 06 00 28.6
baz=32,slow=72,SNR=66
SALV Santo Antonio 15.22 77 *e*P **Pn** **05 44 38.2 +0.2**
SALV Santo Antonio 15.22 77 *e*P **Pn** **05 44 38.2 +0.2**
ITQB Itaqui 16.32 129 *e*P **Pn** **05 44 53.1 +0.9**
ITQB Itaqui 16.32 129 *e*P **Pn** **05 44 53.1 +0.9**
C2SB Chapadao do Su 17.29 89 *e*P **Pn** **05 45 05.2 +0.6**
C2SB Chapadao do Su 17.29 89 *e*P **Pn** **05 45 05.2 +0.6**
CLDB Colider 17.30 61 *e*P **Pn** **05 45 02.1 -2.6**
CLDB Colider 17.30 61 *e*P **Pn** **05 45 02.1 -2.6**
PTGB Pitanga 18.25 109 *e*P **P** **05 45 17.7 +1.0**
PTGB Pitanga 18.25 109 *e*P **P** **05 45 17.7 +1.0**
PCMB Pacaembu 18.64 99 *e*P **Pn** **05 45 22.4 +1.2**
PCMB Pacaembu 18.64 99 *e*P **Pn** **05 45 22.4 +1.2**
ITAB Concordia 18.84 116 *e*P **P** **05 45 22.4 -0.6**
ITAB Concordia 18.84 116 *e*P **P** **05 45 22.4 -0.6**
ARAG Araguaiana, MT 18.86 80 *e*P **P** **05 45 21.9 -1.4**
ARAG Araguaiana, MT 18.86 80 *e*P **P** **05 45 21.9 -1.4**
CPSB Cacapava Do Su 19.06 127 *e*P **Pn** **05 45 26.4 +0.1**
CPSB Cacapava Do Su 19.06 127 *e*P **Pn** **05 45 26.4 +0.1**
ITRB Iturama 19.53 93 *e*P **P** **05 45 31.1 +0.3**
ITRB Iturama 19.53 93 *e*P **P** **05 45 31.1 +0.3**
MACA Manacapuru-AM 19.55 33 *e*P **P** **05 45 30.1 -0.8**
MACA Manacapuru-AM 19.55 33 *e*P **P** **05 45 30.1 -0.8**
PLTB Pedras Altas 19.64 130 *e*P **P** **05 45 31.7 -0.1**
PLTB Pedras Altas 19.64 130 *e*P **P** **05 45 31.7 -0.1**
NPGB Novo Progresso 19.96 52 *e*P **P** **05 45 34.5 -0.9**
NPGB Novo Progresso 19.96 52 *e*P **P** **05 45 34.5 -0.9**
FRTB Fartura 20.32 103 *e*P **P** **05 45 38.9 -0.4**
FRTB Fartura 20.32 103 *e*P **P** **05 45 38.9 -0.4**
PLCA Paso Flores 20.72 179 P **Pn** **05 45 46.8 +0.8**
comp=E,5.1nm,0.9s,baz=24,slow=14,SNR=5.1
PLCA Paso Flores 20.72 179 P **P** **05 45 43.9 +0.2**
PLCA Paso Flores 20.72 179 *e*P **P** **05 45 43.6 0.0**
PLCA Paso Flores 20.72 179 *e*P **P** **05 45 43.6 0.0**
PUAC Puerto Asis, P 21.06 345 *e*P **P** **05 45 50.3 +2.9**
BB19B Bebedouro 21.19 97 *e*P **P** **05 45 47.6 -1.2**
BB19B Bebedouro 21.19 97 *e*P **P** **05 45 47.6 -1.2**
ITTB Itaituba 21.55 46 *e*P **P** **05 45 52.0 -0.7**
ITTB Itaituba 21.55 46 *e*P **P** **05 45 52.0 -0.7**
IPMB Ipameri, GO 21.75 89 *e*P **P** **05 45 53.7 -1.2**
IPMB Ipameri, GO 21.75 89 *e*P **P** **05 45 53.7 -1.2**
FLOC Florencia 21.86 348 *e*P **P** **05 45 58.2 +2.2**
FLOC Florencia 21.86 348 P **P** **05 45 58.4 +2.4**
PTGA Pitinga 22.00 31 P **P** **05 45 55.8 -1.7**
comp=E,8.9nm,0.4s,baz=209,slow=16,SNR=13
PTGA LR LR 05 55 17.9
comp=E,354nm,18.6s,baz=210,slow=39
PTGA Pitinga 22.00 31 P **P** **05 45 56.3 -1.2**
PTGA Pitinga 22.00 31 *e*P **P** **05 45 56.3 -1.2**
PTGA Pitinga 22.00 31 *e*P **P** **05 45 56.3 -1.2**
RCLB Rio Claro- Sao 22.13 101 *e*P **P** **05 45 57.9 -0.9**
RCLB Rio Claro- Sao 22.13 101 *e*P **P** **05 45 57.9 -0.9**
SPB Sao Paulo 22.29 104 *e*P **P** **05 45 59.9 -0.6**
SPB Sao Paulo 22.29 104 *e*P **P** **05 45 59.9 -0.6**
BDFB Brasilia 22.40 83 P **P** **05 46 01.1 -0.9**
comp=E,3.1nm,0.6s,baz=240,slow=7.0,SNR=4.0
BDFB LR LR 05 56 11.6
comp=E,335nm,19.7s,baz=276,slow=41
BDFB Brasilia 22.40 83 P **P** **05 46 00.7 -1.3**
PET01 Itanhaem-SP 22.50 105 *e*P **P** **05 46 01.8 -1.0**

PET01	Itanhaem-SP	22.50	105	*e*P		P	05 46 01.8	-1.0
SOTA	Rioblanco	22.60	346	*e*P		P	05 46 08.9	+4.5
BBAC	Balboa, Cauca	22.65	344	*e*P		P	05 46 07.7	+3.1
VAO	Valinhos	22.67	102	*e*P		P	05 46 03.9	-0.9
VAO	Valinhos	22.67	102	*e*P		P	05 46 03.9	-0.9
BETC	Betania	22.89	349	*e*P		P	05 46 22.3	+15
PEXB	Peixe	23.25	74	*e*P		P	05 46 10.4	-0.4
PEXB	Peixe	23.25	74	*e*P		P	05 46 10.4	-0.4
PRAC	Prado	23.80	351	*e*P		P	05 46 16.5	+0.3
ORTC	Ortega, Tolima	24.05	350	*e*P		P	05 46 20.3	+1.7
YOTC	Yotoco, Valle	24.33	347	*e*P		P	05 46 25.5	+4.3
CHIC	Chingaza	24.56	354	*e*P		P	05 46 24.2	+0.6
TOLC	Tolima	24.73	350	*e*P		P	05 46 26.5	+1.4
PRPB	Parauapebas	24.82	59	*e*P		P	05 46 25.1	-0.4
PRPB	Parauapebas	24.82	59	*e*P		P	05 46 25.1	-0.4
RREF	El Recreo	25.04	350	*e*P		P	05 46 34.5	+6.3
SMTB	Santa Maria do	25.28	68	*e*P		P	05 46 29.0	-0.7
SMTB	Santa Maria do	25.28	68	*e*P		P	05 46 29.0	-0.7
GUY2C	Guyana, Caldas	25.36	350	*e*P		P	05 46 34.7	+3.7
SPBC	San Pablo de B	25.61	353	*e*P		P	05 46 33.9	+1.2
NORC	Norcasia	25.62	351	*e*P		P	05 46 34.2	+1.4
RUSC	La Rusia	25.75	355	*e*P		P	05 46 36.0	+1.5
RUSC	La Rusia	25.75	355	P		P	05 46 36.0	+1.5
JANB	Januaria	26.01	84	*e*P		P	05 46 34.7	-1.8
JANB	Januaria	26.01	84	*e*P		P	05 46 34.7	-1.8
CBOC	Ciudad Bolivar	26.10	349	*e*P		P	05 46 40.1	+2.8
HELC	Santa Helena	26.34	350	*e*P		P	05 46 42.2	+2.5
BARC	Barichara	26.45	355	*e*P		P	05 46 40.2	-0.3
PTBC	PUERTO BERRIO,	26.53	353	*e*P		P	05 46 38.2	-2.8
SJMB	Sao Joao De Ma	28.26	93	*e*P		P	05 46 56.2	-0.3
SJMB	Sao Joao De Ma	28.26	93	*e*P		P	05 46 56.2	-0.3
SDV	Santo Domingo	28.66	1	P		P	05 47 02.9	+2.6
	comp=E,4.5nm,0.9s,baz=218,slow=9.1,SNR=4.1							
SDV	Santo Domingo	28.66	1	P		P	05 46 59.7	-0.6
SDV	Santo Domingo	28.66	1	*e*P		P	05 46 59.3	-1.0
SDV	Santo Domingo	28.66	1	*e*P		P	05 46 59.3	-1.0
SMLC	San Martn de	28.72	354	*e*P		P	05 46 58.0	-2.5
NAN01	Guarapari, ES	29.38	91	*e*P		P	05 47 04.8	-1.7
NAN01	Guarapari, ES	29.38	91	*e*P		P	05 47 04.8	-1.7
SJCC	San Jacinto, C	29.93	352	*e*P		P	05 47 11.5	+0.1
GDU01	Guandu, BA	30.79	83	*e*P		P	05 47 18.1	-1.0
GDU01	Guandu, BA	30.79	83	*e*P		P	05 47 18.1	-1.0
HATO	Hato, Curacao	32.00	4	P		P	05 47 29.6	0.0
RCBR	Riachuelo	36.98	73	P		P	05 48 12.4	-0.5
	comp=E,13nm,0.9s,baz=260,slow=6.1,SNR=2.6							
RCBR	Riachuelo	36.98	73	P		P	05 48 11.9	-1.0
RCBR				IAmb		IAmb	05 48 22.5	
	comp=Z,24nm,1.1s							
TGUH	Tegucigalpa,Un	37.34	334	P		P	05 48 15.5	-0.4
TGUH				IAmb		IAmb	05 48 17.3	
	comp=Z,11nm,0.8s							
CRPR	Cabo Rojo, PR	37.92	6	P		P	05 48 21.7	+1.1
CRPR				IAmb		IAmb	05 48 30.7	
	comp=Z,31nm,1.0s							
257A	Skidaway Islan	52.49	349	P		P	05 50 15.9	-0.3
250A	Grady	53.63	344	P		P	05 50 25.2	+0.6
250A				IAmb		IAmb	05 50 30.3	
	comp=Z,21nm,1.4s							
JSC	Jenkinsville	54.79	350	P		P	05 50 33.3	+0.3
JSC				IAmb		IAmb	05 50 35.0	
	comp=Z,4.5nm,0.8s							
U59A	Littleton	56.35	354	P		P	05 50 45.0	+0.8
U59A				IAmb		IAmb	05 50 59.6	
	comp=Z,13nm,1.3s							
V51A	Loudon	56.85	347	P		P	05 50 48.8	+1.0
WLAR	White Oak Lake	57.31	338	P		P	05 50 53.4	+2.3
Z38A	Mt. Pleasant	57.61	336	P		P	05 50 54.3	+1.1
Z38A				IAmb		IAmb	05 51 10.3	
	comp=Z,14nm,0.6s							
TXAR	Lajitas Array	58.19	326	P		P	05 50 58.5	+1.0
	comp=Z,0.1nm,0.5s,baz=135,slow=9.0,SNR=1.7							
LNXT	Lenox	58.40	343	P		P	05 51 00.1	+1.5
T47A	Sharon Grove	58.61	345	P		P	05 51 00.2	+0.1
T47A				IAmb		IAmb	05 51 11.0	
	comp=Z,14nm,1.1s							
HENM	Henderson Moun	58.97	343	P		P	05 50 59.7	-2.9
M56A	Emporium	61.47	354	P		P	05 51 21.1	+1.3
P43A	Skaggs, Pawnee	61.72	344	P		P	05 51 21.6	+0.1
P43A				IAmb		IAmb	05 51 32.8	
	comp=Z,6.1nm,0.8s							
N49A	Columbus Grove	61.76	349	P		P	05 51 21.8	+0.1
N49A				IAmb		IAmb	05 51 32.4	
	comp=Z,15nm,1.1s							
O44A	Mansfield	61.94	345	P		P	05 51 23.2	+0.3
O44A				IAmb		IAmb	05 51 24.9	
	comp=Z,7.9nm,0.8s							
BINY	Binghamton	62.00	356	P		P	05 51 23.7	+0.5
BINY				IAmb		IAmb	05 51 35.2	
	comp=Z,20nm,1.3s							
WVNY	West Valley, N	62.42	354	P		P	05 51 27.9	+1.7
P38A	Dawn	62.86	341	P		P	05 51 28.0	-1.1
121A	Cookes Peak, D	62.88	325	P		P	05 51 28.1	-1.5
LBNH	Lisbon	63.88	359			S	06 00 09.5	-1.8
FRNY	Flat Rock	64.51	358			P	05 51 41.0	+1.2
SADO	Sadowa	64.82	354	P		P	05 51 42.0	+0.2
G62A	West of Eustis	64.85	0			P	05 51 42.1	0.0
TRQ	Mont Tremblant	65.93	357			P	05 51 49.7	+0.6
DBIC	Dimbokro	70.30	75	P		P	05 52 16.1	-1.2
	comp=Z,6.7nm,0.9s,baz=180,slow=6.1,SNR=2.0							
DBIC	Dimbokro	70.30	75	P		P	05 52 16.4	-0.8
TOA0	Torodi Ar. Sit	78.81	72	P		P	05 53 06.0	-0.6
TORD	Torodi Ar. Bea	78.81	72	P		P	05 53 05.7	-0.9
	comp=Z,5.4nm,0.8s,baz=252,slow=5.3,SNR=42							
TAM	Tamanrasset	85.99	64	P		P	05 53 44.5	+0.2
TAM				IAmb		IAmb	05 53 46.3	
	comp=Z,9.0nm,1.2s							
ESDC	Sonseca Array	86.20	45	P		P	05 53 45.6	+0.8
	comp=Z,1.2nm,0.9s,baz=244,slow=6.4,SNR=4.4							
ESDC				LR		LR	06 32 04.4	
	comp=Z,82nm,18.0s,baz=330,slow=36							
H11S2	WAKE ISLAND Hyl	25.62	279	T		T	08 19 37.9	
	baz=102,slow=74,SNR=57							
H11S1	WAKE ISLAND Hyl	25.62	279	T		T	08 19 33.2	
	baz=102,slow=74,SNR=35							
H11S3	WAKE ISLAND Hyl	25.63	279	T		T	08 19 39.5	
	baz=102,slow=74,SNR=33							
H11N3	WAKE ISLAND Hyl	25.66	280	T		T	08 19 34.7	
	baz=101,slow=74,SNR=23							
H11N2	WAKE ISLAND Hyl	25.68	280	T		T	08 19 35.8	
	baz=101,slow=74,SNR=20							
H11N1	WAKE ISLAND Hyl	25.68	280	T		T	08 19 36.0	
	baz=101,slow=74,SNR=21							
ASAR	Alice Springs	130.26	211	PKP		PKiKP	06 00 15.8	+0.6
	comp=Z,0.2nm,0.4s,baz=160,slow=2.1,SNR=2.1							
ZALV	Zalesovo Beam	141.38	23	PKP		PKPdf	06 00 34.8	+0.9
	comp=Z,0.8nm,0.4s,baz=282,slow=2.9,SNR=3.7							
MAKZ	Makanchi	145.36	33			PKPbc	06 00 40.2	-0.8
MKAR	Makanchi Array	145.53	33	PKPbc		PKPab	06 00 42.4	+0.6
	comp=Z,4.9nm,1.1s,baz=318,slow=1.6,SNR=8.1							
SONM	Songino Array	152.11	4	PKPbc		PKiKP	06 01 00.4	+1.2
	comp=Z,1.5nm,0.7s,baz=319,slow=1.0,SNR=5.7							

*BJI **05** 05:44:26.4±0.0, 61.°11N×140.°63W, h9km, mB5.0/42, mb4.9/57, Ms5.4/47, Ms7 5.1/44*

*NEIC **05** 05:44:27, 61.°15N×140.°25W, h13km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.33; Mθθ=-3.71; Mφφ 3.38; Mrθ=0.30; Mθφ 3.53; Mφr 1.37; Fault plane solution: M0 5.20000×10¹⁶ NP1:φs336.38000°, δ80.84000°, λ166.77000°. NP2:φs68.52000°, δ76.95000°, λ9.40000°. Principal axes: T 5.2240, Plg16.0000°, Azm292.0000°; N -0.0480, Plg74.0000°, Azm122.0000°; P -5.1760, Plg3.0000°, Azm23.0000°;*

*NEIC **05** 05:44:28.9±2.1, 61.°17N±0.°01×140.°28W±0.°03, h10km±2km, mb5.0/346, Mwr5.1/50, Mww5.1, ML5.3/133(AEIC), Mwc5.3(GCMT), Mwr5.1(OTT) Error ellipse: s-maj=3.1km s-min=2.7km az=19.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.79; Mθθ=-3.28; Mφφ2.33; Mrθ3.42; Mθφ3.62; Mφr 1.00; Fault plane solution: M0 5.80000×10¹⁶ NP1:φs251.00000°, δ88.00000°, λ-38.00000°. NP2:φs342.00000°, δ52.00000°, λ-178.00000°. Principal axes: T 5.7759, Plg24.0000°, Azm303.0000°; N 0.0597, Plg52.0000°, Azm68.0000°; P -5.8356, Plg27.0000°, Azm199.0000°;*

*AEIC **05** 05:44:28.2±1.8, 61.°16N±0.°02×140.°25W±0.°03, h1km±4km Error ellipse: s-maj=2.5km s-min=1.9km az=195.0*

*IDC **05** 05:44:28.6±0.4, 61.°29N×140.°41W, h0km, mb4.6/32, mb1 4.7/38, mb1mx4.7/47, mbtmp4.6/38, ML4.5/6, MS4.4/17, Ms1 4.4/17, ms1mx4.3/33, Error ellipse: s-maj=12.1km s-min=7.4km az=39.0*

*MOS **05** 05:44:28.7±1.1, 61.°27N×140.°34W, h12km, mb5.2/52, MS4.5/10, Error ellipse: s-maj=10.2km s-min=4.5km az=98.3*

*PGC **05** 05:44:29.1±0.0, 61.°15N×140.°27W, h1km, ML5.2/11, Mw5.1*

PGC 154km west of Haines Jct., Yt Southern Yukon Territory, Canada Felt (I) at Whitehorse Yk.

*NEIC **05** 05:44:30, 61.°15N×140.°25W, h16km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=0.01; Mθθ-4.16; Mφφ 4.14; Mrθ=-0.66; Mθφ 4.94; Mφr 1.58; Fault plane solution: M0 6.68000×10¹⁶ NP1:φs70.00000°, δ75.00000°, λ0.00000°. NP2:φs160.00000°, δ89.00000°, λ-165.00000°. Principal axes: T 6.6510, Plg10.0000°, Azm294.0000°; N 0.0512, Plg75.0000°, Azm162.0000°; P -6.7022, Plg11.0000°, Azm26.0000°;*

*GCMT **05** 05:44:31.9±0.1, 61.°32N±0.°01×140.°31W±0.°02, h25km, MW5.2/140, Moment Tensor Solution. s72,c106; s140,c259; Duration: 1s0 Moment tensor: Scale 10¹⁶ Nm; Mrr-0.24±.19; Mθθ-5.07±.15; Mφφ5.31±.15; Mrθ-0.01±.32; Mθφ6.64±.13; Mφr0.56±.33; Best double couple: M0 8.44600×10¹⁶ NP1:φs71.00000°, δ86.00000°, λ1.00000°. NP2:φs341.00000°, δ89.00000°, λ176.00000°. Principal axes: T 8.5750, Plg3.0000°, Azm296.0000°; N -0.2610, Plg86.0000°, Azm145.0000°; P -8.3160, Plg2.0000°, Azm26.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 05:44:33, 61.°32N×140.°27W, h24km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr-0.52; Mθθ-4.95; Mφφ 5.47; Mrθ=0.93; Mθφ 6.93; Mφr 0.71; Fault plane solution: M0 8.76000×10¹⁶ NP1:φs341.00000°, δ83.00000°, λ178.00000°. NP2:φs72.00000°, δ88.00000°, λ7.00000°. Principal axes: T 9.0456, Plg6.0000°, Azm297.0000°; N -0.6019, Plg83.0000°, Azm86.0000°; P -8.4437, Plg4.0000°, Azm206.0000°;*

ISC 05 05:44:29.1±0.5, 61.°18N±0.°02×140.°31W±0.°02, h9km±2km, n1013, σ1°84/921, mb5.0/249, MS4.6/49, 47C-20D, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
YUK3	Moose Creek	0.61	353	P		Pg	05 44 40.0	-0.9
YUK3				S		Sg	05 44 48.8	-0.1
YUK3	Moose Creek	0.61	353			Pg	05 44 39.9	-1.0
YUK3						Sg	05 44 48.8	-0.1
YUK2	White River	0.67	338	P		Pg	05 44 41.1	-0.9
YUK2				S		Sg	05 44 51.0	+0.3
YUK2	White River	0.67	338			Pg	05 44 41.0	-0.9
YUK2						Sg	05 44 51.1	+0.5
BARN	Barnard Glacie	0.67	261	Pg		Pg	05 44 40.3	-1.7
BARN				Sg		Sg	05 44 48.8	-0.5
YUK4	Talbot Arm	0.82	77	P		Pg	05 44 44.8	-0.2
YUK4	Talbot Arm	0.82	77			Pg	05 44 44.6	-0.3
YUK6	Outpost Mounta	0.97	103	P		Pg	05 44 45.9	-2.0
YUK6				S		Sg	05 44 58.7	-1.8
YUK6	Outpost Mounta	0.97	103			Pg	05 44 45.8	-2.0
YUK6						Sg	05 44 59.5	-1.0
YUK1	Sand Pete Hill	0.99	354	P		Pg	05 44 46.6	-1.5
YUK1				S		Sb	05 45 01.4	-0.3
YUK1	Sand Pete Hill	0.99	354			Pg	05 44 46.5	-1.6
BALM	Baldy	1.00	263	P		Pg	05 44 46.6	-1.8
BALM				S		Sg	05 45 00.4	-0.8
BALM	Baldy	1.00	263	Pg		Pg	05 44 46.5	-1.8
BALM				Sg		Sg	05 45 00.7	-0.6
RKAV	Rock Avalanche	1.02	211	P		Pg	05 44 46.6	-2.1
RKAV	Rock Avalanche	1.02	211			Pg	05 44 46.5	-2.1
RKAV						Sg	05 45 01.1	-0.7
KIAG	Kiagna River	1.03	257	P		Pg	05 44 46.9	-2.0
KIAG				S		Sg	05 45 01.1	-1.1
KIAG	Kiagna River	1.03	257			Pg	05 44 47.0	-1.9
KIAG						Sb	05 45 02.6	-0.2
YAH	Yahtse	1.08	221	Pg		Pg	05 44 48.2	-1.6
YAH				Sg		Sg	05 45 02.9	-0.9
PCA	Pinnacle	1.08	179	P		Pg	05 44 48.3	-1.6
PCA				S		Sg	05 45 03.4	-0.5
PCA	Pinnacle	1.08	179	Pg		Pg	05 44 48.4	-1.5
CHX	Chaix Hills	1.19	200			Pb	05 44 50.5	-1.3
YUK5	Granite Creek	1.19	91	P		Pb	05 44 49.7	-2.2
YUK5				S		Sg	05 45 05.5	-1.8
YUK5	Granite Creek	1.19	91			Pb	05 44 49.8	-2.2
YUK7	Dusty Glacier	1.24	120	P		Pn	05 44 50.7	-2.2
YUK7				S		Sb	05 45 07.1	-1.9
YUK7	Dusty Glacier	1.24	120			Pn	05 44 50.5	-2.4
BVCY	Beaver Creek	1.27	348	P		Pn	05 44 51.7	-1.4
BVCY				S		Sb	05 45 09.2	-0.5
BVCY	Beaver Creek	1.27	348			Pn	05 44 51.7	-1.4
MESA	MESA	1.29	220	P		Pn	05 44 52.6	-0.8
MESA				S		Sb	05 45 09.1	-1.2
MESA	MESA	1.29	220	Pg		Pn	05 44 52.6	-0.8
HYT	Haines Junctio	1.41	103	Pn		Pn	05 44 53.3	-1.8
HYT				Sg		Sb	05 45 12.7	-1.1
HYT	Haines Junctio	1.41	103	Pn		Pn	05 44 53.3	-1.8
WAX	Waxell Ridge	1.44	241	Pn		Pn	05 44 54.3	-1.2
KULT	Kultieth River	1.51	233			Pn	05 44 56.2	-0.2
KULT						Sg	05 45 17.7	+0.2
VRDI	Verde Repeater	1.52	273	Pn		Pn	05 44 55.6	-1.1
CYK	Cape Yakataga	1.53	225			Pb	05 44 57.3	-0.3
PNL	Peninsula	1.58	163	Pn		Pn	05 44 56.9	-0.4
PNL				Sg		Sn	05 45 16.8	-1.1
PNL	Peninsula	1.58	163			Pn	05 44 56.8	-0.6
PNL						Sg	05 45 19.5	-0.3
KHIT	Khitrov Hills	1.62	244			Pn	05 44 57.6	-0.3
YKU2	Yakutat	1.70	169			Pn	05 44 59.5	+0.6
GLB	Gilahina Butte	1.71	281	Pn		Pn	05 44 58.8	-0.3
GRIN	Grindle Hills	1.73	240			Pb	05 45 00.3	-0.8
BC05	Beaver Creek A	2.01	341			Pn	05 45 03.3	0.0
RAGM	Ragged Mountai	2.28	252	Pn		Pb	05 45 09.4	-1.1
DHAK	Deception Hill	2.34	152	Pn		Pn	05 45 08.6	+0.9
PS12	TAPS Pump St12	2.35	279			Pb	05 45 10.1	-1.6
MENT	Mentasta	2.39	319	Pn		Pn	05 45 08.7	+0.2
HARP	HAARP	2.61	300	Pn		Pn	05 45 12.7	+1.2
HARP	HAARP	2.61	300	Pn		Pn	05 45 12.6	+1.2
PLBC	Pleasant Camp	2.61	130	Pn		Pn	05 45 11.6	+0.2
PLBC				Sg		Sb	05 45 49.8	+1.6
PLBC	Pleasant Camp	2.61	130			Pn	05 45 11.6	+0.2
WHY	Whitehorse	2.70	99	Pn		Pn	05 45 12.3	-0.5
WHY				Sg		Sb	05 45 52.0	+1.1
WHY	Whitehorse	2.70	99	Pn		Pn	05 45 12.0	-0.8
EYAK	Cordova Ski Ar	2.74	259			Pn	05 45 15.3	+2.1
DAWY	Dawson	2.93	8	Pn		Pn	05 45 16.3	+0.4
DAWY				Sg		Sb	05 46 00.1	+2.6
DAWY	Dawson	2.93	8	Pn		Pn	05 45 16.3	+0.4
VMT	TAPS Tl Valdez	2.94	271			Pn	05 45 18.1	+2.1
SKAG	Skagway	3.02	123	Pn		Pn	05 45 17.6	+0.6
DOT	Dot Lake	3.04	327	Pn		Pn	05 45 17.5	+0.2
DOT				Sg		Sg	05 46 03.8	-2.7
DOT	Dot Lake	3.04	327	Pn		Pn	05 45 17.4	+0.1
FID	Port Fidalgo	3.04	265	Pn		Pn	05 45 20.2	+2.9
JPK	Jack Peak	3.06	270			Pn	05 45 19.6	+2.0
HIN	Hinchinbrook I	3.14	258			Pn	05 45 20.2	+1.5
SCRK	Sand Creek	3.29	330	Pn		Pn	05 45 20.6	-0.2
GLI	Glacier Island	3.32	268			Pn	05 45 22.7	+1.6
RIDG	Independent Ri	3.33	323	Pn		Pn	05 45 21.5	+0.1
PS10	TAPS Pump St10	3.40	314			Pn	05 45 23.6	+1.2
SCM	Sheep Creek Mo	3.43	284	P		Pn	05 45 24.9	+2.1
SCM	Sheep Creek Mo	3.43	284	Pn		Pn	05 45 24.9	+2.1
MID	Middleton Isla	3.48	242	P		Pn	05 45 24.0	+0.7
MID	Middleton Isla	3.48	242	Pn		Pn	05 45 24.0	+0.7
EGAK	Eagle	3.64	354	Pn		Pn	05 45 26.7	+1.2
BESE	Bessie Mountai	3.79	131	Pn		Pn	05 45 27.0	-0.6
BESE				Sg		Sg	05 46 26.6	-4.0
BESE	Bessie Mountai	3.79	131	Pn		Pn	05 45 27.4	-0.2
WAT6	Susitna Watana	3.79	295			Pn	05 45 29.8	+2.0
DHY	Denali Highway	3.83	303	Pn		Pn	05 45 29.5	+1.2
SML	Sawmill	3.90	283	Pn		Pn	05 45 30.7	+1.5
PWL	Port Wells	3.92	269			Pn	05 45 31.5	+2.0
KNK	Knik Glacier	3.94	277			Pn	05 45 31.2	+1.4
GHO	Glory Hole Cre	4.18	282	Pn		Pn	05 45 34.6	+1.6
JIS	Juneau Island	4.18	132			Pn	05 45 33.5	+0.6
PMR	Palmer	4.26	279	P		Pn	05 45 36.1	+1.9
PMR	Palmer	4.26	279	Pn		Pn	05 45 36.0	+1.9
HDA	Harding Lake	4.45	320	P		Pn	05 45 35.9	-0.9
	baz=134							
HDA	Harding Lake	4.45	320	Pn		Pn	05 45 36.0	-0.8
PS08	TAPS Pump Stn8	4.51	321			Pn	05 45 36.7	-0.8
RC01	Rabbit Creek A	4.57	273			Pn	05 45 40.6	+2.2
RND	Reindeer	4.57	303	P		Pn	05 45 41.3	+2.8
RND	Reindeer	4.57	303	Pn		Pn	05 45 41.3	+2.8
SEW	Seward	4.63	261			Pn	05 45 40.1	+0.9
IL31		4.69	323	Pn		Pn	05 45 39.2	-0.8
ILAR	Eielson Array	4.69	323	Pn		Pn	05 45 39.1	-0.9
	23nm,0.3s,baz=147,slow=13,SNR=40							
ILAR				Lg		Lg	05 46 52.5	
	58nm,0.3s,baz=129,slow=28,SNR=5.3							
MCK	McKinley	4.76	306	P		Pn	05 45 43.4	+2.5
MCK	McKinley	4.76	306	Pn		Pn	05 45 43.4	+2.5
SIT	Sitka	4.86	146	P		Pn	05 45 44.7	+2.3
SIT	Sitka	4.86	146	Pn		Pn	05 45 44.7	+2.3
WRH	Wood River Hil	4.86	316	Pn		Pn	05 45 42.5	+0.1
CCB	Clear Creek Bu	4.88	319	Pn		Pn	05 45 42.5	-0.2
CUT	Chulitna	4.89	289			Pn	05 45 45.0	+2.4
SLKM	Skilak Lake	4.90	266			Pn	05 45 44.5	+1.7
PRP	Porcupine Dome	4.95	334	Pn		Pn	05 45 44.4	+0.7
COLA	College	5.05	320	||*e*P	Pn	05 45 43.9	-1.1
COLA	College	5.05	320			Pn	05 45 46.2	+1.2
TCOL	CIGO, UAF Yank	5.06	320	P		Pn	05 45 43.8	-1.2
	baz=134							
TCOL	CIGO, UAF Yank	5.06	320			Pn	05 45 44.5	-0.6
I53US	FAIRBANKS INFR	5.06	320	Pn		Pn	05 45 50.2	+5.1
	baz=115,slow=24,SNR=2.2							
I53US					*i*		06 05 00.0	
	baz=136,slow=321,SNR=2.7							
POKR	Poker Plat Res	5.11	324	P		Pn	05 45 44.6	-1.1
	baz=138,SNR=6.3							
POKR	Poker Plat Res	5.11	324			Pn	05 45 45.0	-0.7
TRF	Thorofare Moun	5.18	300	Pn		Pn	05 45 49.5	+2.6
MDM	Murphy Dome	5.23	320	Pn		Pn	05 45 47.1	-0.3
CAPN	Captain Cook N	5.30	270			Pn	05 45 51.3	+3.0
BRSE	Bradley Lake S	5.36	259			Pn	05 45 50.5	+1.3
BRLK	Bradley Lake	5.42	260	Pn		Pn	05 45 51.4	+1.3
EPYK	Eagle Plains	5.45	15	P		Pn	05 45 49.9	-0.5
	baz=198,SNR=9.5							
EPYK	Eagle Plains	5.45	15	Pn		Pn	05 45 50.4	-0.1
KTH	Kantishna Hill	5.49	300	Pn		Pn	05 45 52.7	+1.7
PS07	TAPS Pump Stn7	5.49	323			Pn	05 45 52.5	+1.5
STLK	Strandline Lak	5.56	278			Pn	05 45 54.3	+2.3
SPCG	Spurr Capps Gl	5.66	276			Pn	05 45 54.6	+1.2
CNPM	China Poot	5.67	258			Pn	05 45 54.4	+0.9
BPAW	Bear Paw Mtn.	5.73	305			Pn	05 45 56.1	+1.7
SPCR	Spurr Chakacha	5.76	275			Pn	05 45 57.0	+2.3
HOM	Homer	5.82	260			Pn	05 45 56.9	+1.4
SPBG	Spurr Blockage	5.83	276			Pn	05 45 58.0	+2.2
FYU	Fort Yukon	5.83	340	Pn		Pn	05 45 56.5	+0.9
PPLA	Purkeypile	5.85	292	Pn		Pn	05 45 57.6	+1.6
DLBC	Dease Lake	5.87	113	Pn		Pn	05 45 55.9	-0.4
	3.2nm,0.3s,baz=333,slow=15,SNR=13							
DLBC				Lg		Lg	05 47 30.9	
	113nm,0.3s,baz=230,slow=18,SNR=7.4							
DLBC	Dease Lake	5.87	113	Pn		Pn	05 45 55.3	-1.0
DLBC				Sg		Sg	05 47 30.4	-7.0
CAST	Castle Rocks	5.94	297			Pn	05 45 58.8	+1.7
DFR	Drift River	6.07	270			Pn	05 46 00.0	+1.0
MLY	Manley	6.11	314	Pn		Pn	05 46 01.0	+1.5
RED	Redoubt Volcan	6.15	268			Pn	05 46 01.2	+1.1
RDWB	Redoubt West	6.17	269			Pn	05 46 01.3	+0.8
PS06	TAPS Pump Stn6	6.31	322			Pn	05 46 02.9	+0.7
WRAK	Wrangell Islan	6.31	136	Pn		Pn	05 46 02.0	-0.3
IVE	Iliamna Volcan	6.37	265			Pn	05 46 03.7	+0.5
ILS	Iliamna Low So	6.41	265			Pn	05 46 04.4	+0.7
ILW	Iliamna West	6.41	266			Pn	05 46 04.5	+0.7
BM03	Burnt Mountain	6.54	345			Pn	05 46 06.2	+0.8
AU22	Augustine Moun	6.74	260			Pn	05 46 10.3	+2.2
AUP	Augustine Pinn	6.77	260	P		Pn	05 46 10.9	+2.2
AUP	Augustine Pinn	6.77	260			Pn	05 46 10.9	+2.2
AUH	Augustine H	6.78	260

EDM Edmonton 16.53 107 P Pn 05 48 21.2 +0.2
B05A Bryant 16.59 133 P P 05 48 25.3 +1.1
baz=328
NLWA Neilton Lookou 16.74 138 IAmb IAmb 05 48 30.8
comp=Z,323nm,1.9s
NIKH Nikolski High 17.43 255 Pn Pn 05 48 31.5 -0.7
E03A Lebam 17.59 139 IAmb IAmb 05 48 49.6
comp=Z,228nm,1.7s
E04D Cinebar 17.90 137 P Pn 05 48 36.8 -1.2
baz=331,SNR=5.4
LTY Liberty 17.95 132 IAmb IAmb 05 48 44.5
comp=Z,215nm,1.6s
LON Longmire 17.99 135 IAmb IAmb 05 49 09.3
comp=Z,176nm,1.7s
NEW Newport 18.48 124 P Pn 05 48 47.4 +2.2
baz=323
NEW Newport 18.48 124 P Pn 05 48 47.2 +2.0
comp=Z,0.3nm,0.3s,baz=337,slow=12,SNR=7.9
NEW Lg Lg 05 54 09.0
comp=Z,0.1nm,0.3s,baz=41,slow=20,SNR=2.4
NEW LR LR 05 55 26.5
comp=Z,2µm,20.5s,baz=322,slow=35
NEW Newport 18.48 124 IAmb IAmb 05 48 50.8
comp=Z,215nm,1.6s
E07A Sunnyside 18.84 132 IAmb IAmb 05 49 13.0
comp=Z,85nm,1.2s
G03D McMinnville, O 18.87 140 P Pn 05 48 51.4 +1.5
baz=334
WALA Waterton Lakes 19.20 117 P P 05 48 52.6 -0.5
F07A Phinny Hill Vi 19.38 133 IAmb IAmb 05 49 06.8
comp=Z,154nm,1.7s
G05D Wamic, OR 19.47 136 P Pn 05 48 57.3 +0.1
baz=332
H04D Lebanon 19.65 140 P P 05 48 57.1 -0.9
baz=334
I03D Drain, OR 20.22 142 P Pn 05 49 05.8 -0.2
baz=336
G08A Pilot Rock 20.25 132 IAmb IAmb 05 49 30.1
comp=Z,187nm,1.9s
I05D Terrebonne, OR 20.27 138 P Pn 05 49 08.3 +1.6
baz=333
I04A Tendick Farm, 20.41 140 P Pn 05 49 11.4 +3.0
baz=335
J01E Myrtle Point 20.54 144 P P 05 49 08.6 +1.0
baz=337
PINE Pine Mountain 20.88 138 IAmb IAmb 05 49 49.2
comp=Z,66nm,1.2s
MSO Missoula 20.92 121 P P 05 49 12.2 +0.3
baz=323,SNR=26
RES Resolute Bay 20.98 32 P P 05 49 12.8 +0.7
comp=Z,40nm,1.0s,baz=240,slow=6.5,SNR=9.8
RES S S 05 52 54.4 -11
comp=Z,11nm,0.8s,baz=120,slow=20,SNR=1.6
RES Lg Lg 05 55 17.5
comp=Z,17nm,1.1s,baz=139,slow=19,SNR=0.8
RES LR LR 05 57 31.3
comp=Z,2µm,20.4s,baz=257,slow=37
RES Resolute Bay 20.98 32 P P 05 49 12.5 +0.3
RES Resolute Bay 20.98 32 P P 05 49 10.0 -2.1
RES IAmb IAmb 05 49 44.0
comp=Z,72nm,0.9s
J04D Umpqua Nationa 21.01 140 P P 05 49 13.3 +0.4
baz=335
K02D Willamette Mer 21.04 144 P P 05 49 14.4 +1.2
baz=337
FFC Flin Flon 21.09 91 P P 05 49 12.9 -0.5
FFC pmax pmax
comp=Z,179nm,1.3s
FFC Flin Flon 21.09 91 P P 05 49 12.9 -0.5
BMO Blue Mountains 21.23 130 IAmb IAmb 05 49 27.5
comp=Z,60nm,1.1s
J05D Fort Rock, OR 21.24 139 P P 05 49 19.1 +3.7
baz=334,SNR=14
BPMT Black Pine Rid 21.44 121 P P 05 49 19.3 +1.7
K04D Chiloquin, OR 21.68 141 P P 05 49 21.6 +1.6
baz=335
EGMT Eagleton 21.80 113 P P 05 49 21.7 +0.5
baz=318
K05A Summer Lake 21.85 139 IAmb IAmb 05 49 31.6
comp=Z,135nm,1.4s
L04D Klamath Falls 21.88 142 P P 05 49 24.1 +1.9
baz=336
KIWB Kanaga Island 22.07 262 P P 05 49 24.6 +0.5
J08A Circle Bar Ran 22.10 134 IAmb IAmb 05 49 42.6
comp=Z,52nm,1.1s
YBH Yreka Blue Hor 22.21 143 P P 05 49 28.7 +3.0
comp=Z,14nm,0.9s,baz=2.1,slow=2.9,SNR=8.1
M04C Macdoel 22.42 142 P P 05 49 27.9 0.0
baz=336
M02C Callahan 22.48 144 P P 05 49 31.3 +2.7
baz=338,SNR=6.6
DLMT Dillon 22.66 122 IAmb IAmb 05 49 41.7
comp=Z,70nm,1.2s
FCC Fort Churchill 22.89 75 P P 05 49 33.7 +1.1
N02D Trinity Center 22.91 144 P P 05 49 33.6 +0.6
baz=338
MFID Camas Ranch 23.01 129 IAmb IAmb 05 50 29.7
comp=Z,56nm,1.4s
WDC Whiskeytown Da 23.32 144 IAmb IAmb 05 49 53.2
comp=Z,53nm,1.3s
O02D Mt. Diablo Mer 23.62 145 P P 05 49 42.7 +2.3
baz=339,SNR=6.3
O03E Paynes Creek 23.80 143 P P 05 49 43.9 +1.9
baz=338,SNR=10
DGMT Dagmar 24.02 105 P P 05 49 46.0 +2.0
baz=316,SNR=9.7
RLMT Red Lodge 24.25 117 P P 05 49 49.0 +2.5
baz=323,SNR=15
H17A Grant Village 24.28 120 P P 05 49 48.6 +1.8
baz=324,SNR=7.6
H17A Grant Village 24.28 120 IAmb IAmb 05 50 23.4
comp=Z,36nm,1.3s
EUNU Eureka 24.35 20 P P 05 49 49.2 +2.4
LAO LASA Array 24.39 111 P P 05 49 49.0 +1.5
baz=319,SNR=8.2
ILON Igloolik, Nuna 24.81 46 P P 05 49 52.2 +1.3
PAHR Pah Rah Range 25.07 139 IAmb IAmb 05 50 01.8
comp=Z,46nm,1.3s
AFDM Forest Hills D 25.28 143 IAmb IAmb 05 50 04.0
comp=Z,77nm,1.8s
VCNR Virginia City 25.36 140 IAmb IAmb 05 50 03.8
comp=Z,36nm,1.4s
AHID Auburn Hatcher 25.41 123 IAmb IAmb 05 50 08.4
comp=Z,27nm,1.1s
ELK Elko 25.55 132 P P 05 50 00.1 +1.9
comp=Z,8.0nm,0.9s,baz=331,slow=7.8,SNR=23
ELK Lg Lg 05 57 57.4
comp=Z,0.3nm,0.5s,baz=63,slow=17,SNR=1.4
BW06 Boulder Array 26.04 121 P P 05 50 05.2 +2.5
baz=326,SNR=13
BW06 Boulder Array 26.04 121 IAmb IAmb 05 50 10.3
comp=Z,60nm,1.4s
PD31 Pinedale Array 26.04 121 IAmb IAmb 05 50 10.3
comp=Z,57nm,1.4s
PDAR Pinedale Array 26.04 121 P P 05 50 03.9 +1.2
comp=Z,4.3nm,0.8s,baz=329,slow=6.6,SNR=9.6
PDAR LR LR 06 01 23.7
comp=Z,2µm,20.2s,baz=338,slow=39
HWUT Hardware Ranch 26.20 125 IAmb IAmb 05 50 44.8
comp=Z,37nm,1.4s
CMB Columbia Colle 26.30 143 P P 05 50 03.1 -1.7
CMB pmax pmax
comp=Z,70nm,2.0s
CMB Columbia Colle 26.30 143 P P 05 50 03.1 -1.7
CMB IAmb IAmb 05 50 15.0
comp=Z,70nm,1.9s
RYN Ryan 26.33 139 P P 05 50 03.5 -1.7
NVAR Mina Array Bea 26.58 139 P P 05 50 09.4 +1.9
comp=Z,16nm,1.0s,baz=317,slow=7.3,SNR=24
MDND Maddock 26.62 101 P P 05 50 11.6 +4.0
baz=315
MDND Maddock 26.62 101 P P 05 50 07.0 -0.7
NV11 Mina Array Sit 26.62 139 IAmb IAmb 05 50 18.6
comp=Z,54nm,1.3s
TCUT Toone Canyon 26.67 126 P P 05 50 07.6 -0.9
ULM Lac du Bonnet 26.77 94 P P 05 50 11.1 +2.2
comp=Z,8.6nm,1.0s,baz=281,slow=8.2,SNR=5.6
ULM Lg Lg 05 58 20.2
comp=Z,13nm,1.0s,baz=32,slow=19,SNR=3.7
ULM Lac du Bonnet 26.77 94 P P 05 50 04.6 -4.3
ULM pmax pmax
comp=Z,25nm,1.1s
ULM Lac du Bonnet 26.77 94 P P 05 50 04.6 -4.3
CTU Camp Tracy 26.90 127 P P 05 50 09.4 -1.0
DUG Dugway, Tooele 26.92 129 P P 05 50 13.1 +2.5
baz=330
DUG Dugway, Tooele 26.92 129 P P 05 50 09.1 -1.4

DUG pmax pmax
comp=Z,32nm,1.4s
DUG Dugway, Tooele 26.92 129 P P 05 50 09.1 -1.4
E28A Huff 27.03 105 P P 05 50 10.9 -0.4
OMMB Old Mammoth Mi 27.11 141 P P 05 50 11.3 -1.1
MLAC Mammoth, Mammo 27.14 140 P P 05 50 17.1 +4.4
baz=337
RSSD Black Hills 27.35 112 P P 05 50 16.2 +1.8
baz=321
RSSD Black Hills 27.35 112 IAmb IAmb 05 50 23.7
comp=Z,24nm,0.9s
NLU North Lily Min 27.41 128 P P 05 50 12.0 -3.0
K22A Casper 27.42 117 P P 05 50 17.4 +2.4
baz=324
K22A Casper 27.42 117 P P 05 50 14.3 -0.8
K22A IAmb IAmb 05 51 05.7
comp=Z,37nm,1.2s
R11A Troy Canyon, C 27.55 135 P P 05 50 17.2 +1.0
baz=334,SNR=23
R11A Troy Canyon, C 27.55 135 P P 05 50 16.0 -0.2
TULEG Thule 27.57 29 P P 05 50 15.6 -0.2
TULEG IAmb IAmb 05 51 03.7
comp=Z,30nm,1.0s
TIN Tinemaha, Big 27.86 140 P P 05 50 23.5 +4.6
baz=337
RWWY Rawlins 27.91 119 P P 05 50 18.4 -1.1
PSUT Pine Spring 28.00 132 P P 05 50 19.3 -1.0
AGMN Agassiz Nation 28.10 97 P P 05 50 21.8 +1.0
baz=314
AGMN Agassiz Nation 28.10 97 P P 05 50 20.9 +0.1
AGMN IAmb IAmb 05 51 11.8
comp=Z,22nm,1.1s
GRAC Grapevine Rang 28.19 139 P P 05 50 24.4 +2.7
baz=336
CWC Cottonwood Cre 28.47 140 P P 05 50 28.0 +3.5
baz=338
TPNV Topopah Spring 28.59 137 P P 05 50 27.9 +2.4
baz=336,SNR=14
VES Vestal, Richgr 28.72 142 P P 05 50 30.7 +4.3
baz=339
O20A White River Ci 28.78 122 P P 05 50 28.6 +1.4
baz=328
O20A White River Ci 28.78 122 IAmb IAmb 05 50 43.1
comp=Z,64nm,1.6s
FURC Furnace Creek, 28.83 138 P P 05 50 29.7 +2.3
baz=336
MPMC Manual Prospec 29.01 140 P P 05 50 32.3 +3.0
baz=337
ISA Isabella, Lake 29.07 141 P P 05 50 32.8 +3.2
baz=338
ISA Isabella, Lake 29.07 141 IAmb IAmb 05 50 48.6
comp=Z,33nm,1.6s
B35A Bob, Littlefor 29.08 95 IAmb IAmb 05 51 07.7
comp=Z,28nm,1.2s
N23A Red Feather La 29.11 118 P P 05 50 32.5 +2.3
baz=326
PKM Mcpherson Peak 29.40 144 P P 05 50 34.8 +2.0
baz=340
SHOC Shshone, Teco 29.54 138 P P 05 50 36.5 +2.7
baz=336
PV21 Cone Mtn., Par 29.83 125 IAmb IAmb 05 50 48.1
comp=Z,17nm,0.9s
PV23 Carpenter Ridg 29.91 125 IAmb IAmb 05 50 51.1
comp=Z,24nm,0.9s
GSC Goldstone, Bar 29.92 139 P P 05 50 40.3 +3.1
baz=337
PV22 Blue Mesa, Par 29.92 125 IAmb IAmb 05 50 47.4
comp=Z,26nm,1.1s
EDW2 Edwards Air Fo 29.94 141 P P 05 50 40.5 +3.2
baz=338
PV04 Paradox Valley 30.00 125 IAmb IAmb 05 50 47.6
comp=Z,37nm,1.3s
PV17 East Wray Mesa 30.07 125 IAmb IAmb 05 50 55.1
comp=Z,31nm,1.2s
TUQ Turquoise Moun 30.08 138 P P 05 50 42.3 +3.6
baz=337
PV11 David Mesa, Pa 30.09 125 IAmb IAmb 05 50 55.4
comp=Z,36nm,1.2s
PV12 Saucer Basin, 30.11 125 IAmb IAmb 05 50 48.5
comp=Z,27nm,1.1s
ISCO Idaho Springs 30.16 119 P P 05 50 43.3 +3.7
baz=327
PV05 Paradox Valley 30.19 126 IAmb IAmb 05 50 47.4
comp=Z,17nm,0.9s
PV15 Paradox Valley 30.21 125 IAmb IAmb 05 50 50.3
comp=Z,18nm,1.0s
PV13 Radium Mtn., P 30.23 125 IAmb IAmb 05 50 57.4
comp=Z,42nm,1.3s
SEY Seymchan 30.30 303 i e P P 05 50 39.2 -1.0
PV01 Paradox Valley 30.36 125 IAmb IAmb 05 50 51.4
comp=Z,35nm,1.1s
EYMN Ely 30.45 93 P P 05 50 42.6 +0.9
baz=314,SNR=13
EYMN Ely 30.45 93 IAmb IAmb 05 50 45.8
comp=Z,44nm,1.3s
BFSC Mont Baldy Ra 30.64 141 P P 05 50 48.7 +5.1
baz=339
GMRC Granite Mounta 30.76 138 P P 05 50 48.8 +4.1
baz=337
KULLO Kullorsuaq 30.86 31 i P P 05 50 46.5 +1.5
comp=Z,26nm,0.9s
KULLO Kullorsuaq 30.86 31 i P P 05 50 46.5 +1.5
KULLO pmax pmax
comp=Z,27nm,0.9s
F36A Milaca 30.95 98 IAmb IAmb 05 50 50.5
comp=Z,16nm,1.0s
ECSD EROS Data Cent 31.07 104 P P 05 50 48.5 +1.3
baz=320,SNR=7.1
ECSD EROS Data Cent 31.07 104 IAmb IAmb 05 50 54.7
comp=Z,17nm,1.1s
MVCO Mesa Verde 31.18 126 P P 05 50 51.9 +3.4
baz=330
E38A The Farm, Brul 31.36 95 IAmb IAmb 05 50 53.6
comp=Z,34nm,1.1s
BELC Belle Mtn. Jos 31.37 139 P P 05 50 53.7 +3.6
baz=338
S22A 4UR Ranch, Cre 31.39 123 P P 05 50 53.2 +2.8
baz=329
GTO Geraldton 31.42 87 P P 05 50 52.7 +2.5
IRM Iron Mountain 31.50 138 P P 05 50 55.8 +4.7
baz=337
SCI2 San Clemente I 31.55 143 P P 05 50 54.8 +3.3
baz=340
WUAZ Wupatki 31.58 131 P P 05 50 54.0 +2.0
baz=334,SNR=15
WUAZ Wupatki 31.58 131 IAmb IAmb 05 51 02.3
comp=Z,23nm,0.9s
PFO Pinyon Flats O 31.59 140 P P 05 50 53.6 +1.6
baz=338
PFO Pinyon Flats O 31.59 140 P P 05 50 54.4 +2.5
comp=Z,2.1nm,0.8s,baz=330,slow=11,SNR=4.9
PFO LR LR 06 04 28.7
comp=Z,2µm,18.6s,baz=3.5,slow=38
PFO Pinyon Flats O 31.59 140 IAmb IAmb 05 50 58.7
comp=Z,29nm,1.6s
TPFO Pinon Flats 31.59 140 P P 05 50 53.6 +1.6
baz=338
FRB Frobisher Bay 31.69 54 P P 05 50 53.8 +1.4
SPMN Marine on St. 31.76 98 P P 05 50 55.2 +1.9
baz=317,SNR=6.3
SPMN Marine on St. 31.76 98 IAmb IAmb 05 51 02.6
comp=Z,17nm,0.9s
BC3 Big Chuckawall 31.87 138 P P 05 50 58.0 +3.6
baz=337
SDCO Great Sand Dun 31.93 121 P P 05 50 57.7 +2.5
baz=329,SNR=8.2
SDCO Great Sand Dun 31.93 121 P P 05 50 53.8 -1.4
SDCO IAmb IAmb 05 51 00.6
comp=Z,25nm,1.8s
Y12C Blythe 32.08 137 P P 05 50 59.9 +3.8
baz=337
Y12C Blythe 32.08 137 P P 05 50 55.6 -0.6
Y12C IAmb IAmb 05 51 07.6
comp=Z,21nm,1.4s
BGNE Belgrade 32.16 108 P P 05 50 59.3 +2.4
baz=322
MONP2 Monument Peak 32.27 140 P P 05 51 01.6 +3.5
baz=338
Y14A Wickenburg 32.42 135 IAmb IAmb 05 51 15.4
comp=Z,15nm,1.1s
GLA Glamis 32.62 138 P P 05 51 04.2 +3.2
baz=337
MA2 Magadan 32.68 298 c i P P 05 51 01.6 +0.4
MA2 pmax pmax
comp=Z,68nm,1.0s
COWI Conover 32.89 94 IAmb IAmb 05 51 07.2
comp=Z,28nm,1.2s

T25A Trinidad 32.91 120 P P 05 51 06.5 +2.8
baz=329
G40A Rib Lake 32.98 96 IAmb IAmb 05 51 08.0
comp=Z,24nm,1.1s
PETK Petropavlovsk- 33.38 285 P P 05 51 07.5 +0.1
comp=Z,23nm,0.7s,baz=81,slow=10,SNR=51
CBKS Cedar Bluff 33.53 113 P P 05 51 09.8 +0.9
baz=325
KAPO Kapuskasing 33.77 83 P P 05 51 13.8 +3.0
I40A Norwalk 33.80 98 IAmb IAmb 05 51 14.9
comp=Z,17nm,0.8s
ANMO Albuquerque 33.96 125 P P 05 51 16.2 +3.4
baz=331
ANMO Albuquerque 33.96 125 LR LR 06 04 56.5
comp=Z,1µm,19.6s,baz=328,slow=36
ANMO Albuquerque 33.96 125 ||| i P P 05 51 15.7 +2.9
ANMO pmax pmax
comp=Z,29nm,1.7s
ANMO Albuquerque 33.96 125 IAmb IAmb 05 51 21.4
comp=Z,19nm,1.1s
TIXI Tiksi 34.16 326 ce P P 05 51 13.9 0.0
TIXI pmax pmax
comp=Z,12nm,1.0s
TIXI Tiksi 34.16 326 P P 05 51 13.7 -0.2
TIXI IAmb IAmb 05 51 24.0
comp=Z,17nm,1.2s
214A Organ Pipe Nat 34.30 136 P P 05 51 20.2 +4.7
baz=337
R32A Long Quarter, 34.31 112 P P 05 51 14.9 -0.7
NOR Nord 34.33 13 i P P 05 51 17.4 +2.0
NOR i 05 52 39.5
NOR Nord 34.33 13 i P P 05 51 17.4 +2.0
I42A Draeger Farm, 34.62 96 P P 05 51 16.1 -2.1
I42A IAmb IAmb 05 51 23.8
comp=Z,21nm,1.1s
TUC Tucson 34.68 133 P P 05 51 23.5 +4.6
baz=335
TUC Tucson 34.68 133 IAmb IAmb 05 51 37.0
comp=Z,17nm,1.1s
KSU1 Kansas State U 34.71 109 P P 05 51 20.5 +1.4
baz=324
JFWS Jewell Farm 34.71 98 P P 05 51 19.9 +0.8
baz=319,SNR=7.7
JFWS Jewell Farm 34.71 98 IAmb IAmb 05 51 22.8
comp=Z,20nm,0.8s
D46A Sault St. Mari 34.80 88 P P 05 51 18.5 -1.3
baz=315,SNR=7.4
F45A CMU Biological 34.95 91 P P 05 51 22.5 +1.4
baz=316,SNR=9.7
E46A Sault Ste Mari 35.04 89 IAmb IAmb 05 51 28.0
comp=Z,32nm,1.2s
D47A Chapleau 35.14 87 P P 05 51 23.4 +0.7
baz=315,SNR=10
G45A Suttons Bay 35.35 92 P P 05 51 25.9 +1.4
baz=317,SNR=10.0
H45A Beulah 35.47 93 P P 05 51 28.7 +3.3
baz=317
E47A Iron Bridge 35.48 88 P P 05 51 27.3 +1.7
baz=316,SNR=5.6
G46A Petoskey 35.53 91 P P 05 51 28.5 +2.4
baz=317,SNR=6.9
121A Cookes Peak, D 35.58 129 P P 05 51 29.8 +3.0
baz=334,SNR=7.5
D48A Paudash Townsh 35.68 86 P P 05 51 29.0 +1.7
baz=315,SNR=12
SKR Severo-Kuril's 35.70 282 ||| e P P 05 51 26.2 -1.2
I45A Fountain 35.81 93 P P 05 51 31.2 +2.8
baz=318,SNR=8.8
D49A Beulah Townshi 35.83 85 P P 05 51 30.3 +1.7
baz=315,SNR=8.5
MATQ Matagami 35.89 79 P P 05 51 30.7 +1.6
baz=313
H46A Fife Lake 35.93 92 P P 05 51 30.9 +1.4
baz=317,SNR=7.1
AMTX Amarillo 35.98 119 P P 05 51 34.0 +3.9
baz=329
E48A Lockeyer 36.00 87 P P 05 51 31.8 +1.7
baz=316,SNR=7.8
GLMI Grayling 36.01 91 P P 05 51 32.4 +2.2
baz=317
N41A Harden Midland 36.12 101 P P 05 51 30.9 -0.2
N41A IAmb IAmb 05 51 34.9
comp=Z,74nm,1.4s
N41A Harden Midland 36.12 101 P P 05 51 30.8 -0.4
G47A Hillman 36.12 90 P P 05 51 33.3 +2.2
baz=317
F48A Evansville 36.25 88 P P 05 51 34.4 +2.2
baz=316
I46A Reed City 36.26 93 P P 05 51 34.0 +1.7
baz=318
MSTX Muleshoe 36.31 121 P P 05 51 34.2 +1.3
baz=330,SNR=12
MSTX Muleshoe 36.31 121 P P 05 51 32.6 -0.3
SFJD Kangerlussuaq 36.35 42 P P 05 51 32.3 -0.5
SFJD pmax pmax
comp=Z,102nm,1.8s
SFJD Kangerlussuaq 36.35 42 P P 05 51 32.3 -0.5
L44A Lake County Fo 36.39 97 P P 05 51 35.3 +1.8
baz=320
SUMG Summit 36.48 30 i P P 05 51 35.0 +0.7
SUMG Summit 36.48 30 P P 05 51 33.7 -0.6
SUMG pmax pmax
comp=Z,59nm,1.6s
SUMG Summit 36.48 30 P P 05 51 33.7 -0.6
SUMG IAmb IAmb 05 51 40.1
comp=Z,59nm,1.6s
P40A Paris 36.48 104 P P 05 51 34.8 +0.6
T35A Sooner Cattle 36.53 111 P P 05 51 31.6 -3.2
T35A IAmb IAmb 05 51 41.4
comp=Z,30nm,1.1s
F49A Sandfield 36.57 88 P P 05 51 37.2 +2.2
baz=316
J46A Howard City 36.60 94 P P 05 51 38.0 +2.7
baz=318
D50A G1974 Best Tow 36.63 84 P P 05 51 36.5 +1.0
baz=315,SNR=13
I47A Gladwin 36.65 92 P P 05 51 37.4 +1.7
baz=318,SNR=7.5
LSQQ Lebel-sur-Quev 36.69 80 P P 05 51 39.0 +3.1
baz=314
E50A Wahnapitae 36.73 86 P P 05 51 39.0 +2.7
baz=316
D51A Lot 18 Range I 36.91 84 P P 05 51 40.5 +2.6
baz=315
I48A Sherman Twp 36.92 91 P P 05 51 41.1 +3.2
baz=318
M44A Midewin, Midew 36.94 98 IAmb IAmb 05 51 42.1
comp=Z,40nm,1.0s
HDIL Hopedale 36.98 100 P P 05 51 39.3 +0.8
baz=321,SNR=7.5
J47A Sunmer 37.09 93 P P 05 51 43.1 +3.7
baz=319
VLDQ Val d'Or 37.12 81 IAmb IAmb 05 51 45.6
comp=Z,21nm,1.0s
MNTX Cornudas Mount 37.24 126 P P 05 51 44.3 +3.5
baz=333,SNR=6.9
MNTX Cornudas Mount 37.24 126 IAmb IAmb 05 51 46.8
comp=Z,32nm,1.6s
E51A G1948 Merrick 37.25 85 P P 05 51 42.1 +1.3
baz=316,SNR=8.6
CHGQ Chibougamau 37.34 77 P P 05 51 42.5 +1.1
baz=313
WMOK Wichita Mounta 37.35 116 P P 05 51 42.7 +1.0
baz=328,SNR=16
WMOK Wichita Mounta 37.35 116 IAmb IAmb 05 51 46.2
comp=Z,20nm,1.0s
OKCFA Oklahoma City 37.36 114 P P 05 51 41.6 -0.2
OKCFA IAmb IAmb 05 51 45.8
comp=Z,31nm,1.0s
K47A Vermontville 37.43 94 P P 05 51 44.3 +2.1
baz=319,SNR=6.2
D52A ZEK Kipawa Sen 37.46 83 P P 05 51 44.4 +2.0
baz=315,SNR=9.9
F51A Arnstein 37.48 86 P P 05 51 44.7 +2.0
baz=316,SNR=5.8
SCHQ Schefferville 37.51 66 P P 05 51 44.4 +1.5
comp=Z,15nm,0.9s,baz=314,slow=8.8,SNR=11
SCHQ LR LR 06 06 48.3
comp=Z,1µm,21.1s,baz=313,slow=36
SCHQ Schefferville 37.51 66 P P 05 51 43.0 +0.1
SCHQ IAmb IAmb 05 51 49.9
comp=Z,22nm,1.0s
I49A Point Hope 37.53 90 P P 05 51 44.8 +1.7
baz=318
J48A Bridge Port 37.54 92 P P 05 51 45.4 +2.2
baz=318
DAG Danmarks Havn 37.57 19 ||| i P P 05 51 43.9 +0.9

comp=Z,24nm,0.9s
DAG *i* 05 53 03.8
DAG Danmarks Havn 37.57 19 *i*P **P 05 51 43.9 +0.9**
DAG pmax pmax
comp=Z,24nm,0.9s
P43A Skaggs, Pawnee 37.59 101 IAmb IAmb 05 51 47.3
comp=Z,46nm,1.4s
TUL1 Leonard 37.69 111 P **P 05 51 46.5 +1.9**
TUL1 Leonard 37.69 111 IAmb IAmb 05 51 51.2
comp=Z,23nm,0.8s
D53A Lac Vacive, Po 37.73 83 P **P 05 51 46.0 +1.3**
baz=315,SNR=10
D53A Lac Vacive, Po 37.73 83 IAmb IAmb 05 51 48.5
comp=Z,25nm,1.1s
K48A Perry 37.75 93 P **P 05 51 47.4 +2.4**
baz=319,SNR=7.6
J49A Marlette 37.81 91 P **P 05 51 46.7 +1.2**
baz=318
E52A Mattawa 37.83 84 P **P 05 51 48.3 +2.6**
baz=316
F52A Sundridge 37.87 85 P **P 05 51 48.1 +2.1**
baz=316
U38A Gravette 37.89 109 P **P 05 51 46.0 -0.3**
CCM Cathedral Cave 38.04 105 P **P 05 51 49.3 +1.9**
baz=324
CCM Cathedral Cave 38.04 105 P **P 05 51 47.8 +0.3**
CCM pmax pmax
comp=Z,13nm,0.9s
CCM Cathedral Cave 38.04 105 P **P 05 51 47.8 +0.3**
SLM Saint Louis 38.05 103 P **P 05 51 46.1 -1.4**
SLM pmax pmax
comp=Z,35nm,1.1s
SLM Saint Louis 38.05 103 P **P 05 51 46.1 -1.4**
SLM IAmb IAmb 05 51 55.5
comp=Z,35nm,1.1s
K49A Clarkson 38.09 92 P **P 05 51 49.6 +1.7**
baz=319,SNR=6.0
SFIN Lafayette 38.17 98 P **P 05 51 50.3 +1.8**
baz=321
SFIN Lafayette 38.17 98 P **P 05 51 47.9 -0.6**
SFIN IAmb IAmb 05 51 57.0
comp=Z,25nm,1.1s
D54A Lac Fusel, La 38.18 82 P **P 05 51 49.8 +1.3**
baz=315,SNR=16
HHAR Hobbs 38.23 109 P **P 05 51 48.8 -0.3**
E53A Dumoine, Ponti 38.24 83 P **P 05 51 50.8 +1.6**
baz=316,SNR=13
ALGO Algonquin Park 38.36 84 P **P 05 51 51.2 +1.1**
baz=316
Q44A Meyer Farm, Va 38.41 101 P **P 05 51 50.7 +0.1**
H52A Wyevale 38.43 87 P **P 05 51 51.9 +1.2**
baz=317
E54A Lac Daplat, Po 38.44 83 P **P 05 51 52.3 +1.6**
baz=316,SNR=19
I51A Listowel 38.50 89 P **P 05 51 54.0 +2.7**
baz=318,SNR=11
U40A Yellville 38.67 108 P **P 05 51 53.2 +0.4**
baz=325
U40A Yellville 38.67 108 P **P 05 51 52.4 -0.4**
U40A IAmb IAmb 05 51 55.6
comp=Z,36nm,1.4s
G53A Haliburton 38.69 86 P **P 05 51 54.5 +1.6**
baz=317
SADO Sadowa 38.70 86 P **P 05 51 51.8 -1.1**
SADO Sadowa 38.70 86 P **P 05 51 52.0 -1.0**
P46A Rosedale 38.71 99 IAmb IAmb 05 51 57.1
comp=Z,46nm,1.1s
G54A Lake Saint Pet 38.75 85 P **P 05 51 55.0 +1.6**
baz=317
ABTX Abilene, Hawle 38.78 119 P **P 05 51 55.8 +2.0**
baz=330
N48A Decatur 38.79 96 P **P 05 51 55.6 +1.8**
baz=321,SNR=6.8
D55A Sainte-Anne-du 38.84 81 P **P 05 51 55.7 +1.6**
baz=316,SNR=17
GRQ Grand Remous 38.95 82 P **P 05 51 57.3 +2.3**
L50A Kingsville 38.96 92 P **P 05 51 57.4 +2.2**
baz=320
E55A Montcerf-Lytto 38.96 82 P **P 05 51 57.2 +2.1**
baz=316
OLIL Olney 38.98 101 IAmb IAmb 05 52 03.9
comp=Z,47nm,0.9s
X37A Clayton 38.98 112 IAmb IAmb 05 51 59.8
comp=Z,42nm,1.4s
N49A Columbus Grove 39.15 95 IAmb IAmb 05 52 00.7
comp=Z,30nm,1.0s
D56A ZEC Mazanza, M 39.16 80 P **P 05 51 56.0 -0.8**
baz=316,SNR=18
J52A Paris 39.19 89 P **P 05 51 59.2 +2.2**
baz=318
W39A Magazine 39.20 110 P **P 05 51 57.8 +0.6**
baz=326,SNR=8.1
W39A Magazine 39.20 110 P **P 05 51 55.7 -1.5**
O48A Farmland 39.20 96 P **P 05 51 58.3 +1.1**
baz=321,SNR=8.4
Z35A Perchaven, San 39.21 115 P **P 05 51 57.1 -0.3**
Z35A IAmb IAmb 05 52 01.6
comp=Z,35nm,0.9s
S44A Carbondale 39.26 103 P **P 05 51 57.9 +0.2**
S44A IAmb IAmb 05 52 05.7
comp=Z,42nm,0.9s
F55A Otter Lake 39.27 83 P **P 05 51 56.3 -1.4**
baz=317
FCAR Ozark Folk Cen 39.38 107 P **P 05 51 57.5 -1.3**
E56A St. Veronique 39.39 81 P P 05 51 53.8 -4.9
baz=316
BLO Bloomington 39.39 99 P **P 05 51 58.0 -0.8**
BLO pmax pmax
comp=Z,14nm,0.9s
BLO Bloomington 39.39 99 P **P 05 51 58.0 -0.8**
K52A Tillsonburg 39.42 90 P **P 05 52 02.2 +3.2**
baz=319
PLVO Plevna 39.50 84 P **P 05 51 58.1 -1.5**
G55A Calabogie 39.52 84 P **P 05 51 01.9 +2.1**
baz=317
YAK Yakutsk 39.52 312 *e*P **P 05 51 58.9 -0.7**
YAK *e**PP **pP 05 52 03.0 -0.2**
YAK *e* 05 53 31.8
YAK *e* 05 54 05.8
YAK *e*S **S 05 58 00.0 -1.6**
YAK *e**SS **sS 05 58 08.8 +1.0**
YAK *e*SS **SS 06 00 47.0 -8.5**
YAK *e* 06 02 04.5
YAK pmax pmax
comp=Z,44nm,0.9s
YAK pmax pmax
comp=E,15nm,1.1s
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=Z,93nm,2.5s
YAK pmax pmax
comp=E,27nm,1.4s
YAK pmax pmax
comp=N,79nm,2.6s
YAK smax smax
comp=E,97nm,4.4s
YAK Yakutsk 39.52 312 P **P 05 51 59.9 +0.3**
YAK IAmb IAmb 05 52 00.9
comp=Z,43nm,0.8s
D57A Chemin Vers le 39.60 80 P **P 05 52 01.7 +1.2**
baz=316,SNR=6.0
O49A Covington 39.65 96 IAmb IAmb 05 52 04.5
comp=Z,56nm,1.4s
LCAR Lake Charles 39.69 106 P **P 05 52 00.2 -1.0**
P48A Milroy 39.69 97 P **P 05 51 60.0 -1.3**
GAC Glen Almond 39.78 82 P **P 05 52 03.5 +1.5**
M51A Elyria 39.80 93 P **P 05 52 04.4 +2.2**
baz=320
H55A Tweed 39.81 85 P **P 05 52 02.8 +0.6**
baz=318,SNR=6.2
I55A Frankford 39.81 86 P **P 05 52 03.9 +1.6**
baz=318
MIAR Mount Ida 39.83 110 P **P 05 52 03.1 +0.6**
baz=327,SNR=17
MIAR Mount Ida 39.83 110 IAmb IAmb 05 52 06.1
comp=Z,30nm,0.9s
LATQ La Tuque 39.86 78 P **P 05 52 05.1 +2.6**
baz=316
E57A Chemin Saint G 39.91 81 P **P 05 52 03.3 +0.2**
baz=316,SNR=13
TX31 Lajitas Ar. Si 40.01 126 IAmb IAmb 05 52 11.0
comp=Z,49nm,1.1s
TXAR Lajitas Array 40.02 126 P **P 05 52 07.3 +3.1**
comp=Z,7.5nm,0.9s,baz=340,slow=7.0,SNR=20
TXAR PcP **PcP 05 54 10.9 +1.8**
comp=Z,3.0nm,0.9s,baz=333,slow=1.4,SNR=3.1
D58A Chemin du LacG 40.02 79 P **P 05 52 05.5 +1.5**
baz=316
N51A Ashland 40.03 93 P **P 05 52 07.8 +3.7**
baz=320
M52A Chesterland 40.05 92 P **P 05 52 06.9 +2.7**
baz=320
J54A Appleton 40.05 88 P **P 05 52 08.4 +4.2**
baz=318
J54A Appleton 40.05 88 IAmb IAmb 05 52 08.3
comp=Z,32nm,0.8s
H56A Elgin 40.22 84 P **P 05 52 06.9 +1.3**
baz=318,SNR=5.5
WCI Wyandotte Cave 40.24 99 P **P 05 52 08.7 +2.8**
baz=323
L53A Girard 40.26 90 P **P 05 52 07.0 +1.0**
baz=320,SNR=9.6
ACSO Alum Creek Sta 40.27 94 P **P 05 52 07.1 +1.1**
baz=321,SNR=5.3
ACSO Alum Creek Sta 40.27 94 IAmb IAmb 05 52 09.5
comp=Z,24nm,0.9s
ERPA Erie 40.27 90 P **P 05 52 08.7 +2.6**
baz=319
ERPA Erie 40.27 90 IAmb IAmb 05 52 12.8
comp=Z,29nm,0.8s
E58A La Victoria 40.35 80 P **P 05 52 07.6 +0.9**
baz=316,SNR=8.4
PECO Prince Edward 40.36 85 IAmb IAmb 05 52 10.4
comp=Z,27nm,1.1s
N52A McGinn's Farm, 40.44 93 P **P 05 52 08.2 +0.7**
baz=320,SNR=6.5
M53A WI Miller and 40.45 91 P **P 05 52 09.3 +1.7**
baz=320,SNR=5.7
J55A Hilton 40.46 87 P **P 05 52 08.6 +1.0**
baz=319,SNR=6.5
G57A Newington 40.46 83 P **P 05 52 10.2 +2.6**
baz=317
L54A Sinclairville 40.51 89 P **P 05 52 08.4 +0.3**
baz=319,SNR=6.9
O51A Pataskala 40.51 94 P **P 05 52 09.8 +1.7**
baz=321,SNR=10.0
K54A Basiliko Farm, 40.53 88 P **P 05 52 09.9 +1.6**
baz=319,SNR=6.6
ALLY Alegheny Colle 40.55 90 IAmb IAmb 05 52 12.1
comp=Z,40nm,0.8s
JCT Junction City 40.57 120 P **P 05 52 10.5 +1.7**
baz=331,SNR=7.7
WVNY West Valley, N 40.72 88 IAmb IAmb 05 52 13.8
comp=Z,49nm,1.0s
K55A Perry 40.74 88 P **P 05 52 10.9 +0.9**
baz=319,SNR=7.1
P51A Williamsport 40.81 95 P **P 05 52 13.3 +2.7**
baz=322
T47A Sharon Grove 40.85 101 P **P 05 52 10.6 -0.4**
N53A Lisbon 40.86 92 P **P 05 52 12.3 +1.3**
baz=320,SNR=11
G58A Ormstown 40.87 82 P **P 05 52 12.1 +1.1**
baz=317
M54A Oil Creek Stat 40.89 90 P **P 05 52 13.4 +2.1**
baz=320
O52A Adamsville 40.91 93 P **P 05 52 12.1 +0.7**
baz=321,SNR=7.3
J56A Wolcott 40.91 86 P **P 05 52 13.5 +2.1**
baz=319
J56A Wolcott 40.91 86 P **P 05 52 10.5 -0.8**
F59A Saint Guilaume 40.97 80 P **P 05 52 15.8 +4.1**
baz=317
L55A Hinsdale 40.97 88 P **P 05 52 13.5 +1.6**
baz=319,SNR=7.4
I57A Carthage 41.00 84 P **P 05 52 13.0 +0.9**
baz=316,SNR=12
LONY Lake Ozonia 41.01 83 P **P 05 52 13.7 +1.5**
baz=318
LONY Lake Ozonia 41.01 83 P **P 05 52 11.8 -0.4**
Q51A Peebles 41.03 96 IAmb IAmb 05 52 16.1
comp=Z,33nm,1.0s
D60A Saint Jean D'O 41.08 78 P **P 05 52 15.7 +3.0**
baz=316
X43A Marvell 41.09 107 P **P 05 52 15.8 +2.9**
baz=326
O53A New Philadelph 41.11 93 P **P 05 52 15.7 +2.7**
baz=321
K56A Middlesex 41.12 87 P **P 05 52 14.4 +1.2**
baz=319,SNR=7.8
P52A Corning 41.14 94 P **P 05 52 14.3 +1.0**
baz=321,SNR=6.2
N54A Moraine State 41.15 91 P **P 05 52 15.1 +1.7**
baz=320,SNR=6.9
WVT Waverly 41.20 103 P **P 05 52 16.6 +2.8**
baz=324
D61A St Aubert, Com 41.22 77 P **P 05 52 17.3 +3.5**
baz=316
E60A Ste Agathe de 41.23 79 P **P 05 52 16.4 +2.5**
baz=317
J57A Williamstown 41.23 85 P **P 05 52 14.2 +0.3**
baz=319,SNR=9.4
F60A Warwick 41.28 79 P **P 05 52 16.4 +2.0**
baz=317
G59A Clarenceville 41.34 81 P **P 05 52 15.1 +0.2**
baz=318,SNR=6.9
H58A Gabriels 41.35 83 P **P 05 52 17.5 +2.5**
baz=318
M55A Ridgway 41.36 89 P **P 05 52 16.0 +0.9**
baz=320,SNR=12
H59A Cadyville 41.42 82 P **P 05 52 16.8 +1.2**
baz=318,SNR=5.4
L56A Greenwood 41.43 88 P **P 05 52 15.6 -0.1**
baz=319,SNR=12
K57A Scipio Center 41.49 86 P **P 05 52 16.7 +0.6**
baz=319,SNR=6.8
I58A Old Forge 41.51 84 P **P 05 52 17.2 +0.9**
baz=316,SNR=8.0
O54A Avella 41.56 92 P **P 05 52 17.8 +1.0**
baz=321,SNR=9.3
Q52A Bidwell 41.60 95 P **P 05 52 17.5 +0.4**
baz=322,SNR=6.2
J58A Remsen 41.61 85 P **P 05 52 17.7 +0.6**
baz=319,SNR=13
J58A Remsen 41.61 85 IAmb IAmb 05 52 23.4
comp=Z,31nm,1.0s
P53A Whipple 41.62 94 P **P 05 52 17.6 +0.4**
baz=321,SNR=5.4
P53A Whipple 41.62 94 IAmb IAmb 05 52 20.1
comp=Z,22nm,0.9s
M56A Emporium 41.63 89 P **P 05 52 18.2 +0.9**
baz=320,SNR=13
M56A Emporium 41.63 89 IAmb IAmb 05 52 20.6
comp=Z,36nm,0.8s
E61A Lac Etchemin 41.63 78 P **P 05 52 19.3 +2.0**
baz=317
NATX Nacogdoches 41.69 114 P **P 05 52 19.4 +1.5**
baz=329
F61A St Evariste 41.73 79 P **P 05 52 20.6 +2.5**
baz=317,SNR=9.5
G60A Masonville 41.74 81 P **P 05 52 18.0 -0.2**
baz=318,SNR=12
N55A Marion Center 41.78 90 P **P 05 52 19.5 +0.9**
baz=320,SNR=11
OXF Oxford 41.78 106 P **P 05 52 18.4 -0.1**
baz=326,SNR=6.4
TYV Tymovskoe 41.79 292 *e*P **P 05 52 18.1 -0.4**
TYV *e*S **S 05 58 35.5 -0.1**
TYV pmax pmax
comp=Z,100nm,2.8s
TYV pmax pmax
comp=Z,33nm,0.9s
TYV smax smax
comp=E,200nm,7.4s
TYV MLR MLR
comp=Z,2µm,18.0s
D62A Allapoint, All 41.84 76 P **P 05 52 22.4 +3.5**
baz=317
D62A Allapoint, All 41.84 76 IAmb IAmb 05 52 29.7
comp=Z,35nm,1.1s
U49A Red Boiling Sp 41.86 101 IAmb IAmb 05 52 27.3
comp=Z,29nm,1.1s
L57A Andrews Acres 41.88 87 P **P 05 52 20.3 +0.9**
baz=320,SNR=15
K58A Earlville 41.88 86 P **P 05 52 21.4 +2.1**
baz=319
T50A Nancy 41.90 99 IAmb IAmb 05 52 23.5
comp=Z,41nm,1.2s
J59A Piesco 41.91 84 P **P 05 52 21.6 +2.0**
baz=319
CLTN Cedars of Leba 41.94 101 IAmb IAmb 05 52 28.4
comp=Z,26nm,1.0s
E62A Clayton Lake 41.95 77 P **P 05 52 21.4 +1.5**
baz=317
H60A Morristown 41.96 81 P **P 05 52 21.0 +1.0**
baz=318
I59A Olmsteadville 41.96 83 P **P 05 52 22.0 +2.0**
baz=318
P54A Burton 41.97 93 P **P 05 52 20.7 +0.7**
baz=321,SNR=5.7
G61A St-Isidore-de- 41.98 80 P **P 05 52 24.7 +4.5**
baz=318
V48A Smith Brothers 41.99 102 IAmb IAmb 05 52 28.6
comp=Z,26nm,1.1s
N56A West Decatur 42.01 90 P **P 05 52 22.0 +1.6**
baz=320
S51A Beattyville 42.01 97 IAmb IAmb 05 52 23.9
comp=Z,24nm,0.9s
PLAL Pickwick Lake 42.02 104 IAmb IAmb 05 52 30.8
comp=Z,21nm,0.9s
Q53A Leroy 42.04 94 P **P 05 52 22.1 +1.4**
baz=322,SNR=6.3
O55A Ligonier 42.06 91 P **P 05 52 21.5 +0.6**
baz=321,SNR=8.8
BINY Binghamton 42.15 86 P **P 05 52 23.1 +1.6**
baz=320,SNR=8.6
BINY Binghamton 42.15 86 IAmb IAmb 05 52 27.6
comp=Z,30nm,1.0s
I60A Shoreham 42.21 83 P **P 05 52 23.0 +1.1**
baz=318
MCWV Mont Chateau 42.23 92 P **P 05 52 24.4 +2.2**
baz=321
Y45A Yeager Farm, C 42.25 107 IAmb IAmb 05 52 26.4
comp=Z,35nm,1.1s
R53A Hurricane 42.25 95 P **P 05 52 24.1 +1.7**
baz=322
R53A Hurricane 42.25 95 IAmb IAmb 05 52 26.0
comp=Z,29nm,1.1s
M57A Sunshine Farm, 42.25 88 P **P 05 52 23.7 +1.3**
baz=320,SNR=9.8
K59A Cooperstown 42.26 85 P **P 05 52 24.0 +1.5**
baz=319
Q54A Coxs Mills 42.28 94 P **P 05 52 24.0 +1.4**
baz=322,SNR=5.7
D63A Stockholm 42.32 75 P **P 05 52 24.3 +1.5**
baz=317
L58A Harry Jones Me 42.33 86 P **P 05 52 24.3 +1.3**
baz=320,SNR=9.9
H61A Lyndonville 42.35 81 P **P 05 52 25.1 +2.0**
baz=318
P55A Reedsville 42.35 92 P **P 05 52 24.6 +1.3**
baz=321,SNR=8.5
O56A Blue Knob Stat 42.38 90 P **P 05 52 24.7 +1.3**
baz=321,SNR=12
SSPA Standing Stone 42.42 89 IAmb IAmb 05 52 26.9
comp=Z,26nm,1.1s
N57A Milroy 42.49 89 P **P 05 52 25.0 +0.6**
baz=320,SNR=11
G62A West of Eustis 42.51 79 P **P 05 52 27.4 +3.0**
baz=318
G62A West of Eustis 42.51 79 IAmb IAmb 05 52 50.4
comp=Z,24nm,1.0s
M58A Price's Panora 42.55 88 P **P 05 52 26.1 +1.3**
baz=320,SNR=9.0
LBNH Lisbon 42.57 81 P **P 05 52 27.4 +2.5**
baz=318
LBNH Lisbon 42.57 81 IAmb IAmb 05 52 49.4
comp=Z,43nm,1.4s
J60A Lant Hill Farm 42.59 83 P **P 05 52 26.4 +1.2**
baz=319,SNR=8.4
L59A Walton 42.61 86 P **P 05 52 25.9 +0.5**
baz=320,SNR=7.1
E63A Oxbow 42.62 76 P **P 05 52 26.8 +1.5**
baz=317
Q55A Buckhannon 42.63 93 P **P 05 52 27.2 +1.6**
baz=322
I61A Oroboro, Fairl 42.66 82 P **P 05 52 27.6 +1.9**
baz=318,SNR=10
H62A Milan 42.69 80 P **P 05 52 27.9 +2.0**
baz=318
HNH Hanover 42.79 82 IAmb IAmb 05 52 33.2
comp=Z,24nm,1.1s
F63A Nahmakanta, Br 42.83 77 P **P 05 52 29.0 +2.0**
baz=318
F63A Nahmakanta, Br 42.83 77 IAmb IAmb 05 52 34.4
comp=Z,26nm,0.9s
N58A Sunbury 42.83 88 P **P 05 52 27.7 +0.6**
baz=320,SNR=9.3
N58A Sunbury 42.83 88 IAmb IAmb 05 52 33.4
comp=Z,23nm,0.8s
R54A Victor 42.83 95 P **P 05 52 29.3 +2.1**
baz=322
P56A Dayton Farm, R 42.84 91 P **P 05 52 29.2 +2.0**
baz=321,SNR=5.1
O57A Amberson 42.87 90 P **P 05 52 29.8 +2.3**
baz=321,SNR=17
E64A Bridgewater 42.90 76 P **P 05 52 29.5 +2.0**
baz=317
TZTN Tazewell 42.90 98 P **P 05 52 28.1 +0.4**
baz=324,SNR=13
TZTN Tazewell 42.90 98 IAmb IAmb 05 52 31.8
comp=Z,50nm,1.1s
M59A Waymart 42.92 87 P **P 05 52 30.4 +2.6**
baz=320
J61A Chester 42.94 82 P **P 05 52 30.9 +3.0**
baz=319
G63A Kingsbury 43.02 78 P **P 05 52 30.7 +2.2**
baz=318,SNR=11
Q56A Snyder Ridge, 43.03 92 P **P 05 52 29.0 +0.3**
baz=322,SNR=7.4
Q56A Snyder Ridge, 43.03 92 IAmb IAmb 05 52 32.5
comp=Z,26nm,1.1s
T53A Wise 43.04 97 P **P 05 52 31.2 +2.4**
baz=323,SNR=6.9
PKME Peaks-Kenny Pk 43.06 78 P **P 05 52 30.7 +1.9**
baz=318,SNR=5.4
PKME Peaks-Kenny Pk 43.06 78 IAmb IAmb 05 52 34.9
comp=Z,27nm,0.9s
F64A Sherman 43.06 77 P **P 05 52 28.7 -0.2**
baz=318,SNR=11
I62A Tamworth 43.12 81 P **P 05 52 30.9 +1.5**
baz=319
H63A New Sharon 43.16 79 P **P 05 52 32.7 +3.0**
baz=318
L60A Shokan 43.16 85 P **P 05 52 32.3 +2.6**
baz=320
VBMS Vicksburg 43.17 109 P **P 05 52 32.4 +2.5**
baz=327
R55A Marlinton 43.17 94 P **P 05 52 31.9 +2.0**
baz=322,SNR=6.0
R55A Marlinton 43.17 94 IAmb IAmb 05 52 33.9
comp=Z,25nm,1.0s
N59A State Game Lan 43.23 87 P **P 05 52 31.6 +1.3**
baz=320,SNR=7.9
P57A Homestead Farm 43.25 91 P **P 05 52 31.8 +1.3**
baz=321,SNR=17
P57A Homestead Farm 43.25 91 IAmb IAmb 05 52 34.3
comp=Z,40nm,0.9s
O58A Lewisberry 43.28 89 P **P 05 52 32.7 +2.0**
baz=321,SNR=20
G64A Maxfield 43.32 78 P **P 05 52 32.5 +1.5**
baz=318,SNR=12
L61A Hillsdale 1, H 43.33 84 P **P 05 52 34.1 +3.1**
baz=320
I63A Otisfield 43.35 80 P **P 05 52 33.3 +2.0**
baz=319
I63A Otisfield 43.35 80 IAmb IAmb 05 52 37.5
comp=Z,21nm,1.1s
J62A Henniker 43.38 82 P **P 05 52 34.5 +3.0**
baz=319
S55A Lewisburg 43.39 94 P **P 05 52 33.7 +2.0**
baz=322,SNR=5.5
WVL Waterville 43.41 79 IAmb IAmb 05 52 37.1
comp=Z,21nm,1.0s
Q57A Strasburg 43.41 91 P **P 05 52 32.8 +1.0**
baz=322,SNR=6.2
T54A Tazewell 43.44 96 P **P 05 52 33.8 +1.6**
baz=323
V52A Sevierville 43.45 99 IAmb IAmb 05 52 45.8
comp=Z,18nm,0.8s
M60A Port Jervis 43.47 86 P **P 05 52 32.8 +0.6**
baz=320,SNR=7.8
146A Union 43.49 107 IAmb IAmb 05 52 36.8
comp=Z,31nm,0.8s
O59A Robesonia 43.50 88 P **P 05 52 33.1 +0.6**
baz=321,SNR=7.7
TKL Tuckaleechee C 43.51 99 LR LR 06 11 33.4
comp=Z,1µm,19.9s,baz=332,slow=37
TKL Tuckaleechee C 43.51 99 IAmb IAmb 05 52 38.2
comp=Z,16nm,0.7s
H64A Troy 43.56 79 P **P 05 52 35.4 +2.5**
baz=318

N60A Cedar Hill Far 43.59 87 P P 05 52 34.5 +1.3
baz=320,SNR=8.5
P58A Pank, Wackersv 43.59 90 P P 05 52 34.2 +1.0
baz=321,SNR=6.3
K62A Royalston 43.60 83 P P 05 52 35.3 +2.0
baz=319
K62A Royalston 43.60 83 IAmb IAmb 05 52 39.4
comp=Z,20nm,1.0s
MVL Millersville 43.66 89 IAmb IAmb 05 52 37.6
comp=Z,46nm,1.5s
Y49A Blount Mountai 43.72 103 IAmb IAmb 05 52 44.2
comp=Z,18nm,0.9s
U54A Nelsons Funny 43.75 97 P P 05 52 37.8 +3.1
baz=323
T55A Pulaski 43.77 95 P P 05 52 37.0 +2.2
baz=323
Q58A Fox Den Farm, 43.84 91 P P 05 52 35.9 +0.7
baz=322,SNR=7.4
O60A Telford 43.87 88 P P 05 52 36.1 +0.6
baz=321,SNR=12
BLA Blacksburg 43.88 95 P P 05 52 36.3 +0.7
baz=323,SNR=5.1
M61A Granite Spring 43.90 85 P P 05 52 38.8 +3.1
baz=320
I64A Boothbay 43.90 80 P P 05 52 37.7 +2.0
baz=319
P59A Jarrettsville 43.92 89 P P 05 52 37.5 +1.6
baz=321
K63A Dunstable 43.92 82 P P 05 52 38.4 +2.6
baz=319
G65A Princeton 43.92 77 P P 05 52 38.3 +2.5
baz=318
R57A Stanardsville 43.93 92 P P 05 52 35.7 -0.3
baz=322,SNR=5.8
V53A Saluda 43.96 98 IAmb IAmb 05 52 40.6
comp=Z,23nm,1.1s
H65A Eastbrook 43.98 78 P P 05 52 39.3 +3.0
baz=318
HRV Adam Dziewonsk 44.05 82 P P 05 52 38.9 +2.0
baz=320
PAL Palisades 44.06 86 P P 05 52 38.1 +1.1
baz=320
PAL Palisades 44.06 86 P P 05 52 36.2 -0.8
PAL pmax pmax
comp=Z,12nm,1.0s
PAL Palisades 44.06 86 P P 05 52 36.2 -0.8
N61A South Mountain 44.07 86 P P 05 52 39.2 +2.1
baz=320
U55A TA2, Sparta 44.14 96 P P 05 52 37.7 0.0
baz=323,SNR=5.1
PSUB Penn St. - Bra 44.15 88 P P 05 52 37.1 -0.6
S57A Dark Hollow, R 44.15 93 P P 05 52 40.4 +2.7
baz=322
S57A Dark Hollow, R 44.15 93 P P 05 52 37.7 -0.1
P60A Greenville 44.15 88 P P 05 52 40.3 +2.6
baz=321
R58A Rapidan 44.19 92 P P 05 52 40.7 +2.7
baz=322
T56A Rocky Mt 44.21 95 P P 05 52 40.4 +2.2
baz=323
M62A Hamden 44.22 84 P P 05 52 40.3 +2.1
baz=320
WES Weston 44.25 82 P P 05 52 37.3 -1.2
WES pmax pmax
comp=Z,36nm,1.2s
WES Weston 44.25 82 P P 05 52 37.3 -1.2
WES IAmb IAmb 05 52 43.5
comp=Z,36nm,1.2s
V54A Nebo 44.29 97 P P 05 52 42.1 +3.2
baz=324
GGN Saint George 44.33 76 P P 05 52 40.7 +1.7
GGN Saint George 44.33 76 P P 05 52 38.6 -0.4
GGN IAmb IAmb 05 52 49.4
comp=Z,27nm,0.8s
EMMW East Machias 44.34 77 P P 05 52 38.8 -0.3
EMMW IAmb IAmb 05 52 45.1
comp=Z,24nm,0.9s
H66A Whiting 44.35 77 P P 05 52 41.3 +2.0
baz=318
O61A Allentown 44.45 87 P P 05 52 40.8 +0.6
baz=321
BRYW Bryant College 44.51 83 IAmb IAmb 05 52 46.4
comp=Z,26nm,1.1s
R58B Mineral 44.51 92 P P 05 52 41.0 +0.4
baz=322,SNR=7.1
R58B Mineral 44.51 92 P P 05 52 40.4 -0.2
R58B IAmb IAmb 05 52 44.6
comp=Z,18nm,0.9s
L63A North Scituate 44.51 83 P P 05 52 41.7 +1.1
baz=320
V55A Taylorsville 44.58 97 P P 05 52 44.4 +3.2
baz=324
YSS Yuzh-Sakhalins 44.58 288 *e*P P 05 52 41.5 +0.5
YSS *e*S S 05 59 16.3 -0.2
YSS pmax pmax
comp=Z,40nm,0.5s
YSS MLR MLR
comp=Z,900nm,18.0s
YSS MLR MLR
comp=N,600nm,17.0s
YSS MLR MLR
comp=E,700nm,18.0s
YSS Yuzh-Sakhalins 44.58 288 P P 05 52 40.9 -0.2
U56A King 44.58 96 P P 05 52 43.5 +2.2
baz=323
T57A Hurt 44.61 94 P P 05 52 43.6 +2.2
baz=323
M63A Gales Ferry 44.66 84 P P 05 52 44.3 +2.6
baz=320
R59A King George, V 44.69 91 P P 05 52 43.4 +1.4
baz=322,SNR=5.7
S58A Poland Farm, P 44.70 92 P P 05 52 44.5 +2.4
baz=322,SNR=6.4
S58A Poland Farm, P 44.70 92 IAmb IAmb 05 52 46.1
comp=Z,26nm,1.1s
W54A Cherokee Point 44.73 98 P P 05 52 44.2 +1.8
baz=324,SNR=5.4
LMN Caledonia Moun 44.73 74 IAmb IAmb 05 52 50.5
comp=Z,19nm,0.7s
M64A Tiverton 44.95 83 P P 05 52 45.6 +1.6
baz=320
S59A Mechanicsville 44.95 92 P P 05 52 45.3 +1.2
baz=322
V56A Mocksville 44.96 96 P P 05 52 46.5 +2.2
baz=324
T58A Grand View Acr 45.00 93 P P 05 52 45.7 +1.2
baz=323
U57A Blanch 45.02 95 P P 05 52 46.9 +2.2
baz=323
Q61A Milford 45.03 89 P P 05 52 44.9 +0.2
baz=322
X54A Belton 45.08 99 P P 05 52 47.3 +2.1
baz=325,SNR=9.0
PAULI Pauline 45.12 98 IAmb IAmb 05 52 49.4
comp=Z,14nm,1.0s
S60A Water View 45.31 91 P P 05 52 49.6 +2.7
baz=322
NRIK Noril'sk 45.38 338 P P 05 52 47.5 +0.4
comp=Z,11nm,0.9s,baz=50,slow=6.2,SNR=17
HODGE Hodges 45.39 99 IAmb IAmb 05 52 51.7
comp=Z,27nm,1.2s
U58A Oxford 45.43 94 P P 05 52 49.7 +1.7
baz=323
T59A Double "B" Far 45.45 92 P P 05 52 50.2 +2.1
baz=323,SNR=5.7
W56A Indian Trail 45.46 97 P P 05 52 49.5 +1.3
baz=324
GOGA Godfrey 45.48 101 P P 05 52 49.6 +1.2
baz=325,SNR=7.3
GOGA Godfrey 45.48 101 IAmb IAmb 05 52 56.7
comp=Z,15nm,1.0s
X55A Gracelyn & Ava 45.49 98 P P 05 52 48.8 +0.3
baz=325
152A Waverly Hall 45.50 103 IAmb IAmb 05 52 58.3
comp=Z,14nm,1.0s
DRLN Deer Lake 45.52 66 P P 05 52 49.7 +1.2
V58A Windy Hill, Pi 45.64 95 P P 05 52 51.3 +1.7
baz=324
W57A Gilead 45.73 96 P P 05 52 52.1 +1.8
baz=324
X56A White Oak 45.77 98 P P 05 52 52.9 +2.3
baz=324
Y55A Saluda 45.82 99 P P 05 52 52.9 +1.8
baz=325,SNR=5.6
U59A Littleton 45.83 93 P P 05 52 52.8 +1.7
baz=323
U59A Littleton 45.83 93 IAmb IAmb 05 52 55.0
comp=Z,15nm,1.1s

U60A Pendleton 46.04 93 P P 05 52 54.5 +1.7
baz=323
V59A Middlesex 46.09 94 P P 05 52 55.9 +2.7
baz=324
W58A Raeford 46.20 96 P P 05 52 56.8 +2.8
baz=324
HAL Halifax 46.21 74 IAmb IAmb 05 53 04.2
comp=Z,25nm,1.0s
ZEA Zeya 46.26 305 *e*P P 05 52 54.4 +0.1
ZEA pmax pmax
comp=Z,36nm,1.2s
ZEA MLR MLR
comp=E,2µm,16.0s
ZEA MLR MLR
comp=Z,3µm,16.0s
ZEA MLR MLR
comp=N,800nm,15.0s
352A Blakely 46.39 104 IAmb IAmb 05 52 58.9
comp=Z,20nm,1.0s
CNNC Cliffs of the 46.68 94 P P 05 52 57.0 -0.7
Z57A Bowman 46.90 98 P P 05 52 59.8 +0.3
baz=325
W60A Pink Hill 46.91 94 P P 05 52 59.9 +0.3
baz=324
BOD Bodaibo 48.02 316 *e*P P 05 53 07.5 -0.5
BOD pmax pmax
comp=Z,47nm,1.3s
ERM Erimo 48.13 283↓ *e*P P 05 53 10.1 +1.1
ERM pmax pmax
comp=Z,28nm,1.0s
ERM Erimo 48.13 283 P P 05 53 07.9 -1.1
KEV Kevo 49.05 6 P P 05 53 15.9 +0.2
KEV pmax pmax
comp=Z,34nm,1.1s
KEV Kevo 49.05 6 P P 05 53 15.9 +0.2
ARCES ARCESS Array B 49.19 7 P P 05 53 15.6 -1.2
comp=Z,3.9nm,0.8s,baz=18,slow=8.1,SNR=10
ARCES PcP PcP 05 54 40.3 +0.5
comp=Z,3.5nm,0.7s,baz=352,slow=4.6,SNR=3.8
ARCES LR LR 06 17 51.8
comp=Z,155nm,18.1s,baz=356,slow=41
656A Willston 49.28 103 P P 05 53 15.5 -2.4
LVZ Lovozero 51.17 2↓ *e*P P 05 53 32.5 +0.6
LVZ pmax pmax
comp=Z,18nm,1.0s
USA0B Ussuriysk Arra 51.56 293 P P 05 53 34.0 -1.1
USA0B pmax pmax
comp=Z,8.0nm,0.7s
USA0B Ussuriysk Arra 51.56 293 P P 05 53 34.0 -1.1
USRK Ussuriysk Ar. 51.56 293 P P 05 53 34.5 -0.6
comp=Z,9.1nm,0.9s,baz=49,slow=7.4,SNR=12
MDJ Mudanjiang 52.29 295 P P 05 53 40.6 +0.1
MDJ PP PP 05 55 39.9 +1.3
MDJ ScP ScP 05 58 45.5 -3.0
MDJ PcS PcS 05 58 49.5 -0.3
MDJ S S 06 01 07.5 +2.1
MDJ sS sS 06 01 14.2 +2.4
MDJ pmax pmax
comp=Z,18nm,1.0s
MDJ pmax pmax
comp=Z,56nm,4.1s
MDJ LR LR
comp=Z,1µm,15.7s
MDJ LR LR
comp=Z,760nm,17.8s
MDJ LR LR
comp=Z,2µm,14.2s
MDJ Mudanjiang 52.29 295 IAmb IAmb 05 53 42.9
comp=Z,16nm,1.0s
HIA Hailar 52.69 306↑ *e*P P 05 53 43.6 +0.1
HIA pmax pmax
comp=Z,9.0nm,0.7s
HIA Hailar 52.69 306 P P 05 53 43.7 +0.3
HIA IAmb IAmb 05 54 06.4
comp=Z,18nm,1.0s
061Z Ochoppi 53.00 104 P P 05 53 45.7 -0.3
MSHR Mys Shultsa 53.21 293 *ce*P P 05 53 48.6 +1.3
TEIG Tepich 54.51 115 P P 05 53 58.4 +1.4
baz=323,slow=20
TEIG Tepich 54.51 115 P P 05 53 56.4 -0.6
CN2 Changchun 54.73 298 *e*P P 05 53 57.3 -1.1
CN2 *es*P sP 05 54 04.3 +0.8
CN2 *e*S S 06 01 33.7 -4.9
CN2 *e*SS SS 06 05 15.3 -5.6
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 LR LR
comp=Z,1µm,18.0s
CN2 LR LR
comp=Z,1µm,18.0s
CN2 LR LR
comp=Z,740nm,18.0s
MJB9 Matsu-Tunnel 54.80 283 IAmb IAmb 05 54 01.2
comp=Z,10.0nm,0.8s
MAJO Matsushiro 54.80 283↓ *e*P P 05 53 59.8 +0.7
MAJO pmax pmax
comp=Z,23nm,1.1s
MAJO Matsushiro 54.80 283 IAmb IAmb 05 54 01.0
comp=Z,20nm,1.0s
MAT Matsushiro 54.80 283 P P 05 53 58.9 -0.2
MJAR Matsushiro Arr 54.80 283 P P 05 53 58.4 -0.7
comp=Z,5.7nm,0.7s,baz=9.1,slow=6.3,SNR=8.4
MJAR PcP PcP 05 55 02.1 +0.8
comp=Z,4.2nm,0.8s,baz=46,slow=3.5,SNR=5.0
TMCR Tamitsa 54.97 1 *e*P P 05 53 58.2 -1.6
NC204 NORSAR Array S 55.88 16 P P 05 54 04.8 -1.7
NC303 NORSAR Array S 56.01 16 P P 05 54 06.0 -1.4
NC405 NORSAR Array S 56.16 16 IAmb IAmb 05 54 23.9
comp=Z,27nm,1.1s
NB2 NORSAR Subarra 56.16 16 P P 05 54 08.9 +0.3
comp=Z,24nm,1.4s,baz=342,slow=7.4
NOA NORSAR Array B 56.16 16 P P 05 54 08.3 -0.3
comp=Z,2.0nm,0.8s,baz=344,slow=7.0,SNR=12
NOA PcP PcP 05 55 06.0 -0.2
comp=Z,1.8nm,0.9s,baz=339,slow=3.3,SNR=3.7
NOA LR LR 06 19 11.1
comp=Z,185nm,19.6s,baz=335,slow=37
NAO01 NORSAR Array S 56.31 16 P P 05 54 09.1 -0.4
TLY Talaya 56.49 318 *e*P P 05 54 11.6 +0.6
TLY *e*S S 06 02 07.3 +5.3
TLY pmax pmax
comp=Z,32nm,1.3s
TLY MLR MLR
comp=Z,1µm,13.0s
TLY Talaya 56.49 318 P P 05 54 10.9 -0.1
TLY IAmb IAmb 05 55 01.2
comp=Z,12nm,1.1s
FIA1 FINESS Array S 57.26 8 P P 05 54 16.3 +0.1
FIA1 IAmb IAmb 05 54 24.8
comp=Z,26nm,1.1s
FINES FINESS Array B 57.26 8 P P 05 54 16.5 +0.3
comp=Z,4.0nm,0.8s,baz=16,slow=8.9,SNR=14
FINES LR LR 06 20 15.1
comp=Z,165nm,19.8s,baz=7.5,slow=38
FINES FINESS Array B 57.26 8 *i*P P 05 54 16.7 +0.5
FINES pmax pmax
comp=Z,4.0nm,0.8s
KONO Kongsberg 57.27 18↓ *e*P P 05 54 19.2 +2.8
KONO pmax pmax
comp=Z,15nm,1.1s
MOY Mondy 57.35 320 *e*P P 05 54 18.7 +1.5
MOY pmax pmax
comp=Z,44nm,1.4s
ZAK Zakamensk 57.73 317 *e*P P 05 54 20.1 +0.2
ZAK pmax pmax
comp=Z,5.0nm,1.2s
KLMR Klimovskoe 58.30 0 *e*P P 05 54 22.7 -0.8
KLMR pmax pmax
comp=Z,74nm,1.4s
KLMR Klimovskoe 58.30 0 *e*P P 05 54 22.8 -0.8
KLMR AMP 05 54 31.6
comp=Z,74nm,1.4s
ULN Ulaanbaatar 58.59 313 *c i*P P 05 54 26.7 +0.7
ULN pmax pmax
comp=Z,15nm,1.0s
ULN Ulaanbaatar 58.59 313 P P 05 54 26.4 +0.4
ULN IAmb IAmb 05 54 39.4
comp=Z,12nm,0.8s
KS19 Wonju Array Si 58.80 292 P P 05 54 28.0 +0.6
KSRS Korea Array 58.82 292 P P 05 54 28.4 +0.9
comp=Z,17nm,0.8s,baz=32,slow=6.3,SNR=52
SONM Songino Array 58.85 314 P P 05 54 28.9 +1.1
comp=Z,8.7nm,1.0s,baz=33,slow=7.2,SNR=32
SONM LR LR 06 19 50.6
comp=Z,497nm,19.9s,baz=31,slow=36
ZAA0 Zalesovo Array 59.77 331 P P 05 54 33.8 -0.1
ZAA0 IAmb IAmb 05 54 42.3
comp=Z,21nm,1.4s
ZALV Zalesovo Beam 59.77 331 P P 05 54 32.2 -1.6
comp=Z,2.7nm,0.8s,baz=0.0,slow=5.2,SNR=7.1
ZALV Zalesovo Beam 59.77 331 *i*P P 05 54 33.5 -0.4
ZALV pmax pmax
comp=Z,3.0nm,0.8s
TJN Taejon 59.96 291 *ce*P P 05 54 36.1 +0.7
VSU Vasula 60.27 8↓ *e*P P 05 54 37.5 +0.3
VSU pmax pmax
comp=Z,39nm,0.9s
JNU Nakatsue 61.04 286 P P 05 54 43.0 +0.1
comp=Z,5.7nm,0.7s,baz=8.1,slow=7.1,SNR=2.1
JNU Nakatsue 61.04 286 IAmb IAmb 05 54 50.4
comp=Z,58nm,1.7s
SVE Sverdlovsk 61.19 347 *e*P P 05 54 44.3 +0.8
SVE pmax pmax
comp=Z,34nm,1.2s
BJI Beijing 61.73 302 P P 05 54 47.7 +0.3
BJI S S 06 03 11.8 +1.8
BJI SS SS 06 07 13.8 +3.0
BJI pmax pmax
comp=Z,9.0nm,0.7s
BJI LR LR
comp=Z,680nm,13.7s
BJI LR LR
comp=Z,770nm,20.6s
ARU Arti 61.80 348 *c i*P P 05 54 47.6 -0.1
ARU 05 55 27.9
ARU 05 57 03.3
ARU S S 06 03 10.6 +0.2
ARU SS SS 06 07 06.1 -5.0
ARU pmax pmax
comp=Z,21nm,1.0s
ARU MLR MLR
comp=Z,425nm,18.0s
ARU Arti 61.80 348 P P 05 54 47.5 -0.1
HHC Hu-ho-hao-te 62.90 306 *e*P P 05 55 00.2 +4.8
HHC S S 06 03 26.4 +1.4
HHC SS SS 06 07 32.2 +2.9
HHC pmax pmax
comp=Z,6.0nm,0.7s
HHC pmax pmax
comp=Z,75nm,4.4s
HHC LR LR
comp=Z,690nm,17.0s
HHC LR LR
comp=Z,630nm,17.3s
HHC LR LR
comp=Z,940nm,16.2s
MOS Moscow 63.42 1 *e*P P 05 54 57.9 -0.5
MOS *e* 05 55 40.7
MOS pmax pmax
comp=Z,49nm,0.8s
BRVK Borovoye 63.54 340 *c i*P P 05 54 58.9 -0.4
BRVK pmax pmax
comp=Z,15nm,1.0s
OBN Obninsk 64.03 2↓ *i*P P 05 55 03.0 +0.6
OBN *e* 05 55 41.9
OBN *e* 05 57 24.8
OBN pmax pmax
comp=Z,14nm,0.4s
OBN MLR MLR
comp=Z,224nm,16.0s
KURK Kurchatov 64.18 334 *c i*P P 05 55 02.8 -0.7
KURK pmax pmax
comp=Z,17nm,1.3s
CLL Collm 65.85 18 *es*P sP 05 55 18.0 -1.3
comp=Z,6.0nm,0.8s
CLL *e*PP PP 05 57 42.0 +3.4
CLL *e*SS SS 06 08 30.0 +16
CLL Collm 65.85 18 *e*P sP 05 55 18.0 -1.3
CLL pmax pmax
comp=Z,6.0nm,0.8s
BRG Berggiesshubel 66.41 17 *e*P P 05 55 18.3 +0.3
comp=Z,5.9nm,1.0s
BRG *i* 05 55 25.6
comp=Z,15nm,1.4s
comp=N,270nm,19.7s
comp=E,226nm,20.9s
comp=Z,268nm,15.7s
BRG Berggiesshubel 66.41 17 *e*P P 05 55 18.3 +0.3
BRG *i* 05 55 25.6
BRG pmax pmax
comp=Z,6.0nm,1.0s
BRG pmax pmax
comp=Z,15nm,1.4s
BRG MLR MLR
comp=N,270nm,19.7s
BRG MLR MLR
comp=E,226nm,20.9s
BRG MLR MLR
comp=Z,268nm,15.7s
LPSR Galich'ya Gora 66.57 1 *e*P P 05 55 18.6 -0.4
LPSR pmax pmax
comp=Z,20nm,0.6s
NKC Novy Kostel 66.81 19 *e*P P 05 55 22.0 +1.4
NKC *ex* x 05 55 28.7
NKC AMS AMS 06 20 40.0
comp=Z,300nm,20.2s
NKC Novy Kostel 66.81 19 *e*P P 05 55 22.0 +1.4
NKC *e* 05 55 28.7
NKC MLR MLR
comp=Z,300nm,20.2s
PVCC Panska Ves 66.84 17 AMS AMS 06 20 20.0
comp=Z,300nm,18.4s
CHVC Chvalec 66.98 16 AMS AMS 06 20 20.0
comp=Z,200nm,18.4s
MKAR Makanchi Array 67.02 330 P P 05 55 21.1 -0.9
comp=Z,1.0nm,0.7s,baz=45,slow=7.5,SNR=8.4
OSTC Ostas 67.04 16 *e*P P 05 55 23.5 +1.5
OSTC AMS AMS 06 19 40.0
comp=Z,300nm,26.8s
UPC Upice 67.06 16 AMS AMS 06 19 40.0
comp=Z,200nm,22.3s
GRF Grafenberg Arr 67.14 20 *e*P P 05 55 28.6 +5.9
comp=Z,18nm,1.6s,baz=346,slow=5.8
DPC Dobruska-Polom 67.25 16 *e*P P 05 55 25.2 +1.8
DPC AMS AMS 06 20 30.0
comp=Z,200nm,21.8s
DPC Dobruska-Polom 67.25 16 *e*P P 05 55 25.2 +1.8
DPC MLR MLR
comp=Z,200nm,21.8s
PRU Pruhonice 67.36 17 AMS AMS 06 22 20.0
comp=Z,300nm,19.8s
NJ2 Nanjing 67.38 295 *e*P P 05 55 24.7 +0.3
NJ2 pmax pmax
comp=Z,21nm,0.7s
NJ2 LR LR
comp=Z,740nm,16.1s
NJ2 LR LR
comp=Z,1µm,15.2s
NJ2 LR LR
comp=Z,1µm,16.1s
GOPC GO Pecny, Ondr 67.47 17 AMS AMS 06 28 50.0
comp=Z,400nm,15.1s
KRLC Kraliky 67.58 16 *e*P P 05 55 26.8 +1.3
KRLC AMS AMS 06 20 10.0
comp=Z,200nm,21.0s
KRLC Kraliky 67.58 16 *e*P P 05 55 26.8 +1.3
KRLC MLR MLR
comp=Z,200nm,21.0s
VSR Storozhevoye 67.96 0 *e*P P 05 55 27.0 -0.8
VSR pmax pmax
comp=Z,40nm,1.3s
VRH Novokhopyorsk 67.96 359 *e*P P 05 55 27.2 -0.6
VRH pmax pmax
comp=Z,30nm,1.1s
MORC Moravsky Berou 67.97 15 ⇑P P 05 55 29.5 +1.5
MORC Moravsky Berou 67.97 15 *e*P P 05 55 28.4 +0.4
MORC Moravsky Berou 67.97 15 ⇑P P 05 55 29.5 +1.5
OKC Ostrava-Krasne 67.99 15 AMS AMS 06 20 30.0
comp=Z,200nm,16.6s
KHC Kasperske Hory 68.05 18 *e*P P 05 55 30.0 +1.5
KHC *ex* x 05 55 37.3
KHC AMS AMS 06 21 30.0
comp=Z,400nm,17.3s
KHC Kasperske Hory 68.05 18↓ *e*P P 05 55 30.3 +1.8
KHC pmax pmax
comp=Z,44nm,2.5s
AKASG Malin Array Be 68.16 7 P P 05 55 28.8 -0.3
comp=Z,25nm,0.9s,baz=357,slow=6.2,SNR=45
AKASG LR LR 06 28 53.7
comp=Z,191nm,18.0s,baz=350,slow=39
TREC Trest 68.17 17 AMS AMS 06 21 10.0
comp=Z,300nm,21.3s

VORD	Divnogorie	68.21	0	*e*P		P	05 55 28.7	-0.7	
VORD				pmax		pmax			
	comp=Z,10.0nm,0.9s								
VRAC	Vranov	68.31	16	⇑P		P	05 55 31.9	+1.8	
VRAC	Vranov	68.31	16	*e*P		P	05 55 30.6	+0.5	
VRAC	Vranov	68.31	16	⇑P		P	05 55 31.9	+1.8	
GERES	GERESS Array B	68.35	18	P		P	05 55 30.9	+0.4	
	comp=Z,0.4nm,0.4s,baz=2.3,slow=6.7,SNR=4.9								
WMQ	Urumqi	68.36	325	*e*P		P	05 55 31.2	+0.7	
WMQ				pP		sP	05 55 35.4	-0.1	
WMQ				PP		PP	05 55 03.3	+2.6	
WMQ				PcS			05 59 59.8		
WMQ				S		S	06 04 23.6	-7.9	
WMQ				pmax		pmax			
	comp=Z,14nm,1.1s								
WMQ				pmax		pmax			
	comp=Z,97nm,6.9s								
WMQ				LR		LR			
	comp=Z,300nm,20.7s								
WMQ				LR		LR			
	comp=Z,470nm,22.3s								
WMQ				LR		LR			
	comp=Z,640nm,21.5s								
KRUC	Moravsky	68.52	16	*e*P		P	05 55 32.0	+0.6	
GTA	Gaotai	68.53	314	⇑P		P	05 55 32.0	+0.3	
GTA				pP		pP	05 55 36.1	+0.6	
GTA				sP		sP	05 55 38.9	+2.0	
GTA				S		S	06 04 30.2	-3.6	
GTA				SS		SS	06 08 52.1	-4.6	
GTA				pmax		pmax			
	comp=Z,10.0nm,1.3s								
GTA				pmax		pmax			
	comp=Z,64nm,7.6s								
GTA				LR		LR			
	comp=Z,960nm,15.9s								
GTA				LR		LR			
	comp=Z,970nm,18.4s								
GTA				LR		LR			
	comp=Z,930nm,16.5s								
LVV	L'vov	68.64	11	*e*P		P	05 55 39.3	+7.2	
LANS	Liptovska Anna	68.83	14	*e*P		P	05 55 35.8	+2.5	
LANS				pmax		pmax			
	comp=Z,8.0nm,0.9s								
LANS	Liptovska Anna	68.83	14	*e*P		P	05 55 35.8	+2.5	
DAVA	Damuels	69.24	21	*i* sP		P	05 55 38.5	+2.4	
	comp=Z,4.6nm,0.7s								
MODS	Modra-Piesok	69.32	16	*e*P		P	05 55 37.0	+0.6	
MODS				pmax		pmax			
	comp=Z,12nm,1.1s								
MODS	Modra-Piesok	69.32	16	*e*P		P	05 55 37.0	+0.6	
MOTA	Moosalm	69.39	20	*i* sP		sP	05 55 40.9	-1.1	
	comp=Z,5.3nm,1.0s								
VYHS	Vyhne	69.40	15	*e*P		P	05 55 37.9	+1.0	
VYHS	Vyhne	69.40	15	*e*P		P	05 55 37.9	+1.0	
MOA	Molln	69.41	18	*i* pP		P	05 55 38.1	+1.2	
	comp=Z,4.9nm,1.0s								
WATA	Walderalm	69.48	20	*i* sP		P	05 55 39.4	+1.8	
	comp=Z,28nm,1.6s								
SQTA	Sankt Quirin	69.53	20	*i* sP		sP	05 55 44.1	+1.2	
	comp=Z,11nm,1.1s								
CONA	Conrad Observa	69.56	17	*i* pP		P	05 55 39.4	+1.5	
	comp=Z,11nm,0.9s								
WTTA	Wattenberg	69.56	20	*i* sP		P	05 55 40.0	+1.9	
	comp=Z,28nm,1.4s								
FETA	Feichten	69.64	21	*i* sP		sP	05 55 45.1	+1.5	
	comp=Z,7.0nm,1.0s								
UZH	Uzhgorod	69.65	12	⇓*i*P		P	05 55 41.2	+2.8	
UZH				*i*			05 55 44.0		
UZH				*i*			05 55 47.5		
UZH				*e*			05 55 58.8		
XAN	Xi'an	69.84	304	P		P	05 55 39.3	-0.5	
XAN				pmax		pmax			
	comp=Z,13nm,1.6s								
XAN				LR		LR			
	comp=Z,940nm,14.1s								
XAN				LR		LR			
	comp=Z,2μm,15.7s								
XAN				LR		LR			
	comp=Z,1μm,14.7s								
LZH	Lanzhou	70.01	309	*e*P		P	05 55 41.6	+0.6	
LZH				pP		sP	05 55 46.6	+0.4	
LZH				sP		pP	05 55 49.8	+5.0	
LZH				SS		SS	06 09 16.4	-3.4	
LZH				pmax		pmax			
	comp=Z,40nm,1.1s								
LZH				pmax		pmax			
	comp=Z,110nm,6.0s								
LZH				LR		LR			
	comp=Z,1μm,17.9s								
LZH				LR		LR			
	comp=Z,1μm,17.5s								
LZH				LR		LR			
	comp=Z,1μm,18.2s								
KBA	Koelnbreinsper	70.02	19	*i* pP		P	05 55 42.3	+1.4	
	comp=Z,8.1nm,0.7s								
PSZ	Piszkesteto	70.09	14	⇓P		P	05 55 42.8	+1.6	
PSZ	Piszkesteto	70.09	14	⇓P		P	05 55 42.8	+1.6	
TRPA	Tarpa	70.17	12	⇑P		P	05 55 43.4	+1.8	
ARSA	Arzberg	70.17	17	*i* P		P	05 55 38.3	-3.4	
	comp=Z,3.6nm,0.8s								
ABTA	Abfaltersbach	70.21	20	*i* pP		P	05 55 43.6	+1.6	
	comp=Z,12nm,1.2s								
MYKA	Terra Mystica	70.50	19	*i* sP		sP	05 55 48.0	-0.7	
	comp=Z,5.1nm,1.0s								
SORM	Soroca	70.66	8	⇑P		P	05 55 44.4	-0.2	
SORM	Soroca	70.66	8	⇑P		P	05 55 44.4	-0.2	
SOKA	Soboth	70.66	18	*i* pP		P	05 55 45.6	+0.8	
	comp=Z,5.1nm,1.1s								
OBKA	Obir	70.76	18	*i* pP		P	05 55 45.3	0.0	
	comp=Z,11nm,0.8s								
BUR08	Bucovina Ar. S	70.90	10	IAmb		IAmb	05 56 04.7		
	comp=Z,16nm,1.2s								
BURAR	Bucovina Array	70.93	10	⇓P		P	05 55 47.4	+1.0	
BURAR	Bucovina Array	70.93	10	⇓P		P	05 55 47.4	+1.0	
SMLC	San Martn de	70.98	107	*e*P		P	05 55 47.0	+0.1	
DRGR		71.51	12	⇓P		P	05 55 50.8	+0.9	
DRGR		71.51	12	⇓P		P	05 55 50.8	+0.9	
BIZ	Bicaz	71.68	10	⇓P		P	05 55 51.7	+0.9	
KIS	Kishinev	71.82	8	*e*P		PcP	05 56 11.0	+0.5	
SIRR	Siria	71.92	13	⇑P		P	05 55 54.7	+2.4	
TESR	Tescani	72.15	9	⇑P		P	05 55 54.2	+0.5	
SDV	Santo Domingo	72.51	104	P		P	05 55 56.5	+0.1	
	comp=Z,6.1nm,0.7s,baz=293,slow=4.7,SNR=6.8								
SDV	Santo Domingo	72.51	104	IAmb		IAmb	05 56 03.9		
	comp=Z,10nm,0.9s								
BZS	Buzias	72.56	13	⇑P		P	05 55 56.7	+0.6	
BZS	Buzias	72.56	13	⇑P		P	05 55 56.7	+0.6	
HELC	Santa Helena	72.60	110	*e*P		P	05 55 58.0	+0.8	
CBOC	Ciudad Bolivar	72.67	110	*e*P		P	05 55 57.9	+0.6	
AAK	Ala-Archa	72.74	334	P		P	05 55 57.2	-0.2	
	comp=Z,3.7nm,0.9s,baz=14,slow=6.3,SNR=2.9								
AAK	Ala-Archa	72.74	334	*c i*P		P	05 55 57.5	+0.1	
AAK				pmax		pmax			
	comp=Z,8.0nm,1.3s								
PTBC	PUERTO BERRIO,	72.79	108	*e*P		P	05 55 57.6	-0.2	
VRI	Vrincioaia	72.80	9	⇑P		P	05 55 58.7	+1.2	
VRI	Vrincioaia	72.80	9	⇑P		P	05 55 58.7	+1.2	
PLOR	Plostina	72.81	10	⇑P		P	05 55 59.0	+1.4	
PLOR	Plostina	72.81	10	⇑P		P	05 55 59.0	+1.4	
PAMC	Pamplona, Colo	72.89	106	*e*P		P	05 55 59.5	+0.5	
GZR	Gura Zlata	72.90	12	⇑P		P	05 55 59.5	+1.3	
GZR	Gura Zlata	72.90	12	⇑P		P	05 55 59.5	+1.3	
VOIR		73.08	11	⇑P		P	05 56 00.3	+1.1	
VOIR		73.08	11	⇑P		P	05 56 00.3	+1.1	
MLR	Muntele Rosu	73.11	10	⇑P		P	05 56 01.3	+1.8	
MLR	Muntele Rosu	73.11	10	⇑P		P	05 56 01.3	+1.8	
MLR	Muntele Rosu	73.11	10	IAmb		IAmb	05 56 12.5		
	comp=Z,8.5nm,0.8s								
ARR	Arges	73.11	11	⇑P		P	05 56 00.9	+1.5	
BARC	Barichara	73.33	107	*e*P		P	05 56 00.2	-1.1	
HERR	Herculane	73.37	13	⇑P		P	05 56 01.8	+0.9	
MDVR	Moldovita	73.39	13	⇑P		P	05 56 02.1	+1.0	
ESDC	Sonseca Array	73.40	34	P		P	05 56 02.2	+0.9	
	comp=Z,3.1nm,0.9s,baz=334,slow=6.7,SNR=14								
NORC	Norcasia	73.46	109	*e*P		P	05 56 02.2	+0.4	
GUY2C	Guyana, Caldas	73.53	110	*e*P		P	05 56 03.8	+1.0	
CFR	Carcaliu	73.59	8	⇑P		P	05 56 03.0	+0.9	
CFR	Carcaliu	73.59	8	⇑P		P	05 56 03.0	+0.9	
SPBC	San Pablo de B	73.74	108	*e*P		P	05 56 06.3	+2.8	
RUSC	La Rusia	73.99	107	*e*P		P	05 56 05.3	-0.2	
HARR	Harsova	74.06	9	⇑P		P	05 56 05.8	+0.9	
HARR	Harsova	74.06	9	⇑P		P	05 56 05.8	+0.9	
GOF	Gofitskoye	74.09	358	⇑*e*P		P	05 56 05.0	-0.1	
GOF				pmax		pmax			
	comp=Z,102nm,0.9s								
TOLC	Tolima	74.11	110	*e*P		P	05 56 05.7	-0.4	
YOTC	Yotoco, Valle	74.18	111	*e*P		P	05 56 06.2	0.0	
ROSC	El Rosal	74.35	109	P		P	05 56 09.6	+2.2	
	comp=Z,6.2nm,0.7s,baz=14,slow=14,SNR=5.1								
CD2	Chengdu	74.64	307	P		P	05 56 09.0	+0.4	
CD2				pmax		pmax			
	comp=Z,30nm,0.7s								
CHIC	Chingaza	74.80	109	*e*P		P	05 56 14.8	+4.7	
KIV	Kislovodsk	75.20	358	⇑P		P	05 56 12.3	+0.6	
KIV	Kislovodsk	75.20	358	*c i*P		P	05 56 12.0	+0.3	
KIV				*e*			05 56 25.7		
KIV				*e*			05 58 58.8		
KIV				*i* S		S	06 05 49.6	-0.7	
KIV				pmax		pmax			
	comp=Z,33nm,1.0s								
KIV				MLR		MLR			
	comp=Z,185nm,19.0s								
KSH	Kashi	75.39	332	*e*P		P	05 56 15.8	+2.9	
KSH				pP		sP	05 56 20.8	+2.9	
KSH				pmax		pmax			
	comp=Z,26nm,1.1s								
KSH				pmax		pmax			
	comp=Z,190nm,5.0s								
KSH				LR		LR			
	comp=Z,330nm,12.4s								
KSH				LR		LR			
	comp=Z,390nm,12.8s								
KSH				LR		LR			
	comp=Z,740nm,14.1s								
PDG	Podgorica	75.42	15	⇑P		P	05 56 13.5	+0.7	
PDG	Podgorica	75.42	15	IAmb		IAmb	05 56 25.1		
	comp=Z,24nm,1.1s								
KBZ	Khabaz	75.42	358	P		P	05 56 13.5	+0.7	
	comp=Z,20nm,0.9s,baz=343,slow=4.5,SNR=29								
KBZ				LR		LR	06 33 56.0		
	comp=Z,144nm,20.2s,baz=354,slow=39								
SOC	Sochi	75.60	360	*e*P		P	05 56 12.8	-1.0	
SOC				*e*			05 59 10.7		
SOC				*e*S		S	06 05 54.6	+0.1	
SOC				*e*SS		SS	06 10 50.6	+6.5	
SOC				pmax		pmax			
	comp=Z,10.0nm,0.7s								
SOC				MLR		MLR			
	comp=Z,226nm,15.0s								
PCON	Cinco Dias	75.63	112	*e*P		P	05 56 16.3	+1.3	
SOTA	Rioblanco	75.70	112	*e*P		P	05 56 16.4	+1.0	
BTK	Batken	75.98	336	IAmb		IAmb	05 56 17.4		
	comp=Z,23nm,1.2s								
ZEI	Tsey	76.33	357	*e*P		P	05 56 17.8	-0.5	
ZEI				pmax		pmax			
	comp=Z,13nm,1.1s								
FLOC	Florencia	76.62	112	*e*P		P	05 56 19.6	-0.5	
PUAC	Puerto Asis, P	77.13	113	*e*P		P	05 56 23.5	+0.6	
FNA	Florina	77.30	14	IAmb		IAmb	05 56 35.2		
	comp=Z,17nm,0.9s								
TBLG	Delisi	77.36	356	IAmb		IAmb	05 56 25.3		
	comp=Z,18nm,1.0s								
GYA	Guiyang	77.43	302	P		P	05 56 24.8	+0.2	
GYA				S		S	06 06 10.1	-5.2	
GYA				pmax		pmax			
	comp=Z,13nm,1.1s								
GYA				pmax		pmax			
	comp=Z,79nm,3.1s								
GYA				LR		LR			
	comp=Z,680nm,17.9s								
GYA				LR		LR			
	comp=Z,1μm,22.8s								
GYA				LR		LR			
	comp=Z,660nm,17.6s								
DIKM	Dikmen	77.47	3	⇑P		P	05 56 24.3	-0.2	
AKT	Akhty	77.49	354	*e*P		P	05 56 25.0	+0.3	
AKT				*e*			05 56 35.6		
AKT				pmax		pmax			
	comp=Z,20nm,1.2s								
LIT	Litokhoron	78.10	13	IAmb		IAmb	05 56 36.1		
	comp=Z,21nm,1.0s								
BRTR	Keskin Array B	79.33	5	P		P	05 56 35.2	+0.2	
	comp=Z,7.0nm,0.9s,baz=8.5,slow=2.5,SNR=19								
BRTR				LR		LR	06 33 53.0		
	comp=Z,110nm,19.9s,baz=344,slow=37								
GEYT	Alibeck	80.10	345	P		P	05 56 39.5	+0.4	
	comp=Z,7.0nm,0.9s,baz=328,slow=5.3,SNR=11								
GEYT				LR		LR	06 34 28.7		
	comp=Z,170nm,21.9s,baz=200,slow=38								
KMI	Kunming	80.20	305	P		P	05 56 40.1	+0.1	
KMI				S		S	06 06 31.4	-14	
KMI				sS		SKKSac	06 06 59.1	-0.7	
KMI				pmax		pmax			
	comp=Z,10.0nm,0.6s								
KMI				pmax		pmax			
	comp=Z,110nm,3.4s								
KMI				LR		LR			
	comp=Z,690nm,15.9s								
KMI				LR		LR			
	comp=Z,1μm,18.8s								
KMI				LR		LR			
	comp=Z,880nm,15.9s								
BALP	Baler	80.22	285	*e*P		P	05 56 38.6	-1.3	
SMPP	San Manuel, Pa	80.28	286	*e*P		P	05 56 39.7	-0.5	
KEST	Kesra	80.31	25	P		P	05 56 41.6	+1.3	
	comp=Z,8.7nm,1.0s,baz=320,slow=6.8,SNR=6.8								
PVCP	Virac	80.86	281	*e*P		P	05 56 43.1	-0.3	
NIL	Nilore	81.63	332	IAmb		IAmb	05 56 47.7		
	comp=Z,18nm,1.0s								
TGY	Tagaytay City	81.94	284	P		P	05 56 49.7	+0.5	
	comp=Z,109nm,0.3s,baz=86,slow=19,SNR=3.3								
QIZ	Qiongzhong	82.66	296	P		P	05 56 49.5	-3.3	
QIZ				S		S	06 07 07.2	-3.1	
QIZ				LR		LR			
	comp=Z,380nm,16.4s								
QIZ				LR		LR			
	comp=Z,360nm,21.7s								
QIZ				LR		LR			
	comp=Z,430nm,24.1s								
OTRP	Odiongan	82.94	283	*e*P		P	05 56 55.0	+0.7	
ENPP	El Nido	85.17	284	*e*P		P	05 57 06.2	+0.5	
BUKP	Musuan	85.39	278	*e*P		P	05 57 07.8	+1.0	
PTGA	Pitinga	85.97	99	P		P	05 57 10.6	+0.9	
	baz=333,slow=8.1								
PTGA	Pitinga	85.97	99	IAmb		IAmb	05 57 13.6		
	comp=Z,18nm,1.2s								
KCP	Kidapawan	86.13	277	⇓*e*P		P	05 57 13.5	+3.0	
CMAR	Chiang Mai Arr	87.70	305	*i* P		P	05 57 18.2	+0.1	
	comp=Z,5.7nm,0.6s,baz=359,slow=5.8,SNR=26								
CMAR	Chiang Mai Arr	87.70	305	*i* P		P	05 57 18.7	+0.6	
CMAR				pmax		pmax			
	comp=Z,7.0nm,0.7s								
RAYN	Ar Rayn	95.47	355	IAmb		IAmb	05 58 01.8		
	comp=Z,9.9nm,1.1s								
HYB	Hyderabad	95.74	323	*i* P		P	05 57 57.0	+1.5	
SBUM	Sibu	96.21	287	IAmb		IAmb	05 57 60.0		
	comp=Z,5.6nm,0.9s								
TORD	Torodi Ar. Bea	100.04	38	LR		LR	06 42 58.1		
	comp=Z,208nm,18.6s,baz=285,slow=35								
NWAO	Narrogin (SRO)	124.14	263	PKP		PKPdf	06 03 27.1	-0.2	
	comp=Z,5.7nm,0.8s,baz=94,slow=9.1,SNR=1.6								
NWAO	Narrogin (SRO)	124.14	263	PKPdf		PKPdf	06 03 26.2	-1.1	
VNDA	Vanda	142.91	198	PKP		PKPdf	06 03 59.9	-1.2	
	comp=Z,1.2nn,1.0s,baz=358,slow=2.2,SNR=4.6								
BOSA	Boshof	146.03	23	PKPbc		PKPdf	06 04 08.2	+0.1	
	comp=Z,20nm,0.9s,baz=332,slow=4.4,SNR=16								
BOSA	Boshof	146.03	23			PKPab	06 04 09.2	-0.2	
QSPA	South Pole Qui	150.99	180			PKiKP	06 04 21.3	+0.1	
VNA3	Neumayer Olymp	158.40	138	PKPab		PKPab	06 05 00.8	+1.0	
SNAA	Sanae	160.52	140	PKPab		PKPab	06 05 09.7	+0.7	
SYO	Syowa Base	172.13	180	⇓*e*PKPdf		pPKPdf	06 04 39.0	-1.2	

*NEIC **05** 05:44:58.8±1.3, 19°.90S×0°.02×71°.10W×0°.07, h15km±6km, mb4.4/1, Mwr4.2/28, ML3.7(GUC), Error ellipse: s-maj=9.9km s-min=2.5km az=89.0*

*NEIC **05** 05:44:58.8, 19°.90S×71°.10W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.01; $M_{\theta\theta}$0.32; $M_{\phi\phi}$-2.33; $M_{r\theta}$0.81; $M_{\theta\phi}$0.47; $M_{r\phi}$-1.10; Fault plane solution: M_o2.63000×10^{15} NP1:ϕ_s155.21000°, δ61.33000°, λ73.42000°. NP2:ϕ_s7.03000°, δ32.76000°, λ117.56000°. Principal axes: T 2.4956, Plg69.0000°, Azm31.0000°; N 0.2446, Plg15.0000°, Azm163.0000°; P -2.7402, Plg15.0000°, Azm257.0000°;*

*GUC **05** 05:45:00.4±0.8, 19°.91S×71°.11W, h32km±2km, ML3.8*

*IDC **05** 05:45:03.7±6.7, 19°.78S×70°.71W, h40km±50km, mb4.0/2, mb1 4.1/3, mb1mx3.6/29, mbtmp4.2/3, ML3.5/1, MS4.2/1, Ms1 4.2/1, ms1mx3.2/22, Error ellipse: s-maj=77.1km s-min=27.8km az=82.0*

ISC 05 05:44:57.3±1.7, **19°.90S**±0°.03×**71°.13W**±0°.06, **h9**km±10km, **n49**, σ1**09**/58, **4C-1D**, **Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PSGC	Pisagua	0.99	72	⇓*i*P		Pb	05 45 16.6	-0.2
PSGC				*i* S		Sb	05 45 29.4	-0.6
PSGC				IAML			05 45 32.2	
	comp=E,2μm,0.4s							
PSGCX	Pisagua	0.99	72	Pg		Pb	05 45 16.9	+0.1
PSGCX				Sg		Sb	05 45 30.0	0.0
TA02	Huaiquique	1.01	112	*i* P		Pb	05 45 17.4	+0.4
TA02				*i* S		Sb	05 45 30.9	+0.6
TA01	Diego Aracena	1.11	127	⇑*i*P		Pg	05 45 18.9	+0.3
TA01				*i* S		Sg	05 45 32.5	-0.5
TA01				IAML			05 45 33.8	
	comp=E,3μm,0.3s							
TA01	Diego Aracena	1.11	127			Pg	05 45 18.9	+0.3
TA01				Sg		Sg	05 45 33.0	-0.1
PATCX	Punta Patache	1.29	135	⇑*i*P		Pn	05 45 21.6	-0.1
PATCX				*i* S		Sg	05 45 38.0	-1.0
PATCX				IAML			05 45 46.1	
	comp=N,1μm,0.6s							
PATCX	Punta Patache	1.29	135			Pn	05 45 21.9	+0.2
PB11	IPOC Station P	1.39	85	⇑*i*P		Pn	05 45 23.2	+0.1
PB11				*i* S		Sb	05 45 40.9	-0.7
PB11				IAML			05 45 42.6	
	comp=N,4μm,0.2s							
PB11	IPOC Station P	1.39	85			Pn	05 45 23.3	+0.2
PB12	IPOC Station P	1.49	31	⇑*i*P		Pn	05 45 24.7	+0.4
PB12				*i* S		Sg	05 45 44.4	-0.8
PB12	IPOC Station P	1.49	31	Pn		Pn	05 45 24.9	+0.6
MNMC	Minye Minye	1.64	62	*e*P		Pb	05 45 27.5	-0.3
MNMC				*i* S		Sb	05 45 48.5	-0.2
MNMC				IAML			05 45 55.9	
	comp=E,4μm,0.4s							
MNMC	Minye Minye	1.64	62			Pb	05 45 27.7	-0.1
AP01	Chacalluta	1.69	26	*e*P		Pn	05 45 27.7	+0.7
AP01				*i* S		Sn	05 45 49.5	+0.6
AP01	Chacalluta	1.69	26			Pn	05 45 27.7	+0.7
PB02	IPOC Station P	1.82	141	*e*P		Pn	05 45 29.4	+0.5
PB02				*i* S		Sn	05 45 51.0	-1.3
PB02				IAML			05 46 01.3	
	comp=E,2μm,0.3s							
GO01	Chusmiza	1.84	83	*e*P		Pn	05 45 30.1	+0.7
GO01				*i* S		Sb	05 45 53.8	-0.9
GO01	Chusmiza	1.84	83	Pn		Pn	05 45 30.4	+0.9
PB08	IPOC Station P	1.87	98	*e*P		Pn	05 45 30.7	+0.8
PB08				*i* S		Sn	05 45 54.7	+0.9
PB08				IAML			05 45 56.4	
	comp=N,894nm,0.2s							
PB08	IPOC Station P	1.87	98	Pn		Pn	05 45 30.7	+0.8
PB01	IPOC Station P	1.91	127	*e*P		Pn	05 45 30.7	+0.5
PB01				*i* S		Sn	05 45 53.9	-0.6
PB01				IAML			05 46 03.5	
	comp=E,2μm,0.2s							
PB01	IPOC Station P	1.91	127	Pn		Pn	05 45 31.0	+0.9
PB07	IPOC Station P	2.16	148	*e*P		Pn	05 45 34.0	+0.4
PB07				*i* S		Sn	05 45 58.4	-2.2
PB03	IPOC Station P	2.49	149	*e*P		Pn	05 45 38.9	+0.6
PB09	IPOC Station P	2.58	137	*e*P		Pn	05 45 41.1	+1.6
PB09				*e*S		Sn	05 46 12.1	+1.0
PB09				IAML			05 46 26.6	
	comp=E,964nm,0.6s							
PB09	IPOC Station P	2.58	137	Pn		Pn	05 45 41.3	+1.8
PB04	IPOC Station P	2.59	159	*e*P		Pn	05 45 39.6	+0.1
PB04				*e*S		Sn	05 46 08.1	-3.1
PB04				IAML			05 46 10.7	
	comp=E,384nm,0.5s							
PB04	IPOC Station P	2.59	159	Pn		Pn	05 45 41.0	+1.4
PB06	IPOC Station P	3.15	153	Pn		Pn	05 45 47.6	+0.4
LVC	Limon Verde	3.40	143	P		Pn	05 45 52.8	+1.9
	comp=E,5.0nm,0.3s,baz=330,slow=12,SNR=1.5							
LVC				S		Sn	05 46 31.1	-0.4
	comp=E,19nm,0.3s,baz=288,slow=20,SNR=7.0							
LVC	Limon Verde	3.40	143			Pn	05 45 53.0	+2.1
PB10	IPOC Station P	3.63	172	Pn		Pn	05 45 53.6	-0.2
PB10				Sn		Sn	05 46 35.2	-1.6
PB15	IPOC Station P	3.63	155	Pn		Pn	05 45 57.2	+3.2
GO02	Mina Guanaco	5.43	165	Pn		Pn	05 46 20.2	+1.5
GO02				Sn		Sn	05 47 22.8	+1.3
H03N1	Juan Fernandez	15.17	206	T		T	06 04 15.3	
	baz=31							
H03N2	Juan Fernandez	15.17	206	T		T	06 04 32.3	
	baz=31							
H03N3	Juan Fernandez	15.18	206	T		T	06 04 24.6	
	baz=31							
PTGA	Pitinga	21.96	31	P		P	05 49 50.9	-0.7
	comp=E,2.7nm,0.3s,baz=202,slow=18,SNR=5.6							
PTGA	Pitinga	21.96	31	IAmb		IAmb	05 50 01.4	
	comp=Z,22nm,1.4s							
TEIG	Tepich	43.27	336	LR		LR	06 11 29.7	
	comp=Z,328nm,21.8s,baz=319,slow=37							
TORD	Torodi Ar. Bea	78.80	72	P		P	05 57 00.6	-0.5
	comp=Z,1.4nm,0.6s,baz=251,slow=5.3,SNR=14							
H11S2	WAKE ISLAND Hyl	25.60	279	T		T	08 23 23.2	
	baz=101							
H11S1	WAKE ISLAND Hyl	25.61	279	T		T	08 23 34.2	
	baz=101							
H11S3	WAKE ISLAND Hyl	25.62	279	T		T	08 23 27.1	
	baz=101	

CHX	**Chaix Hills**	**1.19**	**201**		**Pg**	05 51 50.4	**+0.3**
YUK7	**Dusty Glacier**	**1.23**	**121**	P	**Pb**	05 51 49.9	**-1.0**
YUK7				S	**Sg**	05 52 06.9	**+0.2**
YUK7	**Dusty Glacier**	**1.23**	**121**		**Pb**	05 51 50.2	**-0.6**
YUK7					**Sn**	05 52 07.8	**-0.2**
BVCY	**Beaver Creek**	**1.27**	**348**	P	**Pn**	05 51 50.4	**-1.2**
BVCY				S	**Sn**	05 52 08.6	**-0.4**
BVCY	**Beaver Creek**	**1.27**	**348**		**Pn**	05 51 50.8	**-0.7**
MESA	**MESA**	**1.29**	**220**	P	**Pn**	05 51 51.4	**-0.5**
MESA				S	**Sn**	05 52 09.5	**-0.2**
MESA	**MESA**	**1.29**	**220**		**Pg**	05 51 52.4	**+0.4**
HYT	**Haines Junctio**	**1.40**	**103**	Pn	**Pb**	05 51 53.4	**-0.3**
HYT				Sg	**Sg**	05 52 12.0	**0.0**
HYT	**Haines Junctio**	**1.40**	**103**		**Pg**	05 51 54.0	**0.0**
HYT					**Pb**	05 51 54.5	**+0.8**
HYT	**Haines Junctio**	**1.40**	**103**		**Sg**	05 52 12.8	**+0.7**
WAX	**Waxell Ridge**	**1.46**	**241**	Pn	**Pn**	05 51 54.1	**+0.1**
WAX					**Sg**	05 52 14.1	**+0.1**
KULT	**Kultieth River**	**1.52**	**233**		**Pb**	05 51 55.9	**+0.1**
VRDI	**Verde Repeater**	**1.54**	**273**		**Pn**	05 51 55.6	**+0.3**
VRDI	**Verde Repeater**	**1.54**	**273**		**Sg**	05 52 16.5	**-0.1**
PNL	**Peninsula**	**1.57**	**164**	Pn	**Pb**	05 51 56.6	**0.0**
PNL				Sg	**Sg**	05 52 17.7	**0.0**
PNL	**Peninsula**	**1.57**	**164**		**Pb**	05 51 56.9	**+0.2**
PNL					**Sg**	05 52 20.1	**+2.4**
KHIT	**Khitrov Hills**	**1.63**	**245**		**Pb**	05 51 57.7	**0.0**
GLB	**Gilahina Butte**	**1.73**	**280**		**Pn**	05 51 58.2	**+0.5**
GLB					**Sb**	05 52 21.7	**+0.5**
GRIN	**Grindle Hills**	**1.74**	**240**		**Pb**	05 51 58.8	**-0.8**
GRIN					**Sg**	05 52 22.9	**-0.3**
BC03		**2.03**	**340**		**Pb**	05 52 03.0	**-1.3**
RAGM	**Ragged Mountai**	**2.30**	**252**		**Pn**	05 52 06.3	**+0.7**
DHAK	**Deception Hill**	**2.33**	**153**		**Pn**	05 52 06.7	**+0.7**
MENT	**Mentasta**	**2.40**	**319**	Pn	**Pn**	05 52 07.5	**+0.5**
PLBC	**Pleasant Camp**	**2.60**	**130**	Pg	**Pb**	05 52 14.2	**+0.1**
PLBC				Sg	**Sg**	05 52 49.3	**-1.4**
WHY	**Whitehorse**	**2.69**	**99**	Pg	**Pb**	05 52 15.7	**+0.1**
WHY				Sg	**Sg**	05 52 51.6	**-1.8**
WHY	**Whitehorse**	**2.69**	**99**		**Pn**	05 52 11.0	**0.0**
EYAK	**Cordova Ski Ar**	**2.75**	**259**		**Pn**	05 52 10.9	**-0.8**
DAWY	**Dawson**	**2.93**	**8**	Pn	**Pn**	05 52 15.0	**+0.7**
DAWY				Sg	**Sb**	05 52 58.0	**+2.1**
DOT	**Dot Lake**	**3.04**	**326**	Pn	**Pn**	05 52 16.4	**+0.6**
DOT	**Dot Lake**	**3.04**	**326**	Pn	**Pn**	05 52 16.4	**+0.6**
JPK	**Jack Peak**	**3.07**	**271**		**Pn**	05 52 17.9	**+1.8**
HIN	**Hinchinbrook I**	**3.15**	**258**		**Pn**	05 52 19.0	**+1.7**
SCRK	**Sand Creek**	**3.29**	**330**	Pn	**Pn**	05 52 19.8	**+0.4**
GLI	**Glacier Island**	**3.33**	**268**		**Pn**	05 52 20.6	**+0.8**
EGAK	**Eagle**	**3.64**	**354**		**Pn**	05 52 25.5	**+1.5**
KNK	**Knik Glacier**	**3.96**	**277**	Pn	**Pn**	05 52 29.2	**+0.9**

NEIC ***05*** *05:51:32.6±2.5, 6°.64S±0°.07×106°.10E±0°.06, h148km±7km, mb4.4/12, Error ellipse: s-maj=10.9km s-min=8.0km az=209.0*

IDC ***05*** *05:51:33.9±2.9, 6°.44S×106°.09E, h142km±17km, mb3.6/5, mb1 3.7/6, mb1mx3.3/39, mbtmp4.0/6, Error ellipse: s-maj=72.5km s-min=16.6km az=51.0*

ISC 05 05:51:34.8±0.6, **6°.35S**±0°.10×**106°.26E**±0°.08, **h150**km, **n41,** σ1°**66**/41, **mb4.2**/10, **Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**1.43**	**109**	P	**Pn**	**05 52 03.6**	**-0.1**
	218nm,0.3s,baz=210,slow=9.3,SNR=45						
LEM				S	**Sn**	**05 52 23.9**	**-2.0**
	61nm,0.3s,baz=342,slow=20,SNR=11						
LEM				LR	LR	05 52 56.1	
	comp=Z,121nm,20.6s,baz=234,slow=53						
CISI	**Cisompet, Garu**	**1.95**	**128**		**Pn**	**05 52 07.5**	**-2.0**
CISI				Sn	**Sn**	**05 52 33.0**	**-3.1**
MNAI	**Manna**	**3.84**	**301**		**Pn**	**05 52 33.7**	**+0.8**
MNAI				Sn	**Sn**	**05 53 15.4**	**-2.7**
XMIS	**Christmas Isla**	**4.14**	**188**		Pn	05 52 30.4	-6.6
XMIS				Sn	Sn	05 53 14.3	-11
UGM	**Wanagama**	**4.51**	**110**		**Pn**	**05 52 40.7**	**-1.1**
UGM				Sn	**Sn**	**05 53 30.8**	**-3.0**
JAGI	**Jajag, Banyuwa**	**8.11**	**106**		**Pn**	**05 53 28.5**	**-1.1**
GSI	**Gunungsitoli**	**11.53**	**311**		**Pn**	**05 54 11.5**	**-3.6**
RPSI	**Rantau Prapat**	**11.59**	**321**		**Pn**	**05 54 14.7**	**-1.2**
RPSI	**Rantau Prapat**	**11.59**	**321**	Pn	**Pn**	**05 54 14.9**	**-1.0**
PSI	**Prapat**	**11.68**	**321**	P	**Pn**	**05 54 14.7**	**-2.4**
	1.3nm,0.3s,baz=179,slow=9.3,SNR=2.4						
BATI	**Baumata**	**17.64**	**104**	P	**Pn**	**05 55 32.8**	**+1.2**
	21nm,0.3s,baz=359,slow=1.1,SNR=8.7						
BATI				S	**S**	05 58 45.9	-0.3
	5.6nm,0.3s,baz=24,slow=20,SNR=2.0						
GIRL	**Giralia**	**17.93**	**155**	P	**Pn**	**05 55 35.6**	**+0.8**
PSA00	**Pilbara Seismi**	**20.04**	**140**	P	**P**	**05 55 56.8**	**+0.5**
PSA00				IAmb	IAmb	05 55 58.9	
	comp=Z,37nm,1.4s						
FITZ	**Fitzroy Crossi**	**22.22**	**123**	P	**P**	**05 56 19.9**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=317,slow=9.5,SNR=1.4						
FITZ				S	**S**	**06 00 17.0**	**+3.8**
	comp=Z,4.9nm,1.1s,baz=198,slow=20,SNR=1.7						
TNTI	**Ternate**	**22.23**	**72**	P	**P**	**05 56 19.1**	**-0.4**
CNOP	**Candoni, Negro**	**22.91**	**46**	*eP*	**P**	**05 56 28.2**	**+2.4**
MTN	**Manton Dam**	**25.34**	**107**	P	**P**	**05 56 48.8**	**+0.8**
LQP	**Lukban**	**25.36**	**37**	*eP*	**P**	**05 56 48.5**	**+0.1**
H01W3	**Cape Leeuwin H**	**29.31**	**167**	T	T	06 27 29.3	
	baz=340,slow=79,SNR=24						
H01W1	**Cape Leeuwin H**	**29.32**	**167**	T	T	06 27 27.2	
	baz=340,slow=79,SNR=16						
H01W2	**Cape Leeuwin H**	**29.32**	**167**	T	T	06 27 26.8	
	baz=340,slow=79,SNR=28						
WB0	**Warramunga Arr**	**30.41**	**119**	P	**P**	**05 57 33.8**	**+0.7**
WB0				IAmb	IAmb	05 57 38.4	
	comp=Z,7.7nm,1.2s						
WRA	**Warramunga Arr**	**30.43**	**119**	P	**P**	**05 57 33.2**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=315,slow=9.5,SNR=12						
WB2	**Warramunga Arr**	**30.44**	**119**	P	**P**	**05 57 33.8**	**+0.4**
WB2				IAmb	IAmb	05 57 39.9	
	comp=Z,6.0nm,1.2s						
ASAR	**Alice Springs**	**31.66**	**126**	P	**P**	**05 57 44.7**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=302,slow=8.1,SNR=12						
ASAR				S	**S**	**06 02 40.8**	**-1.8**
	comp=Z,1.1nm,0.9s,baz=303,slow=15,SNR=7.1						
SSLB	**Suanglung**	**33.22**	**25**	P	**P**	**05 57 56.7**	**-1.0**
SSLB				IAmb	IAmb	05 58 05.7	
	comp=Z,7.4nm,1.1s						
H08S2	**Diego Garcia H**	**33.53**	**266**	T	T	06 32 32.3	
	baz=90,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**33.54**	**266**	T	T	06 32 33.0	
	baz=90,slow=76,SNR=11						
H08S1	**Diego Carcia H**	**33.55**	**266**	T	T	06 32 33.8	
	baz=90,slow=76,SNR=14						
CTAO	**Charters Tower**	**41.13**	**113**	P	**P**	**05 59 05.3**	**+0.9**
CTAO				IAmb	IAmb	05 59 18.2	
	comp=Z,24nm,1.5s						
STKA	**Stephens Creek**	**41.62**	**132**	P	**P**	**05 59 09.0**	**+0.7**
	comp=Z,4.3nm,0.4s,baz=311,slow=8.0,SNR=20						
STKA	**Stephens Creek**	**41.62**	**132**	P	**P**	**05 59 09.4**	**+1.1**
BJT	**Baijiatuau**	**47.04**	**10**	P	**P**	**05 59 51.5**	**+0.4**
TOO	**Toolangi**	**47.27**	**137**	P	**P**	**05 59 53.8**	**+0.6**
TOO				IAmb	IAmb	06 00 02.3	
	comp=Z,9.2nm,1.2s						
KSH	**Kashi**	**53.54**	**331**	PKPbc	**P**	**06 00 43.9**	**+3.6**
SONM	**Songino Array**	**53.95**	**0**	P	**P**	**06 00 43.4**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=187,slow=9.4,SNR=4.9						
TIXI	**Tiksi**	**79.26**	**7**	P	**P**	**06 03 22.1**	**-0.8**
YKA	**Yellowknife Ar**	**116.51**	**20**	PKP	**PKiKP**	**06 10 00.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=332,slow=1.1,SNR=1.9						
PDAR	**Pinedale Array**	**131.91**	**35**	PKP	**PKiKP**	**06 10 31.9**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=318,slow=1.2,SNR=2.9						
TXAR	**Lajitas Array**	**143.68**	**47**	PKP	**PKPdf**	**06 10 51.8**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=284,slow=0.2,SNR=7.9						
TKL	**Tuckaleechee C**	**149.41**	**16**	PKPbc	**PKPbc**	**06 11 06.8**	**+0.2**
	comp=Z,2.8nm,0.3s,baz=61,slow=4.4,SNR=11						

IDC 05 06:02:24.7±6.9, **13°.93N**×**92°.58W**, **h0**km, **mb3.6**/2, **mb1 3.8**/5, **mb1mx3.5**/37, **mbtmp3.5**/5, **ML3.4**/3, **MS3.9**/1, **Ms1 3.9**/1, **ms1mx3.0**/27, **Error ellipse: s-maj=112.6km s-min=49.1km az=173.0, Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**3.85**	**325**	Pn	Pn	06 03 24.3	-1.0
	1.0nm,0.3s,baz=141,slow=14,SNR=16						
CMIG				Sn	Sn	06 04 07.7	-3.6
	3.7nm,0.3s,baz=108,slow=20,SNR=5.1						
TEIG	**Tepich**	**7.50**	**33**	Pn	Pn	06 04 16.3	+0.9
	1.4nm,0.3s,baz=319,slow=8.0,SNR=11						
TEIG				Sn	Sn	06 05 37.3	-3.8
	0.2nm,0.3s,baz=319,slow=19,SNR=0.9						
TXAR	**Lajitas Array**	**18.45**	**328**	P	P	06 06 43.1	+1.0
	0.0nm,0.3s,baz=158,slow=14,SNR=5.0						
PDAR	**Pinedale Array**	**32.26**	**336**	LR	LR	06 24 43.3	
	comp=Z,196nm,18.5s,baz=36,slow=42						
NVAR	**Mina Array Bea**	**33.38**	**322**	P	P	06 09 06.1	+1.0
	0.3nm,0.6s,baz=147,slow=8.5,SNR=2.6						
YKA	**Yellowknife Ar**	**50.97**	**347**	P	P	06 11 26.9	-1.0
	0.8nm,0.7s,baz=151,slow=7.6,SNR=11						

IDC 05 06:12:04.5±2.3, **9°.69S**×**150°.62E**, **h0**km, **mb3.1**/1, **mb1 3.6**/4, **mb1mx3.4**/23, **mbtmp3.5**/4, **ML3.8**/2, **MS2.7**/1, **Ms1 2.7**/1, **ms1mx2.5**/8, **Error ellipse: s-maj=42.6km s-min=25.2km az=12.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.42**	**275**	Pn	Pn	06 12 58.6	-0.6
	5.1nm,0.3s,baz=108,slow=6.4,SNR=2.8						
PMG				Pg	Pb	06 13 07.5	+1.4
	12nm,0.3s,baz=112,slow=7.8,SNR=24						
PMG				Lg	Lg	06 13 53.8	
	4.8nm,0.3s,baz=263,slow=21,SNR=3.6						
PMG				LR	LR	06 14 35.7	
	comp=Z,112nm,21.9s,baz=117,slow=44						
CTA	**Charters Tower**	**11.16**	**202**	Pn	Pn	06 14 44.2	-1.2
	0.4nm,0.3s,baz=29,slow=13,SNR=1.7						
WRA	**Warramunga Arr**	**18.73**	**235**	P	P	06 16 24.0	-1.0
	0.3nm,0.3s,baz=58,slow=11,SNR=2.6						
ASAR	**Alice Springs**	**21.16**	**227**	P	P	06 16 52.0	+0.5
	0.7nm,0.7s,baz=67,slow=11,SNR=8.6						
TORD	**Torodi Ar. Bea**	**149.36**	**279**	PKPbc	PKPbc	06 31 56.2	-0.3
	1.3nm,0.6s,baz=79,slow=3.3,SNR=14						

NEIC ***05*** *06:28:17.9±1.1, 61°.173N±0°.008×140°.32W±0°.02, h1km±9km, Error ellipse: s-maj=2.0km s-min=0.8km az=56.0*

AEIC ***05*** *06:28:17.9±1.2, 61°.19N±0°.01×140°.30W±0°.03, h1km±5km, ML2.7/52, ML2.8(OTT), Error ellipse: s-maj=2.0km s-min=1.3km az=52.0*

PGC ***05*** *06:28:18.7, 61°.17N×140°.29W, h1km, ML2.8/11, ML2.8, 156km west of Haines Jct., Yt Southern Yukon Territory, Canada*

ISC 05 06:28:17.6±1.0, **61°.17N**±0°.02×**140°.28W**±0°.02, **h8**km±9km, **n66,** σ1°**09**/96, **Southern Yukon Territory**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK3	**Moose Creek**	**0.61**	**352**	P	**Pg**	**06 28 29.5**	**0.0**
YUK3				S	**Sg**	**06 28 38.1**	**+0.6**
YUK3	**Moose Creek**	**0.61**	**352**		**Pg**	**06 28 29.4**	**0.0**
YUK3					**Sg**	**06 28 38.1**	**+0.6**
YUK2	**White River**	**0.67**	**336**	P	**Pg**	**06 28 30.6**	**0.0**
YUK2				S	**Sb**	**06 28 40.0**	**-1.2**
YUK2	**White River**	**0.67**	**336**		**Pg**	**06 28 30.6**	**0.0**
YUK2					**Sb**	**06 28 40.4**	**-0.8**
BARN	**Barnard Glacie**	**0.68**	**261**		**Pg**	**06 28 30.2**	**-0.5**
BARN				Sg	**Sg**	**06 28 39.9**	**+0.2**
YUK4	**Talbot Arm**	**0.81**	**77**	P	**Pb**	**06 28 34.4**	**+0.4**
YUK4	**Talbot Arm**	**0.81**	**77**		**Pg**	**06 28 34.4**	**+0.4**
YUK6	**Outpost Mounta**	**0.96**	**103**	P	**Pg**	**06 28 36.0**	**0.0**
YUK6				S	**Sg**	**06 28 48.3**	**-0.2**
YUK6	**Outpost Mounta**	**0.96**	**103**		**Pg**	**06 28 36.0**	**0.0**
YUK6					**Sg**	**06 28 49.5**	**+1.0**
YUK1	**Sand Pete Hill**	**0.99**	**353**	P	**Pg**	**06 28 36.0**	**-0.6**
YUK1				S	**Sb**	**06 28 50.0**	**-0.4**
YUK1	**Sand Pete Hill**	**0.99**	**353**		**Pg**	**06 28 36.0**	**-0.6**
BALM	**Baldy**	**1.01**	**263**	P	**Pg**	**06 28 36.3**	**-0.9**
BALM				S	**Sg**	**06 28 50.3**	**+0.1**
BALM	**Baldy**	**1.01**	**263**		**Pg**	**06 28 36.2**	**-0.9**
BALM					**Sg**	**06 28 50.1**	**-0.2**
RKAV	**Rock Avalanche**	**1.02**	**211**	P	**Pg**	**06 28 36.6**	**-0.6**
RKAV				S	**Sg**	**06 28 50.1**	**-0.4**
RKAV	**Rock Avalanche**	**1.02**	**211**		**Pg**	**06 28 36.7**	**-0.6**
RKAV					**Sg**	**06 28 50.3**	**-0.2**
KIAG	**Kiagna River**	**1.04**	**257**	P	**Pg**	**06 28 36.7**	**-1.0**
KIAG				S	**Sg**	**06 28 50.8**	**-0.5**
KIAG	**Kiagna River**	**1.04**	**257**		**Pg**	**06 28 36.6**	**-1.0**
PCA	**Pinnacle**	**1.08**	**180**	P	**Pg**	**06 28 38.6**	**+0.3**
PCA				S	**Sg**	**06 28 53.0**	**+0.7**
PCA	**Pinnacle**	**1.08**	**180**		**Pg**	**06 28 38.4**	**+0.1**
PCA	**Pinnacle**	**1.08**	**180**		**Sn**	**06 28 54.0**	**-0.3**
YAH	**Yahtse**	**1.09**	**222**		**Pg**	**06 28 38.1**	**-0.4**
YAH				Sg	**Sb**	**06 28 53.2**	**+0.1**
YUK5	**Granite Creek**	**1.17**	**91**	P	**Pb**	**06 28 39.8**	**-0.4**
YUK5				S	**Sb**	**06 28 55.3**	**-0.3**
YUK5	**Granite Creek**	**1.17**	**91**		**Pb**	**06 28 39.7**	**-0.4**
YUK5					**Sb**	**06 28 55.6**	**+0.1**
CHX	**Chaix Hills**	**1.19**	**201**		**Pn**	**06 28 40.7**	**+0.2**
YUK7	**Dusty Glacier**	**1.23**	**121**	P	**Pn**	**06 28 40.9**	**-0.4**
YUK7				S	**Sb**	**06 28 57.1**	**-0.1**
YUK7	**Dusty Glacier**	**1.23**	**121**		**Pn**	**06 28 40.8**	**-0.4**
BVCY	**Beaver Creek**	**1.28**	**348**	P	**Pn**	**06 28 41.1**	**-0.7**
BVCY				S	**Sn**	**06 28 59.1**	**0.0**
BVCY	**Beaver Creek**	**1.28**	**348**		**Pn**	**06 28 41.2**	**-0.5**
BVCY					**Sn**	**06 28 59.3**	**+0.2**
MESA	**MESA**	**1.29**	**220**	P	**Pg**	**06 28 42.6**	**+0.2**
MESA				S	**Sg**	**06 28 59.6**	**+0.4**
MESA	**MESA**	**1.29**	**220**		**Pg**	**06 28 42.6**	**+0.2**
HYT	**Haines Junctio**	**1.39**	**103**	Pn	**Pn**	**06 28 43.2**	**-0.2**
HYT				Sg	**Sb**	**06 29 01.2**	**-0.8**
HYT	**Haines Junctio**	**1.39**	**103**		**Pb**	**06 28 44.3**	**+0.4**
WAX	**Waxell Ridge**	**1.46**	**241**		**Pn**	**06 28 44.2**	**0.0**
KULT	**Kultieth River**	**1.52**	**233**		**Pb**	**06 28 46.2**	**+0.2**
VRDI	**Verde Repeater**	**1.54**	**273**		**Pn**	**06 28 45.3**	**-0.2**
VRDI					**Sb**	**06 29 06.4**	**+0.2**
CYK	**Cape Yakataga**	**1.54**	**226**		**Pn**	**06 28 45.7**	**+0.4**
PNL	**Peninsula**	**1.57**	**164**	Pn	**Pb**	**06 28 47.2**	**+0.3**
PNL				Sg	**Sg**	**06 29 09.2**	**+1.2**
PNL	**Peninsula**	**1.57**	**164**		**Pb**	**06 28 47.2**	**+0.3**
KHIT	**Khitrov Hills**	**1.63**	**245**		**Pb**	**06 28 47.5**	**-0.4**
YKD2	**Yakutat**	**1.69**	**170**		**Pb**	**06 28 48.6**	**-0.3**
GLB	**Gilahina Butte**	**1.73**	**281**		**Pn**	**06 28 48.6**	**+0.6**
GRIN	**Grindle Hills**	**1.74**	**240**		**Pb**	**06 28 49.9**	**0.0**
BGLC	**Bering Glacier**	**1.82**	**236**		**Pb**	**06 28 51.6**	**+0.6**
BC03		**2.03**	**340**		**Pn**	**06 28 53.0**	**+1.0**
PLBC	**Pleasant Camp**	**2.60**	**130**	Pn	**Pn**	**06 29 02.0**	**+2.1**
PLBC				Pg	**Pb**	**06 29 04.9**	**+0.5**
PLBC				Sg	**Sg**	**06 29 40.2**	**-0.7**
WHY	**Whitehorse**	**2.68**	**99**	P	**Pn**	**06 29 02.9**	**+1.7**
WHY				Sn	**Sn**	**06 29 35.8**	**+1.9**
WHY				Sg	**Sg**	**06 29 42.3**	**-1.4**
WHY	**Whitehorse**	**2.68**	**99**	Pn	**Pn**	**06 29 02.7**	**+1.6**
EYAK	**Cordova Ski Ar**	**2.75**	**259**	Pn	**Pn**	**06 29 03.2**	**+1.3**
DAWY	**Dawson**	**2.93**	**8**	Pn	**Pn**	**06 29 05.9**	**+1.4**
DAWY				Sg	**Sb**	**06 29 48.6**	**+2.5**
DAWY	**Dawson**	**2.93**	**8**		**Pn**	**06 29 05.9**	**+1.4**
SKAG	**Skagway**	**3.00**	**123**		**Pn**	**06 29 07.3**	**+1.9**
DOT	**Dot Lake**	**3.05**	**326**	Pn	**Pn**	**06 29 07.1**	**+1.0**
DOT	**Dot Lake**	**3.05**	**326**		**Pn**	**06 29 07.1**	**+1.0**
FID	**Port Fidalgo**	**3.06**	**265**	Pn	**Pn**	**06 29 08.0**	**+1.9**
SCRK	**Sand Creek**	**3.30**	**330**		**Pn**	**06 29 10.6**	**+1.0**
RIDG	**Independent Ri**	**3.34**	**323**		**Pn**	**06 29 11.2**	**+1.1**
EGAK	**Eagle**	**3.64**	**354**		**Pn**	**06 29 15.3**	**+1.1**
BESE	**Bessie Mountai**	**3.77**	**131**	Sg	**Sg**	**06 30 15.4**	**-3.2**
BESE	**Bessie Mountai**	**3.77**	**131**	Pn	**Pn**	**06 29 17.4**	**+1.4**
DHY	**Denali Highway**	**3.84**	**303**		**Pn**	**06 29 17.8**	**+0.7**
PMR	**Palmer**	**4.28**	**280**		**Pn**	**06 29 24.1**	**+1.1**
HDA	**Harding Lake**	**4.46**	**320**		**Pn**	**06 29 25.6**	**+0.1**
IL31		**4.71**	**323**		**Pn**	**06 29 29.7**	**+1.0**
FYU	**Fort Yukon**	**5.84**	**340**	Pn	**Pn**	**06 29 45.5**	**+1.2**
DLBC	**Dease Lake**	**5.85**	**113**	Sg	**Sg**	**06 31 20.5**	**-4.8**
INK	**Inuvik**	**7.72**	**19**	Pn	**Pn**	**06 30 10.1**	**0.0**
INK				Sn	**Sn**	**06 31 34.2**	**-3.3**

ASRS ***05*** *06:51:45.3, 53°.65N×91°.11E, M2.3, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

NNC ***05*** *06:51:48.7±10.0, 53°.41N×90°.71E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=80.0km s-min=67.6km az=21.0, Suspected Mining explosion.*

IDC ***05*** *06:51:48.1±3.1, 53°.62N×90°.68E, h0km, mb1 3.3/3, mb1mx3.1/39, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=26.7km s-min=22.5km az=51.0*

ISC 05 06:51:51.1±4.2, **53°.6N**±0°.1×**90°.3E**±0°.2, **h0**km, **n8,** σ0°**73**/12, **5C-3D, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.27**	**278**	*i*		07 13 55.0	
	baz=89,slow=307,SNR=4.2						
ZALV	**Zalesovo Beam**	**3.27**	**278**	Pn	**Pn**	**06 52 44.3**	**+0.7**
	0.2nm,0.3s,baz=94,slow=13,SNR=2.4						
ZALV				Sn	**Sn**	**06 53 22.2**	**-1.0**
	1.3nm,0.3s,baz=90,slow=23,SNR=3.6						
ZALV				Lg	Lg	06 53 39.0	
	2.2nm,0.3s,baz=90,slow=29,SNR=6.9						
KURK	**Kurchatov**	**7.76**	**253**	⇑Pn	**Pn**	**06 53 45.0**	**-0.2**
	3.2nm,0.8s						
KURK				⇑Sn	**Sn**	**06 55 14.3**	**+0.6**
	17nm,0.9s						
KURK				⇑Lg	Lg	06 56 00.9	
	18nm,0.8s						
KURBB	**Kurchatov Arra**	**7.86**	**252**	Pn	**Pn**	**06 53 46.1**	**-0.3**
	0.3nm,0.3s,baz=67,slow=15,SNR=20						
KURBB				Sn	**Sn**	**06 55 16.1**	**0.0**
	0.1nm,0.3s,baz=66,slow=25,SNR=9.3						
KURBB				Lg	Lg	06 56 03.9	
	0.0nm,0.3s,baz=64,slow=32,SNR=2.5						
KURBB	**Kurchatov Arra**	**7.86**	**252**	⇓Pn	**Pn**	**06 53 46.1**	**-0.3**
	3.6nm,0.5s						
KURBB				⇓Sn	**Sn**	**06 55 16.3**	**+0.2**
	44nm,1.1s						
KURBB				⇑Lg	Lg	06 56 04.6	
	62nm,1.0s						
MK31	**Makanchi Array**	**8.56**	**220**	Pn	**Pn**	**06 53 56.3**	**0.0**
	0.5nm,0.5s,baz=39,slow=15,SNR=10.0						
MK31				⇑Sn	**Sn**	**06 55 34.9**	**+1.3**
	7.1nm,1.1s,baz=43,slow=26						
MK31				⇓Lg	Lg	06 56 22.6	
	14nm,1.1s,baz=23,slow=28,SNR=4.3						
MKAR	**Makanchi Array**	**8.56**	**220**	Pn	**Pn**	**06 53 55.9**	**-0.4**
	0.3nm,0.3s,baz=39,slow=12,SNR=12						
MKAR				Sn	**Sn**	**06 55 32.6**	**-0.9**
	0.1nm,0.3s,baz=42,slow=25,SNR=5.0						
MKAR				Lg	Lg	06 56 23.7	
	0.1nm,0.3s,baz=40,slow=25,SNR=5.6						
SONM	**Songino Array**	**11.72**	**113**	Lg	Lg	06 57 39.6	
	0.1nm,0.3s,baz=298,slow=26,SNR=6.6						

KRSC ***05*** *07:04:21.0±2.4, 49°.43N×155°.46E, h216km±17km, ML4.0*

IDC ***05*** *07:04:22.6±4.4, 50°.24N×153°.75E, h211km±27km, mb3.1/9, mb1 3.3/10, mb1mx3.1/40, mbtmp3.6/10, Error ellipse: s-maj=59.1km s-min=22.3km az=180.0*

ISC 05 07:04:21.1±1.1, **49°.9N**±0°.2×**154°.1E**±0°.1, **h209**km, **n31,** σ1°**74**/34, **mb3.3**/9, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.33**	**43**	*eP*	**Pn**	**07 04 53.5**	**-0.8**
SKR	**Severo-Kuril's**	**1.50**	**58**	*eP*	**Pn**	**07 04 55.0**	**-0.5**
SKR				*eS*	**S**	**07 05 21.7**	**-0.3**
PAU	**Pauzhetka**	**2.32**	**47**	*eS*	**S**	**07 05 37.5**	**+1.3**
ASAK	**Asacha**	**3.44**	**42**	*eP*	**Pn**	**07 05 18.1**	**+1.8**
GRL	**Gorelyy**	**3.63**	**42**	*eP*	**Pn**	**07 05 20.5**	**+1.8**
MTVR	**Mutnovka**	**3.63**	**43**	*eP*	**Pn**	**07 05 19.3**	**+0.6**
MTVR				*eS*	**S**	**07 06 02.9**	**-0.7**
RUS	**Russkaya**	**3.75**	**46**	*eP*	**Pn**	**07 05 19.5**	**-0.5**
RUS				*eS*	**S**	**07 06 01.9**	**-4.0**
KRMR	**Karymshinskiy**	**3.86**	**39**	*eS*	**S**	**07 06 08.5**	**

*IDC **05** 07:45:36.4±9.4, 17.31S×178.94W, h613km±129km, mb2.9/6, mb1 3.2/7, mb1mx3.0/28, mbtmp3.8/7, Error ellipse: s-maj=133.6km s-min=39.6km az=158.0*

ISC 05 07:45:35.8±0.7, **17.3S**±0.2×**179.0W**±0.1, **h600**km, **n20,** σ0.9**2**/20, **mb3.9**/11, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.89**	**262**	P	**P**	**07 46 56.7**	**+2.3**
AFI	**Afiamalu**	**7.70**	**65**	P	**P**	**07 47 33.5**	**+0.9**
NIUE	**Niue**	**8.75**	**103**	P	**P**	**07 47 43.1**	**+0.7**
DZM	**Mont Dzumac**	**14.54**	**249**	P	**P**	**07 48 40.1**	**+0.2**
	0.1nm,0.3s,baz=117,slow=20,SNR=1.6						
DZM	**Mont Dzumac**	**14.54**	**249**	P	**P**	**07 48 40.0**	**+0.1**
BBOO	**Buckleboo**	**43.23**	**240**	P	**P**	**07 52 44.6**	**-1.1**
BBOO				IAmb	IAmb	07 52 55.3	
	comp=Z,10nm,1.3s						
WR0	**Warramunga Arr**	**44.04**	**259**	P	**P**	**07 52 52.5**	**+0.4**
WR0				IAmb	IAmb	07 53 10.8	
	comp=Z,6.8nm,1.2s						
WB0	**Warramunga Arr**	**44.19**	**259**	P	**P**	**07 52 53.6**	**+0.2**
WB2	**Warramunga Arr**	**44.22**	**259**	P	**P**	**07 52 53.4**	**-0.1**
WB2				IAmb	IAmb	07 53 08.5	
	comp=Z,7.0nm,1.2s						
WRA	**Warramunga Arr**	**44.23**	**259**	P	**P**	**07 52 53.3**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=96,slow=7.0,SNR=28						
AS31	**Alice Springs**	**44.45**	**254**	P	**P**	**07 52 55.5**	**+0.2**
ASAR	**Alice Springs**	**44.45**	**254**	P	**P**	**07 52 55.2**	**-0.1**
	comp=Z,4.5nm,0.6s,baz=87,slow=8.7,SNR=83						
FORT	**Forrest**	**49.79**	**244**	P	**P**	**07 53 33.2**	**-1.9**
FORT				IAmb	IAmb	07 53 36.1	
	comp=Z,14nm,1.2s						
CHGN	**Chignik**	**75.36**	**12**	P	**P**	**07 56 18.3**	**-0.3**
NVAR	**Mina Array Bea**	**79.37**	**44**	P	**P**	**07 56 41.0**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=217,slow=5.2,SNR=2.6						
SCM	**Sheep Creek Mo**	**82.80**	**15**	P	**P**	**07 56 58.2**	**+0.4**
SCM				IAmb	IAmb	07 57 02.8	
	comp=Z,3.9nm,1.0s						
TRF	**Thorofare Moun**	**83.56**	**13**	P	**P**	**07 57 01.4**	**-0.3**
ILAR	**Eielson Array**	**85.44**	**13**	P	**P**	**07 57 09.9**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=228,slow=5.4,SNR=3.0						
TXAR	**Lajitas Array**	**86.13**	**58**	P	**P**	**07 57 14.0**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=220,slow=6.2,SNR=5.2						
PDAR	**Pinedale Array**	**87.29**	**44**	P	**P**	**07 57 19.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=234,slow=7.0,SNR=2.0						

*IDC **05** 07:46:26.5±1.7, 14.50N×54.78E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.7/44, mbtmp3.9/9, MS3.2/12, Ms1 3.2/12, ms1mx3.0/43, Error ellipse: s-maj=52.4km s-min=27.4km az=67.0*

ISC 05 07:46:28.5±1.9, **14.5N**±0.2×**54.8E**±0.4, **h14**km, **n22,** σ0.**49**/10, **mb4.0**/9, **MS3.2**/10, **Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**9.43**	**22**	LR	LR	07 52 02.5	
	comp=Z,143nm,21.3s,baz=224,slow=36						
ATD	**Arta Tunnel**	**11.97**	**257**	LR	LR	07 52 52.7	
	comp=Z,141nm,18.7s,baz=34,slow=32						
GEYT	**Alibeck**	**23.52**	**7**	P	**P**	**07 51 38.4**	**0.0**
	0.9nm,0.4s,baz=199,slow=13,SNR=2.2						
GEYT				LR	LR	08 02 21.2	
	comp=Z,80nm,20.1s,baz=230,slow=41						
KBZ	**Khabaz**	**30.85**	**343**	LR	LR	08 08 08.7	
	comp=Z,28nm,19.2s,baz=170,slow=42						
BRTR	**Keskin Array B**	**31.22**	**328**	LR	LR	08 07 00.9	
	comp=Z,31nm,18.4s,baz=165,slow=40						
AAK	**Ala-Archa**	**32.79**	**27**	LR	LR	08 06 55.2	
	comp=Z,60nm,19.3s,baz=172,slow=38						
AKTO	**Aktyubinsk**	**35.94**	**4**	LR	LR	08 11 45.8	
	comp=Z,41nm,18.8s,baz=168,slow=42						
MKAR	**Makanchi Array**	**39.57**	**30**	P	**P**	**07 53 59.5**	**+0.2**
	0.3nm,0.5s,baz=201,slow=8.0,SNR=2.8						
MKAR				LR	LR	08 12 19.6	
	comp=Z,26nm,19.9s,baz=214,slow=39						
KURBB	**Kurchatov Arra**	**40.85**	**23**	P	**P**	**07 54 10.1**	**+0.2**
	0.5nm,0.4s,baz=223,slow=7.8,SNR=1.7						
ARU	**Arti**	**41.95**	**3**	LR	LR	08 12 01.8	
	comp=Z,27nm,18.9s,baz=148,slow=37						
ZALV	**Zalesovo Beam**	**45.88**	**24**	P	**P**	**07 54 49.5**	**-0.8**
	0.6nm,0.3s,baz=240,slow=7.7,SNR=1.4						
FINES	**FINESS Array B**	**51.21**	**343**	P	**P**	**07 55 31.9**	**+0.6**
	1.2nm,0.7s,baz=138,slow=15,SNR=3.9						
FINES				LR	LR	08 18 51.7	
	comp=Z,24nm,18.1s,baz=198,slow=38						
TORD	**Torodi Ar. Bea**	**51.45**	**275**	LR	LR	08 16 22.3	
	comp=Z,46nm,18.5s,baz=100,slow=35						
NOA	**NORSAR Array B**	**56.01**	**336**	LR	LR	08 23 18.0	
	comp=Z,20nm,18.5s,baz=245,slow=40						
ARCES	**ARCESS Array B**	**57.98**	**348**	P	**P**	**07 56 19.7**	**-0.7**
	3.0nm,1.0s,baz=153,slow=6.2,SNR=3.9						
KSRS	**Korea Array**	**68.05**	**55**	P	**P**	**07 57 28.1**	**+0.3**
	1.2nm,0.7s,baz=260,slow=7.0,SNR=5.0						
H01W3	**Cape Leeuwin H**	**74.70**	**133**	T	T	09 19 39.1	
	baz=301,slow=75,SNR=12						
H01W2	**Cape Leeuwin H**	**74.70**	**133**	T	T	09 19 38.5	
	baz=301,slow=75,SNR=10						
H01W1	**Cape Leeuwin H**	**74.72**	**133**	T	T	09 19 39.0	
	baz=301,slow=75,SNR=11						
WRA	**Warramunga Arr**	**85.39**	**112**	P	**P**	**07 59 06.1**	**0.0**
	0.9nm,0.9s,baz=301,slow=3.8,SNR=5.0						
ASAR	**Alice Springs**	**86.11**	**116**	P	**P**	**07 59 09.6**	**-0.1**
	0.9nm,0.8s,baz=302,slow=5.2,SNR=7.6						
NVAR	**Mina Array Baz**	**126.95**	**353**	PKP	**PKiKP**	**08 05 33.5**	**+0.1**
	0.9nm,0.9s,baz=0.0,slow=1.5,SNR=6.0						

*PRU **05** 07:46:59.8±0.0, 50.25N×12.43E, h2km, West Bohemia Swarm*

WBNET 05 07:46:57.4, 50.22N×12.44E, h9km, **Ml0.1, 8C-5D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**19**	*e*PG	Pg	07 47 00.0	+0.9
NKC				*e*SG	Sg	07 47 01.0	+0.8
	comp=Z,32nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**19**	↑P	Pg	07 46 59.1	0.0
NKC				S	Sg	07 47 00.2	0.0
NKC	**Novy Kostel**	**0.02**	**19**	↑P	Pg	07 47 00.2	+1.1
NKC				S	Sg	07 47 01.3	+1.1
VAC	**Vackov**	**0.04**	**293**	↓P	Pg	07 46 59.3	+0.1
VAC				S	Sg	07 47 00.6	0.0
VAC	**Vackov**	**0.04**	**293**	↓P	Pg	07 47 00.4	+1.2
KVC	**Kvetna**	**0.05**	**104**	↑P	Pg	07 46 59.2	-0.1
KVC				S	Sg	07 47 00.3	-0.3
KVC	**Kvetna**	**0.05**	**104**	↑P	Pg	07 47 00.3	+1.0
LBCW	**Luby**	**0.05**	**340**	↓P	Pg	07 46 59.4	+0.1
LBCW				S	Sg	07 47 00.8	+0.1
LBCW	**Luby**	**0.05**	**340**	↓P	Pg	07 47 00.5	+1.2
STCW	**Studenec**	**0.07**	**51**	↑P	Pg	07 46 59.4	-0.1
STCW				S	Sg	07 47 00.7	-0.3
STCW	**Studenec**	**0.07**	**51**	↑P	Pg	07 47 00.5	+1.0
POCW	**Potky**	**0.10**	**355**	S	Sg	07 47 01.9	+0.1
KRCW	**Kraslice**	**0.13**	**27**	↑P	Pg	07 47 00.3	0.0
ZHC	**Zelena Hora**	**0.17**	**210**	↑P	Pg	07 47 01.1	+0.1
ZHC				S	Sg	07 47 03.6	+0.1
LACW	**Lazy**	**0.20**	**145**	↓P	Pg	07 47 01.7	+0.1
LACW				S	Sg	07 47 04.7	+0.2

WBNET 05 07:46:58.5, 50.22N×12.44E, h9km, **Ml0.5, 3C-2D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAC	**Vackov**	**0.05**	**291**	S	Sg	07 47 01.7	0.0
KVC	**Kvetna**	**0.05**	**106**	S	Sg	07 47 01.4	-0.3
LBCW	**Luby**	**0.05**	**336**	S	Sg	07 47 01.9	+0.1
STCW	**Studenec**	**0.06**	**50**	S	Sg	07 47 01.8	-0.2
SKC	**Skalna**	**0.07**	**227**	↑P	Pg	07 47 00.7	+0.1
SKC				S	Sg	07 47 02.1	0.0
POCW	**Potky**	**0.10**	**354**	↓P	Pg	07 47 01.2	+0.1
POCW				S	Sg	07 47 02.9	+0.1
KRCW	**Kraslice**	**0.13**	**26**	↑P	Pg	07 47 01.4	0.0
KRCW				S	Sg	07 47 03.4	-0.1
ZHC	**Zelena Hora**	**0.17**	**210**	↑P	Pg	07 47 02.2	+0.1
ZHC				S	Sg	07 47 04.7	+0.1
LACW	**Lazy**	**0.20**	**145**	↓P	Pg	07 47 02.8	+0.1
LACW				S	Sg	07 47 05.7	+0.2

*IDC **05** 07:53:30.2±0.9, 57.84S×25.49W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.9/20, mbtmp4.0/3, Error ellipse: s-maj=63.6km s-min=30.0km az=94.0*

*NEIC **05** 07:53:35.2±1.4, 57.99S±0.07×25.5W±0.2, h35km±2km, mb4.1/4, Error ellipse: s-maj=20.5km s-min=11.4km az=286.0*

ISC 05 07:53:36.5±0.8, **58.0S**±0.1×**25.5W**±0.2, **h49**km, **n18,** σ0.**92**/18, **mb4.0**/4, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.14**	**296**	Pn	**Pn**	**07 55 17.2**	**-1.0**
VNA1	**Neumayer--Stat**	**14.69**	**157**	P	**Pn**	**07 56 59.8**	**-1.1**
VNA3	**Neumayer Olymp**	**14.89**	**160**	P	**Pn**	**07 57 03.3**	**-0.3**
SNAA	**Sanae**	**16.63**	**155**	P	**Pn**	**07 57 25.8**	**-0.1**
SNAA	**Sanae**	**16.63**	**155**	Pn	**Pn**	**07 57 24.0**	**-1.9**
QSPA	**South Pole Qui**	**32.29**	**180**	P	**P**	**08 00 00.6**	**+0.2**
VNDA	**Vanda**	**44.70**	**182**	P	**P**	**08 01 45.9**	**+2.0**
	1.4nm,0.7s,baz=186,slow=6.5,SNR=15						
VNDA	**Vanda**	**44.70**	**182**	P	**P**	**08 01 43.8**	**-0.1**
VNDA				IAmb	IAmb	08 01 46.7	
	comp=Z,2.0nm,0.8s						
GO01	**Chusmiza**	**49.72**	**301**	P	**P**	**08 02 24.6**	**+0.4**
GO01				IAmb	IAmb	08 02 43.1	
	comp=Z,2.5nm,1.1s						
TOA0	**Torodi Ar. Sit**	**74.30**	**28**	P	**P**	**08 05 07.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**74.30**	**28**	P	**P**	**08 05 09.2**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=195,slow=6.1,SNR=6.5						
ASAR	**Alice Springs**	**96.89**	**161**	P	**P**	**08 07 02.0**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=177,slow=4.6,SNR=3.0						
YKA	**Yellowknife Ar**	**138.18**	**316**	PKP	**PKPdf**	**08 12 55.0**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=135,slow=2.4,SNR=14						
INK	**Inuvik**	**147.84**	**318**	PKPbc	**PKPbc**	**08 13 14.2**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=55,slow=4.1,SNR=7.9						
INK	**Inuvik**	**147.84**	**318**	PKPdf	**PKPbc**	**08 13 13.7**	**-0.6**
SONM	**Songino Array**	**149.91**	**89**	PKPbc	**PKPbc**	**08 13 20.2**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=194,slow=2.4,SNR=3.6						
ILAR	**Eielson Array**	**152.03**	**309**	PKPbc	**PKPbc**	**08 13 25.2**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=146,slow=2.4,SNR=14						
KDAK	**Kodiak Island**	**152.43**	**293**	PKPbc	**PKiKP**	**08 13 26.6**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=89,slow=5.9,SNR=6.0						

*IDC **05** 07:55:42.4±2.7, 6.70S×155.24E, h0km, mb3.6/3, mb1 4.0/3, mb1mx3.5/35, mbtmp3.6/3, MS2.7/1, Ms1 2.7/1, ms1mx2.4/26, Error ellipse: s-maj=87.1km s-min=38.9km az=134.0*

*NEIC **05** 07:55:47.5±1.8, 6.74S±0.10×155.07E±0.06, h35km±2km, mb4.3/3, Error ellipse: s-maj=16.9km s-min=8.5km az=343.0*

ISC 05 07:55:47.3±0.9, **6.7S**±0.2×**155.1E**±0.1, **h35**km, **n13,** σ1.9**03**/8, **mb4.2**/6, **Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.83**	**310**	Pn	**Pn**	**07 56 42.6**	**-1.3**
KRVT	**Keravat (AS076**	**3.87**	**307**	Lg	Lg	07 57 48.8	
	8.3nm,0.3s,baz=196,slow=19,SNR=2.1						
HNR	**Honiara**	**5.52**	**120**	LR	LR	07 59 16.9	
	comp=Z,64nm,19.0s,baz=82,slow=40						
HNR	**Honiara**	**5.52**	**120**	Pn	**Pn**	**07 57 06.5**	**-0.6**
WB0	**Warramunga Arr**	**23.97**	**235**	P	**P**	**08 00 58.4**	**-0.4**
WB0				IAmb	IAmb	08 01 03.6	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**24.09**	**235**	P	**P**	**08 00 59.2**	**-0.7**
WB2				IAmb	IAmb	08 01 11.9	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**24.11**	**235**	P	**P**	**08 01 00.3**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=59,slow=9.1,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**27.48**	**24**	T	T	08 29 55.1	
	baz=203,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.48**	**24**	T	T	08 30 02.1	
	baz=203,slow=74						
H11S1	**WAKE ISLAND Hy**	**27.50**	**24**	T	T	08 30 03.1	
	baz=203						
CMAR	**Chiang Mai Arr**	**60.75**	**295**	P	**P**	**08 05 57.6**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=127,slow=5.7,SNR=4.9						
ILAR	**Eielson Array**	**83.02**	**21**	P	**P**	**08 08 09.2**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=232,slow=5.6,SNR=1.3						
QSPA	**South Pole Qui**	**83.31**	**180**	P	**P**	**08 08 10.6**	**+0.1**
QSPA				IAmb	IAmb	08 08 11.7	
	comp=Z,3.7nm,1.2s						

*DJA **05** 08:11:54.6±0.3, 4.7N±2.2×9.6E±*, h10km, M4.9/13, mb4.7/12, mB5.5/5, MLv5.0/13, Mw(mB)5.0/5*

*NEIC **05** 08:11:54.5±2.1, 4.44N±0.04×96.51E±0.08, h16km±4km, mb4.7/33, Error ellipse: s-maj=11.1km s-min=6.4km az=94.0*

*IDC **05** 08:11:56.1±2.6, 4.55N×96.57E, h21km±15km, mb4.1/18, mb1 4.2/19, mb1mx4.0/33, mbtmp4.3/19, ML4.4/1, MS4.0/29, Ms1 4.0/29, ms1mx3.9/43, Error ellipse: s-maj=28.8km s-min=11.8km az=49.0*

*BJI **05** 08:11:57.5±0.0, 4.45N×96.54E, h43km, mB4.7/17, mb4.7/24, Ms4.5/21, Ms7 4.3/20*

*GCMT **05** 08:11:58.5±0.3, 4.48N±0.02×96.61E±0.02, h20km±1km, MW4.9/81, Moment Tensor Solution. s15,c16; s81,c111; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.15±.13; Mθθ-2.15±.10; Mφφ2.01±.10; Mrθ-0.77±.21; Mrφ-1.33±.09; Mθφ-1.36±.27; Best double couple: Mo2.92300×10^16 NP1:φs118.00000°, δs58.00000°, λ178.00000°. NP2: φs209.00000°, δs88.00000°, λ32.00000°. Principal axes: T 2.8750, Plg24.0000°, Azm79.0000°; N 0.1030, Plg58.0000°, Azm212.0000°; P -2.9700, Plg21.0000°, Azm339.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*KLM **05** 08:12:01.0, 4.79N×96.69E, h53km, mb4.6*

ISC 05 08:11:55.8±1.3, **4.44N**±0.03×**96.53E**±0.04, **h20**km±5km, **n115,** σ1.9**66**/106, **mb4.5**/45, **MS4.1**/32, **2C-1D, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.21**	**216**	P	**Pb**	**08 11 59.6**	**-1.1**
LHMI	**Lhok Sumawe**	**0.89**	**28**	P	**Pg**	**08 12 12.9**	**-0.3**
LHMI				S	**Sn**	**08 12 26.2**	**+0.7**
LHMI	**Lhok Sumawe**	**0.89**	**28**	Pg	**Pb**	**08 12 12.4**	**-0.2**
LHMI					**Sn**	**08 12 25.5**	**0.0**
TPTI		**1.34**	**151**	P	**Pn**	**08 12 18.3**	**-1.1**
TPTI				S	**Sn**	**08 12 36.6**	**-0.1**
KCSI	**Kotacane, Aceh**	**1.54**	**126**	P	**Pn**	**08 12 22.4**	**+0.2**
SNSI	**Sinabang, Aceh**	**2.03**	**186**	P	**Pn**	**08 12 29.5**	**+0.6**
TSI	**Tuntungan**	**2.23**	**115**	P	**Pn**	**08 12 33.6**	**+1.9**
PSI	**Prapat**	**2.89**	**124**	Pn	**Pn**	**08 12 43.0**	**+2.1**
	45nm,0.3s,baz=360,slow=11,SNR=51						
PSI				Sn	**Sn**	**08 13 18.2**	**+3.1**
	19nm,0.3s,baz=0.0,slow=20,SNR=2.6						
PSI				LR	LR	08 14 08.8	
	comp=Z,5μm,19.1s,baz=182,slow=44						
RPSI	**Rantau Prapat**	**2.95**	**126**		**Pn**	**08 12 42.5**	**+0.9**
RPSI				Sn	**Sn**	**08 13 17.6**	**+1.1**
RPSI	**Rantau Prapat**	**2.95**	**126**		**Pn**	**08 12 43.0**	**+1.4**
RPSI					**Sn**	**08 13 18.2**	**+1.8**
GSI	**Gunungsitoli**	**3.29**	**161**	P	**Pn**	**08 12 46.7**	**+0.5**
GSI	**Gunungsitoli**	**3.29**	**161**		**Pn**	**08 12 47.2**	**+1.0**
KULM	**Kulim**	**4.19**	**78**	Pn	**Pn**	**08 12 59.1**	**+0.4**
IPM	**Ipoh**	**4.48**	**89**	Pn	**Pn**	**08 13 01.9**	**-0.8**
IPM	**Ipoh**	**4.48**	**89**	P	**Pn**	**08 13 04.0**	**+1.3**
MNSI	**Mandailing Nat**	**4.73**	**140**	P	**Pn**	**08 13 07.9**	**+1.8**
BKNI	**Bangkinang**	**6.08**	**132**	Pn	**Pn**	**08 13 24.8**	**+0.1**
PDSI	**Padang**	**6.61**	**143**	P	**Pn**	**08 13 33.0**	**+1.1**
	0.3nm17nm,0.5s						
LHSI	**Lahat**	**10.78**	**139**	P	**Pn**	**08 14 29.7**	**+0.5**
	4μm99nm,0.9s						
MNAI	**Manna**	**10.85**	**144**	Pn	**Pn**	**08 14 28.2**	**-1.9**
PBKT	**Sadao Pong**	**12.82**	**20**	Pn	**Pn**	**08 14 59.5**	**+2.4**
KSM	**Kuching**	**14.07**	**102**	P	**Pn**	**08 15 18.0**	**+3.8**
CMAR	**Chiang Mai Arr**	**14.13**	**9**	Pn	**Pn**	**08 15 17.9**	**+2.9**
	1.0nm,0.3s,baz=198,slow=14,SNR=6.1						
CMAR				Lg	Lg	08 19 05.0	
	0.6nm,0.3s,baz=201,slow=30,SNR=2.3						
CMAR				LR	LR	08 21 14.3	
	comp=Z,516nm,18.1s,baz=234,slow=40						
CHTO	**Chiang Mai**	**14.48**	**9**	Pn	**Pn**	**08 15 19.3**	**-0.5**
LEM	**Lembang**	**15.74**	**135**	LR	LR	08 21 23.2	
	comp=Z,1μm,18.7s,baz=274,slow=36						
SBUM	**Sibu**	**15.79**	**97**	Pn	**Pn**	**08 15 34.0**	**-3.2**
SBUM	**Sibu**	**15.79**	**97**	P	**P**	**08 15 40.0**	**-0.9**
SLVN	**Son La**	**18.26**	**22**	Pn	**Pn**	**08 16 05.8**	**-2.4**
QIZ	**Qiongzhong**	**19.48**	**41**	P	**P**	**08 16 19.4**	**-2.2**
QIZ				S	**Sn**	**08 19 56.4**	**-4.7**
QIZ				LR	LR		
	comp=N,1μm,22.4s						
QIZ				LR	LR		
	comp=E,980nm,19.7s						
QIZ				LR	LR		
	comp=Z,400nm,12.1s						
SHL	**Shillong**	**21.48**	**348**	P	**P**	**08 16 41.7**	**-1.8**
HYB	**Hyderabad**	**21.83**	**308**	*i* P	**P**	**08 16 48.5**	**+1.3**
MPSI	**Mapaga**	**23.70**	**99**	P	**P**	**08 17 07.6**	**+1.0**
	3μm13nm,0.8s						
GYA	**Guiyang**	**23.95**	**23**	P	**P**	**08 17 12.0**	**+3.0**
GYA				sP	sP	08 17 28.2	+10
GYA				pmax	pmax		
	comp=Z,12nm,0.8s						
GYA				LR	LR		
	comp=N,340nm,15.7s						
GYA				LR	LR		
	comp=E,580nm,13.2s						
GYA				LR	LR		
	comp=Z,500nm,12.9s						
KAPI	**Kappang**	**25.02**	**112**	P	**P**	**08 17 19.4**	**+0.6**
	20nm,0.9s,baz=282,slow=7.3,SNR=3.6						
KAPI	**Kappang**	**25.02**	**112**	P	**P**	**08 17 18.1**	**-0.7**
KAPI				IAmb	IAmb	08 17 21.9	
	comp=Z,32nm,1.1s						
BKSI	**Bulukumba**	**25.48**	**112**	P	**P**	**08 17 23.2**	**+0.2**
	comp=Z,43nm,0.8s						
LSA	**Lhasa**	**25.64**	**349**	P	**P**	**08 17 22.0**	**-2.7**
LSA				IAmb	IAmb	08 17 30.6	
	comp=Z,15nm,0.8s						
H08S2	**Diego Garcia H**	**26.82**	**243**	T	T	08 44 58.4	
	baz=61,slow=76,SNR=604						
H08S3	**Diego Garcia H**	**26.82**	**244**	T	T	08 44 58.5	
	baz=61,slow=76,SNR=504						
H08S1	**Diego Garcia H**	**26.84**	**244**	T	T	08 44 59.8	
	baz=61,slow=76,SNR=144						
MMRI	**Maumere**	**28.74**	**117**	P	**P**	**08 17 51.0**	**-1.3**
DAV	**Davao City (W)**	**29.02**	**83**	LR	LR	08 31 03.1	
	comp=Z,231nm,20.8s,baz=168,slow=40						
XAN	**Xi'an**	**31.63**	**20**	P	P	08 18 29.3	+12
XAN				pP	sP	08 18 41.7	+15
XAN				S	**S**	**08 23 29.3**	**+3.4**
XAN				pmax	pmax		
	comp=Z,10.0nm,1.1s						
XAN				LR	LR		
	comp=N,430nm,21.7s						
XAN				LR	LR		
	comp=E,1μm,19.6s						
XAN				LR	LR		
	comp=Z,680nm,16.3s						
LZH	**Lanzhou**	**32.21**	**11**	*e*P	**P**	**08 18 24.0**	**+1.1**
LZH				pP	sP	08 18 35.8	+3.9
LZH				sP	pP	08 18 41.4	+12
LZH				pmax	pmax		
	comp=Z,20nm,1.2s						
NJ2	**Nanjing**	**34.53**	**35**	*e*P	**P**	**08 18 42.1**	**-0.9**
NJ2				pmax	pmax		
	comp=Z,20nm,0.5s						
NJ2				LR	LR		
	comp=Z,840nm,16.6s						
NJ2				LR	LR		
	comp=Z,560nm,16.6s						
NJ2				LR	LR		
	comp=Z,690nm,12.3s						
GTA	**Gaotai**	**34.94**	**4**	↑P	**P**	**08 18 50.3**	**+3.7**
GTA				pP	sP	08 19 03.6	+8.0
GTA				sP	pP	08 19 08.7	+16
GTA				S	**S**	**08 24 20.9**	**+3.5**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,43nm,5.9s						
GTA				LR	LR		
	comp=Z,210nm,17.1s						
GTA				LR	LR		
	comp=Z,290nm,15.6s						
GTA				LR	LR		
	comp=Z,290nm,17.5s						
NIL	**Nilore**	**36.26**	**326**	P	**P**	**08 18 55.9**	**-2.0**
NIL				IAmb	IAmb	08 18 59.5	
	comp=Z,7.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**36.41**	**129**	P	**P**	**08 18 58.4**	**-1.0**
FITZ				IAmb	IAmb	08 19 17.9	
	comp=Z,18nm,1.5s						
KNRA	**Kununurra**	**37.65**	**123**	P	**P**	**08 19 09.1**	**-0.8**
MTN	**Manton Dam**	**38.43**	**117**	P	**P**	**08 19 14.2**	**-2.3**
HHC	**Hu-ho-hao-te**	**38.69**	**18**	*e*P	**P**	**08 19 17.5**	**-1.0**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,54nm,6.1s						
BJI	**Beijing**	**39.63**	**24**	P	P	08 19 31.9	+5.7
BJI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BJI				LR	LR		
	comp=Z,200nm,14.7s						
BJI				LR	LR		
	comp=Z,330nm,18.6s						
BJI				LR	LR		
	comp=Z,400nm,28.4s						
WMQ	**Urumqi**	**39.99**	**350**	*e*P	**P**	**08 19 28.7**	**-0.6**
WMQ				pmax	pmax		
	comp=Z,24nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,74nm,5.5s						
WMQ				LR	LR		
	comp=Z,200nm,24.7s						
WMQ				LR	LR		
	comp=Z,220nm,21.3s						
WMQ				LR	LR		
	comp=Z,210nm,22.5s						
WSAR	**Wadi Sarin**	**41.08**	**301**	P	**P**	**08 19 41.3**	**+2.8**
	comp=Z,5.4nm,0.8s,baz=146,slow=5.6,SNR=4.6						
WSAR				LR	LR	08 34 11.4	
	comp=Z

comp=Z,1.2nm,0.9s,baz=304,slow=4.1,SNR=7.0
ASAR LR LR 08 39 38.1
comp=Z,317nm,21.4s,baz=294,slow=36
FORT Forrest 46.19 141 P **P** **08 20 19.6 +0.1**
FORT IAmb IAmb 08 20 26.6
comp=Z,8.9nm,0.7s
TLY Talaya 47.46 6 LR LR 08 42 23.8
comp=Z,163nm,19.1s,baz=169,slow=39
GEYT Alibeck 48.33 319 P **P** **08 20 35.3 -0.9**
comp=Z,0.9nm,0.5s,baz=175,slow=8.1,SNR=1.5
GEYT LR LR 08 43 31.3
comp=Z,237nm,18.6s,baz=160,slow=39
KURK Kurchatov 48.51 345 P **P** **08 20 35.3 -2.0**
KURK IAmb IAmb 08 20 39.4
comp=Z,2.7nm,0.8s
MJAR Matsushiro Arr 49.81 45 LR LR 08 42 42.9
comp=Z,142nm,20.1s,baz=245,slow=37
ZALV Zalesovo Beam 50.27 351 P **P** **08 20 49.1 -1.6**
comp=Z,1.2nm,0.4s,baz=165,slow=6.2,SNR=7.0
ZALV LR LR 08 45 20.7
comp=Z,78nm,20.7s,baz=188,slow=40
USRK Ussuriysk Ar. 50.39 33 LR LR 08 43 09.9
comp=Z,223nm,19.1s,baz=214,slow=37
BBOO Buckleboo 52.69 138 P **P** **08 21 06.9 -2.3**
BBOO IAmb IAmb 08 21 08.9
comp=Z,25nm,1.5s
RAYN Ar Rayn 52.69 296 P **P** **08 21 08.9 -0.5**
RAYN IAmb IAmb 08 21 10.6
comp=Z,5.1nm,0.7s
BRVK Borovoye 53.05 340 P **P** **08 21 10.9 -0.6**
ATD Arta Tunnel 53.56 281 LR LR 08 41 48.2
comp=Z,46nm,21.8s,baz=319,slow=34
ERM Erimo 55.84 41 P **P** **08 21 29.8 -2.1**
ERM IAmb IAmb 08 21 41.4
comp=Z,12nm,1.1s
STKA Stephens Creek 56.03 133 P **P** **08 21 33.5 -0.1**
comp=Z,2.8nm,0.8s,baz=303,slow=5.8,SNR=6.6
STKA LR LR 08 47 06.9
comp=Z,160nm,19.9s,baz=299,slow=38
STKA Stephens Creek 56.03 133 P **P** **08 21 32.3 -1.2**
KMBO Kilima Mbogo 59.48 266 P **P** **08 22 02.0 +3.6**
comp=Z,2.0nm,0.6s,baz=29,slow=4.3,SNR=5.8
KMBO LR LR 08 46 16.3
comp=Z,161nm,18.1s,baz=98,slow=35
KBZ Khabaz 61.21 318 LR LR 08 52 27.8
comp=Z,85nm,19.9s,baz=110,slow=40
NRIK Noril'sk 65.08 356 P **P** **08 22 35.0 +0.4**
comp=Z,0.8nm,0.4s,baz=147,slow=9.4,SNR=2.4
BR131 Keskin Array S 66.46 312 P **P** **08 22 41.5 -2.8**
BR131 IAmb IAmb 08 22 52.5
comp=Z,13nm,1.5s
BRTR Keskin Array B 66.46 312 P **P** **08 22 42.7 -1.6**
comp=Z,2.3nm,0.6s,baz=132,slow=7.2,SNR=9.9
BRTR LR LR 08 53 58.8
comp=Z,42nm,19.1s,baz=122,slow=38
PETK Petropavlovsk- 69.44 34 LR LR 08 54 47.5
comp=Z,119nm,20.4s,baz=236,slow=37
AKASG Malin Array Be 72.30 322 P **P** **08 23 20.1 +0.1**
comp=Z,0.5nm,0.4s,baz=93,slow=4.5,SNR=4.0
AKASG LR LR 09 00 19.0
comp=Z,99nm,18.2s,baz=90,slow=40
LIT Litokhoron 74.95 310 P **P** **08 23 34.4 -1.5**
BOSA Boshof 75.83 239 P **P** **08 23 42.9 +1.7**
comp=Z,1.7nm,0.5s,baz=124,slow=3.6,SNR=1.7
BOSA LR LR 08 50 47.5
comp=Z,82nm,19.6s,baz=68,slow=31
BOSA Boshof 75.83 239 P **P** **08 23 40.4 -0.9**
BOSA IAmb IAmb 08 23 48.5
comp=Z,7.6nm,1.2s
FINES FINESS Array B 76.84 332 P **P** **08 23 45.0 -1.2**
comp=Z,0.8nm,0.7s,baz=97,slow=4.8,SNR=3.9
ARCES ARCESS Array B 79.28 340 P **P** **08 24 01.1 +1.5**
comp=Z,1.0nm,0.6s,baz=92,slow=6.3,SNR=4.4
ARCES LR LR 09 02 12.2
comp=Z,337nm,19.5s,baz=86,slow=38
GERES GERESS Array B 81.95 319 P **P** **08 24 14.1 -0.4**
comp=Z,0.7nm,0.5s,baz=77,slow=5.8,SNR=7.5
KHC Kasperske Hory 82.05 319 P **P** **08 24 14.8 -0.1**
KHC IAmb IAmb 08 24 17.4
comp=Z,1.7nm,0.5s
CLL Collm 82.51 321 *e*P **P** **08 24 15.0 -2.1**
comp=Z,4.0nm,0.5s
CIMO Cimolais 82.73 316 P **P** **08 24 17.5 -1.0**
CIMO IAmb IAmb 08 24 26.2
comp=Z,6.8nm,0.8s
SYO Syowa Base 82.86 198‖ *e*P **P** **08 24 19.4 +0.9**
SYO Syowa Base 82.86 198‖ *es*P sP 08 24 29.0 +1.1
NOA NORSAR Array B 83.87 331 LR LR 09 06 42.8
comp=Z,149nm,19.4s,baz=105,slow=39
NAO01 NORSAR Array S 84.02 331 P **P** **08 24 23.6 -1.2**
KEST Kesra 85.15 305 P **P** **08 24 31.9 +0.7**
comp=Z,4.4nm,1.0s,baz=53,slow=5.1,SNR=2.5
VNDA Vanda 89.11 169 LR LR 09 00 25.3
comp=Z,40nm,20.4s,baz=280,slow=33
TORD Torodi Ar. Bea 93.70 283 P **P** **08 25 12.1 +0.1**
comp=Z,1.3nm,0.8s,baz=82,slow=5.2,SNR=7.3
TORD LR LR 09 07 07.5
comp=Z,68nm,18.8s,baz=100,slow=35
VRDI Verde Repeater 100.02 25 Pdif **Pdif** **08 25 38.4 -1.5**
NVAR Mina Array Bea 126.53 34 PKP **PKiKP** **08 30 58.9 0.0**
comp=Z,0.4nm,0.8s,baz=248,slow=1.6,SNR=3.9
TXAR Lajitas Array 141.22 29 PKP **PKPdf** **08 31 26.3 +0.3**
comp=Z,0.4nm,0.9s,baz=308,slow=2.0,SNR=2.5
TXAR SKPbc **SKPbc** **08 35 00.7 -1.4**
comp=Z,0.2nm,0.5s,baz=225,slow=2.6,SNR=3.4
BDFB Brasilia 143.42 250 PKP **PKPdf** **08 31 30.1 -0.1**
comp=Z,2.5nm,0.8s,baz=141,slow=6.5,SNR=4.0

IDC 05 08:16:59.2±2.4,**14°.50N**×**54°.59E,h0**km,**mb3.8**/5,
mb1 3.9/5,**mb1mx3.5**/34,**mbtmp3.8**/5,**MS2.3**/1,**Ms1 2.3**/1,
ms1mx2.2/34,**Error ellipse: s-maj=89.5km**
s-min=33.1km az=60.0,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**9.49**	**23**	LR	LR	08 22 13.1	
	comp=Z,20nm,20.1s,baz=167,slow=33						
MKAR	**Makanchi Array**	**39.64**	**30**	P	P	08 24 32.8	0.0
	0.3nm,0.5s,baz=214,slow=8.9,SNR=3.1						
FINES	**FINESS Array B**	**51.16**	**343**	P	P	08 26 04.1	+0.3
	1.1nm,0.7s,baz=142,slow=12,SNR=2.2						
ARCES	**ARCESS Array B**	**57.95**	**348**	P	P	08 26 52.6	-0.5
	1.7nm,0.8s,baz=152,slow=5.5,SNR=3.6						
H01W3	**Cape Leeuwin H**	**74.81**	**133**	T	T	09 50 30.3	
	baz=300						
H01W2	**Cape Leeuwin H**	**74.82**	**133**	T	T	09 50 26.5	
	baz=300						
H01W1	**Cape Leeuwin H**	**74.83**	**133**	T	T	09 50 22.5	
	baz=300						
WRA	**Warramunga Arr**	**85.54**	**112**	P	P	08 29 39.8	-0.1
	0.6nm,1.0s,baz=293,slow=4.9,SNR=1.5						
ASAR	**Alice Springs**	**86.25**	**115**	P	P	08 29 43.5	+0.1
	0.3nm,0.6s,baz=293,slow=4.8,SNR=5.7						

IDC 05 08:37:03.4±2.1,**45°.89N**×**28°.05W,h0**km,**mb3.7**/2,
mb1 3.7/3,**mb1mx3.3**/35,**mbtmp3.5**/3,**ML4.5/1,MS3.5**/3,
Ms1 3.5/3,**ms1mx2.9**/35,**Error ellipse: s-maj=96.1km**
s-min=30.6km az=47.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESDC	**Sonseca Array**	**18.70**	**101**	P	Pn	08 41 24.8	+1.2
	0.3nm,0.3s,baz=310,slow=9.9,SNR=2.2						
GERES	**GERESS Array B**	**28.19**	**69**	LR	LR	08 54 39.1	
	comp=Z,55nm,18.5s,baz=330,slow=38						
TORD	**Torodi Ar. Bea**	**41.19**	**133**	P	P	08 44 49.5	-0.2
	1.9nm,0.7s,baz=327,slow=8.8,SNR=7.0						
ROSC	**El Rosal**	**57.24**	**239**	LR	LR	09 08 19.2	
	comp=Z,35nm,21.1s,baz=106,slow=33						
ILAR	**Eielson Array**	**59.86**	**334**	P	P	08 47 11.4	+1.1
	0.3nm,0.7s,baz=44,slow=5.3,SNR=2.1						
PLCA	**Paso Flores**	**94.24**	**211**	LR	LR	09 31 13.2	
	comp=Z,46nm,19.0s,baz=144,slow=34						
ASAR	**Alice Springs**	**153.45**	**39**	PKPbc	PKPbc	08 57 02.8	-1.0
	0.5nm,0.9s,baz=322,slow=2.8,SNR=3.5						
ASAR				PKPab	PKPab	08 57 14.7	-1.2
	0.5nm,0.8s,baz=325,slow=3.4,SNR=4.9						

IDC ***05*** *08:41:38.9*±*16.0, 15°.36N*×*88°.87W, h0*km*, mb3.2/2, mb1 3.7/3, mb1mx3.5/28, mbtmp3.2/3, Error ellipse: s-maj=324.8km s-min=106.8km az=179.0*
UCR ***05*** *08:41:39.8*±*1.2, 16°.01N*×*88°.49W, h20*km*?*×*130*km*, ML3.9*
SNET ***05*** *08:41:39.8*±*1.2, 16°.01N*×*88°.49W, h20*km*?*×*130*km*, ML4.1*

INET ***05*** *08:41:41.3, 16°.20N*×*88°.16W, h15*km*, ML4.2*
GCG ***05*** *08:41:42.5*±*0.6, 15°.88N*×*88°.74W, h11*km*, MD4.2*
ISC 05 08:41:38.3±1.9,**15°.84N**±0°.09×**88°.46W**±0°.07,**h10**km,**n32,**
s1**21/42,Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRL	**Marmol**	**1.40**	**238**	*e*P	**Pg**	**08 42 04.1**	**-1.2**
MRL				*e*S	**Sn**	**08 42 22.2**	**-0.7**
LLGN	**La Laguna**	**1.73**	**196**	*e*P	**Pb**	**08 42 10.5**	**+0.2**
LLGN	**La Laguna**	**1.73**	**196**	*e*P	**Pb**	**08 42 10.5**	**+0.2**
UNIC	**Universidad Ca**	**2.13**	**210**	*e*P	**Pb**	**08 42 15.6**	**-1.5**
UNIC				*e*S	**Sb**	**08 42 45.2**	**+1.6**
UNIC				IAML		08 42 48.5	
	comp=Z,500nm,0.5s						
UNIC	**Universidad Ca**	**2.13**	**210**	*e*P	**Pb**	**08 42 15.6**	**-1.5**
UNIC				*e*S	**Sb**	**08 42 45.2**	**+1.6**
UNIC				IAML		08 42 48.5	
	comp=Z,500nm,0.5s						
FAGO	**Alcalda de S**	**2.16**	**171**	*e*P	**Pb**	**08 42 16.7**	**-0.9**
FAGO				*e*S	**Sb**	**08 42 45.7**	**+1.2**
FAGO	**Alcalda de S**	**2.16**	**171**	*e*P	**Pb**	**08 42 16.7**	**-0.9**
FAGO				*e*S	**Sb**	**08 42 45.7**	**+1.2**
PAVA	**Las Pavas**	**2.17**	**192**	*e*P	**Pb**	**08 42 17.1**	**-0.6**
PAVA				*e*S	**Sb**	**08 42 46.4**	**+1.6**
PAVA				IAML		08 42 48.0	
	comp=Z,4μm,0.5s						
PAVA	**Las Pavas**	**2.17**	**192**	*e*P	**Pb**	**08 42 17.1**	**-0.6**
PAVA				*e*S	**Sb**	**08 42 46.4**	**+1.6**
PAVA				IAML		08 42 48.0	
	comp=Z,4μm,0.5s						
NBG	**Las Nubes**	**2.21**	**236**	*e*P	**Pb**	**08 42 17.3**	**-1.3**
NBG				*e*S	**Sn**	**08 42 43.7**	**+0.9**
CEDA	**San Andres**	**2.22**	**204**	*e*P	**Pb**	**08 42 18.0**	**-0.6**
CEDA				*e*S	**Sb**	**08 42 46.4**	**+0.2**
CEDA				IAML		08 42 50.8	
	comp=Z,2μm,0.5s						
CEDA	**San Andres**	**2.22**	**204**	*e*P	**Pb**	**08 42 18.0**	**-0.6**
CEDA				*e*S	**Sb**	**08 42 46.4**	**+0.2**
CEDA				IAML		08 42 50.8	
	comp=Z,2μm,0.5s						
AEIL	**Aeropuerto Ilo**	**2.23**	**197**	*e*S	**Sb**	**08 42 48.1**	**+1.7**
AEIL	**Aeropuerto Ilo**	**2.23**	**197**	*e*S	**Sb**	**08 42 48.1**	**+1.7**
UEES	**Universidad Ev**	**2.25**	**200**	*e*P	**Pb**	**08 42 18.4**	**-0.6**
UEES				IAML		08 42 56.8	
	comp=Z,715nm,0.5s						
UEES	**Universidad Ev**	**2.25**	**200**	*e*P	**Pb**	**08 42 18.4**	**-0.6**
UEES				IAML		08 42 56.8	
	comp=Z,715nm,0.5s						
SNET	**Serv Nac Est T**	**2.27**	**199**	IAML		08 42 58.9	
	comp=Z,419nm,0.3s						
SNET	**Serv Nac Est T**	**2.27**	**199**	IAML		08 42 58.9	
	comp=Z,419nm,0.3s						
CEVE	**Cerro Verde**	**2.30**	**210**	*e*P	**Pb**	**08 42 19.4**	**-0.7**
CEVE				*e*S	**Sb**	**08 42 49.4**	**+0.8**
CEVE				IAML		08 42 53.1	
	comp=Z,2μm,0.4s						
CEVE	**Cerro Verde**	**2.30**	**210**	*e*P	**Pb**	**08 42 19.4**	**-0.7**
CEVE				*e*S	**Sb**	**08 42 49.4**	**+0.8**
CEVE				IAML		08 42 53.1	
	comp=Z,2μm,0.4s						
COEB	**Comit de Eme**	**2.33**	**182**	*e*P	**Pb**	**08 42 20.0**	**-0.6**
COEB				*e*S	**Sb**	**08 42 50.8**	**+1.4**
COEB				IAML		08 42 55.6	
	comp=Z,782nm,0.4s						
COEB	**Comit de Eme**	**2.33**	**182**	*e*P	**Pb**	**08 42 20.0**	**-0.6**
COEB				*e*S	**Sb**	**08 42 50.8**	**+1.4**
COEB				IAML		08 42 55.6	
	comp=Z,782nm,0.4s						
LALI	**Alcalda de L**	**2.48**	**200**	*e*P	**Pb**	**08 42 20.5**	**-2.5**
LALI	**Alcalda de L**	**2.48**	**200**	*e*P	**Pb**	**08 42 20.5**	**-2.5**
IXG	**Ixpaco**	**2.54**	**229**	*e*P	**Pb**	**08 42 23.8**	**-0.2**
LCND	**La Caada**	**2.58**	**168**	*e*P	**Pb**	**08 42 23.6**	**-1.1**
LCND	**La Caada**	**2.58**	**168**	*e*P	**Pb**	**08 42 23.6**	**-1.1**
JUCU	**Jucuarįn**	**2.58**	**175**	*e*S	**Sb**	**08 42 56.4**	**-0.2**
JUCU	**Jucuarįn**	**2.58**	**175**	*e*S	**Sb**	**08 42 56.4**	**-0.2**
TXAR	**Lajitas Array**	**19.40**	**316**	P	**Pn**	**08 46 07.5**	**+1.6**
	baz=138,slow=11,SNR=5.3						
NVAR	**Mina Array Bea**	**34.55**	**316**	P	P	08 48 30.0	+2.6
	comp=Z,0.4nm,0.8s,baz=127,slow=7.2,SNR=3.8						
YKA	**Yellowknife Ar**	**50.10**	**345**	P	P	08 50 38.4	+5.1
	comp=Z,0.1nm,0.4s,baz=136,slow=7.9,SNR=3.8						

IDC 05 08:42:56.2±2.1,**14°.75S**×**177°.49W,h0**km,**mb3.6**/5,
mb1 4.0/5,**mb1mx3.7**/26,**mbtmp3.6**/5,**MS3.6**/2,**Ms1 3.6**/2,
ms1mx3.0/32,**Error ellipse: s-maj=141.5km**
s-min=25.0km az=151.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPT	**Papeete**	**26.94**	**100**	LR	LR	08 56 24.4	
	comp=Z,88nm,21.5s,baz=189,slow=30						
WRA	**Warramunga Arr**	**46.16**	**256**	P	P	08 51 23.1	+0.1
	0.6nm,0.9s,baz=88,slow=7.6,SNR=9.3						
ASAR	**Alice Springs**	**46.57**	**251**	P	P	08 51 25.9	-0.4
	2.5nm,0.6s,baz=84,slow=7.7,SNR=46						
NVAR	**Mina Array Bea**	**76.55**	**44**	P	P	08 54 49.1	+0.3
	0.4nm,0.7s,baz=231,slow=8.0,SNR=3.8						
NEW	**Newport**	**82.45**	**36**	LR	LR	09 27 43.6	
	comp=Z,47nm,18.2s,baz=330,slow=33						
ILAR	**Eielson Array**	**82.63**	**13**	P	P	08 55 20.8	-0.1
	0.2nm,0.4s,baz=226,slow=4.7,SNR=2.8						
TXAR	**Lajitas Array**	**83.56**	**58**	P	P	08 55 26.6	-0.2
	0.1nm,0.7s,baz=226,slow=4.8,SNR=2.2						

TEH ***05*** *08:45:06.6, 38°.13N*×*48°.57E, h8*km*, ML3.3*
THR ***05*** *08:45:07.6*±*0.3, 38°.21N*×*48°.62E, h18*km*?*, ML3.4*
ISC 05 08:45:07.5±1.2,**38°.14N**±0°.06×**48°.59E**±0°.06,**h10**km,**n15,**
s1**77/17,Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISRB	**Sarab**	**0.80**	**247**	*e*Pg	**Pg**	**08 45 22.1**	**-0.8**
ISRB				*e*		08 45 22.9	
ISRB				*e*Sg	**Sg**	**08 45 33.0**	**-0.3**
GRMI	**Germi**	**0.87**	**321**	*i* Pg	**Pg**	**08 45 23.4**	**-0.8**
GRMI				*i* Sg	**Sg**	**08 45 34.9**	**-0.6**
GRMI				IAML		08 45 35.4	
	comp=N,2μm,0.2s						
GRMI				IAML		08 45 35.5	
	comp=E,1μm,0.2s						
IHSH	**Hashtrud**	**1.06**	**280**	*e*Pg	**Pn**	**08 45 33.1**	**+4.3**
IHSH				*e*		08 45 52.0	
IHRS	**Heris**	**1.23**	**279**	*e*Pg	**Pb**	**08 45 29.8**	**-1.3**
IHRS				*e*		08 45 48.5	
AHAR	**Ahar**	**1.26**	**287**	*e*Pg	**Pb**	**08 45 30.4**	**-1.1**
AHAR				*e*		08 45 52.9	
ZNJK	**Zanjan**	**1.47**	**177**	*i* P	**Pn**	**08 45 35.6**	**+1.3**
QSDN	**Sirdan**	**1.70**	**164**	*e*Pg	**Pn**	**08 45 39.1**	**+1.7**
QSDN				*e*		08 46 04.5	
ITBZ	**Tabriz**	**1.93**	**274**	*e*Pn	**Pn**	**08 45 42.0**	**+1.4**
IAZR	**Azarshahr**	**2.12**	**258**	*e*Pn	**Pn**	**08 45 44.8**	**+1.6**
IAZR				*e*		08 45 51.0	
IGZV	**Ghazvin**	**2.18**	**143**	*e*Pn	**Pn**	**08 45 45.5**	**+1.5**
IGZV				*e*		08 46 32.0	
IMRD	**Marand**	**2.34**	**285**	*e*Pn	**Pn**	**08 45 47.0**	**+0.8**
QALM	**Alamut, Qazvin**	**2.36**	**136**	*e*Pn	**Pn**	**08 45 47.7**	**+1.1**
QALM				*e*		08 46 27.0	
QABG	**Abgarm-Qazvin**	**2.55**	**162**	*e*Pn	**Pn**	**08 45 50.1**	**+0.9**
QABG				*e*		08 46 35.5	
IRAZ	**Razeghan**	**2.93**	**158**	*e*Pn	**Pn**	**08 45 56.2**	**+1.8**
CHTH	**Charan**	**3.01**	**137**	*i* P	**Pn**	**08 45 57.3**	**+1.8**

AEIC ***05*** *09:04:01.1*±*2.3, 61°.15N*×*0°.01*×*140°.27W*±*0°.03, h1*km*?*±*2*km*, Error ellipse: s-maj=3.0km s-min=2.4km az=343.0*
NEIC ***05*** *09:04:02.1*±*1.9, 61°.14N*±*0°.01*×*140°.29W*±*0°.02, h1*km*?*±*11*km, Error ellipse: s-maj=2.2km s-min=1.1km az=136.0*
PGC ***05*** *09:04:02.7, 61°.14N*×*140°.28W, h1*km*, ML2.8/11, 154km west of Haines Jct., Yt Southern Yukon Territory, Canada*
ISC 05 09:04:01.9±1.0,**61°.15N**±0°.02×**140°.27W**±0°.02,**h8**km±10km,
n71,σ**1**s**41/101,Southern Yukon Territory**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUK3	**Moose Creek**	**0.64**	**352**	P	**Pg**	**09 04 14.1**	**-0.2**
YUK3				S	**Sg**	**09 04 23.1**	**+0.4**
YUK3	**Moose Creek**	**0.64**	**352**		**Pg**	**09 04 14.2**	**-0.2**
YUK3					**Sg**	**09 04 23.1**	**+0.4**
BARN	**Barnard Glacie**	**0.68**	**263**		**Pg**	**09 04 14.4**	**-0.7**
BARN					**Sg**	**09 04 24.7**	**+0.7**

YUK2	**White River**	**0.70**	**337**	P	**Pg**	**09 04 15.2**	**-0.3**
YUK2				S	**Sg**	**09 04 25.4**	**+0.8**
YUK2	**White River**	**0.70**	**337**		**Pg**	**09 04 15.1**	**-0.3**
YUK2					**Sg**	**09 04 25.4**	**+0.8**
YUK4	**Talbot Arm**	**0.81**	**75**	P	**Pg**	**09 04 18.6**	**+1.1**
YUK4	**Talbot Arm**	**0.81**	**75**		**Pg**	**09 04 18.6**	**+1.1**
YUK4					**Sb**	**09 04 30.6**	**+1.1**
YUK6	**Outpost Mounta**	**0.95**	**101**	P	**Pg**	**09 04 19.9**	**-0.2**
YUK6				S	**Sg**	**09 04 32.2**	**-0.2**
YUK6	**Outpost Mounta**	**0.95**	**101**		**Pg**	**09 04 19.9**	**-0.2**
YUK6					**Sg**	**09 04 32.8**	**+0.3**
RKAV	**Rock Avalanche**	**1.00**	**212**	P	**Pg**	**09 04 20.3**	**-0.8**
RKAV				S	**Sg**	**09 04 33.7**	**-0.3**
RKAV	**Rock Avalanche**	**1.00**	**212**		**Pg**	**09 04 20.4**	**-0.8**
RKAV					**Sg**	**09 04 34.1**	**+0.1**
BALM	**Baldy**	**1.01**	**265**	P	**Pg**	**09 04 20.6**	**-0.8**
BALM				S	**Sg**	**09 04 34.3**	**-0.3**
BALM	**Baldy**	**1.01**	**265**		**Pg**	**09 04 20.5**	**-0.8**
YUK1	**Sand Pete Hill**	**1.02**	**353**	P	**Pg**	**09 04 20.7**	**-0.8**
YUK1				S	**Sg**	**09 04 34.9**	**+0.2**
YUK1	**Sand Pete Hill**	**1.02**	**353**		**Pg**	**09 04 20.4**	**-1.0**
KIAG	**Kiagna River**	**1.04**	**259**	P	**Pg**	**09 04 20.9**	**-1.0**
KIAG				S	**Sg**	**09 04 34.8**	**-0.6**
KIAG	**Kiagna River**	**1.04**	**259**		**Pg**	**09 04 20.8**	**-1.0**
KIAG					**Sb**	**09 04 36.5**	**+0.4**
PCA	**Pinnacle**	**1.05**	**180**	P	**Pg**	**09 04 22.1**	**+0.1**
PCA				S	**Sg**	**09 04 35.8**	**+0.1**
PCA	**Pinnacle**	**1.05**	**180**		**Pg**	**09 04 22.2**	**+0.1**
PCA					**Sb**	**09 04 37.2**	**+0.9**
YAH	**Yahtse**	**1.07**	**223**		**Pg**	**09 04 22.1**	**-0.3**
YAH					**Sg**	**09 04 36.8**	**+0.6**
YUK5	**Chaix Hills**	**1.16**	**201**		**Pg**	**09 04 24.9**	**+0.3**
YUK5	**Granite Creek**	**1.17**	**90**	P	**Pb**	**09 04 23.7**	**-0.7**
YUK5				S	**Sb**	**09 04 39.3**	**-0.5**
YUK5	**Granite Creek**	**1.17**	**90**		**Pb**	**09 04 23.7**	**-0.7**
YUK5					**Sb**	**09 04 39.3**	**-0.5**
YUK7	**Dusty Glacier**	**1.21**	**120**	P	**Pb**	**09 04 24.6**	**-0.5**
YUK7				S	**Sb**	**09 04 40.9**	**-0.1**
YUK7	**Dusty Glacier**	**1.21**	**120**		**Pb**	**09 04 24.6**	**-0.5**
MESA	**MESA**	**1.27**	**221**	P	**Pn**	**09 04 26.0**	**-0.2**
MESA				S	**Sb**	**09 04 42.7**	**-0.2**
MESA	**MESA**	**1.27**	**221**		**Pn**	**09 04 26.6**	**+0.4**
MESA					**Sn**	**09 04 45.0**	**+1.4**
BVCY	**Beaver Creek**	**1.30**	**348**	P	**Pn**	**09 04 25.9**	**-0.5**
BVCY				S	**Sb**	**09 04 42.8**	**-0.8**
BVCY	**Beaver Creek**	**1.30**	**348**		**Pn**	**09 04 26.0**	**-0.5**
HYT	**Haines Junctio**	**1.39**	**102**	Pn	**Pn**	**09 04 27.2**	**-0.4**
HYT				Sg	**Sb**	**09 04 45.6**	**-0.3**
HYT	**Haines Junctio**	**1.39**	**102**		**Pn**	**09 04 27.2**	**-0.4**
WAX	**Waxell Ridge**	**1.45**	**242**		**Pn**	**09 04 28.5**	**+0.1**
KULT	**Kultieth River**	**1.50**	**234**		**Pn**	**09 04 29.9**	**+0.7**
PNL	**Peninsula**	**1.54**	**163**	Pn	**Pn**	**09 04 29.6**	**-0.1**
PNL				Sg	**Sg**	**09 04 52.8**	**+1.4**
PNL	**Peninsula**	**1.54**	**163**		**Pn**	**09 04 29.9**	**+0.2**
VRDI	**Verde Repeater**	**1.54**	**274**		**Pn**	**09 04 29.5**	**-0.4**
KHIT	**Khitrov Hills**	**1.62**	**246**		**Pn**	**09 04 31.6**	**+0.8**
YKU2	**Yakutat**	**1.67**	**169**		**Pn**	**09 04 31.8**	**+0.5**
GRIN	**Grindle Hills**	**1.73**	**241**		**Pn**	**09 04 33.1**	**+0.8**
GLB	**Gilahina Butte**	**1.73**	**281**		**Pn**	**09 04 32.9**	**+0.5**
BC03		**2.06**	**340**		**Pn**	**09 04 37.5**	**+0.9**
MENT	**Mentasta**	**2.42**	**319**		**Pn**	**09 04 43.4**	**+1.6**
PLBC	**Pleasant Camp**	**2.58**	**129**	Pg	**Pb**	**09 04 48.7**	**+0.4**
PLBC				Sg	**Sg**	**09 05 23.2**	**-1.4**
HARP	**HAARP**	**2.64**	**301**	Pn	**Pb**	**09 04 48.4**	**-1.0**
WHY	**Whitehorse**	**2.68**	**98**	Pn	**Pn**	**09 04 46.9**	**+1.5**
WHY				Sg	**Sb**	**09 05 25.8**	**+2.7**
WHY	**Whitehorse**	**2.68**	**98**		**Pn**	**09 04 46.3**	**+0.9**
DAWY	**Dawson**	**2.96**	**7**	Pn	**Pn**	**09 04 50.4**	**+1.2**
DAWY				Sg	**Sb**	**09 05 33.6**	**+2.5**
DAWY	**Dawson**	**2.96**	**7**		**Pn**	**09 04 50.4**	**+1.2**
FID	**Port Fidalgo**	**3.06**	**265**		**Pn**	**09 04 54.3**	**-2.2**
DOT	**Dot Lake**	**3.07**	**327**	Pn	**Pn**	**09 04 51.6**	**+1.0**
DOT				Sg	**Sg**	**09 05 38.5**	**-2.0**
DOT	**Dot Lake**	**3.07**	**327**		**Pn**	**09 04 52.5**	**+1.8**
SCRK	**Sand Creek**	**3.32**	**330**		**Pn**	**09 04 55.0**	**+0.8**
GLI	**Glacier Island**	**3.33**	**268**		**Pn**	**09 04 56.3**	**+2.0**
RIDG	**Independent Ri**	**3.36**	**323**		**Pn**	**09 04 55.2**	**+0.5**
SCM	**Sheep Creek Mo**	**3.46**	**285**		**Pn**	**09 04 58.7**	**+2.7**
EGAK	**Eagle**	**3.67**	**354**		**Pn**	**09 05 00.8**	**+2.0**
WAT6	**Susitna Watana**	**3.82**	**295**		**Pn**	**09 05 04.1**	**+3.0**
SML	**Sawmill**	**3.92**	**283**	Pn	**Pn**	**09 05 05.6**	**+3.1**
KNK	**Knik Glacier**	**3.96**	**277**	Pn	**Pn**	**09 05 04.3**	**+1.3**
HDA	**Harding Lake**	**4.49**	**320**		**Pn**	**09 05 12.4**	**+2.3**
RC01	**Rabbit Creek A**	**4.59**	**273**	Pn	**Pn**	**09 05 15.2**	**+3.6**
RND	**Reindeer**	**4.61**	**303**		**Pn**	**09 05 14.9**	**+3.1**
WRH	**Wood River Hil**	**4.90**	**316**	Pn	**Pn**	**09 05 17.4**	**+1.6**
CCB	**Clear Creek Bu**	**4.92**	**319**	Pn	**Pn**	**09 05 16.0**	**-0.1**
TRF	**Thorofare Moun**	**5.22**	**301**		**Pn**	**09 05 23.1**	**+2.9**
BPAW	**Bear Paw Mtn.**	**5.76**	**306**	Pn	**Pn**	**09 05 29.7**	**+2.1**
DLBC	**

	comp=Z,6.7nm,1.0s							
WRA	**Warramunga Arr**	**45.56**	**262**	P		**P**	**09 29 54.7**	**-0.9**
	comp=Z,4.0nm,0.7s,baz=99,slow=7.9,SNR=41							
MTN	**Manton Dam**	**50.10**	**270**	P		**P**	**09 30 29.7**	**-0.6**
KNRA	**Kununurra**	**51.61**	**266**	P		**P**	**09 30 41.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**53.98**	**262**	P		**P**	**09 30 58.5**	**-0.2**
VNDA	**Vanda**	**58.20**	**185**	P		**P**	**09 31 28.2**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=356,slow=9.0,SNR=4.7							
CASY	**Casey**	**64.55**	**205**	P		**P**	**09 32 09.7**	**-0.2**
CASY				IAmb		IAmb	09 32 10.4	
	comp=Z,7.0nm,1.1s							
QSPA	**South Pole Qui**	**69.78**	**180**	P		**P**	**09 32 42.9**	**+0.2**
	comp=Z,5.0nm,0.7s,baz=14,slow=0.9,SNR=21							
QSPA	**South Pole Qui**	**69.78**	**180**	P		**P**	**09 32 43.2**	**+0.5**
QSPA				IAmb		IAmb	09 32 43.8	
	comp=Z,5.4nm,0.8s							
NVAR	**Mina Array Bea**	**80.23**	**43**	P		**P**	**09 33 43.4**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=224,slow=7.6,SNR=2.1							
TRF	**Thorofare Moun**	**86.05**	**12**	P		**P**	**09 34 10.7**	**-0.9**
TRF				IAmb		IAmb	09 34 11.5	
	comp=Z,3.3nm,0.8s							
TXAR	**Lajitas Array**	**86.16**	**57**	P		**P**	**09 34 13.6**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=230,slow=5.9,SNR=7.8							
RND	**Reindeer**	**86.29**	**12**	P		**P**	**09 34 12.3**	**-0.4**
ILAR	**Eielson Array**	**87.90**	**12**	P		**P**	**09 34 18.9**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=224,slow=5.0,SNR=1.7							
SNAA	**Sanae**	**88.19**	**178**	P		**P**	**09 34 20.7**	**-1.1**
SNAA	**Sanae**	**88.19**	**178**	P		**P**	**09 34 20.2**	**-1.5**
	comp=Z,1.2nm,0.8s,baz=208,slow=11,SNR=7.7							
SNAA	**Sanae**	**88.19**	**178**	P		**P**	**09 34 20.5**	**-1.3**
SNAA				IAmb		IAmb	09 34 32.8	
	comp=Z,4.3nm,1.4s							
VNA3	**Neumayer Olymp**	**88.29**	**176**	P		**P**	**09 34 21.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**90.93**	**289**	P		**P**	**09 34 37.0**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=121,slow=6.4,SNR=4.4							
BRTR	**Keskin Array B**	**147.38**	**313**	PKPbc		**PKPbc**	**09 41 12.9**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=48,slow=2.1,SNR=2.4							
TORD	**Torodi Ar. Bea**	**172.79**	**170**	PKPab		**PKPab**	**09 43 05.9**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=184,slow=4.1,SNR=4.4							

*DRS **05** 09:22:52.5±0.0, 43˚.25N×46˚.07E, h10km*
*NORS **05** 09:22:54.2±0.0, 43˚.07N×46˚.17E, h25km, MPVA3.6*
ISC 05 09:22:54.9±1.4, **43˚.23N**±0˚.07×**46˚.12E**±0˚.03, **h10**km±10km, **n15**, σ0**963**/30, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.56**	**112**	*e*Pg	**Pg**	**Pg**	**09 23 05.7**	**-0.1**
	34nm,0.4s							
DBC				*e*Sg	**Sg**	**Sg**	**09 23 13.6**	**+0.4**
	98nm,0.5s							
BTLR	**Botlikh**	**0.57**	**173**	*e*Pg	**Pg**	**Pg**	**09 23 05.7**	**-0.3**
	43nm,0.1s							
BTLR				*e*Sg	**Sg**	**Sg**	**09 23 14.2**	**+0.6**
	121nm,0.5s							
KRNR	**Karanay**	**0.70**	**125**	*e*Pg	**Pg**	**Pg**	**09 23 08.0**	**-0.5**
	20nm,0.0s							
KRNR				*e*Sg	**Sg**	**Sg**	**09 23 18.0**	**+0.3**
	32nm,0.4s							
UNCR	**Uncukul**	**0.71**	**136**	*e*Pg	**Pg**	**Pg**	**09 23 08.0**	**-0.7**
	25nm,0.0s							
UNCR				*e*Sg	**Sb**	**Sb**	**09 23 19.0**	**-0.3**
	63nm,0.7s							
GNBR	**Gunib**	**1.04**	**143**	*e*Pg	**Pn**	**Pn**	**09 23 15.8**	**+0.2**
	19nm,0.5s							
GNBR				*e*Sg	**Sn**	**Sn**	**09 23 31.2**	**+0.9**
	114nm,0.5s							
VLKR	**Vladikavkaz**	**1.07**	**261**	*e*Pg	**Pg**	**Pg**	**09 23 16.1**	**+0.6**
VLKR				*e*Sg	**Sn**	**Sn**	**09 23 32.1**	**+1.1**
PNSH	**Pansheti**	**1.26**	**242**	P		**Pb**	**09 23 18.7**	**-0.1**
PNSH				S		**Sg**	**09 23 36.1**	**+0.7**
KMKR	**Kumukh**	**1.31**	**146**	*e*Pg		**Pg**	**09 23 20.5**	**+0.4**
	18nm,0.2s							
KMKR				*e*Sg		**Sg**	**09 23 38.5**	**+1.3**
	130nm,0.2s							
LGD	**Lagodekhi**	**1.40**	**176**	P		**Pg**	**09 23 21.4**	**-0.3**
LGD				S		**Sg**	**09 23 39.4**	**-0.5**
LACR	**Lac**	**1.40**	**254**	*e*Pg		**Pn**	**09 23 20.5**	**-0.1**
LACR				*e*Sg		**Sb**	**09 23 39.6**	**+0.5**
GUDG	**Gudauri**	**1.43**	**238**	P		**Pg**	**09 23 22.8**	**+0.4**
GUDG				S		**Sn**	**09 23 39.3**	**-0.8**
GUDG	**Gudauri**	**1.43**	**238**	*e*Pg		**Pn**	**09 23 20.9**	**-0.2**
GUDG				*e*Sg		**Sn**	**09 23 39.6**	**-0.5**
ZEI	**Tsey**	**1.69**	**256**	*e*Pg		**Pg**	**09 23 27.0**	**-0.3**
ZEI				*e*Sg		**Sg**	**09 23 48.8**	**-0.4**
DIGR	**Digorskoe uzhe**	**1.89**	**261**	*e*Pg		**Pb**	**09 23 28.8**	**-0.9**
DIGR				*e*Sg		**Sb**	**09 23 54.3**	**+0.9**
ONI	**Oni**	**2.06**	**253**	P		**Pn**	**09 23 29.4**	**-0.3**
ONI				S		**Sb**	**09 23 57.7**	**-0.5**

*IDC **05** 09:44:55.1±5.1, 15˚.84N×98˚.45W, h0km, mb3.4/4,*
mb1 3.7/7, mb1mx3.6/30, mbtmp3.4/7, ML3.5/3, MS3.3/3,
Ms1 3.3/3, ms1mx2.9/23, Error ellipse: s-maj=88.1km
s-min=18.4km az=3.0
*NEIC **05** 09:44:57.0±3.9, 15˚.93N±0˚.08×98˚.53W±0˚.0, h19km, 9km,*
Error ellipse: s-maj=11.0km s-min=3.4km az=170.0
*MEX **05** 09:44:59.4±1.3, 16˚.10N×98˚.57W, h9km±16km, MD4.4*
ISC 05 09:44:58.7±2.9, **16˚.01N**±0˚.05×**98˚.53W**±0˚.03, **h22**km±20km, **n77**, σ2**823**/114, **mb4.0**/11, **1C, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YOIG	**Yosondua**	**1.27**	**48**	*e*P		**Pn**	**09 45 19.2**	**-2.2**
YOIG				*i* S		**Sn**	**09 45 35.7**	**-2.1**
PEIG	**Puerto Escondi**	**1.33**	**90**	*i* P		**Pn**	**09 45 21.0**	**-0.9**
PEIG				*i* S		**Sn**	**09 45 38.1**	**-1.0**
TXIG	**Tlaxiaco**	**1.44**	**30**	*e*P		**Pn**	**09 45 21.2**	**-2.6**
TXIG				*e*S		**Sn**	**09 45 38.8**	**-3.3**
TLIG	**Tlapa**	**1.55**	**359**			**Pn**	**09 45 22.5**	**-2.6**
TLIG	**Tlapa**	**1.55**	**359**	*e*P		**Pn**	**09 45 22.5**	**-2.6**
TLIG				*e*S		**Sn**	**09 45 40.0**	**-4.6**
ACP2	**Acapulco**	**1.56**	**304**			**Pn**	**09 45 24.2**	**-1.0**
ACP2						**Sn**	**09 45 39.7**	**-5.1**
ACP2	**Acapulco**	**1.56**	**304**	*e*P		**Pn**	**09 45 23.6**	**-1.6**
ACP2				*e*S		**Sn**	**09 45 39.7**	**-5.1**
HMTT	**Tlapaneco**	**1.78**	**359**			**Pn**	**09 45 26.1**	**-2.1**
HMTT	**Tlapaneco**	**1.78**	**359**	*e*P		**Pn**	**09 45 26.1**	**-2.1**
HMTT				*i* S		**Sn**	**09 45 45.8**	**-4.5**
FTIG	**Fresnillo de T**	**1.93**	**11**	*e*P		**Pn**	**09 45 28.3**	**-2.1**
FTIG				*e*S		**Sn**	**09 45 49.8**	**-4.2**
HLIG	**Huajuapan de L**	**1.94**	**21**	*e*P		**Pn**	**09 45 28.4**	**-2.1**
HLIG				*i* S		**Sn**	**09 45 50.5**	**-3.9**
CAIG	**El Cayaco**	**1.96**	**302**			**Pn**	**09 45 28.7**	**-2.0**
CAIG	**El Cayaco**	**1.96**	**302**	*e*P		**Pn**	**09 45 28.7**	**-2.0**
CAIG				*i* S		**Sn**	**09 45 50.7**	**-3.9**
VHO	**Vista Hermosa**	**2.02**	**58**	*e*P		**Pn**	**09 45 30.5**	**-1.2**
VHO				*i* S		**Sn**	**09 45 55.1**	**-1.3**
MEIG	**Mezcala**	**2.17**	**331**			**Pn**	**09 45 31.9**	**-1.8**
MEIG	**Mezcala**	**2.17**	**331**	*e*P		**Pn**	**09 45 31.9**	**-1.8**
MEIG				*i* S		**Sn**	**09 45 56.1**	**-3.9**
HUIG	**Huatulco**	**2.34**	**96**			**Pn**	**09 45 34.9**	**-1.0**
HUIG	**Huatulco**	**2.34**	**96**	*e*P		**Pn**	**09 45 34.9**	**-1.0**
HUIG				*i* S		**Sn**	**09 46 03.7**	**-0.3**
TOIG	**Toxpalan**	**2.50**	**34**	*e*P		**Pn**	**09 45 36.6**	**-1.6**
TOIG				*i* S		**Sn**	**09 46 05.6**	**-2.6**
PLIG	**Platanillo**	**2.55**	**339**			**Pn**	**09 45 38.0**	**-0.9**
PLIG						**Sn**	**09 46 08.1**	**-1.1**
PLIG	**Platanillo**	**2.55**	**339**	*e*P		**Pn**	**09 45 38.0**	**-0.9**
PLIG				*i* S		**Sn**	**09 46 05.5**	**-3.7**
TPIG	**Tehuac#an**	**2.65**	**25**			**Pn**	**09 45 38.2**	**-2.1**
TPIG						**Sn**	**09 46 11.0**	**-0.8**
TPIG	**Tehuac#an**	**2.65**	**25**	*e*P		**Pn**	**09 45 38.2**	**-2.1**
TPIG				*i* S		**Sn**	**09 46 10.2**	**-1.6**
ARIG	**Puente Sto Nin**	**2.85**	**323**			**Pn**	**09 45 42.6**	**-0.4**
ARIG						**Sn**	**09 46 15.5**	**-1.2**
ARIG	**Puente Sto Nin**	**2.85**	**323**	*e*P		**Pn**	**09 45 42.0**	**-1.0**
ARIG				*i* S		**Sn**	**09 46 13.2**	**-3.5**
YAIG	**Yautepec**	**2.88**	**350**			**Pn**	**09 45 43.2**	**-0.3**
YAIG						**Sn**	**09 46 17.1**	**-0.5**
YAIG	**Yautepec**	**2.88**	**350**	*e*P		**Pn**	**09 45 43.2**	**-0.3**
YAIG				*e*S		**Sn**	**09 46 17.1**	**-0.5**
PHPU	**Puebla**	**3.04**	**6**			**Pb**	**09 45 51.7**	**-0.6**
PHPU						**Sb**	**09 46 30.4**	**+1.3**
PHPU	**Puebla**	**3.04**	**6**	*e*P		**Pb**	**09 45 51.7**	**-0.6**
PHPU				*i* S		**Sn**	**09 46 20.4**	**-1.3**
PPM	**Popocatepetl**	**3.04**	**358**	*i*eP		**Pn**	09 45 42.1	-3.9
PPM				*e*S		**Sn**	**09 46 21.1**	**-0.9**
MAVM	**Malinalco, Edo**	**3.08**	**343**			**Pn**	**09 45 48.6**	**+2.4**
MAVM						**Sb**	**09 46 28.5**	**-1.5**
MAVM	**Malinalco, Edo**	**3.08**	**343**	*e*P		**Pn**	**09 45 48.6**	**+2.4**
MAVM				*e*S		**Sb**	**09 46 28.5**	**-1.5**
AMVM	**AMECAMECA**	**3.12**	**356**			Pn	09 45 36.5	-10
AMVM						**Sb**	**09 46 32.6**	**+1.3**
AMVM	**AMECAMECA**	**3.12**	**356**	*e*P		Pn	09 45 36.5	-10
AMVM				*e*S		**Sn**	**09 46 22.6**	**-1.0**
ZIIG	**Zihuatanejo**	**3.23**	**300**	*e*S		**Sb**	**09 46 32.7**	**-1.6**
UNM	**Universidad Na**	**3.36**	**349**	Pn		**Pn**	**09 45 53.6**	**+3.4**
UNM	**Universidad Na**	**3.36**	**349**	*i* P		**Pn**	**09 45 49.7**	**-0.4**
UNM				*i* S		**Sn**	**09 46 26.0**	**-3.6**
CVM	**Colonia del Va**	**3.41**	**350**	*i* P		**Pn**	**09 45 49.6**	**-1.1**
CVM				*i* S		**Sn**	**09 46 27.7**	**-2.7**
TOVM	**TOLUCA**	**3.44**	**342**			**Pn**	**09 45 48.6**	**-2.7**
TOVM						**Sb**	**09 46 41.3**	**+0.8**
TOVM	**TOLUCA**	**3.44**	**342**	*e*P		**Pn**	**09 45 48.6**	**-2.7**
TOVM				*i* S		**Sn**	**09 46 31.3**	**-0.2**
PBVM	**Pinon**	**3.46**	**351**			**Pb**	**09 45 57.9**	**-1.3**
PBVM						LR	09 46 44.5	
PBVM	**Pinon**	**3.46**	**351**	*e*P		**Pb**	**09 45 57.9**	**-1.3**
PBVM				*i* S		**Sn**	**09 46 34.5**	**+3.0**
PTVM	**Pico Tres Padr**	**3.61**	**351**			**Pn**	**09 45 55.5**	**+1.9**
PTVM						**Sb**	**09 46 44.3**	**-1.1**
PTVM	**Pico Tres Padr**	**3.61**	**351**	*e*P		**Pn**	**09 45 55.5**	**+1.9**
PTVM				*e*S		**Sn**	**09 46 34.3**	**-1.4**
AZVM	**Cuida Lopez Ma**	**3.63**	**349**			**Pn**	**09 45 56.5**	**+2.6**
AZVM						**Sb**	**09 46 46.2**	**+0.1**
AZVM	**Cuida Lopez Ma**	**3.63**	**349**	*e*P		**Pn**	**09 45 56.5**	**+2.6**
AZVM				*e*S		**Sn**	**09 46 36.2**	**0.0**
CMIG	**Matias Romero**	**3.66**	**72**	Pn		**Pn**	**09 45 53.0**	**-1.0**
	2.2nm,0.3s,baz=247,slow=14,SNR=72							
CMIG				Pg		**Pb**	**09 46 01.8**	**-0.9**
	3.5nm,0.3s,baz=247,slow=16,SNR=12							
CMIG				Sn		**Sn**	**09 46 34.0**	**-2.5**
	8.8nm,0.3s,baz=227,slow=16,SNR=5.3							
CMIG				Lg		Lg	09 46 51.3	
	50nm,0.3s,baz=180,slow=17,SNR=13							
CMIG	**Matias Romero**	**3.66**	**72**			**Pn**	**09 45 53.0**	**-1.0**
CMIG						**Sb**	**09 46 45.7**	**-0.9**
CMIG	**Matias Romero**	**3.66**	**72**	*e*P		**Pn**	**09 45 53.0**	**-1.0**
CMIG				*e*S		**Sn**	**09 46 35.7**	**-0.8**
ZUVM	**ZUMPANGO**	**3.83**	**352**			**Pb**	**09 46 06.2**	**+0.4**
ZUVM						LR	09 46 55.4	
ZUVM	**ZUMPANGO**	**3.83**	**352**	*i* P		**Pn**	**09 45 56.2**	**-0.5**
ZUVM				*i* S		**Sn**	**09 46 40.4**	**-0.8**
ATVM	**ATLACOMULCO**	**3.94**	**342**			**Pb**	**09 46 06.2**	**-1.4**
ATVM						**Sb**	**09 46 53.5**	**-1.4**
ATVM	**ATLACOMULCO**	**3.94**	**342**	*e*P		**Pn**	**09 45 56.2**	**-1.9**
ATVM				*e*S		**Sn**	**09 46 43.5**	**-0.3**
ACIG	**Acambay**	**4.16**	**342**	*e*P		**Pb**	**09 46 08.4**	**-2.9**
MOIG	**Morelia**	**4.44**	**326**	Pn		**Pn**	**09 46 07.5**	**+2.4**
TEIG	**Tepich**	**10.61**	**65**	Pn		**Pn**	**09 47 28.1**	**-1.4**
	0.8nm,0.3s,baz=319,slow=3.4,SNR=1.4							
TEIG				Sn		**Sn**	**09 49 20.0**	**-7.7**
	baz=139,slow=19							
H06E1	**SOCORRO T-PHAS**	**12.15**	**285**	T		T	09 59 59.7	
	SNR=8.1							
TXAR	**Lajitas Array**	**14.08**	**341**	Pn		**Pn**	**09 48 20.4**	**+3.4**
	0.0nm,0.3s,baz=161,slow=11,SNR=1.8							
TXAR				Lg		Lg	09 52 20.2	
	0.0nm,0.3s,baz=138,slow=31,SNR=2.8							
TXAR				LR		LR	09 54 02.6	
	comp=Z,99nm,19.3s,baz=0.0,slow=38							
ANMO	**Albuquerque**	**20.16**	**341**	P		**P**	**09 49 32.7**	**+0.9**
	0.9nm,0.6s,baz=142,slow=14,SNR=5.9							
ANMO				LR		LR	09 57 55.7	
	comp=Z,126nm,19.0s,baz=152,slow=38							
U40A	**Yellville**	**20.89**	**13**	P		**P**	**09 49 40.2**	**+0.7**
U40A				IAmb		IAmb	09 49 44.1	
	comp=Z,6.8nm,0.8s							
X18A	**Snowflake**	**21.11**	**333**	P		**P**	**09 49 44.5**	**+2.4**
X18A				IAmb		IAmb	09 49 50.8	
	comp=Z,9.9nm,1.4s							
X16A	**Lo Mia Camp, P**	**21.70**	**330**	P		**P**	**09 49 50.4**	**+2.0**
T42A	**Van Buren**	**21.95**	**16**	P		**P**	**09 49 52.7**	**+1.8**
T42A				IAmb		IAmb	09 49 54.1	
	comp=Z,6.2nm,0.8s							
WVT	**Waverly**	**22.19**	**23**	P		**P**	**09 49 54.3**	**+0.7**
WVT				IAmb		IAmb	09 49 55.2	
	comp=Z,7.4nm,0.8s							
WUAZ	**Wupatki**	**22.57**	**332**	P		**P**	**09 49 57.0**	**-0.8**
R40A	**Maddies Statio**	**22.87**	**13**	P		**P**	**09 50 00.8**	**+0.1**
R40A				IAmb		IAmb	09 50 02.3	
	comp=Z,6.5nm,0.8s							
CCM	**Cathedral Cave**	**22.88**	**15**	P		**P**	**09 50 03.3**	**+2.4**
CCM				IAmb		IAmb	09 50 05.6	
	comp=Z,4.8nm,0.9s							
MVCO	**Mesa Verde**	**22.89**	**339**	P		**P**	**09 50 02.2**	**+0.9**
MVCO				IAmb		IAmb	09 50 09.8	
	comp=Z,11nm,1.4s							
ISCO	**Idaho Springs**	**24.50**	**347**	IAmb		IAmb	09 50 24.5	
	comp=Z,3.7nm,1.1s							
PDAR	**Pinedale Array**	**28.29**	**343**	P		**P**	**09 50 52.6**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=142,slow=10,SNR=4.9							
NVAR	**Mina Array Bea**	**28.31**	**326**	P		**P**	**09 50 53.6**	**+2.6**
	comp=Z,0.6nm,0.8s,baz=147,slow=10,SNR=4.4							
ELK	**Elko**	**28.59**	**333**	LR		LR	10 05 01.3	
	comp=Z,55nm,18.0s,baz=158,slow=42							
E43A	**Lone Tree Farm**	**31.77**	**15**	P		**P**	**09 51 21.2**	**-0.2**
E43A				IAmb		IAmb	09 51 22.6	
	comp=Z,3.3nm,1.0s							
YKA	**Yellowknife Ar**	**47.80**	**350**	P		**P**	**09 53 33.8**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=161,slow=7.5,SNR=5.2							
H03N2	**Juan Fernandez**	**52.61**	**159**	T		T	10 51 02.4	
	baz=338,slow=77,SNR=687							
H03N1	**Juan Fernandez**	**52.62**	**159**	T		T	10 51 03.6	
	baz=338,slow=77,SNR=963							
H03N3	**Juan Fernandez**	**52.63**	**159**	T		T	10 51 02.2	
	baz=338,slow=77,SNR=1045							

*MOS **05** 09:48:08.9±0.0, 43˚.48N×45˚.46E, h9km, MPVA3.9*
*NORS **05** 09:48:08.8±0.0, 43˚.60N×45˚.54E, h18km, MPVA3.9*
*TIF **05** 09:48:09.7, 43˚.55N×45˚.47E, h15km±2km*
*DRS **05** 09:48:10.2±0.0, 43˚.43N×45˚.71E, h8km*
ISC 05 09:48:10.6±1.1, **43˚.52N**±0˚.03×**45˚.50E**±0˚.02, **h14**km±9km, **n31**, σ1**804**/61, **Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.59**	**290**	*e*Pg		**Pg**	**09 48 21.8**	**-0.3**
TRKR				*e*Sg		**Sg**	**09 48 31.5**	**+0.7**
KMGR	**Komgaron**	**0.66**	**225**	*e*Pg		**Pg**	**09 48 22.9**	**-0.5**
KMGR				*e*Sg		**Sb**	**09 48 34.1**	**+1.4**
PRTR	**Priterechnaya**	**0.91**	**285**	*e*Pg		**Pb**	**09 48 27.5**	**-0.6**
PRTR				*e*Sg		**Sn**	**09 48 41.3**	**-0.4**
ARNR	**Ardon**	**0.95**	**249**	*e*Pg		**Pb**	**09 48 27.4**	**-1.4**
ARNR				*e*Sg		**Sb**	**09 48 41.5**	**+0.3**
BTLR	**Botlikh**	**1.01**	**148**	*e*Pg		**Pn**	**09 48 30.8**	**+0.5**
BTLR				*e*Sg		**Sn**	**09 48 44.1**	**-0.2**
STDR	**Stavd-Durt**	**1.05**	**262**	*e*Pg		**Pg**	**09 48 30.9**	**0.0**
STDR				*e*Sg		**Sn**	**09 48 47.6**	**+2.2**
DBC	**Dubki**	**1.10**	**117**	*e*Pg		**Pg**	**09 48 31.9**	**+0.1**
DBC				*e*Sg		**Sn**	**09 48 48.7**	**+2.2**
PNSH	**Pansheti**	**1.10**	**216**	P		**Pb**	**09 48 31.1**	**-0.3**
PNSH				S		**Sb**	**09 48 46.1**	**+0.5**
LACR	**Lac**	**1.12**	**232**	*e*Pg		**Pn**	**09 48 30.8**	**-1.1**
LACR				*e*Sg		**Sg**	**09 48 47.4**	**+0.6**
KORR	**Kora**	**1.13**	**248**	*e*Pg		**Pg**	**09 48 32.2**	**-0.1**
KORR				*e*Sg		**Sg**	**09 48 50.0**	**+2.9**
LSNR	**Lesken**	**1.24**	**259**	*e*Pg		**Pb**	**09 48 33.4**	**-0.4**
LSNR				*e*Sg		**Sg**	**09 48 52.8**	**+2.1**
KRNR	**Karanay**	**1.25**	**124**	*e*Pg		**Pg**	**09 48 34.0**	**-0.6**
KRNR				*e*Sg		**Sg**	**09 48 51.8**	**+1.0**
UNCR	**Uncukul**	**1.25**	**130**	*e*Pg		**Pg**	**09 48 34.0**	**-0.6**
UNCR				*e*Sg		**Sg**	**09 48 52.0**	**+1.1**
GUDG	**Gudauri**	**1.30**	**216**	P		**Pn**	**09 48 33.3**	**-1.1**
GUDG				S		**Sb**	**09 48 50.2**	**-1.2**
GUDG	**Gudauri**	**1.30**	**216**	*e*Pg		**Pn**	**09 48 33.3**	**-1.1**
GUDG				*e*Sg		**Sb**	**09 48 51.5**	**+0.2**
XNZR	**Khunzakh**	**1.32**	**138**	*e*Pg		**Pg**	**09 48 35.8**	**-0.2**
XNZR				*e*Sg		**Sg**	**09 48 54.2**	**+0.9**
BUJR	**Buynaksk**	**1.37**	**120**	*e*Pg		**Pg**	**09 48 37.4**	**+0.5**
BUJR				*e*Sg		**Sg**	**09 48 56.3**	**+1.6**
ZEI	**Tsey**	**1.38**	**238**	*e*Pg		**Pn**	**09 48 35.2**	**-0.3**
ZEI				*e*Sg		**Sb**	**09 48 54.6**	**+0.8**
DIGR	**Digorskoe uzhe**	**1.53**	**247**	*e*Pg		**Pn**	**09 48 37.9**	**+0.3**
DIGR				*e*Sg		**Sb**	**09 48 58.7**	**+0.5**
ONI	**Oni**	**1.77**	**239**	P		**Pb**	**09 48 41.7**	**-1.0**
ONI				S		**Sb**	**09 49 05.8**	**+1.1**
ONI	**Oni**	**1.77**	**239**	*e*Pg		**Pb**	**09 48 41.7**	**-1.0**
ONI				*e*Sg		**Sb**	**09 49 05.8**	**+1.1**
LGD	**Lagodekhi**	**1.78**	**162**	P		**Pb**	**09 48 42.4**	**-0.5**
LGD				S		**Sg**	**09 49 06.8**	**-0.8**
LGD	**Lagodekhi**	**1.78**	**162**	*e*Pg		**Pb**	**09 48 42.1**	**-0.7**
LGD				*e*Sg		**Sg**	**09 49 06.9**	**-0.8**
KMKR	**Kumukh**	**1.82**	**139**	*e*Pg		**Pg**	**09 48 45.0**	**-0.6**
KMKR				*e*Sg		**Sg**	**09 49 09.5**	**+0.2**
TBLG	**Delisi**	**1.88**	**198**	P		**Pb**	**09 48 44.2**	**-0.4**
TBLG				S		**Sg**	**09 49 09.6**	**-1.3**
NEY	**Neytrino**	**2.04**	**263**	*e*Pg		**Pn**	**09 48 45.2**	**+0.6**
NEY				*e*Sg		**Sb**	**09 49 12.8**	**0.0**
SHA1	**Shidzhatmaz**	**2.07**	**277**	*e*Pg		**Pn**	**09 48 43.9**	**-1.2**
SHA1				*e*Sg		**Sb**	**09 49 13.3**	**-0.5**
KIV1	**Kislovodsk Arr**	**2.08**	**283**	*e*Pg		**Pn**	**09 48 45.5**	**+0.4**
KIV1				*e*Sg		**Sb**	**09 49 13.8**	**+0.1**
DDFL	**Dedoflistskaro**	**2.13**	**167**	P		**Pg**	**09 48 50.3**	**-1.0**
KZRT	**Kazreti**	**2.29**	**201**	P		**Pn**	**09 48 48.8**	**+1.0**
KZRT				S		**Sb**	**09 49 18.6**	**-1.1**
GOF	**Gofitskoye**	**2.33**	**312**	*e*Pn		**Pb**	**09 48 50.6**	**-1.8**
GOF				*e*Sn		**Sb**	**09 49 19.4**	**-1.7**

IDC 05 10:00:32.2±17.0, **14˚.54N×55˚.86E, h0**km, **mb3.4**/4, **mb1 3.6**/4, **mb1mx3.3**/51, **mbtmp3.4**/4, **Error ellipse: s-maj=585.2km s-min=39.6km az=84.0, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.01**	**29**	P	P	P	10 07 59.8	-0.8
	0.2nm,0.5s,baz=231,slow=9.1,SNR=2.1							
KURBB	**Kurchatov Arra**	**40.41**	**22**	P	P	P	10 08 12.5	+0.5
	0.1nm,0.4s,baz=226,slow=8.6,SNR=2.0							
WRA	**Warramunga Arr**	**84.42**	**112**	P	P	P	10 13 07.9	+0.7
	0.4nm,0.7s,baz=271,slow=3.3,SNR=1.8							
ASAR	**Alice Springs**	**85.17**	**116**	P	P	P	10 13 10.6	-0.5
	0.3nm,0.7s,baz=288,slow=4.5,SNR=6.2							

IDC 05 10:01:30.0±2.8, **14˚.49N×55˚.47E, h0**km, **mb3.8**/4, **mb1 4.0**/4, **mb1mx3.5**/51, **mbtmp3.8**/4, **Error ellipse: s-maj=102.1km s-min=36.6km az=67.0, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.24**	**29**	P	P	P	10 09 00.2	0.0
	0.4nm,0.7s,baz=213,slow=7.7,SNR=2.8							
ARCES	**ARCESS Array B**	**58.14**	**348**	P	P	P	10 11 25.1	-0.1
	1.6nm,0.7s,baz=139,slow=4.3,SNR=3.6							
H01W3	**Cape Leeuwin H**	**74.19**	**133**	T	T		11 33 48.7	
	baz=301,slow=75,SNR=13							
H01W2	**Cape Leeuwin H**	**74.19**	**133**	T	T		11 33 51.3	
	baz=301,slow=75,SNR=13							
H01W1	**Cape Leeu

baz=264,slow=74,SNR=14
H11N3 WAKE ISLAND Hy 40.15 71 T T 11 14 21.8
baz=264,slow=74,SNR=14
SONM Songino Array 41.85 340 P **P** **10 31 01.0 -0.7**
comp=Z,1.3nm,0.6s,baz=156,slow=9.9,SNR=8.7
BBOO Buckleboo 43.04 168 P **P** **10 31 12.4 +1.0**
BBOO IAmb IAmb 10 31 27.0
comp=Z,10nm,1.1s
NWAO Narrogin (SRO) 43.16 192 P **P** **10 31 12.9 +0.6**
comp=Z,5.4nm,0.6s,baz=16,slow=9.7,SNR=6.3
NWAO Narrogin (SRO) 43.16 192 P **P** **10 31 13.1 +0.7**
NWAO IAmb IAmb 10 31 14.5
comp=Z,8.3nm,0.9s
NWAO Narrogin (SRO) 43.16 192 IAmb IAmb 10 31 14.5
comp=Z,6.3nm,0.9s
PETK Petropavlovsk- 50.16 24 P **P** **10 32 07.3 +0.3**
comp=Z,1.1nm,0.8s,baz=194,slow=11,SNR=2.2
MKAR Makanchi Array 52.85 323 P **P** **10 32 26.6 -0.7**
comp=Z,2.1nm,0.7s,baz=122,slow=8.0,SNR=18
ZALV Zalesovo Beam 55.46 331 P **P** **10 32 45.0 -1.2**
comp=Z,2.1nm,0.6s,baz=121,slow=7.1,SNR=8.0
CHGR Chuyangaron 58.86 310 P **P** **10 33 08.5 -2.2**
KK31 Karatay Array 59.05 315 P **P** **10 33 09.8 -2.1**
KK31 IAmb IAmb 10 33 11.4
comp=Z,4.3nm,0.8s
KKAR Karatay Array 59.05 315 P **P** **10 33 10.8 -1.0**
KKAR IAmb IAmb 10 33 11.4
comp=Z,4.3nm,0.8s
TIXI Tiksi 62.09 1 P **P** **10 33 32.0 0.0**
TIXI IAmb IAmb 10 33 50.4
comp=Z,3.1nm,0.8s
NRIK Noril'sk 64.83 346 P **P** **10 33 50.3 +0.2**
comp=Z,8.7nm,0.8s,baz=122,slow=6.5,SNR=14
GEYT Alibeck 67.30 307 P **P** **10 34 06.4 -0.4**
comp=Z,2.1nm,0.7s,baz=90,slow=7.2,SNR=4.0
BPAW Bear Paw Mtn. 78.15 26 IAmb IAmb 10 35 26.8
comp=Z,2.9nm,0.9s
RAYN Ar Rayn 78.21 292 P **P** **10 35 10.8 -1.1**
RAYN IAmb IAmb 10 35 11.4
comp=Z,5.5nm,0.8s
HDA Harding Lake 79.92 26 P **P** **10 35 20.6 +0.3**
ILAR Eielson Array 79.94 26 P **P** **10 35 20.4 -0.1**
comp=Z,0.3nm,0.7s,baz=233,slow=7.0,SNR=4.5
KLMR Klimovskoe 80.36 330 *e* **P** **10 35 20.8 -2.0**
KLMR AMP 10 35 22.8
comp=Z,9.0nm,0.8s
HYT Haines Junctio 84.60 29 P **P** **10 35 47.1 +2.1**
HYT IAmb IAmb 10 35 50.3
comp=Z,4.2nm,1.1s
ARCES ARCESS Array B 85.03 340 P **P** **10 35 46.0 -0.9**
comp=Z,4.8nm,0.8s,baz=60,slow=7.2,SNR=6.9
FINES FINESS Array B 86.73 332 P **P** **10 35 54.7 -0.7**
comp=Z,2.5nm,0.8s,baz=84,slow=8.3,SNR=6.0
MAW Mawson 89.13 200 P **P** **10 36 06.5 -0.1**
VNDA Vanda 89.14 173 P **P** **10 36 08.2 +1.6**
comp=Z,1.0nm,0.7s,baz=306,slow=6.3,SNR=5.9
NOA NORSAR Array B 93.60 334 LR LR 11 21 39.1
comp=Z,21nm,18.8s,baz=285,slow=38
YKA Yellowknife Ar 94.28 24 P **P** **10 36 31.2 +0.4**
comp=Z,0.5nm,0.8s,baz=294,slow=4.6,SNR=8.7
TXAR Lajitas Array 118.02 50 PKP **PKiKP** **10 42 01.0 +1.6**
comp=Z,0.1nm,0.4s,baz=132,slow=1.3,SNR=2.1
PLCA Paso Flores 145.37 157 PKPbc **PKPab** **10 42 51.4 +1.4**
comp=Z,2.6nm,0.9s,baz=264,slow=4.7,SNR=3.4

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*DRS **05** 10:24:32.3±0.0,43°.30N×45°.99E,h12km*
*NORS **05** 10:24:34.7±0.0,43°.11N×46°.14E,h15km,MPVA3.5*
ISC 05 10:24:34.9±1.5,43°.18N±0°.08×46°.07E±0°.03,h14km±11km, n9,σ1°74/17,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.52**	**167**	*e*Pg		**Pb**	**10 24 45.6**	**-0.3**
	26nm,0.1s							
BTLR				*e*Sg		**Sb**	**10 24 53.9**	**+0.6**
	95nm,0.5s							
DBC	**Dubki**	**0.58**	**105**	*e*Pg		**Pb**	**10 24 45.5**	**-1.4**
	27nm,0.5s							
DBC				*e*Sg		**Sg**	**10 24 53.2**	**-0.9**
	68nm,0.5s							
GNBR	**Gunib**	**1.03**	**140**	*e*Pg		**Pn**	**10 24 55.9**	**+1.0**
	16nm,0.1s							
GNBR				*e*Sg		**Sn**	**10 25 11.4**	**+2.3**
	86nm,0.5s							
PNSH	**Pansheti**	**1.20**	**244**	P		**Pg**	**10 24 58.2**	**+0.2**
PNSH				S		**Sn**	**10 25 14.7**	**+1.2**
KMKR	**Kumukh**	**1.29**	**144**	*e*Pg		**Pg**	**10 25 01.0**	**+1.2**
	18nm,0.2s							
KMKR				*e*Sg		**Sg**	**10 25 18.0**	**+1.4**
	65nm,0.2s							
LACR	**Lac**	**1.34**	**256**	*e*Pg		**Pg**	**10 25 00.4**	**-0.4**
LACR				*e*Sg		**Sg**	**10 25 19.1**	**+0.8**
LGD	**Lagodekhi**	**1.35**	**174**	P		**Pg**	**10 25 00.8**	**0.0**
LGD				S		**Sn**	**10 25 12.4**	**-4.6**
GUDG	**Gudauri**	**1.37**	**239**	P		Pg	10 25 10.0	+8.7
GUDG				S		**Sg**	**10 25 18.3**	**-0.8**
AKT	**Akhty**	**2.10**	**143**	*e*Pg		**Pb**	**10 25 12.3**	**-0.5**
AKT				*e*Sg		**Sg**	**10 25 40.6**	**-1.6**

NNC 05 10:24:52.1±4.5,37°.18N×71°.16E,h0km,mb3.7,mpv3.4, 3C-2D,Error ellipse: s-maj=39.6km s-min=29.3km az=150.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.94**	**355**	⇑P		Pn	10 26 23.0	+1.7
	1.6nm,0.3s,baz=173,slow=12,SNR=24							
KK31				S		Sn	10 27 31.6	+1.5
	2.0nm,0.3s,baz=182,slow=19,SNR=14							
AAK	**Ala-Archa**	**6.02**	**24**	P		Pn	10 26 22.3	-0.4
	1.1nm,0.5s							
AAK				⇓S		Sn	10 27 33.3	+0.9
	8.1nm,0.7s							
TKM2	**Tokmak 2**	**6.67**	**29**	⇑P		Pn	10 26 32.1	+0.6
	1.6nm,0.6s							
TKM2				⇑S		Sn	10 27 49.1	+0.8
	1.9nm,0.7s							
AB31	**Akbulak array**	**14.56**	**330**	⇓P		Pn	10 28 15.4	-3.9
	0.3nm,0.4s							

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*IDC **05** 10:45:07.8±1.1,14°.63N×54°.76E,h0km,mb3.8/11, mb1 3.9/11,mb1mx3.7/38,mbtmp3.8/11,MS3.3/2, Ms1 3.3/2,ms1mx2.6/43,Error ellipse: s-maj=31.6km s-min=22.9km az=36.0*
ISC 05 10:45:09.3±1.1,14°.6N±0°.2×54°.7E±0°.2,h10km,n16, σ0°61/12,mb3.9/11,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**9.32**	**23**	LR		LR	10 50 43.9	
	comp=Z,103nm,19.7s,baz=158,slow=36							
GEYT	**Alibeck**	**23.39**	**7**	P		**P**	**10 50 18.6**	**+0.1**
	2.8nm,0.7s,baz=185,slow=8.5,SNR=4.6							
MKAR	**Makanchi Array**	**39.46**	**30**	P		**P**	**10 52 39.9**	**+0.1**
	0.4nm,0.6s,baz=202,slow=8.8,SNR=3.7							
AKASG	**Malin Array Be**	**41.47**	**336**	P		**P**	**10 52 56.3**	**-0.1**
	0.5nm,0.3s,baz=143,slow=8.1,SNR=4.2							
CMAR	**Chiang Mai Arr**	**42.47**	**79**	P		**P**	**10 53 05.7**	**+0.6**
	0.4nm,0.3s,baz=274,slow=8.6,SNR=5.1							
FINES	**FINESS Array B**	**51.08**	**343**	P		**P**	**10 54 11.3**	**-0.4**
	1.9nm,0.7s,baz=111,slow=10,SNR=5.4							
FINES				LR		LR	11 21 16.5	
	comp=Z,40nm,18.5s,baz=120,slow=42							
TORD	**Torodi Ar. Bea**	**51.42**	**275**	P		**P**	**10 54 15.2**	**+0.2**
	0.8nm,0.9s,baz=64,slow=6.6,SNR=2.2							
SONM	**Songino Array**	**53.84**	**41**	P		**P**	**10 54 33.1**	**+0.4**
	0.4nm,0.5s,baz=240,slow=5.8,SNR=2.3							
ARCES	**ARCESS Array B**	**57.85**	**348**	P		**P**	**10 55 00.4**	**-0.5**
	1.9nm,0.8s,baz=140,slow=7.1,SNR=2.0							
KSRS	**Korea Array**	**67.98**	**55**	P		**P**	**10 56 08.1**	**-0.8**
	1.1nm,0.7s,baz=270,slow=6.3,SNR=4.7							
H01W3	**Cape Leeuwin H**	**74.80**	**133**	T		T	12 18 27.6	
	baz=301,slow=75,SNR=13							
H01W2	**Cape Leeuwin H**	**74.81**	**133**	T		T	12 18 28.6	
	baz=301,slow=75,SNR=11							
H01W1	**Cape Leeuwin H**	**74.82**	**133**	T		T	12 18 31.8	
	baz=301,slow=75,SNR=9.8							
WRA	**Warramunga Arr**	**85.45**	**112**	P		**P**	**10 57 47.2**	**-0.7**
	1.1nm,0.9s,baz=298,slow=4.3,SNR=4.8							
ASAR	**Alice Springs**	**86.18**	**116**	P		**P**	**10 57 51.2**	**-0.3**
	0.9nm,0.7s,baz=292,slow=4.7,SNR=11							
NVAR	**Mina Array Bea**	**126.81**	**353**	PKP		**PKiKP**	**11 04 15.7**	**+1.1**
	0.8nm,0.8s,baz=357,slow=1.8,SNR=6.2							

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*IDC **05** 10:52:47.8±0.8,24°.12S×66°.83W,h175km±7km,mb4.5/14, mb1 4.6/19,mb1mx4.4/26,mbtmp4.9/19,Error ellipse: s-maj=13.0km s-min=9.4km az=61.0*
*NEIC **05** 10:52:47.9±1.9,24°.17S±0°.05×66°.88W±0°.09,h179km±4km, mb4.9/324,Mww4.8,Md4.6(SJA),Error ellipse: s-maj=11.4km s-min=7.7km az=100.0*
*UNK **05** 10:52:47.5,24°.21S×66°.90W,h172km*
*SJA **05** 10:52:48.9±1.0,24°.21S×67°.07W,h175km,ML4.6,MW4.4*
*VAO **05** 10:52:48.4±0.3,24°.11S×66°.89W,h187km±3km,mb4.9*
*GUC **05** 10:52:49.4±0.8,24°.19S×67°.38W,h203km±11km,ML5.1*
*BJI **05** 10:52:50.0±0.0,24°.20S×66°.90W,h176km,mB4.9/5*
*NEIC **05** 10:52:53,24°.31S×67°.01W,h180km,Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-1.64; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$ 1.68; $M_{r\theta}$0.48; $M_{\theta\phi}$0.28; $M_{\phi r}$-0.47; Fault plane solution: $M_0$1.81000×10^{16} NP1:ϕ_s205.00000°, δ41.00000°,λ-63.00000°. NP2:ϕ_s352.00000°,δ54.00000°, λ-110.00000°. Principal axes: T 1.7725, Plg7.0000°, Azm97.0000°; N 0.0788, Plg17.0000°, Azm5.0000°; P -1.8513, Plg72.0000°, Azm208.0000°;*
ISC 05 10:52:47.4±0.5,24°.20S±0°.03×66°.96W±0°.04,h178km±4km, n799,σ1°25/745,mb4.9/156,13C-3D,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.73**	**56**	*i* P		Pn	10 53 25.2	+3.4
HJA				*e*S		**Sn**	**10 53 52.4**	**+4.0**
HJA				IAML			10 53 57.7	
	comp=Z,557nm,0.7s							
LVC	**Limon Verde**	**2.39**	**311**	P		**Pn**	**10 53 31.1**	**+2.1**
	comp=Z,160nm,0.3s,baz=133,slow=5.3,SNR=417							
LVC				S		**Sn**	**10 54 02.4**	**+1.1**
	comp=Z,428nm,0.3s,baz=314,slow=19,SNR=59							
LVC	**Limon Verde**	**2.39**	**311**	⇓*e*P		**Pn**	**10 53 31.1**	**+2.1**
LVC				*e*S		**Sn**	**10 54 02.7**	**+1.3**
LVC	**Limon Verde**	**2.39**	**311**	Pn		**Pn**	**10 53 30.9**	**+1.8**
LVC	**Limon Verde**	**2.39**	**311**	*i* P		**Pn**	**10 53 31.2**	**+2.1**
LVC				*i* S		**Sn**	**10 54 03.0**	**+1.6**
LVC				IAML			10 54 03.8	
	comp=Z,1μm,1.1s							
LVC	**Limon Verde**	**2.39**	**311**	*e*P		**Pn**	**10 53 31.2**	**+2.1**
LVC				*e*S		**Sn**	**10 54 02.5**	**+1.1**
LVC	**Limon Verde**	**2.39**	**311**	*e*P		**Pn**	**10 53 31.2**	**+2.1**
LVC				*e*S		**Sn**	**10 54 02.5**	**+1.1**
YJA	**Yavi**	**2.41**	**34**	*i* P		Pn	10 53 32.5	+3.1
YJA				*i* S		**Sn**	**10 54 05.4**	**+3.5**
YJA				IAML			10 54 12.0	
	comp=Z,271nm,1.8s							
PB15	**IPOC Station P**	**2.51**	**293**	⇑*e*P		**Pn**	**10 53 31.6**	**+1.3**
PB15				⇑*i*P			10 53 32.0	
PB15				*e*S		**Sn**	**10 54 03.6**	**+0.1**
PB15	**IPOC Station P**	**2.51**	**293**			**Pn**	**10 53 28.3**	**-1.9**
PB15						Pn	10 53 31.9	+1.7
PB15	**IPOC Station P**	**2.51**	**293**	*i* P		**Pn**	**10 53 32.1**	**+1.8**
PB15				*e*S		**Sn**	**10 54 04.3**	**+0.8**
PB15				IAML			10 54 07.2	
	comp=Z,11μm,0.1s							
GO02	**Mina Guanaco**	**2.58**	**248**	*e*P		**Pn**	**10 53 32.7**	**+1.5**
GO02				*i* S		**Sn**	**10 54 05.6**	**+0.4**
GO02				IAML			10 54 07.7	
	comp=N,4μm,0.2s							
GO02	**Mina Guanaco**	**2.58**	**248**	Pn		**Pn**	**10 53 32.7**	**+1.5**
PB06	**IPOC Station P**	**2.82**	**301**	⇑*i*P		**Pn**	**10 53 35.4**	**+1.4**
PB06				*e*S		**Sn**	**10 54 10.2**	**0.0**
PB06				IAML			10 54 12.5	
	comp=E,5μm,0.3s							
PB06	**IPOC Station P**	**2.82**	**301**			**Pn**	**10 53 35.4**	**+1.4**
PB06	**IPOC Station P**	**2.82**	**301**	*i* P		**Pn**	**10 53 35.6**	**+1.7**
PB06				*e*S		**Sn**	**10 54 10.5**	**+0.3**
PB06				IAML			10 54 12.6	
	comp=Z,3μm,0.3s							
PB09	**IPOC Station P**	**3.19**	**318**	⇑*e*P		**Pn**	**10 53 40.3**	**+1.9**
PB09				*e*S		**Sn**	**10 54 19.2**	**+1.1**
PB09				IAML			10 54 21.2	
	comp=N,2μm,0.3s							
PB09	**IPOC Station P**	**3.19**	**318**			**Pn**	**10 53 40.1**	**+1.7**
PB09	**IPOC Station P**	**3.19**	**318**	*i* P		**Pn**	**10 53 40.3**	**+1.9**
PB09				*i* S		**Sn**	**10 54 18.9**	**+0.8**
PB09				IAML			10 54 22.1	
	comp=Z,2μm,1.0s							
PB05	**IPOC Station P**	**3.27**	**294**	⇑*i*P		**Pn**	**10 53 40.0**	**+0.7**
PB05				*i* S		**Sn**	**10 54 18.6**	**-1.2**
PB05				IAML			10 54 24.9	
	comp=E,2μm,0.4s							
PB05	**IPOC Station P**	**3.27**	**294**	*i* P		**Pn**	**10 53 40.4**	**+1.0**
PB05				*i* S		**Sn**	**10 54 19.4**	**-0.4**
PB05				IAML			10 54 26.0	
	comp=Z,1μm,0.6s							
AC02	**Maricunga**	**3.28**	**216**	⇑*e*P		**Pn**	**10 53 41.8**	**+1.9**
AC02				*e*S		**Sn**	**10 54 22.7**	**+1.9**
AC02	**Maricunga**	**3.28**	**216**			**Pn**	**10 53 41.0**	**+1.1**
PB03	**IPOC Station P**	**3.35**	**309**	⇑*e*P		**Pn**	**10 53 41.4**	**+1.1**
PB03				*e*S		**Sn**	**10 54 21.6**	**-0.1**
PB03				IAML			10 54 22.4	
	comp=E,4μm,0.4s							
PB03	**IPOC Station P**	**3.35**	**309**	*i* P		**Pn**	**10 53 41.5**	**+1.1**
PB03				*i* S		**Sn**	**10 54 20.3**	**-1.4**
PB03				IAML			10 54 24.1	
	comp=Z,2μm,0.2s							
PB10	**IPOC Station P**	**3.36**	**281**	⇑*i*P		**Pn**	**10 53 41.4**	**+1.0**
PB10				*i* S		**Sn**	**10 54 19.4**	**-2.4**
PB10				IAML			10 54 25.2	
	comp=E,2μm,0.3s							
PB10	**IPOC Station P**	**3.36**	**281**	Pn		**Pn**	**10 53 41.2**	**+0.8**
PB10	**IPOC Station P**	**3.36**	**281**	*i* P		**Pn**	**10 53 41.5**	**+1.1**
PB10				*i* S		**Sn**	**10 54 20.5**	**-1.3**
PB10				IAML			10 54 24.2	
	comp=Z,1μm,0.3s							
PB04	**IPOC Station P**	**3.47**	**302**			**Pn**	**10 53 42.7**	**+0.8**
PB04	**IPOC Station P**	**3.47**	**302**	*i* P		**Pn**	**10 53 42.8**	**+0.8**
PB04				*i* S		**Sn**	**10 54 23.7**	**-0.8**
PB04				IAML			10 54 26.6	
	comp=Z,2μm,0.3s							
PB07	**IPOC Station P**	**3.65**	**312**	⇑*i*P		**Pn**	**10 53 44.9**	**+0.7**
PB07				*i* S		**Sn**	**10 54 26.3**	**-2.2**
PB07				IAML			10 54 30.8	
	comp=N,3μm,0.2s							
PB07	**IPOC Station P**	**3.65**	**312**			**Pn**	**10 53 44.7**	**+0.5**
PB07						Pn	10 53 45.0	+0.8
PB07	**IPOC Station P**	**3.65**	**312**	*i* P		**Pn**	**10 53 45.1**	**+0.9**
PB07				*i* S		**Sn**	**10 54 26.8**	**-1.7**
PB07				IAML			10 54 28.4	
	comp=Z,2μm,0.3s							
AC01	**Pan de Azucar**	**3.83**	**239**	*e*P		**Pn**	**10 53 45.9**	**-0.3**
AC01				*i* S		**Sn**	**10 54 29.8**	**-2.5**
AC01				IAML			10 54 32.3	
	comp=N,1μm,0.6s							
AC01	**Pan de Azucar**	**3.83**	**239**	Pn		**Pn**	**10 53 46.1**	**-0.2**
PB01	**IPOC Station P**	**3.91**	**323**	⇑*e*P		**Pn**	**10 53 47.9**	**+0.5**
PB01				*e*S		**Sn**	**10 54 32.5**	**-1.9**
PB01				IAML			10 54 33.8	
	comp=E,2μm,0.3s							
PB01	**IPOC Station P**	**3.91**	**323**			**Pn**	**10 53 46.5**	**-1.0**
PB01						Pn	10 53 47.7	+0.2
PB01	**IPOC Station P**	**3.91**	**323**	*i* P		**Pn**	**10 53 47.9**	**+0.5**
PB01				*i* S		**Sn**	**10 54 32.9**	**-1.5**
PB01				IAML			10 54 35.0	
	comp=Z,875nm,0.3s							
PB02	**IPOC Station P**	**3.94**	**316**	*e*P		**Pn**	**10 53 48.3**	**+0.4**
PB02				*i* S		**Sn**	**10 54 34.2**	**-0.9**
PB02				IAML			10 54 38.2	
	comp=Z,2μm,0.4s							
CYA	**Choya**	**4.35**	**166**	*e*P		**Pn**	**10 53 55.4**	**+2.4**
CYA				*i* S		**Sn**	**10 54 41.4**	**-3.0**
CYA				IAML			10 54 49.9	
	comp=Z,71nm,2.7s							
PATCX	**Punta Patache**	**4.47**	**318**	Pn		**Pn**	**10 53 54.3**	**-0.3**
GO03	**Copiap**	**4.49**	**220**	IAML			10 54 48.9	
	comp=Z,434nm,0.4s							
GO03	**Copiap**	**4.49**	**220**			**Pn**	**10 53 54.3**	**-0.4**
GO03	**Copiap**	**4.49**	**220**	*e*P		**Pn**	**10 53 54.4**	**-0.3**
GO03				*e*S		**Sn**	**10 54 45.9**	**-1.7**
PB08	**IPOC Station P**	**4.52**	**333**	⇑*e*P		**Pn**	**10 53 56.7**	**+1.2**
PB08				*e*S		**Sn**	**10 54 48.4**	**-0.3**
PB08				IAML			10 54 52.5	
	comp=E,841nm,0.4s							
PB08	**IPOC Station P**	**4.52**	**333**			**Pn**	**10 53 56.7**	**+1.2**
PB08	**IPOC Station P**	**4.52**	**333**	*i* P		**Pn**	**10 53 56.7**	**+1.2**
PB08				*i* S		**Sn**	**10 54 48.5**	**-0.3**
PB08				IAML			10 54 55.3	
	comp=Z,621nm,0.4s							

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**4.69**	**320**			**Pn**	**10 53 56.7**	**-0.6**
PB11	**IPOC Station P**	**5.08**	**330**	Pn		**Pn**	**10 54 01.8**	**-0.7**
PB11	**IPOC Station P**	**5.08**	**330**	*i* P		**Pn**	**10 54 01.8**	**-0.7**
PB11				*e*S		**Sn**	**10 54 55.9**	**-5.5**
PB11				IAML			10 55 00.7	
	comp=Z,611nm,0.3s							
PSGCX	**Pisagua**	**5.44**	**327**			**Pn**	**10 54 05.0**	**-2.2**
AC04	**Llanos de Chal**	**5.44**	**222**	Pn		**Pn**	**10 54 06.0**	**-1.0**
AC05	**El Transito**	**5.49**	**212**	Pn		**Pn**	**10 54 07.6**	**-0.2**
MNMC	**Minye Minye**	**5.61**	**334**			**Pn**	**10 54 09.1**	**-0.4**
MNMCX	**Minye Minye**	**5.61**	**334**	*i* P		**Pn**	**10 54 09.4**	**-0.2**
MNMCX				*i* S		**Sn**	**10 55 12.3**	**-1.7**
MNMCX				IAML			10 55 16.0	
	comp=Z,645nm,0.3s							
ACDV	**Cuesta del Vie**	**6.25**	**197**	*e*P		**Pn**	**10 54 19.2**	**+1.4**
ACDV				IAML			10 55 40.9	
	comp=Z,35nm,1.0s							
PB12	**IPOC Station P**	**6.38**	**330**	Pn		**Pn**	**10 54 18.0**	**-1.5**
PB12	**IPOC Station P**	**6.38**	**330**	*e*P		**Pn**	**10 54 17.7**	**-1.8**
PB12				IAML			10 55 29.1	
	comp=Z,343nm,0.9s							
ACCO	**Cerro Coronel**	**6.64**	**196**	*e*P		**Pn**	**10 54 24.1**	**+1.1**
ACCO				IAML			10 55 56.6	
	comp=Z,39nm,0.8s							
GO04	**Tololo Observa**	**6.87**	**209**			**Pn**	**10 54 24.2**	**-1.7**
GO04	**Tololo Observa**	**6.87**	**209**	*e*P		**Pn**	**10 54 24.4**	**-1.6**
CO03	**El Pedregal**	**7.40**	**206**			**Pn**	**10 54 31.5**	**-1.3**
CFA	**Coronel Fontan**	**7.47**	**188**	P		**Pn**	**10 54 33.4**	**-0.2**
	comp=Z,3.4nm,0.3s,baz=348,slow=10,SNR=99							
CFA				S		**Sn**	**10 55 52.8**	**-4.9**
	comp=Z,15nm,0.3s,baz=167,slow=17,SNR=13							
CO02	**Combarbal**	**7.85**	**206**	Pn		**Pn**	**10 54 37.3**	**-1.5**
AUSP	**Upsallata**	**8.28**	**194**	*e*P		**Pn**	**10 54 45.5**	**+0.9**
VA03	**San Esteban**	**9.10**	**200**			**Pn**	**10 54 55.8**	**+0.5**
ROC1	**El Roble**	**9.45**	**201**			**Pn**	**10 54 59.3**	**-0.6**
MT01	**Popeta**	**10.34**	**200**			**Pn**	**10 55 11.0**	**-0.4**
ITQB	**Itaqui**	**10.71**	**123**	*e*P		**Pn**	**10 55 16.9**	**+0.8**
ITQB	**Itaqui**	**10.71**	**123**	*e*P		**Pn**	**10 55 16.9**	**+0.8**
AQDB	**Aquidauana**	**11.05**	**73**	*e*P		**Pn**	**10 55 19.9**	**-0.9**
AQDB	**Aquidauana**	**11.05**	**73**	*e*P		**Pn**	**10 55 19.9**	**-0.9**
BO02	**Sierra Bellavi**	**11.07**	**197**	Pn		**Pn**	**10 55 22.1**	**+1.2**
PTLB	**Pontes e Lacer**	**11.39**	**42**	*e*P		**Pn**	**10 55 24.4**	**-0.7**
PTLB				*e*S		**Sn**	**10 57 29.6**	**-2.1**
PTLB	**Pontes e Lacer**	**11.39**	**42**	*e*P		**Pn**	**10 55 24.4**	**-0.7**
PTLB				*e*S		**Sn**	**10 57 29.6**	**-2.1**
VILB	**Vilhena**	**12.88**	**31**	*e*P		**P**	**10 55 45.0**	**-3.4**
VILB	**Vilhena**	**12.88**	**31**	*e*P		**P**	**10 55 45.0**	**-3.4**
TRCB	**Terra Rica**	**13.22**	**87**	*e*P		**P**	**10 55 48.9**	**-3.1**
TRCB	**Terra Rica**	**13.22**	**87**	*e*P		**P**	**10 55 48.9**	**-3.1**
SALV	**Santo Antonio**	**13.41**	**54**	*e*P		**P**	**10 55 50.2**	**-3.9**
SALV	**Santo Antonio**	**13.41**	**54**	*e*P		**P**	**10 55 50.2**	**-3.9**
CPSB	**Cacapava Do Su**	**13.51**	**120**	*e*P		**P**	**10 55 52.2**	**-3.0**
CPSB	**Cacapava Do Su**	**13.51**	**120**	*e*P		**P**	**10 55 52.2**	**-3.0**
PTGB	**Pitanga**	**13.57**	**95**	*e*P		**P**	**10 55 53.4**	**-2.6**
PTGB	**Pitanga**	**13.57**	**95**	*e*P		**P**	**10 55 53.4**	**-2.6**
ITAB	**Concordia**	**13.70**	**106**	*e*P		**P**	**10 55 54.6**	**-2.7**
ITAB	**Concordia**	**13.70**	**106**	*e*P		**P**	**10 55 54.6**	**-2.7**
H03N1	**Juan Fernandez**	**13.94**	**226**	P		**P**	**10 55 59.9**	**+0.3**
	baz=112,slow=14,SNR=6.9							
H03N2	**Juan Fernandez**	**13.96**	**226**	P		**Pn**	**10 55 59.8**	**+2.5**
	baz=112,slow=14,SNR=4.1							
H03N3	**Juan Fernandez**	**13.96**	**226**	P		**Pn**	**10 55 59.9**	**+2.5**
	baz=112,slow=14,SNR=7.0							
PLTB	**Pedras Altas**	**13.99**	**126**	*e*P		**P**	**10 55 57.5**	**-3.0**
PLTB	**Pedras Altas**	**13.99**	**126**	*e*P		**P**	**10 55 57.5**	**-3.0**
H03S3	**Juan Fernandez**	**14.18**	**225**	P		**Pn**	**10 56 02.2**	**+2.1**
	baz=214,slow=13,SNR=5.7							
H03S1	**Juan Fernandez**	**14.19**	**225**	P		**Pn**	**10 56 02.0**	**+1.8**
	baz=214,slow=13,SNR=5.3							
H03S2	**Juan Fernandez**	**14.20**	**225**	P		**Pn**	**10 56 02.2**	**+1.9**
	baz=214,slow=13,SNR=4.1							
C2SB	**Chapadao do Su**	**14.20**	**70**	*e*P		**P**	**10 56 01.8**	**-1.2**
C2SB	**Chapadao do Su**	**14.20**	**70**	*e*P		**P**	**10 56 01.8**	**-1.2**
PCMB	**Pacaembu**	**14.69**	**83**	*e*P		**P**	**10 56 06.6**	**-1.8**
PCMB	**Pacaembu**	**14.69**	**83**	*e*P		**P**	**10 56 06.6**	**-1.8**
CNLB	**Canela**	**15.26**	**113**	*e*P		**P**	**10 56 13.4**	**-1.2**
CNLB	**Canela**	**15.26**	**113**	*e*P		**P**	**10 56 13.4**	**-1.2**
NNA	**Nana**	**15.34**	**321**	P		**P**	**10 56 16.5**	**+0.8**
	comp=Z,1.0nm,0.3s,baz=158,slow=12,SNR=8.4							
NNA	**Nana**	**15.34**	**321**	P		**P**	**10 56 17.0**	**+1.3**
NNA				IAmb	IAmb		10 56 17.3	

NAN01 **Guarapari, ES** 25.80 81 *e*P P 10 58 01.0 -1.2
NAN01 **Guarapari, ES** 25.80 81 *e*P P 10 58 01.0 -1.2
FLOC **Florencia** 26.98 341 *e*P P 10 58 13.3 +0.5
FLOC **Florencia** 26.98 341 P P 10 58 13.9 +1.1
GARC **Garzon, Huila** 27.51 341 *e*P P 10 58 18.3 +0.6
SOTA **Rioblanco** 27.80 339 *e*P P 10 58 21.6 +1.0
GDU01 **Guandu, BA** 27.86 73 *e*P P 10 58 19.6 -1.1
GDU01 **Guandu, BA** 27.86 73 *e*P P 10 58 19.6 -1.1
BBAC **Balboa, Cauca** 27.91 338 *e*P P 10 58 22.7 +1.4
PCON **Cinco Dias** 27.92 340 *i* Pg P 10 58 25.4 +3.7
BETC **Betania** 27.96 342 *e*P P 10 58 22.6 +1.0
PRAC **Prado** 28.80 343 *e*P P 10 58 27.6 -1.4
VILC **Villavicencio,** 28.89 346 *e*P P 10 58 30.2 +0.3
ORTC **Ortega, Tolima** 29.08 343 *e*P P 10 58 31.4 -0.1
GO10 **Punta Arenas** 29.08 185 P P 10 58 32.8 +1.7
CHIC **Chingaza** 29.40 346 *e*P P 10 58 34.4 -0.3
TOLC **Tolima** 29.75 343 *e*P P 10 58 36.6 -1.0
RREF **El Recreo** 30.05 343 *e*P P 10 58 41.7 +1.0
GUY2C **Guyana, Caldas** 30.37 343 *e*P P 10 58 43.3 0.0
SPBC **San Pablo de B** 30.47 346 *e*P P 10 58 43.4 -0.3
RUSC **La Rusia** 30.50 348 *e*P P 10 58 44.0 -0.5
RUSC **La Rusia** 30.50 348 PcP 11 01 38.7 -0.7
NORC **Norcasia** 30.57 344 *e*P P 10 58 43.5 -1.1
MG01 **Puerto William** 30.70 181 P P 10 58 45.9 +0.7
CBOC **Ciudad Bolivar** 31.16 342 *e*P P 10 58 49.8 -0.1
HELC **Santa Helena** 31.34 343 *e*P P 10 58 49.9 -1.8
PTBC **PUERTO BERRIO,** 31.41 346 *e*P P 10 58 49.2 -2.8
PAMC **Pamplona, Colo** 31.84 349 *e*P P 10 58 54.4 -1.8
ZARC **Zaragoza, Cauc** 32.43 345 *e*P P 10 58 58.1 -2.7
SDV **Santo Domingo** 33.08 353 P P 10 59 05.7 -0.9
SDV **Santo Domingo** 33.08 353 *e*P P 10 59 05.5 -1.1
SDV **Santo Domingo** 33.08 353 *e*P P 10 59 05.5 -1.1
SMLC **San Martin de** 33.52 347 *e*P P 10 59 06.8 -3.4
SJCC **San Jacinto, C** 34.82 346 *e*P P 10 59 19.8 -1.7
RCBR **Riachuelo** 34.97 64 P P 10 59 23.2 +0.3
RCBR IAmb IAmb 10 59 23.8
comp=Z,34nm,0.8s
RCBR **Riachuelo** 34.97 64 *e*P P 10 59 22.9 0.0
RCBR **Riachuelo** 34.97 64 *e*P P 10 59 22.9 0.0
TOSP **Speyside** 35.83 11 P P 10 59 30.6 +0.5
TOSP IAmb IAmb 10 59 31.5
comp=Z,42nm,0.9s
GRGR **Grenville** 36.48 9 P P 10 59 35.4 -0.2
JTS **Las Juntas de** 38.52 331 P P 10 59 55.7 +2.9
JTS IAmb IAmb 10 59 56.3
comp=Z,20nm,1.1s
FDF **Fort de France** 39.10 9 P P 10 59 56.8 -0.8
PMSA **Palmer Station** 40.62 178 P P 11 00 10.1 +0.7
comp=Z,15nm,0.7s,baz=350,slow=8.1,SNR=5.4
PMSA **Palmer Station** 40.62 178 IAmb IAmb 11 00 11.9
comp=Z,18nm,0.8s
MATN **Matagalpa** 41.29 331 P P 11 00 16.8 +1.1
MLPR **Magueyes Islan** 41.91 360 P P 11 00 19.1 -1.4
ANWB **Willy Bob** 41.91 7 P P 11 00 18.4 -2.2
CRPR **Cabo Rojo, PR** 41.95 360 P P 11 00 19.4 -1.4
CRPR IAmb IAmb 11 00 19.8
comp=Z,35nm,0.7s
PDPR **Patillas Dam,** 41.97 1 P P 11 00 18.4 -2.6
OBIP **Obispado Ponce** 41.98 0 P P 11 00 19.4 -1.7
SJG **San Juan** 42.06 1 P P 11 00 19.9 -1.8
SJG IAmb IAmb 11 00 20.4
comp=Z,24nm,0.7s
MPR **Mayaguez** 42.15 360 IAmb IAmb 11 00 21.3
comp=Z,31nm,0.7s
AOPR **Arecibo Observ** 42.28 0 P P 11 00 21.8 -1.8
AOPR IAmb IAmb 11 00 25.3
comp=Z,71nm,1.4s
TEIG **Tepich** 48.79 333 P P 11 01 14.1 -0.5
TEIG IAmb IAmb 11 01 15.4
comp=Z,22nm,0.6s
VNA3 **Neumayer Olymp** 56.95 161 P P 11 02 14.8 +1.0
VNA1 **Neumayer--Stat** 57.15 160 P P 11 02 16.6 +1.5
VNA2 **Neumayer--Watz** 57.52 160 P P 11 02 18.8 +1.1
baz=283,slow=7.4
158A **Hollywood** 58.01 347 P P 11 02 22.4 +0.9
baz=166
ZAIG **Zacatecas** 58.10 321 IAmb IAmb 11 02 25.3
comp=Z,9.7nm,0.7s
157A **Early Branch** 58.12 346 P P 11 02 23.0 +0.8
baz=165
NHSC **New Hope** 58.36 347 P P 11 02 24.9 +1.0
baz=166
Z58A **St. Stephen** 58.51 347 P P 11 02 25.7 +0.7
baz=166
Z57A **Bowman** 58.66 347 P P 11 02 26.5 +0.5
baz=165,SNR=6.4
Z56A **Williston** 58.83 346 P P 11 02 27.5 +0.3
baz=165
250A **Grady** 58.83 341 IAmb IAmb 11 02 27.9
comp=Z,39nm,1.1s
Y58A **Scranton** 59.03 348 P P 11 02 29.1 +0.5
baz=166
152A **Waverly Hall** 59.03 343 IAmb IAmb 11 02 29.0
comp=Z,18nm,0.9s
SNAA **Sanae** 59.15 161 P P 11 02 29.9 +0.8
SNAA **Sanae** 59.15 161 P P 11 02 29.6 +0.5
SNAA IAmb IAmb 11 02 30.9
comp=Z,29nm,0.8s
Y57A **Sumter** 59.28 347 P P 11 02 30.7 +0.4
baz=166
X60A **Albert Glenn T** 59.38 349 P P 11 02 31.0 +0.1
baz=168
GOGA **Godfrey** 59.41 344 P P 11 02 30.9 -0.2
baz=162,SNR=9.6
GOGA **Godfrey** 59.41 344 IAmb IAmb 11 02 31.7
comp=Z,16nm,0.7s
Y55A **Saluda** 59.52 346 P P 11 02 32.3 +0.3
baz=164,SNR=8.5
X58A **Rowland** 59.60 348 P P 11 02 32.8 +0.4
baz=167
X57A **Johnson Farm,** 59.66 347 P P 11 02 33.0 +0.2
baz=166
JSC **Jenkinsville** 59.72 346 IAmb IAmb 11 02 34.5
comp=Z,16nm,0.7s
X56A **White Oak** 59.88 347 P P 11 02 34.7 +0.4
baz=165,SNR=15
HODGE **Hodges** 59.90 345 IAmb IAmb 11 02 35.6
comp=Z,10nm,0.8s
BIRD **Birdtown, Kers** 59.91 347 IAmb IAmb 11 02 36.0
comp=Z,33nm,0.9s
X55A **Gracelyn & Ava** 59.99 346 P P 11 02 35.4 +0.3
baz=164,SNR=13
W58A **Raeford** 60.03 348 P P 11 02 35.6 +0.2
baz=167,SNR=5.9
LRAL **Lakeview Retre** 60.03 341 P P 11 02 34.9 -0.5
baz=159,SNR=5.5
LRAL **Lakeview Retre** 60.03 341 IAmb IAmb 11 02 35.9
comp=Z,12nm,0.8s
X54A **Belton** 60.23 345 P P 11 02 37.0 +0.3
baz=164,SNR=9.4
W57A **Gilead** 60.30 348 P P 11 02 37.4 +0.1
baz=166,SNR=6.2
PAULI **Pauline** 60.36 346 IAmb IAmb 11 02 38.5
comp=Z,17nm,0.6s
W56A **Indian Trail** 60.41 347 P P 11 02 38.2 +0.3
baz=166,SNR=7.6
Z47A **Carrollton** 60.52 340 IAmb IAmb 11 02 39.2
comp=Z,27nm,1.1s
HKT **Hockley** 60.56 331 P P 11 02 39.0 0.0
KMSC **Kings Mountain** 60.57 346 P P 11 02 39.2 +0.2
baz=165,SNR=5.8
KMSC **Kings Mountain** 60.57 346 IAmb IAmb 11 02 40.3
comp=Z,20nm,0.9s
V59A **Middlesex** 60.58 349 P P 11 02 39.3 +0.2
baz=168
W54A **Cherokee Point** 60.70 346 P P 11 02 40.5 +0.6
baz=164,SNR=13
BG3 **Lake Jocassee** 60.78 345 IAmb IAmb 11 02 41.6
comp=Z,11nm,0.8s
833A **Chaparral WMA,** 60.85 327 P P 11 02 41.9 +0.8
baz=146,SNR=18
V57A **Coltrane Farms** 60.98 348 P P 11 02 41.8 0.0
baz=167
V56A **Mocksville** 61.04 347 P P 11 02 42.7 +0.5
baz=166,SNR=12
FPAL **Fort Paine** 61.04 342 IAmb IAmb 11 02 42.7
comp=Z,21nm,0.7s
U59A **Littleton** 61.09 350 P P 11 02 42.5 0.0
baz=169
W52A **Murphy** 61.12 344 IAmb IAmb 11 02 43.6
comp=Z,13nm,0.6s
V55A **Taylorsville** 61.23 347 P P 11 02 44.1 +0.6
baz=165,SNR=15
U58A **Oxford** 61.25 349 P P 11 02 44.0 +0.4
baz=168

V54A **Nebo** 61.31 346 P P 11 02 44.2 +0.2
baz=164,SNR=15
V53A **Saluda** 61.40 345 IAmb IAmb 11 02 45.5
comp=Z,13nm,0.8s
U57A **Blanch** 61.42 349 P P 11 02 45.0 +0.3
baz=167
U56A **King** 61.54 348 P P 11 02 46.3 +0.7
baz=166
W50A **Signal Mountai** 61.58 343 IAmb IAmb 11 02 46.6
comp=Z,29nm,0.8s
CPCT **Cooper Cave** 61.61 344 IAmb IAmb 11 02 46.7
comp=Z,17nm,0.6s
TKL **Tuckaleechee C** 61.62 344 IAmb IAmb 11 02 46.2
comp=Z,16nm,0.6s
NATX **Nacogdoches** 61.63 333 P P 11 02 47.3 +1.0
baz=151
NATX **Nacogdoches** 61.63 333 P P 11 02 47.5 +1.3
T59A **Double "B" Far** 61.66 350 P P 11 02 46.2 -0.1
baz=169
V52A **Sevierville** 61.75 345 IAmb IAmb 11 02 47.5
comp=Z,15nm,0.8s
T58A **Grand View Acr** 61.79 349 P P 11 02 47.3 +0.1
baz=168
U55A **TA2, Sparta** 61.82 347 P P 11 02 47.8 +0.3
baz=165,SNR=5.2
V51A **Loudon** 61.90 344 IAmb IAmb 11 02 48.4
comp=Z,9.1nm,0.6s
T57A **Hurt** 61.96 349 P P 11 02 48.6 +0.3
baz=167
U54A **Nelsons Funny** 62.00 346 P P 11 02 48.7 0.0
baz=165,SNR=8.9
T56A **Rocky Mt** 62.13 348 P P 11 02 50.0 +0.5
baz=166
OXF **Oxford** 62.16 339 P P 11 02 49.5 -0.2
baz=157
PLAL **Pickwick Lake** 62.17 340 IAmb IAmb 11 02 49.9
comp=Z,17nm,0.8s
237A **Washetta, Mont** 62.32 332 P P 11 02 51.6 +0.8
T55A **Pulaski** 62.36 348 P P 11 02 51.8 +0.7
baz=166,SNR=9.3
BLA **Blacksburg** 62.38 348 P P 11 02 51.7 +0.5
baz=166
TZTN **Tazewell** 62.41 345 P P 11 02 50.8 -0.6
baz=163
T54A **Tazewell** 62.47 347 P P 11 02 51.8 0.0
baz=165,SNR=7.5
T53A **Wise** 62.60 346 P P 11 02 52.5 -0.2
baz=164,SNR=8.1
R58B **Mineral** 62.68 350 P P 11 02 53.8 +0.7
baz=169
R61A **Willards** 62.69 353 P P 11 02 53.8 +0.6
baz=171
R60A **Leonardtown, M** 62.79 351 P P 11 02 54.5 +0.8
baz=170
JCT **Junction City** 62.83 328 P P 11 02 54.7 +0.4
baz=146,SNR=17
JCT **Junction City** 62.83 328 P P 11 02 54.6 +0.2
S55A **Lewisburg** 62.94 348 P P 11 02 55.5 +0.6
baz=166,SNR=9.2
U49A **Red Boiling Sp** 62.94 343 P P 11 02 53.7 -1.2
U49A IAmb IAmb 11 02 54.7
comp=Z,15nm,0.6s
WHTX **Lake Whitney,** 63.02 331 P P 11 02 55.8 +0.3
baz=149,SNR=9.3
HPIG 63.10 321 IAmb IAmb 11 02 58.1
comp=Z,8.6nm,0.6s
S54A **Dingess, Beckl** 63.13 347 P P 11 02 56.2 +0.1
baz=165,SNR=6.5
WVT **Waverly** 63.16 341 P P 11 02 55.8 -0.5
baz=159
WVT **Waverly** 63.16 341 P P 11 02 55.2 -1.1
T50A **Nancy** 63.18 344 P P 11 02 55.9 -0.5
T50A IAmb IAmb 11 02 56.6
comp=Z,13nm,0.7s
R55A **Marlinton** 63.37 348 P P 11 02 58.6 +0.9
baz=167,SNR=5.2
R55A **Marlinton** 63.37 348 IAmb IAmb 11 02 59.8
comp=Z,14nm,0.9s
Q60A **Greensboro** 63.41 352 P P 11 02 58.3 +0.5
baz=171
R54A **Victor** 63.43 348 P P 11 02 58.3 +0.2
baz=166,SNR=5.3
MIAR **Mount Ida** 63.65 336 P P 11 02 59.7 +0.1
baz=153,SNR=13
MIAR **Mount Ida** 63.65 336 P P 11 02 59.6 +0.1
MIAR IAmb IAmb 11 03 00.7
comp=Z,26nm,1.2s
W41B **Gary Mavity, V** 63.73 337 P P 11 02 59.8 -0.2
baz=154,SNR=6.4
T47A **Sharon Grove** 63.75 342 P P 11 02 59.5 -0.7
R53A **Hurricane** 63.77 347 P P 11 02 60.0 -0.3
baz=165
Q57A **Strasburg** 63.81 350 P P 11 03 01.3 +0.8
baz=168
WHAR **Wooly Hollow** 63.85 337 IAmb IAmb 11 03 01.6
comp=Z,12nm,1.0s
TXAR **Lajitas Array** 63.86 324 P P 11 03 01.9 +0.7
comp=Z,4.4nm,0.8s,baz=152,slow=8.4,SNR=55
TX31 **Lajitas Ar. Si** 63.86 324 IAmb IAmb 11 03 02.9
comp=Z,17nm,0.9s
Q56A **Snyder Ridge,** 63.94 349 P P 11 03 02.1 +0.7
baz=168
Q55A **Buckhannon** 64.05 349 P P 11 03 02.9 +0.7
baz=167
P59A **Jarrettsville** 64.09 352 P P 11 03 02.9 +0.5
baz=170
LCAR **Lake Charles** 64.16 338 IAmb IAmb 11 03 03.4
comp=Z,13nm,1.0s
Q54A **Coxs Mills** 64.18 348 P P 11 03 02.8 -0.1
baz=166
P57A **Homestead Farm** 64.19 351 P P 11 03 03.4 +0.4
baz=169
Q53A **Leroy** 64.19 347 P P 11 03 03.0 0.0
baz=165,SNR=7.3
PARMO **Parma** 64.24 340 P P 11 03 03.5 +0.1
W39A **Magazine** 64.31 336 P P 11 03 04.3 +0.5
baz=153,SNR=20
W39A **Magazine** 64.31 336 IAmb IAmb 11 03 05.5
comp=Z,21nm,0.8s
FCAR **Ozark Folk Cen** 64.33 337 IAmb IAmb 11 03 04.4
comp=Z,9.3nm,0.8s
P56A **Dayton Farm, R** 64.33 350 P P 11 03 04.6 +0.7
baz=168
X37A **Clayton** 64.39 334 IAmb IAmb 11 03 06.0
comp=Z,20nm,0.9s
Q52A **Bidwell** 64.44 347 P P 11 03 04.3 -0.3
baz=164
R49A **Shelbyville** 64.47 344 P P 11 03 04.5 -0.3
R49A IAmb IAmb 11 03 04.8
comp=Z,11nm,0.7s
P55A **Reedsville** 64.50 349 P P 11 03 05.6 +0.6
baz=167
ABTX **Abilene, Hawle** 64.54 330 P P 11 03 05.5 0.0
baz=147,SNR=7.2
ABTX **Abilene, Hawle** 64.54 330 P P 11 03 05.8 +0.3
ABTX IAmb IAmb 11 03 06.8
comp=Z,19nm,1.0s
MCWV **Mont Chateau** 64.65 349 P P 11 03 06.6 +0.6
baz=167
WCI **Wyandotte Cave** 64.69 343 P P 11 03 05.5 -0.8
baz=160
WCI **Wyandotte Cave** 64.69 343 P P 11 03 04.4 -1.9
P54A **Burton** 64.71 348 P P 11 03 06.7 +0.3
baz=166
Q51A **Peebles** 64.74 346 IAmb IAmb 11 03 07.5
comp=Z,15nm,0.7s
P53A **Whipple** 64.77 348 P P 11 03 06.9 +0.2
baz=165,SNR=5.8
P53A **Whipple** 64.77 348 IAmb IAmb 11 03 07.9
comp=Z,23nm,0.9s
U40A **Yellville** 65.00 337 P P 11 03 08.2 -0.2
baz=154,SNR=14
U40A **Yellville** 65.00 337 IAmb IAmb 11 03 09.2
comp=Z,18nm,1.1s
S44A **Carbondale** 65.04 341 IAmb IAmb 11 03 08.6
comp=Z,17nm,0.6s
P52A **Corning** 65.06 347 P P 11 03 08.3 -0.4
baz=165
O55A **Ligonier** 65.10 350 P P 11 03 09.2 +0.3
baz=168
P51A **Williamsport** 65.11 346 P P 11 03 08.3 -0.6
baz=164
O54A **Avella** 65.26 349 P P 11 03 09.8 -0.1
baz=166
HHAR **Hobbs** 65.33 336 P P 11 03 10.6 +0.2
HHAR IAmb IAmb 11 03 11.4
comp=Z,17nm,0.9s
N58A **Sunbury** 65.34 352 P P 11 03 10.7 +0.4
baz=170
N57A **Milroy** 65.37 351 P P 11 03 10.9 +0.4
baz=169
X34A **Smith Ranch, M** 65.41 332 IAmb IAmb 11 03 12.3
comp=Z,19nm,0.7s
O52A **Adamsville** 65.47 347 P P 11 03 11.0 -0.2
baz=165
O53A **New Philadelph** 65.48 348 P P 11 03 11.0 -0.3
baz=166
M61A **Granite Spring** 65.48 354 P P 11 03 11.4 +0.1
baz=173
P49A **Miami Univ. Ec** 65.54 345 P P 11 03 10.8 -0.8
baz=162
M62A **Hamden** 65.54 355 P P 11 03 12.0 +0.4
baz=174
M60A **Port Jervis** 65.58 354 P P 11 03 12.1 +0.2
baz=172
N55A **Marion Center** 65.61 350 P P 11 03 12.6 +0.4
baz=168,SNR=6.2
O51A **Pataskala** 65.65 347 P P 11 03 12.0 -0.4
baz=164,SNR=6.6
TUL1 **Leonard** 65.71 335 P P 11 03 12.9 +0.1
baz=151,SNR=5.2
TUL1 **Leonard** 65.71 335 IAmb IAmb 11 03 14.5
comp=Z,15nm,0.8s
ACSO **Alum Creek Sta** 65.81 347 P P 11 03 12.9 -0.5
baz=164
ACSO **Alum Creek Sta** 65.81 347 IAmb IAmb 11 03 13.9
comp=Z,23nm,0.9s
M58A **Price's Panora** 65.83 352 P P 11 03 14.4 +0.9
baz=170,SNR=5.3
L63A **North Scituate** 65.87 356 P P 11 03 14.1 +0.4
baz=175
M59A **Waymart** 65.87 353 P P 11 03 14.5 +0.7
baz=172,SNR=6.7
M57A **Sunshine Farm,** 65.88 352 P P 11 03 14.5 +0.6
baz=170
WMOK **Wichita Mounta** 65.93 332 P P 11 03 13.9 -0.4
baz=148,SNR=7.2
N54A **Moraine State** 65.95 349 P P 11 03 14.6 +0.3
baz=167
CCM **Cathedral Cave** 65.99 339 P P 11 03 14.5 -0.1
baz=156
CCM **Cathedral Cave** 65.99 339 P P 11 03 14.3 -0.3
QSPA **South Pole Qui** 66.01 180 P P 11 03 15.8 +1.2
N52A **McGinn's Farm,** 66.11 348 P P 11 03 15.9 +0.6
baz=165
M56A **Emporium** 66.17 351 P P 11 03 16.1 +0.4
baz=169
M56A **Emporium** 66.17 351 IAmb IAmb 11 03 17.0
comp=Z,28nm,1.4s
L60A **Shokan** 66.19 354 P P 11 03 16.6 +0.8
baz=173
P46A **Rosedale** 66.24 343 P P 11 03 14.5 -1.6
P46A IAmb IAmb 11 03 15.5
comp=Z,14nm,0.7s
M55A **Ridgway** 66.24 350 P P 11 03 16.4 +0.2
baz=168
O48A **Farmland** 66.33 345 P P 11 03 16.0 -0.7
baz=162
L58A **Harry Jones Me** 66.42 353 P P 11 03 18.2 +0.9
baz=171
M54A **Oil Creek Stat** 66.42 350 P P 11 03 17.6 +0.3
baz=167
L59A **Walton** 66.47 353 P P 11 03 18.5 +0.8
baz=172,SNR=7.9
L57A **Andrews Acres** 66.50 352 P P 11 03 18.2 +0.4
baz=170
GDL2 **Guadalupe Moun** 66.50 326 P P 11 03 19.4 +1.2
L61B **Northampton** 66.52 355 P P 11 03 18.1 +0.2
baz=174
M53A **WI Miller and** 66.53 349 P P 11 03 18.0 +0.1
baz=166
R40A **Maddies Statio** 66.54 338 P P 11 03 17.5 -0.6
R40A IAmb IAmb 11 03 18.4
comp=Z,13nm,0.7s
BINY **Binghamton** 66.59 353 P P 11 03 19.0 +0.7
baz=171
BINY **Binghamton** 66.59 353 IAmb IAmb 11 03 20.1
comp=Z,28nm,1.1s
MNTX **Cornudas Mount** 66.63 325 P P 11 03 18.8 -0.1
baz=142,SNR=28
MNTX **Cornudas Mount** 66.63 325 IAmb IAmb 11 03 19.8
comp=Z,15nm,0.9s
M51A **Elyria** 66.71 348 P P 11 03 18.7 -0.4
baz=165
L56A **Greenwood** 66.72 351 P P 11 03 19.7 +0.5
baz=169,SNR=5.1
N49A **Columbus Grove** 66.73 346 P P 11 03 17.9 -1.4
N49A IAmb IAmb 11 03 19.7
comp=Z,36nm,1.0s
N48A **Decatur** 66.87 345 P P 11 03 19.4 -0.7
baz=162
T35A **Sooner Cattle** 66.87 335 IAmb IAmb 11 03 22.1
comp=Z,22nm,1.1s
L55A **Hinsdale** 66.89 351 P P 11 03 20.6 +0.3
baz=169
P43A **Skaggs, Pawnee** 66.91 341 IAmb IAmb 11 03 20.4
comp=Z,35nm,0.8s
SFIN **Lafayette** 66.93 343 P P 11 03 19.2 -1.3
baz=160,SNR=8.9
L53A **Girard** 66.96 349 P P 11 03 20.6 -0.1
baz=167
K59A **Cooperstown** 67.03 354 P P 11 03 21.8 +0.6
baz=172,SNR=10
ERPA **Erie** 67.07 350 P P 11 03 21.5 +0.1
baz=167
ERPA **Erie** 67.07 350 IAmb IAmb 11 03 22.5
comp=Z,28nm,0.8s
L54A **Sinclairville** 67.08 350 P P 11 03 22.0 +0.5
baz=168,SNR=8.1
O44A **Mansfield** 67.08 342 P P 11 03 19.1 -2.4
K58A **Earlville** 67.11 353 P P 11 03 22.2 +0.6
baz=171,SNR=7.9
MSTX **Muleshoe** 67.13 328 P P 11 03 22.4 +0.3
baz=145
WVNY **West Valley, N** 67.14 351 IAmb IAmb 11 03 23.3
comp=Z,20nm,0.9s
K57A **Scipio Center** 67.17 352 P P 11 03 22.1 +0.1
baz=170
K56A **Middlesex** 67.24 352 P P 11 03 22.7 +0.2
baz=170
K54A **Basiliko Farm,** 67.35 351 P P 11 03 23.5 +0.3
baz=168
MMNY **Mt. Morris Dam** 67.36 351 IAmb IAmb 11 03 23.9
comp=Z,16nm,1.0s
AMTX **Amarillo** 67.36 330 P P 11 03 23.6 +0.1
baz=146
J60A **Lant Hill Farm** 67.37 355 P P 11 03 23.8 +0.5
baz=174
K55A **Perry** 67.38 351 P P 11 03 23.5 +0.2
baz=169
U32A **Winter Ranch,** 67.42 332 P P 11 03 24.2 +0.4
U32A IAmb IAmb 11 03 25.1
comp=Z,15nm,0.7s
M47A **Cromwell** 67.48 345 P P 11 03 23.3 -0.6
baz=162
P40A **Paris** 67.59 339 IAmb IAmb 11 03 25.4
comp=Z,30nm,0.8s
J59A **Piesco** 67.68 354 P P 11 03 25.8 +0.5
baz=172,SNR=7.3
HDIL **Hopedale** 67.69 342 P P 11 03 24.4 -0.9
baz=158,SNR=8.5
HDIL **Hopedale** 67.69 342 P P 11 03 24.0 -1.3
HSIG 67.75 319 P P 11 03 27.7 +1.8
HSIG IAmb IAmb 11 03 28.5
comp=Z,25nm,1.1s
J56A **Wolcott** 67.75 352 P P 11 03 25.6 0.0
baz=170,SNR=8.9
J56A **Wolcott** 67.75 352 IAmb IAmb 11 03 26.6
comp=Z,24nm,0.8s
J57A **Williamstown** 67.78 353 P P 11 03 26.1 +0.3
baz=171
DBIC **Dimbokro** 67.83 71 P P 11 03 26.1 -0.6
comp=Z,7.4nm,0.8s,baz=224,slow=4.7,SNR=8.7
DBIC **Dimbokro** 67.83 71 IAmb IAmb 11 03 36.7
comp=Z,30nm,1.4s
J55A **Hilton** 67.87 351 P P 11 03 26.3 0.0
baz=169
I58A **Old Forge** 67.95 354 P P 11 03 26.5 -0.4
baz=172
I59A **Olmsteadville** 67.95 355 P P 11 03 27.3 +0.4
baz=173
I60A **Shoreham** 67.95 355 P P 11 03 26.7 -0.2
baz=174
J54A **Appleton** 67.99 351 P P 11 03 27.8 +0.7
baz=168
I63A **Otisfield** 67.99 357 P P 11 03 27.8 +0.7

baz=176
K50A **Casco** 68.19 348 P P 11 03 27.7 -0.6
baz=165
J52A **Paris** 68.25 349 P P 11 03 28.7 0.0
baz=167,SNR=7.7
LBNH **Lisbon** 68.25 356 P P 11 03 29.3 +0.6
baz=175
I57A **Carthage** 68.27 353 P P 11 03 29.0 +0.2
baz=171
PECO **Prince Edward** 68.42 352 IAmb IAmb 11 03 30.9
comp=Z,12nm,0.9s
K48A **Perry** 68.52 347 P P 11 03 29.8 -0.6
baz=163,SNR=7.1
H64A **Troy** 68.53 358 P P 11 03 31.0 +0.6
baz=178
121A **Cookes Peak, D** 68.56 324 P P 11 03 33.0 +1.9
baz=140,SNR=12
121A **Cookes Peak, D** 68.56 324 IAmb IAmb 11 03 34.0
comp=Z,28nm,1.0s
H65A **Eastbrook** 68.57 359 P P 11 03 31.0 +0.4
baz=179
K47A **Vermontville** 68.58 346 P P 11 03 30.1 -0.7
baz=162
H58A **Gabriels** 68.60 354 P P 11 03 31.1 +0.2
baz=173
H59A **Cadyville** 68.78 355 P P 11 03 32.2 +0.2
baz=173
I55A **Frankford** 68.78 352 P P 11 03 32.0 +0.1
baz=170,SNR=7.7
KSU1 **Kansas State U** 68.81 336 P P 11 03 32.3 0.0
baz=151
L44A **Lake County Fo** 68.83 343 P P 11 03 32.4 0.0
baz=160
LONY **Lake Ozonia** 68.83 354 P P 11 03 32.7 +0.4
baz=172
I51A **Listowel** 68.89 349 P P 11 03 32.6 -0.1
baz=166,SNR=7.3
J48A **Bridge Port** 68.92 347 P P 11 03 32.4 -0.5
baz=164
H56A **Elgin** 68.98 353 P P 11 03 33.3 +0.1
baz=171
G63A **Kingsbury** 69.02 358 P P 11 03 33.8 +0.4
baz=177
R32A **Long Quarter,** 69.04 334 IAmb IAmb 11 03 35.3
comp=Z,24nm,0.7s
H55A **Tweed** 69.05 352 P P 11 03 33.9 +0.3
baz=170
G65A **Princeton** 69.06 360 P P 11 03 34.0 +0.4
baz=179
J47A **Sunmer** 69.09 346 IAmb IAmb 11 03 34.2
comp=Z,35nm,1.1s
G64A **Maxfield** 69.13 359 P P 11 03 34.5 +0.4
baz=178
L42A **Oliver, Polo** 69.14 342 IAmb IAmb 11 03 34.5
comp=Z,27nm,0.7s
G62A **West of Eustis** 69.16 357 P P 11 03 34.7 +0.4
baz=176
PKME **Peaks-Kenny Pk** 69.16 358 P P 11 03 34.7 +0.4
baz=178
H53A **Bobcaygeon** 69.26 351 P P 11 03 35.0 +0.1
baz=169
G61A **St-Isidore-de-** 69.27 357 P P 11 03 35.8 +0.8
baz=176
G58A **Ormstown** 69.31 355 P P 11 03 35.7 +0.4
baz=173
I49A **Point Hope** 69.35 348 P P 11 03 34.9 -0.6
baz=164
G57A **Newington** 69.35 354 P P 11 03 35.7 +0.2
baz=172
H52A **Wyevale** 69.52 350 P P 11 03 36.5 0.0
baz=167
G55A **Calabogie** 69.69 353 P P 11 03 37.7 +0.2
baz=170
ANMO **Albuquerque** 69.73 326 P P 11 03 39.9 +1.6
baz=142
ANMO **Albuquerque** 69.73 326 P P 11 03 39.7 +1.4
ANMO IAmb IAmb 11 03 40.8
comp=Z,18nm,0.9s
F64A **Sherman** 69.73 359 P P 11 03 38.2 +0.4
baz=179
LMN **Caledonia Moun** 69.74 2 P P 11 03 38.0 +0.1
LMN IAmb IAmb 11 03 38.8
comp=Z,20nm,1.1s
I48A **Sherman Twp** 69.76 347 P P 11 03 37.6 -0.4
baz=164
CBKS **Cedar Bluff** 69.80 333 P P 11 03 39.3 +0.8
baz=148
G53A **Haliburton** 69.80 351 P P 11 03 38.4 +0.2
baz=169,SNR=6.2
I46A **Reed City** 69.89 346 P P 11 03 38.0 -0.9
baz=162
F61A **St Evariste** 69.93 357 P P 11 03 39.1 +0.1
baz=176
G54A **Lake Saint Pet** 70.00 352 P P 11 03 39.5 0.0
baz=169
TUC **Tucson** 70.06 321 P P 11 03 41.7 +1.4
baz=138
TUC **Tucson** 70.06 321 P P 11 03 41.3 +1.1
SCIA **State Center** 70.12 339 P P 11 03 40.2 0.0
baz=155
SCIA **State Center** 70.12 339 P P 11 03 40.2 0.0
SCIA IAmb IAmb 11 03 41.0
comp=Z,30nm,0.9s
JFWS **Jewell Farm** 70.14 342 P P 11 03 40.3 -0.1
baz=157,SNR=28
E64A **Bridgewater** 70.28 359 P P 11 03 41.4 +0.3
baz=179
E63A **Oxbow** 70.30 359 P P 11 03 41.6 +0.4
baz=178
E58A **La Victoria** 70.47 355 P P 11 03 42.5 +0.3
baz=174
T25A **Trinidad** 70.47 329 P P 11 03 44.3 +1.5
baz=144,SNR=14
T25A **Trinidad** 70.47 329 IAmb IAmb 11 03 45.2
comp=Z,16nm,0.8s
E62A **Clayton Lake** 70.52 358 P P 11 03 43.2 +0.6
baz=178
ALGO **Algonquin Park** 70.54 352 P P 11 03 42.7 0.0
baz=169
GLMI **Grayling** 70.56 347 P P 11 03 42.4 -0.4
baz=163
F52A **Sundridge** 70.56 351 P P 11 03 42.9 +0.1
baz=168
E57A **Chemin Saint G** 70.58 355 P P 11 03 43.2 +0.2
baz=173
K38A **Parkersburg** 70.65 340 IAmb IAmb 11 03 43.5
comp=Z,24nm,0.7s
G47A **Hillman** 70.74 347 P P 11 03 43.7 -0.2
baz=164
E56A **St. Veronique** 70.78 354 P P 11 03 44.1 -0.1
baz=172
E54A **Lac Daplat, Po** 70.91 353 P P 11 03 44.9 -0.1
baz=170
D63A **Stockholm** 70.91 359 P P 11 03 45.4 +0.5
baz=179
E53A **Dumoine, Ponti** 70.91 352 P P 11 03 44.9 0.0
baz=170
E52A **Mattawa** 70.95 351 P P 11 03 44.7 -0.5
baz=169
F49A **Sandfield** 70.96 349 P P 11 03 44.9 -0.3
baz=165,SNR=7.6
D62A **Allapoint, All** 70.97 358 P P 11 03 45.6 +0.4
baz=178
214A **Organ Pipe Nat** 70.98 320 P P 11 03 47.7 +1.9
baz=136,SNR=8.7
214A **Organ Pipe Nat** 70.98 320 IAmb IAmb 11 03 48.6
comp=Z,24nm,1.2s
G46A **Petoskey** 71.08 347 P P 11 03 45.7 -0.3
baz=163
F48A **Evansville** 71.13 348 P P 11 03 46.1 -0.2
baz=165,SNR=5.5
D57A **Chemin Vers le** 71.16 355 P P 11 03 46.6 +0.2
baz=173
D58A **Chemin du LacG** 71.16 356 P P 11 03 46.7 +0.3
baz=174
KSCO **Kaye Shedlock'** 71.19 331 P P 11 03 48.3 +1.3
baz=146,SNR=5.1
KSCO **Kaye Shedlock'** 71.19 331 IAmb IAmb 11 03 49.2
comp=Z,24nm,0.8s
L34A **Svendsen Farm,** 71.24 337 P P 11 03 46.4 -0.6
X18A **Snowflake** 71.25 324 P P 11 03 48.7 +1.2
D56A **ZEC Mazanza, M** 71.26 354 P P 11 03 47.0 -0.1
baz=172
D55A **Sainte-Anne-du** 71.30 354 P P 11 03 47.2 -0.1
baz=172,SNR=5.7
E51A **G1948 Merrick** 71.31 351 P P 11 03 47.4 +0.1
baz=168
E50A **Wahnapitae** 71.39 350 P P 11 03 47.8 0.0
baz=167
BGNE **Belgrade** 71.40 336 P P 11 03 48.6 +0.6
baz=150,SNR=11
SDCO **Great Sand Dun** 71.48 329 P P 11 03 50.4 +1.5
baz=143,SNR=35
SDCO **Great Sand Dun** 71.48 329 IAmb IAmb 11 03 51.4
comp=Z,14nm,0.9s
D54A **Lac Fusel, La** 71.55 353 P P 11 03 48.2 -0.6
baz=171
F45A **CMU Biological** 71.57 346 P P 11 03 48.6 -0.3
baz=162,SNR=8.5
W18A **Petrified Fore** 71.58 324 P P 11 03 51.0 +1.6
baz=139
D52A **ZEK Kipawa Sen** 71.59 352 P P 11 03 49.2 +0.1
baz=169
D53A **Lac Vacive, Po** 71.60 352 P P 11 03 49.0 -0.1
baz=170,SNR=7.3
E48A **Lockeyer** 71.68 349 P P 11 03 49.6 0.0
baz=165,SNR=11
D51A **Lot 18 Range I** 71.83 351 P P 11 03 50.4 -0.1
baz=168
E47A **Iron Bridge** 71.86 348 P P 11 03 50.5 -0.1
baz=164,SNR=14
E46A **Sault Ste Mari** 71.97 347 IAmb IAmb 11 03 51.9
comp=Z,34nm,0.8s
D50A **G1974 Best Tow** 71.98 351 P P 11 03 51.3 -0.1
baz=166
X16A **Lo Mia Camp, P** 71.99 322 IAmb IAmb 11 03 54.8
comp=Z,18nm,1.1s
S22A **4UR Ranch, Cre** 72.12 328 P P 11 03 54.1 +1.4
baz=142,SNR=13
Q24A **Divide** 72.29 330 P P 11 03 55.1 +1.4
baz=144,SNR=8.1
D48A **Paudash Townsh** 72.29 349 P P 11 03 52.9 -0.3
baz=166
D49A **Beulah Townshi** 72.31 350 P P 11 03 53.3 0.0
baz=166,SNR=6.2
D47A **Chapleau** 72.40 348 P P 11 03 53.4 -0.5
baz=164,SNR=7.7
D46A **Sault St. Mari** 72.42 348 P P 11 03 53.4 -0.5
baz=164,SNR=6.8
MVCO **Mesa Verde** 72.53 326 P P 11 03 56.6 +1.5
baz=141,SNR=16
MVCO **Mesa Verde** 72.53 326 P P 11 03 56.1 +1.0
MVCO IAmb IAmb 11 03 57.7
comp=Z,16nm,0.8s
OGNE **Ogallala** 72.54 333 P P 11 03 56.1 +1.2
baz=147
OGNE **Ogallala** 72.54 333 IAmb IAmb 11 03 56.5
comp=Z,14nm,0.6s
E43A **Lone Tree Farm** 72.55 346 IAmb IAmb 11 03 55.4
comp=Z,25nm,0.7s
WUAZ **Wupatki** 72.76 323 P P 11 03 58.4 +1.9
baz=138,SNR=26
WUAZ **Wupatki** 72.76 323 IAmb IAmb 11 03 59.4
comp=Z,23nm,0.8s
COWI **Conover** 72.80 344 IAmb IAmb 11 03 56.8
comp=Z,11nm,0.8s
ECSD **EROS Data Cent** 72.88 338 P P 11 03 56.7 0.0
baz=152,SNR=30
GLA **Glamis** 72.95 319 P P 11 03 59.1 +1.7
baz=135
GLA **Glamis** 72.95 319 P P 11 03 59.2 +1.7
GLA IAmb IAmb 11 04 00.1
comp=Z,14nm,0.8s
SPMN **Marine on St.** 73.00 341 P P 11 03 57.0 -0.4
baz=155,SNR=11
SPMN **Marine on St.** 73.00 341 IAmb IAmb 11 03 58.0
comp=Z,32nm,1.1s
ISCO **Idaho Springs** 73.17 330 P P 11 04 00.4 +1.4
baz=144,SNR=13
Y12C **Blythe** 73.27 320 P P 11 04 01.1 +1.9
baz=135,SNR=8.7
Y12C **Blythe** 73.27 320 P P 11 04 00.6 +1.3
Y12C IAmb IAmb 11 04 02.2
comp=Z,26nm,1.1s
PV01 **Paradox Valley** 73.28 327 P P 11 04 00.6 +1.1
SYO **Syowa Base** 73.35 159‖*e*P P 11 03 56.6 -2.6
SYO **Syowa Base** 73.35 159‖*i*PcP PcP 11 04 12.6 -2.0
SYO **Syowa Base** 73.35 159‖*e*pP pP 11 04 39.0 -4.4
PV15 **Paradox Valley** 73.39 327 IAmb IAmb 11 04 03.2
comp=Z,25nm,1.1s
PV13 **Radium Mtn., P** 73.42 327 IAmb IAmb 11 04 02.9
comp=Z,17nm,1.0s
IKP **In-to-Pah, Jac** 73.44 318 P P 11 04 02.2 +1.8
baz=134
LSQQ **Lebel-sur-Quev** 73.47 353 P P 11 03 59.9 -0.2
baz=170
PV03 **Paradox Valley** 73.51 327 P P 11 04 01.9 +1.0
PV18 **Skein Mesa, Pa** 73.53 327 P P 11 04 01.3 +0.3
PV12 **Saucer Basin,** 73.53 327 P P 11 04 01.6 +0.5
DRLN **Deer Lake** 73.60 6 P P 11 04 01.1 +0.3
DRLN IAmb IAmb 11 04 01.8
comp=Z,29nm,0.8s
PV22 **Blue Mesa, Par** 73.70 327 IAmb IAmb 11 04 04.5
comp=Z,22nm,1.1s
PV10 **Paradox Valley** 73.70 327 IAmb IAmb 11 04 04.0
comp=Z,14nm,0.9s
BC3 **Big Chuckawall** 73.75 319 P P 11 04 03.9 +1.7
baz=135,SNR=18
F36A **Milaca** 73.79 341 IAmb IAmb 11 04 02.6
comp=Z,28nm,0.7s
MONP2 **Monument Peak** 73.80 318 P P 11 04 04.4 +1.7
baz=134,SNR=6.5
BAR **Barrett** 73.81 318 IAmb IAmb 11 04 05.0
comp=Z,16nm,0.8s
PV09 **Paradox Valley** 73.84 327 P P 11 04 04.1 +1.2
E38A **The Farm, Brul** 73.91 343 IAmb IAmb 11 04 03.4
comp=Z,21nm,0.9s
IRM **Iron Mountain** 73.92 320 P P 11 04 04.9 +1.8
baz=135,SNR=11
U15A **North Rim** 73.94 323 IAmb IAmb 11 04 06.6
comp=Z,18nm,0.8s
N23A **Red Feather La** 74.20 330 P P 11 04 06.4 +1.5
baz=143,SNR=8.5
N23A **Red Feather La** 74.20 330 IAmb IAmb 11 04 07.3
comp=Z,12nm,0.8s
MATQ **Matagami** 74.23 353 P P 11 04 04.1 -0.4
baz=170
BELC **Belle Mtn. Jos** 74.31 319 P P 11 04 07.3 +1.8
baz=134,SNR=9.0
XPFO **Pion Flat** 74.31 319 P P 11 04 06.3 +0.8
PFO **Pinyon Flats O** 74.32 319 P P 11 04 07.4 +1.9
baz=134,SNR=6.2
PFO **Pinyon Flats O** 74.32 319 P P 11 04 06.1 +0.5
VNDA **Vanda** 74.52 190 P P 11 04 08.0 +2.1
comp=Z,6.8nm,0.9s,baz=130,slow=5.3,SNR=29
VNDA **Vanda** 74.52 190 P P 11 04 08.0 +2.1
F33A **5 Mile Ranch,** 74.63 339 IAmb IAmb 11 04 07.5
comp=Z,14nm,0.8s
GMRC **Granite Mounta** 74.66 320 P P 11 04 09.4 +1.9
baz=135,SNR=24
O20A **White River Ci** 74.67 328 P P 11 04 09.1 +1.6
baz=141,SNR=22
O20A **White River Ci** 74.67 328 IAmb IAmb 11 04 10.1
comp=Z,26nm,0.8s
MURC **Murrieta** 74.75 318 P P 11 04 09.7 +1.8
baz=133
LCMT **Little Creek M** 74.88 323 P P 11 04 10.0 +1.3
BBRC **Big Bear Solar** 75.04 319 P P 11 04 11.9 +2.1
baz=134
MTPU **Mount Pierson** 75.07 325 P P 11 04 11.2 +1.2
HEC **Hector,Ludlow** 75.09 320 P P 11 04 11.9 +2.0
baz=134,SNR=6.7
EYMN **Ely** 75.12 343 P P 11 04 09.3 -0.3
baz=157,SNR=15
EYMN **Ely** 75.12 343 IAmb IAmb 11 04 10.3
comp=Z,13nm,0.7s
TUQ **Turquoise Moun** 75.27 320 P P 11 04 12.7 +1.7
baz=135,SNR=10
RWWY **Rawlins** 75.41 330 P P 11 04 12.7 +0.9
RWWY IAmb IAmb 11 04 14.2
comp=Z,19nm,0.8s
MSU **Marysvale** 75.41 325 P P 11 04 13.5 +1.6
BFSC **Mount Baldy Ra** 75.47 319 P P 11 04 13.6 +1.5
baz=133
TMUT **Trail Mountain** 75.50 326 P P 11 04 09.8 -2.6
SHPR **Sheep Range** 75.59 322 P P 11 04 13.9 +1.1
RDMU **Red Mountain** 75.65 328 P P 11 04 13.3 +0.2
GSC **Goldstone, Bar** 75.69 320 P P 11 04 15.1 +1.8
baz=134,SNR=7.3
GSC **Goldstone, Bar** 75.69 320 P P 11 04 14.3 +1.0
GSC IAmb IAmb 11 04 16.2
comp=Z,20nm,1.2s
MWC **Mount Wilson** 75.70 318 IAmb IAmb 11 04 16.0
comp=Z,25nm,1.4s
PASC **Pasadena Art C** 75.75 318 IAmb IAmb 11 04 16.3
comp=Z,26nm,1.1s
SHOC **Shoshone, Teco** 75.80 321 P P 11 04 15.4 +1.6
baz=134
K22A **Casper** 75.87 331 P P 11 04 15.7 +1.4
baz=143,SNR=6.6
K22A **Casper** 75.87 331 P P 11 04 15.4 +1.2
RSSD **Black Hills** 76.00 333 P P 11 04 16.0 +1.0
baz=146
RSSD **Black Hills** 76.00 333 P P 11 04 15.7 +0.7
EDW2 **Edwards Air Fo** 76.11 319 P P 11 04 16.9 +1.2
baz=133,SNR=5.1
LRMC **Laurel Mtn Rad** 76.33 319 P P 11 04 18.4 +1.4
baz=133,SNR=5.8
TPNV **Topopah Spring** 76.52 321 P P 11 04 20.2 +2.1
baz=135,SNR=28
TPNV **Topopah Spring** 76.52 321 IAmb IAmb 11 04 21.1
comp=Z,17nm,0.9s
FURC **Furnace Creek,** 76.53 321 P P 11 04 19.8 +1.9
baz=134,SNR=14
JLU **Jordanelle** 76.60 327 P P 11 04 19.5 +1.0
TOA0 **Torodi Ar. Sit** 76.60 69 P P 11 04 18.2 -0.6
TOA0 IAmb IAmb 11 04 19.6
comp=Z,12nm,0.7s
TORD **Torodi Ar. Bea** 76.60 69 P P 11 04 18.7 -0.1
comp=Z,12nm,0.6s,baz=269,slow=5.5,SNR=60
MPMC **Manual Prospec** 76.62 320 P P 11 04 20.1 +1.4
baz=134,SNR=7.6
AGMN **Agassiz Nation** 76.68 341 P P 11 04 18.6 +0.1
baz=153,SNR=10
AGMN **Agassiz Nation** 76.68 341 IAmb IAmb 11 04 19.5
comp=Z,22nm,0.9s
E28A **Huff** 76.78 337 P P 11 04 18.6 -0.5
ISA **Isabella, Lake** 76.93 319 P P 11 04 22.1 +1.9
baz=133,SNR=14
ISA **Isabella, Lake** 76.93 319 P P 11 04 21.3 +1.1
ISA IAmb IAmb 11 04 23.1
comp=Z,17nm,0.9s
TCUT **Toone Canyon** 76.97 327 P P 11 04 21.4 +0.9
DUG **Dugway, Tooele** 76.99 326 P P 11 04 22.3 +1.7
baz=136
DUG **Dugway, Tooele** 76.99 326 P P 11 04 22.1 +1.5
R11A **Troy Canyon, C** 77.13 323 P P 11 04 23.4 +2.0
baz=135,SNR=24
R11A **Troy Canyon, C** 77.13 323 IAmb IAmb 11 04 24.6
comp=Z,22nm,1.3s
GRAC **Grapevine Rang** 77.19 321 P P 11 04 23.5 +1.9
baz=134,SNR=5.6
PKM **Mcpherson Peak** 77.22 318 P P 11 04 23.9 +1.9
baz=132,SNR=11
CWC **Cottonwood Cre** 77.22 320 P P 11 04 23.7 +1.7
baz=133
BW06 **Boulder Array** 77.34 329 P P 11 04 23.5 +0.9
baz=141
BW06 **Boulder Array** 77.34 329 P P 11 04 22.6 +0.1
PDAR **Pinedale Array** 77.34 329 P P 11 04 23.4 +0.8
comp=Z,3.3nm,0.5s,baz=133,slow=7.9,SNR=29
HWUT **Hardware Ranch** 77.41 327 P P 11 04 23.5 +0.6
HWUT IAmb IAmb 11 04 26.0
comp=Z,12nm,0.6s
VES **Vestal, Richgr** 77.42 319 P P 11 04 24.3 +1.5
baz=132,SNR=12
MDND **Maddock** 77.49 338 P P 11 04 24.0 +1.0
baz=150,SNR=6.3
MDND **Maddock** 77.49 338 P P 11 04 23.7 +0.7
SMMC **Simmler** 77.62 318 P P 11 04 26.1 +2.0
baz=132,SNR=7.6
TIN **Tinemaha, Big** 77.73 320 P P 11 04 26.6 +1.9
baz=133
PAGB **Antelope Grade** 78.05 318 IAmb IAmb 11 04 29.1
comp=Z,22nm,1.0s
AHID **Auburn Hatcher** 78.06 328 IAmb IAmb 11 04 28.7
comp=Z,29nm,0.9s
REDW **Red Top Meadow** 78.40 329 P P 11 04 29.3 +0.9
ULM **Lac du Bonnet** 78.43 342 P P 11 04 28.1 0.0
comp=Z,22nm,0.6s,baz=153,slow=6.2,SNR=19
ULM **Lac du Bonnet** 78.43 342 P P 11 04 27.7 -0.4
SNOW **Snow King Moun** 78.43 329 IAmb IAmb 11 04 31.0
comp=Z,14nm,0.8s
MLAC **Mammoth, Mammo** 78.48 320 P P 11 04 30.7 +1.7
baz=133,SNR=8.0
OMMB **Old Mammoth Mi** 78.56 320 IAmb IAmb 11 04 32.0
comp=Z,20nm,0.8s
FXWY **Fox Creek** 78.69 329 P P 11 04 30.3 +0.3
SCHQ **Schefferville** 78.70 0 P P 11 04 29.4 -0.2
comp=Z,4.0nm,0.4s,baz=184,slow=5.0,SNR=13
SCHQ **Schefferville** 78.70 0 P P 11 04 29.2 -0.4
NVAR **Mina Array Bea** 78.72 321 P P 11 04 31.7 +1.4
comp=Z,3.4nm,0.6s,baz=151,slow=5.8,SNR=32
IMW **Indian Meadow** 78.85 329 IAmb IAmb 11 04 33.4
comp=Z,18nm,0.8s
FLWY **Flagg Ranch** 78.88 329 IAmb IAmb 11 04 33.8
comp=Z,19nm,0.9s
LAO **LASA Array** 78.99 334 P P 11 04 32.3 +1.0
baz=144,SNR=15
LAO **LASA Array** 78.99 334 P P 11 04 31.7 +0.4
LAO IAmb IAmb 11 04 33.2
comp=Z,24nm,0.9s
KVN **Kaiserville** 79.03 322 P P 11 04 32.5 +0.6
KVN IAmb IAmb 11 04 34.0
comp=Z,21nm,0.8s
RLMT **Red Lodge** 79.03 331 P P 11 04 33.1 +1.2
baz=141,SNR=16
RLMT **Red Lodge** 79.03 331 IAmb IAmb 11 04 33.6
comp=Z,15nm,0.6s
H17A **Grant Village** 79.06 330 P P 11 04 34.3 +2.3
baz=140,SNR=6.9
YPP **Pitchstone Pla** 79.07 330 P P 11 04 33.5 +1.3
LKWY **Lake** 79.11 330 P P 11 04 32.9 +0.6
YMP **Mirror Lake Pl** 79.14 330 P P 11 04 33.5 +1.0
YHB **Horse Butte** 79.62 330 P P 11 04 35.8 +0.8
YERR **Yerington** 79.63 321 P P 11 04 36.2 +1.0
YERR IAmb IAmb 11 04 37.8
comp=Z,12nm,0.8s
DGMT **Dagmar** 79.65 336 P P 11 04 36.3 +1.4
baz=146,SNR=10
PNTR **Pine Nut** 79.91 321 P P 11 04 38.0 +1.3
PNTR IAmb IAmb 11 04 39.5
comp=Z,31nm,0.8s
VCNR **Virginia City** 80.08 321 P P 11 04 38.4 +0.8
RUBR **Rubicon Trail** 80.20 321 P P 11 04 38.8 +0.5
RUBR IAmb IAmb 11 04 44.0
comp=Z,18nm,1.0s
PAHR **Pah Rah Range** 80.20 322 IAmb IAmb 11 04 40.9
comp=Z,27nm,0.9s
BOZ **Bozeman (W)** 80.46 330 P P 11 04 39.6 +0.2
AFDM **Forest Hills D** 80.61 320 P P 11 04 40.4 +0.2
BOSA **Boshof** 80.61 117 P P 11 04 41.2 +0.5
comp=Z,11nm,0.4s,baz=260,slow=3.6,SNR=37
BOSA **Boshof** 80.61 117 P P 11 04 41.5 +0.8
BOSA IAmb IAmb 11 04 41.9
comp=Z,22nm,1.0s
DLMT **Dillon** 80.73 329 IAmb IAmb 11 04 43.3
comp=Z,24nm,1.2s
MAW **Mawson** 81.24 163 P P 11 04 44.4 +1.3
comp=Z,25nm,0.6s,baz=209,slow=6.4,SNR=60
MAW **Mawson** 81.24 163 P P 11 04 41.8 -1.3
ORV **Oroville** 81.31 320 P P 11 04 43.9 0.0
ORV IAmb IAmb 11 04 46.4
comp=Z,18nm,1.1s
EGMT **Eagleton** 81.51 333 P P 11 04 45.3 +0.5
baz=141,SNR=7.9
EGMT **Eagleton** 81.51 333 P P 11 04 44.1 -0.7
EGMT IAmb IAmb 11 04 46.4
comp=Z,24nm,0.9s
O03E **Paynes Creek** 81.98 321 P P 11 04 47.6 +0.2
baz=131
MOD **Modoc Plateau** 82.20 323 IAmb IAmb 11 04 50.9
comp=Z,18nm,1.1s
J08A **Circle Bar Ran** 82.21 325 IAmb IAmb 11 04 51.0
comp=Z,21nm,0.7s
LBTB **Lobatse** 82.27 114 P P 11 04 50.0 +0.5
LBTB IAmb IAmb 11 04 53.0
comp=Z,17nm,0.7s
MSO **Missoula** 82.45 330 P P 11 04 51.1 +1.3
baz=138,SNR=11
PNCL **Nicolau / Gran** 82.72 43 *e*P P 11 04 52.2 +1.0
PCVE **Castro Verde** 82.73 43 *e*P P 11 04 52.7 +1.4
MESJ **Messejana** 82.75 43 *e*P P 11 04 52.3 +1.0
MESJ AMb AMB 11 04 52.8
comp=Z,17nm,1.8s
MESJ **Messejana** 82.75 43 *e*P P 11 04 52.7 +1.3
PVAQ **Vaqueiros** 82.80 44 *e*P P 11 04 52.6 +1.0
N02D **Trinity Center** 82.94 321 P P 11 04 53.4 +1.0
baz=131
M04C **Macdoel** 82.97 322 P P 11 04 53.5 +0.9
baz=131,SNR=6.8

K05A	**Summer Lake**	**83.08**	**323**	P		**P**		**11 04 54.8**	**+1.6**
K05A				IAmb		IAmb		11 04 55.8	
	comp=Z,31nm,0.8s								
PBEJ	**Beja**	**83.08**	**43**	*e*P		**P**		**11 04 54.3**	**+1.2**
F10A	**Beach Ranch, E**	**83.40**	**327**	IAmb		IAmb		11 05 00.7	
	comp=Z,14nm,0.6s								
K04D	**Chiloquin, OR**	**83.48**	**323**	P		**P**		**11 04 56.3**	**+1.1**
	baz=131								
PMTG	**Montargil**	**83.50**	**42**	*e*P		**P**		**11 04 56.1**	**+0.9**
J05D	**Fort Rock, OR**	**83.63**	**323**	P		**P**		**11 04 57.2**	**+1.2**
	baz=132,SNR=7.1								
PINE	**Pine Mountain**	**83.81**	**324**	IAmb		IAmb		11 04 59.4	
	comp=Z,24nm,0.8s								
PCAS	**Casmilo, Conde**	**83.95**	**41**	*e*P		**P**		**11 04 59.6**	**+2.1**
J04D	**Umpqua Nationa**	**84.08**	**323**	P		**P**		**11 04 59.3**	**+0.9**
	baz=131,SNR=7.2								
FFC	**Flin Flon**	**84.16**	**340**	P		**P**		**11 04 58.5**	**+0.4**
PMRV	**Marv??o**	**84.23**	**42**	*e*P		**P**		**11 04 59.5**	**+0.5**
I05D	**Terrebonne, OR**	**84.39**	**324**	P		**P**		**11 05 01.1**	**+1.4**
	baz=132,SNR=7.2								
PCBR	**Castelo Branco**	**84.43**	**42**	*e*P		**P**		**11 05 01.3**	**+1.4**
TAM	**Tamanrasset**	**84.45**	**62**	P		**P**		**11 05 01.3**	**+0.8**
K02D	**Willamette Mer**	**84.60**	**322**	P		**P**		**11 05 02.0**	**+1.2**
	baz=130								
I04A	**Tendick Farm,**	**84.61**	**323**	P		**P**		**11 05 01.4**	**+0.6**
	baz=131								
MTE	**Manteigas**	**84.74**	**41**	*e*P		**P**		**11 05 02.7**	**+1.2**
HAWA	**Hanford**	**84.84**	**327**	IAmb		IAmb		11 05 03.9	
	comp=Z,12nm,0.8s								
NEW	**Newport**	**84.97**	**329**	P		**P**		**11 05 03.8**	**+1.3**
	baz=135								
G05D	**Wamic, OR**	**84.98**	**325**	P		**P**		**11 05 04.0**	**+1.5**
	baz=132								
D08A	**Wollman Farm,**	**85.00**	**327**	IAmb		IAmb		11 05 04.4	
	comp=Z,8.9nm,0.6s								
I03D	**Drain, OR**	**85.07**	**323**	P		**P**		**11 05 04.1**	**+1.2**
	baz=130								
H04A	**Detroit Lake**	**85.08**	**324**	IAmb		IAmb		11 05 04.4	
	comp=Z,11nm,0.8s								
C09A	**Chrisman Ranch**	**85.20**	**328**	P		**P**		**11 05 04.0**	**+0.5**
MVO	**Moncorvo**	**85.51**	**41**	*e*P		**P**		**11 05 06.4**	**+1.0**
LTY	**Liberty**	**86.00**	**327**	IAmb		IAmb		11 05 09.1	
	comp=Z,11nm,0.8s								
F04A	**Amboy**	**86.02**	**325**	IAmb		IAmb		11 05 09.2	
	comp=Z,19nm,0.9s								
PBRG	**Braganca**	**86.07**	**41**	*e*P		**P**		**11 05 08.7**	**+0.6**
LON	**Longmire**	**86.24**	**326**	P		**P**		**11 05 08.3**	**-0.5**
ESDC	**Sonseca Array**	**86.51**	**44**	P		**P**		**11 05 10.6**	**+0.3**
	comp=Z,3.7nm,0.8s,baz=242,slow=4.9,SNR=16								
D05A	**Enumclaw**	**86.62**	**326**	P		**P**		**11 05 10.0**	**-0.6**
D05A				IAmb		IAmb		11 05 12.0	
	comp=Z,18nm,0.9s								
B05A	**Bryant**	**87.39**	**327**	P		**P**		**11 05 14.3**	**+0.1**
	baz=131,SNR=7.0								
D03D	**Eldon**	**87.42**	**326**	P		**P**		**11 05 15.1**	**+0.8**
	baz=131								
LSZ	**Lusaka**	**88.41**	**106**	P		**P**		**11 05 19.0**	**-1.0**
LSZ				IAmb		IAmb		11 05 23.3	
	comp=Z,19nm,0.9s								
CASY	**Casey**	**89.79**	**179**	P		**P**		**11 05 25.8**	**+0.5**
YKA	**Yellowknife Ar**	**94.32**	**340**	P		**P**		**11 05 46.4**	**+0.3**
	comp=Z,8.9nm,0.7s,baz=136,slow=4.7,SNR=168								
ILAR	**Eielson Array**	**107.45**	**334**	PKiKP		**PKiKP**		**11 10 51.7**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=8.7,slow=1.2,SNR=4.4								
ILAR				PP		**PP**		**11 11 12.9**	**-1.9**
	comp=Z,0.8nm,0.9s,baz=105,slow=5.9,SNR=5.9								
TOLK	**Toolik Lake Re**	**109.65**	**337**	P		**PKiKP**		**11 10 56.7**	**+0.5**
	baz=106								
AKASG	**Malin Array Be**	**112.15**	**43**	PKiKP		**PKiKP**		**11 11 00.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=258,slow=2.6,SNR=5.7								
BRTR	**Keskin Array B**	**112.89**	**55**	PKiKP		**PKiKP**		**11 11 03.6**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=233,slow=0.6,SNR=4.7								
STKA	**Stephens Creek**	**117.92**	**207**	PKP		**PKiKP**		**11 11 13.3**	**0.0**
	comp=Z,1.7nm,0.8s,baz=113,slow=2.9,SNR=4.2								
KLMR	**Klimovskoe**	**118.83**	**32**	*e*PKPdf		**PKiKP**		**11 11 13.4**	**-0.6**
KLMR				AMP				11 11 14.9	
	comp=Z,6.0nm,0.8s								
KBZ	**Khabaz**	**120.37**	**52**	PKP		**PKiKP**		**11 11 17.6**	**+0.1**
	comp=Z,4.0nm,0.7s,baz=213,slow=3.8,SNR=7.5								
AS31	**Alice Springs**	**128.29**	**205**	PKPdf		**PKiKP**		**11 11 33.6**	**-0.5**
ASAR	**Alice Springs**	**128.29**	**205**	PKP		**PKPdf**		**11 11 33.3**	**-0.1**
	comp=Z,8.4nm,0.7s,baz=137,slow=1.9,SNR=77								
ARU	**Arti**	**129.32**	**36**	PKP		**PKiKP**		**11 11 35.6**	**+0.7**
	comp=Z,2.7nm,0.4s,baz=305,slow=5.9,SNR=10								
AKTO	**Aktyubinsk**	**130.40**	**43**	PKP		**PKiKP**		**11 11 37.7**	**+0.4**
	comp=Z,5.5nm,0.8s,baz=295,slow=1.5,SNR=14								
AKTO				SKPbc		**SKPbc**		**11 14 44.2**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=301,slow=4.0,SNR=11								
WR0	**Warramunga Arr**	**131.37**	**207**	PKPdf		**PKiKP**		**11 11 39.9**	**-0.4**
WRA	**Warramunga Arr**	**131.47**	**207**	PKhKP		PKPpre		11 11 27.1	
	comp=Z,0.2nm,0.5s,baz=139,slow=3.1,SNR=5.4								
WRA				PKP		**PKPdf**		**11 11 39.7**	**+0.2**
	comp=Z,5.5nm,0.5s,baz=158,slow=1.7,SNR=100								
WRA				SKPbc		**SKPbc**		**11 14 47.1**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=152,slow=3.4,SNR=8.7								
PETK	**Petropavlovsk-**	**135.79**	**323**	PKhKP		PKPpre		11 11 37.7	
	comp=Z,1.2nm,0.6s,baz=202,slow=1.5,SNR=6.5								
PETK				PKP		**PKPdf**		**11 11 47.0**	**+0.5**
	comp=Z,4.3nm,0.7s,baz=141,slow=2.5,SNR=17								
PETK				SKPbc		**SKPbc**		**11 15 01.5**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=142,slow=5.1,SNR=4.4								
BRVK	**Borovoye**	**136.85**	**37**	PKPdf		**PKiKP**		**11 11 49.7**	**-0.6**
BVAR	**Borovoye Array**	**136.93**	**37**	PKP		**PKPdf**		**11 11 48.5**	**-0.1**
	comp=Z,3.4nm,0.6s,baz=281,slow=2.4,SNR=20								
KURBB	**Kurchatov Arra**	**142.51**	**36**	PKhKP		PKPpre		11 11 55.8	
	comp=Z,2.7nm,0.6s,baz=312,slow=2.9,SNR=23								
EKS2	**Erkin-Say**	**142.81**	**51**	P		**PKiKP**		**11 12 01.3**	**-1.7**
	SNR=5.1								
AML	**Almayashu**	**142.91**	**51**	P		**PKPdf**		**11 11 57.7**	**-2.6**
	SNR=6.2								
AAK	**Ala-Archa**	**143.33**	**50**	PKP		**PKPdf**		**11 11 59.3**	**-1.4**
	comp=Z,4.1nm,0.5s,baz=172,slow=1.7,SNR=10								
AAK	**Ala-Archa**	**143.33**	**50**	PKPdf		**PKPdf**		**11 11 59.1**	**-1.7**
UCH	**Uchtor**	**143.46**	**51**	P		**PKPdf**		**11 12 00.4**	**-1.0**
	SNR=6.2								
ZAA0	**Zalesovo Array**	**143.55**	**28**	PKPdf		**PKPdf**		**11 11 59.0**	**-1.6**
ZALV	**Zalesovo Beam**	**143.55**	**28**	PKP		**PKPdf**		**11 11 58.9**	**-1.7**
	comp=Z,21nm,0.5s,baz=296,slow=4.3,SNR=106								
ZALV				SKPbc		**SKiKP**		**11 15 22.5**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=270,slow=3.0,SNR=5.2								
KBK	**Karagaybulak**	**143.64**	**50**	P		**PKPdf**		**11 12 00.6**	**-0.7**
	SNR=6.5								
TKM2	**Tokmak 2**	**144.01**	**49**	P		**PKPdf**		**11 12 01.2**	**-0.8**
	SNR=12								
KZA	**Kyzart**	**144.03**	**51**	P		**PKPdf**		**11 12 02.2**	**-0.2**
	SNR=22								
NIL	**Nilore**	**144.10**	**66**	PKPdf		**PKPdf**		**11 12 01.4**	**-0.8**
SOEI	**Soe**	**144.52**	**199**	PKPdf		**PKPdf**		**11 12 03.9**	**+0.3**
ULHL	**Ulahol**	**144.68**	**50**	P		**PKPdf**		**11 12 03.5**	**+0.3**
	SNR=8.6								
KSH	**Kashi**	**145.28**	**55**	PKPbc		**PKPab**		**11 12 05.0**	**+0.3**
KDJ	**Kajisay**	**145.37**	**50**			**PKiKP**		**11 12 05.7**	**-2.7**
MAKZ	**Makanchi**	**146.46**	**40**	PKPdf		**PKPbc**		**11 12 06.7**	**-0.8**
MKAR	**Makanchi Array**	**146.65**	**40**	PKPbc		**PKPbc**		**11 12 07.0**	**-1.1**
	comp=Z,55nm,0.8s,baz=300,slow=1.6,SNR=139								
YSS	**Yuzh-Sakhalins**	**147.17**	**321**			**PKPdf**		**11 12 07.6**	**+0.7**
CISI	**Cisompet, Garu**	**148.03**	**170**			**PKiKP**		**11 12 13.4**	**-1.2**
GUMO	**Guam**	**148.17**	**256**			**PKPbc**		**11 12 13.3**	**+0.2**
JKA	**Kamikawa-asahi**	**148.75**	**317**			**PKPdf**		**11 12 10.2**	**+0.6**
ASAJ	**Asahikawa**	**148.75**	**317**	PKP		**PKPdf**		**11 12 10.2**	**+0.6**
	comp=Z,7.5nm,0.6s,baz=180,slow=1.0,SNR=5.4								
ASAJ				PKPbc		**PKPbc**		**11 12 13.7**	**0.0**
	comp=Z,17nm,0.9s,baz=218,slow=2.1,SNR=16								
ERM	**Erimo**	**149.37**	**313**			**PKiKP**		**11 12 17.3**	**+1.0**
ERM				PKPab		**PKPab**		**11 12 22.5**	**+1.9**
KAPI	**Kappang**	**150.24**	**194**			**PKiKP**		**11 12 19.5**	**+0.5**
WMQ	**Urumqi**	**151.47**	**40**	*e*PKPbc		**PKPdf**		**11 12 14.7**	**+0.7**
RPSI	**Rantau Prapat**	**154.64**	**145**	PKPab		**PKPab**		**11 12 44.8**	**+1.4**
USRK	**Ussuriysk Ar.**	**154.74**	**327**	PKPbc		**PKPbc**		**11 12 27.0**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=360,slow=3.5,SNR=5.6								
MJAR	**Matsushiro Arr**	**155.13**	**306**	PKPbc		PKPdf		11 12 29.1	+10
	comp=Z,1.5nm,0.4s,baz=224,slow=0.6,SNR=7.3								
MJAR				PKPab		**PKPab**		**11 12 45.8**	**+0.8**
	comp=Z,12nm,0.9s,baz=85,slow=2.2,SNR=15								
MAJO	**Matsushiro**	**155.13**	**306**	PKPab		**PKPab**		**11 12 46.0**	**+1.0**
MAT	**Matsushiro**	**155.13**	**306**	PKP		PKPdf		11 12 28.7	+9.2
MJB9	**Matsu-Tunnel**	**155.13**	**306**	PKPab		**PKPab**		**11 12 46.2**	**+1.2**
SONM	**Songino Array**	**155.82**	**11**	PKP		**PKPdf**		**11 12 20.3**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=326,slow=1.5,SNR=9.9								
SONM				PKPab		**PKPab**		**11 12 47.5**	**-0.1**
	comp=Z,3.6nm,0.7s,baz=321,slow=5.4,SNR=8.6								
ULN	**Ulaanbaatar**	**155.90**	**10**	PKPab		**PKPab**		**11 12 49.4**	**+1.3**
GTA	**Gaotai**	**161.15**	**33**	⇑PKP		**PKPdf**		**11 12 28.0**	**+1.2**
GTA				pPKP		PKPab		11 13 10.8	-0.3
GTA				PKPab		**pPKPdf**		**11 13 12.5**	**-2.5**
GTA				PP		**PP**		**11 16 59.9**	**+5.7**
GTA				SKKS				11 23 30.8	
GTA				SS		SS		11 36 57.2	+2.9
GTA				AMB		AMB			
	comp=Z,66nm,6.5s								
GTA				LR		LR			
	comp=Z,72nm,18.7s								
GTA				LR		LR			
	comp=Z,97nm,19.4s								
GTA				LR		LR			
	comp=Z,96nm,19.0s								
KSRS	**Korea Array**	**161.65**	**320**	PKP		**PKPdf**		**11 12 28.2**	**+1.0**
	comp=Z,1.6nm,0.7s,baz=32,slow=1.1,SNR=8.0								
KSRS				PKPab		**pPKPdf**		**11 13 14.3**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=39,slow=4.0,SNR=7.9								
HHC	**Hu-ho-hao-te**	**163.35**	**4**	*e*P		PKPdf		11 12 44.0	+15
HHC				pmax		pmax			
	comp=Z,5.0nm,0.7s								
HHC				pmax		pmax			
	comp=Z,36nm,6.6s								
BJI	**Beijing**	**163.98**	**351**	PKP		**PKPdf**		**11 12 30.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**165.68**	**111**	PKP		**PKPdf**		**11 12 31.8**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=284,slow=2.0,SNR=9.6								
CMAR				PKPab		**PKPab**		**11 13 31.2**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=254,slow=4.6,SNR=7.8								
LZH	**Lanzhou**	**165.74**	**32**	*e*PKP		**PKPdf**		**11 12 32.3**	**+1.0**
PBKT	**Sadao Pong**	**166.38**	**122**			**PKPdf**		**11 12 33.0**	**+1.0**
CD2	**Chengdu**	**169.39**	**49**	PKP		**PKPdf**		**11 12 33.0**	**-0.8**
XAN	**Xi'an**	**169.55**	**19**	PKP		**PKPdf**		**11 12 34.8**	**+1.0**
XAN				PKPab		**PKPab**		**11 13 48.1**	**0.0**
NJ2	**Nanjing**	**170.65**	**328**	*e*PKP		**PKPdf**		**11 12 34.7**	**+0.3**
GYA	**Guiyang**	**173.80**	**67**	PKP		**PKPdf**		**11 12 38.0**	**+1.8**

IDC 05 10:53:51.2±53.0, 23.95S×174.37W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/24, mbtmp3.6/3, Error ellipse: s-maj=1004.0km s-min=196.5km az=89.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.49**	**248**	P	P	11 01 23.5	-0.1
	0.6nm,0.5s,baz=94,slow=13,SNR=1.6						
ASAR	**Alice Springs**	**47.10**	**259**	P	P	11 02 24.7	-0.6
	0.2nm,0.5s,baz=89,slow=7.2,SNR=8.3						
WRA	**Warramunga Arr**	**47.53**	**264**	P	P	11 02 29.1	+0.4
	0.8nm,0.9s,baz=106,slow=7.8,SNR=6.8						

*IDC **05** 11:04:45.3±0.5,55.45S×28.13W,h0km,mb4.6/11, mb1 4.6/13,mb1mx4.5/22,mbtmp4.6/13,ML4.8/2,MS4.2/15, Ms1 4.2/15,ms1mx4.1/22,Error ellipse: s-maj=17.8km s-min=15.9km az=78.0*

*NEIC **05** 11:04:47.3±1.8,55.4S±0.1×28.4W±0.2,h10km±1km, mb4.9/41,Error ellipse: s-maj=18.9km s-min=14.5km az=18.0*

*GCMT **05** 11:04:51.3±0.2,55.48S±0.01×28.29W±0.02,h14km±1km, MW5.0/117,Moment Tensor Solution. s35,c38; s117,c157; Duration: 0 Moment tensor: Scale 1016Nm; Mrr0.43±.10; Mθθ-0.58±.12; Mφφ0.15±.10; Mrθ0.81±.25; Mrφ3.40±.11; Mθφ1.17±.25; Best double couple: Mo3.72100×1016 NP1φs89.00000°,δ72.00000°, λ15.00000°. NP2φs355.00000°,δ76.00000°,λ162.00000°. Principal axes: T 3.8000, Plg23.0000°, Azm311.0000°; N -0.1590, Plg67.0000°, Azm139.0000°; P -3.6410, Plg3.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 05 11:04:46.9±0.3, 55.45S±0.07×28.30W±0.07, h10km, n138, σ1§16/132, mb4.9/25, MS4.4/19, 1C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.87**	**280**	Pn	**Pn**	**11 05 58.8**	**-1.3**
VNA1	**Neumayer--Stat**	**17.59**	**158**	P	**Pn**	**11 08 52.2**	**+0.4**
VNA3	**Neumayer Olymp**	**17.77**	**160**	P	**Pn**	**11 08 54.2**	**+0.1**
VNA2	**Neumayer--Watz**	**17.99**	**158**	P	**P**	**11 08 58.0**	**+0.8**
	baz=329,slow=13						
EFI	**East Falkland**	**18.01**	**270**	Pn	**Pn**	**11 08 55.9**	**-1.2**
EFI				IAmb	IAmb	11 08 56.5	
	comp=Z,116nm,1.2s						
SNAA	**Sanae**	**19.55**	**156**	P	**P**	**11 09 14.4**	**+0.1**
SNAA	**Sanae**	**19.55**	**156**	P	**P**	**11 09 14.5**	**+0.1**
	comp=Z,5.2nm,0.3s,baz=304,slow=9.8,SNR=198						
SNAA				LR	LR	11 15 14.8	
	comp=Z,487nm,19.5s,baz=317,slow=32						
SNAA	**Sanae**	**19.55**	**156**		**P**	**11 09 14.5**	**+0.1**
PMSA	**Palmer Station**	**19.84**	**228**	P	**Pn**	**11 09 19.6**	**+0.6**
	comp=Z,1.6nm,0.3s,baz=82,slow=14,SNR=4.3						
PMSA				LR	LR	11 15 27.1	
	comp=Z,745nm,20.5s,baz=74,slow=32						
PMSA	**Palmer Station**	**19.84**	**228**	P	**P**	**11 09 16.8**	**-0.6**
PMSA	**Palmer Station**	**19.84**	**228**	*e*P	Pn	11 09 28.4	+9.4
PMSA	**Palmer Station**	**19.84**	**228**	*e*P	Pn	11 09 28.4	+9.4
MG01	**Puerto William**	**22.26**	**255**	P	**P**	**11 09 44.4**	**+0.7**
USHA	**Ushuaia**	**22.73**	**255**	P	**P**	**11 09 50.2**	**+1.5**
	comp=Z,6.9nm,0.3s,baz=65,slow=1.3,SNR=1.7						
GO10	**Punta Arenas**	**24.77**	**257**	P	**P**	**11 10 09.4**	**+0.9**
CPSB	**Cacapava Do Su**	**30.74**	**314**	*e*P	**P**	**11 11 02.4**	**+0.3**
CPSB	**Cacapava Do Su**	**30.74**	**314**	*e*P	**P**	**11 11 02.4**	**+0.3**
PLCA	**Paso Flores**	**31.28**	**280**	P	**P**	**11 11 07.5**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=147,slow=5.3,SNR=3.9						
PLCA	**Paso Flores**	**31.28**	**280**	IAmb	IAmb	11 11 14.8	
	comp=Z,5.3nm,1.2s						
SYO	**Syowa Base**	**32.45**	**142**	⇑*e*P	**P**	**11 11 14.8**	**-1.9**
SYO	**Syowa Base**	**32.45**	**142**	‖*e*pP	**P**	**11 11 17.0**	**+0.3**
SYO	**Syowa Base**	**32.45**	**142**	‖*e*PnPn	**PnPn**	**11 12 20.6**	**-2.8**
ITAB	**Concordia**	**33.05**	**319**	*e*P	**P**	**11 11 21.3**	**-1.1**
ITAB				*e*pP	**sP**	**11 11 25.2**	**+1.0**
ITAB	**Concordia**	**33.05**	**319**	*e*P	**P**	**11 11 21.3**	**-1.1**
ITAB				*e*pP	**sP**	**11 11 25.2**	**+1.0**
QSPA	**South Pole Qui**	**34.81**	**180**	P	**P**	**11 11 36.8**	**-0.7**
	comp=Z,7.3nm,0.5s,baz=209,slow=1.6,SNR=31						
QSPA	**South Pole Qui**	**34.81**	**180**	P	**P**	**11 11 38.6**	**+1.0**
QSPA				IAmb	IAmb	11 11 41.6	
	comp=Z,18nm,1.1s						
BO02	**Sierra Bellavi**	**35.65**	**287**	P	**P**	**11 11 44.4**	**-0.6**
BO02				IAmb	IAmb	11 11 52.1	
	comp=Z,28nm,1.4s						
GO05	**Huala**	**36.11**	**286**	P	**P**	**11 11 47.5**	**-1.3**
CFA	**Coronel Fontan**	**36.74**	**294**	P	**P**	**11 11 53.3**	**-1.0**
	comp=Z,8.2nm,0.8s,baz=158,slow=9.9,SNR=10.0						
MT02	**Curacav**	**37.00**	**289**	P	**P**	**11 11 56.5**	**+0.1**
MT02				IAmb	IAmb	11 12 04.3	
	comp=Z,27nm,1.3s						
VA03	**San Esteban**	**37.06**	**290**	P	**P**	**11 11 57.9**	**+0.8**
VA03				IAmb	IAmb	11 12 05.7	
	comp=Z,24nm,1.0s						
ROC1	**El Roble**	**37.15**	**289**	P	**P**	**11 11 57.6**	**-0.4**
CO02	**Combarbal**	**38.51**	**291**	P	**P**	**11 12 09.5**	**+0.2**
CO03	**El Pedregal**	**38.63**	**292**	P	**P**	**11 12 10.3**	**-0.1**
CO01	**Juntas del Tor**	**39.00**	**293**	P	**P**	**11 12 15.0**	**+1.4**
GO04	**Tololo Observa**	**39.22**	**292**	P	**P**	**11 12 15.2**	**-0.3**
GO04				IAmb	IAmb	11 12 32.3	
	comp=Z,40nm,1.4s						
AC05	**El Transito**	**40.01**	**294**	P	**P**	**11 12 22.4**	**+0.5**
AQDB	**Aquidauana**	**40.53**	**318**	*e*P	**P**	**11 12 25.8**	**-0.3**
AQDB	**Aquidauana**	**40.53**	**318**	*e*P	**P**	**11 12 25.8**	**-0.3**
AC04	**Llanos de Chal**	**40.93**	**294**	P	**P**	**11 12 31.5**	**+2.2**
MAW	**Mawson**	**41.01**	**144**	P	**P**	**11 12 28.3**	**-1.3**
	comp=Z,3.9nm,0.7s,baz=247,slow=9.2,SNR=9.5						
MAW				LR	LR	11 26 57.4	
	comp=Z,407nm,21.3s,baz=242,slow=32						
MAW	**Mawson**	**41.01**	**144**	P	**P**	**11 12 29.2**	**-0.3**
JANB	**Januaria**	**42.16**	**337**	*e*P	**P**	**11 12 39.2**	**-0.3**
JANB				*e*pP	**sP**	**11 12 41.5**	**-0.1**
JANB	**Januaria**	**42.16**	**337**	*e*P	**P**	**11 12 39.2**	**-0.3**
JANB				*e*pP	**sP**	**11 12 41.5**	**-0.1**
BDFB	**Brasilia**	**42.53**	**331**	P	**P**	**11 12 43.0**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=198,slow=4.9,SNR=4.5						
BDFB				LR	LR	11 27 18.0	
	comp=Z,258nm,19.4s,baz=140,slow=32						
GO02	**Mina Guanaco**	**42.66**	**298**	P	**P**	**11 12 44.7**	**+0.9**
GO02				IAmb	IAmb	11 12 56.4	
	comp=Z,19nm,0.8s						
ARAG	**Araguaiana, MT**	**43.59**	**326**	*e*P	**P**	**11 12 50.9**	**-0.2**
ARAG				*e*pP	**sP**	**11 12 54.1**	**+1.2**
ARAG	**Araguaiana, MT**	**43.59**	**326**	*e*P	**P**	**11 12 50.9**	**-0.2**
ARAG				*e*pP	**sP**	**11 12 54.1**	**+1.2**
LVC	**Limon Verde**	**44.45**	**301**	P	**P**	**11 12 58.8**	**+0.4**
LVC				IAmb	IAmb	11 13 11.4	
	comp=Z,12nm,0.7s						
LVC	**Limon Verde**	**44.45**	**301**	*e*P	**P**	**11 12 59.7**	**+1.3**
LVC				*e*pP	**sP**	**11 13 02.2**	**+0.9**
LVC	**Limon Verde**	**44.45**	**301**	*e*P	**P**	**11 12 59.7**	**+1.3**
LVC				*e*pP	**sP**	**11 13 02.2**	**+0.9**
SALV	**Santo Antonio**	**44.72**	**321**	*e*P	**P**	**11 12 60.0**	**-0.2**
SALV	**Santo Antonio**	**44.72**	**321**	*e*P	**P**	**11 12 60.0**	**-0.2**
PB09	**IPOC Station P**	**45.30**	**301**	P	**P**	**11 13 07.5**	**+2.6**
PB09				IAmb	IAmb	11 13 21.8	
	comp=Z,12nm,0.9s						
PB01	**IPOC Station P**	**46.06**	**301**	P	**P**	**11 13 10.9**	**+0.1**
PB01				IAmb	IAmb	11 13 15.4	
	comp=Z,13nm,0.7s						
PTLB	**Pontes e Lacer**	**46.42**	**317**	*e*P	**P**	**11 13 13.1**	**-0.5**
PTLB	**Pontes e Lacer**	**46.42**	**317**	*e*P	**P**	**11 13 13.1**	**-0.5**
BOSA	**Boshof**	**46.44**	**77**	P	**P**	**11 13 12.3**	**-1.6**
	comp=Z,15nm,0.9s,baz=216,slow=7.7,SNR=11						
BOSA				LR	LR	11 28 34.7	
	comp=Z,451nm,18.9s,baz=218,slow=31						
BOSA	**Boshof**	**46.44**	**77**	P	**P**	**11 13 13.5**	**-0.3**
PB08	**IPOC Station P**	**46.67**	**302**	P	**P**	**11 13 16.4**	**+0.4**
PB08				IAmb	IAmb	11 13 24.8	
	comp=Z,13nm,0.9s						
GO01	**Chusmiza**	**47.09**	**303**	P	**P**	**11 13 19.9**	**+0.4**
VNDA	**Vanda**	**47.15**	**183**	P	**P**	**11 13 19.2**	**+0.6**
	comp=Z,4.0nm,0.6s,baz=191,slow=6.4,SNR=20						
VNDA				LR	LR	11 31 25.8	
	comp=Z,169nm,20.3s,baz=168,slow=34						
VNDA	**Vanda**	**47.15**	**183**	P	**P**	**11 13 19.6**	**+1.0**
VNDA				IAmb	IAmb	11 13 28.1	
	comp=Z,13nm,1.1s						
PB11	**IPOC Station P**	**47.23**	**302**	P	**P**	**11 13 22.0**	**+1.8**
PSGCX	**Pisagua**	**47.60**	**302**	P	**P**	**11 13 22.6**	**-0.3**
PSGCX				IAmb	IAmb	11 13 32.4	
	comp=Z,15nm,1.0s						
H10S2	**ASCENSION HYDR**	**47.61**	**18**	T	T	12 04 33.1	
	baz=30,slow=74,SNR=27						
H10S3	**ASCENSION HYDR**	**47.61**	**18**	T	T	12 04 32.0	
	baz=190,slow=74,SNR=37						
H10N1	**ASCENSION HYDR**	**48.73**	**18**	T	T	12 05 55.9	
	SNR=19						
H10N3	**ASCENSION HYDR**	**48.73**	**18**	T	T	12 05 56.3	
	baz=263,slow=74,SNR=41						
H10N2	**ASCENSION HYDR**	**48.74**	**18**	T	T	12 05 56.5	
	baz=191,slow=74,SNR=36						
SMTB	**Santa Maria do**	**48.91**	**334**	*e*P	**P**	**11 13 33.0**	**0.0**
SMTB	**Santa Maria do**	**48.91**	**334**	*e*P	**P**	**11

PPLA	**Purkeypile**	**151.17**	**308**			**PKiKP**	**11 24 39.5**	**0.0**
SONM	**Songino Array**	**151.31**	**86**	PKP		**PKPdf**	**11 24 34.5**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=242,slow=3.2,SNR=3.9							
SONM				PKPbc		**PKPbc**	**11 24 39.5**	**-0.4**
	comp=Z,4.9nm,0.6s,baz=220,slow=3.8,SNR=17							
TTA	**Tatalina**	**152.90**	**307**			**PKiKP**	**11 24 43.9**	**+0.8**

*IDC **05** 11:17:31.6±1.2, 35°.23N×33°.87E, h0km, mb3.5/3, mb1 3.8/7, mb1mx3.5/45, mbtmp3.7/7, ML3.4/5, MS3.1/2, Ms1 3.1/2, ms1mx2.3/42, Error ellipse: s-maj=39.0km s-min=18.0km az=66.0*

*HLW **05** 11:17:32.7, 35°.13N×33°.83E, h4km±11km, Md3.9*

*DDA **05** 11:17:35.7, 35°.15N×33°.88E, h57km±3km, MW3.6*

*ISK **05** 11:17:36.2, 35°.11N×33°.90E, h29km, ML3.7/28*

*NIC **05** 11:17:37.6±0.0, 35°.09N×33°.87E, h39km±1km, Ml3.8/10*

*GII **05** 11:17:38.2±0.0, 34°.82N×33°.90E, h9km, MD3.3/2, Mm3.1/10*

*GRAL **05** 11:17:38.2±0.6, 34°.86N×33°.93E, h20km±31km, MD3.7*

ISC 05 11:17:36.4±0.9, **35°.07N**±0°.02×**33°.93E**±0°.03, **h46**km±6km, **n98**, σ1§**16**/138, **3C-2D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PARAL	**Paralimni**	**0.12**	**129**	⇑*i*	*i*	**Pn**	**11 17 44.5**	**+0.7**
PARAL				S		**Sn**	**11 17 50.2**	**+1.2**
PARAL				AML		AML	11 17 52.7	
	45nm,0.3s							
PARAL				AML		AML	11 17 52.7	
	45nm,0.3s							
PARAL				AML		AML	11 17 54.0	
	28nm,0.5s							
PARAL				AML		AML	11 17 54.0	
	28nm,0.5s							
MVOU	**Mavrovouni**	**0.25**	**258**	⇑*i*	*i*	**Pn**	**11 17 44.8**	**+0.1**
MVOU				S		**Sn**	**11 17 50.8**	**+0.3**
MVOU				AML		AML	11 17 52.1	
	36nm,0.5s							
MVOU				AML		AML	11 17 52.1	
	36nm,0.5s							
MVOU				AML		AML	11 17 53.7	
	34nm,0.3s							
MVOU				AML		AML	11 17 53.7	
	34nm,0.3s							
LFK	**Lefkose**	**0.39**	**303**	PG		**Pn**	**11 17 44.9**	**-1.2**
ATHAL	**Athalassa**	**0.44**	**279**	⇑*i*	*i*	**Pn**	**11 17 47.0**	**+0.3**
ATHAL				S		**Sn**	**11 17 54.2**	**+0.2**
ATHAL				AML		AML	11 17 55.7	
	46nm,0.7s							
ATHAL				AML		AML	11 17 55.7	
	46nm,0.7s							
ATHAL				AML		AML	11 17 56.2	
	94nm,0.8s							
ATHAL				AML		AML	11 17 56.2	
	94nm,0.8s							
EREN	**Erenkoy**	**0.50**	**23**	PG		**Pn**	**11 17 47.2**	**-0.2**
EREN				SG		**Sn**	**11 17 55.0**	**-0.3**
EREN	**Erenkoy**	**0.50**	**23**	*i*	P	**Pn**	**11 17 48.1**	**+0.6**
EREN				*i*	S	**Sn**	**11 17 55.7**	**+0.5**
CSS	**Mathiatis**	**0.50**	**258**	PG		**Pn**	**11 17 47.2**	**-0.3**
CSS				SG		**Sn**	**11 17 55.1**	**-0.2**
CSS	**Mathiatis**	**0.50**	**258**	*e*	P	**Pn**	**11 17 47.5**	**0.0**
CSS	**Mathiatis**	**0.50**	**258**	Pg		**Pn**	**11 17 46.9**	**-0.6**
CSS				Sg		**Sn**	**11 17 54.9**	**-0.4**
CSS	**Mathiatis**	**0.50**	**258**	⇓*i*	P	**Pn**	**11 17 47.4**	**0.0**
CSS				S		**Sn**	**11 17 55.5**	**+0.2**
CSS				AML		AML	11 17 56.9	
	5.5nm,0.5s							
CSS				AML		AML	11 17 56.9	
	5.5nm,0.5s							
CSS				AML		AML	11 17 58.3	
	7.2nm,0.3s							
CSS				AML		AML	11 17 58.3	
	7.2nm,0.3s							
ASGA	**Asgata**	**0.63**	**243**	⇓*e*	P	**Pn**	**11 17 49.4**	**+0.4**
ASGA				S		**Sn**	**11 17 59.2**	**+1.1**
ASGA				AML		AML	11 18 02.5	
	13nm,0.6s							
ASGA				AML		AML	11 18 02.5	
	13nm,0.6s							
ASGA				AML		AML	11 18 03.0	
	11nm,0.6s							
ASGA				AML		AML	11 18 03.0	
	11nm,0.6s							
AKDN	**Akdeniz- Kıbrı**	**0.82**	**286**	PG		**Pn**	**11 17 51.4**	**-0.2**
LEF	**Lefka**	**0.85**	**274**	PG		**Pn**	**11 17 52.6**	**+0.5**
LEF	**Lefka**	**0.85**	**274**	*i*	P	**Pn**	**11 17 52.5**	**+0.5**
LEF				*i*	S	**Sn**	**11 18 02.3**	**-1.1**
LEF				IAML			11 18 06.0	
	comp=E,594nm,0.2s							
LEF				IAML			11 18 09.0	
	comp=N,775nm,0.5s							
SZAC	**Souni**	**0.92**	**250**	P		**Pn**	**11 17 53.8**	**+0.9**
SZAC				S		**Sn**	**11 18 08.6**	**+3.6**
SZAC				AML		AML	11 18 10.9	
	comp=N,8.2nm,0.4s							
SZAC				AML		AML	11 18 10.9	
	comp=N,8.2nm,0.4s							
SZAC				AML		AML	11 18 17.7	
	comp=N,7.9nm,0.6s							
SZAC				AML		AML	11 18 17.7	
	comp=N,7.9nm,0.6s							
ALFC	**Alefka**	**1.09**	**275**	P		**Pn**	**11 17 55.2**	**-0.1**
ALFC				S		**Sn**	**11 18 08.5**	**-0.9**
ALFC				AML		AML	11 18 09.9	
	comp=N,8.3nm,0.5s							
ALFC				AML		AML	11 18 09.9	
	comp=N,8.3nm,0.5s							
ALFC				AML		AML	11 18 10.9	
	comp=N,7.9nm,0.6s							
ALFC				AML		AML	11 18 10.9	
	comp=N,7.9nm,0.6s							
AKK2	**Akkuyu-Mersin**	**1.11**	**344**	PG		**Pn**	**11 17 55.5**	**0.0**
TISA	**Tisan-Mersin**	**1.11**	**350**	PG		**Pn**	**11 17 55.5**	**0.0**
AKK1	**Akkuyu-Mersin**	**1.12**	**344**	PG		**Pn**	**11 17 55.7**	**+0.1**
AKKU	**Akkuyu-Mersin**	**1.13**	**344**	PN		**Pn**	**11 17 55.8**	**0.0**
KARG	**Kargicak-Mersi**	**1.15**	**351**	PN		**Pn**	**11 17 56.0**	**0.0**
KARG				SN		**Sn**	**11 18 10.1**	**-0.5**
YESI	**Yesilovacik-Me**	**1.15**	**348**	PN		**Pn**	**11 17 55.8**	**-0.2**
YESI				SN		**Sn**	**11 18 10.0**	**-0.6**
NATA	**Nata**	**1.15**	**256**	P		**Pn**	**11 17 57.7**	**+1.5**
NATA				S		Sn	11 18 21.4	+11
NATA				AML		AML	11 18 25.1	
	comp=N,12nm,0.6s							
NATA				AML		AML	11 18 25.1	
	comp=N,12nm,0.6s							
NATA				AML		AML	11 18 28.3	
	comp=N,14nm,0.8s							
NATA				AML		AML	11 18 28.3	
	comp=N,14nm,0.8s							
GULN	**MERSIN_Gulnar**	**1.16**	**344**	*i*	P	**Pn**	**11 17 56.0**	**-0.1**
GULN				*i*	S	**Sn**	**11 18 10.9**	**+0.1**
GULN				IAML			11 18 13.0	
	comp=N,374nm,0.2s							
GULN				IAML			11 18 13.0	
	comp=E,320nm,0.3s							
YORU	**Yoruktepe-Mers**	**1.16**	**339**	PN		**Pn**	**11 17 56.3**	**0.0**
IKL	**Isikli**	**1.18**	**350**	PN		**Pn**	**11 17 56.5**	**0.0**
OREN	**Orenkoy-Mersin**	**1.20**	**342**	PN		**Pn**	**11 17 56.8**	**+0.1**
TEKE	**Tekeli-Mersin**	**1.26**	**328**	PN		**Pn**	**11 17 57.6**	**0.0**
SILI	**Silifke-Mersin**	**1.29**	**360**	PN		**Pn**	**11 17 58.3**	**+0.2**
AKMS	**Akamas**	**1.31**	**268**	P		**Pn**	**11 17 59.3**	**+1.1**
AKMS				S		**Sn**	**11 18 18.1**	**+3.5**
AKMS				AML		AML	11 18 23.2	
	comp=E,4.9nm,0.7s							
AKMS				AML		AML	11 18 23.2	
	comp=E,4.9nm,0.7s							
AKMS				AML		AML	11 18 25.2	
	comp=E,7.0nm,0.6s							
AKMS				AML		AML	11 18 25.2	
	comp=E,7.0nm,0.6s							
SLFK	**Silifke-Mersin**	**1.32**	**1**	PN		**Pn**	**11 17 58.7**	**+0.3**
KEBE	**Keben-Mersin**	**1.39**	**353**	PN		**Pn**	**11 17 59.6**	**+0.2**
BERE	**Bereket-Mersin**	**1.40**	**336**	PN		**Pn**	**11 17 59.7**	**+0.1**
KIZK	**Mersin**	**1.42**	**7**	PN		**Pn**	**11 18 00.0**	**+0.3**
KIZK	**Mersin**	**1.42**	**7**	*i*	P	**Pn**	**11 18 00.0**	**+0.3**
KIZK				*i*	S	**Sn**	**11 18 17.2**	**0.0**
KIZK				IAML			11 18 21.0	
	comp=E,294nm,0.4s							
KIZK				IAML			11 18 21.0	
	comp=N,305nm,0.4s							
TEVE	**Tevekalti-Mers**	**1.42**	**344**	PN		**Pn**	**11 18 00.0**	**+0.2**
GAZI	**Gazipasa**	**1.75**	**312**	PN		**Pn**	**11 18 04.7**	**+0.3**
GAZI	**Gazipasa**	**1.75**	**312**	*i*	P	**Pn**	**11 18 04.4**	**0.0**
GAZI				*i*	S	**Sn**	**11 18 24.4**	**-1.2**
GAZI				IAML			11 18 26.0	
	comp=N,398nm,0.4s							
GAZI				IAML			11 18 28.0	
	comp=E,273nm,0.3s							
ERMK	**Ermenek**	**1.77**	**333**	*i*	P	**Pn**	**11 18 06.6**	**+1.8**
ERMK				*i*	S	**Sn**	**11 18 28.9**	**+2.7**
BHL	**Bhannes**	**1.84**	**129**	*e*	P	**Pn**	**11 18 06.0**	**+0.4**
BHL				*e*	S	**Sn**	**11 18 26.6**	**-1.2**
HWQ	**Hawqa**	**1.84**	**115**	*e*	P	**Pn**	**11 18 06.6**	**+0.9**
HWQ				*e*	S	**Sn**	**11 18 28.1**	**+0.2**
MERS	**Mersin**	**1.86**	**15**	PN		**Pn**	**11 18 06.4**	**+0.6**
KRTS	**Karatas**	**1.91**	**38**	PN		**Pn**	**11 18 07.2**	**+0.8**
DQRL	**Deir Qamar**	**1.92**	**135**	*e*	P	**Pn**	**11 18 06.8**	**+0.1**
DED	**Mersin**	**2.02**	**20**	*i*	P	**Pn**	**11 18 08.8**	**+0.9**
DED				*i*	S	**Sn**	**11 18 31.9**	**0.0**
DED				IAML			11 18 33.0	
	comp=E,283nm,0.5s							
DED				IAML			11 18 36.0	
	comp=N,141nm,0.3s							
ALAN	**Alanya-ANTALYA**	**2.14**	**314**	PN		**Pn**	**11 18 10.1**	**+0.5**
KRMN	**Karaman**	**2.17**	**346**	PN		**Pn**	**11 18 10.6**	**+0.5**
RCY	**Rachaya**	**2.23**	**134**	*e*	P	**Pn**	**11 18 11.6**	**+0.7**
YURE	**YUREGIR**	**2.23**	**38**	PN		**Pn**	**11 18 11.9**	**+1.0**
YURE	**YUREGIR**	**2.23**	**38**	*i*	P	**Pn**	**11 18 11.7**	**+0.8**
YURE				*i*	S	**Sn**	**11 18 35.5**	**-1.8**
HNTI	**Hanita**	**2.23**	**152**	Pn		**Pn**	**11 18 11.2**	**+0.2**
HNTI				Sn		**Sn**	**11 18 37.2**	**-0.1**
TAHT	**Tahtakopru-Hat**	**2.25**	**54**	PN		**Pn**	**11 18 12.2**	**+1.0**
GULE	**Gulek**	**2.31**	**17**	*i*	P	**Pn**	**11 18 13.8**	**+1.6**
GULE				*i*	S	**Sn**	**11 18 41.0**	**+1.5**
NATI	**Neve Ativ**	**2.34**	**140**	Pn		**Pn**	**11 18 13.3**	**+0.9**
KERG	**Konya-Eregli**	**2.35**	**4**	*i*	P	**Pn**	**11 18 14.7**	**+2.1**
KERG				*i*	S	**Sn**	**11 18 42.2**	**+2.0**
KERG				IAML			11 18 45.0	
	comp=E,171nm,0.3s							
GEM	**Giv'at Ha'Em**	**2.35**	**142**	Pn		**Pn**	**11 18 13.3**	**+0.8**
KSDI	**Kefar Szold**	**2.36**	**142**	Pn		**Pn**	**11 18 13.6**	**+0.9**
KSDI				Sn		**Sn**	**11 18 40.7**	**+0.3**
KSDI	**Kefar Szold**	**2.36**	**142**	P		**Pn**	**11 18 13.6**	**+0.9**
KSDI				S		**Sn**	**11 18 40.7**	**+0.3**
KSDI				AML		AML	11 18 41.7	
	comp=E,1.0nm,0.2s							
KSDI				AML		AML	11 18 41.7	
	comp=E,1.0nm,0.2s							
KSDI				AML		AML	11 18 41.9	
	comp=E,1.0nm,0.3s							
KSDI				AML		AML	11 18 41.9	
	comp=E,1.0nm,0.3s							
MMA0B	**Mount Meron ar**	**2.39**	**149**	Pn		**Pn**	**11 18 13.5**	**+0.4**
MMAI	**Mount Meron Ar**	**2.39**	**149**	Pn		**Pn**	**11 18 13.7**	**+0.6**
	comp=E,24nm,0.3s,baz=334,slow=13,SNR=36							
MMAI				Sn		**Sn**	**11 18 40.3**	**-0.9**
	comp=E,50nm,0.3s,baz=353,slow=22,SNR=5.0							
CEYT	**Ceyhan**	**2.43**	**37**	PN		**Pn**	**11 18 14.2**	**+0.5**
BLGI	**Bet Lehem HaGe**	**2.56**	**155**	Pn		**Pn**	**11 18 16.2**	**+0.8**
BLGI				Sn		**Sn**	**11 18 45.7**	**+0.5**
OFRI	**`Ofer**	**2.60**	**160**	Pn		**Pn**	**11 18 16.6**	**+0.7**
OFRI				Sn		**Sn**	**11 18 45.5**	**-0.8**
AKO	**Adana**	**2.68**	**27**	*i*	P	**Pn**	**11 18 17.2**	**+0.1**
AKO				*i*	S	**Sn**	**11 18 47.1**	**-1.3**
AKO				IAML			11 18 49.0	
	comp=E,77nm,0.9s							
AKO				IAML			11 18 53.0	
	comp=N,81nm,0.6s							
CMRD	**Camardi-Nigde**	**2.73**	**18**	PN		**Pn**	**11 18 18.8**	**+1.0**
SHMJ	**Saham**	**2.79**	**146**	Pn		**Pn**	**11 18 20.2**	**+1.6**
MMLI	**Mount Malkishu**	**2.91**	**154**	Pn		**Pn**	**11 18 20.6**	**+0.4**
MMLI				Sn		**Sn**	**11 18 53.8**	**-0.1**
SLTI	**Sal'it**	**2.97**	**161**	Pn		**Pn**	**11 18 22.0**	**+0.9**
KMER	**Konya-Meram**	**2.97**	**335**	*i*	P	**Pn**	**11 18 22.6**	**+1.4**
KMER				*i*	S	**Sn**	**11 18 58.0**	**+2.3**
KMER				IAML			11 19 08.0	
	comp=E,56nm,0.3s							
KMER				IAML			11 19 12.0	
	comp=N,62nm,0.5s							
QRNJ	**Al-Qirein**	**3.05**	**153**	Pn		**Pn**	**11 18 23.5**	**+1.4**
KAMA	**Osmaniye**	**3.06**	**46**	*i*	P	**Pn**	**11 18 22.9**	**+0.6**
KAMA				*i*	S	**Sn**	**11 18 55.9**	**-1.9**
KAMA				IAML			11 18 59.0	
	comp=N,57nm,0.2s							
KAMA				IAML			11 19 02.0	
	comp=E,50nm,0.3s							
HMDT	**Nahal Hemdat**	**3.11**	**154**	Pn		**Pn**	**11 18 24.5**	**+1.6**
YAHY	**KAYSERI_Yahyal**	**3.23**	**21**	*i*	P	**Pn**	**11 18 26.8**	**+2.1**
YAHY				*i*	S	**Sn**	**11 19 03.8**	**+1.7**
YAHY				IAML			11 19 06.0	
	comp=N,106nm,0.5s							
YAHY				IAML			11 19 08.0	
	comp=E,81nm,0.7s							
DSI	**Dead Sea**	**3.70**	**160**	Pn		**Pn**	**11 18 32.5**	**+1.5**
ASF	**Jabal al Asfar**	**3.81**	**139**	Pn		**Pn**	**11 18 35.7**	**+3.1**
	comp=E,2.4nm,0.3s,baz=345,slow=13,SNR=11							
ASF				Sn		**Sn**	**11 19 18.0**	**+1.9**
	comp=E,4.6nm,0.3s,baz=263,slow=19,SNR=8.5							
YTIR	**Yattir**	**3.83**	**165**	Pn		**Pn**	**11 18 34.0**	**+1.1**
RSH		**4.10**	**182**	P		**Pn**	**11 18 37.0**	**+0.4**
	baz=182							
KZIT	**Kziot**	**4.17**	**174**	Pn		**Pn**	**11 18 38.7**	**+1.2**
KZIT				Sn		**Sn**	**11 19 23.8**	**-1.2**
BRTR	**Keskin Array B**	**4.65**	**357**	Pn		**Pn**	**11 18 44.2**	**0.0**
	comp=E,0.2nm,0.3s,baz=195,slow=14,SNR=4.2							
PRNI	**Paran**	**4.79**	**169**	Pn		**Pn**	**11 18 47.3**	**+1.2**
KRMI	**Paran Flat**	**4.98**	**172**	Pn		**Pn**	**11 18 49.6**	**+0.9**
HRFI	**Mount Harif**	**5.11**	**169**	Pn		**Pn**	**11 18 51.3**	**+0.9**
SUZ	**Suez**	**5.30**	**190**	P		**Pn**	**11 18 53.1**	**+0.1**
	baz=190							
MBRI	**Mt Berech**	**5.33**	**171**	Pn		**Pn**	**11 18 54.7**	**+1.2**
HHAG	**Hagoal**	**5.33**	**197**	P		**Pn**	**11 18 52.9**	**-0.6**
	baz=197							
HHAG				S		**Sn**	**11 19 52.0**	**-1.7**
	baz=197							
EIL	**Elat**	**5.45**	**171**	Pn		**Pn**	**11 18 56.1**	**+1.0**
	comp=E,1.7nm,0.3s,baz=8.2,slow=2.9,SNR=13							
EIL				Sn		**Sn**	**11 19 55.5**	**-1.1**
	comp=E,6.4nm,0.3s,baz=67,slow=14,SNR=11							
EIL	**Elat**	**5.45**	**171**	Pn		**Pn**	**11 18 56.3**	**+1.2**
HSAF	**As Saff**	**5.79**	**201**	P		**Pn**	**11 18 59.4**	**-0.5**
	baz=200							
HBST	**Basata**	**5.88**	**173**	P		**Pn**	**11 19 01.7**	**+0.8**
	baz=172							
HNAT	**Natroun**	**6.10**	**208**	P		**Pn**	**11 19 03.9**	**-0.1**
	baz=208							
HNAT				S		**Sn**	**11 20 10.6**	**-2.0**
	baz=208							
HDHB	**Dhahab**	**6.36**	**175**	P		**Pn**	**11 19 07.6**	**+0.1**
	baz=173							
IDI	**Anoyia**	**7.40**	**274**	Pn		**Pn**	**11 19 20.8**	**-1.2**
	comp=E,1.6nm,0.3s,baz=57,slow=21,SNR=10							
IDI				Sn		**Sn**	**11 20 39.1**	**-5.5**
	comp=E,1.0nm,0.3s,baz=95,slow=6.3,SNR=2.4							
SLUM	**Salum**	**8.12**	**246**	P		**Pn**	**11 19 31.2**	**-0.5**
	baz=246							
VAE	**Valguarnera**	**15.92**	**284**	LR		LR	11 28 30.9	
	comp=E,53nm,19.8s,baz=150,slow=42							
GERES	**GERESS Array B**	**20.30**	**319**	P		**P**	**11 22 08.1**	**-0.3**
	comp=E,0.7nm,0.4s,baz=130,slow=9.1,SNR=4.4							
FINES	**FINESS Array B**	**26.86**	**352**	P		**P**	**11 23 11.1**	**-1.3**
	comp=E,1.1nm,0.7s,baz=168,slow=14,SNR=2.0							
HFS	**Hagfors**	**28.31**	**339**	LR		LR	11 35 53.5	
	comp=E,40nm,18.6s,baz=90,slow=39							
YKA	**Yellowknife Ar**	**79.53**	**346**	P		**P**	**11 29 38.2**	**+0.3**
	comp=E,0.2nm,0.5s,baz=24,slow=5.3,SNR=4.7							

*IDC **05** 11:23:05.5±0.8, 14°.65N×54°.74E, h0km, mb4.0/16, mb1 4.1/16, mb1mx3.9/50, mbtmp4.0/16, MS3.2/5, Ms1 3.2/5, ms1mx2.9/35, Error ellipse: s-maj=21.0km s-min=19.4km az=54.0*

ISC 05 11:23:07.0±0.8, **14°.7N**±0°.1×**54°.7E**±0°.1, **h10**km, **n24**, σ0§**83**/17, **mb4.0**/16, **MS2.9**/4, **Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WSAR	**Wadi Sarin**	**9.31**	**23**	LR		LR	11 28 41.5	
	comp=Z,97nm,21.4s,baz=166,slow=36							
GEYT	**Alibeck**	**23.38**	**7**	P		**P**	**11 28 15.7**	**-0.3**
	3.5nm,0.8s,baz=211,slow=5.2,SNR=5.5							
GEYT				LR		LR	11 38 25.5	
	comp=Z,53nm,21.6s,baz=55,slow=39							
MMAI	**Mount Meron Ar**	**25.35**	**320**	LR		LR	11 39 40.3	
	comp=Z,30nm,19.1s,baz=215,slow=39							
KBZ	**Khabaz**	**30.70**	**343**	P		**P**	**11 29 23.6**	**+1.7**
	2.2nm,0.9s,baz=160,slow=5.1,SNR=3.8							
BRTR	**Keskin Array B**	**31.08**	**327**	LR		LR	11 44 20.4	
	comp=Z,23nm,18.1s,baz=182,slow=41							
AKTO	**Aktyubinsk**	**35.79**	**4**	P		**P**	**11 30 06.3**	**0.0**
	0.9nm,0.4s,baz=179,slow=9.3,SNR=5.6							
MKAR	**Makanchi Array**	**39.46**	**30**	P		**P**	**11 30 37.9**	**+0.4**
	0.7nm,0.6s,baz=203,slow=7.9,SNR=5.8							
AKASG	**Malin Array Be**	**41.45**	**336**	P		**P**	**11 30 53.4**	**-0.5**
	0.7nm,0.5s,baz=136,slow=8.3,SNR=5.9							
CMAR	**Chiang Mai Arr**	**42.48**	**79**	P		**P**	**11 31 02.9**	**+0.1**
	0.6nm,0.3s,baz=273,slow=8.5,SNR=5.0							
ZALV	**Zalesovo Beam**	**45.76**	**24**	P		**P**	**11 31 27.2**	**-1.4**
	1.1nm,0.6s,baz=224,slow=8.3,SNR=5.9							
FINES	**FINESS Array B**	**51.06**	**343**	P		**P**	**11 32 09.2**	**-0.1**
	2.7nm,0.8s,baz=150,slow=7.9,SNR=6.0							
TORD	**Torodi Ar. Bea**	**51.40**	**275**	P		**P**	**11 32 12.1**	**-0.5**
	0.8nm,0.8s,baz=64,slow=7.6,SNR=3.8							
BOSA	**Boshof**	**51.60**	**213**	P		**P**	**11 32 14.6**	**+0.7**
	7.1nm,1.0s,baz=150,slow=2.9,SNR=3.8							
SONM	**Songino Array**	**53.84**	**41**	P		**P**	**11 32 31.5**	**+1.2**
	0.5nm,0.5s,baz=243,slow=6.3,SNR=1.8							
ESDC	**Sonseca Array**	**56.77**	**308**	P		**P**	**11 32 50.9**	**-0.6**
	0.6nm,0.6s,baz=81,slow=7.1,SNR=4.3							
ARCES	**ARCESS Array B**	**57.84**	**348**	P		**P**	**11 32 58.2**	**-0.3**
	2.3nm,0.8s,baz=152,slow=5.5,SNR=5.2							
KSRS	**Korea Array**	**67.99**	**55**	P		**P**	**11 34 05.8**	**-0.9**
	1.3nm,0.9s,baz=277,slow=7.5,SNR=4.9							
H01W3	**Cape Leeuwin H**	**74.82**	**133**	T		T	12 56 35.0	
	baz=301,slow=75,SNR=34							
H01W2	**Cape Leeuwin H**	**74.83**	**133**	T		T	12 56 39.2	
	baz=301,slow=75,SNR=36							
H01W1	**Cape Leeuwin H**	**74.84**	**133**	T		T	12 56 36.8	
	baz=301,slow=75,SNR=32							
WRA	**Warramunga Arr**	**85.47**	**112**	P		**P**	**11 35 45.1**	**-0.6**
	1.5nm,0.9s,baz=296,slow=4.1,SNR=6.1							
ASAR	**Alice Springs**	**86.20**	**116**	P		**P**	**11 35 49.0**	**-0.3**
	1.0nm,0.7s,baz=288,slow=4.8,SNR=11							
JAY	**Jayapura**	**86.75**	**93**	LR		LR	12 16 04.2	
	comp=Z,58nm,19.4s,baz=188,slow=37							
NVAR	**Mina Array Bea**	**126.80**	**353**	PKP		**PKiKP**	**11 42 13.1**	**+0.8**
	0.9nm,0.7s,baz=72,slow=0.7,SNR=7.6							

IDC 05 11:33:46.4±46.0, **16°.23S**×**176°.68W**, **h0**km, **mb4.3**/3, **mb1 4.4**/3, **mb1mx3.8**/25, **mbtmp4.3**/3, **Error ellipse: s-maj=866.7km s-min=153.1km az=78.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**40.89**	**240**	P		P	**11 41 31.3**	**+0.8**
	2.6nm,0.6s,baz=97,slow=11,SNR=9.5							
WRA	**Warramunga Arr**	**46.58**	**258**	P		P	11 42 16.1	-0.4
	0.4nm,0.3s,baz=96,slow=7.8,SNR=21							
ASAR	**Alice Springs**	**46.85**	**253**	P		P	11 42 17.9	-0.8
	6.7nm,0.6s,baz=88,slow=8.1,SNR=139							

JMA 05 11:52:20.2±0.1, **24°.81N**×**123°.27E**, **h15**km, **M1.0, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.42**	**214**	P		Pg	**11 52 28.6**	**0.0**
YOJ				S		Sg	11 52 34.3	-0.1
JYNG	**Yonagunijimaku**	**0.46**	**220**	P		Pg	11 52 29.5	+0.1
JYNG				S		Sg	11 52 36.2	+0.5
IRIF	**Iriomote-Funau**	**0.63**	**138**	P		Pg	11 52 32.4	-0.2
JKRS	**Kuro-shima**	**0.88**	**130**	P		Pb	11 52 36.5	-0.7
JIJ	**Ishigaki jima**	**0.91**	**119**	S		Sb	11 52 49.2	-0.4

TAP 05 11:53:09.6, **24°.27N**×**121°.65E**, **h4**km±1km, **ML1.1, 1C, C, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NACB	**Ninganchiao**	**0.11**	**205**	⇑P		Pg	11 53 12.5	+0.7
	baz=205							
NACB				S		Sg	11 53 14.8	+1.4
	baz=205							
ETLH	**Xiulin Townshi**	**0.16**	**246**	P		Pg	11 53 14.0	+1.2
	baz=246							
ETLH				S		Sg	11 53 17.2	+2.1
	baz=246							
ENA	**Nanau**	**0.18**	**29**	P		Pg	11 53 13.7	+0.6
	baz=31							
ENA				S		Sg	11 53 17.7	+2.2
	baz=31							
TWD	**Chiawan**	**0.20**	**193**	P		Pg	11 53 13.6	+0.2
	baz=190							
TWD				S		Sg	11 53 17.9	+1.9
	baz=190							
NNSB	**Datong**	**0.28**	**303**	P		Pb	11 53 16.6	-0.8
	baz=303							
NNSB				S		Sg	11 53 20.4	+1.5
	baz=303							
NNSH	**Datong**

1.9nm,0.6s,baz=161,slow=9.2,SNR=2.7
GEYT LR LR 12 13 09.7
comp=Z,208nm,20.6s,baz=225,slow=41
EIL Elat 23.74 313 LR LR 12 11 15.2
comp=Z,90nm,20.0s,baz=112,slow=36
CHGR Chuyangaron 27.35 25 P **P** **12 02 57.5 -2.4**
KBZ Khabaz 30.94 343 LR LR 12 17 52.7
comp=Z,153nm,21.5s,baz=178,slow=40
BRTR Keskin Array B 31.28 328 LR LR 12 18 37.9
comp=Z,41nm,19.1s,baz=148,slow=41
AAK Ala-Archa 32.92 27 P **P** **12 03 49.9 +0.6**
0.7nm,0.4s,baz=174,slow=10,SNR=1.5
AAK Ala-Archa 32.92 27 IAmb IAmb 12 03 56.0
comp=Z,4.5nm,1.4s
AKTO Aktyubinsk 36.06 4 P **P** **12 04 16.9 +0.8**
comp=Z,4.8nm,0.8s,baz=211,slow=7.6,SNR=9.6
MK31 Makanchi Array 39.70 30 P **P** **12 04 45.9 -1.1**
MKAR Makanchi Array 39.70 30 P **P** **12 04 46.6 -0.3**
comp=Z,1.1nm,0.6s,baz=215,slow=8.0,SNR=8.1
MKAR LR LR 12 23 42.5
comp=Z,74nm,21.0s,baz=236,slow=40
BVAR Borovoye Array 40.51 15 P **P** **12 04 54.1 +0.5**
comp=Z,2.4nm,0.8s,baz=201,slow=7.9,SNR=7.9
BRVK Borovoye 40.52 14 P **P** **12 04 53.5 -0.1**
BRVK IAmb IAmb 12 05 00.2
comp=Z,2.8nm,0.8s
KURBB Kurchatov Arra 40.98 23 P **P** **12 04 57.5 +0.1**
comp=Z,0.8nm,0.8s,baz=223,slow=8.0,SNR=5.6
AKASG Malin Array Be 41.68 336 P **P** **12 05 03.6 +0.5**
comp=Z,0.6nm,0.4s,baz=139,slow=7.6,SNR=2.0
AKASG LR LR 12 25 20.4
comp=Z,32nm,18.1s,baz=290,slow=40
CMAR Chiang Mai Arr 42.56 78 P **P** **12 05 11.3 +0.4**
comp=Z,1.1nm,0.4s,baz=255,slow=9.9,SNR=8.2
ZALV Zalesovo Beam 46.01 24 P **P** **12 05 36.2 -1.8**
comp=Z,1.6nm,0.7s,baz=210,slow=8.6,SNR=8.2
FINES FINESS Array B 51.30 343 P **P** **12 06 19.1 +0.6**
comp=Z,3.5nm,0.7s,baz=134,slow=11,SNR=8.1
FINES LR LR 12 29 27.4
comp=Z,66nm,20.6s,baz=248,slow=38
TORD Torodi Ar. Bea 51.39 275 P **P** **12 06 21.8 +1.8**
comp=Z,1.2nm,0.9s,baz=71,slow=7.4,SNR=4.3
SONM Songino Array 54.05 41 P **P** **12 06 40.0 +0.6**
comp=Z,0.8nm,0.6s,baz=248,slow=7.8,SNR=4.0
NOA NORSAR Array B 56.09 336 LR LR 12 36 27.0
comp=Z,37nm,18.8s,baz=130,slow=42
ESDC Sonseca Array 56.90 308 P **P** **12 06 60.0 0.0**
comp=Z,0.7nm,0.6s,baz=86,slow=6.6,SNR=6.1
ARCES ARCESS Array B 58.09 348 P **P** **12 07 06.9 -0.8**
comp=Z,2.7nm,0.7s,baz=152,slow=6.6,SNR=13
NRIK Noril'sk 58.69 13 LR LR 12 35 07.9
comp=Z,64nm,21.5s,baz=276,slow=39
KSRS Korea Array 68.16 55 P **P** **12 08 14.3 -0.8**
comp=Z,2.0nm,0.8s,baz=266,slow=7.7,SNR=10
H01W3 Cape Leeuwin H 74.67 133 T T 13 30 32.9
baz=301,slow=76,SNR=15
H01W2 Cape Leeuwin H 74.67 133 T T 13 30 33.2
baz=301,slow=76,SNR=12
H01W1 Cape Leeuwin H 74.69 133 T T 13 30 34.1
baz=301,slow=76,SNR=35
MAW Mawson 81.98 177 LR LR 12 42 10.0
comp=Z,38nm,18.4s,baz=46,slow=33
WRA Warramunga Arr 85.41 112 P **P** **12 09 53.5 +0.7**
comp=Z,2.6nm,0.8s,baz=298,slow=4.2,SNR=14
AS31 Alice Springs 86.12 115 P **P** **12 09 57.3 +1.0**
AS31 IAmb IAmb 12 09 59.8
comp=Z,0.9nm,0.7s
ASAR Alice Springs 86.12 115 P **P** **12 09 57.1 +0.8**
comp=Z,2.5nm,0.7s,baz=292,slow=4.7,SNR=20
PDAR Pinedale Array 121.32 346 PKP **PKPdf** **12 16 09.2 +0.6**
comp=Z,0.4nm,0.6s,baz=101,slow=3.0,SNR=4.5
NVAR Mina Array Bea 127.06 353 PKP **PKiKP** **12 16 21.6 +1.4**
comp=Z,1.7nm,0.8s,baz=19,slow=1.8,SNR=12

*IDC **05** 11:59:33.9± 1.0, 14.°7 0N× 54.°8 4E, h0km, mb3.9/14, mb1 4.1/14, mb1mx3.8/54, mbtmp4.0/14, MS3.4/1, Ms1 3.4/1, ms1mx2.7/45, Error ellipse: s-maj=25.7km s-min=21.6km az=32.0*

ISC 05 11:59:35.8± 1.0, 14.°7 N± 0.°2 × 55.°0 E± 0.°1, h14 km, n21, σ 1§59/17, mb4.1/14, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
POO	**Poona**	**18.50**	**75**	*eP*		**P**		**12 03 47.0**	**-4.8**
GEYT	**Alibeck**	**23.32**	**6**	P		**P**		**12 04 43.7**	**+0.2**
	4.5nm,0.8s,baz=196,slow=9.2,SNR=5.7								
AKTO	**Aktyubinsk**	**35.74**	**3**	P		**P**		**12 06 34.3**	**+0.2**
	1.1nm,0.4s,baz=177,slow=8.0,SNR=5.2								
MKAR	**Makanchi Array**	**39.31**	**30**	P		**P**		**12 07 05.5**	**+1.1**
	0.8nm,0.6s,baz=216,slow=9.0,SNR=6.1								
BVAR	**Borovoye Array**	**40.16**	**14**	P		**P**		**12 07 12.0**	**+0.7**
	1.0nm,0.7s,baz=194,slow=5.5,SNR=3.6								
ARU	**Arti**	**41.75**	**3**	LR		LR		12 27 24.3	
	comp=Z,57nm,21.2s,baz=176,slow=40								
CMAR	**Chiang Mai Arr**	**42.24**	**79**	P		**P**		**12 07 31.4**	**+2.4**
	0.5nm,0.5s,baz=276,slow=9.0,SNR=1.3								
ZALV	**Zalesovo Beam**	**45.63**	**24**	P		**P**		**12 07 56.0**	**+0.4**
	1.3nm,0.6s,baz=245,slow=8.8,SNR=4.9								
FINES	**FINESS Array B**	**51.09**	**343**	P		**P**		**12 08 37.9**	**+0.2**
	2.3nm,0.7s,baz=127,slow=8.2,SNR=7.4								
TORD	**Torodi Ar. Bea**	**51.63**	**275**	P		**P**		**12 08 41.9**	**-0.6**
	1.0nm,0.8s,baz=76,slow=7.6,SNR=3.6								
SONM	**Songino Array**	**53.65**	**41**	P		**P**		**12 08 57.5**	**+0.4**
	0.5nm,0.6s,baz=235,slow=5.1,SNR=2.4								
ESDC	**Sonseca Array**	**56.93**	**308**	P		**P**		**12 09 20.0**	**-0.8**
	0.8nm,0.6s,baz=78,slow=8.8,SNR=5.2								
ARCES	**ARCESS Array B**	**57.84**	**348**	P		**P**		**12 09 25.4**	**-1.3**
	1.4nm,0.6s,baz=153,slow=8.2,SNR=4.7								
KSRS	**Korea Array**	**67.77**	**55**	P		**P**		**12 10 33.0**	**-0.4**
	1.3nm,0.8s,baz=278,slow=7.4,SNR=4.9								
H01W3	**Cape Leeuwin H**	**74.68**	**133**	T		T		13 33 01.9	
	baz=301,slow=75,SNR=23								
H01W2	**Cape Leeuwin H**	**74.68**	**133**	T		T		13 32 56.3	
	baz=301,slow=75,SNR=16								
H01W1	**Cape Leeuwin H**	**74.69**	**133**	T		T		13 33 03.2	
	baz=301,slow=75,SNR=23								
WRA	**Warramunga Arr**	**85.27**	**112**	P		**P**		**12 12 12.9**	**+0.1**
	1.7nm,0.9s,baz=299,slow=4.2,SNR=5.7								
ASAR	**Alice Springs**	**86.01**	**116**	P		**P**		**12 12 17.3**	**+0.9**
	1.5nm,0.8s,baz=291,slow=4.6,SNR=13								
PDAR	**Pinedale Array**	**121.09**	**347**	PKP		**PKiKP**		**12 18 29.4**	**+0.5**
	0.3nm,0.4s,baz=73,slow=6.9,SNR=2.5								
NVAR	**Mina Array Bea**	**126.79**	**353**	PKP		**PKiKP**		**12 18 41.3**	**+1.0**
	0.9nm,0.7s,baz=27,slow=0.6,SNR=7.2								

CNRM 05 12:06:11.2± 1.3, 35.°26 N× 2.°58 W, h52 km± 7 km, Error ellipse: s-maj=11.8km s-min=5.2km az=25.0, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GOG	**Mont Gurugu**	**0.35**	**264**	P		P		12 06 20.1	-1.0
GOG				S		Sn		12 06 29.1	+1.0
TAF	**Taforalt**	**0.47**	**164**	P		Pn		12 06 22.8	+0.5
TAF				S		Sn		12 06 30.6	+0.3
AKLM	**AKL**	**1.30**	**235**	P		Pn		12 06 34.1	+1.0
AKLM				S		Sn		12 06 50.3	+0.9

*SFS **05** 12:06:19.0, 37.°01 N× 3.°73 W, ML1.7, ESAIZAR (GRANADA)*

MDD 05 12:06:19.5± 0.2, 37.°01 N± 3.°73 W, h0 km, mbLg1.8/10, 1C-1D, Error ellipse: s-maj=2.7km s-min=1.8km az=81.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ELGU	**Los Guajares,**	**0.17**	**149**	⇑Pg		Pg	Pg	12 06 22.6	-0.1
	8.2nm,0.0s,SNR=18								
ELGU				Lg		Lg		12 06 25.4	
	118nm,0.1s,SNR=7.9								
EQUE	**Quentar**	**0.30**	**50**	⇓Pg		Pg	Pg	12 06 24.7	-0.6
	7.8nm,0.0s,SNR=18								
EQUE				Lg		Lg		12 06 29.2	
	53nm,0.1s,SNR=6.4								
EGOR	**Sierra Gorda,**	**0.32**	**288**	Pg		Pg	Pg	12 06 25.1	-0.5
	4.6nm,0.1s,SNR=7.9								
EGOR				Lg		Lg		12 06 30.2	
	85nm,0.3s,SNR=7.9								
EMAL	**Malaga-Limoner**	**0.61**	**246**	*eP*		Pg		12 06 30.0	-1.2
EMAL				*eS*		Sg		12 06 38.1	-1.0
EBER	**Berja**	**0.69**	**99**	Pg		Pg	Pg	12 06 32.2	-0.4
	1.4nm,0.1s,SNR=13								
EBER				Lg		Lg		12 06 41.0	
	5.8nm,0.2s,SNR=7.4								
EMIJ	**Mijas**	**0.95**	**242**	Pg		Pg		12 06 35.8	-1.9
	0.9nm,0.1s,SNR=7.9								
EMIJ				Lg		Lg		12 06 48.2	
	8.3nm,0.3s,SNR=7.9								
EQES	**Quesada**	**0.95**	**34**	Pg		Pg		12 06 37.5	-0.2
	1.0nm,0.2s,SNR=11								
EQES				Lg		Lg		12 06 50.8	
	4.8nm,0.2s,SNR=7.9								
EADA	**Adamuz**	**1.33**	**330**	Pg		Pg		12 06 44.6	-0.5
	0.5nm,0.1s,SNR=7.9								
EADA				Lg		Lg		12 07 02.2	
	2.6nm,0.1s,SNR=5.5								
SESP	**Santiago Espad**	**1.45**	**40**	Pg		Pn		12 06 46.6	-0.6
	3.2nm,0.2s,SNR=7.9								
SESP				Lg		Lg		12 07 06.6	
	6.1nm,0.2s,SNR=7.9								
ECAB	**El Cabril**	**1.71**	**309**	Pg		Pb		12 06 51.8	0.0
	0.1nm,0.1s,SNR=7.9								
ECAB				Sn		Sn		12 07 10.6	-2.6
	0.3nm,0.1s,SNR=7.9								
ECAB				Lg		Lg		12 07 14.1	
	2.1nm,0.3s,SNR=6.1								

*IDC **05** 12:20:36.7± 1.0, 14.°65 N× 54.°82 E, h0km, mb3.9/15, mb1 4.1/15, mb1mx3.9/51, mbtmp4.0/15, MS3.3/11, Ms1 3.3/11, ms1mx3.0/47, Error ellipse: s-maj=27.2km s-min=18.2km az=28.0*

ISC 05 12:20:38.3± 1.0, 14.°7 N± 0.°2 × 54.°8 E± 0.°1, h10 km, n28, σ 0§64/17, mb4.0/15, MS3.1/9, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**9.25**	**22**	LR		LR	LR	12 26 12.6	
	comp=Z,128nm,20.3s,baz=190,slow=36								
ATD	**Arta Tunnel**	**12.06**	**256**	LR		LR	LR	12 26 55.5	
	comp=Z,101nm,20.5s,baz=152,slow=31								
GEYT	**Alibeck**	**23.34**	**7**	P		**P**		**12 25 46.6**	**-0.3**
	2.5nm,0.7s,baz=186,slow=7.4,SNR=4.0								
GEYT				LR		LR		12 36 30.9	
	comp=Z,53nm,20.3s,baz=210,slow=41								
EIL	**Elat**	**23.62**	**312**	LR		LR		12 34 47.5	
	comp=Z,58nm,20.4s,baz=104,slow=36								
MMAI	**Mount Meron Ar**	**25.38**	**319**	LR		LR		12 35 18.5	
	comp=Z,50nm,20.9s,baz=240,slow=35								
KBZ	**Khabaz**	**30.69**	**343**	LR		LR		12 42 36.0	
	comp=Z,53nm,18.4s,baz=175,slow=43								
AAK	**Ala-Archa**	**32.61**	**27**	LR		LR		12 42 09.6	
	comp=Z,35nm,18.6s,baz=168,slow=40								
AKTO	**Aktyubinsk**	**35.76**	**4**	LR		LR		12 43 34.8	
	comp=Z,35nm,18.5s,baz=175,slow=38								
MKAR	**Makanchi Array**	**39.39**	**30**	LR		LR		12 47 12.1	
	comp=Z,31nm,18.4s,baz=272,slow=40								
KURBB	**Kurchatov Arra**	**40.67**	**23**	P		**P**		**12 28 18.5**	**-0.2**
	0.7nm,0.7s,baz=226,slow=8.2,SNR=6.6								
AKASG	**Malin Array Be**	**41.46**	**336**	P		**P**		**12 28 24.2**	**-1.0**
	0.2nm,0.3s,baz=137,slow=7.8,SNR=5.9								
CMAR	**Chiang Mai Arr**	**42.40**	**79**	P		**P**		**12 28 34.1**	**+0.8**
	0.8nm,0.4s,baz=278,slow=8.5,SNR=11								
ZALV	**Zalesovo Beam**	**45.70**	**24**	P		**P**		**12 28 59.1**	**-0.2**
	1.1nm,0.5s,baz=225,slow=7.1,SNR=6.9								
GERES	**GERESS Array B**	**47.87**	**324**	P		**P**		**12 29 16.5**	**-0.1**
	0.4nm,0.3s,baz=116,slow=6.1,SNR=5.2								
FINES	**FINESS Array B**	**51.05**	**343**	P		**P**		**12 29 41.0**	**+0.5**
	4.2nm,0.8s,baz=116,slow=8.7,SNR=6.9								
TORD	**Torodi Ar. Bea**	**51.48**	**275**	P		**P**		**12 29 44.5**	**+0.1**
	0.5nm,0.6s,baz=76,slow=7.6,SNR=2.9								
SONM	**Songino Array**	**53.76**	**41**	P		**P**		**12 30 01.7**	**+0.7**
	0.5nm,0.4s,baz=238,slow=8.1,SNR=7.0								
NOA	**NORSAR Array B**	**55.87**	**336**	P		**P**		**12 30 17.1**	**+1.2**
	0.7nm,0.6s,baz=120,slow=7.6,SNR=3.7								
NOA				LR		LR		12 57 19.1	
	comp=Z,19nm,19.0s,baz=260,slow=39								
ESDC	**Sonseca Array**	**56.81**	**308**	P		**P**		**12 30 23.3**	**+0.2**
	1.1nm,0.6s,baz=89,slow=6.7,SNR=5.8								
ARCES	**ARCESS Array B**	**57.82**	**348**	P		**P**		**12 30 29.6**	**0.0**
	2.4nm,0.8s,baz=107,slow=5.2,SNR=4.7								
KSRS	**Korea Array**	**67.91**	**55**	P		**P**		**12 31 36.5**	**-0.9**
	1.8nm,0.8s,baz=266,slow=7.3,SNR=6.9								
KSRS				LR		LR		13 01 42.3	
	comp=Z,90nm,19.0s,baz=83,slow=36								
H01W3	**Cape Leeuwin H**	**74.78**	**133**	T		T		13 53 51.0	
	baz=301,slow=75,SNR=47								
H01W2	**Cape Leeuwin H**	**74.79**	**133**	T		T		13 53 51.4	
	baz=301,slow=75,SNR=34								
H01W1	**Cape Leeuwin H**	**74.80**	**133**	T		T		13 53 52.3	
	baz=301,slow=75,SNR=36								
WRA	**Warramunga Arr**	**85.41**	**112**	P		**P**		**12 33 16.3**	**-0.3**
	2.0nm,0.7s,baz=298,slow=4.0,SNR=9.7								
ASAR	**Alice Springs**	**86.14**	**116**	P		**P**		**12 33 19.8**	**-0.5**
	2.0nm,0.6s,baz=291,slow=4.6,SNR=40								
PDAR	**Pinedale Array**	**121.06**	**347**	PKP		**PKPdf**		**12 39 31.4**	**-0.5**
	0.3nm,0.4s,baz=79,slow=4.7,SNR=2.0								
NVAR	**Mina Array Bea**	**126.78**	**353**	PKP		**PKiKP**		**12 39 44.0**	**+0.6**
	0.5nm,0.6s,baz=22,slow=1.4,SNR=6.5								

IDC 05 12:30:08.7± 2.2, 5.°77 S× 147.°83 E, h0 km, mb3.7/3, mb1 3.9/6, mb1mx3.6/32, mbtmp3.8/6, ML3.9/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/33, Error ellipse: s-maj=46.6km s-min=27.8km az=142.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.67**	**190**	Pn		Pn		12 31 07.1	+0.3
	5.3nm,0.3s,baz=36,slow=13,SNR=14								
PMG				Sn		Sn		12 31 52.8	+1.9
	9.8nm,0.3s,baz=179,slow=21,SNR=5.8								
KRVT	**Keravat (AS076**	**4.42**	**71**	Pn		Pn		12 31 16.8	-0.4
	7.4nm,0.3s,baz=85,slow=4.0,SNR=8.4								
JAY	**Jayapura**	**7.81**	**294**	LR		LR		12 35 53.4	
	comp=Z,80nm,18.2s,baz=29,slow=44								
WRA	**Warramunga Arr**	**19.25**	**222**	P		P		12 34 33.1	-1.8
	0.3nm,0.3s,baz=48,slow=11,SNR=8.6								
ASAR	**Alice Springs**	**22.28**	**216**	P		P		12 35 06.9	-0.9
	1.1nm,0.4s,baz=50,slow=9.4,SNR=28								
FITZ	**Fitzroy Crossi**	**24.89**	**239**	P		P		12 35 34.1	+0.6
	2.1nm,0.6s,baz=63,slow=7.7,SNR=12								
STKA	**Stephens Creek**	**26.62**	**192**	P		P		12 35 50.3	+1.2
	0.5nm,0.4s,baz=6.3,slow=14,SNR=3.0								

*DJA **05** 12:48:16.9± 0.6, 2.°1 N± 4.°4 × 12.°7 E± °, h10 km± 5 km, M4.3/13, mB5.0/4, mb4.5/7, MLv4.2/13, Mw(mB)4.3/4*

*IDC **05** 12:48:18.4± 3.9, 2.°31 N× 127.°08 E, h59 km± 39 km, mb3.9/11, mb1 4.0/12, mb1mx3.7/39, mbtmp4.2/12, ML3.3/1, MS2.9/1, Ms1 2.9/1, ms1mx2.3/40, Error ellipse: s-maj=44.2km s-min=13.7km az=71.0*

*NEIC **05** 12:48:18.2± 1.4, 2.°36 N± 0.°09 × 127.°27 E± 0.°09, h60 km± 10 km, mb4.4/19, Error ellipse: s-maj=13.7km s-min=12.1km az=61.0*

ISC 05 12:48:16.4± 0.5, 2.°52 N± 0.°05 × 127.°30 E± 0.°07, h35 km, n56, σ 1§95/58, mb4.4/18, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.74**	**178**	P		**Pn**		**12 48 45.8**	**+1.7**
TNTI				S		**Sn**		**12 49 08.5**	**+3.5**
TNTI	**Ternate**	**1.74**	**178**			**Pn**		**12 48 45.7**	**+1.7**
LBMI	**Labuha**	**3.14**	**176**	P		**Pn**		**12 49 06.0**	**+2.6**
LBMI				S		**Sn**		**12 49 43.9**	**+4.1**
KMSI	**Cibinong**	**3.84**	**240**	P		**Pn**		**12 49 15.1**	**+2.1**
KMSI				S		**Sn**		**12 49 58.5**	**+1.6**
SANI	**Sanana**	**4.72**	**196**	P		**Pn**		**12 49 27.2**	**+2.0**
KCP	**Kidapawan**	**4.97**	**334**	⇑*eP*		Pn		12 49 36.2	+7.5
KCP				*i*		S		**12 50 29.1**	**+4.0**
SIJI	**Sorong**	**5.20**	**130**	P		**Pn**		**12 49 35.1**	**+3.3**
	1.1nm,0.3s,baz=179,slow=23,SNR=11								
NLAI	**Namlea**	**5.72**	**182**	P		**Pn**		**12 49 40.4**	**+1.5**
	970nm18nm,1.5s								
MRSI	**Marisa**	**5.73**	**249**	P		**Pn**		**12 49 40.9**	**+1.9**
	0.4nm80nm,0.5s								
LUWI	**Luwuk**	**5.74**	**232**	P		**Pn**		**12 49 41.1**	**+1.9**
	0.4nm44nm,0.8s								
LUWI	**Luwuk**	**5.74**	**232**	Pn		**Pn**		**12 49 42.1**	**+2.9**
AAI	**Ambon**	**6.23**	**172**	P		**Pn**		**12 49 47.3**	**+1.4**
	0.3nm64nm,1.2s								
FAKI	**Fak Fak**	**7.33**	**137**	P		**Pn**		**12 50 05.0**	**+4.0**
	0.2nm806nm40nm,1.0s								
FAKI	**Fak Fak**	**7.33**	**137**	Pn		**Pn**		**12 50 05.0**	**+4.0**
SPSI	**Sidrap Palu**	**9.90**	**229**	P		**Pn**		**12 50 37.9**	**+1.5**
JAY	**Jayapura**	**14.30**	**110**	LR		LR		12 57 52.2	
	comp=Z,44nm,19.0s,baz=222,slow=40								
SBUM	**Sibu**	**15.06**	**270**	P		**P**		**12 51 52.5**	**+0.8**
MTN	**Manton Dam**	**15.73**	**166**	P		**Pn**		**12 51 56.4**	**+0.9**
MTN				IAmb		IAmb		12 52 02.8	
	comp=Z,27nm,1.4s								
KSM	**Kuching**	**17.01**	**267**	P		**Pn**		**12 52 13.8**	**+2.0**
KNRA	**Kununurra**	**18.14**	**175**	P		**Pn**		**12 52 24.5**	**-1.1**
KNRA				IAmb		IAmb		12 52 26.9	
	comp=Z,18nm,1.1s								
FITZ	**Fitzroy Crossi**	**20.55**	**184**	P		**P**		**12 52 50.0**	**-2.1**
	comp=Z,3.6nm,0.7s,baz=6.7,slow=8.7,SNR=13								
FITZ	**Fitzroy Crossi**	**20.55**	**184**	IAmb		IAmb		12 52 58.8	
	comp=Z,8.9nm,1.2s								
YULB	**Yu-li**	**21.55**	**345**	P		**P**		**12 53 00.9**	**-1.9**
YHNB	**Yeheng**	**22.75**	**346**	P		**P**		**12 53 15.8**	**0.0**
YHNB				IAmb		IAmb		12 53 33.0	
	comp=Z,30nm,1.2s								
WB0	**Warramunga Arr**	**23.22**	**163**	P		**P**		**12 53 18.7**	**-1.9**
WRA	**Warramunga Arr**	**23.37**	**163**	P		**P**		**12 53 20.0**	**-2.0**
	comp=Z,6.2nm,0.4s,baz=336,slow=10,SNR=74								
WB2	**Warramunga Arr**	**23.37**	**163**	P		**P**		**12 53 20.3**	**-1.8**
WB2				IAmb		IAmb		12 53 20.7	
	comp=Z,9.3nm,0.6s								
WR0	**Warramunga Arr**	**23.44**	**163**	P		**P**		**12 53 21.0**	**-1.8**
WR0				IAmb		IAmb		12 53 21.3	
	comp=Z,8.8nm,0.9s								
PSA00	**Pilbara Seismi**	**25.03**	**197**	P		**P**		**12 53 36.2**	**-1.2**
PSA00				IAmb		IAmb		12 53 48.4	
	comp=Z,34nm,1.5s								
AS31	**Alice Springs**	**26.81**	**166**	P		**P**		**12 53 51.5**	**-2.0**
AS31				IAmb		IAmb		12 53 51.9	
	comp=Z,2.3nm,0.3s								
ASAR	**Alice Springs**	**26.81**	**166**	P		**P**		**12 53 51.4**	**-2.1**
	comp=Z,2.4nm,0.4s,baz=347,slow=7.3,SNR=48								
ASAR				PcP		**PcP**		**12 57 15.1**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=345,slow=1.9,SNR=5.2								
CMAR	**Chiang Mai Arr**	**31.98**	**302**	P		**P**		**12 54 39.0**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=124,slow=7.5,SNR=6.9								
FORT	**Forrest**	**33.12**	**179**	P		**P**		**12 54 47.3**	**-2.0**
MORW	**Morawa**	**33.21**	**198**	P		**P**		**12 54 48.5**	**-1.6**
KSRS	**Korea Array**	**34.77**	**1**	P		**P**		**12 55 04.7**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=178,slow=9.1,SNR=2.8								
BBOO	**Buckleboo**	**36.10**	**167**	P		**P**		**12 55 13.2**	**-1.8**
BBOO				IAmb		IAmb		12 55 26.4	
	comp=Z,7.1nm,1.4s								
STKA	**Stephens Creek**	**36.80**	**159**	P		**P**		**12 55 19.8**	**-1.4**
	comp=Z,1.5nm,0.4s,baz=346,slow=8.3,SNR=4.9								
STKA	**Stephens Creek**	**36.80**	**159**	P		**P**		**12 55 19.7**	**-1.4**
ODAN	**Odare**	**45.23**	**306**	*eP*		**P**		**12 56 29.8**	**-1.1**
	comp=Z,18nm,0.6s								
RAMN	**Ramite**	**45.91**	**306**	*eP*		**P**		**12 56 35.6**	**-0.7**
	comp=Z,17nm,0.6s								
JIRN	**Jiri**	**46.54**	**307**	*eP*		**P**		**12 56 40.2**	**-1.1**
	comp=Z,32nm,0.7s								
GUN	**Gumba**	**46.90**	**307**	*eP*		**P**		**12 56 42.9**	**-1.2**
	comp=Z,20nm,0.5s								
PKIN	**Phulchoki**	**47.15**	**306**	*eP*		**P**		**12 56 44.5**	**-1.5**
KKN	**Kakani**	**47.33**	**306**	*eP*		**P**		**12 56 46.1**	**-1.2**
DMN	**Daman**	**47.39**	**306**	*eP*		**P**		**12 56 46.9**	**-1.0**
GKN	**Gorkha**	**47.93**	**306**	*eP*		**P**		**12 56 50.7**	**-1.2**
SONM	**Songino Array**	**48.62**	**341**	P		**P**		**12 56 57.5**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=155,slow=8.6,SNR=11								
DANN	**Dangsing**	**48.78**	**306**	*eP*		**P**		**12 56 57.2**	**-1.4**
	comp=Z,33nm,0.6s								
MKAR	**Makanchi Array**	**58.87**	**325**	P		**P**		**12 58 11.6**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=111,slow=9.2,SNR=4.1								
ZAA0	**Zalesovo Array**	**61.92**	**333**	P		**P**		**12 58 31.8**	**-0.6**
ZAA0				IAmb		IAmb		12 58 32.7	
	comp=Z,3.1nm,0.8s								
ZALV	**Zalesovo Beam**	**61.92**	**333**	P		**P**		**12 58 31.8**	**-0.6**
	comp=Z,1.5nm,0.4s,baz=124,slow=7.7,SNR=10								
KURBB	**Kurchatov Arra**	**63.06**	**327**	P		**P**		**12 58 39.7**	**-0.4**
	comp=Z,3.8nm,0.7s,baz=126,slow=6.2,SNR=45								
KURK	**Kurchatov**	**63.06**	**328**	P		**P**		**12 58 40.2**	**+0.1**
KIWB	**Kanaga Island**	**67.37**	**34**	P		**P**		**12 59 09.8**	**+1.8**
BRVK	**Borovoye**	**68.71**	**327**	P		**P**		**12 59 14.9**	**-1.6**
BRVK				IAmb		IAmb		12 59 17.3	
	comp=Z,7.3nm,1.1s								
VNDA	**Vanda**	**82.16**	**173**	P		**P**		**13 00 32.0**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=328,slow=6.1,SNR=4.3								

NOA	**NORSAR Array B**	**78.61**	**338**	P	**P**	**13 05 33.7**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=45,slow=5.0,SNR=1.8						
PDAR	**Pinedale Array**	**80.54**	**45**	P	**P**	**13 05 46.6**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=299,slow=1.5,SNR=3.8						
BRTR	**Keskin Array B**	**82.28**	**312**	P	**P**	**13 05 53.9**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=45,slow=4.3,SNR=1.6						
CLL	**Collm**	**85.32**	**331**	*eP*	**P**	**13 06 11.0**	**+1.6**
TXAR	**Lajitas Array**	**92.51**	**53**	P	**P**	**13 06 46.9**	**+2.8**
	comp=Z,0.6nm,0.7s,baz=323,slow=3.6,SNR=5.9						

*CRAAG **05** 13:00:42.4,36°.19N×0°.93E, Ml2.8*
*MDD **05** 13:00:43.2±0.5,36°.10N×0°.70E, h0km, mb3.6/6, Error ellipse: s-maj=6.9km s-min=5.3km az=39.0, PRX/MO*
ISC 05 13:00:41.9±1.0, 36°.22N±0°.05×0°.71E±0°.05, h10km, n17, σ1§95/24, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKGL	**Djebel Kef Gue**	**0.18**	**198**	P	**Pg**	**13 00 44.7**	**-1.2**
OKGL	**Djebel Kef Gue**	**0.18**	**198**	P	**Pg**	**13 00 44.7**	**-1.2**
EANR	**'Ain N'Sour**	**0.41**	**130**	P	**Pg**	**13 00 49.6**	**-0.4**
EANR	**'Ain N'Sour**	**0.41**	**130**	P	**Pg**	**13 00 49.6**	**-0.4**
ECHF	**Ech Chlef**	**0.51**	**96**	P	**Pg**	**13 00 50.5**	**-1.4**
ECHA	**Ech Chlef**	**0.53**	**97**	P	**Pg**	**13 00 50.5**	**-1.8**
OJBR	**Djebel Berber**	**0.70**	**205**	P	**Pn**	**13 01 00.0**	**+2.1**
OJBR	**Djebel Berber**	**0.70**	**205**	P	**Pn**	**13 01 00.0**	**+2.1**
ODJA	**Bouhanifia**	**1.13**	**219**	P	**Pn**	**13 01 06.0**	**+2.2**
ODJA	**Bouhanifia**	**1.13**	**219**	P	**Pn**	**13 01 06.0**	**+2.2**
EIBI	**Ibiza**	**2.85**	**10**	P	**Pb**	**13 01 30.7**	**-2.1**
	1.4nm,0.2s,SNR=7.9						
EIBI				S	**Sn**	**13 02 04.3**	**+2.5**
	0.5nm,0.1s,SNR=7.9						
EBER	**Berja**	**2.98**	**284**	P	**Pn**	**13 01 29.9**	**+0.5**
	1.2nm,0.1s,SNR=13						
EBER				S	**Sn**	**13 02 05.9**	**+0.6**
	1.1nm,0.1s,SNR=7.9						
ETOB	**Tobarra**	**3.02**	**324**	P	**Pb**	**13 01 33.1**	**-2.7**
	1.8nm,0.2s,SNR=11						
ETOB				S	**Sn**	**13 02 08.6**	**+2.5**
	2.4nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**3.22**	**307**	P	**Pn**	**13 01 35.5**	**+2.8**
	2.0nm,0.1s,SNR=7.9						
SESP				S	**Sn**	**13 02 12.0**	**+0.8**
	0.8nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.42**	**299**	P	**Pn**	**13 01 38.4**	**+3.1**
	2.7nm,0.2s,SNR=9.8						
EQES				S	**Sn**	**13 02 18.0**	**+2.0**
	0.3nm,0.1s,SNR=7.9						
EQUE	**Quentar**	**3.48**	**288**	P	**Pn**	**13 01 38.4**	**+2.2**
	0.9nm,0.2s,SNR=7.9						
EQUE				S	**Sn**	**13 02 17.2**	**-0.3**
	0.2nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**3.55**	**282**	P	**Pn**	**13 01 37.4**	**+0.2**
	1.5nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**13 02 18.2**	**-1.1**
	1.4nm,0.1s,SNR=7.9						

*ANF **05** 13:19:39.5±0.1,35°.34N×118°.55W, h13km±1km, ML3.1/32, Error ellipse: s-maj=1.2km s-min=1.0km az=104.0*
*PAS **05** 13:19:40.5±1.1,35°.336N±0°.010×118°.56W±0°.02, h9km, ML3.1/202, Error ellipse: s-maj=2.0km s-min=1.3km az=105.0*
*NEIC **05** 13:19:40.0±1.4,35°.334N±0°.010×118°.55W±0°.02, h6km±6km, Error ellipse: s-maj=2.0km s-min=1.4km az=104.0*
*SCEDC **05** 13:19:40.5,35°.34N×118°.56W, h9km, ML3.1, ML3.1, ML3.1, ML3.1, ML3.1*
ISC 05 13:19:39.8±0.8, 35°.34N±0°.01×118°.56W±0°.02, h16km±7km, n98, σ0§51/137, Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WOFM	**Oak Flat**	**0.24**	**327**		**Pg**	**13 19 45.0**	**-0.2**
MAGC	**SCE Magundon P**	**0.30**	**275**		**Pg**	**13 19 46.6**	**+0.5**
ARVC	**Arvin**	**0.31**	**227**	P	**Pg**	**13 19 46.6**	**+0.3**
	baz=46,SNR=178						
ARVC				S	**Sg**	**13 19 50.6**	**-0.1**
	baz=46						
ARVC	**Arvin**	**0.31**	**227**		**Pg**	**13 19 46.6**	**+0.3**
ISA	**Isabella, Lake**	**0.33**	**12**	P	**Pg**	**13 19 46.6**	**-0.1**
	baz=192,SNR=662						
ISA				S	**Sg**	**13 19 51.1**	**-0.5**
	baz=192						
ISA	**Isabella, Lake**	**0.33**	**12**	Pg	**Pg**	**13 19 46.7**	**-0.1**
ISA				Sg	**Sg**	**13 19 50.9**	**-0.6**
TJR	**Tejon Ranch**	**0.34**	**206**		**Pg**	**13 19 47.0**	**+0.1**
TJR					**Sg**	**13 19 51.6**	**-0.2**
WBSM	**Bird Springs**	**0.40**	**60**		**Pg**	**13 19 48.0**	**+0.1**
WBSM					**Sg**	**13 19 53.4**	**-0.1**
WHFM	**Hanning Flat**	**0.40**	**25**		**Pg**	**13 19 47.8**	**-0.1**
WHFM					**Sg**	**13 19 53.0**	**-0.4**
THC	**Tehachapi Micr**	**0.43**	**192**		**Pg**	**13 19 48.5**	**-0.1**
THC					**Sg**	**13 19 54.2**	**-0.5**
WORM	**Onyx Ranch**	**0.44**	**36**		**Pg**	**13 19 48.7**	**0.0**
BAKC	**Calstate**	**0.45**	**271**		**Pg**	**13 19 49.1**	**+0.3**
BAKC					**Sb**	**13 19 56.3**	**+0.6**
CCAC	**Calif City Air**	**0.48**	**112**		**Pg**	**13 19 49.5**	**+0.1**
CCAC					**Sg**	**13 19 56.2**	**+0.4**
TPO	**Tropico Hills**	**0.53**	**149**		**Pg**	**13 19 50.3**	**-0.1**
TPO					**Sg**	**13 19 57.5**	**+0.1**
DTP	**Desert Tortois**	**0.59**	**97**		**Pg**	**13 19 51.3**	**-0.1**
QAL	**Quail Lake**	**0.60**	**193**		**Pg**	**13 19 51.7**	**+0.1**
EDW2	**Edwards Air Fo**	**0.65**	**134**	P	**Pg**	**13 19 52.1**	**-0.4**
	baz=315,SNR=49						
EDW2				S	**Sg**	**13 20 00.8**	**-0.3**
	baz=315						
EDW2	**Edwards Air Fo**	**0.65**	**134**		**Pg**	**13 19 52.2**	**-0.4**
EDW2					**Sg**	**13 20 00.9**	**-0.3**
BTPC	**Burnt Peak**	**0.65**	**181**		**Pg**	**13 19 52.4**	**-0.2**
VES	**Vestal, Richgr**	**0.66**	**320**	S	**Sg**	**13 20 01.6**	**0.0**
	baz=140						
WCHM	**Chimney Peak**	**0.67**	**36**		**Pg**	**13 19 52.9**	**-0.2**
WCHM					**Sg**	**13 20 01.6**	**-0.5**
ALPC	**Antelope**	**0.68**	**162**		**Pg**	**13 19 53.0**	**-0.1**
ALPC					**Sg**	**13 20 02.0**	**-0.1**
MPI	**Mount Pinos, F**	**0.71**	**223**		**Pg**	**13 19 53.5**	**-0.2**
MPI					**Sg**	**13 20 02.4**	**-0.8**
ABL	**Mount Abel**	**0.73**	**229**		**Pg**	**13 19 53.7**	**-0.3**
LRMC	**Laurel Mtn Rad**	**0.73**	**78**	P	**Pg**	**13 19 53.8**	**-0.3**
	baz=259,SNR=218						
LRMC				S	**Sg**	**13 20 03.7**	**-0.1**
	baz=259						
LRMC	**Laurel Mtn Rad**	**0.73**	**78**		**Pg**	**13 19 53.8**	**-0.3**
LRMC					**Sg**	**13 20 03.5**	**-0.2**
OSI	**Osito Audit: C**	**0.73**	**191**	P	**Pg**	**13 19 54.0**	**-0.2**
	baz=10,SNR=17						
OSI				S	**Sg**	**13 20 03.6**	**-0.2**
	baz=10						
OSI	**Osito Audit: C**	**0.73**	**191**		**Pg**	**13 19 53.9**	**-0.2**
OSI					**Sg**	**13 20 03.0**	**-0.8**
LEOC	**Leona Valley**	**0.73**	**163**		**Pg**	**13 19 53.9**	**-0.3**
LEOC					**Sg**	**13 20 03.5**	**-0.3**
SRTC	**Snort**	**0.75**	**61**		**Pg**	**13 19 54.7**	**+0.3**
PYR	**Pyramid**	**0.78**	**191**		**Pg**	**13 19 54.9**	**-0.2**
RVCM	**Rose Valley Ce**	**0.86**	**39**		**Pb**	**13 19 56.3**	**-0.2**
RVCM					**Sg**	**13 20 07.4**	**-0.6**
CJV	**Casa Juvan**	**0.87**	**157**		**Pb**	**13 19 56.3**	**-0.3**
SPG2	**Springville 2**	**0.88**	**349**		**Pb**	**13 19 56.2**	**-0.5**
SPG2					**Sb**	**13 20 07.4**	**-0.8**
SBB	**Saddle Back Bu**	**0.88**	**137**		**Pb**	**13 19 56.4**	**-0.4**
SBB					**Sb**	**13 20 08.1**	**-0.2**
JRC2	**Joshua Ridge**	**0.89**	**43**		**Pb**	**13 19 56.8**	**-0.1**
CLC	**China Lake**	**0.92**	**58**		**Pb**	**13 19 57.1**	**-0.3**
CLC					**Sb**	**13 20 09.3**	**0.0**
HYS	**Haystack Butte**	**0.94**	**120**		**Pb**	**13 19 57.5**	**-0.1**
HYS					**Sb**	**13 20 09.8**	**-0.1**
WCSM	**Coso Springs S**	**0.94**	**43**		**Pb**	**13 19 57.8**	**0.0**
WCSM					**Sb**	**13 20 10.0**	**-0.1**
RYS	**Reyes Peak**	**0.95**	**224**		**Pb**	**13 19 57.7**	**-0.2**
IR2C	**Iron Canyon**	**0.95**	**172**		**Pb**	**13 19 57.8**	**-0.1**
MFS	**McCloud Flat S**	**0.97**	**36**		**Pb**	**13 19 58.3**	**+0.1**
JNH	**Juniper Hills**	**1.02**	**151**		**Pb**	**13 19 58.9**	**-0.1**
CARC	**Carrizo Plain**	**1.05**	**269**		**Pb**	**13 19 59.5**	**-0.2**
CARC					**Sg**	**13 20 14.2**	**+0.2**
CHFC	**Chilao Flat St**	**1.09**	**156**		**Pb**	**13 20 00.2**	**-0.2**
CHFC					**Sb**	**13 20 14.3**	**-0.1**
DECC	**Green Verdugo**	**1.10**	**170**	P	**Pb**	**13 20 00.4**	**+0.1**
	baz=350,SNR=5.5						
DECC				S	**Sn**	**13 20 15.8**	**+0.5**
	baz=350						
DECC	**Green Verdugo**	**1.10**	**170**		**Pb**	**13 20 00.5**	**+0.1**
PKM	**Mcpherson Peak**	**1.12**	**247**	P	**Pb**	**13 20 00.4**	**-0.5**
	baz=66,SNR=19						
PKM	**Mcpherson Peak**	**1.12**	**247**		**Pb**	**13 20 00.4**	**-0.5**
MPMC	**Manual Prospec**	**1.13**	**50**	P	**Pb**	**13 20 01.1**	**+0.1**
	baz=231,SNR=218						
MPMC				S	**Sb**	**13 20 15.9**	**+0.3**
	baz=231						
MPMC	**Manual Prospec**	**1.13**	**50**		**Sb**	**13 20 15.5**	**0.0**
CWC	**Cottonwood Cre**	**1.17**	**19**	P	**Pn**	**13 20 01.5**	**-0.1**
	baz=200						
CWC				S	**Sb**	**13 20 16.7**	**+0.1**
	baz=200						
CWC	**Cottonwood Cre**	**1.17**	**19**		**Pn**	**13 20 01.6**	**-0.1**
SMMC	**Simmler**	**1.18**	**269**	S	**Sb**	**13 20 17.5**	**+0.7**
	baz=88						
MWC	**Mount Wilson**	**1.18**	**160**		**Pn**	**13 20 01.9**	**+0.1**
MWC				Sg	**Sb**	**13 20 17.4**	**+0.3**
XTL	**Crystal Lake,**	**1.19**	**151**		**Pn**	**13 20 02.0**	**+0.2**
VOG	**Valley Oaks Go**	**1.19**	**326**	P	**Pn**	**13 20 01.7**	**0.0**
	baz=146						
PASC	**Pasadena Art C**	**1.20**	**165**		**Pn**	**13 20 02.0**	**+0.1**
PASC	**Pasadena Art C**	**1.20**	**165**	Pg	**Pn**	**13 20 01.9**	**+0.1**
DJJ	**Donna J Jenkin**	**1.23**	**176**		**Pb**	**13 20 02.9**	**+0.3**
BCH	**Branch Mountai**	**1.26**	**264**		**Pn**	**13 20 02.3**	**-0.5**
SBC	**Santa Barbara**	**1.30**	**227**	S	**Sg**	**13 20 21.9**	**0.0**
	baz=46						
BFSC	**Mount Baldy Ra**	**1.32**	**146**	P	**Pn**	**13 20 04.1**	**+0.4**
	baz=326,SNR=17						
BFSC				S	**Sn**	**13 20 21.8**	**+0.8**
	baz=326						
FIGC	**Figueroa Mtn.**	**1.32**	**243**		**Pb**	**13 20 04.4**	**+0.2**
RRX	**Edison Barstow**	**1.36**	**109**	S	**Sb**	**13 20 22.9**	**+0.9**
	baz=290						
GSC	**Goldstone, Bar**	**1.43**	**91**	P	**Pn**	**13 20 05.4**	**+0.2**
	baz=272,SNR=83						
GSC	**Goldstone, Bar**	**1.43**	**91**	Pn	**Pn**	**13 20 05.4**	**+0.2**
PAGB	**Antelope Grade**	**1.44**	**286**		**Pn**	**13 20 04.9**	**-0.3**
SCZ2	**Santa Cruz Isl**	**1.61**	**214**	S	**Sb**	**13 20 29.3**	**+0.2**
	baz=33						
BBRC	**Big Bear Solar**	**1.72**	**128**	P	**Pn**	**13 20 09.7**	**+0.5**
	baz=309,SNR=14						
BBRC				Sb	**Sg**	**13 20 34.4**	**-0.8**
	baz=309						
TIN	**Tinemaha, Big**	**1.73**	**9**	Pb	**Pb**	**13 20 11.9**	**+0.6**
	baz=189						
TIN				Sb	**Sg**	**13 20 35.1**	**-0.6**
	baz=189						
TIN	**Tinemaha, Big**	**1.73**	**9**		**Pb**	**13 20 12.2**	**+0.8**
FURC	**Furnace Creek,**	**1.78**	**50**	Pg	**Pg**	**13 20 13.6**	**-0.3**
	baz=231						
HEC	**Hector,Ludlow**	**1.89**	**105**	P	**Pn**	**13 20 11.6**	**+0.1**
	baz=286						
CIS	**Catalina Islan**	**1.93**	**176**	P	**Pn**	**13 20 12.4**	**+0.4**
	baz=356						
CIS				S	**Sb**	**13 20 38.1**	**-0.4**
	baz=356						
PMPB	**Monarch Peak**	**2.02**	**296**	Pn	**Pn**	**13 20 13.3**	**0.0**
MURC	**Murrieta**	**2.06**	**147**	P	**Pn**	**13 20 13.9**	**+0.1**
	baz=327,SNR=6.2						
MURC				Sb	**Sg**	**13 20 44.7**	**-1.6**
	baz=327						
TUQ	**Turquoise Moun**	**2.15**	**87**	P	**Pn**	**13 20 15.3**	**+0.2**
	baz=268,SNR=22						
TUQ	**Turquoise Moun**	**2.15**	**87**		**Pn**	**13 20 15.4**	**+0.2**
BLAC	**Blackrock camp**	**2.19**	**125**		**Pn**	**13 20 16.8**	**+1.2**
MMIM	**Miami Mountain**	**2.29**	**336**		**Pb**	**13 20 19.6**	**-1.2**
OMMB	**Old Mammoth Mi**	**2.30**	**351**	Pn	**Pb**	**13 20 20.5**	**-0.5**
MDPB	**Devils Postpil**	**2.33**	**350**		**Pb**	**13 20 21.2**	**-0.3**
TPC	**Twentynine Pal**	**2.40**	**120**		**Pn**	**13 20 19.5**	**+1.0**
GMRC	**Granite Mounta**	**2.44**	**102**	P	**Pn**	**13 20 18.6**	**-0.5**
	baz=284,SNR=16						
PFO	**Pinyon Flats O**	**2.44**	**134**	P	**Pn**	**13 20 19.4**	**+0.3**
	baz=316,SNR=11						
PFO	**Pinyon Flats O**	**2.44**	**134**		**Pn**	**13 20 19.5**	**+0.4**
XPFO	**Pion Flat**	**2.44**	**134**		**Pn**	**13 20 19.6**	**+0.5**
TPFO	**Pinon Flats**	**2.45**	**134**	P	**Pn**	**13 20 19.6**	**+0.4**
	baz=316,SNR=8.9						
TPFO				Sb	**Sg**	**13 20 56.8**	**-1.8**
	baz=316						
TPNV	**Topopah Spring**	**2.46**	**49**	P	**Pn**	**13 20 20.9**	**+1.4**
	baz=230,SNR=16						
TPNV	**Topopah Spring**	**2.46**	**49**	Pn	**Pn**	**13 20 21.0**	**+1.6**
BELC	**Belle Mtn. Jos**	**2.50**	**122**	P	**Pn**	**13 20 20.4**	**+0.6**
	baz=303						
BELC				Sb	**Sg**	**13 20 58.7**	**-1.3**
	baz=303						
SHPR	**Sheep Range**	**2.99**	**66**	Pn	**Pn**	**13 20 25.8**	**-0.9**
MONP2	**Monument Peak**	**3.01**	**143**	P	**Pn**	**13 20 27.2**	**+0.2**
	baz=325						
IRM	**Iron Mountain**	**3.05**	**112**	P	**Pn**	**13 20 27.6**	**+0.3**
	baz=294						
NEE2	**Needles Airpor**	**3.28**	**99**	P	**Pn**	**13 20 30.5**	**0.0**
	baz=281						
W13A	**Hualapai Mount**	**3.83**	**92**	Pn	**Pn**	**13 20 38.6**	**+0.3**
U15A	**North Rim**	**5.20**	**76**		**Pn**	**13 20 58.9**	**+1.7**

TAP 05 13:22:05.0,24°.47N×121°.89E, h13km, ML1.5, 1C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.14**	**252**	*i* P	Pb	13 22 09.1	-0.4
	baz=250						
ENA				*i* S	Sb	13 22 12.0	-0.4
	baz=250						
TWC	**Suao**	**0.14**	**347**	*i* P	Pb	13 22 09.2	-0.3
	baz=350						
TWC				*i* S	Sg	13 22 11.5	+0.5
	baz=350						
TWE	**Neicheng**	**0.32**	**322**	P	Pg	13 22 11.8	+0.3
	baz=323						
TWE				S	Sb	13 22 17.5	-0.2
	baz=323						
ILA	**Ilan**	**0.32**	**337**	*eP*	Pg	13 22 11.7	+0.2
	baz=338						
ILA				*eS*	Sb	13 22 17.9	+0.3
	baz=338						
NDT	**Datong Townshi**	**0.36**	**291**	P	Pb	13 22 13.1	-0.2
	baz=291						
NDT				S	Sb	13 22 18.6	-0.3
	baz=291						
EGS		**0.38**	**7**	*eS*	Sb	13 22 19.4	+0.2
	baz=8.0						
NACB	**Ninganchiao**	**0.40**	**222**	P	Pg	13 22 12.9	+0.1
	baz=221						
NACB				S	Sg	13 22 19.0	+0.7
	baz=221						
ETLH	**Xiulin Townshi**	**0.45**	**235**	*eP*	Pb	13 22 14.4	-0.4
	baz=234						
ETLH				S	Sb	13 22 22.0	+0.5
	baz=234						
NNSH	**Datong**	**0.46**	**265**	*eP*	Pg	13 22 14.5	+0.4
	baz=264						
NNSH				*eS*	Sb	13 22 21.2	-0.6
	baz=264						
NNSB	**Datong**	**0.46**	**265**	P	Pb	13 22 14.8	-0.2
	baz=264						
NNSB				S	Sb	13 22 21.1	-0.7
	baz=264						
NWLT	**Wulai**	**0.46**	**311**	*eP*	Pb	13 22 14.8	-0.3
	baz=311						
NWLT				*eS*	Sb	13 22 22.1	+0.3
	baz=311						
NNS	**Nan Shan**	**0.47**	**266**	P	Pb	13 22 15.0	-0.1
	baz=266						
NNS				S	Sb	13 22 21.9	-0.2
	baz=266						
TIPB	**Shuangxi**	**0.50**	**354**	*eP*	Pb	13 22 15.7	0.0
	baz=353						
TIPB				*eS*	Sg	13 22 22.2	+0.6
	baz=353						
YHNB	**Yeheng**	**0.51**	**293**	*eP*	Pb	13 22 15.7	-0.1
	baz=293						
YHNB				S	Sb	13 22 23.3	+0.2
	baz=293						
NSK	**Sanguang**	**0.52**	**293**	*eP*	Pb	13 22 15.8	-0.3
	baz=293						
NSK				S	Sb	13 22 23.7	+0.2
	baz=293						
TWB1	**Santiao Chiao**	**0.54**	**10**	*eS*	Sb	13 22 24.5	+0.4
	baz=10.0						
HWA	**Hwalien**	**0.55**	**208**	*eP*	Pb	13 22 16.6	+0.1
	baz=206						
HWA				*eS*	Sb	13 22 24.9	+0.6
	baz=206						
TWA	**Mucha**	**0.58**	**332**	*eP*	Pb	13 22 16.7	-0.2
	baz=332						
TWA				*eS*	Sb	13 22 25.2	+0.1
	baz=332						
NWF	**Wu-fen Shan**	**0.61**	**351**	*eP*	Pb	13 22 17.3	-0.2
	baz=351						
NWF				*eS*	Sb	13 22 26.8	+0.8
	baz=351						
WFSB	**Wu-fen Shan**	**0.61**	**351**	*eP*	Pb	13 22 17.3	-0.2
	baz=350						

JMA 05 13:22:16.4±0.2, 24°.95N×123°.36E, h25km±5km, M1.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.58**	**213**	P	Pb	13 22 27.5	-0.5
JYNG	**Yonagunijimaku**	**0.62**	**217**	P	Pb	13 22 28.4	-0.3
JYNG				S	Sb	13 22 36.7	-0.3
IRIF	**Iriomote-Funau**	**0.70**	**151**	P	Pb	13 22 29.4	-0.6
IRIF				*eS*	Sb	13 22 39.4	+0.2
JIJ	**Ishigaki jima**	**0.92**	**129**	P	Pb	13 22 33.1	-0.6
JKRS	**Kuro-shima**	**0.92**	**140**	P	Pb	13 22 33.3	-0.5
JKRS				S	Sb	13 22 45.2	-0.4
JISG	**Ishigakijimahi**	**0.94**	**112**	P	Pn	13 22 33.6	-0.4
JISG				*eS*	Sb	13 22 45.3	-0.7
HATJ	**Hateruma jima**	**0.98**	**155**	P	Pn	13 22 33.9	-0.6

*NEIC **05** 13:46:52.0±1.7,3°.6N±0°.1×83°.3W±0°.1, h25km±7km, mb4.3/7, Error ellipse: s-maj=26.6km s-min=7.8km az=217.0*
*IDC **05** 13:46:52.4±1.5,3°.63N×82°.86W, h0km, mb3.6/2, mb1 4.2/5, mb1mx3.8/31, mbtmp4.0/5, ML3.5/3, MS3.2/11, Ms1 3.2/11, ms1mx3.1/26, Error ellipse: s-maj=56.3km s-min=23.2km az=54.0*
ISC 05 13:46:55.3±1.0, 3°.53N±0°.07×82°.77W±0°.07, h24km, n51, σ2§68/48, mb4.1/6, MS3.1/7, 1C, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GR1C	**Gorgona, Isla**	**4.63**	**96**	*eP*	**Pn**	**13 48 03.4**	**-0.4**
GR1C				*eS*	**Sn**	**13 48 52.8**	**-4.0**
GR1C				*i*		13 48 58.7	
	comp=Z,31nm,0.6s						
AZU	**Azuero**	**4.91**	**30**	*eP*	**Pn**	**13 48 08.8**	**+1.1**
AZU				*i*		13 48 09.7	
	comp=Z,150nm,0.5s						
PAC1	**Pacto, Paraso**	**5.13**	**129**	*eP*	**Pn**	**13 48 10.3**	**-0.5**
PAC1				*i*		13 49 10.1	
	comp=Z,138nm,0.3s						
CUSE	**Cuicocha Este**	**5.42**	**126**	*eP*	**Pn**	**13 48 14.6**	**-0.5**
CUSE				*eS*	**Sn**	**13 49 13.7**	**-3.2**
MALC	**Bahia Malaga**	**5.45**	**85**	*i*	**Pb**	**13 48 33.7**	**+3.9**
	comp=Z,59nm,0.8s						
MALC				*eS*	**Sn**	**13 49 13.4**	**-3.7**
PIZC	**Pizarro, Choco**	**5.58**	**75**	*eP*	**Pn**	**13 48 17.5**	**+0.6**
PIZC				*eS*	**Sn**	**13 49 15.7**	**-4.8**
BBAC	**Balboa, Cauca**	**5.72**	**105**	*eP*	**Pn**	**13 48 18.6**	**-0.4**
BBAC				*eS*	**Sn**	**13 49 19.9**	**-4.1**
BBAC				*i*		13 49 31.0	
	comp=Z,51nm,0.4s						
CCUFI	**Cufio, Nario**	**5.88**	**113**	*eP*	**Pn**	**13 48 23.1**	**+1.5**
GCUF	**Volcan Galeras**	**5.88**	**113**	*eP*	**Pn**	**13 48 21.6**	**0.0**
GCUF				*i*		13 48 24.4	
	comp=Z,66nm,0.4s						
GCUF				*eS*	**Sn**	**13 49 23.9**	**-4.6**
CRUC	**La Cruz**	**6.13**	**108**	*eP*	**Pn**	**13 48 25.8**	**+1.0**
CRUC				*i*		13 48 31.6	
	comp=Z,4.1nm,0.2s						
UPA	**Univ. de Panam**	**6.30**	**31**	*eP*	**Pn**	**13 48 28.9**	**+2.1**
SOTA	**Rioblanco**	**6.31**	**102**	*eP*	**Pn**	**13 48 29.0**	**+1.6**
SOTA				*eS*	**Sn**	**13 49 35.1**	**-3.9**
SOTA				*i*		13 49 47.0	
	comp=Z,127nm,0.7s						
BCIP	**Isla Barro Col**	**6.32**	**27**	*eP*	**Pn**	**13 48 28.6**	**+1.6**
BCIP	**Isla Barro Col**	**6.32**	**27**	Pn	**Pn**	**13 48 28.4**	**+1.3**
YOTC	**Yotoco, Valle**	**6.43**	**86**	*eP*	**Pn**	**13 48 29.1**	**+0.4**
YOTC				*eS*	**Sn**	**13 49 37.4**	**-4.1**
YOTC				*i*		13 49 47.2	
	comp=Z,18nm,0.4s						
PCON	**Cinco Dias**	**6.48**	**100**	*eP*	**Pn**	**13 48 32.6**	**+2.9**
PCON				*eS*	**Sn**	**13 49 39.3**	**-4.0**
PLMC	**San Jos del P**	**6.62**	**78**	*eP*	**Pn**	**13 48 32.0**	**+0.7**
JTS	**Las Juntas de**	**7.06**	**342**	Pn	**Pn**	**13 48 34.1**	**-3.2**
	comp=Z,7.5nm,0.3s,baz=5.7,slow=21,SNR=19						
JTS				Sn	**Sn**	**13 49 54.5**	**-2.4**
	comp=Z,1.3nm,0.3s,baz=37,slow=21,SNR=1.6						
JTS	**Las Juntas de**	**7.06**	**342**	Pn	**Pn**	**13 48 34.6**	**-2.6**
CBOC	**Ciudad Bolivar**	**7.13**	**71**	*eP*	**Pn**	**13 48 40.3**	**+2.0**
FLOC	**Florencia**	**7.37**	**105**	*eP*	**Pn**	**13 48 42.3**	**+0.7**
ANIL	**Santa Ana**	**7.41**	**82**	*eP*	**Pn**	**13 48 42.2**	**-0.2**
TOLC	**Tolima**	**7.51**	**82**	*eP*	**Pn**	**13 48 47.4**	**+3.6**
ORTC	**Ortega, Tolima**	**7.52**	**87**	*eP*	**Pn**	**13 48 47.1**	**+3.4**
RREF	**El Recreo**	**7.53**	**79**	*eP*	**Pn**	**13 48 47.7**	**+3.4**
GUY2C	**Guyana, Caldas**	**7.58**	**77**	*eP*	**Pn**	**13 48 48.3**	**+3.5**
HELC	**Santa Helena**	**7.69**	**70**	*eP*	**Pn**	**13 48 49.4**	**+3.2**
NORC	**Norcasia**	**8.13**	**75**	*eP*	**Pn**	**13 48 55.9**	**+3.8**
ROSC	**El Rosal**	**8.53**	**81**	LR	LR	13 52 02.2	
	comp=Z,101nm,21.

KEF4				S	Sg	14 31 28.9	-0.6		
ARGA	**Argostoli. Kep**	**0.19**	**89**	P	Pg	14 31 27.3	+0.2		
ARGA				S	Sg	14 31 30.4	+0.5		
ARG2	**Argostoli**	**0.20**	**88**	P	Pg	14 31 27.4	+0.1		
ARG2				S	Sg	14 31 30.2	+0.1		
VLS	**Valsamata**	**0.28**	**89**	P	Pg	14 31 28.5	-0.2		
VLS				S	Sg	14 31 32.7	+0.2		
	4μm,0.2s								
VLS	**Valsamata**	**0.28**	**89**	P	Pg	14 31 28.6	-0.1		
VLS				S	Sg	14 31 32.7	+0.2		
VLS				AML	AML	14 31 33.0			
	comp=N,8366μm,0.2s								
VLS				AML	AML	14 31 33.0			
	comp=E,6077μm,0.3s								
VSK1	**VASILIKIADES**	**0.35**	**47**	P	Pg	14 31 29.9	-0.2		
VSK1				S	Sg	14 31 35.0	+0.3		
FSK	**Fiskardo**	**0.38**	**42**	P	Pg	14 31 30.3	-0.4		
FSK				S	Sg	14 31 36.0	+0.2		
	comp=E,1μm,0.2s								
FSK	**Fiskardo**	**0.38**	**42**	P	Pg	14 31 30.5	-0.2		
FSK				S	Sg	14 31 36.4	+0.5		
FSK				AML	AML	14 31 36.7			
	comp=N,1878μm,0.3s								
FSK				AML	AML	14 31 37.2			
	comp=E,2571μm,0.1s								
KFL	**Anninata**	**0.44**	**98**	P	Pg	14 31 31.5	-0.2		
KFL				S	Sg	14 31 38.1	+0.6		
	comp=E,1μm,0.3s								
KFL	**Anninata**	**0.44**	**98**	P	Pg	14 31 31.5	-0.2		
KFL				S	Sg	14 31 38.5	+1.0		
KFL				AML	AML	14 31 40.0			
	comp=N,2552μm,0.3s								
KFL				AML	AML	14 31 43.1			
	comp=E,3342μm,0.4s								
VLMS	**Volimes, Zakyn**	**0.45**	**131**	P	Pg	14 31 32.2	+0.3		
VLMS				S	Sb	14 31 39.2	-0.5		
VLMS				AML	AML	14 31 47.3			
	comp=E,2098μm,0.3s								
VLMS				AML	AML	14 31 48.6			
	comp=N,3266μm,0.4s								
EVGI	**Lefkada island**	**0.56**	**36**	P	Pg	14 31 33.8	-0.1		
EVGI				S	Sg	14 31 41.8	+0.5		
EVGI	**Lefkada island**	**0.56**	**36**	P	Pg	14 31 33.6	-0.3		
EVGI				S	Sg	14 31 42.1	+0.8		
MGNA	**Meganis**	**0.65**	**42**	P	Pg	14 31 34.9	-0.8		
MGNA				S	Sb	14 31 45.3	-0.3		
MGNA				AML	AML	14 31 47.2			
	comp=E,677μm,0.2s								
MGNA				AML	AML	14 31 50.5			
	comp=N,807μm,0.5s								
LKD2	**Lefkada island**	**0.70**	**28**	P	Pg	14 31 36.4	-0.2		
LKD2	**Lefkada island**	**0.70**	**28**	P	Pg	14 31 36.2	-0.5		
LKD2				S	Sb	14 31 46.7	-0.3		
LKD2				AML	AML	14 31 58.2			
	comp=N,532μm,0.5s								
LKD2				AML	AML	14 31 59.5			
	comp=E,543μm,0.7s								
TSLK	**Tsoukalades, L**	**0.73**	**27**	P	Pg	14 31 37.1	-0.1		
TSLK	**Tsoukalades, L**	**0.73**	**27**	P	Pg	14 31 37.1	-0.1		
TSLK				AML	AML	14 31 55.8			
	comp=E,556μm,0.5s								
TSLK				AML	AML	14 32 00.5			
	comp=N,621μm,0.5s								
PDO	**Prodromos**	**0.86**	**60**	P	Pg	14 31 39.1	-0.5		
PDO				S	Sb	14 31 51.8	+0.3		
	comp=N,785nm,0.4s								
PDO	**Prodromos**	**0.86**	**60**	P	Pg	14 31 39.1	-0.5		
PDO				S	Sg	14 31 50.7	-0.1		
PDO				AML	AML	14 31 54.9			
	comp=N,1182μm,0.4s								
PDO				AML	AML	14 31 58.6			
	comp=E,1124μm,0.4s								
RLS	**Riolos of Patr**	**0.97**	**96**	P	Pg	14 31 41.2	-0.6		
RLS	**Riolos of Patr**	**0.97**	**96**	P	Pg	14 31 41.3	-0.6		
RLS				AML	AML	14 32 07.5			
	comp=E,276μm,0.4s								
RLS				AML	AML	14 32 08.9			
	comp=N,257μm,0.6s								
PVO	**Paravola**	**1.10**	**66**	P	Pg	14 31 43.9	-0.5		
PVO				S	Sb	14 31 59.8	+1.2		
	comp=N,275nm,0.3s								
PVO	**Paravola**	**1.10**	**66**	P	Pg	14 31 43.8	-0.5		
PVO				S	Sb	14 31 59.2	+0.5		
PVO				AML	AML	14 32 05.6			
	comp=E,646μm,0.4s								
PVO				AML	AML	14 32 12.8			
	comp=N,664μm,0.6s								
DRO	**Drossia**	**1.18**	**100**	P	Pb	14 31 45.0	-0.6		
DRO	**Drossia**	**1.18**	**100**	P	Pb	14 31 44.7	-0.8		
DRO				AML	AML	14 32 14.4			
	comp=N,504μm,0.5s								
DRO				AML	AML	14 32 15.2			
	comp=E,182μm,0.8s								
IGT	**Igoumenitsa**	**1.36**	**3**	P	Pg	14 31 49.0	-0.2		
LAKA	**Lakka**	**1.37**	**87**	P	Pn	14 31 48.2	0.0		
LAKA				S	Sg	14 32 08.8	+1.5		
LAKA				AML	AML	14 32 10.0			
	comp=N,250μm,0.4s								
LAKA				AML	AML	14 32 10.8			
	comp=E,158μm,0.6s								
ANX	**Ano Chora**	**1.39**	**72**	P	Pb	14 31 49.3	+0.2		
ANX				AML	AML	14 32 19.5			
	comp=N,504μm,0.6s								
ANX				AML	AML	14 32 20.5			
	comp=E,479μm,0.5s								
SERG	**Sergoula**	**1.45**	**80**	P	Pn	14 31 49.8	+0.5		
SERG				AML	AML	14 32 20.2			
	comp=N,271μm,0.5s								
SERG				AML	AML	14 32 20.5			
	comp=E,268μm,0.9s								
KALE	**Kalithea**	**1.51**	**81**	P	Pn	14 31 51.0	+0.8		
KLV	**Kalavryta, Ach**	**1.51**	**94**	P	Pn	14 31 50.7	+0.5		
KLV				S	Sg	14 32 13.4	+1.6		
KLV				AML	AML	14 32 30.5			
	comp=N,96μm,1.0s								
KLV				AML	AML	14 32 32.6			
	comp=E,84μm,0.9s								
KEK	**Kerkira**	**1.58**	**348**	P	Pb	14 31 52.4	+0.1		
GUR	**Goura**	**1.68**	**97**	P	Pb	14 31 53.6	-0.4		
GUR				AML	AML	14 32 21.8			
	comp=N,346μm,0.5s								
GUR				AML	AML	14 32 31.3			
	comp=E,247μm,0.5s								
MAKR	**Makrakomi, Fth**	**1.70**	**60**	P	Pg	14 31 55.9	+0.1		
TRIP	**Tripoli**	**1.73**	**111**	P	Pg	14 31 56.1	-0.2		
PYL	**PYLOS**	**1.75**	**136**	P	Pg	14 31 56.3	-0.3		
AGG	**Agios Georgios**	**1.85**	**62**	P	Pb	14 31 57.6	+0.7		
AGG				AML	AML	14 32 35.2			
	comp=N,119μm,0.8s								
AGG				AML	AML	14 32 36.5			
	comp=E,150μm,0.9s								
THL	**Klokotos Trika**	**1.96**	**44**	P	Pg	14 32 00.1	-0.7		
THL				AML	AML	14 32 35.5			
	comp=E,127μm,0.7s								
THL				AML	AML	14 32 37.7			
	comp=N,77μm,0.6s								
AXAR	**Agios Charalam**	**1.99**	**72**	P	Pb	14 32 00.4	+1.1		
VIL2	**Platees**	**2.39**	**88**	P	Pb	14 32 05.0	-1.1		
DID	**Didima**	**2.46**	**105**	P	Pb	14 32 07.4	0.0		
DBRK	**Dubrovnik**	**4.77**	**341**	Sn	Sn	14 33 28.3	-1.8		
STON	**Ston**	**5.08**	**338**	*e*Pn	Pn	14 32 40.5	+1.4		
STON				Sn	Sn	14 33 34.8	-2.9		
ZIRJ	**Zirje**	**6.49**	**329**	*e*Pn	Pn	14 33 00.3	+1.8		
ZIRJ				Sn	Sn	14 34 11.8	-0.7		
KIJV	**Kijevo**	**6.51**	**335**	*e*Pn	Pn	14 33 00.3	+1.5		
KIJV				Sn	Sn	14 34 12.0	-1.0		
MORI	**Morici**	**6.64**	**330**	*e*Pn	Pn	14 33 01.4	+0.9		
MORI				Sn	Sn	14 34 14.3	-1.9		
DUGI	**Dugi Otok**	**7.01**	**328**	Sn	Sn	14 34 24.8	-0.5		

JMA 05 14:32:30.5±0.2,24°.86N×123°.41E,h27km,M2.5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.54**	**223**	P	Pb	14 32 41.0	-0.4
YOJ				*e*S	Sb	14 32 48.3	-0.5
JYNG	**Yonagunijimaku**	**0.59**	**226**	P	Pb	14 32 42.0	-0.2
JYNG				*e*S	Sb	14 32 49.9	-0.3
IRIF	**Iriomote-Funau**	**0.60**	**151**	P	Pb	14 32 42.3	-0.1
JKRS	**Kuro-shima**	**0.83**	**139**	P	Pb	14 32 46.1	-0.1
JIJ	**Ishigaki jima**	**0.83**	**126**	P	Pb	14 32 45.5	-0.8
JIJ				S	Sb	14 32 56.4	-0.7
JISG	**Ishigakijimahi**	**0.86**	**108**	P	Pn	14 32 46.2	-0.7
JISG				*e*S	Sb	14 32 57.7	-0.4
HATJ	**Hateruma jima**	**0.88**	**156**	P	Pn	14 32 46.9	-0.2
HATJ				*e*S	Sb	14 32 57.5	-0.9
JTJ	**Tarama**	**1.20**	**100**	P	Pb	14 32 52.0	-0.5
JIRB	**Irabujima**	**1.60**	**91**	*e*S	Sn	14 33 16.0	-0.8
JIKM	**Ikemajima**	**1.67**	**87**	P	Pn	14 32 59.1	+1.1
JIKM				*e*S	Sb	14 33 20.0	-1.2

TAP 05 14:32:40.8,24°.22N×121°.71E,h11km±1km,ML1.1,1D,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.12**	**246**	↓P	Pb	14 32 44.6	-0.5
	baz=245						
NACB				S	Sg	14 32 47.0	+1.2
	baz=245						
TWD	**Chiawan**	**0.17**	**217**	*i* P	Pb	14 32 45.4	-0.7
	baz=214						
TWD				*i* S	Sg	14 32 48.4	+1.1
	baz=214						
ENA	**Nanau**	**0.21**	**8**	P	Pg	14 32 45.6	+0.4
	baz=9.0						
ENA				*i* S	Sg	14 32 49.8	+1.5
	baz=9.0						
ETLH	**Xiulin Townshi**	**0.21**	**266**	P	Pb	14 32 46.3	-0.5
	baz=266						
ETLH				S	Sg	14 32 50.0	+1.7
	baz=266						
NNSB	**Datong**	**0.36**	**305**	*e*P	Pb	14 32 49.3	-0.1
	baz=304						
NNSB				*e*S	Sg	14 32 54.0	+1.0
	baz=304						
NNSH	**Datong**	**0.36**	**305**	*e*P	Pb	14 32 49.0	-0.4
	baz=304						
NNSH				*e*S	Sg	14 32 54.0	+1.0
	baz=304						
NNS	**Nan Shan**	**0.38**	**305**	P	Pb	14 32 49.4	-0.2
	baz=305						
NNS				S	Sb	14 32 55.4	-0.2
	baz=305						
WHF	**Hehuan Shan**	**0.41**	**260**	*i* P	Pb	14 32 49.9	-0.5
	baz=259						
WHF				*i* S	Sb	14 32 55.9	-1.0
	baz=259						
NDT	**Datong Townshi**	**0.42**	**335**	*e*P	Pb	14 32 50.5	+0.1
	baz=334						
NDT				*e*S	Sb	14 32 57.0	+0.2
	baz=334						
TWE	**Neicheng**	**0.50**	**356**	*e*P	Pb	14 32 51.7	0.0
	baz=357						
TWE				*e*S	Sb	14 32 58.8	-0.2
	baz=357						
CHGB	**Renai**	**0.52**	**252**	P	Pb	14 32 52.0	0.0
	baz=251						
CHGB				*e*S	Sb	14 32 59.0	-0.6
	baz=251						
YHNB	**Yeheng**	**0.54**	**326**	*e*P	Pb	14 32 52.8	+0.4
	baz=325						
YHNB				*e*S	Sb	14 33 00.4	+0.1
	baz=325						
NSK	**Sanguang**	**0.56**	**325**	*e*P	Pg	14 32 51.9	+0.2
	baz=325						
NSK				*e*S	Sb	14 33 00.9	+0.2
	baz=325						

IDC 05 14:35:01.5±2.3,2°.32N×126°.70E,h0km,mb3.4/3, mb1 3.5/3,mb1mx3.2/42,mbtmp3.4/3,Error ellipse: s-maj=193.6km s-min=25.9km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.36**	**162**	P	P	14 40 11.5	-0.3
	0.5nm,0.5s,baz=340,slow=11,SNR=7.0						
ASAR	**Alice Springs**	**26.76**	**165**	P	P	14 40 43.8	+0.5
	0.2nm,0.5s,baz=346,slow=12,SNR=5.5						
MKAR	**Makanchi Array**	**58.70**	**326**	P	P	14 45 00.8	-0.2
	0.3nm,0.4s,baz=132,slow=8.5,SNR=5.9						

*IDC **05** 14:41:12.2±2.2,62°.88N×149°.70W,h72km±20km,mb3.3/5, mb1 3.8/9,mb1mx3.3/52,mbtmp3.8/9,MS2.7/2,Ms1 2.7/2, ms1mx2.3/27,Error ellipse: s-maj=26.3km s-min=15.3km az=100.0*

*NEIC **05** 14:41:14.1±1.0,62°.85N±0°.04×149°.36W±0°.07,h89km±6km, Error ellipse: s-maj=6.8km s-min=1.4km az=221.0*

*AEIC **05** 14:41:14±1.0,62°.85N±0°.04×149°.40W±0°.08,h79km±5km, ML3.9,Mwr3.9/19(SLM),Error ellipse: s-maj=6.3km s-min=4.4km az=216.0,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.00; $M_{\theta\theta}$-0.17; $M_{\phi\phi}$0.17; $M_{r\theta}$-0.18; $M_{\theta\phi}$0.99; $M_{\phi r}$-0.02;*

*UNK **05** 14:41:14.0,62°.85N×149°.40W,h79km*

*ANF **05** 14:41:17.1±1.6,62°.99N×148°.93W,h98km±15km,ML4.1/2, Error ellipse: s-maj=17.7km s-min=12.2km az=20.0*

ISC 05 14:41:13.2±0.7,62°.85N±0°.03×149°.39W±0°.04,h87km±7km, n154,σ1°37/171,mb3.6/5,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAT2	**Susitna Watana**	**0.38**	**72**		Pn	14 41 27.7	+0.8
WAT2					Sn	14 41 38.0	+0.8
CUT	**Chulitna**	**0.60**	**223**		Pn	14 41 29.3	+0.9
RND	**Reindeer**	**0.61**	**23**		Pn	14 41 29.5	+0.9
RND					Sn	14 41 41.0	+0.8
TRF	**Thorofare Moun**	**0.73**	**326**		Pn	14 41 30.8	+0.9
TRF					Sn	14 41 43.2	+0.9
WAT6	**Susitna Watana**	**0.81**	**109**		Pn	14 41 31.2	+0.5
WAT6					Sn	14 41 44.2	+0.5
MCK	**McKinley**	**0.91**	**13**		Pn	14 41 32.7	+1.0
MCK					Sn	14 41 46.4	+0.9
DHY	**Denali Highway**	**0.95**	**75**		Pn	14 41 33.1	+0.9
KTH	**Kantishna Hill**	**0.99**	**316**		Pn	14 41 33.8	+1.2
KTH					Sn	14 41 48.1	+0.9
GHO	**Glory Hole Cre**	**1.10**	**168**		Pn	14 41 35.1	+1.2
SML	**Sawmill**	**1.16**	**154**		Pn	14 41 35.5	+1.0
SML					Sn	14 41 51.9	+1.3
PMR	**Palmer**	**1.27**	**174**		Pn	14 41 36.8	+1.0
PPLA	**Purkeypile**	**1.28**	**273**		Pn	14 41 37.3	+1.1
PPLA					Sn	14 41 54.5	+1.0
CAST	**Castle Rocks**	**1.35**	**296**		Pn	14 41 37.5	+0.6
SCM	**Sheep Creek Mo**	**1.40**	**136**		Pn	14 41 38.6	+1.0
BPAW	**Bear Paw Mtn.**	**1.45**	**331**		Pn	14 41 38.6	+0.6
BPAW					Sn	14 41 56.9	-0.1
KNK	**Knik Glacier**	**1.51**	**163**		Pn	14 41 40.0	+1.1
CHUM	**Lake Minchumin**	**1.68**	**309**		Pn	14 41 42.1	+1.1
WRH	**Wood River Hil**	**1.73**	**19**		Pn	14 41 42.5	+0.9
WRH					Sn	14 42 03.3	0.0
PS10	**TAPS Pump St10**	**1.74**	**69**		Pn	14 41 44.4	+2.5
PS10					Sn	14 42 06.8	+3.1
FIS	**Fire Island**	**1.76**	**193**		Pn	14 41 44.9	+2.9
RC01	**Rabbit Creek A**	**1.77**	**185**		Pn	14 41 43.2	+0.9
STLK	**Strandline Lak**	**1.78**	**221**		Pn	14 41 44.0	+1.6
HDA	**Harding Lake**	**1.91**	**34**	P	Pn	14 41 45.2	+1.2
	baz=216,SNR=1000						
HDA				S	Sn	14 42 08.1	+0.6
	baz=216						
HDA	**Harding Lake**	**1.91**	**34**		Pn	14 41 45.4	+1.4
CCB	**Clear Creek Bu**	**1.94**	**21**		Pn	14 41 45.5	+1.2
PS11	**TAPS Pump St11**	**1.98**	**111**		Pn	14 41 47.0	+2.1
CGLM	**Capps Glacier**	**1.98**	**220**		Pn	14 41 46.7	+1.7
SPCG	**Spurr Capps Gl**	**2.00**	**220**		Pn	14 41 46.4	+1.2
HARP	**HAARP**	**2.01**	**101**		Pn	14 41 47.5	+2.2
PS08	**TAPS Pump Stn8**	**2.05**	**33**		Pn	14 41 47.1	+1.2
PWL	**Port Wells**	**2.06**	**166**		Pn	14 41 46.8	+0.8
CKT	**Bend**	**2.12**	**220**		Pn	14 41 47.8	+0.9
SPCR	**Spurr Chakacha**	**2.12**	**220**		Pn	14 41 48.5	+1.6
SPBG	**Spurr Blockage**	**2.12**	**223**		Pn	14 41 48.8	+1.9
TCOL	**CIGO, UAF Yank**	**2.14**	**18**	P	Pn	14 41 48.3	+1.3
	baz=199,SNR=343						
TCOL				S	Sn	14 42 12.5	-0.5
	baz=199						
TCOL	**CIGO, UAF Yank**	**2.14**	**18**		Pn	14 41 48.4	+1.4
COLA	**College**	**2.14**	**18**		Pn	14 41 48.2	+1.1
SPNN	**North Nagishla**	**2.15**	**228**		Pn	14 41 48.5	+1.1
MDM	**Murphy Dome**	**2.18**	**13**		Pn	14 41 48.9	+1.3
IL31		**2.23**	**29**		Pn	14 41 49.2	+1.1
ILAR	**Eielson Array**	**2.23**	**29**	P	Pn	14 41 49.0	+0.9
	134nm,0.3s,baz=212,slow=14,SNR=6995						
ILAR				S	Sn	14 42 14.8	-0.1
	34nm,0.3s,baz=215,slow=17,SNR=13						
JPK	**Jack Peak**	**2.23**	**143**		Pn	14 41 48.9	+0.5
RIDG	**Independent Ri**	**2.24**	**64**		Pn	14 41 50.3	+1.9
CAPN	**Captain Cook N**	**2.25**	**203**		Pn	14 41 52.6	+4.1
GLI	**Glacier Island**	**2.25**	**150**		Pn	14 41 49.1	+0.5
MLY	**Manley**	**2.27**	**345**		Pn	14 41 49.8	+1.0
VMT	**TAPS Tl Valdez**	**2.27**	**140**		Pn	14 41 49.2	+0.4
SLKM	**Skilak Lake**	**2.38**	**190**		Pn	14 41 51.5	+1.2
PS12	**TAPS Pump St12**	**2.42**	**123**		Pn	14 41 51.6	+0.8
POKR	**Poker Plat Res**	**2.44**	**20**	P	Pn	14 41 52.3	+1.3
	baz=202,SNR=140						
POKR				S	Sn	14 42 19.9	-0.1
	baz=202						
POKR	**Poker Plat Res**	**2.44**	**20**		Pn	14 41 52.3	+1.3
FID	**Port Fidalgo**	**2.52**	**145**		Pn	14 41 52.4	+0.2
PS07	**TAPS Pump Stn7**	**2.52**	**11**		Pn	14 41 53.6	+1.5
DOT	**Dot Lake**	**2.54**	**69**		Pn	14 41 53.6	+1.2
MENT	**Mentasta**	**2.60**	**86**		Pn	14 41 55.2	+2.1
SCRK	**Sand Creek**	**2.68**	**63**		Pn	14 41 55.5	+1.1
SEW	**Seward**	**2.75**	**181**		Pn	14 41 56.5	+1.3
DFR	**Drift River**	**2.76**	**216**		Pn	14 41 56.2	+0.8
RDJH	**Redoubt Jeurge**	**2.79**	**217**		Pn	14 41 57.1	+1.3
HIN	**Hinchinbrook I**	**2.82**	**149**		Pn	14 41 56.5	+0.4
RSO	**Redoubt South**	**2.88**	**215**		Pn	14 41 58.7	+1.5
RDWB	**Redoubt West**	**2.88**	**216**		Pn	14 41 58.6	+1.5
EYAK	**Cordova Ski Ar**	**2.89**	**141**		Pn	14 41 57.6	+0.7
RED	**Redoubt Volcan**	**2.92**	**215**		Pn	14 41 59.3	+1.7
GLB	**Gilahina Butte**	**2.98**	**116**		Pn	14 41 59.1	+0.8
PS06	**TAPS Pump Stn6**	**3.02**	**357**		Pn	14 42 00.1	+1.3
TTA	**Tatalina**	**3.04**	**274**		Pn	14 41 59.8	+0.8
TT01	**Tatalina**	**3.04**	**274**		Pn	14 41 59.4	+0.3
PRP	**Porcupine Dome**	**3.17**	**31**		Pn	14 42 02.3	+1.4
BRLK	**Bradley Lake**	**3.18**	**194**		Pn	14 42 02.3	+1.3
BRSE	**Bradley Lake S**	**3.19**	**192**		Pn	14 42 02.1	+1.0
VRDI	**Verde Repeater**	**3.23**	**118**		Pn	14 42 02.5	+0.6
ILW	**Iliamna West**	**3.33**	**214**		Pn	14 42 04.8	+1.7
IVE	**Iliamna Volcan**	**3.33**	**213**		Pn	14 42 04.6	+1.4
RAGM	**Ragged Mountai**	**3.34**	**136**		Pn	14 42 04.2	+1.0
HOM	**Homer**	**3.38**	**200**		Pn	14 42 05.6	+1.9
ILS	**Iliamna Low So**	**3.40**	**213**		Pn	14 42 05.5	+1.5
SVW2	**Sparrevohn**	**3.41**	**242**		Pn	14 42 05.0	+0.9
CNPM	**China Poot**	**3.45**	**196**		Pn	14 42 05.8	+1.2
BC03		**3.48**	**83**		Pn	14 42 06.2	+1.2
BERG	**Berg Lake**	**3.67**	**130**		Pn	14 42 08.5	+0.9
IM03		**3.67**	**331**		Pn	14 42 08.7	+1.2
MID	**Middleton Isla**	**3.74**	**155**		Pn	14 42 09.9	+1.4
BALM	**Baldy**	**3.79**	**116**		Pn	14 42 09.8	+0.5
KHIT	**Khitrov Hills**	**3.79**	**127**		Pn	14 42 10.8	+1.4
KIAG	**Kiagna River**	**3.85**	**117**		Pn	14 42 10.4	+0.3
GRIN	**Grindle Hills**	**3.88**	**129**		Pn	14 42 11.6	+1.2
WAX	**Waxell Ridge**	**3.94**	**125**		Pn	14 42 12.2	+0.9
BVCY	**Beaver Creek**	**3.96**	**93**		Pn	14 42 13.3	+1.8
AU22	**Augustine Moun**	**3.99**	**211**		Pn	14 42 13.6	+1.7
BGLC	**Bering Glacier**	**4.01**	**130**		Pn	14 42 13.5	+1.4
AUP	**Augustine Pinn**	**4.01**	**211**		Pn	14 42 14.1	+1.9
AUH	**Augustine H**	**4.01**	**211**		Pn	14 42 14.0	+1.7
AUW	**Augustine West**	**4.01**	**211**		Pn	14 42 14.1	+1.9
PS05	**TAPS Pump Stn5**	**4.02**	**353**		Pn	14 42 14.4	+2.1
AUJK	**Augustine Jueg**	**4.02**	**211**		Pn	14 42 13.8	+1.6
BARN	**Barnard Glacie**	**4.07**	**113**		Pn	14 42 14.3	+1.2
KULT	**Kultieth River**	**4.12**	**126**		Pn	14 42 14.7	+0.9
YUK2	**White River**	**4.13**	**101**		Pn	14 42 15.5	+1.6
EGAK	**Eagle**	**4.13**	**58**		Pn	14 42 15.0	+1.2
FYU	**Fort Yukon**	**4.14**	**24**		Pn	14 42 15.5	+1.7
YUK1	**Sand Pete Hill**	**4.17**	**96**		Pn	14 42 16.3	+1.8
YUK3	**Moose Creek**	**4.30**	**101**		Pn	14 42 18.0	+1.6
COLD	**Coldfoot**	**4.41**	**356**		Pn	14 42 19.6	+2.0
YAH	**Yahtse**	**4.42**	**121**		Pn	14 42 18.1	+0.2
MESA	**MESA**	**4.46**	**124**		Pn	14 42 19.0	+0.6
RKAV	**Rock Avalanche**	**4.62**	**120**		Pn	14 42 21.1	+0.5
DAWY	**Dawson**	**4.65**	**70**		Pn	14 42 22.0	+1.1
CHX	**Chaix Hills**	**4.85**	**121**		Pn	14 42 24.5	+0.8
BM03	**Burnt Mountain**	**5.01**	**22**		Pn	14 42 27.1	+1.2
KAHC	**Katmai Hardscr**	**5.04**	**216**		Pn	14 42 27.6	+1.4
KAHG	**Katmai Hook Gl**	**5.05**	**212**		Pn	14 42 27.9	+1.4
PCA	**Pinnacle**	**5.17**	**118**		Pn	14 42 28.5	+0.4
YUK4	**Talbot Arm**	**5.27**	**102**		Pn	14 42 30.9	+1.4
KDAK	**Kodiak Island**	**5.33**	**199**	P	Pn	14 42 28.9	-1.2
	3.7nm,0.3s,baz=54,slow=12,SNR=151						
KDAK				S	Sn	14 43 24.9	-5.1
	17nm,0.3s,baz=287,slow=22,SNR=10						
KDAK				LR	LR	14 44 49.2	
	comp=Z,38nm,21.1s,baz=14,slow=41						
KDAK	**Kodiak Island**	**5.33**	**199**		Pn	14 42 30.1	+0.1
KCG	**Knife Ck. Glac**	**5.36**	**214**		Pn	14 42 31.7	+1.1
KABU	**Katmai Buttres**	**5.43**	**215**		Pn	14 42 33.0	+1.3
YUK6	**Outpost Mounta**	**5.55**	**105**		Pn	14 42 34.1	+0.8
ANCK	**Angle Creek**	**5.55**	**216**		Pn	14 42 34.4	+1.2
CAHL	**Cahill**	**5.63**	**214**		Pn	14 42 35.6	+1.3
YUK5	**Granite Creek**	**5.70**	**102**		Pn	14 42 36.1	+0.8
PNL	**Peninsula**	**5.78**	**119**		Pn	14 42 36.3	+0.1
TOLK	**Toolik Lake Re**	**5.82**	**359**	P	Pn	14 42 39.4	+2.7
	baz=179,SNR=38						
TOLK				S	Sn	14 43 42.7	+0.7
	baz=179

HHSZ	**Highcliff Hill**	**2.96**	**80**	P		Pn	14 42 04.2	-0.3
ODZ	**Otahua Downs**	**3.29**	**66**	P		Pn	14 42 06.2	-2.7
LBZ	**Lake Benmore**	**3.38**	**53**	P		Pn	14 42 07.4	-2.8
FOZ	**Fox Glacier**	**3.81**	**40**	P		Pn	14 42 15.5	-0.5
RPZ	**Rata Peaks**	**4.29**	**51**	P		Pn	14 42 19.0	-3.8
OXZ	**Oxford**	**5.08**	**54**	P		Pn	14 42 31.9	-1.7
MQZ	**McQueen's Vall**	**5.21**	**60**	P		Pn	14 42 34.1	-1.2
LTZ	**Lake Taylor**	**5.58**	**50**	P		Pn	14 42 37.7	-2.7

IDC ***05*** *14:47:29.0±1.0, 0.°97N×128.°51E, h0km, mb3.8/6, mb1 4.0/8, mb1mx3.7/35, mbtmp3.9/8, ML3.8/2, MS3.2/5, Ms1 3.1/5, ms1mx2.8/38, Error ellipse: s-maj=39.2km s-min=16.2km az=70.0*

DJA ***05*** *14:47:30.0±0.4, 1.°N±4.°×12.°9E±.°, h10km, M4.4/11, mb4.8/7, mB5.0/2, MLv4.2/11, Mw(mB)4.3/2*

NEIC ***05*** *14:47:33.9±1.7, 0.°9N±0.°1×128.°48E±0.°04, h37km±11km, mb4.0/6, Error ellipse: s-maj=15.9km s-min=5.1km az=181.0*

ISC 05 14:47:32.8±0.7, 0.°84N±0.°06×128.°51E±0.°06, h22km, n35, σ1§47/35, mb3.9/9, 1C, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.15**	**267**	P	**Pn**	**14 47 51.6**	**-2.0**
TNTI				S	**Sn**	**14 48 09.9**	**+1.3**
TNTI	**Ternate**	**1.15**	**267**		**Pn**	**14 47 51.7**	**-1.8**
LBMI	**Labuha**	**1.78**	**215**	P	**Pb**	**14 48 02.5**	**-2.3**
LBMI				S	**Sb**	**14 48 29.0**	**+2.3**
SIJI	**Sorong**	**3.24**	**122**	Pn	**Pn**	**14 48 21.4**	**-0.9**
	26nm,0.3s,baz=187,slow=20,SNR=57						
SIJI				Sn	**Sn**	**14 49 01.3**	**+1.0**
	8.7nm,0.3s,baz=192,slow=23,SNR=5.7						
SIJI				LR	LR	14 49 35.9	
	comp=Z,157nm,18.8s,baz=280,slow=38						
NLAI	**Namlea**	**4.29**	**199**	P	**Pn**	**14 48 37.7**	**+0.9**
KMSI	**Cibinong**	**4.54**	**267**	P	**Pn**	**14 48 41.7**	**+1.5**
FAKI	**Fak Fak**	**5.28**	**135**	P	**Pn**	**14 48 50.5**	**0.0**
	0.2nm40nm,1.0s						
FAKI	**Fak Fak**	**5.28**	**135**		**Pn**	**14 48 51.5**	**+1.0**
DDMP	**Don Marcelino,**	**5.93**	**332**	*eP*	**Pn**	**14 48 58.6**	**-0.8**
LUWI	**Luwuk**	**6.04**	**252**	P	**Pn**	**14 49 01.1**	**+0.3**
	0.3nm70nm,0.7s						
LUWI	**Luwuk**	**6.04**	**252**		**Pn**	**14 49 00.4**	**-0.5**
MRSI	**Marisa**	**6.58**	**267**	P	**Pn**	**14 49 08.0**	**-0.3**
	0.2nm47nm,0.6s						
SKMP	**Bagumbayan, Su**	**6.89**	**325**	*eP*	**Pn**	**14 49 11.2**	**-1.4**
KCP	**Kidapawan**	**7.01**	**331⇑**	*eP*	**Pn**	**14 49 14.4**	**+0.1**
KCP				*i* S	**Sn**	**14 50 38.6**	**+5.0**
APSI	**Ampana**	**7.08**	**256**	P	Pb	14 49 24.8	-10
BUKP	**Musuan**	**7.79**	**334**	*eP*	**Pn**	**14 49 25.8**	**+0.8**
MPSI	**Mapaga**	**8.63**	**267**	P	**Pn**	**14 49 36.4**	**0.0**
	12nm,0.7s						
PAGZ	**Pagadian**	**8.64**	**324**	*eP*	**Pn**	**14 49 36.0**	**-0.6**
TTSI	**Tana Toraja**	**9.51**	**246**	P	**Pn**	**14 49 49.2**	**+0.7**
	712nm79nm,0.7s						
BNSI	**Bone**	**9.88**	**238**	P	**Pn**	**14 49 54.4**	**+0.8**
	24nm,0.7s						
SPSI	**Sidrap Palu**	**9.96**	**241**	P	**Pn**	**14 49 55.3**	**+0.6**
BATI	**Baumata**	**11.99**	**204**	LR	LR	14 56 53.3	
	comp=Z,143nm,19.1s,baz=132,slow=47						
FITZ	**Fitzroy Crossi**	**19.03**	**188**	P	**Pn**	**14 51 55.3**	**+1.0**
	0.1nm,0.3s,baz=10,slow=11,SNR=1.4						
FITZ				LR	LR	15 00 24.0	
	comp=Z,74nm,18.6s,baz=292,slow=40						
FITZ	**Fitzroy Crossi**	**19.03**	**188**	IAmb	IAmb	14 52 02.2	
	comp=Z,12nm,1.3s						
WB0	**Warramunga Arr**	**21.28**	**165**	P	**P**	**14 52 18.8**	**+0.8**
WB0				IAmb	IAmb	14 52 37.1	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**21.43**	**165**	P	**P**	**14 52 19.8**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=344,slow=11,SNR=14						
WB2	**Warramunga Arr**	**21.43**	**165**	P	**P**	**14 52 20.4**	**+0.8**
WB2				IAmb	IAmb	14 52 25.8	
	comp=Z,8.5nm,1.0s						
WR0	**Warramunga Arr**	**21.50**	**164**	P	**P**	**14 52 20.8**	**+0.5**
AS31	**Alice Springs**	**24.92**	**168**	P	**P**	**14 52 53.0**	**-1.5**
AS31				IAmb	IAmb	14 53 05.5	
	comp=Z,2.1nm,0.7s						
ASAR	**Alice Springs**	**24.92**	**168**	P	**P**	**14 52 55.7**	**+1.2**
	comp=Z,0.7nm,0.4s,baz=356,slow=8.3,SNR=24						
STKA	**Stephens Creek**	**34.82**	**160**	P	**P**	**14 54 22.4**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=352,slow=15,SNR=3.8						
STKA				LR	LR	15 11 51.2	
	comp=Z,68nm,19.7s,baz=220,slow=42						
STKA	**Stephens Creek**	**34.82**	**160**	IAmb	IAmb	14 54 30.9	
	comp=Z,0.6nm,0.8s						
MJAR	**Matsushiro Arr**	**36.64**	**13**	P	**P**	**14 54 36.9**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=187,slow=9.3,SNR=5.5						
MJAR				LR	LR	15 08 51.4	
	comp=Z,19nm,21.1s,baz=125,slow=35						
SONM	**Songino Array**	**50.59**	**341**	P	**P**	**14 56 29.9**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=148,slow=8.5,SNR=2.4						
MKAR	**Makanchi Array**	**60.93**	**325**	P	**P**	**14 57 41.7**	**-2.5**
	comp=Z,0.6nm,0.4s,baz=119,slow=8.1,SNR=8.9						

NIED ***05*** *15:07:00, 38.°70N×141.°70E, h44km, Mw3.7 Best double couple: M₀3.51000×10¹⁴ NP1:φ=253.00000°, δ=84.00000°, λ=-20.00000°. NP2:φ=345.00000°, δ=70.00000°, λ=-174.00000°.*

NEIC ***05*** *15:07:34.9±1.8, 38.°65N±0.°07×141.°9E±0.°1, h58km±5km, mb4.3/3, Error ellipse: s-maj=17.4km s-min=8.1km az=108.0*

JMA ***05*** *15:07:35.2, 38.°69N×141.°65E, h55km±1km, M3.7*

JMA Felt I J1.

IDC ***05*** *15:07:36.1±2.4, 38.°67N×141.°70E, h65km±21km, mb3.3/5, mb1 3.6/10, mb1mx3.3/43, mbtmp3.8/10, Error ellipse: s-maj=29.0km s-min=16.9km az=89.0*

ISC 05 15:07:35.1±0.8, 38.°69N±0.°04×141.°70E±0.°07, h51km±6km, n33, σ1§29/49, mb3.9/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKMT	**Kesennumamotoy**	**0.22**	**305**	P	**Pn**	**15 07 44.1**	**+0.4**
JKMT				S	**Sn**	**15 07 50.1**	**+0.3**
JIO	**Ouri**	**0.36**	**230**	P	**Pn**	**15 07 45.1**	**+0.2**
JIO				S	**Sn**	**15 07 51.7**	**-0.2**
OFUJ	**Ofunato**	**0.39**	**356**	P	**Pn**	**15 07 45.6**	**+0.3**
OFUJ				S	**Sn**	**15 07 52.8**	**+0.2**
JIKH	**Ishinomakikobu**	**0.42**	**206**	P	**Pn**	**15 07 45.7**	**+0.2**
JIKH				S	**Sn**	**15 07 52.9**	**-0.1**
JMK	**Ichinoseki**	**0.46**	**305**	P	**Pn**	**15 07 46.1**	**+0.1**
JMK				S	**Sn**	**15 07 53.7**	**-0.1**
JOM	**Ohasama**	**0.85**	**338**	P	**Pn**	**15 07 50.9**	**+0.1**
JOM				S	**Sn**	**15 08 02.1**	**-0.2**
JOU	**Okura**	**0.87**	**249**	P	**Pn**	**15 07 50.9**	**-0.3**
JOU				S	**Sn**	**15 08 02.3**	**-0.7**
JYK	**Kaneyama**	**1.07**	**283**	P	**Pn**	**15 07 53.6**	**-0.2**
JYK				*eS*	**Sn**	**15 08 07.3**	**-0.4**
JMM	**Marumori**	**1.09**	**221**	P	**Pn**	**15 07 53.3**	**-0.7**
JMM				S	**Sn**	**15 08 06.9**	**-1.1**
JRG	**Rokugo**	**1.09**	**311**	P	**Pn**	**15 07 53.8**	**-0.3**
JRG				*eS*	**Sn**	**15 08 08.2**	**+0.1**
JYS	**Shirataka**	**1.37**	**251**	P	**Pn**	**15 07 57.8**	**0.0**
JYS				S	**Sn**	**15 08 14.9**	**+0.1**
MJAR	**Matsushiro Arr**	**3.50**	**233**	P	**Pn**	**15 08 28.7**	**+1.7**
	1.4nm,0.3s,baz=41,slow=13,SNR=87						
MAJO	**Matsushiro**	**3.50**	**233**		**Pn**	**15 08 28.4**	**+1.3**
MAT	**Matsushiro**	**3.50**	**233**	P	**Pn**	**15 08 28.5**	**+1.4**
MAT				*eS*	**Sn**	**15 09 12.8**	**+5.5**
MJB9	**Matsu-Tunnel**	**3.50**	**233**		**Pn**	**15 08 28.5**	**+1.4**
ERM	**Erimo**	**3.50**	**18**	Pn	**Pn**	**15 08 26.9**	**-0.2**
INU	**Inuyama**	**5.01**	**230**		**Pn**	**15 08 50.1**	**+2.4**
ASAJ	**Asahikawa**	**5.47**	**7**	P	**Pn**	**15 08 54.1**	**+0.2**
	2.0nm,0.3s,baz=216,slow=10,SNR=28						
ASAJ				S	**Sn**	**15 09 54.0**	**-1.4**
	baz=101,slow=30,SNR=1.0						
JKA	**Kamikawa-asahi**	**5.47**	**7**		**Pn**	**15 08 54.1**	**+0.2**
JKA					**Sn**	**15 09 54.0**	**-1.4**
JKA	**Kamikawa-asahi**	**5.47**	**7**	Pn	**Pn**	**15 08 54.0**	**+0.1**
JHJ	**Hachijo jima 2**	**5.77**	**196**	P	**Pn**	**15 08 58.1**	**0.0**
	17nm,0.3s,baz=325,slow=24,SNR=9.0						
JHJ				S	**Sn**	**15 09 59.5**	**-3.5**
	8.4nm,0.3s,baz=25,slow=13,SNR=1.9						
JHJ2	**Mitsune**	**5.77**	**196**	Pn	**Pn**	**15 08 57.9**	**-0.2**
USA0B	**Ussuriysk Arra**	**9.13**	**310**	Pn	Pn	15 09 47.6	+3.4
USRK	**Ussuriysk Ar.**	**9.13**	**310**	P	**Pn**	**15 09 45.6**	**+1.5**
	baz=124,slow=13,SNR=10						
KSRS	**Korea Array**	**10.93**	**268**	P	**Pn**	**15 10 10.2**	**+1.5**
	0.2nm,0.3s,baz=72,slow=13,SNR=8.3						
ZALV	**Zalesovo Beam**	**40.99**	**311**	P	**P**	**15 15 12.1**	**-0.6**
	1.5nm,0.6s,baz=93,slow=7.4,SNR=5.7						
MKAR	**Makanchi Array**	**43.45**	**301**	P	**P**	**15 15 32.2**	**-0.7**
	2.3nm,0.9s,baz=90,slow=8.5,SNR=10						
MAKZ	**Makanchi**	**43.66**	**301**	P	**P**	**15 15 34.0**	**-0.6**
MAKZ				IAmb	IAmb	15 15 36.0	
	comp=Z,2.5nm,0.9s						
KURK	**Kurchatov**	**45.11**	**307**	P	**P**	**15 15 45.2**	**-0.8**
KURK				IAmb	IAmb	15 15 46.0	
	comp=Z,4.3nm,0.8s						
ILAR	**Eielson Array**	**47.98**	**33**	P	**P**	**15 16 08.8**	**+0.4**
	comp=Z,0.1nm,0.6s,baz=289,slow=5.6,SNR=1.9						
ILAR				pP	**pP**	**15 16 22.7**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=267,slow=6.3,SNR=4.3						
WB0	**Warramunga Arr**	**58.55**	**188**	P	**P**	**15 17 25.2**	**-1.2**
WB0				IAmb	IAmb	15 17 45.1	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**58.73**	**188**	P	**P**	**15 17 26.5**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=5.6,slow=6.9,SNR=5.9						
WRA				pP	**pP**	**15 17 41.1**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=1.0,slow=7.6,SNR=5.0						
ASAR	**Alice Springs**	**62.45**	**188**	P	**P**	**15 17 52.5**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=356,slow=4.6,SNR=10						

INET ***05*** *15:15:12.1, 11.°91N×88.°98W, h24km, ML3.3*

SNET ***05*** *15:15:14.1±1.1, 12.°08N×88.°90W, h29km±58km, ML3.6*

UCR ***05*** *15:15:14.4±1.2, 12.°09N×88.°89W, h62km±118km, ML3.6*

ISC 05 15:15:13.4±4.0, 12.°0N±0.°2×88.°89W±0.°09, h41km, n36, σ0§36/44, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JUCU	**Jucuar¡n**	**1.41**	**26**	*eP*	**Pn**	**15 15 37.0**	**+0.3**
JUCU	**Jucuar¡n**	**1.41**	**26**	*eP*	**Pn**	**15 15 37.0**	**+0.3**
COEB	**Comit de Eme**	**1.55**	**13**	*eP*	**Pn**	**15 15 38.7**	**+0.1**
COEB	**Comit de Eme**	**1.55**	**13**	*eP*	**Pn**	**15 15 38.7**	**+0.1**
LCY	**Lacayo**	**1.55**	**22**	*eP*	**Pn**	**15 15 39.0**	**+0.4**
LCY	**Lacayo**	**1.55**	**22**	*eP*	**Pn**	**15 15 39.0**	**+0.4**
TECA	**Tecapa**	**1.55**	**14**	*eP*	**Pn**	**15 15 38.8**	**+0.1**
TECA	**Tecapa**	**1.55**	**14**	*eP*	**Pn**	**15 15 38.8**	**+0.1**
PACA	**Pacayal**	**1.58**	**21**	*eP*	**Pn**	**15 15 39.0**	**+0.3**
PACA	**Pacayal**	**1.58**	**21**	*eP*	**Pn**	**15 15 39.4**	**+0.3**
BLLM	**Bellamira**	**1.58**	**24**	*eP*	**Pn**	**15 15 39.2**	**+0.1**
BLLM	**Bellamira**	**1.58**	**24**	*eP*	**Pn**	**15 15 39.2**	**+0.1**
LFRS	**El Faro**	**1.64**	**354**	*eP*	**Pn**	**15 15 39.6**	**-0.3**
LFRS	**El Faro**	**1.64**	**354**	*eP*	**Pn**	**15 15 39.6**	**-0.3**
LCND	**La Caada**	**1.64**	**37**	*eP*	**Pn**	**15 15 39.6**	**-0.2**
LCND				IAML		15 16 10.0	
	comp=Z,412nm,0.4s						
LCND	**La Caada**	**1.64**	**37**	*eP*	**Pn**	**15 15 39.6**	**-0.2**
LCND				IAML		15 16 10.0	
	comp=Z,412nm,0.4s						
PAVA	**Las Pavas**	**1.72**	**359**	*eP*	**Pn**	**15 15 40.8**	**-0.2**
PAVA				*eS*	**Sn**	**15 16 01.4**	**-0.5**
PAVA	**Las Pavas**	**1.72**	**359**	*eP*	**Pn**	**15 15 40.8**	**-0.2**
PAVA				*eS*	**Sn**	**15 16 01.4**	**-0.5**
JAYA	**Jayaque - finc**	**1.75**	**342**	*eP*	**Pn**	**15 15 41.4**	**0.0**
JAYA				*eS*	**Sn**	**15 16 02.7**	**+0.2**
JAYA				IAML		15 16 03.7	
	comp=Z,1µm,0.2s						
JAYA	**Jayaque - finc**	**1.75**	**342**	*eP*	**Pn**	**15 15 41.4**	**0.0**
JAYA				*eS*	**Sn**	**15 16 02.7**	**+0.2**
JAYA				IAML		15 16 03.7	
	comp=Z,1µm,0.2s						
LBRS	**Las Brisas**	**1.75**	**355**	*eP*	**Pn**	**15 15 41.9**	**+0.5**
LBRS	**Las Brisas**	**1.75**	**355**	*eP*	**Pn**	**15 15 41.9**	**+0.5**
BOQS	**Boqueron**	**1.78**	**348**	*eP*	**Pn**	**15 15 42.2**	**+0.3**
BOQS	**Boqueron**	**1.78**	**348**	*eP*	**Pn**	**15 15 42.2**	**+0.3**
CEVE	**Cerro Verde**	**1.97**	**339**	*eP*	**Pn**	**15 15 44.1**	**-0.4**
CEVE	**Cerro Verde**	**1.97**	**339**	*eP*	**Pn**	**15 15 44.1**	**-0.4**
SBLS	**San Blas**	**1.98**	**339**	*eP*	**Pn**	**15 15 45.0**	**+0.3**
SBLS	**San Blas**	**1.98**	**339**	*eP*	**Pn**	**15 15 45.0**	**+0.3**
SNJE	**San Jose**	**2.00**	**340**	*eP*	**Pn**	**15 15 45.1**	**+0.2**
SNJE	**San Jose**	**2.00**	**340**	*eP*	**Pn**	**15 15 45.1**	**+0.2**
TACO	**Tacachico**	**2.02**	**347**	*eP*	**Pn**	**15 15 45.4**	**+0.3**
TACO				*eS*	**Sn**	**15 16 09.7**	**+0.5**
TACO	**Tacachico**	**2.02**	**347**	*eP*	**Pn**	**15 15 45.4**	**+0.3**
TACO				*eS*	**Sn**	**15 16 09.7**	**+0.5**
RTR	**El Retiro**	**2.04**	**339**	*eP*	**Pn**	**15 15 45.9**	**+0.4**
RTR	**El Retiro**	**2.04**	**339**	*eP*	**Pn**	**15 15 45.9**	**+0.4**
NUBE	**Las Nubes**	**2.09**	**336**	*eP*	**Pn**	**15 15 46.3**	**+0.2**
NUBE				*eS*	**Sn**	**15 16 10.3**	**-0.8**
NUBE	**Las Nubes**	**2.09**	**336**	*eP*	**Pn**	**15 15 46.3**	**+0.2**
NUBE				*eS*	**Sn**	**15 16 10.3**	**-0.8**

NEIC ***05*** *15:24:16.5±2.0, 61.°15N±0.°02×140.°21W±0.°03, h2km±8km, Error ellipse: s-maj=2.3km s-min=1.9km az=152.0*

AEIC ***05*** *15:24:16±2.4, 61.°17N±0.°02×140.°25W±0.°04, h0km±6km, ML2.5, ML2.4(OTT), Error ellipse: s-maj=3.1km s-min=2.3km az=151.0*

PGC ***05*** *15:24:18.0±0.0, 61.°15N×140.°28W, h1km, ML2.4/11, 155km west of Haines Jct., Yt Southern Yukon Territory, Canada*

ISC 05 15:24:15.9±1.1, 61.°18N±0.°02×140.°25W±0.°02, h8km±10km, n75, σ1§28/103, Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YUK3	**Moose Creek**	**0.61**	**351**	P	**Pb**	**15 24 29.0**	**-0.1**
YUK3				S	**Sb**	**15 24 37.6**	**-0.2**
YUK3	**Moose Creek**	**0.61**	**351**		**Pb**	**15 24 28.9**	**-0.1**
YUK3					**Sb**	**15 24 38.0**	**+0.2**
YUK2	**White River**	**0.68**	**335**	P	**Pb**	**15 24 30.1**	**0.0**
YUK2				S	**Sb**	**15 24 40.0**	**+0.4**
YUK2	**White River**	**0.68**	**335**		**Pb**	**15 24 30.1**	**0.0**
YUK2					**Sb**	**15 24 40.1**	**+0.5**
BARN	**Barnard Glacie**	**0.69**	**261**		**Pg**	**15 24 29.6**	**+0.3**
BARN				Sg	**Sb**	**15 24 39.5**	**-0.7**
YUK4	**Talbot Arm**	**0.79**	**77**	P	**Pn**	**15 24 33.6**	**0.0**
YUK4	**Talbot Arm**	**0.79**	**77**		**Pn**	**15 24 33.6**	**0.0**
YUK6	**Outpost Mounta**	**0.95**	**103**	P	**Pb**	**15 24 34.8**	**+0.1**
YUK6				S	**Sb**	**15 24 47.7**	**+0.2**
YUK6	**Outpost Mounta**	**0.95**	**103**		**Pb**	**15 24 34.8**	**+0.1**
YUK1	**Sand Pete Hill**	**0.99**	**352**	P	**Pn**	**15 24 36.0**	**-0.3**
YUK1				S	**Sb**	**15 24 49.1**	**+0.4**
YUK1	**Sand Pete Hill**	**0.99**	**352**		**Pn**	**15 24 36.0**	**-0.3**
YUK1					**Sb**	**15 24 49.3**	**+0.6**
BALM	**Baldy**	**1.03**	**263**	P	**Pg**	**15 24 35.6**	**0.0**
BALM				S	**Sb**	**15 24 49.7**	**0.0**
BALM	**Baldy**	**1.03**	**263**		**Pg**	**15 24 35.8**	**+0.1**
BALM				Sg	**Sb**	**15 24 49.8**	**0.0**
RKAV	**Rock Avalanche**	**1.03**	**212**	P	**Pg**	**15 24 35.5**	**-0.2**
RKAV				S	**Sg**	**15 24 49.0**	**0.0**
RKAV	**Rock Avalanche**	**1.03**	**212**		**Pb**	**15 24 35.9**	**-0.2**
KIAG	**Kiagna River**	**1.06**	**257**	P	**Pg**	**15 24 36.2**	**0.0**
KIAG				S	**Sb**	**15 24 50.2**	**-0.4**
KIAG	**Kiagna River**	**1.06**	**257**		**Pg**	**15 24 36.0**	**-0.2**
PCA	**Pinnacle**	**1.08**	**180**	P	**Pn**	**15 24 37.5**	**0.0**
PCA				S	**Sn**	**15 24 51.8**	**-0.8**
PCA	**Pinnacle**	**1.08**	**180**		**Sn**	**15 24 52.1**	**-0.6**
PCA	**Pinnacle**	**1.08**	**180**		**Pn**	**15 24 37.2**	**-0.2**
YAH	**Yahtse**	**1.10**	**223**		**Pb**	**15 24 37.2**	**-0.1**
YAH				Sg	**Sb**	**15 24 51.9**	**+0.1**
YUK5	**Granite Creek**	**1.16**	**91**	P	**Pn**	**15 24 38.6**	**0.0**
YUK5				S	**Sg**	**15 24 53.3**	**0.0**
YUK5	**Granite Creek**	**1.16**	**91**		**Pb**	**15 24 37.7**	**-0.6**
YUK5					**Sn**	**15 24 54.3**	**-0.5**
CHX	**Chaix Hills**	**1.20**	**201**		**Pg**	**15 24 39.9**	**+1.1**
YUK7	**Dusty Glacier**	**1.22**	**121**	P	**Pg**	**15 24 39.7**	**+0.3**
YUK7				S	**Sn**	**15 24 56.0**	**-0.2**
YUK7	**Dusty Glacier**	**1.22**	**121**		**Pg**	**15 24 39.6**	**+0.3**
YUK7					**Sn**	**15 24 57.0**	**+0.8**
BVCY	**Beaver Creek**	**1.28**	**347**	P	**Pg**	**15 24 40.9**	**+0.5**
BVCY				S	**Sg**	**15 24 59.1**	**+2.1**
BVCY	**Beaver Creek**	**1.28**	**347**		**Pg**	**15 24 40.4**	**+0.2**
MESA	**MESA**	**1.30**	**221**	P	**Pg**	**15 24 41.7**	**+0.8**
MESA				S	**Sn**	**15 24 59.0**	**+0.6**
MESA	**MESA**	**1.30**	**221**		**Pg**	**15 24 41.7**	**+0.8**
MESA				Sn	**Sn**	**15 24 59.8**	**+1.4**
HYT	**Haines Junctio**	**1.38**	**104**	Pn	**Pb**	**15 24 42.1**	**-0.1**
HYT				Sg	**Sg**	**15 25 01.8**	**+1.4**
HYT	**Haines Junctio**	**1.38**	**104**		**Pb**	**15 24 42.0**	**-0.1**
WAX	**Waxell Ridge**	**1.47**	**241**		**Pb**	**15 24 43.3**	**-0.2**
KULT	**Kultieth River**	**1.53**	**234**		**Pg**	**15 24 45.0**	**-0.2**
VRDI	**Verde Repeater**	**1.55**	**273**		**Pb**	**15 24 44.8**	**-0.2**
PNL	**Peninsula**	**1.57**	**164**	Pn	**Pg**	**15 24 46.1**	**+0.1**
PNL				Sg	**Sg**	**15 25 07.1**	**+0.8**
PNL	**Peninsula**	**1.57**	**164**		**Pg**	**15 24 45.7**	**-0.3**
KHIT	**Khitrov Hills**	**1.64**	**245**		**Pb**	**15 24 46.8**	**+0.3**
YKU2	**Yakutat**	**1.69**	**170**	Pn	**Pg**	**15 24 49.8**	**+1.5**
GLIB	**Gilahina Butte**	**1.74**	**280**		**Pb**	**15 24 48.1**	**0.0**
GRIN	**Grindle Hills**	**1.75**	**241**		**Pb**	**15 24 48.6**	**+0.2**
BC03		**2.03**	**340**		**Pb**	**15 24 52.3**	**-0.7**
RAGM	**Ragged Mountai**	**2.31**	**252**		**Pb**	**15 24 58.2**	**+0.4**
DHAK	**Deception Hill**	**2.33**	**153**	Pn	**Pb**	**15 24 57.8**	**-0.3**
MENT	**Mentasta**	**2.41**	**319**		**Pn**	**15 24 57.3**	**+1.7**
PLBC	**Pleasant Camp**	**2.59**	**130**	Pg	**Pb**	**15 25 03.8**	**+1.3**
PLBC				Sg	**Sg**	**15 25 38.4**	**-0.6**
HARP	**HAARP**	**2.63**	**300**	Pn	**Pb**	**15 25 01.7**	**-1.6**
HARP	**HAARP**	**2.63**	**300**		**Pb**	**15 25 02.2**	**-1.2**
WHY	**Whitehorse**	**2.67**	**99**	Pn	**Pb**	**15 25 01.9**	**-2.2**
WHY				Sg	**Sg**	**15 25 40.4**	**-1.3**
WHY	**Whitehorse**	**2.67**	**99**		**Pn**	**15 24 59.4**	**0.0**
EYAK	**Cordova Ski Ar**	**2.76**	**259**		**Pn**	**15 25 02.4**	**+1.9**
DAWY	**Dawson**	**2.93**	**7**	Pn	**Pn**	**15 25 05.3**	**+2.5**
DAWY				Sg	**Sg**	**15 25 49.0**	**-0.8**
DAWY	**Dawson**	**2.93**	**7**		**Pn**	**15 25 05.1**	**+2.3**
SKAG	**Skagway**	**2.99**	**123**	Pn	**Pn**	**15 25 04.3**	**+0.7**
DOT	**Dot Lake**	**3.05**	**326**	Sg	**Sg**	**15 25 52.3**	**-1.5**
DOT	**Dot Lake**	**3.05**	**326**		**Pn**	**15 25 05.4**	**+0.9**
FID	**Port Fidalgo**	**3.07**	**265**		**Pn**	**15 25 06.1**	**+1.4**
JPK	**Jack Peak**	**3.08**	**271**		**Pb**	**15 25 07.9**	**-3.1**
HIN	**Hinchinbrook I**	**3.16**	**258**	Pn	**Pb**	**15 25 09.1**	**-3.2**
SCRK	**Sand Creek**	**3.30**	**330**		**Pn**	**15 25 09.8**	**+1.8**
RIDG	**Independent Ri**	**3.34**	**322**		**Pn**	**15 25 10.6**	**+2.1**
GLI	**Glacier Island**	**3.34**	**268**	Pn	**Pb**	**15 25 11.9**	**-3.6**
SCM	**Sheep Creek Mo**	**3.46**	**284**		**Pb**	**15 25 13.7**	**-3.7**
EGAK	**Eagle**	**3.64**	**354**		**Pn**	**15 25 13.4**	**+0.9**
BESE	**Bessie Mountai**	**3.77**	**131**	Pg	**Pb**	**15 25 24.0**	**+1.4**
BESE				Sg	**Sg**	**15 26 15.6**	**-1.1**
BESE	**Bessie Mountai**	**3.77**	**131**	Pn	**Pn**	**15 25 14.9**	**+0.6**
BESE					**Sg**	**15 26 12.6**	**-4.2**
DHY	**Denali Highway**	**3.85**	**303**		**Pn**	**15 25 16.8**	**+1.2**
SML	**Sawmill**	**3.93**	**283**		**Pn**	**15 25 17.9**	**+1.4**
KNK	**Knik Glacier**	**3.97**	**277**		**Pn**	**15 25 20.1**	**+3.1**
GHO	**Glory Hole Cre**	**4.20**	**282**	Pn	**Pn**	**15 25 22.9**	**+2.5**
HDA	**Harding Lake**	**4.47**	**319**		**Pn**	**15 25 23.5**	**-0.4**
RND	**Reindeer**	**4.60**	**303**		**Pn**	**15 25 26.4**	**+0.7**
RC01	**Rabbit Creek A**	**4.60**	**273**	Pn	**Pn**	**15 25 26.4**	**+0.7**
IL31		**4.71**	**323**		**Pn**	**15 25 29.0**	**+1.9**
INK	**Inuvik**	**7.71**	**19**	Sn	**Sn**	**15 27 33.5**	**-2.1**

ROM 05 15:47:29.9±0.1, 43.°425N±0.°002×12.°470E±0.°004, h7km, Md1.5/9, Error ellipse: s-maj=0.3km s-min=0.1km az=79.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATPI	**Pietralunga -**	**0.06**	**297**	P	Pg	15 47 31.8	+0.2
ATPI				S	Sg	15 47 33.0	+0.1
ATPI				END			
ATVO	**AVT- Monte Val**	**0.06**	**227**	P	Pg	15 47 31.9	+0.2
ATVO				S	Sg	15

UZB	**Uzynbulak** 50nm,0.4s	**1.54**	**331**	*eP*	**Pb**	**15 52 21.6**	**-0.4**
UZB				*eS*	**Sg**	**15 52 42.0**	**-0.7**
UZB	**Uzynbulak** 50nm,0.4s	**1.54**	**331**	P	**Pb**	**15 52 21.5**	**-0.4**
UZB				S	**Sg**	**15 52 42.1**	**-0.6**
PDGK	**Podgornoye** 11nm,0.3s	**1.58**	**346**	P	**Pb**	**15 52 22.1**	**-0.5**
PDGK				S	**Sg**	**15 52 43.3**	**-0.8**
PDGK	**Podgornoye** 8.5nm,0.3s	**1.58**	**346**	⇑Pn	**Pg**	**15 52 22.7**	**-0.9**
PDGK				⇑Sn	**Sg**	**15 52 43.3**	**-0.8**
KTMS	**Ketmen** 3.6nm,0.1s	**1.66**	**8**	⇓*i*P	**Pb**	**15 52 23.4**	**-0.7**
KTMS				*e*S	**Sb**	**15 52 45.1**	**0.0**
KTMS	**Ketmen** 3.6nm,0.1s	**1.66**	**8**	P	**Pb**	**15 52 23.4**	**-0.7**
KTMS				S	**Sg**	**15 52 45.3**	**-1.4**
TARG	**Taragay, Kyrgy** baz=69	**1.66**	**268**	⇑*i*P	**Pb**	**15 52 23.7**	**-0.6**
TARG				⇑*i*S	**Sg**	**15 52 45.8**	**-1.0**
SATY	**Saty** 8.9nm,0.1s	**1.74**	**317**	*e*P	**Pb**	**15 52 25.1**	**-0.2**
SATY				⇑*i*S	**Sg**	**15 52 48.2**	**-1.0**
SATY	**Saty** 8.9nm,0.1s	**1.74**	**317**	P	**Pb**	**15 52 25.0**	**-0.4**
SATY				S	**Sg**	**15 52 48.1**	**-1.0**
ANVS	**Anan'yevo** baz=2.0	**2.01**	**300**	⇑*i*P	**Pg**	**15 52 30.4**	**-1.4**
ANVS				⇑*i*S	**Sg**	**15 52 56.8**	**-1.0**
KDJ	**Kajisay** baz=81	**2.15**	**280**	⇑*i*P	**Pb**	**15 52 32.5**	**+0.1**
KDJ				⇑*i*S	**Sb**	**15 53 00.1**	**+0.9**
KURS	**Kuram** 9.1nm,0.6s	**2.17**	**322**	*e*P	**Pb**	**15 52 32.6**	**-0.2**
KURS				*e*S	**Sb**	**15 53 00.9**	**+1.2**
KURS	**Kuram** 9.1nm,0.6s	**2.17**	**322**	Pg	**Pb**	**15 52 32.6**	**-0.2**
KURS				Lg	Lg	15 53 00.9	
DJR	**Jarkent** 7.7nm,0.2s	**2.54**	**356**	*e*P	**Pb**	**15 52 37.7**	**-1.2**
DJR				*e*S	**Sb**	**15 53 09.7**	**-0.5**
DJR	**Jarkent** 7.7nm,0.2s	**2.54**	**356**	Pg	**Pb**	**15 52 37.7**	**-1.2**
DJR				Lg	Lg	15 53 09.7	
MNBS	**Baschi** 5.4nm,0.2s	**2.57**	**333**	*e*P	**Pb**	**15 52 39.3**	**-0.2**
MNBS				*e*S	**Sg**	**15 53 13.2**	**-2.6**
MNBS	**Baschi** 5.1nm,0.3s	**2.57**	**333**	Pg	**Pb**	**15 52 39.6**	**+0.1**
MNBS				Lg	Lg	15 53 13.2	
KOTS	**Kotyrbulak** 13nm,0.4s	**2.59**	**305**	*e*P	**Pb**	**15 52 39.9**	**+0.1**
KOTS				*e*S	**Sg**	**15 53 14.2**	**-2.3**
KOTS	**Kotyrbulak** 13nm,0.4s	**2.59**	**305**	Pg	**Pb**	**15 52 39.9**	**+0.1**
KOTS				Lg	Lg	15 53 14.1	
MDOK	**Medeo** 6.3nm,0.5s	**2.59**	**303**	*e*P	**Pb**	**15 52 39.7**	**-0.1**
MDOK				*e*S	**Sb**	**15 53 13.5**	**+1.7**
MDOK	**Medeo** 3.5nm,0.4s	**2.59**	**303**	⇑Pg	**Pb**	**15 52 39.5**	**-0.4**
MDOK				⇑Lg	Lg	15 53 14.6	
MDOK	**Medeo** 6.0nm,0.6s	**2.59**	**303**	Pg	**Pb**	**15 52 39.7**	**-0.1**
MDOK				Lg	Lg	15 53 13.5	
TNSS	**Tian-Shan** 9.3nm,0.3s	**2.59**	**299**	*e*P	**Pb**	**15 52 40.1**	**0.0**
TNSS				*e*S	**Sg**	**15 53 14.8**	**-1.9**
TNSS	**Tian-Shan** 9.3nm,0.6s	**2.59**	**299**	Pg	**Pb**	**15 52 40.1**	**0.0**
TNSS				Lg	Lg	15 53 14.8	
IZV	**Izvestkoviy** 10nm,0.4s	**2.81**	**297**	*e*P	**Pb**	**15 52 43.7**	**0.0**
IZV				*e*S	**Sb**	**15 53 20.0**	**+1.8**
IZV	**Izvestkoviy** 9.7nm,0.6s	**2.81**	**297**	Pg	**Pb**	**15 52 43.7**	**0.0**
IZV				Lg	Lg	15 53 20.0	
ULHL	**Ulahol** baz=81	**2.85**	**280**	⇑*i*P	**Pb**	**15 52 42.3**	**-2.1**
ULHL				⇑*i*S	**Sb**	**15 53 17.4**	**-2.1**
ARXS	**Arharly** 7.2nm,0.4s	**2.90**	**327**	*e*P	**Pb**	**15 52 45.4**	**+0.3**
ARXS				*e*S	**Sb**	**15 53 23.0**	**+2.3**
ARXS	**Arharly** 7.2nm,0.4s	**2.90**	**327**	Pg	**Pb**	**15 52 45.4**	**+0.3**
MTBS	**Maitube** 6.0nm,0.2s	**2.98**	**298**	*e*P	**Pb**	**15 52 46.9**	**+0.5**
MTBS				*e*S	**Sg**	**15 53 26.0**	**-2.8**
MTBS	**Maitube** 6.0nm,0.2s	**2.98**	**298**	Pg	**Pb**	**15 52 46.9**	**+0.5**
CHKK	**Chushkaly** 4.2nm,0.4s	**3.04**	**314**	*e*P	**Pb**	**15 52 48.5**	**+1.2**
CHKK				*e*S	**Sg**	**15 53 28.3**	**-2.4**
CHKK	**Chushkaly** 3.7nm,0.5s	**3.04**	**314**	Pg	**Pb**	**15 52 48.5**	**+1.2**
BOOM	**Boomskoye usch** baz=85	**3.12**	**284**	⇑*i*P	**Pb**	**15 52 45.8**	**-3.1**
BOOM				⇑*i*S	**Sb**	**15 53 23.3**	**-3.7**
KTBS	**Karatobe** 4.1nm,0.3s	**3.12**	**309**	*e*P	**Pb**	**15 52 49.5**	**+0.7**
KTBS				*e*S	**Sg**	**15 53 30.3**	**-3.1**
KTBS	**Karatobe** 4.4nm,0.4s	**3.12**	**309**	Pg	**Pb**	**15 52 49.3**	**+0.5**
KST	**Kastek** 6.2nm,0.5s	**3.25**	**294**	*e*P	**Pb**	**15 52 51.9**	**+0.7**
KST				*e*S	**Sg**	**15 53 34.5**	**-3.3**
KUU	**Kurty** 1.2nm,0.3s	**3.42**	**309**	*e*P	**Pb**	**15 52 54.7**	**+0.7**
KUU				*e*S	**Sb**	**15 53 38.8**	**+3.1**
DGS	**Degeres** 3.7nm,0.5s	**3.46**	**296**	*e*P	**Pb**	**15 52 53.6**	**-1.0**
DGS				*e*S	**Sb**	**15 53 37.2**	**+0.4**
DGS	**Degeres** 4.0nm,0.4s	**3.46**	**296**	Pg	**Pb**	**15 52 53.6**	**-1.0**
TKM2	**Tokmak 2** baz=91	**3.47**	**290**	⇓*e*P	**Pb**	**15 52 50.9**	**-4.0**
TKM2				⇓*i*S	**Sn**	**15 53 32.1**	**+3.4**
TKM2	**Tokmak 2** 0.7nm,0.3s	**3.47**	**290**	⇓Pn	**Pb**	**15 52 53.0**	**-1.9**
TKM2				⇑Lg	Lg	15 53 40.8	
KAPS	**Kapalarasan** 1.6nm,0.3s	**3.52**	**352**	*e*P	**Pb**	**15 52 55.4**	**-0.1**
KAPS				*e*S	**Sb**	**15 53 40.9**	**+2.5**
KAPS	**Kapalarasan** 2.9nm,0.3s	**3.52**	**352**	Pg	**Pb**	**15 52 55.5**	**-0.1**
AAK	**Ala-Archa** 0.5nm,0.3s	**4.19**	**283**	⇑Pg	**Pg**	**15 53 14.6**	**+1.1**
AAK				⇓Lg	Lg	15 54 03.8	
	2.5nm,0.7s						
ARLS	**Aral** baz=73	**4.26**	**273**	⇑*e*P	**Pn**	**15 53 01.4**	**+3.0**
ARLS				⇑*i*S	**Sn**	**15 53 50.5**	**+2.2**
MK31	**Makanchi Array** 0.2nm,0.2s,baz=201,slow=13,SNR=21	**5.25**	**17**	Pn	**Pn**	**15 53 13.6**	**+1.8**

*NNC **05** 15:53:17.0±0.3, 43.˚25N×78.˚64E, h0km, mb3.0, mpv3.3,*
Error ellipse: s-maj=3.6km s-min=2.0km az=0.0
*KRNET **05** 15:53:17.3±0.1, 43.˚25N×78.˚64E, h17km, mb2.9*
*SOME **05** 15:53:18.2, 43.˚27N×78.˚58E, h10km*

ISC 05 15:53:17.4±1.0, 43.˚26N±0.˚02×78.˚62E±0.˚01, h5km±9km, n59, σ0.96/114, 28C-26D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SATY	**Saty** 30nm,0.1s	**0.26**	**218**	⇑*i*P		**Pg**		**15 53 23.1**	**+0.6**
SATY				⇑*i*S		**Sg**		**15 53 26.7**	**+0.8**
SATY	**Saty** 30nm,0.1s	**0.26**	**218**	P		**Pg**		**15 53 23.1**	**+0.6**
SATY				S		**Sg**		**15 53 26.7**	**+0.8**
UZB	**Uzynbulak** baz=9.0	**0.31**	**111**	⇓*i*P		**Pg**		**15 53 23.7**	**+0.2**
UZB				⇑*i*S		**Sg**		**15 53 27.8**	**+0.1**
UZB	**Uzynbulak** 20nm,0.1s	**0.31**	**111**	⇓*i*P		**Pg**		**15 53 23.7**	**+0.2**
UZB				⇑*i*S		**Sg**		**15 53 27.8**	**+0.1**
UZB	**Uzynbulak** 20nm,0.1s	**0.31**	**111**	P		**Pg**		**15 53 23.7**	**+0.2**
UZB				S		**Sg**		**15 53 27.8**	**+0.1**
KURS	**Kuram** baz=5.0	**0.40**	**304**	⇓*i*P		**Pg**		**15 53 25.6**	**+0.4**
KURS				⇑*i*S		**Sg**		**15 53 31.1**	**+0.7**
KURS	**Kuram** 8.7nm,0.2s	**0.40**	**304**	⇓*i*P		**Pg**		**15 53 25.6**	**+0.4**
KURS				⇑*i*S		**Sg**		**15 53 31.1**	**+0.7**
KURS	**Kuram** 8.7nm,0.2s	**0.40**	**304**	P		**Pg**		**15 53 25.7**	**+0.4**
KURS				S		**Sg**		**15 53 31.1**	**+0.7**
SHLS	**Shalkode** baz=95	**0.62**	**99**	⇑*i*P		**Pn**		**15 53 34.8**	**+1.9**
SHLS				⇑*e*S		**Sn**		**15 53 46.9**	**+3.5**
SHLS	**Shalkode** 17nm,0.1s	**0.62**	**99**	⇑*i*P		**Pn**		**15 53 34.8**	**+1.9**
SHLS				⇑*e*S		**Sn**		**15 53 46.9**	**+3.5**
SHLS	**Shalkode** 17nm,0.1s	**0.62**	**99**	P		**Pn**		**15 53 34.8**	**+1.9**
SHLS				S		**Sn**		**15 53 46.9**	**+3.5**
PDGK	**Podgornoye** 11nm,0.1s	**0.64**	**84**	P		**Pg**		**15 53 29.2**	**-0.4**
PDGK				S		**Sg**		**15 53 37.5**	**-0.4**
PDGK	**Podgornoye** 3.4nm,0.2s	**0.64**	**84**	⇑P		**Pg**		**15 53 29.2**	**-0.4**
PDGK				⇑S		**Sg**		**15 53 37.0**	**-0.9**
PRZ	**Przheval'sk** baz=92	**0.80**	**192**	⇑*i*P		**Pg**		**15 53 32.2**	**-0.5**
PRZ				⇑*i*S		**Sg**		**15 53 42.6**	**-0.4**
MNBS	**Baschi** 22nm,0.1s	**0.83**	**349**	⇓*i*P		**Pg**		**15 53 33.5**	**+0.1**
MNBS				⇓*i*S		**Sg**		**15 53 44.7**	**+0.5**
MNBS	**Baschi** 22nm,0.1s	**0.83**	**349**	P		**Pg**		**15 53 33.5**	**+0.1**
MNBS				S		**Sg**		**15 53 44.7**	**+0.5**
ANVS	**Anan'yevo** baz=38	**0.85**	**236**	⇓*i*P		**Pg**		**15 53 33.1**	**-0.6**
ANVS				⇓*i*S		**Sg**		**15 53 44.1**	**-0.6**
KOTS	**Kotyrbulak** baz=70	**1.10**	**269**	⇓*i*P		**Pb**		**15 53 38.8**	**-0.3**
KOTS				⇓*i*S		**Sb**		**15 53 53.5**	**-0.3**
KOTS	**Kotyrbulak** 12nm,0.2s	**1.10**	**269**	⇓*i*P		**Pb**		**15 53 38.8**	**-0.3**
KOTS				⇓*i*S		**Sb**		**15 53 53.5**	**-0.3**
KOTS	**Kotyrbulak** 14nm,0.1s	**1.10**	**269**	P		**Pg**		**15 53 38.6**	**0.0**
KOTS				S		**Sb**		**15 53 53.4**	**-0.4**
ARXS	**Arharly** 18nm,0.1s	**1.11**	**329**	⇑*i*P		**Pb**		**15 53 38.4**	**-0.8**
ARXS				⇓*i*S		**Sg**		**15 53 53.0**	**-0.2**
ARXS	**Arharly** 18nm,0.1s	**1.11**	**329**	P		**Pb**		**15 53 38.4**	**-0.8**
ARXS				S		**Sg**		**15 53 52.9**	**-0.2**
MDOK	**Medeo** baz=67	**1.16**	**266**	⇑*i*P		**Pb**		**15 53 39.3**	**-0.6**
MDOK				⇓*i*S		**Sg**		**15 53 54.7**	**+0.1**
MDOK	**Medeo** 4.2nm,0.2s	**1.16**	**266**	⇑*i*P		**Pb**		**15 53 39.3**	**-0.6**
MDOK				⇓*i*S		**Sg**		**15 53 54.7**	**+0.1**
MDOK	**Medeo** 0.6nm,0.2s	**1.16**	**266**	⇑P		**Pb**		**15 53 38.8**	**-1.1**
MDOK				⇓S		**Sg**		**15 53 54.5**	**-0.1**
MDOK	**Medeo** 4.2nm,0.2s	**1.16**	**266**	Pg		**Pb**		**15 53 39.3**	**-0.6**
MDOK				Lg		Lg		15 53 54.7	
TNSS	**Tian-Shan** baz=61	**1.25**	**260**	*e*P		**Pn**		**15 53 40.9**	**-0.9**
TNSS				*e*S		**Sb**		**15 53 57.5**	**-0.6**
TNSS	**Tian-Shan** 5.7nm,0.3s	**1.25**	**260**	*e*P		**Pn**		**15 53 40.9**	**-0.9**
TNSS				*e*S		**Sb**		**15 53 57.5**	**-0.6**
TNSS	**Tian-Shan** 6.3nm,0.3s	**1.25**	**260**	P		**Pn**		**15 53 41.0**	**-0.8**
TNSS				S		**Sb**		**15 53 57.4**	**-0.8**
KTMS	**Ketmen** baz=80	**1.27**	**81**	*e*P		**Pn**		**15 53 40.9**	**-1.1**
KTMS				⇓*i*S		**Sb**		**15 53 57.1**	**-1.6**
KTMS	**Ketmen** 3.9nm,0.1s	**1.27**	**81**	*e*P		**Pn**		**15 53 40.9**	**-1.1**
KTMS				⇓*i*S		**Sb**		**15 53 57.0**	**-1.6**
KTMS	**Ketmen** 3.9nm,0.1s	**1.27**	**81**	P		**Pn**		**15 53 40.7**	**-1.2**
KTMS				S		**Sb**		**15 53 57.0**	**-1.6**
CHKK	**Chushkaly** baz=98	**1.33**	**297**	*e*P		**Pn**		**15 53 42.1**	**-0.4**
CHKK				*e*S		**Sb**		**15 53 59.3**	**-0.8**
CHKK	**Chushkaly** 5.9nm,0.3s	**1.33**	**297**	*e*P		**Pn**		**15 53 42.1**	**-0.4**
CHKK				*e*S		**Sb**		**15 53 59.3**	**-0.8**
CHKK	**Chushkaly** 3.0nm,0.3s	**1.33**	**297**	P		**Pn**		**15 53 42.2**	**-0.4**
CHKK				S		**Sb**		**15 53 59.4**	**-0.8**
DJR	**Jarkent** 17nm,0.1s	**1.36**	**38**	*e*P		**Pb**		**15 53 43.1**	**-0.4**
DJR				*e*S		**Sn**		**15 54 00.6**	**-0.9**
DJR	**Jarkent** 17nm,0.1s	**1.36**	**38**	P		**Pb**		**15 53 43.0**	**-0.4**
DJR				S		**Sn**		**15 54 00.7**	**-0.9**
KTBS	**Karatobe** 6.7nm,0.2s	**1.48**	**288**	⇑*e*P		**Pb**		**15 53 45.1**	**-0.4**
KTBS				⇑*i*S		**Sb**		**15 54 04.5**	**-0.1**
KTBS	**Karatobe** 6.7nm,0.2s	**1.48**	**288**	P		**Pb**		**15 53 45.1**	**-0.4**
KTBS				S		**Sb**		**15 54 04.5**	**-0.1**
IZV	**Izvestkoviy** baz=63	**1.49**	**262**	⇓*e*P		**Pb**		**15 53 45.6**	**0.0**
IZV				⇑*i*S		**Sg**		**15 54 05.4**	**+0.1**
IZV	**Izvestkoviy** 3.4nm,0.1s	**1.49**	**262**	⇓*e*P		**Pb**		**15 53 45.6**	**0.0**
IZV				⇑*i*S		**Sg**		**15 54 05.4**	**+0.1**
IZV	**Izvestkoviy** 2.1nm,0.1s	**1.49**	**262**	P		**Pb**		**15 53 45.6**	**0.0**
IZV				S		**Sg**		**15 54 05.3**	**+0.1**
KDJ	**Kajisay** baz=24	**1.55**	**224**	⇑*e*P		**Pb**		**15 53 45.8**	**-0.9**
KDJ				⇑*i*S		**Sb**		**15 54 06.1**	**-0.6**
MTBS	**Maitube** baz=67	**1.61**	**266**	*e*P		**Pb**		**15 53 47.5**	**-0.1**
MTBS				*e*S		**Sg**		**15 54 08.7**	**-0.4**
MTBS	**Maitube** 5.0nm,0.2s	**1.61**	**266**	*e*P		**Pb**		**15 53 47.5**	**-0.1**
MTBS				*e*S		**Sg**		**15 54 08.7**	**-0.4**
TARG	**Taragay, Kyrgy** baz=3.0	**1.65**	**202**	⇓*e*P		**Pb**		**15 53 47.4**	**-1.1**
TARG				⇓*i*S		**Sb**		**15 54 08.8**	**-0.9**
KUU	**Kurty** baz=92	**1.77**	**292**	*e*P		**Pb**		**15 53 50.1**	**-0.3**
KUU				*e*S		**Sb**		**15 54 13.1**	**+0.1**
KUU	**Kurty** 3.4nm,0.2s	**1.77**	**292**	*e*P		**Pb**		**15 53 50.0**	**-0.3**
KUU				*e*S		**Sb**		**15 54 13.1**	**+0.1**
KST	**Kastek** 5.8nm,0.3s	**1.96**	**264**	*e*P		**Pb**		**15 53 54.0**	**+0.4**
KST				*e*S		**Sg**		**15 54 19.6**	**-0.8**
ULHL	**Ulahol** baz=41	**2.03**	**241**	⇓*i*P		**Pb**		**15 53 53.8**	**-1.0**
ULHL				⇓*i*S		**Sb**		**15 54 19.4**	**-1.0**
DGS	**Degeres** 6.3nm,0.3s	**2.08**	**270**	*e*P		**Pb**		**15 53 55.8**	**+0.1**
DGS				*e*S		**Sb**		**15 54 22.7**	**+0.8**
DGS	**Degeres** 6.3nm,0.3s	**2.08**	**270**	Pg		**Pb**		**15 53 55.8**	**+0.1**
DGS				Lg		Lg		15 54 22.7	
KAPS	**Kapalarasan** 5.1nm,0.2s	**2.09**	**14**	*e*P		**Pb**		**15 53 56.2**	**+0.5**
KAPS				*e*S		**Sg**		**15 54 23.5**	**-1.0**
KAPS	**Kapalarasan** 5.1nm,0.3s	**2.09**	**14**	Pg		**Pb**		**15 53 56.3**	**+0.5**
KAPS				Lg		Lg		15 54 23.5	
BOOM	**Boomskoye usch** baz=50	**2.12**	**250**	⇑*i*P		**Pb**		**15 53 55.1**	**-1.2**
BOOM				⇑*i*S		**Sb**		**15 54 21.5**	**-1.5**
KRBS	**Karabastau** 3.4nm,0.3s	**2.19**	**282**	*e*P		**Pb**		**15 53 57.5**	**0.0**
KRBS				*e*S		**Sb**		**15 54 25.8**	**+0.9**
KRBS	**Karabastau** 3.4nm,0.3s	**2.19**	**282**	Pg		**Pb**		**15 53 57.5**	**0.0**
KRBS				Lg		Lg		15 54 25.8	
TKM2	**Tokmak 2** baz=63	**2.24**	**262**	⇑*e*P		**Pb**		**15 53 56.6**	**-1.9**
TKM2				⇑*i*S		**Sb**		**15 54 24.8**	**-1.8**
KBK	**Karagaybulak** baz=59	**2.77**	**259**	⇓*i*P		**Pn**		**15 54 03.6**	**+1.1**
KBK				⇓*i*S		**Sn**		**15 54 37.2**	**+0.9**
	baz=59								

VAO 05 16:02:38.3±0.2, 19.˚96S×44.˚07W, h0km, mb3.6, Brazil

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VAS01	**Vassouras-RJ**	**2.38**	**166**	*e*P			Pn	16 03 19.1	+0.4
VAS01				*e*S			Sn	16 03 48.8	+0.1
VAS01	**Vassouras-RJ**	**2.38**	**166**	*e*P			Pn	16 03 19.1	+0.4
VAS01				*e*S			Sn	16 03 48.8	+0.1
MAN01	**Angra dos Reis**	**2.89**	**178**	*e*P			Pn	16 03 25.8	+0.1
MAN01				*e*S			Sn	16 04 02.1	+0.8
MAN01	**Angra dos Reis**	**2.89**	**178**	*e*P			Pn	16 03 25.8	+0.1
MAN01				*e*S			Sn	16 04 02.1	+0.8
SJMB	**Sao Joao De Ma**	**2.99**	**66**	*e*P			Pn	16 03 27.6	+0.5
SJMB				*e*S			Sn	16 04 03.6	-0.1
SJMB	**Sao Joao De Ma**	**2.99**	**66**	*e*P			Pn	16 03 27.6	+0.5
SJMB				*e*S			Sn	16 04 03.6	-0.1
BSFB	**Barra de Sao F**	**3.24**	**70**	*e*P			Pn	16 03 29.1	-1.3
BSFB				*e*S			Sn	16 04 11.2	+1.4
BSFB	**Barra de Sao F**	**3.24**	**70**	*e*P			Pn	16 03 29.1	-1.3
BSFB				*e*S			Sn	16 04 11.2	+1.4
RIB01	**Linhares ES**	**3.52**	**80**	*e*P			Pn	16 03 34.7	+0.4
RIB01				*e*S			Sn	16 04 16.6	-0.1
RIB01	**Linhares ES**	**3.52**	**80**	*e*P			Pn	16 03 34.7	+0.4
RIB01				*e*S			Sn	16 04 16.6	-0.1
PARB	**Paraibuna**	**3.66**	**203**	*e*P			Pn	16 03 36.0	-0.3
PARB				*e*S			Sn	16 04 20.7	+0.4
PARB	**Paraibuna**	**3.66**	**203**	*e*P			Pn	16 03 36.0	-0.3
PARB				*e*S			Sn	16 04 20.7	+0.4
VAO	**Valinhos**	**4.06**	**221**	*e*S			Sn	16 04 30.9	+0.8
VAO	**Valinhos**	**4.06**	**221**	*e*S			Sn	16 04 30.9	+0.8
BB19B	**Bebedouro**	**4.33**	**254**	*e*S			Sn	16 04 37.0	+0.4
BB19B	**Bebedouro**	**4.33**	**254**	*e*S			Sn	16 04 37.0	+0.4
IPMB	**Ipameri, GO**	**4.39**	**296**	*e*P			Pn	16 03 46.4	+0.1
IPMB				*e*S			Sn	16 04 38.7	+0.5
IPMB	**Ipameri, GO**	**4.39**	**296**	*e*P			Pn	16 03 46.4	+0.1
IPMB				*e*S			Sn	16 04 38.7	+0.5
JANB	**Januaria**	**4.88**	**357**	*e*S			Sn	16 04 51.4	+1.1
JANB	**Januaria**	**4.88**	**357**	*e*S			Sn	16 04 51.4	+1.1
PET01	**Itanhaem-SP**	**5.24**	**214**	*e*P			Pn	16 03 57.6	-0.3
PET01	**Itanhaem-SP**	**5.24**	**214**	*e*P			Pn	16 03 57.6	-0.3
ITRB	**Iturama**	**5.93**	**271**	*e*P			Pn	16 04 07.3	-0.2
ITRB				*e*S			Sn	16 05 17.6	+1.4
ITRB	**Iturama**	**5.93**	**271**	*e*P			Pn	16 04 07.3	-0.2
ITRB				*e*S			Sn	16 05 17.6	+1.4
FRTB	**Fartura**	**6.12**	**236**	*e*P			Pn	16 04 09.7	-0.4
FRTB				*e*S			Sn	16 05 20.7	-0.3
FRTB	**Fartura**	**6.12**	**236**	*e*P			Pn	16 04 09.7	-0.4
FRTB				*e*S			Sn	16 05 20.7	-0.3
PCMB	**Pacaembu**	**6.93**	**255**	*e*P			Pn	16 04 21.2	0.0
PCMB				*e*S			Sn	16 05 40.9	0.0
PCMB	**Pacaembu**	**6.93**	**255**	*e*P			Pn	16 04 21.2	0.0
PCMB				*e*S			Sn	16 05 40.9	0.0
TIJ01	**Guaruva-PR**	**7.02**	**220**	*e*P			Pn	16 04 21.8	-0.8
TIJ01	**Guaruva-PR**	**7.02**	**220**	*e*P			Pn	16 04 21.8	-0.8
GDU01	**Guandu, BA**	**7.55**	**35**	*e*P			Pn	16 04 29.3	-0.4
GDU01				*e*S			Sn	16 05 56.0	0.0
GDU01	**Guandu, BA**	**7.55**	**35**	*e*P			Pn	16 04 29.3	-0.4
GDU01				*e*S			Sn	16 05 56.0	0.0
C2SB	**Chapadao do Su**	**8.37**	**277**	*e*S			Sn	16 06 17.2	+1.1
C2SB	**Chapadao do Su**	**8.37**	**277**	*e*S			Sn	16 06 17.2	+1.1
ARAG	**Araguaiana, MT**	**8.50**	**299**	*e*P			Pn	16 04 42.6	-0.2
ARAG				*e*S			Sn	16 06 19.1	-0.5
ARAG	**Araguaiana, MT**	**8.50**	**299**	*e*P			Pn	16 04 42.6	-0.2
ARAG				*e*S			Sn	16 06 19.1	-0.5
PTGB	**Pitanga**	**8.79**	**236**	*e*P			Pn	16 04 46.1	-0.7
PTGB				*e*S			Sn	16 06 26.4	-0.2
PTGB	**Pitanga**	**8.79**	**236**	*e*P			Pn	16 04 46.1	-0.7
PTGB				*e*S			Sn	16 06 26.4	-0.2
PEXB	**Peixe**	**8.80**	**332**	*e*P			Pn	16 04 46.6	-0.4
PEXB				*e*S			Sn	16 06 28.2	+1.2
PEXB	**Peixe**	**8.80**	**332**	*e*P			Pn	16 04 46.6	-0.4
PEXB				*e*S			Sn	16 06 28.2	+1.2

*IDC **05** 16:27:59.2±3.6, 49.˚44S×124.˚82E, h0km, mb3.5/3,*
mb1 3.8/3, mb1mx3.6/18, mbtmp3.6/3, MS3.4/4, Ms1 3.3/4,
ms1mx3.2/8, Error ellipse: s-maj=116.4km s-min=64.3km

az=106.0
*NEIC **05** 16:28:01.1±2.9, 49.79°S±0.09°×125.78°E±0.3, h10km±1km, mb4.3/10, Error ellipse: s-maj=34.6km s-min=11.3km az=289.0*

ISC 05 16:28:01.5±0.9, 49.7S±0.1×125.6E±0.2, h10km, n20, σ1s62/14, MS3.3/4, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**17.05**	**326**	T	T	16 49 25.4	
	baz=152,slow=74,SNR=7.7						
H01W2	**Cape Leeuwin H**	**17.05**	**326**	T	T	16 49 25.0	
	baz=152,slow=74,SNR=9.8						
H01W3	**Cape Leeuwin H**	**17.06**	**326**	T	T	16 49 33.4	
	baz=152,slow=74,SNR=7.9						
NWAO	**Narrogin (SRO)**	**17.90**	**336**	P	**P**	**16 32 13.2**	**+2.1**
NWAO				IAmb	IAmb	16 32 51.6	
	comp=Z,37nm,1.6s						
NWAO	**Narrogin (SRO)**	**17.90**	**336**	P	**P**	**16 32 13.2**	**+2.1**
NWAO				IAmb	IAmb	16 32 51.7	
	comp=Z,28nm,1.6s						
MCQ	**Macquarie Isla**	**20.89**	**116**	P	**P**	**16 32 44.2**	**+0.6**
STKA	**Stephens Creek**	**21.45**	**40**	P	**P**	**16 32 49.8**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=211,slow=18,SNR=3.1						
STKA	**Stephens Creek**	**21.45**	**40**	P	**P**	**16 32 49.2**	**-0.6**
CAN	**Canberra**	**22.31**	**59**	P	**P**	**16 33 02.4**	**+3.2**
CAN				IAmb	IAmb	16 33 18.4	
	comp=Z,20nm,1.3s						
ASAR	**Alice Springs**	**26.80**	**17**	P	**P**	**16 33 40.0**	**-1.8**
	comp=Z,0.7nm,0.5s,baz=192,slow=8.9,SNR=23						
ASAR				LR	LR	16 42 11.1	
	comp=Z,70nm,21.3s,baz=319,slow=32						
AS31	**Alice Springs**	**26.80**	**17**	P	**P**	**16 33 40.3**	**-1.5**
WRA	**Warramunga Arr**	**30.51**	**16**	P	**P**	**16 34 13.6**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=193,slow=8.1,SNR=2.3						
WB0	**Warramunga Arr**	**30.69**	**16**	P	**P**	**16 34 16.3**	**-0.1**
VNDA	**Vanda**	**31.08**	**166**	LR	LR	16 45 36.6	
	comp=Z,50nm,20.6s,baz=328,slow=34						
FITZ	**Fitzroy Crossi**	**31.54**	**0**	LR	LR	16 45 46.8	
	comp=Z,80nm,21.0s,baz=264,slow=34						
MAW	**Mawson**	**35.27**	**216**	LR	LR	16 45 50.9	
	comp=Z,60nm,19.1s,baz=58,slow=30						
COEN	**Coen**	**38.45**	**28**	P	**P**	**16 35 22.2**	**-1.3**
QSPA	**South Pole Qui**	**40.40**	**180**	P	**P**	**16 35 39.1**	**-0.4**
QSPA				IAmb	IAmb	16 36 09.8	
	comp=Z,9.0nm,1.5s						
SNAA	**Sanae**	**53.57**	**198**	P	**P**	**16 37 22.2**	**+0.1**
SNAA				IAmb	IAmb	16 37 30.1	
	comp=Z,6.9nm,1.3s						
YKA	**Yellowknife Ar**	**145.42**	**45**	PKPbc	**PKPdf**	**16 47 37.5**	**-0.9**
	comp=Z,1.3nm,0.9s,baz=259,slow=3.6,SNR=13						

*IDC **05** 16:39:06.3±2.3, 5.67°N×126.42°E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/26, mbtmp3.4/3, Error ellipse: s-maj=216.6km s-min=27.9km az=66.0*
*MAN **05** 16:39:14.4, 5.57°N×126.50°E, h29km, MS3.4*

ISC 05 16:39:14.1±2.1, 5.5N±0.1×126.5E±0.1, h54km±22km, n11, σ1s26/18, mb3.2/3, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.98**	**305**	*e*P	**Pn**	**16 39 31.5**	**-0.2**
DDMP				*e*S	**Sn**	**16 39 44.6**	**-0.1**
MATI	**Mati**	**1.43**	**350**	*e*P	**Pn**	**16 39 37.3**	**-0.5**
MATI				*e*S	**Sn**	**16 39 56.0**	**+0.5**
GSPH	**General Santos**	**1.65**	**290**	*i*P	**Pn**	**16 39 40.2**	**-0.7**
GSPH				*i*S	**Sn**	**16 39 59.0**	**-2.2**
KCP	**Kidapawan**	**2.04**	**316**	*e*P	**Pn**	**16 39 47.2**	**+1.1**
KCP				*i*S	**Sn**	**16 40 10.8**	**+0.3**
SKMP	**Bagumbayan, Su**	**2.19**	**297**	*e*P	**Pn**	**16 39 48.2**	**0.0**
SKMP				*e*S	**Sn**	**16 40 15.3**	**+1.1**
BUKP	**Musuan**	**2.74**	**328**	*e*P	**Pn**	**16 39 56.2**	**+0.4**
BUKP				*e*S	**Sn**	**16 40 26.9**	**-0.8**
CTBH	**Cotabato--PC H**	**2.81**	**307**	*i*P	**Pn**	**16 39 58.5**	**+1.9**
PAGZ	**Pagadian**	**3.87**	**307**	*e*P	**Pn**	**16 40 13.6**	**+2.5**
PAGZ				*e*S	Sn	16 40 31.8	-24
WRA	**Warramunga Arr**	**26.46**	**163**	P	**P**	**16 44 46.7**	**+0.4**
	0.4nm,0.6s,baz=344,slow=10.0,SNR=2.4						
ASAR	**Alice Springs**	**29.90**	**166**	P	**P**	**16 45 17.8**	**+0.8**
	0.2nm,0.6s,baz=340,slow=6.9,SNR=7.3						
ASAR				PcP	**PcP**	**16 48 18.9**	**0.0**
	0.2nm,0.5s,baz=348,slow=2.4,SNR=4.5						
MKAR	**Makanchi Array**	**55.97**	**325**	P	**P**	**16 48 45.4**	**-1.6**
	0.3nm,0.4s,baz=112,slow=8.5,SNR=5.0						

IDC 05 17:00:49.6±4.3, 26.18S×114.66W, h0km, mb3.8/2, mb1 4.3/2, mb1mx3.8/18, mbtmp3.8/2, Error ellipse: s-maj=446.6km s-min=91.4km az=99.0, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVAR	**Mina Array Bea**	**64.36**	**357**	P	P	17 11 28.4	+1.0
	2.3nm,1.0s,baz=183,slow=8.8,SNR=4.8						
PDAR	**Pinedale Array**	**68.76**	**4**	P	P	17 11 54.3	-1.2
	0.2nm,0.4s,baz=153,slow=8.1,SNR=1.6						
H01W1	**Cape Leeuwin H**	**103.68**	**220**	T	T	19 09 08.3	
	baz=138,slow=76,SNR=7.4						
H01W2	**Cape Leeuwin H**	**103.69**	**220**	T	T	19 09 03.8	
	baz=138,slow=76,SNR=6.1						
H01W3	**Cape Leeuwin H**	**103.70**	**220**	T	T	19 09 05.5	
	baz=138,slow=76,SNR=6.7						
ZALV	**Zalesovo Beam**	**148.73**	**338**	PKPbc	PKPdf	17 20 36.1	+1.4
	1.3nm,0.9s,baz=15,slow=6.0,SNR=2.7						
BVAR	**Borovoye Array**	**152.92**	**353**	PKPbc	PKiKP	17 20 50.1	+1.5
	0.3nm,0.5s,baz=347,slow=5.9,SNR=2.1						

IDC 05 17:01:02.8±11.0, 1.92N×122.88E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.4/40, mbtmp3.8/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/41, Error ellipse: s-maj=209.1km s-min=128.4km az=121.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.08**	**172**	P	P	17 05 36.6	-1.3
	2.3nm,0.9s,baz=4.3,slow=9.0,SNR=7.9						
FITZ				LR	LR	17 12 56.5	
	comp=Z,43nm,21.9s,baz=276,slow=36						
WRA	**Warramunga Arr**	**24.46**	**153**	P	P	17 06 23.7	0.0
	1.6nm,0.5s,baz=335,slow=9.5,SNR=14						
ASAR	**Alice Springs**	**27.60**	**158**	P	P	17 06 52.1	0.0
	0.5nm,0.5s,baz=348,slow=15,SNR=15						
STKA	**Stephens Creek**	**38.01**	**154**	P	P	17 08 23.4	+0.6
	0.6nm,0.4s,baz=352,slow=10,SNR=4.8						

*ISN **05** 17:04:50.8±0.4, 32.80N×46.90E, h0km±2km, ML2.9*
*TEH **05** 17:04:53.3, 32.87N×46.81E, h16km, ML3.4*

ISC 05 17:04:55.9±1.3, 32.88N±0.08×46.82E±0.05, h22km, n26, σ0s57/28, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.78**	**287**	*e*Pg	**Pb**	**17 05 10.0**	**-0.8**
IBDR				AML	AML	17 05 28.5	
	comp=N,340nm,0.3s						
IBDR				AML	AML	17 05 34.9	
	comp=E,355nm,0.5s						
KCHF	**Cheshme Sefid,**	**1.40**	**8**	*e*Pg	**Pn**	**17 05 19.8**	**-0.5**
KCHF				*e*		17 05 42.6	
IKOM	**Komasi**	**1.41**	**24**	*e*Pg	**Pn**	**17 05 19.8**	**-0.7**
IKOM				*e*		17 05 20.9	
IDOB	**Doab**	**1.45**	**51**	*e*Pg	**Pn**	**17 05 20.9**	**-0.2**
IKMR	**Kamar-syah**	**1.46**	**64**	*e*Pg	**Pn**	**17 05 20.9**	**0.0**
IKMR				*e*		17 05 45.6	
IGHG	**Ghaleghazi**	**1.46**	**352**	*e*Pg	**Pn**	**17 05 21.1**	**-0.1**
IGHG				*e*		17 05 49.6	
KER	**Kermanshah**	**1.52**	**10**	*e*Pg	**Pn**	**17 05 21.6**	**-0.4**
IVIS	**Veis**	**1.64**	**1**	*e*Pg	**Pn**	**17 05 23.4**	**-0.2**
IVIS				*e*		17 05 48.7	
IBZA	**Bozab**	**1.81**	**28**	*e*Pn	**Pn**	**17 05 25.8**	**-0.2**
IDHR	**Dehrash**	**1.85**	**349**	*e*Pn	**Pn**	**17 05 26.3**	**-0.2**
IDHR				*e*		17 05 58.7	
BMDN	**Meydan**	**1.86**	**64**	*e*Pn	**Pn**	**17 05 26.4**	**-0.2**
HSAM	**Samen**	**2.00**	**48**	*e*Pn	**Pn**	**17 05 28.7**	**+0.1**
ILIN	**Lien**	**2.04**	**3**	*e*Pn	**Pn**	**17 05 29.7**	**+0.6**
BHD	**Baghdad**	**2.08**	**281**	*e*Pn	**Pn**	**17 05 29.0**	**-0.5**
BHD				*e*Sn	**Sn**	**17 05 56.0**	**+1.3**
SNGE	**Sanandaj**	**2.25**	**11**	*e*Pn	**Pn**	**17 05 31.0**	**-1.0**
IALM	**Almabolaq**	**2.27**	**29**	*e*Pn	**Pn**	**17 05 32.5**	**+0.1**
HAGD	**Aghdareh**	**2.73**	**44**	*e*Pn	**Pn**	**17 05 38.8**	**+0.1**
KHMZ	**Khomeyn**	**2.77**	**71**	*e*Pn	**Pn**	**17 05 39.3**	**+0.2**
ASAO	**Ashtian**	**3.15**	**57**	*e*Pn	**Pn**	**17 05 44.1**	**-0.3**
IKRK	**Kirkuk**	**3.25**	**321**	*e*Pn	**Pn**	**17 05 46.0**	**+0.5**
IKRK				*e*Sn	**Sn**	**17 06 24.5**	**+1.0**
IKRK				AML	AML	17 06 30.2	
	comp=E,50nm,0.3s						
IKRK				AML	AML	17 06 31.1	
	comp=N,52nm,0.5s						
IPIR	**Pirpir**	**3.44**	**92**	*e*Pn	**Pn**	**17 05 48.3**	**-0.1**
IRAZ	**Razeghan**	**3.60**	**45**	*e*Pn	**Pn**	**17 05 51.1**	**+0.5**
QABG	**Abgarm-Qazvin**	**3.63**	**38**	*e*Pn	**Pn**	**17 05 50.3**	**-0.7**
IKLH	**Kolahrood**	**4.02**	**82**	*e*Pn	**Pn**	**17 05 57.2**	**+0.8**
IZEF	**Zefreh**	**4.64**	**88**	*e*Pn	**Pn**	**17 06 04.3**	**-0.6**
QALM	**Alamut, Qazvin**	**4.74**	**41**	*e*Pn	**Pn**	**17 06 06.3**	**0.0**

*ISK **05** 17:08:47.3, 34.33N×32.11E, h16km, ML3.3/24*
*NIC **05** 17:08:49.3±0.0, 34.40N×32.03E, h28km, Ml3.3/6*
*DDA **05** 17:08:49.1, 34.66N×31.85E, h28km±3km, ML2.7*
*GII **05** 17:08:50.2±0.0, 34.50N×32.10E, h30km, MD2.5/1*

ISC 05 17:08:50.1±1.2, 34.41N±0.04×32.07E±0.03, h30km±11km, n63, σ1s62/82, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NATA	**Nata**	**0.55**	**48**	P	**Pb**	**17 09 01.2**	**-0.2**
NATA				S	**Sb**	**17 09 10.2**	**+1.1**
NATA				AML	AML	17 09 17.6	
	7.2nm,0.4s						
NATA				AML	AML	17 09 17.6	
	7.2nm,0.4s						
AKMS	**Akamas**	**0.64**	**20**	P	**Pb**	**17 09 02.4**	**-0.5**
AKMS				AML	AML	17 09 12.3	
	6.3nm,0.4s						
AKMS				AML	AML	17 09 12.3	
	6.3nm,0.4s						
AKMS				AML	AML	17 09 12.3	
	7.0nm,0.3s						
AKMS				AML	AML	17 09 12.3	
	7.0nm,0.3s						
AKMS				S	**Sb**	**17 09 12.4**	**+0.8**
SZAC	**Souni**	**0.75**	**63**	P	**Pb**	**17 09 04.1**	**-0.7**
SZAC				S	**Sb**	**17 09 15.0**	**+0.3**
SZAC				AML	AML	17 09 16.0	
	4.0nm,0.3s						
SZAC				AML	AML	17 09 16.0	
	4.0nm,0.3s						
SZAC				AML	AML	17 09 20.9	
	5.1nm,0.3s						
SZAC				AML	AML	17 09 20.9	
	5.1nm,0.3s						
ALFC	**Alefka**	**0.86**	**30**	P	**Pb**	**17 09 05.5**	**-1.1**
ALFC				S	**Sb**	**17 09 17.7**	**-0.1**
ALFC				AML	AML	17 09 17.8	
	2.8nm,0.6s						
ALFC				AML	AML	17 09 17.8	
	2.8nm,0.6s						
ALFC				AML	AML	17 09 20.2	
	3.5nm,0.4s						
ALFC				AML	AML	17 09 20.2	
	3.5nm,0.4s						
LEF	**Lefka**	**0.98**	**43**	PG	**Pn**	**17 09 06.9**	**-0.9**
LEF				SG	**Sb**	**17 09 20.7**	**-0.4**
LEF	**Lefka**	**0.98**	**43**	*i*P	**Pn**	**17 09 07.3**	**-0.5**
LEF				*i*S	**Sb**	**17 09 20.1**	**-1.0**
LEF				IAML		17 09 24.0	
	comp=N,242nm,0.4s						
ASGA	**Asgata**	**1.04**	**69**	P	**Pn**	**17 09 08.3**	**-0.4**
ASGA				S	**Sb**	**17 09 21.8**	**-1.1**
ASGA				AML	AML	17 09 24.4	
	comp=N,1.6nm,0.3s						
ASGA				AML	AML	17 09 24.4	
	comp=N,1.6nm,0.3s						
ASGA				AML	AML	17 09 24.9	
	comp=N,1.8nm,0.3s						
ASGA				AML	AML	17 09 24.9	
	comp=N,1.8nm,0.3s						
AKDN	**Akdeniz- Kıbrı**	**1.15**	**40**	PN	**Pn**	**17 09 10.2**	**0.0**
CSS	**Mathiatis**	**1.18**	**62**	PN	**Pn**	**17 09 09.9**	**-0.6**
CSS				SN	**Sn**	**17 09 26.3**	**+0.7**
CSS	**Mathiatis**	**1.18**	**62**	Pg	**Pn**	**17 09 09.9**	**-0.6**
CSS	**Mathiatis**	**1.18**	**62**	P	**Pn**	**17 09 10.2**	**-0.3**
CSS				S	**Sn**	**17 09 26.0**	**+0.4**
CSS				AML	AML	17 09 30.5	
	comp=N,0.6nm,0.5s						
CSS				AML	AML	17 09 30.5	
	comp=N,0.6nm,0.5s						
CSS				AML	AML	17 09 30.5	
	comp=N,0.3nm,0.3s						
CSS				AML	AML	17 09 30.5	
	comp=N,0.3nm,0.3s						
MVOU	**Mavrovouni**	**1.42**	**64**	P	**Pn**	**17 09 14.2**	**+0.3**
LFK	**Lefkose**	**1.48**	**54**	PN	**Pn**	**17 09 14.6**	**-0.2**
GAZI	**Gazipasa**	**1.83**	**6**	PN	**Pn**	**17 09 20.1**	**+0.5**
GAZI	**Gazipasa**	**1.83**	**6**	*i*P	**Pn**	**17 09 18.1**	**-1.5**
GAZI				*i*S	**Sn**	**17 09 40.8**	**-0.9**
TEKE	**Tekeli-Mersin**	**1.93**	**26**	PN	**Pn**	**17 09 21.4**	**+0.5**
AKKU	**Akkuyu-Mersin**	**2.12**	**34**	PN	**Pn**	**17 09 24.1**	**+0.5**
GULN	**MERSIN_Gulnar**	**2.14**	**34**	*i*P	**Pn**	**17 09 25.4**	**+1.6**
GULN				*i*S	**Sn**	**17 09 48.8**	**-0.5**
BERE	**Bereket-Mersin**	**2.15**	**26**	PN	**Pn**	**17 09 24.8**	**+0.7**
IKL	**Isikli**	**2.25**	**35**	PN	**Pn**	**17 09 25.9**	**+0.6**
TEVE	**Tevekalti-Mers**	**2.31**	**29**	PN	**Pn**	**17 09 27.1**	**+0.9**
ERMK	**Ermenek**	**2.33**	**17**	*i*P	**Pn**	**17 09 24.8**	**-1.8**
KEBE	**Keben-Mersin**	**2.43**	**33**	PN	**Pn**	**17 09 29.1**	**+1.2**
SILI	**Silifke-Mersin**	**2.47**	**37**	PN	**Pn**	**17 09 28.7**	**+0.4**
KEPZ	**Antalya-Kepez**	**2.52**	**351**	*i*P	**Pn**	**17 09 32.6**	**+3.6**
KIZK	**Mersin**	**2.67**	**39**	PN	**Pn**	**17 09 31.7**	**+0.6**
AKAS	**Kas**	**2.71**	**313**	PN	**Pn**	**17 09 32.7**	**+0.9**
HNTI	**Hanita**	**2.90**	**116**	Pn	**Pn**	**17 09 34.3**	**0.0**
KRMN	**Karaman**	**2.92**	**19**	PN	**Pn**	**17 09 35.3**	**+0.6**
ELL	**Elmali**	**2.92**	**324**	PN	**Pn**	**17 09 35.8**	**+1.1**
KORT	**Korkueli**	**2.94**	**332**	PN	**Pn**	**17 09 36.1**	**+1.2**
OFRI	**`Ofer**	**3.02**	**125**	Pn	**Pn**	**17 09 36.8**	**+0.9**
MMA0B	**Mount Meron ar**	**3.11**	**116**	Pn	**Pn**	**17 09 38.0**	**+0.8**
MMA0B				Sn	**Sn**	**17 10 13.7**	**+0.4**
GEM	**Giv'at Ha'Em**	**3.22**	**111**	Pn	**Pn**	**17 09 39.5**	**+0.8**
GEM				Sn	**Sn**	**17 10 16.0**	**0.0**
KSDI	**Kefar Szold**	**3.23**	**111**	Pn	**Pn**	**17 09 39.4**	**+0.7**
NATI	**Neve Ativ**	**3.26**	**110**	Pn	**Pn**	**17 09 39.9**	**+0.8**
FETY	**Fethiye**	**3.30**	**313**	PN	**Pn**	**17 09 41.1**	**+1.4**
FETY	**Fethiye**	**3.30**	**313**	*i*P	**Pn**	**17 09 40.7**	**+0.9**
FETY				*i*S	**Sn**	**17 10 16.0**	**-1.9**
DED	**Mersin**	**3.38**	**40**	*i*P	**Pn**	**17 09 44.9**	**+4.1**
MMLI	**Mount Malkishu**	**3.42**	**124**	PN	**Pn**	**17 09 40.4**	**-1.1**
MMLI	**Mount Malkishu**	**3.42**	**124**	Pn	**Pn**	**17 09 42.1**	**+0.6**
KERG	**Konya-Eregli**	**3.43**	**28**	*i*P	**Pn**	**17 09 44.6**	**+2.9**
KERG				*i*S	**Sn**	**17 10 24.1**	**+2.7**
HMDT	**Nahal Hemdat**	**3.60**	**126**	Pn	**Pn**	**17 09 45.2**	**+1.3**
GULE	**Gulek**	**3.61**	**37**	*i*P	Pn	17 09 49.7	+5.5
DALY	**Dalyan (Mula)**	**3.68**	**312**	PN	**Pn**	**17 09 46.4**	**+1.5**
DALY	**Dalyan (Mula)**	**3.68**	**312**	*i*P	**Pn**	**17 09 46.8**	**+1.9**
DALY				*i*S	**Sn**	**17 10 24.3**	**-2.9**
DALY				IAML		17 10 30.0	
	comp=N,18nm,0.6s						
ARG	**Arkhangelos**	**3.69**	**300**	PN	**Pn**	**17 09 46.5**	**+1.3**
TURN	**Turunc**	**3.74**	**312**	PN	**Pn**	**17 09 49.6**	**+3.8**
TURN	**Turunc**	**3.74**	**312**	*i*P	**Pn**	**17 09 50.2**	**+4.4**
TURN				*i*S	**Sn**	**17 10 32.6**	**+3.7**
TURN				IAML		17 10 37.0	
	comp=N,16nm,0.6s						
BASM	**Basmaki-Afyon**	**3.87**	**336**	PN	**Pn**	**17 09 49.1**	**+1.5**
TAHT	**Tahtakopru-Hat**	**3.89**	**59**	PN	**Pn**	**17 09 48.8**	**+0.9**
DSI	**Dead Sea**	**3.97**	**135**	Pn	**Pn**	**17 09 49.1**	**+0.2**
TAVA	**DENIZLI_Tavas**	**3.98**	**321**	*i*P	**Pn**	**17 09 51.2**	**+1.9**
TAVA				*i*S	**Sn**	**17 10 30.7**	**-4.3**
TAVA				IAML		17 10 38.0	
	comp=E,17nm,0.4s						
KZIT	**Kziot**	**4.01**	**150**	Pn	**Pn**	**17 09 50.0**	**+0.5**
CMRD	**Camardi-Nigde**	**4.01**	**35**	PN	**Pn**	**17 09 51.1**	**+1.4**
KARP	**Karpathos**	**4.19**	**287**	PN	**Pn**	**17 09 53.1**	**+1.1**
GHAJ	**Ghor Haditha**	**4.27**	**136**	Pn	**Pn**	**17 09 53.9**	**+0.8**
DAT	**Datca**	**4.33**	**304**	*i*P	**Pn**	**17 09 55.4**	**+1.4**
DAT				*i*S	**Sn**	**17 10 41.8**	**-1.8**
KARJ	**KARJ**	**4.46**	**136**	Pn	Pn	17 09 47.1	-8.6
KHAL	**Karahalli**	**4.47**	**333**	*i*P	**Pn**	**17 09 57.5**	**+1.6**
KHAL				*i*S	**Sn**	**17 10 43.1**	**-3.8**
KHAL				IAML		17 10 51.0	
	comp=E,12nm,0.3s						
KHAL				IAML		17 10 52.0	
	comp=N,8.8nm,0.5s						
BDRM	**Kayabasi**	**4.60**	**306**	*i*P	**Pn**	**17 09 58.4**	**+0.7**
BDRM				*i*S	**Sn**	**17 10 48.4**	**-1.8**
PRNI	**Paran**	**4.75**	**148**	Pn	**Pn**	**17 09 59.8**	**+0.1**
HRFI	**Mount Harif**	**5.03**	**149**	Pn	**Pn**	**17 10 04.0**	**+0.4**

*UPP **05** 17:13:38.6±0.1, 67.08N×20.95E, h0km, ML1.7, Explosion*
*HEL **05** 17:13:39.5±0.2, 67.07N×20.93E, h0km, ML1.9, ML1.7(UPP), Explosion*
*IDC **05** 17:13:40.4±1.3, 67.06N×21.10E, h0km, mb1 2.6/3, mb1mx2.5/36, mbtmp2.5/3, ML1.8/3, Error ellipse: s-maj=24.4km s-min=10.3km az=105.0*

ISC 05 17:13:38.6±0.8, 67.08N±0.02×20.91E±0.03, h0km, n36, σ0s98/48, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASU	**Masugnsbyn**	**0.57**	**48**	P	**Pg**	**17 13 49.1**	**-0.3**
MASU	**Masugnsbyn**	**0.57**	**48**	*i*P	**Pg**	**17 13 49.1**	**-0.3**
ERTU	**Ertsjaerv**	**0.73**	**136**	P	**Pg**	**17 13 52.1**	**-0.4**
ERTU	**Ertsjaerv**	**0.73**	**136**	*e*P	**Pg**	**17 13 52.8**	**+0.2**
ERTU				*e*S	**Sg**	**17 14 03.0**	**+0.9**
PAJU	**Pajala**	**0.87**	**93**	P	**Pg**	**17 13 54.4**	**-0.7**
PAJU				S	**Sg**	**17 14 06.1**	**-0.2**
PAJU	**Pajala**	**0.87**	**93**	*i*P	**Pg**	**17 13 54.4**	**-0.7**
PAJU				*i*S	**Sg**	**17 14 06.1**	**-0.2**
KUA	**Kurravaara**	**0.91**	**346**	P	**Pg**	**17 13 55.5**	**-0.3**
KUA				S	**Sg**	**17 14 07.9**	**+0.3**
KUA	**Kurravaara**	**0.91**	**346**	*e*P	**Pg**	**17 13 55.5**	**-0.3**
KUA				*e*S	**Sg**	**17 14 07.9**	**+0.3**
HARU	**Harads**	**0.92**	**178**	P	**Pg**	**17 13 55.8**	**-0.4**
HARU	**Harads**	**0.92**	**178**	*e*P	**Pg**	**17 13 55.8**	**-0.4**
LANU	**Lannavaara**	**1.06**	**23**	P	**Pg**	**17 13 58.2**	**-0.5**
LANU	**Lannavaara**	**1.06**	**23**	*e*P	**Pg**	**17 13 58.3**	**-0.5**
LANU				*e*SB	**Sb**	**17 14 14.5**	**+0.4**
NIKU	**Nikkaluokta**	**1.07**	**318**	P	**Pg**	**17 13 58.7**	**-0.3**
NIKU	**Nikkaluokta**	**1.07**	**318**	*e*P	**Pg**	**17 13 58.7**	**-0.3**
KOVU	**Salmi**	**1.18**	**346**	S	**Sb**	**17 14 17.3**	**-0.4**
KOVU	**Salmi**	**1.18**	**346**	*e*S	**Sb**	**17 14 17.3**	**-0.4**
SJUU	**Sjulsmark**	**1.60**	**170**	P	**Pn**	**17 14 08.0**	**-0.1**
SJUU	**Sjulsmark**	**1.60**	**170**	*e*P	**Pn**	**17 14 08.0**	**-0.1**
HEF	**Hetta**	**1.69**	**37**	*e*P	**Pn**	**17 14 09.5**	**+0.1**
	baz=219						
HEF				MSG		17 14 29.5	
	comp=Z,6.7nm,0.2s						
HEF				*e*SN	**Sg**	**17 14 33.0**	**+0.1**
HEF	**Hetta**	**1.69**	**37**	*e*P	**Pb**	**17 14 10.0**	**-0.6**
TOF	**Tornio**	**1.69**	**125**	*e*PN	**Pb**	**17 14 10.2**	**-0.3**
TOF				MSG		17 14 30.1	
	comp=Z,9.1nm,0.2s						
TOF				*e*SN	**Sg**	**17 14 33.5**	**+0.5**
KIF	**Kilpisjarvi**	**1.93**	**359**	*e*PG	**Pb**	**17 14 14.6**	**0.0**
KIF				MSG		17 14 37.3	
	comp=Z,9.7nm,0.2s						
KIF				*e*SG	**Sg**	**17 14 41.6**	**+1.1**
KIF	**Kilpisjarvi**	**1.93**	**359**	*e*P	**Pg**	**17 14 15.3**	**-0.2**
RNF	**Rovaniemi**	**2.07**	**101**	*e*PG	**Pb**	**17 14 16.2**	**-0.8**
RNF				*e*SG	**Sg**	**17 14 45.0**	**0.0**
I37NO	**I37NO**	**2.18**	**338**	*i*		17 27 00.0	
	baz=159,slow=318,SNR=9.7						
SGF	**Sodankyl**	**2.21**	**78**	*e*PG	**Pb**	**17 14 18.6**	**-0.8**
SGF				*e*SG	**Sb**	**17 14 47.9**	**+0.6**
BURU	**Burvik**	**2.52**	**175**	*e*PB	**Pb**	**17 14 22.6**	**-2.0**
OUL	**Oulu**	**2.85**	**132**	*e*PG	**Pb**	**17 14 30.7**	**+0.4**
ARCES	**ARCESS Array B**	**3.00**	**33**	Pn	**Pn**	**17 14 28.4**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=209,slow=14,SNR=21						
ARCES				Sn	**Sb**	**17 15 06.9**	**-3.0**
	comp=Z,0.5nm,0.3s,baz=218,slow=23,SNR=10						
OUF	**Merijarvi**	**3.15**	**148**	*e*P	**Pn**	**17 14 31.5**	**+2.2**
OUF				MSG		17 15 11.8	
	comp=Z,2.0nm,0.2s						
UMAU	**Umeaa**	**3.21**	**182**	*e*PB	**Pb**	**17 14 34.6**	**-1.8**
VRF	**Varrio**	**3.42**	**75**	*e*P	**Pn**	**17 14 32.8**	**-0.3**
KU6	**Riekki**	**3.74**	**102**	*e*P	**Pn**	**17 14 39.0**	**+1.5**
VAF	**Ylistaro**	**4.12**	**169**	*e*P	**Pn**	**17 14 45.0**	**+2.3**
FINES	**FINESS Array B**	**6.09**	**156**	Pn	**Pn**	**17 15 11.4**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=335,slow=34,SNR=1.6						
FINES				Sn	**Sn**	**17 16 19.6**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=207,slow=29,SNR=1.9						
NOA	**NORSAR Array B**	**7.40**	**

baz=335
SSLB Suanglung **1.09 231** *e*P Pn 17 17 46.4 +0.5
baz=230

JMA 05 17:17:48.1±0.2,24°.87N×123°.25E,h19km,M1.7,
Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.46**	**208**	P	Pg	17 17 57.2	-0.3
YOJ				S	Sg	17 18 03.5	-0.4
JYNG	**Yonagunijimaku**	**0.50**	**214**	P	Pg	17 17 57.9	-0.3
JYNG				S	Sg	17 18 05.0	-0.1
IRIF	**Iriomote-Funau**	**0.69**	**141**	P	Pb	17 18 01.5	0.0
IRIF				*e*S	Sb	17 18 09.5	-1.1
JKRS	**Kuro-shima**	**0.94**	**132**	P	Pb	17 18 05.6	-0.1
JKRS				*e*S	Sg	17 18 18.3	-0.4
HATJ	**Hateruma jima**	**0.95**	**148**	P	Pb	17 18 05.9	-0.1
JIJ	**Ishigaki jima**	**0.96**	**122**	P	Pb	17 18 05.7	-0.4
JIJ				S	Sb	17 18 18.3	0.0
JISG	**Ishigakijimahi**	**1.00**	**106**	P	Pb	17 18 06.5	-0.4
JTJ	**Tarama**	**1.34**	**100**	P	Pb	17 18 12.2	-0.4

*IDC **05** 17:22:04.0±0.4,29°.17S×112°.57W,h0km,mb4.7/23, mb1 4.8/23,mb1mx4.7/29,mbtmp4.7/23,MS5.4/22, Ms1 5.4/22,ms1mx5.2/27,Error ellipse: s-maj=16.6km s-min=13.6km az=149.0*

*NEIC **05** 17:22:05.4±2.1,29°.2S±0°.1×112°.5W±0°.1,h10km±1km, mb5.4/357,Ms_20 5.5/797,Mwb5.7/18,Mww5.9, Mwc5.8(GCMT),Error ellipse: s-maj=18.6km s-min=13.7km az=143.0*

*NEIC **05** 17:22:05.4,29°.15S×112°.48W,h7km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.61; $M_{\theta\theta}$-3.03; $M_{\phi\phi}$2.42; $M_{r\theta}$0.87; $M_{\theta\phi}$-4.22; $M_{r\phi}$0.87; Fault plane solution: M_o5.20000×10^{17} NP1:ϕs286.94000°, δ78.75000°,λ-175.87000°. NP2:ϕs196.13000°, δ85.95000°,λ-11.28000°. Principal axes: T 4.7513, Plg5.0000°, Azm242.0000°; N 0.8091, Plg78.0000°, Azm357.0000°; P -5.5604, Plg11.0000°, Azm151.0000°;*

*MOS **05** 17:22:06.3±1.6,28°.96S×112°.43W,h17km,mb5.4/11, MS5.5/46 Error ellipse: s-maj=12.2km s-min=6.8km az=82.6*

*UNK **05** 17:22:07.9,28°.90S×112°.30W,h8km*

*BJI **05** 17:22:08.5±0.0,29°.00S×112°.50W,h10km,mB5.5/33, Ms5.7/47,Ms7 5.5/46*

*NEIC **05** 17:22:10,29°.27S×112°.62W,h15km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.90; $M_{\theta\theta}$-1.62; $M_{\phi\phi}$2.52; $M_{r\theta}$0.20; $M_{\theta\phi}$-6.33; $M_{r\phi}$-0.14; Fault plane solution: M_o6.71000×10^{17} NP1:ϕs189.00000°, δ88.00000°,λ1.00000°. NP2:ϕs99.00000°,δ89.00000°, λ178.00000°. Principal axes: T 7.1175, Plg2.0000°, Azm54.0000°; N -0.9071, Plg88.0000°, Azm262.0000°; P -6.2105, Plg1.0000°, Azm144.0000°;*

*GCMT **05** 17:22:11.4±0.1,29°.24S×112°.61W,h14km,MW5.8/166, Moment Tensor Solution. s151,c300; s166,c512; Duration: 1s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.64±.04; $M_{\theta\theta}$-1.86±.04; $M_{\phi\phi}$2.50±.04; $M_{r\theta}$0.78±.09; $M_{\theta\phi}$-5.96±.04; $M_{r\phi}$-0.59±.08; Best double couple: M_o6.41300×10^{17} NP1:ϕs190.00000°,δ83.00000°, λ3.00000°. NP2:ϕs100.00000°,δ87.00000°,λ173.00000°. Principal axes: T 6.7840, Plg7.0000°, Azm55.0000°; N -0.7440, Plg82.0000°, Azm259.0000°; P -6.0430, Plg3.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 17:22:14,29°.40S×112°.76W,h16km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.41; $M_{\theta\theta}$-2.01; $M_{\phi\phi}$2.41; $M_{r\theta}$2.25; $M_{\theta\phi}$-7.83; $M_{r\phi}$-2.12; Fault plane solution: M_o8.71000×10^{17} NP1:ϕs189.00000°, δ75.00000°,λ10.00000°. NP2:ϕs97.00000°,δ81.00000°, λ164.00000°. Principal axes: T 9.2965, Plg17.0000°, Azm52.0000°; N -1.3300, Plg72.0000°, Azm247.0000°; P -7.9665, Plg4.0000°, Azm144.0000°;*

ISC 05 17:22:05.7±0.6,29°.10S±0°.06×112°.43W±0°.05,h9km±3km, h8km:pP-P,n1349,σ1$40/1060,mb5.4/194,MS5.5/460, 36C-16D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**3.36**	**55**	Pn	**Pn**	**17 22 55.8**	**-2.6**
	339nm,0.3s,baz=233,slow=8.8,SNR=41						
RKT	**Rikitea**	**21.09**	**281**	*e*LQ	LQ	17 30 46.9	
	28μm,28.0s						
RKT	**Rikitea**	**21.09**	**281**	*e*T	T	17 48 05.8	
	10nm,0.3s						
H03N2	**Juan Fernandez**	**28.88**	**107**	T	T	17 58 27.7	
	baz=273,slow=74						
H03N3	**Juan Fernandez**	**28.89**	**107**	T	T	17 58 28.9	
	baz=273,slow=74						
H03N1	**Juan Fernandez**	**28.90**	**107**	T	T	17 58 28.7	
	baz=273,slow=74						
TAOE	**Nuku Hiva Isla**	**32.90**	**302**	*e*S	**S**	**17 33 56.8**	**-1.9**
	1μm,28.6s						
TAOE				*e*LQ	LQ	17 35 56.8	
	7μm,27.0s						
TAOE				*e*LR	LR	17 37 19.9	
	comp=Z,10μm,25.5s						
TAOE	**Nuku Hiva Isla**	**32.90**	**302**	IAMs_20	IAMs_20	17 38 16.7	
	comp=Z,9μm,18.0s						
TBI	**Tubuai**	**33.62**	**271**	*e*S	**S**	**17 34 10.0**	**+0.5**
	comp=Z,3μm,27.8s						
TBI				*e*LQ	LQ	17 36 14.7	
	comp=Z,22μm,28.5s						
TBI				*e*LR	LR	17 37 25.3	
	comp=Z,9μm,27.0s						
TBI	**Tubuai**	**33.62**	**271**	*e*T	T	18 03 53.7	
	comp=Z,14nm,0.3s						
BI03	**Tigo**	**33.76**	**114**	IAMs_20	IAMs_20	17 38 18.0	
	comp=Z,13μm,20.0s						
MEH	**Mehetia**	**34.42**	**281**	*e*T	T	18 04 52.0	
	comp=Z,15nm,0.2s						
GO05	**Huala**	**34.65**	**110**	IAMs_20	IAMs_20	17 38 56.7	
	comp=Z,7μm,21.0s						
LL01	**San Ignacio de**	**34.76**	**123**	IAMs_20	IAMs_20	17 39 27.0	
	comp=Z,9μm,18.0s						
LC01	**Cunco**	**34.77**	**117**	IAMs_20	IAMs_20	17 39 47.1	
	comp=Z,10μm,18.0s						
BI02	**San Fabin de**	**35.17**	**113**	IAMs_20	IAMs_20	17 39 02.0	
	comp=Z,10μm,20.0s						
BO02	**Sierra Bellavi**	**35.60**	**110**	P	**P**	**17 29 04.8**	**+0.9**
BO02				IAmb	IAmb	17 29 25.3	
	comp=Z,140nm,1.9s						
TIAR	**Tiarei**	**35.65**	**281**	*e*T	T	18 06 24.7	
	comp=Z,4.1nm,0.2s						
MT05	**Renca**	**35.73**	**108**	P	**P**	**17 29 06.9**	**+1.9**
MT05				IAmb	IAmb	17 29 18.3	
	comp=Z,82nm,1.3s						
CO02	**Combarbal**	**35.74**	**104**	P	**P**	**17 29 08.1**	**+3.0**
CO02				IAmb	IAmb	17 29 10.3	
	comp=Z,100nm,1.7s						
PEL	**Peldehue**	**35.79**	**107**	IAMs_20	IAMs_20	17 40 23.3	
	comp=Z,6μm,18.0s						
PPT2	**Papeete2**	**35.84**	**280**	*e*S	**S**	**17 34 45.5**	**+1.5**
	comp=Z,3μm,25.2s						
PPT2				*e*LQ	LQ	17 37 15.0	
	comp=Z,16μm,28.0s						
PPT2				*e*LR	LR	17 38 24.9	
	comp=Z,7μm,31.5s						
PPT	**Papeete**	**35.85**	**280**	P	**P**	**17 29 05.7**	**-0.3**
	comp=Z,33nm,0.8s,baz=207,slow=14,SNR=2.4						
PPT				LR	LR	17 38 37.4	
	comp=Z,2μm,20.7s,baz=111,slow=28						
PLCA	**Paso Flores**	**35.94**	**120**	P	**P**	**17 29 08.7**	**+2.0**
	comp=Z,2.7nm,0.9s,baz=270,slow=13,SNR=2.4						
PLCA				LR	LR	17 40 06.4	
	comp=Z,5μm,21.6s,baz=275,slow=30						
PLCA	**Paso Flores**	**35.94**	**120**	P	**P**	**17 29 07.2**	**+0.5**
PLCA	**Paso Flores**	**35.94**	**120**	P	**P**	**17 29 07.2**	**+0.5**
VA03	**San Esteban**	**35.94**	**107**	P	**P**	**17 29 09.0**	**+2.2**
VA03				IAmb	IAmb	17 29 23.0	
	comp=Z,78nm,1.6s						
CO03	**El Pedregal**	**36.05**	**103**	P	**P**	**17 29 10.3**	**+2.5**
GO04	**Tololo Observa**	**36.06**	**102**	P	**P**	**17 29 10.9**	**+2.9**
AC04	**Llanos de Chal**	**36.17**	**99**	P	**P**	**17 29 11.0**	**+2.3**
AC04				IAmb	IAmb	17 29 15.7	
	comp=Z,145nm,1.6s						
CO01	**Juntas del Tor**	**36.69**	**102**	P	**P**	**17 29 15.6**	**+2.2**
CO01				IAMs_20	IAMs_20	17 40 30.1	
	comp=Z,8μm,18.0s						
AC05	**El Transito**	**36.74**	**100**	P	**P**	**17 29 16.8**	**+3.1**
AC05				IAmb	IAmb	17 29 27.2	
	comp=Z,128nm,1.6s						
GO03	**Copiap**	**37.02**	**98**	P	**P**	**17 29 16.3**	**+0.2**
GO03				IAmb	IAmb	17 29 22.5	
	comp=Z,223nm,2.0s						
ZON	**Zonda**	**37.66**	**105**	P	**P**	**17 29 21.7**	**+0.2**
ZON				pmax	pmax		
	comp=Z,76nm,1.3s						
ZON				MLR	MLR		
	comp=Z,5μm,20.0s						
ZON	**Zonda**	**37.66**	**105**	P	**P**	**17 29 21.6**	**+0.2**
ZON				IAmb	IAmb	17 29 44.2	
	comp=Z,76nm,1.3s						
PB10	**IPOC Station P**	**37.80**	**92**	IAMs_20	IAMs_20	17 40 24.9	
	comp=Z,6μm,20.0s						
CFA	**Coronel Fontan**	**38.02**	**105**	P	**P**	**17 29 24.7**	**+0.2**
	comp=Z,3.9nm,0.4s,baz=263,slow=7.1,SNR=12						
AC02	**Maricunga**	**38.15**	**97**	P	**P**	**17 29 27.8**	**+1.6**
AC02				IAmb	IAmb	17 29 32.2	
	comp=Z,191nm,1.8s						
PB04	**IPOC Station P**	**38.52**	**90**	IAMs_20	IAMs_20	17 40 56.1	
	comp=Z,6μm,20.0s						
ATAH	**Atahualpa**	**38.79**	**62**	P	**P**	**17 29 32.7**	**+1.2**
	comp=Z,21nm,0.9s,baz=222,slow=6.8,SNR=11						
PB07	**IPOC Station P**	**38.95**	**89**	P	**P**	**17 29 34.0**	**+1.4**
PB07				IAMs_20	IAMs_20	17 40 56.6	
	comp=Z,8μm,22.0s						
PATCX	**Punta Patache**	**39.03**	**88**	IAMs_20	IAMs_20	17 41 18.7	
	comp=Z,7μm,20.0s						
TA01	**Diego Aracena**	**39.10**	**87**	IAMs_20	IAMs_20	17 41 09.5	
	comp=Z,7μm,19.0s						
PB09	**IPOC Station P**	**39.50**	**90**	P	**P**	**17 29 35.1**	**-2.0**
PB09				IAMs_20	IAMs_20	17 41 35.9	
	comp=Z,6μm,20.0s						
PSGCX	**Pisagua**	**39.51**	**86**	P	**P**	**17 29 38.2**	**+1.1**
PSGCX				IAMs_20	IAMs_20	17 41 31.3	
	comp=Z,8μm,20.0s						
LVC	**Limon Verde**	**39.52**	**91**	P	**P**	**17 29 37.7**	**+0.2**
	comp=Z,5.1nm,0.3s,baz=236,slow=8.3,SNR=7.7						
LVC	**Limon Verde**	**39.52**	**91**	P	**P**	**17 29 37.5**	**0.0**
LVC				IAmb	IAmb	17 29 42.7	
	comp=Z,124nm,1.7s						
LVC	**Limon Verde**	**39.52**	**91**	IAMs_20	IAMs_20	17 41 27.4	
	comp=Z,5μm,21.0s						
LVC	**Limon Verde**	**39.52**	**91**	*e*P	**P**	**17 29 38.4**	**+0.9**
LVC	**Limon Verde**	**39.52**	**91**	*e*P	**P**	**17 29 38.4**	**+0.9**
PB01	**IPOC Station P**	**39.54**	**88**	IAMs_20	IAMs_20	17 41 14.0	
	comp=Z,7μm,22.0s						
PB12	**IPOC Station P**	**39.71**	**84**	P	**P**	**17 29 40.4**	**+1.7**
PB12				IAMs_20	IAMs_20	17 41 17.6	
	comp=Z,7μm,21.0s						
AP01	**Chacalluta**	**39.79**	**84**	IAMs_20	IAMs_20	17 41 31.9	
	comp=Z,5μm,19.0s						
PB11	**IPOC Station P**	**39.85**	**86**	P	**P**	**17 29 40.6**	**+0.6**
PB11				IAMs_20	IAMs_20	17 41 31.5	
	comp=Z,6μm,20.0s						
MNMC	**Minye Minye**	**40.14**	**86**	P	**P**	**17 29 42.5**	**-0.1**
MNMC				IAMs_20	IAMs_20	17 42 03.2	
	comp=Z,6μm,20.0s						
PB08	**IPOC Station P**	**40.15**	**87**	P	**P**	**17 29 42.6**	**-0.2**
PB08				IAmb	IAmb	17 29 52.8	
	comp=Z,90nm,1.3s						
PB08				IAMs_20	IAMs_20	17 41 53.4	
	comp=Z,7μm,20.0s						
GO01	**Chusmiza**	**40.29**	**87**	P	**P**	**17 29 43.1**	**-1.0**
GO01				IAMs_20	IAMs_20	17 42 08.1	
	comp=Z,6μm,20.0s						
RAR	**Rarotonga**	**43.34**	**269**	LR	LR	17 43 21.0	
	comp=Z,1μm,20.1s,baz=110,slow=30						
PAC1	**Pacto, Paraso**	**43.41**	**54**	*e*P	**P**	**17 30 11.1**	**+1.8**
CUSE	**Cuicocha Este**	**43.72**	**54**	*e*P	**P**	**17 30 10.2**	**-1.9**
GCUF	**Volcan Galeras**	**45.11**	**54**	*i*P	**P**	**17 30 25.6**	**+2.3**
BBAC	**Balboa, Cauca**	**45.74**	**54**	*e*P	**P**	**17 30 28.4**	**+0.5**
LPA	**La Plata**	**46.10**	**112**	*e*P	**P**	**17 30 31.0**	**+0.7**
LPA				PCP	**PcP**	**17 32 05.6**	**-0.9**
LPA				pP	**PP**	**17 32 18.4**	**0.0**
LPA				PPP	PPP	17 32 59.9	
LPA				S	**S**	**17 37 16.4**	**+0.1**
LPA				SP		17 37 34.3	
LPA				SS	**SS**	**17 40 43.2**	**+2.0**
LPA				SSS	SSS	17 41 32.1	
LPA				SKIKP		17 42 32.0	
PTLC	**Puerto Leguiza**	**46.23**	**58**	*i*P	**P**	**17 30 30.1**	**-1.5**
SOTA	**Rioblanco**	**46.27**	**54**	*e*P	**P**	**17 30 32.1**	**-0.3**
PCON	**Cinco Dias**	**46.55**	**54**	*e*P	**P**	**17 30 35.0**	**+0.3**
FLOC	**Florencia**	**46.57**	**55**	*e*P	**P**	**17 30 35.7**	**+1.5**
PMSA	**Palmer Station**	**46.67**	**154**	IAMs_20	IAMs_20	17 44 48.5	
	comp=Z,6μm,22.0s						
PMSA	**Palmer Station**	**46.67**	**154**	*e*P	P	17 30 40.7	+6.3
PMSA	**Palmer Station**	**46.67**	**154**	*e*P	P	17 30 40.7	+6.3
GARC	**Garzon, Huila**	**47.10**	**55**	*i*P	**P**	**17 30 40.0**	**+1.3**
JTS	**Las Juntas de**	**47.29**	**38**	*c*e*P*	**P**	**17 30 41.7**	**+1.9**
JTS				pmax	pmax		
	comp=Z,86nm,1.9s						
JTS	**Las Juntas de**	**47.29**	**38**	P	**P**	**17 30 41.2**	**+1.4**
BETC	**Betania**	**47.48**	**55**	*e*P	**P**	**17 30 43.9**	**+2.5**
YOTC	**Yotoco, Valle**	**47.76**	**53**	*e*P	**P**	**17 30 44.0**	**+0.4**
AZU	**Azuero**	**48.01**	**45**	*e*P	P	17 30 30.1	-15
SNET	**Serv Nac Est T**	**48.08**	**31**	IAMs_20	IAMs_20	17 45 38.1	
	comp=Z,4μm,21.0s						
ITQB	**Itaqui**	**48.21**	**105**	*e*P	**P**	**17 30 49.3**	**+2.4**
ITQB	**Itaqui**	**48.21**	**105**	*e*P	**P**	**17 30 49.3**	**+2.4**
MACC	**Macarena, Meta**	**48.26**	**57**	*i*P	**P**	**17 30 48.9**	**+1.5**
TLIG	**Tlapa**	**48.28**	**18**	P	**P**	**17 30 47.8**	**+0.3**
PLMC	**San Jos del P**	**48.46**	**52**	*e*P	P	17 30 42.4	-6.6
ORTC	**Ortega, Tolima**	**48.48**	**54**	*i*P	**P**	**17 30 50.4**	**+1.3**
ACON	**Acoyapa**	**48.57**	**37**	IAMs_20	IAMs_20	17 47 04.3	
	comp=Z,4μm,18.0s						
PRAC	**Prado**	**48.59**	**54**	*i*P	**P**	**17 30 51.7**	**+1.7**
MTO3	**Montecristo**	**48.65**	**30**	P	**P**	**17 30 50.6**	**+0.1**
MTO3				IAmb	IAmb	17 30 55.0	
	comp=Z,44nm,1.3s						
MTO3				IAMs_20	IAMs_20	17 46 26.3	
	comp=Z,4μm,20.0s						
ANIL	**Santa Ana**	**48.78**	**53**	*e*P	**P**	**17 30 52.5**	**+0.8**
TOLC	**Tolima**	**48.90**	**53**	*e*P	**P**	**17 30 53.2**	**+0.6**
MATN	**Matagalpa**	**49.00**	**35**	P	**P**	**17 30 53.1**	**+0.1**
MATN				IAMs_20	IAMs_20	17 47 05.7	
	comp=Z,5μm,18.0s						
RREF	**El Recreo**	**49.11**	**53**	*i*P	**P**	**17 30 56.6**	**+2.1**
CCIG	**Comitan**	**49.19**	**26**	P	**P**	**17 30 54.0**	**-0.6**
CCIG				IAmb	IAmb	17 31 09.2	
	comp=Z,48nm,1.3s						
ESPN	**Las Esperanzas**	**49.22**	**37**	IAMs_20	IAMs_20	17 46 47.6	
	comp=Z,4μm,19.0s						
TGUH	**Tegucigalpa,Un**	**49.31**	**33**	*e*P	**P**	**17 30 56.1**	**+0.7**
TGUH	**Tegucigalpa,Un**	**49.31**	**33**	P	**P**	**17 30 54.5**	**-0.9**
TGUH				IAMs_20	IAMs_20	17 46 46.8	
	comp=Z,4μm,21.0s						
GUY2C	**Guyana, Caldas**	**49.32**	**52**	*e*P	**P**	**17 30 56.9**	**+0.8**
CBOC	**Ciudad Bolivar**	**49.34**	**51**	*i*P	**P**	**17 30 57.3**	**+1.5**
UPA	**Univ. de Panam**	**49.38**	**45**	*e*P	**P**	**17 30 54.9**	**-1.0**
MOIG	**Morelia**	**49.69**	**14**	P	**P**	**17 30 58.5**	**0.0**
VILC	**Villavicencio,**	**49.72**	**55**	*e*P	**P**	**17 31 00.3**	**+1.5**
ROSC	**El Rosal**	**49.78**	**54**	P	**P**	**17 31 00.9**	**+1.4**
	comp=Z,23nm,0.8s,baz=337,slow=2.7,SNR=15						
ROSC				LR	LR	17 48 18.5	
	comp=Z,8μm,20.4s,baz=214,slow=32						
ROSC	**El Rosal**	**49.78**	**54**	*i*P	**P**	**17 31 02.2**	**+2.7**
ROSC	**El Rosal**	**49.78**	**54**	IAmb	IAmb	17 31 09.6	
	comp=Z,130nm,1.4s						
HELC	**Santa Helena**	**49.91**	**51**	*i*P	**P**	**17 31 01.7**	**+1.3**
NORC	**Norcasia**	**49.91**	**52**	*e*P	**P**	**17 31 00.8**	**+0.7**
CHIC	**Chingaza**	**50.05**	**54**	*i*P	**P**	**17 31 02.2**	**+0.6**
PLTB	**Pedras Altas**	**50.26**	**109**	*e*P	**P**	**17 31 03.5**	**+1.0**
PLTB	**Pedras Altas**	**50.26**	**109**	*e*P	**P**	**17 31 03.5**	**+1.0**
SAML	**Samuel**	**50.26**	**77**	P	**P**	**17 31 03.2**	**+0.5**
SAML				pmax	pmax		
	comp=Z,56nm,1.2s						
SAML				MLR	MLR		
	comp=Z,19μm,19.0s						
SAML	**Samuel**	**50.26**	**77**	P	**P**	**17 31 03.2**	**+0.5**
SAML				IAmb	IAmb	17 31 10.3	
	comp=Z,56nm,1.1s						
SAML	**Samuel**	**50.26**	**77**	*e*P	**P**	**17 31 03.0**	**+0.2**
SAML	**Samuel**	**50.26**	**77**	*e*P	**P**	**17 31 03.0**	**+0.2**
CAPC	**Capurgana**	**50.50**	**47**	*e*P	**P**	**17 31 01.1**	**-3.3**
SPBC	**San Pablo de B**	**50.53**	**53**	*e*P	**P**	**17 31 03.6**	**-1.1**
CPSB	**Cacapava Do Su**	**50.71**	**107**	*e*P	**P**	**17 31 06.9**	**+0.9**
CPSB	**Cacapava Do Su**	**50.71**	**107**	*e*P	**P**	**17 31 06.9**	**+0.9**
PTLB	**Pontes e Lacer**	**50.76**	**87**	*e*P	**P**	**17 31 06.6**	**+0.1**
PTLB	**Pontes e Lacer**	**50.76**	**87**	*e*P	**P**	**17 31 06.6**	**+0.1**
PTBC	**PUERTO BERRIO,**	**50.89**	**52**	*i*P	**P**	**17 31 08.4**	**+1.0**
PTGC	**Puerto Gaitan,**	**50.91**	**56**	*i*P	**P**	**17 31 08.9**	**+1.4**
VILB	**Vilhena**	**50.92**	**83**	*e*P	**P**	**17 31 08.5**	**+0.7**
VILB	**Vilhena**	**50.92**	**83**	*e*P	**P**	**17 31 08.5**	**+0.7**
RUSC	**La Rusia**	**51.39**	**54**	*i*P	**P**	**17 31 12.5**	**+0.7**
RUSC	**La Rusia**	**51.39**	**54**	P	**P**	**17 31 12.8**	**+1.0**
AQDB	**Aquidauana**	**51.80**	**94**	*e*P	**P**	**17 31 16.2**	**+2.0**
AQDB	**Aquidauana**	**51.80**	**94**	*e*P	**P**	**17 31 16.2**	**+2.0**
BRRC	**Barranca, Sant**	**51.81**	**52**	*i*P	**P**	**17 31 15.8**	**+1.4**
BARC	**Barichara**	**51.81**	**53**	*e*P	**P**	**17 31 15.1**	**+0.5**
ZAIG	**Zacatecas**	**52.43**	**12**	P	**P**	**17 31 19.2**	**+0.1**
ZAIG				IAMs_20	IAMs_20	17 49 14.3	
	comp=Z,3μm,19.0s						
ITAB	**Concordia**	**52.67**	**103**	*e*P	**P**	**17 31 24.7**	**+4.0**
ITAB	**Concordia**	**52.67**	**103**	*e*P	**P**	**17 31 24.7**	**+4.0**
SJCC	**San Jacinto, C**	**52.85**	**48**	*e*P	P	17 31 13.9	-8.2
CNLB	**Canela**	**53.17**	**106**	*e*P	**P**	**17 31 27.5**	**+3.1**
CNLB	**Canela**	**53.17**	**106**	*e*P	**P**	**17 31 27.5**	**+3.1**
PTGB	**Pitanga**	**53.50**	**100**	*e*P	**P**	**17 31 29.1**	**+2.1**
PTGB	**Pitanga**	**53.50**	**100**	*e*P	**P**	**17 31 29.1**	**+2.1**
SALV	**Santo Antonio**	**53.58**	**89**	*e*P	**P**	**17 31 28.6**	**+1.1**
SALV	**Santo Antonio**	**53.58**	**89**	*e*P	**P**	**17 31 28.6**	**+1.1**
TRCB	**Terra Rica**	**53.65**	**98**	*e*P	**P**	**17 31 31.1**	**+3.1**
TRCB	**Terra Rica**	**53.65**	**98**	*e*P	**P**	**17 31 31.1**	**+3.1**
SMRC	**Santa Marta, M**	**54.42**	**48**	*e*P	**P**	**17 31 36.7**	**+3.2**
ELOV	**Elorza**	**54.73**	**56**	*e*P	**P**	**17 31 33.5**	**-2.4**
C2SB	**Chapadao do Su**	**54.94**	**93**	*e*P	**P**	**17 31 40.4**	**+3.1**
C2SB	**Chapadao do Su**	**54.94**	**93**	*e*P	**P**	**17 31 40.4**	**+3.1**
SDV	**Santo Domingo**	**55.21**	**53**	*i*P	**P**	**17 31 39.4**	**-0.1**
SDV	**Santo Domingo**	**55.21**	**53**	P	**P**	**17 31 39.6**	**+0.1**
SDV	**Santo Domingo**	**55.21**	**53**	*e*P	**P**	**17 31 39.1**	**-0.4**
SDV	**Santo Domingo**	**55.21**	**53**	*e*P	**P**	**17 31 39.1**	**-0.4**
PCMB	**Pacaembu**	**55.26**	**97**	*e*P	**P**	**17 31 41.3**	**+1.6**
PCMB	**Pacaembu**	**55.26**	**97**	*e*P	**P**	**17 31 41.3**	**+1.6**
MACA	**Manacapuru-AM**	**55.42**	**72**	*e*P	**P**	**17 31 41.3**	**+0.5**
MACA	**Manacapuru-AM**	**55.42**	**72**	*e*P	**P**	**17 31 41.3**	**+0.5**
TIJ01	**Guaruva-PR**	**55.93**	**102**	*e*P	**P**	**17 31 46.0**	**+1.4**
TIJ01	**Guaruva-PR**	**55.93**	**102**	*e*P	**P**	**17 31 46.0**	**+1.4**
HPIG		**56.09**	**7**	P	**P**	**17 31 46.1**	**+0.6**
SRIG	**Santa Rosalia**	**56.09**	**0**	IAMs_20	IAMs_20	17 50 49.1	
	comp=Z,3μm,18.0s						
FRTB	**Fartura**	**56.12**	**100**	*e*P	**P**	**17 31 48.9**	**+3.0**
FRTB	**Fartura**	**56.12**	**100**	*e*P	**P**	**17 31 48.9**	**+3.0**
URIC	**Uribia, Colomb**	**56.29**	**50**	*e*P	P	17 31 38.0	-8.9
RAO	**Raoul Island**	**56.47**	**253**	IAMs_20	IAMs_20	17 49 25.3	
	comp=Z,4μm,20.0s						
ITRB	**Iturama**	**56.74**	**95**	*e*P	**P**	**17 31 52.5**	**+2.2**
ITRB	**Iturama**	**56.74**	**95**	*e*P	**P**	**17 31 52.5**	**+2.2**
ARAG	**Araguaiana, MT**	**57.06**	**90**	*e*P	**P**	**17 31 55.0**	**+2.4**
ARAG	**Araguaiana, MT**	**57.06**	**90**	*e*P	**P**	**17 31 55.0**	**+2.4**
PTGA	**Pitinga**	**57.36**	**70**	P	**P**	**17 31 54.2**	**-0.5**
PTGA				IAmb	IAmb	17 32 01.0	
	comp=Z,42nm,1.1s						
PTGA	**Pitinga**	**57.36**	**70**	*e*P	**P**	**17 31 55.0**	**+0.3**
PTGA	**Pitinga**	**57.36**	**70**	*e*P	**P**	**17 31 55.0**	**+0.3**
PET01	**Itanhaem-SP**	**57.76**	**102**	*e*P	**P**	**17 32 00.8**	**+3.4**
PET01	**Itanhaem-SP**	**57.76**	**102**	*e*P	**P**	**17 32 00.8**	**+3.4**
HSIG		**57.81**	**2**	P	**P**	**17 31 58.7**	**+1.3**
HSIG				IAmb	IAmb	17 32 05.6	
	comp=Z,31nm,1.1s						
BB19B	**Bebedouro**	**57.83**	**98**	*e*P	**P**	**17 32 01.1**	**+3.1**
BB19B	**Bebedouro**	**57.83**	**98**	*e*P	**P**	**17 32 01.1**	**+3.1**
NPGB	**Novo Progresso**	**57.91**	**80**	*e*P	**P**	**17 31 58.1**	**-0.6**
NPGB	**Novo Progresso**	**57.91**	**80**	*e*P	**P**	**17 31 58.1**	**-0.6**
KVTX	**Kingsville**	**58.02**	**15**	IAMs_20	IAMs_20	17 52 54.3	
	comp=Z,3μm,19.0s						
RCLB	**Rio Claro- Sao**	**58.19**	**100**	*e*P	**P**	**17 32 03.3**	**+2.7**
RCLB	**Rio Claro- Sao**	**58.19**	**100**	*e*P	**P**	**17 32 03.3**	**+2.7**
BKZ	**Black Stump Fm**	**58.34**	**240**	P	**P**	**17 32 01.3**	**-0.1**
833A	**Chaparral WMA,**	**58.44**	**13**	P	**P**	**17 32 02.1**	**+0.1**
	baz=193						
833A	**Chaparral WMA,**	**58.44**	**13**	P	**P**	**17 32 03.3**	**+1.4**
833A

RPZ	**Rata Peaks**	61.24	234	P		**P**		17 32 18.7	-2.5	
	comp=Z,8.1nm,0.9s,baz=340,slow=15,SNR=2.9									
RPZ	**Rata Peaks**	61.24	234	IAmb		IAmb		17 32 27.7		
RPZ	comp=Z,143nm,1.7s			IAMs_20		IAMs_20		17 54 11.6		
	comp=Z,6µm,18.0s									
GDL2	**Guadalupe Moun**	61.44	8	P		**P**		17 32 21.6	-1.0	
121A	**Cookes Peak, D**	61.45	4	P		**P**		17 32 23.5	+0.8	
	baz=184									
121A	**Cookes Peak, D**	61.45	4	P		**P**		17 32 23.9	+1.2	
121A				IAmb		IAmb		17 32 33.0		
	comp=Z,50nm,1.4s									
121A				IAMs_20		IAMs_20		17 54 09.0		
	comp=Z,3µm,18.0s									
IKP	**In-Ko-Pah, Jac**	61.51	356	P		**P**		17 32 24.4	+1.4	
	baz=176									
MALB	**Monte Alegre**	61.51	75	*e*P		**P**		17 32 26.5	+3.1	
MALB	**Monte Alegre**	61.51	75	*e*P		**P**		17 32 26.5	+3.1	
113A	**Mohawk Valley,**	61.54	359	P		**P**		17 32 24.9	+1.8	
113A				IAmb		IAmb		17 32 34.0		
	comp=Z,46nm,1.1s									
113A				IAMs_20		IAMs_20		17 53 28.3		
	comp=Z,3µm,18.0s									
BAR	**Barrett**	61.57	356	P		**P**		17 32 23.8	+0.4	
BAR				IAmb		IAmb		17 32 34.1		
	comp=Z,38nm,1.3s									
BAR				IAMs_20		IAMs_20		17 52 46.0		
	comp=Z,5µm,19.0s									
OUZ	**Omahuta**	61.61	243	IAMs_20		IAMs_20		17 51 45.7		
	comp=Z,5µm,22.0s									
PEXB	**Peixe**	61.68	88	*e*P		**P**		17 32 26.5	+1.9	
PEXB	**Peixe**	61.68	88	*e*P		**P**		17 32 26.5	+1.9	
MONP2	**Monument Peak**	61.77	356	P		**P**		17 32 26.4	+1.5	
	baz=176,SNR=8.2									
VAS01	**Vassouras-RJ**	61.77	101	*e*P		**P**		17 32 28.8	+3.7	
VAS01	**Vassouras-RJ**	61.77	101	*e*P		**P**		17 32 28.8	+3.7	
SWSC	**Sam W. Stewart**	61.78	357	P		**P**		17 32 26.0	+1.2	
	baz=176									
109C	**Camp Elliot, M**	61.80	356	P		**P**		17 32 26.2	+1.3	
	baz=175									
109C	**Camp Elliot, M**	61.80	356	IAMs_20		IAMs_20		17 52 23.2		
	comp=Z,5µm,21.0s									
GLA	**Glamis**	61.85	358	P		**P**		17 32 26.8	+1.5	
	baz=178									
GLA	**Glamis**	61.85	358	P		**P**		17 32 26.3	+1.0	
GLA				pmax		pmax				
	comp=Z,28nm,1.0s									
GLA				MLR		MLR				
	comp=Z,4µm,19.0s									
GLA	**Glamis**	61.85	358	P		**P**		17 32 26.3	+1.0	
GLA				IAmb		IAmb		17 32 36.1		
	comp=Z,28nm,0.9s									
GLA				IAMs_20		IAMs_20		17 53 05.5		
	comp=Z,4µm,19.0s									
SCI2	**San Clemente I**	62.01	354	P		**P**		17 32 27.4	+1.2	
	baz=174									
SDDR	**Presa de Saban**	62.14	45	P		**P**		17 32 28.7	+1.2	
SDDR				IAmb		IAmb		17 32 30.1		
	comp=Z,36nm,1.2s									
SDDR				IAMs_20		IAMs_20		17 52 49.9		
	comp=Z,3µm,21.0s									
SNCC	**San Nicolas Is**	62.37	353	P		**P**		17 32 29.6	+0.9	
	baz=173									
WKZ	**Wanaka**	62.39	232	IAMs_20		IAMs_20		17 53 54.8		
	comp=Z,4µm,20.0s									
WHTX	**Lake Whitney,**	62.40	14	P		**P**		17 32 29.6	+0.7	
	baz=195									
WHTX	**Lake Whitney,**	62.40	14	P		**P**		17 32 29.4	+0.5	
WHTX				IAmb		IAmb		17 32 38.1		
	comp=Z,46nm,1.4s									
WHTX				IAMs_20		IAMs_20		17 55 37.3		
	comp=Z,3µm,20.0s									
CIS	**Catalina Islan**	62.42	354	P		**P**		17 32 29.9	+0.9	
	baz=174									
545A	**Edgard**	62.42	21	IAMs_20		IAMs_20		18 00 28.1		
	comp=Z,2µm,19.0s									
BC3	**Big Chuckawall**	62.48	357	P		**P**		17 32 31.5	+1.9	
	baz=177,SNR=30									
XPFO	**Pion Flat**	62.48	356	P		**P**		17 32 30.3	+0.7	
XPFO				IAmb		IAmb		17 32 39.6		
	comp=Z,58nm,1.8s									
XPFO	**Pion Flat**	62.48	356	IAMs_20		IAMs_20		17 52 56.2		
	comp=Z,4µm,19.0s									
PFO	**Pinyon Flats O**	62.48	356	P		**P**		17 32 31.3	+1.7	
	baz=176									
PFO	**Pinyon Flats O**	62.48	356	P		**P**		17 32 29.9	+0.3	
PFO				pmax		pmax				
	comp=Z,54nm,1.7s									
PFO				MLR		MLR				
	comp=Z,4µm,20.0s									
PFO	**Pinyon Flats O**	62.48	356	P		**P**		17 32 29.9	+0.3	
PFO				IAmb		IAmb		17 32 39.6		
	comp=Z,54nm,1.7s									
PFO	**Pinyon Flats O**	62.48	356	IAMs_20		IAMs_20		17 52 56.2		
	comp=Z,4µm,20.0s									
MURC	**Murrieta**	62.52	356	P		**P**		17 32 31.7	+2.0	
	baz=175									
Y12C	**Blythe**	62.54	358	P		**P**		17 32 31.7	+1.9	
	baz=178									
Y12C	**Blythe**	62.54	358	P		**P**		17 32 29.4	-0.4	
Y12C				IAMs_20		IAMs_20		17 53 27.7		
	comp=Z,3µm,19.0s									
ABTX	**Abilene, Hawle**	62.57	12	P		**P**		17 32 31.6	+1.5	
	baz=192									
ABTX	**Abilene, Hawle**	62.57	12	P		**P**		17 32 29.8	-0.3	
ABTX				IAmb		IAmb		17 32 44.7		
	comp=Z,51nm,1.4s									
ABTX				IAMs_20		IAMs_20		17 55 07.8		
	comp=Z,3µm,20.0s									
Y14A	**Wickenburg**	62.70	359	P		**P**		17 32 32.0	+1.1	
Y14A				IAmb		IAmb		17 32 41.1		
	comp=Z,62nm,1.8s									
Y14A				IAMs_20		IAMs_20		17 53 47.9		
	comp=Z,2µm,20.0s									
FMP	**Fort Macarthur**	62.71	354	P		**P**		17 32 32.5	+1.6	
	baz=174									
237A	**Washetta, Mont**	62.78	16	P		**P**		17 32 33.3	+1.9	
SC01	**Santiago de lo**	62.82	45	IAMs_20		IAMs_20		17 54 05.9		
	comp=Z,5µm,22.0s									
NATX	**Nacogdoches**	62.83	17	P		**P**		17 32 32.8	+1.0	
	baz=197									
NATX	**Nacogdoches**	62.83	17	P		**P**		17 32 31.7	-0.1	
BELC	**Belle Mtn. Jos**	62.84	357	P		**P**		17 32 34.3	+2.3	
	baz=176,SNR=24									
IRM	**Iron Mountain**	62.96	357	P		**P**		17 32 34.0	+1.3	
	baz=177,SNR=14									
Y22D	**IRIS PASSCAL I**	63.04	5	P		**P**		17 32 35.2	+1.9	
Y22D				IAMs_20		IAMs_20		17 55 13.2		
	comp=Z,4µm,18.0s									
PDMCI	**Parker Dam,Lak**	63.08	358	P		**P**		17 32 35.1	+1.7	
	baz=178									
342A	**Flagon Creek P**	63.11	19	P		**P**		17 32 34.0	+0.3	
SCZ2	**Santa Cruz Isl**	63.12	353	P		**P**		17 32 34.9	+1.2	
	baz=173									
PRPB	**Parauapebas**	63.13	82	*e*P		**P**		17 32 34.8	+0.5	
PRPB	**Parauapebas**	63.13	82	*e*P		**P**		17 32 34.8	+0.5	
LENM	**Lemitar**	63.13	5	P		**P**		17 32 34.2	+0.2	
BNM	**Barren Site**	63.14	5	P		**P**		17 32 35.1	+0.9	
BBRC	**Big Bear Solar**	63.16	356	P		**P**		17 32 35.7	+1.5	
	baz=176									
PASC	**Pasadena Art C**	63.16	355	P		**P**		17 32 32.6	-1.4	
PASC				IAmb		IAmb		17 32 43.9		
	comp=Z,33nm,1.1s									
X16A	**Lo Mia Camp, P**	63.18	1	P		**P**		17 32 35.9	+1.6	
X16A				IAMs_20		IAMs_20		17 55 04.7		
	comp=Z,3µm,18.0s									
BFSC	**Mount Baldy Ra**	63.19	355	P		**P**		17 32 35.6	+1.3	
	baz=175									
MWC	**Mount Wilson**	63.20	355	P		**P**		17 32 34.8	+0.3	
MWC				pmax		pmax				
	comp=Z,23nm,1.0s									
MWC				MLR		MLR				
	comp=Z,5µm,19.0s									
MWC	**Mount Wilson**	63.20	355	P		**P**		17 32 34.8	+0.3	
MWC				IAmb		IAmb		17 32 48.2		
	comp=Z,23nm,1.0s									
DECC	**Green Verdugo**	63.25	355	P		**P**		17 32 35.8	+1.2	
	baz=174									
X18A	**Snowflake**	63.33	2	P		**P**		17 32 35.4	+0.1	
X18A				IAmb		IAmb		17 32 46.3		
	comp=Z,34nm,1.1s									
X18A				IAMs_20		IAMs_20		17 55 11.6		
	comp=Z,2µm,19.0s									
MSTX	**Muleshoe**	63.38	9	P		**P**		17 32 36.3	+0.7	
	baz=189,SNR=10									
MSTX	**Muleshoe**	63.38	9	P		**P**		17 32 36.0	+0.4	
MSTX				IAmb		IAmb		17 32 50.5		
	comp=Z,45nm,1.1s									
MSTX				IAMs_20		IAMs_20		17 55 24.4		
	comp=Z,2µm,19.0s									
NEE2	**Needles Airpor**	63.55	358	P		**P**		17 32 38.3	+1.7	
	baz=178									
SBC	**Santa Barbara**	63.57	353	P		**P**		17 32 38.1	+1.5	
	baz=173									
GMRC	**Granite Mounta**	63.61	357	P		**P**		17 32 38.9	+1.8	
	baz=177,SNR=15									
KHU	**Kahuku**	63.62	314	IAMs_20		IAMs_20		17 53 00.2		
	comp=Z,4µm,19.0s									
OSI	**Osito Audit: C**	63.65	354	P		**P**		17 32 38.7	+1.5	
	baz=174									
OSI	**Osito Audit: C**	63.65	354	P		**P**		17 32 37.4	+0.2	
OSI				IAmb		IAmb		17 32 56.6		
	comp=Z,30nm,1.2s									
HEC	**Hector,Ludlow**	63.69	356	P		**P**		17 32 39.1	+1.6	
	baz=176,SNR=10									
Z35A	**Perchaven, San**	63.73	14	P		**P**		17 32 35.9	-1.8	
Z35A				IAmb		IAmb		17 32 51.2		
	comp=Z,27nm,1.0s									
Z35A				IAMs_20		IAMs_20		17 56 18.6		
	comp=Z,4µm,21.0s									
RRX	**Edison Barstow**	63.77	356	P		**P**		17 32 39.3	+1.3	
	baz=175									
SMTB	**Santa Maria do**	63.78	86	*e*P		**P**		17 32 39.5	+0.8	
SMTB	**Santa Maria do**	63.78	86	*e*P		**P**		17 32 39.5	+0.8	
MLOA	**Mauna Loa Obse**	63.81	314	IAMs_20		IAMs_20		17 53 37.2		
	comp=Z,4µm,19.0s									
EDW2	**Edwards Air Fo**	63.85	355	P		**P**		17 32 39.9	+1.3	
	baz=174,SNR=9.8									
W13A	**Hualapai Mount**	63.87	359	P		**P**		17 32 40.2	+1.3	
W13A				IAmb		IAmb		17 32 49.2		
	comp=Z,60nm,1.9s									
W13A				IAMs_20		IAMs_20		17 55 05.8		
	comp=Z,4µm,18.0s									
GRGR	**Grenville**	63.88	58	IAMs_20		IAMs_20		17 56 36.0		
	comp=Z,3µm,22.0s									
JANB	**Januaria**	63.89	93	*e*P		**P**		17 32 40.5	+1.1	
JANB	**Januaria**	63.89	93	*e*P		**P**		17 32 40.5	+1.1	
W18A	**Petrified Fore**	63.92	2	P		**P**		17 32 40.2	+1.1	
	baz=182									
W18A	**Petrified Fore**	63.92	2	P		**P**		17 32 39.2	0.0	
W18A				IAMs_20		IAMs_20		17 55 57.4		
	comp=Z,2µm,18.0s									
ANMO	**Albuquerque**	63.95	5	P		**P**		17 32 41.2	+1.8	
	baz=186									
ANMO	**Albuquerque**	63.95	5	*d* P		**P**		17 32 41.1	+1.7	
ANMO				pmax		pmax				
	comp=Z,30nm,2.3s									
ANMO	**Albuquerque**	63.95	5	P		**P**		17 32 40.2	+0.9	
ANMO				IAmb		IAmb		17 32 51.8		
	comp=Z,39nm,1.9s									
ANMO	**Albuquerque**	63.95	5	IAMs_20		IAMs_20		17 55 44.2		
	comp=Z,3µm,18.0s									
MSVF	**Nonsavu**	64.01	263	P		**P**		17 32 39.8	-0.3	
MSVF				pmax		pmax				
	comp=Z,94nm,1.5s									
MSVF				MLR		MLR				
	comp=Z,3µm,22.0s									
MSVF	**Nonsavu**	64.01	263	P		**P**		17 32 39.8	-0.3	
MSVF	**Nonsavu**	64.01	263	IAMs_20		IAMs_20		17 52 43.2		
	comp=Z,3µm,22.0s									
PKM	**Mcpherson Peak**	64.02	353	P		**P**		17 32 40.7	+0.9	
	baz=173									
KHLU	**Kahalu`u**	64.05	314	IAMs_20		IAMs_20		17 53 11.6		
	comp=Z,4µm,22.0s									
DWPF	**Disney Wildern**	64.15	30	P		**P**		17 32 41.7	+1.1	
GRTK	**Grand Turk**	64.15	43	IAMs_20		IAMs_20		17 56 01.3		
	comp=Z,4µm,20.0s									
ARVC	**Arvin**	64.16	354	P		**P**		17 32 41.7	+1.1	
	baz=174									
Z38A	**Mt. Pleasant**	64.18	16	P		**P**		17 32 40.1	-0.6	
Z38A				IAmb		IAmb		17 32 50.2		
	comp=Z,31nm,0.9s									
GSC	**Goldstone, Bar**	64.19	356	P		**P**		17 32 42.5	+1.7	
	baz=176,SNR=26									
GSC	**Goldstone, Bar**	64.19	356	P		**P**		17 32 42.1	+1.3	
GSC				pmax		pmax				
	comp=Z,44nm,1.1s									
GSC				MLR		MLR				
	comp=Z,3µm,19.0s									
GSC	**Goldstone, Bar**	64.19	356	P		**P**		17 32 42.1	+1.3	
GSC				IAmb		IAmb		17 32 51.7		
	comp=Z,44nm,1.1s									
GSC				IAMs_20		IAMs_20		17 54 08.3		
	comp=Z,3µm,19.0s									
HPAH	**Hawaii Prepara**	64.25	314	IAMs_20		IAMs_20		17 53 04.0		
	comp=Z,4µm,20.0s									
TUQ	**Turquoise Moun**	64.27	357	P		**P**		17 32 43.1	+1.7	
	baz=176									
WUAZ	**Wupatki**	64.28	1	P		**P**		17 32 43.2	+1.7	
	baz=181,SNR=8.8									
WUAZ	**Wupatki**	64.28	1	P		**P**		17 32 43.0	+1.5	
WUAZ				IAmb		IAmb		17 32 51.6		
	comp=Z,51nm,1.6s									
WUAZ				IAMs_20		IAMs_20		17 55 48.8		
	comp=Z,2µm,18.0s									
LRMC	**Laurel Mtn Rad**	64.42	355	P		**P**		17 32 43.7	+1.3	
	baz=175,SNR=17									
VBMS	**Vicksburg**	64.43	21	P		**P**		17 32 43.2	+0.9	
	baz=201									
VBMS	**Vicksburg**	64.43	21	P		**P**		17 32 43.2	+0.9	
AMTX	**Amarillo**	64.44	10	P		**P**		17 32 43.5	+1.0	
	baz=190									
AMTX	**Amarillo**	64.44	10	P		**P**		17 32 43.6	+1.1	
AMTX				IAMs_20		IAMs_20		17 56 37.3		
	comp=Z,3µm,18.0s									
SMMC	**Simmler**	64.46	353	P		**P**		17 32 44.1	+1.5	
	baz=173									
451A	**Vernon**	64.59	25	IAMs_20		IAMs_20		17 56 33.7		
	comp=Z,2µm,20.0s									
143A	**Socs Landing,**	64.62	20	P		**P**		17 32 44.7	+1.2	
ISA	**Isabella, Lake**	64.66	355	P		**P**		17 32 45.4	+1.5	
	baz=174,SNR=8.9									
ISA	**Isabella, Lake**	64.66	355	P		**P**		17 32 44.8	+0.9	
ISA				pmax		pmax				
	comp=Z,93nm,1.9s									
ISA				MLR		MLR				
	comp=Z,8µm,20.0s									
ISA	**Isabella, Lake**	64.66	355	P		**P**		17 32 44.8	+0.9	
Z41A	**Richland Creek**	64.74	18	P		**P**		17 32 45.2	+0.8	
	baz=199									
Z41A	**Richland Creek**	64.74	18	P		**P**		17 32 45.4	+1.1	
SHOC	**Shoshone, Teco**	64.75	357	P		**P**		17 32 45.6	+1.2	
	baz=176									
656A	**Willston**	64.77	29	IAMs_20		IAMs_20		17 57 17.4		
	comp=Z,2µm,18.0s									
WMOK	**Wichita Mounta**	64.78	12	P		**P**		17 32 45.3	+0.6	
	baz=193									
WMOK	**Wichita Mounta**	64.78	12	P		**P**		17 32 44.4	-0.3	
WMOK				pmax		pmax				
	comp=Z,23nm,1.8s									
WMOK				MLR		MLR				
	comp=Z,3µm,20.0s									
WMOK	**Wichita Mounta**	64.78	12	P		**P**		17 32 44.4	-0.3	
WMOK	**Wichita Mounta**	64.78	12	IAMs_20		IAMs_20		17 56 28.5		
	comp=Z,3µm,20.0s									
SJG	**San Juan**	64.80	49	IAMs_20		IAMs_20		17 56 36.2		
	comp=Z,3µm,22.0s									
VES	**Vestal, Richgr**	64.89	354	P		**P**		17 32 47.0	+1.7	
	baz=173									
PAGB	**Antelope Grade**	64.90	353	P		**P**		17 32 45.3	-0.1	
SVB	**Belmont**	64.92	57	IAMs_20		IAMs_20		17 57 42.5		
	comp=Z,3µm,20.0s									
MPMC	**Manual Prospec**	64.98	355	P		**P**		17 32 47.8	+1.7	
	baz=175,SNR=33									
WLAR	**White Oak Lake**	65.07	18	P		**P**		17 32 47.3	+0.8	
SJMB	**Sao Joao De Ma**	65.10	98	*e*P		**P**		17 32 48.8	+1.6	
SJMB	**Sao Joao De Ma**	65.10	98	*e*P		**P**		17 32 48.8	+1.6	
HLK	**Haleakala**	65.13	314	IAMs_20		IAMs_20		17 55 10.4		
	comp=Z,4µm,20.0s									
U15A	**North Rim**	65.18	0	P		**P**		17 32 46.9	-0.6	
U15A				IAmb		IAmb		17 32 58.6		
	comp=Z,25nm,1.1s									
146A	**Union**	65.28	22	P		**P**		17 32 49.0	+1.2	
SHPR	**Sheep Range**	65.30	358	P		**P**		17 32 48.1	-0.1	
SHPR				IAmb		IAmb		17 33 01.4		
	comp=Z,35nm,1.0s									
BSFB	**Barra de Sao F**	65.34	99	*e*P		**P**		17 32 49.8	+1.1	
BSFB	**Barra de Sao F**	65.34	99	*e*P		**P**		17 32 49.8	+1.1	
FURC	**Furnace Creek,**	65.35	356	P		**P**		17 32 50.4	+2.2	
	baz=176									
X37A	**Clayton**	65.36	15	P		**P**		17 32 47.8	-0.6	
VOG	**Valley Oaks Go**	65.40	354	P		**P**		17 32 50.5	+2.0	
	baz=173									
CWC	**Cottonwood Cre**	65.41	355	P		**P**		17 32 50.4	+1.6	
	baz=174									
PMPB	**Monarch Peak**	65.44	353	P		**P**		17 32 48.5	-0.5	
RIB01	**Linhares ES**	65.54	99	*e*P		**P**		17 32 51.3	+1.2	
RIB01	**Linhares ES**	65.54	99	*e*P		**P**		17 32 51.3	+1.2	
FNO	**Franklin**	65.56	13	P		**P**		17 32 49.4	-0.3	
W35A	**Tecumseh**	65.57	14	P		**P**		17 32 49.9	+0.1	
250A	**Grady**	65.63	24	P		**P**		17 32 50.9	+0.7	
CCAR	**Cane Creek**	65.65	19	P		**P**		17 32 51.0	+0.8	
352A	**Blakely**	65.68	26	P		**P**		17 32 51.2	+0.7	
352A				IAmb		IAmb		17 32 58.4		
	comp=Z,57nm,1.3s									
OKCFA	**Oklahoma City**	65.70	13	P		**P**		17 32 49.9	-0.7	
OKCFA				IAMs_20		IAMs_20		17 57 18.8		
	comp=Z,4µm,21.0s									
MIAR	**Mount Ida**	65.76	17	P		**P**		17 32 51.7	+0.8	
	baz=198									
MIAR	**Mount Ida**	65.76	17	P		**P**		17 32 49.7	-1.2	
MIAR				pmax		pmax				
	comp=Z,15nm,1.0s									
MIAR				MLR		MLR				
	comp=Z,2µm,19.0s									
MIAR	**Mount Ida**	65.76	17	P		**P**		17 32 49.7	-1.2	
LCMT	**Little Creek M**	65.76	359	P		**P**		17 32 51.4	+0.3	
KNB	**Kanab**	65.77	360	P		**P**		17 32 52.5	+1.3	
KNB				pmax		pmax				
	comp=Z,101nm,1.9s									
KNB	**Kanab**	65.77	360	P		**P**		17 32 52.5	+1.3	
TPNV	**Topopah Spring**	65.79	357	P		**P**		17 32 53.1	+1.7	
	baz=176,SNR=20									
TPNV	**Topopah Spring**	65.79	357	P		**P**		17 32 53.1	+1.7	
TPNV				pmax		pmax				
	comp=Z,67nm,1.5s									
TPNV				MLR		MLR				
	comp=Z,4µm,20.0s									
TPNV	**Topopah Spring**	65.79	357	P		**P**		17 32 53.1	+1.7	
TPNV				IAMs_20		IAMs_20		17 55 12.9		
	comp=Z,4µm,20.0s									
X40A	**Basin Creek Fa**	65.89	18	P		**P**		17 32 51.9	+0.1	
	baz=199									
X40A	**Basin Creek Fa**	65.89	18	P		**P**		17 32 52.6	+0.8	
GRAC	**Grapevine Rang**	65.91	356	P		**P**		17 32 53.8	+1.9	
	baz=175									
FDF	**Fort de France**	65.95	56	IAMs_20		IAMs_20		18 01 40.1		
	comp=Z,2µm,19.0s									
TIN	**Tinemaha, Big**	66.03	355	P		**P**		17 32 54.3	+1.5	
	baz=174									
MVCO	**Mesa Verde**	66.06	3	P		**P**		17 32 54.3	+1.1	
	baz=184,SNR=8.2									
MVCO	**Mesa Verde**	66.06	3	P		**P**		17 32 52.8	-0.3	
MVCO				IAmb		IAmb		17 33 03.6		
	comp=Z,56nm,1.4s									
MVCO				IAMs_20		IAMs_20		17 57 03.1		
	comp=Z,2µm,18.0s									
456A	**Hilliard**	66.17	28	IAMs_20		IAMs_20		17 58 36.4		
	comp=Z,2µm,18.0s									
PKCU	**Pink Cliffs**	66.19	0	P		**P**		17 32 54.1	0.0	
Y45A	**Yeager Farm, C**	66.26	21	P		**P**		17 32 53.8	-0.4	
CCUT	**Cedar City**	66.30	359	P		**P**		17 32 55.2	+0.5	
T25A	**Trinidad**	66.31	7	P		**P**		17 32 55.5	+0.7	
	baz=188									
T25A	**Trinidad**	66.31	7	P		**P**		17 32 54.4	-0.3	
T25A				IAmb		IAmb		17 33 04.5		
	comp=Z,65nm,1.9s									
T25A				IAMs_20		IAMs_20		17 57 31.9		
	comp=Z,2µm,18.0s									
W39A	**Magazine**	66.32	17	P		**P**		17 32 55.4	+0.8	
	baz=198									
W39A	**Magazine**	66.32	17	P		**P**		17 32 54.3	-0.3	
W39A				IAmb		IAmb		17 33 09.2		
	comp=Z,41nm,1.6s									
LRAL	**Lakeview Retre**	66.33	23	P		**P**		17 32 55.3	+0.6	
	baz=204									
LRAL	**Lakeview Retre**	66.33	23	P		**P**		17 32 54.2	-0.4	
U32A	**Winter Ranch,**	66.34	12	P		**P**		17 32 54.3	-0.4	
U32A				IAMs_20		IAMs_20		17 57 46.7		
	comp=Z,2µm,20.0s									
SZCU	**Shurtz Canyon**	66.34	359	P		**P**		17 32 56.6	+1.6	
X43A	**Marvell**	66.47	19	P		**P**		17 32 55.8	+0.3	
	baz=200									
X43A	**Marvell**	66.47	19	P		**P**		17 32 55.1	-0.4	
TUL1	**Leonard**	66.53	15	P		**P**		17 32 57.1	+1.2	
	baz=196									
TUL1	**Leonard**	66.53	15	P		**P**		17 32 54.8	-1.1	
TUL1				IAmb

CMB MLR MLR
comp=Z,6µm,19.0s
CMB Columbia Colle 67.19 353 P P 17 33 01.0 +0.9
CMB IAmb IAmb 17 33 10.9
comp=Z,37nm,1.3s
PV10 Paradox Valley 67.20 3 P P 17 33 00.5 +0.1
PV10 IAmb IAmb 17 33 17.4
comp=Z,21nm,1.0s
PV10 IAMs_20 IAMs_20 18 01 14.8
comp=Z,2µm,18.0s
PV04 Paradox Valley 67.22 3 P P 17 33 01.3 +0.9
PV04 IAmb IAmb 17 33 10.8
comp=Z,43nm,1.2s
PV04 IAMs_20 IAMs_20 17 58 07.7
comp=Z,2µm,21.0s
Z51A Franklin 67.23 25 P P 17 32 59.2 -1.2
MSU Marysvale 67.26 0 P P 17 33 00.1 -0.7
MSU Marysvale 67.26 0 P P 17 33 00.1 -0.7
PV23 Carpenter Ridg 67.27 3 P P 17 33 00.2 -0.8
PV23 IAmb IAmb 17 33 15.3
comp=Z,29nm,1.1s
PV07 Paradox Valley 67.28 3 P P 17 32 59.7 -1.2
Y49A Blount Mountai 67.28 23 P P 17 33 00.4 -0.3
PSUT Pine Spring 67.29 359 P P 17 33 02.0 +1.1
PV09 Paradox Valley 67.31 3 P P 17 33 00.5 -0.7
HHAR Hobbs 67.32 16 P P 17 32 59.1 -1.8
HHAR IAmb IAmb 17 33 09.9
comp=Z,30nm,1.2s
T35A Sooner Cattle 67.34 14 P P 17 32 58.8 -2.2
T35A IAmb IAmb 17 33 15.7
comp=Z,32nm,1.3s
T35A IAMs_20 IAMs_20 17 58 30.3
comp=Z,3µm,20.0s
TCRU Three Creeks R 67.35 360 P P 17 33 02.0 +0.6
U38A Gravette 67.36 16 IAMs_20 IAMs_20 17 59 14.7
comp=Z,2µm,18.0s
PV22 Blue Mesa, Par 67.37 3 P P 17 33 00.8 -0.6
VNA1 Neumayer--Stat 67.37 160 P P 17 33 00.6 -0.3
PV21 Cone Mtn., Par 67.38 3 P P 17 33 01.2 -0.4
PV21 IAMs_20 IAMs_20 17 58 20.1
comp=Z,2µm,21.0s
NVAR Mina Array Bea 67.40 355 P P 17 33 03.1 +1.4
comp=Z,15nm,0.9s,baz=191,slow=6.3,SNR=34
NVAR LR LR 17 56 21.6
comp=Z,6µm,19.3s,baz=174,slow=30
FCAR Ozark Folk Cen 67.41 18 P P 17 33 00.8 -0.6
HBAR Harrisburg 67.50 19 IAMs_20 IAMs_20 18 01 06.5
comp=Z,3µm,20.0s
VNA2 Neumayer--Watz 67.53 160 P P 17 33 01.1 -0.8
baz=265,slow=4.2
WAKR Walker 67.57 354 P P 17 33 02.5 -0.2
WAKR IAmb IAmb 17 33 29.8
comp=Z,50nm,1.7s
MCCM Marconi Confer 67.60 351 IAMs_20 IAMs_20 17 55 07.6
comp=Z,4µm,19.0s
X48A Hartselle 67.60 23 P P 17 33 02.6 -0.1
RYN Ryan 67.61 355 P P 17 33 03.2 +0.2
U40A Yellville 67.66 17 P P 17 33 03.4 +0.3
baz=198
U40A Yellville 67.66 17 P P 17 33 02.3 -0.8
257A Skidaway Islan 67.67 29 IAMs_20 IAMs_20 17 59 55.2
comp=Z,3µm,18.0s
Q16A Castle Valley 67.67 1 P P 17 33 02.6 -0.7
PLAL Pickwick Lake 67.75 21 P P 17 33 02.2 -1.5
SRU San Rafael Swe 67.88 2 P P 17 33 03.4 -1.2
SRU pmax pmax
comp=Z,28nm,0.9s
SRU San Rafael Swe 67.88 2 P P 17 33 03.4 -1.2
GOGA Godfrey 67.95 26 P P 17 33 05.5 +0.6
baz=207
GOGA Godfrey 67.95 26 P P 17 33 05.6 +0.6
GOGA pmax pmax
comp=Z,11nm,0.9s
GOGA MLR MLR
comp=Z,2µm,21.0s
GOGA Godfrey 67.95 26 P P 17 33 05.6 +0.6
KVN Kaiserville 68.00 355 P P 17 33 05.3 -0.1
KVN pmax pmax
comp=Z,45nm,1.2s
KVN MLR MLR
comp=Z,6µm,19.0s
KVN Kaiserville 68.00 355 P P 17 33 05.3 -0.1
KVN IAmb IAmb 17 33 16.4
comp=Z,45nm,1.2s
YERR Yerington 68.03 354 P P 17 33 05.8 +0.2
YERR IAmb IAmb 17 33 16.7
comp=Z,34nm,1.1s
Q24A Divide 68.05 6 IAMs_20 IAMs_20 17 58 21.8
comp=Z,3µm,18.0s
TMUT Trail Mountain 68.05 1 P P 17 33 05.2 -0.7
AFDM Forest Hills D 68.16 353 P P 17 33 04.9 -1.3
AFDM IAmb IAmb 17 33 22.0
comp=Z,54nm,1.6s
PNTR Pine Nut 68.16 354 P P 17 33 05.6 -0.9
PNTR IAmb IAmb 17 33 19.2
comp=Z,27nm,1.0s
FPAL Fort Paine 68.18 24 P P 17 33 04.9 -1.5
KEKH Kekaha 68.22 313 IAMs_20 IAMs_20 17 56 08.2
comp=Z,3µm,18.0s
P17A Butcher Ranch, 68.23 1 P P 17 33 06.2 -0.6
157A Early Branch 68.29 28 P P 17 33 07.3 +0.2
baz=209
KSCO Kaye Shedlock' 68.37 8 P P 17 33 08.2 +0.6
baz=189
KSCO Kaye Shedlock' 68.37 8 P P 17 33 06.8 -0.8
KSCO IAmb IAmb 17 33 22.7
comp=Z,33nm,1.1s
KSCO IAMs_20 IAMs_20 17 59 53.3
comp=Z,2µm,18.0s
SNAA Sanae 68.53 161 P P 17 33 06.6 -1.6
SNAA Sanae 68.53 161 *ce*P P 17 33 06.3 -2.0
SNAA Sanae 68.53 161 P P 17 33 06.4 -1.8
CBKS Cedar Bluff 68.59 11 P P 17 33 09.1 +0.2
baz=192
GDU01 Guandu, BA 68.60 94 *e*P P 17 33 12.1 +2.6
GDU01 Guandu, BA 68.60 94 *e*P P 17 33 12.1 +2.6
SWET Sewanee 68.68 23 P P 17 33 07.9 -1.7
NLU North Lily Min 68.70 0 P P 17 33 08.7 -1.1
Z56A Williston 68.70 28 P P 17 33 09.7 +0.1
baz=209
PAHR Pah Rah Range 68.75 354 P P 17 33 07.0 -3.1
PAHR IAmb IAmb 17 33 16.6
comp=Z,44nm,1.8s
T42A Van Buren 68.76 18 P P 17 33 09.8 -0.2
S39A Bolivar 68.81 16 P P 17 33 08.3 -1.9
S39A IAmb IAmb 17 33 20.9
comp=Z,86nm,1.9s
S39A IAMs_20 IAMs_20 18 00 03.0
comp=Z,2µm,19.0s
ORV Oroville 68.82 352 P P 17 33 10.4 +0.1
ORV pmax pmax
comp=Z,56nm,1.9s
ORV MLR MLR
comp=Z,4µm,21.0s
ORV Oroville 68.82 352 P P 17 33 10.4 +0.1
ORV IAmb IAmb 17 33 21.1
comp=Z,56nm,1.9s
ORV IAMs_20 IAMs_20 17 55 53.9
comp=Z,4µm,21.0s
ISCO Idaho Springs 68.83 6 P P 17 33 09.8 -1.0
ISCO pmax pmax
comp=Z,36nm,1.8s
ISCO MLR MLR
comp=Z,4µm,18.0s
ISCO Idaho Springs 68.83 6 P P 17 33 09.8 -1.0
ISCO IAmb IAmb 17 33 25.6
comp=Z,36nm,1.8s
V48A Smith Brothers 68.85 22 P P 17 33 09.0 -1.6
W50A Signal Mountai 68.88 24 P P 17 33 10.1 -0.7
WVT Waverly 68.88 21 P P 17 33 10.7 -0.1
baz=203
WVT Waverly 68.88 21 P P 17 33 09.0 -1.7
WVT pmax pmax
comp=Z,42nm,0.9s
WVT MLR MLR
comp=Z,1µm,18.0s
WVT Waverly 68.88 21 P P 17 33 09.0 -1.7
DUG Dugway, Tooele 68.94 360 P P 17 33 12.1 +1.0
baz=180
DUG Dugway, Tooele 68.94 360 IAMs_20 IAMs_20 17 57 38.2
comp=Z,2µm,19.0s
Z57A Bowman 68.95 28 P P 17 33 11.5 +0.3
baz=209
O20A White River Ci 68.99 3 P P 17 33 12.3 +0.7
baz=184
O20A White River Ci 68.99 3 P P 17 33 13.3 +1.8
O20A IAmb IAmb 17 33 22.1
comp=Z,30nm,1.4s
BEKR Beckworth 69.01 353 P P 17 33 11.8 +0.1
Y55A Saluda 69.04 27 P P 17 33 12.2 +0.4
baz=208
Y56A Pelion 69.14 27 P P 17 33 12.3 0.0
baz=209
HODGE Hodges 69.14 26 P P 17 33 12.1 -0.3
KCPM Cahto Peak 69.21 351 IAMs_20 IAMs_20 17 56 12.3
comp=Z,4µm,20.0s
W52A Murphy 69.28 25 P P 17 33 12.3 -1.0
W52A IAmb IAmb 17 35 34.3
comp=Z,44nm,1.3s
JLU Jordanelle 69.35 1 P P 17 33 13.7 -0.2
X54A Belton 69.38 26 P P 17 33 14.0 +0.1
baz=208
CPCT Cooper Cave 69.38 24 P P 17 33 13.2 -0.6
CPCT IAmb IAmb 17 35 27.2
comp=Z,19nm,0.7s
KSU1 Kansas State U 69.43 13 P P 17 33 14.3 +0.3
baz=195
KSU1 Kansas State U 69.43 13 P P 17 33 12.1 -2.0
KSU1 Kansas State U 69.43 13 IAMs_20 IAMs_20 17 59 44.5
comp=Z,3µm,19.0s
CTU Camp Tracy 69.44 1 P P 17 33 14.1 -0.2
ELK Elko 69.54 358 LR LR 17 58 16.1
comp=Z,4µm,18.4s,baz=177,slow=31
ELK Elko 69.54 358 P P 17 33 15.8 +0.8
ELK pmax pmax
comp=Z,59nm,1.7s
ELK MLR MLR
comp=Z,4µm,20.0s
ELK Elko 69.54 358 P P 17 33 15.8 +0.8
ELK IAmb IAmb 17 33 24.8
comp=Z,59nm,1.7s
BG3 Lake Jocassee 69.56 26 P P 17 33 15.1 +0.1
O03E Paynes Creek 69.58 352 P P 17 33 15.8 +0.7
baz=171
O02D Mt. Diablo Mer 69.59 352 P P 17 33 16.6 +1.5
baz=170
X55A Gracelyn & Ava 69.60 27 P P 17 33 15.2 0.0
baz=208
R40A Maddies Statio 69.64 17 P P 17 33 15.2 -0.1
R40A IAmb IAmb 17 33 26.8
comp=Z,48nm,1.7s
R40A IAMs_20 IAMs_20 18 00 50.0
comp=Z,2µm,18.0s
ROSB Rosrio 69.67 82 *e*P P 17 33 19.0 +2.8
ROSB Rosrio 69.67 82 *e*P P 17 33 19.0 +2.8
BGU Big Grassy Mou 69.67 360 P P 17 33 16.4 +0.6
CCM Cathedral Cave 69.68 18 P P 17 33 15.6 -0.1
baz=200
CCM Cathedral Cave 69.68 18 P P 17 33 15.8 +0.1
CCM pmax pmax
comp=Z,60nm,1.8s
CCM Cathedral Cave 69.68 18 P P 17 33 15.8 +0.1
CCM IAmb IAmb 17 33 27.1
comp=Z,60nm,1.8s
Y57A Sumter 69.70 28 P P 17 33 15.8 0.0
baz=210
Y57A Sumter 69.70 28 IAMs_20 IAMs_20 18 01 43.1
comp=Z,2µm,18.0s
PAULI Pauline 69.84 27 P P 17 33 16.0 -0.6
PAULI IAmb IAmb 17 33 28.7
comp=Z,28nm,1.0s
PAULI IAMs_20 IAMs_20 18 01 43.5
comp=Z,2µm,18.0s
TKL Tuckaleechee C 69.84 25 IAMs_20 IAMs_20 17 59 17.5
comp=Z,2µm,20.0s
X56A White Oak 69.86 27 P P 17 33 16.9 +0.1
baz=209
N23A Red Feather La 69.89 5 P P 17 33 17.6 +0.3
baz=186
N23A Red Feather La 69.89 5 P P 17 33 17.4 +0.2
N23A IAmb IAmb 17 33 32.2
comp=Z,81nm,1.7s
S44A Carbondale 69.90 19 P P 17 33 16.1 -0.8
T47A Sharon Grove 69.90 21 P P 17 33 16.2 -0.8
T47A IAmb IAmb 17 35 34.6
comp=Z,60nm,1.3s
U49A Red Boiling Sp 69.90 23 P P 17 33 15.6 -1.4
U49A IAmb IAmb 17 35 42.9
comp=Z,36nm,1.1s
Y58A Scranton 69.91 29 P P 17 33 17.4 +0.3
baz=210
W54A Cherokee Point 69.92 26 P P 17 33 17.2 0.0
baz=208
WDC Whiskeytown Da 69.95 352 P P 17 33 15.5 -1.7
WDC pmax pmax
comp=Z,38nm,1.2s
WDC MLR MLR
comp=Z,4µm,21.0s
WDC Whiskeytown Da 69.95 352 P P 17 33 15.5 -1.7
WDC IAmb IAmb 17 33 32.5
comp=Z,38nm,1.2s
WDC IAMs_20 IAMs_20 17 56 26.9
comp=Z,4µm,21.0s
SPUT South Promonto 70.05 360 P P 17 33 17.4 -0.7
V52A Sevierville 70.07 25 IAMs_20 IAMs_20 17 59 44.6
comp=Z,2µm,20.0s
V53A Saluda 70.20 25 P P 17 33 17.7 -1.2
V53A IAmb IAmb 17 33 30.9
comp=Z,47nm,1.2s
BIRD Birdtown, Kers 70.22 28 P P 17 33 18.5 -0.5
BIRD IAmb IAmb 17 33 31.2
comp=Z,33nm,1.2s
BIRD IAMs_20 IAMs_20 18 01 18.7
comp=Z,2µm,18.0s
KMSC Kings Mountain 70.31 27 P P 17 33 20.0 +0.5
baz=209
KMSC Kings Mountain 70.31 27 P P 17 33 18.6 -0.9
Y59A Loris 70.32 29 IAMs_20 IAMs_20 18 01 12.3
comp=Z,3µm,18.0s
PHWY Pilot Hill 70.34 6 P P 17 33 20.4 +0.4
PHWY IAmb IAmb 17 33 38.3
comp=Z,37nm,1.6s
PHWY IAMs_20 IAMs_20 17 59 54.4
comp=Z,3µm,18.0s
OGNE Ogallala 70.35 8 P P 17 33 20.8 +1.0
baz=190
HWUT Hardware Ranch 70.35 1 P P 17 33 19.9 0.0
HWUT IAMs_20 IAMs_20 17 58 49.6
comp=Z,3µm,20.0s
N02D Trinity Center 70.36 352 P P 17 33 21.4 +1.5
baz=170
JCC Jacoby Creek, 70.39 351 IAMs_20 IAMs_20 17 56 27.3
comp=Z,3µm,21.0s
KHMM Horse Mountain 70.40 351 P P 17 33 21.3 +1.1
RWWY Rawlins 70.59 4 P P 17 33 19.4 -2.1
P38A Dawn 70.60 15 IAMs_20 IAMs_20 18 00 53.4
comp=Z,2µm,18.0s
W56A Indian Trail 70.60 27 P P 17 33 21.8 +0.5
baz=209
X58A Rowland 70.61 29 P P 17 33 21.0 -0.4
baz=210
X58A Rowland 70.61 29 IAMs_20 IAMs_20 18 01 51.9
comp=Z,2µm,18.0s
V54A Nebo 70.62 26 P P 17 33 21.6 +0.1
baz=208
TZTN Tazewell 70.71 24 P P 17 33 22.0 0.0
baz=206
M02C Callahan 70.79 352 P P 17 33 23.2 +0.7
baz=170
W57A Gilead 70.85 28 P P 17 33 22.2 -0.7
baz=210
N33A J Bar K, Exete 70.86 12 IAMs_20 IAMs_20 18 00 08.2
comp=Z,2µm,21.0s
V55A Taylorsville 70.97 26 P P 17 33 23.8 +0.1
baz=209
MOD Modoc Plateau 71.02 354 P P 17 33 23.9 0.0
MOD IAmb IAmb 17 33 39.9
comp=Z,57nm,1.2s
M04C Macdoel 71.06 353 P P 17 33 24.6 +0.4
baz=171
Q44A Meyer Farm, Va 71.09 19 P P 17 33 21.8 -2.4
YBH Yreka Blue Hor 71.11 352 P P 17 33 23.8 -0.6
YBH pmax pmax
comp=Z,28nm,1.5s
YBH MLR MLR
comp=Z,4µm,20.0s
YBH Yreka Blue Hor 71.11 352 P P 17 33 23.8 -0.6
V56A Mocksville 71.22 27 P P 17 33 24.8 -0.3
baz=209
N35A Tabor 71.32 13 P P 17 33 23.9 -1.7
BGNE Belgrade 71.38 11 P P 17 33 26.4 +0.4
baz=193
WVOR Wild Horse Val 71.40 355 P P 17 33 26.2 0.0
WVOR pmax pmax
comp=Z,33nm,1.1s
WVOR MLR MLR
comp=Z,6µm,18.0s
WVOR Wild Horse Val 71.40 355 P P 17 33 26.2 0.0
WVOR IAmb IAmb 17 33 35.1
comp=Z,34nm,1.1s
T53A Wise 71.47 25 P P 17 33 26.2 -0.5
baz=207
AHID Auburn Hatcher 71.52 1 P P 17 33 24.8 -2.2
AHID IAMs_20 IAMs_20 17 59 19.4
comp=Z,3µm,19.0s
L04D Klamath Falls 71.54 352 P P 17 33 27.2 +0.1
baz=171
BW06 Boulder Array 71.56 2 P P 17 33 27.5 +0.3
baz=182
BW06 Boulder Array 71.56 2 P P 17 33 26.0 -1.3
BW06 IAmb IAmb 17 33 40.9
comp=Z,70nm,1.9s
PDAR Pinedale Array 71.56 2 P P 17 33 27.2 0.0
comp=Z,2.4nm,0.8s,baz=166,slow=2.4,SNR=17
PDAR LR LR 17 59 05.0
comp=Z,1µm,21.5s,baz=194,slow=31
V57A Coltrane Farms 71.58 28 P P 17 33 27.6 +0.4
baz=210
K22A Casper 71.60 5 P P 17 33 27.1 -0.3
baz=185,SNR=8.0
K22A Casper 71.60 5 P P 17 33 27.4 0.0
K22A IAmb IAmb 17 33 40.4
comp=Z,49nm,1.4s
K22A IAMs_20 IAMs_20 18 00 38.7
comp=Z,2µm,19.0s
U55A TA2, Sparta 71.61 26 P P 17 33 27.4 -0.2
baz=209
S51A Beattyville 71.67 24 IAMs_20 IAMs_20 18 00 50.1
comp=Z,2µm,19.0s
W60A Pink Hill 71.72 29 P P 17 33 28.1 0.0
baz=212
U56A King 71.73 27 P P 17 33 27.7 -0.5
baz=209
V58A Windy Hill, Pi 71.76 28 P P 17 33 28.5 +0.1
baz=210
K04D Chiloquin, OR 71.88 353 P P 17 33 29.8 +0.7
baz=171
K05A Summer Lake 71.89 353 P P 17 33 31.1 +1.9
K05A IAMs_20 IAMs_20 17 57 58.2
comp=Z,3µm,21.0s
T54A Tazewell 71.90 26 P P 17 33 29.6 +0.3
baz=208
R50A Paris 71.99 23 P P 17 33 27.1 -2.7
R50A IAmb IAmb 17 33 40.6
comp=Z,70nm,1.9s
BLO Bloomington 72.08 21 P P 17 33 28.5 -1.7
BLO pmax pmax
comp=Z,61nm,1.6s
BLO MLR MLR
comp=Z,1µm,19.0s
BLO Bloomington 72.08 21 P P 17 33 28.5 -1.7
BLO IAmb IAmb 17 33 42.4
comp=Z,60nm,1.6s
REDW Red Top Meadow 72.12 1 P P 17 33 30.9 +0.2
REDW IAMs_20 IAMs_20 17 59 59.3
comp=Z,3µm,20.0s
W61A Ground Anchor 72.14 30 P P 17 33 30.4 -0.2
baz=212
K02D Willamette Mer 72.18 351 P P 17 33 31.8 +1.0
baz=170
DZM Mont Dzumac 72.19 254 *e*S S 17 42 56.0 +1.4
comp=Z,3µm,32.8s
DZM *e*LQ LQ 17 52 35.0
comp=Z,3µm,26.6s
DZM *e*LR LR 17 55 36.0
comp=Z,11µm,29.9s
DZM Mont Dzumac 72.19 254 P P 17 33 30.7 -0.8
comp=Z,13nm,0.9s,baz=52,slow=22,SNR=7.9
DZM Mont Dzumac 72.19 254 P P 17 33 30.5 -1.0
DZM IAmb IAmb 17 33 37.7
comp=Z,36nm,1.0s
DZM IAMs_20 IAMs_20 17 56 58.6
comp=Z,3µm,22.0s
SNOW Snow King Moun 72.22 1 P P 17 33 30.6 -0.7
SNOW IAMs_20 IAMs_20 18 00 04.0
comp=Z,3µm,19.0s
MFID Camas Ranch 72.22 357 P P 17 33 30.9 -0.2
MFID IAmb IAmb 17 33 43.1
comp=Z,70nm,1.9s
MFID IAMs_20 IAMs_20 17 59 03.0
comp=Z,2µm,20.0s
U57A Blanch 72.22 28 P P 17 33 31.3 +0.1
baz=210
S53A Williamson 72.24 25 P P 17 33 31.3 +0.1
baz=208
TPAW Teton Pass 72.24 1 P P 17 33 30.1 -1.3
TPAW IAMs_20 IAMs_20 17 59 43.7
comp=Z,3µm,20.0s
L34A Svendsen Farm, 72.25 13 P P 17 33 31.1 0.0
L34A IAmb IAmb 17 33 45.7
comp=Z,35nm,1.1s
L34A IAMs_20 IAMs_20 18 01 12.0
comp=Z,3µm,20.0s
T55A Pulaski 72.25 26 P P 17 33 31.6 +0.2
baz=209
N41A Harden Midland 72.28 17 P P 17 33 32.6 +1.3
P46A Rosedale 72.28 20 P P 17 33 30.5 -0.9
P46A IAmb IAmb 17 33 45.9
comp=Z,27nm,1.1s
P46A IAMs_20 IAMs_20 18 04 08.2
comp=Z,2µm,18.0s
J08A Circle Bar Ran 72.31 355 P P 17 33 31.8 +0.2
J08A IAmb IAmb 17 33 40.6
comp=Z,26nm,1.0s
FXWY Fox Creek 72.39 1 P P 17 33 31.1 -1.1
FXWY IAmb IAmb 17 33 36.9
comp=Z,48nm,1.8s
FXWY IAMs_20 IAMs_20 17 59 46.5
comp=Z,3µm,20.0s
O44A Mansfield 72.41 19 P P 17 33 31.5 -0.6
O44A IAmb IAmb 17 33 44.9
comp=Z,41nm,1.4s
K31A O'Neill 72.47 11 P P 17 33 31.2 -1.2
K31A IAmb IAmb 17 33 43.1
comp=Z,78nm,1.5s
K31A IAMs_20 IAMs_20 18 01 15.8
comp=Z,2µm,20.0s
BLA Blacksburg 72.47 26 P P 17 33 32.5 -0.1
baz=209
BLA Blacksburg 72.47 26 P P 17 33 32.9 +0.3
BLA pmax pmax
comp=Z,23nm,0.9s
BLA MLR MLR
comp=Z,1µm,20.0s
BLA Blacksburg 72.47 26 P P 17 33 32.9 +0.3
BLA IAmb IAmb 17 33 44.5
comp=Z,23nm,0.9s
J05D Fort Rock, OR 72.48 353 P P 17 33 33.7 +1.0
baz=172
U58A Oxford 72.51 28 P P 17 33 33.1 +0.3
baz=211
V60A Jim Taylor Roa 72.52 29 P P 17 33 31.9 -1.0
baz=212
HDIL Hopedale 72.55 18 P P 17 33 32.9 0.0
baz=201
HDIL Hopedale 72.55 18 P P 17 33 31.3 -1.7
HDIL IAmb IAmb 17 33 44.5
comp=Z,25nm,0.8s
S54A Dingess, Beckl 72.64 25 P P 17 33 33.5 -0.2
baz=208
IMW Indian Meadow 72.65 1 P P 17 33 32.4 -1.4
IMW *p*P 17 33 33.6 -2.2
IMW IAmb IAmb 17 33 46.6
comp=Z,75nm,2.0s
IMW IAMs_20 IAMs_20 18 00 15.4
comp=Z,3µm,20.0s
T57A Hurt 72.75 27 P P 17 33 33.6 -0.6
baz=210
U59A Littleton 72.79 29 P P 17 33 33.8 -0.7
baz=211
U59A Littleton 72.79 29 IAMs_20 IAMs_20 18 02 29.9
comp=Z,2µm,19.0s
V61A Roper 72.84 30 IAMs_20 IAMs_20 18 02 01.1
comp=Z,2µm,19.0s
FLWY Flagg Ranch 72.84 1 P P 17 33 33.6 -1.3
FLWY IAMs_20 IAMs_20 18 00 24.5
comp=Z,3µm,19.0s
SCIA State Center 72.84 15 P P 17 33 33.4 -1.3

SCIA IAMs_20 IAMs_20 18 02 02.9
comp=Z,2µm,18.0s
R53A Hurricane 72.88 25 P **P** **17 33 34.9 -0.1**
baz=208
R53A Hurricane 72.88 25 IAMs_20 IAMs_20 18 05 05.0
comp=Z,2µm,18.0s
S55A Lewisburg 72.93 26 P **P** **17 33 35.0 -0.3**
baz=209
PINE Pine Mountain 72.95 354 P **P** **17 33 36.9 +1.3**
PINE IAmb IAmb 17 33 44.2
comp=Z,36nm,0.8s
PINE IAMs_20 IAMs_20 17 58 44.2
comp=Z,2µm,22.0s
NVL N'lazarevskaya 72.95 163 *e*P **P** **17 33 34.0 -1.1**
NVL *e*PPP PPP 17 36 28.4
NVL *e*S **S** **17 43 01.6 0.0**
NVL pmax pmax
comp=Z,33nm,1.0s
P49A Miami Univ. Ec 72.99 22 P **P** **17 33 35.7 +0.1**
baz=205
T58A Grand View Acr 72.99 28 P **P** **17 33 37.0 +1.3**
baz=211
Q51A Peebles 73.00 23 P **P** **17 33 34.8 -0.9**
Q51A IAmb IAmb 17 33 47.2
comp=Z,88nm,1.9s
SFIN Lafayette 73.02 20 P **P** **17 33 36.4 +0.6**
baz=203
YPP Pitchstone Pla 73.03 1 P **P** **17 33 35.8 -0.3**
R54A Victor 73.10 25 P **P** **17 33 36.8 +0.5**
baz=208
I04A Tendick Farm, 73.11 352 P **P** **17 33 36.5 +0.2**
baz=171
I03D Drain, OR 73.13 352 P **P** **17 33 37.8 +1.4**
baz=170
H17A Grant Village 73.15 1 P **P** **17 33 36.7 -0.1**
baz=182
U60A Pendleton 73.16 29 P **P** **17 33 36.5 -0.2**
baz=212
S56A Natural Bridge 73.21 27 P **P** **17 33 37.1 +0.1**
baz=210
RSSD Black Hills 73.27 6 P **P** **17 33 37.4 0.0**
baz=188
RSSD Black Hills 73.27 6 P **P** **17 33 37.5 0.0**
RSSD pmax pmax
comp=Z,67nm,1.9s
RSSD MLR MLR
comp=Z,3µm,19.0s
RSSD Black Hills 73.27 6 P **P** **17 33 37.5 +0.1**
RSSD IAmb IAmb 17 33 51.6
comp=Z,67nm,1.9s
RSSD Black Hills 73.27 6 IAMs_20 IAMs_20 18 01 21.8
comp=Z,3µm,19.0s
Q52A Bidwell 73.32 24 P **P** **17 33 37.6 0.0**
baz=207
LKWY Lake 73.33 2 P **P** **17 33 37.2 -0.7**
LKWY pmax pmax
comp=Z,11nm,0.9s
LKWY MLR MLR
comp=Z,3µm,20.0s
LKWY Lake 73.33 2 P **P** **17 33 37.2 -0.7**
LKWY IAMs_20 IAMs_20 18 01 03.4
comp=Z,3µm,20.0s
T59A Double "B" Far 73.42 29 P **P** **17 33 38.1 -0.1**
baz=211
YMR Madison River 73.42 1 P **P** **17 33 37.7 -0.6**
L40A Anamosa 73.46 16 P **P** **17 33 37.7 -0.7**
L40A IAmb IAmb 17 33 50.2
comp=Z,41nm,1.1s
Q53A Leroy 73.50 25 P **P** **17 33 39.1 +0.4**
baz=208
YHB Horse Butte 73.50 1 P **P** **17 33 38.1 -0.7**
O48A Farmland 73.50 21 P **P** **17 33 38.7 +0.1**
baz=205
P51A Williamsport 73.50 23 P **P** **17 33 38.6 0.0**
baz=206
R55A Marlinton 73.52 26 P **P** **17 33 39.6 +0.7**
baz=209
R55A Marlinton 73.52 26 IAMs_20 IAMs_20 18 02 55.1
comp=Z,2µm,20.0s
S57A Dark Hollow, R 73.52 27 P **P** **17 33 38.9 +0.1**
baz=210
I05D Terrebonne, OR 73.53 353 P **P** **17 33 40.6 +1.8**
baz=172
YHH Holmes Hill 73.54 1 P **P** **17 33 36.6 -2.5**
MCMT McKenzie Canyo 73.57 360 P **P** **17 33 37.8 -1.5**
QLMT Earthquake Lak 73.58 1 P **P** **17 33 38.4 -0.9**
K38A Parkersburg 73.65 15 P **P** **17 33 39.1 -0.3**
K38A IAMs_20 IAMs_20 18 02 29.2
comp=Z,2µm,20.0s
BMO Blue Mountains 73.73 356 P **P** **17 33 40.4 +0.4**
BMO pmax pmax
comp=Z,44nm,1.6s
BMO MLR MLR
comp=Z,4µm,20.0s
BMO Blue Mountains 73.73 356 P **P** **17 33 40.4 +0.4**
S58A Poland Farm, P 73.76 28 P **P** **17 33 41.7 +1.5**
baz=211
L42A Oliver, Polo 73.80 17 P **P** **17 33 39.9 -0.5**
Q54A Coxs Mills 73.86 25 P **P** **17 33 41.6 +0.8**
baz=208
T60A Surry 73.91 29 P **P** **17 33 41.6 +0.5**
baz=212
T60A Surry 73.91 29 IAMs_20 IAMs_20 18 04 02.4
comp=Z,2µm,18.0s
ECSD EROS Data Cent 73.91 12 P **P** **17 33 41.4 +0.5**
baz=194
ECSD EROS Data Cent 73.91 12 P **P** **17 33 40.9 -0.1**
RLMT Red Lodge 73.92 2 P **P** **17 33 41.8 +0.6**
baz=183
RLMT Red Lodge 73.92 2 P **P** **17 33 40.6 -0.6**
H04A Detroit Lake 73.96 353 P **P** **17 33 41.5 +0.2**
H04A IAmb IAmb 17 33 56.4
comp=Z,34nm,1.0s
H04A IAMs_20 IAMs_20 17 59 11.0
comp=Z,3µm,21.0s
P52A Corning 73.97 24 P **P** **17 33 41.3 -0.1**
baz=207
N48A Decatur 74.09 21 P **P** **17 33 42.2 +0.1**
baz=205
DLMT Dillon 74.10 360 P **P** **17 33 42.0 -0.3**
DLMT IAMs_20 IAMs_20 18 00 33.8
comp=Z,2µm,19.0s
P53A Whipple 74.10 25 P **P** **17 33 42.7 +0.5**
baz=208
P53A Whipple 74.10 25 P **P** **17 33 42.0 -0.2**
P53A IAmb IAmb 17 33 54.5
comp=Z,81nm,1.6s
R58B Mineral 74.13 28 P **P** **17 33 42.9 +0.5**
baz=211
Q55A Buckhannon 74.16 26 P **P** **17 33 42.4 -0.2**
baz=209
R57A Stanardsville 74.16 27 P **P** **17 33 42.6 +0.1**
baz=210
SUSD Miller 74.21 10 P **P** **17 33 43.3 +0.6**
baz=192
SUSD Miller 74.21 10 P **P** **17 33 41.4 -1.3**
O51A Pataskala 74.26 23 P **P** **17 33 43.2 +0.2**
baz=207
G08A Pilot Rock 74.27 355 P **P** **17 33 43.2 0.0**
G08A IAmb IAmb 17 33 51.9
comp=Z,32nm,1.0s
LHI Lord Howe Isla 74.27 242 IAMs_20 IAMs_20 17 59 55.0
comp=Z,3µm,21.0s
G06A Carlson Farm, 74.35 354 P **P** **17 33 43.4 -0.2**
G06A IAmb IAmb 17 34 02.4
comp=Z,102nm,1.8s
M47A Cromwell 74.36 21 P **P** **17 33 43.1 -0.5**
baz=204
R58A Rapidan 74.37 28 P **P** **17 33 44.0 +0.3**
baz=211
O52A Adamsville 74.50 24 P **P** **17 33 45.0 +0.5**
baz=207
JFWS Jewell Farm 74.50 17 P **P** **17 33 44.6 +0.2**
baz=200
JFWS Jewell Farm 74.50 17 P **P** **17 33 44.0 -0.4**
JFWS pmax pmax
comp=Z,35nm,1.6s
JFWS Jewell Farm 74.50 17 P **P** **17 33 44.0 -0.4**
P54A Burton 74.54 25 P **P** **17 33 44.4 -0.3**
baz=209
Q56A Snyder Ridge, 74.54 26 P **P** **17 33 44.5 -0.3**
baz=210
Q56A Snyder Ridge, 74.54 26 IAMs_20 IAMs_20 18 04 22.0
comp=Z,2µm,18.0s
CBN Corbin Frederi 74.55 28 IAMs_20 IAMs_20 18 03 34.2
comp=Z,2µm,19.0s
LRM Limekiln Ridge 74.56 360 P **P** **17 33 43.2 -1.8**

GCMT Greycliff 74.57 2 P **P** **17 33 43.6 -1.3**
G03D McMinnville, O 74.61 352 P **P** **17 33 44.5 -0.5**
baz=170
P55A Reedsville 74.70 26 P **P** **17 33 46.0 +0.3**
baz=209
I37A Lemond, Waseca 74.81 14 P **P** **17 33 46.0 -0.2**
I37A IAmb IAmb 17 33 58.3
comp=Z,42nm,1.0s
I37A IAMs_20 IAMs_20 18 03 23.0
comp=Z,3µm,18.0s
MCWV Mont Chateau 74.82 26 P **P** **17 33 46.0 -0.4**
baz=209
O53A New Philadelph 74.84 24 P **P** **17 33 46.8 +0.4**
baz=208
Q57A Strasburg 74.84 27 P **P** **17 33 46.8 +0.3**
baz=210
F10A Beach Ranch, E 74.84 357 P **P** **17 33 46.3 -0.1**
F07A Phinny Hill Vi 74.94 355 **P** **17 33 48.6 +1.7**
F07A IAMs_20 IAMs_20 18 00 05.0
comp=Z,2µm,21.0s
N51A Ashland 75.02 23 P **P** **17 33 48.0 +0.5**
baz=207
Q58A Fox Den Farm, 75.05 27 P **P** **17 33 47.5 -0.1**
baz=211
F05D White Salmon 75.08 353 P **P** **17 33 48.8 +1.1**
baz=172
P56A Dayton Farm, R 75.08 26 P **P** **17 33 48.1 +0.2**
baz=210
O54A Avella 75.08 25 P **P** **17 33 48.1 +0.3**
baz=209
F04A Amboy 75.22 353 P **P** **17 33 48.0 -0.5**
F04A IAmb IAmb 17 34 06.8
comp=Z,52nm,1.1s
F04A IAMs_20 IAMs_20 18 01 01.3
comp=Z,2µm,18.0s
I40A Norwalk 75.33 16 P **P** **17 33 48.9 -0.3**
I40A IAmb IAmb 17 34 04.8
comp=Z,63nm,1.9s
F03A Seaside 75.35 352 IAMs_20 IAMs_20 18 00 24.7
comp=Z,2µm,20.0s
P57A Homestead Farm 75.38 27 IAMs_20 IAMs_20 18 04 26.3
comp=Z,2µm,19.0s
HAWA Hanford 75.41 355 P **P** **17 33 51.0 +1.4**
HAWA IAmb IAmb 17 34 05.8
comp=Z,52nm,1.6s
HAWA IAMs_20 IAMs_20 18 00 40.3
comp=Z,2µm,20.0s
RCBR Riachuelo 75.42 89 *e*P **P** **17 33 52.6 +2.1**
RCBR Riachuelo 75.42 89 *e*P **P** **17 33 52.6 +2.1**
E09A Wood Farm, Sta 75.43 356 P **P** **17 33 50.1 +0.4**
F04D Rainier, OR 75.44 352 P **P** **17 33 51.3 +1.6**
baz=170
M51A Elyria 75.46 23 P **P** **17 33 50.7 +0.7**
baz=207
N53A Lisbon 75.46 24 P **P** **17 33 50.7 +0.6**
baz=208
E08A Dider Farm, El 75.47 355 P **P** **17 33 50.0 +0.1**
E08A IAmb IAmb 17 34 05.9
comp=Z,111nm,1.9s
O55A Ligonier 75.51 26 P **P** **17 33 51.0 +0.7**
baz=210
MSO Missoula 75.58 359 P **P** **17 33 51.4 +0.7**
baz=178
MSO Missoula 75.58 359 P **P** **17 33 50.4 -0.3**
MSO IAMs_20 IAMs_20 18 01 52.0
comp=Z,3µm,19.0s
E07A Sunnyside 75.60 355 P **P** **17 33 50.6 0.0**
E07A IAmb IAmb 17 34 05.9
comp=Z,34nm,1.2s
E07A IAMs_20 IAMs_20 18 00 01.3
comp=Z,2µm,21.0s
LAO LASA Array 75.64 4 P **P** **17 33 51.3 +0.3**
baz=186
LAO LASA Array 75.64 4 P **P** **17 33 51.1 +0.1**
LAO IAmb IAmb 17 34 02.9
comp=Z,98nm,1.9s
P58A Pank, Wackersv 75.67 27 P **P** **17 33 51.4 +0.2**
baz=211
K47A Vermontville 75.75 21 P **P** **17 33 52.1 +0.5**
baz=204
I42A Draeger Farm, 75.76 17 P **P** **17 33 52.2 +0.6**
I42A IAMs_20 IAMs_20 18 04 28.1
comp=Z,2µm,18.0s
AAM Ann Arbor 75.83 22 IAMs_20 IAMs_20 18 07 12.2
comp=Z,2µm,18.0s
O56A Blue Knob Stat 75.84 26 P **P** **17 33 53.0 +0.8**
baz=210
L50A Kingsville 75.88 22 P **P** **17 33 52.2 -0.2**
baz=206
N54A Moraine State 75.91 25 P **P** **17 33 52.9 +0.3**
baz=209
M52A Chesterland 75.93 24 P **P** **17 33 52.3 -0.4**
baz=208
M52A Chesterland 75.93 24 IAMs_20 IAMs_20 18 03 47.7
comp=Z,2µm,21.0s
E03A Lebam 75.96 352 IAMs_20 IAMs_20 18 08 40.8
comp=Z,3µm,22.0s
LON Longmire 75.97 353 P **P** **17 33 52.9 0.0**
LON pmax pmax
comp=Z,20nm,1.1s
LON Longmire 75.97 353 P **P** **17 33 52.9 0.0**
F33A 5 Mile Ranch, 76.01 12 P **P** **17 33 53.5 +0.4**
F33A IAmb IAmb 17 34 07.3
comp=Z,62nm,1.9s
D08A Wollman Farm, 76.02 355 P **P** **17 33 53.2 +0.1**
E28A Huff 76.06 8 P **P** **17 33 53.8 +0.4**
E28A IAMs_20 IAMs_20 18 03 32.8
comp=Z,2µm,18.0s
M53A WI Miller and 76.08 24 P **P** **17 33 52.9 -0.6**
baz=208
BBSR BB Station 76.09 40 IAMs_20 IAMs_20 18 02 26.4
comp=Z,2µm,20.0s
SPMN Marine on St. 76.09 14 P **P** **17 33 53.0 -0.6**
SPMN IAmb IAmb 17 34 05.2
comp=Z,57nm,1.8s
SPMN IAMs_20 IAMs_20 18 03 55.9
comp=Z,3µm,19.0s
N55A Marion Center 76.12 26 P **P** **17 33 52.4 -1.5**
baz=210
P59A Jarrettsville 76.12 28 P **P** **17 33 53.2 -0.6**
baz=212
O57A Amberson 76.15 27 P **P** **17 33 53.0 -1.0**
baz=211
J47A Sunmer 76.32 20 IAMs_20 IAMs_20 18 05 01.9
comp=Z,2µm,20.0s
LTY Liberty 76.36 354 P **P** **17 33 55.3 +0.2**
LTY IAmb IAmb 17 34 08.2
comp=Z,70nm,1.9s
D05A Enumclaw 76.42 353 P **P** **17 33 56.2 +0.9**
D05A IAMs_20 IAMs_20 18 00 31.0
comp=Z,2µm,22.0s
SSPA Standing Stone 76.42 26 IAMs_20 IAMs_20 18 05 27.8
comp=Z,2µm,18.0s
ALLY Alegheny Colle 76.45 24 IAMs_20 IAMs_20 18 03 02.6
comp=Z,2µm,22.0s
M54A Oil Creek Stat 76.50 25 P **P** **17 33 54.5 -1.4**
baz=209
N56A West Decatur 76.50 26 P **P** **17 33 54.8 -1.2**
baz=210
F36A Milaca 76.55 13 P **P** **17 33 55.6 -0.5**
F36A IAmb IAmb 17 34 08.1
comp=Z,34nm,1.1s
F36A IAMs_20 IAMs_20 18 04 06.0
comp=Z,3µm,19.0s
H43A Windswept, Lux 76.60 18 P **P** **17 33 55.9 -0.6**
H43A IAMs_20 IAMs_20 18 04 49.4
comp=Z,2µm,19.0s
I45A Fountain 76.63 19 IAMs_20 IAMs_20 18 05 50.1
comp=Z,2µm,18.0s
N57A Milroy 76.65 27 P **P** **17 33 57.1 +0.2**
baz=211
L53A Girard 76.68 24 P **P** **17 33 56.0 -0.9**
baz=208
J48A Bridge Port 76.69 21 P **P** **17 33 57.0 +0.1**
baz=205
C09A Chrisman Ranch 76.72 356 P **P** **17 33 57.5 +0.5**
C09A IAmb IAmb 17 34 12.8
comp=Z,89nm,1.7s
G40A Rib Lake 76.73 16 P **P** **17 33 57.9 +0.8**
G40A IAmb IAmb 17 34 09.2
comp=Z,32nm,1.2s
G40A IAMs_20 IAMs_20 18 04 35.7
comp=Z,2µm,19.0s
PSUB Penn St. - Bra 76.80 28 IAMs_20 IAMs_20 18 04 44.8
comp=Z,2µm,18.0s
EGMT Eagleton 76.80 2 P **P** **17 33 57.9 +0.4**
baz=182

EGMT Eagleton 76.80 2 P **P** **17 33 58.9 +1.3**
EGMT IAmb IAmb 17 34 08.5
comp=Z,32nm,1.1s
EGMT IAMs_20 IAMs_20 18 02 23.3
comp=Z,2µm,21.0s
M55A Ridgway 76.80 25 P **P** **17 33 57.0 -0.7**
baz=210
O59A Robesonia 76.82 28 P **P** **17 33 57.5 -0.3**
baz=212
NLWA Neilton Lookou 76.83 352 P **P** **17 33 58.7 +1.0**
NLWA IAmb IAmb 17 34 06.1
comp=Z,35nm,1.0s
NLWA IAMs_20 IAMs_20 18 00 49.8
comp=Z,2µm,20.0s
D03D Eldon 76.88 353 P **P** **17 33 57.9 0.0**
baz=170
ERPA Erie 76.92 24 P **P** **17 33 58.4 +0.1**
baz=209
ERPA Erie 76.92 24 IAMs_20 IAMs_20 18 03 28.0
comp=Z,2µm,22.0s
M56A Emporium 77.04 26 P **P** **17 33 58.7 -0.3**
baz=210
N58A Sunbury 77.05 27 P **P** **17 33 58.4 -0.7**
baz=212
NEW Newport 77.12 357 P **P** **17 33 59.6 +0.3**
baz=176
NEW Newport 77.12 357 LR LR 18 03 02.7
comp=Z,6µm,18.0s,baz=186,slow=32
NEW Newport 77.12 357 P **P** **17 33 59.2 -0.1**
NEW pmax pmax
comp=Z,51nm,1.4s
NEW MLR MLR
comp=Z,6µm,19.0s
NEW Newport 77.12 357 P **P** **17 33 59.2 -0.1**
NEW IAmb IAmb 17 34 14.9
comp=Z,51nm,1.4s
D32A Dogwood Acres, 77.14 11 P **P** **17 33 59.4 0.0**
L54A Sinclairville 77.27 25 P **P** **17 34 00.1 -0.2**
baz=209
TARA Tarawa 77.28 279 IAMs_20 IAMs_20 17 59 51.9
comp=Z,2µm,20.0s
M57A Sunshine Farm, 77.32 26 P **P** **17 34 00.0 -0.5**
baz=211
B08A Colville Reser 77.35 355 P **P** **17 33 59.4 -1.2**
B08A IAmb IAmb 17 34 15.6
comp=Z,44nm,1.7s
B08A IAMs_20 IAMs_20 18 02 21.6
comp=Z,2µm,19.0s
MDND Maddock 77.45 9 P **P** **17 34 00.8 -0.3**
baz=191
MDND Maddock 77.45 9 P **P** **17 34 02.6 +1.4**
MDND IAmb IAmb 17 34 41.4
comp=Z,17nm,0.6s
B05A Bryant 77.49 353 P **P** **17 34 01.2 -0.1**
baz=171
N59A State Game Lan 77.50 28 P **P** **17 34 00.2 -1.4**
baz=212
I48A Sherman Twp 77.52 21 P **P** **17 34 01.0 -0.6**
baz=205
L55A Hinsdale 77.54 25 P **P** **17 34 01.5 -0.3**
baz=210
DGMT Dagmar 77.56 6 P **P** **17 34 01.9 +0.1**
baz=187
DGMT Dagmar 77.56 6 P **P** **17 34 01.5 -0.3**
DGMT **pP** **17 34 02.2 -1.4**
DGMT IAmb IAmb 17 34 10.3
comp=Z,39nm,1.2s
DGMT Dagmar 77.56 6 IAMs_20 IAMs_20 18 03 58.5
comp=Z,2µm,18.0s
I49A Point Hope 77.57 21 IAMs_20 IAMs_20 18 07 24.2
comp=Z,2µm,18.0s
WVNY West Valley, N 77.67 25 IAMs_20 IAMs_20 18 05 46.0
comp=Z,2µm,19.0s
E38A The Farm, Brul 77.68 15 P **P** **17 34 01.0 -1.4**
B06A Marblemount 77.69 354 P **P** **17 34 02.4 0.0**
B06A IAMs_20 IAMs_20 18 01 13.5
comp=Z,3µm,22.0s
F42A Maple Grove Fa 77.70 17 IAMs_20 IAMs_20 18 05 35.5
comp=Z,2µm,18.0s
G45A Suttons Bay 77.71 19 P **P** **17 34 03.0 +0.3**
baz=204
J52A Paris 77.73 23 P **P** **17 34 02.0 -0.9**
baz=208
COWI Conover 77.77 16 P **P** **17 34 02.8 -0.1**
COWI IAMs_20 IAMs_20 18 05 08.2
comp=Z,2µm,20.0s
BRNJ Basking Ridge 77.80 29 IAMs_20 IAMs_20 18 05 31.4
comp=Z,2µm,18.0s
WALA Waterton Lakes 77.81 359 P **P** **17 34 03.5 +0.2**
K54A Basiliko Farm, 77.82 25 P **P** **17 34 02.3 -1.0**
baz=210
L56A Greenwood 77.83 26 P **P** **17 34 03.0 -0.5**
baz=211
L57A Andrews Acres 77.99 26 P **P** **17 34 03.5 -0.8**
baz=211
A04D Lummi Island 78.01 353 P **P** **17 34 04.8 +0.6**
baz=171
PGC Sidney 78.02 353 P **P** **17 34 03.7 -0.5**
PGC IAmb IAmb 17 34 12.4
comp=Z,37nm,0.9s
PGC IAMs_20 IAMs_20 18 01 19.3
comp=Z,2µm,22.0s
H48A Harrisville 78.10 21 P **P** **17 34 05.1 +0.3**
baz=206
K55A Perry 78.15 25 P **P** **17 34 05.0 -0.2**
baz=210
PAL Palisades 78.34 29 IAMs_20 IAMs_20 18 05 47.8
comp=Z,2µm,19.0s
G47A Hillman 78.36 20 P **P** **17 34 06.0 -0.2**
baz=205
K56A Middlesex 78.41 26 P **P** **17 34 05.9 -0.7**
baz=211
J54A Appleton 78.41 24 IAMs_20 IAMs_20 18 04 31.5
comp=Z,2µm,21.0s
L58A Harry Jones Me 78.42 27 P **P** **17 34 05.9 -0.8**
baz=212
AGMN Agassiz Nation 78.46 11 P **P** **17 34 06.0 -0.7**
baz=195
AGMN Agassiz Nation 78.46 11 P **P** **17 34 07.1 +0.4**
AGMN IAmb IAmb 17 34 18.7
comp=Z,68nm,1.9s
BINY Binghamton 78.50 27 P **P** **17 34 06.0 -1.1**
baz=212
E43A Lone Tree Farm 78.57 18 P **P** **17 34 06.9 -0.5**
E43A IAMs_20 IAMs_20 18 05 56.5
comp=Z,1µm,18.0s
J55A Hilton 78.71 25 P **P** **17 34 08.1 -0.1**
baz=210
WSPT Westport, CT 78.72 29 IAMs_20 IAMs_20 18 06 41.9
comp=Z,2µm,18.0s
K57A Scipio Center 78.74 26 P **P** **17 34 07.9 -0.5**
baz=212
D41A Chassel 78.80 16 IAMs_20 IAMs_20 18 05 50.6
comp=Z,3µm,19.0s
B35A Bob, Littlefor 78.91 13 P **P** **17 34 08.2 -1.0**
B35A IAMs_20 IAMs_20 18 05 05.2
comp=Z,2µm,20.0s
EYMN Ely 78.96 14 P **P** **17 34 09.0 -0.6**
baz=198
EYMN Ely 78.96 14 P **P** **17 34 08.5 -1.0**
J56A Wolcott 79.08 26 P **P** **17 34 09.5 -0.7**
baz=211
J56A Wolcott 79.08 26 IAMs_20 IAMs_20 18 07 28.1
comp=Z,2µm,18.0s
K58A Earlville 79.11 27 P **P** **17 34 10.1 -0.3**
baz=212
E46A Sault Ste Mari 79.31 19 P **P** **17 34 11.0 -0.4**
E46A IAmb IAmb 17 34 23.7
comp=Z,33nm,0.9s
E46A IAMs_20 IAMs_20 18 09 34.1
comp=Z,1µm,18.0s
F48A Evansville 79.33 21 P **P** **17 34 11.0 -0.6**
baz=206
K59A Cooperstown 79.43 27 P **P** **17 34 11.7 -0.6**
baz=213
CASY Casey 79.44 196 P **P** **17 34 11.3 -0.7**
CASY IAmb IAmb 17 34 33.9
comp=Z,52nm,1.7s
F49A Sandfield 79.45 21 P **P** **17 34 11.6 -0.6**
baz=207
M63A Gales Ferry 79.47 30 P **P** **17 34 11.1 -1.3**
baz=215
L61A Hillsdale 1, H 79.48 28 P **P** **17 34 11.8 -0.7**
baz=214
J57A Williamstown 79.52 26 P **P** **17 34 12.2 -0.4**
baz=212
SADO Sadowa 79.54 23 LR LR 18 05 22.5

comp=Z,2µm,21.9s,baz=217,slow=33
SADO Sadowa 79.54 23 IAMs_20 IAMs_20 18 05 11.2
comp=Z,2µm,20.0s
H53A Bobcaygeon 79.56 24 P **P** **17 34 12.8 -0.1**
baz=210
I55A Frankford 79.58 25 P **P** **17 34 12.6 -0.3**
baz=210
PECO Prince Edward 79.59 25 IAMs_20 IAMs_20 18 07 10.6
comp=Z,2µm,19.0s
E47A Iron Bridge 79.69 20 P **P** **17 34 13.7 +0.2**
baz=206
J58A Remsen 79.75 27 P **P** **17 34 14.1 +0.2**
baz=212
J58A Remsen 79.75 27 P **P** **17 34 14.5 +0.5**
J58A IAmb IAmb 17 34 32.3
comp=Z,78nm,1.9s
LLLB Lilooet 79.79 354 P **P** **17 34 12.2 -1.8**
LLLB IAMs_20 IAMs_20 18 03 09.3
comp=Z,2µm,20.0s
DELO Deloro Mine 79.86 25 P **P** **17 34 13.9 -0.5**
DELO IAMs_20 IAMs_20 18 07 21.8
comp=Z,2µm,19.0s
D46A Sault St. Mari 79.86 19 P **P** **17 34 14.6 +0.1**
baz=205
K61A Williamstown 79.99 28 P **P** **17 34 14.7 -0.6**
baz=214
G53A Haliburton 80.03 24 P **P** **17 34 14.9 -0.4**
baz=210
H55A Tweed 80.05 25 P **P** **17 34 15.4 -0.1**
baz=211
SYO Syowa Base 80.05 170 *e*P **P** **17 34 13.2 -2.1**
SYO Syowa Base 80.05 170 *e*pP pP 17 34 17.2 0.0
SYO Syowa Base 80.05 170 *e*PcP **PcP** **17 34 19.9 -2.8**
E48A Lockeyer 80.06 21 P **P** **17 34 15.6 +0.1**
baz=206
I57A Carthage 80.10 26 P **P** **17 34 15.3 -0.5**
baz=212
BRYW Bryant College 80.11 30 IAMs_20 IAMs_20 18 08 14.5
comp=Z,2µm,18.0s
CAN Canberra 80.11 235 IAMs_20 IAMs_20 18 01 17.1
comp=Z,2µm,22.0s
J59A Piesco 80.15 27 P **P** **17 34 15.5 -0.6**
baz=213
I58A Old Forge 80.15 27 P **P** **17 34 16.3 +0.1**
baz=213
D47A Chapleau 80.29 20 P **P** **17 34 17.1 +0.3**
baz=206
F51A Arnstein 80.29 22 P **P** **17 34 16.7 -0.1**
baz=208
ULM Lac du Bonnet 80.35 11 P **P** **17 34 16.9 0.0**
comp=Z,3.9nm,0.6s,baz=227,slow=5.0,SNR=4.5
ULM LR LR 18 06 14.9
comp=Z,2µm,21.0s,baz=198,slow=33
ULM Lac du Bonnet 80.35 11 P **P** **17 34 17.0 0.0**
ULM Lac du Bonnet 80.35 11 P **P** **17 34 17.6 +0.6**
ULM IAMs_20 IAMs_20 18 06 03.4
comp=Z,2µm,20.0s
F52A Sundridge 80.37 23 P **P** **17 34 17.8 +0.6**
baz=209
J60A Lant Hill Farm 80.40 28 P **P** **17 34 17.7 +0.2**
baz=214
K62A Royalston 80.42 29 IAMs_20 IAMs_20 18 07 49.7
comp=Z,1µm,18.0s
ACCN Adirondack Com 80.42 28 IAMs_20 IAMs_20 18 06 55.7
comp=Z,2µm,20.0s
H56A Elgin 80.43 25 P **P** **17 34 17.4 -0.1**
baz=212
G54A Lake Saint Pet 80.45 24 P **P** **17 34 17.6 -0.1**
baz=210
E50A Wahnapitae 80.45 22 P **P** **17 34 17.6 0.0**
baz=208
PLVO Plevna 80.51 25 P **P** **17 34 18.1 +0.2**
HRV Adam Dziewonsk 80.58 29 IAMs_20 IAMs_20 18 08 19.9
comp=Z,2µm,18.0s
WES Weston 80.58 30 IAMs_20 IAMs_20 18 08 19.0
comp=Z,2µm,18.0s
I59A Olmsteadville 80.68 27 P **P** **17 34 19.3 +0.3**
baz=214
NCB Newcomb 80.69 27 P **P** **17 34 18.3 -0.7**
D48A Paudash Townsh 80.79 21 P **P** **17 34 19.4 0.0**
baz=207
G55A Calabogie 80.82 25 P **P** **17 34 20.0 +0.3**
baz=211
ALGO Algonquin Park 80.95 24 P **P** **17 34 20.5 +0.3**
baz=210
I60A Shoreham 80.95 28 P **P** **17 34 20.8 +0.5**
baz=214
E51A G1948 Merrick 80.96 22 P **P** **17 34 20.0 -0.4**
baz=209
D49A Beulah Townshi 81.01 21 P **P** **17 34 21.4 +0.8**
baz=207
E52A Mattawa 81.03 23 P **P** **17 34 20.7 0.0**
baz=209
J62A Henniker 81.06 29 P **P** **17 34 22.2 +1.2**
baz=215
H58A Gabriels 81.08 27 P **P** **17 34 21.6 +0.6**
baz=213
LONY Lake Ozonia 81.09 26 P **P** **17 34 21.1 0.0**
baz=213
LONY Lake Ozonia 81.09 26 P **P** **17 34 21.6 +0.5**
HNH Hanover 81.25 28 IAMs_20 IAMs_20 18 08 18.7
comp=Z,1µm,18.0s
G57A Newington 81.34 26 P **P** **17 34 21.2 -1.1**
baz=212
D50A G1974 Best Tow 81.40 22 P **P** **17 34 21.8 -0.8**
baz=208
J63A Strafford 81.41 29 P **P** **17 34 21.8 -1.0**
baz=216
E53A Dumoine, Ponti 81.45 24 P **P** **17 34 22.6 -0.3**
baz=210
H59A Cadyville 81.46 27 P **P** **17 34 21.8 -1.3**
baz=214
TOO Toolangi 81.48 232 P **P** **17 34 22.1 -1.6**
TOO pmax pmax
comp=Z,64nm,1.7s
TOO MLR MLR
comp=Z,6µm,18.0s
TOO Toolangi 81.48 232 P **P** **17 34 22.1 -1.6**
TOO IAmb IAmb 17 34 34.8
comp=Z,64nm,1.6s
D51A Lot 18 Range I 81.49 22 P **P** **17 34 22.5 -0.6**
baz=209
VT1 Waterbury 81.57 28 IAMs_20 IAMs_20 18 07 40.0
comp=Z,2µm,19.0s
FRNY Flat Rock 81.66 27 P **P** **17 34 23.2 -0.9**
FRNY IAmb IAmb 17 34 41.7
comp=Z,73nm,1.9s
E54A Lac Daplat, Po 81.66 24 P **P** **17 34 23.8 -0.2**
baz=211
D52A ZEK Kipawa Sen 81.71 23 P **P** **17 34 23.7 -0.6**
baz=210
G58A Ormstown 81.74 26 P **P** **17 34 23.9 -0.6**
baz=213
I62A Tamworth 81.78 29 P **P** **17 34 24.8 0.0**
baz=215
LBNH Lisbon 81.84 28 P **P** **17 34 24.0 -1.0**
baz=215
D53A Lac Vacive, Po 82.04 23 P **P** **17 34 25.2 -0.9**
baz=210
D53A Lac Vacive, Po 82.04 23 P **P** **17 34 26.4 +0.4**
D53A IAMs_20 IAMs_20 18 06 36.5
comp=Z,2µm,20.0s
H61A Lyndonville 82.08 28 P **P** **17 34 25.6 -0.7**
baz=215
BBB Bella Bella 82.09 350 LR LR 18 03 14.2
comp=Z,1µm,20.8s,baz=182,slow=30
I63A Otisfield 82.25 29 IAMs_20 IAMs_20 18 08 46.1
comp=Z,1µm,18.0s
H62A Milan 82.43 28 P **P** **17 34 27.0 -1.2**
baz=216
H62A Milan 82.43 28 IAMs_20 IAMs_20 18 08 29.9
comp=Z,2µm,19.0s
TRQ Mont Tremblant 82.44 25 P **P** **17 34 26.4 -1.9**
D54A Lac Fusel, La 82.47 24 P **P** **17 34 27.3 -1.0**
baz=211
E56A St. Veronique 82.54 25 P **P** **17 34 27.7 -0.9**
baz=212
I64A Boothbay 82.55 30 P **P** **17 34 27.9 -0.8**
baz=217
E57A Chemin Saint G 82.76 26 P **P** **17 34 28.4 -1.4**
baz=213
D55A Sainte-Anne-du 82.78 24 P **P** **17 34 28.7 -1.3**
baz=212
G61A St-Isidore-de- 82.85 28 P **P** **17 34 29.2 -1.1**
baz=215
VLDQ Val d'Or 83.02 23 P **P** **17 34 31.7 +0.6**
VLDQ IAmb IAmb 17 34 42.6
comp=Z,38nm,1.6s
VLDQ IAMs_20 IAMs_20 18 07 18.4
comp=Z,2µm,21.0s
WVL Waterville 83.05 29 P **P** **17 34 30.8 -0.6**
WVL IAmb IAmb 17 34 40.2
comp=Z,34nm,1.4s
E58A La Victoria 83.06 26 P **P** **17 34 30.4 -1.0**
baz=214
D56A ZEC Mazanza, M 83.06 25 P **P** **17 34 31.3 -0.2**
baz=212
G62A West of Eustis 83.21 28 P **P** **17 34 31.9 -0.4**
baz=216
G62A West of Eustis 83.21 28 IAMs_20 IAMs_20 18 09 02.6
comp=Z,2µm,19.0s
F60A Warwick 83.24 27 P **P** **17 34 30.6 -1.8**
baz=215
H64A Troy 83.30 29 P **P** **17 34 32.5 -0.1**
baz=217
EIDS Eidsvold 83.30 245 IAMs_20 IAMs_20 18 07 52.4
comp=Z,2µm,19.0s
D57A Chemin Vers le 83.36 25 P **P** **17 34 32.8 -0.2**
baz=213
HNR Honiara 83.42 263 IAMs_20 IAMs_20 18 02 47.8
comp=Z,2µm,22.0s
G63A Kingsbury 83.51 29 P **P** **17 34 32.8 -1.0**
baz=217
MAW Mawson 83.53 178 P **P** **17 34 32.2 -1.5**
comp=Z,4.5nm,0.8s,baz=207,slow=7.2,SNR=6.7
MAW LR LR 18 08 24.4
comp=Z,1µm,20.3s,baz=182,slow=33
MAW Mawson 83.53 178 P **P** **17 34 32.2 -1.5**
MAW pmax pmax
comp=Z,6.0nm,1.3s
MAW MLR MLR
comp=Z,300nm,18.0s
MAW Mawson 83.53 178 IAmb IAmb 17 34 41.2
comp=Z,6.0nm,1.2s
MAW IAMs_20 IAMs_20 18 08 12.6
comp=Z,272nm,18.0s
F61A St Evariste 83.63 28 P **P** **17 34 34.0 -0.3**
baz=216
PKME Peaks-Kenny Pk 83.77 29 P **P** **17 34 34.4 -0.7**
baz=217
PKME Peaks-Kenny Pk 83.77 29 P **P** **17 34 34.6 -0.4**
PKME IAmb IAmb 17 34 57.1
comp=Z,66nm,1.8s
E60A Ste Agathe de 83.77 27 P **P** **17 34 34.3 -0.8**
DIB Dawson Inlet, 83.79 348 IAMs_20 IAMs_20 18 04 27.9
comp=Z,2µm,18.0s
D58A Chemin du LacG 83.81 26 P **P** **17 34 33.8 -1.4**
baz=214
FFC Flin Flon 83.96 6 *e*P **P** **17 34 36.9 +1.1**
FFC Flin Flon 83.96 6 P **P** **17 34 36.4 +0.6**
FFC IAmb IAmb 17 34 44.8
comp=Z,57nm,1.8s
G64A Maxfield 83.99 29 P **P** **17 34 34.8 -1.4**
baz=217
EMMW East Machias 84.13 30 IAMs_20 IAMs_20 18 06 47.8
comp=Z,2µm,22.0s
F63A Nahmakanta, Br 84.20 29 P **P** **17 34 36.3 -1.0**
baz=217
F63A Nahmakanta, Br 84.20 29 P **P** **17 34 37.6 +0.3**
F63A IAmb IAmb 17 34 50.5
comp=Z,28nm,1.1s
E61A Lac Etchemin 84.21 28 P **P** **17 34 37.3 0.0**
baz=216
MATQ Matagami 84.38 22 P **P** **17 34 38.0 -0.1**
baz=210
G65A Princeton 84.47 30 P **P** **17 34 38.4 -0.1**
baz=218
G65A Princeton 84.47 30 IAMs_20 IAMs_20 18 07 01.0
comp=Z,2µm,21.0s
F64A Sherman 84.65 29 P **P** **17 34 39.3 -0.3**
baz=218
E62A Clayton Lake 84.76 28 P **P** **17 34 40.0 0.0**
baz=217
E62A Clayton Lake 84.76 28 IAMs_20 IAMs_20 18 10 08.5
comp=Z,2µm,18.0s
E63A Oxbow 85.06 29 P **P** **17 34 41.3 -0.3**
baz=218
E64A Bridgewater 85.31 29 P **P** **17 34 42.6 -0.3**
baz=218
D62A Allapoint, All 85.32 28 IAMs_20 IAMs_20 18 09 51.4
comp=Z,2µm,20.0s
D63A Stockhm 85.68 29 P **P** **17 34 44.1 -0.6**
baz=218
CRAG Craig 86.07 348 IAMs_20 IAMs_20 18 06 12.2
comp=Z,2µm,18.0s
LMN Caledonia Moun 86.20 31 IAMs_20 IAMs_20 18 07 00.7
comp=Z,3µm,21.0s
BATG Bathurst New B 86.74 30 IAMs_20 IAMs_20 18 08 20.9
comp=Z,2µm,21.0s
WRAK Wrangell Islan 86.84 349 P **P** **17 34 50.7 +0.6**
WRAK IAmb IAmb 17 35 05.3
comp=Z,69nm,1.9s
WRAK Wrangell Islan 86.84 349 IAMs_20 IAMs_20 18 05 11.7
comp=Z,3µm,20.0s
STKA Stephens Creek 87.18 235 P **P** **17 34 51.4 -1.3**
comp=Z,2.0nm,0.9s,baz=111,slow=11,SNR=4.8
STKA LR LR 18 06 10.2
comp=Z,2µm,21.8s,baz=122,slow=30
STKA Stephens Creek 87.18 235 P **P** **17 34 51.4 -1.3**
STKA pmax pmax
comp=Z,5.0nm,1.4s
STKA MLR MLR
comp=Z,500nm,22.0s
STKA Stephens Creek 87.18 235 IAmb IAmb 17 34 58.2
comp=Z,4.9nm,1.4s
STKA IAMs_20 IAMs_20 18 05 02.1
comp=Z,543nm,22.0s
SIT Sitka 87.97 348 IAMs_20 IAMs_20 18 06 16.6
comp=Z,1µm,20.0s
DLBC Dease Lake 88.43 351 P **P** **17 34 57.3 -0.6**
DLBC IAMs_20 IAMs_20 18 07 59.7
comp=Z,2µm,19.0s
CTA Charters Tower 89.79 247 P **P** **17 35 04.5 -0.8**
comp=Z,14nm,0.8s,baz=130,slow=3.3,SNR=7.7
CTAO Charters Tower 89.79 247 IAMs_20 IAMs_20 18 08 12.3
comp=Z,2µm,20.0s
DHAK Deception Hill 90.43 347 IAMs_20 IAMs_20 18 08 17.5
comp=Z,1µm,18.0s
H11S2 WAKE ISLAND Hy 91.19 290 T T 19 16 19.2
baz=118,slow=75,SNR=7.8
H11S1 WAKE ISLAND Hy 91.20 290 T T 19 16 10.8
baz=118,slow=75,SNR=9.9
H11S3 WAKE ISLAND Hy 91.20 290 T T 19 16 14.1
baz=118,slow=75,SNR=7.0
YKA Yellowknife Ar 91.28 359 P **P** **17 35 09.6 -1.4**
comp=Z,1.3nm,0.8s,baz=174,slow=5.3,SNR=14
YKA PKKPbc **PKKPdf** **17 52 33.2 -0.1**
comp=Z,0.4nm,0.8s,baz=331,slow=2.7,SNR=4.8
YKA LR LR 18 11 40.4
comp=Z,5µm,18.5s,baz=0.0,slow=33
WHY Whitehorse 91.30 349 P **P** **17 35 11.5 +0.2**
H11N3 WAKE ISLAND Hy 91.63 292 T T 19 16 37.4
baz=121,slow=76,SNR=4.1
H11N1 WAKE ISLAND Hy 91.65 292 T T 19 16 40.3
baz=121,slow=76,SNR=5.8
H11N2 WAKE ISLAND Hy 91.65 292 T T 19 16 35.9
baz=121,slow=76,SNR=4.9
PCA Pinnacle 91.77 346 IAMs_20 IAMs_20 18 06 10.8
comp=Z,2µm,22.0s
HYT Haines Junctio 91.91 348 P **P** **17 35 13.5 -0.6**
HYT **pP** **17 35 15.6 -0.5**
HYT IAmb IAmb 17 35 32.1
comp=Z,21nm,1.6s
DRLN Deer Lake 92.06 32 IAMs_20 IAMs_20 18 12 17.8
comp=Z,2µm,22.0s
MESA MESA 92.20 346 P **P** **17 35 15.0 -0.5**
MESA IAMs_20 IAMs_20 18 09 13.2
comp=Z,2µm,18.0s
SCHQ Schefferville 92.31 24 P **P** **17 35 15.8 -0.1**
comp=Z,3.7nm,0.8s,baz=257,slow=4.6,SNR=4.6
SCHQ LR LR 18 15 18.8
comp=Z,627nm,18.4s,baz=222,slow=35
YAH Yahtse 92.32 346 P **P** **17 35 15.0 -1.2**
YAH **PcP** **17 35 15.6 -1.3**
YAH IAmb IAmb 17 35 27.8
comp=Z,31nm,1.4s
YAH IAMs_20 IAMs_20 18 06 58.4
comp=Z,2µm,21.0s
OHAK Old Harbor 92.63 339 IAMs_20 IAMs_20 18 06 34.6
comp=Z,2µm,22.0s
WAX Waxell Ridge 92.64 345 P **P** **17 35 17.7 +0.3**
WAX IAmb IAmb 17 35 32.5
comp=Z,39nm,1.5s
WAX IAMs_20 IAMs_20 18 06 51.8
comp=Z,2µm,22.0s
RABL Rabaul 92.70 264 P **P** **17 35 17.3 -1.5**
KRVT Keravat (AS076 92.77 264 P **P** **17 35 18.4 -0.7**
comp=Z,27nm,1.1s,baz=192,slow=21,SNR=4.2
KRVT LR LR 18 09 31.3
comp=Z,1µm,21.7s,baz=108,slow=31
KDAK Kodiak Island 92.88 340 IAMs_20 IAMs_20 18 09 50.1
comp=Z,2µm,19.0s
BARN Barnard Glacie 92.94 346 P **P** **17 35 18.1 -0.8**
BARN IAmb IAmb 17 35 31.0
comp=Z,18nm,1.2s
BARN IAMs_20 IAMs_20 18 06 56.7
comp=Z,2µm,21.0s
BALM Baldy 93.06 346 P **P** **17 35 18.4 -1.0**
BALM IAmb IAmb 17 35 50.5
comp=Z,30nm,1.8s
BALM IAMs_20 IAMs_20 18 07 22.0
comp=Z,2µm,22.0s
HIN Hinchinbrook I 93.44 344 IAMs_20 IAMs_20 18 07 39.0
comp=Z,2µm,20.0s
VRDI Verde Repeater 93.47 346 IAMs_20 IAMs_20 18 07 17.8
comp=Z,2µm,22.0s
CHGN Chignik 93.59 336 IAMs_20 IAMs_20 18 07 19.1
comp=Z,2µm,21.0s
SDPT Sand Point 93.61 335 IAMs_20 IAMs_20 18 08 25.4
comp=Z,2µm,20.0s
GLB Gilahina Butte 93.74 345 IAMs_20 IAMs_20 18 07 39.0
comp=Z,2µm,22.0s
FID Port Fidalgo 93.74 344 IAMs_20 IAMs_20 18 08 00.3
comp=Z,2µm,20.0s
CNPM China Poot 93.94 341 IAMs_20 IAMs_20 18 08 31.1
comp=Z,2µm,21.0s
SEW Seward 93.94 342 IAMs_20 IAMs_20 18 07 41.2
comp=Z,2µm,20.0s
GLI Glacier Island 94.01 344 IAMs_20 IAMs_20 18 07 38.0
comp=Z,2µm,22.0s
BRLK Bradley Lake 94.04 342 IAMs_20 IAMs_20 18 08 32.7
comp=Z,2µm,22.0s
HOM Homer 94.16 341 IAMs_20 IAMs_20 18 08 39.1
comp=Z,2µm,21.0s
FALS False Pass 94.37 333 IAMs_20 IAMs_20 18 07 46.5
comp=Z,2µm,21.0s
PMG Port Moresby 94.45 257 IAMs_20 IAMs_20 18 11 35.6
comp=Z,1µm,20.0s
AKUT Akutan 94.80 332 IAMs_20 IAMs_20 18 08 27.9
comp=Z,2µm,21.0s
KNK Knik Glacier 94.80 344 IAMs_20 IAMs_20 18 08 30.0
comp=Z,2µm,21.0s
RC01 Rabbit Creek A 94.85 343 IAMs_20 IAMs_20 18 08 30.3
comp=Z,2µm,21.0s
SCM Sheep Creek Mo 94.89 344 IAMs_20 IAMs_20 18 08 37.4
comp=Z,2µm,21.0s
MENT Mentasta 95.06 346 P **P** **17 35 28.4 0.0**
SML Sawmill 95.11 344 IAMs_20 IAMs_20 18 08 11.2
comp=Z,2µm,22.0s
PMR Palmer 95.12 343 P **P** **17 35 27.6 -1.1**
PMR pmax pmax
comp=Z,15nm,0.6s
PMR MLR MLR
comp=Z,2µm,20.0s
PMR Palmer 95.12 343 P **P** **17 35 27.6 -1.1**
PMR IAMs_20 IAMs_20 18 08 40.5
comp=Z,2µm,20.0s
GHO Glory Hole Cre 95.23 344 P **P** **17 35 30.2 +0.9**
GHO IAmb IAmb 17 35 41.1
comp=Z,16nm,1.1s
GHO IAMs_20 IAMs_20 18 08 24.2
comp=Z,2µm,21.0s
DAWY Dawson 95.25 348 P **P** **17 35 30.0 +0.7**
DAWY IAMs_20 IAMs_20 18 12 16.9
comp=Z,2µm,18.0s
DOT Dot Lake 95.76 346 P **P** **17 35 31.5 -0.1**
DOT IAMs_20 IAMs_20 18 08 59.6
comp=Z,2µm,22.0s
DHY Denali Highway 95.98 345 P **P** **17 35 32.1 -0.7**
DHY IAmb IAmb 17 35 44.5
comp=Z,21nm,1.6s
DHY IAMs_20 IAMs_20 18 09 16.1
comp=Z,2µm,22.0s
RIDG Independent Ri 96.01 346 IAMs_20 IAMs_20 18 09 05.8
comp=Z,2µm,21.0s
SCRK Sand Creek 96.04 347 P **P** **17 35 34.0 +1.0**
SCRK IAMs_20 IAMs_20 18 09 08.7
comp=Z,2µm,22.0s
EGAK Eagle 96.22 348 P **P** **17 35 34.0 +0.4**
EGAK IAMs_20 IAMs_20 18 11 03.4
comp=Z,1µm,20.0s
RND Reindeer 96.61 344 P **P** **17 35 35.5 0.0**
RND pmax pmax
comp=Z,34nm,1.8s
RND MLR MLR
comp=Z,2µm,22.0s
RND Reindeer 96.61 344 P **P** **17 35 35.5 0.0**
RND IAMs_20 IAMs_20 18 08 49.8
comp=Z,2µm,22.0s
MCK McKinley 96.91 345 P **P** **17 35 36.6 -0.2**
MCK pmax pmax
comp=Z,15nm,1.1s
MCK MLR MLR
comp=Z,2µm,21.0s
MCK McKinley 96.91 345 P **P** **17 35 36.6 -0.2**
MCK IAmb IAmb 17 35 50.9
comp=Z,15nm,1.1s
MCK IAMs_20 IAMs_20 18 09 22.6
comp=Z,2µm,21.0s
TRF Thorofare Moun 96.99 344 P **P** **17 35 36.4 -1.0**
TRF IAMs_20 IAMs_20 18 09 42.8
comp=Z,2µm,22.0s
PPLA Purkeypile 97.00 343 P **P** **17 35 36.4 -1.1**
PPLA IAMs_20 IAMs_20 18 09 40.2
comp=Z,1µm,21.0s
HDA Harding Lake 97.04 346 IAMs_20 IAMs_20 18 10 05.2
comp=Z,1µm,22.0s
KTH Kantishna Hill 97.23 344 P **P** **17 35 37.0 -1.4**
KTH IAMs_20 IAMs_20 18 10 00.2
comp=Z,1µm,20.0s
IL31 97.34 346 P **P** **17 35 36.0 -2.6**
ILAR Eielson Array 97.34 346 P Pdif 17 35 40.4 +1.5
comp=Z,1.4nm,0.8s,baz=177,slow=4.7,SNR=8.5
ILAR LR LR 18 10 37.2
comp=Z,1µm,21.1s,baz=138,slow=30
WRH Wood River Hil 97.35 345 P **P** **17 35 34.9 -3.8**
WRH **PcP** **17 35 37.5 -1.3**
WRH IAmb IAmb 17 35 47.7
comp=Z,15nm,1.2s
WRH IAMs_20 IAMs_20 18 10 12.3
comp=Z,2µm,21.0s
ASAR Alice Springs 97.42 238 P **P** **17 35 38.6 -1.7**
comp=Z,0.5nm,0.8s,baz=122,slow=4.6,SNR=7.5
ASAR PP **PP** **17 39 38.7 +1.9**
comp=Z,0.5nm,1.0s,baz=133,slow=5.4,SNR=2.3
ASAR LR LR 18 12 59.5
comp=Z,3µm,21.8s,baz=140,slow=31
CCB Clear Creek Bu 97.44 345 P **P** **17 35 38.2 -1.0**
CCB IAMs_20 IAMs_20 18 10 15.6
comp=Z,2µm,21.0s
COLA College 97.64 346 *de*P Pdif 17 35 40.7 +0.6
COLA pmax pmax
comp=Z,7.0nm,0.9s
COLA College 97.64 346 P **P** **17 35 37.8 -2.2**
COLA College 97.64 346 IAMs_20 IAMs_20 18 10 42.1
comp=Z,1µm,19.0s
BPAW Bear Paw Mtn. 97.70 344 P **P** **17 35 39.4 -1.0**
BPAW IAmb IAmb 17 35 54.3
comp=Z,14nm,1.1s
BPAW IAMs_20 IAMs_20 18 10 23.7
comp=Z,1µm,20.0s
PRP Porcupine Dome 97.71 347 IAMs_20 IAMs_20 18 12 53.0
comp=Z,1µm,18.0s
POKR Poker Flat Res 97.76 346 P Pdif 17 35 41.9 +1.2
baz=149
INK Inuvik 98.37 352 IAMs_20 IAMs_20 18 12 28.3
comp=Z,2µm,21.0s
MLY Manley 98.43 345 IAMs_20 IAMs_20 18 11 00.0
comp=Z,1µm,20.0s
C36M Paulatuk 98.52 356 IAMs_20 IAMs_20 18 13 15.5
comp=Z,2µm,22.0s
FYU Fort Yukon 98.58 347 P **P** **17 35 42.9 -1.3**
FYU IAMs_20 IAMs_20 18 10 51.9
comp=Z,2µm,21.0s
SPIA Saint Paul Isl 98.74 332 IAMs_20 IAMs_20 18 10 53.0
comp=Z,2µm,21.0s
FRB Frobisher Bay 98.79 18 LR LR 18 18 16.6
comp=Z,2µm,18.6s,baz=220,slow=34
WRA Warramunga Arr 99.25 241 P **Pdif** **17 35 48.0 -0.6**
comp=Z,1.1nm,0.8s,baz=125,slow=4.3,SNR=4.3
WRA PP **PP** **17 39 55.7 +4.7**
comp=Z,1.0nm,1.0s,baz=108,slow=6.5,SNR=2.1

WRA LR LR 18 14 15.1
comp=Z,7μm,21.9s,baz=130,slow=32
WRA Warramunga Arr 99.25 241 P **Pdif 17 35 48.0 -0.6**
ANM Nome 102.04 339 IAMs_20 IAMs_20 18 12 55.3
comp=Z,2μm,22.0s
NWAO Narrogin (SRO) 102.40 221 IAMs_20 IAMs_20 18 12 00.9
comp=Z,2μm,19.0s
H01W1 Cape Leeuwin H 102.65 218 T T 19 30 37.3
baz=138,slow=76,SNR=103
H01W2 Cape Leeuwin H 102.66 218 T T 19 30 37.8
baz=138,slow=76,SNR=88
H01W3 Cape Leeuwin H 102.67 218 T T 19 30 38.6
baz=138,slow=76,SNR=114
SMY Shemya 103.45 323 IAMs_20 IAMs_20 18 12 17.8
comp=Z,1μm,22.0s
GAMB Gambell 103.58 337 IAMs_20 IAMs_20 18 15 34.0
comp=Z,2μm,20.0s
RDOG Red Dog Mine 103.83 343 IAMs_20 IAMs_20 18 13 39.5
comp=Z,1μm,22.0s
IVI Ivigtut 103.84 27 IAMs_20 IAMs_20 18 17 56.1
comp=Z,1μm,20.0s
RES Resolute Bay 104.16 5 IAMs_20 IAMs_20 18 19 37.7
comp=Z,2μm,20.0s
SFJD Kangerlussuaq 106.40 21 IAMs_20 IAMs_20 18 23 45.5
comp=Z,1μm,18.0s
ILULI Ilulissat 107.58 19 IAMs_20 IAMs_20 18 23 34.5
comp=Z,2μm,20.0s
TULEG Thule 108.77 10 IAMs_20 IAMs_20 18 22 47.7
comp=Z,2μm,20.0s
PMOZ Porto Moniz, M 109.16 63 *e*PP **PP 17 40 58.4 -6.9**
PMOZ *i* LQ LQ 17 50 40.1
PMOZ Porto Moniz, M 109.16 63 *e*LR LR 18 14 18.1
comp=Z,1μm,18.0s
PMPST Porto Santo, M 109.92 63 *e*PP **PP 17 41 04.1 -6.6**
PMPST Porto Santo, M 109.92 63 *i* LQ LQ 17 56 57.6
FAKI Fak Fak 110.45 254 IAMs_20 IAMs_20 18 27 13.6
comp=Z,1μm,19.0s
SUMG Summit 112.86 18 IAMs_20 IAMs_20 18 25 58.0
comp=Z,2μm,19.0s
BORG Borgarnes 116.37 29 IAMs_20 IAMs_20 18 24 15.5
comp=Z,1μm,20.0s
TORD Torodi Ar. Bea 117.24 90 PKP **PKPdf 17 40 51.1 -1.1**
comp=Z,0.5nm,0.8s,baz=299,slow=6.5,SNR=2.2
TORD PP **PP 17 42 01.4 -1.5**
comp=Z,1.1nm,0.9s,baz=279,slow=3.3,SNR=3.9
PMAFR Mafra 117.26 59 *e*PP PP 17 42 05.4 +2.6
PMAFR *i* LQ LQ 17 51 59.4
PMAFR *e*SS SS 17 58 22.3 +9.3
MORF Marmelete 117.27 61 *e*PP PP 17 42 04.5 +1.6
MORF *i* LQ LQ 17 52 00.8
MORF *e*SS SS 17 58 15.6 +2.4
PNCL Nicolau / Gran 117.59 60 *e*PP PP 17 42 09.3 +4.3
PNCL *i* LQ LQ 17 52 01.9
PNCL *e*SS SS 17 58 27.7 +10
YUK Yuzh-Kuril'sk 117.60 307 *i* PKIKP **PKPdf 17 40 51.6 -0.4**
YUK *e* 17 42 04.8
YUK *e*PPP PPP 17 44 32.7
YUK *e* 17 48 06.6
YUK *e*SS SS 17 58 20.9 +3.9
YUK *e*SSS SSS 18 02 39.3
PSBE So Bento 117.78 58 *e*PP PP 17 42 10.5 +4.1
PSBE *i* LQ LQ 17 52 03.9
PSBE *e*SS SS 17 58 37.9 +18
PBDV Barranco-do-Ve 117.80 61 *e*PP PP 17 42 10.2 +3.7
PBDV *i* LQ LQ 17 52 03.8
PBDV *e*SS SS 17 58 30.9 +11
PCVE Castro Verde 117.83 60 *e*PP PP 17 42 10.8 +4.1
PCVE *i* LQ LQ 17 52 04.5
MA2 Magadan 117.98 325 IAMs_20 IAMs_20 18 21 38.0
comp=Z,1μm,21.0s
PVAQ Vaqueiros 118.01 61 *e*PP PP 17 42 11.9 +4.0
PVAQ *i* LQ LQ 17 52 05.0
PVAQ *e*SS SS 17 58 32.6 +10
PVAQ Vaqueiros 118.01 61 *e*LR LR 18 18 09.5
comp=Z,1μm,20.0s
PVAQ Vaqueiros 118.01 61 IAMs_20 IAMs_20 18 24 27.6
comp=Z,2μm,22.0s
PMTG Montargil 118.09 59 *e*PP PP 17 42 12.3 +3.9
PMTG *i* LQ LQ 17 52 04.9
PMTG *e*SS SS 17 58 30.9 +7.2
PCAS Casmilo, Conde 118.15 58 *e*PP PP 17 42 09.9 +1.0
PCAS *i* LQ LQ 17 52 00.0
PCAS *e*SS SS 17 58 28.1 +3.6
COI Coimbra 118.25 58 *e*PP PP 17 42 13.6 +4.0
COI *i* LQ LQ 17 52 09.2
COI *e*SS SS 17 58 43.8 +18
COI Coimbra 118.25 58 IAMs_20 IAMs_20 18 24 33.0
comp=Z,1μm,20.0s
PMRV Marv??o 118.81 59 *e*PP PP 17 42 15.7 +2.2
PMRV *i* LQ LQ 17 52 11.2
PMRV *e*SS SS 17 58 40.3 +7.3
PMRV Marv??o 118.81 59 *e*LR LR 18 18 37.7
comp=Z,962nm,22.0s
PGAV Gavieira, Arco 118.81 56 *i* LQ LQ 17 52 10.7
PGAV Gavieira, Arco 118.81 56 *e*LR LR 18 18 36.6
comp=Z,710nm,18.0s
SFS San Fernando 118.90 62 IAMs_20 IAMs_20 18 35 04.4
comp=Z,897nm,20.0s
MTE Manteigas 118.94 58 *e*PP PP 17 42 16.7 +2.2
MTE *i* LQ LQ 17 52 11.0
MTE *e*SS SS 17 58 42.6 +7.7
MTE Manteigas 118.94 58 *e*LR LR 18 18 48.1
comp=Z,1μm,20.0s
MTE Manteigas 118.94 58 IAMs_20 IAMs_20 18 25 03.3
comp=Z,1μm,21.0s
ERM Erimo 119.01 304 IAMs_20 IAMs_20 18 25 49.9
comp=Z,1μm,20.0s
LUWI Luwuk 119.39 250 IAMs_20 IAMs_20 18 30 49.0
comp=Z,1μm,20.0s
MVO Moncorvo 119.52 57 *e*PP PP 17 42 20.6 +2.2
MVO *i* LQ LQ 17 52 17.2
MVO *e*SS SS 17 58 59.4 +17
MVO Moncorvo 119.52 57 *e*LR LR 18 18 41.0
comp=Z,1μm,18.0s
YSS Yuzh-Sakhalins 120.38 310 *i* PKIKP **PKPdf 17 40 54.0 -3.3**
YSS *e*PPS PPS 17 52 12.6
YSS *e*SS SS 17 58 54.6 +1.7
YSS *e*SSS SSS 18 03 17.4
YSS Yuzh-Sakhalins 120.38 310 IAMs_20 IAMs_20 18 24 34.9
comp=Z,791nm,20.0s
PAB San Pablo 121.12 59 IAMs_20 IAMs_20 18 25 17.8
comp=Z,1μm,21.0s
MAJO Matsushiro 121.37 297 IAMs_20 IAMs_20 18 24 22.5
comp=Z,816nm,21.0s
ES15 SONSECA Array 121.41 59 IAMs_20 IAMs_20 18 28 28.5
comp=Z,1μm,20.0s
ES14 SONSECA Array 121.41 59 IAMs_20 IAMs_20 18 28 45.7
comp=Z,1μm,21.0s
ES16 SONSECA Array 121.42 59 IAMs_20 IAMs_20 18 28 45.8
comp=Z,1μm,20.0s
ES13 SONSECA Array 121.43 59 IAMs_20 IAMs_20 18 25 49.1
comp=Z,1μm,21.0s
ES17 SONSECA Array 121.43 59 IAMs_20 IAMs_20 18 28 43.3
comp=Z,1μm,20.0s
ESDC Sonseca Array 121.44 59 PKP **PKPdf 17 40 59.2 -0.4**
comp=Z,1.0nm,0.8s,baz=278,slow=2.4,SNR=5.7
ESBB Sonseca Array 121.44 59 IAMs_20 IAMs_20 18 28 42.3
comp=Z,1μm,20.0s
ES07 SONSECA Array 121.45 59 IAMs_20 IAMs_20 18 28 45.6
comp=Z,1μm,20.0s
ES18 SONSECA Array 121.45 59 IAMs_20 IAMs_20 18 28 43.8
comp=Z,1μm,20.0s
ES11 SONSECA Array 121.46 59 IAMs_20 IAMs_20 18 25 25.0
comp=Z,1μm,20.0s
ES08 SONSECA Array 121.47 59 IAMs_20 IAMs_20 18 28 31.2
comp=Z,1μm,20.0s
ES10 SONSECA Array 121.48 59 IAMs_20 IAMs_20 18 25 51.4
comp=Z,1μm,21.0s
ES09 SONSECA Array 121.48 59 IAMs_20 IAMs_20 18 25 52.6
comp=Z,1μm,20.0s
ES19 SONSECA Array 121.49 59 IAMs_20 IAMs_20 18 28 42.7
comp=Z,1μm,20.0s
DSB Dublin 122.15 43 IAMs_20 IAMs_20 18 30 10.1
comp=Z,876nm,21.0s
CART Cartagena 123.22 62 IAMs_20 IAMs_20 18 28 56.6
comp=Z,1μm,20.0s
ESK Eskdalemuir 124.17 41 IAMs_20 IAMs_20 18 31 39.5
comp=Z,840nm,18.0s
TIXI Tiksi 126.30 340⇑ *e*PKIKP **PKPdf 17 41 06.5 -1.4**
TIXI Tiksi 126.30 340 PKPpre 17 41 04.5
TIXI IAMs_20 IAMs_20 18 31 12.6
comp=Z,1μm,20.0s
JOW Kunigami 126.86 283 IAMs_20 IAMs_20 18 25 07.0
comp=Z,1μm,22.0s
CLF Chambon-Foret 127.15 50 IAMs_20 IAMs_20 18 34 34.1
comp=Z,1μm,19.0s
USRK Ussuriysk Ar. 127.44 305 PKP **PKiKP 17 41 11.3 -0.1**
comp=Z,0.6nm,0.6s,baz=49,slow=4.4,SNR=1.4
ABPO Ambohimpanom 128.29 155 IAMs_20 IAMs_20 18 30 08.5
comp=Z,1μm,20.0s
YAK Yakutsk 128.29 328 PKP **PKPdf 17 41 11.4 -0.5**
comp=Z,1.5nm,0.4s,baz=171,slow=3.8,SNR=4.4
YAK Yakutsk 128.29 328 PKIKP **PKPdf 17 41 07.2 -4.7**
YAK MLR MLR
comp=Z,1μm,20.0s
YAK Yakutsk 128.29 328 PKPpre 17 41 07.2
YAK IAMs_20 IAMs_20 18 29 56.5
comp=Z,1μm,20.0s
UCC Uccle 128.62 46 IAMs_20 IAMs_20 18 28 37.7
comp=Z,1μm,22.0s
KKM Kota Kinabalu 128.74 253 IAMs_20 IAMs_20 18 35 41.1
comp=Z,1μm,20.0s
MDJ Mudanjiang 129.19 306 PKP **PKiKP 17 41 15.3 +0.4**
MDJ PP **PP 17 43 27.2 +4.1**
MDJ SKS **SKSdf 17 48 30.6 +4.6**
MDJ LR LR
comp=Z,340nm,27.1s
MDJ LR LR
comp=Z,570nm,19.9s
MDJ LR LR
comp=Z,1μm,21.4s
MDJ Mudanjiang 129.19 306 IAMs_20 IAMs_20 18 26 05.2
comp=Z,788nm,22.0s
KSRS Korea Array 129.61 296 PKP **PKiKP 17 41 16.0 0.0**
comp=Z,0.6nm,0.7s,baz=101,slow=2.6,SNR=1.7
KSRS Korea Array 129.61 296 PKIKP **PKiKP 17 41 16.0 0.0**
WLF Walferdange 129.77 48 IAMs_20 IAMs_20 18 35 20.3
comp=Z,874nm,21.0s
SBUM Sibu 129.99 246 IAMs_20 IAMs_20 18 37 46.8
comp=Z,836nm,19.0s
SENIN Lac Senin/Sane 130.50 52 IAMs_20 IAMs_20 18 37 53.9
comp=Z,763nm,19.0s
ZEA Zeya 130.67 317 *e*PKIKP **PKiKP 17 41 17.2 -0.4**
ZEA *e* 17 46 20.0
ZEA pmax pmax
comp=Z,32nm,1.8s
KONO Kongsberg 130.72 35 IAMs_20 IAMs_20 18 31 08.3
comp=Z,870nm,22.0s
NOA NORSAR Array B 131.19 33 PKP **PKPdf 17 41 15.9 -1.6**
comp=Z,0.3nm,0.6s,baz=291,slow=2.0,SNR=2.1
BFO Black Forest 131.22 50 IAMs_20 IAMs_20 18 45 37.7
comp=Z,782nm,18.0s
VSL Villasalto 131.56 61 IAMs_20 IAMs_20 18 37 06.3
comp=Z,758nm,20.0s
TUE Stuetta 131.92 52 IAMs_20 IAMs_20 18 35 14.5
comp=Z,1μm,20.0s
MSSA Maissana 132.00 55 IAMs_20 IAMs_20 18 33 05.8
comp=Z,861nm,22.0s
FUORN Ofenpass-Fuorn 132.56 52 PKPdf **PKPdf 17 41 21.5 +0.6**
FUORN IAMs_20 IAMs_20 18 35 34.1
comp=Z,966nm,20.0s
PRMA PARMA 132.59 54 IAMs_20 IAMs_20 18 32 46.1
comp=Z,1μm,22.0s
VLC Villacollemand 132.62 55 IAMs_20 IAMs_20 18 33 51.2
comp=Z,748nm,20.0s
GRA1 Grafenberg Arr 133.06 48 IAMs_20 IAMs_20 18 37 04.3
comp=Z,972nm,19.0s
KEV Kevo 133.23 18 IAMs_20 IAMs_20 18 40 38.3
comp=Z,827nm,19.0s
OSSC Osservatorio P 133.23 56 IAMs_20 IAMs_20 18 36 25.3
comp=Z,761nm,20.0s
SNY Shenyang 133.41 301⇓ PKP PKiKP 17 41 41.0 +17
SNY PP **PP 17 43 48.6 -1.8**
SNY Shenyang 133.41 301 SS SS 18 01 02.2 -33
SNY AMB AMB
comp=Z,96nm,10.4s
SNY LR LR
comp=N,270nm,21.4s
SNY LR LR
comp=E,420nm,21.4s
SNY LR LR
comp=Z,930nm,22.6s
CTI Castel Tesino 133.53 53 IAMs_20 IAMs_20 18 34 32.9
comp=Z,1μm,21.0s
RGN Rugen 133.72 41 IAMs_20 IAMs_20 18 37 31.9
comp=Z,1μm,19.0s
NKC Novy Kostel 133.80 47 *e*SS SS 18 02 00.4 +20
NKC AMS AMS 18 37 00.0
comp=Z,900nm,18.9s
CLL Collm 134.03 45 *e*PKPdf **PKiKP 17 41 25.0 +0.5**
comp=Z,26nm,2.0s
CLL *e*PP **PP 17 43 52.0 -2.0**
CLL *e*PKSdf **PKSdf 17 45 01.0 +1.7**
CLL *e*PPP PPP 17 46 48.0
CLL *e*SKKSac SKKSac 17 50 54.0 +4.6
CLL *e*PS **PS 17 54 10.0 -3.8**
CLL *e*PPS PPS 17 56 00.0
CLL *e*SS **SS 18 01 41.0 -1.5**
CLL *e*SKSSKSac **S'S'ac 18 03 46.0 -4.1**
CLL *e*SSS SSS 18 06 48.0
CLL *e* 18 08 36.0
CLL *e*SSSS 18 10 18.0
CLL Lm MLR 18 38 00.0
comp=N,500nm,20.1s
CLL Lm MLR 18 38 00.0
comp=E,600nm,19.3s
CLL Lm MLR 18 38 00.0
comp=Z,1μm,19.1s
CLL Collm 134.03 45 *e*PKIKP **PKiKP 17 41 25.0 +0.5**
CLL *e* 17 43 52.0
CLL pmax pmax
comp=Z,26nm,2.0s
CLL MLR MLR
comp=Z,1μm,19.1s
CLL Collm 134.03 45 IAMs_20 IAMs_20 18 38 19.7
comp=Z,1μm,19.0s
ZOU Zoutplan 134.43 52 IAMs_20 IAMs_20 18 37 12.6
comp=Z,1μm,20.0s
KHC Kasperske Hory 134.65 48 *e*PKPDF **PKPdf 17 41 23.0 -1.5**
KHC *e*SS SS 18 01 53.2 +3.0
KHC AMS AMS 18 27 10.0
comp=Z,1μm,34.1s
KHC Kasperske Hory 134.65 48⇓ *e*PKIKP **PKPdf 17 41 22.8 -1.7**
BRG Berggiesshubel 134.68 46 PKP **PKiKP 17 41 27.0 +1.2**
BRG PP **PP 17 43 55.0 -3.1**
BRG PKS **PKSdf 17 45 02.0 +1.5**
BRG SKKS 17 50 47.0
BRG SS **SS 18 01 43.0 -7.3**
comp=N,369nm,19.7s
comp=E,725nm,17.6s
comp=Z,901nm,18.7s
BRG Berggiesshubel 134.68 46 PKIKP **PKiKP 17 41 27.0 +1.2**
BRG 17 43 55.0
BRG SS SS 18 01 43.0 -7.3
BRG MLR MLR
comp=N,369nm,19.7s
BRG MLR MLR
comp=E,725nm,17.6s
BRG MLR MLR
comp=Z,901nm,18.7s
GEC2 GERESS Array S 134.75 49 IAMs_20 IAMs_20 18 38 33.1
comp=Z,719nm,20.0s
GERES GERESS Array B 134.75 49 PKP **PKPdf 17 41 22.8 -1.9**
comp=Z,0.6nm,0.7s,baz=297,slow=4.3,SNR=2.1
AQU L'Aquila 134.79 58 IAMs_20 IAMs_20 18 33 18.7
comp=Z,938nm,22.0s
PRED Cave del Predi 134.84 52 IAMs_20 IAMs_20 18 35 00.6
comp=Z,935nm,21.0s
PRA Prague 135.09 47 *e*SS SS 18 01 55.6 +0.2
PVCC Panska Ves 135.12 46 AMS AMS 18 38 50.0
comp=Z,800nm,17.2s
PRU Pruhonice 135.17 47 *e*SS SS 18 02 07.6 +11
PRU AMS AMS 18 39 10.0
comp=Z,1μm,18.4s
GOPC GO Pecny, Ondr 135.34 47 *e*SS SS 18 02 17.2 +19
GOPC AMS AMS 18 37 20.0
comp=Z,900nm,19.9s
PAOL Paolisi 135.62 60 IAMs_20 IAMs_20 18 46 40.9
comp=Z,673nm,20.0s
HIA Hailar 135.82 312 IAMs_20 IAMs_20 18 43 13.3
comp=Z,717nm,18.0s
TREC Trest 135.87 48 AMS AMS 18 39 10.0
comp=Z,600nm,18.3s
UPC Upice 136.03 46 *e*SS SS 18 02 22.1 +15
UPC AMS AMS 18 33 00.0
comp=Z,1μm,24.2s
CHVC Chvalec 136.04 46 AMS AMS 18 33 00.0
comp=Z,900nm,22.9s
NJ2 Nanjing 136.09 287 *e*PKP **PKiKP 17 41 33.2 +3.9**
NJ2 PP **PP 17 44 08.4 +0.7**
NJ2 AMB AMB
comp=Z,120nm,9.5s
NJ2 LR LR
comp=Z,420nm,16.1s
NJ2 LR LR
comp=Z,390nm,19.0s
NJ2 LR LR
comp=Z,550nm,21.8s
OSTC Ostas 136.15 46 *e*SS SS 18 02 17.2 +9.1
OSTC AMS AMS 18 33 10.0
comp=Z,900nm,21.6s
DPC Dobruska-Polom 136.25 46 *e*SS SS 18 02 19.6 +10
DPC AMS AMS 18 33 20.0
comp=Z,900nm,21.4s
APA Apatity 136.44 18⇓ *i*PKIKP **PKPdf 17 41 27.7 +0.5**
APA pmax pmax
comp=Z,4.0nm,1.0s
APA MLR MLR
comp=Z,900nm,20.0s
LVZ Lovozero 136.54 17 *c i*PKIKP **PKiKP 17 41 29.2 0.0**
LVZ Lovozero 136.54 17 IAMs_20 IAMs_20 18 42 33.6
comp=Z,818nm,19.0s
KRLC Kraliky 136.59 47 *e*SS SS 18 02 43.7 +30
KRLC AMS AMS 18 32 20.0
comp=Z,800nm,21.3s
BOD Bodaibo 137.01 325 *e*PKIKP **PKiKP 17 41 33.9 +3.6**
BOD pmax pmax
comp=Z,17nm,1.9s
MORC Moravsky Berou 137.12 47 IAMs_20 IAMs_20 18 33 07.6
comp=Z,875nm,22.0s
TIP Timpagrande 137.24 63 IAMs_20 IAMs_20 18 43 20.8
comp=Z,1μm,20.0s
OKC Ostrava-Krasne 137.50 47 *e*SS SS 18 02 48.5 +24
OKC AMS AMS 18 32 50.0
comp=Z,700nm,22.8s
FINES FINESS Array B 137.67 28 PKP **PKPdf 17 41 30.1 +0.5**
comp=Z,1.0nm,0.7s,baz=328,slow=4.9,SNR=3.0
FINES PP **PP 17 44 17.8 +1.4**
comp=Z,1.4nm,1.0s,baz=200,slow=32,SNR=3.1
NRIK Noril'sk 138.09 350 PKP **PKPdf 17 41 31.2 +1.0**
comp=Z,1.1nm,0.5s,baz=100,slow=6.4,SNR=1.5
DLV T Lat 138.31 254 IAMs_20 IAMs_20 18 43 24.1
comp=Z,873nm,20.0s
BJI Beijing 138.97 299 PKP **PKPdf 17 41 31.8 -0.9**
BJI LR LR
comp=Z,370nm,17.7s
BJI LR LR
comp=Z,400nm,19.2s
BJI LR LR
comp=Z,450nm,22.7s
PSZ Piszkesteto 138.97 49 IAMs_20 IAMs_20 18 45 26.6
comp=Z,712nm,20.0s
BJT Baijiatuan 138.97 299 IAMs_20 IAMs_20 18 42 34.3
comp=Z,633nm,20.0s
PDG Podgorica 139.12 58 IAMs_20 IAMs_20 18 42 21.4
comp=Z,748nm,19.0s
SUW Suwalki 139.43 39 IAMs_20 IAMs_20 18 42 19.0
comp=Z,924nm,20.0s
WHN Wuhan 139.62 284⇓ PKP PKiKP 17 41 44.4 +7.9
WHN PP **PP 17 44 26.9 -2.8**
WHN LR LR
comp=N,1μm,20.0s
WHN LR LR
comp=E,250nm,11.6s
WHN LR LR
comp=Z,1μm,22.5s
TIR Tirane 139.62 59 IAMs_20 IAMs_20 18 39 20.6
comp=Z,685nm,21.0s
QIZ Qiongzhong 140.31 265 PKP **PKPdf 17 41 35.6 -0.2**
QIZ PP **PP 17 44 35.2 +1.1**
QIZ SS SS 18 03 01.6 +2.9
QIZ LR LR
comp=Z,140nm,12.9s
QIZ LR LR
comp=Z,360nm,19.0s
QIZ LR LR
comp=Z,380nm,17.6s
KWP Kalwaria Pacla 140.43 46 IAMs_20 IAMs_20 18 50 02.1
comp=Z,844nm,18.0s
NACGM Naroch 141.04 37 *e* PKiKP 17 41 50.0 +11
NACGM eLQ LQ 18 29 24.0
NACGM eLR LR 18 39 28.0
NACGM LRM MLR 18 47 00.0
comp=Z,3.2nm,19.0s
ITM Ithomi 141.24 66 IAMs_20 IAMs_20 18 42 08.8
comp=Z,897nm,20.0s
VTS Vitosha 142.04 57 IAMs_20 IAMs_20 18 45 49.5
comp=Z,717nm,19.0s
HHC Hu-ho-hao-te 142.46 300 *e*PKP **PKPdf 17 41 38.8 -0.3**
HHC PP **PP 17 44 49.7 +2.8**
HHC AMB AMB
comp=Z,81nm,4.7s
HHC LR LR
comp=Z,230nm,19.6s
HHC LR LR
comp=Z,500nm,19.6s
HHC LR LR
comp=Z,620nm,20.0s
VOIR 142.91 52⇑ P **PKPdf 17 41 40.3 +0.5**
VOIR 142.91 52⇓ PKIKP **PKPdf 17 41 40.6 +0.8**
KLMR Klimovskoe 143.12 23 *e*PKIKP PKPbc 17 41 37.3 +0.9
KLMR *e*SS SS 18 03 30.6 +2.0
KLMR pmax pmax
comp=Z,44nm,1.4s
KLMR Klimovskoe 143.12 23 *e*PKPdf PKPbc 17 41 37.4 +1.0
KLMR AMP 17 41 45.6
comp=Z,44nm,1.4s
KLMR *e*SS **SS 18 03 30.6 +2.0**
KLMR *e*SS **SS 18 03 30.6 +2.0**
KLMR LQ LQ 18 30 45.0
KLMR LQ LQ 18 30 45.0
KLMR LR LR 18 35 04.5
OZUR 143.28 51⇓ P **PKPdf 17 41 41.0 +0.6**
BIZ Bicaz 143.29 49⇓ P PKPab 17 41 36.5 +0.4
MLR Muntele Rosu 143.51 52⇓ P **PKPdf 17 41 42.6 +1.7**
MLR Muntele Rosu 143.51 52⇓ PKIKP **PKPdf 17 41 42.6 +1.7**
MLR Muntele Rosu 143.51 52 PKPpre 17 41 36.3
MLR IAMs_20 IAMs_20 18 52 18.1
comp=Z,997nm,18.0s
BTO Baotou 143.64 300 *e*PKP PKPbc 17 41 39.1 +0.4
ENH Enshi 143.72 282 PKPpre 17 41 35.3
VRI Vrincioaia 143.97 51⇑ P **PKPab 17 41 39.2 +0.4**
VRI Vrincioaia 143.97 51⇓ PKIKP **PKPdf 17 41 42.6 +1.1**
SANT Santorini 144.06 67 IAMs_20 IAMs_20 18 40 13.6
comp=Z,810nm,22.0s
AKASG Malin Array Be 144.08 42 PKhKP PKPpre 17 41 37.5
comp=Z,2.3nm,0.7s,baz=284,slow=3.5,SNR=15
AKBB Malin Array Si 144.08 42 PKPdf **PKPab 17 41 36.6 -2.4**
ALN Alexandroupoli 144.31 59 PKIKP **PKPab 17 41 39.7 -0.5**
ALN Alexandroupoli 144.31 59 **PKPab 17 41 39.7 -0.5**
ULN Ulaanbaatar 144.34 313 *de*PKIKP **PKPab 17 41 39.9 -0.5**
ULN Ulaanbaatar 144.34 313 PKPdf **PKPab 17 41 39.6 -0.8**
ULN PKPbc 17 41 40.1 -0.6
ULN Ulaanbaatar 144.34 313 IAMs_20 IAMs_20 18 40 51.8
comp=Z,982nm,20.0s
IRK Irkutsk 144.39 321 *e*PKIKP **PKiKP 17 41 45.6 -0.1**
IRK pmax pmax
comp=Z,116nm,2.6s
SORM Soroca 144.43 47⇑ P PKPbc 17 41 40.9 +0.2
SORM Soroca 144.43 47⇑ PKIKP PKPbc 17 41 40.9 +0.2
MSEY Mahe Island 144.47 159 IAMs_20 IAMs_20 18 34 03.8
comp=Z,1μm,22.0s
XAN Xi'an 144.60 289 PKP **PKPab 17 41 39.7 -1.9**
XAN sPKP 17 41 51.2
XAN AMB AMB
comp=Z,470nm,7.6s
XAN LR LR
comp=Z,350nm,20.6s
XAN LR LR
comp=Z,400nm,21.7s
XAN LR LR
comp=Z,580nm,21.7s
XAN Xi'an 144.60 289 PKIKP **PKPab 17 41 40.2 -1.4**
XAN MLR MLR
comp=Z,600nm,20.0s
XAN Xi'an 144.60 289 **PKPab 17 41 40.2 -1.4**
XAN Xi'an 144.60 289 IAMs_20 IAMs_20 18 59 50.6
comp=Z,630nm,20.0s
SONM Songino Array 144.78 313 PKP **PKPab 17 41 41.1 -0.8**
comp=Z,6.9nm,0.9s,baz=103,slow=2.4,SNR=22
TLY Talaya 144.99 320 *e*PKIKP PKPbc 17 41 41.8 -0.6
TLY pmax pmax
comp=Z,86nm,1.3s
KIS Kishinev 145.07 48 *e*P **PKiKP 17 41 50.0 +2.8**
KIS Kishinev 145.07 48 *e*PKIKP **PKiKP 17 41 49.5 +2.3**
CFR Carcaliu 145.09 52⇑ P **PKPbc 17 41 40.1 -2.7**

CFR	**Carcaliu**	**145.09**	**52**	⇓PKIKP		**PKPdf**	**17 41 43.7**	**+0.3**	
ICOR	**Ion Corvin**	**145.09**	**54**	⇑P		**PKiKP**	**17 41 46.4**	**-1.0**	
TOPG	**Topolog**	**145.33**	**52**	⇑P		**PKPab**	**17 41 44.2**	**+0.3**	
GYA	**Guiyang**	**145.42**	**275**	PKPbc		**PKPbc**	**17 41 44.4**	**-0.3**	
GYA				PKPab		**PKiKP**	**17 41 50.6**	**+1.9**	
GYA				sPKP			17 41 55.3		
GYA				LR	LR				
	comp=Z,460nm,20.3s								
GYA				LR	LR				
	comp=Z,330nm,22.4s								
GYA				LR	LR				
	comp=Z,460nm,18.9s								
KARP	**Karpathos**	**145.43**	**69**	IAMs_20	IAMs_20		18 42 19.9		
	comp=Z,721nm,22.0s								
TIRR	**Tirgusor**	**145.45**	**53**	⇑P		**PKiKP**	**17 41 46.7**	**-1.3**	
TIRR	**Tirgusor**	**145.45**	**53**	⇑PKIKP		**PKPab**	**17 41 46.1**	**+1.8**	
ZAK	**Zakamensk**	**145.75**	**318**	*e*PKIKP		**PKPdf**	**17 41 43.3**	**-1.3**	
ZAK				pmax	pmax				
	comp=Z,49nm,1.6s								
ZAK				pmax	pmax				
	comp=Z,25nm,1.5s								
OBN	**Obninsk**	**145.79**	**32**	⇑*e*PKP2		**PKPdf**	**17 41 44.4**	**+0.1**	
OBN				*e*			17 45 07.7		
OBN				*i* SS	SS		18 03 59.3	-0.2	
OBN				pmax	pmax				
	comp=Z,43nm,1.1s								
OBN				MLR	MLR				
	comp=Z,799nm,18.0s								
OBN	**Obninsk**	**145.79**	**32**	IAMs_20	IAMs_20		18 47 50.3		
	comp=Z,906nm,20.0s								
MOS	**Moscow**	**145.88**	**30**	*e*PKP2		**PKPdf**	**17 41 43.8**	**-0.6**	
MOS				*e*			17 45 15.9		
MOS				pmax	pmax				
	comp=Z,93nm,1.9s								
MOS				pmax	pmax				
	comp=Z,500nm,3.1s								
MOS				MLR	MLR				
	comp=Z,700nm,20.0s								
SLVN	**Son La**	**146.34**	**265**	IAMs_20	IAMs_20		18 45 51.2		
	comp=Z,921nm,21.0s								
PBKT	**Sadao Pong**	**146.91**	**255**	PKPdf		**PKPdf**	**17 41 47.7**	**+0.3**	
ELL	**Elmali**	**147.63**	**66**	PKP2		**PKiKP**	**17 41 52.4**	**-0.6**	
ELL	**Elmali**	**147.63**	**66**			**PKiKP**	**17 41 52.4**	**-0.6**	
ISP	**Isparta**	**148.05**	**64**	IAMs_20	IAMs_20		18 44 16.9		
	comp=Z,782nm,22.0s								
LPSR	**Galich'ya Gora**	**148.41**	**34**	*e*PKP2		**PKPbc**	**17 41 52.5**	**+0.2**	
LPSR				pmax	pmax				
	comp=Z,50nm,1.2s								
LPSR				MLR	MLR				
	comp=Z,930nm,20.0s								
KMI	**Kunming**	**148.52**	**271**	PKPbc		**PKPdf**	**17 41 47.8**	**-2.3**	
KMI				pPKP		sPKPdf	17 41 52.7	-0.2	
KMI	**Kunming**	**148.52**	**271**	PKP2		**PKPbc**	**17 41 52.7**	**-1.0**	
KMI				MLR	MLR				
	comp=Z,800nm,22.0s								
KMI	**Kunming**	**148.52**	**271**			**PKPbc**	**17 41 52.7**	**-1.0**	
KMI	**Kunming**	**148.52**	**271**	IAMs_20	IAMs_20		18 48 01.4		
	comp=Z,769nm,22.0s								
CD2	**Chengdu**	**148.69**	**282**	PKPbc		**PKPdf**	**17 41 50.5**	**+0.5**	
CD2				SKS		**SKSdf**	**17 48 59.7**	**+1.0**	
CD2				SKKS		**SKKSac**	**17 52 16.3**	**+0.5**	
CD2				SS		**SS**	**18 04 35.1**	**+0.2**	
CD2				AMB	AMB				
	comp=Z,360nm,9.3s								
CD2				LR	LR				
	comp=Z,710nm,18.7s								
CD2				LR	LR				
	comp=Z,590nm,21.6s								
CD2				LR	LR				
	comp=Z,900nm,20.1s								
LZH	**Lanzhou**	**148.79**	**292**	*e*PKPbc		**PKPbc**	**17 41 54.3**	**+0.3**	
LZH				SS		SS	18 04 39.1	+3.2	
LZH				AMB	AMB				
	comp=Z,260nm,9.2s								
LZH				LR	LR				
	comp=Z,460nm,16.8s								
LZH				LR	LR				
	comp=Z,480nm,16.8s								
LZH				LR	LR				
	comp=Z,510nm,17.9s								
SIM	**Simferopol'**	**149.22**	**50**	*i* PKHKP		PKPpre	17 41 49.1		
SIM				*e*			17 45 32.0		
SIM				pmax	pmax				
	comp=Z,100nm,8.0s								
VSR	**Storozhevoye**	**149.35**	**36**	*e*PKP2		**PKPbc**	**17 41 54.1**	**-0.6**	
VSR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
VSR				MLR	MLR				
	comp=Z,1µm,20.0s								
CM31	**Chiang Mai Arr**	**149.49**	**257**			**PKPbc**	**17 41 55.6**	**-0.5**	
CMAR	**Chiang Mai Arr**	**149.49**	**257**	PKPbc		**PKPbc**	**17 41 55.8**	**-0.3**	
	comp=Z,6.1nm,0.9s,baz=166,slow=1.4,SNR=32								
ANTO	**Ankara**	**149.56**	**60**	PKP2		**PKiKP**	**17 41 56.4**	**-0.4**	
ANTO				MLR	MLR				
	comp=Z,600nm,20.0s								
ANTO	**Ankara**	**149.56**	**60**			**PKiKP**	**17 41 56.4**	**-0.4**	
ANTO	**Ankara**	**149.56**	**60**	IAMs_20	IAMs_20		18 48 45.7		
	comp=Z,588nm,20.0s								
CHTO	**Chiang Mai**	**149.64**	**257**	PKHKP		PKPpre	17 41 55.1		
CHTO				MLR	MLR				
	comp=Z,1µm,20.0s								
CHTO	**Chiang Mai**	**149.64**	**257**			**PKPbc**	**17 41 55.1**	**-1.3**	
ILGA	**Ilgaz**	**150.01**	**57**			**PKPbc**	**17 41 56.5**	**-0.5**	
BR131	**Keskin Array S**	**150.22**	**60**	PKIKP		**PKPdf**	**17 41 54.3**	**+2.0**	
BR131	**Keskin Array S**	**150.22**	**60**			**PKPdf**	**17 41 54.2**	**+2.0**	
BRTR	**Keskin Array B**	**150.22**	**60**	PKPbc		**PKPbc**	**17 41 57.1**	**-0.3**	
	comp=Z,3.9nm,1.0s,baz=202,slow=2.4,SNR=11								
CSS	**Mathiatis**	**150.48**	**70**	IAMs_20	IAMs_20		18 47 15.7		
	comp=Z,1µm,21.0s								
VRH	**Novokhopyorsk**	**150.64**	**34**	*e*PKIKP		**PKPbc**	**17 41 57.5**	**-0.3**	
VRH				pmax	pmax				
	comp=Z,50nm,1.1s								
ANN	**Anapa**	**151.47**	**48**	*i* PKIKP		**PKPbc**	**17 41 57.6**	**-2.4**	
ANN				pmax	pmax				
	comp=Z,38nm,1.8s								
GTA	**Gaotai**	**151.57**	**300**	⇑PKPbc		**PKPbc**	**17 42 00.2**	**-0.4**	
GTA				PKPab		**sPKPab**	**17 42 17.7**	**+5.8**	
GTA				SKS		**SKSdf**	**17 49 05.0**	**+2.7**	
GTA				AMB	AMB				
	comp=Z,150nm,9.1s								
GTA				LR	LR				
	comp=Z,620nm,19.7s								
GTA				LR	LR				
	comp=Z,710nm,21.6s								
GTA				LR	LR				
	comp=Z,760nm,20.6s								
ARU	**Arti**	**151.94**	**11**	*i* PKIKP		**PKiKP**	**17 42 05.0**	**+4.0**	
ARU				SS		SS	18 05 04.5	-3.1	
ARU	**Arti**	**151.94**	**11**	PKPdf		**PKPdf**	**17 41 54.5**	**+0.3**	
ARU				IAMs_20	IAMs_20		18 50 35.4		
	comp=Z,1µm,20.0s								
ZAA0	**Zalesovo Array**	**152.16**	**338**	IAMs_20	IAMs_20		18 47 10.2		
	comp=Z,944nm,21.0s								
ZALV	**Zalesovo Beam**	**152.16**	**338**	PKPbc		**PKPbc**	**17 41 59.9**	**-1.4**	
	comp=Z,4.2nm,0.8s,baz=4.5,slow=2.4,SNR=8.3								
SOC	**Sochi**	**153.46**	**49**	*i* PKIKP		**PKPbc**	**17 42 03.4**	**-1.1**	
SOC				*e*			17 45 51.7		
SOC				*e*PPP		PPP	17 49 26.6		
SOC				*e*SSS		SSS	18 11 15.9		
SOC				pmax	pmax				
	comp=Z,29nm,1.0s								
KIV	**Kislovodsk**	**155.23**	**47**	IAMs_20	IAMs_20		18 58 42.6		
	comp=Z,571nm,19.0s								
KBZ	**Khabaz**	**155.47**	**47**	PKP		**PKPdf**	**17 41 59.0**	**-0.6**	
	comp=Z,2.8nm,0.9s,baz=278,slow=5.8,SNR=2.5								
KBZ				PKPab		**PKPab**	**17 42 23.9**	**-1.3**	
	comp=Z,4.4nm,0.9s,baz=256,slow=2.5,SNR=4.9								
KBZ	**Khabaz**	**155.47**	**47**	PKIKP		**PKPdf**	**17 41 59.0**	**-0.6**	
KBZ							17 42 24.0		
BRVK	**Borovoye**	**155.98**	**356**	PKIKP		**PKPdf**	**17 42 01.3**	**+1.3**	
BRVK				MLR	MLR				
	comp=Z,2µm,20.0s								
BRVK	**Borovoye**	**155.98**	**356**			**PKPdf**	**17 42 01.3**	**+1.3**	
BVAR	**Borovoye Array**	**156.00**	**356**	PKP		**PKPdf**	**17 41 59.4**	**-0.7**	
	comp=Z,0.2nm,0.4s,baz=5.7,slow=1.4,SNR=3.2								
BVAR				PKPab		**PKPab**	**17 42 25.6**	**-1.6**	
	comp=Z,3.1nm,0.8s,baz=352,slow=3.0,SNR=9.4								
ZEI	**Tsey**	**156.56**	**48**	*e*PKIKP		PKPdf	17 42 13.7	+12	
ZEI				pmax	pmax				
	comp=Z,11nm,1.1s								
SEM	**Semipalatinsk**	**156.65**	**339**	*e*PKP		**PKPdf**	**17 42 02.4**	**+1.1**	
	comp=Z,2.1nm,1.3s,baz=338								
SEM	**Semipalatinsk**	**156.65**	**339**	*e*PKIKP		**PKPdf**	**17 42 02.4**	**+1.1**	
SEM				pmax	pmax				
	comp=Z,2.0nm,1.3s								
KURK	**Kurchatov**	**156.85**	**342**	*d* PKIKP		**PKPdf**	**17 42 01.0**	**-0.2**	
KURK	**Kurchatov**	**156.85**	**342**	PKPdf		**PKPdf**	**17 42 01.4**	**+0.1**	
KURK	**Kurchatov**	**156.85**	**342**			**PKPab**	**17 42 31.1**	**+0.1**	
KURK						**PP**	**17 46 15.1**	**+6.3**	
AKH	**Akhalkalaki**	**156.90**	**51**	IAMs_20	IAMs_20		19 02 44.3		
	comp=Z,772nm,22.0s								
KURBB	**Kurchatov Arra**	**156.96**	**342**	PKP		**PKPdf**	**17 41 59.7**	**-1.7**	
	comp=Z,1.1nm,0.9s,baz=16,slow=0.9,SNR=9.2								
KURBB				PKPab		**PKPab**	**17 42 31.1**	**-0.3**	
	comp=Z,3.9nm,0.9s,baz=25,slow=3.8,SNR=9.9								
KURBB				PP		**PP**	**17 46 15.1**	**+5.7**	
	comp=Z,0.9nm,1.0s,baz=5.8,slow=4.4,SNR=4.2								
AKTO	**Aktyubinsk**	**157.49**	**16**	PKP		**PKPdf**	**17 42 01.4**	**-0.7**	
	comp=Z,0.3nm,0.3s,baz=37,slow=5.1,SNR=1.4								
AKTO				PKPab		**PKPab**	**17 42 32.3**	**-1.5**	
	comp=Z,1.2nm,0.8s,baz=316,slow=6.9,SNR=2.0								
AKTO				PP		**PP**	**17 46 17.6**	**+5.3**	
	comp=Z,0.5nm,0.4s,baz=355,slow=3.3,SNR=4.2								
SHL	**Shillong**	**158.13**	**267**	IAMs_20	IAMs_20		19 04 01.5		
	comp=Z,1µm,22.0s								
WMQ	**Urumqi**	**158.22**	**318**	*e*PKP		**PKPdf**	**17 42 05.3**	**+2.0**	
MAK	**Makhachkala**	**158.74**	**44**	*e*PKIKP		**PKPdf**	**17 41 57.5**	**-6.3**	
MAK				*e*			17 49 02.1		
MAK				*e*SSS		SSS	18 12 21.4		
MAK				pmax	pmax				
	comp=Z,312nm,1.5s								
MK31	**Makanchi Array**	**158.92**	**331**	PKIKP		**PKPdf**	**17 42 04.1**	**+0.1**	
MK31	**Makanchi Array**	**158.92**	**331**			**PKPdf**	**17 42 04.1**	**+0.1**	
MKAR	**Makanchi Array**	**158.92**	**331**	PKP		**PKPdf**	**17 42 02.1**	**-1.9**	
	comp=Z,2.2nm,1.0s,baz=64,slow=5.5,SNR=8.0								
MAKZ	**Makanchi**	**159.04**	**331**	PKIKP		**PKPdf**	**17 42 03.9**	**-0.2**	
MAKZ				MLR	MLR				
	comp=Z,2µm,21.0s								
MAKZ	**Makanchi**	**159.04**	**331**	PKPdf		**PKPdf**	**17 42 03.9**	**-0.2**	
LSA	**Lhasa**	**159.45**	**277**	IAMs_20	IAMs_20		19 06 41.7		
	comp=Z,1µm,21.0s								
SHLS	**Shalkode**	**163.02**	**329**	*e*PKP		**PKPdf**	**17 42 09.5**	**+0.9**	
	baz=327								
SHLS				*e*PKPab		**PKPab**	**17 42 59.2**	**+0.9**	
	baz=327								
SHLS				*e*PP		**PP**	**17 46 44.4**	**+1.7**	
	baz=327								
SHLS	**Shalkode**	**163.02**	**329**	*e*PKIKP		**PKPdf**	**17 42 09.5**	**+0.9**	
SHLS				*e*			17 46 44.4		
UZB	**Uzynbulak**	**163.23**	**330**	*e*PKP		**PKPdf**	**17 42 09.8**	**+0.9**	
	baz=328								
UZB	**Uzynbulak**	**163.23**	**330**	*e*PKIKP		**PKPdf**	**17 42 09.7**	**+0.9**	
BTLS	**Baital**	**163.28**	**344**	*e*PKP		**PKPdf**	**17 42 09.8**	**+1.1**	
	baz=343								
BTLS	**Baital**	**163.28**	**344**	*e*PKIKP		**PKPdf**	**17 42 09.7**	**+1.1**	
CHKK	**Chushkaly**	**163.46**	**335**	*e*PKP		**PKPdf**	**17 42 09.4**	**+0.5**	
	baz=334								
CHKK	**Chushkaly**	**163.46**	**335**	*e*PKIKP		**PKPdf**	**17 42 09.3**	**+0.5**	
SATY	**Saty**	**163.56**	**331**	*e*PKPab		**PKPab**	**17 43 02.8**	**+2.1**	
	baz=330								
SATY				*e*PP		**PP**	**17 46 48.4**	**+2.9**	
	baz=330								
SATY	**Saty**	**163.56**	**331**	*e*PKP2		**PKPab**	**17 43 02.7**	**+2.1**	
SATY				*e*			17 46 48.3		
MDOK	**Medeo**	**164.03**	**334**	*e*PKP		**PKPdf**	**17 42 11.0**	**+1.4**	
	baz=333								
MDOK				*e*PKPab		**sPKPab**	**17 43 04.9**	**-0.5**	
	baz=333								
MDOK				*e*PP		**PP**	**17 46 50.7**	**+2.8**	
	baz=333								
MDOK				LR	LR		19 04 52.4		
	comp=Z,354nm,17.4s,baz=333								
MDOK	**Medeo**	**164.03**	**334**	*e*PKIKP		**PKPdf**	**17 42 11.0**	**+1.4**	
MDOK				*e*			17 46 50.6		
AAA	**Alma-Ata**	**164.04**	**334**	*e*PKP		**PKPdf**	**17 42 09.8**	**+0.3**	
	baz=333								
AAA				*e*PKPab		**PKPab**	**17 43 03.5**	**+0.8**	
	baz=333								
AAA				*e*PP		**PP**	**17 46 50.9**	**+3.1**	
	baz=333								
AAA	**Alma-Ata**	**164.04**	**334**	*e*PKIKP		**PKPdf**	**17 42 09.8**	**+0.3**	
AAA				*e*			17 46 50.8		
TNSS	**Tian-Shan**	**164.17**	**334**	*e*PKP		**PKPdf**	**17 42 10.8**	**+0.7**	
	baz=333								
TNSS	**Tian-Shan**	**164.17**	**334**	*e*PKIKP		**PKPdf**	**17 42 10.8**	**+0.7**	
SGDS	**Sogindy**	**164.59**	**340**	*e*PKP		**PKPdf**	**17 42 11.5**	**+1.4**	
	baz=339								
SGDS				*e*PKPab		**sPKPab**	**17 43 07.4**	**-0.3**	
	baz=339								
SGDS				*e*PP		**PP**	**17 46 54.1**	**+3.5**	
	baz=339								
SGDS	**Sogindy**	**164.59**	**340**	*e*PKIKP		**PKPdf**	**17 42 11.4**	**+1.4**	
SGDS				*e*			17 46 54.1		
HYB	**Hyderabad**	**164.62**	**223**	*i* PKP		**PKPdf**	**17 42 15.0**	**+4.3**	
AAK	**Ala-Archa**	**165.38**	**339**	PKP		**PKPdf**	**17 42 09.1**	**-1.7**	
	comp=Z,0.5nm,0.3s,baz=280,slow=6.1,SNR=1.7								
AAK				PKPab		**pPKPab**	**17 43 10.0**	**-0.6**	
	comp=Z,1.4nm,0.7s,baz=44,slow=6.2,SNR=2.1								
AAK	**Ala-Archa**	**165.38**	**339**	*e*PKIKP		**PKPdf**	**17 42 10.3**	**-0.5**	
AAK	**Ala-Archa**	**165.38**	**339**			**PKPdf**	**17 42 09.4**	**-1.4**	
DZA	**Taraz**	**165.90**	**349**	*e*PKP		**PKPdf**	**17 42 12.6**	**+1.5**	
	baz=347								
DZA				*e*PP		**PP**	**17 46 58.4**	**+1.2**	
	baz=347								
DZA	**Taraz**	**165.90**	**349**	*e*PKIKP		**PKPdf**	**17 42 12.5**	**+1.5**	
DZA				*e*			17 46 58.4		
IUG	**Iuzhnay**	**166.82**	**352**	*e*PKP		**PKPdf**	**17 42 13.2**	**+1.3**	
	baz=351								
IUG	**Iuzhnay**	**166.82**	**352**	*e*PKIKP		**PKPdf**	**17 42 13.2**	**+1.3**	
KSH	**Kashi**	**167.51**	**329**	*e*PKP		**PKPdf**	**17 42 15.3**	**+2.8**	
KSH				LR	LR				
	comp=Z,2µm,16.7s								
KSH				LR	LR				
	comp=Z,1µm,14.5s								
KSH				LR	LR				
	comp=Z,1µm,17.7s								
GEYT	**Alibeck**	**168.18**	**39**	PKP		**PKPdf**	**17 42 10.7**	**-2.2**	
	comp=Z,0.8nm,0.5s,baz=52,slow=9.3,SNR=1.5								
GAR	**Garm**	**169.86**	**348**			**PKPdf**	**17 42 14.1**	**0.0**	

*IDC **05** 17:44:22.0±1.4, 10°.24S×124°.13E, h0km, mb3.7/2, mb1 3.7/5, mb1mx3.5/29, mbtmp3.6/5, ML3.5/3, Error ellipse: s-maj=28.9km s-min=10.2km az=6.0*
*DJA **05** 17:44:26.5±0.5, 10°.5±4°×12°.4E±°, h10km, M3.9/6, mb4.3/2, MLv3.7/6*
ISC 05 17:44:25.4±0.8, **10°.54S**±0°.06×**123°.86E**±0°.07, **h27**km, **n12**, σ2**s05/18**, **Timor region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.38**	**330**	Pg		**Pb**		**17 44 31.3**	**-2.5**
	1µm,0.3s,baz=350,slow=1.3,SNR=1349								
BATI				Lg		Lg		17 44 36.8	
	3µm,0.3s,baz=45,slow=19,SNR=18								
BATI	**Baumata**	**0.38**	**330**	Pg		**Pb**		**17 44 31.4**	**-2.5**
SOEI	**Soe**	**0.88**	**27**	P		**Pn**		**17 44 44.0**	**+1.9**
SOEI				S		**Sn**		**17 44 56.1**	**+2.1**
MMRI	**Maumere**	**2.48**	**320**	P		**Pn**		**17 45 05.2**	**+1.2**
MMRI				S		**Sn**		**17 45 34.8**	**+1.5**
EDFI	**Ende, Flores**	**2.78**	**310**	P		**Pn**		**17 45 08.6**	**+0.3**
BASI	**Baing, Sumba**	**3.24**	**275**	P		**Pn**		**17 45 15.8**	**+1.3**
BASI				S		**Sn**		**17 45 53.4**	**+1.1**
PLAI	**Plampang**	**6.23**	**285**	P		**Pn**		**17 45 56.5**	**+0.8**
	0.2nm32nm,1.1s								
FITZ	**Fitzroy Crossi**	**7.71**	**167**	Pn		**Pn**		**17 46 18.9**	**+2.9**
	0.5nm,0.3s,baz=356,slow=9.5,SNR=47								
FITZ				Sn		**Sn**		**17 47 44.4**	**+1.9**
	1.0nm,0.3s,baz=98,slow=19,SNR=5.9								
WRA	**Warramunga Arr**	**13.77**	**134**	Pn		**Pn**		**17 47 38.8**	**-0.2**
	0.2nm,0.3s,baz=309,slow=15,SNR=7.7								
WRA				Sn		**Sn**		**17 50 08.8**	**-2.3**
	0.3nm,0.3s,baz=306,slow=22,SNR=4.3								
ASAR	**Alice Springs**	**16.19**	**145**	Pn		**Pn**		**17 48 12.0**	**+0.8**
	0.1nm,0.3s,baz=320,slow=12,SNR=16								
ASAR				Sn		**Sn**		**17 51 06.1**	**-4.1**
	0.1nm,0.3s,baz=316,slow=22,SNR=5.8								
MKAR	**Makanchi Array**	**68.07**	**331**	P		**P**		**17 55 23.0**	**+0.4**
	0.3nm,0.5s,baz=123,slow=8.9,SNR=5.3								
ZALV	**Zalesovo Beam**	**72.25**	**337**	P		**P**		**17 55 47.3**	**-0.8**
	0.5nm,0.4s,baz=145,slow=5.3,SNR=2.4								

*IDC **05** 17:53:36.1±0.7, 9°.23N×126°.35E, h0km, mb3.9/14, mb1 4.0/15, mb1mx3.8/40, mbtmp3.8/15, Error ellipse: s-maj=32.9km s-min=13.3km az=83.0*
*NEIC **05** 17:53:37.3±1.1, 9°.21N×0°.06×126°.3E±0°.1, h10km±1km, mb4.4/9, Error ellipse: s-maj=25.8km s-min=4.6km az=110.0*

*MAN **05** 17:53:40.6, 9°.29N×126°.53E, h124km, MS3.8*
ISC 05 17:53:41.9±1.6, **9°.28N**±0°.04×**126°.68E**±0°.08, **h45**km±15km, **n44**, σ2**s14/57**, **mb4.0/18**, **3C-4D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.28**	**293**	⇓*e*P		**Pn**		**17 54 01.9**	**-1.4**
MSLP	**Maasin**	**1.99**	**296**	*e*P		**Pn**		**17 54 13.4**	**+0.4**
MSLP				*e*S		**Sn**		**17 54 41.7**	**+5.0**
BUKP	**Musuan**	**2.12**	**229**	*e*P		**Pn**		**17 54 16.1**	**+1.2**
BUKP				*e*S		**Sn**		**17 54 42.5**	**+2.4**
CGP	**Cagayan de Oro**	**2.13**	**248**	⇑*e*P		**Pn**		**17 54 14.3**	**-0.7**
CGP				*i* S		**Sn**		**17 54 40.5**	**+0.4**
MATI	**Mati**	**2.35**	**190**	*e*P		**Pn**		**17 54 17.2**	**-0.9**
MATI				*e*S		**Sn**		**17 54 39.9**	**-5.9**
DAV	**Davao City (W)**	**2.45**	**207**	Pn		**Pn**		**17 54 15.0**	**-4.3**
	baz=4.4,slow=13,SNR=0.6								
DAV				Sn		**Sn**		**17 54 46.4**	**-1.7**
	31nm,0.3s,baz=214,slow=22,SNR=1.3								
DMPH	**Davao City--Mi**	**2.47**	**208**	*e*P		Pn		17 54 26.4	+6.7
DMPH				*e*S		**Sn**		**17 54 54.2**	**+5.5**
KCP	**Kidapawan**	**2.75**	**215**	⇓*i*P		**Pn**		**17 54 24.9**	**+1.4**
KCP				*i* S		**Sn**		**17 55 00.3**	**+4.7**
TBP	**Tagbilaran**	**2.81**	**279**	*e*P		**Pn**		**17 54 24.4**	**+0.1**
LLP	**Lapu-Lapu**	**2.87**	**291**	⇓*e*P		**Pn**		**17 54 26.1**	**+0.9**
LLP				*e*S		**Sn**		**17 55 01.6**	**+3.1**
CTBH	**Cotabato--PC H**	**3.16**	**230**	⇑*e*P		**Pn**		**17 54 29.7**	**+0.6**
DDMP	**Don Marcelino,**	**3.29**	**197**	*e*P		**Pn**		**17 54 31.8**	**+0.8**
DDMP				*e*S		**Sn**		**17 55 13.2**	**+4.2**
SNPH	**Sibulan**	**3.40**	**271**	⇓*i*P		**Pn**		**17 54 34.3**	**+1.9**
SNPH				*i* S		**Sn**		**17 55 11.6**	**-0.1**
SKMP	**Bagumbayan, Su**	**3.46**	**218**	*e*P		**Pn**		**17 54 32.1**	**-1.2**
SKMP				*e*S		**Sn**		**17 55 11.3**	**-1.7**
PAGZ	**Pagadian**	**3.56**	**247**	*e*P		**Pn**		**17 54 34.4**	**-0.2**
PAGZ				*e*S		**Sn**		**17 55 14.3**	**-1.1**
CNP	**Catarman**	**3.77**	**329**	*e*P		**Pn**		**17 54 36.9**	**-0.6**
CNP				*e*S		**Sn**		**17 55 20.1**	**-0.7**
CNOP	**Candoni, Negro**	**4.02**	**278**	*e*P		**Pn**		**17 54 39.8**	**-1.2**
CNOP				*e*S		**Sn**		**17 55 24.7**	**-2.2**
GUIM	**Jordan**	**4.25**	**289**	*e*P		**Pn**		**17 54 42.3**	**-1.8**
GUIM				*e*S		**Sn**		**17 55 29.4**	**-3.0**
RCP	**Roxas**	**4.49**	**301**	⇑*e*P		**Pn**		**17 54 48.2**	**+0.8**
PVCP	**Virac**	**4.96**	**330**	*e*P		**Pn**		**17 54 53.7**	**-0.1**
LQP	**Lukban**	**6.96**	**314**	*i* P		**Pn**		**17 55 20.1**	**-1.4**
KNRA	**Kununurra**	**24.88**	**175**	P		**P**		**17 59 00.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**27.22**	**182**	P		**P**		**17 59 22.5**	**+0.8**
	4.2nm,0.8s,baz=1.5,slow=4.2,SNR=9.6								
FITZ	**Fitzroy Crossi**	**27.22**	**182**	P		**P**		**17 59 21.8**	**+0.1**
FITZ				IAmb		IAmb		17 59 26.3	
	comp=Z,12nm,1.4s								
KSRS	**Korea Array**	**28.07**	**2**	P		**P**		**17 59 29.3**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=186,slow=10,SNR=1.7								
CMAR	**Chiang Mai Arr**	**28.40**	**292**	P		**P**		**17 59 30.2**	**-2.1**
	comp=Z,0.2nm,0.4s,baz=90,slow=9.0,SNR=2.0								
WRA	**Warramunga Arr**	**30.00**	**165**	P		**P**		**17 59 46.3**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=347,slow=9.4,SNR=2.6								
ASAR	**Alice Springs**	**33.49**	**168**	P		**P**		**18 00 17.1**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=348,slow=7.2,SNR=12								
USRK	**Ussuriysk Ar.**	**35.10**	**7**	P		**P**		**18 00 32.4**	**+1.6**
	comp=Z,1.3nm,0.7s,baz=187,slow=10,SNR=2.3								
SONM	**Songino Array**	**42.09**	**340**	P		**P**		**18 01 28.9**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=140,slow=11,SNR=3.3								
STKA	**Stephens Creek**	**43.34**	**161**	P		**P**		**18 01 39.6**	**-0.1

comp=Z,0.2nm,0.7s,baz=255,slow=4.9,SNR=2.9
MKAR Makanchi Array 95.26 317 P **P** **18 24 46.3 -1.1**
comp=Z,1.1nm,0.7s,baz=104,slow=6.6,SNR=10
KEST Kesra 149.09 323 PKPbc **PKPbc** **18 31 12.8 +0.5**
comp=Z,2.2nm,0.6s,baz=2.2,slow=8.0,SNR=3.7
ESDC Sonseca Array 151.38 346 PKPbc **PKPbc** **18 31 18.1 +0.4**
comp=Z,0.7nm,1.0s,baz=360,slow=2.2,SNR=4.7

IDC 05 18:17:50.6±3.5, 11°64S×166°89E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.5/42, mbtmp3.7/4, ML3.5/1, Error ellipse: s-maj=88.0km s-min=41.3km az=89.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**10.38**	**182**	Pn	Pn	18 20 20.3	-0.7
	0.3nm,0.3s,baz=358,slow=9.9,SNR=2.1						
ASAR	**Alice Springs**	**33.54**	**245**	P	P	18 24 32.6	+0.2
	0.7nm,0.8s,baz=64,slow=10,SNR=9.9						
CMAR	**Chiang Mai Arr**	**73.38**	**293**	P	P	18 29 24.8	-0.2
	0.5nm,0.8s,baz=129,slow=4.6,SNR=4.1						
MKAR	**Makanchi Array**	**94.72**	**317**	P	P	18 31 14.2	+0.2
	0.4nm,0.7s,baz=96,slow=6.6,SNR=3.8						

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*IDC **05** 18:23:08.8±1.1, 14°.69N×54°.70E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.4/66, mbtmp3.6/8, Error ellipse: s-maj=35.1km s-min=27.2km az=32.0*
*NEIC **05** 18:23:09.3±0.4, 14°.61N±0°.09×54°.6E±0°.1, h10km±1km, mb4.3/2, Error ellipse: s-maj=23.0km s-min=15.1km az=86.0*
ISC 05 18:23:10.5±1.1, 14°.7N±0°.2×54°.6E±0°.1, h10km, n17, σ1s13/13, mb3.8/10, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.61**	**194**		Pn	18 23 45.6	-7.3
RAYN	**Ar Rayn**	**12.28**	**317**		**Pn**	**18 26 05.5**	**0.0**
BR131	**Keskin Array S**	**30.96**	**328**	P	**P**	**18 29 27.7**	**-0.3**
BR131				IAmb	IAmb	18 29 44.9	
	comp=Z,6.7nm,1.4s						
MKAR	**Makanchi Array**	**39.42**	**30**	P	**P**	**18 30 41.9**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=220,slow=11,SNR=2.8						
CMAR	**Chiang Mai Arr**	**42.54**	**79**	P	**P**	**18 31 08.1**	**+1.3**
	comp=Z,0.5nm,0.9s,baz=277,slow=11,SNR=2.9						
ZAA0	**Zalesovo Array**	**45.71**	**25**	P	**P**	**18 31 31.5**	**-0.1**
ZAA0				IAmb	IAmb	18 31 44.6	
	comp=Z,5.8nm,1.6s						
ZALV	**Zalesovo Beam**	**45.71**	**25**	P	**P**	**18 31 30.4**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=218,slow=9.1,SNR=2.2						
FINES	**FINESS Array B**	**50.95**	**343**	P	**P**	**18 32 10.9**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=155,slow=10,SNR=2.3						
TORD	**Torodi Ar. Bea**	**51.31**	**275**	P	**P**	**18 32 16.4**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=98,slow=7.4,SNR=2.4						
ARCES	**ARCESS Array B**	**57.73**	**348**	P	**P**	**18 33 00.9**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=148,slow=7.4,SNR=6.2						
H01W3	**Cape Leeuwin H**	**74.94**	**133**	T	T	19 56 30.4	
	baz=301,slow=75,SNR=16						
H01W2	**Cape Leeuwin H**	**74.95**	**133**	T	T	19 56 35.1	
	baz=301,slow=75,SNR=16						
H01W1	**Cape Leeuwin H**	**74.96**	**133**	T	T	19 56 31.8	
	baz=301,slow=75,SNR=18						
WRA	**Warramunga Arr**	**85.58**	**112**	P	**P**	**18 35 48.2**	**-1.5**
	comp=Z,0.6nm,0.9s,baz=301,slow=4.3,SNR=2.4						
ASAR	**Alice Springs**	**86.31**	**115**	P	**P**	**18 35 51.8**	**-1.6**
	comp=Z,0.5nm,0.6s,baz=292,slow=4.6,SNR=11						
NVAR	**Mina Array Bea**	**126.70**	**353**	PKP	**PKiKP**	**18 42 16.0**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=88,slow=3.0,SNR=2.0						
TXAR	**Lajitas Array**	**131.43**	**334**	PKP	**PKiKP**	**18 42 25.9**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=129,slow=2.4,SNR=1.7						

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*GCG **05** 18:35:21.5±0.4, 13°.10N×90°.20W, h0km±139km, MD3.6*
*SNET **05** 18:35:22.7±1.7, 13°.11N×90°.09W, h30km±6km, ML3.2*
ISC 05 18:35:20.6±3.3, 13°.1N±0°.1×90°.14W±0°.06, h12km±15km, n11, σ0s51/17, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.90**	**48**	*e*P	**Pb**	**18 35 38.8**	**+0.6**
JAYA				*e*S	**Sg**	**18 35 50.0**	**+0.2**
JAYA				IAML		18 35 51.7	
	comp=Z,868nm,0.3s						
NUBE	**Las Nubes**	**0.92**	**22**	*e*P	**Pb**	**18 35 38.6**	**+0.2**
NUBE				*e*S	**Sg**	**18 35 50.0**	**-0.3**
CEVE	**Cerro Verde**	**0.92**	**33**	*e*P	**Pg**	**18 35 38.1**	**-0.3**
CEVE				IAML		18 35 57.6	
	comp=Z,708nm,0.3s						
BOQS	**Boqueron**	**1.08**	**51**	*e*P	**Pb**	**18 35 41.7**	**+0.4**
BOQS				*e*S	**Sb**	**18 35 55.6**	**+0.2**
IXG	**Ixpaco**	**1.15**	**345**	*e*P	**Pb**	**18 35 42.9**	**+0.4**
IXG	**Ixpaco**	**1.15**	**345**	*e*P	**Pb**	**18 35 42.0**	**-0.6**
LFRS	**El Faro**	**1.19**	**61**	*e*P	**Pn**	**18 35 43.0**	**-0.2**
LFRS				*e*S	**Sb**	**18 35 57.5**	**-1.0**
MTO3	**Montecristo**	**1.54**	**29**	*e*P	**Pn**	**18 35 48.5**	**+0.5**
MTO3				*e*S	**Sb**	**18 36 08.5**	**-0.2**
NBG	**Las Nubes**	**1.54**	**352**	*e*P	**Pb**	**18 35 49.9**	**+0.7**
FUG	**Fuego 3**	**1.55**	**334**	*e*P	**Pb**	**18 35 49.4**	**+0.1**
FUG				*e*S	**Sg**	**18 36 11.0**	**+0.5**
MRL	**Marmol**	**2.06**	**12**	*e*P	**Pn**	**18 35 55.0**	**-0.3**

KRSC 05 18:36:41.5±1.3, 48°.09N×157°.34E, h32km±42km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.71**	**343**	P	Pn	18 37 25.3	+2.5
SKR				S	Sb	18 37 58.3	-3.7
ALID	**Alaid**	**3.01**	**338**	P	Pn	18 37 29.8	+2.7
ALID				S	Sn	18 38 05.1	+3.0
PAU	**Pauzhetka**	**3.39**	**354**	S	Sb	18 38 16.8	-4.8
ASAK	**Asacha**	**4.31**	**5**	P	Pn	18 37 48.3	+3.5
ASAK				S	Sn	18 38 39.2	+5.2
RUS	**Russkaya**	**4.41**	**9**	P	Pn	18 37 50.2	+4.1
RUS				S	Sn	18 38 41.7	+5.4
MTVR	**Mutnovka**	**4.43**	**7**	P	Pn	18 37 51.2	+4.7
MTVR				S	Sn	18 38 42.7	+5.7
GRL	**Gorelyy**	**4.49**	**6**	P	Pn	18 37 52.5	+5.2
GRL				S	Sn	18 38 44.6	+6.2
DALK	**Dalny**	**5.03**	**10**	P	Pn	18 37 59.0	+4.5
DALK				S	Sn	18 38 56.5	+5.1
UGLR	**Uglovaya**	**5.21**	**10**	P	Pn	18 38 02.1	+4.9
AVH	**Avacha**	**5.25**	**9**	P	Pn	18 38 04.1	+6.3
SMAR	**Somma**	**5.27**	**19**	P	Pn	18 38 03.5	+5.5
KOK	**Koryaka**	**5.27**	**9**	P	Pn	18 38 02.3	+4.3
SPN	**Mys Shipunski**	**5.29**	**18**	S	Sn	18 39 03.6	+5.5
KRX	**Arik**	**5.34**	**8**	P	Pn	18 38 04.4	+5.4

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*CRAAG **05** 18:50:09.0, 36°.22N×1°.44E, Ml3.7*
*IDC **05** 18:50:09.4±2.1, 36°.27N×1°.43E, h0km, mb1 3.6/4, mb1mx3.2/41, mbtmp3.4/4, ML3.5/4, Error ellipse: s-maj=38.5km s-min=20.5km az=160.0*
*MDD **05** 18:50:12.1±1.2, 36°.34N×1°.43E, h14km±14km, mb4.1/30, Error ellipse: s-maj=10.3km s-min=5.0km az=146.0, PRXIMO*
*LDG **05** 18:50:14.2±0.3, 36°.51N×1°.19E, h30km, Ml3.0/13, Error ellipse: s-maj=6.6km s-min=3.3km az=155.0*
ISC 05 18:50:09.2±1.3, 36°.43N±0°.05×1°.43E±0°.04, h8km±11km, n92, σ2s55/143, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.16**	**148**	P	**Pg**	**18 50 11.7**	**-0.9**
ECHF	**Ech Chlef**	**0.28**	**195**	P	**Pg**	**18 50 11.9**	**-2.9**
ECHA	**Ech Chlef**	**0.28**	**190**	P	**Pg**	**18 50 11.9**	**-2.9**
EANR	**'Ain N'Sour**	**0.54**	**209**	P	**Pg**	**18 50 17.7**	**-2.1**
EANR	**'Ain N'Sour**	**0.54**	**209**	P	**Pg**	**18 50 17.7**	**-2.1**
OJBR	**Djebel Berber**	**1.22**	**227**	P	**Pn**	**18 50 33.0**	**+0.4**
OJBR	**Djebel Berber**	**1.22**	**227**	P	**Pn**	**18 50 33.0**	**+0.4**
ABA	**Alger-Bouzarea**	**1.35**	**73**	P	**Pg**	**18 50 36.1**	**+1.0**
ABA	**Alger-Bouzarea**	**1.35**	**73**	P	**Pg**	**18 50 36.1**	**+1.0**
ODJA	**Bouhanifia**	**1.68**	**230**	P	**Pg**	**18 50 41.0**	**-0.5**
ODJA	**Bouhanifia**	**1.68**	**230**	P	**Pg**	**18 50 41.0**	**-0.5**
CART	**Cartagena**	**2.26**	**302**	P	**Pn**	**18 50 47.2**	**+0.2**
CART				S	**Sn**	**18 51 12.9**	**-2.1**
CART	**Cartagena**	**2.26**	**302**	*e*P	**Pn**	**18 50 47.2**	**+0.2**
CART				*e*S	**Sn**	**18 51 12.9**	**-2.1**
CART				*e*Cod		18 52 33.2	
EMUR	**La Murta**	**2.56**	**304**	P	**Pn**	**18 50 51.9**	**+0.8**
	5.3nm,0.2s,SNR=16						
EMUR				S	**Sn**	**18 51 22.8**	**+0.4**
	9.0nm,0.2s,SNR=5.0						
EBEN2	**Beniarda presa**	**2.59**	**331**	P	**Pn**	**18 50 53.9**	**+2.4**
	6.0nm,0.2s,SNR=7.9						
EBEN2				S	**Sn**	**18 51 23.5**	**+0.3**
	18nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**2.60**	**359**	P	**Pn**	**18 50 54.2**	**+2.6**
	12nm,0.2s,SNR=19						
EIBI				S	**Sn**	**18 51 23.9**	**+0.5**
	41nm,0.2s,SNR=9.7						
AFON	**Font Roja**	**2.73**	**326**	P	**Pn**	**18 50 56.4**	**+2.9**
	6.0nm,0.4s,SNR=7.9						
AFON				S	**Sn**	**18 51 27.7**	**+1.0**
	9.8nm,0.3s,SNR=7.9						
ENIJ	**Nijar**	**2.97**	**282**	P	**Pn**	**18 50 57.4**	**+0.7**
	10nm,0.3s,SNR=7.9						
ENIJ				S	**Sn**	**18 51 30.3**	**-2.3**
	9.1nm,0.2s,SNR=7.9						
SET	**Setif**	**3.22**	**93**	P	Pg	18 51 19.0	+8.1
SET	**Setif**	**3.22**	**93**	P	Pg	18 51 19.0	+8.1
ETOB	**Tobarra**	**3.24**	**314**	P	**Pn**	**18 51 02.8**	**+2.3**
	9.3nm,0.3s,SNR=54						
ETOB				S	**Sn**	**18 51 40.2**	**+1.0**
	11nm,0.3s,SNR=7.9						
EBER	**Berja**	**3.50**	**279**	P	**Pn**	**18 51 04.1**	**-0.1**
	7.0nm,0.2s,SNR=33						
EBER				S	**Sn**	**18 51 43.1**	**-2.9**
	12nm,0.4s,SNR=7.9						
ETOS	**Mallorca**	**3.51**	**18**	P	**Pn**	**18 51 06.0**	**+1.8**
	12nm,0.3s,SNR=7.9						
ETOS				S	**Sn**	**18 51 45.6**	**-0.3**
	29nm,0.5s,SNR=7.9						
TAF	**Taforalt**	**3.52**	**244**	P	**Pn**	**18 51 04.8**	**+0.5**
TAF				S	**Sg**	**18 52 08.4**	**+6.2**
SESP	**Santiago Espad**	**3.59**	**299**	P	**Pn**	**18 51 08.1**	**+2.8**
	24nm,0.4s,SNR=7.9						
SESP				S	**Sn**	**18 51 48.7**	**+0.6**
	35nm,0.4s,SNR=7.9						
SESP	**Santiago Espad**	**3.59**	**299**	P	**Pn**	**18 51 06.6**	**+1.2**
SESP				S	**Sn**	**18 51 50.5**	**+2.4**
EALB	**Alboran**	**3.64**	**264**	P	**Pn**	**18 51 07.3**	**+1.4**
	2.6nm,0.2s,SNR=4.0						
EALB				S	**Sn**	**18 51 47.0**	**-2.0**
	16nm,0.5s,SNR=7.9						
ECHE	**Chera**	**3.68**	**330**	P	**Pn**	**18 51 09.0**	**+2.5**
	1.0nm,0.3s,SNR=7.9						
ECHE				S	**Sn**	**18 51 52.1**	**+2.0**
	12nm,0.4s,SNR=7.9						
EQES	**Quesada**	**3.85**	**292**	P	**Pn**	**18 51 11.4**	**+2.5**
	12nm,0.3s,SNR=22						
EQES				S	**Sn**	**18 51 54.8**	**+0.4**
	7.4nm,0.2s,SNR=7.9						
EQUE	**Quentar**	**3.98**	**283**	P	**Pn**	**18 51 12.7**	**+2.0**
	15nm,0.3s,SNR=38						
EQUE				S	**Sn**	**18 51 57.4**	**-0.2**
	3.2nm,0.4s,SNR=7.9						
ELGU	**Los Guajares,**	**4.09**	**278**	P	**Pn**	**18 51 12.7**	**+0.6**
	16nm,0.4s,SNR=7.9						
ELGU				S	**Sn**	**18 51 59.1**	**-1.1**
	13nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.20**	**340**	P	**Pn**	**18 51 16.7**	**+2.8**
	5.6nm,0.3s,SNR=26						
EMOS				S	**Sn**	**18 52 03.1**	**-0.2**
	18nm,0.5s,SNR=7.9						
TDRA	**Tendrara**	**4.42**	**221**	P	**Pn**	**18 51 16.4**	**-0.4**
TDRA				S	**Sg**	**18 52 32.3**	**+1.2**
EGOR	**Sierra Gorda,**	**4.50**	**280**	P	**Pn**	**18 51 19.3**	**+1.5**
	4.1nm,0.4s,SNR=7.9						
EGOR				S	**Sn**	**18 52 10.1**	**-0.3**
	1.6nm,0.2s,SNR=7.9						
ERTA	**Horta de San J**	**4.60**	**350**	P	**Pn**	**18 51 22.1**	**+2.9**
	3.5nm,0.3s,SNR=7.9						
ERTA				S	**Sn**	**18 52 12.1**	**-0.7**
	8.4nm,0.6s,SNR=7.9						
AKLM	**AKL**	**4.72**	**248**	P	**Pn**	**18 51 20.5**	**-0.4**
AKLM				S	**Sg**	**18 52 38.2**	**-2.6**
EPOB	**Poblet**	**4.93**	**357**	P	**Pn**	**18 51 26.8**	**+3.1**
	2.9nm,0.2s,SNR=9.6						
EPOB				S	**Sn**	**18 52 20.6**	**-0.3**
	3.6nm,0.2s,SNR=7.9						
EMIJ	**Mijas**	**5.00**	**273**	P	**Pn**	**18 51 24.0**	**-0.5**
	2.8nm,0.2s,SNR=8.5						
EMIJ				S	**Sn**	**18 52 17.4**	**-5.1**
	9.7nm,0.7s,SNR=7.9						
EADA	**Adamuz**	**5.09**	**292**	P	**Pn**	**18 51 27.4**	**+1.5**
	2.0nm,0.4s,SNR=7.9						
EADA				S	**Sn**	**18 52 23.4**	**-1.5**
	0.9nm,0.2s,SNR=7.9						
ETOR	**Torete**	**5.16**	**329**	P	**Pn**	**18 51 31.0**	**+4.0**
	4.3nm,0.2s,SNR=7.9						
ETOR				S	**Sn**	**18 52 26.3**	**-0.4**
	4.1nm,0.4s,SNR=7.9						
UCM	**Universidad Co**	**5.34**	**318**	*e*P	**Pn**	**18 51 32.4**	**+3.2**
UCM				*e*S	**Sb**	**18 52 43.1**	**-3.9**
ESDC	**Sonseca Array**	**5.35**	**309**	Pn	**Pn**	**18 51 31.5**	**+2.0**
	0.4nm,0.3s,baz=126,slow=14,SNR=18						
ESDC				Sn	**Sn**	**18 52 30.4**	**-0.9**
	0.3nm,0.3s,baz=123,slow=24,SNR=5.6						
ESDC				Lg	Lg	18 52 45.4	
	0.5nm,0.3s,baz=122,slow=26,SNR=5.7						
ESDC	**Sonseca Array**	**5.35**	**309**	P	**Pn**	**18 51 31.2**	**+1.7**
	1.9nm,0.2s,baz=121,slow=13,SNR=10						
ESDC				S	**Sn**	**18 52 30.4**	**-0.9**
	2.5nm,0.3s,baz=123,slow=24,SNR=77						
CFON	**Fontmartina**	**5.38**	**8**	P	**Pn**	**18 51 33.1**	**+3.1**
	2.6nm,0.2s,SNR=8.5						
CFON				S	**Sn**	**18 52 31.2**	**-1.0**
	5.5nm,0.3s,SNR=7.9						
PAB	**San Pablo**	**5.52**	**306**	P	**Pn**	**18 51 33.4**	**+1.5**
	1.4nm,0.3s,SNR=7.9						
PAB				S	**Sn**	**18 52 34.6**	**-0.9**
	0.5nm,0.2s,SNR=7.9						
HORN	**Hornachuelos**	**5.53**	**287**	P	**Pn**	**18 51 27.8**	**-4.0**
HORN				S	**Sn**	**18 52 41.5**	**+5.9**
ECAB	**El Cabril**	**5.70**	**289**	P	**Pn**	**18 51 34.9**	**+0.6**
	2.8nm,0.3s,SNR=13						
ECAB				S	**Sn**	**18 52 36.5**	**-3.5**
	0.8nm,0.3s,SNR=7.9						
CSOR	**Sort**	**5.95**	**358**	P	**Pn**	**18 51 41.4**	**+3.7**
	2.4nm,0.2s,SNR=4.0						
CLLI	**Llivia**	**6.06**	**4**	P	**Pn**	**18 51 40.4**	**+1.2**
	1.4nm,0.4s,SNR=7.9						
CLLI				S	**Sn**	**18 52 47.5**	**-1.4**
	1.5nm,0.3s,SNR=7.9						
GUD	**Guadarrama**	**6.07**	**316**	S	**Sn**	**18 52 48.3**	**-0.9**
	0.7nm,0.4s,SNR=7.9						
IFR	**Ifrane**	**6.11**	**244**	*e*P	**Pn**	**18 51 40.7**	**+0.7**
IFR				*e*S	**Sn**	**18 52 49.2**	**-1.1**
MDT	**Midelt**	**6.14**	**236**	Pn	**Pn**	**18 51 39.9**	**-0.5**
	0.3nm,0.3s,baz=52,slow=14,SNR=8.3						
MDT				Lg	Lg	18 53 22.8	
	0.4nm,0.3s,baz=272,slow=18,SNR=2.4						
MDT	**Midelt**	**6.14**	**236**	P	**Pn**	**18 51 40.1**	**-0.3**
MDT				S	**Sb**	**18 53 12.7**	**+2.5**
MD31	**MD31**	**6.21**	**237**	P	**Pn**	**18 51 41.0**	**-0.3**
MD31				S	**Sb**	**18 53 16.0**	**+3.8**
KEST	**Kesra**	**6.45**	**94**	Pn	**Pn**	**18 51 46.2**	**+1.6**
	1.9nm,0.3s,baz=275,slow=3.2,SNR=22						
KEST				Sn	**Sn**	**18 52 58.3**	**-0.1**
	0.2nm,0.3s,baz=259,slow=16,SNR=0.8						
ETSF	**Etsaut**	**6.64**	**347**	*e*P	**Pn**	**18 51 50.5**	**+3.3**
ETSF				*e*Sn	Sn	18 52 54.8	-8.3
	2.4nm,0.5s						
ETSF	**Etsaut**	**6.64**	**347**	P	**Pn**	**18 51 50.5**	**+3.3**
ETSF				S	Sn	18 52 54.8	-8.3
	1.2nm,0.5s						
EPF	**Esparros**	**6.65**	**353**	*e*P	**Pn**	**18 51 51.4**	**+4.1**
EPF				*e*Sn	Sn	18 52 56.0	-7.3
	2.2nm,0.3s						
EPF	**Esparros**	**6.65**	**353**	P	**Pn**	**18 51 51.4**	**+4.1**
EPF				S	Sn	18 52 56.0	-7.3
	1.1nm,0.3s						
MTLF	**Montolieu**	**6.93**	**5**	*e*Pn	**Pn**	**18 51 51.6**	**+0.5**
MTLF				*e*Sn	**Sn**	**18 53 03.5**	**-6.7**
	0.8nm,0.3s						
MTLF	**Montolieu**	**6.93**	**5**	P	**Pn**	**18 51 51.6**	**+0.5**
MTLF				S	**Sn**	**18 53 03.5**	**-6.7**
	0.4nm,0.3s						
SJPF	**Ste Jean**	**6.98**	**344**	*e*P	**Pn**	**18 51 54.7**	**+2.9**
SJPF				*e*Sn	Sn	18 53 03.5	-7.9
	2.0nm,0.5s						
SJPF	**Ste Jean**	**6.98**	**344**	P	**Pn**	**18 51 54.7**	**+2.9**
SJPF				S	Sn	18 53 03.5	-7.9
	1.0nm,0.5s						
EBAD	**Badajoz**	**7.09**	**292**	P	**Pn**	**18 51 55.0**	**+1.6**
	1.0nm,0.3s,SNR=7.9						
EBAD				S	**Sn**	**18 53 11.9**	**-2.2**
	0.9nm,0.2s,SNR=7.9						
EALK	**Alkurruntz**	**7.15**	**343**	P	**Pn**	**18 51 56.6**	**+2.4**
	1.9nm,0.4s,SNR=7.9						
EALK				S	**Sn**	**18 53 14.9**	**-0.7**
	3.0nm,0.4s,SNR=7.9						
EGRO	**El Granado**	**7.22**	**281**	P	**Pn**	**18 51 55.7**	**+0.7**
	1.5nm,0.4s,SNR=7.9						
PVAQ	**Vaqueiros**	**7.39**	**280**	P	**Pn**	**18 51 58.6**	**+1.2**
PVAQ				S	**Sn**	**18 53 17.9**	**-3.6**
	1.9nm,0.7s						
PVAQ	**Vaqueiros**	**7.39**	**280**	*e*Pn	**Pn**	**18 51 58.6**	**+1.2**
PVAQ				*e*Sn	**Sn**	**18 53 17.9**	**-3.6**
PVAQ				A	A	18 53 28.2	
	1.9nm,0.7s						
PBEJ	**Beja**	**7.58**	**285**	P	**Pn**	**18 52 02.7**	**+2.6**
PBEJ	**Beja**	**7.58**	**285**	*e*Pn	**Pn**	**18 52 02.7**	**+2.6**
ELAN	**Lanestosa**	**7.76**	**333**	P	**Pn**	**18 52 06.0**	**+3.5**
	1.7nm,0.2s,SNR=6.6						
MESJ	**Messejana**	**7.83**	**283**	P	**Pn**	**18 52 04.2**	**+0.7**
MESJ	**Messejana**	**7.83**	**283**	*e*Pn	**Pn**	**18 52 04.2**	**+0.7**
LMR	**La Mourre**	**7.93**	**28**	*e*Pn	**Pn**	**18 52 06.0**	**+1.2**
LMR				*e*Sn	**Sn**	**18 53 29.6**	**-5.0**
	1.3nm,0.2s						
LMR	**La Mourre**	**7.93**	**28**	P	**Pn**	**18 52 06.0**	**+1.2**
LMR				S	**Sn**	**18 53 29.6**	**-5.0**
	0.6nm,0.2s						
PNCL	**Nicolau / Gran**	**8.11**	**285**	P	**Pn**	**18 52 07.9**	**+0.6**
PNCL	**Nicolau / Gran**	**8.11**	**285**	*e*Pn	**Pn**	**18 52 07.9**	**+0.6**
FRF	**La Foret Royal**	**8.17**	**28**	*e*Pn	**Pn**	**18 52 09.8**	**+1.7**
FRF				*e*Sn	**Sn**	**18 53 36.1**	**-4.6**
	3.6nm,0.4s						
FRF	**La Foret Royal**	**8.17**	**28**	P	**Pn**	**18 52 09.8**	**+1.7**
FRF				S	**Sn**	**18 53 36.1**	**-4.6**
	1.8nm,0.4s						
SMRF	**Simiane la Rot**	**8.18**	**22**	*e*Pn	**Pn**	**18 52 09.1**	**+0.8**
SMRF				*e*Sn	**Sn**	**18 53 36.0**	**-4.9**
	1.4nm,0.5s						
SMRF	**Simiane la Rot**	**8.18**	**22**	P	**Pn**	**18 52 09.1**	**+0.8**
SMRF				S	**Sn**	**18 53 36.0**	**-4.9**
	1.4nm,0.5s						
PGF	**Pioggiola**	**8.46**	**41**	*e*Pn	**Pn**	**18 52 13.5**	**+1.3**
PGF				*e*Sn	**Sn**	**18 53 43.8**	**-4.2**
	0.9nm,0.3s						
PGF	**Pioggiola**	**8.46**	**41**	P	**Pn**	**18 52 13.5**	**+1.3**
PGF				S	**Sn**	**18 53 43.8**	**-4.2**
	0.4nm,0.3s						
CAF	**Calviac**	**8.50**	**3**	*e*P	**Pn**	**18 52 17.2**	**+4.5**
CAF				*e*Sn	Sn	18 53 41.5	-7.4
	0.6nm,0.3s						
CAF	**Calviac**	**8.50**	**3**	P	**Pn**	**18 52 17.2**	**+4.5**
CAF				S	Sn	18 53 41.5	-7.4
	0.3nm,0.3s						
LFF	**La Frestale**	**8.52**	**357**	*e*P	**Pn**	**18 52 17.1**	**+4.2**
LFF				*e*Sn	Sn	18 53 40.4	-8.8
	3.8nm,0.4s						
LFF	**La Frestale**	**8.52**	**357**	P	**Pn**	**18 52 17.1**	**+4.2**
LFF				S	Sn	18 53 40.4	-8.8
	1.9nm,0.4s						
LPG	**La Plagne**	**9.91**	**22**	*e*Pn	**Pn**	**18 52 32.7**	**+0.4**
LPG				*e*Sn	Sn	18 54 16.6	-7.2
	0.8nm,0.4s						
LPG	**La Plagne**	**9.91**	**22**	P	**Pn**	**18 52 32.7**	**+0.4**
LPG				S	Sn	18 54 16.6	-7.2
	0.4nm,0.4s						
LPL	**La Plagne**	**9.92**	**22**	*e*Pn	**Pn**	**18 52 33.5**	**+1.1**
LPL	**La Plagne**	**9.92**	**22**	P	**Pn**	**18 52 33.5**	**+1.1**
GERES	**GERESS Array B**	**15.32**	**32**	Pn	**P**	**18 53 49.5**	**-1.3**
	0.1nm,0.3s,baz=222,slow=14,SNR=1.4						

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*IDC **05** 18:55:53.4±2.4, 8°.41S×127°.24E, h82km±28km, mb3.3/2, mb1 3.7/7, mb1mx3.3/39, mbtmp3.9/7, MS3.4/1, Ms1 3.4/1, ms1mx2.9/18, Error ellipse: s-maj=32.1km s-min=22.4km az=76.0*
*DJA **05** 18:55:53.4±0.3, 8°.S±3°×127°.7E±°, h88km±22km, M4.1/12, mb4.0/7, mB5.0/1, MLv4.2/12, Mw(mB)4.3/1*
ISC 05 18:55:52.9±0.8, 8°.44S±0°.06×127°.24E±0°.07, h100km, n17, σ1s71/24, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.21**	**246**	P	**Pn**	**18 56 41.9**	**+0.3**
SOEI				Pn	Pn	18 56 42.4	+0.8
BATI	**Baumata**	**3.94**	**243**	P	**Pn**	**18 56 52.6**	**+1.3**
	20nm,0.3s,baz=89,slow=4.6,SNR=23						
BATI				S	**Sn**	**18 57 34.2**	**-2.4**
	13nm,0.3s,baz=53,slow=3.6,SNR=3.7						
BATI	**Baumata**	**3.94**	**243**	P	**Pn**	**18 56 52.0**	**+0.7**
BATI				Pn	**Pn**	**18 56 52.0**	**+0.7**
BATI				S	**Sn**	**18 57 37.1**	**+0.5**
AAI	**Ambon**	**4.82**	**11**	P	**Pn**	**18

ABPO IAmb IAmb 19 06 17.5
comp=Z,18nm,0.9s
OPO Ambohidratompo 27.76 24 P P 19 06 10.9 -2.2
comp=Z,3.7nm,1.0s,baz=354,slow=8.5,SNR=2.2
TSUM Tsumeb 29.67 323 P P 19 06 29.6 -0.4
comp=Z,4.0nm,0.8s,baz=116,slow=10,SNR=3.5
TSUM Tsumeb 29.67 323 P P **19 06 29.4 -0.7**
TSUM IAmb IAmb 19 06 32.1
comp=Z,12nm,1.2s
LSZ Lusaka 30.08 345 P P 19 06 33.3 -0.3
SNAA Sanae 32.71 201 P P 19 06 56.1 -0.1
comp=Z,3.2nm,0.8s,baz=84,slow=7.6,SNR=16
SNAA Sanae 32.71 201 P P **19 06 56.1 -0.1**
SNAA IAmb IAmb 19 07 01.8
comp=Z,5.5nm,1.0s
MBAR Mbarara 44.18 353 P P 19 08 34.7 +1.4
MBAR IAmb IAmb 19 08 36.5
comp=Z,9.1nm,1.4s
QSPA South Pole Qui 45.48 180 P P 19 08 42.2 -0.8
comp=Z,8.2nm,0.6s,baz=249,slow=2.6,SNR=87
QSPA South Pole Qui 45.48 180 P P **19 08 41.9 -1.2**
QSPA IAmb IAmb 19 08 43.5
comp=Z,8.5nm,0.7s
VNDA Vanda 53.59 167 P P 19 09 44.8 +0.2
comp=Z,2.0nm,0.6s,baz=248,slow=7.2,SNR=6.0
VNDA LR LR 19 30 52.5
comp=Z,214nm,20.6s,baz=230,slow=34
VNDA Vanda 53.59 167 P P 19 09 44.0 -0.6
H10S2 ASCENSION HYDR 56.19 293 T T 20 10 48.8
baz=136,slow=74,SNR=72
H10S3 ASCENSION HYDR 56.21 293 T T 20 10 49.8
baz=84,slow=74,SNR=219
TOA0 Torodi Ar. Sit 65.42 323 P P 19 11 07.4 +0.4
TORD Torodi Ar. Bea 65.42 323 P P 19 11 07.8 +0.9
comp=Z,5.1nm,0.9s,baz=156,slow=6.6,SNR=27
TORD LR LR 19 41 06.0
comp=Z,185nm,18.3s,baz=60,slow=37
RAYN Ar Rayn 68.50 10 P P 19 11 27.4 +1.0
RAYN IAmb IAmb 19 11 33.6
comp=Z,5.0nm,1.1s
PLCA Paso Flores 72.36 230 P P 19 11 53.1 +3.0
comp=Z,1.9nm,1.1s,baz=37,slow=20,SNR=1.7
TAM Tamanrasset 72.69 331 P P 19 11 53.2 +1.1
TAM IAmb IAmb 19 11 55.1
comp=Z,8.3nm,1.3s
STKA Stephens Creek 78.22 123 P P 19 12 23.6 -0.2
comp=Z,2.8nm,0.8s,baz=298,slow=2.8,SNR=7.8
STKA Stephens Creek 78.22 123 P P 19 12 23.8 -0.1
ASAR Alice Springs 79.13 112 P P 19 12 28.9 -0.2
comp=Z,1.8nm,0.8s,baz=224,slow=5.7,SNR=13
WRA Warramunga Arr 82.01 110 P P 19 12 44.2 -0.3
comp=Z,2.0nm,0.9s,baz=223,slow=4.5,SNR=5.9
KEST Kesra 83.63 339 P P 19 12 54.3 +1.9
comp=Z,7.4nm,1.1s,baz=85,slow=4.5,SNR=5.5
KEST Kesra 83.63 339 P P 19 12 53.4 +1.1
BRTR Keskin Array B 84.11 358 P P 19 12 54.9 0.0
comp=Z,1.2nm,0.8s,baz=182,slow=4.2,SNR=4.5
GEYT Alibeck 84.71 18 P P 19 12 57.9 +0.1
comp=Z,0.5nm,0.3s,baz=207,slow=2.6,SNR=1.7
CMAR Chiang Mai Arr 85.10 58 P P 19 12 59.6 -0.5
comp=Z,0.9nm,1.0s,baz=225,slow=7.5,SNR=3.0
CMAR LR LR 19 43 46.3
comp=Z,113nm,21.2s,baz=210,slow=31
KBZ Khabaz 88.31 5 P P 19 13 13.9 -1.2
comp=Z,1.0nm,0.5s,baz=119,slow=10,SNR=1.5
MLR Muntele Rosu 90.27 353 P P 19 13 23.8 -0.7
comp=Z,2.7nm,0.9s,baz=235,slow=7.7,SNR=3.3
MLR Muntele Rosu 90.27 353 IAmb IAmb 19 13 31.3
comp=Z,5.3nm,1.0s
ESDC Sonseca Array 91.35 330 LR LR 19 55 31.1
comp=Z,101nm,18.1s,baz=85,slow=36
WMOK Wichita Mounta 144.12 270 PKPdf **PKPdf 19 19 59.2 -0.5**
TXAR Lajitas Array 144.61 258 PKP **PKPdf 19 20 00.2 -0.6**
comp=Z,1.4nm,0.8s,baz=131,slow=5.7,SNR=11
TX31 Lajitas Ar. Si 144.61 258 PKPdf 19 20 00.5 -0.3
TX32 Lajitas Array 144.61 258 PKPdf 19 20 00.4 -0.4
F36A Milaca 144.86 290 PKPbc 19 19 59.8 0.0
BILL Bilibino 145.47 30 PKPab 19 20 01.8 +0.6
B35A Bob, Littlefor 145.64 294 PKPbc 19 20 02.2 0.0
ECSD EROS Data Cent 146.31 285 PKiKP 19 20 06.6 -0.9
MSTX Muleshoe 146.58 266 PKPdf 19 20 04.4 +0.3
F33A 5 Mile Ranch, 146.71 289 PKPbc 19 20 04.7 -0.8
AGMN Agassiz Nation 147.02 294 PKPbc 19 20 05.4 -0.9
MNTX Cornudas Mount 147.19 260 PKPdf 19 20 05.5 +0.4
ULM Lac du Bonnet 147.39 297 PKPbc **PKPdf 19 20 05.8 +1.0**
comp=Z,2.3nm,0.6s,baz=36,slow=2.7,SNR=1.8
ULM Lac du Bonnet 147.39 297 PKPdf 19 20 05.6 +0.9
T25A Trinidad 149.28 270 PKPdf 19 20 08.6 +0.1
BNM Barren Site 149.40 263 PKPdf 19 20 10.0 +1.1
ANMO Albuquerque 149.69 264 PKP **PKPdf 19 20 09.7 +0.5**
comp=Z,0.8nm,0.5s,baz=230,slow=4.9,SNR=3.4
ANMO PKPbc **PKiKP 19 20 15.1 +0.1**
comp=Z,5.9nm,1.1s,baz=133,slow=6.5,SNR=9.4
ANMO Albuquerque 149.69 264 PKPdf 19 20 08.9 -0.3
SDCO Great Sand Dun 150.33 270 PKPbc 19 20 15.9 +0.3
S22A 4UR Ranch, Cre 151.28 269 PKiKP 19 20 18.8 +0.6
FFC Flin Flon 151.38 306 PKPbc 19 20 15.3 -1.7
PV22 Blue Mesa, Par 153.01 269 PKPbc 19 20 19.4 -2.1
PDAR Pinedale Array 155.05 278 PKP **PKPdf 19 20 17.3 +0.3**
comp=Z,0.2nm,0.4s,baz=97,slow=3.0,SNR=2.0
PDAR PKPab **PKPab 19 20 42.6 +1.0**
comp=Z,1.0nm,1.0s,baz=128,slow=5.9,SNR=2.0
YKA Yellowknife Ar 155.39 327 PKPab **PKPab 19 20 43.2 +1.1**
comp=Z,3.0nm,1.1s,baz=53,slow=4.3,SNR=14
ILAR Eielson Array 159.87 3 PKP **PKPdf 19 20 23.2 +1.2**
comp=Z,0.3nm,0.7s,baz=337,slow=5.9,SNR=3.2
ILAR PKPab **PKPab 19 21 00.1 -1.2**
comp=Z,0.2nm,0.6s,baz=328,slow=3.2,SNR=1.7
B08A Colville Reser 162.58 291 PKPab **PKPab 19 21 12.9 -0.9**
LTY Liberty 163.51 287 PKPdf 19 20 26.9 +0.4

*IDC **05** 19:18:23.2±0.9, 11°.75N×86°.66W, h0km, mb3.9/5, mb1 4.2/7, mb1mx3.9/30, mbtmp3.9/7, ML3.6/2, Error ellipse: s-maj=56.4km s-min=13.7km az=46.0*
*UCR **05** 19:18:25.6±2.1, 11°.17N×86°.92W, h36km±999km, ML3.7, mb4.4(NEIC)*
*NEIC **05** 19:18:26.2±2.4, 11°.21N±0°.08×86°.86W±0°.08, h36km±8km, mb4.4/60, Error ellipse: s-maj=14.2km s-min=8.2km az=220.0*
*SNET **05** 19:18:27.4±2.3, 11°.45N×87°.21W, h0km±149km, ML3.8*
*INET **05** 19:18:28.2, 11°.31N×86°.81W, h57km, ML3.3*

ISC 05 19:18:25.3±0.6, 11°.18N±0°.06×86°.89W±0°.06, h30km, n115, σ1s20/117, mb4.4/34, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MASN	**Masaya**	**1.08**	**42**	*eP*	**Pn**		**19 18 44.1**	**-0.3**
GBS3	**Finca Las Img**	**1.47**	**106**	*eP*	**Pn**		**19 18 49.7**	**0.0**
LAPC	**Finca la Perla**	**1.49**	**106**	*eP*	**Pn**		**19 18 49.6**	**-0.5**
BUEV	**Buena Vista**	**1.51**	**104**	*eP*	**Pn**		**19 18 49.7**	**-0.6**
GB1A	**Boringuen Arri**	**1.51**	**104**	*eP*	**Pn**		**19 18 50.4**	**0.0**
CRIN	**San Cristobal**	**1.52**	**354**	Pn	**Pn**		**19 18 50.0**	**-0.5**
GPS3	**Bodega del ICE**	**1.56**	**106**	*eP*	**Pn**		**19 18 51.5**	**+0.5**
BUAI	**Buenos Aires**	**1.56**	**101**	*eP*	**Pn**		**19 18 51.3**	**+0.3**
GPS1	**Guardaparques**	**1.57**	**105**	*eP*	**Pn**		**19 18 49.5**	**-1.7**
GPS2	**Hotel Rincn d**	**1.57**	**106**	*eP*	**Pn**		**19 18 51.6**	**+0.3**
GUAI	**GUAI**	**1.63**	**124**	*eP*	**Pn**		**19 18 51.2**	**-0.8**
LIM1	**Limonal**	**1.68**	**106**	*eP*	**Pn**		**19 18 53.1**	**+0.4**
PLVR	**Palo Verde**	**1.73**	**119**	*eP*	**Pn**		**19 18 53.1**	**-0.4**
HORNC	**Hornillas**	**1.75**	**105**	*eP*	**Pn**		**19 18 54.2**	**+0.5**
CUI	**Cuipilapa**	**1.78**	**107**	*eP*	**Pn**		**19 18 54.0**	**0.0**
ACON	**Acoyapa**	**1.86**	**65**	*eP*	**Pn**		**19 18 55.3**	**+0.2**
ACON	**Acoyapa**	**1.86**	**65**		**Pn**		**19 18 55.0**	**-0.1**
ACAL	**Aguas Claras**	**1.90**	**106**	*eP*	**Pn**		**19 18 56.9**	**+1.1**
PTEN	**Parque Tenorio**	**1.93**	**104**	*eP*	**Pn**		**19 18 56.9**	**+0.7**
MATN	**Matagalpa**	**1.98**	**28**		**Pn**		**19 18 57.6**	**+0.7**
JTS	**Las Juntas de**	**2.10**	**115**	Pn	**Pb**		**19 19 01.9**	**-0.8**
	9.8nm,0.3s,baz=11,slow=6.9,SNR=47							
JTS				Lg	Lg		19 19 34.9	
	8.9nm,0.3s,baz=231,slow=10,SNR=6.0							
JTS	**Las Juntas de**	**2.10**	**115**		**Pn**		**19 18 58.8**	**+0.3**
CEDE	**Laguna Cedeo**	**2.26**	**108**	*eP*	**Pb**		**19 19 04.1**	**-1.4**
LCND	**La Caada**	**2.33**	**335**	*eP*	**Pn**		**19 19 02.7**	**+1.1**
LCND				*eS*	**Sn**		**19 19 27.2**	**-2.0**
LCND				IAML			19 19 44.2	
	comp=Z,573nm,0.4s							
LCND	**La Caada**	**2.33**	**335**	*eP*	**Pn**		**19 19 02.7**	**+1.1**
LCND				*eS*	**Sn**		**19 19 27.2**	**-2.0**
LCND				IAML			19 19 44.2	
	comp=Z,573nm,0.4s							
PACA	**Pacayal**	**2.67**	**329**	*eS*	**Sn**		**19 19 39.0**	**+1.2**
PACA	**Pacayal**	**2.67**	**329**	*eS*	**Sn**		**19 19 39.0**	**+1.2**
ESPN	**Las Esperanzas**	**2.73**	**68**	*eP*	**Pn**		**19 19 08.3**	**+1.2**
ESPN	**Las Esperanzas**	**2.73**	**68**	Pn	**Pn**		**19 19 07.8**	**+0.7**
TECA	**Tecapa**	**2.79**	**326**	*eP*	**Pn**		**19 19 09.1**	**+1.1**
TECA	**Tecapa**	**2.79**	**326**	*eP*	**Pn**		**19 19 09.1**	**+1.1**
COEB	**Comit de Eme**	**2.80**	**325**	IAML			19 19 51.7	
	comp=Z,290nm,0.3s							
COEB	**Comit de Eme**	**2.80**	**325**	IAML			19 19 51.7	
	comp=Z,290nm,0.3s							
TGUH	**Tegucigalpa,Un**	**2.88**	**353**	*eP*	**Pn**		**19 19 10.8**	**+1.5**
TGUH	**Tegucigalpa,Un**	**2.88**	**353**		**Pn**		**19 19 10.1**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.88**	**353**	*eP*	**Pn**		**19 19 10.8**	**+1.5**
LCR2	**La Lucha 2**	**3.18**	**116**	*eP*	**Pn**		**19 19 15.0**	**+1.5**
LFRS	**El Faro**	**3.22**	**319**	*eP*	**Pn**		**19 19 14.1**	**+0.1**
LFRS				IAML			19 20 10.4	
	comp=Z,585nm,0.5s							
LFRS	**El Faro**	**3.22**	**319**	*eP*	**Pn**		**19 19 14.1**	**+0.1**
LFRS				IAML			19 20 10.4	
	comp=Z,585nm,0.5s							
CEVE	**Cerro Verde**	**3.75**	**315**	*eP*	**Pn**		**19 19 21.2**	**-0.1**
CEVE	**Cerro Verde**	**3.75**	**315**	*eP*	**Pn**		**19 19 21.2**	**-0.1**
MTO3	**Montecristo**	**4.00**	**323**		**Pn**		**19 19 26.3**	**+1.5**
CMIG	**Matias Romero**	**9.72**	**308**	Pn	**Pn**		**19 20 43.5**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=122,slow=12,SNR=6.9							
CMIG				Sn	**Sn**		**19 22 27.7**	**-3.7**
	comp=Z,0.2nm,0.3s,baz=286,slow=18,SNR=1.2							
TLIG	**Tlapa**	**12.96**	**301**	Pn	**Pn**		**19 21 30.2**	**+2.5**
SDV	**Santo Domingo**	**16.17**	**97**	Pn	**P**		**19 22 15.3**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=276,slow=9.2,SNR=2.1							
152A	**Waverly Hall**	**21.48**	**5**	P	**P**		**19 23 13.0**	**+1.5**
LRAL	**Lakeview Retre**	**21.75**	**360**	P	**P**		**19 23 15.4**	**+1.0**
Z51A	**Franklin**	**22.09**	**4**	P	**P**		**19 23 19.4**	**+1.4**
Z51A				IAmb	IAmb		19 23 22.3	
	comp=Z,9.4nm,0.7s							
GOGA	**Godfrey**	**22.35**	**8**	P	**P**		**19 23 21.8**	**+1.0**
GOGA				IAmb	IAmb		19 23 24.6	
	comp=Z,8.8nm,0.8s							
Y49A	**Blount Mountai**	**22.58**	**1**	P	**P**		**19 23 23.5**	**+0.2**
WLAR	**White Oak Lake**	**23.11**	**347**	P	**P**		**19 23 28.6**	**-0.3**
WLAR				IAmb	IAmb		19 23 31.8	
	comp=Z,13nm,0.7s							
X48A	**Hartselle**	**23.16**	**360**	P	**P**		**19 23 28.1**	**-1.2**
Z38A	**Mt. Pleasant**	**23.20**	**343**	P	**P**		**19 23 27.9**	**-1.7**
X51A	**Calhoun**	**23.35**	**4**	P	**P**		**19 23 30.8**	**-0.4**
TXAR	**Lajitas Array**	**23.90**	**322**	P	**P**		**19 23 37.6**	**+1.0**
	comp=Z,2.7nm,0.7s,baz=134,slow=10,SNR=13							
TXAR				PcP	**PcP**		**19 27 21.5**	**+2.5**
	comp=Z,1.1nm,0.8s,baz=140,slow=4.4,SNR=5.7							
SWET	**Sewanee**	**23.94**	**2**	P	**P**		**19 23 36.9**	**0.0**
SWET				IAmb	IAmb		19 23 38.3	
	comp=Z,5.5nm,0.6s							
W50A	**Signal Mountai**	**23.95**	**3**	P	**P**		**19 23 35.6**	**-1.4**
W50A				IAmb	IAmb		19 23 39.0	
	comp=Z,8.4nm,0.8s							
MIAR	**Mount Ida**	**24.04**	**346**	P	**P**		**19 23 37.9**	**+0.1**
CPCT	**Cooper Cave**	**24.26**	**5**	P	**P**		**19 23 40.1**	**+0.4**
CPCT				IAmb	IAmb		19 23 42.6	
	comp=Z,11nm,0.8s							
H06E1	**SOCORRO T-PHAS**	**24.39**	**291**	T	T		19 48 51.1	
	SNR=13							
V48A	**Smith Brothers**	**24.45**	**0**	P	**P**		**19 23 42.4**	**+0.8**
V48A				IAmb	IAmb		19 23 43.4	
	comp=Z,6.8nm,0.8s							
WHAR	**Wooly Hollow**	**24.50**	**349**	P	**P**		**19 23 40.8**	**-1.1**
TKL	**Tuckaleechee C**	**24.53**	**6**	P	**P**		**19 23 42.8**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=232,slow=18,SNR=1.8							
X37A	**Clayton**	**24.55**	**343**	P	**P**		**19 23 42.8**	**+0.4**
V51A	**Loudon**	**24.62**	**5**	P	**P**		**19 23 43.4**	**+0.3**
V51A				IAmb	IAmb		19 23 53.0	
	comp=Z,7.9nm,0.8s							
W39A	**Magazine**	**24.71**	**346**	P	**P**		**19 23 44.3**	**+0.3**
CLTN	**Cedars of Leba**	**24.80**	**1**	P	**P**		**19 23 44.6**	**-0.1**
CLTN				IAmb	IAmb		19 23 46.9	
	comp=Z,7.7nm,0.7s							
FCAR	**Ozark Folk Cen**	**25.05**	**350**	P	**P**		**19 23 45.8**	**-1.2**
U40A	**Yellville**	**25.64**	**349**	P	**P**		**19 23 51.6**	**-0.7**
U40A				IAmb	IAmb		19 23 52.4	
	comp=Z,7.3nm,0.8s							
T47A	**Sharon Grove**	**25.70**	**360**	P	**P**		**19 23 52.7**	**-0.1**
T47A				IAmb	IAmb		19 23 54.6	
	comp=Z,5.9nm,0.8s							
U38A	**Gravette**	**26.04**	**346**	P	**P**		**19 23 54.6**	**-1.4**
MNTX	**Cornudas Mount**	**26.62**	**323**	P	**P**		**19 24 02.7**	**+1.4**
S39A	**Bolivar**	**27.02**	**349**	P	**P**		**19 24 03.5**	**-1.3**
S39A				IAmb	IAmb		19 24 04.8	
	comp=Z,6.8nm,0.8s							
R49A	**Shelbyville**	**27.04**	**3**	P	**P**		**19 24 04.4**	**-0.6**
CCM	**Cathedral Cave**	**27.04**	**352**	P	**P**		**19 24 03.7**	**-1.3**
Q51A	**Peebles**	**27.91**	**6**	P	**P**		**19 24 12.7**	**-0.1**
Q51A				IAmb	IAmb		19 24 13.5	
	comp=Z,10nm,0.8s							
P53A	**Whipple**	**28.61**	**9**	P	**P**		**19 24 19.3**	**+0.3**
P53A				IAmb	IAmb		19 24 20.1	
	comp=Z,9.1nm,0.7s							
N49A	**Columbus Grove**	**29.72**	**4**	P	**P**		**19 24 27.5**	**-1.2**
SAML	**Samuel**	**30.92**	**129**	P	**P**		**19 24 39.3**	**-0.4**
SDCO	**Great Sand Dun**	**31.28**	**331**	P	**P**		**19 24 43.6**	**+0.6**
X18A	**Snowflake**	**31.34**	**322**	P	**P**		**19 24 43.0**	**-0.4**
X18A				IAmb	IAmb		19 24 51.4	
	comp=Z,3.5nm,0.7s							
J56A	**Wolcott**	**33.14**	**13**	P	**P**		**19 24 56.9**	**-2.0**
H43A	**Windswept, Lux**	**33.18**	**359**	P	**P**		**19 24 56.4**	**-2.8**
H43A				IAmb	IAmb		19 24 58.6	
	comp=Z,6.8nm,0.8s							
I37A	**Lemond, Waseca**	**33.20**	**351**	P	**P**		**19 24 58.0**	**-1.3**
PV13	**Radium Mtn., P**	**33.27**	**328**	P	**P**		**19 24 59.8**	**-0.6**
PV03	**Paradox Valley**	**33.35**	**328**	P	**P**		**19 25 02.0**	**+0.9**
PV03				IAmb	IAmb		19 25 03.6	
	comp=Z,3.4nm,0.9s							
PV12	**Saucer Basin,**	**33.38**	**328**	P	**P**		**19 25 02.2**	**+1.0**
PV18	**Skein Mesa, Pa**	**33.38**	**328**	P	**P**		**19 25 02.1**	**+0.8**
PV18				IAmb	IAmb		19 25 03.8	
	comp=Z,4.6nm,0.6s							
PV17	**East Wray Mesa**	**33.43**	**328**	P	**P**		**19 25 02.2**	**+0.4**
PV17				IAmb	IAmb		19 25 04.2	
	comp=Z,5.6nm,0.7s							
PV04	**Paradox Valley**	**33.49**	**328**	P	**P**		**19 25 02.9**	**+0.7**
PV04				IAmb	IAmb		19 25 17.5	
	comp=Z,6.1nm,1.1s							
ECSD	**EROS Data Cent**	**33.51**	**347**	P	**P**		**19 25 00.3**	**-1.8**
ECSD				IAmb	IAmb		19 25 02.0	
	comp=Z,4.0nm,0.8s							
PV23	**Carpenter Ridg**	**33.59**	**328**	P	**P**		**19 25 01.4**	**-1.7**
PV23				IAmb	IAmb		19 25 06.5	
	comp=Z,4.9nm,0.9s							
G40A	**Rib Lake**	**34.09**	**356**	P	**P**		**19 25 05.4**	**-1.7**
G40A				IAmb	IAmb		19 25 06.2	
	comp=Z,5.4nm,0.8s							
COWI	**Conover**	**34.85**	**357**	P	**P**		**19 25 11.9**	**-1.8**
SRU	**San Rafael Swe**	**34.87**	**327**	P	**P**		**19 25 13.0**	**-1.2**
F36A	**Milaca**	**35.02**	**352**	P	**P**		**19 25 13.7**	**-1.5**
F36A				IAmb	IAmb		19 25 13.9	
	comp=Z,5.2nm,0.9s							
E43A	**Lone Tree Farm**	**35.08**	**360**	P	**P**		**19 25 13.7**	**-1.9**
P17A	**Butcher Ranch,**	**35.25**	**327**	P	**P**		**19 25 18.7**	**+1.3**
F33A	**5 Mile Ranch,**	**35.46**	**349**	P	**P**		**19 25 17.2**	**-1.8**
PDAR	**Pinedale Array**	**37.14**	**332**	P	**P**		**19 25 33.0**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=132,slow=12,SNR=6.4							
HWUT	**Hardware Ranch**	**37.24**	**329**	P	**P**		**19 25 34.7**	**+0.3**
HWUT				IAmb	IAmb		19 25 36.3	
	comp=Z,4.0nm,0.6s							
B35A	**Bob, Littlefor**	**37.50**	**353**	P	**P**		**19 25 34.7**	**-1.6**
B35A				IAmb	IAmb		19 26 21.9	
	comp=Z,8.5nm,1.5s							
AGMN	**Agassiz Nation**	**37.75**	**350**	P	**P**		**19 25 37.0**	**-1.5**
AGMN				IAmb	IAmb		19 25 37.5	
	comp=Z,4.3nm,0.8s							
MDND	**Maddock**	**38.08**	**346**	P	**P**		**19 25 40.8**	**-0.4**
REDW	**Red Top Meadow**	**38.20**	**331**	P	**P**		**19 25 42.6**	**-0.1**
REDW				IAmb	IAmb		19 25 54.0	
	comp=Z,4.0nm,0.7s							
ELK	**Elko**	**38.61**	**325**	P	**P**		**19 25 46.3**	**+0.2**
NVAR	**Mina Array Bea**	**39.01**	**319**	P	**P**		**19 25 51.1**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=127,slow=6.9,SNR=3.5							
NVAR				PcP	**PcP**		**19 28 01.0**	**+1.6**
	comp=Z,1.4nm,0.7s,baz=145,slow=4.4,SNR=9.5							
ULM	**Lac du Bonnet**	**39.65**	**351**	P	**P**		**19 25 52.0**	**-2.4**
	comp=Z,4.7nm,0.8s,baz=164,slow=10,SNR=4.2							
ULM	**Lac du Bonnet**	**39.65**	**351**	P	**P**		**19 25 51.9**	**-2.4**
ULM				IAmb	IAmb		19 25 52.8	
	comp=Z,5.1nm,0.7s							
YKA	**Yellowknife Ar**	**54.97**	**345**	P	**P**		**19 27 52.1**	**-1.2**
	comp=Z,1.1nm,1.0s,baz=141,slow=7.8,SNR=8.6							
YKA				PcP	**PcP**		**19 28 54.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=148,slow=4.0,SNR=5.1							
KSRS	**Korea Array**	**121.63**	**328**	PKP	**PKiKP**		**19 37 17.7**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=13,slow=1.3,SNR=7.0							
ASAR	**Alice Springs**	**139.29**	**247**	PKP	**PKiKP**		**19 37 52.8**	**+0.2**
	comp=Z,0.3nm,0.9s,baz=89,slow=3.5,SNR=5.1							
WRA	**Warramunga Arr**	**139.43**	**252**	PKhKP	PKPpre		19 37 50.1	
	comp=Z,0.5nm,0.8s,baz=85,slow=2.7,SNR=1.8							
FITZ	**Fitzroy Crossi**	**147.82**	**254**	PKPbc	**PKiKP**		**19 38 10.3**	**+0.1**
	comp=Z,3.3nm,1.0s,baz=0.0,slow=16,SNR=1.8							
CMAR	**Chiang Mai Arr**	**149.99**	**349**	PKPbc	**PKiKP**		**19 38 14.4**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=343,slow=3.1,SNR=14							

*IDC **05** 19:19:19.8±1.0, 14°.58N×54°.67E, h0km, mb3.8/14, mb1 3.9/14, mb1mx3.7/39, mbtmp3.8/14, MS3.5/1, Ms1 3.5/1, ms1mx2.9/40, Error ellipse: s-maj=27.0km s-min=20.8km az=26.0*

ISC 05 19:19:21.3±1.1, 14°.6N±0°.2×54°.7E±0°.1, h10km, n19, σ0s66/15, mb3.8/14, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**9.38**	**23**	LR	LR		19 24 55.0	
	comp=Z,268nm,19.7s,baz=179,slow=36							
GEYT	**Alibeck**	**23.44**	**7**	P	**P**		**19 24 31.5**	**+0.6**
	2.4nm,0.8s,baz=178,slow=5.2,SNR=5.4							
MKAR	**Makanchi Array**	**39.53**	**30**	P	**P**		**19 26 52.8**	**+0.3**
	0.6nm,0.6s,baz=216,slow=9.0,SNR=7.4							
KURBB	**Kurchatov Arra**	**40.80**	**23**	P	**P**		**19 27 02.7**	**-0.2**
	0.5nm,0.7s,baz=223,slow=8.1,SNR=4.4							
CMAR	**Chiang Mai Arr**	**42.55**	**79**	P	**P**		**19 27 18.4**	**+0.7**
	0.9nm,1.0s,baz=270,slow=8.7,SNR=4.9							
ZALV	**Zalesovo Beam**	**45.83**	**24**	P	**P**		**19 27 43.4**	**0.0**
	0.9nm,0.7s,baz=261,slow=7.4,SNR=4.7							
GERES	**GERESS Array B**	**47.86**	**324**	P	**P**		**19 27 59.2**	**-0.3**
	0.2nm,0.4s,baz=134,slow=8.3,SNR=2.0							
FINES	**FINESS Array B**	**51.09**	**343**	P	**P**		**19 28 23.1**	**-0.8**
	2.7nm,1.0s,baz=137,slow=12,SNR=5.1							
TORD	**Torodi Ar. Bea**	**51.35**	**275**	P	**P**		**19 28 26.6**	**+0.1**
	0.9nm,0.9s,baz=67,slow=11,SNR=3.4							
SONM	**Songino Array**	**53.31**	**41**	P	**P**		**19 28 45.0**	**-0.2**
	0.4nm,0.5s,baz=212,slow=6.8,SNR=3.0							
ESDC	**Sonseca Array**	**56.75**	**308**	P	**P**		**19 29 06.0**	**+0.2**
	0.5nm,0.7s,baz=71,slow=5.7,SNR=2.9							
ARCES	**ARCESS Array B**	**57.88**	**348**	P	**P**		**19 29 13.0**	**-0.1**
	2.6nm,0.9s,baz=147,slow=7.2,SNR=6.6							
KSRS	**Korea Array**	**68.07**	**55**	P	**P**		**19 30 20.6**	**-0.8**
	1.1nm,0.8s,baz=278,slow=7.3,SNR=4.7							
H01W3	**Cape Leeuwin H**	**74.83**	**133**	T	T		20 52 42.9	
	baz=301,slow=75,SNR=21							
H01W2	**Cape Leeuwin H**	**74.83**	**133**	T	T		20 52 41.9	
	baz=301,slow=75,SNR=18							
H01W1	**Cape Leeuwin H**	**74.84**	**133**	T	T		20 52 45.4	
	baz=301,slow=75,SNR=19							
WRA	**Warramunga Arr**	**85.11**	**112**	P	**P**		**19 31 59.4**	**-0.8**
	1.5nm,0.9s,baz=300,slow=3.8,SNR=6.5							
ASAR	**Alice Springs**	**86.23**	**115**	P	**P**		**19 32 03.6**	**-0.1**
	1.6nm,0.7s,baz=290,slow=4.9,SNR=23							
NVAR	**Mina Array Bea**	**126.85**	**353**	PKP	**PKiKP**		**19 38 28.1**	**+1.5**
	0.5nm,0.7s,baz=306,slow=1.4,SNR=5.5							

IDC 05 19:21:43.0±2.6, 14°.50N×55°.15E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.3/42, mbtmp3.7/4, Error ellipse: s-maj=95.5km s-min=36.9km az=65.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.38**	**30**	P	P		19 29 14.3	-0.1
	0.2nm,0.6s,baz=213,slow=9.7,SNR=2.3							
FINES	**FINESS Array B**	**51.32**	**343**	P	P		19 30 48.7	-0.1
	1.3nm,0.9s,baz=134,slow=9.9,SNR=2.5							
H01W3	**Cape Leeuwin H**	**74.42**	**133**	T	T		20 55 08.0	
	baz=300							
H01W2	**Cape Leeuwin H**	**74.43**	**133**	T	T		20 55 13.4	
	baz=300							
**H01

RAMN	**Ramite**	**52.10 287**	*e*P	**P**	**19 50 32.5**	**-0.4**
JIRN	**Jiri**	**52.36 288**	*e*P	**P**	**19 50 34.8**	**-0.2**
GUN	**Gumba**	**52.59 289**	*e*P	**P**	**19 50 36.4**	**-0.3**
PKI	**Pulchoki**	**53.06 288**	*e*P	**P**	**19 50 39.2**	**-0.9**
PKIN	**Phulchoki**	**53.07 288**	*e*P	**P**	**19 50 39.2**	**-0.9**
	comp=Z,4.4nm,0.5s					
KKN	**Kakani**	**53.14 288**	*e*P	**P**	**19 50 40.0**	**-0.6**
DMN	**Daman**	**53.32 288**	*e*P	**P**	**19 50 41.4**	**-0.5**
GKN	**Gorkha**	**53.67 289**	*e*P	**P**	**19 50 43.9**	**-0.5**
ZAA0	**Zalesovo Array**	**54.07 321**	P	**P**	**19 50 46.1**	**-0.5**
ZAA0			IAmb	IAmb	19 50 46.5	
	comp=Z,4.9nm,0.7s					
ZALV	**Zalesovo Beam**	**54.07 321**	P	**P**	**19 50 45.8**	**-0.9**
	comp=Z,5.5nm,0.5s,baz=110,slow=7.9,SNR=29					
STKA	**Stephens Creek**	**54.27 183**	P	**P**	**19 50 48.5**	**+0.2**
	comp=Z,4.7nm,0.7s,baz=357,slow=7.6,SNR=12					
STKA	**Stephens Creek**	**54.27 183**	P	**P**	**19 50 48.5**	**+0.2**
DANN	**Dangsing**	**54.38 289**	*e*P	**P**	**19 50 49.7**	**-0.1**
	comp=Z,60nm,0.7s					
KOLN	**Koldanda**	**54.61 289**	*e*P	**P**	**19 50 50.8**	**-0.5**
	comp=Z,16nm,0.9s					
MK31	**Makanchi Array**	**54.77 312**	P	**P**	**19 50 51.6**	**-0.3**
MK31			IAmb	IAmb	19 50 52.2	
	comp=Z,2.9nm,0.6s					
MKAR	**Makanchi Array**	**54.77 312**	P	**P**	**19 50 51.8**	**-0.2**
	comp=Z,2.9nm,0.5s,baz=86,slow=9.2,SNR=29					
MKAR			PcP	**PcP**	**19 51 53.5**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=72,slow=5.7,SNR=4.1					
MAKZ	**Makanchi**	**54.98 312**	P	**P**	**19 50 53.4**	**-0.1**
MAKZ			IAmb	IAmb	19 50 53.8	
	comp=Z,4.2nm,0.6s					
FORT	**Forrest**	**55.34 197**	P	**P**	**19 50 56.2**	**+0.2**
FORT			IAmb	IAmb	19 51 12.5	
	comp=Z,10nm,1.0s					
BBOO	**Buckleboo**	**55.69 188**	P	**P**	**19 50 58.2**	**-0.3**
BBOO			IAmb	IAmb	19 51 04.3	
	comp=Z,17nm,1.4s					
KURK	**Kurchatov**	**57.44 317**	P	**P**	**19 51 10.1**	**-0.8**
KURK			IAmb	IAmb	19 51 11.2	
	comp=Z,5.9nm,0.8s					
NRIK	**Noril'sk**	**57.45 339**	P	**P**	**19 51 11.1**	**+0.5**
	comp=Z,4.0nm,0.6s,baz=112,slow=8.0,SNR=7.6					
PRZ	**Przheval'sk**	**57.48 307**	P	**P**	**19 51 12.7**	**+1.1**
TARG	**Taragay, Kyrgy**	**57.95 306**	P	**P**	**19 51 16.0**	**+0.8**
TARG			IAmb	IAmb	19 51 17.0	
	comp=Z,8.7nm,1.0s					
KDJ	**Kajisay**	**58.40 306**	P	**P**	**19 51 18.3**	**+0.2**
ULHL	**Ulahol**	**59.09 307**	P	**P**	**19 51 23.4**	**+0.5**
	SNR=6.9					
PMR	**Palmer**	**59.25 31**	P	**P**	**19 51 23.5**	**+0.2**
PMR			IAmb	IAmb	19 51 41.3	
	comp=Z,5.1nm,0.6s					
KSH	**Kashi**	**59.50 304**	*e*P	**P**	**19 51 29.1**	**+3.4**
KSH			pmax	pmax		
	comp=Z,25nm,0.8s					
TKM2	**Tokmak 2**	**59.52 307**	P	**P**	**19 51 26.5**	**+0.6**
	SNR=11					
KZA	**Kyzart**	**59.84 307**	P	**P**	**19 51 29.6**	**+1.3**
	SNR=16					
KBK	**Karagaybulak**	**60.02 307**	P	**P**	**19 51 29.7**	**+0.4**
	SNR=7.5					
FRU1	**Bishkek**	**60.24 307**	P	**P**	**19 51 30.8**	**+0.1**
FRU1			IAmb	IAmb	19 51 31.8	
	comp=Z,8.1nm,0.8s					
AAK	**Ala-Archa**	**60.35 307**	P	**P**	**19 51 31.6**	**+0.1**
AAK			IAmb	IAmb	19 51 32.1	
	comp=Z,3.2nm,0.7s					
UCH	**Uchtor**	**60.37 307**	P	**P**	**19 51 33.0**	**+1.0**
	SNR=19					
EKS2	**Erkin-Say**	**60.88 307**	P	**P**	**19 51 35.3**	**+0.2**
	SNR=5.0					
AML	**Almayashu**	**60.99 307**	P	**P**	**19 51 37.0**	**+0.9**
	SNR=14					
ARSB	**Arslanbob**	**61.59 306**	P	**P**	**19 51 40.5**	**+0.5**
NIL	**Nilore**	**62.45 297**	P	**P**	**19 51 45.9**	**+0.2**
NIL			IAmb	IAmb	19 51 46.8	
	comp=Z,5.1nm,0.8s					
BRVK	**Borovoye**	**62.64 319**	P	**P**	**19 51 46.1**	**-0.4**
KK31	**Karatay Array**	**63.22 308**	P	**P**	**19 51 50.3**	**-0.3**
KK31			IAmb	IAmb	19 51 51.4	
	comp=Z,7.0nm,0.8s					
KKAR	**Karatay Array**	**63.22 308**	P	**P**	**19 51 50.4**	**-0.3**
KKAR			IAmb	IAmb	19 51 51.4	
	comp=Z,7.0nm,0.8s					
BTK	**Batken**	**63.38 305**	P	**P**	**19 51 51.4**	**-0.4**
GAR	**Garm**	**63.92 304**	P	**P**	**19 51 55.3**	**-0.2**
CHGR	**Chuyangaron**	**64.87 303**	P	**P**	**19 52 01.2**	**-0.4**
KBL	**Kabul**	**65.72 299**	P	**P**	**19 52 06.5**	**-0.9**
KBL			IAmb	IAmb	19 52 08.5	
	comp=Z,4.7nm,0.7s					
ARU	**Arti**	**69.07 324**	P	**P**	**19 52 27.0**	**-0.9**
GEYT	**Alibeck**	**73.50 305**	P	**P**	**19 52 54.8**	**-0.3**
	comp=Z,3.3nm,1.0s,baz=48,slow=2.2,SNR=5.8					
YKA	**Yellowknife Ar**	**75.17 28**	P	**P**	**19 53 04.3**	**0.0**
	comp=Z,0.2nm,0.5s,baz=290,slow=6.1,SNR=3.2					
KLMR	**Klimovskoe**	**77.34 331**	*e*P	**P**	**19 53 14.6**	**-2.0**
KLMR			AMP		19 53 16.6	
	comp=Z,8.0nm,1.3s					
ARCES	**ARCESS Array B**	**78.33 342**	P	**P**	**19 53 21.9**	**-0.1**
	comp=Z,2.8nm,0.6s,baz=68,slow=7.6,SNR=12					
NVAR	**Mina Array Bea**	**81.81 52**	P	**P**	**19 53 43.1**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=286,slow=5.6,SNR=3.8					
KBZ	**Khabaz**	**82.40 314**	P	**P**	**19 53 44.0**	**-0.3**
	comp=Z,3.9nm,0.8s,baz=91,slow=3.9,SNR=7.7					
FINES	**FINESS Array B**	**82.74 335**	P	**P**	**19 53 44.5**	**-1.3**
	comp=Z,1.1nm,0.4s,baz=72,slow=4.3,SNR=23					
PFO	**Pinyon Flats O**	**85.07 56**	LR	LR	20 23 33.9	
	comp=Z,234nm,20.1s,baz=281,slow=30					
AKASG	**Malin Array Be**	**87.29 325**	P	**P**	**19 54 06.8**	**-2.0**
	comp=Z,0.6nm,0.4s,baz=61,slow=4.6,SNR=6.5					
NB2	**NORSAR Subarra**	**88.41 339**	P	**P**	**19 54 12.0**	**-2.0**
	comp=Z,1.4nm,0.6s,baz=44,slow=5.1					
NOA	**NORSAR Array B**	**88.41 339**	P	**P**	**19 54 12.2**	**-1.8**
	comp=Z,0.9nm,0.6s,baz=44,slow=4.6,SNR=6.8					
RAYN	**Ar Rayn**	**88.65 295**	P	**P**	**19 54 15.0**	**-0.9**
RAYN			IAmb	IAmb	19 54 15.8	
	comp=Z,2.7nm,0.8s					
LPIG	**La Paz**	**94.01 62**	LR	LR	20 32 01.6	
	comp=Z,149nm,20.2s,baz=99,slow=32					
TORD	**Torodi Ar. Bea**	**128.87 310**	PKP	**PKPdf**	**20 00 28.9**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=356,slow=2.8,SNR=2.4					
PLCA	**Paso Flores**	**145.65 130**	PKPbc	**PKPdf**	**20 01 01.3**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=219,slow=6.3,SNR=7.1					
PLCA	**Paso Flores**	**145.65 130**		**PKPdf**	**20 01 01.5**	**+0.9**

*JMA **05** 19:42:14.0,23°.81N×121°.99E,h32km±2km,M2.6*
*TAP **05** 19:42:14.8,23°.85N×121°.99E,h32km,ML2.8,C*
ISC 05 19:42:14.3±1.0,23°.82N±0°.02×121°.99E±0°.02,h30km±9km,
n89,σ0°67/163,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.39**	**294**	P		**Pn**	**19 42 23.6**	**-0.2**
HWA	baz=287			*e*S		**Sn**	**19 42 29.9**	**-0.3**
TWD	**Chiawan**	**0.44**	**306**	P		**Pb**	**19 42 23.8**	**0.0**
TWD	baz=303			*i* S		**Sb**	**19 42 30.2**	**-0.2**
NACB	**Ninganchiao**	**0.51**	**314**	P		**Pb**	**19 42 24.5**	**-0.3**
NACB	baz=307			S		**Sb**	**19 42 31.7**	**-0.3**
ESL	**Shilin**	**0.51**	**269**	P		**Pb**	**19 42 24.7**	**-0.2**
ESL	baz=260			S		**Sb**	**19 42 32.4**	**+0.2**
EGFH	**Guangfu**	**0.54**	**254**	*i* P		**Pb**	**19 42 25.3**	**0.0**
EGFH	baz=243			S		**Sb**	**19 42 33.2**	**+0.3**
ETLH	**Xiulin Townshi**	**0.60**	**310**	P		**Pb**	**19 42 26.1**	**-0.4**
ETLH	baz=308			S		**Sb**	**19 42 34.5**	**-0.3**
HGSD	**Ruisui**	**0.61**	**238**	*i* P		**Pb**	**19 42 26.6**	**0.0**
HGSD	baz=228			S		**Sb**	**19 42 35.4**	**+0.4**
ENA	**Nanau**	**0.65**	**339**	*i* P		**Pb**	**19 42 26.7**	**-0.4**
ENA	baz=330			S		**Sb**	**19 42 35.9**	**0.0**
EHY	**Hungye**	**0.69**	**243**	*i* P		**Pn**	**19 42 27.5**	**-0.4**
EHY	baz=254			*i* S		**Sn**	**19 42 37.8**	**+0.1**
WHF	**Hehuan Shan**	**0.74**	**296**	P		**Pn**	**19 42 28.3**	**-0.7**
WHF	baz=286			S		**Sb**	**19 42 38.6**	**-0.3**
YULB	**Yu-li**	**0.77**	**236**	P		**Pn**	**19 42 28.7**	**-0.4**
YULB	baz=248			S		**Sn**	**19 42 39.0**	**-0.6**
VWDT	**VWDT**	**0.78**	**265**	P		**Pb**	**19 42 29.4**	**+0.1**
VWDT	baz=263			*e*S		**Sb**	**19 42 41.0**	**+1.3**
CHGB	**Renai**	**0.79**	**288**	*i* P		**Pn**	**19 42 29.3**	**-0.2**
CHGB	baz=280			S		**Sn**	**19 42 39.9**	**-0.4**
TWF1	**Yuli**	**0.79**	**234**	P		**Pn**	**19 42 29.2**	**-0.2**
TWF1	baz=247			S		**Sn**	**19 42 39.7**	**-0.5**
TWC	**Suao**	**0.80**	**351**	P		**Pn**	**19 42 29.5**	**0.0**
TWC	baz=351			S		**Sb**	**19 42 40.3**	**+0.2**
NNSB	**Datong**	**0.82**	**318**	P		**Pn**	**19 42 29.8**	**-0.2**
NNSB	baz=316			S		**Sn**	**19 42 40.2**	**-0.9**
NNSH	**Datong**	**0.82**	**318**	P		**Pn**	**19 42 29.7**	**-0.2**
NNSH	baz=316			S		**Sn**	**19 42 40.1**	**-1.0**
NNS	**Nan Shan**	**0.84**	**318**	P		**Pn**	**19 42 30.0**	**-0.1**
NNS	baz=317			S		**Sn**	**19 42 40.9**	**-0.6**
TDCB	**Techi**	**0.88**	**300**	*i* P		**Pb**	**19 42 30.9**	**-0.1**
TDCB	baz=298			S		**Sn**	**19 42 42.0**	**-0.4**
FULB	**Fuli**	**0.89**	**226**	*e*P		**Pn**	**19 42 30.2**	**-0.6**
FULB	baz=212			*e*S		**Sn**	**19 42 42.4**	**-0.3**
NDT	**Datong Townshi**	**0.89**	**331**	P		**Pn**	**19 42 30.7**	**-0.1**
NDT	baz=330			S		**Sb**	**19 42 42.6**	**-0.2**
CHKT	**Chengkung**	**0.92**	**219**	P		**Pn**	**19 42 30.2**	**-0.9**
CHKT	baz=206			*e*S		**Sn**	**19 42 42.4**	**-0.9**
TWE	**Neicheng**	**0.94**	**342**	P		**Pn**	**19 42 31.6**	**+0.1**
TWE	baz=342			*e*S		**Sb**	**19 42 44.4**	**+0.1**
SSLB	**Suanglung**	**0.95**	**268**	P		**Pb**	**19 42 32.0**	**-0.2**
SSLB	baz=266			*e*S		**Sb**	**19 42 44.6**	**+0.1**
DPDB	**Guoxing**	**1.00**	**282**	P		**Pb**	**19 42 32.7**	**-0.3**
SMLT	**Sun Moon Lake**	**1.00**	**274**	P		**Pb**	**19 42 32.8**	**-0.3**
SMLT	baz=272			*e*S		**Sn**	**19 42 45.1**	**-0.4**
YHNB	**Yeheng**	**1.01**	**327**	P		**Pn**	**19 42 32.8**	**+0.2**
YHNB	baz=314			S		**Sn**	**19 42 44.8**	**-1.1**
EGS		**1.02**	**357**	P		**Pb**	**19 42 32.9**	**-0.5**
EGS	baz=9.0			*e*S		**Sn**	**19 42 46.0**	**+0.1**
NSK	**Sanguang**	**1.03**	**326**	P		**Pn**	**19 42 32.9**	**+0.2**
NSK	baz=314			S		**Sn**	**19 42 45.6**	**-0.6**
NTC	**Toucheng**	**1.04**	**352**	P		**Pn**	**19 42 33.2**	**+0.4**
NTC	baz=352			*e*S		**Sb**	**19 42 47.2**	**+0.3**
WHYT	**Xinyi Township**	**1.05**	**263**	*e*P		**Pb**	**19 42 33.8**	**-0.1**
WHYT	baz=251			*e*S		**Sb**	**19 42 47.5**	**+0.1**
NWLT	**Wulai**	**1.05**	**335**	P		**Pn**	**19 42 32.7**	**-0.3**
NWLT	baz=321			S		**Sb**	**19 42 47.0**	**-0.4**
WHP	**Taichung City**	**1.06**	**296**	P		**Pb**	**19 42 34.4**	**+0.3**
WHP	baz=294			S		**Sb**	**19 42 47.2**	**-0.4**
JYNG	**Yonagunijimaku**	**1.07**	**54**	P		**Pn**	**19 42 33.5**	**+0.2**
JYNG				*e*S		**Sn**	**19 42 47.4**	**+0.2**
ELDTW	**Lidau**	**1.09**	**235**	P		**Pn**	**19 42 33.1**	**-0.6**
ELDTW	baz=222			S		**Sn**	**19 42 46.5**	**-1.3**
YOJ	**Yonaguni jima**	**1.13**	**55**	P		**Pn**	**19 42 34.1**	**+0.1**
YOJ	baz=57			*e*S		**Sn**	**19 42 48.4**	**-0.1**
YOJ	**Yonaguni jima**	**1.13**	**55**	P		**Pn**	**19 42 34.3**	**+0.3**
YOJ				*e*S		**Sn**	**19 42 48.6**	**+0.1**
ALS	**Alishan**	**1.13**	**254**	P		**Pb**	**19 42 35.2**	**-0.2**
ALS	baz=252			*e*S		**Sb**	**19 42 50.2**	**+0.3**
TIPB	**Shuangxi**	**1.16**	**353**	P		**Pb**	**19 42 35.1**	**-0.6**
TIPB				*e*S		**Sb**	**19 42 50.1**	**-0.3**
WJS	**Zhushan**	**1.16**	**270**	P		**Pb**	**19 42 36.4**	**+0.7**
WJS	baz=268			*e*S		**Sb**	**19 42 51.6**	**+1.3**
WNT	**Mingjian**	**1.20**	**273**	P		**Pb**	**19 42 36.5**	**+0.1**
WNT	baz=271			S		**Sb**	**19 42 52.0**	**+0.4**
TWH	**Lutao**	**1.20**	**203**	P		**Pn**	**19 42 34.5**	**-0.6**
TWH	baz=201			*e*S		**Sn**	**19 42 48.7**	**-1.7**
NSTT	**Nanjuang**	**1.21**	**312**	P		**Pb**	**19 42 36.9**	**+0.2**
NSTT	baz=311			S		**Sb**	**19 42 52.1**	**+0.2**
NHDH	**Xindian Distri**	**1.21**	**340**	*e*P		**Pb**	**19 42 36.2**	**-0.4**
NHDH	baz=327			*e*S		**Sb**	**19 42 51.8**	**-0.2**
TWQ1	**Liyutan**	**1.23**	**295**	*e*P		**Pb**	**19 42 36.2**	**-0.7**
TWQ1	baz=294			S		**Sb**	**19 42 53.0**	**+0.6**
NWF	**Wu-fen Shan**	**1.26**	**351**	*e*P		**Pb**	**19 42 37.3**	**-0.2**
WFSB	**Wu-fen Shan**	**1.26**	**351**	*e*P		**Pb**	**19 42 37.0**	**-0.5**
	baz=4.0							
TWGBT	**Beinan**	**1.30**	**220**	P		**Pn**	**19 42 36.0**	**-0.4**
TWGBT	baz=229			S		**Sn**	**19 42 52.6**	**-0.3**
TWG	**Pinlang**	**1.31**	**221**	*e*P		**Pn**	**19 42 36.1**	**-0.3**
TWG	baz=229			*e*S		**Sn**	**19 42 52.0**	**-0.9**
NMLH	**Miaoli**	**1.31**	**303**	*e*S		**Sb**	**19 42 55.2**	**+0.5**
STYT	**Tauyuan**	**1.31**	**240**	P		**Pb**	**19 42 37.8**	**-0.5**
STYT	baz=229			*e*S		**Sn**	**19 42 53.4**	**+0.3**
TTN	**Taitung**	**1.32**	**216**	S		**Sn**	**19 42 53.3**	**+0.2**
WGK	**Gukeng**	**1.32**	**264**	P		**Pb**	**19 42 38.5**	**+0.1**
WGK	baz=262			*e*S		**Sb**	**19 42 55.6**	**+0.8**
TPUB	**Ta-pu**	**1.35**	**248**	P		**Pb**	**19 42 39.1**	**+0.1**
TPUB	baz=255			S		**Sb**	**19 42 56.6**	**+0.6**
YM10	**YM10**	**1.39**	**344**	P		**Pb**	**19 42 38.6**	**-1.0**
YM10	baz=331			*e*S		**Sb**	**19 42 55.8**	**-1.2**
WTP	**Ta-pu**	**1.39**	**246**	P		**Pb**	**19 42 39.5**	**-0.1**
WTP	baz=244			*e*S		**Sb**	**19 42 57.5**	**+0.5**
YM04	**YM04**	**1.39**	**343**	*e*P		**Pb**	**19 42 39.2**	**-0.5**
YM04	baz=332			S		**Sb**	**19 42 56.6**	**-0.5**
YM11	**YM11**	**1.39**	**344**	*e*P		**Pb**	**19 42 38.9**	**-0.9**
CHN1	**Nanshi**	**1.48**	**245**	*e*P		**Pb**	**19 42 40.9**	**-0.4**
CHN1	baz=243			*e*S		**Sb**	**19 43 00.6**	**+0.9**
SLGT	**Liugui**	**1.48**	**237**	P		**Pn**	**19 42 40.0**	**+1.1**
SLGT	baz=226			S		**Sb**	**19 42 59.3**	**-0.4**
TWK	**Hsinying**	**1.49**	**248**	*i* P		**Pb**	**19 42 41.5**	**+0.2**
TWK	baz=246			S		**Sb**	**19 43 01.3**	**+1.5**
SGST	**Jiashian**	**1.49**	**241**	P		**Pb**	**19 42 40.6**	**-0.7**
SGST	baz=228			S		**Sb**	**19 42 59.2**	**-0.6**
RLNB	**Erlin**	**1.50**	**273**	*e*P		**Pb**	**19 42 40.8**	**-0.7**
RLNB	baz=271			*e*S		**Sb**	**19 43 01.4**	**+1.4**
SNST	**Tainan City**	**1.50**	**247**	P		**Pb**	**19 42 41.6**	**+0.1**
SNST	baz=245			S		**Sb**	**19 43 00.9**	**+0.8**
ECL	**Taimali**	**1.55**	**218**	*e*P		**Pn**	**19 42 39.3**	**-0.5**
ECL	baz=217			S		**Sn**	**19 42 57.4**	**-1.4**
WLGB	**Puzi**	**1.59**	**258**	*e*P		**Pb**	**19 42 41.7**	**-1.3**
WSF	**Szhu**	**1.63**	**264**	P		**Pb**	**19 42 42.9**	**-0.9**
WSF	baz=262			S		**Sb**	**19 43 04.5**	**+0.6**
SSD	**Sandimen**	**1.65**	**230**	P		**Pb**	**19 42 43.8**	**-0.1**
SSD	baz=222			S		**Sb**	**19 43 03.2**	**-1.1**
IRIF	**Iriomote-Funau**	**1.67**	**72**	P		**Pn**	**19 42 41.9**	**+0.4**
IRIF				*e*S		**Sn**	**19 43 02.4**	**+0.5**
HATJ	**Hateruma jima**	**1.68**	**82**	P		**Pn**	**19 42 41.8**	**+0.3**
HATJ				*e*S		**Sn**	**19 43 02.3**	**+0.3**
CHN8	**Yiju**	**1.70**	**254**	S		**Sb**	**19 43 05.1**	**-0.8**
MASBT	**Mashibuluo**	**1.73**	**226**	*e*P		**Pb**	**19 42 45.0**	**-0.5**
MASBT	baz=221			*e*S		**Sn**	**19 43 03.7**	**+0.2**
TAW	**Tawu**	**1.77**	**215**	*e*P		**Pn**	**19 42 42.8**	**-0.1**
TAW	baz=214			S		**Sn**	**19 43 03.3**	**-1.0**
EAST	**Anshuo**	**1.78**	**217**	*e*P		**Pn**	**19 42 42.8**	**-0.2**
EAST	baz=215			S		**Sn**	**19 43 03.6**	**-1.0**
JKRS	**Kuro-shima**	**1.89**	**77**	P		**Pn**	**19 42 45.0**	**+0.5**
JKRS				*e*S		**Sn**	**19 43 08.6**	**+1.3**
SCZT	**Fangliau**	**1.92**	**221**	*e*P		**Pn**	**19 42 46.1**	**+1.2**
SCZT	baz=216			*e*S		**Sn**	**19 43 09.2**	**+1.3**
JIJ	**Ishigaki jima**	**2.04**	**74**	P		**Pn**	**19 42 46.6**	**+0.1**
JIJ				*e*S		**Sn**	**19 43 11.3**	**+0.3**
TWKBT	**Hengchun**	**2.16**	**210**	*e*S		**Sn**	**19 43 13.4**	**-0.7**
WDGT	**Dungji**	**2.21**	**256**	P		**Pn**	**19 42 49.5**	**+0.6**
WDGT	baz=254			S		**Sn**	**19 43 16.7**	**+1.5**
PNG	**Penghu**	**2.25**	**264**	*e*P		**Pn**	**19 42 50.6**	**+1.2**
PNG	baz=262			*e*S		**Sn**	**19 43 17.5**	**+1.4**
JISG	**Ishigakijimahi**	**2.25**	**70**	P		**Pn**	**19 42 49.4**	**-0.1**
JISG				*e*S		**Sn**	**19 43 14.9**	**-1.3**
VCHM	**Qimei**	**2.43**	**256**	*e*P		**Pn**	**19 42 51.8**	**-0.2**
VCHM	baz=254			S		**Sn**	**19 43 23.0**	**+2.3**
VWUC	**VWUC**	**2.59**	**297**	*e*P		**Pn**	**19 42 54.1**	**-0.1**
	baz=296							
JTJ	**Tarama**	**2.61**	**71**	P		**Pn**	**19 42 54.5**	**+0.2**
JTJ				*e*S		**Sn**	**19 43 25.3**	**+0.3**
PTTC	**Pingtan**	**2.62**	**310**	*e*P		**Pn**	**19 42 56.0**	**+1.4**
	baz=309							
PTMZ	**Houxiangcun**	**2.88**	**295**	*e*P		**Pn**	**19 42 59.3**	**+1.1**
	baz=294							
JIRB	**Irabujima**	**3.07**	**70**	P		**Pn**	**19 43 00.8**	**+0.1**
JIKM	**Ikemajima**	**3.17**	**69**	P		**Pn**	**19 43 02.8**	**+0.8**
JMJ2	**Miyako jima3**	**3.18**	**73**	P		**Pn**	**19 43 03.3**	**+1.1**

*ATH **05** 19:52:22.2,40°.21N×25°.15E,h30km±1km,ML3.4/18,Error ellipse: s-maj=1.4km s-min=0.9km az=270.0*
*ISK **05** 19:52:22.2,40°.21N×25°.18E,h19km,ML3.6/37*
*DDA **05** 19:52:23.9,40°.19N×25°.24E,h14km,MW3.7*
*THE **05** 19:52:23.1,40°.20N×25°.15E,h13km,ML3.4/10,Error ellipse: s-maj=0.6km s-min=0.3km az=52.0*
*BEO **05** 19:52:24.3±0.8,40°.32N×25°.17E,h6km±5km,ML3.5/5*
ISC 05 19:52:22.9±0.9,40°.20N±0°.02×25°.18E±0°.01,h17km±7km,
n182,σ1§12/225,23C-6D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.31**	**180**	P		**Pg**	**19 52 29.6**	**+0.2**
LIA				S		**Sg**	**19 52 33.7**	**-0.2**
	23µm,0.2s							
LIA	**Limnos Island**	**0.31**	**180**	P		**Pg**	**19 52 29.7**	**+0.2**
LIA				AML		AML	19 52 34.5	
	comp=N,32684µm,0.3s							
LIA				AML		AML	19 52 34.6	
	comp=E,57152µm,0.3s							
SMTH	**Samothraki Isl**	**0.38**	**45**	P		**Pg**	**19 52 30.6**	**-0.1**
SMTH				S		**Sb**	**19 52 37.3**	**+0.6**
SMTH	**Samothraki Isl**	**0.38**	**45**	P		**Pg**	**19 52 30.6**	**-0.1**
SMTH				AML		AML	19 52 37.3	
	comp=E,4042µm,0.5s							
SMTH				AML		AML	19 52 44.4	
	comp=N,3198µm,0.4s							
THAS	**Thassos island**	**0.53**	**319**	P		**Pg**	**19 52 33.1**	**-0.5**
THAS				S		**Sg**	**19 52 41.0**	**+0.3**
	comp=N,3µm,0.4s							
THAS	**Thassos island**	**0.53**	**319**	P		**Pg**	**19 52 33.0**	**-0.5**
THAS				S		**Sg**	**19 52 40.8**	**+0.1**
THAS				AML		AML	19 52 44.0	
	comp=N,5680µm,0.4s							
THAS				AML		AML	19 52 44.6	
	comp=E,7381µm,0.4s							
GADA	**Gvkgeada**	**0.55**	**91**	P		**Pg**	**19 52 34.1**	**+0.3**
GADA				S		**Sb**	**19 52 42.6**	**+1.0**
GADA	**Gvkgeada**	**0.55**	**91**	PG		**Pg**	**19 52 33.9**	**+0.1**
GADA				SG		**Sb**	**19 52 42.1**	**+0.5**
GOKA	**anakkale-Gk**	**0.56**	**91**	*i* P		**Pb**	**19 52 34.5**	**+0.4**
GOKA				*i* S		**Sg**	**19 52 42.0**	**+0.5**
GOKA				IAML			19 52 47.0	
	comp=N,3µm,0.5s							
GOKA				IAML			19 52 49.0	
	comp=E,3µm,0.5s							
EFSA	**Agios Efstrati**	**0.68**	**193**	P		**Pb**	**19 52 36.6**	**+0.4**
EFSA				AML		AML	19 52 46.3	
	comp=N,16279µm,0.3s							
EFSA				AML		AML	19 52 48.8	
	comp=E,14617µm,0.7s							
BOZC	**Bozcaada**	**0.76**	**118**	PG		**Pg**	**19 52 37.6**	**-0.1**
BOZC				SG		**Sb**	**19 52 48.7**	**+1.0**
BOZC	**Bozcaada**	**0.76**	**118**	*i* P		**Pg**	**19 52 38.0**	**+0.2**
BOZC				*i* S		**Sg**	**19 52 47.7**	**-0.1**
BOZC				IAML			19 52 50.0	
	comp=N,1µm,0.8s							
BOZC				IAML			19 52 51.0	
	comp=E,1µm,0.5s							

ENEZ	**Enez**	**0.91**	**54**	P	**Pb**	**19 52 40.4**	**+0.2**
ENEZ				S	**Sn**	**19 52 54.2**	**+0.6**
	comp=E,5µm,0.4s						
ENEZ	**Enez**	**0.91**	**54**	PG	**Pb**	**19 52 40.6**	**+0.4**
OUR	**Ouranopolis**	**0.93**	**278**	P	**Pb**	**19 52 40.3**	**-0.1**
OUR				S	**Sg**	**19 52 53.2**	**+0.2**
	comp=E,3µm,0.3s						
OUR	**Ouranopolis**	**0.93**	**278**	P	**Pb**	**19 52 40.3**	**-0.1**
OUR				S	**Sb**	**19 52 52.8**	**+0.3**
OUR				AML	AML	19 52 55.1	
	comp=N,4568µm,0.4s						
OUR				AML	AML	19 52 56.0	
	comp=E,6671µm,0.3s						
OUR	**Ouranopolis**	**0.93**	**278**	PG	**Pb**	**19 52 40.3**	**-0.1**
OUR				SG	**Sg**	**19 52 53.4**	**+0.4**
KAVA	**Kavala**	**0.94**	**328**	P	**Pb**	**19 52 40.9**	**+0.2**
KAVA	**Kavala**	**0.94**	**328**	P	**Pb**	**19 52 40.9**	**+0.2**
KAVA				S	**Sb**	**19 52 53.2**	**+0.3**
KAVA				AML	AML	19 52 54.6	
	comp=N,11648µm,0.3s						
KAVA				AML	AML	19 52 54.8	
	comp=E,16835µm,0.2s						
KVLA	**Kavala**	**0.95**	**321**	P	**Pb**	**19 52 40.8**	**0.0**
KVLA				S	**Sg**	**19 52 53.6**	**-0.2**
KVLA				AML	AML	19 52 56.1	
	comp=N,16867µm,0.3s						
KVLA				AML	AML	19 52 56.2	
	comp=E,19904µm,0.4s						
ALN	**Alexandroupoli**	**0.96**	**43**	P	**Pb**	**19 52 40.8**	**-0.1**
ALN				S	**Sn**	**19 52 55.3**	**+0.6**
	comp=E,3µm,0.5s						
ALN	**Alexandroupoli**	**0.96**	**43**	P	**Pb**	**19 52 41.0**	**0.0**
ALN				S	**Sb**	**19 52 54.0**	**+0.7**
ALN				AML	AML	19 52 57.1	
	comp=N,3920µm,0.5s						
ALN				AML	AML	19 52 57.5	
	comp=E,2449µm,0.7s						
ALN	**Alexandroupoli**	**0.96**	**43**	PG	**Pb**	**19 52 40.5**	**-0.5**
EZN	**Ezine**	**0.96**	**113**	P	**Pb**	**19 52 41.1**	**+0.1**
EZN				S	**Sg**	**19 52 54.7**	**+0.7**
	comp=E,1µm,0.8s						
EZN	**Ezine**	**0.96**	**113**	PG	**Pb**	**19 52 40.8**	**-0.2**
RDO	**Rodhopi**	**0.98**	**16**	P	**Pb**	**19 52 41.1**	**-0.3**
RDO	**Rodhopi**	**0.98**	**16**	P	**Pb**	**19 52 41.0**	**-0.3**
RDO				S	**Sb**	**19 52 54.5**	**+0.6**
RDO				AML	AML	19 52 59.3	
	comp=N,1163µm,0.4s						
RDO				AML	AML	19 53 08.1	
	comp=E,1050µm,0.5s						
RDO	**Rodhopi**	**0.98**	**16**	PG	**Pb**	**19 52 41.2**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.01**	**79**	PG	**Pb**	**19 52 41.8**	**0.0**
ERIK	**Erikli-Kesan**	**1.12**	**65**	PN	**Pb**	**19 52 43.3**	**-0.4**
SIGR	**SIGRI**	**1.12**	**152**	P	**Pb**	**19 52 44.0**	**+0.3**
SIGR				S	**Sg**	**19 52 59.4**	**+0.2**
	comp=E,3µm,0.4s						
SIGR	**SIGRI**	**1.12**	**152**	P	**Pb**	**19 52 44.2**	**+0.4**
SIGR				S	**Sb**	**19 52 59.0**	**+1.0**
SIGR				AML	AML	19 53 00.9	
	comp=N,8281µm,0.5s						
SIGR				AML	AML	19 53 02.0	
	comp=E,4803µm,0.4s						
SIGR	**SIGRI**	**1.12**	**152**	PN	**Pb**	**19 52 43.6**	**-0.1**
BAYC	**CANAKKALE_Bayr**	**1.15**	**113**	*i* P	**Pn**	**19 52 44.8**	**+0.6**
BAYC				*i* S	**Sn**	**19 53 00.2**	**+0.8**
BAYC				IAML		19 53 02.0	
	comp=N,469nm,0.8s						
BAYC				IAML		19 53 03.0	
	comp=E,371nm,0.5s						
PAIG	**Paliouri**	**1.18**	**257**	P	**Pn**	**19 52 44.0**	**-0.6**
PAIG	**Paliouri**	**1.18**	**257**	P	**Pn**	**19 52 43.8**	**-0.8**
PAIG				S	**Sb**	**19 52 59.6**	**-0.3**
PAIG				AML	AML	19 53 07.4	
	comp=E,997µm,0.4s						
PAIG				AML	AML	19 53 10.0	
	comp=N,990µm,1.1s						
LPK	**Lapseki**	**1.22**	**82**	PN	**Pn**	**19 52 45.1**	**0.0**
PRK	**Paraskevi**	**1.27**	**138**	P	**Pg**	**19 52 47.6**	**+0.2**
PRK				S	**Sg**	**19 53 04.2**	**+0.1**
PRK	**Paraskevi**	**1.27**	**138**	P	**Pb**	**19 52 47.1**	**+0.7**
PRK				S	**Sn**	**19 53 03.9**	**+1.4**
PRK				AML	AML	19 53 07.9	
	comp=N,10308µm,0.5s						
PRK				AML	AML	19 53 11.9	
	comp=E,11890µm,0.7s						
KESN	**Edirne-Kesan**	**1.30**	**61**	*i* P	**Pn**	**19 52 46.0**	**-0.6**
KESN				IAML		19 53 06.0	
	comp=E,951nm,0.6s						
KESN				IAML		19 53 08.0	
	comp=N,591nm,0.5s						
PLG	**Polygyros**	**1.34**	**278**	P	**Pn**	**19 52 46.5**	**-0.3**
PLG	**Polygyros**	**1.34**	**278**	P	**Pn**	**19 52 46.4**	**-0.3**
PLG				AML	AML	19 53 08.3	
	comp=E,1569nm,0.6s						
PLG				AML	AML	19 53 09.5	
	comp=N,1463nm,0.3s						
SKY	**Skiros Island**	**1.41**	**200**	P	**Pn**	**19 52 47.3**	**-0.4**
SKY	**Skiros Island**	**1.41**	**200**	P	**Pn**	**19 52 47.4**	**-0.3**
SKY				AML	AML	19 53 14.3	
	comp=N,1964µm,0.2s						
SKY				AML	AML	19 53 15.7	
	comp=E,3027µm,0.4s						
AOS	**Alonnisos**	**1.44**	**225**	P	**Pn**	**19 52 47.8**	**-0.3**
AOS				S	**Sn**	**19 53 07.4**	**+0.8**
	comp=E,815nm,0.4s						
AOS	**Alonnisos**	**1.44**	**225**	P	**Pn**	**19 52 47.6**	**-0.5**
AOS				AML	AML	19 53 12.7	
	comp=E,1766µm,0.6s						
AOS				AML	AML	19 53 15.8	
	comp=N,1350µm,0.3s						
AOS	**Alonnisos**	**1.44**	**225**	PN	**Pn**	**19 52 47.8**	**-0.3**
UKOP	**Uzunkopru-Edir**	**1.44**	**50**	PN	**Pn**	**19 52 47.9**	**-0.2**
KDZ	**Kurdzhali**	**1.46**	**7**	*eP*	**Pn**	**19 52 49.4**	**+1.0**
KDZ	**Kurdzhali**	**1.46**	**7**	PN	**Pn**	**19 52 47.9**	**-0.5**
SRS	**Serrai**	**1.51**	**308**	*eP*g	**Pn**	**19 52 49.1**	**-0.1**
SRS				*eS*g	**Sg**	**19 53 10.8**	**-0.9**
SRS	**Serrai**	**1.51**	**308**	P	**Pn**	**19 52 49.0**	**-0.1**
SRS				S	**Sn**	**19 53 08.4**	**-0.1**
	comp=N,1µm,0.3s						
SRS	**Serrai**	**1.51**	**308**	P	**Pn**	**19 52 48.8**	**-0.3**
SRS				AML	AML	19 53 13.9	
	comp=E,3110µm,0.4s						
SRS				AML	AML	19 53 14.2	
	comp=N,1176µm,0.4s						
RZN	**Rozhen**	**1.52**	**347**	*eP*	**Pn**	**19 52 50.2**	**+0.7**
RKY	**Sarkoy-Tekirda**	**1.60**	**72**	PN	**Pn**	**19 52 50.3**	**-0.1**
KRBG	**Karabiga-Canak**	**1.63**	**83**	PN	**Pn**	**19 52 50.1**	**+0.1**
HORT	**Hortiatis**	**1.64**	**285**	P	**Pn**	**19 52 50.9**	**0.0**
HORT	**Hortiatis**	**1.64**	**285**	PN	**Pn**	**19 52 50.4**	**-0.5**
SKIA	**Skiathos**	**1.68**	**232**	P	**Pn**	**19 52 50.8**	**-0.6**
XOR	**Xorichti**	**1.75**	**242**	P	**Pn**	**19 52 51.6**	**-0.8**
XOR	**Xorichti**	**1.75**	**242**	P	**Pn**	**19 52 51.5**	**-0.8**
XOR				AML	AML	19 53 23.6	
	comp=N,915µm,0.6s						
XOR				AML	AML	19 53 28.1	
	comp=E,646µm,0.7s						
DKL	**Dikili**	**1.75**	**130**	PN	**Pn**	**19 52 52.7**	**+0.4**
NEO	**Neokhori**	**1.75**	**240**	P	**Pn**	**19 52 51.6**	**-0.9**
NEO	**Neokhori**	**1.75**	**240**	P	**Pn**	**19 52 51.6**	**-0.9**
MMB	**Musomiste**	**1.77**	**322**	*eP*	**Pn**	**19 52 52.6**	**-0.1**
KYMI	**Kymi, Euboea I**	**1.78**	**208**	P	**Pn**	**19 52 52.4**	**-0.4**
KYMI	**Kymi, Euboea I**	**1.78**	**208**	P	**Pn**	**19 52 52.5**	**-0.3**
KNL	**Balıkesir**	**1.80**	**87**	*i* P	**Pn**	**19 52 53.1**	**+0.1**
KNL				*i* S	**Sg**	**19 53 20.0**	**-0.7**
KNL				IAML		19 53 22.0	
	comp=E,1µm,0.6s						
KNL				IAML		19 53 23.0	
	comp=N,1µm,0.8s						
MRMT	**Marmara Adasi**	**1.89**	**77**	PN	**Pn**	**19 52 53.9**	**-0.5**
ZEDA	**zmir-Bergama**	**1.92**	**130**	*i* P	**Pn**	**19 52 55.9**	**+1.2**
ZEDA				IAML		19 53 26.0	
	comp=N,294nm,0.4s						
ZEDA				IAML		19 53 26.0	
	comp=E,266nm,0.4s						
GONE	**Gonen-Balikesi**	**1.93**	**94**	PN	**Pn**	**19 52 54.9**	**+0.1**
KRBN	**Karaburun**	**1.93**	**146**	PN	**Pn**	**19 52 54.8**	**0.0**
BALY	**Balya**	**1.93**	**103**	*i* P	**Pn**	**19 52 56.1**	**+1.2**
BALY				*i* S	**Sb**	**19 53 23.6**	**+2.2**
BALY				IAML		19 53 29.0	
	comp=N,290nm,0.5s						
BALY				IAML		19 53 36.0	
	comp=E,199nm,0.6s						
PLD	**Plovdiv**	**1.93**	**349**	*e*Pn	**Pn**	**19 52 56.3**	**+1.4**
PLD				*e*Sn	**Sn**	**19 53 20.5**	**+1.7**
PLD	**Plovdiv**	**1.93**	**349**	PN	**Pn**	**19 52 54.9**	**0.0**

CHOS	**Chios island**	**1.94**	**159**	P	**Pn**	**19 52 55.6**	**+0.5**
CHOS				S	**Sn**	**19 53 19.7**	**+0.7**
	comp=E,822nm,0.6s						
CHOS	**Chios island**	**1.94**	**159**	P	**Pn**	**19 52 55.5**	**+0.5**
CHOS				AML	AML	19 53 31.1	
	comp=E,2125µm,0.6s						
CHOS				AML	AML	19 53 33.8	
	comp=N,1252µm,0.7s						
CHOS	**Chios island**	**1.94**	**159**	PN	**Pn**	**19 52 54.9**	**-0.2**
MRKA	**Markates**	**1.94**	**220**	P	**Pn**	**19 52 54.8**	**-0.2**
MRKA	**Markates**	**1.94**	**220**	P	**Pn**	**19 52 54.7**	**-0.4**
TKR	**Tekirdag**	**1.96**	**66**	PN	**Pn**	**19 52 55.2**	**0.0**
KNT	**Kendrikon**	**1.98**	**300**	P	**Pn**	**19 52 55.9**	**+0.3**
KNT	**Kendrikon**	**1.98**	**300**	PN	**Pn**	**19 52 55.9**	**+0.3**
EDRB	**Edirne**	**2.02**	**35**	P	**Pn**	**19 52 56.2**	**0.0**
EDRB	**Edirne**	**2.02**	**35**	PN	**Pn**	**19 52 55.9**	**-0.3**
EDC	**Edincik**	**2.06**	**85**	PN	**Pn**	**19 52 56.9**	**+0.3**
LIT	**Litokhoron**	**2.06**	**268**	P	**Pn**	**19 52 56.1**	**-0.6**
STEP	**BALIKESIR_Sava**	**2.12**	**112**	*i* P	**Pn**	**19 52 58.7**	**+1.1**
STEP				IAML		19 53 36.0	
	comp=E,272nm,1.5s						
STEP				IAML		19 53 42.0	
	comp=N,326nm,0.8s						
KIRK	**Kırklareli**	**2.14**	**42**	*i* P	**Pn**	**19 52 59.0**	**+1.2**
KIRK				IAML		19 53 40.0	
	comp=N,70nm,0.6s						
URLA	**Izmir**	**2.14**	**149**	PN	**Pn**	**19 52 58.4**	**+0.5**
URLA	**Izmir**	**2.14**	**149**	*i* P	**Pn**	**19 52 58.5**	**+0.7**
URLA				*i* S	**Sn**	**19 53 21.9**	**-2.2**
URLA				IAML		19 53 25.0	
	comp=N,110nm,0.6s						
URLA				IAML		19 53 25.0	
	comp=E,91nm,0.5s						
BALB	**Balikesir**	**2.15**	**104**	PN	**Pn**	**19 52 57.2**	**-0.7**
CRLT	**Corlu**	**2.15**	**64**	PN	**Pn**	**19 52 58.1**	**+0.2**
KARY	**Karystos**	**2.25**	**195**	P	**Pn**	**19 52 58.8**	**-0.4**
GRG	**Griva**	**2.25**	**290**	P	**Pn**	**19 52 59.5**	**+0.3**
BOTS	**Marmara Eregli**	**2.27**	**69**	PN	**Pn**	**19 52 59.6**	**0.0**
VAY	**Valandovo**	**2.27**	**300**	*i* Pn	**Pn**	**19 53 00.7**	**+1.1**
BLCB	**Balcova**	**2.32**	**141**	PN	**Pn**	**19 53 00.5**	**+0.3**
PTL	**Penteli**	**2.38**	**206**	P	**Pn**	**19 53 01.3**	**+0.2**
AKHS	**Akhisar**	**2.43**	**122**	*i* P	**Pn**	**19 53 02.1**	**+0.3**
AKHS				*i* S	**Sb**	**19 53 38.1**	**+2.4**
AKHS				IAML		19 53 43.0	
	comp=E,94nm,0.5s						
KCTX	**Karacabey (Bur**	**2.43**	**88**	PN	**Pn**	**19 53 01.5**	**-0.3**
SLVT	**Silivri**	**2.52**	**65**	PN	**Pn**	**19 53 02.7**	**-0.3**
DGB	**zmir**	**2.52**	**148**	*i* P	**Pn**	**19 53 04.1**	**+1.1**
DGB				*i* S	**Sn**	**19 53 32.0**	**-1.4**
DGB				IAML		19 53 47.0	
	comp=E,55nm,0.8s						
DGB				IAML		19 53 48.0	
	comp=N,88nm,0.5s						
DURS	**Dursunbey**	**2.60**	**102**	*i* P	**Pn**	**19 53 06.2**	**+1.9**
DURS				*i* S	**Sg**	**19 53 45.7**	**-0.9**
DURS				IAML		19 53 48.0	
	comp=N,163nm,0.6s						
DURS				IAML		19 53 49.0	
	comp=E,154nm,0.5s						
MAKR	**Makrakomi, Fth**	**2.64**	**244**	P	**Pn**	**19 53 04.7**	**+0.1**
CTYL	**Yalikoy Yolu**	**2.68**	**61**	PN	**Pn**	**19 53 05.0**	**-0.1**
CTKS	**Kestanelik-??a**	**2.73**	**67**	PN	**Pn**	**19 53 05.4**	**-0.5**
ELND	**Elena**	**2.77**	**11**	⇓P	**Pn**	**19 53 07.4**	**+0.9**
VTS	**Vitosha**	**2.82**	**329**	*e*Pn	**Pn**	**19 53 08.4**	**+1.1**
VTS	**Vitosha**	**2.82**	**329**	⇑P	**Pn**	**19 53 08.8**	**+1.5**
ARMT	**Armutlu**	**2.83**	**82**	PN	**Pn**	**19 53 07.2**	**-0.1**
MDNY	**Mudanya-Bursa**	**2.84**	**85**	PN	**Pn**	**19 53 07.1**	**-0.2**
ORLT	**Orhaneli**	**2.85**	**92**	PN	**Pn**	**19 53 07.9**	**+0.3**
DEMI	**Demirci**	**2.97**	**112**	*i* P	**Pn**	**19 53 10.9**	**+1.7**
DEMI				IAML		19 53 59.0	
	comp=E,82nm,0.6s						
DEMI				IAML		19 54 01.0	
	comp=N,87nm,0.8s						
GCAM	**G?zelcaml?**	**2.97**	**147**	PN	**Pn**	**19 53 08.9**	**-0.2**
ULDT	**Uludag**	**3.03**	**90**	*i* P	**Pn**	**19 53 11.8**	**+1.6**
ULDT				*i* S	**Sg**	**19 53 57.7**	**-2.5**
ULDT				IAML		19 54 03.0	
	comp=E,212nm,0.7s						
ULDT				IAML		19 54 04.0	
	comp=N,192nm,0.6s						
BOSS	**Bosilegrad**	**3.06**	**319**	*e*Pn	**Pn**	**19 53 12.0**	**+1.6**
BOSS				*e*Sn	**Sn**	**19 53 47.2**	**+0.5**
BUY	**Buyukada**	**3.07**	**77**	*i* P	**Pb**	**19 53 17.5**	**+0.5**
BUY				*i* S	**Sg**	**19 53 59.6**	**-1.9**
BUY				IAML		19 54 04.0	
	comp=N,89nm,0.6s						
BUY				IAML		19 54 06.0	
	comp=E,79nm,0.5s						
ISK	**Istanbul-Kandi**	**3.08**	**73**	PN	**Pn**	**19 53 10.6**	**0.0**
KAVV	**Kandilli-Istan**	**3.08**	**73**	PN	**Pn**	**19 53 10.7**	**+0.1**
IGD	**Bursa**	**3.08**	**88**	*i* P	**Pn**	**19 53 13.8**	**+3.2**
IGD				IAML		19 54 04.0	
	comp=E,44nm,0.9s						
IGD				IAML		19 54 04.0	
	comp=N,68nm,0.5s						
KLYT	**Kilyos**	**3.12**	**69**	PN	**Pn**	**19 53 11.7**	**+0.5**
MANT	**Manisa**	**3.13**	**122**	*i* P	**Pn**	**19 53 13.6**	**+2.0**
MANT				IAML		19 54 02.0	
	comp=N,44nm,0.7s						
MANT				IAML		19 54 05.0	
	comp=E,40nm,0.6s						
SIMA	**Simav-Kutahya**	**3.14**	**110**	PN	**Pn**	**19 53 12.0**	**+0.4**
PLVB	**Pleven**	**3.21**	**353**	⇑P	**Pn**	**19 53 13.9**	**+1.5**
YLV	**Yalova**	**3.22**	**82**	PN	**Pn**	**19 53 12.6**	**-0.1**
AYDN	**Tasoluk**	**3.30**	**139**	*i* P	**Pn**	**19 53 14.0**	**+0.2**
AYDN				IAML		19 54 14.0	
	comp=N,53nm,0.5s						
AYDN				IAML		19 54 15.0	
	comp=E,32nm,1.1s						
USAK	**Uak-Merkez**	**3.32**	**115**	*i* P	**Pn**	**19 53 16.4**	**+2.3**
USAK				IAML		19 53 55.0	
	comp=N,26nm,1.0s						
USAK				IAML		19 54 12.0	
	comp=E,33nm,0.5s						
GDZ	**Gediz**	**3.50**	**107**	*i* P	**Pg**	**19 53 28.2**	**-1.7**
GDZ				IAML		19 54 19.0	
	comp=E,22nm,0.6s						
GDZ				IAML		19 54 28.0	
	comp=N,23nm,0.8s						
RAZG	**Razgrad**	**3.50**	**16**	⇑P	**Pn**	**19 53 17.7**	**+1.2**
BDRM	**Kayabasi**	**3.60**	**150**	*i* P	**Pn**	**19 53 18.8**	**+0.9**
ZAPS	**Zavoj**	**3.61**	**329**	*e*Pn	**Pn**	**19 53 20.2**	**+2.2**
BARS	**Barje**	**3.63**	**317**	*e*Pn	**Pn**	**19 53 19.3**	**+1.0**
BARS	**Barje**	**3.63**	**317**	*e*Pn	**Pg**	**19 53 31.2**	**-1.2**
BARS				*e*Sn	**Sn**	**19 54 00.9**	**+0.2**
AUBOZ	**BOZOYUK**	**3.74**	**93**	*i* P	**Pg**	**19 53 32.0**	**-2.4**
AUBOZ				IAML		19 54 25.0	
	comp=E,58nm,0.5s						
AUBOZ				IAML		19 54 28.0	
	comp=N,107nm,0.7s						
IGT	**Igoumenitsa**	**3.79**	**261**	*e*Pn	**Pn**	**19 53 24.3**	**+3.8**
KHAL	**Karahalli**	**3.81**	**117**	*i* P	**Pn**	**19 53 23.0**	**+2.1**
VLAD	**Vladila**	**3.83**	**352**	⇑P	**Pn**	**19 53 22.5**	**+1.5**
KAND	**Kocaeli-Kandir**	**3.92**	**75**	*i* P	**Pn**	**19 53 22.6**	**+0.4**
GEYV	**SAKARYA_Geyve**	**3.92**	**84**	*i* P	**Pn**	**19 53 23.6**	**+1.4**
DAT	**Datca**	**3.95**	**151**	*i* P	**Pn**	**19 53 23.4**	**+0.7**
BORA	**Eskisehir**	**4.06**	**93**	*i* P	**Pn**	**19 53 25.2**	**+0.9**
BORA				*i* S	**Sg**	**19 54 30.2**	**-3.1**
BORA				IAML		19 54 34.0	
	comp=N,21nm,0.6s						
BORA				IAML		19 54 39.0	
	comp=E,15nm,0.8s						
SRCK	**Saricakaya, Es**	**4.18**	**90**	*i* P	**Pn**	**19 53 26.8**	**+1.0**
SRCK				IAML		19 54 40.0	
	comp=N,88nm,0.7s						
SRCK				IAML		19 54 40.0	
	comp=E,54nm,0.5s						
ZAGS	**Zajecar**	**4.22**	**330**	*e*Pn	**Pn**	**19 53 28.2**	**+1.8**
TURN	**Turunc**	**4.27**	**140**	*i* P	**Pn**	**19 53 26.7**	**-0.4**
SELS	**Selova**	**4.28**	**316**	*e*Pn	**Pn**	**19 53 28.2**	**+1.0**
SELS				*e*Sn	**Sn**	**19 54 17.0**	**+0.3**
KZIL	**AFYON_Kizioren**	**4.32**	**115**	*i* P	**Pn**	**19 53 32.4**	**+4.6**
KZIL				IAML		19 54 54.0	
	comp=E,12nm,0.7s						
HUMR	**Humele**	**4.32**	**358**	⇑P	**Pn**	**19 53 28.5**	**+0.7**
ICOR	**Ion Corvin**	**4.37**	**26**	⇑P	**Pn**	**19 53 29.1**	**+0.8**
SAHE	**Sakarya_HENDEK**	**4.37**	**80**	*i* P	Pb	19 53 34.6	-4.6
SAHE				IAML		19 54 50.0	
	comp=E,24nm,0.8s						
SAHE				IAML		19 55 41.0	
	comp=N,23nm,2.1s						
AUMIH	**MIHALICIK**	**4.85**	**92**	*i* P	**Pn**	**19 53 36.3**	**+1.1**
AUMIH				*i* S	**Sg**	**19 54 55.1**	**-3.4**

HARR	**Harsova**	**4.92**	**24**	⇓P	**Pn**	**19 53 37.7**	**+1.7**
SJES	**Sjenica**	**4.95**	**310**	*e*Pn	**Pn**	**19 53 38.2**	**+1.7**
GRUS	**Gruza**	**4.96**	**319**	*e*Pn	**Pn**	**19 53 37.6**	**+1.1**
PDG	**Podgorica**	**4.98**	**298**	⇑P	**Pn**	**19 53 39.7**	**+2.9**
IVAS	**Ivanjica**	**5.04**	**314**	*e*Pn	**Pn**	**19 53 38.3**	**+0.6**
HERR	**Herculane**	**5.10**	**337**	⇑P	**Pn**	**19 53 38.9**	**+0.5**
KIBS	**BOLU**	**5.11**	**85**	*i* P	**Pn**	**19 53 39.1**	**+0.5**
KIBS				*i* S	**Sg**	**19 55 04.2**	**-2.5**
ARR	**Arges**	**5.18**	**356**	⇑P	**Pn**	**19 53 40.1**	**+0.5**
VOIR		**5.23**	**359**	⇓P	**Pn**	**19 53 41.0**	**+0.7**
TOPG	**Topolog**	**5.23**	**26**	⇓P	**Pn**	**19 53 41.9**	**+1.7**
MDVR	**Moldovita**	**5.24**	**332**	⇓P	**Pn**	**19 53 41.4**	**+0.9**
BCAM	**Yenicaga**	**5.28**	**81**	*i* P	**Pn**	**19 53 41.8**	**+0.7**
MLR	**Muntele Rosu**	**5.31**	**6**	⇑P	**Pn**	**19 53 43.5**	**+2.0**
LOT	**Lotru**	**5.34**	**349**	⇑P	**Pn**	**19 53 42.8**	**+1.0**
TRUS	**Trudelj**	**5.36**	**320**	*e*Pn	**Pn**	**19 53 43.3**	**+1.3**
CFR	**Carcaliu**	**5.43**	**23**	⇑P	**Pn**	**19 53 43.8**	**+0.9**
DIVS	**Divibare**	**5.48**	**317**	*e*Pn	**Pn**	**19 53 44.2**	**+0.5**
GZR	**Gura Zlata**	**5.48**	**342**	⇑P	**Pn**	**19 53 44.4**	**+0.7**
BBLS	**Lazići**	**5.64**	**312**	*e*Pn	**Pn**	**19 53 47.5**	**+1.5**
TLCR		**5.65**	**27**	⇑P	**Pn**	**19 53 48.6**	**+2.6**
PLOR	**Plostina**	**5.75**	**10**	⇑P	**Pn**	**19 53 49.9**	**+2.5**
DOPR	**Dopca**	**5.76**	**1**	⇑P	**Pn**	**19 53 49.7**	**+2.1**
VRI	**Vrincioaia**	**5.77**	**11**	⇑P	**Pn**	**19 53 49.5**	**+1.9**
OZUR		**5.91**	**4**	⇑P	**Pn**	**19 53 51.3**	**+1.8**
MDB	**Medias**	**5.96**	**355**	⇑P	**Pn**	**19 53 51.9**	**+1.6**
BZS	**Buzias**	**6.01**	**335**	*e*Pn	**Pn**	**19 53 51.3**	**+0.4**
BZS	**Buzias**	**6.01**	**335**	⇑P	**Pn**	**19 53 52.4**	**+1.5**
TESR	**Tescani**	**6.39**	**9**	⇑P	**Pn**	**19 53 58.1**	**+1.9**
BIZ	**Bicaz**	**6.77**	**5**	⇑P	**Pn**	**19 54 03.3**	**+2.0**
BURAR	**Bucovina Array**	**7.41**	**0**	⇓P	**Pn**	**19 54 12.2**	**+2.0**
SORM	**Soroca**	**8.25**	**15**	⇑P	**Pn**	**19 54 21.6**	**0.0**

IDC ***05*** *19:56:01.7±4.8, 19°.27S×168°.78E, h97km±48km, mb3.5/5, mb1 3.6/6, mb1mx3.4/37, mbtmp3.9/6, Error ellipse: s-maj=70.6km s-min=36.1km az=138.0*

ISC 05 19:56:02.3±2.3, 19°.35S±0°.2×168°.8E±0°.4, h104km, n8, σ0°61/8, **mb3.8**/5, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.51**	**218**	P		**Pn**		**19 56 54.9**	**-0.2**
	8.0nm,0.3s,baz=83,slow=10,SNR=49!								
DZM				S		**Sn**		**19 57 36.0**	**+0.1**
	37nm,0.3s,baz=140,slow=21,SNR=12								
WRA	**Warramunga Arr**	**32.39**	**263**	P		**P**		**20 02 21.7**	**-0.8**
	0.5nm,0.7s,baz=110,slow=8.9,SNR=2.0								
ASAR	**Alice Springs**	**32.67**	**256**	P		**P**		**20 02 25.4**	**+0.5**
	0.5nm,0.6s,baz=84,slow=8.6,SNR=14								
USRK	**Ussuriysk Ar.**	**71.58**	**333**	P		**P**		**20 07 12.7**	**+0.5**
	1.0nm,0.6s,baz=114,slow=3.6,SNR=3.0								
PETK	**Petropavlovsk-**	**72.73**	**353**	P		**P**		**20 07 18.2**	**-0.7**
	1.4nm,0.8s,baz=134,slow=8.3,SNR=2.1								
SONM	**Songino Array**	**86.99**	**323**	P		**P**		**20 08 36.5**	**+0.5**
	0.9nm,0.8s,baz=156,slow=7.3,SNR=4.2								
ARCES	**ARCESS Array B**	**125.00**	**345**	PKP		**PKPdf**		**20 14 49.7**	**0.0**
	0.8nm,0.4s,baz=42,slow=2.8,SNR=9.0								
GERES	**GERESS Array B**	**144.32**	**331**	PKP		PKPbc		20 15 25.3	+0.4
	0.4nm,0.5s,baz=45,slow=3.3,SNR=4.7								

NEIC ***05*** *20:02:48.8±2.3, 11°.25N±0°.04×86°.90W±0°.08, h10km±1km, mb4.3/19, Error ellipse: s-maj=13.4km s-min=4.0km az=247.0*

IDC ***05*** *20:02:48.9±1.3, 11°.83N×86°.22W, h0km, mb3.4/4, mb1 3.9/5, mb1mx3.6/39, mbtmp3.5/5, MLE3.3/1, MS4.4/1, Ms1 4.5/1, ms1mx2.9/30, Error ellipse: s-maj=96.2km s-min=19.9km az=50.0*

SNET ***05*** *20:02:51.0±0.8, 11°.23N×87°.04W, h9km±145km, ML3.5*

UCR ***05*** *20:02:51.3±2.0, 11°.10N×86°.97W, h37km±25km, ML3.4, mb4.3(NEIC)*

INET ***05*** *20:02:57.3, 11°.51N×86°.68W, h55km, ML3.3*

ISC 05 20:02:51.4±0.7, 11°.21N±0°.07×86°.86W±0°.07, h30km, n71, σ1ᵗ831/75, **mb4.2**/19, **1C, Near

comp=Z,9.9nm,1.2s
S39A Bolivar 27.00 349 P P 20 08 29.8 -0.9
CCM Cathedral Cave 27.02 352 P P 20 08 30.3 -0.6
ACSO Alum Creek Sta 29.11 6 P P 20 08 48.0 -1.5
LPAZ La Paz 33.02 146 LR LR 20 22 02.8
comp=Z,585nm,18.1s,baz=244,slow=35
ECSD EROS Data Cent 33.49 347 P P 20 09 26.9 -1.2
ECSD IAmb IAmb 20 09 27.1
comp=Z,2.8nm,0.8s
COWI Conover 34.82 357 P P 20 09 37.9 -1.7
COWI IAmb IAmb 20 09 38.5
comp=Z,3.4nm,0.8s
E43A Lone Tree Farm 35.05 360 P P 20 09 40.3 -1.2
E43A IAmb IAmb 20 09 40.9
comp=Z,3.9nm,0.8s
F33A 5 Mile Ranch, 35.44 349 P P 20 09 43.5 -1.3
E38A The Farm, Brul 35.50 354 P P 20 09 44.8 -0.7
PDAR Pinedale Array 37.13 332 P P 20 10 00.2 +0.5
comp=Z,0.3nm,0.4s,baz=124,slow=9.5,SNR=2.2
VLDQ Val d'Or 37.62 10 P P 20 10 01.7 -1.8
VLDQ IAmb IAmb 20 10 01.9
comp=Z,5.2nm,0.8s
NVAR Mina Array Bea 39.01 319 P P 20 10 18.2 +2.6
comp=Z,0.3nm,0.6s,baz=134,slow=9.1,SNR=2.3
YKA Yellowknife Ar 54.95 345 P P 20 12 17.4 -2.0
comp=Z,0.3nm,0.7s,baz=146,slow=8.1,SNR=1.7
DAVA Damuels 86.39 43 P P 20 15 34.4 +3.2
comp=Z,2.0nm,0.6s
FETA Feichten 87.01 43 P P 20 15 34.2 -0.1
comp=Z,2.2nm,0.5s
MOTA Moosalm 87.18 42 P P 20 15 32.5 -2.6
comp=Z,2.5nm,0.8s
SQTA Sankt Quirin 87.28 43 P P 20 15 32.9 -2.6
comp=Z,3.2nm,0.6s
ASAR Alice Springs 139.33 247 PKP **PKiKP 20 22 21.2 +2.3**
comp=Z,0.3nm,0.7s,baz=114,slow=1.1,SNR=2.4
CMAR Chiang Mai Arr 149.97 349 PKPbc **PKPbc 20 22 40.4 +0.5**
comp=Z,0.8nm,0.8s,baz=346,slow=2.1,SNR=7.2

SJA ***05*** *20:19:28.4±1.3,20.36S×70.23W,h35km±3km, ML4.8, MW4.7*
UNK ***05*** *20:19:29.6,20.36S×70.27W,h35km*
NEIC ***05*** *20:19:29.1±1.9,20.40S±0.03×70.22W±0.06,h34km±3km, Error ellipse: s-maj=8.5km s-min=4.4km az=72.0*
IDC ***05*** *20:19:29.9±0.4,20.23S×70.09W,h36km±2km, mb4.4/20, mb1 4.5/21,mb1mx4.5/28,mbtmp4.6/21, ML4.9/1,MS3.9/22, Ms1 3.9/22,ms1mx3.8/30,Error ellipse: s-maj=15.5km s-min=10.4km az=79.0*
BJI ***05*** *20:19:31.0±0.0,20.30S×70.20W,h40km, mB5.0/7, Ms5.0/5,Ms7 4.8/5*
GUC ***05*** *20:19:31.1±0.9,20.36S×70.22W,h37km±2km,ML5.0*
VAO ***05*** *20:19:32.1±0.9,20.29S×70.09W,h62km±7km, mb4.9*
ISC 05 20:19:28.4±0.3,20.37S±0.02×70.33W±0.04,h30km±2km, n613,σ1°23/633,mb4.9/87,MS4.0/20,5C-7D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.21**	**62**	*eP*		**Pn**	**20 19 36.9**	**+1.4**
TA02				*eS*		**Sb**	**20 19 41.6**	**+2.5**
TA01	**Diego Aracena**	**0.24**	**146**	*eP*		**Pn**	**20 19 37.2**	**+1.2**
TA01				*eS*		**Sb**	**20 19 42.2**	**+2.5**
TA01	**Diego Aracena**	**0.24**	**146**			**Pn**	**20 19 37.0**	**+1.0**
PATCX	**Punta Patache**	**0.48**	**160**	⇑ *iP*		**Pn**	**20 19 39.9**	**+0.6**
PATCX				*eS*		**Sn**	**20 19 47.0**	**+0.2**
PATCX	**Punta Patache**	**0.48**	**160**			**Pn**	**20 19 39.2**	**-0.2**
PATCX	**Punta Patache**	**0.48**	**160**	*i* P		**Pn**	**20 19 40.0**	**+0.6**
PATCX				*eS*		**Sn**	**20 19 47.0**	**+0.2**
PATCX				IAML			20 19 51.1	
comp=Z,54μm,0.5s								
PSGC	**Pisagua**	**0.79**	**14**	⇓ *iP*		**Pb**	**20 19 44.5**	**+0.8**
PSGC				*i* S		**Sn**	**20 19 55.0**	**+0.6**
PSGCX	**Pisagua**	**0.79**	**14**			**Pb**	**20 19 44.1**	**+0.3**
PSGCX	**Pisagua**	**0.79**	**14**	*i* P		**Pb**	**20 19 44.6**	**+0.9**
PSGCX				*eS*		**Sn**	**20 19 54.9**	**+0.5**
PSGCX				IAML			20 19 57.2	
comp=Z,14μm,1.1s								
PB11	**IPOC Station P**	**0.87**	**46**	*eP*		**Pb**	**20 19 45.3**	**+0.2**
PB11				*eS*		**Sn**	**20 19 56.4**	**-0.1**
PB11	**IPOC Station P**	**0.87**	**46**			**Pb**	**20 19 45.0**	**-0.1**
PB11	**IPOC Station P**	**0.87**	**46**	*i* P		**Pb**	**20 19 45.4**	**+0.2**
PB11				*eS*		**Sn**	**20 19 56.6**	**0.0**
PB11				IAML			20 19 57.8	
comp=Z,35μm,0.5s								
PB02	**IPOC Station P**	**1.03**	**157**	IAML			20 20 02.0	
comp=E,69μm,0.4s								
PB02	**IPOC Station P**	**1.03**	**157**	*i* P		**Pb**	**20 19 47.8**	**0.0**
PB02				*eS*		**Sb**	**20 20 01.7**	**+0.7**
PB02				IAML			20 20 04.0	
comp=Z,48μm,0.5s								
PB01	**IPOC Station P**	**1.03**	**131**	⇓ *iP*		**Pb**	**20 19 47.5**	**-0.3**
PB01				*i* S		**Sb**	**20 20 01.1**	**-0.1**
PB01				IAML			20 20 01.6	
comp=E,98μm,0.3s								
PB01	**IPOC Station P**	**1.03**	**131**			**Pn**	**20 19 47.3**	**+0.3**
PB01	**IPOC Station P**	**1.03**	**131**	*i* P		**Pb**	**20 19 47.7**	**-0.2**
PB01				*eS*		**Sn**	**20 20 00.7**	**+0.3**
PB01				IAML			20 20 02.4	
comp=Z,34μm,0.3s								
PB08	**IPOC Station P**	**1.12**	**79**	⇓ *iP*		**Pb**	**20 19 49.1**	**-0.4**
PB08				*i* S		**Sn**	**20 20 03.3**	**+0.3**
PB08	**IPOC Station P**	**1.12**	**79**			**Pn**	**20 19 48.7**	**+0.2**
PB08	**IPOC Station P**	**1.12**	**79**	*i* P		**Pb**	**20 19 49.2**	**-0.4**
PB08				*eS*		**Sb**	**20 20 03.5**	**-0.5**
PB08				IAML			20 20 11.9	
comp=Z,11μm,0.8s								
GO01	**Chusmiza**	**1.27**	**57**	⇓ *iP*		**Pb**	**20 19 51.5**	**-0.6**
GO01				*eS*		**Sb**	**20 20 07.8**	**-0.5**
GO01	**Chusmiza**	**1.27**	**57**			**Pb**	**20 19 51.3**	**-0.8**
MNMC	**Minye Minye**	**1.41**	**29**	⇓ *iP*		**Pb**	**20 19 53.5**	**-0.8**
MNMC				*eS*		**Sb**	**20 20 12.0**	**0.0**
MNMC	**Minye Minye**	**1.41**	**29**			**Pb**	**20 19 53.5**	**-0.8**
PB07	**IPOC Station P**	**1.41**	**163**	*i* P		**Pb**	**20 19 53.7**	**-0.6**
PB07				IAML			20 20 16.4	
comp=N,31μm,0.7s								
PB07	**IPOC Station P**	**1.41**	**163**			**Pb**	**20 19 53.7**	**-0.6**
PB07	**IPOC Station P**	**1.41**	**163**	*i* P		**Pb**	**20 19 53.8**	**-0.6**
PB07				*eS*		**Sb**	**20 20 12.9**	**+0.8**
PB07				IAML			20 20 16.6	
comp=Z,24μm,0.6s								
PB12	**IPOC Station P**	**1.74**	**360**	⇑ *iP*		**Pb**	**20 19 58.5**	**-1.3**
PB12				*i* S		**Sb**	**20 20 21.0**	**-0.4**
PB12	**IPOC Station P**	**1.74**	**360**			**Pb**	**20 19 58.5**	**-1.3**
PB12	**IPOC Station P**	**1.74**	**360**	*i* P		**Pb**	**20 19 58.6**	**-1.3**
PB12				*eS*		**Sb**	**20 20 20.6**	**-0.8**
PB12				IAML			20 20 33.1	
comp=Z,6μm,0.8s								
PB09	**IPOC Station P**	**1.75**	**145**	⇓ *iP*		**Pb**	**20 19 59.5**	**-0.4**
PB09				*i* S		**Sb**	**20 20 21.4**	**-0.2**
PB09	**IPOC Station P**	**1.75**	**145**			**Pb**	**20 19 59.5**	**-0.4**
PB09	**IPOC Station P**	**1.75**	**145**	*i* P		**Pb**	**20 20 00.2**	**+0.2**
PB09				*eS*		**Sb**	**20 20 21.9**	**+0.3**
PB09				IAML			20 20 28.6	
comp=Z,26μm,0.7s								
PB03	**IPOC Station P**	**1.76**	**162**	IAML			20 20 26.1	
comp=E,17μm,0.4s								
PB04	**IPOC Station P**	**1.96**	**175**	*eP*		**Pn**	**20 20 00.8**	**+0.9**
PB04				IAML			20 20 32.5	
comp=E,24μm,0.3s								
PB04	**IPOC Station P**	**1.96**	**175**			**Pn**	**20 20 00.3**	**+0.4**
PB04	**IPOC Station P**	**1.96**	**175**	*i* P		**Pn**	**20 20 00.9**	**+1.1**
PB04				IAML			20 20 29.6	
comp=Z,14μm,0.4s								
AP01	**Chacalluta**	**1.98**	**360**	*eP*		**Pb**	**20 20 02.1**	**-1.8**
AP01				*eS*		**Sb**	**20 20 26.6**	**-1.6**
AP01				IAML			20 20 43.2	
comp=N,14μm,0.7s								
AP01	**Chacalluta**	**1.98**	**360**			**Pb**	**20 20 02.2**	**-1.7**
PB06	**IPOC Station P**	**2.43**	**163**			**Pn**	**20 20 07.4**	**+1.2**
PB06	**IPOC Station P**	**2.43**	**163**	*i* P		**Pn**	**20 20 07.5**	**+1.3**
PB06				IAML			20 20 50.1	
comp=Z,9μm,0.9s								
PB05	**IPOC Station P**	**2.48**	**177**	*i* P		**Pn**	**20 20 07.4**	**+0.5**
PB05				IAML			20 20 49.6	
comp=Z,5μm,0.5s								
LVC	**Limon Verde**	**2.59**	**150**	Pn		**Pn**	**20 20 11.6**	**+3.0**
comp=Z,224nm,0.3s,baz=338,slow=9.1,SNR=516								
LVC				Sn		**Sb**	**20 20 43.0**	**-3.1**
comp=Z,1μm,0.3s,baz=63,slow=17,SNR=7.8								
LVC				LR		LR	20 21 14.2	
comp=Z,2μm,20.2s,baz=350,slow=40								
LVC	**Limon Verde**	**2.59**	**150**	*eP*		**Pn**	**20 20 11.3**	**+2.6**
LVC				*eS*		**Sn**	**20 20 41.7**	**+2.3**
LVC	**Limon Verde**	**2.59**	**150**			**Pn**	**20 20 11.5**	**+2.8**
LVC	**Limon Verde**	**2.59**	**150**	*i* P		**Pn**	**20 20 11.6**	**+3.0**
LVC				IAML			20 20 57.0	
comp=Z,3μm,0.8s								
LVC	**Limon Verde**	**2.59**	**150**	*eP*		**Pn**	**20 20 11.7**	**+3.0**
LVC	**Limon Verde**	**2.59**	**150**	*eP*		**Pn**	**20 20 11.7**	**+3.0**
PB15	**IPOC Station P**	**2.94**	**164**			**Pn**	**20 20 14.1**	**+0.8**
PB15	**IPOC Station P**	**2.94**	**164**	*i* P		**Pn**	**20 20 14.9**	**+1.6**
PB15				*eS*		**Sb**	**20 20 53.2**	**-2.7**
PB15				IAML			20 21 08.6	
comp=Z,12μm,0.5s								
PB10	**IPOC Station P**	**3.14**	**184**	Pn		**Pn**	**20 20 15.5**	**-0.3**
PB10	**IPOC Station P**	**3.14**	**184**	*i* P		**Pn**	**20 20 16.0**	**+0.2**
PB10				IAML			20 21 19.6	
comp=Z,1μm,0.8s								
LPAZ	**La Paz**	**4.56**	**28**			Pn	20 20 41.1	+5.2
GO02	**Mina Guanaco**	**4.82**	**172**	Pn		**Pn**	**20 20 39.4**	**+0.2**
YJA	**Yavi**	**4.83**	**113**	*i* P		**Pn**	**20 20 43.9**	**+4.3**
YJA				IAML			20 21 50.1	
comp=Z,128nm,3.4s								
AC01	**Pan de Azucar**	**5.76**	**182**	Pn		**Pn**	**20 20 50.1**	**-1.7**
AC02	**Maricunga**	**6.53**	**171**			**Pn**	**20 21 01.9**	**-1.0**
GO03	**Copiap**	**7.20**	**179**			**Pn**	**20 21 10.6**	**-1.0**
GO03	**Copiap**	**7.20**	**179**	*i* P		**Pn**	**20 21 11.7**	**+0.1**
AC04	**Llanos de Chal**	**7.83**	**185**	Pn		**Pn**	**20 21 17.8**	**-2.6**
AC05	**El Transito**	**8.43**	**180**			**Pn**	**20 21 27.3**	**-1.4**
CO01	**Juntas del Tor**	**9.57**	**179**	Pn		**Pn**	**20 21 43.8**	**-0.6**
GO04	**Tololo Observa**	**9.77**	**182**	Pn		**Pn**	**20 21 44.8**	**-2.4**
NNA	**Nana**	**10.42**	**322**	Pn		Pn	20 22 03.3	+7.4
comp=Z,1.0nm,0.3s,baz=192,slow=11,SNR=1.8								
NNA				Sn		**Sn**	**20 23 51.8**	**+0.1**
comp=Z,1.7nm,0.3s,baz=32,slow=23,SNR=2.1								
NNA				LR		LR	20 26 03.3	
comp=Z,331nm,21.7s,baz=160,slow=38								
NNA	**Nana**	**10.42**	**322**			**Pn**	**20 21 57.4**	**+1.5**
CO03	**El Pedregal**	**10.43**	**182**	Pn		**Pn**	**20 21 54.6**	**-1.5**
CO02	**Combarbal**	**10.81**	**183**			**Pn**	**20 21 58.7**	**-2.6**
ZON	**Zonda**	**11.23**	**173**	Pn		**Pn**	**20 22 04.5**	**-2.5**
CFA	**Coronel Fontan**	**11.35**	**171**	Pn		**Pn**	**20 22 06.1**	**-2.4**
comp=Z,1.0nm,0.3s,baz=338,slow=13,SNR=5.1								
CFA				Sn		**Sn**	**20 24 07.4**	**-6.9**
comp=Z,0.9nm,0.3s,baz=190,slow=18,SNR=1.4								
CFA				LR		LR	20 27 04.0	
comp=Z,347nm,20.7s,baz=326,slow=40								
PTLB	**Pontes e Lacer**	**11.72**	**67**	*eP*		**Pn**	**20 22 12.5**	**-1.1**
PTLB	**Pontes e Lacer**	**11.72**	**67**	*eP*		**Pn**	**20 22 12.5**	**-1.1**
VILB	**Vilhena**	**12.18**	**54**	*eP*		**Pn**	**20 22 20.8**	**+0.8**
VILB	**Vilhena**	**12.18**	**54**	*eP*		**Pn**	**20 22 20.8**	**+0.8**
VA03	**San Esteban**	**12.35**	**181**	Pn		**Pn**	**20 22 22.8**	**+0.5**
ROC1	**El Roble**	**12.57**	**183**	Pn		**Pn**	**20 22 28.8**	**+3.3**
SAML	**Samuel**	**13.28**	**32**	Pn		**Pn**	**20 22 33.9**	**-1.2**
AQDB	**Aquidauana**	**13.71**	**93**	*eP*		**Pn**	**20 22 40.0**	**-0.9**
AQDB	**Aquidauana**	**13.71**	**93**	*eP*		**Pn**	**20 22 40.0**	**-0.9**
BO02	**Sierra Bellavi**	**14.38**	**182**	P		**P**	**20 22 56.6**	**0.0**
SALV	**Santo Antonio**	**14.60**	**75**	*eP*		**Pn**	**20 22 51.7**	**-1.3**
SALV	**Santo Antonio**	**14.60**	**75**	*eP*		**Pn**	**20 22 51.7**	**-1.3**
H03N1	**Juan Fernandez**	**15.10**	**209**	T		T	20 38 05.5	
baz=34,slow=72,SNR=726								
H03N2	**Juan Fernandez**	**15.11**	**209**	T		T	20 38 08.7	
baz=34,slow=72,SNR=721								
H03N3	**Juan Fernandez**	**15.11**	**209**	T		T	20 38 02.4	
baz=34,slow=72,SNR=658								
BI02	**San Fabin de**	**16.26**	**183**	Pn		**Pn**	**20 23 15.5**	**+0.9**
C2SB	**Chapadao do Su**	**16.56**	**87**	*eP*		**Pn**	**20 23 18.6**	**0.0**
C2SB	**Chapadao do Su**	**16.56**	**87**	*eP*		**Pn**	**20 23 18.6**	**0.0**
TRCB	**Terra Rica**	**16.63**	**102**	*eP*		**Pn**	**20 23 19.2**	**-0.3**
TRCB	**Terra Rica**	**16.63**	**102**	*eP*		**Pn**	**20 23 19.2**	**-0.3**
CLDB	**Colider**	**16.87**	**58**	*eP*		**Pn**	**20 23 20.9**	**-1.5**
CLDB	**Colider**	**16.87**	**58**	*eP*		**Pn**	**20 23 20.9**	**-1.5**
PTGB	**Pitanga**	**17.41**	**108**	*eP*		**Pn**	**20 23 29.5**	**+0.2**
PTGB	**Pitanga**	**17.41**	**108**	*eP*		**Pn**	**20 23 29.5**	**+0.2**
PCMB	**Pacaembu**	**17.85**	**97**	*eP*		**Pn**	**20 23 33.4**	**-1.2**
PCMB	**Pacaembu**	**17.85**	**97**	*eP*		**Pn**	**20 23 33.4**	**-1.2**
ITAB	**Concordia**	**17.99**	**116**	*eP*		**Pn**	**20 23 36.0**	**-0.3**
ITAB	**Concordia**	**17.99**	**116**	*eP*		**Pn**	**20 23 36.0**	**-0.3**
ARAG	**Araguaiana, MT**	**18.20**	**78**	*eP*		**Pn**	**20 23 37.9**	**-1.1**
ARAG	**Araguaiana, MT**	**18.20**	**78**	*eP*		**Pn**	**20 23 37.9**	**-1.1**
LC01	**Cunico**	**18.52**	**184**	P		**Pn**	**20 23 42.7**	**0.0**
ITRB	**Iturama**	**18.77**	**91**	*eP*		**P**	**20 23 44.6**	**-0.7**
ITRB	**Iturama**	**18.77**	**91**	*eP*		**P**	**20 23 44.6**	**-0.7**
FRTB	**Fartura**	**19.50**	**103**	*eP*		**P**	**20 23 51.9**	**-1.4**
FRTB	**Fartura**	**19.50**	**103**	*eP*		**P**	**20 23 51.9**	**-1.4**
MACA	**Manacapuru-AM**	**19.52**	**30**	*eP*		**P**	**20 23 52.9**	**-0.5**
MACA	**Manacapuru-AM**	**19.52**	**30**	*eP*		**P**	**20 23 52.9**	**-0.5**
NPGB	**Novo Progresso**	**19.64**	**50**	*eP*		**P**	**20 23 52.7**	**-2.2**
NPGB	**Novo Progresso**	**19.64**	**50**	*eP*		**P**	**20 23 52.7**	**-2.2**
TIJ01	**Guaruva-PR**	**20.25**	**108**	*eP*		**P**	**20 24 00.8**	**-0.7**
TIJ01	**Guaruva-PR**	**20.25**	**108**	*eP*		**P**	**20 24 00.8**	**-0.7**
PLCA	**Paso Flores**	**20.30**	**180**	P		Pn	20 24 03.4	-0.7
comp=Z,12nm,0.8s,baz=355,slow=12,SNR=18								
PLCA				LR		LR	20 31 23.9	
comp=Z,298nm,21.2s,baz=358,slow=35								
PLCA	**Paso Flores**	**20.30**	**180**	P		**P**	**20 24 02.6**	**+0.7**
PLCA	**Paso Flores**	**20.30**	**180**	*eP*		Pn	20 24 03.2	-0.9
PLCA	**Paso Flores**	**20.30**	**180**	*eP*		Pn	20 24 03.2	-0.9
PTLC	**Puerto Leguiza**	**20.88**	**347**	*eP*		**P**	**20 24 06.1**	**-2.1**
IPMB	**Ipameri, GO**	**21.02**	**87**	*eP*		**P**	**20 24 08.3**	**-1.5**
IPMB	**Ipameri, GO**	**21.02**	**87**	*eP*		**P**	**20 24 08.3**	**-1.5**
BDFB	**Brasilia**	**21.73**	**81**	P		**P**	**20 24 15.9**	**-1.6**
comp=Z,7.6nm,0.5s,baz=286,slow=12,SNR=4.8								
BDFB				LR		LR	20 34 13.2	
comp=Z,1μm,18.0s,baz=278,slow=41								
BDFB	**Brasilia**	**21.73**	**81**	P		**P**	**20 24 16.7**	**-0.8**
BDFB				IAmb		IAmb	20 24 32.1	
comp=Z,82nm,1.4s								
PTGA	**Pitinga**	**21.99**	**29**	P		**P**	**20 24 17.8**	**-2.4**
comp=Z,44nm,0.7s,baz=206,slow=12,SNR=46								
PTGA	**Pitinga**	**21.99**	**29**	P		**P**	**20 24 19.4**	**-0.8**
PTGA				IAmb		IAmb	20 24 22.0	
comp=Z,37nm,0.8s								
PTGA	**Pitinga**	**21.99**	**29**	*eP*		**P**	**20 24 19.5**	**-0.6**
PTGA	**Pitinga**	**21.99**	**29**	*eP*		**P**	**20 24 19.5**	**-0.6**
CUSE	**Cuicocha Este**	**22.01**	**338**	*eP*		**P**	**20 24 25.6**	**+4.7**
LL01	**San Ignacio de**	**22.02**	**184**	P		**P**	**20 24 19.7**	**-0.5**
LL01				IAmb		IAmb	20 24 35.1	
comp=Z,49nm,1.1s								
FLOC	**Florencia**	**22.43**	**346**	*eP*		**P**	**20 24 25.2**	**+0.3**
FLOC	**Florencia**	**22.43**	**346**	P		**P**	**20 24 24.9**	**0.0**
PEXB	**Peixe**	**22.67**	**72**	*eP*		**P**	**20 24 25.6**	**-1.8**
PEXB	**Peixe**	**22.67**	**72**	*eP*		**P**	**20 24 25.6**	**-1.8**
GARC	**Garzon, Huila**	**22.98**	**347**	*eP*		**P**	**20 24 31.4**	**+0.4**
PARB	**Paraibuna**	**23.11**	**102**	*eP*		**P**	**20 24 30.3**	**-1.8**
PARB	**Paraibuna**	**23.11**	**102**	*eP*		**P**	**20 24 30.3**	**-1.8**
SOTA	**Rioblanco**	**23.20**	**344**	*eP*		**P**	**20 24 37.0**	**+3.6**
BBAC	**Balboa, Cauca**	**23.26**	**342**	*eP*		**P**	**20 24 36.3**	**+2.5**
PCON	**Cinco Dias**	**23.33**	**345**	*eP*		**P**	**20 24 38.4**	**+3.6**
BETC	**Betania**	**23.45**	**347**	*eP*		**P**	**20 24 37.8**	**+2.3**
MALB	**Monte Alegre**	**24.18**	**42**	*eP*		**P**	**20 24 41.1**	**-1.2**
MALB	**Monte Alegre**	**24.18**	**42**	*eP*		**P**	**20 24 41.1**	**-1.2**
PRAC	**Prado**	**24.35**	**349**	*eP*		**P**	**20 24 43.1**	**-0.8**
VILC	**Villavicencio,**	**24.55**	**352**	*eP*		**P**	**20 24 46.4**	**+0.6**
ORTC	**Ortega, Tolima**	**24.60**	**348**	*eP*		**P**	**20 24 47.9**	**+1.7**
SMTB	**Santa Maria do**	**24.76**	**66**	*eP*		**P**	**20 24 46.6**	**+1.1**
SMTB	**Santa Maria do**	**24.76**	**66**	*eP*		**P**	**20 24 46.6**	**-1.1**
YOTC	**Yotoco, Valle**	**24.91**	**346**	*eP*		**P**	**20 24 51.6**	**+2.6**
ANIL	**Santa Ana**	**25.20**	**348**	*eP*		**P**	**20 24 53.8**	**+1.9**
MC01	**Montes Claros**	**25.27**	**86**	*eP*		**P**	**20 24 51.2**	**-1.1**
MC01	**Montes Claros**	**25.27**	**86**	*eP*		**P**	**20 24 51.2**	**-1.1**
JANB	**Januaria**	**25.32**	**82**	*eP*		**P**	**20 24 50.8**	**-2.0**
JANB	**Januaria**	**25.32**	**82**	*eP*		**P**	**20 24 50.8**	**-2.0**
ROSC	**El Rosal**	**25.36**	**351**	P		**P**	**20 24 52.1**	**-1.2**
comp=Z,6.3nm,0.3s,baz=120,slow=16,SNR=1.9								
ROSC				LR		LR	20 35 29.1	
comp=Z,407nm,20.7s,baz=198,slow=38								
ROSC	**El Rosal**	**25.36**	**351**	P		**P**	**20 24 52.2**	**-1.2**
ROSC				IAmb		IAmb	20 25 11.9	
comp=Z,114nm,1.9s								
RREF	**El Recreo**	**25.59**	**348**	*eP*		**P**	**20 24 53.8**	**-2.0**
PLMC	**San Jos del P**	**25.79**	**346**	*eP*		**P**	**20 24 59.0**	**+2.0**
GUY2C	**Guyana, Caldas**	**25.91**	**348**	*eP*		**P**	**20 25 00.8**	**+2.3**
NORC	**Norcasia**	**26.15**	**350**	*eP*		**P**	**20 25 00.5**	**+0.3**
RUSC	**La Rusia**	**26.23**	**354**	*eP*		**P**	**20 24 59.4**	**-2.1**
RUSC	**La Rusia**	**26.23**	**354**	P		**P**	**20 25 02.2**	**+0.8**
TAMC	**Tame, Arauca**	**26.67**	**357**	*eP*		**P**	**20 25 05.4**	**+0.4**
HELC	**Santa Helena**	**26.88**	**348**	*eP*		**P**	**20 25 07.4**	**+0.2**
BARC	**Barichara**	**26.94**	**354**	*eP*		**P**	**20 25 06.0**	**-1.5**
PAMC	**Pamplona, Colo**	**27.63**	**355**	*eP*		**P**	**20 25 13.6**	**-0.4**
ZARC	**Zaragoza, Cauc**	**28.04**	**350**	*eP*		**P**	**20 25 17.0**	**-0.2**
SDV	**Santo Domingo**	**29.07**	**359**	P		**P**	**20 25 26.3**	**-0.3**
comp=Z,4.2nm,0.6s,baz=223,slow=4.3,SNR=5.8								
SDV	**Santo Domingo**	**29.07**	**359**	P		**P**	**20 25 25.8**	**-0.7**
SDV				IAmb		IAmb	20 25 57.9	
comp=Z,54nm,1.9s								
SDV	**Santo Domingo**	**29.07**	**359**	*eP*		**P**	**20 25 26.5**	**0.0**
SDV	**Santo Domingo**	**29.07**	**359**	*eP*		**P**	**20 25 26.5**	**0.0**
SJCC	**San Jacinto, C**	**30.45**	**351**	*eP*		**P**	**20 25 38.6**	**0.0**
MDP	**Montagnes des**	**30.70**	**36**	P		**P**	**20 25 39.9**	**-0.9**
comp=Z,15nm,0.9s,baz=218,slow=9.9,SNR=7.4								
MDP				LR		LR	20 38 45.0	
comp=Z,757nm,19.7s,baz=312,slow=38								
JTS	**Las Juntas de**	**33.69**	**333**	LR		LR	20 39 00.8	
comp=Z,166nm,20.9s,baz=215,slow=35								
RCBR	**Riachuelo**	**36.40**	**71**	P		**P**	**20 26 29.3**	**-1.3**
comp=Z,11nm,0.8s,baz=244,slow=10,SNR=7.6								
RCBR				pP		**pP**	**20 26 40.1**	**+0.7**
comp=Z,21nm,0.8s,baz=243,slow=7.5,SNR=4.3								
RCBR	**Riachuelo**	**36.40**	**71**	P		**P**	**20 26 29.4**	**-1.1**
RCBR				IAmb		IAmb	20 26 45.1	
comp=Z,19nm,0.8s								
MLPR	**Magueyes Islan**	**38.23**	**5**	P		**P**	**20 26 44.5**	**-1.3**
MLPR				IAmb		IAmb	20 26 45.6	
comp=Z,27nm,0.9s								
CRPR	**Cabo Rojo, PR**	**38.27**	**5**	P		**P**	**20 26 44.9**	**-1.2**
CRPR				IAmb		IAmb	20 27 17.4	
comp=Z,34nm,1.1s								
OBIP	**Obispado Ponce**	**38.34**	**6**	P		**P**	**20 26 45.8**	**-0.9**
PDPR	**Patillas Dam,**	**38.38**	**7**	P		**P**	**20 26 45.1**	**-2.0**
SJG	**San Juan**	**38.46**	**6**	P		**P**	**20 26 46.0**	**-1.8**
comp=Z,11nm,0.3s,baz=209,slow=5.6,SNR=7.3								
SJG	**San Juan**	**38.46**	**6**	P		**P**	**20 26 46.0**	**-1.8**
SJG				IAmb		IAmb	20 26 46.9	
comp=Z,23nm,0.8s								
CBYP	**Canovanas**	**38.65**	**7**	P		**P**	**20 26 47.7**	**-1.7**
GCPR	**Guaynabo City**	**38.66**	**6**	P		**P**	**20 26 47.3**	**-2.1**
CMIG	**Matias Romero**	**44.35**	**325**	LR		LR	20 42 55.6	
comp=Z,85nm,20.6s,baz=147,slow=32								
PMSA	**Palmer Station**	**44.58**	**176**	P		**P**	**20 27 38.5**	**+1.1**
comp=Z,14nm,1.0s,baz=358,slow=6.4,SNR=3.8								
PMSA				pP		**sP**	**20 27 49.5**	**-0.5**
comp=Z,12nm,0.8s,baz=10,slow=18,SNR=3.4								
PMSA				LR		LR	20 46 03.0	
comp=Z,206nm,18.6s,baz=306,slow=36								
PMSA	**Palmer Station**	**44.58**	**176**	P		**P**	**20 27 38.3**	**+0.9**
PMSA				IAmb		IAmb	20 29 22.6	
comp=Z,38nm,1.4s								
ZAIG	**Zacatecas**	**53.18**	**322**	P		**P**	**20 28 45.1**	**+0.9**
ZAIG				IAmb		IAmb	20 28 47.6	
comp=Z,6.6nm,0

P57A Homestead Farm 59.97 353 P P 20 29 33.1 +1.2
baz=172
P57A Homestead Farm 59.97 353 P P 20 29 32.1 +0.3
P56A Dayton Farm, R 60.09 352 P P 20 29 34.0 +1.3
baz=171
P55A Reedsville 60.22 352 P P 20 29 34.8 +1.1
baz=170
U40A Yellville 60.30 339 P P 20 29 34.2 0.0
baz=156
U40A Yellville 60.30 339 P P 20 29 33.8 -0.5
U40A IAmb IAmb 20 29 46.0
comp=Z,6.5nm,0.9s
MCWV Mont Chateau 60.37 352 P P 20 29 35.8 +1.2
baz=170
P54A Burton 60.41 351 P P 20 29 36.0 +1.1
baz=169
P53A Whipple 60.43 350 P P 20 29 35.9 +0.8
baz=168
O58A Lewisberry 60.49 354 P P 20 29 36.8 +1.4
baz=173
O59A Robesonia 60.61 355 P P 20 29 37.0 +0.7
baz=174
O57A Amberson 60.65 354 P P 20 29 37.7 +1.2
baz=172
O56A Blue Knob Stat 60.81 353 P P 20 29 38.9 +1.2
baz=171
O55A Ligonier 60.84 352 P P 20 29 38.6 +0.8
baz=170,SNR=5.1
N60A Cedar Hill Far 61.08 356 P P 20 29 40.6 +1.1
baz=175
WMOK Wichita Mounta 61.11 333 P P 20 29 41.0 +1.2
baz=149
WMOK Wichita Mounta 61.11 333 P P 20 29 40.1 +0.3
N57A Milroy 61.18 354 P P 20 29 41.0 +0.9
baz=172
N59A State Game Lan 61.18 355 P P 20 29 41.1 +1.0
baz=174
N58A Sunbury 61.18 354 P P 20 29 41.1 +1.0
baz=173
N58A Sunbury 61.18 354 P P 20 29 40.7 +0.6
CCM Cathedral Cave 61.35 341 P P 20 29 40.9 -0.4
CCM IAmb IAmb 20 30 24.7
comp=Z,7.3nm,0.8s
N55A Marion Center 61.36 353 P P 20 29 42.3 +0.9
baz=171,SNR=9.6
N56A West Decatur 61.42 353 P P 20 29 42.7 +0.9
baz=171
Q44A Meyer Farm, Va 61.51 343 P P 20 29 41.5 -0.9
Q44A IAmb IAmb 20 29 42.2
comp=Z,12nm,0.8s
M60A Port Jervis 61.51 356 P P 20 29 43.1 +0.8
baz=175
M62A Hamden 61.54 358 P P 20 29 43.3 +0.8
baz=177
VNA3 Neumayer Olymp 61.57 161 P P 20 29 43.2 +0.7
N54A Moraine State 61.67 352 P P 20 29 44.3 +0.9
baz=170
S39A Bolivar 61.67 339 P P 20 29 43.4 -0.1
S39A IAmb IAmb 20 29 44.3
comp=Z,8.5nm,0.8s
M58A Price's Panora 61.69 355 P P 20 29 44.7 +1.2
baz=173
M57A Sunshine Farm, 61.71 354 P P 20 29 44.6 +0.9
baz=173
MNTX Cornudas Mount 61.72 326 P P 20 29 44.5 +0.5
baz=142
MNTX Cornudas Mount 61.72 326 P P 20 29 44.0 -0.1
M59A Waymart 61.77 356 P P 20 29 45.3 +1.1
baz=174
VNA1 Neumayer--Stat 61.79 160 P P 20 29 44.6 +0.7
R40A Maddies Statio 61.88 341 P P 20 29 44.5 -0.4
R40A IAmb IAmb 20 29 44.9
comp=Z,5.4nm,0.7s
L63A North Scituate 61.92 359 P P 20 29 46.0 +0.9
baz=179
M56A Emporium 61.97 353 P P 20 29 46.5 +1.0
baz=172
M56A Emporium 61.97 353 P P 20 29 45.7 +0.3
BRYW Bryant College 61.98 359 P P 20 29 45.9 +0.4
L64A Middleborough 61.99 360 P P 20 29 46.6 +1.1
baz=179
M55A Ridgway 62.02 353 P P 20 29 46.3 +0.5
baz=171,SNR=6.0
L60A Shokan 62.14 357 P P 20 29 47.7 +1.1
baz=176
VNA2 Neumayer--Watz 62.15 161 P P 20 29 47.3 +0.9
M54A Oil Creek Stat 62.16 352 P P 20 29 47.5 +0.7
baz=170
M53A Wl Miller and 62.23 351 P P 20 29 48.2 +1.0
baz=169
MSTX Muleshoe 62.25 330 P P 20 29 47.8 +0.1
baz=145,SNR=6.7
MSTX Muleshoe 62.25 330 P 20 29 47.7 0.0
L58A Harry Jones Me 62.30 355 P P 20 29 48.8 +1.1
baz=174
N49A Columbus Grove 62.32 348 P P 20 29 47.1 -0.7
P43A Skaggs, Pawnee 62.33 343 P P 20 29 47.3 -0.6
L59A Walton 62.39 356 P P 20 29 49.7 +1.4
baz=175
SFIN Lafayette 62.42 346 P P 20 29 47.5 -0.9
BINY Binghamton 62.47 355 P P 20 29 50.0 +1.2
baz=174
BINY Binghamton 62.47 355 P P 20 29 49.5 +0.7
L61B Northampton 62.54 358 P P 20 29 50.0 +0.7
baz=178
L56A Greenwood 62.55 354 P P 20 29 50.0 +0.7
baz=172
HRV Adam Dziewonsk 62.57 359 P P 20 29 50.5 +1.1
baz=179
L55A Hinsdale 62.68 353 P P 20 29 51.3 +1.0
baz=171
K63A Dunstable 62.75 359 P P 20 29 51.1 +0.5
baz=179
K61A Williamstown 62.78 358 P P 20 29 51.8 +1.0
baz=177
L54A Sinclairville 62.84 353 P P 20 29 52.2 +0.9
baz=170
WVNY West Valley, N 62.92 353 P P 20 29 52.5 +0.7
P40A Paris 62.95 341 P P 20 29 51.6 -0.4
P40A IAmb IAmb 20 29 52.1
comp=Z,7.5nm,0.8s
K59A Cooperstown 62.96 356 P P 20 29 52.8 +0.7
baz=175,SNR=8.0
K58A Earlville 63.01 356 P P 20 29 53.2 +0.8
baz=174
K57A Scipio Center 63.04 355 P P 20 29 53.3 +0.7
baz=173
HDIL Hopedale 63.13 344 P P 20 29 52.7 -0.5
baz=160
HDIL Hopedale 63.13 344 P P 20 29 52.4 -0.8
MMNY Mt. Morris Dam 63.17 354 P P 20 29 52.7 -0.7
K55A Perry 63.18 354 P P 20 29 54.3 +0.7
baz=172
J62A Henniker 63.29 359 P P 20 29 55.8 +1.5
baz=178
L48A N Adams 63.35 348 P P 20 29 54.0 -0.7
L48A IAmb IAmb 20 29 55.8
comp=Z,17nm,0.9s
J60A Lant Hill Farm 63.36 357 P P 20 29 56.3 +1.7
baz=177
P38A Dawn 63.50 340 P P 20 29 55.6 -0.1
P38A IAmb IAmb 20 29 56.9
comp=Z,7.6nm,0.6s
319A Douglas 63.59 323 P P 20 29 58.2 +1.5
319A IAmb IAmb 20 29 59.4
comp=Z,7.9nm,0.8s
J56A Wolcott 63.61 355 P P 20 29 56.9 +0.6
baz=173
J56A Wolcott 63.61 355 P P 20 29 56.2 -0.1
J59A Piesco 63.63 357 P P 20 29 57.6 +1.1
baz=176
121A Cookes Peak, D 63.64 325 P P 20 29 57.4 +0.4
baz=140
J57A Williamstown 63.67 355 P P 20 29 57.4 +0.7
baz=174
J55A Hilton 63.69 354 P P 20 29 57.6 +0.8
baz=172
N41A Harden Midland 63.69 343 P P 20 29 56.1 -0.8
N41A IAmb IAmb 20 29 56.9
comp=Z,13nm,0.8s
SNAA Sanae 63.78 161 P P 20 29 57.9 +0.6
SNAA Sanae 63.78 161 P P 20 29 57.8 +0.5
I58A Old Forge 63.88 356 P P 20 29 59.0 +0.8
baz=175
I59A Olmsteadville 63.93 357 P P 20 29 59.4 +1.0
baz=176
I62A Tamworth 63.93 359 P P 20 29 59.4 +1.0
baz=179
I60A Shoreham 63.95 358 P P 20 29 59.7 +1.1
baz=177
J52A Paris 63.98 352 P P 20 29 59.3 +0.5
baz=169
I63A Otisfield 64.10 360 P P 20 30 00.3 +0.8
baz=180
NCB Newcomb 64.12 357 P P 20 30 00.2 +0.5
K48A Perry 64.13 349 P P 20 29 59.2 -0.5
baz=166
K47A Vermontville 64.17 348 P P 20 29 59.4 -0.6
baz=165
I57A Carthage 64.17 356 P P 20 30 00.3 +0.3
baz=174
BNM Barren Site 64.29 327 P 20 30 01.4 +0.1
LBNH Lisbon 64.31 359 P P 20 30 01.8 +0.9
baz=178,SNR=5.1
LBNH Lisbon 64.31 359 P P 20 30 01.7 +0.8
H58A Gabriels 64.56 357 P P 20 30 03.1 +0.5
baz=176,SNR=5.7
H61A Lyndonville 64.60 359 P P 20 30 04.0 +1.2
baz=178
I51A Listowel 64.60 351 P P 20 30 03.7 +0.8
baz=169
I55A Frankford 64.62 354 P P 20 30 03.0 +0.1
baz=172
H62A Milan 64.63 359 P P 20 30 04.0 +1.0
baz=179
H60A Morristown 64.65 358 P P 20 30 04.2 +1.1
baz=178
J47A Sunmer 64.68 348 P P 20 30 04.3 +1.0
baz=165
H64A Troy 64.70 1 P P 20 30 04.3 +0.9
baz=181
H63A New Sharon 64.71 0 P P 20 30 04.7 +1.2
baz=180
H59A Cadyville 64.77 357 P P 20 30 04.7 +0.7
baz=176
H65A Eastbrook 64.77 2 P P 20 30 04.3 +0.4
baz=182
LONY Lake Ozonia 64.79 357 P P 20 30 04.9 +0.8
baz=176
LONY Lake Ozonia 64.79 357 P P 20 30 04.6 +0.6
LONY IAmb IAmb 20 30 05.6
comp=Z,16nm,0.9s
EMMW East Machias 64.81 2 P P 20 30 04.5 +0.4
ANMO Albuquerque 64.83 328 P P 20 30 06.0 +1.2
baz=142
ANMO Albuquerque 64.83 328 P 20 30 05.0 +0.2
H56A Elgin 64.87 355 P P 20 30 05.1 +0.6
baz=174
H66A Whiting 64.89 2 P P 20 30 05.2 +0.5
baz=183
H55A Tweed 64.90 355 P P 20 30 05.2 +0.4
baz=173
FRNY Flat Rock 64.95 357 P P 20 30 05.7 +0.6
FRNY IAmb IAmb 20 30 17.9
comp=Z,25nm,1.1s
HAL Halifax 64.98 5 P P 20 30 05.6 +0.4
CBKS Cedar Bluff 65.00 335 P P 20 30 06.2 +0.5
baz=150
CBKS Cedar Bluff 65.00 335 P P 20 30 05.7 +0.1
CBKS IAmb IAmb 20 30 07.3
comp=Z,17nm,1.1s
H53A Bobcaygeon 65.06 354 P P 20 30 06.2 +0.3
baz=171
TUC Tucson 65.14 323 P P 20 30 07.4 +0.7
baz=138
G63A Kingsbury 65.17 1 P P 20 30 07.6 +1.1
baz=181
G60A Masonville 65.17 358 P P 20 30 07.8 +1.3
baz=178
G62A West of Eustis 65.27 360 P P 20 30 08.3 +1.1
baz=180,SNR=8.3
G62A West of Eustis 65.27 360 P P 20 30 07.7 +0.5
H52A Wyevale 65.28 352 P P 20 30 07.4 +0.2
baz=170
G58A Ormstown 65.29 357 P P 20 30 07.8 +0.6
baz=176
G57A Newington 65.29 356 P P 20 30 08.0 +0.8
baz=175
G65A Princeton 65.30 2 P P 20 30 08.3 +1.0
baz=183
G65A Princeton 65.30 2 P P 20 30 07.8 +0.5
G64A Maxfield 65.32 1 P P 20 30 08.1 +0.6
baz=182
SADO Sadowa 65.32 353 P P 20 30 06.8 -0.6
baz=187,slow=7.3
SADO Sadowa 65.32 353 P 20 30 07.3 -0.2
SADO IAmb IAmb 20 30 08.3
comp=Z,14nm,0.9s
PKME Peaks-Kenny Pk 65.32 1 P P 20 30 08.3 +0.9
baz=181
PKME Peaks-Kenny Pk 65.32 1 P P 20 30 07.8 +0.4
PKME IAmb IAmb 20 30 08.6
comp=Z,15nm,0.8s
G61A St-Isidore-de- 65.34 359 P P 20 30 09.0 +1.4
baz=179
MOQ Mont Orford 65.39 359 P P 20 30 08.3 +0.3
G55A Calabogie 65.56 355 P P 20 30 10.4 +1.3
baz=173
JFWS Jewell Farm 65.59 344 P P 20 30 09.2 0.0
baz=159
JFWS Jewell Farm 65.59 344 P P 20 30 08.3 -0.9
G53A Haliburton 65.61 354 P P 20 30 10.1 +0.8
baz=171
ORIO Orleans, Innes 65.67 356 P P 20 30 08.7 -1.0
F64A Sherman 65.94 2 P P 20 30 12.1 +0.6
baz=182
F59A Saint Guilaume 65.94 358 P P 20 30 12.7 +1.3
baz=177
F61A St Evariste 66.03 359 P P 20 30 12.6 +0.6
baz=179
F60A Warwick 66.03 359 P P 20 30 12.7 +0.7
baz=178
LMN Caledonia Moun 66.09 4 P P 20 30 12.5 +0.1
LMN IAmb IAmb 20 30 13.5
comp=Z,18nm,0.9s
F55A Otter Lake 66.11 355 P P 20 30 13.2 +0.7
baz=174
I42A Draeger Farm, 66.18 345 P P 20 30 12.6 -0.4
I42A IAmb IAmb 20 30 13.2
comp=Z,7.6nm,0.7s
F52A Sundridge 66.35 353 P P 20 30 14.3 +0.2
baz=171
ALGO Algonquin Park 66.38 354 P P 20 30 14.4 +0.2
baz=172
TRQ Mont Tremblant 66.38 357 P P 20 30 14.7 +0.3
H43A Windswept, Lux 66.46 346 P P 20 30 14.3 -0.5
H43A IAmb IAmb 20 30 15.1
comp=Z,8.9nm,0.7s
E58A La Victoria 66.47 358 P P 20 30 15.4 +0.5
baz=177
E61A Lac Etchemin 66.48 360 P P 20 30 15.5 +0.6
baz=180
E63A Oxbow 66.49 1 P P 20 30 15.8 +0.9
baz=182
E64A Bridgewater 66.51 2 P P 20 30 16.0 +1.0
baz=182
F51A Arnstein 66.55 353 P P 20 30 15.7 +0.3
baz=170
E57A Chemin Saint G 66.55 357 P P 20 30 15.8 +0.4
baz=176
I40A Norwalk 66.60 344 P P 20 30 15.4 -0.4
I40A IAmb IAmb 20 30 55.2
comp=Z,13nm,1.3s
SDCO Great Sand Dun 66.61 330 P P 20 30 17.5 +1.2
baz=144
SDCO Great Sand Dun 66.61 330 P P 20 30 17.4 +1.2
SDCO IAmb IAmb 20 30 30.2
comp=Z,11nm,1.0s
W18A Petrified Fore 66.66 325 P P 20 30 18.0 +1.4
baz=140
E62A Clayton Lake 66.67 1 P P 20 30 16.9 +0.8
baz=181
E62A Clayton Lake 66.67 1 P P 20 30 16.9 +0.8
E62A IAmb IAmb 20 30 18.1
comp=Z,17nm,0.8s
E56A St. Veronique 66.73 356 P P 20 30 16.7 +0.2
baz=175,SNR=5.0
PQI Presque Isle 66.75 2 P P 20 30 17.5 +0.9
PQI IAmb IAmb 20 30 17.7
comp=Z,18nm,1.1s
E54A Lac Daplat, Po 66.77 355 P P 20 30 17.1 +0.3
baz=173
X16A Lo Mia Camp, P 67.06 324 P P 20 30 19.8 +0.6
D63A Stockholm 67.12 2 P P 20 30 19.5 +0.5
baz=182
D62A Allapoint, All 67.14 1 P P 20 30 19.7 +0.6
baz=181,SNR=8.0
D62A Allapoint, All 67.14 1 P P 20 30 19.9 +0.8
D57A Chemin Vers le 67.14 357 P P 20 30 19.4 +0.3
baz=176
D58A Chemin du LacG 67.18 358 P P 20 30 20.0 +0.6
baz=177,SNR=5.5
D56A ZEC Mazanza, M 67.22 357 P P 20 30 19.8 +0.2
baz=175
D55A Sainte-Anne-du 67.23 356 P P 20 30 20.0 +0.3
baz=175
S22A 4UR Ranch, Cre 67.23 329 P P 20 30 20.2 -0.1
D52A ZEK Kipawa Sen 67.42 354 P P 20 30 21.1 +0.2
baz=172
BATG Bathurst New B 67.44 3 P P 20 30 21.4 +0.4
BATG IAmb IAmb 20 30 22.5
comp=Z,14nm,0.8s
D54A Lac Fusel, La 67.44 355 P P 20 30 20.8 -0.3
baz=174
D53A Lac Vacive, Po 67.46 355 P P 20 30 21.3 +0.1
baz=172
D53A Lac Vacive, Po 67.46 355 P P 20 30 21.2 +0.1
D53A IAmb IAmb 20 30 22.2
comp=Z,10nm,1.0s
I37A Lemond, Waseca 67.47 342 P P 20 30 21.0 -0.3
I37A IAmb IAmb 20 30 21.9
comp=Z,14nm,0.7s
LATQ La Tuque 67.47 358 P P 20 30 21.8 +0.7
baz=177
E47A Iron Bridge 67.53 350 P P 20 30 21.2 -0.4
baz=167
MVCO Mesa Verde 67.63 328 P P 20 30 23.1 +0.3
MVCO IAmb IAmb 20 30 25.2
comp=Z,8.4nm,0.9s
OGNE Ogallala 67.74 335 P P 20 30 23.3 +0.1
baz=148
D50A G1974 Best Tow 67.76 353 P P 20 30 23.2 +0.1
baz=170
G40A Rib Lake 67.78 345 P P 20 30 22.9 -0.3
WUAZ Wupatki 67.84 325 P 20 30 24.7 +0.6
WUAZ IAmb IAmb 20 30 39.3
comp=Z,12nm,0.9s
K31A O'Neill 67.94 338 P P 20 30 24.7 +0.4
D47A Chapleau 68.09 351 P P 20 30 24.2 -1.0
baz=167
E43A Lone Tree Farm 68.12 348 P P 20 30 24.7 -0.7
E43A IAmb IAmb 20 30 57.7
comp=Z,5.4nm,0.8s
ECSD EROS Data Cent 68.20 340 P P 20 30 25.6 -0.2
baz=153
COWI Conover 68.32 346 P P 20 30 26.1 -0.5
ISCO Idaho Springs 68.32 331 P P 20 30 27.9 +0.8
baz=144
ISCO Idaho Springs 68.32 331 P P 20 30 27.2 +0.1
SPMN Marine on St. 68.41 343 P P 20 30 26.5 -0.7
SPMN IAmb IAmb 20 30 43.5
comp=Z,8.9nm,0.9s
PV15 Paradox Valley 68.51 329 P P 20 30 28.3 +0.1
PV15 IAmb IAmb 20 30 42.7
comp=Z,18nm,1.0s
PV02 Paradox Valley 68.53 328 P P 20 30 27.7 -0.7
PV13 Radium Mtn., P 68.53 328 P P 20 30 29.6 +1.3
PV13 IAmb IAmb 20 30 42.4
comp=Z,7.8nm,0.9s
PV05 Paradox Valley 68.61 328 P P 20 30 30.1 +1.2
PV12 Saucer Basin, 68.64 328 P P 20 30 30.2 +1.1
PV12 IAmb IAmb 20 30 32.1
comp=Z,5.4nm,0.7s
PV07 Paradox Valley 68.66 328 P P 20 30 28.5 -0.7
PV22 Blue Mesa, Par 68.81 328 P P 20 30 30.6 +0.5
BC3 Big Chuckawall 68.82 321 P P 20 30 32.5 +2.4
baz=135
W13A Hualapai Mount 68.93 323 P P 20 30 33.1 +2.2
PV09 Paradox Valley 68.95 328 P P 20 30 31.8 +0.7
IRM Iron Mountain 68.99 321 P P 20 30 33.2 +2.2
baz=135
F36A Milaca 69.20 343 P P 20 30 31.9 -0.2
N23A Red Feather La 69.36 332 P P 20 30 34.7 +1.2
baz=144
LSQQ Lebel-sur-Quev 69.36 355 P P 20 30 33.1 +0.1
baz=173
BELC Belle Mtn. Jos 69.39 321 P P 20 30 35.4 +1.8
baz=134
DBIC Dimbokro 69.69 74 P P 20 30 34.6 -1.3
comp=Z,10nm,0.9s,baz=224,slow=4.2,SNR=4.7
DBIC LR LR 21 00 56.6
comp=Z,150nm,18.0s,baz=239,slow=36
DBIC Dimbokro 69.69 74 P P 20 30 34.2 -1.6
GMRC Granite Mounta 69.73 321 P P 20 30 38.1 +2.3
baz=135
KNB Kanab 69.74 325 P P 20 30 38.2 +2.4
QSPA South Pole Qui 69.82 180 P P 20 30 37.1 +1.2
QSPA IAmb IAmb 20 30 49.3
comp=Z,20nm,1.1s
LCMT Little Creek M 69.96 325 P P 20 30 38.1 +0.9
F33A 5 Mile Ranch, 69.98 341 P P 20 30 36.7 -0.2
CHGQ Chibougamau 70.05 357 P P 20 30 37.2 0.0
baz=176
MATQ Matagami 70.11 355 P P 20 30 37.2 -0.3
baz=173
SRU San Rafael Swe 70.11 328 P P 20 30 38.6 +0.5
MTPU Mount Pierson 70.16 326 P P 20 30 39.9 +1.3
DRLN Deer Lake 70.24 9 P P 20 30 38.5 +0.1
Q16A Castle Valley 70.29 327 P P 20 30 40.9 +1.6
SZCU Shurtz Canyon 70.31 325 P P 20 30 40.7 +1.3
CCUT Cedar City 70.42 325 P P 20 30 42.8 +2.7
P17A Butcher Ranch, 70.50 328 P P 20 30 42.0 +1.6
MSU Marysvale 70.50 326 P P 20 30 42.9 +2.3
SHPR Sheep Range 70.66 323 P 20 30 43.5 +2.1
TCRU Three Creeks R 70.72 326 P P 20 30 42.5 +0.6
GSC Goldstone, Bar 70.77 321 P P 20 30 44.1 +2.1
baz=134
RDMU Red Mountain 70.77 329 P P 20 30 43.3 +1.2
K22A Casper 71.03 333 P P 20 30 45.0 +1.4
baz=144
EDW2 Edwards Air Fo 71.19 320 P P 20 30 46.3 +1.7
baz=133
RSSD Black Hills 71.21 335 P P 20 30 46.1 +1.4
baz=147
RSSD Black Hills 71.21 335 P P 20 30 45.8 +1.1
RSSD IAmb IAmb 20 33 08.3
comp=Z,14nm,0.8s
MPU Maple Canyon 71.36 328 P P 20 30 46.2 +0.5
PSUT Pine Spring 71.41 325 P P 20 30 47.1 +1.1
LRMC Laurel Mtn Rad 71.41 321 P P 20 30 47.7 +1.7
baz=133
B35A Bob, Littlefor 71.55 344 P 20 30 45.8 -0.6
TPNV Topopah Spring 71.59 323 P P 20 30 49.6 +2.5
baz=135
TPNV Topopah Spring 71.59 323 P 20 30 48.3 +1.2
FURC Furnace Creek, 71.61 322 P P 20 30 49.2 +2.3
baz=134
MPMC Manual Prospec 71.69 321 P P 20 30 49.4 +1.6
baz=134
JLU Jordanelle 71.71 328 P P 20 30 49.7 +1.8
ISA Isabella, Lake 72.00 320 P P 20 30 51.9 +2.4
baz=133
ISA Isabella, Lake 72.00 320 P P 20 30 52.0 +2.4
ISA IAmb IAmb 20 31 04.5
comp=Z,8.6nm,0.8s
E28A Huff 72.06 338 P P 20 30 50.2 +0.6
E28A IAmb IAmb 20 31 07.9
comp=Z,21nm,1.1s
AGMN Agassiz Nation 72.08 342 P P 20 30 49.4 -0.2
baz=155
AGMN Agassiz Nation 72.08 342 P P 20 30 49.3 -0.3
DUG Dugway, Tooele 72.09 327 P P 20 30 52.2 +2.2
baz=138
DUG Dugway, Tooele 72.09 327 P P 20 30 51.8 +1.8
DUG IAmb IAmb 20 31 04.6
comp=Z,15nm,1.1s
R11A Troy Canyon, C 72.21 324 P P 20 30 53.0 +2.1
baz=136
R11A Troy Canyon, C 72.21 324 P 20 30 53.0 +2.1
CWC Cottonwood Cre 72.30 321 P P 20 30 53.3 +1.9
baz=133
BW06 Boulder Array 72.48 331 P P 20 30 54.0 +1.6
baz=142
PDAR Pinedale Array 72.48 331 P P 20 30 53.4 +1.0
comp=Z,1.4nm,0.7s,baz=137,slow=4.3,SNR=8.2
PDAR pP sP 20 31 04.6 -0.5
comp=Z,0.6nm,0.5s,baz=104,slow=6.3,SNR=2.8
PDAR LR LR 21 04 45.2
comp=Z,65nm,20.0s,baz=128,slow=38
HWUT Hardware Ranch 72.53 329 P P 20 30 53.8 +1.1

HWUT IAmb IAmb 20 30 56.6
comp=Z,8.1nm,0.8s
SPUT South Promonto 72.74 328 P **P** **20 30 55.1 +1.3**
BGU Big Grassy Mou 72.74 327 P **P** **20 30 55.1 +1.2**
HVU Hansel Valley 73.25 328 P **P** **20 30 57.8 +0.9**
OMMB Old Mammoth Mi 73.64 322 **P** **20 31 01.1 +1.7**
OMMB IAmb IAmb 20 31 14.1
comp=Z,9.7nm,0.8s
TPAW Teton Pass 73.68 330 P **P** **20 31 00.1 +0.6**
TPAW IAmb IAmb 20 31 13.2
comp=Z,11nm,1.2s
MDPB Devils Postpil 73.69 322 P **P** **20 31 00.1 +0.4**
NV11 Mina Array Sit 73.71 323 P **P** **20 31 00.9 +1.3**
ELK Elko 73.75 326 P **P** **20 31 01.3 +1.4**
NVAR Mina Array Bea 73.79 323 P **P** **20 31 01.9 +1.7**
comp=Z,2.4nm,0.8s,baz=151,slow=6.1,SNR=15
NVAR pP **sP** **20 31 13.2 +0.2**
comp=Z,5.6nm,0.9s,baz=145,slow=6.2,SNR=11
NVAR LR LR 21 02 19.5
comp=Z,41nm,18.8s,baz=266,slow=35
FXWY Fox Creek 73.83 330 P **P** **20 31 01.5 +1.2**
ULM Lac du Bonnet 73.85 343 P **P** **20 30 59.7 -0.3**
comp=Z,4.5nm,0.7s,baz=173,slow=7.6,SNR=3.9
ULM LR LR 21 06 25.0
comp=Z,40nm,18.1s,baz=59,slow=38
ULM Lac du Bonnet 73.85 343 P **P** **20 30 59.6 -0.3**
FLWY Flagg Ranch 74.02 331 P **P** **20 31 03.3 +1.9**
FLWY IAmb IAmb 20 31 04.3
comp=Z,13nm,0.8s
RYN Ryan 74.05 323 P **P** **20 31 02.9 +1.2**
KVN Kaiserville 74.10 323 P **P** **20 31 03.1 +1.1**
KVN IAmb IAmb 20 31 16.3
comp=Z,9.7nm,0.9s
PPT Papeete 74.29 257 LR LR 20 55 38.9
comp=Z,63nm,20.8s,baz=148,slow=29
YHH Holmes Hill 74.64 331 P **P** **20 31 05.9 +0.8**
GCMT Greycliff 74.90 333 P **P** **20 31 07.3 +0.9**
SCHQ Schefferville 74.95 2 P **P** **20 31 06.4 +0.1**
comp=Z,5.3nm,0.8s,baz=171,slow=6.1,SNR=5.9
SCHQ pP **sP** **20 31 17.5 -1.8**
comp=Z,2.7nm,0.3s,baz=180,slow=4.0,SNR=4.1
SCHQ Schefferville 74.95 2 P **P** **20 31 06.5 +0.1**
SCHQ IAmb IAmb 20 31 18.2
comp=Z,9.1nm,1.1s
PNTR Pine Nut 74.98 322 P **P** **20 31 07.9 +0.7**
PNTR IAmb IAmb 20 31 21.1
comp=Z,8.9nm,0.8s
PAHR Pah Rah Range 75.28 323 P **P** **20 31 10.5 +1.8**
PAHR IAmb IAmb 20 31 23.7
comp=Z,19nm,0.9s
MCMT McKenzie Canyo 75.58 330 P **P** **20 31 12.1 +1.6**
BOZ Bozeman (W) 75.61 331 P **P** **20 31 11.7 +1.2**
AFDM Forest Hills D 75.68 322 P **P** **20 31 11.6 +0.7**
DLMT Dillon 75.87 331 P **P** **20 31 12.4 +0.4**
MFID Camas Ranch 75.98 328 P **P** **20 31 14.3 +1.6**
MFID IAmb IAmb 20 31 27.9
comp=Z,11nm,1.1s
ORV Oroville 76.39 322 **P** **20 31 16.1 +1.2**
ORV IAmb IAmb 20 31 29.8
comp=Z,9.9nm,0.9s
MOD Modoc Plateau 77.28 324 P **P** **20 31 20.6 +0.6**
J08A Circle Bar Ran 77.30 326 **P** **20 31 21.7 +1.6**
VNDA Vanda 77.73 190 P **P** **20 31 23.4 +1.4**
comp=Z,1.2nm,0.8s,baz=105,slow=3.2,SNR=8.6
VNDA pP **sP** **20 31 35.0 +0.1**
comp=Z,2.0nm,1.0s,baz=103,slow=3.2,SNR=5.5
VNDA Vanda 77.73 190 P **P** **20 31 23.7 +1.8**
BMO Blue Mountains 77.75 328 P **P** **20 31 23.4 +0.9**
SYO Syowa Base 78.02 160⇓*e*P **P** **20 31 23.0 -0.6**
SYO Syowa Base 78.02 160⇑*e*PcP **P** **20 31 28.0 +4.4**
SYO Syowa Base 78.02 160⇑*e*sP sP 20 31 37.6 +0.9
M04C Macdoel 78.05 323 P **P** **20 31 25.9 +1.5**
baz=131
TOA0 Torodi Ar. Sit 78.23 71 P **P** **20 31 24.5 -1.2**
TORD Torodi Ar. Bea 78.23 71 P **P** **20 31 24.4 -1.4**
comp=Z,18nm,0.8s,baz=249,slow=5.3,SNR=76
TORD LR LR 21 05 26.2
comp=Z,216nm,18.7s,baz=235,slow=35
J05D Fort Rock, OR 78.72 325 P **P** **20 31 30.0 +2.0**
baz=132
PINE Pine Mountain 78.90 325 P **P** **20 31 31.2 +2.1**
PINE IAmb IAmb 20 31 43.9
comp=Z,9.0nm,0.9s
J04D Umpqua Nationa 79.16 324 P **P** **20 31 32.1 +1.6**
baz=131
WALA Waterton Lakes 79.25 333 P **P** **20 31 31.9 +1.1**
I05D Terrebonne, OR 79.48 325 P **P** **20 31 34.0 +1.9**
baz=132
K02D Willamette Mer 79.67 323 P **P** **20 31 35.0 +1.8**
baz=130
G05D Wamic, OR 80.07 326 P **P** **20 31 37.5 +2.3**
baz=132
I03D Drain, OR 80.14 324 P **P** **20 31 37.2 +1.6**
baz=130
H04A Detroit Lake 80.16 325 P **P** **20 31 36.3 +0.6**
H04A IAmb IAmb 20 34 01.0
comp=Z,48nm,1.8s
C09A Chrisman Ranch 80.32 329 P **P** **20 31 37.7 +1.2**
C09A IAmb IAmb 20 31 49.8
comp=Z,7.3nm,0.7s
F04D Rainier, OR 81.52 326 P **P** **20 31 44.5 +1.7**
baz=131
MORF Marmelete 81.59 45 *e*P **P** **20 31 43.4 -0.2**
MORF AMb AMB 20 32 03.2
comp=Z,24nm,1.4s
MORF Marmelete 81.59 45 *e*P **P** **20 31 44.8 +1.2**
E04D Cinebar 81.60 327 P **P** **20 31 44.7 +1.4**
baz=132
TSUM Tsumeb 81.64 107 P **P** **20 31 44.8 +0.5**
TSUM IAmb IAmb 20 31 45.7
comp=Z,12nm,0.8s
MESJ Messejana 82.17 45 *e*P **P** **20 31 46.4 -0.1**
MESJ AMb AMB 20 31 55.1
comp=Z,14nm,1.8s
MESJ Messejana 82.17 45 *e*P **P** **20 31 45.5 -1.0**
PCVE Castro Verde 82.18 45 *e*P **P** **20 31 46.9 +0.3**
B05A Bryant 82.50 328 P **P** **20 31 48.5 +0.6**
baz=132
PBEJ Beja 82.51 45 *e*P **P** **20 31 48.4 +0.1**
MVO Moncorvo 84.75 43 *e*P **P** **20 31 59.8 0.0**
PBRG Braganca 85.28 42 *e*P **P** **20 32 02.4 0.0**
TAM Tamanrasset 85.50 64 P **P** **20 32 04.1 +0.1**
TAM IAmb IAmb 20 32 05.5
comp=Z,12nm,1.0s
MAW Mawson 85.79 164 P **P** **20 32 05.0 +0.5**
comp=Z,4.7nm,0.9s,baz=217,slow=7.4,SNR=6.4
MAW pP **sP** **20 32 16.9 -0.8**
comp=Z,6.2nm,0.9s,baz=207,slow=6.6,SNR=6.1
MAW LR LR 21 10 08.2
comp=Z,79nm,20.4s,baz=240,slow=35
MAW Mawson 85.79 164 P **P** **20 32 05.3 +0.9**
ESDC Sonseca Array 85.97 45 P **P** **20 32 05.4 -0.4**
comp=Z,3.3nm,1.1s,baz=236,slow=5.7,SNR=11
ESDC pP **sP** **20 32 17.1 -1.8**
comp=Z,2.4nm,1.1s,baz=237,slow=5.5,SNR=7.5
ESDC LR LR 21 07 16.4
comp=Z,46nm,21.7s,baz=290,slow=33
YKA Yellowknife Ar 89.69 341 P **P** **20 32 23.2 +0.2**
comp=Z,6.8nm,0.8s,baz=140,slow=4.9,SNR=91
YKA pP **sP** **20 32 34.5 -1.5**
comp=Z,6.4nm,0.8s,baz=143,slow=4.5,SNR=14
YKA sP **pP** **20 32 39.2 +6.7**
comp=Z,7.3nm,0.9s,baz=142,slow=4.9,SNR=8.4
YKA LR LR 21 16 51.8
comp=Z,31nm,18.4s,baz=0.0,slow=38
KEST Kesra 93.69 53 LR LR 21 14 59.5
comp=Z,100nm,19.6s,baz=266,slow=36
VAE Valguarnera 98.11 53 LR LR 21 19 28.9
comp=Z,66nm,18.1s,baz=257,slow=37
DAVOX Davos/Dischmat 98.14 43 LR LR 21 17 59.6
comp=Z,45nm,18.3s,slow=36
KBZ Khabaz 120.43 51 PKP **PKiKP** **20 38 17.3 +0.3**
comp=Z,3.4nm,0.9s,baz=223,slow=2.4,SNR=6.7
H11S2 WAKE ISLAND Hyl 26.41 278 T T 22 57 51.1
baz=102,slow=74,SNR=604
H11S1 WAKE ISLAND Hyl 26.42 278 T T 22 57 49.3
baz=102,slow=74,SNR=506
H11S3 WAKE ISLAND Hyl 26.43 278 T T 22 57 54.0
baz=102,slow=74,SNR=349
H11N3 WAKE ISLAND Hyl 26.47 280 T T 22 57 56.1
baz=101,slow=74,SNR=233
H11N2 WAKE ISLAND Hyl 26.48 280 T T 22 57 55.6
baz=101,slow=74,SNR=189
H11N1 WAKE ISLAND Hyl 26.48 280 T T 22 57 57.5
baz=101,slow=74,SNR=253
TIXI Tiksi 127.50 352 **PKPdf** **20 38 29.6 -0.1**

ARU Arti 127.94 33 PKP **PKiKP** **20 38 31.5 0.0**
comp=Z,1.8nm,0.6s,baz=308,slow=4.7,SNR=5.2
AKTO Aktyubinsk 129.66 41 PKP **PKiKP** **20 38 35.0 -0.1**
comp=Z,2.0nm,0.7s,baz=291,slow=4.8,SNR=6.4
ASAR Alice Springs 130.27 210 PKP **PKPdf** **20 38 36.5 0.0**
comp=Z,1.6nm,0.8s,baz=151,slow=2.2,SNR=14
ASAR pPKP **pPKPdf** **20 38 47.9 +1.5**
comp=Z,2.2nm,1.0s,baz=138,slow=2.0,SNR=7.8
WRA Warramunga Arr 133.22 213 PKP **PKPdf** **20 38 42.0 -0.1**
comp=Z,1.9nm,0.7s,baz=158,slow=1.8,SNR=17
WRA pPKP **sPKPdf** **20 38 54.1 -1.2**
comp=Z,1.2nm,0.6s,baz=152,slow=1.6,SNR=4.6
BVAR Borovoye Array 135.59 33 PKP **PKPdf** **20 38 45.5 0.0**
comp=Z,2.2nm,0.7s,baz=264,slow=3.0,SNR=15
KURK Kurchatov 141.08 31 **PKPdf** **20 38 56.3 +0.7**
KURBB Kurchatov Arra 141.10 32 PKhKP PKPpre 20 38 50.0
comp=Z,0.4nm,0.6s,baz=307,slow=2.8,SNR=6.2
KURBB PKP **PKPdf** **20 38 56.6 +1.0**
comp=Z,1.3nm,0.8s,baz=301,slow=3.0,SNR=12
ZAA0 Zalesovo Array 141.47 24 **PKPdf** **20 38 56.0 -0.2**
ZALV Zalesovo Beam 141.47 24 PKP **PKPdf** **20 38 55.7 -0.5**
comp=Z,7.8nm,0.7s,baz=292,slow=2.9,SNR=36
AAK Ala-Archa 143.07 45 PKP **PKPdf** **20 38 58.7 -1.0**
comp=Z,0.8nm,0.3s,baz=193,slow=2.9,SNR=8.3
NIL Nilore 145.14 60 **PKPbc** **20 39 02.5 -0.5**
MAKZ Makanchi 145.29 34 PKPbc **PKPbc** **20 39 02.8 -0.2**
KSH Kashi 145.39 49 *e*PKPbc **PKPab** **20 39 04.1 +0.2**
KSH pPKP pPKPdf 20 39 15.1 +1.4
MK31 Makanchi Array 145.47 34 **PKPdf** **20 39 03.5 0.0**
MKAR Makanchi Array 145.47 34 PKPbc **PKPab** **20 39 03.7 -0.1**
comp=Z,16nm,0.8s,baz=336,slow=2.7,SNR=120
TARG Taragay, Kyrgy 145.67 44 **PKPab** **20 39 05.4 +0.2**
TLY Talaya 148.39 7 PKPbc **PKiKP** **20 39 13.1 -0.3**
comp=Z,3.8nm,0.5s,baz=252,slow=5.8,SNR=2.7
TLY Talaya 148.39 7 **PKPbc** **20 39 12.4 +0.6**
USRK Ussuriysk Ar. 149.84 327 PKPbc **PKiKP** **20 39 16.4 -0.2**
comp=Z,7.5nm,0.8s,baz=283,slow=0.5,SNR=15
WMQ Urumqi 150.28 33 *e*PKPbc **PKPdf** **20 39 11.0 -0.6**
MJAR Matsushiro Arr 150.33 309 PKPbc **PKiKP** **20 39 17.6 -0.2**
comp=Z,7.4nm,0.7s,baz=123,slow=1.2,SNR=17
MAJO Matsushiro 150.33 309 **PKPbc** **20 39 16.4 -0.6**
MAT Matsushiro 150.33 309 PKP **PKPbc** **20 39 16.7 -0.4**
MJB9 Matsu-Tunnel 150.34 309 **PKPbc** **20 39 17.2 +0.1**
HYB Hyderabad 150.43 90 *i* PKP **PKPbc** **20 39 17.5 -0.4**
SONM Songino Array 152.47 5 PKP **PKPdf** **20 39 16.0 +1.1**
comp=Z,1.5nm,0.8s,baz=220,slow=1.5,SNR=7.5
SONM PKPbc **PKiKP** **20 39 22.3 +0.2**
comp=Z,4.1nm,0.8s,baz=311,slow=1.3,SNR=18
SONM pPKPbc **PKPab** **20 39 33.0 +1.0**
comp=Z,4.6nm,0.8s,baz=325,slow=3.2,SNR=9.7
KSRS Korea Array 156.72 321 PKP **PKPdf** **20 39 21.9 +1.0**
comp=Z,1.6nm,0.9s,baz=63,slow=1.7,SNR=5.7
GTA Gaotai 159.21 22 ⇑PKP **PKPdf** **20 39 25.0 +0.9**
GTA pPKP sPKPdf 20 39 37.0 -0.5
GTA sPKP 20 39 42.2
GTA PKPab **PKPab** **20 40 00.3 -0.8**
GTA LR LR
comp=Z,62nm,18.1s
GTA LR LR
comp=Z,66nm,19.4s
GTA LR LR
comp=Z,90nm,19.4s
HHC Hu-ho-hao-te 159.52 356 *e*PKP **PKPdf** **20 39 23.4 -1.0**
LZH Lanzhou 163.52 17 *e*PKP **PKPdf** **20 39 30.5 +1.7**
LZH pPKP sPKPdf 20 39 40.6 -1.6
LZH sPKP 20 39 45.9
LZH LR LR
comp=Z,130nm,17.3s
LZH LR LR
comp=Z,140nm,16.9s
LZH LR LR
comp=Z,150nm,18.3s
NJ2 Nanjing 165.75 327 *e*PKP **PKPdf** **20 39 30.8 +0.2**
CD2 Chengdu 168.23 26 PKP **PKPdf** **20 39 31.3 -1.3**
CMAR Chiang Mai Arr 169.70 99 PKP **PKPdf** **20 39 34.0 +0.2**
comp=Z,0.9nm,0.8s,baz=270,slow=0.9,SNR=6.1
CMAR PKPab **PKPab** **20 40 47.4 -0.5**
comp=Z,0.2nm,0.3s,baz=269,slow=6.0,SNR=1.9

*NNC **05** 20:22:14.6±0.3, 43.22°N×77.97°E, h0km, mb2.8, mpv2.9,*
Error ellipse: s-maj=3.1km s-min=1.5km az=177.0
*KRNET **05** 20:22:15.4±0.1, 43.20°N×77.95°E, h21km, mb2.7*
*SOME **05** 20:22:15.2, 43.22°N×78.00°E, h20km*
ISC 05 20:22:15.4±0.9, **43°20N**±0.0°**02**×**77°96E**±0.0°**01**, **h13**km±8km,
n67, σ**0°90**/126, **24C-37D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KURS	**Kuram**	**0.33**	**29**	*e*P		**Pg**		**20 22 21.9**	**-0.1**
	3.0nm,0.1s								
KURS				*e*S		**Sg**		**20 22 26.8**	**+0.3**
	32nm,0.1s								
SATY	**Saty**	**0.36**	**113**	⇓*i*P		**Pg**		**20 22 22.5**	**-0.1**
	30nm,0.1s								
SATY				⇑*i*S		**Sg**		**20 22 27.8**	**+0.3**
	673nm,0.1s								
SATY	**Saty**	**0.36**	**113**	P		**Pg**		**20 22 22.6**	**-0.1**
	30nm,0.1s								
SATY				S		**Sg**		**20 22 27.8**	**+0.3**
	673nm,0.1s								
ANVS	**Anan'yevo**	**0.47**	**207**	⇓*e*P		**Pg**		**20 22 24.5**	**-0.2**
	baz=7.0								
ANVS				⇓*i*S		**Sg**		**20 22 31.2**	**+0.2**
	baz=7.0								
KOTS	**Kotyrbulak**	**0.62**	**273**	⇑*i*P		**Pg**		**20 22 27.4**	**0.0**
	baz=74								
KOTS				⇑*i*S		**Sg**		**20 22 36.5**	**+0.8**
	baz=74								
KOTS	**Kotyrbulak**	**0.62**	**273**	⇑*i*P		**Pg**		**20 22 27.4**	**0.0**
	24nm,0.2s								
KOTS				⇑*i*S		**Sg**		**20 22 36.5**	**+0.8**
	122nm,0.4s								
KOTS	**Kotyrbulak**	**0.62**	**273**	P		**Pg**		**20 22 27.4**	**0.0**
	24nm,0.2s								
KOTS				S		**Sg**		**20 22 36.5**	**+0.8**
	121nm,0.3s								
MDOK	**Medeo**	**0.67**	**267**	⇓*i*P		**Pg**		**20 22 27.8**	**-0.5**
	baz=68								
MDOK				⇓*i*S		**Sg**		**20 22 37.1**	**0.0**
	baz=68								
MDOK	**Medeo**	**0.67**	**267**	⇓*i*P		**Pg**		**20 22 27.8**	**-0.5**
	2.0nm,0.1s								
MDOK				⇓*i*S		**Sg**		**20 22 37.1**	**0.0**
	13nm,0.2s								
MDOK	**Medeo**	**0.67**	**267**	⇑P		**Pg**		**20 22 27.4**	**-0.9**
	0.3nm,0.2s								
MDOK				⇑S		**Sg**		**20 22 37.1**	**0.0**
	3.2nm,0.2s								
MDOK	**Medeo**	**0.67**	**267**	Pg		**Pg**		**20 22 27.8**	**-0.5**
	1.8nm,0.1s								
MDOK				Lg		Lg		20 22 37.0	
	14nm,0.2s								
TNSS	**Tian-Shan**	**0.76**	**258**	⇓*e*P		**Pb**		**20 22 29.7**	**-1.0**
	baz=58								
TNSS				⇓*e*S		**Sb**		**20 22 40.0**	**-1.1**
	baz=58								
TNSS	**Tian-Shan**	**0.76**	**258**	⇓*e*P		**Pb**		**20 22 29.6**	**-1.0**
	1.9nm,0.1s								
TNSS				⇓*e*S		**Sb**		**20 22 39.9**	**-1.1**
	21nm,0.4s								
TNSS	**Tian-Shan**	**0.76**	**258**	P		**Pb**		**20 22 29.6**	**-1.0**
	1.5nm,0.1s								
TNSS				S		**Sb**		**20 22 40.0**	**-1.1**
	20nm,0.3s								
UZB	**Uzynbulak**	**0.78**	**94**	⇑*i*P		**Pb**		**20 22 29.4**	**-1.6**
	2.9nm,0.1s								
UZB				⇑*i*S		**Sb**		**20 22 39.6**	**-1.9**
	38nm,0.1s								
UZB	**Uzynbulak**	**0.78**	**94**	P		**Pb**		**20 22 29.4**	**-1.6**
	3.0nm,0.1s								
UZB				S		**Sb**		**20 22 39.6**	**-1.9**
	28nm,0.1s								
PRZ	**Przheval'sk**	**0.79**	**155**	⇓*i*P		**Pg**		**20 22 31.1**	**+0.4**
	baz=54								
PRZ				⇓*i*S		**Sg**		**20 22 41.2**	**+0.1**
	baz=54								
MNBS	**Baschi**	**0.93**	**20**	⇓*i*P		**Pb**		**20 22 32.9**	**-0.6**
	9.8nm,0.1s								
MNBS				⇓*i*S		**Sg**		**20 22 45.6**	**0.0**
	89nm,0.1s								
MNBS	**Baschi**	**0.93**	**20**	P		**Pb**		**20 22 32.9**	**-0.6**
	9.6nm,0.1s								
MNBS				S		**Sg**		**20 22 45.6**	**0.0**
	89nm,0.1s								
CHKK	**Chushkaly**	**0.96**	**313**	⇑*i*P		**Pb**		**20 22 33.2**	**-0.7**
	baz=14								
CHKK				⇓*i*S		**Sb**		**20 22 33.2**	**-0.5**
	baz=14								
CHKK	**Chushkaly**	**0.96**	**313**	⇑*i*P		**Pb**		**20 22 33.2**	**-0.7**
	5.8nm,0.2s								
CHKK				⇓*i*S		**Sb**		**20 22 46.0**	**-0.5**
	77nm,0.3s								
CHKK	**Chushkaly**	**0.96**	**313**	P		**Pb**		**20 22 33.2**	**-0.7**
	3.6nm,0.3s								
CHKK				S		**Sb**		**20 22 46.0**	**-0.5**
	71nm,0.3s								
IZV	**Izvestkoviy**	**1.00**	**261**	*e*P		**Pb**		**20 22 34.2**	**-0.5**
	baz=61								
IZV				*e*S		**Sb**		**20 22 47.8**	**0.0**
	baz=61								
IZV	**Izvestkoviy**	**1.00**	**261**	*e*P		**Pb**		**20 22 34.2**	**-0.5**
	1.9nm,0.1s								
IZV				*e*S		**Sb**		**20 22 47.8**	**0.0**
	25nm,0.5s								
IZV	**Izvestkoviy**	**1.00**	**261**	P		**Pb**		**20 22 34.2**	**-0.5**
	1.9nm,0.1s								
IZV				S		**Sb**		**20 22 47.8**	**0.0**
	25nm,0.5s								
ARXS	**Arharly**	**1.01**	**355**	⇑*i*P		**Pb**		**20 22 34.0**	**-0.9**
	20nm,0.2s								
ARXS				⇑*i*S		**Sb**		**20 22 47.5**	**-0.6**
	59nm,0.2s								
ARXS	**Arharly**	**1.01**	**355**	P		**Pb**		**20 22 33.9**	**-0.9**
	20nm,0.2s								
ARXS				S		**Sb**		**20 22 47.3**	**-0.8**
	59nm,0.2s								
KTBS	**Karatobe**	**1.06**	**299**	⇓*i*P		**Pb**		**20 22 35.0**	**-0.6**
	3.1nm,0.2s								
KTBS				⇓*e*S		**Sb**		**20 22 49.2**	**-0.2**
	60nm,0.3s								
KTBS	**Karatobe**	**1.06**	**299**	P		**Pb**		**20 22 35.0**	**-0.6**
	3.1nm,0.2s								
KTBS				S		**Sb**		**20 22 49.1**	**-0.2**
	60nm,0.2s								
SHLS	**Shalkode**	**1.10**	**92**	⇓*i*P		**Pg**		20 22 41.2	+4.6
	baz=91								
SHLS				⇓*i*S		Sg		20 22 59.8	+8.8
	baz=91								
SHLS	**Shalkode**	**1.10**	**92**	⇓*i*P		**Pg**		**20 22 41.1**	**+4.5**
	9.3nm,0.2s								
SHLS				⇓*i*S		Sg		20 22 59.7	+8.8
	29nm,0.3s								
SHLS	**Shalkode**	**1.10**	**92**	P		**Pg**		**20 22 40.7**	**+4.1**
	9.6nm,0.2s								
SHLS				S		Sg		20 22 59.7	+8.7
	27nm,0.3s								
MTBS	**Maitube**	**1.12**	**267**	*e*P		**Pn**		**20 22 36.3**	**-0.6**
	baz=67								
MTBS				*e*S		**Sn**		**20 22 51.4**	**-0.8**
	baz=67								
MTBS	**Maitube**	**1.12**	**267**	*e*P		**Pn**		**20 22 36.3**	**-0.6**
	3.9nm,0.1s								
MTBS				*e*S		**Sn**		**20 22 51.4**	**-0.8**
	11nm,0.3s								
PDGK	**Podgornoye**	**1.13**	**83**	P		**Pb**		**20 22 35.4**	**-1.5**
	1.9nm,0.1s								
PDGK				S		**Sb**		**20 22 49.9**	**-1.6**
	5.6nm,0.1s								
PDGK	**Podgornoye**	**1.13**	**83**	⇓P		**Pb**		**20 22 35.2**	**-1.6**
	0.5nm,0.2s								
PDGK				⇑S		**Sb**		**20 22 50.6**	**-0.9**
	2.0nm,0.2s								
KDJ	**Kajisay**	**1.22**	**208**	⇑*i*P		**Pn**		**20 22 37.6**	**-0.7**
	baz=8.0								
KDJ				⇑*i*S		**Sb**		**20 22 53.5**	**-0.6**
	baz=8.0								
KUU	**Kurty**	**1.36**	**301**	*e*P		**Pn**		**20 22 40.1**	**-0.1**
	baz=1.0								
KUU				*e*S		**Sb**		**20 22 57.9**	**-0.3**
	baz=1.0								
KUU	**Kurty**	**1.36**	**301**	*e*P		**Pn**		**20 22 40.1**	**-0.1**
	3.1nm,0.2s								
KUU				*e*S		**Sb**		**20 22 57.9**	**-0.3**
	37nm,0.2s								
KUU	**Kurty**	**1.36**	**301**	P		**Pn**		**20 22 40.1**	**-0.1**
	3.1nm,0.2s								
KUU				S		**Sb**		**20 22 57.9**	**-0.3**
	37nm,0.2s								
KST	**Kastek**	**1.47**	**264**	*e*P		**Pb**		**20 22 42.3**	**-0.4**
	baz=65								
KST				*e*S		**Sb**		**20 23 02.1**	**+0.8**
	baz=65								
KST	**Kastek**	**1.47**	**264**	*e*P		**Pb**		**20 22 42.3**	**-0.4**
	2.2nm,0.1s								
KST				*e*S		**Sb**		**20 23 02.1**	**+0.8**
	8.3nm,0.5s								
KST	**Kastek**	**1.47**	**264**	P		**Pb**		**20 22 42.2**	**-0.4**
	2.3nm,0.2s								
KST				S		**Sb**		**20 23 01.6**	**+0.3**
	7.7nm,0.5s								
TARG	**Taragay, Kyrgy**	**1.48**	**184**	⇓*i*P		**Pb**		**20 22 42.4**	**-0.6**
	baz=84								
TARG				⇓*i*S		**Sb**		**20 23 01.5**	**-0.3**
	baz=84								
ULHL	**Ulahol**	**1.58**	**233**	⇓*i*P		**Pb**		**20 22 44.1**	**-0.6**
	baz=34								
ULHL				⇓*i*S		**Sb**		**20 23 04.7**	**0.0**
	baz=34								
DGS	**Degeres**	**1.60**	**272**	*e*P		**Pb**		**20 22 44.5**	**-0.3**
	baz=72								
DGS				*e*S		**Sb**		**20 23 05.5**	**+0.5**
	baz=72								
DGS	**Degeres**	**1.60**	**272**	*e*P		**Pb**		**20 22 44.5**	**-0.3**
	0.7nm,0.1s								
DGS				*e*S		**Sb**		**20 23 05.5**	**+0.5**
	11nm,0.4s								
DGS	**Degeres**	**1.60**	**272**	P		**Pb**		**20 22 44.5**	**-0.3**
	0.7nm,0.1s								
DGS				S		**Sb**		**20 23 05.5**	**+0.5**
	11nm,0.4s								
BOOM	**Boomskoye usch**	**1.65**	**245**	⇑*i*P		**Pb**		**20 22 45.3**	**-0.4**
	baz=45								
BOOM				⇑*i*S		**Sb**		**20 23 06.6**	**+0.2**
	baz=45								
KRBS	**Karabastau**	**1.73**	**287**	*e*P		**Pb**		**20 22 46.3**	**-0.8**
	1.1nm,0.2s								
KRBS				*e*S		**Sb**		**20 23 08.9**	**+0.1**
	8.0nm,0.2s								
KRBS	**Karabastau**	**1.73**	**287**	P		**Pb**		**20 22 46.3**	**-0.8**
	1.1nm,0.2s								
KRBS				S		**Sb**		**20 23 08.9**	**+0.1**
	8.0nm,0.2s								
DJR	**Jarkent**	**1.74**	**49**	*e*P		**Pb**		**20 22 46.5**	**-0.8**
	7.3nm,0.2s								
DJR				*e*S		**Sb**		**20 23 09.2**	**0.0**
	14nm,0.2s								
DJR	**Jarkent**	**1.74**	**49**	P		**Pb**		**20 22 46.4**	**-0.9**
	5.5nm,0.2s								
DJR				S		**Sb**		**20 23 08.8**	**-0.4**
	16nm,0.2s								
TKM2	**Tokmak 2**	**1.75**	**262**	⇓*e*P		**Pb**		**20 22 47.4**	**-0.1**
	baz=62								
TKM2				⇓*i*S		**Sb**		**20 23 10.0**	**+0.5**
	baz=62								
TKM2	**Tokmak 2**	**1.75**	**262**	⇓P		**Pb**		**20 22 47.7**	**+0.2**
	0.4nm,0.2s								
TKM2				⇓S		**Sg**		**20 23 11.3**	**-0.4**
	1.5nm,0.2s								
KTMS	**Ketmen**	**1.77**	**81**	*e*P		**Pb**		**20 22 46.9**	**-0.8**
	1.9nm,0.1s								
KTMS				*e*S		**Sb**		**20 23 09.6**	**-0.3**
	15nm,0.2s								
KTMS	**Ketmen**	**1.77**	**81**	P		**Pb**		**20 22 46.9**	**-0.8**
	0.7nm,0.1s								
KTMS				S		**Sb**		**20 23 09.5**	**-0.3**
	12nm,0.2s								
TDK	**Taldyqorghan**	**1.83**	**10**	*e*P		**Pb**		**20 22 48.1**	**-0.6**
	21nm,0.3s								
TDK				*e*S		**Sb**		**20 23 11.8**	**+0.2**
	66nm,0.4s								
TDK	**Taldyqorghan**	**1.83**	**10**	P		**Pb**		**20 22 48.1**	**-0.6**
	18nm,0.3s								
TDK				S		**Sb**		**20 23 11.6**	**0.0**
	66nm,0.5s								
KBK	**Karagaybulak**	**2.28**	**257**	⇑*e*P		**Pn**		**20 22 54.1**	**+1.2**

KAPS					*e*S		**Sb**	**20 23 25.3**	**-0.2**
	8.1nm,0.3s									
KAPS	**Kapalarasan**	**2.31**	**25**	Pg			**Pb**	**20 22 56.2**	**-0.7**
	2.3nm,0.3s									
KAPS					Lg		Lg	20 23 26.2		
	7.9nm,0.2s									
CHMS	**Chumysh**	**2.36**	**266**	⇓	*e*P		**Pn**	**20 22 55.1**	**+1.3**
	baz=66									
CHMS					⇓ *i* S		**Sn**	**20 23 23.3**	**+0.6**
	baz=66									
AAK	**Ala-Archa**	**2.60**	**259**	⇑	Lg		Lg	20 23 39.7		
	3.5nm,0.5s									
UCH	**Uchtor**	**2.72**	**250**	⇑	*e*P		**Pn**	**20 23 00.4**	**+1.2**
	baz=50									
UCH				⇑	*i* S		**Sn**	**20 23 32.3**	**+0.1**
	baz=50									
MK31	**Makanchi Array**	**4.73**	**39**	⇑	Pn		**Pn**	**20 23 26.5**	**+0.1**
	0.1nm,0.3s									
MK31				⇓	Sn		**Sn**	**20 24 20.3**	**-0.8**
	0.3nm,0.3s									
MK31					Lg		Lg	20 24 40.9		
	0.1nm,0.3s,baz=216,slow=29,SNR=4.9									

*BJI **05** 20:38:57.7±0.0,37.65N×75.16E,h8km,mb3.9/4,ML3.8/3, Ms3.4/2,Ms7 3.2/2*
*NNC **05** 20:38:58.3±11.0,36.99N×74.05E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=116.0km s-min=82.7km az=117.0*
*IDC **05** 20:39:06.1±3.5,37.66N×75.16E,h63km±29km,mb3.5/10, mb1 3.5/16,mb1mx3.3/49,mbtmp3.7/16,ML3.3/5,MS3.0/1, Ms1 3.2/1,ms1mx2.4/42,Error ellipse: s-maj=25.8km s-min=19.4km az=146.0*

ISC 05 20:38:58.8±0.6,37.47N±0.05×75.12E±0.07,h10km,n34, σ1ᵗ37/37,mb3.9/9,4C-1D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirak Chowk**	**4.09**	**202**	P	**Pb**	**20 40 10.2**	**-0.8**
CEP	**Cherat**	**4.48**	**217**	P	**Pb**	**20 40 14.9**	**-2.8**
AAK	**Ala-Archa**	**5.18**	**355**	P	**Pn**	**20 40 19.7**	**+3.1**
	1.1nm,0.3s,baz=169,slow=9.1,SNR=10						
AAK				S	**Sn**	**20 41 16.5**	**0.0**
	1.4nm,0.3s,baz=201,slow=18,SNR=1.4						
AAK	**Ala-Archa**	**5.18**	**355**	Pn	**Pb**	**20 40 27.9**	**-1.7**
	15nm,0.7s						
AAK				Sn	**Sb**	**20 41 31.5**	**-0.5**
	22nm,0.9s						
THW	**Thamme Wali**	**5.42**	**212**	P	Pb	20 40 26.8	-6.9
TKM2	**Tokmak 2**	**5.46**	**4**	⇑Pn	**Pn**	**20 40 22.0**	**+1.6**
	7.4nm,0.6s						
TKM2				⇑Sn	**Sb**	**20 41 40.1**	**+0.2**
	14nm,0.7s						
MDOK	**Medeo**	**5.87**	**14**	Pn	**Pb**	**20 40 38.5**	**-2.9**
	8.0nm,0.6s						
MDOK				⇓Sn	**Sb**	**20 41 53.4**	**+1.6**
	51nm,1.2s						
KK31	**Karatay Array**	**6.63**	**329**	⇑Pn	**Pn**	**20 40 38.6**	**+2.2**
	1.1nm,0.3s,baz=133,slow=12,SNR=17						
KK31				⇑Sn	**Sn**	**20 41 53.0**	**+1.0**
	2.7nm,0.4s,baz=149,slow=22,SNR=6.4						
MKAR	**Makanchi Array**	**10.72**	**27**	P	**Pn**	**20 41 32.4**	**0.0**
	0.2nm,0.3s,baz=216,slow=14,SNR=3.5						
PYUN	**Piuthan**	**11.45**	**142**	*e*P	**Pn**	**20 41 44.5**	**+1.9**
	42nm,0.4s						
WMQ	**Urumqi**	**11.46**	**52**	*e*P	**Pn**	**20 41 43.1**	**+0.5**
DANN	**Dangsing**	**11.63**	**139**	*e*P	**Pn**	**20 41 44.9**	**-0.3**
	8.8nm,0.4s						
KOLN	**Koldanda**	**12.02**	**141**	*e*P	**Pn**	**20 41 51.9**	**+1.4**
	7.4nm,0.4s						
GKN	**Gorkha**	**12.38**	**137**	*e*P	**Pn**	**20 41 55.1**	**-0.2**
	6.5nm,0.2s						
PKIN	**Phulchoki**	**13.13**	**136**	*e*P	**Pn**	**20 42 05.0**	**-0.6**
PKI	**Pulchoki**	**13.14**	**136**	*e*P	**Pn**	**20 42 05.6**	**-0.2**
	9.2nm,0.6s						
KURBB	**Kurchatov Arra**	**13.37**	**9**	P	**Pn**	**20 42 10.5**	**+1.9**
	0.0nm,0.3s,baz=197,slow=12,SNR=2.7						
JIRN	**Jiri**	**13.51**	**133**	*e*P	**Pn**	**20 42 11.5**	**+0.5**
BVAR	**Borovoye Array**	**15.90**	**350**	P	**Pn**	**20 42 41.8**	**-0.8**
	0.2nm,0.3s,baz=161,slow=9.2,SNR=2.2						
ZALV	**Zalesovo Beam**	**17.79**	**19**	P	**Pn**	**20 43 05.1**	**-1.3**
	0.3nm,0.3s,baz=209,slow=11,SNR=6.3						
AKTO	**Aktyubinsk**	**17.82**	**322**	P	**Pn**	**20 43 06.7**	**-0.1**
	0.2nm,0.3s,baz=132,slow=14,SNR=2.2						
GTA	**Gaotai**	**19.43**	**77**	*e*P	**Pn**	**20 43 28.1**	**+1.5**
GTA				pP	sP	20 43 33.5	+1.9
GTA				sP	pP	20 43 36.5	+6.8
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WSAR	**Wadi Sarin**	**20.05**	**230**	P	**Pn**	**20 43 36.4**	**+2.5**
	2.0nm,0.6s,baz=48,slow=2.8,SNR=4.9						
ARU	**Arti**	**21.97**	**335**	P	**P**	**20 43 52.6**	**0.0**
	0.6nm,0.5s,baz=156,slow=12,SNR=2.6						
SONM	**Songino Array**	**25.07**	**56**	P	**P**	**20 44 23.9**	**+0.4**
	3.3nm,0.7s,baz=258,slow=9.1,SNR=14						
CMAR	**Chiang Mai Arr**	**28.18**	**126**	LR	LR	20 59 12.5	
	comp=Z,30nm,19.4s,baz=225,slow=43						
BRTR	**Keskin Array B**	**32.29**	**287**	P	**P**	**20 45 28.5**	**+0.6**
	0.9nm,0.6s,baz=78,slow=6.4,SNR=4.9						
FINES	**FINESS Array B**	**38.57**	**324**	P	**P**	**20 46 21.5**	**+0.1**
	1.9nm,0.6s,baz=115,slow=8.0,SNR=13						
ARCES	**ARCESS Array B**	**41.55**	**336**	P	**P**	**20 46 45.6**	**-0.5**
	1.4nm,0.6s,baz=106,slow=8.9,SNR=7.3						
NB2	**NORSAR Subarra**	**45.61**	**322**	P	**P**	**20 47 18.4**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=91,slow=7.9						
NOA	**NORSAR Array B**	**45.61**	**322**	P	**P**	**20 47 18.6**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=92,slow=7.6,SNR=6.4						
ESDC	**Sonseca Array**	**59.90**	**299**	P	**P**	**20 49 05.3**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=57,slow=7.3,SNR=1.7						
TORD	**Torodi Ar. Bea**	**69.02**	**271**	P	**P**	**20 50 04.9**	**0.0**
	comp=Z,2.0nm,0.7s,baz=46,slow=5.7,SNR=20						
YKA	**Yellowknife Ar**	**80.07**	**5**	P	**P**	**20 51 07.5**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=346,slow=5.4,SNR=4.3						

*NEIC **05** 20:47:18.2±3.6,51.4N±0.1×171.09W±0.09,h37km±16km, Error ellipse: s-maj=20.4km s-min=6.9km az=166.0*

AEIC 05 20:47:21±1.7,52.1N±0.2×171.3W±0.1,h26km±8km,ML3.4, Error ellipse: s-maj=24.4km s-min=4.3km az=160.0,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.71**	**280**		Pn	20 47 50.2	+1.1
KOFP	**Korovin Flat P**	**1.73**	**278**		Pn	20 47 49.9	+0.5
NIKH	**Nikolski High**	**1.75**	**58**		Pn	20 47 49.4	-0.3
NIKH					Sn	20 48 11.5	+0.3
KONE	**Korovin Northe**	**1.75**	**282**		Pn	20 47 50.5	+0.7
ATKA	**Atka Island**	**1.78**	**275**		Pn	20 47 50.0	-0.1
OKSP	**Okmok Steeple**	**2.19**	**56**		Pn	20 47 56.3	+0.6
OKCE	**Okmok Cone E**	**2.35**	**53**		Pn	20 47 59.0	+1.1
OKNC	**Okmok New Cone**	**2.38**	**53**		Pn	20 48 00.0	+1.7
OKFG	**Magazine Ridge**	**2.46**	**56**		Pn	20 48 00.7	+1.2
OKFG					Sn	20 48 30.2	+1.5
GSMY	**Great Sitkin M**	**2.93**	**271**		Pn	20 48 06.8	+1.0
GSTR	**Great Sitkin T**	**2.93**	**272**		Pn	20 48 07.3	+1.4
GSTD	**Great Sitkin T**	**2.98**	**272**		Pn	20 48 07.4	+0.7
GSTD					Sn	20 48 42.5	+0.8
MREP	**Makushin Rep't**	**3.27**	**56**		Pn	20 48 12.6	+2.1
MSW	**Makushin Switc**	**3.30**	**54**		Pn	20 48 12.8	+1.8
ADK	**Adak**	**3.33**	**269**		Pn	20 48 11.6	+0.3
ADK	**Adak**	**3.33**	**269**	Pn	Pn	20 48 11.4	+0.1
MNAT	**Makushin Natee**	**3.33**	**55**		Pn	20 48 13.1	+1.6
UNV	**Unalaska Valle**	**3.41**	**57**		Pn	20 48 14.1	+1.6
KIWB	**Kanaga Island**	**3.62**	**269**		Pn	20 48 09.8	-5.5
KICM	**Kanaga Island**	**3.64**	**270**		Pn	20 48 17.0	+1.4
KIMD	**Kanaga Island**	**3.68**	**267**		Pn	20 48 17.7	+1.6
AKRB	**Akutan Reef Bi**	**3.77**	**55**		Pn	20 48 19.1	+1.6
ZRO	**Akutan Zero**	**3.80**	**56**		Pn	20 48 19.8	+1.9
AHB	**Akutan Harbor**	**3.90**	**56**		Pn	20 48 20.6	+1.4
AKUT	**Akutan**	**3.93**	**56**		Pn	20 48 21.6	+2.1
AKSA	**Akutan Strait**	**3.97**	**56**		Pn	20 48 21.9	+1.8
SPIA	**Saint Paul Isl**	**5.15**	**6**	Pn	Pn	20 48 39.0	+2.6
FALS	**False Pass**	**5.48**	**56**	Pn	Pn	20 48 41.3	+0.5
CESW	**Semis' Southwe**	**5.64**	**272**		Pn	20 48 44.6	+1.5
AMKA	**Amchitka**	**5.87**	**267**		Pn	20 48 47.4	+1.1
FID	**Port Fidalgo**	**16.16**	**48**	Pn	Pn	20 51 03.7	-2.5
HYT	**Haines Junctio**	**20.42**	**51**	P	Pn	20 51 57.6	-0.7

*ISK **05** 21:04:53.2,38.65N×43.11E,h5km,ML3.8/30*
*NSSP **05** 21:04:53.7,38.65N×43.08E,h10km,Ms3.7*
*TEH **05** 21:04:54.5,38.66N×43.11E,h11km,ML3.6*

*DDA **05** 21:04:54.0,38.65N×43.08E,h10km±2km,MW3.9*
*IDC **05** 21:04:58.2±3.0,38.50N×43.08E,h35km±27km,mb3.5/13, mb1 3.5/19,mb1mx3.4/53,mbtmp3.6/19,ML3.0/6,MS2.9/5, Ms1 2.9/5,ms1mx2.5/46,Error ellipse: s-maj=19.5km s-min=12.6km az=150.0*

ISC 05 21:04:54.8±1.0,38.62N±0.02×43.08E±0.02,h8km±7km, n128,σ1ᵗ14/149,mb3.6/12,10D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.25**	**95**	P	**Pg**	**21 04 59.9**	**+0.2**
VANB				S	**Sg**	**21 05 04.6**	**+1.6**
VANB	**Van**	**0.25**	**95**	*e*Pg	**Pg**	**21 04 59.9**	**+0.2**
TVAN	**Van**	**0.27**	**109**	*i* P	**Pg**	**21 04 59.8**	**-0.5**
TVAN				*i* S	**Sg**	**21 05 03.3**	**-0.7**
AKDM	**Akdamar-Van**	**0.30**	**195**	PG	**Pb**	**21 05 01.1**	**-1.4**
AKDM	**Akdamar-Van**	**0.30**	**195**	*e*Pg	**Pg**	**21 05 00.7**	**0.0**
GEVA	**Gevas**	**0.30**	**183**	*i* P	**Pb**	**21 05 01.3**	**-1.4**
GEVA				*i* S	**Sb**	**21 05 06.5**	**-1.4**
GEVA				IAML		21 05 09.0	
	comp=E,8μm,0.6s						
GEVA				IAML		21 05 10.0	
	comp=N,6μm,0.9s						
GEVA	**Gevas**	**0.30**	**183**	*e*Pg	**Pb**	**21 05 01.2**	**-1.4**
ERCV	**ERCIS-VAN**	**0.45**	**27**	PG	**Pg**	**21 05 02.3**	**-1.3**
ERCV	**ERCIS-VAN**	**0.45**	**27**	*e*Pg	**Pg**	**21 05 02.3**	**-1.3**
VMUR	**Van-Muradiye**	**0.54**	**46**	*i* P	**Pg**	**21 05 04.3**	**-1.0**
VMUR				*i* S	**Sg**	**21 05 11.6**	**-0.7**
VMUR				IAML		21 05 14.0	
	comp=E,9μm,0.3s						
VMUR				IAML		21 05 15.0	
	comp=N,12μm,0.6s						
VMUR	**Van-Muradiye**	**0.54**	**46**	*e*Pg	**Pg**	**21 05 04.2**	**-1.0**
MLAZ	**Malazgirt-MUS**	**0.67**	**322**	PG	**Pb**	**21 05 07.7**	**-1.1**
MLAZ	**Malazgirt-MUS**	**0.67**	**322**	*e*Pg	**Pb**	**21 05 07.8**	**-1.1**
BLIS	**Bitlis-Merkez**	**0.78**	**255**	*i* P	**Pb**	**21 05 10.0**	**-0.7**
BLIS				*i* S	**Sb**	**21 05 21.0**	**-0.6**
BLIS				IAML		21 05 27.0	
	comp=N,4μm,0.5s						
BLIS				IAML		21 05 28.0	
	comp=E,3μm,0.3s						
BLIS	**Bitlis-Merkez**	**0.78**	**255**	*e*Pg	**Pb**	**21 05 10.0**	**-0.7**
GURO	**Guroymak-BITLI**	**0.82**	**266**	PG	**Pb**	**21 05 10.8**	**-0.6**
GURO	**Guroymak-BITLI**	**0.82**	**266**	*e*Pg	**Pb**	**21 05 10.5**	**-0.9**
CLDR	**Caldiran**	**0.84**	**51**	PG	**Pg**	**21 05 09.6**	**-1.4**
CLDR				SG	**Sg**	**21 05 21.9**	**0.0**
CLDR	**Caldiran**	**0.84**	**51**	*i* P	**Pg**	**21 05 09.2**	**-1.7**
CLDR				*i* S	**Sg**	**21 05 21.3**	**-0.7**
CLDR				IAML		21 05 26.0	
	comp=N,2μm,0.4s						
CLDR				IAML		21 05 26.0	
	comp=E,2μm,0.4s						
CLDR	**Caldiran**	**0.84**	**51**	*e*Pg	**Pg**	**21 05 09.5**	**-1.4**
BASK	**Baskale_VAN**	**0.92**	**127**	*i* P	**Pg**	**21 05 11.6**	**-0.9**
BASK				*i* S	**Sb**	**21 05 25.3**	**-0.3**
AGRB	**Hanur-Agry**	**0.96**	**356**	PG	**Pg**	**21 05 11.9**	**-1.4**
AGRB	**Hanur-Agry**	**0.96**	**356**	*e*Pg	**Pg**	**21 05 11.8**	**-1.5**
DYDN	**Diyadin**	**1.04**	**27**	*i* P	**Pg**	**21 05 12.6**	**-2.2**
DYDN				IAML		21 05 34.0	
	comp=E,2μm,0.6s						
DYDN				IAML		21 05 35.0	
	comp=N,2μm,0.9s						
DYDN	**Diyadin**	**1.04**	**27**	*e*Pg	**Pg**	**21 05 12.6**	**-2.2**
SRTM	**Siirt_Merkez**	**1.10**	**236**	*i* P	**Pn**	**21 05 16.8**	**+0.1**
SRTM				*i* S	**Sn**	**21 05 33.5**	**+1.4**
SRTM				IAML		21 05 38.0	
	comp=E,2μm,0.5s						
SRTM				IAML		21 05 41.0	
	comp=N,2μm,0.5s						
SRTM	**Siirt_Merkez**	**1.10**	**236**	*e*Pg	**Pn**	**21 05 16.8**	**+0.1**
HAKT	**HAKKARI**	**1.17**	**155**	*i* P	**Pg**	**21 05 16.2**	**-1.0**
HAKT				*i* S	**Sn**	**21 05 35.6**	**+1.7**
SIRT	**Sirnak**	**1.22**	**205**	PN	**Pn**	**21 05 18.5**	**+0.1**
SIRT	**Sirnak**	**1.22**	**205**	*e*Pg	**Pn**	**21 05 18.4**	**+0.1**
MUSM	**Mu-Merkez**	**1.23**	**276**	*i* P	**Pg**	**21 05 16.8**	**-1.6**
MUSM				*i* S	**Sn**	**21 05 35.0**	**-0.4**
MUSM				IAML		21 05 38.0	
	comp=E,450nm,0.3s						
MUSM				IAML		21 05 40.0	
	comp=N,606nm,0.6s						
MUSM	**Mu-Merkez**	**1.23**	**276**	*e*Pg	**Pg**	**21 05 16.8**	**-1.6**
EATA	**Eleskirt**	**1.32**	**340**	*i* P	**Pg**	**21 05 18.8**	**-1.4**
EATA				*i* S	**Sb**	**21 05 37.2**	**-0.2**
EATA				IAML		21 05 42.0	
	comp=N,1μm,0.4s						
EATA				IAML		21 05 48.0	
	comp=E,834nm,0.9s						
EATA	**Eleskirt**	**1.32**	**340**	*e*Pg	**Pg**	**21 05 18.8**	**-1.4**
VRTB	**Varto-Mus**	**1.38**	**294**	PN	**Pb**	**21 05 20.6**	**-0.3**
VRTB	**Varto-Mus**	**1.38**	**294**	*i* P	**Pb**	**21 05 21.2**	**+0.3**
VRTB				*i* S	**Sn**	**21 05 40.3**	**+1.3**
VRTB				IAML		21 05 55.0	
	comp=N,948nm,0.5s						
VRTB				IAML		21 05 57.0	
	comp=E,1μm,0.6s						
VRTB	**Varto-Mus**	**1.38**	**294**	*e*Pg	**Pb**	**21 05 20.8**	**-0.1**
IGDI	**IGDIR**	**1.47**	**32**	*i* P	**Pn**	**21 05 20.7**	**-1.1**
IGDI				*i* S	**Sn**	**21 05 43.4**	**+2.1**
IGDI				IAML		21 05 47.0	
	comp=E,474nm,0.7s						
IGDI				IAML		21 05 48.0	
	comp=N,399nm,0.7s						
IGDI	**IGDIR**	**1.47**	**32**	*e*Pg	**Pn**	**21 05 20.6**	**-1.1**
SVAN	**Silvan-Diyarba**	**1.55**	**253**	PN	**Pg**	**21 05 23.9**	**-0.5**
SVAN	**Silvan-Diyarba**	**1.55**	**253**	*i* P	**Pg**	**21 05 24.1**	**-0.4**
SVAN				IAML		21 05 48.0	
	comp=N,880nm,0.6s						
SVAN				IAML		21 05 48.0	
	comp=E,475nm,0.5s						
VNNZ	**Vanand**	**1.59**	**21**	⇓ *i* P	**Pn**	**21 05 23.6**	**+0.2**
VNNZ				⇓ *i* S	**Sb**	**21 05 45.6**	**+0.7**
BTMN	**Batman**	**1.59**	**244**	*i* P	**Pg**	**21 05 25.6**	**+0.2**
BTMN				*i* S	**Sg**	**21 05 48.3**	**+2.2**
TASB	**TASBURUN-IGDIR**	**1.64**	**33**	PN	**Pn**	**21 05 23.9**	**-0.1**
KOPR	**Koprukoy-ERZUR**	**1.67**	**326**	PN	**Pn**	**21 05 24.2**	**-0.4**
METS	**Metsamor**	**1.72**	**27**	⇓ *i* P	**Pn**	**21 05 26.0**	**+0.8**
METS				⇓ *i* S	**Sg**	**21 05 49.7**	**-0.3**
DIGO	**Kars**	**1.81**	**7**	*i* P	**Pb**	**21 05 27.7**	**-0.6**
DIGO				IAML		21 06 02.0	
	comp=N,526nm,0.6s						
DIGO				IAML		21 06 05.0	
	comp=E,500nm,1.0s						
ARUZ	**Aruch**	**1.84**	**25**	⇓ *i* P	**Pn**	**21 05 27.5**	**+0.6**
ARUZ				⇓ *i* S	**Sb**	**21 05 52.3**	**+0.2**
NRKZ	**NAREK**	**1.85**	**41**	⇓ *i* P	**Pn**	**21 05 27.7**	**+0.7**
NRKZ				⇓ *i* S	**Sb**	**21 05 52.5**	**+0.2**
BNGB	**Bingl**	**1.91**	**282**	PN	**Pb**	**21 05 29.0**	**-1.0**
ECAT	**Cat-ERZURUM**	**1.91**	**302**	*i* P	**Pb**	**21 05 29.3**	**-0.7**
ECAT				*i* S	**Sg**	**21 05 57.2**	**+1.0**
ECAT				IAML		21 06 00.0	
	comp=E,226nm,0.6s						
AKDA	**Akdag**	**1.99**	**319**	*i* P	**Pb**	**21 05 30.6**	**-0.8**
KARS	**Kars**	**2.01**	**0**	PN	**Pn**	**21 05 29.2**	**0.0**
SENK	**Senkaya-Erzuru**	**2.02**	**344**	PN	**Pn**	**21 05 29.9**	**+0.5**
EAK	**Akyaka**	**2.11**	**11**	*i* P	**Pb**	**21 05 34.0**	**+0.7**
EAK				IAML		21 06 16.0	
	comp=N,590nm,0.8s						
EAK				IAML		21 06 18.0	
	comp=E,392nm,1.2s						
HANI	**Diyarbakir_Han**	**2.11**	**265**	*i* P	**Pb**	**21 05 32.3**	**-1.1**
HANI				*i* S	**Sg**	**21 06 03.0**	**+0.4**
HANI				IAML		21 06 08.0	
	comp=E,349nm,0.5s						
HANI				IAML		21 06 08.0	
	comp=N,317nm,0.7s						
KAPZ	**Kaputan**	**2.12**	**36**	⇓ *i* P	**Pn**	**21 05 31.1**	**+0.4**
KAPZ				⇓ *i* S	**Sn**	**21 05 58.7**	**+1.4**
YEDI	**Yedisu-Bingol**	**2.14**	**293**	PN	**Pn**	**21 05 32.1**	**+1.2**
EMRE	**Erzurum,Aziziy**	**2.16**	**312**	*i* P	**Pg**	**21 05 35.2**	**-0.9**
EMRE				IAML		21 06 09.0	
	comp=E,521nm,0.5s						
EMRE				IAML		21 06 10.0	
	comp=N,664nm,0.9s						
MARD	**Mardin**	**2.23**	**235**	*i* P	**Pn**	**21 05 33.1**	**+0.9**
MARD				*i* S	**Sg**	**21 06 04.7**	**-1.8**
MARD				IAML		21 06 17.0	
	comp=E,742nm,0.7s						
MARD				IAML		21 06 19.0	
	comp=N,1μm,0.6s						
MAZI	**Mazidag**	**2.38**	**242**	PN	**Pn**	**21 05 35.0**	**+0.8**
DIYA	**Diyarbakir**	**2.43**	**254**	*i* P	**Pn**	**21 05 36.3**	**+1.4**
DIYA				*i* S	**Sb**	**21 06 09.0**	**+0.2**
ITBZ	**Tabriz**	**2.44**	**98**	*e*Pn	**Pn**	**21 05 35.6**	**+0.4**
KOPT	**Kop Dagi**	**2.44**	**306**	*i* P	**Pg**	**21 05 40.5**	**-1.0**
KOPT				*i* S	**Sb**	**21 06 10.4**	**+0.9**
IAZR	**Azarshahr**	**2.47**	**111**	*e*Pn	**Pn**	**21 05 37.4**	**+1.7**
IAZR				*e*		21 05 50.2	
DDEM	**Demirkent**	**2.49**	**336**	*i* P	**Pb**	**21 05 40.5**	**+0.6**
DDEM				IAML		21 06 21.0	
	comp=N,182nm,0.8s						
DDEM				IAML		21 06 21.0	
	comp=E,208nm,1.0s						
DAGI	**Agillar**	**2.62**	**340**	*i* P	**Pn**	**21 05 39.3**	**+1.8**
DBAD	**Bademkaya**	**2.62**	**337**	*i* P	**Pn**	**21 05 38.4**	**+0.8**
BAYB	**BAYBURT**	**2.73**	**308**	*i* P	**Pn**	**21 05 44.4**	**+0.4**
ERZN	**Erzincan**	**2.78**	**291**	PN	**Pn**	**21 05 41.0**	**+1.2**
TNCL	**Tunceli-Merkez**	**2.80**	**281**	*i* P	**Pn**	**21 05 44.0**	**-1.2**
AKH	**Akhalkalaki**	**2.81**	**6**	PN	**Pn**	**21 05 40.6**	**+0.4**
TVRZ	**Varzaqan**	**2.82**	**91**	*e*Pn	**Pn**	**21 05 41.4**	**+1.1**
TVRZ				*e*		21 06 45.8	
EUZM	**Uzumlu**	**2.84**	**294**	*i* P	**Pb**	**21 05 46.3**	**+0.4**
BAYT	**Aydıntepe-Bayb**	**2.88**	**309**	PN	**Pn**	**21 05 42.1**	**+0.9**
PTK	**Pertek**	**2.89**	**277**	PN	**Pn**	**21 05 42.5**	**+1.1**
EPOS	**Posof**	**2.90**	**355**	*i* P	**Pn**	**21 05 42.4**	**+1.0**
SVRC	**Sivrice-ELAZID**	**2.97**	**267**	PN	**Pn**	**21 05 43.8**	**+1.4**
BCA	**Borcka**	**3.04**	**339**	PN	**Pn**	**21 05 44.1**	**+0.9**
CHOM	**Cayeli-Rize**	**3.05**	**325**	PN	**Pn**	**21 05 44.0**	**+0.6**
AHAR	**Ahar**	**3.12**	**91**	*e*Pn	**Pn**	**21 05 45.3**	**+0.9**
IHRS	**Heris**	**3.13**	**94**	*e*Pn	**Pn**	**21 05 45.3**	**+0.7**
ELZG	**Elazig**	**3.21**	**269**	*i* P	**Pn**	**21 05 47.8**	**+2.1**
ELZG				IAML		21 06 47.0	
	comp=N,108nm,0.7s						
ELZG				IAML		21 06 55.0	
	comp=E,133nm,0.8s						
IHSH	**Hashtrud**	**3.30**	**94**	*e*Pn	**Pb**	**21 05 53.4**	**-0.4**
BTNK	**Botanikuri**	**3.34**	**23**	*i* P	**Pn**	**21 05 47.8**	**+0.5**
TBLG	**Delisi**	**3.36**	**22**	PN	**Pn**	**21 05 48.4**	**+0.7**
KTUT	**Trabzon**	**3.48**	**314**	PN	**Pn**	**21 05 50.4**	**+1.2**
SANL	**SANLIURFA_Merk**	**3.54**	**247**	*i* P	**Pn**	**21 05 52.5**	**+2.3**
SANL				*i* S	**Sg**	**21 06 48.2**	**-0.3**
URFA	**Urfa**	**3.56**	**252**	PN	**Pn**	**21 05 52.1**	**+1.7**
KEMA	**Kemaliye**	**3.63**	**282**	*i* P	**Pn**	**21 05 53.2**	**+1.7**
MALT	**Malatya**	**3.66**	**267**	PN	**Pn**	**21 05 53.4**	**+1.5**
DDFL	**Dedoflistskaro**	**3.67**	**39**	*i* P	**Pb**	**21 06 02.3**	**+2.4**
ISRB	**Sarab**	**3.70**	**101**	*e*Pn	**Pn**	**21 05 54.2**	**+1.7**
ARPR	**Atapgir-MALATY**	**3.73**	**279**	PN	**Pn**	**21 05 54.3**	**+1.4**
SURC	**SANLIURFA_SURC**	**3.94**	**245**	*i* P	**Pn**	**21 05 57.8**	**+2.2**
ATAB	**Bozova**	**3.94**	**255**	*i* P	**Pb**	**21 06 04.6**	**0.0**
ONI	**Oni**	**3.98**	**4**	PN	**Pn**	**21 05 57.1**	**+0.9**
ESPY	**Espiye-Giresun**	**4.06**	**306**	PN	**Pn**	**21 05 58.5**	**+1.2**
SUSE	**Susehri**	**4.10**	**294**	*i* P	**Pb**	**21 06 08.8**	**+1.5**
IDHR	**Dehrash**	**4.73**	**145**	*e*Pn	**Pn**	**21 06 08.4**	**+1.8**
KBZ	**Khabaz**	**5.11**	**359**	Pn	Pn	21 06 16.7	+5.1
	comp=E,0.1nm,0.3s,baz=136,slow=8.8,SNR=2.2						
KBZ				LR	LR	21 08 55.4	
	comp=E,58nm,18.1s,baz=138,slow=45						
KVAR	**Kislovodsk Arr**	**5.34**	**357**	LR	LR	21 08 27.5	
	comp=E,141nm,19.7s,baz=300,slow=38						
QABG	**Atbgarm-Qazvin**	**5.95**	**117**	*e*Pn	**Pn**	**21 06 25.3**	**+1.8**
IDOB	**Doab**	**6.34**	**138**	*e*Pn	**Pn**	**21 06 29.8**	**+1.0**
QALM	**Alamut, Qazvin**	**6.40**	**108**	*e*Pn	**Pn**	**21 06 31.4**	**+1.8**
BMDN	**Meydan**	**6.78**	**135**	*e*Pn	**Pn**	**21 06 36.1**	**+1.3**
BRTR	**Keskin Array B**	**7.42**	**282**	Pn	**Pn**	**21 06 47.3**	**+3.9**
	comp=E,0.1nm,0.3s,baz=103,slow=12,SNR=2.8						
ASF	**Jabal al Asfar**	**8.17**	**220

baz=318,slow=76,SNR=74
H11N3 WAKE ISLAND Hy 29.38 126 T T 21 47 05.4
baz=318,slow=76,SNR=70
H11S1 WAKE ISLAND Hy 30.15 127 T T 21 48 13.1
baz=320,slow=76,SNR=13
H11S3 WAKE ISLAND Hy 30.16 127 T T 21 48 08.4
baz=320,slow=76,SNR=18
H11S2 WAKE ISLAND Hy 30.17 127 T T 21 48 08.8
baz=320,slow=76,SNR=13
ZALV Zalesovo Beam 40.37 310 P **P** **21 18 02.2 -0.3**
1.8nm,0.5s,baz=92,slow=8.2,SNR=9.9
MKAR Makanchi Array 43.01 300 P **P** **21 18 23.8 -0.5**
0.6nm,0.6s,baz=88,slow=10.0,SNR=8.6
KURBB Kurchatov Arra 44.63 306 P **P** **21 18 36.4 -0.8**
1.2nm,0.4s,baz=81,slow=8.4,SNR=6.3
FINES FINESS Array B 66.57 332 P **P** **21 21 13.9 -0.3**
1.0nm,0.7s,baz=34,slow=5.2,SNR=4.0
HFS Hagfors 71.75 336 P **P** **21 21 45.6 -0.7**
0.8nm,0.6s,baz=54,slow=7.5,SNR=5.6
NOA NORSAR Array B 71.81 337 P **P** **21 21 45.7 -1.0**
0.4nm,0.9s,baz=36,slow=6.2,SNR=2.3

NIED ***05*** *21:19:00,32.˚40N×141.˚90E,h5km,Mw4.1 Best double couple: M₀1.40000×10¹⁵ NP1:φ₀16.00000°,δ61.00000°, λ93.00000°. NP2:φ₀190.00000°,δ29.00000°,λ85.00000°.*
IDC ***05*** *21:19:07.8±0.9,32.˚39N×141.˚90E,h0km,mb3.9/10, mb1 4.0/15,mb1mx3.8/46,mbtmp3.9/15,ML3.4/4,MS3.1/4, Ms1 3.2/4,ms1mx2.8/30,Error ellipse: s-maj=24.7km s-min=16.4km az=70.0*
JMA ***05*** *21:19:11.0±0.3,32.˚45N×141.˚91E,h75km,M3.9*
NEIC ***05*** *21:19:12.8±1.7,32.˚43N±0.˚08×141.˚80E±0.˚08,h35km±7km, mb4.4/42,Error ellipse: s-maj=11.7km s-min=9.9km az=169.0*
ISC 05 21:19:13.3±0.5,32˚45N±0.˚06×141˚86E±0.˚07,h39km,n77, σ1ş07/88,mb4.3/31,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimakuai**	**1.77**	**271**	P	**Pn**	**21 19 40.9**	**-0.5**
JHJ2	**Mitsune**	**1.84**	**291**	P	**Pn**	**21 19 41.7**	**-0.6**
JHJ2	**Mitsune**	**1.84**	**291**		**Pn**	**21 19 41.5**	**-0.7**
JHCJ	**Hachijojimakas**	**1.84**	**290**	P	**Pn**	**21 19 41.3**	**-1.0**
JHJ	**Hachijo jima 2**	**1.87**	**291**	Pn	**Pn**	**21 19 41.6**	**-1.1**
	90nm,0.3s,baz=111,slow=22,SNR=36						
JHJ				Sn	**Sn**	**21 20 03.1**	**-1.9**
	126nm,0.3s,baz=120,slow=21,SNR=6.8						
JHJ				LR	LR	21 20 28.2	
	comp=Z,342nm,20.1s,baz=86,slow=42						
BSO1	**Boso 1**	**2.31**	**342**	P	**Pn**	**21 19 48.3**	**0.0**
BSO1				*e*S	**Sn**	**21 20 16.9**	**+1.6**
JMKN	**Mikurajimanish**	**2.38**	**308**	P	**Pn**	**21 19 49.8**	**+0.1**
JMKN				*e*S	**Sn**	**21 20 19.4**	**+1.7**
BSO3	**Boso 3**	**2.60**	**335**	P	**Pn**	**21 19 51.9**	**-0.6**
JOD2	**Odawara 2**	**3.63**	**321**	*e*S	**Sn**	**21 20 49.1**	**+0.7**
JYN	**Shimob**	**4.10**	**319**	*e*S	**Sn**	**21 21 01.1**	**+1.0**
JRY	**Ryogami san**	**4.31**	**326**	P	**Pn**	**21 20 16.3**	**-0.1**
JRY				*e*S	**Sn**	**21 21 07.1**	**+1.7**
JAG	**Ashikaga**	**4.43**	**334**	P	**Pn**	**21 20 17.4**	**-0.5**
JAG				*e*S	**Sn**	**21 21 08.5**	**+0.3**
INU	**Inuyama**	**4.95**	**307**	Pn	**Pn**	**21 20 23.6**	**-1.5**
MJAR	**Matsushiro Arr**	**5.07**	**325**	Pn	**Pn**	**21 20 26.5**	**-0.2**
	0.5nm,0.3s,baz=145,slow=12,SNR=25						
MJAR				Sn	**Sn**	**21 21 25.0**	**+1.0**
	0.3nm,0.3s,baz=273,slow=32,SNR=4.4						
MJAR				LR	LR	21 22 40.0	
	comp=Z,185nm,19.0s,baz=150,slow=42						
MAJO	**Matsushiro**	**5.07**	**325**		**Pn**	**21 20 27.0**	**+0.2**
MAT	**Matsushiro**	**5.07**	**325**	P	**Pn**	**21 20 26.7**	**0.0**
MAT				S	**Sn**	**21 21 23.9**	**-0.1**
MAT	**Matsushiro**	**5.07**	**325**	P	**Pn**	**21 20 26.9**	**+0.2**
MAT				*e*S	**Sn**	**21 21 25.4**	**+1.4**
MJB9	**Matsu-Tunnel**	**5.07**	**325**		**Pn**	**21 20 27.0**	**+0.2**
JFT	**Otama**	**5.20**	**347**	P	**Pn**	**21 20 27.7**	**-0.9**
JNU	**Nakatsue**	**9.27**	**277**	Pn	**Pn**	**21 21 22.2**	**-2.1**
	0.2nm,0.3s,baz=237,slow=1.7,SNR=2.1						
JNU				LR	LR	21 25 02.1	
	comp=Z,81nm,18.4s,baz=131,slow=38						
ERM	**Erimo**	**9.60**	**6**	Pn	**Pn**	**21 21 27.6**	**-1.2**
JKA	**Kamikawa-asahi**	**11.66**	**3**		**Pn**	**21 21 55.0**	**-2.0**
JKA					**Sn**	**21 24 02.0**	**-3.8**
ASAJ	**Asahikawa**	**11.66**	**3**	Pn	**Pn**	**21 21 55.0**	**-2.0**
	1.5nm,0.3s,baz=253,slow=12,SNR=6.9						
ASAJ				Sn	**Sn**	**21 24 02.0**	**-3.8**
	0.1nm,0.3s,baz=128,slow=20,SNR=1.4						
KSRS	**Korea Array**	**12.47**	**297**	Pn	**Pn**	**21 22 08.2**	**+0.2**
	0.2nm,0.3s,baz=112,slow=12,SNR=3.2						
KSRS				LR	LR	21 27 04.9	
	comp=Z,66nm,18.2s,baz=123,slow=38						
USRK	**Ussuriysk Ar.**	**14.04**	**329**	Pn	**Pn**	**21 22 29.6**	**+0.2**
	baz=156,slow=11,SNR=2.1						
PATS	**Pohnpei**	**29.74**	**145**	P	**P**	**21 25 16.9**	**+0.8**
ULN	**Ulaanbaatar**	**30.43**	**311**	P	**P**	**21 25 20.9**	**-1.2**
ULN				IAmb	IAmb	21 25 26.0	
	comp=Z,4.2nm,0.9s						
SONM	**Songino Array**	**30.84**	**310**	P	**P**	**21 25 27.1**	**+1.4**
	comp=Z,2.4nm,0.6s,baz=107,slow=9.1,SNR=15						
ZAA0	**Zalesovo Array**	**45.36**	**316**	P	**P**	**21 27 27.1**	**-0.4**
ZALV	**Zalesovo Beam**	**45.36**	**316**	P	**P**	**21 27 27.7**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=92,slow=7.4,SNR=7.8						
ZALV				PcP	**PcP**	**21 29 06.6**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=74,slow=1.7,SNR=5.1						
MTN	**Manton Dam**	**46.20**	**195**	P	**P**	**21 27 33.6**	**-0.8**
MK31	**Makanchi Array**	**46.98**	**306**	P	**P**	**21 27 40.7**	**+0.3**
MK31				IAmb	IAmb	21 27 41.8	
	comp=Z,2.8nm,0.8s						
MKAR	**Makanchi Array**	**46.98**	**306**	P	**P**	**21 27 41.3**	**+1.0**
	comp=Z,2.1nm,0.7s,baz=87,slow=9.3,SNR=27						
MAKZ	**Makanchi**	**47.19**	**306**	P	**P**	**21 27 42.0**	**-0.1**
MAKZ				IAmb	IAmb	21 27 45.6	
	comp=Z,4.2nm,1.1s						
KURK	**Kurchatov**	**49.13**	**311**	P	**P**	**21 27 57.3**	**+0.4**
KURK				IAmb	IAmb	21 28 06.7	
	comp=Z,3.2nm,0.9s						
WB0	**Warramunga Arr**	**52.41**	**189**	P	**P**	**21 28 21.0**	**-0.9**
WR0	**Warramunga Arr**	**52.59**	**189**	P	**P**	**21 28 22.9**	**-0.2**
WR0				IAmb	IAmb	21 28 23.6	
	comp=Z,4.8nm,0.7s						
WB2	**Warramunga Arr**	**52.59**	**189**	P	**P**	**21 28 23.0**	**-0.2**
WB2				IAmb	IAmb	21 28 23.7	
	comp=Z,5.1nm,0.7s						
WRA	**Warramunga Arr**	**52.59**	**189**	P	**P**	**21 28 23.2**	**0.0**
	comp=Z,4.0nm,0.5s,baz=5.6,slow=7.6,SNR=42						
ILAR	**Eielson Array**	**53.21**	**30**	P	**P**	**21 28 28.6**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=282,slow=5.4,SNR=2.9						
MID	**Middleton Isla**	**53.56**	**37**	P	**P**	**21 28 30.9**	**+1.0**
HARP	**HAARP**	**54.00**	**33**	P	**P**	**21 28 33.1**	**0.0**
HARP				IAmb	IAmb	21 28 33.9	
	comp=Z,3.2nm,0.7s						
BRVK	**Borovoye**	**54.05**	**315**	P	**P**	**21 28 33.2**	**-0.4**
BRVK				IAmb	IAmb	21 28 38.8	
	comp=Z,2.7nm,1.1s						
RIDG	**Independent Ri**	**54.10**	**32**	P	**P**	**21 28 35.4**	**+1.5**
KK31	**Karatay Array**	**55.83**	**303**	P	**P**	**21 28 46.5**	**-0.2**
KK31				IAmb	IAmb	21 28 48.2	
	comp=Z,4.7nm,0.9s						
KKAR	**Karatay Array**	**55.83**	**303**	P	**P**	**21 28 45.9**	**-0.8**
KKAR				IAmb	IAmb	21 28 48.1	
	comp=Z,4.7nm,0.9s						
AS31	**Alice Springs**	**56.32**	**189**	P	**P**	**21 28 49.6**	**-0.6**
ASAR	**Alice Springs**	**56.32**	**189**	P	**P**	**21 28 49.6**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=360,slow=6.3,SNR=16						
BTK	**Batken**	**56.41**	**299**	P	**P**	**21 28 51.1**	**+0.1**
NIL	**Nilore**	**56.51**	**291**	P	**P**	**21 28 51.3**	**-0.3**
GAR	**Garm**	**57.09**	**298**	P	**P**	**21 28 54.9**	**-0.9**
GAR				IAmb	IAmb	21 28 57.2	
	comp=Z,4.8nm,0.8s						
EPYK	**Eagle Plains**	**57.35**	**28**	P	**P**	**21 28 58.8**	**+1.7**
EPYK				IAmb	IAmb	21 29 13.5	
	comp=Z,4.6nm,0.9s						
HYT	**Haines Junctio**	**57.80**	**35**	P	**P**	**21 29 00.4**	**-0.1**
HYT				IAmb	IAmb	21 29 16.8	
	comp=Z,3.5nm,0.9s						
CHGR	**Chuyangaron**	**58.05**	**298**	P	**P**	**21 29 02.1**	**-0.5**
INK	**Inuvik**	**58.31**	**26**	P	**P**	**21 29 03.8**	**+0.1**
WHY	**Whitehorse**	**59.09**	**35**	P	**P**	**21 29 09.0**	**-0.5**
WHY				IAmb	IAmb	21 29 11.4	
	comp=Z,2.1nm,0.9s						
ARU	**Arti**	**60.07**	**320**	P	**P**	**21 29 16.4**	**+0.3**
ARU				IAmb	IAmb	21 29 30.9	
	comp=Z,4.0nm,0.7s						
FORT	**Forrest**	**64.23**	**193**	P	**P**	**21 29 44.3**	**+0.1**
HRA	**Herat**	**64.77**	**296**	P	**P**	**21 29 47.5**	**-0.7**
HRA				IAmb	IAmb	21 29 49.6	
	comp=Z,1.7nm,0.7s						
BBOO	**Buckleboo**	**65.14**	**185**	P	**P**	**21 29 49.6**	**-0.5**
BBOO				IAmb	IAmb	21 30 06.3	
	comp=Z,4.7nm,1.1s						
YKA	**Yellowknife Ar**	**67.60**	**29**	P	**P**	**21 30 06.4**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=297,slow=6.9,SNR=1.9						
KEV	**Kevo**	**67.85**	**340**	P	**P**	**21 30 08.8**	**+1.8**
ARE0	**ARCESS Array S**	**68.41**	**340**	P	**P**	**21 30 11.5**	**+1.0**
NWAO	**Narrogin (SRO)**	**69.06**	**202**	P	**P**	**21 30 15.3**	**+0.4**
NWAO				IAmb	IAmb	21 30 20.6	
	comp=Z,6.7nm,1.1s						
FINES	**FINESS Array B**	**73.04**	**333**	P	**P**	**21 30 39.0**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=93,slow=7.6,SNR=5.2						
LRM	**Limekiln Ridge**	**77.18**	**44**	P	**P**	**21 31 03.4**	**0.0**
NOA	**NORSAR Array B**	**78.55**	**338**	P	**P**	**21 31 10.6**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=41,slow=5.3,SNR=3.5						
NOA				LR	LR	22 09 17.2	
	comp=Z,19nm,19.6s,baz=20,slow=38						
KNB	**Kanab**	**81.88**	**51**	P	**P**	**21 31 29.2**	**+0.3**
KWP	**Kalwaria Pacla**	**82.07**	**325**	P	**P**	**21 31 30.2**	**+0.7**
KWP				IAmb	IAmb	21 31 32.5	
	comp=Z,4.2nm,0.9s						
BUR08	**Bucovina Ar. S**	**82.13**	**322**	P	**P**	**21 31 30.6**	**+0.7**
BR131	**Keskin Array S**	**82.17**	**312**	P	**P**	**21 31 29.1**	**-1.3**
BRTR	**Keskin Array B**	**82.18**	**312**	P	**P**	**21 31 31.6**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=131,slow=3.2,SNR=3.8						
RGN	**Rugen**	**82.69**	**333**	P	**P**	**21 31 32.0**	**-0.5**
RAYN	**Ar Rayn**	**82.76**	**293**	P	**P**	**21 31 32.9**	**-0.7**
RAYN				IAmb	IAmb	21 31 35.3	
	comp=Z,2.2nm,0.7s						
PV02	**Paradox Valley**	**83.82**	**48**	P	**P**	**21 31 37.6**	**-1.4**
PV02				IAmb	IAmb	21 31 41.1	
	comp=Z,7.2nm,1.1s						
TUC	**Tucson**	**85.96**	**54**	P	**P**	**21 31 48.8**	**-0.9**
P43A	**Skaggs, Pawnee**	**93.91**	**37**	P	**P**	**21 32 26.7**	**-0.1**

NIED ***05*** *22:02:00,36.˚50N×143.˚10E,h5km,Mw3.6 Best double couple: M₀2.73000×10¹⁴ NP1:φ₀210.00000°, δ48.00000°, λ-90.00000°. NP2:φ₀30.00000°,δ42.00000°,λ-90.00000°.*
IDC ***05*** *22:02:33.1±1.1,36.˚38N×143.˚32E,h0km,mb3.7/10, mb1 3.8/13,mb1mx3.7/40,mbtmp3.7/13,ML3.4/3,MS2.5/2, Ms1 2.5/2,ms1mx2.3/34,Error ellipse: s-maj=28.3km s-min=20.2km az=102.0*
JMA ***05*** *22:02:37.0±0.2,36.˚48N×143.˚11E,h60km,M3.5*
ISC 05 22:02:37.7±0.9,36˚47N±0.˚05×143˚14E±0.˚08,h29km,n29, σ1ş78/43,mb3.6/10,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.98**	**289**	P	**Pn**	**22 03 09.1**	**-0.2**
ONAJ				S	**Sn**	**22 03 32.2**	**-1.0**
JFK	**Kawauchi**	**2.02**	**297**	P	**Pn**	**22 03 09.1**	**-0.8**
JFK				S	**Sn**	**22 03 32.6**	**-1.6**
JHYU	**Hitachinakayam**	**2.06**	**267**	P	**Pn**	**22 03 09.9**	**-0.5**
JHYU				S	**Sn**	**22 03 33.4**	**-1.7**
JHO	**Hitachi**	**2.07**	**275**	P	**Pn**	**22 03 09.8**	**-0.7**
JHO				S	**Sn**	**22 03 33.9**	**-1.5**
JFT	**Otama**	**2.47**	**296**	P	**Pn**	**22 03 15.7**	**-0.4**
JFT				*e*S	**Sn**	**22 03 44.5**	**-0.8**
JMK	**Ichinoseki**	**2.90**	**329**	P	**Pn**	**22 03 21.2**	**-0.8**
JMK				S	**Sn**	**22 03 54.6**	**-1.3**
JAG	**Ashikaga**	**2.97**	**270**	P	**Pn**	**22 03 22.7**	**-0.2**
JAG				S	**Sn**	**22 03 56.7**	**-0.9**
JYK	**Kaneyama**	**3.29**	**319**	P	**Pn**	**22 03 27.1**	**-0.1**
JYK				S	**Sn**	**22 04 04.7**	**-0.7**
JOM	**Ohasama**	**3.33**	**335**	P	**Pn**	**22 03 26.7**	**-1.1**
JOM				S	**Sn**	**22 04 04.6**	**-1.8**
JRY	**Ryogami san**	**3.45**	**264**	P	**Pn**	**22 03 29.2**	**-0.4**
JRY				*e*S	**Sn**	**22 04 04.7**	**+0.2**
JAW	**Awa shima**	**3.67**	**304**	P	**Pn**	**22 03 32.4**	**-0.1**
JYN	**Shimob**	**3.85**	**257**	P	**Pn**	**22 03 35.2**	**+0.1**
JYN				S	**Sn**	**22 04 18.8**	**-0.6**
MJAR	**Matsushiro Arr**	**3.97**	**272**	Pn	**Pn**	**22 03 37.3**	**+0.6**
	0.4nm,0.3s,baz=105,slow=10,SNR=17						
MJAR				Sn	**Sn**	**22 04 20.1**	**-2.2**
	0.1nm,0.3s,baz=105,slow=9.5,SNR=1.4						
MAT	**Matsushiro**	**3.97**	**272**	P	**Pn**	**22 03 37.4**	**+0.7**
MAT				*e*S	**Sn**	**22 04 16.7**	**-5.6**
MAT	**Matsushiro**	**3.97**	**272**	P	**Pn**	**22 03 37.8**	**+1.1**
JHJ	**Hachijo jima 2**	**4.34**	**220**	Pn	**Pn**	**22 03 40.0**	**-1.7**
	7.4nm,0.3s,baz=158,slow=23,SNR=6.9						
JHJ				Sn	**Sn**	**22 04 26.8**	**-4.5**
	26nm,0.3s,baz=267,slow=24,SNR=2.3						
ASAJ	**Asahikawa**	**7.65**	**357**	Pn	**Pn**	**22 04 25.2**	**-1.9**
	1.1nm,0.3s,baz=228,slow=14,SNR=5.7						
ASAJ				Sn	**Sn**	**22 05 47.0**	**-5.7**
	0.6nm,0.3s,baz=223,slow=20,SNR=2.1						
ASAJ				LR	LR	22 08 36.5	
	comp=Z,36nm,18.3s,baz=166,slow=47						
KSRS	**Korea Array**	**12.21**	**279**	LR	LR	22 10 47.7	
	comp=Z,21nm,18.6s,baz=280,slow=40						
SONM	**Songino Array**	**29.25**	**304**	P	**P**	**22 08 39.2**	**+2.1**
	0.9nm,0.7s,baz=113,slow=8.5,SNR=5.1						
ZALV	**Zalesovo Beam**	**43.31**	**313**	P	**P**	**22 10 38.0**	**+1.3**
	0.7nm,0.6s,baz=105,slow=9.1,SNR=2.6						
MKAR	**Makanchi Array**	**45.59**	**303**	P	**P**	**22 10 56.0**	**+0.9**
	0.4nm,0.7s,baz=81,slow=10.0,SNR=4.2						
ILAR	**Eielson Array**	**49.23**	**32**	P	**P**	**22 11 23.3**	**+0.2**
	0.3nm,0.7s,baz=256,slow=6.4,SNR=2.5						
INK	**Inuvik**	**54.25**	**27**	P	**P**	**22 12 00.9**	**+0.4**
	0.4nm,0.4s,baz=207,slow=6.8,SNR=1.6						
WRA	**Warramunga Arr**	**56.72**	**190**	P	**P**	**22 12 18.0**	**-0.8**
	0.5nm,0.8s,baz=18,slow=5.2,SNR=1.9						
ASAR	**Alice Springs**	**60.45**	**190**	P	**P**	**22 12 44.0**	**-0.7**
	0.3nm,0.7s,baz=7.0,slow=8.4,SNR=2.5						
FINES	**FINESS Array B**	**69.95**	**333**	P	**P**	**22 13 45.9**	**+0.1**
	1.1nm,0.8s,baz=278,slow=5.6,SNR=4.0						
NB2	**NORSAR Subarra**	**75.23**	**338**	P	**P**	**22 14 18.4**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**75.23**	**338**	P	**P**	**22 14 18.4**	**+1.0**
	comp=Z,0.9nm,0.7s,baz=39,slow=5.7,SNR=4.7						
AKASG	**Malin Array Be**	**75.58**	**323**	P	**P**	**22 14 19.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=39,slow=6.3,SNR=2.5						

GUC ***05*** *22:10:00.9±0.8,33.˚39S×72.˚48W,h31km±2km,ML3.6*
SJA ***05*** *22:10:00.8±0.6,33.˚26S×72.˚45W,h10km,ML3.2,MW3.5*
ISC 05 22:10:00.6±2.6,33˚44S±0.˚04×72˚43W±0.˚08,h12km±14km, n21,σ1ş32/34,10C-1D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MT01	**Popeta**	**1.07**	**114**	⇑*i*P	**Pb**	**22 10 20.9**	**-0.2**
MT01				*e*S	**Sn**	**22 10 36.6**	**+0.3**
MT01				IAML		22 10 38.6	
	comp=N,2μm,0.3s						
ROC1	**El Roble**	**1.27**	**69**	*e*P	**Pn**	**22 10 24.0**	**-0.4**
ROC1				*e*S	**Sg**	**22 10 41.9**	**+0.2**
ROCH	**El Roble**	**1.28**	**69**	⇓*i*P	**Pn**	**22 10 24.1**	**-0.4**
ROCH				*i* S	**Sg**	**22 10 42.0**	**+0.2**
RCDM	**Rinconada Maip**	**1.36**	**93**	⇑*e*P	**Pn**	**22 10 23.6**	**-1.8**
RCDM				*e*S	**Sn**	**22 10 42.9**	**-0.5**
RCDM				IAML		22 10 43.8	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**1.49**	**79**	⇑*i*P	**Pb**	**22 10 27.7**	**-0.6**
PEL				*i* S	**Sg**	**22 10 48.1**	**-0.5**
PEL				IAML		22 10 58.6	
	comp=N,807nm,0.5s						
CLCH	**Cerro Calan**	**1.58**	**89**	⇑*e*P	**Pb**	**22 10 29.2**	**-0.7**
CLCH				*e*S	**Sn**	**22 10 47.6**	**-1.4**
CLCH				IAML		22 11 06.7	
	comp=E,1μm,0.5s						
MT03	**Universidad Ad**	**1.60**	**93**	⇑*e*P	**Pb**	**22 10 29.6**	**-0.7**
MT03				*e*S	**Sb**	**22 10 51.0**	**+0.4**
MT03				IAML		22 11 00.9	
	comp=N,1μm,0.6s						
GO05	**Huala**	**1.62**	**165**	⇑*e*P	**Pn**	**22 10 29.3**	**+0.2**
GO05				*i* S	**Sn**	**22 10 49.0**	**-1.0**
GO05				IAML		22 11 03.6	
	comp=E,540nm,0.6s						
VA03	**San Esteban**	**1.71**	**67**	*i* P	**Pn**	**22 10 30.4**	**0.0**
VA03				*i* S	**Sn**	**22 10 52.6**	**+0.3**
VA03				IAML		22 11 06.9	
	comp=E,1μm,0.4s						
LMEL	**Las Melosas**	**1.90**	**103**	⇑*e*P	**Pn**	**22 10 33.6**	**+0.5**
LMEL				*i* S	**Sb**	**22 10 58.0**	**-0.5**
BO02	**Sierra Bellavi**	**1.92**	**135**	⇑*e*P	**Pn**	**22 10 34.2**	**+0.9**
BO02				*e*S	**Sn**	**22 10 58.5**	**+1.1**
BO02				IAML		22 11 08.8	
	comp=E,1μm,0.4s						
CO02	**Combarbal**	**2.53**	**29**	⇑*e*P	**Pn**	**22 10 41.0**	**-0.7**
CO02				*e*S	**Sn**	**22 11 11.2**	**-1.3**
CO02				IAML		22 11 14.3	
	comp=E,594nm,0.3s						
AUSP	**Uspallata**	**2.83**	**66**	*e*P	**Pb**	**22 10 49.0**	**-2.3**
CO03	**El Pedregal**	**2.98**	**30**	⇑*e*P	**Pn**	**22 10 47.5**	**-0.3**
CO03				*e*S	**Sn**	**22 11 22.6**	**-1.0**
CO03				IAML		22 11 28.5	
	comp=E,145nm,0.4s						
RTLS	**Leoncito**	**3.11**	**59**	*e*P	**Pn**	**22 10 52.1**	**+2.4**
RTLS				IAML		22 11 55.3	
	comp=Z,67nm,0.7s						
RTCV	**Cerro Valdivia**	**3.64**	**65**	*e*P	**Pb**	**22 11 05.8**	**+0.9**
ACCO	**Cerro Coronel**	**4.03**	**46**	*e*P	**Pn**	**22 11 05.3**	**+2.9**
AROD	**Rodeo**	**4.12**	**38**	*e*P	**Pn**	**22 11 05.8**	**+2.1**
AMOG	**MOGNA**	**4.16**	**54**	*e*P	**Pn**	**22 11 06.4**	**+2.4**
ACAN	**Cantantal**	**4.56**	**77**	*e*P	**Pn**	**22 11 11.3**	**+1.8**
AGUA	**GUANDACOL**	**5.18**	**42**	*e*P	**Pn**	**22 11 20.2**	**+2.1**

UCR ***05*** *22:35:25.4±2.1,7.˚34N×82.˚26W,h16km±17km,MD4.1*
UPA ***05*** *22:35:25.0±1.8,7.˚16N×82.˚34W,h28km±17km,MW4.0*
ISC 05 22:35:22.8±2.2,7˚3N±0.˚1×82˚27W±0.˚05,h6km±12km,n20, σ0ş97/29,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**1.15**	**64**	*e*P	**Pn**	**22 35 45.5**	**0.0**
GMAL				*e*S	**Sn**	**22 36 01.6**	**+0.1**
GMAL	**Guarumal, Vera**	**1.15**	**64**	*e*P	**Pn**	**22 35 45.5**	**0.0**
CACAO	**El Cacao, Vera**	**1.40**	**86**	*e*P	**Pg**	**22 35 50.2**	**+0.4**
CACAO				*e*S	**Sn**	**22 36 06.6**	**-1.3**
BRU2	**Volcan**	**1.58**	**345**	*e*P	**Pg**	**22 35 53.0**	**-0.1**
BRU2				*e*S	**Sn**	**22 36 11.1**	**-1.3**
BRU2	**Volcan**	**1.58**	**345**	*e*P	**Pb**	**22 35 52.1**	**-0.4**
PTJ1	**Puerto Jimnez**	**1.63**	**321**	*e*P	**Pn**	**22 35 51.6**	**-0.4**
CHGR2	**Aguacate**	**1.67**	**4**	*e*P	**Pb**	**22 35 54.0**	**-0.1**
CHGR2				*e*S	**Sg**	**22 36 16.6**	**0.0**
AZU	**Azuero**	**2.05**	**75**	*i* P	**Pn**	**22 35 59.2**	**+1.2**
AZU				*e*S	**Sn**	**22 36 23.3**	**0.0**
AZU	**Azuero**	**2.05**	**75**	*e*P	**Pn**	**22 35 58.6**	**+0.7**
EDBA	**Buenos Aires**	**2.13**	**332**	*i* P	**Pn**	**22 35 59.7**	**+0.6**
DRK0	**Durika**	**2.21**	**334**	*e*P	**Pn**	**22 36 00.5**	**+0.3**
DRK0				*e*S	**Sn**	**22 36 28.0**	**-0.1**
DRK0	**Durika**	**2.21**	**334**	*e*P	**Pn**	**22 36 00.7**	**+0.4**
DRK0				*e*S	**Sn**	**22 36 27.6**	**-0.4**
LCR2	**La Lucha 2**	**3.00**	**325**	*e*P	**Pn**	**22 36 10.9**	**-0.3**
LCR2				*e*S	**Sn**	**22 36 47.9**	**+0.3**
BCIP	**Isla Barro Col**	**3.07**	**52**	*e*P	**Pb**	**22 36 15.7**	**-2.1**
BCIP				*e*S	**Sb**	**22 36 57.2**	**+1.6**
CVTR	**Volcan Turrial**	**3.11**	**332**	*e*P	**Pn**	**22 36 13.0**	**+0.1**
ARE1	**Arenal 1**	**3.99**	**323**	*e*P	**Pn**	**22 36 27.6**	**+2.9**
JTS	**Las Juntas de**	**4.01**	**319**	*e*P	**Pn**	**22 36 24.8**	**-0.1**
JTS	**Las Juntas de**	**4.01**	**319**	*e*P	**Pn**	**22 36 24.6**	**-0.3**
PLVR	**Palo Verde**	**4.32**	**315**	*i* P	**Pn**	**22 36 29.6**	**+0.3**
CUI	**Cuipilapa**	**4.42**	**320**	*e*P	**Pn**	**22 36 31.6**	**+1.0**

SJA ***05*** *22:44:59.6±1.2,21.˚20S×67.˚32W,h196km±9km,ML3.6, MW3.5*
GUC ***05*** *22:45:02.1±0.9,21.˚21S×67.˚57W,h207km±9km,ML4.0*
ISC 05 22:44:59.0±1.4,21˚18S±0.˚05×67˚42W±0.˚06, h211km±13km,n42,σ1ş25/76,12C-5D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.81**	**250**	⇓*i*P	**Pn**	**22 45 37.8**	**+1.2**
PB09				*i* S	**S**	**22 46 05.8**	**+0.2**
PB09	**IPOC Station P**	**1.81**	**250**	*i* P	**Pn**	**22 45 37.8**	**+1.2**
PB09				*i* S	**S**	**22 46 05.8**	**+0.2**
PB09				IAML		22 46 08.2	
	comp=Z,116nm,0.4s						
PB08	**IPOC Station P**	**1.93**	**302**

PB04	**IPOC Station P**	2.79 245	⇑	*e*P	Pn	22 45 47.9	+0.9
PB04				*e*S	S	22 46 22.0	-2.0
PB04				IAML		22 46 26.8	
	comp=N,326nm,0.2s						
PB04	**IPOC Station P**	2.79 245		*e*P	Pn	22 45 47.9	+0.9
PB04				*e*S	S	22 46 22.2	-1.8
PB04				IAML		22 46 25.4	
	comp=Z,167nm,0.2s						
MNMC	**Minye Minye**	2.89 315	⇓	*e*P	Pn	22 45 50.1	+1.8
MNMC				*e*S	S	22 46 26.2	-0.2
MNMC				IAML		22 46 29.7	
	comp=N,755nm,0.2s						
MNMCX	**Minye Minye**	2.89 315		*e*P	Pn	22 45 50.3	+2.0
MNMCX				*e*S	S	22 46 26.8	+0.4
MNMCX				IAML		22 46 31.7	
	comp=Z,252nm,0.3s						
PSGC	**Pisagua**	2.99 301	⇑	*i*P	Pn	22 45 49.9	+0.7
PSGC				*i* S	S	22 46 26.1	-2.0
PSGC				IAML		22 46 28.6	
	comp=N,221nm,0.4s						
PSGCX	**Pisagua**	2.99 301		*e*P	Pn	22 45 49.5	+0.2
PSGCX				*e*S	S	22 46 26.0	-2.0
PSGCX				IAML		22 46 28.3	
	comp=Z,175nm,0.2s						
PB05	**IPOC Station P**	3.07 237	⇑	*e*P	Pn	22 45 51.5	+1.2
PB05				*e*S	S	22 46 28.0	-1.8
PB05				IAML		22 46 28.4	
	comp=N,188nm,0.2s						
PB05	**IPOC Station P**	3.07 237		*e*P	Pn	22 45 51.4	+1.2
PB05				*e*S	S	22 46 28.0	-1.8
PB05				IAML		22 46 29.4	
	comp=Z,71nm,0.2s						
PB12	**IPOC Station P**	3.74 313	⇑	*e*P	Pn	22 45 58.4	+0.2
PB12				*e*S	S	22 46 41.9	-2.4
PB12				IAML		22 46 50.5	
	comp=E,128nm,0.3s						
GO03	**Copiap**	6.88 201		*i* P	Pn	22 46 37.4	-0.4
AGUA	**GUANDACOL**	8.33 186		*i* P	Pn	22 46 57.2	+0.6
AGUA				IAML		22 48 51.0	
	comp=Z,19nm,2.8s						
ACCO	**Cerro Coronel**	9.48 189		*i* P	Pn	22 47 12.4	+0.7
CFA	**Coronel Fontan**	10.41 184		*i* P	Pn	22 47 23.9	+0.6
TCA	**Tanti**	10.43 167		*i* P	Pn	22 47 24.1	+0.5
AUSP	**Uspallata**	11.14 189		*i* P	Pn	22 47 34.3	+1.4
MRA	**San Martin**	11.29 173		*i* P	Pn	22 47 35.4	+0.7

IDC 05 22:45:25.0±1.6, **4°04'S**×**127°85'E, h0**km, **mb3.5**/2, **mb1 3.8**/4, **mb1mx3.5**/35, **mbtmp3.6**/4, **ML3.5**/2, **MS3.3**/1, **Ms1 3.5**/1, **ms1mx2.5**/26, ***Error ellipse: s-maj=47.0km s-min=27.0km az=76.0*, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	4.64	47	Pn	Pn	22 46 36.7	+0.2
	1.6nm,0.3s,baz=76,slow=6.1,SNR=18						
SIJI				Sn	Sn	22 47 20.1	-11
	5.9nm,0.3s,baz=195,slow=23,SNR=14						
WRA	**Warramunga Arr**	17.03	159	P	Pn	22 49 25.2	+0.4
	0.2nm,0.3s,baz=342,slow=13,SNR=6.5						
ASAR	**Alice Springs**	20.38	164	P	P	22 50 03.2	-0.2
	1.0nm,0.4s,baz=345,slow=11,SNR=13						
CMAR	**Chiang Mai Arr**	36.20	309	LR	LR	23 09 27.9	
	comp=Z,39nm,18.4s,baz=180,slow=40						
MKAR	**Makanchi Array**	64.59	327	P	P	22 56 04.2	0.0
	0.3nm,0.4s,baz=115,slow=8.0,SNR=7.3						

*NEIC **05** 22:46:52.2*±*1.5, 26°.2S*±*0°.1*×*179°.4E*±*0°.1, h488*km*±*8km, mb4.2/16, Error ellipse: s-maj=20.1km s-min=16.2km az=140.0*

*IDC **05** 22:46:56.0*±*2.3, 26°.15S*×*179°.29E, h518*km*±*24km, mb3.3/11, mb1 3.6/12, mb1mx3.4/35, mbtmp4.3/12, Error ellipse: s-maj=32.8km s-min=12.8km az=161.0*

ISC 05 22:46:53.5±0.6, **26°.23S**±0°.10×**179°.41E**±0°.09, **h503**km, **n45**, σ**1**§**03**/45, **mb4.0**/19, **South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	3.83	142	P	P	22 48 08.5	-2.1
MSVF	**Nonsavu**	8.55	351	P	P	22 48 54.4	-1.5
OUZ	**Omahuta**	10.26	208	P	P	22 49 11.7	-1.8
MXZ	**Matakaoa Point**	11.34	184	P	P	22 49 25.1	+0.3
DZM	**Mont Dzumac**	12.54	287	P	P	22 49 39.4	+1.4
	1.6nm,0.3s,baz=116,slow=20,SNR=20						
DZM	**Mont Dzumac**	12.54	287	P	P	22 49 37.3	-0.6
HIZ	**Hauiti**	12.84	196	P	P	22 49 40.8	+0.1
BKZ	**Black Stump Fm**	13.13	190	P	P	22 49 43.3	-0.5
BFZ	**Birch Farm**	14.65	190	P	P	22 49 58.4	-1.4
CTA	**Charters Tower**	31.04	274	P	P	22 52 30.6	+0.8
	6.1nm,0.5s,baz=101,slow=10,SNR=9.0						
STKA	**Stephens Creek**	33.42	251	P	P	22 52 50.8	+0.9
	0.8nm,0.4s,baz=49,slow=10,SNR=3.5						
STKA	**Stephens Creek**	33.42	251	P	P	22 52 49.9	0.0
XMAS	**Kiritimati**	35.92	42	P	P	22 53 10.5	-0.6
COEN	**Coen**	36.03	283	P	P	22 53 11.6	-0.4
COEN				IAmb	IAmb	22 53 20.2	
	comp=Z,12nm,1.1s						
BBOO	**Buckleboo**	38.09	250	P	P	22 53 27.6	-1.1
BBOO				IAmb	IAmb	22 53 45.5	
	comp=Z,5.5nm,1.1s						
AS31	**Alice Springs**	41.18	263	P	P	22 53 53.5	-0.3
ASAR	**Alice Springs**	41.18	263	P	P	22 53 54.3	+0.5
	comp=Z,2.0nm,0.4s,baz=97,slow=8.2,SNR=40						
ASAR				S	S	22 59 31.1	+0.3
	comp=Z,0.9nm,0.7s,baz=101,slow=16,SNR=7.1						
WR0	**Warramunga Arr**	41.59	269	P	P	22 53 54.4	-2.7
WR0				IAmb	IAmb	22 53 57.3	
	comp=Z,4.3nm,0.6s						
WB2	**Warramunga Arr**	41.76	269	P	P	22 53 58.5	0.0
WB2				IAmb	IAmb	22 53 59.0	
	comp=Z,4.3nm,0.8s						
WRA	**Warramunga Arr**	41.77	269	P	P	22 53 58.5	-0.1
	comp=Z,3.0nm,0.4s,baz=104,slow=7.7,SNR=25						
WRA				S	S	22 59 38.1	-1.2
	comp=Z,0.6nm,0.7s,baz=99,slow=14,SNR=1.7						
WB0	**Warramunga Arr**	41.78	269	P	P	22 53 57.9	-0.6
WB0				IAmb	IAmb	22 53 59.0	
	comp=Z,4.1nm,0.8s						
FORT	**Forrest**	45.04	252	P	P	22 54 23.6	-0.3
FORT				IAmb	IAmb	22 54 24.8	
	comp=Z,7.6nm,0.7s						
MTN	**Manton Dam**	47.15	277	P	P	22 54 39.3	-0.8
KNRA	**Kununurra**	48.19	272	P	P	22 54 48.2	+0.3
KNRA				IAmb	IAmb	22 54 55.2	
	comp=Z,15nm,1.1s						
FITZ	**Fitzroy Crossi**	50.16	268	P	P	22 55 03.3	+0.8
	comp=Z,2.6nm,0.7s,baz=98,slow=8.2,SNR=8.4						
FITZ	**Fitzroy Crossi**	50.16	268	P	P	22 55 02.5	0.0
FAKI	**Fak Fak**	50.79	289	P	P	22 55 07.0	-0.2
FAKI				IAmb	IAmb	22 55 25.1	
	comp=Z,12nm,1.1s						
MJAR	**Matsushiro Arr**	73.52	326	P	P	22 57 33.4	-1.2
	comp=Z,0.5nm,0.5s,baz=146,slow=5.3,SNR=2.8						
KSRS	**Korea Array**	79.69	321	P	P	22 58 09.8	+1.4
	comp=Z,1.2nm,0.8s,baz=123,slow=6.0,SNR=4.5						
PETK	**Petropavlovsk-**	81.23	347	P	P	22 58 16.7	+0.6
	comp=Z,1.5nm,0.6s,baz=148,slow=7.7,SNR=4.6						
USRK	**Ussuriysk Ar.**	82.43	328	P	P	22 58 23.6	+1.2
	comp=Z,1.1nm,0.5s,baz=151,slow=6.6,SNR=2.8						
NVAR	**Mina Array Bea**	86.79	44	P	P	22 58 45.6	+1.4
	comp=Z,0.9nm,0.6s,baz=221,slow=9.0,SNR=10.0						
MTPU	**Mount Pierson**	90.50	47	P	P	22 59 01.5	-0.2
TXAR	**Lajitas Array**	92.11	58	P	P	22 59 10.6	+1.6
	comp=Z,0.5nm,0.7s,baz=201,slow=6.7,SNR=7.1						
SPUT	**South Promonto**	92.13	44	P	P	22 59 08.6	-0.3
PCA	**Pinnacle**	92.14	19	P	P	22 59 07.0	-1.3
ARCES	**ARCESS Array B**	134.04	348	PKP	**PKPdf**	23 05 12.4	-0.1
	comp=Z,1.8nm,0.9s,baz=2.3,slow=2.3,SNR=4.4						
FINES	**FINESS Array B**	140.46	340	PKHKP	PKPpre	23 05 17.3	
	comp=Z,1.1nm,0.8s,baz=46,slow=5.5,SNR=7.2						
FINES				PKP	**PKPdf**	23 05 24.4	0.0
	comp=Z,0.5nm,0.5s,baz=64,slow=3.2,SNR=4.9						
NB2	**NORSAR Subarra**	144.28	350	PKP	PKPbc	23 05 30.7	-0.3
	comp=Z,3.2nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	144.28	350	PKP	PKPbc	23 05 30.5	-0.4
	comp=Z,2.8nm,0.7s,baz=21,slow=2.6,SNR=21						
AKASG	**Malin Array Be**	146.60	325	PKPbc	**PKPbc**	23 05 37.7	-0.2
	comp=Z,1.1nm,0.4s,baz=45,slow=4.5,SNR=7.7						
BRTR	**Keskin Array B**	148.49	304	PKPbc	**PKPbc**	23 05 43.5	0.0
	comp=Z,0.9nm,0.5s,baz=114,slow=0.6,SNR=7.3						
CLL	**Collm**	152.90	341	*e*PKPbc	**PKiKP**	23 05 55.0	+1.9
ESDC	**Sonseca Array**	166.30	11	PKPab	**PKPab**	23 07 05.9	+0.4
	comp=Z,0.4nm,0.8s,baz=2.3,slow=2.6,SNR=3.1						
TORD	**Torodi Ar. Bea**	166.81	190	PKPab	**PKPab**	23 07 08.9	+0.8
	comp=Z,0.3nm,0.6s,baz=174,slow=3.4,SNR=1.5						

*AEIC **05** 22:52:39.9*±*2.1, 61°.52N*±*0°.02*×*140°.69W*±*0°.06, h1km*±*4km, ML3.6, ML3.8(OTT), Mwr3.7/36(SLM), Error ellipse: s-maj=4.4km s-min=2.2km az=116.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; M*rr*2.15; M*θθ*-0.36; M*θφ*-1.79; M*rθ*3.71; M*φφ*2.52; M*rφ*-0.67;*

*PGC **05** 22:52:40.8, 61°.50N×140°.72W, h5km, ML3.8/11, 190km Wnw of Haines Jct., Yt Southern Yukon Territory, Canada*

*NEIC **05** 22:52:40.2*±*2.0, 61°.51N*±*0°.01×140°.68W*±*0°.04, h2km*±*5km, Error ellipse: s-maj=3.1km s-min=1.0km az=125.0*

*IDC **05** 22:52:41.7*±*0.7, 61°.80N×140°.71W, h0km, mb3.8/10, mb1 3.8/15, mb1mx3.7/39, mbtmp3.7/15, ML3.4/5, MS2.7/2, Ms1 2.8/2, ms1mx2.3/43, Error ellipse: s-maj=14.5km s-min=7.6km az=35.0*

ISC 05 22:52:40.6±1.0, **61°.51N**±0°.02×**140°.71W**±0°.02, **h6**km±7km, **n128**, σ**1**§**83**/163, **mb3.7**/10, **Southern Yukon Territory**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK2	**White River**	0.29	347	P	Pg	22 52 45.9	-0.3
YUK2				S	Sg	22 52 50.6	+0.5
YUK2	**White River**	0.29	347		Pg	22 52 45.9	-0.3
YUK2					Sg	22 52 50.9	+0.9
YUK3	**Moose Creek**	0.29	24	P	Pg	22 52 45.7	-0.6
YUK3				S	Sg	22 52 50.5	+0.2
YUK3	**Moose Creek**	0.29	24		Pg	22 52 45.8	-0.6
YUK3					Sg	22 52 50.4	+0.2
BARN	**Barnard Glacie**	0.65	226		Pg	22 52 52.1	-0.9
BARN					Sg	22 53 01.6	+0.2
YUK1	**Sand Pete Hill**	0.65	7	P	Pg	22 52 52.2	-0.9
YUK1				S	Sg	22 53 01.2	-0.3
YUK1	**Sand Pete Hill**	0.65	7		Pg	22 52 52.2	-0.9
YUK1					Sg	22 53 01.3	-0.3
BVCY	**Beaver Creek**	0.91	355	P	Pg	22 52 57.1	-0.9
BVCY				S	Sg	22 53 09.6	-0.2
BVCY	**Beaver Creek**	0.91	355		Pg	22 52 57.2	-0.9
BVCY					Sg	22 53 09.7	-0.2
BALM	**Baldy**	0.92	240	P	Pg	22 52 56.9	-1.4
BALM				S	Sg	22 53 10.4	+0.2
BALM	**Baldy**	0.92	240		Pg	22 52 57.0	-1.3
BALM					Sg	22 53 10.5	+0.2
KIAG	**Kiagna River**	0.99	234	P	Pg	22 52 58.2	-1.5
KIAG				S	Sg	22 53 10.3	-2.2
KIAG	**Kiagna River**	0.99	234		Pg	22 52 58.2	-1.5
KIAG					Sg	22 53 12.4	-0.1
YUK4	**Talbot Arm**	1.00	99	P	Pg	22 52 59.0	-0.8
YUK4	**Talbot Arm**	1.00	99		Pg	22 52 59.1	-0.8
RKAV	**Rock Avalanche**	1.25	195	P	Pg	22 53 02.8	-1.8
RKAV				S	Sg	22 53 19.8	-1.1
RKAV	**Rock Avalanche**	1.25	195		Pg	22 53 02.7	-1.9
RKAV					Sg	22 53 19.9	-0.9
YAH	**Yahtse**	1.26	204		Pg	22 53 03.2	-1.5
YAH					Sg	22 53 21.0	0.0
YUK6	**Outpost Mounta**	1.27	116	P	Pg	22 53 02.9	-2.0
YUK6				S	Sb	22 53 21.1	-0.6
YUK6	**Outpost Mounta**	1.27	116		Pg	22 53 02.8	-2.1
YUK6					Sb	22 53 21.1	-0.6
VRDI	**Verde Repeater**	1.35	259		Pg	22 53 04.5	-2.0
VRDI					Sg	22 53 23.7	-0.4
YUK5	**Granite Creek**	1.42	104	Pn	Pg	22 53 05.6	-2.3
YUK5				Sg	Sg	22 53 23.9	-2.4
YUK5	**Granite Creek**	1.42	104		Pg	22 53 05.5	-2.3
PCA	**Pinnacle**	1.44	171	Pn	Pn	22 53 06.7	-0.6
PCA				Sg	Sg	22 53 26.3	-0.3
PCA	**Pinnacle**	1.44	171		Pn	22 53 06.5	-0.7
CHX	**Chaix Hills**	1.47	188		Pn	22 53 08.1	+0.4
MESA	**MESA**	1.47	205	Pn	Pn	22 53 07.6	-0.2
MESA				Sn	Sg	22 53 25.8	-1.9
MESA	**MESA**	1.47	205		Pn	22 53 07.7	-0.2
GLB	**Gilahina Butte**	1.49	269		Pn	22 53 07.6	-0.4
WAX	**Waxell Ridge**	1.49	226		Pn	22 53 07.0	-1.0
YUK7	**Dusty Glacier**	1.59	127	Pn	Pn	22 53 09.1	-0.3
YUK7				Sg	Sn	22 53 30.5	0.0
YUK7	**Dusty Glacier**	1.59	127		Pn	22 53 09.2	-0.3
KULT	**Kultieth River**	1.60	219		Pn	22 53 09.8	+0.2
KHIT	**Khitrov Hills**	1.64	230		Pn	22 53 09.5	-0.5
BC03		1.64	343		Pn	22 53 09.3	-0.6
HYT	**Haines Junctio**	1.70	112		Pn	22 53 10.7	-0.2
GRIN	**Grindle Hills**	1.77	227		Pn	22 53 13.1	+1.2
PNL	**Peninsula**	1.96	160	Pn	Pn	22 53 14.9	+0.5
PNL				Sg	Sb	22 53 42.4	+1.1
PNL	**Peninsula**	1.96	160		Pn	22 53 14.8	+0.5
MENT	**Mentasta**	2.01	317		Pn	22 53 15.2	0.0
YKU2	**Yakutat**	2.07	165		Pn	22 53 16.2	+0.4
PS12	**TAPS Pump St12**	2.13	271		Pn	22 53 18.3	+1.6
RAGM	**Ragged Mountai**	2.24	242		Pn	22 53 19.6	+1.3
HARP	**HAARP**	2.29	295	Pn	Pn	22 53 19.3	+0.4
HARP	**HAARP**	2.29	295		Pn	22 53 19.8	+0.9
DAWY	**Dawson**	2.64	13	Pn	Pn	22 53 23.5	-0.2
DAWY				Sg	Sg	22 54 02.2	-2.9
DAWY	**Dawson**	2.64	13		Pn	22 53 23.5	-0.2
EYAK	**Cordova Ski Ar**	2.64	251	Pn	Pn	22 53 26.3	+2.6
DOT	**Dot Lake**	2.65	326	Pn	Pn	22 53 23.2	-0.7
DOT				Sg	Sb	22 54 02.2	+0.9
DOT	**Dot Lake**	2.65	326		Pn	22 53 23.5	-0.4
DHAK	**Deception Hill**	2.73	152		Pn	22 53 25.4	+0.5
SCRK	**Sand Creek**	2.90	330		Pn	22 53 26.7	-0.7
FID	**Port Fidalgo**	2.90	257		Pb	22 53 30.6	-2.2
RIDG	**Independent Ri**	2.94	321		Pn	22 53 27.5	-0.5
WHY	**Whitehorse**	2.96	104	Pn	Pn	22 53 27.6	-0.5
WHY				Sn	Sn	22 54 01.9	-2.1
WHY	**Whitehorse**	2.96	104		Pn	22 53 27.8	-0.3
PLBC	**Pleasant Camp**	2.98	132	Pn	Pn	22 53 29.3	+1.0
PLBC				Sg	Sg	22 54 13.7	-2.4
PLBC	**Pleasant Camp**	2.98	132		Pn	22 53 29.2	+1.0
HIN	**Hinchinbrook I**	3.04	251		Pn	22 53 30.8	+1.5
GLI	**Glacier Island**	3.16	261		Pn	22 53 32.6	+1.7
SCM	**Sheep Creek Mo**	3.17	279		Pn	22 53 33.6	+2.5
EGAK	**Eagle**	3.29	357		Pn	22 53 33.8	+1.1
SKAG	**Skagway**	3.36	125		Pg	22 53 43.2	-1.8
MID	**Middleton Isla**	3.48	236	Pn	Pn	22 53 35.5	+0.2
DHY	**Denali Highway**	3.49	300		Pn	22 53 36.6	+1.0
SML	**Sawmill**	3.65	278		Pn	22 53 39.0	+1.4
KNK	**Knik Glacier**	3.72	272		Pn	22 53 41.0	+2.4
WAT1	**Susitna Watana**	3.91	293		Pn	22 53 42.8	+1.6
GHO	**Glory Hole Cre**	3.93	277		Pn	22 53 45.0	+3.5
PMR	**Palmer**	4.03	275		Pb	22 53 50.6	-1.4
HDA	**Harding Lake**	4.07	318		Pn	22 53 43.2	-0.2
PS08	**TAPS Pump Stn8**	4.12	320		Pn	22 53 42.9	-1.2
BESE	**Bessie Mountai**	4.15	132	Pn	Pn	22 53 44.9	+0.3
BESE				Sg	Sg	22 54 48.9	-4.9
BESE	**Bessie Mountai**	4.15	132		Pn	22 53 45.2	+0.6
IL31		4.31	322		Pn	22 53 45.1	-1.5
ILAR	**Eielson Array**	4.31	322	Pn	Pn	22 53 45.0	-1.6
	1.1nm,0.3s,baz=145,slow=12,SNR=34						
ILAR				Pg	Pb	22 53 50.4	-6.3
	1.6nm,0.3s,baz=146,slow=13,SNR=13						
ILAR				Sn	Sn	22 54 34.8	-2.4
	2.4nm,0.3s,baz=126,slow=30,SNR=5.3						
ILAR				Lg	Lg	22 54 52.3	
	9.7nm,0.3s,baz=135,slow=29,SNR=18						
ILAR				LR	LR	22 55 43.9	
	comp=Z,93nm,18.9s,baz=118,slow=45						
RC01	**Rabbit Creek A**	4.38	268	Pn	Pn	22 53 48.8	+1.2
RC01					Pb	22 53 58.0	+0.2
MCK	**McKinley**	4.41	304	Pn	Pn	22 53 47.7	-0.3
WRH	**Wood River Hil**	4.49	315	Pn	Pn	22 53 50.1	+1.0
CCB	**Clear Creek Bu**	4.51	317	Pn	Pn	22 53 52.2	+2.8
SEW	**Seward**	4.51	256	Pn	Pn	22 53 51.0	+1.6
PRP	**Porcupine Dome**	4.56	334	Pn	Pn	22 53 50.1	-0.1
COLA	**College**	4.67	319		Pn	22 53 51.7	+0.1
POKR	**Poker Plat Res**	4.72	323		Pn	22 53 51.5	-0.8
SLKM	**Skilak Lake**	4.74	262		Pn	22 53 54.1	+1.6
MDM	**Murphy Dome**	4.85	319		Pn	22 53 54.2	0.0
KTH	**Kantishna Hill**	5.16	298		Pn	22 54 01.8	+3.5
EPYK	**Eagle Plains**	5.19	18	Pn	Pn	22 53 58.8	0.0
SIT	**Sitka**	5.25	146	Pg	Pg	22 54 17.9	-3.1
BRSE	**Bradley Lake S**	5.25	255		Pn	22 54 00.4	+0.8
BRLK	**Bradley Lake**	5.31	255		Pn	22 54 00.9	+0.5
BPAW	**Bear Paw Mtn.**	5.38	303		Pn	22 54 01.3	-0.1
FYU	**Fort Yukon**	5.45	341		Pn	22 54 02.5	+0.2
PPLA	**Purkeypile**	5.55	290	Pg	Pg	22 54 23.1	-3.8
CNPM	**China Poot**	5.57	254		Pn	22 54 04.4	+0.5
RSO	**Redoubt South**	5.96	265		Pn	22 54 08.7	-0.8
RDWB	**Redoubt West**	5.99	266		Pn	22 54 11.6	+1.7
BM03	**Burnt Mountain**	6.17	346		Pn	22 54 12.6	+0.4
DLBC	**Dease Lake**	6.18	115	Pn	Pn	22 54 17.1	+4.6
	0.4nm,0.3s,baz=280,slow=12,SNR=4.6						
DLBC				Pg	Pb	22 54 31.4	+2.8
	1.1nm,0.3s,baz=317,slow=13,SNR=5.3						
DLBC				Sn	Sn	22 55 27.1	+3.7
	1.8nm,0.3s,baz=178,slow=17,SNR=2.0						
DLBC				Lg		22 55 56.1	
	5.7nm,0.3s,baz=46,slow=21,SNR=9.6						
DLBC	**Dease Lake**	6.18	115	Sg	Sg	22 55 53.6	-5.3
DLBC	**Dease Lake**	6.18	115		Pb	22 54 32.5	+3.9
COLD	**Coldfoot**	7.06	328	Pn	Pn	22 54 24.2	-0.2
COLD				Sg	Sg	22 56 19.2	-7.6
COLD	**Coldfoot**	7.06	328		Pn	22 54 24.4	+0.1
KDAK	**Kodiak Island**	7.08	243	Pn	Pn	22 54 25.8	+1.2
	2.2nm,0.3s,baz=48,slow=4.9,SNR=25						
KDAK				Sn	Sn	22 55 43.4	-2.0
	0.2nm,0.3s,baz=167,slow=7.6,SNR=2.1						
KDAK				LR	LR	22 57 39.0	
	comp=Z,75nm,21.6s,baz=82,slow=41						
KDAK	**Kodiak Island**	7.08	243		Pn	22 54 24.4	-0.2
TTA	**Tatalina**	7.29	288	Pn	Pn	22 54 27.9	+0.2
IM03		7.31	313		Pn	22 54 27.5	-0.3
INK	**Inuvik**	7.47	21	Pn	Pn	22 54 28.5	-1.4
	0.5nm,0.3s,baz=197,slow=15,SNR=12						
INK				Pg	Pb	22 54 43.7	-6.7
	0.9nm,0.3s,baz=218,slow=18,SNR=5.6						
INK				Sn	Sn	22 55 47.5	-7.4
	0.9nm,0.3s,baz=227,slow=23,SNR=2.9						
INK				Lg	Lg	22 56 33.5	
	1.4nm,0.3s,baz=136,slow=22,SNR=4.0						
INK	**Inuvik**	7.47	21	Pn	Pn	22 54 28.3	-1.6
INK				Sn	Sn	22 55 49.2	-5.6
INK	**Inuvik**	7.47	21	Pn	Pn	22 54 28.9	-1.0
OHAK	**Old Harbor**	7.73	242	Pn	Pn	22 54 33.6	+0.1
DIB	**Dawson Inlet,**	9.43	148	Pn	Pn	22 54 57.4	+0.5
MOBC	**Moresby Island**	9.62	147	Pn	Pn	22 54 59.1	-0.4
C36M	**Paulatuk**	10.44	34	Pn	Pn	22 55 08.9	-1.7
CHGN	**Chignik**	10.52	248	Pn	Pn	22 55 11.9	+0.1
YKA	**Yellowknife Ar**	12.27	74	Pn	Pn	22 55 34.2	-1.5
	0.2nm,0.3s,baz=273,slow=13,SNR=4.1						
YKA				Lg	Lg	22 59 06.9	
	0.1nm,0.3s,baz=279,slow=30,SNR=5.4						
RES	**Resolute Bay**	20.80	32	P	P	22 57 20.9	-1.2
	4.7nm,1.0s,baz=121,slow=11,SNR=2.5						
PDAR	**Pinedale Array**	26.38	121	P	P	22 58 21.9	+4.2
	0.3nm,0.6s,baz=329,slow=8.3,SNR=2.2						
NVAR	**Mina Array Bea**	26.95	139	P	P	22 58 28.3	+5.4
	0.4nm,0.7s,baz=327,slow=9.7,SNR=2.3						
PETK	**Petropavlovsk-**	33.11	284	P	P	22 59 17.9	+0.9
	1.1nm,0.8s,baz=71,slow=14,SNR=2.6						
TXAR	**Lajitas Array**	40.37	126	P	P	23 00 21.6	+2.5
	0.6nm,0.9s,baz=308,slow=6.2,SNR=3.4						
NRIK	**Norilʹsk**	45.00	338	P	P	23 00 56.4	+0.3
	1.2nm,0.4s,baz=13,slow=4.4,SNR=4.2						
TEIG	**Tepich**	54.82	114	LR	LR	23 28 47.6	
	comp=Z,347nm,19.0s,baz=63,slow=39						
FINES	**FINESS Array B**	56.95	8	P	P	23 02 24.7	-1.4
	1.5nm,1.0s,baz=8.4,slow=11,SNR=4.7						
ZALV	**Zalesovo Beam**	59.39	331	P	P	23 02 43.6	+0.5
	0.8nm,0.4s,baz=64,slow=4.0,SNR=4.7						
MKAR	**Makanchi Array**	66.63	329	P	P	23 03 32.5	+1.0
	0.2nm,0.6s,baz=43,slow=7.3,SNR=3.7						
AKASG	**Malin Array Be**	67.85	7	P	P	23 03 38.9	-0.2
	1.6nm,0.6s,baz=356,slow=6.7,SNR=5.7						
BRTR	**Keskin Array B**	79.01	4	P	P	23 04 43.3	-1.9
	0.5nm,0.7s,baz=343,slow=4.5,SNR=2.7						

*VAO **05** 23:10

LVC				Lg		Lg	23 11 57.3	
	comp=N,22nm,0.3s,baz=91,slow=14,SNR=11							
LVC	**Limon Verde**	**3.47**	**147**			**Pn**	**23 11 05.4**	**+0.4**
LVC	**Limon Verde**	**3.47**	**147**	*e*P		**Pn**	**23 11 06.5**	**+1.5**
LVC	**Limon Verde**	**3.47**	**147**	*e*P		**Pn**	**23 11 06.5**	**+1.5**
PB10	**IPOC Station P**	**3.81**	**174**	Pn		**Pn**	**23 11 06.8**	**-2.5**
LPAZ	**La Paz**	**4.34**	**39**	LR		LR	23 12 22.4	
	comp=N,74nm,19.9s,baz=19,slow=31							
LPAZ	**La Paz**	**4.34**	**39**			**Pn**	**23 11 18.2**	**+1.0**
GO02	**Mina Guanaco**	**5.58**	**167**			**Pn**	**23 11 33.3**	**-0.6**
AC01	**Pan de Azucar**	**6.42**	**177**	Pn		**Pn**	**23 11 43.5**	**-1.7**
AC02	**Maricunga**	**7.29**	**167**	Pn		**Pn**	**23 11 57.0**	**-0.6**
GO03	**Copiap**	**7.88**	**175**	Pn		**Pn**	**23 12 05.4**	**+0.1**
AC04	**Llanos de Chal**	**8.46**	**181**	Pn		**Pn**	**23 12 12.3**	**-0.9**
AC05	**El Transito**	**9.11**	**176**	Pn		**Pn**	**23 12 21.0**	**-1.3**
NNA	**Nana**	**9.53**	**323**	LR		LR	23 16 22.5	
	comp=N,138nm,19.4s,baz=157,slow=39							
SIV	**San Ignacio**	**10.12**	**70**	Pn		**Pn**	**23 12 36.1**	**0.0**
	comp=N,1.9nm,0.3s,baz=252,slow=13,SNR=20							
SIV				Sn		**Sn**	**23 14 30.9**	**+1.8**
	baz=305,slow=11,SNR=1.9							
GO04	**Tololo Observa**	**10.42**	**179**	Pn		**Pn**	**23 12 39.8**	**-0.5**
CO03	**El Pedregal**	**11.09**	**179**	Pn		**Pn**	**23 12 48.8**	**-0.5**
CO02	**Combarbal**	**11.45**	**180**	Pn		**Pn**	**23 12 54.4**	**+0.1**
PTLB	**Pontes e Lacer**	**12.05**	**71**	*e*P		**Pn**	**23 13 05.7**	**+3.2**
PTLB	**Pontes e Lacer**	**12.05**	**71**	*e*P		**Pn**	**23 13 05.7**	**+3.2**
CFA	**Coronel Fontan**	**12.10**	**169**	Pn		**Pn**	**23 13 03.1**	**0.0**
	comp=N,0.4nm,0.3s,baz=344,slow=7.4,SNR=1.8							
CFA				LR		LR	23 17 49.3	
	comp=N,153nm,19.5s,baz=340,slow=38							
VILB	**Vilhena**	**12.32**	**59**	*e*P		**Pn**	**23 13 08.9**	**+2.7**
VILB	**Vilhena**	**12.32**	**59**	*e*P		**Pn**	**23 13 08.9**	**+2.7**
SAML	**Samuel**	**13.08**	**36**	Pn		**Pn**	**23 13 17.3**	**+0.7**
SAML	**Samuel**	**13.08**	**36**	*e*P		**Pn**	**23 13 16.5**	**-0.1**
SAML	**Samuel**	**13.08**	**36**	*e*P		**Pn**	**23 13 16.5**	**-0.1**
AQDB	**Aquidauana**	**14.37**	**96**	*e*P		**P**	**23 13 38.9**	**-2.1**
AQDB	**Aquidauana**	**14.37**	**96**	*e*P		**P**	**23 13 38.9**	**-2.1**
SALV	**Santo Antonio**	**15.03**	**78**	*e*P		**Pn**	**23 13 43.4**	**+0.3**
SALV	**Santo Antonio**	**15.03**	**78**	*e*P		**Pn**	**23 13 43.4**	**+0.3**
H03N1	**Juan Fernandez**	**15.40**	**206**	T		T	23 29 33.9	
	baz=32,slow=72,SNR=52							
H03N2	**Juan Fernandez**	**15.41**	**206**	T		T	23 29 36.7	
	baz=32,slow=72,SNR=18							
H03N3	**Juan Fernandez**	**15.42**	**206**	T		T	23 29 32.2	
	baz=32,slow=72,SNR=20							
ARAG	**Araguaiana, MT**	**18.68**	**81**	*e*P		**Pn**	**23 14 32.0**	**+2.8**
ARAG	**Araguaiana, MT**	**18.68**	**81**	*e*P		**Pn**	**23 14 32.0**	**+2.8**
MACA	**Manacapuru-AM**	**19.27**	**33**	*e*P		**P**	**23 14 33.8**	**-1.5**
MACA	**Manacapuru-AM**	**19.27**	**33**	*e*P		**P**	**23 14 33.8**	**-1.5**
ITRB	**Iturama**	**19.40**	**93**	*e*P		**Pn**	**23 14 39.1**	**+1.1**
ITRB	**Iturama**	**19.40**	**93**	*e*P		**Pn**	**23 14 39.1**	**+1.1**
NPGB	**Novo Progresso**	**19.70**	**52**	*e*P		**Pn**	**23 14 40.1**	**-1.4**
NPGB	**Novo Progresso**	**19.70**	**52**	*e*P		**Pn**	**23 14 40.1**	**-1.4**
PLCA	**Paso Flores**	**20.96**	**179**	P		**P**	**23 14 53.2**	**-0.4**
	comp=N,0.9nm,0.6s,baz=5.2,slow=20,SNR=1.5							
PLCA	**Paso Flores**	**20.96**	**179**	IAmb		IAmb	23 15 08.6	
	comp=Z,47nm,1.9s							
IPMB	**Ipameri, GO**	**21.60**	**89**	*e*P		**P**	**23 15 03.3**	**+2.6**
IPMB	**Ipameri, GO**	**21.60**	**89**	*e*P		**P**	**23 15 03.3**	**+2.6**
PTGA	**Pitinga**	**21.72**	**31**	P		**P**	**23 15 00.2**	**-1.6**
	comp=Z,2.0nm,0.4s,baz=64,slow=23,SNR=5.8							
PTGA				LR		LR	23 23 31.9	
	comp=Z,77nm,18.4s,baz=206,slow=37							
PTGA	**Pitinga**	**21.72**	**31**	IAmb		IAmb	23 15 27.8	
	comp=Z,18nm,1.6s							
PTGA	**Pitinga**	**21.72**	**31**	*e*P		**P**	**23 14 59.6**	**-2.2**
PTGA	**Pitinga**	**21.72**	**31**	*e*P		**P**	**23 14 59.6**	**-2.2**
BDFB	**Brasilia**	**22.23**	**83**	P		**P**	**23 15 08.1**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=270,slow=14,SNR=1.6							
BDFB				LR		LR	23 24 40.7	
	comp=Z,138nm,20.1s,baz=215,slow=39							
BDFB	**Brasilia**	**22.23**	**83**	P		**P**	**23 15 06.7**	**-0.9**
RUSC	**La Rusia**	**25.52**	**355**	P		**P**	**23 15 39.8**	**+0.1**
JANB	**Januaria**	**25.84**	**84**	*e*P		**P**	**23 15 42.5**	**+0.3**
JANB	**Januaria**	**25.84**	**84**	*e*P		**P**	**23 15 42.5**	**+0.3**
SDV	**Santo Domingo**	**28.42**	**1**	LR		LR	23 26 38.4	
	comp=Z,87nm,21.3s,baz=240,slow=35							
DBIC	**Dimbokro**	**70.11**	**75**	LR		LR	23 50 34.1	
	comp=Z,52nm,19.7s,baz=115,slow=35							
CMB	**Columbia Colle**	**73.84**	**321**	P		**P**	**23 21 48.0**	**+2.8**
TORD	**Torodi Ar. Bea**	**78.60**	**72**	P		**P**	**23 22 10.9**	**-1.7**
	comp=Z,2.0nm,0.8s,baz=255,slow=6.3,SNR=9.2							
TORD				LR		LR	23 55 39.9	
	comp=Z,37nm,20.5s,baz=250,slow=35							
ESDC	**Sonseca Array**	**85.94**	**45**	LR		LR	23 57 43.3	
	comp=Z,21nm,20.5s,baz=335,slow=33							
YKA	**Yellowknife Ar**	**88.87**	**341**	P		**P**	**23 23 05.1**	**+1.0**
	comp=Z,1.1nm,1.0s,baz=144,slow=5.1,SNR=9.7							
H11S2	**WAKE ISLAND Hyl**	**25.72**	**279**	T		T	01 48 31.4	
	baz=101,slow=74,SNR=17							
H11S1	**WAKE ISLAND Hyl**	**25.73**	**279**	T		T	01 48 29.5	
	baz=101,slow=74,SNR=11							
H11S3	**WAKE ISLAND Hyl**	**25.74**	**279**	T		T	01 48 32.2	
	baz=101,slow=74,SNR=11							
H11N3	**WAKE ISLAND Hyl**	**25.76**	**281**	T		T	01 48 38.2	
	baz=100,slow=74,SNR=4.8							
H11N2	**WAKE ISLAND Hyl**	**25.77**	**281**	T		T	01 48 33.6	
	baz=100,slow=74,SNR=5.7							
H11N1	**WAKE ISLAND Hyl**	**25.78**	**281**	T		T	01 48 33.7	
	baz=100,slow=74,SNR=3.6							
MKAR	**Makanchi Array**	**145.25**	**33**	PKPbc		**PKPdf**	**23 29 47.9**	**-0.2**
	comp=Z,1.3nm,1.0s,baz=336,slow=3.2,SNR=5.7							

HEL 05 23:28:16.0±0.1, 67.82N×20.21E, h0km, ML1.4, ML1.4(UPP), Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**20**	*i* P	Pg	23 28 18.3	-0.3
KUA				*i* S	Sg	23 28 20.2	-0.2
KOVU	**Salmi**	**0.40**	**357**	*i* P	Pg	23 28 23.1	-0.6
KOVU				*i* S	Sg	23 28 28.3	-0.6
NIKU	**Nikkaluokta**	**0.45**	**276**	*i* P	Pg	23 28 24.1	-0.5
NIKU				*i* S	Sg	23 28 30.1	-0.2
LANU	**Lannavaara**	**0.71**	**71**	*i* P	Pg	23 28 28.9	-0.6
LANU				*i* S	Sg	23 28 38.3	-0.5
KIF	**Kilpisjarvi**	**1.21**	**10**	*e*PB	Pg	23 28 38.7	-0.4
	baz=196						
KIF				MSG		23 28 54.4	
	comp=Z,5.3nm,0.2s						
KIF				*e*SB	Sb	23 28 55.5	-0.3
PAJU	**Pajala**	**1.38**	**124**	*e*P	Pg	23 28 41.0	-1.4
HEF	**Hetta**	**1.42**	**64**	*e*PG	Pn	23 28 41.7	-1.4
	baz=253						
HEF				MSG		23 28 59.4	
	comp=Z,1.0nm,0.2s						
ERTU	**Ertsjaerv**	**1.49**	**148**	*e*PN	Pn	23 28 43.4	-0.6
	baz=319						
ERTU				*e*SN	Sg	23 29 03.2	-0.6
TOF	**Tornio**	**2.39**	**135**	*e*PB	Pn	23 28 57.4	+1.1
TOF				MSG		23 29 26.0	
	comp=Z,1.6nm,0.2s						
TOF				*e*SG	Sb	23 29 29.7	0.0
SGF	**Sodankyl**	**2.45**	**96**	*e*PG	Pb	23 28 59.5	-1.3
	baz=290						
RNF	**Rovaniemi**	**2.57**	**116**	*e*PB	Pn	23 29 00.5	+1.7
RNF				*e*SG	Sb	23 29 34.5	-0.4
ARE0	**ARCESS Array S**	**2.59**	**46**	*e*PB	Pn	23 29 00.9	+1.8
	baz=225						
ARE0				*e*SB	Sb	23 29 34.6	-0.9

UPP 05 23:29:01.9±0.1, 67.83N×20.20E, h0km, ML1.6, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.14**	**22**	P	Pg	23 29 04.8	+0.3
KUA				S	Sg	23 29 06.7	+0.5
KOVU	**Salmi**	**0.40**	**358**	P	Pg	23 29 09.5	0.0
KOVU				S	Sg	23 29 14.8	+0.2
NIKU	**Nikkaluokta**	**0.44**	**276**	P	Pg	23 29 10.4	0.0
NIKU				S	Sg	23 29 16.4	+0.3
LANU	**Lannavaara**	**0.71**	**71**	P	Pg	23 29 15.0	-0.4
MASU	**Masugnsbyn**	**0.78**	**118**	P	Pg	23 29 16.7	-0.2
PAJU	**Pajala**	**1.38**	**124**	P	Pg	23 29 27.1	-1.2

*SOME **05** 23:33:41.6, 40.35N×78.62E, h5km*
*KRNET **05** 23:33:43.4±0.1, 40.45N×78.64E, mb3.1*
*NNC **05** 23:33:43.4±1.1, 40.39N×78.53E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=7.2km s-min=5.1km az=167.0*
ISC 05 23:33:47.0±0.1, 40.52N±0.08×78.52E±0.04, h10km, n58, σ1§39/87, 21C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.32**	**336**	⇑*i*P	Pn	**23 34 10.4**	**-1.6**
	baz=34						
TARG				⇑*i*S	Sg	**23 34 30.2**	**+0.5**
	baz=34						
KDJ	**Kajisay**	**1.90**	**328**	⇑*i*P	Pb	**23 34 20.4**	**-1.5**
	baz=27						
KDJ				⇑*i*S	Sg	**23 34 47.7**	**-0.4**
	baz=27						
PRZ	**Przheval'sk**	**1.97**	**357**	⇑*i*P	Pn	**23 34 21.0**	**+0.4**
	baz=55						
PRZ				⇑*i*S	Sb	**23 34 48.7**	**+1.0**
	baz=55						
ANVS	**Anan'yevo**	**2.35**	**345**	⇑*e*P	Pn	**23 34 26.7**	**+0.8**
	baz=43						
ANVS				⇑*i*S	Sb	**23 34 58.3**	**-0.5**
	baz=43						
ULHL	**Ulahol**	**2.43**	**316**	⇑*e*P	Pn	**23 34 28.0**	**+1.0**
	baz=16						
ULHL				⇑*i*S	Sb	**23 35 00.9**	**-0.2**
	baz=16						
ULHL	**Ulahol**	**2.43**	**316**	P	Pb	**23 34 29.8**	**-1.2**
	SNR=27						
SATY	**Saty**	**2.54**	**358**	*e*P	Pb	**23 34 32.3**	**-0.5**
	9.7nm,0.4s						
SATY				*e*S	Sg	**23 35 09.2**	**+0.5**
	38nm,0.6s						
SATY	**Saty**	**2.54**	**358**	Pg	Pb	**23 34 32.3**	**-0.5**
	9.7nm,0.4s						
SATY				Lg	Lg	23 35 09.1	
	36nm,0.7s						
SHLS	**Shalkode**	**2.73**	**15**	*e*P	Pg	**23 34 37.2**	**-2.2**
	10nm,0.3s						
SHLS				*e*S	Sg	**23 35 16.9**	**+2.2**
	54nm,0.6s						
SHLS	**Shalkode**	**2.73**	**15**	Pg	Pg	**23 34 37.2**	**-2.2**
	10nm,0.3s						
SHLS				Lg	Lg	23 35 16.9	
	48nm,0.7s						
BOOM	**Boomskoye usch**	**2.76**	**316**	⇑*i*P	Pn	**23 34 32.4**	**+0.9**
	baz=16						
BOOM				⇑*i*S	Sb	**23 35 08.7**	**-1.9**
	baz=16						
TNSS	**Tian-Shan**	**2.78**	**335**	*e*P	Pb	**23 34 36.9**	**-0.2**
	9.3nm,0.4s						
TNSS				*e*S	Sg	**23 35 17.0**	**+0.7**
	16nm,0.3s						
TNSS	**Tian-Shan**	**2.78**	**335**	Pg	Pb	**23 34 36.8**	**-0.2**
	8.2nm,0.4s						
TNSS				Lg	Lg	23 35 17.0	
	15nm,0.3s						
MDOK	**Medeo**	**2.86**	**338**	*e*P	Pb	**23 34 37.8**	**-0.5**
	6.9nm,0.3s						
MDOK				*e*S	Sg	**23 35 17.5**	**-1.5**
	15nm,0.5s						
MDOK	**Medeo**	**2.86**	**338**	Pg	Pb	**23 34 38.6**	**+0.3**
	6.3nm,0.5s						
MDOK				Lg	Lg	23 35 19.2	
	14nm,0.6s						
MDOK	**Medeo**	**2.86**	**338**	Pg	Pb	**23 34 37.8**	**-0.5**
	6.9nm,0.3s						
MDOK				Lg	Lg	23 35 17.5	
	15nm,0.5s						
IZV	**Izvestkoviy**	**2.89**	**331**	*e*P	Pb	**23 34 38.6**	**-0.2**
	6.8nm,0.3s						
IZV				*e*S	Sg	**23 35 19.6**	**-0.3**
	26nm,0.3s						
IZV	**Izvestkoviy**	**2.89**	**331**	Pg	Pb	**23 34 38.6**	**-0.2**
	6.8nm,0.3s						
IZV				Lg	Lg	23 35 19.6	
	26nm,0.3s						
PDGK	**Podgornoye**	**2.90**	**14**	Pg	Pb	**23 34 38.2**	**-0.7**
	3.6nm,0.4s						
PDGK				Lg	Lg	23 35 18.1	
	9.5nm,0.4s						
PDGK	**Podgornoye**	**2.90**	**14**	⇓Pg	Pb	**23 34 38.2**	**-0.7**
	2.9nm,0.3s						
PDGK				⇓Lg	Lg	23 35 17.1	
	12nm,0.5s						
KOTS	**Kotyrbulak**	**2.91**	**339**	*e*P	Pb	**23 34 39.0**	**-0.1**
	14nm,0.2s						
KOTS				*e*S	Sg	**23 35 20.5**	**0.0**
	18nm,0.3s						
KOTS	**Kotyrbulak**	**2.91**	**339**	Pg	Pb	**23 34 39.0**	**-0.1**
	14nm,0.2s						
KOTS				Lg	Lg	23 35 20.5	
	18nm,0.2s						
KZA	**Kyzart**	**2.92**	**303**	⇑*i*P	Pn	**23 34 34.9**	**+1.1**
	baz=4.0						
KZA				⇑*i*S	Sb	**23 35 12.8**	**-2.4**
	baz=4.0						
KZA	**Kyzart**	**2.92**	**303**	P	Pb	**23 34 37.8**	**-1.5**
	SNR=12						
KURS	**Kuram**	**2.98**	**355**	*e*P	Pb	**23 34 39.5**	**-0.7**
	7.2nm,0.5s						
KURS				*e*S	Sg	**23 35 21.9**	**-0.8**
	13nm,0.6s						
KURS	**Kuram**	**2.98**	**355**	Pg	Pb	**23 34 40.5**	**+0.3**
	7.2nm,0.6s						
KURS				Lg	Lg	23 35 22.6	
	13nm,0.8s						
KST	**Kastek**	**3.17**	**324**	*e*P	Pb	**23 34 42.6**	**-0.8**
	11nm,0.6s						
KST				*e*S	Sg	**23 35 26.6**	**-2.1**
	7.9nm,0.5s						
KST	**Kastek**	**3.17**	**324**	Pg	Pb	**23 34 42.7**	**-0.8**
	9.6nm,0.5s						
KST				Lg	Lg	23 35 25.4	
	7.9nm,0.5s						
KTMS	**Ketmen**	**3.23**	**24**	*e*P	Pb	**23 34 43.8**	**-0.8**
	3.2nm,0.2s						
KTMS				*e*S	Sg	**23 35 29.0**	**-1.7**
	16nm,0.4s						
KTMS	**Ketmen**	**3.23**	**24**	Pg	Pb	**23 34 43.8**	**-0.8**
	3.2nm,0.2s						
KTMS				Lg	Lg	23 35 27.7	
	16nm,0.4s						
TKM2	**Tokmak 2**	**3.25**	**319**	⇑*i*P	Pn	**23 34 39.9**	**+1.7**
	baz=18						
TKM2				⇑*i*S	Sn	**23 35 20.5**	**+3.4**
	baz=18						
TKM2	**Tokmak 2**	**3.25**	**319**	P	Pb	**23 34 44.3**	**-0.6**
	SNR=8.5						
TKM2	**Tokmak 2**	**3.25**	**319**	⇓Pg	Pb	**23 34 44.0**	**-0.9**
	2.3nm,0.3s						
TKM2				⇑Lg	Lg	23 35 30.3	
	5.5nm,0.5s						
DGS	**Degeres**	**3.41**	**324**	*e*P	Pb	**23 34 47.7**	**+0.1**
	0.3nm,0.4s						
DGS				*e*S	Sg	**23 35 34.4**	**-2.1**
	11nm,0.6s						
DGS	**Degeres**	**3.41**	**324**	Pg	Pb	**23 34 47.7**	**+0.1**
	0.3nm,0.4s						
DGS				Lg	Lg	23 35 34.4	
	11nm,0.6s						
KBK	**Karagaybulak**	**3.43**	**310**	⇓*i*P	Pn	**23 34 42.2**	**+1.5**
	baz=10.0						
KBK				⇓*i*S	Sn	**23 35 24.4**	**+3.0**
	baz=10.0						
KBK	**Karagaybulak**	**3.43**	**310**	P	Pb	**23 34 47.8**	**-0.2**
	SNR=5.3						
ARLS	**Aral**	**3.44**	**294**	⇓*e*P	Pn	**23 34 42.0**	**+1.2**
	baz=95						
ARLS				⇓*i*S	Sn	**23 35 24.8**	**+3.1**
	baz=95						
UCH	**Uchtor**	**3.46**	**301**	P	Pb	**23 34 49.4**	**+0.7**
	SNR=5.8						
KTBS	**Karatobe**	**3.47**	**337**	*e*P	Pb	**23 34 48.5**	**-0.1**
	2.7nm,0.4s						
KTBS				*e*S	Sg	**23 35 36.9**	**-1.6**
	14nm,0.4s						
KTBS	**Karatobe**	**3.47**	**337**	Pg	Pb	**23 34 49.9**	**+1.3**
	1.6nm,0.2s						
KTBS				Lg	Lg	23 35 38.1	
	14nm,0.2s						
MNBS	**Baschi**	**3.56**	**359**	*e*P	Pb	**23 34 50.9**	**+0.8**
	4.5nm,0.4s						
MNBS				*e*S	Sg	**23 35 40.7**	**-0.7**
	15nm,0.4s						
MNBS	**Baschi**	**3.56**	**359**	Pg	Pb	**23 34 51.0**	**+0.8**
	4.0nm,0.3s						
MNBS				Lg	Lg	23 35 40.7	
	15nm,0.4s						
AAK	**Ala-Archa**	**3.69**	**306**	⇓*e*P	Pn	**23 34 45.5**	**+1.3**
	baz=6.0						
AAK				⇓*i*S	Sn	**23 35 30.7**	**+2.9**
	baz=6.0						
AAK	**Ala-Archa**	**3.69**	**306**	⇑Pg	Pb	**23 34 51.0**	**-1.3**
	1.6nm,0.5s						
AAK				⇑Lg	Lg	23 35 41.1	
	9.7nm,0.6s						
ARXS	**Arharly**	**3.73**	**352**	*e*P	Pb	**23 34 54.3**	**+1.3**
	9.3nm,0.4s						
ARXS				*e*S	Sg	**23 35 47.0**	**+0.3**
	9.8nm,0.5s						
ARXS	**Arharly**	**3.73**	**352**	Pg	Pb	**23 34 54.3**	**+1.3**
	9.3nm,0.4s						
ARXS				Lg	Lg	23 35 45.8	
	9.8nm,0.5s						
KUU	**Kurty**	**3.74**	**335**	*e*P	Pb	**23 34 54.3**	**+1.1**
	1.2nm,0.2s						
KUU				*e*S	Sg	**23 35 45.8**	**-1.4**
	9.2nm,0.7s						
KUU	**Kurty**	**3.74**	**335**	Pg	Pb	**23 34 54.3**	**+1.1**
	1.2nm,0.2s						
KUU				Lg	Lg	23 35 45.8	
	9.2nm,0.7s						
CHMS	**Chumysh**	**3.75**	**313**	P	Pb	**23 34 53.6**	**+0.2**
	SNR=9.5						
DJR	**Jarkent**	**3.93**	**13**	*e*P	Pb	**23 34 56.6**	**+0.3**
	1.9nm,0.3s						
DJR				*e*S	Sg	**23 35 50.9**	**-2.2**
	7.4nm,0.3s						
DJR	**Jarkent**	**3.93**	**13**	Pg	Pb	**23 34 56.6**	**+0.3**
	1.9nm,0.3s						
DJR				Lg	Lg	23 35 49.2	
	7.4nm,0.3s						
AML	**Almayashu**	**3.98**	**295**	⇑*i*P	Pn	**23 34 49.6**	**+1.2**
	baz=96						
AML				⇑*i*S	Sn	**23 35 38.0**	**+2.8**
	baz=96						
EKS2	**Erkin-Say**	**4.15**	**303**	P	Pb	**23 35 00.8**	**+0.5**
	SNR=6.1						
MRKS	**Merke**	**4.55**	**301**	*e*P	Pb	**23 35 08.2**	**+1.2**
	2.7nm,0.3s						
MRKS				*e*S	Sg	**23 36 09.8**	**-3.2**
	3.8nm,0.5s						
MRKS	**Merke**	**4.55**	**301**	Pg	Pb	**23 35 06.8**	**-0.2**
	3.0nm,0.3s						
MRKS				Lg	Lg	23 36 07.8	
	3.0nm,0.5s						
KAPS	**Kapalarasan**	**4.80**	**7**	*e*P	Pb	**23 35 13.2**	**+1.9**
	0.9nm,0.3s						
KAPS				*e*S	Sg	**23 36 18.8**	**-2.5**
	4.7nm,0.5s						
KAPS	**Kapalarasan**	**4.80**	**7**	Pg	Pb	**23 35 13.2**	**+1.9**
	0.9nm,0.3s						
KAPS				Lg	Lg	23 36 18.8	
	6.0nm,0.6s						

IDC 06 00:06:54.3±7.3, 7.44S×154.45E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/30, mbtmpg3.6/3, Error ellipse: s-maj=209.6km s-min=38.3km az=111.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.12**	**235**	P	P	00 12 02.4	+0.2
	1.7nm,0.8s,baz=58,slow=9.7,SNR=5.5						
ASAR	**Alice Springs**	**25.48**	**228**	P	P	00 12 23.9	-0.5
	0.7nm,0.8s,baz=56,slow=8.1,SNR=5.0						
SONM	**Songino Array**	**69.42**	**328**	P	P	00 18 04.7	+0.3
	0.5nm,0.5s,baz=131,slow=4.4,SNR=2.8						

*IDC **06** 00:16:29.9±0.7, 34.14N×89.35E, h0km, mb4.1/22, mb1 4.2/27, mb1mx4.1/52, mbtmp4.1/27, ML3.8/5, MS3.9/27, Ms1 3.9/27, ms1mx3.8/34, Error ellipse: s-maj=17.9km s-min=13.8km az=40.0*
*BJI **06** 00:16:31.8±0.0, 34.26N×89.34E, h6km, mB4.6/23, mb4.3/29, Ms4.4/35, Ms7 4.2/33*
*MOS **06** 00:16:32.9±1.1, 34.34N×89.23E, h22km, mb4.7/16, MS4.0/4, Error ellipse: s-maj=9.1km s-min=4.6km az=119.9*
*NEIC **06** 00:16:33.0±2.5, 34.22N±0.05×89.12E±0.06, h10km±4km, mb4.5/67, Error ellipse: s-maj=9.5km s-min=3.5km az=129.0*
*GCMT **06** 00:16:33.0±0.3, 34.15N±0.02×89.26E±0.02, h19km±2km, MW4.7/77, Moment Tensor Solution. s5,c5; s77,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.17±.09; $M_{\theta\theta}$-1.10±.05; $M_{\phi\phi}$ 1.27±.07; $M_{r\theta}$ 0.26±.14; $M_{\theta\phi}$ 0.28±.05; $M_{\phi r}$ 0.27±.12; Best double couple: $M_0$1.27400×10^{16} NP1:ϕ_s322.00000°, δ73.00000°, λ-179.00000°. NP2: ϕ_s231.00000°, δ89.00000°, λ-17.00000°. Principal axes: T 1.3630, Plg11.0000°, Azm278.0000°; N -0.1770, Plg73.0000°, Azm47.0000°; P -1.1850, Plg13.0000°, Azm185.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 00:16:33.8±0.3, 34.20N±0.04×89.03E±0.04, h17km, n209, σ2§16/203, mb4.4/60, MS3.9/29, 19C-3D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.83**	**158**	Pn	**Pn**	**00 17 49.7**	**+3.5**
LSA				Sn	**Sb**	**00 18 50.9**	**-5.4**
LSA	**Lhasa**	**4.83**	**158**	P	**Pn**	**00 17 49.5**	**+3.3**
LSA	**Lhasa**	**4.83**	**158**		**Pn**	**00 17 49.5**	**+3.3**
GUN	**Gumba**	**6.83**	**204**	*e*P	**Pn**	**00 18 14.7**	**+1.2**
	32nm,0.5s						
TAPN	**Taplejung**	**6.92**	**190**	*e*P	**Pn**	**00 18 16.8**	**+2.1**
	26nm,0.5s						
JIRN	**Jiri**	**6.96**	**201**	*e*P	**Pn**	**00 18 17.0**	**+1.7**
	73nm,0.5s						
GKN	**Gorkha**	**7.23**	**213**	*e*P	**Pn**	**00 18 20.5**	**+1.6**
	8.2nm,0.2s						
PKIN	**Phulchoki**	**7.30**	**206**	*e*P	**Pn**	**00 18 21.4**	**+1.5**
	22nm,0.4s						
PKI	**Pulchoki**	**7.30**	**206**	*e*P	**Pn**	**00 18 21.7**	**+1.7**
	29nm,0.7s						
DANN	**Dangsing**	**7.37**	**219**	*e*P	**Pn**	**00 18 21.8**	**+0.9**

LZH pmax pmax
comp=Z,24nm,1.0s
LZH LR LR
comp=Z,83nm,5.2s
LZH LR LR
comp=N,2µm,11.3s
LZH LR LR
comp=E,1µm,11.2s
LZH LR LR
comp=Z,1µm,13.0s
CD2 Chengdu 12.85 101 P Pn 00 19 29.9 -5.8
CD2 S **Sn 00 21 51.8 -6.5**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 LR LR
comp=N,4µm,11.5s
CD2 LR LR
comp=E,3µm,10.8s
CD2 LR LR
comp=Z,4µm,10.8s
NIL Nilore 13.12 272 P **Pn 00 19 38.7 -0.7**
NIL Nilore 13.12 272 Pn **Pn 00 19 38.7 -0.7**
BOOM Boomskoye usch 13.19 313 P **Pn 00 19 41.7 +1.3**
BOOM Boomskoye usch 13.19 313 Pn 00 19 41.6 +1.3
MK31 Makanchi Array 13.58 340 P **Pn 00 19 43.8 -1.8**
MK31 Makanchi Array 13.58 340 Pn **Pn 00 19 43.8 -1.8**
MKAR Makanchi Array 13.58 340 Pn **Pn 00 19 43.2 -2.4**
comp=Z,0.3nm,0.3s,baz=148,slow=14,SNR=11
MKAR LR LR 00 26 09.5
comp=Z,292nm,19.7s,baz=156,slow=42
MAKZ Makanchi 13.68 339 P **Pn 00 19 45.1 -1.9**
MAKZ Makanchi 13.68 339 Pn **Pn 00 19 45.1 -1.9**
AAK Ala-Archa 14.16 311 Pn **Pn 00 19 56.3 +2.6**
comp=Z,0.5nm,0.3s,baz=110,slow=14,SNR=12
AAK LR LR 00 26 07.5
comp=Z,456nm,20.5s,baz=110,slow=40
AAK Ala-Archa 14.16 311*c iP* **Pn 00 19 57.2 +3.5**
AAK pmax pmax
comp=Z,17nm,1.3s
AAK Ala-Archa 14.16 311 Pn **Pn 00 19 56.9 +3.3**
FRU1 Bishkek 14.17 312 P **Pn 00 19 55.5 +1.8**
FRU1 Bishkek 14.17 312 Pn **Pn 00 19 55.5 +1.8**
ARSB Arslanbob 14.54 304 P **Pn 00 20 01.3 +2.4**
ARSB Arslanbob 14.54 304 Pn 00 20 01.3 +2.4
KMI Kunming 14.95 124 P **P 00 20 09.3 -0.7**
KMI pP Pn 00 20 11.1 +6.6
KMI sP 00 20 12.8
KMI PP **PnPn 00 20 20.1 +7.6**
KMI S **Sn 00 22 55.3 +5.5**
KMI sS S 00 23 00.0 -7.6
KMI SS **SnSn 00 23 05.6 +3.1**
KMI pmax pmax
comp=Z,8.0nm,0.5s
KMI pmax pmax
comp=Z,120nm,3.3s
KMI LR LR
comp=N,2µm,10.4s
KMI LR LR
comp=E,2µm,10.8s
KMI LR LR
comp=Z,980nm,9.6s
DGZ Jazzator, Alta 15.54 356⇑*eP* **Pn 00 20 11.3 -0.8**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
BTK Batken 15.65 297 P **Pn 00 20 14.7 +1.1**
BTK pmax pmax
comp=Z,20nm,1.1s
BTK Batken 15.65 297 Pn **Pn 00 20 14.7 +1.1**
BTK IAmb IAmb 00 20 28.9
comp=Z,20nm,1.1s
GAR Garm 15.77 293 Pn **Pn 00 20 16.0 +0.8**
GAR IAmb IAmb 00 20 23.7
comp=Z,26nm,1.2s
XAN Xi'an 16.48 85 P **Pn 00 20 23.3 -0.9**
XAN pP P 00 20 26.5 -0.3
XAN PP **sP 00 20 37.6 +1.7**
XAN pmax pmax
comp=Z,9.0nm,1.1s
XAN pmax pmax
comp=Z,100nm,4.8s
XAN LR LR
comp=Z,2µm,15.2s
XAN LR LR
comp=Z,490nm,14.4s
XAN LR LR
comp=Z,2µm,11.4s
XAN Xi'an 16.48 85 P **Pn 00 20 22.9 -1.3**
XAN pmax pmax
comp=Z,13nm,1.0s
XAN Xi'an 16.48 85 Pn **Pn 00 20 22.9 -1.3**
KBL Kabul 16.51 277 P **Pn 00 20 24.6 -0.2**
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 16.51 277 Pn **Pn 00 20 24.6 -0.2**
CHGR Chuyangaron 16.60 291 Pn 00 20 25.9 +0.1
CHGR IAmb IAmb 00 20 40.0
comp=Z,28nm,0.9s
KK31 Karatay Array 16.95 307 P **P 00 20 32.1 +0.1**
KK31 pmax pmax
comp=Z,12nm,1.0s
KK31 Karatay Array 16.95 307 P **P 00 20 32.1 +0.1**
KKAR Karatay Array 16.95 307 P **P 00 20 32.0 0.0**
KKAR pmax pmax
comp=Z,12nm,1.0s
KKAR Karatay Array 16.95 307 P **P 00 20 31.9 0.0**
GYA Guiyang 17.05 112 P **Pn 00 20 25.9 -5.6**
GYA PP **pP 00 20 38.5 -1.1**
GYA S **Sn 00 23 45.1 +4.3**
GYA pmax pmax
comp=Z,17nm,1.3s
GYA LR LR
comp=Z,500nm,11.2s
GYA LR LR
comp=Z,610nm,11.8s
TAS Tashkent 17.13 300 P **Pn 00 20 32.9 +0.5**
TAS pmax pmax
comp=Z,41nm,0.3s
TAS Tashkent 17.13 300 Pn **Pn 00 20 32.9 +0.5**
CHTO Chiang Mai 17.68 148 P **P 00 20 40.7 +0.5**
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CHTO Chiang Mai 17.68 148 P **P 00 20 40.7 +0.5**
ENH Enshi 17.74 97 Pn 00 20 39.6 -0.4
CM31 Chiang Mai Arr 18.00 148 P 00 20 43.8 +0.1
CMAR Chiang Mai Arr 18.00 148 Pn **Pn 00 20 40.4 -2.9**
comp=Z,0.7nm,0.3s,baz=340,slow=10,SNR=17
CMAR LR LR 00 28 12.7
comp=Z,182nm,18.8s,baz=264,slow=40
CMAR Chiang Mai Arr 18.00 148*ce*P **Pn 00 20 42.2 -1.0**
CMAR pmax pmax
comp=Z,5.0nm,0.9s
KURBB Kurchatov Arra 18.12 338 Pn **Pn 00 20 41.7 -2.8**
comp=Z,0.1nm,0.3s,baz=148,slow=12,SNR=21
KURBB Lg Lg 00 26 16.9
comp=Z,0.1nm,0.3s,baz=290,slow=6.0,SNR=2.4
KURK Kurchatov 18.18 338*ce*P **Pn 00 20 44.4 -0.8**
KURK pmax pmax
comp=Z,19nm,1.7s
KURK Kurchatov 18.18 338 Pn 00 20 44.5 -0.7
SLVN Son La 18.34 130 P **P 00 20 48.0 +0.5**
SONM Songino Array 18.84 39 P **P 00 20 51.8 -1.1**
comp=Z,0.2nm,0.3s,baz=224,slow=11,SNR=16
SONM Lg Lg 00 26 23.0
comp=Z,0.0nm,0.3s,baz=105,slow=26,SNR=1.2
SONM LR LR 00 28 46.6
comp=Z,485nm,19.2s,baz=228,slow=39
HHC Hu-ho-hao-te 19.04 63 P **Pn 00 20 56.8 +0.9**
HHC PP **PnPn 00 21 13.2 +4.8**
HHC S **Sn 00 24 25.1 -3.7**
HHC pmax pmax
comp=Z,5.0nm,0.7s
HHC LR LR
comp=Z,350nm,13.6s
HHC LR LR
comp=Z,200nm,14.5s
HHC LR LR
comp=Z,170nm,12.5s
ULN Ulaanbaatar 19.20 39⇑*eP* **P 00 20 55.0 -1.9**
ULN pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 19.20 39 P **P 00 20 56.0 -0.9**
ZAK Zakamensk 19.25 29 *eP* **P 00 20 56.2 -1.1**
ZAK pmax pmax
comp=Z,4.0nm,1.5s
MOY Mondy 19.49 23 *eP* **Pn 00 21 01.9 +0.7**
ZAA0 Zalesovo Array 19.97 353 P **P 00 21 04.8 -0.3**
ZAA0 IAmb IAmb 00 21 08.0
comp=Z,21nm,0.9s
ZALV Zalesovo Beam 19.97 353 P **P 00 21 04.5 -0.5**
comp=Z,12nm,0.7s,baz=170,slow=12,SNR=62
ZALV LR LR 00 29 38.4
comp=Z,505nm,20.9s,baz=178,slow=39
ZALV Zalesovo Beam 19.97 353*i P* **P 00 21 04.6 -0.5**
ZALV pmax pmax
comp=Z,18nm,0.8s
TLY Talaya 20.42 27 Lg Lg 00 27 22.7
comp=Z,2.8nm,0.5s,baz=219,slow=11,SNR=1.9
TLY LR LR 00 29 29.9
comp=Z,432nm,19.7s,baz=214,slow=38
PBKT Sadao Pong 20.57 146 P **P 00 21 12.4 +0.6**
WHN Wuhan 21.68 93 P **P 00 21 23.2 -0.4**
WHN LR LR
comp=Z,680nm,9.6s
WHN LR LR
comp=Z,3µm,15.5s
HRA Herat 22.12 278 P **P 00 21 29.6 +1.0**
BJI Beijing 22.37 67 P **P 00 21 32.2 +1.2**
BJI pmax pmax
comp=Z,4.0nm,0.8s
BJI LR LR
comp=Z,820nm,9.0s
BJI LR LR
comp=Z,260nm,10.2s
BJI LR LR
comp=Z,300nm,17.7s
BVAR Borovoye Array 23.04 330 P **P 00 21 38.7 +0.8**
comp=Z,6.8nm,0.8s,baz=134,slow=11,SNR=25
BRVK Borovoye 23.10 330*c iP* **P 00 21 41.1 +2.5**
BRVK pmax pmax
comp=Z,31nm,1.6s
BRVK Borovoye 23.10 330 P **P 00 21 41.2 +2.5**
BRVK IAmb IAmb 00 21 58.2
comp=Z,10nm,1.0s
QIZ Qiongzhong 23.90 124 P **P 00 21 46.6 -0.1**
QIZ S **S 00 26 03.6 +1.3**
QIZ LR LR
comp=Z,640nm,13.4s
QIZ LR LR
comp=Z,520nm,12.9s
NJ2 Nanjing 25.03 87 *eP* **P 00 21 57.0 0.0**
NJ2 S **S 00 26 24.6 +4.2**
NJ2 pmax pmax
comp=Z,17nm,0.6s
NJ2 pmax pmax
comp=Z,230nm,11.7s
NJ2 LR LR
comp=Z,660nm,13.7s
NJ2 LR LR
comp=Z,780nm,12.8s
GEYT Alibeck 25.21 287 P **P 00 22 00.8 +2.1**
comp=Z,11nm,1.1s,baz=101,slow=8.0,SNR=16
GEYT LR LR 00 34 01.2
comp=Z,270nm,19.6s,baz=60,slow=41
GYA0B ALIBECK ARRAY 25.21 287 P **P 00 22 02.4 +3.8**
GYA0B IAmb IAmb 00 22 04.3
comp=Z,13nm,0.9s
AKTO Aktyubinsk 27.82 315 P **P 00 22 23.2 +1.1**
comp=Z,1.2nm,0.6s,baz=107,slow=18,SNR=4.1
AKTO LR LR 00 33 46.6
comp=Z,124nm,18.7s,baz=119,slow=37
WSAR Wadi Sarin 28.71 256 LR LR 00 35 41.8
comp=Z,136nm,19.1s,baz=104,slow=40
SVE Sverdlovsk 29.75 328 *eP* **P 00 22 40.5 +1.4**
SVE pmax pmax
comp=Z,13nm,1.1s
YULB Yu-li 30.14 102 P **P 00 22 44.0 +1.1**
YULB IAmb IAmb 00 22 57.2
comp=Z,9.3nm,1.0s
TWG Pinlang 30.23 104 P **P 00 22 43.1 -0.5**
ARU Arti 30.45 326 P **P 00 22 47.0 +1.7**
comp=Z,0.9nm,0.8s,baz=129,slow=5.5,SNR=5.1
ARU LR LR 00 36 21.5
comp=Z,281nm,19.2s,baz=114,slow=39
ARU Arti 30.45 326*c iP* **P 00 22 45.3 0.0**
ARU 00 23 40.6
ARU S **S 00 27 48.8 +3.4**
ARU SS **ScP 00 29 24.2 -1.8**
ARU pmax pmax
comp=Z,13nm,1.8s
ARU MLR MLR
comp=Z,442nm,15.0s
ARU Arti 30.45 326 P **P 00 22 45.8 +0.5**
ARU IAmb IAmb 00 22 47.5
comp=Z,4.0nm,0.9s
KULM Kulim 30.72 157 P **P 00 22 47.1 -0.9**
KULM IAmb IAmb 00 22 50.3
comp=Z,12nm,1.1s
YOJ Yonaguni jima 31.05 99 P **P 00 22 50.5 -0.4**
YOJ pmax pmax
comp=Z,87nm,1.1s
YOJ Yonaguni jima 31.05 99 P **P 00 22 50.5 -0.4**
KSRS Korea Array 31.55 73 LR LR 00 36 42.0
comp=Z,192nm,19.0s,baz=280,slow=39
NRIK Noril'sk 35.20 359 P **P 00 23 26.2 -0.4**
comp=Z,2.4nm,0.8s,baz=187,slow=9.6,SNR=3.0
NRIK LR LR 00 38 51.9
comp=Z,544nm,18.5s,baz=200,slow=38
ZEI Tsey 35.99 297 *eP* **P 00 23 30.8 -3.2**
KBZ Khabaz 36.70 299 LR LR 00 40 10.7
comp=Z,127nm,19.3s,baz=105,slow=38
SOCY Socotra 38.66 244 P **P 00 23 55.4 -1.4**
SOCY IAmb IAmb 00 23 59.0
comp=Z,15nm,1.1s
SOC Sochi 39.02 299 *eP* P 00 24 07.5 +8.2
SOC *e* 00 25 34.5
SOC pmax pmax
comp=Z,31nm,1.1s
SOC MLR MLR
comp=Z,214nm,22.0s
INU Inuyama 39.13 74 P **P 00 23 58.6 -1.8**
INU IAmb IAmb 00 24 12.3
comp=Z,9.1nm,0.9s
RAYN Ar Rayn 39.32 266 P **P 00 24 03.1 +0.9**
RAYN pmax pmax
comp=Z,6.0nm,1.0s
RAYN Ar Rayn 39.32 266 P **P 00 24 03.1 +0.9**
RAYN IAmb IAmb 00 24 05.3
comp=Z,6.4nm,1.0s
MJAR Matsushiro Arr 39.82 72 LR LR 00 41 36.3
comp=Z,130nm,19.2s,baz=215,slow=38
MOS Moscow 41.08 318 *eP* **P 00 24 16.9 +0.6**
KLMR Klimovskoe 41.30 326 *eP* **P 00 24 17.4 -0.6**
KLMR *e* 00 25 53.5
KLMR pmax pmax
comp=Z,24nm,1.5s
KLMR Klimovskoe 41.30 326 *eP* **P 00 24 17.5 -0.6**
KLMR AMP 00 24 20.8
comp=Z,24nm,1.5s
KLMR *e*PP **PP 00 25 53.6 +0.3**
KLMR LQ LQ 00 38 19.1
KLMR LQ LQ 00 38 19.1
KLMR LR LR 00 41 40.9
OBN Obninsk 41.58 317 *i* P **P 00 24 22.1 +1.7**
OBN *i* 00 25 58.7
OBN *i* S S 00 30 26.8 -8.7
OBN *i* SS **SS 00 33 33.1 -7.2**
OBN pmax pmax
comp=Z,3.0nm,0.7s
OBN MLR MLR
comp=Z,177nm,18.0s
GAZ Gaziantep 41.77 290 P **P 00 24 23.8 +1.5**
GAZ IAmb IAmb 00 24 26.6
comp=Z,9.9nm,0.8s
YSS Yuzh-Sakhalins 41.97 56 *eP* P 00 24 12.0 -12
YSS *e**SP pP 00 24 17.1 -13
YSS MLR MLR
comp=Z,200nm,16.0s
YSS MLR MLR
comp=E,200nm,14.0s
TIXI Tiksi 42.92 17 P **P 00 24 29.4 -1.7**
comp=E,1.0nm,0.4s,baz=310,slow=2.2,SNR=5.7
TIXI Tiksi 42.92 17⇑*eP* **P 00 24 29.6 -1.5**
TIXI pmax pmax
comp=Z,2.0nm,0.7s
TIXI Tiksi 42.92 17 P **P 00 24 31.5 +0.4**
ASF Jabal al Asfar 43.29 282 P **P 00 24 35.6 +0.9**
comp=Z,2.3nm,0.7s,baz=179,slow=5.4,SNR=3.2
BKB Balikpapan 43.92 138 P **P 00 24 38.1 -1.6**
BR131 Keskin Array S 44.01 294 P **P 00 24 42.9 +2.3**
BR131 pmax pmax
comp=Z,7.0nm,1.2s
BR131 Keskin Array S 44.01 294 P **P 00 24 42.9 +2.3**
BR131 IAmb IAmb 00 24 43.3
comp=Z,7.4nm,1.1s
BRTR Keskin Array B 44.01 294 P **P 00 24 40.9 +0.3**
comp=Z,3.4nm,1.0s,baz=101,slow=5.2,SNR=13
BRTR LR LR 00 45 57.1
comp=Z,81nm,19.8s,baz=70,slow=40
BRTR Keskin Array B 44.01 294*i P* **P 00 24 41.5 +0.9**
BRTR pmax pmax
comp=Z,3.0nm,1.0s
DGAR Diego Garcia 44.26 204⇓*eP* **P 00 24 45.6 +3.1**
DGAR pmax pmax
comp=Z,573nm,1.7s
DGAR Diego Garcia 44.26 204 P **P 00 24 45.0 +2.5**
ANTO Ankara 44.62 294 P **P 00 24 46.0 +0.6**
ANTO pmax pmax
comp=Z,14nm,1.2s
ANTO Ankara 44.62 294 P **P 00 24 46.0 +0.6**
ANTO IAmb IAmb 00 24 49.1
comp=Z,14nm,1.1s
BR231 Keskin MP Arra 44.64 294 P **P 00 24 46.1 +0.6**
BR231 IAmb IAmb 00 24 49.3
comp=Z,13nm,0.9s
DAMY Dhamar 44.69 255 P **P 00 24 46.5 0.0**
DAMY IAmb IAmb 00 24 55.6
comp=Z,5.7nm,1.1s
CSS Mathiatis 45.35 287 P **P 00 24 51.9 +0.8**
EIL Elat 45.68 280 P **P 00 24 55.2 +1.4**
comp=Z,7.8nm,0.8s,baz=333,slow=8.4,SNR=5.1
MDUB Mudurnu 45.71 296 P **P 00 24 55.7 +1.7**
AKASG Malin Array Be 45.83 310 LR LR 00 48 04.7
comp=Z,121nm,18.0s,baz=80,slow=41
ELL Elmali 47.55 291 P **P 00 25 10.9 +2.3**
ELL pmax pmax
comp=Z,44nm,0.9s
ELL Elmali 47.55 291 P **P 00 25 10.9 +2.3**
FINES FINESS Array B 47.80 325 P **P 00 25 09.9 0.0**
comp=Z,1.5nm,0.6s,baz=102,slow=7.3,SNR=12
FINES LR LR 00 46 59.1
comp=Z,198nm,18.9s,baz=90,slow=38
FINES FINESS Array B 47.80 325*i P* **P 00 25 11.1 +1.2**
FINES pmax pmax
comp=Z,2.0nm,0.6s
VRI Vrincioaia 47.98 304⇑P **P 00 25 11.0 -0.6**
VRI Vrincioaia 47.98 304⇑P **P 00 25 11.0 -0.6**
PLOR Plostina 48.04 304⇑P **P 00 25 11.0 -1.1**
PLOR Plostina 48.04 304⇑P **P 00 25 11.0 -1.1**
MLR Muntele Rosu 48.58 303⇑P **P 00 25 13.5 -2.9**
MLR Muntele Rosu 48.58 303 P **P 00 25 17.6 +1.2**
MLR pmax pmax
comp=Z,14nm,1.1s
MLR Muntele Rosu 48.58 303 P **P 00 25 17.6 +1.2**
DOPR Dopca 48.89 304⇓P **P 00 25 20.6 +2.1**
ARR Arges 49.51 303⇑P **P 00 25 22.8 -0.7**
TRPA Tarpa 50.44 307⇓P **P 00 25 29.3 -1.0**
DRGR 50.56 305⇑P **P 00 25 27.6 -3.8**
DRGR 50.56 305⇑P **P 00 25 27.6 -3.8**
VTS Vitosha 51.08 300 P **P 00 25 35.8 +0.3**
VTS pmax pmax
comp=Z,2.0nm,1.0s
VTS Vitosha 51.08 300 P **P 00 25 35.8 +0.3**
PETK Petropavlovsk- 51.09 46 LR LR 00 47 24.1
comp=Z,100nm,18.7s,baz=239,slow=36
MDVR Moldovita 51.66 303⇑P **P 00 25 36.8 -2.8**
DIVS Divibare 53.02 303 IAmb IAmb 00 25 59.1
comp=Z,3.7nm,1.1s
BILL Bilibino 54.04 27*i P* **P 00 25 56.6 -0.2**
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL Bilibino 54.04 27 P **P 00 26 00.3 +3.6**
BILL IAmb IAmb 00 26 00.8
comp=Z,4.1nm,1.0s
NC405 NORSAR Array S 54.73 325 P **P 00 26 03.7 +1.8**
NC303 NORSAR Array S 54.88 325 P **P 00 26 05.4 +2.4**
NB2 NORSAR Subarra 54.98 324 P **P 00 26 03.2 -0.6**
comp=Z,3.1nm,0.7s,baz=82,slow=7.4
NOA NORSAR Array B 54.98 324 P **P 00 26 03.5 -0.3**
comp=Z,2.4nm,0.7s,baz=82,slow=7.2,SNR=13
NOA LR LR 00 50 12.0
comp=Z,100nm,18.9s,baz=90,slow=37
NC204 NORSAR Array S 55.16 325 P **P 00 26 06.5 +1.4**
GEC2 GERESS Array S 56.04 310 IAmb IAmb 00 26 16.8
comp=Z,2.9nm,0.9s
GERES GERESS Array B 56.04 310 P **P 00 26 12.2 +0.6**
comp=Z,1.8nm,0.8s,baz=74,slow=5.8,SNR=10
GERES LR LR 00 53 50.5
comp=Z,111nm,19.1s,baz=81,slow=40
KHC Kasperske Hory 56.04 310*ceP* **P 00 26 16.3 +4.7**
KHC pmax pmax
comp=Z,12nm,1.7s
CIMO Cimolais 57.56 307 P **P 00 26 26.0 +3.6**
CIMO IAmb IAmb 00 26 27.2
comp=Z,4.2nm,1.1s
MURB Monte Urbino 58.45 304 IAmb IAmb 00 26 35.3
comp=Z,7.6nm,0.9s
ZCCA Zocca 59.15 305 P **P 00 26 33.8 +0.3**
ZCCA IAmb IAmb 00 26 40.1
comp=Z,8.1nm,1.0s
LATE Laterza 59.16 303 P **P 00 26 33.6 0.0**
LATE IAmb IAmb 00 26 47.2
comp=Z,8.8nm,1.1s
PRMA PARMA 59.46 306 P **P 00 26 35.7 0.0**
TUE Stuetta 59.54 308 P **P 00 26 37.3 +0.8**
TUE IAmb IAmb 00 26 51.4
comp=Z,5.1nm,1.0s
BFO Black Forest 59.60 310 P **P 00 26 35.3 -1.3**
BFO pmax pmax
comp=Z,2.0nm,0.8s
BFO Black Forest 59.60 310 P **P 00 26 35.3 -1.3**
BFO IAmb IAmb 00 26 43.9
comp=Z,2.1nm,0.8s
WLF Walferdange 60.53 312 P **P 00 26 42.6 -0.3**
WLF pmax pmax
comp=Z,6.0nm,1.1s
WLF Walferdange 60.53 312 P **P 00 26 42.6 -0.3**
WLF IAmb IAmb 00 26 44.2
comp=Z,6.3nm,1.1s
KEST Kesra 63.51 297 P **P 00 27 02.6 -0.7**
WB0 Warramunga Arr 68.88 134 P **P 00 27 36.6 -1.1**
WRA Warramunga Arr 68.98 134 P **P 00 27 35.8 -2.5**
comp=Z,1.8nm,0.9s,baz=331,slow=5.7,SNR=4.6
WRA Warramunga Arr 68.98 134*i P* **P 00 27 37.9 -0.4**
WRA pmax pmax
comp=Z,2.0nm,1.0s
WR0 Warramunga Arr 69.11 134 P **P 00 27 39.8 +0.6**
WR0 IAmb IAmb 00 27 39.9
comp=Z,7.6nm,1.1s
COLD Coldfoot 69.50 21 P **P 00 27 42.5 +1.6**
COLD IAmb IAmb 00 27 46.0
comp=Z,2.8nm,1.0s
MLY Manley 70.77 23 IAmb IAmb 00 27 52.3
comp=Z,5.3nm,1.0s
ESDC Sonseca Array 71.20 305 P **P 00 27 51.3 -0.6**
comp=Z,1.0nm,1.0s,baz=61,slow=5.3,SNR=6.8
ESDC LR LR 01 02 02.3
comp=Z,76nm,20.4s,baz=340,slow=38
ASAR Alice Springs 71.62 137 P **P 00 27 51.5 -2.9**
comp=Z,0.8nm,0.7s,baz=315,slow=6.2,SNR=7.5
PPLA Purkeypile 71.67 25 P **P 00 27 56.0 +1.6**
COLA College 71.79 22*ceP* **P 00 27 55.3 +0.4**
COLA pmax pmax
comp=Z,8.0nm,0.7s
ILAR Eielson Array 72.16 22 P **P 00 27 55.3 -1.9**
comp=Z,2.7nm,0.9s,baz=299,slow=4.9,SNR=12
ILAR LR LR 01 02 48.5
comp=Z,103nm,18.9s,baz=326,slow=38
INK Inuvik 73.00 15 P **P 00 28 01.0 -1.0**
comp=Z,3.9nm,1.0s,baz=356,slow=11,SNR=6.9
INK Inuvik 73.00 15 IAmb IAmb 00 28 05.3
comp=Z,4.6nm,1.0s
RIDG Independent Ri 73.52 22 IAmb IAmb 00 28 08.2
comp=Z,5.4nm,0.8s
SCRK Sand Creek 73.61 22 P **P 00 28 08.6 +2.7**
SCRK IAmb IAmb 00 28 09.3
comp=Z,4.3nm,1.1s
EGAK Eagle 73.85 20 IAmb IAmb 00 28 13.0
comp=Z,2.7nm,0.8s
HYT Haines Junctio 77.97 21 IAmb IAmb 00 28 34.4
comp=Z,3.9nm,0.9s
TORD Torodi Ar. Bea 80.56 279 P **P 00 28 45.3 -0.3**
comp=Z,1.4nm,1.0s,baz=49,slow=4.1,SNR=6.3
TORD LR LR 01 09 08.1
comp=Z,75nm,18.1s,baz=60,slow=39
YKA Yellowknife Ar 81.78 11 P **P 00 28 49.7 -1.6**
comp=Z,1.6nm,0.9s,baz=337,slow=4.6,SNR=13
YKA LR LR 01 10 20.1
comp=Z,31nm,18.9s,baz=0.0,slow=40

DLBC	**Dease Lake**	**82.11**	**20**	P	**P**	**00 28 53.6**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=349,slow=16,SNR=3.1						
STKA	**Stephens Creek**	**82.26**	**137**	P	**P**	**00 28 53.0**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=309,slow=4.5,SNR=4.5						
SCHQ	**Schefferville**	**88.93**	**346**	LR	LR	01 13 50.1	
	comp=Z,80nm,19.2s,baz=12,slow=39						
DBIC	**Dimbokro**	**89.50**	**278**	LR	LR	01 16 31.3	
	comp=Z,52nm,18.1s,baz=49,slow=40						
ULM	**Lac du Bonnet**	**95.81**	**3**	LR	LR	01 13 41.6	
	comp=Z,21nm,21.7s,baz=28,slow=36						

*IDC **06** 00:48:42.0±2.0, 20°.29S×68°.76W, h100km±21km, mb3.7/7, mb1 3.9/9, mb1mx3.6/31, mbtmp4.2/9, MS2.8/3, Ms1 2.8/3, ms1mx2.5/27, Error ellipse: s-maj=28.3km s-min=17.1km az=119.0*

*NEIC **06** 00:48:42.6±1.8, 20°.38S±0°.05×69°.0W±0°.1, h119km±9km, ML4.1(GUC), Error ellipse: s-maj=16.2km s-min=6.3km az=97.0*

*GUC **06** 00:48:43.7±0.7, 20°.39S×68°.89W, h105km±3km, ML4.2*

*VAO **06** 00:48:43.1±0.6, 20°.25S×68°.80W, h109km±6km, mb4.1*

ISC 06 00:48:42.4±0.6, 20°.37S±0°.04×68°.88W±0°.06, h110km±5km, n109, σ0°99/120, mb4.2/5, 10C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.34**	**312**	⇓*iP*		**Pn**	**00 48 59.2**	**+0.3**
PB08				*i* S		**Sn**	**00 49 11.3**	**0.0**
PB08				IAML			00 49 12.0	
	comp=E,24μm,0.3s							
PB08	**IPOC Station P**	**0.34**	**312**			**Pn**	**00 48 59.3**	**+0.4**
PB08				Sn		**Sn**	**00 49 11.7**	**+0.5**
GO01	**Chusmiza**	**0.76**	**337**	⇓*iP*		**Pn**	**00 49 02.6**	**+0.7**
GO01				*i* S		**Sn**	**00 49 17.0**	**+0.5**
GO01				IAML			00 49 20.9	
	comp=E,10μm,0.1s							
GO01	**Chusmiza**	**0.76**	**337**			**Pn**	**00 49 02.7**	**+0.8**
GO01				Sn		**Sn**	**00 49 17.0**	**+0.5**
PB01	**IPOC Station P**	**0.88**	**220**	⇑*iP*		**Pn**	**00 49 02.6**	**+0.1**
PB01				*i* S		**Sn**	**00 49 17.3**	**-0.3**
PB01				IAML			00 49 18.8	
	comp=E,9μm,0.3s							
PB01	**IPOC Station P**	**0.88**	**220**			**Pn**	**00 49 02.6**	**+0.1**
PB01				Sn		**Sn**	**00 49 17.4**	**-0.3**
PB11	**IPOC Station P**	**0.95**	**310**	⇑*iP*		**Pn**	**00 49 03.6**	**+0.3**
PB11				*i* S		**Sn**	**00 49 19.0**	**0.0**
PB11				IAML			00 49 20.1	
	comp=E,12μm,0.5s							
PB11	**IPOC Station P**	**0.95**	**310**	Pn		**Pn**	**00 49 03.6**	**+0.3**
PB11				Sn		**Sn**	**00 49 18.5**	**-0.5**
TA02	**Huaiquique**	**1.18**	**275**	⇑*iP*		**Pn**	**00 49 05.6**	**+0.1**
TA02				*i* S		**Sn**	**00 49 22.7**	**-0.3**
TA02				IAML			00 49 27.8	
	comp=E,7μm,0.1s							
TA01	**Diego Aracena**	**1.23**	**261**	⇑*iP*		**Pn**	**00 49 05.9**	**-0.2**
TA01				*i* S		**Sn**	**00 49 23.0**	**-1.1**
TA01	**Diego Aracena**	**1.23**	**261**			**Pn**	**00 49 05.9**	**-0.2**
PATCX	**Punta Patache**	**1.27**	**249**	⇑*iP*		**Pn**	**00 49 06.6**	**-0.1**
PATCX				*i* S		**Sn**	**00 49 24.8**	**-0.2**
PATCX				IAML			00 49 30.5	
	comp=E,3μm,0.2s							
PATCX	**Punta Patache**	**1.27**	**249**	Pn		**Pn**	**00 49 06.8**	**+0.1**
PB02	**IPOC Station P**	**1.34**	**225**	⇑*iP*		**Pn**	**00 49 07.6**	**+0.1**
PB02				*i* S		**Sn**	**00 49 26.0**	**-0.4**
PB02				IAML			00 49 30.0	
	comp=E,6μm,0.4s							
PSGC	**Pisagua**	**1.40**	**303**	⇑*iP*		**Pn**	**00 49 08.3**	**+0.1**
PSGC				*i* S		**Sn**	**00 49 27.2**	**-0.5**
PSGC				IAML			00 49 29.8	
	comp=N,3μm,0.4s							
PSGCX	**Pisagua**	**1.40**	**303**			**Pn**	**00 49 08.3**	**+0.1**
MNMC	**Minye Minye**	**1.41**	**331**	*eP*		**Pn**	**00 49 09.6**	**+1.1**
MNMC				*eS*		**Sn**	**00 49 29.3**	**+1.1**
MNMC				IAML			00 49 31.2	
	comp=E,7μm,0.6s							
MNMC	**Minye Minye**	**1.41**	**331**			**Pn**	**00 49 09.7**	**+1.2**
PB09	**IPOC Station P**	**1.46**	**193**	⇑*iP*		**Pn**	**00 49 09.6**	**+0.7**
PB09				*i* S		**Sn**	**00 49 30.2**	**+1.2**
PB09				IAML			00 49 32.5	
	comp=N,2μm,0.6s							
PB09	**IPOC Station P**	**1.46**	**193**			**Pn**	**00 49 09.7**	**+0.7**
PB07	**IPOC Station P**	**1.64**	**215**	⇑*iP*		**Pn**	**00 49 11.1**	**-0.1**
PB07				*i* S		**Sn**	**00 49 32.6**	**-0.4**
PB07				IAML			00 49 38.5	
	comp=E,2μm,0.4s							
PB07	**IPOC Station P**	**1.64**	**215**			**Pn**	**00 49 11.0**	**-0.2**
PB03	**IPOC Station P**	**1.85**	**206**	*eP*		**Pn**	**00 49 13.8**	**0.0**
PB03				*eS*		**Sn**	**00 49 37.0**	**-0.7**
PB12	**IPOC Station P**	**2.22**	**322**	*eP*		**Pn**	**00 49 18.5**	**+0.1**
PB12				*eS*		**Sn**	**00 49 44.7**	**-1.1**
PB12				IAML			00 49 52.0	
	comp=N,2μm,0.2s							
PB12	**IPOC Station P**	**2.22**	**322**	Pn		**Pn**	**00 49 18.4**	**+0.1**
LVC	**Limon Verde**	**2.23**	**181**	P		**Pn**	**00 49 19.0**	**+0.3**
	comp=N,66nm,0.3s,baz=11,slow=9.4,SNR=152							
LVC				S		**Sn**	**00 49 47.9**	**+1.5**
	comp=N,122nm,0.3s,baz=105,slow=20,SNR=11							
LVC	**Limon Verde**	**2.23**	**181**	Pn		**Pn**	**00 49 19.4**	**+0.7**
LVC	**Limon Verde**	**2.23**	**181**	*eP*		**Pn**	**00 49 20.5**	**+1.8**
LVC	**Limon Verde**	**2.23**	**181**	*eP*		**Pn**	**00 49 20.5**	**+1.8**
PB04	**IPOC Station P**	**2.28**	**211**			**Pn**	**00 49 19.7**	**+0.5**
PB06	**IPOC Station P**	**2.41**	**195**			**Pn**	**00 49 21.9**	**+1.1**
AP01	**Chacalluta**	**2.42**	**325**	Pn		**Pn**	**00 49 21.4**	**+0.5**
PB15	**IPOC Station P**	**2.87**	**191**			**Pn**	**00 49 27.7**	**+0.7**
PB10	**IPOC Station P**	**3.49**	**206**	Pn		**Pn**	**00 49 34.0**	**-1.0**
LPAZ	**La Paz**	**4.13**	**10**	LR	LR	00 52 00.3		
	comp=N,60nm,20.9s,baz=168,slow=49							
LPAZ	**La Paz**	**4.13**	**10**	Pn		**Pn**	**00 49 46.8**	**+2.7**
GO02	**Mina Guanaco**	**4.81**	**188**	Pn		**Pn**	**00 49 53.4**	**+0.4**
AC01	**Pan de Azucar**	**5.96**	**195**	Pn		**Pn**	**00 50 06.2**	**-2.0**
AC02	**Maricunga**	**6.44**	**182**	Pn		**Pn**	**00 50 13.3**	**-1.8**
GO03	**Copiap**	**7.29**	**190**	Pn		**Pn**	**00 50 25.5**	**-0.8**
AC04	**Llanos de Chal**	**8.05**	**194**	Pn		Pn	00 50 32.2	-4.3
AC05	**El Transito**	**8.52**	**188**	Pn		**Pn**	**00 50 43.5**	**+0.4**
SIV	**San Ignacio**	**8.61**	**61**	P		**Pn**	**00 50 42.5**	**-1.7**
	comp=N,7.0nm,0.3s,baz=259,slow=11,SNR=162							
CO01	**Juntas del Tor**	**9.62**	**186**	Pn		**Pn**	**00 50 56.0**	**-2.2**
GO04	**Tololo Observa**	**9.91**	**190**	Pn		**Pn**	**00 50 59.3**	**-2.7**
PTLB	**Pontes e Lacer**	**10.49**	**64**	*eP*		**Pn**	**00 51 08.5**	**-1.2**
PTLB	**Pontes e Lacer**	**10.49**	**64**	*eP*		**Pn**	**00 51 08.5**	**-1.2**
CO03	**El Pedregal**	**10.55**	**189**	Pn		**Pn**	**00 51 07.9**	**-2.7**
VILB	**Vilhena**	**11.12**	**50**	*eP*		**Pn**	**00 51 16.9**	**-1.3**
VILB	**Vilhena**	**11.12**	**50**	*eP*		**Pn**	**00 51 16.9**	**-1.3**
CPUP	**Villa Florida**	**12.15**	**121**	Pn		**Pn**	**00 51 31.6**	**-0.3**
SAML	**Samuel**	**12.62**	**27**	Pn		**Pn**	**00 51 38.3**	**+0.2**
SAML	**Samuel**	**12.62**	**27**	*eP*		**Pn**	**00 51 36.0**	**-2.1**
SAML	**Samuel**	**12.62**	**27**	*eP*		**Pn**	**00 51 36.0**	**-2.1**
MT02	**Curacav**	**12.99**	**188**	Pn		**Pn**	**00 51 42.8**	**0.0**
SALV	**Santo Antonio**	**13.30**	**73**	*eP*		**Pn**	**00 51 45.3**	**-1.7**
SALV	**Santo Antonio**	**13.30**	**73**	*eP*		**Pn**	**00 51 45.3**	**-1.7**
BO02	**Sierra Bellavi**	**14.46**	**186**	Pn		**Pn**	**00 52 01.6**	**-0.3**
CLDB	**Colider**	**15.74**	**55**	*eP*		**Pn**	**00 52 18.0**	**-0.1**
CLDB	**Colider**	**15.74**	**55**	*eP*		**Pn**	**00 52 18.0**	**-0.1**
PCMB	**Pacaembu**	**16.50**	**97**	*eP*		**Pn**	**00 52 27.7**	**+0.2**
PCMB	**Pacaembu**	**16.50**	**97**	*eP*		**Pn**	**00 52 27.7**	**+0.2**
ARAG	**Araguaiana, MT**	**16.88**	**77**	*eP*		**P**	**00 52 32.9**	**+0.5**
ARAG	**Araguaiana, MT**	**16.88**	**77**	*eP*		**P**	**00 52 32.9**	**+0.5**
ITRB	**Iturama**	**17.42**	**91**	*eP*		**P**	**00 52 37.9**	**-0.4**
ITRB	**Iturama**	**17.42**	**91**	*eP*		**P**	**00 52 37.9**	**-0.4**
FRTB	**Fartura**	**18.17**	**103**	*eP*		**Pn**	**00 52 47.5**	**-0.2**
FRTB	**Fartura**	**18.17**	**103**	*eP*		**Pn**	**00 52 47.5**	**-0.2**
NPGB	**Novo Progresso**	**18.64**	**47**	*eP*		**P**	**00 52 50.6**	**-1.1**
NPGB	**Novo Progresso**	**18.64**	**47**	*eP*		**P**	**00 52 50.6**	**-1.1**
MACA	**Manacapuru-AM**	**18.88**	**26**	*eP*		**P**	**00 52 54.1**	**-0.2**
MACA	**Manacapuru-AM**	**18.88**	**26**	*eP*		**P**	**00 52 54.1**	**-0.2**
BB19B	**Bebedouro**	**19.05**	**96**	*eP*		**P**	**00 52 56.0**	**-0.2**
BB19B	**Bebedouro**	**19.05**	**96**	*eP*		**P**	**00 52 56.0**	**-0.2**
IPMB	**Ipameri, GO**	**19.67**	**87**	*eP*		**P**	**00 53 02.4**	**-0.5**
IPMB	**Ipameri, GO**	**19.67**	**87**	*eP*		**P**	**00 53 02.4**	**-0.5**
PLCA	**Paso Flores**	**20.34**	**184**	P		**P**	**00 53 10.9**	**+0.9**
	comp=N,6.0nm,1.0s,baz=345,slow=7.3,SNR=5.0							
PLCA	**Paso Flores**	**20.34**	**184**	*eP*		**P**	**00 53 12.3**	**+2.2**
PLCA	**Paso Flores**	**20.34**	**184**	*eP*		**P**	**00 53 12.3**	**+2.2**
BDFB	**Brasilia**	**20.39**	**80**	P		**P**	**00 53 10.2**	**-0.6**
	comp=N,2.6nm,0.6s,baz=265,slow=11,SNR=3.8							
PTGA	**Pitinga**	**21.38**	**25**	P		**P**	**00 53 19.4**	**-1.9**
	comp=N,3.0nm,0.3s,baz=124,slow=11,SNR=6.2							
PTGA				LR		LR	01 03 03.1	
	comp=N,20nm,20.0s,baz=150,slow=40							
PTGA	**Pitinga**	**21.38**	**25**	*eP*		**P**	**00 53 21.2**	**-0.1**
PTGA	**Pitinga**	**21.38**	**25**	*eP*		**P**	**00 53 21.2**	**-0.1**
PEXB	**Peixe**	**21.38**	**71**	*eP*		**P**	**00 53 20.6**	**-0.8**
PEXB	**Peixe**	**21.38**	**71**	*eP*		**P**	**00 53 20.6**	**-0.8**
MALB	**Monte Alegre**	**23.29**	**40**	*eP*		**P**	**00 53 39.5**	**-1.2**
MALB	**Monte Alegre**	**23.29**	**40**	*eP*		**P**	**00 53 39.5**	**-1.2**
SMTB	**Santa Maria do**	**23.53**	**64**	*eP*		**P**	**00 53 42.6**	**-0.3**
SMTB	**Santa Maria do**	**23.53**	**64**	*eP*		**P**	**00 53 42.6**	**-0.3**
MC01	**Montes Claros**	**23.92**	**85**	*eP*		**P**	**00 53 44.9**	**-1.5**
MC01	**Montes Claros**	**23.92**	**85**	*eP*		**P**	**00 53 44.9**	**-1.5**
JANB	**Januaria**	**23.98**	**81**	*eP*		**P**	**00 53 46.8**	**-0.2**
JANB	**Januaria**	**23.98**	**81**	*eP*		**P**	**00 53 46.8**	**-0.2**
SJMB	**Sao Joao De Ma**	**26.14**	**91**	*eP*		**P**	**00 54 06.6**	**+0.1**
SJMB	**Sao Joao De Ma**	**26.14**	**91**	*eP*		**P**	**00 54 06.6**	**+0.1**
NAN01	**Guarapari, ES**	**27.27**	**90**	*eP*		**P**	**00 54 16.3**	**-0.3**
NAN01	**Guarapari, ES**	**27.27**	**90**	*eP*		**P**	**00 54 16.3**	**-0.3**
MDP	**Montagnes des**	**29.93**	**34**	LR		LR	01 07 06.9	
	comp=N,34nm,19.2s,baz=64,slow=37							
TXAR	**Lajitas Array**	**59.73**	**325**	P		**P**	**00 58 36.3**	**+0.5**
	comp=N,0.2nm,0.8s,baz=142,slow=6.5,SNR=2.1							
DBIC	**Dimbokro**	**68.39**	**74**	P		**P**	**00 59 32.5**	**-0.3**
	comp=N,5.3nm,0.9s,baz=226,slow=7.3,SNR=1.7							
TORD	**Torodi Ar. Bea**	**76.95**	**71**	P		**P**	**01 00 23.4**	**0.0**
	comp=N,1.2nm,0.3s,baz=256,slow=5.4,SNR=40							
TORD				pP		**pP**	**01 00 52.6**	**-0.1**
	comp=N,1.3nm,0.8s,baz=258,slow=5.1,SNR=3.6							
YKA	**Yellowknife Ar**	**90.14**	**341**	P		**P**	**01 01 30.7**	**+1.1**
	comp=N,1.5nm,0.8s,baz=137,slow=4.9,SNR=18							
YKA				pP		**pP**	**01 02 00.5**	**+0.7**
	comp=N,0.7nm,0.8s,baz=138,slow=5.0,SNR=5.0							
H11S2	**WAKE ISLAND Hyd**	**27.76**	**278**	T		T	03 27 34.8	
	baz=102,slow=74,SNR=40							
H11S1	**WAKE ISLAND Hyd**	**27.76**	**278**	T		T	03 27 32.3	
	baz=102,slow=74,SNR=22							
H11S3	**WAKE ISLAND Hyd**	**27.77**	**278**	T		T	03 27 36.0	
	baz=102,slow=74,SNR=22							
H11N3	**WAKE ISLAND Hyd**	**27.81**	**280**	T		T	03 27 35.9	
	baz=101,slow=74,SNR=12							
H11N2	**WAKE ISLAND Hyd**	**27.82**	**280**	T		T	03 27 37.5	
	baz=101,slow=74,SNR=10							
H11N1	**WAKE ISLAND Hyd**	**27.82**	**280**	T		T	03 27 39.3	
	baz=101,slow=74,SNR=9.4							
MKAR	**Makanchi Array**	**144.71**	**35**	PKP		PKPbc	01 08 06.4	+1.0
	comp=N,0.2nm,0.4s,baz=335,slow=2.5,SNR=4.6							

*IDC **06** 01:13:40.9±3.0, 6°.31S×129°.61E, h97km±39km, mb3.3/2, mb1 3.6/6, mb1mx3.2/42, mbtmp3.8/6, Error ellipse: s-maj=67.9km s-min=22.4km az=91.0*

ISC 06 01:13:39.6±0.8, 6°.44S±0°.06×130°.5E±0°.1, h100km, n7, σ3°24/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.59**	**8**	P		**Pn**	**01 15 02.8**	**+2.3**
	4.5nm,0.3s,baz=198,slow=20,SNR=35							
SIJI				S		**Sn**	**01 16 01.2**	**-2.2**
	18nm,0.3s,baz=221,slow=19,SNR=19							
BATI	**Baumata**	**7.70**	**240**	P		**Pn**	**01 15 31.9**	**+2.8**
	10nm,0.3s,baz=120,slow=3.4,SNR=4.4							
BATI				S		**Sn**	**01 16 55.1**	**+0.4**
	5.8nm,0.3s,baz=36,slow=23,SNR=2.3							
FITZ	**Fitzroy Crossi**	**12.51**	**202**	P		**Pn**	**01 16 35.0**	**+0.8**
	0.8nm,0.3s,baz=18,slow=13,SNR=21							
FITZ				S		**Sn**	**01 18 45.5**	**-6.2**
	1.3nm,0.3s,baz=107,slow=19,SNR=9.6							
WRA	**Warramunga Arr**	**13.95**	**165**	P		**P**	**01 16 58.5**	**+0.8**
	0.3nm,0.3s,baz=339,slow=14,SNR=5.7							
WRA				S		**Sn**	**01 19 24.9**	**-1.7**
	0.6nm,0.3s,baz=335,slow=22,SNR=5.5							
ASAR	**Alice Springs**	**17.45**	**169**	P		**Pn**	**01 17 40.5**	**+3.6**
	0.1nm,0.3s,baz=344,slow=9.7,SNR=4.8							
MKAR	**Makanchi Array**	**68.01**	**326**	P		**P**	**01 24 25.8**	**-2.5**
	0.1nm,0.4s,baz=112,slow=7.0,SNR=1.6							
GEYT	**Alibeck**	**80.20**	**310**	P		**P**	**01 25 37.4**	**-2.0**
	1.1nm,0.5s,baz=128,slow=9.3,SNR=2.6							

*IDC **06** 01:16:52.4±1.7, 28°.43S×177°.09W, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.8/27, mbtmp3.8/3, MS3.7/2, Ms1 3.7/2, ms1mx3.0/25, Error ellipse: s-maj=61.2km s-min=21.2km az=132.0*

ISC 06 01:16:53.5±1.4, 28°.4S±0°.3×177°.1W±0°.3, h10km, n8, σ1°03/9, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.14**	**221**	Pn		**Pn**	**01 17 14.9**	**-0.7**
	111nm,0.3s,baz=66,slow=20,SNR=2.6							
RAO				Sn		**Sn**	**01 17 32.1**	**+0.9**
	442nm,0.3s,baz=104,slow=23,SNR=9.2							
DZM	**Mont Dzumac**	**16.19**	**289**	LR		LR	01 25 56.9	
	comp=Z,127nm,18.4s,baz=208,slow=34							
ASAR	**Alice Springs**	**44.08**	**264**	P		**P**	**01 25 02.2**	**+0.2**
	1.4nm,0.7s,baz=102,slow=7.3,SNR=13							
ASAR				LR		LR	01 43 40.5	
	comp=Z,135nm,18.4s,baz=160,slow=36							
WRA	**Warramunga Arr**	**44.89**	**270**	P		**P**	**01 25 08.3**	**-0.2**
	1.3nm,0.6s,baz=109,slow=7.9,SNR=5.7							
NVAR	**Mina Array Bea**	**86.21**	**42**	P		**P**	**01 29 36.2**	**+0.8**
	0.1nm,0.3s,baz=239,slow=4.6,SNR=1.8							
FINES	**FINESS Array B**	**143.53**	**341**	PKP		**PKPdf**	**01 36 25.9**	**-1.9**
	0.7nm,0.6s,baz=32,slow=3.4,SNR=2.5							
AKASG	**Malin Array Be**	**150.16**	**326**	PKPbc		**PKiKP**	**01 36 44.8**	**-0.4**
	0.3nm,0.4s,baz=44,slow=2.7,SNR=2.0							
AKASG				PKPab		**PKPab**	**01 36 50.9**	**+0.6**
	1.3nm,0.6s,baz=52,slow=3.4,SNR=5.6							
BRTR	**Keskin Array B**	**152.30**	**302**	PKPbc		**PKiKP**	**01 36 50.8**	**+0.7**
	0.7nm,1.0s,baz=145,slow=3.0,SNR=2.6							

*NIED **06** 01:19:00, 36°.50N×143°.00E, h5km, Mw3.7 Best double couple: M₀3.75000×10¹⁴ NP1:φ₀41.00000°, δ51.00000°, λ-92.00000°. NP2:φ₀224.00000°, δ39.00000°, λ-88.00000°.*

*IDC **06** 01:19:24.4±0.8, 36°.36N×143°.24E, h0km, mb3.9/14, mb1 4.0/19, mb1mx3.8/54, mbtmp3.9/19, ML3.7/3, MS2.7/3, Ms1 2.7/3, ms1mx2.4/49, Error ellipse: s-maj=19.4km s-min=18.5km az=128.0*

*NEIC **06** 01:19:28.9±1.4, 36°.41N±0°.07×143°.2E±0°.1, h30km±6km, mb4.2/4, Error ellipse: s-maj=14.5km s-min=9.7km az=110.0*

*JMA **06** 01:19:28.4±0.2, 36°.50N×143°.04E, h37km, M3.8*

ISC 06 01:19:28.8±0.7, 36°.48N±0°.05×143°.16E±0°.07, h29km, n44, σ1°86/57, mb3.8/16, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.00**	**289**	P		**Pn**	**01 19 59.4**	**-1.2**
ONAJ				*eS*		**Sn**	**01 20 22.8**	**-1.8**
JFK	**Kawauchi**	**2.04**	**296**	P		**Pn**	**01 20 00.0**	**-1.1**
JFK				S		**Sn**	**01 20 23.6**	**-2.0**
JHYU	**Hitachinakayam**	**2.08**	**267**	P		**Pn**	**01 20 00.9**	**-0.8**
JHYU				S		**Sn**	**01 20 24.3**	**-2.3**
JHO	**Hitachi**	**2.09**	**274**	P		**Pn**	**01 20 00.7**	**-1.2**
JHO				S		**Sn**	**01 20 24.1**	**-2.8**
JYT	**Yasato**	**2.41**	**265**	P		**Pn**	**01 20 05.3**	**-0.9**
JFT	**Otama**	**2.49**	**295**	P		**Pn**	**01 20 07.2**	**-0.1**
JFT				S		**Sn**	**01 20 36.1**	**-0.6**
BSO3	**Boso 3**	**2.73**	**233**	P		**Pn**	**01 20 10.7**	**+0.3**
JMK	**Ichinoseki**	**2.91**	**329**	P		**Pn**	**01 20 12.1**	**-1.0**
JMK				S		**Sn**	**01 20 45.6**	**-1.5**
JAG	**Ashikaga**	**2.99**	**270**	P		**Pn**	**01 20 13.7**	**-0.5**
JAG				S		**Sn**	**01 20 47.1**	**-2.0**
JYK	**Kaneyama**	**3.30**	**318**	P		**Pn**	**01 20 18.0**	**-0.4**
JYK				S		**Sn**	**01 20 55.5**	**-1.1**
JOM	**Ohasama**	**3.33**	**334**	P		**Pn**	**01 20 18.8**	**-0.1**
JOM				S		**Sn**	**01 20 56.4**	**-1.2**
JRY	**Ryogami san**	**3.48**	**264**	P		**Pn**	**01 20 20.1**	**-0.8**
JYN	**Shimob**	**3.87**	**257**	P		**Pn**	**01 20 26.5**	**+0.1**
JYN				*eS*		**Sn**	**01 21 10.0**	**-0.9**
MJAR	**Matsushiro Arr**	**3.99**	**272**	Pn		**Pn**	**01 20 28.0**	**0.0**
	0.6nm,0.3s,baz=102,slow=10,SNR=14							
MJAR				Sn		**Sn**	**01 21 16.8**	**+3.0**
	0.3nm,0.3s,baz=92,slow=13,SNR=4.7							
MJAR				LR		LR	01 22 15.8	
	comp=Z,58nm,18.9s,baz=165,slow=43							
MAJO	**Matsushiro**	**3.99**	**272**			**Pn**	**01 20 27.3**	**-0.7**
MAT	**Matsushiro**	**3.99**	**272**	P		**Pn**	**01 20 28.7**	**+0.7**
MAT				*eS*		**Sn**	**01 21 11.4**	**-2.4**
MAT	**Matsushiro**	**3.99**	**272**	P		**Pn**	**01 20 29.1**	**+1.1**
MJB9	**Matsu-Tunnel**	**4.00**	**272**			**Pn**	**01 20 28.3**	**+0.3**
JHJ	**Hachijo jima 2**	**4.36**	**221**	Pn		**Pn**	**01 20 30.8**	**-2.2**
	15nm,0.3s,baz=74,slow=20,SNR=1.9							
JHJ				Sn		**Sn**	**01 21 17.7**	**-5.1**
	46nm,0.3s,baz=81,slow=23,SNR=6.6							
JNY	**Yasuok**	**4.45**	**257**	P		**Pn**	**01 20 35.5**	**+1.2**
ASAJ	**Asahikawa**	**7.64**	**357**	Pn		**Pn**	**01 21 16.9**	**-1.1**
	2.7nm,0.3s,baz=218,slow=16,SNR=5.7							
ASAJ				Sn		**Sn**	**01 22 37.5**	**-6.1**
	1.5nm,0.3s,baz=310,slow=27,SNR=1.8							
ASAJ				LR		LR	01 25 20.1	
	comp=Z,54nm,18.4s,baz=185,slow=46							
JKA	**Kamikawa-asahi**	**7.64**	**357**			**Pn**	**01 21 16.9**	**-1.1**
JKA						**Sn**	**01 22 37.5**	**-6.1**
USRK	**Ussuriysk Ar.**	**11.49**	**316**	Pn		**Pn**	**01 22 11.9**	**+1.2**
	baz=228,slow=38,SNR=3.4							
KSRS	**Korea Array**	**12.23**	**279**	LR		LR	01 26 29.5	
	comp=Z,35nm,18.1s,baz=225,slow=34							
PETK	**Petropavlovsk-**	**19.50**	**27**	P		**P**	**01 23 54.1**	**+0.7**
	0.1nm,0.3s,baz=206,slow=13,SNR=2.2							
SONM	**Songino Array**	**29.26**	**304**	P		**P**	**01 25 29.5**	**+1.2**
	1.5nm,0.9s,baz=98,slow=9.4,SNR=5.4							
ZALV	**Zalesovo Beam**	**43.32**	**313**	P		**P**	**01 27 28.9**	**+1.1**
	0.7nm,0.4s,baz=95,slow=7.4,SNR=4.6							
MKAR	**Makanchi Array**	**45.60**	**303**	P		**P**	**01 27 47.1**	**+0.9**
	0.9nm,0.8s,baz=92,slow=8.5,SNR=4.8							
KURK	**Kurchatov**	**47.38**	**309**	P		**P**	**01 28 00.8**	**+0.8**
KURBB	**Kurchatov Arra**	**47.45**	**309**	P		**P**	**01 28 01.4**	**+0.8**
	3.3nm,0.7s,baz=84,slow=7.8,SNR=26							
IL31		**49.21**	**32**	P		**P**	**01 28 12.2**	**-1.8**
IL31				IAmb		IAmb	01 28 17.8	
	comp=Z,6.3nm,1.6s							
ILAR	**Eielson Array**	**49.21**	**32**	P		**P**	**01 28 14.6**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=263,slow=6.7,SNR=12							
BVAR	**Borovoye Array**	**51.98**	**313**	P		**P**	**01 28 36.1**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=74,slow=7.7,SNR=2.4							
AAK	**Ala-Archa**	**51.99**	**299**	P		**P**	**01 28 33.2**	**-2.2**
AAK				IAmb		IAmb	01 30 10.5	
	comp=Z,1.3nm,0.6s							
WRA	**Warramunga Arr**	**56.73**	**190**	P		**P**	**01 29 09.2**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=57,slow=36,SNR=2.6							
ARU	**Arti**	**57.70**	**319**	P		**P**	**01 29 17.5**	**+1.1**
	comp=Z,1.1nm,0.4s,baz=71,slow=7.8,SNR=4.0							
ARU	**Arti**	**57.70**	**319**	IAmb		IAmb	01 29 18.1	
	comp=Z,6.1nm,1.1s							
ASAR	**Alice Springs**	**60.46**	**190**	P		**P**	**01 29 34.8**	**-1.0**
	comp=Z,0.3nm,0.4s,baz=5.0,slow=6.8,SNR=4.6							
FINES	**FINESS Array B**	**69.95**	**333**	P		**P**	**01 30 38.0**	**+1.0**
	comp=Z,1.6nm,0.8s,baz=44,slow=5.8,SNR=4.9							

ANVS ⇓*i*S **Sb** **01 40 49.4 -1.7**
baz=12
PRZ **Przheval'sk** **0.93 52**⇑*i*P **Pb** **01 40 37.7 -1.6**
baz=53
PRZ ⇑*i*S **Sb** **01 40 50.0 -2.2**
baz=53
PRZ **Przheval'sk** **0.93 52** P **Pb** **01 40 37.7 -1.6**
ULHL **Ulahol** **0.93 291**⇓*i*P **Pb** **01 40 38.8 -0.7**
baz=89
ULHL ⇓*i*S **Sb** **01 40 51.9 -0.5**
baz=89
ULHL **Ulahol** **0.93 291** P **Pb** **01 40 38.8 -0.7**
TNSS **Tian-Shan** **1.17 343** *e*P **Pb** **01 40 42.8 -0.8**
baz=42
TNSS *e*S **Sg** **01 40 58.7 +0.6**
baz=42
TNSS **Tian-Shan** **1.17 343** *e*P **Pb** **01 40 42.8 -0.8**
423nm,0.1s
TNSS *e*S **Sg** **01 40 58.7 +0.6**
854nm,0.2s
TNSS **Tian-Shan** **1.17 343** P **Pb** **01 40 42.8 -0.8**
660nm,0.2s
TNSS S **Sn** **01 40 58.9 -2.2**
993nm,0.3s
TNSS **Tian-Shan** **1.17 343** *e*P **Pb** **01 40 42.8 -0.8**
TNSS *e*S **Sg** **01 40 58.7 +0.6**
BOOM **Boomskoye usch** **1.24 298**⇓*i*P **Pn** **01 40 44.1 -0.9**
baz=97
BOOM ⇓*i*S **Sg** **01 41 01.4 +1.3**
baz=97
IZV **Izvestkoviy** **1.27 332** *e*P **Pb** **01 40 44.9 -0.2**
baz=31
IZV *e*S **Sg** **01 41 02.0 +0.9**
baz=31
IZV **Izvestkoviy** **1.27 332** *e*P **Pb** **01 40 44.9 -0.2**
510nm,0.3s
IZV *e*S **Sg** **01 41 02.0 +0.9**
1µm,0.2s
IZV **Izvestkoviy** **1.27 332** P **Pb** **01 40 44.5 -0.6**
510nm,0.3s
IZV S **Sg** **01 41 01.9 +0.8**
1µm,0.2s
IZV **Izvestkoviy** **1.27 332** *e*P **Pb** **01 40 44.9 -0.2**
IZV *e*S **Sg** **01 41 02.0 +0.9**
MDOK **Medeo** **1.27 348** *e*P **Pb** **01 40 44.5 -0.8**
baz=47
MDOK *e*S **Sn** **01 41 01.4 -1.9**
baz=47
MDOK **Medeo** **1.27 348** *e*P **Pb** **01 40 44.5 -0.8**
785nm,0.3s
MDOK *e*S **Sn** **01 41 01.4 -1.9**
719nm,0.3s
MDOK **Medeo** **1.27 348** ⇑P **Pb** **01 40 44.4 -0.8**
386nm,0.5s
MDOK ⇑S **Sb** **01 41 00.9 -1.3**
508nm,0.4s
MDOK **Medeo** **1.27 348** Pg **Pb** **01 40 44.5 -0.8**
785nm,0.3s
MDOK Lg Lg 01 41 01.7
719nm,0.3s
MDOK **Medeo** **1.27 348** *e*P **Pb** **01 40 44.5 -0.8**
MDOK *e*S **Sn** **01 41 01.4 -1.9**
KOTS **Kotyrbulak** **1.34 350** *e*P **Pb** **01 40 45.8 -0.5**
baz=50
KOTS *e*S **Sg** **01 41 03.8 +0.5**
baz=50
KOTS **Kotyrbulak** **1.34 350** *e*P **Pb** **01 40 45.8 -0.5**
2µm,0.2s
KOTS *e*S **Sg** **01 41 03.8 +0.5**
1µm,0.2s
KOTS **Kotyrbulak** **1.34 350** P **Pb** **01 40 45.8 -0.5**
2µm,0.2s
KOTS S **Sg** **01 41 03.8 +0.5**
1µm,0.2s
KOTS **Kotyrbulak** **1.34 350** *e*P **Pb** **01 40 45.8 -0.5**
KOTS *e*S **Sg** **01 41 03.8 +0.5**
KNDC **Almaty** **1.34 346** ⇑P **Pb** **01 40 45.9 -0.4**
KNDC ⇓S **Sg** **01 41 05.3 +1.7**
KNDC **Almaty** **1.34 346** P **Pb** **01 40 45.9 -0.4**
KNDC S **Sg** **01 41 05.2 +1.7**
AAA **Alma-Ata** **1.34 344** *e*P **Pg** **01 40 46.5 +0.4**
baz=44
AAA *e*S **Sg** **01 41 05.1 +1.5**
baz=44
AAA **Alma-Ata** **1.34 344** *e*P **Pg** **01 40 46.5 +0.4**
3µm,0.1s
AAA *e*S **Sg** **01 41 05.1 +1.5**
1µm,0.2s
AAA **Alma-Ata** **1.34 344** P **Pg** **01 40 46.3 +0.2**
3µm,0.1s
AAA S **Sg** **01 41 04.8 +1.3**
1µm,0.2s
AAA **Alma-Ata** **1.34 344** *e*P **Pg** **01 40 46.5 +0.4**
AAA *e*S **Sg** **01 41 05.1 +1.5**
SATY **Saty** **1.36 32** *e*P **Pb** **01 40 45.6 -1.0**
442nm,0.3s
SATY *e*S **Sg** **01 41 03.1 -0.9**
2µm,0.1s
SATY **Saty** **1.36 32** P **Pb** **01 40 45.4 -1.2**
442nm,0.3s
SATY S **Sg** **01 41 03.1 -0.9**
2µm,0.1s
SATY **Saty** **1.36 32** *e*P **Pb** **01 40 45.6 -1.0**
SATY *e*S **Sg** **01 41 03.1 -0.9**
MTBS **Maitube** **1.42 329** *e*P **Pb** **01 40 47.2 -0.4**
baz=29
MTBS *e*S **Sg** **01 41 06.1 +0.2**
baz=29
MTBS **Maitube** **1.42 329** *e*P **Pb** **01 40 47.2 -0.4**
1µm,0.2s
MTBS *e*S **Sg** **01 41 06.0 +0.2**
1µm,0.2s
MTBS **Maitube** **1.42 329** P **Pb** **01 40 47.1 -0.4**
1µm,0.2s
MTBS S **Sg** **01 41 06.3 +0.5**
1µm,0.2s
MTBS **Maitube** **1.42 329** *e*P **Pb** **01 40 47.2 -0.4**
MTBS *e*S **Sg** **01 41 06.0 +0.2**
KST **Kastek** **1.56 317** *e*P **Pb** **01 40 50.1 0.0**
baz=16
KST *e*S **Sg** **01 41 11.2 +0.8**
baz=16
KST **Kastek** **1.56 317** *e*P **Pb** **01 40 50.1 0.0**
614nm,0.3s
KST *e*S **Sg** **01 41 11.1 +0.8**
1µm,0.2s
KST **Kastek** **1.56 317** P **Pb** **01 40 49.8 -0.2**
614nm,0.3s
KST S **Sg** **01 41 10.9 +0.6**
2µm,0.5s
KST **Kastek** **1.56 317** *e*PN **Pb** **01 40 50.1 0.0**
KST *e*S **Sg** **01 41 11.1 +0.7**
KZA **Kyzart** **1.62 276**⇑*i*P **Pb** **01 40 51.6 +0.2**
baz=76
KZA ⇑*i*S **Sg** **01 41 13.5 +1.0**
baz=76
KZA **Kyzart** **1.62 276** P **Pb** **01 40 51.5 +0.2**
SNR=60
KURS **Kuram** **1.67 19** *e*P **Pb** **01 40 51.5 -0.4**
baz=19
KURS *e*S **Sg** **01 41 13.7 -0.2**
baz=19
KURS **Kuram** **1.67 19** *e*P **Pb** **01 40 51.5 -0.4**
224nm,0.3s
KURS *e*S **Sg** **01 41 13.7 -0.2**
637nm,0.4s
KURS **Kuram** **1.67 19** P **Pb** **01 40 51.1 -0.8**
281nm,0.5s
KURS S **Sg** **01 41 13.4 -0.5**
637nm,0.4s
KURS **Kuram** **1.67 19** *e*PN **Pb** **01 40 51.5 -0.4**
KURS *e*S **Sg** **01 41 13.7 -0.2**
TKM2 **Tokmak 2** **1.68 307**⇓*i*P **Pb** **01 40 52.2 0.0**
baz=6.0
TKM2 ⇓*i*S **Sg** **01 41 14.8 +0.5**
baz=6.0
TKM2 **Tokmak 2** **1.68 307** P **Pb** **01 40 52.2 0.0**
SNR=873
TKM2 **Tokmak 2** **1.68 307** ⇑Pn **Pb** **01 40 52.1 -0.2**
148nm,0.3s
TKM2 ⇑Sn **Sg** **01 41 15.0 +0.7**
1µm,0.4s
TKM2 **Tokmak 2** **1.68 307** PN **Pb** **01 40 52.0 -0.2**
TKM2 01 41 15.0
UZB **Uzynbulak** **1.71 43** *e*P **Pb** **01 40 51.8 -0.9**
baz=44
UZB *e*S **Sg** **01 41 14.0 -1.3**
UZB **Uzynbulak** **1.71 43** *e*P **Pb** **01 40 51.8 -0.9**
215nm,0.4s
UZB *e*S **Sg** **01 41 14.0 -1.3**
2µm,0.4s
UZB **Uzynbulak** **1.71 43** P **Pb** **01 40 51.8 -0.9**
215nm,0.4s
UZB S **Sg** **01 41 13.9 -1.4**
2µm,0.4s
UZB **Uzynbulak** **1.71 43** *e*PN **Pb** **01 40 51.8 -0.9**
UZB *e*S **Sg** **01 41 14.0 -1.3**
DGS **Degeres** **1.80 318** *e*P **Pb** **01 40 54.2 +0.1**
baz=17
DGS *e*S **Sg** **01 41 18.2 +0.1**
baz=17
DGS **Degeres** **1.80 318** *e*P **Pb** **01 40 54.2 +0.1**
5.3nm,0.2s
DGS *e*S **Sg** **01 41 18.2 +0.1**
2µm,0.4s
DGS **Degeres** **1.80 318** P **Pb** **01 40 54.1 -0.1**
5.3nm,0.2s
DGS S **Sg** **01 41 17.9 -0.2**
2µm,0.4s
DGS **Degeres** **1.80 318** *e*PN **Pb** **01 40 54.2 +0.1**
DGS *e*S **Sg** **01 41 18.2 +0.1**
KTBS **Karatobe** **1.87 344** *e*P **Pb** **01 40 55.5 +0.1**
471nm,0.3s
KTBS *e*S **Sg** **01 41 20.5 -0.1**
3µm,0.7s
KTBS **Karatobe** **1.87 344** P **Pb** **01 40 55.3 -0.1**
471nm,0.3s
KTBS S **Sg** **01 41 20.5 -0.1**
3µm,0.7s
KTBS **Karatobe** **1.87 344** *e*PN **Pb** **01 40 55.5 +0.1**
KTBS *e*S **Sg** **01 41 20.5 -0.1**
SHLS **Shalkode** **1.96 50** *e*P **Pg** **01 41 00.9 +3.0**
baz=55
SHLS *e*S **Sg** **01 41 29.7 +6.5**
baz=55
SHLS **Shalkode** **1.96 50** *e*P **Pg** **01 41 00.9 +3.0**
288nm,0.2s
SHLS *e*S **Sg** **01 41 29.6 +6.5**
2µm,0.4s
SHLS **Shalkode** **1.96 50** Pg **Pg** **01 41 00.8 +2.9**
799nm,0.5s
SHLS Lg Lg 01 41 29.3
2µm,0.4s
SHLS **Shalkode** **1.96 50** *e*PN **Pg** **01 41 00.9 +3.0**
SHLS *e*S **Sg** **01 41 29.6 +6.4**
CHKK **Chushkaly** **1.96 351** *e*P **Pb** **01 40 56.9 0.0**
baz=51
CHKK *e*S **Sg** **01 41 22.9 -0.5**
baz=51
CHKK **Chushkaly** **1.96 351** *e*P **Pb** **01 40 56.9 0.0**
1µm,0.3s
CHKK *e*S **Sg** **01 41 22.8 -0.5**
4µm,0.1s
CHKK **Chushkaly** **1.96 351** Pg **Pb** **01 40 56.8 -0.1**
1µm,0.3s
CHKK Lg Lg 01 41 22.8
2µm,0.3s
CHKK **Chushkaly** **1.96 351** *e*PN **Pb** **01 40 56.9 0.0**
CHKK *e*S **Sg** **01 41 22.8 -0.6**
KBK **Karagaybulak** **1.98 293**⇓*i*P **Pb** **01 40 57.3 +0.1**
baz=92
KBK ⇓*i*S **Sb** **01 41 22.7 +0.3**
baz=92
KBK **Karagaybulak** **1.98 293** P **Pb** **01 40 57.6 +0.4**
SNR=164
PDGK **Podgornoye** **2.08 47** ⇑Pn **Pb** **01 40 57.8 -1.3**
120nm,0.5s
PDGK ⇓Lg Lg 01 41 24.9
1µm,0.4s
PDGK **Podgornoye** **2.08 47** PN **Pb** **01 40 57.7 -1.3**
KUU **Kurty** **2.13 339** *e*P **Pb** **01 40 59.7 0.0**
baz=38
KUU *e*S **Sg** **01 41 27.6 -1.1**
baz=38
KUU **Kurty** **2.13 339** *e*P **Pb** **01 40 59.7 0.0**
232nm,0.2s
KUU *e*S **Sg** **01 41 27.6 -1.1**
2µm,0.5s
KUU **Kurty** **2.13 339** Pg **Pb** **01 40 59.7 0.0**
370nm,0.5s
KUU Lg Lg 01 41 27.5
2µm,0.5s
KUU **Kurty** **2.13 339** *e*PN **Pb** **01 40 59.7 0.0**
KUU *e*S **Sg** **01 41 27.6 -1.1**
UCH **Uchtor** **2.18 279**⇓*e*P **Pb** **01 41 00.0 -0.9**
baz=79
UCH ⇓*i*S **Sb** **01 41 29.0 +0.4**
baz=79
UCH **Uchtor** **2.18 279** P **Pb** **01 41 01.3 +0.3**
SNR=96
KRBS **Karabastau** **2.19 325** *e*P **Pb** **01 40 00.9 +0.1**
393nm,0.2s
KRBS *e*S **Sg** **01 41 29.6 -1.2**
333nm,0.3s
KRBS **Karabastau** **2.19 325** Pg **Pb** **01 41 00.8 0.0**
393nm,0.2s
KRBS Lg Lg 01 41 29.5
333nm,0.3s
KRBS **Karabastau** **2.19 325** *e*PN **Pb** **01 41 00.9 +0.1**
KRBS *e*S **Sg** **01 41 29.6 -1.2**
CHMS **Chumysh** **2.25 300**⇓*i*P **Pb** **01 41 00.5 -1.3**
baz=99
CHMS ⇓*i*S **Sb** **01 41 29.8 -0.3**
baz=99
CHMS **Chumysh** **2.25 300** P **Pb** **01 41 01.6 -0.2**
SNR=57
FRU1 **Bishkek** **2.25 294**⇑*i*P **Pb** **01 41 00.5 -1.3**
baz=94
FRU1 ⇑*i*S **Sb** **01 41 30.0 -0.2**
baz=94
MNBS **Baschi** **2.28 18** *e*P **Pb** **01 41 02.3 0.0**
405nm,0.3s
MNBS *e*S **Sg** **01 41 32.2 -1.4**
3µm,0.3s
MNBS **Baschi** **2.28 18** Pg **Pb** **01 41 02.3 0.0**
405nm,0.3s
MNBS Lg Lg 01 41 32.1
3µm,0.3s
MNBS **Baschi** **2.28 18** *e*PN **Pb** **01 41 02.3 0.0**
MNBS *e*S **Sg** **01 41 32.2 -1.4**
AAK **Ala-Archa** **2.29 289** Pn **Pb** **01 41 03.1 +0.6**
78nm,0.3s,baz=106,slow=9.5,SNR=511
AAK Pg **Pg** **01 41 06.5 +2.3**
54nm,0.3s,baz=112,slow=8.7,SNR=16
AAK Lg Lg 01 41 33.8
117nm,0.3s,baz=265,slow=20,SNR=29
AAK **Ala-Archa** **2.29 289**⇑*i*P **Pb** **01 41 01.5 -1.0**
baz=89
AAK ⇑*i*S **Sb** **01 41 31.0 -0.3**
baz=89
AAK **Ala-Archa** **2.29 289** P **Pb** **01 41 02.2 -0.3**
SNR=180
AAK **Ala-Archa** **2.29 289** ⇓Pn **Pb** **01 41 02.8 +0.3**
49nm,0.3s
AAK ⇑Lg Lg 01 41 33.9
425nm,0.4s
AAK **Ala-Archa** **2.29 289** *de*PN **Pb** **01 41 02.6 +0.1**
ARLS **Aral** **2.31 270**⇓*i*P **Pb** **01 41 01.8 -1.1**
baz=69
ARLS ⇓*i*S **Sb** **01 41 31.6 -0.4**
baz=69
ARXS **Arharly** **2.31 7** *e*P **Pb** **01 41 02.7 -0.3**
204nm,0.2s
ARXS *e*S **Sg** **01 41 32.6 -2.1**
2µm,0.2s
ARXS **Arharly** **2.31 7** Pg **Pb** **01 41 02.9 -0.1**
575nm,0.5s
ARXS Lg Lg 01 41 33.1
2µm,0.3s
ARXS **Arharly** **2.31 7** *e*PN **Pb** **01 41 02.7 -0.3**
ARXS *e*S **Sg** **01 41 32.6 -2.1**
USP **Ospenovka** **2.54 303**⇑*i*P **Pb** **01 41 04.8 -2.0**
baz=3.0
USP ⇑*i*S **Sb** **01 41 36.8 -1.7**
baz=3.0
USP **Ospenovka** **2.54 303** P **Pb** **01 41 06.2 -0.5**
SNR=104
SGDS **Sogindy** **2.56 308** Pg **Pb** **01 41 07.3 +0.1**
177nm,0.3s
SGDS Lg Lg 01 41 40.5
801nm,0.3s
KSH **Kashi** **2.64 205** Pg Pg 01 41 18.5 +7.6
KSH Sg Sg 01 42 01.5 +16
KSH smax smax
comp=N,710nm,0.9s
KSH smax smax
comp=E,700nm,0.8s
KTMS **Ketmen** **2.65 54** *e*P **Pb** **01 41 08.2 -0.5**
11nm,0.1s
KTMS *e*S **Sg** **01 41 42.1 -3.4**
603nm,0.5s
KTMS **Ketmen** **2.65 54** Pg **Pb** **01 41 08.2 -0.5**
52nm,0.1s
KTMS Lg Lg 01 41 42.1
603nm,0.5s
KTMS **Ketmen** **2.65 54** *e*PN **Pb** **01 41 08.2 -0.5**
KTMS *e*S **Sg** **01 41 42.1 -3.4**
AML **Almayashu** **2.78 276**⇑*i*P **Pb** **01 41 08.6 -2.5**
baz=75
AML ⇑*e*S **Sb** **01 41 43.4 -2.4**
baz=75
AML **Almayashu** **2.78 276** P **Pb** **01 41 12.9 +1.8**
SNR=109
EKS2 **Erkin-Say** **2.80 287**⇑*i*P **Pb** **01 41 08.6 -2.6**
baz=86
EKS2 ⇑*i*S **Sb** **01 41 43.4 -2.7**
baz=86
EKS2 **Erkin-Say** **2.80 287** P **Pb** **01 41 13.0 +1.8**
SNR=69
DJR **Jarkent** **2.98 35** *e*P **Pb** **01 41 13.5 -0.7**
46nm,0.2s
DJR *e*S **Sb** **01 41 51.3 +0.2**
1µm,0.4s
DJR **Jarkent** **2.98 35** Pg **Pb** **01 41 13.3 -0.9**
117nm,0.3s
DJR Lg Lg 01 41 51.0
650nm,0.3s
DJR **Jarkent** **2.98 35** *e*PN **Pb** **01 41 13.5 -0.7**
DJR *e*S **Sb** **01 41 51.3 +0.2**
TDK **Taldyqorghan** **3.17 13** *e*P **Pb** **01 41 17.5 +0.1**
96nm,0.2s
TDK *e*S **Sb** **01 41 58.1 +1.6**
1µm,0.4s
TDK **Taldyqorghan** **3.17 13** Pg **Pb** **01 41 17.2 -0.2**
308nm,0.3s
TDK Lg Lg 01 41 57.5
1µm,0.4s
TDK **Taldyqorghan** **3.17 13** *e*PN **Pb** **01 41 17.5 +0.1**
TDK *e*S **Sb** **01 41 58.1 +1.6**
MRKS **Merke** **3.21 286** *e*P **Pb** **01 41 20.4 +2.1**
48nm,0.2s
MRKS *e*S **Sg** **01 42 03.2 -0.4**
548nm,0.3s
MRKS **Merke** **3.21 286** Pg **Pb** **01 41 20.4 +2.1**
88nm,0.3s
MRKS Lg Lg 01 42 03.0
548nm,0.3s
MRKS **Merke** **3.21 286** *e*PN **Pb** **01 41 20.4 +2.1**
ARSB **Arslanbob** **3.38 261**⇓*i*P **Pn** **01 41 16.7 +2.4**
baz=61
ARSB ⇓*i*S **Sn** **01 41 57.3 +2.2**
baz=61
KAPS **Kapalarasan** **3.65 22** *e*P **Pb** **01 41 26.1 +0.5**
54nm,0.3s
KAPS *e*S **Sg** **01 42 13.2 -4.4**
192nm,0.3s
KAPS **Kapalarasan** **3.65 22** Pg **Pb** **01 41 26.4 +0.7**
75nm,0.3s
KAPS Lg Lg 01 42 13.2
192nm,0.3s
KAPS **Kapalarasan** **3.65 22** *e*PN **Pb** **01 41 26.2 +0.5**
KAPS *e*S **Sg** **01 42 13.2 -4.4**
BTLS **Baital** **3.97 323** *e*P **Pb** **01 41 31.6 +0.5**
20nm,0.3s
BTLS *e*S **Sb** **01 42 22.6 +3.0**
119nm,0.3s
BTLS **Baital** **3.97 323** Pg **Pb** **01 41 32.1 +1.0**
45nm,0.4s
BTLS Lg Lg 01 42 23.0
234nm,0.5s
BTLS **Baital** **3.97 323** *e*PN **Pb** **01 41 31.6 +0.5**
KK31 **Karatay Array** **5.24 285** ⇓Pg Pg 01 41 57.7 -3.1
8.9nm,0.5s,baz=94,slow=17,SNR=48
KK31 ⇑Lg Lg 01 43 09.8
74nm,0.7s,baz=96,slow=27,SNR=13
KK31 **Karatay Array** **5.24 285** PN Pg 01 41 57.6 -3.1
IUG **Iuzhnay** **5.50 275** *e*P **Pg** **01 42 03.0 -2.8**
0.9nm,0.1s
IUG *e*S **Sg** **01 43 16.1 -1.0**
76nm,0.3s
IUG **Iuzhnay** **5.50 275** Pg **Pg** **01 42 03.5 -2.4**
4.6nm,0.8s
IUG Lg Lg 01 43 17.8
93nm,0.7s
IUG **Iuzhnay** **5.50 275** *e*PN **Pg** **01 42 03.0 -2.8**
BRLS **Borolday** **5.71 284** *e*P **Pg** **01 42 07.6 -2.3**
0.8nm,0.1s
BRLS *e*S **Sg** **01 43 23.9 0.0**
38nm,0.8s
BRLS **Borolday** **5.71 284** Pg **Pg** **01 42 07.2 -2.6**
2.2nm,0.4s
BRLS Lg Lg 01 43 23.1
48nm,0.5s
BRLS **Borolday** **5.71 284** *e*PN **Pg** **01 42 07.6 -2.3**
MAKZ **Makanchi** **5.88 32** ⇑Pn **Pn** **01 41 50.6 +1.9**
3.2nm,0.5s
MAKZ ⇓Pg Pg 01 42 09.6 -3.4
28nm,1.0s
MAKZ ⇓Lg Lg 01 43 29.5
27nm,0.8s
MAKZ **Makanchi** **5.88 32** PN **Pn** **01 41 50.5 +1.9**
MK31 **Makanchi Array** **6.00 34** ⇑Pn **Pn** **01 41 52.0 +1.8**
1.2nm,0.2s,baz=217,slow=14,SNR=106
MK31 ⇑Pg **Pg** **01 42 12.8 -2.4**
12nm,0.6s,baz=217,slow=16,SNR=6.2
MK31 ⇑Lg Lg 01 43 30.2
10nm,0.4s,baz=216,slow=28,SNR=4.0
MK31 **Makanchi Array** **6.00 34** PN **Pn** **01 41 51.7 +1.5**
MKAR **Makanchi Array** **6.00 34** Pn **Pn** **01 41 51.7 +1.5**
0.8nm,0.3s,baz=217,slow=15,SNR=30
MKAR Pg **Pb** **01 42 07.6 +2.0**
2.3nm,0.3s,baz=208,slow=16,SNR=6.0
MKAR Lg Lg 01 43 22.6
5.9nm,0.3s,baz=219,slow=23,SNR=5.6
MKAR **Makanchi Array** **6.00 34** *i* PN **Pn** **01 41 52.0 +1.8**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
OTUK **Ortayu** **7.28 332** ⇓Pn **Pn** **01 42 09.3 +1.6**
comp=Z,2.8nm,0.4s
OTUK ⇑Pg **Pb** **01 42 31.0 +3.6**
comp=Z,8.5nm,0.8s
OTUK ⇓Lg Lg 01 44 13.4
comp=Z,56nm,0.7s
OTUK **Ortayu** **7.28 332** P **Pn** **01 42 09.3 +1.6**
ZSN **Zaisan** **7.67 41** Pg Pb 01 42 38.6 +4.6
comp=Z,6.9nm,0.3s
ZSN Lg Lg 01 44 18.0
comp=Z,30nm,0.8s
WMQ **Urumqi** **7.79 72** *e*Pn **Pn** **01 42 17.4 +2.6**
BRZS **Berezniki** **8.71 339** Pg Pg 01 43 00.8 -6.3
comp=Z,14nm,0.5s
BRZS Lg Lg 01 44 55.0
comp=Z,36nm,0.6s
SEM **Semipalatinsk** **8.72 12** Pg Pg 01 43 01.9 -5.3
comp=Z,4.9nm,0.3s
SEM Lg Lg 01 44 57.0
comp=Z,45nm,0.7s
KURBB **Kurchatov Arra** **8.74 5** Pn **Pn** **01 42 28.7 +0.9**
comp=Z,0.3nm,0.3s,baz=191,slow=12,SNR=21
KURBB Lg Lg 01 44 56.8
comp=Z,0.7nm,0.3s,baz=353,slow=33,SNR=5.9
KURBB **Kurchatov Arra** **8.74 5** ⇑Pn Pn 01 42 32.5 +4.7
comp=Z,4.8nm,0.6s
KURBB ⇓Lg Lg 01 44 55.2
comp=Z,105nm,0.7s
KURBB **Kurchatov Arra** **8.74 5** P Pn 01 42 32.5 +4.7
KURK **Kurchatov** **8.84 5** ⇑Pn Pn 01 42 33.9 +4.8
comp=Z,4.3nm,0.5s
KURK ⇑Lg Lg 01 44 58.5
comp=Z,59nm,0.8s
KURK **Kurchatov** **8.84 5**⇓*e*P Pn 01 42 33.3 +4.1
DGZ **Jazzator, Alta** **10.46 38**⇑*e*P **Pn** **01 42 51.1 -0.3**
BVAR **Borovoye Array** **12.08 339** Pn **Pn** **01 43 12.6 -0.9**
comp=Z,0.2nm,0.3s,baz=155,slow=15,SNR=5.2
BVAR Lg Lg 01 46 36.1
comp=Z,0.6nm,0.3s,baz=164,slow=22,SNR=2.2
BRVK **Borovoye** **12.14 339**⇑P **Pn** **01 43 14.0 -0.3**
comp=Z,5.2nm,0.7s
BRVK **Borovoye** **12.14 339**⇑*e*P **Pn** **01 43 15.3 +1.0**
ZALV **Zalesovo Beam** **13.01 20** Pn **Pn** **01 43 25.4 -0.8**

comp=Z,0.2nm,0.3s,baz=230,slow=15,SNR=1.7
ZALV Lg Lg 01 47 09.3
comp=Z,0.2nm,0.3s,baz=207,slow=27,SNR=2.6
AB31 Akbulak array 14.25 307 ⇑P Pn 01 43 44.8 +1.7
comp=Z,2.6nm,0.3s,baz=114,slow=14,SNR=6.9
AKTO Aktyubinsk 15.87 309 ⇓P Pn 01 44 04.4 -0.4
comp=Z,2.0nm,0.7s
AKTO ⇓S Sn 01 47 05.3 +4.0
comp=Z,1.8nm,0.7s
ARU Arti 18.95 326 P Pn 01 44 43.4 +0.2
comp=Z,0.0nm,0.3s,baz=4.6,slow=23,SNR=2.6
ARU Lg Lg 01 50 15.7
comp=Z,0.0nm,0.3s,baz=294,slow=21,SNR=1.6
ARU Arti 18.95 326*d* *i*P Pn 01 44 47.4 +4.2
ARU pmax pmax
comp=Z,9.0nm,1.6s
SONM Songino Array 21.30 64 P P 01 45 08.3 -0.1
comp=Z,1.4nm,0.7s,baz=267,slow=10,SNR=9.9
SONM Songino Array 21.30 64 *e*P P 01 45 09.3 +0.9
BRTR Keskin Array B 32.94 281 P P 01 46 57.1 +0.7
comp=Z,0.6nm,0.7s,baz=99,slow=9.4,SNR=4.6
BRTR Keskin Array B 32.94 281 *e*P P 01 46 57.4 +1.0
BRTR pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 36.12 320 P P 01 47 23.1 -0.5
comp=Z,0.7nm,0.7s,baz=91,slow=11,SNR=1.6
ARCES ARCESS Array B 38.28 333 P P 01 47 41.5 -0.3
comp=Z,1.7nm,0.8s,baz=96,slow=8.7,SNR=5.9
ARCES ARCESS Array B 38.28 333 *e*P P 01 47 41.6 -0.2
ARCES pmax pmax
comp=Z,2.0nm,0.8s
NB2 NORSAR Subarra 43.28 319 P P 01 48 22.4 -0.8
comp=Z,0.2nm,0.4s,baz=76,slow=6.5
NOA NORSAR Array B 43.28 319 P P 01 48 22.9 -0.3
comp=Z,0.3nm,0.4s,baz=87,slow=8.0,SNR=3.6
YSS Yuzh-Sakhalins 45.72 60 *e*P P 01 48 45.5 +2.7
ESDC Sonseca Array 59.37 298 P P 01 50 24.4 +0.3
comp=Z,0.3nm,0.8s,baz=54,slow=6.6,SNR=2.9
INK Inuvik 67.67 12 P P 01 51 17.5 -1.0
comp=Z,0.8nm,0.5s,baz=303,slow=4.5,SNR=5.9
ILAR Eielson Array 68.14 19 P P 01 51 20.2 -1.3
comp=Z,0.3nm,0.8s,baz=319,slow=3.6,SNR=2.3
TORD Torodi Ar. Bea 70.75 271 P P 01 51 36.8 -1.6
comp=Z,0.9nm,0.7s,baz=46,slow=6.4,SNR=8.5
YKA Yellowknife Ar 75.49 6 P P 01 52 04.5 -1.2
comp=Z,0.6nm,0.7s,baz=344,slow=5.4,SNR=7.4

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*IDC **06** 01:57:49.3±0.9, 39.°00N×20.°62E, h0km, mb3.7/10, mb1 3.8/18, mb1mx3.7/39, mbtmp3.7/18, ML3.5/8, MS3.1/7, Ms1 3.1/7, ms1mx2.8/43, Error ellipse: s-maj=16.1km s-min=13.0km az=38.0*
*BEO **06** 01:57:50.7±1.1, 38.°78N×20.°44E, h15km±4km, ML3.5/4*
*PDG **06** 01:57:50.7±0.6, 38.°90N×20.°55E, h10km±1km, ML3.8/12, Error ellipse: s-maj=0.7km s-min=1.1km az=0.0*
*ATH **06** 01:57:50.7, 38.°90N×20.°63E, h20km±1km, ML3.8/22, Error ellipse: s-maj=1.3km s-min=0.7km az=256.0*
*THE **06** 01:57:51.3, 38.°89N×20.°61E, h15km, ML3.8/22, Error ellipse: s-maj=0.5km s-min=0.2km az=253.0*
ISC 06 01:57:51.3±0.7, 38.°90N±0.°02×20.°58E±0.°02, h16km±4km, n244, σ1$53/298, mb3.7/10, MS3.0/4, 24C-12D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TSLK	**Tsoukalades, L**	**0.10**	**142**	P			**Pg**	**01 57 54.2**	**-0.5**
TSLK				S			**Sg**	**01 57 56.6**	**-0.2**
TSLK	**Tsoukalades, L**	**0.10**	**142**	P			**Pg**	**01 57 54.2**	**-0.5**
TSLK				S			**Sg**	**01 57 56.7**	**-0.1**
LKD2	**Lefkada island**	**0.13**	**151**	P			**Pg**	**01 57 54.6**	**-0.4**
LKD2				S			**Sg**	**01 57 57.1**	**-0.4**
	156μm,0.5s								
LKD2	**Lefkada island**	**0.13**	**151**	P			**Pg**	**01 57 54.6**	**-0.4**
LKD2				S			**Sg**	**01 57 57.2**	**-0.2**
LKD2				AML		AML	01 57 57.7		
LKD2				AML		AML	01 57 57.9		
EVGI	**Lefkada island**	**0.28**	**168**	P			**Pg**	**01 57 57.2**	**-0.2**
EVGI				S			**Sg**	**01 58 01.5**	**-0.1**
EVGI	**Lefkada island**	**0.28**	**168**	P			**Pg**	**01 57 57.2**	**-0.2**
MGNA	**Meganis**	**0.29**	**146**	P			**Pg**	**01 57 56.9**	**-0.7**
MGNA				AML		AML	01 58 07.3		
	comp=E,39934μm,0.5s								
MGNA				AML		AML	01 58 07.3		
	comp=N,35124μm,0.6s								
FSK	**Fiskardo**	**0.44**	**182**	P			**Pg**	**01 57 59.8**	**-0.3**
FSK				S			**Sg**	**01 58 06.3**	**+0.1**
	comp=N,9μm,0.4s								
FSK	**Fiskardo**	**0.44**	**182**	P			**Pg**	**01 57 59.9**	**-0.3**
FSK				S			**Sg**	**01 58 06.7**	**+0.5**
FSK				AML		AML	01 58 07.8		
	comp=E,23993μm,0.3s								
FSK				AML		AML	01 58 09.6		
	comp=N,15670μm,0.4s								
VSK1	**VASILIKIADES**	**0.49**	**182**	P			**Pg**	**01 58 00.5**	**-0.6**
VSK1				S			**Sg**	**01 58 07.8**	**+0.1**
	comp=N,13μm,0.4s								
AST1	**Astakos**	**0.54**	**132**	P			**Pg**	**01 58 00.9**	**-1.0**
AST1				S			**Sg**	**01 58 08.6**	**-0.5**
	comp=N,20μm,0.5s								
PDO	**Prodromos**	**0.56**	**122**	P			**Pg**	**01 58 01.7**	**-0.7**
PDO	**Prodromos**	**0.56**	**122**	P			**Pg**	**01 58 01.6**	**-0.8**
KEF4	**Livadi, Kephal**	**0.65**	**191**	P			**Pg**	**01 58 03.5**	**-0.7**
IGT	**Igoumenitsa**	**0.66**	**343**	*e*Pg			**Pg**	**01 58 03.7**	**-0.6**
IGT				*e*Sg			**Sn**	**01 58 15.9**	**-0.3**
IGT	**Igoumenitsa**	**0.66**	**343**	P			**Pg**	**01 58 03.6**	**-0.7**
IGT				S			**Sb**	**01 58 14.5**	**+1.0**
	comp=N,4μm,0.4s								
IGT	**Igoumenitsa**	**0.66**	**343**	P			**Pg**	**01 58 03.5**	**-0.8**
IGT				S			**Sb**	**01 58 13.8**	**+0.3**
IGT				AML		AML	01 58 20.7		
	comp=N,7552μm,0.4s								
IGT				AML		AML	01 58 26.1		
	comp=E,7513μm,0.5s								
VLS	**Valsamata**	**0.72**	**179**	P			**Pg**	**01 58 04.4**	**-1.1**
VLS				S			**Sg**	**01 58 15.3**	**+0.3**
	comp=E,19μm,0.5s								
VLS	**Valsamata**	**0.72**	**179**	P			**Pg**	**01 58 04.3**	**-1.1**
VLS				S			**Sg**	**01 58 14.8**	**-0.2**
VLS				AML		AML	01 58 19.0		
	comp=E,41580μm,0.6s								
VLS				AML		AML	01 58 20.8		
	comp=N,34108μm,0.4s								
ARG2	**Argostoli**	**0.72**	**186**	P			**Pg**	**01 58 04.6**	**-0.9**
ARGA	**Argostoli. Kep**	**0.73**	**186**	P			**Pg**	**01 58 04.7**	**-0.8**
JAN	**Janina**	**0.78**	**15**	P			**Pb**	**01 58 06.6**	**-0.1**
JAN				S			**Sb**	**01 58 17.9**	**+0.8**
	comp=N,12μm,0.5s								
JAN	**Janina**	**0.78**	**15**	P			**Pg**	**01 58 05.8**	**-0.8**
JAN				S			**Sg**	**01 58 16.3**	**-0.7**
JAN				AML		AML	01 58 21.8		
	comp=E,33800μm,0.6s								
JAN				AML		AML	01 58 22.5		
	comp=N,15335μm,0.6s								
PVO	**Paravola**	**0.79**	**111**	P			**Pg**	**01 58 05.9**	**-0.9**
PVO				S			**Sg**	**01 58 16.8**	**-0.4**
	comp=N,24μm,0.3s								
PVO	**Paravola**	**0.79**	**111**	P			**Pg**	**01 58 05.7**	**-1.1**
PVO				S			**Sg**	**01 58 15.8**	**-1.4**
PVO				AML		AML	01 58 19.5		
	comp=E,52518μm,0.3s								
PVO				AML		AML	01 58 19.8		
	comp=N,45018μm,0.3s								
KFL	**Anninata**	**0.81**	**168**	P			**Pg**	**01 58 06.2**	**-0.8**
KFL				S			**Sg**	**01 58 17.9**	**+0.3**
	comp=N,15μm,0.4s								
KFL	**Anninata**	**0.81**	**168**	P			**Pg**	**01 58 06.0**	**-1.1**
KFL				S			**Sg**	**01 58 16.9**	**-0.7**
KFL				AML		AML	01 58 22.1		
	comp=E,33954μm,0.3s								
KFL				AML		AML	01 58 24.3		
	comp=N,27053μm,0.5s								
EVR	**Evrytania**	**0.96**	**89**	P			**Pg**	**01 58 08.6**	**-1.3**
EVR				S			**Sb**	**01 58 22.2**	**0.0**
	comp=N,6μm,0.5s								
EVR	**Evrytania**	**0.96**	**89**	P			**Pg**	**01 58 08.7**	**-1.3**
EVR				S			**Sg**	**01 58 21.3**	**-1.2**
EVR				AML		AML	01 58 24.0		
	comp=N,12567μm,0.6s								
EVR				AML		AML	01 58 25.0		
	comp=E,11781μm,0.4s								
KEK	**Kerkira**	**1.01**	**323**	P			**Pg**	**01 58 10.0**	**-1.0**
KEK				S			**Sn**	**01 58 26.2**	**+1.3**
	comp=E,4μm,0.5s								
KEK	**Kerkira**	**1.01**	**323**	P			**Pg**	**01 58 10.3**	**-0.7**
KEK				S			**Sn**	**01 58 25.3**	**+0.4**
KEK				AML		AML	01 58 36.5		
	comp=E,9475μm,0.5s								
KEK				AML		AML	01 58 38.5		
	comp=N,5429μm,0.5s								
MEV	**Metsovon**	**1.02**	**29**	P			**Pg**	**01 58 10.2**	**-0.9**
VLMS	**Volimes, Zakyn**	**1.02**	**176**	P			**Pg**	**01 58 09.9**	**-1.3**
VLMS				S			**Sg**	**01 58 24.8**	**+0.2**
VLMS				AML		AML	01 58 31.2		
	comp=N,22425μm,0.3s								
VLMS				AML		AML	01 58 35.3		
	comp=E,14515μm,0.4s								
SRN	**Sarande**	**1.08**	**336**	P			**Pb**	**01 58 11.2**	**-0.4**
RLS	**Riolos of Patr**	**1.09**	**140**	P			**Pb**	**01 58 10.8**	**-1.1**
RLS				S			**Sb**	**01 58 26.0**	**+0.1**
	comp=E,3μm,0.6s								
RLS	**Riolos of Patr**	**1.09**	**140**	P			**Pb**	**01 58 10.7**	**-1.1**
RLS				AML		AML	01 58 32.9		
	comp=N,6847μm,0.8s								
RLS				AML		AML	01 58 40.1		
	comp=E,6742μm,0.4s								
VTN	**Vitineika**	**1.09**	**154**	P			**Pb**	**01 58 11.4**	**-0.5**
ANX	**Ano Chora**	**1.09**	**106**	P			**Pg**	**01 58 10.8**	**-1.7**
ANX				S			**Sg**	**01 58 26.0**	**-0.8**
	comp=E,10μm,0.5s								
ANX	**Ano Chora**	**1.09**	**106**	P			**Pg**	**01 58 10.4**	**-2.0**
ANX				AML		AML	01 58 29.4		
	comp=N,23747μm,0.4s								
ANX				AML		AML	01 58 30.4		
	comp=E,17997μm,0.4s								
ZAK2	**Zakynthos**	**1.14**	**167**	P			**Pb**	**01 58 11.8**	**-0.9**
MAKR	**Makrakomi, Fth**	**1.22**	**84**	P			**Pb**	**01 58 13.4**	**-0.6**
KPRO	**Kipourio**	**1.22**	**30**	P			**Pb**	**01 58 13.9**	**-0.2**
KPRO				S			**Sn**	**01 58 31.2**	**+1.2**
	comp=E,5μm,0.7s								
KPRO	**Kipourio**	**1.22**	**30**	P			**Pb**	**01 58 13.1**	**-1.0**
KPRO				AML		AML	01 58 37.9		
	comp=E,8900μm,1.0s								
KPRO				AML		AML	01 58 38.2		
	comp=N,9378μm,0.6s								
KRI1	**kERI**	**1.25**	**171**	P			**Pn**	**01 58 13.3**	**-0.9**
SERG	**Sergoula**	**1.25**	**112**	P			**Pn**	**01 58 13.4**	**-0.9**
SERG				S			**Sn**	**01 58 33.5**	**+2.6**
	comp=N,5μm,0.7s								
SERG	**Sergoula**	**1.25**	**112**	P			**Pn**	**01 58 13.4**	**-0.9**
SERG				AML		AML	01 58 36.2		
	comp=E,11938μm,0.4s								
SERG				AML		AML	01 58 38.6		
	comp=N,8407μm,0.7s								
LAKA	**Lakka**	**1.28**	**121**	P			**Pn**	**01 58 13.5**	**-1.1**
LAKA				S			**Sn**	**01 58 32.1**	**+0.6**
	comp=N,2μm,0.7s								
TRIZ	**Trizonia**	**1.28**	**114**	P			**Pn**	**01 58 13.8**	**-0.9**
DRO	**Drossia**	**1.30**	**136**	P			**Pn**	**01 58 14.0**	**-0.9**
DRO				S			**Sb**	**01 58 31.4**	**-0.4**
	comp=N,4μm,0.4s								
DRO	**Drossia**	**1.30**	**136**	P			**Pn**	**01 58 14.3**	**-0.6**
DRO				AML		AML	01 58 37.2		
	comp=E,4289μm,0.3s								
DRO				AML		AML	01 58 40.8		
	comp=N,10258μm,0.5s								
THL	**Klokotos Trika**	**1.30**	**59**	P			**Pn**	**01 58 14.4**	**-0.4**
THL				S			**Sn**	**01 58 32.1**	**+0.2**
	comp=N,3μm,0.9s								
THL	**Klokotos Trika**	**1.30**	**59**	P			**Pn**	**01 58 14.1**	**-0.7**
THL				AML		AML	01 58 37.9		
	comp=E,5488μm,1.1s								
THL				AML		AML	01 58 38.3		
	comp=N,7234μm,0.7s								
KALE	**Kalithea**	**1.32**	**112**	P			**Pn**	**01 58 14.6**	**-0.7**
ALIK	**Aliki, Aigiali**	**1.36**	**118**	P			**Pn**	**01 58 15.6**	**-0.1**
PENT	**Pentalofos**	**1.36**	**18**	P			**Pg**	**01 58 17.2**	**-0.4**
PENT				S			**Sg**	**01 58 36.0**	**+0.6**
	comp=N,2μm,0.6s								
PENT	**Pentalofos**	**1.36**	**18**	P			**Pg**	**01 58 17.0**	**-0.7**
PENT				AML		AML	01 58 44.4		
	comp=N,4398μm,0.8s								
PENT				AML		AML	01 58 44.6		
	comp=E,3201μm,0.7s								
AGG	**Agios Georgios**	**1.37**	**84**	P			**Pn**	**01 58 16.1**	**+0.2**
TPE	**Tepelena**	**1.46**	**343**	P			**Pb**	**01 58 18.6**	**+0.4**
KLV	**Kalavryta, Ach**	**1.50**	**124**	P			**Pn**	**01 58 17.1**	**-0.6**
KLV				S			**Sn**	**01 58 36.1**	**-0.9**
	comp=E,1μm,1.3s								
KLV	**Kalavryta, Ach**	**1.50**	**124**	P			**Pn**	**01 58 17.5**	**-0.2**
KLV				AML		AML	01 58 53.8		
	comp=N,2562μm,0.6s								
KLV				AML		AML	01 58 58.0		
	comp=E,2451μm,0.9s								
NEST	**Nestorio**	**1.56**	**13**	P			**Pg**	**01 58 21.2**	**-0.1**
LRSO	**Larissa Observ**	**1.60**	**61**	P			**Pn**	**01 58 19.9**	**+0.9**
AMT	**Artemida-Makis**	**1.63**	**147**	P			**Pn**	**01 58 20.3**	**+0.8**
AMT				S			**Sg**	**01 58 44.4**	**+0.6**
	comp=E,3μm,0.6s								
AMT	**Artemida-Makis**	**1.63**	**147**	P			**Pn**	**01 58 20.1**	**+0.6**
AMT				AML		AML	01 58 55.5		
	comp=N,7148μm,0.7s								
AMT				AML		AML	01 59 04.4		
	comp=E,4720μm,0.5s								
AXAR	**Agios Charalam**	**1.63**	**94**	P			**Pb**	**01 58 21.1**	**0.0**
KZN	**Kozani**	**1.68**	**33**	P			**Pb**	**01 58 21.9**	**-0.1**
GUR	**Goura**	**1.69**	**124**	P			**Pn**	**01 58 20.4**	**+0.1**
GUR	**Goura**	**1.69**	**124**	P			**Pn**	**01 58 20.3**	**+0.1**
VLO	**Vlora**	**1.78**	**332**	P			**Pb**	**01 58 23.5**	**-0.1**
LIT	**Litokhoron**	**1.90**	**50**	P			**Pb**	**01 58 25.5**	**-0.2**
KTI	**Kastanea**	**1.91**	**38**	P			**Pg**	**01 58 26.7**	**-1.2**
LKR	**Lokris**	**1.91**	**97**	P			**Pb**	**01 58 25.5**	**-0.3**
LKR	**Lokris**	**1.91**	**97**	P			**Pb**	**01 58 24.9**	**-0.9**
TRIP	**Tripoli**	**1.91**	**135**	P			**Pn**	**01 58 24.5**	**+1.1**
PROD	**Prodromos**	**1.93**	**109**	P			**Pb**	**01 58 25.9**	**-0.2**
ITM	**Ithomi**	**2.02**	**148**	P			**Pb**	**01 58 27.3**	**-0.4**
ITM				S			**Sg**	**01 58 59.0**	**+2.7**
	comp=E,1μm,0.9s								
ITM	**Ithomi**	**2.02**	**148**	P			**Pn**	**01 58 26.1**	**+1.3**
ITM				AML		AML	01 59 08.7		
	comp=E,1876μm,1.2s								
ITM				AML		AML	01 59 16.4		
	comp=N,2024μm,1.4s								
VLX	**Vlachokerasia**	**2.08**	**137**	P			**Pn**	**01 58 27.6**	**+1.8**
VLX	**Vlachokerasia**	**2.08**	**137**	P			**Pn**	**01 58 27.2**	**+1.4**
VLX				AML		AML	01 59 07.5		
	comp=E,3681μm,0.6s								
VLX				AML		AML	01 59 12.3		
	comp=N,2769μm,0.5s								
XOR	**Xorichti**	**2.08**	**76**	P			**Pb**	**01 58 28.1**	**-0.7**
LOUT	**Loutraki**	**2.09**	**115**	P			**Pb**	**01 58 28.6**	**-0.3**
NEO	**Neokhori**	**2.10**	**78**	P			**Pn**	**01 58 27.4**	**+1.5**
PYL	**PYLOS**	**2.20**	**155**	P			**Pn**	**01 58 29.5**	**+2.2**
PYL	**PYLOS**	**2.20**	**155**	P			**Pn**	**01 58 29.0**	**+1.7**
OHR	**Ohrid**	**2.21**	**4**	*i* Pn			**Pb**	**01 58 30.2**	**-0.8**
VILL	**Villia**	**2.27**	**108**	P			**Pn**	**01 58 30.4**	**+2.2**
MRKA	**Markates**	**2.36**	**94**	P			**Pn**	**01 58 31.7**	**+2.2**
GRG	**Griva**	**2.49**	**34**	P			**Pn**	**01 58 32.8**	**+1.6**
TIR	**Tirane**	**2.51**	**348**	*e*Pn			**Pn**	**01 58 33.7**	**+2.2**
TIR	**Tirane**	**2.51**	**348**	P			**Pn**	**01 58 33.6**	**+2.1**
TIR	**Tirane**	**2.51**	**348**	⇑P			**Pn**	**01 58 33.9**	**+2.4**
DID	**Didima**	**2.51**	**123**	P			**Pn**	**01 58 34.3**	**+2.7**
THE	**Thessaloniki**	**2.52**	**46**	P			**Pn**	**01 58 33.0**	**+1.3**
KRND	**KRANIDI**	**2.53**	**126**	P			**Pn**	**01 58 33.5**	**+1.7**
HORT	**Hortiatis**	**2.58**	**48**	P			**Pn**	**01 58 34.1**	**+1.5**
AOS	**Alonnisos**	**2.58**	**83**	P			**Pn**	**01 58 34.3**	**+1.8**
PAIG	**Paliouri**	**2.61**	**66**	P			**Pn**	**01 58 34.5**	**+1.6**
ATH	**Athens Observa**	**2.63**	**110**	P			**Pn**	**01 58 36.0**	**+2.8**
PLG	**Polygyros**	**2.66**	**55**	P			**Pn**	**01 58 35.3**	**+1.7**
ATHU	**Athens Univers**	**2.68**	**109**	P			**Pn**	**01 58 36.6**	**+2.7**
PTL	**Penteli**	**2.71**	**107**	P			**Pb**	**01 58 37.4**	**-2.2**
VLY	**Voula,Athens**	**2.73**	**111**	P			**Pn**	**01 58 37.1**	**+2.5**
DION	**Dionisos Attik**	**2.76**	**106**	P			**Pn**	**01 58 37.4**	**+2.5**
KYMI	**Kymi, Euboea I**	**2.76**	**94**	P			**Pn**	**01 58 37.1**	**+2.1**
PHP	**Peshkopia**	**2.78**	**358**	P			**Pn**	**01 58 37.3**	**+1.9**
VAY	**Valandovo**	**2.86**	**32**	*e*Pn			**Pn**	**01 58 37.6**	**+1.3**
VAY	**Valandovo**	**2.86**	**32**	*i* Pn			**Pn**	**01 58 38.1**	**+1.7**
VLI	**Veliai**	**2.87**	**139**	P			**Pn**	**01 58 39.0**	**+2.5**
KND	**Kendrikon**	**2.88**	**37**	P			**Pn**	**01 58 38.2**	**+1.6**
CGL1	**Ceglie Messapi**	**2.96**	**307**	*e*Pn			**Pn**	**01 58 39.0**	**+1.2**
TIP	**Timpagrande**	**2.99**	**277**	⇓P			**Pn**	**01 58 40.0**	**+1.8**
OUR	**Ouranopolis**	**2.99**	**60**	P			**Pn**	**01 58 40.9**	**+2.8**
TAR1	**Taranto**	**3.02**	**304**	*e*Pn			**Pn**	**01 58 39.6**	**+1.1**
SKO	**Skopje**	**3.14**	**12**	*e*Pn			**Pn**	**01 58 42.0**	**+1.8**
SRS	**Serrai**	**3.20**	**45**	*e*Pn			**Pn**	**01 58 42.4**	**+1.4**
SRS				*e*Sn			**Sn**	**01 59 21.1**	**+2.2**
SRS	**Serrai**	**3.20**	**45**	P			**Pn**	**01 58 42.5**	**+1.4**
ULC	**Ulcinj**	**3.23**	**342**	⇑*i*Pn			**Pn**	**01 58 41.8**	**+0.4**
ULC				*i* Sn			**Sn**	**01 59 22.4**	**+2.9**
KTHA	**Kythira Island**	**3.29**	**142**	P			**Pn**	**01 58 45.7**	**+3.4**
DRME	**Dracevica, Mon**	**3.45**	**342**	⇑*i*Pn			**Pn**	**01 58 45.3**	**+0.8**
DRME				*i* Sn			**Sn**	**01 59 27.9**	**+2.8**
DRME	**Dracevica, Mon**	**3.45**	**342**	⇑*i*Pn			**Pn**	**01 58 45.1**	**+0.6**
MATE	**Matera**	**3.46**	**302**	⇑P			**Pn**	**01 58 44.9**	**+0.4**
SG1	**Sgolgore (BA)**	**3.57**	**304**	*e*Pn			**Pn**	**01 58 47.1**	**+0.9**
BAI	**Bari**	**3.60**	**309**	*e*Pn			**Pn**	**01 58 47.4**	**+0.9**
MMB	**Musomiste**	**3.61**	**41**	*e*P			**Pn**	**01 58 48.2**	**+1.5**
THAS	**Thassos island**	**3.62**	**61**	P			**Pn**	**01 58 48.2**	**+1.5**
BUM	**Brajici-Budva**	**3.63**	**340**	⇑*i*Pn			**Pn**	**01 58 47.1**	**+0.1**
BUM				*i* Sn			**Sn**	**01 59 32.1**	**+2.5**
PDG	**Podgorica**	**3.67**	**344**	*e*Pn			**Pn**	**01 58 47.7**	**+0.3**
PDG				*e*Sn			**Sn**	**01 59 32.0**	**+1.6**
PDG	**Podgorica**	**3.67**	**344**	⇑P			**Pn**	**01 58 48.3**	**+0.8**
PDG	**Podgorica**	**3.67**	**344**	⇑*i*Pn			**Pn**	**01 58 47.8**	**+0.3**
TTG	**Podgorica**	**3.67**	**344**	⇓*i*Pn			**Pn**	**01 58 48.1**	**+0.7**
TTG				*i* Sn			**Sn**	**01 59 31.9**	**+1.6**
PVY	**Plav**	**3.72**	**353**	⇑*i*Pn			**Pn**	**01 58 49.6**	**+1.3**
PVY				*i* Sn			**Sn**	**01 59 34.7**	**+2.8**
CEME	**Cevo**	**3.86**	**341**	⇓*i*Pn			**Pn**	**01 58 50.0**	**-0.1**
CEME				*i* Sn			**Sn**	**01 59 36.4**	**+1.3**
BOSS	**Bosilegrad**	**3.87**	**21**	*e*Pn			**Pn**	**01 58 50.9**	**+0.6**
HCY	**Herceg Novi**	**3.88**	**337**	⇑*i*Pn			**Pn**	**01 58 49.7**	**-0.7**
HCY				*i* Sn			**Sn**	**01 59 38.2**	**+2.5**
HCY	**Herceg Novi**	**3.88**	**337**	*e*Pn			**Pn**	**01 58 50.1**	**-0.3**
IVA	**Berane**	**4.00**	**353**	⇑*i*Pn			**Pn**	**01 58 53.6**	**+1.5**
IVA				*i* Sn			**Sn**	**01 59 41.2**	**+2.4**
BARS	**Barje**	**4.02**	**13**	*e*Pn			**Pn**	**01 58 54.0**	**+1.7**
KOME	**Kolasin**	**4.03**	**349**	⇑*i*Pn			**Pn**	**01 58 53.7**	**+1.2**
KOME				*i* Sn			**Sn**	**01 59 42.2**	**+2.8**
NKME	**Niksic**	**4.06**	**343**	⇓*i*Pn			**Pn**	**01 58 53.4**	**+0.6**
NKME				*i* Sn			**Sn**	**01 59 42.1**	**+2.1**
NKY	**Niksic**	**4.09**	**343**	⇓*i*Pn			**Pn**	**01 58 54.2**	**+0.8**
TREB	**Trebinje**	**4.17**	**337**	*e*Pn			**Pn**	**01 58 53.8**	**-0.6**
TREB				*e*Sn			**Sn**	**01 59 41.7**	**-1.1**
TREB	**Trebinje**	**4.17**	**337**	*e*Pn			**Pn**	**01 58 53.8**	**-0.6**
DBRK	**Dubrovnik**	**4.19**	**335**	*e*Pn			**Pn**	**01 58 54.2**	**-0.5**
RZN	**Rozhen**	**4.21**	**47**	*e*P			**Pn**	**01 58 50.8**	**+2.9**
VTS	**Vitosha**	**4.23**	**28**	*e*Pn			**Pn**	**01 58 57.0**	**+1.7**
VTS	**Vitosha**	**4.23**	**28**	⇑P			**Pn**	**01 58 57.5**	**+2.2**
BRY	**Bratogost**	**4.29**	**339**	⇓*i*Pn			**Pn**	**01 58 56.0**	**-0.1**
BRY				*i* Sn			**Sn**	**01 59 45.6**	**-0.3**
BRY	**Bratogost**	**4.29**	**339**	*e*Pn			**Pn**	**01 58 55.9**	**-0.1**
APE	**Apeiranthos**	**4.32**	**114**	⇑P			**Pn**	**01 58 58.8**	**+2.4**
SELS	**Selova**	**4.33**	**5**	*e*Pn			**Pn**	**01 58 57.3**	**+0.7**
SJES	**Sjenica**	**4.38**	**354**	*e*Pn			**Pn**	**01 58 59.0**	**+1.6**
RDO	**Rodhopi**	**4.42**	**58**	P			**Pn**	**01 58 59.4**	**+1.7**
PLE	**Pljevlja**	**4.52**	**349**	⇑*i*Pn			**Pn**	**01 59 00.7**	**+1.5**
PLE				*i* Sn			**Sn**	**01 59 53.3**	**+1.8**
STON	**Ston**	**4.53**	**332**	*i* Pn			**Pn**	**01 58 58.1**	**-0.1**
STON	**Ston**	**4.53**	**332**	⇑*i*Pn			**Pn**	**01 58 58.4**	**-0.8**
KDZ	**Kurdzhali**	**4.61**	**52**	*e*P			**Pn**	**01 59 05.0**	**+4.6**
ZAPS	**Zavoj**	**4.64**	**19**	*e*Pn			**Pn**	**01 59 02.5**	**+1.7**
IVAS	**Ivanjica**	**4.68**	**356**	*e*Pn			**Pn**	**01 59 02.0**	**+0.5**
GRUS	**Gruza**	**4.99**	**1**	*e*Pn			**Pn**	**01 59 06.1**	**+0.5**
IDI	**Anoyia**	**4.99**	**135**	P			**Pn**	**01 59 06.9**	**+1.3**
	comp=N,1.2nm,0.3s,baz=301,slow=15,SNR=14								
IDI						Sn		**02 00 02.1**	**-0.9**
	comp=N,6.4nm,0.3s,baz=315,slow=20,SNR=6.8								
IDI						LR		02 01 19.4	
	comp=N,139nm,18.1s,baz=305,slow=42								
IDI	**Anoyia

RETA				Sn		**Sn**	**02 02 30.8**	**-4.2**
	comp=Z,3.5nm,0.6s							
KHC	**Kasperske Hory**	**11.40**	**336**	*eP*		**Pn**	**02 00 32.0**	**-1.5**
KHC				*ex*		x	02 00 47.0	
KHC				*ex*		x	02 02 36.0	
KHC				AMS		AMS	02 05 50.0	
	comp=Z,200nm,9.6s							
DPC	**Dobruska-Polom**	**11.84**	**347**	AMS		AMS	02 06 00.0	
	comp=Z,200nm,13.2s							
PRU	**Pruhonice**	**11.89**	**341**	AMS		AMS	02 06 20.0	
	comp=Z,200nm,12.8s							
UPC	**Upice**	**12.05**	**346**	AMS		AMS	02 05 10.0	
	comp=Z,200nm,10.1s							
OSTC	**Ostas**	**12.06**	**347**	AMS		AMS	02 06 10.0	
	comp=Z,200nm,9.9s							
CHVC	**Chvalec**	**12.12**	**346**	AMS		AMS	02 05 20.0	
	comp=Z,100nm,13.8s							
NKC	**Novy Kostel**	**12.72**	**336**	AMS		AMS	02 06 40.0	
	comp=Z,100nm,8.7s							
MMAI	**Mount Meron Ar**	**13.36**	**112**	Pn		**Pn**	**02 01 01.0**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=299,slow=15,SNR=2.9							
EIL	**Elat**	**15.01**	**124**	Pn		**Pn**	**02 01 22.5**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=2.8,slow=5.6,SNR=4.1							
ESDC	**Sonseca Array**	**19.00**	**280**	P		**P**	**02 02 12.9**	**+0.5**
	comp=Z,0.0nm,0.3s,baz=86,slow=11,SNR=5.6							
HFS	**Hagfors**	**21.70**	**351**	P		**P**	**02 02 40.3**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=174,slow=16,SNR=8.2							
HFS				LR		LR	02 11 23.9	
	comp=Z,57nm,20.0s,baz=167,slow=38							
FINES	**FINESS Array B**	**22.83**	**7**	P		**P**	**02 02 53.7**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=163,slow=8.5,SNR=12							
EKA	**Eskdalemuir Ar**	**22.87**	**324**	P		**P**	**02 02 53.8**	**-0.2**
	comp=Z,3.3nm,0.5s,baz=122,slow=10,SNR=26							
NB2	**NORSAR Subarra**	**22.92**	**348**	P		**P**	**02 02 54.2**	**-0.3**
	comp=Z,2.0nm,1.0s,baz=156,slow=9.3							
NOA	**NORSAR Array B**	**22.92**	**348**	P		**P**	**02 02 54.6**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=158,slow=8.9,SNR=7.0							
NOA				LR		LR	02 12 33.1	
	comp=Z,33nm,19.4s,baz=105,slow=39							
KIRV	**Kirov**	**27.03**	**34**	LR		LR	02 14 44.1	
	comp=Z,51nm,20.4s,baz=199,slow=38							
GEYT	**Alibeck**	**29.30**	**80**	P		**P**	**02 03 53.1**	**0.0**
	comp=Z,1.1nm,0.5s,baz=316,slow=40,SNR=2.5							
TORD	**Torodi Ar. Bea**	**30.62**	**218**	P		**P**	**02 04 05.7**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=32,slow=8.5,SNR=7.2							
KMBO	**Kilima Mbogo**	**42.68**	**155**	LR		LR	02 26 43.2	
	comp=Z,42nm,18.8s,baz=110,slow=41							
MKAR	**Makanchi Array**	**44.89**	**59**	P		**P**	**02 06 04.8**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=284,slow=6.4,SNR=4.4							
ZALV	**Zalesovo Beam**	**45.18**	**49**	P		**P**	**02 06 06.6**	**-0.6**
	comp=Z,1.6nm,0.5s,baz=286,slow=8.2,SNR=7.8							
SONM	**Songino Array**	**59.97**	**51**	P		**P**	**02 07 55.6**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=16,slow=32,SNR=2.1							
YKA	**Yellowknife Ar**	**72.73**	**340**	P		**P**	**02 09 18.0**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=47,slow=4.4,SNR=2.0							

*INET **06** 02:39:36.2, 10°.90N×87°.05W, h22km, ML3.0*
UCR 06 02:39:40.3±2.0, 11°.30N×86°.84W, h25km, MW3.6, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNGN	**Cerro Negro**	**1.20**	**6**	*eP*	Pn	02 40 01.2	-0.4
GB1A	**Boringuen Arri**	**1.49**	**109**	*eP*	Pn	02 40 04.3	-1.3
PLVR	**Palo Verde**	**1.74**	**123**	*eP*	Pn	02 40 08.8	-0.3
ACON	**Acoyapa**	**1.76**	**68**	*eP*	Pn	02 40 09.7	+0.5
CUI	**Cuipilapa**	**1.76**	**111**	*eP*	Pn	02 40 07.8	-1.5
JTS	**Las Juntas de**	**2.10**	**118**	*eP*	Pn	02 40 13.7	-0.3
ARE1	**Arenal 1**	**2.24**	**112**	*eP*	Pn	02 40 17.6	+1.7

*JMA **06** 02:51:52.4±0.1, 24°.18N×122°.79E, h17km±2km, M2.7*
*TAP **06** 02:51:53.3, 24°.25N×122°.73E, h13km±1km, ML2.8, C*
ISC 06 02:51:51.3±1.2, 24°.22N±0°.04×122°.78E±0°.02, h3km±10km, n48, σ0§79/79, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.28**	**33**	P	**Pb**	**02 51 58.9**	**-0.1**
JYNG				S	**Sb**	**02 52 03.4**	**-0.7**
YOJ	**Yonaguni jima**	**0.32**	**40**	P	**Pb**	**02 52 00.7**	**+1.0**
	baz=49						
YOJ				S	**Sb**	**02 52 04.4**	**-1.0**
	baz=49						
YOJ	**Yonaguni jima**	**0.32**	**40**	P	**Pb**	**02 51 59.6**	**-0.1**
YOJ				S	**Sb**	**02 52 04.7**	**-0.7**
IRIF	**Iriomote-Funau**	**0.88**	**82**	P	**Pg**	**02 52 08.7**	**+0.6**
IRIF				S	**Sb**	**02 52 21.1**	**-0.1**
TWC	**Suao**	**0.94**	**295**	P	**Pb**	**02 52 09.8**	**-0.4**
	baz=294						
TWC				S	**Sg**	**02 52 22.0**	**+0.6**
	baz=294						
HATJ	**Hateruma jima**	**0.95**	**99**	P	**Pg**	**02 52 09.9**	**+0.4**
HATJ				*eS*	**Sg**	**02 52 22.4**	**+0.6**
ENA	**Nanau**	**0.97**	**283**	P	**Pb**	**02 52 10.7**	**-0.2**
	baz=281						
ENA				S	**Sb**	**02 52 23.6**	**-0.5**
	baz=281						
NACB	**Ninganchiao**	**1.08**	**268**	P	**Pb**	**02 52 12.8**	**+0.1**
	baz=266						
NACB				S	**Sb**	**02 52 27.4**	**+0.1**
	baz=266						
TWD	**Chiawan**	**1.09**	**263**	*eP*	**Pn**	**02 52 13.6**	**+0.1**
	baz=260						
JKRS	**Kuro-shima**	**1.12**	**89**	P	**Pg**	**02 52 13.1**	**+0.3**
JKRS				S	**Sg**	**02 52 27.4**	**0.0**
TWE	**Neicheng**	**1.13**	**297**	P	**Pb**	**02 52 13.7**	**+0.1**
	baz=305						
TWE				S	**Sb**	**02 52 28.2**	**-0.5**
	baz=305						
TIPB	**Shuangxi**	**1.15**	**311**	*eP*	**Pn**	**02 52 14.9**	**+0.5**
	baz=311						
TIPB				*eS*	**Sb**	**02 52 29.7**	**+0.4**
	baz=311						
ENTT	**Nioudou**	**1.19**	**291**	*eP*	**Pn**	**02 52 14.9**	**+0.1**
	baz=300						
ENTT				*eS*	**Sn**	**02 52 30.9**	**-0.6**
	baz=300						
ETLH	**Xiulin Townshi**	**1.19**	**270**	*eP*	**Pb**	**02 52 14.6**	**+0.1**
	baz=268						
NDT	**Datong Townshi**	**1.22**	**289**	P	**Pn**	**02 52 15.5**	**+0.2**
	baz=297						
NDT				S	**Sb**	**02 52 31.1**	**-0.1**
	baz=297						
NWF	**Wu-fen Shan**	**1.25**	**313**	*eP*	**Pn**	**02 52 16.1**	**+0.3**
	baz=313						
NWF				*eS*	**Sb**	**02 52 31.9**	**-0.1**
	baz=313						
WFSB	**Wu-fen Shan**	**1.25**	**313**	*eP*	**Pn**	**02 52 15.8**	**+0.1**
	baz=313						
WFSB				*eS*	**Sb**	**02 52 31.6**	**-0.4**
	baz=313						
JIJ	**Ishigaki jima**	**1.25**	**83**	P	**Pg**	**02 52 14.5**	**-0.8**
JIJ				S	**Sg**	**02 52 30.6**	**-1.0**
NWLT	**Wulai**	**1.29**	**296**	*eP*	**Pn**	**02 52 17.3**	**+1.0**
	baz=295						
NWLT				*eS*	**Sg**	**02 52 32.7**	**-0.2**
	baz=295						
NNSB	**Datong**	**1.29**	**280**	*eP*	**Pn**	**02 52 16.9**	**+0.5**
	baz=278						
NNSB				*eS*	**Sg**	**02 52 31.9**	**-1.0**
	baz=278						
NNSH	**Datong**	**1.29**	**280**	*eP*	**Pn**	**02 52 16.8**	**+0.4**
	baz=279						
NNSH				*eS*	**Sg**	**02 52 32.9**	**+0.1**
	baz=279						
NNS	**Nan Shan**	**1.30**	**280**	*eP*	**Pg**	**02 52 16.2**	**-0.1**
	baz=279						
NNS				*eS*	**Sb**	**02 52 33.7**	**0.0**
	baz=279						
YHNB	**Yeheng**	**1.36**	**290**	*eP*	**Pb**	**02 52 18.2**	**+0.7**
	baz=296						
YHNB				*eS*	**Sg**	**02 52 34.9**	**-0.1**
	baz=296						
NSK	**Sanguang**	**1.38**	**290**	*eP*	**Pb**	**02 52 18.6**	**+0.8**
	baz=296						
NSK				*eS*	**Sg**	**02 52 35.3**	**-0.3**
	baz=296						
WHF	**Hehuan Shan**	**1.39**	**267**	*eP*	**Pg**	**02 52 17.7**	**-0.2**
	baz=265						
WHF				*eS*	**Sn**	**02 52 37.1**	**0.0**
	baz=265						
TATO	**Taipei**	**1.40**	**303**	*eS*	**Sn**	**02 52 36.6**	**-0.1**
	baz=303						
HGSD	**Ruisui**	**1.44**	**240**	*eS*	**Sb**	**02 52 35.4**	**-2.0**
	baz=237						
JISG	**Ishigakijimahi**	**1.44**	**75**	*eS*	**Sb**	**02 52 36.2**	**-1.4**
CHGB	**Renai**	**1.48**	**264**	*eP*	**Pn**	**02 52 18.6**	**-0.4**
	baz=262						
CHGB				*eS*	**Sg**	**02 52 37.6**	**-1.2**
	baz=262						
TDCB	**Techi**	**1.48**	**272**	*eP*	**Pn**	**02 52 19.4**	**+0.4**
	baz=275						
VWDT	**VWDT**	**1.57**	**253**	*eP*	**Pn**	**02 52 18.4**	**-1.7**
	baz=251						
VWDT				*eS*	**Sn**	**02 52 39.9**	**-1.0**
	baz=251						
YULB	**Yu-li**	**1.59**	**239**	*eP*	**Pn**	**02 52 19.0**	**-1.3**
	baz=237						
TWF1	**Yuli**	**1.61**	**238**	*eP*	**Pn**	**02 52 19.2**	**-1.4**
	baz=235						
NSTT	**Nanjuang**	**1.67**	**285**	*eP*	**Pg**	**02 52 23.4**	**0.0**
	baz=283						
WHP	**Taichung City**	**1.68**	**273**	*eP*	**Pg**	**02 52 24.1**	**+0.7**
	baz=257						
DPDB	**Guoxing**	**1.70**	**264**	*eP*	**Pb**	**02 52 23.2**	**-0.1**
	baz=262						
SSLB	**Suanglung**	**1.72**	**256**	*eP*	**Pn**	**02 52 21.0**	**-1.3**
	baz=254						
SMLT	**Sun Moon Lake**	**1.75**	**260**	*eP*	**Pn**	**02 52 23.6**	**+1.0**
	baz=257						
WHYT	**Xinyi Township**	**1.84**	**254**	*eP*	**Pn**	**02 52 24.3**	**+0.5**
	baz=252						
ALS	**Alishan**	**1.94**	**249**	*eP*	**Pn**	**02 52 25.3**	**-0.2**
	baz=247						
ALS				*eS*	**Sb**	**02 52 52.4**	**+0.1**
	baz=247						
TPUB	**Ta-pu**	**2.17**	**246**	*eP*	**Pn**	**02 52 29.0**	**+0.6**
	baz=243						
TPUB				*eS*	**Sn**	**02 52 55.5**	**-0.4**
	baz=243						
WTP	**Ta-pu**	**2.21**	**245**	*eP*	**Pn**	**02 52 29.9**	**+1.0**
	baz=242						
WTP				*eS*	**Sn**	**02 52 58.7**	**+1.9**
	baz=242						
TWK	**Hsinying**	**2.30**	**246**	*eP*	**Pn**	**02 52 31.0**	**+0.7**
	baz=244						
TWK				*eS*	**Sn**	**02 52 58.6**	**-0.5**
	baz=244						
SLGT	**Liugui**	**2.30**	**239**	*eP*	**Pn**	**02 52 30.8**	**+0.5**
	baz=227						
SLGT				*eS*	**Sn**	**02 52 58.7**	**-0.4**
	baz=227						
CHN1	**Nanshi**	**2.31**	**244**	*eP*	**Pn**	**02 52 31.1**	**+0.8**
	baz=241						
CHN1				*eS*	**Sn**	**02 53 00.7**	**+1.5**
	baz=241						
TAW	**Tawu**	**2.53**	**224**	*eP*	**Pn**	**02 52 35.8**	**+2.5**
	baz=233						
EAST	**Anshuo**	**2.55**	**225**	*eP*	**Pn**	**02 52 34.7**	**+1.2**
	baz=222						
WDGT	**Dungji**	**3.01**	**252**	*eP*	**Pn**	**02 52 40.3**	**+0.4**
	baz=250						

*IDC **06** 02:55:43.8±0.7, 14°.70N×54°.66E, h0km, mb4.0/23, mb1 4.1/24, mb1mx3.9/54, mbtmp4.0/24, ML2.8/1, MS3.9/6, Ms1 3.9/6, ms1mx3.4/41, Error ellipse: s-maj=16.4km s-min=15.3km az=151.0*
*NEIC **06** 02:55:44.9±2.4, 14°.61N±0°.06×54°.65E±0°.07, h10km±1km, mb4.4/43, Error ellipse: s-maj=13.9km s-min=7.4km az=132.0*
*OMAN **06** 02:55:51.1±4.4, 15°.02N×54°.50E, h44km±19km, ml3.8/6, Mwp4.9/4, Error ellipse: s-maj=105.3km s-min=50.3km az=269.0*
ISC 06 02:55:45.8±0.5, 14°.84N±0°.06×54°.55E±0°.06, h10km, n113, σ1§41/113, mb4.3/52, MS4.0/6, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RBK	**Rabkut**	**2.67**	**353**	P	**Pn**	**02 56 28.7**	**-0.3**
RBK				P	**Pn**	**02 56 28.7**	**-0.3**
RBK				S	**Sn**	**02 56 59.4**	**-2.1**
RBK				S	**Sn**	**02 56 59.4**	**-2.1**
SOCY	**Socotra**	**2.69**	**192**		Pn	02 56 20.1	-9.2
ABTO	**Aybut**	**2.78**	**335**	P	**Pn**	**02 56 30.4**	**0.0**
	SNR=14						
ABTO				S	**Sn**	**02 57 01.2**	**-2.8**
DMTO	**DMTO**	**2.89**	**8**	P	**Pn**	**02 56 32.6**	**+0.7**
DMTO				P	**Pn**	**02 56 32.6**	**+0.7**
DMTO				S	**Sn**	**02 57 02.7**	**-4.1**
DMTO				S	**Sn**	**02 57 02.7**	**-4.1**
WHFO	**Wadi Hawf**	**3.16**	**346**	P	**Pn**	**02 56 35.9**	**+0.3**
WHFO				P	**Pn**	**02 56 35.9**	**+0.3**
WHFO				S	**Sn**	**02 57 11.7**	**-1.7**
WHFO				S	**Sn**	**02 57 11.7**	**-1.7**
SHAO	**Shalim**	**3.33**	**18**	P	**Pn**	**02 56 38.8**	**+0.8**
SHAO				S	**Sn**	**02 57 15.8**	**-1.9**
WBK	**Wadi Bani Khal**	**8.79**	**28**	P	**Pn**	**02 57 53.4**	**+0.3**
WSAR	**Wadi Sarin**	**9.21**	**24**	Pn	**Pn**	**02 57 59.0**	**+0.3**
	0.1nm,0.3s,baz=241,slow=18,SNR=1.9						
DAMY	**Dhamar**	**9.83**	**270**	Pn	**Pn**	**02 58 06.6**	**-0.9**
UOSS	**Minazif**	**10.18**	**9**	Pn	**Pn**	**02 58 12.6**	**+0.6**
ATD	**Arta Tunnel**	**11.86**	**255**	Pn	Pn	02 58 41.2	+6.1
	0.9nm,0.3s,baz=72,slow=9.2,SNR=6.7						
ATD	**Arta Tunnel**	**11.86**	**255**		**Pn**	**02 58 32.9**	**-2.2**
RAYN	**Ar Rayn**	**12.15**	**317**		**Pn**	**02 58 39.1**	**+0.1**
FURI	**Furi**	**16.61**	**251**	Pn	**Pn**	**02 59 37.6**	**-1.6**
HRA	**Herat**	**20.67**	**18**	P	**P**	**03 00 23.9**	**-2.3**
HRA				IAmb	IAmb	03 01 00.7	
	comp=Z,15nm,1.1s						
LODK	**Lodwar**	**22.05**	**241**	P	**P**	**03 00 42.8**	**+1.8**
	SNR=10.0						
HYB	**Hyderabad**	**23.20**	**80**	*i* P	**P**	**03 00 54.0**	**+0.9**
GEYT	**Alibeck**	**23.22**	**7**	P	**P**	**03 00 53.9**	**+0.7**
	comp=Z,3.0nm,0.7s,baz=177,slow=7.4,SNR=8.0						
GYA0B	**ALIBECK ARRAY**	**23.22**	**7**	P	**P**	**03 00 52.9**	**-0.2**
GYA0B				IAmb	IAmb	03 01 14.1	
	comp=Z,18nm,1.1s						
KMBO	**Kilima Mbogo**	**23.33**	**229**	P	**P**	**03 00 56.0**	**+1.3**
	comp=Z,5.3nm,1.0s,baz=46,slow=12,SNR=8.5						
KMBO	**Kilima Mbogo**	**23.33**	**229**	P	**P**	**03 00 53.3**	**-1.3**
KMBO				IAmb	IAmb	03 00 58.7	
	comp=Z,13nm,1.2s						
KBL	**Kabul**	**23.58**	**31**	P	**P**	**03 00 55.4**	**-1.5**
KBL				IAmb	IAmb	03 01 13.4	
	comp=Z,17nm,1.4s						
ASF	**Jabal al Asfar**	**23.60**	**320**	P	**P**	**03 00 59.2**	**+2.1**
	comp=Z,4.0nm,1.0s,baz=310,slow=2.0,SNR=3.1						
MMAI	**Mount Meron Ar**	**25.10**	**319**	P	**P**	**03 01 11.3**	**+0.5**
	comp=Z,5.1nm,0.9s,baz=272,slow=26,SNR=2.4						
NIL	**Nilore**	**25.26**	**39**	P	**P**	**03 01 11.4**	**-0.8**
CHGR	**Chuyangaron**	**27.00**	**26**	P	**P**	**03 01 29.4**	**+1.3**
GAR	**Garm**	**27.79**	**27**	P	**P**	**03 01 34.5**	**-0.7**
GAR				IAmb	IAmb	03 01 50.8	
	comp=Z,8.8nm,1.1s						
MBAR	**Mbarara**	**28.10**	**239**	P	**P**	**03 01 38.5**	**+0.3**
MBAR				IAmb	IAmb	03 01 46.5	
	comp=Z,16nm,1.8s						
BTK	**Batken**	**28.88**	**26**	P	**P**	**03 01 46.9**	**+2.1**
KVAR	**Kislovodsk Ar**	**30.73**	**343**	LR	LR	03 17 40.1	
	comp=Z,326nm,19.4s,baz=82,slow=43						
ARSB	**Arslanbob**	**30.86**	**28**	P	**P**	**03 02 04.9**	**+2.4**
ARSB				IAmb	IAmb	03 02 30.0	
	comp=Z,7.2nm,1.1s						
AAK	**Ala-Archa**	**32.59**	**28**	P	**P**	**03 02 18.9**	**+1.2**
AAK				IAmb	IAmb	03 02 24.6	
	comp=Z,12nm,1.7s						
BOOM	**Boomskoye usch**	**33.15**	**30**	P	**P**	**03 02 23.4**	**+0.9**
KDJ	**Kajisay**	**33.49**	**31**	P	**P**	**03 02 25.7**	**+0.2**
KDJ				IAmb	IAmb	03 02 38.1	
	comp=Z,5.1nm,1.0s						
IDI	**Anoyia**	**33.50**	**313**	LR	LR	03 17 19.6	
	comp=Z,38nm,20.2s,baz=108,slow=38						
TARG	**Taragay, Kyrgy**	**33.51**	**32**	P	**P**	**03 02 26.0**	**0.0**
OPO	**Ambohidratompo**	**33.98**	**193**	LR	LR	03 13 41.6	
	comp=Z,274nm,19.1s,baz=170,slow=32						
PRZ	**Przheval'sk**	**34.36**	**32**	P	**P**	**03 02 33.3**	**+0.2**
VTS	**Vitosha**	**38.60**	**322**	P	**P**	**03 03 10.1**	**+0.9**
VTS				IAmb	IAmb	03 03 39.9	
	comp=Z,11nm,1.7s						
MLR	**Muntele Rosu**	**38.91**	**328**	P	**P**	**03 03 12.2**	**+0.4**
MLR				IAmb	IAmb	03 03 18.5	
	comp=Z,7.3nm,1.1s						
MAKZ	**Makanchi**	**39.24**	**30**	P	**P**	**03 03 16.0**	**+1.6**
MK31	**Makanchi Array**	**39.38**	**30**	P	**P**	**03 03 14.6**	**-1.1**
MKAR	**Makanchi Array**	**39.38**	**30**	P	**P**	**03 03 16.2**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=220,slow=7.4,SNR=6.8						
BVAR	**Borovoye Array**	**40.12**	**15**	P	**P**	**03 03 22.7**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=188,slow=8.5,SNR=5.4						
BRVK	**Borovoye**	**40.12**	**15**	P	**P**	**03 03 23.0**	**+1.4**
KURBB	**Kurchatov Arra**	**40.63**	**23**	P	**P**	**03 03 27.9**	**+2.0**
	comp=Z,1.4nm,1.0s,baz=221,slow=8.0,SNR=8.5						
KURK	**Kurchatov**	**40.74**	**23**	P	**P**	**03 03 27.9**	**+1.1**
KURK	**Kurchatov**	**40.74**	**23**	IAmb	IAmb	03 03 29.8	
	comp=Z,4.3nm,1.2s						
BUR08	**Bucovina Ar. S**	**40.76**	**329**	P	**P**	**03 03 27.6**	**+0.4**
AKASG	**Malin Array Be**	**41.21**	**336**	P	**P**	**03 03 31.7**	**+1.0**
	comp=Z,0.2nm,0.2s,baz=140,slow=8.1,SNR=7.4						
AKBB	**Malin Array Si**	**41.21**	**336**	P	**P**	**03 03 31.8**	**+1.2**
AKBB				IAmb	IAmb	03 03 34.3	
	comp=Z,13nm,1.4s						
DIVS	**Divibare**	**41.38**	**322**	P	**P**	**03 03 31.6**	**-0.7**
OBN	**Obninsk**	**42.55**	**345**	P	**P**	**03 03 43.7**	**+2.2**
CMAR	**Chiang Mai Arr**	**42.61**	**79**	P	**P**	**03 03 41.2**	**-1.4**
	comp=Z,1.4nm,0.3s,baz=283,slow=9.0,SNR=8.2						
KOLS	**Kolonicke sedl**	**43.07**	**329**	*eP*	**P**	**03 03 48.1**	**+2.2**
MATP	**Matopo**	**43.40**	**217**	P	**P**	**03 03 48.6**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=28,slow=9.7,SNR=4.2						
KIRV	**Kirov**	**43.84**	**356**	LR	LR	03 25 50.8	
	comp=Z,142nm,19.6s,baz=162,slow=41						
VYHS	**Vyhne**	**44.58**	**326**	*eP*	**P**	**03 03 59.4**	**+1.4**
ZAA0	**Zalesovo Array**	**45.66**	**25**	P	**P**	**03 04 07.0**	**+0.5**
ZAA0				IAmb	IAmb	03 04 19.6	
	comp=Z,3.3nm,0.9s						
ZALV	**Zalesovo Beam**	**45.66**	**25**	P	**P**	**03 04 06.7**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=231,slow=9.2,SNR=6.4						
SOKA	**Soboth**	**45.72**	**322**	*eP*	**P**	**03 04 08.6**	**+1.4**
	comp=Z,4.8nm,1.4s						
CONA	**Conrad Observa**	**45.89**	**324**	*eP*	**P**	**03 04 10.1**	**+1.5**
	comp=Z,6.0nm,1.3s						
LATE	**Laterza**	**45.90**	**316**	P	**P**	**03 04 09.8**	**+1.1**
OBKA	**Obir**	**45.92**	**322**	*eP*	**P**	**03 04 10.3**	**+1.5**
	comp=Z,2.7nm,1.0s						
SUW	**Suwalki**	**46.15**	**335**	P	**P**	**03 04 12.2**	**+1.9**
MYKA	**Terra Mystica**	**46.52**	**322**	*eP*	**P**	**03 04 15.0**	**+1.4**
	comp=Z,8.0nm,1.1s						
KRLC	**Kraliky**	**46.59**	**327**	*eP*	**P**	**03 04 15.4**	**+1.4**
MOA	**Molln**	**46.76**	**323**	*eP*	**P**	**03 04 16.8**	**+1.5**
	comp=Z,2.3nm,0.9s						
ZOU	**Zoufplan**	**46.89**	**321**	IAmb	IAmb	03 04 18.9	
	comp=Z,5.2nm,1.1s						
TAM	**Tamanrasset**	**46.90**	**287**	P	**P**	**03 04 17.3**	**+0.3**
TAM				IAmb	IAmb	03 04 20.8	
	comp=Z,4.1nm,1.2s						
KBA	**Koelnbreinsper**	**46.92**	**322**	*eP*	**P**	**03 04 17.8**	**+1.0**
	comp=Z,5.0nm,1.5s						
CIMO	**Cimolais**	**47.10**	**321**	P	**P**	**03 04 18.3**	**+0.3**
KLMR	**Klimovskoe**	**47.23**	**350**	*eP*	**P**	**03 04 19.7**	**+1.0**
KLMR				AMP		03 04 21.8	
	comp=Z,11nm,1.3s						
KLMR				*e*PP	**PP**	**03 06 10.5**	**+0.9**
ABTA	**Abfaltersbach**	**47.26**	**321**	*eP*	**P**	**03 04 19.8**	**+0.5**
	comp=Z,5.1nm,1.3s						
CTI	**Castel Tesino**	**47.47**	**320**	P	**P**	**03 04 23.5**	**+2.5**
GEC2	**GERESS Array S**	**47.60**	**324**	P	**P**	**03 04 24.1**	**+2.1**
GERES	**GERESS Array B**	**47.60**	**324**	P	**P**	**03 04 22.9**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=123,slow=9.7,SNR=7.6						
KHC	**Kasperske Hory**	**47.82**	**324**	*eP*	**P**	**03 04 23.2**	**-0.4**
WTTA	**Wattenberg**	**48.03**	**321**	*eP*	**P**	**03 04 26.4**	**+1.0**
	comp=Z,5.2nm,1.2s						
WATA	**Walderalm**	**48.10**	**321**	*eP*	**P**	**03 04 26.0**	**+0.1**
	comp=Z,4.2nm,1.0s						
SQTA	**Sankt Quirin**	**48.27**	**321**	P	**P**	**03 04 27.1**	**-0.1**
	comp=Z,2.5nm,0.6s						
MOTA	**Moosalm**	**48.39**	**321**	*eP*	**P**	**03 04 28.0**	**-0.2**
	comp=Z,7.0nm,1.2s						
FUORN	**Ofenpass-Fuorn**	**48.58**	**320**	P	**P**	**03 04 31.3**	**+1.5**
RETA	**Reutte**	**48.66**	**321**	P	**P**	**03 04 30.3**	**+0.1**
	comp=Z,7.0nm,1.4s						
DAVA	**Damuels**	**49.11**	**321**	*eP*	**P**	**03 04 34.1**	**+0.4**
	comp=Z,6.5nm,1.2s						
CLL	**Collm**	**49.28**	**327**	*eP*	**P**	**03 04 38.0**	**+3.3**
CLL	**Collm**	**49.28**	**327**	P	**P**	**03 04 37.4**	**+2.6**
GYA	**Guiyang**	**49.83**	**68**	P	**P**	**03 04 40.0**	**+0.5**
GYA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BFO	**Black Forest**	**50.50**	**321**	P	**P**	**03 04 45.4**	**+1.2**
BFO				IAmb	IAmb	03 05 03.2	
	comp=Z,8.0nm,1.2s						
FIA1	**FINESS Array S**	**50.83**	**343**	P	**P**	**03 04 47.8**	**+1.5**
FINES	**FINESS Array B**	**50.83**	**343**	P	**P**	**03 04 46.3**	**0.0**
	comp=Z,2.8nm,0.9s,baz=123,slow=7.0,SNR=8.0						
TOA0	**Torodi Ar. Sit**	**51.21**	**275**	P	**P**	**03 04 48.6**	**-1.3**
TORD	**Torodi Ar. Bea**	**51.21**	**275**	P	**P**	**03 04 50.4**	**+0.5**
	comp=Z,2.6nm,1.3s,baz=201,slow=21,SNR=6.3						
XAN	**Xi'an**	**52.45**	**58**	P	**P**	**03 04 59.6**	**+0.7**
XAN				pP	pwP	03 05 05.6	+1.1
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XAN

ATD	**Arta Tunnel**	**12.01**	**256**	Pn	**Pn**	**03 01 26.6**	**-1.4**		
	1.0nm,0.3s,baz=226,slow=21,SNR=1.5								
ATD				LR	LR	03 05 09.2			
	comp=Z,1μm,19.7s,baz=78,slow=33								
ATD	**Arta Tunnel**	**12.01**	**256**	Pn	**Pn**	**03 01 29.0**	**+1.0**		
RAYN	**Ar Rayn**	**12.34**	**316**	Pn	**Pn**	**03 01 32.4**	**0.0**		
HRA	**Herat**	**20.70**	**18**	P	**P**	**03 03 16.8**	**-0.4**		
HRA				IAmb	IAmb	03 03 22.5			
	comp=Z,50nm,1.6s								
HYB	**Hyderabad**	**23.03**	**80**	*i* P	**P**	**03 03 45.0**	**+2.8**		
GEYT	**Alibeck**	**23.28**	**7**	P	**P**	**03 03 44.6**	**0.0**		
	comp=Z,6.1nm,0.7s,baz=168,slow=7.6,SNR=5.6								
GYA0B	**ALIBECK ARRAY**	**23.28**	**7**	P	**P**	**03 03 44.5**	**0.0**		
GYA0B				IAmb	IAmb	03 04 02.3			
	comp=Z,12nm,0.9s								
KMBO	**Kilima Mbogo**	**23.41**	**229**	P	**P**	**03 03 46.0**	**-0.3**		
	comp=Z,5.2nm,1.1s,baz=35,slow=10,SNR=5.5								
KMBO	**Kilima Mbogo**	**23.41**	**229**	P	**P**	**03 03 46.9**	**+0.7**		
KMBO				IAmb	IAmb	03 03 48.5			
	comp=Z,21nm,1.5s								
EIL	**Elat**	**23.53**	**312**	LR	LR	03 12 40.0			
	comp=Z,277nm,21.2s,baz=126,slow=36								
KBL	**Kabul**	**23.56**	**31**	P	**P**	**03 03 50.6**	**+3.1**		
ASF	**Jabal al Asfar**	**23.79**	**320**	P	**P**	**03 03 53.3**	**+3.7**		
	comp=Z,4.6nm,0.8s,baz=53,slow=5.7,SNR=6.2								
NIL	**Nilore**	**25.21**	**38**	P	**P**	**03 04 04.7**	**+2.1**		
NIL				IAmb	IAmb	03 04 23.4			
	comp=Z,29nm,1.6s								
MMAI	**Mount Meron Ar**	**25.29**	**319**	P	**P**	**03 04 04.8**	**+1.5**		
	comp=Z,0.5nm,0.4s,baz=89,slow=40,SNR=3.5								
CHGR	**Chuyangaron**	**27.00**	**25**		**P**	**03 04 19.6**	**+0.8**		
GAZ	**Gaziantep**	**27.24**	**328**	P	**P**	**03 04 21.2**	**+0.2**		
GAR	**Garm**	**27.78**	**27**	P	**P**	**03 04 27.2**	**+1.3**		
GAR				IAmb	IAmb	03 04 37.7			
	comp=Z,9.4nm,1.1s								
BTK	**Batken**	**28.88**	**26**	P	**P**	**03 04 37.0**	**+1.4**		
ARSB	**Arslanbob**	**30.86**	**27**	P	**P**	**03 04 54.7**	**+1.5**		
ARSB				IAmb	IAmb	03 05 13.6			
	comp=Z,10nm,1.2s								
BRTR	**Keskin Array B**	**31.00**	**327**	P	**P**	**03 04 54.9**	**+0.4**		
	comp=Z,0.8nm,0.9s,baz=82,slow=32,SNR=3.8								
BRTR				LR	LR	03 19 40.8			
	comp=Z,141nm,18.2s,baz=96,slow=41								
KK31	**Karatay Array**	**31.34**	**23**	P	**P**	**03 04 58.4**	**+1.2**		
KKAR	**Karatay Array**	**31.34**	**23**	P	**P**	**03 04 58.1**	**+0.9**		
AAK	**Ala-Archa**	**32.58**	**28**	P	**P**	**03 05 09.1**	**+0.7**		
BOOM	**Boomskoye usch**	**33.13**	**29**	P	**P**	**03 05 13.3**	**+0.1**		
KDJ	**Kajisay**	**33.47**	**31**	P	**P**	**03 05 17.0**	**+0.9**		
KDJ				IAmb	IAmb	03 05 22.9			
	comp=Z,9.9nm,1.2s								
TARG	**Taragay, Kyrgy**	**33.49**	**32**	P	**P**	**03 05 16.5**	**-0.1**		
TARG				IAmb	IAmb	03 05 24.0			
	comp=Z,4.9nm,0.8s								
PRZ	**Przheval'sk**	**34.34**	**32**	P	**P**	**03 05 25.2**	**+1.5**		
AKTO	**Aktyubinsk**	**35.69**	**4**	P	**P**	**03 05 35.3**	**+0.3**		
	comp=Z,5.4nm,0.8s,baz=204,slow=12,SNR=3.1								
SHL	**Shillong**	**36.38**	**67**	P	**P**	**03 05 41.8**	**+0.3**		
SHL				IAmb	IAmb	03 05 47.2			
	comp=Z,6.8nm,0.7s								
VTS	**Vitosha**	**38.78**	**322**	P	**P**	**03 06 02.5**	**+1.0**		
MLR	**Muntele Rosu**	**39.09**	**327**	P	**P**	**03 06 05.8**	**+1.7**		
	comp=Z,2.3nm,0.8s,baz=132,slow=15,SNR=3.5								
MAKZ	**Makanchi**	**39.22**	**30**	P	**P**	**03 06 06.1**	**+1.1**		
MKAR	**Makanchi Array**	**39.36**	**30**	P	**P**	**03 06 06.8**	**+0.6**		
	comp=Z,2.0nm,0.6s,baz=211,slow=9.0,SNR=11								
MK31	**Makanchi Array**	**39.37**	**30**	P	**P**	**03 06 06.2**	**0.0**		
MK31				IAmb	IAmb	03 06 13.8			
	comp=Z,5.7nm,0.7s								
LSZ	**Lusaka**	**39.73**	**222**	P	**P**	**03 06 09.2**	**-0.6**		
	comp=Z,1.5nm,0.6s,baz=60,slow=5.6,SNR=3.9								
LSZ	**Lusaka**	**39.73**	**222**	IAmb	IAmb	03 06 14.1			
	comp=Z,31nm,2.0s								
BVAR	**Borovoye Array**	**40.15**	**15**	P	**P**	**03 06 13.3**	**+0.6**		
	comp=Z,4.5nm,0.8s,baz=192,slow=5.6,SNR=7.0								
BRVK	**Borovoye**	**40.16**	**15**	P	**P**	**03 06 13.0**	**+0.3**		
BRVK				IAmb	IAmb	03 06 19.6			
	comp=Z,6.0nm,0.7s								
WMQ	**Urumqi**	**40.35**	**37**	*e*P	**P**	**03 06 16.9**	**+2.4**		
WMQ				pmax	pmax				
	comp=Z,16nm,1.1s								
WMQ				pmax	pmax				
	comp=Z,53nm,5.1s								
WMQ				LR	LR				
	comp=Z,200nm,19.7s								
WMQ				LR	LR				
	comp=Z,160nm,20.5s								
WMQ				LR	LR				
	comp=Z,170nm,21.3s								
KURBB	**Kurchatov Arra**	**40.63**	**23**	P	**P**	**03 06 16.8**	**+0.1**		
	comp=Z,1.9nm,1.0s,baz=224,slow=8.2,SNR=7.4								
KURK	**Kurchatov**	**40.74**	**23**	P	**P**	**03 06 16.8**	**-0.8**		
KURK	**Kurchatov**	**40.74**	**23**	IAmb	IAmb	03 06 23.2			
	comp=Z,3.3nm,0.9s								
BUR08	**Bucovina Ar. S**	**40.93**	**329**	P	**P**	**03 06 19.7**	**+0.4**		
AKASG	**Malin Array Be**	**41.37**	**336**	P	**P**	**03 06 21.8**	**-0.9**		
	comp=Z,0.7nm,0.5s,baz=139,slow=7.2,SNR=2.1								
AKASG				LR	LR	03 26 40.3			
	comp=Z,140nm,18.2s,baz=140,slow=41								
AKBB	**Malin Array Si**	**41.37**	**336**	P	**P**	**03 06 22.7**	**-0.1**		
AKBB				IAmb	IAmb	03 06 41.1			
	comp=Z,21nm,1.4s								
DIVS	**Divibare**	**41.57**	**322**	P	**P**	**03 06 24.7**	**+0.1**		
VAE	**Valguarnera**	**42.27**	**310**	P	**P**	**03 06 32.1**	**+1.8**		
	comp=Z,4.8nm,0.4s,baz=149,slow=5.9,SNR=1.2								
CMAR	**Chiang Mai Arr**	**42.45**	**79**	P	**P**	**03 06 32.5**	**+0.4**		
	comp=Z,0.7nm,0.3s,baz=270,slow=8.8,SNR=7.4								
CMAR				LR	LR	03 24 14.5			
	comp=Z,122nm,18.5s,baz=241,slow=36								
OBN	**Obninsk**	**42.68**	**345**	P	**P**	**03 06 33.5**	**+0.1**		
	comp=Z,2.9nm,0.4s,baz=150,slow=20,SNR=3.3								
OBN				LR	LR	03 27 24.7			
	comp=Z,68nm,22.0s,baz=169,slow=40								
OBN	**Obninsk**	**42.68**	**345**	P	**P**	**03 06 34.8**	**+1.5**		
KOLS	**Kolonicke sedl**	**43.24**	**329**	*e*P	**P**	**03 06 39.1**	**+1.0**		
MATP	**Matopo**	**43.44**	**217**	P	**P**	**03 06 38.9**	**-1.1**		
	comp=Z,3.2nm,0.9s,baz=33,slow=9.1,SNR=5.3								
KWP	**Kalwaria Pacla**	**43.49**	**330**	P	**P**	**03 06 40.9**	**+0.8**		
KWP				IAmb	IAmb	03 06 59.2			
	comp=Z,18nm,1.3s								
PAOL	**Paolisi**	**43.55**	**315**	P	**P**	**03 06 39.2**	**-1.6**		
VYHS	**Vyhne**	**44.75**	**326**	*e*P	**P**	**03 06 49.8**	**-0.4**		
OJC	**Ojcow**	**45.30**	**329**	P	**P**	**03 06 55.4**	**+0.8**		
KEST	**Kesra**	**45.59**	**306**	P	**P**	**03 06 57.9**	**+0.8**		
	comp=Z,3.5nm,0.9s,baz=334,slow=4.4,SNR=3.9								
KEST	**Kesra**	**45.59**	**306**	P	**P**	**03 06 58.1**	**+1.0**		
ZAA0	**Zalesovo Array**	**45.66**	**24**	P	**P**	**03 06 57.4**	**+0.1**		
ZAA0				IAmb	IAmb	03 07 03.0			
	comp=Z,3.7nm,0.7s								
ZALV	**Zalesovo Beam**	**45.66**	**24**	P	**P**	**03 06 56.9**	**-0.5**		
	comp=Z,2.6nm,0.6s,baz=232,slow=8.5,SNR=7.6								
SOKA	**Soboth**	**45.90**	**322**	*e*P	**P**	**03 06 59.5**	**+0.1**		
	comp=Z,2.4nm,0.9s								
OKC	**Ostrava-Krasne**	**45.91**	**327**	AMS	AMS	03 29 10.0			
	comp=Z,200nm,17.7s								
CONA	**Conrad Observa**	**46.07**	**324**	*e*P	**P**	**03 07 00.6**	**-0.1**		
	comp=Z,3.9nm,1.0s								
SUW	**Suwalki**	**46.31**	**335**	P	**P**	**03 07 02.4**	**0.0**		
VRAC	**Vranov**	**46.43**	**326**	P	**P**	**03 07 03.2**	**-0.3**		
	comp=Z,1.8nm,0.5s,baz=350,slow=15,SNR=2.0								
VRAC				LR	LR	03 29 34.1			
	comp=Z,124nm,18.9s,baz=116,slow=40								
GTA	**Gaotai**	**46.43**	**49**	*e*P	**P**	**03 07 06.4**	**+2.6**		
GTA				pP	pwP	03 07 10.9	+1.4		
GTA				sP	sP	03 07 13.4	+6.3		
GTA				pmax	pmax				
	comp=Z,4.0nm,1.3s								
GTA				pmax	pmax				
	comp=Z,22nm,4.5s								
GTA				LR	LR				
	comp=Z,120nm,17.8s								
GTA				LR	LR				
	comp=Z,230nm,18.4s								
GTA				LR	LR				
	comp=Z,330nm,20.3s								
MYKA	**Terra Mystica**	**46.70**	**322**	*e*P	**P**	**03 07 05.8**	**0.0**		
	comp=Z,3.7nm,0.8s								
KRLC	**Kraliky**	**46.77**	**327**	*e*P	**P**	**03 07 06.2**	**0.0**		
KRLC				*ex*	x	03 07 23.8			
MOA	**Molln**	**46.95**	**323**	P	**P**	**03 07 07.2**	**-0.3**		
	comp=Z,2.9nm,0.8s								
ZOU	**Zoufplan**	**47.07**	**321**	P	**P**	**03 07 09.4**	**+0.6**		
STAL	**STALIGIAL**	**47.09**	**321**	P	**P**	**03 07 09.8**	**+1.0**		
KBA	**Koelnbreinsper**	**47.10**	**322**	*e*P	**P**	**03 07 08.8**	**-0.2**		
	comp=Z,3.0nm,0.8s								
TAM	**Tamanrasset**	**47.10**	**287**	P	**P**	**03 07 09.5**	**+0.2**		
TAM				IAmb	IAmb	03 07 09.8			
	comp=Z,4.9nm,1.1s								
DPC	**Dobruska-Polom**	**47.17**	**327**	AMS	AMS	03 30 30.0			
	comp=Z,100nm,20.9s								
CIMO	**Cimolais**	**47.28**	**321**	P	**P**	**03 07 09.9**	**-0.3**		
CIMO				IAmb	IAmb	03 07 28.6			
	comp=Z,8.9nm,1.1s								
OSTC	**Ostas**	**47.34**	**327**	AMS	AMS	03 30 20.0			
	comp=Z,200nm,17.3s								
UPC	**Upice**	**47.42**	**327**	AMS	AMS	03 26 40.0			
	comp=Z,200nm,24.0s								
CHVC	**Chvalec**	**47.44**	**327**	*e*P	**P**	**03 07 11.0**	**-0.4**		
CHVC				*ex*	x	03 07 28.6			
CTI	**Castel Tesino**	**47.65**	**320**	P	**P**	**03 07 14.9**	**+1.7**		
GOPC	**GO Pecny, Ondr**	**47.74**	**326**	AMS	AMS	03 29 40.0			
	comp=Z,200nm,21.2s								
GERES	**GERESS Array B**	**47.78**	**324**	P	**P**	**03 07 12.9**	**-1.3**		
	comp=Z,0.6nm,0.7s,baz=127,slow=8.6,SNR=5.2								
PRU	**Pruhonice**	**47.92**	**326**	AMS	AMS	03 31 30.0			
	comp=Z,100nm,14.6s								
KHC	**Kasperske Hory**	**48.00**	**324**	*e*P	**P**	**03 07 15.3**	**-0.4**		
KHC				*ex*	x	03 07 32.9			
KHC				AMS	AMS	03 31 00.0			
	comp=Z,100nm,20.3s								
PRA	**Prague**	**48.02**	**326**	AMS	AMS	03 32 00.0			
	comp=Z,100nm,22.8s								
PVCC	**Panska Ves**	**48.20**	**326**	AMS	AMS	03 33 30.0			
	comp=Z,100nm,19.1s								
SQTA	**Sankt Quirin**	**48.45**	**321**	*e*P	**P**	**03 07 18.3**	**-1.1**		
	comp=Z,4.9nm,0.8s								
MOTA	**Mosalm**	**48.58**	**321**	*e*P	**P**	**03 07 19.2**	**-1.2**		
	comp=Z,4.8nm,0.7s								
LZH	**Lanzhou**	**48.60**	**55**	*e*P	**P**	**03 07 20.4**	**-0.3**		
LZH				pP	pP	03 07 23.6	+0.5		
LZH				*e*PP	**PP**	**03 09 13.5**	**-0.1**		
LZH				pmax	pmax				
	comp=Z,21nm,1.3s								
LZH				pmax	pmax				
	comp=Z,73nm,6.2s								
LZH				LR	LR				
	comp=Z,230nm,14.2s								
LZH				LR	LR				
	comp=Z,250nm,14.5s								
LZH				LR	LR				
	comp=Z,380nm,17.3s								
FUORN	**Ofenpass-Fuorn**	**48.77**	**320**	P	**P**	**03 07 21.9**	**-0.1**		
FUORN				IAmb	IAmb	03 07 40.4			
	comp=Z,8.1nm,1.2s								
RETA	**Reutte**	**48.85**	**321**	*e*P	**P**	**03 07 21.0**	**-1.4**		
	comp=Z,8.6nm,1.3s								
DAVOX	**Davos/Dischmat**	**49.08**	**320**	P	**P**	**03 07 23.4**	**-0.9**		
	comp=Z,3.0nm,0.8s								
NKC	**Novy Kostel**	**49.19**	**325**	AMS	AMS	03 32 20.0			
	comp=Z,100nm,15.1s								
DAVA	**Damuels**	**49.29**	**321**	*e*P	**P**	**03 07 24.9**	**-1.0**		
	comp=Z,4.1nm,0.7s								
CLL	**Collm**	**49.45**	**327**	*e*P	**P**	**03 07 28.0**	**+1.2**		
CLL				*es*P	**pwP**	**03 07 32.0**	**-0.4**		
CLL				*e*		03 07 45.0			
CLL				*e*		03 09 00.0			
CLL				*e*S	**S**	**03 14 40.0**	**+6.0**		
CLL				*es*S	**SS**	**03 18 06.0**	**+0.2**		
CLL				Lm	MLR	03 31 00.0			
	comp=N,100nm,20.8s								
CLL				Lm	MLR	03 31 00.0			
	comp=E,100nm,19.7s								
CLL				Lm	MLR	03 31 00.0			
	comp=Z,100nm,18.9s								
GYA	**Guiyang**	**49.69**	**68**	P	**P**	**03 07 30.4**	**+1.2**		
GYA				pmax	pmax				
	comp=Z,10.0nm,1.2s								
BFO	**Black Forest**	**50.69**	**321**	P	**P**	**03 07 37.6**	**+1.3**		
BFO				IAmb	IAmb	03 07 54.8			
	comp=Z,13nm,1.1s								
FIA1	**FINESS Array S**	**50.97**	**343**	P	**P**	**03 07 38.1**	**0.0**		
FINES	**FINESS Array B**	**50.97**	**343**	P	**P**	**03 07 37.6**	**-0.5**		
	comp=Z,4.4nm,0.7s,baz=131,slow=11,SNR=12								
TORD	**Torodi Ar. Bea**	**51.41**	**275**	P	**P**	**03 07 41.1**	**-1.1**		
	comp=Z,2.4nm,0.9s,baz=78,slow=7.2,SNR=6.9								
TORD				LR	LR	03 28 49.1			
	comp=Z,164nm,18.9s,baz=120,slow=35								
BOSA	**Boshof**	**51.69**	**213**	P	**P**	**03 07 43.5**	**-0.6**		
	comp=Z,4.1nm,0.9s,baz=59,slow=5.7,SNR=3.6								
BOSA	**Boshof**	**51.69**	**213**	IAmb	IAmb	03 07 45.4			
	comp=Z,56nm,1.8s								
SSB	**Saint Sauveur**	**51.95**	**316**	P	**P**	**03 07 46.2**	**+0.4**		
SSB				IAmb	IAmb	03 08 04.0			
	comp=Z,13nm,1.1s								
XAN	**Xi'an**	**52.33**	**58**	P	**P**	**03 07 50.0**	**+1.1**		
XAN				pP	sP	03 07 53.7	+1.5		
XAN				pmax	pmax				
	comp=Z,12nm,0.9s								
XAN	**Xi'an**	**52.33**	**58**	P	**P**	**03 07 49.4**	**+0.5**		
XAN				IAmb	IAmb	03 07 54.5			
	comp=Z,7.7nm,0.6s								
ENH	**Enshi**	**52.41**	**63**	P	**P**	**03 07 50.5**	**+1.0**		
SONM	**Songino Array**	**53.75**	**41**	P	**P**	**03 07 59.8**	**+0.6**		
	comp=Z,0.8nm,0.6s,baz=214,slow=37,SNR=2.3								
SONM				LR	LR	03 34 07.8			
	comp=Z,164nm,19.5s,baz=274,slow=40								
HFS	**Hagfors**	**54.25**	**336**	P	**P**	**03 08 01.8**	**-0.7**		
	comp=Z,1.5nm,0.7s,baz=134,slow=6.4,SNR=4.7								
HHC	**Hu-ho-hao-te**	**55.50**	**50**	P	**P**	**03 08 12.7**	**+0.7**		
HHC				pmax	pmax				
	comp=Z,5.0nm,0.7s								
HHC				pmax	pmax				
	comp=Z,52nm,6.8s								
NB2	**NORSAR Subarra**	**55.78**	**336**	P	**P**	**03 08 12.1**	**-1.5**		
	comp=Z,7.8nm,1.2s,baz=124,slow=7.4								
NOA	**NORSAR Array B**	**55.78**	**336**	P	**P**	**03 08 12.4**	**-1.2**		
	comp=Z,0.1nm,0.5s,baz=170,slow=15,SNR=3.6								
ESDC	**Sonseca Array**	**56.72**	**308**	P	**P**	**03 08 19.8**	**-0.9**		
	comp=Z,1.7nm,0.7s,baz=88,slow=6.1,SNR=10								
ARCES	**ARCESS Array B**	**57.74**	**348**	P	**P**	**03 08 26.7**	**-0.7**		
	comp=Z,3.3nm,0.8s,baz=152,slow=6.4,SNR=9.8								
DBIC	**Dimbokro**	**58.96**	**269**	LR	LR	03 32 33.3			
	comp=Z,60nm,18.6s,baz=73,slow=35								
EKA	**Eskdalemuir Ar**	**59.91**	**326**	P	**P**	**03 08 41.2**	**-1.4**		
	comp=Z,0.5nm,0.4s,baz=122,slow=7.2,SNR=5.1								
NJ2	**Nanjing**	**60.51**	**61**	*e*P	**P**	**03 08 45.4**	**-1.8**		
NJ2				pmax	pmax				
	comp=Z,33nm,0.5s								
NJ2				LR	LR				
	comp=Z,190nm,14.2s								
NJ2				LR	LR				
	comp=Z,170nm,18.5s								
NJ2				LR	LR				
	comp=Z,360nm,20.4s								
SPITS	**Spitsbergen Ar**	**66.18**	**352**	P	**P**	**03 09 22.2**	**-1.8**		
	comp=Z,1.5nm,0.6s,baz=304,slow=12,SNR=6.8								
KS19	**Wonju Array Si**	**67.87**	**55**	P	**P**	**03 09 35.9**	**+0.4**		
KSRS	**Korea Array**	**67.92**	**55**	P	**P**	**03 09 34.5**	**-1.2**		
	comp=Z,3.2nm,0.7s,baz=273,slow=6.8,SNR=6.8								
KSRS				LR	LR	03 42 26.3			
	comp=Z,73nm,18.3s,baz=242,slow=39								
TIXI	**Tiksi**	**71.11**	**19**	P	**P**	**03 09 53.1**	**-1.7**		
	comp=Z,1.0nm,0.5s,baz=40,slow=3.4,SNR=2.3								
TIXI	**Tiksi**	**71.11**	**19**	IAmb	IAmb	03 10 12.2			
	comp=Z,3.0nm,0.9s								
H01W3	**Cape Leeuwin H**	**74.88**	**133**	T	T	04 32 15.9			
	baz=300,slow=75,SNR=54								
H01W2	**Cape Leeuwin H**	**74.88**	**133**	T	T	04 32 17.8			
	baz=300,slow=75,SNR=72								
H01W1	**Cape Leeuwin H**	**74.89**	**133**	T	T	04 32 02.9			
	baz=300,slow=75,SNR=61								
MJAR	**Matsushiro Arr**	**76.20**	**55**	LR	LR	03 44 50.9			
	comp=Z,66nm,20.6s,baz=280,slow=36								
BILL	**Bilibino**	**84.21**	**21**	P	**P**	**03 11 08.7**	**+0.7**		
WRA	**Warramunga Arr**	**85.50**	**112**	P	**P**	**03 11 13.5**	**-1.8**		
	comp=Z,1.7nm,0.9s,baz=301,slow=4.0,SNR=4.7								
ASAR	**Alice Springs**	**86.23**	**116**	P	**P**	**03 11 16.9**	**-2.0**		
	comp=Z,1.6nm,0.7s,baz=294,slow=5.0,SNR=11								
FYU	**Fort Yukon**	**97.58**	**8**	P	**P**	**03 12 09.8**	**-1.0**		
PDAR	**Pinedale Array**	**120.98**	**347**	PKP	**PKPdf**	**03 17 29.4**	**-0.6**		
	comp=Z,0.5nm,0.7s,baz=86,slow=7.6,SNR=3.7								
NVAR	**Mina Array Bea**	**126.70**	**353**	PKP	**PKiKP**	**03 17 41.7**	**+0.2**		
	comp=Z,1.4nm,0.7s,baz=266,slow=1.1,SNR=8.6								
TXAR	**Lajitas Array**	**131.47**	**335**	PKP	**PKPdf**	**03 17 50.1**	**-0.1**		
	comp=Z,0.3nm,0.6s,baz=316,slow=36,SNR=2.9								

*IDC **06** 03:02:18.7±1.4, 14.°64N×54.°68E, h0km, mb3.8/12, mb1 3.9/12, mb1mx3.6/60, mbtmp3.8/12, Error ellipse: s-maj=34.6km s-min=27.9km az=36.0*
ISC 06 03:02:19.9±1.3, 14.°6N±0.°2×54.°7E±0.°2, h10km, n17, σ0s49/14, mb3.7/12, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**23.40**	**7**	P	**P**	**03 07 29.0**	**-0.1**
	1.3nm,0.5s,baz=191,slow=14,SNR=2.8						
MKAR	**Makanchi Array**	**39.50**	**30**	P	**P**	**03 09 51.3**	**+0.6**
	0.5nm,0.6s,baz=211,slow=9.2,SNR=5.1						
BVAR	**Borovoye Array**	**40.28**	**15**	P	**P**	**03 09 57.7**	**+0.6**
	0.8nm,0.7s,baz=193,slow=5.9,SNR=2.8						
KURBB	**Kurchatov Arra**	**40.77**	**23**	P	**P**	**03 10 01.2**	**+0.1**
	0.7nm,0.9s,baz=221,slow=8.5,SNR=3.0						
ZALV	**Zalesovo Beam**	**45.79**	**24**	P	**P**	**03 10 41.7**	**0.0**
	1.5nm,0.7s,baz=201,slow=7.7,SNR=1.9						
GERES	**GERESS Array B**	**47.83**	**324**	P	**P**	**03 10 57.8**	**-0.1**
	0.3nm,0.6s,baz=115,slow=6.9,SNR=2.6						
FINES	**FINESS Array B**	**51.05**	**343**	P	**P**	**03 11 22.9**	**+0.7**
	2.7nm,0.7s,baz=134,slow=11,SNR=9.4						
NOA	**NORSAR Array B**	**55.85**	**336**	P	**P**	**03 11 58.0**	**+0.5**
	0.4nm,0.8s,baz=80,slow=4.2,SNR=2.0						
ESDC	**Sonseca Array**	**56.73**	**308**	P	**P**	**03 12 03.7**	**-0.4**
	0.5nm,0.7s,baz=87,slow=5.9,SNR=2.9						
ARCES	**ARCESS Array B**	**57.84**	**348**	P	**P**	**03 12 11.0**	**-0.4**
	2.2nm,0.8s,baz=111,slow=6.6,SNR=4.1						
KSRS	**Korea Array**	**68.04**	**55**	P	**P**	**03 13 19.2**	**-0.7**
	1.2nm,0.8s,baz=289,slow=7.4,SNR=3.1						
H01W3	**Cape Leeuwin H**	**74.85**	**133**	T	T	04 35 46.3	
	baz=303						
H01W2	**Cape Leeuwin H**	**74.86**	**133**	T	T	04 35 51.9	
	baz=303						
H01W1	**Cape Leeuwin H**	**74.87**	**133**	T	T	04 35 49.8	
	baz=303						
ASAR	**Alice Springs**	**86.24**	**115**	P	**P**	**03 15 02.6**	**+0.2**
	0.7nm,0.7s,baz=290,slow=4.5,SNR=7.1						
NVAR	**Mina Array Bea**	**126.81**	**353**	PKP	**PKiKP**	**03 21 25.3**	**+0.1**
	0.6nm,0.6s,baz=49,slow=2.7,SNR=5.1						
TXAR	**Lajitas Array**	**131.54**	**334**	PKP	**PKiKP**	**03 21 35.4**	**+0.6**
	0.5nm,0.9s,baz=31,slow=7.5,SNR=3.5						

*SOME **06** 03:11:59.1, 39.°77N×75.°90E, h0km*
*NNC **06** 03:12:01.3±0.8, 39.°81N×75.°86E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=5.4km s-min=4.1km az=171.0*
*KRNET **06** 03:12:04.7±0.1, 39.°79N×75.°91E, mb3.3*
ISC 06 03:12:00.4±2.0, 39.°80N±0.°09×75.°89E±0.°03, h10km, n62, σ2s10/94, 27C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZA	**Kyzart**	**2.33**	**348**	⇓*e*P	**Pg**	**03 12 45.9**	**+0.9**
	baz=48						
KZA				⇓*i*S	**Sg**	**03 13 16.1**	**+0.9**
	baz=48						
KZA	**Kyzart**	**2.33**	**348**	P	**Pg**	**03 12 46.6**	**+1.6**
	SNR=9.7						
TARG	**Taragay, Kyrgy**	**2.42**	**36**	⇑*i*P	**Pg**	**03 12 46.9**	**+0.2**
	baz=36						
TARG				⇑*i*S	**Sg**	**03 13 17.9**	**-0.1**
	baz=36						
ULHL	**Ulahol**	**2.46**	**6**	⇑*e*P	**Pg**	**03 12 47.6**	**+0.1**
	baz=6.0						
ULHL				⇑*i*S	**Sg**	**03 13 18.7**	**-0.7**
	baz=6.0						
ULHL	**Ulahol**	**2.46**	**6**	P	**Pg**	**03 12 48.3**	**+0.7**
	SNR=9.5						
KDJ	**Kajisay**	**2.52**	**22**	⇑*e*P	**Pg**	**03 12 48.6**	**-0.2**
	baz=22						
KDJ				⇑*i*S	**Sg**	**03 13 20.6**	**-0.9**
	baz=22						
UCH	**Uchtor**	**2.64**	**337**	⇑*e*P	**Pg**

	3.0nm,0.1s								
KOTS					*e*S		**Sg**	03 13 53.5	**-0.9**
	14nm,0.6s								
KOTS	**Kotyrbulak**	**3.55**	**15**		Pg		**Pg**	**03 13 06.1**	**-2.4**
	8.4nm,0.4s								
KOTS					Lg		Lg	03 13 54.7	
	15nm,0.6s								
MRKS	**Merke**	**3.56**	**327**		*e*P		**Pg**	**03 13 06.3**	**-2.3**
	1.4nm,0.1s								
MRKS					*e*S		**Sg**	**03 13 54.7**	**0.0**
	6.0nm,0.3s								
MRKS	**Merke**	**3.56**	**327**		Pg		**Pb**	**03 13 04.9**	**+1.4**
	4.8nm,0.4s								
MRKS					Lg		Lg	03 13 52.5	
	7.6nm,0.4s								
USP	**Ospenovka**	**3.62**	**344**		P		**Sg**	**03 13 55.8**	**-0.7**
	SNR=5.5								
SATY	**Saty**	**3.77**	**29**		*e*P		**Pg**	**03 13 10.3**	**-2.2**
	0.8nm,0.1s								
SATY					*e*S		**Sg**	**03 14 01.8**	**+0.4**
	4.0nm,0.2s								
SATY	**Saty**	**3.77**	**29**		Pg		**Pb**	**03 13 09.3**	**+2.3**
	3.3nm,0.4s								
SATY					Lg		Lg	03 14 00.2	
	7.6nm,0.5s								
SGDS	**Sogindy**	**3.77**	**346**		Pg		**Pb**	**03 13 09.4**	**+2.3**
	3.6nm,0.1s								
SGDS					Lg		Lg	03 13 60.0	
	14nm,0.5s								
KTBS	**Karatobe**	**3.95**	**8**		*e*P		**Pg**	**03 13 12.9**	**-3.2**
	2.0nm,0.3s								
KTBS					*e*S		**Sg**	**03 14 06.4**	**-0.9**
	12nm,0.4s								
KTBS	**Karatobe**	**3.95**	**8**		Pg		**Pb**	**03 13 12.5**	**+2.3**
	4.7nm,0.5s								
KTBS					Lg		Lg	03 14 05.6	
	13nm,0.5s								
KURS	**Kuram**	**4.06**	**24**		*e*P		**Pg**	**03 13 14.8**	**-3.4**
	2.8nm,0.1s								
KURS					*e*S		**Sg**	**03 14 09.6**	**-1.2**
	4.7nm,0.6s								
KURS	**Kuram**	**4.06**	**24**		Pg		**Pg**	**03 13 15.4**	**-2.8**
	3.7nm,0.5s								
KURS					Lg		Lg	03 14 11.1	
UZB	**Uzynbulak**	**4.09**	**34**		*e*P		**Pg**	**03 13 16.2**	**-2.5**
	0.2nm,0.1s								
UZB					*e*S		**Sg**	**03 14 11.8**	**0.0**
	3.5nm,0.3s								
UZB	**Uzynbulak**	**4.09**	**34**		Pg		**Pg**	**03 13 15.9**	**-2.8**
	1.4nm,0.4s								
UZB					Lg		Lg	03 14 11.1	
	6.0nm,0.8s								
KUU	**Kurty**	**4.10**	**5**		*e*P		**Pg**	**03 13 15.7**	**-3.3**
	1.3nm,0.0s								
KUU					*e*S		**Sg**	**03 14 10.9**	**-1.2**
	16nm,0.4s								
KUU	**Kurty**	**4.10**	**5**		Pg		**Pb**	**03 13 15.5**	**+2.7**
	2.7nm,0.4s								
KUU					Lg		Lg	03 14 10.7	
	16nm,0.7s								
CHKK	**Chushkaly**	**4.13**	**11**		*e*P		**Pb**	**03 13 16.0**	**+2.8**
	0.3nm,0.0s								
CHKK					*e*S		**Sg**	**03 14 11.6**	**-1.5**
	5.7nm,0.3s								
CHKK	**Chushkaly**	**4.13**	**11**		Pg		**Pb**	**03 13 15.8**	**+2.5**
	1.6nm,0.5s								
CHKK					Lg		Lg	03 14 10.9	
	9.6nm,0.6s								
SHLS	**Shalkode**	**4.29**	**38**		*e*P		**Pg**	**03 13 24.5**	**+1.8**
	1.3nm,0.2s								
SHLS					*e*S		**Sg**	**03 14 26.2**	**+7.9**
	3.9nm,0.4s								
PDGK	**Podgornoye**	**4.44**	**36**		Pg		**Pg**	**03 13 22.1**	**-3.3**
	1.4nm,0.3s								
PDGK					Lg		Lg	03 14 21.9	
	5.1nm,0.9s								
ARXS	**Arharly**	**4.64**	**18**		*e*P		**Pb**	**03 13 25.0**	**+3.1**
	2.1nm,0.2s								
ARXS					*e*S		**Sg**	**03 14 27.3**	**-2.1**
	4.3nm,0.3s								
ARXS	**Arharly**	**4.64**	**18**		Pg		**Pb**	**03 13 24.8**	**+2.9**
	2.3nm,0.5s								
ARXS					Lg		Lg	03 14 26.3	
	4.5nm,0.5s								
MNBS	**Baschi**	**4.67**	**23**		*e*P		**Pg**	**03 13 26.6**	**-3.1**
	0.2nm,0.0s								
MNBS					*e*S		**Sg**	**03 14 29.8**	**-0.5**
	2.1nm,0.2s								
MNBS	**Baschi**	**4.67**	**23**		Pg		**Pg**	**03 13 26.3**	**-3.5**
	0.4nm,0.2s								
MNBS					Lg		Lg	03 14 28.8	
	1.9nm,0.4s								
KTMS	**Ketmen**	**4.95**	**41**		*e*P		**Pg**	**03 13 31.2**	**-4.0**
	0.3nm,0.1s								
KTMS					*e*S		**Sg**	**03 14 37.6**	**-1.6**
	3.5nm,0.1s								
KTMS	**Ketmen**	**4.95**	**41**		Pg		**Pg**	**03 13 31.4**	**-3.7**
	0.3nm,0.1s								
KTMS					Lg		Lg	03 14 37.7	
	2.0nm,0.8s								
KK31	**Karatay Array**	**5.21**	**311**		⇓Pg		**Pg**	**03 13 38.6**	**-1.7**
	0.4nm,0.4s,baz=133,slow=15,SNR=3.5								
KK31					⇑Lg		Lg	03 14 46.4	
	0.5nm,0.4s,baz=129,slow=29,SNR=3.7								
DJR	**Jarkent**	**5.38**	**31**		Pg		**Pg**	**03 13 40.9**	**-2.5**
	2.1nm,0.2s								
DJR					Lg		Lg	03 14 54.7	
	1.1nm,0.2s								
BTLS	**Baital**	**5.41**	**346**		*e*P		**Pg**	**03 13 40.2**	**-3.8**
	0.3nm,0.0s								
BTLS					*e*S		**Sg**	**03 14 52.8**	**-1.2**
	4.7nm,0.3s								

*IDC **06** 03:35:25.1±0.7, 14°75N×54°74E, h0km, mb4.0/21, mb1 4.1/22, mb1mx4.0/43, mbtmp4.0/22, ML3.2/1, MS3.7/3, Ms1 3.7/3, ms1mx3.1/37, Error ellipse: s-maj=16.9km s-min=15.5km az=130.0*

*OMAN **06** 03:35:26.3±1.1, 14°62N×54°73E, h15km±53km, ml4.2/6, Error ellipse: s-maj=8.3km s-min=1.9km az=312.0*

*NEIC **06** 03:35:26.6±2.2, 14°63N±0°07×54°7E±0°1, h10km±1km, mb4.4/27, Error ellipse: s-maj=17.5km s-min=10.4km az=111.0*

ISC 06 03:35:26.7±0.6, **14°69N**±0°09×**54°64E**±0°07, **h10**km, **n87**, σ1§**10**/80, **mb4.3**/50, **Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**2.57**	**194**	P	Pn	03 36 02.6	-5.8
	SNR=7.6						
SOCY	**Socotra**	**2.57**	**194**		Pn	03 36 02.0	-6.4
RBK	**Rabkut**	**2.83**	**352**	P	**Pn**	**03 36 10.6**	**-1.4**
	SNR=8.2						
ABTO	**Aybut**	**2.95**	**334**	P	**Pn**	**03 36 14.8**	**+1.2**
DMTO	**DMTO**	**3.02**	**6**	P	**Pn**	**03 36 15.4**	**+0.7**
WHFO	**Wadi Hawf**	**3.32**	**346**	P	**Pn**	**03 36 19.3**	**+0.5**
	SNR=12						
SHAO	**Shalim**	**3.45**	**16**	P	**Pn**	**03 36 20.1**	**-0.4**
WSAR	**Wadi Sarin**	**9.30**	**23**	Pn	**Pn**	**03 37 40.0**	**-0.9**
	0.2nm,0.3s,baz=57,slow=18,SNR=1.7						
WSAR				Sn	Sn	03 39 12.7	-13
	0.1nm,0.3s,baz=99,slow=16,SNR=1.1						
WSAR				LR	LR	03 40 59.8	
	comp=Z,486nm,21.7s,baz=200,slow=36						
ATD	**Arta Tunnel**	**11.91**	**256**	LR	LR	03 41 46.2	
	comp=Z,359nm,21.5s,baz=72,slow=32						
ATD	**Arta Tunnel**	**11.91**	**256**	Pn	**Pn**	**03 38 13.8**	**-3.0**
RAYN	**Ar Rayn**	**12.31**	**317**	Pn	**Pn**	**03 38 21.2**	**-1.0**
HRA	**Herat**	**20.78**	**18**	P	**P**	**03 40 08.7**	**+0.5**
KMBO	**Kilima Mbogo**	**23.30**	**229**	P	**P**	**03 40 37.2**	**+1.9**
	0.5nm,0.3s,baz=25,slow=13,SNR=2.2						
KMBO	**Kilima Mbogo**	**23.30**	**229**	IAmb	IAmb	03 40 43.2	
	comp=Z,5.3nm,1.2s						
GEYT	**Alibeck**	**23.35**	**7**	P	**P**	**03 40 35.3**	**0.0**
	comp=Z,3.2nm,0.6s,baz=215,slow=7.2,SNR=6.7						
GYA0B	**ALIBECK ARRAY**	**23.35**	**7**	P	**P**	**03 40 36.2**	**+0.9**
GYA0B				IAmb	IAmb	03 41 01.2	
	comp=Z,15nm,1.1s						
KBL	**Kabul**	**23.66**	**31**	P	**P**	**03 40 39.8**	**+1.2**
KBL				IAmb	IAmb	03 40 54.4	
	comp=Z,28nm,2.0s						
ASF	**Jabal al Asfar**	**23.77**	**320**	P	**P**	**03 40 39.1**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=271,slow=10.0,SNR=3.8						
NIL	**Nilore**	**25.31**	**39**	P	**P**	**03 40 55.1**	**+1.5**
NIL				IAmb	IAmb	03 41 16.0	
	comp=Z,11nm,1.1s						

CHGR	**Chuyangaron**	**27.10**	**26**		P		**P**	**03 41 12.0**	**+2.2**
BTK	**Batken**	**28.97**	**26**		P		**P**	**03 41 27.8**	**+1.3**
BRTR	**Keskin Array B**	**31.00**	**328**		P		**P**	**03 41 44.1**	**-0.5**
	comp=Z,1.1nm,1.0s,baz=152,slow=12,SNR=4.7								
BOOM	**Boomskoye usch**	**33.23**	**29**		P		**P**	**03 42 06.1**	**+2.0**
KDJ	**Kajisay**	**33.56**	**31**		P		**P**	**03 42 09.2**	**+2.1**
KDJ					IAmb		IAmb	03 42 25.6	
	comp=Z,4.1nm,1.1s								
TARG	**Taragay, Kyrgy**	**33.59**	**32**		P		**P**	**03 42 09.2**	**+1.7**
TARG					IAmb		IAmb	03 42 19.9	
	comp=Z,14nm,1.7s								
OPO	**Ambohidratompo**	**33.85**	**193**		LR		LR	03 53 13.9	
	comp=Z,167nm,20.4s,baz=149,slow=32								
PRZ	**Przheval'sk**	**34.44**	**32**		P		**P**	**03 42 16.7**	**+2.0**
MAKZ	**Makanchi**	**39.32**	**30**		P		**P**	**03 42 56.9**	**+0.9**
MK31	**Makanchi Array**	**39.46**	**30**		P		**P**	**03 42 57.7**	**+0.6**
MKAR	**Makanchi Array**	**39.46**	**30**		P		**P**	**03 42 57.0**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=212,slow=7.4,SNR=7.4								
BRVK	**Borovoye**	**40.24**	**15**		P		**P**	**03 43 03.9**	**+0.4**
BRVK					IAmb		IAmb	03 43 10.5	
	comp=Z,12nm,1.6s								
WMQ	**Urumqi**	**40.45**	**37**		*e*P		**P**	**03 43 07.7**	**+2.2**
BUR08	**Bucovina Ar. S**	**40.93**	**330**		P		**P**	**03 43 10.8**	**+1.4**
AKASG	**Malin Array Be**	**41.38**	**336**		P		**P**	**03 43 13.2**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=137,slow=7.9,SNR=12								
DIVS	**Divibare**	**41.55**	**322**		P		**P**	**03 43 15.2**	**+0.6**
DIVS					IAmb		IAmb	03 43 16.1	
	comp=Z,5.0nm,1.3s								
CMAR	**Chiang Mai Arr**	**42.55**	**79**		P		**P**	**03 43 22.9**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=265,slow=8.5,SNR=6.2								
OBN	**Obninsk**	**42.71**	**345**		P		**P**	**03 43 24.0**	**+0.3**
MATP	**Matopo**	**43.33**	**217**		P		**P**	**03 43 30.6**	**+1.2**
	comp=Z,1.9nm,0.9s,baz=88,slow=19,SNR=1.9								
PSZ	**Piszkesteto**	**43.84**	**326**		P		**P**	**03 43 32.5**	**-0.5**
PSZ					IAmb		IAmb	03 43 34.6	
	comp=Z,6.1nm,1.1s								
ZALV	**Zalesovo Beam**	**45.75**	**25**		P		**P**	**03 43 46.6**	**-1.5**
	comp=Z,1.3nm,0.5s,baz=234,slow=7.1,SNR=6.5								
SOKA	**Soboth**	**45.89**	**322**		*e*P		**P**	**03 43 50.7**	**+1.3**
	comp=Z,5.1nm,1.5s								
CONA	**Conrad Observa**	**46.06**	**324**		*e*P		**P**	**03 43 52.0**	**+1.2**
	comp=Z,6.3nm,1.1s								
OBKA	**Obir**	**46.09**	**322**		*e*P		**P**	**03 43 52.7**	**+1.6**
	comp=Z,3.5nm,1.0s								
MORC	**Moravsky Berou**	**46.19**	**327**		*e*P		**P**	**03 43 52.6**	**+0.9**
MORC	**Moravsky Berou**	**46.19**	**327**		P		**P**	**03 43 52.0**	**+0.3**
KRUC	**Moravsky**	**46.39**	**326**		*e*P		**P**	**03 43 53.9**	**+0.6**
VRAC	**Vranov**	**46.42**	**326**		*e*P		**P**	**03 43 54.3**	**+0.8**
MYKA	**Terra Mystica**	**46.69**	**322**		*e*P		**P**	**03 43 57.2**	**+1.4**
	comp=Z,2.4nm,0.5s								
MOA	**Molln**	**46.94**	**323**		*e*P		**P**	**03 43 58.7**	**+1.2**
	comp=Z,6.7nm,1.1s								
TAM	**Tamanrasset**	**47.03**	**288**		P		**P**	**03 43 59.9**	**+1.0**
TAM					IAmb		IAmb	03 44 01.8	
	comp=Z,4.3nm,1.2s								
STAL	**STALIGIAL**	**47.08**	**321**		P		**P**	**03 43 59.5**	**+0.8**
KBA	**Koelnbreinsper**	**47.09**	**322**		*e*P		**P**	**03 44 00.0**	**+1.1**
	comp=Z,2.8nm,1.0s								
CIMO	**Cimolais**	**47.27**	**321**		P		**P**	**03 44 01.3**	**+1.1**
ABTA	**Abfaltersbach**	**47.43**	**321**		*e*P		**P**	**03 44 02.6**	**+1.1**
	comp=Z,1.5nm,0.6s								
CTI	**Castel Tesino**	**47.64**	**320**		P		**P**	**03 44 04.0**	**+0.8**
CTI					IAmb		IAmb	03 44 04.7	
	comp=Z,5.3nm,0.9s								
GERES	**GERESS Array B**	**47.77**	**324**		P		**P**	**03 44 03.7**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=134,slow=7.6,SNR=6.3								
KHC	**Kasperske Hory**	**47.99**	**325**		*e*P		**P**	**03 44 05.5**	**-0.3**
WTTA	**Wattenberg**	**48.20**	**321**		*e*P		**P**	**03 44 08.1**	**+0.5**
	comp=Z,5.0nm,1.1s								
WATA	**Walderalm**	**48.27**	**322**		*e*P		**P**	**03 44 08.1**	**0.0**
	comp=Z,7.1nm,1.1s								
SQTA	**Sankt Quirin**	**48.44**	**321**		*e*P		**P**	**03 44 09.6**	**+0.2**
	comp=Z,4.6nm,0.7s								
MOTA	**Moosalm**	**48.56**	**321**		*e*P		**P**	**03 44 10.3**	**0.0**
	comp=Z,7.1nm,0.9s								
FETA	**Feichten**	**48.64**	**321**		*e*P		**P**	**03 44 11.4**	**+0.3**
	comp=Z,2.8nm,0.8s								
LZH	**Lanzhou**	**48.71**	**55**		*e*P		**P**	**03 44 11.7**	**0.0**
LZH					pP		sP	03 44 15.0	0.0
LZH					sP		pwP	03 44 16.5	-0.7
LZH					*e*PP		**PP**	**03 46 04.9**	**+0.2**
LZH					pmax		pmax		
	comp=Z,18nm,1.3s								
LZH					pmax		pmax		
	comp=Z,59nm,6.4s								
LZH					LR		LR		
	comp=N,160nm,14.6s								
LZH					LR		LR		
	comp=E,170nm,14.5s								
LZH					LR		LR		
	comp=Z,260nm,17.2s								
RETA	**Reutte**	**48.83**	**321**		*e*P		**P**	**03 44 12.3**	**-0.1**
	comp=Z,2.6nm,0.7s								
DAVA	**Damuels**	**49.28**	**321**		*e*P		**P**	**03 44 16.0**	**+0.1**
	comp=Z,8.4nm,0.9s								
BFO	**Black Forest**	**50.67**	**321**		P		**P**	**03 44 27.1**	**+0.8**
BFO					IAmb		IAmb	03 44 27.8	
	comp=Z,7.9nm,1.1s								
FIA1	**FINESS Array S**	**50.99**	**343**		P		**P**	**03 44 28.6**	**+0.1**
FIA1					IAmb		IAmb	03 44 29.6	
	comp=Z,7.3nm,0.9s								
FINES	**FINESS Array B**	**50.99**	**343**		P		**P**	**03 44 28.5**	**+0.1**
	comp=Z,4.9nm,0.8s,baz=127,slow=12,SNR=20								
TORD	**Torodi Ar. Bea**	**51.32**	**275**		P		**P**	**03 44 31.8**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=71,slow=6.7,SNR=5.5								
BOSA	**Boshof**	**51.59**	**213**		P		**P**	**03 44 34.8**	**+1.3**
	comp=Z,2.3nm,0.9s,baz=162,slow=3.2,SNR=1.3								
XAN	**Xi'an**	**52.44**	**58**		P		**P**	**03 44 39.0**	**-0.8**
XAN					pP		sP	03 44 44.3	+1.1
XAN					pmax		pmax		
	comp=Z,8.0nm,0.7s								
XAN	**Xi'an**	**52.44**	**58**		P		**P**	**03 44 38.5**	**-1.3**
SONM	**Songino Array**	**53.86**	**41**		P		**P**	**03 44 49.6**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=238,slow=8.5,SNR=5.5								
HHC	**Hu-ho-hao-te**	**55.61**	**50**		P		**P**	**03 45 04.2**	**+1.3**
HHC					pmax		pmax		
	comp=Z,7.0nm,0.7s								
HHC					pmax		pmax		
	comp=Z,55nm,5.9s								
NB2	**NORSAR Subarra**	**55.79**	**336**		P		**P**	**03 45 02.6**	**-1.2**
	comp=Z,5.9nm,1.2s,baz=124,slow=7.4								
NOA	**NORSAR Array B**	**55.79**	**336**		P		**P**	**03 45 02.0**	**-1.8**
	comp=Z,1.4nm,1.0s,baz=121,slow=7.6,SNR=4.3								
ESDC	**Sonseca Array**	**56.68**	**308**		P		**P**	**03 45 10.5**	**0.0**
	comp=Z,1.6nm,1.0s,baz=79,slow=6.7,SNR=10								
ARCES	**ARCESS Array B**	**57.78**	**348**		P		**P**	**03 45 17.8**	**0.0**
	comp=Z,4.3nm,0.9s,baz=134,slow=6.9,SNR=9.1								
NRIK	**Noril'sk**	**58.41**	**13**		P		**P**	**03 45 21.0**	**-1.1**
	comp=Z,2.0nm,0.4s,baz=159,slow=8.6,SNR=3.3								
KSRS	**Korea Array**	**68.03**	**55**		P		**P**	**03 46 25.0**	**-1.5**
	comp=Z,2.1nm,0.9s,baz=265,slow=7.5,SNR=6.6								
H01W3	**Cape Leeuwin H**	**74.91**	**133**		T		T	05 08 59.0	
	baz=300,slow=75,SNR=47								
H01W2	**Cape Leeuwin H**	**74.91**	**133**		T		T	05 08 47.2	
	baz=300,slow=75,SNR=48								
H01W1	**Cape Leeuwin H**	**74.92**	**133**		T		T	05 08 55.8	
	baz=300,slow=75,SNR=44								
WRA	**Warramunga Arr**	**85.56**	**112**		P		**P**	**03 48 04.8**	**-1.0**
	comp=Z,1.5nm,0.9s,baz=294,slow=4.3,SNR=1.1								
ASAR	**Alice Springs**	**86.29**	**115**		P		**P**	**03 48 07.8**	**-1.5**
	comp=Z,1.2nm,0.6s,baz=292,slow=4.6,SNR=12								
NVAR	**Mina Array Bea**	**126.75**	**353**		PKP		**PKPdf**	**03 54 31.5**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=245,slow=0.8,SNR=8.8								
TXAR	**Lajitas Array**	**131.48**	**334**		PKP		**PKiKP**	**03 54 41.6**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=163,slow=4.7,SNR=3.4								

*IDC **06** 03:38:27.0±0.5, 14°71N×54°72E, h0km, mb4.3/29, mb1 4.4/30, mb1mx4.3/51, mbtmp4.3/30, ML3.3/1, Error ellipse: s-maj=13.5km s-min=12.7km az=110.0*

*NEIC **06** 03:38:28.8±1.7, 14°63N±0°07×54°70E±0°09, h10km±1km, mb4.6/55, Error ellipse: s-maj=14.7km s-min=10.4km az=111.0*

ISC 06 03:38:28.8±0.5, **14°69N**±0°08×**54°70E**±0°07, **h10**km, **n148**, σ1§**75**/162, **mb4.6**/76, **15C, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**2.58**	**196**	Pn	Pn	03 39 04.3	-6.5
WSAR	**Wadi Sarin**	**9.28**	**23**	Pn	**Pn**	**03 40 41.9**	**-0.9**
	0.3nm,0.3s,baz=78,slow=20,SNR=2.4						
WSAR				Sn	Sn	03 42 19.3	-8.1
	0.4nm,0.3s,baz=38,slow=12,SNR=3.2						
DAMY	**Dhamar**	**9.97**	**271**	Pn	**Pn**	**03 40 51.0**	**-1.6**
RAYN	**Ar Rayn**	**12.35**	**317**		**Pn**	**03 41 23.5**	**-1.4**

HRA	**Herat**	**20.76**	**18**		P		**P**	**03 43 09.3**	**-0.9**
HRA					IAmb		IAmb	03 43 16.0	
	comp=Z,19nm,0.9s								
GEYT	**Alibeck**	**23.35**	**7**		P		**P**	**03 43 36.8**	**-0.6**
	comp=Z,8.5nm,0.8s,baz=196,slow=8.6,SNR=12								
GYA0B	**ALIBECK ARRAY**	**23.35**	**7**		P		**P**	**03 43 37.3**	**-0.1**
GYA0B					IAmb		IAmb	03 43 49.0	
	comp=Z,24nm,1.1s								
KMBO	**Kilima Mbogo**	**23.35**	**229**		P		**P**	**03 43 37.7**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=61,slow=19,SNR=2.4								
EIL	**Elat**	**23.54**	**313**		P		**P**	**03 43 39.4**	**0.0**
	comp=Z,3.1nm,0.9s,baz=151,slow=19,SNR=2.0								
KBL	**Kabul**	**23.63**	**31**		P		**P**	**03 43 42.1**	**+1.6**
ASF	**Jabal al Asfar**	**23.80**	**320**		P		**P**	**03 43 41.4**	**-0.7**
	comp=Z,12nm,1.2s,baz=68,slow=6.5,SNR=4.9								
NIL	**Nilore**	**25.28**	**38**		P		**P**	**03 43 56.9**	**+1.4**
NIL					IAmb		IAmb	03 44 00.1	
	comp=Z,21nm,1.1s								
MMAI	**Mount Meron Ar**	**25.30**	**319**		P		**P**	**03 43 55.3**	**-0.5**
	comp=Z,11nm,0.9s,baz=147,slow=8.1,SNR=6.0								
CHGR	**Chuyangaron**	**27.07**	**25**		P		**P**	**03 44 12.8**	**+1.1**
GAZ	**Gaziantep**	**27.27**	**328**		P		**P**	**03 44 15.5**	**+2.0**
GAR	**Garm**	**27.85**	**27**		P		**P**	**03 44 19.5**	**+0.7**
GAR					IAmb		IAmb	03 44 51.3	
	comp=Z,16nm,1.2s								
BTK	**Batken**	**28.95**	**26**		P		**P**	**03 44 29.9**	**+1.4**
BTK					IAmb		IAmb	03 44 36.9	
	comp=Z,17nm,1.2s								
KBZ	**Khabaz**	**30.65**	**343**		P		**P**	**03 44 42.6**	**-0.7**
	comp=Z,4.9nm,1.0s,baz=197,slow=7.0,SNR=5.3								
ARSB	**Arslanbob**	**30.93**	**27**		P		**P**	**03 44 47.4**	**+1.3**
ARSB					IAmb		IAmb	03 44 58.8	
	comp=Z,7.3nm,1.1s								
KSH	**Kashi**	**30.99**	**33**		*e*P		**P**	**03 44 43.8**	**-2.9**
BRTR	**Keskin Array B**	**31.03**	**327**		P		**P**	**03 44 46.9**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=144,slow=11,SNR=6.6								
BRTR					PcP		**PcP**	**03 47 43.3**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=143,slow=4.1,SNR=3.5								
KKAR	**Karatay Array**	**31.41**	**23**		P		**P**	**03 44 50.8**	**+0.7**
ANTO	**Ankara**	**31.58**	**327**		P		**P**	**03 44 53.3**	**+1.5**
ANTO					IAmb		IAmb	03 44 59.1	
	comp=Z,7.3nm,0.8s								
AAK	**Ala-Archa**	**32.65**	**28**		P		**P**	**03 45 00.5**	**-0.7**
	comp=Z,1.1nm,0.3s,baz=225,slow=7.2,SNR=4.7								
AAK	**Ala-Archa**	**32.65**	**28**		P		**P**	**03 45 02.9**	**+1.6**
BOOM	**Boomskoye usch**	**33.20**	**29**		P		**P**	**03 45 07.4**	**+1.3**
KDJ	**Kajisay**	**33.53**	**31**		P		**P**	**03 45 10.6**	**+1.5**
KDJ					IAmb		IAmb	03 45 17.1	
	comp=Z,10.0nm,1.1s								
TARG	**Taragay, Kyrgy**	**33.56**	**32**		P		**P**	**03 45 11.0**	**+1.5**
TARG					IAmb		IAmb	03 45 17.6	
	comp=Z,11nm,1.3s								
OPO	**Ambohidratompo**	**33.87**	**193**		P		**P**	**03 45 11.3**	**-0.7**
	comp=Z,4.2nm,0.7s,baz=133,slow=7.0,SNR=2.1								
PRZ	**Przheval'sk**	**34.41**	**32**		P		**P**	**03 45 18.3**	**+1.7**
SHL	**Shillong**	**36.44**	**67**		P		**P**	**03 45 34.5**	**+0.2**
SHL					IAmb		IAmb	03 45 35.5	
	comp=Z,7.5nm,0.7s								
RAZG	**Razgrad**	**37.53**	**326**		P		**P**	**03 45 44.5**	**+1.4**
CFR	**Carcaliu**	**37.78**	**329**		P		**P**	**03 45 46.8**	**+1.6**
VTS	**Vitosha**	**38.80**	**322**		⇑P		**P**	**03 45 54.9**	**+0.8**
VTS	**Vitosha**	**38.80**	**322**		P		**P**	**03 45 55.1**	**+1.1**
VRI	**Vrincioaia**	**38.97**	**329**		⇑P		**P**	**03 45 57.1**	**+1.8**
PLOR	**Plostina**	**39.00**	**329**		⇑P		**P**	**03 45 57.4**	**+1.9**
MLR	**Muntele Rosu**	**39.11**	**328**		P		**P**	**03 45 57.8**	**+1.2**
MLR	**Muntele Rosu**	**39.11**	**328**		P		**P**	**03 45 57.8**	**+1.2**
MAKZ	**Makanchi**	**39.29**	**30**		P		**P**	**03 45 59.1**	**+1.1**
MK31	**Makanchi Array**	**39.43**	**30**		P		**

ZOU	**Zoufplan**	**47.09**	**321**	IAmb	IAmb	03 47 02.5	
	comp=Z,11nm,1.4s						
KBA	**Koelnbreinsper**	**47.12**	**322**	*e*P	**P**	**03 47 01.8**	**+0.4**
	comp=Z,5.3nm,1.2s						
KBA				*e*ScP	**ScP**	**03 52 27.9**	**+0.5**
	comp=Z,4.6nm,0.9s						
DPC	**Dobruska-Polom**	**47.19**	**327**	*e*P	**P**	**03 47 01.8**	**0.0**
CIMO	**Cimolais**	**47.30**	**321**	IAmb	IAmb	03 47 03.9	
	comp=Z,5.8nm,1.0s						
OSTC	**Ostas**	**47.37**	**327**	*e*P	**P**	**03 47 03.2**	**+0.1**
OSTC				*ex*	x	03 47 08.6	
KLMR	**Klimovskoe**	**47.40**	**350**	*e*P	**P**	**03 47 01.0**	**-2.1**
KLMR				AMP		03 47 04.7	
	comp=Z,18nm,1.4s						
KLMR				*e*PP	**PP**	**03 48 51.7**	**-2.6**
ABTA	**Abfaltersbach**	**47.46**	**321**	*e*P	**P**	**03 47 04.6**	**+0.6**
	comp=Z,3.5nm,0.7s						
ABTA				*e*ScP	**ScP**	**03 52 33.7**	**+5.0**
	comp=Z,8.1nm,1.8s						
CHVC	**Chvalec**	**47.47**	**327**	*e*P	**P**	**03 47 04.0**	**+0.1**
CTI	**Castel Tesino**	**47.67**	**320**	P	**P**	**03 47 05.7**	**0.0**
CTI				IAmb	IAmb	03 47 06.9	
	comp=Z,5.0nm,0.7s						
GOPC	**GO Pecny, Ondr**	**47.77**	**326**	*e*P	**P**	**03 47 06.3**	**+0.1**
GOPC				*e*pP	**pwP**	**03 47 11.3**	**-0.4**
GEC2	**GERESS Array S**	**47.80**	**324**	IAmb	IAmb	03 47 14.2	
	comp=Z,7.8nm,1.4s						
GERES	**GERESS Array B**	**47.80**	**324**	P	**P**	**03 47 05.3**	**-1.3**
	comp=Z,1.6nm,0.7s,baz=125,slow=8.5,SNR=13						
PRU	**Pruhonice**	**47.94**	**326**	*e*P	**P**	**03 47 07.6**	**+0.1**
KHC	**Kasperske Hory**	**48.02**	**324**	*e*P	**P**	**03 47 07.7**	**-0.5**
KHC				*e*pP	**pwP**	**03 47 13.3**	**-0.4**
PVCC	**Panska Ves**	**48.22**	**327**	*e*P	**P**	**03 47 09.8**	**+0.1**
WTTA	**Wattenberg**	**48.24**	**321**	*e*P	**P**	**03 47 10.2**	**+0.1**
	comp=Z,6.6nm,0.7s						
WTTA				*e*ScP	**ScP**	**03 52 37.7**	**+5.7**
	comp=Z,6.4nm,1.0s						
WATA	**Walderalm**	**48.30**	**321**	*e*P	**P**	**03 47 10.3**	**-0.3**
	comp=Z,7.0nm,0.8s						
WATA				*e*ScP	**ScP**	**03 52 37.6**	**+5.3**
	comp=Z,2.6nm,0.6s						
SQTA	**Sankt Quirin**	**48.48**	**321**	*e*P	**P**	**03 47 11.4**	**-0.4**
	comp=Z,11nm,0.7s,SNR=6.4						
SQTA				*e*ScP	**ScP**	**03 52 38.7**	**+5.7**
	comp=Z,2.2nm,0.5s						
MOTA	**Moosalm**	**48.59**	**321**	*e*P	**P**	**03 47 12.4**	**-0.4**
	comp=Z,9.9nm,0.7s,SNR=6.3						
MOTA				ScP	**ScP**	**03 52 38.9**	**+5.4**
	comp=Z,4.6nm,0.7s						
LZH	**Lanzhou**	**48.66**	**55**	*e*P	**P**	**03 47 13.2**	**-0.3**
LZH				pP	pP	03 47 16.5	+0.5
LZH				sP	sP	03 47 18.1	+1.2
LZH				*e*PP	**PP**	**03 49 06.4**	**-0.1**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				pmax	pmax		
	comp=Z,75nm,6.5s						
LZH				LR	LR		
	comp=N,240nm,14.4s						
LZH				LR	LR		
	comp=E,250nm,14.3s						
LZH				LR	LR		
	comp=Z,390nm,17.5s						
FETA	**Feichten**	**48.68**	**321**	*e*P	**P**	**03 47 13.6**	**+0.1**
	comp=Z,5.2nm,0.8s						
FETA				ScP	**ScP**	**03 52 42.8**	**+8.9**
	comp=Z,5.1nm,1.5s						
BRG	**Berggiesshubel**	**48.74**	**327**	*e*P	**P**	**03 47 13.7**	**0.0**
	comp=Z,3.4nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**48.79**	**320**	P	**P**	**03 47 14.6**	**+0.2**
FUORN				IAmb	IAmb	03 47 20.2	
	comp=Z,7.1nm,1.1s						
RETA	**Reutte**	**48.87**	**321**	*e*P	**P**	**03 47 14.2**	**-0.6**
	comp=Z,5.9nm,0.7s,SNR=7.5						
RETA				*e*ScP	**ScP**	**03 52 41.3**	**+6.7**
	comp=Z,8.1nm,1.3s						
DAVA	**Damuels**	**49.31**	**321**	*e*P	**P**	**03 47 18.1**	**-0.2**
	comp=Z,6.7nm,0.6s						
DAVA				ScP	**ScP**	**03 52 44.9**	**+8.3**
	comp=Z,17nm,1.6s						
CLL	**Collm**	**49.48**	**327**	*e*P	**P**	**03 47 20.0**	**+0.7**
CLL				*e*		03 47 32.0	
GYA	**Guiyang**	**49.75**	**68**	P	**P**	**03 47 21.8**	**-0.1**
GYA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SENIN	**Lac Senin/Sane**	**50.55**	**319**	P	**P**	**03 47 28.2**	**+0.4**
SENIN				IAmb	IAmb	03 47 28.4	
	comp=Z,5.9nm,0.8s						
BFO	**Black Forest**	**50.71**	**321**	P	**P**	**03 47 28.6**	**-0.2**
BFO				IAmb	IAmb	03 47 29.5	
	comp=Z,9.8nm,1.0s						
FINES	**FINESS Array B**	**51.01**	**343**	P	**P**	**03 47 30.4**	**-0.4**
	comp=Z,9.9nm,0.7s,baz=126,slow=9.7,SNR=48						
TORD	**Torodi Ar. Bea**	**51.37**	**275**	P	**P**	**03 47 34.0**	**-0.3**
	comp=Z,1.2nm,0.9s,baz=117,slow=4.5,SNR=6.1						
TORD				PcP	**PcP**	**03 48 49.4**	**+0.4**
	comp=Z,0.5nm,0.9s,baz=216,slow=6.3,SNR=4.2						
BOSA	**Boshof**	**51.62**	**213**	P	**P**	**03 47 36.0**	**+0.1**
	comp=Z,7.0nm,1.1s,baz=32,slow=6.8,SNR=3.8						
SSB	**Saint Sauveur**	**51.96**	**317**	IAmb	IAmb	03 47 39.2	
	comp=Z,11nm,1.0s						
XAN	**Xi'an**	**52.40**	**58**	P	**P**	**03 47 41.8**	**+0.1**
ENH	**Enshi**	**52.48**	**63**	P	**P**	**03 47 41.9**	**-0.4**
SONM	**Songino Array**	**53.82**	**41**	P	**P**	**03 47 51.9**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=242,slow=8.3,SNR=7.2						
HHC	**Hu-ho-hao-te**	**55.57**	**50**	P	**P**	**03 48 06.2**	**+1.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,45nm,5.1s						
NB2	**NORSAR Subarra**	**55.81**	**336**	P	**P**	**03 48 05.1**	**-1.0**
	comp=Z,10.0nm,1.4s,baz=123,slow=7.4						
NOA	**NORSAR Array B**	**55.81**	**336**	P	**P**	**03 48 04.8**	**-1.4**
	comp=Z,1.6nm,1.0s,baz=121,slow=7.6,SNR=7.9						
NC303	**NORSAR Array S**	**55.87**	**336**	P	**P**	**03 48 06.8**	**+0.4**
WHN	**Wuhan**	**56.69**	**63**	P	**P**	**03 48 13.7**	**+0.9**
ESDC	**Sonseca Array**	**56.72**	**308**	P	**P**	**03 48 13.0**	**0.0**
	comp=Z,2.5nm,0.7s,baz=85,slow=6.3,SNR=19						
ARCES	**ARCESS Array B**	**57.79**	**348**	P	**P**	**03 48 19.8**	**-0.1**
	comp=Z,5.3nm,0.6s,baz=150,slow=6.8,SNR=38						
NRIK	**Noril'sk**	**58.39**	**13**	P	**P**	**03 48 22.7**	**-1.5**
	comp=Z,2.1nm,0.6s,baz=156,slow=6.8,SNR=3.9						
BJT	**Baijiatuan**	**58.91**	**52**	P	**P**	**03 48 28.9**	**+0.5**
BJT				IAmb	IAmb	03 48 29.8	
	comp=Z,4.9nm,0.8s						
BJI	**Beijing**	**58.92**	**52**	P	**P**	**03 48 28.7**	**+0.3**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NJ2	**Nanjing**	**60.58**	**61**	*e*P	**P**	**03 48 40.4**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KKM	**Kota Kinabalu**	**60.97**	**91**	P	**P**	**03 48 43.1**	**+0.2**
KKM				IAmb	IAmb	03 49 12.2	
	comp=Z,5.1nm,0.8s						
KSRS	**Korea Array**	**67.99**	**55**	P	**P**	**03 49 27.7**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=265,slow=6.8,SNR=13						
TIXI	**Tiksi**	**71.18**	**19**	P	**P**	**03 49 47.6**	**+0.1**
TIXI				IAmb	IAmb	03 49 47.7	
	comp=Z,4.0nm,0.6s						
H01W3	**Cape Leeuwin H**	**74.87**	**133**	T	T	05 11 57.8	
	baz=301,slow=75,SNR=18						
H01W2	**Cape Leeuwin H**	**74.87**	**133**	T	T	05 11 53.3	
	baz=301,slow=75,SNR=15						
H01W1	**Cape Leeuwin H**	**74.89**	**133**	T	T	05 11 55.5	
	baz=301,slow=75,SNR=20						
FITZ	**Fitzroy Crossi**	**77.13**	**113**	P	**P**	**03 50 22.2**	**-1.0**
	comp=Z,4.4nm,0.9s,baz=342,slow=17,SNR=2.1						
BILL	**Bilibino**	**84.28**	**21**	P	**P**	**03 51 00.8**	**+0.2**
WRA	**Warramunga Arr**	**85.51**	**112**	P	**P**	**03 51 07.2**	**-0.5**
	comp=Z,2.5nm,0.9s,baz=297,slow=3.6,SNR=4.9						
ASAR	**Alice Springs**	**86.24**	**115**	P	**P**	**03 51 11.2**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=289,slow=4.7,SNR=18						
AS31	**Alice Springs**	**86.24**	**115**	P	**P**	**03 51 10.7**	**-0.6**
ILAR	**Eielson Array**	**99.09**	**9**	PP	**PP**	**03 56 13.3**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=344,slow=6.7,SNR=4.7						
PDAR	**Pinedale Array**	**121.03**	**347**	PKP	**PKPdf**	**03 57 22.1**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=70,slow=4.9,SNR=5.6						
NVAR	**Mina Array Bea**	**126.76**	**353**	PKP	**PKiKP**	**03 57 34.1**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=358,slow=0.7,SNR=15						

*IDC **06** 03:42:02.8±1.5, 15°.09N×54°.64E, h0km, mb3.8/13, mb1 4.0/14, mb1mx3.7/60, mbtmp3.9/14, ML4.0/1, Error ellipse: s-maj=35.8km s-min=20.6km az=170.0*
*NEIC **06** 03:42:04.7±1.4, 15°.13N±0°.09×54°.72E±0°.04, h10km±1km, mb4.1/17, Error ellipse: s-maj=14.5km s-min=6.6km az=178.0*

ISC 06 03:42:03.7±0.7, 14°.98N±0°.09×54°.68E±0°.09, h10km, n38, σ1ᵖ09/34, mb3.9/18, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**2.86**	**194**	Pn	**Pn**	**03 42 48.2**	**-1.2**
ATD	**Arta Tunnel**	**12.02**	**255**	Pn	**Pn**	**03 44 56.2**	**+1.0**
	1.0nm,0.3s,baz=173,slow=20,SNR=1.7						
RAYN	**Ar Rayn**	**12.13**	**316**	Pn	**Pn**	**03 44 57.0**	**+0.3**
HRA	**Herat**	**20.49**	**18**		**P**	**03 46 40.3**	**-1.8**
HRA				IAmb	IAmb	03 46 58.4	
	comp=Z,7.4nm,1.1s						
HYB	**Hyderabad**	**23.05**	**81**	*i* P	**P**	**03 47 12.0**	**+2.6**
GEYT	**Alibeck**	**23.06**	**7**	P	**P**	**03 47 09.5**	**+0.1**
	comp=Z,1.4nm,0.4s,baz=199,slow=12,SNR=3.3						
GYA0B	**ALIBECK ARRAY**	**23.06**	**7**	P	**P**	**03 47 09.2**	**-0.2**
GYA0B				IAmb	IAmb	03 47 36.9	
	comp=Z,6.1nm,0.7s						
KBL	**Kabul**	**23.39**	**31**	P	**P**	**03 47 09.9**	**-3.0**
KBL				IAmb	IAmb	03 47 21.9	
	comp=Z,5.4nm,1.0s						
KMBO	**Kilima Mbogo**	**23.53**	**229**	P	**P**	**03 47 13.9**	**-0.6**
KMBO				IAmb	IAmb	03 47 27.1	
	comp=Z,4.4nm,1.2s						
GAZ	**Gaziantep**	**27.01**	**328**	P	**P**	**03 47 46.0**	**0.0**
BTK	**Batken**	**28.69**	**26**	P	**P**	**03 48 00.6**	**-0.4**
AAK	**Ala-Archa**	**32.40**	**28**	P	**P**	**03 48 33.1**	**-0.8**
KDJ	**Kajisay**	**33.29**	**31**	P	**P**	**03 48 42.4**	**+0.7**
TARG	**Taragay, Kyrgy**	**33.32**	**32**	P	**P**	**03 48 42.5**	**+0.2**
MAKZ	**Makanchi**	**39.05**	**30**	P	**P**	**03 49 31.2**	**+0.5**
MK31	**Makanchi Array**	**39.19**	**30**	P	**P**	**03 49 30.1**	**-1.8**
MKAR	**Makanchi Array**	**39.19**	**30**	P	**P**	**03 49 32.5**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=218,slow=8.0,SNR=5.7						
KURBB	**Kurchatov Arra**	**40.44**	**23**	P	**P**	**03 49 41.7**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=222,slow=8.6,SNR=5.3						
KURK	**Kurchatov**	**40.55**	**23**	P	**P**	**03 49 41.7**	**-1.4**
KURK	**Kurchatov**	**40.55**	**23**	IAmb	IAmb	03 49 57.9	
	comp=Z,4.2nm,1.4s						
AKASG	**Malin Array Be**	**41.14**	**335**	P	**P**	**03 49 45.8**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=140,slow=7.2,SNR=1.6						
CMAR	**Chiang Mai Arr**	**42.45**	**79**	P	**P**	**03 49 59.6**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=274,slow=9.1,SNR=4.5						
PSZ	**Piszkesteto**	**43.62**	**326**	P	**P**	**03 50 08.3**	**0.0**
PSZ				IAmb	IAmb	03 50 32.6	
	comp=Z,3.6nm,0.9s						
OJC	**Ojcow**	**45.08**	**329**	P	**P**	**03 50 20.0**	**+0.2**
ZALV	**Zalesovo Beam**	**45.47**	**25**	P	**P**	**03 50 23.1**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=224,slow=9.9,SNR=2.0						
MORC	**Moravsky Berou**	**45.97**	**327**	P	**P**	**03 50 28.4**	**+1.4**
CIMO	**Cimolais**	**47.07**	**320**	P	**P**	**03 50 36.3**	**+0.6**
FINES	**FINESS Array B**	**50.73**	**343**	P	**P**	**03 51 03.6**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=134,slow=8.2,SNR=7.3						
TORD	**Torodi Ar. Bea**	**51.33**	**275**	P	**P**	**03 51 08.8**	**0.0**
	comp=Z,1.0nm,0.9s,baz=100,slow=7.5,SNR=3.5						
SONM	**Songino Array**	**53.61**	**41**	P	**P**	**03 51 25.2**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=236,slow=10,SNR=2.4						
NOA	**NORSAR Array B**	**55.55**	**336**	P	**P**	**03 51 38.2**	**-0.8**
	comp=Z,0.9nm,0.9s,baz=124,slow=8.0,SNR=3.6						
ESDC	**Sonseca Array**	**56.53**	**308**	P	**P**	**03 51 46.8**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=81,slow=6.6,SNR=4.8						
ARCES	**ARCESS Array B**	**57.51**	**348**	P	**P**	**03 51 52.9**	**+0.1**
	comp=Z,3.4nm,0.9s,baz=159,slow=6.4,SNR=6.4						
KSRS	**Korea Array**	**67.83**	**55**	P	**P**	**03 53 02.3**	**0.0**
	comp=Z,0.9nm,0.5s,baz=278,slow=6.4,SNR=3.9						
H01W3	**Cape Leeuwin H**	**75.07**	**133**	T	T	05 15 27.0	
	baz=300						
H01W2	**Cape Leeuwin H**	**75.08**	**133**	T	T	05 15 28.9	
	baz=300						
H01W1	**Cape Leeuwin H**	**75.09**	**133**	T	T	05 15 28.0	
	baz=300						
NVAR	**Mina Array Bea**	**126.47**	**353**	PKP	**PKiKP**	**04 01 08.5**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=226,slow=1.1,SNR=4.8						

*IDC **06** 03:43:00.9±1.0, 14°.69N×54°.73E, h0km, mb3.9/17, mb1 4.0/17, mb1mx3.8/60, mbtmp3.9/17, Error ellipse: s-maj=25.0km s-min=19.0km az=160.0*
*NEIC **06** 03:43:02.1±1.0, 14°.64N±0°.06×54°.7E±0°.1, h10km±1km, mb4.3/10, Error ellipse: s-maj=23.2km s-min=7.3km az=109.0*

ISC 06 03:43:02.6±0.8, 14°.7N±0°.1×54°.7E±0°.1, h10km, n36, σ1ᵖ04/32, mb4.0/22, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**2.61**	**195**	Pn	Pn	03 43 39.1	-5.8
HYB	**Hyderabad**	**23.09**	**80**	*i* P	**P**	**03 48 11.0**	**+2.3**
GEYT	**Alibeck**	**23.32**	**7**	P	**P**	**03 48 12.0**	**+1.1**
	2.8nm,0.7s,baz=202,slow=5.8,SNR=2.4						
ASF	**Jabal al Asfar**	**23.78**	**320**	P	**P**	**03 48 16.6**	**+1.0**
	0.8nm,0.3s,baz=72,slow=3.2,SNR=1.7						
CHGR	**Chuyangaron**	**27.05**	**25**	P	**P**	**03 48 45.3**	**0.0**
GAR	**Garm**	**27.83**	**27**	P	**P**	**03 48 51.0**	**-1.4**
BTK	**Batken**	**28.93**	**26**	P	**P**	**03 48 59.7**	**-2.4**
BTK				IAmb	IAmb	03 50 00.6	
	comp=Z,7.4nm,1.0s						
KDJ	**Kajisay**	**33.52**	**31**	P	**P**	**03 49 43.9**	**+1.3**
TARG	**Taragay, Kyrgy**	**33.54**	**32**	P	**P**	**03 49 45.1**	**+2.1**
MK31	**Makanchi Array**	**39.41**	**30**	P	**P**	**03 50 33.0**	**+0.3**
MK31				IAmb	IAmb	03 51 33.8	
	comp=Z,2.8nm,0.8s						
MKAR	**Makanchi Array**	**39.41**	**30**	P	**P**	**03 50 33.2**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=216,slow=10.0,SNR=8.1						
BVAR	**Borovoye Array**	**40.19**	**15**	P	**P**	**03 50 39.0**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=193,slow=6.1,SNR=4.1						
BVAR	**Borovoye Array**	**40.19**	**15**	P	**P**	**03 50 39.0**	**-0.1**
BRVK	**Borovoye**	**40.20**	**15**	P	**P**	**03 50 40.7**	**+1.7**
BRVK				IAmb	IAmb	03 51 45.9	
	comp=Z,3.5nm,0.6s						
KURBB	**Kurchatov Arra**	**40.68**	**23**	P	**P**	**03 50 42.0**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=225,slow=8.3,SNR=6.5						
KURK	**Kurchatov**	**40.79**	**23**	P	**P**	**03 50 42.0**	**-2.0**
BUR08	**Bucovina Ar. S**	**40.93**	**329**	P	**P**	**03 50 45.8**	**+0.5**
BUR08				IAmb	IAmb	03 51 46.5	
	comp=Z,8.3nm,1.4s						
AKASG	**Malin Array Be**	**41.38**	**336**	P	**P**	**03 50 48.8**	**0.0**
	comp=Z,0.3nm,0.3s,baz=134,slow=7.9,SNR=5.0						
CMAR	**Chiang Mai Arr**	**42.50**	**79**	P	**P**	**03 50 58.1**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=279,slow=7.2,SNR=1.4						
MATP	**Matopo**	**43.38**	**217**	P	**P**	**03 51 05.4**	**-0.3**
	comp=Z,2.5nm,1.0s,baz=74,slow=7.4,SNR=2.0						
ZAA0	**Zalesovo Array**	**45.71**	**24**	P	**P**	**03 51 23.7**	**0.0**
ZAA0				IAmb	IAmb	03 52 23.5	
	comp=Z,3.3nm,0.7s						
ZALV	**Zalesovo Beam**	**45.71**	**24**	P	**P**	**03 51 23.3**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=241,slow=8.7,SNR=6.6						
GERES	**GERESS Array B**	**47.78**	**324**	P	**P**	**03 51 40.0**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=142,slow=6.6,SNR=4.4						
FINES	**FINESS Array B**	**50.98**	**343**	P	**P**	**03 52 04.7**	**+0.4**
	comp=Z,4.1nm,0.7s,baz=126,slow=9.7,SNR=12						
TORD	**Torodi Ar. Bea**	**51.36**	**275**	P	**P**	**03 52 08.0**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=74,slow=8.7,SNR=2.3						
SONM	**Songino Array**	**53.80**	**41**	P	**P**	**03 52 24.7**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=262,slow=7.0,SNR=2.2						
NOA	**NORSAR Array B**	**55.79**	**336**	P	**P**	**03 52 39.4**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=122,slow=7.5,SNR=3.0						
ESDC	**Sonseca Array**	**56.70**	**308**	P	**P**	**03 52 46.4**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=88,slow=6.8,SNR=11						
ARCES	**ARCESS Array B**	**57.76**	**348**	P	**P**	**03 52 53.7**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=149,slow=7.1,SNR=17						
KSRS	**Korea Array**	**67.98**	**55**	P	**P**	**03 54 01.7**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=266,slow=6.7,SNR=7.2						
H01W3	**Cape Leeuwin H**	**74.89**	**133**	T	T	05 16 28.3	
	baz=300						
H01W2	**Cape Leeuwin H**	**74.90**	**133**	T	T	05 16 26.2	
	baz=300						
H01W1	**Cape Leeuwin H**	**74.91**	**133**	T	T	05 16 28.5	
	baz=300						
PDAR	**Pinedale Array**	**121.00**	**347**	PKP	**PKPdf**	**04 01 56.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=99,slow=5.6,SNR=2.5						
NVAR	**Mina Array Bea**	**126.73**	**353**	PKP	**PKPdf**	**04 02 07.8**	**+0.6**
	comp=Z,1.6nm,0.8s,baz=333,slow=0.2,SNR=6.4						
TXAR	**Lajitas Array**	**131.47**	**335**	PKP	**PKPdf**	**04 02 16.5**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=117,slow=1.0,SNR=2.6						

*IDC **06** 03:43:53.9±0.7, 14°.71N×54°.74E, h0km, mb4.0/25, mb1 4.2/26, mb1mx4.0/62, mbtmp4.0/26, ML3.6/1, MS4.3/3, Ms1 4.3/3, ms1mx3.9/10, Error ellipse: s-maj=17.3km s-min=14.3km az=133.0*
*NEIC **06** 03:43:55.6±1.6, 14°.67N±0°.08×54°.77E±0°.09, h10km±1km, mb4.5/41, Error ellipse: s-maj=18.7km s-min=4.5km az=133.0*

ISC 06 03:43:56.2±0.5, 14°.66N±0°.08×54°.76E±0°.07, h14km, n90, σ1ᵖ17/80, mb4.2/36, MS4.0/10, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**9.28**	**23**	LR	LR	03 49 31.1	
	comp=Z,2μm,20.5s,baz=184,slow=36						
ATD	**Arta Tunnel**	**12.01**	**256**	Pn	**Pn**	**03 46 47.8**	**+0.6**
	0.4nm,0.3s,baz=201,slow=21,SNR=1.4						
ATD				LR	LR	03 50 12.3	
	comp=Z,2μm,20.0s,baz=76,slow=32						
FURI	**Furi**	**16.75**	**252**	Pn	**Pn**	**03 47 51.4**	**+0.5**
HRA	**Herat**	**20.77**	**18**	P	**P**	**03 48 34.7**	**-2.4**
HRA				IAmb	IAmb	03 48 54.5	
	comp=Z,20nm,1.2s						
HYB	**Hyderabad**	**23.03**	**80**	*i* P	**P**	**03 49 05.0**	**+3.8**
GEYT	**Alibeck**	**23.36**	**7**	P	**P**	**03 49 03.9**	**-0.6**
	comp=Z,6.3nm,0.7s,baz=199,slow=7.8,SNR=5.4						
GEYT				LR	LR	03 59 49.3	
	comp=Z,674nm,21.3s,baz=165,slow=41						
KMBO	**Kilima Mbogo**	**23.37**	**229**	P	**P**	**03 49 05.1**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=43,slow=19,SNR=3.6						
KMBO	**Kilima Mbogo**	**23.37**	**229**	IAmb	IAmb	03 49 09.3	
	comp=Z,1nm,1.2s						
KBL	**Kabul**	**23.62**	**31**	P	**P**	**03 49 06.6**	**-0.6**
KBL				IAmb	IAmb	03 49 12.9	
	comp=Z,12nm,1.1s						
ASF	**Jabal al Asfar**	**23.86**	**320**	P	**P**	**03 49 10.4**	**+1.0**
	comp=Z,5.6nm,1.0s,baz=8.4,slow=4.1,SNR=3.8						
NIL	**Nilore**	**25.26**	**38**	P	**P**	**03 49 22.8**	**+0.7**
NIL				IAmb	IAmb	03 50 15.5	
	comp=Z,14nm,1.1s						
MMAI	**Mount Meron Ar**	**25.36**	**319**	P	**P**	**03 49 22.5**	**-0.6**
	comp=Z,8.2nm,1.0s,baz=116,slow=10,SNR=2.5						
GEVA	**Gevas**	**25.73**	**338**	P	**P**	**03 49 28.0**	**+1.5**
MARD	**Mardin**	**25.76**	**334**	P	**P**	**03 49 27.4**	**+0.7**
CHGR	**Chuyangaron**	**27.07**	**25**	P	**P**	**03 49 40.0**	**+1.4**
GAZ	**Gaziantep**	**27.32**	**328**	P	**P**	**03 49 41.2**	**+0.5**
KOPT	**Kop Dagi**	**28.18**	**336**	P	**P**	**03 49 48.9**	**+0.3**
TBLG	**Delisi**	**28.33**	**344**	P	**P**	**03 49 50.9**	**+1.2**
TBLG				IAmb	IAmb	03 50 27.6	
	comp=Z,8.1nm,0.6s						
BTK	**Batken**	**28.95**	**26**	P	**P**	**03 49 54.4**	**-0.9**
KBZ	**Khabaz**	**30.69**	**343**	P	**P**	**03 50 10.3**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=174,slow=4.9,SNR=4.6						
BRTR	**Keskin Array B**	**31.08**	**327**	P	**P**	**03 50 13.6**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=147,slow=12,SNR=2.4						
AAK	**Ala-Archa**	**32.65**	**28**	P	**P**	**03 50 27.8**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=217,slow=5.7,SNR=3.8						
AAK	**Ala-Archa**	**32.65**	**28**	IAmb	IAmb	03 50 45.5	
	comp=Z,5.9nm,1.2s						
KDJ	**Kajisay**	**33.53**	**31**	P	**P**	**03 50 34.9**	**-0.8**
KDJ				IAmb	IAmb	03 50 40.8	
	comp=Z,8.4nm,1.4s						
TARG	**Taragay, Kyrgy**	**33.55**	**32**	P	**P**	**03 50 36.8**	**+0.6**
OPO	**Ambohidratompo**	**33.86**	**193**	P	**P**	**03 50 38.8**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=136,slow=14,SNR=1.6						
PRZ	**Przheval'sk**	**34.40**	**32**	P	**P**	**03 50 44.1**	**+0.8**
MAKZ	**Makanchi**	**39.29**	**30**	P	**P**	**03 51 25.2**	**+0.6**
MK31	**Makanchi Array**	**39.43**	**30**	P	**P**	**03 51 26.9**	**+1.1**
MKAR	**Makanchi Array**	**39.43**	**30**	P	**P**	**03 51 26.1**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=213,slow=9.5,SNR=7.8						
BVAR

comp=Z,2.1nm,0.8s,baz=263,slow=7.3,SNR=7.2
H01W3 **Cape Leeuwin H 74.81 133** T T 05 17 20.2
baz=301,slow=75,SNR=58
H01W2 **Cape Leeuwin H 74.81 133** T T 05 17 21.1
baz=301,slow=75,SNR=52
H01W1 **Cape Leeuwin H 74.83 133** T T 05 17 21.5
baz=301,slow=75,SNR=48
ASAR **Alice Springs 86.18 116** P **P** **03 56 37.5 -0.2**
comp=Z,2.1nm,0.7s,baz=288,slow=4.9,SNR=4.7
PDAR **Pinedale Array 121.06 347** PKP **PKiKP** **04 02 49.0 -0.2**
comp=Z,0.7nm,0.8s,baz=352,slow=2.1,SNR=3.8
NVAR **Mina Array Bea 126.79 353** PKP **PKiKP** **04 03 00.1 -0.6**
comp=Z,1.6nm,0.8s,baz=355,slow=0.9,SNR=7.8
TXAR **Lajitas Array 131.55 335** PKP **PKiKP** **04 03 09.7 -0.7**
comp=Z,0.6nm,0.8s,baz=323,slow=1.4,SNR=3.3

*NEIC **06** 03:46:34.5±1.5,22.°9S±0.°1×179.°2E±0.°1, h561$^{km}_{\pm 2km}$, mb4.4/23, Error ellipse: s-maj=20.8km s-min=16.1km az=171.0*
*IDC **06** 03:46:35.3±2.0,22.°93S×179.°17E, h564$^{km}_{\pm 20km}$, mb4.0/11, mb1 4.2/12, mb1mx3.7/41, mbtmp4.9/12, Error ellipse: s-maj=20.9km s-min=15.2km az=179.0*
ISC 06 03:46:34.2±0.4, 22.°9S±0.°1×179.°17E±0.°06, h550^{km}, n120, σ1§10/118, mb4.5/19, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.24**	**348**	P	**P**	**03 48 06.7**	**+0.4**
NIUE	**Niue**	**10.87**	**72**	P	**P**	**03 49 01.2**	**+0.1**
	baz=11,SNR=9.2						
NIUE				S	**S**	**03 51 03.8**	**+1.8**
	baz=11						
NIUE	**Niue**	**10.87**	**72**	P	**P**	**03 48 59.9**	**-1.2**
DZM	**Mont Dzumac**	**11.79**	**272**	P	**P**	**03 49 12.0**	**+1.3**
	1.3nm,0.3s,baz=125,slow=22,SNR=13						
DZM	**Mont Dzumac**	**11.79**	**272**	P	**P**	**03 49 12.0**	**+1.3**
NFK	**Norfolk Island**	**11.81**	**236**	P	**P**	**03 49 13.2**	**+2.6**
	baz=12,SNR=5.4						
LHI	**Lord Howe Isla**	**19.82**	**240**	P	**P**	**03 50 30.8**	**+2.3**
	baz=20,SNR=3.2						
ARMA	**Armidale**	**25.68**	**247**	P	**P**	**03 51 22.7**	**+1.6**
	baz=26,SNR=32						
ARMA	**Armidale**	**25.68**	**247**	P	**P**	**03 51 22.3**	**+1.2**
EIDS	**Eidsvold**	**25.73**	**259**	P	**P**	**03 51 22.2**	**+0.7**
	baz=26,SNR=9.6						
EIDS	**Eidsvold**	**25.73**	**259**	P	**P**	**03 51 22.2**	**+0.7**
MGCD	**Mangrove Creek**	**26.74**	**241**	P	**P**	**03 51 31.5**	**+1.3**
	baz=27,SNR=27						
RMQ	**Roma**	**27.83**	**256**	P	**P**	**03 51 41.3**	**+1.4**
	baz=28,SNR=30						
CNB	**Canberra Magne**	**28.72**	**238**	P	**P**	**03 51 49.4**	**+1.8**
	baz=29,SNR=9.1						
CAN	**Canberra**	**29.00**	**238**	P	**P**	**03 51 50.8**	**+0.7**
CTA	**Charters Tower**	**30.72**	**269**	P	**P**	**03 52 05.4**	**+0.4**
	baz=31						
CTA	**Charters Tower**	**30.72**	**269**	P	**P**	**03 52 05.8**	**+0.8**
	83nm,0.5s,baz=95,slow=11,SNR=138						
CTA	**Charters Tower**	**30.72**	**269**	P	**P**	**03 52 05.8**	**+0.8**
CTAO	**Charters Tower**	**30.72**	**269**	P	**P**	**03 52 05.0**	**0.0**
CMSA	**Cobar Meteorol**	**30.89**	**247**	P	**P**	**03 52 07.0**	**+0.6**
	baz=31,SNR=38						
QLP	**Quilpie**	**31.88**	**256**	P	**P**	**03 52 15.4**	**+0.6**
	baz=32,SNR=23						
TOO	**Toolangi**	**32.37**	**235**	P	**P**	**03 52 19.5**	**+0.7**
	baz=32,SNR=6.5						
MTSU	**Mount Surprise**	**32.94**	**272**	P	**P**	**03 52 24.4**	**+0.5**
	baz=33,SNR=21						
PMG	**Port Moresby**	**33.45**	**288**	P	**P**	**03 52 28.7**	**+0.5**
	49nm,0.7s,baz=92,slow=6.1,SNR=7.6						
PMG	**Port Moresby**	**33.45**	**288**	P	**P**	**03 52 28.7**	**+0.5**
PMG	**Port Moresby**	**33.45**	**288**	IAmb	IAmb	03 52 29.6	
	comp=Z,45nm,0.7s						
ARPS	**Mount Arapiles**	**34.98**	**238**	P	**P**	**03 52 40.9**	**+0.1**
	baz=35,SNR=6.4						
COEN	**Coen**	**35.21**	**278**	P	**P**	**03 52 42.4**	**-0.6**
	baz=35,SNR=8.0						
QIS	**Mount Isa**	**36.75**	**266**	P	**P**	**03 52 55.7**	**0.0**
	baz=37,SNR=4.2						
AS31	**Alice Springs**	**41.45**	**260**		**P**	**03 53 33.5**	**-0.1**
ASAR	**Alice Springs**	**41.45**	**260**	P	**P**	**03 53 33.5**	**-0.1**
	comp=Z,24nm,0.7s,baz=92,slow=8.1,SNR=164						
ASAR				ScP	**ScP**	**03 58 15.5**	**-0.7**
	comp=Z,3.8nm,0.7s,baz=100,slow=4.4,SNR=7.7						
ASAR				S	**S**	**03 59 07.2**	**-2.3**
	comp=Z,1.2nm,0.8s,baz=100,slow=15,SNR=4.7						
ASAR	**Alice Springs**	**41.45**	**260**	P	**P**	**03 53 33.5**	**-0.1**
ASAR					**ScP**	**03 58 15.5**	**-0.7**
ASAR					**S**	**03 59 07.2**	**-2.3**
WR0	**Warramunga Arr**	**41.53**	**265**	P	**P**	**03 53 33.8**	**-0.4**
WR0				IAmb	IAmb	03 53 33.8	
	comp=Z,7.7nm,0.6s						
WB0	**Warramunga Arr**	**41.71**	**266**	P	**P**	**03 53 34.9**	**-0.7**
WB2	**Warramunga Arr**	**41.71**	**265**		**P**	**03 53 34.5**	**-1.1**
WRAB	**Tennant Creek**	**41.71**	**265**	P	**P**	**03 53 34.2**	**-1.4**
WRA	**Warramunga Arr**	**41.72**	**265**	P	**P**	**03 53 35.0**	**-0.6**
	comp=Z,7.9nm,0.4s,baz=96,slow=8.4,SNR=48						
WRA				ScP	**ScP**	**03 58 16.2**	**-1.2**
	comp=Z,3.8nm,0.8s,baz=100,slow=3.9,SNR=8.0						
WRA	**Warramunga Arr**	**41.72**	**265**	P	**P**	**03 53 35.0**	**-0.6**
WRA					**ScP**	**03 58 16.2**	**-1.2**
KDU	**Kakadu**	**45.44**	**275**	P	**P**	**03 54 04.1**	**-0.4**
	baz=45,SNR=3.3						
FORT	**Forrest**	**45.95**	**249**	P	**P**	**03 54 07.6**	**-0.6**
	baz=46,SNR=30						
FORT	**Forrest**	**45.95**	**249**		**P**	**03 54 07.5**	**-0.8**
WRKA	**Warakurna**	**46.32**	**257**	P	**P**	**03 54 10.8**	**-0.4**
	baz=46,SNR=58						
KNRA	**Kununurra**	**47.93**	**269**	P	**P**	**03 54 23.2**	**-0.2**
	baz=48,SNR=6.8						
FITZ	**Fitzroy Crossi**	**50.15**	**265**	P	**P**	**03 54 40.0**	**+0.3**
	baz=50,SNR=6.6						
FITZ	**Fitzroy Crossi**	**50.15**	**265**	P	**P**	**03 54 39.9**	**+0.2**
	comp=Z,8.4nm,0.5s,baz=94,slow=6.2,SNR=41						
FITZ	**Fitzroy Crossi**	**50.15**	**265**	P	**P**	**03 54 39.9**	**+0.2**
FITZ	**Fitzroy Crossi**	**50.15**	**265**	IAmb	IAmb	03 54 40.7	
	comp=Z,9.7nm,0.6s						
KMBL	**Kambalda**	**51.20**	**247**	P	**P**	**03 54 46.1**	**-1.1**
	baz=51,SNR=11						
MEEK	**Meekatharra**	**54.67**	**253**	P	**P**	**03 55 10.9**	**-1.1**
	baz=55,SNR=7.2						
KLBR	**Kellerberrin**	**54.68**	**247**	P	**P**	**03 55 11.2**	**-0.8**
	baz=55,SNR=52						
BLDU	**Ballidu**	**55.70**	**248**	P	**P**	**03 55 18.1**	**-0.9**
	baz=56,SNR=12						
MORW	**Morawa**	**56.51**	**249**	P	**P**	**03 55 23.9**	**-0.8**
	baz=56,SNR=6.0						
EDFI	**Ende, Flores**	**56.73**	**275**	P	**P**	**03 55 26.0**	**-0.6**
	comp=Z,13nm,0.6s						
MPSI	**Mapaga**	**62.04**	**283**	P	**P**	**03 56 01.2**	**-0.6**
QSPA	**South Pole Qui**	**67.18**	**180**	P	**P**	**03 56 34.0**	**+0.4**
	comp=Z,21nm,0.6s,baz=349,slow=3.0,SNR=4.7						
QSPA	**South Pole Qui**	**67.18**	**180**	P	**P**	**03 56 34.0**	**+0.4**
QSPA	**South Pole Qui**	**67.18**	**180**	IAmb	IAmb	03 56 34.5	
	comp=Z,25nm,0.7s						
JHJ	**Hachijo jima 2**	**67.19**	**325**	P	**P**	**03 56 34.8**	**+0.9**
	comp=Z,111nm,0.8s,baz=84,slow=19,SNR=1.5						
JHJ	**Hachijo jima 2**	**67.19**	**325**	P	**P**	**03 56 34.8**	**+0.9**
PMSA	**Palmer Station**	**80.12**	**157**	P	**P**	**03 57 46.8**	**0.0**
	comp=Z,17nm,0.7s,baz=188,slow=21,SNR=5.8						
PMSA	**Palmer Station**	**80.12**	**157**	P	**P**	**03 57 46.8**	**0.0**
PMSA	**Palmer Station**	**80.12**	**157**	IAmb	IAmb	03 57 47.9	
	comp=Z,18nm,0.8s						
Y12C	**Blythe**	**84.56**	**50**	P	**P**	**03 58 07.3**	**-2.5**
NVAR	**Mina Array Bea**	**84.57**	**44**	P	**P**	**03 58 09.7**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=227,slow=6.5,SNR=4.1						
NVAR	**Mina Array Bea**	**84.57**	**44**	P	**P**	**03 58 09.7**	**-0.4**
J08A	**Circle Bar Ran**	**87.28**	**40**	P	**P**	**03 58 22.4**	**-0.3**
J08A				IAmb	IAmb	03 58 25.4	
	comp=Z,9.3nm,1.4s						
PLCA	**Paso Flores**	**89.51**	**135**	P	**P**	**03 58 33.0**	**-0.3**
	comp=Z,3.1nm,0.9s,baz=142,slow=7.7,SNR=3.7						
PLCA	**Paso Flores**	**89.51**	**135**	P	**P**	**03 58 33.0**	**-0.3**
PLCA	**Paso Flores**	**89.51**	**135**	IAmb	IAmb	03 58 35.0	
	comp=Z,6.5nm,1.1s						
SRU	**San Rafael Swe**	**90.07**	**47**	P	**P**	**03 58 35.1**	**-0.8**
MNTX	**Cornudas Mount**	**90.28**	**56**	IAmb	IAmb	03 58 38.8	
	comp=Z,4.1nm,1.1s						
TX31	**Lajitas Ar. Si**	**90.55**	**58**	IAmb	IAmb	03 58 40.5	
	comp=Z,5.6nm,0.9s						
TXAR	**Lajitas Array**	**90.55**	**58**	P	**P**	**03 58 39.1**	**+0.8**
	comp=Z,1.5nm,0.8s,baz=214,slow=6.0,SNR=12						
TXAR	**Lajitas Array**	**90.55**	**58**	P	**P**	**03 58 39.1**	**+0.8**
COLA	**College**	**91.12**	**13**	P	**P**	**03 58 37.5**	**-2.3**
COLA				IAmb	IAmb	03 58 41.2	
	comp=Z,4.0nm,0.9s						

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
ILAR	**Eielson Array**	**91.24**	**14**	P	**P**	**03 58 40.7**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=225,slow=5.9,SNR=2.7						
ILAR				pP	**pwP**	**04 00 46.6**	**+2.0**
	comp=Z,0.9nm,1.0s,baz=236,slow=6.1,SNR=5.3						
ILAR	**Eielson Array**	**91.24**	**14**	P	**P**	**03 58 40.7**	**+0.3**
PDAR	**Pinedale Array**	**92.50**	**44**	P	**P**	**03 58 47.7**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=199,slow=2.5,SNR=3.8						
PDAR	**Pinedale Array**	**92.50**	**44**	P	**P**	**03 58 47.7**	**+0.6**
MKAR	**Makanchi Array**	**110.92**	**313**	PKiKP	**PKiKP**	**04 04 03.7**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=103,slow=4.6,SNR=2.9						
MKAR	**Makanchi Array**	**110.92**	**313**		**PKiKP**	**04 04 03.7**	**-1.3**
KURK	**Kurchatov**	**113.95**	**317**		**PKiKP**	**04 04 09.7**	**-0.9**
KURBB	**Kurchatov Arra**	**114.00**	**317**	PKP	**PKiKP**	**04 04 09.7**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=113,slow=1.4,SNR=3.3						
BVAR	**Borovoye Array**	**119.19**	**319**	PKP	**PKPdf**	**04 04 19.9**	**-0.8**
	comp=Z,0.9nm,0.4s,baz=123,slow=2.4,SNR=3.0						
BVAR	**Borovoye Array**	**119.19**	**319**		**PKPdf**	**04 04 19.9**	**-0.8**
BDFB	**Brasilia**	**120.01**	**125**	PKP	**PKPdf**	**04 04 22.4**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=217,slow=25,SNR=1.9						
BDFB	**Brasilia**	**120.01**	**125**		**PKPdf**	**04 04 22.4**	**-1.1**
SCHQ	**Schefferville**	**122.18**	**39**	PKP	**PKPdf**	**04 04 24.7**	**-1.6**
	comp=Z,1.4nm,0.9s,baz=244,slow=18,SNR=2.1						
SCHQ	**Schefferville**	**122.18**	**39**		**PKPdf**	**04 04 24.7**	**-1.6**
ARCES	**ARCESS Array B**	**130.75**	**348**	PKP	**PKPdf**	**04 04 40.6**	**-1.7**
	comp=Z,2.5nm,0.7s,baz=48,slow=1.8,SNR=7.5						
ARCES	**ARCESS Array B**	**130.75**	**348**		**PKPdf**	**04 04 40.6**	**-1.7**
FINES	**FINESS Array B**	**137.26**	**341**	PKP	**PKPdf**	**04 04 53.8**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=86,slow=2.7,SNR=5.9						
FINES	**FINESS Array B**	**137.26**	**341**		**PKPdf**	**04 04 53.8**	**-0.8**
AKASG	**Malin Array Be**	**143.72**	**327**	PKP	PKPab	04 05 04.8	-0.8
	comp=Z,1.9nm,0.5s,baz=44,slow=4.2,SNR=12						
AKASG	**Malin Array Be**	**143.72**	**327**		PKPab	04 05 04.8	-0.8
AKBB	**Malin Array Si**	**143.72**	**327**		PKPab	04 05 04.0	-1.6
BRTR	**Keskin Array B**	**146.37**	**308**	PKPbc	**PKPdf**	**04 05 13.4**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=103,slow=2.8,SNR=5.9						
BRTR	**Keskin Array B**	**146.37**	**308**		**PKPdf**	**04 05 13.3**	**+1.7**
MMAI	**Mount Meron Ar**	**146.59**	**296**	PKPbc	**PKPdf**	**04 05 13.7**	**+1.5**
	comp=Z,3.0nm,0.5s,baz=81,slow=6.8,SNR=4.7						
MMAI	**Mount Meron Ar**	**146.59**	**296**		**PKPdf**	**04 05 13.7**	**+1.5**
OSTC	**Ostas**	**149.35**	**338**	*e*PKP	**PKPbc**	**04 05 21.9**	**+0.8**
CHVC	**Chvalec**	**149.38**	**339**	*e*PKP	**PKPbc**	**04 05 21.3**	**+0.1**
UPC	**Upice**	**149.46**	**339**	*e*PKP	**PKPbc**	**04 05 21.9**	**+0.6**
DPC	**Dobruska-Polom**	**149.49**	**338**	*e*PKP	**PKPbc**	**04 05 22.1**	**+0.6**
MORC	**Moravsky Berou**	**149.53**	**336**	*e*PKIKP	**PKPbc**	**04 05 21.9**	**+0.3**
MORC	**Moravsky Berou**	**149.53**	**336**		**PKPdf**	**04 05 20.3**	**+4.0**
KRLC	**Kraliky**	**149.56**	**337**	*e*PKP	**PKPbc**	**04 05 21.8**	**+0.2**
CLL	**Collm**	**149.68**	**343**	*i* PKPbc	**PKPbc**	**04 05 22.7**	**+0.9**
	comp=Z,12nm,0.8s						
CLL	**Collm**	**149.68**	**343**		**PKPbc**	**04 05 21.6**	**-0.2**
BRG	**Berggiesshubel**	**149.80**	**341**	*i* PKP	**PKPbc**	**04 05 22.2**	**+0.1**
	comp=Z,9.4nm,0.9s						
BRG				*e*pPKP	pPKPab	04 07 42.9	+11
	comp=Z,6.0nm,1.0s						
PVCC	**Panska Ves**	**149.91**	**340**	*e*PKP	**PKPbc**	**04 05 22.9**	**+0.5**
JAVC	**Velka Javorina**	**150.23**	**335**	*e*PKIKP	**PKPbc**	**04 05 24.7**	**+1.4**
JAVC				*e*		04 07 28.3	
GOPC	**GO Pecny, Ondr**	**150.38**	**339**	*e*PKP	**PKPbc**	**04 05 23.8**	**+0.3**
PRU	**Pruhonice**	**150.39**	**340**	*e*PKP	**PKPbc**	**04 05 23.7**	**+0.2**
KRUC	**Moravsky**	**150.54**	**337**	*e*PKIKP	**PKPbc**	**04 05 24.1**	**+0.2**
KHC	**Kasperske Hory**	**151.44**	**340**	*e*PKP	**PKPbc**	**04 05 26.1**	**+0.1**
KHC				*ex*	x	04 07 51.4	
GERES	**GERESS Array B**	**151.66**	**340**	PKPbc	**PKPbc**	**04 05 26.2**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=14,slow=2.8,SNR=10.0						
GERES	**GERESS Array B**	**151.66**	**340**		**PKPbc**	**04 05 26.2**	**-0.4**
TORD	**Torodi Ar. Bea**	**170.01**	**194**	PKP	**PKPdf**	**04 05 38.6**	**-1.2**
	comp=Z,2.6nm,1.2s,baz=186,slow=4.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**170.01**	**194**		**PKPdf**	**04 05 38.5**	**-1.2**

*NEIC **06** 03:46:53.9±2.4, 39.°46S±0.°04×175.°16E±0.°07, h104$^{km}_{\pm 4km}$, Error ellipse: s-maj=8.1km s-min=5.0km az=69.0*
*WEL **06** 03:46:54.2, 39.°S±2.°×17.°5E±.°, h106$^{km}_{\pm 4km}$, MS.1/113, ML5.5/15, MLv5.1/113, Error ellipse: s-maj=0.0km s-min=0.0km az=151.5*
*GCMT **06** 03:46:56.0±0.3, 39.°40S±0.°02×175.°19E±0.°02, h116$^{km}_{\pm 2km}$, MW5.1/101, Moment Tensor Solution. s50,c57; s101,c137; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.77±.14; $M_{\theta\theta}$3.39±.19; $M_{\phi\phi}$-4.16±.18; $M_{r\theta}$2.27±.10; $M_{\theta\phi}$-1.52±.17; $M_{\phi r}$-2.34±.11; Best double couple: M_o5.25300×10^{16} N1:ϕ_s52.00000°, δ52.00000°, λ170.00000°. NP2:ϕ_s149.00000°, δ82.00000°, λ38.00000°. Principal axes: T 5.3700, Plg32.0000°, Azm218.0000°; N -0.2290, Plg51.0000°, Azm158.0000°; P -5.1370, Plg20.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **06** 03:46:57.4±2.5, 39.°28S×175.°27E, h136$^{km}_{\pm 21km}$, mb4.6/17, mb1 4.7/18, mb1mx4.5/34, mbtmp5.0/18, MS3.7/5, Ms1 3.7/5, ms1mx3.4/13 Error ellipse: s-maj=14.1km s-min=11.2km az=39.0*
ISC 06 03:46:54.5±0.5, 39.°51S±0.°03×175.°20E±0.°03, h110$^{km}_{\pm 4km}$, n262, σ1§14/273, mb4.9/32, 2C-2D, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
MTVZ	**Mangateitei**	**0.24**	**60**	P	**Pn**	**03 47 09.3**	**-0.8**
MTVZ				S	**Sn**	**03 47 20.8**	**-1.0**
PKVZ	**Pokaka**	**0.24**	**27**	P	**Pn**	**03 47 09.2**	**-1.0**
PKVZ				S	**Sn**	**03 47 21.0**	**-0.8**
WAZ	**Wanganui**	**0.30**	**214**	P	**Pn**	**03 47 10.0**	**-0.2**
WAZ				S	**Sn**	**03 47 22.1**	**-0.1**
TRVZ	**Turoa**	**0.34**	**52**	P	**Pn**	**03 47 09.8**	**-0.9**
TRVZ				S	**Sn**	**03 47 21.1**	**-1.7**
DRZ	**Dome Shelter**	**0.36**	**51**	P	**Pn**	**03 47 10.0**	**-0.9**
FWVZ	**Far West T-bar**	**0.37**	**47**	P	**Pn**	**03 47 09.9**	**-0.9**
FWVZ				S	**Sn**	**03 47 21.2**	**-1.9**
WHVZ	**Whangaehu Hut**	**0.37**	**53**	P	**Pn**	**03 47 09.9**	**-1.0**
WHVZ				S	**Sn**	**03 47 20.9**	**-2.2**
TUVZ	**Tukino**	**0.42**	**56**	P	**Pn**	**03 47 10.2**	**-0.8**
TUVZ				S	**Sn**	**03 47 22.0**	**-1.4**
MOVZ	**Moawhango**	**0.44**	**77**	P	**Pn**	**03 47 09.9**	**-1.1**
MOVZ				S	**Sn**	**03 47 20.8**	**-2.7**
NGZ	**Ngauruhoe**	**0.45**	**43**	P	**Pn**	**03 47 10.3**	**-0.9**
TWVZ	**Taurewa**	**0.47**	**23**	P	**Pn**	**03 47 10.2**	**-1.1**
WTVZ	**West Tongariro**	**0.49**	**38**	P	**Pn**	**03 47 10.5**	**-1.0**
VRZ	**Vera Road**	**0.51**	**318**	P	**Pn**	**03 47 10.7**	**-0.7**
KRVZ	**Kawarewa**	**0.53**	**40**	P	**Pn**	**03 47 10.6**	**-1.1**
LREZ	**Lake Rotokare**	**0.62**	**274**	P	**Pn**	**03 47 12.0**	**-0.2**
KATZ	**Kakaramea**	**0.65**	**36**	P	**Pn**	**03 47 11.7**	**-1.0**
BHHZ	**Black Hill Sta**	**0.67**	**89**	P	**Pn**	**03 47 11.5**	**-1.1**
OHWZ	**Ohakea**	**0.70**	**173**	P	**Pn**	**03 47 13.4**	**+0.5**
RITZ	**Rihia Road**	**0.73**	**44**	P	**Pn**	**03 47 12.5**	**-0.6**
RATZ	**Rangitukua**	**0.78**	**35**	P	**Pn**	**03 47 12.6**	**-0.9**
TSZ	**Takapari Road**	**0.80**	**134**	P	**Pn**	**03 47 13.6**	**-0.2**
MHEZ	**Mangahewa**	**0.81**	**302**	P	**Pn**	**03 47 13.9**	**+0.2**
PREZ	**Palmer Road**	**0.82**	**281**	P	**Pn**	**03 47 14.2**	**+0.2**
DREZ	**Durham Road**	**0.84**	**292**	P	**Pn**	**03 47 14.2**	**+0.1**
PNHZ	**Pukenui**	**0.87**	**118**	P	**Pn**	**03 47 14.0**	**-0.5**
WATZ	**Wairara**	**0.90**	**28**	P	**Pn**	**03 47 14.2**	**-0.5**
KRHZ	**Kereru**	**0.91**	**99**	P	**Pn**	**03 47 14.3**	**-0.5**
HATZ	**Hinemaiaia**	**0.92**	**49**	P	**Pn**	**03 47 13.8**	**-1.1**
KHEZ	**Kahui Hut**	**0.94**	**283**	P	**Pn**	**03 47 14.9**	**-0.2**
KWHZ	**Kaweka Forest**	**0.95**	**85**	P	**Pn**	**03 47 15.0**	**-0.2**
POWZ	**Post Office Ro**	**0.99**	**154**	P	**Pn**	**03 47 15.3**	**-0.3**
PKE	**Pukeiti**	**0.99**	**288**	P	**Pn**	**03 47 15.5**	**-0.1**
WHTZ	**Whakaora**	**1.02**	**35**	P	**Pn**	**03 47 15.8**	**-0.2**
HIZ	**Hauiti**	**1.03**	**345**	P	**Pn**	**03 47 15.5**	**-0.5**
HIZ	**Hauiti**	**1.03**	**345**	Pn	**Pn**	**03 47 15.1**	**-0.9**
NMEZ	**Namu Road**	**1.03**	**275**	P	**Pn**	**03 47 15.8**	**-0.2**
BKZ	**Black Stump Fm**	**1.06**	**72**	P	**Pn**	**03 47 15.5**	**-0.8**
BKZ	**Black Stump Fm**	**1.06**	**72**	Pn	**Pn**	**03 47 15.2**	**-1.1**
NBEZ	**Newall Road No**	**1.06**	**282**	P	**Pn**	**03 47 16.2**	**-0.1**
DVHZ	**Dannevirke**	**1.08**	**137**	P	**Pn**	**03 47 16.1**	**-0.5**
WPHZ	**Waipukurau**	**1.10**	**121**	P	**Pn**	**03 47 16.5**	**-0.3**
KUTZ	**Kaahu Road**	**1.12**	**26**	P	**Pn**	**03 47 16.7**	**-0.4**
MCHZ	**McNeill Hill**	**1.16**	**87**	P	**Pn**	**03 47 17.4**	**+0.1**
MRHZ	**Matea Rd**	**1.16**	**55**	P	**Pn**	**03 47 16.3**	**-1.1**
MRZ	**Mangatainoka R**	**1.19**	**166**	P	**Pn**	**03 47 17.6**	**-0.1**
MRZ				P		03 47 17.6	
PRWZ	**Pori Road**	**1.20**	**151**	P	**Pn**	**03 47 18.0**	**+0.1**
TLZ	**Tolley Road**	**1.20**	**13**	P	**Pn**	**03 47 17.2**	**-0.7**
WPRZ	**Whakapapatarin**	**1.24**	**38**	P	**Pn**	**03 47 17.5**	**-0.7**
ALRZ	**Allen Road**	**1.29**	**44**	P	**Pn**	**03 47 18.1**	**-0.8**
NMHZ	**Naumai**	**1.31**	**72**	P	**Pn**	**03 47 19.2**	**0.0**
OGWZ	**Otaki Gorge**	**1.31**	**181**	P	**Pn**	**03 47 19.2**	**+0.1**
KAHZ	**Kahuranaki**	**1.32**	**103**	P	**Pn**	**03 47 18.9**	**-0.4**
PRHZ	**Porangahau**	**1.34**	**125**	P	**Pn**	**03 47 19.1**	**-0.3**
GRRZ	**Galatos Road**	**1.35**	**32**	P	**Pn**	**03 47 19.2**	**-0.4**
ANWZ	**Angora Road**	**1.36**	**135**	P	**Pn**	**03 47 19.9**	**+0.2**

PRRZ	**Plateau Road**	**1.37**	**43**	P	**Pn**	**03 47 18.9**	**-0.8**
KIW	**Kapiti Island**	**1.37**	**189**	P	**Pn**	**03 47 19.4**	**-0.4**
TIWZ	**Tintock**	**1.37**	**158**	P	**Pn**	**03 47 19.7**	**-0.1**
PXZ	**Pawanui**	**1.38**	**113**	P	**Pn**	**03 47 19.3**	**-0.5**
HRRZ	**Handcock Road**	**1.40**	**37**	P	**Pn**	**03 47 19.7**	**-0.5**
HOWZ	**Holdsworth Sta**	**1.41**	**170**	P	**Pn**	**03 47 20.0**	**-0.3**
BFZ	**Birch Farm**	**1.42**	**146**	P	**Pn**	**03 47 20.2**	**-0.2**
BFZ	**Birch Farm**	**1.42**	**146**	Pn	**Pn**	**03 47 20.0**	**-0.4**
MTHZ	**Maungataniwha**	**1.43**	**63**	P	**Pn**	**03 47 19.8**	**-0.8**
HSRZ	**Hossack Road**	**1.44**	**35**	P	**Pn**	**03 47 20.2**	**-0.4**
CKHZ	**Cape Kidnapper**	**1.46**	**97**	P	**Pn**	**03 47 20.5**	**-0.2**
UTU	**Utuhina**	**1.54**	**31**	P	**Pn**	**03 47 21.5**	**-0.3**
HLRZ	**Highlands Stat**	**1.54**	**36**	P	**Pn**	**03 47 21.7**	**-0.1**
RRRZ	**Republican Roa**	**1.55**	**42**	P	**Pn**	**03 47 21.1**	**-0.8**
RAHZ	**Arahi**	**1.58**	**69**	P	**Pn**	**03 47 21.7**	**-0.5**
MUGZ	**Murupara**	**1.60**	**50**	P	**Pn**	**03 47 21.2**	**-1.2**
CPWZ	**Castlepoint**	**1.60**	**152**	P	**Pn**	**03 47 22.7**	**+0.3**
NGRZ	**Ngongotaha**	**1.60**	**29**	P	**Pn**	**03 47 22.3**	**-0.3**
CAW	**Cannon Point**	**1.60**	**184**	P	**Pn**	**03 47 22.2**	**-0.3**
DUWZ	**D'Urville Isla**	**1.62**	**217**	P	**Pn**	**03 47 22.1**	**-0.7**
TARZ	**Mount Tarawera**	**1.63**	**39**	P	**Pn**	**03 47 22.4**	**-0.5**
WHHZ	**Waihua**	**1.63**	**75**	P	**Pn**	**03 47 22.3**	**-0.6**
RTZ	**Ruatahuna**	**1.65**	**58**	P	**Pn**	**03 47 22.0**	**-1.1**
OMRZ	**Omania**	**1.67**	**34**	P	**Pn**	**03 47 22.9**	**-0.5**
TMWZ	**Te Maipa**	**1.68**	**162**	P	**Pn**	**03 47 23.3**	**-0.2**
MKRZ	**Makatiti**	**1.69**	**36**	P	**Pn**	**03 47 23.4**	**-0.2**
KARZ	**Kaharoa**	**1.69**	**29**	P	**Pn**	**03 47 23.3**	**-0.4**
KMRZ	**Kaimai**	**1.75**	**19**	P	**Pn**	**03 47 24.3**	**-0.2**
LIRZ	**Lichensteins R**	**1.76**	**32**	P	**Pn**	**03 47 24.2**	**-0.3**
WEL	**Wellington**	**1.81**	**190**	P	**Pn**	**03 47 24.4**	**-0.6**
SNGZ	**Shannon Statio**	**1.81**	**67**	P	**Pn**	**03 47 24.4**	**-0

MAW	**Mawson**	**61.80 204**	P	**P**	**03 57 02.7**	**+1.6**
	comp=Z,8.3nm,0.4s,baz=122,slow=5.4,SNR=34					
MAW	**Mawson**	**61.80 204**	P	**P**	**03 57 02.3**	**+1.2**
SYO	**Syowa Base**	**66.93 196**⇑	*e*P	**P**	**03 57 33.8**	**-0.7**
SYO	**Syowa Base**	**66.93 196**⇓	*i*pP	pP	03 58 00.4	-1.4
SYO	**Syowa Base**	**66.93 196**⇓	*i*PcP	**PcP**	**03 58 02.8**	**+0.5**
SYO	**Syowa Base**	**66.93 196**⇑	*i*sP	sP	03 58 11.9	-1.8
SNAA	**Sanae**	**69.12 181**	P	**P**	**03 57 49.9**	**+1.6**
SNAA	**Sanae**	**69.12 181**	P	**P**	**03 57 49.5**	**+1.2**
VNA3	**Neumayer Olymp**	**69.50 178**	P	**P**	**03 57 52.2**	**+1.6**
VNA2	**Neumayer--Watz**	**69.86 179**	P	**P**	**03 57 54.5**	**+1.7**
	baz=169,slow=4.9					
VNA1	**Neumayer--Stat**	**70.12 179**	P	**P**	**03 57 56.4**	**+2.0**
KKM	**Kota Kinabalu**	**70.72 295**	P	**P**	**03 57 59.9**	**+1.0**
KKM			IAmb	IAmb	03 58 00.9	
	comp=Z,28nm,1.5s					
PLCA	**Paso Flores**	**80.19 135**	P	**P**	**03 58 53.6**	**+0.9**
	comp=Z,4.0nm,0.8s,baz=200,slow=4.7,SNR=7.4					
PLCA	**Paso Flores**	**80.19 135**	IAmb	IAmb	04 00 35.0	
	comp=Z,56nm,1.9s					
GSI	**Gunungsitoli**	**81.29 279**	P	**P**	**03 58 59.7**	**+0.8**
INU	**Inuyama**	**82.41 329**	P	**P**	**03 59 04.7**	**+0.6**
INU			IAmb	IAmb	03 59 05.9	
	comp=Z,26nm,1.1s					
BI02	**San Fabin de**	**82.62 132**	P	**P**	**03 59 07.6**	**+1.9**
BI02			IAmb	IAmb	03 59 09.0	
	comp=Z,12nm,0.8s					
MJAR	**Matsushiro Arr**	**82.99 331**	P	**P**	**03 59 06.6**	**-0.5**
	comp=Z,8.3nm,0.8s,baz=154,slow=5.7,SNR=18					
MAJO	**Matsushiro**	**82.99 331**	P	**P**	**03 59 07.9**	**+0.7**
MAJO			IAmb	IAmb	03 59 08.6	
	comp=Z,13nm,0.9s					
MAT	**Matsushiro**	**82.99 331**	P	**P**	**03 59 07.5**	**+0.3**
MJB9	**Matsu-Tunnel**	**83.00 331**	P	**P**	**03 59 07.0**	**-0.2**
MJB9			IAmb	IAmb	03 59 08.6	
	comp=Z,14nm,0.9s					
JNU	**Nakatsue**	**83.11 324**	P	**P**	**03 59 08.0**	**+0.1**
	comp=Z,11nm,0.9s,baz=133,slow=9.8,SNR=4.2					
JNU	**Nakatsue**	**83.11 324**	IAmb	IAmb	03 59 57.7	
	comp=Z,27nm,1.3s					
BO02	**Sierra Bellavi**	**84.22 131**	P	**P**	**03 59 15.0**	**+1.1**
BO02			IAmb	IAmb	03 59 16.8	
	comp=Z,14nm,0.7s					
KSRS	**Korea Array**	**88.05 324**	P	**P**	**03 59 32.1**	**-0.1**
	comp=Z,10nm,0.9s,baz=141,slow=5.8,SNR=31					
KS19	**Wonju Array Si**	**88.12 324**	P	**P**	**03 59 33.5**	**+1.0**
KS19			IAmb	IAmb	03 59 35.5	
	comp=Z,14nm,0.9s					
ASAJ	**Asahikawa**	**88.29 337**	P	**P**	**03 59 32.9**	**-0.2**
	comp=Z,13nm,0.7s,baz=233,slow=5.5,SNR=11					
NJ2	**Nanjing**	**88.31 315**	*e*P	P	03 59 38.4	+4.9
NJ2			pmax	pmax		
	comp=Z,9.0nm,0.5s					
YSS	**Yuzh-Sakhalins**	**90.82 338**	P	**P**	**03 59 47.2**	**+2.3**
CMAR	**Chiang Mai Arr**	**91.43 293**	P	**P**	**03 59 48.7**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=146,slow=3.8,SNR=1.8					
USA0B	**Ussuriysk Arra**	**91.99 330**	P	**P**	**03 59 51.0**	**+0.6**
USRK	**Ussuriysk Ar.**	**91.99 330**	P	**P**	**03 59 49.3**	**-1.0**
	comp=Z,5.6nm,0.8s,baz=145,slow=5.3,SNR=8.0					
PETK	**Petropavlovsk-**	**93.48 350**	P	**P**	**03 59 56.1**	**-1.0**
	comp=Z,2.7nm,0.7s,baz=166,slow=7.6,SNR=7.1					
CD2	**Chengdu**	**96.45 305**	P	**P**	**04 00 12.3**	**+1.1**
CD2			pmax	pmax		
	comp=Z,40nm,0.6s					
HHC	**Hu-ho-hao-te**	**98.76 317**	P	Pdif	04 00 24.0	+2.5
HHC			pmax	pmax		
	comp=Z,8.0nm,1.0s					
HHC			pmax	pmax		
	comp=Z,24nm,5.8s					
LZH	**Lanzhou**	**99.86 309**	*e*P	**Pdif**	**04 00 28.5**	**+1.9**
LZH			*e*PP	**PP**	**04 04 37.3**	**+4.1**
LZH			pmax	pmax		
	comp=Z,21nm,1.4s					
LZH			pmax	pmax		
	comp=Z,95nm,9.3s					
LZH			LR	LR		
	comp=Z,170nm,16.8s					
LZH			LR	LR		
	comp=Z,180nm,17.0s					
LZH			LR	LR		
	comp=Z,280nm,19.7s					
GTA	**Gaotai**	**104.44 309**	*e*P	PKiKP	04 04 47.0	-16
GTA			pP	PP	04 04 58.8	-8.7
GTA			sP		04 05 04.6	
GTA			pmax	pmax		
	comp=Z,4.0nm,1.1s					
PDAR	**Pinedale Array**	**106.47 48**	PP	**PP**	**04 05 20.3**	**-2.2**
	comp=Z,0.2nm,0.5s,baz=221,slow=5.9,SNR=3.7					
ILAR	**Eielson Array**	**108.11 16**	PKiKP	**PKiKP**	**04 05 07.3**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=224,slow=2.5,SNR=2.6					
WMQ	**Urumqi**	**114.38 307**	*e*PKP	**PKiKP**	**04 05 22.1**	**+1.1**
YKA	**Yellowknife Ar**	**116.07 29**	PKP	**PKPdf**	**04 05 21.8**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=236,slow=1.9,SNR=9.2					
YKA			PKKPbc	**PKKPbc**	**04 15 54.3**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=55,slow=3.8,SNR=6.4					
YKA			PKKP	**PKKPdf**	**04 16 22.0**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=55,slow=3.8,SNR=10.0					
MKAR	**Makanchi Array**	**119.17 308**	PKP	**PKPdf**	**04 05 27.7**	**-2.4**
	comp=Z,0.7nm,0.5s,baz=221,slow=1.6,SNR=7.2					
MKAR			PKKPab	**PKKPbc**	**04 15 43.8**	**0.0**
	comp=Z,0.4nm,0.6s,baz=291,slow=3.7,SNR=2.7					
MKAR			PKKP	**PKKPdf**	**04 16 14.6**	**0.0**
	comp=Z,0.2nm,0.7s,baz=302,slow=3.2,SNR=1.6					
ZALV	**Zalesovo Beam**	**120.94 316**	PKP	**PKPdf**	**04 05 30.4**	**-2.7**
	comp=Z,0.7nm,0.4s,baz=152,slow=1.8,SNR=2.3					
KURK	**Kurchatov**	**123.06 311**		**PKPdf**	**04 05 35.5**	**-1.8**
KURBB	**Kurchatov Arra**	**123.07 311**	PKP	**PKPdf**	**04 05 34.8**	**-2.5**
	comp=Z,1.7nm,0.7s,baz=104,slow=1.8,SNR=10					
BVAR	**Borovoye Array**	**128.64 312**	PKP	**PKPdf**	**04 05 46.7**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=66,slow=3.7,SNR=3.5					
KBS	**Kingsbay**	**139.90 355**	*e*PKPdf	**PKiKP**	**04 06 10.2**	**-0.5**
SPA0	**Spitsbergen Ar**	**140.24 353**	*e*PKPdf	**PKiKP**	**04 06 10.9**	**-0.6**
KBZ	**Khabaz**	**144.48 293**	PKP	**PKPab**	**04 06 15.5**	**-0.5**
	comp=Z,10.0nm,0.9s,baz=109,slow=3.7,SNR=17					
KEV	**Kevo**	**145.37 341**		**PKPdf**	**04 06 17.3**	**-0.8**
HAMF	**Hammerfest**	**145.50 344**	*e*PKPdf	**PKPdf**	**04 06 17.5**	**-0.8**
ASF	**Jabal al Asfar**	**145.66 271**	PKPbc	**PKPbc**	**04 06 20.4**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=65,slow=9.4,SNR=4.3					
ARCES	**ARCESS Array B**	**145.90 342**	PKPbc	**PKPdf**	**04 06 19.1**	**0.0**
	comp=Z,22nm,0.7s,baz=53,slow=3.2,SNR=59					
ARE0	**ARCESS Array S**	**145.90 342**		**PKPdf**	**04 06 19.4**	**+0.3**
ARE0	**ARCESS Array S**	**145.90 342**	*e*PKPdf	**PKPdf**	**04 06 19.0**	**-0.1**
EIL	**Elat**	**146.07 266**	PKPbc	**PKPab**	**04 06 22.2**	**-0.3**
	comp=Z,4.2nm,0.5s,baz=100,slow=2.5,SNR=5.1					
KTK1	**Kautokeino**	**146.83 342**	*e*PKPdf	**PKPdf**	**04 06 21.3**	**+0.6**
LIC	**Lamto**	**146.87 180**	*e*PKP1	**PKPbc**	**04 06 24.5**	**+0.1**
	comp=Z,48nm,0.7s					
KIC	**Kosan Boka**	**147.00 180**	*e*PKP1	**PKPbc**	**04 06 25.1**	**+0.3**
	comp=Z,48nm,0.9s					
MMAI	**Mount Meron Ar**	**147.15 271**	PKPbc	**PKPbc**	**04 06 25.1**	**+0.3**
	comp=Z,3.8nm,0.4s,baz=90,slow=5.8,SNR=7.9					
TIC	**Toumodi**	**147.28 180**	*e*PKP1	**PKPbc**	**04 06 25.6**	**0.0**
TRO	**Tromso**	**147.30 345**	*e*PKPdf	**PKPdf**	**04 06 22.4**	**+1.0**
DBIC	**Dimbokro**	**147.31 180**	PKPbc	**PKPbc**	**04 06 25.2**	**-0.5**
	comp=Z,10.0nm,0.6s,baz=143,slow=2.4,SNR=13					
STEI	**Steigen**	**149.46 345**	*e*PKPdf	**PKPdf**	**04 06 25.0**	**+0.1**
LOF	**Lofoten**	**149.61 347**	*e*PKPdf	**PKPdf**	**04 06 27.2**	**+2.0**
BR131	**Keskin Array S**	**150.54 283**		**PKPbc**	**04 06 32.4**	**-0.9**
BRTR	**Keskin Array B**	**150.54 283**	PKPbc	**PKPbc**	**04 06 31.7**	**-1.6**
	comp=Z,4.5nm,0.8s,baz=146,slow=5.5,SNR=21					
BRTR			PKPab	**PKPab**	**04 06 40.2**	**-0.2**
	comp=Z,9.0nm,1.0s,baz=137,slow=2.4,SNR=7.2					
FINES	**FINESS Array B**	**151.01 329**	PKPbc	**PKPbc**	**04 06 32.0**	**-1.5**
	comp=Z,6.4nm,0.6s,baz=79,slow=4.1,SNR=30					
FINES			PKPab	**PKPab**	**04 06 39.9**	**-1.5**
	comp=Z,6.1nm,0.5s,baz=90,slow=5.7,SNR=15					
KONS	**Konsvik**	**151.12 345**	*e*PKPdf	**PKPdf**	**04 06 27.8**	**+0.2**
MOR8	**Moi Rana**	**151.13 344**	*e*PKPdf	**PKPdf**	**04 06 27.9**	**+0.2**
NSS	**Namsos**	**153.08 344**	*e*PKPdf	**PKPdf**	**04 06 30.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**153.13 194**	PKP	**PKPdf**	**04 06 31.9**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=198,slow=1.8,SNR=5.7					
TORD			PKPbc	**PKPbc**	**04 06 39.5**	**-0.2**
	comp=Z,2.8nm,0.4s,baz=164,slow=4.4,SNR=40					
TORD			PKPab	**PKPab**	**04 06 52.1**	**+0.6**
	comp=Z,3.7nm,0.5s,baz=156,slow=3.1,SNR=12					
AKASG	**Malin Array Be**	**153.74 306**	PKPbc	**PKPbc**	**04 06 38.6**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=62,slow=3.0,SNR=4.3					
AKASG			PKPab	**PKPab**	**04 06 52.6**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=64,slow=3.4,SNR=6.1					
NB2	**NORSAR Subarra**	**156.27 341**	PKP	**PKPab**	**04 07 02.6**	**-1.2**
	comp=Z,4.1nm,0.8s,baz=30,slow=3.3					
NOA	**NORSAR Array B**	**156.27 341**	PKPab	**PKPab**	**04 07 02.3**	**-1.5**
	comp=Z,3.0nm,0.9s,baz=27,slow=4.0,SNR=11					
KONO	**Kongsberg**	**157.88 340**	*e*PKPdf	**PKPdf**	**04 06 37.9**	**+0.7**
SNART	**Snartemo**	**159.63 342**	*e*PKPdf	**PKPdf**	**04 06 40.1**	**+0.8**
CLL	**Collm**	**162.86 319**	*i* PKPab	**PKPab**	**04 07 34.0**	**+1.2**
GERES	**GERESS Array B**	**163.81 311**	PKPab	**PKPab**	**04 07 35.5**	**-1.7**
	comp=Z,0.9nm,0.8s,baz=56,slow=3.4,SNR=7.1					
SOKA	**Soboth**	**163.86 303**	*e*PKPab	**PKPab**	**04 07 36.8**	**-0.7**
	comp=Z,0.9nm,0.5s					
MOA	**Molln**	**163.91 307**	*e*PKPab	**PKPab**	**04 07 38.8**	**+1.2**
	comp=Z,3.4nm,1.1s					
ABTA	**Abfaltersbach**	**165.45 305**	*e*PKPab	**PKPab**	**04 07 43.2**	**-1.2**
	comp=Z,1.7nm,0.8s					
WTTA	**Wattenberg**	**165.77 308**	*e*PKPab	**PKPab**	**04 07 46.3**	**+0.3**
	comp=Z,5.7nm,1.0s					
SQTA	**Sankt Quirin**	**166.05 309**	*e*PKPab	**PKPab**	**04 07 47.6**	**+0.5**
	comp=Z,5.2nm,1.3s					
MOTA	**Moosalm**	**166.06 309**	PKPab	**PKPab**	**04 07 47.3**	**+0.1**
	comp=Z,2.2nm,0.6s					
FETA	**Feichten**	**166.43 309**	*e*PKPab	**PKPab**	**04 07 49.7**	**+0.8**
	comp=Z,3.4nm,1.2s					
KEST	**Kesra**	**168.17 256**	PKPab	**PKPab**	**04 07 57.5**	**+0.7**
	comp=Z,4.0nm,0.7s,baz=92,slow=2.8,SNR=6.7					
ESDC	**Sonseca Array**	**179.33 285**	PKPab	PKPab	04 08 46.1	
	comp=Z,1.1nm,0.8s,baz=42,slow=5.8,SNR=6.7					

*IDC **06** 03:55:03.0±1.5,24.35N×122.09E,h0km,mb3.7/3, mb1 3.8/4,mb1mx3.5/49,mbtmp3.6/4,ML1.9/1,MS3.1/3, Ms1 3.2/3,ms1mx2.8/33,Error ellipse: s-maj=41.6km s-min=27.6km az=77.0*

*TAP **06** 03:55:04.8,24.62N×122.12E,h12km,ML3.9,C*

*JMA **06** 03:55:05.1,24.58N×122.12E,h26km±5km,M3.5*

ISC 06 03:55:04.2±1.0,24.60N±0.02×122.18E±0.02,h6km±8km, n119,s0.88/163,9C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.30**	**272**	⇑*i*	P	**Pg**	**03 55 10.0**	**0.0**
	baz=266							
TWC				*e*	S	**Sg**	**03 55 13.9**	**-0.1**
	baz=266							
NTC	**Toucheng**	**0.41**	**309**	*e*	P	**Pg**	**03 55 12.2**	**+0.1**
	baz=311							
NTC				*e*	S	**Sg**	**03 55 17.6**	**+0.2**
	baz=311							
ILA	**Ilan**	**0.42**	**293**	*e*	P	**Pg**	**03 55 12.5**	**+0.1**
	baz=285							
ILA				*e*	S	**Sg**	**03 55 18.1**	**+0.2**
	baz=285							
ENA	**Nanau**	**0.43**	**247**	⇑*i*	P	**Pg**	**03 55 12.7**	**+0.2**
	baz=240							
ENA				*e*	S	**Sg**	**03 55 18.2**	**+0.1**
	baz=240							
TWB1	**Santiao Chiao**	**0.44**	**338**	⇑*i*	P	**Pg**	**03 55 13.2**	**+0.3**
	baz=350							
TWB1					S	**Sg**	**03 55 18.2**	**-0.4**
	baz=350							
TWE	**Neicheng**	**0.48**	**285**	*i*	P	**Pg**	**03 55 13.4**	**-0.1**
	baz=284							
TWE				*e*	S	**Sg**	**03 55 18.6**	**-1.1**
	baz=284							
TIPB	**Shuangxi**	**0.49**	**320**	⇑*i*	P	**Pg**	**03 55 14.0**	**+0.3**
	baz=313							
TIPB				*e*	S	**Sg**	**03 55 18.1**	**-2.0**
	baz=313							
ENTT	**Nioudou**	**0.56**	**275**		P	**Pg**	**03 55 15.0**	**0.0**
	baz=264							
ENTT				*e*	S	**Sg**	**03 55 21.9**	**-0.3**
	baz=264							
NWF	**Wu-fen Shan**	**0.59**	**323**	*i*	P	**Pg**	**03 55 16.1**	**+0.5**
	baz=318							
NWF				*e*	S	**Sg**	**03 55 24.1**	**+0.7**
	baz=318							
WFSB	**Wu-fen Shan**	**0.59**	**323**	⇑*i*	P	**Pg**	**03 55 16.1**	**+0.5**
	baz=320							
WFSB					S	**Sg**	**03 55 22.0**	**-1.4**
	baz=320							
NDT	**Datong Townshi**	**0.60**	**271**	*i*	P	**Pg**	**03 55 15.9**	**+0.1**
	baz=268							
NDT				*e*	S	**Sg**	**03 55 23.2**	**-0.5**
	baz=268							
NWLT	**Wulai**	**0.64**	**286**	*e*	P	**Pg**	**03 55 16.4**	**-0.1**
	baz=285							
NWLT				*e*	S	**Sg**	**03 55 24.7**	**-0.1**
	baz=285							
NACB	**Ninganchiao**	**0.68**	**232**	⇑*i*	P	**Pg**	**03 55 17.3**	**0.0**
	baz=228							
NACB					S	**Sg**	**03 55 24.7**	**-1.3**
	baz=228							
NHDH	**Xindian Distri**	**0.69**	**302**	*e*	P	**Pg**	**03 55 18.0**	**+0.4**
	baz=302							
NHDH				*e*	S	**Sg**	**03 55 26.1**	**-0.5**
	baz=302							
JYNG	**Yonagunijimaku**	**0.72**	**102**		P	**Pb**	**03 55 19.3**	**+0.2**
JYNG					S	**Sb**	**03 55 30.0**	**+0.9**
TATO	**Taipei**	**0.73**	**301**	*e*	P	**Pg**	**03 55 18.6**	**+0.4**
	baz=302							
YHNB	**Yeheng**	**0.73**	**276**	*e*	P	**Pg**	**03 55 18.4**	**+0.1**
	baz=274							
YHNB				*e*	S	**Sg**	**03 55 26.5**	**-1.3**
	baz=274							
TWD	**Chiawan**	**0.74**	**226**		P	**Pg**	**03 55 18.6**	**+0.2**
	baz=230							
TWD				*e*	S	**Sg**	**03 55 27.1**	**-0.9**
	baz=230							
NNSB	**Datong**	**0.74**	**257**	*e*	P	**Pg**	**03 55 18.3**	**-0.2**
	baz=262							
NNSH	**Datong**	**0.74**	**257**	*e*	P	**Pg**	**03 55 18.3**	**-0.1**
	baz=260							
ETLH	**Xiulin Townshi**	**0.74**	**239**	*e*	P	**Pg**	**03 55 18.4**	**0.0**
	baz=244							
ETLH				*e*	S	**Sg**	**03 55 28.2**	**+0.1**
	baz=244							
NNS	**Nan Shan**	**0.75**	**258**	*e*	P	**Pg**	**03 55 18.4**	**-0.2**
	baz=255							
NNS				*e*	S	**Sg**	**03 55 26.9**	**-1.4**
	baz=255							
NSK	**Sanguang**	**0.75**	**276**	*e*	P	**Pg**	**03 55 18.6**	**0.0**
	baz=274							
NSK				*e*	S	**Sg**	**03 55 27.1**	**-1.2**
	baz=274							
TAP	**Taipei**	**0.75**	**306**	*e*	P	**Pb**	**03 55 19.1**	**-0.6**
	baz=307							
TAP				*e*	S	**Sg**	**03 55 27.7**	**-0.8**
	baz=307							
YOJ	**Yonaguni jima**	**0.77**	**100**		P	**Pb**	**03 55 20.4**	**+0.4**
	baz=100							
YOJ				*e*	S	**Sb**	**03 55 32.0**	**+1.2**
	baz=100							
YOJ	**Yonaguni jima**	**0.77**	**100**		P	**Pb**	**03 55 20.4**	**+0.4**
YOJ					S	**Sb**	**03 55 31.4**	**+0.6**
YM01	**YM01**	**0.78**	**315**	⇑*i*	P	**Pb**	**03 55 19.9**	**-0.3**
	baz=308							
YM01				*e*	S	**Sg**	**03 55 28.9**	**-0.3**
	baz=308							
YM11	**YM11**	**0.79**	**316**		P	**Pb**	**03 55 20.1**	**-0.3**
	baz=309							
YM11				*e*	S	**Sg**	**03 55 30.1**	**+0.5**
	baz=309							
YM10	**YM10**	**0.79**	**315**	⇑*i*	P	**Pb**	**03 55 20.0**	**-0.3**
	baz=308							
YM10				*e*	S	**Sg**	**03 55 29.7**	**+0.1**
	baz=308							
YM05	**YM05**	**0.79**	**316**		P	**Pb**	**03 55 20.1**	**-0.3**
	baz=318							
YM08	**YM08**	**0.79**	**318**	*e*	P	**Pg**	**03 55 19.8**	**+0.3**
	baz=311							
YM08				*e*	S	**Sb**	**03 55 30.8**	**-0.6**
	baz=311							
YM04	**YM04**	**0.80**	**314**	⇑*i*	P	**Pb**	**03 55 20.2**	**-0.3**
	baz=307							
YM04				*e*	S	**Sb**	**03 55 31.8**	**+0.1**
	baz=307							
HWA	**Hwalien**	**0.81**	**220**	*e*	P	**Pb**	**03 55 20.8**	**+0.1**
	baz=223							
YM03	**YM03**	**0.82**	**315**	*e*	P	**Pg**	**03 55 20.3**	**+0.4**
	baz=308							
YM03				*e*	S	**Sg**	**03 55 31.1**	**+0.6**
	baz=308							
ANP	**Anpu**	**0.84**	**315**	*e*	P	**Pb**	**03 55 21.0**	**-0.2**
	baz=317							
TWS1	**Kuangyinshan**	**0.85**	**306**	*e*	P	**Pb**	**03 55 21.6**	**+0.2**
	baz=299							
TWS1				*e*	S	**Sb**	**03 55 33.6**	**+0.6**
	baz=299							
TWY	**Chenhua**	**0.85**	**322**	*e*	P	**Pb**	**03 55 21.4**	**0.0**
	baz=324							
TWY				*e*	S	**Sb**	**03 55 33.7**	**+0.6**
	baz=324							
NTST	**Danshui**	**0.87**	**311**	*e*	P	**Pb**	**03 55 21.8**	**+0.2**
	baz=326							
NTST				*e*	S	**Sb**	**03 55 33.9**	**+0.4**
	baz=326							
WHF	**Hehuan Shan**	**0.94**	**242**		P	**Pg**	**03 55 22.3**	**-0.1**
	baz=239							
WHF				*e*	S	**Sb**	**03 55 36.2**	**+0.1**
	baz=239							
NCU	**National Centr**	**0.97**	**293**	*e*	P	**Pn**	**03 55 24.2**	**-0.1**
	baz=299							
NCU				*e*	S	**Sn**	**03 55 37.5**	**-0.9**
	baz=299							
NCUH	**Zhongli**	**0.97**	**293**	*e*	P	**Pn**	**03 55 23.7**	**-0.6**
	baz=307							
NCUH				*e*	S	**Sn**	**03 55 37.1**	**-1.3**
	baz=307							
TDCB	**Techi**	**0.99**	**250**	*e*	P	**Pb**	**03 55 23.6**	**-0.2**
	baz=246							
PCYT	**Pengchaiyu**	**1.03**	**355**	*e*	P	**Pg**	**03 55 23.8**	**-0.3**
	baz=4.0							
PCYT				*e*	S	**Sb**	**03 55 38.6**	**+0.4**
	baz=4.0							
ESL	**Shilin**	**1.03**	**221**	*e*	P	**Pg**	**03 55 23.9**	**-0.1**
	baz=224							
LIOB	**Emei**	**1.06**	**273**	*e*	P	**Pn**	**03 55 26.2**	**+0.7**
	baz=266							
CHGB	**Renai**	**1.06**	**240**	*e*	P	**Pg**	**03 55 24.5**	**0.0**
	baz=238							
CHGB				*e*	S	**Sg**	**03 55 38.0**	**-0.3**
	baz=238							
NSTT	**Nanjuang**	**1.07**	**272**	*e*	P	**Pn**	**03 55 26.3**	**+0.6**
	baz=265							
SBCB	**Hsinchu**	**1.10**	**280**	*e*	P	**Pb**	**03 55 25.4**	**-0.2**
	baz=280							
SBCB				*e*	S	**Sn**	**03 55 41.1**	**-0.5**
	baz=280							
HSN	**Hsinchu**	**1.11**	**281**	*e*	P	**Pn**	**03 55 26.8**	**+0.5**
	baz=282							
HSN				*e*	S	**Sn**	**03 55 41.9**	**-0.1**
	baz=282							
EGFH	**Guangfu**	**1.15**	**217**	*e*	P	**Pn**	**03 55 27.3**	**+0.5**
	baz=233							
EGFH				*e*	S	**Sn**	**03 55 44.5**	**+1.7**
	baz=233							
WHP	**Taichung City**	**1.17**	**254**	*e*	P	**Pn**	**03 55 27.2**	**+0.1**
	baz=251							
NMLH	**Miaoli**	**1.26**	**268**	*e*	P	**Pg**	**03 55 29.9**	**+1.5**
	baz=266							
VWDT	**VWDT**	**1.26**	**229**	*e*	P	**Pg**	**03 55 28.4**	**-0.1**
	baz=230							
DPDB	**Guoxing**	**1.27**	**244**	*e*	P	**Pg**	**03 55 29.0**	**+0.4**
	baz=240							
HGSD	**Ruisui**	**1.30**	**212**	*e*	P	**Pg**	**03 55 29.2**	**+0.1**
	baz=194							
NSY	**Sanyi**	**1.30**	**262**	*e*	P	**Pg**	**03 55 30.8**	**+1.7**
	baz=249							
TWQ1	**Liyutan**	**1.30**	**259**	*e*	P	**Pg**	**03 55 31.3**	**+2.2**
	baz=256							
EHY	**Hungye**	**1.34**	**216**	*e*	P	**Pn**	**03 55 29.2**	**-0.2**
	baz=213							
SMLT	**Sun Moon Lake**	**1.36**	**239**	*e*	P	**Pn**	**03 55 29.5**	**-0.3**
	baz=234							
SSLB	**Suanglung**	**1.38**	**234**	*e*	P	**Pg**	**03 55 30.3**	**-0.3**
	baz=229							
IRIF	**Iriomote-Funau**	**1.44**	**100**		P	**Pn**	**03 55 29.8**	**-1.0**
IRIF					S	**Sn**	**03 55 49.1**	**-0.9**
YULB	**Yu-li**	**1.44**	**214**	*e*	P	**Pn**	**03 55 30.5**	**-0.3**
	baz=211							
TWF1	**Yuli**	**1.48**	**213**	*e*	P	**Pn**	**03 55 30.9**	**-0.4**
	baz=223							
WHYT	**Xinyi Township**	**1.50**	**234**	*e*	P	**Pg**	**03 55 34.4**	**+1.3**
	baz=216							
WJS	**Zhushan**	**1.53**	**240**	*e*	P	**Pg**	**03 55 34.9**	**+1.3**
	baz=229							
WNT	**Mingjian**	**1.54**	**243**	*e*	P	**Pg**	**03 55 35.4**	**+1.7**
	baz=238							
YUS	**Yu-Shan**	**1.57**	**226**	*e*	P	**Pn**	**03 55 32.7**	**-0.4**
	baz=226							
YUS				*e*	S	**Sg**	**03 55 54.3**	**-0.4**
	baz=226							
HATJ	**Hateruma jima**	**1.58**	**110**		P	**Pn**	**03 55 32.6**	**-0.1**
HATJ				*e*	S	**Sn**	**03 55 52.8**	**-0.7**
FULB	**Fuli**	**1.61**	**210**	*e*	P	**Pn**	**03 55 32.9**	**-0.2**
	baz=192							
ALS	**Alishan**	**1.66**	**229**	*e*	P	**Pg**	**03 55 35.8**	**-0.1**
	baz=212							
CHKT	**Chengkung**	**1.67**	**207**	*e*	P	**Pn**	**03 55 33.4**	**-0.5**
	baz=189							
JKRS	**Kuro-shima**	**1.71**	**102**		P	**Pn**	**03 55 34.2**	**-0.3**
JKRS				*e*	S	**Sn**	**03 55 56.5**	**-0.1**
WGK	**Gukeng**	**1.73**	**239**	*e*	P	**Pg**	**03 55 37.8**	**+0.4**
	baz=233							
WDLH	**Douliu**	**1.75**	**239**	*e*	P	**Pg**	**03 55 37.9**	**+0

JOW Kunigami 5.93 67 Pn **Pn 03 56 34.4 +1.8**
0.1nm,0.3s,baz=232,slow=19,SNR=2.4
JNU Nakatsue 11.41 40 LR LR 04 02 50.5
comp=Z,26nm,20.7s,baz=273,slow=40
KSRS Korea Array 13.73 20 Pn **Pn 03 58 22.6 +3.3**
0.2nm,0.3s,baz=198,slow=12,SNR=1.5
KSRS LR LR 04 04 22.5
comp=Z,63nm,18.7s,baz=195,slow=40
MKAR Makanchi Array 38.68 315 P **P 04 02 29.2 +0.6**
0.2nm,0.4s,baz=105,slow=9.1,SNR=2.8
WRA Warramunga Arr 45.83 164 P **P 04 03 24.6 -2.5**
2.6nm,0.7s,baz=346,slow=8.5,SNR=5.8
ASAR Alice Springs 49.31 166 P **P 04 03 52.9 -1.3**
0.4nm,0.3s,baz=355,slow=7.1,SNR=3.1
YKA Yellowknife Ar 82.24 23 LR LR 04 49 43.0
comp=Z,50nm,18.3s,baz=0.0,slow=40

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*IDC **06** 03:57:35.5±2.1, 14°.63N×54°.74E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.4/37, mbtmp3.6/5, Error ellipse: s-maj=61.4km s-min=36.8km az=72.0*

ISC 06 03:57:38.0±1.9, 14°.6N±0°.3×54°.7E±0°.4, h17km, n9, σ0^{s}59/6, mb3.4/5, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**23.40**	**7**	P	**P**		**04 02 46.4**	**+0.3**
	1.6nm,0.4s,baz=190,slow=7.2,SNR=2.8							
MKAR	**Makanchi Array**	**39.48**	**30**	P	**P**		**04 05 08.1**	**+0.4**
	0.5nm,0.6s,baz=207,slow=9.0,SNR=5.7							
KURBB	**Kurchatov Arra**	**40.75**	**23**	P	**P**		**04 05 17.2**	**-0.9**
	0.2nm,0.5s,baz=225,slow=9.1,SNR=2.0							
AKASG	**Malin Array Be**	**41.45**	**336**	P	**P**		**04 05 24.0**	**+0.1**
	0.1nm,0.3s,baz=139,slow=7.2,SNR=1.6							
H01W3	**Cape Leeuwin H**	**74.83**	**133**	T	T		05 30 58.9	
	baz=300,slow=75,SNR=4.5							
H01W2	**Cape Leeuwin H**	**74.84**	**133**	T	T		05 30 56.2	
	baz=300,slow=75,SNR=4.2							
H01W1	**Cape Leeuwin H**	**74.85**	**133**	T	T		05 30 57.0	
	baz=300,slow=75,SNR=5.5							
ASAR	**Alice Springs**	**86.22**	**115**	P	**P**		**04 10 19.3**	**0.0**
	0.5nm,0.6s,baz=302,slow=5.3,SNR=4.5							
NVAR	**Mina Array Bea**	**126.81**	**353**	PKP	**PKiKP**		**04 16 42.0**	**-0.1**
	0.3nm,0.5s,baz=149,slow=0.5,SNR=2.3							

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*IDC **06** 04:03:02.5±1.2, 14°.54N×54°.73E, h0km, mb3.8/14, mb1 4.0/14, mb1mx3.8/33, mbtmp3.8/14, MS3.2/4, Ms1 3.1/4, ms1mx2.8/39, Error ellipse: s-maj=36.1km s-min=21.0km az=31.0*

*NEIC **06** 04:03:03.9±1.1, 14°.5N±0°.1×54°.8E±0°.1, h10km±1km, mb4.2/5, Error ellipse: s-maj=23.3km s-min=18.6km az=101.0*

ISC 06 04:03:04.0±0.7, 14°.4N±0°.1×54°.7E±0°.1, h17km, n29, σ1^{s}26/21, mb3.9/14, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.26**	**198**	Pn	**Pn**		**04 03 39.4**	**-1.4**
WSAR	**Wadi Sarin**	**9.59**	**22**	LR	LR		04 08 39.3	
	comp=Z,80nm,20.0s,baz=145,slow=36							
ATD	**Arta Tunnel**	**11.88**	**258**	LR	LR		04 09 29.9	
	comp=Z,92nm,18.1s,baz=147,slow=32							
HRA	**Herat**	**21.08**	**18**	P	**P**		**04 07 44.6**	**-3.2**
HRA				IAmb	IAmb		04 07 52.2	
	comp=Z,8.5nm,1.4s							
GEYT	**Alibeck**	**23.68**	**7**	P	**P**		**04 08 14.2**	**-0.7**
	comp=Z,1.5nm,0.4s,baz=212,slow=8.0,SNR=2.3							
KBZ	**Khabaz**	**30.97**	**343**	LR	LR		04 23 32.7	
	comp=Z,47nm,21.5s,baz=184,slow=40							
SHL	**Shillong**	**36.58**	**66**		**S**		**04 15 51.2**	**-0.6**
LSZ	**Lusaka**	**39.42**	**223**	LR	LR		04 27 24.5	
	comp=Z,44nm,18.2s,baz=33,slow=37							
MK31	**Makanchi Array**	**39.72**	**30**	P	**P**		**04 10 35.6**	**0.0**
MKAR	**Makanchi Array**	**39.72**	**30**	P	**P**		**04 10 35.0**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=214,slow=9.9,SNR=4.3							
AKASG	**Malin Array Be**	**41.70**	**336**	P	**P**		**04 10 51.8**	**0.0**
	comp=Z,0.2nm,0.2s,baz=137,slow=7.0,SNR=1.9							
CMAR	**Chiang Mai Arr**	**42.57**	**78**	P	**P**		**04 11 01.0**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=283,slow=8.1,SNR=2.4							
KEST	**Kesra**	**45.78**	**306**	P	**P**		**04 11 25.9**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=64,slow=18,SNR=2.5							
KEST	**Kesra**	**45.78**	**306**	IAmb	IAmb		04 12 47.9	
	comp=Z,7.5nm,1.4s							
ZAA0	**Zalesovo Array**	**46.03**	**24**	P	**P**		**04 11 28.6**	**+2.0**
ZALV	**Zalesovo Beam**	**46.03**	**24**	P	**P**		**04 11 26.7**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=238,slow=8.3,SNR=2.1							
GERES	**GERESS Array B**	**48.07**	**324**	P	**P**		**04 11 43.4**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=121,slow=9.4,SNR=3.6							
FINES	**FINESS Array B**	**51.33**	**343**	P	**P**		**04 12 06.5**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=122,slow=5.2,SNR=2.4							
NOA	**NORSAR Array B**	**56.12**	**336**	P	**P**		**04 12 41.1**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=124,slow=6.9,SNR=2.4							
ESDC	**Sonseca Array**	**56.92**	**308**	P	**P**		**04 12 48.9**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=101,slow=6.7,SNR=3.2							
KSRS	**Korea Array**	**68.18**	**55**		**P**		**04 14 02.9**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=289,slow=7.6,SNR=2.6							
H01W3	**Cape Leeuwin H**	**74.65**	**133**	T	T		05 36 25.7	
	baz=301,slow=75,SNR=6.1							
H01W2	**Cape Leeuwin H**	**74.65**	**133**	T	T		05 36 28.3	
	baz=301,slow=75,SNR=7.6							
H01W1	**Cape Leeuwin H**	**74.67**	**133**	T	T		05 36 25.7	
	baz=301,slow=75,SNR=5.2							
WB0	**Warramunga Arr**	**85.39**	**112**	P	**P**		**04 15 40.9**	**-0.2**
WRA	**Warramunga Arr**	**85.39**	**112**	P	**P**		**04 15 42.1**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=293,slow=4.9,SNR=2.8							
ASAR	**Alice Springs**	**86.10**	**115**	P	**P**		**04 15 46.0**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=289,slow=4.3,SNR=7.9							
ILAR	**Eielson Array**	**99.42**	**9**	P	**Pdif**		**04 16 46.7**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=354,slow=4.5,SNR=2.3							
NVAR	**Mina Array Bea**	**127.08**	**353**	PKP	**PKiKP**		**04 22 09.4**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=54,slow=4.7,SNR=2.3							

IDC 06 04:13:19.2±13.0, 9°.15N×104°.45W, h0km, mb3.3/4, mb1 3.7/4, mb1mx3.6/21, mbtmp3.4/4, Error ellipse: s-maj=364.8km s-min=109.5km az=120.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**20.09**	**2**	P	P		04 17 54.0	-0.6
	1.5nm,1.1s,baz=185,slow=12,SNR=6.3							
ANMO	**Albuquerque**	**25.74**	**356**	P	P		04 18 53.0	+1.2
	0.6nm,0.6s,baz=162,slow=12,SNR=2.0							
YKA	**Yellowknife Ar**	**53.76**	**354**	P	P		04 22 41.8	-1.3
	0.1nm,0.3s,baz=169,slow=6.9,SNR=2.2							
ILAR	**Eielson Array**	**62.93**	**341**	P	P		04 23 47.6	+0.4
	0.4nm,0.7s,baz=150,slow=5.8,SNR=3.3							

WEL 06 04:14:17.7, 39°S±1°×17°8E±°, h41km±6km, M3.5/16, ML3.9/16, MLv3.5/16, Error ellipse: s-maj=0.0km s-min=0.0km az=83.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.20**	**35**	P	Pn		04 14 25.2	+0.2
MHGZ				S	Sn		04 14 31.3	+1.1
KNZ	**Kokohu**	**0.30**	**346**	P	Pn		04 14 25.3	-0.7
KNZ				S	Sn		04 14 31.1	-0.7
PRGZ	**Paritu Road**	**0.40**	**13**	P	Pn		04 14 27.4	+0.2
PRGZ				S	Sn		04 14 35.6	+1.6
WHHZ	**Waihua**	**0.47**	**300**	P	Pn		04 14 27.9	-0.3
WHHZ				S	Sn		04 14 35.5	0.0
RIGZ	**Rimuhau**	**0.61**	**360**	P	Pn		04 14 29.9	-0.1
RIGZ				S	Sn		04 14 39.5	+0.9
SNGZ	**Shannon Statio**	**0.63**	**328**	P	Pn		04 14 30.2	+0.1
CKHZ	**Cape Kidnapper**	**0.63**	**237**	P	Pn		04 14 30.9	+0.7
RAHZ	**Arahi**	**0.66**	**307**	P	Pn		04 14 30.7	+0.1
NMHZ	**Naumai**	**0.77**	**286**	P	Pn		04 14 32.7	+0.5
KAHZ	**Kahuranaki**	**0.84**	**235**	P	Pn		04 14 34.0	+0.9
MCHZ	**McNeill Hill**	**0.84**	**261**	P	Pn		04 14 33.8	+0.8
MTHZ	**Maungataniwha**	**0.85**	**302**	P	Pn		04 14 33.2	0.0
RAGZ	**Rawiri**	**0.86**	**341**	P	Pn		04 14 33.7	+0.3
TKGZ	**Te Karaka**	**0.88**	**4**	P	Pn		04 14 34.0	+0.5
CNGZ	**Carnagh Statio**	**0.90**	**23**	P	Pn		04 14 34.7	+0.9
RTZ	**Ruatahuna**	**0.93**	**319**	P	Pn		04 14 34.6	+0.3
MWZ	**Matawai**	**1.00**	**349**	P	Pn		04 14 35.4	+0.2
BKZ	**Black Stump Fm**	**1.00**	**278**	P	Pn		04 14 35.6	+0.4
PXZ	**Pawanui**	**1.00**	**224**	P	Pn		04 14 35.6	+0.4
KWHZ	**Kaweka Forest**	**1.04**	**264**	P	Pn		04 14 36.5	+0.6
KRHZ	**Kereru**	**1.13**	**253**	P	Pn		04 14 37.7	+0.7
MUGZ	**Murupara**	**1.14**	**317**	P	Pn		04 14 37.6	+0.4
TWGZ	**Tauwhareparae**	**1.15**	**9**	P	Pn		04 14 37.8	+0.5
MRHZ	**Matea Rd**	**1.15**	**294**	P	Pn		04 14 38.0	+0.7
URZ	**Urewera**	**1.17**	**334**	P	Pn		04 14 37.9	+0.4
WPHZ	**Waipukurau**	**1.27**	**233**	P	Pn		04 14 40.3	+1.4
PRHZ	**Porangahau**	**1.29**	**222**	P	Pn		04 14 39.2	0.0
BHHZ	**Black Hill Sta**	**1.33**	**262**	P	Pn		04 14 40.2	+0.4
ALRZ	**Allen Road**	**1.34**	**304**	P	Pn		04 14 42.1	+2.2
PRRZ	**Plateau Road**	**1.34**	**307**	P	Pn		04 14 42.2	+2.2
PNHZ	**Pukenui**	**1.35**	**243**	P	Pn		04 14 40.4	+0.4
RUGZ	**Raukumara Rang**	**1.35**	**357**	P	Pn		04 14 39.9	-0.3
HATZ	**Hinemaiaia**	**1.37**	**287**	P	Pn		04 14 42.1	+1.8
RRRZ	**Republican Roa**	**1.38**	**315**	P	Pn		04 14 44.2	+3.7
PKGZ	**Pakihiroa**	**1.45**	**10**	P	Pn		04 14 41.7	+0.3
EDRZ	**Edgecumbe**	**1.45**	**326**	P	Pn		04 14 44.0	+2.6
TARZ	**Mount Tarawera**	**1.46**	**317**	P	Pn		04 14 42.5	+0.9
HRRZ	**Handcock Road**	**1.48**	**308**	P	Pn		04 14 44.5	+2.7
WPRZ	**Whakapapataris**	**1.48**	**302**	P	Pn		04 14 44.9	+3.1
RITZ	**Rihia Road**	**1.52**	**282**	P	Pn		04 14 46.1	+3.7
HLRZ	**Highlands Stat**	**1.53**	**313**	P	Pn		04 14 47.2	+4.7
WHTZ	**Whakaora**	**1.55**	**294**	P	Pn		04 14 46.8	+4.0
MKRZ	**Makatiti**	**1.55**	**319**	P	Pn		04 14 46.0	+3.1
HSRZ	**Hossack Road**	**1.55**	**310**	P	Pn		04 14 45.9	+3.1
HAZ	**Te Kaha**	**1.56**	**1**	P	Pn		04 14 43.1	+0.3
MOVZ	**Moawhango**	**1.56**	**266**	P	Pn		04 14 44.4	+1.4
DVHZ	**Dannevirke**	**1.57**	**231**	P	Pn		04 14 43.3	+0.1
MARZ	**Manawahe**	**1.58**	**327**	P	Pn		04 14 48.0	+4.8
TSZ	**Takapari Road**	**1.58**	**241**	P	Pn		04 14 43.3	+0.1
WMGZ	**Waiomatatini S**	**1.58**	**19**	P	Pn		04 14 43.3	+0.2
WHRZ	**Whale Island**	**1.58**	**337**	P	Pn		04 14 44.8	+1.6
GRRZ	**Galatos Road**	**1.61**	**306**	P	Pn		04 14 49.3	+5.6
RATZ	**Rangitukua**	**1.61**	**285**	P	Pn		04 14 47.5	+3.8
OMRZ	**Omania**	**1.62**	**317**	P	Pn		04 14 47.9	+4.0
TUVZ	**Tukino**	**1.64**	**271**	P	Pn		04 14 46.2	+2.1
KATZ	**Kakaramea**	**1.64**	**281**	P	Pn		04 14 46.9	+2.8
KRVZ	**Karewarewa**	**1.66**	**277**	P	Pn		04 14 45.9	+1.5
NGZ	**Ngauruhoe**	**1.69**	**274**	P	Pn		04 14 48.1	+3.3
WHVZ	**Whangaehu Hut**	**1.69**	**270**	P	Pn		04 14 48.8	+4.0
WATZ	**Wairara**	**1.69**	**290**	P	Pn		04 14 51.5	+6.7
WTVZ	**West Tongariro**	**1.70**	**276**	P	Pn		04 14 48.4	+3.4
FWVZ	**Far West T-bar**	**1.72**	**271**	P	Pn		04 14 48.7	+3.4
TRVZ	**Turoa**	**1.72**	**270**	P	Pn		04 14 49.7	+4.4
OPRZ	**Ohinepanea**	**1.75**	**327**	P	Pn		04 14 46.6	+1.1
BFZ	**Birch Farm**	**1.80**	**220**	P	Pn		04 14 45.7	-0.5
MXZ	**Matakaoa Point**	**1.80**	**14**	P	Pn		04 14 46.5	+0.4
TWVZ	**Taurewa**	**1.82**	**277**	P	Pn		04 14 50.4	+3.8
PRWZ	**Pori Road**	**1.85**	**227**	P	Pn		04 14 47.2	+0.3
PKVZ	**Pokaka**	**1.88**	**270**	P	Pn		04 14 51.3	+4.0
POWZ	**Post Office Ro**	**1.88**	**234**	P	Pn		04 14 48.1	+0.9
TLZ	**Tolley Road**	**2.00**	**299**	P	Pn		04 14 53.4	+4.5
TIWZ	**Tintock**	**2.05**	**224**	P	Pn		04 14 49.6	-0.1
MRZ	**Mangatainoka R**	**2.15**	**231**	P	Pn		04 14 50.7	-0.3
TMWZ	**Te Maipa**	**2.29**	**218**	P	Pn		04 14 51.8	-1.2
HOWZ	**Holdsworth Sta**	**2.34**	**227**	P	Pn		04 14 53.2	-0.5
VRZ	**Vera Road**	**2.34**	**274**	P	Pn		04 15 02.2	+8.6
HIZ	**Hauiti**	**2.41**	**289**	P	Pn		04 14 59.3	+4.8
OGWZ	**Otaki Gorge**	**2.49**	**232**	P	Pn		04 14 55.5	-0.2
KIW	**Kapiti Island**	**2.68**	**234**	P	Pn		04 14 58.0	-0.2
PAWZ	**Paruwai Farm**	**2.73**	**220**	P	Pn		04 14 57.5	-1.5
PREZ	**Palmer Road**	**2.80**	**268**	P	Pn		04 15 04.0	+4.1
MSWZ	**Moikau Station**	**2.85**	**222**	P	Pn		04 14 59.0	-1.5
PKE	**Pukeiti**	**2.94**	**271**	P	Pn		04 15 04.4	+2.6
PLWZ	**Palliser**	**2.96**	**220**	P	Pn		04 15 00.9	-1.3
TCW	**Tory Channel**	**3.27**	**234**	P	Pn		04 15 05.8	-0.6
DUWZ	**D'Urville Isla**	**3.30**	**242**	P	Pn		04 15 06.8	0.0
TUWZ	**Tuamarina**	**3.60**	**233**	P	Pn		04 15 09.3	-1.7
LTZ	**Lake Taylor**	**5.41**	**228**	P	Pn		04 15 36.4	+0.6
CTZ	**Chatham Island**	**6.11**	**138**	P	Pn		04 15 46.7	+1.4
MSZ	**Milford Sound**	**9.07**	**231**	P	Pn		04 16 25.4	-0.6

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*IDC **06** 04:20:22.7±1.2, 14°.66N×54°.75E, h0km, mb3.8/13, mb1 3.9/13, mb1mx3.7/39, mbtmp3.8/13, MS3.1/1, Ms1 3.1/1, ms1mx2.5/44, Error ellipse: s-maj=30.9km s-min=23.1km az=29.0*

*NEIC **06** 04:20:23.8±0.5, 14°.59N±0°.09×54°.7E±0°.1, h10km±1km, mb4.0/5, Error ellipse: s-maj=22.6km s-min=14.7km az=91.0*

ISC 06 04:20:24.2±1.2, 14°.7N±0°.2×54°.7E±0°.1, h10km, n24, σ0^{s}52/19, mb3.9/16, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.56**	**197**			Pn	04 20 60.0	-5.8
WSAR	**Wadi Sarin**	**9.30**	**23**	LR	LR		04 25 57.0	
	comp=Z,116nm,18.9s,baz=226,slow=36							
RAYN	**Ar Rayn**	**12.41**	**317**			**Pn**	**04 23 21.1**	**0.0**
GEYT	**Alibeck**	**23.38**	**7**	P	**P**		**04 25 33.6**	**+0.5**
	1.4nm,0.5s,baz=171,slow=9.9,SNR=1.6							
AAK	**Ala-Archa**	**32.67**	**28**	P	**P**		**04 26 57.9**	**+1.2**
AAK				IAmb	IAmb		04 27 06.1	
	comp=Z,4.1nm,1.4s							
MAKZ	**Makanchi**	**39.31**	**30**	P	**P**		**04 27 54.0**	**+0.6**
MAKZ				IAmb	IAmb		04 28 02.0	
	comp=Z,5.2nm,1.6s							
MKAR	**Makanchi Array**	**39.45**	**30**	P	**P**		**04 27 54.4**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=212,slow=8.4,SNR=8.3							
MK31	**Makanchi Array**	**39.45**	**30**	P	**P**		**04 27 54.6**	**+0.1**
BRVK	**Borovoye**	**40.25**	**14**	P	**P**		**04 28 00.9**	**-0.2**
BRVK				IAmb	IAmb		04 28 37.9	
	comp=Z,1.9nm,0.8s							
KURK	**Kurchatov**	**40.83**	**23**	P	**P**		**04 28 06.2**	**+0.3**
AKASG	**Malin Array Be**	**41.46**	**336**	P	**P**		**04 28 11.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=125,slow=8.0,SNR=1.9							
ZALV	**Zalesovo Beam**	**45.75**	**24**	P	**P**		**04 28 45.9**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=230,slow=9.1,SNR=4.5							
GERES	**GERESS Array B**	**47.86**	**324**	P	**P**		**04 29 01.8**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=134,slow=8.5,SNR=2.0							
FINES	**FINESS Array B**	**51.06**	**343**	P	**P**		**04 29 26.4**	**0.0**
	comp=Z,1.8nm,0.7s,baz=133,slow=10,SNR=9.0							
TORD	**Torodi Ar. Bea**	**51.42**	**275**	P	**P**		**04 29 30.3**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=101,slow=7.8,SNR=2.5							
NOA	**NORSAR Array B**	**55.87**	**336**	P	**P**		**04 30 01.9**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=115,slow=7.8,SNR=2.0							
ESDC	**Sonseca Array**	**56.78**	**308**	P	**P**		**04 30 08.5**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=76,slow=6.9,SNR=4.2							
ARCES	**ARCESS Array B**	**57.84**	**348**	P	**P**		**04 30 15.7**	**0.0**
	comp=Z,2.1nm,0.8s,baz=141,slow=7.6,SNR=6.7							
KSRS	**Korea Array**	**67.97**	**55**	P	**P**		**04 31 22.6**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=271,slow=7.3,SNR=2.4							
H01W3	**Cape Leeuwin H**	**74.81**	**133**	T	T		05 53 48.3	
	baz=301,slow=75,SNR=6.6							
H01W2	**Cape Leeuwin H**	**74.81**	**133**	T	T		05 53 48.5	
	baz=301,slow=75,SNR=6.4							
H01W1	**Cape Leeuwin H**	**74.83**	**133**	T	T		05 53 57.4	
	baz=301,slow=75,SNR=4.6							
WRA	**Warramunga Arr**	**85.46**	**112**	P	**P**		**04 33 02.8**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=296,slow=4.6,SNR=2.2							
ASAR	**Alice Springs**	**86.18**	**116**	P	**P**		**04 33 06.8**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=290,slow=4.9,SNR=6.3							

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*IDC **06** 04:38:54.8±0.5, 61°.00S×52°.05W, h0km, mb4.8/16, mb1 4.8/17, mb1mx4.7/20, mbtmp4.7/17, ML3.8/1, MS3.8/14, Ms1 3.8/14, ms1mx3.7/19, Error ellipse: s-maj=18.2km s-min=13.7km az=86.0*

*NEIC **06** 04:38:56.8±1.9, 61°.04S±0°.03×51°.7W±0°.2, h10km±1km, mb5.0/57, Error ellipse: s-maj=13.0km s-min=3.5km az=250.0*

*BJI **06** 04:38:57.5±0.0, 61°.10S×51°.80W, h10km, mB5.2/3, Ms5.1/5, Ms7 4.8/4*

*GCMT **06** 04:38:58.8±0.3, 61°.30S±0°.03×52°.1W±0°.1, h20km±1km, MW4.9/78, Moment Tensor Solution. s30,c32; s78,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.65±.19; $M_{\theta\theta}$1.73±.13; $M_{\phi\phi}$0.92±.14; $M_{r\theta}$-0.61±.30; $M_{\theta\phi}$0.84±.09; $M_{\phi r}$-0.29±.34; Best double couple: M_o2.54400×10^{16} NP1:ϕ_s237.00000°, δ37.00000°, λ-92.00000°. NP2: ϕ_s59.00000°, δ53.00000°, λ-88.00000°. Principal axes: T 2.3460, Plg8.0000°, Azm148.0000°; N 0.3950, Plg1.0000°, Azm238.0000°; P -2.7410, Plg82.0000°, Azm338.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 04:38:56.8±0.3, 61°.12S±0°.05×51°.90W±0°.06, h10km, n241, σ1^{s}20/219, mb5.0/32, MS3.8/15, 1C-2D, Scotia Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMSA	**Palmer Station**	**6.64**	**231**	Pn	**Pn**		**04 40 33.9**	**-0.3**
	1.8nm,0.3s,baz=56,slow=15,SNR=1.7							
PMSA				Sn	**Sb**		**04 42 07.3**	**-4.2**
	baz=74,slow=20,SNR=1.1							

PMSA	**Palmer Station**	**6.64**	**231**	Pn	**Pn**		**04 40 36.1**	**+1.8**
PMSA	**Palmer Station**	**6.64**	**231**	*eP*	Sn		04 41 59.9	+10
PMSA	**Palmer Station**	**6.64**	**231**	*eP*	Sn		04 41 59.9	+10
MG01	**Puerto William**	**10.38**	**300**	Pn	**Pn**		**04 41 26.1**	**+0.7**
HOPE	**Hope Point**	**10.70**	**57**	Pn	**Pn**		**04 41 27.2**	**-2.6**
GO10	**Punta Arenas**	**13.06**	**299**	Pn	**Pn**		**04 42 01.8**	**-0.4**
VNA3	**Neumayer Olymp**	**19.35**	**139**	P	**Pn**		**04 43 24.3**	**+1.2**
COYC	**Coyhaique**	**19.55**	**314**	P	**P**		**04 43 24.9**	**+0.6**
COYC				IAmb	IAmb		04 43 34.6	
	comp=Z,97nm,1.4s							
COYC	**Coyhaique**	**19.55**	**314**			**Pn**	**04 43 25.8**	**+0.2**
VNA1	**Neumayer--Stat**	**19.72**	**137**	P	**Pn**		**04 43 29.2**	**+1.9**
VNA2	**Neumayer--Watz**	**20.04**	**138**	P	Pn		04 43 31.6	+0.5
	baz=286,slow=13							
SNAA	**Sanae**	**21.57**	**139**	P	**P**		**04 43 48.1**	**+2.1**
SNAA	**Sanae**	**21.57**	**139**	P	**P**		**04 43 47.1**	**+1.1**
	comp=Z,60nm,0.8s,baz=278,slow=9.2,SNR=44							
SNAA				S	**S**		**04 47 38.5**	**-6.1**
	comp=Z,1.5nm,0.8s,baz=294,slow=19,SNR=2.1							
SNAA	**Sanae**	**21.57**	**139**	P	**P**		**04 43 47.4**	**+1.3**
SNAA				IAmb	IAmb		04 43 52.8	
	comp=Z,79nm,0.9s							
LL01	**San Ignacio de**	**22.48**	**317**	P	**P**		**04 43 56.7**	**+0.8**
PLCA	**Paso Flores**	**23.39**	**322**	P	**P**		**04 44 04.4**	**-1.1**
	comp=Z,27nm,0.9s,baz=153,slow=8.2,SNR=18							
PLCA				LR	LR		04 52 39.4	
	comp=Z,134nm,21.3s,baz=144,slow=36							
PLCA	**Paso Flores**	**23.39**	**322**	P	**P**		**04 44 06.0**	**+0.5**
PLCA				IAmb	IAmb		04 44 10.6	
	comp=Z,51nm,1.0s							
BI02	**San Fabin de**	**27.37**	**325**	P	**P**		**04 44 42.2**	**+0.2**
BO02	**Sierra Bellavi**	**29.00**	**327**	P	**P**		**04 44 56.7**	**+0.2**
GO05	**Huala**	**29.11**	**325**	P	**P**		**04 44 56.4**	**-1.0**
GO05				IAmb	IAmb		04 45 06.5	
	comp=Z,32nm,1.1s							
QSPA	**South Pole Qui**	**29.11**	**180**	P	**P**		**04 44 58.8**	**+1.4**
	comp=Z,30nm,0.9s,baz=170,slow=3.2,SNR=56							
QSPA				PcP	**PcP**		**04 48 04.8**	**+0.2**
	comp=Z,3.6nm,0.9s,baz=214,slow=6.7,SNR=2.8							
QSPA				LR	LR		04 58 30.7	
	comp=Z,300nm,20.0s,baz=158,slow=40							
QSPA	**South Pole Qui**	**29.11**	**180**	P	**P**		**04 44 59.3**	**+1.9**
QSPA				IAmb	IAmb		04 45 04.4	
	comp=Z,35nm,1.0s							
PLTB	**Pedras Altas**	**29.39**	**357**	*eP*	**P**		**04 45 02.1**	**+2.3**
PLTB	**Pedras Altas**	**29.39**	**357**	*eP*	**P**		**04 45 02.1**	**+2.3**
MT01	**Popeta**	**30.00**	**327**	P	**P**		**04 45 04.2**	**-1.1**
MT05	**Renca**	**30.31**	**328**	P	**P**		**04 45 08.6**	**+0.5**
PEL	**Peldehue**	**30.53**	**328**	P	**P**		**04 45 10.0**	**-0.1**
MT02	**Curacav**	**30.54**	**327**	P	**P**		**04 45 10.9**	**+0.8**
VA03	**San Esteban**	**30.86**	**328**	P	**P**		**04 45 13.1**	**+0.1**
CFA	**Coronel Fontan**	**31.41**	**333**	LR	LR		04 58 03.3	
	comp=Z,112nm,21.3s,baz=185,slow=37							
ITQB

baz=200,slow=74
H10S3 ASCENSION HYDR 58.87 44 T T 05 53 07.6
baz=20,slow=74
MALB Monte Alegre 59.14 357 *e*P **P** **04 48 57.2 -0.1**
MALB Monte Alegre 59.14 357 *e*P **P** **04 48 57.2 -0.1**
BOSA Boshof 59.24 94 P **P** **04 48 58.4 +0.2**
comp=Z,12nm,0.7s,baz=201,slow=6.5,SNR=14
BOSA LR LR 05 11 41.2
comp=Z,46nm,18.3s,baz=210,slow=33
BOSA Boshof 59.24 94 IAmb IAmb 04 49 03.7
comp=Z,71nm,1.5s
H10N3 ASCENSION HYDR 59.96 44 T T 05 54 29.5
baz=199,slow=76,SNR=33
H10N1 ASCENSION HYDR 59.96 44 T T 05 54 39.3
baz=199,slow=76,SNR=22
H10N2 ASCENSION HYDR 59.98 44 T T 05 54 30.0
baz=199,slow=76,SNR=35
PTGA Pitinga 60.55 351 P **P** **04 49 05.9 -1.1**
comp=Z,1.4nm,0.3s,baz=140,slow=12,SNR=4.8
PTGA Pitinga 60.55 351 P **P** **04 49 06.4 -0.6**
PTGA IAmb IAmb 04 49 08.7
comp=Z,16nm,1.3s
PTGA Pitinga 60.55 351 *e*P **P** **04 49 06.4 -0.6**
PTGA Pitinga 60.55 351 *e*P **P** **04 49 06.4 -0.6**
MCQ Macquarie Isla 62.16 200 P **P** **04 49 18.6 +1.1**
LBTB Lobatse 62.42 92 P **P** **04 49 20.2 +0.4**
TSUM Tsumeb 63.47 82 P **P** **04 49 27.3 +0.4**
TSUM IAmb IAmb 04 49 39.6
comp=Z,18nm,1.4s
PUAC Puerto Asis, P 64.35 332 *e*P **P** **04 49 33.4 +0.9**
FLOC Florencia 65.15 334 P **P** **04 49 37.9 +0.2**
MDP Montagnes des 66.03 359 P **P** **04 49 42.3 -1.1**
comp=Z,9.8nm,0.9s,baz=225,slow=7.1,SNR=2.2
PAYG Puerto Ayora 67.00 318 P **P** **04 49 49.9 +0.3**
PRAC Prado 67.06 335 *e*P **P** **04 49 48.3 -1.7**
ORTC Ortega, Tolima 67.33 335 *e*P **P** **04 49 51.3 -0.3**
YOTC Yotoco, Valle 67.63 333 *e*P **P** **04 49 53.1 -0.6**
MATP Matopo 67.71 92 P **P** **04 49 54.5 +0.2**
comp=Z,27nm,0.8s,baz=216,slow=7.2,SNR=13
CHIC Chingaza 67.72 336 *e*P **P** **04 49 54.4 -0.2**
TOLC Tolima 68.00 335 *e*P **P** **04 49 56.0 -0.3**
ROSC El Rosal 68.04 336 LR LR 05 20 47.9
comp=Z,115nm,19.9s,baz=102,slow=37
ROSC El Rosal 68.04 336 P **P** **04 49 56.9 +0.3**
ROSC IAmb IAmb 04 50 02.9
comp=Z,18nm,1.2s
RREF El Recreo 68.31 335 *e*P **P** **04 50 00.0 +1.5**
GUY2C Guyana, Caldas 68.63 335 *e*P **P** **04 49 59.1 -1.3**
SPBC San Pablo de B 68.78 336 *e*P **P** **04 49 59.0 -1.9**
RUSC La Rusia 68.83 337 *e*P **P** **04 50 00.5 -1.1**
RUSC La Rusia 68.83 337 P **P** **04 50 01.2 -0.4**
CBOC Ciudad Bolivar 69.38 334 *e*P P 04 49 59.0 -5.8
ZARC Zaragoza, Cauc 70.73 336 *e*P **P** **04 50 11.6 -1.2**
SDV Santo Domingo 71.33 340 P **P** **04 50 16.4 -0.2**
SDV Santo Domingo 71.33 340 *e*P **P** **04 50 16.1 -0.5**
SDV Santo Domingo 71.33 340 *e*P **P** **04 50 16.1 -0.5**
NNZ Nelson 71.57 214 P **P** **04 50 18.5 +0.9**
SMLC San Martn de 71.85 337 *e*P **P** **04 50 16.3 -3.2**
LSZ Lusaka 71.97 89 P **P** **04 50 20.9 +0.4**
QRZ Quartz Range 72.17 214 P **P** **04 50 21.8 +0.6**
LIC Lamto 76.36 48 *e*PKP2 P **04 50 46.1 +0.2**
comp=Z,27nm,0.6s
KIC Kosan Boka 76.59 49 *e*PKP2 P **04 50 46.7 -0.5**
comp=Z,32nm,1.0s
TIC Toumodi 76.75 48 *e*PKP2 P **04 50 47.8 -0.3**
DBIC Dimbokro 76.83 48 P P **04 50 49.0 +0.4**
comp=Z,4.1nm,0.7s,baz=158,slow=8.1,SNR=5.3
DBIC Dimbokro 76.83 48 P P **04 50 49.0 +0.4**
DBIC IAmb IAmb 04 51 05.8
comp=Z,17nm,1.2s
MATN Matagalpa 78.58 326 P **P** **04 50 58.0 -0.4**
PDPR Patillas Dam, 79.67 346 P **P** **04 51 03.5 -0.7**
PDPR IAmb IAmb 04 51 04.0
comp=Z,17nm,0.9s
MLPR Magueyes Islan 79.75 345 P **P** **04 51 03.9 -0.7**
CRPR Cabo Rojo, PR 79.79 345 P **P** **04 51 04.2 -0.5**
STVI Saint Thomas 79.89 347 P **P** **04 51 05.4 +0.2**
TOO Toolangi 80.64 194 P **P** **04 51 09.8 +0.4**
TOO IAmb IAmb 04 51 11.2
comp=Z,15nm,1.1s
MTO3 Montecristo 80.95 323 P **P** **04 51 11.2 -0.1**
MTO3 IAmb IAmb 04 51 16.0
comp=Z,16nm,1.3s
TOA0 Torodi Ar. Sit 85.23 52 P **P** **04 51 33.7 +0.5**
TOA0 IAmb IAmb 04 51 34.8
comp=Z,16nm,1.1s
TORD Torodi Ar. Bea 85.23 52 P **P** **04 51 33.4 +0.1**
comp=Z,9.4nm,0.9s,baz=220,slow=4.0,SNR=26
TORD LR LR 05 22 11.7
comp=Z,51nm,19.6s,baz=265,slow=30
NWAO Narrogin (SRO) 85.87 171 P **P** **04 51 36.8 +0.4**
MBAR Mbarara 85.91 84 P **P** **04 51 38.5 +1.6**
MBAR IAmb IAmb 04 51 45.7
comp=Z,12nm,1.4s
STKA Stephens Creek 86.69 191 P **P** **04 51 40.7 +0.2**
comp=Z,2.4nm,0.8s,baz=129,slow=6.7,SNR=6.6
STKA Stephens Creek 86.69 191 IAmb IAmb 04 51 45.5
comp=Z,0.7nm,0.8s
TLIG Tlapa 86.81 316 P **P** **04 51 40.2 -1.0**
FORT Forrest 88.44 180 P **P** **04 51 49.3 +0.4**
KMBO Kilima Mbogo 88.61 90 P **P** **04 51 53.7 +3.6**
comp=Z,4.8nm,0.9s,baz=233,slow=6.8,SNR=4.7
KMBO Kilima Mbogo 88.61 90 P **P** **04 51 51.5 +1.3**
KMBO IAmb IAmb 04 51 59.4
comp=Z,15nm,1.2s
ZAIG Zacatecas 93.00 314 P **P** **04 52 11.0 +0.7**
ZAIG IAmb IAmb 04 52 16.4
comp=Z,5.5nm,1.1s
ASAR Alice Springs 95.39 185 P **P** **04 52 20.4 -0.9**
comp=Z,2.1nm,0.9s,baz=172,slow=4.2,SNR=9.5
H08S1 Diego Carcia H 98.98 124 T T 06 43 44.7
baz=204,slow=76,SNR=22
H08S2 Diego Garcia H 99.09 124 T T 06 43 42.8
baz=204,slow=76,SNR=23
H08S3 Diego Garcia H 99.00 124 T T 06 43 45.5
baz=204,slow=76,SNR=53
WRA Warramunga Arr 99.07 186 P **Pdif** **04 52 36.1 -1.7**
comp=Z,1.5nm,0.7s,baz=180,slow=3.9,SNR=3.4
TXAR Lajitas Array 99.43 316 P **Pdif** **04 52 38.3 -0.8**
comp=Z,0.2nm,0.5s,baz=140,slow=7.1,SNR=1.6
TXAR LR LR 05 30 22.4
comp=Z,37nm,21.9s,baz=0.0,slow=31
GERES GERESS Array B 121.59 45 PKP **PKPdf** **04 57 48.4 -1.1**
comp=Z,0.6nm,0.7s,baz=225,slow=1.7,SNR=6.5
BRTR Keskin Array B 121.83 65 PKP **PKPdf** **04 57 48.6 -1.7**
comp=Z,0.9nm,0.7s,baz=225,slow=0.9,SNR=5.6
AKASG Malin Array Be 128.83 54 PKP **PKPdf** **04 58 02.2 -0.9**
comp=Z,1.1nm,0.6s,baz=246,slow=1.0,SNR=4.2
NB2 NORSAR Subarra 131.06 35 PKPdf **PKPdf** **04 58 06.8 -0.3**
comp=Z,7.9nm,1.2s,baz=202,slow=1.9
NB2 NORSAR Subarra 131.06 35 PKPdf **PKPdf** **04 58 06.8 -0.3**
baz=202,slow=1.9
NOA NORSAR Array B 131.06 35 PKP **PKPdf** **04 58 06.6 -0.5**
comp=Z,2.7nm,1.0s,baz=212,slow=2.0,SNR=4.2
YKA Yellowknife Ar 132.14 326 PKP **PKPdf** **04 58 08.2 -0.8**
comp=Z,1.9nm,1.0s,baz=142,slow=2.5,SNR=12
YKA PP **PP** **05 00 33.4 +1.2**
comp=Z,0.3nm,0.9s,baz=134,slow=5.7,SNR=2.8
CMAR Chiang Mai Arr 132.65 141 PKP **PKPdf** **04 58 10.9 -0.5**
comp=Z,0.6nm,0.3s,baz=228,slow=3.5,SNR=1.0
SUMG Summit 133.74 6 *i* P **PKPdf** **04 58 11.6 -0.7**
comp=Z,12nm,0.8s
SUMG Summit 133.74 6 PKPdf **PKiKP** **04 58 13.6 +0.1**
FINES FINESS Array B 135.90 42 PKP **PKPdf** **04 58 13.9 -2.2**
comp=Z,2.7nm,0.9s,baz=134,slow=5.5,SNR=8.6
KLMR Klimovskoe 140.19 50 *e*PKPdf **PKPdf** **04 58 19.9 -4.1**
KLMR AMP 04 58 27.3
comp=Z,9.0nm,1.3s
ARCES ARCESS Array B 141.37 33 PKhKP PKPpre 04 58 18.4
comp=Z,0.8nm,0.6s,baz=260,slow=2.5,SNR=4.7
INK Inuvik 141.75 324 PKP **PKPdf** **04 58 25.1 -1.5**
comp=Z,2.3nm,1.0s,baz=64,slow=7.8,SNR=4.3
AAK Ala-Archa 143.38 95 PKPdf PKPbc 04 58 28.3 +0.5
NOR Nord 143.75 8 *i* P PKPab 04 58 27.0 +0.2
comp=Z,6.7nm,1.0s
ILAR Eielson Array 143.90 314 PKP PKPbc 04 58 28.4 +0.1
comp=Z,5.0nm,1.0s,baz=147,slow=1.3,SNR=20
BOOM Boomskoye usch 143.96 97 PKPbc 04 58 30.1 +0.6
MCK McKinley 144.04 311 PKPdf PKPbc 04 58 29.4 +0.6
CCB Clear Creek Bu 144.15 313 PKPdf **PKPab** **04 58 28.9 +0.3**
WRH Wood River Hil 144.15 313 PKPdf PKPbc 04 58 29.4 +0.2
TARG Taragay, Kyrgy 144.28 99 PKPdf **PKPab** **04 58 30.0 -0.4**
KDJ Kajisay 144.28 98 PKPbc 04 58 30.8 +0.3
COLA College 144.30 313 PKPbc 04 58 29.5 -0.1
FYU Fort Yukon 144.35 317 PKPdf **PKPdf** **04 58 31.2 0.0**
TRF Thorofare Moun 144.37 310 PKPdf PKPbc 04 58 30.0 -0.1
MDM Murphy Dome 144.48 313 PKPbc 04 58 30.5 +0.3
KTH Kantishna Hill 144.67 310 PKPbc 04 58 31.5 +0.6
KBS Kingsbay 144.72 17 **PKPdf** **04 58 32.0 +0.4**
PPLA Purkeypile 144.77 309 PKPdf **PKPdf** **04 58 32.0 -0.3**
SPA0 Spitsbergen Ar 144.92 19 PKPbc 04 58 31.7 +0.4
BPAW Bear Paw Mtn. 145.00 311 **PKPab** **04 58 32.2 +0.3**
PRZ Przheval'sk 145.14 99 **PKPdf** **04 58 34.5 +0.8**
ARU Arti 145.20 66 **PKPbc** **04 58 32.4 -0.3**
MLY Manley 145.41 312 **PKPab** **04 58 33.4 0.0**
CD2 Chengdu 145.80 141 PKPbc PKPdf **04 58 34.3 -0.7**
TTA Tatalina 146.26 307 **PKPab** **04 58 36.7 0.0**
COLD Coldfoot 146.36 316 **PKPdf** **04 58 34.5 -0.2**
COLD PKPbc **pPKPdf** **04 58 37.7 -0.2**
ENH Enshi 146.78 150 **PKPbc** **04 58 38.0 -0.4**
BRVK Borovoye 148.55 78 **PKPbc** **04 58 42.6 +0.2**
MK31 Makanchi Array 150.19 98 PKPdf **PKPdf** **04 58 40.4 -1.2**
MK31 PKPbc **PKPbc** **04 58 46.7 0.0**
MKAR Makanchi Array 150.19 98 PKP **PKPdf** **04 58 40.6 -1.1**
comp=Z,1.1nm,0.9s,baz=233,slow=1.2,SNR=8.8
MKAR PKPbc **sPKPdf** **04 58 45.9 -0.1**
comp=Z,3.8nm,0.8s,baz=220,slow=1.7,SNR=19
XAN Xi'an 150.21 147 PKPbc **PKPdf** **04 58 38.9 -3.2**
XAN pPKP sPKPdf 04 58 46.9 +0.4
XAN Xi'an 150.21 147 PKPdf **PKPdf** **04 58 41.8 -0.3**
XAN **sPKPdf** **04 58 46.7 +0.3**
NJ2 Nanjing 150.30 164 *e*PKPbc **PKPdf** **04 58 42.6 +0.4**
WMQ Hrumqi 150.55 107 *e*PKPbc **PKPdf** **04 58 43.1 +0.7**
KURK Kurchatov 151.09 88 PKPdf **PKPdf** **04 58 41.5 -1.3**
RDOG Red Dog Mine 151.11 313 **PKiKP** **04 58 48.8 0.0**
GTA Gaotai 152.13 128 *e*PKPbc **PKPbc** **04 58 51.7 0.0**
GTA LR LR
comp=Z,60nm,18.7s
GTA LR LR
comp=Z,170nm,20.3s
GTA LR LR
comp=Z,80nm,20.0s
MJAR Matsushiro Arr 154.58 199 PKP **PKPdf** **04 58 47.2 -1.3**
comp=Z,0.5nm,0.3s,baz=202,slow=2.4,SNR=1.4
MJAR PKPbc **PKPbc** **04 58 56.6 -0.4**
comp=Z,1.2nm,0.6s,baz=200,slow=2.3,SNR=1.8
MJAR PKPab **PKPab** **04 59 11.7 +0.1**
comp=Z,8.1nm,1.1s,baz=175,slow=5.6,SNR=5.2
ZALV Zalesovo Beam 156.07 88 PKP **PKPdf** **04 58 47.5 -2.3**
comp=Z,0.4nm,0.3s,baz=215,slow=1.8,SNR=1.5
ZALV PKPab **PKPab** **04 59 15.6 -1.9**
comp=Z,0.9nm,0.6s,baz=224,slow=4.0,SNR=2.2
KSRS Korea Array 156.31 180 PKPab **PKPab** **04 59 19.4 +0.5**
comp=Z,0.6nm,0.4s,baz=174,slow=4.1,SNR=1.9
HHC Hu-ho-hao-te 157.32 146 PKP **PKPdf** **04 58 53.5 +1.4**
BJI Beijing 157.65 155 PKP **PKPdf** **04 58 53.7 +1.4**
SONM Songino Array 161.79 127 PKPab **PKPab** **04 59 42.0 -0.7**
comp=Z,1.8nm,0.9s,baz=204,slow=3.3,SNR=4.4
ULN Ulaanbaatar 162.07 128 PKPdf **PKPdf** **04 58 57.0 -0.3**
ULN PKPab **PKPab** **04 59 44.2 +0.2**
PETK Petropavlovsk- 162.18 257 PKPab **PKPab** **04 59 44.2 +0.1**
comp=Z,2.5nm,0.9s,baz=145,slow=10,SNR=3.8
USRK Ussuriysk Ar. 162.90 190 PKPab **PKPab** **04 59 47.2 -0.2**
comp=Z,3.2nm,0.9s,baz=195,slow=5.9,SNR=5.4
TIXI Tiksi 169.42 359 PKPab **PKPab** **05 00 14.3 -1.2**
comp=Z,2.7nm,0.8s,baz=73,slow=5.6,SNR=4.0
TIXI Tiksi 169.42 359 PKPab **PKPab** **05 00 15.2 -0.3**

*IDC **06** 04:53:43.8±0.7,61°.06S×52°.07W,h0km,mb4.4/11, mb1 4.5/12,mb1mx4.3/21,mbtmp4.4/12,ML3.5/1,MS3.7/5, Ms1 3.6/5,ms1mx3.4/16,Error ellipse: s-maj=26.0km s-min=16.7km az=68.0*
*NEIC **06** 04:53:45.3±1.9,61°.14S±0°.06×52°.2W±0°.2,h10km±1km, mb4.8/18,Error ellipse: s-maj=15.5km s-min=7.7km az=244.0*
ISC 06 04:53:45.0±0.5,61°.19S±0°.07×52°.18W±0°.08,h10km,n56, σt1s51/43,mb4.7/15,MS3.5/5,1C,South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
PMSA	**Palmer Station**	**6.49**	**231**		Pn	**Pn**	**04**	**55**	**22.1 +1.7**
	1.0nm,0.3s,baz=197,slow=23,SNR=1.5								
PMSA					Sn	**Sb**	**04**	**56**	**52.7 -2.6**
	0.7nm,0.3s,baz=115,slow=23,SNR=1.2								
PMSA	**Palmer Station**	**6.49**	**231**			**Pn**	**04**	**55**	**20.4 0.0**
HOPE	**Hope Point**	**10.85**	**57**		Pn	**Pn**	**04**	**56**	**20.3 +0.1**
SNAA	**Sanae**	**21.60**	**139**		P	**P**	**04**	**58**	**36.4 +1.8**
	22nm,0.8s,baz=282,slow=9.0,SNR=41								
SNAA					S	**S**	**05**	**02**	**26.7 -6.8**
	1.2nm,0.7s,baz=274,slow=18,SNR=1.8								
SNAA					LR	LR	05	04	57.3
	comp=Z,174nm,20.7s,baz=168,slow=31								
SNAA	**Sanae**	**21.60**	**139**		P	**P**	**04**	**58**	**36.4 +1.8**
SNAA					IAmb	IAmb	04	58	41.7
	comp=Z,36nm,1.0s								
PLCA	**Paso Flores**	**23.36**	**323**		P	**P**	**04**	**58**	**53.2 -0.3**
	comp=Z,7.7nm,1.0s,baz=164,slow=11,SNR=7.4								
PLCA	**Paso Flores**	**23.36**	**323**		P	**P**	**04**	**58**	**52.7 -0.8**
QSPA	**South Pole Qui**	**29.04**	**180**		P	**P**	**04**	**59**	**47.5 +2.5**
	comp=Z,14nm,0.8s,baz=156,slow=4.6,SNR=14								
QSPA					LR	LR	05	13	09.3
	comp=Z,122nm,19.2s,baz=157,slow=40								
QSPA	**South Pole Qui**	**29.04**	**180**		P	**P**	**04**	**59**	**46.9 +1.9**
QSPA					IAmb	IAmb	04	59	52.8
	comp=Z,16nm,0.8s								
GO05	**Huala**	**29.09**	**325**		P	**P**	**04**	**59**	**46.3 +0.8**
MT01	**Popeta**	**29.98**	**327**		P	**P**	**04**	**59**	**53.4 0.0**
MT01					IAmb	IAmb	04	59	56.5
	comp=Z,11nm,0.9s								
MT05	**Renca**	**30.30**	**328**		P	**P**	**04**	**59**	**56.1 -0.2**
MT02	**Curacav**	**30.53**	**328**		P	**P**	**04**	**59**	**57.4 -0.8**
VA03	**San Esteban**	**30.85**	**329**		P	**P**	**05**	**00**	**03.1 +2.0**
CFA	**Coronel Fontan**	**31.42**	**333**		P	**P**	**05**	**00**	**05.8 -0.3**
	comp=Z,1.9nm,0.8s,baz=175,slow=6.9,SNR=5.4								
CO01	**Juntas del Tor**	**33.40**	**331**		P	**P**	**05**	**00**	**24.1 +0.3**
SYO	**Syowa Base**	**35.84**	**142**	‖	*es*P	sP	05	00	47.0 -1.2
GO02	**Mina Guanaco**	**37.93**	**334**		P	**P**	**05**	**01**	**03.6 +0.9**
VNDA	**Vanda**	**39.95**	**191**		LR	LR	05	20	03.9
	comp=Z,60nm,19.2s,baz=140,slow=39								
MAW	**Mawson**	**43.16**	**150**		P	P	05	01	50.4 +5.4
	comp=Z,8.4nm,1.0s,baz=233,slow=8.4,SNR=9.7								
MAW					LR	LR	05	18	12.1
	comp=Z,181nm,21.7s,baz=236,slow=34								
MAW	**Mawson**	**43.16**	**150**		P	**P**	**05**	**01**	**46.4 +1.4**
BDFB	**Brasilia**	**45.59**	**6**		P	**P**	**05**	**02**	**04.1 -1.1**
	comp=Z,16nm,0.6s,baz=144,slow=7.8,SNR=3.7								
BDFB	**Brasilia**	**45.59**	**6**		IAmb	IAmb	05	02	11.6
	comp=Z,13nm,1.5s								
SIV	**San Ignacio**	**45.59**	**348**		P	**P**	**05**	**02**	**05.0 -0.1**
	comp=Z,4.6nm,1.0s,baz=192,slow=7.5,SNR=15								
SAML	**Samuel**	**52.77**	**346**		P	**P**	**05**	**02**	**59.1 -0.9**
SUR	**Sutherland**	**54.12**	**93**		P	**P**	**05**	**03**	**10.5 +0.5**
	comp=Z,11nm,0.9s,baz=154,slow=7.5,SNR=1.5								
H10S2	**ASCENSION HYDR**	**59.02**	**45**		T	T	06	07	54.9
	baz=200,slow=74,SNR=11								
H10S3	**ASCENSION HYDR**	**59.02**	**45**		T	T	06	07	54.8
	baz=200,slow=74,SNR=13								
BOSA	**Boshof**	**59.37**	**94**		P	**P**	**05**	**03**	**46.8 -0.5**
	comp=Z,8.8nm,1.1s,baz=205,slow=7.1,SNR=4.4								
BOSA					LR	LR	05	23	35.8
	comp=Z,51nm,20.5s,baz=204,slow=30								
H10N3	**ASCENSION HYDR**	**60.11**	**44**		T	T	06	09	19.7
	baz=199,slow=76,SNR=14								
H10N1	**ASCENSION HYDR**	**60.11**	**44**		T	T	06	09	20.8
	baz=199,slow=76,SNR=12								
H10N2	**ASCENSION HYDR**	**60.12**	**44**		T	T	06	09	21.0
	baz=199,slow=76,SNR=14								
LBTB	**Lobatse**	**62.55**	**92**		P	**P**	**05**	**04**	**08.9 0.0**
LSZ	**Lusaka**	**72.11**	**89**		P	**P**	**05**	**05**	**10.0 +0.4**
LSZ					IAmb	IAmb	05	05	15.4
	comp=Z,12nm,1.1s								
LIC	**Lamto**	**76.51**	**49**	*e*	P	**P**	**05**	**05**	**34.8 -0.2**
	comp=Z,25nm,0.8s								
KIC	**Kosan Boka**	**76.74**	**49**	*e*	P	**P**	**05**	**05**	**36.1 -0.2**
	comp=Z,8.3nm,0.6s								
TIC	**Toumodi**	**76.90**	**48**	*e*	P	**P**	**05**	**05**	**36.3 -0.9**
TORD	**Torodi Ar. Bea**	**85.39**	**52**		P	**P**	**05**	**06**	**21.9 -0.4**
	comp=Z,2.7nm,1.1s,baz=196,slow=2.3,SNR=5.7								
ASAR	**Alice Springs**	**95.30**	**186**		P	**P**	**05**	**07**	**08.8 -0.3**
	comp=Z,1.2nm,0.9s,baz=169,slow=5.3,SNR=2.0								
WRA	**Warramunga Arr**	**98.98**	**186**		P	**Pdif**	**05**	**07**	**25.3 -0.4**
	comp=Z,0.5nm,0.7s,baz=173,slow=3.9,SNR=1.8								
H08S1	**Diego Carcia H**	**99.06**	**124**		T	T	06	58	34.0
	baz=205,slow=76,SNR=7.8								
H08S2	**Diego Garcia H**	**99.06**	**124**		T	T	06	58	35.0
	baz=205,slow=76,SNR=6.5								
H08S3	**Diego Garcia H**	**99.08**	**124**		T	T	06	58	40.6
	baz=205,slow=76,SNR=12								
NOA	**NORSAR Array B**	**131.20**	**35**		PKP	**PKiKP**	**05**	**12**	**56.0 -0.5**
	comp=Z,0.1nm,0.3s,baz=194,slow=1.8,SNR=2.6								
YKA	**Yellowknife Ar**	**132.12**	**326**		PKP	**PKPdf**	**05**	**12**	**56.7 -0.5**
	comp=Z,1.0nm,1.0s,baz=162,slow=1.9,SNR=3.5								
ARCES	**ARCESS Array B**	**141.50**	**34**		PKhKP	PKPpre	05	13	07.6
	comp=Z,1.0nm,0.8s,baz=242,slow=1.9,SNR=3.9								
ILAR	**Eielson Array**	**143.85**	**314**		PKP	PKPbc	05	13	16.5 0.0
	comp=Z,0.7nm,0.7s,baz=167,slow=1.8,SNR=7.0								
BOOM	**Boomskoye usch**	**144.09**	**97**			**PKPdf**	**05**	**13**	**21.1 +1.1**
KDJ	**Kajisay**	**144.41**	**99**			PKPbc	05	13	19.5 +0.4
KTH	**Kantishna Hill**	**144.61**	**310**			**PKPdf**	**05**	**13**	**21.1 +1.0**
KBS	**Kingsbay**	**144.84**	**18**			**PKPdf**	**05**	**13**	**21.0 +1.0**
BPAW	**Bear Paw Mtn.**	**144.94**	**311**			**PKPdf**	**05**	**13**	**20.6 0.0**
ARU	**Arti**	**145.36**	**66**		PKPbc	**PKPbc**	**05**	**13**	**20.5 -1.0**
	comp=Z,1.1nm,0.3s,baz=200,slow=5.0,SNR=4.9								
ARU	**Arti**	**145.36**	**66**			**PKPab**	**05**	**13**	**21.6 0.0**
TTA	**Tatalina**	**146.19**	**307**			**PKiKP**	**05**	**13**	**25.9 -1.2**
MKAR	**Makanchi Array**	**150.32**	**98**		PKPbc	**PKPbc**	**05**	**13**	**35.1 -0.2**
	comp=Z,1.6nm,0.8s,baz=210,slow=1.2,SNR=5.2								

*IDC **06** 05:03:01.5±0.6,9°.07N×126°.38E,h0km,mb4.3/22, mb1 4.3/22,mb1mx4.2/40,mbtmp4.2/22,ML5.1/1,MS3.4/10, Ms1 3.4/10,ms1mx3.1/40,Error ellipse: s-maj=23.9km s-min=12.0km az=82.0*
*NEIC **06** 05:03:03.6±2.0,9°.23N±0°.06×126°.41E±0°.09,h10km±1km, mb4.6/38,Error ellipse: s-maj=15.5km s-min=9.7km az=276.0*
*MAN **06** 05:03:05.3,9°.20N×126°.80E,h21km,mb5.2,ML4.1,MS4.3*
ISC 06 05:03:05.7±1.6,9°.18N±0°.03×126°.68E±0°.06,h29km±11km, n105,σ2s04/108,mb4.5/40,MS3.3/8,3C-4D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
					Op	ISC	h	m	s ISC
BIPH	**Bislig**	**1.04**	**198**	‖	*i* P	Pb	05	03	33.4 +8.3
BIPH					*i* S	**Sn**	**05**	**03**	**44.6 +6.8**
SCPH	**Surigao**	**1.32**	**297**	‖	*e*P	**Pn**	**05**	**03**	**29.9 +1.6**
SCPH					*e*S	**Sn**	**05**	**03**	**48.3 +3.3**
MSLP	**Maasin**	**2.04**	**298**		*e*P	**Pn**	**05**	**03**	**41.0 +2.9**
MSLP					*e*S	**Sb**	**05**	**04**	**09.3 +2.3**
BUKP	**Musuan**	**2.06**	**231**		*e*P	**Pn**	**05**	**03**	**40.2 +1.8**
BUKP					*e*S	**Sn**	**05**	**04**	**08.1 +4.9**
CGP	**Cagayan de Oro**	**2.09**	**250**	‖	*e*P	**Pn**	**05**	**03**	**39.5 +0.6**
CGP					*i* S	**Sn**	**05**	**04**	**06.6 +2.7**
MATI	**Mati**	**2.25**	**191**		*e*P	**Pn**	**05**	**03**	**39.6 -1.5**
MATI					*e*S	**Sn**	**05**	**04**	**11.8 +3.8**
DAV	**Davao City (W)**	**2.36**	**208**		Pn	**Pn**	**05**	**03**	**42.9 +0.4**
	66nm,0.3s,baz=16,slow=2.9,SNR=5.7								
DAV					Sn	**Sb**	**05**	**04**	**15.9 -0.5**
	110nm,0.3s,baz=256,slow=18,SNR=6.0								
DAV					LR	LR	05	04	39.7
	comp=Z,597nm,19.6s,baz=334,slow=46								
DMPH	**Davao City--Mi**	**2.38**	**209**	‖	*e*P	**Pb**	**05**	**03**	**46.7 -1.3**
DMPH					*e*S	**Sb**	**05**	**04**	**18.1 +1.1**
KCP	**Kidapawan**	**2.67**	**216**	‖	*i* P	**Pn**	**05**	**03**	**49.0 +2.2**
KCP					*i* S	**Sb**	**05**	**04**	**26.5 +1.2**
TBP	**Tagbilaran**	**2.83**	**281**		*e*P	**Pn**	**05**	**03**	**51.0 +2.0**
TBP					*i* S	**Sn**	**05**	**04**	**28.0 +5.8**
LLP	**Lapu-Lapu**	**2.91**	**293**		*e*P	**Pn**	**05**	**03**	**53.2 +3.1**
LLP					*e*S	**Sb**	**05**	**04**	**34.5 +2.4**
CTBH	**Cotabato--PC H**	**3.10**	**231**	‖	*i* P	**Pn**	**05**	**03**	**54.8 +2.2**
DDMP	**Don Marcelino,**	**3.20**	**198**		*e*P	**Pn**	**05**	**03**	**56.8 +2.7**
DDMP					*e*S	**Sb**	**05**	**04**	**44.6 +4.1**
PAGZ	**Pagadian**	**3.52**	**248**		*e*P	**Pn**	**05**	**04**	**00.7 +2.2**
PAGZ					*e*S	**Sn**	**05**	**04**	**42.2 +3.0**
CNP	**Catarman**	**3.86**	**329**		*e*P	**Pn**	**05**	**04**	**05.2 +2.0**
CNOP	**Candoni, Negro**	**4.04**	**280**		*e*P	**Pn**	**05**	**04**	**08.2 +2.5**
CNOP					*e*S	**Sn**	**05**	**04**	**50.7 -1.4**
GUIM	**Jordan**	**4.28**	**290**		*e*P	**Pn**	**05**	**04**	**10.6 +1.6**
RCP	**Roxas**	**4.54**	**302**	‖	*e*P	**Pn**	**05**	**04**	**16.0 +3.4**
PVCP	**Virac**	**5.04**	**331**		*e*P	**Pn**	**05**	**04**	**20.0 +0.5**
PVCP					*e*S	**Sb**	**05**	**05**	**36.0 +2.4**
LQP	**Lukban**	**7.03**	**315**		*e*P	**Pn**	**05**	**04**	**50.1 +3.1**
TGY	**Tagaytay City**	**7.46**	**312**		Pn	**Pn**	**05**	**04**	**49.9 -2.9**
	34nm,0.3s,baz=17,slow=14,SNR=1.5								
KKM	**Kota Kinabalu**	**10.83**	**254**		Pn	Pn	05	05	35.7 -3.3
FAKI	**Fak Fak**	**13.23**	**155**		Pn	**Pn**	**05**	**06**	**14.9 +3.1**
TPUB	**Ta-pu**	**15.20**	**338**		P	**P**	**05**	**06**	**42.7 -0.4**
TPUB					IAmb	IAmb	05	06	54.8
	comp=Z,23nm,1.2s								
KAPI	**Kappang**	**15.70**	**206**		LR	LR	05	13	06.0
	comp=Z,115nm,20.2s,baz=39,slow=39								
SBUM	**Sibu**	**15.86**	**246**		P	**P**	**05**	**06**	**52.7 +2.2**
MTN	**Manton Dam**	**22.32**	**169**		P	**P**	**05**	**08**	**04.2 +3.0**
JNU	**Nakatsue**	**24.14**	**9**		LR	LR	05	18	53.6
	comp=Z,56nm,18.3s,baz=205,slow=39

MKAR	**Makanchi Array**	**53.14**	**323**	P		**P**	**05 12 20.8**	**-0.2**
	comp=Z,3.3nm,0.7s,baz=123,slow=8.2,SNR=31							
MKAR				LR		LR	05 37 36.9	
	comp=Z,41nm,18.2s,baz=127,slow=39							
MAKZ	**Makanchi**	**53.33**	**323**	P		**P**	**05 12 22.0**	**-0.3**
NIL	**Nilore**	**54.69**	**305**	P		**P**	**05 12 31.8**	**-0.7**
ZALV	**Zalesovo Beam**	**55.78**	**332**	P		**P**	**05 12 38.9**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=103,slow=4.7,SNR=5.1							
KURK	**Kurchatov**	**57.20**	**326**	P		**P**	**05 12 49.1**	**-1.0**
KURK				IAmb		IAmb	05 12 50.9	
	comp=Z,8.4nm,0.9s							
GAR	**Garm**	**58.30**	**310**	P		**P**	**05 12 56.8**	**-1.5**
GAR				IAmb		IAmb	05 12 58.2	
	comp=Z,8.7nm,1.0s							
CHGR	**Chuyangaron**	**59.09**	**310**	P		**P**	**05 13 03.6**	**-0.2**
KK31	**Karatay Array**	**59.31**	**315**	P		**P**	**05 13 04.0**	**-1.1**
KKAR	**Karatay Array**	**59.31**	**315**	P		**P**	**05 13 04.1**	**-0.9**
TIXI	**Tiksi**	**62.43**	**1**	P		**P**	**05 13 26.6**	**+0.9**
	comp=Z,4.9nm,0.8s,baz=173,slow=4.6,SNR=13							
TIXI	**Tiksi**	**62.43**	**1**	P		**P**	**05 13 26.6**	**+0.9**
BRVK	**Borovoye**	**62.86**	**326**			**P**	**05 13 27.9**	**-1.0**
BRVK				IAmb		IAmb	05 13 29.3	
	comp=Z,5.6nm,0.8s							
NRIK	**Noril'sk**	**65.17**	**346**	P		**P**	**05 13 43.3**	**-0.5**
	comp=Z,4.7nm,0.8s,baz=124,slow=5.4,SNR=7.8							
NRIK				LR		LR	05 45 17.2	
	comp=Z,55nm,18.6s,baz=140,slow=39							
ARU	**Arti**	**70.36**	**327**	P		**P**	**05 14 15.8**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=201,slow=4.0,SNR=3.4							
CASY	**Casey**	**76.18**	**187**	P		**P**	**05 14 51.7**	**+1.0**
CASY				IAmb		IAmb	05 15 10.2	
	comp=Z,3.1nm,0.8s							
RSO	**Redoubt South**	**77.42**	**30**	P		**P**	**05 14 58.9**	**+0.6**
RAYN	**Ar Rayn**	**78.36**	**292**	P		**P**	**05 15 03.4**	**-0.6**
RAYN				IAmb		IAmb	05 15 04.4	
	comp=Z,5.2nm,1.1s							
KBZ	**Khabaz**	**79.25**	**313**	P		**P**	**05 15 09.3**	**+0.9**
	comp=Z,1.7nm,0.6s,baz=115,slow=3.3,SNR=3.9							
KBZ				LR		LR	05 55 24.4	
	comp=Z,29nm,18.3s,baz=114,slow=40							
CCB	**Clear Creek Bu**	**79.85**	**26**	P		**P**	**05 15 12.3**	**+1.0**
DHY	**Denali Highway**	**80.05**	**27**	P		**P**	**05 15 15.1**	**+2.5**
SCM	**Sheep Creek Mo**	**80.08**	**29**	P		**P**	**05 15 15.4**	**+2.7**
SCM				IAmb		IAmb	05 15 27.7	
	comp=Z,11nm,1.1s							
GLI	**Glacier Island**	**80.21**	**30**	P		**P**	**05 15 15.3**	**+1.9**
GLI				IAmb		IAmb	05 15 20.8	
	comp=Z,7.1nm,0.8s							
HDA	**Harding Lake**	**80.22**	**26**	P		**P**	**05 15 14.6**	**+1.3**
ILAR	**Eielson Array**	**80.24**	**26**	P		**P**	**05 15 14.5**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=241,slow=6.1,SNR=5.2							
KLMR	**Klimovskoe**	**80.67**	**330**	*eP*		**P**	**05 15 14.3**	**-1.5**
KLMR				AMP			05 15 21.6	
	comp=Z,12nm,1.3s							
RIDG	**Independent Ri**	**81.16**	**27**	P		**P**	**05 15 20.3**	**+1.9**
RIDG				IAmb		IAmb	05 15 33.5	
	comp=Z,7.4nm,1.2s							
VRDI	**Verde Repeater**	**81.97**	**29**	P		**P**	**05 15 24.1**	**+1.2**
VRDI				IAmb		IAmb	05 15 25.9	
	comp=Z,9.7nm,1.5s							
EGAK	**Eagle**	**82.69**	**26**	P		**P**	**05 15 28.6**	**+2.2**
EGAK				IAmb		IAmb	05 15 42.7	
	comp=Z,5.1nm,1.4s							
BARN	**Barnard Glacie**	**82.85**	**29**	P		**P**	**05 15 30.8**	**+3.3**
DAWY	**Dawson**	**83.54**	**26**	P		**P**	**05 15 33.2**	**+2.4**
DAWY				IAmb		IAmb	05 15 46.5	
	comp=Z,6.1nm,1.1s							
EPYK	**Eagle Plains**	**84.30**	**24**	P		**P**	**05 15 35.7**	**+1.0**
HYT	**Haines Junctio**	**84.89**	**29**	P		**P**	**05 15 40.4**	**+2.6**
HYT				IAmb		IAmb	05 15 53.2	
	comp=Z,3.6nm,0.8s							
INK	**Inuvik**	**85.14**	**22**	P		**P**	**05 15 40.5**	**+1.7**
ARCES	**ARCESS Array B**	**85.36**	**340**	P		**P**	**05 15 39.1**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=64,slow=5.5,SNR=5.0							
FINES	**FINESS Array B**	**87.04**	**332**	P		**P**	**05 15 47.9**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=76,slow=5.9,SNR=2.2							
VNDA	**Vanda**	**88.80**	**173**	P		**P**	**05 15 56.3**	**0.0**
	comp=Z,0.4nm,0.7s,baz=338,slow=6.4,SNR=1.7							
NOA	**NORSAR Array B**	**93.91**	**334**	LR		LR	06 01 30.9	
	comp=Z,12nm,21.0s,baz=5.0,slow=37							
YKA	**Yellowknife Ar**	**94.58**	**24**	P		**P**	**05 16 25.2**	**+1.7**
	comp=Z,2.2nm,0.9s,baz=297,slow=4.5,SNR=18							
PLCA	**Paso Flores**	**145.05**	**157**	PKPbc		**PKPbc**	**05 22 40.4**	**+0.3**
	comp=Z,3nm,1.1s,baz=27,slow=2.3,SNR=1.7							
PLCA	**Paso Flores**	**145.05**	**157**			**PKPab**	**05 22 41.0**	**+0.9**

MAN 06 05:08:47.2, 9.20N×126.76E, h3km, mb 3.9, ML 2.7, MS 2.3, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.38**	**295**	⇓*eP*	Pn	05 09 13.4	+0.1
SCPH				*eS*	Sn	05 09 32.0	-0.2
MSLP	**Maasin**	**2.09**	**297**	*eP*	Pn	05 09 23.3	+0.2
MSLP				*eS*	Sb	05 09 52.2	0.0
BUKP	**Musuan**	**2.13**	**232**	*eP*	Pn	05 09 24.1	+0.4
BUKP				*eS*	Sn	05 09 51.9	+1.2
CGP	**Cagayan de Oro**	**2.17**	**250**	⇓*eP*	Pn	05 09 24.5	+0.3
CGP				*eS*	Sn	05 09 50.1	-1.5
KCP	**Kidapawan**	**2.73**	**217**	⇑*eP*	Pn	05 09 32.2	+0.2
TBP	**Tagbilaran**	**2.90**	**280**	*eP*	Pn	05 09 34.3	+0.1
GUIM	**Jordan**	**4.35**	**289**	*eP*	Pn	05 09 53.8	-0.4

*NEIC **06** 05:20:23.7±2.0, 9.6N±0.2×83.84W±0.07, h22km±12km, Mwr3.5(UCR), Error ellipse: s-maj=24.3km s-min=7.0km az=197.0*

*UCR **06** 05:20:23.8±1.5, 9.69N×83.85W, h6km±3km, MD3.7, mb3.5(NEIC)*

*UPA **06** 05:20:24.6±1.4, 9.81N×83.80W, h14km±12km, MW3.0*

ISC 06 05:20:23.1±0.9, 9.72N±0.03×83.82W±0.03, h14km±7km, n44, σ0.972/75, 4C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.18**	**276**	⇑*iP*	**Pg**	**05 20 27.8**	**+0.2**
LCR2				*eS*	**Sg**	**05 20 30.8**	**+0.3**
CVTR	**Volcan Turrial**	**0.30**	**12**	⇓*eP*	**Pb**	**05 20 31.1**	**+0.7**
CVTR				*eS*	**Sb**	**05 20 36.7**	**+1.3**
SJS	**Escuela Geolog**	**0.31**	**313**	*eP*	**Pb**	**05 20 30.6**	**+0.1**
SJS				*eS*	**Sb**	**05 20 35.9**	**+0.3**
EDDO	**Dominical**	**0.47**	**185**	⇓*iP*	**Pg**	**05 20 32.5**	**0.0**
EDDO				*i* S	**Sg**	**05 20 39.2**	**+0.4**
EDLM	**Las Mercedes**	**0.50**	**153**	*i* P	**Pg**	**05 20 32.8**	**-0.2**
EDLM				*eS*	**Sg**	**05 20 38.9**	**-0.8**
EDLM				*i* S	**Sg**	**05 20 38.9**	**-0.8**
DRK0	**Durika**	**0.73**	**129**	*eP*	**Pg**	**05 20 36.5**	**-0.8**
DRK0				*eS*	**Sg**	**05 20 46.2**	**-0.9**
DRK0	**Durika**	**0.73**	**129**	*eP*	**Pg**	**05 20 36.5**	**-0.8**
SRA1	**San Ramn**	**0.74**	**299**	*eP*	**Pg**	**05 20 37.3**	**-0.3**
SRA1				*eS*	**Sb**	**05 20 47.8**	**0.0**
EDBA	**Buenos Aires**	**0.78**	**136**	*eP*	**Pg**	**05 20 37.1**	**-1.1**
EDPN	**Palmar Norte**	**0.84**	**155**	*eP*	**Pb**	**05 20 39.3**	**-0.1**
EDPN				*eS*	**Sg**	**05 20 51.2**	**+0.8**
FORC	**Fortuna**	**1.11**	**311**	*i* P	**Pg**	**05 20 44.4**	**-0.2**
CASO	**Castillo**	**1.14**	**308**	*i* P	**Pn**	**05 20 44.5**	**-0.2**
CASO				*i* S	**Sg**	**05 21 00.4**	**+0.3**
ARE1	**Arenal 1**	**1.15**	**310**	*eP*	**Pg**	**05 20 45.0**	**-0.2**
ARE1				*eS*	**Sg**	**05 21 00.9**	**+0.7**
CEDE	**Laguna Cedeo**	**1.15**	**311**	*i* P	**Pn**	**05 20 44.9**	**+0.1**
CEDE				*i* S	**Sg**	**05 21 00.9**	**+0.5**
RGM0	**Gandoca**	**1.20**	**96**	*eP*	**Pn**	**05 20 44.8**	**-0.7**
RGM0				*eS*	**Sg**	**05 21 02.2**	**+0.2**
EDSV	**San Vito**	**1.23**	**137**	*eP*	**Pb**	**05 20 46.6**	**+0.5**
JTS	**Las Juntas de**	**1.25**	**297**	*eP*	**Pn**	**05 20 45.9**	**-0.2**
JTS				*eS*	**Sn**	**05 21 02.6**	**-0.1**
JTS	**Las Juntas de**	**1.25**	**297**	⇑*iP*	**Pn**	**05 20 45.6**	**-0.5**
JTS				*eS*	**Sn**	**05 21 02.5**	**-0.2**
JTS	**Las Juntas de**	**1.25**	**297**		**Pn**	**05 20 45.7**	**-0.4**
JTS				Sn	**Sn**	**05 21 02.4**	**-0.4**
PTJ1	**Puerto Jimnez**	**1.29**	**156**	*eP*	**Pg**	**05 20 48.9**	**+1.0**
PTJ1				*eS*	**Sg**	**05 21 05.4**	**+0.7**
MLIR3	**Monte Lirio, C**	**1.35**	**133**	*eP*	**Pb**	**05 20 48.8**	**+0.6**
MLIR3				*eS*	**Sg**	**05 21 06.7**	**-0.1**
BRU2	**Volcan**	**1.45**	**130**	*eP*	**Pb**	**05 20 49.6**	**-0.3**
BRU2				*eS*	**Sb**	**05 21 09.1**	**+0.8**
BRU2	**Volcan**	**1.45**	**130**	⇑*eP*	**Pb**	**05 20 49.5**	**-0.3**
BRU2				*eS*	**Sg**	**05 21 09.5**	**-0.3**
ACAL	**Aguas Claras**	**1.50**	**307**	*i* P	**Pb**	**05 20 50.9**	**+0.2**
BC3P	**Paso Ancho**	**1.50**	**127**	*eP*	**Pb**	**05 20 50.6**	**-0.2**
BC3P				*eS*	**Sb**	**05 21 10.7**	**+1.0**
CUI	**Cuipilapa**	**1.61**	**305**	*i* P	**Pb**	**05 20 52.5**	**-0.2**
CUI				*i* S	**Sg**	**05 21 13.9**	**-1.3**
BCO2	**Palmira**	**1.62**	**128**	*eP*	**Pb**	**05 20 52.5**	**-0.3**
BCO2				*eS*	**Sb**	**05 21 14.1**	**+0.8**
PLVR	**Palo Verde**	**1.63**	**292**	*eP*	**Pb**	**05 20 52.5**	**-0.5**
PLVR				*eS*	**Sb**	**05 21 14.2**	**+0.6**
COLC	**Colonia**	**1.65**	**305**	⇑*iP*	**Pb**	**05 20 53.5**	**+0.1**
COLC				*i* S	**Sb**	**05 21 14.7**	**+0.7**
HORNC	**Hornillas**	**1.66**	**306**	*i* P	**Pb**	**05 20 53.0**	**-0.5**
HORNC				*i* S	**Sg**	**05 21 15.4**	**-1.2**
GUAB	**Guayabo de Bag**	**1.70**	**305**	*i* P	**Pb**	**05 20 53.8**	**-0.3**
LIM1	**Limonal**	**1.71**	**305**	*i* P	**Pb**	**05 20 53.7**	**-0.6**
PSOM3	**Paja de Sombre**	**1.81**	**125**	*eP*	**Pb**	**05 20 55.7**	**-0.2**
PSOM3				*eS*	**Sb**	**05 21 19.1**	**+0.7**
CHGR2	**Aguacate**	**1.83**	**115**	*eP*	**Pb**	**05 20 55.9**	**-0.4**
CHGR2				*eS*	**Sb**	**05 21 18.9**	**-0.2**
DVD	**David**	**1.86**	**133**	*eP*	**Pn**	**05 20 54.9**	**+0.4**
DVD				*eS*	**Sg**	**05 21 22.8**	**-0.3**
GB1A	**Borinquen Arri**	**1.90**	**305**	*eP*	**Pb**	**05 20 56.9**	**-0.6**
CHIR3	**Chiriqui UPA,**	**1.98**	**132**	*eP*	**Pb**	**05 20 57.7**	**-1.2**
CHIR3				*eS*	**Sb**	**05 21 22.5**	**-0.9**
ESPN	**Las Esperanzas**	**2.50**	**349**	Pn	**Pn**	**05 21 03.1**	**-0.3**
ACON	**Acoyapa**	**2.60**	**329**	*eP*	**Pn**	**05 21 06.1**	**+1.4**
ACON	**Acoyapa**	**2.60**	**329**	Pn	**Pn**	**05 21 05.8**	**+1.1**
MATN	**Matagalpa**	**3.80**	**327**	Pn	**Pn**	**05 21 22.4**	**+1.2**
BCIP	**Isla Barro Col**	**3.97**	**98**	*i* P	**Pn**	**05 21 24.6**	**+1.1**
BCIP	**Isla Barro Col**	**3.97**	**98**	Pn	**Pn**	**05 21 23.4**	**-0.2**
BCIP				Sn	**Sn**	**05 22 10.9**	**+1.0**
CCIG	**Comitan**	**10.40**	**310**	Pn	**Pn**	**05 22 49.6**	**-2.4**

*IDC **06** 06:19:59.8±2.4, 36.46N×70.93E, h207km±22km, mb3.6/11, mb1 3.8/18, mb1mx3.4/56, mbtmp4.2/18, Error ellipse: s-maj=16.8km s-min=12.6km az=35.0*

*BJI **06** 06:20:01.7±0.0, 36.70N×71.01E, h216km, mB4.5/11, mb4.3/15*

*MOS **06** 06:20:01.1±0.8, 36.63N×70.95E, h226km, mb4.1/10, Error ellipse: s-maj=10.5km s-min=4.4km az=79.1*

*NNC **06** 06:20:02.7±2.6, 36.89N×70.78E, h214km±33km, mb3.3, mpv4.6, Error ellipse: s-maj=26.1km s-min=14.2km az=164.0*

*NEIC **06** 06:20:02.2±2.0, 36.63N±0.06×70.9E±0.1, h223km±6km, mb4.2/28, Error ellipse: s-maj=12.2km s-min=9.1km az=94.0*

ISC 06 06:20:00.5±0.4, 36.66N±0.04×70.90E±0.04, h200km, n173, σ1.877/197, mb4.1/34, 16C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.38**	**349**		**Pn**	**06 20 46.9**	**+3.7**
GAR				S	**Sn**	**06 21 19.0**	**+2.4**
CHGR	**Chuyangaron**	**2.43**	**326**		**Pn**	**06 20 47.2**	**+3.5**
CHGR				S	**Sn**	**06 21 19.8**	**+2.3**
KBL	**Kabul**	**2.60**	**216**	PN	**Pn**	**06 20 48.7**	**+2.8**
KBL				S	**Sn**	**06 21 23.4**	**+2.3**
KBL	**Kabul**	**2.60**	**216**		**Pn**	**06 20 48.7**	**+2.8**
KBL				S	**Sn**	**06 21 23.4**	**+2.3**
CEP	**Cherat**	**2.95**	**164**	P	**Pn**	**06 20 52.2**	**+2.4**
CEP				S	**Sn**	**06 21 30.0**	**+1.8**
BTK	**Batken**	**3.39**	**359**		**Pn**	**06 20 59.0**	**+4.1**
BTK				S	**Sn**	**06 21 40.8**	**+3.2**
CHCP	**Chirah Chowk**	**3.56**	**146**	P	**Pn**	**06 20 59.6**	**+2.6**
NIL	**Nilore**	**3.57**	**147**	PN	**Pn**	**06 20 59.5**	**+2.5**
NIL	**Nilore**	**3.57**	**147**		**Pn**	**06 20 59.5**	**+2.5**
THW	**Thamme Wali**	**3.92**	**170**	P	**Pn**	**06 21 03.4**	**+2.0**
TAS	**Tashkent**	**4.82**	**345**	PN	**Pn**	**06 21 16.3**	**+3.7**
TAS				S	**Sn**	**06 22 10.8**	**+1.3**
TAS	**Tashkent**	**4.82**	**345**	Pn	**Pn**	**06 21 16.3**	**+3.7**
TAS				S	**Sn**	**06 22 10.8**	**+1.3**
KSH	**Kashi**	**4.91**	**53**	P	**Pn**	**06 21 10.8**	**-3.1**
KSH				S	Sn	06 22 02.4	-9.3
KSH				smax	smax		
	comp=N,520nm,0.6s						
KSH				smax	smax		
	comp=E,540nm,0.3s						
ARSB	**Arslanbob**	**4.93**	**19**	PN	**Pn**	**06 21 16.3**	**+2.2**
ARSB	**Arslanbob**	**4.93**	**19**		**Pn**	**06 21 16.3**	**+2.2**
SARP	**Sargodha**	**4.95**	**162**	P	**Pn**	**06 21 15.4**	**+1.1**
JMU	**Jammu**	**5.13**	**139**	*eP*	Sn	06 22 04.0	-13
IUG	**Iuznay**	**5.52**	**353**	*eP*	**Pn**	**06 21 24.5**	**+2.9**
	0.9nm,0.1s,baz=350						
IUG				*eS*	**Sn**	**06 22 25.2**	**-0.6**
	baz=350						
IUG	**Iuznay**	**5.52**	**353**	*e*PN	**Pn**	**06 21 24.5**	**+2.9**
IUG				pmax	pmax		
	comp=Z,1.0nm,0.1s						
THN	**Thein Dam**	**5.79**	**135**	*eP*	**Pn**	**06 21 27.5**	**+2.4**
THN				*eS*	**Sn**	**06 22 29.5**	**-2.4**
AML	**Almayashu**	**5.87**	**21**	P	**Pn**	**06 21 28.2**	**+1.8**
	SNR=323						
UCH	**Uchtor**	**6.22**	**26**	P	**Pn**	**06 21 32.8**	**+1.8**
	SNR=84						
DZA	**Taraz**	**6.23**	**3**	*eS*	**Sn**	**06 22 40.0**	**-2.3**
	baz=0.9						
DHRM	**DHARAMSHALA**	**6.26**	**133**	*eP*	**Pn**	**06 21 32.6**	**+1.2**
DHRM				*eS*	**Sn**	**06 22 39.7**	**-3.7**
DHRM				IAML		06 22 41.4	
	comp=E,1μm,0.9s						
DHRM				IAML		06 22 42.3	
	comp=N,378nm,0.2s						
KZA	**Kyzart**	**6.37**	**31**	P	**Pn**	**06 21 34.2**	**+1.4**
	SNR=34						
EKS2	**Erkin-Say**	**6.39**	**19**	P	**Pn**	**06 21 34.9**	**+2.0**
	SNR=27						
BRLS	**Boroldav**	**6.41**	**353**	*eP*	**Pn**	**06 21 33.2**	**+0.1**
	baz=349						
BRLS				*eS*	Sn	06 22 39.4	-7.0
	baz=349						
BRLS	**Boroldav**	**6.41**	**353**	*e*PN	**Pn**	**06 21 33.2**	**+0.1**
KK31	**Karatay Array**	**6.44**	**357**	⇑P	**Pn**	**06 21 35.2**	**+1.8**
	comp=N,4.1nm,0.3s,baz=175,slow=12,SNR=63						
KK31				⇑S	**Sn**	**06 22 45.7**	**-1.4**
	comp=N,16nm,0.3s,baz=181,slow=23,SNR=19						
KK31	**Karatay Array**	**6.44**	**357**	PN	**Pn**	**06 21 35.4**	**+2.0**
KK31	**Karatay Array**	**6.44**	**357**	Pn	**Pn**	**06 21 35.2**	**+1.8**
KKAR	**Karatay Array**	**6.44**	**357**	PN	**Pn**	**06 21 35.5**	**+2.1**
KKAR	**Karatay Array**	**6.44**	**357**	Pn	**Pn**	**06 21 35.5**	**+2.1**
AAK	**Ala-Archa**	**6.58**	**24**	P	**Pn**	**06 21 37.4**	**+2.0**
	comp=N,22nm,0.3s,baz=183,slow=4.7,SNR=123						
AAK				S	**Sn**	**06 22 49.0**	**-1.5**
	comp=N,5.1nm,0.3s,baz=315,slow=23,SNR=25						
AAK	**Ala-Archa**	**6.58**	**24**	P	**Pn**	**06 21 37.4**	**+2.0**
	SNR=82						
AAK	**Ala-Archa**	**6.58**	**24**	⇓P	**Pn**	**06 21 37.0**	**+1.7**
	comp=N,26nm,0.4s						
AAK				⇓S	**Sn**	**06 22 50.6**	**+0.1**
	comp=N,87nm,0.7s						
AAK	**Ala-Archa**	**6.58**	**24**	*de*PN	**Pn**	**06 21 37.1**	**+1.7**
AAK				pmax	pmax		
	comp=Z,39nm,0.6s						
AAK	**Ala-Archa**	**6.58**	**24**		**Pn**	**06 21 37.2**	**+1.8**
FRU1	**Bishkek**	**6.78**	**24**	PN	**Pn**	**06 21 40.1**	**+2.3**
FRU1	**Bishkek**	**6.78**	**24**	Pn	**Pn**	**06 21 40.1**	**+2.3**
ULHL	**Ulahol**	**6.94**	**35**	P	**Pn**	**06 21 41.3**	**+1.3**
	SNR=52						
CHMS	**Chumysh**	**6.99**	**24**	P	**Pn**	**06 21 42.6**	**+2.1**
	SNR=12						
BOOM	**Boomskoye usch**	**7.00**	**32**	PN	**Pn**	**06 21 42.4**	**+1.6**
BOOM	**Boomskoye usch**	**7.00**	**32**		**Pn**	**06 21 42.4**	**+1.6**
USP	**Ospenovka**	**7.15**	**22**	P	**Pn**	**06 21 43.6**	**+0.9**
	SNR=10						
TKM2	**Tokmak 2**	**7.22**	**29**	P	**Pn**	**06 21 45.4**	**+1.7**
	SNR=110						
TKM2	**Tokmak 2**	**7.22**	**29**	⇑P	**Pn**	**06 21 45.1**	**+1.3**
	comp=Z,45nm,0.6s						
TKM2				⇑S	**Sn**	**06 23 03.5**	**-2.1**
	comp=Z,42nm,0.8s						
KDJ	**Kajisay**	**7.31**	**40**	PN	**Pn**	**06 21 46.0**	**+1.2**
KDJ	**Kajisay**	**7.31**	**40**		**Pn**	**06 21 46.0**	**+1.2**
SGDS	**Sogindy**	**7.36**	**22**	*eP*	**Pn**	**06 21 46.3**	**+0.9**
	comp=Z,5.8nm,0.3s,baz=22						
SGDS				*eS*	**Sn**	**06 23 05.4**	**-3.4**
	baz=22						
SGDS	**Sogindy**	**7.36**	**22**	*e*PN	**Pn**	**06 21 46.3**	**+0.9**
SGDS				pmax	pmax		
	comp=Z,6.0nm,0.3s						
TARG	**Taragay, Kyrgy**	**7.37**	**45**	Pn	**Pn**	**06 21 46.4**	**+0.5**
HRA	**Herat**	**7.42**	**255**	Pn	**Pn**	**06 21 48.5**	**+2.1**
MTBS	**Maitube**	**7.73**	**32**	*i* P	**Pn**	**06 21 52.2**	**+2.0**
	baz=32						
MTBS	**Maitube**	**7.73**	**32**	*i* PN	**Pn**	**06 21 52.2**	**+2.0**
TNSS	**Tian-Shan**	**7.88**	**34**	*i* P	**Pn**	**06 21 53.7**	**+1.2**
	baz=35						
TNSS	**Tian-Shan**	**7.88**	**34**	*i* PN	**Pn**	**06 21 53.7**	**+1.2**
AAA	**Alma-Ata**	**8.00**	**33**	*e*P	**Pn**	**06 21 55.4**	**+1.6**
	comp=Z,32nm,0.6s,baz=34						
AAA	**Alma-Ata**	**8.00**	**33**	*e*PN	**Pn**	**06 21 55.3**	**+1.6**
AAA				pmax	pmax		
	comp=Z,32nm,0.6s						
MDOK	**Medeo**	**8.03**	**34**	*e*P	**Pn**	**06 21 55.1**	**+1.0**
	baz=35						
MDOK				*e*S	**Sn**	**06 23 21.1**	**-3.6**
	baz=35						
MDOK	**Medeo**	**8.03**	**34**	⇑P	**Pn**	**06 21 55.5**	**+1.3**
	comp=Z,29nm,0.6s						
MDOK				⇑S	**Sn**	**06 23 21.7**	**-3.0**
MDOK	**Medeo**	**8.03**	**34**	*e*PN	**Pn**	**06 21 55.1**	**+1.0**
PRZ	**Przheval'sk**	**8.20**	**43**	PN	**Pn**	**06 21 57.8**	**+1.3**
PRZ	**Przheval'sk**	**8.20**	**43**		**Pn**	**06 21 57.8**	**+1.3**
KUU	**Kurty**	**8.33**	**28**	*e*P	**Pn**	**06 21 59.0**	**+1.0**
	baz=28						
KUU	**Kurty**	**8.33**	**28**	*e*PN	**Pn**	**06 21 58.9**	**+1.0**
UZB	**Uzynbulak**	**8.99**	**41**	*e*P	**Pn**	**06 22 07.9**	**+1.1**
	comp=Z,4.3nm,0.5s,baz=42						
UZB	**Uzynbulak**	**8.99**	**41**	*e*PN	**Pn**	**06 22 07.8**	**+1.1**
UZB				pmax	pmax		
	comp=Z,4.0nm,0.5s						
SHLS	**Shalkode**	**9.23**	**43**	*e*P	**Pn**	**06 22 13.6**	**+3.8**
	comp=Z,7.4nm,0.9s,baz=45						
SHLS	**Shalkode**	**9.23**	**43**	*e*P	**Pn**	**06 22 13.6**	**+3.8**
SHLS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PDGK	**Podgornoye**	**9.36**	**42**	⇓P	**Pn**	**06 22 11.2**	**-0.3**
	comp=Z,18nm,1.2s						
GEYT	**Alibeck**	**10.27**	**281**	P	**Pn**	**06 22 23.1**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=113,slow=11,SNR=5.9						
GEYT				S	**Sn**	**06 24 14.6**	**-3.2**
	comp=Z,0.7nm,0.3s,baz=144,slow=48,SNR=1.3						
GYA0B	**ALIBECK ARRAY**	**10.27**	**281**	⇑P	**Pn**	**06 22 22.5**	**-0.7**
GYA0B				⇑S	**Sn**	**06 24 15.0**	**-2.9**
GYA0B	**ALIBECK ARRAY**	**10.27**	**281**	Pn	**Pn**	**06 22 24.0**	**+0.8**
OTUK	**Ortayu**	**11.62**	**5**	⇑P	**Pn**	**06 22 39.1**	**-1.3**
	comp=Z,1.7nm,0.7s						
MAKZ	**Makanchi**	**13.07**	**36**	⇑P	**Pn**	**06 22 57.7**	**-1.0**
	comp=Z,12nm,0.5s						
MAKZ	**Makanchi**	**13.07**	**36**	P	**Pn**	**06 22 58.8**	**0.0**
MAKZ	**Makanchi**	**13.07**	**36**	Pn	**Pn**	**06 22 58.8**	**0.0**
MK31	**Makanchi Array**	**13.21**	**36**	⇑P	**Pn**	**06 23 00.4**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=221,slow=17,SNR=42						
MK31	**Makanchi Array**	**13.21**	**36**	P	**Pn**	**06 23 00.4**	**-0.1**
MK31	**Makanchi Array**	**13.21**	**36**	Pn	**Pn**	**06 23 00.2**	**-0.3**
MKAR	**Makanchi Array**	**13.21**	**36**	P	**Pn**	**06 22 59.9**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=222,slow=18,SNR=35						
MKAR				S	**S**	**06 25 28.5**	**+0.9**
	baz=233,slow=25,SNR=1.3						
MKAR	**Makanchi Array**	**13.21**	**36**	*e*P	**Pn**	**06 23 00.2**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
DANN	**Dangsing**	**13.64**	**124**	*e*P	**Pn**	**06 23 04.5**	**-1.8**
DANN				*e*S	S	06 25 27.3	-11
KOLN	**Koldanda**	**13.92**	**126**	*e*P	**Pn**	**06 23 09.1**	**-0.6**
BHPL	**Bhopal**	**14.51**	**155**	*e*P	**P**	**06 23 19.3**	**+1.2**
WMQ	**Urumqi**	**14.67**	**56**	*e*P	**Pn**	**06 23 19.0**	**+0.4**
AB31	**Akbulak array**	**14.91**	**331**	⇓P	**Pn**	**06 23 21.2**	**-0.2**
	comp=Z,0.4nm,0.3s

NC303	**NORSAR Array S**	**44.15**	**323**	P	**P**	**06 27 50.2**	**+1.2**
NC303				IAmb	IAmb	06 27 50.8	
	comp=Z,17nm,1.3s						
NB201	**NORSAR Array S**	**44.17**	**323**	P	**P**	**06 27 48.9**	**-0.2**
NB201				IAmb	IAmb	06 27 52.1	
	comp=Z,28nm,1.5s						
NB2	**NORSAR Subarra**	**44.20**	**323**	P	**P**	**06 27 49.7**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.20**	**323**	P	**P**	**06 27 49.0**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=96,slow=7.7,SNR=6.7						
NOA	**NORSAR Array B**	**44.20**	**323**	*eP*	**P**	**06 27 49.7**	**+0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NBO00	**NORSAR Array S**	**44.42**	**323**	P	**P**	**06 27 50.8**	**-0.3**
TIXI	**Tiksi**	**45.65**	**22** *i* P		**P**	**06 28 00.5**	**-0.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SPA0	**Spitsbergen Ar**	**47.32**	**347**	P	**P**	**06 28 15.4**	**+1.9**
SPA0				IAmb	IAmb	06 28 16.0	
	comp=Z,15nm,1.4s						
BILL	**Bilibino**	**58.50**	**26** *ce*P		**P**	**06 29 35.1**	**-0.1**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.6s						
TOA0	**Torodi Ar. Sit**	**65.64**	**269**	P	**P**	**06 30 21.9**	**-1.6**
TOA0				IAmb	IAmb	06 30 36.8	
	comp=Z,8.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**65.64**	**269**	P	**P**	**06 30 21.5**	**-2.1**
	comp=Z,0.7nm,0.4s,baz=51,slow=5.7,SNR=14						
ILULI	**Ilulissat**	**66.22**	**341**	P	**P**	**06 30 26.3**	**-0.1**
ILULI				pmax	pmax		
	comp=Z,45nm,1.4s						
ILULI	**Ilulissat**	**66.22**	**341**	P	**P**	**06 30 26.3**	**-0.1**
C36M	**Paulatuk**	**73.73**	**5**	P	**P**	**06 31 11.4**	**-0.6**
INK	**Inuvik**	**73.76**	**9**	P	**P**	**06 31 12.1**	**-0.1**
INK				pmax	pmax		
	comp=Z,3.0nm,0.6s						
INK	**Inuvik**	**73.76**	**9**	P	**P**	**06 31 12.1**	**-0.1**
INK				IAmb	IAmb	06 31 13.1	
	comp=Z,3.2nm,0.6s						
TTA	**Tatalina**	**73.90**	**20**	P	**P**	**06 31 13.9**	**+0.6**
TTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
TTA	**Tatalina**	**73.90**	**20**	P	**P**	**06 31 13.9**	**+0.6**
PSA00	**Pilbara Seismi**	**74.08**	**133**	P	**P**	**06 31 13.4**	**-1.3**
BPAW	**Bear Paw Mtn.**	**74.26**	**18**	P	**P**	**06 31 15.0**	**-0.3**
ILAR	**Eielson Array**	**74.64**	**16**	P	**P**	**06 31 16.4**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=325,slow=3.7,SNR=8.5						
TSUM	**Tsumeb**	**74.96**	**232**	P	**P**	**06 31 19.9**	**0.0**
PPLA	**Purkeypile**	**74.96**	**19**	P	**P**	**06 31 19.4**	**0.0**
PPLA				IAmb	IAmb	06 31 22.7	
	comp=Z,7.2nm,1.2s						
FITZ	**Fitzroy Crossi**	**75.05**	**127**	P	**P**	**06 31 18.4**	**-2.0**
	comp=Z,2.7nm,0.8s,baz=334,slow=4.7,SNR=5.9						
FITZ	**Fitzroy Crossi**	**75.05**	**127**	P	**P**	**06 31 19.2**	**-1.2**
FITZ				IAmb	IAmb	06 31 34.3	
	comp=Z,14nm,1.3s						
KNRA	**Kununurra**	**75.38**	**123**	P	**P**	**06 31 21.1**	**-1.2**
RIDG	**Independent Ri**	**75.99**	**16**	P	**P**	**06 31 24.0**	**-1.2**
DOT	**Dot Lake**	**76.23**	**15**	P	**P**	**06 31 26.4**	**-0.1**
DAWY	**Dawson**	**76.78**	**13**	P	**P**	**06 31 29.6**	**0.0**
DAWY				IAmb	IAmb	06 31 30.3	
	comp=Z,2.8nm,1.1s						
SCM	**Sheep Creek Mo**	**77.08**	**18**	P	**P**	**06 31 30.8**	**-0.6**
SCM				pmax	pmax		
	comp=Z,7.0nm,1.1s						
SCM	**Sheep Creek Mo**	**77.08**	**18**	P	**P**	**06 31 30.8**	**-0.6**
SCM				IAmb	IAmb	06 31 36.1	
	comp=Z,7.4nm,1.1s						
YKA	**Yellowknife Ar**	**81.09**	**3**	P	**P**	**06 31 52.6**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=350,slow=5.0,SNR=28						
WRA	**Warramunga Arr**	**82.14**	**122**	P	**P**	**06 31 56.4**	**-2.7**
	comp=Z,2.9nm,0.9s,baz=324,slow=5.0,SNR=8.9						
WRA	**Warramunga Arr**	**82.14**	**122**	*eP*	**P**	**06 31 56.7**	**-2.4**
WRA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
WRAB	**Tennant Creek**	**82.14**	**122**	P	**P**	**06 31 58.0**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,14nm,0.9s						
WRAB	**Tennant Creek**	**82.14**	**122**	P	**P**	**06 31 58.0**	**-1.1**
WB2	**Warramunga Arr**	**82.15**	**122**	P	**P**	**06 31 55.6**	**-3.5**
WB2				IAmb	IAmb	06 32 01.1	
	comp=Z,14nm,1.3s						
ASAR	**Alice Springs**	**84.41**	**125**	P	**P**	**06 32 08.2**	**-2.4**
	comp=Z,1.7nm,0.7s,baz=308,slow=4.9,SNR=18						
GO02	**Mina Guanaco**	**144.45**	**277**	PKPdf	**PKPab**	**06 39 11.5**	**-0.9**
GO04	**Tololo Observa**	**147.54**	**270**	PKPbc	**PKPbc**	**06 39 20.6**	**-0.8**
CO02	**Combarbal**	**148.07**	**269**	PKPbc	**PKPbc**	**06 39 22.2**	**-0.5**
MT02	**Curacav**	**148.84**	**265**	PKPbc	**PKPbc**	**06 39 23.8**	**-0.6**

IDC 06 06:30:57.9±3.8, 0.64S×136.09E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/44, mbtmp3.5/3, ML3.3/1, Error ellipse: s-maj=167.2km s-min=30.3km az=79.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.26**	**185**	P	P	06 35 24.0	-0.1
	0.1nm,0.3s,baz=3.7,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**22.99**	**185**	P	P	06 36 04.4	0.0
	2.4nm,0.8s,baz=16,slow=11,SNR=18						
MKAR	**Makanchi Array**	**66.56**	**323**	P	P	06 41 50.0	+0.1
	0.2nm,0.5s,baz=110,slow=6.0,SNR=2.3						

*IDC **06** 06:36:42.4±2.6, 34.90N×139.71E, h0km, mb3.3/3, mb1 3.4/5, mb1mx3.2/45, mbtmp3.3/5, ML2.0/2, Error ellipse: s-maj=85.5km s-min=21.0km az=70.0*

ISC 06 06:36:40.4±1.6, 35.09N±0.08×140.5E±0.2, h10km, n7, σ1s81/9, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.06**	**198**	Pn	**Pn**	**06 37 13.6**	**-1.5**
	5.5nm,0.3s,baz=353,slow=16,SNR=1.3						
JHJ				Sn	**Sb**	**06 37 42.8**	**-0.7**
	13nm,0.3s,baz=285,slow=16,SNR=1.4						
MJAR	**Matsushiro Arr**	**2.38**	**308**	Pn	**Pn**	**06 37 17.2**	**-2.2**
	0.3nm,0.3s,baz=142,slow=15,SNR=7.4						
MAT	**Matsushiro**	**2.38**	**308**	P	**Pn**	**06 37 17.7**	**-1.8**
MAT				eS	**Sg**	**06 37 58.9**	**+2.0**
USRK	**Ussuriysk Ar.**	**11.22**	**327**	Pn	**Pn**	**06 39 20.0**	**-0.8**
	baz=149,slow=17,SNR=2.3						
MKAR	**Makanchi Array**	**44.57**	**304**	P	**P**	**06 44 53.3**	**+0.8**
	0.2nm,0.4s,baz=87,slow=7.9,SNR=2.2						
KURBB	**Kurchatov Array**	**46.65**	**309**	P	**P**	**06 45 09.3**	**+0.4**
	0.2nm,0.5s,baz=84,slow=7.7,SNR=1.8						
WRA	**Warramunga Arr**	**55.04**	**187**	P	**P**	**06 46 14.1**	**+1.8**
	0.7nm,0.8s,baz=359,slow=7.4,SNR=2.1						

*IDC **06** 06:36:56.5±1.1, 36.37N×143.52E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.7/43, mbtmp3.8/10, ML2.7/1, MS2.8/1, Ms1 2.8/1, ms1mx2.3/47, Error ellipse: s-maj=31.3km s-min=23.6km az=80.0*

*NIED **06** 06:37:00, 36.50N×143.00E, h5km, Mw3.7 Best double couple: M0 3.41000×10^14 NP1:φ=206.00000°, δ=57.00000°, λ=-103.00000°. NP2:φ=48.00000°, δ=35.00000°, λ=-71.00000°.*

*NEIC **06** 06:37:00.5±2.3, 36.4N±0.1×143.6E±0.1, h32km±7km, mb4.2/2, Error ellipse: s-maj=17.8km s-min=12.2km az=129.0*

*JMA **06** 06:37:02.5±0.2, 36.53N×143.05E, h45km, M3.6*

ISC 06 06:37:01.7±0.9, 36.44N±0.06×143.30E±0.07, h35km, n31, σ2s31/29, mb3.9/10, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**2.11**	**289**	*eS*	**Sn**	**06 37 56.3**	**-3.3**
JFK	**Kawauchi**	**2.15**	**296**	P	**Pn**	**06 37 34.1**	**-1.0**
JFK				S	**Sn**	**06 37 57.0**	**-3.5**
JHYU	**Hitachinakayam**	**2.19**	**268**	P	**Pn**	**06 37 34.5**	**-1.1**
JHYU				*eS*	**Sn**	**06 37 58.6**	**-2.8**
JHO	**Hitachi**	**2.21**	**275**	*eS*	**Sn**	**06 37 58.5**	**-3.3**
JFT	**Otama**	**2.60**	**295**	*eS*	**Sn**	**06 38 09.4**	**-2.3**
JMK	**Ichinoseki**	**3.00**	**327**	P	**Pn**	**06 37 45.8**	**-0.9**
JMK				*eS*	**Sn**	**06 38 18.7**	**-2.7**
JYK	**Kaneyama**	**3.40**	**318**	*eS*	**Sn**	**06 38 29.0**	**-2.2**
JOM	**Ohasama**	**3.42**	**333**	P	**Pn**	**06 37 52.3**	**-0.1**
JOM				*eS*	**Sn**	**06 38 28.8**	**-2.9**
MJAR	**Matsushiro Arr**	**4.10**	**273**	Pn	**Pn**	**06 38 02.2**	**+0.3**
	0.5nm,0.3s,baz=80,slow=7.4,SNR=5.6						
MJAR				Sn	**Sn**	**06 38 51.2**	**+2.5**
	0.0nm,0.3s,baz=330,slow=17,SNR=1.7						
MAJO	**Matsushiro**	**4.11**	**273**	Pn	**Pn**	**06 38 02.5**	**+0.6**
JHJ	**Hachijo jima 2**	**4.40**	**222**	Sn	**Sn**	**06 38 50.2**	**-5.8**
	19nm,0.3s,baz=227,slow=22,SNR=1.6						
ERM	**Erimo**	**5.56**	**359**	Pn	**Pn**	**06 38 20.0**	**-1.9**
JNU	**Nakatsue**	**10.74**	**256**	LR	LR	06 44 10.9	
	comp=Z,48nm,20.9s,baz=180,slow=40						
PEA0B	**Petropavlovsk-**	**19.48**	**27**	P	**P**	**06 41 23.7**	**-1.7**
PEA0B				IAmb	IAmb	06 41 41.5	
	comp=Z,12nm,1.3s						
H11N2	**WAKE ISLAND Hy**	**26.55**	**122**	T	T	07 11 19.7	
	baz=310,slow=75,SNR=5.5						
H11N1	**WAKE ISLAND Hy**	**26.56**	**123**	T	T	07 11 17.4	
	baz=310,slow=75,SNR=6.6						
H11N3	**WAKE ISLAND Hy**	**26.57**	**122**	T	T	07 11 18.8	
	baz=310,slow=75,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**27.27**	**125**	T	T	07 12 02.4	
	baz=312,slow=75,SNR=19						
H11S3	**WAKE ISLAND Hy**	**27.27**	**125**	T	T	07 12 08.2	
	baz=312,slow=75,SNR=13						
H11S2	**WAKE ISLAND Hy**	**27.29**	**125**	T	T	07 12 03.8	
	baz=312,slow=75,SNR=16						
SONM	**Songino Array**	**29.37**	**304**	P	**P**	**06 43 03.7**	**+2.3**
	comp=Z,0.7nm,0.6s,baz=113,slow=6.7,SNR=1.7						
MKAR	**Makanchi Array**	**45.71**	**303**	P	**P**	**06 45 19.9**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=89,slow=9.8,SNR=5.7						
KURK	**Kurchatov**	**47.49**	**309**	P	**P**	**06 45 34.2**	**+1.3**
KURK				IAmb	IAmb	06 45 35.0	
	comp=Z,3.4nm,0.8s						
KURBB	**Kurchatov Arra**	**47.56**	**309**	P	**P**	**06 45 34.6**	**+1.1**
	comp=Z,2.8nm,0.7s,baz=84,slow=7.9,SNR=16						
ILAR	**Eielson Array**	**49.18**	**32**	P	**P**	**06 45 45.1**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=264,slow=6.6,SNR=6.3						
WRA	**Warramunga Arr**	**56.72**	**190**	P	**P**	**06 46 41.6**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=11,slow=7.2,SNR=2.8						
ASAR	**Alice Springs**	**60.44**	**190**	P	**P**	**06 47 07.6**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=11,slow=6.6,SNR=4.3						
FINES	**FINESS Array B**	**70.03**	**333**	P	**P**	**06 48 11.1**	**+1.6**
	comp=Z,2.3nm,0.9s,baz=26,slow=6.7,SNR=4.8						
NB2	**NORSAR Subarra**	**75.31**	**338**	P	**P**	**06 48 43.0**	**+2.1**
	comp=Z,0.7nm,0.6s,baz=38,slow=6.2						
NOA	**NORSAR Array B**	**75.31**	**338**	P	**P**	**06 48 42.7**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=39,slow=5.7,SNR=6.2						
AKASG	**Malin Array Be**	**75.68**	**323**	P	**P**	**06 48 44.2**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=46,slow=6.6,SNR=1.9						

*IDC **06** 06:38:34.1±1.0, 14.73N×54.80E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.6/45, mbtmp3.8/9, MS3.1/1, Ms1 3.2/1, ms1mx2.5/37, Error ellipse: s-maj=28.4km s-min=24.3km az=133.0*

*NEIC **06** 06:38:34.7±1.2, 14.62N±0.05×54.8E±0.1, h10km±1km, mb4.1/5, Error ellipse: s-maj=23.9km s-min=8.3km az=94.0*

ISC 06 06:38:35.5±0.9, 14.8N±0.1×54.8E±0.1, h10km, n22, σ0s71/17, mb3.9/12, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.69**	**198**		Pn	06 39 11.5	-7.5
RAYN	**Ar Rayn**	**12.38**	**316**		**Pn**	**06 41 31.9**	**-0.1**
GEYT	**Alibeck**	**23.25**	**7**	P	**P**	**06 43 44.1**	**+0.9**
	1.4nm,0.6s,baz=172,slow=12,SNR=1.7						
KMBO	**Kilima Mbogo**	**23.50**	**229**	P	**P**	**06 43 46.2**	**+0.2**
	0.7nm,0.3s,baz=61,slow=19,SNR=1.9						
MK31	**Makanchi Array**	**39.30**	**30**	P	**P**	**06 46 04.6**	**-0.1**
MKAR	**Makanchi Array**	**39.30**	**30**	P	**P**	**06 46 06.1**	**+1.4**
	0.5nm,0.6s,baz=213,slow=8.7,SNR=5.1						
BRVK	**Borovoye**	**40.12**	**14**	P	**P**	**06 46 10.0**	**-1.3**
BRVK				IAmb	IAmb	06 46 25.1	
	comp=Z,3.3nm,0.7s						
FIA1	**FINESS Array S**	**50.97**	**343**	P	**P**	**06 47 37.5**	**+0.4**
FIA1				IAmb	IAmb	06 47 38.3	
	comp=Z,3.6nm,0.8s						
FINES	**FINESS Array B**	**50.97**	**343**	P	**P**	**06 47 37.4**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=128,slow=12,SNR=9.7						
TORD	**Torodi Ar. Bea**	**51.49**	**275**	P	**P**	**06 47 41.3**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=83,slow=6.0,SNR=2.9						
NOA	**NORSAR Array B**	**55.80**	**336**	LR	LR	07 15 33.5	
	comp=Z,14nm,18.2s,baz=330,slow=40						
ESDC	**Sonseca Array**	**56.78**	**308**	P	**P**	**06 48 19.7**	**-0.4**
	comp=Z,0.8nm,1.0s,baz=75,slow=5.4,SNR=1.9						
ARCES	**ARCESS Array B**	**57.74**	**348**	P	**P**	**06 48 26.2**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=146,slow=7.3,SNR=8.7						
ARE0	**ARCESS Array S**	**57.74**	**348**	P	**P**	**06 48 26.8**	**+0.5**
ARE0				IAmb	IAmb	06 48 29.4	
	comp=Z,1.2nm,1.5s						
PESTR	**Estremoz**	**59.47**	**307**	P	**P**	**06 48 39.2**	**+0.3**
KSRS	**Korea Array**	**67.83**	**55**	P	**P**	**06 49 33.2**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=270,slow=6.8,SNR=1.8						
H01W3	**Cape Leeuwin H**	**74.83**	**133**	T	T	08 11 57.4	
	baz=301,slow=75,SNR=19						
H01W2	**Cape Leeuwin H**	**74.83**	**133**	T	T	08 12 05.9	
	baz=301,slow=75,SNR=16						
H01W1	**Cape Leeuwin H**	**74.84**	**133**	T	T	08 11 58.7	
	baz=301,slow=75,SNR=20						
ASAR	**Alice Springs**	**86.16**	**116**	P	**P**	**06 51 17.6**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=291,slow=4.4,SNR=12						
PDAR	**Pinedale Array**	**120.98**	**347**	PKP	**PKPdf**	**06 57 29.2**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=2.8,slow=3.7,SNR=1.7						
NVAR	**Mina Array Bea**	**126.69**	**353**	PKP	**PKiKP**	**06 57 41.3**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=4.0,slow=1.2,SNR=6.0						

*IDC **06** 06:43:51.0±0.9, 14.69N×54.71E, h0km, mb3.8/14, mb1 4.0/14, mb1mx3.8/49, mbtmp3.8/14, MS3.0/1, Ms1 3.0/1, ms1mx2.4/36, Error ellipse: s-maj=21.9km s-min=21.6km az=18.0*

*NEIC **06** 06:43:52.3±1.2, 14.60N±0.04×54.7E±0.1, h10km±1km, mb4.0/9, Error ellipse: s-maj=17.0km s-min=6.1km az=256.0*

ISC 06 06:43:53.7±0.8, 14.7N±0.1×54.7E±0.1, h17km, n31, σ0s69/25, mb3.8/17, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.53**	**195**		Pn	06 44 29.1	-5.0
UOSS	**Minazif**	**10.35**	**8**	Pn	**Pn**	**06 46 22.5**	**+1.1**
RAYN	**Ar Rayn**	**12.37**	**317**		**Pn**	**06 46 48.8**	**-0.3**
HRA	**Herat**	**20.81**	**18**	P	Pn	06 48 36.6	-0.4
HRA				IAmb	IAmb	06 48 44.9	
	comp=Z,6.5nm,1.1s						
KMBO	**Kilima Mbogo**	**23.30**	**229**	P	**P**	**06 49 02.2**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=58,slow=19,SNR=1.3						
KMBO	**Kilima Mbogo**	**23.30**	**229**	P	**P**	**06 49 01.7**	**+0.5**
KMBO				IAmb	IAmb	06 49 09.6	
	comp=Z,5.3nm,1.3s						
GEYT	**Alibeck**	**23.39**	**7**	P	**P**	**06 49 01.2**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=188,slow=7.1,SNR=2.5						
BRTR	**Keskin Array B**	**31.05**	**328**	LR	LR	07 04 14.5	
	comp=Z,24nm,19.9s,baz=128,slow=39						
KDJ	**Kajisay**	**33.59**	**31**	P	**P**	**06 50 34.4**	**+1.2**
KDJ				IAmb	IAmb	06 50 40.7	
	comp=Z,1.7nm,0.8s						
TARG	**Taragay, Kyrgy**	**33.61**	**32**	P	**P**	**06 50 35.0**	**+1.4**
TARG				IAmb	IAmb	06 50 35.4	
	comp=Z,2.3nm,0.9s						
MK31	**Makanchi Array**	**39.48**	**30**	P	**P**	**06 51 23.8**	**+0.5**
MKAR	**Makanchi Array**	**39.48**	**30**	P	**P**	**06 51 23.6**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=212,slow=9.2,SNR=11						
BVAR	**Borovoye Array**	**40.27**	**15**	P	**P**	**06 51 29.3**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=187,slow=10.0,SNR=3.7						
AKASG	**Malin Array Be**	**41.44**	**336**	P	**P**	**06 51 38.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=142,slow=7.9,SNR=0.7						
CMAR	**Chiang Mai Arr**	**42.53**	**79**	P	**P**	**06 51 48.3**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=282,slow=9.8,SNR=4.3						
ZAA0	**Zalesovo Array**	**45.78**	**24**	P	**P**	**06 52 13.5**	**-0.8**
ZAA0				IAmb	IAmb	06 52 14.1	
	comp=Z,1.8nm,0.8s						
ZALV	**Zalesovo Beam**	**45.78**	**24**	P	**P**	**06 52 13.2**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=241,slow=8.5,SNR=4.9						
FIA1	**FINESS Array S**	**51.05**	**343**	P	**P**	**06 52 54.7**	**0.0**
FINES	**FINESS Array B**	**51.05**	**343**	P	**P**	**06 52 54.4**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=126,slow=9.7,SNR=12						
TORD	**Torodi Ar. Bea**	**51.35**	**275**	P	**P**	**06 52 58.2**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=77,slow=7.1,SNR=2.1						
NOA	**NORSAR Array B**	**55.84**	**336**	P	**P**	**06 53 29.0**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=121,slow=7.7,SNR=2.0						
ESDC	**Sonseca Array**	**56.73**	**308**	P	**P**	**06 53 36.5**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=96,slow=6.4,SNR=2.4						
KEV	**Kevo**	**57.73**	**349**	P	**P**	**06 53 42.9**	**-0.3**
ARCES	**ARCESS Array B**	**57.83**	**348**	P	**P**	**06 53 43.6**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=146,slow=6.7,SNR=15						
ARE0	**ARCESS Array S**	**57.83**	**348**	P	**P**	**06 53 43.7**	**-0.3**
H01W3	**Cape Leeuwin H**	**74.86**	**133**	T	T	08 17 17.2	
	baz=301,slow=76,SNR=15						
H01W2	**Cape Leeuwin H**	**74.86**	**133**	T	T	08 17 21.9	
	baz=301,slow=76,SNR=16						
H01W1	**Cape Leeuwin H**	**74.87**	**133**	T	T	08 17 22.8	
	baz=301,slow=76,SNR=17						
WRA	**Warramunga Arr**	**85.52**	**112**	P	**P**	**06 56 31.2**	**-0.2**
	comp=Z,1.5nm,1.0s,baz=294,slow=4.5,SNR=3.8						
ASAR	**Alice Springs**	**86.25**	**115**	P	**P**	**06 56 34.6**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=288,slow=4.7,SNR=9.4						
NVAR	**Mina Array Bea**	**126.80**	**353**	PKP	**PKiKP**	**07 02 57.6**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=54,slow=1.5,SNR=4.6						

*NEIC **06** 06:55:37.6±1.9, 24.1S±0.2×179.5E±0.1, h603km±5km, mb4.4/15, Error ellipse: s-maj=22.6km s-min=18.2km az=184.0*

*IDC **06** 06:55:38.5±5.7, 22.90S×179.18E, h587km±54km, mb3.0/3, mb1 3.4/4, mb1mx2.8/34, mbtmp4.1/4, Error ellipse: s-maj=163.1km s-min=34.0km az=160.0*

ISC 06 06:55:32.2±0.7, 24.1S±0.2×179.8E±0.1, h537km, n26, σ1s45/26, mb4.2/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**12.41**	**277**	P	**P**	**06 58 16.4**	**+1.3**
	1.0nm,0.3s,baz=94,slow=19,SNR=13						
DZM	**Mont Dzumac**	**12.41**	**277**	P	**P**	**06 58 17.8**	**+2.7**
KHZ	**Kahutara**	**18.97**	**194**		**P**	**06 59 18.6**	**-0.6**
LTZ	**Lake Taylor**	**19.62**	**197**	P	**P**	**06 59 25.1**	**-0.2**
LTZ				IAmb	IAmb	06 59 40.0	
	comp=Z,26nm,1.4s						
CAN	**Canberra**	**28.84**	**240**	P	**P**	**07 00 48.3**	**+1.0**
CAN				IAmb	IAmb	07 01 05.3	
	comp=Z,14nm,1.2s						
CTAO	**Charters Tower**	**31.25**	**271**	P	**P**	**07 01 09.7**	**+1.5**
CTAO				IAmb	IAmb	07 01 10.2	
	comp=Z,20nm,1.3s						
TOO	**Toolangi**	**32.14**	**237**	P	**P**	**07 01 16.7**	**+1.1**
TOO				IAmb	IAmb	07 01 20.5	
	comp=Z,11nm,1.2s						
STKA	**Stephens Creek**	**34.43**	**248**		**P**	**07 01 36.6**	**+1.5**
BBOO	**Buckleboo**	**39.15**	**247**	P	**P**	**07 02 13.7**	**-0.2**
BBOO				IAmb	IAmb	07 02 32.5	
	comp=Z,9.7nm,1.5s						
TAOE	**Nuku Hiva Isla**	**41.16**	**75**	P	**P**	**07 02 32.9**	**+2.6**
AS31	**Alice Springs**	**41.77**	**261**	P	**P**	**07 02 35.6**	**+0.7**
ASAR	**Alice Springs**	**41.77**	**261**	P	**P**	**07 02 35.3**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=97,slow=7.5,SNR=15						
WB2	**Warramunga Arr**	**42.15**	**266**	P	**P**	**07 02 38.0**	**+0.1**
WB2				IAmb	IAmb	07 02 47.6	
	comp=Z,9.5nm,1.2s						
WRAB	**Tennant Creek**	**42.16**	**266**	P	**P**	**07 02 37.6**	**-0.3**
WRAB				IAmb	IAmb	07 02 57.2	
	comp=Z,20nm,0.8s						
WB0	**Warramunga Arr**	**42.16**	**267**	P	**P**	**07 02 38.0**	**0.0**
WB0				IAmb	IAmb	07 02 38.5	
	comp=Z,5.5nm,0.8s						
WRA	**Warramunga Arr**	**42.16**	**266**	P	**P**	**07 02 36.9**	**-1.1**
	comp=Z,2.0nm,0.5s,baz=96,slow=8.0,SNR=13						
FORT	**Forrest**	**46.02**	**250**	P	**P**	**07 03 07.3**	**-0.4**
FORT				IAmb	IAmb	07 03 07.9	
	comp=Z,6.3nm,0.8s						
FAKI	**Fak Fak**	**50.42**	**287**	P	**P**	**07 03 38.4**	**-2.3**
QSPA	**South Pole Qui**	**65.97**	**180**	P	**P**	**07 05 25.4**	**+0.3**
SNAA	**Sanae**	**84.46**	**179**	P	**P**	**07 07 07.0**	**-0.9**
TXAR	**Lajitas Array**	**90.74**	**58**	P	**P**	**07 07 38.5**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=222,slow=6.6,SNR=5.7						
AKASG	**Malin Array Be**	**145.02**	**327**	PKP	**PKPdf**	**07 14 07.4**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=46,slow=4.0,SNR=2.0						
BRTR	**Keskin Array B**	**147.52**	**307**	PKPbc	**PKPbc**	**07 14 15.0**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=64,slow=3.4,SNR=2.5						
BRTR	**Keskin Array B**	**147.52**	**307**		**PKPbc**	**07 14 15.0**	**-1.3**
TIRR	**Tirgusor**	**149.06**	**318**	PKPbc	**PKPbc**	**07 14 17.4**	**-2.4**
GEC2	**GERESS Array S**	**152.97

NJ2 LR LR
comp=N,240nm,18.0s
NJ2 LR LR
comp=E,190nm,23.7s
NJ2 LR LR
comp=Z,320nm,19.9s
JNU Nakatsue 23.76 9 P **P** **07 01 58.2 -0.5**
9.6nm,0.8s,baz=256,slow=3.5,SNR=4.6
JNU LR LR 07 10 47.7
comp=Z,36nm,21.7s,baz=196,slow=36
JNU Nakatsue 23.76 9 P **P** **07 01 59.8 +1.1**
JNU IAmb IAmb 07 02 11.9
comp=Z,16nm,1.0s
WHN Wuhan 23.77 333 P **P** 07 02 13.6 +15
WHN S Sn 07 06 27.9 -8.1
WHN LR LR
comp=Z,470nm,20.4s
MYKOM Kota Tinggi 23.88 252 P **P** **07 02 00.7 +0.8**
MYKOM IAmb IAmb 07 02 01.7
comp=Z,31nm,0.8s
SLVN Son La 24.73 301 P **P** **07 02 07.2 -0.5**
KNRA Kununurra 25.19 175 P **P** **07 02 10.8 -1.0**
KNRA IAmb IAmb 07 02 14.5
comp=Z,18nm,0.8s
GYA Guiyang 25.23 314 P **P** **07 02 15.8 +3.5**
GYA pmax pmax
comp=Z,7.0nm,0.5s
TNG Tangerang 25.27 233 P P 07 02 26.7 +14
MDSI Maura Dua 26.32 239 P **P** **07 02 23.8 +1.7**
comp=Z,15nm,0.9s
FITZ Fitzroy Crossi 27.52 182 P **P** **07 02 32.4 -0.3**
comp=Z,24nm,0.9s,baz=5.9,slow=7.6,SNR=23
FITZ Fitzroy Crossi 27.52 182 P **P** **07 02 32.4 -0.3**
KSRS Korea Array 27.78 2 P **P** **07 02 33.8 -1.1**
comp=Z,2.7nm,0.9s,baz=179,slow=10,SNR=12
KSRS LR LR 07 15 34.7
comp=Z,111nm,18.6s,baz=201,slow=41
TIA Tai'an 27.86 344 P **P** **07 02 36.2 +0.5**
TIA pmax pmax
comp=Z,12nm,1.1s
CMAR Chiang Mai Arr 28.18 291 P **P** **07 02 37.1 -1.7**
comp=Z,1.7nm,0.6s,baz=93,slow=8.2,SNR=5.3
CMAR LR LR 07 15 14.5
comp=Z,117nm,18.1s,baz=218,slow=40
CHTO Chiang Mai 28.27 292 P **P** **07 02 39.0 -0.6**
MAJO Matsushiro 28.84 20 P **P** **07 02 45.8 +1.3**
MAJO IAmb IAmb 07 02 51.4
comp=Z,12nm,1.3s
MJAR Matsushiro Arr 28.84 20 LR LR 07 14 54.4
comp=Z,46nm,18.8s,baz=205,slow=38
KCSI Kotacane, Aceh 29.22 260 P **P** **07 02 46.9 -1.1**
comp=Z,19nm,0.7s
XAN Xi'an 29.24 329 P **P** **07 02 46.6 -1.4**
XAN IAmb IAmb 07 02 49.6
comp=Z,5.9nm,0.5s
GSI Gunungsitoli 29.98 256 P **P** **07 02 55.2 +0.4**
CD2 Chengdu 30.01 318 *e*P **P** **07 02 54.5 -0.4**
CD2 S **S** **07 07 50.0 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,270nm,17.2s
CD2 LR LR
comp=Z,290nm,18.1s
CD2 LR LR
comp=Z,410nm,14.2s
WRA Warramunga Arr 30.32 165 P **P** **07 02 55.7 -2.0**
comp=Z,1.0nm,0.8s,baz=344,slow=9.5,SNR=2.9
WB2 Warramunga Arr 30.32 165 P **P** **07 02 57.8 +0.1**
PSA00 Pilbara Seismi 31.66 192 P **P** **07 03 08.8 -0.6**
PSA00 IAmb IAmb 07 03 11.5
comp=Z,15nm,0.8s
BJT Baijiatuau 31.69 345 P **P** **07 03 10.4 +0.9**
BJT IAmb IAmb 07 03 11.3
comp=Z,24nm,1.5s
BJI Beijing 31.71 345 P **P** **07 03 09.9 +0.2**
BJI pmax pmax
comp=Z,8.0nm,0.7s
BJI LR LR
comp=Z,70nm,11.4s
BJI LR LR
comp=Z,65nm,10.4s
LZH Lanzhou 33.51 325 *e*P **P** **07 03 26.5 +0.8**
LZH pP pP 07 03 39.7 +0.7
LZH sP pwP 07 03 45.9 +2.0
LZH *e*PP **PnPn** **07 04 39.4 +0.8**
LZH pmax pmax
comp=Z,23nm,1.2s
LZH pmax pmax
comp=Z,76nm,5.4s
LZH LR LR
comp=Z,380nm,13.2s
LZH LR LR
comp=Z,380nm,13.3s
LZH LR LR
comp=Z,680nm,16.2s
ASAR Alice Springs 33.81 168 P **P** **07 03 26.7 -1.6**
comp=Z,0.9nm,0.5s,baz=349,slow=6.9,SNR=15
ASAR PP **PnPn** **07 04 40.4 -2.2**
comp=Z,0.9nm,0.7s,baz=356,slow=11,SNR=4.8
ASAR PcP **PcP** **07 06 06.6 +0.2**
comp=Z,0.6nm,0.6s,baz=347,slow=2.6,SNR=4.4
HHC Hu-ho-hao-te 33.86 339 P **P** **07 03 29.8 +1.2**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,18nm,6.0s
GIRL Giralia 34.23 201 P **P** **07 03 32.4 +0.6**
USRK Ussuriysk Ar. 34.81 7 P **P** **07 03 36.0 -0.6**
comp=Z,4.3nm,0.9s,baz=198,slow=7.9,SNR=8.5
MDJ Mudanjiang 35.00 4 P **P** **07 03 40.5 +2.2**
MDJ pmax pmax
comp=Z,13nm,0.5s
MDJ pmax pmax
comp=Z,71nm,4.6s
SHL Shillong 36.54 300 P **P** **07 03 50.8 -1.2**
GTA Gaotai 38.11 326 *e*P **P** **07 04 02.6 -2.4**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA pmax pmax
comp=Z,29nm,4.5s
GTA LR LR
comp=Z,100nm,17.5s
GTA LR LR
comp=Z,92nm,16.5s
GTA LR LR
comp=Z,150nm,19.4s
MORW Morawa 39.74 194 P **P** **07 04 18.4 -0.2**
MORW IAmb IAmb 07 04 19.0
comp=Z,21nm,0.6s
H11S3 WAKE ISLAND Hy 39.84 73 T T 07 47 13.4
baz=261,slow=76
H11S1 WAKE ISLAND Hy 39.86 73 T T 07 47 23.0
baz=261,slow=76
H11S2 WAKE ISLAND Hy 39.86 73 T T 07 47 20.8
baz=261,slow=76
FORT Forrest 40.15 178 P **P** **07 04 21.6 -0.3**
FORT IAmb IAmb 07 04 31.6
comp=Z,24nm,0.8s
H11N1 WAKE ISLAND Hy 40.20 71 T T 07 47 51.9
baz=265,slow=74,SNR=35
H11N2 WAKE ISLAND Hy 40.21 71 T T 07 47 56.9
baz=265,slow=74,SNR=32
H11N3 WAKE ISLAND Hy 40.22 71 T T 07 47 52.1
baz=265,slow=74,SNR=43
TAPN Taplejung 40.65 301 *e*P **P** **07 04 24.4 -2.2**
comp=Z,13nm,0.4s
ODAN Odare 40.77 300 *e*P **P** **07 04 26.1 -1.4**
comp=Z,51nm,0.6s
RAMN Ramite 41.47 300 *e*P **P** **07 04 32.0 -1.3**
comp=Z,24nm,0.6s
SONM Songino Array 41.76 340 P **P** **07 04 34.2 -1.0**
comp=Z,1.0nm,0.5s,baz=153,slow=6.3,SNR=3.8
JIRN Jiri 42.03 301 *e*P **P** **07 04 36.7 -1.3**
comp=Z,63nm,0.6s
GUN Gumba 42.37 301 *e*P **P** **07 04 39.1 -1.6**
comp=Z,41nm,0.7s
PKI Pulchoki 42.67 300 *e*P **P** **07 04 41.8 -1.3**
comp=Z,14nm,0.5s
PKIN Phulchoki 42.68 300 *e*P **P** **07 04 41.4 -1.7**
comp=Z,11nm,0.5s
BBOO Buckleboo 43.12 168 P **P** **07 04 46.5 +0.4**
BBOO IAmb IAmb 07 04 49.6
comp=Z,12nm,0.7s
NWAO Narrogin (SRO) 43.20 191 P **P** **07 04 47.0 +0.1**
NWAO IAmb IAmb 07 04 48.2
comp=Z,21nm,0.9s
GKN Gorkha 43.45 301 *e*P **P** **07 04 48.0 -1.2**
STKA Stephens Creek 43.66 161 P **P** **07 04 49.5 -1.0**
comp=Z,1.2nm,0.4s,baz=355,slow=8.2,SNR=8.4
STKA Stephens Creek 43.66 161 P **P** **07 04 49.8 -0.7**
KOLN Koldanda 44.26 300 *e*P **P** **07 04 54.7 -1.1**
comp=Z,36nm,0.8s
DANN Dangsing 44.29 301 *e*P **P** **07 04 54.8 -1.3**
comp=Z,32nm,0.6s
TLY Talaya 45.98 340 LR LR 07 25 30.0
comp=Z,56nm,19.2s,baz=145,slow=38
WMQ Urumqi 47.94 322 *e*P **P** **07 05 25.0 +0.7**
WMQ sP sP 07 05 45.7 +0.8
WMQ pmax pmax
comp=Z,20nm,0.9s
WMQ pmax pmax
comp=Z,220nm,5.7s
WMQ LR LR
comp=Z,290nm,24.3s
WMQ LR LR
comp=Z,190nm,23.3s
WMQ LR LR
comp=Z,240nm,23.3s
PETK Petropavlovsk- 50.14 24 P **P** **07 05 40.2 -0.7**
comp=Z,1.3nm,0.6s,baz=194,slow=5.6,SNR=3.9
MK31 Makanchi Array 52.75 323 P **P** **07 06 00.3 -0.3**
MKAR Makanchi Array 52.75 323 P **P** **07 06 00.0 -0.6**
comp=Z,3.7nm,0.6s,baz=121,slow=8.2,SNR=42
MKAR PcP **PcP** **07 07 09.7 +0.2**
comp=Z,1.5nm,0.7s,baz=119,slow=6.0,SNR=2.0
MKAR LR LR 07 30 19.6
comp=Z,56nm,18.6s,baz=124,slow=38
MAKZ Makanchi 52.94 323 P **P** **07 06 01.4 -0.5**
KSH Kashi 53.91 312 *e*P **P** **07 06 10.5 +1.2**
KDJ Kajisay 53.98 316 P **P** **07 06 09.7 -0.2**
NIL Nilore 54.36 305 P **P** **07 06 11.6 -1.0**
ULHL Ulahol 54.67 316 P **P** **07 06 15.2 +0.3**
SNR=6.7
KZA Kyzart 55.30 315 P **P** **07 06 20.2 +0.5**
SNR=8.1
ZAA0 Zalesovo Array 55.37 331 P **P** **07 06 18.2 -1.3**
ZALV Zalesovo Beam 55.37 331 P **P** **07 06 18.2 -1.2**
comp=Z,2.6nm,0.6s,baz=133,slow=7.9,SNR=9.6
UCH Uchtor 55.86 315 P **P** **07 06 24.4 +0.6**
SNR=20
AML Almayashu 56.40 315 P **P** **07 06 27.9 +0.3**
SNR=9.7
EKS2 Erkin-Say 56.52 315 P **P** **07 06 28.0 -0.1**
SNR=5.8
KURK Kurchatov 56.80 326 P **P** **07 06 29.1 -0.7**
KURK IAmb IAmb 07 06 30.1
comp=Z,7.7nm,1.0s
GAR Garm 57.95 310 P **P** **07 06 37.3 -1.0**
KBL Kabul 57.96 305 P **P** **07 06 37.7 -0.8**
CHGR Chuyangaron 58.75 310 P **P** **07 06 42.7 -1.1**
KK31 Karatay Array 58.94 315 P **P** **07 06 43.9 -1.0**
KK31 IAmb IAmb 07 06 44.9
comp=Z,6.1nm,0.7s
KKAR Karatay Array 58.94 315 P **P** **07 06 44.0 -0.9**
KKAR IAmb IAmb 07 06 44.9
comp=Z,6.1nm,0.7s
TIXI Tiksi 62.03 1 P **P** **07 07 05.7 +0.2**
TIXI IAmb IAmb 07 07 07.1
comp=Z,6.3nm,0.8s
BRVK Borovoye 62.47 326 P **P** **07 07 07.5 -1.2**
BRVK IAmb IAmb 07 07 09.1
comp=Z,7.0nm,0.9s
HRA Herat 63.49 304 P **P** **07 07 15.2 -0.9**
HRA IAmb IAmb 07 07 17.1
comp=Z,3.6nm,0.8s
NRIK Noril'sk 64.75 346 P **P** **07 07 23.5 0.0**
comp=Z,6.5nm,0.6s,baz=133,slow=5.6,SNR=15
RPZ Rata Peaks 66.65 146 P **P** **07 07 36.4 +0.3**
comp=Z,6.3nm,0.8s,baz=28,slow=23,SNR=1.9
RPZ Rata Peaks 66.65 146 P **P** **07 07 36.9 +0.8**
BKZ Black Stump Fm 67.07 140 P **P** **07 07 39.4 +0.5**
BKZ IAmb IAmb 07 07 47.7
comp=Z,11nm,1.0s
GEYT Alibeck 67.19 307 P **P** **07 07 38.8 -0.9**
comp=Z,1.5nm,0.2s,baz=140,slow=7.2,SNR=5.0
ARU Arti 69.96 327 P **P** **07 07 55.8 -0.8**
ARU IAmb IAmb 07 07 56.5
comp=Z,9.2nm,0.7s
SOCY Socotra 71.13 280 P **P** **07 08 04.2 -0.4**
OBL Observatory Le 75.77 72 P **P** **07 08 32.5 +0.6**
CASY Casey 76.57 187 P **P** **07 08 36.9 +1.7**
CASY IAmb IAmb 07 08 37.6
comp=Z,4.6nm,0.6s
RAYN Ar Rayn 78.10 292 P **P** **07 08 44.0 -0.9**
RAYN IAmb IAmb 07 08 44.9
comp=Z,9.2nm,0.7s
KBZ Khabaz 78.89 313 P **P** **07 08 48.8 +0.1**
comp=Z,1.2nm,0.7s,baz=94,slow=3.3,SNR=4.3
MCK McKinley 79.04 27 P **P** **07 08 50.2 +1.0**
MCK IAmb IAmb 07 09 03.2
comp=Z,7.5nm,1.0s
RND Reindeer 79.07 27 P **P** **07 08 50.7 +1.3**
RND IAmb IAmb 07 08 52.1
comp=Z,13nm,1.5s
ILAR Eielson Array 79.93 26 P **P** **07 08 54.1 +0.2**
comp=Z,0.9nm,0.7s,baz=239,slow=6.6,SNR=6.2
KLMR Klimovskoe 80.27 330 *e*P **P** **07 08 54.8 -1.0**
KLMR AMP 07 08 56.3
comp=Z,13nm,0.7s
DAWY Dawson 83.23 26 P **P** **07 09 14.1 +2.6**
DAWY IAmb IAmb 07 09 21.8
comp=Z,6.4nm,1.4s
EPYK Eagle Plains 83.98 24 P **P** **07 09 17.7 +2.4**
EPYK IAmb IAmb 07 09 18.0
comp=Z,8.2nm,1.1s
SPA0 Spitsbergen Ar 84.74 349 P **P** **07 09 19.5 +0.6**
ARCES ARCESS Array B 84.94 340 P **P** **07 09 20.1 +0.1**
comp=Z,7.5nm,0.7s,baz=79,slow=6.5,SNR=25
ARE0 ARCESS Array S 84.94 340 P **P** **07 09 19.9 -0.2**
BRTR Keskin Array B 86.19 309 P **P** **07 09 25.5 -1.5**
comp=Z,1.6nm,0.9s,baz=109,slow=6.9,SNR=3.9
FIA1 FINESS Array S 86.63 332 P **P** **07 09 28.4 0.0**
FINES FINESS Array B 86.63 332 P **P** **07 09 28.0 -0.5**
comp=Z,5.4nm,0.6s,baz=71,slow=5.2,SNR=21
AKASG Malin Array Be 87.28 321 P **P** **07 09 30.7 -1.2**
comp=Z,0.4nm,0.4s,baz=62,slow=5.0,SNR=4.7
VNDA Vanda 89.21 173 P **P** **07 09 40.7 +0.3**
comp=Z,1.5nm,0.7s,baz=312,slow=6.8,SNR=12
VNDA Vanda 89.21 173 P **P** **07 09 43.8 +3.3**
KMBO Kilima Mbogo 89.51 269 P **P** **07 09 44.5 +1.0**
comp=Z,1.1nm,0.4s,baz=64,slow=7.7,SNR=5.1
KMBO Kilima Mbogo 89.51 269 P **P** **07 09 43.3 -0.2**
KMBO IAmb IAmb 07 09 44.6
comp=Z,3.2nm,1.0s
NB2 NORSAR Subarra 93.50 334 P **P** **07 09 59.6 -1.2**
comp=Z,1.9nm,0.8s,baz=66,slow=4.6
NOA NORSAR Array B 93.50 334 P **P** **07 09 59.8 -1.0**
comp=Z,1.1nm,0.7s,baz=65,slow=4.6,SNR=5.6
NOA LR LR 07 56 19.7
comp=Z,24nm,18.2s,baz=60,slow=38
YKA Yellowknife Ar 94.26 24 P **P** **07 10 05.3 +1.1**
comp=Z,1.4nm,0.9s,baz=296,slow=4.5,SNR=19
GERES GERESS Array B 97.41 322 P **P** **07 10 18.1 -0.9**
comp=Z,0.4nm,0.4s,baz=82,slow=9.6,SNR=4.2
TXAR Lajitas Array 118.05 50 PKP **PKiKP** **07 15 33.5 +0.8**
comp=Z,0.4nm,0.6s,baz=346,slow=1.1,SNR=4.7
S39A Bolivar 119.98 36 **PKiKP** **07 15 37.0 +0.9**
JCT Junction City 120.27 46 **PKiKP** **07 15 38.3 +1.4**
TORD Torodi Ar. Bea 120.79 292 PKP **PKiKP** **07 15 37.4 -0.8**
comp=Z,0.3nm,0.6s,baz=62,slow=1.8,SNR=2.1
PLCA Paso Flores 145.46 157 PKPbc **PKPab** **07 16 23.3 -0.4**
comp=Z,2.6nm,0.8s,baz=200,slow=3.0,SNR=5.0
PLCA Paso Flores 145.46 157 PKPdf **PKPab** **07 16 24.1 +0.3**
BO02 Sierra Bellavi 150.31 150 PKPbc **PKiKP** **07 16 38.1 +0.5**
MT02 Curacav 151.34 148 PKPbc **PKiKP** **07 16 40.1 +0.4**
PB06 IPOC Station P 159.77 132 PKPdf **PKPdf** **07 16 42.9 -2.0**

*IDC **06** 07:29:51.3±1.4, 14.7°59N×54.7°66E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.7/49, mbtmp3.9/9, MS3.3/5, Ms1 3.3/5, ms1mx2.9/41, Error ellipse: s-maj=38.9km s-min=27.3km az=59.0*
*NEIC **06** 07:29:53.0±0.5, 14.7°66N±0.7°09×54.7°E±0.7, h10km±1km, mb4.0/5, Error ellipse: s-maj=17.4km s-min=15.4km az=88.0*
ISC 06 07:29:53.0±0.8, 14.7°5N±0.7°1×54.7°5E±0.7°2, h17km, n23, σ0.7°78/17, mb3.9/12, MS3.1/5, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**2.33**	**193**		**Pn**	**07 30 29.7**	**-0.9**
RAYN	**Ar Rayn**	**12.40**	**318**		**Pn**	**07 32 48.3**	**-0.6**
EIL	**Elat**	**23.56**	**313**	LR	LR	07 43 47.4	
	comp=Z,70nm,19.1s,baz=98,slow=36						
GEYT	**Alibeck**	**23.59**	**7**	P	**P**	**07 35 02.8**	**-0.1**
	1.4nm,0.6s,baz=223,slow=7.9,SNR=2.1						
GYA0B	**ALIBECK ARRAY**	**23.59**	**7**	P	**P**	**07 35 02.1**	**-0.8**
GYA0B				IAmb	IAmb	07 35 12.4	
	comp=Z,7.5nm,1.1s						
MMAI	**Mount Meron Ar**	**25.36**	**320**	LR	LR	07 46 04.8	
	comp=Z,53nm,19.9s,baz=170,slow=38						
BRTR	**Keskin Array B**	**31.13**	**328**	LR	LR	07 50 14.0	
	comp=Z,29nm,19.3s,baz=71,slow=39						
MK31	**Makanchi Array**	**39.71**	**30**	P	**P**	**07 37 23.6**	**-0.9**
MKAR	**Makanchi Array**	**39.71**	**30**	P	**P**	**07 37 24.4**	**0.0**
	comp=Z,0.6nm,0.5s,baz=213,slow=9.1,SNR=8.8						
KURBB	**Kurchatov Arra**	**40.97**	**23**	P	**P**	**07 37 34.0**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=226,slow=7.5,SNR=4.5						
KURK	**Kurchatov**	**41.08**	**23**	P	**P**	**07 37 35.0**	**-0.7**
KURK				IAmb	IAmb	07 37 45.1	
	comp=Z,3.9nm,1.4s						
ZAA0	**Zalesovo Array**	**46.00**	**24**	P	**P**	**07 38 14.5**	**-0.8**
ZAA0				IAmb	IAmb	07 38 15.4	
	comp=Z,1.6nm,0.8s						
ZALV	**Zalesovo Beam**	**46.00**	**24**	P	**P**	**07 38 14.3**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=240,slow=8.0,SNR=4.8						
ZALV				LR	LR	07 59 08.7	
	comp=Z,32nm,18.9s,baz=30,slow=38						
FIA1	**FINESS Array S**	**51.17**	**343**	P	**P**	**07 38 55.3**	**+0.3**
FINES	**FINESS Array B**	**51.17**	**343**	P	**P**	**07 38 55.2**	**+0.2**
	comp=Z,2.6nm,0.6s,baz=140,slow=9.5,SNR=12						
FINES				LR	LR	08 03 39.1	
	comp=Z,41nm,20.1s,baz=66,slow=40						
ESDC	**Sonseca Array**	**56.73**	**308**	P	**P**	**07 39 37.3**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=96,slow=7.7,SNR=3.0						
ARCES	**ARCESS Array B**	**57.97**	**348**	P	**P**	**07 39 44.5**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=141,slow=7.8,SNR=12						
H01W3	**Cape Leeuwin H**	**74.84**	**133**	T	T	09 03 21.3	
	baz=300,slow=75						
H01W2	**Cape Leeuwin H**	**74.85**	**133**	T	T	09 03 21.0	
	baz=300,slow=75						
H01W1	**Cape Leeuwin H**	**74.86**	**133**	T	T	09 03 20.3	
	baz=300,slow=75						
WRA	**Warramunga Arr**	**85.59**	**112**	P	**P**	**07 42 31.4**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=298,slow=4.0,SNR=2.1						
ASAR	**Alice Springs**	**86.30**	**115**	P	**P**	**07 42 35.5**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=291,slow=5.0,SNR=6.1						
NVAR	**Mina Array Bea**	**126.95**	**353**	PKP	**PKiKP**	**07 48 58.1**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=246,slow=0.9,SNR=4.3						

*JMA **06** 07:36:46.3±0.1, 23.7°0N×121.7°54E, h0km, M3.7*
*ASIES **06** 07:36:47.1, 23.7°76N×121.7°39E, h28km, MW3.3*
*TAP **06** 07:36:47.8, 23.7°75N×121.7°42E, h19km, ML4.0, C*
ISC 06 07:36:47.4±0.9, 23.7°4N±0.7°01×121.7°44E±0.7°02, h19km±2km, n133, σ0.7°60/222, 10C-17D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGFH	**Guangfu**	**0.07**	**188**	⇓*i*	P	**Pg**	**07 36 51.4**	**+0.4**
	baz=174						
EGFH				*i*	S	**Sg**	**07 36 53.6**	**+0.3**
	baz=174						
ESL	**Shilin**	**0.07**	**356**	⇓*i*	P	**Pg**	**07 36 51.4**	**+0.4**
	baz=21						
ESL				*i*	S	**Sg**	**07 36 53.7**	**+0.3**
	baz=21						
HGSD	**Ruisui**	**0.25**	**183**	⇓*i*	P	**Pg**	**07 36 53.8**	**+0.6**
	baz=184						
HGSD				*e*	S	**Sg**	**07 36 59.1**	**+2.0**
	baz=184						
EHY	**Hungye**	**0.26**	**205**	⇓*i*	P	**Pb**	**07 36 53.1**	**-0.2**
	baz=198						
EHY				*e*	S	**Sg**	**07 36 57.4**	**+0.1**
	baz=198						
VWDT	**VWDT**	**0.27**	**273**	⇑*i*	P	**Pg**	**07 36 53.9**	**+0.4**
	baz=265						
VWDT				S		**Sg**	**07 36 58.0**	**+0.2**
	baz=265						
HWA	**Hwalien**	**0.28**	**33**	*e*P		**Pb**	**07 36 54.6**	**+0.8**
	baz=34						
HWA				*e*	S	**Sg**	**07 36 59.6**	**+1.6**
	baz=34						
OWD	**Renai**	**0.32**	**312**	⇓*i*	P	**Pb**	**07 36 54.6**	**-0.1**
	baz=312						
OWD				S		**Sg**	**07 36 58.8**	**-0.5**
	baz=312						
TWD	**Chiawan**	**0.37**	**23**	⇓*i*	P	**Pb**	**07 36 55.4**	**-0.1**
	baz=27						
TWD				S		**Sb**	**07 37 01.1**	**+0.2**
	baz=27						
YULB	**Yu-li**	**0.37**	**201**	⇑*i*	P	**Pg**	**07 36 55.2**	**0.0**
	baz=194						
YULB				S		**Sg**	**07 37 00.3**	**-0.3**
	baz=194						
CHGB	**Renai**	**0.40**	**323**	⇓*i*	P	**Pb**	**07 36 56.1**	**-0.1**
	baz=331						
CHGB				S		**Sg**	**07 37 01.3**	**-0.3**
	baz=331						
TWF1	**Yuli**	**0.41**	**199**	P		**Pg**	**07 36 55.2**	**-0.7**
	baz=198						
TWF1				*e*	S	**Sb**	**07 37 01.9**	**-0.1**
	baz=198						
WHF	**Hehuan Shan**	**0.43**	**338**	⇓*i*	P	**Pg**	**07 36 56.5**	**0.0**
	baz=341						
WHF				*e*	S	**Sg**	**07 37 02.5**	**-0.2**
	baz=341						
SSLB	**Suanglung**	**0.45**	**276**	⇑*i*	P	**Pg**	**07 36 56.3**	**-0.3**
	baz=281						
SSLB				S		**Sg**	**07 37 01.7**	**-1.1**
	baz=281						
NACB	**Ninganchiao**	**0.45**	**18**	⇑*i*	P	**Pg**	**07 36 56.4**	**-0.4**
	baz=21						
NACB				S		**Sg**	**07 37 02.7**	**-0.3**
	baz=21						
ETLH	**Xiulin Townshi**	**0.47**	**5**	P		**Pg**	**07 36 56.9**	**-0.1**
	baz=7.0						
ETLH				S		**Sg**	**07 37 03.3**	**-0.1**
	baz=7.0						
YUS	**Yu-Shan**	**0.51**	**241**	P		**Pg**	**07 36 57.8**	**-0.1**
	baz=244						
SMLT	**Sun Moon Lake**	**0.51**	**286**	⇓*i*	P	**Pb**	**07 36 57.8**	**-0.1**
	baz=285						
SMLT				S		**Sg**	**07 37 04.2**	**-0.6**
	baz=285						
WHYT	**Xinyi Township**	**0.54**	**265**	*e*P		**Pg**	**07 36 58.5**	**+0.3**
	baz=265						
WHYT				*e*	S	**Sb**	**07 37 05.1**	**-0.5**
	baz=265						
DPDB	**Guoxing**	**0.55**	**302**	⇓*i*	P	**Pg**	**07 36 58.5**	**0.0**
	baz=307						
DPDB				*e*	S	**Sb**	**07 37 05.5**	**-0.4**
	baz=307						
FULB	**Fuli**	**0.56**	**194**	*e*P		**Pb**	**07 36 58.0**	**-0.5**
	baz=202						
FULB				*e*	S	**Sn**	**07 37 08.5**	**-0.6**
	baz=202						
TYC	**Yuchr**	**0.56**	**287**	⇓*i*	P	**Pg**	**07 36 58.3**	**-0.2**
	baz=292						
TYC				*e*	S	**Sb**	**07 37 05.5**	**-0.6**
	baz=292						
TWT	**Tachien**	**0.56**	**335**	⇓*i*	P	**Pg**	**07 36 59.1**	**+0.3**
	baz=334						
TWT				*e*	S	**Sb**	**07 37 05.9**	**-0.5**
	baz=334						
TDCB	**Techi**	**0.57**	**333**	⇓*i*	P	**Pg**	**07 36 59.2**	**+0.3**
	baz=334						
TDCB				*e*	S	**Sb**	**07 37 06.0**	**-0.6**
	baz=334						
ALS	**Alishan**	**0.62**	**249**	⇑*i*	P	**Pg**	**07 37 00.1**	**+0.1**
	baz=247						
ALS				*e*	S	**Sg**	**07 37 08.8**	**+0.4**

IDC 06 07:21:30.4±78.0, 13.7°88S×166.7°28E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/23, mbtmp3.7/3, MS3.5/1, Ms1 3.5/1, ms1mx2.7/32, Error ellipse: s-maj=1308.0km s-min=124.6km az=63.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**28.83**	**227**	P	P	07 27 30.7	+0.2
	0.6nm,0.4s,baz=55,slow=11,SNR=3.4						
WRA	**Warramunga Arr**	**31.11**	**254**	P	P	07 27 50.9	0.0
	0.3nm,0.4s,baz=87,slow=8.5,SNR=1.9						
ASAR	**Alice Springs**	**32.09**	**248**	P	P	07 27 59.2	-0.3
	0.4nm,0.5s,baz=75,slow=9.5,SNR=8.2						
JNU	**Nakatsue**	**57.68**	**325**	LR	LR	07 52 35.0	

	baz=247							
CHKT	**Chengkung**	**0.64**	**186**	*e*P		**Pb**	**07 36 59.6**	**-0.3**
	baz=173							
CHKT				*e*S		**Sn**	**07 37 10.4**	**-0.8**
	baz=173							
WJS	**Zhushan**	**0.66**	**277**	*e*P		**Pn**	**07 37 01.0**	**-0.8**
	baz=276							
WJS				*e*S		**Sn**	**07 37 10.7**	**-0.9**
	baz=276							
ELDTW	**Lidau**	**0.67**	**215**	P		**Pb**	**07 36 59.5**	**-1.0**
	baz=206							
ELDTW				*e*S		**Sb**	**07 37 09.4**	**-0.1**
	baz=206							
NNSB	**Datong**	**0.69**	**356**⇑	*i*P		**Pg**	**07 37 01.0**	**-0.1**
	baz=6.0							
NNSB				*e*S		**Sg**	**07 37 10.3**	**0.0**
	baz=6.0							
NNSH	**Datong**	**0.69**	**356**⇑	*i*P		**Pg**	**07 37 00.9**	**-0.1**
	baz=5.0							
NNSH				*e*S		**Sb**	**07 37 09.4**	**-0.6**
	baz=5.0							
NNS	**Nan Shan**	**0.70**	**355**⇑	*i*P		**Pg**	**07 37 01.2**	**-0.1**
	baz=6.0							
NNS				*e*S		**Sg**	**07 37 10.4**	**-0.3**
	baz=6.0							
WHP	**Taichung City**	**0.70**	**320**⇓	*i*P		**Pg**	**07 37 01.2**	**-0.1**
	baz=320							
WHP				*e*S		**Sg**	**07 37 10.4**	**-0.2**
	baz=320							
WNT	**Mingjian**	**0.70**	**281**	*e*P		**Pn**	**07 37 02.0**	**-0.4**
	baz=280							
WNT				*e*S		**Sn**	**07 37 13.1**	**+0.4**
	baz=280							
CHN5	**Tsauling**	**0.71**	**259**	*e*P		**Pg**	**07 37 01.9**	**+0.4**
	baz=252							
CHN5				*e*S		**Sg**	**07 37 11.7**	**+0.7**
	baz=252							
ENA	**Nanau**	**0.74**	**22**	*i* P		**Pb**	**07 37 01.0**	**-0.7**
	baz=24							
ENA				*e*S		**Sb**	**07 37 10.7**	**-0.7**
	baz=24							
WGK	**Gukeng**	**0.81**	**266**	*i* P		**Pn**	**07 37 03.8**	**+0.1**
	baz=266							
WGK				*e*S		**Sn**	**07 37 15.2**	**-0.1**
	baz=266							
TCU	**Taichung**	**0.81**	**300**	*e*P		**Pn**	**07 37 04.0**	**+0.2**
	baz=302							
TCU				*e*S		**Sn**	**07 37 15.6**	**+0.3**
	baz=302							
WDLH	**Douliu**	**0.83**	**267**⇓	*i*P		**Pn**	**07 37 04.0**	**0.0**
	baz=266							
WDLH				S		**Sn**	**07 37 15.8**	**0.0**
	baz=266							
STYT	**Tauyuan**	**0.85**	**228**	P		**Pb**	**07 37 03.7**	**+0.1**
	baz=226							
STYT				*e*S		**Sb**	**07 37 14.9**	**+0.2**
	baz=226							
TWQ1	**Liyutan**	**0.86**	**315**	P		**Pn**	**07 37 04.8**	**+0.3**
	baz=315							
TWQ1				*e*S		**Sn**	**07 37 16.4**	**-0.2**
	baz=315							
NDT	**Datong Townshi**	**0.86**	**4**	*e*P		**Pb**	**07 37 03.8**	**0.0**
	baz=13							
NDT				*e*S		**Sg**	**07 37 15.7**	**0.0**
	baz=13							
TPUB	**Ta-pu**	**0.86**	**240**⇑	*i*P		**Pn**	**07 37 04.4**	**-0.2**
	baz=239							
TPUB				*e*S		**Sg**	**07 37 15.4**	**-0.3**
	baz=239							
WCHH	**Zhanghua**	**0.87**	**293**	P		**Pn**	**07 37 04.8**	**+0.1**
	baz=292							
WCHH				*e*S		**Sn**	**07 37 17.3**	**+0.4**
	baz=292							
ENTT	**Nioudou**	**0.90**	**7**	*e*P		**Pb**	**07 37 04.2**	**-0.3**
	baz=9.0							
ENTT				*e*S		**Sb**	**07 37 16.3**	**+0.1**
	baz=9.0							
WTP	**Ta-pu**	**0.90**	**237**⇑	*i*P		**Pn**	**07 37 05.2**	**0.0**
	baz=236							
WTP				*e*S		**Sn**	**07 37 17.6**	**-0.1**
	baz=236							
CHN2	**Minshiung**	**0.91**	**257**	*e*P		**Pn**	**07 37 05.5**	**+0.3**
	baz=257							
CHN2				*e*S		**Sn**	**07 37 18.5**	**+0.7**
	baz=257							
NSY	**Sanyi**	**0.91**	**317**⇓	*i*P		**Pg**	**07 37 06.3**	**+1.0**
	baz=317							
NSY				*e*S		**Sn**	**07 37 18.8**	**+0.8**
	baz=317							
YHNB	**Yeheng**	**0.93**	**356**	P		**Pb**	**07 37 05.1**	**+0.1**
	baz=357							
YHNB				*e*S		**Sg**	**07 37 17.3**	**-0.5**
	baz=357							
NSK	**Sanguang**	**0.93**	**355**	*e*P		**Pn**	**07 37 05.2**	**-0.4**
	baz=357							
NSK				*e*S		**Sb**	**07 37 16.8**	**-0.3**
	baz=357							
TWC	**Suao**	**0.94**	**23**	*e*P		**Pb**	**07 37 04.3**	**-0.8**
	baz=18							
TWC				*e*S		**Sn**	**07 37 18.8**	**+0.2**
	baz=18							
WDJ	**Dajia District**	**0.95**	**310**	P		**Pg**	**07 37 06.8**	**+0.9**
	baz=320							
WDJ				*e*S		**Sn**	**07 37 20.4**	**+1.7**
	baz=320							
CHY	**Chiayi**	**0.96**	**256**	*e*P		**Pg**	**07 37 06.0**	**-0.2**
	baz=256							
CHY				*e*S		**Sn**	**07 37 19.4**	**+0.4**
	baz=256							
NSTT	**Nanjuang**	**0.97**	**336**⇓	*i*P		**Pg**	**07 37 06.6**	**+0.3**
	baz=336							
NSTT				*e*S		**Sg**	**07 37 18.8**	**-0.4**
	baz=336							
PTSB	**Yuanli**	**0.97**	**316**	*e*P		**Pg**	**07 37 07.0**	**+0.6**
	baz=316							
PTSB				*e*S		**Sn**	**07 37 21.2**	**+1.9**
	baz=316							
TWGBT	**Beinan**	**0.98**	**200**	*e*P		**Pb**	**07 37 05.7**	**0.0**
	baz=186							
TWGBT				*e*S		**Sb**	**07 37 16.8**	**-1.4**
	baz=186							
LIOB	**Emei**	**0.98**	**337**	P		**Pg**	**07 37 07.0**	**+0.5**
	baz=339							
NMLH	**Miaoli**	**0.99**	**323**	*e*P		**Pg**	**07 37 07.7**	**+1.0**
	baz=323							
NMLH				*e*S		**Sn**	**07 37 20.6**	**+0.7**
	baz=323							
TWK	**Hsinying**	**0.99**	**242**	P		**Pg**	**07 37 06.7**	**0.0**
	baz=242							
TWK				*e*S		**Sn**	**07 37 20.4**	**+0.5**
	baz=242							
TWE	**Neicheng**	**1.00**	**12**	*e*P		**Pb**	**07 37 05.5**	**-0.6**
	baz=23							
TWE				*e*S		**Sg**	**07 37 20.8**	**+0.8**
	baz=23							
RLNB	**Erlin**	**1.00**	**279**	*e*P		**Pn**	**07 37 06.3**	**-0.1**
	baz=278							
RLNB				*e*S		**Sg**	**07 37 20.8**	**+0.8**
	baz=278							
CHN1	**Nanshi**	**1.00**	**237**	P		**Pg**	**07 37 07.2**	**+0.2**
	baz=237							
CHN1				*e*S		**Sg**	**07 37 21.5**	**+1.3**
	baz=237							
SNST	**Tainan City**	**1.01**	**239**	*e*P		**Pg**	**07 37 07.2**	**+0.2**
	baz=239							
SNST				*e*S		**Sg**	**07 37 21.3**	**+1.0**
	baz=239							
SGST	**Jiashian**	**1.02**	**230**	*e*P		**Pb**	**07 37 06.5**	**-0.1**
	baz=237							
SGST				*e*S		**Sg**	**07 37 21.2**	**+0.4**
	baz=237							
TWH	**Lutao**	**1.03**	**178**	*e*P		**Pb**	**07 37 05.9**	**-0.7**
	baz=178							
TWH				*e*S		**Sb**	**07 37 19.3**	**-0.4**
	baz=178							
NWLT	**Wulai**	**1.03**	**3**	*e*P		**Pg**	**07 37 07.3**	**-0.2**
	baz=14							
NWLT				*e*S		**Sn**	**07 37 20.8**	**-0.1**
	baz=14							
SLGT	**Liugui**	**1.04**	**225**	*e*P		**Pg**	**07 37 07.3**	**-0.4**
	baz=225							
SLGT				*e*S		**Sg**	**07 37 21.2**	**-0.2**
	baz=225							
ILA	**Ilan**	**1.06**	**15**	*e*P		**Pg**	**07 37 07.7**	**-0.3**
	baz=19							
WTCT	**Ta-ch'eng**	**1.07**	**277**	*e*P		**Pb**	**07 37 07.2**	**-0.1**
	baz=276							
WMLT	**Mailiao**	**1.12**	**273**	*e*P		**Pb**	**07 37 08.4**	**+0.3**
	baz=272							
WSF	**Szhu**	**1.12**	**265**	*e*P		**Pg**	**07 37 08.9**	**-0.2**
	baz=266							
WSF				*e*S		**Sg**	**07 37 23.6**	**-0.3**
	baz=266							
SBCB	**Hsinchu**	**1.13**	**339**	*e*P		**Pb**	**07 37 08.1**	**-0.2**
	baz=338							
SBCB				*e*S		**Sg**	**07 37 25.5**	**+1.5**
	baz=338							
HSN	**Hsinchu**	**1.14**	**338**	*e*P		**Pg**	**07 37 10.2**	**+0.6**
	baz=325							
NTC	**Toucheng**	**1.17**	**18**	*e*P		**Pb**	**07 37 08.8**	**-0.1**
	baz=18							
NTC				*e*S		**Sg**	**07 37 26.0**	**+0.7**
	baz=18							
CHN3	**Shinhua**	**1.19**	**236**	*e*P		**Pg**	**07 37 11.1**	**+0.7**
	baz=232							
EGS		**1.19**	**22**	*e*P		**Pg**	**07 37 09.9**	**-0.5**
	baz=26							
CHN8	**Yiju**	**1.19**	**251**	*e*P		**Pb**	**07 37 09.3**	**-0.2**
	baz=252							
CHN8				*e*S		**Sg**	**07 37 26.1**	**-0.1**
	baz=252							
NHDH	**Xindian Distri**	**1.22**	**4**	*e*P		**Pb**	**07 37 10.0**	**+0.1**
	baz=15							
ECL	**Taimali**	**1.22**	**201**	*e*P		**Pn**	**07 37 09.2**	**-0.4**
	baz=183							
TATO	**Taipei**	**1.23**	**2**	*e*P		**Pb**	**07 37 10.0**	**-0.1**
	baz=16							
TATO				*e*S		**Sg**	**07 37 27.8**	**+0.4**
	baz=16							
SSD	**Sandimen**	**1.24**	**217**	*e*P		**Pb**	**07 37 10.5**	**+0.3**
	baz=212							
TWA	**Mucha**	**1.24**	**6**	*e*P		**Pn**	**07 37 09.9**	**+0.1**
	baz=21							
TWA				*e*S		**Sg**	**07 37 28.2**	**+0.5**
	baz=21							
NCUH	**Zhongli**	**1.24**	**349**	*e*P		**Pg**	**07 37 11.2**	**-0.2**
	baz=349							
NCUH				*e*S		**Sg**	**07 37 28.7**	**+0.9**
	baz=349							
NCU	**National Centr**	**1.25**	**349**	*e*P		**Pb**	**07 37 10.7**	**+0.4**
	baz=349							
NCU				*e*S		**Sg**	**07 37 29.5**	**+1.7**
	baz=349							
TIPB	**Shuangxi**	**1.28**	**16**	*e*P		**Pn**	**07 37 09.7**	**-0.6**
	baz=16							
TIPB				*e*S		**Sn**	**07 37 25.2**	**-1.7**
	baz=16							
TAP	**Taipei**	**1.29**	**3**	*e*P		**Pn**	**07 37 10.4**	**-0.1**
	baz=20							
TAP1	**Taipei**	**1.29**	**3**	*e*P		**Pn**	**07 37 10.3**	**-0.2**
	baz=18							
TAP1				*e*S		**Sg**	**07 37 30.2**	**+0.8**
	baz=18							
MASBT	**Mashibuluo**	**1.35**	**214**	*e*P		**Pn**	**07 37 11.4**	**+0.2**
	baz=208							
TWS1	**Kuangyinshan**	**1.35**	**359**	*e*P		**Pb**	**07 37 12.6**	**+0.4**
	baz=13							
TWS1				*e*S		**Sg**	**07 37 33.1**	**+1.8**
	baz=13							
TWB1	**Santiao Chiao**	**1.36**	**22**	*e*P		**Pn**	**07 37 11.4**	**0.0**
	baz=26							
NWF	**Wu-fen Shan**	**1.36**	**13**	*e*P		**Pg**	**07 37 13.2**	**-0.6**
	baz=28							
WFSB	**Wu-fen Shan**	**1.36**	**13**	*e*P		**Pb**	**07 37 12.8**	**+0.5**
	baz=27							
YM01	**YM01**	**1.41**	**5**	*e*P		**Pb**	**07 37 12.7**	**-0.4**
	baz=28							
YM04	**YM04**	**1.41**	**4**	*e*P		**Pn**	**07 37 12.1**	**0.0**
	baz=27							
YM10	**YM10**	**1.41**	**4**	*e*P		**Pb**	**07 37 13.3**	**0.0**
	baz=19							
YM10				*e*S		**Sg**	**07 37 33.0**	**-0.2**
	baz=19							
NTST	**Danshui**	**1.42**	**0**	*e*P		**Pb**	**07 37 12.8**	**-0.5**
	baz=25							
YM05	**YM05**	**1.42**	**5**	*e*P		**Pg**	**07 37 14.7**	**-0.2**
	baz=28							
YM11	**YM11**	**1.42**	**5**	*e*P		**Pn**	**07 37 12.2**	**-0.2**
	baz=28							
YM03	**YM03**	**1.44**	**4**	*e*P		**Pb**	**07 37 13.7**	**+0.1**
	baz=26							
ANP	**Anpu**	**1.44**	**3**	*e*P		**Pb**	**07 37 14.4**	**+0.6**
	baz=26							
YM08	**YM08**	**1.45**	**5**	*e*P		**Pn**	**07 37 11.8**	**-0.9**
	baz=5.0							
YM08				*e*S		**Sg**	**07 37 33.2**	**-1.1**
	baz=5.0							
EAST	**Anshuo**	**1.46**	**202**	*e*P		**Pb**	**07 37 14.0**	**+0.1**
	baz=185							
TWY	**Chenhua**	**1.54**	**5**	*e*P		**Pb**	**07 37 14.5**	**-0.7**
	baz=27							
JYNG	**Yonaguni jima**	**1.55**	**63**	P		**Pn**	**07 37 14.3**	**+0.3**
JYNG				S		**Sb**	**07 37 34.3**	**-0.4**
SCZT	**Fangliau**	**1.56**	**209**	*e*P		**Pb**	**07 37 15.0**	**-0.6**
	baz=209							
SCZT				*e*S		**Sb**	**07 37 35.8**	**+0.9**
	baz=209							
YOJ	**Yonaguni jima**	**1.61**	**63**	*e*P		**Pn**	**07 37 15.0**	**+0.3**
	baz=62							
YOJ				*e*S		**Sn**	**07 37 35.0**	**0.0**
	baz=62							
YOJ	**Yonaguni jima**	**1.61**	**63**	P		**Pn**	**07 37 15.2**	**+0.4**
YOJ				*e*S		**Sb**	**07 37 35.8**	**-0.6**
WLCH	**Liuqiu**	**1.69**	**215**	*e*P		**Pg**	**07 37 20.1**	**+0.1**
	baz=227							
WDGT	**Dungji**	**1.70**	**254**	P		**Pn**	**07 37 16.2**	**+0.1**
	baz=256							
WDGT				*e*S		**Sb**	**07 37 38.5**	**-0.6**
	baz=256							
PHUB	**P'eng-hu**	**1.73**	**263**	*e*P		**Pn**	**07 37 16.2**	**-0.2**
	baz=243							
PNG	**Penghu**	**1.74**	**265**	*e*P		**Pn**	**07 37 16.8**	**+0.2**
	baz=263							
TWK1	**Hengchun**	**1.88**	**198**	*e*P		**Pn**	**07 37 19.5**	**+0.9**
	baz=184							
TWKBT	**Hengchun**	**1.88**	**198**	*e*P		**Pb**	**07 37 21.2**	**0.0**
	baz=184							
VCHM	**Qimei**	**1.92**	**254**	*e*P		**Pn**	**07 37 18.8**	**-0.3**
	baz=251							
PCYT	**Pengchaiyu**	**1.97**	**17**	*e*P		**Pn**	**07 37 18.1**	**-1.7**
	baz=21							
IRIF	**Iriomote-Funau**	**2.18**	**74**	P		**Pn**	**07 37 23.0**	**+0.4**
IRIF				*e*S		**Sn**	**07 37 50.2**	**+1.1**
HATJ	**Hateruma jima**	**2.19**	**81**	P		**Pn**	**07 37 22.9**	**+0.1**
HATJ				*e*S		**Sn**	**07 37 49.2**	**-0.2**
VWUC	**VWUC**	**2.20**	**305**	*e*P		**Pn**	**07 37 22.7**	**-0.2**
	baz=305							
PTTC	**Pingtan**	**2.32**	**319**	*e*P		**Pn**	**07 37 24.7**	**+0.1**
	baz=322							
JKRS	**Kuro-shima**	**2.40**	**78**	P		**Pn**	**07 37 26.6**	**+0.9**
JKRS				S		**Sn**	**07 37 55.7**	**+1.0**
PTMZ	**Houxiangcun**	**2.48**	**302**	*e*P		**Pn**	**07 37 25.9**	**-0.9**
	baz=301							
JIJ	**Ishigaki jima**	**2.55**	**75**	P		**Pn**	**07 37 27.7**	**-0.1**
JIJ				*e*S		**Sn**	**07 37 57.6**	**-0.7**
JISG	**Ishigakijimahi**	**2.75**	**72**	P		**Pn**	**07 37 30.6**	**0.0**
JISG				S		**Sn**	**07 38 02.9**	**-0.5**
MATB	**Ma-tsu**	**2.76**	**331**	*e*P		**Pn**	**07 37 30.3**	**-0.4**
	baz=336							
KNMB	**Chin-men Tao**	**2.88**	**285**	*e*P		**Pn**	**07 37 32.1**	**-0.2**
	baz=273							
LYJJ	**Jianjiangzhen**	**3.18**	**332**	*e*P		**Pn**	**07 37 36.3**	**-0.2**
	baz=339							
MHZQ	**Yeshan**	**3.21**	**318**	*e*P		**Pn**	**07 37 36.8**	**-0.1**
	baz=318							
AXDP	**Jialang**	**3.37**	**291**	*e*P		**Pn**	**07 37 39.4**	**+0.4**
	baz=289							
XPSS	**Dashiqiu**	**3.37**	**341**	*e*P		**Pn**	**07 37 39.0**	**-0.1**
	baz=332							
ZPLA	**Ao Xicun**	**3.38**	**274**	*e*P		**Pn**	**07 37 39.5**	**+0.2**
	baz=274							
ZZJH	**Jiuzhen**	**3.56**	**283**	*e*P		**Pn**	**07 37 41.4**	**-0.2**
	baz=272							
JIRB	**Irabujima**	**3.58**	**72**	P		**Pn**	**07 37 42.4**	**+0.5**
JIRB				S		**Sn**	**07 38 24.1**	**+0.5**
JIKM	**Ikemajima**	**3.67**	**71**	P		**Pn**	**07 37 43.4**	**+0.2**
JIKM				S		**Sn**	**07 38 26.8**	**+0.9**
JMJ2	**Miyako jima3**	**3.69**	**74**	P		**Pn**	**07 37 44.0**	**+0.6**
JMJ2				S		**Sn**	**07 38 27.4**	**+1.0**
JOGS	**Gusukube**	**3.76**	**74**	P		**Pn**	**07 37 43.0**	**-1.4**

*IDC **06** 07:42:23.6±1.2,24°.24S×66°.87W,h173km±13km,mb3.4/4, mb1 3.6/8,mb1mx3.4/26,mbtmp4.0/8,MS2.4/1,Ms1 2.4/1, ms1mx2.2/14,Error ellipse: s-maj=19.5km s-min=16.3km az=75.0*

*NEIC **06** 07:42:23.8±2.2,24°.27S±0°.05×67°.0W±0°.1,h179km±6km, mb4.3/20,Error ellipse: s-maj=13.3km s-min=7.4km az=84.0*

ISC 06 07:42:23.6±1.0,24°.29S±0°.04×67°.03W±0°.09,h178km±9km, n60,σ1s30/74,mb4.3/12,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.41**	**314**	P	**Pn**	**07 43 07.4**	**+1.8**
	31nm,0.3s,baz=147,slow=8.6,SNR=32						
LVC				S	**Sn**	**07 43 38.7**	**+0.8**
	15nm,0.3s,baz=244,slow=18,SNR=5.6						
LVC				LR	LR	07 44 05.9	
	comp=Z,80nm,20.4s,baz=217,slow=41						
LVC	**Limon Verde**	**2.41**	**314**		**Pn**	**07 43 07.3**	**+1.8**
LVC				Sn	**Sn**	**07 43 38.4**	**+0.5**
PB15	**IPOC Station P**	**2.48**	**295**	Pn	**Pn**	**07 43 08.0**	**+1.7**
PB15				Sn	**Sn**	**07 43 39.7**	**+0.4**
GO02	**Mina Guanaco**	**2.49**	**249**	Pn	**Pn**	**07 43 08.3**	**+1.9**
GO02				Sn	**Sn**	**07 43 41.3**	**+1.7**
PB06	**IPOC Station P**	**2.82**	**303**	Pn	**Pn**	**07 43 11.5**	**+1.3**
PB06				Sn	**Sn**	**07 43 46.1**	**-0.2**
AC02	**Maricunga**	**3.17**	**216**		**Pn**	**07 43 16.8**	**+2.1**
PB10	**IPOC Station P**	**3.32**	**283**		**Pn**	**07 43 17.7**	**+1.5**
PB10				Sn	**Sn**	**07 43 56.3**	**-0.8**
PB04	**IPOC Station P**	**3.47**	**303**	Pn	**Pn**	**07 43 19.1**	**+1.0**
PB04				Sn	**Sn**	**07 43 59.1**	**-1.6**
PB07	**IPOC Station P**	**3.67**	**313**	Pn	**Pn**	**07 43 21.3**	**+0.7**
PB07				Sn	**Sn**	**07 44 03.1**	**-2.1**
AC01	**Pan de Azucar**	**3.73**	**239**	Pn	**Pn**	**07 43 21.6**	**+0.4**
AC01				Sn	**Sn**	**07 44 05.2**	**-1.2**
PB01	**IPOC Station P**	**3.95**	**324**	Pn	**Pn**	**07 43 25.4**	**+1.2**
PB01				Sn	**Sn**	**07 44 09.1**	**-2.4**
GO03	**Copiap**	**4.38**	**221**		**Pn**	**07 43 29.9**	**+0.3**
GO03				Sn	**Sn**	**07 44 19.9**	**-1.5**
PATCX	**Punta Patache**	**4.50**	**319**	Pn	**Pn**	**07 43 31.9**	**+0.7**
PATCX				Sn	**Sn**	**07 44 20.9**	**-3.2**
PB08	**IPOC Station P**	**4.57**	**334**	Pn	**Pn**	**07 43 34.0**	**+1.5**
PB08				Sn	**Sn**	**07 44 24.9**	**-1.4**
TA01	**Diego Aracena**	**4.71**	**321**	Pn	**Pn**	**07 43 34.5**	**+0.6**
GO01	**Chusmiza**	**5.02**	**336**	Pn	**Pn**	**07 43 39.5**	**+1.1**
PB11	**IPOC Station P**	**5.12**	**331**	Pn	**Pn**	**07 43 39.1**	**-0.3**
AC04	**Llanos de Chal**	**5.33**	**222**	Pn	**Pn**	**07 43 41.2**	**-0.7**
AC05	**El Transito**	**5.38**	**212**	Pn	**Pn**	**07 43 42.8**	**+0.2**
MNMC	**Minye Minye**	**5.66**	**335**	Pn	**Pn**	**07 43 47.8**	**+1.3**
CO01	**Juntas del Tor**	**6.29**	**205**	Pn	**Pn**	**07 43 55.5**	**+0.9**
GO04	**Tololo Observa**	**6.76**	**209**	Pn	**Pn**	**07 43 58.9**	**-1.9**
CO03	**El Pedregal**	**7.29**	**206**	Pn	**Pn**	**07 44 05.5**	**-2.1**
CFA	**Coronel Fontan**	**7.37**	**188**	P	**Pn**	**07 44 08.7**	**+0.1**
	1.2nm,0.3s,baz=53,slow=20,SNR=26						
CFA				S	**Sn**	**07 45 27.6**	**-4.0**
	1.7nm,0.3s,baz=149,slow=9.6,SNR=7.6						
LPAZ	**La Paz**	**8.03**	**352**		**Pn**	**07 44 18.3**	**+0.4**
VA03	**San Esteban**	**9.00**	**199**	Pn	**Pn**	**07 44 30.4**	**+0.3**
SIV	**San Ignacio**	**9.97**	**35**	P	**Pn**	**07 44 40.7**	**-2.2**
	1.3nm,0.3s,baz=224,slow=11,SNR=28						
BDFB	**Brasilia**	**19.81**	**68**	P	**P**	**07 46 40.4**	**-0.5**
	0.8nm,0.3s,baz=237,slow=9.6,SNR=11						
BDFB	**Brasilia**	**19.81**	**68**	P	**P**	**07 46 41.0**	**+0.1**
BDFB				IAmb	IAmb	07 46 41.0	
	comp=Z,8.7nm,0.9s						
COYC	**Coyhaique**	**21.63**	**190**	P	**P**	**07 47 01.4**	**+1.7**
COYC				IAmb	IAmb	07 47 11.8	
	comp=Z,16nm,1.2s						
FSCY	**Frank Sound, G**	**45.48**	**341**	P	**P**	**07 50 23.1**	**-2.1**
SNAA	**Sanae**	**59.09**	**161**	P	**P**	**07 52 05.5**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=286,slow=8.8,SNR=16						
SNAA	**Sanae**	**59.09**	**161**	P	**P**	**07 52 05.8**	**+0.9**
SNAA				IAmb	IAmb	07 52 08.1	
	comp=Z,3.6nm,1.2s						
SNAA				PcP	**PcP**	**07 52 52.5**	**+0.8**
GOGA	**Godfrey**	**59.48**	**344**	P	**P**	**07 52 07.9**	**0.0**
GOGA				IAmb	IAmb	07 52 13.6	
	comp=Z,5.8nm,0.9s						
JSC	**Jenkinsville**	**59.80**	**346**	P	**P**	**07 52 10.5**	**+0.5**
JSC				IAmb	IAmb	07 52 29.8	
	comp=Z,6.3nm,1.4s						
WVT	**Waverly**	**63.23**	**341**	P	**P**	**07 52 32.3**	**-0.7**
WVT				IAmb	IAmb	07 52 32.9	
	comp=Z,3.0nm,0.7s						
MIAR	**Mount Ida**	**63.71**	**336**	P	**P**	**07 52 36.4**	**+0.2**
QSPA	**South Pole Qui**	**65.92**	**180**	P	**P**	**07 52 51.7**	**+1.3**
JFWS	**Jewell Farm**	**70.21**	**342**	P	**P**	**07 53 17.1**	**+0.1**
JFWS				IAmb	IAmb	07 53 17.4	
	comp=Z,3.6nm,0.6s						
I42A	**Draeger Farm,**	**70.75**	**343**	P	**P**	**07 53 20.2**	**-0.1**
E46A	**Sault Ste Mari**	**72.04**	**348**	P	**P**	**07 53 27.8**	**-0.2**
D41A	**Chassel**	**73.63**	**345**	P	**P**	**07 53 37.8**	**+0.5**
D41A				IAmb	IAmb	07 53 49.9	
	comp=Z,10.0nm,1.1s						
DRLN	**Deer Lake**	**73.70**	**6**	P	**P**	**07 53 37.7**	**0.0**
F36A	**Milaca**	**73.85**	**341**	P	**P**	**07 53 38.8**	**+0.2**
F36A				IAmb	IAmb	07 53 43.0	
	comp=Z,5.5nm,1.4s						
B35A	**Bob, Littlefor**	**76.18**	**342**	P	**P**	**07 53 52.5**	**+0.6**
TOA0	**Torodi Ar. Sit**	**76.69**	**69**	P	**P**	**07 53 54.9**	**-0.6**
TOA0				IAmb	IAmb	07 53 57.3	
	comp=Z,11nm,1.5s						
TORD	**Torodi Ar. Bea**	**76.69**	**69**	P	**P**	**07 53 54.4**	**-1.2**
	comp=Z,0.7nm,0.3s,baz=254,slow=5.3,SNR=13						
NVAR	**Mina Array Bea**	**78.75**	**321**	P	**P**	**07 54 08.1**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=159,slow=5.8,SNR=2.1						
BOSA	**Boshof**	**80.62**	**117**	P	**P**	**07 54 15.3**	**-1.8**
LBTB	**Lobatse**	**82.29**	**114**	P	**P**	**07 54 26.4**	**+0.6**
YKA	**Yellowknife Ar**	**94.39**	**340**	P	**P**	**07 55 22.7**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=133,slow=4.7,SNR=13						
ASAR	**Alice Springs**	**128.19**	**205**	PKP	**PKPdf**	**08 01 09.5**	**0.0**
	comp=Z,0.5nm,0.7s,baz=149,slow=1.8,SNR=5.9						
WR0	**Warramunga Arr**	**131.26**	**207**	PKPdf	**PKPdf**	**08 01 15.6**	**+0.2**
WB2	**Warramunga Ar

120nm,1.0s
MK31 Makanchi Array 8.74 221 ⇓Pn **Pn 07 55 32.9 +0.2**
0.6nm,0.5s,baz=38,slow=13,SNR=15
MK31 ⇑Sn **Sn 07 57 11.7 -0.2**
3.9nm,0.8s,baz=43,slow=26,SNR=4.1
MK31 ⇓Lg Lg 07 58 01.2
23nm,0.9s,baz=32,slow=23,SNR=3.6
MKAR Makanchi Array 8.74 221 Pn **Pn 07 55 33.7 +0.9**
0.3nm,0.3s,baz=30,slow=12,SNR=11
MKAR Sn **Sn 07 57 13.0 +1.1**
0.2nm,0.3s,baz=34,slow=22,SNR=3.0
MKAR Lg Lg 07 58 02.6
0.1nm,0.3s,baz=28,slow=15,SNR=4.5
MAKZ Makanchi 8.85 222 ⇑Pn **Pn 07 55 34.6 +0.3**
1.6nm,0.8s
MAKZ ⇓Sn **Sn 07 57 13.6 -1.1**
5.3nm,1.1s
MAKZ ⇑Lg Lg 07 58 03.8
30nm,1.1s
SONM Songino Array 11.55 114 Pn **Pn 07 56 11.4 +0.2**
0.2nm,0.3s,baz=342,slow=9.1,SNR=2.3
SONM Lg Lg 07 59 20.4
0.3nm,0.3s,baz=300,slow=22,SNR=8.8
NRIK Noril'sk 15.77 356 Lg Lg 08 01 43.9
0.3nm,0.3s,baz=144,slow=17,SNR=1.5

*NNC **06** 08:00:03.8±2.0,54.°13N×86.°67E,h3km±18km,mb3.5, mpv3.2,Error ellipse: s-maj=26.8km s-min=10.5km az=179.0,Suspected Mining explosion.*
*IDC **06** 08:00:08.0±2.6,54.°13N×86.°44E,h0km,mb1 3.2/2, mb1mx3.0/39,mbtmp3.2/2,ML2.8/2,Error ellipse: s-maj=19.3km s-min=11.7km az=61.0*
ISC 06 08:00:01.6±4.0,54.°3N±0.°2×86.°7E±0.°2,h0km,n9,σ0s49/12, 2C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.17**	**254**	*i*		08 06 38.5	
	baz=77,slow=318,SNR=2.4						
ZAA0	**Zalesovo Array**	**1.17**	**254**	P	**Pn**	**08 00 24.8**	**-0.3**
	0.6nm,0.8s						
ZAA0				S	**Sb**	**08 00 40.1**	**-0.3**
	2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**1.17**	**254**	Pg	**Pn**	**08 00 25.4**	**+0.2**
	1.3nm,0.3s,baz=80,slow=17,SNR=9.0						
ZALV				Lg	Lg	08 00 40.5	
	3.4nm,0.3s,baz=80,slow=28,SNR=19						
KURK	**Kurchatov**	**6.10**	**237**	Pn	**Pn**	**08 01 33.3**	**+0.3**
	4.4nm,1.0s						
KURK				Lg	Lg	08 03 14.0	
	8.0nm,0.8s						
KURBB	**Kurchatov Arra**	**6.21**	**237**	Pn	Pn	08 01 38.8	+4.5
	0.2nm,0.3s,baz=55,slow=14,SNR=5.1						
KURBB				Sn	**Sn**	**08 02 46.9**	**+1.0**
	0.0nm,0.3s,baz=52,slow=22,SNR=1.4						
KURBB				Lg	Lg	08 03 18.4	
	0.1nm,0.3s,baz=62,slow=32,SNR=6.4						
KURBB	**Kurchatov Arra**	**6.21**	**237**	Pn	**Pn**	**08 01 34.1**	**-0.2**
	5.7nm,0.9s						
KURBB				Sn	**Sn**	**08 02 45.5**	**-0.4**
	5.0nm,0.8s						
KURBB				Lg	Lg	08 03 16.9	
	11nm,0.8s						
MK31	**Makanchi Array**	**8.01**	**202**	Pn	**Pn**	**08 01 58.8**	**-0.4**
	1.6nm,0.6s,baz=27,slow=14,SNR=11						
MK31				Sn	**Sn**	**08 03 30.5**	**+0.1**
	0.7nm,0.6s,baz=23,slow=27,SNR=5.3						
MK31				⇑Lg	Lg	08 04 12.8	
	1.9nm,0.7s,baz=36,slow=31,SNR=3.6						
MKAR	**Makanchi Array**	**8.01**	**202**	Pn	Pn	08 02 04.0	+4.8
	0.2nm,0.3s,baz=24,slow=12,SNR=6.9						
MKAR				Sn	**Sn**	**08 03 30.4**	**+0.1**
	0.2nm,0.3s,baz=14,slow=23,SNR=6.9						
MKAR				Lg	Lg	08 04 16.0	
	0.1nm,0.3s,baz=31,slow=29,SNR=5.4						
MAKZ	**Makanchi**	**8.07**	**204**	⇓Pn	**Pn**	**08 02 00.5**	**+0.6**
	3.1nm,0.6s						
MAKZ				Sn	**Sn**	**08 03 31.4**	**-0.4**
	1.4nm,0.9s						
MAKZ				⇑Lg	Lg	08 04 14.4	
	4.7nm,1.2s						

IDC 06 08:21:11.7±3.3,54.°18N×87.°24E,h0km,mb1 2.9/2, mb1mx2.8/36,mbtmp2.9/2,ML2.7/2,Error ellipse: s-maj=30.3km s-min=19.4km az=49.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.45**	**262**	*i*		08 30 33.0	
	baz=79,slow=327,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.45**	**262**	Pg	Pn	08 21 38.6	-0.5
	2.5nm,0.3s,baz=81,slow=14,SNR=15						
ZALV				Lg	Lg	08 21 58.1	
	2.1nm,0.3s,baz=86,slow=26,SNR=7.5						
KURBB	**Kurchatov Arra**	**6.41**	**240**	Pn	Pn	08 22 47.0	-0.2
	0.1nm,0.3s,baz=57,slow=14,SNR=1.9						
KURBB				Lg	Lg	08 24 39.2	
	0.0nm,0.3s,baz=265,slow=10,SNR=0.9						
MKAR	**Makanchi Array**	**8.04**	**205**	Pn	Pn	08 23 11.2	+1.5
	0.1nm,0.3s,baz=27,slow=14,SNR=7.1						
MKAR				Lg	Lg	08 25 25.1	
	0.0nm,0.3s,baz=25,slow=4.8,SNR=1.4						

*IDC **06** 08:42:55.5±3.0,54.°27N×87.°66E,h0km,mb1 3.0/2, mb1mx2.9/49,mbtmp3.0/2,ML2.3/2,Error ellipse: s-maj=24.5km s-min=17.7km az=44.0*
*ASRS **06** 08:42:56.3,54.°23N×87.°19E,M1.8,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*NNC **06** 08:42:57.5±2.3,54.°24N×87.°24E,h0km,mb3.3,mpv3.1, Error ellipse: s-maj=19.1km s-min=10.8km az=19.0, Suspected Mining explosion.*
ISC 06 08:42:56.4±1.9,52.°85N±0.°06×86.°6E±0.°1,h0km,n9, σ2s36/14,9C-5D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.52**	**317**	*i*		08 52 00.7	
	baz=76,slow=317,SNR=6.3						
ZAA0	**Zalesovo Array**	**1.52**	**317**	⇑P	**Pn**	**08 43 23.9**	**-0.9**
	1.0nm,0.6s						
ZAA0				⇓S	**Sn**	**08 43 44.1**	**-1.3**
	2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**1.52**	**317**	Pg	**Pg**	**08 43 25.4**	**-0.2**
	0.8nm,0.3s,baz=80,slow=17,SNR=16						
ZALV				Lg	Lg	08 43 50.1	
	1.5nm,0.3s,baz=78,slow=25,SNR=5.8						
KURK	**Kurchatov**	**5.38**	**250**	⇑Pn	**Pb**	**08 44 34.8**	**+3.6**
	2.1nm,0.8s						
KURK				⇑Sn	**Sg**	**08 45 47.3**	**-1.7**
	2.5nm,0.8s						
KURK				⇓Lg	Lg	08 46 21.0	
	9.1nm,1.0s						
KURBB	**Kurchatov Arra**	**5.47**	**249**	Pn	**Pb**	**08 44 34.8**	**+2.0**
	0.0nm,0.3s,baz=55,slow=14,SNR=18						
KURBB				Sn	**Sg**	**08 45 52.0**	**-0.1**
	0.1nm,0.3s,baz=56,slow=24,SNR=4.9						
KURBB				Lg	Lg	08 46 25.8	
	0.0nm,0.3s,baz=58,slow=33,SNR=4.5						
KURBB	**Kurchatov Arra**	**5.47**	**249**	⇓Pn	**Pb**	**08 44 35.9**	**+3.1**
	3.0nm,0.8s						
KURBB				⇑Sn	**Sg**	**08 45 49.8**	**-2.2**
	6.8nm,0.7s						
KURBB				⇓Lg	Lg	08 46 25.7	
	23nm,0.9s						
MK31	**Makanchi Array**	**6.66**	**206**	⇑Pn	**Pb**	**08 44 53.6**	**+0.6**
	0.5nm,0.6s,baz=27,slow=12,SNR=7.3						
MK31				⇑Sn	**Sg**	**08 46 28.1**	**-2.1**
	2.1nm,0.8s,baz=30,slow=27,SNR=14						
MK31				⇑Lg	Lg	08 47 17.6	
	10nm,1.1s,baz=27,slow=31,SNR=4.3						
MKAR	**Makanchi Array**	**6.66**	**206**	Pn	Pg	08 44 58.0	-6.0
	0.1nm,0.3s,baz=28,slow=13,SNR=5.4						
MKAR				Sn	**Sg**	**08 46 28.3**	**-1.9**
	0.1nm,0.3s,baz=28,slow=26,SNR=18						
MKAR				Lg	Lg	08 47 11.0	
	0.0nm,0.3s,baz=15,slow=29,SNR=2.0						
MAKZ	**Makanchi**	**6.74**	**208**	⇓Pn	**Pb**	**08 44 57.8**	**+3.5**
	1.8nm,0.6s						
MAKZ				⇑Sn	**Sg**	**08 46 31.0**	**-1.6**
	6.7nm,0.8s						
MAKZ				⇑Lg	Lg	08 47 15.4	

9.9nm,0.9s

*BEO **06** 08:55:42.9±0.9,38.°16N×20.°29E,h23km±5km,ML3.3/6*
*PDG **06** 08:55:43.5±0.4,38.°31N×20.°47E,h19km,ML3.5/11,Error ellipse: s-maj=0.9km s-min=1.2km az=0.0*
*ATH **06** 08:55:44.1,38.°31N×20.°55E,h17km±1km,ML3.4/8,Error ellipse: s-maj=1.5km s-min=0.8km az=260.0*
*THE **06** 08:55:44.2,38.°31N×20.°50E,h15km,ML3.5/12,Error ellipse: s-maj=0.7km s-min=0.3km az=269.0*
ISC 06 08:55:44.2±0.8,38.°31N±0.°02×20.°51E±0.°02,h16km±4km, n119,σ0s72/164,7C-6D,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEF4	**Livadi, Kephal**	**0.09**	**231**	P	**Pg**	**08 55 47.6**	**+0.2**
KEF4				S	**Sg**	**08 55 49.9**	**+0.4**
VSK1	**VASILIKIADES**	**0.10**	**23**	P	**Pg**	**08 55 47.7**	**+0.1**
VSK1				S	**Sg**	**08 55 50.2**	**+0.4**
	70μm,0.2s						
LXRA	**Lixouri, Kepha**	**0.13**	**208**	P	**Pg**	**08 55 48.1**	**+0.3**
LXRA				S	**Sg**	**08 55 51.3**	**+1.1**
ARG2	**Argostoli**	**0.14**	**188**	P	**Pg**	**08 55 48.0**	**+0.1**
ARG2				S	**Sg**	**08 55 50.8**	**+0.4**
	51μm,0.2s						
ARGA	**Argostoli. Kep**	**0.14**	**191**	P	**Pg**	**08 55 48.0**	**0.0**
ARGA				S	**Sg**	**08 55 50.3**	**-0.2**
ARGA				AML	AML	08 55 51.7	
	comp=E,38230μm,0.2s						
ARGA				AML	AML	08 55 51.7	
	comp=N,53411μm,0.3s						
VLS	**Valsamata**	**0.15**	**156**	P	**Pg**	**08 55 48.1**	**-0.1**
VLS				S	**Sg**	**08 55 50.9**	**+0.1**
	comp=N,56μm,0.2s						
VLS	**Valsamata**	**0.15**	**156**	P	**Pg**	**08 55 48.1**	**-0.1**
VLS				S	**Sg**	**08 55 50.5**	**-0.3**
VLS				AML	AML	08 55 51.2	
VLS				AML	AML	08 55 51.3	
	comp=N,95478μm,0.2s						
FSK	**Fiskardo**	**0.15**	**15**	P	**Pg**	**08 55 48.2**	**+0.1**
FSK				S	**Sg**	**08 55 51.3**	**+0.5**
	comp=N,19μm,0.2s						
FSK	**Fiskardo**	**0.15**	**15**	P	**Pg**	**08 55 48.2**	**+0.1**
FSK				S	**Sg**	**08 55 50.7**	**-0.1**
FSK				AML	AML	08 55 51.3	
	comp=N,28396μm,0.2s						
FSK				AML	AML	08 55 51.5	
	comp=E,48357μm,0.2s						
KEF3	**Kipouria, Keph**	**0.17**	**230**	P	**Pg**	**08 55 48.6**	**+0.2**
KEF3				S	**Sg**	**08 55 51.7**	**+0.5**
KFL	**Anninata**	**0.30**	**133**	P	**Pg**	**08 55 50.3**	**-0.2**
KFL				S	**Sg**	**08 55 55.0**	**+0.2**
	comp=E,20μm,0.3s						
KFL	**Anninata**	**0.30**	**133**	P	**Pg**	**08 55 50.3**	**-0.2**
KFL				S	**Sg**	**08 55 54.2**	**-0.5**
KFL				AML	AML	08 55 55.9	
	comp=E,48982μm,0.3s						
KFL				AML	AML	08 55 55.9	
	comp=N,30238μm,0.3s						
EVGI	**Lefkada island**	**0.33**	**20**	P	**Pg**	**08 55 51.0**	**0.0**
EVGI	**Lefkada island**	**0.33**	**20**	P	**Pg**	**08 55 51.0**	**0.0**
EVGI				S	**Sg**	**08 55 54.2**	**-1.4**
MGNA	**Meganis**	**0.41**	**33**	P	**Pg**	**08 55 52.0**	**-0.4**
MGNA				S	**Sg**	**08 55 57.7**	**-0.3**
MGNA				AML	AML	08 56 00.2	
	comp=N,4419μm,0.2s						
MGNA				AML	AML	08 56 00.7	
	comp=E,5135μm,0.2s						
VLMS	**Volimes, Zakyn**	**0.45**	**165**	P	**Pg**	**08 55 52.8**	**-0.4**
VLMS				S	**Sg**	**08 55 59.6**	**+0.3**
LKD2	**Lefkada island**	**0.49**	**13**	P	**Pg**	**08 55 53.6**	**-0.3**
LKD2				S	**Sb**	**08 56 01.2**	**-0.2**
	comp=E,3μm,0.3s						
LKD2	**Lefkada island**	**0.49**	**13**	P	**Pg**	**08 55 53.4**	**-0.5**
AST1	**Astakos**	**0.51**	**63**	P	**Pg**	**08 55 53.9**	**-0.3**
AST1				S	**Sb**	**08 56 02.0**	**+0.1**
	comp=E,6μm,0.3s						
TSLK	**Tsoukalades, L**	**0.52**	**12**	P	**Pb**	**08 55 54.4**	**-0.7**
TSLK				S	**Sb**	**08 56 02.4**	**0.0**
	comp=E,3μm,0.3s						
TSLK	**Tsoukalades, L**	**0.52**	**12**	P	**Pb**	**08 55 54.3**	**-0.7**
TSLK				S	**Sb**	**08 56 02.7**	**+0.4**
TSLK				AML	AML	08 56 06.4	
	comp=E,5298μm,0.2s						
TSLK				AML	AML	08 56 08.7	
	comp=N,5592μm,0.4s						
PDO	**Prodromos**	**0.60**	**61**	P	**Pb**	**08 55 55.6**	**-0.7**
PDO				S	**Sg**	**08 56 05.1**	**+1.2**
PDO	**Prodromos**	**0.60**	**61**	P	**Pb**	**08 55 55.5**	**-0.7**
PDO				S	**Sg**	**08 56 05.3**	**+1.4**
VTN	**Vitineika**	**0.66**	**127**	P	**Pb**	**08 55 57.1**	**-0.3**
VTN	**Vitineika**	**0.66**	**127**	P	**Pb**	**08 55 57.1**	**-0.3**
KRI1	**kERI**	**0.69**	**160**	P	**Pb**	**08 55 57.1**	**-0.8**
KRI1				S	**Sg**	**08 56 07.7**	**+0.8**
	comp=N,6μm,0.4s						
RLS	**Riolos of Patr**	**0.79**	**108**	P	**Pb**	**08 55 59.0**	**-0.6**
RLS	**Riolos of Patr**	**0.79**	**108**	P	**Pb**	**08 55 59.0**	**-0.6**
PVO	**Paravola**	**0.85**	**69**	P	**Pb**	**08 56 00.5**	**-0.1**
PVO				S	**Sn**	**08 56 13.6**	**-0.1**
	comp=N,3μm,0.3s						
PVO	**Paravola**	**0.85**	**69**	P	**Pb**	**08 56 00.4**	**-0.2**
PVO				S	**Sb**	**08 56 11.4**	**-0.4**
PVO				AML	AML	08 56 19.4	
	comp=N,5456μm,0.4s						
PVO				AML	AML	08 56 20.3	
	comp=E,4781μm,0.3s						
DRO	**Drossia**	**1.01**	**111**	P	**Pb**	**08 56 02.8**	**-0.5**
DRO				S	**Sg**	**08 56 17.8**	**+0.8**
	comp=E,2μm,0.5s						
DRO	**Drossia**	**1.01**	**111**	P	**Pb**	**08 56 02.7**	**-0.7**
ANX	**Ano Chora**	**1.14**	**75**	P	**Pn**	**08 56 05.3**	**-0.3**
ANX	**Ano Chora**	**1.14**	**75**	P	**Pn**	**08 56 05.1**	**-0.5**
LAKA	**Lakka**	**1.16**	**93**	P	**Pn**	**08 56 05.2**	**-0.6**
LAKA	**Lakka**	**1.16**	**93**	P	**Pn**	**08 56 05.2**	**-0.6**
EVR	**Evrytania**	**1.18**	**59**	P	**Pb**	**08 56 06.8**	**-0.2**
EVR	**Evrytania**	**1.18**	**59**	P	**Pg**	**08 56 06.8**	**-0.2**
SERG	**Sergoula**	**1.22**	**85**	P	**Pn**	**08 56 06.3**	**-0.3**
SERG	**Sergoula**	**1.22**	**85**	P	**Pn**	**08 56 06.4**	**-0.3**
IGT	**Igoumenitsa**	**1.23**	**353**	*e*Pg	**Pg**	**08 56 08.4**	**+0.6**
IGT				*e*Sg	**Sg**	**08 56 26.2**	**+2.4**
IGT	**Igoumenitsa**	**1.23**	**353**	P	**Pg**	**08 56 07.6**	**-0.2**
IGT				S	**Sn**	**08 56 22.9**	**-0.1**
	comp=E,1μm,0.5s						
IGT	**Igoumenitsa**	**1.23**	**353**	P	**Pg**	**08 56 07.8**	**0.0**
IGT				S	**Sg**	**08 56 25.2**	**+1.4**
IGT				AML	AML	08 56 28.0	
	comp=E,2432μm,0.6s						
IGT				AML	AML	08 56 29.6	
	comp=N,2569μm,0.4s						
AMT	**Artemida-Makis**	**1.23**	**129**	P	**Pb**	**08 56 06.7**	**-0.3**
AMT	**Artemida-Makis**	**1.23**	**129**	P	**Pg**	**08 56 07.9**	**0.0**
TRIZ	**Trizonia**	**1.23**	**87**	P	**Pn**	**08 56 06.2**	**-0.5**
TRIZ	**Trizonia**	**1.23**	**87**	P	**Pn**	**08 56 06.5**	**-0.2**
ALIK	**Aliki, Aigiali**	**1.26**	**92**	P	**Pn**	**08 56 07.1**	**0.0**
KALE	**Kalithea**	**1.28**	**86**	P	**Pn**	**08 56 07.1**	**-0.4**
KALE	**Kalithea**	**1.28**	**86**	P	**Pn**	**08 56 07.2**	**-0.3**
KLV	**Kalavryta, Ach**	**1.32**	**101**	P	**Pn**	**08 56 07.7**	**-0.3**
KLV	**Kalavryta, Ach**	**1.32**	**101**	P	**Pn**	**08 56 08.0**	**0.0**
JAN	**Janina**	**1.37**	**11**	P	**Pg**	**08 56 10.0**	**-0.5**
JAN	**Janina**	**1.37**	**11**	P	**Pg**	**08 56 10.0**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.45**	**61**	P	**Pg**	**08 56 11.5**	**-0.5**
GUR	**Goura**	**1.49**	**104**	P	**Pn**	**08 56 10.8**	**+0.3**
GUR	**Goura**	**1.49**	**104**	P	**Pg**	**08 56 10.8**	**+0.3**
KASA	**Kassiopi**	**1.50**	**343**	P	**Pg**	**08 56 13.4**	**+0.4**
KEK	**Kerkira**	**1.50**	**339**	P	**Pb**	**08 56 11.1**	**-0.6**
KEK	**Kerkira**	**1.50**	**339**	P	**Pb**	**08 56 11.1**	**-0.6**
AGG	**Agios Georgios**	**1.59**	**63**	P	**Pg**	**08 56 14.1**	**-0.6**
AGG	**Agios Georgios**	**1.59**	**63**	P	**Pb**	**08 56 13.6**	**+0.4**
ITM	**Ithomi**	**1.59**	**135**	P	**Pb**	**08 56 13.8**	**+0.5**
ITM	**Ithomi**	**1.59**	**135**	P	**Pb**	**08 56 13.3**	**0.0**
TRIP	**Tripoli**	**1.60**	**119**	P	**Pg**	**08 56 14.8**	**-0.1**
TRIP	**Tripoli**	**1.60**	**119**	P	**Pb**	**08 56 13.2**	**-0.2**
THL	**Klokotos Trika**	**1.71**	**43**	P	**Pb**	**08 56 15.4**	**+0.1**
AXAR	**Agios Charalam**	**1.74**	**74**	P	**Pb**	**08 56 16.7**	**+0.9**
VLX	**Vlachokerasia**	**1.75**	**122**	P	**Pg**	**08 56 19.0**	**+1.2**
VLX	**Vlachokerasia**	**1.75**	**122**	P	**Pb**	**08 56 16.8**	**+0.8**
KPRO	**Kipourio**	**1.77**	**22**	P	**Pb**	**08 56 16.5**	**+0.2**
PROD	**Prodromos**	**1.88**	**91**	P	**Pb**	**08 56 17.5**	**-0.6**
LOUT	**Loutraki**	**1.97**	**99**	P	**Pb**	**08 56 18.4**	**-1.2**
LOUT	**Loutraki**	**1.97**	**99**	P	**Pn**	**08 56 17.4**	**+0.5**
VIL2	**Platees**	**2.17**	**92**	P	**Pb**	**08 56 21.6**	**-1.6**
VILL	**Villia**	**2.21**	**93**	P	**Pb**	**08 56 22.0**	**-1.8**
DID	**Didima**	**2.30**	**110**	P	**Pn**	**08 56 22.4**	**+0.9**
XOR	**Xorichti**	**2.34**	**63**	P	**Pn**	**08 56 23.5**	**+1.4**
VLI	**Veliai**	**2.50**	**129**	P	**Pb**	**08 56 29.4**	**+0.7**
OHR	**Ohrid**	**2.80**	**4**	⇓*i*Pn	**Pn**	**08 56 30.5**	**+2.0**
OHR				*i* Sn	**Sn**	**08 57 04.6**	**+2.6**
TIR	**Tirane**	**3.07**	**351**	*e*Pn	**Pn**	**08 56 32.5**	**+0.4**
CGL1	**Ceglie Messapi**	**3.31**	**316**	*e*Pn	**Pn**	**08 56 36.3**	**+0.9**
SRS	**Serrai**	**3.67**	**39**	*e*Pn	**Pn**	**08 56 41.4**	**+1.1**
ULC	**Ulcinj**	**3.77**	**345**	⇓*i*Pn	**Pn**	**08 56 41.6**	**-0.1**
ULC				*i* Sn	**Sn**	**08 57 26.1**	**+0.3**
SG1	**Sgolgore (BA)**	**3.89**	**312**	*e*Pn	**Pn**	**08 56 43.6**	**+0.2**
SG1				Sn	**Sn**	**08 57 26.5**	**-2.3**
DRME	**Dracevica, Mon**	**4.00**	**346**	⇑*i*Pn	**Pn**	**08 56 44.9**	**+0.1**
DRME				*i* Sn	**Sn**	**08 57 32.0**	**+0.6**
PDG	**Podgorica**	**4.22**	**347**	*e*Sn	**Sn**	**08 57 36.2**	**-0.6**
TTG	**Podgorica**	**4.22**	**347**	⇓*i*Pn	**Pn**	**08 56 48.3**	**+0.4**
TTG				*i* Sn	**Sn**	**08 57 37.3**	**+0.5**
PVY	**Plav**	**4.30**	**355**	⇑*i*Pn	**Pn**	**08 56 48.9**	**-0.1**
PVY				*i* Sn	**Sn**	**08 57 39.1**	**+0.2**
CEME	**Cevo**	**4.40**	**344**	⇑*i*Pn	**Pn**	**08 56 49.7**	**-0.7**
CEME				*i* Sn	**Sn**	**08 57 41.6**	**+0.3**
HCY	**Herceg Novi**	**4.41**	**340**	⇑*i*Pn	**Pn**	**08 56 50.8**	**+0.4**
HCY				*i* Sn	**Sn**	**08 57 41.6**	**+0.2**
BOSS	**Bosilegrad**	**4.44**	**19**	*e*Pn	**Pn**	**08 56 51.6**	**+0.7**
IVA	**Berane**	**4.58**	**354**	⇓*i*Pn	**Pn**	**08 56 53.4**	**+0.6**
IVA				*i* Sn	**Sn**	**08 57 46.1**	**+0.3**
KOME	**Kolasin**	**4.59**	**351**	⇓*i*Pn	**Pn**	**08 56 53.7**	**+0.6**
KOME				*i* Sn	**Sn**	**08 57 46.3**	**+0.1**
NKME	**Niksic**	**4.60**	**346**	⇓*i*Pn	**Pn**	**08 56 53.6**	**+0.4**
NKME				*i* Sn	**Sn**	**08 57 46.6**	**+0.2**
BARS	**Barje**	**4.61**	**12**	*e*Pn	**Pn**	**08 56 53.5**	**+0.3**
NKY	**Niksic**	**4.64**	**346**	⇑*i*Pn	**Pn**	**08 56 54.0**	**+0.3**
NKY				*i* Sn	**Sn**	**08 57 47.6**	**+0.3**
DBRK	**Dubrovnik**	**4.71**	**338**	*e*Pn	**Pn**	**08 56 53.4**	**-1.1**
VTS	**Vitosha**	**4.77**	**25**	*e*Pn	**Pn**	**08 56 56.6**	**+1.0**
VTS				*e*Sn	**Sn**	**08 57 51.2**	**+0.5**
BRY	**Bratogost**	**4.82**	**342**	⇑*i*Pn	**Pn**	**08 56 56.2**	**-0.1**
BRY				*i* Sn	**Sn**	**08 57 51.7**	**-0.2**
SELS	**Selova**	**4.92**	**5**	*e*Pn	**Pn**	**08 56 57.1**	**-0.4**
SJES	**Sjenica**	**4.96**	**355**	*e*Pn	**Pn**	**08 56 58.5**	**+0.4**
SJES				*e*Sn	**Sn**	**08 57 54.3**	**-0.9**
STON	**Ston**	**5.03**	**336**	*e*Pn	**Pn**	**08 56 57.9**	**-1.0**
PLE	**Pljevlja**	**5.08**	**351**	⇑*i*Pn	**Pn**	**08 57 00.3**	**+0.5**
PLE				*i* Sn	**Sn**	**08 57 57.9**	**-0.4**
ZAPS	**Zavoj**	**5.21**	**17**	*e*Pn	**Pn**	**08 57 00.1**	**-1.4**
IVAS	**Ivanjica**	**5.26**	**357**	*e*Pn	**Pn**	**08 57 02.2**	**-0.1**
GRUS	**Gruza**	**5.57**	**2**	*e*Sn	**Sn**	**08 58 09.3**	**-0.8**
BBLS	**Lazići**	**5.61**	**352**	*e*Pn	**Pn**	**08 57 06.2**	**-0.8**
BBLS				*e*Sn	**Sn**	**08 58 09.1**	**-2.1**
MAKA	**Makarska**	**5.63**	**333**	*e*Pn	**Pn**	**08 57 06.7**	**-0.5**
ZAGS	**Zajecar**	**5.64**	**13**	*e*Pn	**Pn**	**08 57 07.3**	**-0.1**
HVAR	**Hvar**	**5.75**	**329**	*e*Pn	**Pn**	**08 57 08.3**	**-0.7**
DIVS	**Divibare**	**5.79**	**356**	*e*Pn	**Pn**	**08 57 08.4**	**-1.1**
KUBS	**Kucevo**	**6.16**	**8**	*e*Pn	**Pn**	**08 57 14.9**	**+0.5**
KIJV	**Kijevo**	**6.47**	**333**	*e*Pn	**Pn**	**08 57 18.6**	**-0.2**
ZIRJ	**Zirje**	**6.48**	**327**	*e*Pn	**Pn**	**08 57 17.8**	**-1.1**
MORI	**Morici**	**6.63**	**328**	*e*Pn	**Pn**	**08 57 20.8**	**-0.1**
DUGI	**Dugi Otok**	**7.01**	**326**	*e*Pn	**Pn**	**08 57 25.5**	**-0.6**
NVLJ	**Novalja**	**7.54**	**328**	*e*Pn	**Pn**	**08 57 32.4**	**-1.0**
BRJN	**Brijuni**	**8.31**	**325**	*e*Pn	**Pn**	**08 57 43.0**	**-0.9**

JMA 06 08:59:14.1±0.1,24.°73N×123.°43E,h17km±4km,M3.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.47**	**235**	P	Pg	08 59 23.4	-0.1
YOJ				S	Sg	08 59 29.7	-0.1
IRIF	**Iriomote-Funau**	**0.48**	**145**	P	Pg	08 59 23.5	-0.2
IRIF				S	Sg	08 59 29.6	-0.6
JYNG	**Yonagunijimaku**	**0.52**	**238**	P	Pg	08 59 24.1	-0.4
JYNG				S	Sg	08 59 31.5	0.0
JKRS	**Kuro-shima**	**0.72**	**133**	P	Pb	08 59 28.0	-0.2
JKRS				S	Sb	08 59 37.6	-0.2
JIJ	**Ishigaki jima**	**0.74**	**119**	P	Pb	08 59 28.1	-0.5
JIJ				*e*S	Sb	08 59 37.8	-0.7
HATJ	**Hateruma jima**	**0.75**	**153**	P	Pb	08 59 28.4	-0.3
HATJ				*e*S	Sb	08 59 38.0	-0.7
JISG	**Ishigakijimahi**	**0.81**	**100**	P	Pb	08 59 29.1	-0.7
JISG				*e*S	Sb	08 59 39.9	-0.6
JTJ	**Tarama**	**1.16**	**94**	P	Pb	08 59 35.8	+0.1
JTJ				S	Sb	08 59 50.7	+0.2
JIRB	**Irabujima**	**1.59**	**86**	P	Pn	08 59 41.8	+0.4

TAP 06 08:59:59.9,24.°46N×121.°90E,h11km±1km,ML2.2,1C,D, Taiwan

| Code

baz=241
WHF eS Sg 09 00 21.9 +0.4
baz=241
ESL Shilin 0.77 214 eP Pg 09 00 14.5 -0.3
baz=213
CHGB Renai 0.77 239 eP Pg 09 00 14.7 -0.2
baz=239
CHGB eS Sg 09 00 24.8 -0.2
baz=239
WHP Taichung City 0.89 259 eS Sg 09 00 28.8 +0.1
baz=258

NIED **06** *09:00:00,24.°00N×122.°30E,h35km,Mw4.2 Best double couple: M0 2.52000×10^15 NP1:φs 68.00000°,δ84.00000°,λ77.00000°. NP2:φs 316.00000°,δ15.00000°,λ157.00000°.*
IDC **06** *09:00:41.1±0.7,24.°17N×122.°45E,h0km,mb4.1/15, mb1 4.2/15,mb1mx4.0/52,mbtmp4.1/15,ML2.3/1,MS3.4/11, Ms1 3.4/11,ms1mx3.1/45,Error ellipse: s-maj=23.9km s-min=16.2km az=63.0*
JMA **06** *09:00:44.8±0.2,23.°95N×122.°30E,h20km±4km,M4.2*
BJI **06** *09:00:44.8±0.0,24.°05N×122.°32E,h16km,mB4.3/10, mb4.2/15,ML3.5/5,Ms3.7/10,Ms7 3.6/10*
NEIC **06** *09:00:44.5±1.5,23.°97N±0.°04×122.°34E±0.°04,h24km±2km, mb4.3/16,Error ellipse: s-maj=6.1km s-min=4.6km az=129.0*
TAP **06** *09:00:45.2,24.°01N×122.°32E,h22km,ML4.3,D*
ISC 06 09:00:44.1±1.0,23.°98N±0.°02×122.°35E±0.°01,h18km±5km, n165,σ1°08/249,mb4.3/23,MS3.5/9,2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.68**	**270**	P			**Pb**	**09 00 58.3**	**+0.9**
	baz=253								
HWA					eS		**Sb**	**09 01 07.5**	**+1.0**
	baz=253								
TWD	**Chiawan**	**0.69**	**278**	P			**Pg**	**09 00 57.9**	**+0.1**
	baz=276								
TWD					S		**Sb**	**09 01 07.4**	**+0.5**
	baz=276								
ENA	**Nanau**	**0.71**	**309**	*i* P			**Pb**	**09 00 58.2**	**+0.2**
	baz=319								
ENA					eS		**Sn**	**09 01 08.5**	**-1.3**
	baz=319								
NACB	**Ninganchiao**	**0.71**	**286**	P			**Pb**	**09 00 58.3**	**+0.2**
	baz=268								
NACB					eS		**Sb**	**09 01 08.4**	**+0.9**
	baz=268								
NACB	**Ninganchiao**	**0.71**	**286**				**Pg**	**09 00 57.4**	**-0.8**
NACB					Sg		**Sb**	**09 01 07.9**	**+0.3**
JYNG	**Yonagunijimaku**	**0.72**	**49**	P			**Pn**	**09 00 59.4**	**0.0**
JYNG					S		**Sn**	**09 01 08.7**	**-1.3**
YOJ	**Yonaguni jima**	**0.77**	**52**	P			**Pn**	**09 01 00.3**	**+0.1**
	baz=53								
YOJ					eS		**Sn**	**09 01 11.0**	**-0.3**
	baz=53								
YOJ	**Yonaguni jima**	**0.77**	**52**	P			**Pn**	**09 01 00.3**	**+0.1**
YOJ					S		**Sn**	**09 01 10.4**	**-0.9**
YOJ	**Yonaguni jima**	**0.77**	**52**				**Pn**	**09 01 00.2**	**+0.1**
TWC	**Suao**	**0.77**	**324**	*i* P			**Pb**	**09 00 59.1**	**0.0**
	baz=324								
TWC					eS		**Sb**	**09 01 08.4**	**-0.9**
	baz=324								
ETLH	**Xiulin Townshi**	**0.82**	**286**	P			**Pb**	**09 01 00.1**	**+0.1**
	baz=271								
ETLH					eS		**Sg**	**09 01 11.2**	**0.0**
	baz=271								
ESL	**Shilin**	**0.85**	**259**	P			**Pb**	**09 00 59.9**	**-0.5**
	baz=245								
ESL					eS		**Sb**	**09 01 11.0**	**-0.5**
	baz=245								
EGFH	**Guangfu**	**0.90**	**250**	P			**Pb**	**09 01 01.0**	**-0.2**
	baz=248								
EGFH					eS		**Sb**	**09 01 12.9**	**+0.1**
	baz=248								
EGS		**0.94**	**336**	P			**Pn**	**09 01 02.4**	**0.0**
	baz=325								
EGS					eS		**Sn**	**09 01 15.9**	**+0.5**
	baz=325								
ILA	**Ilan**	**0.95**	**325**	P			**Pn**	**09 01 02.9**	**+0.2**
	baz=324								
ILA					eS		**Sn**	**09 01 15.9**	**+0.1**
	baz=324								
TWE	**Neicheng**	**0.96**	**320**	P			**Pn**	**09 01 02.6**	**-0.2**
	baz=320								
ENTT	**Nioudou**	**0.97**	**313**	P			**Pn**	**09 01 03.0**	**+0.2**
	baz=312								
HGSD	**Ruisui**	**0.98**	**240**	P			**Pb**	**09 01 02.1**	**-0.5**
	baz=238								
HGSD					eS		**Sb**	**09 01 14.6**	**-0.5**
	baz=238								
NDT	**Datong Townshi**	**0.98**	**309**	*i* P			**Pn**	**09 01 03.0**	**0.0**
	baz=308								
NDT					eS		**Sg**	**09 01 15.5**	**-0.6**
	baz=308								
NNSB	**Datong**	**0.99**	**297**	P			**Pb**	**09 01 02.9**	**+0.1**
	baz=282								
NNSB					eS		**Sg**	**09 01 16.1**	**-0.3**
	baz=282								
NNSH	**Datong**	**0.99**	**297**	P			**Pb**	**09 01 02.8**	**+0.1**
	baz=282								
NNSH					eS		**Sg**	**09 01 15.8**	**-0.5**
	baz=282								
NTC	**Toucheng**	**0.99**	**332**	P			**Pn**	**09 01 03.6**	**+0.4**
	baz=331								
NTC					eS		**Sn**	**09 01 17.2**	**+0.6**
	baz=331								
NNS	**Nan Shan**	**1.00**	**297**	P			**Pb**	**09 01 03.2**	**+0.2**
	baz=283								
NNS					eS		**Sn**	**09 01 16.6**	**-0.5**
	baz=283								
WHF	**Hehuan Shan**	**1.00**	**280**	*i* P			**Pb**	**09 01 03.1**	**-0.1**
	baz=278								
WHF					eS		**Sb**	**09 01 16.0**	**-0.2**
	baz=278								
EHY	**Hungye**	**1.05**	**243**	P			**Pb**	**09 01 03.5**	**-0.3**
	baz=242								
EHY					eS		**Sb**	**09 01 17.5**	**+0.2**
	baz=242								
OWD	**Renai**	**1.07**	**269**	P			**Pb**	**09 01 04.2**	**-0.1**
	baz=267								
OWD					eS		**Sb**	**09 01 17.5**	**-0.5**
	baz=267								
TWB1	**Santiao Chiao**	**1.07**	**342**	P			**Pg**	**09 01 04.6**	**-0.3**
	baz=328								
TWB1					eS		**Sn**	**09 01 19.9**	**+1.1**
	baz=328								
CHGB	**Renai**	**1.08**	**274**	P			**Pb**	**09 01 04.2**	**-0.1**
	baz=260								
CHGB					eS		**Sb**	**09 01 18.2**	**0.0**
	baz=260								
TIPB	**Shuangxi**	**1.09**	**334**	P			**Pg**	**09 01 05.0**	**-0.3**
	baz=342								
TWT	**Tachien**	**1.10**	**284**	eP			**Pg**	**09 01 05.6**	**+0.1**
	baz=272								
TWT					eS		**Sg**	**09 01 19.5**	**-0.6**
	baz=272								
NWLT	**Wulai**	**1.10**	**316**	P			**Pg**	**09 01 05.1**	**-0.4**
	baz=324								
NWLT					eS		**Sn**	**09 01 20.5**	**+0.9**
	baz=324								
TDCB	**Techi**	**1.12**	**284**	P			**Pb**	**09 01 05.2**	**+0.2**
	baz=272								
TDCB					eS		**Sb**	**09 01 19.4**	**0.0**
	baz=272								
YHNB	**Yeheng**	**1.12**	**308**	P			**Pg**	**09 01 05.3**	**-0.5**
	baz=307								
YHNB	**Yeheng**	**1.12**	**308**				**Pb**	**09 01 04.8**	**-0.2**
VWDT	**VWDT**	**1.13**	**259**	P			**Pn**	**09 01 04.8**	**-0.2**
	baz=257								
VWDT					eS		**Sb**	**09 01 19.0**	**-0.4**
	baz=257								
YULB	**Yu-li**	**1.13**	**239**	P			**Pn**	**09 01 04.5**	**-0.5**
	baz=254								
YULB					eS		**Sb**	**09 01 18.8**	**-0.6**
	baz=254								
YULB	**Yu-li**	**1.13**	**239**	Pn			**Pn**	**09 01 04.3**	**-0.7**
YULB				Sn			**Sb**	**09 01 18.4**	**-1.1**
NSK	**Sanguang**	**1.14**	**308**	P			**Pg**	**09 01 05.6**	**-0.6**
	baz=306								
NSK					eS		**Sn**	**09 01 20.0**	**-0.4**
	baz=306								
TWF1	**Yuli**	**1.15**	**237**	P			**Pn**	**09 01 04.9**	**-0.4**
	baz=223								
TWF1					eS		**Sb**	**09 01 20.0**	**-0.1**
	baz=223								
NWF	**Wu-fen Shan**	**1.20**	**335**	P			**Pg**	**09 01 06.7**	**-0.7**
	baz=332								
NWF					eS		**Sg**	**09 01 22.9**	**-0.2**
	baz=332								
WFSB	**Wu-fen Shan**	**1.20**	**335**	P			**Pg**	**09 01 06.6**	**-0.7**
	baz=333								
WFSB					eS		**Sg**	**09 01 22.9**	**-0.3**
	baz=333								
TWA	**Mucha**	**1.21**	**325**	P			**Pg**	**09 01 07.8**	**+0.2**
	baz=325								
NHDH	**Xindian Distri**	**1.23**	**323**	P			**Pg**	**09 01 07.9**	**0.0**
	baz=320								
NHDH					eS		**Sg**	**09 01 23.5**	**-0.6**
	baz=320								
FULB	**Fuli**	**1.24**	**231**	P			**Pn**	**09 01 05.6**	**-1.0**
	baz=217								
FULB					eS		**Sb**	**09 01 21.6**	**-1.2**
	baz=217								
CHKT	**Chengkung**	**1.26**	**226**	P			**Pn**	**09 01 05.8**	**-1.0**
	baz=225								
CHKT					eS		**Sn**	**09 01 20.6**	**-2.7**
	baz=225								
TATO	**Taipei**	**1.26**	**322**	P			**Pg**	**09 01 07.9**	**-0.6**
	baz=320								
TATO					eS		**Sg**	**09 01 24.7**	**-0.3**
	baz=320								
TATO	**Taipei**	**1.26**	**322**	Pn			**Pn**	**09 01 06.5**	**-0.4**
TATO				Sn			**Sg**	**09 01 23.5**	**-1.6**
SSLB	**Suanglung**	**1.29**	**262**	P			**Pn**	**09 01 07.5**	**+0.2**
	baz=260								
SSLB	**Suanglung**	**1.29**	**262**				**Pn**	**09 01 07.0**	**-0.3**
TAP1	**Taipei**	**1.29**	**325**	P			**Pg**	**09 01 08.8**	**-0.3**
	baz=322								
TAP1					eS		**Sg**	**09 01 25.6**	**-0.4**
	baz=322								
DPDB	**Guoxing**	**1.30**	**273**	*i* P			**Pn**	**09 01 08.0**	**+0.5**
	baz=271								
TAP	**Taipei**	**1.30**	**324**	eP			**Pb**	**09 01 07.9**	**-0.2**
	baz=323								
IRIF	**Iriomote-Funau**	**1.31**	**74**	P			**Pg**	**09 01 09.8**	**+0.4**
IRIF				S			**Sg**	**09 01 26.8**	**+0.2**
WHP	**Taichung City**	**1.31**	**283**	P			**Pb**	**09 01 08.5**	**+0.1**
	baz=270								
WHP					eS		**Sn**	**09 01 25.6**	**+0.8**
	baz=270								
HATJ	**Hateruma jima**	**1.33**	**86**	P			**Pb**	**09 01 09.5**	**+0.9**
HATJ				eS			**Sg**	**09 01 27.1**	**-0.2**
YM01	**YM01**	**1.36**	**329**	P			**Pg**	**09 01 09.8**	**-0.6**
	baz=343								
YM01					eS		**Sg**	**09 01 27.6**	**-0.5**
	baz=343								
TYC	**Yuchr**	**1.37**	**267**	P			**Pn**	**09 01 08.6**	**+0.3**
	baz=266								
TYC					eS		**Sn**	**09 01 26.2**	**+0.3**
	baz=266								
YM10	**YM10**	**1.37**	**329**	P			**Pb**	**09 01 09.1**	**-0.2**
	baz=344								
YM11	**YM11**	**1.37**	**329**	eP			**Pb**	**09 01 09.1**	**-0.2**
	baz=344								
YM04	**YM04**	**1.38**	**328**	P			**Pb**	**09 01 09.0**	**-0.5**
	baz=343								
YM08	**YM08**	**1.39**	**330**	P			**Pb**	**09 01 08.8**	**-0.7**
	baz=329								
NSTT	**Nanjuang**	**1.39**	**298**	P			**Pb**	**09 01 10.0**	**+0.4**
	baz=296								
NSTT					eS		**Sg**	**09 01 27.9**	**-1.2**
	baz=296								
WHYT	**Xinyi Township**	**1.40**	**259**	eP			**Pn**	**09 01 09.6**	**+0.8**
	baz=257								
TWS1	**Kuangyinshan**	**1.40**	**323**	P			**Pg**	**09 01 10.0**	**-1.1**
	baz=322								
YM03	**YM03**	**1.40**	**328**	P			**Pb**	**09 01 09.8**	**-0.1**
	baz=328								
ANP	**Anpu**	**1.42**	**328**	P			**Pb**	**09 01 10.0**	**-0.1**
	baz=327								
NTST	**Danshui**	**1.43**	**325**	P			**Pb**	**09 01 10.4**	**+0.1**
	baz=341								
NCU	**National Centr**	**1.45**	**313**	*i* P			**Pb**	**09 01 10.8**	**+0.3**
	baz=310								
NCU					eS		**Sg**	**09 01 29.8**	**-1.0**
	baz=310								
NCUH	**Zhongli**	**1.45**	**313**	P			**Pb**	**09 01 10.5**	**0.0**
	baz=311								
ELDTW	**Lidau**	**1.45**	**237**	eP			**Pn**	**09 01 09.3**	**-0.4**
	baz=236								
ELDTW					eS		**Sn**	**09 01 25.6**	**-2.7**
	baz=236								
TWY	**Chenhua**	**1.46**	**332**	*i* P			**Pg**	**09 01 11.5**	**-0.7**
	baz=330								
TWY					eS		**Sg**	**09 01 31.1**	**-0.2**
	baz=330								
SBCB	**Hsinchu**	**1.48**	**303**	P			**Pb**	**09 01 11.6**	**+0.4**
	baz=302								
TWQ1	**Liyutan**	**1.48**	**285**	*i* P			**Pb**	**09 01 11.7**	**+0.5**
	baz=282								
TWQ1					eS		**Sg**	**09 01 31.1**	**-0.9**
	baz=282								
ALS	**Alishan**	**1.49**	**252**	P			**Pn**	**09 01 10.9**	**+0.6**
	baz=251								
ALS					eS		**Sn**	**09 01 29.7**	**+0.2**
	baz=251								
WJS	**Zhushan**	**1.49**	**264**	P			**Pb**	**09 01 12.4**	**+1.1**
	baz=263								
WJS					eS		**Sg**	**09 01 32.1**	**-0.2**
	baz=263								
TWH	**Lutao**	**1.50**	**212**	*i* P			**Pn**	**09 01 09.6**	**-0.5**
	baz=212								
TWH					eS		**Sn**	**09 01 26.9**	**-2.3**
	baz=212								
HSN	**Hsinchu**	**1.50**	**303**	P			**Pb**	**09 01 11.8**	**+0.4**
	baz=302								
HSN					eS		**Sg**	**09 01 31.9**	**-0.7**
	baz=302								
NSY	**Sanyi**	**1.51**	**287**	*i* P			**Pb**	**09 01 12.3**	**+0.6**
	baz=285								
NSY					eS		**Sg**	**09 01 32.0**	**-1.0**
	baz=285								
NMLH	**Miaoli**	**1.52**	**292**	*i* P			**Pb**	**09 01 12.5**	**+0.6**
	baz=289								
NMLH					eS		**Sg**	**09 01 32.5**	**-0.9**
	baz=289								
WNT	**Mingjian**	**1.53**	**266**	P			**Pb**	**09 01 12.7**	**+0.8**
	baz=265								
WNT					eS		**Sb**	**09 01 31.9**	**+1.0**
	baz=265								
TCU	**Taichung**	**1.54**	**277**	P			**Pb**	**09 01 12.8**	**+0.7**
	baz=275								
TCU					eS		**Sg**	**09 01 33.4**	**-0.3**
	baz=275								
JKRS	**Kuro-shima**	**1.54**	**80**	P			**Pg**	**09 01 13.5**	**-0.3**
JKRS				S			**Sg**	**09 01 33.7**	**-0.2**
PTSB	**Yuanli**	**1.57**	**287**	P			**Pb**	**09 01 12.7**	**+0.1**
	baz=285								
PTSB					eS		**Sg**	**09 01 33.7**	**-1.1**
	baz=285								
CHN5	**Tsauling**	**1.58**	**256**	P			**Pn**	**09 01 12.8**	**+1.5**
	baz=244								
CHN5					eS		**Sb**	**09 01 33.4**	**+0.9**
	baz=244								
WDJ	**Dajia District**	**1.60**	**284**	P			**Pb**	**09 01 13.1**	**-0.1**
	baz=282								
WDJ					eS		**Sb**	**09 01 33.5**	**+0.4**
	baz=282								
WCHH	**Zhanghua**	**1.64**	**274**	P			**Pb**	**09 01 13.7**	**-0.1**
	baz=272								
WCHH					eS		**Sb**	**09 01 34.9**	**+0.7**
	baz=272								
TWGBT	**Beinan**	**1.64**	**225**	P			**Pn**	**09 01 11.3**	**-0.9**
	baz=237								
TWGBT					eS		**Sn**	**09 01 31.6**	**-1.3**
	baz=237								
TTN	**Taitung**	**1.65**	**222**	eS			**Sn**	**09 01 33.0**	**+0.1**
	baz=222								
TWG	**Pinlang**	**1.65**	**226**	*e*P			**Pn**	**09 01 12.0**	**-0.2**
	baz=237								
TWG					eS		**Sn**	**09 01 31.0**	**-1.9**
	baz=237								
TWG	**Pinlang**	**1.65**	**226**				**Pn**	**09 01 10.4**	**-1.8**
TWG				Sn			**Sn**	**09 01 31.0**	**-1.9**
PCYT	**Pengchaiyu**	**1.66**	**351**	*e*P			**Pb**	**09 01 13.0**	**-1.2**
	baz=350								
WGK	**Gukeng**	**1.66**	**260**	eS			**Sb**	**09 01 35.9**	**+1.0**
	baz=259								
STYT	**Tauyuan**	**1.67**	**241**	P			**Pn**	**09 01 13.2**	**+0.6**
	baz=230								
STYT					eS		**Sn**	**09 01 33.6**	**0.0**
	baz=230								
JIJ	**Ishigaki jima**	**1.68**	**77**	P			**Pn**	**09 01 14.0**	**+1.3**
JIJ					S		**Sb**	**09 01 35.7**	**+0.3**
WDLH	**Douliu**	**1.68**	**260**	P			**Pb**	**09 01 14.4**	**-0.2**
	baz=259								
WDLH					eS		**Sb**	**09 01 36.1**	**+0.6**
	baz=259								
TPUB	**Ta-pu**	**1.71**	**247**	P			**Pn**	**09 01 14.7**	**+1.5**
	baz=246								
TPUB					S		**Sb**	**09 01 36.8**	**+0.3**
	baz=246								
TPUB	**Ta-pu**	**1.71**	**247**	Pn			**Pn**	**09 01 14.6**	**+1.4**
WTP	**Ta-pu**	**1.75**	**246**	P			**Pn**	**09 01 15.3**	**+1.6**
	baz=245								
WTP					eS		**Sb**	**09 01 38.1**	**+0.7**
	baz=245								
CHN2	**Minshiung**	**1.77**	**256**	*e*P			**Pb**	**09 01 16.5**	**+0.4**
	baz=255								
CHN2					eS		**Sb**	**09 01 39.0**	**+0.9**
	baz=255								
RLNB	**Erlin**	**1.82**	**268**	P			**Pb**	**09 01 16.6**	**-0.3**
	baz=266								
RLNB					eS		**Sb**	**09 01 40.4**	**+1.0**
	baz=266								
CHY	**Chiayi**	**1.83**	**255**	P			**Pn**	**09 01 16.5**	**+1.8**
	baz=254								
CHY					eS		**Sb**	**09 01 39.7**	**+0.1**
	baz=254								
SLGT	**Liugui**	**1.85**	**238**	*e*P			**Pn**	**09 01 16.4**	**+1.5**
	baz=228								
SLGT					eS		**Sn**	**09 01 39.6**	**+1.8**
	baz=228								
CHN1	**Nanshi**	**1.85**	**245**	P			**Pb**	**09 01 17.7**	**+0.3**
	baz=244								
CHN1					eS		**Sb**	**09 01 40.8**	**+0.5**
	baz=244								
TWK	**Hsinying**	**1.85**	**248**	*e*P			**Pb**	**09 01 17.1**	**-0.4**
	baz=247								
TWK					eS		**Sb**	**09 01 40.5**	**+0.2**
	baz=247								
SGST	**Jiashian**	**1.85**	**241**	*e*P			**Pn**	**09 01 16.4**	**+1.4**
	baz=230								
SGST					eS		**Sn**	**09 01 39.8**	**+1.9**
	baz=230								
SNST	**Tainan City**	**1.86**	**246**	P			**Pb**	**09 01 17.4**	**-0.2**
	baz=246								
SNST					eS		**Sn**	**09 01 40.2**	**+2.1**
	baz=246								
ECL	**Taimali**	**1.88**	**223**	*e*P			**Pn**	**09 01 14.8**	**-0.6**
	baz=233								
JISG	**Ishigakijimahi**	**1.89**	**71**	P			**Pn**	**09 01 16.7**	**+1.2**
JISG					S		**Sb**	**09 01 41.3**	**-0.1**
WTCT	**Ta-ch'eng**	**1.90**	**267**	eS			**Sb**	**09 01 41.9**	**+0.4**
	baz=265								
WMLT	**Mailiao**	**1.95**	**265**	eS			**Sb**	**09 01 43.6**	**+0.4**
	baz=264								
WSF	**Szhu**	**1.98**	**260**	*e*P			**Pn**	**09 01 18.7**	**+2.0**
	baz=259								
WSF					eS		**Sb**	**09 01 44.5**	**+0.6**
	baz=259								
SSD	**Sandimen**	**2.00**	**232**	P			**Pn**	**09 01 18.7**	**+1.6**
	baz=224								
SSD					eS		**Sn**	**09 01 43.6**	**+1.9**
	baz=224								
CHN3	**Shinhua**	**2.03**	**244**	eS			**Sb**	**09 01 46.9**	**+1.4**
	baz=244								
CHN8	**Yiju**	**2.06**	**253**	eS			**Sn**	**09 01 45.6**	**+2.5**
	baz=252								
JTJ	**Tarama**	**2.25**	**73**	P			**Pb**	**09 01 23.1**	**-1.1**
JTJ					eS		**Sb**	**09 01 50.8**	**-0.9**
JIRB	**Irabujima**	**2.71**	**71**	P			**Pn**	**09 01 29.3**	**+2.5**
JIRB					S		**Sn**	**09 02 01.8**	**+2.6**
JIKM	**Ikemajima**	**2.80**	**70**	S			**Sb**	**09 02 04.9**	**-2.8**
JMJ2	**Miyako jima3**	**2.82**	**74**	P			**Pn**	**09 01 29.7**	**+1.4**
JMJ2					S		**Sn**	**09 02 04.4**	**+2.5**
JOGS	**Gusukube**	**2.90**	**74**	P			**Pn**	**09 01 31.8**	**+2.5**
JOGS					eS		**Sb**	**09 02 07.3**	**-3.0**
QZH	**Quanzhou**	**3.55**	**286**	*i* P			**Pn**	**09 01 38.5**	**+0.1**
QZH							Sn	**Sn**	**09 02 17.0**	**-3.0**
QZH							smax	smax	
	comp=N,100nm,0.2s								
QZH							smax	smax	
	comp=E,100nm,0.4s								
KNMB	**Chin-men Tao**	**3.65**	**278**				Pn	**Pn**	**09 01 39.6**	**-0.1**
KNMB							Sn	**Sn**	**09 02 19.4**	**-2.9**
JOW	**Kunigami**	**6.06**	**61**				Pn	**Pn**	**09 02 10.2**	**-2.7**
	0.2nm,0.3s,baz=135,slow=8.6,SNR=1.8								
JOW							Sn	**Sn**	**09 03 21.2**	**-0.7**
	0.2nm,0.3s,baz=93,slow=15,SNR=1.8								
WHN	**Wuhan**	**9.66**	**314**				P	Pn	09 03 10.3	+8.0
WHN							S	Sn	09 05 01.4	+11
WHN							LR	LR		
	comp=N,500nm,12.1s									
WHN							LR	LR		
	comp=E,230nm,6.5s									
WHN							LR	LR		
	comp=Z,460nm,13.9s									
TGY	**Tagaytay City**	**9.92**	**188**				LR	LR	09 07 19.5	
	comp=Z,69nm,20.6s,baz=16,slow=39									
JNU	**Nakatsue**	**11.79**	**38**				LR	LR	09 08 23.4	
	comp=Z,87nm,19.4s,baz=214,slow=40									
KSRS	**Korea Array**	**14.25**	**18**				Pn	**Pn**	**09 04 08.1**	**+3.0**
	0.3nm,0.3s,baz=196,slow=11,SNR=11									
KSRS							LR	LR	09 10 09.4	
	comp=Z,76nm,18.9s,baz=196,slow=40									
HHC	**Hu-ho-hao-te**	**19.10**	**334**				P	**Pn**	**09 05 08.2**	**+1.3**
HHC							pmax	pmax		
	comp=Z,5.0nm,0.8s									
HHC							pmax	pmax		
	comp=Z,32nm,5.7s									
HHC							LR	LR		
	comp=N,130nm,20.4s									
HHC							LR	LR		
	comp=E,97nm,20.6s									
HHC							LR	LR		
	comp=Z,140nm,20.6s									
LZH	**Lanzhou**	**20.01**	**311**	*e*P			**Pn**	**09 05 18.0**	**+0.1**
LZH							pP	pwP	09 05 24.1	-0.5
LZH							sP	sP	09 05 27.3	+5.3
LZH							*e*PP	**PnPn**	**09 05 37.6**	**+5.3**
LZH							pmax	pmax		
	comp=Z,18nm,1.0s									
LZH							pmax	pmax		
	comp=Z,57nm,4.8s									
LZH							LR	LR		
	comp=N,210nm,10.5s									
LZH							LR	LR		
	comp=E,220nm,11.0s									
LZH							LR	LR		
	comp=Z,380nm,13.6s									
CMAR	**Chiang Mai Arr**	**22.49**	**260**				P	**P**	**09 05 45.5**	**+2.7**
	0.6nm,0.3s,baz=68,slow=8.1,SNR=4.0									
ULN	**Ulaanbaatar**	**26.76**	**337**				P	**P**	**09 06 22.5**	**-0.5**
SONM	**Songino Array**	**26.98**	**336**				P	**P**	**09 06 24.3**	**-0.6**
	11nm,0.8s,baz=151,slow=9.6,SNR=31									
SONM							LR	LR	09 18 41.4	
	comp=Z,83nm,18.0s,baz=125,slow=40									
KAPI	**Kappang**	**28.93**	**185**				LR	LR	09 18 31.0	
	comp=Z,120nm,18.9s,baz=306,slow=37									
TLY	**Talaya**	**31.16**	**337**				P	**P**	**09 07 00.2**	**-1.8**
	4.6nm,0.6s,baz=1.8,slow=0.6,SNR=4.1									
TLY							LR	LR	09 20 19.4	
	comp=Z,56nm,18.8s,baz=173,slow=38									
TLY	**Talaya**	**31.16**	**337**				P	**P**	**09 06 59.2**	**-2.7**
JAY	**Jayapura**	**31.82**	**143**				LR	LR	09 17 47.9	
	comp=Z,46nm,21.0s,baz=292,slow=32									
WMQ	**Urumqi**	**34.56**	**313**	*e*P			P	**P**	**09

WB2	**Warramunga Arr**	**45.20**	**164**	P	**P**	**09 09 00.9**	**+0.6**
WB2				IAmb	IAmb	09 09 01.6	
	comp=Z,4.4nm,0.8s						
WR0	**Warramunga Arr**	**45.26**	**164**	P	**P**	**09 09 01.2**	**+0.4**
WR0				IAmb	IAmb	09 09 06.9	
	comp=Z,4.5nm,1.1s						
TIXI	**Tiksi**	**47.84**	**3**	LR	LR	09 30 52.2	
	comp=Z,41nm,19.9s,baz=169,slow=38						
BVAR	**Borovoye Array**	**48.50**	**321**	P	**P**	**09 09 24.4**	**-1.5**
	comp=Z,1.8nm,0.5s,baz=101,slow=8.6,SNR=11						
BRVK	**Borovoye**	**48.57**	**321**	P	**P**	**09 09 25.9**	**-0.5**
BRVK				IAmb	IAmb	09 09 26.7	
	comp=Z,4.4nm,1.1s						
ASAR	**Alice Springs**	**48.67**	**166**	P	**P**	**09 09 28.6**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=353,slow=13,SNR=16						
NRIK	**Noril'sk**	**49.88**	**345**	LR	LR	09 30 53.5	
	comp=Z,40nm,18.6s,baz=150,slow=36						
PPLA	**Purkeypile**	**66.89**	**30**	P	**P**	**09 11 34.7**	**-0.5**
SPA0	**Spitsbergen Ar**	**69.91**	**348**	P	**P**	**09 11 52.8**	**-0.8**
SPITS	**Spitsbergen Ar**	**69.91**	**348**	P	**P**	**09 11 52.6**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=80,slow=9.4,SNR=18						
EGAK	**Eagle**	**71.28**	**27**	P	**P**	**09 12 01.7**	**-0.5**
EGAK				IAmb	IAmb	09 12 09.6	
	comp=Z,4.1nm,1.4s						
FINES	**FINESS Array B**	**72.16**	**330**	P	**P**	**09 12 06.9**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=91,slow=5.6,SNR=1.8						
FINES				LR	LR	09 47 26.3	
	comp=Z,65nm,19.0s,baz=70,slow=39						
DAWY	**Dawson**	**72.23**	**27**	P	**P**	**09 12 08.1**	**+0.1**
INK	**Inuvik**	**73.01**	**22**	P	**P**	**09 12 12.2**	**-0.2**
INK				IAmb	IAmb	09 12 20.5	
	comp=Z,4.4nm,1.4s						
AKASG	**Malin Array Be**	**73.73**	**319**	P	**P**	**09 12 15.8**	**-1.2**
	comp=Z,2.9nm,0.8s,baz=57,slow=5.9,SNR=6.0						
BRTR	**Keskin Array B**	**74.15**	**307**	P	**P**	**09 12 19.8**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=86,slow=5.1,SNR=10						
NOA	**NORSAR Array B**	**78.90**	**332**	LR	LR	09 51 18.9	
	comp=Z,29nm,18.3s,baz=70,slow=39						
YKA	**Yellowknife Ar**	**82.74**	**23**	P	**P**	**09 13 06.0**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=308,slow=4.9,SNR=15						
GERES	**GERESS Array B**	**83.67**	**321**	P	**P**	**09 13 11.2**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=70,slow=4.4,SNR=5.5						

*HEL **06** 09:07:26.4±0.5, 64.74N×30.83E, h0km, ML2.2, Explosion*
*KOLA **06** 09:07:26.2, 64.72N×30.04E, h0km*
*NAO **06** 09:07:27.1±0.8, 64.79N×31.12E, ML2.4*
*IDC **06** 09:07:28.4±2.2, 64.73N×30.77E, h0km, mb1 3.0/4, mb1mx2.9/46, mbtmp3.0/4, ML2.5/4, Error ellipse: s-maj=30.3km s-min=8.7km az=104.0*
*BER **06** 09:07:29.3±3.3, 64.85N×30.60E, h0km, ML2.4(NAO), Suspected explosion*
ISC 06 09:07:27.6±0.9, 64.82N±0.03×30.40E±0.05, h0km, n37, σ1s62/59, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KU6	**Riekki**	**1.23**	**350**	PG		**Pg**	**09 07 50.6**	**-0.4**
	baz=164							
KU6				MSG			09 08 07.1	
	comp=Z,13nm,0.2s							
KU6				SN		**Sn**	**09 08 09.8**	**+0.6**
MSF	**Maaselka**	**1.23**	**333**	PG		**Pg**	**09 07 51.1**	**0.0**
	baz=149							
MSF				SG		**Sn**	**09 08 10.2**	**+0.8**
OUL	**Oulu**	**1.93**	**280**	PG		**Pg**	**09 08 04.1**	**-0.5**
OUL				SG		**Sg**	**09 08 30.4**	**+0.8**
OUF	**Merijarvi**	**2.49**	**262**	PG		**Pb**	**09 08 12.4**	**-0.6**
OUF				MSG			09 08 44.9	
	comp=Z,19nm,0.2s							
OUF				SG		**Sg**	**09 08 46.6**	**-0.7**
RNF	**Rovaniemi**	**2.55**	**317**	PB		**Pb**	**09 08 13.4**	**-0.7**
RNF				SB		**Sg**	**09 08 49.0**	**-0.4**
OBF0	**Syolatti, Pyha**	**2.67**	**266**	PG		**Pb**	**09 08 15.6**	**-0.5**
OBF0				SG		**Sg**	**09 08 54.1**	**+0.9**
SUF	**Sumiainen**	**2.83**	**224**	PG		**Pb**	**09 08 17.9**	**-1.1**
SUF				MSG			09 08 51.9	
	comp=Z,9.8nm,0.2s							
SUF				SG		**Sg**	**09 08 57.5**	**-0.9**
TOF	**Tornio**	**2.83**	**299**	PG		**Pg**	**09 08 20.6**	**-1.2**
TOF				SB		**Sb**	**09 08 55.5**	**+1.4**
TOF				MSG			09 08 55.5	
	comp=Z,12nm,0.2s							
VRF	**Varrio**	**2.96**	**354**	PB		**Pn**	**09 08 18.1**	**+2.4**
VRF				MSG			09 08 56.6	
	comp=Z,4.9nm,0.2s							
APA0	**Apatity Array**	**2.99**	**19**	Pn		**Pn**	**09 08 15.6**	**-0.5**
	baz=188,slow=12							
APA0				Lg		Lg	09 08 59.8	
	baz=198,slow=37							
APA0	**Apatity Array**	**2.99**	**19**	P		**Pn**	**09 08 16.1**	**0.0**
APA0				S		**Sn**	**09 08 53.6**	**+1.1**
APA0	**Apatity Array**	**2.99**	**19**	Pn		**Pn**	**09 08 15.6**	**-0.5**
	baz=188,slow=12							
APA0				Sg		**Sb**	**09 08 59.8**	**+1.2**
	baz=198,slow=37							
APA	**Apatity**	**3.02**	**22**	P		**Pn**	**09 08 16.7**	**+0.2**
APA				S		**Sn**	**09 08 54.4**	**+1.2**
SGF	**Sodankyl**	**3.07**	**331**	SB		**Sb**	**09 09 01.0**	**+0.2**
KAF	**Kangasniemi**	**3.28**	**216**	PG		**Pb**	**09 08 25.0**	**-1.5**
	baz=36							
ERTU	**Ertsjaerv**	**3.81**	**301**	PB		**Pb**	**09 08 32.7**	**-2.9**
ERTU				SG		**Sg**	**09 09 32.8**	**+2.8**
VAF	**Ylistaro**	**3.85**	**246**	SG		**Sg**	**09 09 31.8**	**+0.7**
BURU	**Burvik**	**3.88**	**271**	PN		**Pn**	**09 08 31.7**	**+3.4**
FIA0	**FINESS Array S**	**3.92**	**212**	Pn		**Pn**	**09 08 30.9**	**+2.1**
	baz=37,slow=14							
FIA0				Sn		**Sn**	**09 09 17.7**	**+2.2**
	baz=37,slow=22							
FIA0				Lg		Lg	09 09 32.0	
	baz=33,slow=37							
FIA0	**FINESS Array S**	**3.92**	**212**	PB		**Pn**	**09 08 29.8**	**+0.9**
FIA0				SG		**Sg**	**09 09 31.0**	**-2.3**
FIA0	**FINESS Array S**	**3.92**	**212**	Pn		**Pn**	**09 08 30.9**	**+2.1**
	baz=37,slow=14							
FIA0				Sg		**Sg**	**09 09 32.0**	**-1.2**
	baz=33,slow=37							
FINES	**FINESS Array B**	**3.92**	**212**	Pn		**Pn**	**09 08 29.8**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=32,slow=21,SNR=1.8							
FINES				Pg		**Pb**	**09 08 37.0**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=26,slow=14,SNR=5.1							
FINES				Sn		**Sn**	**09 09 16.7**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=36,slow=24,SNR=2.2							
FINES				Lg		Lg	09 09 29.8	
	comp=Z,2.2nm,0.3s,baz=39,slow=28,SNR=16							
FINES				Rg		Rg	09 09 49.9	
	comp=Z,50nm,1.1s,baz=37,slow=22,SNR=16							
UMAU	**Umeaa**	**4.33**	**262**	PN		**Pn**	**09 08 37.5**	**+3.0**
UMAU				SG		**Sg**	**09 09 46.9**	**+0.4**
HEF	**Hetta**	**4.49**	**326**	Lg		Lg	09 09 47.7	
HEF	**Hetta**	**4.49**	**326**	SG		**Sg**	**09 09 49.6**	**-2.0**
HEF	**Hetta**	**4.49**	**326**	Sg		**Sg**	**09 09 47.7**	**-4.0**
VJF	**Virojoki**	**4.50**	**198**	SG		**Sb**	**09 09 45.3**	**+3.4**
ARA0	**ARCESS Array S**	**5.10**	**340**	Pn		**Pn**	**09 08 45.4**	**+0.2**
	baz=153,slow=14							
ARA0				Sn		**Sn**	**09 09 44.1**	**-0.5**
	baz=160,slow=28							
ARA0				Lg		Lg	09 10 06.2	
	baz=151,slow=37							
ARA0	**ARCESS Array S**	**5.10**	**340**	Pn		**Pn**	**09 08 45.4**	**+0.2**
	baz=153,slow=14							
ARA0				Sn		**Sn**	**09 09 44.1**	**-0.5**
	baz=160,slow=28							
ARCES	**ARCESS Array B**	**5.10**	**340**	Pn		**Pn**	**09 08 45.5**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=154,slow=12,SNR=9.7							
ARCES				Sn		**Sn**	**09 09 44.0**	**-0.7**
	comp=Z,0.7nm,0.3s,baz=156,slow=24,SNR=3.6							
ARCES				Lg		Lg	09 10 06.1	
	comp=Z,2.4nm,0.3s,baz=154,slow=31,SNR=16							
I37NO	**I37NO**	**6.29**	**318**	*i*			09 45 00.0	
	baz=130,slow=312,SNR=8.8							
HFS	**Hagfors**	**9.04**	**246**	Pn		**Pn**	**09 09 39.6**	**+0.5**
	baz=60,slow=12							
HFS				Sn		**Sn**	**09 11 19.4**	**-2.0**
	baz=46,slow=28							
HFS				Lg		Lg	09 12 10.2	
	baz=58,slow=37							
HFS	**Hagfors**	**9.04**	**246**	Pn		**Pn**	**09 09 38.3**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=58,slow=14,SNR=1.9							
HFS				Sn		**Sn**	**09 11 17.5**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=63,slow=23,SNR=1.7							
HFS				Lg		Lg	09 12 10.0	
	comp=Z,0.4nm,0.3s,baz=65,slow=30,SNR=4.2							
HFS	**Hagfors**	**9.04**	**246**	Pn		**Pn**	**09 09 39.6**	**+0.5**
	baz=60,slow=12							
HFS				Sn		**Sn**	**09 11 19.4**	**-2.0**
	baz=46,slow=28							
NOA	**NORSAR Array B**	**9.52**	**255**	Pn		**Pn**	**09 09 43.4**	**-2.3**
	comp=Z,0.0nm,0.3s,baz=59,slow=3.4,SNR=1.2							
NOA				Lg		Lg	09 12 25.6	
	comp=Z,0.0nm,0.3s,baz=24,slow=15,SNR=3.1							
NRA0	**NORESS Array S**	**9.54**	**253**	Pn		**Pn**	**09 09 46.8**	**+0.7**
NRA0	**NORESS Array S**	**9.54**	**253**	Pn		**Pn**	**09 09 46.8**	**+0.7**

*KRAR **06** 09:21:56.0±0.1, 53.59N×87.91E, M2.1, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
IDC 06 09:21:55.9±3.7, 53.64N×87.90E, h0km, mb1 2.8/2, mb1mx2.7/55, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=31.9km s-min=16.4km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**281**	*i*			09 33 50.9	
	baz=97,slow=313,SNR=6.8							
ZALV	**Zalesovo Beam**	**1.85**	**281**	Pg		Pn	09 22 28.8	-0.1
	1.5nm,0.3s,baz=100,slow=14,SNR=9.6							
ZALV				Lg		Lg	09 22 55.1	
	2.4nm,0.3s,baz=106,slow=26,SNR=12							
KURBB	**Kurchatov Arra**	**6.51**	**246**	Pn		Pn	09 23 33.6	+0.8
	0.1nm,0.3s,baz=62,slow=14,SNR=4.7							
MKAR	**Makanchi Array**	**7.73**	**210**	Pn		Pn	09 23 51.1	+1.4
	0.1nm,0.3s,baz=27,slow=14,SNR=2.4							
MKAR				Sn		Sn	09 25 17.1	-0.9
	0.0nm,0.3s,baz=24,slow=25,SNR=2.6							
MKAR				Lg		Lg	09 26 00.6	
	0.1nm,0.3s,baz=22,slow=24,SNR=2.8							

*NIED **06** 09:24:00, 32.10N×129.90E, h14km, Mw3.6 Best double couple: M0 2.45000×10^14 NP1:φs25.00000°, δ84.00000°, λ164.00000°. NP2:φs116.00000°, δ74.00000°, λ6.00000°.*
JMA 06 09:24:27.6, 32.08N×129.87E, h12km±1km, M3.7, 4C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JSJ	**Shimokoshiki**	**0.42**	**198**	↑P		Pg	09 24 35.7	-0.3
JSJ				*i* S		Sg	09 24 41.5	-0.1
JHD	**Hondo**	**0.45**	**30**	↓P		Pg	09 24 36.4	0.0
JHD				S		Sg	09 24 42.8	+0.4
NGSJ	**Nagasakinomoza**	**0.55**	**354**	↑P		Pg	09 24 38.2	-0.3
NGSJ				S		Sg	09 24 46.1	+0.3
JZO	**Okuchi**	**0.62**	**84**	↓P		Pg	09 24 39.7	0.0
JZO				S		Sg	09 24 47.7	-0.2
JSU	**Suzuyama**	**0.76**	**139**	↑P		Pg	09 24 41.9	-0.4
JSU				S		Sg	09 24 51.9	-0.3
JIU3	**Izumi3**	**0.93**	**59**	↓P		Pg	09 24 44.4	-1.1
JIU3				S		Sg	09 24 56.7	-0.9
JTA	**Tamana**	**1.04**	**32**	↓P		Pb	09 24 46.7	-0.9
JTA				S		Sb	09 25 00.4	-0.9
JTZ	**Takazaki**	**1.05**	**99**	P		Pb	09 24 47.7	0.0
JTZ				eS		Sb	09 25 01.3	-0.1
JFU	**Fukue jima 2**	**1.11**	**301**	↑P		Pb	09 24 48.1	-0.6
JFU				S		Sn	09 25 04.1	-0.1

*NEIC **06** 09:28:40.9±1.5, 6.77N±0.06×73.07W±0.07, h155km±7km, mb4.3/31, Error ellipse: s-maj=13.0km s-min=1.3km az=133.0*
*IDC **06** 09:28:41.7±1.2, 6.78N×72.98W, h166km±13km, mb3.4/4, mb1 3.8/8, mb1mx3.4/33, mbtmp4.1/8, MS3.5/1, Ms1 3.5/1, ms1mx2.4/26, Error ellipse: s-maj=25.7km s-min=13.8km az=133.0*
*RSNC **06** 09:28:42.2±0.9, 6.83N×73.16W, h148km±4km, ML3.9, Mw4.0*
ISC 06 09:28:41.1±0.6, 6.81N±0.03×73.11W±0.03, h157km±5km, n95, σ1s46/132, mb4.2/17, 6C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BARC	**Barichara**	**0.23**	**197**	*i* P		**Pn**	**09 29 02.3**	**-0.3**
BARC				*e*S		**Sn**	**09 29 17.5**	**-1.5**
BARC				*i*			09 29 20.0	
	comp=Z,2μm,0.2s							
PAMC	**Pamplona, Colo**	**0.67**	**38**	↑*i* P		**Pn**	**09 29 05.2**	**+0.4**
PAMC				*e*S		**Sn**	**09 29 22.1**	**-0.6**
PAMC				*i*			09 29 24.8	
	comp=Z,859nm,0.4s							
RUSC	**La Rusia**	**0.92**	**178**	↓*i* P		**Pn**	**09 29 06.3**	**-0.2**
RUSC				*e*S		**Sn**	**09 29 25.0**	**-0.8**
RUSC				*i*			09 29 26.1	
	comp=Z,899nm,0.7s							
RUSC	**La Rusia**	**0.92**	**178**	Pn		Pn	**09 29 05.9**	**-0.6**
PTBC	**PUERTO BERRIO,**	**1.36**	**259**	*i* P		**Pn**	**09 29 08.9**	**-0.9**
PTBC				*e*S		**Sn**	**09 29 30.0**	**-1.8**
PTBC				*i*			09 29 37.1	
	comp=Z,680nm,0.2s							
TAMC	**Tame, Arauca**	**1.37**	**106**	↓*i* P		**Pn**	**09 29 10.8**	**+0.9**
TAMC				*i*			09 29 31.6	
	comp=Z,488nm,0.4s							
TAMC				*e*S		**Sn**	**09 29 32.3**	**+0.3**
OCAC	**Ocana**	**1.43**	**352**	↑*e*P		**Pn**	**09 29 10.3**	**-0.4**
OCAC				*e*S		**Sn**	**09 29 32.1**	**-1.3**
OCAC				*i*			09 29 40.5	
	comp=Z,810nm,0.4s							
SPBC	**San Pablo de B**	**1.50**	**220**	*e*P		**Pn**	**09 29 11.1**	**-0.1**
SPBC				*e*S		**Sn**	**09 29 33.1**	**-1.3**
SPBC				*i*			09 29 38.0	
	comp=Z,1μm,0.4s							
CTAU	**Tausa, Cundina**	**1.85**	**210**	*e*S		**Sn**	**09 29 42.8**	**+0.9**
CTAU				*i*			09 29 50.1	
	comp=Z,1μm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*e*P		**Pn**	**09 29 14.5**	**-0.5**
ZARC				*e*S		**Sn**	**09 29 40.0**	**-1.1**
ZARC				*i*			09 29 45.2	
	comp=Z,821nm,0.5s							
NORC	**Norcasia**	**2.14**	**235**	*e*P		**Pn**	**09 29 18.1**	**-0.3**
NORC				*e*S		**Sn**	**09 29 47.0**	**-0.1**
NORC				*i*			09 29 55.5	
	comp=Z,525nm,0.4s							
SMLC	**San Martn de**	**2.19**	**334**	*e*P		**Pn**	**09 29 18.5**	**-0.4**
SMLC				*e*S		**Sn**	**09 29 48.0**	**-0.1**
SMLC				*i*			09 29 49.2	
	comp=Z,515nm,0.3s							
CHIC	**Chingaza**	**2.25**	**196**	*e*P		**Pn**	**09 29 20.3**	**+0.2**
CHIC				*e*S		**Sn**	**09 29 49.8**	**-0.3**
CHIC				*i*			09 29 53.2	
	comp=Z,640nm,0.6s							
ROSC	**El Rosal**	**2.30**	**212**	P		**Pn**	**09 29 22.2**	**+1.7**
	comp=Z,100nm,0.3s,baz=356,slow=20,SNR=179							
ROSC				S		**Sn**	**09 29 49.2**	**-1.7**
	comp=Z,91nm,0.3s,baz=116,slow=17,SNR=8.5							
ROSC	**El Rosal**	**2.30**	**212**	*i* P		**Pn**	**09 29 22.1**	**+1.6**
ROSC				*e*S		**Sn**	**09 29 51.2**	**+0.3**
ROSC				*i*			09 29 56.9	
	comp=Z,1μm,0.5s							
ROSC	**El Rosal**	**2.30**	**212**	Pn		**Pn**	**09 29 22.1**	**+1.6**
ROSC				Sn		**Sn**	**09 29 50.1**	**-0.9**
HELC	**Santa Helena**	**2.48**	**256**	*e*P		**Pn**	**09 29 23.4**	**+0.8**
HELC				*e*S		**Sn**	**09 29 54.4**	**-0.3**
HELC				*i*			09 30 00.5	
	comp=Z,504nm,0.5s							
UREC	**San Jos de Ur**	**2.58**	**291**	*e*P		**Pn**	**09 29 22.0**	**-1.5**
UREC				*e*S		**Sn**	**09 29 52.8**	**-3.4**
UREC				*i*			09 30 09.9	
	comp=Z,304nm,0.2s							
GUY2C	**Guyana, Caldas**	**2.74**	**235**	*e*P		**Pn**	**09 29 26.2**	**+0.2**
GUY2C				*e*S		**Sn**	**09 30 03.2**	**+2.5**
GUY2C				*i*			09 30 08.4	
	comp=Z,570nm,0.4s							
VILC	**Villavicencio,**	**2.75**	**192**	*e*P		**Pn**	**09 29 25.6**	**-0.1**
VILC				*e*S		**Sn**	**09 30 00.1**	**-0.2**
VILC				*i*			09 30 10.1	
	comp=Z,820nm,0.5s							
PTGC	**Puerto Gaitan,**	**2.77**	**159**	*i* P		**Pn**	**09 29 25.5**	**-0.5**
PTGC				*e*S		**Sn**	**09 29 59.4**	**-1.4**
PTGC				*i*			09 30 00.6	
	comp=Z,270nm,0.3s							
RREF	**El Recreo**	**2.92**	**230**	*e*P		**Pn**	**09 29 28.7**	**+0.3**
RREF				*e*S		**Sn**	**09 30 05.8**	**+0.9**
RREF				*i*			09 30 13.7	
	comp=Z,557nm,0.6s							
CBOC	**Ciudad Bolivar**	**3.03**	**252**	↑*e*P		**Pn**	**09 29 29.8**	**+0.4**
CBOC				*e*S		**Sn**	**09 30 04.8**	**-1.9**
CBOC				*i*			09 30 17.7	
	comp=Z,146nm,0.6s							
DBBC	**Dabeiba**	**3.08**	**274**	*e*P		**Pn**	**09 29 29.8**	**-0.1**
DBBC				*e*S		**Sn**	**09 30 05.2**	**-2.4**
TOLC	**Tolima**	**3.12**	**225**	*e*P		**Pn**	**09 29 30.7**	**+0.1**
TOLC				*e*S		**Sn**	**09 30 06.5**	**-2.3**
SDV	**Santo Domingo**	**3.21**	**50**	P		**Pn**	**09 29 31.8**	**+0.2**
	comp=Z,106nm,0.3s,baz=171,slow=2.5,SNR=397							
SDV				S		**Sn**	**09 30 10.3**	**-0.3**
	comp=Z,38nm,0.3s,baz=101,slow=22,SNR=7.9							
SDV	**Santo Domingo**	**3.21**	**50**	⇑*i* P		**Pn**	**09 29 31.8**	**+0.2**
SDV				*e*S		**Sn**	**09 30 08.6**	**-2.1**
SDV				*i*			09 30 12.4	
	comp=Z,102nm,0.4s							
SDV	**Santo Domingo**	**3.21**	**50**	Pn		**Pn**	**09 29 31.7**	**+0.2**
SDV				Sn		**Sn**	**09 30 09.7**	**-0.9**
ARGC	**Ariguani, Magd**	**3.23**	**340**	*e*P		**Pn**	**09 29 32.3**	**+0.7**
ARGC				*e*S		**Sn**	**09 30 11.9**	**+1.1**
ARGC				*i*			09 30 20.1	
	comp=Z,157nm,0.4s							
ANIL	**Santa Ana**	**3.24**	**225**	*e*P		**Pn**	**09 29 32.7**	**+0.6**
ANIL				*e*S		**Sn**	**09 30 12.5**	**+0.9**
PRAC	**Prado**	**3.55**	**210**	*e*P		**Pn**	**09 29 35.5**	**-0.3**
PRAC				*e*S		**Sn**	**09 30 17.6**	**-0.7**
PRAC				*i*			09 30 22.2	
	comp=Z,538nm,0.5s							
ORTC	**Ortega, Tolima**	**3.58**	**216**	*e*P		**Pn**	**09 29 36.1**	**-0.1**
ORTC				*e*S		**Sn**	**09 30 18.6**	**-0.5**
ORTC				*i*			09 30 23.4	
	comp=Z,268nm,0.6s							
PLMC	**San Jos del P**	**3.68**	**239**	*e*P		**Pn**	**09 29 37.8**	**+0.3**
PLMC				*i*			09 30 24.5	
	comp=Z,197nm,0.2s							
SJCC	**San Jacinto, C**	**3.68**	**326**	↓*i* P		**Pn**	**09 29 35.9**	**-1.6**
SJCC				*e*S		**Sn**	**09 30 17.3**	**-4.1**
SJCC				*i*			09 30 30.6	
	comp=Z,136nm,0.6s							
LCBC	**Los crdobas,**	**3.81**	**302**	*e*P		**Pn**	**09 29 38.9**	**-0.2**
LCBC				*e*S		**Sn**	**09 30 24.5**	**+0.2**
LCBC				*i*			09 30 27.0	
	comp=Z,178nm,0.2s							
GUVC	**San Jose del G**	**4.27**	**173**	*e*P		**Pn**	**09 29 44.2**	**-0.9**
GUVC				*e*S		**Sn**	**09 30 33.1**	**-1.9**
GUVC				*i*			09 30 38.5	
	comp=Z,232nm,0.3s							
YOTC	**Yotoco, Valle**	**4.27**	**229**	*e*P		**Pn**	**09 29 44.6**	**-0.6**
YOTC				*e*S		**Sn**	**09 30 36.4**	**+1.2**
SMRC	**Santa Marta, M**	**4.46**	**346**	*e*P		**Pn**	**09 29 47.2**	**-0.4**
SMRC				*e*S		**Sn**	**09 30 35.6**	**-3.9**
SMRC				*i*			09 30 37.1	
	comp=Z,84nm,0.4s							
CAPC	**Capurgana**	**4.57**	**294**	*e*S		Sn	09 30 33.5	-8.6
PTAC	**Punta Ardita,**	**4.67**	**274**	*e*P		**Pn**	**09 29 49.3**	**-1.1**
PTAC				*e*S		**Sn**	**09 30 42.0**	**-2.4**
PTAC				*i*			09 30 50.6	
	comp=Z,149nm,0.3s							
MACC	**Macarena, Meta**	**4.70**	**189**	*i* P		**Pn**	**09 29 49.3**	**-1.4**
MACC				*e*S		**Sn**	**09 30 40.6**	**-4.4**
MACC				*i*			09 30 45.0	
	comp=Z,118nm,1.1s							
BETC	**Betania**	**4.71**	**210**	*e*P		**Pn**	**09 29 50.4**	**-0.6**
BETC				*e*S		**Sn**	**09 30 38.9**	**-6.7**
URIC	**Uribia, Colomb**	**4.98**	**13**	Pn		**Pn**	**09 29 52.6**	**-1.8**
MALC	**Bahia Malaga**	**5.04**	**237**	*e*P		**Pn**	**09 29 56.4**	**+1.2**
MALC				*e*S		Sn	09 30 42.4	-11
MALC				*i*			09 30 52.4	
	comp=Z,46nm,1.2s							
GARC	**Garzon, Huila**	**5.17**	**207**	*e*P		**Pn**	**09 29 56.2**	**-1.0**
GARC				*e*S		**Sn**	**09 30 53.5**	**-3.2**
GARC				*i*			09 30 57.7	
	comp=Z,85nm,0.3s							
PCON	**Cinco Dias**	**5.53**	**216**	*e*P		**Pn**	**09 30 03.4**	**+1.2**
PCON				*e*S		**Sn**	**09 31 00.0**	**-5.5**
PCON				*i*			09 31 20.4	
	comp=Z,25nm,0.7s							
FLOC	**Florencia**	**5.78**	**206**	*e*P		**Pn**	**09 30 04.7**	**-0.4**
FLOC				*e*S		**Sn**	**09 31 10.3**	**-0.5**
FLOC				*i*			09 31 17.4	
	comp=Z,46nm,1.5s							
FLOC	**Florencia**	**5.78**	**206**			**Pn**	**09 30 04.5**	**-0.5**
SOTA	**Rioblanco**	**5.81**	**217**	*e*P		**Pn**	**09 30 06.4**	**+0.5**
SOTA				*i*			09 31 23.5	
	comp=Z,29nm,0.6s							
BBAC	**Balboa, Cauca**	**6.30**	**221**	*e*P		**Pn**	**09 30 12.9**	**+0.8**
BBAC				*e*S		**Sn**	**09 31 22.0**	**-1.4**
BBAC				*i*			09 31 34.5	
	comp=Z,14nm,1.1s							
GCUF	**Volcan Galeras**	**6.97**	**217**	*e*P		**Pn**	**09 30 22.2**	**+0.9**
PCRV	**Puerto La Cruz**	**9.03**	**68**	P		**Pn**	**09 30 48.4**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=308,slow=4.9,SNR=7.9							
PLCV	**Puerto La Cruz**	**9.06**	**68**			**Pn**	**09 30 48.4**	**-0.3**
SAML	**Samuel**	**18.52**	**148**	P		**P**	**09 32 43.5**	**-2.2**
TEIG	**Tepich**	**19.85**	**314**	P		**P**	**09 33 01.6**

LZH pPKP pPKPdf 09 48 24.8 -3.5
LZH sPKP 09 48 41.0
ASAR Alice Springs 149.11 234 PKPbc **PKPbc 09 48 10.9 -0.9**
comp=Z,0.2nm,0.5s,baz=126,slow=3.6,SNR=6.4
WRA Warramunga Arr 150.34 241 PKPbc **PKPbc 09 48 14.0 -0.8**
comp=Z,0.2nm,0.4s,baz=107,slow=2.9,SNR=6.1

*MAN **06** 09:30:06.9, 9.°53N×126.°95E, h7km, mb5.0, ML3.9, MS3.9*
*NEIC **06** 09:30:07.9±1.1, 9.°52N±0.°05×126.°58E±0.°09, h10km±1km, mb4.6/34, Error ellipse: s-maj=15.8km s-min=5.7km az=113.0*
*IDC **06** 09:30:14.6±4.3, 9.°41N×126.°59E, h61km±39km, mb3.8/16, mb1 4.0/18, mb1mx3.8/40, mbtmp4.2/18, ML4.9/2, MS3.2/6, Ms1 3.2/6, ms1mx2.9/56, Error ellipse: s-maj=43.1km s-min=14.2km az=73.0*
ISC 06 09:30:08.7±3.1, 9.°51N±0.°04×126.°82E±0.°06, h16km±19km, n75, σ1°64/80, mb4.5/33, MS3.4/3, 3C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SCPH	**Surigao**	**1.34**	**282**	⇓*e*P		**Pn**	**09 30 32.8**	**0.0**
MSLP	**Maasin**	**2.03**	**288**	*e*P		**Pn**	**09 30 44.4**	**+2.1**
MSLP				*e*S		**Sb**	**09 31 12.9**	**+2.6**
CGP	**Cagayan de Oro**	**2.34**	**244**	⇓*e*P		**Pn**	**09 30 48.7**	**+2.0**
CGP				*e*S		**Sn**	**09 31 16.8**	**+1.6**
BUKP	**Musuan**	**2.37**	**227**	*e*P		**Pn**	**09 30 48.1**	**+1.0**
BUKP				*e*S		**Sn**	**09 31 19.3**	**+3.3**
DAV	**Davao City (W)**	**2.72**	**207**	P		**Pn**	**09 30 54.2**	**+2.4**
	72nm,0.3s,baz=87,slow=19,SNR=2.0							
DAV				S		**Sn**	**09 31 27.5**	**+3.1**
	86nm,0.3s,baz=176,slow=23,SNR=4.6							
DAV				LR		LR	09 32 02.6	
	comp=Z,656nm,21.1s,baz=28,slow=43							
DMPH	**Davao City--Mi**	**2.74**	**208**	⇑*i*P		**Pn**	**09 30 52.9**	**+0.8**
DMPH				*i* S		**Sn**	**09 31 24.0**	**-0.9**
TBP	**Tagbilaran**	**2.92**	**274**	*e*P		**Pn**	**09 30 55.9**	**+1.3**
LLP	**Lapu-Lapu**	**2.92**	**286**	*e*P		**Pn**	**09 30 57.9**	**+3.2**
LLP				*e*S		**Sn**	**09 31 33.0**	**+3.5**
KCP	**Kidapawan**	**3.02**	**215**	⇓*i*P		**Pb**	**09 31 01.3**	**-0.9**
KCP				*i* S		**Sn**	**09 31 37.0**	**+5.1**
CTBH	**Cotabato--PC H**	**3.41**	**228**	⇑*i*P		**Pn**	**09 31 02.5**	**+1.1**
DDMP	**Don Marcelino,**	**3.56**	**198**	*e*P		**Pn**	**09 31 03.6**	**+0.3**
DDMP				*e*S		**Sn**	**09 31 49.1**	**+4.0**
CNP	**Catarman**	**3.66**	**325**	*e*P		**Pn**	**09 31 06.7**	**+1.9**
CNP				*e*S		**Sn**	**09 31 50.1**	**+2.5**
GUIM	**Jordan**	**4.31**	**285**	*e*P		**Pn**	**09 31 15.5**	**+1.8**
GUIM				*e*S		**Sn**	**09 32 02.9**	**-0.8**
RCP	**Roxas**	**4.50**	**297**	⇑*e*P		**Pn**	**09 31 18.4**	**+2.2**
LQP	**Lukban**	**6.90**	**312**	*e*P		**Pn**	**09 31 50.6**	**+1.1**
TGY	**Tagaytay City**	**7.35**	**309**	LR		LR	09 35 03.2	
	comp=Z,142nm,20.9s,baz=288,slow=40							
FAKI	**Fak Fak**	**13.48**	**156**	Pn		**Pn**	**09 33 20.8**	**+1.3**
BKB	**Balikpapan**	**14.56**	**223**	Pn		Pn	09 33 29.4	-5.0
TPUB	**Ta-pu**	**14.94**	**337**			**Pn**	**09 33 41.6**	**+2.2**
SBUM	**Sibu**	**16.12**	**245**	Pn		**Pn**	**09 33 52.5**	**-2.3**
KSM	**Kuching**	**18.26**	**245**	P		**Pn**	**09 34 19.1**	**-2.7**
JAY	**Jayapura**	**18.28**	**130**	LR		LR	09 42 09.6	
	comp=Z,83nm,18.3s,baz=286,slow=39							
BATI	**Baumata**	**19.84**	**189**	P		**Pn**	**09 34 40.4**	**-0.3**
	9.5nm,0.3s,baz=90,slow=1.0,SNR=2.6							
MTN	**Manton Dam**	**22.62**	**169**	P		**P**	**09 35 09.0**	**-0.1**
MTN				IAmb		IAmb	09 35 09.6	
	comp=Z,35nm,1.5s							
KNRA	**Kununurra**	**25.10**	**176**	P		**P**	**09 35 32.4**	**-0.5**
KNRA				IAmb		IAmb	09 35 46.2	
	comp=Z,16nm,0.8s							
ENH	**Enshi**	**26.24**	**324**	P		**P**	**09 35 42.1**	**-1.2**
ENH				IAmb		IAmb	09 35 55.6	
	comp=Z,9.6nm,0.4s							
FITZ	**Fitzroy Crossi**	**27.46**	**182**	P		**P**	**09 35 54.2**	**-0.1**
	comp=Z,3.3nm,0.4s,baz=349,slow=6.2,SNR=11							
FITZ	**Fitzroy Crossi**	**27.46**	**182**	P		**P**	**09 35 53.9**	**-0.4**
MJAR	**Matsushiro Arr**	**28.83**	**19**	LR		LR	09 46 22.8	
	comp=Z,28nm,20.3s,baz=195,slow=33							
WB0	**Warramunga Arr**	**30.03**	**166**	P		**P**	**09 36 16.1**	**-1.1**
WB0				IAmb		IAmb	09 36 20.6	
	comp=Z,8.2nm,1.2s							
WRA	**Warramunga Arr**	**30.19**	**166**	P		**P**	**09 36 17.4**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=346,slow=9.3,SNR=4.1							
WB2	**Warramunga Arr**	**30.19**	**166**	P		**P**	**09 36 18.0**	**-0.6**
WB2				IAmb		IAmb	09 36 19.2	
	comp=Z,12nm,1.4s							
GSI	**Gunungsitoli**	**30.21**	**256**	P		**P**	**09 36 16.9**	**-2.0**
PSA00	**Pilbara Seismi**	**31.64**	**192**	P		**P**	**09 36 30.6**	**-0.7**
AS31	**Alice Springs**	**33.69**	**168**	P		**P**	**09 36 48.9**	**-0.5**
ASAR	**Alice Springs**	**33.69**	**168**	P		**P**	**09 36 48.3**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=354,slow=7.1,SNR=15							
ASAR				PcP		**PcP**	**09 39 29.1**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=3.0,slow=2.4,SNR=4.6							
CTAO	**Charters Tower**	**35.09**	**147**	P		**P**	**09 37 02.0**	**+0.5**
CTAO				IAmb		IAmb	09 37 09.3	
	comp=Z,12nm,1.1s							
SHL	**Shillong**	**36.79**	**300**	P		**P**	**09 37 14.5**	**-1.8**
HNR	**Honiara**	**37.97**	**119**	LR		LR	09 50 46.1	
	comp=Z,63nm,20.9s,baz=58,slow=32							
MORW	**Morawa**	**39.74**	**195**	P		**P**	**09 37 40.5**	**-0.3**
MORW				IAmb		IAmb	09 37 41.4	
	comp=Z,11nm,1.1s							
FORT	**Forrest**	**40.07**	**178**	P		**P**	**09 37 43.3**	**-0.3**
FORT				IAmb		IAmb	09 37 55.7	
	comp=Z,26nm,1.4s							
BBOO	**Buckleboo**	**42.99**	**169**	P		**P**	**09 38 07.0**	**-0.5**
BBOO				IAmb		IAmb	09 38 20.3	
	comp=Z,21nm,1.4s							
NWAO	**Narrogin (SRO)**	**43.18**	**192**	P		**P**	**09 38 09.1**	**+0.1**
NWAO				IAmb		IAmb	09 38 16.6	
	comp=Z,24nm,1.4s							
STKA	**Stephens Creek**	**43.51**	**162**	P		**P**	**09 38 11.6**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=347,slow=8.4,SNR=5.2							
STKA	**Stephens Creek**	**43.51**	**162**	P		**P**	**09 38 11.5**	**-0.2**
MK31	**Makanchi Array**	**52.96**	**323**	P		**P**	**09 39 23.4**	**-1.2**
MKAR	**Makanchi Array**	**52.96**	**323**	P		**P**	**09 39 24.0**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=128,slow=7.8,SNR=13							
NIL	**Nilore**	**54.61**	**305**	P		**P**	**09 39 35.3**	**-1.6**
KURK	**Kurchatov**	**57.00**	**326**	P		**P**	**09 39 53.0**	**-0.7**
KURK				IAmb		IAmb	09 39 54.7	
	comp=Z,8.4nm,1.4s							
GAR	**Garm**	**58.19**	**310**	P		**P**	**09 40 01.2**	**-1.3**
KBL	**Kabul**	**58.21**	**305**	P		**P**	**09 40 00.8**	**-2.0**
KBL				IAmb		IAmb	09 40 05.8	
	comp=Z,3.0nm,0.7s							
CHGR	**Chuyangaron**	**58.99**	**309**	P		**P**	**09 40 06.3**	**-1.7**
CHGR				IAmb		IAmb	09 40 08.4	
	comp=Z,7.0nm,0.7s							
KK31	**Karatay Array**	**59.17**	**315**	P		**P**	**09 40 07.8**	**-1.3**
TIXI	**Tiksi**	**62.10**	**1**	P		**P**	**09 40 29.8**	**+1.3**
	comp=Z,1.3nm,0.3s,baz=299,slow=1.3,SNR=5.2							
TIXI	**Tiksi**	**62.10**	**1**	P		**P**	**09 40 28.6**	**+0.1**
BRVK	**Borovoye**	**62.67**	**325**	P		**P**	**09 40 32.0**	**-0.7**
BRVK				IAmb		IAmb	09 40 33.1	
	comp=Z,3.0nm,0.8s							
NRIK	**Noril'sk**	**64.88**	**346**	P		**P**	**09 40 47.5**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=141,slow=7.3,SNR=4.6							
RPZ	**Rata Peaks**	**66.45**	**147**	P		**P**	**09 40 59.1**	**+1.6**
	comp=Z,8.8nm,0.7s,baz=180,slow=1.0,SNR=1.9							
RPZ	**Rata Peaks**	**66.45**	**147**	P		**P**	**09 40 59.0**	**+1.4**
BKZ	**Black Stump Fm**	**66.86**	**140**	P		**P**	**09 41 01.6**	**+1.4**
ARU	**Arti**	**70.16**	**327**	P		**P**	**09 41 20.1**	**-0.5**
ARU				IAmb		IAmb	09 41 20.4	
	comp=Z,4.7nm,0.5s							
CASY	**Casey**	**76.53**	**187**	P		**P**	**09 41 57.9**	**+0.1**
CASY				IAmb		IAmb	09 42 14.4	
	comp=Z,6.8nm,1.3s							
RAYN	**Ar Rayn**	**78.36**	**292**	P		**P**	**09 42 07.7**	**-1.4**
RAYN				IAmb		IAmb	09 42 08.6	
	comp=Z,3.1nm,0.7s							
CCB	**Clear Creek Bu**	**79.49**	**26**	P		**P**	**09 42 15.3**	**+0.9**
ILAR	**Eielson Array**	**79.89**	**26**	P		**P**	**09 42 17.1**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=238,slow=5.3,SNR=2.8							
RIDG	**Independent Ri**	**80.81**	**27**	P		**P**	**09 42 23.6**	**+1.9**
INK	**Inuvik**	**84.79**	**22**	P		**P**	**09 42 42.6**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=349,slow=5.5,SNR=4.4							
INK	**Inuvik**	**84.79**	**22**	P		**P**	**09 42 43.1**	**+1.0**
INK				IAmb		IAmb	09 42 44.8	
	comp=Z,2.7nm,1.1s							
ARCES	**ARCESS Array B**	**85.09**	**340**	P		**P**	**09 42 43.5**	**-0.1**
	comp=Z,3.7nm,0.9s,baz=82,slow=6.5,SNR=7.8							
BRTR	**Keskin Array B**	**86.43**	**310**	P		**P**	**09 42 50.3**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=94,slow=10.0,SNR=4.0							
FINES	**FINESS Array B**	**86.81**	**332**	P		**P**	**09 42 52.0**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=58,slow=4.7,SNR=4.8							
VNDA	**Vanda**	**89.11**	**173**	P		**P**	**09 43 03.0**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=345,slow=5.4,SNR=5.6							
NOA	**NORSAR Array B**	**93.67**	**334**	P		**P**	**09 43 23.5**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=105,slow=8.8,SNR=1.6							
IDI	**Anoyia**	**94.15**	**307**	LR		LR	10 32 22.2	
	comp=Z,13nm,19.7s,baz=81,slow=40							
YKA	**Yellowknife Ar**	**94.23**	**24**	P		**P**	**09 43 28.1**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=298,slow=4.4,SNR=5.7							

*SOME **06** 09:35:51.3, 43.°67N×69.°62E*
*NNC **06** 09:35:52.1±1.7, 43.°70N×69.°76E, h0km, mb4.0, mpv3.5, Error ellipse: s-maj=9.8km s-min=6.3km az=133.0, Suspected Mining explosion.*
ISC 06 09:35:55.1±1.4, 43.°58N±0.°07×70.°14E±0.°08, h0km, n20, σ1°26/25, 4C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KK31	**Karatay Array**	**0.55**	**150**	⇑P		**Pb**	**09 36 07.8**	**+0.2**
	2.3nm,0.3s,baz=314,slow=17,SNR=180							
KK31				⇓S		**Sn**	**09 36 19.2**	**-0.8**
	25nm,0.4s,baz=324,slow=29,SNR=148							
BRLS	**Boroldoy**	**0.59**	**202**	P		**Pb**	**09 36 08.0**	**-0.2**
	9.1nm,0.3s							
BRLS				S		**Sn**	**09 36 20.3**	**-0.8**
	45nm,0.3s							
IUG	**Iuzhnay**	**1.43**	**183**	P		**Pn**	**09 36 21.7**	**-0.7**
	11nm,0.3s							
IUG				S		**Sn**	**09 36 43.3**	**+1.3**
	159nm,0.5s							
MRKS	**Merke**	**2.41**	**109**	Pg		**Pg**	**09 36 42.8**	**+1.5**
	6.4nm,0.3s							
MRKS				Lg		Lg	09 37 19.8	
	28nm,0.5s							
EKS2	**Erkin-Say**	**2.82**	**108**	P		**Pg**	**09 36 51.1**	**+2.0**
	SNR=7.4							
AML	**Almayashu**	**2.99**	**118**	P		**Pb**	**09 36 48.6**	**-0.8**
	SNR=6.9							
BTLS	**Baital**	**3.17**	**61**	Pg		**Pg**	**09 36 57.4**	**+1.6**
	20nm,0.5s							
BTLS				Lg		Lg	09 37 45.2	
	10nm,0.7s							
USP	**Ospenovka**	**3.19**	**94**	P		**Pg**	**09 36 58.0**	**+1.7**
	SNR=13							
SGDS	**Sogindy**	**3.27**	**91**	Pg		**Pg**	**09 36 59.4**	**+1.6**
	8.8nm,0.3s							
SGDS				Lg		Lg	09 37 48.7	
	14nm,0.3s							
AAK	**Ala-Archa**	**3.33**	**105**	P		**Pg**	**09 36 58.9**	**0.0**
	SNR=13							
AAK	**Ala-Archa**	**3.33**	**105**	⇑Pg		**Pg**	**09 36 58.2**	**-0.7**
	6.0nm,0.5s							
AAK				⇑Lg		Lg	09 37 49.3	
	5.6nm,0.5s							
UCH	**Uchtor**	**3.49**	**111**	P		**Pg**	**09 37 05.0**	**+3.0**
	SNR=8.2							
TKM2	**Tokmak 2**	**4.04**	**97**	P		**Pg**	**09 37 11.2**	**-1.4**
	SNR=7.6							
TKM2	**Tokmak 2**	**4.04**	**97**	⇓Pg		**Pg**	**09 37 11.0**	**-1.6**
	3.4nm,0.6s							
TKM2				⇓Lg		Lg	09 38 12.0	
	5.8nm,0.4s							
DGS	**Degeres**	**4.12**	**93**	Pg		**Pg**	**09 37 15.5**	**+1.4**
	3.8nm,0.3s							
DGS				Lg		Lg	09 38 16.1	
	11nm,0.6s							
KST	**Kastek**	**4.29**	**95**	Pg		**Pg**	**09 37 17.6**	**+0.4**
	6.1nm,0.4s							
KST				Lg		Lg	09 38 20.2	
	16nm,0.4s							
KUU	**Kurty**	**4.51**	**84**	Pg		**Pg**	**09 37 21.0**	**-0.5**
	2.8nm,0.2s							
KUU				Lg		Lg	09 38 25.2	
	16nm,0.5s							
TNSS	**Tian-Shan**	**5.00**	**94**	Pg		**Pg**	**09 37 30.4**	**-0.5**
	2.0nm,0.2s							
TNSS				Lg		Lg	09 38 41.3	
	11nm,0.5s							
MAKZ	**Makanchi**	**8.96**	**65**	⇓Pn		**Pn**	**09 38 05.8**	**0.0**
	1.2nm,0.3s							
MAKZ				⇓Sn		**Sn**	**09 39 47.4**	**-0.1**
	0.7nm,0.6s							
MK31	**Makanchi Array**	**9.17**	**65**	Pn		**Pn**	**09 38 08.8**	**+0.2**
	1.4nm,0.3s,baz=253,slow=14,SNR=50							
MK31				⇑Sn		**Sn**	**09 39 52.1**	**-0.4**
	0.8nm,0.6s,baz=249,slow=24,SNR=4.1							

*NEIC **06** 09:48:08.3±1.1, 11.°3S±0.°1×162.°6E±0.°1, h10km±2km, mb4.3/9, Error ellipse: s-maj=23.4km s-min=10.2km az=39.0*
*IDC **06** 09:48:12.9±3.3, 11.°21S×162.°67E, h48km±25km, mb3.6/4, mb1 3.8/6, mb1mx3.5/32, mbtmp3.9/6, ML4.1/2, Error ellipse: s-maj=42.7km s-min=20.5km az=57.0*
ISC 06 09:48:11.3±0.9, 11.°23S±0.°10×162.°7E±0.°1, h35km, n17, σ1°61/21, mb4.1/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**3.21**	**304**	P		**Pn**	**09 48 59.7**	**+0.4**
	93nm,0.3s,baz=173,slow=6.5,SNR=16							
HNR				S		**Sn**	**09 49 38.8**	**+2.6**
	45nm,0.3s,baz=127,slow=20,SNR=1.5							
HNR	**Honiara**	**3.21**	**304**			**Pn**	**09 48 58.3**	**-1.0**
HNR						Sn	**09 49 39.1**	**+2.9**
SANVU	**Saraoutou**	**6.10**	**134**			Pn	**09 49 40.7**	**+1.7**
SANVU						Sn	**09 50 47.8**	**+0.1**
DZM	**Mont Dzumac**	**11.37**	**162**	P		**Pn**	**09 50 53.5**	**+2.0**
	0.3nm,0.3s,baz=42,slow=10,SNR=12							
DZM				S		**Sn**	**09 52 57.6**	**+0.2**
	0.1nm,0.3s,baz=90,slow=20,SNR=1.4							
EIDS	**Eidsvold**	**17.82**	**216**	Pn		**Pn**	**09 52 12.9**	**-3.8**
CTAO	**Charters Tower**	**18.06**	**239**			**Pn**	**09 52 18.8**	**-0.9**
CTAO				IAmb		IAmb	09 52 19.3	
	comp=Z,29nm,1.5s							
PATS	**Pohnpei**	**18.46**	**346**	P		**P**	**09 52 21.7**	**-2.6**
PATS				IAmb		IAmb	09 52 34.7	
	comp=Z,57nm,1.4s							
WB0	**Warramunga Arr**	**28.48**	**249**	P		**P**	**09 54 03.2**	**-0.4**
WB0				IAmb		IAmb	09 54 18.7	
	comp=Z,5.7nm,1.2s							
WB2	**Warramunga Arr**	**28.56**	**249**	P		**P**	**09 54 04.4**	**+0.2**
WB2				IAmb		IAmb	09 54 08.2	
	comp=Z,5.7nm,1.2s							
WRA	**Warramunga Arr**	**28.57**	**249**	P		**P**	**09 54 04.5**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=78,slow=9.2,SNR=2.0							
AS31	**Alice Springs**	**30.01**	**242**	P		**P**	**09 54 17.1**	**+0.1**
ASAR	**Alice Springs**	**30.01**	**242**	P		**P**	**09 54 17.8**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=64,slow=10,SNR=7.9							
KNRA	**Kununurra**	**33.23**	**259**	P		**P**	**09 54 44.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**36.40**	**255**	P		**P**	**09 55 12.9**	**+0.1**
ULN	**Ulaanbaatar**	**76.69**	**325**	P		**P**	**09 59 59.2**	**+0.2**
ULN				IAmb		IAmb	10 00 01.6	
	comp=Z,5.9nm,1.2s							
SONM	**Songino Array**	**77.05**	**325**	P		**P**	**10 00 01.8**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=134,slow=8.3,SNR=4.4							
MKAR	**Makanchi Array**	**91.59**	**317**	P		**P**	**10 01 13.9**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=101,slow=7.5,SNR=3.1							

IDC 06 09:56:59.7±3.0, 0.°97N×89.°34E, h0km, mb3.7/5, mb1 3.8/6, mb1mx3.5/41, mbtmp3.6/6, ML4.3/1, Error ellipse: s-maj=96.9km s-min=24.6km az=63.0, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMAR	**Chiang Mai Arr**	**19.77**	**28**	P		P	10 01 31.2	-0.3
	0.3nm,0.3s,baz=219,slow=11,SNR=2.1							
H01W3	**Cape Leeuwin H**	**42.55**	**149**	T		T	10 51 06.4	
	baz=324,slow=76							
H01W2	**Cape Leeuwin H**	**42.56**	**149**	T		T	10 51 02.0	
	baz=324,slow=76							
H01W1	**Cape Leeuwin H**	**42.57**	**149**	T		T	10 51 00.1	
	baz=324,slow=76							
MKAR	**Makanchi Array**	**46.05**	**353**	P		P	10 05 24.0	-1.3
	0.3nm,0.6s,baz=180,slow=8.1,SNR=4.3							
WRA	**Warramunga Arr**	**48.74**	**118**	P		P	10 05 46.1	-0.5
	0.9nm,0.7s,baz=294,slow=9.0,SNR=5.4							
SONM	**Songino Array**	**48.97**	**15**	P		P	10 05 48.5	+0.4
	0.6nm,0.4s,baz=197,slow=11,SNR=2.4							
ASAR	**Alice Springs**	**49.72**	**123**	P		P	10 05 54.4	+0.2
	0.4nm,0.6s,baz=295,slow=8.0,SNR=7.3							
ZALV	**Zalesovo Beam**	**52.93**	**357**	P		P	10 06 18.6	+0.9
	0.9nm,0.4s,baz=171,slow=9.8,SNR=2.3							

*IDC **06** 10:06:00.1±1.0, 11.°15S×162.°66E, h0km, mb4.1/12, mb1 4.3/15, mb1mx4.1/37, mbtmp4.1/15, ML4.0/3, MS3.6/11, Ms1 3.6/11, ms1mx3.3/39, Error ellipse: s-maj=25.3km s-min=20.6km az=127.0*
*NEIC **06** 10:06:01.5±1.3, 11.°2S±0.°1×162.°66E±0.°09, h10km±1km, mb4.5/12, Error ellipse: s-maj=21.1km s-min=10.0km az=220.0*
ISC 06 10:06:05.1±0.5, 11.°24S±0.°07×162.°66E±0.°08, h35km, n46, σ0°92/35, mb4.1/16, MS3.6/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**3.22**	**304**	Pn		**Pn**	**10 06 53.0**	**-0.2**
	81nm,0.3s,baz=56,slow=5.8,SNR=21							
HNR				Sn		**Sn**	**10 07 32.8**	**+2.4**
	80nm,0.3s,baz=75,slow=19,SNR=1.9							
HNR	**Honiara**	**3.22**	**304**			**Pn**	**10 06 53.3**	**0.0**
HNR						**Sn**	**10 07 31.4**	**+1.0**
SANVU	**Saraoutou**	**6.08**	**134**	Pn		**Pn**	**10 07 33.7**	**+1.1**
SANVU				Sn		**Sn**	**10 08 41.5**	**+0.5**
DZM	**Mont Dzumac**	**11.36**	**162**	eLR		LR	10 11 30.0	
	comp=Z,302nm,24.0s							
DZM	**Mont Dzumac**	**11.36**	**162**	Pn		**Pn**	**10 08 47.1**	**+2.0**
	0.6nm,0.3s,baz=40,slow=7.2,SNR=41							
DZM				Sn		**Sn**	**10 10 49.1**	**-1.8**
	0.2nm,0.3s,baz=136,slow=23,SNR=2.1							
DZM				LR		LR	10 12 30.1	
	comp=Z,207nm,19.2s,baz=30,slow=34							
DZM	**Mont Dzumac**	**11.36**	**162**			**Pn**	**10 08 46.0**	**+0.9**
PMG	**Port Moresby**	**15.36**	**275**	LR		LR	10 15 32.8	
	comp=Z,488nm,18.4s,baz=130,slow=37							
CTA	**Charters Tower**	**18.07**	**239**	P		**P**	**10 10 14.5**	**+0.8**
	0.2nm,0.3s,baz=58,slow=19,SNR=2.5							
CTAO	**Charters Tower**	**18.07**	**239**	P		**P**	**10 10 14.6**	**+0.8**
PATS	**Pohnpei**	**18.47**	**346**			**P**	**10 10 17.2**	**-0.9**
PATS				IAmb		IAmb	10 10 26.1	
	comp=Z,66nm,1.4s							
COEN	**Coen**	**19.21**	**260**	P		**Pn**	**10 10 27.9**	**+0.5**
COEN				IAmb		IAmb	10 10 34.7	
	comp=Z,23nm,0.9s							
STKA	**Stephens Creek**	**28.28**	**220**	LR		LR	10 22 41.4	
	comp=Z,155nm,19.2s,baz=29,slow=35							
WB0	**Warramunga Arr**	**28.50**	**249**	P		**P**	**10 11 57.3**	**-0.1**
WB0				IAmb		IAmb	10 12 08.4	
	comp=Z,17nm,1.4s							
WB2	**Warramunga Arr**	**28.57**	**249**	P		**P**	**10 11 58.7**	**+0.6**
WB2				IAmb		IAmb	10 12 02.2	
	comp=Z,4.3nm,0.9s							
WRA	**Warramunga Arr**	**28.59**	**249**	P		**P**	**10 11 58.4**	**+0.2**
	comp=Z,2.6nm,1.0s,baz=79,slow=9.3,SNR=5.8							
H11S2	**WAKE ISLAND Hy**	**29.81**	**8**	T		T	10 42 59.4	
	baz=188,slow=76,SNR=216							
H11S3	**WAKE ISLAND Hy**	**29.81**	**8**	T		T	10 43 03.0	
	baz=188,slow=76,SNR=133							
H11S1	**WAKE ISLAND Hy**	**29.83**	**8**	T		T	10 43 04.0	
	baz=188,slow=76,SNR=140							
AS31	**Alice Springs**	**30.02**	**242**	P		**P**	**10 12 11.1**	**+0.2**
ASAR	**Alice Springs**	**30.02**	**242**	P		**P**	**10 12 10.8**	**-0.2**
	comp=Z,1.6nm,1.0s,baz=64,slow=10,SNR=12							
ASAR				LR		LR	10 23 42.2	
	comp=Z,114nm,18.7s,baz=92,slow=35							
H11N1	**WAKE ISLAND Hy**	**31.04**	**8**	T		T	10 44 34.9	
	baz=188,slow=76,SNR=85							
H11N3	**WAKE ISLAND Hy**	**31.05**	**8**	T		T	10 44 29.3	
	baz=188,slow=76,SNR=116							
H11N2	**WAKE ISLAND Hy**	**31.06**	**8**	T		T	10 44 32.1	
	baz=188,slow=76,SNR=106							
SIJI	**Sorong**	**32.84**	**286**	LR		LR	10 26 43.5	
	comp=Z,115nm,19.7s,baz=62,slow=38							
KNRA	**Kununurra**	**33.24**	**259**	P		**P**	**10 12 39.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**36.41**	**255**	LR		LR	10 28 59.6	
	comp=Z,122nm,18.6s,baz=356,slow=38							
FITZ	**Fitzroy Crossi**	**36.41**	**255**	P		**P**	**10 13 05.7**	**-0.9**
PSA00	**Pilbara Seismi**	**42.22**	**250**	P		**P**	**10 13 53.2**	**-1.9**
PPT	**Papeete**	**46.59**	**104**	LR		LR	10 30 40.0	
	comp=Z,51nm,20.1s,baz=350,slow=32							
NWAO	**Narrogin (SRO)**	**46.86**	**235**	LR		LR	10 34 14.8	
	comp=Z,103nm,18.5s,baz

ZALV	**Zalesovo Beam**	**46.18**	**24**	P		**P**	**10 22 32.7**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=215,slow=7.0,SNR=1.7							
FINES	**FINESS Array B**	**51.32**	**343**	P		**P**	**10 23 14.7**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=137,slow=11,SNR=3.8							
XAN	**Xi'an**	**52.79**	**58**	P		**P**	**10 23 25.2**	**-0.1**
XAN				IAmb	IAmb		10 23 30.4	
	comp=Z,3.7nm,0.8s							
ENH	**Enshi**	**52.85**	**63**	P		**P**	**10 23 25.6**	**-0.2**
ARCES	**ARCESS Array B**	**58.13**	**348**	P		**P**	**10 24 04.2**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=157,slow=6.6,SNR=6.8							
H01W3	**Cape Leeuwin H**	**74.76**	**133**	T		T	11 47 33.4	
	baz=301,slow=75,SNR=12							
H01W2	**Cape Leeuwin H**	**74.76**	**133**	T		T	11 47 34.1	
	baz=301,slow=75,SNR=15							
H01W1	**Cape Leeuwin H**	**74.78**	**133**	T		T	11 47 34.5	
	baz=301,slow=75,SNR=13							
ASAR	**Alice Springs**	**86.27**	**115**	P		**P**	**10 26 53.5**	**+1.2**
	comp=Z,0.5nm,0.9s,baz=294,slow=4.9,SNR=2.2							

IDC 06 10:17:09.9±1.7, 7°48S×129°19E, h0km, mb4.0/2, mb1 4.1/5, mb1mx3.7/46, mbtmp4.0/5, ML3.9/3, Error ellipse: s-maj=74.7km s-min=25.6km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.10**	**198**	Pn		Pn	10 19 50.8	+0.7
	0.4nm,0.3s,baz=14,slow=9.6,SNR=6.7							
FITZ				Sn		Sn	10 21 44.9	-10
	0.7nm,0.3s,baz=346,slow=9.0,SNR=7.0							
WRA	**Warramunga Arr**	**13.36**	**159**	Pn		Pn	10 20 21.1	+0.1
	1.1nm,0.3s,baz=337,slow=13,SNR=24							
WRA				Sn		Sn	10 22 40.2	-10
	0.8nm,0.3s,baz=336,slow=22,SNR=7.6							
ASAR	**Alice Springs**	**16.72**	**165**	Pn		Pn	10 21 04.9	-0.8
	0.4nm,0.3s,baz=341,slow=9.6,SNR=31							
ASAR				Sn		Sn	10 24 01.8	-10
	0.2nm,0.3s,baz=345,slow=22,SNR=2.6							
MKAR	**Makanchi Array**	**68.19**	**327**	P		P	10 28 12.4	+0.2
	0.8nm,0.5s,baz=122,slow=8.1,SNR=11							
KURBB	**Kurchatov Arra**	**72.50**	**329**	P		P	10 28 38.2	-0.2
	0.2nm,0.3s,baz=130,slow=4.5,SNR=5.0							

JMA 06 10:23:04.3±0.2, 24°88N×123°38E, h28km, M1.3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.54**	**219**	P		Pb	10 23 14.8	-0.4
YOJ				S		Sb	10 23 22.5	-0.1
JYNG	**Yonagunijimaku**	**0.58**	**223**	P		Pb	10 23 15.8	-0.2
JYNG				S		Sb	10 23 23.5	-0.4
IRIF	**Iriomote-Funau**	**0.63**	**150**	P		Pb	10 23 16.5	-0.3
IRIF				S		Sb	10 23 25.0	-0.3
JKRS	**Kuro-shima**	**0.86**	**138**	P		Pn	10 23 20.3	-0.2
JKRS				S		Sb	10 23 31.6	-0.2
JIJ	**Ishigaki jima**	**0.86**	**126**	P		Pn	10 23 19.4	-1.2
JIJ				S		Sb	10 23 30.5	-1.4
JISG	**Ishigakijimahi**	**0.90**	**109**	P		Pn	10 23 20.9	-0.1
JISG				eS		Sb	10 23 32.4	-0.4
HATJ	**Hateruma jima**	**0.91**	**155**	P		Pn	10 23 21.1	-0.1
HATJ				eS		Sb	10 23 32.8	-0.3

TAP 06 10:23:52.4, 24°43N×121°40E, h10km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNSB	**Datong**	**0.02**	**275**	eP		Pg	10 23 55.2	+0.7
	baz=273							
NNSB				S		Sg	10 23 56.2	+0.3
	baz=273							
NNSH	**Datong**	**0.02**	**275**	P		Pg	10 23 55.0	+0.6
	baz=273							
NNSH				S		Sg	10 23 56.1	+0.2
	baz=273							
NNS	**Nan Shan**	**0.03**	**298**	P		Pg	10 23 55.1	+0.6
	baz=300							
NNS				S		Sg	10 23 56.3	+0.3
	baz=300							
NDT	**Datong Townshi**	**0.20**	**30**	eP		Pb	10 23 58.1	-0.2
	baz=30							
NDT				eS		Sg	10 24 01.3	+1.6
	baz=30							
ETLH	**Xiulin Townshi**	**0.23**	**161**	eP		Pb	10 23 58.8	0.0
	baz=161							
ETLH				eS		Sg	10 24 02.3	+1.8
	baz=161							
YHNB	**Yeheng**	**0.24**	**355**	eP		Pb	10 23 58.9	-0.1
	baz=354							
YHNB				eS		Sg	10 24 01.8	+0.9
	baz=354							
NSK	**Sanguang**	**0.25**	**351**	eP		Pb	10 23 58.7	-0.4
	baz=352							
NSK				eS		Sg	10 24 02.2	+1.0
	baz=352							
ENTT	**Nioudou**	**0.26**	**35**	eP		Pb	10 23 59.2	0.0
	baz=37							
ENTT				eS		Sb	10 24 03.2	-0.6
	baz=37							
TDCB	**Techi**	**0.28**	**232**	eP		Pg	10 23 58.6	+0.4
	baz=231							
WHF	**Hehuan Shan**	**0.31**	**204**	eP		Pb	10 23 59.9	-0.4
	baz=202							
WHF				eS		Sb	10 24 04.3	-1.2
	baz=202							
NACB	**Ninganchiao**	**0.31**	**145**	eP		Pb	10 23 59.5	-0.5
	baz=144							
NACB				eS		Sb	10 24 04.5	-0.6
	baz=144							
NWLT	**Wulai**	**0.36**	**15**	eS		Sg	10 24 05.5	+1.0
	baz=14							
TWE	**Neicheng**	**0.38**	**40**	eP		Pb	10 24 01.1	-0.1
	baz=41							
CHGB	**Renai**	**0.42**	**210**	eP		Pb	10 24 01.5	-0.5
	baz=209							

*DJA **06** 10:34:51.1±4.0, 13°N±43°×144°6E±3°2, h44km±62km, M5.0/7, mb4.9/7, MLv5.0/1*
*IDC **06** 10:34:55.8±0.7, 13°57N×144°96E, h94km±5km, mb3.8/17, mb1 3.9/18, mb1mx3.7/57, mbtmp4.1/18, MS3.3/14, Ms1 3.4/14, ms1mx3.1/38, Error ellipse: s-maj=18.9km s-min=10.8km az=89.0*
*NEIC **06** 10:34:56.2±1.4, 13°56N±0°10×144°9E±0°1, h97km±4km, mb4.7/44, Error ellipse: s-maj=17.5km s-min=13.9km az=66.0*

ISC 06 10:34:55.4±0.5, 13°56N±0°07×145°00E±0°10, h91km±4km, n87, σ0°97/79, mb4.5/36, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**0.13**	**282**	Pn		**Pn**	**10 35 09.9**	**+1.5**
GUMO				Sn		**Sn**	**10 35 19.8**	**+1.7**
PATS	**Pohnpei**	**14.71**	**116**	Pn		**Pn**	**10 38 18.1**	**-0.8**
JAY	**Jayapura**	**16.53**	**195**	LR		LR	10 43 48.3	
	comp=Z,89nm,19.8s,baz=11,slow=32							
SIJI	**Sorong**	**19.77**	**225**	P		**P**	**10 39 18.9**	**+0.4**
	0.7nm,0.3s,baz=127,slow=20,SNR=2.7							
JHJ	**Hachijo jima 2**	**20.04**	**347**	LR		LR	10 46 42.0	
	comp=Z,39nm,20.5s,baz=230,slow=35							
DAV	**Davao City (W)**	**20.16**	**253**	LR		LR	10 48 12.7	
	comp=Z,36nm,18.7s,baz=311,slow=40							
FAKI	**Fak Fak**	**20.69**	**219**	P		Pn	10 39 32.7	+1.2
	26nm,1.2s							
FAKI	**Fak Fak**	**20.69**	**219**	P		**P**	**10 39 27.8**	**-0.6**
FAKI				IAmb		IAmb	10 39 34.6	
	comp=Z,22nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**21.41**	**74**	T		T	11 02 23.1	
	baz=259,slow=76,SNR=44							
H11S1	**WAKE ISLAND Hy**	**21.42**	**74**	T		T	11 02 20.8	
	baz=259,slow=76,SNR=52							
H11S2	**WAKE ISLAND Hy**	**21.43**	**74**	T		T	11 02 21.9	
	baz=259,slow=76,SNR=28							
H11N1	**WAKE ISLAND Hy**	**21.84**	**71**	T		T	11 02 32.1	
	baz=256,slow=75,SNR=99							
H11N2	**WAKE ISLAND Hy**	**21.85**	**71**	T		T	11 02 32.1	
	baz=256,slow=75,SNR=42							
H11N3	**WAKE ISLAND Hy**	**21.86**	**71**	T		T	11 02 31.5	
	baz=256,slow=75,SNR=97							
PMG	**Port Moresby**	**22.92**	**175**	LR		LR	10 48 22.6	
	comp=Z,110nm,21.6s,baz=271,slow=35							
JNU	**Nakatsue**	**23.34**	**329**	LR		LR	10 47 51.0	
	comp=Z,72nm,18.0s,baz=209,slow=33							

MJAR	**Matsushiro Arr**	**23.68**	**346**	P		**P**	**10 39 59.8**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=152,slow=11,SNR=2.9							
MJAR				pP		**pwP**	**10 40 19.9**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=166,slow=10,SNR=4.0							
MJAR				LR		LR	10 48 10.6	
	comp=Z,87nm,21.7s,baz=175,slow=34							
HNR	**Honiara**	**27.24**	**146**	LR		LR	10 51 13.3	
	comp=Z,25nm,21.6s,baz=354,slow=36							
HNR	**Honiara**	**27.24**	**146**	P		**P**	**10 40 31.9**	**+0.8**
COEN	**Coen**	**27.40**	**184**	P		**P**	**10 40 32.7**	**+0.1**
COEN				IAmb		IAmb	10 40 51.4	
	comp=Z,33nm,1.5s							
KSRS	**Korea Array**	**28.25**	**330**	P		**P**	**10 40 39.6**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=152,slow=8.3,SNR=4.5							
KSRS				pP		**pwP**	**10 41 01.2**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=143,slow=9.9,SNR=3.7							
KSRS				PcP		**PcP**	**10 43 52.2**	**+1.0**
	comp=Z,2.2nm,1.1s,baz=150,slow=2.7,SNR=6.9							
KSRS				LR		LR	10 52 11.7	
	comp=Z,50nm,18.4s,baz=213,slow=37							
MTN	**Manton Dam**	**29.62**	**208**	P		**P**	**10 40 51.8**	**-0.4**
MTN				IAmb		IAmb	10 41 02.5	
	comp=Z,33nm,1.5s							
ASAJ	**Asahikawa**	**30.52**	**357**	LR		LR	10 52 26.9	
	comp=Z,50nm,20.8s,baz=185,slow=34							
CTA	**Charters Tower**	**33.46**	**178**	P		**P**	**10 41 26.9**	**+0.9**
	comp=Z,4.8nm,0.9s,baz=345,slow=6.8,SNR=5.9							
CTAO	**Charters Tower**	**33.46**	**178**	P		**P**	**10 41 26.9**	**+0.9**
CTAO				IAmb		IAmb	10 41 27.1	
	comp=Z,20nm,1.2s							
WB0	**Warramunga Arr**	**34.73**	**198**	P		**P**	**10 41 36.5**	**-0.4**
WB0				IAmb		IAmb	10 41 46.0	
	comp=Z,12nm,1.3s							
WR0	**Warramunga Arr**	**34.87**	**197**	P		**P**	**10 41 36.0**	**-2.1**
WR0				IAmb		IAmb	10 41 38.6	
	comp=Z,22nm,1.5s							
WB2	**Warramunga Arr**	**34.91**	**198**	P		**P**	**10 41 37.2**	**-1.3**
WB2				IAmb		IAmb	10 41 39.1	
	comp=Z,9.1nm,0.9s							
WRA	**Warramunga Arr**	**34.91**	**198**	P		**P**	**10 41 38.1**	**-0.4**
	comp=Z,4.9nm,0.9s,baz=22,slow=9.8,SNR=16							
FITZ	**Fitzroy Crossi**	**36.80**	**212**	P		**P**	**10 41 54.3**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=22,slow=11,SNR=6.1							
FITZ	**Fitzroy Crossi**	**36.80**	**212**	P		**P**	**10 41 54.3**	**-0.3**
FITZ				IAmb		IAmb	10 42 11.2	
	comp=Z,28nm,1.5s							
AS31	**Alice Springs**	**38.56**	**196**	P		**P**	**10 42 09.3**	**-0.2**
ASAR	**Alice Springs**	**38.56**	**196**	P		**P**	**10 42 09.4**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=23,slow=11,SNR=44							
ASAR				PcP		**PcP**	**10 44 21.3**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=36,slow=3.6,SNR=4.2							
ASAR				LR		LR	10 57 23.0	
	comp=Z,74nm,20.1s,baz=321,slow=35							
EIDS	**Eidsvold**	**39.15**	**171**	P		**P**	**10 42 13.8**	**-0.5**
EIDS				IAmb		IAmb	10 42 14.5	
	comp=Z,17nm,1.4s							
PETK	**Petropavlovsk-**	**40.72**	**12**	LR		LR	10 59 03.0	
	comp=Z,28nm,19.0s,baz=230,slow=36							
DZM	**Mont Dzumac**	**41.19**	**149**	P		**P**	**10 42 31.8**	**+0.4**
	comp=Z,7.5nm,0.7s,baz=96,slow=22,SNR=4.3							
DZM	**Mont Dzumac**	**41.19**	**149**	P		**P**	**10 42 30.8**	**-0.6**
DZM				IAmb		IAmb	10 42 33.9	
	comp=Z,7.7nm,0.7s							
PSA00	**Pilbara Seismi**	**42.76**	**216**	P		**P**	**10 42 43.4**	**-0.7**
PSA00				IAmb		IAmb	10 42 54.6	
	comp=Z,16nm,1.1s							
CMAR	**Chiang Mai Arr**	**44.45**	**283**	P		**P**	**10 42 57.9**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=79,slow=6.4,SNR=5.9							
CMAR				LR		LR	11 02 22.0	
	comp=Z,111nm,18.1s,baz=230,slow=37							
STKA	**Stephens Creek**	**45.30**	**184**	P		**P**	**10 43 03.5**	**-0.7**
	comp=Z,6.5nm,0.8s,baz=353,slow=9.1,SNR=16							
STKA	**Stephens Creek**	**45.30**	**184**	P		**P**	**10 43 03.4**	**-0.7**
BBOO	**Buckleboo**	**46.90**	**190**	P		**P**	**10 43 17.1**	**+0.4**
MORW	**Morawa**	**50.78**	**213**	P		**P**	**10 43 45.7**	**-0.8**
MORW				IAmb		IAmb	10 44 01.0	
	comp=Z,12nm,1.2s							
TOO	**Toolangi**	**50.86**	**179**	P		**P**	**10 43 48.9**	**+1.9**
BKZ	**Black Stump Fm**	**60.13**	**152**	P		**P**	**10 44 53.9**	**+0.4**
NNZ	**Nelson**	**60.50**	**156**	P		**P**	**10 44 56.2**	**+0.4**
THZ	**Tophouse**	**60.77**	**156**	P		**P**	**10 44 58.1**	**+0.3**
THZ				IAmb		IAmb	10 45 00.4	
	comp=Z,6.9nm,0.7s							
TUWZ	**Tuamarina**	**60.90**	**155**	P		**P**	**10 44 59.2**	**+0.7**
BHW	**Baring Head**	**61.27**	**155**	P		**P**	**10 44 59.1**	**-1.9**
LTZ	**Lake Taylor**	**61.40**	**157**	P		**P**	**10 45 02.4**	**+0.4**
MSWZ	**Moikau Station**	**61.43**	**154**	P		**P**	**10 45 02.9**	**+0.7**
PLWZ	**Palliser**	**61.56**	**155**	P		**P**	**10 45 02.6**	**-0.4**
KHZ	**Kahutara**	**61.58**	**156**	P		**P**	**10 45 02.4**	**-0.7**
MK31	**Makanchi Array**	**61.59**	**316**	P		**P**	**10 45 03.9**	**+0.6**
MKAR	**Makanchi Array**	**61.59**	**316**	P		**P**	**10 45 03.7**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=93,slow=7.2,SNR=3.0							
MKAR				pP		**pwP**	**10 45 26.3**	**-1.8**
	comp=Z,2.5nm,0.8s,baz=95,slow=9.0,SNR=9.5							
ZALV	**Zalesovo Beam**	**61.72**	**324**	pP		pP	10 45 29.1	+2.7
	comp=Z,0.8nm,0.6s,baz=57,slow=5.5,SNR=1.7							
OXZ	**Oxford**	**61.79**	**158**	P		**P**	**10 45 04.7**	**+0.2**
DCZ	**Deep Cove**	**62.08**	**163**	P		**P**	**10 45 07.3**	**+0.9**
DCZ				IAmb		IAmb	10 45 08.9	
	comp=Z,19nm,1.3s							
MLZ	**Mavora Lakes**	**62.28**	**162**	P		**P**	**10 45 08.3**	**+0.5**
MQZ	**McQueen's Vall**	**62.34**	**158**	P		**P**	**10 45 08.6**	**+0.4**
WHZ	**Wether Hill Ro**	**62.70**	**162**	P		**P**	**10 45 10.9**	**+0.3**
WHZ				IAmb		IAmb	10 45 21.1	
	comp=Z,22nm,1.2s							
KURK	**Kurchatov**	**64.68**	**320**	P		**P**	**10 45 23.2**	**-0.4**
KURBB	**Kurchatov Arra**	**64.72**	**320**	P		**P**	**10 45 23.8**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=101,slow=6.6,SNR=9.2							
KURBB				pP		**pP**	**10 45 47.0**	**+0.6**
	comp=Z,5.1nm,0.7s,baz=102,slow=6.7,SNR=12							
HDA	**Harding Lake**	**68.42**	**26**	P		**P**	**10 45 47.5**	**+0.3**
IL31		**68.54**	**25**	P		**P**	**10 45 47.4**	**-0.5**
ILAR	**Eielson Array**	**68.54**	**25**	P		**P**	**10 45 47.0**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=260,slow=5.1,SNR=13							
RIDG	**Independent Ri**	**69.17**	**27**	P		**P**	**10 45 52.5**	**+0.5**
DOT	**Dot Lake**	**69.50**	**27**	P		**P**	**10 45 53.9**	**0.0**
DOT				IAmb		IAmb	10 45 55.5	
	comp=Z,3.1nm,0.8s							
SCRK	**Sand Creek**	**69.59**	**26**	P		**P**	**10 45 53.9**	**-0.8**
BVAR	**Borovoye Array**	**70.02**	**322**	P		**P**	**10 45 56.1**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=118,slow=8.6,SNR=4.8							
BVAR				pP		**PcP**	**10 46 22.2**	**+3.2**
	comp=Z,1.9nm,0.6s,baz=89,slow=9.0,SNR=4.5							
EGAK	**Eagle**	**70.94**	**26**	P		**P**	**10 46 00.7**	**-2.0**
DAWY	**Dawson**	**71.61**	**27**	P		**P**	**10 46 07.5**	**+0.7**
HYT	**Haines Junctio**	**72.17**	**30**	P		**P**	**10 46 11.1**	**+0.9**
HYT				IAmb		IAmb	10 46 12.8	
	comp=Z,3.9nm,0.9s							
YKA	**Yellowknife Ar**	**82.83**	**27**	P		**P**	**10 47 09.5**	**0.0**
	comp=Z,0.9nm,0.7s,baz=283,slow=5.3,SNR=15							
PINE	**Pine Mountain**	**83.64**	**47**	P		**P**	**10 47 15.1**	**+0.8**
PINE				IAmb		IAmb	10 47 17.8	
	comp=Z,8.5nm,0.9s							
NEW	**Newport**	**85.17**	**42**	P		**P**	**10 47 22.4**	**+0.7**
NEW				IAmb		IAmb	10 47 24.4	
	comp=Z,5.5nm,0.9s							
BMO	**Blue Mountains**	**85.92**	**45**	P		**P**	**10 47 26.0**	**+0.4**
BMO				IAmb		IAmb	10 47 27.9	
	comp=Z,6.1nm,1.2s							
NVAR	**Mina Array Bea**	**86.84**	**51**	P		**P**	**10 47 32.1**	**+1.7**
	comp=Z,1.6nm,0.9s,baz=259,slow=5.4,SNR=9.8							
NVAR				pP		**pwP**	**10 47 55.3**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=271,slow=5.8,SNR=3.2							
MFID	**Camas Ranch**	**87.33**	**46**	P		**P**	**10 47 30.9**	**-1.7**
MFID				IAmb		IAmb	10 47 35.8	
	comp=Z,7.3nm,1.1s							
ELK	**Elko**	**88.50**	**49**	P		**P**	**10 47 38.5**	**+0.1**
ELK				IAmb		IAmb	10 47 41.6	
	comp=Z,2.7nm,0.8s							
FINES	**FINESS Array B**	**91.24**	**335**	P		**P**	**10 47 49.7**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=72,slow=4.5,SNR=3.0							
VNDA	**Vanda**	**91.43**	**176**	P		**P**	**10 47 51.2**	**+0.5**
	comp=Z,1.4nm,1.0s,baz=302,slow=6.9,SNR=6.9							
VNDA				LR		LR	11 27 38.7	
	comp=Z,33nm,19.3s,baz=336,slow=35							
PDAR	**Pinedale Array**	**91.89**	**45**	LR		LR	11 27 55.0	
	comp=Z,25nm,18.9s,baz=327,slow=35							
TORD	**Torodi Ar. Bea**	**134.98**	**305**	PKP		**PKiKP**	**10 54 06.2**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=63,slow=1.3,SNR=4.7							
TORD				SKPbc		**SKPbc**	**10 57 27.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=30,slow=2.6,SNR=2.7							
PLCA	**Paso Flores**	**138.83**	**138**	PKP		**PKPdf**	**10 54 12.0**	**+0.5**
	comp=Z,2.5nm,1.0s,baz=345,slow=23,SNR=3.2							
DBIC	**Dimbokro**	**143.94**	**302**	PKP		PKPbc	10 54 19.9	+0.6
	comp=Z,3.7nm,0.7s,baz=104,slow=10,SNR=3.1							
LPAZ	**La Paz**	**147.90**	**99**	PKPbc		**PKPbc**	**10 54 30.6**	**-1.1**
	baz=285,slow=4.3							

*IDC **06** 10:51:30.2±1.9, 34°21N×25°86E, h0km, mb3.4/2, mb1 3.4/3, mb1mx3.2/33, mbtmp3.4/3, ML3.8/1, Error ellipse: s-maj=80.5km s-min=30.7km az=134.0*
*NIC **06** 10:51:32.9±0.0, 34°26N×26°19E, h0km, 3km, Ml3.1/2*
*THE **06** 10:51:33.2, 34°37N×25°76E, h0km±1km, ML3.1/8, Error ellipse: s-maj=2.8km s-min=0.5km az=165.0*
*ATH **06** 10:51:34.3, 34°45N×25°76E, h40km±2km, ML3.1/10, Error ellipse: s-maj=4.3km s-min=1.6km az=353.0*

ISC 06 10:51:30.5±1.5, 34°31N±0°05×25°84E±0°03, h4km±10km, n48, σ0°98/71, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FRMA	**Ierapetra Chan**	**0.71**	**353**	P		**Pb**	**10 51 46.3**	**+0.8**
FRMA				S		**Sb**	**10 51 56.9**	**+1.3**
ZKR	**Zakros**	**0.86**	**21**	P		**Pn**	**10 51 49.8**	**+0.3**
ZKR				S		**Sn**	**10 52 02.6**	**0.0**
	2µm,0.4s							
ZKR	**Zakros**	**0.86**	**21**	P		**Pn**	**10 51 49.8**	**+0.3**
ZKR				S		**Sb**	**10 52 00.7**	**+0.7**
ZKR				AML		AML	10 52 06.7	
	comp=E,3712µm,0.5s							
ZKR				AML		AML	10 52 06.8	
	comp=N,2588µm,0.3s							
ZKR	**Zakros**	**0.86**	**21**	P		**Pn**	**10 51 49.8**	**+0.3**
ZKR				S		**Sn**	**10 52 03.6**	**+1.1**
ZKR				AML		AML	10 52 06.0	
	comp=N,3.8nm,0.5s							
ZKR				AML		AML	10 52 06.0	
	comp=N,3.8nm,0.5s							
ZKR				AML		AML	10 52 06.4	
	comp=N,2.6nm,0.3s							
ZKR				AML		AML	10 52 06.4	
	comp=N,2.6nm,0.3s							
LAST	**Lasithi**	**0.90**	**341**	P		**Pb**	**10 51 49.5**	**+0.6**
LAST				S		**Sb**	**10 52 02.3**	**+1.0**
	comp=N,2µm,0.7s							
LAST	**Lasithi**	**0.90**	**341**	P		**Pb**	**10 51 49.4**	**+0.6**
LAST				S		**Sb**	**10 52 00.9**	**-0.4**
LAST				AML		AML	10 52 05.6	
	comp=N,2570µm,0.8s							
LAST				AML		AML	10 52 06.1	
	comp=E,3159µm,0.6s							
STIA	**Sitia Lasithi**	**0.92**	**13**	P		**Pn**	**10 51 50.4**	**+0.2**
STIA				S		**Sn**	**10 52 04.0**	**+0.2**
NPS	**Neapolis**	**0.97**	**349**	P		**Pn**	**10 51 50.7**	**-0.3**
NPS				S		**Sn**	**10 52 04.6**	**-0.7**
	comp=E,872nm,0.8s							
NPS	**Neapolis**	**0.97**	**349**	P		**Pg**	**10 51 49.6**	**+0.4**
NPS				AML		AML	10 52 09.8	
	comp=E,2060µm,0.6s							
NPS				AML		AML	10 52 12.3	
	comp=N,1486µm,0.9s							
SIVA	**Sivas**	**1.11**	**310**	P		**Pn**	**10 51 53.2**	**+0.4**
SIVA				S		**Sn**	**10 52 08.2**	**-0.4**
	comp=N,1µm,0.6s							
SIVA	**Sivas**	**1.11**	**310**	P		**Pn**	**10 51 53.0**	**+0.2**
SIVA				S		**Sb**	**10 52 07.0**	**0.0**
SIVA				AML		AML	10 52 14.5	
	comp=E,3088µm,0.5s							
SIVA				AML		AML	10 52 26.2	
	comp=N,2611µm,0.5s							
TMBK	**Timbaki Herakl**	**1.17**	**311**	P		**Pn**	**10 51 54.6**	**+0.9**
KSTL	**Kastelli Herak**	**1.18**	**328**	P		**Pg**	**10 51 50.9**	**-2.2**
KSTL				S		**Sg**	**10 52 04.9**	**-3.5**
IDI	**Anoyia**	**1.25**	**322**	P		**Pn**	**10 51 55.3**	**+0.4**
IDI				S		**Sn**	**10 52 12.1**	**-0.2**
	comp=N,392nm,0.5s							
IDI	**Anoyia**	**1.25**	**322**	P		**Pb**	**10 51 55.1**	**+0.3**
IDI				S		**Sg**	**10 52 10.2**	**-0.6**
IDI				AML		AML	10 52 19.7	
	comp=N,723µm,0.6s							
IDI				AML		AML	10 52 22.3	
	comp=E,850µm,0.6s							
PRNS	**Prines Rethymn**	**1.53**	**314**	P		**Pg**	**10 52 00.7**	**+0.9**
PRNS				S		**Sg**	**10 52 20.3**	**+0.7**
GVD	**Gavdhos**	**1.54**	**291**	P		**Pn**	**10 51 59.4**	**+0.6**
GVD				S		**Sg**	**10 52 20.9**	**+0.8**
	comp=E,585nm,0.7s							
GVD	**Gavdhos**	**1.54**	**291**	P		**Pn**	**10 51 59.2**	**+0.4**
GVD				S		**Sn**	**10 52 18.2**	**-1.1**
GVD				AML		AML	10 52 37.2	
	comp=E,1155µm,0.5s							
GVD				AML		AML	10 52 45.0	
	comp=N,1066µm,0.5s							
KARP	**Karpathos**	**1.65**	**41**	P		**Pg**	**10 52 02.4**	**+0.4**
KARP	**Karpathos**	**1.65**	**41**	P		**Pg**	**10 52 02.2**	**+0.1**
KARP				S

*HLW **06** 10:54:29.7, 34.30N×26.00E, h32km±26km, Md3.7, Ml3.6*
*THE **06** 10:54:29.9, 34.39N×25.78E, h8km±2km, ML3.1/7, Error ellipse: s-maj=2.4km s-min=0.8km az=134.0*

ISC 06 10:54:27.9±0.8, 34°26N±0.03×25°.83E±0.03, h22km±6km, n46, σ1s20/66, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRMA	**Ierapetra Chan**	**0.76**	**354**	P	**Pb**	**10 54 42.2**	**-0.2**
ZKR	**Zakros**	**0.91**	**20**	P	**Pn**	**10 54 45.2**	**-0.2**
ZKR				S	**Sn**	**10 54 57.6**	**-0.3**
	2μm,0.7s						
ZKR	**Zakros**	**0.91**	**20**	P	**Pn**	**10 54 45.4**	**0.0**
ZKR				S	**Sn**	**10 54 57.6**	**-0.3**
ZKR				AML	AML	10 55 00.7	
	comp=E,4328μm,1.2s						
ZKR				AML	AML	10 55 02.6	
	comp=N,2187μm,0.4s						
ZKR	**Zakros**	**0.91**	**20**	P	**Pn**	**10 54 45.0**	**-0.5**
ZKR				S	**Sn**	**10 54 58.5**	**+0.6**
ZKR				AML	AML	10 54 59.7	
	comp=N,4.4nm,1.2s						
ZKR				AML	AML	10 54 59.7	
	comp=N,4.4nm,1.2s						
ZKR				AML	AML	10 55 02.2	
	comp=N,2.2nm,0.4s						
ZKR				AML	AML	10 55 02.2	
	comp=N,2.2nm,0.4s						
LAST	**Lasithi**	**0.94**	**342**	P	**Pb**	**10 54 45.1**	**-0.6**
LAST				S	**Sb**	**10 54 57.2**	**-0.6**
	comp=N,2μm,0.6s						
LAST	**Lasithi**	**0.94**	**342**	P	**Pb**	**10 54 45.1**	**-0.6**
LAST				S	**Sb**	**10 54 57.7**	**-0.1**
LAST				AML	AML	10 55 02.2	
	comp=N,4183μm,0.6s						
LAST				AML	AML	10 55 05.1	
	comp=E,4064μm,0.6s						
STIA	**Sitia Lasithi**	**0.96**	**13**	P	**Pb**	**10 54 45.6**	**-0.3**
NPS	**Neapolis**	**1.02**	**350**	P	**Pb**	**10 54 46.0**	**-0.9**
NPS				S	**Sb**	**10 54 59.4**	**-0.4**
	comp=E,1μm,0.7s						
NPS	**Neapolis**	**1.02**	**350**	P	**Pb**	**10 54 46.0**	**-0.9**
NPS				S	**Sn**	**10 55 00.3**	**-0.3**
NPS				AML	AML	10 55 03.2	
	comp=N,1475μm,0.8s						
NPS				AML	AML	10 55 05.6	
	comp=E,2735μm,0.6s						
SIVA	**Sivas**	**1.13**	**312**	P	**Pb**	**10 54 49.0**	**+0.2**
SIVA				S	**Sb**	**10 55 03.0**	**0.0**
	comp=E,3μm,0.6s						
SIVA	**Sivas**	**1.13**	**312**	P	**Pb**	**10 54 48.8**	**+0.1**
SIVA				S	**Sb**	**10 55 02.1**	**-0.9**
SIVA				AML	AML	10 55 10.3	
	comp=E,6050μm,0.8s						
SIVA				AML	AML	10 55 22.0	
	comp=N,5575μm,0.5s						
TMBK	**Timbaki Herakl**	**1.19**	**313**	P	**Pb**	**10 54 49.8**	**0.0**
IDI	**Anoyia**	**1.28**	**323**	P	**Pn**	**10 54 50.8**	**+0.2**
IDI				S	**Sn**	**10 55 06.9**	**-0.3**
	comp=N,570nm,0.6s						
IDI	**Anoyia**	**1.28**	**323**	P	**Pb**	**10 54 51.2**	**-0.2**
IDI				S	**Sn**	**10 55 07.3**	**+0.1**
IDI				AML	AML	10 55 13.4	
	comp=E,1095μm,0.7s						
IDI				AML	AML	10 55 18.8	
	comp=N,1006μm,0.7s						
GVD	**Gavdhos**	**1.55**	**292**	P	**Pb**	**10 54 55.4**	**-0.5**
GVD				S	**Sb**	**10 55 15.7**	**+0.6**
	comp=N,938nm,0.6s						
GVD	**Gavdhos**	**1.55**	**292**	P	**Pn**	**10 54 54.7**	**+0.5**
KARP	**Karpathos**	**1.69**	**40**	P	**Pb**	**10 54 58.4**	**+0.1**
KARP				S	**Sb**	**10 55 25.4**	**+6.3**
	comp=N,415nm,0.6s						
KARP	**Karpathos**	**1.69**	**40**	P	**Pb**	**10 54 58.3**	**0.0**
KARP				S	**Sb**	**10 55 17.7**	**-1.4**
KARP				AML	AML	10 55 43.2	
	comp=N,923μm,0.7s						
KARP				AML	AML	10 55 47.7	
	comp=E,676μm,0.6s						
KARP	**Karpathos**	**1.69**	**40**	P	**Pb**	**10 54 57.3**	**-1.0**
KARP				S	**Sb**	**10 55 19.1**	**0.0**
KARP				AML	AML	10 55 39.9	
	comp=E,0.8nm,0.6s						
KARP				AML	AML	10 55 39.9	
	comp=E,0.8nm,0.6s						
KARP				AML	AML	10 55 42.8	
	comp=E,0.9nm,0.8s						
KARP				AML	AML	10 55 42.8	
	comp=E,0.9nm,0.8s						
VAM	**Vamos**	**1.76**	**311**	P	**Pn**	**10 54 57.8**	**+0.7**
IMMV	**Iera Moni Meta**	**1.94**	**309**	P	**Pn**	**10 55 00.4**	**+0.9**
IMMV	**Iera Moni Meta**	**1.94**	**309**	P	**Pn**	**10 55 00.2**	**+0.7**
ANAF	**Anafi Island**	**2.09**	**359**	P	**Pn**	**10 55 01.3**	**-0.4**
THR5	**Thira Island,**	**2.19**	**350**	P	**Pn**	**10 55 01.7**	**-1.3**
ANKY	**Antikythira Is**	**2.62**	**308**	P	**Pn**	**10 55 10.2**	**+1.3**
ANKY	**Antikythira Is**	**2.62**	**308**	P	**Pn**	**10 55 09.4**	**+0.5**
SLUM	**Salum**	**2.81**	**191**	P	**Pn**	**10 55 13.2**	**+1.6**
	baz=194						
SLUM				AMP		10 55 00.0	
	baz=194						
SLUM				S	**Sn**	**10 55 44.1**	**-0.6**
	baz=194						
KTHA	**Kythira Island**	**3.02**	**312**	P	**Pn**	**10 55 14.5**	**+0.1**
KTHA	**Kythira Island**	**3.02**	**312**	P	**Pn**	**10 55 14.3**	**-0.1**
OSC1	**CSNet OBS 1**	**4.59**	**98**	P	**Pn**	**10 55 35.8**	**-0.2**
OSC1				S	**Sn**	**10 56 28.6**	**-0.2**
SWA2		**5.01**	**184**	P	**Pn**	**10 55 43.4**	**+1.6**
	baz=186						
SWA2				S	**Sn**	**10 56 37.6**	**-1.4**
	baz=186						
AKMS	**Akamas**	**5.42**	**80**	P	**Pn**	**10 55 47.1**	**-0.3**
OSC2	**CSNet OBS 4**	**5.50**	**101**	P	**Pn**	**10 55 48.4**	**-0.1**
OSC2				S	**Sn**	**10 56 52.0**	**+1.1**
NATA	**Nata**	**5.59**	**83**	P	**Pn**	**10 55 49.6**	**-0.2**
ALFC	**Alefka**	**5.65**	**79**	P	**Pn**	**10 55 50.5**	**-0.1**
ASGA	**Asgata**	**6.15**	**83**	P	**Pn**	**10 55 57.3**	**-0.1**
HNAT	**Natroun**	**6.15**	**137**	P	**Pn**	**10 55 57.9**	**+0.4**
	baz=138						
CSS	**Mathiatis**	**6.22**	**81**	P	**Pn**	**10 55 58.0**	**-0.5**
MVOU	**Mavrovouni**	**6.48**	**81**	P	**Pn**	**10 56 02.7**	**+0.8**
HSAF	**As Saff**	**6.71**	**132**	P	**Pn**	**10 56 05.0**	**-0.2**
	baz=133						
GLL	**Jalalah**	**6.84**	**131**	P	**Pn**	**10 56 07.0**	**0.0**
	baz=132						
HFRF	**Wahat Farafira**	**7.40**	**163**	P	**Pn**	**10 56 16.1**	**+1.4**
	baz=163						
HFRF				S	**Sn**	**10 57 33.4**	**-4.6**
	baz=163						
RSH		**7.43**	**114**	P	**Pn**	**10 56 15.0**	**0.0**
	baz=114						
AKASG	**Malin Array Be**	**16.62**	**8**	Pn	**P**	**10 58 22.5**	**+0.9**
	comp=E,0.6nm,0.3s,baz=195,slow=12,SNR=2.2						
TORD	**Torodi Ar. Bea**	**30.35**	**232**	P	**P**	**11 00 39.1**	**+0.9**
	comp=E,0.5nm,0.6s,baz=36,slow=8.3,SNR=4.3						
MKAR	**Makanchi Array**	**43.82**	**56**	P	**P**	**11 02 31.2**	**-1.0**
	comp=E,0.5nm,0.5s,baz=278,slow=7.6,SNR=2.9						

IDC 06 11:44:03.1±1.7, 1.42N×125.36E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/47, mbtmp3.5/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/22, Error ellipse: s-maj=191.3km s-min=22.3km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.98**	**158**	P	P	11 49 09.2	-0.4
	0.4nm,0.4s,baz=334,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**26.28**	**162**	P	P	11 49 40.9	+0.4
	0.4nm,0.4s,baz=352,slow=7.3,SNR=9.1						
PETK	**Petropavlovsk-**	**58.07**	**22**	LR	LR	12 19 09.7	
	comp=Z,22nm,19.9s,baz=247,slow=36						
MKAR	**Makanchi Array**	**58.69**	**327**	P	P	11 54 03.9	+1.3
	0.3nm,0.5s,baz=130,slow=5.8,SNR=3.7						
KURBB	**Kurchatov Arra**	**62.96**	**329**	P	P	11 54 30.2	-1.3
	0.5nm,0.4s,baz=133,slow=5.6,SNR=4.7						

JMA 06 12:04:49.1±0.1, 24.24N×122.76E, h22km±4km, M1.1, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.27**	**39**	P	Pb	12 04 55.3	-0.2
JYNG				*e*S	Sb	12 04 59.5	-0.3
YOJ	**Yonaguni jima**	**0.32**	**46**	P	Pb	12 04 56.1	-0.1
YOJ				S	Sb	12 05 01.2	+0.2
IRIF	**Iriomote-Funau**	**0.89**	**84**	P	Pb	12 05 05.4	-0.5
IRIF				S	Sb	12 05 17.7	+0.4
HATJ	**Hateruma jima**	**0.97**	**101**	P	Pb	12 05 06.8	-0.4
HATJ				*e*S	Sb	12 05 19.0	-0.6
JKRS	**Kuro-shima**	**1.14**	**90**	P	Pb	12 05 10.4	+0.3
JKRS				S	Sn	12 05 25.0	+0.3
JIJ	**Ishigaki jima**	**1.27**	**84**	P	Pn	12 05 11.3	-0.2
JIJ				S	Sn	12 05 27.2	-0.7
JISG	**Ishigakijimahi**	**1.46**	**76**	P	Pn	12 05 14.2	+0.1
JISG				S	Sn	12 05 32.7	+0.2

TAP 06 12:05:07.1, 23.08N×121.66E, h26km, ML2.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHKT	**Chengkung**	**0.28**	**275**	*i* P	Pb	12 05 13.5	-0.3
	baz=275						
CHKT				S	Sb	12 05 18.0	-0.5
	baz=275						
FULB	**Fuli**	**0.36**	**290**	P	Pb	12 05 14.6	-0.6
	baz=291						
FULB				*e*S	Sb	12 05 20.3	-0.4
	baz=291						
TWH	**Lutao**	**0.40**	**205**	*e*P	Pb	12 05 15.6	-0.2
	baz=202						
TWH				*e*S	Sb	12 05 21.9	+0.3
	baz=202						
TWF1	**Yuli**	**0.43**	**309**	P	Pb	12 05 16.1	-0.3
	baz=317						
TWF1				*e*S	Sb	12 05 22.2	-0.4
	baz=317						
YULB	**Yu-li**	**0.46**	**313**	*e*P	Pb	12 05 15.3	-1.4
	baz=320						
YULB				*e*S	Sb	12 05 23.2	-0.2
	baz=320						
HGSD	**Ruisui**	**0.47**	**332**	*e*P	Pb	12 05 16.0	-0.9
	baz=338						
HGSD				*e*S	Sb	12 05 22.9	-0.6
	baz=338						
EHY	**Hungye**	**0.53**	**324**	*e*P	Pb	12 05 17.4	-0.5
	baz=325						
EHY				*e*S	Sb	12 05 24.9	-0.3
	baz=325						
TWGBT	**Beinan**	**0.60**	**245**	*e*P	Pb	12 05 17.9	-1.1
	baz=240						
TWGBT				*e*S	Sb	12 05 27.1	+0.1
	baz=240						
TWG	**Pinlang**	**0.60**	**245**	*e*P	Pb	12 05 18.4	-0.7
	baz=240						
TWG				*e*S	Sb	12 05 27.1	-0.2
	baz=240						
ELDTW	**Lidau**	**0.61**	**281**	*i* P	Pb	12 05 18.5	-0.7
	baz=281						
ELDTW				*e*S	Sb	12 05 26.6	-0.8
	baz=281						
EGFH	**Guangfu**	**0.63**	**340**	*e*P	Pb	12 05 19.4	-0.1
	baz=345						
ESL	**Shilin**	**0.77**	**344**	*e*P	Pb	12 05 21.1	-0.8
	baz=352						
ESL				*e*S	Sb	12 05 30.8	-1.0
	baz=352						
ECL	**Taimali**	**0.81**	**234**	*e*P	Pb	12 05 21.2	-1.3
	baz=234						
ECL				*e*S	Sb	12 05 31.5	-1.6
	baz=234						
VWDT	**VWDT**	**0.83**	**325**	P	Pb	12 05 22.6	-0.3
	baz=325						
VWDT				*e*S	Sb	12 05 33.2	-0.4
	baz=325						
STYT	**Tauyuan**	**0.84**	**276**	*e*P	Pb	12 05 22.6	-0.5
	baz=277						
STYT				*e*S	Sb	12 05 33.4	-0.7
	baz=277						
ALS	**Alishan**	**0.90**	**299**	*e*P	Pb	12 05 24.3	0.0
	baz=299						
SLGT	**Liugui**	**0.94**	**265**	*e*P	Pn	12 05 24.5	-0.1
	baz=259						
TPUB	**Ta-pu**	**0.98**	**283**	*e*P	Pb	12 05 25.7	+0.2
	baz=284						
WTP	**Ta-pu**	**0.98**	**280**	*e*P	Pb	12 05 25.7	+0.2
	baz=281						
SSD	**Sandimen**	**1.01**	**251**	*e*P	Pn	12 05 24.4	-1.2
	baz=251						
CHN5	**Tsauling**	**1.04**	**300**	*e*P	Pb	12 05 27.2	+0.6
	baz=301						
CHN1	**Nanshi**	**1.05**	**276**	*e*P	Pb	12 05 27.1	+0.5
	baz=277						
MASBT	**Mashibuluo**	**1.06**	**244**	*e*P	Pn	12 05 25.5	-0.7
	baz=237						
TWK	**Hsinying**	**1.10**	**280**	*e*P	Pb	12 05 27.8	+0.2
	baz=281						
TYC	**Yuar**	**1.11**	**318**	*e*P	Pn	12 05 26.9	0.0
	baz=325						

*DDA **06** 12:21:02.2, 39.23N×23.78E, h7km±2km, MW4.2*
*IDC **06** 12:21:03.0±0.7, 39.15N×23.68E, h0km, mb4.0/16, mb1 4.1/23, mb1mx3.9/43, mbtmp4.0/23, ML4.0/8, MS3.2/16, Ms1 3.2/16, ms1mx3.0/48, Error ellipse: s-maj=13.6km s-min=11.4km az=104.0*
*ATH **06** 12:21:03.7, 39.17N×23.71E, h23km, ML4.4/23, Error ellipse: s-maj=0.8km s-min=0.7km az=24.0*
*PDG **06** 12:21:04.3±0.5, 39.17N×23.70E, h19km, ML3.9/12, Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*ISK **06** 12:21:04.3, 39.20N×23.73E, h14km, ML4.3/37*
*NEIC **06** 12:21:05.5, 39.17N×23.70E, h19km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.13; $M_{\theta\theta}$1.52; $M_{\phi\phi}$-1.65; $M_{r\theta}$-0.79; $M_{\theta\phi}$-0.45; $M_{\phi r}$0.80; Fault plane solution: M_o2.00000×10^{15} NP1:ϕ_s324.19000°, δ85.61000°, λ34.09000°. NP2:ϕ_s231.22000°, δ56.02000°, λ174.71000°. Principal axes: T 2.0331, Plg27.0000°, Azm193.0000°; N -0.0708, Plg56.0000°, Azm331.0000°; P -1.9623, Plg20.0000°, Azm93.0000°;*
*THE **06** 12:21:05.0, 39.15N×23.69E, h10km, ML4.4/7 Error ellipse: s-maj=0.7km s-min=0.4km az=51.0*
*NEIC **06** 12:21:05.2±1.4, 39.16N±0.05×23.71E±0.05, h12km±1km, Error ellipse: s-maj=7.3km s-min=5.5km az=169.0*
*MED_RC **06** 12:21:05.0±0.7, 39.01N×23.68E, h17km±1km, MW4.3/15, Moment Tensor Solution.Mantle waves: s15,c20; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}-2.28±.43; $M_{\theta\theta}$3.92±.37; $M_{\phi\phi}$-1.64±.20; $M_{r\theta}$-0.61±.40; $M_{\theta\phi}$-2.05±.21; $M_{\phi r}$1.60±.39; Best double couple: M_o4.23000×10^{15} NP1:ϕ_s252.00000°, δ52.00000°, λ-150.00000°. NP2:ϕ_s142.00000°, δ67.00000°, λ-42.00000°. Principal axes: T 4.7700, Plg9.0000°, Azm200.0000°; N -1.0700, Plg43.0000°, Azm298.0000°; P -3.7000, Plg46.0000°, Azm100.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*MOS **06** 12:21:05.0±0.9, 39.22N×23.71E, h21km, mb4.5/18 Error ellipse: s-maj=6.9km s-min=4.9km az=88.4*
*BEO **06** 12:21:07.6±0.7, 39.48N×23.84E, h0km, ML3.9/5*

ISC 06 12:21:05.3±0.7, 39.16N±0.02×23.70E±0.01, h11km±4km, n453, σ1s21/529, mb4.2/39, MS3.0/10, 39C-20D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALNA	**Alonissos**	**0.13**	**95**	P	**Pg**	**12 21 08.3**	**-0.1**
ALNA				S	**Sg**	**12 21 11.0**	**+0.3**
ALNA				AML	AML	12 21 11.1	
ALNA				AML	AML	12 21 11.4	
AOS	**Alonnisos**	**0.14**	**86**	P	**Pg**	**12 21 08.3**	**-0.3**
AOS				S	**Sg**	**12 21 10.8**	**-0.2**
	301μm,0.4s						
AOS	**Alonnisos**	**0.14**	**86**	P	**Pg**	**12 21 08.4**	**-0.3**
AOS				S	**Sg**	**12 21 10.8**	**-0.2**
AOS				AML	AML	12 21 11.2	
AOS				AML	AML	12 21 11.7	
AOS	**Alonnisos**	**0.14**	**86**		**Pg**	**12 21 08.3**	**-0.3**
AOS					**Sg**	**12 21 10.8**	**-0.2**
SKIA	**Skiathos**	**0.18**	**272**	P	**Pg**	**12 21 09.1**	**-0.2**
SKIA				S	**Sg**	**12 21 12.0**	**-0.1**
	284μm,0.2s						
SKIA	**Skiathos**	**0.18**	**272**	P	**Pg**	**12 21 09.2**	**-0.2**
SKIA				S	**Sg**	**12 21 12.3**	**+0.2**
SKIA				AML	AML	12 21 12.7	
SKIA				AML	AML	12 21 12.9	
SKIA	**Skiathos**	**0.18**	**272**		**Pg**	**12 21 09.1**	**-0.2**
SKIA					**Sg**	**12 21 12.0**	**-0.1**
NEO	**Neokhori**	**0.40**	**292**	P	**Pg**	**12 21 12.6**	**-0.6**
NEO				S	**Sg**	**12 21 18.6**	**+0.1**
	61μm,0.3s						
NEO	**Neokhori**	**0.40**	**292**	P	**Pg**	**12 21 12.9**	**-0.3**
NEO				S	**Sg**	**12 21 18.1**	**-0.4**
NEO				AML	AML	12 21 19.7	
NEO				AML	AML	12 21 20.8	
NEO	**Neokhori**	**0.40**	**292**		**Pg**	**12 21 12.6**	**-0.6**
NEO					**Sg**	**12 21 18.6**	**+0.1**
XOR	**Xorichti**	**0.45**	**298**	P	**Pg**	**12 21 13.5**	**-0.6**
XOR				S	**Sg**	**12 21 20.1**	**+0.1**
	63μm,0.3s						
XOR	**Xorichti**	**0.45**	**298**	P	**Pg**	**12 21 13.8**	**-0.3**
XOR				S	**Sg**	**12 21 19.5**	**-0.5**
XOR				AML	AML	12 21 20.9	
XOR				AML	AML	12 21 20.9	
XOR	**Xorichti**	**0.45**	**298**		**Pg**	**12 21 13.5**	**-0.6**
XOR					**Sg**	**12 21 20.1**	**+0.1**
MRKA	**Markates**	**0.46**	**191**	P	**Pg**	**12 21 13.5**	**-0.9**
MRKA				S	**Sg**	**12 21 20.4**	**-0.1**
	27μm,0.4s						
MRKA	**Markates**	**0.46**	**191**	P	**Pg**	**12 21 13.5**	**-0.9**
MRKA				S	**Sg**	**12 21 20.2**	**-0.3**
MRKA				AML	AML	12 21 21.0	
	comp=E,64455μm,0.4s						
MRKA				AML	AML	12 21 23.7	
	comp=N,52183μm,0.3s						
MRKA	**Markates**	**0.46**	**191**		**Pg**	**12 21 13.5**	**-0.9**
MRKA					**Sg**	**12 21 20.4**	**-0.1**
KYMI	**Kymi, Euboea I**	**0.61**	**149**	P	**Pg**	**12 21 16.6**	**-0.6**
KYMI				S	**Sg**	**12 21 25.0**	**-0.3**
	comp=N,55μm,0.7s						
KYMI	**Kymi, Euboea I**	**0.61**	**149**	P	**Pg**	**12 21 16.7**	**-0.6**
KYMI				S	**Sg**	**12 21 24.8**	**-0.5**
KYMI				AML	AML	12 21 27.6	
KYMI				AML	AML	12 21 27.9	
	comp=N,82470μm,0.4s						
SKY	**Skiros Island**	**0.72**	**113**	P	**Pg**	**12 21 18.8**	**-0.4**
SKY				S	**Sb**	**12 21 29.3**	**-0.4**
SKY	**Skiros Island**	**0.72**	**113**	P	**Pg**	**12 21 18.6**	**-0.6**
SKY				S	**Sg**	**12 21 28.5**	**-0.2**
SKY				AML	AML	12 21 31.3	
SKY				AML	AML	12 21 31.4	
	comp=N,87572μm,0.2s						
LKR	**Lokris**	**0.75**	**227**	P	**Pg**	**12 21 18.8**	**-0.9**
LKR				S	**Sg**	**12 21 29.4**	**-0.1**
	comp=N,26μm,0.7s						
LKR	**Lokris**	**0.75**	**227**	P	**Pg**	**12 21 18.9**	**-0.8**
LKR				S	**Sg**	**12 21 28.5**	**-1.0**
LKR				AML	AML	12 21 29.7	
	comp=N,39691μm,0.3s						
LKR				AML	AML	12 21 31.9	
	comp=E,45756μm,0.5s						
LKR	**Lokris**	**0.75**	**227**		**Pg**	**12 21 18.8**	**-0.9**
LKR					**Sg**	**12 21 29.4**	**-0.1**
PAIG	**Paliouri**	**0.77**	**359**	P	**Pb**	**12 21 20.3**	**-0.3**
PAIG	**Paliouri**	**0.77**	**359**	P	**Pb**	**12 21 20.2**	**-0.3**
PAIG				AML	AML	12 21 33.0	
	comp=E,66227μm,0.6s						
PAIG				AML	AML	12 21 33.2	
	comp=N,37533μm,0.7s						
PAIG	**Paliouri**	**0.77**	**359**	P	**Pb**	**12 21 20.3**	**-0.3**
PAIG	**Paliouri**	**0.77**	**359**		**Pb**	**12 21 20.3**	**-0.3**
AXAR	**Agios Charalam**	**0.90**	**244**	P	**Pg**	**12 21 21.7**	**-1.0**
AXAR				S	**Sg**	**12 21 34.6**	**+0.1**
AXAR				AML	AML	12 21 38.5	
	comp=E,76180μm,0.7s						
AXAR				AML	AML	12 21 39.3	
	comp=N,77979μm,0.6s						
VIL2	**Platees**	**1.00**	**200**	P	**Pb**	**12 21 23.7**	**-1.0**
VIL2				AML	AML	12 21 42.2	
	comp=N,29043μm,0.4s						
VIL2				AML	AML	12 21 42.4	
	comp=E,49014μm,0.6s						
VILL	**Villia**	**1.04**	**197**	P	**Pb**	**12 21 23.6**	**-1.7**
VILL	**Villia**	**1.04**	**197**		**Pb**	**12 21 23.6**	**-1.7**
EFSA	**Agios Efstrati**	**1.07**	**69**	P	**Pb**	**12 21 24.9**	**-0.8**
AGG	**Agios Georgios**	**1.07**	**263**	P	**Pb**	**12 21 24.9**	**-1.0**
AGG				S	**Sn**	**12 21 40.5**	**-0.7**
AGG	**Agios Georgios**	**1.07**	**263**	P	**Pb**	**12 21 24.4**	**-1.4**
AGG				AML	AML	12 21 41.9	
	comp=N,28328μm,0.5s						
AGG				AML	AML	12 21 42.0	
	comp=E,19103μm,0.6s						
AGG	**Agios Georgios**	**1.07**	**263**	P	**Pb**	**12 21 24.5**	**-1.4**
AGG						12 21 39.8	
AGG	**Agios Georgios**	**1.07**	**263**	Pg	**Pb**	**12 21 24.4**	**-1.4**
AGG				Sg	**Sb**	**12 21 39.8**	**-0.2**
DION	**Dionisos Attik**	**1.10**	**170**	P	**Pb**	**12 21 25.4**	**-0.8**
DION	**Dionisos Attik**	**1.10**	**170**	P	**Pb**	**12 21 25.2**	**-1.0**
DION				AML	AML	12 21 41.4	
DION				AML	AML	12 21 43.0	
PROD	**Prodromos**	**1.10**	**215**	P	**Pb**	**12 21 24.6**	**-1.7**
PROD	**Prodromos**	**1.10**	**215**	P	**Pb**	**12 21 24.6**	**-1.7**
PROD				AML	AML	12 21 42.5	
	comp=N,23926μm,0.3s						
PROD				AML	AML	12 21 43.0	
	comp=E,32277μm,0.4s						
PTL	**Penteli**	**1.12**	**173**	P	**Pb**	**12 21 25.5**	**-1.1**
PTL	**Penteli**	**1.12**	**173**	P	**Pb**	**12 21 25.6**	**-1.1**
PTL				AML	AML	12 21 40.6	
	comp=N,31592μm,0.3s						
PTL				AML	AML	12 21 40.7	
	comp=E,50232μm,0.5s						
LRSO	**Larissa Observ**	**1.14**	**297**	P	**Pb**	**12 21 26.5**	**-0.4**
LRSO	**Larissa Observ**	**1.14**	**297**	P	**Pb**	**12 21 26.2**	**-0.7**
DLFA	**Delphi**	**1.16**	**235**	P	**Pb**	**12 21 26.0**	**-1.4**
ATH	**Athens Observa**	**1.19**	**179**	P	**Pn**	**12 21 26.8**	**-1.0**
ATH	**Athens Observa**	**1.19**	**179**	P	**Pn**	**12 21 26.6**	**-1.2**
ATH				AML	AML	12 21 44.0	
	comp=E,39418μm,0.3s						
ATH				AML	AML	12 21 44.6	
	comp=N,34839μm,0.3s						
ATHU	**Athens Univers**	**1.19**	**177**	P	**Pn**	**12 21 26.6**	**-1.3**
OUR	**Ouranopolis**	**1.19**	**10**	P	**Pn**	**12 21 26.6**	**-1.2**
OUR	**Ouranopolis**	**1.19**	**10**	P	**Pn**	**12 21 26.7**	**-1.2**
OUR				AML	AML	12 21 42.9	
	comp=E,21723μm,0.5s						
OUR				AML	AML	12 21 48.2	
	comp=N,22383μm,0.4s						
OUR	**Ouranopolis**	**1.19**	**10**	PN	**Pn**	**12 21 26.7**	**-1.2**
OUR				SN	**Sb**	**12 21 42.7**	**-0.6**
PLG	**Polygyros**	**1.23**	**351**	P	**Pn**	**12 21 27.0**	**-1.4**
PLG	**Polygyros**	**1.23**	**351**	P	**Pn**	**12 21 27.0**	**-1.4**
MAKR	**Makrakomi, Fth**	**1.23**	**264**	P	**Pn**	**12 21 27.4**	**-1.0**
MAKR				AML	AML	12 21 46.9	
	comp=N,34434μm,0.9s						
MAKR				AML	AML	12 21 47.7	
	comp=E,25865μm,0.4s						
KARY	**Karystos**	**1.27**	**153**	P	**Pn**	**12 21 27.9**	**-1.0**
KARY	**Karystos**	**1.27**	**153**	P	**Pn**	**12 21 27.7**	**-1.2**
KARY				AML	AML	12 21 46.8	
	comp=E,19732μm,0.3s						
KARY				AML	AML	12 21 47.0	
	comp=N,28971μm,0.3s						
LOUT	**Loutraki**	**1.30**	**206**	P	**Pn**	**12 21 28.1**	**-1.2**
VLY	**Voula,Athens**

ANX	Ano Chora	1.50	248	P	Pn	12 21 31.6	-0.6	IDI	Anoyia	3.98	166	Pn	Pn	12 22 06.5	+0.3		comp=N,176nm,19.1s,baz=256,slow=43		
ANX	Ano Chora	1.50	248	P	Pn	12 21 31.6	-0.6	SLVT	Silivri	4.03	58	PN	Pn	12 22 06.9	+0.1	BRTR	Keskin Array B	7.71	83 *i* P Pn 12 22 58.5 +0.9
HORT	Hortiatis	1.51	342	P	Pn	12 21 31.2	-1.1	SCTE	Santa Cesarea	4.14	284	Pn	Pn	12 22 09.8	+1.4	BRTR			pmax pmax
HORT	Hortiatis	1.51	342	P	Pn	12 21 31.1	-1.1	CTYL	Yalikoy Yolu	4.20	55	PN	Pn	12 22 09.6	+0.4		comp=Z,3.0nm,0.4s		
HORT	Hortiatis	1.51	342	PN	Pn	12 21 31.2	-1.1	ARMT	Armutlu	4.21	69	PN	Pn	12 22 09.8	+0.4	BIZ	Bicaz	7.97	12 ⇑P Pn 12 23 01.2 +0.2
HORT				SN	Sn	12 21 50.8	-1.2	CTKS	Kestanelik-??a	4.22	59	PN	Pn	12 22 09.9	+0.4	MORH	Mrgy, Hungar	7.97	334 *e*Pn Pn 12 23 00.8 -0.2
ALIK	Aliki, Aigiali	1.53	235	P	Pn	12 21 32.3	-0.2	PLVB	Pleven	4.28	9	⇑P	Pn	12 22 10.0	-0.3	INTR	Introdacqua	7.98	294 Pn 12 23 03.0 +1.8
THE	Thessaloniki	1.58	339	P	Pn	12 21 32.1	-1.1	ULDT	Uludag	4.31	75	*i* P	Pn	12 22 10.7	-0.2	UDBI	Udbina	7.99	315 *e*Pn Pn 12 23 01.8 +0.5
PSRA	Psara	1.58	112	P	Pn	12 21 33.2	0.0	ULDT				*i* S	Sg	12 23 21.5	-2.2	UDBI			Sn Sn 12 24 28.5 -3.2
EFP	Efpalio	1.58	243	P	Pn	12 21 32.5	-0.7	BGKT	Bogazkoy	4.38	61	PN	Pn	12 22 12.2	+0.5	WDD	Wied Dalam	8.01	248 Pn 12 23 01.0 -0.6
EFP	Efpalio	1.58	243	P	Pn	12 21 32.4	-0.7	IGD	Bursa	4.38	74	*i* P	Pn	12 22 11.7	-0.1	DUGI	Dugi Otok	8.08	309 *e*Pn Pn 12 23 01.6 -0.9
GUR	Goura	1.62	221	P	Pn	12 21 32.8	-1.1	IGD				*i* S	Sg	12 23 23.5	-2.5	DUGI			Sn Sn 12 24 30.2 -3.5
GUR	Goura	1.62	221	P	Pn	12 21 32.8	-1.1	ULC	Ulcinj	4.40	311	⇑*i*Pn	Pn	12 22 11.9	-0.1	MOSL	Moslavina	8.24	324 *e*Pn Pn 12 23 05.0 +0.2
LAKA	Lakka	1.63	236	P	Pn	12 21 33.4	-0.5	ULC				*i* Sn	Sn	12 23 02.5	-0.7	MOSL			Sn Sn 12 24 35.0 -2.9
LAKA	Lakka	1.63	236	P	Pn	12 21 33.2	-0.7	PVY	Plav	4.45	322	⇑*i*Pn	Pn	12 22 12.1	-0.7	CORL	Corleone	8.25	264 Pn Pn 12 23 05.6 +0.8
THAS	Thassos island	1.64	28	P	Pn	12 21 31.9	-2.2	PVY				*i* Sn	Sn	12 23 04.1	-0.5	CLTB	Caltabellotta	8.39	262 Pn Pn 12 23 07.2 +0.4
KLV	Kalavryta, Ach	1.65	228	P	Pn	12 21 33.2	-1.0	TVSB	Tavsanli	4.48	84	PN	Pn	12 22 13.7	+0.5	NVLJ	Novalja	8.52	312 *e*Pn Pn 12 23 07.3 -1.1
KLV	Kalavryta, Ach	1.65	228	P	Pn	12 21 33.1	-1.0	SELS	Selova	4.50	335	*e*Pn	Pn	12 22 12.6	-0.8	NVLJ			Sn Sn 12 24 40.9 -3.5
SIGR	SIGRI	1.68	88	P	Pn	12 21 33.3	-1.2	ISK	Istanbul-Kandi	4.53	63	PN	Pn	12 22 14.5	+0.8	BURAR	Bucovina Array	8.52	7 ⇓P Pn 12 23 08.8 +0.2
SIGR	SIGRI	1.68	88	PN	Pn	12 21 33.9	-0.6	KAVV	Kandilli-Istan	4.53	63	PN	Pn	12 22 14.2	+0.5	BUR08	Bucovina Ar. S	8.55	7 Pn Pn 12 23 08.7 -0.4
DID	Didima	1.69	193	P	Pn	12 21 33.5	-1.3	KARP	Karpathos	4.54	142	Pn	Pn	12 22 13.9	-0.1	CSS	Mathiatis	8.76	116 Pn Pn 12 23 11.7 -0.2
PVO	Paravola	1.78	253	P	Pn	12 21 36.0	0.0	DRME	Dracevica, Mon	4.58	313	⇓*i*Pn	Pn	12 22 14.4	0.0	NRCA	Norcia	8.80	298 Pn Pn 12 23 13.0 +0.5
KRND	KRANIDI	1.83	194	P	Pn	12 21 35.6	-1.0	DRME				*i* Sn	Sn	12 23 06.1	-1.4	PTJ	Puntijarka	8.83	322 *e*Pn Pn 12 23 12.3 -0.6
KRND	KRANIDI	1.83	194	P	Pn	12 21 35.5	-1.0	DRME	Dracevica, Mon	4.58	313	*e*Pn	Pn	12 22 13.5	-0.9	CRES	Cresnjev	9.02	320 *e*Pn Pn 12 23 14.9 -0.5
KVLA	Kavala	1.85	16	P	Pn	12 21 35.1	-1.8	YLV	Yalova	4.58	70	PN	Pn	12 22 15.0	+0.4	PSZ	Piszkesteto	9.18	344 P Pn 12 23 17.8 +0.2
KZN	Kozani	1.88	308	P	Pn	12 21 36.8	-0.6	KHAL	Karahalli	4.59	98	*i* P	Pn	12 22 15.3	+0.5	PSZ	Piszkesteto	9.18	344 Pn Pn 12 23 17.8 +0.2
SMTH	Samothraki Isl	1.92	47	P	Pn	12 21 35.9	-2.1	IVA	Berane	4.70	323	⇓*i*Pn	Pn	12 22 15.4	-0.7	BRJN	Brijuni	9.37	311 *e*Pn Pn 12 23 18.5 -1.6
KAVA	Kavala	1.94	19	P	Pn	12 21 36.3	-1.8	IVA				*i* Sn	Sn	12 23 09.5	-1.1	MURB	Monte Urbino	9.37	300 Pn Pn 12 23 20.4 +0.3
KAVA	Kavala	1.94	19	P	Pn	12 21 36.3	-1.8	PDG	Podgorica	4.70	315	*e*Pn	Pn	12 22 17.7	+1.7	CEY	Cerknica	9.49	317 *e*Pn Pn 12 23 22.4 +0.5
BOZC	Bozcaada	1.94	69	PN	Pn	12 21 37.3	-0.9	PDG				*e*Sn	Sn	12 23 10.3	-0.1	SORM	Soroca	9.58	19 ⇑P Pn 12 23 21.9 -1.1
BOZC	Bozcaada	1.94	69	*i* P	Pn	12 21 36.1	-2.0	PDG	Podgorica	4.70	315	⇓P	Pn	12 22 13.9	-2.1	KOLS	Kolonicke sedl	9.82	354 *e*P Pn 12 23 25.2 -1.2
BOZC				*i* P	Pb	12 22 06.3	-3.8	PDG	Podgorica	4.70	315	Pn	Pn	12 22 14.8	+0.8	KOLS	Kolonicke sedl	9.82	354 *e*PN Pn 12 23 25.2 -1.2
BOZC				*i* S	Sb	12 22 06.1	+1.2	PDG	Podgorica	4.70	315	*e*Pn	Pn	12 22 16.6	+0.6	SOKA	Soboth	9.84	323 *e*Pn Pn 12 23 27.0 +0.4
BOZC				*i* S	Sg	12 22 06.4	-1.4	TTG	Podgorica	4.70	315	⇑*i*Pn	Pn	12 22 15.5	-0.5		comp=Z,0.9nm,0.2s		
SRS	Serrai	1.96	358	*e*Pg	Pn	12 21 37.3	-1.1	TTG				*i* Sn	Sn	12 23 10.0	-0.4	VYHS	Vyhne	9.97	341 *e*P Pn 12 23 28.7 +0.3
SRS				*e*Sg	Sn	12 21 59.5	-3.4	BOVS	Bovan	4.72	342	*e*Pn	Pn	12 22 15.7	-0.6	VYHS	Vyhne	9.97	341 *e*PN Pn 12 23 28.7 +0.3
SRS	Serrai	1.96	358	P	Pn	12 21 37.3	-1.1	ZAGS	Zajecar	4.78	347	*e*Pn	Pn	12 22 16.2	-0.9	ARSA	Arzberg	10.04	326 *e*Pn Pn 12 23 30.2 +0.8
DRO	Drossia	1.97	233	P	Pn	12 21 37.9	-0.7	BUM	Brajici-Budva	4.81	312	⇓*i*Pn	Pn	12 22 17.8	+0.1		comp=Z,4.0nm,0.5s		
DRO	Drossia	1.97	233	P	Pn	12 21 37.9	-0.7	BUM				*i* Sn	Sn	12 23 12.5	-1.0	MODS	Modra-Piesok	10.31	335 *e*P Pn 12 23 34.3 +1.2
KPRO	Kipourio	1.97	294	P	Pn	12 21 38.4	-0.3	KOME	Kolasin	4.86	321	⇓*i*Pn	Pn	12 22 17.8	-0.6	MODS	Modra-Piesok	10.31	335 *e*PN Pn 12 23 34.3 +1.2
KPRO	Kipourio	1.97	294	P	Pn	12 21 38.7	0.0	KOME				*i* Sn	Sn	12 23 13.1	-1.5	CONA	Conrad Observa	10.44	330 *e*Pn Pn 12 23 36.8 +1.9
TRIP	Tripoli	1.98	215	P	Pn	12 21 38.3	-0.5	VLAD	Vladila	4.86	6	⇑P Pn	Pn	12 22 17.6	-0.7		comp=Z,1.9nm,0.3s		
GADA	Gvkgeada	1.98	58	PN	Pn	12 21 37.8	-1.0	HRT	Hereke	4.88	68	Pn	Pn	12 22 19.2	+0.7	ZOU	Zoufplan	10.79	317 Pn Pn 12 23 39.7 -0.2
TNSA	Tinos	1.98	144	P	Pn	12 21 37.8	-1.0	RAZG	Razgrad	4.88	25	⇓P Pn	Pn	12 22 17.6	-1.0	CIMO	Cimolais	10.93	314 Pn Pn 12 23 41.5 0.0
GOKA	anakkale-Gk	1.99	58	*i* P	Pn	12 21 37.6	-1.2	AUBOZ	BOZOYUK	4.95	79	PN	Pn	12 22 20.5	+0.9	KBA	Koelnbreinsper	10.94	320 *e*Pn Pn 12 23 41.4 -0.5
GOKA				*i* S	Sg	12 22 09.8	+0.6	CEME	Cevo	4.96	315	⇓*i*Pn	Pn	12 22 19.8	+0.1		comp=Z,1.4nm,0.3s		
CHOS	Chios island	2.00	112	P	Pn	12 21 38.3	-0.6	CEME				*i* Sn	Sn	12 23 16.1	-0.9	MOA	Molln	11.05	325 *e*Pn Pn 12 23 43.5 +0.3
CHOS	Chios island	2.00	112	PN	Pn	12 21 38.4	-0.6	SJES	Sjenica	4.97	327	*e*Pn	Pn	12 22 20.6	+0.7		comp=Z,3.8nm,0.5s		
PRK	Paraskevi	2.00	87	P	Pn	12 21 38.9	0.0	SILT	Sile	4.97	64	PN	Pn	12 22 20.4	+0.6	VSL	Villasalto	11.10	276 Pn Pn 12 23 45.9 +2.0
GRG	Griva	2.05	331	PN	Pn	12 21 39.0	-0.7	CCGT	Ceglie Messapi	5.01	289	*e*Pn	Pn	12 22 19.9	+0.5	MMAI	Mount Meron Ar	11.28	119 Pn Pn 12 23 44.6 -1.7
RLS	Riolos of Patr	2.07	239	P	Pn	12 21 40.1	+0.2	NKME	Niksic	5.09	317	⇓*i*Pn	Pn	12 22 20.7	+0.8		comp=Z,3.6nm,0.3s,baz=300,slow=11,SNR=17		
VLX	Vlachokerasia	2.07	211	P	Pn	12 21 39.5	-0.5	NKME				*i* Sn	Sn	12 23 18.6	-1.6	MMAI			LR LR 12 28 56.5
SERI	Serifos	2.09	163	P	Pn	12 21 39.0	-1.2	NKY	Niksic	5.10	317	⇑*i*Pn	Pn	12 22 21.5	-0.2		comp=Z,102nm,19.4s,baz=350,slow=42		
SERI	Serifos	2.09	163	P	Pn	12 21 39.1	-1.1	NKY				*i* Sn	Sn	12 23 19.4	-1.2	VRAC	Vranov	11.35	336 LR LR 12 29 15.2
KNT	Kendrikon	2.09	343	P	Pn	12 21 39.9	-0.4	TAR1	Taranto	5.12	287	*e*Pn	Pn	12 22 22.9	+1.0		comp=Z,70nm,20.6s,baz=154,slow=43		
KNT	Kendrikon	2.09	343	PN	Pn	12 21 39.5	-0.8	HCY	Herceg Novi	5.14	311	⇑*i*Pn	Pn	12 22 21.5	-0.6	KEST	Kesra	11.91	258 Pn Pn 12 23 54.0 -1.0
EZN	Ezine	2.14	71	PN	Pn	12 21 39.9	-0.9	HCY				*i* Sn	Sn	12 23 20.0	-1.3		comp=Z,0.2nm,0.3s,baz=113,slow=4.1,SNR=2.8		
AMT	Artemida-Makis	2.26	225	P	Pn	12 21 41.8	-0.7	HCY	Herceg Novi	5.14	311	*e*Pn	Pn	12 22 21.9	-0.2	KEST	Kesra	11.91	258 Pn Pn 12 23 56.3 +1.2
BAYC	CANAKKALE_Bayr	2.28	74	*i* P	Pn	12 21 41.7	-1.1	PUNG	Punghina	5.15	354	⇑P Pn	Pn	12 22 21.0	-1.2	GERES	GERESS Array B	12.05	327 Pn Pn 12 23 56.2 -0.7
BAYC				*i* S	Sb	12 22 14.6	0.0	IVAS	Ivanjica	5.16	330	*e*Pn	Pn	12 22 22.0	-0.4		comp=Z,0.1nm,0.3s,baz=140,slow=14,SNR=1.7		
URLA	Izmir	2.40	109	*i* P	Pn	12 21 43.8	-0.7	GRUS	Gruza	5.23	336	*e*Pn	Pn	12 22 23.4	+0.1	AKASG	Malin Array Be	12.18	17 Pn Pn 12 23 57.0 -1.6
URLA				*i* S	Sg	12 22 25.6	+3.2	BORA	Eskisehir	5.27	80	PN	Pn	12 22 24.3	+0.3		comp=Z,1.9nm,0.3s,baz=206,slow=14,SNR=4.4		
ITM	Ithomi	2.42	216	Pn	Pn	12 21 45.1	+0.3	PLE	Pljevlja	5.28	323	⇑*i*Pn	Pn	12 22 23.5	-0.7	AKASG	Malin Array Be	12.18	17 *i* P Pn 12 23 58.5 -0.1
MMB	Musomiste	2.43	0	*i* P	Pn	12 21 43.5	-1.4	PLE				*i* Sn	Sn	12 23 13.8	-1.3	AKASG			pmax pmax
RDO	Rodhopi	2.43	35	P	Pn	12 21 43.1	-1.8	SAUV	Serdivan-Sakar	5.33	71	PN	Pn	12 22 25.5	+0.7		comp=Z,1.0nm,0.4s		
RDO	Rodhopi	2.43	35	PN	Pn	12 21 43.3	-1.6	TREB	Trebinje	5.39	313	*e*Pn	Pn	12 22 27.0	+1.5	FETA	Feichten	12.30	314 *e*Pn Pn 12 24 00.5 +0.1
ENEZ	Enez	2.46	45	PN	Pn	12 21 44.4	-0.8	TREB	Trebinje	5.39	313	*e*Pn	Pn	12 22 27.0	+0.7		comp=Z,1.7nm,0.5s		
GELI	Tayfur-Gelibol	2.47	59	PN	Pn	12 21 44.6	-0.8	TIP	Timpagrande	5.39	272	⇓P	Pn	12 22 26.0	+0.3	KHC	Kasperske Hory	12.32	327 *e*P Pn 12 24 00.0 -0.6
MHLA	Plaka, Milos I	2.48	166	P	Pn	12 21 44.6	-0.9	TIP	Timpagrande	5.39	272	Pn	Pn	12 22 26.0	+0.3	KHC	Kasperske Hory	12.32	327 *ce*P Pn 12 24 01.6 +1.0
DKL	Dikili	2.50	91	PN	Pn	12 21 45.5	-0.3	GULT	Gulveren	5.40	74	PN	Pn	12 22 26.7	+0.9	KHC			pmax pmax
ALN	Alexandroupoli	2.50	45	PN	Pn	12 21 45.3	-0.5	BRY	Bratogost	5.40	315	⇓*i*Pn	Pn	12 22 25.4	-0.5		comp=Z,20nm,1.7s		
ALN	Alexandroupoli	2.50	45	P	Pn	12 21 44.2	-1.7	BRY				*i* Sn	Sn	12 23 26.6	-1.5	KHC	Kasperske Hory	12.32	327 Pn Pn 12 24 00.6 0.0
ALN	Alexandroupoli	2.50	45	Pn	Pn	12 21 44.2	-1.7	BRY	Bratogost	5.40	315	*e*Pn	Pn	12 22 26.2	+0.3	DAVOX	Davos/Dischmat	12.65	311 LR LR 12 30 01.5
VLI	Veliai	2.51	194	P	Pn	12 21 44.8	-1.2	HUMR	Humele	5.45	10	⇑P Pn	Pn	12 22 25.8	-0.5		comp=Z,156nm,19.2s,slow=43		
VLI	Veliai	2.51	194	P	Pn	12 21 44.8	-1.2	KUBS	Kucevo	5.46	345	*e*Pn	Pn	12 22 24.8	-1.8	EIL	Elat	13.25	132 Pn Pn 12 24 11.5 -1.8
MHLO	Agia Marina, M	2.53	167	P	Pn	12 21 46.6	+0.4	ELL	Elmali	5.46	114	P	Pn	12 22 28.6	+1.8		comp=Z,0.6nm,0.3s,baz=221,slow=6.3,SNR=5.4		
APE	Apeiranthos	2.54	145	P	Pn	12 21 45.5	-0.9	ELL	Elmali	5.46	114	Pn	Pn	12 22 28.6	+1.8	SENIN	Lac Senin/Sane	14.02	306 Pn 12 24 26.8 +2.8
APE	Apeiranthos	2.54	145	⇑P	Pn	12 21 45.5	-0.9	DBRK	Dubrovnik	5.47	312	*e*Pn	Pn	12 22 26.6	-0.2	CLL	Collm	14.28	332 *e*(P) Pn 12 24 29.0 +1.8
APE				⇓S	Sn	12 22 17.9	+0.6	DBRK				Sn	Sn	12 23 26.7	-3.0	CLL	Collm	14.28	332 *e*P Pn 12 24 29.0 +1.8
APE	Apeiranthos	2.54	145	*i* P	Pn	12 21 44.6	-1.8	ISP	Isparta	5.52	102	P	Pn	12 22 27.7	+0.3	KIV	Kislovodsk	14.99	65 *i* P Pn 12 24 36.4 -0.7
APE				*i* S	Sn	12 22 18.3	+1.0	ISP	Isparta	5.52	102	Pn	Pn	12 22 27.7	+0.3	KIV			*i* S Sn 12 27 29.4 +6.3
APE	Apeiranthos	2.54	145	*d* P	Pn	12 21 45.2	-1.2	RUDO	Rudo	5.52	325	*e*Pn	Pn	12 22 26.6	-0.7	KIV			pmax pmax
ZEDA	zmir-Bergama	2.64	93	*i* P	Pn	12 21 47.2	-0.5	BAI	Bari	5.58	293	*e*Pn	Pn	12 22 28.7	+0.6		comp=Z,4.0nm,1.1s		
ZEDA				*i* S	Sg	12 22 32.0	+2.0	MATE	Matera	5.58	288	⇓P	Pn	12 22 26.9	-1.3	KIV			MLR MLR
ERIK	Erikli-Kesan	2.64	54	PN	Pn	12 21 46.4	-0.8	MATE				*i* S	Sn	12 23 26.8	-3.3		comp=Z,29nm,17.0s		
IGT	Igoumenitsa	2.64	279	*e*Pn	Pn	12 21 52.0	-0.5	TRUS	Trudelj	5.63	335	*e*Pn	Pn	12 22 28.7	-0.1	KBZ	Khabaz	15.10	66 *i* P Pn 12 24 40.2 +1.8
IGT				*e*Sn	Sb	12 22 26.7	+1.8	SG1	Sgolgore (BA)	5.65	290	*e*Pn	Pn	12 22 29.7	+0.6	ZEI	Tsey	15.68	70 *e*P P 12 24 51.6 +1.3
RZN	Rozhen	2.64	17	*i* P	Pn	12 21 47.0	-1.0	DIVS	Divibare	5.66	332	*e*Pn	Pn	12 22 29.5	+0.1	OBN	Obninsk	18.15	24 *i* P P 12 25 17.1 -0.3
LPK	Lapseki	2.65	62	PN	Pn	12 21 47.4	-0.5	DIVS	Divibare	5.66	332	Pn	Pn	12 22 29.3	-0.1	OBN			pmax pmax
BLCB	Balcova	2.72	105	PN	Pn	12 21 48.8	-0.1	DIVS	Divibare	5.66	332	*e*Pn	Pn	12 22 28.9	-0.5		comp=Z,8.0nm,0.9s		
DGB	zmir	2.73	113	*i* P	Pn	12 21 48.1	-0.9	BBLS	Lazići	5.70	327	*e*Pn	Pn	12 22 30.3	+0.4	OBN			MLR MLR
DGB				*i* S	Sg	12 22 34.6	+1.7	BBLS	Lazići	5.70	327	*e*Pn	Pn	12 22 28.9	-1.0		comp=Z,35nm,13.0s		
KKB	Krupnik	2.74	350	*i* P	Pn	12 21 48.5	-0.7	SAHE	Sakarya_HENDEK	5.75	71	*i* P	Pn	12 22 30.5	0.0	VSU	Vasula	19.42	5 *i* P P 12 25 31.4 +0.2
KDZ	Kurdzhali	2.81	27	*i* P	Pn	12 21 48.0	-2.2	HERR	Herculane	5.80	351	⇑P Pn	Pn	12 22 29.6	-1.6	VSU			pmax pmax
KDZ	Kurdzhali	2.81	27	PN	Pn	12 21 48.2	-2.0	MDVR	Moldovita	5.81	346	⇑P Pn	Pn	12 22 30.4	-1.0		comp=Z,10.0nm,0.9s		
KESN	Edirne-Kesan	2.83	53	*i* P	Pn	12 21 49.1	-1.6	ICOR	Ion Corvin	5.83	30	⇑P Pn	Pn	12 22 30.7	-0.8	ESBB	Sonseca Array	21.35	280 P P 12 25 52.0 -0.4
KESN				*i* S	Sg	12 22 34.9	-1.3	STON	Ston	5.86	311	*e*Pn	Pn	12 22 31.7	-0.3	ESBB			IAmb IAmb 12 26 00.2
SMG	Samos	2.86	119	P	Pn	12 21 50.3	-0.5	STON				Sn	Sn	12 23 36.5	-2.5		comp=Z,11nm,1.0s		
AMGA	Amorgos Island	2.90	143	P	Pn	12 21 50.7	-0.6	STON	Ston	5.86	311	*e*Pn	Pn	12 22 31.3	-0.7	ESDC	Sonseca Array	21.35	280 P P 12 25 51.8 -0.6
KTHA	Kythira Island	2.94	190	P	Pn	12 21 51.0	-0.9	MDUB	Mudurnu	5.92	75	Pn	Pn	12 22 32.7	-0.2		comp=Z,5.8nm,0.8s,baz=76,slow=11,SNR=21		
OHR	Ohrid	2.96	312	*i* Pn	Pn	12 21 52.6	+0.4	MFTR	Murfatlar	6.13	34	⇑P Pn	Pn	12 22 35.8	+0.1	ESDC			LR LR 12 34 36.8
UOP	Uzunkopru-Edir	2.99	48	PN	Pn	12 21 52.2	-0.3	MTUR	Matau	6.15	9	⇑P Pn	Pn	12 22 36.0	0.0		comp=Z,35nm,18.1s,baz=55,slow=38		
KRBG	Karabiga-Canak	3.00	65	PN	Pn	12 21 53.0	-0.2	CEL	Celeste	6.17	264	Pn	Pn	12 22 36.0	-0.4	HFS	Hagfors	21.92	347 P P 12 25 57.3 -1.0
PLD	Plovdiv	3.04	14	*e*Pn	Pn	12 21 53.2	-0.1	TEKS	Tekeris	6.22	331	*e*Pn	Pn	12 22 37.7	+0.7		comp=Z,1.9nm,0.5s,baz=163,slow=11,SNR=14		
PLD	Plovdiv	3.04	14	*i* P	Pn	12 21 53.0	-0.3	TEKS	Tekeris	6.22	331	*e*Pn	Pn	12 22 36.1	-0.9	HFS			LR LR 12 35 07.0
PLD	Plovdiv	3.04	14	PN	Pn	12 21 53.0	-0.3	ARR	Arges	6.24	6	⇓P Pn	Pn	12 22 36.7	-0.6		comp=Z,63nm,18.7s,baz=166,slow=38		
RKY	Sarkoy-Tekirda	3.08	59	PN	Pn	12 21 53.3	-0.6	LOT	Lotru	6.28	0	⇑P Pn	Pn	12 22 37.4	-0.6	FINES	FINESS Array B	22.36	3 P P 12 26 01.0 -2.0
SART	Tekirdag	3.08	59	*i* P	Pn	12 21 52.8	-1.1	ISR	Istrita	6.32	19	⇑P Pn	Pn	12 22 38.8	+0.4		comp=Z,2.0nm,0.9s,baz=158,slow=16,SNR=4.3		
SART				*i* S	Sg	12 22 41.6	-2.6	VOIR		6.35	9	⇑P Pn	Pn	12 22 38.3	-0.5	FINES			LR LR 12 35 56.2
BALY	Balya	3.09	78	*i* P	Pn	12 21 53.4	-0.6	TIRR	Tirgusor	6.36	32	P Pn	Pn	12 22 38.3	-0.5		comp=Z,72nm,18.2s,baz=66,slow=40		
BALY				*i* S	Sg	12 22 43.9	-0.6	TIRR	Tirgusor	6.36	32	Pn Pn	Pn	12 22 38.3	-0.5	FIA1	FINESS Array S	22.36	3 P P 12 26 02.6 -0.4
SANT	Santorini	3.11	153	⇑P	Pn	12 21 53.3	-1.1	MAKA	Makarska	6.51	311	*e*Pn	Pn	12 22 40.1	-0.8	NC602	NORSAR Array S	22.90	345 P P 12 26 07.9 -0.8
SANT				⇓S	Sn	12 22 32.0	+0.5	MAKA				Sn	Sn	12 23 52.0	-3.1	NC602			IAmb IAmb 12 26 12.3
SANT	Santorini	3.11	153	*i* P	Pn	12 21 53.5	-0.8	MLR	Muntele Rosu	6.54	14	Pn	Pn	12 22 42.1	+0.5		comp=Z,12nm,0.9s		
SANT	Santorini	3.11	153		Pn	12 21 54.0	-0.4		comp=N,8.0nm,0.3s,baz=132,slow=2.7,SNR=21							NB2	NORSAR Subarra	23.24	345 P P 12 26 11.6 -0.7
STEP	BALIKESIR_Sava	3.13	85	*i* P	Pn	12 21 54.4	-0.1	MLR				Sn	Sn				comp=Z,7.6nm,1.2s,baz=154,slow=11		
STEP				*i* S	Sg	12 22 44.8	-0.9	MLR	baz=196,slow=7.4,SNR=2.0			Lg	Lg	12 24 34.3		NOA	NORSAR Array B	23.24	345 P P 12 26 11.5 -0.8
GCAM	G?zelcaml?	3.13	117	PN	Pn	12 21 54.5	0.0	MLR				Lg	Lg	12 24 34.3			comp=Z,0.8nm,0.7s,baz=153,slow=11,SNR=4.7		
KNL	Balıkesir	3.15	68	*i* P	Pn	12 21 54.4	-0.4		comp=N,1.0nm,0.3s,baz=144,slow=19,SNR=1.4							NOA			LR LR 12 35 52.0
KNL				*i* S	Sg	12 22 44.4	-2.0	MLR				LR	LR	12 25 49.1			comp=Z,36nm,18.6s,baz=165,slow=38		
GONE	Gonen-Balikesi	3.20	73	PN	Pn	12 21 55.5	0.0		comp=N,344nm,18.5s,baz=108,slow=44							MDT	Midelt	23.71	263 LR LR 12 35 15.1
ANAF	Anafi Island	3.25	149	P	Pn	12 21 55.8	-0.3	MLR	Muntele Rosu	6.54	14	⇑P Pn	Pn	12 22 42.0	+0.5		comp=Z,38nm,20.0s,baz=2.0,slow=36		
BALB	Balikesir	3.27	80	PN	Pn	12 21 56.5	0.0	MLR	Muntele Rosu	6.54	14	Pn Pn	Pn	12 22 42.0	+0.5	KLMR	Klimovskoe	23.85	19 *e*P P 12 26 20.9 +2.7
SKO	Skopje	3.29	329	*e*Pn	Pn	12 21 56.9	+0.1	SGRT	San Giovanni R	6.60	296		Pn	12 22 41.5	-0.8	KLMR			pmax pmax
SKO	Skopje	3.29	329	*i* Pn	Pn	12 21 56.9	+0.1	BZS	Buzias	6.63	347	⇑P Pn	Pn	12 22 41.2	-1.4		comp=Z,9.0nm,1.1s		
ANKY	Antikythira Is	3.30	186	P	Pn	12 21 56.1	-0.8	FRGS	Fruska Gora	6.65	336	*e*Pn	Pn	12 22 42.4	-0.5	KLMR	Klimovskoe	23.85	19 *e*P P 12 26 20.9 +2.7
MRMT	Marmara Adasi	3.33	63	PN	Pn	12 21 56.8	-0.5	FRGS	Fruska Gora	6.65	336	*e*Pn	Pn	12 22 41.6	-1.3	KLMR			AMP 12 26 32.0
PGB	Panagyurishte	3.41	6	*i* P	Pn	12 21 57.8	-0.6	BISRR	Bisoca	6.76	18	⇓P Pn	Pn	12 22 43.4	-1.1		comp=Z,9.0nm,1.1s		
EDC	Edincik	3.42	68	PN	Pn	12 21 58.6	+0.1	HVAR	Hvar	6.78	309	*e*Pn	Pn	12 22 42.9	-1.8	EKA	Eskdalemuir Ar	24.15	321 P P 12 26 19.1 -2.1
BOSS	Bosilegrad	3.46	345	*e*Pn	Pn	12 21

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KK31 Karatay Array      35.12  68   P          P          12 27 58.9 +0.2
AAK  Ala-Archa          38.08  68ce P          P          12 28 25.2 +1.1
AAK                                pmax       pmax
     comp=Z,4.0nm,1.7s
KURK Kurchatov          39.69  55ce P          P          12 28 37.1 -0.1
KURK                               pmax       pmax
     comp=Z,4.0nm,1.7s
KURK Kurchatov          39.69  55   P          P          12 28 37.5 +0.3
NIL  Nilore             39.86  82   P          P          12 28 39.2 +0.3
NIL                                pmax       pmax
     comp=Z,4.0nm,0.6s
NIL  Nilore             39.86  82   P          P          12 28 39.2 +0.3
NIL                                IAmb       IAmb       12 28 48.7
     comp=Z,4.4nm,0.6s
DBIC Dimbokro           41.33 226   P          P          12 28 52.1 +1.0
     comp=Z,4.2nm,0.7s,baz=6.9,slow=7.7,SNR=4.7
DBIC Dimbokro           41.33 226   P          P          12 28 51.9 +0.8
DBIC                               pmax       pmax
     comp=Z,28nm,1.5s
DBIC Dimbokro           41.33 226   P          P          12 28 51.9 +0.8
MK31 Makanchi Array     42.66  60   P          P          12 29 01.8 +0.1
MK31                               pmax       pmax
     comp=Z,4.0nm,0.7s
MK31 Makanchi Array     42.66  60   P          P          12 29 01.8 +0.1
MK31                               IAmb       IAmb       12 29 02.7
     comp=Z,3.6nm,0.7s
MKAR Makanchi Array     42.66  60   P          P          12 29 02.0 +0.2
     comp=Z,3.7nm,0.5s,baz=273,slow=8.1,SNR=16
ZAA0 Zalesovo Array     43.17  49   P          P          12 29 05.7  0.0
ZALV Zalesovo Beam      43.17  49   P          P          12 29 05.3 -0.5
     comp=Z,2.5nm,0.5s,baz=287,slow=7.5,SNR=8.3
ZALV                               LR         LR         12 51 13.6
     comp=Z,40nm,18.2s,baz=263,slow=42
ZALV Zalesovo Beam      43.17  49   i P        P          12 29 05.8  0.0
ZALV                               pmax       pmax
     comp=Z,3.0nm,0.5s
NRIK Noril'sk           44.80  27   LR         LR         12 48 07.3
     comp=Z,53nm,19.9s,baz=210,slow=36
DGZ  Jazzator, Alta     45.43  55   i P        P          12 29 23.8 -0.3
DGZ                                pmax       pmax
     comp=Z,2.0nm,0.6s
WMQ  Urumqi             47.10  63   eP         P          12 29 38.8 +1.6
TLY  Talaya             54.78  49   i P        P          12 30 35.3 +0.4
TLY                                pmax       pmax
     comp=Z,6.0nm,1.0s
TLY  Talaya             54.78  49   P          P          12 30 35.2 +0.4
TLY                                IAmb       IAmb       12 30 38.5
     comp=Z,5.1nm,0.9s
LSA  Lhasa              55.29  78   P          P          12 30 39.2 -0.1
LSA                                pmax       pmax
     comp=Z,4.0nm,0.6s
LSA  Lhasa              55.29  78   P          P          12 30 39.2 -0.1
TIXI Tiksi              57.85  21   i P        P          12 30 57.3 +1.0
TIXI                               pmax       pmax
     comp=Z,4.0nm,1.8s
SONM Songino Array      57.90  52   P          P          12 30 57.2 -0.1
     comp=Z,0.8nm,0.5s,baz=281,slow=8.9,SNR=3.8
ULN  Ulaanbaatar        58.29  52   P          P          12 31 00.6 +0.5
ULN                                pmax       pmax
     comp=Z,2.0nm,0.5s
ULN  Ulaanbaatar        58.29  52   P          P          12 31 00.6 +0.5
ULN                                IAmb       IAmb       12 31 04.2
     comp=Z,2.2nm,0.5s
LZH  Lanzhou            61.53  65   eP         P          12 31 22.3 -0.2
LZH                                pP         pP         12 31 25.8 -0.1
LZH                                sP         sP         12 31 27.5 +0.4
LZH                                ePP        PP         12 33 39.2 +1.5
LZH                                pmax       pmax
     comp=Z,18nm,1.3s
LZH                                pmax       pmax
     comp=Z,55nm,7.8s
HHC  Hu-ho-hao-te       64.42  57   P          P          12 31 42.7 +1.1
HHC                                pmax       pmax
     comp=Z,4.0nm,0.8s
HHC                                pmax       pmax
     comp=Z,48nm,6.0s
XAN  Xi'an              66.16  65   P          P          12 31 52.4 -0.5
XAN                                pmax       pmax
     comp=Z,9.0nm,1.3s
XAN  Xi'an              66.16  65   P          P          12 31 52.4 -0.5
CM31 Chiang Mai Arr     67.30  84   P          P          12 31 59.6 -0.7
CMAR Chiang Mai Arr     67.30  84   P          P          12 31 59.2 -1.1
     comp=Z,2.9nm,0.8s,baz=302,slow=7.7,SNR=15
CMAR Chiang Mai Arr     67.30  84   i P        P          12 31 59.5 -0.8
CMAR                               pmax       pmax
     comp=Z,3.0nm,0.8s
BILL Bilibino           69.48  14   i P        P          12 32 12.8 -0.4
BILL                               pmax       pmax
     comp=Z,6.0nm,2.3s
YKA  Yellowknife Ar     73.29 341   P          P          12 32 36.0 -0.3
     comp=Z,1.0nm,0.7s,baz=32,slow=5.3,SNR=12
YKA  Yellowknife Ar     73.29 341   P          P          12 32 36.0 -0.3
ILAR Eielson Array      76.14 356   P          P          12 32 52.5 -0.3
     comp=Z,0.3nm,0.6s,baz=350,slow=2.7,SNR=2.6
DAWY Dawson             76.24 352   P          P          12 32 53.7 +0.3
DAWY                               IAmb       IAmb       12 32 57.6
     comp=Z,1.5nm,0.7s
KSRS Korea Array        76.77  52   P          P          12 32 55.8 -1.0
     comp=Z,0.9nm,0.6s,baz=297,slow=4.9,SNR=5.1
YSS  Yuzh-Sakhalins     78.49  38   eP         P          12 33 10.6 +4.4
YSS                                e                     12 48 06.0
EGMT Eagleton           83.85 331   P          P          12 33 35.5 +0.6
ASAR Alice Springs     119.82  97   PKP        PKPdf      12 39 53.7 -2.1
     comp=Z,0.2nm,0.6s,baz=336,slow=2.0,SNR=2.2
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IDC ***06*** *12:37:53.7±0.6,28.°92S×71.°16W,h0km,mb4.2/11, mb1 4.3/14,mb1mx4.2/28,mbtmp4.1/14,ML3.6/3,MS3.7/10, Ms1 3.7/10,ms1mx3.5/27,Error ellipse: s-maj=23.9km s-min=18.5km az=86.0*

SJA ***06*** *12:37:56.7±0.8,28.°94S×71.°57W,h46km±15km,ML4.6, MW4.7*

GUC ***06*** *12:37:58.0±0.9,28.°96S×71.°40W,h57km±12km,ML4.7*

NEIC ***06*** *12:37:59.2±1.9,28.°93S±0.°02×71.°44W±0.°07,h44km±4km, mb4.8/39,Mwr4.6/48,ML4.7(GUC),Error ellipse: s-maj=9.1km s-min=3.2km az=86.0*

NEIC ***06*** *12:37:59.3,28.°93S×71.°44W,h47km,Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr0.97; Mθθ-0.10; Mϕϕ-0.87; Mrθ0.03; Mrϕ-0.02; Mθϕ0.49; Fault plane solution: M0 1.04000×10^16^ NP1:ϕs181.02000°, δ31.00000°,λ88.71000°. NP2:ϕs2.53000°,δ59.01000°, λ90.78000°. Principal axes: T 1.0911, Plg76.0000°, Azm275.0000°; N -0.1000, Plg1.0000°, Azm182.0000°; P -0.9910, Plg14.0000°, Azm92.0000°;*

ISC 06 12:37:57.9±1.0,28°89S±0.°03×71°60W±0.°06,h35km±9km, n159,σ1°48/165,mb4.7/28,MS3.6/6,1C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.82**	**34**	*eP*	**Pn**	**12 38 14.3**	**+1.2**
AC04				*eS*	**Sn**	**12 38 25.6**	**+1.6**
AC04				IAML		12 38 28.2	
	comp=N,68μm,0.2s						
AC04	**Llanos de Chal**	**0.82**	**34**	Pn	**Pn**	**12 38 14.3**	**+1.2**
AC04				Sn	**Sn**	**12 38 25.6**	**+1.6**
AC05	**El Transito**	**1.17**	**88**	*iP*	**Pn**	**12 38 16.9**	**-0.9**
AC05	**El Transito**	**1.17**	**88**	Pn	**Pn**	**12 38 17.0**	**-0.9**
AC05				Sn	**Sn**	**12 38 30.2**	**-2.4**
GO04	**Tololo Observa**	**1.46**	**152**	*eP*	**Pn**	**12 38 21.9**	**-0.1**
GO04				*i S*	**Sn**	**12 38 38.9**	**-1.1**
GO04				IAML		12 38 42.2	
	comp=N,43μm,0.6s						
GO04	**Tololo Observa**	**1.46**	**152**		**Pn**	**12 38 21.9**	**-0.1**
GO04				Sn	**Sn**	**12 38 39.1**	**-0.8**
GO04	**Tololo Observa**	**1.46**	**152**	*eP*	**Pn**	**12 38 22.0**	**0.0**
GO04				*i S*	**Sn**	**12 38 39.2**	**-0.8**
CO01	**Juntas del Tor**	**1.70**	**130**	*iP*	**Pn**	**12 38 25.6**	**+0.2**
CO01				*eS*	**Sn**	**12 38 44.9**	**-1.2**
CO01				IAML		12 38 46.5	
	comp=N,10μm,0.1s						
CO01	**Juntas del Tor**	**1.70**	**130**		**Pn**	**12 38 25.6**	**+0.2**
CO01				Sn	**Sn**	**12 38 44.6**	**-1.5**
GO03	**Copiap**	**1.77**	**43**	*eP*	**Pn**	**12 38 26.6**	**+0.6**
GO03				*eS*	**Sn**	**12 38 47.5**	**+0.2**
GO03				IAML		12 38 55.8	
	comp=E,6μm,0.3s						
GO03	**Copiap**	**1.77**	**43**		**Pn**	**12 38 26.6**	**+0.6**
GO03				Sn	**Sn**	**12 38 47.7**	**+0.3**
GO03	**Copiap**	**1.77**	**43**	*eP*	**Pn**	**12 38 26.8**	**+0.7**
CO03	**El Pedregal**	**2.10**	**158**	*eP*	**Pn**	**12 38 31.0**	**+0.4**
CO03				*eS*	**Sn**	**12 38 54.9**	**-0.7**
CO03	**El Pedregal**	**2.10**	**158**		**Pn**	**12 38 30.9**	**+0.3**
CO03				Sn	**Sn**	**12 38 55.1**	**-0.5**
AROD	**Rodeo**	**2.25**	**125**	*iP*	**Pn**	**12 38 34.9**	**+1.9**
CO02	**Combarbal**	**2.37**	**167**	*eP*	**Pn**	**12 38 34.7**	**+0.4**
CO02				*i S*	**Sn**	**12 39 01.5**	**-0.7**
CO02				IAML		12 39 13.6	
	comp=N,12μm,0.6s						
CO02	**Combarbal**	**2.37**	**167**	Pn	**Pn**	**12 38 34.8**	**+0.4**
CO02				Sn	**Sn**	**12 39 02.1**	**-0.1**
ACDV	**Cuesta del Vie**	**2.51**	**121**	*iP*	**Pn**	**12 38 38.6**	**+2.2**
ACDV				*i S*	**Sn**	**12 39 07.9**	**+2.0**
ACDV				IAML		12 39 09.0	
	comp=Z,2μm,0.5s						
ACCO	**Cerro Coronel**	**2.78**	**128**	*iP*	**Pn**	**12 38 42.4**	**+2.2**
ACCO				*i S*	**Sn**	**12 39 17.6**	**+4.8**
ACCO				IAML		12 39 24.6	
	comp=Z,1μm,0.8s						
AGUA	**GUANDACOL**	**2.78**	**103**	*eP*	**Pn**	**12 38 43.1**	**+3.0**
AGUA				*eS*	**Sn**	**12 39 15.8**	**+3.2**
AGUA				IAML		12 39 24.7	
	comp=Z,3μm,0.8s						
AC01	**Pan de Azucar**	**2.87**	**18**	*iP*	**Pn**	**12 38 41.5**	**+0.2**
AC01				IAML		12 39 31.0	
	comp=E,2μm,0.3s						
AC01	**Pan de Azucar**	**2.87**	**18**	Pn	**Pn**	**12 38 41.4**	**+0.2**
VCA	**Vinchina**	**2.98**	**88**	*eP*	**Pn**	**12 38 46.4**	**+3.5**
VCA				IAML		12 39 39.0	
	comp=Z,2μm,2.3s						
AC02	**Maricunga**	**3.00**	**48**	*eP*	**Pn**	**12 38 45.0**	**+1.6**
AC02	**Maricunga**	**3.00**	**48**	Pn	**Pn**	**12 38 44.9**	**+1.6**
AMOG	**MOGNA**	**3.38**	**128**	*eP*	**Pn**	**12 38 50.8**	**+2.5**
AMOG				IAML		12 39 47.9	
	comp=Z,2μm,1.0s						
ZON	**Zonda**	**3.66**	**137**		**Pn**	**12 38 53.8**	**+1.6**
VA03	**San Esteban**	**3.97**	**167**	*eP*	**Pn**	**12 38 57.7**	**+1.3**
VA03	**San Esteban**	**3.97**	**167**		**Pn**	**12 38 57.2**	**+0.8**
RTCV	**Cerro Valdivia**	**3.97**	**139**	*iP*	**Pn**	**12 38 58.6**	**+2.2**
RTCV				IAML		12 40 03.7	
	comp=Z,502nm,0.7s						
CFA	**Coronel Fontan**	**3.97**	**134**	Pn	**Pn**	**12 38 56.6**	**+0.2**
	comp=Z,48nm,0.3s,baz=316,slow=9.7,SNR=235						
CFA				Sn	**Sn**	**12 39 42.3**	**+0.5**
	comp=Z,92nm,0.3s,baz=252,slow=20,SNR=10						
CFA				LR	LR	12 40 35.2	
	comp=Z,1μm,19.0s,baz=310,slow=44						
ACLC	**CERRO LA CRUZ**	**4.10**	**99**	*iP*	**Pn**	**12 38 59.7**	**+1.4**
ROCH	**El Roble**	**4.10**	**173**	*eP*	**Pn**	**12 38 58.3**	**0.0**
ROC1	**El Roble**	**4.11**	**173**		**Pn**	**12 38 58.8**	**+0.5**
ROC1	**El Roble**	**4.11**	**173**	*iP*	**Pn**	**12 38 58.9**	**+0.5**
GO02	**Mina Guanaco**	**4.12**	**26**	*eP*	**Pn**	**12 38 59.1**	**+0.5**
GO02	**Mina Guanaco**	**4.12**	**26**	Pn	**Pn**	**12 38 59.3**	**+0.6**
PEL	**Peldehue**	**4.31**	**170**	*eP*	**Pn**	**12 39 01.7**	**+0.5**
PEL	**Peldehue**	**4.31**	**170**		**Pn**	**12 39 01.6**	**+0.5**
PEL	**Peldehue**	**4.31**	**170**	*eP*	**Pn**	**12 39 01.9**	**+0.8**
MT02	**Curacav**	**4.37**	**175**	*eP*	**Pn**	**12 39 01.6**	**-0.2**
MT02	**Curacav**	**4.37**	**175**		**Pn**	**12 39 01.9**	**0.0**
MT05	**Renca**	**4.55**	**171**	Pn	**Pn**	**12 39 04.9**	**+0.6**
CLCH	**Cerro Calan**	**4.58**	**169**	*eP*	**Pn**	**12 39 05.4**	**+0.6**
APLL	**PUNTA DE LOS L**	**4.66**	**110**	*iP*	**Pn**	**12 39 06.7**	**+0.8**
APLL				*i S*	**Sn**	**12 39 59.3**	**+0.4**
MT03	**Universidad Ad**	**4.68**	**169**	*eP*	**Pn**	**12 39 07.6**	**+1.3**
MT01	**Popeta**	**4.97**	**177**		**Pn**	**12 39 10.2**	**+0.2**
ACAN	**Cantantal**	**5.08**	**133**	*iP*	**Pn**	**12 39 12.8**	**+1.1**
ACAN				IAML		12 40 38.4	
	comp=Z,174nm,0.9s						
LMEL	**Las Melosas**	**5.09**	**167**	*eP*	**Pn**	**12 39 13.8**	**+2.0**
CYA	**Choya**	**5.12**	**86**	*iP*	**Pn**	**12 39 12.8**	**+0.7**
CYA				*eS*	**Sn**	**12 40 08.1**	**-1.9**
CYA				IAML		12 40 47.8	
	comp=Z,277nm,1.9s						
PB10	**IPOC Station P**	**5.43**	**10**	Pn	**Pn**	**12 39 16.4**	**-0.1**
PB10	**IPOC Station P**	**5.43**	**10**	*iP*	**Pn**	**12 39 16.0**	**-0.5**
PB10				IAML		12 40 57.0	
	comp=Z,185nm,0.6s						
BO02	**Sierra Bellavi**	**5.93**	**173**	Pn	**Pn**	**12 39 23.8**	**+0.5**
PB15	**IPOC Station P**	**5.97**	**19**		**Pn**	**12 39 24.5**	**+0.4**
PB15	**IPOC Station P**	**5.97**	**19**	*iP*	**Pn**	**12 39 24.1**	**+0.1**
GO05	**Huala**	**6.11**	**183**		**Pn**	**12 39 24.6**	**-1.2**
PB05	**IPOC Station P**	**6.14**	**12**	*iP*	**Pn**	**12 39 24.6**	**-1.7**
PB05				IAML		12 41 26.9	
	comp=Z,184nm,0.6s						
MRA	**San Martin**	**6.17**	**126**	*eP*	**Pn**	**12 39 26.6**	**0.0**
MRA				IAML		12 41 19.1	
	comp=Z,241nm,0.7s						
LAMA	**Las Malvinas**	**6.36**	**162**	*eP*	**Pn**	**12 39 31.5**	**+2.3**
PB06	**IPOC Station P**	**6.42**	**17**	Pn	**Pn**	**12 39 29.1**	**-1.0**
PB06	**IPOC Station P**	**6.42**	**17**	*iP*	**Pn**	**12 39 29.2**	**-1.0**
PB06				IAML		12 41 26.4	
	comp=Z,267nm,0.8s						
COIS	**El Sosneado**	**6.43**	**165**	*iP*	**Pn**	**12 39 33.7**	**+3.6**
TCA	**Tanti**	**6.54**	**114**	*iP*	**Pn**	**12 39 30.9**	**-0.9**
TCA				IAML		12 41 32.7	
	comp=Z,254nm,0.9s						
PB04	**IPOC Station P**	**6.66**	**12**	*iP*	**Pn**	**12 39 31.5**	**-1.9**
LVC	**Limon Verde**	**6.71**	**22**	Pn	**Pn**	**12 39 33.6**	**-0.6**
	comp=Z,2.1nm,0.3s,baz=171,slow=7.1,SNR=21						
LVC				Lg	Lg	12 41 12.0	
	comp=Z,13nm,0.3s,baz=342,slow=14,SNR=2.6						
LVC				LR	LR	12 42 11.0	
	comp=Z,887nm,19.3s,baz=204,slow=39						
PUMA	**Malargue**	**6.83**	**165**	*iP*	Pn	12 39 40.5	+4.8
PB07	**IPOC Station P**	**7.30**	**13**	Pn	**Pn**	**12 39 40.2**	**-2.1**
PB09	**IPOC Station P**	**7.38**	**17**	Pn	**Pn**	**12 39 43.1**	**-0.2**
PB09	**IPOC Station P**	**7.38**	**17**	*iP*	**Pn**	**12 39 43.0**	**-0.3**
H03N1	**Juan Fernandez**	**7.73**	**232**	T	T	12 47 58.6	
	baz=59,slow=72,SNR=2703						
H03N2	**Juan Fernandez**	**7.75**	**232**	T	T	12 47 58.9	
	baz=59,slow=72,SNR=2037						
H03N3	**Juan Fernandez**	**7.75**	**232**	T	T	12 47 57.6	
	baz=59,slow=72,SNR=1998						
PB01	**IPOC Station P**	**8.04**	**14**	Pn	**Pn**	**12 39 50.0**	**-2.4**
PATCX	**Punta Patache**	**8.14**	**10**	Pn	**Pn**	**12 39 54.0**	**+0.4**
MNMC	**Minye Minye**	**9.88**	**11**	Pn	**Pn**	**12 40 15.9**	**-1.9**
PB12	**IPOC Station P**	**10.29**	**7**	Pn	**Pn**	**12 40 20.7**	**-2.5**
PLCA	**Paso Flores**	**11.85**	**176**	Pn	**Pn**	**12 40 48.6**	**+4.2**
	comp=Z,0.1nm,0.3s,baz=180,slow=20,SNR=1.4						
PLCA				LR	LR	12 45 45.7	
	comp=Z,420nm,19.6s,baz=340,slow=40						
PLCA	**Paso Flores**	**11.85**	**176**		**Pn**	**12 40 45.8**	**+1.4**
CPUP	**Villa Florida**	**12.91**	**82**	Pn	**Pn**	**12 40 56.9**	**-2.0**
LPAZ	**La Paz**	**12.94**	**15**	Pn	**Pn**	**12 40 59.2**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=224,slow=6.8,SNR=1.4						
LPAZ				LR	LR	12 46 11.7	
	comp=Z,353nm,21.2s,baz=215,slow=39						
LPAZ	**La Paz**	**12.94**	**15**	Pn	**Pn**	**12 40 59.4**	**-0.6**
SIV	**San Ignacio**	**16.09**	**39**	Pn	**Pn**	**12 41 37.8**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=245,slow=19,SNR=2.6						
COYC	**Coyhaique**	**16.66**	**181**	P	**Pn**	**12 41 47.5**	**-1.1**
SAML	**Samuel**	**21.36**	**23**	P	**P**	**12 42 41.1**	**-1.2**
BDFB	**Brasilia**	**25.44**	**64**	P	**P**	**12 43 19.6**	**-3.1**
	comp=Z,1.4nm,0.3s,baz=170,slow=12,SNR=1.8						
BDFB				LR	LR	12 53 56.7	
	comp=Z,169nm,21.6s,baz=230,slow=38						
BDFB	**Brasilia**	**25.44**	**64**	P	**P**	**12 43 19.1**	**-3.6**
ROSC	**El Rosal**	**33.64**	**355**	LR	LR	13 00 03.1	
	comp=Z,102nm,18.2s,baz=86,slow=39						
RUSC	**La Rusia**	**34.61**	**357**	P	**P**	**12 44 43.6**	**-0.7**
VNA3	**Neumayer Olymp**	**53.97**	**159**	P	**P**	**12 47 18.0**	**+0.1**
VNA1	**Neumayer--Stat**	**54.25**	**158**	P	**P**	**12 47 19.4**	**-0.4**
VNA2	**Neumayer--Watz**	**54.59**	**159**	P	**P**	**12 47 22.5**	**+0.1**
	baz=291,slow=7.8						
SNAA	**Sanae**	**56.19**	**159**	P	**P**	**12 47 33.8**	**-0.2**
SNAA	**Sanae**	**56.19**	**159**	P	**P**	**12 47 32.8**	**-1.2**
H06E1	**SOCORRO T-PHAS**	**60.73**	**317**	T	T	13 53 59.5	
	SNR=4.9						
QSPA	**South Pole Qui**	**61.33**	**180**	LR	LR	13 14 21.0	
	comp=Z,58nm,19.1s,baz=172,slow=36						
QSPA	**South Pole Qui**	**61.33**	**180**	P	**P**	**12 48 10.4**	**+0.5**
QSPA				IAmb	IAmb	12 48 11.7	
	comp=Z,6.5nm,1.1s						
JCT	**Junction City**	**64.87**	**333**	P	**P**	**12 48 32.1**	**-1.5**
JCT				IAmb	IAmb	12 48 37.6	
	comp=Z,20nm,1.5s						
WHTX	**Lake Whitney,**	**65.34**	**336**	P	**P**	**12 48 36.5**	**-0.1**
TX31	**Lajitas Ar. Si**	**65.50**	**329**	P	**P**	**12 48 39.3**	**+1.5**
TX31				IAmb	IAmb	12 48 41.8	
	comp=Z,16nm,1.4s						
TXAR	**Lajitas Array**	**65.50**	**329**	P	**P**	**12 48 40.8**	**+3.0**
	comp=Z,0.9nm,0.8s,baz=146,slow=7.6,SNR=7.1						
ABTX	**Abilene, Hawle**	**66.72**	**334**	P	**P**	**12 48 47.3**	**+1.9**
ABTX				IAmb	IAmb	12 48 49.1	
	comp=Z,14nm,1.1s						
WHAR	**Wooly Hollow**	**66.75**	**342**	P	**P**	**12 48 44.2**	**-1.4**
WHAR				IAmb	IAmb	12 48 48.0	
	comp=Z,13nm,1.3s						
X37A	**Clayton**	**67.01**	**339**	P	**P**	**12 48 48.7**	**+1.4**
LCAR	**Lake Charles**	**67.19**	**343**	P	**P**	**12 48 48.5**	**+0.2**
U40A	**Yellville**	**67.91**	**342**	P	**P**	**12 48 53.9**	**+1.0**
U40A				IAmb	IAmb	12 48 55.7	
	comp=Z,8.8nm,1.1s						
HHAR	**Hobbs**	**68.15**	**341**	P	**P**	**12 48 55.5**	**+1.1**
HHAR				IAmb	IAmb	12 48 57.3	
	comp=Z,9.3nm,1.0s						
MNTX	**Cornudas Mount**	**68.29**	**329**	P	**P**	**12 48 55.2**	**-0.1**
TUL1	**Leonard**	**68.36**	**339**	P	**P**	**12 48 56.3**	**+0.6**
CCM	**Cathedral Cave**	**69.09**	**343**	P	**P**	**12 49 01.8**	**+1.6**
CCM				IAmb	IAmb	12 49 03.1	
	comp=Z,15nm,1.0s						
MSTX	**Muleshoe**	**69.13**	**333**	P	**P**	**12 49 02.4**	**+1.7**
MSTX				IAmb	IAmb	12 49 04.0	
	comp=Z,16nm,1.2s						
VNDA	**Vanda**	**69.17**	**191**	P	**P**	**12 49 02.4**	**+2.1**
	comp=Z,1.4nm,0.9s,baz=144,slow=3.2,SNR=7.4						
VNDA	**Vanda**	**69.17**	**191**	P	**P**	**12 49 01.3**	**+1.0**
S39A	**Bolivar**	**69.29**	**342**	P	**P**	**12 49 02.9**	**+1.5**
S39A				IAmb	IAmb	12 49 04.5	
	comp=Z,14nm,1.1s						
R40A	**Maddies Statio**	**69.57**	**343**	IAmb	IAmb	12 49 06.0	
	comp=Z,17nm,1.0s						
P43A	**Skaggs, Pawnee**	**70.19**	**345**	P	**P**	**12 49 07.5**	**+0.6**
P43A				IAmb	IAmb	12 49 09.9	
	comp=Z,12nm,0.8s						
P40A	**Paris**	**70.68**	**343**	P	**P**	**12 49 10.8**	**+0.9**
L40A	**Anamosa**	**72.89**	**345**	P	**P**	**12 49 24.2**	**+1.1**
DBIC	**Dimbokro**	**73.23**	**72**	P	**P**	**12 49 25.6**	**-0.3**
	comp=Z,4.3nm,0.9s,baz=180,slow=6.1,SNR=1.5						
DBIC				LR	LR	13 19 53.9	
	comp=Z,31nm,19.3s,baz=196,slow=35						
DBIC	**Dimbokro**	**73.23**	**72**	P	**P**	**12 49 23.8**	**-2.0**
X16A	**Lo Mia Camp, P**	**73.37**	**326**	P	**P**	**12 49 28.5**	**+2.1**
PV13	**Radium Mtn., P**	**75.24**	**330**	P	**P**	**12 49 38.9**	**+1.6**
PV13				IAmb	IAmb	12 49 41.6	
	comp=Z,8.3nm,1.2s						
ECSD	**EROS Data Cent**	**75.82**	**342**	P	**P**	**12 49 41.5**	**+1.3**
ECSD				IAmb	IAmb	12 49 43.2	
	comp=Z,11nm,1.1s						
O20A	**White River Ci**	**76.65**	**332**	P	**P**	**12 49 46.3**	**+1.1**
O20A				IAmb	IAmb	12 49 50.2	
	comp=Z,13nm,1.3s						
MAW	**Mawson**	**77.96**	**164**	P	**P**	**12 49 52.4**	**+0.4**
	comp=Z,5.1nm,0.9s,baz=239,slow=7.5,SNR=8.6						
MAW	**Mawson**	**77.96**	**164**	P	**P**	**12 49 51.4**	**-0.6**
PDAR	**Pinedale Array**	**79.40**	**333**	P	**P**	**12 50 03.6**	**+3.1**
	comp=Z,1.1nm,0.9s,baz=225,slow=47,SNR=7.3						
NVAR	**Mina Array Bea**	**79.93**	**325**	P	**P**	**12 50 06.1**	**+2.7**
	comp=Z,0.3nm,0.7s,baz=128,slow=12,SNR=4.6						
ELK	**Elko**	**80.23**	**328**	P	**P**	**12 50 05.2**	**+0.2**
LAO	**LASA Array**	**81.48**	**337**	P	**P**	**12 50 11.8**	**+0.5**
LAO				IAmb	IAmb	12 50 14.7	
	comp=Z,4.1nm,0.7s						
ULM	**Lac du Bonnet**	**81.68**	**345**	P	**P**	**12 50 13.6**	**+1.4**
	comp=Z,2.0nm,0.4s,baz=180,slow=1.3,SNR=3.6						
ULM	**Lac du Bonnet**	**81.68**	**345**	P	**P**	**12 50 11.7**	**-0.5**
ULM				IAmb	IAmb	12 50 14.6	
	comp=Z,7.4nm,1.0s						
BOSA	**Boshof**	**82.13**	**118**	P	**P**	**12 50 15.2**	**-0.3**
	comp=Z,4.2nm,0.8s,baz=334,slow=10,SNR=4.5						
TOA0	**Torodi Ar. Sit**	**82.13**	**70**	P	**P**	**12 50 14.2**	**-1.2**
TOA0				IAmb	IAmb	12 50 16.1	
	comp=Z,7.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.13**	**70**	P	**P**	**12 50 14.8**	**-0.6**
	comp=Z,3.7nm,0.8s,baz=266,slow=4.5,SNR=16						
TORD				LR	LR	13 24 21.3	
	comp=Z,46nm,20.9s,baz=290,slow=34						
WALA	**Waterton Lakes**	**86.30**	**334**	P	**P**	**12 50 37.1**	**+1.1**
WALA				IAmb	IAmb	12 50 39.2	
	comp=Z,7.2nm,1.1s						
FRB	**Frobisher Bay**	**92.35**	**1**	LR	LR	13 34 50.3	
	comp=Z,21nm,18.6s,baz=222,slow=37						
YKA	**Yellowknife Ar**	**97.35**	**341**	P	Pdif	12 51 27.9	+0.9
	comp=Z,0.2nm,0.7s,baz=135,slow=4.8,SNR=6.9						
WRA	**Warramunga Arr**	**125.37**	**210**	PKP	**PKiKP**	**12 56 56.2**	**0.0**
	comp=Z,2.6nm,0.7s,baz=154,slow=2.0,SNR=5.6						
H11S2	**WAKE ISLAND Hyl**	**26.07**	**273**	T	T	15 15 58.6	
	baz=115,slow=75,SNR=40						
H11S1	**WAKE ISLAND Hyl**	**26.08**	**273**	T	T	15 15 58.3	
	baz=115,slow=75,SNR=35						
H11S3	**WAKE ISLAND Hyl**	**26.08**	**273**	T	T	15 15 58.1	
	baz=115,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hyl**	**26.35**	**274**	T	T	15 16 17.3	
	baz=113,slow=75,SNR=19						
H11N1	**WAKE ISLAND Hyl**	**26.36**	**274**	T	T	15 16 19.5	
	baz=113,slow=75,SNR=9.9						
H11N2	**WAKE ISLAND Hyl**	**26.37**	**274**	T	T	15 16 18.0	
	baz=113,slow=75,SNR=35						
LEM	**Lembang**	**144.48**	**179**	PKP	**PKPdf**	**12 57 31.5**	**0.0**
	comp=Z,52nm,0.7s,baz=327,slow=22,SNR=3.0						
KAPI	**Kappang**	**144.57**	**200**	PKP	**PKPdf**	**12 57 31.8**	**+0.3**
	comp=Z,9.2nm,0.5s,baz=169,slow=3.9,SNR=4.8						
KAPI	**Kappang**	**144.57**	**200**		**PKPdf**	**12 57 31.2**	**-0.3**
KURK	**Kurchatov**	**148.75**	**37**	PKPdf	**PKPdf**	**12 57 37.5**	**+0.1**
KURBB	**Kurchatov Arra**	**148.75**	**38**	PKPbc	**PKPbc**	**12 57 39.7**	**-1.5**
	comp=Z,1.7nm,0.2s,baz=296,slow=3.1,SNR=11		

DZM	**Mont Dzumac**	**11.42**	**157**	*e*Pn	**Pn**	**12 51 22.1**	**+0.8**
	3.0nm,0.2s						
DZM				*e*Sn	**Sn**	**12 53 26.5**	**-2.6**
	1.4nm,0.2s						
DZM				*e*LR	LR	12 53 58.4	
	comp=Z,1μm,26.6s						
DZM	**Mont Dzumac**	**11.42**	**157**	Pn	**Pn**	**12 51 22.2**	**+0.9**
	0.4nm,0.3s,baz=25,slow=8.9,SNR=78						
DZM				Sn	**Sn**	**12 53 22.2**	**-6.9**
	0.2nm,0.3s,baz=311,slow=19,SNR=1.2						
DZM				LR	LR	12 54 54.4	
	comp=Z,754nm,21.2s,baz=338,slow=33						
DZM	**Mont Dzumac**	**11.42**	**157**	Pn	**Pn**	**12 51 21.5**	**+0.2**
PMG	**Port Moresby**	**14.49**	**277**	LR	LR	12 57 38.5	
	comp=Z,458nm,19.1s,baz=115,slow=37						
EIDS	**Eidsvold**	**17.08**	**215**	Pn	**Pn**	**12 52 37.8**	**+0.8**
CTA	**Charters Tower**	**17.16**	**238**	P	**Pn**	**12 52 38.9**	**+0.8**
	0.4nm,0.3s,baz=67,slow=16,SNR=3.3						
CTAO	**Charters Tower**	**17.16**	**238**		**Pn**	**12 52 38.8**	**+0.8**
COEN	**Coen**	**18.27**	**260**		**P**	**12 52 53.2**	**+1.2**
PATS	**Pohnpei**	**18.54**	**349**		**P**	**12 52 54.5**	**-0.4**
PATS				IAmb	IAmb	12 52 56.2	
	comp=Z,67nm,1.2s						
ARMA	**Armidale**	**21.03**	**205**	P	**P**	**12 53 22.6**	**+0.5**
SMPI	**Sarmi**	**24.73**	**291**	P	**P**	**12 54 00.6**	**+0.9**
	comp=Z,32nm,1.2s						
STKA	**Stephens Creek**	**27.50**	**219**	P	**P**	**12 54 25.3**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=51,slow=10,SNR=5.2						
STKA				LR	LR	13 04 54.1	
	comp=Z,982nm,19.6s,baz=31,slow=36						
STKA	**Stephens Creek**	**27.50**	**219**	P	**P**	**12 54 25.5**	**+0.9**
WB0	**Warramunga Arr**	**27.55**	**249**	P	**P**	**12 54 25.3**	**0.0**
WB0				IAmb	IAmb	12 54 33.9	
	comp=Z,17nm,0.9s						
WB2	**Warramunga Arr**	**27.63**	**249**	P	**P**	**12 54 25.5**	**-0.5**
WRA	**Warramunga Arr**	**27.64**	**249**	P	**P**	**12 54 26.2**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=81,slow=8.9,SNR=12						
WRA				LR	LR	13 05 02.7	
	comp=Z,522nm,19.7s,baz=70,slow=36						
AS31	**Alice Springs**	**29.09**	**242**	P	**P**	**12 54 38.8**	**-0.3**
ASAR	**Alice Springs**	**29.09**	**242**	P	**P**	**12 54 38.5**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=68,slow=10.0,SNR=21						
ASAR				LR	LR	13 05 21.1	
	comp=Z,339nm,20.7s,baz=66,slow=34						
TOO	**Toolangi**	**29.77**	**207**	P	**P**	**12 54 45.8**	**+1.0**
TOO				IAmb	IAmb	12 55 00.3	
	comp=Z,32nm,1.5s						
BKZ	**Black Stump Fm**	**30.51**	**157**	P	**P**	**12 54 52.5**	**+1.2**
BBOO	**Buckleboo**	**31.70**	**224**	P	**P**	**12 55 02.0**	**+0.1**
BBOO				IAmb	IAmb	12 55 10.7	
	comp=Z,12nm,0.7s						
BSWZ	**Blackbirch Sta**	**31.91**	**163**	P	**P**	**12 55 04.5**	**+0.9**
KNRA	**Kununurra**	**32.30**	**259**	P	**P**	**12 55 04.5**	**-2.9**
FITZ	**Fitzroy Crossi**	**35.47**	**255**	P	**P**	**12 55 33.6**	**-1.3**
	comp=Z,2.9nm,0.7s,baz=121,slow=7.6,SNR=5.6						
FITZ	**Fitzroy Crossi**	**35.47**	**255**	P	**P**	**12 55 33.7**	**-1.2**
FORT	**Forrest**	**36.59**	**233**	P	**P**	**12 55 44.2**	**-0.1**
NWAO	**Narrogin (SRO)**	**45.96**	**235**	P	**P**	**12 57 01.7**	**+0.3**
NWAO				IAmb	IAmb	12 57 10.8	
	comp=Z,9.9nm,0.8s						
MORW	**Morawa**	**45.97**	**241**	P	**P**	**12 57 01.5**	**0.0**
PPT2	**Papeete2**	**47.40**	**103**	*e*LR	LR	13 10 47.3	
	comp=Z,193nm,23.2s						
PPT	**Papeete**	**47.41**	**103**	LR	LR	13 12 27.7	
	comp=Z,78nm,22.0s,baz=192,slow=30						
KKM	**Kota Kinabalu**	**48.54**	**289**	P	**P**	**12 57 21.2**	**-0.6**
KKM				IAmb	IAmb	12 57 32.3	
	comp=Z,8.8nm,0.7s						
MJAR	**Matsushiro Arr**	**52.69**	**336**	P	**P**	**12 57 52.5**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=169,slow=9.4,SNR=2.4						
MJAR				LR	LR	13 19 05.4	
	comp=Z,57nm,21.9s,baz=175,slow=35						
TPUB	**Ta-pu**	**53.06**	**311**	P	**P**	**12 57 55.6**	**-0.1**
TPUB				IAmb	IAmb	12 57 56.0	
	comp=Z,16nm,1.0s						
YHNB	**Yeheng**	**53.34**	**313**	P	**P**	**12 57 57.8**	**0.0**
KSRS	**Korea Array**	**58.13**	**329**	P	**P**	**12 58 31.7**	**-0.2**
	comp=Z,1.7nm,0.9s,baz=148,slow=7.6,SNR=9.8						
KSRS				LR	LR	13 21 29.3	
	comp=Z,97nm,20.8s,baz=144,slow=34						
NJ2	**Nanjing**	**59.66**	**318**	*e*P	**P**	**12 58 43.1**	**+0.5**
USA0B	**Ussuriysk Arra**	**61.69**	**336**	P	**P**	**12 58 56.3**	**+0.1**
USA0B				IAmb	IAmb	12 58 58.6	
	comp=Z,7.2nm,0.9s						
USRK	**Ussuriysk Ar.**	**61.69**	**336**	P	**P**	**12 58 56.1**	**-0.1**
	comp=Z,5.4nm,0.9s,baz=132,slow=8.5,SNR=8.2						
USRK				LR	LR	13 24 41.5	
	comp=Z,64nm,19.9s,baz=167,slow=35						
WHN	**Wuhan**	**61.82**	**314**	*e*P	P	12 59 08.2	+11
PETK	**Petropavlovsk-**	**64.45**	**357**	P	**P**	**12 59 14.1**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=146,slow=6.3,SNR=3.8						
PETK				LR	LR	13 23 50.0	
	comp=Z,76nm,20.6s,baz=234,slow=33						
GSI	**Gununguitoli**	**65.01**	**277**	P	**P**	**12 59 18.5**	**-0.3**
GYA	**Guiyang**	**65.47**	**306**	P	**P**	**12 59 22.7**	**+0.9**
GYA				pmax	pmax		
	comp=Z,9.0nm,1.5s						
SLVN	**Son La**	**65.50**	**300**	P	**P**	**12 59 21.6**	**-0.4**
SLVN				IAmb	IAmb	12 59 24.2	
	comp=Z,12nm,1.2s						
VNDA	**Vanda**	**66.00**	**180**	P	**P**	**12 59 24.4**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=330,slow=6.5,SNR=14						
VNDA				LR	LR	13 22 34.7	
	comp=Z,124nm,21.4s,baz=357,slow=31						
VNDA	**Vanda**	**66.00**	**180**	P	**P**	**12 59 25.2**	**+1.0**
PBKT	**Sadao Pong**	**66.25**	**294**	P	**P**	**12 59 27.2**	**+0.4**
PBKT				IAmb	IAmb	12 59 43.5	
	comp=Z,9.3nm,1.2s						
XAN	**Xi'an**	**67.58**	**314**	P	**P**	**12 59 34.9**	**-0.1**
XAN				pP	pwP	12 59 43.0	-0.5
XAN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
XAN	**Xi'an**	**67.58**	**314**	P	**P**	**12 59 34.7**	**-0.3**
XAN				IAmb	IAmb	12 59 44.4	
	comp=Z,7.0nm,0.6s						
CM31	**Chiang Mai Arr**	**68.72**	**295**	P	**P**	**12 59 41.9**	**-0.5**
CMAR	**Chiang Mai Arr**	**68.72**	**295**	P	**P**	**12 59 43.8**	**+1.4**
	comp=Z,5.1nm,1.0s,baz=112,slow=4.2,SNR=18						
CMAR				LR	LR	13 32 05.8	
	comp=Z,54nm,18.0s,baz=215,slow=38						
CHTO	**Chiang Mai**	**68.85**	**295**	P	**P**	**12 59 43.1**	**-0.1**
HHC	**Hu-ho-hao-te**	**69.70**	**322**	P	**P**	**12 59 49.1**	**+0.9**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,29nm,5.5s						
LZH	**Lanzhou**	**72.20**	**314**	*e*P	**P**	**13 00 04.9**	**+1.3**
LZH				pP	pwP	13 00 12.8	+0.7
LZH				sP	PcP	13 00 16.5	-5.3
LZH				*e*PP	**PP**	**13 02 47.2**	**+3.0**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,92nm,7.9s						
LZH				LR	LR		
	comp=Z,230nm,16.2s						
LZH				LR	LR		
	comp=Z,250nm,16.0s						
LZH				LR	LR		
	comp=Z,370nm,18.3s						
ULN	**Ulaanbaatar**	**76.42**	**326**	P	**P**	**13 00 28.0**	**+0.1**
ULN				IAmb	IAmb	13 00 30.8	
	comp=Z,7.6nm,1.1s						
GTA	**Gaotai**	**76.59**	**315**	P	**P**	**13 00 30.1**	**+1.1**
GTA				pP	pwP	13 00 38.3	+0.8
GTA				sP	PcP	13 00 42.6	+2.1
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,80nm,5.2s						
GTA				LR	LR		
	comp=Z,88nm,17.8s						
GTA				LR	LR		
	comp=Z,110nm,19.4s						
GTA				LR	LR		
	comp=Z,71nm,17.8s						
SONM	**Songino Array**	**76.76**	**325**	P	**P**	**13 00 30.2**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=138,slow=6.5,SNR=11						
SONM				LR	LR	13 35 49.3	
	comp=Z,42nm,18.1s,baz=102,slow=37						
SHL	**Shillong**	**77.31**	**300**	P	**P**	**13 00 33.1**	**-0.3**
SHL				IAmb	IAmb	13 00 34.8	
	comp=Z,16nm,1.3s						
YAK	**Yakutsk**	**77.48**	**345**	P	**P**	**13 00 32.9**	**-0.4**
QSPA	**South Pole Qui**	**78.49**	**180**	P	**P**	**13 00 39.4**	**+0.2**
QSPA				IAmb	IAmb	13 00 42.8	
	comp=Z,20nm,1.4s						
BILL	**Bilibino**	**79.41**	**2**	P	**P**	**13 00 44.2**	**+0.3**
BILL				IAmb	IAmb	13 00 45.2	
	comp=Z,12nm,1.2s						
CNPM	**China Poot**	**80.21**	**22**	P	**P**	**13 00 49.0**	**+0.6**
TLY	**Talaya**	**80.37**	**328**	P	**P**	**13 00 49.1**	**-0.3**
TTA	**Tatalina**	**81.05**	**18**	P	**P**	**13 00 53.5**	**+0.6**
TTA				IAmb	IAmb	13 00 55.0	
	comp=Z,16nm,1.4s						
MAW	**Mawson**	**82.81**	**202**	LR	LR	13 35 25.2	
	comp=Z,72nm,18.2s,baz=60,slow=34						
KTH	**Kantishna Hill**	**83.10**	**19**	P	**P**	**13 01 03.4**	**-0.3**
KTH				IAmb	IAmb	13 01 03.6	
	comp=Z,10nm,1.2s						
TRF	**Thorofare Moun**	**83.24**	**20**	P	**P**	**13 01 04.3**	**-0.2**
TRF				IAmb	IAmb	13 01 13.2	
	comp=Z,5.6nm,0.9s						
RND	**Reindeer**	**83.69**	**20**	IAmb	IAmb	13 01 07.1	
	comp=Z,5.6nm,1.0s						
MLY	**Manley**	**84.18**	**18**	IAmb	IAmb	13 01 10.4	
	comp=Z,4.4nm,0.9s						
WRH	**Wood River Hil**	**84.64**	**20**	IAmb	IAmb	13 01 13.5	
	comp=Z,7.0nm,1.0s						
COLA	**College**	**84.98**	**19**	P	**P**	**13 01 13.0**	**-0.2**
COLA				IAmb	IAmb	13 01 22.5	
	comp=Z,6.7nm,0.8s						
IL31		**85.23**	**20**	P	**P**	**13 01 13.9**	**-0.5**
IL31				IAmb	IAmb	13 01 16.1	
	comp=Z,6.8nm,1.2s						
ILAR	**Eielson Array**	**85.23**	**20**	P	**P**	**13 01 13.8**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=268,slow=2.7,SNR=13						
ILAR				LR	LR	13 34 43.2	
	comp=Z,95nm,20.4s,baz=252,slow=32						
RIDG	**Independent Ri**	**85.28**	**21**	IAmb	IAmb	13 01 17.7	
	comp=Z,12nm,1.2s						
DOT	**Dot Lake**	**85.50**	**21**	IAmb	IAmb	13 01 17.1	
	comp=Z,5.9nm,1.0s						
SCRK	**Sand Creek**	**85.73**	**21**	P	**P**	**13 01 17.2**	**+0.2**
WMQ	**Urumqi**	**86.67**	**316**	*e*P	**P**	**13 01 26.0**	**+3.9**
WMQ				pmax	pmax		
	comp=Z,22nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,60nm,5.9s						
WMQ				LR	LR		
	comp=Z,120nm,23.7s						
WMQ				LR	LR		
	comp=Z,220nm,23.7s						
YBH	**Yreka Blue Hor**	**87.04**	**47**	LR	LR	13 31 19.4	
	comp=Z,66nm,19.8s,baz=240,slow=30						
EGAK	**Eagle**	**87.19**	**21**	P	**P**	**13 01 24.5**	**+0.4**
MDPB	**Devils Postpil**	**88.54**	**51**	P	**P**	**13 01 32.0**	**+0.5**
NVAR	**Mina Array Bea**	**89.34**	**51**	P	**P**	**13 01 36.1**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=237,slow=6.5,SNR=8.7						
NVAR				LR	LR	13 32 58.9	
	comp=Z,81nm,21.9s,baz=244,slow=30						
NV11	**Mina Array Sit**	**89.45**	**51**	P	**P**	**13 01 36.2**	**+0.6**
NV11				IAmb	IAmb	13 01 37.9	
	comp=Z,5.1nm,1.2s						
PFO	**Pinyon Flats O**	**89.57**	**56**	LR	LR	13 32 46.9	
	comp=Z,86nm,21.3s,baz=286,slow=30						
KVN	**Kaiserville**	**89.65**	**50**	P	**P**	**13 01 37.2**	**+0.6**
WVOR	**Wild Horse Val**	**90.15**	**47**	P	**P**	**13 01 39.1**	**+0.4**
WVOR				IAmb	IAmb	13 01 41.4	
	comp=Z,7.3nm,1.1s						
J08A	**Circle Bar Ran**	**90.51**	**46**	IAmb	IAmb	13 01 42.8	
	comp=Z,8.7nm,1.2s						
MKAR	**Makanchi Array**	**91.19**	**317**	P	**P**	**13 01 42.4**	**-0.9**
	comp=Z,1.7nm,0.6s,baz=93,slow=6.1,SNR=10						
R11A	**Troy Canyon, C**	**91.39**	**51**	IAmb	IAmb	13 01 47.0	
	comp=Z,4.3nm,1.2s						
INK	**Inuvik**	**91.63**	**20**	LR	LR	13 38 26.1	
	comp=Z,146nm,20.8s,baz=215,slow=33						
BMO	**Blue Mountains**	**91.70**	**45**	IAmb	IAmb	13 01 56.2	
	comp=Z,5.4nm,1.2s						
F10A	**Beach Ranch, E**	**92.03**	**44**	P	**P**	**13 01 47.5**	**+0.1**
F10A				IAmb	IAmb	13 01 58.0	
	comp=Z,3.6nm,0.9s						
ELK	**Elko**	**92.20**	**49**	LR	LR	13 33 09.9	
	comp=Z,58nm,21.8s,baz=240,slow=29						
NEW	**Newport**	**92.67**	**41**	LR	LR	13 39 07.4	
	comp=Z,32nm,18.1s,baz=213,slow=33						
KURBB	**Kurchatov Arra**	**94.53**	**321**	P	**P**	**13 01 57.7**	**-0.9**
	comp=Z,0.5nm,0.2s,baz=112,slow=2.5,SNR=2.0						
NRIK	**Noril'sk**	**95.20**	**340**	LR	LR	13 43 33.6	
	comp=Z,118nm,21.8s,baz=76,slow=35						
PDAR	**Pinedale Array**	**96.76**	**48**	LR	LR	13 39 35.5	
	comp=Z,35nm,20.1s,baz=303,slow=32						
YKA	**Yellowknife Ar**	**97.20**	**28**	P	**P**	**13 02 09.8**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=252,slow=4.8,SNR=13						
YKA				LR	LR	13 41 18.2	
	comp=Z,36nm,19.9s,baz=0.0,slow=32						
ANMO	**Albuquerque**	**97.95**	**56**	LR	LR	13 39 29.0	
	comp=Z,56nm,19.9s,baz=248,slow=31						
TXAR	**Lajitas Array**	**99.50**	**62**	LR	LR	13 38 37.3	
	comp=Z,48nm,21.6s,baz=0.0,slow=30						
ARCES	**ARCESS Array B**	**115.76**	**344**	PKP	**PKiKP**	**13 07 19.6**	**-0.6**
	comp=Z,1.3nm,0.7s,baz=64,slow=2.8,SNR=4.7						
AKASG	**Malin Array Be**	**125.05**	**325**	PKP	**PKPdf**	**13 07 37.9**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=64,slow=2.3,SNR=4.4						
NB2	**NORSAR Subarra**	**126.05**	**343**	PKPdf	**PKiKP**	**13 07 40.9**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=39,slow=1.9						
NOA	**NORSAR Array B**	**126.05**	**343**	PKP	**PKPdf**	**13 07 39.4**	**-0.9**
	comp=Z,1.2nm,0.8s,baz=31,slow=1.9,SNR=3.7						
CLL	**Collm**	**132.86**	**334**	*e*PKPdf	**PKiKP**	**13 07 56.0**	**+1.5**
CLL				LmV		13 49 00.0	
	comp=Z,100nm,21.1s						
CLL				LmV		14 09 00.0	
	comp=Z,100nm,20.0s						
KEST	**Kesra**	**145.28**	**319**	PKPbc	**PKPbc**	**13 08 16.4**	**+0.1**
	comp=Z,3.7nm,0.7s,baz=328,slow=4.3,SNR=4.2						
TORD	**Torodi Ar. Bea**	**160.44**	**277**	PKP	**PKPdf**	**13 08 38.9**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=80,slow=1.5,SNR=4.7						
TORD				PKPab	**PKPab**	**13 09 20.2**	**+0.2**
	comp=Z,2.1nm,1.1s,baz=88,slow=5.5,SNR=5.8						

*IDC **06** 12:54:25.8±1.9, 36°.79N×54°.56E, h0km, mb3.7/2, mb1 3.9/6, mb1mx3.4/49, mbtmpb3.7/6, ML3.5/4, MS3.0/1, Ms1 3.0/1, ms1mx2.1/48, Error ellipse: s-maj=25.5km s-min=15.8km az=20.0*
*TEH **06** 12:54:27.4, 36°.70N×54°.96E, h5km, ML3.8*
*THR **06** 12:54:29.6±0.3, 36°.70N×55°.00E, h17km±6km, ML3.7*
ISC 06 12:54:29.2±0.7,**36°.79N**±0°.04×**54°.89E**±0°.03,**h15**km,**n55,** σ2§**21**/57,**3C-1D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
IMND	**Minoodasht**	**0.62**	**41**	*e*Pg		**Pg**	**12 54 40.3**	**-1.1**
IGLO	**Ghalogah**	**0.90**	**252**	*e*Pg		**Pb**	**12 54 45.3**	**-1.4**
IGLO				*e*			12 55 05.5	
SHRO	**Shahrood**	**1.20**	**131**	*e*Pg		**Pn**	**12 54 49.6**	**-2.0**
SHRO	**Shahrood**	**1.20**	**131**	*e*Pg		**Pn**	**12 54 49.6**	**-2.0**
IANJ	**Anjilo**	**1.54**	**211**	*e*Pn		**Pn**	**12 54 55.4**	**-0.9**
IANJ				*e*			12 55 19.6	
ISHM	**Shahmirzad**	**1.62**	**233**	*e*Pn		**Pn**	**12 54 57.5**	**0.0**
IALA	**Alasht**	**1.82**	**248**	*e*Pn		**Pb**	**12 55 02.2**	**-0.2**
ILAS	**Lasjerd**	**2.10**	**229**	*e*Pn		**Pb**	**12 55 06.6**	**-0.6**
IPRN	**Peran**	**2.13**	**256**	*e*Pn		**Pn**	**12 55 06.3**	**+1.9**
BJRD	**Bojnurd**	**2.20**	**65**	*e*Pn		**Pn**	**12 55 07.0**	**+1.6**
BJRD				*e*Sg		**Sb**	**12 55 37.7**	**+1.7**
BJRD	**Bojnurd**	**2.20**	**65**	*e*Pn		**Pn**	**12 55 07.0**	**+1.6**
SBZV	**Sabzevar**	**2.22**	**100**	*e*Pn		**Pn**	**12 55 06.4**	**+0.7**
ISFR	**Sfrayin**	**2.50**	**83**	*e*Pn		**Pn**	**12 55 10.9**	**+1.3**
IDMV	**Damavand**	**2.61**	**243**	*e*Pn		**Pn**	**12 55 13.4**	**+2.2**
GEYT	**Alibeck**	**2.81**	**65**	Pn		**Pn**	**12 55 15.8**	**+2.1**
	5.6nm,0.3s,baz=253,slow=14,SNR=47							
GEYT				Sn		**Sn**	**12 55 49.3**	**+2.0**
	11nm,0.3s,baz=261,slow=18,SNR=6.3							
GEYT				Lg		Lg	12 56 02.9	
	15nm,0.3s,baz=245,slow=30,SNR=7.8							
IKRD	**Kardeh**	**2.91**	**89**	*e*Pn		**Pg**	**12 55 27.4**	**+2.5**
TEH	**Tehran**	**3.03**	**251**	*e*Pn		**Pn**	**12 55 20.3**	**+3.6**
IEMG	**Emamgholi**	**3.07**	**77**	*e*Pn		**Pn**	**12 55 18.8**	**+1.4**
IEMG				*e*			12 56 20.2	
IAKL	**Akhelmad**	**3.11**	**92**	*e*Pn		**Pn**	**12 55 19.1**	**+1.1**
IVRN	**Varamin**	**3.13**	**236**	*e*Pn		**Pn**	**12 55 19.6**	**+1.5**
IHSB	**Hasanabad**	**3.23**	**246**	*e*Pn		**Pn**	**12 55 22.1**	**+2.7**
IPAY	**Payeh**	**3.32**	**95**	*e*Pn		**Pn**	**12 55 22.1**	**+1.3**
QALM	**Alamut, Qazvin**	**3.44**	**265**	*e*Pn		**Pn**	**12 55 25.2**	**+2.8**
IMHD	**Mahdasht**	**3.59**	**253**	*e*Pn		**Pn**	**12 55 27.2**	**+2.8**
TABS	**Tabas**	**3.62**	**149**	IAML			12 56 27.8	
	comp=N,132nm,0.6s							
IMOG	**Moghan**	**3.65**	**99**	*e*Pn		**Pn**	**12 55 26.5**	**+1.1**
TKDS	**Koohdasht(Taba**	**3.66**	**149**	*e*Pn		**Pn**	**12 55 26.0**	**+0.6**
IQOM	**Qom**	**3.66**	**239**	*e*Pn		**Pn**	**12 55 27.0**	**+1.4**
ANAR	**Anarak**	**3.72**	**195**	*e*Pn		**Pn**	**12 55 26.6**	**+0.4**
ANAR				*e*			12 56 42.2	
GHVR	**GHOM**	**3.73**	**233**	*e*Pn		**Pn**	**12 55 29.2**	**+2.9**
GHVR				IAML			12 56 34.8	
	comp=E,108nm,0.5s							
GHVR	**GHOM**	**3.73**	**233**	*e*Pn		**Pn**	**12 55 29.2**	**+2.9**
TPRV	**Parvadeh(Tabas**	**4.03**	**158**	*e*Pn		**Pn**	**12 55 31.1**	**+0.6**
IRAZ	**Razeghan**	**4.25**	**253**	*e*Pn		**Pn**	**12 55 36.5**	**+2.9**
IKLH	**Kolahrood**	**4.40**	**219**	*e*Pn		**Pn**	**12 55 37.4**	**+1.7**
IZEF	**Zefreh**	**4.42**	**209**	*e*Pn		**Pn**	**12 55 37.3**	**+1.3**
QABG	**Abgarm-Qazvin**	**4.43**	**257**	*e*Pn		**Pn**	**12 55 37.9**	**+1.9**
JRKH	**Jarkhoshk**	**4.49**	**100**	*e*Pn		**Pn**	**12 55 37.8**	**+1.0**
QSDN	**Sirdan**	**4.61**	**268**	*e*Pn		**Pn**	**12 55 41.2**	**+2.6**
AFRZ	**Afriz**	**4.76**	**134**	*e*Pn		**Pn**	**12 55 41.3**	**+0.7**
ISAD	**Sadrabad**	**4.96**	**192**	*e*Pn		**Pn**	**12 55 44.1**	**+0.6**
ITEG	**Tejag**	**5.01**	**140**	*e*Pn		**Pn**	**12 55 44.7**	**+0.6**
IBAF	**Bafgh**	**5.22**	**174**	*e*Pn		**Pn**	**12 55 47.7**	**+0.9**
IPIR	**Pirpir**	**5.26**	**220**	*e*Pn		**Pn**	**12 55 49.3**	**+1.8**
IMON	**Monand**	**5.31**	**131**	*e*Pn		**Pn**	**12 55 49.0**	**+0.8**
IRAM	**Ramesheh**	**5.38**	**203**	*e*Pn		**Pn**	**12 55 51.3**	**+2.1**
IMEH	**Mehriz**	**5.39**	**183**	*e*Pn		**Pn**	**12 55 49.9**	**+0.6**
IDAH	**Dahanechah**	**5.75**	**133**	*e*Pn		**Pn**	**12 55 55.0**	**+0.7**
KBZ	**Khabaz**	**11.48**	**311**	Pn		**Pn**	**12 57 09.5**	**-3.1**
	comp=E,0.2nm,0.3s,baz=78,slow=9.3,SNR=2.3							
KBZ				Sn		**Sn**	**12 59 15.5**	**-5.0**
	comp=E,0.2nm,0.3s,baz=32,slow=22,SNR=1.5							
AB31	**Akbulak array**	**12.99**	**15**	⇓Pn		**Pn**	**12 57 36.1**	**+3.0**
	comp=E,5.4nm,0.4s,baz=204,slow=16,SNR=6.6							
AB31				⇑Sn		**Sn**	**12 59 51.8**	**-5.6**
	comp=E,5.2nm,0.5s,baz=192,slow=25,SNR=8.7							
AKTO	**Aktyubinsk**	**13.82**	**8**	Pn		Pn	12 57 40.1	-4.5
	comp=E,0.2nm,0.3s,baz=194,slow=17,SNR=1.6							
AKTO				Sn		Sn	13 00 08.5	-9.2
	comp=E,0.1nm,0.3s,baz=230,slow=18,SNR=1.2							
AKTO	**Aktyubinsk**	**13.82**	**8**	⇑Pn		**Pn**	**12 57 48.0**	**+3.5**
	comp=E,1.6nm,0.6s							
AKTO				⇑Sn		**Sn**	**13 00 12.2**	**-5.5**
	comp=E,1.9nm,0.8s							
BVAR	**Borovoye Array**	**19.52**	**29**	P		**P**	**12 58 56.6**	**+0.7**
	comp=E,0.3nm,0.3s,baz=221,slow=11,SNR=9.3							
ATD	**Arta Tunnel**	**27.39**	**206**	LR		LR	13 12 38.0	
	comp=E,31nm,21.6s,baz=131,slow=40							
CMAR	**Chiang Mai Arr**	**42.67**	**103**	P		**P**	**13 02 26.6**	**+1.1**
	comp=E,0.8nm,0.7s,baz=296,slow=7.0,SNR=4.2							
KSRS	**Korea Array**	**56.80**	**65**	P		**P**	**13 04 12.7**	**-0.2**
	comp=E,0.6nm,0.7s,baz=279,slow=6.3,SNR=3.1							

*IDC **06** 13:28:29.9±3.8, 21°.81S×179°.55W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/28, mbtmpb3.8/3, Error ellipse: s-maj=166.1km s-min=49.9km az=147.0*
*NEIC **06** 13:29:25.0±2.5, 23°.75S±0°.2×173°.5E±0°.1, h16km±5km, mb4.5/11, Error ellipse: s-maj=26.3km s-min=11.9km az=166.0*
ISC 06 13:29:32.0±1.3,**23°.5S**±0°.1×**179°.0E**±0°.2,**h555**km,**n30,** σ1§**62**/29,**mb4.2**/10,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
MSVF	**Nonsavu**	**5.79**	**351**	Pn		**P**	**13 31 11.1**	**+1.8**
DUWZ	**D'Urville Isla**	**17.77**	**193**	P		**P**	**13 33 07.7**	**+0.3**
QRZ	**Quartz Range**	**18.11**	**196**	P		**P**	**13 33 12.3**	**+1.9**
NNZ	**Nelson**	**18.28**	**194**	P		**P**	**13 33 12.5**	**+0.5**
TUWZ	**Tuamarina**	**18.37**	**192**	P		**P**	**13 33 12.9**	**+0.1**
DSZ	**Dennistone Nort**	**19.16**	**196**	P		**P**	**13 33 21.9**	**+1.8**
KHZ	**Kahutara**	**19.40**	**192**	P		**P

comp=E,95600µm,0.6s
T0702 AML AML
T0702 AML AML
comp=E,95950µm,0.6s
T0702 AML AML
comp=E,95950µm,0.6s
SALB San Lorenzo Be 0.20 97 P Pg 13 41 42.7 -0.4
SALB S Sg 13 41 45.8 +0.1
SALB AML AML
SALB AML AML
comp=N,82450µm,0.5s
SALB AML AML
SALB AML AML
comp=N,82450µm,0.5s
SALB AML AML
SALB AML AML
comp=N,82450µm,0.5s
SALB AML AML
comp=N,75750µm,0.5s
CUC Castrocucco 0.23 293 P Pg 13 41 43.6 0.0
CUC S Sg 13 41 46.9 +0.2
CUC AML AML
comp=N,30450µm,0.4s
CUC AML AML
comp=N,36400µm,0.4s
CUC AML AML
comp=E,31800µm,0.4s
CUC AML AML
comp=E,39550µm,0.5s
CUC AML AML
comp=E,31800µm,0.4s
CUC AML AML
comp=E,39550µm,0.5s
CUC AML AML
comp=N,30450µm,0.4s
CUC AML AML
comp=N,36400µm,0.4s
SCHR S. Chirico Rap 0.30 358 P Pg 13 41 44.9 -0.1
SCHR S Sg 13 41 49.6 +0.7
SCHR AML AML
comp=E,22450µm,0.6s
SCHR AML AML
comp=E,22500µm,0.6s
SCHR AML AML
comp=N,15750µm,0.9s
SCHR AML AML
comp=E,22450µm,0.6s
SCHR AML AML
comp=N,15750µm,0.9s
SCHR AML AML
comp=E,22450µm,0.6s
SCHR AML AML
comp=N,15750µm,0.9s
TDS Terranova Siba 0.31 142 P Pg 13 41 45.1 0.0
TDS S Sb 13 41 51.1 -1.8
TDS AML AML
comp=E,11500µm,0.7s
TDS AML AML
comp=N,14450µm,0.9s
TDS AML AML
comp=N,14500µm,0.9s
ORI Oriolo Calabro 0.32 60 P Pg 13 41 45.1 -0.3
ORI S Sb 13 41 51.9 -1.3
ORI AML AML
ORI AML AML
SIRI Monte Sirino - 0.33 329 P Pg 13 41 45.6 +0.1
SIRI S Sb 13 41 51.9 -1.7
SIRI AML AML
comp=E,38800µm,1.4s
SIRI AML AML
comp=N,45700µm,1.4s
SIRI AML AML
comp=E,40200µm,1.4s
SIRI AML AML
comp=N,45700µm,1.4s
SIRI AML AML
comp=N,45700µm,1.4s
SIRI AML AML
comp=E,38750µm,1.4s
SIRI AML AML
comp=E,40200µm,1.4s
SIRI AML AML
comp=N,47000µm,1.4s
CET2 Cetraro 0.39 196 P Pg 13 41 46.5 -0.1
CET2 S Sg 13 41 52.3 +0.6
CET2 AML AML
comp=N,63300µm,1.0s
CET2 AML AML
comp=E,46950µm,0.5s
CET2 AML AML
comp=N,63300µm,1.0s
CET2 AML AML
comp=E,46950µm,0.5s
MTSN Montesano sull 0.45 325 P Pg 13 41 47.5 -0.3
MTSN S Sb 13 41 55.2 -1.8
MTSN AML AML
comp=E,17750µm,0.5s
MTSN AML AML
comp=N,20350µm,1.0s
MTSN AML AML
comp=N,20350µm,1.0s
MGR Morigerati 0.47 300 P Pg 13 41 48.0 -0.3
MGR AML AML
comp=E,18500µm,0.3s
MGR AML AML
comp=N,16650µm,0.7s
MGR AML AML
comp=E,20650µm,0.5s
MGR AML AML
comp=N,13800µm,0.3s
MGR AML AML
comp=N,16650µm,0.7s
MGR AML AML
comp=E,20650µm,0.5s
MGR AML AML
comp=N,16650µm,0.7s
MGR AML AML
comp=E,18550µm,0.3s
MCEL Monticello 0.48 333 P Pg 13 41 47.9 -0.5
MCEL AML AML
comp=E,17550µm,0.4s
MCEL AML AML
comp=N,13700µm,0.5s
MCEL AML AML
comp=E,17850µm,0.4s
MCEL AML AML
comp=N,13750µm,0.5s
MCEL AML AML
comp=N,14150µm,0.4s
MCEL AML AML
comp=E,17850µm,0.4s
MCEL AML AML
comp=E,17500µm,0.4s
CRAC Craco 0.53 30 P Pg 13 41 49.9 +0.4
CRAC AML AML
comp=E,23950µm,0.7s
CRAC AML AML
comp=N,21300µm,0.9s
CRAC AML AML
comp=E,23950µm,0.7s
CRAC AML AML
comp=E,23950µm,0.7s
CRAC AML AML
comp=N,21250µm,0.9s
BULG Bulgheria - Ca 0.57 288 P Pg 13 41 49.9 -0.3
BULG AML AML
comp=E,10585µm,1.2s
BULG AML AML
comp=N,17350µm,0.5s
BULG AML AML
comp=N,18050µm,0.5s
BULG AML AML
comp=N,18050µm,0.5s
BULG AML AML
comp=E,11045µm,1.2s
BULG AML AML
comp=N,17350µm,0.5s
BULG AML AML
comp=E,10590µm,1.2s
CELI Celico 0.59 147 P Pg 13 41 50.6 0.0
SLCN Sala Consilina 0.60 324 P Pg 13 41 50.5 -0.2
SLCN AML AML
comp=E,24600µm,0.5s
SLCN AML AML
comp=N,15900µm,0.6s
SLCN AML AML
comp=E,24600µm,0.5s

CAR1 CAROLEI 0.65 172 P Pg 13 41 51.6 -0.2
CAR1 AML AML
comp=E,22800µm,0.6s
CAR1 AML AML
comp=N,16550µm,1.0s
CAR1 AML AML
comp=E,22150µm,0.6s
CAR1 AML AML
comp=E,22850µm,0.5s
CAR1 AML AML
comp=N,18800µm,0.8s
CAR1 AML AML
comp=N,16550µm,1.0s
CAR1 AML AML
comp=E,22150µm,0.6s
CAR1 AML AML
comp=E,22850µm,0.5s
PIPA Pietrapaola 0.70 126 P Pg 13 41 52.2 -0.4
PIPA AML AML
comp=E,5910µm,1.4s
PIPA AML AML
comp=N,3625µm,0.4s
PIPA AML AML
comp=E,5905µm,1.4s
PIPA AML AML
comp=N,3580µm,0.4s
PIPA AML AML
comp=E,6010µm,1.3s
CMPR Campora 0.73 305 P Pg 13 41 52.5 -0.7
CMPR AML AML
comp=N,21300µm,0.5s
CMPR AML AML
comp=N,21300µm,0.5s
CMPR AML AML
comp=E,9680µm,1.5s
MIGL Miglionico 0.75 21 P Pg 13 41 52.8 -0.9
MIGL AML AML
comp=N,17400µm,1.0s
MIGL AML AML
comp=N,28600µm,0.9s
MIGL AML AML
comp=E,23200µm,0.9s
MIGL AML AML
comp=N,28600µm,0.9s
PZUN Potenza 0.77 344 P Pb 13 41 55.0 -0.3
PZUN AML AML
comp=N,6340µm,0.8s
PZUN AML AML
comp=N,6455µm,0.8s
PZUN AML AML
comp=E,4785µm,1.4s
PZUN AML AML
comp=E,4770µm,1.4s
CDRU Civita di Ruta 0.84 315 P Pg 13 41 54.4 -0.9
CDRU AML AML
comp=E,5940µm,1.3s
CDRU AML AML
comp=N,2975µm,0.4s
CDRU AML AML
comp=N,2970µm,0.4s
MATE Matera 0.88 32 ⇓P Pg 13 41 55.5 -0.6
MATE ⇓S Sg 13 42 06.8 -0.8
MATE Matera 0.88 32 P Pg 13 41 54.3 -1.8
MATE AML AML
comp=E,5120µm,0.7s
MATE AML AML
comp=N,5275µm,0.5s
TIP Timpagrande 0.89 144 ⇑P Pg 13 41 56.0 -0.3
TIP ⇑S Sb 13 42 08.9 -0.7
TIP Timpagrande 0.89 144 P Pg 13 41 55.6 -0.7
TIP AML AML
comp=N,3460µm,0.9s
TIP AML AML
comp=E,3600µm,0.9s
TIP AML AML
comp=E,3060µm,0.9s
TIP AML AML
comp=N,3465µm,0.9s
TIP AML AML
comp=N,4355µm,0.9s
TIP Timpagrande 0.89 144 Pg 13 41 55.8 -0.5
TIP Sn 13 42 10.4 -1.8
ACER Acerenza 0.89 353 P Pg 13 41 55.8 -0.5
ACER AML AML
comp=E,15850µm,0.6s
ACER AML AML
comp=N,12650µm,0.5s
ACER AML AML
comp=E,16600µm,0.6s
ACER AML AML
comp=E,15850µm,0.6s
ACER AML AML
comp=N,12700µm,0.5s
ACER AML AML
comp=N,13300µm,0.6s
ACER AML AML
comp=E,15850µm,0.6s
LTRZ Laterza 0.90 38 P Pg 13 41 54.5 -1.9
LTRZ AML AML
comp=E,3450µm,0.9s
LTRZ AML AML
comp=N,4505µm,0.5s
LADO San Nicola del 0.92 132 P Pg 13 41 56.2 -0.7
LADO AML AML
comp=E,4140µm,1.3s
LADO AML AML
comp=N,3310µm,1.1s
LADO AML AML
comp=E,4145µm,1.3s
LADO AML AML
comp=N,3300µm,1.1s
MRLC Muro Lucano 0.97 332 P Pb 13 41 58.2 -0.5
MRLC AML AML
comp=E,3685µm,0.8s
MRLC AML AML
comp=N,4350µm,0.5s
MRLC AML AML
comp=N,4480µm,0.5s
MRLC AML AML
comp=E,3685µm,0.8s
SERS Sersale 0.98 152 P Pg 13 41 57.5 -0.5
SERS AML AML
comp=E,6470µm,0.7s
SERS AML AML
comp=E,4980µm,0.8s
SERS AML AML
comp=N,4805µm,1.2s
SERS AML AML
comp=N,5975µm,0.7s
SG1 Sgolgore (BA) 1.04 25 ePg Pg 13 41 58.4 -0.8
SG1 Sg Sn 13 42 16.8 +0.9
PALZ Palazzo San Ge 1.05 355 P Pn 13 41 59.6 -1.2
PALZ AML AML
comp=N,7375µm,1.6s
PALZ AML AML
comp=E,7510µm,1.4s
AMUR Altamura 1.08 21 P Pg 13 41 59.2 -0.7
AMUR AML AML
comp=N,3865µm,0.5s
AMUR AML AML
comp=E,4545µm,0.5s
TAR1 Taranto 1.11 55 ePg Pb 13 41 58.0 -3.0
GRI Girifalco 1.11 167 P Pb 13 42 00.2 -0.9
GRI AML AML
comp=E,5950µm,0.7s
GRI AML AML
comp=N,5650µm,1.1s
NOCI Noci 1.16 40 P Pb 13 41 59.0 -2.9
NOCI AML AML
comp=E,3180µm,0.5s
NOCI AML AML
comp=N,3835µm,0.6s
MRVN Minervino Murg 1.16 4 P Pb 13 41 59.9 -2.0
MRVN AML AML
comp=N,2250µm,0.5s
MRVN AML AML
comp=N,3205µm,0.8s
CAFE Carife 1.30 330 P Pg 13 42 04.9 +0.7
CAFE AML AML
comp=N,3295µm,1.3s
CAFE AML AML
comp=E,3145µm,0.5s
CAFE AML AML
comp=E,3130µm,0.9s
CAFE AML AML
comp=N,3100µm,1.4s
CGL1 Ceglie Messapi 1.30 54 ePg Pn 13 42 03.0 -1.3
CGL1 Sg Sg 13 42 23.9 +2.9
JOPP Joppolo 1.30 187 P Pn 13 42 02.3 -2.1
JOPP AML AML
comp=E,2735µm,0.6s
JOPP AML AML
comp=N,3370µm,0.8s
BAI Bari 1.35 26 ePg Pn 13 42 03.4 -1.5
BAI Sg Sg 13 42 24.6 +2.1
SGTA Sant Agata di 1.35 336 P Pg 13 42 05.4 +0.3
SGTA AML AML
comp=E,2600µm,1.2s
SGTA AML AML
comp=E,2565µm,1.2s
SGTA AML AML
comp=N,1910µm,0.8s
SGTA AML AML
comp=N,1875µm,0.8s
PLAC Placanica 1.48 169 P Pn 13 42 06.0 -0.8
PLAC AML AML
comp=N,2990µm,0.6s
PLAC AML AML
comp=E,3725µm,0.8s
PLAC AML AML
comp=N,3825µm,0.7s
PLAC AML AML
comp=E,3040µm,0.6s
PAOL Paolisi 1.62 315 Pb 13 42 08.2 -1.5
CEL Celeste 1.65 185 AML AML
comp=N,2075µm,1.1s
CEL AML AML
comp=E,2350µm,1.2s
CEL AML AML
comp=E,1965µm,1.2s
CEL AML AML
comp=N,1730µm,1.1s
CEL Celeste 1.65 185 Pn 13 42 07.5 -1.7
CEL Sn Sn 13 42 27.1 -3.7
MSCL Scilla 1.68 188 P Pn 13 42 08.0 -1.7
MSCL AML AML
comp=E,6100µm,0.7s
MSCL AML AML
comp=N,8035µm,0.8s
MSRU Castanea 1.70 196 P Pn 13 42 07.9 -1.9
MSRU AML AML
comp=E,5535µm,1.2s
MSRU AML AML
comp=N,4210µm,0.9s
GMB Gambarie 1.74 187 AML AML
comp=E,9175µm,0.6s
GMB AML AML
comp=N,7610µm,1.2s
VPL Vulcano Piano 1.75 210 P Pn 13 42 08.6 -1.9
VPL AML AML
comp=E,7340µm,1.0s
VPL AML AML
comp=N,7580µm,0.7s
MILZ Milazzo 1.76 203 P Pn 13 42 08.7 -1.9
IFIL Filicudi I Eol 1.79 222 AML AML
comp=E,5815µm,0.4s
IFIL AML AML
comp=N,2395µm,1.1s
MSAG Monte S. Angel 1.81 356 P Pn 13 42 10.9 -0.5
MSAG AML AML
comp=E,1274µm,0.5s
MSAG AML AML
comp=E,1298µm,0.5s
MSAG AML AML
comp=N,2070µm,1.1s
MSAG AML AML
comp=N,2115µm,1.1s
SOI Samo 1.83 181 P Pn 13 42 10.4 -1.2
SOI AML AML
comp=N,1785µm,0.7s
SOI AML AML
comp=E,1710µm,0.8s
SCTE Santa Cesarea 1.83 84 AML AML
comp=E,1795µm,1.6s
SCTE AML AML
comp=N,2025µm,0.7s
SCTE Santa Cesarea 1.83 84 Pn Pn 13 42 10.6 -1.0
MPNC Port Mandanici 1.85 198 P Pn 13 42 09.9 -1.9
MPNC AML AML
comp=N,6320µm,0.8s
MPNC AML AML
comp=E,5195µm,0.5s
SGRT San Giovanni R 1.87 352 P Pn 13 42 11.2 -1.1
SGRT AML AML
comp=E,1052µm,0.8s
SGRT AML AML
comp=N,998µm,0.7s
SGRT San Giovanni R 1.87 352 Pn Pn 13 42 12.0 -0.2
IACL Alicudi 1.92 225 P Pn 13 42 10.6 -2.2
IACL AML AML
comp=N,1490µm,0.8s
IACL AML AML
comp=E,1175µm,1.5s
MPAZ Palizzi 1.95 182 P Pn 13 42 11.9 -1.3
MPAZ AML AML
comp=E,1465µm,1.3s
MPAZ AML AML
comp=N,1870µm,0.9s
MCSR Castroreale 1.95 200 AML AML
comp=N,3585µm,1.0s
MCSR AML AML
comp=E,3150µm,0.7s
NOV Novara 2.01 202 P Pn 13 42 12.4 -1.8
NOV AML AML
comp=N,1820µm,0.7s
NOV AML AML
comp=E,2785µm,1.2s
AIO Antillo 2.04 199 P Pn 13 42 12.7 -1.8
AIO AML AML
comp=E,1018µm,1.0s
AIO AML AML
comp=N,1280µm,1.5s
MCPD Capo d'Orlando 2.07 211 P Pn 13 42 13.2 -1.7
MCPD AML AML
comp=N,1210µm,0.8s
MCPD AML AML
comp=E,1455µm,0.7s
MUCR Ucria 2.08 207 AML AML
comp=E,1590µm,0.6s
MUCR AML AML
comp=N,1770µm,0.9s
MSFR San Fratello 2.20 213 P Pn 13 42 15.5 -1.3
MSFR AML AML
comp=N,508µm,1.4s
MSFR AML AML
comp=E,572µm,1.1s
VENT Ventotene 2.23 294 AML AML
comp=E,864µm,1.6s
VENT AML AML
comp=N,602µm,1.1s
MNO Monte Soro 2.25 209 P Pn 13 42 16.9 -0.7
MNO AML AML
comp=E,2010µm,1.4s
MNO AML AML
comp=N,2045µm,0.7s
EPZF Pizzo Felice 2.29 205 AML AML
comp=N,2695µm,1.3s
EPZF AML AML
comp=E,2935µm,0.9s
GALF Gagliano Caste 2.49 209 AML AML
comp=N,965µm,0.6s
GALF AML AML
comp=E,1220µm,0.7s
INTR Introdacqua 2.68 323 Pn Pb 13 42 25.8 -2.1
HAGA Augusta 2.71 196 P Pn 13 42 23.0 -0.8
HAGA AML AML
comp=E,1028µm,0.7s
HAGA AML AML
comp=N,1090µm,0.6s
HLNI Lentini 2.72 201 P Pn 13 42 23.6 -0.3
HLNI AML AML
comp=E,756µm,0.9s
HLNI AML AML
comp=N,781µm,0.7s
AGST Augusta-Monte 2.73 195 AML AML
comp=E,1210µm,0.7s
AGST AML AML
comp=N,1280µm,0.9s
HCRL Carlentini 2.74 198 P Pn 13 42 23.7 -0.4
HCRL AML AML
comp=E,1235µm,0.7s
HCRL AML AML
comp=N,1178µm,0.6s
VAE Valguarnera 2.75 209 Pn Pb 13 42 27.2 -1.9

comp=N,2.2nm,0.3s,baz=350,slow=3.3,SNR=9.6
MEU Monte Lauro 2.94 198 AML AML
comp=E,873µm,0.9s
MEU AML AML
comp=N,892µm,0.6s
CORL Corleone 2.96 228 Pn 13 42 25.6 -1.5
HAVL Avola 3.03 195 AML AML
comp=E,783µm,0.7s
HAVL AML AML
comp=N,542µm,1.0s
HBSP Bosco Santo Pi 3.04 205 AML AML
comp=N,1875µm,1.3s
HBSP AML AML
comp=E,2470µm,1.2s
HCY Herceg Novi 3.12 35⇑*i*Pn Pn 13 42 29.1 -0.3
HCY *i*Sn **Sn 13 43 08.1 +0.9**
HCY Herceg Novi 3.12 35 *e*Pn Pn 13 42 30.2 +0.8
ULC Ulcinj 3.15 48⇓*i*Pn Pn 13 42 29.6 -0.2
ULC *i*Sn **Sn 13 43 08.3 +0.3**
DBRK Dubrovnik 3.17 29 *e*Pn Pn 13 42 28.5 -1.5
DBRK Sn **Sn 13 43 07.5 -0.9**
BUM Brajici-Budva 3.20 41⇑*i*Pn Pn 13 42 30.1 -0.4
BUM *i*Sn **Sn 13 43 09.9 +0.7**
STON Ston 3.21 22 *e*Pn Pn 13 42 30.3 -0.2
STON Ston 3.21 22 *e*Pn Pn 13 42 30.1 -0.4
STON Sn **Sn 13 43 07.8 -1.4**
STON Ston 3.21 22 *e*Pn Pn 13 42 29.4 -1.1
TIR Tirane 3.22 62 *e*Pn Pn 13 42 30.2 -0.5
TIR *e*Sn **Sn 13 43 10.5 +1.0**
TIR Tirane 3.22 62⇑P Pn 13 42 30.4 -0.3
TIR Tirane 3.22 62 P Pn 13 42 30.2 -0.5
TIR Tirane 3.22 62 Pn 13 42 30.1 -0.5
CLTB Caltabellotta 3.23 225 Pn 13 42 32.3 +1.3
DRME Dracevica, Mon 3.27 45⇓*i*Pn Pn 13 42 31.1 -0.3
DRME *i*Sn **Sn 13 43 11.5 +0.7**
DRME Dracevica, Mon 3.27 45 *e*Pn Pn 13 42 30.5 -0.9
HVAR Hvar 3.28 5 *e*Pn Pn 13 42 30.8 -0.8
HVAR Sn **Sn 13 43 11.1 -0.1**
TREB Trebinje 3.29 30 *e*Pn Pn 13 42 29.2 -2.4
IGT Igoumenitsa 3.29 95 *e*Pn Pn 13 42 32.4 +0.7
CEME Cevo 3.40 38⇑*i*Pn Pn 13 42 32.8 -0.4
CEME *i*Sn **Sn 13 43 14.6 +0.6**
PDG Podgorica 3.48 42⇑P Pn 13 42 33.6 -0.7
PDG Podgorica 3.48 42 Pn Pn 13 42 33.9 -0.3
PDG Podgorica 3.48 42 *e*Pn Pn 13 42 32.1 -2.1
TTG Podgorica 3.48 42⇓*i*Pn Pn 13 42 34.1 -0.1
TTG *i*Sn **Sn 13 43 16.5 +0.6**
BRY Bratogost 3.52 31⇑*i*Pn Pn 13 42 34.0 -0.9
BRY *i*Sn **Sn 13 43 17.7 +0.6**
BRY Bratogost 3.52 31 *e*Pn Pn 13 42 33.7 -1.2
NKME Niksic 3.58 36⇓*i*Pn Pn 13 42 35.8 0.0
NKME *i*Sn **Sn 13 43 19.2 +0.6**
NKY Niksic 3.64 36⇑*i*Pn Pn 13 42 36.8 +0.2
NKY *i*Sn **Sn 13 43 20.9 +0.8**
ZIRJ Zirje 3.76 355 *e*Pn Pn 13 42 37.2 -1.0
ZIRJ Sn **Sn 13 43 23.6 +0.6**
OHR Ohrid 3.79 70 *i*Pn Pn 13 42 38.7 +0.1
KOME Kolasin 3.91 40⇓*i*Pn Pn 13 42 40.4 +0.1
KOME *i*Sn **Sn 13 43 27.2 +0.4**
UPM Unac-Piva 3.92 32⇓*i*Pn Pn 13 42 40.6 +0.1
UPM *i*Sn **Sn 13 43 26.9 -0.1**
PVY Plav 3.97 46⇓*i*Pn Pn 13 42 41.2 +0.1
PVY *i*Sn **Sn 13 43 28.2 0.0**
MORI Morici 3.97 356 *e*Pn Pn 13 42 40.5 -0.5
MORI Sn **Sn 13 43 28.2 +0.1**
KIJV Kijevo 4.11 3 *e*Pn Pn 13 42 42.8 -0.1
KIJV Sn **Sn 13 43 31.5 0.0**
IVA Berane 4.12 43⇑*i*Pn Pn 13 42 43.4 +0.2
IVA *i*Sn **Sn 13 43 31.9 -0.1**
DUGI Dugi Otok 4.16 350 *e*Pn Pn 13 42 43.8 +0.2
DUGI Sn **Sn 13 43 32.8 0.0**
PLE Pljevlja 4.22 35⇑*i*Pn Pn 13 42 44.5 -0.1
PLE *i*Sn **Sn 13 43 34.4 +0.1**
SJES Sjenica 4.44 40 *e*Pn Pn 13 42 47.6 0.0
SJES *e*Sn **Sn 13 43 39.2 -0.7**
RUDO Rudo 4.45 32 *e*Pn Pn 13 42 46.5 -1.1
MGRS Mrkonjic Grad 4.57 9 *e*Pn Pn 13 42 51.1 +1.8
UDBI Udbina 4.63 357 *e*Pn Pn 13 42 49.9 -0.3
UDBI Sn **Sn 13 43 44.2 -0.2**
BBLS Lazići 4.67 31 *e*Pn Pn 13 42 51.2 +0.5
BBLS Lazići 4.67 31 *e*Pn Pn 13 42 50.5 -0.2
NVLJ Novalja 4.75 349 *e*Pn Pn 13 42 51.5 -0.2
NVLJ Sn **Sn 13 43 47.5 +0.4**
IVAS Ivanjica 4.77 38 *e*Pn Pn 13 42 51.4 -0.6
AGG Agios Georgios 4.91 98 P Pn 13 42 55.4 +1.4
AGG Agios Georgios 4.91 98 Pn Pn 13 42 55.4 +1.4
BLY Banja Luka 4.91 9 *e*Pn Pn 13 42 55.6 +1.7
LIT Litokhoron 4.92 86 P Pn 13 42 54.8 +0.7
LIT Litokhoron 4.92 86 Pn 13 42 54.8 +0.7
SELS Selova 5.02 47 *e*Pn Pn 13 42 55.5 0.0
SELS *e*Sn **Sn 13 43 52.7 -1.4**
DIVS Divibare 5.10 33 *e*Pn Pn 13 42 56.4 -0.2
DIVS Divibare 5.10 33 Pn 13 42 55.4 -1.2
DIVS Divibare 5.10 33 *e*Pn Pn 13 42 55.7 -0.9
VSL Villasalto 5.19 268 Pn Pn 13 42 55.6 -2.2
BARS Barje 5.20 54 *e*Pn Pn 13 42 57.0 -0.9
BARS Barje 5.20 54 *e*Pn Pb 13 43 10.2 -0.6
GRUS Gruza 5.27 39 *e*Pn Pn 13 42 59.0 +0.1
GRUS *e*Sn **Sn 13 43 59.6 -0.5**
BRJN Brijuni 5.29 342 *e*Pn Pn 13 42 59.4 +0.2
TEKS Tekeris 5.30 28 *e*Pn Pn 13 42 59.4 +0.1
ITM Ithomi 5.32 119 Pn 13 43 00.3 +0.6
TRUS Trudelj 5.38 35 *e*Pn Pn 13 43 00.3 -0.1
BOSS Bosilegrad 5.47 60 *e*Pn Pn 13 43 01.0 -0.7
BOSS *e*Sn **Sn 13 44 03.2 -2.0**
BOVS Bovan 5.62 47 *e*Sn Sn 13 44 07.9 -0.7
BOJS Bojanci 5.63 354 *i*Pn Pn 13 44 04.4 +0.6
BOJS *e*Sn **Sn 13 44 08.2 -0.9**
comp=E,350nm,4.0s
MOSL Moslavina 5.73 5 *e*Pn Pn 13 43 05.0 -0.2
MOSL Sn **Sn 13 44 11.2 -0.2**
SRS Serrai 5.85 76 *e*Pn Pn 13 43 06.4 -0.4
FRGS Fruska Gora 5.93 26 *e*Pn Pn 13 43 06.0 -1.9
FRGS Fruska Gora 5.93 26 *e*Pn Pn 13 43 06.5 -1.4
CRES Cresnjev 5.94 356 *e*Pn Pn 13 43 08.8 +0.7
ZAPS Zavoj 5.95 53 *e*Pn Pn 13 43 07.2 -1.1
CEY Cerknica 5.96 349 *e*Pn Pn 13 43 05.1 -3.3
ZAGS Zajecar 6.02 48 *e*Pn Pn 13 43 09.4 +0.2
VTS Vitosha 6.03 61⇑P Pn 13 43 08.5 -1.0
VTS Vitosha 6.03 61 *e*P Pn 13 43 08.6 -0.8
VTS Vitosha 6.03 61 P Pn 13 43 08.8 -0.7
VTS Vitosha 6.03 61 Pn Pn 13 43 08.8 -0.7
MMB Musomiste 6.04 71 *e*P Pn 13 43 11.9 +2.4
KALN Kalnik 6.23 2 *e*Pn Pn 13 43 11.6 -0.5
KALN Sn **Sn 13 44 23.7 -0.1**
MORH Mrgy, Hungar 6.58 16 *e*Pn Pn 13 43 19.0 +2.2
BEHE Becsehely 6.58 4 *e*Pn Pn 13 43 20.8 +3.9
OBKA Obir 6.70 351 *i*Pn Pn 13 43 19.2 +0.6
comp=E,3.9nm,0.3s
OBKA *e*Sn **Sn 13 44 32.8 -2.7**
comp=E,18nm,0.6s
KEST Kesra 6.77 234 Pn Pn 13 43 19.9 +0.4
comp=E,0.5nm,0.3s,baz=2.7,slow=4.0,SNR=9.6
KEST LR LR 13 46 15.2
comp=E,424nm,19.8s,baz=339,slow=41
KEST Kesra 6.77 234 Pn 13 43 20.3 +0.8
PRED Cave del Predi 6.79 345 Pn 13 43 21.5 +1.7
SOKA Soboth 6.82 354 Pn Pn 13 43 20.2 0.0
comp=E,2.0nm,0.2s
SOKA *e*Sn **Sn 13 44 37.8 -0.6**
comp=E,3.6nm,0.5s
HERR Herculane 6.83 41⇑P Pn 13 43 19.6 -0.7
CIMO Cimolais 6.94 339 Pn 13 43 21.9 +0.1
CTI Castel Tesino 6.95 334 P Pn 13 43 22.4 +0.3
CTI Castel Tesino 6.95 334 Pn 13 43 22.4 +0.3
MYKA Terra Mystica 6.96 346 *e*Pn Pn 13 43 23.9 +1.8
comp=E,2.2nm,0.3s
MYKA *e*Sn **Sn 13 44 42.5 +0.7**
comp=E,6.5nm,0.5s
BZS Buzias 7.01 34⇓P Pn 13 43 22.8 0.0
ZOU Zoufplan 7.03 342 Pn 13 43 24.0 +0.7
PLVB Pleven 7.28 59⇑P Pn 13 43 25.8 -0.6
ABTA Abfaltersbach 7.32 340 *e*Pn Pn 13 43 27.3 +0.2
comp=E,1.9nm,0.3s
ABTA *e*Sn **Sn 13 44 51.1 +0.3**
comp=E,14nm,0.8s
ARSA Arzberg 7.36 357 *i*Pn Pn 13 43 26.2 -1.3
comp=E,3.3nm,0.3s
ARSA *e*Sn **Sn 13 44 51.0 -0.6**
comp=E,2.0nm,0.3s
GZR Gura Zlata 7.38 40⇑P Pn 13 43 26.9 -0.9

KBA Koelnbreinsper 7.45 345 *e*Pn Pn 13 43 29.0 +0.1
comp=E,3.3nm,0.4s
KBA *e*Sn **Sn 13 44 52.8 -1.1**
comp=E,3.9nm,0.5s
SIRR Siria 7.55 31⇑P Pn 13 43 29.7 -0.6
ALN Alexandroupoli 7.66 79 P Pn 13 43 32.3 +0.6
ALN Alexandroupoli 7.66 79 Pn 13 43 32.3 +0.6
LOT Lotru 7.92 43⇑P Pn 13 43 34.6 -0.8
CONA Conrad Observa 8.03 359 *e*Pn Pn 13 43 35.7 -1.1
comp=E,1.8nm,0.3s
CONA *e*Sn **Sn 13 45 07.0 -1.0**
comp=E,0.9nm,0.2s
WTTA Wattenberg 8.04 338 *e*Pn Pn 13 43 36.5 -0.5
comp=E,1.3nm,0.2s
WTTA *e*Sn **Sn 13 45 07.8 -0.6**
comp=E,11nm,0.6s
MOA Molln 8.05 351 *e*Pn Pn 13 43 36.6 -0.5
comp=E,1.8nm,0.3s
MOA *e*Sn **Sn 13 45 08.0 -0.7**
comp=E,6.2nm,0.6s
FETA Feichten 8.11 333 *e*Pn Pn 13 43 39.1 +1.1
comp=E,5.2nm,0.6s
FETA *e*Sn **Sn 13 45 10.9 +0.6**
comp=E,4.2nm,0.7s
SQTA Sankt Quirin 8.13 336 *e*Sn Sn 13 45 10.7 +0.1
comp=E,7.1nm,0.5s
TUE Stuetta 8.21 325 Pn 13 43 41.8 +2.4
DAVOX Davos/Dischmat 8.23 329 Pn Pn 13 43 36.7 -3.0
DAVOX LR LR 13 46 30.3
comp=E,14nm,20.9s,slow=36
MOTA Moosalm 8.27 336 *e*Pn Pn 13 43 40.6 +0.4
comp=E,1.5nm,0.4s
MOTA *e*Sn **Sn 13 45 14.8 +0.6**
comp=E,11nm,1.0s
IDI Anoyia 8.37 121 Pn Pn 13 43 43.2 +1.8
comp=E,2.7nm,0.3s,baz=278,slow=10,SNR=16
IDI Sn **Sn 13 45 13.1 -3.4**
baz=286,slow=19,SNR=1.3
IDI LR LR 13 47 48.2
comp=E,108nm,19.5s,baz=280,slow=43
IDI Anoyia 8.37 121⇓P Pn 13 43 42.5 +1.1
DRGR 8.40 33⇑P Pn 13 43 42.9 +0.9
SGRR Singureni 8.53 56⇑P Pn 13 43 43.9 +0.4
RAZG Razgrad 8.61 61⇑P Pn 13 43 43.8 -0.9
VOIR 8.61 47⇑P Pn 13 43 44.6 -0.2
VYHS Vyhne 8.81 12 *e*P Pn 13 43 43.9 -3.6
VYHS Vyhne 8.81 12 *e*PN Pn 13 43 43.9 -3.6
GERES GERESS Array B 9.10 350 Pn Pn 13 43 48.8 -2.7
comp=E,0.3nm,0.3s,baz=162,slow=14,SNR=14
GERES Sn **Sn 13 45 28.1 -6.5**
comp=E,0.3nm,0.3s,baz=142,slow=25,SNR=2.3
GERES LR LR 13 48 21.3
comp=E,89nm,21.7s,baz=164,slow=45
DOPR Dopca 9.12 45⇑P Pn 13 43 51.4 -0.4
MLR Muntele Rosu 9.15 49 Pn Pn 13 43 55.0 +2.8
comp=E,0.3nm,0.3s,baz=207,slow=11,SNR=5.1
MLR LR LR 13 48 41.4
comp=E,317nm,18.6s,baz=299,slow=46
KHC Kasperske Hory 9.40 350 *e*PN Pn 13 43 56.7 +1.1
KHC *e*SN **Sn 13 45 39.0 -2.8**
KHC Kasperske Hory 9.40 350 *ce*P Pn 13 43 57.8 +2.2
KHC pmax pmax
comp=E,9.0nm,0.8s
VRAC Vranov 9.41 2 LR LR 13 47 30.9
comp=E,147nm,20.3s,baz=206,slow=38
TRPA Tarpa 9.44 27⇓P Pn 13 43 56.3 +0.2
UZH Uzhgorod 9.79 25 *e*P Pn 13 44 04.0 +3.1
UZH *e*S **Sn 13 45 56.0 +4.7**
VRI Vrincioaia 9.82 49⇑P Pn 13 44 01.8 +0.5
KOLS Kolonicke sedl 10.05 24 *e*P Pn 13 44 05.6 +1.2
KOLS Kolonicke sedl 10.05 24 *e*PN Pn 13 44 05.6 +1.2
BURAR Bucovina Array 10.14 38⇑P Pn 13 44 06.4 +0.6
BUR08 Bucovina Ar. S 10.16 37 Pn 13 44 07.5 +1.5
LVV L'vov 11.40 27 *e*P Pn 13 44 27.0 +4.1
BRTR Keskin Array B 13.50 85 Pn Pn 13 44 54.0 +2.3
comp=E,0.1nm,0.3s,baz=250,slow=8.6,SNR=2.8
BRTR LR LR 13 51 25.9
comp=E,70nm,18.1s,baz=268,slow=43
AKASG Malin Array Be 14.19 36 Pn Pn 13 45 01.4 +0.5
comp=E,0.7nm,0.3s,baz=261,slow=28,SNR=2.3
AKBB Malin Array Si 14.19 36 *i*P Pn 13 45 01.7 +0.7
SIM Simferopol' 14.23 63 P Pn 13 45 03.5 +1.9
SIM MLR MLR
comp=E,30nm,14.0s
ESDC Sonseca Array 15.42 276 Pn Pn 13 45 16.4 -1.3
comp=E,0.1nm,0.3s,baz=93,slow=12,SNR=2.0
ESDC LR LR 13 50 45.4
comp=E,122nm,18.4s,baz=95,slow=36
PAB San Pablo 15.73 275 P P 13 45 22.8 -3.1
PAB pmax pmax
comp=E,13nm,1.4s
PAB San Pablo 15.73 275 P 13 45 22.8 -3.1
PAB IAmb IAmb 13 45 28.3
comp=E,13nm,1.4s
MMAI Mount Meron Ar 16.97 108 P P 13 45 41.3 +1.6
comp=E,0.7nm,0.3s,baz=289,slow=10,SNR=1.7
MDT Midelt 18.09 253 LR LR 13 51 48.9
comp=E,122nm,20.6s,baz=360,slow=34
VSU Vasula 19.79 17 *i*P Pn 13 46 12.6 +0.7
VSU pmax pmax
comp=E,39nm,1.1s
EKA Eskdalemuir Ar 20.06 327 P P 13 46 12.6 -0.9
baz=128,slow=11,SNR=3.9
SHA1 Shidzhatmaz 20.13 70 *i*P Pn 13 46 16.1 -0.3
KIV Kislovodsk 20.16 70 *i*P Pn 13 46 15.6 -1.0
KIV *i*S **S 13 49 55.5 -6.2**
KIV pmax pmax
comp=E,14nm,1.3s
KIV MLR MLR
comp=E,43nm,16.0s
NEY Neytrino 20.17 72 *i*P Pn 13 46 16.4 -0.4
NEY pmax pmax
comp=E,4.0nm,1.3s
KONO Kongsberg 20.19 350 *i*P Pn 13 46 17.1 +0.5
KONO pmax pmax
comp=E,31nm,1.8s
KBZ Khabaz 20.31 70 P Pn 13 46 18.0 -0.1
comp=E,6.1nm,0.9s,baz=244,slow=5.5,SNR=7.3
KBZ Khabaz 20.31 70 *ce*P Pn 13 46 17.8 -0.4
KBZ pmax pmax
comp=E,11nm,1.0s
HFS Hagfors 20.31 357 P Pn 13 46 16.6 -1.4
comp=E,4.1nm,0.8s,baz=171,slow=10,SNR=8.1
HFS LR LR 13 55 06.1
comp=E,87nm,19.2s,baz=32,slow=40
OBN Obninsk 20.45 35 *i*P P 13 46 16.7 -0.9
OBN *i* 13 46 22.5
OBN *i* 13 46 33.8
OBN pmax pmax
comp=E,41nm,1.3s
OBN MLR MLR
comp=E,74nm,20.0s
ZEI Tsey 21.04 73 *e*P P 13 46 23.6 -0.8
ZEI pmax pmax
comp=E,7.0nm,0.4s
NB2 NORSAR Subarra 21.38 353 P P 13 46 30.2 +2.5
comp=E,4.8nm,1.0s,baz=171,slow=10
NOA NORSAR Array B 21.38 353 P P 13 46 27.1 -0.6
comp=E,2.4nm,0.9s,baz=167,slow=10,SNR=7.7
NOA LR LR 13 55 48.5
comp=E,60nm,19.0s,baz=35,slow=40
FINES FINESS Array B 22.43 13 P P 13 46 38.6 -0.2
comp=E,7.7nm,1.0s,baz=177,slow=11,SNR=15
FINES FINESS Array B 22.43 13 *i*P P 13 46 41.0 +2.1
FINES pmax pmax
comp=E,8.0nm,1.0s
KLMR Klimovskoe 25.49 27 *e*P P 13 47 07.4 -0.9
KLMR pmax pmax
comp=E,16nm,1.0s
KLMR Klimovskoe 25.49 27 *e*P P 13 47 07.5 -0.9
KLMR AMP 13 47 10.7
comp=E,16nm,1.0s
PMOZ Porto Moniz, M 27.61 266 P P 13 47 27.1 -0.9
MACI Morro de la Ar 29.24 257 P P 13 47 41.3 -1.3
MACI IAmb IAmb 13 47 46.7
comp=E,35nm,1.1s
TORD Torodi Ar. Bea 29.51 209 P P 13 47 45.2 +0.3
comp=E,0.4nm,0.5s,baz=18,slow=7.1,SNR=1.7
TORD LR LR 14 00 08.7
comp=E,50nm,20.4s,baz=140,slow=38
ARCES ARCESS Array B 30.11 7 P P 13 47 49.2 -0.5
comp=E,1.6nm,0.8s,baz=182,slow=8.5,SNR=3.7
ARU Arti 32.17 45*c i*P P 13 48 08.7 +0.7
ARU 13 49 12.7
ARU S **S 13 53 24.1 +2.9**
ARU SS **SnSn 13 55 11.3 +0.3**

ARU pmax pmax
comp=E,10.0nm,1.3s
BRVK Borovoye 38.64 52*ce*P P 13 49 05.3 +1.6
BRVK pmax pmax
comp=E,8.0nm,1.0s
BVAR Borovoye Array 38.71 52 P P 13 49 04.8 +0.6
comp=E,3.4nm,1.0s,baz=267,slow=7.4,SNR=11
KBS Kingsbay 39.18 359 P P 13 49 04.5 -3.3
KBS pmax pmax
comp=E,9.0nm,1.0s
KBS Kingsbay 39.18 359 P P 13 49 04.5 -3.3
KBS IAmb IAmb 13 49 20.6
comp=E,9.2nm,1.0s
AAK Ala-Archa 43.23 67 *i*P P 13 49 43.1 +1.3
AAK pmax pmax
comp=E,4.0nm,1.7s
KURBB Kurchatov Arra 44.01 54 P P 13 49 48.4 +0.7
comp=E,3.4nm,1.1s,baz=286,slow=8.7,SNR=19
KURK Kurchatov 44.05 54*ce*P P 13 49 49.2 +1.1
KURK pmax pmax
comp=E,6.0nm,1.0s
NRIK Noril'sk 46.83 27 P P 13 50 10.3 +0.4
comp=E,3.6nm,0.8s,baz=266,slow=5.2,SNR=5.1
ZALV Zalesovo Beam 47.13 49 P P 13 50 12.7 +0.2
comp=E,1.7nm,0.6s,baz=287,slow=10,SNR=7.9
ZALV LR LR 14 12 17.8
comp=E,56nm,18.0s,baz=159,slow=39
MKAR Makanchi Array 47.35 59 P P 13 50 14.7 +0.4
comp=E,2.4nm,0.9s,baz=288,slow=6.4,SNR=13
MKAR LR LR 14 12 35.8
comp=E,62nm,21.4s,baz=278,slow=39
WMQ Urumqi 51.93 61 *e*P P 13 50 50.9 +1.5
SCHQ Schefferville 54.83 315 LR LR 14 11 13.6
comp=E,38nm,21.2s,baz=72,slow=32
TLY Talaya 58.64 47 *i*P P 13 51 39.2 +1.7
TLY pmax pmax
comp=E,8.0nm,1.0s
TIXI Tiksi 59.22 20*ce*P P 13 51 42.9 +1.7
TIXI pmax pmax
comp=E,3.0nm,1.7s
SONM Songino Array 62.01 50 P P 13 52 01.7 +0.9
comp=E,4.4nm,1.1s,baz=291,slow=7.6,SNR=15
GTA Gaotai 62.02 61 *e*P P 13 52 02.8 +1.8
GTA pP sP 13 52 06.2 +3.6
GTA sP pP 13 52 08.8 +6.6
GTA pmax pmax
comp=E,3.0nm,1.1s
ULN Ulaanbaatar 62.38 49*ce*P P 13 52 04.7 +1.4
ULN pmax pmax
comp=E,4.0nm,1.7s
LZH Lanzhou 66.48 62 *e*P P 13 52 29.1 -1.2
LZH pP pP 13 52 32.3 +0.8
LZH sP sP 13 52 33.9 +1.9
LZH *e*PP **PP 13 54 57.5 +1.2**
LZH pmax pmax
comp=E,18nm,1.3s
LZH pmax pmax
comp=E,53nm,7.6s
LZH LR LR
comp=N,110nm,15.0s
LZH LR LR
comp=E,110nm,15.3s
LZH LR LR
comp=E,170nm,17.6s
BOSA Boshof 68.70 171 LR LR 14 27 32.5
comp=E,30nm,19.5s,baz=21,slow=40
HHC Hu-ho-hao-te 68.86 54 P P 13 52 46.4 +1.1
HHC pmax pmax
comp=E,8.0nm,1.0s
HHC pmax pmax
comp=E,23nm,5.6s
BILL Bilibino 70.06 11 *i*P P 13 52 55.3 +3.2
BILL *i* 13 53 19.8
BILL pmax pmax
comp=E,1.0nm,1.0s
YKA Yellowknife Ar 70.55 338 P P 13 52 54.5 -0.6
comp=E,0.9nm,0.9s,baz=41,slow=5.2,SNR=12
CMAR Chiang Mai Arr 73.03 80 P P 13 53 10.8 0.0
comp=E,0.6nm,0.6s,baz=308,slow=7.0,SNR=5.0
CMAR LR LR 14 32 11.6
comp=E,40nm,18.4s,baz=205,slow=41
ILAR Eielson Array 74.81 353 P P 13 53 20.2 -0.2
comp=E,0.4nm,0.8s,baz=3.3,slow=7.0,SNR=4.9
KSRS Korea Array 80.84 48 LR LR 14 33 11.5
comp=E,26nm,18.7s,baz=250,slow=38
BDFB Brasilia 81.23 241 LR LR 14 30 20.8
comp=E,37nm,18.5s,baz=320,slow=36

IDC 06 13:53:34.5±1.8, 17°.37S×177°.95W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/24, mbtmp4.0/4, Error ellipse: s-maj=169.4km s-min=30.6km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.27**	**241**	P	P		14 01 05.5	+0.3
	1.8nm,0.8s,baz=47,slow=9.2,SNR=4.6							
WRA	**Warramunga Arr**	**45.16**	**259**	P	P		14 01 53.0	-0.4
	0.4nm,0.4s,baz=96,slow=7.6,SNR=2.7							
ASAR	**Alice Springs**	**45.36**	**254**	P	P		14 01 54.7	-0.3
	3.5nm,0.6s,baz=86,slow=9.2,SNR=74							
TXAR	**Lajitas Array**	**85.34**	**57**	P	P		14 06 14.0	-0.1
	1.0nm,0.9s,baz=210,slow=7.2,SNR=6.0							

*IDC **06** 14:13:56.6±1.5, 6°.03S×128°.97E, h273km±16km, mb3.5/12, mb1 3.7/17, mb1mx3.6/28, mbtmp4.3/17, Error ellipse: s-maj=18.6km s-min=8.0km az=82.0*
*DJA **06** 14:13:56.9±0.2, 6°.S±2°.×129°.9E±°, h273km, 3km, M4.5/25, mb4.4/25, mB5.0/7, MLv4.7/19, Mw(mB)4.3/7*
*NEIC **06** 14:13:56.2±2.0, 5°.97S±0°.07×128°.99E±0°.07, h272km±7km, mb4.2/13, Error ellipse: s-maj=10.7km s-min=9.5km az=92.0*

ISC 06 14:13:55.5±0.4, 6°.03S±0°.04×128°.96E±0°.06, h264km, n80, σ1°71/88, mb3.9/19, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.77**	**32**	P	P	**Pn**	**14 14 40.0**	**+2.8**
AAI	**Ambon**	**2.45**	**342**	P	P	**Pn**	**14 14 45.8**	**+2.5**
AAI				S	S	**S**	**14 15 23.6**	**+2.4**
MSAI	**Masohi**	**2.67**	**359**	P	P	**Pn**	**14 14 46.6**	**+1.1**
SAUI	**Saumlaki**	**3.03**	**130**	P	P	**Pn**	**14 14 51.7**	**+2.5**
SAUI				S	S	**S**	**14 15 34.9**	**+3.1**
SAUI	**Saumlaki**	**3.03**	**130**	Pn	Pn	**Pn**	**14 14 52.2**	**+3.0**
NLAI	**Namlea**	**3.33**	**326**	P	P	**Pn**	**14 14 55.4**	**+2.9**
FAKI	**Fak Fak**	**4.51**	**47**	P	P	**Pn**	**14 15 06.1**	**+0.2**
FAKI	**Fak Fak**	**4.51**	**47**			**Pn**	**14 15 05.8**	**0.0**
SANI	**Sanana**	**4.94**	**323**	P	P	**Pn**	**14 15 11.8**	**+0.7**
LBMI	**Labuha**	**5.55**	**345**	P	P	**Pn**	**14 15 19.3**	**+0.8**
	0.6nm2µm167nm,0.8s							
SIJI	**Sorong**	**5.62**	**24**	P	P	**Pn**	**14 15 19.2**	**-0.2**
	21nm,0.3s,baz=319,slow=23,SNR=61							
SIJI				S	S	**S**	**14 16 20.5**	**-6.0**
	37nm,0.3s,baz=78,slow=23,SNR=8.2							
SOEI	**Soe**	**5.94**	**231**	P	P	**Pn**	**14 15 25.3**	**+1.9**
	0.6nm70nm,0.7s							
SOEI	**Soe**	**5.94**	**231**	Pn	Pn	**Pn**	**14 15 25.2**	**+1.9**
BATI	**Baumata**	**6.69**	**231**	P	P	**Pn**	**14 15 33.3**	**+0.8**
	20nm,0.3s,baz=71,slow=4.4,SNR=13							
BATI				S	S	**S**	**14 16 47.9**	**-2.6**
	32nm,0.3s,baz=35,slow=21,SNR=11							
BATI	**Baumata**	**6.69**	**231**	P	P	**Pn**	**14 15 33.9**	**+1.4**
	0.3nm52nm,0.5s							
RKPI	**Ransiki, Papua**	**6.87**	**49**	P	P	**Pn**	**14 15 35.8**	**+1.0**
	1.4nm6µm177nm,0.6s							
TNTI	**Ternate**	**6.94**	**347**	P	P	**Pn**	**14 15 36.5**	**+0.8**
	0.2nm48nm,0.9s							
TNTI	**Ternate**	**6.94**	**347**	Pn	Pn	**Pn**	**14 15 36.4**	**+0.8**
MTN	**Manton Dam**	**7.10**	**163**	Pn	Pn	**Pn**	**14 15 39.0**	**+1.4**
EDFI	**Ende, Flores**	**7.70**	**249**	P	P	**Pn**	**14 15 47.5**	**+2.3**
	0.1nm26nm,0.8s							
LUWI	**Luwuk**	**7.92**	**309**	P	P	**Pn**	**14 15 49.5**	**+1.6**
	0.4nm2µm112nm,0.9s							
LUWI	**Luwuk**	**7.92**	**309**	Pn	Pn	**Pn**	**14 15 48.9**	**+1.1**
BKSI	**Bulukumba**	**8.82**	**274**	P	P	**Pn**	**14 16 00.9**	**+1.7**
	9.9nm,0.5s							
APSI	**Ampana**	**8.89**	**305**	P	P	**Pn**	**14 16 02.2**	**+2.1**
SPSI	**Sidrap Palu**	**9.38**	**282**	P	P	**Pn**	**14 16 09.0**	**+2.7**
	19nm,0.8s							
MRSI	**Marisa**	**9.53**	**312**	P	P	**Pn**	**14 16 09.5**	**+1.4**
	28nm,0.8s							
KNRA	**Kununurra**	**9.59**	**181**	Pn	Pn	**Pn**	**14 16 09.5**	**+0.6**
WBSI	**Waikabubak, Su**	**10.13**	**249**	P	P	**Pn**	**14 16 16.5**	**+0.8**

83nm,0.9s
MPSI Mapaga 11.04 305 P P 14 16 29.3 -1.4
13nm,0.9s
PLAI Plampang 11.43 255 P Pn 14 16 32.7 +0.9
30nm,1.2s
JAY Jayapura 12.22 74 P P 14 16 43.0 -1.0
1.5nm,0.3s,baz=204,slow=8.1,SNR=4.9
FITZ Fitzroy Crossi 12.43 195 P Pn 14 16 43.6 -0.4
3.0nm,0.3s,baz=20,slow=9.8,SNR=44
FITZ S **S 14 18 58.2 -4.1**
3.3nm,0.3s,baz=311,slow=14,SNR=3.5
FITZ Fitzroy Crossi 12.43 195 P 14 16 46.5 +0.5
KCP Kidapawan 13.52 343⇑ eP Pn 14 16 57.7 +0.2
WB0 Warramunga Arr 14.64 159 P Pn 14 17 11.3 +0.3
WRAB Tennant Creek 14.78 160 P Pn 14 17 12.7 0.0
WRA Warramunga Arr 14.79 160 P Pn 14 17 12.9 +0.2
6.2nm,0.3s,baz=337,slow=12,SNR=84
WRA S **S 14 19 49.2 -6.4**
0.3nm,0.3s,baz=90,slow=13,SNR=1.6
WB2 Warramunga Arr 14.79 160 Pn 14 17 13.2 +0.5
WR0 Warramunga Arr 14.87 159 P 14 17 13.2 0.0
JAGI Jajag, Banyuwa 14.89 260 P Pn 14 17 14.6 +0.6
27nm,0.6s
JAGI Jajag, Banyuwa 14.89 260 P P 14 17 12.4 -1.0
KKM Kota Kinabalu 17.48 313 P P 14 17 42.9 +1.0
KKM IAmb IAmb 14 17 43.3
comp=Z,7.9nm,0.8s
PSA00 Pilbara Seismi 17.79 209 Pn 14 17 46.7 -1.4
AS31 Alice Springs 18.17 165 P Pn 14 17 51.9 -0.6
ASAR Alice Springs 18.17 165 P Pn 14 17 51.5 -1.0
comp=Z,14nm,0.3s,baz=345,slow=11,SNR=17.7
ASAR S **S 14 21 02.3 -1.0**
comp=Z,1.0nm,0.3s,baz=345,slow=21,SNR=31
TGY Tagaytay City 21.53 338 P P 14 18 24.6 +0.4
comp=Z,147nm,0.4s,baz=179,slow=6.9,SNR=4.8
GIRL Giralia 21.79 219 P P 14 18 28.4 +1.8
CTAO Charters Tower 21.86 131 P P 14 18 25.4 -1.8
CTAO IAmb IAmb 14 18 30.1
comp=Z,13nm,1.1s
FORT Forrest 24.64 182 P P 14 18 53.3 +1.0
FORT IAmb IAmb 14 19 12.0
comp=Z,11nm,0.9s
MORW Morawa 25.97 207 P P 14 19 04.9 +0.6
MORW IAmb IAmb 14 19 23.5
comp=Z,6.5nm,1.1s
BBOO Buckleboo 27.45 167 P P 14 19 17.6 +0.1
STKA Stephens Creek 28.30 157 P P 14 19 26.8 +1.8
comp=Z,2.3nm,0.8s,baz=344,slow=11,SNR=5.4
STKA Stephens Creek 28.30 157 P P 14 19 26.3 +1.3
NWAO Narrogin (SRO) 28.90 201 P P 14 19 30.9 +0.6
comp=Z,9.0nm,1.0s,baz=35,slow=8.0,SNR=9.7
NWAO Narrogin (SRO) 28.90 201 P P 14 19 31.0 +0.6
NWAO IAmb IAmb 14 19 32.7
comp=Z,4.9nm,0.8s
NWAO Narrogin (SRO) 28.90 201 P P 14 19 30.9 +0.6
NWAO IAmb IAmb 14 19 32.7
comp=Z,4.0nm,0.8s
KULM Kulim 30.42 291 P P 14 19 42.0 -1.9
KULM IAmb IAmb 14 19 48.4
comp=Z,7.8nm,1.1s
CMAR Chiang Mai Arr 38.32 310 P P 14 20 51.9 +0.5
comp=Z,1.4nm,0.6s,baz=138,slow=7.6,SNR=9.7
MJAR Matsushiro Arr 43.23 11 P P 14 21 30.4 -0.6
comp=Z,2.9nm,0.8s,baz=187,slow=9.6,SNR=5.9
KSRS Korea Array 43.27 359 P P 14 21 32.1 +0.9
comp=Z,2.1nm,0.5s,baz=177,slow=9.3,SNR=21
LZH Lanzhou 48.07 332 ⇑P P 14 22 11.8 +2.8
LZH pP pwP 14 23 10.2 +0.5
LZH sP sP 14 23 40.1 +7.6
LZH PP **PP 14 24 06.3 +2.3**
LZH pmax pmax
comp=Z,17nm,1.3s
LZH pmax pmax
comp=Z,54nm,5.6s
HHC Hu-ho-hao-te 49.31 343 P P 14 22 18.2 0.0
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,26nm,5.9s
USRK Ussuriysk Ar. 50.07 3 P P 14 22 24.2 +0.4
comp=Z,2.4nm,0.7s,baz=190,slow=7.7,SNR=5.3
ODAN Odare 51.84 311 eP P 14 22 37.0 -0.5
TAPN Taplejung 51.87 312 eP P 14 22 37.3 -0.5
RAMN Ramite 52.48 311 eP P 14 22 42.2 -0.1
comp=Z,16nm,0.6s
JIRN Jiri 53.17 311 eP P 14 22 47.1 -0.3
comp=Z,12nm,0.8s
GUN Gumba 53.54 311 eP P 14 22 49.5 -0.5
comp=Z,17nm,0.7s
PKIN Phulchoki 53.73 311 eP P 14 22 50.5 -0.8
GKN Gorkha 54.52 311 eP P 14 22 56.5 -0.4
KOLN Koldanda 55.19 310 eP P 14 23 01.1 -0.6
DANN Dangsing 55.36 311 eP P 14 23 02.8 -0.2
SONM Songino Array 57.20 342 P P 14 23 15.2 -0.2
comp=Z,1.5nm,0.7s,baz=160,slow=7.4,SNR=6.5
WMQ Urumqi 62.02 327 eP P 14 23 49.3 +1.1
PETK Petropavlovsk- 63.74 19 P P 14 23 59.9 +0.7
comp=Z,1.4nm,0.8s,baz=182,slow=4.3,SNR=2.4
MKAR Makanchi Array 66.85 327 P P 14 24 19.6 +0.3
comp=Z,1.1nm,0.4s,baz=122,slow=7.9,SNR=21
ZALV Zalesovo Beam 70.26 334 P P 14 24 39.1 -0.9
comp=Z,0.9nm,0.4s,baz=90,slow=4.7,SNR=4.9
VNDA Vanda 73.53 173 P P 14 24 59.9 +0.8
comp=Z,0.6nm,0.8s,baz=285,slow=7.5,SNR=2.8
QSPA South Pole Qui 83.94 180 P P 14 25 56.2 +0.3
ILAR Eielson Array 92.92 25 P P 14 26 36.9 -1.4
comp=Z,0.2nm,0.7s,baz=269,slow=5.3,SNR=2.6

*GUC **06** 14:21:51.8±0.7, 19.41S×69.15W, h113km±3km, ML3.4*
*IDC **06** 14:21:52.9±1.0, 19.45S×68.64W, h123km±12km, mb3.5/3, mb1 3.7/7, mb1mx3.4/34, mbtmp3.9/7, Error ellipse: s-maj=32.9km s-min=8.6km az=97.0*
ISC 06 14:21:52.1±0.9, 19.39S±0.04×69.09W±0.07, h112km±7km, n21, σ1§13/34, mb3.8/3, 4C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO01	**Chusmiza**	**0.29**	**200**	⇓*iP*	**Pn**	**14 22 08.9**	**+0.2**
GO01				*i* S	**Sn**	**14 22 21.7**	**+0.6**
GO01				IAML		14 22 24.5	
comp=E,1μm,0.2s							
MNMC	**Minye Minye**	**0.55**	**298**	⇓*iP*	**Pn**	**14 22 10.1**	**+0.3**
MNMC				*i* S	**Sn**	**14 22 23.7**	**+0.7**
PB11	**IPOC Station P**	**0.65**	**235**	*i* P	**Pn**	**14 22 10.5**	**+0.1**
PB11				*i* S	**Sn**	**14 22 24.6**	**+0.4**
PB11				IAML		14 22 25.4	
comp=E,2μm,0.3s							
PB08	**IPOC Station P**	**0.75**	**185**	⇑*iP*	**Pn**	**14 22 12.1**	**+0.5**
PB08				*i* S	**Sn**	**14 22 26.9**	**+0.8**
PB08				IAML		14 22 27.9	
comp=N,2μm,0.2s							
PSGC	**Pisagua**	**1.00**	**258**	⇑*iP*	**Pn**	**14 22 13.2**	**-0.3**
PSGC				*i* S	**Sn**	**14 22 29.4**	**-0.3**
PB12	**IPOC Station P**	**1.41**	**303**	⇑*iP*	**Pn**	**14 22 17.8**	**-0.2**
PB12				*i* S	**Sn**	**14 22 37.1**	**-0.5**
PB12				IAML		14 22 38.8	
comp=E,485nm,0.3s							
TA01	**Diego Aracena**	**1.56**	**221**	⇓*iP*	**Pn**	**14 22 19.3**	**-0.4**
TA01				*i* S	**Sn**	**14 22 40.1**	**-0.5**
AP01	**Chacalluta**	**1.56**	**310**	*eP*	**Pn**	**14 22 19.6**	**-0.2**
AP01				*i* S	**Sn**	**14 22 41.2**	**+0.4**
PB01	**IPOC Station P**	**1.69**	**193**	⇑*iP*	**Pn**	**14 22 21.4**	**0.0**
PB01				*i* S	**Sn**	**14 22 43.5**	**-0.2**
PB01				IAML		14 22 45.1	
comp=E,632nm,0.6s							
PATCX	**Punta Patache**	**1.74**	**215**	*eP*	**Pn**	**14 22 21.8**	**-0.3**
PB02	**IPOC Station P**	**2.06**	**201**	⇓*iP*	**Pn**	**14 22 26.5**	**+0.4**
PB02				*i* S	**Sn**	**14 22 52.2**	**+0.1**
PB02				IAML		14 22 54.1	
comp=E,243nm,0.4s							
PB09	**IPOC Station P**	**2.40**	**183**	⇓*iP*	**Pn**	**14 22 31.1**	**+0.6**
PB09				*i* S	**Sn**	**14 23 01.0**	**+1.2**
PB09				IAML		14 23 05.1	
comp=N,154nm,0.6s							
PB07	**IPOC Station P**	**2.44**	**198**	*eP*	**Pn**	**14 22 31.2**	**+0.2**
PB03	**IPOC Station P**	**2.72**	**193**	*eP*	**Pn**	**14 22 35.0**	**+0.4**
LVC	**Limon Verde**	**3.21**	**177**	P	**Pn**	**14 22 41.9**	**+0.7**
comp=N,3.2nm,0.3s,baz=33,slow=9.7,SNR=33							
LVC				S	**Sn**	**14 23 19.2**	**+0.1**
comp=N,14nm,0.3s,baz=110,slow=17,SNR=17							
LPAZ	**La Paz**	**3.22**	**17**	P	**Pn**	**14 22 43.5**	**+1.9**
comp=N,4.9nm,0.3s,baz=192,slow=7.8,SNR=123							
LPAZ				S	**Sn**	**14 23 19.9**	**+0.2**
baz=41,slow=23,SNR=0.9							
SIV	**San Ignacio**	**8.35**	**67**	P	**Pn**	**14 23 47.3**	**-3.2**
comp=N,0.5nm,0.3s,baz=266,slow=9.4,SNR=18							
ATAH	**Atahualpa**	**15.17**	**322**	P	**P**	**14 25 26.6**	**+3.1**
comp=N,0.5nm,0.3s,baz=56,slow=15,SNR=2.8							
PLCA	**Paso Flores**	**21.31**	**183**	P	**P**	**14 26 30.9**	**+0.9**
comp=N,5.8nm,1.2s,baz=30,slow=9.2,SNR=3.4							
TORD	**Torodi Ar. Bea**	**76.81**	**71**	P	**P**	**14 33 29.3**	**-2.9**
comp=N,0.8nm,1.0s,baz=256,slow=4.8,SNR=2.8							
YKA	**Yellowknife Ar**	**89.15**	**341**	P	**P**	**14 34 34.3**	**-0.3**
comp=N,0.7nm,0.6s,baz=139,slow=5.0,SNR=15							

*NEIC **06** 14:31:31.0±1.3, 5.78S±0.2×151.78E±0.3, h55km±10km, mb4.1/5, Error ellipse: s-maj=48.7km s-min=9.8km az=124.0*
*IDC **06** 14:31:32.5±2.0, 5.72S×151.67E, h65km±18km, mb3.7/6, mb1 3.9/7, mb1mx3.5/29, mbtmp4.0/7, MS3.0/4, Ms1 3.0/4, ms1mx2.8/32, Error ellipse: s-maj=43.9km s-min=13.4km az=119.0*
ISC 06 14:31:31.8±1.1, 5.78S±0.1×151.76E±0.2, h57km, n19, σ1§23/17, mb3.9/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.45**	**16**	P	**Pn**	**14 31 55.2**	**-0.5**
304nm,0.3s,baz=147,slow=1.4,SNR=327							
KRVT				S	**Sn**	**14 32 15.0**	**+1.4**
269nm,0.3s,baz=30,slow=22,SNR=5.3							
KRVT				LR	LR	14 32 50.0	
comp=Z,779nm,18.1s,baz=183,slow=54							
RABL	**Rabaul**	**1.60**	**20**		**Pn**	**14 31 57.1**	**-0.7**
PMG	**Port Moresby**	**5.75**	**230**	P	**Pn**	**14 32 56.8**	**+2.1**
3.0nm,0.3s,baz=47,slow=7.4,SNR=10							
PMG				S	**Sn**	**14 33 56.2**	**-3.1**
2.5nm,0.3s,baz=39,slow=11,SNR=3.0							
PMG				LR	LR	14 34 40.3	
comp=Z,100nm,19.7s,baz=21,slow=32							
PMG	**Port Moresby**	**5.75**	**230**		**Pn**	**14 32 54.9**	**+0.3**
HNR	**Honiara**	**9.05**	**115**	LR	LR	14 36 30.1	
comp=Z,35nm,20.4s,baz=209,slow=33							
DZM	**Mont Dzumac**	**21.69**	**140**	LR	LR	14 43 07.5	
comp=Z,67nm,20.7s,baz=334,slow=32							
WB0	**Warramunga Arr**	**21.82**	**229**	P	**P**	**14 36 20.6**	**+1.1**
WB0				IAmb	IAmb	14 36 23.2	
comp=Z,8.2nm,0.9s							
WR0	**Warramunga Arr**	**21.83**	**228**	P	**P**	**14 36 20.3**	**+0.7**
WB2	**Warramunga Arr**	**21.96**	**228**	P	**P**	**14 36 20.5**	**-0.5**
WB2				IAmb	IAmb	14 36 30.9	
comp=Z,5.7nm,1.0s							
WRA	**Warramunga Arr**	**21.97**	**228**	P	**P**	**14 36 21.1**	**0.0**
comp=Z,2.6nm,0.5s,baz=53,slow=10.0,SNR=17							
AS31	**Alice Springs**	**24.69**	**222**	P	**P**	**14 36 48.4**	**+0.6**
ASAR	**Alice Springs**	**24.70**	**222**	P	**P**	**14 36 48.2**	**+0.4**
comp=Z,3.3nm,0.8s,baz=56,slow=9.2,SNR=42							
FITZ	**Fitzroy Crossi**	**28.20**	**242**	P	**P**	**14 37 18.8**	**-0.5**
comp=Z,4.2nm,0.5s,baz=54,slow=4.3,SNR=13							
FITZ	**Fitzroy Crossi**	**28.20**	**242**	IAmb	IAmb	14 37 36.7	
comp=Z,6.7nm,1.1s							
KSRS	**Korea Array**	**48.29**	**335**	LR	LR	14 59 37.6	
comp=Z,54nm,19.3s,baz=219,slow=35							
SONM	**Songino Array**	**66.47**	**329**	P	**P**	**14 42 16.3**	**+0.8**
comp=Z,0.4nm,0.3s,baz=84,slow=28,SNR=3.0							
VNDA	**Vanda**	**71.98**	**178**	P	**P**	**14 42 49.2**	**+0.2**
comp=Z,0.4nm,0.6s,baz=327,slow=7.0,SNR=5.4							
ILAR	**Eielson Array**	**83.43**	**22**	P	**P**	**14 43 51.9**	**-1.0**
comp=Z,0.4nm,0.7s,baz=252,slow=5.6,SNR=4.4							
TORD	**Torodi Ar. Bea**	**149.45**	**286**	PKPbc	**PKPbc**	**14 51 15.3**	**-0.3**
comp=Z,2.4nm,0.7s,baz=64,slow=2.7,SNR=12							

*IDC **06** 14:41:28.8±1.4, 9.61N×127.89E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/42, mbtmp3.9/5, ML4.4/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/47, Error ellipse: s-maj=59.4km s-min=23.7km az=76.0*
*MAN **06** 14:41:29.2, 9.33N×127.37E, h112km, mb5.3, ML4.3, MS4.5*
ISC 06 14:41:35.5±1.2, 9.53N±0.05×127.17E±0.10, h41km, n18, σ2§88/23, mb3.8/4, 2C-3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**2.36**	**285**	*eP*	**Pn**	**14 42 10.5**	**-1.2**
MSLP				*eS*	**Sn**	**14 42 42.8**	**+3.4**
BUKP	**Musuan**	**2.65**	**232**	*eP*	**Pn**	**14 42 12.6**	**-3.3**
BUKP				*eS*	**Sn**	**14 42 44.5**	**-2.4**
CGP	**Cagayan de Oro**	**2.67**	**247**	⇓*eP*	**Pn**	**14 42 14.4**	**-1.6**
MATI	**Mati**	**2.72**	**199**	*eP*	Pn	14 42 10.7	-6.1
MATI				*eS*	Sn	14 43 02.4	+14
DAV	**Davao City (W)**	**2.91**	**213**	Pn	**Pn**	**14 42 24.1**	**+4.7**
39nm,0.3s,baz=83,slow=13,SNR=1.5							
DAV				Sn	**Sn**	**14 42 51.4**	**-1.7**
67nm,0.3s,baz=264,slow=12,SNR=3.8							
DAV				LR	LR	14 44 01.9	
comp=Z,150nm,20.4s,baz=54,slow=45							
KCP	**Kidapawan**	**3.24**	**220**	⇓*iP*	**Pn**	**14 42 27.0**	**+3.0**
KCP				*i* S	**Sn**	**14 43 07.7**	**+6.3**
TBP	**Tagbilaran**	**3.27**	**273**	*i* P	**Pn**	**14 42 21.2**	**-3.0**
CTBH	**Cotabato--PC H**	**3.69**	**232**	⇓*iP*	**Pn**	**14 42 30.5**	**+0.4**
DDMP	**Don Marcelino,**	**3.70**	**203**	*eP*	**Pn**	**14 42 30.0**	**-0.2**
DDMP				*eS*	**Sn**	**14 43 08.0**	**-4.6**
CNP	**Catarman**	**3.85**	**320**	*eP*	Pn	14 42 41.3	+9.0
CNP				*eS*	**Sn**	**14 43 15.6**	**-0.7**
CNOP	**Candoni, Negro**	**4.48**	**274**	*eP*	**Pn**	**14 42 38.3**	**-2.6**
CNOP				*eS*	**Sn**	**14 43 32.9**	**+1.1**
RCP	**Roxas**	**4.80**	**295**	⇑*eP*	**Pn**	**14 42 44.4**	**-0.9**
PVCP	**Virac**	**5.01**	**324**	*eP*	Pn	14 42 54.2	+6.1
PVCP				*eS*	**Sn**	**14 43 44.9**	**+0.1**
JAP	**San Jose, Anti**	**5.28**	**284**	⇑*eP*	**Pn**	**14 42 55.2**	**+3.2**
WRA	**Warramunga Arr**	**30.13**	**166**	P	**P**	**14 47 39.4**	**-2.2**
0.6nm,0.5s,baz=347,slow=9.1,SNR=2.7							
ASAR	**Alice Springs**	**33.64**	**169**	P	**P**	**14 48 10.8**	**-1.7**
0.4nm,0.6s,baz=355,slow=6.1,SNR=8.1							
MKAR	**Makanchi Array**	**53.15**	**323**	P	**P**	**14 50 50.4**	**+1.1**
1.5nm,0.9s,baz=121,slow=8.7,SNR=8.0							
ARCES	**ARCESS Array B**	**85.19**	**340**	P	**P**	**14 54 08.7**	**+1.4**
1.0nm,0.6s,baz=69,slow=6.6,SNR=4.7							

*IDC **06** 14:42:44.5±1.8, 14.59N×54.48E, h0km, mb3.8/11, mb1 3.9/11, mb1mx3.7/48, mbtmp3.8/11, MS3.3/11, Ms1 3.3/11, ms1mx3.0/47, Error ellipse: s-maj=46.3km s-min=23.8km az=49.0*
ISC 06 14:42:47.0±1.9, 14.61N±0.3×54.52E±0.3, h17km, n22, σ1§24/11, mb3.9/11, MS3.2/9, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**9.48**	**24**	LR	LR	14 48 20.7	
comp=Z,128nm,20.3s,baz=190,slow=36							
ATD	**Arta Tunnel**	**11.70**	**256**	LR	LR	14 49 09.3	
comp=Z,137nm,18.4s,baz=176,slow=33							
GEYT	**Alibeck**	**23.49**	**7**	P	**P**	**14 47 56.5**	**+0.5**
1.4nm,0.6s,baz=341,slow=36,SNR=3.0							
GEYT				LR	LR	14 58 27.2	
comp=Z,56nm,21.4s,baz=265,slow=40							
BRTR	**Keskin Array B**	**31.00**	**328**	LR	LR	15 03 12.2	
comp=Z,40nm,18.1s,baz=160,slow=40							
MKAR	**Makanchi Array**	**39.65**	**30**	P	**P**	**14 50 18.6**	**+0.6**
0.7nm,0.6s,baz=213,slow=8.4,SNR=9.6							
MKAR				LR	LR	15 06 04.0	
comp=Z,39nm,21.6s,baz=184,slow=35							
AKASG	**Malin Array Be**	**41.41**	**336**	P	**P**	**14 50 31.6**	**-0.8**
0.3nm,0.4s,baz=142,slow=7.9,SNR=4.6							
CMAR	**Chiang Mai Arr**	**42.75**	**78**	P	**P**	**14 50 43.9**	**-0.1**
0.5nm,0.8s,baz=12,slow=22,SNR=3.2							
CMAR				LR	LR	15 10 24.6	
comp=Z,48nm,18.1s,baz=145,slow=39							
MATP	**Matopo**	**43.13**	**217**	LR	LR	15 08 25.8	
comp=Z,36nm,21.5s,baz=64,slow=36							
ZALV	**Zalesovo Beam**	**45.93**	**25**	P	**P**	**14 51 08.4**	**-0.4**
0.8nm,0.6s,baz=234,slow=4.5,SNR=3.6							
FINES	**FINESS Array B**	**51.05**	**343**	P	**P**	**14 51 49.9**	**+1.8**
1.6nm,0.7s,baz=160,slow=12,SNR=7.7							
BOSA	**Boshof**	**51.39**	**213**	LR	LR	15 12 09.2	
comp=Z,23nm,19.2s,baz=48,slow=34							
SONM	**Songino Array**	**54.06**	**41**	P	**P**	**14 52 12.0**	**+1.1**
0.4nm,0.4s,baz=293,slow=7.5,SNR=2.0							
HFS	**Hagfors**	**54.30**	**336**	LR	LR	15 17 55.9	
comp=Z,39nm,18.4s,baz=122,slow=39							
NOA	**NORSAR Array B**	**55.82**	**336**	LR	LR	15 19 36.8	
comp=Z,17nm,18.3s,baz=35,slow=40							
ARCES	**ARCESS Array B**	**57.85**	**348**	P	**P**	**14 52 36.4**	**-1.1**
1.2nm,0.7s,baz=144,slow=8.4,SNR=8.1							
KSRS	**Korea Array**	**68.25**	**55**	P	**P**	**14 53 45.2**	**-1.9**
0.9nm,0.8s,baz=267,slow=6.8,SNR=7.9							
BORG	**Borgarnes**	**70.85**	**334**	LR	LR	15 27 46.0	
comp=Z,31nm,18.1s,baz=59,slow=38							
H01W3	**Cape Leeuwin H**	**74.97**	**133**	T	T	16 16 09.3	
baz=301,slow=75,SNR=36							
H01W2	**Cape Leeuwin H**	**74.97**	**133**	T	T	16 16 09.8	
baz=301,slow=75,SNR=32							
H01W1	**Cape Leeuwin H**	**74.98**	**133**	T	T	16 16 08.7	
baz=301,slow=75,SNR=42							
WRA	**Warramunga Arr**	**85.69**	**112**	P	**P**	**14 55 25.5**	**-0.2**
1.1nm,0.9s,baz=296,slow=4.4,SNR=3.4							
ASAR	**Alice Springs**	**86.41**	**115**	P	**P**	**14 55 30.4**	**+1.3**
1.1nm,0.7s,baz=288,slow=4.4,SNR=8.1							

*NIED **06** 14:42:00, 44.40N×148.80E, h32km, Mw3.6 Best double couple: M0 2.77000×10^14 NP1:φs 204.00000°, δ81.00000°, λ-44.00000°. NP2:φs 303.00000°, δ47.00000°, λ-168.00000°.*
*SKHL **06** 14:42:55.9±0.3, 44.30N×149.08E, h45km±5km, mb4.0/5*
*JMA **06** 14:42:58.1±0.7, 44.39N×148.80E, h30km, M3.8*
ISC 06 14:42:52.3±3.7, 44.18N±0.09×149.3E±0.2, h38km, n22, σ2§65/30, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.48**	**316**	*i* P	**Pn**	**14 43 16.1**	**-0.1**
KUR				AMB	AMB	14 43 16.6	
50nm,0.4s							
KUR				*e*S	**Sn**	**14 43 31.0**	**-3.3**
KUR				A	A	14 43 32.0	
790nm,0.5s							
KUR				A	A	14 43 32.0	
470nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.49**	**268**	*i* P	**Pn**	**14 43 31.4**	**+1.2**
YUK				AMB	AMB	14 43 34.0	
20nm,0.2s							
YUK				*e*S	**Sn**	**14 43 57.5**	**-1.9**
YUK				A	A	14 44 03.0	
130nm,0.4s							
YUK				A	A	14 44 03.0	
440nm,0.4s							
GRPR	**Tuman**	**2.56**	**267**	*i* P	**Pn**	**14 43 32.9**	**+1.7**
GRPR				AMB	AMB	14 43 33.0	
40nm,0.4s							
GRPR				*e*S	**Sn**	**14 44 00.9**	**-0.2**
GRPR				A	A	14 44 05.0	
160nm,0.3s							
GRPR				A	A	14 44 05.0	
300nm,0.3s							
NEM2	**Nemuro 2**	**2.71**	**254**	P	**Pn**	**14 43 34.2**	**+0.9**
NEM2				*e*S	**Sn**	**14 44 01.1**	**-3.7**
NMR	**Nemuro--Hokkai**	**2.72**	**254**	*e*P	**Pn**	**14 43 34.0**	**+0.6**
NMR				*e*S	**Sn**	**14 44 04.0**	**-1.0**
GLVR	**Golovnino**	**2.78**	**262**	*e*P	**Pn**	**14 43 35.0**	**+0.9**
GLVR				AMB	AMB	14 43 36.0	
20nm,0.3s							
GLVR				*e*S	**Sn**	**14 44 06.8**	**+0.4**
GLVR				A	A	14 44 15.0	
60nm,0.4s							
GLVR				A	A	14 44 15.0	
300nm,0.4s							
JNK	**Nakash**	**3.38**	**261**	P	**Pn**	**14 43 44.3**	**+1.9**
JNK				*e*S	**Sn**	**14 44 19.6**	**-1.6**
JAK	**Akkeshi**	**3.56**	**252**	P	**Pn**	**14 43 46.3**	**+1.4**
JTKR	**Abashiri--Toko**	**3.90**	**269**	P	**Pn**	**14 43 52.2**	**+2.6**
JAR	**Ashorobuto**	**4.12**	**260**	P	**Pn**	**14 43 55.2**	**+2.6**
JOB	**Onbets**	**4.19**	**254**	P	**Pn**	**14 43 55.9**	**+2.4**
JMP	**Maruseppu**	**4.30**	**270**	P	**Pn**	**14 43 57.7**	**+2.7**
JCH	**Churui**	**4.61**	**252**	P	**Pn**	**14 44 02.1**	**+2.7**
JKK2	**Kamakawa 2**	**4.75**	**269**	P	Pn	14 44 05.6	+4.4
ASAJ	**Asahikawa**	**4.84**	**272**	P	**Pn**	**14 44 06.7**	**+4.3**
JFR	**Furan**	**4.98**	**261**	P	**Pn**	**14 44 08.5**	**+4.0**
JNBK	**Urakawa-nobuka**	**5.16**	**251**	P	**Pn**	**14 44 09.0**	**+2.1**
JBT2	**Biratori 2**	**5.25**	**257**	P	**Pn**	**14 44 10.5**	**+2.4**
YSS	**Yuzh-Sakhalins**	**5.38**	**303**	*e*P	**Pn**	**14 44 11.8**	**+2.0**
YSS				AMB	AMB	14 44 12.5	
4.0nm,0.4s							
JNB	**Noboribetsu**	**6.28**	**257**	P	**Pn**	**14 44 25.0**	**+2.8**
JNB				*e*S	**Sn**	**14 45 31.2**	**-1.4**
JKB	**Kayabe**	**6.49**	**252**	P	**Pn**	**14 44 27.2**	**+2.1**
JKB				*e*S	**Sn**	**14 45 34.7**	**-3.1**
JTH	**Tanohata**	**6.98**	**235**	*e*S	**Sn**	**14 45 43.7**	**-6.2**

*NIED **06** 15:12:00, 35.70N×141.10E, h23km, Mw4.0 Best double couple: M0 1.13000×10^15 NP1:φs 313.00000°, δ70.00000°, λ-152.00000°. NP2:φs 212.00000°, δ64.00000°, λ-22.00000°.*
*IDC **06** 15:12:45.1±1.0, 35.54N×140.98E, h0km, mb3.7/8, mb1 3.8/11, mb1mx3.6/54, mbtmp3.8/11, ML3.5/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/37, Error ellipse: s-maj=25.5km s-min=16.0km az=79.0*
*NEIC **06** 15:12:46.0±2.1, 35.62N±0.05×141.09E±0.08, h15km±6km, mb4.5/5, Error ellipse: s-maj=11.4km s-min=4.0km az=52.0*
*JMA **06** 15:12:47.6±0.2, 35.69N×140.98E, h19km±1km, M4.3*
JMA Felt II J1.
ISC 06 15:12:45.8±1.4, 35.68N±0.03×141.11E±0.06, h10km±8km, n49, σ1§45/51, mb3.9/11, 5C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.20**	**277**	⇑P	**Pg**	**15 12 51.3**	**+1.2**
CHOJ				S	**Sg**	**15 12 53.5**	**+0.5**
JSMT	**Sammumatsuo**	**0.54**	**267**	⇑P	**Pb**	**15 12 56.7**	**-0.7**
JSMT				S	**Sb**	**15 13 03.4**	**-1.8**
JIHU	**Itakohorinouch**	**0.56**	**301**	⇑P	**Pb**	**15 12 57.4**	**-0.3**
JIHU				S	**Sb**	**15 13 04.5**	**-1.2**
JCN	**Nagara**	**0.78**	**251**	⇑P	**Pb**	**15 13 01.3**	**-0.3**
JCN				S	**Sb**	**15 13 12.1**	**-0.1**
JHYU	**Hitachinakayam**	**0.79**	**328**	⇓P	**Pb**	**15 13 01.4**	**-0.2**
JHYU				S	**Sb**	**15 13 11.4**	**-0.9**
JKUC	**kamogawauchiur**	**0.91**	**235**	P	**Pb**	**15 13 03.3**	**-0.3**
JKUC				S	**

SONM	**Songino Array**	**28.36**	**306**	P		**P**	**15 18 42.8**	**+2.6**	
	0.5nm,0.5s,baz=120,slow=38,SNR=1.9								
H11S2	**WAKE ISLAND Hy**	**28.37**	**120**	T		T	15 48 19.5		
	baz=312,slow=75,SNR=366								
ZALV	**Zalesovo Beam**	**42.66**	**313**	P		**P**	**15 20 41.2**	**-1.2**	
	0.4nm,0.3s,baz=78,slow=7.5,SNR=1.5								
MKAR	**Makanchi Array**	**44.64**	**303**	P		**P**	**15 21 00.2**	**+1.6**	
	1.1nm,0.6s,baz=90,slow=9.8,SNR=14								
KURK	**Kurchatov**	**46.59**	**309**	P		**P**	**15 21 14.6**	**+0.8**	
KURK				IAmb		IAmb	15 21 17.5		
	comp=Z,2.5nm,0.8s								
KURBB	**Kurchatov Arra**	**46.65**	**309**	P		**P**	**15 21 14.2**	**-0.1**	
	comp=Z,1.2nm,0.6s,baz=85,slow=7.8,SNR=13								
ILAR	**Eielson Array**	**50.77**	**32**	P		**P**	**15 21 48.5**	**+2.7**	
	comp=Z,0.5nm,0.7s,baz=264,slow=5.9,SNR=7.3								
BVAR	**Borovoye Array**	**51.31**	**313**	P		**P**	**15 21 51.3**	**+1.3**	
	comp=Z,0.6nm,0.5s,baz=89,slow=9.3,SNR=4.3								
CTAO	**Charters Tower**	**55.67**	**174**	P		**P**	**15 22 20.1**	**-2.2**	
WR0	**Warramunga Arr**	**55.68**	**187**	P		**P**	**15 22 20.8**	**-1.6**	
WR0				IAmb		IAmb	15 22 22.2		
	comp=Z,12nm,1.2s								
WB2	**Warramunga Arr**	**55.69**	**188**	P		**P**	**15 22 21.6**	**-0.8**	
WB2				IAmb		IAmb	15 22 41.3		
	comp=Z,5.7nm,1.1s								
WRA	**Warramunga Arr**	**55.69**	**188**	P		**P**	**15 22 21.6**	**-0.8**	
	comp=Z,0.7nm,0.4s,baz=5.8,slow=7.8,SNR=7.5								
AS31	**Alice Springs**	**59.41**	**188**			**P**	**15 22 47.7**	**-0.9**	
ASAR	**Alice Springs**	**59.41**	**188**	P		**P**	**15 22 48.3**	**-0.4**	
	comp=Z,0.3nm,0.5s,baz=9.9,slow=8.0,SNR=10								
H03N2	**Juan Fernandez**	**147.10**	**98**	T		T	18 16 46.5		
	baz=289,slow=76,SNR=67								
H03N3	**Juan Fernandez**	**147.12**	**98**	T		T	18 16 46.3		
	baz=289,slow=76,SNR=56								
H03N1	**Juan Fernandez**	**147.12**	**98**	T		T	18 16 47.7		
	baz=289,slow=76,SNR=60								

IDC 06 15:20:06.3±1.1, **60°.56N**×**17°.68E**, **h0**km, **mb1 3.0**/2, **mb1mx2.8**/43, **mbtmp3.0**/2, **ML2.1**/3, **Error ellipse: s-maj=26.2km s-min=5.6km az=167.0, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
HFS	**Hagfors**	**2.03**	**260**	Pg	Pn		15 20 42.8	+1.1
	2.5nm,0.3s,baz=92,slow=20,SNR=69							
HFS				Lg	Lg		15 21 09.6	
	2.9nm,0.3s,baz=92,slow=30,SNR=22							
NOA	**NORSAR Array B**	**3.21**	**281**	Pn	Pn		15 20 58.4	+0.5
	0.0nm,0.3s,baz=238,slow=22,SNR=3.3							
NOA				Lg	Lg		15 21 46.4	
	0.1nm,0.3s,baz=181,slow=10,SNR=5.6							
FINES	**FINESS Array B**	**4.18**	**74**	Pn	Pn		15 21 11.5	+0.3
	0.3nm,0.3s,baz=257,slow=12,SNR=4.1							
FINES				Sn	Sn		15 22 02.4	+1.6
	0.5nm,0.3s,baz=253,slow=20,SNR=9.5							
FINES				Lg	Lg		15 22 15.5	
	1.0nm,0.3s,baz=247,slow=24,SNR=9.3							
ARCES	**ARCESS Array B**	**9.59**	**17**	Pn	Pn		15 22 21.6	-3.7
	0.1nm,0.3s,baz=193,slow=12,SNR=1.8							

*IDC **06** 15:31:10.4±0.7, 14°.71N×54°.85E, h0km, mb4.2/23, mb1 4.3/25, mb1mx4.2/44, mbtmp4.2/25, ML3.6/2, MS3.7/19, Ms1 3.7/19, ms1mx3.6/31, Error ellipse: s-maj=16.0km s-min=14.1km az=179.0*

*NEIC **06** 15:31:11.6±1.6, 14°.71N±0°.05×54°.8E±0°.1, h10km±1km, mb4.5/11, Error ellipse: s-maj=16.8km s-min=8.3km az=103.0*

*OMAN **06** 15:31:20.4±0.4, 15°.18N×54°.87E, h88km±16km, ml4.1/6, Error ellipse: s-maj=7.9km s-min=2.4km az=269.0*

ISC 06 15:31:12.8±0.5, **14°.87N**±0°.06×**54°.84E**±0°.05, **h10**km, **n139, σ1°55**/138, **mb4.6**/52, **MS3.7**/20, **11C, Owen Fracture Zone region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RBK	**Rabkut**	**2.69**	**347**	P	**Pn**		**15 31 56.5**	**+0.3**
	SNR=15							
RBK				S	**Sn**		**15 32 27.4**	**-1.5**
SOCY	**Socotra**	**2.79**	**197**	Pn	Pn		15 31 47.4	-10
DMTO	**DMTO**	**2.83**	**2**	P	**Pn**		**15 32 00.3**	**+2.2**
	SNR=6.6							
DMTO				S	**Sn**		**15 32 30.5**	**-1.9**
ABTO	**Aybut**	**2.88**	**329**	P	**Pn**		**15 32 01.3**	**+2.4**
	SNR=5.5							
ABTO				S	**Sn**		**15 32 31.3**	**-2.4**
WHFO	**Wadi Hawf**	**3.20**	**341**	P	**Pn**		**15 32 04.5**	**+1.2**
	SNR=27							
WHFO				S	**Sn**		**15 32 41.4**	**-0.2**
SHAO	**Shalim**	**3.22**	**13**	P	**Pn**		**15 32 04.0**	**+0.5**
SHAO				S	**Sn**		**15 32 38.7**	**-3.4**
MHTO	**MHTO**	**6.77**	**26**	P	**Pn**		**15 32 52.2**	**-0.1**
MHTO				S	**Sn**		**15 34 05.3**	**-4.2**
JMDO	**Jabal Madar**	**8.07**	**22**	P	**Pn**		**15 33 11.0**	**+0.8**
BSY	**Bisya**	**8.14**	**16**	P	**Pn**		**15 33 11.4**	**+0.2**
ARQ	**Araqi**	**8.57**	**10**	P	**Pn**		**15 33 18.1**	**+1.0**
ARQ				S	**Sn**		**15 34 50.6**	**-3.3**
SMDO	**Samad**	**8.69**	**20**	P	**Pn**		**15 33 19.6**	**+0.8**
HOQ	**Hoqain**	**8.97**	**15**	P	**Pn**		**15 33 23.7**	**+1.1**
WSAR	**Wadi Sarin**	**9.06**	**23**	Pn	**Pn**		**15 33 24.8**	**+1.0**
	0.2nm,0.3s,baz=208,slow=11,SNR=3.5							
WSAR				Sn	**Sn**		**15 35 02.6**	**-3.3**
	0.2nm,0.3s,baz=63,slow=18,SNR=1.5							
WSAR				LR	LR		15 36 44.5	
	comp=Z,640nm,20.5s,baz=180,slow=36							
WSAR	**Wadi Sarin**	**9.06**	**23**	P	**Pn**		**15 33 25.1**	**+1.3**
BIDO	**Bidbid**	**9.15**	**19**	P	**Pn**		**15 33 26.5**	**+1.6**
ALNE	**Al Ain**	**9.18**	**5**	Pn	**Pn**		**15 33 28.9**	**+3.5**
SOHO	**SOHO**	**9.35**	**10**	P	**Pn**		**15 33 30.5**	**+2.8**
ASHO	**Ashiyiah**	**9.83**	**6**	*i* Pn	**Pn**		**15 33 37.8**	**+3.5**
	SNR=9.4							
ASHO	**Ashiyiah**	**9.83**	**6**	P	**Pn**		**15 33 37.9**	**+3.6**
ASHO				S	**Sn**		**15 35 19.8**	**-5.1**
HATD	**Hatta, Dubai**	**9.98**	**7**	*i* Pn	**Pn**		**15 33 38.5**	**+2.2**
	SNR=9.3							
HATD	**Hatta, Dubai**	**9.98**	**7**	P	**Pn**		**15 33 38.7**	**+2.3**
HATD				S	**Sn**		**15 35 24.3**	**-4.2**
UOSS	**Minazif**	**10.11**	**7**	Pn	**Pn**		**15 33 40.1**	**+2.0**
UOSS	**Minazif**	**10.11**	**7**	P	**Pn**		**15 33 40.1**	**+2.0**
UOSS	**Minazif**	**10.11**	**7**	Pn	**Pn**		**15 33 39.9**	**+1.9**
MSFE	**Esma-Masafi**	**10.51**	**7**	*i* Pn	**Pn**		**15 33 45.3**	**+1.7**
	SNR=6.9							
BANOM	**Banah**	**11.08**	**7**	Pn	**Pn**		**15 33 53.2**	**+1.7**
BANOM	**Banah**	**11.08**	**7**	P	**Pn**		**15 33 53.2**	**+1.7**
SHME	**Shamm**	**11.19**	**6**	*i* Pn	**Pn**		**15 33 54.5**	**+1.5**
	SNR=7.2							
ATD	**Arta Tunnel**	**12.14**	**256**	Pn	**Pn**		**15 34 06.2**	**+0.1**
	1.2nm,0.3s,baz=240,slow=23,SNR=2.7							
ATD				LR	LR		15 37 32.5	
	comp=Z,520nm,20.6s,baz=104,slow=32							
RAYN	**Ar Rayn**	**12.32**	**316**		**Pn**		**15 34 07.0**	**-1.5**
HRA	**Herat**	**20.55**	**18**		Pn		15 35 55.2	+1.2
HRA				IAmb	IAmb		15 36 04.2	
	comp=Z,14nm,0.9s							
LODK	**Lodwar**	**22.32**	**241**	P	**P**		**15 36 10.2**	**-0.7**
HYB	**Hyderabad**	**22.91**	**80**	*i* P	**P**		**15 36 19.0**	**+1.8**
GEYT	**Alibeck**	**23.15**	**7**	P	**P**		**15 36 19.9**	**+0.5**
	comp=Z,6.8nm,0.8s,baz=197,slow=9.1,SNR=15							
GEYT				LR	LR		15 47 02.0	
	comp=Z,256nm,20.6s,baz=195,slow=41							
GYA0B	**ALIBECK ARRAY**	**23.15**	**7**	P	**P**		**15 36 21.0**	**+1.6**
GYA0B				IAmb	IAmb		15 36 47.0	
	comp=Z,26nm,1.1s							
KMBO	**Kilima Mbogo**	**23.57**	**229**	P	**P**		**15 36 23.4**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=35,slow=17,SNR=2.8							
ASF	**Jabal al Asfar**	**23.76**	**320**	P	**P**		**15 36 25.3**	**-0.3**
	comp=Z,5.3nm,0.9s,baz=96,slow=6.7,SNR=6.1							
MMAI	**Mount Meron Ar**	**25.26**	**319**	P	**P**		**15 36 40.6**	**+1.3**
	comp=Z,9.6nm,0.8s,baz=122,slow=12,SNR=8.0							
KOLN	**Koldanda**	**29.62**	**60**	*eP*	**P**		**15 37 19.7**	**+1.0**
DANN	**Dangsing**	**29.95**	**59**	*eP*	**P**		**15 37 23.9**	**+2.2**
KBZ	**Khabaz**	**30.52**	**343**	P	**P**		**15 37 27.8**	**+1.6**
	comp=Z,3.7nm,1.0s,baz=121,slow=7.0,SNR=5.6							
KBZ				LR	LR		15 51 46.9	
	comp=Z,192nm,18.5s,baz=165,slow=40							
GKN	**Gorkha**	**30.56**	**60**	*eP*	**P**		**15 37 28.2**	**+1.2**
BRTR	**Keskin Array B**	**30.95**	**327**	P	**P**		**15 37 30.2**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=143,slow=12,SNR=4.3							
BRTR				LR	LR		15 50 36.6	
	comp=Z,66nm,21.5s,baz=116,slow=38							
PKIN	**Phulchoki**	**31.07**	**61**	*eP*	**P**		**15 37 33.0**	**+1.4**
PKI	**Pulchoki**	**31.07**	**61**	*eP*	**P**		**15 37 33.3**	**+1.6**
GUN	**Gumba**	**31.58**	**61**	*eP*	**P**		**15 37 38.2**	**+2.0**
	comp=Z,40nm,1.0s							

JIRN	**Jiri**	**31.76**	**61**	*eP*	**P**		**15 37 39.6**	**+1.8**
	comp=Z,16nm,0.6s							
RAMN	**Ramite**	**31.91**	**63**	*eP*	**P**		**15 37 40.7**	**+1.7**
ODAN	**Odare**	**32.57**	**63**	*eP*	**P**		**15 37 46.5**	**+1.7**
	comp=Z,7.0nm,0.6s							
TAPN	**Taplejung**	**32.97**	**62**	*eP*	**P**		**15 37 50.0**	**+1.6**
	comp=Z,11nm,0.7s							
VRI	**Vrincioaia**	**38.89**	**328**	⇑P	**P**		**15 38 39.5**	**+1.0**
PLOR	**Plostina**	**38.92**	**328**	⇑P	**P**		**15 38 40.9**	**+2.1**
MLR	**Muntele Rosu**	**39.04**	**327**	⇑P	**P**		**15 38 42.6**	**+2.7**
MLR	**Muntele Rosu**	**39.04**	**327**	P	**P**		**15 38 39.8**	**-0.1**
MAKZ	**Makanchi**	**39.07**	**30**	P	**P**		**15 38 38.8**	**-1.2**
MK31	**Makanchi Array**	**39.21**	**30**	P	**P**		**15 38 41.9**	**+0.7**
MK31				IAmb	IAmb		15 38 49.4	
	comp=Z,4.1nm,0.7s							
MKAR	**Makanchi Array**	**39.21**	**30**	P	**P**		**15 38 42.4**	**+1.2**
	comp=Z,1.5nm,0.6s,baz=217,slow=8.5,SNR=19							
MKAR				LR	LR		15 56 45.9	
	comp=Z,85nm,21.7s,baz=212,slow=39							
TESR	**Tescani**	**39.38**	**329**	⇑P	**P**		**15 38 43.8**	**+1.3**
VOIR		**39.48**	**327**	⇑P	P		15 38 49.0	+5.5
DOPR	**Dopca**	**39.65**	**327**	⇑P	P		15 38 37.9	-7.0
SORM	**Soroca**	**39.73**	**332**	⇑P	**P**		**15 38 44.4**	**-1.0**
BVAR	**Borovoye Array**	**40.01**	**15**	P	**P**		**15 38 48.9**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=193,slow=5.8,SNR=15							
BRVK	**Borovoye**	**40.01**	**14**	P	**P**		**15 38 47.1**	**-0.6**
WMQ	**Urumqi**	**40.19**	**37**	*eP*	**P**		**15 38 51.7**	**+2.2**
BURAR	**Bucovina Array**	**40.85**	**329**	⇑P	**P**		**15 38 56.5**	**+1.6**
MDVR	**Moldovita**	**40.91**	**324**	⇑P	**P**		**15 38 55.3**	**-0.1**
AKASG	**Malin Array Be**	**41.30**	**335**	P	**P**		**15 38 58.3**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=135,slow=7.8,SNR=11							
AKASG				LR	LR		15 59 07.4	
	comp=Z,34nm,18.7s,baz=110,slow=40							
DRGR		**41.59**	**327**	⇑P	**P**		**15 39 02.4**	**+1.4**
CMAR	**Chiang Mai Arr**	**42.32**	**79**	P	**P**		**15 39 07.5**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=281,slow=9.1,SNR=13							
CMAR				LR	LR		15 59 01.4	
	comp=Z,89nm,18.2s,baz=231,slow=40							
TRPA	**Tarpa**	**42.54**	**328**	⇑P	**P**		**15 39 09.9**	**+1.4**
KOLS	**Kolonicke sedl**	**43.19**	**329**	*eP*	**P**		**15 39 15.3**	**+1.4**
MATP	**Matopo**	**43.59**	**217**	P	**P**		**15 39 15.5**	**-2.1**
	comp=Z,3.0nm,0.8s,baz=28,slow=14,SNR=3.6							
VYHS	**Vyhne**	**44.71**	**326**	*eP*	**P**		**15 39 26.1**	**0.0**
LANS	**Liptovska Anna**	**44.76**	**327**	*eP*	**P**		**15 39 27.6**	**+1.0**
OJC	**Ojcow**	**45.25**	**329**	*eP*	**P**		**15 39 30.4**	**0.0**
ZALV	**Zalesovo Beam**	**45.51**	**24**	P	**P**		**15 39 31.6**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=227,slow=8.2,SNR=13							
ZALV				LR	LR		16 00 34.6	
	comp=Z,76nm,19.3s,baz=221,slow=39							
JAVC	**Velka Javorina**	**45.55**	**326**	*eP*	**P**		**15 39 34.1**	**+1.3**
KEST	**Kesra**	**45.60**	**306**	P	**P**		**15 39 33.8**	**+0.4**
	comp=Z,3.5nm,0.7s,baz=286,slow=9.3,SNR=3.9							
SOKA	**Soboth**	**45.86**	**322**	*eP*	**P**		**15 39 36.2**	**+0.8**
	comp=Z,8.4nm,1.3s							
ARSA	**Arzberg**	**45.87**	**323**	*eP*	**P**		**15 39 36.4**	**+1.1**
	comp=Z,7.7nm,0.8s							
CONA	**Conrad Observa**	**46.03**	**324**	*eP*	**P**		**15 39 37.5**	**+0.8**
	comp=Z,14nm,1.2s							
OBKA	**Obir**	**46.07**	**322**	*eP*	**P**		**15 39 37.9**	**+0.9**
	comp=Z,7.1nm,1.1s							
MORC	**Moravsky Berou**	**46.15**	**327**	*eP*	**P**		**15 39 37.9**	**+0.4**
MORC	**Moravsky Berou**	**46.15**	**327**	P	**P**		**15 39 36.0**	**-1.5**
MORC				IAmb	IAmb		15 39 44.2	
	comp=Z,7.1nm,0.9s							
GTA	**Gaotai**	**46.27**	**49**	*eP*	**P**		**15 39 40.1**	**+1.3**
GTA				pP	sP		15 39 43.7	+1.5
GTA				sP	pwP		15 39 46.0	+1.7
GTA				pmax	pmax			
	comp=Z,3.0nm,1.1s							
GTA				pmax	pmax			
	comp=Z,55nm,5.6s							
GTA				LR	LR			
	comp=N,68nm,19.0s							
GTA				LR	LR			
	comp=E,120nm,20.6s							
GTA				LR	LR			
	comp=Z,150nm,20.9s							
KRUC	**Moravsky**	**46.35**	**326**	*eP*	**P**		**15 39 39.5**	**+0.4**
MYKA	**Terra Mystica**	**46.67**	**321**	*eP*	**P**		**15 39 42.5**	**+0.7**
	comp=Z,6.7nm,0.8s							
KRLC	**Kraliky**	**46.72**	**327**	*eP*	**P**		**15 39 42.0**	**0.0**
MOA	**Molln**	**46.91**	**323**	*eP*	**P**		**15 39 44.2**	**+0.7**
	comp=Z,7.9nm,0.9s							
KBA	**Koelnbreinsper**	**47.07**	**322**	*eP*	**P**		**15 39 45.1**	**+0.1**
	comp=Z,8.6nm,1.3s							
DPC	**Dobruska-Polom**	**47.12**	**327**	*eP*	**P**		**15 39 45.4**	**+0.2**
DPC				*ex*	x		15 39 51.2	
KLMR	**Klimovskoe**	**47.24**	**350**	*eP*	**P**		**15 39 44.7**	**-1.1**
KLMR				AMP			15 39 47.0	
	comp=Z,18nm,1.4s							
CHVC	**Chvalec**	**47.40**	**327**	*eP*	**P**		**15 39 47.8**	**+0.5**
CHVC				*ex*	x		15 39 52.5	
ABTA	**Abfaltersbach**	**47.41**	**321**	*i* P	**P**		**15 39 48.1**	**+0.5**
	comp=Z,7.6nm,1.2s							
KSP	**Ksiaz**	**47.42**	**328**	*eP*	**P**		**15 39 47.9**	**+0.5**
GERES	**GERESS Array B**	**47.74**	**324**	P	**P**		**15 39 49.6**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=127,slow=8.9,SNR=8.0							
PRU	**Pruhonice**	**47.87**	**326**	*eP*	**P**		**15 39 51.4**	**+0.5**
PRU				*ex*	x		15 39 56.2	
PRU				AMS	AMS		16 05 10.0	
	comp=Z,100nm,16.9s							
KHC	**Kasperske Hory**	**47.96**	**324**	*eP*	**P**		**15 39 50.2**	**-1.5**
KHC				*ex*	x		15 39 56.3	
WTTA	**Wattenberg**	**48.18**	**321**	*eP*	**P**		**15 39 53.5**	**-0.1**
	comp=Z,9.0nm,1.0s							
WATA	**Walderalm**	**48.25**	**321**	*eP*	**P**		**15 39 53.6**	**-0.5**
	comp=Z,11nm,1.1s							
SQTA	**Sankt Quirin**	**48.42**	**321**	*eP*	**P**		**15 39 55.2**	**-0.2**
	comp=Z,12nm,0.7s							
LZH	**Lanzhou**	**48.44**	**55**	*eP*	**P**		**15 39 55.2**	**-0.6**
LZH				pP	pP		15 39 58.5	+0.3
LZH				sP	sP		15 40 00.1	+0.9
LZH				*e*PP	**PP**		**15 41 48.3**	**-0.2**
LZH				pmax	pmax			
	comp=Z,19nm,1.3s							
LZH				pmax	pmax			
	comp=Z,62nm,5.6s							
LZH				LR	LR			
	comp=N,220nm,13.8s							
LZH				LR	LR			
	comp=E,220nm,14.0s							
LZH				LR	LR			
	comp=Z,360nm,17.2s							
MOTA	**Moosalm**	**48.54**	**321**	*eP*	**P**		**15 39 55.7**	**-0.7**
	comp=Z,10nm,0.7s							
FETA	**Feichten**	**48.63**	**321**	*eP*	**P**		**15 39 57.0**	**0.0**
	comp=Z,8.4nm,1.1s							
BRG	**Berggiesshubel**	**48.67**	**326**	*eP*	P		15 40 02.5	+5.4
	comp=Z,4.4nm,0.8s							
DAVA	**Damuels**	**49.26**	**321**	*eP*	**P**		**15 40 01.5**	**-0.4**
	comp=Z,6.4nm,0.7s							
CLL	**Collm**	**49.41**	**327**	*i* P	**P**		**15 40 03.8**	**+1.1**
CLL				*e*PP	**PP**		**15 41 57.0**	**+0.2**
GYA	**Guiyang**	**49.55**	**68**	P	**P**		**15 40 04.4**	**0.0**
GYA				pmax	pmax			
	comp=Z,8.0nm,0.6s							
SENIN	**Lac Senin/Sane**	**50.51**	**319**	P	**P**		**15 40 10.2**	**-1.2**
SENIN				IAmb	IAmb		15 40 18.7	
	comp=Z,8.2nm,0.8s							
FIA1	**FINESS Array S**	**50.88**	**343**	P	**P**		**15 40 13.9**	**+0.2**
FINES	**FINESS Array B**	**50.88**	**343**	P	**P**		**15 40 13.9**	**+0.2**
	comp=Z,6.7nm,0.8s,baz=126,slow=9.8,SNR=24							
FINES				LR	LR		16 05 58.5	
	comp=Z,59nm,19.1s,baz=154,slow=41							
TORD	**Torodi Ar. Bea**	**51.50**	**275**	P	**P**		**15 40 18.4**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=80,slow=4.5,SNR=6.2							
TORD				LR	LR		16 01 08.4	
	comp=Z,74nm,20.4s,baz=215,slow=35							
BOSA	**Boshof**	**51.84**	**214**	LR	LR		16 02 46.9	
	comp=Z,55nm,18.9s,baz=46,slow=37							
XAN	**Xi'an**	**52.18**	**58**	P	**P**		**15 40 24.3**	**+0.3**
XAN				pP	pwP		15 40 29.3	-0.2
XAN				pmax	pmax			
	comp=Z,13nm,1.0s							
SONM	**Songino Array**	**53.59**	**41**	P	**P**		**15 40 34.2**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=242,slow=7.9,SNR=12							
HHC	**Hu-ho-hao-te**	**55.34**	**50**	P	**P**		**15 40 47.3**	**+0.1**
HHC				pmax	pmax			
	comp=Z,7.0nm,0.7s							
HHC				pmax	pmax			
	comp=Z,27nm,5.3s							
NB2	**NORSAR Subarra**	**55.71**	**336**	P	**P**		**15 40 48.2**	**-1.1**
	comp=Z,9.5nm,1.2s,baz=124,slow=7.4							
NOA	**NORSAR Array B**	**55.71**	**336**	P	**P**		**15 40 48.7**	**-0.6**
	comp=Z,2.3nm,1.0s,baz=122,slow=19,SNR=6.2							
NOA				LR	LR		16 07 50.4	
	comp=Z,70nm,19.4s,baz=125,slow=39							
ESDC	**Sonseca Array**	**56.72**	**308**	P	**P**		**15 40 56.2**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=92,slow=7.1,SNR=12							
ARCES	**ARCESS Array B**	**57.64**	**348**	P	**P**		**15 41 02.9**	**0.0**
	comp=Z,3.8nm,0.7s,baz=140,slow=6.4,SNR=12							
ARCES				LR	LR		16 08 55.6	
	comp=Z,59nm,19.4s,baz=103,slow=39							
NRIK	**Noril'sk**	**58.19**	**13**	LR	LR		16 10 56.2	
	comp=Z,112nm,18.2s,baz=223,slow=41							
BJI	**Beijing**	**58.70**	**52**	P	**P**		**15 41 11.4**	**+0.6**
BJI				pmax	pmax			
	comp=Z,6.0nm,0.8s							
DBIC	**Dimbokro**	**59.07**	**269**	LR	LR		16 06 22.4	
	comp=Z,32nm,18.7s,baz=74,slow=36							
NJ2	**Nanjing**	**60.37**	**61**	*eP*	**P**		**15 41 22.8**	**+0.4**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
KSRS	**Korea Array**	**67.77**	**55**	P	**P**		**15 42 10.4**	**-0.6**
	comp=Z,3.3nm,0.7s,baz=268,slow=6.9,SNR=24							
KSRS				LR	LR		16 15 15.7	
	comp=Z,58nm,18.4s,baz=243,slow=39							
TIXI	**Tiksi**	**70.96**	**19**	P	**P**		**15 42 30.3**	**+0.1**
TIXI				IAmb	IAmb		15 42 36.8	
	comp=Z,9.6nm,1.5s							
DAG	**Danmarks Havn**	**71.86**	**347**	*i* P	**P**		**15 42 35.6**	**+0.1**
DAG				*i*			15 42 40.8	
H01W3	**Cape Leeuwin H**	**74.89**	**133**	T	T		17 04 31.1	
	baz=301,slow=75,SNR=94							
H01W2	**Cape Leeuwin H**	**74.89**	**133**	T	T		17 04 20.6	
	baz=301,slow=75,SNR=91							
H01W1	**Cape Leeuwin H**	**74.90**	**133**	T	T		17 04 30.9	
	baz=301,slow=75,SNR=91							
SUMG	**Summit**	**76.91**	**342**	*i* P	**P**		**15 43 06.5**	**+1.0**
	comp=Z,15nm,1.0s							
MAW	**Mawson**	**82.45**	**177**	LR	LR		16 11 28.1	
	comp=Z,56nm,20.5s,baz=51,slow=29							
WRA	**Warramunga Arr**	**85.45**	**112**	P	**P**		**15 43 49.5**	**-1.9**
	comp=Z,3.0nm,1.0s,baz=296,slow=4.0,SNR=7.7							
PETK	**Petropavlovsk-**	**85.77**	**36**	LR	LR		16 25 39.1	
	comp=Z,54nm,19.3s,baz=251,slow=38							
ASAR	**Alice Springs**	**86.19**	**116**	P	**P**		**15 43 53.5**	**-1.5**
	comp=Z,3.1nm,0.6s,baz=291,slow=4.6,SNR=36							
AS31	**Alice Springs**	**86.19**	**116**	P	**P**		**15 43 53.5**	**-1.6**
AS31				IAmb	IAmb		15 44 00.1	
	comp=Z,1.4nm,0.7s							
PDAR	**Pinedale Array**	**120.88**	**347**	PKP	**PKPdf**		**15 50 05.2**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=116,slow=3.4,SNR=4.3							
NVAR	**Mina Array Bea**	**126.59**	**353**	PKP	**PKPdf**		**15 50 16.8**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=57,slow=0.6,SNR=6.3							
TXAR	**Lajitas Array**	**131.40**	**335**	PKP	**PKPdf**		**15 50 24.6**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=56,slow=4.9,SNR=3.5							

INET 06 16:23:06.4, 16°.88N×83°.60W, h15km, ML3.9, North of Honduras

*NIED **06** 16:53:00, 23°.70N×125°.80E, h17km, Mw4.2 Best double couple: M0 2.37000×10^15 NP1:φ=237.00000°, δ=77.00000°, λ=59.00000°. NP2:φ=126.00000°, δ=33.00000°, λ=156.00000°.*

*IDC **06** 16:53:46.0±0.8, 23°.69N×125°.68E, h0km, mb3.9/17, mb1 3.9/21, mb1mx3.8/53, mbtmp3.8/21, ML3.2/4, MS3.3/4, Ms1 3.3/4, ms1mx2.8/41, Error ellipse: s-maj=21.1km s-min=15.9km az=85.0*

*JMA **06** 16:53:48.1±0.1, 23°.73N×125°.79E, h80km, MS3.7*

*NEIC **06** 16:53:48.4±2.7, 23°.67N±0°.10×125°.85E±0°.07, h27km±7km, mb4.2/4,

comp=Z,10.0nm,0.6s
DANN Dangsing 37.94 286 *e*P **P 17 01 05.5 +0.2**
comp=Z,17nm,0.5s
KOLN Koldanda 38.12 285 *e*P **P 17 01 07.7 +1.0**
comp=Z,26nm,0.9s
MA2 Magadan 39.88 20 LR LR 17 18 23.2
comp=Z,53nm,18.0s,baz=256,slow=37
MK31 Makanchi Array 41.65 315 P **P 17 01 35.8 +0.2**
MKAR Makanchi Array 41.65 315 P **P 17 01 35.5 -0.1**
comp=Z,0.7nm,0.3s,baz=100,slow=9.9,SNR=15
MKAR LR LR 17 20 05.0
comp=Z,19nm,20.6s,baz=116,slow=38
MAKZ Makanchi 41.86 315 P **P 17 01 36.5 -0.8**
MAKZ IAmb IAmb 17 01 38.5
comp=Z,2.4nm,0.8s
ZALV Zalesovo Beam 42.99 325 P **P 17 01 46.6 +0.3**
comp=Z,0.6nm,0.5s,baz=117,slow=8.7,SNR=3.9
KDJ Kajisay 44.13 307 P **P 17 01 57.0 +1.1**
KDJ IAmb IAmb 17 01 58.2
comp=Z,6.4nm,1.1s
WRA Warramunga Arr 44.19 168 P **P 17 01 56.3 0.0**
comp=Z,3.1nm,0.6s,baz=349,slow=8.8,SNR=14
KURK Kurchatov 45.20 319 P **P 17 02 03.3 -0.7**
KURBB Kurchatov Arra 45.22 319 P **P 17 02 04.7 +0.4**
comp=Z,1.5nm,0.5s,baz=111,slow=7.9,SNR=14
ASAR Alice Springs 47.76 170 P **P 17 02 25.4 +0.9**
comp=Z,0.9nm,0.5s,baz=356,slow=11,SNR=36
ARU Arti 59.03 323 P **P 17 03 40.1 +0.1**
comp=Z,0.7nm,0.5s,baz=215,slow=11,SNR=3.3
AKTO Aktyubinsk 58.07 316 P **P 17 03 40.6 +0.3**
comp=Z,1.2nm,0.6s,baz=104,slow=5.2,SNR=3.7
GEYT Alibeck 58.69 301 P **P 17 03 45.4 +0.5**
comp=Z,2.8nm,0.8s,baz=56,slow=5.6,SNR=5.0
KBZ Khabaz 69.06 310 P **P 17 04 53.9 +0.8**
comp=Z,1.1nm,0.6s,baz=152,slow=7.2,SNR=2.1
FINES FINESS Array B 73.96 330 P **P 17 05 22.6 +0.3**
comp=Z,1.8nm,0.8s,baz=72,slow=6.2,SNR=7.5
BRTR Keskin Array B 76.84 308 P **P 17 05 40.2 +0.7**
comp=Z,0.5nm,0.8s,baz=327,slow=31,SNR=2.5
NB2 NORSAR Subarra 80.57 333 P **P 17 05 58.0 -1.4**
comp=Z,1.2nm,1.0s,baz=58,slow=5.6
NB2 NORSAR Subarra 80.57 333 P **P 17 05 58.1 -1.4**
comp=Z,1.3nm,1.0s,baz=58,slow=5.6
NB2 NORSAR Subarra 80.57 333 P **P 17 05 58.7 -0.8**
comp=Z,0.6nm,0.7s,baz=58,slow=5.6
NOA NORSAR Array B 80.57 333 P **P 17 05 60.0 +0.5**
comp=Z,0.2nm,0.4s,baz=254,slow=7.5,SNR=2.4
NOA LR LR 17 43 36.3
comp=Z,23nm,19.1s,baz=5.0,slow=37
YKA Yellowknife Ar 81.69 24 P **P 17 06 06.3 +1.0**
comp=Z,0.4nm,0.7s,baz=294,slow=4.4,SNR=3.5

TAP 06 16:54:38.5, 24.25N×121.82E, h39km±1km, ML2.6, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.19**	**339**	P	Pn	16 54 45.1	-1.8
	baz=340						
ENA				S	Sn	16 54 51.4	-2.7
	baz=340						
NACB	**Ninganchiao**	**0.22**	**249**	*e*S	Sn	16 54 51.6	-1.9
	baz=248						
ETLH	**Xiulin Townshi**	**0.31**	**261**	P	Pn	16 54 47.3	+0.4
	baz=261						
ETLH				S	Sn	16 54 53.7	+0.3
	baz=261						
NNSB	**Datong**	**0.43**	**294**	*e*P	Pn	16 54 49.9	+1.6
	baz=293						
NNSB				*e*S	Sn	16 54 56.4	+1.0
	baz=293						
NNSH	**Datong**	**0.43**	**294**	*e*P	Pn	16 54 49.7	+1.4
	baz=293						
NNSH				S	Sn	16 54 56.2	+0.9
	baz=293						
NDT	**Datong Townshi**	**0.44**	**322**	P	Pn	16 54 49.5	+1.1
	baz=321						
NDT				*e*S	Sn	16 54 56.2	+0.8
	baz=321						
NNS	**Nan Shan**	**0.45**	**295**	*e*P	Pn	16 54 49.8	+1.3
	baz=294						
NNS				*e*S	Sn	16 54 55.9	+0.3
	baz=294						
ENTT	**Nioudou**	**0.45**	**329**	P	Pn	16 54 48.8	+0.4
	baz=330						
ENTT				*e*S	Sn	16 54 55.2	-0.3
	baz=330						
TWE	**Neicheng**	**0.48**	**344**	*e*P	Pn	16 54 47.5	-1.5
	baz=345						
YHNB	**Yeheng**	**0.58**	**316**	*e*S	Sn	16 54 58.6	-0.1
	baz=315						
NSK	**Sanguang**	**0.59**	**315**	*e*P	Pn	16 54 51.3	+0.7
	baz=315						
NSK				*e*S	Sn	16 54 58.0	-1.1
	baz=315						
NWLT	**Wulai**	**0.59**	**331**	*e*P	Pn	16 54 50.6	0.0
	baz=331						
TDCB	**Techi**	**0.60**	**270**	*e*P	Pn	16 54 52.4	+1.7
	baz=269						
TDCB				*e*S	Sn	16 55 00.1	+0.7
	baz=269						
CHGB	**Renai**	**0.62**	**252**	*e*P	Pn	16 54 51.5	+0.4
	baz=251						
TATO	**Taipei**	**0.78**	**338**	*e*P	Pn	16 54 51.1	-1.8
	baz=337						
VWDT	**VWDT**	**0.79**	**231**	*e*P	Pn	16 54 51.1	-2.0
	baz=231						
WHP	**Taichung City**	**0.80**	**272**	*e*P	Pn	16 54 56.4	+3.2
	baz=271						
WHP				*e*S	Sn	16 55 03.3	-0.7
	baz=271						
DPDB	**Guoxing**	**0.84**	**255**	*e*P	Pn	16 54 54.8	+0.9
	baz=254						
SMLT	**Sun Moon Lake**	**0.92**	**246**	P	Pn	16 54 55.1	+0.2
	baz=245						
SMLT				*e*S	Sn	16 55 06.1	-0.9
	baz=245						
YM11	**YM11**	**0.94**	**346**	*e*P	Pn	16 54 53.5	-1.7
	baz=346						
TYC	**Yuchr**	**0.94**	**249**	*e*P	Pn	16 54 55.8	+0.6
	baz=248						
TWQ1	**Liyutan**	**0.96**	**276**	*e*P	Pn	16 54 58.8	+3.4
	baz=275						
YM03	**YM03**	**0.96**	**345**	*e*P	Pn	16 54 53.5	-2.0
	baz=344						
WHYT	**Xinyi Township**	**1.04**	**238**	*e*P	Pn	16 54 56.2	-0.4
	baz=237						
TCU	**Taichung**	**1.05**	**264**	*e*P	Pn	16 54 59.5	+2.9
	baz=264						
WJS	**Zhushan**	**1.08**	**247**	*e*P	Pn	16 54 58.5	+1.4
	baz=246						
WNT	**Mingjian**	**1.10**	**250**	*e*P	Pn	16 54 58.9	+1.5
	baz=249						
WCHH	**Zhanghua**	**1.16**	**262**	*e*P	Pn	16 55 00.7	+2.5
	baz=261						
ALS	**Alishan**	**1.18**	**232**	*e*P	Pn	16 54 57.7	-1.1
	baz=231						
CHN5	**Tsauling**	**1.23**	**238**	*e*P	Pn	16 54 59.2	-0.1
	baz=237						
CHY	**Chiayi**	**1.48**	**240**	*e*P	Pn	16 55 02.7	+0.1
	baz=239						

*SOF **06** 17:10:19.7, 39.69N×24.18E, h2km, MD4.3*
*IDC **06** 17:10:21.7±0.6, 39.70N×24.19E, h0km, mb3.9/17, mb1 4.0/25, mb1mx3.9/49, mbtmp3.9/25, ML3.8/9, MS3.2/17, Ms1 3.2/17, ms1mx3.0/69, Error ellipse: s-maj=11.6km s-min=9.3km az=95.0*
*ATH **06** 17:10:23.3, 39.76N×24.09E, h30km, ML4.4/23, Error ellipse: s-maj=0.9km s-min=0.7km az=301.0*
*NEIC **06** 17:10:24.0±2.1, 39.78N±0.05×24.10E±0.04, h16km±3km, mb4.6/22, Mwr4.2/19, ML4.4(THE), Error ellipse: s-maj=7.9km s-min=4.5km az=191.0*
*NEIC **06** 17:10:23.8, 39.76N×24.10E, h18km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr=0.25; Mθθ=-0.26; Mφφ=0.02; Mrθ=0.13; Mrφ=-2.60; Mθφ=0.48; Fault plane solution: M=2.66000×10^15^ NP1:φ=271.70000°, δ=79.62000°, λ=-179.07000°. NP2:φ=181.54000°, δ=89.08000°, λ=-10.38000°. Principal axes: T 2.5126, Plg7.0000°, Azm227.0000°; N 0.2752, Plg80.0000°, Azm357.0000°; P -2.7878, Plg8.0000°, Azm136.0000°;*
*ISK **06** 17:10:23.0, 39.77N×24.13E, h16km, ML4.4/16*
*THE **06** 17:10:23.8, 39.76N×24.10E, h12km, ML4.4/19, Error ellipse: s-maj=0.8km s-min=0.4km az=261.0*
*PDG **06** 17:10:23.8±0.5, 39.76N×24.11E, h22km, ML4.0/14, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*MOS **06** 17:10:24.2±1.6, 39.78N×24.11E, h28km, mb4.3/9, Error ellipse: s-maj=6.3km s-min=4.4km az=80.5*
*BEO **06** 17:10:24.9±1.1, 39.87N×23.99E, h1km±5km, ML4.1/4*
*MED_RC **06** 17:10:25.0±0.4, 39.76N×24.09E, h8km, MW4.2/13, Moment Tensor Solution.Mantle waves: s13,c15; Duration: 1s0 Moment tensor: Scale 10^15^Nm; Mrr=1.24±.20; Mθθ 0.78±.24; Mφφ 0.46±.17; Mrθ 0.61±.79; Mθφ=2.65±.13; Mrφ 0.33±.72; Best double couple: M=2.85000×10^15^ NP1:φ=175.00000°, δ67.00000°, λ=-20.00000°. NP2:φ=273.00000°, δ72.00000°, λ=-156.00000°. Principal axes: T 3.2900, Plg3.0000°, Azm43.0000°; N -0.8800, Plg60.0000°, Azm308.0000°; P -2.4100, Plg30.0000°, Azm135.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*DDA **06** 17:10:27.2, 39.84N×24.48E, h35km, MW4.4*
ISC 06 17:10:23.3±1.0, 39.76N±0.01×24.11E±0.02, h7km±6km, n479, σ1s35/559, mb4.2/41, MS3.2/10, 52C-26D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.37**	**296**	P	**Pg**	**17 10 30.7**	**+0.2**
PAIG	**Paliouri**	**0.37**	**296**	P	**Pb**	**17 10 31.8**	**-0.4**
PAIG				S	**Sb**	**17 10 37.6**	**-0.6**
PAIG				AML	AML	17 10 39.3	
PAIG				AML	AML	17 10 39.5	
OUR	**Ouranopolis**	**0.58**	**350**	P	**Pg**	**17 10 35.3**	**+0.8**
OUR				S	**Sb**	**17 10 43.7**	**-0.5**
	102μm,0.3s						
OUR	**Ouranopolis**	**0.58**	**350**	P	**Pb**	**17 10 35.9**	**+0.2**
OUR				S	**Sg**	**17 10 43.1**	**+1.1**
OUR				AML	AML	17 10 44.8	
OUR				AML	AML	17 10 45.3	
OUR	**Ouranopolis**	**0.58**	**350**	PG	**Pb**	**17 10 35.7**	**-0.1**
OUR				SG	**Sb**	**17 10 43.6**	**-0.6**
AOS	**Alonnisos**	**0.62**	**197**	P	**Pg**	**17 10 35.8**	**+0.6**
AOS				S	**Sb**	**17 10 44.6**	**-0.8**
	96μm,0.3s						
AOS	**Alonnisos**	**0.62**	**197**	P	**Pg**	**17 10 35.9**	**+0.6**
AOS				S	**Sb**	**17 10 45.0**	**-0.3**
AOS				AML	AML	17 10 46.6	
AOS				AML	AML	17 10 46.9	
AOS	**Alonnisos**	**0.62**	**197**	PG	**Pg**	**17 10 35.9**	**+0.7**
AOS				SG	**Sb**	**17 10 45.4**	**0.0**
ALNA	**Alonissos**	**0.65**	**197**	P	**Pg**	**17 10 36.3**	**+0.6**
ALNA				S	**Sb**	**17 10 45.5**	**-0.5**
ALNA				AML	AML	17 10 46.9	
ALNA				AML	AML	17 10 47.1	
EFSA	**Agios Efstrati**	**0.71**	**108**	P	**Pb**	**17 10 38.5**	**+0.5**
EFSA				S	**Sn**	**17 10 48.9**	**-2.1**
SKIA	**Skiathos**	**0.78**	**220**	P	**Pg**	**17 10 38.5**	**+0.2**
SKIA				S	**Sn**	**17 10 50.4**	**-2.3**
	59μm,0.4s						
SKIA	**Skiathos**	**0.78**	**220**	P	**Pg**	**17 10 38.6**	**+0.4**
SKIA				S	**Sb**	**17 10 50.0**	**0.0**
SKIA				AML	AML	17 10 50.9	
SKIA				AML	AML	17 10 51.5	
	comp=E,91442μm,0.5s						
PLG	**Polygyros**	**0.80**	**320**	P	**Pb**	**17 10 38.7**	**-0.8**
PLG				S	**Sb**	**17 10 49.9**	**-0.6**
	comp=E,13μm,0.4s						
PLG	**Polygyros**	**0.80**	**320**	P	**Pb**	**17 10 38.6**	**-0.9**
PLG				S	**Sg**	**17 10 49.6**	**+0.7**
PLG				AML	AML	17 10 51.3	
	comp=N,29974μm,0.3s						
PLG				AML	AML	17 10 53.0	
	comp=E,24282μm,0.3s						
XOR	**Xorichti**	**0.81**	**241**	P	**Pb**	**17 10 39.2**	**-0.6**
XOR				S	**Sg**	**17 10 50.5**	**+0.9**
	comp=E,44μm,0.5s						
XOR	**Xorichti**	**0.81**	**241**	P	**Pb**	**17 10 39.3**	**-0.5**
XOR				S	**Sb**	**17 10 50.0**	**-1.0**
XOR				AML	AML	17 10 51.4	
	comp=N,64523μm,0.5s						
XOR				AML	AML	17 10 51.6	
NEO	**Neokhori**	**0.83**	**237**	P	**Pb**	**17 10 39.2**	**-0.8**
NEO				S	**Sb**	**17 10 50.3**	**-1.0**
	comp=N,31μm,0.5s						
NEO	**Neokhori**	**0.83**	**237**	P	**Pb**	**17 10 39.6**	**-0.4**
NEO				S	**Sb**	**17 10 50.4**	**-0.9**
NEO				AML	AML	17 10 51.6	
	comp=N,66777μm,0.7s						
NEO				AML	AML	17 10 52.9	
	comp=E,54862μm,0.3s						
LIA	**Limnos Island**	**0.83**	**80**	P	**Pg**	**17 10 40.4**	**+1.1**
LIA	**Limnos Island**	**0.83**	**80**	P	**Pn**	**17 10 40.6**	**-0.9**
LIA				S	**Sn**	**17 10 52.2**	**-1.8**
LIA				AML	AML	17 10 53.4	
	comp=E,98561μm,0.4s						
LIA				AML	AML	17 10 53.4	
SKY	**Skiros Island**	**0.95**	**159**	P	**Pb**	**17 10 41.8**	**-0.3**
SKY				S	**Sb**	**17 10 54.4**	**-0.4**
	comp=E,41μm,0.3s						
SKY	**Skiros Island**	**0.95**	**159**	P	**Pg**	**17 10 42.1**	**+0.6**
SKY				S	**Sg**	**17 10 54.8**	**+1.0**
SKY				AML	AML	17 10 56.7	
	comp=N,89632μm,0.2s						
SKY				AML	AML	17 10 58.3	
	comp=E,75729μm,0.3s						
THAS	**Thassos island**	**0.96**	**29**	P	**Pb**	**17 10 41.8**	**-0.5**
THAS				S	**Sg**	**17 10 55.2**	**+1.0**
	comp=E,13μm,0.3s						
THAS	**Thassos island**	**0.96**	**29**	P	**Pb**	**17 10 41.8**	**-0.5**
KYMI	**Kymi, Euboea I**	**1.13**	**181**	P	**Pb**	**17 10 44.3**	**-0.8**
KYMI				S	**Sg**	**17 11 00.8**	**+1.2**
	comp=E,20μm,0.4s						
KYMI	**Kymi, Euboea I**	**1.13**	**181**	P	**Pb**	**17 10 44.4**	**-0.8**
KYMI				S	**Sg**	**17 11 00.9**	**+1.3**
KYMI				AML	AML	17 11 04.2	
	comp=N,51609μm,0.4s						
KYMI				AML	AML	17 11 06.6	
	comp=E,29818μm,0.4s						
MRKA	**Markates**	**1.13**	**201**	P	**Pb**	**17 10 44.4**	**-0.8**
MRKA				S	**Sg**	**17 11 00.7**	**+1.0**
	comp=E,19μm,0.4s						
MRKA	**Markates**	**1.13**	**201**	P	**Pb**	**17 10 44.4**	**-0.8**
MRKA				AML	AML	17 11 03.6	
	comp=N,40884μm,0.4s						
MRKA				AML	AML	17 11 04.4	
	comp=E,37108μm,0.5s						
HORT	**Hortiatis**	**1.14**	**317**	P	**Pb**	**17 10 44.3**	**-1.1**
HORT				S	**Sg**	**17 11 01.2**	**+1.3**
	comp=E,8μm,0.5s						
HORT	**Hortiatis**	**1.14**	**317**	P	**Pb**	**17 10 44.4**	**-0.9**
HORT				S	**Sg**	**17 11 00.6**	**+0.7**
HORT				AML	AML	17 11 03.9	
	comp=E,13358μm,0.6s						
HORT				AML	AML	17 11 04.6	
	comp=N,16764μm,0.4s						
HORT	**Hortiatis**	**1.14**	**317**	PN	**Pb**	**17 10 44.6**	**-0.8**
HORT				SN	**Sg**	**17 11 00.9**	**+1.0**
KVLA	**Kavala**	**1.19**	**10**	P	**Pn**	**17 10 45.5**	**-0.9**
KVLA				AML	AML	17 11 05.0	
	comp=E,57759μm,0.4s						
KVLA				AML	AML	17 11 05.8	
	comp=N,24472μm,0.5s						
THE	**Thessaloniki**	**1.23**	**315**	P	**Pn**	**17 10 46.2**	**-0.8**
THE				S	**Sg**	**17 11 03.6**	**+0.6**
THE	**Thessaloniki**	**1.23**	**315**	P	**Pb**	**17 10 46.6**	**-0.3**
KAVA	**Kavala**	**1.27**	**14**	P	**Pn**	**17 10 46.5**	**-1.0**
KAVA				S	**Sg**	**17 11 04.6**	**+0.5**
	comp=N,11μm,0.6s						
KAVA	**Kavala**	**1.27**	**14**	P	**Pn**	**17 10 46.5**	**-1.0**
KAVA				AML	AML	17 11 07.8	
	comp=E,26088μm,0.6s						
KAVA				AML	AML	17 11 09.3	
	comp=N,20218μm,0.4s						
LIT	**Litokhoron**	**1.29**	**286**	P	**Pn**	**17 10 46.7**	**-1.1**
LIT				S	**Sn**	**17 11 04.3**	**-1.1**
	comp=N,6μm,0.8s						
LIT	**Litokhoron**	**1.29**	**286**	P	**Pn**	**17 10 47.0**	**-0.9**
LIT				AML	AML	17 11 16.2	
	comp=E,9857μm,0.7s						
LIT				AML	AML	17 11 16.6	
	comp=N,14365μm,0.8s						
LIT	**Litokhoron**	**1.29**	**286**		**Pn**	**17 10 46.6**	**-1.2**
LIT					**Sn**	**17 11 04.1**	**-1.3**
SMTH	**Samothraki Isl**	**1.30**	**57**	P	**Pn**	**17 10 46.6**	**-1.3**
SMTH				S	**Sn**	**17 11 04.8**	**-0.7**
SMTH	**Samothraki Isl**	**1.30**	**57**	P	**Pn**	**17 10 46.6**	**-1.3**
LRSO	**Larissa Observ**	**1.33**	**267**	P	**Pb**	**17 10 48.1**	**-0.5**
LRSO				S	**Sb**	**17 11 05.2**	**-0.6**
	comp=N,21μm,0.8s						
LRSO	**Larissa Observ**	**1.33**	**267**	P	**Pn**	**17 10 47.6**	**-0.7**
LKR	**Lokris**	**1.41**	**218**	P	**Pn**	**17 10 48.2**	**-1.2**
LKR	**Lokris**	**1.41**	**218**	P	**Pn**	**17 10 48.3**	**-1.0**
SRS	**Serrai**	**1.41**	**344**	*e*Pg	**Pn**	**17 10 48.9**	**-0.5**
SRS				*e*Sg	**Sn**	**17 11 05.0**	**-3.3**
SRS	**Serrai**	**1.41**	**344**	P	**Pn**	**17 10 48.5**	**-0.9**
SRS				S	**Sb**	**17 11 07.7**	**-0.4**
SRS	**Serrai**	**1.41**	**344**	P	**Pn**	**17 10 48.7**	**-0.7**
GADA	**Gvkgeada**	**1.44**	**72**	P	**Pn**	**17 10 49.0**	**-0.8**
GADA				S	**Sg**	**17 11 09.7**	**+0.2**
	comp=N,7μm,0.6s						
GADA	**Gvkgeada**	**1.44**	**72**	PN	**Pn**	**17 10 48.9**	**-0.8**
GOKA	**anakkale-Gk**	**1.44**	**72**	*i* P	**Pn**	**17 10 49.2**	**-0.7**
GOKA				*i* S	**Sn**	**17 11 05.9**	**-3.2**
GOKA				IAML		17 11 12.0	
	comp=N,7μm,0.6s						
SIGR	**SIGRI**	**1.46**	**112**	P	**Pn**	**17 10 49.7**	**-0.3**
SIGR				S	**Sn**	**17 11 07.6**	**-1.8**
	comp=N,9μm,0.6s						
SIGR	**SIGRI**	**1.46**	**112**	P	**Pn**	**17 10 49.8**	**-0.2**
SIGR				AML	AML	17 11 13.6	
	comp=N,22014μm,0.8s						
SIGR				AML	AML	17 11 13.6	
	comp=E,14396μm,0.5s						
SIGR	**SIGRI**	**1.46**	**112**	PN	**Pn**	**17 10 49.6**	**-0.4**
BOZC	**Bozcaada**	**1.50**	**86**	PN	**Pn**	**17 10 49.9**	**-0.7**
BOZC	**Bozcaada**	**1.50**	**86**	*i* P	**Pn**	**17 10 50.1**	**-0.5**
BOZC				*i* P	**Pb**	**17 10 50.3**	**-1.1**
BOZC				*i* S	**Sn**	**17 11 06.0**	**-4.4**
BOZC				*i* S	**Sb**	**17 11 06.7**	**-4.0**
BOZC				IAML		17 11 13.0	
	comp=N,5μm,0.7s						
BOZC				IAML		17 11 14.0	
	comp=N,4μm,0.6s						
BOZC				IAML		17 11 14.0	
	comp=E,4μm,0.6s						
BOZC				IAML		17 11 14.0	
	comp=E,3μm,0.5s						
AXAR	**Agios Charalam**	**1.51**	**229**	P	**Pn**	**17 10 50.0**	**-0.7**
AGG	**Agios Georgios**	**1.57**	**242**	P	**Pn**	**17 10 50.8**	**-0.7**
AGG				S	**Sn**	**17 11 11.3**	**-0.9**
	comp=E,3μm,0.5s						
AGG	**Agios Georgios**	**1.57**	**242**	P	**Pn**	**17 10 50.9**	**-0.7**
AGG				AML	AML	17 11 26.9	
	comp=E,8804μm,0.5s						
AGG				AML	AML	17 11 26.9	
	comp=N,6500μm,0.8s						
AGG	**Agios Georgios**	**1.57**	**242**	PN	**Pn**	**17 10 50.9**	**-0.7**
AGG	**Agios Georgios**	**1.57**	**242**	P	**Pn**	**17 10 50.9**	**-0.7**
AGG	**Agios Georgios**	**1.57**	**242**		**Pn**	**17 10 50.9**	**-0.7**
THL	**Klokotos Trika**	**1.63**	**264**	P	**Pn**	**17 10 51.7**	**-0.7**
THL				S	**Sn**	**17 11 11.8**	**-1.9**
THL	**Klokotos Trika**	**1.63**	**264**	P	**Pn**	**17 10 51.9**	**-0.5**
KTI	**Kastanea**	**1.66**	**293**	P	**Pn**	**17 10 52.1**	**-0.8**
PSRA	**Psara**	**1.66**	**137**	P	**Pb**	**17 10 53.5**	**-0.8**
KNT	**Kendrikon**	**1.68**	**327**	P	**Pn**	**17 10 52.9**	**-0.1**
KNT				S	**Sb**	**17 11 14.9**	**-0.9**
	comp=N,3μm,0.5s						
KNT	**Kendrikon**	**1.68**	**327**	P	**Pn**	**17 10 53.0**	**-0.1**
KNT	**Kendrikon**	**1.68**	**327**	PN	**Pn**	**17 10 52.8**	**-0.3**
VIL2	**Platees**	**1.68**	**203**	P	**Pn**	**17 10 52.6**	**-0.5**
DION	**Dionisos Attik**	**1.69**	**185**	P	**Pn**	**17 10 52.3**	**-1.0**
DION				S	**Sb**	**17 11 15.3**	**-0.9**
	comp=N,25μm,0.8s						
DION	**Dionisos Attik**	**1.69**	**185**	P	**Pn**	**17 10 52.7**	**-0.6**
EZN	**Ezine**	**1.71**	**87**	PN	**Pn**	**17 10 52.9**	**-0.5**
MAKR	**Makrakomi, Fth**	**1.71**	**245**	P	**Pn**	**17 10 53.2**	**-0.3**
PTL	**Penteli**	**1.72**	**187**	P	**Pn**	**17 10 52.8**	**-0.9**
KARY	**Karystos**	**1.75**	**172**	P	**Pn**	**17 10 53.2**	**-0.8**
KARY				AML	AML	17 11 24.8	
	comp=E,9486μm,0.5s						
KARY				AML	AML	17 11 25.1	
	comp=N,8740μm,0.4s						
PRK	**Paraskevi**	**1.75**	**107**	P	**Pb**	**17 10 54.8**	**-0.9**
PRK				AML	AML	17 11 25.2	
	comp=E,23645μm,0.5s						
PRK				AML	AML	17 11 29.4	
	comp=N,28377μm,1.0s						
RDO	**Rodhopi**	**1.76**	**38**	P	**Pn**	**17 10 53.3**	**-0.9**
RDO	**Rodhopi**	**1.76**	**38**	PN	**Pn**	**17 10 53.3**	**-0.9**
GRG	**Griva**	**1.77**	**313**	P	**Pn**	**17 10 54.3**	**-0.1**
GRG	**Griva**	**1.77**	**313**	PN	**Pn**	**17 10 54.3**	**-0.1**
PROD	**Prodromos**	**1.77**	**213**	P	**Pn**	**17 10 53.3**	**-1.1**
DLFA	**Delphi**	**1.80**	**225**	P	**Pn**	**17 10 53.5**	**-1.3**
ATHU	**Athens Univers**	**1.81**	**188**	P	**Pn**	**17 10 54.0**	**-1.0**
ATHU				AML	AML	17 11 22.2	
	comp=E,3806μm,0.8s						
ATHU				AML	AML	17 11 23.9	
	comp=N,6270μm,0.5s						
ATH	**Athens Observa**	**1.82**	**190**	P	**Pn**	**17 10 54.3**	**-0.7**
ATH				AML	AML	17 11 22.7	
	comp=E,13824μm,0.8s						
ATH				AML	AML	17 11 25.1	
	comp=N,18403μm,0.5s						
ENEZ	**Enez**	**1.84**	**57**	PN	**Pn**	**17 10 54.5**	**-0.8**
ALN	**Alexandroupoli**	**1.86**	**52**	P	**Pn**	**17 10 54.6**	**-1.0**
ALN				AML	AML	17 11 29.8	
	comp=N,3932μm,0.5s						
ALN				AML	AML	17 11 35.8	
	comp=E,4137μm,0.4s						
ALN	**Alexandroupoli**	**1.86**	**52**	PN	**Pn**	**17 10 54.6**	**-1.0**
ALN	**Alexandroupoli**	**1.86**	**52**	P	**Pn**	**17 10 54.6**	**-1.0**
ALN	**Alexandroupoli**	**1.86**	**52**		**Pn**	**17 10 54.6**	**-1.0**
BAYC	**CANAKKALE_Bayr**	**1.88**	**90**	*i* P	**Pn**	**17 10 55.6**	**-0.2**
BAYC				*i* S	**Sn**	**17 11 17.7**	**-2.1**
BAYC				IAML		17 11 25.0	
	comp=E,3μm,0.7s						
BAYC				IAML		17 11 29.0	
	comp=N,4μm,0.6s						
KZN	**Kozani**	**1.88**	**288**	P	**Pn**	**17 10 55.8**	**-0.1**
GELI	**Tayfur-Gelibol**	**1.92**	**70**	PN	**Pn**	**17 10 55.6**	**-0.8**
VLY	**Voula,Athens**	**1.93**	**188**	P	**Pn**	**17 10 55.7**	**-0.8**
RZN	**Rozhen**	**1.98**	**13**	P	**Pn**	**17 10 57.3**	**-0.1**
EVR	**Evrytania**	**1.98**	**245**	P	**Pn**	**17 10 57.0**	**-0.2**
LOUT	**Loutraki**	**1.98**	**207**	P	**Pn**	**17 10 56.4**	**-0.9**
CHOS	**Chios island**	**2.04**	**132**	P	**Pn**	**17 10 58.2**	**0.0**
CHOS	**Chios island**	**2.04**	**132**	PN	**Pn**	**17 10 57.6**	**-0.6**
ERIK	**Erikli-Kesan**	**2.05**	**63**	PN	**Pn**	**17 10 57.2**	**-1.0**
KALE	**Kalithea**	**2.06**	**229**	P	**Pn**	**17 10 57.9**	**-0.5**
ANX	**Ano Chora**	**2.07**	**236**	P	**Pn**	**17 10 58.4**	**-0.1**
SERG	**Sergoula**	**2.09**	**231**	P	**Pn**	**17 10 58.2**	**-0.6**
TRIZ	**Trizonia**	**2.12**	**229**	P	**Pn**	**17 10 58.6**	**-0.5**
LPK	**Lapseki**	**2.12**	**73**	PN	**Pn**	**17 10 58.7**	**-0.5**
KPRO	**Kipourio**	**2.12**	**276**	P	**Pn**	**17 10 59.8**	**+0.5**
KDZ	**Kurdzhali**	**2.13**	**27**	P	**Pn**	**17 10 58.0**	**-1.3**
KDZ	**Kurdzhali**	**2.13**	**27**	PN	**Pn**	**17 10 58.2**	**-1.1**
KRBN	**Karaburun**	**2.23**	**121**	PN	**Pn

DIM Dimitrovgrad 2.52 25 P **Pn** 17 11 04.6 -0.1
DRO Drossia 2.61 227 P **Pn** 17 11 06.0 +0.2
SERI Serifos 2.62 173 P **Pn** 17 11 04.9 -1.1
KNL Balıkesir 2.67 78 *i* P **Pn** 17 11 07.9 +1.2
KNL *i* S **Sn** 17 11 38.2 -1.1
RLS Riolos of Patr 2.68 231 P **Pn** 17 11 07.0 +0.2
BALY Balya 2.70 89 *i* P **Pn** 17 11 07.6 +0.4
BALY *i* S **Sn** 17 11 37.1 -3.1
BALY IAML 17 11 52.0
comp=N,2µm,0.6s
BALY IAML 17 11 53.0
comp=E,2µm,0.6s
VLX Vlachokerasia 2.75 210 P **Pn** 17 11 07.8 -0.2
DGB zmir 2.75 127 *i* P **Pn** 17 11 07.8 0.0
DGB *i* S **Sb** 17 11 48.0 +1.2
STEP BALIKESIR_Sava 2.81 97 *i* P **Pn** 17 11 09.4 +0.7
STEP *i* S **Sn** 17 11 41.8 -1.2
STEP IAML 17 11 57.0
comp=E,2µm,0.7s
OHR Ohrid 2.87 299 *i* Pn **Pn** 17 11 09.9 +0.4
EDRB Edirne 2.88 43 PN **Pn** 17 11 08.7 -1.0
APE Apeiranthos 2.91 157 P **Pn** 17 11 09.5 -0.6
APE Apeiranthos 2.91 157 ⇓P **Pn** 17 11 09.5 -0.6
APE ⇑S **Sn** 17 11 47.0 +1.6
APE Apeiranthos 2.91 157 *d* iP **Pn** 17 11 09.4 -0.7
AMT Artemida-Makis 2.92 221 P **Pn** 17 11 10.2 +0.1
VTS Vitosha 2.93 347 *ePn* **Pn** 17 11 10.7 +0.3
VTS *eSn* **Sn** 17 11 45.3 -0.6
VTS Vitosha 2.93 347 ⇓P **Pn** 17 11 11.0 +0.6
VTS Vitosha 2.93 347 P **Pn** 17 11 10.7 +0.3
VTS Vitosha 2.93 347 P **Pn** 17 11 10.6 +0.2
VTS Vitosha 2.93 347 Pn **Pn** 17 11 10.6 +0.2
IGT Igoumenitsa 2.93 267 *ePn* **Pn** 17 11 12.6 +2.3
IGT *eSn* **Sn** 17 11 45.5 -0.2
BOSS Bosilegrad 3.00 336 *ePn* **Pn** 17 11 11.4 +0.2
SKO Skopje 3.00 318 *ePn* **Pn** 17 11 11.6 +0.4
SKO Skopje 3.00 318 *i* Pn **Pn** 17 11 11.7 +0.4
AKHS Akhisar 3.00 106 *i* P **Pn** 17 11 11.9 +0.6
AKHS *i* S **Sb** 17 11 55.2 +1.2
AKHS IAML 17 12 10.0
comp=E,260nm,0.7s
KIRK Kırklareli 3.03 47 *i* P **Pn** 17 11 10.5 -1.2
KIRK *i* S **Sb** 17 11 52.5 -2.3
MHLO Agia Marina, M 3.08 176 P **Pn** 17 11 12.4 0.0
ITM Ithomi 3.10 214 Pn **Pn** 17 11 13.5 +0.9
GCAM G?zelcaml? 3.19 129 *i* P **Pn** 17 11 14.5 +0.6
GCAM *i* S **Sb** 17 12 02.5 +3.0
DURS Dursunbey 3.37 91 *i* P **Pn** 17 11 16.9 +0.5
DURS *i* S **Sb** 17 12 02.3 -2.3
DURS IAML 17 12 17.0
comp=N,605nm,0.7s
DURS IAML 17 12 27.0
comp=E,465nm,0.7s
ELND Elena 3.43 22 ⇑P **Pn** 17 11 17.0 -0.2
ELND ⇓S **Sn** 17 11 58.9 +0.9
BARS Barje 3.51 331 *ePn* **Pn** 17 11 18.3 +0.1
BARS Barje 3.51 331 *ePn* **Pg** 17 11 31.9 +1.4
SANT Santorini 3.55 162 ⇑P **Pn** 17 11 19.6 +0.8
SANT Santorini 3.55 162 **Pn** 17 11 18.6 -0.3
KTHA Kythira Island 3.60 194 P **Pn** 17 11 18.9 -0.7
TIR Tirane 3.60 297 P **Pn** 17 11 18.3 -1.2
TIR Tirane 3.60 297 Pn **Pn** 17 11 18.3 -1.2
PLVB Pleven 3.64 6 ⇓P **Pn** 17 11 20.6 +0.5
ZAPS Zavoj 3.68 343 *ePn* **Pn** 17 11 20.7 +0.1
MANT Manisa 3.68 109 *i* P **Pn** 17 11 21.8 +0.8
MANT *i* S **Sn** 17 12 03.5 -1.1
MANT IAML 17 12 26.0
comp=E,173nm,0.6s
MANT IAML 17 12 26.0
comp=N,224nm,0.7s
MANT Manisa 3.68 109 **Pn** 17 11 21.7 +0.8
BDRM Kayabasi 3.76 135 *i* P **Pn** 17 11 22.2 +0.5
SZH Strazhica 3.76 21 P **Pn** 17 11 21.7 0.0
ULDT Uludag 3.88 83 *i* P **Pn** 17 11 24.0 +0.4
ULDT *i* S **Sb** 17 12 13.7 -5.7
ULDT IAML 17 12 28.0
comp=E,843nm,0.7s
ULDT IAML 17 12 31.0
comp=N,570nm,0.9s
IGD Bursa 3.94 81 *i* P **Pn** 17 11 25.1 +0.9
IGD *i* S **Sn** 17 12 08.7 -1.9
IGD IAML 17 12 31.0
comp=E,207nm,0.6s
IGD IAML 17 12 37.0
comp=N,309nm,1.1s
USAK Uak-Merkez 3.95 104 *i* P **Pn** 17 11 25.3 +0.9
USAK *i* S **Sb** 17 12 15.9 -5.4
USAK IAML 17 12 36.0
comp=N,156nm,1.3s
USAK IAML 17 12 40.0
comp=E,155nm,0.9s
ZIMR 4.00 13 ⇓P **Pn** 17 11 25.0 0.0
DAT Datca 4.08 137 *i* P **Pn** 17 11 26.3 +0.2
SELS Selova 4.12 328 *ePn* **Pn** 17 11 26.6 -0.1
RAZG Razgrad 4.20 24 ⇓P **Pn** 17 11 27.5 -0.3
GDZ Gediz 4.21 98 *i* P **Pn** 17 11 29.3 +1.2
GDZ *i* S **Sn** 17 12 19.7 +2.1
GDZ IAML 17 12 46.0
comp=E,96nm,1.0s
GDZ IAML 17 12 48.0
comp=N,145nm,1.0s
PVY Plav 4.22 313 ⇓*i* Pn **Pn** 17 11 28.0 -0.2
PVY *i* Sn **Sn** 17 12 17.3 -0.5
PRD Provadia 4.23 35 P **Pn** 17 11 27.5 -0.6
VLAD Vladila 4.24 3 ⇑P **Pn** 17 11 28.5 +0.3
ZAGS Zajecar 4.28 341 *ePn* **Pn** 17 11 28.4 -0.5
BAIL Bailesti 4.29 353 ⇑P **Pn** 17 11 30.0 +1.1
ULC Ulcinj 4.30 302 ⇑*i* Pn **Pn** 17 11 29.3 +0.2
ULC *i* Sn **Sn** 17 12 18.5 -1.0
SCTE Santa Cesarea 4.35 276 Pn **Pn** 17 11 30.3 +0.4
TAVA DENIZLI_Tavas 4.41 120 *i* P **Pn** 17 11 31.9 +1.3
KHAL Karahalli 4.41 107 *i* P **Pn** 17 11 32.2 +1.4
KHAL IAML 17 12 56.0
comp=N,78nm,0.8s
KHAL IAML 17 12 58.0
comp=E,74nm,0.8s
IVA Berane 4.44 316 ⇓*i* Pn **Pn** 17 11 31.4 +0.2
IVA *i* Sn **Sn** 17 12 22.7 -0.5
DRME Dracevica, Mon 4.45 305 ⇑*i* Pn **Pn** 17 11 31.5 +0.3
DRME *i* Sn **Sn** 17 12 22.2 -1.0
DRME Dracevica, Mon 4.45 305 *ePn* **Pn** 17 11 31.4 +0.3
IDI Anoyia 4.51 172 Pn **Pn** 17 11 31.5 -0.6
comp=E,7.6nm,0.3s,baz=349,slow=12,SNR=38
IDI Sn **Sn** 17 12 24.4 -0.5
comp=E,3.5nm,0.3s,baz=308,slow=18,SNR=1.1
IDI Lg Lg 17 12 43.0
comp=E,7.0nm,0.3s,baz=45,slow=10,SNR=4.2
IDI Anoyia 4.51 172 ⇑P **Pn** 17 11 31.7 -0.4
IDI Anoyia 4.51 172 **Pn** 17 11 31.7 -0.4
PDG Podgorica 4.53 308 *ePn* **Pn** 17 11 33.6 +1.3
PDG Podgorica 4.53 308 ⇓P **Pn** 17 11 34.4 +2.1
PDG Podgorica 4.53 308 Pn **Pn** 17 11 33.0 +0.7
PDG Podgorica 4.53 308 *ePn* **Pn** 17 11 33.8 +1.5
TTG Podgorica 4.53 308 ⇑*i* Pn **Pn** 17 11 32.7 +0.4
TTG *i* Sn **Sn** 17 12 24.7 -0.6
PUNG Punghina 4.59 349 ⇓P **Pn** 17 11 33.0 -0.1
DALY Dalyan (Mula) 4.63 128 *i* P **Pn** 17 11 34.8 +1.2
DALY IAML 17 13 04.0
comp=N,92nm,1.9s
DALY IAML 17 13 16.0
comp=E,73nm,2.4s
KOME Kolasin 4.64 313 ⇓*i* Pn **Pn** 17 11 33.9 +0.1
KOME *i* Sn **Sn** 17 12 26.8 -1.2
SGRR Singureni 4.67 17 ⇑P **Pn** 17 11 33.6 -0.5
SJES Sjenica 4.67 320 *ePn* **Pn** 17 11 35.5 +1.1
BUM Brajici-Budva 4.69 304 ⇓*i* Pn **Pn** 17 11 34.5 -0.1
BUM *i* Sn **Sn** 17 12 27.8 -1.5
GEYV SAKARYA_Geyve 4.79 79 *i* P **Pn** 17 11 35.7 +0.8
GEYV *i* S Sn 17 12 09.2 -23
GEYV IAML 17 13 09.0
comp=E,250nm,0.8s
GEYV IAML 17 13 26.0
comp=N,349nm,1.4s
HUMR Humele 4.80 7 ⇑P **Pn** 17 11 35.9 -0.2
CEME Cevo 4.81 307 ⇑*i* Pn **Pn** 17 11 37.1 +0.9
CEME *i* Sn **Sn** 17 12 31.5 -0.6
IVAS Ivanjica 4.83 323 *ePn* **Pn** 17 11 36.5 +0.1
GRUS Gruza 4.84 329 *ePn* **Pn** 17 11 36.5 0.0
KARP Karpathos 4.86 149 Pn **Pn** 17 11 36.6 -0.2
NKME Niksic 4.91 309 ⇓*i* Pn **Pn** 17 11 38.0 +0.4
NKME *i* Sn **Sn** 17 12 33.4 -1.3
NKY Niksic 4.91 310 ⇓*i* Pn **Pn** 17 11 38.0 +0.3
NKY *i* Sn **Sn** 17 12 33.6 -1.2
KZIL AFYON_Kizioren 4.93 106 *i* P **Pn** 17 11 39.3 +1.4
KZIL IAML 17 13 15.0
comp=E,115nm,0.8s
KZIL IAML 17 13 16.0
comp=N,95nm,0.9s
PSN Preselentsi 4.96 37 P **Pn** 17 11 37.7 -0.5
KUBS Kucevo 4.99 339 *ePn* **Pn** 17 11 38.7 +0.1
RASA Rasa 4.99 26 ⇑P **Pn** 17 11 39.2 +0.6
FETY Fethiye 5.01 127 *i* P **Pn** 17 11 40.7 +1.8
SRCK Saricakaya, Es 5.02 85 *i* P **Pn** 17 11 39.9 +0.9
SRCK IAML 17 13 10.0
comp=E,257nm,1.1s
SRCK IAML 17 13 12.0
comp=N,322nm,0.9s
HCY Herceg Novi 5.02 304 ⇑*i* Pn **Pn** 17 11 39.3 +0.3
HCY *i* Sn **Sn** 17 12 35.9 -1.4
HCY Herceg Novi 5.02 304 *ePn* **Pn** 17 11 39.8 +0.8
PLE Pljevlja 5.03 317 ⇓*i* Pn **Pn** 17 11 39.5 +0.3
PLE *i* Sn **Sn** 17 12 36.4 -1.2
BRDR BURDUR-Merkez 5.09 112 *i* P **Pn** 17 11 41.6 +1.6
BRDR IAML 17 13 21.0
comp=E,59nm,0.7s
BRDR IAML 17 13 26.0
comp=N,58nm,0.8s
LEHL Lehliu 5.12 22 ⇑P **Pn** 17 11 40.2 -0.1
ICOR Ion Corvin 5.14 31 ⇑P **Pn** 17 11 40.9 +0.2
UPM Unac-Piva 5.21 313 ⇑*i* Pn **Pn** 17 11 41.9 +0.2
UPM *i* Sn **Sn** 17 12 40.2 -1.9
BRY Bratogost 5.24 309 ⇑*i* Pn **Pn** 17 11 42.5 +0.4
BRY *i* Sn **Sn** 17 12 41.7 -1.1
BRY Bratogost 5.24 309 *ePn* **Pn** 17 11 43.6 +1.5
RUDO Rudo 5.24 319 *ePn* **Pn** 17 11 41.9 -0.1
TRUS Trudelj 5.24 329 *ePn* **Pn** 17 11 41.9 -0.2
MANR Mangalia 5.25 38 ⇑P **Pn** 17 11 41.5 -0.7
TREB Trebinje 5.25 306 *ePn* **Pn** 17 11 43.6 +1.4
TREB Trebinje 5.25 306 *ePn* **Pn** 17 11 43.7 +1.5
HERR Herculane 5.26 347 ⇑P **Pn** 17 11 41.2 -1.2
SAHE Sakarya_HENDEK 5.27 76 *i* P **Pn** 17 11 42.6 +0.2
SAHE IAML 17 13 19.0
comp=E,74nm,0.7s
SAHE IAML 17 13 27.0
comp=N,127nm,0.9s
DIVS Divibare 5.31 326 *ePn* **Pn** 17 11 41.9 -1.2
DIVS Divibare 5.31 326 Pn **Pn** 17 11 43.0 -0.1
DIVS Divibare 5.31 326 *ePn* **Pn** 17 11 43.0 -0.1
MDVR Moldovita 5.32 341 ⇑P **Pn** 17 11 42.9 -0.3
DBRK Dubrovnik 5.35 305 *ePn* **Pn** 17 11 44.3 +0.7
ISP Isparta 5.37 109 P **Pn** 17 11 43.0 -0.9
ISP Isparta 5.37 109 Pn **Pn** 17 11 43.0 -0.9
BBLS Lazići 5.40 321 *ePn* **Pn** 17 11 44.8 +0.5
BBLS Lazići 5.40 321 *ePn* **Pn** 17 11 44.9 +0.6
MFTR Murfatlar 5.46 35 ⇑P **Pn** 17 11 44.7 -0.2
SECR 5.46 15 ⇓P **Pn** 17 11 47.0 +1.9
ELL Elmali 5.46 122 P **Pn** 17 11 46.5 +1.3
ELL Elmali 5.46 122 Pn **Pn** 17 11 46.5 +1.3
EFOR EFORIE 5.47 37 ⇑P **Pn** 17 11 44.9 -0.3
MDUB Mudurnu 5.48 80 Pn **Pn** 17 11 46.0 +0.6
BAGO Egridir - ISPA 5.50 107 *i* P **Pn** 17 11 46.9 +1.2
BAGO IAML 17 13 35.0
comp=E,35nm,1.3s
MTUR Matau 5.50 7 ⇑P **Pn** 17 11 47.0 +1.3
TSCT Constanta Port 5.55 36 ⇓P **Pn** 17 11 45.7 -0.5
TLBR Topalu 5.60 30 ⇑P **Pn** 17 11 47.1 +0.2
ARR Arges 5.61 4 ⇑P **Pn** 17 11 47.4 +0.2
KORT Korkueli 5.62 117 *i* P **Pn** 17 11 51.1 +3.7
ISR Istrita 5.64 18 ⇑P **Pn** 17 11 48.4 +0.8
TIRR Tirgusor 5.68 33 ⇑P **Pn** 17 11 47.9 -0.1
TIRR Tirgusor 5.68 33 P **Pn** 17 11 47.5 -0.5
TIRR Tirgusor 5.68 33 Pn **Pn** 17 11 47.5 -0.5
HARR Harsova 5.68 29 ⇑P **Pn** 17 11 48.3 +0.2
GZR Gura Zlata 5.71 350 ⇑P **Pn** 17 11 48.9 +0.4
VOIR 5.71 7 ⇓P **Pn** 17 11 49.1 +0.5
TIP Timpagrande 5.72 266 ⇓P **Pn** 17 11 49.5 +0.8
TIP Timpagrande 5.72 266 Pn **Pn** 17 11 48.7 -0.1
MATE Matera 5.74 281 ⇑P **Pn** 17 11 48.6 -0.3
STON Ston 5.74 305 *ePn* **Pn** 17 11 48.8 -0.1
STON Ston 5.74 305 *ePn* **Pn** 17 11 48.8 -0.1
TEKS Tekeris 5.87 326 *ePn* **Pn** 17 11 50.3 -0.4
TEKS Tekeris 5.87 326 *ePn* **Pn** 17 11 49.8 -0.9
MLR Muntele Rosu 5.88 13 Pn **Pn** 17 11 52.1 +1.1
comp=E,2.5nm,0.3s,baz=205,slow=6.2,SNR=34
MLR Sn **Sn** 17 13 00.8 +2.2
comp=E,2.3nm,0.3s,baz=204,slow=21,SNR=1.1
MLR LR LR 17 14 01.1
comp=E,128nm,21.0s,baz=95,slow=37
MLR Muntele Rosu 5.88 13 ⇓P **Pn** 17 11 52.1 +1.1
MLR Muntele Rosu 5.88 13 P **Pn** 17 11 51.6 +0.7
MLR 17 13 00.9
MLR Muntele Rosu 5.88 13 Pn **Pn** 17 11 51.6 +0.7
KIBS BOLU 5.97 81 *i* P **Pn** 17 11 53.0 +0.8
KIBS IAML 17 13 51.0
comp=E,152nm,1.5s
KIBS IAML 17 13 59.0
comp=N,130nm,1.4s
TOPG Topolog 6.01 30 ⇑P **Pn** 17 11 52.2 -0.3
BISRR Bisoca 6.09 17 ⇑P **Pn** 17 11 52.8 -1.0
DOGA KONYA_Doganhis 6.12 103 *i* P **Pn** 17 11 56.3 +2.0
JURR Jurilovca 6.12 34 ⇑P **Pn** 17 11 55.0 +0.9
BZS Buzias 6.13 343 ⇓P **Pn** 17 11 54.0 -0.2
BCAM Yenicaga 6.17 78 *i* P **Pn** 17 11 55.1 +0.2
BCAM IAML 17 14 03.0
comp=N,48nm,2.0s
BCAM IAML 17 14 27.0
comp=E,37nm,2.1s
CFR Carcaliu 6.17 27 ⇑P **Pn** 17 11 54.4 -0.4
FRGS Fruska Gora 6.26 331 *ePn* **Pn** 17 11 54.7 -1.3
FRGS Fruska Gora 6.26 331 *ePn* **Pn** 17 11 55.5 +1.1
DOPR Dopca 6.27 8 ⇑P **Pn** 17 11 57.3 +1.1
PLOR Plostina 6.36 16 ⇑P **Pn** 17 11 58.4 +0.9
MDB Medias 6.38 2 ⇑P **Pn** 17 11 58.8 +1.2
MAKA Makarska 6.38 306 *ePn* **Pn** 17 11 58.0 +0.3
PETR Petresti 6.38 20 ⇑P **Pn** 17 11 58.5 +0.8
VRI Vrincioaia 6.39 17 ⇓P **Pn** 17 11 59.2 +1.3
TLCR 6.44 31 ⇑P **Pn** 17 11 58.5 +0.1
OZUR 6.45 10 ⇓P **Pn** 17 11 59.4 +0.8
CEL Celeste 6.58 259 Pn **Pn** 17 12 01.1 +0.7
CEL **Sn** 17 13 13.1 -2.6
SGRT San Giovanni R 6.66 290 Pn **Pn** 17 12 00.2 -1.3
BR231 Keskin MP Arra 6.67 87 Pn **Pn** 17 11 59.9 -1.9
ANTO Ankara 6.68 86 P **Pn** 17 12 01.2 -0.8
ANTO Ankara 6.68 86 Pn **Pn** 17 12 01.2 -0.8
HVAR Hvar 6.69 303 *ePn* **Pn** 17 12 01.5 -0.5
MGRS Mrkonjic Grad 6.99 314 *ePn* Pn 17 12 11.3 +5.1
TESR Tescani 6.99 15 ⇑P **Pn** 17 12 07.3 +1.1
DRGR 7.10 352 ⇑P **Pn** 17 12 07.7 +0.1
KIJV Kijevo 7.14 309 *ePn* **Pn** 17 12 09.2 +1.0
BLY Banja Luka 7.16 316 *ePn* **Pn** 17 12 08.2 -0.1
ELDT Eldivan 7.17 81 *i* P **Pn** 17 12 09.4 +0.7
ELDT IAML 17 14 23.0
comp=N,80nm,1.2s
BIZ Bicaz 7.32 11 ⇑P **Pn** 17 12 12.2 +1.6
ARCR ARCALIA 7.32 1 ⇑P **Pn** 17 12 11.1 +0.5
BR131 Keskin Array S 7.34 87 *i* P **Pn** 17 12 12.2 +1.2
BR131 Keskin Array S 7.34 87 Pn **Pn** 17 12 12.0 +1.0
BRTR Keskin Array B 7.34 87 Pn **Pn** 17 12 11.4 +0.4
comp=N,0.8nm,0.3s,baz=258,slow=11,SNR=26
BRTR Sn **Sn** 17 13 31.1 -3.6
comp=N,0.8nm,0.3s,baz=273,slow=23,SNR=1.6
BRTR LR LR 17 15 22.8
comp=N,79nm,20.8s,baz=354,slow=41
BRTR Keskin Array B 7.34 87 *i* P **Pn** 17 12 12.1 +1.0
BRTR pmax pmax
comp=Z,2.0nm,0.3s
VASR Vaslui 7.38 20 ⇑P **Pn** 17 12 12.2 +0.8
PAOL Paolisi 7.39 283 **Pn** 17 12 11.4 -0.3
ZIRJ Zirje 7.43 304 *ePn* **Pn** 17 12 11.9 -0.3
ZIRJ Sn **Sn** 17 13 34.6 -2.0
MORI Morici 7.50 306 *ePn* **Pn** 17 12 13.4 +0.4
DELI KIRIKKALE 7.55 85 *i* P **Pn** 17 12 14.4 +0.6
DELI IAML 17 13 35.0
comp=E,20nm,0.4s
DELI IAML 17 14 45.0
comp=N,24nm,1.3s
MORH Mrgy, Hungar 7.59 330 *ePn* **Pn** 17 12 13.9 -0.4
PRAR RASCA 7.75 11 ⇑P **Pn** 17 12 17.6 +1.2
UDBI Udbina 7.82 310 *ePn* **Pn** 17 12 18.5 +1.0
BURAR Bucovina Array 7.89 5 ⇑P **Pn** 17 12 19.5 +1.0
BUR08 Bucovina Ar. S 7.92 5 Pn **Pn** 17 12 19.4 +0.5
MILM Milestii Mici 7.93 24 ⇓P **Pn** 17 12 19.4 +0.5
VAE Valguarnera 7.93 256 Pn **Pn** 17 12 21.5 +2.5
comp=N,4.5nm,0.3s,baz=8.9,slow=7.3,SNR=5.6
VAE Sn **Sn** 17 13 45.2 -3.8
comp=N,2.0nm,0.3s,baz=12,slow=24,SNR=1.8
DUGI Dugi Otok 7.97 305 *ePn* **Pn** 17 12 19.2 -0.2
MOSL Moslavina 7.97 320 *ePn* **Pn** 17 12 19.9 +0.4
INTR Introdacqua 8.05 289 Pn **Pn** 17 12 19.4 -1.3
TRPA Tarpa 8.44 353 ⇑P **Pn** 17 12 26.6 +0.7
KALN Kalnik 8.48 321 *ePn* **Pn** 17 12 26.8 +0.2
AQU L'Aquila 8.50 291 P **Pn** 17 12 23.1 -3.7
AQU L'Aquila 8.50 291 Pn **Pn** 17 12 23.1 -3.7
ZAG Zagreb 8.51 318 *ePn* **Pn** 17 12 27.7 +0.9
WDD Wied Dalam 8.54 246 Pn **Pn** 17 12 26.1 -1.3
SEV Sevastopol' 8.55 53 *eP* **Pn** 17 12 24.9 -2.6
SEV *eS* **Sn** 17 13 55.8 -8.4
SEV pmax pmax
comp=Z,3.0nm,0.2s
SEV smax smax
comp=N,14nm,0.5s
SEV smax smax
comp=E,11nm,0.4s
PTJ Puntijarka 8.57 318 *ePn* **Pn** 17 12 28.6 +0.8
PTJ Sn **Sn** 17 14 02.2 -2.6
CORL Corleone 8.64 261 Pn **Pn** 17 12 27.6 -1.2
PSZ Piszkesteto 8.70 341 ⇑P **Pn** 17 12 30.9 +1.3
PSZ Piszkesteto 8.70 341 P **Pn** 17 12 28.7 -0.9
PSZ Piszkesteto 8.70 341 Pn **Pn** 17 12 28.6 -0.9
CSS Mathiatis 8.76 120 Pn **Pn** 17 12 30.9 +0.5
CRES Cresnjev 8.78 316 *ePn* **Pn** 17 12 31.4 +0.7
CLTB Caltabellotta 8.80 259 **Pn** 17 12 30.1 -0.9
NRCA Norcia 8.83 294 **Pn** 17 12 31.8 +0.4
SORM Soroca 8.91 19 ⇑P **Pn** 17 12 31.6 -0.7
UZH Uzhgorod 8.96 352 *eP* Pn 17 12 38.0 +4.9
SIM Simferopol' 9.04 52 *eP* **Pn** 17 12 37.4 +3.3
SIM S **Sn** 17 14 20.0 +3.9
SIM pmax pmax
comp=Z,34nm,0.4s
SIM MLR MLR
comp=Z,40nm,12.0s
ALU Alushta 9.08 54 *eP* **Pn** 17 12 33.5 -1.1
ALU pmax pmax
comp=Z,14nm,0.4s
BRJN Brijuni 9.23 307 *ePn* **Pn** 17 12 38.0 +1.3
KOLS Kolonicke sedl 9.26 352 *eP* **Pn** 17 12 37.7 +0.5
KOLS Kolonicke sedl 9.26 352 *ePN* **Pn** 17 12 37.7 +0.5
CEY Cerknica 9.29 313 *ePn* **Pn** 17 12 36.1 -1.6
MURB Monte Urbino 9.37 296 **Pn** 17 12 37.7 -1.0
VYHS Vyhne 9.51 338 *eP* Pn 17 12 47.7 +7.0
VYHS Vyhne 9.51 338 *ePN* Pn 17 12 47.7 +7.0
SUDU Sudak 9.55 54 *eP* **Pn** 17 12 39.6 -1.5
SUDU pmax pmax
comp=Z,18nm,0.5s
SOKA Soboth 9.57 319 Pn **Pn** 17 12 42.3 +0.8
comp=Z,5.4nm,0.4s,SNR=10.0
OBKA Obir 9.71 317 *i* Pn **Pn** 17 12 45.3 +1.9
comp=Z,2.6nm,0.4s
ARSA Arzberg 9.74 323 *ePn* **Pn** 17 12 45.5 +1.8
comp=Z,5.5nm,0.3s,SNR=7.8
MODS Modra-Piesok 9.91 333 *eP* **Pn** 17 12 46.7 +0.6
MODS Modra-Piesok 9.91 333 *ePN* **Pn** 17 12 46.7 +0.6
LVV L'vov 10.05 360 *eP* **Pn** 17 12 50.1 +2.0
LVV *e* 17 14 44.8
LVV MLR MLR
comp=N,200nm,11.0s
LVV MLR MLR
comp=E,400nm,11.0s
LVV MLR MLR
comp=Z,300nm,10.0s
CONA Conrad Observa 10.10 327 *ePn* **Pn** 17 12 50.0 +1.3
comp=Z,2.7nm,0.5s,SNR=6.9
CONA *eSn* **Sn** 17 14 42.2 -0.1
comp=Z,3.6nm,0.6s
PRED Cave del Predi 10.19 314 **Pn** 17 12 49.5 -0.5
STAL STALIGIAL 10.57 312 Pn **Pn** 17 12 55.2 +0.1
ZOU Zoufplan 10.59 313 **Pn** 17 12 55.1 -0.5
KBA Koelnbreinsper 10.71 317 *ePn* **Pn** 17 12 58.1 +0.9
comp=Z,3.7nm,0.5s,SNR=6.9
CIMO Cimolais 10.75 311 Pn **Pn** 17 12 55.8 -1.9
MOA Molln 10.76 322 Pn **Pn** 17 12 59.2 +1.5
comp=Z,2.9nm,0.5s
OKC Ostrava-Krasne 10.92 339 AMS AMS 17 17 50.0
comp=Z,300nm,11.0s
VRAC Vranov 10.94 333 LR LR 17 18 04.0
comp=Z,63nm,18.5s,baz=136,slow=42
ABTA Abfaltersbach 10.96 313 *ePn* **Pn** 17 13 00.5 -0.1
comp=Z,6.8nm,0.7s,SNR=5.4
ABTA *eSn* **Sn** 17 15 04.9 +1.5
comp=Z,1.6nm,0.4s
CTI Castel Tesino 11.08 309 P **Pn** 17 13 00.8 -1.5
CTI Castel Tesino 11.08 309 Pn **Pn** 17 13 00.8 -1.5
MMAI Mount Meron Ar 11.31 123 Pn **Pn** 17 13 05.0 -0.5
comp=Z,3.0nm,0.3s,baz=305,slow=12,SNR=19
VSL Villasalto 11.37 273 Pn **Pn** 17 13 04.1 -2.0
AKASG Malin Array Be 11.51 16 Pn **Pn** 17 13 06.8 -1.2
comp=Z,2.3nm,0.3s,baz=196,slow=13,SNR=9.5
AKASG Malin Array Be 11.51 16 *i* P **Pn** 17 13 06.8 -1.2
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKBB Malin Array Si 11.51 16 *i* P **Pn** 17 13 07.5 -0.5
AKBB Malin Array Si 11.51 16 Pn **Pn** 17 13 06.2 -1.8
KRLC Kraliky 11.54 336 AMS AMS 17 20 30.0
comp=Z,100nm,12.5s
GEC2 GERESS Array S 11.74 324 Pn **Pn** 17 13 09.5 -1.7
GERES GERESS Array B 11.74 324 Pn **Pn** 17 13 12.3 +1.1
comp=Z,0.2nm,0.3s,baz=147,slow=13,SNR=6.9
GERES LR LR 17 17 25.5
comp=Z,51nm,18.8s,baz=146,slow=36
WTTA Wattenberg 11.75 314 *ePn* **Pn** 17 13 12.5 +1.1
comp=Z,1.7nm,0.3s
MSSA Maissana 11.76 297 Pn **Pn** 17 13 10.3 -1.3
KHC Kasperske Hory 12.00 325 *eP* **Pn** 17 13 16.8 +2.0
KHC *ex* x 17 13 23.5
KHC AMS AMS 17 18 10.0
comp=Z,200nm,10.5s
KHC Kasperske Hory 12.00 325 *i* P **Pn** 17 13 16.0 +1.2
KHC pmax pmax
comp=Z,17nm,2.1s
KHC Kasperske Hory 12.00 325 Pn **Pn** 17 13 14.3 -0.5
MOTA Moosalm 12.09 313 *ePn* **Pn** 17 13 16.6 +0.5
comp=Z,2.7nm,0.5s
FETA Feichten 12.13 311 *ePn* **Pn** 17 13 16.6 -0.1
comp=Z,1.2nm,0.4s
FETA *eSn* **Sn** 17 15 32.1 -0.1
comp=Z,2.9nm,0.9s
OSTC Ostas 12.14 335 AMS AMS 17 18 00.0
comp=Z,200nm,11.2s
UPC Upice 12.16 335 AMS AMS 17 19 20.0
comp=Z,200nm,10.2s
FUORN Ofenpass-Fuorn 12.20 309 Pn **Pn** 17 13 16.3 -1.4
PRU Pruhonice 12.26 330 AMS AMS 17 20 20.0
comp=Z,200nm,12.5s
KEST Kesra 12.36 256 Pn **Pn** 17 13 19.9 +0.1
comp=Z,0.3nm,0.3s,baz=52,slow=0.6,SNR=4.5
KEST LR LR 17 19 36.3
comp=Z,88nm,19.6s,baz=337,slow=45
KEST Kesra 12.36 256 Pn **Pn** 17 13 18.9 -0.8
DAVOX Davos/Dischmat 12.51 309 LR LR 17 19 01.4
comp=Z,202nm,18.4s,baz=89,slow=41
PVCC Panska Ves 12.68 331 AMS AMS 17 19 20.0
comp=Z,100nm,10.4s
ASF Jabal al Asfar 12.82 122 Pn **Pn** 17 13 24.5 -1.6
comp=Z,0.1nm,0.3s,baz=110,slow=17,SNR=2.0
BRG Berggiesshubel 13.20 331 *e*(P) **P** 17 13 43.1 +1.9
comp=Z,3.5nm,0.9s
BRG Berggiesshubel 13.20 331 *eP* **P** 17 13 43.1 +1.9
BRG pmax pmax
comp=Z,4.0nm,0.9s
NKC Novy Kostel 13.31 326 AMS AMS 17 20 30.0
comp=Z,200nm,13.5s
CLL Collm 13.90 330 *ePP* **P** 17 13 51.0 +2.0
CLL Collm 13.90 330 *eP* **Pn** 17 13 36.0 -4.6
BNI Bardonecchia 13.92 298 P **Pn** 17 13 40.1 -0.9
BNI Bardonecchia 13.92 298 Pn **Pn** 17 13 40.1 -0.9
SENIN Lac Senin/Sane 13.94 304 Pn **Pn** 17 13 40.1 -1.2
SHA1 Shidzhatmaz 14.40 68 *i* P **Pn** 17 13 47.2 -0.5
KIV Kislovodsk 14.46 67 *i* P **Pn** 17 13 49.8 +1.4
KIV pmax pmax
comp=Z,2.0nm,0.8s
KIV MLR MLR
comp=Z,34nm,16.0s
KBZ Khabaz 14.57 68 LR LR 17 20 17.2
comp=Z,54nm,20.2s,baz=232,slow=41
VSR Storozhevoye 15.54 38 *eP* **Pn** 17 14 01.7 -1.0
VSR pmax pmax
comp=Z,10.0nm,0.5s
LPSR Galich'ya Gora 16.39 34 *eP* **Pn** 17 14 12.2 -1.5
LPSR pmax pmax

comp=Z,10.0nm,0.6s
OBN Obninsk 17.47 24 *i* P **P 17 14 28.9 +0.4**
OBN pmax pmax
comp=Z,13nm,0.4s
MOS Moscow 18.33 25 *eP* **P 17 14 40.4 +2.5**
VSU Vasula 18.79 4 *i* P **Pn 17 14 44.8 +1.4**
VSU pmax pmax
comp=Z,16nm,0.9s
HFS Hagfors 21.41 346 P **P 17 15 11.4 -0.1**
comp=Z,1.8nm,0.7s,baz=170,slow=9.9,SNR=2.8
HFS LR LR 17 23 46.5
comp=Z,65nm,19.2s,baz=162,slow=37
ESBB Sonseca Array 21.57 279 **P 17 15 11.5 -1.9**
ESDC Sonseca Array 21.57 279 P **P 17 15 14.6 +1.2**
comp=Z,1.1nm,0.6s,baz=74,slow=12,SNR=2.9
FINES FINESS Array B 21.74 3 P **P 17 15 14.2 -0.8**
comp=Z,1.7nm,0.7s,baz=177,slow=9.5,SNR=7.8
FINES LR LR 17 24 47.3
comp=Z,54nm,19.1s,baz=180,slow=40
FIA1 FINESS Array S 21.74 3 **P 17 15 13.5 -1.5**
KONO Kongsberg 21.91 340 *i* P **P 17 15 15.7 -1.1**
KONO pmax pmax
comp=Z,40nm,2.4s
KONO Kongsberg 21.91 340 **P 17 15 15.3 -1.6**
KONO IAmb IAmb 17 15 24.9
comp=Z,20nm,1.2s
NC602 NORSAR Array S 22.40 344 P **P 17 15 20.5 -1.6**
NC602 IAmb IAmb 17 15 29.0
comp=Z,44nm,1.4s
NAO01 NORSAR Array S 22.64 343 **P 17 15 23.4 -1.4**
NAO01 IAmb IAmb 17 15 33.5
comp=Z,29nm,1.1s
NB201 NORSAR Array S 22.74 344 P **P 17 15 24.1 -1.7**
NB2 NORSAR Subarra 22.75 344 P **P 17 15 25.0 -0.8**
comp=Z,18nm,1.7s,baz=153,slow=10
NOA NORSAR Array B 22.75 344 P **P 17 15 24.4 -1.4**
comp=Z,2.8nm,0.8s,baz=149,slow=9.3,SNR=8.7
NBO00 NORSAR Array S 22.84 343 **P 17 15 26.4 -0.4**
NC303 NORSAR Array S 22.88 344 **P 17 15 26.1 -1.1**
NC303 IAmb IAmb 17 15 31.9
comp=Z,15nm,1.0s
KLMR Klimovskoe 23.18 19 *eP* **P 17 15 31.5 +1.3**
KLMR pmax pmax
comp=Z,15nm,1.4s
KLMR Klimovskoe 23.18 19 *eP* **P 17 15 31.5 +1.3**
KLMR AMP 17 15 37.3
comp=Z,15nm,1.4s
EKA Eskdalemuir Ar 23.89 320 P **P 17 15 36.2 -1.1**
comp=Z,0.8nm,0.6s,baz=112,slow=10.0,SNR=4.3
RAYN Ar Rayn 24.27 125 P **P 17 15 40.5 -0.8**
RAYN pmax pmax
comp=Z,16nm,1.5s
RAYN Ar Rayn 24.27 125 P **P 17 15 40.5 -0.8**
RAYN IAmb IAmb 17 15 44.1
comp=Z,16nm,1.4s
KIRV Kirov 24.81 32 LR LR 17 25 32.4
comp=Z,50nm,19.7s,baz=209,slow=37
AKTO Aktyubinsk 25.99 55 LR LR 17 28 33.1
comp=Z,20nm,20.8s,baz=254,slow=42
GEYT Alibeck 26.46 83 P **P 17 15 58.7 -2.3**
comp=Z,1.2nm,0.6s,baz=36,slow=44,SNR=1.3
ARU Arti 28.01 42 LR LR 17 27 02.3
comp=Z,59nm,20.6s,baz=232,slow=36
ARU Arti 28.01 42 *d* *i* P **P 17 16 16.7 +2.0**
ARU 17 17 02.2
ARU S **S 17 21 05.2 +6.1**
ARU SS **SnSn 17 22 20.2 +7.1**
ARU pmax pmax
comp=Z,5.0nm,1.7s
ARCES ARCESS Array B 29.84 1 LR LR 17 29 29.4
comp=Z,103nm,18.7s,baz=150,slow=38
ARE0 ARCESS Array S 29.84 1 P **P 17 16 30.4 -0.4**
TOA0 Torodi Ar. Sit 33.06 223 P **P 17 16 59.0 -0.6**
TOA0 IAmb IAmb 17 17 10.2
comp=Z,8.1nm,1.1s
TORD Torodi Ar. Bea 33.06 223 P **P 17 16 59.0 -0.6**
comp=Z,2.9nm,0.5s,baz=32,slow=9.3,SNR=23
TORD LR LR 17 31 19.1
comp=Z,40nm,18.1s,baz=15,slow=38
BRVK Borovoye 33.89 51 *i* P **P 17 17 07.6 +1.1**
BRVK pmax pmax
comp=Z,1.0nm,0.9s
CHGR Chuyangaron 34.64 77 P **P 17 17 14.0 +0.7**
CHGR IAmb IAmb 17 17 15.8
comp=Z,7.9nm,0.9s
GAR Garm 35.41 76 P **P 17 17 20.3 +0.3**
GAR IAmb IAmb 17 17 23.0
comp=Z,9.6nm,0.9s
AAK Ala-Archa 37.56 69 *ce* P **P 17 17 40.1 +1.7**
AAK pmax pmax
comp=Z,4.0nm,2.2s
KURK Kurchatov 39.08 55 *i* P **P 17 17 51.7 +0.9**
KURK pmax pmax
comp=Z,3.0nm,1.2s
NIL Nilore 39.46 83 P **P 17 17 54.9 +0.6**
NIL pmax pmax
comp=Z,7.0nm,1.0s
NIL Nilore 39.46 83 P **P 17 17 54.9 +0.6**
NIL IAmb IAmb 17 17 56.6
comp=Z,7.4nm,1.0s
MAKZ Makanchi 41.87 61 P **P 17 18 15.0 +1.0**
MAKZ pmax pmax
comp=Z,1.0nm,1.0s
MAKZ Makanchi 41.87 61 P **P 17 18 15.0 +1.0**
DBIC Dimbokro 41.98 226 P **P 17 18 14.7 -0.4**
comp=Z,4.2nm,0.8s,baz=12,slow=11,SNR=6.4
DBIC LR LR 17 35 47.4
comp=Z,34nm,20.4s,baz=92,slow=36
DBIC Dimbokro 41.98 226 P **P 17 18 15.1 -0.1**
DBIC pmax pmax
comp=Z,33nm,1.5s
DBIC Dimbokro 41.98 226 P **P 17 18 15.1 -0.1**
MK31 Makanchi Array 42.09 61 P **P 17 18 16.1 +0.4**
MK31 pmax pmax
comp=Z,1.0nm,0.8s
MK31 Makanchi Array 42.09 61 **P 17 18 16.1 +0.4**
MKAR Makanchi Array 42.09 61 P **P 17 18 16.2 +0.5**
comp=Z,1.6nm,0.7s,baz=277,slow=7.0,SNR=19
MKAR PcP **PcP 17 20 08.5 -1.9**
comp=Z,1.1nm,1.0s,baz=74,slow=4.3,SNR=2.2
MKAR LR LR 17 38 18.8
comp=Z,33nm,18.4s,baz=236,slow=40
MKAR Makanchi Array 42.09 61 *ce* **P 17 18 16.6 +0.8**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
ZAA0 Zalesovo Array 42.54 50 **P 17 18 19.5 +0.2**
ZAA0 IAmb IAmb 17 18 20.8
comp=Z,4.6nm,0.6s
ZALV Zalesovo Beam 42.54 50 P **P 17 18 19.4 +0.1**
comp=Z,4.6nm,0.5s,baz=270,slow=8.9,SNR=21
ZALV Zalesovo Beam 42.54 50 *i* P **P 17 18 20.1 +0.8**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
DGZ Jazzator, Alta 44.83 55 *i* P **P 17 18 39.1 +1.1**
DGZ pmax pmax
comp=Z,2.0nm,0.9s
WMQ Urumqi 46.54 63 *eP* **P 17 18 53.1 +1.6**
TIXI Tiksi 57.17 21 *i* P **P 17 20 10.6 +0.3**
TIXI pmax pmax
comp=Z,4.0nm,2.7s
SONM Songino Array 57.28 53 P **P 17 20 11.1 -0.5**
comp=Z,1.0nm,0.8s,baz=303,slow=8.3,SNR=4.3
SCHQ Schefferville 59.19 318 P **P 17 20 24.4 -0.3**
comp=Z,2.6nm,0.8s,baz=178,slow=19,SNR=2.5
SCHQ Schefferville 59.19 318 P **P 17 20 23.7 -1.0**
SCHQ IAmb IAmb 17 21 02.1
comp=Z,9.3nm,1.3s
LZH Lanzhou 60.99 66 *eP* **P 17 20 39.3 +1.7**
LZH pP sP 17 20 42.5 +2.3
LZH sP pP 17 20 44.1 +4.6
LZH *ePP* **PP 17 22 55.2 +3.6**
LZH pmax pmax
comp=Z,16nm,1.3s
LZH pmax pmax
comp=Z,49nm,7.2s
HHC Hu-ho-hao-te 63.83 58 P **P 17 20 58.1 +1.7**
HHC pmax pmax
comp=Z,5.0nm,0.7s
HHC pmax pmax
comp=Z,44nm,5.8s
LBTB Lobatse 64.46 179 P **P 17 21 02.1 +1.6**
LBTB pmax pmax
comp=Z,12nm,1.4s
LBTB Lobatse 64.46 179 P **P 17 21 02.1 +1.6**
CHTO Chiang Mai 66.72 84 P **P 17 21 14.6 -0.7**
CHTO pmax pmax
comp=Z,4.0nm,1.1s
CHTO Chiang Mai 66.72 84 P **P 17 21 14.6 -0.7**
CHTO IAmb IAmb 17 21 15.4
comp=Z,4.4nm,1.1s
CMAR Chiang Mai Arr 66.92 85 P **P 17 21 15.5 -1.2**
comp=Z,1.8nm,0.9s,baz=304,slow=7.6,SNR=14
BOSA Boshof 68.04 179 P **P 17 21 22.9 -0.5**
comp=Z,2.9nm,0.8s,baz=13,slow=3.4,SNR=3.9
BOSA LR LR 17 53 54.2
comp=Z,44nm,20.4s,baz=24,slow=38
BOSA Boshof 68.04 179 P **P 17 21 22.7 -0.7**
BOSA pmax pmax
comp=Z,10.0nm,1.3s
BOSA Boshof 68.04 179 P **P 17 21 22.7 -0.7**
BILL Bilibino 68.82 14 *i* P **P 17 21 29.9 +2.1**
BILL *i* 17 21 51.3
BILL pmax pmax
comp=Z,2.0nm,1.3s
YKA Yellowknife Ar 72.82 341 P **P 17 21 51.6 -0.5**
comp=Z,0.2nm,0.6s,baz=154,slow=7.9,SNR=3.1
KSRS Korea Array 76.15 53 P **P 17 22 10.7 -1.3**
comp=Z,1.2nm,0.8s,baz=312,slow=5.6,SNR=6.8
TXAR Lajitas Array 95.84 316 P **P 17 23 50.8 0.0**
comp=Z,0.1nm,0.3s,baz=3.5,slow=23,SNR=2.0
ASAR Alice Springs 119.58 97 PKP **PKPdf 17 29 11.4 -2.7**
comp=Z,0.2nm,0.4s,baz=304,slow=1.8,SNR=4.7

*TEH **06** 17:11:50.3, 32˚.76N×46˚.77E, h19km, ML3.2*
*ISN **06** 17:11:51.5±1.2, 32˚.72N×46˚.64E, h0km±4km, ML3.2*
ISC 06 17:11:52.6±1.4**, 32.73N**±0.09×**46.80E**±0.05**, h20km, n22,**
σ0s81/25, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.82**	**297**	*e*Pg	**Pb**	**17 12 08.0**	**-0.2**
IBDR				*e*Sg	**Sb**	**17 12 18.0**	**-0.8**
IBDR				AML	AML	17 12 19.7	
	comp=E,2μm,0.7s						
IBDR				AML	AML	17 12 32.1	
	comp=N,2μm,0.4s						
IKMR	**Kamar-syah**	**1.54**	**59**	*e*Pg	**Pn**	**17 12 19.5**	**+0.6**
IKMR				*e*		17 12 44.7	
KCHF	**Cheshme Sefid,**	**1.55**	**7**	*e*Pg	**Pn**	**17 12 19.5**	**+0.2**
KCHF				*e*		17 12 46.8	
IKOM	**Komasi**	**1.56**	**22**	*e*Pg	**Pn**	**17 12 18.7**	**-0.6**
IKOM				*e*		17 12 44.2	
IDOB	**Doab**	**1.56**	**47**	*e*Pg	**Pn**	**17 12 19.7**	**+0.2**
IDOB				*e*		17 12 25.0	
IGHG	**Ghaleghazi**	**1.60**	**353**	*e*Pg	**Pn**	**17 12 19.9**	**-0.1**
KER	**Kermanshah**	**1.67**	**9**	*e*Pn	**Pn**	**17 12 20.3**	**-0.6**
KER				*e*		17 12 54.6	
IVIS	**Veis**	**1.79**	**1**	*e*Pg	**Pn**	**17 12 22.8**	**+0.3**
IVIS				*e*		17 12 54.8	
BMDN	**Meydan**	**1.94**	**61**	*e*Pn	**Pn**	**17 12 24.5**	**-0.1**
IDHR	**Dehrash**	**1.99**	**350**	*e*Pn	**Pn**	**17 12 24.4**	**-1.0**
IDHR				*e*		17 12 57.7	
BHD	**Baghdad**	**2.10**	**285**	*e*Pn	**Pn**	**17 12 27.0**	**+0.4**
BHD				*e*Sn	**Sn**	**17 12 52.0**	**-0.2**
HSAM	**Samen**	**2.11**	**45**	*e*Pg	**Pn**	**17 12 27.1**	**+0.1**
IALM	**Almabolaq**	**2.41**	**28**	*e*Pg	**Pn**	**17 12 33.0**	**+1.8**
IALM				*e*		17 12 39.2	
HAGD	**Aghdareh**	**2.85**	**42**	*e*Pn	**Pn**	**17 12 37.3**	**+0.1**
HAGD				*e*		17 13 14.7	
IKRK	**Kirkuk**	**3.35**	**323**	*e*Pn	**Pn**	**17 12 45.0**	**+1.1**
IKRK				AML	AML	17 13 09.4	
	comp=E,48nm,0.4s						
IKRK				*e*Sn	**Sn**	**17 13 24.0**	**+0.9**
IKRK				AML	AML	17 13 26.1	
	comp=N,54nm,0.4s						
IPIR	**Pirpir**	**3.45**	**90**	*e*Pn	**Pn**	**17 12 45.3**	**-0.2**
IRAZ	**Razeghan**	**3.72**	**43**	*e*Pn	**Pn**	**17 12 49.6**	**+0.5**
QABG	**Abgarm-Qazvin**	**3.76**	**37**	*e*Pn	**Pn**	**17 12 47.9**	**-1.8**
IKLH	**Kolahrood**	**4.06**	**80**	*e*Pn	**Pn**	**17 12 54.4**	**+0.6**
QSDN	**Sirdan**	**4.24**	**27**	*e*Pn	**Pn**	**17 12 57.7**	**+1.4**
IZEF	**Zefreh**	**4.66**	**87**	*e*Pn	**Pn**	**17 13 02.1**	**0.0**
QALM	**Alamut, Qazvin**	**4.87**	**40**	*e*Pn	**Pn**	**17 13 04.8**	**-0.1**

*DJA **06** 17:35:31.2±0.5, 8˚.5±4˚×10˚.6E±˚, h10km, M3.9/8, MLv3.9/8*
*IDC **06** 17:35:33.3±1.1, 5˚.36S×108˚.36E, h0km, mb3.7/4,*
mb1 3.8/4, mb1mx3.4/42, mbtmp3.7/4, Error ellipse:
s-maj=30.4km s-min=20.2km az=88.0
ISC 06 17:35:26.8±1.2**, 7˚.55S**±0˚.07×**105˚.80E**±0˚.05**, h10**km**, n14,**
σ1s31/19, mb3.8/4, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**1.34**	**80**	P	**Pb**	**17 35 52.1**	**+0.1**
DBJI	**Dramaga**	**1.36**	**44**	P	**Pg**	**17 35 54.0**	**+0.9**
DBJI				S	**Sg**	**17 36 11.7**	**+0.9**
CBJI	**Citeko**	**1.53**	**43**	P	**Pn**	**17 35 54.1**	**-0.1**
CBJI				S	**Sn**	**17 36 12.3**	**-1.9**
TNG	**Tangerang**	**1.60**	**32**	P	**Pg**	**17 35 58.2**	**+0.6**
TNG				S	**Sb**	**17 36 16.9**	**0.0**
LEM	**Lembang**	**1.94**	**68**	Pn	**Pg**	**17 36 03.4**	**-0.7**
	97nm,0.3s,baz=138,slow=18,SNR=44						
LEM				LR	LR	17 36 24.5	
	comp=Z,158nm,19.1s,baz=174,slow=31						
LEM				Sn	**Sb**	**17 36 26.9**	**+0.2**
	46nm,0.3s,baz=207,slow=18,SNR=6.3						
LEM	**Lembang**	**1.94**	**68**	P	**Pb**	**17 36 02.9**	**+0.5**
CISI	**Cisompet, Garu**	**2.00**	**90**	P	**Pb**	**17 36 02.2**	**-1.1**
KASI	**Kota Agung**	**2.39**	**327**	P	**Pb**	**17 36 10.8**	**+0.8**
LWLI	**Liwa**	**3.05**	**325**	P	**Pb**	**17 36 20.9**	**-0.5**
LWLI				S	**Sb**	**17 36 58.8**	**0.0**
UGM	**Wanagama**	**4.69**	**95**	P	**Pn**	**17 36 40.6**	**+2.8**
WRA	**Warramunga Arr**	**30.27**	**117**	P	**P**	**17 41 35.8**	**-2.6**
	0.5nm,0.5s,baz=290,slow=12,SNR=2.3						
ASAR	**Alice Springs**	**31.36**	**124**	P	**P**	**17 41 49.7**	**+1.7**
	0.2nm,0.7s,baz=300,slow=8.2,SNR=5.3						
MKAR	**Makanchi Array**	**58.01**	**341**	P	**P**	**17 45 19.3**	**-0.5**
	0.4nm,0.4s,baz=153,slow=8.3,SNR=12						
ZALV	**Zalesovo Beam**	**63.77**	**346**	P	**P**	**17 45 57.8**	**-1.1**
	0.5nm,0.3s,baz=145,slow=7.5,SNR=2.3						

*NIED **06** 17:37:00, 38˚.50N×141˚.70E, h50km, Mw3.5 Best double couple: M0 1.71000×10^14 NP1:φs=44.00000°, δ83.00000°, λ101.00000°. NP2:φs=164.00000°, δ13.00000°, λ30.00000°.*
*JMA **06** 17:37:50.9±0.1, 38˚.54N×141˚.71E, h53km±1km, M3.7*
JMA Felt I J1.
*IDC **06** 17:37:51.3±2.8, 38˚.64N×141˚.84E, h67km±24km, mb3.4/3,*
mb1 3.4/7, mb1mx3.1/52, mbtmp3.6/7, MS3.9/1, Ms1 3.9/1,
ms1mx2.4/41, Error ellipse: s-maj=33.1km s-min=18.7km
az=113.0
ISC 06 17:37:49.6±1.3**, 38.52N**±0.04×**141.91E**±0.10**, h51**km±8km**,**
n21, σ1s47/32, mb3.6/3, Near east coast of eastern
Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.41**	**239**	P	**Pn**	**17 38 00.4**	**+0.5**
JIKH				S	**Sn**	**17 38 06.8**	**-0.4**
JIO	**Ouri**	**0.45**	**261**	P	**Pn**	**17 38 00.4**	**+0.1**
JIO				S	**Sn**	**17 38 06.7**	**-1.2**
JKMT	**Kesennumamotoy**	**0.45**	**310**	P	**Pn**	**17 38 00.8**	**+0.5**
JKMT				*i* S	**Sn**	**17 38 07.5**	**-0.5**
OFUJ	**Ofunato**	**0.59**	**341**	P	**Pn**	**17 38 02.9**	**+0.9**
OFUJ				S	**Sn**	**17 38 11.2**	**+0.3**
JMK	**Ichinoseki**	**0.69**	**309**	P	**Pn**	**17 38 03.5**	**+0.3**
JMK				S	**Sn**	**17 38 12.2**	**-0.9**
JOU	**Okura**	**0.99**	**261**	P	**Pn**	**17 38 06.6**	**-0.6**
JOU				S	**Sn**	**17 38 18.4**	**-1.8**
JOM	**Ohasama**	**1.06**	**333**	P	**Pn**	**17 38 08.7**	**+0.5**
JOM				S	**Sn**	**17 38 21.7**	**-0.3**
JMM	**Marumori**	**1.10**	**234**	P	**Pn**	**17 38 08.1**	**-0.5**
JMM				*e*S	**Sn**	**17 38 20.9**	**-1.9**
JYK	**Kaneyama**	**1.28**	**288**	P	**Pn**	**17 38 10.7**	**-0.4**
JRG	**Rokugo**	**1.32**	**312**	P	**Pn**	**17 38 11.6**	**-0.1**
JFK	**Kawauchi**	**1.42**	**216**	P	**Pn**	**17 38 13.1**	**+0.1**
JFK				S	**Sn**	**17 38 29.3**	**-1.2**
JYS	**Shirataka**	**1.48**	**259**	P	**Pn**	**17 38 13.5**	**-0.3**
MJAR	**Matsushiro Arr**	**3.55**	**237**	P	**Pn**	**17 38 43.2**	**+1.0**
	0.3nm,0.3s,baz=36,slow=13,SNR=28						
MJAR				S	**Sn**	**17 39 25.9**	**+3.1**
	0.1nm,0.3s,baz=317,slow=18,SNR=1.4						
MAT	**Matsushiro**	**3.55**	**237**	P	**Pn**	**17 38 43.5**	**+1.4**
MAT				S	**Sn**	**17 39 27.2**	**+4.4**
ASAJ	**Asahikawa**	**5.61**	**5**	P	**Pn**	**17 39 11.0**	**+0.6**
	0.8nm,0.3s,baz=225,slow=11,SNR=12						
JHJ	**Hachijo jima 2**	**5.66**	**198**	P	**Pn**	**17 39 13.9**	**+2.7**
	4.3nm,0.3s,baz=23,slow=12,SNR=1.6						
JHJ				S	**Sn**	**17 40 12.4**	**-2.4**
	4.5nm,0.3s,baz=87,slow=18,SNR=2.5						
KSRS	**Korea Array 11.09 269**			P	**Pn**	**17 40 25.8**	**+0.4**
	0.1nm,0.3s,baz=72,slow=13,SNR=2.4						
DAV	**Davao City (W) 34.62 209**			LR	LR	17 57 47.3	
	comp=Z,194nm,20.4s,baz=276,slow=34						
MKAR	**Makanchi Array 43.68 301**			P	**P**	**17 45 48.4**	**-0.9**
	1.0nm,0.8s,baz=82,slow=9.9,SNR=7.6						
ASAR	**Alice Springs 62.32 188**			P	**P**	**17 48 06.9**	**+0.3**
	0.3nm,0.7s,baz=355,slow=4.4,SNR=1.7						
FINES	**FINESS Array B 67.68 332**			P	**P**	**17 48 40.6**	**-0.4**
	1.6nm,1.0s,baz=62,slow=3.8,SNR=2.6						

*IDC **06** 17:52:09.7±8.7, 41˚.55N×150˚.58E, h0km, mb3.7/4,*
mb1 3.7/5, mb1mx3.3/69, mbtmp3.6/5, ML3.4/1, Error
ellipse: s-maj=216.6km s-min=54.0km az=171.0
*SKHL **06** 17:52:30.9±0.7, 43˚.96N×149˚.25E, h34km±1km, mb3.8/4*
*JMA **06** 17:52:31.5±0.5, 44˚.40N×149˚.10E, h30km, M3.5*
ISC 06 17:52:31.1±1.8**, 43˚.95N**±0˚.09×**149˚.3E**±0˚.1**, h35**km**, n24,**
σ1s18/38, mb3.6/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.63**	**323**	*i* P	**Pn**	**17 52 56.8**	**-0.5**
KUR				AMB	AMB	17 52 58.4	
	20nm,0.3s						
KUR				*e*S	**Sn**	**17 53 15.6**	**-1.5**
KUR				A	A	17 53 21.0	
	330nm,0.4s						
KUR				A	A	17 53 21.0	
	260nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.46**	**273**	*i* P	**Pn**	**17 53 08.6**	**-0.1**
YUK				AMB	AMB	17 53 09.6	
	30nm,0.3s						
YUK				*e*S	**Sn**	**17 53 36.7**	**-0.9**
YUK				A	A	17 53 46.0	
	170nm,0.3s						
YUK				A	A	17 53 46.0	
	220nm,0.3s						
GRPR	**Tuman**	**2.53**	**272**	*e*P	**Pn**	**17 53 09.7**	**+0.1**
GRPR				AMB	AMB	17 53 15.0	
	10.0nm,0.4s						
GRPR				*e*S	**Sn**	**17 53 38.8**	**-0.4**
GRPR				A	A	17 53 42.0	
	120nm,0.2s						
GRPR				A	A	17 53 42.0	
	40nm,0.2s						
NEM2	**Nemuro 2**	**2.63**	**258**	P	**Pn**	**17 53 10.6**	**-0.4**
NEM2				*e*S	**Sn**	**17 53 39.4**	**-2.2**
NMR	**Nemuro--Hokkai**	**2.63**	**259**	*i* P	**Pn**	**17 53 10.8**	**-0.3**
NMR				*e*S	**Sn**	**17 53 41.6**	**-0.2**
GLVR	**Golovnino**	**2.72**	**267**	*i* P	**Pn**	**17 53 12.6**	**+0.3**
GLVR				AMB	AMB	17 53 13.0	
	10.0nm,0.3s						
GLVR				*e*S	**Sn**	**17 53 43.7**	**-0.3**
GLVR				A	A	17 53 51.0	
	190nm,0.4s						
GLVR				A	A	17 53 51.0	
	70nm,0.4s						
JRA	**Rausu**	**3.00**	**271**	P	**Pn**	**17 53 17.2**	**+1.1**
JRA				*e*S	**Sn**	**17 53 51.5**	**+0.7**
JNK	**Nakash**	**3.32**	**265**	P	**Pn**	**17 53 20.7**	**+0.2**
JNK				*e*S	**Sn**	**17 53 58.3**	**-0.4**
JAK	**Akkeshi**	**3.46**	**256**	P	**Pn**	**17 53 22.4**	**-0.1**
JAK				*e*S	**Sn**	**17 54 01.9**	**-0.3**
JTKR	**Abashiri--Toko**	**3.87**	**272**	P	**Pn**	**17 53 29.4**	**+1.3**
JAR	**Ashorobuto**	**4.05**	**263**	P	**Pn**	**17 53 30.9**	**+0.4**
JAR				*e*S	**Sn**	**17 54 16.1**	**-0.6**
JOB	**Onbets**	**4.09**	**257**	P	**Pn**	**17 53 32.0**	**+0.8**
JOB				*e*S	**Sn**	**17 54 16.0**	**-1.8**
JMP	**Maruseppu**	**4.27**	**273**	P	**Pn**	**17 53 35.3**	**+1.7**
JCH	**Churui**	**4.51**	**255**	P	**Pn**	**17 53 37.9**	**+0.9**
JCH				*e*S	**Sn**	**17 54 27.4**	**-0.8**
ASAJ	**Asahikawa**	**4.82**	**274**	Pn	**Pn**	**17 53 43.6**	**+2.5**
	0.8nm,0.3s,baz=138,slow=20,SNR=5.6						
JFR	**Furan**	**4.92**	**263**	P	**Pn**	**17 53 45.2**	**+2.7**
JNBK	**Urakawa-nobuka**	**5.05**	**253**	P	**Pn**	**17 53 45.1**	**+0.7**
JNBK				*e*S	**Sn**	**17 54 40.0**	**-1.5**
JBT2	**Biratori 2**	**5.17**	**259**	P	**Pn**	**17 53 46.7**	**+0.7**
JNB	**Noboribetsu**	**6.20**	**259**	P	**Pn**	**17 54 01.0**	**+1.0**
JKB	**Kayabe**	**6.39**	**254**	P	**Pn**	**17 54 03.5**	**+0.8**
JKB				*e*S	**Sn**	**17 55 11.5**	**-2.9**
SONM	**Songino Array 29.81 293**			P	**P**	**17 58 35.1**	**+0.4**
	0.4nm,0.6s,baz=93,slow=7.2,SNR=2.0						
MKAR	**Makanchi Array 45.85 298**			P	**P**	**18 00 50.0**	**+0.3**
	0.8nm,0.8s,baz=76,slow=8.4,SNR=7.9						
FINES	**FINESS Array B 65.39 334**			P	**P**	**18 03 08.9**	**-0.6**
	1.1nm,0.7s,baz=36,slow=10,SNR=7.2						
NOA	**NORSAR Array B 69.96 340**			P	**P**	**18 03 38.8**	**+0.3**
	0.2nm,0.4s,baz=33,slow=4.9,SNR=4.1						

*IDC **06** 17:53:54.4±0.6, 10˚.44N×125˚.50E, h0km, mb4.1/17,*
mb1 4.2/18, mb1mx4.0/56, mbtmp4.1/18, ML3.9/1, MS3.5/9,
Ms1 3.5/9, ms1mx3.1/43, Error ellipse: s-maj=29.1km
s-min=12.4km az=78.0
*MAN **06** 17:53:57.4, 10˚.29N×125˚.63E, h10km, mb5.3, ML4.2,*
MS4.4
MAN Intensity III - Loreto Dinagat Province; Intensity II - Burgos
Siargao Island Surigao del Norte.
*DJA **06** 17:53:59.5±1.1, 11˚.N±11˚×12˚.5E±˚, h10km, M3.6/12,*
mb4.5/12, mb5.1/5, MLv2.8/1, Mw(mB)4.5/5
*NEIC **06** 17:54:01.9±1.9, 10˚.41N±0˚.06×125˚.62E±0˚.07, h57km±6km,*
mb4.5/41, Error ellipse: s-maj=9.9km s-min=8.2km
az=106.0
ISC 06 17:53:59.0±1.2**, 10˚.30N**±0˚.03×**125˚.64E**±0˚.05**, h27**km±8km**,**
n125, σ1s80/130, mb4.4/42, MS3.6/11, 6C-3D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.54**	**196**	↑*e*P	**Pb**	**17 54 08.0**	**-2.0**
SCPH				*e*S	**Sb**	**17 54 15.7**	**-1.6**
MSLP	**Maasin**	**0.79**	**258**	*e*P	**Pb**	**17 54 12.3**	**-1.8**
MSLP				*e*S	**Sb**	**17 54 24.0**	**-0.5**
OCLP	**Ormoc**	**1.26**	**306**	*e*P	**Pn**	**17 54 19.9**	**-1.0**
OCLP				*e*S	**Sb**	**17 54 38.7**	**+0.8**
LLP	**Lapu-Lapu**	**1.65**	**271**	‖*e*P	**Pn**	**17 54 26.0**	**-0.3**
LLP				*e*S	**Sb**	**17 54 47.7**	**-1.4**
TBP	**Tagbilaran**	**1.86**	**251**	*e*P	**Pn**	**17 54 28.7**	**-0.4**
TBP				*i* S	**Sn**	**17 54 53.1**	**+1.4**
CGP	**Cagayan de Oro**	**2.06**	**207**	↑*i*P	**Pn**	**17 54 32.0**	**+0.1**
CGP				*i* S	**Sn**	**17 54 58.5**	**+1.8**
CNP	**Catarman**	**2.40**	**336**	*e*P	**Pn**	**17 54 37.3**	**+0.7**
CNP				*e*S	**Sb**	**17 55 10.0**	**-0.7**
BUKP	**Musuan**	**2.47**	**193**	*e*P	**Pn**	**17 54 38.6**	**+1.0**
BUKP				*e*S	**Sb**	**17 55 11.6**	**-1.3**
SNPH	**Sibulan**	**2.56**	**248**	*e*P	**Pn**	**17 54 40.1**	**+1.3**
CNOP	**Candoni, Negro**	**3.00**	**261**	*e*P	**Pn**	**17 54 44.9**	**+0.1**
CNOP				*e*S	**Sn**	**17 55 19.2**	**-0.6**
GUIM	**Jordan**	**3.02**	**276**	*e*P	**Pn**	**17 54 45.7**	**+0.6**
GUIM				*e*S	**Sb**	**17 55 27.3**	**-1.3**
RCP	**Roxas**	**3.11**	**294**	‖*e*P	**Pn**	**17 54 47.0**	**+0.6**
DMPH	**Davao City--Mi**	**3.20**	**182**	↑*i*P	**Pb**	**17 54 57.4**	**+2.2**
DMPH				*i* S	**Sb**	**17 55 36.0**	**+2.3**
DAV	**Davao City (W) 3.21 181**			Pn	**Pb**	**17 54 53.1**	**-2.2**
	54nm,0.3s,baz=197,slow=0.1,SNR=5.9						
DAV				Sn	**Sb**	**17 55 30.1**	**-3.9**
	49nm,0.3s,baz=88,slow=19,SNR=3.6						
PAGZ	**Pagadian**	**3.31**	**223**	*e*P	**Pn**	**17 54 49.3**	**+0.3**
KCP	**Kidapawan**	**3.31**	**190**	↑*

comp=Z,434nm,18.4s,baz=116,slow=44
BALP Baler 6.70 324 *e*P **Pn 17 55 38.3 +2.5**
PALP Palanan 7.41 335 *e*P **Pn 17 55 45.9 +0.4**
PALP *e*S **Pb 17 56 10.4 +3.4**
SMPP San Manuel, Pa 7.56 321 *e*P **Pn 17 55 48.3 +0.7**
CAUP Cauayan 7.58 331 *e*P **Pn 17 55 48.6 +0.9**
TNTI Ternate 9.62 170 P Pn 17 56 25.7 +10
444nm32nm,1.2s
TNTI Ternate 9.62 170 Pn **Pn 17 56 18.7 +2.9**
KMSI Cibinong 9.80 190 P Pn 17 56 29.5 +11
47nm,0.8s
KKM Kota Kinabalu 10.24 246 Pn **Pn 17 56 25.8 +1.3**
LBMI Labuha 11.02 170 P Pn 17 56 45.2 +10
725nm25nm,1.3s
LUWI Luwuk 11.62 194 Pn **Pn 17 56 44.3 +1.0**
SANI Sanana 12.27 178 P **Pn 17 56 50.4 -1.8**
SIJI Sorong 12.43 153 Pn **Pn 17 56 57.0 +2.7**
0.6nm,0.3s,baz=360,slow=8.4,SNR=5.2
TWG Pinlang 13.20 341 Pn **Pn 17 57 05.2 +0.4**
YULB Yu-li 13.67 343 Pn **Pn 17 57 11.0 -0.2**
TPUB Ta-pu 13.79 340 Pn **Pn 17 57 12.8 -0.1**
SSLB Suanglung 14.14 342 Pn **Pn 17 57 15.9 -1.8**
TTSI Tana Toraja 14.47 204 P **P 17 57 31.4 +2.7**
23nm,0.9s
FAKI Fak Fak 14.69 153 P **P 17 57 35.1 +4.0**
29nm,1.2s
FAKI Fak Fak 14.69 153 Pn **Pn 17 57 27.0 +1.8**
SPSI Sidrap Palu 15.33 203 P **P 17 57 43.8 +5.6**
22nm,0.9s
SBUM Sibu 15.44 241 **Pn 17 57 36.9 +1.7**
KSM Kuching 17.58 241 **P 17 58 03.2 0.0**
SMPI Sarmi 17.84 132 P P 17 58 14.3 +8.2
23nm,1.3s
GENI Genyem 19.32 131 P Pn 17 58 31.1 +7.6
44nm,0.8s
JAY Jayapura 19.67 130 LR LR 18 05 21.8
comp=Z,116nm,19.2s,baz=259,slow=35
BATI Baumata 20.47 186 P **P 17 58 35.0 +0.1**
67nm,1.1s,baz=80,slow=12,SNR=3.1
NJ2 Nanjing 22.54 345 *e*P **P 17 58 57.8 +0.8**
NJ2 pmax pmax
comp=Z,12nm,0.7s
NJ2 LR LR
comp=N,130nm,7.6s
NJ2 LR LR
comp=E,220nm,16.1s
NJ2 LR LR
comp=Z,190nm,10.4s
MTN Manton Dam 23.63 167 P **P 17 59 09.8 +1.6**
PBKT Sadao Pong 24.78 287 P **P 17 59 19.1 +0.2**
IPM Ipoh 25.08 258 P **P 17 59 21.4 -0.2**
KNRA Kununurra 25.99 173 P **P 17 59 30.3 +0.4**
KNRA IAmb IAmb 17 59 44.0
comp=Z,17nm,0.9s
CM31 Chiang Mai Arr 27.08 290 P **P 17 59 38.3 -1.4**
CM31 IAmb IAmb 17 59 48.2
comp=Z,7.8nm,0.9s
CMAR Chiang Mai Arr 27.08 290 P **P 17 59 36.6 -3.1**
comp=Z,3.6nm,0.8s,baz=105,slow=7.1,SNR=24
CMAR LR LR 18 10 08.4
comp=Z,48nm,18.6s,baz=285,slow=36
KSRS Korea Array 27.11 4 P **P 17 59 38.2 -1.5**
comp=Z,2.0nm,0.8s,baz=181,slow=10,SNR=5.7
CHTO Chiang Mai 27.16 291 P **P 17 59 39.9 -0.5**
XAN Xi'an 28.16 330 P **P 17 59 49.0 -0.3**
XAN pP pP 17 59 55.3 -1.9
XAN pmax pmax
comp=Z,3.0nm,0.5s
FITZ Fitzroy Crossi 28.22 180 P **P 17 59 51.6 +1.8**
comp=Z,4.1nm,0.9s,baz=10,slow=13,SNR=2.1
FITZ Fitzroy Crossi 28.22 180 P **P 17 59 53.2 +3.4**
FITZ IAmb IAmb 17 59 53.6
comp=Z,26nm,1.6s
MJAR Matsushiro Arr 28.50 22 LR LR 18 10 41.1
comp=Z,46nm,19.4s,baz=200,slow=35
MAJO Matsushiro 28.50 22 pP pP 18 00 04.3 +4.3
MJB9 Matsu-Tunnel 28.50 22 pP pP 18 00 05.0 +4.9
COEN Coen 29.72 144 P **P 18 00 06.2 +3.0**
COEN IAmb IAmb 18 00 23.1
comp=Z,21nm,1.1s
BJI Beijing 30.79 346 P **P 18 00 12.9 +0.5**
BJI pmax pmax
comp=Z,4.0nm,0.5s
BJI LR LR
comp=N,59nm,9.5s
BJI LR LR
comp=E,59nm,11.4s
WB0 Warramunga Arr 31.09 164 P **P 18 00 13.8 -1.6**
WB0 IAmb IAmb 18 00 44.7
comp=Z,11nm,1.2s
WRA Warramunga Arr 31.25 164 P **P 18 00 17.6 +1.0**
comp=Z,1.2nm,0.8s,baz=346,slow=9.0,SNR=2.5
WB2 Warramunga Arr 31.25 164 P **P 18 00 17.7 +1.0**
WB2 IAmb IAmb 18 00 39.9
comp=Z,14nm,1.1s
WR0 Warramunga Arr 31.32 164 P **P 18 00 18.2 +0.9**
WR0 IAmb IAmb 18 00 23.4
comp=Z,16nm,1.5s
LZH Lanzhou 32.40 326 *e*P **P 18 00 27.4 +0.5**
LZH pP sP 18 00 42.5 +4.4
LZH sP pP 18 00 49.7 +15
LZH *e*PP **PP 18 01 37.2 -3.2**
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,65nm,5.4s
LZH LR LR
comp=N,270nm,13.0s
LZH LR LR
comp=E,280nm,13.2s
LZH LR LR
comp=Z,340nm,16.3s
HHC Hu-ho-hao-te 32.88 340 P **P 18 00 31.8 +0.9**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,35nm,6.5s
USA0B Ussuriysk Arra 34.22 8 P **P 18 00 41.2 -1.2**
USA0B IAmb IAmb 18 00 51.0
comp=Z,8.8nm,0.8s
USRK Ussuriysk Ar. 34.22 8 P **P 18 00 39.5 -3.0**
comp=Z,2.7nm,0.8s,baz=223,slow=7.9,SNR=5.4
ASAR Alice Springs 34.71 167 P **P 18 00 46.1 -0.9**
comp=Z,0.5nm,0.4s,baz=352,slow=6.9,SNR=17
CTAO Charters Tower 36.38 146 P **P 18 01 02.3 +1.0**
GTA Gaotai 37.01 326 P **P 18 01 06.6 0.0**
GTA pP sP 18 01 21.6 +3.7
GTA sP pP 18 01 27.7 +13
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA pmax pmax
comp=Z,52nm,4.0s
GTA LR LR
comp=N,67nm,16.8s
GTA LR LR
comp=E,100nm,17.1s
GTA LR LR
comp=Z,94nm,16.5s
MORW Morawa 40.22 193 P **P 18 01 34.2 +0.7**
SONM Songino Array 40.78 340 P **P 18 01 36.8 -1.3**
comp=Z,0.8nm,0.7s,baz=162,slow=7.1,SNR=4.9
SONM LR LR 18 18 08.1
comp=Z,51nm,21.3s,baz=114,slow=36
FORT Forrest 40.91 177 P **P 18 01 38.6 -0.6**
FORT IAmb IAmb 18 01 58.6
comp=Z,10nm,0.7s
NWAO Narrogin (SRO) 43.73 190 P **P 18 02 03.0 +1.0**
NWAO IAmb IAmb 18 02 38.4
comp=Z,14nm,1.0s
NWAO Narrogin (SRO) 43.73 190 P **P 18 02 02.9 +0.8**
NWAO IAmb IAmb 18 02 38.4
comp=Z,12nm,1.1s
BBOO Buckleboo 44.01 167 P **P 18 02 04.1 -0.2**
BBOO IAmb IAmb 18 02 12.2
comp=Z,13nm,0.8s
STKA Stephens Creek 44.63 161 P **P 18 02 09.7 +0.3**
comp=Z,5.6nm,0.5s,baz=344,slow=8.6,SNR=15
STKA Stephens Creek 44.63 161 P **P 18 02 09.0 -0.4**
WMQ Urumqi 46.82 322 *e*P **P 18 02 26.7 0.0**
PEA0B Petropavlovsk- 49.87 25 P **P 18 02 50.1 +0.2**
PETK Petropavlovsk- 49.87 25 P **P 18 02 47.9 -2.1**
comp=Z,1.1nm,0.6s,baz=218,slow=6.1,SNR=1.4
CAN Canberra 50.46 155 P **P 18 02 55.1 +0.4**
TOO Toolangi 51.12 160 P **P 18 02 57.8 -1.9**
DZM Mont Dzumac 51.34 129 P **P 18 03 00.9 -0.7**
DZM IAmb IAmb 18 03 19.9
comp=Z,8.2nm,0.9s
MK31 Makanchi Array 51.63 323 P **P 18 03 02.9 -0.5**
MKAR Makanchi Array 51.63 323 P **P 18 03 02.0 -1.4**
comp=Z,0.8nm,0.5s,baz=118,slow=7.5,SNR=12
MKAR LR LR 18 26 43.2
comp=Z,56nm,19.4s,baz=108,slow=38
YAK Yakutsk 51.72 2 P **P 18 03 02.5 -1.2**
comp=Z,8.3nm,0.7s,baz=355,slow=0.9,SNR=11
MAKZ Makanchi 51.82 323 P **P 18 03 02.1 -2.7**
MAKZ IAmb IAmb 18 03 14.0
comp=Z,2.9nm,0.9s
ZALV Zalesovo Beam 54.30 332 P **P 18 03 21.3 -1.6**
comp=Z,0.4nm,0.3s,baz=101,slow=7.7,SNR=4.3
KURK Kurchatov 55.69 326 P **P 18 03 29.7 -3.3**
KURK IAmb IAmb 18 03 55.6
comp=Z,4.3nm,0.9s
TIXI Tiksi 61.33 1 P **P 18 04 10.7 -1.3**
TIXI IAmb IAmb 18 04 12.0
comp=Z,4.3nm,0.9s
BRVK Borovoye 61.36 326 P **P 18 04 11.3 -1.2**
BRVK IAmb IAmb 18 04 34.4
comp=Z,2.6nm,0.8s
NRIK Noril'sk 63.83 346 LR LR 18 34 09.4
comp=Z,30nm,18.8s,baz=160,slow=38
GEYT Alibeck 66.03 307 LR LR 18 37 29.4
comp=Z,41nm,18.3s,baz=200,slow=40
WHZ Wether Hill Ro 67.59 149 P **P 18 04 54.7 +1.4**
LBZ Lake Benmore 67.72 147 P **P 18 04 54.8 +0.6**
CHGN Chignik 73.70 34 P **P 18 05 30.4 +0.1**
OBL Observatory Le 76.42 72 P **P 18 05 46.2 -0.8**
RAYN Ar Rayn 76.99 292 P **P 18 05 48.9 -1.1**
CASY Casey 77.18 186 P **P 18 05 50.6 +0.6**
CASY IAmb IAmb 18 05 56.0
comp=Z,8.0nm,1.6s
BPAW Bear Paw Mtn. 77.91 26 P **P 18 05 52.2 -2.2**
BPAW IAmb IAmb 18 06 04.8
comp=Z,3.1nm,0.8s
MLY Manley 78.04 26 P **P 18 05 53.2 -1.9**
KLMR Klimovskoe 79.19 330 *e*P **P 18 05 59.4 -2.0**
KLMR AMP 18 06 01.2
comp=Z,8.0nm,1.4s
ILAR Eielson Array 79.68 26 P **P 18 06 03.5 -0.5**
comp=Z,0.3nm,0.5s,baz=227,slow=20,SNR=3.3
RIDG Independent Ri 80.63 27 P **P 18 06 08.0 -1.2**
RIDG IAmb IAmb 18 06 14.5
comp=Z,5.3nm,1.0s
SCRK Sand Creek 80.99 27 P **P 18 06 10.3 -1.0**
GLB Gilahina Butte 81.30 29 P P 18 06 08.0 -4.9
GLB IAmb IAmb 18 06 21.6
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 83.95 340 P **P 18 06 25.1 -1.4**
comp=Z,1.2nm,0.6s,baz=78,slow=7.6,SNR=5.0
FINES FINESS Array B 85.57 332 P **P 18 06 33.1 -1.6**
comp=Z,0.9nm,0.5s,baz=80,slow=5.0,SNR=12
VNDA Vanda 90.04 173 P **P 18 06 59.0 +3.2**
comp=Z,0.7nm,0.7s,baz=321,slow=6.0,SNR=8.4
NOA NORSAR Array B 92.46 334 LR LR 18 51 42.3
comp=Z,31nm,18.6s,baz=70,slow=38
YKA Yellowknife Ar 93.98 24 P **P 18 07 14.1 -0.3**
comp=Z,0.4nm,0.7s,baz=291,slow=4.4,SNR=1.7
PLCA Paso Flores 146.47 157 PKPbc **PKPab 18 13 39.9 +0.7**
comp=Z,2.6nm,0.6s,baz=258,slow=6.6,SNR=7.1

*IDC **06** 17:59:16.4±1.1, 35.°60N×141.°53E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.5/65, mbtmp3.6/9, ML3.7/2, MS3.3/1, Ms1 3.3/1, ms1mx2.3/51, Error ellipse: s-maj=32.6km s-min=19.3km az=88.0*
*JMA **06** 17:59:18.2±0.2, 35.°50N×141.°49E, h13km±2km, M3.4*
ISC 06 17:59:17.1±1.9, 35.°53N±0.°05×141.°51E±0.°07, h6km±12km, n26, σ0°82/26, mb3.6/6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.56**	**288**	P	P		**Pb**	**17 59 29.1**	**-0.1**
CHOJ				S	S		**Sb**	**17 59 36.8**	**-0.6**
JSMT	**Sammumatsuo**	**0.87**	**278**	P	P		**Pn**	**17 59 35.7**	**-0.1**
JIHU	**Itakohorinouch**	**0.91**	**299**	P	P		**Pn**	**17 59 35.9**	**-0.5**
JIHU				*e*S	S		**Sn**	**17 59 49.1**	**-0.7**
BSO1	**Boso 1**	**0.98**	**207**	P	P		**Pg**	**17 59 35.7**	**-0.1**
BSO3	**Boso 3**	**1.09**	**229**	P	P		**Pg**	**17 59 37.9**	**-0.2**
BSO4	**Boso 4**	**1.10**	**241**	P	P		**Pb**	**17 59 38.5**	**+0.1**
JHYU	**Hitachinakayam**	**1.10**	**317**	P	P		**Pn**	**17 59 39.5**	**+0.5**
JHYU				*e*S	S		**Sb**	**17 59 53.6**	**+0.5**
JYT	**Yasato**	**1.27**	**303**	P	P		**Pg**	**17 59 41.6**	**+0.1**
JYT				*e*S	S		**Sn**	**17 59 58.5**	**-0.3**
JHO	**Hitachi**	**1.32**	**325**	P	P		**Pn**	**17 59 42.0**	**0.0**
JHO				*e*S	S		**Sn**	**17 59 59.8**	**-0.1**
JFK	**Kawauchi**	**1.90**	**345**	P	P		**Pn**	**17 59 50.3**	**+0.2**
JHJ	**Hachijo jima 2**	**2.80**	**211**	Pn	Pn		**Pn**	**18 00 01.1**	**-1.2**
	20nm,0.3s,baz=329,slow=24,SNR=13								
JHJ				Sn	Sn			18 00 26.5	-10
	10nm,0.3s,baz=78,slow=19,SNR=1.0								
MJAR	**Matsushiro Arr**	**2.86**	**292**	Pn	Pn		**Pn**	**18 00 03.6**	**+0.4**
	0.4nm,0.3s,baz=99,slow=7.6,SNR=20								
MAT	**Matsushiro**	**2.86**	**292**	P	P		**Pn**	**18 00 05.0**	**+1.8**
MAT				S	S		**Sn**	**18 00 38.9**	**+0.9**
ASAJ	**Asahikawa**	**8.62**	**5**	Pn	Pn		**Pn**	**18 01 22.0**	**-0.2**
	1.0nm,0.3s,baz=210,slow=13,SNR=20								
H11N2	**WAKE ISLAND Hy**	**27.34**	**118**	T	T			18 33 45.3	
	baz=311,slow=75,SNR=37								
H11N1	**WAKE ISLAND Hy**	**27.35**	**118**	T	T			18 33 41.1	
	baz=311,slow=75,SNR=18								
H11N3	**WAKE ISLAND Hy**	**27.36**	**118**	T	T			18 33 41.1	
	baz=311,slow=75,SNR=32								
H11S1	**WAKE ISLAND Hy**	**28.00**	**121**	T	T			18 34 27.8	
	baz=312,slow=75,SNR=50								
H11S3	**WAKE ISLAND Hy**	**28.00**	**121**	T	T			18 34 22.8	
	baz=312,slow=75,SNR=1.3								
H11S2	**WAKE ISLAND Hy**	**28.02**	**121**	T	T			18 34 24.0	
	baz=312,slow=75,SNR=38								
ZALV	**Zalesovo Beam**	**42.99**	**314**	P	P		**P**	**18 07 17.8**	**+0.9**
	0.5nm,0.3s,baz=29,slow=3.7,SNR=4.2								
ZALV				LR	LR			18 24 29.3	
	comp=Z,38nm,19.1s,baz=310,slow=35								
MKAR	**Makanchi Array**	**44.99**	**303**	P	P		**P**	**18 07 32.8**	**-0.4**
	0.5nm,0.6s,baz=88,slow=10,SNR=5.2								
ILAR	**Eielson Array**	**50.73**	**32**	P	P		**P**	**18 08 16.6**	**-0.7**
	0.3nm,0.7s,baz=263,slow=6.3,SNR=1.5								
WRA	**Warramunga Arr**	**55.59**	**188**	P	P		**P**	**18 08 55.6**	**+2.0**
	0.6nm,0.3s,baz=0.9,slow=7.5,SNR=12								
ASAR	**Alice Springs**	**59.31**	**188**	P	P		**P**	**18 09 20.0**	**+0.2**
	0.2nm,0.4s,baz=14,slow=11,SNR=2.0								
FINES	**FINESS Array B**	**70.18**	**333**	P	P		**P**	**18 10 28.9**	**-1.3**
	1.0nm,0.9s,baz=24,slow=11,SNR=1.6								

*NEIC **06** 17:59:44.9±1.2, 43.°82N±0.°05×105.°21W±0.°08, h0km±1km, Error ellipse: s-maj=9.8km s-min=8.7km az=107.0*
*IDC **06** 17:59:45.3±0.7, 44.°14N×105.°73W, h0km, mb4.0/7, mb1 4.0/13, mb1mx3.8/53, mbtmp3.9/13, ML3.5/5, Error ellipse: s-maj=22.8km s-min=6.5km az=144.0*
*ANF **06** 17:59:46.8±1.3, 43.°77N×105.°25W, h15km±10km, ML4.2/11, Error ellipse: s-maj=5.2km s-min=3.1km az=88.0*
ISC 06 17:59:44.0±0.6, 43.°87N±0.°04×105.°22W±0.°04, h0km, n99, σ1°16/106, mb4.1/7, Wyoming

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.89**	**73**	P	P		**Pb**	**18 00 03.3**	**+0.8**
	baz=249								
RSSD				S	S		**Sn**	**18 00 17.8**	**+0.1**
	baz=249								
RSSD	**Black Hills**	**0.89**	**73**				**Pb**	**18 00 02.7**	**+0.2**
K22A	**Casper**	**1.55**	**218**	P	P		**Pn**	**18 00 11.7**	**-1.3**
	baz=39,SNR=1000								
K22A				S	S		**Sg**	**18 00 32.2**	**-1.5**
	baz=39								
K22A	**Casper**	**1.55**	**218**				**Pn**	**18 00 11.7**	**-1.3**
PHWY	**Pilot Hill**	**2.58**	**184**				**Pn**	**18 00 27.1**	**-0.1**
RWWY	**Rawlins**	**2.63**	**215**				**Pn**	**18 00 29.1**	**+1.1**
LAO	**LASA Array**	**2.90**	**346**	P	P		**Pn**	**18 00 33.4**	**+1.9**
	baz=166								
LAO	**LASA Array**	**2.90**	**346**				**Pn**	**18 00 33.4**	**+1.9**
N23A	**Red Feather La**	**3.02**	**190**	P	P		**Pn**	**18 00 34.0**	**+0.6**
	baz=9.9,SNR=121								
N23A	**Red Feather La**	**3.02**	**190**				**Pn**	**18 00 34.0**	**+0.6**
RLMT	**Red Lodge**	**3.15**	**295**	P	P		**Pn**	**18 00 36.7**	**+1.5**
	baz=114								
RLMT	**Red Lodge**	**3.15**	**295**				**Pn**	**18 00 36.6**	**+1.5**
BW06	**Boulder Array**	**3.35**	**252**				**Pn**	**18 00 39.3**	**+1.4**
PD31	**Pinedale Array**	**3.35**	**252**				**Pn**	**18 00 38.7**	**+0.8**
PDAR	**Pinedale Array**	**3.35**	**252**	Pn			**Pn**	**18 00 38.5**	**+0.6**
	23nm,0.3s,baz=67,slow=16,SNR=116								
PDAR				Pg			**Pb**	**18 00 43.7**	**-0.8**
	59nm,0.3s,baz=67,slow=19,SNR=62								
PDAR				Lg			Lg	18 01 23.4	
	40nm,0.3s,baz=70,slow=32,SNR=7.2								
YNE	**Yellowstone No**	**3.61**	**290**				**Pn**	**18 00 42.4**	**+0.9**
YMP	**Mirror Lake Pl**	**3.65**	**285**				**Pn**	**18 00 43.0**	**+1.0**
GCMT	**Greycliff**	**3.70**	**303**				**Pn**	**18 00 44.0**	**+1.5**
OGNE	**Ogallala**	**3.76**	**140**	P			**Pn**	**18 00 44.0**	**+0.6**
	baz=321,SNR=10								
OGNE	**Ogallala**	**3.76**	**140**	Pn			**Pn**	**18 00 43.6**	**+0.2**
LKWY	**Lake**	**3.79**	**282**				**Pn**	**18 00 43.7**	**-0.2**
H17A	**Grant Village**	**3.89**	**280**				**Pn**	**18 00 47.5**	**+2.2**
FLWY	**Flagg Ranch**	**3.96**	**275**	Pn			**Pn**	**18 00 47.4**	**+1.2**
SNOW	**Snow King Moun**	**4.04**	**266**				**Pn**	**18 00 48.5**	**+1.2**
YPP	**Pitchstone Pla**	**4.04**	**278**				**Pn**	**18 00 48.9**	**+1.5**
ISCO	**Idaho Springs**	**4.08**	**184**	P			**Pn**	**18 00 48.5**	**+0.5**
	baz=3.8,SNR=18								
ISCO				Sb			**Sb**	**18 01 48.1**	**+1.2**
	baz=3.8								
ISCO	**Idaho Springs**	**4.08**	**184**	Pn			**Pn**	**18 00 48.1**	**+0.1**
REDW	**Red Top Meadow**	**4.12**	**265**				**Pn**	**18 00 49.7**	**+1.3**
IMW	**Indian Meadow**	**4.13**	**272**	Pn			**Pn**	**18 00 47.3**	**-1.3**
YHH	**Holmes Hill**	**4.14**	**285**				**Pn**	**18 00 49.6**	**+0.8**
TPAW	**Teton Pass**	**4.17**	**267**	Pn			**Pn**	**18 00 50.4**	**+1.2**
E28A	**Huff**	**4.19**	**48**	Pn			**Pn**	**18 00 51.2**	**+2.0**
YMR	**Madison River**	**4.20**	**283**				**Pn**	**18 00 48.7**	**-0.9**
FXWY	**Fox Creek**	**4.21**	**269**				**Pn**	**18 00 50.8**	**+1.1**
O20A	**White River Ci**	**4.36**	**212**	P			**Pn**	**18 00 52.2**	**+0.4**
	baz=30,SNR=13								
O20A				Sb			**Sb**	**18 01 55.9**	**+1.1**
	baz=30								
O20A	**White River Ci**	**4.36**	**212**				**Pn**	**18 00 52.1**	**+0.4**
YHB	**Horse Butte**	**4.38**	**284**				**Pn**	**18 00 52.8**	**+0.9**
AHID	**Auburn Hatcher**	**4.43**	**258**				**Pn**	**18 00 53.6**	**+0.9**
SUSD	**Miller**	**4.54**	**81**				**Pn**	**18 00 54.3**	**+0.2**
QLMT	**Earthquake Lak**	**4.55**	**284**				**Pn**	**18 00 55.8**	**+1.4**
RDMU	**Red Mountain**	**4.62**	**226**				**Pn**	**18 00 55.5**	**+0.2**
DGMT	**Dagmar**	**4.65**	**8**	P			**Pn**	**18 00 59.0**	**+3.4**
	baz=189								
DGMT				Sb			**Sg**	**18 02 11.7**	**-1.8**
	baz=189								
DGMT	**Dagmar**	**4.65**	**8**	Pn			**Pn**	**18 00 57.8**	**+2.2**
K31A	**O'Neill**	**4.89**	**103**				**Pn**	**18 01 00.8**	**+2.0**
HWUT	**Hardware Ranch**	**5.19**	**246**	Pn			**Pn**	**18 01 03.6**	**+0.5**
EGMT	**Eagleton**	**5.22**	**324**	P			**Pn**	**18 01 04.8**	**+1.4**
	baz=142								
EGMT	**Eagleton**	**5.22**	**324**	Pn			**Pn**	**18 01 04.8**	**+1.4**
KSCO	**Kaye Shedlock'**	**5.23**	**157**	P			**Pn**	**18 01 03.5**	**-0.1**
	baz=338,SNR=20								
KSCO	**Kaye Shedlock'**	**5.23**	**157**	Pn			**Pn**	**18 01 03.4**	**-0.2**
TCUT	**Toone Canyon**	**5.34**	**241**				**Pn**	**18 01 05.6**	**+0.4**
DLMT	**Dillon**	**5.47**	**288**				**Pn**	**18 01 08.4**	**+1.5**
LRM	**Limekiln Ridge**	**5.50**	**293**				**Pn**	**18 01 08.2**	**+0.9**
MCMT	**McKenzie Canyo**	**5.55**	**283**				**Pn**	**18 01 10.1**	**+2.0**
MDND	**Maddock**	**5.58**	**43**	P			**Pn**	**18 01 09.9**	**+1.6**
	baz=226								
MDND				Sb			**Sg**	**18 02 39.3**	**-4.1**
	baz=226								
MDND	**Maddock**	**5.58**	**43**				**Pn**	**18 01 08.8**	**+0.5**
JLU	**Jordanelle**	**5.66**	**237**				**Pn**	**18 01 09.9**	**+0.3**
BGNE	**Belgrade**	**5.77**	**113**	P			**Pn**	**18 01 11.1**	**+0.2**
	baz=297								
BGNE	**Belgrade**	**5.77**	**113**				**Pn**	**18 01 10.2**	**-0.7**
CTU	**Camp Tracy**	**5.79**	**239**	Pn			**Pn**	**18 01 11.8**	**+0.5**
SPUT	**South Promonto**	**5.92**	**247**				**Pn**	**18 01 14.4**	**+1.4**
HVU	**Hansel Valley**	**5.94**	**252**	Pn			**Pn**	**18 01 13.4**	**+0.1**
PV22	**Blue Mesa, Par**	**5.97**	**208**	Pn			**Pn**	**18 01 14.2**	**+0.4**
PV07	**Paradox Valley**	**6.01**	**207**				**Pn**	**18 01 14.8**	**+0.4**
PV21	**Cone Mtn., Par**	**6.01**	**209**				**Pn**	**18 01 13.7**	**-0.7**
P17A	**Butcher Ranch,**	**6.03**	**225**				**Pn**	**18 01 14.3**	**-0.4**
PV15	**Paradox Valley**	**6.05**	**205**				**Pn**	**18 01 14.7**	**-0.3**
PV23	**Carpenter Ridg**	**6.12**	**209**				**Pn**	**18 01 16.0**	**0.0**
SDCO	**Great Sand Dun**	**6.12**	**182**	P			**Pn**	**18 01 15.4**	**-0.7**
	baz=1.7								
SDCO	**Great Sand Dun**	**6.12**	**182**				**Pn**	**18 01 15.6**	**-0.4**
PV04	**Paradox Valley**	**6.14**	**208**				**Pn**	**18 01 16.4**	**+0.2**
PV12	**Saucer Basin,**	**6.17**	**207**				**Pn**	**18 01 16.6**	**0.0**
PV20	**West Nyswonger**	**6.21**	**208**				**Pn**	**18 01 17.2**	**+0.1**
PV11	**David Mesa, Pa**	**6.21**	**208**				**Pn**	**18 01 16.3**	**-0.9**
ECSD	**EROS Data Cent**	**6.23**	**88**	P			**Pn**	**18 01 18.8**	**+1.5**
	baz=273								
ECSD	**EROS Data Cent**	**6.23**	**88**	Pn			**Pn**	**18 01 18.2**	**+1.0**
PV18	**Skein Mesa, Pa**	**6.27**	**208**	Pn			**Pn**	**18 01 18.2**	**+0.2**
CBKS	**Cedar Bluff**	**6.52**	**139**				**Pn**	**18 01 21.5**	**+0.2**
DUG	**Dugway, Tooele**	**6.74**	**240**	P			**Pn**	**18 01 24.1**	**-0.2**
	baz=55								
T25A	**Trinidad**	**6.75**	**174**	P			**Pn**	**18 01 24.7**	**+0.1**
	baz=355								
MSO	**Missoula**	**6.82**	**299**	P			**Pn**	**18 01 26.5**	**+1.2**
	baz=113								
AGMN	**Agassiz Nation**	**7.87**	**53**	P			**Pn**	**18 01 41.4**	**+1.8**
	baz=239								
AGMN	**Agassiz Nation**	**7.87**	**53**				**Pn**	**18 01 40.6**	**+0.9**
ELK	**Elko**	**8.05**	**251**	Pn			**Pn**	**18 01 43.7**	**+1.2**
	1.2nm,0.3s,baz=60,slow=10.0,SNR=18								
ULM	**Lac du Bonnet**	**9.02**	**42**	Pn			**Pn**	**18 01 55.7**	**+0.3**
	3.6nm,0.3s,baz=228,slow=10,SNR=11								
ULM				Lg			Lg	18 04 26.1	
	1.4nm,0.3s,baz=150,slow=19,SNR=4.4								
R11A	**Troy Canyon, C**	**9.57**	**238**	P			**Pn**	**18 02 03.0**	**-0.2**
	baz=52								
WUAZ	**Wupatki**	**9.59**	**212**	P			**Pn**	**18 02 03.3**	**-0.2**
	baz=28								
WMOK	**Wichita Mounta**	**10.39**	**149**				**Pn**	**18 02 11.7**	**-2.6**
KVN	**Kaiserville**	**10.79**	**248**				**Pn**	**18 02 20.7**	**+0.8**
FFC	**Flin Flon**	**11.06**	**10**				**Pn**	**18 02 22.7**	**-0.7**
NVAR	**Mina Array Bea**	**11.26**	**246**	Pn			**Pn**	**18 02 27.1**	**+0.8**
	0.4nm,0.3s,baz=49,slow=12,SNR=8.8								
TXAR	**Lajitas Array**	**14.56**	**175**	Pn			**P**	**18 03 18.6**	**+0.4**
	0.1nm,0.3s,baz=1.5,slow=9.4,SNR=6.9								
TXAR				Pg				18 04 12.6	
	0.1nm,0.3s,baz=14,slow=16,SNR=6.5								
TXAR				Lg			Lg	18 07 19.6	
	0.0nm,0.3s,baz=8.4,slow=27,SNR=5.7								
YKA	**Yellowknife Ar**	**19.44**	**347**	P			**P**	**18 04 10.8**	**-1.0**
	0.2nm,0.3s,baz=159,slow=13,SNR=9.3								
ARCES	**ARCESS Array B**	**61.28**	**18**	P			**P**	**18 10 00.3**	**-0.2**
	0.9nm,0.5s,baz=335,slow=7.0,SNR=12								
FINES	**FINESS Array B**	**67.89**	**23**	P			**P**	**18 10 43.5**	**-0.4**
	0.6nm,0.5s,baz=343,slow=6.0,SNR=4.4								
GERES	**GERESS Array B**	**73.30**	**37**	P			**P**	**18 11 18.3**	**+1.1**
	0.2nm,0.5s,baz=331,slow=7.9,SNR=1.9								
AKASG	**Malin Array Be**	**77.82**	**28**	P			**P**	**18 11 43.3**	**+0.4**
	0.5nm,0.4s,baz=332,slow=5.6,SNR=4.3								
**

UZB				S	Sg	18 07 22.4	-0.3
	20nm,0.2s						
PDGK	**Podgornoye**	0.84	353	P	Pg	18 07 12.9	-0.5
	9.8nm,0.2s						
PDGK				S	Sg	18 07 23.5	-0.9
	5.7nm,0.2s						
PDGK	**Podgornoye**	0.84	353	⇑P	Pg	18 07 12.5	-0.9
	1.4nm,0.4s						
PDGK				⇑S	Sg	18 07 22.8	-1.6
	11nm,0.5s						
PRZ	**Przheval'sk**	0.90	270	⇑*i*P	Pg	18 07 14.7	+0.2
	baz=68						
PRZ				⇑*i*S	Sg	18 07 26.8	+0.4
	baz=68						
SATY	**Saty**	1.06	303	*e*P	Pb	18 07 17.7	+0.4
	0.8nm,0.0s						
SATY				*e*S	Sg	18 07 31.6	+0.3
	20nm,0.1s						
SATY	**Saty**	1.06	303	P	Pb	18 07 17.6	+0.3
	1.1nm,0.1s						
SATY				S	Sg	18 07 31.3	0.0
	33nm,0.2s						
KTMS	**Ketmen**	1.09	29	*e*P	Pb	18 07 17.5	-0.3
	1.0nm,0.1s						
KTMS				*e*S	Sb	18 07 31.2	-0.9
	11nm,0.1s						
KTMS	**Ketmen**	1.09	29	P	Pb	18 07 17.6	-0.3
	2.9nm,0.1s						
KTMS				S	Sb	18 07 31.2	-0.9
	11nm,0.1s						
KURS	**Kuram**	1.46	313	*e*P	Pb	18 07 24.4	+0.3
	0.4nm,0.1s						
KURS				*e*S	Sb	18 07 43.0	+0.5
	2.9nm,0.4s						
ANVS	**Anan'yevo**	1.47	282	⇓*i*P	Pb	18 07 25.1	+0.7
	baz=81						
ANVS				⇓*i*S	Sg	18 07 44.6	+0.1
	baz=81						
TARG	**Taragay, Kyrgy**	1.55	241	⇑*i*P	Pb	18 07 27.2	+1.3
	baz=40						
TARG				⇑*i*S	Sg	18 07 48.1	+1.0
	baz=40						
MNBS	**Baschi**	1.82	331	*e*P	Pb	18 07 30.9	+0.7
	7.5nm,0.1s						
MNBS				*e*S	Sg	18 07 54.4	-1.2
	17nm,0.2s						
MNBS	**Baschi**	1.82	331	P	Pb	18 07 30.5	+0.3
	12nm,0.3s						
MNBS				S	Sg	18 07 53.9	+0.9
	15nm,0.2s						
DJR	**Jarkent**	1.84	4	*e*P	Pb	18 07 31.2	+0.6
	2.3nm,0.1s						
DJR				*e*S	Sb	18 07 54.7	+1.1
	6.7nm,0.1s						
DJR	**Jarkent**	1.84	4	P	Pb	18 07 30.8	+0.2
	2.4nm,0.3s						
DJR				S	Sb	18 07 54.2	+0.6
	7.9nm,0.3s						
KDJ	**Kajisay**	1.85	259	⇑*i*P	Pb	18 07 31.8	+1.0
	baz=58						
KDJ				⇑*i*S	Sg	18 07 56.1	-0.4
	baz=58						
KOTS	**Kotyrbulak**	1.99	293	*e*P	Pg	18 07 35.1	-0.1
	3.4nm,0.2s						
KOTS				*e*S	Sg	18 08 01.5	+0.5
	27nm,0.2s						
KOTS	**Kotyrbulak**	1.99	293	Pg	Pg	18 07 35.2	-0.1
	7.6nm,0.3s						
KOTS				Lg	Lg	18 08 01.5	
	26nm,0.5s						
MDOK	**Medeo**	2.01	290	*e*P	Pb	18 07 34.9	+1.4
	baz=90						
MDOK				*e*S	Sg	18 08 01.2	-0.4
	baz=90						
MDOK	**Medeo**	2.01	290	*e*P	Pb	18 07 34.9	+1.4
	0.9nm,0.2s						
MDOK				*e*S	Sg	18 08 01.2	-0.4
	12nm,0.3s						
MDOK	**Medeo**	2.01	290	Pn	Pb	18 07 32.9	-0.6
	0.8nm,0.4s						
MDOK				Sn	Sg	18 08 01.0	-0.6
	7.6nm,0.6s						
MDOK	**Medeo**	2.01	290	Pg	Pb	18 07 34.8	+1.4
	1.7nm,0.4s						
MDOK				Lg	Lg	18 08 00.8	
	13nm,0.5s						
TNSS	**Tian-Shan**	2.04	286	*e*P	Pb	18 07 35.6	+1.4
	baz=86						
TNSS				*e*S	Sg	18 08 02.3	-0.5
	baz=86						
TNSS	**Tian-Shan**	2.04	286	*e*P	Pb	18 07 35.6	+1.4
	1.0nm,0.1s						
TNSS				*e*S	Sg	18 08 02.4	-0.5
	7.1nm,0.2s						
TNSS	**Tian-Shan**	2.04	286	Pg	Pg	18 07 35.7	-0.5
	1.2nm,0.2s						
TNSS				Lg	Lg	18 08 02.2	
	9.7nm,0.3s						
ARXS	**Arharly**	2.16	323	*e*P	Pb	18 07 37.0	+0.9
	1.9nm,0.1s						
ARXS				*e*S	Sg	18 08 04.5	-2.0
	4.5nm,0.2s						
ARXS	**Arharly**	2.16	323	Pg	Pb	18 07 36.4	+0.3
	5.6nm,0.4s						
ARXS				Lg	Lg	18 08 03.5	
	5.6nm,0.5s						
IZV	**Izvestkoviy**	2.28	285	*e*P	Pb	18 07 39.8	+1.5
	2.3nm,0.1s						
IZV				*e*S	Sg	18 08 09.4	-1.0
	14nm,0.2s						
IZV	**Izvestkoviy**	2.28	285	Pg	Pb	18 07 39.7	+1.5
	2.8nm,0.1s						
IZV				Lg	Lg	18 08 09.2	
	15nm,0.3s						
CHKK	**Chushkaly**	2.36	306	*e*P	Pb	18 07 40.8	+1.4
	0.7nm,0.1s						
CHKK				*e*S	Sg	18 08 11.1	-1.7
	6.1nm,0.2s						
CHKK	**Chushkaly**	2.36	306	Pg	Pb	18 07 40.6	+1.2
	0.7nm,0.2s						
CHKK				Lg	Lg	18 08 10.6	
	13nm,0.3s						
MTBS	**Maitube**	2.43	286	*e*P	Pb	18 07 42.5	+1.8
	2.8nm,0.1s						
MTBS				*e*S	Sg	18 08 14.2	-1.1
	7.6nm,0.1s						
MTBS	**Maitube**	2.43	286	Pg	Pb	18 07 42.5	+1.8
	3.1nm,0.1s						
MTBS				Lg	Lg	18 08 13.9	
	11nm,0.3s						
KTBS	**Karatobe**	2.47	300	*e*P	Pb	18 07 42.2	+0.8
	0.3nm,0.1s						
KTBS				*e*S	Sb	18 08 13.5	+1.8
	14nm,0.3s						
KTBS	**Karatobe**	2.47	300	Pg	Pb	18 07 42.6	+1.2
	0.9nm,0.2s						
KTBS				Lg	Lg	18 08 14.0	
	20nm,0.8s						
ULHL	**Ulahol**	2.52	265	⇓*i*P	Pb	18 07 41.5	-0.7
	baz=65						
ULHL				⇓*i*S	Sb	18 08 13.3	+0.1
	baz=65						
BOOM	**Boomskoye usch**	2.72	271	⇓*i*P	Pb	18 07 44.3	-1.4
	baz=70						
BOOM				⇓*i*S	Sb	18 08 18.2	-0.9
	baz=70						
KST	**Kastek**	2.75	283	*e*P	Pb	18 07 48.1	+2.0
	0.9nm,0.1s						
KST				*e*S	Sg	18 08 23.7	-1.7
	7.3nm,0.3s						
KST	**Kastek**	2.75	283	Pg	Pb	18 07 47.7	+1.5
	1.6nm,0.2s						
KST				Lg	Lg	18 08 22.8	
	6.6nm,0.5s						
KUU	**Kurty**	2.78	301	*e*P	Pb	18 07 47.9	+1.3
	0.4nm,0.1s						
KUU				*e*S	Sg	18 08 23.4	-2.9
	6.6nm,0.2s						
KUU	**Kurty**	2.78	301	Pg	Pb	18 07 47.7	+1.1
	0.6nm,0.2s						
KUU				Lg	Lg	18 08 22.9	
	9.3nm,0.3s						
KAPS	**Kapalarasan**	2.80	356	*e*P	Pb	18 07 47.9	+1.0
	0.2nm,0.1s						
KAPS				*e*S	Sb	18 08 23.3	+2.2
	1.9nm,0.2s						
KAPS	**Kapalarasan**	2.80	356	Pg	Pb	18 07 47.5	+0.6
	0.7nm,0.2s						
KAPS				Lg	Lg	18 08 22.6	
	1.9nm,0.2s						
DGS	**Degeres**	2.93	286	*e*P	Pb	18 07 51.0	+1.8
	0.2nm,0.1s						
DGS				*e*S	Sg	18 08 28.7	-2.4
	14nm,0.3s						
DGS	**Degeres**	2.93	286	Pg	Pb	18 07 50.7	+1.5
	0.3nm,0.5s						
DGS				Lg	Lg	18 08 27.9	
	20nm,0.8s						
TKM2	**Tokmak 2**	3.00	280	⇓*i*P	Pb	18 07 48.1	-2.3
	baz=79						
TKM2				⇓*i*S	Sb	18 08 24.8	-2.2
	baz=79						
TKM2	**Tokmak 2**	3.00	280	⇓Pn	Pb	18 07 48.2	-2.3
	0.8nm,0.6s						
TKM2				⇑Sn	Sg	18 08 30.6	-2.8
	3.3nm,0.6s						
KRBS	**Karabastau**	3.13	294	*e*P	Pb	18 07 54.5	+2.0
	0.4nm,0.1s						
KRBS				*e*S	Sg	18 08 34.8	-2.8
	3.9nm,0.2s						
KRBS	**Karabastau**	3.13	294	Pg	Pb	18 07 54.3	+1.7
	0.5nm,0.3s						
KRBS				Lg	Lg	18 08 34.1	
	3.9nm,0.5s						
MK31	**Makanchi Array**	4.70	23	⇑Pg	Pb	18 08 21.5	+2.1
	0.1nm,0.3s,baz=82,slow=12,SNR=4.6						
MK31				⇓Lg	Lg	18 09 22.2	
	0.2nm,0.5s,baz=20,slow=33						

*IDC **06** 18:18:19.4±2.0,9.°89N×127.°74E,h0km,mb3.3/4, mb1 3.4/5,mb1mx3.3/45,mbtmp3.5/5,ML4.4/1,Error ellipse: s-maj=73.4km s-min=26.1km az=82.0*
*NEIC **06** 18:18:21.5±1.6,9.°67N±0.°08×127.°3E±0.°2,h10km±1km, mb4.6/4,Error ellipse: s-maj=37.6km s-min=12.2km az=98.0*
*MAN **06** 18:18:25.7,9.°58N×126.°92E,h62km,mb4.6,ML3.5,MS3.4*
ISC 06 18:18:23.7±2.0,9.°49N±0.°04×126.°92E±0.°07,h16km±12km, n26,σ1§61/37,mb3.4/6,3C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.44**	**282**	⇑	*e*P	**Pn**		**18 18 48.2**	**-0.9**
MSLP	**Maasin**	**2.13**	**288**		*e*P	**Pn**		**18 18 59.0**	**+0.4**
MSLP					*e*S	**Sb**		**18 19 27.1**	**-1.0**
CGP	**Cagayan de Oro**	**2.43**	**245**	⇓	*e*P	**Pn**		**18 19 04.8**	**+2.0**
CGP					*e*S	**Sn**		**18 19 33.7**	**+1.6**
BUKP	**Musuan**	**2.44**	**229**		*e*P	**Pn**		**18 19 03.6**	**+0.7**
BUKP					*e*S	**Sb**		**18 19 35.4**	**-1.7**
MATI	**Mati**	**2.62**	**195**		*e*P	**Pn**		**18 19 05.0**	**-0.3**
MATI					*e*S	**Sn**		**18 19 34.8**	**-2.0**
DAV	**Davao City (W)**	**2.75**	**209**		Pn	**Pg**		**18 19 16.1**	**-0.4**
	36nm,0.3s,baz=148,slow=6.8,SNR=1.5								
DAV					Sn		**Sb**	**18 19 47.8**	**+1.8**
	53nm,0.3s,baz=104,slow=23,SNR=5.9								
OCLP	**Ormoc**	**2.75**	**304**		*e*P	**Pn**		**18 19 07.8**	**+0.7**
TBP	**Tagbilaran**	**3.02**	**274**		*e*P	**Pn**		**18 19 10.7**	**-0.2**
KCP	**Kidapawan**	**3.06**	**216**	⇓	*e*P	**Pb**		**18 19 17.5**	**-0.4**
KCP					*i* S		**Sb**	**18 19 55.4**	**+0.4**
CTBH	**Cotabato--PC H**	**3.48**	**230**	⇑	*i*P	**Pn**		**18 19 19.6**	**+2.4**
DDMP	**Don Marcelino,**	**3.57**	**200**		*e*P	**Pn**		**18 19 21.1**	**+2.6**
DDMP					*e*S	**Sb**		**18 20 07.7**	**-2.1**
CNP	**Catarman**	**3.73**	**324**		*e*P	**Pn**		**18 19 21.5**	**+0.9**
CNP					*e*S	**Sn**		**18 20 04.5**	**+0.3**
PAGZ	**Pagadian**	**3.86**	**245**		*e*P	**Pn**		**18 19 25.4**	**+3.0**
PAGZ					*e*S	**Sn**		**18 20 09.1**	**+1.6**
CNOP	**Candoni, Negro**	**4.23**	**275**		*e*P	**Pn**		**18 19 26.4**	**-1.2**
CNOP					*e*S	**Sb**		**18 20 24.3**	**-4.4**
GUIM	**Jordan**	**4.41**	**285**		*e*P	**Pn**		**18 19 31.8**	**+1.7**
GUIM					*e*S	**Pg**		**18 19 48.5**	**+0.2**
RCP	**Roxas**	**4.59**	**297**	⇑	*e*P	**Pn**		**18 19 33.0**	**+0.5**
PVCP	**Virac**	**4.90**	**327**		*e*P	**Pn**		**18 19 37.6**	**+0.9**
TNTI	**Ternate**	**8.68**	**177**		Pn	**Pn**		**18 20 27.9**	**-0.8**
KSM	**Kuching**	**18.34**	**245**		P	**P**		**18 22 39.9**	**+2.3**
MTN	**Manton Dam**	**22.58**	**169**		P	**P**		**18 23 24.6**	**+0.9**
MTN					IAmb	IAmb		18 23 41.7	
	comp=Z,38nm,1.4s								
ASAR	**Alice Springs**	**33.66**	**168**		P	**P**		**18 25 03.9**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=353,slow=7.1,SNR=1.7								
SONM	**Songino Array**	**41.97**	**339**		P	**P**		**18 26 12.8**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=141,slow=9.3,SNR=2.2								
BBOO	**Buckleboo**	**42.96**	**169**		P	**P**		**18 26 22.1**	**0.0**
BBOO					IAmb	IAmb		18 26 34.9	
	comp=Z,9.9nm,1.2s								
NWAO	**Narrogin (SRO)**	**43.18**	**192**		P	**P**		**18 26 24.3**	**+0.4**
MKAR	**Makanchi Array**	**53.03**	**323**		P	**P**		**18 27 38.5**	**-1.4**
	comp=Z,0.4nm,0.9s,baz=131,slow=8.0,SNR=3.3								
KURBB	**Kurchatov Arra**	**57.07**	**325**		P	**P**		**18 28 08.1**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=124,slow=6.9,SNR=4.1								

*IDC **06** 18:20:47.8±2.9,9.°77N×127.°10E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/40,mbtmp3.5/4,Error ellipse: s-maj=269.1km s-min=27.1km az=68.0*
*MAN **06** 18:20:53.9,9.°53N×126.°82E,h29km,mb4.6,ML3.5,MS3.4*
ISC 06 18:20:54.6±1.2,9.°64N±0.°06×126.°9E±0.°1,h41km,n13, σ1§96/16,mb3.5/4,3C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.39**	**276**	⇓	*e*P	**Pn**		**18 21 16.4**	**-1.1**
MSLP	**Maasin**	**2.06**	**284**		*e*P	**Pn**		**18 21 27.4**	**+0.7**
MSLP					*e*S	**Sn**		**18 21 50.8**	**-0.4**
CGP	**Cagayan de Oro**	**2.47**	**242**	⇓	*e*P	**Pn**		**18 21 33.4**	**+1.1**
CGP					*e*S	**Sn**		**18 22 02.4**	**+1.2**
BUKP	**Musuan**	**2.52**	**226**		*e*P	**Pn**		**18 21 32.0**	**-1.1**
BUKP					*e*S	**Sn**		**18 22 02.0**	**-0.5**
TBP	**Tagbilaran**	**2.98**	**271**		*e*P	**Pn**		**18 21 37.9**	**-1.5**
KCP	**Kidapawan**	**3.16**	**214**	⇑	*e*P	Pn		18 21 47.9	+5.9
KCP					*i* S	**Sn**		**18 22 24.4**	**+5.9**
CTBH	**Cotabato--PC H**	**3.55**	**228**	⇑	*i*P	**Pn**		**18 21 46.2**	**-1.0**
CNP	**Catarman**	**3.59**	**323**		*e*P	**Pn**		**18 21 49.5**	**+1.7**
RCP	**Roxas**	**4.50**	**295**	⇑	*e*P	**Pn**		**18 22 01.3**	**+1.1**
WRA	**Warramunga Arr**	**30.30**	**166**		P	**P**		**18 27 01.9**	**-0.3**
	0.6nm,0.9s,baz=348,slow=9.5,SNR=2.0								
ASAR	**Alice Springs**	**33.81**	**168**		P	**P**		**18 27 32.3**	**-0.7**
	0.3nm,0.8s,baz=354,slow=7.6,SNR=1.7								
MKAR	**Makanchi Array**	**52.89**	**323**		P	**P**		**18 30 05.5**	**-1.1**
	0.4nm,0.7s,baz=120,slow=7.2,SNR=3.8								
FINES	**FINESS Array B**	**86.73**	**332**		P	**P**		**18 33 33.9**	**-0.2**
	0.3nm,0.4s,baz=76,slow=5.9,SNR=1.2								

*SKHL **06** 18:24:02.3±0.7,43.°91N×149.°42E,h45km±4km,mb4.1/3*
*JMA **06** 18:24:03.3±0.4,44.°35N×149.°17E,h30km,M3.6*
*IDC **06** 18:24:16.1±2.1,46.°26N×147.°15E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.4/51,mbtmp3.7/4,ML3.0/1,Error ellipse: s-maj=57.0km s-min=33.5km az=158.0*
ISC 06 18:24:05.2±1.7,43.°94N±0.°07×149.°17E±0.°09,h51km±14km, n28,σ0§84/28,mb3.5/4,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.59**	**325**		*i* P	Pn		18 24 29.3	-1.7
KUR					AMB	AMB		18 24 30.0	
	40nm,0.3s								
KUR					*i* S	**Sn**		**18 24 49.6**	**-0.8**
KUR					A	A		18 24 54.0	
	320nm,0.3s								
KUR					A	A		18 24 54.0	
	150nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**2.39**	**273**		*i* P	Pn		18 24 41.3	-0.5
YUK					AMB	AMB		18 24 43.0	
	20nm,0.2s								
YUK					*e*S	**Sn**		**18 25 10.5**	**+0.6**
YUK					A	A		18 25 17.0	
	60nm,0.2s								
YUK					A	A		18 25 17.0	
	130nm,0.2s								
GRPR	**Tuman**	**2.45**	**272**		*e*P	Pn		18 24 42.1	-0.6
GRPR					*e*S	**Sn**		**18 25 12.6**	**+1.2**
GRPR					A	A		18 25 19.0	
	110nm,0.4s								
GRPR					A	A		18 25 19.0	
	150nm,0.4s								
NEM2	**Nemuro 2**	**2.55**	**258**		P	Pn		18 24 43.1	-1.0
NEM2					*e*S	**Sn**		**18 25 12.7**	**-1.1**
NMR	**Nemuro--Hokkai**	**2.56**	**258**		*i* P	Pn		18 24 43.1	-1.1
NMR					*i* S	**Sn**		**18 25 14.2**	**+0.1**
GLVR	**Golovnino**	**2.65**	**267**		*i* P	Pn		18 24 45.0	-0.4
GLVR					AMB	AMB		18 24 45.0	
	30nm,0.4s								
GLVR					*e*S	**Sn**		**18 25 16.3**	**+0.1**
GLVR					A	A		18 25 21.0	
	60nm,0.4s								
GLVR					A	A		18 25 21.0	
	230nm,0.4s								
JRA	**Rausu**	**2.92**	**271**		P	**Pn**		**18 24 49.4**	**+0.3**
JNK	**Nakash**	**3.24**	**265**		P	Pn		18 24 53.2	-0.3
JNK					*e*S	**Sn**		**18 25 30.6**	**-0.3**
JAK	**Akkeshi**	**3.39**	**255**		P	Pn		18 24 54.9	-0.6
JAK					*e*S	**Sn**		**18 25 33.3**	**-1.1**
JTKR	**Abashiri--Toko**	**3.80**	**272**		P	**Pn**		**18 25 01.9**	**+0.8**
JAR	**Ashorobuto**	**3.97**	**263**		P	**Pn**		**18 25 03.6**	**0.0**
JAR					*e*S	**Sn**		**18 25 49.4**	**+0.6**
JOB	**Onbets**	**4.02**	**257**		P	**Pn**		**18 25 04.5**	**+0.3**
JMP	**Maruseppu**	**4.19**	**273**		P	**Pn**		**18 25 07.7**	**+1.1**
JCH	**Churui**	**4.44**	**255**		P	**Pn**		**18 25 10.2**	**+0.2**
JCH					*e*S	**Sn**		**18 25 59.6**	**-0.7**
ASAJ	**Asahikawa**	**4.74**	**274**		Pn	**Pn**		**18 25 15.8**	**+1.7**
	0.8nm,0.3s,baz=133,slow=20,SNR=5.6								
JFR	**Furan**	**4.84**	**263**		P	**Pn**		**18 25 17.1**	**+1.6**
JNBK	**Urakawa-nobuka**	**4.98**	**253**		P	**Pn**		**18 25 17.4**	**0.0**
JNBK					*e*S	**Sn**		**18 26 12.9**	**-0.7**
JBT2	**Biratori 2**	**5.09**	**259**		P	**Pn**		**18 25 19.8**	**+0.9**
JNB	**Noboribetsu**	**6.12**	**259**		P	**Pn**		**18 25 33.4**	**+0.4**
JNB					*e*S	**Sn**		**18 26 40.9**	**-0.7**
JKB	**Kayabe**	**6.31**	**254**		P	**Pn**		**18 25 36.0**	**+0.3**
JKB					*e*S	Sn		18 26 44.3	-2.1
H11S1	**WAKE ISLAND Hy**	**29.33**	**144**		T	T		19 02 20.7	
	baz=344,slow=74,SNR=9.8								
H11S3	**WAKE ISLAND Hy**	**29.33**	**144**		T	T		19 02 13.8	
H11S2	**WAKE ISLAND Hy**	**29.35**	**144**		T	T		19 02 17.5	
	baz=346,slow=74,SNR=6.5								
MKAR	**Makanchi Array**	**45.78**	**298**		P	**P**		**18 32 21.8**	**+0.2**
	0.5nm,0.5s,baz=74,slow=8.6,SNR=6.8								
FINES	**FINESS Array B**	**65.36**	**334**		P	**P**		**18 34 41.2**	**-0.4**
	0.7nm,0.5s,baz=46,slow=11,SNR=5.4								
NB2	**NORSAR Subarra**	**69.94**	**340**		P	**P**		**18 35 11.3**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=28,slow=6.5								
NOA	**NORSAR Array B**	**69.94**	**340**		P	**P**		**18 35 11.5**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=30,slow=6.3,SNR=3.8								
TXAR	**Lajitas Array**	**81.33**	**58**		P	P		18 36 34.7	+18
	comp=Z,0.3nm,0.6s,baz=308,slow=3.1,SNR=4.5								

HEL 06 18:49:24.5±0.3,67.°77N×20.°19E,h0km,ML1.7, Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.74**	**67**			PB	Pg	18 49 38.6	0.0
KIF	**Kilpisjarvi**	**1.26**	**10**			PG	Pg	18 49 48.1	-0.5
KIF						MSG		18 50 03.6	
	comp=Z,6.3nm,0.2s								
KIF						SG	Sg	18 50 03.7	-1.3
ERTU	**Ertsjaerv**	**1.45**	**146**			PG	Pn	18 49 50.2	-1.7
ERTU						SN	Sn	18 50 12.9	+1.3
HEF	**Hetta**	**1.45**	**62**			PG	Pn	18 49 50.7	-1.3
	baz=242								
HEF						MSG		18 50 08.1	
	comp=Z,4.5nm,0.2s								
TOF	**Tornio**	**2.35**	**134**			PB	Pn	18 50 05.0	+0.7
TOF						MSG		18 50 34.2	
	comp=Z,4.9nm,0.2s								
TOF						SG	Sg	18 50 39.4	-0.6
SGF	**Sodankyl**	**2.45**	**95**			PG	Pb	18 50 08.7	-0.7
	baz=282								
SGF						SG	Sb	18 50 41.1	+1.1
RNF	**Rovaniemi**	**2.55**	**114**			PG	Pb	18 50 09.4	-1.7
	baz=302								
RNF						SG	Sb	18 50 41.9	-1.1
ARE0	**ARCESS Array S**	**2.63**	**45**			PN	Pn	18 50 08.2	0.0
ARE0						SG	Sb	18 50 44.6	-0.7

BER 06 18:50:16.3±1.8,72.°56N×3.°65E,h10km,ML2.0, Confirmed Earthquake,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**	**4.13**	**253**		*e*P	Pn		18 51 16.9	-2.4
LOF	**Lofoten**	**5.56**	**138**		*e*P	Pn		18 51 36.2	-2.7
LOF					*e*S	Sn		18 52 33.3	-9.4
LOF					IAML			18 52 40.2	
	comp=Z,4.0nm,0.6s								
TRO	**Tromso**	**5.76**	**113**		*e*P	Pn		18 51 38.0	-3.7
TRO					*e*S	Sn		18 52 36.1	-12
TRO					IAML			18 52 41.0	
	comp=Z,2.5nm,0.3s								
N2VA	**Vr,y**	**5.80**	**144**		*e*P	Pn		18 51 41.0	-1.2
N2VA					*e*S	Sn		18 52 39.9	-8.9
N2VA					IAML			18 52 45.8	
	comp=Z,5.8nm,0.8s								
N2RO	**R,st**	**5.83**	**146**		*e*P	Pn		18 51 40.2	-2.5
STEI	**Steigen**	**6.08**	**134**		*e*P	Pn		18 51 43.3	-2.7
STEI					*e*S	Sn		18 52 44.2	-11
STEI					IAML			18 52 52.1	
	comp=Z,2.0nm,0.5s								
BRBB	**Barentsburg B**	**6.16**	**21**		*e*P	Pn		18 51 45.2	-1.8
BRBB					*e*S	Sn		18 52 47.9	-10
N2IH	**Innhavet**	**6.20**	**132**		*e*P	Pn		18 51 45.1	-2.7
SPA0	**Spitsbergen Ar**	**6.47**	**24**		*e*P	Pn		18 51 49.3	-2.2
NBB28	**Valnes**	**6.55**	**140**		*e*P	Pn		18 51 49.8	-2.7
KIF	**Kilpisjarvi**	**6.67**	**114**		*e*P	Pn		18 51 50.5	-3.7
NBB17	**Glomfjord BVr**	**6.79**	**143**		*e*P	Pn		18 51 53.8	-2.0
KONS	**Konsvik**	**6.93**	**147**		*e*P	Pn		18 51 55.7	-1.9
STOK	**Stokkvaagen**	**7.06**	**148**		*e*P	Pn		18 51 57.1	-2.4
KTK1	**Kautokeino**	**7.35**	**109**		*e*P	Pn		18 52 00.8	-2.8
ARE0	**ARCESS Array S**	**7.71**	**103**		*e*P	Pn		18 52 06.5	-1.9
HEF	**Hetta**	**7.86**	**112**		*e*P	Pn		18 52 07.5	-

5C-1D, Error ellipse: s-maj=23.1km s-min=21.5km az=127.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.18**	**358**	⇓P	Pn	19 04 00.0	+0.7
	1.7nm,0.5s,baz=181,slow=11,SNR=46						
KK31				⇑S	Sn	19 05 11.6	+0.9
	3.5nm,0.8s,baz=186,slow=22,SNR=9.7						
AAK	**Ala-Archa**	**6.37**	**25**	⇑P	Pn	19 04 01.8	-0.3
	1.5nm,0.7s						
AAK				⇑S	Sn	19 05 17.1	+1.5
	4.2nm,0.8s						
TKM2	**Tokmak 2**	**7.03**	**30**	⇑P	Pn	19 04 10.6	-0.4
	2.0nm,1.2s						
TKM2				⇑S	Sn	19 05 32.8	+1.0
	1.4nm,0.6s						

*KRNET **06** 19:16:44.1±0.1,39.°19N×76.°65E,mb2.4*
SOME 06 19:16:43.5, 42.°42N×81.°10E, h0km, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.42**	**302**	*e*P	Pg	19 17 04.9	-5.7
	0.5nm,0.1s						
SHLS				*e*S	Sg	19 17 20.4	-8.6
	5.5nm,0.3s						
UZB	**Uzynbulak**	**1.69**	**296**	*e*P	Pb	19 17 15.2	-0.5
	0.6nm,0.2s						
UZB				*e*S	Sg	19 17 37.9	0.0
	2.0nm,0.1s						
SATY	**Saty**	**2.09**	**289**	*e*P	Pb	19 17 21.5	-0.8
	0.3nm,0.1s						
SATY				*e*S	Sb	19 17 48.8	0.0
	2.3nm,0.1s						
DJR	**Jarkent**	**2.14**	**334**	*e*P	Pb	19 17 23.7	+0.5
	0.2nm,0.1s						
DJR				*e*S	Sg	19 17 52.5	+0.3
	1.1nm,0.2s						
TARG	**Taragay, Kyrgy**	**2.55**	**255**	⇓*i*P	Pn	19 17 27.8	+1.3
	baz=19						
TARG				⇓*i*S	Sn	19 17 59.7	+1.3
	baz=19						
KDJ	**Kajisay**	**2.92**	**266**	⇑*i*P	Pn	19 17 31.7	+0.3
	baz=8.0						
KDJ				⇑*i*S	Sn	19 18 06.6	-0.7
	baz=8.0						
KAPS	**Kapalarasan**	**3.13**	**337**	*e*P	Pb	19 17 40.0	0.0
	0.2nm,0.1s						
KAPS				*e*S	Sb	19 18 20.6	+1.8
	0.8nm,0.3s						
ULHL	**Ulahol**	**3.61**	**269**	⇓*e*P	Pn	19 17 33.3	-7.5
	baz=54						
ULHL				⇓*i*S	Sn	19 18 08.8	-15
	baz=54						

JMA 06 19:27:28.2±0.1, 24.°90N×123.°40E, h21km, M1.4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.56**	**219**	P	Pb	19 27 39.1	-0.3
YOJ				S	Sb	19 27 46.3	-0.8
JYNG	**Yonagunijimaku**	**0.61**	**223**	P	Pb	19 27 39.9	-0.3
JYNG				S	Sb	19 27 48.0	-0.4
IRIF	**Iriomote-Funau**	**0.64**	**152**	P	Pb	19 27 40.1	-0.6
IRIF				*e*S	Sb	19 27 49.7	+0.5
JIJ	**Ishigaki jima**	**0.86**	**128**	P	Pb	19 27 44.1	-0.3
JIJ				S	Sb	19 27 55.6	+0.1
JKRS	**Kuro-shima**	**0.86**	**140**	P	Pb	19 27 44.2	-0.2
JKRS				S	Sb	19 27 55.4	-0.1
JISG	**Ishigakijimahi**	**0.89**	**110**	P	Pb	19 27 44.5	-0.3
HATJ	**Hateruma jima**	**0.92**	**156**	S	Sb	19 27 56.8	-0.3
JTJ	**Tarama**	**1.21**	**102**	P	Pn	19 27 49.9	0.0
JTJ				*e*S	Sb	19 28 05.4	-0.2

TAP 06 19:27:39.9, 24.°48N×121.°80E, h18km±1km, ML1.9, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.08**	**227**	*i* P	Pg	19 27 44.1	+0.7
	baz=222						
TWC	**Suao**	**0.13**	**18**	P	Pg	19 27 44.3	+0.3
	baz=21						
TWC				S	Sg	19 27 47.3	+0.6
	baz=21						
ENTT	**Nioudou**	**0.27**	**306**	P	Pb	19 27 46.8	+0.6
	baz=306						
ENTT				S	Sb	19 27 51.2	+0.9
	baz=306						
TWE	**Neicheng**	**0.27**	**332**	P	Pb	19 27 46.5	+0.4
	baz=334						
TWE				S	Sb	19 27 51.2	+1.0
	baz=334						
ILA	**Ilan**	**0.29**	**350**	*e*S	Sb	19 27 52.5	+1.6
	baz=351						
NDT	**Datong Townshi**	**0.29**	**295**	P	Pb	19 27 47.2	+0.7
	baz=294						
NACB	**Ninganchiao**	**0.36**	**212**	*e*P	Pb	19 27 48.2	+0.4
	baz=212						
NACB				*e*S	Sb	19 27 53.2	+0.1
	baz=212						
NTC	**Toucheng**	**0.37**	**4**	*e*S	Sg	19 27 53.0	+0.1
	baz=3.0						
EGS		**0.38**	**18**	*e*P	Pg	19 27 47.9	+0.1
	baz=19						
NNSB	**Datong**	**0.39**	**262**	*e*S	Sb	19 27 54.8	+0.8
	baz=262						
NNSH	**Datong**	**0.39**	**262**	*e*S	Sb	19 27 54.6	+0.6
	baz=262						
NNS	**Nan Shan**	**0.40**	**264**	*e*S	Sg	19 27 53.8	+0.1
	baz=263						
ETLH	**Xiulin Townshi**	**0.40**	**227**	*e*S	Sb	19 27 55.0	+0.6
	baz=227						
NWLT	**Wulai**	**0.40**	**317**	*e*S	Sb	19 27 54.7	+0.2
	baz=317						
YHNB	**Yeheng**	**0.43**	**296**	*e*P	Pb	19 27 49.6	+0.5
	baz=295						
YHNB				*e*S	Sb	19 27 56.0	+0.7
	baz=295						
TWD	**Chiawan**	**0.44**	**205**	*e*P	Pb	19 27 49.4	+0.2
	baz=204						
NSK	**Sanguang**	**0.45**	**296**	P	Pg	19 27 49.7	+0.4
	baz=295						
NSK				S	Sb	19 27 56.4	+0.6
	baz=295						
TIPB	**Shuangxi**	**0.49**	**2**	P	Pg	19 27 49.7	-0.1
	baz=2.0						
TIPB				*e*S	Sg	19 27 56.3	-0.2
	baz=2.0						
TWA	**Mucha**	**0.54**	**338**	*e*P	Pg	19 27 50.4	-0.3
	baz=338						
NHDH	**Xindian Distri**	**0.54**	**332**	*e*P	Pg	19 27 50.8	0.0
	baz=332						
NWF	**Wu-fen Shan**	**0.59**	**358**	*e*P	Pg	19 27 52.1	+0.5
	baz=357						
WFSB	**Wu-fen Shan**	**0.59**	**358**	*e*P	Pg	19 27 52.1	+0.5
	baz=357						
WHF	**Hehuan Shan**	**0.59**	**236**	*e*S	Sn	19 28 02.1	-1.1
	baz=235						
YM01	**YM01**	**0.70**	**342**	*e*P	Pn	19 27 54.4	-0.4
	baz=342						
YM10	**YM10**	**0.71**	**342**	*e*P	Pn	19 27 54.5	-0.6
	baz=341						
YM11	**YM11**	**0.71**	**343**	*e*P	Pg	19 27 54.3	+0.4
	baz=342						

*IDC **06** 19:27:55.8±1.9,23.°46S×177.°48W,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.7/22,mbtmp3.7/4,MS3.3/3,Ms1 3.3/3, ms1mx2.9/39,Error ellipse: s-maj=51.2km s-min=46.6km az=57.0*
*NEIC **06** 19:28:04.4±1.7,25.°0S±0.°2×176.°73W±0.°10,h107km±8km, mb4.3/5,Error ellipse: s-maj=27.9km s-min=11.7km az=191.0*
ISC 06 19:28:03.1±1.2, 25.°1S±0.°2×176.°8W±0.°2, h100km, n19, σ1$47/14, mb4.0/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**8.74**	**48**	Pn	**Pn**	**19 30 06.7**	**+0.1**
NIUE				Sn	Sn	19 31 34.4	-9.0
MSVF	**Nonsavu**		**8.80**	**326**		**Pn**	**19 30 08.0**	**+0.4**
AFI	**Afiamalu**		**12.10**	**24**	Pn	**Pn**	**19 30 50.9**	**-1.4**
DZM	**Mont Dzumac**		**15.70**	**278**	LR	LR	19 36 01.5	
	comp=Z,88nm,18.5s,baz=238,slow=33							
HNR	**Honiara**		**27.10**	**301**	LR	LR	19 41 10.3	
	comp=Z,46nm,21.2s,baz=158,slow=31							
STKA	**Stephens Creek**		**37.04**	**250**	P	**P**	**19 35 00.3**	**-3.1**
STKA					IAmb	IAmb	19 35 23.7	
	comp=Z,1.4nm,1.3s							
AS31	**Alice Springs**		**44.75**	**261**	P	**P**	**19 36 08.6**	**+1.7**
ASAR	**Alice Springs**		**44.76**	**261**	P	**P**	**19 36 08.1**	**+1.2**
	comp=Z,1.3nm,0.9s,baz=106,slow=8.1,SNR=9.2							
WB2	**Warramunga Arr**		**45.26**	**266**	P	**P**	**19 36 11.7**	**+0.8**
WB2					IAmb	IAmb	19 36 16.2	
	comp=Z,9.1nm,1.2s							
WB0	**Warramunga Arr**		**45.27**	**267**	P	**P**	**19 36 12.0**	**+1.0**
WB0					IAmb	IAmb	19 36 18.3	
	comp=Z,13nm,1.2s							
WRA	**Warramunga Arr**		**45.27**	**266**	P	**P**	**19 36 11.0**	**0.0**
	comp=Z,1.3nm,0.5s,baz=105,slow=8.0,SNR=8.4							
KNRA	**Kununurra**		**51.63**	**269**		**P**	**19 37 01.0**	**+1.2**
VNDA	**Vanda**		**53.43**	**186**	P	P	19 37 28.7	+16
	comp=Z,0.2nm,0.3s,baz=12,slow=12,SNR=3.0							
ANMO	**Albuquerque**		**89.42**	**51**	LR	LR	20 10 57.6	
	comp=Z,38nm,21.9s,baz=206,slow=29							
CMAR	**Chiang Mai Arr**		**92.72**	**289**	P	**P**	**19 41 06.4**	**+2.0**
	comp=Z,0.7nm,0.9s,baz=195,slow=2.6,SNR=4.5							
HFS	**Hagfors**		**144.26**	**351**	PKhKP	PKPpre	19 47 26.2	
	comp=Z,2.2nm,0.8s,baz=64,slow=3.4,SNR=6.8							
AKASG	**Malin Array Be**		**147.57**	**329**	PKPbc	**PKPbc**	**19 47 35.8**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=42,slow=4.3,SNR=4.8							
BRTR	**Keskin Array B**		**150.67**	**307**	PKPbc	**PKiKP**	**19 47 44.9**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=90,slow=2.9,SNR=2.3							
CLL	**Collm**		**152.81**	**347**	*i* PKPab	**PKPab**	**19 47 58.6**	**-0.7**

*IDC **06** 19:39:01.2±1.2,14.°63N×54.°71E,h0km,mb3.8/10, mb1 3.9/11,mb1mx3.5/53,mbtmp3.8/11,ML3.4/1,MS3.2/10, Ms1 3.2/10,ms1mx2.9/41,Error ellipse: s-maj=28.7km s-min=24.7km az=27.0*
*OMAN **06** 19:39:04.3±0.1,14.°66N×54.°61E,h85km±11km,ml3.6/5, Error ellipse: s-maj=4.7km s-min=1.1km az=282.0*
ISC 06 19:39:03.5±0.9, 14.°66N±0.°09×54.°6E±0.°1, h17km, n32, σ1$43/25, mb3.9/10, MS3.1/8, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**2.52**	**193**	P	**Pn**	**19 39 39.2**	**-4.7**
	SNR=14						
RBK	**Rabkut**	**2.85**	**353**	P	**Pn**	**19 39 46.8**	**-1.6**
	SNR=8.0						
RBK				S	**Sn**	**19 40 21.9**	**-0.5**
ABTO	**Aybut**	**2.96**	**335**	P	**Pn**	**19 39 50.0**	**+0.2**
	SNR=34						
DMTO	**DMTO**	**3.06**	**6**	P	**Pn**	**19 39 51.6**	**+0.4**
	SNR=5.7						
WHFO	**Wadi Hawf**	**3.34**	**346**	P	**Pn**	**19 39 54.2**	**-0.8**
WHFO				S	**Sn**	**19 40 34.3**	**0.0**
BSY	**Bisya**	**8.41**	**17**	P	**Pn**	**19 41 02.6**	**-2.2**
ARQ	**Araqi**	**8.82**	**12**	P	**Pn**	**19 41 08.6**	**-1.8**
HOQ	**Hoqain**	**9.24**	**16**	P	**Pn**	**19 41 16.0**	**-0.1**
WSAR	**Wadi Sarin**	**9.35**	**24**	Pn	**Pn**	**19 41 17.8**	**+0.1**
	0.3nm,0.3s,baz=245,slow=15,SNR=9.1						
WSAR				LR	LR	19 44 38.0	
	comp=Z,150nm,20.9s,baz=188,slow=36						
SOHO	**SOHO**	**9.60**	**11**	P	**Pn**	**19 41 20.4**	**-0.7**
ASHO	**Ashiyiah**	**10.07**	**8**	P	**Pn**	**19 41 25.8**	**-1.7**
UOSS	**Minazif**	**10.35**	**8**	P	**Pn**	**19 41 31.1**	**-0.1**
ATD	**Ata Tunnel**	**11.85**	**256**	LR	LR	19 45 19.4	
	comp=Z,118nm,20.6s,baz=116,slow=32						
KMBO	**Kilima Mbogo**	**23.25**	**229**	LR	LR	19 54 17.3	
	comp=Z,48nm,18.2s,baz=78,slow=39						
GEYT	**Alibeck**	**23.39**	**7**	P	**P**	**19 44 12.1**	**+0.6**
	1.3nm,0.6s,baz=189,slow=8.6,SNR=4.0						
GEYT				LR	LR	19 54 57.2	
	comp=Z,58nm,19.6s,baz=215,slow=41						
KBZ	**Khabaz**	**30.65**	**343**	LR	LR	20 00 50.8	
	comp=Z,33nm,18.6s,baz=178,slow=43						
BRTR	**Keskin Array B**	**31.00**	**328**	LR	LR	19 59 18.4	
	comp=Z,21nm,18.1s,baz=130,slow=39						
MKAR	**Makanchi Array**	**39.51**	**30**	P	**P**	**19 46 34.0**	**+0.7**
	0.7nm,0.5s,baz=212,slow=9.0,SNR=14						
MKAR				LR	LR	20 02 42.1	
	comp=Z,40nm,19.1s,baz=194,slow=36						
CMAR	**Chiang Mai Arr**	**42.60**	**79**	P	**P**	**19 46 59.4**	**+0.2**
	0.2nm,0.3s,baz=267,slow=5.3,SNR=1.8						
ZALV	**Zalesovo Beam**	**45.80**	**25**	P	**P**	**19 47 23.6**	**-0.7**
	0.7nm,0.5s,baz=231,slow=8.5,SNR=4.5						
FINES	**FINESS Array B**	**51.01**	**343**	P	**P**	**19 48 05.2**	**+0.9**
	1.0nm,0.5s,baz=136,slow=11,SNR=12						
FINES				LR	LR	20 14 37.5	
	comp=Z,28nm,19.2s,baz=114,slow=42						
TORD	**Torodi Ar. Bea**	**51.27**	**275**	P	**P**	**19 48 09.2**	**+2.1**
	0.6nm,0.8s,baz=89,slow=6.9,SNR=3.7						
BOSA	**Boshof**	**51.53**	**213**	LR	LR	20 12 22.6	
	comp=Z,26nm,18.3s,baz=48,slow=39						
HFS	**Hagfors**	**54.28**	**336**	P	**P**	**19 48 29.1**	**+0.6**
	1.9nm,1.0s,baz=127,slow=9.5,SNR=1.4						
NOA	**NORSAR Array B**	**55.80**	**336**	LR	LR	20 17 07.6	
	comp=Z,17nm,18.5s,baz=75,slow=41						
ARCES	**ARCESS Array B**	**57.80**	**348**	P	**P**	**19 48 53.6**	**0.0**
	0.9nm,0.5s,baz=150,slow=5.2,SNR=9.3						
KSRS	**Korea Array**	**68.09**	**55**	P	**P**	**19 50 02.0**	**-0.6**
	0.8nm,0.7s,baz=256,slow=7.9,SNR=5.1						
H01W3	**Cape Leeuwin H**	**74.92**	**133**	T	T	21 12 26.4	
	baz=301,slow=75,SNR=12						
H01W2	**Cape Leeuwin H**	**74.93**	**133**	T	T	21 12 21.3	
	baz=301,slow=75,SNR=9.8						
H01W1	**Cape Leeuwin H**	**74.94**	**133**	T	T	21 12 21.3	
	baz=301,slow=75,SNR=18						
ASAR	**Alice Springs**	**86.32**	**115**	P	**P**	**19 51 44.9**	**-0.3**
	1.5nm,0.6s,baz=290,slow=4.7,SNR=25						
NVAR	**Mina Array Bea**	**126.78**	**353**	PKP	**PKPdf**	**19 58 06.9**	**-0.1**
	0.3nm,0.6s,baz=92,slow=3.3,SNR=4.0						

*IDC **06** 19:41:51.9±4.6,23.°12S×65.°85W,h195km±57km,mb3.7/1, mb1 3.4/3,mb1mx3.1/23,mbtmp3.9/3,Error ellipse: s-maj=80.1km s-min=26.9km az=97.0*
*GUC **06** 19:41:55.8±0.5,23.°04S×66.°78W,h271km±6km,ML3.9*
ISC 06 19:41:53.7±1.1, 23.°08S±0.°06×66.°38W±0.°09, h222km, n22, σ1$26/37, 12C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.38**	**281**	⇓*i*P	**Pn**	**19 42 40.1**	**+1.9**
LVC				*i* S	**S**	**19 43 14.1**	**+1.4**
PB15	**IPOC Station P**	**2.85**	**267**	⇑*i*P	**Pn**	**19 42 44.6**	**+1.6**
PB15				*i* S	**S**	**19 43 22.4**	**+0.9**
PB09	**IPOC Station P**	**2.94**	**295**	⇑*i*P	**Pn**	**19 42 46.4**	**+2.3**
PB09				*i* S	**S**	**19 43 24.5**	**+1.2**
PB09				IAML		19 43 27.0	
	comp=N,143nm,0.5s						
PB06	**IPOC Station P**	**2.97**	**277**	⇑*i*P	**Pn**	**19 42 45.8**	**+1.5**
PB06				*e*S	**S**	**19 43 24.1**	**+0.3**
PB06				IAML		19 43 27.3	
	comp=N,153nm,0.2s						
PB03	**IPOC Station P**	**3.29**	**288**	⇑*i*P	**Pn**	**19 42 49.2**	**+1.2**
PB03				*i* S	**S**	**19 43 29.5**	**-0.9**
PB07	**IPOC Station P**	**3.52**	**292**	⇑*i*P	**Pn**	**19 42 51.9**	**+1.2**
PB07				*i* S	**S**	**19 43 34.3**	**-1.1**
PB01	**IPOC Station P**	**3.52**	**304**	⇑*i*P	**Pn**	**19 42 52.0**	**+1.2**
PB01				*i* S	**S**	**19 43 35.1**	**-0.3**
PB05	**IPOC Station P**	**3.53**	**273**	⇑*i*P	**Pn**	**19 42 51.9**	**+1.1**
PB05				*i* S	**S**	**19 43 33.9**	**-1.7**
PB04	**IPOC Station P**	**3.56**	**281**	⇑*i*P	**Pn**	**19 42 52.5**	**+1.2**
PB04				*i* S	**S**	**19 43 35.1**	**-1.2**
GO02	**Mina Guanaco**	**3.59**	**234**	⇑*i*P	**Pn**	**19 42 52.9**	**+1.1**
GO02				*e*S	**S**	**19 43 37.3**	**+0.1**
PB02	**IPOC Station P**	**3.70**	**298**	⇑*i*P	**Pn**	**19 42 53.8**	**+0.9**
PB02				*e*S	**S**	**19 43 37.8**	**-1.4**
PB10	**IPOC Station P**	**3.87**	**263**	*e*P	**Pn**	**19 42 55.8**	**+1.1**
PB10				*e*S	**S**	**19 43 41.0**	**-1.5**
PB08	**IPOC Station P**	**3.90**	**318**	⇑*i*P	**Pn**	**19 42 57.9**	**+2.3**
PB08				*i* S	**S**	**19 43 45.2**	**+1.1**
PATCX	**Punta Patache**	**4.16**	**302**	*e*P	**Pn**	**19 42 58.9**	**+0.4**
TA01	**Diego Aracena**	**4.33**	**305**	*e*P	**Pn**	**19 43 00.3**	**-0.1**
PB11	**IPOC Station P**	**4.50**	**317**	*e*P	**Pn**	**19 43 03.0**	**+0.3**
PSGC	**Pisagua**	**4.92**	**314**	*e*P	**Pn**	**19 43 07.4**	**-0.4**
MNMC	**Minye Minye**	**4.95**	**322**	⇑*i*P	**Pn**	**19 43 09.4**	**+1.1**
MNMC				*e*S	**S**	**19 44 05.6**	**-1.6**
LPAZ	**La Paz**	**6.96**	**346**	P	**Pn**	**19 43 35.6**	**+1.4**
	comp=N,0.7nm,0.3s,baz=168,slow=14,SNR=11						
LPAZ				S	**S**	**19 44 55.0**	**+0.8**
	comp=N,0.2nm,0.3s,baz=247,slow=25,SNR=7.6						
PLCA	**Paso Flores**	**17.95**	**190**	P	**P**	**19 45 47.7**	**+0.2**
	comp=N,0.1nm,0.3s,baz=55,slow=10,SNR=1.8						
TORD	**Torodi Ar. Bea**	**75.70**	**69**	P	**P**	**19 53 13.8**	**-1.4**
	comp=N,1.0nm,0.4s,baz=258,slow=5.4,SNR=22						
MKAR	**Makanchi Array**	**145.45**	**39**	PKPbc	**PKPab**	**20 01 05.5**	**-0.6**
	comp=N,0.4nm,0.4s,baz=313,slow=3.6,SNR=7.5						

*NEIC **06** 19:58:11.2±1.0,13.°1N±0.°1×143.°8E±0.°1,h143km±9km, mb4.6/7,Error ellipse: s-maj=20.0km s-min=15.8km az=120.0*
*IDC **06** 19:58:14.3±13.0,13.°12N×143.°66E,h170km±123km, mb3.3/8,mb1 3.5/8,mb1mx3.2/41,mbtmp3.8/8,Error ellipse: s-maj=51.3km s-min=18.4km az=78.0*
ISC 06 19:58:10.9±0.6, 13.°2N±0.°1×143.°8E±0.°1, h138km, n17, σ0$58/18, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.16**	**68**		**Pn**	**19 58 36.7**	**+0.7**
GUMO				Sn	Sn	19 58 55.0	-0.1
PATS	**Pohnpei**	**15.63**	**112**	P	**P**	**20 01 44.7**	**-0.3**
FAKI	**Fak Fak**	**19.64**	**216**	P	**Pn**	**20 02 32.9**	**+1.2**
FAKI				IAmb	IAmb	20 02 36.9	
	comp=Z,26nm,1.2s						
YULB	**Yu-li**	**23.61**	**299**	P	**P**	**20 03 09.9**	**+0.4**
KSRS	**Korea Array**	**28.04**	**332**	P	**P**	**20 03 49.4**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=131,slow=11,SNR=5.8						
WB0	**Warramunga Arr**	**33.98**	**196**	P	**P**	**20 04 41.7**	**+0.2**
WB0				IAmb	IAmb	20 04 42.8	
	comp=Z,18nm,1.3s						
WB2	**Warramunga Arr**	**34.16**	**196**	P	**P**	**20 04 42.6**	**-0.5**
WB2				IAmb	IAmb	20 04 47.0	
	comp=Z,14nm,1.3s						
WRA	**Warramunga Arr**	**34.17**	**196**	P	**P**	**20 04 43.0**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=13,slow=8.8,SNR=4.1						
FITZ	**Fitzroy Crossi**	**35.83**	**210**	P	**P**	**20 04 56.9**	**-0.5**
ASAR	**Alice Springs**	**37.84**	**195**	P	**P**	**20 05 14.1**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=16,slow=11,SNR=7.6						
FORT	**Forrest**	**46.21**	**199**	P	**P**	**20 06 22.4**	**+0.3**
FORT				IAmb	IAmb	20 06 27.5	
	comp=Z,21nm,1.1s						
BBOO	**Buckleboo**	**46.29**	**189**	P	**P**	**20 06 21.8**	**-0.9**
BBOO				IAmb	IAmb	20 06 59.8	
	comp=Z,18nm,1.4s						
SONM	**Songino Array**	**46.48**	**326**	P	**P**	**20 06 24.1**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=145,slow=10,SNR=2.2						
MKAR	**Makanchi Array**	**61.07**	**316**	P	**P**	**20 08 10.1**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=90,slow=8.6,SNR=6.4						
YKA	**Yellowknife Ar**	**83.74**	**27**	P	**P**	**20 10 23.7**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=200,slow=11,SNR=4.2						
NVAR	**Mina Array Bea**	**88.03**	**51**	P	**P**	**20 10 46.8**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=256,slow=6.9,SNR=7.8						
FINES	**FINESS Array B**	**91.11**	**335**	P	**P**	**20 10 58.9**	**-0.8**
	comp=Z,1.2nm,1.0s,baz=48,slow=2.8,SNR=5.4						

*IDC **06** 20:18:18.9±3.6,24.°73N×122.°74E,h105km±36km, mb3.4/13,mb1 3.6/13,mb1mx3.4/36,mbtmp3.8/13,Error ellipse: s-maj=27.6km s-min=12.7km az=66.0*
*NEIC **06** 20:18:19.9±2.0,24.°68N±0.°06×122.°80E±0.°06, h117km±4km,mb4.2/28,Mwr4.0/11,Error ellipse: s-maj=9.0km s-min=7.3km az=192.0*
*NEIC **06** 20:18:19.9,24.°68N×122.°80E,h100km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.36; $M_{\theta\theta}$=0.03; $M_{\phi\phi}$=0.40; $M_{r\theta}$=0.56; $M_{\theta\phi}$=0.19; $M_{\phi r}$=0.86; Fault plane solution: $M_0$1.11000×10^{15} NP1:ϕ_s206.18000°, δ82.39000°, λ-74.21000°. NP2:ϕ_s321.27000°, δ17.49000°, λ-153.85000°. Principal axes: T 0.9802, Plg36.0000°, Azm283.0000°; N 0.2240, Plg16.0000°, Azm24.0000°; P -1.2042, Plg50.0000°, Azm134.0000°;*
*JMA **06** 20:18:20.3±0.1,24.°59N×122.°76E,h112km±1km,M3.7*
*TAP **06** 20:18:20.2,24.°64N×122.°80E,h113km,ML4.5,B*
ISC 06 20:18:19.9±0.6, 24.°65N±0.°03×122.°79E±0.°02, h115km±4km, n189, σ1$107/296, mb4.0/24, 10C-24D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.25**	**144**	P	**Pn**	**20 18 36.1**	**+0.1**
JYNG				S	**Sn**	**20 18 48.0**	**-0.1**
YOJ	**Yonaguni jima**	**0.28**	**133**	⇑*i*P	**Pn**	**20 18 36.3**	**+0.1**
	baz=142						
YOJ				S	**Sn**	**20 18 48.0**	**-0.2**
	baz=142						
YOJ	**Yonaguni jima**	**0.28**	**133**	P	**Pn**	**20 18 36.3**	**+0.1**
YOJ				S	**Sn**	**20 18 48.2**	**-0.1**
YOJ	**Yonaguni jima**	**0.28**	**133**	P	**Pn**	**20 18 36.3**	**+0.1**
YOJ				Sn	**Sn**	**20 18 48.2**	**-0.1**
EGS		**0.80**	**284**	P	**Pn**	**20 18 40.3**	**+0.7**
	baz=275						
EGS				*e*S	**Sn**	**20 18 54.3**	**-0.1**
	baz=275						
TWB1	**Santiao Chiao**	**0.81**	**296**	⇓*i*P	**Pn**	**20 18 40.3**	**+0.6**
	baz=293						
TWB1				*e*S	**Sn**	**20 18 54.6**	**+0.1**
	baz=293						
TWC	**Suao**	**0.85**	**267**	⇓*i*P	**Pn**	**20 18 40.1**	**+0.1**
	baz=263						
TWC				*e*S	**Sn**	**20 18 54.1**	**-1.2**
	baz=263						
NTC	**Toucheng**	**0.89**	**283**	*e*P	**Pn**	**20 18 40.8**	**+0.4**
	baz=278						
NTC				*e*S	**Sn**	**20 18 55.6**	**-0.3**
	baz=278						
IRIF	**Iriomote-Funau**	**0.92**	**110**	P	**Pn**	**20 18 41.1**	**+0.5**
IRIF				S	**Sn**	**20 18 56.0**	**-0.3**
TIPB	**Shuangxi**	**0.93**	**290**	⇓*i*

	baz=287								
YM01				*e*S		**Sn**	**20 19 01.6**	**-0.2**	
	baz=287								
YM08	**YM08**	**1.21**	**296**	⇓	*i*P	**Pn**	**20 18 44.4**	**+0.6**	
	baz=290								
YM08				*e*S		**Sn**	**20 19 01.5**	**-0.3**	
	baz=290								
YM11	**YM11**	**1.22**	**295**	⇓	*i*P	**Pn**	**20 18 44.6**	**+0.8**	
	baz=288								
YM11				*e*S		**Sn**	**20 19 02.0**	**0.0**	
	baz=288								
YM05	**YM05**	**1.22**	**295**	*i*	P	**Pn**	**20 18 44.7**	**+0.8**	
	baz=288								
YM10	**YM10**	**1.22**	**294**	⇓	*i*P	**Pn**	**20 18 44.7**	**+0.8**	
	baz=285								
YM10				*e*S		**Sn**	**20 19 02.3**	**+0.2**	
	baz=285								
TATO	**Taipei**	**1.22**	**286**		P	**Pn**	**20 18 44.2**	**+0.4**	
	baz=277								
TATO				*e*S		**Sn**	**20 19 00.8**	**-1.2**	
	baz=277								
TATO	**Taipei**	**1.22**	**286**			**Pn**	**20 18 44.3**	**+0.4**	
TATO					Sn	**Sn**	**20 19 00.8**	**-1.2**	
TAP	**Taipei**	**1.23**	**289**	*e*P		**Pn**	**20 18 43.3**	**-0.6**	
	baz=279								
TAP				*e*S		**Sn**	**20 19 01.0**	**-1.0**	
	baz=279								
TWD	**Chiawan**	**1.23**	**243**		P	**Pn**	**20 18 43.8**	**-0.1**	
	baz=236								
TWD				*e*S		**Sn**	**20 19 01.1**	**-1.0**	
	baz=236								
YM04	**YM04**	**1.24**	**294**	⇓	*i*P	**Pn**	**20 18 44.8**	**+0.7**	
	baz=285								
YM04				*e*S		**Sn**	**20 19 02.3**	**-0.1**	
	baz=285								
TWY	**Chenhua**	**1.24**	**300**	⇓	*i*P	**Pn**	**20 18 45.1**	**+1.1**	
	baz=293								
TWY				*e*S		**Sn**	**20 19 02.5**	**+0.2**	
	baz=293								
YM03	**YM03**	**1.25**	**295**	*e*P		**Pn**	**20 18 44.8**	**+0.6**	
	baz=286								
YM03				*e*S		**Sn**	**20 19 02.6**	**0.0**	
	baz=286								
ANP	**Anpu**	**1.27**	**295**	*e*P		**Pn**	**20 18 44.7**	**+0.3**	
	baz=285								
JIJ	**Ishigaki jima**	**1.27**	**103**		P	**Pn**	**20 18 44.7**	**+0.4**	
JIJ					S	**Sn**	**20 19 02.4**	**-0.4**	
ETLH	**Xiulin Townshi**	**1.27**	**250**		P	**Pn**	**20 18 44.6**	**+0.2**	
	baz=249								
ETLH				*e*S		**Sn**	**20 19 02.1**	**-1.0**	
	baz=249								
HWA	**Hwalien**	**1.27**	**238**	*e*P		**Pn**	**20 18 44.6**	**+0.2**	
	baz=237								
HWA				*e*S		**Sn**	**20 19 03.3**	**+0.4**	
	baz=237								
YHNB	**Yeheng**	**1.28**	**271**		P	**Pn**	**20 18 45.5**	**+0.9**	
	baz=264								
YHNB				*e*S		**Sn**	**20 19 03.2**	**-0.1**	
	baz=264								
YHNB	**Yeheng**	**1.28**	**271**			**Pn**	**20 18 45.0**	**+0.4**	
YHNB					Sn	**Sn**	**20 19 03.2**	**-0.1**	
NNSB	**Datong**	**1.30**	**260**		P	**Pn**	**20 18 45.2**	**+0.3**	
	baz=253								
NNSB				*e*S		**Sn**	**20 19 02.4**	**-1.2**	
	baz=253								
NNSH	**Datong**	**1.30**	**260**	*e*P		**Pn**	**20 18 45.2**	**+0.3**	
	baz=255								
NSK	**Sanguang**	**1.30**	**271**	⇓	*i*P	**Pn**	**20 18 45.6**	**+0.8**	
	baz=265								
NSK				*e*S		**Sn**	**20 19 03.5**	**-0.1**	
	baz=265								
NNS	**Nan Shan**	**1.30**	**261**	*e*P		**Pn**	**20 18 45.3**	**+0.4**	
	baz=254								
NNS				*e*S		**Sn**	**20 19 03.5**	**-0.4**	
	baz=254								
NTST	**Danshui**	**1.32**	**293**		P	**Pn**	**20 18 46.0**	**+1.1**	
	baz=284								
NTST				*e*S		**Sn**	**20 19 04.2**	**+0.4**	
	baz=284								
TWS1	**Kuangyinshan**	**1.32**	**290**	*e*P		**Pn**	**20 18 45.8**	**+0.8**	
	baz=283								
TWS1				*e*S		**Sn**	**20 19 03.9**	**0.0**	
	baz=283								
JISG	**Ishigakijimahi**	**1.39**	**92**		P	**Pn**	**20 18 46.3**	**+0.6**	
JISG					S	**Sn**	**20 19 04.8**	**-0.4**	
WLTB	**Daxi**	**1.41**	**278**	*i*	P	**Pn**	**20 18 47.2**	**+1.3**	
	baz=281								
WHF	**Hehuan Shan**	**1.48**	**250**		P	**Pn**	**20 18 47.6**	**+0.4**	
	baz=249								
WHF				*e*S		**Sn**	**20 19 07.4**	**-0.5**	
	baz=249								
NCU	**National Centr**	**1.49**	**283**	*e*P		**Pn**	**20 18 47.5**	**+0.6**	
	baz=289								
NCU				*e*S		**Sn**	**20 19 07.4**	**0.0**	
	baz=289								
NCUH	**Zhongli**	**1.49**	**283**	*e*P		**Pn**	**20 18 47.5**	**+0.6**	
	baz=289								
NCUH				*e*S		**Sn**	**20 19 07.2**	**-0.2**	
	baz=289								
ESL	**Shilin**	**1.49**	**236**	⇓	*i*P	**Pn**	**20 18 46.7**	**-0.2**	
	baz=235								
ESL				*e*S		**Sn**	**20 19 06.1**	**-1.4**	
	baz=235								
TDCB	**Techi**	**1.54**	**255**		P	**Pn**	**20 18 48.6**	**+1.0**	
	baz=252								
TDCB				*e*S		**Sn**	**20 19 08.2**	**-0.4**	
	baz=252								
EGFH	**Guangfu**	**1.58**	**232**		P	**Pn**	**20 18 48.0**	**-0.1**	
	baz=234								
EGFH				*e*S		**Sn**	**20 19 08.3**	**-1.0**	
	baz=234								
CHGB	**Renai**	**1.58**	**249**	*i*	P	**Pn**	**20 18 48.9**	**+0.7**	
	baz=241								
CHGB				*e*S		**Sn**	**20 19 08.8**	**-1.0**	
	baz=241								
LIOB	**Emei**	**1.61**	**270**		P	**Pn**	**20 18 49.3**	**+0.9**	
	baz=269								
LIOB				*e*S		**Sn**	**20 19 10.3**	**+0.2**	
	baz=269								
NSTT	**Nanjuang**	**1.63**	**270**	⇓	*i*P	**Pn**	**20 18 49.2**	**+0.7**	
	baz=268								
NSTT				*e*S		**Sn**	**20 19 10.1**	**-0.1**	
	baz=268								
OWD	**Renai**	**1.63**	**245**	*e*P		**Pn**	**20 18 48.6**	**-0.1**	
	baz=239								
OWD				*e*S		**Sn**	**20 19 09.4**	**-1.2**	
	baz=239								
SBCB	**Hsinchu**	**1.65**	**275**		P	**Pn**	**20 18 49.8**	**+1.1**	
	baz=274								
SBCB				*e*S		**Sn**	**20 19 10.8**	**+0.2**	
	baz=274								
HSN	**Hsinchu**	**1.66**	**276**	*e*P		**Pn**	**20 18 49.3**	**+0.4**	
	baz=275								
HSN					S	**Sn**	**20 19 10.3**	**-0.6**	
	baz=275								
HGSD	**Ruisui**	**1.70**	**227**	⇑	*i*P	**Pn**	**20 18 49.4**	**0.0**	
	baz=225								
HGSD				*e*S		**Sn**	**20 19 10.9**	**-1.0**	
	baz=225								
WHP	**Taichung City**	**1.72**	**258**	⇓	*i*P	**Pn**	**20 18 51.3**	**+1.6**	
	baz=254								
WHP				*e*S		**Sn**	**20 19 12.8**	**+0.4**	
	baz=254								
JTJ	**Tarama**	**1.74**	**90**		P	**Pn**	**20 18 50.8**	**+0.9**	
JTJ					S	**Sn**	**20 19 13.2**	**+0.4**	
VWDT	**VWDT**	**1.75**	**240**	⇑	*i*P	**Pn**	**20 18 50.8**	**+0.8**	
	baz=234								
VWDT				*e*S		**Sn**	**20 19 12.3**	**-0.6**	
	baz=234								
EHY	**Hungye**	**1.76**	**230**	⇓	*i*P	**Pn**	**20 18 49.9**	**-0.3**	
	baz=228								
EHY				*e*S		**Sn**	**20 19 11.2**	**-2.0**	
	baz=228								
DPDB	**Guoxing**	**1.81**	**250**	⇑	P	**Pn**	**20 18 52.0**	**+1.2**	
	baz=247								
DPDB				*e*S		**Sn**	**20 19 15.1**	**+0.8**	
	baz=247								
NMLH	**Miaoli**	**1.82**	**267**	⇓	*i*P	**Pn**	**20 18 51.9**	**+1.0**	
	baz=273								
NMLH				*e*S		**Sn**	**20 19 14.2**	**-0.3**	
	baz=273								
YULB	**Yu-li**	**1.85**	**228**	⇑	*i*P	**Pn**	**20 18 51.0**	**-0.3**	
	baz=233								
YULB				*e*S		**Sn**	**20 19 13.3**	**-1.9**	
	baz=233								
YULB	**Yu-li**	**1.85**	**228**			**Pn**	**20 18 50.6**	**-0.7**	
YULB					Sn	**Sn**	**20 19 12.5**	**-2.8**	
TWF1	**Yuli**	**1.88**	**227**	⇑	*i*P	**Pn**	**20 18 51.5**	**-0.2**	
	baz=232								
TWF1				*e*S		**Sn**	**20 19 14.3**	**-1.6**	
	baz=232								
SSLB	**Suanglung**	**1.88**	**243**	*e*P		**Pn**	**20 18 52.4**	**+0.6**	
	baz=239								
SSLB				*e*S		**Sn**	**20 19 16.3**	**+0.4**	
	baz=239								
SSLB	**Suanglung**	**1.88**	**243**			**Pn**	**20 18 52.3**	**+0.6**	
SMLT	**Sun Moon Lake**	**1.89**	**246**	⇓	*i*P	**Pn**	**20 18 52.9**	**+1.1**	
	baz=240								
SMLT				*e*S		**Sn**	**20 19 18.0**	**+1.9**	
	baz=240								
PTSB	**Yuanli**	**1.91**	**264**	*e*P		**Pn**	**20 18 53.0**	**+1.0**	
	baz=263								
PTSB				*e*S		**Sn**	**20 19 16.9**	**+0.5**	
	baz=263								
WDJ	**Dajia District**	**1.98**	**262**	*e*P		**Pn**	**20 18 53.9**	**+1.0**	
	baz=260								
WDJ				*e*S		**Sn**	**20 19 17.7**	**-0.3**	
	baz=260								
FULB	**Fuli**	**1.99**	**224**	⇑	*i*P	**Pn**	**20 18 52.9**	**-0.1**	
	baz=217								
FULB				*e*S		**Sn**	**20 19 17.4**	**-1.0**	
	baz=217								
TCU	**Taichung**	**1.99**	**256**	*e*P		**Pn**	**20 18 54.7**	**+1.7**	
	baz=263								
TCU				*e*S		**Sn**	**20 19 19.2**	**+0.9**	
	baz=263								
WHYT	**Xinyi Township**	**2.01**	**242**	*e*P		**Pn**	**20 18 54.9**	**+1.6**	
	baz=239								
WHYT				*e*S		**Sn**	**20 19 19.2**	**+0.4**	
	baz=239								
CHKT	**Chengkung**	**2.02**	**220**	⇑	*i*P	**Pn**	**20 18 52.9**	**-0.5**	
	baz=215								
CHKT				*e*S		**Sn**	**20 19 17.3**	**-1.6**	
	baz=215								
YUS	**Yu-Shan**	**2.04**	**236**		P	**Pn**	**20 18 54.3**	**+0.2**	
	baz=230								
WJS	**Zhushan**	**2.05**	**247**	*e*P		**Pn**	**20 18 55.9**	**+2.1**	
	baz=239								
WJS				*e*S		**Sn**	**20 19 21.7**	**+2.0**	
	baz=239								
WNT	**Mingjian**	**2.07**	**249**	*e*P		**Pn**	**20 18 55.9**	**+1.9**	
	baz=247								
WNT				*e*S		**Sn**	**20 19 21.3**	**+1.3**	
	baz=247								
WCHH	**Zhanghua**	**2.11**	**255**	*e*P		**Pn**	**20 18 55.4**	**+0.9**	
	baz=254								
ALS	**Alishan**	**2.14**	**238**		P	**Pn**	**20 18 56.4**	**+1.2**	
	baz=237								
JIRB	**Irabujima**	**2.18**	**85**		P	**Pn**	**20 18 56.2**	**+0.9**	
JIRB					S	**Sn**	**20 19 23.1**	**+0.7**	
ELDTW	**Lidau**	**2.18**	**228**	*e*P		**Pn**	**20 18 55.4**	**-0.1**	
	baz=223								
ELDTW				*e*S		**Sn**	**20 19 19.8**	**-3.0**	
	baz=223								
CHN5	**Tsauling**	**2.19**	**242**	*e*P		**Pn**	**20 18 57.2**	**+1.5**	
	baz=234								
CHN5				*e*S		**Sn**	**20 19 24.8**	**+1.7**	
	baz=234								
WGK	**Gukeng**	**2.25**	**245**	*e*P		**Pn**	**20 18 58.4**	**+2.1**	
	baz=234								
WGK				*e*S		**Sn**	**20 19 26.8**	**+2.6**	
	baz=234								
JIKM	**Ikemajima**	**2.25**	**83**		P	**Pn**	**20 18 57.5**	**+1.2**	
JIKM					S	**Sn**	**20 19 23.8**	**-0.4**	
WDLH	**Douliu**	**2.27**	**245**	*e*P		**Pn**	**20 18 56.8**	**+0.3**	
	baz=254								
WDLH				*e*S		**Sn**	**20 19 28.0**	**+3.5**	
	baz=254								
TWH	**Lutao**	**2.28**	**212**	⇑	*i*P	**Pn**	**20 18 56.6**	**-0.1**	
	baz=207								
TWH				*e*S		**Sn**	**20 19 23.1**	**-1.7**	
	baz=207								
JMJ	**Miyako jima 2**	**2.28**	**85**	*e*P		**Pn**	**20 18 58.4**	**+1.6**	
	baz=87								
JMJ				*e*S		**Sn**	**20 19 26.1**	**+1.1**	
	baz=87								
JMJ2	**Miyako jima3**	**2.31**	**87**		P	**Pn**	**20 18 58.2**	**+1.1**	
JMJ2					S	**Sn**	**20 19 25.4**	**-0.2**	
RLNB	**Erlin**	**2.34**	**252**	*e*P		**Pn**	**20 18 58.2**	**+0.8**	
	baz=250								
RLNB				*e*S		**Sn**	**20 19 26.4**	**+0.2**	
	baz=250								
STYT	**Tauyuan**	**2.38**	**232**	*e*P		**Pn**	**20 18 59.4**	**+1.4**	
	baz=226								
STYT				*e*S		**Sn**	**20 19 28.1**	**+1.0**	
	baz=226								
JOGS	**Gusukube**	**2.38**	**87**		P	**Pn**	**20 18 59.3**	**+1.3**	
JOGS					S	**Sn**	**20 19 28.4**	**+1.2**	
TPUB	**Ta-pu**	**2.39**	**236**	*e*P		**Pn**	**20 18 58.8**	**+0.6**	
	baz=228								
TPUB				*e*S		**Sn**	**20 19 29.0**	**+1.6**	
	baz=228								
TPUB	**Ta-pu**	**2.39**	**236**			**Pn**	**20 18 59.2**	**+1.1**	
TWGBT	**Beinan**	**2.41**	**221**	*e*P		**Pn**	**20 18 57.9**	**-0.5**	
	baz=224								
TWGBT				*e*S		**Sn**	**20 19 26.5**	**-1.2**	
	baz=224								
TWG	**Pinlang**	**2.41**	**221**	*e*P		**Pn**	**20 18 58.1**	**-0.3**	
	baz=224								
TWG				*e*S		**Sn**	**20 19 26.3**	**-1.5**	
	baz=224								
TWG	**Pinlang**	**2.41**	**221**			**Pn**	**20 18 58.0**	**-0.4**	
TTN	**Taitung**	**2.42**	**219**	*e*P		**Pn**	**20 18 59.1**	**+0.7**	
	baz=214								
WTCT	**Ta-ch'eng**	**2.42**	**252**	*e*P		**Pn**	**20 19 00.6**	**+2.2**	
	baz=250								
WTCT				*e*S		**Sn**	**20 19 28.3**	**+0.2**	
	baz=250								
WTP	**Ta-pu**	**2.43**	**235**	*e*P		**Pn**	**20 19 00.0**	**+1.3**	
	baz=227								
WTP				*e*S		**Sn**	**20 19 30.1**	**+1.6**	
	baz=227								
CHY	**Chiayi**	**2.45**	**242**	*e*P		**Pn**	**20 18 59.9**	**+1.1**	
	baz=251								
CHY				*e*S		**Sn**	**20 19 30.8**	**+2.1**	
	baz=251								
CHN1	**Nanshi**	**2.53**	**235**	*e*P		**Pn**	**20 19 01.3**	**+1.3**	
	baz=233								
CHN1				*e*S		**Sn**	**20 19 32.4**	**+1.7**	
	baz=233								
SNST	**Tainan City**	**2.54**	**236**	*e*P		**Pn**	**20 19 01.9**	**+1.9**	
	baz=235								
WSF	**Szhu**	**2.55**	**247**	*e*P		**Pn**	**20 19 01.1**	**+0.9**	
	baz=253								
WSF				*e*S		**Sn**	**20 19 31.5**	**+0.4**	
	baz=253								
SGST	**Jiashian**	**2.55**	**233**	*e*P		**Pn**	**20 19 00.8**	**+0.6**	
	baz=239								
SGST				*e*S		**Sn**	**20 19 33.1**	**+1.9**	
	baz=239								
SLGT	**Liugui**	**2.56**	**230**	*e*P		**Pn**	**20 19 02.2**	**+1.8**	
	baz=234								
SLGT				*e*S		**Sn**	**20 19 33.6**	**+2.2**	
	baz=234								
ECL	**Taimali**	**2.65**	**220**	*e*P		**Pn**	**20 19 00.6**	**-0.9**	
	baz=223								
CHN8	**Yiju**	**2.69**	**242**	*e*P		**Pn**	**20 19 03.0**	**+1.0**	
	baz=239								
CHN8				*e*S		**Sn**	**20 19 35.4**	**+1.0**	
	baz=239								
SSD	**Sandimen**	**2.74**	**227**	*e*P		**Pn**	**20 19 04.2**	**+1.5**	
	baz=225								
SCLT	**Jiali**	**2.79**	**239**	*e*S		**Sn**	**20 19 38.4**	**+1.7**	
	baz=236								
LAY	**Lan-yu**	**2.84**	**204**	*e*P		**Pn**	**20 19 03.4**	**-0.6**	
	baz=196								
LAY				*e*S		**Sn**	**20 19 35.4**	**-2.5**	
	baz=196								
SGLT	**Jiouru**	**2.85**	**228**	*e*P		**Pn**	**20 19 06.5**	**+2.5**	
	baz=227								
PTTC	**Pingtan**	**2.86**	**288**		P	**Pn**	**20 19 04.2**	**0.0**	
	baz=286								
PTTC				*e*S		**Sn**	**20 19 36.1**	**-2.2**	
	baz=286								
TAW	**Tawu**	**2.87**	**218**	*e*P		**Pn**	**20 19 04.0**	**-0.4**	
	baz=220								
EAST	**Anshuo**	**2.88**	**219**	*e*P		**Pn**	**20 19 04.0**	**-0.5**	
	baz=219								
EAST				*e*S		**Sn**	**20 19 36.0**	**-2.8**	
	baz=219								
SSPT	**Xinbi**	**2.97**	**224**	*e*P		**Pn**	**20 19 07.6**	**+1.9**	
	baz=232								
SSPT				*e*S		**Sn**	**20 19 42.1**	**+1.3**	
	baz=232								
MATB	**Ma-tsu**	**2.97**	**301**	*e*P		**Pn**	**20 19 05.7**	**0.0**	
	baz=299								
SCZT	**Fangliau**	**3.02**	**222**	*e*P		**Pn**	**20 19 07.7**	**+1.4**	
	baz=216								
VWUC	**VWUC**	**3.05**	**277**	*e*P		**Pn**	**20 19 06.7**	**0.0**	
	baz=275								
PNG	**Penghu**	**3.15**	**251**	*e*P		**Pn**	**20 19 07.6**	**-0.4**	
	baz=249								
PHUB	**P'eng-hu**	**3.15**	**250**	*e*P		**Pn**	**20 19 07.4**	**-0.6**	
	baz=248								
WDGT	**Dungji**	**3.18**	**245**	*e*P		**Pn**	**20 19 08.6**	**+0.2**	
	baz=243								
WLCH	**Liuqiu**	**3.18**	**224**	*e*P		**Pn**	**20 19 10.4**	**+1.9**	
	baz=223								
HEN	**Hengchun**	**3.24**	**216**	*e*P		**Pn**	**20 19 11.8**	**+2.5**	
	baz=208								
TSEB	**Hengchuen, Pin**	**3.24**	**213**	*e*P		**Pn**	**20 19 10.1**	**+0.8**	
	baz=216								
TWKBT	**Hengchun**	**3.25**	**214**	*e*P		**Pn**	**20 19 09.6**	**+0.2**	
	baz=213								
TWK1	**Hengchun**	**3.25**	**214**	*e*P		**Pn**	**20 19 09.9**	**+0.4**	
	baz=213								
XPSS	**Dashiqiu**	**3.26**	**315**	*e*P		**Pn**	**20 19 09.6**	**+0.2**	
	baz=313								
LYJJ	**Jianjiangzhen**	**3.32**	**305**		P	**Pn**	**20 19 10.5**	**+0.2**	
	baz=295								
PTMZ	**Houxiangcun**	**3.35**	**277**	*e*P		**Pn**	**20 19 10.9**	**+0.1**	
	baz=276								
VCHM	**Qimei**	**3.39**	**246**	*e*P		**Pn**	**20 19 11.5**	**+0.3**	
	baz=235								
VCHM				*e*S		**Sn**	**20 19 49.0**	**-1.9**	
	baz=235								
MHZQ	**Yeshan**	**3.69**	**294**	*e*P		**Pn**	**20 19 15.1**	**-0.1**	
	baz=292								
KNMB	**Chin-men Tao**	**4.01**	**268**		P	**Pn**	**20 19 19.0**	**-0.5**	
	baz=267								
KNMB	**Chin-men Tao**	**4.01**	**268**			Pn	**Pn**	**20 19 19.3**	**-0.2**
AXDP	**Jialang**	**4.39**	**274**		P	**Pn**	**20 19 24.7**	**+0.2**	
	baz=265								
ZPLA	**Ao Xicun**	**4.65**	**262**		P	**Pn**	**20 19 28.5**	**+0.4**	
	baz=261								
JOW	**Kunigami**	**5.40**	**65**		P	**Pn**	**20 19 37.7**	**-0.5**	
	0.3nm,0.3s,baz=43,slow=13,SNR=11								
JOW					S	**Sn**	**20 20 34.8**	**-4.5**	
	0.7nm,0.3s,baz=90,slow=20,SNR=6.4								
JOW	**Kunigami**	**5.40**	**65**			**Pn**	**20 19 37.4**	**-0.9**	
KSRS	**Korea Array**	**13.49**	**18**		P	**Pn**	**20 21 28.7**	**+2.0**	
	0.5nm,0.3s,baz=197,slow=11,SNR=27								
KS19	**Wonju Array Si**	**13.52**	**18**		P	**P**	**20 21 30.7**	**-1.5**	
KKM	**Kota Kinabalu**	**19.55**	**200**			**Pn**	**20 22 40.5**	**-0.7**	
KKM					IAmb	IAmb	20 22 44.7		
	comp=Z,29nm,1.2s								
USRK	**Ussuriysk Ar.**	**20.90**	**19**		P	**P**	**20 22 50.7**	**-2.4**	
	comp=Z,1.2nm,0.6s,baz=204,slow=12,SNR=3.4								
CMAR	**Chiang Mai Arr**	**23.00**	**259**		P	**P**	**20 23 14.2**	**-0.8**	
	comp=Z,0.3nm,0.8s,baz=65,slow=9.0,SNR=1.6								
TNTI	**Ternate**	**24.15**	**169**		P	**P**	**20 23 27.7**	**+2.2**	
TNTI					IAmb	IAmb	20 23 29.7		
	comp=Z,7.0nm,0.7s								
SBUM	**Sibu**	**24.32**	**206**		P	**P**	**20 23 26.9**	**-0.1**	
SBUM					IAmb	IAmb	20 23 28.8		
	comp=Z,8.3nm,1.6s								
KSM	**Kuching**	**26.01**	**210**		P	**P**	**20 23 43.2**	**+0.8**	
KSM					IAmb	IAmb	20 23 45.1		
	comp=Z,7.4nm,0.7s								
SONM	**Songino Array**	**26.54**	**335**		P	**P**	**20 23 46.8**	**-0.2**	
	comp=Z,2.1nm,0.7s,baz=150,slow=9.3,SNR=17								
FAKI	**Fak Fak**	**28.91**	**160**		P	**P**	**20 24 08.7**	**+0.4**	
FAKI					IAmb	IAmb	20 24 11.0		
	comp=Z,20nm,1.1s								
IPM	**Ipoh**	**28.99**	**230**		P	**P**	**20 24 09.5**	**+0.5**	
IPM					IAmb	IAmb	20 24 27.7		
	comp=Z,13nm,1.3s								
MTN	**Manton Dam**	**38.15**	**167**		P	**P**	**20 25 27.2**	**-1.0**	
MK31	**Makanchi Array**	**39.03**	**315**		P	**P**	**20 25 35.3**	**-0.1**	
MKAR	**Makanchi Array**	**39.03**	**315**		P	**P**	**20 25 34.0**	**-1.4**	
	comp=Z,0.5nm,0.4s,baz=103,slow=7.7,SNR=9.4								
MAKZ	**Makanchi**	**39.24**	**315**		P	**P**	**20 25 37.3**	**+0.2**	
KNRA	**Kununurra**	**40.51**	**171**		P	**P**	**20 25 47.9**	**+0.1**	
ZAA0	**Zalesovo Array**	**40.66**	**326**		P	**P**	**20 25 47.3**	**-1.4**	
ZALV	**Zalesovo Beam**	**40.66**	**326**		P	**P**	**20 25 47.2**	**-1.5**	
	comp=Z,1.0nm,0.5s,baz=121,slow=8.7,SNR=7.7								
KDJ	**Kajisay**	**41.35**	**306**		P	**P**	**20 25 55.4**	**+0.6**	
FITZ	**Fitzroy Crossi**	**42.58**	**176**		P	**P**	**20 26 04.6**	**-0.1**	
KURK	**Kurchatov**	**42.68**	**319**		P	**P**	**20 26 04.4**	**-0.8**	
KURK					IAmb	IAmb	20 26 05.2		
	comp=Z,1.3nm,0.6s								
KURBB	**Kurchatov Arra**	**42.70**	**319**		P	**P**	**20 26 04.7**	**-0.7**	
	comp=Z,0.6nm,0.3s,baz=113,slow=9.3,SNR=14								
COEN	**Coen**	**43.23**	**150**		P	**P**	**20 26 11.5**	**+1.5**	
ARSB	**Arslanbob**	**44.34**	**305**		P	**P**	**20 26 19.8**	**+0.9**	
ARSB					IAmb	IAmb	20 26 22.3		
	comp=Z,6.2nm,1.4s								
WB0	**Warramunga Arr**	**45.57**	**165**		P	**P**	**20 26 29.1**	**+0.5**	
WRA	**Warramunga Arr**	**45.73**	**165**		P	**P**	**20 26 30.0**	**+0.2**	
	comp=Z,2.3nm,0.4s,baz=347,slow=8.8,SNR=16								
WB2	**Warramunga Arr**	**45.73**	**165**		P	**P**	**20 26 30.6**	**+0.8**	
WB2					IAmb	IAmb	20 26 31.6		
	comp=Z,13nm,1.2s								
WR0	**Warramunga Arr**	**45.80**	**164**		P	**P**	**20 26 31.0**	**+0.7**	
WR0					IAmb	IAmb	20 26 58.7		
	comp=Z,4.7nm,0.8s								
PSA00	**Pilbara Seismi**	**46.04**	**184**		P	**P**	**20 26 31.8**	**-0.4**	
KK31	**Karatay Array**	**46.36**	**307**		P	**P**	**20 26 34.7**	**+0.1**	
KKAR	**Karatay Array**	**46.36**	**307**		P	**P**	**20 26 34.7**	**+0.1**	
TIXI	**Tiksi**	**47.15**	**3**		P	**P**	**20 26 39.5**	**-0.8**	
BRVK	**Borovoye**	**48.32**	**320**		P	**P**	**20 26 49.2**	**-0.4**	
BRVK					IAmb	IAmb	20 26 50.9		
	comp=Z,1.3nm,0.5s								
ASAR	**Alice Springs**	**49.23**	**167**		P	**P**	**20 26 58.0**	**+1

YRD				Sn	**Sn**	**20 35 38.2**	**-0.2**
PQL	**Pirkuli**	**2.96**	**300**	Pn	**Pn**	**20 35 05.7**	**+1.9**
PQL				Sn	**Sn**	**20 35 41.0**	**+2.0**
IML	**Ismayilli**	**3.24**	**297**	Pn	**Pn**	**20 35 09.3**	**+1.7**
	SNR=3.5						
IML				Sn	**Sn**	**20 35 46.6**	**+0.8**
QUBA	**Quba, Azerbaij**	**3.32**	**308**	Pn	**Pn**	**20 35 09.8**	**+1.0**
QUBA				Sn	**Sn**	**20 35 48.9**	**+1.1**
ZRD	**Zardab**	**3.42**	**287**	Pn	**Pn**	**20 35 11.8**	**+1.7**
ZRD				Sn	**Sn**	**20 35 52.1**	**+1.8**
BLQ	**Beylaqan**	**3.43**	**277**	Pn	**Pn**	**20 35 09.7**	**-0.5**
BLQ				Sn	**Sn**	**20 35 49.5**	**-0.9**
XNQ	**Khinaliq**	**3.44**	**303**	Pn	**Pn**	**20 35 12.0**	**+1.4**
XNQ				Sn	**Sn**	**20 35 50.8**	**-0.3**
QBL	**Gabala**	**3.54**	**298**	Pn	**Pn**	**20 35 12.7**	**+1.0**
QBL				Sn	**Sn**	**20 35 54.2**	**+1.0**
QSAR	**Qusar**	**3.55**	**308**	Pn	**Pn**	**20 35 13.5**	**+1.6**
QSAR				Sn	**Sn**	**20 35 55.0**	**+1.5**
BRDA	**Brd**	**3.80**	**285**	Pn	**Pn**	**20 35 16.0**	**+0.7**
BRDA				Sn	**Sn**	**20 36 00.2**	**+0.7**
AGDM	**Agdam**	**3.82**	**283**	Pn	**Pn**	**20 35 17.1**	**+1.5**
AGDM				Sn	**Sn**	**20 35 59.0**	**-1.1**
MNGR	**Mingechevir, A**	**4.00**	**292**	Pn	**Pn**	**20 35 19.0**	**+0.9**
MNGR				Sn	**Sn**	**20 36 04.8**	**+0.2**
SEKA	**Sheki**	**4.09**	**298**	Pn	**Pn**	**20 35 20.0**	**+0.7**
	SNR=4.1						
SEKA				Sn	**Sn**	**20 36 05.5**	**-1.3**
GANJ	**Ganja**	**4.52**	**288**	Pn	**Pn**	**20 35 26.1**	**+0.9**
GANJ				Sn	**Sn**	**20 36 14.7**	**-2.7**
ORD	**Ordubad**	**4.66**	**267**	Pn	**Pn**	**20 35 29.6**	**+2.3**
ORD				Sn	**Sn**	**20 36 20.6**	**-0.5**
ZKTA	**Zakatala**	**4.67**	**301**	Pn	**Pn**	**20 35 28.7**	**+1.4**
ZKTA				Sn	**Sn**	**20 36 21.6**	**+0.6**
GDB	**GEDABAY**	**4.96**	**288**	Pn	**Pn**	**20 35 32.8**	**+1.5**
	SNR=12						
GDB				Sn	**Sn**	**20 36 26.2**	**-2.2**
SBZ	**Shahbuz**	**4.97**	**272**	Pn	**Pn**	**20 35 32.5**	**+1.0**
SBZ				Sn	**Sn**	**20 36 28.7**	**0.0**
GEYT	**Alibeck**	**5.02**	**105**	Pn	**Pn**	**20 35 31.9**	**-0.2**
	1.2nm,0.3s,baz=281,slow=15,SNR=15						
GEYT				Sn	**Sn**	**20 36 28.5**	**-1.3**
	0.7nm,0.3s,baz=258,slow=18,SNR=1.6						
QZX	**Qazax, Azerbai**	**5.33**	**291**	Pn	**Pn**	**20 35 36.8**	**+0.5**
	SNR=5.8						
QZX				Sn	**Sn**	**20 36 35.0**	**-2.2**
MKAR	**Makanchi Array**	**23.26**	**61**	P	**P**	**20 39 23.7**	**-0.4**
	0.2nm,0.5s,baz=251,slow=12,SNR=4.6						
FINES	**FINESS Array B**	**27.24**	**333**	P	**P**	**20 39 58.7**	**-1.7**
	0.3nm,0.4s,baz=134,slow=9.9,SNR=6.4						
KEST	**Kesra**	**33.76**	**278**	LR	LR	20 58 54.8	
	comp=Z,20nm,18.7s,baz=222,slow=44						

IDC 06 20:45:35.8±56.0, 22°23S×175°65W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/32, mbtmp3.9/3, Error ellipse: s-maj=1048.0km s-min=175.2km az=86.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**39.06**	**246**	P	P	20 53 04.2	-0.5
	0.7nm,0.5s,baz=78,slow=8.3,SNR=4.3						
ASAR	**Alice Springs**	**46.28**	**258**	P	P	20 54 02.8	-0.7
	0.7nm,0.5s,baz=98,slow=7.1,SNR=23						
WRA	**Warramunga Arr**	**46.55**	**263**	P	P	20 54 06.4	+0.7
	1.5nm,0.4s,baz=97,slow=8.3,SNR=16						

*NEIC **06** 20:46:10.7±1.6, 56°05S±0°1×27°79W±0°1, h133km±8km, mb4.3/8, Error ellipse: s-maj=21.8km s-min=9.5km az=193.0*

*IDC **06** 20:46:11.4±7.0, 56°00S×27°70W, h137km±62km, mb3.7/5, mb1 3.8/6, mb1mx3.5/23, mbtmp4.0/6, Error ellipse: s-maj=33.9km s-min=22.0km az=82.0*

ISC 06 20:46:10.1±0.7, 55°9S±0°1×27°82W±0°10, h121km, n24, σ2s07/25, mb4.2/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.22**	**284**	Pn	**Pn**	**20 47 27.0**	**+1.1**
HOPE				Sn	**Sn**	**20 48 24.6**	**-0.4**
VNA1	**Neumayer--Stat**	**17.11**	**158**	P	**Pn**	**20 50 05.5**	**+4.1**
VNA3	**Neumayer Olymp**	**17.30**	**160**	P	**Pn**	**20 50 07.5**	**+3.8**
VNA2	**Neumayer--Watz**	**17.51**	**158**	P	**Pn**	**20 50 10.9**	**+4.6**
	baz=323,slow=13						
SNAA	**Sanae**	**19.07**	**156**	P	**P**	**20 50 21.2**	**-1.5**
SNAA	**Sanae**	**19.07**	**156**	P	**P**	**20 50 20.4**	**-2.3**
	0.4nm,0.3s,baz=298,slow=14,SNR=32						
SNAA	**Sanae**	**19.07**	**156**	P	**P**	**20 50 21.2**	**-1.5**
MG01	**Puerto William**	**22.42**	**256**	P	**P**	**20 50 56.5**	**-1.9**
MG01				IAmb	IAmb	20 50 59.0	
	comp=Z,85nm,1.4s						
QSPA	**South Pole Qui**	**34.40**	**180**	P	**P**	**20 52 43.8**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=22,slow=1.7,SNR=11						
QSPA	**South Pole Qui**	**34.40**	**180**	P	**P**	**20 52 44.1**	**-1.3**
QSPA				IAmb	IAmb	20 53 01.5	
	comp=Z,4.3nm,1.4s						
VNDA	**Vanda**	**46.76**	**183**	P	**P**	**20 54 25.6**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=180,slow=6.7,SNR=13						
VNDA	**Vanda**	**46.76**	**183**	P	**P**	**20 54 26.0**	**-0.4**
PATCX	**Punta Patache**	**47.02**	**301**	P	**P**	**20 54 32.5**	**+3.3**
LPAZ	**La Paz**	**49.97**	**306**	P	**P**	**20 54 52.9**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=161,slow=8.0,SNR=4.8						
LPAZ	**La Paz**	**49.97**	**306**	P	**P**	**20 54 53.2**	**+0.7**
LPAZ				IAmb	IAmb	20 54 57.0	
	comp=Z,4.3nm,1.4s						
DBIC	**Dimbokro**	**65.13**	**25**	P	**P**	**20 56 37.5**	**-0.3**
TOA0	**Torodi Ar. Sit**	**73.06**	**30**	P	**P**	**20 57 27.6**	**+0.9**
TOA0				IAmb	IAmb	20 57 27.8	
	comp=Z,3.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**73.06**	**30**	P	**P**	**20 57 27.2**	**+0.6**
	comp=Z,3.8nm,0.5s,baz=202,slow=6.6,SNR=43						
ASAR	**Alice Springs**	**99.28**	**163**	P	**Pdif**	**20 59 36.0**	**-2.2**
	comp=Z,0.3nm,1.0s,baz=184,slow=2.8,SNR=4.8						
FINES	**FINESS Array B**	**124.37**	**28**	PKP	**PKPdf**	**21 04 52.0**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=48,slow=2.8,SNR=6.4						
ARCES	**ARCESS Array B**	**130.89**	**22**	PKP	**PKPdf**	**21 05 04.3**	**-1.1**
	comp=Z,1.8nm,0.9s,baz=180,slow=0.5,SNR=5.4						
YKA	**Yellowknife Ar**	**135.79**	**318**	PKP	**PKPdf**	**21 05 14.1**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=133,slow=2.7,SNR=5.7						
ILAR	**Eielson Array**	**149.72**	**312**	PKPbc	**PKPbc**	**21 05 43.4**	**-0.7**
	comp=Z,3.8nm,0.8s,baz=128,slow=1.8,SNR=25						
SONM	**Songino Array**	**151.07**	**87**	PKPbc	**PKPbc**	**21 05 46.9**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=211,slow=3.6,SNR=11						

MAN 06 21:05:18.2, 13°35N×123°73E, h16km, mb4.4, ML3.3, MS3.2, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.48**	**59**	*e*P	Pb	21 05 28.6	+0.3
PVCP				*e*S	Sn	21 05 39.8	+1.3
CNP	**Catarman**	**1.23**	**132**	*e*P	Pn	21 05 39.6	-1.2
CNP				*e*S	Sn	21 05 57.6	+0.4
GQP	**Guinayangan**	**1.36**	**294**	*e*P	Pn	21 05 41.6	-1.0
GQP				*e*S	Sn	21 06 00.4	0.0
BOAC	**Boac**	**1.84**	**274**	*e*P	Pn	21 05 49.0	-0.1
BOAC				*e*S	Sb	21 06 13.8	-0.4
RCP	**Roxas**	**2.02**	**208**	*e*P	Pn	21 05 49.3	-2.4
RCP				*e*S	Sn	21 06 11.7	-5.0
LQP	**Lukban**	**2.26**	**290**	*e*P	Pg	21 06 04.8	+3.2

*IDC **06** 21:05:44.4±2.1, 57°48S×147°03E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.9/19, mbtmp3.9/4, MS3.7/7, Ms1 3.7/7, ms1mx3.6/16, Error ellipse: s-maj=182.0km s-min=24.2km az=80.0*

*NEIC **06** 21:05:45.6±1.3, 57°4S±0°1×147°3E±0°2, h10km±5km, mb4.3/13, Error ellipse: s-maj=20.8km s-min=14.8km az=131.0*

ISC 06 21:05:45.4±0.9, 57°4S±0°1×147°4E±0°1, h10km, n35, σ0s79/21, mb4.1/7, MS3.6/7, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAU	**Tasmania Unive**	**14.55**	**360**	Pn	**Pn**	**21 09 12.3**	**+1.1**
MLZ	**Mavora Lakes**	**17.63**	**56**	Pn	**Pn**	**21 09 50.3**	**-0.6**
WKZ	**Wanaka**	**18.45**	**56**	P	**Pn**	**21 10 01.7**	**+0.7**
WKZ				IAmb	IAmb	21 10 20.7	
	comp=Z,23nm,1.2s						
FOZ	**Fox Glacier**	**19.82**	**55**	P	**Pn**	**21 10 17.6**	**+0.2**
FOZ				IAmb	IAmb	21 10 23.1	
	comp=Z,28nm,1.2s						
TOO	**Toolangi**	**19.92**	**356**	P	**P**	**21 10 17.2**	**+0.1**
TOO				IAmb	IAmb	21 10 25.9	
	comp=Z,13nm,1.1s						
RPZ	**Rata Peaks**	**20.23**	**57**	LR	LR	21 16 59.6	
	comp=Z,214nm,19.0s,baz=214,slow=33						
VNDA	**Vanda**	**20.78**	**171**	P	**P**	**21 10 26.5**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=340,slow=11,SNR=9.1						
VNDA				LR	LR	21 16 60.0	
	comp=Z,140nm,20.7s,baz=343,slow=32						
VNDA	**Vanda**	**20.78**	**171**	P	**P**	**21 10 26.8**	**+0.8**
CAN	**Canberra**	**22.16**	**4**	P	**P**	**21 10 40.3**	**-0.9**
CAN				IAmb	IAmb	21 10 49.9	
	comp=Z,2.7nm,0.8s						
THZ	**Tophouse**	**22.61**	**57**	P	**P**	**21 10 46.3**	**+0.2**
THZ				IAmb	IAmb	21 10 52.3	
	comp=Z,20nm,1.2s						
PLWZ	**Palliser**	**23.85**	**60**	P	**P**	**21 10 59.3**	**+0.8**
BFZ	**Birch Farm**	**25.01**	**60**	P	**P**	**21 11 07.6**	**-1.6**
BBOO	**Buckleboo**	**25.82**	**338**	P	**P**	**21 11 16.7**	**+0.1**
BBOO				IAmb	IAmb	21 11 21.3	
	comp=Z,9.4nm,0.9s						
STKA	**Stephens Creek**	**25.87**	**349**	P	**P**	**21 11 17.5**	**+0.5**
	comp=Z,2.4nm,0.6s,baz=160,slow=8.8,SNR=9.8						
STKA	**Stephens Creek**	**25.87**	**349**	P	**P**	**21 11 17.6**	**+0.5**
OUZ	**Omahuta**	**28.35**	**50**	P	**P**	**21 11 38.1**	**-1.2**
OUZ				IAmb	IAmb	21 11 49.4	
	comp=Z,16nm,1.2s						
FORT	**Forrest**	**29.82**	**325**	P	**P**	**21 11 51.2**	**-1.2**
H01W1	**Cape Leeuwin H**	**31.69**	**301**	T	T	21 45 44.0	
	baz=145,slow=76,SNR=107						
H01W2	**Cape Leeuwin H**	**31.69**	**301**	T	T	21 45 47.8	
	baz=145,slow=76,SNR=84						
H01W3	**Cape Leeuwin H**	**31.70**	**301**	T	T	21 45 49.1	
	baz=145,slow=76,SNR=67						
NWAO	**Narrogin (SRO)**	**31.96**	**307**	LR	LR	21 22 37.6	
	comp=Z,121nm,18.8s,baz=139,slow=32						
ASAR	**Alice Springs**	**35.12**	**338**	P	**P**	**21 12 39.4**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=168,slow=11,SNR=12						
ASAR				LR		21 24 26.1	
	comp=Z,113nm,21.1s,baz=204,slow=32						
MAW	**Mawson**	**37.16**	**219**	LR	LR	21 27 08.9	
	comp=Z,274nm,20.8s,baz=66,slow=35						
WRA	**Warramunga Arr**	**38.66**	**340**	P	**P**	**21 13 09.2**	**+0.2**
	comp=Z,3.6nm,0.9s,baz=166,slow=7.4,SNR=8.2						
H08S2	**Diego Garcia H**	**75.45**	**279**	T	T	22 40 37.0	
	baz=147,slow=76,SNR=65						
H08S1	**Diego Carcia H**	**75.47**	**279**	T	T	22 40 32.9	
	baz=147,slow=76,SNR=53						
H08S3	**Diego Garcia H**	**75.47**	**279**	T	T	22 40 43.3	
	baz=147,slow=76,SNR=65						
PLCA	**Paso Flores**	**77.14**	**151**	LR	LR	21 45 24.4	
	comp=Z,32nm,19.7s,baz=154,slow=31						
H03S2	**Juan Fernandez**	**81.07**	**142**	T	T	22 48 01.8	
	baz=201,slow=74,SNR=3.6						
H03S1	**Juan Fernandez**	**81.07**	**143**	T	T	22 47 53.3	
	baz=201,slow=74,SNR=4.0						
H03S3	**Juan Fernandez**	**81.09**	**142**	T	T	22 47 54.5	
	baz=201,slow=74,SNR=3.2						
BOSA	**Boshof**	**81.48**	**229**	LR	LR	21 48 13.0	
	comp=Z,56nm,18.6s,baz=146,slow=31						
HKPS	**Hong Kong Po S**	**84.15**	**329**	P	**P**	**21 18 15.5**	**-0.8**
FINES	**FINESS Array B**	**150.77**	**303**	PKPbc	**PKPbc**	**21 25 36.5**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=72,slow=6.2,SNR=5.7						
GERES	**GERESS Array B**	**151.41**	**273**	PKPbc	**PKPbc**	**21 25 38.2**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=188,slow=2.7,SNR=4.2						

*IDC **06** 21:17:18.1±2.2, 57°60S×147°05E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.7/14, mbtmp3.7/4, MS3.6/5, Ms1 3.6/5, ms1mx3.3/22, Error ellipse: s-maj=202.1km s-min=25.7km az=79.0*

*NEIC **06** 21:17:20.0±2.2, 57°5S±0°1×147°2E±0°3, h11km±5km, mb4.2/13, Error ellipse: s-maj=21.1km s-min=16.2km az=123.0*

ISC 06 21:17:19.7±0.7, 57°49S±0°09×147°2E±0°1, h10km, n30, σ0s87/20, mb4.2/7, MS3.6/5, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLZ	**Mavora Lakes**	**17.71**	**56**	Pn	**Pn**	**21 21 25.7**	**-0.6**
WKZ	**Wanaka**	**18.53**	**56**	P	**P**	**21 21 34.6**	**-1.6**
CASY	**Casey**	**19.11**	**228**		**P**	**21 21 42.3**	**0.0**
ODZ	**Otahua Downs**	**19.11**	**59**	P	**Pn**	**21 21 43.6**	**+0.3**
ODZ				IAmb	IAmb	21 21 57.0	
	comp=Z,6.7nm,1.0s						
FOZ	**Fox Glacier**	**19.90**	**55**	P	**P**	**21 21 50.8**	**-0.3**
TOO	**Toolangi**	**19.97**	**356**	P	**P**	**21 21 50.8**	**-1.1**
TOO				IAmb	IAmb	21 21 59.4	
	comp=Z,7.2nm,0.9s						
RPZ	**Rata Peaks**	**20.32**	**58**	LR	LR	21 27 58.8	
	comp=Z,137nm,19.7s,baz=222,slow=31						
RPZ	**Rata Peaks**	**20.32**	**58**	P	**P**	**21 21 55.8**	**+0.1**
RPZ				IAmb	IAmb	21 22 03.3	
	comp=Z,9.5nm,1.0s						
VNDA	**Vanda**	**20.74**	**171**	P	**P**	**21 21 58.7**	**-1.3**
	comp=Z,3.7nm,1.0s,baz=343,slow=12,SNR=12						
VNDA				LR	LR	21 29 07.8	
	comp=Z,146nm,18.7s,baz=342,slow=34						
VNDA	**Vanda**	**20.74**	**171**	P	**P**	**21 22 00.7**	**+0.7**
QRZ	**Quartz Range**	**23.28**	**55**	P	**P**	**21 22 28.7**	**+1.4**
QRZ				IAmb	IAmb	21 22 31.2	
	comp=Z,17nm,1.1s						
BBOO	**Buckleboo**	**25.84**	**338**	P	**P**	**21 22 51.8**	**+0.7**
BBOO				IAmb	IAmb	21 22 59.8	
	comp=Z,5.3nm,1.0s						
STKA	**Stephens Creek**	**25.91**	**349**	P	**P**	**21 22 52.4**	**+0.7**
	comp=Z,1.2nm,0.9s,baz=191,slow=10,SNR=1.8						
H01W1	**Cape Leeuwin H**	**31.65**	**301**	T	T	21 57 27.0	
	baz=145,slow=75,SNR=29						
H01W2	**Cape Leeuwin H**	**31.66**	**301**	T	T	21 57 19.6	
	baz=145,slow=75,SNR=23						
H01W3	**Cape Leeuwin H**	**31.67**	**301**	T	T	21 57 22.9	
	baz=145,slow=75,SNR=20						
NWAO	**Narrogin (SRO)**	**31.93**	**307**	P	**P**	**21 23 44.5**	**-0.8**
NWAO				IAmb	IAmb	21 23 59.5	
	comp=Z,6.6nm,0.9s						
NWAO	**Narrogin (SRO)**	**31.93**	**307**	P	**P**	**21 23 45.1**	**-0.2**
NWAO				IAmb	IAmb	21 23 54.5	
	comp=Z,13nm,0.9s						
EIDS	**Eidsvold**	**32.22**	**7**	P	**P**	**21 23 48.6**	**+0.7**
QSPA	**South Pole Qui**	**32.61**	**180**	P	**P**	**21 23 51.8**	**+0.6**
QSPA				IAmb	IAmb	21 24 00.3	
	comp=Z,3.3nm,1.1s						
ASAR	**Alice Springs**	**35.14**	**338**	P	**P**	**21 24 14.1**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=165,slow=9.1,SNR=1.8						
MAW	**Mawson**	**37.08**	**219**	LR	LR	21 38 41.9	
	comp=Z,129nm,20.8s,baz=64,slow=35						
DZM	**Mont Dzumac**	**38.06**	**30**	LR	LR	21 36 09.8	
	comp=Z,109nm,21.2s,baz=199,slow=30						
WRA	**Warramunga Arr**	**38.69**	**340**	P	**P**	**21 24 43.5**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=169,slow=7.3,SNR=3.1						
HNR	**Honiara**	**48.95**	**17**	LR	LR	21 43 18.6	
	comp=Z,67nm,18.5s,baz=204,slow=32						
H08S2	**Diego Garcia H**	**75.39**	**279**	T	T	22 52 04.0	
	baz=147,slow=76,SNR=18						
H08S1	**Diego Carcia H**	**75.41**	**279**	T	T	22 52 08.0	
	baz=147,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**75.42**	**279**	T	T	22 52 14.5	
	baz=147,slow=76,SNR=20						
FINES	**FINESS Array B**	**150.74**	**303**	PKPbc	**PKiKP**	**21 37 11.3**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=3.4,slow=9.5,SNR=4.0						
GERES	**GERESS Array B**	**151.35**	**273**	PKPbc	**PKPbc**	**21 37 11.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=116,slow=2.3,SNR=1.6						

PRU 06 21:35:19.4±0.0, 50°29N×18°83E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.63**	**96**	*e*Pg	Pg	21 35 30.8	-0.6
OJC				*e*Sg	Sg	21 35 39.2	-0.3
OKC	**Ostrava-Krasne**	**0.63**	**224**	*e*PG	Pg	21 35 31.2	-0.3
OKC				*e*SG	Sg	21 35 38.6	-1.0
MORC	**Moravsky Berou**	**0.98**	**239**	*e*PG	Pg	21 35 37.8	-0.3
MORC				*e*SG	Sg	21 35 51.4	+0.7
LANS	**Liptovska Anna**	**1.21**	**160**	*e*PG	Pg	21 35 42.0	-0.6
LANS				*e*SG	Sg	21 35 57.9	-0.4
LANS				*e*LG	Lg	21 36 00.8	
NIE	**Niedzica**	**1.29**	**132**	*e*Pg	Pg	21 35 43.1	-1.0
NIE				*e*Sg	Sb	21 36 01.4	-0.3
KRLC	**Kraliky**	**1.33**	**262**	*e*PG	Pg	21 35 43.4	-1.6
KRLC				*e*SG	Sg	21 36 02.2	0.0
	comp=Z,2.0nm,0.5s						
DPC	**Dobruska-Polom**	**1.61**	**273**	*e*PG	Pn	21 35 49.4	+0.3
DPC				*e*SG	Sb	21 36 10.8	-0.1
	comp=Z,2.3nm,0.4s						
VYHS	**Vyhne**	**1.80**	**180**	*e*PN	Pn	21 35 51.1	-0.6
CHVC	**Chvalec**	**1.80**	**281**	*e*PG	Pn	21 35 52.4	+0.7
CHVC				*e*SG	Sg	21 36 16.8	-0.4
KHC	**Kasperske Hory**	**3.60**	**253**	*e*SG	Sg	21 37 13.7	-1.3

*NEIC **06** 21:37:36.7±2.0, 34°63S±0°10×179°7W±0°1, h3km±5km, mb4.5/10, Error ellipse: s-maj=17.2km s-min=14.0km az=95.0*

*IDC **06** 21:37:36.2±1.7, 34°43S×179°47W, h0km, mb4.4/4, mb1 4.5/5, mb1mx4.0/38, mbtmp4.4/5, ML3.8/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/20, Error ellipse: s-maj=47.5km s-min=28.9km az=52.0*

*WEL **06** 21:37:47.2±0.9, 35°S±4°×18°0E±°, h33km, M4.4/14, ML4.7/14, MLv4.4/14*

ISC 06 21:37:42.5±0.8, 34°92S±0°06×179°61W±0°10, h43km, n96, σ1s81/95, mb4.6/8, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.13**	**212**	P	**Pn**	**21 38 29.2**	**-0.1**
MXZ				S	**Sn**	**21 38 57.7**	**-7.7**
MXZ	**Matakaoa Point**	**3.13**	**212**		**Pn**	**21 38 30.1**	**+0.8**
WMGZ	**Waiomatatini S**	**3.31**	**208**	P	**Pn**	**21 38 32.3**	**+0.6**
WMGZ				S	**Sn**	**21 39 08.4**	**-1.3**
PKGZ	**Pakihiroa**	**3.50**	**212**	P	**Pn**	**21 38 34.0**	**-0.4**
PKGZ				S	**Sn**	**21 39 13.4**	**-1.3**
HAZ	**Te Kaha**	**3.53**	**216**	P	**Pn**	**21 38 34.0**	**-0.7**
PUZ	**Puketiti**	**3.59**	**208**	P	**Pn**	**21 38 35.5**	**0.0**
PUZ				S	**Sn**	**21 39 15.3**	**-1.4**
RUGZ	**Raukumara Rang**	**3.75**	**215**	P	**Pn**	**21 38 37.8**	**-0.1**
TWGZ	**Tauwhareparae**	**3.79**	**210**	P	**Pn**	**21 38 38.3**	**-0.1**
TWGZ				S	**Sn**	**21 39 17.3**	**-4.4**
CNGZ	**Carnagh Statio**	**3.97**	**206**	P	**Pn**	**21 38 40.7**	**-0.1**
WHRZ	**Whale Island**	**4.02**	**222**	P	**Pn**	**21 38 42.9**	**+1.3**
TKGZ	**Te Karaka**	**4.07**	**209**	P	**Pn**	**21 38 42.5**	**+0.4**
MWZ	**Matawai**	**4.11**	**213**	P	**Pn**	**21 38 41.9**	**-0.9**
KUZ	**Kuautunu**	**4.21**	**243**	P	**Pn**	**21 38 43.7**	**-0.4**
URZ	**Urewera**	**4.25**	**217**	P	**Pn**	**21 38 43.9**	**-0.8**
OPRZ	**Ohinepanea**	**4.25**	**226**	P	**Pn**	**21 38 46.7**	**+2.0**
MARZ	**Manawahe**	**4.28**	**223**	P	**Pn**	**21 38 45.2**	**+0.1**
RAGZ	**Rawiri**	**4.30**	**213**	P	**Pn**	**21 38 44.9**	**-0.5**
RIGZ	**Rimuhau**	**4.33**	**208**	P	**Pn**	**21 38 45.0**	**-0.7**
EDRZ	**Edgecumbe**	**4.33**	**222**	P	**Pn**	**21 38 48.2**	**+2.3**
PRGZ	**Paritu Road**	**4.47**	**206**	P	**Pn**	**21 38 47.0**	**-0.8**
MKRZ	**Makatiti**	**4.51**	**223**	P	**Pn**	**21 38 51.7**	**+3.4**
OMRZ	**Omania**	**4.54**	**224**	P	**Pn**	**21 38 51.1**	**+2.4**
KARZ	**Kaharoa**	**4.56**	**226**	P	**Pn**	**21 38 49.5**	**+0.6**
SNGZ	**Shannon Statio**	**4.57**	**212**	P	**Pn**	**21 38 49.1**	**0.0**
MUGZ	**Murupara**	**4.59**	**218**	P	**Pn**	**21 38 48.7**	**-0.6**
RTZ	**Ruatahuna**	**4.59**	**216**	P	**Pn**	**21 38 48.8**	**-0.7**
KNZ	**Kokohu**	**4.64**	**207**	P	**Pn**	**21 38 48.4**	**-1.6**
MHGZ	**Mahia Peninsul**	**4.67**	**204**	P	**Pn**	**21 38 49.1**	**-1.3**
RAHZ	**Arahi**	**4.79**	**213**	P	**Pn**	**21 38 51.1**	**-1.0**
MTHZ	**Maungataniwha**	**4.85**	**215**	P	**Pn**	**21 38 52.8**	**-0.2**
WHHZ	**Waihua**	**4.86**	**210**	P	**Pn**	**21 38 53.4**	**+0.4**
WCZ	**Waipu Caves**	**5.04**	**257**	P	**Pn**	**21 38 56.1**	**+0.6**
MRHZ	**Matea Rd**	**5.04**	**218**	P	**Pn**	**21 38 55.4**	**-0.2**
NMHZ	**Naumai**	**5.06**	**213**	P	**Pn**	**21 38 56.4**	**+0.5**
ARHZ	**Aropaoanui**	**5.12**	**211**	P	**Pn**	**21 38 56.1**	**-0.5**
TLZ	**Tolley Road**	**5.18**	**227**	P	**Pn**	**21 38 57.4**	**0.0**
HATZ	**Hinemaiaia**	**5.25**	**220**	P	Pn	21 39 04.8	+6.4
BKZ	**Black Stump Fm**	**5.26**	**215**	P	**Pn**	**21 38 58.1**	**-0.5**
BKZ	**Black Stump Fm**	**5.26**	**215**	Pn	**Pn**	**21 38 57.3**	**-1.3**
MCHZ	**McNeill Hill**	**5.39**	**212**	P	**Pn**	**21 38 59.5**	**-0.9**
CKHZ	**Cape Kidnapper**	**5.42**	**208**	P	**Pn**	**21 38 58.6**	**-2.1**
RITZ	**Rihia Road**	**5.44**	**221**	P	**Pn**	**21 39 01.8**	**+0.8**
KWHZ	**Kaweka Forest**	**5.50**	**214**	P	**Pn**	**21 39 00.8**	**-1.1**
OUZ	**Omahuta**	**5.58**	**265**	P	**Pn**	**21 39 01.9**	**-1.0**
OUZ	**Omahuta**	**5.58**	**265**

Plg11.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

IDC **06** *21:42:33.0±1.5, 1°.98N×128°.48E, h74km±13km, mb4.8/33, mb1 4.9/38, mb1mx4.8/45, mbtmp5.2/38, MS3.8/31, Ms1 3.8/31, ms1mx3.8/34 Error ellipse: s-maj=13.5km s-min=7.7km az=83.0*

DJA **06** *21:42:32.6±0.2, 2°.N±2°×12°.9E±°, h63km±2km, M5.2/88, mB5.6/42, mb5.4/88, MLv5.4/19, Mw(mB)5.1/42*

NEIC **06** *21:42:32.4±1.3, 1°.96N±0°.08×128°.49E±0°.07, h70km±5km, mb5.3/205, Error ellipse: s-maj=11.4km s-min=10.5km az=219.0*

UNK **06** *21:42:32.4, 1°.96N×128°.49E, h70km*

ISC 06 21:42:32.1±0.4, 1°.99N±0°.03×128°.54E±0°.04, h66km±3km, h66km:pP-P, n602, σ1$35/592, mb5.2/199, 53C-12D, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.69**	**224**	P		**Pn**	**21 42 58.4**	**-1.0**
TNTI				S		**Sn**	**21 43 22.0**	**+1.9**
TNTI	**Ternate**	**1.69**	**224**	Pn		**Pn**	**21 42 59.0**	**-0.5**
SIJI	**Sorong**	**3.94**	**136**	P		**Pn**	**21 43 30.0**	**-0.1**
	167nm,0.3s,baz=330,slow=7.9,SNR=303							
SIJI				S		**Sn**	**21 44 12.1**	**-2.9**
	118nm,0.3s,baz=170,slow=22,SNR=21							
SIJI				LR		LR	21 45 12.7	
	comp=Z,3μm,22.0s,baz=336,slow=40							
SANI	**Sanana**	**4.75**	**212**	P		**Pn**	**21 43 40.2**	**-1.1**
KMSI	**Cibinong**	**4.77**	**253**	P		**Pn**	**21 43 42.7**	**+1.2**
KMSI				S		**Sn**	**21 44 36.8**	**+1.3**
MSAI	**Masohi**	**5.32**	**176**	P		**Pn**	**21 43 50.8**	**+1.8**
	0.8nm2μm222nm,0.6s							
MSAI				S		**Sn**	**21 44 50.2**	**+1.3**
	0.8nm2μm222nm,0.6s							
NLAI	**Namlea**	**5.39**	**196**	P		**Pn**	**21 43 49.9**	**-0.1**
	3.8nm10μm938nm,0.6s							
GSPH	**General Santos**	**5.42**	**319**	*i*P		**Pn**	**21 43 51.2**	**+0.7**
AAI	**Ambon**	**5.65**	**184**	P		**Pn**	**21 43 54.6**	**+1.1**
	2.0nm5μm464nm,0.5s							
DAV	**Davao City (W)**	**5.85**	**330**	P		**Pn**	**21 43 57.3**	**+1.1**
	41nm,0.3s,baz=63,slow=3.5,SNR=8.3							
DAV				LR		LR	21 45 40.9	
	comp=Z,893nm,20.8s,baz=182,slow=32							
DMPH	**Davao City--Mi**	**5.89**	**329**	*e*P		**Pn**	**21 44 00.8**	**+4.0**
DMPH				*e*S		**Sn**	**21 44 57.6**	**-5.5**
KCP	**Kidapawan**	**6.06**	**326**	*i*P		**Pn**	**21 44 02.4**	**+3.2**
KCP				*i*S		**Sn**	**21 45 12.1**	**+4.9**
FAKI	**Fak Fak**	**6.13**	**143**	P		**Pn**	**21 44 00.4**	**+0.3**
	2.1nm5μm372nm,0.8s							
FAKI	**Fak Fak**	**6.13**	**143**	Pn		**Pn**	**21 43 59.9**	**-0.1**
LUWI	**Luwuk**	**6.51**	**242**	P		**Pn**	**21 44 06.6**	**+1.3**
	7.2nm5μm602nm,0.7s							
LUWI	**Luwuk**	**6.51**	**242**	Pn		**Pn**	**21 44 05.3**	**0.0**
BNDI	**Bandanaira**	**6.61**	**168**	P		**Pn**	**21 44 07.3**	**+0.6**
	3.0nm421nm,1.3s							
RKPI	**Ransiki, Papua**	**6.62**	**122**	P		**Pn**	**21 44 08.8**	**+1.9**
	4.2nm10μm505nm,0.6s							
CTBH	**Cotabato--PC H**	**6.73**	**321**	*i*P		**Pn**	**21 44 09.6**	**+1.2**
MRSI	**Marisa**	**6.77**	**257**	P		**Pn**	**21 44 09.8**	**+1.0**
	4.0nm13μm1μm,0.8s							
APSI	**Ampana**	**7.47**	**247**	P		**Pn**	**21 44 19.4**	**+1.0**
	3μm2.3nm425nm,0.8s							
CGP	**Cagayan de Oro**	**7.48**	**329**	*e*P		Pn	21 44 25.2	+6.6
CGP				*e*S		**Sn**	**21 45 47.0**	**+5.0**
ZCP	**Zamboanga City**	**8.10**	**308**	*e*P		**Pn**	**21 44 28.3**	**+1.2**
ZCP				*e*S		**Sn**	**21 45 49.0**	**-8.2**
SRPI	**Serui, Papua**	**8.60**	**116**	P		Pn	21 44 39.6	+5.7
MPSI	**Mapaga**	**8.79**	**259**	P		**Pn**	**21 44 38.7**	**+2.1**
	0.7nm2μm157nm,0.9s							
BBSI	**Bau Bau**	**9.53**	**219**	P		**Pn**	**21 44 49.2**	**+2.6**
	610nm84nm,0.9s							
TTSI	**Tana Toraja**	**10.05**	**240**	P		**Pn**	**21 44 53.5**	**-0.3**
	4μm411nm,0.9s							
SAUI	**Saumlaki**	**10.28**	**165**	Pn		**Pn**	**21 44 55.0**	**-1.9**
BNSI	**Bone**	**10.55**	**233**	P		**Pn**	**21 45 01.5**	**+0.9**
	4μm535nm,0.9s							
SPSI	**Sidrap Palu**	**10.57**	**236**	P		**Pn**	**21 45 01.5**	**+0.6**
	5μm537nm,0.7s							
JAP	**San Jose, Anti**	**10.89**	**323**	*e*P		**Pn**	**21 45 07.3**	**+2.1**
SMPI	**Sarmi**	**10.91**	**111**	P		**Pn**	**21 45 07.8**	**+2.3**
	3μm59nm,0.9s							
RCP	**Roxas**	**11.11**	**329**	*e*P		**Pn**	**21 45 09.3**	**+1.0**
BKSI	**Bulukumba**	**11.11**	**229**	P		**Pn**	**21 45 09.9**	**+1.6**
	6μm722nm,0.7s							
KAPI	**Kappang**	**11.20**	**232**	P		**Pn**	**21 45 10.3**	**+0.8**
	58nm,0.3s,baz=81,slow=5.8,SNR=117							
KAPI				S		**Sn**	**21 47 11.2**	**-1.9**
	baz=229,slow=22,SNR=7.2							
KAPI				LR		LR	21 49 54.6	
	comp=Z,444nm,21.1s,baz=44,slow=40							
KAPI	**Kappang**	**11.20**	**232**	P		**Pn**	**21 45 10.7**	**+1.2**
KAPI	**Kappang**	**11.20**	**232**	Pn		**Pn**	**21 45 10.5**	**+1.0**
SMKI	**Samarinda**	**11.59**	**258**	P		**Pn**	**21 45 17.0**	**+2.2**
BKB	**Balikpapan**	**12.08**	**255**	Pn		**Pn**	**21 45 18.2**	**-3.3**
MMRI	**Maumere**	**12.28**	**211**	P		P	21 45 40.3	+6.1
MMRI	**Maumere**	**12.28**	**211**	Pn		**Pn**	**21 45 22.8**	**-1.5**
SPMM	**Sapulut**	**12.35**	**283**	P		**Pn**	**21 45 28.0**	**+2.7**
SOEI	**Soe**	**12.42**	**200**	P		**P**	**21 45 35.0**	**-0.9**
SOEI	**Soe**	**12.42**	**200**	Pn		**Pn**	**21 45 24.4**	**-1.9**
GENI	**Genyem**	**12.48**	**111**	P		**P**	**21 45 37.9**	**+1.4**
EDFI	**Ende, Flores**	**12.67**	**213**	P		**Pn**	**21 45 30.1**	**+0.5**
	809nm93nm,0.8s							
KKM	**Kota Kinabalu**	**12.94**	**288**	Pn		**Pn**	**21 45 33.1**	**-0.2**
JAY	**Jayapura**	**12.96**	**110**	P		**P**	**21 45 38.1**	**-3.6**
	0.5nm,0.3s,baz=296,slow=5.1,SNR=3.5							
JAY				LR		LR	21 49 44.9	
	comp=Z,706nm,21.9s,baz=338,slow=33							
JAY	**Jayapura**	**12.96**	**110**	P		**P**	**21 45 46.2**	**+4.4**
BATI	**Baumata**	**13.05**	**202**	P		**Pn**	**21 45 36.5**	**+1.7**
	9.8nm,0.3s,baz=123,slow=0.8,SNR=20							
BATI	**Baumata**	**13.05**	**202**	P		**Pn**	**21 45 37.4**	**+2.6**
	179nm,1.3s							
KBKI	**Kotabaru**	**13.44**	**247**	P		**Pn**	**21 45 41.7**	**+1.8**
	669nm93nm,0.8s							
TGY	**Tagaytay City**	**14.19**	**328**	P		**Pn**	**21 45 50.2**	**+0.3**
	46nm,0.3s,baz=148,slow=3.0,SNR=14							
WBSI	**Waikabubak, Su**	**14.72**	**218**	P		**Pn**	**21 45 58.5**	**+1.7**
	2μm208nm,0.7s							
MTN	**Manton Dam**	**14.96**	**170**	P		**Pn**	**21 45 58.4**	**-1.5**
	baz=15,SNR=52							
MTN	**Manton Dam**	**14.96**	**170**	Pn		**Pn**	**21 45 58.8**	**-1.2**
PLAI	**Plampang**	**15.19**	**225**	P		**P**	**21 46 04.8**	**-1.7**
	2μm124nm,0.8s							
SBUM	**Sibu**	**16.32**	**272**	P		**Pn**	**21 46 17.4**	**+0.2**
SBUM	**Sibu**	**16.32**	**272**	P		**P**	**21 46 19.0**	**-0.1**
KMMI	**Kalianget**	**17.09**	**238**	P		**P**	**21 46 34.1**	**+6.4**
KNRA	**Kununurra**	**17.55**	**179**	P		**Pn**	**21 46 30.8**	**-1.6**
	baz=18,SNR=61							
KNRA	**Kununurra**	**17.55**	**179**	IAmb		IAmb	21 46 34.7	
	comp=Z,184nm,0.7s							
KNRA	**Kununurra**	**17.55**	**179**			**Pn**	**21 46 30.9**	**-1.6**
KNRA				IAmb		IAmb	21 46 34.7	
	comp=Z,184nm,0.7s							
KNRA	**Kununurra**	**17.55**	**179**			**Pn**	**21 46 30.9**	**-1.6**
JAGI	**Jajag, Banyuwa**	**17.71**	**234**	P		**P**	**21 46 36.0**	**+1.5**
	comp=Z,104nm,1.0s							
JAGI	**Jajag, Banyuwa**	**17.71**	**234**			**Pn**	**21 46 34.3**	**-0.2**
KSM	**Kuching**	**18.23**	**269**	P		**P**	**21 46 39.6**	**-0.7**
KSM				IAmb		IAmb	21 46 43.9	
	comp=Z,138nm,0.9s							
KSM	**Kuching**	**18.23**	**269**	P		**Pn**	**21 46 41.0**	**+0.2**
WOJI	**Wonogiri, Jawa**	**20.10**	**241**	P		**P**	**21 47 01.6**	**+0.9**
	comp=Z,76nm,1.0s							
FITZ	**Fitzroy Crossi**	**20.16**	**188**	P		**P**	**21 47 00.7**	**-0.5**
	baz=20,SNR=59							
FITZ	**Fitzroy Crossi**	**20.16**	**188**	P		**P**	**21 47 00.8**	**-0.5**
	comp=Z,48nm,0.6s,baz=10,slow=8.8,SNR=49							
FITZ	**Fitzroy Crossi**	**20.16**	**188**	P		**P**	**21 47 00.8**	**-0.5**
SMRI	**Semarang**	**20.17**	**243**	P		Pn	21 47 03.9	0.0
	comp=Z,340nm,0.9s							
SMRI	**Semarang**	**20.17**	**243**	P		**P**	**21 47 01.9**	**+0.5**
UGM	**Wanagama**	**20.49**	**241**	P		**P**	**21 47 05.7**	**+0.8**
	comp=Z,254nm,1.0s							
UGM	**Wanagama**	**20.49**	**241**	P		**P**	**21 47 04.7**	**-0.2**
UGM				IAmb		IAmb	21 47 12.2	
	comp=Z,184nm,1.1s							
TPI	**Tanjungpandan**	**21.41**	**257**	P		**P**	**21 47 14.9**	**+0.2**
	comp=Z,75nm,0.9s							
COEN	**Coen**	**21.48**	**138**	P		**P**	**21 47 17.5**	**+2.0**
	baz=22,SNR=5.7							
COEN	**Coen**	**21.48**	**138**	P		**P**	**21 47 16.9**	**+1.4**
PMG	**Port Moresby**	**21.73**	**122**	*i*P		**P**	**21 47 19.0**	**+0.8**
PMG				pmax		pmax		
	comp=Z,88nm,1.0s							
TWG	**Pinlang**	**21.94**	**341**	P		**P**	**21 47 19.6**	**-0.8**
DLV	**T Lat**	**22.20**	**297**	P		**P**	**21 47 24.6**	**+1.1**
WB0	**Warramunga Arr**	**22.37**	**165**	IAmb		IAmb	21 47 30.8	
	comp=Z,103nm,0.8s							
WRAB	**Tennant Creek**	**22.52**	**166**	*i*P		**P**		
WRAB				pmax		pmax		
	comp=Z,70nm,0.8s							
WRAB	**Tennant Creek**	**22.52**	**166**	P		**P**	**21 47 27.2**	**+0.5**
WRAB				IAmb		IAmb	21 47 32.7	
	comp=Z,168nm,1.1s							
WRA	**Warramunga Arr**	**22.53**	**166**	P		**P**	**21 47 26.2**	**-0.5**
	comp=Z,62nm,0.7s,baz=342,slow=10,SNR=80							
WRA				S		**S**	**21 51 34.0**	**+4.6**
	comp=Z,6.2nm,0.8s,baz=325,slow=18,SNR=5.1							
WRA				LR		LR	21 57 16.9	
	comp=Z,353nm,21.4s,baz=340,slow=39							
TPUB	**Ta-pu**	**22.53**	**341**	P		**P**	**21 47 25.2**	**-1.6**
TPUB				IAmb		IAmb	21 47 28.1	
	comp=Z,86nm,0.6s							
WB2	**Warramunga Arr**	**22.53**	**166**	IAmb		IAmb	21 47 32.8	
	comp=Z,132nm,1.0s							
WR0	**Warramunga Arr**	**22.59**	**165**	IAmb		IAmb	21 47 45.5	
	comp=Z,109nm,1.1s							
LEM	**Lembang**	**22.65**	**247**	P		**P**	**21 47 27.9**	**-0.4**
	comp=Z,66nm,0.7s,baz=76,slow=6.9,SNR=15							
LEM	**Lembang**	**22.65**	**247**	P		**P**	**21 47 29.4**	**+1.2**
	comp=Z,44nm,1.0s							
CISI	**Cisompet, Garu**	**22.75**	**245**	P		**P**	**21 47 27.9**	**-1.3**
	comp=Z,141nm,0.9s							
CISI	**Cisompet, Garu**	**22.75**	**245**	P		**P**	**21 47 28.3**	**-0.9**
CISI				IAmb		IAmb	21 47 34.2	
	comp=Z,108nm,0.9s							
SSLB	**Suanglung**	**22.88**	**342**	P		**P**	**21 47 28.7**	**-1.7**
YOJ	**Yonaguni jima**	**22.97**	**347**	IAmb		IAmb	21 47 31.5	
	comp=Z,62nm,0.7s							
NACB	**Ninganchiao**	**23.05**	**344**	P		**P**	**21 47 32.2**	**+0.1**
CNJI	**Cibinong**	**23.28**	**246**	P		**P**	**21 47 33.9**	**-0.4**
	comp=Z,175nm,0.8s							
DBJI	**Dramaga**	**23.35**	**249**	P		**P**	**21 47 36.1**	**+1.0**
	comp=Z,4μmcomp=Z,55nm,0.8s							
YHNB	**Yeheng**	**23.59**	**344**	IAmb		IAmb	21 47 53.8	
	comp=Z,95nm,0.9s							
TATO	**Taipei**	**23.84**	**344**	P		**P**	**21 47 38.8**	**-0.6**
TATO				IAmb		IAmb	21 47 55.7	
	comp=Z,192nm,1.4s							
BLSI	**Bandar Lampung**	**24.39**	**252**	P		**P**	**21 47 46.1**	**+1.6**
	comp=Z,157nm,0.7s							
RABL	**Rabaul**	**24.39**	**105**	P		**P**	**21 47 44.4**	**-0.2**
RABL				IAmb		IAmb	21 47 59.6	
	comp=Z,90nm,0.6s							
KNMB	**Chin-men Tao**	**24.40**	**337**	P		**P**	**21 47 43.3**	**-1.1**
KNMB				IAmb		IAmb	21 47 52.6	
	comp=Z,74nm,0.8s							
HKPS	**Hong Kong Po S**	**24.55**	**326**	IAmb		IAmb	21 47 49.0	
	comp=Z,104nm,0.8s							
MBWA	**Marble Bar**	**24.57**	**200**	P		**P**	**21 47 45.7**	**-0.3**
MYKOM	**Kota Tinggi**	**24.68**	**270**	IAmb		IAmb	21 47 49.8	
	comp=Z,128nm,0.9s							
MYKOM	**Kota Tinggi**	**24.68**	**270**	P		**P**	**21 47 48.0**	**+0.9**
JOW	**Kunigami**	**24.70**	**359**	P		**P**	**21 47 48.0**	**+0.9**
	comp=Z,3.4nm,0.8s,baz=147,slow=15,SNR=8.6							
JOW	**Kunigami**	**24.70**	**359**	P		**P**	**21 47 47.7**	**+0.5**
QZH	**Quanzhou**	**24.76**	**338**	*i*P		**P**	**21 47 48.0**	**+0.3**
QZH				S		**S**	**21 52 08.0**	**+2.6**
QZH				pmax		pmax		
	comp=Z,47nm,0.9s							
QZH				pmax		pmax		
	comp=Z,230nm,6.9s							
QZH				LR		LR		
	comp=Z,230nm,18.4s							
QZH				LR		LR		
	comp=Z,150nm,17.0s							
QZH				LR		LR		
	comp=Z,290nm,18.3s							
PSAD1	**Pilbara Seismi**	**24.81**	**200**	P		**P**	**21 47 47.7**	**-0.6**
PSAD1				IAmb		IAmb	21 47 48.3	
	comp=Z,54nm,0.8s							
PSAC2	**Pilbara Seismi**	**24.89**	**199**	P		**P**	**21 47 48.0**	**-0.9**
PSAC1	**Pilbara Seismi**	**24.89**	**200**	P		**P**	**21 47 48.1**	**-0.9**
PSAC1				IAmb		IAmb	21 47 49.1	
	comp=Z,53nm,0.8s							
PSAB2	**Pilbara Seismi**	**24.89**	**199**	P		**P**	**21 47 48.6**	**-0.4**
QIS	**Mount Isa**	**24.89**	**155**	P		**P**	**21 47 50.0**	**+1.0**
	baz=25,SNR=88							
PSAA2	**Pilbara Seismi**	**24.91**	**200**	P		**P**	**21 47 48.5**	**-0.6**
PSAA3	**Pilbara Seismi**	**24.92**	**199**	P		**P**	**21 47 48.6**	**-0.6**
PSAD2	**Pilbara Seismi**	**24.92**	**199**	P		**P**	**21 47 48.0**	**-1.2**
PSAB1	**Pilbara Seismi**	**24.92**	**200**	P		**P**	**21 47 48.2**	**-1.0**
PSAA1	**Pilbara Seismi**	**24.92**	**200**	P		**P**	**21 47 49.1**	**-0.2**
PSAB3	**Pilbara Seismi**	**24.93**	**199**	P		**P**	**21 47 49.3**	**0.0**
QIZ	**Qiongzhong**	**24.94**	**314**	P		**P**	**21 47 50.1**	**+0.6**
QIZ				S		**S**	**21 52 10.7**	**+2.1**
QIZ				pmax		pmax		
	comp=Z,46nm,1.0s							
QIZ				pmax		pmax		
	comp=Z,370nm,4.8s							
QIZ				LR		LR		
	comp=Z,270nm,22.3s							
QIZ				LR		LR		
	comp=Z,180nm,20.7s							
QIZ				LR		LR		
	comp=Z,410nm,23.5s							
PSAC3	**Pilbara Seismi**	**24.97**	**200**	P		**P**	**21 47 49.3**	**-0.4**
PSAD3	**Pilbara Seismi**	**25.00**	**200**	P		**P**	**21 47 49.3**	**-0.7**
KASI	**Kota Agung**	**25.15**	**253**	P		**P**	**21 47 52.2**	**+0.8**
	comp=Z,120nm,1.3s							
LWLI	**Liwa**	**25.43**	**254**	P		**P**	**21 47 56.5**	**+2.4**
	comp=Z,2μmcomp=Z,188nm,0.8s							
GZH	**Guangzhou**	**25.63**	**326**	P		**P**	**21 47 59.0**	**+3.3**
GZH				S		**S**	**21 52 22.9**	**+3.5**
GZH				LR		LR		
	comp=Z,420nm,16.4s							
GZH				LR		LR		
	comp=Z,400nm,16.9s							
LHSI	**Lahat**	**25.66**	**257**	P		**P**	**21 47 57.6**	**+1.5**
	comp=Z,67nm,0.9s							
XMIS	**Christmas Isla**	**25.93**	**241**	P		**P**	**21 47 57.7**	**-0.8**
XMIS				IAmb		IAmb	21 47 59.1	
	comp=Z,138nm,0.9s							
ASAR	**Alice Springs**	**26.03**	**169**	P		**P**	**21 47 59.5**	**+0.2**
	comp=Z,30nn,1.0s,baz=356,slow=6.5,SNR=67							
ASAR				ScP		**ScP**	**21 54 59.0**	**-1.3**
	comp=Z,4.0nm,0.9s,baz=22,slow=2.3,SNR=6.9							
ASAR				LR		LR	21 59 25.9	
	comp=Z,235nm,21.5s,baz=354,slow=39							
MNAI	**Manna**	**26.33**	**256**	P		**P**	**21 48 03.0**	**+0.8**
WRKA	**Warakurna**	**26.87**	**180**	P		**P**	**21 48 06.8**	**-0.1**
	baz=27,SNR=20							
KRJI	**Kerinci**	**27.38**	**262**	P		**P**	**21 48 13.7**	**+2.0**
	comp=Z,3μmcomp=Z,238nm,1.0s							
IPM	**Ipoh**	**27.58**	**276**	P		**P**	**21 48 14.0**	**+0.6**
CTA	**Charters Tower**	**27.99**	**142**	P		**P**	**21 48 19.2**	**+2.3**
	comp=Z,5.4nm,0.7s,baz=289,slow=6.8,SNR=4.2							
CTAO	**Charters Tower**	**27.99**	**142**	P		**P**	**21 48 17.7**	**+0.8**
CTAO				pmax		pmax		
	comp=Z,30nn,1.3s							
CTAO	**Charters Tower**	**27.99**	**142**	P		**P**	**21 48 17.7**	**+0.8**
KULM	**Kulim**	**28.02**	**277**	P		**P**	**21 48 18.0**	**+0.7**
GIRL	**Giralia**	**28.18**	**209**	P		**P**	**21 48 18.8**	**+0.2**
	baz=28,SNR=3.1							
GIRL	**Giralia**	**28.18**	**209**	P		**P**	**21 48 18.4**	**-0.1**
PDSI	**Padang**	**28.22**	**264**	P		**P**	**21 48 19.2**	**+0.1**
	comp=Z,21nm,0.8s							
MNSI	**Mandailing Nat**	**28.98**	**268**	P		**P**	**21 48 25.8**	**0.0**
	comp=Z,41nm,0.7s							
RPSI	**Rantau Prapat**	**29.60**	**272**	P		**P**	**21 48 31.3**	**0.0**
RPSI				IAmb		IAmb	21 48 33.4	
	comp=Z,91nm,1.0s							
PSI	**Prapat**	**29.60**	**272**	P		**P**	**21 48 32.1**	**+0.6**
	comp=Z,63nm,1.0s,baz=178,slow=0.6,SNR=32							
PSI	**Prapat**	**29.60**	**272**	P		**P**	**21 48 31.3**	**-0.2**
PSI				pmax		pmax		
	comp=Z,91nm,1.0s							
SISI	**Saibi**	**29.63**	**264**	P		**P**	**21 48 31.5**	**-0.1**
	comp=Z,47nm,0.9s							
MEEK	**Meekatharra**	**30.03**	**198**	P		**P**	**21 48 33.5**	**-1.5**
	baz=30,SNR=15							
SLVN	**Son La**	**30.75**	**311**	P		**P**	**21 48 41.1**	**-0.4**
PBKT	**Sadao Pong**	**30.75**	**300**	P		**P**	**21 48 42.8**	**+1.3**
KCSI	**Kotacane, Aceh**	**30.77**	**274**	P		**P**	**21 48 41.4**	**-0.3**
	comp=Z,80nm,0.9s							
GSI	**Gunungsitoli**	**30.96**	**269**	P		**P**	**21 48 42.6**	**-0.8**
	comp=Z,1μm,0.9s							
JNU	**Nakatsue**	**31.05**	**4**	LR		LR	21 59 53.9	
	comp=Z,414nm,21.5s,baz=170,slow=34							
JNU	**Nakatsue**	**31.05**	**4**	P		**P**	**21 48 43.6**	**-0.3**
JNU				IAmb		IAmb	21 48 44.7	
	comp=Z,38nm,1.0s							
NJ2	**Nanjing**	**31.27**	**344**	*e*P		**P**	**21 48 48.4**	**+2.6**
NJ2				S		**S**	**21 53 52.1**	**+4.3**
NJ2				pmax		pmax		
	comp=Z,13nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,150nm,8.3s							
NJ2				LR		LR		
	comp=Z,180nm,15.2s							
NJ2				LR		LR		
	comp=Z,280nm,17.8s							
NJ2				LR		LR		
	comp=Z,350nm,19.7s							
GYA	**Guiyang**	**32.15**	**321**	P		**P**	**21 48 54.8**	**+1.0**
GYA				pP		pP	21 49 12.8	+3.0
GYA				PP		**PnPn**	**21 50 03.8**	**+1.9**
GYA				PcP		**PcP**	**21 51 41.5**	**-0.1**
GYA				S		**S**	**21 54 05.4**	**+3.4**
GYA				sS		sS	21 54 29.3	+0.7
GYA				pmax		pmax		
	comp=Z,26nm,0.8s							
GYA				pmax		pmax		
	comp=Z,74nm,3.5s							
GYA				LR		LR		
	comp=Z,94nm,13.1s							
GYA				LR		LR		
	comp=Z,190nm,17.7s							
GYA				LR		LR		
	comp=Z,210nm,20.0s							
MLSI	**Meulaboh, Aceh**	**32.17**	**275**	P		**P**	**21 48 55.8**	**+1.8**
	comp=Z,137nm,0.8s							
FORT	**Forrest**	**32.59**	**181**	P		**P**	**21 48 57.6**	**+0.2**
	baz=33,SNR=18							
FORT	**Forrest**	**32.59**	**181**	P		**P**	**21 48 57.5**	**+0.2**
JHJ2	**Mitsune**	**32.72**	**18**	P		**P**	**21 48 58.8**	**+0.3**
MORW	**Morawa**	**33.12**	**200**	P		**P**	**21 49 00.8**	**-1.3**
	baz=33,SNR=17							
MORW	**Morawa**	**33.12**	**200**	P		**P**	**21 49 01.2**	**-0.9**
CM31	**Chiang Mai Arr**	**33.31**	**301**	P		**P**	**21 49 06.2**	**+2.3**
	SNR=11							
CM31	**Chiang Mai Arr**	**33.31**	**301**	P		**P**	**21 49 05.0**	**+1.1**
CM31				IAmb		IAmb	21 49 07.5	
	comp=Z,34nm,0.8s							
CMAR	**Chiang Mai Arr**	**33.31**	**301**	P		**P**	**21 49 05.2**	**+1.2**
	comp=Z,24nm,0.9s,baz=118,slow=7.1,SNR=95							
CMAR				LR		LR	22 03 39.9	
	comp=Z,80nm,20.4s,baz=120,slow=38							
CMAR	**Chiang Mai Arr**	**33.31**	**301**	*e*P		**P**	**21 49 05.5**	**+1.6**
CMAR				pmax		pmax		
	comp=Z,25nm,0.9s							
CHTO	**Chiang Mai**	**33.47**	**302**	P		**P**	**21 49 06.2**	**+0.9**
CHTO	**Chiang Mai**	**33.47**	**302**	P		**P**	**21 49 06.3**	**+1.0**
CHTO				pmax		pmax		
	comp=Z,54nm,0.9s							
CHTO	**Chiang Mai**	**33.47**	**302**	P		**P**	**21 49 06.3**	**+1.0**
CHTO				IAmb		IAmb	21 49 08.0	
	comp=Z,54nm,0.9s							
KMBL	**Kambalda**	**33.77**	**190**	P		**P**	**21 49 07.3**	**-0.4**
	baz=34,SNR=16							
KMI	**Kunming**	**33.88**	**315**	P		**P**	**21 49 06.0**	**-3.0**
KMI				sP		sP	21 49 35.8	+2.9
KMI				pmax		pmax		
	comp=Z,75nm,0.8s							
KMI				pmax		pmax		
	comp=Z,220nm,3.8s							
KMI				LR		LR		
	comp=Z,150nm,19.2s							
KMI				LR		LR		
	comp=Z,220nm,23.5s							
KMI				LR		LR		
	comp=Z,330nm,19.6s							
INU	**Inuyama**	**34.11**	**12**	P		**P**	**21 49 10.8**	**+0.2**
TJN	**Taejon**	**34.23**	**358**	*e*P		**P**	**21 49 12.2**	**+0.6**
BLDU	**Ballidu**	**34.33**	**198**	P		**P**	**21 49 11.6**	**-0.9**
	baz=34,SNR=13							
EIDS	**Eidsvold**	**34.88**	**143**	P		**P**	**21 49 18.4**	**+1.0**
EIDS				IAmb		IAmb	21 49 34.1	
	comp=Z,47nm,1.1s							
KLBR	**Kellerberrin**	**34.93**	**196**	P		**P**	**21 49 17.0**	**-0.8**
	baz=35,SNR=24							
KSRS	**Korea Array**	**35.30**	**359**	P		**P**	**21 49 20.9**	**+0.1**
	comp=Z,16nm,0.7s,baz=176,slow=9.6,SNR=64							
KSRS				PcP		**PcP**	**21 51 51.0**	**+0.9**
	comp=Z,4.5nm,0.7s,baz=186,slow=2.8,SNR

DL2 pmax pmax
comp=Z,98nm,6.0s
DL2 LR LR
comp=Z,360nm,20.6s
DL2 LR LR
comp=Z,250nm,21.2s
ARMA Armidale 39.03 147 P **P** **21 49 54.8 +2.1**
baz=39,SNR=5.8
ARMA Armidale 39.03 147 P P 21 49 53.9 +1.2
ARMA IAmb IAmb 21 50 13.1
comp=Z,39nm,0.9s
MSHR Mys Shultsa 40.48 3*ce*P **P** **21 50 05.6 +1.2**
MSHR pmax pmax
comp=Z,21nm,1.0s
ARPS Mount Arapiles 40.50 163 P **P** **21 50 06.1 +1.5**
baz=41,SNR=19
H11S3 WAKE ISLAND Hy 40.82 64 T T 22 33 28.1
baz=251,slow=75,SNR=13
H11S2 WAKE ISLAND Hy 40.84 64 T T 22 33 29.9
baz=251,slow=75,SNR=12
H11S1 WAKE ISLAND Hy 40.84 64 T T 22 33 29.6
baz=251,slow=75,SNR=23
LZH Lanzhou 40.91 329 ⇑P **P** **21 50 09.9 +1.6**
LZH pP pP 21 50 27.4 +2.6
LZH sP sP 21 50 33.9 +1.4
LZH PP **PnPn** **21 51 50.4 +1.9**
LZH PcP **PcP** **21 52 09.0 +1.2**
LZH S **S** **21 56 16.6 +1.1**
LZH sS sS 21 56 44.2 +1.5
LZH SS **SS** **21 59 15.8 -3.6**
LZH pmax pmax
comp=Z,86nm,1.1s
LZH pmax pmax
comp=Z,290nm,5.2s
LZH LR LR
comp=Z,520nm,13.4s
LZH LR LR
comp=Z,330nm,13.5s
LZH LR LR
comp=Z,670nm,16.6s
H11N1 WAKE ISLAND Hy 41.41 62 T T 22 34 10.5
baz=262,slow=75,SNR=13
H11N2 WAKE ISLAND Hy 41.42 62 T T 22 35 05.4
SNR=8.4
H11N3 WAKE ISLAND Hy 41.43 62 T T 22 34 18.2
baz=251,slow=75,SNR=22
HHC Hu-ho-hao-te 41.62 341 P **P** **21 50 14.1 +0.1**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,42nm,5.3s
HHC LR LR
comp=Z,120nm,17.8s
HHC LR LR
comp=Z,130nm,18.2s
HHC LR LR
comp=Z,130nm,17.9s
CAN Canberra 41.77 155 P **P** **21 50 15.5 +0.3**
CAN pmax pmax
comp=Z,36nm,1.3s
CAN Canberra 41.77 155 P **P** **21 50 15.5 +0.3**
ERM Erimo 41.96 16*ce*P **P** **21 50 18.0 +1.5**
ERM pmax pmax
comp=Z,6.0nm,0.5s
ERM Erimo 41.96 16 P **P** **21 50 17.2 +0.7**
ERM IAmb IAmb 21 50 19.1
comp=Z,24nm,0.8s
USA0B Ussuriysk Arra 42.14 4*c i*P **P** **21 50 18.6 +0.6**
USA0B Ussuriysk Arra 42.14 4 IAmb IAmb 21 50 19.6
comp=Z,40nm,1.0s
USRK Ussuriysk Ar. 42.14 4 P **P** **21 50 17.9 -0.1**
comp=Z,26nm,0.9s,baz=188,slow=7.8,SNR=48
USRK LR LR 22 05 09.1
comp=Z,118nm,20.9s,baz=165,slow=32
SHL Shillong 42.36 307 P **P** **21 50 21.3 +1.0**
SNR=130
SHL Shillong 42.36 307 P **P** **21 50 21.2 +0.9**
SHL pmax pmax
comp=Z,401nm,0.9s
SHL Shillong 42.36 307 P **P** **21 50 21.2 +0.9**
TOO Toolangi 42.38 160 P **P** **21 50 22.3 +2.2**
baz=43,SNR=9.2
TOO Toolangi 42.38 160 P **P** **21 50 22.4 +2.2**
TOO pmax pmax
comp=Z,31nm,1.1s
TOO Toolangi 42.38 160 P **P** **21 50 22.4 +2.2**
MDJ Mudanjiang 42.46 1 P **P** **21 50 21.6 +1.0**
MDJ pP pP 21 50 34.5 -2.6
MDJ sP sP 21 50 44.4 -0.4
MDJ S **S** **21 56 38.1 +0.4**
MDJ pmax pmax
comp=Z,37nm,1.2s
MDJ pmax pmax
comp=Z,70nm,3.6s
TEY Ternei 43.45 8⇑*i*P **P** **21 50 29.2 +0.6**
TEY pmax pmax
comp=E,10.0nm,1.2s
TEY pmax pmax
comp=Z,60nm,0.9s
TEY pmax pmax
comp=N,40nm,0.9s
ASAJ Asahikawa 43.76 15 P **P** **21 50 32.1 +1.0**
comp=N,37nm,0.8s,baz=223,slow=11,SNR=21
DZM Mont Dzumac 44.06 125 *e*LR LR 22 03 03.5
comp=N,388nm,29.9s
DZM Mont Dzumac 44.06 125 P **P** **21 50 34.4 +0.4**
LSA Lhasa 44.94 312 P **P** **21 50 43.4 +2.1**
LSA Lhasa 44.94 312 P **P** **21 50 43.2 +1.8**
LSA Lhasa 44.94 312 P **P** **21 50 43.6 +2.2**
GTA Gaotai 45.51 329 ⇑P **P** **21 50 45.9 +0.6**
GTA pP pP 21 51 02.2 +0.1
GTA sP sP 21 51 10.7 +1.0
GTA PcP **PcP** **21 52 24.2 +1.0**
GTA PP **PP** **21 52 33.0 0.0**
GTA S **S** **21 57 22.4 -0.2**
GTA pmax pmax
comp=N,15nm,1.0s
GTA pmax pmax
comp=N,53nm,4.8s
GTA LR LR
comp=N,220nm,16.2s
GTA LR LR
comp=N,240nm,15.2s
GTA LR LR
comp=N,180nm,12.1s
YSS Yuzh-Sakhalins 46.47 13 *e*P **P** **21 50 53.0 +0.5**
YSS *e* 21 51 11.3
YSS pmax pmax
comp=Z,40nm,0.9s
YSS Yuzh-Sakhalins 46.47 13 P **P** **21 50 53.2 +0.8**
YSS IAmb IAmb 21 50 53.8
comp=Z,34nm,0.8s
TAPN Taplejung 46.50 307 *e*P **P** **21 50 54.7 +1.2**
comp=Z,640nm,1.1s
ODAN Odare 46.55 306 *e*P **P** **21 50 55.0 +1.2**
comp=Z,548nm,0.8s
RAMN Ramite 47.23 306 *e*P **P** **21 51 00.4 +1.3**
comp=Z,671nm,0.9s
JIRN Jiri 47.85 306 *e*P **P** **21 51 05.3 +1.2**
comp=Z,451nm,0.8s
PALK Pallekele 47.95 278 P **P** **21 51 05.2 +0.5**
GUN Gumba 48.21 306 *e*P **P** **21 51 07.9 +1.1**
comp=Z,564nm,0.9s
PKI Pulchoki 48.45 306 *e*P **P** **21 51 09.2 +0.6**
PKIN Phulchoki 48.46 306 *e*P **P** **21 51 09.2 +0.5**
comp=Z,171nm,0.9s
PVM Polavaram 48.51 291 *e*P **P** **21 51 10.3 +1.4**
PVM IVmB_BB 21 51 10.7
comp=Z,1μm,0.7s
DMN Daman 48.71 306 *e*P **P** **21 51 11.5 +0.9**
comp=Z,459nm,0.9s
GRNR Gornyy 49.06 7⇑*i*P **P** **21 51 13.4 +0.8**
GRNR pmax pmax
comp=Z,20nm,1.2s
GRNR MLR MLR
comp=E,60nm,10.0s
GKN Gorkha 49.24 306 *e*P **P** **21 51 15.3 +0.7**
comp=E,363nm,1.0s
ULN Ulaanbaatar 49.33 341 P **P** **21 51 15.1 +0.2**
ULN Ulaanbaatar 49.33 341*ce*P **P** **21 51 15.0 +0.1**
ULN pmax pmax
comp=Z,38nm,1.0s
ULN Ulaanbaatar 49.33 341 P **P** **21 51 15.2 +0.4**
ULN IAmb IAmb 21 51 16.1
comp=Z,27nm,0.8s
SONM Songino Array 49.52 340 P **P** **21 51 16.4 +0.1**
comp=Z,12nm,0.7s,baz=151,slow=8.6,SNR=59
SONM PcP **PcP** **21 52 37.7 +0.4**
comp=Z,8.9nm,0.7s,baz=161,slow=3.3,SNR=7.4
SONM LR LR 22 14 52.6
comp=Z,128nm,20.2s,baz=146,slow=39
SKHT Srikalahasti 49.65 286 *e*P **P** **21 51 18.6 +0.9**
SKHT IVmB_BB 21 51 18.9
comp=Z,571nm,0.9s
ADKI Addanki 49.77 289 *e*P **P** **21 51 19.7 +1.2**
ADKI IVmB_BB 21 51 20.1
comp=Z,476nm,1.0s
KOLN Koldanda 50.00 305 *e*P **P** **21 51 21.6 +1.3**
comp=Z,919nm,0.9s
DANN Dangsing 50.09 306 *e*P **P** **21 51 22.2 +1.0**
comp=Z,450nm,0.7s
TYV Tymovskoe 50.14 12 *e*P **P** **21 51 21.4 +0.7**
TYV *e* 21 58 29.9
TYV pmax pmax
comp=Z,31nm,1.1s
TYV MLR MLR
comp=Z,1μm,18.0s
TYV MLR MLR
comp=N,1μm,16.0s
NJS Nagarjunasagar 50.53 290 *e*P **P** **21 51 24.9 +0.7**
NJS IVmB_BB 21 51 25.4
comp=Z,542nm,1.0s
PYUN Piuthan 50.62 305 *e*P **P** **21 51 26.4 +1.3**
comp=Z,934nm,0.9s
SRLM Srisailam 50.84 289 *e*P **P** **21 51 27.1 +0.5**
SRLM IVmB_BB 21 51 27.5
comp=Z,541nm,0.8s
HYB Hyderabad 51.41 291 *i*P **P** **21 51 30.0 -0.9**
comp=Z,300nm,1.0s
HYBB Hyderabad (bro 51.41 291 *e*P **P** **21 51 31.5 +0.5**
HYBB IVmB_BB 21 51 31.8
comp=Z,908nm,0.8s
SRSP Sriramsagar 51.92 293 *e*P **P** **21 51 35.2 +0.5**
SRSP IVmB_BB 21 51 35.5
comp=Z,421nm,0.9s
URV Uravakonda 52.19 287 *e*P **P** **21 51 36.5 -0.2**
URV IVmB_BB 21 51 36.9
comp=Z,200nm,0.8s
ZAK Zakamensk 52.76 340 *e*P **P** **21 51 39.5 -1.0**
ZAK pmax pmax
comp=Z,4.0nm,0.9s
KLRI Killari 53.37 291 *e*P **P** **21 51 45.3 -0.1**
KLRI IVmB_BB 21 51 45.6
comp=Z,442nm,0.9s
TLY Talaya 53.74 341*ce*P **P** **21 51 48.9 +1.3**
TLY pmax pmax
comp=Z,7.0nm,1.7s
MOY Mondy 54.63 339 *e*P **P** **21 51 54.7 +0.6**
MOY pmax pmax
comp=Z,32nm,2.0s
WMQ Urumqi 55.18 325 *e*P **P** **21 51 58.9 +0.7**
WMQ pP pP 21 52 14.9 -0.5
WMQ pmax pmax
comp=Z,31nm,2.1s
WMQ pmax pmax
comp=Z,120nm,5.7s
WMQ LR LR
comp=Z,180nm,20.9s
WMQ LR LR
comp=Z,190nm,23.1s
WMQ LR LR
comp=Z,310nm,23.1s
OUZ Omahuta 56.06 136 P **P** **21 52 04.7 +0.1**
OUZ IAmb IAmb 21 52 20.3
comp=Z,62nm,1.5s
PEA0B Petropavlovsk- 56.38 21*ce*P **P** **21 52 08.0 +1.5**
PEA0B Petropavlovsk- 56.38 21 P **P** **21 52 07.6 +1.1**
PETK Petropavlovsk- 56.38 21 P **P** **21 52 07.5 +1.0**
comp=Z,56nm,0.7s,baz=192,slow=6.5,SNR=58
PETK LR LR 22 12 33.3
comp=Z,36nm,21.8s,baz=239,slow=32
PET Petropavlovsk 56.65 21 *e*P **P** **21 52 09.3 +0.9**
PET *e**PP **pP** **21 52 27.3 +1.7**
PET *e*S **S** **21 59 55.6 -0.1**
PET pmax pmax
comp=Z,83nm,1.3s
PET MLR MLR
comp=Z,100nm,21.0s
PET Petropavlovsk 56.65 21 P **P** **21 52 09.6 +1.2**
BOD Bodaibo 56.85 351 *e*P **P** **21 52 09.5 -0.2**
BOD pmax pmax
comp=Z,16nm,1.1s
BHK Bhakra 57.15 307 *e*P **P** **21 52 12.3 -0.1**
QRZ Quartz Range 58.45 142 P **P** **21 52 21.1 -0.2**
QRZ IAmb IAmb 21 52 25.7
comp=Z,30nm,1.2s
MLZ Mavora Lakes 58.76 148 P **P** **21 52 23.6 +0.1**
WKZ Wanaka 58.89 147 P **P** **21 52 23.8 -0.5**
WKZ IAmb IAmb 21 52 40.4
comp=Z,41nm,1.2s
DGZ Jazzator, Alta 58.99 330*c i*P **P** **21 52 25.2 +0.1**
DGZ pmax pmax
comp=Z,10.0nm,1.3s
WHZ Wether Hill Ro 59.03 149 P **P** **21 52 25.1 -0.2**
WHZ IAmb IAmb 21 52 40.5
comp=Z,26nm,1.3s
NNZ Nelson 59.20 142 P **P** **21 52 25.5 -1.0**
NNZ IAmb IAmb 21 52 28.3
comp=Z,14nm,0.9s
THZ Tophouse 59.23 142 P **P** **21 52 26.6 -0.1**
THZ IAmb IAmb 21 52 27.9
comp=Z,13nm,0.7s
LBZ Lake Benmore 59.24 146 P **P** **21 52 27.8 +1.0**
LBZ IAmb IAmb 21 52 28.4
comp=Z,26nm,0.8s
RPZ Rata Peaks 59.31 145 P **P** **21 52 27.8 +0.5**
comp=Z,18nm,0.9s,baz=311,slow=3.2,SNR=6.2
RPZ Rata Peaks 59.31 145 P **P** **21 52 27.3 +0.1**
RPZ IAmb IAmb 21 52 32.7
comp=Z,20nm,0.9s
LTZ Lake Taylor 59.45 144 P **P** **21 52 29.2 +1.0**
LTZ IAmb IAmb 21 52 43.9
comp=Z,17nm,1.1s
TUWZ Tuamarina 59.67 142 P **P** **21 52 28.4 -1.3**
BSWZ Blackbirch Sta 59.79 142 P **P** **21 52 30.5 -0.1**
YAK Yakutsk 59.90 1 P **P** **21 52 31.2 +0.3**
comp=Z,26nm,0.6s,baz=1.9,slow=1.5,SNR=22
YAK Yakutsk 59.90 1 *e*P **P** **21 52 30.7 -0.2**
YAK *e**PP **pP** **21 52 44.0 -4.3**
YAK *e* 21 53 10.3
YAK *e*S **S** **22 00 36.2 -1.5**
YAK *e* 22 02 09.6
YAK pmax pmax
comp=Z,68nm,0.8s
YAK pmax pmax
comp=N,21nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax smax
comp=E,124nm,2.5s
YAK smax smax
comp=N,81nm,2.4s
YAK Yakutsk 59.90 1 P **P** **21 52 31.1 +0.3**
ODZ Otahua Downs 59.91 147 P **P** **21 52 31.0 -0.3**
MA2 Magadan 59.97 13 P **P** **21 52 32.3 +0.9**
comp=N,32nm,0.8s,baz=190,slow=7.4,SNR=12
MA2 Magadan 59.97 13*ce*P **P** **21 52 32.2 +0.8**
MA2 pmax pmax
comp=Z,30nm,1.0s
MA2 Magadan 59.97 13 P **P** **21 52 32.8 +1.3**
KHZ Kahutara 59.99 143 P **P** **21 52 31.4 -0.5**
KHZ IAmb IAmb 21 52 32.4
comp=Z,17nm,0.9s
MK31 Makanchi Array 60.01 325 P **P** **21 52 32.3 +0.3**
MK31 pmax pmax
comp=Z,29nm,0.7s
MK31 Makanchi Array 60.01 325 P **P** **21 52 32.3 +0.3**
MKAR Makanchi Array 60.01 325 P **P** **21 52 32.2 +0.2**
comp=Z,40nm,0.5s,baz=117,slow=8.2,SNR=573
MKAR LR LR 22 21 21.8
comp=Z,84nm,19.8s,baz=112,slow=39
SNZO South Karori 60.08 141 P **P** **21 52 31.9 -0.7**
BKZ Black Stump Fm 60.09 138 P **P** **21 52 33.3 +0.6**
BKZ IAmb IAmb 21 52 34.2
comp=Z,21nm,0.8s
MAKZ Makanchi 60.20 325 P **P** **21 52 33.3 0.0**
MAKZ pmax pmax
comp=Z,50nm,0.6s
MAKZ Makanchi 60.20 325 P **P** **21 52 33.3 0.0**
MQZ McQueen's Vall 60.22 144 P **P** **21 52 33.8 +0.3**
MQZ IAmb IAmb 21 52 35.5
comp=Z,22nm,1.1s
BHW Baring Head 60.24 141 P **P** **21 52 31.7 -1.9**
TARG Taragay, Kyrgy 60.24 318 P **P** **21 52 33.9 -0.3**
TARG IAmb IAmb 21 52 46.4
comp=Z,52nm,1.3s
NIL Nilore 60.41 308 P **P** **21 52 35.5 +0.4**
NIL Nilore 60.41 308 P **P** **21 52 35.3 +0.2**
NIL pmax pmax
comp=Z,136nm,1.4s
NIL Nilore 60.41 308 P **P** **21 52 35.3 +0.2**
MSWZ Moikau Station 60.48 141 P **P** **21 52 34.9 -0.4**
MXZ Matakaoa Point 60.52 136 P **P** **21 52 35.2 -0.4**
KSH Kashi 60.54 315 P **P** **21 52 37.7 +1.7**
KSH pmax pmax
comp=Z,140nm,1.2s
KSH pmax pmax
comp=Z,190nm,6.9s
BFZ Birch Farm 60.72 140 P **P** **21 52 37.0 +0.1**
BFZ IAmb IAmb 21 52 44.8
comp=Z,24nm,1.1s
ULHL Ulahol 61.52 318 P **P** **21 52 43.2 +0.6**
SNR=14
KZA Kyzart 62.11 318 P **P** **21 52 47.8 +0.9**
SNR=65
TKM2 Tokmak 2 62.24 319 P **P** **21 52 48.0 +0.5**
SNR=49
UCH Uchtor 62.67 317 P **P** **21 52 51.6 +0.9**
SNR=77
CHMS Chumysh 62.83 318 P **P** **21 52 50.9 -0.2**
SNR=25
AAK Ala-Archa 62.85 318 LR LR 22 23 07.5
comp=Z,195nm,21.6s,baz=77,slow=39
AAK Ala-Archa 62.85 318 P **P** **21 52 52.2 +0.7**
SNR=16
AAK Ala-Archa 62.85 318 *i*P **P** **21 52 51.8 +0.3**
SNR=21
AAK Ala-Archa 62.85 318 P **P** **21 52 52.2 +0.7**
AAK Ala-Archa 62.85 318*ce*P **P** **21 52 52.0 +0.5**
AAK pmax pmax
comp=Z,38nm,1.7s
AAK Ala-Archa 62.85 318 P **P** **21 52 51.8 +0.3**
AAK IAmb IAmb 21 52 54.2
comp=Z,34nm,1.4s
ZAA0 Zalesovo Array 62.95 333 P **P** **21 52 50.8 -0.9**
ZAA0 IAmb IAmb 21 52 51.9
comp=Z,24nm,1.3s
ZALV Zalesovo Beam 62.95 333 P **P** **21 52 50.6 -1.1**
comp=Z,8.3nm,0.8s,baz=123,slow=7.4,SNR=30
ZALV LR LR 22 21 46.7
comp=Z,107nm,20.7s,baz=138,slow=37
USP Ospenovka 63.11 318 P **P** **21 52 53.5 +0.4**
SNR=54
AML Almayashu 63.19 317 P **P** **21 52 54.9 +0.9**
SNR=80
EKS2 Erkin-Say 63.34 318 P **P** **21 52 55.6 +0.9**
SNR=46
KBL Kabul 64.01 308 P **P** **21 52 59.5 +0.2**
KBL Kabul 64.01 308 P **P** **21 52 59.1 -0.2**
KBL pmax pmax
comp=Z,64nm,1.1s
KBL Kabul 64.01 308 P **P** **21 52 59.1 -0.2**
KBL IAmb IAmb 21 53 00.3
comp=Z,64nm,1.1s
KURK Kurchatov 64.17 327 P **P** **21 52 59.7 -0.1**
KURK Kurchatov 64.17 327*ce*P **P** **21 52 59.5 -0.3**
KURK pmax pmax
comp=Z,156nm,1.3s
KURK Kurchatov 64.17 327 P **P** **21 52 59.7 -0.1**
GAR Garm 64.42 313 P **P** **21 53 01.9 0.0**
CHGR Chuyangaron 65.17 312 P **P** **21 53 06.5 -0.1**
CHGR IAmb IAmb 21 53 07.1
comp=Z,40nm,0.7s
KK31 Karatay Array 65.73 317 P **P** **21 53 10.0 -0.1**
KK31 pmax pmax
comp=Z,55nm,0.9s
KK31 Karatay Array 65.73 317 P **P** **21 53 10.0 -0.1**
KK31 IAmb IAmb 21 53 11.2
comp=Z,55nm,0.9s
KKAR Karatay Array 65.73 317 P **P** **21 53 10.0 -0.1**
KKAR pmax pmax
comp=Z,55nm,0.9s
KKAR Karatay Array 65.73 317 P **P** **21 53 10.0 -0.1**
KKAR IAmb IAmb 21 53 11.2
comp=Z,55nm,0.9s
ADK Adak 67.40 33 P **P** **21 53 21.0 +0.5**
ADK pmax pmax
comp=Z,95nm,1.5s
ADK Adak 67.40 33 P **P** **21 53 21.0 +0.5**
GSTR Great Sitkin T 67.84 33 P **P** **21 53 23.6 +0.3**
ATKA Atka Island 68.91 34 P **P** **21 53 29.7 -0.2**
ATKA IAmb IAmb 21 53 32.2
comp=Z,44nm,1.0s
CASY Casey 69.33 188 P **P** **21 53 31.5 -0.8**
HRA Herat 69.41 306 P **P** **21 53 32.9 -0.8**
HRA IAmb IAmb 21 53 34.5
comp=Z,30nm,0.9s
TIXI Tiksi 69.56 0 P **P** **21 53 33.1 -0.5**
comp=Z,10nm,0.5s,baz=173,slow=4.9,SNR=59
TIXI Tiksi 69.56 0*ce*P **P** **21 53 32.7 -0.9**
TIXI pmax pmax
comp=Z,26nm,1.3s
TIXI Tiksi 69.56 0 P **P** **21 53 33.3 -0.3**
BRVK Borovoye 69.83 327 P **P** **21 53 35.5 -0.1**
BRVK Borovoye 69.83 327*ce*P **P** **21 53 35.2 -0.4**
BRVK pmax pmax
comp=Z,119nm,1.3s
BRVK Borovoye 69.83 327 P **P** **21 53 35.0 -0.6**
WBK Wadi Bani Khal 70.39 293 P **P** **21 53 39.2 -0.6**
WSAR Wadi Sarin 70.77 294 LR LR 22 28 56.4
comp=Z,38nm,18.4s,baz=105,slow=39
WSAR Wadi Sarin 70.77 294 P **P** **21 53 41.8 -0.3**
BILL Bilibino 70.78 14*ce*P **P** **21 53 41.8 +0.7**
BILL pmax pmax
comp=Z,3.0nm,0.6s
BILL Bilibino 70.78 14 P **P** **21 53 41.1 0.0**
MHTO MHTO 71.16 291 P **P** **21 53 44.0 -0.4**
SNR=8.7
JMDO Jabal Madar 71.17 293 P **P** **21 53 43.9 -0.6**
BIDO Bidbid 71.26 294 P **P** **21 53 44.8 -0.2**
SMDO Samad 71.29 294 P **P** **21 53 44.7 -0.6**
HOQ Hoqain 72.02 294 P **P** **21 53 49.2 -0.3**
BSY Bisya 72.03 293 P **P** **21 53 49.3 -0.4**
NIKH Nikolski High 72.21 34 P **P** **21 53 49.7 -0.4**
NIKH IAmb IAmb 21 54 05.5
comp=Z,33nm,0.9s
NRIK Noril'sk 72.54 346 P **P** **21 53 51.4 -0.3**
comp=Z,6.6nm,0.6s,baz=121,slow=5.5,SNR=15
NRIK LR LR 22 30 50.9
comp=Z,66nm,18.1s,baz=156,slow=40
ARQ Araqi 72.71 294 P **P** **21 53 53.5 -0.2**
SNR=5.7
SOHO SOHO 72.78 295 P **P** **21 53 53.6 -0.5**
SNR=6.6
SPIA Saint Paul Isl 73.08 30 P **P** **21 53 54.4 -0.7**
SHAO Shalim 73.14 288 P **P** **21 53 55.0 -1.4**
UOSS Minazif 73.16 295 *i*P **P** **21 53 54.9 -1.4**
SNR=9.2
UOSS Minazif 73.16 295 P **P** **21 53 55.4 -0.9**
UOSS Minazif 73.16 295 P **P** **21 53 54.6 -1.7**
BANOM Banah 73.17 296 *i*P **P** **21 53 56.1 -0.3**
SNR=8.3
BANOM Banah 73.17 296 P **P** **21 53 56.2 -0.2**
HATD Hatta, Dubai 73.21 295 *i*P **P** **21 53 56.0 -0.7**
SNR=15
HATD Hatta, Dubai 73.21 295 P **P** **21 53 56.5 -0.1**
SNR=7.2
MSFE Esma-Masafi 73.24 296 *i*P **P** **21 53 56.9 0.0**
SNR=18
ASHO Ashiyiah 73.26 295 P **P** **21 53 56.4 -0.6**
ASHO Ashiyiah 73.26 295 P **P** **21 53 56.6 -0.4**
SNR=6.0
SHME Shamm 73.33 296 *i*P **P** **21 53 56.8 -0.5**
SNR=14
GEYT Alibeck 73.39 309 P **P** **21 53 57.2 -0.2**
comp=Z,30nm,0.8s,baz=134,slow=4.3,SNR=57
GEYT LR LR 22 31 25.5
comp=Z,64nm,18.4s,baz=15,slow=40
GYA0B ALIBECK ARRAY 73.39 309 P **P** **21 53 57.7 +0.2**
GYA0B IAmb IAmb 21 53 59.0
comp=Z,36nm,0.8s
ALNE Al Ain 73.48 294 *i*P **P** **21 53 58.1 -0.2**
SNR=39
NAZ Nazwa, Dubai 73.65 295 P **P** **21 53 58.3 -0.8**
NAZ Nazwa, Dubai 73.65 295 P **P** **21 53 58.9 -0.3**
SNR=6.1

FAQ	Al Faqa, Dubai	73.69	295	P		P		21 53 58.2	-1.2
UNV	Unalaska Valle	73.83	34	P		P		21 54 00.1	+0.5
UNV				IAmb		IAmb		21 54 01.3	
	comp=Z,82nm,1.4s								
AJN	Ajban	74.22	295	P		P		21 54 01.7	-0.9
AJN	Ajban	74.22	295	P		P		21 54 01.6	-0.9
	SNR=5.2								
AKUT	Akutan	74.33	34	P		P		21 54 03.0	+0.5
SOCY	Socotra	74.48	282	P		P		21 54 02.9	-1.4
SOCY	Socotra	74.48	282	P		P		21 54 02.8	-1.6
ABKAR	Akbulak array	74.63	321	IAmb		IAmb		21 54 04.9	
	comp=Z,27nm,0.8s								
WHFO	Wadi Hawf	74.90	288	P		P		21 54 05.3	-1.3
GAMB	Gambell	75.25	23	IAmb		IAmb		21 54 09.9	
	comp=Z,34nm,0.9s								
ABTO	Aybut	75.33	287	P		P		21 54 08.0	-1.0
MLOA	Mauna Loa Obse	76.03	70	P		P		21 54 11.3	-2.3
HMH	Humu'ula Sheep	76.12	70	P		P		21 54 12.6	-1.3
MLH	Mauna Loa	76.21	71	P		P		21 54 12.9	-1.4
SVE	Sverdlovsk	76.38	328 *d*	*i* P		P		21 54 13.8	-0.4
SVE				pmax		pmax			
	comp=Z,64nm,0.9s								
ARU	Arti	77.36	328	LR		LR		22 30 17.6	
	comp=Z,55nm,22.0s,baz=98,slow=37								
ARU	Arti	77.36	328 *c*	*i* P		P		21 54 18.6	-1.2
ARU				*PP		pP		21 54 36.5	-1.4
ARU								21 57 12.6	
ARU				PPP		PPP		21 58 59.0	
ARU				S		S		22 04 04.2	-0.7
ARU				pmax		pmax			
	comp=Z,41nm,0.8s								
ARU	Arti	77.36	328	P		P		21 54 19.1	-0.7
ARU				IAmb		IAmb		21 54 19.8	
	comp=Z,37nm,0.8s								
SDPT	Sand Point	77.62	34	P		P		21 54 21.1	-0.2
RDOG	Red Dog Mine	80.25	21	P		P		21 54 36.4	+0.9
RDOG				IAmb		IAmb		21 54 37.3	
	comp=Z,28nm,0.6s								
SVW2	Sparrevohn	81.45	28	P		P		21 54 43.2	+1.2
SVW2				IAmb		IAmb		21 54 44.6	
	comp=Z,23nm,0.9s								
VNDA	Vanda	81.49	173	P		P		21 54 41.7	-0.1
	comp=Z,8.6nm,1.0s,baz=315,slow=5.9,SNR=39								
VNDA				LR		LR		22 30 36.5	
	comp=Z,81nm,19.7s,baz=330,slow=35								
VNDA	Vanda	81.49	173	P		P		21 54 41.4	-0.4
TTA	Tatalina	81.63	27	IAmb		IAmb		21 54 45.3	
	comp=Z,24nm,0.8s								
AKT	Akhty	81.80	311	*e*P		P		21 54 44.2	-0.1
AKT				*e**PP		pP		21 55 01.6	-0.9
AKT				*e**SP		sP		21 55 10.0	+0.3
AKT				*e*				21 57 56.0	
AKT				pmax		pmax			
	comp=Z,26nm,0.8s								
OHAK	Old Harbor	81.93	33	P		P		21 54 44.7	+0.2
OHAK				IAmb		IAmb		21 54 46.7	
	comp=Z,49nm,0.8s								
KDAK	Kodiak Island	82.39	32	P		P		21 54 47.2	+0.3
KDAK				pmax		pmax			
	comp=Z,67nm,0.8s								
KDAK	Kodiak Island	82.39	32	P		P		21 54 47.2	+0.3
KIRV	Kirov	82.64	329	LR		LR		22 33 57.1	
	comp=Z,82nm,21.4s,baz=95,slow=37								
MAW	Mawson	82.77	201	P		P		21 54 48.5	-0.1
	baz=83,SNR=12								
MAW	Mawson	82.77	201	P		P		21 54 48.0	-0.6
	comp=Z,9.7nm,0.8s,baz=76,slow=6.6,SNR=18								
MAW				LR		LR		22 29 11.0	
	comp=Z,53nm,20.7s,baz=58,slow=34								
MAW	Mawson	82.77	201	P		P		21 54 48.3	-0.3
MAW				pmax		pmax			
	comp=Z,2.0nm,0.8s								
MAW	Mawson	82.77	201	P		P		21 54 48.3	-0.3
RAYN	Ar Rayn	82.83	293	*i* P		P		21 54 49.4	-0.7
	SNR=29								
RAYN	Ar Rayn	82.83	293	P		P		21 54 49.3	-0.7
RAYN				pmax		pmax			
	comp=Z,35nm,1.3s								
RAYN	Ar Rayn	82.83	293	P		P		21 54 49.3	-0.7
RAYN				IAmb		IAmb		21 54 50.3	
	comp=Z,35nm,1.3s								
PPT	Papeete	82.86	108	LR		LR		22 25 19.7	
	comp=Z,90nm,20.7s,baz=210,slow=31								
PPT2	Papeete2	82.86	108	*e*LR		LR		22 21 03.4	
	comp=Z,181nm,26.0s								
CNPM	China Poot	83.33	30	IAmb		IAmb		21 54 53.2	
	comp=Z,41nm,0.8s								
PPLA	Purkeypile	83.34	27	IAmb		IAmb		21 54 53.9	
	comp=Z,36nm,0.8s								
GROC	Groznyy	83.35	313 ⇑	*i* P		P		21 54 51.7	-0.5
GROC				*e**PP		pP		21 55 13.3	+2.9
GROC				*e*				21 58 05.0	
GROC				*e*S		S		22 05 10.0	+1.8
GROC				pmax		pmax			
	comp=Z,43nm,1.2s								
TBI	Tubuai	83.44	114	*e*LR		LR		22 21 20.3	
	comp=Z,158nm,30.5s								
BRLK	Bradley Lake	83.53	30	IAmb		IAmb		21 54 54.0	
	comp=Z,35nm,0.8s								
KTH	Kantishna Hill	84.01	26	IAmb		IAmb		21 54 57.4	
	comp=Z,42nm,1.0s								
BPAW	Bear Paw Mtn.	84.05	26	IAmb		IAmb		21 54 57.3	
	comp=Z,20nm,1.0s								
CUT	Chulitna	84.16	28	P		P		21 54 56.4	+0.5
	baz=263								
O22K	Cooper Landing	84.20	30	P		P		21 54 57.1	+1.0
	baz=264								
TRF	Thorofare Moun	84.28	27	IAmb		IAmb		21 54 58.0	
	comp=Z,37nm,0.9s								
TASB	TASBURUN-IGDIR	84.36	310	P		P		21 54 56.9	-0.6
CLDR	Caldiran	84.58	309	P		P		21 54 58.8	-0.1
GHO	Glory Hole Cre	84.72	28	IAmb		IAmb		21 55 00.4	
	comp=Z,28nm,0.8s								
ZEI	Tsey	84.72	313	*e*P		P		21 54 57.1	-2.4
ZEI				pmax		pmax			
	comp=Z,25nm,1.1s								
CUKT	Cukurca	84.77	307	P		P		21 54 58.8	-0.9
MCK	McKinley	84.91	26	IAmb		IAmb		21 55 01.0	
	comp=Z,41nm,0.9s								
TOLK	Toolik Lake Re	85.19	21	P		P		21 55 02.1	+1.0
	baz=263								
TOLK	Toolik Lake Re	85.19	21	IAmb		IAmb		21 55 03.8	
	comp=Z,22nm,0.9s								
KARS	Kars	85.26	310	P		P		21 55 03.2	+1.0
AKDM	Akdamar-Van	85.29	308	P		P		21 55 03.0	+0.6
AGRB	Hanur-Agry	85.31	309	P		P		21 55 03.4	+0.9
WRH	Wood River Hil	85.35	26	IAmb		IAmb		21 55 03.5	
	comp=Z,18nm,1.0s								
ATD	Arta Tunnel	85.39	281	LR		LR		22 32 45.5	
	comp=Z,15nm,18.8s,baz=106,slow=35								
ATD	Arta Tunnel	85.39	281	P		P		21 55 01.8	-1.4
ATD				IAmb		IAmb		21 55 04.9	
	comp=Z,21nm,1.2s								
GOF	Gofitskoye	85.42	315 ⇑	*e*P		P		21 55 02.2	-0.4
GOF				pmax		pmax			
	comp=Z,39nm,0.9s								
KBZ	Khabaz	85.48	314	P		P		21 55 02.7	-0.2
	comp=Z,8.5nm,0.8s,baz=88,slow=2.5,SNR=18								
KBZ				LR		LR		22 37 50.7	
	comp=Z,31nm,20.4s,baz=84,slow=39								
KBZ	Khabaz	85.48	314	*c**e*P		P		21 55 02.6	-0.3
KBZ				pmax		pmax			
	comp=Z,16nm,1.1s								
GLI	Glacier Island	85.52	29	P		P		21 55 03.3	+0.4
NEY	Neytrino	85.60	313	*i* P		P		21 55 03.6	-0.2
NEY				pmax		pmax			
	comp=Z,8.0nm,1.0s								
KIV	Kislovodsk	85.64	314	P		P		21 55 03.0	-0.9
KIV	Kislovodsk	85.64	314	*c* *i* P		P		21 55 03.0	-0.9
KIV								21 58 19.2	
KIV				pmax		pmax			
	comp=Z,11nm,1.0s								
KIV				MLR		MLR			
	comp=Z,36nm,18.0s								
KIV	Kislovodsk	85.64	314	P		P		21 55 03.8	-0.1
KIV				IAmb		IAmb		21 55 16.4	
	comp=Z,30nm,1.5s								
MLAZ	Malazgirt-MUS	85.64	309	P		P		21 55 04.6	+0.5
SHA1	Shidzhatmaz	85.66	314	*i* P		P		21 55 03.9	-0.3
SIRT	Sirnak	85.70	307	P		P		21 55 04.6	+0.2
HIN	Hinchinbrook I	85.78	30	P		P		21 55 03.7	-0.4
MID	Middleton Isla	85.81	31	P		P		21 55 04.5	+0.3
MID				pmax		pmax			
	comp=Z,184nm,1.0s								
MID	Middleton Isla	85.81	31	P		P		21 55 04.5	+0.3
FID	Port Fidalgo	85.81	29	P		P		21 55 04.1	-0.2
SENK	Senkaya-Erzuru	85.82	310	P		P		21 55 05.9	+0.9
HDA	Harding Lake	85.84	26	P		P		21 55 03.6	-0.7
	baz=266								
HDA	Harding Lake	85.84	26	P		P		21 55 03.8	-0.5
IL31		85.89	25	P		P		21 55 03.9	-0.6
ILAR	Eielson Array	85.89	25	P		P		21 55 03.5	-1.1
	comp=Z,1.3nm,0.4s,baz=256,slow=4.4,SNR=16								
ILAR				LR		LR		22 28 45.2	
	comp=Z,32nm,21.4s,baz=280,slow=32								
GURO	Guroymak-BITLI	86.04	308	P		P		21 55 06.9	+0.8
EYAK	Cordova Ski Ar	86.16	30	P		P		21 55 06.2	+0.3
EYAK				IAmb		IAmb		21 55 08.2	
	comp=Z,21nm,1.0s								
BCA	Borcka	86.38	311	P		P		21 55 07.8	+0.3
VRH	Novokhopyorsk	86.46	321	*e*P		P		21 55 06.6	-1.0
VRH				pmax		pmax			
	comp=Z,50nm,0.6s								
VRTB	Varto-Mus	86.49	309	P		P		21 55 09.7	+1.4
HARP	HAARP	86.53	28	P		P		21 55 07.1	-0.7
HARP				IAmb		IAmb		21 55 10.7	
	comp=Z,27nm,0.9s								
FYU	Fort Yukon	86.68	24	P		P		21 55 08.3	-0.1
RIDG	Independent Ri	86.72	26	IAmb		IAmb		21 55 11.0	
	comp=Z,19nm,1.2s								
KARO	Karliova-Bingo	86.81	309	P		P		21 55 10.8	+0.9
BNGB	Bingl	87.09	309	P		P		21 55 12.0	+0.8
GLB	Gilahina Butte	87.14	29	P		P		21 55 11.2	+0.4
GLB				IAmb		IAmb		21 55 13.1	
	comp=Z,17nm,1.0s								
VRDI	Verde Repeater	87.31	29	P		P		21 55 12.3	+0.5
WAX	Waxell Ridge	87.59	30	P		P		21 55 11.8	-1.2
WAX				IAmb		IAmb		21 55 15.6	
	comp=Z,21nm,0.8s								
KLMR	Klimovskoe	87.80	331	*e*P		P		21 55 11.2	-2.6
KLMR				pmax		pmax			
	comp=Z,39nm,0.7s								
KLMR	Klimovskoe	87.80	331	*e*P		P		21 55 11.3	-2.6
KLMR				AMP				21 55 13.3	
	comp=Z,39nm,0.7s								
BALM	Baldy	87.84	29	P		P		21 55 13.8	-0.5
VORD	Divnogorie	87.99	321	*e*P		P		21 55 12.6	-2.4
VORD				pmax		pmax			
	comp=Z,10.0nm,1.1s								
VSR	Storozhevoye	88.07	321	*e*P		P		21 55 13.3	-2.1
VSR				pmax		pmax			
	comp=Z,10.0nm,0.8s								
YAH	Yahtse	88.14	30	P		P		21 55 15.7	-0.2
YAH				IAmb		IAmb		21 55 20.1	
	comp=Z,14nm,1.0s								
BARN	Barnard Glacie	88.17	29	IAmb		IAmb		21 55 18.9	
	comp=Z,12nm,0.7s								
LPSR	Galich'ya Gora	88.20	322	*e*P		P		21 55 14.4	-1.6
LPSR				pmax		pmax			
	comp=Z,60nm,1.0s								
TMCR	Tamitsa	88.44	334	*e*P		P		21 55 15.1	-1.8
MOS	Moscow	88.89	326	*e*P		P		21 55 16.6	-2.5
MOS				pmax		pmax			
	comp=Z,38nm,0.8s								
PCA	Pinnacle	88.89	30	P		P		21 55 20.1	+0.9
PCA				IAmb		IAmb		21 55 24.3	
	comp=Z,15nm,0.9s								
DAWY	Dawson	89.13	26	IAmb		IAmb		21 55 21.7	
	comp=Z,12nm,0.8s								
ANN	Anapa	89.40	315	*e*P		P		21 55 19.8	-2.0
ANN				*e*				22 05 51.3	
ANN				pmax		pmax			
	comp=Z,20nm,0.8s								
OBN	Obninsk	89.51	325	*c* *i* P		P		21 55 20.3	-1.8
OBN				*i* S		SKSac		22 05 45.3	-1.3
OBN				pmax		pmax			
	comp=Z,31nm,0.9s								
OBN				MLR		MLR			
	comp=Z,85nm,21.0s								
OBN	Obninsk	89.51	325	P		P		21 55 20.6	-1.4
LVZ	Lovozero	89.64	338	*c**e*P		P		21 55 21.7	-0.8
LVZ				pmax		pmax			
	comp=Z,55nm,2.5s								
LVZ	Lovozero	89.64	338	P		P		21 55 20.9	-1.6
LVZ				IAmb		IAmb		21 55 22.3	
	comp=Z,24nm,0.8s								
GAZ	Gaziantep	89.87	307	IAmb		IAmb		21 55 25.2	
	comp=Z,12nm,0.9s								
EPYK	Eagle Plains	90.10	24	P		P		21 55 24.5	-0.2
	baz=275								
EPYK	Eagle Plains	90.10	24	IAmb		IAmb		21 55 26.2	
	comp=Z,19nm,1.1s								
APA	Apatity	90.14	338 ⇑	*i* P		P		21 55 22.0	-2.8
APA				pmax		pmax			
	comp=Z,18nm,0.9s								
APA				MLR		MLR			
	comp=Z,200nm,15.0s								
HYT	Haines Junctio	90.21	29	P		P		21 55 25.2	-0.3
INK	Inuvik	91.10	22	P		P		21 55 28.8	-0.4
	comp=Z,5.1nm,0.8s,baz=298,slow=4.6,SNR=11								
INK	Inuvik	91.10	22	IAmb		IAmb		21 55 29.7	
	comp=Z,12nm,1.1s								
KMBO	Kilima Mbogo	91.33	269	P		P		21 55 31.5	-0.3
	comp=Z,9.9nm,0.4s,baz=16,slow=8.1,SNR=4.1								
SYO	Syowa Base	91.47	201 ⇓	*i* P		P		21 55 29.6	-1.2
SYO	Syowa Base	91.47	201 ⇑	*e*pP		pP		21 55 51.0	+2.1
WHY	Whitehorse	91.51	29	P		P		21 55 31.7	+0.3
WHY				IAmb		IAmb		21 55 33.4	
	comp=Z,11nm,0.9s								
SIM	Simferopol'	91.75	315	*e*P		P		21 55 31.8	-0.9
SIM				pmax		pmax			
	comp=Z,11nm,0.8s								
BESE	Bessie Mountai	91.77	31	P		P		21 55 32.7	+0.1
BESE				IAmb		IAmb		21 55 34.8	
	comp=Z,18nm,1.1s								
JIS	Juneau Island	92.05	32	IAmb		IAmb		21 55 35.9	
	comp=Z,11nm,0.8s								
KEV	Kevo	92.13	340	P		P		21 55 33.6	-0.4
KEV				pmax		pmax			
	comp=Z,10.0nm,1.1s								
KEV	Kevo	92.13	340	P		P		21 55 33.6	-0.4
KEV				IAmb		IAmb		21 55 44.0	
	comp=Z,9.8nm,1.1s								
BR131	Keskin Array S	92.52	310	P		P		21 55 34.4	-2.2
BR131				pmax		pmax			
	comp=Z,7.0nm,1.2s								
BR131	Keskin Array S	92.52	310	P		P		21 55 34.4	-2.2
BRTR	Keskin Array B	92.52	310	P		P		21 55 34.9	-1.8
	comp=Z,3.2nm,1.0s,baz=104,slow=5.2,SNR=15								
BRTR				PP		PP		21 59 22.0	+3.4
	comp=Z,6.8nm,1.1s,baz=116,slow=5.6,SNR=14								
BRTR				LR		LR		22 45 20.1	
	comp=Z,20nm,18.3s,baz=50,slow=41								
SPA0	Spitsbergen Ar	92.52	349	IAmb		IAmb		21 55 38.5	
	comp=Z,17nm,1.1s								
SPA0	Spitsbergen Ar	92.52	349	*e*P		P		21 55 35.4	-0.3
ARCES	ARCESS Array B	92.69	340	P		P		21 55 35.6	-1.0
	comp=Z,25nm,0.8s,baz=76,slow=5.5,SNR=55								
ARCES				LR		LR		22 41 42.7	
	comp=Z,62nm,20.3s,baz=84,slow=38								
ARE0	ARCESS Array S	92.69	340	*e*P		P		21 55 35.7	-0.9
HAMF	Hammerfest	93.03	341	*e*P		P		21 55 36.9	-1.2
WRAK	Wrangell Islan	93.40	33	IAmb		IAmb		21 55 42.3	
	comp=Z,14nm,0.8s								
KTK1	Kautokeino	93.60	340	*e*P		P		21 55 39.5	-1.3
FINES	FINESS Array B	94.21	332	P		P		21 55 42.3	-1.4
	comp=Z,5.6nm,0.6s,baz=60,slow=5.5,SNR=58								
FINES				LR		LR		22 41 29.6	
	comp=Z,98nm,21.1s,baz=75,slow=38								
C36M	Paulatuk	94.23	20	P		P		21 55 43.4	-0.2
DLBC	Dease Lake	94.29	31	P		P		21 55 43.7	-0.6
DLBC				IAmb		IAmb		21 55 46.2	
	comp=Z,8.0nm,0.9s								
AKASG	Malin Array Be	94.37	321	P		P		21 55 42.6	-2.1
	comp=Z,3.0nm,0.6s,baz=67,slow=4.2,SNR=13								
AKBB	Malin Array Si	94.37	321	*c**e*P		P		21 55 43.0	-1.7
AKBB	Malin Array Si	94.37	321	IAmb		IAmb		21 55 44.5	
	comp=Z,10nm,1.2s								
VSU	Vasula	94.48	329	*i* P		P		21 55 43.6	-1.4
VSU				pmax		pmax			
	comp=Z,43nm,0.7s								
TRO	Tromso	94.88	341	*e*P		P		21 55 45.5	-1.1
SORM	Soroca	95.33	319	⇓P		P		21 55 46.8	-2.3
SORM	Soroca	95.33	319	⇓P		P		21 55 46.8	-2.3
TLCR		95.45	316	⇑P		P		21 55 49.0	-0.8
TLCR		95.45	316	⇑P		P		21 55 49.0	-0.8
CFR	Carcaliu	95.93	316	⇑P		P		21 55 50.4	-1.5
CFR	Carcaliu	95.93	316	⇑P		P		21 55 50.4	-1.5
VASR	Vaslui	95.94	317	⇑P		P		21 55 49.0	-2.9
TESR	Tescani	96.73	317	⇑P		P		21 55 53.2	-2.4
STEI	Steigen	96.75	340	*e*P		P		21 55 54.0	-1.1
VRI	Vrincioaia	96.79	316	⇑P		P		21 55 54.9	-1.0
VRI	Vrincioaia	96.79	316	⇑P		P		21 55 54.9	-1.0
PLOR	Plostina	96.85	316	⇑P		P		21 55 55.2	-1.0
PLOR	Plostina	96.85	316	⇑P		P		21 55 55.2	-1.0
MLR	Muntele Rosu	97.40	316	⇑P		P		21 55 58.1	-0.7
MLR	Muntele Rosu	97.40	316	⇑P		P		21 55 58.1	-0.7
MLR	Muntele Rosu	97.40	316	IAmb		IAmb		21 55 58.8	
	comp=Z,11nm,0.9s								
BURAR	Bucovina Array	97.49	318	⇓P		P		21 55 58.5	-0.6
BURAR	Bucovina Array	97.49	318	⇓P		P		21 55 58.5	-0.6
BUR08	Bucovina Ar. S	97.50	318	IAmb		IAmb		21 55 59.2	
	comp=Z,5.3nm,0.9s								
DOPR	Dopca	97.69	317	⇑P		P		21 55 59.6	-0.4
MOR8	Moi Rana	97.72	338	*e*P		P		21 55 56.8	-2.8
KONS	Konsvik	98.07	339	*e*P		P		21 55 59.4	-1.7
ALN	Alexandroupoli	98.13	312	IAmb		IAmb		21 56 01.1	
	comp=Z,7.8nm,1.0s								
ARR	Arges	98.33	316	⇑P		P		21 56 01.7	-1.2
KWP	Kalwaria Pacla	98.69	321	IAmb		IAmb		21 56 04.5	
	comp=Z,6.0nm,0.7s								
LOT	Lotru	98.91	316	⇑P		P		21 56 04.5	-1.1
KOLS	Kolonicke sedl	99.13	320	*e*P		Pdif		21 56 05.5	-0.8
KOLS	Kolonicke sedl	99.13	320	*e*PDIFF		Pdif		21 56 05.5	-0.8
UZH	Uzhgorod	99.19	320	*e*P		Pdif		21 56 05.8	-0.7
NSS	Namsos	99.33	337	*e*Pdif		Pdif		21 56 05.3	-1.5
DRGR		99.34	318	⇑P		Pdif		21 56 06.1	-1.3
DRGR		99.34	318	⇑P		Pdif		21 56 06.1	-1.3
YKA	Yellowknife Ar	100.31	25	P		Pdif		21 56 11.6	+0.4
	comp=Z,2.3nm,0.8s,baz=291,slow=4.8,SNR=22								
BZS	Buzias	100.35	317	⇑P		Pdif		21 56 10.2	-1.6
BZS	Buzias	100.35	317	⇑P		Pdif		21 56 10.2	-1.6
NC602	NORSAR Array S	101.12	334	*e*Pdif		Pdif		21 56 12.5	-2.4
NB2	NORSAR Subarra	101.14	334	P		Pdif		21 56 13.1	-1.9
	comp=Z,6.8nm,0.8s,baz=66,slow=4.6								
NB2	NORSAR Subarra	101.14	334	P		Pdif		21 56 13.1	-1.9
	baz=66,slow=4.6								
NOA	NORSAR Array B	101.14	334	P		Pdif		21 56 13.2	-1.9
	comp=Z,4.8nm,0.8s,baz=66,slow=4.5,SNR=29								
VYHS	Vyhne	101.44	320	*e*P		Pdif		21 56 14.9	-1.7
VYHS	Vyhne	101.44	320	*e*PDIFF		Pdif		21 56 14.9	-1.7
DOMB	Dombas	101.61	335	*e*Pdif		Pdif		21 56 16.3	-0.8
SKAR	Skarslia	102.57	334	*e*Pdif		Pdif		21 56 20.9	-0.5
BRG	Berggiesshubel	103.70	324	*e*PDIFF		Pdif		21 56 25.4	-1.2
	comp=Z,4.4nm,0.9s								
BRG				*e*				22 01 04.0	
	comp=Z,22nm,1.8s								
BRG	Berggiesshubel	103.70	324	*e*P		Pdif		21 56 25.4	-1.2
BRG				pmax		pmax			
	comp=Z,4.0nm,0.9s								
BRG				pmax		pmax			
	comp=Z,22nm,1.8s								
CLL	Collm	104.10	324	*e*Pdif		Pdif		21 56 29.0	+0.7
CLL	Collm	104.10	324	*e*P		Pdif		21 56 29.0	+0.7
GERES	GERESS Array B	104.56	322	Pdiff		Pdif		21 56 30.2	-0.3
	comp=Z,0.9nm,0.7s,baz=64,slow=3.7,SNR=10								
GERES				PP		PKiKP		22 00 46.3	0.0
	comp=Z,0.3nm,0.5s,baz=69,slow=4.6,SNR=3.8								
NVAR	Mina Array Bea	106.70	49	PKiKP		PKiKP		22 00 51.9	+1.1
	comp=Z,0.7nm,0.7s,baz=256,slow=2.2,SNR=4.2								
PDAR	Pinedale Array	111.44	42	PKiKP		PKiKP		22 00 59.8	+0.2
	comp=Z,0.4nm,0.4s,baz=112,slow=1.6,SNR=5.1								
KEST	Kesra	112.12	310	PP		PP		22 01 41.5	-4.1
	comp=Z,10nm,0.9s,baz=253,slow=4.3,SNR=11								
ANMO	Albuquerque	116.83	49	PKIKP		PKiKP		22 01 11.2	+1.2
ANMO	Albuquerque	116.83	49			PKiKP		22 01 11.2	+1.2
ESDC	Sonseca Array	119.95	319	PP		PP		22 02 37.3	-2.7
	comp=Z,2.6nm,1.1s,baz=47,slow=7.6,SNR=6.8								
TXAR	Lajitas Array	121.19	54	PKP		PKiKP		22 01 18.9	+0.4
	comp=Z,2.6nm,0.8s,baz=234,slow=1.0,SNR=24								
TXAR				PKKPbc		PKKPab		22 11 21.6	-0.3
	comp=Z,0.6nm,0.9s,baz=141,slow=4.2,SNR=3.9								
TXAR	Lajitas Array	121.19	54	PKIKP		PKiKP		22 01 19.0	+0.4
SCHQ	Schefferville	121.96	10	PKP		PKPdf		22 01 18.9	-0.2
	comp=Z,3.5nm,0.5s,baz=318,slow=2.2,SNR=15								
TORD	Torodi Ar. Bea	125.17	288	PKP		PKPdf		22 01 25.6	-0.7
	comp=Z,4.2nm,0.7s,baz=78,slow=1.9,SNR=25								
TORD				pPKP		pPKPdf		22 01 43.4	-1.9
	comp=Z,2.4nm,0.7s,baz=40,slow=2.3,SNR=6.2								
TORD				PP		PP		22 03 13.5	-2.9
	comp=Z,3.1nm,0.9s,baz=57,slow=4.7,SNR=4.0								
CCM	Cathedral Cave	125.81

PDO	**Prodromos**	**0.77**	**54**	P	**Pg**	**21 50 17.6**	**-0.5**
PDO				S	**Sb**	**21 50 28.5**	**+0.3**
	comp=N,315nm,0.3s						
PDO	**Prodromos**	**0.77**	**54**	P	**Pg**	**21 50 17.7**	**-0.4**
RLS	**Riolos of Patr**	**0.85**	**96**	P	**Pg**	**21 50 18.9**	**-0.8**
PVO	**Paravola**	**1.01**	**62**	P	**Pb**	**21 50 22.4**	**+0.3**
PVO				S	**Sn**	**21 50 36.6**	**+0.3**
	comp=N,240nm,0.3s						
PVO	**Paravola**	**1.01**	**62**	P	**Pb**	**21 50 22.5**	**+0.3**
PVO				AML	AML	21 50 38.9	
	comp=N,538µm,0.4s						
PVO				AML	AML	21 50 39.6	
	comp=E,407µm,0.3s						
DRO	**Drossia**	**1.06**	**100**	P	**Pb**	**21 50 22.9**	**-0.1**
DRO				S	**Sn**	**21 50 38.0**	**+0.4**
	comp=E,100nm,0.3s						
DRO	**Drossia**	**1.06**	**100**	P	**Pb**	**21 50 22.9**	**-0.1**
AMT	**Artemida-Makis**	**1.21**	**120**	P	**Pn**	**21 50 25.1**	**-0.2**
AMT				S	**Sg**	**21 50 43.2**	**+0.9**
	comp=E,95nm,0.6s						
LAKA	**Lakka**	**1.25**	**85**	P	**Pn**	**21 50 26.2**	**+0.3**
ANX	**Ano Chora**	**1.28**	**69**	P	**Pb**	**21 50 27.1**	**+0.2**
ANX				S	**Sg**	**21 50 45.2**	**+0.6**
	comp=E,112nm,0.6s						
ANX	**Ano Chora**	**1.28**	**69**	P	**Pb**	**21 50 27.0**	**+0.2**
SERG	**Sergoula**	**1.34**	**78**	P	**Pn**	**21 50 27.5**	**+0.4**
SERG				S	**Sg**	**21 50 45.9**	**-0.5**
	comp=E,62nm,0.4s						
SERG	**Sergoula**	**1.34**	**78**	P	**Pn**	**21 50 27.5**	**+0.4**
SERG				AML	AML	21 50 52.7	
	comp=E,113µm,0.3s						
SERG				AML	AML	21 50 54.0	
	comp=N,141µm,0.5s						
TRIZ	**Trizonia**	**1.34**	**80**	P	**Pn**	**21 50 27.4**	**+0.4**
TRIZ				S	**Sb**	**21 50 43.9**	**-0.8**
	comp=N,70nm,0.7s						
TRIZ	**Trizonia**	**1.34**	**80**	P	**Pn**	**21 50 27.5**	**+0.4**
IGT	**Igoumenitsa**	**1.39**	**358**	P	**Pb**	**21 50 28.8**	**+0.2**
IGT				S	**Sg**	**21 50 47.8**	**-0.1**
	comp=N,45nm,0.5s						
IGT	**Igoumenitsa**	**1.39**	**358**	P	**Pb**	**21 50 28.8**	**+0.2**
KLV	**Kalavryta, Ach**	**1.39**	**94**	P	**Pn**	**21 50 28.3**	**+0.5**
KLV	**Kalavryta, Ach**	**1.39**	**94**	P	**Pn**	**21 50 28.3**	**+0.5**
KALE	**Kalithea**	**1.40**	**79**	P	**Pb**	**21 50 28.6**	**-0.2**
ITM	**Ithomi**	**1.55**	**128**	P	**Pb**	**21 50 31.6**	**+0.2**
GUR	**Goura**	**1.56**	**97**	P	**Pn**	**21 50 31.0**	**+0.9**
MAKR	**Makrakomi, Fth**	**1.62**	**57**	P	**Pn**	**21 50 31.9**	**+1.0**
PYL	**PYLOS**	**1.65**	**139**	P	**Pb**	**21 50 32.8**	**-0.2**
AGG	**Agios Georgios**	**1.75**	**59**	P	**Pb**	**21 50 35.5**	**+0.7**
DBRK	**Dubrovnik**	**4.83**	**340**	Sn	**Sn**	**21 52 09.9**	**-0.7**
STON	**Ston**	**5.15**	**337**	*e*Pn	**Pn**	**21 51 19.5**	**+0.2**
STON				Sn	**Sn**	**21 52 16.1**	**-2.2**
ZIRJ	**Zirje**	**6.57**	**328**	*e*Pn	**Pn**	**21 51 38.9**	**-0.1**
ZIRJ				Sn	**Sn**	**21 52 52.3**	**-1.2**
KIJV	**Kijevo**	**6.58**	**334**	*e*Pn	**Pn**	**21 51 40.3**	**+1.3**
KIJV				Sn	**Sn**	**21 52 52.1**	**-1.7**
MORI	**Morici**	**6.72**	**330**	*e*Pn	**Pn**	**21 51 42.1**	**+1.1**
DUGI	**Dugi Otok**	**7.09**	**327**	Sn	**Sn**	**21 53 05.8**	**-0.5**

*AZER **06** 22:18:03.8, 39°.35N×51°.83E, h24km, ML3.1*
*IDC **06** 22:18:08.8±2.7, 39°.86N×51°.12E, h0km, mb3.2/2, mb1 3.5/7, mb1mx3.3/48, mbtmp3.6/7, ML3.0/4, Error ellipse: s-maj=36.6km s-min=27.2km az=45.0*
ISC 06 22:18:02.4±1.1, **39°.33N**±0°.06×**52°.10E**±0°.07, **h35**km, **n36**, σ1ˢ**43**/63, **Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.84**	**306**	Pn	**Pn**	**22 18 31.9**	**+0.4**
GALA				Sn	**Sn**	**22 18 53.0**	**-0.5**
NDR	**Nardaran**	**2.05**	**308**	Pn	**Pn**	**22 18 35.9**	**+1.5**
NDR				Sn	**Sn**	**22 18 58.6**	**0.0**
GOBA	**Gobu**	**2.11**	**301**	Pn	**Pn**	**22 18 36.8**	**+1.6**
GOBA				Sn	**Sn**	**22 19 01.6**	**+1.4**
LKRN	**Lenkeran, Azer** SNR=4.9	**2.66**	**258**	Pn	**Pn**	**22 18 44.4**	**+1.7**
LKRN				Sn	**Sn**	**22 19 14.7**	**+1.0**
ASTR	**Astara**	**2.69**	**254**	Pn	**Pn**	**22 18 44.5**	**+1.4**
ASTR				Sn	**Sn**	**22 19 15.7**	**+1.1**
GBS	**Qobustan**	**2.71**	**297**	Pn	**Pn**	**22 18 45.2**	**+1.7**
GBS				Sn	**Sn**	**22 19 16.0**	**+0.9**
ATGJ	**Altiaghaj**	**2.87**	**303**	Pn	**Pn**	**22 18 47.0**	**+1.3**
ATGJ				Sn	**Sn**	**22 19 18.1**	**-0.9**
GLBA	**Clilabad** SNR=5.7	**2.88**	**269**	Pn	**Pn**	**22 18 47.5**	**+1.8**
GLBA				Sn	**Sn**	**22 19 19.1**	**0.0**
SIZA	**Siyzn** SNR=4.0	**3.01**	**306**	Pn	**Pn**	**22 18 48.8**	**+1.2**
SIZA				Sn	**Sn**	**22 19 25.0**	**+2.6**
LRK	**Lerik** SNR=12	**3.01**	**258**	Pn	**Pn**	**22 18 49.1**	**+1.4**
LRK				Sn	**Sn**	**22 19 21.3**	**-1.3**
YRD	**Yardimli** SNR=14	**3.03**	**263**	Pn	**Pn**	**22 18 49.2**	**+1.2**
YRD				Sn	**Sn**	**22 19 22.3**	**-0.8**
PQL	**Pirkuli**	**3.06**	**300**	Pn	**Pn**	**22 18 50.7**	**+2.3**
PQL				Sn	**Sn**	**22 19 25.0**	**+1.1**
KDMR	**Kurdemir**	**3.19**	**290**	Pn	**Pn**	**22 18 50.8**	**+0.8**
KDMR				Sn	**Sn**	**22 19 28.4**	**+1.7**
IML	**Ismayilli** SNR=3.7	**3.34**	**297**	Pn	**Pn**	**22 18 53.7**	**+1.6**
IML				Sn	**Sn**	**22 19 30.5**	**-0.2**
QUBA	**Quba, Azerbaij**	**3.42**	**307**	Pn	**Pn**	**22 18 55.1**	**+1.9**
QUBA				Sn	**Sn**	**22 19 33.2**	**+0.7**
ZRD	**Zardab**	**3.53**	**287**	Sn	**Sn**	**22 19 36.5**	**+1.3**
BLQ	**Beylaqan**	**3.53**	**278**	Pn	**Pn**	**22 18 54.8**	**+0.1**
BLQ				Sn	**Sn**	**22 19 33.5**	**-1.8**
XNQ	**Khinaliq** SNR=4.7	**3.54**	**303**	Pn	**Pn**	**22 18 56.6**	**+1.5**
XNQ				Sn	**Sn**	**22 19 36.1**	**+0.2**
QBL	**Gabala** SNR=3.2	**3.64**	**298**	Pn	**Pn**	**22 18 57.3**	**+1.0**
QBL				Sn	**Sn**	**22 19 38.2**	**+0.2**
QSAR	**Qusar**	**3.65**	**308**	Pn	**Pn**	**22 18 57.8**	**+1.4**
QSAR				Sn	**Sn**	**22 19 37.7**	**-0.6**
AGDM	**Agdam**	**3.92**	**283**	Pn	**Pn**	**22 19 01.0**	**+0.8**
AGDM				Sn	**Sn**	**22 19 43.9**	**-1.2**
SEKA	**Sheki** SNR=4.0	**4.19**	**298**	Pn	**Pn**	**22 19 05.0**	**+1.1**
SEKA				Sn	**Sn**	**22 19 51.1**	**-0.5**
GANJ	**Ganja**	**4.63**	**288**	Pn	**Pn**	**22 19 10.1**	**+0.3**
GANJ				Sn	**Sn**	**22 20 00.1**	**-2.3**
ORD	**Ordubad**	**4.76**	**267**	Pn	**Pn**	**22 19 12.1**	**+0.4**
ORD				Sn	**Sn**	**22 20 03.5**	**-2.2**
ZKTA	**Zakatala** SNR=3.3	**4.77**	**301**	Pn	**Pn**	**22 19 12.8**	**+1.0**
ZKTA				Sn	**Sn**	**22 20 06.1**	**+0.3**
GEYT	**Alibeck** 1.8nm,0.3s,baz=301,slow=17,SNR=14	**4.92**	**105**	Pn	**Pn**	**22 19 15.6**	**+1.8**
GEYT				Lg	Lg	22 20 22.6	
	1.4nm,0.3s,baz=310,slow=31,SNR=4.4						
GDB	**GEDABAY** SNR=12	**5.06**	**288**	Pn	**Pn**	**22 19 17.1**	**+1.1**
GDB				Sn	**Sn**	**22 20 10.2**	**-3.1**
SBZ	**Shahbuz** SNR=4.5	**5.07**	**273**	Pn	**Pn**	**22 19 16.9**	**+0.9**
SBZ				Sn	**Sn**	**22 20 12.2**	**-1.3**
NAX	**Nakhchivan**	**5.13**	**270**	Pn	**Pn**	**22 19 19.0**	**+2.2**
NAX				Sn	**Sn**	**22 20 15.3**	**+0.5**
QZX	**Qazax, Azerbai**	**5.43**	**291**	Pn	**Pn**	**22 19 23.2**	**+2.3**
QZX				Sn	**Sn**	**22 20 20.2**	**-2.0**
AKTO	**Aktyubinsk** 0.5nm,0.3s,baz=154,slow=15,SNR=3.3	**11.86**	**19**	Pn	**Pn**	**22 20 46.5**	**-2.5**
ARU	**Arti** 0.0nm,0.3s,baz=146,slow=18,SNR=3.8	**17.64**	**12**	Pn	**Pn**	**22 22 03.0**	**-2.1**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=225,slow=7.5,SNR=3.6	**18.58**	**37**	P	**P**	**22 22 16.1**	**-0.1**
AKASG	**Malin Array Be** 0.8nm,0.3s,baz=118,slow=11,SNR=4.6	**19.68**	**313**	P	Pn	22 22 40.7	+11
KURBB	**Kurchatov Arra** 0.6nm,0.7s,baz=251,slow=11,SNR=6.1	**21.72**	**50**	P	**P**	**22 22 51.1**	**+0.8**
MKAR	**Makanchi Array** 1.0nm,0.7s,baz=254,slow=11,SNR=8.5	**23.18**	**61**	P	**P**	**22 23 07.0**	**+1.1**

*IDC **06** 22:18:32.6±0.8, 9°.49S×112°.83E, h0km, mb4.1/16, mb1 4.2/19, mb1mx4.1/45, mbtmp4.1/19, ML4.4/3, MS3.4/8, Ms1 3.4/8, ms1mx3.1/38, Error ellipse: s-maj=29.3km s-min=13.5km az=50.0*
*NEIC **06** 22:18:39.6±1.8, 9°.49S±0°.09×112°.94E±0°.07, h57km±9km, mb4.3/17, Error ellipse: s-maj=12.6km s-min=9.6km az=185.0*

*DJA **06** 22:18:41.1±0.6, 10°.3±7°.1×11°.3E±°, h62km±7km, M4.6/12, mB5.8/1, mb4.7/6, MLv4.5/12, Mw(mB)5.4/1*
ISC 06 22:18:37.4±0.5, **9°.65S**±0°.06×**112°.77E**±0°.06, **h36**km, **n70**, σ1ˢ**80**/63, **mb4.3**/24, **MS3.4**/5, **South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.80**	**49**	P	**Pn**	**22 19 08.2**	**+2.3**
JAGI				S	**Sn**	**22 19 29.6**	**+2.0**
JAGI	**Jajag, Banyuwa**	**1.80**	**49**	Pn	**Pn**	**22 19 04.8**	**-1.2**
WOJI	**Wonogiri, Jawa**	**2.56**	**314**	P	**Pn**	**22 19 18.9**	**+2.5**
DNP	**Denpasar**	**2.60**	**68**	P	Pn	22 19 21.2	+4.3
GRJI	**Gresik**	**2.73**	**354**	P	**Pn**	**22 19 22.4**	**+3.6**
UGM	**Wanagama**	**2.81**	**308**	P	**Pn**	**22 19 22.8**	**+2.9**
UGM	**Wanagama**	**2.81**	**308**		**Pn**	**22 19 22.7**	**+2.8**
KMMI	**Kalianget**	**2.84**	**25**	P	**Pn**	**22 19 23.0**	**+2.7**
SMRI	**Semarang**	**3.46**	**318**	P	**Pn**	**22 19 32.3**	**+3.5**
SMRI	**Semarang**	**3.46**	**318**	Pn	**Pn**	**22 19 31.0**	**+2.2**
PLAI	**Plampang**	**5.01**	**81**	P	Pn	22 19 54.3	+4.2
CISI	**Cisompet, Garu** 0.9nm186nm,0.6s	**5.32**	**293**	P	**Pn**	**22 19 57.4**	**+2.9**
CISI	**Cisompet, Garu**	**5.32**	**293**	Pn	**Pn**	**22 19 57.9**	**+3.4**
LEM	**Lembang** comp=Z,176nm,20.8s,baz=190,slow=43	**5.82**	**298**	LR	LR	22 22 39.3	
DBJI	**Dramaga**	**6.71**	**297**	P	Pn	22 20 29.6	+16
KAPI	**Kappang** 2.3nm,0.3s,baz=270,slow=10,SNR=2.5	**8.32**	**57**	Pn	**Pn**	**22 20 34.3**	**-1.2**
KAPI				LR	LR	22 23 26.6	
	comp=Z,46nm,19.5s,baz=247,slow=36						
BKSI	**Bulukumba** 23nm,0.7s	**8.46**	**60**	P	**Pn**	**22 20 41.0**	**+3.4**
EDFI	**Ende, Flores** 12nm,0.6s	**8.85**	**85**	P	**Pn**	**22 20 45.6**	**+2.6**
BNSI	**Bone** 30nm,1.6s	**8.96**	**55**	P	**Pn**	**22 20 47.8**	**+3.5**
BATI	**Baumata** 7.1nm,0.3s,baz=346,slow=5.7,SNR=4.3	**10.75**	**94**	Pn	**Pn**	**22 21 07.2**	**-1.7**
MNAI	**Manna**	**11.06**	**298**	Pn	**Pn**	**22 21 14.6**	**+1.3**
KSM	**Kuching**	**11.32**	**347**	Pn	**Pn**	**22 21 17.9**	**+1.2**
SOEI	**Soe**	**11.34**	**91**	Pn	**Pn**	**22 21 17.5**	**+0.5**
SBUM	**Sibu**	**12.03**	**357**	Pn	**Pn**	**22 21 25.3**	**-1.2**
GIRL	**Giralia**	**13.00**	**174**	Pn	**Pn**	**22 21 38.8**	**-0.8**
PSA00	**Pilbara Seismi**	**13.67**	**151**	Pn	**Pn**	**22 21 48.0**	**-0.8**
SDSI	**Sungai Dareh**	**14.22**	**307**	P	**Pn**	**22 21 52.4**	**-4.0**
FITZ	**Fitzroy Crossi** 1.3nm,0.3s,baz=316,slow=8.7,SNR=29	**15.05**	**125**	Pn	**Pn**	**22 22 05.9**	**-1.6**
FITZ				LR	LR	22 28 18.6	
	comp=Z,139nm,19.6s,baz=332,slow=39						
FITZ	**Fitzroy Crossi**	**15.05**	**125**	Pn	**Pn**	**22 22 05.4**	**-2.1**
KNRA	**Kununurra**	**16.71**	**113**		**P**	**22 22 30.1**	**-0.8**
KNRA				IAmb	IAmb	22 22 47.5	
	comp=Z,16nm,0.9s						
MTN	**Manton Dam**	**18.29**	**102**	P	**Pn**	**22 22 49.0**	**+0.5**
MTN				IAmb	IAmb	22 22 53.8	
	comp=Z,16nm,1.0s						
KULM	**Kulim**	**19.13**	**320**	P	**P**	**22 22 57.1**	**-0.5**
MORW	**Morawa**	**19.56**	**171**	P	**Pn**	**22 23 04.5**	**+0.7**
MORW				IAmb	IAmb	22 23 15.1	
	comp=Z,12nm,1.1s						
FAKI	**Fak Fak**	**20.47**	**72**	P	**P**	**22 23 11.0**	**-1.3**
FAKI				IAmb	IAmb	22 23 16.1	
	comp=Z,23nm,1.1s						
DAV	**Davao City (W)** comp=Z,82nm,18.6s,baz=244,slow=40	**20.95**	**38**	LR	LR	22 32 21.0	
WB0	**Warramunga Arr**	**23.18**	**118**	P	**P**	**22 23 40.9**	**-0.2**
WB0				IAmb	IAmb	22 23 59.6	
	comp=Z,9.3nm,1.1s						
WRA	**Warramunga Arr** comp=Z,2.0nm,0.5s,baz=289,slow=12,SNR=6.9	**23.20**	**119**	P	**P**	**22 23 40.0**	**-1.3**
WB2	**Warramunga Arr**	**23.21**	**119**	P	**P**	**22 23 41.3**	**-0.2**
NWAO	**Narrogin (SRO)** comp=Z,122nm,20.7s,baz=306,slow=37	**23.53**	**171**	LR	LR	22 33 06.2	
ASAR	**Alice Springs** comp=Z,5.7nm,0.7s,baz=303,slow=8.6,SNR=63	**24.53**	**127**	P	**P**	**22 23 55.2**	**+1.3**
AS31	**Alice Springs**	**24.53**	**127**	P	**P**	**22 23 54.3**	**+0.4**
FORT	**Forrest**	**25.39**	**148**	P	**P**	**22 24 02.8**	**+1.3**
CMAR	**Chiang Mai Arr** comp=Z,1.1nm,0.7s,baz=167,slow=8.5,SNR=8.6	**31.08**	**334**	P	**P**	**22 24 53.1**	**+0.7**
CMAR				LR	LR	22 38 34.5	
	comp=Z,88nm,19.5s,baz=170,slow=39						
STKA	**Stephens Creek** comp=Z,2.3nm,0.6s,baz=299,slow=8.5,SNR=8.8	**34.67**	**134**	P	**P**	**22 25 26.1**	**+2.4**
STKA				LR	LR	22 40 40.3	
	comp=Z,102nm,19.1s,baz=304,slow=38						
H08S2	**Diego Garcia H** baz=96,slow=76,SNR=29	**39.85**	**270**	T	T	23 09 10.1	
H08S3	**Diego Garcia H** baz=96,slow=76,SNR=19	**39.86**	**270**	T	T	23 09 08.3	
H08S1	**Diego Carcia H** baz=96,slow=76,SNR=24	**39.87**	**270**	T	T	23 09 07.4	
SHL	**Shillong**	**40.48**	**330**	P	**P**	**22 26 12.9**	**-0.2**
SHL				IAmb	IAmb	22 26 13.4	
	comp=Z,5.1nm,0.7s						
XAN	**Xi'an**	**43.60**	**355**	P	**P**	**22 26 38.6**	**+0.3**
XAN				pP	pP	22 26 43.6	-4.3
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
JNU	**Nakatsue**	**45.90**	**21**	P	**P**	**22 26 53.8**	**-2.8**
LZH	**Lanzhou**	**46.26**	**350**	*e*P	**P**	**22 26 58.8**	**-0.8**
LZH				pP	pwP	22 27 12.3	-1.4
LZH				sP	sP	22 27 18.5	+4.8
LZH				*e*PP	**PP**	**22 28 49.0**	**+0.3**
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				pmax	pmax		
	comp=Z,46nm,5.9s						
KSRS	**Korea Array** comp=Z,1.1nm,0.7s,baz=205,slow=5.5,SNR=5.3	**48.96**	**16**	P	**P**	**22 27 20.0**	**-0.3**
HHC	**Hu-ho-hao-te**	**50.26**	**359**	P	**P**	**22 27 30.0**	**-0.3**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,22nm,6.0s						
MJAR	**Matsushiro Arr** comp=Z,4.3nm,0.8s,baz=203,slow=8.8,SNR=9.9	**51.80**	**26**	P	**P**	**22 27 39.9**	**-2.0**
ULN	**Ulaanbaatar**	**57.48**	**355**	P	**P**	**22 28 22.8**	**-0.3**
SONM	**Songino Array** comp=Z,3.9nm,0.7s,baz=178,slow=8.7,SNR=24	**57.51**	**355**	P	**P**	**22 28 22.9**	**-0.3**
WMQ	**Urumqi**	**57.89**	**339**	*e*P	**P**	**22 28 27.8**	**+1.9**
MK31	**Makanchi Array**	**62.43**	**337**	P	**P**	**22 28 56.4**	**-0.4**
MK31				IAmb	IAmb	22 28 56.7	
	comp=Z,1.6nm,0.6s						
MKAR	**Makanchi Array** comp=Z,2.0nm,0.4s,baz=148,slow=7.9,SNR=43	**62.43**	**337**	P	**P**	**22 28 56.4**	**-0.4**
GAR	**Garm**	**62.45**	**324**	P	**P**	**22 28 55.7**	**-1.6**
AAK	**Ala-Archa** comp=Z,1.4nm,0.6s,baz=35,slow=1.4,SNR=4.1	**62.69**	**329**	P	**P**	**22 28 58.9**	**+0.1**
KURBB	**Kurchatov Arra** comp=Z,0.5nm,0.5s,baz=147,slow=5.0,SNR=5.4	**66.99**	**337**	P	**P**	**22 29 26.3**	**-0.2**
ZAA0	**Zalesovo Array**	**67.63**	**343**	P	**P**	**22 29 29.8**	**-0.7**
ZAA0				IAmb	IAmb	22 29 30.2	
	comp=Z,3.6nm,0.7s						
ZALV	**Zalesovo Beam** comp=Z,2.9nm,0.5s,baz=158,slow=3.6,SNR=16	**67.63**	**343**	P	**P**	**22 29 29.6**	**-0.8**
GEYT	**Alibeck** comp=Z,1.2nm,0.8s,baz=173,slow=3.5,SNR=3.7	**69.56**	**317**	P	**P**	**22 29 43.4**	**+0.5**
BVAR	**Borovoye Array** comp=Z,0.7nm,0.7s,baz=99,slow=9.6,SNR=3.5	**72.11**	**335**	P	**P**	**22 29 57.3**	**-0.7**
VNDA	**Vanda** comp=Z,0.8nm,1.0s,baz=298,slow=7.5,SNR=3.6	**72.36**	**170**	P	**P**	**22 30 00.3**	**+1.2**
VNDA				LR	LR	22 57 35.5	
	comp=Z,69nm,21.6s,baz=352,slow=32						
ARU	**Arti** comp=Z,0.8nm,0.4s,baz=101,slow=5.2,SNR=5.2	**79.52**	**333**	P	**P**	**22 30 40.3**	**0.0**
TIXI	**Tiksi**	**81.83**	**5**	P	**P**	**22 30 51.3**	**-1.0**
TIXI				IAmb	IAmb	22 30 52.0	
	comp=Z,3.8nm,0.7s						
BRTR	**Keskin Array B** comp=Z,0.5nm,0.6s,baz=147,slow=5.5,SNR=4.3	**87.86**	**311**	P	**P**	**22 31 24.0**	**+0.4**

*MEX **06** 22:21:40.6±0.7, 14°.79N×91°.98W, h99km±6km, MD3.5*
*GCG **06** 22:21:42.1±0.6, 15°.33N×91°.88W, h33km±999km, MD3.7*
ISC 06 22:21:40.5±1.7, **14.7N**±0.5×**92.2W**±0.2, **h100**km, **n5**, σ1ˢ**25**/9, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.23**	**349**	*i* P	**Pn**	**22 21 53.6**	**-1.1**
THIG				*i* S	**Sn**	**22 22 04.6**	**-0.9**
STG3	**Santiaguito 3,**	**0.63**	**87**	*e*P	**Pn**	**22 21 56.0**	**-1.5**
FUG	**Fuego 3**	**1.35**	**100**	*e*P	**Pn**	**22 22 04.6**	**-0.5**
FUG				*e*S	**Sn**	**22 22 22.4**	**-1.4**
PCIG		**1.40**	**317**	*e*P	**Pn**	**22 22 05.9**	**+0.3**
PCIG				*e*S	**Sn**	**22 22 24.7**	**+0.2**
IXG	**Ixpaco**	**1.80**	**106**	*e*P	**Pn**	**22 22 11.8**	**+1.2**
IXG				*e*S	**Sn**	**22 22 34.8**	**+1.2**

IDC 06 22:33:32.7±9.9, **30°.72S**×**178°.30W**, **h0**km, **mb3.8**/2, **mb1 4.0**/2, **mb1mx3.7**/22, **mbtmp3.8**/2, **Error ellipse: s-maj=426.4km s-min=62.6km az=156.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.4nm,0.4s,baz=106,slow=7.6,SNR=5.6	**42.84**	**267**	P	P	22 41 32.4	-0.4
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=113,slow=8.1,SNR=2.0	**43.85**	**273**	P	P	22 41 41.2	+0.2
FINES	**FINESS Array B** 0.3nm,0.5s,baz=45,slow=4.9,SNR=4.1	**145.35**	**340**	PKPbc	PKPbc	22 53 10.8	-0.9

*NEIC **06** 22:45:45.8±2.4, 57°.5S±0°.1×147°.7E±0°.2, h10km±4km, mb4.5/19, Error ellipse: s-maj=16.3km s-min=13.6km az=129.0*
*IDC **06** 22:45:45.7±2.3, 57°.51S×147°.62E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.8/21, mbtmp3.8/5, MS3.7/2, Ms1 3.6/2, ms1mx3.2/15, Error ellipse: s-maj=172.9km s-min=20.5km az=82.0*
ISC 06 22:45:45.6±0.6, **57°.50S**±0°.08×**147°.66E**±0°.09, **h10**km, **n40**, σ1ˢ**18**/29, **mb4.4**/11, **West of Macquarie Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**7.01**	**69**	Pn	**Pn**	**22 47 28.1**	**-0.1**
MLZ	**Mavora Lakes**	**17.52**	**55**		**P**	**22 49 50.6**	**-0.4**
WKZ	**Wanaka**	**18.34**	**55**		**Pn**	**22 49 59.2**	**-0.8**
WKZ				IAmb	IAmb	22 50 00.9	
	comp=Z,23nm,1.1s						
ODZ	**Otahua Downs**	**18.91**	**59**	P	**Pn**	**22 50 07.7**	**+0.8**
ODZ				IAmb	IAmb	22 50 20.1	
	comp=Z,31nm,1.5s						
LBZ	**Lake Benmore**	**19.21**	**57**	P	**Pn**	**22 50 11.2**	**+0.8**
LBZ				IAmb	IAmb	22 50 23.6	
	comp=Z,23nm,1.3s						
CASY	**Casey**	**19.28**	**228**	P	**P**	**22 50 08.5**	**-1.5**
VNDA	**Vanda** comp=Z,2.0nm,0.9s,baz=344,slow=12,SNR=7.9	**20.70**	**171**	P	**P**	**22 50 26.7**	**+1.3**
VNDA	**Vanda**	**20.70**	**171**	P	**P**	**22 50 26.0**	**+0.5**
BSWZ	**Blackbirch Sta**	**22.98**	**58**	P	**P**	**22 50 50.8**	**+0.6**
CMWZ	**Cape Campbell**	**23.11**	**58**	P	**P**	**22 50 52.6**	**+1.1**
TUWZ	**Tuamarina**	**23.24**	**58**	P	**P**	**22 50 51.8**	**-1.0**
BBOO	**Buckleboo**	**25.94**	**337**	P	**P**	**22 51 18.4**	**+0.5**
BBOO				IAmb	IAmb	22 51 27.0	
	comp=Z,8.3nm,1.1s						
STKA	**Stephens Creek** comp=Z,1.7nm,0.7s,baz=155,slow=14,SNR=3.6	**25.96**	**348**	P	**P**	**22 51 20.1**	**+2.0**
STKA				LR	LR	22 59 32.5	
	comp=Z,107nm,18.7s,baz=204,slow=32						
STKA	**Stephens Creek** comp=Z,0.8nm,1.1s	**25.96**	**348**	IAmb	IAmb	22 51 28.4	
ARMA	**Armidale**	**27.22**	**8**	P	**P**	**22 51 29.6**	**0.0**
ARMA				IAmb	IAmb	22 51 32.5	
	comp=Z,16nm,1.2s						
H01W1	**Cape Leeuwin H** baz=145,slow=75,SNR=35	**31.86**	**301**	T	T	23 25 48.2	
H01W2	**Cape Leeuwin H** baz=145,slow=75,SNR=36	**31.86**	**301**	T	T	23 25 48.9	
H01W3	**Cape Leeuwin H** baz=145,slow=75,SNR=29	**31.88**	**301**	T	T	23 25 51.0	
QSPA	**South Pole Qui**	**32.60**	**180**	P	**P**	**22 52 16.8**	**-0.2**
QSPA				IAmb	IAmb	22 52 27.4	
	comp=Z,4.3nm,1.3s						
ASAR	**Alice Springs** comp=Z,0.8nm,0.7s,baz=167,slow=9.2,SNR=7.0	**35.24**	**338**	P	**P**	**22 52 42.3**	**+2.2**
MAW	**Mawson** comp=Z,144nm,20.4s,baz=59,slow=34	**37.22**	**219**	LR	LR	23 06 58.7	
CTAO	**Charters Tower**	**37.38**	**358**	P	**P**	**22 52 56.1**	**-2.3**
CTAO				IAmb	IAmb	22 53 03.6	
	comp=Z,36nm,1.5s						
WRA	**Warramunga Arr** comp=Z,1.5nm,0.7s,baz=165,slow=7.7,SNR=5.7	**38.78**	**340**	P	**P**	**22 53 11.0**	**+0.8**
PSA00	**Pilbara Seismi**	**41.23**	**319**	P	**P**	**22 53 30.1**	**-0.4**
PSA00				IAmb	IAmb	22 53 38.7	
	comp=Z,29nm,1.2s						
COEN	**Coen**	**43.59**	**354**	P	**P**	**22 53 48.2**	**-1.7**
COEN				IAmb	IAmb	22 53 53.9	
	comp=Z,32nm,1.5s						
KNRA	**Kununurra**	**44.11**	**333**	P	**P**	**22 53 53.9**	**0.0**
SNAA	**Sanae** comp=Z,1.1nm,1.0s,baz=202,slow=16,SNR=6.0	**49.47**	**192**	P	**P**	**22 54 37.1**	**+1.7**
SNAA	**Sanae** comp=Z,3.4nm,1.2s	**49.47**	**192**	IAmb	IAmb	22 54 47.1	
JAGI	**Jajag, Banyuwa**	**55.36**	**318**	P	**P**

couple: M_o2.16400×10^{17} NP1:ϕ_s8.00000°, δ87.00000°, λ179.00000°. NP2:ϕ_s98.00000°, δ89.00000°, λ3.00000°. Principal axes: T 2.3140, Plg3.0000°, Azm323.0000°; N -0.3000, Plg87.0000°, Azm122.0000°; P -2.0140, Plg1.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC ***06*** *23:06:55, 14.78S×175.18W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.33; $M_{\theta\theta}$=0.77; $M_{\phi\phi}$=-0.45; $M_{r\theta}$=0.02; $M_{r\phi}$=2.18; $M_{\theta\phi}$=0.18; Fault plane solution: M_o2.29000×10^{17} NP1:ϕ_s98.00000°, δ85.00000°,λ-1.00000°. NP2:ϕ_s188.00000°,δ89.00000°, λ-175.00000°. Principal axes: T 2.4327, Plg3.0000°, Azm323.0000°; N -0.3226, Plg85.0000°, Azm200.0000°; P -2.1101, Plg4.0000°, Azm53.0000°;*

ISC 06 23:06:50.7±0.3,14°.94S±0°.05×174°.94W±0°.05,h10km, n637,σ1$46/439,mb4.9/170,MS5.2/223,16C-2D,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.23**	**72**	Pn	**Pn**	**23 07 40.4**	**-1.1**
NIUE	**Niue**	**6.32**	**131**	Pn	**Pn**	**23 08 25.3**	**+1.4**
MSVF	**Nonsavu**	**7.28**	**247**	Pn	**Pn**	**23 08 37.3**	**+0.1**
FUNA	**Funafuti**	**8.58**	**317**	Pn	**Pn**	**23 08 54.2**	**-0.8**
RAO	**Raoul Island**	**14.51**	**190**	LR	LR	23 14 57.5	
	comp=Z,8μm,18.4s,baz=354,slow=34						
RAR	**Rarotonga**	**15.71**	**116**	LR	LR	23 15 09.8	
	comp=Z,2μm,19.8s,baz=292,slow=31						
RAR	**Rarotonga**	**15.71**	**116**	Pn	**Pn**	**23 10 34.7**	**+2.6**
SANVU	**Saraoutou**	**17.25**	**266**	Pn	**Pn**	**23 10 51.0**	**-0.7**
SANVU				IAmb	IAmb	23 11 02.1	
	comp=Z,78nm,1.0s						
DZM	**Mont Dzumac**	**19.02**	**245**	*e*Pn	**P**	**23 11 10.9**	**-2.0**
	comp=Z,422nm,1.7s						
DZM				*e*LR	LR	23 15 38.4	
	comp=Z,14μm,25.6s						
DZM	**Mont Dzumac**	**19.02**	**245**	P	**P**	**23 11 10.9**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=80,slow=18,SNR=15						
DZM				LR	LR	23 17 02.2	
	comp=Z,9μm,21.9s,baz=80,slow=33						
DZM	**Mont Dzumac**	**19.02**	**245**	P	**P**	**23 11 12.5**	**-0.5**
TARA	**Tarawa**	**20.16**	**322**	P	**P**	**23 11 23.2**	**-2.1**
OUZ	**Omahuta**	**22.67**	**205**	P	**P**	**23 11 52.7**	**+0.4**
MXZ	**Matakaoa Point**	**23.32**	**194**	IAMs_20	IAMs_20	23 19 32.7	
	comp=Z,8μm,21.0s						
URZ	**Urewera**	**24.27**	**195**	P	**P**	**23 12 08.6**	**+0.6**
URZ				IAmb	IAmb	23 12 22.2	
	comp=Z,20nm,0.9s						
PAE	**Paea**	**24.48**	**100**	*e*T	T	23 37 27.9	
	comp=Z,20nm,0.2s						
PPT	**Papeete**	**24.48**	**100**	LR	LR	23 19 16.8	
	comp=Z,478nm,20.6s,baz=270,slow=30						
PPT2	**Papeete2**	**24.48**	**100**	*e*S	**S**	**23 16 23.2**	**-7.6**
	comp=Z,791nm,31.2s						
PPT2				*e*LQ	LQ	23 17 09.6	
	comp=Z,17μm,26.0s						
PPT2				*e*LR	LR	23 18 12.2	
	comp=Z,3μm,25.5s						
PPT2	**Papeete2**	**24.48**	**100**	*e*T	T	23 37 28.6	
	comp=Z,36nm,0.4s						
TIAR	**Tiarei**	**24.70**	**100**	*e*T	T	23 37 44.1	
	comp=Z,20nm,0.4s						
TVO	**Taravao**	**24.80**	**100**	*e*T	T	23 37 51.6	
	comp=Z,13nm,0.3s						
HNR	**Honiara**	**25.14**	**280**	LR	LR	23 20 28.4	
	comp=Z,4μm,19.6s,baz=122,slow=33						
HNR	**Honiara**	**25.14**	**280**	P	**P**	**23 12 14.4**	**-1.8**
TBI	**Tubuai**	**25.45**	**113**	*e*S	**S**	**23 16 38.0**	**-8.1**
	comp=Z,336nm,27.8s						
TBI				*e*LQ	LQ	23 17 35.1	
	comp=Z,14μm,27.2s						
TBI				*e*LR	LR	23 18 38.9	
	comp=Z,2μm,25.8s						
TBI	**Tubuai**	**25.45**	**113**	*e*T	T	23 38 43.9	
	comp=Z,58nm,0.3s						
MEH	**Mehetia**	**25.93**	**100**	*e*T	T	23 39 16.5	
	comp=Z,26nm,0.3s						
MSWZ	**Moikau Station**	**27.72**	**196**	P	**P**	**23 12 37.0**	**-2.3**
KWAJ	**Kwajalein Atol**	**29.25**	**323**	IAMs_20	IAMs_20	23 21 18.9	
	comp=Z,6μm,21.0s						
LTZ	**Lake Taylor**	**29.85**	**199**	IAMs_20	IAMs_20	23 23 26.2	
	comp=Z,5μm,21.0s						
FOZ	**Fox Glacier**	**31.34**	**202**	IAMs_20	IAMs_20	23 25 12.6	
	comp=Z,4μm,18.0s						
LBZ	**Lake Benmore**	**31.96**	**200**	P	**P**	**23 13 16.9**	**+0.1**
LBZ				IAMs_20	IAMs_20	23 25 56.1	
	comp=Z,4μm,20.0s						
WKZ	**Wanaka**	**32.75**	**201**	P	**P**	**23 13 24.2**	**+0.5**
WKZ				IAMs_20	IAMs_20	23 25 57.9	
	comp=Z,4μm,18.0s						
EIDS	**Eidsvold**	**33.46**	**247**	P	**P**	**23 13 30.6**	**+0.5**
MLZ	**Mavora Lakes**	**33.54**	**202**	P	**P**	**23 13 31.4**	**+0.8**
MLZ				IAmb	IAmb	23 13 35.2	
	comp=Z,9.1nm,0.8s						
MLZ				IAMs_20	IAMs_20	23 25 35.7	
	comp=Z,4μm,21.0s						
WHZ	**Wether Hill Ro**	**34.05**	**202**	P	**P**	**23 13 34.1**	**-1.0**
WHZ				IAMs_20	IAMs_20	23 27 00.3	
	comp=Z,3μm,18.0s						
KRVT	**Keravat (AS076**	**34.19**	**285**	P	**P**	**23 13 33.5**	**-3.1**
	comp=Z,23nm,0.5s,baz=272,slow=7.2,SNR=6.8						
KRVT				LR	LR	23 24 36.8	
	comp=Z,2μm,21.8s,baz=121,slow=32						
ARMA	**Armidale**	**34.32**	**238**	P	**P**	**23 13 36.8**	**-1.0**
	baz=35,SNR=6.1						
ARMA	**Armidale**	**34.32**	**238**	P	**P**	**23 13 37.7**	**-0.1**
ARMA				IAmb	IAmb	23 13 44.0	
	comp=Z,20nm,1.0s						
TAOE	**Nuku Hiva Isla**	**34.54**	**84**	*e*S	S	23 19 00.9	-8.2
	comp=Z,210nm,26.4s						
TAOE				*e*LR	LR	23 22 49.2	
	comp=Z,6μm,26.3s						
TAOE	**Nuku Hiva Isla**	**34.54**	**84**	*e*T	T	23 49 56.3	
	comp=Z,69nm,0.3s						
MGCD	**Mangrove Creek**	**35.72**	**233**	P	**P**	**23 13 50.0**	**+0.3**
	baz=36						
RMQ	**Roma**	**35.73**	**245**	P	**P**	**23 13 47.3**	**-2.6**
	baz=36,SNR=6.7						
CTA	**Charters Tower**	**37.30**	**256**	P	**P**	**23 14 00.1**	**-3.2**
	baz=37						
CTA	**Charters Tower**	**37.30**	**256**	LR	LR	23 29 00.8	
	comp=Z,741nm,18.1s,baz=74,slow=36						
CTAO	**Charters Tower**	**37.30**	**256**	P	**P**	**23 14 00.6**	**-2.8**
CTAO				IAmb	IAmb	23 14 13.3	
	comp=Z,22nm,1.1s						
PMG	**Port Moresby**	**37.42**	**274**	IAMs_20	IAMs_20	23 25 15.7	
	comp=Z,3μm,19.0s						
H11S2	**WAKE ISLAND Hy**	**37.82**	**331**	T	T	23 54 10.6	
	baz=150,slow=76,SNR=80						
H11S3	**WAKE ISLAND Hy**	**37.84**	**331**	T	T	23 53 53.6	
	baz=150,slow=76,SNR=51						
H11S1	**WAKE ISLAND Hy**	**37.84**	**331**	T	T	23 53 50.6	
	baz=150,slow=76,SNR=26						
CNB	**Canberra Magne**	**37.87**	**231**	P	**P**	**23 14 08.1**	**+0.1**
	baz=38,SNR=4.5						
CAN	**Canberra**	**38.15**	**231**	P	**P**	**23 14 10.7**	**+0.3**
	baz=38						
CAN	**Canberra**	**38.15**	**231**	P	**P**	**23 14 10.6**	**+0.3**
CAN				IAmb	IAmb	23 14 19.6	
	comp=Z,20nm,0.9s						
RKT	**Rikitea**	**38.55**	**108**	*e*S	**S**	**23 20 05.0**	**-4.9**
	comp=Z,827nm,31.5s						
RKT				*e*LQ	LQ	23 23 02.3	
	comp=Z,2μm,26.0s						
RKT				*e*LR	LR	23 24 41.3	
	comp=Z,1μm,25.8s						
RKT	**Rikitea**	**38.55**	**108**	*e*T	T	23 55 04.1	
	comp=Z,19nm,0.3s						
H11N3	**WAKE ISLAND Hy**	**38.79**	**332**	T	T	23 55 20.9	
	baz=151,slow=76,SNR=154						
H11N1	**WAKE ISLAND Hy**	**38.80**	**332**	T	T	23 55 03.9	
	baz=151,slow=76,SNR=350						
H11N2	**WAKE ISLAND Hy**	**38.81**	**332**	T	T	23 55 23.1	
	baz=151,slow=76,SNR=118						
HLP	**Hilina Pali**	**39.12**	**30**	P	**P**	**23 14 18.7**	**+0.1**
MTSU	**Mount Surprise**	**39.13**	**260**	P	**P**	**23 14 19.6**	**+0.8**
	baz=39,SNR=5.1						
MLH	**Mauna Loa**	**39.25**	**30**	P	**P**	**23 14 16.4**	**-3.5**
MLH				IAmb	IAmb	23 14 35.5	
	comp=Z,29nm,0.9s						
SBLHI	**Steaming Bluff**	**39.25**	**30**	P	**P**	**23 14 19.8**	**0.0**
CMSA	**Cobar Meteorol**	**39.52**	**238**	P	**P**	**23 14 20.4**	**-1.5**
	baz=40,SNR=8.8						
QLP	**Quilpie**	**39.74**	**246**	P	**P**	**23 14 21.7**	**-2.0**
	baz=40,SNR=4.6						
HLK	**Haleakala**	**39.94**	**28**	P	**P**	**23 14 24.4**	**-1.3**
COEN	**Coen**	**40.53**	**266**	P	**P**	**23 14 28.1**	**-2.4**
TOO	**Toolangi**	**41.62**	**230**	P	**P**	**23 14 40.3**	**+1.1**
	baz=42,SNR=10.0						
TOO	**Toolangi**	**41.62**	**230**	P	**P**	**23 14 39.0**	**-0.2**
MOO	**Moorlands**	**42.52**	**222**	P	**P**	**23 14 47.1**	**+0.7**
	baz=43						
TAU	**Tasmania Unive**	**42.66**	**222**	IAMs_20	IAMs_20	23 29 23.6	
	comp=Z,2μm,19.0s						
STKA	**Stephens Creek**	**42.99**	**239**	P	**P**	**23 14 48.2**	**-2.2**
	baz=43,SNR=13						
STKA	**Stephens Creek**	**42.99**	**239**	P	**P**	**23 14 47.9**	**-2.5**
	comp=Z,5.1nm,0.8s,baz=80,slow=10.0,SNR=14						
STKA	**Stephens Creek**	**42.99**	**239**	P	**P**	**23 14 48.4**	**-2.0**
HTT	**Hallett**	**45.53**	**238**	P	**P**	**23 15 09.0**	**-1.8**
	baz=46,SNR=3.3						
BBOO	**Buckleboo**	**47.77**	**239**	P	**P**	**23 15 26.5**	**-1.8**
	baz=48,SNR=7.0						
BBOO	**Buckleboo**	**47.77**	**239**	P	**P**	**23 15 27.7**	**-0.6**
WR0	**Warramunga Arr**	**48.31**	**256**	P	**P**	**23 15 31.2**	**-1.5**
WR0				IAmb	IAmb	23 15 39.2	
	comp=Z,18nm,1.1s						
WB0	**Warramunga Arr**	**48.46**	**257**	IAmb	IAmb	23 15 45.4	
	comp=Z,20nm,1.1s						
WB2	**Warramunga Arr**	**48.49**	**256**	P	**P**	**23 15 31.8**	**-2.3**
WB2				IAmb	IAmb	23 15 41.9	
	comp=Z,13nm,1.1s						
WRAB	**Tennant Creek**	**48.49**	**256**	P	**P**	**23 15 32.7**	**-1.4**
WRAB	**Tennant Creek**	**48.49**	**256**	IAMs_20	IAMs_20	23 33 32.3	
	comp=Z,2μm,20.0s						
WRA	**Warramunga Arr**	**48.51**	**256**	P	**P**	**23 15 30.1**	**-4.1**
	comp=Z,9.3nm,1.1s,baz=90,slow=7.7,SNR=13						
WRA				LR	LR	23 33 43.9	
	comp=Z,2μm,20.4s,baz=120,slow=34						
AS31	**Alice Springs**	**48.84**	**252**	P	**P**	**23 15 35.4**	**-1.4**
AS31				IAmb	IAmb	23 15 41.3	
	comp=Z,7.8nm,0.7s						
ASAR	**Alice Springs**	**48.84**	**252**	P	**P**	**23 15 32.9**	**-3.9**
	comp=Z,4.1nm,0.7s,baz=85,slow=8.1,SNR=31						
ASAR				LR	LR	23 35 22.5	
	comp=Z,2μm,19.4s,baz=84,slow=35						
KDU	**Kakadu**	**51.02**	**266**	P	P	23 15 48.6	-4.8
	baz=51,SNR=3.6						
MTN	**Manton Dam**	**52.29**	**265**	P	P	23 15 57.1	-5.8
	baz=52,SNR=3.7						
MTN	**Manton Dam**	**52.29**	**265**	P	**P**	**23 16 04.5**	**+1.6**
WRKA	**Warakurna**	**53.96**	**250**	P	**P**	**23 16 11.9**	**-3.2**
	baz=54,SNR=33						
FORT	**Forrest**	**54.30**	**243**	P	**P**	**23 16 17.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**56.85**	**258**	LR	LR	23 39 15.4	
	comp=Z,611nm,19.8s,baz=90,slow=34						
TNTI	**Ternate**	**59.13**	**280**	P	**P**	**23 16 51.8**	**-0.2**
TNTI				IAmb	IAmb	23 16 57.8	
	comp=Z,16nm,1.0s						
SOEI	**Soe**	**59.47**	**267**	P	**P**	**23 16 56.1**	**+1.6**
	comp=Z,103nm,1.4s						
SOEI	**Soe**	**59.47**	**267**	P	**P**	**23 16 55.1**	**+0.6**
MBWA	**Marble Bar**	**62.06**	**254**	IAMs_20	IAMs_20	23 43 52.0	
	comp=Z,2μm,18.0s						
MEEK	**Meekatharra**	**62.62**	**248**	P	P	23 17 10.0	-5.7
	baz=63,SNR=3.2						
KLBR	**Kellerberrin**	**63.14**	**242**	P	**P**	**23 17 16.2**	**-2.9**
	baz=63,SNR=5.9						
KCP	**Kidapawan**	**63.31**	**286**	↓*i*P	**P**	**23 17 23.0**	**+2.5**
NWAO	**Narrogin (SRO)**	**63.55**	**240**	P	**P**	**23 17 23.0**	**+1.2**
VNDA	**Vanda**	**63.69**	**185**	P	**P**	**23 17 21.4**	**-0.4**
	comp=Z,3.5nm,0.9s,baz=350,slow=5.3,SNR=15						
VNDA				LR	LR	23 40 18.3	
	comp=Z,395nm,21.4s,baz=31,slow=32						
VNDA	**Vanda**	**63.69**	**185**	P	**P**	**23 17 23.4**	**+1.6**
MORW	**Morawa**	**64.74**	**245**	P	**P**	**23 17 27.6**	**-2.0**
	baz=65,SNR=5.0						
MORW	**Morawa**	**64.74**	**245**	P	**P**	**23 17 30.0**	**+0.4**
MORW				IAmb	IAmb	23 17 33.3	
	comp=Z,10nm,0.8s						
ADK	**Adak**	**66.56**	**359**	P	**P**	**23 17 41.7**	**+1.0**
MJAR	**Matsushiro Arr**	**67.64**	**321**	P	**P**	**23 17 46.0**	**-2.0**
	comp=Z,6.4nm,0.9s,baz=158,slow=6.7,SNR=6.2						
MJAR				LR	LR	23 41 40.4	
	comp=Z,1μm,21.7s,baz=125,slow=31						
MAJO	**Matsushiro**	**67.64**	**321**	P	**P**	**23 17 47.4**	**-0.5**
MAJO				IAmb	IAmb	23 17 54.1	
	comp=Z,13nm,1.1s						
MAJO				IAMs_20	IAMs_20	23 40 44.8	
	comp=Z,2μm,22.0s						
MAT	**Matsushiro**	**67.64**	**321**	P	**P**	**23 17 48.9**	**+0.9**
MAT				S	**S**	**23 26 47.6**	**+2.3**
NIKH	**Nikolski High**	**67.83**	**4**	P	**P**	**23 17 46.9**	**-1.9**
ERM	**Erimo**	**68.57**	**328**	IAMs_20	IAMs_20	23 43 42.4	
	comp=Z,2μm,20.0s						
UNV	**Unalaska Valle**	**68.89**	**5**	P	**P**	**23 17 56.3**	**+0.9**
CASY	**Casey**	**70.21**	**204**	P	**P**	**23 18 05.1**	**+1.6**
CASY				IAmb	IAmb	23 18 07.5	
	comp=Z,17nm,1.1s						
JKA	**Kamikawa-asahi**	**70.37**	**329**	P	**P**	**23 18 05.1**	**+0.3**
JKA				IAmb	IAmb	23 18 11.5	
	comp=Z,16nm,1.1s						
JNU	**Nakatsue**	**70.40**	**314**	P	**P**	**23 18 06.4**	**+1.1**
PEA0B	**Petropavlovsk-**	**71.75**	**343**	P	**P**	**23 18 14.2**	**+1.2**
PETK	**Petropavlovsk-**	**71.75**	**343**	P	**P**	**23 18 12.9**	**0.0**
	comp=Z,2.9nm,0.8s,baz=133,slow=8.1,SNR=3.3						
PETK				LR	LR	23 43 35.4	
	comp=Z,912nm,22.0s,baz=166,slow=31						
SPIA	**Saint Paul Isl**	**71.95**	**3**	P	**P**	**23 18 14.4**	**+0.4**
SAO	**San Andreas Ge**	**71.99**	**43**	P	**P**	**23 18 16.1**	**+1.4**
SAO				IAmb	IAmb	23 18 18.2	
	comp=Z,10nm,1.1s						
YOJ	**Yonaguni jima**	**72.10**	**302**	P	**P**	**23 18 15.0**	**-0.7**
PMPB	**Monarch Peak**	**72.11**	**44**	P	**P**	**23 18 16.3**	**+0.7**
PMPB				IAmb	IAmb	23 18 30.2	
	comp=Z,13nm,1.0s						
PAGB	**Antelope Grade**	**72.20**	**44**	P	**P**	**23 18 16.6**	**+0.5**
PAGB				IAmb	IAmb	23 18 28.2	
	comp=Z,11nm,1.1s						
HOPS	**Hopland Field**	**72.26**	**40**	P	**P**	**23 18 16.4**	**0.0**
CHGN	**Chignik**	**72.31**	**10**	P	**P**	**23 18 16.7**	**+0.5**
GDXM	**Geysers**	**72.33**	**40**	P	**P**	**23 18 17.1**	**+0.2**
YSS	**Yuzh-Sakhalins**	**72.36**	**331**	P	**P**	**23 18 16.8**	**+0.1**
KCPM	**Cahto Peak**	**72.37**	**39**	P	**P**	**23 18 16.2**	**-0.9**
KCPM				IAmb	IAmb	23 18 18.4	
	comp=Z,14nm,0.9s						
PASC	**Pasadena Art C**	**72.77**	**47**	IAMs_20	IAMs_20	23 42 46.0	
	comp=Z,1μm,19.0s						
109C	**Camp Elliot, M**	**72.87**	**48**	P	**P**	**23 18 20.3**	**+0.2**
109C				IAmb	IAmb	23 18 29.7	
	comp=Z,11nm,1.1s						
MWC	**Mount Wilson**	**72.89**	**47**	P	**P**	**23 18 20.6**	**+0.1**
MWC				IAmb	IAmb	23 18 23.3	
	comp=Z,9.8nm,0.9s						
NACB	**Ninganchiao**	**73.14**	**301**	P	**P**	**23 18 21.6**	**-0.2**
ISA	**Isabella, Lake**	**73.37**	**45**	P	**P**	**23 18 24.1**	**+1.0**
CMB	**Columbia Colle**	**73.41**	**42**	P	**P**	**23 18 24.4**	**+1.2**
CMB				IAmb	IAmb	23 18 26.9	
	comp=Z,8.4nm,1.1s						
SSLB	**Suanglung**	**73.51**	**301**	P	**P**	**23 18 23.8**	**-0.3**
SSLB				IAmb	IAmb	23 18 33.1	
	comp=Z,16nm,1.1s						
YHNB	**Yeheng**	**73.53**	**302**	IAMs_20	IAMs_20	23 49 18.1	
	comp=Z,1μm,19.0s						
WDC	**Whiskeytown Da**	**73.55**	**39**	P	**P**	**23 18 23.3**	**-0.6**
WDC				IAMs_20	IAMs_20	23 42 42.8	
	comp=Z,1μm,20.0s						
AFDM	**Forest Hills D**	**73.56**	**41**	P	**P**	**23 18 25.5**	**+1.4**
AFDM				IAmb	IAmb	23 18 27.5	
	comp=Z,8.9nm,1.1s						
TATO	**Taipei**	**73.57**	**302**	IAMs_20	IAMs_20	23 48 31.9	
	comp=Z,1μm,20.0s						
TPUB	**Ta-pu**	**73.57**	**300**	P	**P**	**23 18 21.9**	**-2.6**
TPUB				IAmb	IAmb	23 18 35.4	
	comp=Z,19nm,1.0s						
ORV	**Oroville**	**73.58**	**40**	P	**P**	**23 18 25.3**	**+1.1**
PFO	**Pinyon Flats O**	**73.70**	**48**	P	**P**	**23 18 26.1**	**+0.9**
PFO	**Pinyon Flats O**	**73.70**	**48**	IAMs_20	IAMs_20	23 45 33.9	
	comp=Z,1μm,19.0s						
XPFO	**Pion Flat**	**73.71**	**48**	IAMs_20	IAMs_20	23 43 11.9	
	comp=Z,1μm,20.0s						
MDPB	**Devils Postpil**	**74.04**	**43**	P	**P**	**23 18 27.3**	**+0.1**
MDPB				IAmb	IAmb	23 18 30.9	
	comp=Z,9.1nm,1.1s						
OMMB	**Old Mammoth Mi**	**74.08**	**43**	P	**P**	**23 18 29.0**	**+1.5**
YBH	**Yreka Blue Hor**	**74.14**	**38**	P	**P**	**23 18 27.2**	**-0.3**
	comp=Z,7.9nm,1.0s,baz=187,slow=7.0,SNR=6.9						
YBH	**Yreka Blue Hor**	**74.14**	**38**	P	**P**	**23 18 29.0**	**+1.5**
YBH				IAmb	IAmb	23 18 31.0	
	comp=Z,12nm,1.1s						
SLBS	**Sierra La Lagu**	**74.20**	**60**	P	**P**	**23 18 28.9**	**+0.7**
SLBS	**Sierra La Lagu**	**74.20**	**60**	IAMs_20	IAMs_20	23 43 06.0	
	comp=Z,2μm,20.0s						
WAKR	**Walker**	**74.29**	**42**	P	**P**	**23 18 29.3**	**+0.7**
GSC	**Goldstone, Bar**	**74.33**	**46**	P	**P**	**23 18 29.5**	**+0.7**
BEKR	**Beckworth**	**74.48**	**41**	P	**P**	**23 18 31.5**	**+1.8**
PNTR	**Pine Nut**	**74.52**	**42**	P	**P**	**23 18 32.0**	**+2.1**
PNTR				IAmb	IAmb	23 18 47.3	
	comp=Z,14nm,1.2s						
VCNR	**Virginia City**	**74.60**	**41**	P	**P**	**23 18 31.6**	**+1.2**
VCNR				IAmb	IAmb	23 18 47.3	
	comp=Z,5.8nm,0.5s						
GLA	**Glamis**	**74.60**	**49**	P	**P**	**23 18 31.9**	**+1.5**
GLA				IAmb	IAmb	23 18 34.5	
	comp=Z,14nm,1.0s						
YERR	**Yerington**	**74.69**	**42**	P	**P**	**23 18 31.9**	**+1.0**
KSRS	**Korea Array**	**74.80**	**316**	P	**P**	**23 18 29.1**	**-2.1**
	comp=Z,2.2nm,0.9s,baz=129,slow=7.1,SNR=12						
KSRS				LR	LR	23 48 29.4	
	comp=Z,961nm,19.3s,baz=136,slow=34						
KS19	**Wonju Array Si**	**74.86**	**316**	P	**P**	**23 18 31.3**	**-0.4**
RYN	**Ryan**	**74.96**	**43**	P	**P**	**23 18 33.8**	**+1.4**
NVAR	**Mina Array Bea**	**74.99**	**43**	P	**P**	**23 18 33.0**	**+0.3**
	comp=Z,4.5nm,1.0s,baz=228,slow=9.4,SNR=22						
NVAR				LR	LR	23 44 05.0	
	comp=Z,435nm,21.8s,baz=238,slow=30						
PAHR	**Pah Rah Range**	**75.00**	**41**	P	**P**	**23 18 34.0**	**+1.4**
NV11	**Mina Array Sit**	**75.09**	**43**	P	**P**	**23 18 34.4**	**+1.2**
QSPA	**South Pole Qui**	**75.10**	**180**	P	**P**	**23 18 33.8**	**+1.0**
Y12C	**Blythe**	**75.17**	**49**	P	**P**	**23 18 35.3**	**+1.8**
Y12C				IAmb	IAmb	23 18 37.6	
	comp=Z,6.6nm,0.7s						
Y12C				IAMs_20	IAMs_20	23 44 27.6	
	comp=Z,998nm,20.0s						
113A	**Mohawk Valley,**	**75.24**	**50**	P	**P**	**23 18 35.4**	**+1.4**
113A				IAmb	IAmb	23 18 44.6	
	comp=Z,13nm,1.1s						
COR	**Corvallis**	**75.55**	**35**	IAMs_20	IAMs_20	23 44 32.6	
	comp=Z,1μm,20.0s						
214A	**Organ Pipe Nat**	**75.57**	**51**	P	**P**	**23 18 37.3**	**+1.4**
TPNV	**Topopah Spring**	**75.57**	**45**	P	**P**	**23 18 37.5**	**+1.5**
TPNV				IAMs_20	IAMs_20	23 44 28.1	
	comp=Z,1μm,20.0s						
HSIG		**75.66**	**54**	P	**P**	**23 18 37.3**	**+0.9**
KSM	**Kuching**	**75.67**	**275**	P	**P**	**23 18 38.7**	**+1.9**
INCN	**Inchon**	**75.68**	**316**	IAMs_20	IAMs_20	23 48 43.8	
	comp=Z,963nm,20.0s						
MOD	**Modoc Plateau**	**75.69**	**39**	P	**P**	**23 18 37.8**	**+1.3**
MOD				IAmb	IAmb	23 18 45.5	
	comp=Z,7.8nm,0.9s						
K05A	**Summer Lake**	**75.81**	**38**	P	**P**	**23 18 38.5**	**+1.2**
K05A				IAmb	IAmb	23 18 46.0	
	comp=Z,17nm,1.1s						
KNMB	**Chin-men Tao**	**75.92**	**300**	P	**P**	**23 18 37.0**	**-1.0**
QZH	**Quanzhou**	**75.94**	**301**	P	P	23 18 45.0	+6.9
QZH				S	**S**	**23 28 22.6**	**+1.3**
QZH				pmax	pmax		
	comp=Z,200nm,4.1s						
QZH				LR	LR		
	comp=Z,250nm,17.5s						
QZH				LR	LR		
	comp=Z,350nm,19.4s						
QZH				LR	LR		
	comp=Z,340nm,17.5s						
SHPR	**Sheep Range**	**76.10**	**46**	P	**P**	**23 18 39.9**	**+0.8**
USA0B	**Ussuriysk Arra**	**76.13**	**324**	P	**P**	**23 18 39.2**	**+0.5**
USA0B				IAmb	IAmb	23 18 42.6	
	comp=Z,7.7nm,1.0s						
USRK	**Ussuriysk Ar.**	**76.13**	**324**	P	**P**	**23 18 38.5**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=113,slow=6.7,SNR=1.8						
USRK				LR	LR	23 45 55.9	
	comp=Z,2μm,21.3s,baz=116,slow=31						
H04A	**Detroit Lake**	**76.24**	**36**	P	**P**	**23 18 40.3**	**+0.9**
H04A				IAmb	IAmb	23 18 46.4	
	comp=Z,10nm,0.9s						
F03A	**Seaside**	**76.25**	**34**	P	**P**	**23 18 39.1**	**-0.3**
W13A	**Hualapai Mount**	**76.29**	**48**	P	**P**	**23 18 41.1**	**+0.9**
Y14A	**Wickenburg**	**76.36**	**49**	P	**P**	**23 18 41.7**	**+1.2**
Y14A				IAmb	IAmb	23 18 54.5	
	comp=Z,7.6nm,0.8s						
PINE	**Pine Mountain**	**76.42**	**37**	P	**P**	**23 18 41.6**	**+0.9**
SSE	**Sheshan**	**76.50**	**308**	IAMs_20	IAMs_20	23 45 38.4	
	comp=Z,906nm,21.0s						
E03A	**Lebam**	**76.64**	**34**	P	**P**	**23 18 41.6**	**+0.1**
F04A	**Amboy**	**76.88**	**35**	P	**P**	**23 18 43.1**	**+0.2**
BRLK	**Bradley Lake**	**76.95**	**

BMO	Blue Mountains	79.16	38	IAMs_20	IAMs_20	23 48 43.3	
	comp=Z,1µm,19.0s						
GHO	Glory Hole Cre	79.18	12	P	P	23 18 56.9	+1.4
MFID	Camas Ranch	79.27	40	P	P	23 18 57.7	+1.2
MA2	Magadan	79.28	343	P	P	23 18 56.2	+0.1
MA2				IAmb	IAmb	23 19 04.5	
	comp=Z,18nm,1.1s						
MA2				IAMs_20	IAMs_20	23 48 07.7	
	comp=Z,1µm,21.0s						
SML	Sawmill	79.34	12	P	P	23 18 57.8	+1.4
SML				IAmb	IAmb	23 19 04.0	
	comp=Z,9.6nm,0.9s						
WAX	Waxell Ridge	79.43	16	P	P	23 18 56.7	-0.2
WAX				IAmb	IAmb	23 19 03.9	
	comp=Z,16nm,0.9s						
WAX				IAMs_20	IAMs_20	23 50 51.3	
	comp=Z,723nm,18.0s						
MESA	MESA	79.43	16	IAMs_20	IAMs_20	23 50 49.5	
	comp=Z,803nm,18.0s						
D08A	Wollman Farm,	79.49	35	IAmb	IAmb	23 19 00.5	
	comp=Z,14nm,1.1s						
WRAK	Wrangell Islan	79.49	22	P	P	23 18 57.2	+0.1
WRAK				IAmb	IAmb	23 19 00.0	
	comp=Z,9.3nm,1.1s						
DUG	Dugway, Tooele	79.54	44	P	P	23 18 58.7	+0.6
E09A	Wood Farm, Sta	79.61	36	P	P	23 18 59.3	+1.1
E09A				IAmb	IAmb	23 19 01.5	
	comp=Z,6.7nm,0.8s						
YAH	Yahtse	79.64	16	IAMs_20	IAMs_20	23 51 06.0	
	comp=Z,776nm,19.0s						
DL2	Dalian	79.80	315	P	P	23 18 59.2	-0.1
DL2				S	S	23 29 04.9	+2.4
DL2				pmax	pmax		
	comp=Z,14nm,1.4s						
DL2				pmax	pmax		
	comp=Z,140nm,7.5s						
DL2				LR	LR		
	comp=Z,560nm,16.6s						
DL2				LR	LR		
	comp=Z,520nm,19.1s						
DL2				LR	LR		
	comp=Z,760nm,20.9s						
F10A	Beach Ranch, E	79.83	37	IAmb	IAmb	23 19 18.9	
	comp=Z,10nm,1.1s						
VRDI	Verde Repeater	79.94	15	P	P	23 19 00.2	+0.4
VRDI				IAmb	IAmb	23 19 07.6	
	comp=Z,16nm,1.1s						
B08A	Colville Reser	80.02	34	IAmb	IAmb	23 19 07.4	
	comp=Z,7.5nm,0.9s						
Q16A	Castle Valley	80.03	45	P	P	23 19 02.8	+2.0
GLB	Gilahina Butte	80.04	15	P	P	23 19 00.9	+0.7
GLB				IAmb	IAmb	23 19 18.7	
	comp=Z,12nm,1.1s						
LLLB	Lillooet	80.05	31	P	P	23 19 00.7	+0.2
BALM	Baldy	80.06	15	IAmb	IAmb	23 19 14.9	
	comp=Z,12nm,1.0s						
ZAIG	Zacatecas	80.12	63	P	P	23 19 02.6	+0.9
JIS	Juneau Island	80.18	20	P	P	23 19 01.4	+0.5
JIS				IAmb	IAmb	23 19 15.6	
	comp=Z,9.2nm,1.1s						
JIS				IAMs_20	IAMs_20	23 49 03.6	
	comp=Z,779nm,19.0s						
TMUT	Trail Mountain	80.19	45	P	P	23 19 02.4	+0.5
MPU	Maple Canyon	80.24	44	P	P	23 19 02.6	+0.7
BESE	Bessie Mountai	80.26	20	IAmb	IAmb	23 19 17.4	
	comp=Z,10nm,1.1s						
C09A	Chrisman Ranch	80.27	35	P	P	23 19 02.2	+0.5
EPT	El Paso	80.30	53	IAMs_20	IAMs_20	23 47 02.1	
	comp=Z,1µm,20.0s						
SPUT	South Promonto	80.33	43	P	P	23 19 03.8	+1.4
HVU	Hansel Valley	80.35	42	P	P	23 19 03.4	+0.9
DLV	T Lat	80.39	285	P	P	23 19 01.7	-1.6
DLV				IAmb	IAmb	23 19 11.3	
	comp=Z,14nm,1.1s						
KTH	Kantishna Hill	80.43	11	P	P	23 19 03.4	+1.1
CTU	Camp Tracy	80.49	43	P	P	23 19 04.0	+0.7
SRU	San Rafael Swe	80.57	45	P	P	23 19 04.3	+0.5
P17A	Butcher Ranch,	80.59	45	P	P	23 19 04.1	+0.3
JLU	Jordanelle	80.65	44	P	P	23 19 04.7	+0.5
DHY	Denali Highway	80.67	12	P	P	23 19 04.9	+1.2
DHY				IAmb	IAmb	23 19 13.4	
	comp=Z,8.9nm,1.1s						
RND	Reindeer	80.68	12	P	P	23 19 04.0	+0.4
RND				IAmb	IAmb	23 19 14.1	
	comp=Z,15nm,1.1s						
SKAG	Skagway	80.79	19	P	P	23 19 04.8	+0.7
SKAG				IAmb	IAmb	23 19 13.3	
	comp=Z,15nm,1.0s						
BPAW	Bear Paw Mtn.	80.92	10	P	P	23 19 03.2	-1.6
HWUT	Hardware Ranch	81.06	43	P	P	23 19 06.8	+0.4
PV05	Paradox Valley	81.09	47	P	P	23 19 07.3	+0.7
PV05				IAmb	IAmb	23 19 25.2	
	comp=Z,16nm,1.1s						
MVCO	Mesa Verde	81.13	48	IAMs_20	IAMs_20	23 47 20.4	
	comp=Z,898nm,21.0s						
MNTX	Cornudas Mount	81.15	54	P	P	23 19 08.7	+1.9
MNTX				IAmb	IAmb	23 19 17.7	
	comp=Z,14nm,1.1s						
MNTX				IAMs_20	IAMs_20	23 48 07.5	
	comp=Z,1µm,20.0s						
NEW	Newport	81.17	35	P	P	23 19 06.5	0.0
NEW	Newport	81.17	35	IAMs_20	IAMs_20	23 47 27.3	
	comp=Z,847nm,21.0s						
BNM	Barren Site	81.19	51	P	P	23 19 08.3	+1.0
HYT	Haines Junctio	81.21	18	P	P	23 19 06.9	+0.3
HYT				IAmb	IAmb	23 19 14.5	
	comp=Z,11nm,1.1s						
PV10	Paradox Valley	81.27	47	P	P	23 19 07.7	+0.1
PV10				IAmb	IAmb	23 19 26.7	
	comp=Z,12nm,0.9s						
PV14	Lion Creek, Pa	81.27	47	P	P	23 19 08.5	+0.9
PV14				IAmb	IAmb	23 19 25.9	
	comp=Z,12nm,1.2s						
PV19	Morning Glory	81.27	47	P	P	23 19 07.8	+0.2
PV19				IAmb	IAmb	23 19 27.0	
	comp=Z,11nm,0.8s						
PV18	Skein Mesa, Pa	81.30	47	P	P	23 19 07.3	-0.3
PV18				IAmb	IAmb	23 19 18.4	
	comp=Z,18nm,1.2s						
PV20	West Nyswonger	81.30	47	P	P	23 19 08.1	+0.4
PV20				IAmb	IAmb	23 19 16.1	
	comp=Z,12nm,1.2s						
PV23	Carpenter Ridg	81.32	46	P	P	23 19 07.9	0.0
PV23				IAmb	IAmb	23 19 26.6	
	comp=Z,9.1nm,0.9s						
PV13	Radium Mtn., P	81.32	47	P	P	23 19 08.3	+0.5
PV13				IAmb	IAmb	23 19 27.0	
	comp=Z,8.9nm,0.9s						
PV03	Paradox Valley	81.34	47	P	P	23 19 08.9	+1.0
PV11	David Mesa, Pa	81.35	47	P	P	23 19 08.6	+0.7
PV11				IAmb	IAmb	23 19 26.6	
	comp=Z,11nm,0.8s						
QIZ	Qiongzhong	81.36	292	P	P	23 19 08.4	+0.3
QIZ				S	S	23 29 20.2	+0.6
QIZ				LR	LR		
	comp=Z,230nm,16.1s						
QIZ				LR	LR		
	comp=Z,450nm,22.7s						
QIZ				LR	LR		
	comp=Z,800nm,25.7s						
PV04	Paradox Valley	81.37	47	P	P	23 19 08.6	+0.6
PV04				IAmb	IAmb	23 19 27.4	
	comp=Z,13nm,1.2s						
PV21	Cone Mtn., Par	81.39	46	P	P	23 19 08.3	+0.1
PV21				IAmb	IAmb	23 19 11.2	
	comp=Z,16nm,0.9s						
PV02	Paradox Valley	81.40	47	P	P	23 19 08.6	+0.4
PV02				IAmb	IAmb	23 19 24.2	
	comp=Z,11nm,1.0s						
PV12	Saucer Basin,	81.41	47	P	P	23 19 08.9	+0.7
PV12				IAmb	IAmb	23 19 25.6	
	comp=Z,8.3nm,1.1s						
PV01	Paradox Valley	81.49	47	P	P	23 19 07.5	-1.2
PV22	Blue Mesa, Par	81.51	46	P	P	23 19 09.3	+0.5
PV07	Paradox Valley	81.57	47	P	P	23 19 09.2	+0.1
TXAR	Lajitas Array	81.59	57	P	P	23 19 12.3	+3.0
	comp=Z,7.0nm,1.0s,baz=225,slow=5.1,SNR=34						
TXAR				LR	LR	23 48 24.3	
	comp=Z,1µm,19.9s,baz=0.0,slow=30						
PV15	Paradox Valley	81.64	47	P	P	23 19 10.3	+0.8
PV15				IAmb	IAmb	23 19 28.9	
	comp=Z,7.2nm,0.8s						
ANMO	Albuquerque	81.65	51	P	P	23 19 10.7	+1.1
ANMO				IAmb	IAmb	23 19 25.8	
	comp=Z,8.6nm,1.1s						

ANMO	Albuquerque	81.65	51	IAMs_20	IAMs_20	23 50 00.5	
	comp=Z,1µm,19.0s						
WRH	Wood River Hil	81.79	11	IAmb	IAmb	23 19 12.4	
	comp=Z,12nm,1.0s						
RIDG	Independent Ri	81.80	13	IAmb	IAmb	23 19 17.9	
	comp=Z,15nm,1.2s						
MCMT	McKenzie Canyo	81.84	39	P	P	23 19 10.8	+0.4
WHY	Whitehorse	81.87	19	P	P	23 19 11.1	+1.0
DOT	Dot Lake	81.89	13	IAmb	IAmb	23 19 17.7	
	comp=Z,14nm,1.1s						
RDMU	Red Mountain	81.90	44	P	P	23 19 11.8	+1.0
AHID	Auburn Hatcher	81.92	42	P	P	23 19 09.8	-1.0
TLIG	Tlapa	81.93	69	P	P	23 19 11.9	+0.6
HDA	Harding Lake	81.95	12	IAmb	IAmb	23 19 23.7	
	comp=Z,9.6nm,0.9s						
MYKOM	Kota Tinggi	81.97	274	P	P	23 19 09.5	-2.0
MYKOM				IAmb	IAmb	23 19 10.2	
	comp=Z,8.9nm,1.1s						
CCB	Clear Creek Bu	82.00	11	IAmb	IAmb	23 19 25.4	
	comp=Z,8.6nm,1.0s						
GDL2	Guadalupe Moun	82.14	54	P	P	23 19 10.3	-1.9
COLA	College	82.19	11	P	P	23 19 11.6	+0.1
MDM	Murphy Dome	82.20	11	P	P	23 19 12.5	+0.9
MDM				IAmb	IAmb	23 19 18.1	
	comp=Z,8.3nm,1.1s						
MSO	Missoula	82.21	37	IAMs_20	IAMs_20	23 48 58.9	
	comp=Z,1µm,20.0s						
DLMT	Dillon	82.26	39	P	P	23 19 13.2	+0.7
DLMT				IAmb	IAmb	23 19 31.9	
	comp=Z,19nm,1.1s						
ILAR	Eielson Array	82.29	12	P	P	23 19 11.9	-0.1
	comp=Z,2.3nm,0.9s,baz=210,slow=6.1,SNR=15						
ILAR				LR	LR	23 48 21.7	
	comp=Z,282nm,21.6s,baz=216,slow=30						
TPAW	Teton Pass	82.36	41	P	P	23 19 14.1	+0.8
TPAW				IAmb	IAmb	23 19 27.8	
	comp=Z,11nm,1.1s						
REDW	Red Top Meadow	82.37	41	P	P	23 19 14.0	+0.7
REDW				IAmb	IAmb	23 19 27.1	
	comp=Z,14nm,1.1s						
FXWY	Fox Creek	82.39	41	P	P	23 19 14.3	+1.0
SNOW	Snow King Moun	82.48	41	P	P	23 19 13.8	-0.1
SNOW				IAmb	IAmb	23 19 20.1	
	comp=Z,11nm,1.0s						
JTMT	Jette	82.49	36	P	P	23 19 14.1	+0.5
CLNB	Carlsbad	82.55	54	P	P	23 19 15.7	+1.5
S22A	4UR Ranch, Cre	82.56	48	P	P	23 19 15.8	+1.3
S22A				IAmb	IAmb	23 19 34.3	
	comp=Z,12nm,1.1s						
IMW	Indian Meadow	82.57	41	P	P	23 19 15.5	+1.1
IMW				IAmb	IAmb	23 19 31.5	
	comp=Z,7.8nm,0.9s						
LRM	Limekiln Ridge	82.58	39	P	P	23 19 14.6	+0.3
O20A	White River Ci	82.61	45	P	P	23 19 15.4	+0.9
O20A				IAmb	IAmb	23 19 33.9	
	comp=Z,8.9nm,1.0s						
QLMT	Earthquake Lak	82.71	40	P	P	23 19 15.6	+0.6
FLWY	Flagg Ranch	82.81	41	P	P	23 19 16.7	+1.2
YHB	Horse Butte	82.82	40	P	P	23 19 16.6	+1.1
YPP	Pitchstone Pla	82.83	41	P	P	23 19 16.9	+1.1
BW06	Boulder Array	82.92	42	P	P	23 19 16.9	+0.7
BW06				IAmb	IAmb	23 19 18.9	
	comp=Z,6.1nm,1.0s						
PD31	Pinedale Array	82.92	42	P	P	23 19 16.5	+0.4
PDAR	Pinedale Array	82.92	42	P	P	23 19 16.9	+0.8
	comp=Z,3.6nm,1.0s,baz=220,slow=3.9,SNR=20						
PDAR				LR	LR	23 49 07.8	
	comp=Z,295nm,21.6s,baz=238,slow=30						
YMR	Madison River	82.92	40	P	P	23 19 17.9	+1.9
BOZ	Bozeman (W)	82.97	39	P	P	23 19 17.1	+0.9
H17A	Grant Village	83.04	41	P	P	23 19 18.1	+1.3
H17A				IAmb	IAmb	23 19 34.4	
	comp=Z,9.1nm,1.1s						
YHH	Holmes Hill	83.05	40	P	P	23 19 18.8	+1.9
PRP	Porcupine Dome	83.22	12	P	P	23 19 18.7	+1.7
RDOG	Red Dog Mine	83.22	5	P	P	23 19 18.4	+1.6
RDOG				IAmb	IAmb	23 19 18.7	
	comp=Z,6.5nm,0.6s						
LKWY	Lake	83.23	41	P	P	23 19 19.7	+2.0
DAWY	Dawson	83.35	15	IAmb	IAmb	23 19 25.8	
	comp=Z,8.8nm,0.9s						
WALA	Waterton Lakes	83.39	35	IAmb	IAmb	23 19 31.6	
	comp=Z,6.1nm,1.1s						
YMP	Mirror Lake Pl	83.47	40	P	P	23 19 21.1	+2.1
SDCO	Great Sand Dun	83.51	48	P	P	23 19 19.9	+0.6
SDCO				IAmb	IAmb	23 19 32.8	
	comp=Z,6.4nm,1.1s						
SDCO				IAMs_20	IAMs_20	23 50 52.5	
	comp=Z,787nm,20.0s						
EGAK	Eagle	83.52	14	P	P	23 19 18.6	+0.2
EGAK				IAmb	IAmb	23 19 33.5	
	comp=Z,7.0nm,0.9s						
YNE	Yellowstone No	83.68	40	P	P	23 19 20.6	+0.5
BILL	Bilibino	83.87	353	P	P	23 19 21.0	+0.9
BILL				IAmb	IAmb	23 19 32.0	
	comp=Z,6.8nm,0.9s						
RWWY	Rawlins	83.99	44	P	P	23 19 21.6	-0.1
RWWY				IAMs_20	IAMs_20	23 50 27.8	
	comp=Z,1µm,20.0s						
MSTX	Muleshoe	84.06	53	P	P	23 19 22.9	+0.9
MSTX				IAmb	IAmb	23 19 42.2	
	comp=Z,8.4nm,0.8s						
T25A	Trinidad	84.06	49	P	P	23 19 22.9	+0.8
BJT	Baijiatuau	84.07	314	P	P	23 19 21.3	-0.5
BJT				IAmb	IAmb	23 19 37.9	
	comp=Z,11nm,1.1s						
RLMT	Red Lodge	84.20	40	P	P	23 19 23.4	+0.8
RLMT				IAmb	IAmb	23 19 33.8	
	comp=Z,11nm,1.1s						
Q24A	Divide	84.27	47	P	P	23 19 23.8	+0.5
Q24A				IAmb	IAmb	23 19 26.8	
	comp=Z,9.2nm,1.1s						
GCMT	Greycliff	84.27	40	P	P	23 19 24.4	+1.5
ISCO	Idaho Springs	84.28	46	P	P	23 19 22.6	-0.7
N23A	Red Feather La	84.51	45	P	P	23 19 23.9	-0.5
N23A				IAmb	IAmb	23 19 27.8	
	comp=Z,9.3nm,1.1s						
833A	Chaparral WMA,	84.73	59	P	P	23 19 25.6	+0.1
833A				IAmb	IAmb	23 19 35.8	
	comp=Z,10nm,0.9s						
K22A	Casper	84.87	44	P	P	23 19 27.0	+0.9
K22A				IAmb	IAmb	23 19 29.0	
	comp=Z,6.8nm,1.0s						
PHWY	Pilot Hill	85.02	45	P	P	23 19 28.2	+1.2
PHWY				IAMs_20	IAMs_20	23 49 46.0	
	comp=Z,758nm,21.0s						
JCT	Junction City	85.14	57	P	P	23 19 27.9	+0.4
JCT				IAmb	IAmb	23 19 37.2	
	comp=Z,14nm,1.1s						
JCT				IAMs_20	IAMs_20	23 50 26.4	
	comp=Z,868nm,20.0s						
PMSA	Palmer Station	85.20	156	P	P	23 19 28.2	+1.2
AMTX	Amarillo	85.23	52	P	P	23 19 29.0	+1.0
AMTX				IAMs_20	IAMs_20	23 50 31.5	
	comp=Z,1µm,20.0s						
COCO	West Island	85.24	259	P	P	23 19 27.6	-0.7
EGMT	Eagleton	85.27	38	P	P	23 19 28.8	+1.0
EGMT				IAmb	IAmb	23 19 43.0	
	comp=Z,7.3nm,1.1s						
TOLK	Toolik Lake Re	85.32	9	P	P	23 19 28.1	+0.6
TOLK				IAmb	IAmb	23 19 41.1	
	comp=Z,8.2nm,0.9s						
IPM	Ipoh	85.40	276	P	P	23 19 27.6	-1.6
IPM				IAmb	IAmb	23 19 38.7	
	comp=Z,11nm,0.9s						
KVTX	Kingsville	85.72	60	IAMs_20	IAMs_20	23 55 22.2	
	comp=Z,792nm,18.0s						
EPYK	Eagle Plains	85.89	14	P	P	23 19 31.1	+0.7
EPYK				IAmb	IAmb	23 19 49.8	
	comp=Z,8.0nm,1.1s						
ABTX	Abilene, Hawle	86.01	55	P	P	23 19 32.7	+1.0
GYA	Guiyang	86.52	298	P	P	23 19 39.9	+5.4
GYA				PP	PP	23 22 53.4	-3.0
GYA				S	S	23 30 11.6	+0.1
GYA				sS	ScS	23 30 24.3	+4.4
GYA				pmax	pmax		
	comp=Z,6.0nm,2.0s						
GYA				pmax	pmax		
	comp=Z,130nm,4.2s						
GYA				LR	LR		
	comp=Z,94nm,11.4s						
GYA				LR	LR		
	comp=Z,380nm,19.0s						
GYA				LR	LR		
	comp=Z,540nm,20.5s						

H03S2	Juan Fernandez	86.69	124	T	T	00 55 52.8	
	baz=252,slow=75,SNR=26						
H03S1	Juan Fernandez	86.71	124	T	T	00 55 50.9	
	baz=252,slow=75,SNR=13						
H03S3	Juan Fernandez	86.71	124	T	T	00 55 52.4	
	baz=252,slow=75,SNR=12						
H03N2	Juan Fernandez	86.79	124	T	T	00 55 54.0	
	baz=257,slow=73,SNR=6.4						
H03N3	Juan Fernandez	86.80	124	T	T	00 55 59.4	
	baz=257,slow=73,SNR=5.0						
LAO	LASA Array	86.80	40	P	P	23 19 36.4	+1.0
LAO				IAmb	IAmb	23 19 38.5	
	comp=Z,13nm,1.1s						
H03N1	Juan Fernandez	86.81	124	T	T	00 56 04.3	
	baz=257,slow=73,SNR=3.7						
RPSI	Rantau Prapat	86.96	274	P	P	23 19 36.4	-0.4
RPSI				IAmb	IAmb	23 19 47.9	
	comp=Z,11nm,1.1s						
435B	Jarrell	87.04	57	P	P	23 19 38.4	+1.6
435B				IAMs_20	IAMs_20	23 50 54.7	
	comp=Z,951nm,20.0s						
RSSD	Black Hills	87.13	43	P	P	23 19 37.0	-0.2
XAN	Xi'an	87.16	306	P	P	23 19 42.0	+4.6
XAN				pP	pwP	23 19 47.4	+4.7
XAN				S	S	23 30 21.4	+4.1
XAN				pmax	pmax		
	comp=Z,9.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,130nm,4.9s						
XAN				LR	LR		
	comp=Z,370nm,19.3s						
XAN				LR	LR		
	comp=Z,620nm,21.1s						
XAN				LR	LR		
	comp=Z,850nm,22.6s						
XAN	Xi'an	87.16	306	P	P	23 19 37.2	-0.2
XAN				IAmb	IAmb	23 19 43.0	
	comp=Z,13nm,1.1s						
SLVN	Son La	87.37	293	P	P	23 19 39.1	+0.4
WMOK	Wichita Mounta	87.41	53	IAMs_20	IAMs_20	23 51 59.3	
	comp=Z,1µm,20.0s						
CCIG	Comitan	87.42	73	P	P	23 19 39.5	+0.4
CCIG				IAmb	IAmb	23 19 54.9	
	comp=Z,5.6nm,0.7s						
MG01	Puerto William	87.52	147	P	P	23 19 40.5	+1.8
WHTX	Lake Whitney,	87.54	56	P	P	23 19 40.9	+1.7
WHTX				IAmb	IAmb	23 19 42.8	
	comp=Z,6.9nm,0.8s						
HHC	Hu-ho-hao-te	87.63	313	P	P	23 19 39.8	+0.2
HHC				S	S	23 30 19.2	-2.4
HHC				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,92nm,5.2s						
HHC				LR	LR		
	comp=Z,260nm,16.9s						
HHC				LR	LR		
	comp=Z,170nm,16.6s						
HHC				LR	LR		
	comp=Z,310nm,20.6s						
MAW	Mawson	87.75	199	P	P	23 19 39.0	-0.5
	baz=88,SNR=5.4						
MAW	Mawson	87.75	199	P	P	23 19 39.0	-0.5
	comp=Z,6.0nm,1.0s,baz=97,slow=4.2,SNR=7.9						
MAW				LR	LR	23 57 18.7	
	comp=Z,699nm,18.2s,baz=112,slow=35						
MAW	Mawson	87.75	199	P	P	23 19 41.4	+1.8
U32A	Winter Ranch,	87.81	52	IAMs_20	IAMs_20	23 52 24.5	
	comp=Z,1µm,20.0s						
GSI	Gunungsitoli	87.90	272	P	P	23 19 40.7	-0.7
CBKS	Cedar Bluff	88.11	49	IAMs_20	IAMs_20	23 53 21.3	
	comp=Z,642nm,19.0s						
INK	Inuvik	88.18	14	P	P	23 19 42.1	+0.7
HKT	Hockley	88.20	59	P	P	23 19 43.1	+0.8
HKT	Hockley	88.20	59	IAMs_20	IAMs_20	23 53 16.8	
	comp=Z,1µm,20.0s						
COYC	Coyhaique	88.21	137	P	P	23 19 41.0	-1.3
COYC				IAmb	IAmb	23 19 53.5	
	comp=Z,8.9nm,1.1s						
BTO	Baotou	88.63	313	eP	P	23 19 47.1	+2.8
OKCFA	Oklahoma City	88.67	53	IAMs_20	IAMs_20	23 52 50.4	
	comp=Z,1µm,20.0s						
PBKT	Sadao Pong	88.69	287	P	P	23 19 44.6	-0.3
DGMT	Dagmar	88.80	39	P	P	23 19 45.7	+0.9
DGMT	Dagmar	88.80	39	IAMs_20	IAMs_20	23 52 54.4	
	comp=Z,875nm,20.0s						
W35A	Tecumseh	89.03	53	P	P	23 19 46.0	-0.2
KMI	Kunming	89.49	296	P	P	23 19 50.0	+1.1
KMI				sP	pwP	23 19 55.2	+1.0
KMI				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,170nm,4.9s						
KMI				LR	LR		
	comp=Z,340nm,18.9s						
KMI				LR	LR		
	comp=Z,450nm,21.4s						
KMI				LR	LR		
	comp=Z,740nm,28.3s						
KMI	Kunming	89.49	296	P	P	23 19 49.6	+0.7
KMI				IAmb	IAmb	23 20 02.5	
	comp=Z,11nm,1.0s						
NATX	Nacogdoches	89.72	57	P	P	23 19 51.0	+1.5
NATX				IAMs_20	IAMs_20	23 53 29.8	
	comp=Z,944nm,20.0s						
T35A	Sooner Cattle	89.87	52	P	P	23 19 49.0	-1.1
T35A				IAmb	IAmb	23 19 59.5	
	comp=Z,7.7nm,0.9s						
E28A	Huff	90.25	42	P	P	23 19 53.7	+2.0
E28A				IAmb	IAmb	23 20 02.6	
	comp=Z,6.3nm,0.9s						
YKA	Yellowknife Ar	90.27	24	P	P	23 19 51.8	+0.5
	comp=Z,2.5nm,1.0s,baz=235,slow=4.9,SNR=13						
YKA				LR	LR	23 52 51.5	
	comp=Z,517nm,21.0s,baz=0.0,slow=31						
KSU1	Kansas State U	90.50	50	IAMs_20	IAMs_20	23 56 25.7	
	comp=Z,768nm,19.0s						
PLCA	Paso Flores	90.92	133	LR	LR	23 52 01.1	
	comp=Z,749nm,20.4s,baz=280,slow=30						
CMAR	Chiang Mai Arr	91.06	289	P	P	23 19 56.0	-0.1
	comp=Z,0.5nm,0.4s,baz=111,slow=7.8,SNR=5.9						
CMAR				LR	LR	23 55 40.0	
	comp=Z,507nm,21.7s,baz=138,slow=32						
CRIN	San Cristobal	91.21	77	IAMs_20	IAMs_20	23 59 33.2	
	comp=Z,701nm,19.0s						
U38A	Gravette	91.35	53	P	P	23 19 57.4	+0.4
U38A				IAmb	IAmb	23 20 09.5	
	comp=Z,5.2nm,1.1s						
TGUH	Tegucigalpa,Un	91.35	76	IAMs_20	IAMs_20	00 04 43.4	
	comp=Z,734nm,18.0s						
MDND	Maddock	91.40	41	P	P	23 19 57.9	+0.9
MIAR	Mount Ida	91.42	55	P	P	23 19 58.7	+1.3
MIAR				IAmb	IAmb	23 20 08.9	
	comp=Z,5.9nm,1.1s						
MIAR				IAMs_20	IAMs_20	23 54 27.5	
	comp=Z,1µm,21.0s						
W39A	Magazine	91.45	54	P	P	23 19 58.6	+1.2
WLAR	White Oak Lake	91.54	56	P	P	23 19 59.2	+1.3
HHAR	Hobbs	91.64	53	P	P	23 19 59.4	+1.0
Z41A	Richland Creek	91.66	56	P	P	23 19 58.5	+0.1
LZH	Lanzhou	91.76	307	eP	P	23 19 58.5	-0.6
LZH				pP	pP	23 20 01.8	0.0
LZH				ePP	PP	23 23 40.6	+2.4
LZH				pmax	pmax		
	comp=Z,18nm,1.4s						
LZH				pmax	pmax		
	comp=Z,89nm,9.2s						
LZH				LR	LR		
	comp=Z,190nm,17.2s						
LZH				LR	LR		
	comp=Z,200nm,17.0s						
LZH				LR	LR		
	comp=Z,310nm,19.6s						
GO05	Huala	91.85	127	P	P	23 19 58.6	-0.9
ECSD	EROS Data Cent	91.99	45	P	P	23 20 00.6	+0.8
ECSD	EROS Data Cent	91.99	45	IAMs_20	IAMs_20	23 53 56.5	
	comp=Z,974nm,21.0s						
X40A	Basin Creek Fa	91.99	55		P	23 20 01.6	+1.6
X40A				IAMs_20	IAMs_20	23 55 49.6	
	comp=Z,728nm,19.0s						
TEIG	Tepich	92.02	70	LR	LR	23 54 13.1	
	comp=Z,423nm,21.4s,baz=229,slow=31						
UALR	University of	92.46	55	P	P	23 20 02.3	+0.1
UALR				IAmb	IAmb	23 20 03.0	
	comp=Z,6.0nm,0.9s						
U40A	Yellville	92.51	53	P	P	23 20 02.6	+0.3

U40A					IAmb	IAmb	23 20 14.7			
	comp=Z,4.7nm,1.1s									
U40A					IAMs_20	IAMs_20	23 55 17.1			
	comp=Z,769nm,20.0s									
S39A	**Bolivar**	**92.53**	**52**		P	**P**	**23 20 02.3**	**-0.2**		
S39A					IAmb	IAmb	23 20 14.8			
	comp=Z,4.8nm,1.1s									
FFC	**Flin Flon**	**92.54**	**34**		P	**P**	**23 20 02.0**	**0.0**		
FFC					IAmb	IAmb	23 20 13.8			
	comp=Z,3.4nm,0.8s									
FFC	**Flin Flon**	**92.54**	**34**		IAMs_20	IAMs_20	23 55 10.8			
	comp=Z,707nm,20.0s									
JTS	**Las Juntas de**	**92.59**	**80**		LR	LR	23 52 22.7			
	comp=Z,924nm,19.7s,baz=270,slow=29									
JTS	**Las Juntas de**	**92.59**	**80**		P	**P**	**23 20 03.0**	**-0.3**		
JTS	**Las Juntas de**	**92.59**	**80**		IAMs_20	IAMs_20	00 01 15.9			
	comp=Z,1µm,21.0s									
W41B	**Gary Mavity, V**	**92.64**	**54**		P	**P**	**23 20 04.5**	**+1.5**		
W41B					IAmb	IAmb	23 20 14.8			
	comp=Z,6.7nm,1.1s									
WHAR	**Wooly Hollow**	**92.64**	**54**		P	**P**	**23 20 03.6**	**+0.5**		
SYO	**Syowa Base**	**92.75**	**192**	⇑	*e*P	**P**	**23 20 02.3**	**-0.6**		
SYO	**Syowa Base**	**92.75**	**192**	⇑	*e*pP	**P**	**23 20 07.0**	**+4.1**		
MT01	**Popeta**	**92.77**	**126**		P	**P**	**23 20 01.3**	**-2.4**		
F33A	**5 Mile Ranch,**	**92.87**	**43**		P	**P**	**23 20 03.8**	**0.0**		
F33A					IAmb	IAmb	23 20 14.2			
	comp=Z,5.6nm,1.1s									
P38A	**Dawn**	**92.93**	**50**		P	**P**	**23 20 05.3**	**+1.1**		
P38A					IAmb	IAmb	23 20 14.8			
	comp=Z,7.7nm,1.1s									
FCAR	**Ozark Folk Cen**	**92.94**	**54**		P	**P**	**23 20 05.1**	**+0.7**		
FCAR					IAmb	IAmb	23 20 07.0			
	comp=Z,6.6nm,1.2s									
VBMS	**Vicksburg**	**93.22**	**58**		IAMs_20	IAMs_20	23 56 16.6			
	comp=Z,646nm,21.0s									
HDC	**Heredia**	**93.32**	**81**		IAMs_20	IAMs_20	00 01 00.2			
	comp=Z,937nm,18.0s									
MT05	**Renca**	**93.33**	**126**		P	**P**	**23 20 05.1**	**-1.3**		
SNAA	**Sanae**	**93.44**	**178**		P	**P**	**23 20 06.9**	**+0.8**		
SNAA	**Sanae**	**93.44**	**178**		P	**P**	**23 20 08.0**	**+1.9**		
SNAA					IAMs_20	IAMs_20	23 55 40.6			
	comp=Z,1µm,22.0s									
VNA3	**Neumayer Olymp**	**93.44**	**175**		P	**P**	**23 20 06.2**	**+0.1**		
PEL	**Peldehue**	**93.45**	**125**		P	**P**	**23 20 06.1**	**-0.9**		
PEL					IAmb	IAmb	23 20 22.9			
	comp=Z,2.6nm,0.3s									
PEL					IAMs_20	IAMs_20	23 53 06.8			
	comp=Z,940nm,19.0s									
N38A	**Joes South For**	**93.49**	**49**		P	**P**	**23 20 07.9**	**+1.1**		
SONM	**Songino Array**	**93.52**	**319**		P	**P**	**23 20 07.0**	**+0.1**		
	comp=Z,0.7nm,0.8s,baz=90,slow=1.4,SNR=4.2									
VA03	**San Esteban**	**93.69**	**125**		P	**P**	**23 20 06.4**	**-1.8**		
LCAR	**Lake Charles**	**93.75**	**54**		P	**P**	**23 20 08.6**	**+0.6**		
LCAR					IAmb	IAmb	23 20 10.8			
	comp=Z,7.7nm,1.2s									
SCIA	**State Center**	**93.82**	**48**		IAMs_20	IAMs_20	23 56 19.2			
	comp=Z,870nm,20.0s									
AGMN	**Agassiz Nation**	**93.92**	**41**		IAmb	IAmb	23 20 27.2			
	comp=Z,5.6nm,1.1s									
VNA2	**Neumayer--Watz**	**93.92**	**176**		P	**P**	**23 20 09.8**	**+1.5**		
	baz=183,slow=3.7									
P40A	**Paris**	**94.00**	**50**		P	**P**	**23 20 09.4**	**+0.2**		
T42A	**Van Buren**	**94.05**	**53**		IAmb	IAmb	23 20 11.7			
	comp=Z,5.7nm,1.1s									
TIXI	**Tiksi**	**94.17**	**345**		P	**P**	**23 20 09.3**	**+0.1**		
TIXI					IAmb	IAmb	23 20 21.2			
	comp=Z,3.7nm,1.0s									
CCM	**Cathedral Cave**	**94.21**	**52**		P	**P**	**23 20 10.1**	**0.0**		
CCM					IAmb	IAmb	23 20 12.6			
	comp=Z,8.4nm,1.1s									
CCM	**Cathedral Cave**	**94.21**	**52**		IAMs_20	IAMs_20	23 56 02.1			
	comp=Z,1µm,20.0s									
ULM	**Lac du Bonnet**	**94.51**	**39**		LR	LR	23 56 50.1			
	comp=Z,839nm,20.4s,baz=254,slow=32									
ULM	**Lac du Bonnet**	**94.51**	**39**		P	**P**	**23 20 11.2**	**-0.1**		
ULM					IAmb	IAmb	23 20 21.1			
	comp=Z,5.2nm,1.0s									
OXF	**Oxford**	**94.72**	**56**		P	**P**	**23 20 12.1**	**-0.5**		
OXF					IAMs_20	IAMs_20	23 56 56.0			
	comp=Z,969nm,20.0s									
F36A	**Milaca**	**94.73**	**44**		P	**P**	**23 20 11.5**	**-0.9**		
F36A					IAmb	IAmb	23 20 14.6			
	comp=Z,4.3nm,0.9s									
L40A	**Anamosa**	**95.29**	**48**		P	**P**	**23 20 16.0**	**+1.0**		
GTA	**Gaotai**	**95.74**	**309**		*e*P	P	23 20 25.8	+8.5		
GTA					pP	pwP	23 20 30.1	+7.5		
GTA					sP	sP	23 20 32.9	+12		
GTA					pmax	pmax				
	comp=Z,2.0nm,1.2s									
GTA					pmax	pmax				
	comp=Z,39nm,5.3s									
GTA					LR	LR				
	comp=N,350nm,19.0s									
GTA					LR	LR				
	comp=E,870nm,23.2s									
GTA					LR	LR				
	comp=Z,1µm,23.2s									
PLAL	**Pickwick Lake**	**95.90**	**56**		IAMs_20	IAMs_20	23 58 22.2			
	comp=Z,965nm,20.0s									
P43A	**Skaggs, Pawnee**	**95.92**	**51**		P	**P**	**23 20 19.0**	**+1.1**		
CFA	**Coronel Fontan**	**95.94**	**125**		LR	LR	23 55 42.3			
	comp=Z,774nm,18.6s,baz=293,slow=30									
JFWS	**Jewell Farm**	**96.20**	**47**		IAMs_20	IAMs_20	23 57 12.3			
	comp=Z,913nm,20.0s									
HDIL	**Hopedale**	**96.31**	**50**		IAMs_20	IAMs_20	23 58 32.5			
	comp=Z,632nm,20.0s									
TLY	**Talaya**	**96.35**	**322**		IAMs_20	IAMs_20	23 58 46.5			
	comp=Z,1µm,20.0s									
WVT	**Waverly**	**96.37**	**54**		IAMs_20	IAMs_20	23 57 39.5			
	comp=Z,1µm,20.0s									
COWI	**Conover**	**97.74**	**44**		P	**P**	**23 20 25.9**	**-0.2**		
COWI					IAmb	IAmb	23 20 28.4			
	comp=Z,4.9nm,1.1s									
COWI					IAMs_20	IAMs_20	00 00 29.7			
	comp=Z,723nm,19.0s									
PB06	**IPOC Station P**	**97.94**	**116**		IAMs_20	IAMs_20	23 58 31.4			
	comp=Z,1µm,20.0s									
WCI	**Wyandotte Cave**	**98.04**	**53**		IAMs_20	IAMs_20	23 57 10.5			
	comp=Z,662nm,22.0s									
J45A	**Montague**	**99.07**	**48**		IAMs_20	IAMs_20	00 00 35.2			
	comp=Z,770nm,20.0s									
MNMC	**Minye Minye**	**99.11**	**113**		IAMs_20	IAMs_20	23 55 09.6			
	comp=Z,512nm,18.0s									
GOGA	**Godfrey**	**99.27**	**58**		IAMs_20	IAMs_20	23 58 21.8			
	comp=Z,821nm,22.0s									
I45A	**Fountain**	**99.30**	**47**		IAMs_20	IAMs_20	00 01 28.3			
	comp=Z,941nm,19.0s									
G45A	**Suttons Bay**	**99.91**	**46**		IAMs_20	IAMs_20	23 59 22.2			
	comp=Z,833nm,20.0s									
DWPF	**Disney Wildern**	**99.92**	**64**		IAMs_20	IAMs_20	00 13 08.6			
	comp=Z,579nm,20.0s									
I47A	**Gladwin**	**100.52**	**47**		IAMs_20	IAMs_20	00 03 08.6			
	comp=Z,899nm,18.0s									
GLMI	**Grayling**	**100.59**	**46**		IAMs_20	IAMs_20	23 58 48.3			
	comp=Z,829nm,22.0s									
P51A	**Williamsport**	**100.76**	**52**		IAMs_20	IAMs_20	23 59 35.5			
	comp=Z,726nm,20.0s									
AAM	**Ann Arbor**	**100.83**	**49**		IAMs_20	IAMs_20	00 02 31.8			
	comp=Z,572nm,20.0s									
J48A	**Bridge Port**	**100.91**	**48**		IAMs_20	IAMs_20	00 00 41.9			
	comp=Z,649nm,21.0s									
Z56A	**Williston**	**100.98**	**58**		IAMs_20	IAMs_20	00 02 32.0			
	comp=Z,695nm,19.0s									
U54A	**Nelsons Funny**	**101.19**	**55**		IAMs_20	IAMs_20	00 01 45.3			
	comp=Z,1µm,20.0s									
MTDJ	**Mount Denham**	**101.42**	**74**		IAMs_20	IAMs_20	00 08 18.1			
	comp=Z,880nm,21.0s									
K50A	**Casco**	**101.66**	**49**		IAMs_20	IAMs_20	00 04 15.9			
	comp=Z,593nm,18.0s									
I49A	**Point Hope**	**101.70**	**47**		IAMs_20	IAMs_20	00 02 33.9			
	comp=Z,835nm,20.0s									
Y57A	**Sumter**	**101.91**	**58**		IAMs_20	IAMs_20	00 01 32.5			
	comp=Z,1µm,20.0s									
NHSC	**New Hope**	**101.92**	**59**		IAMs_20	IAMs_20	00 14 06.1			
	comp=Z,735nm,22.0s									
P53A	**Whipple**	**102.04**	**52**		IAMs_20	IAMs_20	00 00 37.3			
	comp=Z,880nm,21.0s									
U56A	**King**	**102.31**	**55**		IAMs_20	IAMs_20	00 01 23.8			
	comp=Z,1µm,20.0s									
Q54A	**Coxs Mills**	**102.38**	**53**		IAMs_20	IAMs_20	00 00 08.5			
	comp=Z,1µm,21.0s									
M52A	**Chesterland**	**102.39**	**50**		IAMs_20	IAMs_20	23 59 46.4			
	comp=Z,837nm,22.0s									
BLA	**Blacksburg**	**102.42**	**55**		IAMs_20	IAMs_20	00 01 18.7			
	comp=Z,1µm,20.0s									
W57A	**Gilead**	**102.42**	**57**		IAMs_20	IAMs_20	00 02 33.0			
	comp=Z,742nm,20.0s									
Y58A	**Scranton**	**102.48**	**58**		IAMs_20	IAMs_20	00 02 35.7			
	comp=Z,753nm,19.0s									
X58A	**Rowland**	**102.85**	**57**		IAMs_20	IAMs_20	00 01 48.6			
	comp=Z,1µm,21.0s									
O54A	**Avella**	**102.92**	**52**		IAMs_20	IAMs_20	00 02 12.5			
	comp=Z,887nm,20.0s									
Y59A	**Loris**	**103.14**	**58**		IAMs_20	IAMs_20	00 01 20.3			
	comp=Z,869nm,21.0s									
V58A	**Windy Hill, Pi**	**103.23**	**56**		IAMs_20	IAMs_20	00 01 32.4			
	comp=Z,965nm,21.0s									
T57A	**Hurt**	**103.31**	**55**		IAMs_20	IAMs_20	00 00 35.2			
	comp=Z,1µm,22.0s									
ERPA	**Erie**	**103.48**	**50**		IAMs_20	IAMs_20	00 01 26.3			
	comp=Z,860nm,20.0s									
Q56A	**Snyder Ridge,**	**103.66**	**53**		IAMs_20	IAMs_20	00 00 58.3			
	comp=Z,1µm,21.0s									
Y60A	**Bolivia**	**103.69**	**58**		IAMs_20	IAMs_20	00 03 50.7			
	comp=Z,845nm,20.0s									
GTBY	**Guantanamo Bay**	**104.00**	**73**		IAMs_20	IAMs_20	00 03 55.4			
	comp=Z,900nm,20.0s									
CNNC	**Cliffs of the**	**104.14**	**57**		IAMs_20	IAMs_20	00 02 50.5			
	comp=Z,742nm,19.0s									
O56A	**Blue Knob Stat**	**104.30**	**52**		IAMs_20	IAMs_20	00 02 47.2			
	comp=Z,767nm,20.0s									
S58A	**Poland Farm, P**	**104.34**	**54**		IAMs_20	IAMs_20	00 02 37.6			
	comp=Z,904nm,20.0s									
U59A	**Littleton**	**104.37**	**56**		IAMs_20	IAMs_20	00 03 15.6			
	comp=Z,1µm,19.0s									
J54A	**Appleton**	**104.62**	**49**		IAMs_20	IAMs_20	00 18 30.2			
	comp=Z,618nm,19.0s									
P57A	**Homestead Farm**	**104.62**	**53**		IAMs_20	IAMs_20	00 02 18.8			
	comp=Z,1µm,20.0s									
T59A	**Double "B" Far**	**104.65**	**55**		IAMs_20	IAMs_20	00 02 36.8			
	comp=Z,926nm,20.0s									
V60A	**Jim Taylor Roa**	**104.72**	**56**		IAMs_20	IAMs_20	00 02 37.8			
	comp=Z,1µm,20.0s									
SSPA	**Standing Stone**	**104.86**	**51**		IAMs_20	IAMs_20	00 03 50.9			
	comp=Z,1µm,20.0s									
J55A	**Hilton**	**105.22**	**49**		IAMs_20	IAMs_20	00 04 58.0			
	comp=Z,656nm,19.0s									
V61A	**Roper**	**105.27**	**56**		IAMs_20	IAMs_20	00 03 14.5			
	comp=Z,982nm,20.0s									
L56A	**Greenwood**	**105.28**	**50**		IAMs_20	IAMs_20	00 02 59.9			
	comp=Z,959nm,20.0s									
T60A	**Surry**	**105.32**	**55**		IAMs_20	IAMs_20	00 02 47.6			
	comp=Z,985nm,19.0s									
WMQ	**Urumqi**	**105.45**	**312**		IAMs_20	IAMs_20	00 02 48.5			
	comp=Z,620nm,22.0s									
D53A	**Lac Vacive, Po**	**105.68**	**45**		IAMs_20	IAMs_20	00 03 46.7			
	comp=Z,988nm,20.0s									
J56A	**Wolcott**	**105.92**	**49**		IAMs_20	IAMs_20	00 05 29.5			
	comp=Z,765nm,19.0s									
N59A	**State Game Lan**	**106.49**	**51**		IAMs_20	IAMs_20	00 06 03.0			
	comp=Z,858nm,19.0s									
J57A	**Williamstown**	**106.55**	**49**		IAMs_20	IAMs_20	00 05 46.4			
	comp=Z,625nm,20.0s									
K58A	**Earlville**	**106.75**	**49**		IAMs_20	IAMs_20	00 03 06.7			
	comp=Z,975nm,21.0s									
J58A	**Remsen**	**107.06**	**49**		IAMs_20	IAMs_20	00 06 29.0			
	comp=Z,895nm,19.0s									
J59A	**Piesco**	**107.64**	**49**		IAMs_20	IAMs_20	00 04 26.2			
	comp=Z,801nm,20.0s									
LONY	**Lake Ozonia**	**107.66**	**47**		IAMs_20	IAMs_20	00 06 31.6			
	comp=Z,745nm,19.0s									
PAL	**Palisades**	**107.90**	**51**		IAMs_20	IAMs_20	00 04 47.4			
	comp=Z,991nm,21.0s									
TULEG	**Thule**	**108.17**	**14**		IAMs_20	IAMs_20	00 06 12.8			
	comp=Z,553nm,21.0s									
WSPT	**Westport, CT**	**108.35**	**51**		IAMs_20	IAMs_20	00 06 06.3			
	comp=Z,939nm,20.0s									
VT1	**Waterbury**	**108.95**	**48**		IAMs_20	IAMs_20	00 05 44.8			
	comp=Z,954nm,20.0s									
K62A	**Royalston**	**109.25**	**50**		IAMs_20	IAMs_20	00 03 59.0			
	comp=Z,1µm,22.0s									
HNH	**Hanover**	**109.26**	**49**		IAMs_20	IAMs_20	00 20 12.1			
	comp=Z,901nm,21.0s									
LBNH	**Lisbon**	**109.54**	**48**		IAMs_20	IAMs_20	00 21 00.4			
	comp=Z,712nm,21.0s									
MAKZ	**Makanchi**	**109.66**	**315**		IAMs_20	IAMs_20	00 07 27.1			
	comp=Z,525nm,20.0s									
H62A	**Milan**	**110.11**	**48**		IAMs_20	IAMs_20	00 07 37.2			
	comp=Z,871nm,20.0s									
M65A	**Busby, Falmout**	**110.39**	**51**		IAMs_20	IAMs_20	00 06 40.2			
	comp=Z,997nm,21.0s									
I63A	**Otisfield**	**110.51**	**48**		IAMs_20	IAMs_20	00 21 13.9			
	comp=Z,770nm,18.0s									
F63A	**Nahmakanta, Br**	**111.57**	**46**		IAMs_20	IAMs_20	00 22 39.7			
	comp=Z,800nm,20.0s									
KURK	**Kurchatov**	**111.82**	**319**		IAMs_20	IAMs_20	00 09 55.8			
	comp=Z,787nm,19.0s									
AAK	**Ala-Archa**	**115.05**	**310**		IAMs_20	IAMs_20	00 10 28.9			
	comp=Z,711nm,21.0s									
BRVK	**Borovoye**	**116.67**	**322**		IAMs_20	IAMs_20	00 12 31.7			
	comp=Z,820nm,20.0s									
SUMG	**Summit**	**117.09**	**13**		IAMs_20	IAMs_20	00 12 35.5			
	comp=Z,442nm,20.0s									
KEV	**Kevo**	**123.52**	**351**		IAMs_20	IAMs_20	00 16 12.0			
	comp=Z,585nm,22.0s									
LVZ	**Lovozero**	**123.72**	**347**		IAMs_20	IAMs_20	00 19 30.4			
	comp=Z,667nm,21.0s									
KLMR	**Klimovskoe**	**127.85**	**339**		*e*PKPdf	**PKiKP**	**23 25 59.0**	**+2.2**		
KLMR					AMP		23 26 02.9			
	comp=Z,8.0nm,1.4s									
OBN	**Obninsk**	**133.09**	**336**		IAMs_20	IAMs_20	00 25 17.1			
	comp=Z,479nm,20.0s									
KONO	**Kongsberg**	**135.24**	**357**		IAMs_20	IAMs_20	00 29 13.8			
	comp=Z,461nm,21.0s									
KIV	**Kislovodsk**	**136.90**	**320**		IAMs_20	IAMs_20	00 24 23.1			
	comp=Z,452nm,21.0s									
RGN	**Rugen**	**139.95**	**353**		IAMs_20	IAMs_20	00 30 12.5			
	comp=Z,444nm,20.0s									
DAMY	**Dhamar**	**142.00**	**275**		IAMs_20	IAMs_20	00 29 47.3			
	comp=Z,393nm,21.0s									
ATD	**Arta Tunnel**	**143.09**	**269**		IAMs_20	IAMs_20	00 32 04.5			
	comp=Z,413nm,20.0s									
CLL	**Collm**	**143.16**	**352**		*e*PKPdf	**PKPdf**	**23 26 27.0**	**+2.0**		
CLL					*i* PKiKP	**sPKPdf**	**23 26 29.9**	**+1.2**		
CLL					*e*SS	SS	23 48 24.0	+11		
CLL					Lm	MLR	00 28 00.0			
	comp=Z,500nm,21.9s									
CLL	**Collm**	**143.16**	**352**		IAMs_20	IAMs_20	00 28 13.4			
	comp=Z,475nm,22.0s									
OSTC	**Ostas**	**143.34**	**348**		AMS	AMS	00 27 20.0			
	comp=Z,700nm,24.7s									
UPC	**Upice**	**143.43**	**348**		AMS	AMS	00 28 00.0			
	comp=Z,500nm,17.4s									
BRG	**Berggiesshubel**	**143.44**	**351**		*e*PKP	**PKiKP**	**23 26 31.3**	**+2.4**		
	comp=Z,14nm,1.8s									
DPC	**Dobruska-Polom**	**143.52**	**348**		AMS	AMS	00 27 40.0			
	comp=Z,800nm,23.9s									
BIZ	**Bicaz**	**143.59**	**336**	⇑	P	PKPbc	23 26 23.2	0.0		
OKC	**Ostrava-Krasne**	**143.59**	**346**		AMS	AMS	00 28 50.0			
	comp=Z,600nm,21.2s									
KRLC	**Kraliky**	**143.68**	**347**		AMS	AMS	00 28 00.0			
	comp=Z,700nm,23.2s									
TRPA	**Tarpa**	**143.89**	**340**	⇑	P	**PKPdf**	**23 26 27.1**	**+0.8**		
MOX	**Moxa**	**143.99**	**353**		*e*L	L	00 29 42.8			
	comp=Z,416nm,21.5s									
PRA	**Prague**	**144.14**	**350**		AMS	AMS	00 25 50.0			
	comp=Z,300nm,24.4s									
PRU	**Pruhonice**	**144.20**	**350**		*e*SS	SS	23 48 21.6	-3.5		
PRU					AMS	AMS	00 26 00.0			
	comp=Z,600nm,22.9s									
NKC	**Novy Kostel**	**144.29**	**352**		AMS	AMS	00 28 00.0			
	comp=Z,500nm,19.3s									
KMBO	**Kilima Mbogo**	**144.38**	**246**		PKP	**PKPdf**	**23 26 28.2**	**-0.4**		
	comp=Z,2.3nm,0.8s,baz=82,slow=3.4,SNR=6.3									
KMBO	**Kilima Mbogo**	**144.38**	**246**		PKPdf	**PKPdf**	**23 26 28.5**	**-0.1**		
KMBO	**Kilima Mbogo**	**144.38**	**246**		IAMs_20	IAMs_20	00 28 30.9			
	comp=Z,360nm,20.0s									
OZUR		**144.40**	**335**	⇑	P	**PKiKP**	**23 26 33.0**	**+2.0**		
VRAC	**Vranov**	**144.45**	**347**	⇑	P	**PKPab**	**23 26 21.8**	**-3.7**		
VRAC	**Vranov**	**144.45**	**347**		*e*PKP	**PKPab**	**23 26 25.7**	**+0.2**		
PBCC	**Pribram**	**144.59**	**350**		*e*PKP	**PKiKP**	**23 26 32.2**	**+1.0**		
JAVC	**Velka Javorina**	**144.62**	**346**		*e*PKP	**PKPdf**	**23 26 28.0**	**+0.3**		
BGES	**Gesves**	**144.65**	**360**		x	**PKiKP**	**23 26 31.7**	**+0.3**		
VYHS	**Vyhne**	**144.66**	**344**		*e*PKP	PKPbc	23 26 27.2	+0.7		
DOPR	**Dopca**	**144.66**	**335**	⇑	P	PKPbc	23 26 26.9	+0.3		
KRUC	**Moravsky**	**144.72**	**347**		*e*PKP	**PKPab**	**23 26 26.1**	**-0.4**		
BMRD	**Maredsous**	**144.73**	**0**		x	**PKPdf**	**23 26 29.3**	**+1.6**		
BMRD					pPKiKP	**PKiKP**	**23 26 34.0**	**+2.5**		
MLR	**Muntele Rosu**	**144.82**	**334**	⇑	P	**PKPdf**	**23 26 28.6**	**+0.3**		
BRTR	**Keskin Array B**	**144.86**	**320**		PKP	**PKPab**	**23 26 25.5**	**-2.0**		
	comp=Z,4.7nm,1.0s,baz=117,slow=1.6,SNR=16									
PSZ	**Piszkesteto**	**144.90**	**343**	⇑	P	**PKPab**	**23 26 24.9**	**-2.4**		
DOU	**Dourbes**	**144.93**	**1**		x	**PKiKP**	**23 26 33.3**	**+1.4**		
DOU					x	x	23 26 36.8			
GRA1	**Grafenberg Arr**	**144.98**	**353**		IAMs_20	IAMs_20	00 43 56.4			
	comp=Z,510nm,19.0s									
GRF	**Grafenberg Arr**	**144.98**	**353**		*e*PKP	**PKPab**	**23 26 27.3**	**-0.2**		
	baz=11,slow=2.9									
GRF					*e*L	L	00 35 34.8			
	comp=Z,447nm,22.0s									
DRGR		**144.99**	**339**	⇑	P	**PKPab**	**23 26 25.6**	**-2.1**		
MODS	**Modra-Piesok**	**145.17**	**346**		*e*PKP	**PKPbc**	**23 26 27.9**	**-0.2**		
KHC	**Kasperske Hory**	**145.19**	**350**		*e*PKP	**PKPbc**	**23 26 28.0**	**-0.2**		
KHC					*e*pPKP	**PKiKP**	**23 26 34.2**	**+1.6**		
KHC					*e*SS	SS	23 48 36.8	+0.2		
KHC					AMS	AMS	00 27 20.0			
	comp=Z,800nm,24.1s									
VOIR		**145.24**	**335**	⇑	P	**PKPbc**	**23 26 24.5**	**-4.0**		
ANTO	**Ankara**	**145.29**	**321**		IAMs_20	IAMs_20	00 34 27.2			
	comp=Z,342nm,21.0s									
WLF	**Walferdange**	**145.36**	**359**		x	**PKPdf**	**23 26 29.6**	**+0.7**		
WLF					pPKiKP	**PKiKP**	**23 26 34.9**	**+2.1**		
GERES	**GERESS Array B**	**145.45**	**350**		PKPbc	**PKPbc**	**23 26 28.6**	**-0.5**		
	comp=Z,5.1nm,1.1s,baz=52,slow=2.4,SNR=13									
ARR	**Arges**	**145.46**	**335**	⇑	P	**PKPbc**	**23 26 28.5**	**-0.7**		
CONA	**Conrad Observa**	**145.91**	**347**		*e*PKPab	**PKPab**	**23 26 32.0**	**+1.0**		
	comp=Z,34nm,1.5s,SNR=18									
GZR	**Gura Zlata**	**146.16**	**337**	⇑	P	**PKPdf**	**23 26 30.6**	**+0.2**		
MOA	**Molln**	**146.31**	**349**		PKPab	**PKPab**	**23 26 32.6**	**+0.1**		
	comp=Z,17nm,1.2s									
BZS	**Buzias**	**146.39**	**339**	⇑	P	**PKPdf**	**23 26 30.8**	**+0.1**		
FURI	**Furi**	**146.59**	**264**		IAMs_20	IAMs_20	00 29 04.4			
	comp=Z,453nm,20.0s									
BFO	**Black Forest**	**146.59**	**356**			**PKPab**	**23 26 33.9**	**+0.3**		
BFO					IAMs_20	IAMs_20	00 39 37.2			
	comp=Z,604nm,21.0s									
HERR	**Herculane**	**146.73**	**337**	⇑	P	**PKPdf**	**23 26 30.4**	**-1.0**		
ECH	**Echery**	**146.77**	**357**		PKPdf	**PKPdf**	**23 26 32.6**	**+1.2**		
ECH					IAMs_20	IAMs_20	00 36 39.0			
	comp=Z,494nm,19.0s									
MDVR	**Moldovita**	**147.07**	**338**	⇑	P	**PKPbc**	**23 26 34.4**	**+0.3**		
RETA	**Reutte**	**147.20**	**353**		*e*PKPab	**PKPbc**	**23 26 35.1**	**+0.8**		
	comp=Z,15nm,1.1s									
KBA	**Koelnbreinsper**	**147.22**	**350**		PKPbc	**PKPdf**	**23 26 33.8**	**+1.5**		
	comp=Z,12nm,1.2s									

λ.115.00000°. NP2:φ₀326.00000°, δ60.00000°, λ.74.00000°. Principal axes: T 7.0850, Plg71.0000°, Azm200.0000°; N -0.3150, Plg13.0000°, Azm334.0000°; P -6.7720, Plg13.0000°, Azm67.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

UNK ***06*** *23:49:27.8, 7.26S×75.74W, h22km*

NEIC ***06*** *23:49:27.8±1.2, 7.26S±0.06×75.74W±0.04, h22km±4km, mb4.8/310, Error ellipse: s-maj=9.3km s-min=5.4km az=186.0*

VAO ***06*** *23:49:28.4±0.3, 7.28S×75.67W, h20km±1km, mb4.7*

ISC 06 23:49:27.6±0.6, 7.24S±0.04×75.72W±0.04, h19km±2km, h20km:pP-P, n693, σ0595/669, mb4.8/156, MS4.8/30, Northern Peru

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.66**	**272**	Pn	**Pn**	**23 50 09.1**	**-0.7**
	76nm,0.3s,baz=71,slow=4.3,SNR=175						
ATAH				Sn	**Sb**	**23 50 46.7**	**-0.5**
	188nm,0.3s,baz=123,slow=14,SNR=8.0						
ATAH				LR	LR	23 51 26.1	
	comp=Z,23μm,20.3s,baz=85,slow=46						
NNA	**Nana**	**4.85**	**193**	Pn	**Pn**	**23 50 40.0**	**+0.4**
	9.5nm,0.3s,baz=11,slow=12,SNR=9.7						
NNA				Sn	**Sn**	**23 51 38.6**	**+3.3**
	42nm,0.3s,baz=233,slow=16,SNR=5.7						
NNA	**Nana**	**4.85**	**193**	Pn	**Pn**	**23 50 39.6**	**-0.1**
NNA					**Sn**	**23 51 35.8**	**+0.5**
PTLC	**Puerto Leguiza**	**7.42**	**7**	*eP*	**Pn**	**23 51 10.9**	**-4.0**
PUAC	**Puerto Asis, P**	**7.78**	**354**	*eP*	**Pn**	**23 51 20.6**	**+0.6**
PAC1	**Pacto, Paraso**	**8.06**	**338**	*eP*	**Pn**	**23 51 27.0**	**+3.1**
BBAC	**Balboa, Cauca**	**9.32**	**351**	*eP*	**Pn**	**23 51 41.6**	**+0.3**
SOTA	**Rioblanco**	**9.35**	**355**	*eP*	**Pn**	**23 51 39.9**	**-2.1**
GARC	**Garzon, Huila**	**9.37**	**1**	*eP*	**Pn**	**23 51 41.9**	**-0.1**
MACC	**Macarena, Meta**	**9.51**	**11**	*eP*	**Pn**	**23 51 44.2**	**+0.6**
PCON	**Cinco Dias**	**9.53**	**356**	*eP*	**Pn**	**23 51 44.8**	**+0.4**
BETC	**Betania**	**9.86**	**2**	*eP*	**Pn**	**23 51 49.5**	**+1.0**
PRAC	**Prado**	**10.91**	**4**	*eP*	**Pn**	**23 52 04.2**	**+1.3**
ORTC	**Ortega, Tolima**	**11.08**	**2**	*eP*	**Pn**	**23 52 05.9**	**+0.6**
YOTC	**Yotoco, Valle**	**11.16**	**357**	*eP*	**Pn**	**23 52 07.8**	**+1.3**
VILC	**Villavicencio,**	**11.46**	**10**	*eP*	**Pn**	**23 52 11.5**	**+1.1**
LPAZ	**La Paz**	**11.66**	**141**	Pn	**Pn**	**23 52 14.4**	**+0.7**
	0.3nm,0.3s,baz=324,slow=10,SNR=16						
LPAZ				LR	LR	23 56 28.4	
	comp=Z,788nm,21.6s,baz=310,slow=36						
LPAZ	**La Paz**	**11.66**	**141**	Pn	**Pn**	**23 52 13.7**	**0.0**
LPAZ					Pn	23 52 14.0	+0.3
LPAZ	**La Paz**	**11.66**	**141**	*eP*	**Pn**	**23 52 13.2**	**-0.5**
LPAZ	**La Paz**	**11.66**	**141**	*eP*	**Pn**	**23 52 13.2**	**-0.5**
CVER	**Cruz Verde, Cu**	**11.80**	**8**	*eP*	Pn	23 52 20.1	+4.7
RREF	**El Recreo**	**12.06**	**2**	*eP*	Pn	23 52 25.0	+5.7
ROSC	**El Rosal**	**12.08**	**7**	Pn	**Pn**	**23 52 20.2**	**+1.0**
GUY2C	**Guyana, Caldas**	**12.38**	**2**	*eP*	**Pn**	**23 52 26.9**	**+3.4**
PB12	**IPOC Station P**	**12.46**	**156**	Pn	**Pn**	**23 52 23.9**	**-0.3**
SAML	**Samuel**	**12.53**	**99**	Pn	**Pn**	**23 52 24.4**	**-0.6**
SPBC	**San Pablo de B**	**12.91**	**7**	*eP*	**Pn**	**23 52 33.1**	**+2.8**
CBOC	**Ciudad Bolivar**	**13.02**	**359**	*eP*	**Pn**	**23 52 35.4**	**+3.5**
MNMC	**Minye Minye**	**13.23**	**154**		Pn	23 52 30.6	-4.3
RUSC	**La Rusia**	**13.31**	**11**	*eP*	**Pn**	**23 52 37.1**	**+1.1**
RUSC	**La Rusia**	**13.31**	**11**	Pn	**Pn**	**23 52 35.7**	**-0.4**
PTBC	**PUERTO BERRIO,**	**13.74**	**5**	*eP*	**Pn**	**23 52 42.0**	**+0.3**
PB11	**IPOC Station P**	**13.77**	**153**	Pn	**Pn**	**23 52 42.2**	**+0.1**
GO01	**Chusmiza**	**13.88**	**153**		**Pn**	**23 52 43.2**	**-0.8**
TAMC	**Tame, Arauca**	**14.14**	**16**	*eP*	**Pn**	**23 52 49.1**	**+2.0**
DBBC	**Dabeiba**	**14.17**	**358**	*eP*	**P**	**23 52 57.3**	**+2.4**
TA01	**Diego Aracena**	**14.29**	**159**	Pn	**Pn**	**23 52 46.5**	**-2.6**
PB08	**IPOC Station P**	**14.32**	**154**		**Pn**	**23 52 48.5**	**-1.3**
PATCX	**Punta Patache**	**14.54**	**159**	Pn	**Pn**	**23 52 52.0**	**-0.5**
ZARC	**Zaragoza, Cauc**	**14.66**	**3**	*eP*	**P**	**23 53 02.1**	**+1.8**
UREC	**San Jos de Ur**	**14.89**	**1**	*eP*	**P**	**23 53 01.7**	**-1.2**
PB01	**IPOC Station P**	**14.99**	**157**	Pn	**Pn**	**23 52 57.4**	**-1.3**
PB07	**IPOC Station P**	**15.47**	**159**	Pn	**Pn**	**23 53 05.0**	**-0.1**
PB07					IAmb	IAmb	23 53 20.2
	comp=Z,70nm,1.1s						
MACA	**Manacapuru-AM**	**15.51**	**76**	*eP*	**Pn**	**23 53 04.9**	**-0.5**
MACA	**Manacapuru-AM**	**15.51**	**76**	*eP*	**Pn**	**23 53 04.9**	**-0.5**
PB09	**IPOC Station P**	**15.77**	**157**		**Pn**	**23 53 09.1**	**+0.2**
PB09				IAmb	IAmb	23 53 19.9	
	comp=Z,47nm,0.7s						
PAYG	**Puerto Ayora**	**15.92**	**294**	Pn	**Pn**	**23 53 11.9**	**+1.1**
PAYG				IAmb	IAmb	23 53 16.5	
	comp=Z,54nm,1.1s						
PB04	**IPOC Station P**	**15.94**	**161**	Pn	**Pn**	**23 53 10.9**	**-0.3**
PB04				IAmb	IAmb	23 53 23.5	
	comp=Z,69nm,1.1s						
SMLC	**San Martn de**	**16.02**	**6**	*eP*	**P**	**23 53 15.7**	**+0.3**
VILB	**Vilhena**	**16.30**	**112**	*eP*	**Pn**	**23 53 14.4**	**-1.2**
VILB	**Vilhena**	**16.30**	**112**	*eP*	**Pn**	**23 53 14.4**	**-1.2**
PB06	**IPOC Station P**	**16.48**	**160**		**Pn**	**23 53 17.3**	**-0.7**
LVC	**Limon Verde**	**16.63**	**157**	Pn	**P**	**23 53 22.0**	**-0.6**
	comp=Z,1.4nm,0.3s,baz=235,slow=17,SNR=8.9						
LVC	**Limon Verde**	**16.63**	**157**		**Pn**	**23 53 19.5**	**-0.7**
LVC	**Limon Verde**	**16.63**	**157**	*eP*	**Pn**	**23 53 20.3**	**+0.1**
LVC	**Limon Verde**	**16.63**	**157**	*eP*	**Pn**	**23 53 20.3**	**+0.1**
SDV	**Santo Domingo**	**16.80**	**18**	Pn	**Pn**	**23 53 21.3**	**-0.9**
	comp=Z,1.9nm,0.3s,baz=238,slow=14,SNR=9.2						
SDV				LR	LR	00 00 21.6	
	comp=Z,5μm,19.7s,baz=184,slow=39						
SDV	**Santo Domingo**	**16.80**	**18**	*eP*	**Pn**	**23 53 22.3**	**+0.1**
SDV	**Santo Domingo**	**16.80**	**18**	Pn	**Pn**	**23 53 22.5**	**+0.4**
SDV	**Santo Domingo**	**16.80**	**18**	*eP*	**Pn**	**23 53 22.6**	**+0.4**
SDV	**Santo Domingo**	**16.80**	**18**	*eP*	**Pn**	**23 53 22.6**	**+0.4**
BCIP	**Isla Barro Col**	**16.81**	**346**	Pn	**Pn**	**23 53 22.3**	**+0.3**
BCIP				IAmb	IAmb	23 53 36.1	
	comp=Z,169nm,1.5s						
PB10	**IPOC Station P**	**16.93**	**164**	Pn	**Pn**	**23 53 22.6**	**-1.0**
PB10				IAmb	IAmb	23 53 38.3	
	comp=Z,103nm,1.5s						
PB15	**IPOC Station P**	**16.98**	**160**	Pn	**Pn**	**23 53 24.1**	**-0.3**
PB15				IAmb	IAmb	23 53 37.6	
	comp=Z,40nm,0.6s						
PTGA	**Pitinga**	**16.98**	**68**	Pn	**Pn**	**23 53 23.6**	**-0.8**
	comp=Z,1.3nm,0.3s,baz=263,slow=23,SNR=12						
PTGA	**Pitinga**	**16.98**	**68**	Pn	**Pn**	**23 53 23.6**	**-0.8**
PTGA	**Pitinga**	**16.98**	**68**	*eP*	**Pn**	**23 53 24.7**	**+0.4**
PTGA	**Pitinga**	**16.98**	**68**	*eP*	**Pn**	**23 53 24.7**	**+0.4**
SJCC	**San Jacinto, C**	**17.03**	**2**	*eP*	**P**	**23 53 28.6**	**+1.9**
PTLB	**Pontes e Lacer**	**18.18**	**118**	*eP*	**Pn**	**23 53 39.5**	**+0.4**
PTLB	**Pontes e Lacer**	**18.18**	**118**	*eP*	**Pn**	**23 53 39.5**	**+0.4**
JTS	**Las Juntas de**	**19.69**	**332**	LR	LR	00 01 37.7	
	comp=Z,814nm,18.7s,baz=216,slow=37						
JTS	**Las Juntas de**	**19.69**	**332**	P	**P**	**23 53 55.7**	**-0.3**
CLDB	**Colider**	**20.00**	**102**	*eP*	**P**	**23 53 59.1**	**-0.2**
CLDB				*eS*	**S**	**23 57 44.9**	**+1.2**
CLDB	**Colider**	**20.00**	**102**	*eP*	**P**	**23 53 59.1**	**-0.2**
CLDB				*eS*	**S**	**23 57 44.9**	**+1.2**
ITTB	**Itaituba**	**20.08**	**83**	*eP*	**P**	**23 54 00.8**	**+0.6**
ITTB				*eS*	**S**	**23 57 46.6**	**+1.2**
ITTB	**Itaituba**	**20.08**	**83**	*eP*	**P**	**23 54 00.8**	**+0.6**
ITTB				*eS*	**S**	**23 57 46.6**	**+1.2**
NPGB	**Novo Progresso**	**20.20**	**91**	*eP*	**P**	**23 54 02.0**	**+0.4**
NPGB	**Novo Progresso**	**20.20**	**91**	*eP*	**P**	**23 54 02.0**	**+0.4**
HATO	**Hato, Curacao**	**20.43**	**19**	P	**P**	**23 54 03.4**	**-0.5**
AC02	**Maricunga**	**20.47**	**163**	P	**P**	**23 54 04.3**	**-0.6**
PCRV	**Puerto La Cruz**	**20.52**	**33**	P	**P**	**23 54 05.9**	**+0.9**
	comp=Z,22nm,0.9s,baz=50,slow=20,SNR=2.8						
PCRV				LR	LR	00 03 34.2	
	comp=Z,6μm,18.2s,slow=42						
PLCV	**Puerto La Cruz**	**20.54**	**33**	P	**P**	**23 54 05.9**	**+0.8**
ESPN	**Las Esperanzas**	**21.11**	**336**	P	**P**	**23 54 12.6**	**+1.3**
ESPN				IAmb	IAmb	23 54 21.4	
	comp=Z,78nm,1.5s						
ACON	**Acoyapa**	**21.27**	**334**	P	**P**	**23 54 14.4**	**+1.3**
ACON				IAmb	IAmb	23 54 22.4	
	comp=Z,24nm,0.9s						
SALV	**Santo Antonio**	**21.41**	**115**	*eP*	**P**	**23 54 14.8**	**+0.2**
SALV	**Santo Antonio**	**21.41**	**115**	*eP*	**P**	**23 54 14.8**	**+0.2**
MALB	**Monte Alegre**	**22.04**	**77**	*eP*	**P**	**23 54 21.6**	**+0.3**
MALB				*eS*	**S**	**23 58 25.3**	**+1.4**
MALB	**Monte Alegre**	**22.04**	**77**	*eP*	**P**	**23 54 21.6**	**+0.3**
MALB				*eS*	**S**	**23 58 25.3**	**+1.4**
AC05	**El Transito**	**22.09**	**167**	P	**P**	**23 54 21.9**	**0.0**
AC05				IAmb	IAmb	23 54 40.4	
	comp=Z,41nm,1.3s						
MATN	**Matagalpa**	**22.46**	**333**	P	**P**	**23 54 24.1**	**-1.8**
CO01	**Juntas del Tor**	**23.23**	**168**	P	**P**	**23 54 33.6**	**-0.5**
GO04	**Tololo Observa**	**23.28**	**169**	P	**P**	**23 54 34.2**	**-0.3**
GO04				IAmb	IAmb	23 54 52.7	
	comp=Z,26nm,0.8s						
AQDB	**Aquidauana**	**23.43**	**126**	*eP*	**P**	**23 54 36.5**	**+0.6**
AQDB				*eS*	**S**	**23 58 47.8**	**-0.7**
AQDB	**Aquidauana**	**23.43**	**126**	*eP*	**P**	**23 54 36.5**	**+0.6**
AQDB				*eS*	**S**	**23 58 47.8**	**-0.7**
GRGR	**Grenville**	**23.79**	**36**	P	**P**	**23 54 36.4**	**-3.0**
CO03	**El Pedregal**	**23.95**	**169**	P	**P**	**23 54 39.6**	**-1.2**
CO03				IAmb	IAmb	23 54 58.6	
	comp=Z,38nm,1.2s						
TGUH	**Tegucigalpa,Un**	**24.07**	**332**	P	**P**	**23 54 40.6**	**-1.5**
TGUH				IAmb	IAmb	23 54 53.3	
	comp=Z,39nm,1.4s						
CO02	**Combarbal**	**24.25**	**170**	P	**P**	**23 54 43.5**	**-0.2**
CO02				IAmb	IAmb	23 55 02.1	
	comp=Z,24nm,0.8s						
ARAG	**Araguaiana, MT**	**24.87**	**112**	*eP*	**P**	**23 54 49.3**	**0.0**
ARAG	**Araguaiana, MT**	**24.87**	**112**	*eP*	**P**	**23 54 49.3**	**0.0**
C2SB	**Chapadao do Su**	**25.03**	**119**	*eP*	**P**	**23 54 51.4**	**+0.7**
C2SB	**Chapadao do Su**	**25.03**	**119**	*eP*	**P**	**23 54 51.4**	**+0.7**
ZON	**Zonda**	**25.06**	**166**	P	**P**	**23 54 52.0**	**+1.0**
ZON				IAmb	IAmb	23 55 09.7	
	comp=Z,34nm,1.2s						
CFA	**Coronel Fontan**	**25.23**	**165**	P	**P**	**23 54 55.8**	**+3.4**
	comp=Z,12nm,0.9s,baz=338,slow=12,SNR=2.2						
CFA				LR	LR	00 04 24.7	
	comp=Z,1μm,20.1s,baz=356,slow=36						
MTDJ	**Mount Denham**	**25.37**	**356**	P	**P**	**23 54 54.1**	**+0.3**
MTO3	**Montecristo**	**25.40**	**328**	P	**P**	**23 54 55.1**	**+0.7**
MTO3				IAmb	IAmb	23 55 07.5	
	comp=Z,20nm,1.2s						
PRPB	**Paraupebas**	**25.75**	**89**	*eP*	**P**	**23 54 58.0**	**+0.7**
PRPB	**Paraupebas**	**25.75**	**89**	*eP*	**P**	**23 54 58.0**	**+0.7**
CPUP	**Villa Florida**	**25.83**	**139**	P	**P**	**23 54 57.7**	**-0.2**
VA03	**San Esteban**	**25.85**	**170**	P	**P**	**23 54 57.9**	**-0.3**
ROC1	**El Roble**	**25.98**	**171**	P	**P**	**23 54 59.1**	**-0.4**
MDP	**Montagnes des**	**26.09**	**63**	LR	LR	00 06 13.7	
	comp=Z,3μm,18.2s,baz=237,slow=39						
FDF	**Fort de France**	**26.18**	**33**	P	**P**	**23 55 00.7**	**-0.5**
PEL	**Peldehue**	**26.20**	**170**	P	**P**	**23 55 01.0**	**-0.2**
PEL				IAmb	IAmb	23 55 07.5	
	comp=Z,42nm,1.3s						
SDDR	**Presa de Saban**	**26.42**	**9**	P	**P**	**23 55 01.4**	**-2.0**
SDDR				IAmb	IAmb	23 55 17.2	
	comp=Z,36nm,1.4s						
MT05	**Renca**	**26.43**	**171**	P	**P**	**23 55 02.6**	**-0.8**
APG	**El Apazote**	**26.50**	**327**	P	**P**	**23 55 05.4**	**+1.1**
	comp=Z,5.3nm,1.1s,baz=126,slow=9.9,SNR=4.4						
DR12	**Loma Pena Alta**	**26.61**	**14**	P	**P**	**23 55 03.7**	**-1.3**
PDPR	**Patillas Dam,**	**26.86**	**21**	P	**P**	**23 55 07.6**	**+0.4**
PDPR				IAmb	IAmb	23 55 18.1	
	comp=Z,36nm,1.1s						
SJG	**San Juan**	**26.90**	**20**	P	**P**	**23 55 08.3**	**+0.6**
	comp=Z,9.4nm,0.7s,baz=304,slow=8.7,SNR=2.5						
SJG	**San Juan**	**26.90**	**20**	IAmb	IAmb	23 55 19.9	
	comp=Z,37nm,1.1s						
AGPR	**Aguadilla, PR**	**26.92**	**18**	P	**P**	**23 55 07.9**	**+0.1**
AOPR	**Arecibo Observ**	**26.92**	**19**	P	**P**	**23 55 06.8**	**-1.0**
GTBY	**Guantanamo Bay**	**27.00**	**1**	P	**P**	**23 55 08.2**	**-0.4**
HUMP	**Col San Antoni**	**27.04**	**21**	P	**P**	**23 55 08.4**	**-0.4**
HUMP				IAmb	IAmb	23 55 19.9	
	comp=Z,22nm,1.1s						
TRCB	**Terra Rica**	**27.07**	**127**	*eP*	**P**	**23 55 10.0**	**+0.8**
TRCB	**Terra Rica**	**27.07**	**127**	*eP*	**P**	**23 55 10.0**	**+0.8**
CDVI	**St. Croix**	**27.09**	**23**	P	**P**	**23 55 09.4**	**+0.1**
GCPR	**Guaynabo City**	**27.11**	**20**	P	**P**	**23 55 09.3**	**-0.2**
CBYP	**Canovanas**	**27.15**	**21**	P	**P**	**23 55 09.3**	**-0.7**
CUPR	**Culebra, Puert**	**27.39**	**22**	P	**P**	**23 55 12.1**	**0.0**
CUPR				IAmb	IAmb	23 55 22.7	
	comp=Z,27nm,0.9s						
PEXB	**Peixe**	**27.45**	**102**	*eP*	**P**	**23 55 13.0**	**+0.3**
PEXB	**Peixe**	**27.45**	**102**	*eP*	**P**	**23 55 13.0**	**+0.3**
ITRB	**Iturama**	**27.55**	**119**	*eP*	**P**	**23 55 14.4**	**+0.8**
ITRB	**Iturama**	**27.55**	**119**	*eP*	**P**	**23 55 14.4**	**+0.8**
PCMB	**Pacaembu**	**27.60**	**124**	*eP*	**P**	**23 55 14.9**	**+1.0**
PCMB	**Pacaembu**	**27.60**	**124**	*eP*	**P**	**23 55 14.9**	**+1.0**
GO05	**Huala**	**27.86**	**173**	P	**P**	**23 55 15.0**	**-1.2**
SMTB	**Santa Maria do**	**27.90**	**95**	*eP*	**P**	**23 55 16.9**	**+0.2**
SMTB	**Santa Maria do**	**27.90**	**95**	*eP*	**P**	**23 55 16.9**	**+0.2**
SMRT	**St. Maarten**	**28.06**	**26**	P	**P**	**23 55 17.7**	**-0.4**
BDFB	**Brasilia**	**28.38**	**110**	P	**P**	**23 55 24.0**	**+2.9**
	comp=Z,2.2nm,0.5s,baz=242,slow=9.0,SNR=4.9						
BDFB				LR	LR	00 06 17.3	
	comp=Z,2μm,18.8s,baz=282,slow=36						
BDFB	**Brasilia**	**28.38**	**110**	P	**P**	**23 55 19.2**	**-1.9**
IPMB	**Ipameri, GO**	**28.84**	**114**	*eP*	**P**	**23 55 24.7**	**-0.5**
IPMB	**Ipameri, GO**	**28.84**	**114**	*eP*	**P**	**23 55 24.7**	**-0.5**
BB19B	**Bebedouro**	**29.66**	**120**	*eP*	**P**	**23 55 32.3**	**-0.1**
BB19B	**Bebedouro**	**29.66**	**120**	*eP*	**P**	**23 55 32.3**	**-0.1**
FRTB	**Fartura**	**29.79**	**125**	*eP*	**P**	**23 55 34.9**	**+1.3**
FRTB	**Fartura**	**29.79**	**125**	*eP*	**P**	**23 55 34.9**	**+1.3**
ITAB	**Concordia**	**29.94**	**134**	*eP*	**P**	**23 55 34.8**	**0.0**
ITAB	**Concordia**	**29.94**	**134**	*eP*	**P**	**23 55 34.8**	**0.0**
TEIG	**Tepich**	**29.96**	**336**	P	**P**	**23 55 35.5**	**+0.6**
	comp=Z,5.5nm,0.7s,baz=139,slow=6.9,SNR=2.4						
TEIG				LR	LR	00 06 55.1	
	comp=Z,360nm,18.1s,baz=52,slow=35						
TEIG	**Tepich**	**29.96**	**336**	IAmb	IAmb	23 55 37.4	
	comp=Z,34nm,1.3s						
CMIG	**Matias Romero**	**30.71**	**322**	P	**P**	**23 55 42.9**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=320,slow=8.4,SNR=2.1						
CMIG				LR	LR	00 06 42.2	
	comp=Z,393nm,18.4s,baz=156,slow=34						
RCLB	**Rio Claro- Sao**	**31.06**	**122**	*eP*	**P**	**23 55 44.7**	**-0.1**
RCLB	**Rio Claro- Sao**	**31.06**	**122**	*eP*	**P**	**23 55 44.7**	**-0.1**
CPSB	**Cacapava Do Su**	**31.11**	**141**	*eP*	**P**	**23 55 45.0**	**0.0**
CPSB	**Cacapava Do Su**	**31.11**	**141**	*eP*	**P**	**23 55 45.0**	**0.0**
TIJ01	**Guaruva-PR**	**31.21**	**128**	*eP*	**P**	**23 55 47.0**	**+0.9**
TIJ01	**Guaruva-PR**	**31.21**	**128**	*eP*	**P**	**23 55 47.0**	**+0.9**
JANB	**Januaria**	**31.75**	**107**	*eP*	**P**	**23 55 51.5**	**+0.6**
JANB	**Januaria**	**31.75**	**107**	*eP*	**P**	**23 55 51.5**	**+0.6**
ROSB	**Rosrio**	**31.76**	**84**	*eP*	**P**	**23 55 50.5**	**-0.5**
ROSB				*epP*	**pP**	**23 55 56.6**	**-0.3**
ROSB	**Rosrio**	**31.76**	**84**	*eP*	**P**	**23 55 50.5**	**-0.5**
ROSB				*epP*	**pP**	**23 55 56.6**	**-0.3**
VAO	**Valinhos**	**31.78**	**123**	*eP*	**P**	**23 55 51.5**	**+0.4**
VAO	**Valinhos**	**31.78**	**123**	*eP*	**P**	**23 55 51.5**	**+0.4**
PLTB	**Pedras Altas**	**31.95**	**143**	*eP*	**P**	**23 55 51.6**	**-0.8**
PLTB				*epP*	**pP**	**23 55 57.7**	**-0.7**
PLTB	**Pedras Altas**	**31.95**	**143**	*eP*	**P**	**23 55 51.6**	**-0.8**
PLTB				*epP*	**pP**	**23 55 57.7**	**-0.7**
PET01	**Itanhaem-SP**	**32.09**	**125**	*eP*	**P**	**23 55 53.8**	**+0.1**
PET01	**Itanhaem-SP**	**32.09**	**125**	*eP*	**P**	**23 55 53.8**	**+0.1**
MC01	**Montes Claros**	**32.43**	**110**	*eP*	**P**	**23 55 56.6**	**-0.3**
MC01				*epP*	**pP**	**23 56 03.1**	**+0.2**
MC01	**Montes Claros**	**32.43**	**110**	*eP*	**P**	**23 55 56.6**	**-0.3**
MC01				*epP*	**pP**	**23 56 03.1**	**+0.2**
BSCB	**Bom Sucesso**	**32.89**	**118**	*eP*	**P**	**23 55 59.8**	**-1.2**
BSCB	**Bom Sucesso**	**32.89**	**118**	*eP*	**P**	**23 55 59.8**	**-1.2**
PARB	**Paraibuna**	**33.04**	**122**	*eP*	**P**	**23 56 02.7**	**+0.5**
PARB	**Paraibuna**	**33.04**	**122**	*eP*	**P**	**23 56 02.7**	**+0.5**
TRQA	**Tornquist**	**33.11**	**160**	*eP*	**P**	**23 56 03.0**	**+0.5**
TRQA	**Tornquist**	**33.11**	**160**	*eP*	**P**	**23 56 03.0**	**+0.5**
PLCA	**Paso Flores**	**33.67**	**173**	P	**P**	**23 56 09.3**	**+1.9**
	comp=Z,4.6nm,0.9s,baz=39,slow=6.5,SNR=4.4						
PLCA	**Paso Flores**	**33.67**	**173**	P	**P**	**23 56 05.5**	**-1.9**
PLCA				IAmb	IAmb	23 56 11.3	
	comp=Z,16nm,1.3s						
PLCA	**Paso Flores**	**33.67**	**173**	*eP*	**P**	**23 56 07.5**	**0.0**
PLCA	**Paso Flores**	**33.67**	**173**	*eP*	**P**	**23 56 07.5**	**0.0**
MAN01	**Angra dos Reis**	**34.26**	**120**	*eP*	**P**	**23 56 12.7**	**-0.1**
MAN01				*epP*	**pP**	**23 56 19.1**	**+0.3**
MAN01	**Angra dos Reis**	**34.26**	**120**	*eP*	**P**	**23 56 12.7**	**-0.1**
MAN01				*epP*	**pP**	**23 56 19.1**	**+0.3**
VAS01	**Vassouras-RJ**	**34.50**	**119**	*eP*	**P**	**23 56 15.4**	**+0.6**
VAS01				*epP*	**pP**	**23 56 20.1**	**-0.7**
VAS01	**Vassouras-RJ**	**34.50**	**119**	*eP*	**P**	**23 56 15.4**	**+0.6**
VAS01				*epP*	**pP**	**23 56 20.1**	**-0.7**
SJMB	**Sao Joao De Ma**	**35.45**	**112**	*eP*	**P**	**23 56 22.9**	**-0.2**
SJMB				*epP*	**pP**	**23 56 28.5**	**-0.7**
SJMB	**Sao Joao De Ma**	**35.45**	**112**	*eP*	**P**	**23 56 22.9**	**-0.2**
SJMB				*epP*	**pP**	**23 56 28.5**	**-0.7**
BSFB	**Barra de Sao F**	**35.80**	**112**	*eP*	**P**	**23 56 25.5**	**-0.5**
BSFB	**Barra de Sao F**	**35.80**	**112**	*eP*	**P**	**23 56 25.5**	**-0.5**
CAM01	**Campos-RJ**	**35.91**	**117**	*eP*	**P**	**23 56 27.1**	**+0.1**
CAM01	**Campos-RJ**	**35.91**	**117**	*eP*	**P**	**23 56 27.1**	**+0.1**
GDU01	**Guandu, BA**	**36.09**	**103**	*eP*	**P**	**23 56 28.9**	**+0.3**
GDU01	**Guandu, BA**	**36.09**	**103**	*eP*	**P**	**23 56 28.9**	**+0.3**
RIB01	**Linhares ES**	**36.33**	**113**	*eP*	**P**	**23 56 30.8**	**+0.2**
RIB01	**Linhares ES**	**36.33**	**113**	*eP*	**P**	**23 56 30.8**	**+0.2**
NBCP	**Cabaceiras do**	**36.36**	**101**	*eP*	**P**	**23 56 31.2**	**+0.4**
NBCP	**Cabaceiras do**	**36.36**	**101**	*eP*	**P**	**23 56 31.2**	**+0.4**
CSU	**Charleston Sou**	**40.22**	**354**	P	**P**	**23 57 01.9**	**-1.1**
154A	**Montrose**	**40.25**	**350**	P	**P**	**23 57 02.9**	**-0.5**
NHSC	**New Hope**	**40.34**	**354**	P	**P**	**23 57 04.9**	**+0.8**
	baz=173						
Z58A	**St. Stephen**	**40.54**	**355**	P	**P**	**23 57 06.3**	**+0.7**
	baz=174						
Z57A	**Bowman**	**40.59**	**354**	P	**P**	**23 57 06.6**	**+0.5**
	baz=172						
GOGA	**Godfrey**	**41.09**	**350**	P	**P**	**23 57 11.0**	**+0.7**
	baz=168						
Y57A	**Sumter**	**41.27**	**354**	P	**P**	**23 57 10.9**	**-0.8**
Y57A				IAmb	IAmb	23 57 16.3	
	comp=Z,18nm,0.7s						
Z51A	**Franklin**	**41.32**	**348**	P	**P**	**23 57 11.5**	**-0.7**
Y55A	**Saluda**	**41.36**	**352**	P	**P**	**23 57 13.0**	**+0.5**
	baz=171,SNR=11						
LRAL	**Lakeview Retre**	**41.46**	**346**	P	**P**	**23 57 13.4**	**+0.1**
	baz=163						
LRAL	**Lakeview Retre**	**41.46**	**346**	P	**P**	**23 57 13.3**	**0.0**
342A	**Flagon Creek P**	**41.55**	**338**	P	**P**	**23 57 13.7**	**-0.4**
342A				IAmb	IAmb	23 57 21.9	
	comp=Z,11nm,0.8s						
JSC	**Jenkinsville**	**41.63**	**353**	P	**P**	**23 57 14.3**	**-0.3**
Y52A	**Lilburn**	**41.64**	**350**	P	**P**	**23 57 13.7**	**-1.1**
HODGE	**Hodges**	**41.71**	**352**	P	**P**	**23 57 14.8**	**-0.5**
HKT	**Hockley**	**41.72**	**333**	P	**P**	**23 57 15.5**	**+0.1**
X56A	**White Oak**	**41.81**	**353**	P	**P**	**23 57 16.3**	**+0.2**
	baz=172						
X55A	**Gracelyn & Ava**	**41.86**	**353**	P	**P**	**23 57 16.7**	**+0.2**
	baz=171						
Z47A	**Carrollton**	**41.89**	**344**	P	**P**	**23 57 16.1**	**-0.8**
BIRD	**Birdtown, Kers**	**41.90**	**354**	P	**P**	**23 57 17.2**	**+0.3**
X54A	**Belton**	**42.03**	**352**	P	**P**	**23 57 18.1**	**+0.2**
	baz=170						
W58A	**Raeford**	**42.16**	**356**	P	**P**	**23 57 19.3**	**+0.3**
	baz=175						
W61A	**Ground Anchor**	**42.20**	**358

S55A Lewisburg 45.00 355 P P 23 57 42.5 +0.6
baz=173,SNR=9.7
R58B Mineral 45.01 358 P P 23 57 42.8 +0.8
baz=177
R58B Mineral 45.01 358 P P 23 57 42.5 +0.6
R58B IAmb IAmb 23 57 57.3
comp=Z,18nm,1.3s
WHAR Wooly Hollow 45.09 341 P P 23 57 42.0 -0.7
WHAR IAmb IAmb 23 57 43.8
comp=Z,16nm,1.4s
S54A Dingess, Beckl 45.11 354 P P 23 57 43.7 +0.9
baz=172
R59A King George, V 45.22 358 P P 23 57 44.2 +0.6
baz=178
TX31 Lajitas Ar. Si 45.23 325 IAmb IAmb 23 57 46.4
comp=Z,15nm,1.2s
TXAR Lajitas Array 45.23 325 P P 23 57 43.5 -0.5
comp=Z,1.1nm,0.6s,baz=146,slow=8.0,SNR=12
TXAR LR LR 00 16 40.6
comp=Z,216nm,18.9s,baz=0.0,slow=36
CBN Corbin Frederi 45.23 358 P P 23 57 44.7 +1.0
baz=178
CBN Corbin Frederi 45.23 358 P P 23 57 43.6 -0.1
Z35A Perchaven, San 45.24 334 P P 23 57 45.6 +1.8
S51A Beattyville 45.25 351 P P 23 57 43.4 -0.5
T47A Sharon Grove 45.27 347 P P 23 57 42.2 -1.8
R58A Rapidan 45.35 357 P P 23 57 45.8 +1.1
baz=177,SNR=8.4
R57A Stanardsville 45.38 357 P P 23 57 45.9 +1.0
baz=176
SLBS Sierra La Lagu 45.41 314 P P 23 57 43.8 -1.7
R54A Victor 45.45 354 P P 23 57 46.6 +1.2
baz=173
LCAR Lake Charles 45.46 342 IAmb IAmb 23 57 46.4
comp=Z,14nm,1.3s
R55A Marlinton 45.47 355 P P 23 57 46.5 +0.8
baz=174
W39A Magazine 45.52 339 P P 23 57 46.4 +0.4
baz=155
W39A Magazine 45.52 339 IAmb IAmb 23 57 57.2
comp=Z,12nm,1.3s
X37A Clayton 45.56 337 P P 23 57 47.0 +0.6
X37A IAmb IAmb 23 58 01.6
comp=Z,8.8nm,1.1s
ABTX Abilene, Hawle 45.72 331 P P 23 57 47.9 +0.2
baz=146
ABTX Abilene, Hawle 45.72 331 P P 23 57 47.9 +0.2
Q58A Fox Den Farm, 45.98 358 P P 23 57 50.8 +1.2
baz=177,SNR=6.3
Q60A Greensboro 46.01 360 P P 23 57 50.1 +0.3
Q57A Strasburg 46.11 357 P P 23 57 51.8 +1.1
baz=176
Q56A Snyder Ridge, 46.16 356 P P 23 57 52.1 +1.1
baz=175
Q56A Snyder Ridge, 46.16 356 P P 23 57 51.1 +0.1
Q55A Buckhannon 46.18 355 P P 23 57 52.4 +1.2
baz=174
Q53A Leroy 46.18 354 P P 23 57 51.9 +0.7
baz=172
Q54A Coxs Mills 46.23 354 P P 23 57 52.4 +0.8
baz=173
Q54A Coxs Mills 46.23 354 P P 23 57 50.6 -1.0
Q54A IAmb IAmb 23 57 55.3
comp=Z,7.5nm,0.8s
U40A Yellville 46.25 341 P P 23 57 51.6 -0.2
baz=156
WCI Wyandotte Cave 46.29 348 P P 23 57 52.9 +0.8
baz=166
WCI Wyandotte Cave 46.29 348 P P 23 57 51.8 -0.3
WCI IAmb IAmb 23 57 54.7
comp=Z,17nm,1.5s
T42A Van Buren 46.33 343 P P 23 57 51.8 -0.6
Q52A Bidwell 46.37 353 P P 23 57 53.1 +0.4
baz=171
SDMD Soldier's Deli 46.42 359 P P 23 57 53.7 +0.6
SDMD IAmb IAmb 23 58 01.5
comp=Z,10nm,1.3s
S44A Carbondale 46.45 345 P P 23 57 52.2 -1.1
P58A Pank, Wackersv 46.51 358 P P 23 57 54.8 +1.0
baz=178,SNR=6.0
Q51A Peebles 46.57 352 P P 23 57 54.9 +0.6
Q51A IAmb IAmb 23 57 55.9
comp=Z,14nm,1.4s
P56A Dayton Farm, R 46.60 357 P P 23 57 55.4 +1.0
baz=176
W35A Tecumseh 46.65 336 P P 23 57 55.2 +0.2
P55A Reedsville 46.66 356 P P 23 57 55.9 +0.8
baz=174
P53A Whipple 46.78 354 P P 23 57 56.8 +0.9
baz=172
P54A Burton 46.81 355 P P 23 57 56.7 +0.5
baz=174
U38A Gravette 46.85 339 P P 23 57 56.0 -0.6
TUL1 Leonard 46.89 338 P P 23 57 56.8 -0.1
TUL1 IAmb IAmb 23 58 07.9
comp=Z,16nm,1.4s
PSUB Penn St. - Bra 46.93 0 P P 23 57 57.1 +0.1
PSUB IAmb IAmb 23 58 01.6
comp=Z,8.2nm,1.0s
P51A Williamsport 46.98 352 P P 23 57 56.6 -0.8
P51A IAmb IAmb 23 58 00.3
comp=Z,11nm,1.1s
MVL Millersville 47.00 359 P P 23 57 57.6 0.0
WMOK Wichita Mounta 47.10 334 P P 23 57 58.7 +0.2
baz=148
O58A Lewisberry 47.14 359 P P 23 58 00.0 +1.4
baz=178
O57A Amberson 47.24 358 P P 23 58 00.3 +0.8
baz=177,SNR=5.5
O59A Robesonia 47.31 360 P P 23 58 01.4 +1.3
baz=179
O60A Telford 47.32 0 P P 23 58 01.0 +1.0
baz=180
O55A Ligonier 47.33 356 P P 23 58 01.1 +0.9
baz=175
O56A Blue Knob Stat 47.34 357 P P 23 58 01.2 +0.9
baz=176,SNR=5.4
O56A Blue Knob Stat 47.34 357 P P 23 58 01.0 +0.7
O53A New Philadelph 47.52 354 P P 23 58 02.2 +0.6
baz=173
O51A Pataskala 47.58 353 P P 23 58 02.6 +0.5
baz=171
LUPA Lehigh Univers 47.60 0 P P 23 58 02.4 +0.1
S39A Bolivar 47.62 341 P P 23 58 02.0 -0.5
S39A IAmb IAmb 23 58 08.6
comp=Z,6.8nm,1.1s
SSPA Standing Stone 47.68 358 P P 23 58 02.1 -0.7
BRNJ Basking Ridge 47.70 1 P P 23 58 03.0 0.0
ACSO Alum Creek Sta 47.71 352 P P 23 58 03.9 +0.8
baz=170
ACSO Alum Creek Sta 47.71 352 IAmb IAmb 23 58 05.2
comp=Z,10.0nm,0.9s
N61A South Mountain 47.77 1 P P 23 58 04.3 +0.8
baz=182
N57A Milroy 47.79 358 P P 23 58 04.2 +0.5
baz=178
P46A Rosedale 47.82 348 P P 23 58 03.8 -0.2
P46A IAmb IAmb 23 58 11.5
comp=Z,14nm,1.2s
R40A Maddies Statio 47.85 342 P P 23 58 03.1 -1.1
R40A IAmb IAmb 23 58 10.1
comp=Z,9.2nm,1.4s
N58A Sunbury 47.85 359 P P 23 58 05.2 +1.0
baz=179
N58A Sunbury 47.85 359 P P 23 58 03.6 -0.6
O49A Covington 47.86 351 P P 23 58 02.7 -1.5
O49A IAmb IAmb 23 58 05.3
comp=Z,6.7nm,0.9s
N60A Cedar Hill Far 47.87 1 P P 23 58 04.8 +0.4
baz=181
N55A Marion Center 47.88 357 P P 23 58 05.5 +1.0
baz=176,SNR=7.1
N59A State Game Lan 47.92 360 P P 23 58 05.2 +0.4
baz=180,SNR=7.3
N59A State Game Lan 47.92 360 P P 23 58 06.0 +1.2
N56A West Decatur 47.98 357 P P 23 58 05.7 +0.4
baz=177,SNR=5.5
MNTX Cornudas Mount 47.98 325 P P 23 58 05.2 -0.2
baz=139
MNTX Cornudas Mount 47.98 325 IAmb IAmb 23 58 08.1
comp=Z,12nm,1.4s
PAL Palisades 48.03 2 P P 23 58 06.1 +0.5
baz=182
PAL Palisades 48.03 2 P P 23 58 05.8 +0.1
N53A Lisbon 48.04 355 P P 23 58 05.6 -0.1
baz=173
T35A Sooner Cattle 48.05 338 P P 23 58 05.6 -0.2
T35A IAmb IAmb 23 58 09.2
comp=Z,13nm,1.2s
O48A Farmland 48.05 350 P P 23 58 05.6 -0.2
baz=167
ODNJ Ogdensburg 48.09 1 P P 23 58 06.0 -0.1
ODNJ IAmb IAmb 23 58 16.1
comp=Z,9.6nm,1.0s
N54A Moraine State 48.12 356 P P 23 58 07.0 +0.6
baz=174
N54A Moraine State 48.12 356 P P 23 58 06.2 -0.1
WSPT Westport, CT 48.22 2 P P 23 58 07.2 +0.1
M60A Port Jervis 48.34 1 P P 23 58 09.3 +1.3
baz=182
MSTX Muleshoe 48.34 330 P P 23 58 08.0 -0.3
MSTX IAmb IAmb 23 58 24.1
comp=Z,11nm,1.1s
M57A Sunshine Farm, 48.35 359 P P 23 58 09.3 +1.2
baz=178
M57A Sunshine Farm, 48.35 359 IAmb IAmb 23 58 12.9
comp=Z,14nm,0.9s
P43A Skaggs, Pawnee 48.36 346 P P 23 58 07.3 -0.9
P43A IAmb IAmb 23 58 14.9
comp=Z,12nm,1.1s
M58A Price's Panora 48.38 359 P P 23 58 09.4 +1.1
baz=179
M62A Hamden 48.51 3 P P 23 58 10.2 +1.0
baz=184
M56A Emporium 48.54 358 P P 23 58 10.6 +1.1
baz=177,SNR=7.8
M59A Waymart 48.54 0 P P 23 58 10.5 +0.9
baz=180
M55A Ridgway 48.55 357 P P 23 58 11.1 +1.5
baz=176
M55A Ridgway 48.55 357 P P 23 58 10.0 +0.3
N49A Columbus Grove 48.55 351 P P 23 58 09.8 +0.1
N49A IAmb IAmb 23 58 10.9
comp=Z,12nm,1.1s
KSPA Keystone Colle 48.56 360 P P 23 58 09.9 +0.2
KSPA IAmb IAmb 23 58 20.8
comp=Z,8.5nm,0.8s
O44A Mansfield 48.60 347 P P 23 58 09.7 -0.3
N48A Decatur 48.62 351 P P 23 58 10.8 +0.6
baz=168
M54A Oil Creek Stat 48.64 356 P P 23 58 11.5 +1.1
baz=175
M54A Oil Creek Stat 48.64 356 P P 23 58 09.1 -1.2
M53A WI Miller and 48.65 355 P P 23 58 11.0 +0.6
baz=174
L60A Shokan 49.01 1 P P 23 58 13.9 +0.8
baz=182
L57A Andrews Acres 49.01 359 P P 23 58 13.9 +0.7
baz=178
L58A Harry Jones Me 49.04 360 P P 23 58 14.6 +1.2
baz=180,SNR=5.5
L53A Girard 49.13 356 P P 23 58 14.7 +0.6
baz=174
L56A Greenwood 49.16 358 P P 23 58 15.4 +1.0
baz=178
HDIL Hopedale 49.18 346 P P 23 58 14.9 +0.5
baz=162
L59A Walton 49.19 1 P P 23 58 15.6 +1.0
baz=181
L59A Walton 49.19 1 P P 23 58 15.1 +0.5
BINY Binghamton 49.20 360 P P 23 58 15.8 +1.2
baz=180,SNR=6.3
BINY Binghamton 49.20 360 P P 23 58 15.6 +1.0
M47A Cromwell 49.21 350 P P 23 58 15.2 +0.5
baz=167
L61A Hillsdale 1, H 49.23 2 P P 23 58 16.0 +1.2
baz=183
L55A Hinsdale 49.24 357 P P 23 58 15.8 +0.8
baz=176
L54A Sinclairville 49.34 356 P P 23 58 16.6 +0.9
baz=175
P38A Dawn 49.46 342 P P 23 58 15.4 -1.2
L48A N Adams 49.59 351 P P 23 58 17.7 +0.1
L48A IAmb IAmb 23 58 23.8
comp=Z,16nm,1.1s
HRV Adam Dziewonsk 49.65 4 P P 23 58 19.1 +1.1
baz=185
N41A Harden Midland 49.70 345 P P 23 58 17.6 -0.9
K56A Middlesex 49.72 358 P P 23 58 19.6 +1.0
baz=178
K61A Williamstown 49.72 2 P P 23 58 19.6 +1.0
baz=183
K57A Scipio Center 49.74 359 P P 23 58 19.3 +0.6
baz=179
K58A Earlville 49.76 0 P P 23 58 19.6 +0.7
baz=180
K58A Earlville 49.76 0 P P 23 58 19.2 +0.3
K58A IAmb IAmb 23 58 27.4
comp=Z,17nm,1.1s
K55A Perry 49.77 358 P P 23 58 19.6 +0.6
baz=177
K59A Cooperstown 49.78 1 P P 23 58 20.2 +1.1
baz=181,SNR=6.4
121A Cookes Peak, D 49.97 324 P P 23 58 20.9 +0.1
baz=137
KSU1 Kansas State U 50.01 339 P P 23 58 20.9 +0.1
KSU1 IAmb IAmb 23 58 27.6
comp=Z,8.4nm,0.8s
319A Douglas 50.04 322 P P 23 58 20.5 -0.9
319A IAmb IAmb 23 58 33.7
comp=Z,8.5nm,0.8s
R32A Long Quarter, 50.21 336 P P 23 58 21.8 -0.6
R32A IAmb IAmb 23 58 40.5
comp=Z,12nm,0.9s
J56A Wolcott 50.29 359 P P 23 58 23.6 +0.8
baz=179
J56A Wolcott 50.29 359 P P 23 58 22.9 +0.1
J56A IAmb IAmb 23 58 25.4
comp=Z,12nm,0.8s
J60A Lant Hill Farm 50.29 2 P P 23 58 24.1 +1.2
baz=183
J55A Hilton 50.30 358 P P 23 58 23.5 +0.6
baz=177
J55A Hilton 50.30 358 P P 23 58 22.7 -0.3
J55A IAmb IAmb 23 58 25.3
comp=Z,21nm,1.2s
J62A Henniker 50.35 4 P P 23 58 24.4 +1.1
baz=185
K48A Perry 50.39 352 P P 23 58 25.0 +1.3
baz=169
J57A Williamstown 50.41 360 P P 23 58 25.1 +1.4
baz=180
J52A Paris 50.43 355 P P 23 58 25.0 +1.1
baz=174
J59A Pisco 50.48 1 P P 23 58 25.4 +1.1
baz=182,SNR=7.2
J59A Piesco 50.48 1 P P 23 58 24.6 +0.3
L42A Oliver, Polo 50.64 347 P P 23 58 23.5 -2.1
L42A IAmb IAmb 23 58 26.1
comp=Z,25nm,1.4s
I58A Old Forge 50.69 1 P P 23 58 27.1 +1.2
baz=181
J49A Marlette 50.81 353 P P 23 58 27.6 +0.8
baz=170
I59A Olmsteadville 50.82 2 P P 23 58 28.2 +1.3
baz=182,SNR=6.1
I60A Shoreham 50.89 2 P P 23 58 28.4 +1.1
baz=183
J47A Sunmer 50.91 351 P P 23 58 28.6 +1.0
baz=168
NCB Newcomb 50.99 1 IAmb IAmb 23 58 30.3
comp=Z,10nm,1.0s
ANMO Albuquerque 51.01 327 P P 23 58 28.9 +0.2
baz=139
ANMO Albuquerque 51.01 327 P P 23 58 29.8 +1.1
K43A Burlington 51.02 348 P P 23 58 28.4 0.0
I51A Listowel 51.03 355 P P 23 58 29.1 +0.7
baz=173
L40A Anamosa 51.07 345 IAmb IAmb 23 58 30.1
comp=Z,28nm,1.4s
I55A Frankford 51.24 358 P P 23 58 30.5 +0.5
baz=178
I63A Otisfield 51.26 5 P P 23 58 31.6 +1.5
baz=186
LBNH Lisbon 51.35 3 P P 23 58 31.6 +0.7
baz=185
H58A Gabriels 51.44 1 P P 23 58 32.1 +0.6
baz=182
DELO Deloro Mine 51.55 358 IAmb IAmb 23 58 34.4
comp=Z,19nm,1.3s
H55A Tweed 51.57 359 P P 23 58 32.8 +0.4
baz=178
H56A Elgin 51.59 360 P P 23 58 33.5 +0.9
baz=179
TUC Tucson 51.61 322 P P 23 58 33.0 -0.1
baz=134
TUC Tucson 51.61 322 P P 23 58 32.4 -0.7
LONY Lake Ozonia 51.63 1 P P 23 58 33.6 +0.7
baz=181
H53A Bobcaygeon 51.64 357 P P 23 58 33.7 +0.7
baz=176
T25A Trinidad 51.67 331 P P 23 58 33.4 -0.3
T25A IAmb IAmb 23 58 51.9
comp=Z,7.5nm,0.9s
H59A Cadyville 51.68 2 P P 23 58 34.5 +1.2
baz=183
I48A Sherman Twp 51.69 353 P P 23 58 34.4 +1.0
baz=170
FRNY Flat Rock 51.87 2 P P 23 58 35.1 +0.4
G57A Newington 52.11 1 P P 23 58 37.6 +1.1
baz=181
G59A Clarenceville 52.13 2 P P 23 58 37.5 +0.9
baz=183
G60A Masonville 52.19 3 P P 23 58 37.9 +0.8
baz=184
G53A Haliburton 52.19 357 P P 23 58 38.2 +1.2
baz=176
G55A Calabogie 52.26 359 P P 23 58 38.8 +1.2
baz=179
I42A Draeger Farm, 52.27 348 P P 23 58 36.7 -1.1
I42A IAmb IAmb 23 58 43.9
comp=Z,12nm,1.2s
G63A Kingsbury 52.40 5 P P 23 58 40.2 +1.5
baz=188
G61A St-Isidore-de- 52.42 4 P P 23 58 39.8 +1.0
baz=185
G62A West of Eustis 52.42 5 P P 23 58 40.0 +1.1
baz=186
G54A Lake Saint Pet 52.44 358 P P 23 58 39.3 +0.3
baz=177
ORIO Orleans, Innes 52.45 0 P P 23 58 39.9 +0.9
baz=180
214A Organ Pipe Nat 52.64 320 P P 23 58 40.6 -0.2
baz=131
214A Organ Pipe Nat 52.64 320 P P 23 58 41.7 +1.0
214A IAmb IAmb 23 58 44.0
comp=Z,10nm,1.0s
I40A Norwalk 52.65 346 P P 23 58 39.8 -0.8
I40A IAmb IAmb 23 58 46.3
comp=Z,12nm,1.2s
X18A Snowflake 52.66 324 P P 23 58 41.2 +0.2
SDCO Great Sand Dun 52.68 330 P P 23 58 41.6 +0.4
baz=142
SDCO Great Sand Dun 52.68 330 IAmb IAmb 23 58 59.8
comp=Z,9.5nm,1.1s
G65A Princeton 52.71 7 P P 23 58 42.6 +1.6
baz=190
F52A Sundridge 52.89 357 P P 23 58 43.6 +1.3
baz=176
F59A Saint Gilaume 52.91 3 P P 23 58 43.2 +0.8
baz=184
W18A Petrified Fore 52.95 325 P P 23 58 43.3 +0.1
W18A IAmb IAmb 23 59 01.9
comp=Z,20nm,1.4s
ALGO Algonquin Park 52.99 358 P P 23 58 43.7 +0.7
baz=177
F60A Warwick 53.08 3 P P 23 58 45.3 +1.7
baz=185
F61A St Evariste 53.14 4 P P 23 58 45.1 +0.9
baz=186
TRQ Mont Tremblant 53.23 1 P P 23 58 44.0 -0.9
S22A 4UR Ranch, Cre 53.34 329 P P 23 58 46.8 +0.6
E53A Dumoine, Ponti 53.41 358 P P 23 58 47.1 +1.1
baz=178
E58A La Victoria 53.41 2 P P 23 58 47.1 +1.0
baz=183
E57A Chemin Saint G 53.43 1 P P 23 58 47.2 +0.9
baz=182
E54A Lac Daplat, Po 53.45 359 P P 23 58 47.3 +0.9
baz=178
E60A Ste Agathe de 53.50 4 P P 23 58 47.7 +1.0
baz=185
E56A St. Veronique 53.55 1 P P 23 58 48.1 +1.1
baz=181
E61A Lac Etchemin 53.63 4 P P 23 58 48.3 +0.6
baz=186
E51A G1948 Merrick 53.64 357 P P 23 58 48.4 +0.6
baz=175
E48A Lockeyer 53.79 354 P P 23 58 49.3 +0.4
baz=172
MVCO Mesa Verde 53.80 328 P P 23 58 48.7 -0.7
E47A Iron Bridge 53.88 354 P P 23 58 50.5 +1.0
baz=171
E62A Clayton Lake 53.90 5 P P 23 58 50.6 +0.9
baz=188
E62A Clayton Lake 53.90 5 P P 23 58 50.8 +1.1
D55A Sainte-Anne-du 54.02 0 P P 23 58 51.4 +0.9
baz=180
D52A ZEK Kipawa Sen 54.03 358 P P 23 58 51.0 +0.4
baz=177
D57A Chemin Vers le 54.04 2 P P 23 58 51.3 +0.6
baz=182
D56A ZEC Mazanza, M 54.05 1 P P 23 58 51.2 +0.4
baz=181
D53A Lac Vacive, Po 54.11 358 P P 23 58 51.6 +0.4
baz=178
D53A Lac Vacive, Po 54.11 358 IAmb IAmb 23 58 53.4
comp=Z,8.9nm,1.0s
ECSD EROS Data Cent 54.15 341 P P 23 58 51.8 +0.2
baz=154
D58A Chemin du LacG 54.15 2 P P 23 58 52.4 +0.9
baz=184,SNR=12
D54A Lac Fusel, La 54.16 359 P P 23 58 52.2 +0.6
baz=179
WUAZ Wupatki 54.18 324 P P 23 58 52.9 +0.7
D50A G1974 Best Tow 54.29 357 P P 23 58 52.8 +0.2
baz=175
D61A St Aubert, Com 54.42 5 P P 23 58 54.9 +1.4
baz=187
D48A Paudash Townsh 54.44 355 P P 23 58 53.9 +0.2
baz=173
LATQ La Tuque 54.45 2 P P 23 58 54.8 +1.1
baz=184,SNR=7.1
LATQ La Tuque 54.45 2 P P 23 58 54.1 +0.5
D47A Chapleau 54.45 354 P P 23 58 54.1 +0.4
baz=171
PV01 Paradox Valley 54.53 328 P P 23 58 54.8 0.0
PV01 IAmb IAmb 23 59 13.3
comp=Z,8.9nm,1.2s
PV15 Paradox Valley 54.64 329 P P 23 58 54.9 -0.6
PV15 IAmb IAmb 23 58 58.9
comp=Z,16nm,1.3s
PV02 Paradox Valley 54.67 328 P P 23 58 56.3 +0.5
PV02 IAmb IAmb 23 58 58.1
comp=Z,16nm,1.4s
PV13 Radium Mtn., P 54.68 328 IAmb IAmb 23 59 15.3
comp=Z,11nm,1.0s
PV03 Paradox Valley 54.76 328 P P 23 58 55.8 -0.6
PV03 IAmb IAmb 23 58 59.3
comp=Z,8.8nm,1.2s
PV05 Paradox Valley 54.77 328 P P 23 58 56.6 +0.2
PV05 IAmb IAmb 23 59 11.1
comp=Z,10nm,1.3s
PV12 Saucer Basin, 54.79 328 P P 23 58 56.6 0.0
PV12 IAmb IAmb 23 59 15.7
comp=Z,21nm,1.4s
PV18 Skein Mesa, Pa 54.79 328 P P 23 58 57.4 +0.8
PV18 IAmb IAmb 23 59 05.5
comp=Z,12nm,1.3s
PV07 Paradox Valley 54.80 329 P P 23 58 56.8 +0.2
PV07 IAmb IAmb 23 59 15.2
comp=Z,8.0nm,1.2s
PV11 David Mesa, Pa 54.81 328 P P 23 58 56.6 -0.1
PV11 IAmb IAmb 23 58 59.7
comp=Z,7.2nm,0.9s
PV17 East Wray Mesa 54.84 328 P P 23 58 56.7 -0.3
PV17 IAmb IAmb 23 59 14.5
comp=Z,10nm,1.3s
PV19 Morning Glory 54.88 328 P P 23 58 57.6 +0.4
PV19 IAmb IAmb 23 58 60.0
comp=Z,9.2nm,1.3s
PV04 Paradox Valley 54.90 328 P P 23 58 58.3 +0.9
PV04 IAmb IAmb 23 59 04.9
comp=Z,20nm,1.5s
Y12C Blythe 54.90 320 P P 23 58 57.0 -0.2
Y12C IAmb IAmb 23 59 00.7
comp=Z,9.8nm,1.4s
PV22 Blue Mesa, Par 54.94 328 P P 23 58 57.3 -0.4
PV22 IAmb IAmb 23 59 15.5
comp=Z,8.4nm,1.3s

PV14	**Lion Creek, Pa**	**54.94**	**328**	P	**P**	**23 58 57.2**	**-0.6**
PV14				IAmb	IAmb	23 59 01.7	
	comp=Z,6.5nm,1.0s						
F36A	**Milaca**	**55.21**	**345**	P	**P**	**23 58 59.1**	**-0.1**
F36A				IAmb	IAmb	23 59 00.1	
	comp=Z,12nm,1.4s						
D41A	**Chassel**	**55.25**	**349**	P	**P**	**23 58 58.6**	**-0.9**
D41A				IAmb	IAmb	23 59 01.4	
	comp=Z,11nm,1.1s						
U15A	**North Rim**	**55.35**	**324**	P	**P**	**23 59 00.7**	**0.0**
N23A	**Red Feather La**	**55.37**	**332**	P	**P**	**23 58 59.3**	**-1.5**
W13A	**Hualapai Mount**	**55.39**	**322**	P	**P**	**23 59 00.4**	**-0.6**
IRM	**Iron Mountain**	**55.56**	**320**	P	**P**	**23 59 02.0**	**0.0**
	baz=130						
XPFO	**Pion Flat**	**56.05**	**319**	P	**P**	**23 59 05.8**	**+0.1**
XPFO				IAmb	IAmb	23 59 11.8	
	comp=Z,17nm,1.4s						
PFO	**Pinyon Flats O**	**56.06**	**319**	P	**P**	**23 59 05.3**	**-0.5**
PFO				IAmb	IAmb	23 59 11.8	
	comp=Z,19nm,1.5s						
KNB	**Kanab**	**56.06**	**324**	P	**P**	**23 59 05.9**	**+0.1**
PKCU	**Pink Cliffs**	**56.07**	**325**	P	**P**	**23 59 06.2**	**+0.2**
LSQQ	**Lebel-sur-Quev**	**56.07**	**359**	P	**P**	**23 59 06.2**	**+0.8**
	baz=178						
SRU	**San Rafael Swe**	**56.28**	**328**	P	**P**	**23 59 07.1**	**-0.2**
GMRC	**Granite Mounta**	**56.29**	**321**	P	**P**	**23 59 07.4**	**0.0**
	baz=130						
MTPU	**Mount Pierson**	**56.41**	**326**	P	**P**	**23 59 07.6**	**-0.9**
Q16A	**Castle Valley**	**56.48**	**327**	P	**P**	**23 59 09.7**	**+0.9**
SZCU	**Shurtz Canyon**	**56.61**	**325**	P	**P**	**23 59 09.3**	**-0.4**
P17A	**Butcher Ranch,**	**56.66**	**328**	P	**P**	**23 59 09.6**	**-0.3**
EYMN	**Ely**	**56.69**	**347**	P	**P**	**23 59 09.9**	**+0.1**
	baz=161						
EYMN	**Ely**	**56.69**	**347**	P	**P**	**23 59 08.7**	**-1.0**
MSU	**Marysvale**	**56.74**	**326**	P	**P**	**23 59 10.4**	**-0.3**
MATQ	**Matagami**	**56.78**	**359**	P	**P**	**23 59 11.1**	**+0.7**
	baz=178						
CHGQ	**Chibougamau**	**56.92**	**1**	P	**P**	**23 59 12.4**	**+1.0**
	baz=182						
K22A	**Casper**	**57.03**	**333**	P	**P**	**23 59 10.4**	**-2.2**
SHPR	**Sheep Range**	**57.10**	**322**	P	**P**	**23 59 13.0**	**-0.1**
RSSD	**Black Hills**	**57.17**	**336**	P	**P**	**23 59 13.2**	**-0.3**
RSSD				IAmb	IAmb	23 59 31.0	
	comp=Z,9.3nm,1.4s						
GSC	**Goldstone, Bar**	**57.34**	**320**	P	**P**	**23 59 14.8**	**0.0**
	baz=129						
GSC	**Goldstone, Bar**	**57.34**	**320**	P	**P**	**23 59 14.0**	**-0.8**
GSC				IAmb	IAmb	23 59 17.4	
	comp=Z,11nm,1.4s						
B35A	**Bob, Littlefor**	**57.59**	**346**	IAmb	IAmb	23 59 22.2	
	comp=Z,9.9nm,1.4s						
PMSA	**Palmer Station**	**58.03**	**174**	*e*P	**P**	**23 59 18.5**	**-0.5**
PMSA	**Palmer Station**	**58.03**	**174**	*e*P	**P**	**23 59 18.5**	**-0.5**
TPNV	**Topopah Spring**	**58.05**	**322**	P	**P**	**23 59 20.2**	**+0.3**
	baz=131						
TPNV	**Topopah Spring**	**58.05**	**322**	P	**P**	**23 59 19.8**	**-0.1**
AGMN	**Agassiz Nation**	**58.08**	**344**	P	**P**	**23 59 18.1**	**-1.5**
AGMN				IAmb	IAmb	23 59 26.0	
	comp=Z,14nm,1.4s						
FURC	**Furnace Creek,**	**58.12**	**321**	P	**P**	**23 59 20.4**	**+0.4**
	baz=130						
DUG	**Dugway, Tooele**	**58.28**	**327**	P	**P**	**23 59 21.7**	**+0.3**
	baz=135						
DUG	**Dugway, Tooele**	**58.28**	**327**	P	**P**	**23 59 20.9**	**-0.4**
DUG				IAmb	IAmb	23 59 24.7	
	comp=Z,14nm,1.4s						
PD31	**Pinedale Array**	**58.52**	**331**	P	**P**	**23 59 22.4**	**-0.7**
PDAR	**Pinedale Array**	**58.52**	**331**	P	**P**	**23 59 22.8**	**-0.3**
	comp=Z,1.1nm,1.0s,baz=144,slow=2.8,SNR=6.4						
PDAR				LR	LR	00 26 12.5	
	comp=Z,263nm,19.1s,baz=112,slow=38						
R11A	**Troy Canyon, C**	**58.57**	**324**	P	**P**	**23 59 23.5**	**0.0**
	baz=132						
R11A	**Troy Canyon, C**	**58.57**	**324**	P	**P**	**23 59 22.9**	**-0.5**
HWUT	**Hardware Ranch**	**58.65**	**329**	P	**P**	**23 59 24.1**	**+0.2**
HWUT				IAmb	IAmb	23 59 41.7	
	comp=Z,9.9nm,1.1s						
MDND	**Maddock**	**58.77**	**341**	P	**P**	**23 59 23.8**	**-0.6**
BGU	**Big Grassy Mou**	**58.92**	**328**	P	**P**	**23 59 26.1**	**+0.3**
RKT	**Rikitea**	**58.95**	**247**	*e*S	**S**	**00 07 31.3**	**-0.5**
	comp=Z,349nm,29.5s						
RKT				*e*LR	LR	00 16 46.7	
	comp=Z,2µm,26.5s						
PKM	**Mcpherson Peak**	**59.04**	**318**	P	**P**	**23 59 27.0**	**+0.2**
	baz=126						
REDW	**Red Top Meadow**	**59.59**	**331**	P	**P**	**23 59 29.2**	**-1.3**
ULM	**Lac du Bonnet**	**59.87**	**345**	P	**P**	**23 59 30.7**	**-1.3**
	comp=Z,6.0nm,0.8s,baz=156,slow=8.7,SNR=4.7						
ULM				LR	LR	00 26 51.2	
	comp=Z,317nm,19.6s,baz=142,slow=38						
FXWY	**Fox Creek**	**59.88**	**331**	P	**P**	**23 59 32.3**	**-0.2**
ELK	**Elko**	**59.99**	**326**	P	**P**	**23 59 33.4**	**+0.1**
IMW	**Indian Meadow**	**60.04**	**331**	P	**P**	**23 59 33.4**	**-0.2**
FLWY	**Flagg Ranch**	**60.06**	**332**	P	**P**	**23 59 34.2**	**+0.5**
FLWY				IAmb	IAmb	23 59 51.5	
	comp=Z,11nm,1.2s						
LAO	**LASA Array**	**60.16**	**336**	P	**P**	**23 59 34.7**	**+0.6**
LAO				IAmb	IAmb	23 59 50.8	
	comp=Z,9.7nm,1.4s						
NV11	**Mina Array Sit**	**60.16**	**322**	P	**P**	**23 59 35.3**	**+0.9**
NV11				IAmb	IAmb	23 59 36.8	
	comp=Z,12nm,1.4s						
OMMB	**Old Mammoth Mi**	**60.16**	**321**	P	**P**	**23 59 34.4**	**-0.3**
OMMB				IAmb	IAmb	23 59 52.8	
	comp=Z,10nm,1.2s						
NVAR	**Mina Array Bea**	**60.25**	**322**	P	**P**	**23 59 34.5**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=129,slow=6.8,SNR=8.8						
YPP	**Pitchstone Pla**	**60.25**	**332**	P	**P**	**23 59 35.0**	**-0.1**
YNE	**Yellowstone No**	**60.45**	**333**	P	**P**	**23 59 37.0**	**+0.6**
PMPB	**Monarch Peak**	**60.47**	**319**	P	**P**	**23 59 33.8**	**-2.7**
RYN	**Ryan**	**60.51**	**322**	P	**P**	**23 59 37.2**	**+0.4**
KVN	**Kaiserville**	**60.52**	**323**	P	**P**	**23 59 35.9**	**-1.0**
YHH	**Holmes Hill**	**60.67**	**332**	P	**P**	**23 59 37.7**	**-0.2**
YHB	**Horse Butte**	**60.80**	**332**	P	**P**	**23 59 38.9**	**+0.2**
WAKR	**Walker**	**60.99**	**322**	P	**P**	**23 59 40.7**	**+0.5**
WAKR				IAmb	IAmb	23 59 55.5	
	comp=Z,6.8nm,1.2s						
CMB	**Columbia Colle**	**61.29**	**321**	P	**P**	**23 59 42.6**	**+0.6**
PNTR	**Pine Nut**	**61.45**	**322**	P	**P**	**23 59 42.7**	**-0.6**
PNTR				IAmb	IAmb	23 59 46.5	
	comp=Z,7.5nm,1.1s						
VCNR	**Virginia City**	**61.61**	**322**	P	**P**	**23 59 43.7**	**-0.6**
VCNR				IAmb	IAmb	23 59 46.8	
	comp=Z,5.7nm,0.7s						
BOZ	**Bozeman (W)**	**61.64**	**332**	P	**P**	**23 59 44.2**	**-0.1**
MCMT	**McKenzie Canyo**	**61.65**	**331**	P	**P**	**23 59 43.9**	**-0.7**
PAHR	**Pah Rah Range**	**61.71**	**323**	P	**P**	**23 59 44.8**	**-0.1**
PAHR				IAmb	IAmb	23 59 47.4	
	comp=Z,10nm,1.3s						
MFID	**Camas Ranch**	**62.15**	**328**	P	**P**	**23 59 47.2**	**-0.5**
MFID				IAmb	IAmb	23 59 55.2	
	comp=Z,6.1nm,1.1s						
SCHQ	**Schefferville**	**62.29**	**6**	P	**P**	**23 59 47.6**	**-0.7**
	comp=Z,3.6nm,1.0s,baz=141,slow=4.5,SNR=3.6						
SCHQ				LR	LR	00 26 29.2	
	comp=Z,601nm,21.7s,baz=202,slow=36						
SCHQ	**Schefferville**	**62.29**	**6**	IAmb	IAmb	23 59 56.9	
	comp=Z,5.7nm,1.0s						
BEKR	**Beckworth**	**62.39**	**322**	P	**P**	**23 59 49.4**	**-0.2**
BEKR				IAmb	IAmb	23 59 51.9	
	comp=Z,6.8nm,1.3s						
EGMT	**Eagleton**	**62.67**	**335**	P	**P**	**23 59 51.5**	**+0.5**
	baz=141						
ORV	**Oroville**	**62.90**	**322**	P	**P**	**23 59 53.0**	**+0.3**
WVOR	**Wild Horse Val**	**63.02**	**326**	P	**P**	**23 59 53.0**	**-0.6**
WVOR				IAmb	IAmb	23 59 59.6	
	comp=Z,7.6nm,1.4s						
MOD	**Modoc Plateau**	**63.63**	**324**	P	**P**	**23 59 57.2**	**-0.5**
MOD				IAmb	IAmb	00 00 08.6	
	comp=Z,15nm,1.5s						
MSO	**Missoula**	**63.63**	**332**	P	**P**	**23 59 57.7**	**+0.2**
MSO				IAmb	IAmb	00 00 05.7	
	comp=Z,8.0nm,1.1s						
TAOE	**Nuku Hiva Isla**	**63.75**	**264**	*e*LR	LR	00 19 00.0	
	comp=Z,1µm,24.4s						
M04C	**Macdoel**	**64.45**	**323**	P	**P**	**00 00 03.9**	**+0.8**
	baz=128						
JTMT	**Jette**	**64.46**	**332**	P	**P**	**00 00 03.0**	**0.0**
JTMT				IAmb	IAmb	00 00 16.7	
	comp=Z,5.8nm,1.1s						
K05A	**Summer Lake**	**64.48**	**325**	P	**P**	**00 00 03.1**	**-0.2**
F10A	**Beach Ranch, E**	**64.63**	**329**	P	**P**	**00 00 04.3**	**+0.2**
F10A				IAmb	IAmb	00 00 17.5	
	comp=Z,12nm,1.4s						
KMRM	**Mail Ridge**	**64.67**	**321**	P	**P**	**00 00 03.8**	**-0.7**

G08A	**Pilot Rock**	**65.07**	**328**	P	**P**	**00 00 07.2**	**+0.1**
WALA	**Waterton Lakes**	**65.25**	**333**	P	**P**	**00 00 07.7**	**-0.4**
WALA				IAmb	IAmb	00 00 19.5	
	comp=Z,6.6nm,1.2s						
K02D	**Willamette Mer**	**66.09**	**323**	P	**P**	**00 00 13.7**	**+0.1**
	baz=126						
FRB	**Frobisher Bay**	**70.99**	**3**	P	**P**	**00 00 43.6**	**0.0**
	comp=Z,1.4nm,0.2s,baz=192,slow=9.3,SNR=2.0						
LIC	**Lamto**	**71.78**	**81**	*e*P	**P**	**00 00 50.6**	**+1.1**
	comp=Z,11nm,0.5s						
TIC	**Toumodi**	**71.86**	**81**	*e*P	**P**	**00 00 49.8**	**-0.2**
DBIC	**Dimbokro**	**72.02**	**81**	P	**P**	**00 00 51.6**	**+0.6**
	comp=Z,8.9nm,0.7s,baz=248,slow=5.5,SNR=12						
DBIC				LR	LR	00 29 43.4	
	comp=Z,2µm,21.9s,baz=238,slow=34						
DBIC	**Dimbokro**	**72.02**	**81**	P	**P**	**00 00 50.4**	**-0.5**
KIC	**Kosan Boka**	**72.08**	**81**	*e*P	**P**	**00 00 51.6**	**+0.3**
	comp=Z,17nm,0.8s						
TBI	**Tubuai**	**72.27**	**248**	*e*LR	LR	00 22 52.1	
	comp=Z,1µm,27.0s,baz=84						
PPT2	**Papeete2**	**72.50**	**254**	*e*LR	LR	00 22 59.8	
	comp=Z,2µm,26.5s,baz=92						
PPT	**Papeete**	**72.50**	**254**	LR	LR	00 24 54.0	
	comp=Z,614nm,19.2s,baz=94,slow=29						
VNA3	**Neumayer Olymp**	**75.60**	**162**	P	**P**	**00 01 11.6**	**+0.7**
YKA	**Yellowknife Ar**	**75.66**	**342**	P	**P**	**00 01 11.1**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=139,slow=7.1,SNR=12						
YKA				LR	LR	00 36 45.8	
	comp=Z,202nm,19.8s,baz=0.0,slow=38						
VNA1	**Neumayer--Stat**	**75.83**	**161**	P	**P**	**00 01 13.1**	**+1.0**
VNA2	**Neumayer--Watz**	**76.19**	**162**	P	**P**	**00 01 14.7**	**+0.5**
	baz=304,slow=5.8						
PNCL	**Nicolau / Gran**	**76.91**	**48**	*e*S	**S**	**00 11 03.5**	**-2.6**
PBDV	**Barranco-do-Ve**	**77.06**	**49**	*e*S	**S**	**00 11 08.2**	**+0.3**
PVAQ	**Vaqueiros**	**77.28**	**49**	*e*S	**S**	**00 11 01.5**	**-8.6**
PVAQ	**Vaqueiros**	**77.28**	**49**	*e*LR	LR	00 25 37.8	
	comp=Z,463nm,18.0s						
SNAA	**Sanae**	**77.81**	**162**	P	**P**	**00 01 23.7**	**+0.3**
SNAA	**Sanae**	**77.81**	**162**	P	**P**	**00 01 23.8**	**+0.3**
SNAA				IAmb	IAmb	00 01 32.8	
	comp=Z,16nm,1.3s						
PMRV	**Marv??o**	**78.19**	**47**	*e*LR	LR	00 26 32.0	
	comp=Z,590nm,20.0s						
MDT	**Midelt**	**78.29**	**54**	LR	LR	00 32 36.8	
	comp=Z,526nm,21.4s,baz=324,slow=33						
MTE	**Manteigas**	**78.41**	**46**	*e*S	**S**	**00 11 26.4**	**+4.0**
MTE	**Manteigas**	**78.41**	**46**	*e*LR	LR	00 23 46.7	
	comp=Z,733nm,20.0s						
PGAV	**Gavieira, Arco**	**78.44**	**45**	*e*LR	LR	00 23 17.2	
	comp=Z,651nm,20.0s						
WRAK	**Wrangell Islan**	**78.51**	**332**	P	**P**	**00 01 26.8**	**-0.6**
WRAK				IAmb	IAmb	00 01 38.2	
	comp=Z,11nm,1.4s						
DLBC	**Dease Lake**	**78.58**	**334**	P	**P**	**00 01 28.6**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=147,slow=2.3,SNR=5.7						
DLBC	**Dease Lake**	**78.58**	**334**	P	**P**	**00 01 28.1**	**+0.3**
DLBC				IAmb	IAmb	00 01 47.6	
	comp=Z,9.1nm,1.4s						
MVO	**Moncorvo**	**79.04**	**46**	*e*LR	LR	00 24 12.1	
	comp=Z,725nm,20.0s						
TOA0	**Torodi Ar. Sit**	**79.50**	**75**	P	**P**	**00 01 33.0**	**-0.7**
TOA0				IAmb	IAmb	00 01 40.9	
	comp=Z,10nm,0.8s						
TORD	**Torodi Ar. Bea**	**79.50**	**75**	P	**P**	**00 01 34.0**	**+0.3**
	comp=Z,7.5nm,0.7s,baz=279,slow=4.1,SNR=38						
TORD				LR	LR	00 35 09.1	
	comp=Z,786nm,21.8s,baz=250,slow=34						
ESDC	**Sonseca Array**	**80.79**	**48**	P	**P**	**00 01 40.6**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=259,slow=6.5,SNR=10						
ESDC				LR	LR	00 36 22.9	
	comp=Z,570nm,18.1s,baz=0.0,slow=35						
QSPA	**South Pole Qui**	**82.86**	**180**	P	**P**	**00 01 51.8**	**+1.0**
SUMG	**Summit**	**83.19**	**11**	*i* P	**P**	**00 01 53.3**	**+0.7**
	comp=Z,18nm,0.7s						
SUMG	**Summit**	**83.19**	**11**	P	**P**	**00 01 52.7**	**+0.1**
TAM	**Tamanrasset**	**84.77**	**66**	P	**P**	**00 02 03.5**	**+2.1**
TAM				IAmb	IAmb	00 02 10.2	
	comp=Z,5.9nm,1.2s						
A36M	**Sachs Harbour**	**85.33**	**346**	P	**P**	**00 02 02.6**	**-0.3**
	baz=131						
INK	**Inuvik**	**85.39**	**342**	P	**P**	**00 02 02.7**	**-0.6**
	comp=Z,4.4nm,1.0s,baz=104,slow=9.4,SNR=7.7						
INK	**Inuvik**	**85.39**	**342**	IAmb	IAmb	00 02 06.0	
	comp=Z,9.3nm,1.2s						
EPYK	**Eagle Plains**	**85.45**	**339**	P	**P**	**00 02 03.7**	**0.0**
	baz=120						
EGAK	**Eagle**	**86.35**	**337**	IAmb	IAmb	00 02 20.7	
	comp=Z,10nm,1.1s						
SCRK	**Sand Creek**	**87.15**	**336**	IAmb	IAmb	00 02 15.3	
	comp=Z,10nm,1.5s						
HDA	**Harding Lake**	**88.52**	**336**	P	**P**	**00 02 18.8**	**+0.2**
	baz=110						
IL31		**88.62**	**336**	P	**P**	**00 02 18.4**	**-0.6**
IL31				IAmb	IAmb	00 02 27.1	
	comp=Z,6.5nm,1.2s						
ILAR	**Eielson Array**	**88.62**	**336**	P	**P**	**00 02 18.9**	**-0.2**
	comp=Z,3.0nm,1.1s,baz=134,slow=3.5,SNR=13						
ILAR				LR	LR	00 45 30.2	
	comp=Z,168nm,19.7s,baz=108,slow=38						
CCB	**Clear Creek Bu**	**88.94**	**336**	P	**P**	**00 02 21.2**	**+0.6**
CCB				IAmb	IAmb	00 02 23.2	
	comp=Z,7.5nm,1.4s						
POKR	**Poker Plat Res**	**88.95**	**336**	P	**P**	**00 02 20.7**	**0.0**
	baz=110						
WRH	**Wood River Hil**	**89.00**	**336**	P	**P**	**00 02 20.4**	**-0.5**
WRH				IAmb	IAmb	00 02 34.2	
	comp=Z,4.5nm,0.9s						
VNDA	**Vanda**	**89.63**	**191**	P	**P**	**00 02 24.2**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=300,slow=2.7,SNR=7.2						
VNDA				LR	LR	00 38 37.9	
	comp=Z,53nm,18.3s,baz=116,slow=33						
VNDA	**Vanda**	**89.63**	**191**	P	**P**	**00 02 24.0**	**+0.3**
VNDA				IAmb	IAmb	00 02 32.1	
	comp=Z,4.6nm,1.2s						
KEST	**Kesra**	**90.19**	**54**	P	**P**	**00 02 28.2**	**+0.9**
	comp=Z,3.6nm,0.8s,baz=297,slow=5.7,SNR=4.2						
KEST				LR	LR	00 41 36.3	
	comp=Z,707nm,19.8s,baz=230,slow=35						
KEST	**Kesra**	**90.19**	**54**	IAmb	IAmb	00 02 31.5	
	comp=Z,5.6nm,1.1s						
COLD	**Coldfoot**	**90.69**	**338**	P	**P**	**00 02 29.2**	**+0.5**
COLD				IAmb	IAmb	00 02 31.5	
	comp=Z,6.3nm,1.3s						
TSUM	**Tsumeb**	**90.75**	**109**	P	**P**	**00 02 29.5**	**-0.8**
NOA	**NORSAR Array B**	**94.79**	**29**	LR	LR	00 41 25.2	
	comp=Z,203nm,22.0s,baz=160,slow=33						
BOSA	**Boshof**	**96.11**	**120**	LR	LR	00 41 53.3	
	comp=Z,357nm,21.2s,baz=272,slow=33						
MAW	**Mawson**	**99.76**	**165**	LR	LR	00 49 12.4	
	comp=Z,188nm,19.5s,baz=236,slow=36						
DZM	**Mont Dzumac**	**112.52**	**243**	*e*LR	LR	00 41 38.0	
	comp=Z,600nm,24.2s						
STKA	**Stephens Creek**	**127.27**	**220**	PKP	**PKPdf**	**00 08 31.5**	**-0.1**
	comp=Z,0.9nm,0.2s,baz=168,slow=6.6,SNR=2.9						
ZAA0	**Zalesovo Array**	**130.84**	**15**		**PKPdf**	**00 08 37.5**	**-0.1**
ZALV	**Zalesovo Beam**	**130.84**	**15**	PKP	**PKPdf**	**00 08 37.1**	**-0.6**
	comp=Z,3.3nm,0.8s,baz=325,slow=1.8,SNR=12						
MKAR	**Makanchi Array**	**136.31**	**22**	PKP	**PKPdf**	**00 08 48.1**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=336,slow=2.7,SNR=5.2						
ASAR	**Alice Springs**	**137.80**	**222**	PKP	**PKPdf**	**00 08 51.0**	**-0.7**
	comp=Z,2.4nm,1.0s,baz=110,slow=1.9,SNR=12						
WRA	**Warramunga Arr**	**139.94**	**227**	PKhKP	PKPpre	00 08 53.3	
	comp=Z,1.3nm,0.5s,baz=150,slow=1.5,SNR=5.1						
WMQ	**Urumqi**	**140.77**	**19**	*e*P	**PKPdf**	**00 08 56.2**	**-0.4**
WMQ				pmax	pmax		
	comp=Z,160nm,7.3s						
WMQ				LR	LR		
	comp=N,180nm,24.5s						
WMQ				LR	LR		
	comp=E,90nm,24.5s						
WMQ				LR	LR		
	comp=Z,300nm,21.5s						
KSRS	**Korea Array**	**143.04**	**328**	PKP	**PKPdf**	**00 09 00.7**	**0.0**
	comp=Z,1.5nm,0.8s,baz=49,slow=0.7,SNR=6.2						
HHC	**Hu-ho-hao-te**	**145.91**	**350**	*e*P	**PKPdf**	**00 09 02.5**	**-3.2**
BTO	**Baotou**	**146.38**	**352**	*e*P	**PKPbc**	**00 09 07.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**147.16**	**220**	PKPbc	**PKPbc**	**00 09 11.3**	**+0.8**
	comp=Z,14nm,1.1s,baz=174,slow=2.5,SNR=6.0						
GTA	**Gaotai**	**147.72**	**6**	PKPbc	**PKPbc**	**00 09 12.2**	**+0.6**
GTA				pPKP	sPKPab	00 09 22.7	-0.1
GTA				sPKP		00 09 26.9	
GTA				LR	LR		
	comp=N,190nm,21.7s						
GTA				LR	LR		
	comp=E,140nm,21.7s						
GTA				LR	LR		
	comp=Z,190nm,22.1s						

LZH	**Lanzhou**	**151.28**	**1**	*e*PKPbc	**PKPdf**	**00 09 11.9**	**-2.8**
LZH				pPKP	PKPbc	00 09 17.5	-3.2
LZH				sPKP		00 09 19.3	
LZH				PKPbc	**sPKPdf**	**00 09 25.6**	**+1.9**
LZH				LR	LR		
	comp=N,97nm,18.1s						
LZH				LR	LR		
	comp=E,100nm,18.0s						
LZH				LR	LR		
	comp=Z,140nm,20.3s						
XAN	**Xi'an**	**152.99**	**351**	P	**PKPbc**	**00 09 22.5**	**-1.9**
XAN				pP	pPKPbc	00 09 31.4	+0.3
XAN				pmax	pmax		
	comp=Z,5.0nm,0.8s						

WEL 06 23:51:31.3±1.2,33°S±24″×17°9W±6″4, h632km±11km, M4.0/7,mB4.0/3,MLv4.0/7,Mw(mB)3.0/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.43**	**19**	S	S	23 54 04.8	+0.6
RIZ	**Raoul Island**	**3.44**	**19**	S	S	23 54 04.5	+0.2
WMGZ	**Waiomatatini S**	**5.64**	**200**	P	P	23 53 11.2	+0.1
HAZ	**Te Kaha**	**5.78**	**205**	P	P	23 53 10.7	-1.5
HAZ				S	S	23 54 34.4	-0.4
PKGZ	**Pakihiroa**	**5.80**	**202**	P	P	23 53 12.2	-0.3
PUZ	**Puketiti**	**5.92**	**200**	P	P	23 53 12.7	-0.7
PUZ				S	S	23 54 37.8	+0.8
RUGZ	**Raukumara Rang**	**6.00**	**204**	P	P	23 53 13.0	-1.2
MWZ	**Matawai**	**6.39**	**204**	P	P	23 53 18.1	+0.8
URZ	**Urewera**	**6.47**	**207**	P	P	23 53 18.6	+0.7
MUGZ	**Murupara**	**6.79**	**208**	P	P	23 53 21.3	+0.6
RTZ	**Ruatahuna**	**6.83**	**206**	P	P	23 53 21.3	+0.1
MTHZ	**Maungataniwha**	**7.09**	**206**	P	P	23 53 25.5	+2.1
ARHZ	**Aropaoanui**	**7.40**	**204**	P	P	23 53 29.9	+3.8

*NEIC **06** 23:58:57.7±2.9,36°94N±0°06×141°32E±0°09,h75km±6km, mb4.4/63,Error ellipse: s-maj=10.8km s-min=8.6km az=110.0*
*JMA **06** 23:58:58.0±0.1,37°07N×141°14E,h50km±1km,M4.0*
JMA Felt II J1.
*IDC **06** 23:59:00.4±2.6,36°91N×141°07E,h79km±24km,mb3.6/11, mb1 3.7/15,mb1mx3.6/51,mbtmp3.9/15,Error ellipse: s-maj=28.0km s-min=16.3km az=71.0*
ISC 06 23:58:55.4±0.7,37°00N±0°04×141°35E±0°06,h48km±6km, n111,σ1§61/114,mb4.3/38,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.45**	**283**	P	**Pn**	**23 59 06.8**	**+0.7**
ONAJ				S	**Sn**	**23 59 13.1**	**-0.6**
JFK	**Kawauchi**	**0.53**	**314**	P	**Pn**	**23 59 07.6**	**+0.7**
JFK				S	**Sn**	**23 59 14.3**	**-0.9**
JFFD	**Fukushimafurud**	**0.64**	**278**	P	**Pn**	**23 59 08.8**	**+0.5**
JFFD				S	**Sn**	**23 59 16.2**	**-1.4**
JHO	**Hitachi**	**0.74**	**238**	P	**Pn**	**23 59 10.5**	**+0.9**
JHO				S	**Sn**	**23 59 19.3**	**-0.6**
JFT	**Otama**	**0.96**	**303**	P	**Pn**	**23 59 13.7**	**+1.2**
JFT				S	**Sn**	**23 59 24.7**	**-0.4**
JMM	**Marumori**	**0.97**	**333**	P	**Pn**	**23 59 13.5**	**+0.8**
JMM				S	**Sn**	**23 59 24.8**	**-0.5**
JFY	**Yanaizu**	**1.37**	**288**	P	**Pn**	**23 59 18.7**	**+0.5**
JIO	**Ouri**	**1.45**	**360**	P	**Pn**	**23 59 20.7**	**+1.5**
JIO				*e*S	**Sn**	**23 59 37.0**	**0.0**
JOU	**Okura**	**1.46**	**338**	P	**Pn**	**23 59 20.6**	**+1.2**
JOU				S	**Sn**	**23 59 38.3**	**+0.8**
JYS	**Shirataka**	**1.59**	**320**	P	**Pn**	**23 59 22.3**	**+1.2**
JYS				*e*S	**Sn**	**23 59 40.8**	**+0.4**
JAG	**Ashikaga**	**1.63**	**250**	P	**Pn**	**23 59 22.5**	**+0.8**
JKT	**Katashina**	**1.70**	**263**	P	**Pn**	**23 59 23.9**	**+1.2**
MJAR	**Matsushiro Arr**	**2.56**	**261**	P	**Pn**	**23 59 35.9**	**+1.4**
	2.9nm,0.3s,baz=86,slow=15,SNR=51						
MJAR				S	**Sn**	**00 00 08.9**	**+4.4**
	4.3nm,0.3s,baz=204,slow=32,SNR=3.5						
MAJO	**Matsushiro**	**2.56**	**261**		**Pn**	**23 59 36.3**	**+1.8**
MAT	**Matsushiro**	**2.56**	**261**	P	**Pn**	**23 59 36.3**	**+1.8**

RPSI				IAmb	IAmb	00 07 59.3	
	comp=Z,6.7nm,0.9s						
KK31	**Karatay Array**	**53.09**	**300**	P	**P**	**00 00 08.5**	**+0.6**
KKAR	**Karatay Array**	**53.09**	**300**	P	**P**	**00 00 08.0**	**+0.1**
YKU2	**Yakutat**	**53.59**	**38**	P	**P**	**00 00 10.5**	**-0.7**
GSI	**Gunungsitoli**	**53.74**	**239**	P	**P**	**00 00 11.4**	**-1.5**
GAR	**Garm**	**54.66**	**295**	P	**P**	**00 00 19.0**	**-0.6**
GAR				IAmb	IAmb	00 08 28.7	
	comp=Z,2.9nm,0.6s						
CHGR	**Chuyangaron**	**55.63**	**295**	P	**P**	**00 00 28.6**	**-0.9**
ARU	**Arti**	**56.35**	**319**	P	**P**	**00 00 31.9**	**+0.7**
ARU				IAmb	IAmb	00 00 33.1	
	comp=Z,4.7nm,0.8s						
WR0	**Warramunga Arr**	**57.02**	**188**	P	**P**	**00 00 36.6**	**+0.3**
WR0				IAmb	IAmb	00 08 53.6	
	comp=Z,3.3nm,0.7s						
KBL	**Kabul**	**57.38**	**291**	P	**P**	**00 00 39.1**	**0.0**
KBL				IAmb	IAmb	00 08 41.7	
	comp=Z,2.3nm,0.6s						
ARCES	**ARCESS Array B**	**64.01**	**339**	P	**P**	**00 00 29.9**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=34,slow=9.0,SNR=3.9						
AFI	**Afiamalu**	**67.15**	**130**	P	**P**	**00 00 43.5**	**-0.9**
FIA1	**FINESS Array S**	**68.81**	**332**	P	**P**	**00 00 53.8**	**-0.5**
FIA1				IAmb	IAmb	00 09 56.2	
	comp=Z,2.8nm,0.8s						
FINES	**FINESS Array B**	**68.82**	**332**	P	**P**	**00 00 55.7**	**+1.5**
	comp=Z,1.6nm,0.6s,baz=64,slow=8.7,SNR=12						
BMO	**Blue Mountains**	**71.99**	**47**	P	**P**	**00 10 14.3**	**+0.3**
SAO	**San Andreas Ge**	**73.95**	**56**	P	**P**	**00 10 23.6**	**-2.1**
SAO				IAmb	IAmb	00 10 38.6	
	comp=Z,6.1nm,1.1s						
NC303	**NORSAR Array S**	**74.00**	**337**	P	**P**	**00 10 24.2**	**-1.3**
NC303				IAmb	IAmb	00 10 42.2	
	comp=Z,2.0nm,0.8s						
NB201	**NORSAR Array S**	**74.16**	**337**	P	**P**	**00 10 25.5**	**-1.0**
NB201				IAmb	IAmb	00 10 37.6	
	comp=Z,3.3nm,1.0s						
NB2	**NORSAR Subarra**	**74.19**	**337**	P	**P**	**00 10 28.4**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**74.19**	**337**	P	**P**	**00 10 28.5**	**+1.7**
	comp=Z,0.7nm,0.6s,baz=39,slow=5.7,SNR=6.8						
AKASG	**Malin Array Be**	**74.29**	**322**	P	**P**	**00 10 28.0**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=47,slow=6.7,SNR=5.0						
TOO	**Toolangi**	**74.30**	**177**	P	**P**	**00 10 25.2**	**-2.2**
TOO				IAmb	IAmb	00 10 26.5	
	comp=Z,7.6nm,1.0s						
NBO00	**NORSAR Array S**	**74.34**	**337**	P	**P**	**00 10 28.0**	**+0.6**
NBO00				IAmb	IAmb	00 10 43.6	
	comp=Z,6.4nm,1.1s						
DLMT	**Dillon**	**74.40**	**45**	P	**P**	**00 10 27.6**	**-0.8**
NAO01	**NORSAR Array S**	**74.45**	**337**	P	**P**	**00 10 27.7**	**-0.4**
NAO01				IAmb	IAmb	00 10 38.9	
	comp=Z,7.1nm,1.1s						
MCMT	**McKenzie Canyo**	**74.58**	**45**	P	**P**	**00 10 29.1**	**-0.4**
MDPB	**Devils Postpil**	**75.01**	**54**	P	**P**	**00 10 28.9**	**-3.3**
KONO	**Kongsberg**	**75.78**	**337**	P	**P**	**00 10 33.2**	**-2.6**
KONO				IAmb	IAmb	00 10 40.3	
	comp=Z,8.3nm,1.1s						
ISA	**Isabella, Lake**	**76.55**	**55**	P	**P**	**00 10 41.3**	**+0.6**
PSUT	**Pine Spring**	**77.79**	**51**	P	**P**	**00 10 47.5**	**-0.3**
GSC	**Goldstone, Bar**	**77.86**	**55**	P	**P**	**00 10 47.7**	**-0.4**
OUZ	**Omahuta**	**77.86**	**153**	P	**P**	**00 10 48.9**	**+1.3**
NLU	**North Lily Min**	**78.01**	**49**	P	**P**	**00 10 48.1**	**-0.9**
KWP	**Kalwaria Pacla**	**78.12**	**324**	P	**P**	**00 10 48.9**	**-0.3**
KWP				IAmb	IAmb	00 10 53.9	
	comp=Z,5.7nm,1.1s						
BRTR	**Keskin Array B**	**78.83**	**312**	P	**P**	**00 10 55.0**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=38,slow=5.4,SNR=4.1						
TMUT	**Trail Mountain**	**78.94**	**49**	P	**P**	**00 10 52.1**	**-2.2**
OJC	**Ojcow**	**79.04**	**326**	P	**P**	**00 10 51.9**	**-2.3**
OJC				IAmb	IAmb	00 10 53.9	
	comp=Z,2.3nm,0.6s						
XPFO	**Pion Flat**	**79.10**	**56**	P	**P**	**00 10 54.5**	**-0.5**
RDMU	**Red Mountain**	**79.11**	**47**	P	**P**	**00 10 53.0**	**-2.0**
MDUB	**Mudurnu**	**79.80**	**313**	P	**P**	**00 10 54.8**	**-3.9**
RAYN	**Ar Rayn**	**80.62**	**292**	P	**P**	**00 11 01.9**	**-1.4**
N23A	**Red Feather La**	**80.99**	**45**	P	**P**	**00 11 03.5**	**-1.7**
PV18	**Skein Mesa, Pa**	**80.99**	**49**	P	**P**	**00 11 03.6**	**-1.7**
PV18				IAmb	IAmb	00 11 09.9	
	comp=Z,3.4nm,1.1s						
PV07	**Paradox Valley**	**81.03**	**48**	P	**P**	**00 11 03.4**	**-2.0**
PV07				IAmb	IAmb	00 11 05.0	
	comp=Z,3.8nm,1.2s						
CLL	**Collm**	**81.10**	**330**	P	**P**	**00 11 04.0**	**-1.2**
CLL				IAmb	IAmb	00 11 14.5	
	comp=Z,2.0nm,0.6s						
GERES	**GERESS Array B**	**82.71**	**328**	P	**P**	**00 11 15.1**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=54,slow=5.6,SNR=6.7						
AQU	**L'Aquila**	**87.86**	**324**	P	**P**	**00 11 38.7**	**-1.0**
AQU				IAmb	IAmb	00 11 42.6	
	comp=Z,3.9nm,0.9s						
LATE	**Laterza**	**88.39**	**325**	P	**P**	**00 11 40.0**	**-2.2**
TXAR	**Lajitas Array**	**90.18**	**52**	P	**P**	**00 11 54.1**	**+3.2**
	comp=Z,0.1nm,0.4s,baz=336,slow=2.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**117.32**	**315**	PKP		**PKiKP**	**00 17 36.3** **+0.3**
	comp=Z,0.1nm,0.4s,baz=215,slow=0.5,SNR=4.6						
H03N2	**Juan Fernandez**	**147.07**	**96**	T	T	03 03 32.9	
	baz=291,slow=76,SNR=13						
H03N3	**Juan Fernandez**	**147.08**	**96**	T	T	03 03 34.8	
	baz=291,slow=76,SNR=16						
H03N1	**Juan Fernandez**	**147.09**	**96**	T	T	03 03 34.1	
	baz=291,slow=76,SNR=11						

*IDC **07** 00:07:20.2±1.5,6°.71S×106°.58E,h0km,mb3.8/3,*
mb1 3.9/3,mb1mx3.5/38,mbtmp3.8/3,MS4.2/2,Ms1 4.1/2,
ms1mx3.1/34,Error ellipse: s-maj=55.3km s-min=13.7km
az=10.0
*DJA **07** 00:07:20.7±1.6,7°.S±6°×10°.7E±1°.6,h10km,M4.0/5,*
MLv4.0/5

ISC 07 00:07:21.4±1.2,6.79S±0°.07×106°.6E±0°.1,h10km,n14,
σ0s67/9,mb3.9/3,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBJI	**Dramaga**	**0.28**	**34**	P	**Pg**	**00 07 26.5**	**-0.6**
TNG	**Tangerang**	**0.61**	**5**	P	**Pg**	**00 07 33.1**	**-0.3**
CNJI	**Cibinong**	**0.74**	**136**	P	**Pg**	**00 07 35.1**	**-0.7**
LEM	**Lembang**	**1.02**	**92**	Pg	**Pg**	**00 07 41.3**	**+0.2**
	68nm,0.3s,baz=276,slow=3.3,SNR=51						
LEM				Lg	Lg	00 07 53.7	
	75nm,0.3s,baz=10,slow=18,SNR=14						
LEM				LR	LR	00 08 09.2	
	comp=Z,721nm,18.8s,baz=328,slow=47						
LEM	**Lembang**	**1.02**	**92**	P	**Pg**	**00 07 40.8**	**-0.2**
CISI	**Cisompet, Garu**	**1.43**	**122**	P	**Pn**	**00 07 46.7**	**-0.8**
ASAR	**Alice Springs**	**31.14**	**126**	P	**P**	**00 13 41.2**	**+0.6**
	0.5nm,0.9s,baz=302,slow=8.7,SNR=1.8						
H08S2	**Diego Garcia H**	**33.84**	**266**	T	T	00 49 38.0	
	baz=91,slow=75,SNR=9.4						
H08S3	**Diego Garcia H**	**33.85**	**266**	T	T	00 49 38.0	
	baz=91,slow=75,SNR=7.8						
H08S1	**Diego Carcia H**	**33.85**	**266**	T	T	00 49 38.0	
	baz=91,slow=75,SNR=7.5						
STKA	**Stephens Creek**	**41.08**	**132**	P	**P**	**00 15 06.3**	**+0.8**
	1.3nm,0.4s,baz=325,slow=12,SNR=2.0						
KBZ	**Khabaz**	**76.22**	**318**	LR	LR	00 58 27.3	
	comp=Z,131nm,18.8s,baz=267,slow=40						
NRIK	**Noril'sk**	**77.09**	**353**	LR	LR	00 57 24.3	
	comp=Z,149nm,20.9s,baz=344,slow=39						
BRTR	**Keskin Array B**	**81.39**	**312**	P	**P**	**00 19 38.9**	**0.0**
	1.0nm,0.9s,baz=119,slow=6.9,SNR=6.9						

IDC 07 00:09:50.6±8.2,14°.83N×54°.80E,h0km,mb3.6/4,
mb1 3.6/4,mb1mx3.3/44,mbtmp3.6/4,MS4.1/1,Ms1 4.1/1,
ms1mx3.3/27,Error ellipse: s-maj=151.7km
s-min=71.9km az=1.0,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GEYT	**Alibeck**	**23.20**	**7**	P	P	00 15 00.2	+1.1
	0.8nm,0.6s,baz=199,slow=11,SNR=2.7						
MKAR	**Makanchi Array**	**39.27**	**30**	P	P	00 17 20.3	-0.7
	0.3nm,0.5s,baz=215,slow=11,SNR=4.4						
ZALV	**Zalesovo Beam**	**45.56**	**24**	P	P	00 18 11.8	-0.3
	0.4nm,0.3s,baz=214,slow=6.4,SNR=2.2						
FINES	**FINESS Array B**	**50.91**	**343**	P		00 18 53.1	-0.1
	0.6nm,0.6s,baz=150,slow=8.6,SNR=6.2						
FINES				LR	LR	00 44 09.3	
	comp=Z,184nm,20.3s,baz=265,slow=40						
H01W3	**Cape Leeuwin H**	**74.89**	**133**	T	T	01 43 15.6	
	baz=300,slow=75,SNR=4.9						
H01W2	**Cape Leeuwin H**	**74.90**	**133**	T	T	01 43 18.3	
	baz=300,slow=75,SNR=5.8						
H01W1	**Cape Leeuwin H**	**74.91**	**133**	T	T	01 43 07.0	
	baz=300,slow=75,SNR=7.6						

*DJA **07** 00:15:19.3±0.3,3°.S±4°×13°.8E±°,h43km±21km,M4.1/7,*
mB5.0/1,mb4.5/2,MLv4.0/7,Mw(mB)4.4/1
*IDC **07** 00:15:19.8±1.8,2°.75S×138°.53E,h79km±28km,mb3.3/2,*
mb1 3.6/5,mb1mx3.3/28,mbtmp3.7/5,Error ellipse:
s-maj=25.5km s-min=17.3km az=162.0

ISC 07 00:15:17.9±0.9,2°.75S±0°.1×138°.44E±0°.05,h68km±17km,
n14,σ2s63/23,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.79**	**20**	P	**Pn**	**00 15 33.0**	**-0.7**
SMPI				S	**Sn**	**00 15 40.6**	**-4.8**
GENI	**Genyem**	**1.73**	**85**	P	**Pn**	**00 15 47.4**	**+1.6**
GENI				S	**Sn**	**00 16 08.1**	**+1.1**
JAY	**Jayapura**	**2.27**	**84**	P	**Pn**	**00 15 54.1**	**+0.9**
	28nm,0.3s,baz=258,slow=9.3,SNR=92						
JAY				S	**Sn**	**00 16 21.1**	**+0.9**
	27nm,0.3s,baz=57,slow=12,SNR=6.8						
JAY	**Jayapura**	**2.27**	**84**	P	**Pn**	**00 15 53.9**	**+0.7**
JAY				S	**Sn**	**00 16 21.4**	**+1.2**
SRPI	**Serui, Papua**	**2.37**	**291**	P	**Pn**	**00 15 55.4**	**+1.0**
SRPI				S	**Sn**	**00 16 22.4**	**-0.1**
RKPI	**Ransiki, Papua**	**4.44**	**286**	P	**Pn**	**00 16 23.6**	**+0.9**
RKPI				S	**Sn**	**00 17 13.7**	**+0.6**
FAKI	**Fak Fak**	**6.19**	**268**	P	**Pn**	**00 16 47.7**	**+1.0**
	0.1nm24nm,0.7s						
SIJI	**Sorong**	**7.41**	**284**	P	**Pn**	**00 17 05.7**	**+2.2**
	20nm,0.3s,baz=120,slow=20,SNR=45						
SIJI				S	**Sn**	**00 18 22.6**	**-3.5**
	1.9nm,0.3s,baz=240,slow=22,SNR=1.8						
NLAI	**Namlea**	**11.34**	**267**	P	**Pn**	**00 17 59.0**	**+1.9**
BATI	**Baumata**	**16.44**	**243**	P	**P**	**00 19 08.5**	**+2.4**
	9.2nm,0.3s,baz=153,slow=1.9,SNR=5.3						
WRA	**Warramunga Arr**	**17.56**	**193**	P	**Pn**	**00 19 18.3**	**+0.1**
	0.6nm,0.3s,baz=18,slow=12,SNR=5.3						
WRA				S	Sn	00 22 23.1	-10
	0.4nm,0.3s,baz=13,slow=22,SNR=5.6						
FITZ	**Fitzroy Crossi**	**19.76**	**219**	P	**Pn**	**00 19 44.7**	**+0.1**
	0.1nm,0.3s,baz=45,slow=16,SNR=1.6						
FITZ				S	**S**	**00 23 14.6**	**-7.2**
	0.6nm,0.3s,baz=209,slow=14,SNR=7.8						
ASAR	**Alice Springs**	**21.26**	**192**	P	**P**	**00 19 59.7**	**+1.0**
	2.7nm,0.8s,baz=10.0,slow=12,SNR=23						
ASAR				S	**S**	**00 23 47.3**	**-4.1**
	0.9nm,0.5s,baz=14,slow=24,SNR=5.8						
MKAR	**Makanchi Array**	**69.65**	**323**	P	**P**	**00 26 21.3**	**+1.0**
	0.4nm,0.8s,baz=133,slow=6.3,SNR=4.0						

*ISK **07** 00:26:40.7,34°.13N×25°.16E,h5km,ML3.6/7*
*IDC **07** 00:26:42.2±1.1,34°.32N×25°.12E,h0km,mb3.7/8,*
mb1 3.8/13,mb1mx3.6/35,mbtmp3.8/13,ML3.9/5,Error
ellipse: s-maj=21.1km s-min=17.4km az=66.0
*ATH **07** 00:26:43.1,34°.19N×25°.08E,h26km±2km,ML3.2/9,Error*
ellipse: s-maj=5.2km s-min=1.8km az=1.0
*HLW **07** 00:26:47.2,34°.11N×25°.17E,h10km±14km,Md3.9,Ml3.9*
*THE **07** 00:26:47.0,34°.40N×24°.96E,h2km±3km,ML3.1/8,Error*
ellipse: s-maj=3.5km s-min=0.9km az=178.0
*DDA **07** 00:26:55.0,34°.88N×25°.68E,h42km±352km,ML3.4*

ISC 07 00:26:45.6±1.2,34°.30N±0°.04×25°.12E±0°.03,h29km±10km,
n74,σ2s43/102,mb3.6/8,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.76**	**340**	P	**Pb**	**00 26 59.7**	**-0.6**
SIVA				S	**Sb**	**00 27 09.1**	**-1.2**
	5µm,0.7s						
SIVA	**Sivas**	**0.76**	**340**	P	**Pb**	**00 26 59.6**	**-0.6**
SIVA				S	**Sn**	**00 27 12.3**	**+1.4**
SIVA				AML	AML	00 27 18.2	
	comp=E,11532µm,0.5s						
SIVA				AML	AML	00 27 20.2	
	comp=N,7635µm,0.8s						
TMBK	**Timbaki Herakl**	**0.82**	**339**	P	**Pb**	**00 27 01.0**	**-0.4**
TMBK				S	**Sb**	**00 27 11.1**	**-1.0**
	comp=N,1µm,0.6s						
FRMA	**Ierapetra Chan**	**0.87**	**35**	P	**Pn**	**00 27 05.0**	**+3.0**
FRMA				S	**Sn**	**00 27 19.9**	**+6.2**
	comp=N,260nm,0.8s						
LAST	**Lasithi**	**0.91**	**19**	P	**Pn**	**00 27 03.2**	**+0.7**
LAST				S	**Sn**	**00 27 17.1**	**+2.4**
	comp=N,785nm,0.7s						
LAST	**Lasithi**	**0.91**	**19**	P	**Pn**	**00 27 03.0**	**+0.5**
LAST				AML	AML	00 27 30.4	
	comp=E,1523µm,0.9s						
LAST				AML	AML	00 27 34.1	
	comp=N,1584µm,0.5s						
KSTL	**Kastelli Herak**	**1.00**	**358**	P	**Pn**	**00 27 03.5**	**-0.2**
KSTL				S	**Sb**	**00 27 15.9**	**-1.3**
IDI	**Anoyia**	**1.00**	**349**	P	**Pb**	**00 27 03.9**	**-0.5**
IDI				S	**Sb**	**00 27 16.9**	**-0.4**
	comp=N,780nm,0.6s						
IDI	**Anoyia**	**1.00**	**349**	Pn	**Pb**	**00 27 03.9**	**-0.5**
	comp=N,27nm,0.3s,baz=180,slow=19,SNR=143						
IDI				Sn	**Sn**	**00 27 20.0**	**+2.9**
	comp=N,47nm,0.3s,baz=290,slow=20,SNR=9.1						
IDI	**Anoyia**	**1.00**	**349**	P	**Pn**	**00 27 03.6**	**-0.2**
IDI				AML	AML	00 27 27.6	
	comp=E,1961µm,0.6s						
IDI				AML	AML	00 27 34.3	
	comp=N,1190µm,0.6s						
IDI	**Anoyia**	**1.00**	**349**	PN	**Pn**	**00 27 03.7**	**-0.1**
IDI				SN	**Sn**	**00 27 21.8**	**+4.8**
GVD	**Gavdhos**	**1.01**	**302**	P	**Pn**	**00 27 03.2**	**-0.6**
GVD				S	**Sb**	**00 27 15.7**	**-1.6**
	comp=N,2µm,0.6s						
GVD	**Gavdhos**	**1.01**	**302**	P	**Pn**	**00 27 03.4**	**-0.5**
GVD				S	**Sn**	**00 27 18.0**	**+1.0**
GVD				AML	AML	00 27 28.0	
	comp=N,4788µm,0.5s						
GVD				AML	AML	00 27 34.8	
	comp=E,4379µm,0.7s						
GVD	**Gavdhos**	**1.01**	**302**	PN	**Pn**	**00 27 03.7**	**-0.1**
GVD				SN	**Sn**	**00 27 20.4**	**+3.4**
HRKL	**Herakleio**	**1.01**	**359**	P	**Pb**	**00 27 05.0**	**+0.5**
HRKL				S	**Sn**	**00 27 19.0**	**+2.0**
	comp=E,2µm,0.6s						
HRKL	**Herakleio**	**1.01**	**359**	PN	**Pb**	**00 27 04.5**	**0.0**
NPS	**Neapolis**	**1.04**	**23**	P	**Pb**	**00 27 05.4**	**+0.3**
NPS	**Neapolis**	**1.04**	**23**	P	**Pb**	**00 27 05.4**	**+0.3**
NPS				AML	AML	00 27 30.9	
	comp=E,1305µm,0.8s						
NPS				AML	AML	00 27 33.5	
	comp=N,816µm,0.5s						
STIA	**Sitia Lasithi**	**1.20**	**41**	P	**Pb**	**00 27 10.2**	**+2.4**
ZKR	**Zakros**	**1.21**	**48**	P	**Pb**	**00 27 10.2**	**+2.2**
ZKR	**Zakros**	**1.21**	**48**	P	**Pb**	**00 27 08.3**	**+0.3**
ZKR				AML	AML	00 27 37.8	
	comp=N,402µm,0.7s						
ZKR				AML	AML	00 27 40.5	
	comp=E,1363µm,1.0s						
ZKR	**Zakros**	**1.21**	**48**	PN	**Pb**	**00 27 07.0**	**-1.0**
VAM	**Vamos**	**1.34**	**326**	P	**Pb**	**00 27 09.3**	**-0.8**
VAM				S	**Sn**	**00 27 25.9**	**+0.7**
	comp=E,930nm,0.8s						
VAM	**Vamos**	**1.34**	**326**	P	**Pb**	**00 27 09.1**	**-1.0**
VAM				AML	AML	00 27 40.5	
	comp=E,1892µm,0.5s						
VAM				AML	AML	00 27 41.8	
	comp=N,1499µm,0.5s						
IMMV	**Iera Moni Meta**	**1.49**	**321**	P	**Pn**	**00 27 11.2**	**+0.8**
IMMV	**Iera Moni Meta**	**1.49**	**321**	P	**Pb**	**00 27 11.5**	**-1.2**
IMMV				AML	AML	00 27 54.3	
	comp=E,1554µm,1.0s						
IMMV				AML	AML	00 27 59.3	
	comp=N,1125µm,0.7s						
IMMV	**Iera Moni Meta**	**1.49**	**321**	PN	**Pb**	**00 27 11.9**	**-0.7**
KNDR	**Palaiochora Ch**	**1.50**	**309**	PN	**Pb**	**00 27 12.4**	**-0.5**
KNDR				SN	**Sb**	**00 27 35.7**	**+4.2**
SANT	**Santorini**	**2.08**	**8**	PN	**Pb**	**00 27 20.6**	**-2.2**
THR5	**Thira Island,**	**2.12**	**5**	P	**Pn**	**00 27 20.8**	**+1.7**
SAP3	**Santorini-Thir**	**2.14**	**5**	P	**Pn**	**00 27 21.1**	**+1.7**
ANKY	**Antikythira Is**	**2.16**	**317**	P	**Pn**	**00 27 21.2**	**+1.6**
ANKY				AML	AML	00 28 07.5	
	comp=N,338µm,0.7s						
ANKY				AML	AML	00 28 09.3	
	comp=E,456µm,0.7s						
MHLO	**Agia Marina, M**	**2.45**	**346**	P	**Pn**	**00 27 24.9**	**+1.2**
KTHA	**Kythira Island**	**2.58**	**320**	P	**Pn**	**00 27 27.1**	**+1.7**
KTHA	**Kythira Island**	**2.58**	**320**	PN	**Pn**	**00 27 27.3**	**+1.9**
APE	**Apeiranthos**	**2.78**	**7**	PN	**Pn**	**00 27 30.5**	**+2.2**
SLUM	**Salum**	**2.80**	**178**	P	**Pn**	**00 27 30.0**	**+1.5**
	baz=179						
VLI	**Veliai**	**3.00**	**324**	P	**Pn**	**00 27 31.7**	**+0.6**
ARG	**Arkhangelos**	**3.11**	**51**	P	**Pn**	**00 27 35.0**	**+2.2**
ARG	**Arkhangelos**	**3.11**	**51**	PN	**Pn**	**00 27 34.1**	**+1.3**
DAT	**Datca**	**3.14**	**39**	PN	**Pn**	**00 27 34.9**	**+1.6**
DAT	**Datca**	**3.14**	**39**	*i* P	**Pn**	**00 27 34.3**	**+1.0**
DAT				*i* S	**Sn**	**00 28 05.6**	**-4.3**
DALY	**Dalyan (Mula)**	**3.82**	**48**	*i* P	**Pn**	**00 27 45.6**	**+3.1**
DALY				*i* S	**Sn**	**00 28 14.4**	**-8.0**
TURN	**Turunc**	**3.83**	**47**	*i* P	**Pn**	**00 27 41.1**	**+1.4**
TURN				*i* S	**Sn**	**00 28 18.7**	**-7.8**
ITM	**Ithomi**	**3.87**	**319**	PN	**Pn**	**00 27 45.8**	**+2.6**
DION	**Dionisos Attik**	**3.89**	**346**	P	**Pn**	**00 27 44.3**	**+0.8**
FETY	**Fethiye**	**3.98**	**53**	*i* P	**Pn**	**00 27 47.1**	**+2.3**
FETY				*i* S	**Sn**	**00 28 26.3**	**-4.2**
AKAS	**Kas**	**4.14**	**61**	*i* P	**Pn**	**00 27 48.8**	**+1.7**
AKAS				*i* S	**Sn**	**00 28 32.6**	**-2.0**
TAVA	**DENIZLI_Tavas**	**4.41**	**43**	*i* P	**Pn**	**00 27 54.2**	**+3.5**
TAVA				*i* S	**Sn**	**00 28 38.8**	**-2.4**
GOLH	**Golhisar**	**4.65**	**50**	*i* P	**Pn**	**00 27 56.6**	**+2.6**
AKUM	**Antalya-Kumluc**	**4.72**	**63**	*i* P	**Pn**	**00 27 56.8**	**+1.9**
AKUM				*i* S	**Sn**	**00 28 45.2**	**-3.4**
KORT	**Korkueli**	**5.04**	**56**	*i* P	Pn	00 28 03.8	+4.4
KORT				*i* S	**Sn**	**00 28 55.8**	**-0.9**
SWA2		**5.05**	**177**	P	**Pn**	**00 28 00.3**	**+0.8**
	baz=177						
SWA2				S	**Sn**	**00 28 53.3**	**-3.5**
	baz=177						
SWA2				AMP		00 29 00.0	
	baz=177						
KHAL	**Karahalli**	**5.38**	**40**	*i* P	**Pn**	**00 28 06.6**	**+2.5**
KHAL				*i* S	**Sn**	**00 29 01.1**	**-4.0**
USAK	**Uak-Merkez**	**5.41**	**34**	*i* P	**Pn**	**00 28 07.0**	**+2.6**
USAK				IAML		00 28 59.0	
	comp=E,37nm,2.6s						
USAK				IAML		00 29 59.0	
	comp=N,46nm,4.5s						
KEPZ	**Antalya-Kepez**	**5.88**	**62**	*i* P	**Pn**	**00 28 13.2**	**+2.3**
KEPZ				*i* S	**Sn**	**00 29 11.0**	**-6.4**
GLL	**Jalalah**	**7.32**	**128**	P	**Pn**	**00 28 32.0**	**+1.4**
	baz=127						
HFRF	**Wahat Farafira**	**7.64**	**158**	P	**Pn**	**00 28 35.2**	**+0.2**
	baz=157						
NBNS	**Bani Suef**	**7.74**	**135**	P	**Pn**	**00 28 38.1**	**+1.8**
	baz=134						
NBNS				S	**Sn**	**00 29 59.0**	**-4.0**
	baz=134						
MMAI	**Mount Meron Ar**	**8.67**	**96**	Pn	**Pn**	**00 28 47.2**	**-2.0**
	comp=N,0.4nm,0.3s,baz=297,slow=13,SNR=1.6						
MMAI				Sn	**Sn**	**00 30 23.8**	**-2.2**
	comp=N,2.2nm,0.3s,baz=276,slow=24,SNR=7.3						
BRTR	**Keskin Array B**	**8.70**	**49**	Pn	**Pn**	**00 28 48.3**	**-1.3**
	comp=N,0.0nm,0.3s,baz=219,slow=17,SNR=2.1						
EIL	**Elat**	**9.54**	**116**	Pn	**Pn**	**00 29 02.6**	**+1.5**
	comp=N,0.6nm,0.3s,baz=345,slow=4.9,SNR=8.8						
EIL				Sn	**Sn**	**00 30 43.1**	**-4.2**
	comp=N,0.4nm,0.3s,baz=30,slow=16,SNR=2.6						
ASF	**Jabal al Asfar**	**10.09**	**99**	Sn	**Sn**	**00 30 57.9**	**-3.0**
	comp=N,0.2nm,0.3s,baz=288,slow=20,SNR=1.7						
AKASG	**Malin Array Be**	**16.66**	**9**	Pn	**P**	**00 30 38.2**	**-0.8**
	comp=N,1.7nm,0.3s,baz=200,slow=11,SNR=5.7						
KBZ	**Khabaz**	**16.69**	**50**	Pn	**P**	**00 30 39.8**	**+0.4**
	comp=N,0.1nm,0.3s,baz=242,slow=17,SNR=2.7						
GERES	**GERESS Array B**	**16.83**	**333**	Pn	**P**	**00 30 41.6**	**+0.6**
	comp=N,0.5nm,0.3s,baz=143,slow=12,SNR=30						
HFS	**Hagfors**	**26.90**	**347**	P	**P**	**00 32 23.5**	**-0.4**
	comp=N,0.8nm,0.6s,baz=183,slow=10,SNR=1.9						
FINES	**FINESS Array B**	**27.17**	**1**	P	**P**	**00 32 24.9**	**-1.3**
	comp=N,0.7nm,0.8s,baz=155,slow=14,SNR=3.9						
NOA	**NORSAR Array B**	**28.22**	**346**	P	**P**	**00 32 35.2**	**-0.5**
	comp=N,0.4nm,0.7s,baz=165,slow=9.6,SNR=3.0						
EKA	**Eskdalemuir Ar**	**28.73**	**326**	P	**P**	**00 32 41.7**	**+1.4**
	comp=N,0.4nm,0.5s,baz=124,slow=8.8,SNR=1.8						
TORD	**Torodi Ar. Bea**	**29.32**	**231**	P	**P**	**00 32 52.2**	**+1.1**
	comp=N,1.2nm,0.5s,baz=34,slow=8.6,SNR=44						
ARCES	**ARCESS Array B**	**35.29**	**0**

MCK	**McKinley**	**5.60**	**23**	Pn	Pn	00 31 54.8	-0.9
BPAW	**Bear Paw Mtn.**	**5.61**	**13**	Pn	Pn	00 31 54.6	-1.2
HARP	**HAARP**	**5.71**	**46**	Pn	Pn	00 31 56.6	-0.6
KHIT	**Khitrov Hills**	**5.71**	**68**		Pn	00 31 56.7	-0.6
GLB	**Gilahina Butte**	**5.78**	**57**		Pn	00 31 57.5	-0.5
VRDI	**Verde Repeater**	**5.85**	**60**		Pn	00 31 58.5	-0.8
WAX	**Waxell Ridge**	**5.91**	**68**		Pn	00 31 59.3	-0.6
KIAG	**Kiagna River**	**6.26**	**64**		Pn	00 32 03.9	-0.9
BALM	**Baldy**	**6.30**	**63**		Pn	00 32 05.0	-0.2
YAH	**Yahtse**	**6.43**	**70**		Pn	00 32 07.3	+0.1
WRH	**Wood River Hil**	**6.43**	**23**		Pn	00 32 06.0	-1.0
MENT	**Mentasta**	**6.56**	**45**	Pn	Pn	00 32 08.7	-0.1
RKAV	**Rock Avalanche**	**6.62**	**71**		Pn	00 32 09.9	+0.3
BARN	**Barnard Glacie**	**6.62**	**64**		Pn	00 32 08.6	-1.1
HDA	**Harding Lake**	**6.63**	**27**	Pn	Pn	00 32 08.5	-1.2
CCB	**Clear Creek Bu**	**6.65**	**23**		Pn	00 32 08.7	-1.2
RIDG	**Independent Ri**	**6.70**	**37**	Pn	Pn	00 32 09.9	-0.7
IL31		**6.96**	**26**		Pn	00 32 12.4	-1.6
PCA	**Pinnacle**	**7.13**	**73**		Pn	00 32 16.2	-0.3
SCRK	**Sand Creek**	**7.14**	**38**	Pn	Pn	00 32 14.6	-2.0
YUK2	**White River**	**7.22**	**59**		Pn	00 32 17.8	0.0
BC03		**7.37**	**48**		Pn	00 32 19.4	-0.3
YUK3	**Moose Creek**	**7.39**	**60**		Pn	00 32 20.4	+0.2
YUK1	**Sand Pete Hill**	**7.49**	**57**		Pn	00 32 22.0	+0.6
PNL	**Peninsula**	**7.54**	**76**		Pn	00 32 21.5	-0.6
PRP	**Porcupine Dome**	**7.90**	**26**	Pn	Pn	00 32 25.4	-1.6
AKUT	**Akutan**	**7.99**	**240**	Pn	Pn	00 32 27.5	-0.7
DHAK	**Deception Hill**	**8.16**	**80**		Pn	00 32 30.5	-0.1
YUK6	**Outpost Mounta**	**8.17**	**67**		Pn	00 32 30.8	0.0
EGAK	**Eagle**	**8.59**	**39**	Pn	Pn	00 32 35.1	-1.2

*ISN **07** 00:46:50.6±1.1, 34.°32N×45.°62E, h14km±41km, ML3.2*
*TEH **07** 00:46:50.9, 34.°29N×45.°66E, h19km, ML3.1*
ISC 07 00:46:51.1±1.1, 34°31N±0.°04×45°65E±0.°03, h12km±12km, n26, σ1s23/31, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.72**	**57**	*e*Sg	**Sg**	**00 47 15.5**	**+0.9**
IDHR				*e*Pg	**Pb**	**00 47 04.5**	**-1.2**
IDHR				*e*		00 47 19.4	
IGHG	**Ghaleghazi**	**0.76**	**88**	*e*		00 47 21.7	
IGHG				*e*Pg	**Pg**	**00 47 06.2**	**+0.4**
IVIS	**Veis**	**1.01**	**77**	*e*Pg	**Pn**	**00 47 10.4**	**-0.8**
IVIS				*e*Sg	**Sn**	**00 47 25.7**	**+0.2**
IVIS				*e*		00 47 28.6	
KCHF	**Cheshme Sefid,**	**1.15**	**91**	*e*Pg	**Pg**	**00 47 12.8**	**-0.5**
KCHF				*e*		00 47 35.7	
IBDR	**Badra**	**1.22**	**169**	*e*Pg	**Pg**	**00 47 15.0**	**+0.4**
IBDR				*e*Sg	**Sg**	**00 47 31.0**	**+0.6**
IBDR				AML	AML	00 47 36.2	
	comp=E,226nm,0.5s						
IBDR				AML	AML	00 47 36.5	
	comp=N,159nm,0.5s						
KER	**Kermanshah**	**1.23**	**86**	*e*Pg	**Pg**	**00 47 15.4**	**+0.7**
ILIN	**Lien**	**1.24**	**60**	*e*Pg	**Pb**	**00 47 14.5**	**-0.1**
ILIN				*e*		00 47 35.0	
BHD	**Baghdad**	**1.48**	**226**	*e*Pn	**Pb**	**00 47 18.0**	**-0.6**
BHD				*e*Sn	**Sg**	**00 47 39.0**	**+0.1**
IKRK	**Kirkuk**	**1.53**	**316**	*e*Pn	**Pb**	**00 47 19.0**	**-0.5**
IKRK				*e*Sn	**Sg**	**00 47 40.0**	**-0.4**
IKRK				AML	AML	00 47 42.1	
	comp=E,2μm,0.2s						
IKRK				AML	AML	00 47 42.8	
	comp=N,730nm,0.4s						
IKOM	**Komasi**	**1.54**	**95**	*e*Pg	**Pg**	**00 47 20.3**	**-0.5**
IKOM				*e*		00 47 49.5	
IBZA	**Bozab**	**1.83**	**84**	*e*Pg	**Pb**	**00 47 24.7**	**0.0**
IBZA				*e*		00 47 54.5	
IALM	**Almabolaq**	**2.15**	**75**	*e*Pn	**Pb**	**00 47 28.6**	**-1.5**
IDOB	**Doab**	**2.16**	**103**	*e*Pn	**Pb**	**00 47 28.5**	**-1.8**
IKMR	**Kamar-syah**	**2.40**	**108**	*e*Pn	**Pb**	**00 47 31.9**	**-2.4**
IKMR				*e*		00 48 17.0	
HSAM	**Samen**	**2.44**	**92**	*e*Pn	**Pn**	**00 47 32.0**	**+0.9**
MAHB	**Mahabad**	**2.45**	**1**	*e*Pn	**Pb**	**00 47 32.7**	**-2.5**
BMDN	**Meydan**	**2.71**	**103**	*e*Pn	**Pn**	**00 47 36.1**	**+1.4**
BMDN				*e*		00 47 36.9	
HAGD	**Aghdareh**	**2.92**	**79**	*e*Pn	**Pn**	**00 47 39.1**	**+1.5**
HAGD				*e*		00 48 36.3	
QABG	**Abgarm-Qazvin**	**3.51**	**66**	*e*Pn	**Pn**	**00 47 46.8**	**+1.0**
QSDN	**Sirdan**	**3.61**	**52**	*e*Pn	**Pn**	**00 47 48.9**	**+1.8**
IRAZ	**Razeghan**	**3.68**	**72**	*e*Pn	**Pn**	**00 47 50.2**	**+2.1**
IQOM	**Qom**	**4.50**	**82**	*e*Pn	**Pn**	**00 48 00.6**	**+1.2**
IPIR	**Pirpir**	**4.67**	**109**	*e*Pn	**Pn**	**00 48 01.4**	**-0.3**
IKLH	**Kolahrood**	**5.03**	**100**	*e*Pn	**Pn**	**00 48 08.2**	**+1.5**
IGAR	**Gharneh**	**5.67**	**108**	*e*Pn	**Pn**	**00 48 16.0**	**+0.5**
KLNJ	**Kolanjah**	**5.99**	**122**	*e*Pn	**Pn**	**00 48 20.0**	**0.0**

IDC 07 00:59:58.1±1.5, 55°86S×28°32W, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.6/19, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=67.9km s-min=27.1km az=83.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.18**	**156**	P	Pn	01 04 23.4	-0.3
	0.2nm,0.3s,baz=302,slow=12,SNR=26						
QSPA	**South Pole Qui**	**34.39**	**180**	P	P	01 06 46.8	+0.2
	0.9nm,0.9s,baz=233,slow=9.2,SNR=2.5						
MAW	**Mawson**	**40.68**	**144**	P	P	01 07 39.0	-0.6
	0.6nm,0.3s,baz=192,slow=9.3,SNR=6.5						
TORD	**Torodi Ar. Bea**	**73.21**	**31**	P	P	01 11 30.8	+0.2
	0.3nm,0.5s,baz=195,slow=6.0,SNR=6.7						
ILAR	**Eielson Array**	**149.51**	**312**	PKPbc	PKPbc	01 19 47.0	-0.7
	0.6nm,0.8s,baz=90,slow=1.8,SNR=3.5						

IDC 07 01:13:08.4±1.6, 0°82N×127°31E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.6/38, mbtmp3.9/5, ML3.4/1, Error ellipse: s-maj=57.2km s-min=25.2km az=64.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**9.52**	**232**	Pn	Pn	01 15 26.8	-0.1
	0.4nm,0.3s,baz=45,slow=20,SNR=3.6						
WRA	**Warramunga Arr**	**21.75**	**162**	P	P	01 18 00.7	-1.1
	1.4nm,0.5s,baz=341,slow=10.0,SNR=5.0						
ASAR	**Alice Springs**	**25.17**	**166**	P	P	01 18 36.5	+0.8
	0.7nm,0.3s,baz=346,slow=12,SNR=21						
STKA	**Stephens Creek**	**35.22**	**159**	P	P	01 20 04.5	-0.2
	0.4nm,0.2s,baz=331,slow=16,SNR=4.2						
MKAR	**Makanchi Array**	**60.27**	**326**	P	P	01 23 18.6	-0.2
	0.3nm,0.5s,baz=120,slow=8.2,SNR=4.8						

*IDC **07** 01:18:52.7±18.0, 22.°65N×142.°91E, h270km±125km, mb3.2/11, mb1 3.3/13, mb1mx3.2/44, mbtmp3.9/13, Error ellipse: s-maj=151.7km s-min=29.6km az=170.0*
ISC 07 01:18:49.9±2.8, 22°5N±0.°5×142°9E±0.°2, h250km, n13, σ0s73/13, mb3.6/11, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNU	**Nakatsue**	**14.98**	**317**	P	**P**	**01 22 09.6**	**0.0**
	0.2nm,0.3s,baz=155,slow=19,SNR=1.3						
KSRS	**Korea Array**	**19.71**	**322**	P	**P**	**01 23 01.6**	**+0.8**
	0.7nm,0.3s,baz=142,slow=9.1,SNR=12						
USRK	**Usuriysk Ar.**	**23.42**	**340**	P	**P**	**01 23 36.8**	**+0.1**
	1.0nm,0.5s,baz=145,slow=43,SNR=2.6						
SONM	**Songino Array**	**38.55**	**320**	P	**P**	**01 25 48.1**	**-0.6**
	0.9nm,0.5s,baz=144,slow=10,SNR=2.8						
ZALV	**Zalesovo Beam**	**53.41**	**321**	P	**P**	**01 27 43.4**	**-0.6**
	0.9nm,0.3s,baz=95,slow=7.4,SNR=3.6						
MKAR	**Makanchi Array**	**53.96**	**312**	P	**P**	**01 27 48.4**	**+0.2**
	0.6nm,0.5s,baz=86,slow=9.6,SNR=12						
ILAR	**Eielson Array**	**61.42**	**27**	P	**P**	**01 28 38.7**	**-0.8**
	0.3nm,0.7s,baz=248,slow=6.1,SNR=2.6						
INK	**Inuvik**	**66.91**	**24**	P	**P**	**01 29 15.3**	**+0.3**
	0.8nm,0.9s,baz=243,slow=4.5,SNR=2.1						
YKA	**Yellowknife Ar**	**75.84**	**28**	P	**P**	**01 30 08.8**	**+0.4**
	0.4nm,0.5s,baz=293,slow=5.8,SNR=3.1						
ARCES	**ARCESS Array B**	**78.06**	**341**	P	**P**	**01 30 21.1**	**+0.5**
	1.1nm,0.6s,baz=70,slow=7.9,SNR=6.0						
KBZ	**Khabaz**	**81.62**	**314**	P	**P**	**01 30 41.5**	**+1.3**
	0.8nm,0.4s,baz=63,slow=2.3,SNR=2.0						
FINES	**FINESS Array B**	**82.33**	**334**	P	**P**	**01 30 43.3**	**-0.2**
	0.4nm,0.3s,baz=64,slow=4.7,SNR=13						
BRTR	**Keskin Array B**	**89.60**	**313**	P	**P**	**01 31 18.7**	**-0.9**
	0.3nm,0.6s,baz=59,slow=0.8,SNR=2.7						

*KRNET **07** 01:56:07.1±0.1, 40.°04N×79.°93E, mb2.5*
SOME 07 01:56:09.3, 42°22N×80°48E, h10km, 6C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.20**	**322**	*e*P	Pb	01 56 29.0	-3.3
	5.2nm,0.1s						
SHLS				*e*S	Sb	01 56 43.7	-4.3
	22nm,0.3s						
UZB	**Uzynbulak**	**1.42**	**311**	*e*P	Pg	01 56 36.5	-0.1
	0.8nm,0.1s						
UZB				*e*S	Sg	01 56 55.8	+0.7
	3.7nm,0.1s						
PRZ	**Przheval'sk**	**1.57**	**280**	↑*i*P	Pg	01 56 50.4	+11
	baz=35						
PRZ				↑*i*S	Sg	01 57 22.8	+23
	baz=35						
SATY	**Saty**	**1.75**	**299**	*e*P	Pb	01 56 42.0	+0.4
	1.3nm,0.1s						
SATY				*e*S	Sg	01 57 05.1	-0.4
	7.3nm,0.1s						
TARG	**Taragay, Kyrgy**	**2.06**	**257**	↓*i*P	Pb	01 56 46.0	-1.0
	baz=17						
TARG				↓*i*S	Sb	01 57 14.0	+1.3
	baz=17						
KURS	**Kuram**	**2.12**	**308**	*e*P	Pb	01 56 48.5	+0.6
	2.4nm,0.3s						
KURS				*e*S	Sg	01 57 16.5	-1.0
	4.0nm,0.4s						
ANVS	**Anan'yevo**	**2.16**	**286**	↑*i*P	Pg	01 56 58.2	+7.5
	baz=29						
ANVS				↑*i*S	Sg	01 57 35.4	+17
	baz=29						
DJR	**Jarkent**	**2.17**	**347**	*e*P	Pb	01 56 49.0	+0.2
	0.8nm,0.2s						
DJR				*e*S	Sg	01 57 17.9	-1.3
	4.8nm,0.2s						
MNBS	**Baschi**	**2.41**	**321**	*e*P	Pb	01 56 53.4	+0.7
MNBS				*e*S	Sg	01 57 25.3	-1.3
	0.2nm,0.1s						
KDJ	**Kajisay**	**2.46**	**269**	↑*i*P	Pb	01 56 54.2	+0.5
	baz=16						
KDJ				↑*i*S	Sg	01 57 27.9	-0.3
	baz=16						
KOTS	**Kotyrbulak**	**2.68**	**293**	*e*P	Pb	01 56 59.0	+1.5
	4.6nm,0.3s						
KOTS				*e*S	Sg	01 57 35.5	0.0
	5.2nm,0.3s						
MDOK	**Medeo**	**2.70**	**292**	*e*P	Pb	01 56 59.1	+1.2
	3.0nm,0.1s						
MDOK				*e*S	Sg	01 57 34.7	-1.4
	3.1nm,0.6s						
TNSS	**Tian-Shan**	**2.73**	**289**	*e*P	Pb	01 56 59.6	+1.1
	1.0nm,0.2s						
TNSS				*e*S	Sg	01 57 36.2	-1.0
	2.0nm,0.2s						
ARXS	**Arharly**	**2.78**	**317**	*e*P	Pb	01 56 59.9	+0.7
	1.6nm,0.3s						
ARXS				*e*S	Sg	01 57 36.2	-2.5
	3.4nm,0.2s						
IZV	**Izvestkoviy**	**2.97**	**287**	*e*P	Pb	01 57 03.6	+1.1
	2.9nm,0.3s						
IZV				*e*S	Sg	01 57 42.4	-2.3
	3.7nm,0.3s						
ULHL	**Ulahol**	**3.15**	**272**	↓*i*P	Pb	01 57 02.7	-2.8
	baz=10.0						
ULHL				↓*i*S	Sb	01 57 42.6	-1.4
	baz=10.0						
KTBS	**Karatobe**	**3.17**	**299**	*e*P	Pb	01 57 06.5	+0.9
	1.0nm,0.4s						
KTBS				*e*S	Sg	01 57 48.3	-2.6
	5.0nm,0.4s						
KAPS	**Kapalarasan**	**3.17**	**345**	*e*P	Pb	01 57 06.5	+0.7
	0.3nm,0.1s						
KAPS				*e*S	Sb	01 57 47.5	+2.9
	1.5nm,0.2s						

*IDC **07** 01:58:05.4±2.7, 6°25S×147°29E, h117km±26km, mb3.3/5, mb1 3.5/7, mb1mx3.2/38, mbtmp3.7/7, Error ellipse: s-maj=49.7km s-min=17.3km az=116.0*
ISC 07 01:58:02.0±1.1, 5°98S±0°09×147°0E±0°2, h78km, n10, σ1s71/11, mb3.5/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.41**	**177**	P	**Pn**	**01 58 54.7**	**+1.8**
	47nm,0.3s,baz=40,slow=8.1,SNR=47						
PMG				S	**Sn**	**01 59 33.5**	**+1.2**
	12nm,0.3s,baz=203,slow=20,SNR=6.1						
CTA	**Charters Tower**	**14.04**	**183**	P	**P**	**02 01 21.8**	**-1.0**
	2.4nm,0.3s,baz=357,slow=14,SNR=17						
WRA	**Warramunga Arr**	**18.52**	**220**	P	**P**	**02 02 12.1**	**-0.3**
	0.1nm,0.3s,baz=53,slow=8.8,SNR=1.8						
ASAR	**Alice Springs**	**21.61**	**214**	P	**P**	**02 02 45.8**	**0.0**
	0.4nm,0.4s,baz=54,slow=9.0,SNR=8.2						
ASAR				S	**S**	**02 06 39.6**	**-1.4**
	0.4nm,0.8s,baz=35,slow=15,SNR=1.6						
FITZ	**Fitzroy Crossi**	**24.04**	**238**	P	**P**	**02 03 10.2**	**+0.2**
	2.4nm,0.5s,baz=54,slow=10,SNR=14						
STKA	**Stephens Creek**	**26.25**	**190**	P	**P**	**02 03 27.3**	**-2.6**
	0.6nm,0.4s,baz=9.5,slow=12,SNR=3.2						
MKAR	**Makanchi Array**	**77.45**	**320**	P	**P**	**02 09 51.3**	**+2.4**
	0.2nm,0.6s,baz=115,slow=6.8,SNR=2.2						
ILAR	**Eielson Array**	**85.48**	**23**	P	**P**	**02 10 29.2**	**-1.7**
	0.4nm,0.6s,baz=259,slow=4.9,SNR=4.5						
TORD	**Torodi Ar. Bea**	**145.04**	**284**	PKPbc	PKPbc	02 17 30.4	-0.5
	0.5nm,0.8s,baz=73,slow=4.5,SNR=1.9						
DBIC	**Dimbokro**	**151.97**	**273**	PKPbc	**PKiKP**	**02 17 50.0**	**+0.4**
	25nm,1.3s,baz=72,slow=6.4,SNR=3.7						

*BYKL **07** 02:33:26.8±0.8, 49.°06N×99.°06E*
*ASRS **07** 02:33:30.6±0.4, 49°N±2°×99°E±°, h10km, MLh3.8/7, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/tab confirmed*
ISC 07 02:33:27.7±1.0, 49°17N±0°06×99°11E±0°03, h10km, n32, σ2s96/64, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOY	**Mondy**	**2.77**	**25**	*e*Pn	**Pn**	**02 34 15.0**	**+2.7**
MOY				*e*Pg	**Pb**	**02 34 18.4**	**+1.0**
MOY				*e*Sn	**Sn**	**02 34 47.8**	**+1.9**
MOY				*e*Sg	**Sg**	**02 34 57.2**	**+0.4**
MOY				Pmax			
	33nm,0.5s						
MOY				Smax			
	105nm,0.9s						
MOY	**Mondy**	**2.77**	**25**	Pn	**Pn**	**02 34 15.0**	**+2.7**
MOY				Pg	**Pb**	**02 34 18.1**	**+0.7**
MOY				Sg	**Sg**	**02 34 58.8**	**+2.1**
ZAK	**Zakamensk**	**2.96**	**64**	*e*Pg	**Pb**	**02 34 20.8**	**+0.2**
ZAK				*e*PgPg	**PnPn**	**02 34 23.8**	**+1.7**
ZAK				*e*Sn	**Sn**	**02 34 50.8**	**+0.3**
ZAK				*e*Sg	**Sg**	**02 35 01.9**	**-0.9**
ZAK				max			
	32nm,0.3s						
ZAK				Smax			
	175nm,0.9s						
ZAK	**Zakamensk**	**2.96**	**64**	Pn	**Pb**	**02 34 19.4**	**-1.2**
ZAK				Pg	**Pg**	**02 34 24.1**	**-0.3**
ZAK				Sg	**Sg**	**02 35 02.4**	**-0.4**
ORL	**Orlik**	**3.40**	**7**	*e*Pn	**Pn**	**02 34 23.8**	**+2.9**
ORL				*e*Pg	**Pb**	**02 34 29.8**	**+1.7**
ORL				*e*Sn	**Sn**	**02 35 01.8**	**+0.4**
ORL				*e*Sg	**Sg**	**02 35 16.1**	**-0.8**
ORL				Pmax			
	9.0nm,0.3s						
ORL				Smax			
	28nm,0.6s						
ORL	**Orlik**	**3.40**	**7**	Pg	**Pb**	**02 34 29.9**	**+1.8**
ORL				Sg	**Sg**	**02 35 16.5**	**-0.4**
ARS	**Arshan**	**3.47**	**36**	*e*Pn	**Pn**	**02 34 23.3**	**+1.5**
ARS				*e*Pg	**Pb**	**02 34 32.0**	**+2.8**
ARS				*e*Sn	**Sn**	**02 35 04.9**	**+1.9**
ARS				*e*Sg	**Sg**	**02 35 18.0**	**-1.1**
ARS				Pmax			
	19nm,0.3s						
ARS				Smax			
	135nm,0.8s						
TDJR	**Todzha**	**3.76**	**331**	*e*Pn	**Pn**	**02 34 27.4**	**+1.7**
TDJR				*e*Pg	**Pb**	**02 34 36.5**	**+2.4**
TDJR				*e*Sn	**Sn**	**02 35 11.4**	**+1.4**
TDJR				*e*Sg	**Sg**	**02 35 27.3**	**-0.9**
TDJR	**Todzha**	**3.76**	**331**	Pg	**Pg**	**02 34 37.1**	**-2.5**
TDJR				Sg	**Sg**	**02 35 27.3**	**-0.9**
TLY	**Talaya**	**3.83**	**47**	*e*Pn	**Pn**	**02 34 27.4**	**+0.6**
TLY				*e*Pg	**Pb**	**02 34 37.4**	**+2.0**
TLY				*e*Sn	**Sn**	**02 35 13.4**	**+1.5**
TLY				*e*Sg	**Sg**	**02 35 28.4**	**-2.4**
TLY				Pmax			
	8.0nm,0.4s						
TLY				Smax			
	43nm,0.6s						
TLY	**Talaya**	**3.83**	**47**	Pg	**Pb**	**02 34 37.5**	**+2.1**
TLY				Sg	**Sg**	**02 35 28.7**	**-2.0**
KZLR	**Kyzyl**	**3.91**	**312**	Pg	**Pb**	**02 34 38.6**	**+1.9**
KZLR				Sg	**Sg**	**02 35 30.9**	**-2.3**
IVK	**Ivanovka**	**4.29**	**50**	*e*Pg	**Pb**	**02 34 46.2**	**+3.1**
IVK				*e*Sn	**Sn**	**02 35 24.0**	**+1.0**
IVK				*e*Sg	**Sg**	**02 35 42.9**	**-2.4**
IVK				Pmax			
	5.0nm,0.4s						
IVK				Smax			
	28nm,1.0s						
ULN	**Ulaanbaatar**	**5.44**	**101**	Pg	**Pb**	**02 35 01.9**	**-0.9**
ULN				Sg	**Sg**	**02 36 17.7**	**-4.5**
HRMR	**Khuramsha**	**5.58**	**61**	*e*Pg	**Pb**	**02 35 08.5**	**+3.3**
HRMR				*e*Sn	**Sn**	**02 35 53.5**	**-1.5**
HRMR				*e*Sg	**Sg**	**02 36 22.2**	**-4.7**
HRMR				Pmax			
	12nm,0.4s						
HRMR				Smax			
	149nm,0.8s						
TRG	**Tyrgan**	**5.81**	**49**	Sg	**Sg**	**02 36 28.8**	**-5.4**
CERR	**Cheremushki**	**6.10**	**310**	Sg	**Sg**	**02 36 40.4**	**-2.9**
DJO	**Djoy, Khakassi**	**6.16**	**309**	Sg	**Sg**	**02 36 42.1**	**-3.2**
ORY	**Orie**	**6.34**	**339**	Sg	**Sg**	**02 36 43.2**	**-7.8**
MINR	**Mina**	**6.49**	**334**	Sg	**Sg**	**02 36 52.5**	**-3.3**
VEH	**Verkhnyaya Baz**	**6.87**	**310**	Sg	**Sg**	**02 37 04.8**	**-3.3**
SLNR	**Muhor-Tarhata,**	**6.96**	**279**	Sg	**Sg**	**02 37 07.6**	**-3.5**
CUR	**Chagan-Uzun**	**7.05**	**282**	Pg	**Pb**	**02 35 34.5**	**+4.2**
CUR				Sg	**Sg**	**02 37 11.1**	**-2.9**
AKAR	**Aktash**	**7.54**	**283**	Pg	**Pb**	**02 35 39.8**	**+1.3**
AKAR				Sg	**Sg**	**02 37 26.4**	**-3.0**
CHBI	**Chibit, Altay**	**7.61**	**283**	Pg	Pg	02 35 47.7	-5.6
CHBI				Sg	**Sg**	**02 37 28.5**	**-3.3**
DGZ	**Jazzator, Alta**	**7.64**	**278**	Pg	Pg	02 35 47.7	-6.1
DGZ				Sg	**Sg**	**02 37 29.9**	**-2.7**
LUZB	**Luzhba, Kemero**	**7.81**	**309**	Sg	**Sg**	**02 37 31.1**	**-7.0**
GZLN	**Zheleznogorsk**	**7.91**	**338**	Sg	**Sg**	**02 37 33.2**	**-8.2**
TASR	**Tashtagol**	**7.95**	**301**	Sg	**Sg**	**02 37 37.3**	**-5.2**
TUNR	**Tungur**	**8.35**	**282**	Sg	**Sg**	**02 37 53.8**	**-1.8**
ELDR	**Elanda**	**8.61**	**289**	Sg	**Sg**	**02 38 06.8**	**+3.2**
UKR	**Ust'-Kan**	**9.39**	**286**	Sg	Sn	02 38 27.1	+58

*IDC **07** 02:33:39.6±5.4, 46.°69N×152.°29E, h35km±39km, mb3.6/11, mb1 3.7/14, mb1mx3.4/63, mbtmp3.8/14, ML3.0/3, Error ellipse: s-maj=39.1km s-min=22.8km az=113.0*
*MOS **07** 02:33:39.8±1.8, 46.°84N×152.°21E, h50km, mb4.2/1, Error ellipse: s-maj=18.2km s-min=11.1km az=55.3*
*NEIC **07** 02:33:40.2±1.9, 46.°6N±0.°1×152.°3E±0.°2, h40km±10km, mb4.0/1, Error ellipse: s-maj=25.7km s-min=13.2km az=134.0*
*SKHL **07** 02:33:45.6±0.1, 47.°94N×150.°38E, h28km±1km, mb4.0/2*
ISC 07 02:33:40.1±1.3, 46°8N±0°2×152°4E±0°2, h35km, n36, σ1s89/31, mb3.9/11, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.51**	**246**	*e*P	**Pn**	**02 34 35.3**	**+3.2**
KUR				AMB	AMB	02 34 36.3	
	10.0nm,0.4s						
KUR				*e*S	**Sn**	**02 35 12.5**	**+0.1**
KUR				A	A	02 35 35.4	
	140nm,0.6s						
KUR				A	A	02 35 35.4	
	160nm,0.6s						
KUR	**Kuril'sk**	**3.51**	**246**	↑*e*PN	**Pn**	**02 34 35.3**	**+3.2**
KUR				*e*S	**Sn**	**02 35 17.0**	**+4.6**
KUR				pmax	pmax		
	comp=Z,67nm,0.4s						
KUR				pmax	pmax		
	comp=N,52nm,0.2s						
KUR				pmax	pmax		
	comp=E,27nm,0.2s						
KUR				smax	smax		
	comp=E,162nm,0.6s						
KUR				smax	smax		
	comp=N,139nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**5.35**	**242**	*i* P	**Pn**	**02 35 00.1**	**+2.7**
YUK				AMB	AMB	02 35 03.2	
	comp=N,10.0nm,0.3s						
YUK				*e*S	**Sn**	**02 35 56.0**	**-1.8**
YUK				A	A	02 36 02.8	
	comp=N,120nm,0.8s						
YUK				A	A	02 36 02.8	
	comp=N,150nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**5.35**	**242**	*d i*PN	**Pn**	**02 35 00.5**	**+3.1**
YUK				S	**Sn**	**02 35 59.6**	**+1.8**
YUK				pmax	pmax		
	comp=Z,119μm,0.5s						
NMR	**Nemuro--Hokkai**	**5.82**	**237**	↑*i*PN	**Pn**	**02 35 03.9**	**+0.1**
PEA0B	**Petropavlovsk-**	**7.20**	**26**	PN	**Pn**	**02 35 23.9**	**+1.1**
PEA0B	**Petropavlovsk-**	**7.20**	**26**	Pn	**Pn**	**02 35 23.9**	**+1.1**
PETK	**Petropavlovsk-**	**7.20**	**26**	Pn	**Pn**	**02 35 25.1**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=204,sl

IDC ***07*** *02:43:28.9±0.8,28°.88N×51°.31E,h0km,mb4.0/26, mb1 4.1/33,mb1mx4.0/50,mbtmp4.0/33,ML3.6/7,MS3.2/15, Ms1 3.2/15,ms1mx3.0/52,Error ellipse: s-maj=18.8km s-min=12.2km az=176.0*

THR ***07*** *02:43:30.4±0.3,28°.86N×51°.33E,h16km±3km,ML4.3*

NEIC ***07*** *02:43:30.6±2.1,28°.83N±0°.06×51°.34E±0.08,h10km±1km, Error ellipse: s-maj=12.1km s-min=9.7km az=242.0*

TEH ***07*** *02:43:30.9,28°.90N×51°.34E,h12km,ML4.2*

MOS ***07*** *02:43:30.9±1.0,28°.83N×51°.29E,h27km,mb4.3/21,Error ellipse: s-maj=7.7km s-min=4.7km az=109.5*

DSN ***07*** *02:43:35.0±1.7,28°.52N×51°.42E,h15km,ML4.4/7,Error ellipse: s-maj=27.9km s-min=7.1km az=6.0*

OMAN ***07*** *02:43:37.1±0.4,28°.72N×51°.56E,h130km±7km,mb4.8/14, ml4.1/4,Error ellipse: s-maj=10.7km s-min=9.3km az=275.0*

ISC 07 02:43:31.2±0.9, 28°.82N±0°.04×51°.33E±0°.04, h15km±5km, n237,σ1°32/260, mb4.2/57, MS3.2/11, 30C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.06**	**323**	*e*Pg	**Pg**	**02 43 33.3**	**-0.8**
SHI	**Shiraz**	**1.32**	**51**	*e*Pg	**Pn**	**02 43 55.0**	**-0.3**
SHI				*e*		02 43 59.3	
SHI				*e*Sg	**Sg**	**02 44 14.2**	**+0.4**
JHRM	**Jahrom**	**2.00**	**98**	*e*		02 44 42.0	
JHRM				*e*Pn	**Pb**	**02 44 06.6**	**-0.8**
KLNJ	**Kolanjah**	**2.19**	**6**	*e*Pn	**Pn**	**02 44 07.9**	**+0.4**
IRAM	**Ramesheh**	**3.11**	**17**	*e*Pn	**Pn**	**02 44 20.5**	**+0.4**
JHBN	**Jahan bin**	**3.45**	**351**	*e*Pn	**Pn**	**02 44 25.4**	**+0.7**
ROKH	**ROKH**	**3.52**	**356**	*e*Pn	**Pn**	**02 44 26.5**	**+0.8**
IGAR	**Gharneh**	**3.62**	**10**	*e*Pn	**Pn**	**02 44 27.6**	**+0.5**
ISAD	**Sadrabad**	**3.69**	**33**	*e*Pn	**Pn**	**02 44 29.2**	**+1.1**
IMEH	**Mehriz**	**3.83**	**47**	*e*Pn	**Pn**	**02 44 31.9**	**+2.0**
IPIR	**Pirpir**	**3.87**	**354**	*e*Pn	**Pn**	**02 44 30.9**	**+0.4**
SHGR	**Shooshtar-Gavs**	**3.94**	**327**	*e*Pn	**Pn**	**02 44 31.8**	**+0.6**
SHGR				IAML		02 46 00.5	
	comp=E,302nm,0.6s						
SHGR				IAML		02 46 02.0	
	comp=N,315nm,0.6s						
SHGR	**Shooshtar-Gavs**	**3.94**	**327**	*e*Pn	**Pn**	**02 44 31.8**	**+0.6**
JRN	**Qarnain Island**	**4.09**	**160**	*e*Pn	**Pn**	**02 44 36.8**	**+3.5**
IZEF	**Zefreh**	**4.15**	**12**	*e*Pn	**Pn**	**02 44 35.0**	**+0.6**
ICHK	**Chekchek**	**4.32**	**37**	*e*Pn	**Pn**	**02 44 37.6**	**+0.9**
IKLH	**Kolahrood**	**4.49**	**5**	*e*Pn	**Pn**	**02 44 39.1**	**+0.1**
GENO	**Geno**	**4.50**	**107**	*e*Pn	**Pn**	**02 44 39.3**	**+0.2**
YZKH	**Yazd**	**4.53**	**37**	*e*Pn	**Pn**	**02 44 40.4**	**+0.9**
YZKH	**Yazd**	**4.53**	**37**	*e*Pn	**Pn**	**02 44 40.4**	**+0.9**
IBAF	**Bafgh**	**4.59**	**52**	*e*Pn	**Pn**	**02 44 41.5**	**+1.2**
KHGB	**Koh Gabri**	**4.74**	**70**	*e*Pn	**Pn**	**02 44 43.7**	**+1.3**
KHGB				*e*		02 45 03.3	
SLWR	**Sila**	**4.74**	**176**	*e*Pn	**Pn**	**02 44 45.3**	**+3.1**
NGRK	**Negar Kerman**	**4.79**	**79**	*e*Pn	**Pn**	**02 44 45.1**	**+1.9**
NGRK				*e*		02 45 44.1	
ANAR	**Anarak**	**4.82**	**25**	*e*Pn	**Pn**	**02 44 43.9**	**+0.5**
TVBK	**TV Kerman**	**4.88**	**75**	*e*Pn	**Pn**	**02 44 45.9**	**+1.5**
TVBK				*e*		02 46 00.9	
KHMZ	**Khomeyn**	**5.04**	**347**	*e*Pn	**Pn**	**02 44 47.2**	**+0.6**
KHMZ	**Khomeyn**	**5.04**	**347**	*e*Pn	**Pn**	**02 44 47.2**	**+0.6**
SHME	**Shamm**	**5.09**	**122**	P	**Pn**	**02 44 46.6**	**-0.4**
SHME				S	**Sn**	**02 45 44.0**	**-1.6**
SHME	**Shamm**	**5.09**	**122**	*e*Pn	**Pn**	**02 44 46.8**	**-0.2**
BANOM	**Banah** SNR=7.9	**5.28**	**122**	*i* P	**Pn**	**02 44 50.4**	**+0.9**
BANOM				S	**Sn**	**02 45 49.0**	**-1.2**
BANOM	**Banah** SNR=20	**5.28**	**122**	P	**Pn**	**02 44 50.5**	**+0.9**
BANOM				S	**Sn**	**02 45 49.3**	**-0.9**
BANOM	**Banah**	**5.28**	**122**	*e*Pn	**Pn**	**02 44 50.4**	**+0.9**
BMDN	**Meydan**	**5.29**	**337**	*e*Pn	**Pn**	**02 44 49.7**	**-0.3**
IKMR	**Kamar-syah**	**5.32**	**332**	*e*Pn	**Pn**	**02 44 50.1**	**-0.1**
NAZ	**Nazwa, Dubai** SNR=9.6	**5.43**	**134**	*i* P	**Pn**	**02 44 51.6**	**-0.1**
NAZ	**Nazwa, Dubai** SNR=5.4	**5.43**	**134**	P	**Pn**	**02 44 54.0**	**+2.3**
NAZ	**Nazwa, Dubai**	**5.43**	**134**	*e*Pn	**Pn**	**02 44 54.3**	**+2.6**
MSFE	**Esma-Masafi**	**5.51**	**128**	P	**Pn**	**02 44 53.5**	**+0.7**
MSFE	**Esma-Masafi**	**5.51**	**128**	*e*Pn	**Pn**	**02 44 54.2**	**+1.3**
CHMN	**Cheshme madani**	**5.52**	**78**	*e*Pn	**Pn**	**02 44 54.9**	**+1.7**
IDOB	**Doab**	**5.64**	**332**	*e*Pn	**Pn**	**02 44 55.0**	**+0.2**
GHVR	**GHOM**	**5.64**	**360**	*e*Pn	**Pn**	**02 44 55.2**	**+0.5**
GHVR	**GHOM**	**5.64**	**360**	*e*Pn	**Pn**	**02 44 55.2**	**+0.5**
MDH	**Madha** SNR=7.9	**5.65**	**127**	*i* P	**Pn**	**02 44 56.3**	**+1.6**
MDH	**Madha** SNR=8.0	**5.65**	**127**	P	**Pn**	**02 44 56.1**	**+1.4**
MDH				S	**Sn**	**02 45 57.9**	**-1.4**
MDH	**Madha**	**5.65**	**127**	*e*Pn	**Pn**	**02 44 56.6**	**+1.9**
UOSS	**Minazif** SNR=7.5	**5.81**	**130**	*i* P	**Pn**	**02 44 58.0**	**+1.0**
UOSS	**Minazif**	**5.81**	**130**	*e*Pn	**Pn**	**02 44 57.8**	**+0.8**
UOSS	**Minazif**	**5.81**	**130**	Pn	**Pn**	**02 44 57.9**	**+0.8**
HATD	**Hatta, Dubai** SNR=11	**5.85**	**132**	*i* P	**Pn**	**02 44 59.0**	**+1.5**
HATD	**Hatta, Dubai** SNR=11	**5.85**	**132**	P	**Pn**	**02 44 59.0**	**+1.5**
HATD				S	**Sn**	**02 46 01.9**	**-2.4**
HATD	**Hatta, Dubai**	**5.85**	**132**	*e*Pn	**Pn**	**02 44 58.6**	**+1.1**
HSAM	**Samen**	**5.86**	**337**	*e*Pn	**Pn**	**02 44 58.1**	**+0.3**
ASHO	**Ashiyiah** SNR=25	**5.90**	**133**	*i* P	**Pn**	**02 44 59.0**	**+0.8**
ASHO	**Ashiyiah** SNR=25	**5.90**	**133**	P	**Pn**	**02 44 59.6**	**+1.4**
ASHO				S	**Sn**	**02 46 05.3**	**-0.3**
ASHO	**Ashiyiah**	**5.90**	**133**	*e*Pn	**Pn**	**02 45 00.5**	**+2.3**
IQOM	**Qom**	**6.01**	**358**	*e*Pn	**Pn**	**02 44 59.9**	**0.0**
ALNE	**Al Ain**	**6.18**	**139**	*e*Pn	**Pn**	**02 45 04.3**	**+2.3**
TPRV	**Parvadeh(Tabas**	**6.22**	**46**	*e*Pn	**Pn**	**02 45 03.3**	**+0.6**
IKOM	**Komasi**	**6.26**	**330**	*e*Pn	**Pn**	**02 45 03.8**	**+0.6**
HAGD	**Aghdareh**	**6.27**	**343**	*e*Pn	**Pn**	**02 45 03.8**	**+0.4**
KCHF	**Cheshme Sefid,**	**6.56**	**327**	*e*Pn	**Pn**	**02 45 07.4**	**+0.1**
SOHO	**SOHO**	**6.59**	**134**	P	**Pn**	**02 45 08.7**	**+1.0**
SOHO				S	**Sn**	**02 46 22.3**	**-0.4**
SOHO	**SOHO**	**6.59**	**134**	*e*Pn	**Pn**	**02 45 09.0**	**+1.3**
IALM	**Almabolaq**	**6.60**	**337**	*e*Pn	**Pn**	**02 45 07.8**	**-0.2**
IRAZ	**Razeghan**	**6.67**	**350**	*e*Pn	**Pn**	**02 45 09.6**	**+0.6**
IDMV	**Damavand**	**6.76**	**5**	*e*Pn	**Pn**	**02 45 10.1**	**-0.2**
TNSJ	**Nastanj**	**6.83**	**40**	*e*Pn	**Pn**	**02 45 11.3**	**+0.3**
IGHG	**Ghaleghazi**	**6.83**	**325**	*e*Pn	**Pn**	**02 45 11.8**	**+0.6**
TKDS	**Koohdasht(Taba**	**6.88**	**45**	*e*Pn	**Pn**	**02 45 12.5**	**+0.7**
IANJ	**Anjilo**	**6.98**	**18**	*e*Pn	**Pn**	**02 45 12.5**	**-0.7**
QABG	**Abgarm-Qazvin**	**7.03**	**348**	*e*Pn	**Pn**	**02 45 12.8**	**-1.0**
ISHM	**Shahmirzad**	**7.16**	**13**	*e*Pn	**Pn**	**02 45 16.1**	**+0.4**
ARQ	**Araqi** SNR=23	**7.18**	**138**	P	**Pn**	**02 45 16.8**	**+1.0**
IDHR	**Dehrash**	**7.22**	**326**	*e*Pn	**Pn**	**02 45 16.7**	**+0.3**
IALA	**Alasht**	**7.35**	**9**	*e*Pn	**Pn**	**02 45 19.1**	**+0.8**
RAYN	**Ar Rayn** SNR=13	**7.43**	**226**	*i* P	**Pn**	**02 45 19.6**	**+0.4**
RAYN	**Ar Rayn**	**7.43**	**226**	P	**Pn**	**02 45 20.3**	**+1.0**
RAYN	**Ar Rayn**	**7.43**	**226**	Pn	**Pn**	**02 45 20.3**	**+1.0**
HOQ	**Hoqain**	**7.48**	**133**	P	**Pn**	**02 45 21.0**	**+1.0**
HOQ				P	**Pn**	**02 45 21.0**	**+1.0**
HOQ				S	**Sn**	**02 46 42.2**	**-2.4**
HOQ				S	**Sn**	**02 46 42.2**	**-2.4**
QALM	**Alamut, Qazvin**	**7.61**	**356**	*e*Pn	**Pn**	**02 45 22.4**	**+0.5**
BSY	**Bisya** SNR=23	**8.03**	**138**	P	**Pn**	**02 45 29.0**	**+1.5**
BSY	SNR=9.6			P	**Pn**	**02 45 29.0**	**+1.5**
BSY				S	**Sn**	**02 46 55.0**	**-3.1**
SMDO	**Samad**	**8.33**	**132**	P	**Pn**	**02 45 32.8**	**+1.1**
SMDO				S	**Sn**	**02 47 02.6**	**-3.1**
WSAR	**Wadi Sarin**	**8.60**	**129**	Pn	**Pn**	**02 45 35.5**	**+0.3**
	comp=N,0.9nm,0.3s,baz=321,slow=5.3,SNR=15						
WSAR				Sn	**Sn**	**02 47 08.2**	**-3.8**
	comp=N,1.5nm,0.3s,baz=190,slow=9.0,SNR=5.2						
WSAR				LR	LR	02 49 20.0	
	comp=N,75nm,19.4s,baz=310,slow=41						
WSAR	**Wadi Sarin** SNR=14	**8.60**	**129**	P	**Pn**	**02 45 35.7**	**+0.4**
JMDO	**Jabal Madar**	**8.86**	**135**	P	**Pn**	**02 45 39.4**	**+0.5**
JMDO				S	**Sn**	**02 47 15.2**	**-3.3**
SBZV	**Sabzevar**	**9.22**	**33**	*e*Pn	**Pn**	**02 45 45.2**	**+1.3**
WBK	**Wadi Bani Khal** SNR=6.4	**9.25**	**130**	P	**Pn**	**02 45 44.3**	**+0.1**
WBK				S	**Sn**	**02 47 24.9**	**-3.2**
MHTO	**MHTO** SNR=13	**9.85**	**141**	P	**Pn**	**02 45 53.5**	**+1.1**
GEYT	**Alibeck**	**10.71**	**30**	Pn	**Pn**	**02 46 01.6**	**-2.5**
	comp=N,0.4nm,0.3s,baz=224,slow=20,SNR=2.4						
GEYT				Lg	Lg	02 49 12.9	
	comp=N,0.3nm,0.3s,baz=204,slow=28,SNR=1.5						
GEYT				LR	LR	02 50 51.9	
	comp=N,101nm,19.1s,baz=80,slow=42						
HRA	**Herat**	**10.83**	**56**	Pn	**Pn**	**02 46 07.1**	**+1.1**
WHFO	**Wadi Hawf** SNR=22	**11.08**	**168**	P	**Pn**	**02 46 09.2**	**0.0**
SHAO	**Shalim** SNR=12	**11.45**	**159**	*i* P	**Pn**	**02 46 15.4**	**+1.1**
DMTO	**DMTO** SNR=19	**11.54**	**163**	P	**Pn**	**02 46 15.0**	**-0.5**
ABTO	**Aybut** SNR=10	**11.55**	**171**	P	**Pn**	**02 46 16.1**	**+0.3**
RBK	**Rabkut** SNR=7.2	**11.57**	**166**	P	**Pn**	**02 46 17.0**	**+1.0**
ASF	**Jabal al Asfar**	**12.89**	**289**	Pn	**Pn**	**02 46 34.2**	**+0.1**
	comp=N,0.3nm,0.3s,baz=120,slow=8.1,SNR=2.6						
ASF				Sn	Sn	02 48 47.7	-10
	comp=N,0.2nm,0.3s,baz=250,slow=16,SNR=1.7						
ASF				Lg	Lg	02 50 32.5	
	comp=N,0.3nm,0.3s,baz=246,slow=20,SNR=3.0						
AKT	**Akhty**	**12.97**	**348**	*i* P	**Pn**	**02 46 34.9**	**-0.2**
AKH	**Akhalkalaki**	**14.10**	**335**	P	**Pn**	**02 46 52.1**	**+1.6**
AKH	**Akhalkalaki**	**14.10**	**335**	Pn	**Pn**	**02 46 52.1**	**+1.6**
MMAI	**Mount Meron Ar**	**14.30**	**291**	Pn	**Pn**	**02 46 53.1**	**-0.1**
	comp=N,0.4nm,0.3s,baz=106,slow=18,SNR=2.7						
MMAI				LR	LR	02 53 21.1	
	comp=N,64nm,18.5s,baz=85,slow=42						
EIL	**Elat**	**14.33**	**277**	Pn	**P**	**02 47 00.2**	**-0.5**
	comp=N,0.2nm,0.3s,baz=0.0,slow=9.1,SNR=2.7						
EIL				Lg	Lg	02 51 11.3	
	baz=122,slow=19,SNR=1.5						
EIL				LR	LR	02 53 23.2	
	comp=N,92nm,19.3s,baz=95,slow=42						
GAZ	**Gaziantep**	**14.47**	**309**	Pn	**Pn**	**02 46 57.6**	**+1.9**
GROC	**Groznyy**	**15.03**	**344**	*e*P	**Pn**	**02 47 03.2**	**+0.1**
GROC				*e*S	**Sn**	**02 49 51.3**	**+2.1**
GROC				pmax	pmax		
	comp=Z,6.0nm,0.4s						
ZEI	**Tsey**	**15.18**	**339**	*e*P	**Pn**	**02 47 03.6**	**-1.6**
ZEI				pmax	pmax		
	comp=Z,13nm,0.7s						
DAMY	**Dhamar**	**15.57**	**206**	Pn	**Pn**	**02 47 10.4**	**-0.2**
DAMY				IAmb	IAmb	02 47 13.9	
	comp=Z,12nm,0.9s						
KBL	**Kabul**	**16.11**	**65**	P	**Pn**	**02 47 18.3**	**+0.8**
KBL				pmax	pmax		
	comp=Z,7.0nm,0.8s						
KBL	**Kabul**	**16.11**	**65**		**Pn**	**02 47 18.2**	**+0.8**
KBZ	**Khabaz**	**16.34**	**338**	Pn	**Pn**	**02 47 20.7**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=140,slow=9.5,SNR=10						
KBZ	**Khabaz**	**16.34**	**338**	*ce*P	**Pn**	**02 47 20.9**	**+0.8**
KBZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SHA1	**Shidzhatmaz**	**16.43**	**337**	*i* P	**Pn**	**02 47 19.5**	**-2.0**
CSS	**Mathiatis**	**16.46**	**296**		**Pn**	**02 47 22.6**	**+0.9**
CSS				IAmb	IAmb	02 47 25.6	
	comp=Z,24nm,0.9s						
KVAR	**Kislovodsk Arr**	**16.61**	**338**	Pn	**P**	**02 47 25.0**	**-1.1**
	baz=90,slow=20,SNR=2.1						
KIV	**Kislovodsk**	**16.62**	**338**	*ce*P	**Pn**	**02 47 23.8**	**+0.1**
KIV				*e*S	**Sn**	**02 50 26.0**	**-1.9**
KIV				pmax	pmax		
	comp=Z,22nm,1.3s						
KIV				MLR	MLR		
	comp=Z,25nm,18.0s						
KIV	**Kislovodsk**	**16.62**	**338**		**Pn**	**02 47 24.0**	**+0.3**
KIV				IAmb	IAmb	02 47 30.8	
	comp=Z,21nm,1.1s						
CHGR	**Chuyangaron**	**17.75**	**52**		**Pn**	**02 47 37.5**	**-0.5**
BR131	**Keskin Array S**	**18.19**	**311**	P	**Pn**	**02 47 43.2**	**-0.2**
BR131				pmax	pmax		
	comp=Z,5.0nm,0.9s						
BR131	**Keskin Array S**	**18.19**	**311**		**Pn**	**02 47 43.1**	**-0.2**
BRTR	**Keskin Array B**	**18.19**	**311**	P	**Pn**	**02 47 42.9**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=138,slow=14,SNR=18						
BRTR				LR	LR	02 55 30.2	
	comp=Z,54nm,19.9s,baz=117,slow=40						
BRTR	**Keskin Array B**	**18.19**	**311**	*e*P	**Pn**	**02 47 42.9**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GAR	**Garm**	**18.71**	**52**		**Pn**	**02 47 50.7**	**+0.9**
GAR				IAmb	IAmb	02 47 53.6	
	comp=Z,20nm,1.0s						
ANTO	**Ankara**	**18.82**	**311**	P	**Pn**	**02 47 51.0**	**0.0**
ANTO				pmax	pmax		
	comp=Z,13nm,1.1s						
ANTO	**Ankara**	**18.82**	**311**	P	**Pn**	**02 47 51.0**	**0.0**
ANTO				IAmb	IAmb	02 47 55.6	
	comp=Z,13nm,1.1s						
ILGA	**Ilgaz**	**18.87**	**315**	P	**Pn**	**02 47 53.1**	**+1.4**
ILGA				IAmb	IAmb	02 47 58.2	
	comp=Z,22nm,1.4s						
ATD	**Arta Tunnel**	**18.94**	**206**	Lg	Lg	02 53 45.6	
	comp=Z,1.3nm,0.3s,baz=221,slow=22,SNR=2.6						
ATD				LR	LR	02 56 10.3	
	comp=Z,133nm,18.1s,baz=0.5,slow=40						
NIL	**Nilore**	**19.34**	**70**	P	**P**	**02 47 56.2**	**0.0**
NIL				pmax	pmax		
	comp=Z,20nm,1.3s						
NIL	**Nilore**	**19.34**	**70**	P	**P**	**02 47 56.2**	**0.0**
NIL				IAmb	IAmb	02 48 00.3	
	comp=Z,20nm,1.3s						
ELL	**Elmali**	**19.64**	**299**	P	**P**	**02 48 00.3**	**+0.7**
ELL				pmax	pmax		
	comp=Z,36nm,0.9s						
ELL	**Elmali**	**19.64**	**299**	P	**P**	**02 48 00.2**	**+0.7**
MDUB	**Mudurnu**	**20.19**	**310**	P	**P**	**02 48 06.4**	**+1.0**
KK31	**Karatay Array**	**21.01**	**42**	P	**P**	**02 48 14.5**	**+0.3**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KK31	**Karatay Array**	**21.01**	**42**	P	**P**	**02 48 14.5**	**+0.3**
KKAR	**Karatay Array**	**21.01**	**42**	P	**P**	**02 48 14.5**	**+0.3**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KKAR	**Karatay Array**	**21.01**	**42**	P	**P**	**02 48 14.5**	**+0.3**
MANT	**Manisa**	**21.22**	**303**	P	**P**	**02 48 17.6**	**+0.8**
AKTO	**Aktyubinsk**	**22.17**	**11**	P	**P**	**02 48 26.0**	**-0.6**
	comp=Z,1.8nm,0.3s,baz=193,slow=11,SNR=11						
AKTO				LR	LR	02 58 03.5	
	comp=Z,38nm,18.4s,baz=182,slow=40						
AAK	**Ala-Archa**	**23.22**	**47**	P	**P**	**02 48 38.1**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=231,slow=14,SNR=2.1						
AAK				LR	LR	02 59 49.6	
	comp=Z,88nm,19.4s,baz=246,slow=42						
AAK	**Ala-Archa**	**23.22**	**47**	P	**P**	**02 48 40.5**	**+2.6**
AAK				pmax	pmax		
	comp=Z,9.0nm,1.1s						
AAK	**Ala-Archa**	**23.22**	**47**	P	**P**	**02 48 40.5**	**+2.6**
AAK				IAmb	IAmb	02 48 50.2	
	comp=Z,8.7nm,1.1s						
IDI	**Anoyia**	**23.28**	**293**	P	**P**	**02 48 38.8**	**+0.2**
	comp=Z,8.5nm,0.7s,baz=115,slow=12,SNR=2.9						
IDI				LR	LR	03 00 13.5	
	comp=Z,29nm,21.8s,baz=92,slow=43						
IDI	**Anoyia**	**23.28**	**293**	⇑P	**P**	**02 48 39.5**	**+1.0**
VRH	**Novokhopyorsk**	**23.50**	**345**	*e*P	**P**	**02 48 40.1**	**-0.3**
VRH				*e*S	**S**	**02 52 50.3**	**-3.2**
VRH				pmax	pmax		
	comp=Z,50nm,1.6s						
VRH				smax	smax		
	comp=E,270nm,3.6s						
VORD	**Divnogorie**	**23.91**	**341**	*e*P	**P**	**02 48 44.6**	**+0.3**
VORD				pmax	pmax		
	comp=Z,6.0nm,0.5s						
VSR	**Storozhevoye**	**24.17**	**341**	*e*P	**P**	**02 48 47.4**	**+0.6**
VSR				*e*S	**S**	**02 53 02.5**	**-1.7**
VSR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
VSR				smax	smax		
	comp=E,190nm,3.8s						
TARG	**Taragay, Kyrgy**	**25.05**	**52**	P	**P**	**02 48 55.8**	**+0.4**
TARG				IAmb	IAmb	02 49 11.7	
	comp=Z,4.0nm,1.0s						
LPSR	**Galich'ya Gora**	**25.48**	**342**	*e*P	**P**	**02 48 58.0**	**-0.6**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VRI	**Vrincioaia**	**25.77**	**318**	⇑P	**P**	**02 48 59.4**	**-2.1**
VRI	**Vrincioaia**	**25.77**	**318**	⇑P	**P**	**02 48 59.4**	**-2.1**
PLOR	**Plostina**	**25.81**	**318**	⇑P	**P**	**02 48 58.9**	**-2.9**
PLOR	**Plostina**	**25.81**	**318**	⇑P	**P**	**02 48 58.9**	**-2.9**
MLR	**Muntele Rosu**	**26.04**	**317**	P	**P**	**02 49 06.0**	**+2.0**
	comp=Z,3.9nm,0.8s,baz=142,slow=4.1,SNR=5.4						
MLR				LR	LR	03 01 13.4	
	comp=Z,59nm,19.9s,baz=123,slow=41						
MLR	**Muntele Rosu**	**26.04**	**317**	⇑P	**P**	**02 49 02.4**	**-1.6**
MLR	**Muntele Rosu**	**26.04**	**317**	⇑P	**P**	**02 49 02.4**	**-1.6**
MLR	**Muntele Rosu**	**26.04**	**317**	P	**P**	**02 49 06.2**	**+2.2**
MLR				IAmb	IAmb	02 49 59.4	
	comp=Z,6.1nm,0.9s						
TESR	**Tescani**	**26.17**	**319**	⇑P	**P**	**02 49 03.5**	**-1.6**
LIT	**Litokhoron**	**26.20**	**303**	P	**P**	**02 49 07.0**	**+1.6**
LIT				pmax	pmax		
	comp=Z,7.0nm,0.9s						
LIT	**Litokhoron**	**26.20**	**303**	P	**P**	**02 49 07.0**	**+1.6**
LIT				IAmb	IAmb	02 49 11.2	
	comp=Z,6.9nm,0.9s						
SORM	**Soroca**	**26.20**	**324**	⇑P	**P**	**02 49 03.9**	**-1.4**
SORM	**Soroca**	**26.20**	**324**	⇑P	**P**	**02 49 03.9**	**-1.4**
VTS	**Vitosha**	**26.50**	**309**	⇑P	**P**	**02 49 08.2**	**-0.1**
VTS	**Vitosha**	**26.50**	**309**	⇑P	**P**	**02 49 08.2**	**-0.1**
VOIR		**26.55**	**316**	⇑P	**P**	**02 49 08.4**	**-0.2**
VOIR		**26.55**	**316**	⇑P	**P**	**02 49 08.4**	**-0.2**
DOPR	**Dopca**	**26.62**	**317**	⇑P	**P**	**02 49 09.0**	**-0.1**
BIZ	**Bicaz**	**26.72**	**319**	⇑P	**P**	**02 49 09.7**	**-0.3**
ARR	**Arges**	**26.78**	**315**	⇑P	**P**	**02 49 09.9**	**-0.7**
LOT	**Lotru**	**27.35**	**315**	⇑P	**P**	**02 49 17.2**	**+1.4**
AKASG	**Malin Array Be**	**27.49**	**329**	P	**P**	**02 49 14.9**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=135,slow=8.8,SNR=5.1						
AKASG	**Malin Array Be**	**27.49**	**329**	*i* P	**P**	**02 49 15.0**	**-1.9**
AKBB	**Malin Array Si**	**27.49**	**329**	*ce*P	**P**	**02 49 14.6**	**-2.2**
AKBB	**Malin Array Si**	**27.49**	**329**	P	**P**	**02 49 18.4**	**+1.6**
AKBB				IAmb	IAmb	02 49 20.7	
	comp=Z,3.9nm,0.7s						
BURAR	**Bucovina Array**	**27.60**	**320**	⇑P	**P**	**02 49 18.3**	**+0.3**
BURAR	**Bucovina Array**	**27.60**	**320**	⇑P	**P**	**02 49 18.3**	**+0.3**
BRVK	**Borovoye**	**27.96**	**25**	*ce*P	**P**	**02 49 23.1**	**+2.1**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
BVAR	**Borovoye Array**	**27.97**	**25**	P	**P**	**02 49 21.5**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=228,slow=5.8,SNR=8.4						
ARU	**Arti**	**28.07**	**9**	LR	LR	03 01 13.8	
	comp=Z,24nm,19.1s,baz=172,slow=38						
ARU	**Arti**	**28.07**	**9**	*c i* P	**P**	**02 49 21.7**	**-0.3**
ARU						02 50 07.3	
ARU				S	**S**	**02 54 08.3**	**+2.3**
ARU				SS	**SnSn**	**02 55 21.7**	**+0.4**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.5s						
OBN	**Obninsk**	**28.35**	**342**	*e*P	**P**	**02 49 25.2**	**+0.7**
OBN				*e*		02 49 35.8	
OBN				*e*		02 50 12.8	
OBN				*e*		02 52 36.4	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,26nm,16.0s						
MDVR	**Moldovita**	**28.37**	**312**	⇑P	**P**	**02 49 25.7**	**+0.9**
KIRV	**Kirov**	**29.79**	**358**	⇑P	**P**	**02 49 37.5**	**+0.4**
KURBB	**Kurchatov Arra**	**29.91**	**36**	P	**P**	**02 49 38.2**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=236,slow=9.2,SNR=8.3						
KURBB				PcP	**PcP**	**02 52 40.2**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=234,slow=3.0,SNR=4.5						
KURK	**Kurchatov**	**30.01**	**36**	*ce*P	**P**	**02 49 39.8**	**+0.6**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KURK	**Kurchatov**	**30.01**	**36**	P	**P**	**02 49 40.1**	**+0.8**
KURK				IAmb	IAmb	02 49 42.6	
	comp=Z,2.3nm,1.0s						
KURK	**Kurchatov**	**30.01**	**36**		**PcP**	**02 52 40.2**	**-0.9**
MK31	**Makanchi Array**	**30.06**	**45**	P	**P**	**02 49 40.2**	**+0.3**
MK31				pmax	pmax		
	comp=Z,2.0nm,1.0s						
MK31	**Makanchi Array**	**30.06**	**45**	P	**P**	**02 49 40.2**	**+0.3**
MKAR	**Makanchi Array**	**30.06**	**45**	P	**P**	**02 49 39.8**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=228,slow=6.4,SNR=13						

comp=Z,0.2nm,0.4s,baz=100,slow=8.1,SNR=2.7
TOA0 Torodi Ar. Sit 48.55 262 P **P** **02 52 15.5 +1.3**
TORD Torodi Ar. Bea 48.55 262 P **P** **02 52 14.3 +0.1**
comp=Z,4.8nm,0.7s,baz=60,slow=7.8,SNR=24
TORD LR LR 03 13 08.4
comp=Z,39nm,20.0s,baz=90,slow=37
GYA Guiyang 48.70 79 P **P** **02 52 17.5 +2.1**
GYA pmax pmax
comp=Z,7.0nm,0.9s
HHC Hu-ho-hao-te 49.99 59 P **P** **02 52 26.8 +1.8**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,40nm,5.7s
DBIC Dimbokro 57.29 259 P **P** **02 53 18.9 +0.1**
comp=Z,7.3nm,0.7s,baz=29,slow=6.4,SNR=8.9
DBIC LR LR 03 18 58.7
comp=Z,45nm,19.9s,baz=58,slow=37
KIC Kosan Boka 57.35 258 *e*P **P** **02 53 22.7 +3.5**
comp=Z,23nm,1.0s
TIC Toumodi 57.45 259 *e*P **P** **02 53 23.4 +3.5**
LIC Lamto 57.66 258 *e*P **P** **02 53 24.8 +3.4**
comp=Z,30nm,0.8s
TIXI Tiksi 59.01 21 *i* P **P** **02 53 30.9 +0.9**
TIXI pmax pmax
comp=Z,3.0nm,0.8s
KSRS Korea Array 63.10 60 P **P** **02 53 57.2 -1.1**
comp=Z,0.8nm,0.4s,baz=283,slow=5.9,SNR=2.4
BILL Bilibino 72.23 21 *i*P **P** **02 54 55.9 +0.5**
BILL *e* 02 55 11.2
BILL *i* 02 55 13.0
BILL *e* 02 57 38.0
BILL pmax pmax
comp=Z,5.0nm,1.0s
SCHQ Schefferville 81.28 329 P **P** **02 55 46.5 -0.3**
comp=Z,2.4nm,0.7s,baz=27,slow=9.0,SNR=2.6
ILAR Eielson Array 85.64 8 P **P** **02 56 08.4 -0.6**
comp=Z,1.0nm,0.7s,baz=325,slow=4.0,SNR=12
YKA Yellowknife Ar 88.31 354 P **P** **02 56 21.8 -0.1**
comp=Z,1.1nm,0.9s,baz=6.8,slow=4.3,SNR=5.7
ASAR Alice Springs 95.01 114 P **P** **02 56 53.1 -0.7**
comp=Z,0.4nm,0.6s,baz=298,slow=4.8,SNR=5.1
STKA Stephens Creek 104.80 118 Pdiff **Pdif** **02 57 36.3 -1.0**
comp=Z,0.7nm,0.3s,baz=287,slow=11,SNR=2.2

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*IDC **07** 03:09:26.6±3.0, 6˚.23S×129˚.81E, h80km±38km, mb3.7/2, mb1 4.2/6, mb1mx3.6/31, mbtmp4.3/6, Error ellipse: s-maj=70.8km s-min=22.0km az=90.0*
*DJA **07** 03:09:28.1±0.4, 6˚S±3˚×13˚0E±˚, h175km±7km, M4.3/8, mb4.2/5, mB5.0/5, MLv4.4/8, Mw(mB)4.3/5*
ISC 07 03:09:28.8±0.8,**6˚.17S**±0˚.05×**130˚.50E**±0˚.09,**h150**km,**n13,** σ3**$17/17,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.74**	**340**	P	**Pn**	**03 10 00.3**	**-0.7**
SAUI	**Saumlaki**	**1.97**	**156**	P	**Pn**	**03 10 05.4**	**+1.9**
SAUI				S	**Sn**	**03 10 33.6**	**+3.3**
MSAI	**Masohi**	**3.21**	**331**	P	**Pn**	**03 10 18.8**	**-0.1**
MSAI				S	**Sn**	**03 10 58.9**	**+1.2**
FAKI	**Fak Fak**	**3.67**	**28**	P	**Pn**	**03 10 25.1**	**+0.4**
NLAI	**Namlea**	**4.47**	**310**	P	Pn	03 10 39.9	+4.7
SIJI	**Sorong**	**5.32**	**8**	P	**Pn**	**03 10 46.3**	**-0.2**
	8.2nm,0.3s,baz=139,slow=23,SNR=33						
SIJI				S	**Sn**	**03 11 44.0**	**-3.2**
	11nm,0.3s,baz=262,slow=23,SNR=9.4						
RKPI	**Ransiki, Papua**	**5.90**	**39**	S	**Sn**	**03 12 01.3**	**+0.2**
SOEI	**Soe**	**7.13**	**240**	P	**Pn**	**03 11 10.4**	**-0.3**
	0.3nm41nm,1.6s						
FITZ	**Fitzroy Crossi**	**12.77**	**201**	P	**Pn**	**03 12 21.7**	**-3.3**
	1.2nm,0.3s,baz=21,slow=8.3,SNR=44						
FITZ				S	Sn	03 14 32.5	-14
	1.3nm,0.3s,baz=66,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**14.19**	**165**	P	**Pn**	**03 12 43.6**	**+0.5**
	3.7nm,0.3s,baz=343,slow=13,SNR=35						
WRA				S	**Sn**	**03 15 12.9**	**-7.7**
	1.7nm,0.3s,baz=354,slow=23,SNR=8.0						
ASAR	**Alice Springs**	**17.70**	**170**	P	**Pn**	**03 13 29.3**	**+3.1**
	1.5nm,0.3s,baz=348,slow=9.4,SNR=63						
ASAR				S	**S**	**03 16 38.2**	**-2.9**
	0.6nm,0.3s,baz=359,slow=30,SNR=4.8						
MKAR	**Makanchi Array**	**67.81**	**326**	P	**P**	**03 20 14.7**	**+4.1**
	1.2nm,0.5s,baz=119,slow=8.0,SNR=16						
ZALV	**Zalesovo Beam**	**71.06**	**333**	P	**P**	**03 20 33.4**	**+3.0**
	0.6nm,0.3s,baz=149,slow=6.7,SNR=1.7						

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*AEIC **07** 03:13:59±2.1, 67˚.74N±0˚.01×162˚.3W±0˚.1, h21km±4km, Error ellipse: s-maj=7.2km s-min=1.7km az=94.0*
*UNK **07** 03:13:59.0, 67˚.74N×162˚.32W, h21km*
*IDC **07** 03:13:59.1±0.5, 67˚.84N×162˚.36W, h0km, mb4.1/27, mb1 4.4/29, mb1mx4.2/52, mbtmp4.2/29, ML4.3/2, MS3.5/25, Ms1 3.5/25, ms1mx3.4/63, Error ellipse: s-maj=16.2km s-min=10.6km az=22.0*
*NEIC **07** 03:14:00.1±1.6, 67˚.72N±0˚.06×162˚.3W±0˚.1, h12km±3km, mb4.5/111, ML4.4(AEIC), Error ellipse: s-maj=9.9km s-min=5.9km az=151.0*
*MOS **07** 03:14:01.4±0.8, 67˚.75N×162˚.14W, h31km, mb4.6/16, Error ellipse: s-maj=24.0km s-min=9.5km az=102.0*
*ANF **07** 03:14:02.3±1.0, 67˚.77N×161˚.77W, h12km±6km, ML5.1/1, Error ellipse: s-maj=5.4km s-min=3.9km az=104.0*
ISC 07 03:13:59.9±0.3,**67˚.73N**±0˚.05×**162˚.16W**±0˚.03,**h10**km, **n330,** σ1$**12**/302,**mb4.5**/89,**MS3.5**/24,**13C-2D,Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**0.43**	**319**		**Pg**	**03 14 07.6**	**-0.8**
RDOG					**Sb**	**03 14 15.0**	**-1.2**
ANM	**Nome**	**3.44**	**204**		**Pn**	**03 14 52.5**	**-0.9**
ANM					**Sn**	**03 15 33.2**	**-0.9**
IM03		**3.75**	**114**		**Pn**	**03 14 58.2**	**+0.5**
IM03					**Sn**	**03 15 43.1**	**+1.2**
PS05	**TAPS Pump Stn5**	**4.55**	**96**		**Pn**	**03 15 09.1**	**+0.3**
COLD	**Coldfoot**	**4.63**	**91**		**Pn**	**03 15 10.5**	**+0.8**
TOLK	**Toolik Lake Re**	**4.78**	**73**	P	**Pn**	**03 15 12.8**	**+0.9**
	baz=265,SNR=145						
TOLK				S	**Sn**	**03 16 06.3**	**-1.1**
	baz=265						
TOLK	**Toolik Lake Re**	**4.78**	**73**		**Pn**	**03 15 12.9**	**+0.9**
TOLK					**Sn**	**03 16 09.7**	**+2.3**
PS04	**TAPS Pump Stn4**	**4.85**	**76**		**Pn**	**03 15 13.5**	**+0.6**
MLY	**Manley**	**5.33**	**115**	Pn	**Pn**	**03 15 18.9**	**-0.5**
TTA	**Tatalina**	**5.46**	**149**		**Pn**	**03 15 21.5**	**+0.2**
TT01	**Tatalina**	**5.48**	**149**		**Pn**	**03 15 21.6**	**+0.1**
PS01	**TAPS Pump Stn**	**5.49**	**56**		**Pn**	**03 15 21.6**	**0.0**
GAMB	**Gambell**	**5.58**	**229**	Pn	**Pn**	**03 15 20.6**	**-2.3**
BPAW	**Bear Paw Mtn.**	**5.84**	**123**		**Pn**	**03 15 27.3**	**+0.8**
PS07	**TAPS Pump Stn7**	**6.05**	**107**		**Pn**	**03 15 29.6**	**+0.3**
MDM	**Murphy Dome**	**6.25**	**110**		**Pn**	**03 15 32.2**	**+0.1**
KTH	**Kantishna Hill**	**6.25**	**127**		**Pn**	**03 15 32.8**	**+0.6**
PPLA	**Purkeypile**	**6.39**	**135**		**Pn**	**03 15 34.9**	**+0.8**
TCOL	**CIGO, UAF Yank**	**6.43**	**110**	P	**Pn**	**03 15 35.4**	**+1.0**
	baz=303,SNR=63						
TCOL				S	**Sn**	**03 16 45.7**	**-2.2**
	baz=303						
TCOL	**CIGO, UAF Yank**	**6.43**	**110**		**Pn**	**03 15 35.5**	**+1.0**
COLA	**College**	**6.43**	**110**	*c i*P	**Pn**	**03 15 35.6**	**+1.1**
COLA	**College**	**6.43**	**110**		**Pn**	**03 15 35.0**	**+0.5**
POKR	**Poker Flat Res**	**6.46**	**107**	P	**Pn**	**03 15 35.7**	**+0.8**
	baz=300,SNR=64						
POKR				S	**Sn**	**03 16 47.1**	**-1.4**
	baz=300						
POKR	**Poker Flat Res**	**6.46**	**107**		**Pn**	**03 15 35.3**	**+0.4**
TRF	**Thorofare Moun**	**6.52**	**126**		**Pn**	**03 15 36.7**	**+0.7**
CCB	**Clear Creek Bu**	**6.58**	**111**		**Pn**	**03 15 37.2**	**+0.7**
WRH	**Wood River Hil**	**6.58**	**113**		**Pn**	**03 15 37.1**	**+0.6**
FYU	**Fort Yukon**	**6.69**	**92**	Pn	**Pn**	**03 15 37.7**	**-0.4**
BM03	**Burnt Mountain**	**6.72**	**85**		**Pn**	**03 15 38.9**	**+0.3**
MCK	**McKinley**	**6.76**	**120**		**Pn**	**03 15 39.7**	**+0.6**
IL31		**6.84**	**109**		**Pn**	**03 15 40.1**	**+0.1**
ILAR	**Eielson Array**	**6.84**	**109**	Pn	**Pn**	**03 15 41.3**	**+1.2**
	17nm,0.3s,baz=304,slow=14,SNR=649						
ILAR				Sn	**Sn**	**03 16 56.9**	**-1.0**
	2.8nm,0.3s,baz=304,slow=24,SNR=8.2						
ILAR				LR	LR	03 18 52.4	
	comp=Z,167nm,21.5s,baz=297,slow=42						
PRP	**Porcupine Dome**	**6.97**	**101**		**Pn**	**03 15 43.6**	**+1.5**
RND	**Reindeer**	**7.01**	**122**		**Pn**	**03 15 42.5**	**-0.1**
HDA	**Harding Lake**	**7.02**	**111**	P	**Pn**	**03 15 43.5**	**+0.9**
	baz=305,SNR=42						
HDA				S	**Sn**	**03 16 59.4**	**-2.9**
	baz=305						
HDA	**Harding Lake**	**7.02**	**111**		**Pn**	**03 15 43.7**	**+1.1**
SVW2	**Sparrevohn**	**7.24**	**154**		**Pn**	**03 15 44.6**	**-1.0**
DHY	**Denali Highway**	**7.72**	**120**		**Pn**	**03 15 52.0**	**-0.3**
DOT	**Dot Lake**	**8.49**	**110**		**Pn**	**03 16 03.4**	**+0.6**
DAWY	**Dawson**	**9.98**	**101**	Pn	**Pn**	**03 16 25.9**	**+2.8**
EPYK	**Eagle Plains**	**10.00**	**86**	P	**Pn**	**03 16 23.9**	**+0.5**
	baz=290,SNR=64						
EPYK	**Eagle Plains**	**10.00**	**86**	Pn	**Pn**	**03 16 24.1**	**+0.7**
GLB	**Gilahina Butte**	**10.06**	**120**		**Pn**	**03 16 27.7**	**+3.4**
INK	**Inuvik**	**10.70**	**74**	Pn	**Pn**	**03 16 32.1**	**-0.8**
	2.5nm,0.3s,baz=288,slow=9.8,SNR=45						
INK				Sn	**Sn**	**03 18 26.8**	**-5.7**
	1.8nm,0.3s,baz=219,slow=1.0,SNR=10.0						
INK				LR	LR	03 21 27.0	
	comp=Z,754nm,18.5s,baz=262,slow=42						
INK	**Inuvik**	**10.70**	**74**	P	**Pn**	**03 16 31.8**	**-1.1**
INK	**Inuvik**	**10.70**	**74**	Pn	**Pn**	**03 16 31.8**	**-1.1**
KDAK	**Kodiak Island**	**10.88**	**152**	Pn	**Pn**	**03 16 38.4**	**+2.9**
	0.7nm,0.3s,baz=359,slow=15,SNR=3.4						
KDAK				LR	LR	03 20 27.2	
	comp=Z,179nm,19.3s,baz=106,slow=35						
BILL	**Bilibino**	**11.83**	**286**	*ce*P	**Pn**	**03 16 46.5**	**-1.9**
BILL				*i* S	**Sn**	**03 18 59.0**	**-1.2**
BILL				pmax	pmax		
	comp=Z,16nm,1.0s						
BILL				MLR	MLR		
	comp=Z,296nm,12.0s						
BILL	**Bilibino**	**11.83**	**286**	Pn	**Pn**	**03 16 46.4**	**-2.0**
A36M	**Sachs Harbour**	**13.23**	**55**	P	**Pn**	**03 17 05.2**	**-2.3**
	baz=270,SNR=29						
A36M				S	Sn	03 19 22.8	-12
	baz=270						
C36M	**Paulatuk**	**13.88**	**66**	P	**Pn**	**03 17 14.0**	**-2.3**
	baz=282						
C36M				S	Sn	03 19 39.7	-10
	baz=282						
C36M	**Paulatuk**	**13.88**	**66**	Pn	**Pn**	**03 17 14.3**	**-2.0**
DLBC	**Dease Lake**	**17.05**	**107**	P	**P**	**03 18 00.6**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=313,slow=12,SNR=9.5						
DLBC				LR	LR	03 25 20.3	
	comp=Z,122nm,18.9s,baz=318,slow=40						
YKA	**Yellowknife Ar**	**20.24**	**82**	P	**P**	**03 18 35.7**	**+1.0**
	comp=Z,9.5nm,0.8s,baz=303,slow=11,SNR=29						
YKA				S	**S**	**03 22 14.3**	**-7.1**
	comp=Z,3.0nm,1.0s,baz=305,slow=20,SNR=5.7						
YKA				LR	LR	03 26 52.9	
	comp=Z,136nm,20.2s,baz=0.0,slow=38						
RES	**Resolute Bay**	**21.50**	**42**	P	**P**	**03 18 48.5**	**+0.2**
	comp=Z,4.1nm,1.0s,baz=135,slow=5.7,SNR=1.6						
RES				S	**S**	**03 22 39.9**	**-6.3**
	comp=Z,6.6nm,0.7s,baz=257,slow=17,SNR=1.7						
RES	**Resolute Bay**	**21.50**	**42**	IAmb	IAmb	03 18 56.9	
	comp=Z,20nm,1.3s						
MA2	**Magadan**	**21.88**	**271**	*i* P	**P**	**03 18 51.7**	**-0.8**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TIXI	**Tiksi**	**23.04**	**311**	P	**P**	**03 19 03.8**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=66,slow=8.2,SNR=4.7						
TIXI	**Tiksi**	**23.04**	**311**	*ce*P	**P**	**03 19 05.0**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.7s						
TIXI	**Tiksi**	**23.04**	**311**	P	**P**	**03 19 05.7**	**+1.0**
PET	**Petropavlovsk**	**23.76**	**251**	*i* P	**P**	**03 19 11.6**	**-0.4**
PET				pmax	pmax		
	comp=Z,61nm,1.7s						
PEA0B	**Petropavlovsk-**	**24.04**	**253**	*ce*P	**P**	**03 19 15.2**	**+0.5**
PETK	**Petropavlovsk-**	**24.04**	**253**	P	**P**	**03 19 14.2**	**-0.5**
	comp=Z,18nm,1.1s,baz=62,slow=7.7,SNR=5.6						
YAK	**Yakutsk**	**28.09**	**292**	*i* P	**P**	**03 19 51.6**	**+0.4**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
WALA	**Waterton Lakes**	**30.31**	**104**	P	**P**	**03 20 12.7**	**+1.5**
JTMT	**Jette**	**31.27**	**105**	P	**P**	**03 20 21.8**	**+2.2**
JTMT				IAmb	IAmb	03 20 23.6	
	comp=Z,7.4nm,0.9s						
MSO	**Missoula**	**32.16**	**106**	P	**P**	**03 20 27.3**	**-0.2**
	baz=328						
MSO	**Missoula**	**32.16**	**106**	P	**P**	**03 20 27.7**	**+0.2**
J08A	**Circle Bar Ran**	**33.54**	**114**	IAmb	IAmb	03 20 44.1	
	comp=Z,12nm,1.4s						
O03E	**Payne Creek**	**35.14**	**121**	P	**P**	**03 20 53.1**	**-0.3**
	baz=335						
LAO	**LASA Array**	**35.16**	**98**	P	**P**	**03 20 53.6**	**+0.1**
	baz=327						
LAO	**LASA Array**	**35.16**	**98**	IAmb	IAmb	03 20 57.5	
	comp=Z,13nm,1.1s						
NRIK	**Noril'sk**	**35.17**	**325**	P	**P**	**03 20 53.7**	**+0.4**
	comp=Z,3.6nm,0.6s,baz=50,slow=7.9,SNR=6.8						
NRIK				LR	LR	03 35 38.5	
	comp=Z,37nm,21.5s,baz=240,slow=37						
NRIK	**Noril'sk**	**35.17**	**325**	*ie*P	**P**	**03 20 53.6**	**+0.4**
NRIK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
RLMT	**Red Lodge**	**35.34**	**103**	P	**P**	**03 20 55.1**	**-0.1**
	baz=328						
RLMT	**Red Lodge**	**35.34**	**103**	IAmb	IAmb	03 20 59.3	
	comp=Z,6.1nm,1.1s						
IMW	**Indian Meadow**	**35.77**	**105**	IAmb	IAmb	03 21 05.4	
	comp=Z,6.9nm,0.8s						
SNOW	**Snow King Moun**	**36.21**	**106**	IAmb	IAmb	03 21 07.7	
	comp=Z,9.2nm,1.1s						
REDW	**Red Top Meadow**	**36.26**	**106**	IAmb	IAmb	03 21 08.0	
	comp=Z,7.0nm,1.1s						
PAHR	**Pah Rah Range**	**36.48**	**118**	IAmb	IAmb	03 21 09.1	
	comp=Z,6.8nm,1.0s						
VCNR	**Virginia City**	**36.76**	**119**	IAmb	IAmb	03 21 11.7	
	comp=Z,7.2nm,0.8s						
PNTR	**Pine Nut**	**36.96**	**119**	IAmb	IAmb	03 21 15.4	
	comp=Z,7.3nm,0.9s						
ELK	**Elko**	**36.98**	**113**	P	**P**	**03 21 11.2**	**+2.0**
	comp=Z,3.1nm,0.8s,baz=324,slow=9.0,SNR=9.1						
BW06	**Boulder Array**	**37.25**	**105**	P	**P**	**03 21 11.2**	**-0.4**
	baz=330,SNR=6.1						
BW06	**Boulder Array**	**37.25**	**105**	IAmb	IAmb	03 21 15.8	
	comp=Z,11nm,1.2s						
PD31	**Pinedale Array**	**37.25**	**105**	IAmb	IAmb	03 21 15.8	
	comp=Z,11nm,1.2s						
PDAR	**Pinedale Array**	**37.25**	**105**	P	**P**	**03 21 13.2**	**+1.6**
	comp=Z,2.4nm,0.5s,baz=328,slow=7.3,SNR=21						
PDAR				PcP	**PcP**	**03 23 32.0**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=238,slow=1.1,SNR=3.7						
PDAR				LR	LR	03 37 26.4	
	comp=Z,82nm,18.1s,baz=346,slow=38						
WAKR	**Walker**	**37.54**	**119**	IAmb	IAmb	03 21 18.1	
	comp=Z,8.4nm,1.0s						
NVAR	**Mina Array Bea**	**37.99**	**118**	P	**P**	**03 21 20.1**	**+2.2**
	comp=Z,6.9nm,0.9s,baz=321,slow=6.7,SNR=25						
NVAR				PcP	**PcP**	**03 23 34.6**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=322,slow=2.8,SNR=3.6						
NV11	**Mina Array Sit**	**38.04**	**118**	IAmb	IAmb	03 21 22.8	
	comp=Z,9.8nm,0.9s						
MDPB	**Devils Postpil**	**38.45**	**119**	IAmb	IAmb	03 21 26.7	
	comp=Z,14nm,1.2s						
K22A	**Casper**	**38.48**	**102**	P	**P**	**03 21 22.6**	**+0.7**
	baz=330						
K22A	**Casper**	**38.48**	**102**	IAmb	IAmb	03 21 25.1	
	comp=Z,13nm,1.4s						
OMMB	**Old Mammoth Mi**	**38.49**	**119**	IAmb	IAmb	03 21 27.2	
	comp=Z,12nm,1.1s						
R11A	**Troy Canyon, C**	**38.99**	**115**	P	**P**	**03 21 27.6**	**+1.4**
	baz=334,SNR=21						
R11A	**Troy Canyon, C**	**38.99**	**115**	IAmb	IAmb	03 21 30.4	
	comp=Z,9.2nm,1.0s						
F33A	**5 Mile Ranch,**	**39.64**	**89**	IAmb	IAmb	03 21 34.9	
	comp=Z,13nm,1.2s						
EYMN	**Ely**	**39.72**	**83**	P	**P**	**03 21 32.7**	**+0.8**
	baz=326						
PAGB	**Antelope Grade**	**39.80**	**122**	P	**P**	**03 21 33.8**	**+1.0**
PAGB				IAmb	IAmb	03 21 37.4	
	comp=Z,8.7nm,0.8s						
CWC	**Cottonwood Cre**	**39.87**	**119**	P	**P**	**03 21 34.9**	**+1.4**
	baz=336						
TPNV	**Topopah Spring**	**40.02**	**117**	P	**P**	**03 21 35.6**	**+0.8**
	baz=335,SNR=10						
TPNV	**Topopah Spring**	**40.02**	**117**	IAmb	IAmb	03 21 38.9	
	comp=Z,8.0nm,0.9s						
O20A	**White River Ci**	**40.03**	**106**	P	**P**	**03 21 35.7**	**+0.8**
	baz=332						
VES	**Vestal, Richgr**	**40.08**	**120**	P	**P**	**03 21 35.3**	**+0.3**
	baz=336						
N23A	**Red Feather La**	**40.22**	**103**	P	**P**	**03 21 36.7**	**+0.2**
	baz=331						
FURC	**Furnace Creek,**	**40.25**	**118**	P	**P**	**03 21 37.3**	**+0.9**
	baz=335						
MPMC	**Manual Prospec**	**40.41**	**119**	P	**P**	**03 21 38.7**	**+0.6**
	baz=336						
ISA	**Isabella, Lake**	**40.44**	**120**	P	**P**	**03 21 39.0**	**+0.9**
	baz=336						
ISA	**Isabella, Lake**	**40.44**	**120**	P	**P**	**03 21 38.0**	**-0.2**
ISA	**Isabella, Lake**	**40.44**	**120**	P	**P**	**03 21 38.0**	**-0.2**
PKM	**Mcpherson Peak**	**40.71**	**122**	P	**P**	**03 21 40.3**	**-0.2**
	baz=337						
LRMC	**Laurel Mtn Rad**	**40.87**	**119**	P	**P**	**03 21 41.9**	**+0.1**
	baz=336						
PV21	**Cone Mtn., Par**	**41.15**	**107**	IAmb	IAmb	03 21 47.3	
	comp=Z,8.4nm,1.0s						
ISCO	**Idaho Springs**	**41.30**	**103**	P	**P**	**03 21 45.9**	**+0.4**
	baz=331						
PV14	**Lion Creek, Pa**	**41.30**	**108**	IAmb	IAmb	03 22 17.9	
	comp=Z,7.8nm,0.8s						
ECSD	**EROS Data Cent**	**41.30**	**91**	P	**P**	**03 21 45.2**	**+0.1**
	baz=328,SNR=5.5						
ECSD	**EROS Data Cent**	**41.30**	**91**	P	**P**	**03 21 45.2**	**+0.1**
GSC	**Goldstone, Bar**	**41.33**	**118**	P	**P**	**03 21 47.2**	**+1.7**
	baz=336						
GSC	**Goldstone, Bar**	**41.33**	**118**	IAmb	IAmb	03 21 50.0	
	comp=Z,9.5nm,1.1s						
SPMN	**Marine on St.**	**41.49**	**87**	P	**P**	**03 21 47.3**	**+0.7**
	baz=328						
BFSC	**Mount Baldy Ra**	**42.01**	**120**	P	**P**	**03 21 52.3**	**+1.1**
	baz=336,SNR=5.4						
GMRC	**Granite Mounta**	**42.18**	**117**	P	**P**	**03 21 53.8**	**+1.3**
	baz=336						
Q24A	**Divide**	**42.20**	**103**	P	**P**	**03 21 53.5**	**+0.6**
	baz=332						
BELC	**Belle Mtn. Jos**	**42.78**	**118**	P	**P**	**03 21 58.6**	**+1.1**
	baz=336						
SCHQ	**Schefferville**	**42.81**	**58**	P	**P**	**03 21 57.8**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=30,slow=5.7,SNR=3.8						
SCHQ				LR	LR	03 41 06.8	
	comp=Z,182nm,21.8s,baz=340,slow=38						
ARCES	**ARCESS Array B**	**42.90**	**356**	P	**P**	**03 21 57.9**	**+0.1**
	comp=Z,3.5nm,1.1s,baz=351,slow=11,SNR=2.3						
ARCES				PcP	**PcP**	**03 23 48.9**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=20,slow=3.9,SNR=5.5						
ARCES				LR	LR	03 38 55.3	
	comp=Z,40nm,21.7s,baz=337,slow=35						
IRM	**Iron Mountain**	**42.93**	**117**	P	**P**	**03 21 59.4**	**+0.9**
	baz=336						
PFO	**Pinyon Flats O**	**42.98**	**119**	P	**P**	**03 21 59.4**	**+0.3**
	baz=336						
TPFO	**Pinon Flats**	**42.99**	**119**	P	**P**	**03 21 59.1**	**0.0**
	baz=336						
WUAZ	**Wupatki**	**43.01**	**112**	P	**P**	**03 21 59.6**	**+0.3**
	baz=334,SNR=8.2						
WUAZ	**Wupatki**	**43.01**	**112**	IAmb	IAmb	03 22 03.6	
	comp=Z,13nm,1.1s						
SDCO	**Great Sand Dun**	**43.14**	**104**	P	**P**	**03 22 00.6**	**+0.1**
	baz=332,SNR=6.3						
BC3	**Big Chuckawall**	**43.28**	**118**	P	**P**	**03 22 01.1**	**-0.3**
	baz=336						
D46A	**Sault St. Mari**	**43.40**	**78**	P	**P**	**03 22 02.7**	**+0.6**
	baz=327						
Y12C	**Blythe**	**43.51**	**117**	P	**P**	**03 22 03.8**	**+0.6**
	baz=336						
Y12C	**Blythe**	**43.51**	**117**	IAmb	IAmb	03 22 07.0	
	comp=Z,8.2nm,1.2s						
D47A	**Chapleau**	**43.60**	**77**	P	**P**	**03 22 04.3**	**+0.5**
	baz=327						
MONP2	**Monument Peak**	**43.65**	**119**	P	**P**	**03 22 03.6**	**-1.0**
	baz=337						
K38A	**Parkersburg**	**43.69**	**89**	IAmb	IAmb	03 22 06.1	
	comp=Z,11nm,0.9s						
F45A	**CMU Biological**	**43.86**	**80**	P	**P**	**03 22 05.5**	**-0.3**
	baz=328						
W18A	**Petrified Fore**	**43.95**	**111**	P	**P**	**03 22 07.2**	**+0.3**
	baz=334						
D48A	**Paudash Townsh**	**43.98**	**76**	P	**P**	**03 22 07.1**	**+0.3**
	baz=327						
E47A	**Iron Bridge**	**44.05**	**77**	P	**P**	**03 22 07.8**	**+0.5**
	baz=328						
D49A	**Beulah Townshi**	**44.07**	**75**	P	**P**	**03 22 08.0**	**+0.5**
	baz=327						
SCIA	**State Center**	**44.16**	**90**	P	**P**	**03 22 08.6**	**+0.3**
	baz=329						
LSQQ	**Lebel-sur-Quev**	**44.16**	**70**	P	**P**	**03 22 07.8**	**-0.4**
	baz=327						
CHGQ	**Chibougamau**	**44.37**	**67**	P	**P**	**03 22 09.8**	**-0.1**
	baz=327						
X18A	**Snowflake**	**44.40**	**111**	IAmb	IAmb	03 22 13.8	
	comp=Z,6.5nm,1.1s						
E48A	**Lockeer**	**44.44**	**76**	P	**P**	**03 22 10.9**	**+0.4**
	baz=328						
D50A	**G1974 Best Tow**	**44.71**	**74**	P	**P**	**03 22 13.2**	**+0.5**
	baz=328						
BORG	**Borgarnes**	**44.90**	**23**	LR	LR	03 42 29.3	
	comp=Z,21nm,19.4s,baz=349,slow=38						
H46A	**Fife Lake**	**44.95**	**80**	P	**P**	**03 22 14.8**	**+0.2**
	baz=328						
E50A	**Wahnapitae**	**45.01**	**75**	P	**P**	**03 22 15.1**	**+0.1**
	baz=328						
ANMO	**Albuquerque**	**45.28**	**107**	P	**P**	**03 22 18.9**	**+1.3**
	baz=334						
ANMO	**Albuquerque**	**45.28**	**107**	*ce*P	**P**	**03 22 17.5**	**-0.1**
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ANMO	**Albuquerque**	**45.28**	**107**	P	**P**	**03 22 18.2**	**+0.6

comp=Z,6.0nm,0.9s
ORIO Orleans, Innes 47.75 72 P P 03 22 36.3 -0.2
baz=329
E58A La Victoria 47.76 69 P P 03 22 37.1 +0.5
baz=329
S39A Bolivar 47.78 93 IAmb IAmb 03 22 38.3
comp=Z,2.8nm,0.8s
J52A Paris 47.83 77 P P 03 22 36.8 -0.4
baz=330
N47A Urbana 47.90 83 P P 03 22 37.0 -0.8
H55A Tweed 47.92 74 P P 03 22 37.3 -0.6
baz=329
D61A St Aubert, Com 48.14 66 P P 03 22 39.2 -0.3
baz=329
H56A Elgin 48.22 73 P P 03 22 39.5 -0.7
baz=330
G57A Newington 48.24 71 P P 03 22 40.1 -0.2
baz=329
CCM Cathedral Cave 48.25 90 P P 03 22 40.2 -0.2
baz=331
CCM Cathedral Cave 48.25 90 P P 03 22 39.7 -0.8
CCM IAmb IAmb 03 22 41.1
comp=Z,6.2nm,0.9s
WMOK Wichita Mounta 48.31 100 P P 03 22 40.6 -0.4
baz=333
WMOK Wichita Mounta 48.31 100 IAmb IAmb 03 22 44.0
comp=Z,4.2nm,1.1s
KSRS Korea Array 48.40 268 P P 03 22 42.5 +0.9
comp=Z,2.6nm,0.8s,baz=22,slow=7.7,SNR=12
KSRS LR LR 03 44 40.5
comp=Z,64nm,18.9s,baz=34,slow=38
TUL1 Leonard 48.40 96 P P 03 22 41.8 +0.1
baz=332
E60A Ste Agathe de 48.41 68 P P 03 22 41.0 -0.7
baz=330
MNTX Cornudas Mount 48.59 108 P P 03 22 44.4 +1.2
baz=335,SNR=12
MNTX Cornudas Mount 48.59 108 IAmb IAmb 03 22 45.6
comp=Z,4.8nm,0.8s
O48A Farmland 48.65 83 P P 03 22 43.4 -0.1
baz=330
LONY Lake Ozonia 48.80 71 P P 03 22 44.5 -0.2
baz=330
E62A Clayton Lake 48.87 66 P P 03 22 45.5 +0.3
baz=330
ZAA0 Zalesovo Array 48.88 314 P P 03 22 44.5 -0.7
ZAA0 IAmb IAmb 03 22 45.0
comp=Z,4.2nm,0.8s
ZALV Zalesovo Beam 48.88 314 P P 03 22 44.3 -0.9
comp=Z,3.1nm,0.7s,baz=27,slow=6.8,SNR=14
ZALV LR LR 03 46 36.5
comp=Z,42nm,18.2s,baz=358,slow=40
ZALV Zalesovo Beam 48.88 314 *i* **P P 03 22 44.2 -1.0**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
F61A St Evariste 48.92 68 P P 03 22 46.0 +0.4
baz=330
M52A Chesterland 48.97 79 P P 03 22 45.8 -0.2
baz=330
I57A Carthage 49.00 73 P P 03 22 46.4 +0.2
baz=330
H58A Gabriels 49.12 71 P P 03 22 47.2 0.0
baz=330
N51A Ashland 49.12 81 P P 03 22 47.0 -0.2
baz=330
U40A Yellville 49.13 93 P P 03 22 47.0 -0.3
baz=332
U40A Yellville 49.13 93 PcP PcP 03 24 11.7 +1.1
U40A IAmb IAmb 03 24 11.7
comp=Z,5.0nm,0.9s
T42A Van Buren 49.20 91 IAmb IAmb 03 22 50.0
comp=Z,4.8nm,0.8s
M53A WI Miller and 49.31 79 P P 03 22 48.8 +0.2
baz=330
P49A Miami Univ. Ec 49.44 83 P P 03 22 49.9 +0.3
baz=331
L55A Hinsdale 49.50 76 P P 03 22 50.1 0.0
baz=330
O51A Pataskala 49.71 81 P P 03 22 51.7 +0.1
baz=331
I59A Olmsteadville 49.77 71 P P 03 22 51.5 -0.6
baz=330
FCAR Ozark Folk Cen 49.81 93 IAmb IAmb 03 22 52.4
comp=Z,5.1nm,0.8s
L56A Greenwood 49.86 76 P P 03 22 52.0 -0.8
baz=330
N54A Moraine State 49.98 78 P P 03 22 53.6 -0.1
baz=331
WCI Wyandotte Cave 49.98 86 P P 03 22 53.8 0.0
baz=331
M55A Ridgway 49.99 77 P P 03 22 53.6 -0.3
baz=330
O52A Adamsville 50.02 81 P P 03 22 53.9 -0.2
baz=331
H62A Milan 50.07 69 P P 03 22 54.4 0.0
baz=330
LBNH Lisbon 50.09 70 P P 03 22 54.6 +0.1
baz=330
O53A New Philadelph 50.14 80 P P 03 22 54.7 -0.3
baz=331
M56A Emporium 50.20 77 P P 03 22 54.7 -0.7
baz=331
L57A Andrews Acres 50.24 75 P P 03 22 55.4 -0.4
baz=330
BINY Binghamton 50.39 74 P P 03 22 55.7 -1.1
baz=330
MIAR Mount Ida 50.45 95 P P 03 22 56.9 -0.4
baz=333,SNR=5.6
N55A Marion Center 50.51 78 P P 03 22 57.0 -0.8
baz=331
O54A Avella 50.51 79 P P 03 22 57.3 -0.5
baz=331
L58A Harry Jones Me 50.57 74 P P 03 22 57.7 -0.5
baz=331
P53A Whipple 50.74 81 P P 03 22 59.1 -0.3
baz=331
KLMR Klimovskoe 50.75 346 *e*P **P 03 22 58.4 -0.8**
KLMR pmax pmax
comp=Z,18nm,1.4s
KLMR Klimovskoe 50.75 346 *e*P **P 03 22 58.5 -0.8**
KLMR AMP 03 23 09.7
comp=Z,18nm,1.4s
X40A Basin Creek Fa 50.78 94 P P 03 22 59.7 -0.1
baz=333
X40A Basin Creek Fa 50.78 94 IAmb IAmb 03 23 00.9
comp=Z,13nm,1.5s
P54A Burton 50.98 80 P P 03 23 00.9 -0.4
baz=331
FINES FINESS Array B 50.99 355 P P 03 22 59.3 -1.7
comp=Z,0.6nm,0.5s,baz=4.0,slow=6.8,SNR=12
FINES LR LR 03 43 50.4
comp=Z,29nm,21.3s,baz=4.5,slow=35
FINES FINESS Array B 50.99 355 *i* **P P 03 23 02.9 +1.9**
FINES pmax pmax
comp=Z,1.0nm,0.4s
SSPA Standing Stone 51.05 77 P P 03 23 01.2 -0.5
baz=331
N57A Milroy 51.07 76 P P 03 23 01.4 -0.6
baz=331
Q53A Leroy 51.24 81 P P 03 23 02.9 -0.4
baz=331
WVT Waverly 51.24 88 P P 03 23 03.6 +0.4
baz=332
WVT Waverly 51.24 88 P P 03 23 04.1 +0.8
WVT IAmb IAmb 03 23 04.3
comp=Z,4.4nm,0.8s
N58A Sunbury 51.30 76 P P 03 23 03.0 -0.7
baz=331
TXAR Lajitas Array 51.35 108 P P 03 23 05.7 +1.4
comp=Z,8.0nm,0.7s,baz=335,slow=5.8,SNR=72
Q54A Coxs Mills 51.39 80 P P 03 23 04.3 -0.1
baz=331
NOA NORSAR Array B 51.44 4 P P 03 23 05.2 +0.6
comp=Z,1.0nm,0.9s,baz=356,slow=7.7,SNR=4.0
O57A Amberson 51.51 77 P P 03 23 05.2 -0.1
baz=331
R53A Hurricane 51.54 82 P P 03 23 05.1 -0.4
baz=332
N59A State Game Lan 51.58 75 P P 03 23 05.5 -0.3
baz=331
T50A Nancy 51.59 85 IAmb IAmb 03 23 09.9
comp=Z,8.8nm,1.2s
HHC Hu-ho-hao-te 51.60 285 P P 03 23 06.1 0.0
HHC pmax pmax
comp=Z,5.0nm,0.8s
HHC pmax pmax
comp=Z,37nm,6.6s
Q55A Buckhannon 51.66 80 P P 03 23 06.3 -0.2
baz=331
U49A Red Boiling Sp 51.68 86 IAmb IAmb 03 23 07.7
comp=Z,4.6nm,0.8s
JCT Junction City 51.74 103 P P 03 23 08.1 +1.0
baz=335
N60A Cedar Hill Far 51.87 74 P P 03 23 07.2 -0.7
baz=331
OXF Oxford 52.07 91 P P 03 23 09.3 -0.1
baz=333
PLAL Pickwick Lake 52.16 89 IAmb IAmb 03 23 11.4
comp=Z,6.5nm,0.8s
HFS Hagfors 52.40 3 LR LR 03 46 19.7
comp=Z,24nm,20.4s,baz=346,slow=37
T53A Wise 52.50 83 P P 03 23 12.7 -0.1
baz=332
TZTN Tazewell 52.50 84 P P 03 23 13.3 +0.6
baz=332
ARU Arti 52.54 333 LR LR 03 48 24.0
comp=Z,38nm,18.6s,baz=342,slow=39
ARU Arti 52.54 333 *c i* **P P 03 23 13.3 +0.6**
ARU 03 24 21.6
ARU S S **03 30 42.9 +4.0**
ARU SS SS **03 34 17.8 +1.7**
ARU pmax pmax
comp=Z,6.0nm,1.1s
R57A Stanardsville 52.86 79 P P 03 23 14.8 -0.5
baz=332
BRVK Borovoye 53.35 323 *c e* **P P 03 23 18.4 -0.4**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 53.35 323 P P 03 23 18.6 -0.2
KURK Kurchatov 53.46 316 ⇓P P 03 23 18.8 -0.8
comp=Z,4.9nm,0.9s
KURK Kurchatov 53.46 316 *c e* **P P 03 23 19.3 -0.3**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 53.46 316 P P 03 23 19.0 -0.6
KURK IAmb IAmb 03 23 19.6
comp=Z,4.6nm,0.8s
KURBB Kurchatov Arra 53.57 316 ⇓P P 03 23 18.3 -2.1
comp=Z,4.8nm,1.2s
U57A Blanch 54.19 81 P P 03 23 25.2 +0.1
baz=332
LRAL Lakeview Retre 54.30 89 P P 03 23 26.1 +0.2
baz=333
W54A Cherokee Point 54.31 84 P P 03 23 25.9 0.0
baz=333
V57A Coltrane Farms 54.51 81 P P 03 23 27.9 +0.5
baz=332
X54A Belton 54.71 84 P P 03 23 28.7 -0.2
baz=333
V58A Windy Hill, Pi 54.84 81 P P 03 23 29.7 -0.1
baz=333
U60A Pendleton 54.97 79 P P 03 23 30.3 -0.5
baz=332
X55A Gracelyn & Ava 55.06 84 P P 03 23 31.8 +0.4
baz=333
V59A Middlesex 55.20 80 P P 03 23 32.1 -0.2
baz=333
X56A White Oak 55.27 83 P P 03 23 33.0 0.0
baz=333
Y55A Saluda 55.45 84 P P 03 23 34.7 +0.5
baz=333
V61A Roper 55.79 79 P P 03 23 37.2 +0.5
baz=333
MK31 Makanchi Array 56.03 312 P P 03 23 37.3 -1.0
MKAR Makanchi Array 56.03 312 P P 03 23 37.4 -0.9
comp=Z,1.6nm,0.7s,baz=42,slow=6.3,SNR=15
OBN Obninsk 56.68 347 *e* **P P 03 23 43.5 +0.8**
OBN pmax pmax
comp=Z,5.0nm,0.8s
OBN MLR MLR
comp=Z,44nm,19.0s
WMQ Urumqi 57.12 306 *e* **P P 03 23 46.4 +0.3**
WMQ LR LR
comp=N,110nm,17.9s
WMQ LR LR
comp=E,90nm,21.3s
WMQ LR LR
comp=Z,200nm,24.9s
ZAIG Zacatecas 57.73 110 IAmb IAmb 03 23 54.2
comp=Z,8.3nm,1.1s
AKTO Aktyubinsk 58.37 331 LR LR 03 50 50.6
comp=Z,48nm,20.4s,baz=357,slow=38
LZH Lanzhou 58.62 289 *e* **P P 03 23 55.2 -1.7**
LZH pP sP 03 24 01.3 -0.1
LZH sP pP 03 24 04.1 +3.9
LZH *e* PP PP **03 26 06.5 +0.3**
LZH pmax pmax
comp=Z,18nm,1.3s
LZH pmax pmax
comp=Z,59nm,7.0s
LZH LR LR
comp=N,110nm,14.3s
LZH LR LR
comp=E,110nm,14.5s
LZH LR LR
comp=Z,180nm,17.4s
AKASG Malin Array Be 61.58 352 P P 03 24 16.8 0.0
comp=Z,1.7nm,0.6s,baz=5.6,slow=6.3,SNR=6.2
AKASG LR LR 03 51 35.5
comp=Z,48nm,19.9s,baz=10.0,slow=37
AKBB Malin Array Si 61.58 352 *c e* **P P 03 24 17.2 +0.4**
AAK Ala-Archa 62.01 316 *c e* **P P 03 24 20.7 +0.7**
AAK pmax pmax
comp=Z,3.0nm,1.3s
AAK Ala-Archa 62.01 316 P P 03 24 20.4 +0.5
VRAC Vranov 63.28 1 LR LR 03 55 29.9
comp=Z,21nm,18.6s,baz=357,slow=39
KHC Kasperske Hory 63.42 3 *c e* **P P 03 24 29.0 -0.1**
KHC pmax pmax
comp=Z,23nm,2.5s
GEC2 GERESS Array S 63.71 3 P P 03 24 33.3 +2.2
GEC2 IAmb IAmb 03 24 36.3
comp=Z,5.8nm,1.3s
GERES GERESS Array B 63.71 3 P P 03 24 31.5 +0.4
comp=Z,1.7nm,0.8s,baz=350,slow=5.4,SNR=10
VYHS Vyhne 64.10 359 *e* **P P 03 24 34.1 +0.5**
VYHS Vyhne 64.10 359 *e* **P P 03 24 34.1 +0.5**
DAVOX Davos/Dischmat 65.66 6 LR LR 03 52 30.7
comp=Z,23nm,20.6s,baz=310,slow=35
CMIG Matias Romero 65.74 105 P P 03 24 43.7 -0.9
comp=Z,0.9nm,0.5s,baz=1.2,slow=7.0,SNR=4.7
ZOU Zoufplan 65.98 4 P P 03 24 47.2 +1.2
ZOU IAmb IAmb 03 24 50.4
comp=Z,2.8nm,0.7s
KIV Kislovodsk 67.07 341 *e* **P P 03 24 54.0 +1.1**
KIV pmax pmax
comp=Z,5.0nm,0.8s
KBZ Khabaz 67.26 341 P P 03 24 54.0 +0.1
comp=Z,1.1nm,0.6s,baz=334,slow=10.0,SNR=2.5
KBZ LR LR 03 58 37.9
comp=Z,33nm,18.4s,baz=20,slow=40
APG El Apazote 69.30 101 P P 03 25 07.1 -0.2
comp=Z,3.2nm,0.8s,baz=295,slow=14,SNR=4.5
GEYT Alibeck 70.37 327 LR LR 04 01 32.0
comp=Z,26nm,18.2s,baz=325,slow=41
ESDC Sonseca Array 71.66 18 P P 03 25 21.5 +0.2
comp=Z,1.8nm,1.0s,baz=344,slow=7.2,SNR=8.1
ESDC LR LR 03 58 22.7
comp=Z,32nm,18.7s,baz=295,slow=37
BRTR Keskin Array B 72.20 347 P P 03 25 24.6 -0.2
comp=Z,0.6nm,0.8s,baz=17,slow=3.5,SNR=3.7
BRTR LR LR 04 03 25.9
comp=Z,18nm,18.4s,baz=341,slow=41
BRTR Keskin Array B 72.20 347 *i* **P P 03 25 27.2 +2.5**
CMAR Chiang Mai Arr 76.41 285 P P 03 25 49.5 +0.1
comp=Z,1.2nm,0.3s,baz=1.6,slow=6.3,SNR=2.2
CMAR LR LR 04 03 02.0
comp=Z,104nm,18.1s,baz=180,slow=39
KEST Kesra 76.66 7 P P 03 25 51.7 +1.1
comp=Z,2.7nm,0.9s,baz=297,slow=2.6,SNR=3.7
KEST Kesra 76.66 7 IAmb IAmb 03 26 05.6
comp=Z,7.3nm,1.2s
KRVT Keravat (AS076 78.70 227 P P 03 26 02.2 +0.2
comp=Z,48nm,0.9s,baz=324,slow=14,SNR=2.0
SDV Santo Domingo 82.42 85 P P 03 26 22.9 +0.5
comp=Z,4.6nm,0.8s,baz=13,slow=12,SNR=5.1
SDV Santo Domingo 82.42 85 P P 03 26 22.6 +0.2
SDV IAmb IAmb 03 26 56.0
comp=Z,16nm,1.1s
RAYN Ar Rayn 86.73 335 P P 03 26 43.9 +0.1
RAYN Ar Rayn 86.73 335 P P 03 26 44.0 +0.1
RAYN IAmb IAmb 03 26 57.4
comp=Z,4.1nm,1.0s
VNDA Vanda 146.64 193 PKPbc PKPab 03 33 40.5 -0.3
comp=Z,2.6nm,0.8s,baz=304,slow=3.5,SNR=11

NEIC ***07*** *03:21:44.1±2.5, 15°.33S±0°.06×72°.23W±0°.07, h124km±6km, mb4.5/15, Error ellipse: s-maj=10.5km s-min=8.2km az=46.0*
IDC ***07*** *03:21:46.2±1.7, 15°.10S×71°.98W, h138km±15km, mb3.9/7, mb1 4.0/11, mb1mx3.7/44, mbtmp4.4/11, MS2.5/1, Ms1 2.5/1, ms1mx2.2/28, Error ellipse: s-maj=19.9km s-min=14.6km az=36.0*
VAO ***07*** *03:21:47.2±0.8, 15°.12S×71°.73W, h124km, mb4.4*
ISC 07 03:21:44.5±0.5, 15°.25S±0°.05×72°.09W±0°.06, h124km, n116, σ1°.71/114, mb4.2/9, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.53**	**152**		**Pn**	**03 22 38.5**	**+0.7**
AP01					**Sn**	**03 23 17.9**	**-1.2**
PB12	**IPOC Station P**	**3.75**	**154**	Pn	**Pn**	**03 22 40.7**	**-0.1**
LPAZ	**La Paz**	**3.95**	**106**	P	**Pn**	**03 22 46.0**	**+1.9**
	11nm,0.3s,baz=286,slow=9.5,SNR=315						
LPAZ				S	**Sn**	**03 23 32.4**	**+2.3**
	1.5nm,0.3s,baz=163,slow=18,SNR=1.3						
LPAZ	**La Paz**	**3.95**	**106**	Pn	**Pn**	**03 22 45.7**	**+1.6**
MNMC	**Minye Minye**	**4.54**	**149**		**Pn**	**03 22 51.4**	**-0.2**
PSGCX	**Pisagua**	**4.71**	**157**		**Pn**	**03 22 52.6**	**-1.1**
PB11	**IPOC Station P**	**5.05**	**153**	Pn	**Pn**	**03 22 57.3**	**-1.1**
GO01	**Chusmiza**	**5.19**	**148**		**Pn**	**03 23 01.0**	**+0.5**
TA01	**Diego Aracena**	**5.59**	**161**		**Pn**	**03 23 04.5**	**-1.0**
PB08	**IPOC Station P**	**5.61**	**151**		**Pn**	**03 23 05.7**	**-0.4**
NNA	**Nana**	**5.64**	**304**	P	**Pn**	**03 23 06.7**	**+0.5**
	21nm,0.3s,baz=132,slow=11,SNR=36						
NNA				S	**Sn**	**03 24 06.3**	**-3.7**
	28nm,0.3s,baz=24,slow=18,SNR=13						
NNA				LR	LR	03 25 30.8	
	comp=Z,41nm,20.1s,baz=189,slow=40						
NNA	**Nana**	**5.64**	**304**	Pn	**Pn**	**03 23 06.2**	**-0.1**
PATCX	**Punta Patache**	**5.84**	**162**		**Pn**	**03 23 07.5**	**-1.4**
PB01	**IPOC Station P**	**6.27**	**157**		**Pn**	**03 23 13.2**	**-1.5**
PB07	**IPOC Station P**	**6.77**	**162**	Pn	**Pn**	**03 23 19.9**	**-1.7**
PB09	**IPOC Station P**	**7.05**	**158**		**Pn**	**03 23 25.0**	**-0.3**
PB04	**IPOC Station P**	**7.28**	**166**		**Pn**	**03 23 26.1**	**-2.4**
PB06	**IPOC Station P**	**7.79**	**163**		**Pn**	**03 23 33.2**	**-2.1**
LVC	**Limon Verde**	**7.92**	**158**	P	**Pn**	**03 23 36.4**	**-0.8**
	5.7nm,0.3s,baz=360,slow=6.2,SNR=50						
LVC				S	**Sn**	**03 24 59.9**	**-5.4**
	7.4nm,0.3s,baz=150,slow=20,SNR=14						
LVC	**Limon Verde**	**7.92**	**158**	Pn	**Pn**	**03 23 36.6**	**-0.5**
PB10	**IPOC Station P**	**8.35**	**170**	Pn	**Pn**	**03 23 41.0**	**-1.6**
GO02	**Mina Guanaco**	**10.14**	**167**	Pn	**Pn**	**03 24 05.7**	**-1.4**
ATAH	**Atahualpa**	**10.16**	**322**	P	**Pn**	**03 24 05.2**	**-2.4**
	0.3nm,0.3s,baz=198,slow=20,SNR=1.8						
ATAH				S	**Sn**	**03 25 59.4**	**-0.5**
	0.6nm,0.3s,baz=49,slow=18,SNR=2.9						
VILB	**Vilhena**	**11.76**	**80**	*e*P	**Pn**	**03 24 25.1**	**-3.4**
VILB	**Vilhena**	**11.76**	**80**	*e*P	**Pn**	**03 24 25.1**	**-3.4**
AC02	**Maricunga**	**11.86**	**167**	Pn	**Pn**	**03 24 28.9**	**-1.3**
GO03	**Copiap**	**12.40**	**172**	Pn	**Pn**	**03 24 38.1**	**+1.2**
PTLB	**Pontes e Lacer**	**12.50**	**93**	*e*P	**Pn**	**03 24 35.7**	**-2.5**
PTLB	**Pontes e Lacer**	**12.50**	**93**	*e*P	**Pn**	**03 24 35.7**	**-2.5**
AC05	**El Transito**	**13.63**	**173**		**Pn**	**03 24 54.0**	**+1.1**
CO01	**Juntas del Tor**	**14.77**	**173**		**P**	**03 25 09.2**	**-1.0**
GO04	**Tololo Observa**	**14.90**	**176**	P	**Pn**	**03 25 09.5**	**+0.4**
SALV	**Santo Antonio**	**15.81**	**95**	*e*P	**Pn**	**03 25 19.4**	**-0.9**
SALV	**Santo Antonio**	**15.81**	**95**	*e*P	**Pn**	**03 25 19.4**	**-0.9**
CO02	**Combarbal**	**15.91**	**177**	IAmb	IAmb	03 25 26.2	
	comp=Z,31nm,0.8s						
AQDB	**Aquidauana**	**16.44**	**111**	*e*P	**Pn**	**03 25 27.6**	**-0.5**
AQDB	**Aquidauana**	**16.44**	**111**	*e*P	**Pn**	**03 25 27.6**	**-0.5**
MACA	**Manacapuru-AM**	**16.45**	**44**	*e*P	**Pn**	**03 25 27.7**	**-0.5**
MACA	**Manacapuru-AM**	**16.45**	**44**	*e*P	**Pn**	**03 25 27.7**	**-0.5**
CLDB	**Colider**	**16.45**	**77**	*e*P	**Pn**	**03 25 26.5**	**-1.8**
CLDB	**Colider**	**16.45**	**77**	*e*P	**Pn**	**03 25 26.5**	**-1.8**
CFA	**Coronel Fontan**	**16.66**	**168**	P	**P**	**03 25 32.6**	**+1.7**
	comp=Z,1.4nm,0.3s,baz=349,slow=11,SNR=30						
GCUF	**Volcan Galeras**	**17.17**	**342**	*e*P	**Pn**	**03 25 41.9**	**+4.4**
CPUP	**Villa Florida**	**17.64**	**131**	P	**Pn**	**03 25 43.3**	**+0.7**
GARC	**Garzon, Huila**	**17.65**	**349**	*e*P	**Pn**	**03 25 44.3**	**+1.4**
SOTA	**Rioblanco**	**17.84**	**345**	*e*P	**Pn**	**03 25 47.6**	**+2.1**
PEL	**Peldehue**	**17.86**	**176**	IAmb	IAmb	03 25 48.1	
	comp=Z,30nm,1.0s						
BBAC	**Balboa, Cauca**	**17.90**	**343**	*e*P	**Pn**	**03 25 49.1**	**+3.2**
MT02	**Curacav**	**17.95**	**177**	IAmb	IAmb	03 25 48.1	
	comp=Z,59nm,1.2s						
PCON	**Cinco Dias**	**17.98**	**346**	*e*P	**Pn**	**03 25 46.8**	**-0.4**
NPGB	**Novo Progresso**	**18.32**	**65**	*e*P	**P**	**03 25 48.4**	**-0.9**
NPGB	**Novo Progresso**	**18.32**	**65**	*e*P	**P**	**03 25 48.4**	**-0.9**
C2SB	**Chapadao do Su**	**18.74**	**103**	*e*P	**P**	**03 25 54.2**	**+0.4**
C2SB	**Chapadao do Su**	**18.74**	**103**	*e*P	**P**	**03 25 54.2**	**+0.4**
PTGA	**Pitinga**	**18.75**	**41**	P	**P**	**03 25 52.9**	**-1.0**
	comp=Z,1.9nm,0.3s,baz=270,slow=24,SNR=14						
PTGA	**Pitinga**	**18.75**	**41**	P	**Pn**	**03 25 56.0**	**+0.2**
PTGA				IAmb	IAmb	03 26 20.5	
	comp=Z,27nm,1.4s						
PTGA	**Pitinga**	**18.75**	**41**	*e*P	**P**	**03 25 53.0**	**-1.0**
PTGA	**Pitinga**	**18.75**	**41**	*e*P	**P**	**03 25 53.0**	**-1.0**
ORTC	**Ortega, Tolima**	**19.29**	**350**	*e*P	**Pn**	**03 26 01.3**	**-0.9**
VILC	**Villavicencio,**	**19.30**	**355**	*e*P	**Pn**	**03 26 06.8**	**+4.4**
ARAG	**Araguaiana, MT**	**19.55**	**94**	*e*P	**P**	**03 26 01.9**	**-0.8**
ARAG	**Araguaiana, MT**	**19.55**	**94**	*e*P	**P**	**03 26 01.9**	**-0.8**
YOTC	**Yotoco, Valle**	**19.57**	**347**	*e*P	**Pn**	**03 26 05.2**	**-0.3**
TRCB	**Terra Rica**	**19.85**	**115**	*e*P	**P**	**03 26 06.1**	**+0.2**
TRCB	**Terra Rica**	**19.85**	**115**	*e*P	**P**	**03 26 06.1**	**+0.2**
ANIL	**Santa Ana**	**19.89**	**350**	*e*P	**P**	**03 26 07.6**	**+1.0**
TOLC	**Tolima**	**19.96**	**351**	*e*P	**Pn**	**03 26 13.1**	**+2.8**
RREF	**El Recreo**	**20.28**	**351**	*e*P	Pn	03 26 16.2	+1.9
GUY2C	**Guyana, Caldas**	**20.60**	**351**	*e*P	Pn	03 26 17.2	-0.7
PCMB	**Pacaembu**	**20.74**	**111**	*e*P	**P**	**03 26 15.5**	**+0.1**
PCMB	**Pacaembu**	**20.74**	**111**	*e*P	**P**	**03 26 15.5**	**+0.1**
ITRB	**Iturama**	**21.19**	**105**	*e*P	**P**	**03 26 19.7**	**-0.7**
ITRB	**Iturama**	**21.19**	**105**	*e*P	**P**	**03 26 19.7**	**-0.7**
MALB	**Monte Alegre**	**22.05**	**55**	*e*P	**P**	**03 26 28.0**	**-1.5**
MALB	**Monte Alegre**	**22.05**	**55**	*e*P	**P**	**03 26 28.0**	**-1.5**
FRTB	**Fartura**	**22.71**	**114**	*e*P	**P**	**03 26 37.3**	**+1.3**
FRTB	**Fartura**	**22.71**	**114**	*e*P	**P**	**03 26 37.3**	**+1.3**
IPMB	**Ipameri, GO**	**23.04**	**100**	*e*P	**P**	**03 26 37.7**	**-1.5**
IPMB	**Ipameri, GO**	**23.04**	**100**	*e*P	**P**	**03 26 37.7**	**-1.5**
BDFB	**Brasilia**	**23.21**	**94**	P	**P**	**03 26 39.7**	**-1.1**
	comp=Z,4.9nm,0.5s,baz=263,slow=12,SNR=12						
BDFB	**Brasilia**	**23.21**	**94**	IAmb	IAmb	03 26 40.7	
	comp=Z,8.0nm,0.7s						
PEXB	**Peixe**	**23.32**	**85**	*e*P	**P**	**03 26 40.4**	**-1.4**
PEXB	**Peixe**	**23.32**	**85**	*e*P	**P**	**03 26 40.4**	**-1.4**
PRPB	**Parauapebas**	**23.65**	**70**	*e*P	**P**	**03 26 43.9**	**-0.9**
PRPB	**Parauapebas**	**23.65**	**70**	*e*P	**P**	**03 26 43.9**	**-0.9**
SDV	**Santo Domingo**	**24.02**	**4**	P	**P**	**03 26 46.6**	**-1.7**
	comp=Z,5.9nm,0.8s,baz=330,slow=15,SNR=4.4						
SDV	**Santo Domingo**	**24.02**	**4**	P	**P**	**03 26 49.1**	**+0.9**
SMTB	**Santa Maria do**	**24.77**	**78**	*e*P	**P**	**03 26 55.1**	**+0.1**
SMTB	**Santa Maria do**	**24.77**	**78**	*e*P	**P**	**03 26 55.1**	**+0.1**
PLCA	**Paso Flores**	**25.43**	**177**	P	**P**	**03 27 02.5**	**+1.8**
	comp=Z,5.9nm,0.8s,baz=360,slow=9.1,SNR=8.7						
PLCA	**Paso Flores**	**25.43**	**177**	P	**P**	**03 27 02.2**	**+1.5**
PLCA				IAmb	IAmb	03 27 03.9	
	comp=Z,27nm,1.5s						
PLCA	**Paso Flores**	**25.43**	**177**	*e*P	**P**	**03 27 04.0**	**+3.3**
PLCA	**Paso Flores**	**25.43**	**177**	*e*P	**P**	**03 27 04.0**	**+3.3**
JANB	**Januaria**	**26.81**	**93**	*e*P	**P**	**03 27 12.4**	**-1.0**
JANB	**Januaria**	**26.81**	**93**	*e*P	**P**	**03 27 12.4**	**-1.0**
GDU01	**Guandu, BA**	**31.50**	**91**	*e*P	**P**	**03 27 53.9**	**-1.0**
GDU01	**Guandu, BA**	**31.50**	**91**	*e*P	**P**	**03 27 53.9**	**-1.0**
344A	**Westbrook Farm**	**49.77**	**339**	P	**P**	**03 30 24.4**	**0.0**
TXAR	**Lajitas Array**	**53.80**	**325**	P	**P**	**03 30 56.1**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=140,slow=7.1,SNR=3.1						
VNA3	**Neumayer Olymp**	**66.93**	**162**	P	**P**	**03 32 25.4**	**+2.2**
VNA1	**Neumayer--Stat**	**67.15**	**161**	P	**P**	**03 32 27.2**	**+2.6**
VNA2	**Neumayer--Watz**	**67.51**	**161**	P	**P**	**03 32 29.1**	**+2.2**
	baz=271,slow=6.9						
SNAA	**Sanae**	**69.14**	**162**	P	**P**	**03 32 39.1**	**+2.0**
SNAA	**Sanae**	**69.14**	**162**	P	**P**	**03 32 38.4**	**+1.4**
SNAA				IAmb	IAmb	03 32 39.7	
	comp=Z,5.3nm,0.6s						
DBIC	**Dimbokro**	**70.07**	**77**	P	**P**	**03 32 43.0**	**-0.6**
	comp=Z,6.5nm,0.9s,baz=222,slow=9.5,SNR=2.4						
DBIC	**Dimbokro**	**70.07**	**77**	IAmb	IAmb	03 32 48.6	
	comp=Z,47nm,1.5s						
QSPA	**South Pole Qui**	**74.91**	**180**	P	**P**	**03 33 13.9**	**+2.3**
TORD	**Torodi Ar. Bea**	**78.26**	**73**	P	**P**	**03 33 30.1**	**-1.1**
	comp=Z,3.3nm,0.6s,baz=267,slow=5.0,SNR=22						
ESDC	**Sonseca Array**	**83.61**	**46**	P	**P**	**03 33 58.9**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=255,slow=5.2,SNR=9.0						
YKA	**Yellowknife Ar**	**84.33**	**342**	pP	pP	03 34 36.9	+1.5
	comp=Z,0.9nm,0.8s,baz=141,slow=5.4,SNR=3.4						
ARU	**Arti**	**124.52**	**31**	PKP	**PKPdf**	**03 40 27.0**	**-1.8**

comp=Z,1.9nm,0.3s,baz=294,slow=20,SNR=2.9
WRA Warramunga Arr 136.43 217 PKP **PKPdf** 03 40 52.2 -0.4
comp=Z,1.1nm,0.9s,baz=149,slow=1.2,SNR=2.2
ZALV Zalesovo Beam 137.36 20 PKP **PKPdf** 03 40 53.3 +0.1
comp=Z,0.8nm,0.5s,baz=345,slow=9.2,SNR=3.8
MKAR Makanchi Array 141.99 29 PKhKP **PKPdf** 03 40 58.2 -3.7
comp=Z,0.1nm,0.4s,baz=297,slow=1.3,SNR=2.3
SONM Songino Array 147.48 2 PKPbc **PKPbc** 03 41 14.5 +0.3
comp=Z,0.9nm,0.6s,baz=336,slow=3.2,SNR=3.1
LZH Lanzhou 158.93 9 *e*PKP **PKPdf** 03 41 28.3 -0.1
LZH pPKP pPKPdf 03 41 57.6 -6.0
LZH PKP **PKPab** 03 42 07.8 +2.9
LZH sPKP 03 42 09.2

*VIE **07** 03:33:51.0±0.4, 49.˚73N×18.˚62E, h0km, mb2.1/4, ml2.8/4, Error ellipse: s-maj=3.5km s-min=2.7km az=27.0 29 km ESE of Ostrava Suspected Mining induced.*
*IPEC **07** 03:33:51.7±0.2, 49.˚85N×18.˚57E, h0km, ML2.5/4, Error ellipse: s-maj=1.4km s-min=1.1km az=155.0*
*PRU **07** 03:33:52.2±0.0, 49.˚83N×18.˚49E, h0km, Mining Induced Event Csm, E=8.1e+05*
*IDC **07** 03:33:54.4±1.5, 49.˚87N×18.˚28E, h0km, mb3.9/1, mb1 3.2/3, mb1mx3.0/49, mbtmp3.2/3, ML2.0/2, Error ellipse: s-maj=32.8km s-min=10.5km az=145.0*
ISC 07 03:33:51.4±0.8, 49.80N±0.03×18.56E±0.02, h0km, n37, σ0s76/63, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
OKC	**Ostrava-Krasne**	**0.27**	**279**	*e*PG		**Pg**	**03 33 57.6**	**+1.0**
OKC				*e*SG		**Sg**	**03 34 00.6**	**+0.6**
comp=Z,137nm,0.4s								
MORC	**Moravsky Berou**	**0.66**	**269**	*e*PG		**Pg**	**03 34 04.4**	**+0.4**
MORC				*e*SG		**Sg**	**03 34 12.6**	**0.0**
MORC	**Moravsky Berou**	**0.66**	**269**	*e*Pg		**Pg**	**03 34 04.4**	**+0.4**
baz=84								
MORC				*e*Sg		**Sg**	**03 34 12.5**	**0.0**
93nm,0.4s,baz=84								
LANS	**Liptovska Anna**	**0.88**	**137**	*e*PG		**Pb**	**03 34 09.6**	**+0.1**
LANS				*e*SG		**Sn**	**03 34 23.4**	**-1.1**
LANS				*e*LG		Lg	03 34 26.6	
OJC	**Ojcow**	**0.91**	**62**	*e*PG		**Pg**	**03 34 08.1**	**-0.7**
OJC				*e*SG		**Sg**	**03 34 20.0**	**-0.1**
JAVC	**Velka Javorina**	**1.10**	**212**	*e*PG		**Pn**	**03 34 14.0**	**-0.1**
JAVC				*e*SG		**Sb**	**03 34 27.9**	**-0.4**
JAVC	**Velka Javorina**	**1.10**	**212**	*e*Pg		**Pn**	**03 34 14.0**	**-0.1**
baz=30								
JAVC				*e*Sg		**Sb**	**03 34 27.8**	**-0.5**
62nm,0.3s,baz=30								
KRLC	**Kraliky**	**1.18**	**284**	*e*PG		**Pg**	**03 34 13.1**	**-0.9**
KRLC				*e*SG		**Sg**	**03 34 29.0**	**-0.3**
comp=Z,118nm,0.5s								
NIE	**Niedzica**	**1.20**	**108**	*e*Pg		**Pg**	**03 34 14.7**	**+0.4**
NIE				*e*Sg		**Sn**	**03 34 33.1**	**+0.7**
VYHS	**Vyhne**	**1.31**	**172**	*e*PG		**Pn**	**03 34 17.2**	**+0.2**
VYHS				*e*SG		**Sn**	**03 34 35.3**	**0.0**
VRAC	**Vranov**	**1.37**	**250**	Pg		**Pg**	**03 34 17.7**	**+0.1**
13nm,0.3s,baz=67,slow=15,SNR=58								
VRAC				Lg		Lg	03 34 36.0	
16nm,0.3s,baz=174,slow=19,SNR=18								
VRAC	**Vranov**	**1.37**	**250**	*e*PG		**Pg**	**03 34 17.4**	**-0.2**
VRAC				*e*SG		**Sg**	**03 34 35.0**	**-0.4**
VRAC	**Vranov**	**1.37**	**250**	*e*Pg		**Pg**	**03 34 17.3**	**-0.3**
baz=66								
VRAC				*e*Sg		**Sg**	**03 34 34.9**	**-0.4**
57nm,0.4s,baz=66								
DPC	**Dobruska-Polom**	**1.54**	**292**	*e*PG		**Pn**	**03 34 19.8**	**-0.4**
DPC				*e*SG		**Sg**	**03 34 39.8**	**-1.2**
comp=Z,42nm,0.3s								
KRUC	**Moravsky**	**1.59**	**243**	*e*PG		**Pn**	**03 34 20.9**	**+0.1**
KRUC				*e*SG		**Sg**	**03 34 42.3**	**-0.2**
KRUC	**Moravsky**	**1.59**	**243**	*e*Pg		**Pn**	**03 34 20.9**	**+0.1**
baz=60								
KRUC				*e*Sg		**Sg**	**03 34 42.2**	**-0.2**
40nm,0.2s,baz=60								
MODS	**Modra-Piesok**	**1.65**	**211**	*e*PG		**Pn**	**03 34 21.3**	**-0.4**
MODS				*e*SG		**Sn**	**03 34 43.0**	**-0.6**
MODS				*e*LG		Lg	03 34 48.8	
OSTC	**Ostas**	**1.69**	**298**	*e*PG		**Pn**	**03 34 22.5**	**+0.3**
OSTC				*e*SG		**Sn**	**03 34 44.3**	**-0.2**
comp=Z,31nm,0.7s								
UPC	**Upice**	**1.79**	**295**	*e*PG		**Pn**	**03 34 24.1**	**+0.6**
STHS	**Stebnicka Huta**	**1.79**	**101**	*e*PN		**Pb**	**03 34 25.6**	**+0.5**
KSP	**Ksiaz**	**1.79**	**307**	*e*Pb		**Pn**	**03 34 23.3**	**-0.3**
KSP				*e*Pg		**Pb**	**03 34 25.1**	**0.0**
KSP				*e*Sg		**Sn**	**03 34 46.6**	**-0.4**
KECS	**Kecovo**	**1.82**	**135**	*e*PN		**Pn**	**03 34 24.7**	**+0.7**
KECS				*e*SN		**Sb**	**03 34 49.0**	**0.0**
KECS				*e*LG		Lg	03 34 51.2	
ZST	**Bratislava**	**1.86**	**211**	*e*PN		**Pn**	**03 34 24.5**	**-0.1**
ZST				*e*SN		**Sn**	**03 34 48.1**	**-0.7**
ZST				*e*LG		Lg	03 34 52.2	
SRO	**Srobarova**	**1.99**	**185**	*e*SN		**Sn**	**03 34 51.4**	**+0.2**
SRO2	**Moca**	**2.04**	**183**	*e*SN		**Sn**	**03 34 52.9**	**-0.1**
SRO2				*e*LG		Lg	03 35 04.6	
TREC	**Trest**	**2.06**	**257**	*e*SG		**Sb**	**03 34 56.3**	**+0.4**
CONA	**Conrad Observa**	**2.58**	**225**	*e*Pn		**Pn**	**03 34 34.2**	**-0.3**
0.7nm,0.2s								
CONA				Sn		**Sn**	**03 35 06.4**	**-0.2**
17nm,0.5s								
PRU	**Pruhonice**	**2.60**	**276**	*e*SG		**Sb**	**03 35 11.6**	**+0.2**
comp=Z,12nm,0.4s								
PVCC	**Panska Ves**	**2.67**	**288**	*e*SG		**Sb**	**03 35 14.4**	**+1.1**
comp=Z,44nm,0.4s								
BRG	**Berggiesshubel**	**3.15**	**292**	PG		**Pb**	**03 34 48.8**	**+0.6**
BRG				SG		**Sb**	**03 35 29.1**	**+2.0**
8.7nm,0.4s								
GERES	**GERESS Array B**	**3.31**	**255**	Pn		**Pn**	**03 34 44.7**	**+0.1**
0.1nm,0.3s,baz=68,slow=13,SNR=2.7								
GERES				Pg		**Pb**	**03 34 52.8**	**+1.6**
1.4nm,0.3s,baz=67,slow=17,SNR=33								
GERES				Lg		Lg	03 35 35.9	
2.5nm,0.3s,baz=57,slow=27,SNR=7.4								
KHC	**Kasperske Hory**	**3.31**	**260**	*e*PN		**Pn**	**03 34 44.5**	**-0.1**
KHC				*e*PG		**Pb**	**03 34 51.3**	**+0.2**
KHC				*e*SG		**Sg**	**03 35 35.4**	**-2.5**
comp=Z,10nm,0.4s								
MOA	**Molln**	**3.44**	**237**	*i* Pn		**Pn**	**03 34 46.0**	**-0.2**
0.3nm,0.1s								
MOA				*e*Sn		**Sn**	**03 35 27.7**	**0.0**
1.1nm,0.2s								
CLL	**Collm**	**3.85**	**295**	*e*Pn		**Pn**	**03 34 52.0**	**+0.1**
CLL				*e*Pg		**Pg**	**03 35 05.0**	**-0.2**
CLL				*e*Sg		**Sg**	**03 35 52.0**	**-3.1**
comp=Z,11nm,0.7s								
DAVOX	**Davos/Dischmat**	**6.53**	**246**	Lg		Lg	03 37 20.6	
comp=Z,0.3nm,0.3s,baz=328,slow=18,SNR=2.6								
FINES	**FINESS Array B**	**12.41**	**17**	Pn		Pn	03 36 44.9	-4.3
comp=Z,0.1nm,0.3s,baz=208,slow=17,SNR=3.3								
ZALV	**Zalesovo Beam**	**39.78**	**58**	P		P	03 41 31.5	+5.8
comp=Z,0.5nm,0.3s,baz=316,slow=4.0,SNR=3.7								

*IDC **07** 03:34:51.5±1.5, 66.˚92N×9.˚73E, h0km, mb3.9/2, mb1 3.7/9, mb1mx3.4/60, mbtmp3.6/9, ML3.4/7, Error ellipse: s-maj=18.9km s-min=12.4km az=118.0*
*NEIC **07** 03:34:53.4±2.3, 66.˚84N±0.˚07×10.˚0E±0.˚2, h10km±2km, mb4.2/4, Error ellipse: s-maj=16.5km s-min=11.7km az=289.0*
*NAO **07** 03:34:53.4±2.4, 66.˚89N×9.˚71E, h18km±15km, ML3.5*
*BER **07** 03:34:54.9±1.6, 66.˚87N×9.˚65E, h18km±3km, ML3.0, MW3.3, ML3.5(NAO), Confirmed Earthquake*
*UPP **07** 03:34:56.4±2.3, 66.˚84N×10.˚52E, h0km, ML2.6, Suspected explosion*
ISC 07 03:34:53.3±1.3, 66.˚83N±0.˚03×9.˚73E±0.˚04, h17km±9km, n132, σ1s52/194, 4C-2D, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
N2RO	**R_st**	**1.16**	**52**	⇧*i*P		**Pn**	**03 35 14.4**	**-0.3**
N2RO				*e*			03 35 15.4	
N2RO				*e*S		**Sb**	**03 35 29.3**	**-0.2**
N2RO				IAML			03 35 31.9	
comp=Z,446nm,0.4s								
KONS	**Konsvik**	**1.39**	**102**	*i* P		**Pn**	**03 35 17.5**	**-0.4**
KONS				*e*Pg		**Pb**	**03 35 19.3**	**+0.5**
KONS				*e*Sg		**Sg**	**03 35 38.2**	**0.0**
KONS				IAML			03 35 39.1	
comp=Z,438nm,0.5s								
STOK	**Stokkvaagen**	**1.41**	**109**	Pn		**Pn**	**03 35 17.7**	**-0.4**
STOK				Pg		**Pb**	**03 35 19.5**	**+0.5**
STOK				Lg		Lg	03 35 38.6	
STOK	**Stokkvaagen**	**1.41**	**109**	*i* P		**Pn**	**03 35 17.8**	**-0.2**
STOK				*e*Pg		**Pb**	**03 35 19.5**	**+0.5**
STOK				*e*Sg		**Sg**	**03 35 38.6**	**-0.1**
N2VA	**Vr_y**	**1.43**	**53**	*e*P		**Pn**	**03 35 17.7**	**-0.6**
N2VA				*e*			03 35 19.8	
N2VA				*e*Pg		**Pg**	**03 35 20.0**	**-0.8**
N2VA				*e*S		**Sn**	**03 35 35.9**	**-0.7**
N2VA				IAML			03 35 47.5	
comp=Z,347nm,0.4s								
NBB13	**Alf Garage**	**1.44**	**96**	⇓*e*P		**Pn**	**03 35 18.1**	**-0.5**
NBB13	**Alf Garage**	**1.44**	**96**	*e*Pg		**Pb**	**03 35 20.0**	**+0.3**
NBB13	**Alf Garage**	**1.44**	**96**	*e*S		**Sn**	**03 35 36.5**	**-0.5**
NBB13				IAML			03 35 41.4	
comp=Z,345nm,0.4s								
NBB15	**Halsa Church**	**1.53**	**92**	⇑*e*P		**Pn**	**03 35 19.2**	**-0.5**
NBB15	**Halsa Church**	**1.53**	**92**	IAML			03 35 44.0	
comp=Z,258nm,0.6s								
NBB30	**Finnes**	**1.59**	**83**	*e*P		**Pn**	**03 35 19.8**	**-0.7**
NBB30				*e*S		**Sn**	**03 35 39.4**	**-1.2**
NBB30				IAML			03 35 51.4	
comp=Z,509nm,0.4s								
N2SV	**S_rv¥gen**	**1.66**	**49**	*e*P		**Pn**	**03 35 20.5**	**-1.0**
N2SV				*e*Pg		**Pb**	**03 35 23.6**	**+0.3**
N2SV				*e*			03 35 43.9	
N2SV				IAML			03 35 47.1	
comp=Z,341nm,0.4s								
NBB17	**Glomfjord B¥r**	**1.67**	**89**	*e*P		**Pn**	**03 35 21.7**	**-0.1**
NBB17				*e*			03 35 24.0	
NBB17				*e*Pg		**Pg**	**03 35 24.9**	**-0.5**
NBB17	**Glomfjord B¥r**	**1.67**	**89**	*e*S		**Sn**	**03 35 41.6**	**-1.2**
NBB17	**Glomfjord B¥r**	**1.67**	**89**	IAML			03 35 55.4	
comp=Z,459nm,0.4s								
NBB05	**Inndyr**	**1.71**	**81**	*e*P		**Pn**	**03 35 22.3**	**+0.2**
NBB05				*e*S		**Sn**	**03 35 42.5**	**-1.0**
NBB05				IAML			03 35 54.4	
comp=Z,384nm,0.3s								
NBB28	**Valnes**	**1.89**	**77**	*e*P		**Pn**	**03 35 24.6**	**-0.1**
NBB28				*e*Pg		**Pb**	**03 35 27.8**	**+0.5**
NBB28				*e*			03 35 27.9	
NBB28	**Valnes**	**1.89**	**77**	*e*S		**Sn**	**03 35 47.1**	**-1.1**
NBB28	**Valnes**	**1.89**	**77**	IAML			03 36 00.1	
comp=Z,237nm,0.3s								
LOF	**Lofoten**	**1.97**	**47**	Pn		**Pn**	**03 35 24.7**	**-1.0**
LOF				Pg		**Pb**	**03 35 29.3**	**+0.8**
LOF				Sn		**Sn**	**03 35 48.4**	**-1.5**
LOF				Lg		Lg	03 35 54.9	
LOF	**Lofoten**	**1.97**	**47**	⇑*i*P		**Pn**	**03 35 24.6**	**-1.1**
LOF				*e*Pg		**Pb**	**03 35 28.6**	**+0.1**
LOF				*e*Sg		**Sg**	**03 35 55.1**	**-1.4**
LOF				IAML			03 35 56.6	
comp=Z,466nm,0.4s								
MOR8	**Moi Rana**	**2.00**	**107**	⇓*e*P		**Pn**	**03 35 27.6**	**+1.4**
MOR8				*e*Pg		**Pg**	**03 35 30.5**	**-1.2**
MOR8				*e*S		**Sb**	**03 35 52.6**	**-1.2**
MOR8				*e*Sg		**Sg**	**03 35 58.4**	**+0.7**
MOR8				IAML			03 35 59.4	
comp=Z,249nm,0.3s								
NBB29	**Rokland skole**	**2.21**	**83**	*e*P		**Pn**	**03 35 29.9**	**+0.8**
NBB29	**Rokland skole**	**2.21**	**83**	*e*S		**Sn**	**03 35 57.3**	**+1.2**
NBB29	**Rokland skole**	**2.21**	**83**	IAML			03 36 15.7	
comp=Z,1µm,0.4s								
N2TV	**TVrnvik**	**2.23**	**68**	*e*P		**Pn**	**03 35 29.0**	**-0.3**
N2TV				*e*Pg		**Pb**	**03 35 34.4**	**+1.4**
N2TV				*e*S		**Sn**	**03 35 54.9**	**-1.5**
N2TV				IAML			03 36 10.4	
comp=Z,145nm,0.5s								
N2VI	**Vinje**	**2.28**	**47**	*e*P		**Pn**	**03 35 29.4**	**-0.6**
N2VI				*e*S		**Sn**	**03 35 55.9**	**-1.7**
N2VI				IAML			03 36 18.3	
comp=Z,164nm,0.5s								
N2NF	**Nordfold**	**2.33**	**64**	*e*P		**Pn**	**03 35 30.2**	**-0.5**
N2NF				*e*S		**Sn**	**03 35 57.4**	**-1.5**
N2NF				IAML			03 36 22.8	
comp=Z,66nm,0.6s								
N2ST	**Straumen**	**2.35**	**75**	*e*P		**Pn**	**03 35 31.8**	**+0.7**
N2ST				*e*S		**Sn**	**03 35 59.6**	**+0.1**
N2ST				IAML			03 36 00.4	
comp=Z,148nm,0.2s								
STEI	**Steigen**	**2.40**	**60**	*e*P		**Pn**	**03 35 31.4**	**-0.3**
STEI				*e*			03 35 33.5	
STEI				*e*S		**Sn**	**03 35 59.1**	**-1.5**
NSS	**Namsos**	**2.49**	**157**	Pn		**Pn**	**03 35 33.7**	**+0.8**
NSS				Sn		**Sn**	**03 36 03.4**	**+0.6**
NSS	**Namsos**	**2.49**	**157**	*e*P		**Pn**	**03 35 33.8**	**+0.8**
NSS				*e*Pg		**Pg**	**03 35 39.8**	**-1.2**
NSS				*e*S		**Sn**	**03 36 03.3**	**+0.5**
NSS				IAML			03 36 21.3	
comp=Z,149nm,0.6s								
N2DI	**Digermulen**	**2.51**	**51**	*e*P		**Pn**	**03 35 33.0**	**-0.1**
N2DI				*e*S		**Sn**	**03 36 01.4**	**-1.8**
N2DI				IAML			03 36 29.3	
comp=Z,79nm,0.6s								
N2HS	**Hamsund**	**2.57**	**58**	*e*P		**Pn**	**03 35 34.5**	**+0.5**
N2HS				*e*S		**Sn**	**03 36 04.0**	**-0.8**
N2HS				IAML			03 36 22.2	
comp=Z,84nm,0.6s								
N2IH	**Innhavet**	**2.66**	**62**	*e*P		**Pn**	**03 35 35.9**	**+0.7**
N2IH				*e*S		**Sn**	**03 36 06.8**	**-0.1**
N2IH				IAML			03 36 28.1	
comp=Z,118nm,0.6s								
N2SO	**Sortland**	**2.88**	**46**	*e*P		**Pn**	**03 35 38.8**	**+0.6**
N2SO				*e*S		**Sn**	**03 36 11.0**	**-1.4**
N2SO				IAML			03 36 43.5	
comp=Z,88nm,0.5s								
N2HA	**Harstad**	**3.25**	**50**	*e*P		**Pn**	**03 35 43.8**	**+0.4**
N2HA				*e*S		**Sn**	**03 36 20.7**	**-0.9**
N2HA				IAML			03 36 45.2	
comp=Z,53nm,0.6s								
TBLU	**Trondheim**	**3.60**	**176**	Pn		**Pn**	**03 35 47.6**	**-0.6**
TBLU				Sn		**Sn**	**03 36 27.7**	**-2.6**
TBLU	**Trondheim**	**3.60**	**176**	*e*P		**Pn**	**03 35 47.0**	**-1.2**
TBLU				*e*S		**Sn**	**03 36 25.9**	**-4.3**
TBLU				IAML			03 36 39.8	
comp=Z,40nm,0.4s								
NIKU	**Nikkaluokta**	**3.75**	**70**	P		**Pn**	**03 35 51.2**	**+1.0**
NIKU				S		**Sn**	**03 36 33.2**	**-0.7**
NOD	**Norderasen**	**4.03**	**145**	*e*P		**Pn**	**03 35 55.7**	**+1.6**
KUA	**Kurravaara**	**4.25**	**70**	P		**Pn**	**03 35 58.0**	**+0.9**
DUNU	**Dundret**	**4.27**	**81**	P		**Pn**	**03 35 57.8**	**+0.4**
DUNU				S		**Sn**	**03 36 45.4**	**-1.3**
MOL	**Molde**	**4.38**	**193**	Pn		**Pn**	**03 35 59.1**	**+0.2**
MOL				Sn		**Sn**	**03 36 46.4**	**-3.0**
MOL	**Molde**	**4.38**	**193**	*e*P		**Pn**	**03 35 59.0**	**+0.2**
MOL				*e*S		**Sn**	**03 36 46.4**	**-3.0**
MOL				IAML			03 36 56.2	
comp=Z,36nm,0.3s								
LILU	**Lilltraesk**	**4.41**	**106**	P		**Pn**	**03 36 00.1**	**+0.9**
TRO	**Tromso**	**4.43**	**46**	*e*P		**Pn**	**03 36 00.0**	**+0.5**
TRO				*e*S		**Sn**	**03 36 49.3**	**-1.4**
HARU	**Harads**	**4.55**	**93**	P		**Pn**	**03 36 01.7**	**+0.4**
SVAU	**Svanoeiden**	**4.70**	**115**	P		**Pn**	**03 36 03.7**	**+0.4**
KIF	**Kilpisjarvi**	**4.71**	**57**	Pn		**Pn**	**03 36 04.6**	**+1.2**
KIF				Sn		**Sn**	**03 36 57.6**	**+0.1**
KIF	**Kilpisjarvi**	**4.71**	**57**	*e*P		**Pn**	**03 36 03.7**	**+0.2**
KIF				*e*			03 36 04.6	
KIF				*e*S		**Sn**	**03 36 55.7**	**-1.8**
SOLU	**Sollefteaa**	**4.81**	**135**	P		**Pn**	**03 36 06.3**	**+1.6**
DOMB	**Dombas**	**4.82**	**184**	*e*P		**Pn**	**03 36 05.6**	**+0.7**
DOMB				*e*S		**Sn**	**03 37 00.5**	**+0.3**
DOMB				IAML			03 37 14.3	
comp=Z,28nm,0.5s								
AKN	**Aaknes**	**4.82**	**195**	Pn		**Pn**	**03 36 05.4**	**+0.5**
AKN				Sn		**Sn**	**03 36 59.4**	**-0.8**
AKN	**Aaknes**	**4.82**	**195**	*e*P		**Pn**	**03 36 05.8**	**+0.9**
AKN				*e*S		**Sn**	**03 36 59.9**	**-0.3**
AKN				IAML			03 37 01.8	
comp=Z,20nm,0.6s								
MASU	**Masugnsbyn**	**4.83**	**77**	P		**Pn**	**03 36 05.1**	**0.0**
LANU	**Lannavaara**	**4.88**	**70**	P		**Pn**	**03 36 06.5**	**+0.8**
SJUU	**Sjulsmark**	**5.00**	**100**	P		**Pn**	**03 36 07.4**	**0.0**
ODEU	**Stanfors**	**5.16**	**113**	P		**Pn**	**03 36 09.9**	**+0.3**
BURU	**Burvik**	**5.31**	**110**	P		**Pn**	**03 36 12.6**	**+0.9**
HUSU	**Husum**	**5.32**	**127**	P		**Pn**	**03 36 13.5**	**+1.7**
UMAU	**Umeaa**	**5.45**	**118**	P		**Pn**	**03 36 14.1**	**+0.5**
KTK1	**Kautokeino**	**5.54**	**61**	*e*P		**Pn**	**03 36 15.3**	**+0.5**
KTK1				*e*			03 36 16.2	
KTK1				*e*S		**Sn**	**03 37 14.8**	**-3.2**
KTK1				IAML			03 37 17.9	
comp=Z,19nm,0.3s								
HEF	**Hetta**	**5.55**	**67**	Pn		**Pn**	**03 36 15.4**	**+0.4**
HEF				Sn		**Sn**	**03 37 15.4**	**-2.8**
HEF	**Hetta**	**5.55**	**67**	*e*P		**Pn**	**03 36 15.4**	**+0.4**
HEF				Pn		**Pn**	**03 36 15.4**	**+0.4**
HEF				*e*S		**Sn**	**03 37 15.0**	**-3.3**
HEF				Sn		**Sn**	**03 37 15.4**	**-2.8**
NC204	**NORSAR Array S**	**5.60**	**175**	Pn		**Pn**	**03 36 16.6**	**+0.9**
NC204	**NORSAR Array S**	**5.60**	**175**	*e*P		**Pn**	**03 36 16.6**	**+0.9**
FOO	**Floro**	**5.64**	**203**	*e*P		**Pn**	**03 36 16.8**	**+0.7**
NC303	**NORSAR Array S**	**5.67**	**172**			**Pn**	**03 36 18.2**	**+1.5**
NC303	**NORSAR Array S**	**5.67**	**172**	*e*P		**Pn**	**03 36 18.0**	**+1.3**
NC405	**NORSAR Array S**	**5.81**	**170**			**Pn**	**03 36 19.9**	**+1.3**
NBO00	**NORSAR Array S**	**5.84**	**175**			**Pn**	**03 36 20.9**	**+1.9**
NBO00	**NORSAR Array S**	**5.84**	**175**	⇑*e*P		**Pn**	**03 36 19.6**	**+0.6**
NB201	**NORSAR Array S**	**5.84**	**172**	Pn		**Pn**	**03 36 20.3**	**+1.2**
NB201	**NORSAR Array S**	**5.84**	**172**	*e*P		**Pn**	**03 36 20.2**	**+1.2**
NB2	**NORSAR Subarra**	**5.85**	**173**	Pn		**Pn**	**03 36 20.6**	**+1.5**
baz=352,slow=14								
NB2				Lg		Lg	03 37 58.2	
NOA	**NORSAR Array B**	**5.85**	**173**	Pn		**Pn**	**03 36 20.1**	**+1.0**
comp=Z,0.1nm,0.3s,baz=352,slow=13,SNR=27								
NOA				Sn		**Sn**	**03 37 25.0**	**-0.8**
comp=Z,0.3nm,0.3s,baz=276,slow=0.9,SNR=4.4								
NOA				Lg		Lg	03 37 60.0	
comp=Z,0.3nm,0.3s,baz=136,slow=25,SNR=2.9								
HYA	**Hoyanger**	**5.90**	**197**	*e*P		**Pn**	**03 36 17.5**	**-2.1**
NAO01	**NORSAR Array S**	**6.03**	**175**			**Pn**	**03 36 22.4**	**+0.8**
NAO01	**NORSAR Array S**	**6.03**	**175**	*e*P		**Pn**	**03 36 22.1**	**+0.5**
NC602	**NORSAR Array S**	**6.17**	**172**			**Pn**	**03 36 23.5**	**0.0**
NC602	**NORSAR Array S**	**6.17**	**172**	*e*P		**Pn**	**03 36 24.2**	**+0.7**
NRA0	**NORESS Array S**	**6.17**	**172**	Pn		**Pn**	**03 36 24.1**	**+0.6**
baz=349,slow=14								
NRA0				Sn		**Sn**	**03 37 32.2**	**-1.4**
baz=354,slow=28								
NRA0				Lg		Lg	03 38 09.9	
baz=352,slow=22								
NRA0	**NORESS Array S**	**6.17**	**172**	Pn		**Pn**	**03 36 24.1**	**+0.6**
baz=349,slow=14								
NRA0				Sn		**Sn**	**03 37 32.2**	**-1.4**
baz=354,slow=28								
NRA0				Sg		**Sg**	**03 38 09.9**	**-1.3**
baz=352,slow=22								
SUE	**Sulen**	**6.19**	**203**	*e*P		**Pn**	**03 36 24.1**	**+0.4**
SKAR	**Skarslia**	**6.21**	**186**	*e*P		**Pn**	**03 36 24.3**	**+0.3**
SKAR				*e*S		**Sn**	**03 37 32.9**	**-1.6**
HAMF	**Hammerfest**	**6.35**	**47**	Pn		**Pn**	**03 36 25.6**	**-0.3**
HAMF	**Hammerfest**	**6.35**	**47**	*e*P		**Pn**	**03 36 26.3**	**+0.5**
ARA0	**ARCESS Array S**	**6.47**	**58**	Pn		**Pn**	**03 36 26.9**	**-0.7**
baz=247,slow=14								
ARA0				Sn		**Sn**	**03 37 36.5**	**-4.4**
baz=244,slow=22								
ARA0				Lg		Lg	03 38 16.2	
baz=253,slow=37								
ARA0	**ARCESS Array S**	**6.47**	**58**	Pn		**Pn**	**03 36 26.9**	**-0.7**
baz=247,slow=14								
ARA0				Sn		**Sn**	**03 37 36.5**	**-4.4**
baz=244,slow=22								
ARCES	**ARCESS Array B**	**6.47**	**58**	Pn		**Pn**	**03 36 27.1**	**-0.5**
comp=Z,1.1nm,0.3s,baz=246,slow=13,SNR=40								
ARCES				Sn		**Sn**	**03 37 35.2**	**-5.7**
comp=Z,3.9nm,0.3s,baz=236,slow=23,SNR=9.3								
ARCES				Lg		Lg	03 38 18.9	
comp=Z,2.6nm,0.3s,baz=250,slow=28,SNR=7.2								
ARE0	**ARCESS Array S**	**6.47**	**58**	Pn		**Pn**	**03 36 27.8**	**+0.2**
ARE0						LR	03 38 18.1	
ARE0	**ARCESS Array S**	**6.47**	**58**	*e*P		**Pn**	**03 36 27.2**	**-0.3**
ARE0				*e*S		**Sn**	**03 37 36.5**	**-4.3**
ASK	**Askoy**	**6.68**	**200**	*e*P		**Pn**	**03 36 30.6**	**+0.1**
ASK				*e*S		**Sn**	**03 37 42.9**	**-3.1**
BER	**Bergen**	**6.76**	**199**	*e*P		**Pn**	**03 36 30.2**	**-1.3**
BER				*e*S		**Sn**	**03 37 44.1**	**-3.8**
HFS	**Hagfors**	**6.95**	**163**	Pn		**Pn**	**03 36 34.4**	**+0.2**
baz=342,slow=16								
HFS				Sn		**Sn**	**03 37 51.2**	**-1.5**
baz=343,slow=28								
HFS	**Hagfors**	**6.95**	**163**	Pn		**Pn**	**03 36 34.7**	**+0.5**

az=265.0

ISC 07 03:38:46.3±0.5, 60°48S±0°10×27°8W±0°1, h10km, n43, σ1§59/36, mb4.3/7, MS3.8/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.76**	**319**	Pn	**Pn**	**03 40 39.3**	**+0.1**
VNA1	**Neumayer--Stat**	**12.94**	**150**	P	**Pn**	**03 41 46.9**	**-3.1**
VNA3	**Neumayer Olymp**	**13.03**	**153**	P	**Pn**	**03 41 47.1**	**-4.1**
VNA2	**Neumayer--Watz** baz=303,slow=16	**13.34**	**150**	P	**Pn**	**03 41 52.6**	**-2.8**
SNAA	**Sanae**	**14.96**	**149**	P	**Pn**	**03 42 15.0**	**-2.5**
SNAA	**Sanae** 2.8nm,0.3s,baz=308,slow=13,SNR=170	**14.96**	**149**	Pn	**Pn**	**03 42 16.3**	**-1.2**
SNAA	0.0nm,0.3s,baz=180,slow=20,SNR=2.3			Sn	Sn	03 44 47.9	-15
SNAA	comp=Z,142nm,21.3s,baz=293,slow=32			LR	LR	03 46 45.3	
SNAA	**Sanae**	**14.96**	**149**		**Pn**	**03 42 15.7**	**-1.9**
SNAA	comp=Z,14nm,0.6s			IAmb	IAmb	03 42 17.3	
PMSA	**Palmer Station** comp=Z,723nm,19.5s,baz=78,slow=34	**17.03**	**240**	LR	LR	03 48 20.6	
QSPA	**South Pole Qui** comp=Z,3.5nm,0.9s,baz=360,slow=0.4,SNR=12	**29.76**	**180**	P	**P**	**03 44 54.5**	**+1.8**
QSPA	**South Pole Qui**	**29.76**	**180**	P	**P**	**03 44 54.6**	**+1.9**
QSPA	comp=Z,14nm,1.1s			IAmb	IAmb	03 45 04.7	
PLCA	**Paso Flores** comp=Z,187nm,19.2s,baz=140,slow=35	**32.73**	**288**	LR	LR	03 57 52.2	
MAW	**Mawson** comp=Z,70nm,18.6s,baz=239,slow=33	**36.87**	**140**	LR	LR	03 59 20.2	
MAW	**Mawson**	**36.87**	**140**	P	**P**	**03 45 55.8**	**+1.6**
VNDA	**Vanda** comp=Z,1.4nm,0.8s,baz=204,slow=2.7,SNR=7.9	**42.12**	**183**	P	**P**	**03 46 40.3**	**+2.4**
VNDA	comp=Z,88nm,21.1s,baz=168,slow=34			LR	LR	04 02 20.4	
VNDA	**Vanda**	**42.12**	**183**	P	**P**	**03 46 39.1**	**+1.2**
VNDA	comp=Z,4.0nm,1.1s			IAmb	IAmb	03 47 05.3	
LVC	**Limon Verde**	**47.38**	**304**	P	**P**	**03 47 20.7**	**-0.2**
BOSA	**Boshof** comp=Z,11nm,1.2s,baz=161,slow=9.5,SNR=4.9	**47.52**	**72**	P	**P**	**03 47 22.8**	**+1.2**
BOSA	comp=Z,130nm,20.5s,baz=200,slow=31			LR	LR	04 03 25.0	
BOSA	**Boshof**	**47.52**	**72**	P	**P**	**03 47 23.2**	**+1.6**
CASY	**Casey**	**49.86**	**159**	P	**P**	**03 47 39.9**	**+0.9**
LSZ	**Lusaka**	**60.36**	**67**	P	**P**	**03 48 56.1**	**+0.5**
DBIC	**Dimbokro** comp=Z,84nm,21.6s,baz=160,slow=30	**69.35**	**24**	LR	LR	04 13 10.7	
RUSC	**La Rusia**	**75.03**	**313**	P	**P**	**03 50 28.6**	**+0.1**
SDV	**Santo Domingo**	**76.95**	**316**	P	**P**	**03 50 38.9**	**-0.1**
TOA0	**Torodi Ar. Sit**	**77.09**	**30**	P	**P**	**03 50 39.7**	**+0.2**
TOA0	comp=Z,15nm,1.4s			IAmb	IAmb	03 50 47.5	
TORD	**Torodi Ar. Bea** comp=Z,1.8nm,0.6s,baz=199,slow=6.3,SNR=29	**77.09**	**30**	P	**P**	**03 50 39.7**	**+0.2**
STKA	**Stephens Creek** comp=Z,0.4nm,0.3s,baz=177,slow=18,SNR=1.5	**87.58**	**171**	P	**P**	**03 51 33.9**	**-0.5**
STKA	**Stephens Creek** comp=Z,3.3nm,1.6s	**87.58**	**171**	IAmb	IAmb	03 54 51.6	
PPT	**Papeete** comp=Z,158nm,18.1s,baz=183,slow=30	**89.31**	**234**	LR	LR	04 23 39.7	
ASAR	**Alice Springs** comp=Z,0.4nm,0.9s,baz=174,slow=3.7,SNR=2.0	**94.85**	**163**	P	**P**	**03 52 08.5**	**+0.1**
CMAR	**Chiang Mai Arr** comp=Z,0.8nm,0.5s,baz=224,slow=4.1,SNR=4.7	**123.70**	**114**	PKP	**PKiKP**	**03 57 44.5**	**+0.3**
NOA	**NORSAR Array B** comp=Z,0.6nm,0.9s,baz=183,slow=1.3,SNR=3.0	**124.38**	**22**	PKP	**PKPdf**	**03 57 43.8**	**-1.0**
FINES	**FINESS Array B** comp=Z,2.3nm,0.9s,baz=119,slow=2.4,SNR=9.3	**128.44**	**30**	PKP	**PKPdf**	**03 57 51.0**	**-0.6**
AKTO	**Aktyubinsk** comp=Z,1.0nm,0.5s,baz=249,slow=5.3,SNR=4.4	**130.16**	**57**	PKP	**PKiKP**	**03 57 55.5**	**-0.6**
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.8s,baz=129,slow=2.2,SNR=4.0	**139.15**	**315**	PKP	**PKPdf**	**03 58 11.7**	**+0.1**
KURBB	**Kurchatov Arra** comp=Z,1.0nm,1.1s,baz=242,slow=2.9,SNR=2.9	**139.34**	**70**	PKP	**PKPdf**	**03 58 10.0**	**-2.4**
ZAA0	**Zalesovo Array**	**144.44**	**70**		PKPbc	03 58 19.8	-0.1
ZALV	**Zalesovo Beam** comp=Z,1.3nm,0.4s,baz=242,slow=3.2,SNR=10.0	**144.44**	**70**	PKP	**PKPab**	**03 58 19.4**	**-0.3**
INK	**Inuvik** comp=Z,1.7nm,0.8s,baz=117,slow=2.7,SNR=2.6	**148.90**	**316**	PKPbc	**PKPbc**	**03 58 30.8**	**-1.6**
SONM	**Songino Array** comp=Z,3.3nm,0.8s,baz=230,slow=3.1,SNR=9.8	**151.01**	**95**	PKPbc	**PKiKP**	**03 58 38.7**	**-0.3**
DOT	**Dot Lake**	**151.06**	**304**		**PKPbc**	**03 58 35.9**	**-1.9**
SCRK	**Sand Creek**	**151.15**	**305**		**PKiKP**	**03 58 38.0**	**-0.8**
KSRS	**Korea Array** comp=Z,1.7nm,0.9s,baz=222,slow=1.7,SNR=5.0	**152.31**	**135**	PKPbc	**PKiKP**	**03 58 42.5**	**+0.8**
ILAR	**Eielson Array** comp=Z,1.1nm,0.9s,baz=169,slow=1.3,SNR=9.0	**152.62**	**305**	PKPbc	**PKPbc**	**03 58 40.4**	**-0.9**

*IDC **07** 03:39:51.2±2.6, 14°.63S×170°.54E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.8/34, mbtmp4.0/4, ML3.4/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/33, Error ellipse: s-maj=86.7km s-min=34.0km az=132.0*

*NEIC **07** 03:39:55.4±1.1, 14°.7S±0°.2×170°.41E±0°.08, h29km±5km, mb4.3/3, Error ellipse: s-maj=21.7km s-min=11.6km az=176.0*

ISC 07 03:39:56.3±1.1, 14°8S±0°.2×170°4E±0°.1, h35km, n16, σ1§42/9, mb4.2/4, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.15**	**257**	Pn	**Pn**	**03 40 43.1**	**-0.3**
MSVF	**Nonsavu**	**7.92**	**113**		**Pn**	**03 41 48.9**	**-0.2**
DZM	**Mont Dzumac** 0.4nm,0.3s,baz=233,slow=20,SNR=2.1	**8.17**	**207**	Pn	**Pn**	**03 41 53.2**	**+0.7**
DZM	comp=Z,264nm,20.3s,baz=32,slow=35			LR	LR	03 44 43.4	
ARMA	**Armidale**	**23.23**	**225**	P	**P**	**03 44 58.2**	**-2.4**
H11S2	**WAKE ISLAND Hy** baz=175	**33.25**	**354**	T	T	04 21 40.5	
H11S3	**WAKE ISLAND Hy** baz=175	**33.26**	**354**	T	T	04 21 49.6	
H11S1	**WAKE ISLAND Hy** baz=175	**33.27**	**354**	T	T	04 21 42.2	
H11N1	**WAKE ISLAND Hy** baz=169	**34.44**	**354**	T	T	04 23 12.3	
H11N3	**WAKE ISLAND Hy** baz=169	**34.45**	**354**	T	T	04 23 10.3	
H11N2	**WAKE ISLAND Hy** baz=169	**34.46**	**354**	T	T	04 23 14.2	
WRA	**Warramunga Arr** 2.0nm,0.8s,baz=86,slow=9.2,SNR=4.9	**34.74**	**256**	P	**P**	**03 46 45.4**	**+1.8**
AS31	**Alice Springs**	**35.48**	**250**	P	**P**	**03 46 50.1**	**+0.2**
AS31	comp=Z,1.8nm,0.5s			IAmb	IAmb	03 46 58.1	
ASAR	**Alice Springs** comp=Z,4.0nm,0.7s,baz=76,slow=9.3,SNR=31	**35.48**	**250**	P	**P**	**03 46 51.1**	**+1.2**
PPT	**Papeete** comp=Z,54nm,18.2s,baz=307,slow=34	**38.50**	**100**	LR	LR	04 01 53.1	
IL31		**85.66**	**17**	P	**P**	**03 52 31.6**	**+0.6**
ILAR	**Eielson Array** comp=Z,0.3nm,0.6s,baz=234,slow=6.1,SNR=3.3	**85.66**	**17**	P	**P**	**03 52 30.4**	**-0.6**

*IDC **07** 03:56:24.9±1.0, 7°.40S×154°.54E, h0km, mb4.2/13, mb1 4.3/14, mb1mx4.1/34, mbtmp4.2/14, ML4.5/1, MS3.8/14, Ms1 3.8/14, ms1mx3.6/40, Error ellipse: s-maj=29.3km s-min=17.6km az=112.0*

*NEIC **07** 03:56:30.6±1.5, 7°.44S±0°.08×154°.52E±0°.09, h38km±5km, mb4.5/18, Error ellipse: s-maj=12.7km s-min=12.1km az=78.0*

ISC 07 03:56:30.0±0.5, 7°31S±0°.07×154°52E±0°.06, h27km, n44, σ1§51/39, mb4.3/20, MS3.7/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076** 33nm,0.3s,baz=37,slow=1.3,SNR=13	**3.87**	**320**	Pn	**Pn**	**03 57 27.5**	**-0.3**
KRVT	31nm,0.3s,baz=114,slow=22,SNR=6.6			Sn	**Sn**	**03 58 13.7**	**+1.2**
RABL	**Rabaul**	**3.88**	**323**	Pn	**Pn**	**03 57 28.9**	**+1.0**
HNR	**Honiara** baz=210,slow=18,SNR=0.9	**5.78**	**112**	Sn	**Sn**	**03 59 02.6**	**+3.2**
PMG	**Port Moresby** 4.6nm,0.3s,baz=346,slow=4.2,SNR=4.6	**7.57**	**253**	Pn	**Pn**	**03 58 21.6**	**+2.9**
PMG	1.1nm,0.3s,baz=63,slow=16,SNR=1.8			Sn	**Sn**	**03 59 44.8**	**+1.1**
PMG	comp=Z,913nm,21.1s,baz=85,slow=36			LR	LR	04 00 59.1	
PMG	**Port Moresby**	**7.57**	**253**		**Pn**	**03 58 19.4**	**+0.7**
JAY	**Jayapura** comp=Z,465nm,21.2s,baz=175,slow=38	**14.56**	**288**	LR	LR	04 05 42.4	
SANVU	**Saraoutou**	**14.83**	**124**	Pn	**Pn**	**03 59 56.6**	**-1.4**
CTA	**Charters Tower** comp=Z,694nm,18.7s,baz=18,slow=36	**15.02**	**211**	LR	LR	04 05 31.3	
DZM	**Mont Dzumac** 9.5nm,0.8s	**18.65**	**143**	*eP*	**P**	**04 00 46.7**	**+0.7**
DZM	comp=Z,466nm,24.3s			*e*LR	LR	04 05 14.8	
DZM	**Mont Dzumac** 0.3nm,0.3s,baz=18,slow=14,SNR=2.9	**18.65**	**143**	P	**Pn**	**04 00 48.4**	**+2.0**
DZM	comp=Z,329nm,20.7s,baz=347,slow=31			LR	LR	04 06 02.9	
DZM	**Mont Dzumac**	**18.65**	**143**	P	**P**	**04 00 45.2**	**-0.8**
DZM	comp=Z,14nm,1.0s			IAmb	IAmb	04 01 15.0	
FAKI	**Fak Fak**	**22.60**	**280**	P	**P**	**04 01 27.2**	**-1.5**
FAKI	comp=Z,28nm,1.2s			IAmb	IAmb	04 01 34.8	
WR0	**Warramunga Arr**	**23.09**	**235**	P	**P**	**04 01 32.1**	**-1.8**
WR0	comp=Z,18nm,1.0s			IAmb	IAmb	04 01 55.6	
WB0	**Warramunga Arr** comp=Z,19nm,1.1s	**23.12**	**236**	P	**P**	**04 01 32.9**	**-1.2**
WB0				IAmb	IAmb	04 02 12.1	
WB2	**Warramunga Arr** comp=Z,15nm,0.8s	**23.24**	**235**	P	**P**	**04 01 33.9**	**-1.5**
WB2				IAmb	IAmb	04 01 48.4	
WRA	**Warramunga Arr** comp=Z,3.8nm,0.6s,baz=58,slow=9.1,SNR=9.4	**23.25**	**235**	P	**P**	**04 01 33.7**	**-1.8**
WRA	comp=Z,221nm,18.9s,baz=65,slow=38			LR	LR	04 10 56.1	
SIJI	**Sorong** comp=Z,3.9nm,0.4s,baz=82,slow=9.8,SNR=5.1	**24.04**	**284**	P	**P**	**04 01 42.9**	**-0.3**
SIJI	comp=Z,255nm,22.0s,baz=166,slow=39			LR	LR	04 12 11.5	
AS31	**Alice Springs**	**25.61**	**228**	P	**P**	**04 01 56.4**	**-0.9**
ASAR	**Alice Springs** comp=Z,2.7nm,0.7s,baz=59,slow=9.1,SNR=18	**25.61**	**228**	P	**P**	**04 01 55.0**	**-2.4**
ASAR	comp=Z,336nm,19.0s,baz=56,slow=35			LR	LR	04 11 23.0	
STKA	**Stephens Creek** comp=Z,3.0nm,0.9s,baz=24,slow=14,SNR=3.5	**27.26**	**205**	P	**P**	**04 02 10.4**	**-1.7**
STKA	comp=Z,610nm,21.4s,baz=21,slow=35			LR	LR	04 12 07.6	
FITZ	**Fitzroy Crossi** comp=Z,8.6nm,1.2s,baz=49,slow=9.3,SNR=1.9	**30.09**	**246**	P	**P**	**04 02 37.0**	**-0.4**
FITZ	comp=Z,150nm,18.3s,baz=75,slow=35			LR	LR	04 13 58.9	
RPZ	**Rata Peaks** comp=Z,288nm,18.6s,baz=30,slow=35	**39.06**	**161**	LR	LR	04 19 08.0	
TPUB	**Ta-pu**	**44.97**	**314**	P	**P**	**04 04 42.7**	**-0.5**
MJAR	**Matsushiro Arr** comp=Z,35nm,19.2s,baz=230,slow=35	**46.22**	**342**	LR	LR	04 23 23.8	
RAR	**Rarotonga** comp=Z,103nm,18.2s,baz=263,slow=32	**46.23**	**112**	LR	LR	04 20 59.1	
KSRS	**Korea Array** comp=Z,0.9nm,0.6s,baz=150,slow=8.7,SNR=6.7	**50.99**	**333**	P	**P**	**04 05 28.0**	**-1.5**
KSRS	comp=Z,33nm,18.0s,baz=146,slow=36			LR	LR	04 27 16.0	
USA0B	**Ussuriysk Arra**	**55.16**	**340**	P	**P**	**04 06 01.2**	**+1.1**
USRK	**Ussuriysk Ar.** comp=Z,2.9nm,0.8s,baz=205,slow=13,SNR=3.9	**55.16**	**340**	P	**P**	**04 06 00.9**	**+0.8**
USRK	comp=Z,39nm,19.1s,baz=144,slow=34			LR	LR	04 27 38.3	
PPT2	**Papeete2** comp=Z,190nm,22.2s	**55.37**	**106**	*e*LR	LR	04 22 18.7	
TBI	**Tubuai** comp=Z,250nm,37.2s	**55.99**	**113**	*e*LQ	LQ	04 20 12.0	
TBI	comp=Z,319nm,34.5s			*e*LR	LR	04 22 36.9	
PETK	**Petropavlovsk-** comp=Z,2.9nm,0.8s,baz=199,slow=13,SNR=2.3	**60.24**	**2**	P	**P**	**04 06 36.4**	**+0.8**
CMAR	**Chiang Mai Arr** comp=Z,0.9nm,0.4s,baz=126,slow=5.9,SNR=1.9	**60.49**	**296**	P	**P**	**04 06 41.3**	**+3.3**
SHL	**Shillong**	**69.04**	**301**	P	**P**	**04 07 34.0**	**0.0**
SONM	**Songino Array** comp=Z,2.0nm,0.7s,baz=130,slow=6.7,SNR=7.3	**69.34**	**328**	P	**P**	**04 07 35.5**	**+0.2**
QSPA	**South Pole Qui**	**82.67**	**180**	P	**P**	**04 08 49.2**	**-1.8**
MK31	**Makanchi Array** comp=Z,2.5nm,1.1s	**83.32**	**319**	P	**P**	**04 08 54.2**	**-0.3**
MK31				IAmb	IAmb	04 09 18.8	
MKAR	**Makanchi Array** comp=Z,0.8nm,0.7s,baz=108,slow=6.5,SNR=6.6	**83.32**	**319**	P	**P**	**04 08 54.6**	**0.0**
ILAR	**Eielson Array** comp=Z,1.2nm,0.9s,baz=245,slow=5.1,SNR=7.6	**83.83**	**22**	P	**P**	**04 08 54.9**	**-1.9**
ZALV	**Zalesovo Beam** comp=Z,0.9nm,0.5s,baz=143,slow=7.0,SNR=4.5	**84.17**	**326**	P	**P**	**04 08 56.7**	**-1.9**
SCRK	**Sand Creek** comp=Z,5.0nm,1.2s	**84.52**	**23**	P	**P**	**04 09 00.1**	**-0.3**
SCRK				IAmb	IAmb	04 09 02.6	
DAWY	**Dawson**	**86.37**	**24**	P	**P**	**04 09 09.8**	**+0.3**
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.4s,baz=264,slow=7.2,SNR=1.6	**92.28**	**52**	P	**P**	**04 09 38.5**	**+0.2**
GERES	**GERESS Array B**	**127.07**	**328**	PKP	**PKPdf**	**04 15 33.3**	**+1.3**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.9s,baz=106,slow=2.6,SNR=2.0	**152.64**	**284**	PKPbc	**PKPbc**	**04 16 24.2**	**-1.0**

*IDC **07** 03:59:41.4±3.6, 36°.08N×71°.34E, h72km±30km, mb3.4/11, mb1 3.6/17, mb1mx3.4/49, mbtmp3.8/17, Error ellipse: s-maj=27.5km s-min=18.7km az=178.0*

*NEIC **07** 03:59:45.3±1.6, 36°.43N±0°.06×71°.3E±0°.1, h105km±5km, mb4.2/3, Error ellipse: s-maj=11.9km s-min=9.3km az=86.0*

*NNC **07** 03:59:48.0±3.0, 36°.98N×71°.15E, h0km, mb4.5, mpv4.2, Error ellipse: s-maj=24.7km s-min=18.4km az=158.0*

ISC 07 03:59:45.0±0.6, 36°38N±0°.06×71°30E±0°.06, h114km, n57, σ2§33/62, mb3.7/10, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.60**	**226**	Pn	**Pn**	**04 00 27.6**	**+1.6**
GAR	**Garm**	**2.73**	**344**	Pn	**Pn**	**04 00 27.0**	**-0.7**
CHGR	**Chuyangaron**	**2.84**	**324**	Pn	**Pn**	**04 00 27.9**	**-1.2**
NIL	**Nilore**	**3.16**	**149**	Pn	**Pn**	**04 00 34.2**	**+1.0**
BTK	**Batken**	**3.69**	**354**	Pn	**Pn**	**04 00 40.8**	**+0.5**
ARSB	**Arslanbob**	**5.11**	**14**		**Pn**	**04 00 58.6**	**-0.8**
THN	**Thein Dam**	**5.37**	**136**	*e*P	**Pn**	**04 01 04.0**	**+1.2**
THN				*e*S	**Sn**	**04 02 02.5**	**-0.8**
DHRM	**DHARAMSHALA**	**5.83**	**133**	*e*P	**Pn**	**04 01 09.5**	**+0.2**
DHRM				*e*S	**Sn**	**04 02 11.2**	**-3.9**
DHRM	comp=E,243nm,0.3s			IAML		04 02 14.9	
DHRM	comp=N,161nm,0.4s			IAML		04 02 14.9	
AML	**Almayashu** SNR=128	**6.04**	**17**	P	**Pn**	**04 01 12.5**	**+0.3**
UCH	**Uchtor** SNR=10.0	**6.35**	**22**	P	**Pn**	**04 01 16.9**	**+0.5**
KZA	**Kyzart** SNR=8.3	**6.46**	**27**	P	**Pn**	**04 01 18.5**	**+0.6**
EKS2	**Erkin-Say** SNR=14	**6.56**	**16**	P	**Pn**	**04 01 19.7**	**+0.7**
AAK	**Ala-Archa** comp=N,4.3nm,0.3s,baz=165,slow=4.1,SNR=24	**6.72**	**21**	P	**Pn**	**04 01 22.0**	**+0.9**
AAK				S	**Sn**	**04 02 33.9**	**-2.4**
AAK	comp=N,1.7nm,0.3s,baz=325,slow=24,SNR=9.9 **Ala-Archa**	**6.72**	**21**	P	**Pn**	**04 01 21.9**	**+0.7**
AAK	**Ala-Archa** comp=N,8.5nm,0.6s	**6.72**	**21**	⇓P	**Pn**	**04 01 21.7**	**+0.6**
AAK	comp=N,19nm,0.7s			⇑S	**Sn**	**04 02 33.2**	**-3.1**
AAK	**Ala-Archa**	**6.72**	**21**	Pn	**Pn**	**04 01 20.7**	**-0.5**
KK31	**Karatay Array** comp=N,25nm,0.4s,baz=180,slow=13,SNR=391	**6.74**	**355**	⇓P	**Pn**	**04 01 20.8**	**-0.5**
KK31	comp=N,10nm,0.4s,baz=187,slow=24,SNR=8.7			⇓S	**Sn**	**04 02 32.8**	**-3.9**
KK31	**Karatay Array**	**6.74**	**355**		**Pn**	**04 01 20.5**	**-0.8**
KKAR	**Karatay Array**	**6.74**	**355**		**Pn**	**04 01 21.2**	**-0.2**
BOOM	**Boomskoye usch**	**7.08**	**29**	Pn	**Pn**	**04 01 25.4**	**-0.7**
SMLA	**Simla**	**7.16**	**135**	*e*P	**Pn**	**04 01 26.7**	**-0.3**
SMLA				*e*S	**Sn**	**04 02 40.8**	**-6.0**
SMLA	comp=N,54nm,0.2s			IAML		04 02 44.5	
SMLA	comp=E,87nm,0.2s			IAML		04 02 44.6	
TKM2	**Tokmak 2** SNR=12	**7.32**	**26**	P	**Pn**	**04 01 30.1**	**+0.7**
TKM2	**Tokmak 2** comp=E,4.9nm,0.6s	**7.32**	**26**	⇑P	**Pn**	**04 01 29.6**	**+0.2**
TKM2				S	**Sn**	**04 02 49.1**	**-2.0**
	comp=E,10nm,1.1s						
TARG	**Taragay, Kyrgy**	**7.36**	**41**	Pn	**Pn**	**04 01 29.0**	**-1.1**
PRZ	**Przheval'sk**	**8.20**	**40**	Pn	**Pn**	**04 01 40.9**	**-0.4**
GEYT	**Alibeck** comp=E,1.0nm,0.3s,baz=113,slow=13,SNR=7.1	**10.64**	**282**	P	**Pn**	**04 02 12.5**	**-1.7**
GEYT	comp=E,1.8nm,0.3s,baz=98,slow=20,SNR=3.8			S	**Sn**	**04 04 03.5**	**-7.8**
PYUN	**Piuthan** comp=E,31nm,0.3s	**12.87**	**127**	*e*P	**Pn**	**04 02 41.9**	**-2.1**
DANN	**Dangsing** comp=E,16nm,0.3s	**13.22**	**124**	*e*P	Pn	04 02 43.2	-5.3
MKAR	**Makanchi Array** baz=220,slow=13,SNR=4.6	**13.25**	**35**	P	**Pn**	**04 02 48.9**	**+0.3**
KOLN	**Koldanda** comp=E,8.9nm,0.3s	**13.49**	**126**	*e*P	**Pn**	**04 02 49.5**	**-2.5**
DMN	**Daman**	**14.60**	**123**	*e*P	Pn	04 03 01.3	-5.0
PKI	**Pulchoki** comp=E,9.9nm,0.4s	**14.83**	**122**	*e*P	Pn	04 03 04.8	-4.5
GUN	**Gumba** comp=E,9.4nm,0.4s	**14.95**	**120**	*e*P	Pn	04 03 06.3	-4.4
KURBB	**Kurchatov Arra** comp=E,0.1nm,0.3s,baz=206,slow=10,SNR=9.5	**15.16**	**18**	P	**P**	**04 03 15.8**	**+0.5**
KURK	**Kurchatov**	**15.27**	**18**	Pn	**Pn**	**04 03 14.0**	**-0.2**
AB31	**Akbulak array** comp=E,1.9nm,0.3s,baz=137,slow=14,SNR=150	**15.31**	**331**	⇑P	**P**	**04 03 16.0**	**-0.9**
AB31	comp=E,0.5nm,0.4s			⇓S	**Sn**	**04 06 01.0**	**-3.0**
JIRN	**Jiri** comp=E,27nm,0.4s	**15.31**	**120**	*e*P	**Pn**	**04 03 11.8**	**-3.6**
RAMN	**Ramite**	**16.04**	**122**	*e*P	**Pn**	**04 03 21.9**	**-2.4**
TAPN	**Taplejung** comp=E,8.5nm,0.3s	**16.57**	**118**	*e*P	**Pn**	**04 03 30.6**	**-0.3**
ODAN	**Odare** comp=E,12nm,0.5s	**16.65**	**120**	*e*P	**Pn**	**04 03 30.5**	**-1.2**
BVAR	**Borovoye Array** comp=E,0.6nm,0.3s,baz=162,slow=11,SNR=6.8	**16.66**	**358**	P	**P**	**04 03 33.9**	**+2.0**
AKTO	**Aktyubinsk** comp=E,1.7nm,0.3s,baz=125,slow=14,SNR=13	**17.01**	**330**	P	**P**	**04 03 36.5**	**+0.8**
AKTO	comp=E,0.1nm,0.3s,baz=62,slow=15,SNR=1.6			S	**Sn**	**04 06 38.5**	**-6.4**
AKTO	**Aktyubinsk** comp=E,5.5nm,0.6s	**17.01**	**330**	⇑P	**P**	**04 03 37.9**	**+2.2**
ZAA0	**Zalesovo Array**	**19.93**	**24**	P	**P**	**04 04 07.9**	**+0.4**
ZAA0	comp=Z,9.6nm,0.5s			IAmb	IAmb	04 04 09.2	
ZALV	**Zalesovo Beam** comp=Z,10nm,0.4s,baz=208,slow=11,SNR=46	**19.93**	**24**	P	**P**	**04 04 08.0**	**+0.5**
ARU	**Arti** comp=Z,1.4nm,0.4s,baz=153,slow=11,SNR=5.8	**21.83**	**341**	P	**P**	**04 04 30.9**	**+3.1**
ARU	**Arti** comp=Z,5.8nm,1.0s	**21.83**	**341**	IAmb	IAmb	04 04 33.8	
AKASG	**Malin Array Be** comp=Z,0.2nm,0.4s,baz=83,slow=7.0,SNR=2.0	**33.21**	**309**	P	**P**	**04 06 13.4**	**+2.7**
FINES	**FINESS Array B** comp=Z,0.5nm,0.4s,baz=117,slow=9.9,SNR=14	**37.72**	**326**	P	**P**	**04 06 52.3**	**+3.1**
ARCES	**ARCESS Array B** comp=Z,1.3nm,0.8s,baz=112,slow=7.8,SNR=7.2	**41.35**	**338**	P	**P**	**04 07 22.2**	**+3.0**
NB2	**NORSAR Subarra** comp=Z,1.0nm,0.5s,baz=96,slow=7.9	**44.62**	**323**	P	**P**	**04 07 47.5**	**+1.8**
NOA	**NORSAR Array B** comp=Z,0.9nm,0.5s,baz=96,slow=7.7,SNR=16	**44.62**	**323**	P	**P**	**04 07 48.3**	**+2.6**
KSRS	**Korea Array** comp=Z,0.5nm,0.4s,baz=273,slow=6.9,SNR=1.8	**44.69**	**71**	P	**P**	**04 07 47.7**	**+1.3**
ESDC	**Sonseca Array** comp=Z,0.3nm,0.7s,baz=64,slow=6.9,SNR=1.4	**57.73**	**298**	P	**P**	**04 09 26.4**	**+2.5**
TORD	**Torodi Ar. Bea** comp=Z,0.5nm,0.4s,baz=41,slow=5.8,SNR=19	**65.96**	**269**	P	**P**	**04 10 19.8**	**+0.5**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.5s,baz=350,slow=5.1,SNR=2.0	**81.36**	**3**	P	**P**	**04 11 51.3**	**+2.9**
ASAR	**Alice Springs** comp=Z,0.2nm,0.6s,baz=314,slow=4.9,SNR=4.7	**83.98**	**125**	P	**P**	**04 12 03.3**	**+0.6**

*IDC **07** 04:11:09.2±6.6, 14°.36N×54°.74E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.5/53, mbtmp3.7/7, MS3.9/3, Ms1 3.9/3, ms1mx3.2/54, Error ellipse: s-maj=141.1km s-min=40.6km az=164.0*

*NEIC **07** 04:11:11.8±2.1, 14°.58N±0°.08×54°.6E±0°.2, h10km±1km, mb4.1/2, Error ellipse: s-maj=30.3km s-min=14.2km az=272.0*

ISC 07 04:11:11.7±1.1, 14°4N±0°.1×54°5E±0°2, h17km, n18, σ1§20/11, mb3.8/8, MS3.8/3, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.24**	**193**	Pn	**Pn**	**04 11 47.8**	**-0.4**
RAYN	**Ar Rayn**	**12.46**	**318**		**Pn**	**04 14 07.5**	**-0.9**
GEYT	**Alibeck** 1.5nm,0.6s,baz=165,slow=12,SNR=2.2	**23.67**	**7**	P	**P**	**04 16 23.2**	**+0.7**
ANTO	**Ankara**	**31.74**	**327**	P	**P**	**04 17 34.3**	**-0.6**
AKTO	**Aktyubinsk** comp=Z,83nm,18.5s,baz=81,slow=41	**36.07**	**4**	LR	LR	04 35 35.4	
MKAR	**Makanchi Array** comp=E,0.6s,baz=212,slow=5.1,SNR=3.5	**39.78**	**30**	P	**P**	**04 18 43.9**	**+0.1**
KURBB	**Kurchatov Arra** 0.6nm,0.8s,baz=234,slow=7.9,SNR=3.8	**41.05**	**23**	P	**P**	**04 18 54.1**	**0.0**
KURK	**Kurchatov**	**41.16**	**23**	P	**P**	**04 18 54.1**	**-0.9**
KURK	**Kurchatov** comp=Z,7.5nm,1.8s	**41.16**	**23**	IAmb	IAmb	04 20 27.6	
ARU	**Arti** comp=Z,125nm,19.1s,baz=112,slow=38	**42.08**	**3**	LR	LR	04 37 33.6	
VAE	**Valguarnera** comp=Z,342nm,18.9s,baz=159,slow=38	**42.33**	**310**	LR	LR	04 37 52.9	
ZALV	**Zalesovo Beam** comp=Z,1.4nm,0.4s,baz=184,slow=5.8,SNR=4.9	**46.08**	**24**	P	**P**	**04 19 32.9**	**-1.8**
FINES	**FINESS Array B** comp=Z,0.8nm,0.7s,baz=145,slow=7.0,SNR=6.9	**51.25**	**343**	P	**P**	**04 20 13.9**	**-0.4**
ESDC	**Sonseca Array** comp=Z,1.0nm,0.9s,baz=94,slow=6.4,SNR=3.8	**56.77**	**308**	P	**P**	**04 20 57.0**	**+1.9**
ARCES	**ARCESS Array B** comp=Z,2.3nm,1.0s,baz=113,slow=8.9,SNR=4.8	**58.05**	**348**	P	**P**	**04 21 04.9**	**+1.3**
H01W3	**Cape Leeuwin H** baz=299,slow=74	**74.79**	**133**	T	T	05 44 39.4	
H01W2	**Cape Leeuwin H** baz=299,slow=74	**74.80**	**133**	T	T	05 44 40.8	
H01W1	**Cape Leeuwin H** baz=299	**74.81**	**133**	T	T	05 44 39.7	

*IDC **07** 04:15:26.9±0.7, 14°.70N×54°.74E,

KMBO	**Kilima Mbogo**	**23.37**	**229**	P		**P**	**04 20 36.5**	**-2.2**
KMBO				IAmb		IAmb	04 20 40.4	
	comp=Z,20nm,1.6s							
KBL	**Kabul**	**23.58**	**31**	P		**P**	**04 20 42.3**	**+1.7**
ASF	**Jabal al Asfar**	**23.72**	**320**	P		**P**	**04 20 41.8**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=34,slow=6.7,SNR=2.2							
MMAI	**Mount Meron Ar**	**25.22**	**319**	P		**P**	**04 20 56.9**	**+1.2**
	comp=Z,2.0nm,0.7s,baz=138,slow=13,SNR=1.9							
NIL	**Nilore**	**25.24**	**39**	P		**P**	**04 20 58.7**	**+3.0**
NIL				IAmb		IAmb	04 21 21.1	
	comp=Z,15nm,1.3s							
CHGR	**Chuyangaron**	**27.02**	**26**	P		**P**	**04 21 15.1**	**+3.2**
GAZ	**Gaziantep**	**27.18**	**328**	P		**P**	**04 21 17.6**	**+4.3**
GAR	**Garm**	**27.80**	**27**	P		**P**	**04 21 21.7**	**+2.8**
GAR				IAmb		IAmb	04 21 46.3	
	comp=Z,8.0nm,0.9s							
AKH	**Akhalkalaki**	**28.27**	**342**	P		**P**	**04 21 27.0**	**+3.9**
BTK	**Batken**	**28.89**	**26**	P		**P**	**04 21 32.2**	**+3.6**
KBZ	**Khabaz**	**30.57**	**343**	P		**P**	**04 21 43.2**	**0.0**
	comp=Z,0.6nm,0.4s,baz=90,slow=3.0,SNR=1.6							
BRTR	**Keskin Array B**	**30.95**	**327**	P		**P**	**04 21 47.1**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=127,slow=9.6,SNR=2.5							
KK31	**Karatay Array**	**31.35**	**23**	P		**P**	**04 21 53.3**	**+3.1**
AAK	**Ala-Archa**	**32.60**	**28**	P		**P**	**04 22 04.2**	**+2.8**
TARG	**Taragay, Kyrgy**	**33.51**	**32**	P		**P**	**04 22 11.5**	**+1.8**
AKTO	**Aktyubinsk**	**35.68**	**4**	P		**P**	**04 22 27.5**	**-0.3**
	comp=Z,2.9nm,0.7s,baz=184,slow=8.3,SNR=6.1							
MAKZ	**Makanchi**	**39.25**	**30**	P		**P**	**04 23 01.4**	**+3.3**
MKAR	**Makanchi Array**	**39.39**	**30**	P		**P**	**04 22 59.7**	**+0.4**
	comp=Z,1.1nm,0.5s,baz=212,slow=12,SNR=3.1							
BVAR	**Borovoye Array**	**40.16**	**15**	P		**P**	**04 23 05.6**	**0.0**
	comp=Z,1.4nm,0.6s,baz=193,slow=6.1,SNR=7.5							
BRVK	**Borovoye**	**40.16**	**15**	P		**P**	**04 23 09.2**	**+3.6**
WMQ	**Urumqi**	**40.38**	**38**	*eP*		P	**04 23 11.4**	**+3.7**
KURBB	**Kurchatov Arra**	**40.65**	**23**	P		**P**	**04 23 09.1**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=220,slow=7.2,SNR=6.5							
KURK	**Kurchatov**	**40.76**	**23**	P		**P**	**04 23 11.6**	**+1.0**
KURK				IAmb		IAmb	04 23 34.4	
	comp=Z,4.9nm,0.7s							
BUR08	**Bucovina Ar. S**	**40.87**	**329**	P		**P**	**04 23 14.8**	**+3.1**
AKASG	**Malin Array Be**	**41.32**	**336**	P		**P**	**04 23 15.2**	**0.0**
	comp=Z,0.7nm,0.7s,baz=143,slow=7.2,SNR=1.9							
CMAR	**Chiang Mai Ar**	**42.52**	**79**	P		**P**	**04 23 23.8**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=273,slow=7.9,SNR=5.8							
KOLS	**Kolonicke sedl**	**43.19**	**329**	*eP*		P	04 23 35.6	+5.1
VYHS	**Vyhne**	**44.70**	**326**	*eP*		P	**04 23 46.5**	**+3.9**
KEST	**Kesra**	**45.51**	**306**	*eP*		**P**	**04 23 49.6**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=110,slow=12,SNR=3.0							
KEST	**Kesra**	**45.51**	**306**	IAmb		IAmb	04 23 51.9	
	comp=Z,4.5nm,1.0s							
ZALV	**Zalesovo Beam**	**45.68**	**25**	P		**P**	**04 23 49.5**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=231,slow=7.5,SNR=9.5							
ARSA	**Arzberg**	**45.85**	**323**	*ePP*		pP	04 23 58.2	+4.1
	comp=Z,3.9nm,1.0s							
CONA	**Conrad Observa**	**46.02**	**324**	*ePP*		pP	04 23 58.5	+3.0
	comp=Z,6.3nm,1.2s							
LATE	**Laterza**	**46.02**	**316**	P		**P**	**04 23 57.7**	**+4.4**
OBKA	**Obir**	**46.04**	**322**	*ePP*		pP	04 23 58.1	+2.3
	comp=Z,5.5nm,1.4s							
MORC	**Moravsky Berou**	**46.14**	**327**	P		**P**	**04 23 58.0**	**+3.9**
MORC				IAmb		IAmb	04 24 04.1	
	comp=Z,4.8nm,1.1s							
SUW	**Suwalki**	**46.26**	**335**	P		**P**	**04 23 58.7**	**+3.8**
MYKA	**Terra Mystica**	**46.65**	**322**	*ePP*		pP	04 24 03.2	+2.7
	comp=Z,3.0nm,0.9s							
MOA	**Molln**	**46.89**	**323**	*eP*		P	**04 24 01.6**	**+1.6**
	comp=Z,2.4nm,0.8s							
TAM	**Tamanrasset**	**47.03**	**287**	P		**P**	**04 24 02.1**	**+0.5**
TAM				IAmb		IAmb	04 24 08.8	
	comp=Z,3.6nm,1.1s							
STAL	**STALIGIAL**	**47.03**	**321**	P		**P**	**04 24 04.1**	**+2.9**
ABTA	**Abfaltersbach**	**47.38**	**321**	*eP*		**P**	**04 24 06.0**	**+2.1**
	comp=Z,2.0nm,0.7s							
GERES	**GERESS Array B**	**47.72**	**324**	P		**P**	**04 24 05.1**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=128,slow=8.6,SNR=5.4							
WTTA	**Wattenberg**	**48.16**	**321**	*eP*		**P**	**04 24 10.5**	**+0.5**
	comp=Z,2.8nm,0.8s							
WATA	**Walderalm**	**48.23**	**321**	*eP*		**P**	**04 24 09.7**	**-0.9**
	comp=Z,2.1nm,0.6s							
SQTA	**Sankt Quirin**	**48.39**	**321**	*eP*		**P**	**04 24 11.2**	**-0.6**
	comp=Z,3.6nm,0.6s							
MOTA	**Moosalm**	**48.52**	**321**	*eP*		**P**	**04 24 11.9**	**-0.8**
	comp=Z,8.2nm,0.9s							
FETA	**Feichten**	**48.60**	**321**	P		**P**	**04 24 12.5**	**-1.0**
	comp=Z,3.1nm,1.2s							
LZH	**Lanzhou**	**48.65**	**55**	*eP*		**P**	**04 24 14.7**	**+0.7**
LZH				pP		**pwP**	**04 24 18.0**	**-1.6**
LZH				sP		**sP**	**04 24 19.5**	**+2.2**
LZH				*ePP*		**PP**	**04 26 07.9**	**+0.9**
LZH				pmax		pmax		
	comp=Z,17nm,1.3s							
LZH				pmax		pmax		
	comp=Z,61nm,5.9s							
LZH				LR		LR		
	comp=N,140nm,14.0s							
LZH				LR		LR		
	comp=E,140nm,14.2s							
LZH				LR		LR		
	comp=Z,190nm,16.8s							
RETA	**Reutte**	**48.79**	**321**	*eP*		**P**	**04 24 13.8**	**-1.0**
	comp=Z,2.5nm,0.7s							
DAVOX	**Davos/Dischmat**	**49.01**	**320**	P		**P**	**04 24 16.1**	**-0.6**
	comp=Z,4.5nm,0.9s,baz=300,slow=9.8,SNR=4.8							
DAVA	**Damuels**	**49.23**	**321**	*eP*		**P**	**04 24 17.6**	**-0.7**
	comp=Z,4.6nm,0.7s							
GYA	**Guiyang**	**49.75**	**68**	P		P	04 24 26.7	+4.2
GYA				pmax		pmax		
	comp=Z,7.0nm,1.3s							
BFO	**Black Forest**	**50.63**	**321**	P		**P**	**04 24 32.1**	**+3.4**
BFO				IAmb		IAmb	04 24 38.9	
	comp=Z,8.1nm,1.1s							
FINES	**FINESS Array B**	**50.93**	**343**	P		**P**	**04 24 30.3**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=140,slow=9.5,SNR=32							
TORD	**Torodi Ar. Bea**	**51.33**	**275**	P		**P**	**04 24 33.6**	**-0.8**
	comp=Z,1.5nm,0.8s,baz=94,slow=6.8,SNR=7.3							
TORD				PcP		**PcP**	**04 25 49.0**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=74,slow=4.3,SNR=4.8							
XAN	**Xi'an**	**52.39**	**58**	P		**P**	**04 24 41.2**	**-1.0**
XAN				pP		**pwP**	**04 24 47.0**	**-0.8**
XAN				pmax		pmax		
	comp=Z,3.0nm,0.6s							
XAN	**Xi'an**	**52.39**	**58**	P		**P**	**04 24 41.8**	**-0.4**
ENH	**Enshi**	**52.47**	**63**	P		**P**	**04 24 41.8**	**-1.0**
MEM	**Membach**	**52.96**	**323**	P		**P**	**04 24 47.7**	**+1.7**
DOU	**Dourbes**	**53.58**	**322**	pP		pP	04 24 55.8	+2.8
SONM	**Songino Array**	**53.79**	**41**	P		**P**	**04 24 51.0**	**-1.4**
	comp=Z,1.1nm,0.9s,baz=266,slow=5.8,SNR=2.8							
HFS	**Hagfors**	**54.21**	**336**	P		**P**	**04 24 54.1**	**-0.9**
	comp=Z,2.3nm,0.6s,baz=134,slow=8.5,SNR=11							
HHC	**Hu-ho-hao-te**	**55.55**	**50**	P		**P**	**04 25 07.1**	**+1.9**
HHC				pmax		pmax		
	comp=Z,5.0nm,0.8s							
HHC				pmax		pmax		
	comp=Z,44nm,6.6s							
NB2	**NORSAR Subarra**	**55.73**	**336**	P		**P**	**04 25 04.2**	**-1.9**
	comp=Z,1.4nm,0.7s,baz=125,slow=7.4							
NOA	**NORSAR Array B**	**55.73**	**336**	P		**P**	**04 25 04.5**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=121,slow=7.7,SNR=4.0							
ESDC	**Sonseca Array**	**56.65**	**308**	P		**P**	**04 25 11.8**	**-1.2**
	comp=Z,2.0nm,1.0s,baz=85,slow=6.4,SNR=7.8							
WHN	**Wuhan**	**56.68**	**63**	P		P	04 25 20.0	+6.6
ARCES	**ARCESS Array B**	**57.71**	**348**	P		**P**	**04 25 19.4**	**-0.6**
	comp=Z,3.0nm,0.8s,baz=155,slow=7.5,SNR=16							
TBP	**Tagbilaran**	**67.60**	**85**	*eP*		P	04 26 32.1	+5.2
KSRS	**Korea Array**	**67.97**	**55**	P		P	**04 26 27.4**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=261,slow=8.8,SNR=5.7							
H01W3	**Cape Leeuwin H**	**74.94**	**133**	T		T	05 48 54.5	
	baz=301,slow=75,SNR=83							
H01W2	**Cape Leeuwin H**	**74.95**	**133**	T		T	05 48 58.2	
	baz=301,slow=75,SNR=96							
H01W1	**Cape Leeuwin H**	**74.96**	**133**	T		T	05 48 58.8	
	baz=301,slow=75,SNR=107							
WRA	**Warramunga Arr**	**85.57**	**112**	P		**P**	**04 28 07.2**	**-1.4**
	comp=Z,2.1nm,0.8s,baz=298,slow=4.1,SNR=5.3							
PETK	**Petropavlovsk-**	**85.96**	**36**	P		**P**	**04 28 08.2**	**-1.7**
	comp=Z,3.0nm,0.9s,baz=270,slow=5.8,SNR=2.3							
ASAR	**Alice Springs**	**86.30**	**115**	P		**P**	**04 28 10.2**	**-1.9**
	comp=Z,1.9nm,0.8s,baz=294,slow=4.7,SNR=11							
PDAR	**Pinedale Array**	**120.94**	**346**	PKP		**PKPdf**	**04 34 21.9**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=90,slow=3.0,SNR=4.6							
NVAR	**Mina Array Bea**	**126.68**	**353**	PKP		**PKiKP**	**04 34 34.5**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=36,slow=0.7,SNR=8.5							

*IDC **07** 04:16:45.6±2.3, 14°.70S×170°.62E, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.9/26, mbtmp4.0/5, ML3.4/1, MS3.7/7,*

Ms1 3.7/7, ms1mx3.5/31, Error ellipse: s-maj=83.1km s-min=30.2km az=130.0

*NEIC **07** 04:16:46.8±1.1, 14°.8S×170°.6E±0°.2, h10km±2km, mb4.1/3, Error ellipse: s-maj=39.7km s-min=13.4km az=123.0*

ISC 07 04:16:50.9±1.5, 14°.8S±0°.2×170°.5E±0°.2, h35km, n21, σ1§11/8, mb4.0/5, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**3.27**	**258**	Pn	**Pn**	**04 17 38.5**	**-1.1**
DZM	**Mont Dzumac**	**8.22**	**207**	*e*LR	LR	04 20 47.0	
	comp=Z,318nm,23.9s						
DZM	**Mont Dzumac**	**8.22**	**207**	Pn	**Pn**	**04 18 46.7**	**-1.1**
	0.5nm,0.3s,baz=170,slow=21,SNR=11						
DZM				LR	LR	04 21 48.8	
	comp=Z,215nm,18.9s,baz=24,slow=36						
HNR	**Honiara**	**11.61**	**296**	LR	LR	04 24 01.8	
	comp=Z,122nm,18.2s,baz=128,slow=37						
KRVT	**Keravat (AS076**	**20.97**	**298**	LR	LR	04 29 12.3	
	comp=Z,132nm,20.1s,baz=297,slow=36						
PMG	**Port Moresby**	**23.44**	**280**	LR	LR	04 29 08.0	
	comp=Z,138nm,20.6s,baz=42,slow=32						
STKA	**Stephens Creek**	**31.40**	**232**	P	**P**	**04 23 10.1**	**+1.3**
	2.3nm,0.8s,baz=37,slow=10,SNR=3.9						
STKA	**Stephens Creek**	**31.40**	**232**	IAmb	IAmb	04 23 56.7	
	comp=Z,5.2nm,1.9s						
H11S2	**WAKE ISLAND Hy**	**33.26**	**353**	T	T	04 58 44.1	
	baz=164						
H11S3	**WAKE ISLAND Hy**	**33.27**	**353**	T	T	04 58 46.4	
	baz=164						
H11S1	**WAKE ISLAND Hy**	**33.28**	**353**	T	T	04 58 47.3	
	baz=164						
H11N1	**WAKE ISLAND Hy**	**34.45**	**354**	T	T	05 00 14.6	
	baz=173,slow=74						
H11N3	**WAKE ISLAND Hy**	**34.45**	**354**	T	T	05 00 13.4	
	baz=173						
H11N2	**WAKE ISLAND Hy**	**34.47**	**354**	T	T	05 00 14.0	
	baz=173,slow=74						
WRA	**Warramunga Arr**	**34.86**	**256**	P	**P**	**04 23 39.1**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=87,slow=8.6,SNR=1.7						
WRA				LR	LR	04 36 44.4	
	comp=Z,202nm,21.1s,baz=105,slow=34						
AS31	**Alice Springs**	**35.60**	**250**	P	**P**	**04 23 46.0**	**+0.6**
AS31				IAmb	IAmb	04 23 51.0	
	comp=Z,1.7nm,0.6s						
ASAR	**Alice Springs**	**35.60**	**250**	P	**P**	**04 23 46.6**	**+1.1**
	comp=Z,4.9nm,0.7s,baz=76,slow=9.3,SNR=37						
ASAR				LR	LR	04 37 23.4	
	comp=Z,230nm,18.3s,baz=97,slow=35						
PPT	**Papeete**	**38.38**	**100**	LR	LR	04 35 31.0	
	comp=Z,185nm,19.9s,baz=249,slow=29						
IL31		**85.62**	**17**	P	**P**	**04 29 24.8**	**-0.5**
ILAR	**Eielson Array**	**85.62**	**17**	P	**P**	**04 29 25.1**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=235,slow=5.0,SNR=5.4						
NEW	**Newport**	**89.58**	**40**	LR	LR	05 02 17.8	
	comp=Z,3μm,20.8s,baz=327,slow=30						

*GCMT **07** 04:19:32.5±0.2, 14°.67N±0°.01×54°.52E±0°.01, h12km, MW5.2/118, Moment Tensor Solution. s73,c108; s118,c215; Duration: 1§0 Moment tensor: Scale 10^16 Nm; Mrr=5.35±.11; Mθθ=5.99±.09; Mφφ=-0.64±.11; Mrθ=4.75±.29; Mθφ=1.04±.09; Mφr=1.91±.35; Best double couple: Mo=7.71000×10^16 NP1:Φs=93.00000°, δ=25.00000°, λ=-71.00000°. NP2:Φs=252.00000°, δ=66.00000°, λ=-99.00000°. Principal axes: T 8.0280, Plg=21.0000°, Azm=348.0000°; N -0.6440, Plg=8.0000°, Azm=255.0000°; P -7.3920, Plg=68.0000°, Azm=146.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **07** 04:19:33.9±0.4, 14°.69N×54°.68E, h0km, mb4.5/40, mb1 4.5/42, mb1mx4.4/54, mbtmp4.4/42, ML3.8/1, MS4.4/26, Ms1 4.4/26, ms1mx4.2/53 Error ellipse: s-maj=12.1km s-min=10.1km az=108.0*

*BJI **07** 04:19:35.5±0.0, 14°.60N×54°.90E, h10km, mB5.0/41, mb4.8/54, Ms4.6/26, Ms7 4.3/26*

*NEIC **07** 04:19:35.5±1.7, 14°.59N±0°.07×54°.84E±0°.06, h10km±1km, mb4.9/98, Error ellipse: s-maj=11.8km s-min=9.2km az=152.0*

*OMAN **07** 04:19:38.3±0.2, 14°.83N×54°.57E, h52km, ml4.5/5, Error ellipse: s-maj=3.2km s-min=1.2km az=12.0*

ISC 07 04:19:36.4±0.9, 14°.71N±0°.05×54°.75E±0°.05, h16km±5km, n292, σ1§51/298, mb4.8/115, MS4.3/40, 16C-9D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.61**	**197**	P	Pn	04 20 10.7	-7.5
	SNR=17						
SOCY	**Socotra**	**2.61**	**197**	Pn	Pn	04 20 09.9	-8.2
RBK	**Rabkut**	**2.83**	**349**	P	**Pn**	**04 20 18.1**	**-3.1**
	SNR=9.9						
RBK				S	**Sn**	**04 20 50.5**	**-4.5**
ABTO	**Aybut**	**2.98**	**332**	P	**Pn**	**04 20 20.8**	**-2.4**
	SNR=7.7						
ABTO				S	Sn	04 20 53.0	-5.7
DMTO	**DMTO**	**3.00**	**4**	P	**Pn**	**04 20 22.4**	**-1.0**
DMTO				S	**Sn**	**04 20 57.2**	**-1.9**
WHFO	**Wadi Hawf**	**3.33**	**344**	P	**Pn**	**04 20 26.7**	**-1.4**
	SNR=10						
WHFO				S	**Sn**	**04 21 03.5**	**-3.8**
SHAO	**Shalim**	**3.40**	**14**	*i* Pn	**Pn**	**04 20 25.2**	**-3.8**
	SNR=7.0						
SHAO	**Shalim**	**3.40**	**14**	P	**Pn**	**04 20 26.8**	**-2.2**
SHAO				S	**Sn**	**04 21 05.9**	**-3.2**
WSAR	**Wadi Sarin**	**9.25**	**23**	Pn	**Pn**	**04 21 47.7**	**-1.6**
	0.9nm,0.3s,baz=358,slow=4.9,SNR=6.2						
ASHO	**Ashiyiah**	**10.00**	**7**	*i* Pn	**Pn**	**04 21 59.1**	**-0.6**
	SNR=12						
ASHO				Sn	Sn	04 23 41.1	-11
DAMY	**Dhamar**	**10.03**	**271**	Pn	Pn	04 22 06.0	+5.8
HATD	**Hatta, Dubai**	**10.15**	**7**	*i* Pn	**Pn**	**04 22 02.3**	**+0.6**
	SNR=10.0						
UOSS	**Minazif**	**10.28**	**7**	*i* Pn	**Pn**	**04 22 03.2**	**-0.2**
	SNR=10						
UOSS	**Minazif**	**10.28**	**7**	Pn	**Pn**	**04 22 03.2**	**-0.2**
MSFE	**Esma-Masafi**	**10.68**	**7**	*i* Pn	**Pn**	**04 22 08.6**	**-0.4**
	SNR=19						
SHME	**Shamm**	**11.36**	**6**	*i* Pn	**Pn**	**04 22 16.9**	**-1.4**
	SNR=10						
ATD	**Arta Tunnel**	**12.02**	**256**	Pn	**Pn**	**04 22 26.3**	**-1.0**
	baz=90,slow=20,SNR=1.1						
ATD				LR	LR	04 25 47.2	
	comp=Z,3μm,18.9s,baz=76,slow=31						
ATD	**Arta Tunnel**	**12.02**	**256**	Pn	**Pn**	**04 22 30.0**	**+2.7**
FURI	**Furi**	**16.75**	**252**		**P**	**04 23 34.6**	**+1.4**
HRA	**Herat**	**20.73**	**18**	P	**P**	**04 24 16.1**	**-0.5**
HRA				IAmb	IAmb	04 24 23.2	
	comp=Z,44nm,0.9s						
KLRI	**Killari**	**21.22**	**78**	*eP*	**P**	**04 24 21.3**	**-0.7**
KLRI				IVmBBB		04 24 26.9	
	comp=Z,240nm,1.6s						
URV	**Uravakonda**	**21.76**	**86**	*eP*	**P**	**04 24 28.7**	**+1.0**
URV				IVmB_BB		04 24 30.5	
	comp=Z,218nm,2.4s						
SRSP	**Sriramsagar**	**22.96**	**76**	*eP*	**P**	**04 24 42.5**	**+2.0**
SRSP				IVmB_BB		04 24 43.5	
	comp=Z,276nm,3.3s						
HYBB	**Hyderabad (bro**	**23.03**	**80**	*eP*	**P**	**04 24 43.5**	**+2.3**
HYBB				IVmB_BB		04 24 44.1	
	comp=Z,385nm,2.8s						
HYB	**Hyderabad**	**23.03**	**80**	*i* P	**P**	**04 24 43.5**	**+2.3**
SRLM	**Srisailam**	**23.31**	**83**	*eP*	**P**	**04 24 45.1**	**+1.0**
SRLM				IVmB_BB		04 24 47.5	
	comp=Z,270nm,2.4s						
GEYT	**Alibeck**	**23.32**	**7**	P	**P**	**04 24 44.0**	**0.0**
	comp=Z,15nm,0.9s,baz=201,slow=7.8,SNR=19						
GEYT				LR	LR	04 35 30.4	
	comp=Z,2μm,21.1s,baz=180,slow=41						
GYA0B	**ALIBECK ARRAY**	**23.32**	**7**	P	**P**	**04 24 44.4**	**+0.4**
ASHT	**Ashkhabad**	**23.37**	**7**	P	**P**	**04 24 45.6**	**+1.2**
RCLA	**Racherla**	**23.38**	**85**	*eP*	**P**	**04 24 45.5**	**+0.7**
RCLA				IVmBBB		04 24 48.0	
	comp=Z,729nm,2.7s						
KMBO	**Kilima Mbogo**	**23.40**	**229**	P	**P**	**04 24 45.1**	**-0.1**
	comp=Z,16nm,1.2s,baz=41,slow=12,SNR=11						
KMBO				LR	LR	04 34 21.4	
	comp=Z,1μm,18.0s,baz=47,slow=38						
KMBO	**Kilima Mbogo**	**23.40**	**229**	P	**P**	**04 24 43.7**	**-1.5**
KMBO				IAmb	IAmb	04 24 51.0	
	comp=Z,28nm,1.3s						

EIL	**Elat**	**23.56**	**312**	P		**P**	**04 24 46.3**	**-0.1**
	comp=Z,14nm,1.2s,baz=142,slow=4.3,SNR=6.3							
EIL				LR		LR	04 33 20.7	
	comp=Z,1μm,20.1s,baz=130,slow=35							
KBL	**Kabul**	**23.59**	**31**	P		**P**	**04 24 48.2**	**+1.3**
KBL				IAmb		IAmb	04 25 07.9	
	comp=Z,89nm,1.6s							
NJS	**Nagarjunasagar**	**23.71**	**82**	*eP*		**P**	**04 24 48.7**	**+0.6**
NJS				IVmB_BB			04 24 51.0	
	comp=Z,383nm,2.4s							
ASF	**Jabal al Asfar**	**23.82**	**320**	P		**P**	**04 24 48.3**	**-0.7**
	comp=Z,14nm,1.1s,baz=193,slow=2.0,SNR=7.0							
RPR	**Rampur**	**23.85**	**77**	*eP*		**P**	**04 24 47.9**	**-1.4**
SKHT	**Srikalahasti**	**24.21**	**89**	*eP*		**P**	**04 24 53.7**	**+1.0**
SKHT				IVmB_BB			04 24 55.7	
	comp=Z,166nm,2.5s							
ADKI	**Addanki**	**24.35**	**84**	*eP*		**P**	**04 24 54.9**	**+1.0**
ADKI				IVmBBB			04 24 57.6	
	comp=Z,159nm,1.1s							
NIL	**Nilore**	**25.23**	**38**	P		**P**	**04 25 02.4**	**+0.6**
NIL				IAmb		IAmb	04 25 34.9	
	comp=Z,58nm,1.4s							
MMAI	**Mount Meron Ar**	**25.32**	**319**	P		**P**	**04 25 02.8**	**0.0**
	comp=Z,17nm,0.9s,baz=116,slow=12,SNR=10							
MMAI				LR		LR	04 35 39.0	
	comp=Z,900nm,18.2s,baz=125,slow=38							
PVM	**Polavaram**	**25.95**	**81**	*eP*		**P**	**04 25 10.3**	**+1.8**
PVM				IVmBBB			04 25 11.4	
	comp=Z,142nm,1.2s							
CHGR	**Chuyangaron**	**27.04**	**25**	P		**P**	**04 25 21.1**	**+2.9**
GAZ	**Gaziantep**	**27.28**	**328**	P		**P**	**04 25 22.5**	**+2.1**
GAR	**Garm**	**27.81**	**27**	P		**P**	**04 25 26.2**	**+1.0**
MBAR	**Mbarara**	**28.21**	**239**	LR		LR	04 36 18.2	
	comp=Z,377nm,18.5s,baz=76,slow=36							
AKH	**Akhalkalaki**	**28.35**	**342**	P		**P**	**04 25 31.3**	**+1.3**
AKH				IAmb		IAmb	04 26 05.5	
	comp=Z,22nm,1.3s							
KOLN	**Koldanda**	**29.78**	**59**	*eP*		**P**	**04 25 44.5**	**+1.6**
	comp=Z,29nm,1.1s							
DANN	**Dangsing**	**30.11**	**58**	*eP*		**P**	**04 25 47.1**	**+1.1**
	comp=Z,36nm,0.8s							
KBZ	**Khabaz**	**30.65**	**343**	P		**P**	**04 25 51.5**	**+1.4**
	comp=Z,7.9nm,1.1s,baz=148,slow=2.2,SNR=7.2							
KBZ				LR		LR	04 41 33.4	
	comp=Z,1μm,18.2s,baz=164,slow=43							
GKN	**Gorkha**	**30.72**	**60**	*eP*		**P**	**04 25 52.9**	**+1.7**
ARSB	**Arslanbob**	**30.89**	**27**	IAmb		IAmb	04 26 09.9	
	comp=Z,38nm,1.6s							
KIV	**Kislovodsk**	**30.92**	**343**	P		**P**	**04 25 53.5**	**+0.9**
KIV				IAmb		IAmb	04 25 56.8	
	comp=Z,33nm,1.5s							
KSH	**Kashi**	**30.95**	**33**	*eP*		**P**	**04 25 51.1**	**-1.9**
DMN	**Daman**	**30.99**	**61**	*eP*		**P**	**04 25 54.5**	**+0.8**
	comp=Z,18nm,0.8s							
BR131	**Keskin Array S**	**31.04**	**327**	P		**P**	**04 25 54.7**	**+0.9**
BRTR	**Keskin Array B**	**31.04**	**327**	P		**P**	**04 25 53.8**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=139,slow=9.8,SNR=6.0							
BRTR				PcP		**PcP**	**04 28 49.5**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=150,slow=5.7,SNR=4.0							
BRTR				LR		LR	04 39 49.8	
	comp=Z,674nm,19.3s,baz=100,slow=39							
KK31	**Karatay Array**	**31.37**	**22**	P		**P**	**04 25 57.4**	**+0.8**
KK31				IAmb		IAmb	04 26 41.4	
	comp=Z,18nm,1.9s							
KKAR	**Karatay Array**	**31.37**	**22**	P		**P**	**04 25 57.7**	**+1.2**
KKAR				IAmb		IAmb	04 26 41.4	
	comp=Z,18nm,1.9s							
ANTO	**Ankara**	**31.59**	**327**	P		**P**	**04 26 01.9**	**+3.3**
ANTO				IAmb		IAmb	04 26 10.6	
	comp=Z,8.5nm,0.7s							
GUN	**Gumba**	**31.73**	**60**	*eP*		**P**	**04 26 01.8**	**+1.5**
	comp=Z,53nm,0.8s							
JIRN	**Jiri**	**31.92**	**61**	*eP*		**P**	**04 26 03.0**	**+1.0**
	comp=Z,35nm,0.7s							
ILGA	**Ilgaz**	**31.99**	**329**	P		**P**	**04 26 05.

DRGR		**41.68**	**327**	⇑P		**P**		**04 27 25.8**	**+1.4**
ARU	**Arti**	**41.74**	**3**	P		**P**		**04 27 25.4**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=172,slow=10.0,SNR=3.8								
ARU	**Arti**	**41.74**	**3**	P		**P**		**04 27 25.1**	**+0.3**
ARU						**PcP**		**04 29 21.0**	**0.0**
VAE	**Valguarnera**	**42.30**	**310**	PP		PP		04 29 08.4	+0.7
	comp=Z,23nm,0.3s,baz=310,slow=16,SNR=6.1								
CM31	**Chiang Mai Arr**	**42.44**	**79**	P		**P**		**04 27 30.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**42.44**	**79**	P		**P**		**04 27 32.1**	**+1.1**
	comp=Z,2.6nm,0.6s,baz=277,slow=8.7,SNR=11								
CMAR				PcP		**PcP**		**04 29 23.9**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=280,slow=5.4,SNR=1.8								
CMAR				LR		LR		04 45 42.8	
	comp=Z,118nm,18.8s,baz=328,slow=37								
TRPA	**Tarpa**	**42.63**	**328**	⇓P		**P**		**04 27 32.1**	**+0.1**
OBN	**Obninsk**	**42.72**	**345**	P		**P**		**04 27 32.6**	**-0.1**
	comp=Z,4.5nm,0.3s,baz=155,slow=11,SNR=8.7								
OBN	**Obninsk**	**42.72**	**345**	P		**P**		**04 27 32.6**	**-0.1**
CORL	**Corleone**	**43.27**	**310**	P		**P**		**04 27 40.1**	**+2.6**
CORL				IAmb		IAmb		04 28 05.2	
	comp=Z,30nm,1.1s								
KOLS	**Kolonicke sedl**	**43.28**	**329**	*e*P		**P**		**04 27 39.9**	**+2.5**
MATP	**Matopo**	**43.41**	**217**	P		**P**		**04 27 38.3**	**-0.6**
	comp=Z,8.1nm,0.9s,baz=30,slow=9.2,SNR=12								
MATP				LR		LR		04 44 56.3	
	comp=Z,436nm,20.1s,baz=53,slow=35								
KWP	**Kalwaria Pacla**	**43.53**	**330**	*e*P		**P**		**04 27 40.6**	**+1.2**
KWP				*e*S		**S**		**04 34 10.3**	**+2.6**
KWP	**Kalwaria Pacla**	**43.53**	**330**	IAmb		IAmb		04 27 47.1	
	comp=Z,15nm,1.0s								
CRVS	**Cervenica-Dubn**	**43.67**	**328**	*e*P		**P**		**04 27 43.8**	**+3.2**
PSZ	**Piszkesteto**	**43.88**	**326**	P		**P**		**04 27 43.8**	**+1.5**
KIRV	**Kirov**	**43.98**	**356**	P		**P**		**04 27 43.0**	**+0.2**
	comp=Z,5.3nm,0.5s,baz=263,slow=8.2,SNR=4.0								
PBKT	**Sadao Pong**	**44.47**	**81**	P		**P**		**04 27 46.5**	**-0.9**
NIE	**Niedzica**	**44.59**	**328**	*e*P		**P**		**04 27 50.0**	**+2.0**
NIE				*e*S		**S**		**04 34 25.5**	**+2.2**
VYHS	**Vyhne**	**44.79**	**326**	*e*P		**P**		**04 27 50.3**	**+0.8**
AQU	**L'Aquila**	**44.94**	**316**	P		**P**		**04 27 51.6**	**+0.7**
PSI	**Prapat**	**45.13**	**101**	LR		LR		04 44 45.9	
	comp=Z,378nm,18.3s,baz=270,slow=33								
BOJS	**Bojanci**	**45.21**	**321**	*i* P		**P**		**04 27 53.4**	**+0.5**
BOJS				*e*S		**S**		**04 34 33.7**	**+1.3**
BOJS				*e*SS		SS		04 38 09.6	+15
NRCA	**Norcia**	**45.34**	**317**	P		**P**		**04 27 56.5**	**+2.5**
NRCA				IAmb		IAmb		04 28 16.9	
	comp=Z,25nm,1.7s								
OJC	**Ojcow**	**45.35**	**329**	*e*P		**P**		**04 27 55.1**	**+1.2**
OJC				*e*S		**S**		**04 34 34.4**	**+0.3**
OJC	**Ojcow**	**45.35**	**329**	P		**P**		**04 27 55.3**	**+1.4**
OJC				IAmb		IAmb		04 27 59.2	
	comp=Z,9.6nm,1.1s								
ZST	**Bratislava**	**45.56**	**325**	*e*P		**P**		**04 27 56.1**	**+0.5**
MODS	**Modra-Piesok**	**45.57**	**325**	*e*P		**P**		**04 27 55.6**	**-0.1**
KEST	**Kesra**	**45.62**	**306**	P		**P**		**04 27 56.1**	**-0.3**
	comp=Z,10nm,0.9s,baz=291,slow=3.7,SNR=6.3								
KEST				LR		LR		04 47 08.9	
	comp=Z,253nm,21.2s,baz=341,slow=36								
KEST	**Kesra**	**45.62**	**306**	P		**P**		**04 27 58.2**	**+1.8**
KEST				IAmb		IAmb		04 28 04.5	
	comp=Z,11nm,0.9s								
JAVC	**Velka Javorina**	**45.63**	**326**	*e*P		**P**		**04 27 57.2**	**+0.9**
ZAA0	**Zalesovo Array**	**45.69**	**24**	P		**P**		**04 27 55.9**	**-0.7**
ZAA0				IAmb		IAmb		04 28 02.7	
	comp=Z,9.4nm,0.8s								
ZALV	**Zalesovo Beam**	**45.69**	**24**	P		**P**		**04 27 56.0**	**-0.5**
	comp=Z,7.4nm,0.7s,baz=227,slow=7.4,SNR=23								
ZALV				LR		LR		04 49 04.8	
	comp=Z,397nm,19.8s,baz=202,slow=39								
VNDS	**Vrh nad Dolski**	**45.85**	**321**	*i* P		**P**		**04 27 59.5**	**+1.6**
MURB	**Monte Urbino**	**45.91**	**317**	IAmb		IAmb		04 28 34.2	
	comp=Z,10nm,0.9s								
SOKA	**Soboth**	**45.94**	**322**	P		**P**		**04 27 58.3**	**-0.5**
	comp=Z,9.0nm,1.1s,SNR=5.8								
ARSA	**Arzberg**	**45.95**	**323**	*e*P		**P**		**04 27 59.6**	**+0.9**
	comp=Z,10nm,1.0s								
OKC	**Ostrava-Krasne**	**45.95**	**328**	*e*S		**S**		**04 34 43.6**	**+0.7**
OKC				AMS		AMS		04 50 20.0	
	comp=Z,400nm,16.7s								
KMI	**Kunming**	**46.09**	**69**	P		**P**		**04 28 01.0**	**+0.6**
KMI				pP		sP		04 28 03.9	-2.3
KMI				S		**S**		**04 34 45.6**	**-0.3**
KMI				sS		sS		04 34 51.8	-0.9
KMI				SS		**SS**		**04 38 05.7**	**-5.4**
KMI				pmax		pmax			
	comp=Z,10.0nm,1.0s								
KMI				LR		LR			
	comp=Z,230nm,18.9s								
KMI				LR		LR			
	comp=Z,180nm,15.4s								
KMI				LR		LR			
	comp=Z,360nm,19.2s								
CONA	**Conrad Observa**	**46.11**	**324**	*e*P		**P**		**04 28 00.4**	**+0.3**
	comp=Z,21nm,1.2s,SNR=13								
OBKA	**Obir**	**46.14**	**322**	*e*P		**P**		**04 28 00.1**	**-0.2**
	comp=Z,8.6nm,1.0s								
IIGN	**Ignalina**	**46.16**	**338**	*e*P		**P**		**04 28 02.2**	**+2.0**
MORC	**Moravsky Berou**	**46.23**	**327**	⇓P		**P**		**04 28 01.2**	**+0.2**
MORC	**Moravsky Berou**	**46.23**	**327**	*e*P		**P**		**04 28 00.7**	**-0.3**
MORC	**Moravsky Berou**	**46.23**	**327**	P		**P**		**04 28 02.4**	**+1.4**
MORC				IAmb		IAmb		04 28 03.1	
	comp=Z,16nm,1.2s								
SUW	**Suwalki**	**46.35**	**335**	*e*P		**P**		**04 28 02.8**	**+1.1**
SUW				*e*S		**S**		**04 34 50.5**	**+2.0**
ISAL	**Salakas**	**46.37**	**338**	*e*P		**P**		**04 28 05.5**	**+3.7**
KRUC	**Moravsky**	**46.44**	**326**	*e*P		**P**		**04 28 02.7**	**+0.2**
GTA	**Gaotai**	**46.45**	**49**	P		**P**		**04 28 04.2**	**+1.3**
GTA				pP		pwP		04 28 08.3	-1.9
GTA				sP		sP		04 28 11.4	+2.6
GTA				S		**S**		**04 34 49.4**	**-1.2**
GTA				pmax		pmax			
	comp=Z,6.0nm,2.1s								
GTA				pmax		pmax			
	comp=Z,68nm,4.8s								
GTA				LR		LR			
	comp=Z,150nm,19.1s								
GTA				LR		LR			
	comp=Z,290nm,22.5s								
GTA				LR		LR			
	comp=Z,410nm,21.3s								
IZAR	**Zarasai**	**46.46**	**338**	*e*P		P		04 28 07.7	+5.2
VRAC	**Vranov**	**46.47**	**326**	P		**P**		**04 28 02.3**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=118,slow=5.6,SNR=7.4								
VRAC	**Vranov**	**46.47**	**326**	⇓P		**P**		**04 28 02.6**	**-0.2**
VRAC	**Vranov**	**46.47**	**326**	*e*P		**P**		**04 28 02.9**	**+0.1**
PRED	**Cave del Predi**	**46.70**	**321**	IAmb		IAmb		04 28 27.1	
	comp=Z,26nm,1.8s								
MYKA	**Terra Mystica**	**46.74**	**322**	*e*P		**P**		**04 28 04.7**	**-0.3**
	comp=Z,14nm,1.6s								
KRLC	**Kraliky**	**46.81**	**327**	*e*P		**P**		**04 28 06.3**	**+0.8**
KRLC				AMS		AMS		04 51 10.0	
	comp=Z,200nm,15.1s								
MOA	**Molln**	**46.98**	**323**	*e*P		**P**		**04 28 06.3**	**-0.6**
	comp=Z,8.6nm,1.1s								
SLVN	**Son La**	**47.06**	**74**	P		**P**		**04 28 07.6**	**-0.3**
SLVN				IAmb		IAmb		04 28 16.1	
	comp=Z,7.6nm,1.0s								
ZOU	**Zoufplan**	**47.11**	**321**	P		**P**		**04 28 09.1**	**+1.0**
ZOU				IAmb		IAmb		04 28 14.2	
	comp=Z,8.3nm,1.0s								
ZOU						**PcP**		**04 29 41.1**	**+1.3**
PABE	**Paberze**	**47.12**	**337**	*e*P		**P**		**04 28 09.1**	**+1.3**
TAM	**Tamanrasset**	**47.13**	**288**	P		**P**		**04 28 08.1**	**-0.4**
TAM				IAmb		IAmb		04 28 09.6	
	comp=Z,14nm,1.2s								
KBA	**Koelnbreinsper**	**47.14**	**322**	*e*P		**P**		**04 28 09.1**	**+0.8**
	comp=Z,7.7nm,0.9s								
DPC	**Dobruska-Polom**	**47.21**	**327**	*e*P		**P**		**04 28 09.7**	**+1.1**
DPC				*e*S		**S**		**04 35 00.4**	**-0.5**
DPC				AMS		AMS		04 51 20.0	
	comp=Z,300nm,14.1s								
CIMO	**Cimolais**	**47.32**	**321**	IAmb		IAmb		04 28 15.5	
	comp=Z,9.5nm,0.9s								
OSTC	**Ostas**	**47.38**	**327**	*e*P		**P**		**04 28 10.9**	**+1.0**
OSTC				*e*S		**S**		**04 35 03.8**	**+0.4**
OSTC				AMS		AMS		04 51 20.0	
	comp=Z,400nm,15.5s								
KLMR	**Klimovskoe**	**47.39**	**350**	*e*P		**P**		**04 28 07.4**	**-2.3**
KLMR				AMP				04 28 20.1	
	comp=Z,52nm,1.3s								
KLMR				*e*PcP		**PcP**		**04 29 40.0**	**-0.2**
KLMR				*e*PP		**PP**		**04 30 00.5**	**-0.5**
KLMR				*e*S		**S**		**04 35 01.0**	**-2.0**
KLMR				*e*S		**S**		**04 35 01.0**	**-2.0**
KLMR				LQ		LQ		04 43 36.2	
KLMR				LQ		LQ		04 43 36.2	
UPC	**Upice**	**47.46**	**327**	*e*P		**P**		**04 28 11.6**	**+1.1**
UPC				*e*S		**S**		**04 34 58.1**	**-6.3**
UPC				AMS		AMS		04 51 20.0	
	comp=Z,400nm,18.9s								
ABTA	**Abfaltersbach**	**47.48**	**321**	P		**P**		**04 28 09.7**	**-1.2**
	comp=Z,7.7nm,1.0s								
CHVC	**Chvalec**	**47.48**	**327**	*e*P		**P**		**04 28 15.2**	**+4.5**
KSP	**Ksiaz**	**47.51**	**328**	*e*P		**P**		**04 28 11.3**	**+0.4**
KSP				*e*S		**S**		**04 35 04.9**	**-0.1**
CD2	**Chengdu**	**47.58**	**61**	P		**P**		**04 28 11.5**	**-0.4**
CD2				pmax		pmax			
	comp=Z,20nm,0.5s								
CTI	**Castel Tesino**	**47.69**	**320**	IAmb		IAmb		04 28 21.4	
	comp=Z,7.4nm,0.8s								
GOPC	**GO Pecny, Ondr**	**47.78**	**326**	AMS		AMS		04 52 10.0	
	comp=Z,300nm,16.1s								
GEC2	**GERESS Array S**	**47.82**	**324**	IAmb		IAmb		04 28 25.0	
	comp=Z,7.7nm,1.1s								
GERES	**GERESS Array B**	**47.82**	**324**	P		**P**		**04 28 12.1**	**-1.4**
	comp=Z,1.4nm,0.8s,baz=128,slow=8.6,SNR=14								
PRU	**Pruhonice**	**47.96**	**326**	*e*S		**S**		**04 35 11.1**	**-0.4**
PRU				AMS		AMS		04 52 00.0	
	comp=Z,300nm,20.1s								
KHC	**Kasperske Hory**	**48.04**	**324**	*e*P		**P**		**04 28 14.3**	**-0.8**
KHC				*e*S		**S**		**04 35 10.8**	**-1.9**
KHC				AMS		AMS		04 51 40.0	
	comp=Z,200nm,19.0s								
PRA	**Prague**	**48.06**	**326**	*e*S		**S**		**04 35 12.9**	**0.0**
PRA				AMS		AMS		04 52 00.0	
	comp=Z,100nm,19.1s								
PBCC	**Pribram**	**48.09**	**325**	*e*P		**P**		**04 28 14.6**	**-0.9**
PVCC	**Panska Ves**	**48.24**	**326**	*e*P		**P**		**04 28 17.2**	**+0.7**
WTTA	**Wattenberg**	**48.26**	**321**	*e*P		**P**		**04 28 17.2**	**+0.3**
	comp=Z,18nm,1.4s,SNR=6.4								
PBUR	**Paburge**	**48.29**	**336**	*e*P		**P**		**04 28 16.2**	**-0.6**
WATA	**Walderalm**	**48.32**	**321**	*e*P		**P**		**04 28 16.0**	**-1.4**
	comp=Z,12nm,1.0s								
VSU	**Vasula**	**48.42**	**341**	*e*P		**P**		**04 28 17.7**	**0.0**
SQTA	**Sankt Quirin**	**48.49**	**321**	*e*P		**P**		**04 28 17.9**	**-0.8**
	comp=Z,17nm,0.8s								
LZH	**Lanzhou**	**48.61**	**55**	*e*P		**P**		**04 28 20.9**	**+1.1**
LZH				pP		pwP		04 28 24.2	-2.9
LZH				sP		sP		04 28 25.7	0.0
LZH				*e*PP		**PP**		**04 30 14.2**	**+1.4**
LZH				pmax		pmax			
	comp=Z,25nm,1.3s								
LZH				pmax		pmax			
	comp=Z,97nm,7.2s								
LZH				LR		LR			
	comp=Z,390nm,14.1s								
LZH				LR		LR			
	comp=Z,400nm,14.3s								
LZH				LR		LR			
	comp=Z,680nm,16.9s								
MOTA	**Moosalm**	**48.61**	**321**	*e*P		**P**		**04 28 18.1**	**-1.6**
	comp=Z,26nm,0.9s,SNR=12								
LBTB	**Lobatse**	**48.65**	**216**	P		**P**		**04 28 20.1**	**-0.1**
FETA	**Feichten**	**48.70**	**321**	*e*P		**P**		**04 28 19.7**	**-0.6**
	comp=Z,6.5nm,0.8s								
BRG	**Berggiesshubel**	**48.76**	**327**	*e*P		**P**		**04 28 19.6**	**-0.9**
	comp=Z,10nm,1.5s								
BRG				S		**S**		**04 35 26.0**	**+3.2**
	comp=N,221nm,13.5s								
	comp=E,209nm,16.9s								
	comp=Z,221nm,15.5s								
FUORN	**Ofenpass-Fuorn**	**48.81**	**320**	IAmb		IAmb		04 28 46.4	
	comp=Z,10nm,1.1s								
RETA	**Reutte**	**48.88**	**321**	*e*P		**P**		**04 28 19.2**	**-2.5**
	comp=Z,10nm,0.9s								
DAVOX	**Davos/Dischmat**	**49.12**	**320**	P		**P**		**04 28 22.8**	**-0.8**
	comp=Z,17nm,0.9s,baz=102,slow=6.6,SNR=8.7								
SLIT	**Slitere, Latvi**	**49.31**	**338**	*e*P		**P**		**04 28 23.4**	**-1.2**
TUE	**Stuetta**	**49.32**	**320**	P		**P**		**04 28 28.3**	**+3.2**
TUE				IAmb		IAmb		04 28 49.6	
	comp=Z,22nm,1.7s								
DAVA	**Damuels**	**49.33**	**321**	P		**P**		**04 28 23.5**	**-1.7**
	comp=Z,13nm,0.8s								
CLL	**Collm**	**49.49**	**327**	*i* P		**P**		**04 28 28.3**	**+2.2**
CLL				*i*				04 28 35.7	
CLL				*e*PP		**PP**		**04 30 24.0**	**+3.7**
CLL				*e*S		**S**		**04 35 28.0**	**-5.1**
CLL				*e*				04 38 36.0	
CLL				*e*SS		**SS**		**04 39 06.0**	**+1.0**
CLL				LmH				04 52 00.0	
	comp=N,400nm,20.6s								
CLL				LmH				04 52 00.0	
	comp=E,100nm,20.1s								
CLL				LmV				04 54 00.0	
	comp=Z,400nm,19.7s								
CLL	**Collm**	**49.49**	**327**	P		**P**		**04 28 28.2**	**+2.0**
GRA1	**Grafenberg Arr**	**49.65**	**324**	IAmb		IAmb		04 28 40.2	
	comp=Z,16nm,1.0s								
GRF	**Grafenberg Arr**	**49.65**	**324**	*e*P		**P**		**04 28 26.2**	**-1.2**
	comp=Z,28nm,1.5s,baz=119,slow=8.7								
GYA	**Guiyang**	**49.69**	**68**	P		**P**		**04 28 28.1**	**-0.1**
GYA				sP		pwP		04 28 33.7	-1.8
GYA				S		**S**		**04 35 35.9**	**-1.0**
GYA				SS		**SS**		**04 39 08.6**	**-0.7**
GYA				pmax		pmax			
	comp=Z,19nm,1.1s								
GYA				LR		LR			
	comp=Z,180nm,17.7s								
GYA				LR		LR			
	comp=Z,140nm,18.1s								
GYA				LR		LR			
	comp=Z,220nm,20.1s								
RUE	**Ruedersdorf**	**49.73**	**328**	*e*P		**P**		**04 28 26.6**	**-1.3**
BNI	**Bardonecchia**	**50.49**	**317**	IAmb		IAmb		04 28 49.5	
	comp=Z,10.0nm,1.1s								
SENIN	**Lac Senin/Sane**	**50.57**	**319**	IAmb		IAmb		04 28 40.9	
	comp=Z,9.5nm,0.8s								
BFO	**Black Forest**	**50.73**	**321**	P		**P**		**04 28 36.3**	**+0.7**
BFO				IAmb		IAmb		04 28 41.6	
	comp=Z,17nm,1.0s								
FIA1	**FINESS Array S**	**51.01**	**343**	IAmb		IAmb		04 28 39.4	
	comp=Z,27nm,1.1s								
FINES	**FINESS Array B**	**51.01**	**343**	P		**P**		**04 28 36.5**	**-1.0**
	comp=Z,12nm,0.9s,baz=139,slow=9.4,SNR=24								
RGN	**Rugen**	**51.12**	**330**	*e*P		P		04 28 28.6	-10
TOA0	**Torodi Ar. Sit**	**51.42**	**275**	P		**P**		**04 28 40.8**	**-0.5**
TOA0				IAmb		IAmb		04 28 41.7	
	comp=Z,15nm,1.2s								
TORD	**Torodi Ar. Bea**	**51.42**	**275**	P		**P**		**04 28 40.8**	**-0.5**
	comp=Z,5.3nm,0.9s,baz=88,slow=5.6,SNR=19								
TORD				PcP		**PcP**		**04 29 55.6**	**-0.3**
	comp=Z,4.4nm,1.1s,baz=73,slow=3.7,SNR=4.9								
TORD				LR		LR		04 49 26.5	
	comp=Z,214nm,18.3s,baz=75,slow=35								
BOSA	**Boshof**	**51.66**	**213**	P		**P**		**04 28 42.2**	**-0.7**
	comp=Z,7.2nm,0.9s,baz=354,slow=7.2,SNR=9.8								
BOSA				LR		LR		04 51 55.3	
	comp=Z,269nm,18.0s,baz=44,slow=38								
BOSA	**Boshof**	**51.66**	**213**	P		**P**		**04 28 42.9**	**0.0**
SSB	**Saint Sauveur**	**51.98**	**316**	IAmb		IAmb		04 28 50.4	
	comp=Z,16nm,1.0s								
XAN	**Xi'an**	**52.34**	**58**	P		**P**		**04 28 48.0**	**0.0**
XAN				pP		pwP		04 28 53.2	-2.1
XAN				pmax		pmax			
	comp=Z,24nm,0.9s								
XAN				pmax		pmax			
	comp=Z,160nm,4.3s								
XAN				LR		LR			
	comp=Z,260nm,16.2s								
XAN				LR		LR			
	comp=Z,190nm,17.3s								
XAN				LR		LR			
	comp=Z,150nm,21.3s								
XAN	**Xi'an**	**52.34**	**58**	P		**P**		**04 28 46.3**	**-1.7**
ENH	**Enshi**	**52.42**	**63**	IAmb		IAmb		04 29 02.1	
	comp=Z,25nm,1.0s								
WLF	**Walferdange**	**52.59**	**322**	⇓P		**P**		**04 28 49.8**	**+0.4**
	comp=Z,19nm,1.1s								
WLF				pP		**sP**		**04 28 53.8**	**-1.6**
WLF	**Walferdange**	**52.59**	**322**	IAmb		IAmb		04 28 55.2	
	comp=Z,22nm,0.9s								
DOU	**Dourbes**	**53.68**	**322**	pP		pP		04 29 02.1	+0.3
SONM	**Songino Array**	**53.77**	**41**	P		**P**		**04 28 59.9**	**+1.5**
	comp=Z,3.6nm,0.9s,baz=239,slow=8.1,SNR=10								
SNF	**Seneffe**	**54.02**	**323**	pP		pP		04 29 05.1	+0.8
UCC	**Uccle**	**54.09**	**323**	P		**P**		**04 29 02.1**	**+1.7**
UCC				IAmb		IAmb		04 29 06.2	
	comp=Z,11nm,0.7s								
ULN	**Ulaanbaatar**	**54.20**	**41**	P		**P**		**04 29 02.9**	**+1.4**
HFS	**Hagfors**	**54.30**	**336**	P		**P**		**04 29 00.1**	**-1.7**
	comp=Z,4.3nm,0.7s,baz=138,slow=9.8,SNR=10								
HHC	**Hu-ho-hao-te**	**55.52**	**50**	P		**P**		**04 29 13.9**	**+2.8**
HHC				pP		pwP		04 29 16.8	-1.7
HHC				pmax		pmax			
	comp=Z,11nm,0.9s								
HHC				pmax		pmax			
	comp=Z,62nm,5.7s								
TIY	**Taiyuan**	**55.67**	**54**	*e*P		**P**		**04 29 12.7**	**+0.4**
TIY				S		**S**		**04 36 56.0**	**-2.2**
TIY				pmax		pmax			
	comp=Z,14nm,0.7s								
TIY				pmax		pmax			
	comp=Z,120nm,5.1s								
NB2	**NORSAR Subarra**	**55.82**	**336**	P		**P**		**04 29 11.1**	**-1.8**
	comp=Z,24nm,1.7s,baz=124,slow=7.4								
NOA	**NORSAR Array B**	**55.82**	**336**	P		**P**		**04 29 11.1**	**-1.8**
	comp=Z,2.1nm,0.9s,baz=121,slow=7.6,SNR=10								
NAO01	**NORSAR Array S**	**55.83**	**336**	P		**P**		**04 29 13.8**	**+0.9**
LEM	**Lembang**	**56.61**	**109**	LR		LR		04 50 25.5	
	comp=Z,254nm,20.1s,baz=50,slow=33								
ESDC	**Sonseca Array**	**56.75**	**308**	P		**P**		**04 29 18.4**	**-1.5**
	comp=Z,6.8nm,1.0s,baz=87,slow=6.4,SNR=25								
KEV	**Kevo**	**57.68**	**349**	P		**P**		**04 29 27.7**	**+1.8**
ARCES	**ARCESS Array B**	**57.78**	**348**	P		**P**		**04 29 25.6**	**-1.0**
	comp=Z,8.4nm,0.8s,baz=140,slow=7.9,SNR=17								
NRIK	**Noril'sk**	**58.36**	**13**	P		**P**		**04 29 31.1**	**+0.4**
	comp=Z,3.9nm,0.7s,baz=191,slow=2.0,SNR=5.7								
BJI	**Beijing**	**58.87**	**52**	P		**P**		**04 29 35.4**	**+0.7**
BJI				pmax		pmax			
	comp=Z,11nm,0.7s								
DBIC	**Dimbokro**	**58.98**	**269**	LR		LR		04 55 04.9	
	comp=Z,140nm,19.7s,baz=60,slow=36								
TIA	**Tai'an**	**59.25**	**56**	P		**P**		**04 29 37.7**	**+0.2**
TIA				pmax		pmax			
	comp=Z,12nm,1.1s								
MVO	**Moncorvo**	**59.28**	**309**	*e*P		**P**		**04 29 38.0**	**+0.4**
	comp=Z,46nm,1.7s								
PCBR	**Castelo Branco**	**59.46**	**308**	*e*P		**P**		**04 29 39.4**	**+0.6**
	comp=Z,53nm,2.0s								
MTE	**Manteigas**	**59.57**	**308**	*e*P		**P**		**04 29 40.6**	**+0.9**
	comp=Z,70nm,1.8s								
PBDV	**Barranco-do-Ve**	**59.57**	**305**	*e*P		**P**		**04 29 41.2**	**+1.5**
PBEJ	**Beja**	**59.59**	**306**	*e*P		**P**		**04 29 40.6**	**+0.8**
	comp=Z,35nm,1.9s								
EVO	**Evora**	**59.75**	**306**	*e*P		**P**		**04 29 40.9**	**+0.1**
	comp=Z,35nm,2.0s								
MESJ	**Messejana**	**59.85**	**305**	*e*P		**P**		**04 29 42.2**	**+0.7**
PFVI	**Vila Bisbo**	**60.28**	**305**	*e*P		**P**		**04 29 43.6**	**-0.9**
PSBE	**So Bento**	**60.44**	**307**	*e*P		**P**		**04 29 46.8**	**+1.2**
NJ2	**Nanjing**	**60.52**	**61**	*e*P		**P**		**04 29 45.8**	**-0.4**
NJ2				pmax		pmax			
	comp=Z,22nm,0.5s								
TGY	**Tagaytay City**	**63.88**	**81**	LR		LR		04 55 17.9	
	comp=Z,199nm,19.5s,baz=200,slow=34								
CN2	**Changchun**	**66.07**	**48**	*e*P		**P**		**04 30 23.9**	**+1.1**
CN2				*e*S		**S**		**04 39 13.3**	**+2.7**
CN2				pmax		pmax			
	comp=Z,10.0nm,0.8s								
CN2				pmax		pmax			
	comp=Z,150nm,6.0s								
SPA0	**Spitsbergen Ar**	**66.22**	**352**	P		**P**		**04 30 24.5**	**+1.3**
KAPI	**Kappang**	**67.33**	**102**	LR		LR		04 56 55.6	
	comp=Z,155nm,21.4s,baz=246,slow=33								
KSRS	**Korea Array**	**67.93**	**55**	P		**P**		**04 30 34.2**	**-0.5**
	comp=Z,3.7nm,0.8s,baz=267,slow=7.0,SNR=16								
DAV	**Davao City (W)**	**69.74**	**88**	LR		LR		05 01 04.9	
	comp=Z,152nm,19.5s,baz=236,slow=36								
YAK	**Yakutsk**	**70.06**	**29**	P		**P**		**04 30 47.8**	**+0.3**
TIXI	**Tiksi**	**71.14**	**19**	P		**P**		**04 30 54.1**	**+0.2**
TIXI				IAmb		IAmb		04 31 00.0	
	comp=Z,18nm,1.5s								
DAG	**Danmarks Havn**	**71.99**	**347**	*i* P		**P**		**04 30 57.6**	**-1.4**
	comp=Z,10.0nm,0.9s								
BATI	**Baumata**	**72.64**	**106**	LR		LR		05 04 04.7	
	comp=Z,615nm,18.7s,baz=100,slow=

MNBS				*e*S	**Sb**	**04 21 12.8**	**-0.2**
	2.0nm,0.3s								
MNBS	**Baschi**	**1.88**	**239**	P	**Pb**	**04 20 49.7**	**+0.2**
	0.3nm,0.3s								
MNBS				S	**Sb**	**04 21 13.1**	**0.0**
	2.0nm,0.3s								
PDGK	**Podgornoye**	**1.92**	**206**	⇑Pn	**Pb**	**04 20 50.0**	**-0.2**
	8.7nm,0.5s								
PDGK				⇑Lg	Lg	04 21 15.5			
	32nm,0.4s								
MAKZ	**Makanchi**	**1.98**	**28**	⇓Pn	**Pg**	**04 20 52.6**	**-0.5**
	1.4nm,0.3s								
MAKZ				⇑Lg	Lg	04 21 19.7			
	5.6nm,0.5s								
SHLS	**Shalkode**	**2.08**	**204**	*e*P	**Pb**	**04 20 51.6**	**-1.4**
	42nm,0.6s								
SHLS				*e*S	**Sn**	**04 21 16.4**	**+0.2**
	78nm,0.4s								
SHLS	**Shalkode**	**2.08**	**204**	P	**Pb**	**04 20 51.7**	**-1.4**
	42nm,0.6s								
SHLS				S	**Sn**	**04 21 16.4**	**+0.2**
	72nm,0.4s								
MK31	**Makanchi Array**	**2.08**	**33**	⇓Pn	**Pg**	**04 20 54.1**	**-0.9**
	1.3nm,0.2s,baz=208,slow=13,SNR=136								
MK31				⇓Lg	Lg	04 21 22.2			
	4.1nm,0.3s,baz=202,slow=28,SNR=17								
ARXS	**Arharly**	**2.18**	**248**	*e*P	**Pb**	**04 20 55.2**	**+0.6**
	8.7nm,0.3s								
ARXS				*e*S	**Sb**	**04 21 22.6**	**+0.9**
	34nm,0.3s								
ARXS	**Arharly**	**2.18**	**248**	Pg	**Pb**	**04 20 54.8**	**+0.2**
	8.7nm,0.3s								
ARXS				Lg	Lg	04 21 22.0			
	34nm,0.3s								
UZB	**Uzynbulak**	**2.24**	**212**	*e*P	**Pb**	**04 20 55.7**	**0.0**
	9.6nm,0.2s								
UZB				*e*S	**Sb**	**04 21 23.9**	**+0.5**
	44nm,0.5s								
UZB	**Uzynbulak**	**2.24**	**212**	Pg	**Pb**	**04 20 55.4**	**-0.3**
	9.6nm,0.2s								
UZB				Lg	Lg	04 21 23.6			
	38nm,0.3s								
KURS	**Kuram**	**2.37**	**229**	*e*P	**Pb**	**04 20 57.9**	**+0.1**
	6.2nm,0.3s								
KURS				*e*S	**Sb**	**04 21 28.2**	**+1.1**
	17nm,0.3s								
KURS	**Kuram**	**2.37**	**229**	Pg	**Pb**	**04 20 57.9**	**+0.1**
	6.0nm,0.3s								
KURS				Lg	Lg	04 21 27.2			
	6.6nm,0.4s								
SATY	**Saty**	**2.57**	**220**	*e*P	**Pb**	**04 21 01.6**	**+0.3**
	7.6nm,0.2s								
SATY				*e*S	**Sb**	**04 21 34.4**	**+1.4**
	65nm,0.2s								
SATY	**Saty**	**2.57**	**220**	Pg	**Pb**	**04 21 01.2**	**0.0**
	7.0nm,0.2s								
SATY				Lg	Lg	04 21 34.4			
	26nm,0.2s								
CHKK	**Chushkaly**	**2.88**	**247**	*e*P	**Pb**	**04 21 07.2**	**+0.7**
	1.9nm,0.2s								
CHKK				*e*S	**Sb**	**04 21 43.5**	**+1.7**
	33nm,0.3s								
KOTS	**Kotyrbulak**	**3.13**	**236**	*e*P	**Pb**	**04 21 12.5**	**+1.6**
	11nm,0.2s								
KOTS				*e*S	**Sb**	**04 21 52.0**	**+3.0**
	20nm,0.3s								
KOTS	**Kotyrbulak**	**3.13**	**236**	Pg	**Pb**	**04 21 12.5**	**+1.6**
	11nm,0.2s								
KOTS				Lg	Lg	04 21 52.0			
	20nm,0.3s								
KTBS	**Karatobe**	**3.14**	**246**	*e*P	**Pb**	**04 21 12.5**	**+1.5**
	1.2nm,0.3s								
KTBS				*e*S	**Sb**	**04 21 52.3**	**+3.0**
	21nm,0.4s								
KTBS	**Karatobe**	**3.14**	**246**	Pg	**Pb**	**04 21 12.4**	**+1.5**
	1.2nm,0.3s								
KTBS				Lg	Lg	04 21 52.0			
	21nm,0.4s								
MDOK	**Medeo**	**3.21**	**235**	*e*P	**Pb**	**04 21 12.8**	**+0.6**
	4.3nm,0.3s								
MDOK				*e*S	**Sb**	**04 21 53.7**	**+2.3**
	18nm,0.5s								
MDOK	**Medeo**	**3.21**	**235**	⇑Pg	**Pb**	**04 21 12.6**	**+0.4**
	3.0nm,0.4s								
MDOK				⇑Lg	Lg	04 21 56.1			
	14nm,0.6s								
MDOK	**Medeo**	**3.21**	**235**	Pg	**Pb**	**04 21 12.8**	**+0.6**
	4.1nm,0.3s								
MDOK				Lg	Lg	04 21 53.3			
	18nm,0.5s								
KUU	**Kurty**	**3.29**	**251**	*e*P	**Pb**	**04 21 14.5**	**+0.9**
	0.9nm,0.1s								
KUU				*e*S	**Sb**	**04 21 56.4**	**+2.7**
	10nm,0.3s								
KUU	**Kurty**	**3.29**	**251**	Pg	**Pb**	**04 21 14.5**	**+0.9**
	0.8nm,0.1s								
KUU				Lg	Lg	04 21 55.6			
	10nm,0.3s								
TNSS	**Tian-Shan**	**3.34**	**234**	*e*P	**Pb**	**04 21 15.6**	**+0.9**
	3.0nm,0.3s								
TNSS				*e*S	**Sb**	**04 21 58.4**	**+2.9**
	12nm,0.5s								
TNSS	**Tian-Shan**	**3.34**	**234**	Pg	**Pb**	**04 21 16.4**	**+1.8**
	3.0nm,0.3s								
TNSS				Lg	Lg	04 21 58.9			
	12nm,0.5s								
IZV	**Izvestkoviy**	**3.54**	**237**	*e*P	**Pb**	**04 21 18.5**	**+0.7**
	7.3nm,0.3s								
IZV				*e*S	**Sb**	**04 22 02.9**	**+2.0**
	11nm,0.3s								
IZV	**Izvestkoviy**	**3.54**	**237**	Pg	**Pb**	**04 21 18.2**	**+0.4**
	7.3nm,0.3s								
IZV				Lg	Lg	04 22 01.9			
	10nm,0.2s								
MTBS	**Maitube**	**3.59**	**239**	*e*P	**Pb**	**04 21 20.4**	**+1.7**
	2.2nm,0.1s								
MTBS				*e*S	**Sb**	**04 22 06.0**	**+3.5**
	29nm,0.4s								
ZSN	**Zaisan**	**3.78**	**49**	*e*P	**Pb**	**04 21 23.0**	**+1.1**
	5.3nm,0.2s								
ZSN				*e*S	**Sb**	**04 22 10.2**	**+2.4**
	6.3nm,0.3s								
ZSN	**Zaisan**	**3.78**	**49**	Pg	**Pb**	**04 21 23.0**	**+1.1**
	5.3nm,0.3s								
ZSN				Lg	Lg	04 22 10.2			
	6.3nm,0.3s								
DGS	**Degeres**	**3.94**	**244**	*e*P	**Pb**	**04 21 26.1**	**+1.4**
	2.9nm,0.4s								
DGS				*e*S	**Sb**	**04 22 15.8**	**+3.2**
	7.8nm,0.5s								
TKM2	**Tokmak 2**	**4.22**	**241**	⇓Pg	**Pg**	**04 21 32.6**	**-3.3**
	1.5nm,0.5s								
TKM2				⇑Lg	Lg	04 22 30.2			
	4.9nm,0.6s								
BTLS	**Baital**	**4.67**	**272**	*e*P	**Pg**	**04 21 41.8**	**-2.8**
	1.4nm,0.3s								
BTLS				*e*S	**Sg**	**04 22 42.4**	**-2.6**
	1.3nm,0.4s								
AAK	**Ala-Archa**	**5.06**	**244**	⇓Pg	**Pb**	**04 21 46.5**	**+2.7**
	2.9nm,1.0s								
AAK				⇑Lg	Lg	04 22 57.0			
	3.2nm,0.6s								
KURBB	**Kurchatov Arra**	**5.75**	**346**	⇓Pg	**Pg**	**04 22 03.6**	**-1.4**
	3.5nm,1.5s								
KURBB				⇑Lg	Lg	04 23 23.8			
	7.9nm,0.8s								
KURK	**Kurchatov**	**5.82**	**347**	⇓Pg	**Pg**	**04 22 03.1**	**-3.4**
	2.9nm,1.4s								
KURK				⇑Lg	Lg	04 23 25.2			
	15nm,1.3s								

IDC ***07*** *04:35:27.0±1.6, 14°.72N×54°.71E, h0km, mb3.7/10, mb1 3.8/10, mb1mx3.6/50, mbtmp3.7/10, Error ellipse: s-maj=37.4km s-min=28.6km az=172.0*

NEIC ***07*** *04:35:27.9±2.1, 14°.63N±0°.06×54°.7E±0°.1, h10km±1km, mb4.2/5, Error ellipse: s-maj=20.4km s-min=7.0km az=290.0*

ISC 07 04:35:28.4±1.2, 14°.7N±0°.2×54°.7E±0°.1, h10km, n22, σ0§80/17, mb3.8/12, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.60**	**194**	Pn	Pn	04 36 03.8	-6.8
ATD	**Arta Tunnel**	**11.92**	**256**	Pn	**Pn**	**04 38 18.2**	**-0.4**
RAYN	**Ar Rayn**	**12.30**	**317**		**Pn**	**04 38 23.2**	**-0.5**
CHGR	**Chuyangaron**	**27.07**	**26**	P	**P**	**04 41 12.0**	**+0.8**
KDJ	**Kajisay**	**33.53**	**31**	P	**P**	**04 42 09.5**	**+1.0**
KDJ				IAmb	IAmb	04 42 15.0	
	comp=Z,7.6nm,1.4s						
MAKZ	**Makanchi**	**39.29**	**30**	P	**P**	**04 42 55.6**	**-1.8**
MK31	**Makanchi Array**	**39.43**	**30**	P	**P**	**04 42 58.1**	**-0.5**
MKAR	**Makanchi Array**	**39.43**	**30**	P	**P**	**04 42 58.1**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=214,slow=5.9,SNR=6.2						
KURBB	**Kurchatov Arra**	**40.69**	**23**	P	**P**	**04 43 09.2**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=220,slow=8.4,SNR=4.6						
KURK	**Kurchatov**	**40.80**	**23**	P	**P**	**04 43 09.2**	**-0.7**
KURK	**Kurchatov**	**40.80**	**23**	IAmb	IAmb	04 44 17.2	
	comp=Z,2.9nm,1.2s						
AKASG	**Malin Array Be**	**41.36**	**336**	P	**P**	**04 43 14.9**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=136,slow=7.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**45.72**	**25**	P	**P**	**04 43 50.0**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=232,slow=7.1,SNR=4.5						
FINES	**FINESS Array B**	**50.97**	**343**	P	**P**	**04 44 30.8**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=141,slow=9.3,SNR=8.1						
TORD	**Torodi Ar. Bea**	**51.32**	**275**	P	**P**	**04 44 34.1**	**+0.7**
	comp=Z,0.8nm,1.1s,baz=88,slow=7.4,SNR=3.0						
NOA	**NORSAR Array B**	**55.77**	**336**	P	**P**	**04 45 04.9**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=103,slow=6.5,SNR=1.6						
ESDC	**Sonseca Array**	**56.67**	**308**	P	**P**	**04 45 12.8**	**+0.7**
	comp=Z,0.8nm,1.1s,baz=85,slow=5.9,SNR=4.8						
ARCES	**ARCESS Array B**	**57.75**	**348**	P	**P**	**04 45 18.5**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=141,slow=7.8,SNR=4.1						
H01W3	**Cape Leeuwin H**	**74.92**	**133**	T	T	06 08 60.0	
	baz=301,slow=75,SNR=6.0						
H01W2	**Cape Leeuwin H**	**74.93**	**133**	T	T	06 09 02.7	
	baz=301,slow=75,SNR=6.2						
H01W1	**Cape Leeuwin H**	**74.94**	**133**	T	T	06 08 59.9	
	baz=301,slow=75,SNR=8.0						
ASAR	**Alice Springs**	**86.30**	**115**	P	**P**	**04 48 11.0**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=299,slow=4.1,SNR=3.7						

IDC ***07*** *04:38:27.1±1.4, 14°.54N×54°.58E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.5/56, mbtmp3.7/9, ML4.0/1, MS3.8/1, Ms1 3.8/1, ms1mx3.1/38, Error ellipse: s-maj=36.3km s-min=25.3km az=152.0*

NEIC ***07*** *04:38:28.5±2.9, 14°.56N±0°.09×54°.5E±0°.1, h10km±1km, mb4.0/4, Error ellipse: s-maj=20.9km s-min=14.6km az=87.0*

ISC 07 04:38:28.4±0.9, 14°.4N±0°.1×54°.5E±0°.1, h17km, n19, σ1§49/15, mb3.8/10, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.28**	**193**	Pn	**Pn**	**04 39 03.6**	**-1.8**
ATD	**Arta Tunnel**	**11.74**	**257**	Pn	**Pn**	**04 41 15.0**	**-0.4**
	0.9nm,0.3s,baz=107,slow=19,SNR=3.8						
RAYN	**Ar Rayn**	**12.44**	**318**		**Pn**	**04 41 24.2**	**-0.7**
HRA	**Herat**	**21.07**	**18**	P	**P**	**04 43 09.4**	**-2.7**
HRA				IAmb	IAmb	04 43 16.9	
	comp=Z,8.0nm,1.3s						
GEYT	**Alibeck**	**23.64**	**7**	P	**P**	**04 43 38.6**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=192,slow=13,SNR=2.1						
GEYT				LR	LR	04 55 09.2	
	comp=Z,219nm,19.7s,baz=10.0,slow=43						
MK31	**Makanchi Array**	**39.75**	**30**	P	**P**	**04 46 00.9**	**+0.7**
MKAR	**Makanchi Array**	**39.75**	**30**	P	**P**	**04 46 00.9**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=199,slow=5.5,SNR=4.6						
KURBB	**Kurchatov Arra**	**41.02**	**23**	P	**P**	**04 46 10.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=214,slow=6.4,SNR=1.5						
BUR08	**Bucovina Ar. S**	**41.11**	**330**	P	**P**	**04 46 10.1**	**-1.5**
KURK	**Kurchatov**	**41.12**	**23**	P	**P**	**04 46 10.4**	**-1.1**
KURK	**Kurchatov**	**41.12**	**23**	IAmb	IAmb	04 46 19.4	
	comp=Z,4.6nm,1.3s						
ZALV	**Zalesovo Beam**	**46.05**	**24**	P	**P**	**04 46 50.3**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=248,slow=7.8,SNR=4.8						
FINES	**FINESS Array B**	**51.22**	**343**	P	**P**	**04 47 31.9**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=142,slow=9.6,SNR=6.1						
TORD	**Torodi Ar. Bea**	**51.23**	**275**	P	**P**	**04 47 33.7**	**+2.0**
	comp=Z,0.7nm,1.0s,baz=82,slow=5.0,SNR=2.5						
ESDC	**Sonseca Array**	**56.76**	**308**	P	**P**	**04 48 13.1**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=67,slow=4.3,SNR=1.8						
H01W3	**Cape Leeuwin H**	**74.80**	**133**	T	T	06 11 58.1	
	baz=301,slow=76,SNR=13						
H01W2	**Cape Leeuwin H**	**74.81**	**133**	T	T	06 11 58.7	
	baz=301,slow=76,SNR=14						
H01W1	**Cape Leeuwin H**	**74.82**	**133**	T	T	06 11 54.5	
	baz=301,slow=76,SNR=15						
ASAR	**Alice Springs**	**86.27**	**115**	P	**P**	**04 51 11.7**	**+1.8**
	comp=Z,0.6nm,0.7s,baz=304,slow=5.3,SNR=5.4						

BJI ***07*** *04:43:30.1±0.0, 67°.59N×162°.08W, h17km, mB6.0/84, mb5.3/82, Ms6.2/92, Ms7 6.1/86*

MOS ***07*** *04:43:31.3±1.0, 67°.75N×162°.28W, h10km, mb5.8/101, MS5.6/77, Error ellipse: s-maj=10.3km s-min=3.7km az=96.0*

IDC ***07*** *04:43:32.0±0.3, 67°.80N×162°.30W, h0km, mb5.2/44, mb1 5.3/46, mb1mx5.3/50, mbtmp5.2/46, ML4.8/2, MS5.4/33, Ms1 5.4/33, ms1mx5.3/44, Error ellipse: s-maj=10.3km s-min=8.1km az=7.0*

NEIC ***07*** *04:43:32.5, 67°.78N×162°.29W, h4km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=3.62; Mθθ=3.38; Mφφ=0.24; Mrθ=-1.14; Mrφ=-1.52; Mθφ=-1.87; Fault plane solution: M0 4.41000×10¹⁷ NP1:φs315.56000°, δ47.91000°, λ-53.28000°. NP2:φs87.50000°, δ53.50000°, λ-123.50000°. Principal axes: T 4.0159, Plg3.0000°, Azm201.0000°; N 0.6959, Plg26.0000°, Azm109.0000°; P -4.7118, Plg63.0000°, Azm297.0000°;*

UNK ***07*** *04:43:32.0, 67°.73N×162°.38W, h19km*

NEIC ***07*** *04:43:32.5±1.7, 67°.78N±0°.05×162°.3W±0°.1, h4km±1km, mb5.7/622, Ms_20 5.6/752, Mwb5.7/80, Mww5.8, ML5.5(AEIC), Mwc5.9(GCMT), Error ellipse: s-maj=10.1km s-min=6.2km az=308.0*

AEIC ***07*** *04:43:32±2.0, 67°.73N±0°.03×162°.4W±0°.1, h19km±2km, Error ellipse: s-maj=7.2km s-min=3.9km az=115.0*

GCMT ***07*** *04:43:34.5±0.1, 67°.85N×162°.07W, h12km, MW5.8/161, Moment Tensor Solution. s151,c293; s161,c527; Duration: 1s9 Moment tensor: Scale 10¹⁷Nm; Mrr=5.09±.03; Mθθ=4.66±.03; Mφφ=0.43±.04; Mrθ=1.49±.10; Mrφ=-2.73±.03; Mθφ=-0.37±.10; Best double couple: M0 5.77500×10¹⁷ NP1:φs309.00000°, δ40.00000°, λ-71.00000°. NP2:φs104.00000°, δ52.00000°, λ-105.00000°. Principal axes: T 6.1230, Plg6.0000°, Azm205.0000°; N -0.6950, Plg12.0000°, Azm114.0000°; P -5.4280, Plg76.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***07*** *04:43:35, 67°.84N×162°.08W, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=5.72; Mθθ=5.27; Mφφ=0.45; Mrθ=-2.52; Mrφ=-3.13; Mθφ=0.25; Fault plane solution: M0 6.82000×10¹⁷ NP1:φs306.00000°, δ35.00000°, λ-74.00000°. NP2:φs107.00000°, δ56.00000°, λ-101.00000°. Principal axes: T 7.2475, Plg10.0000°, Azm205.0000°; N -0.9472, Plg9.0000°, Azm113.0000°; P -6.3003, Plg76.0000°, Azm343.0000°;*

NEIC ***07*** *04:43:36, 67°.95N×162°.03W, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=4.74; Mθθ=4.36; Mφφ=0.39; Mrθ=-3.58; Mrφ=-2.67; Mθφ=0.54; Fault plane solution: M0 6.41000×10¹⁷ NP1:φs310.00000°, δ30.00000°, λ-67.00000°. NP2:φs105.00000°, δ63.00000°, λ-102.00000°. Principal axes: T 6.7421, Plg17.0000°, Azm204.0000°; N -0.7356, Plg11.0000°, Azm111.0000°; P -6.0066, Plg70.0000°, Azm349.0000°;*

BGR ***07*** *04:43:38.0±0.0, 68°.58N×160°.74W, h10km, mb5.9, Ms5.3*

ISC 07 04:43:33.9±0.4, 67°.73N±0°.03×162°.34W±0°.02, h14km±2km, h13km:pP-P, n1888, σ1§75/1859, mb5.7/505, MS5.6/504, 52C-98D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.39**	**327**		**Sb**	**04 43 48.1**	**-0.6**
RDOG	**Red Dog Mine**	**0.39**	**327**		**Pg**	**04 43 41.3**	**-0.5**
ANM	**Nome**	**3.41**	**203**	P	**Pn**	**04 44 25.5**	**-1.1**
ANM						04 45 08.1	
ANM	**Nome**	**3.41**	**203**		**Pn**	**04 44 25.5**	**-1.1**
ANM					**Sn**	**04 45 08.1**	**+1.3**
IM03		**3.81**	**113**		**Pn**	**04 44 31.2**	**-1.0**
IM03					**Sn**	**04 45 18.4**	**+1.6**
PS05	**TAPS Pump Stn5**	**4.62**	**96**		**Pn**	**04 44 42.2**	**-1.1**
COLD	**Coldfoot**	**4.69**	**91**	Pn	**Pn**	**04 44 44.0**	**-0.3**
TOLK	**Toolik Lake Re**	**4.85**	**73**	P	**Pn**	**04 44 44.8**	**-1.7**
	baz=265,SNR=1000						
TOLK	**Toolik Lake Re**	**4.85**	**73**	Pn	**Pn**	**04 44 46.6**	**+0.2**
PS04	**TAPS Pump Stn4**	**4.92**	**76**		**Pn**	**04 44 47.6**	**+0.2**
PS06	**TAPS Pump Stn6**	**5.33**	**105**		**Pn**	**04 44 52.2**	**-0.8**
MLY	**Manley**	**5.39**	**115**		**Pn**	**04 44 53.8**	**-0.1**
TTA	**Tatalina**	**5.50**	**148**	P	**Pn**	**04 44 54.3**	**-1.1**
TTA	**Tatalina**	**5.50**	**148**		**Pn**	**04 44 54.3**	**-1.1**
TT01	**Tatalina**	**5.51**	**148**		**Pn**	**04 44 54.5**	**-1.0**
GAMB	**Gambell**	**5.53**	**229**	Pn	**Pn**	**04 44 54.4**	**-1.4**
PS01	**TAPS Pump Stn**	**5.55**	**57**		**Pn**	**04 44 55.4**	**-0.6**
BPAW	**Bear Paw Mtn.**	**5.90**	**123**	Pn	**Pn**	**04 44 59.8**	**-1.0**
CAST	**Castle Rocks**	**6.06**	**131**		**Pn**	**04 45 02.6**	**-0.4**
PS07	**TAPS Pump Stn7**	**6.12**	**107**		**Pn**	**04 45 02.8**	**-1.0**
KTH	**Kantishna Hill**	**6.31**	**126**		**Pn**	**04 45 05.5**	**-1.0**
MDM	**Murphy Dome**	**6.32**	**109**		**Pn**	**04 45 05.7**	**-0.9**
PPLA	**Purkeypile**	**6.44**	**134**		**Pn**	**04 45 07.8**	**-0.6**
I53US	**FAIRBANKS INFR**	**6.49**	**109**	Pn	**Pn**	**04 45 09.9**	**+1.0**
	baz=310,slow=21,SNR=9.9						
I53US				*i*		05 23 35.0	
	baz=304,slow=314,SNR=26						
TCOL	**CIGO, UAF Yank**	**6.49**	**109**	P	**Pn**	**04 45 07.4**	**-1.5**
	baz=303						
TCOL	**CIGO, UAF Yank**	**6.49**	**109**		**Pn**	**04 45 08.6**	**-0.4**
COLA	**College**	**6.50**	**109**	P	**Pn**	**04 45 08.0**	**-1.0**
COLA	**College**	**6.50**	**109**		**Pn**	**04 45 08.0**	**-1.0**
POKR	**Poker Plat Res**	**6.52**	**107**	P	**Pn**	**04 45 07.7**	**-1.7**
	baz=300						
POKR	**Poker Plat Res**	**6.52**	**107**		**Pn**	**04 45 08.5**	**-0.8**
TRF	**Thorofare Moun**	**6.58**	**125**		**Pn**	**04 45 09.5**	**-0.8**
CCB	**Clear Creek Bu**	**6.64**	**111**		**Pn**	**04 45 10.2**	**-0.8**
WRH	**Wood River Hil**	**6.64**	**113**		**Pn**	**04 45 09.5**	**-1.5**
FYU	**Fort Yukon**	**6.76**	**92**		**Pn**	**04 45 11.6**	**-1.0**
BM03	**Burnt Mountain**	**6.79**	**84**		**Pn**	**04 45 11.9**	**-1.1**
MCK	**McKinley**	**6.82**	**120**	P	**Pn**	**04 45 12.5**	**-0.9**
MCK	**McKinley**	**6.82**	**120**		**Pn**	**04 45 12.5**	**-0.9**
IL31		**6.90**	**108**		**Pn**	**04 45 13.6**	**-1.0**
ILAR	**Eielson Array**	**6.90**	**108**	Pn	**Pn**	**04 45 14.5**	**-0.1**
	140nm,0.3s,baz=307,slow=16,SNR=1803						
ILAR				Sn	**Sn**	**04 46 30.1**	**-2.7**
	22nm,0.3s,baz=304,slow=23,SNR=3.0						
ILAR				Lg	Lg	04 47 14.6	
	baz=306,slow=30,SNR=4.0						
ILAR				LR	LR	04 48 26.0	
	comp=Z,15μm,18.7s,baz=324,slow=42						
PRP	**Porcupine Dome**	**7.04**	**100**		**Pn**	**04 45 15.5**	**-1.1**
PS08	**TAPS Pump Stn8**	**7.05**	**110**		**Pn**	**04 45 15.4**	**-1.2**
RND	**Reindeer**	**7.07**	**121**	P	**Pn**	**04 45 16.2**	**-0.7**
RND	**Reindeer**	**7.07**	**121**		**Pn**	**04 45 16.2**	**-0.7**
HDA	**Harding Lake**	**7.08**	**111**	P	**Pn**	**04 45 15.6**	**-1.5**
	baz=305						
HDA	**Harding Lake**	**7.08**	**111**		**Pn**	**04 45 16.2**	**-0.8**
SVW2	**Sparrevohn**	**7.27**	**153**		**Pn**	**04 45 18.9**	**-0.7**
CUT	**Chulitna**	**7.37**	**131**		**Pn**	**04 45 20.3**	**-0.7**
WAT2	**Susitna Watana**	**7.47**	**123**		**Pn**	**04 45 22.2**	**-0.3**
WAT1	**Susitna Watana**	**7.57**	**124**		**Pn**	**04 45 23.5**	**-0.3**
STLK	**Strandline Lak**	**7.70**	**139**		**Pn**	**04 45 25.5**	**-0.1**
SPBG	**Spurr Blockage**	**7.78**	**142**		**Pn**	**04 45 26.9**	**+0.2**
DHY	**Denali Highway**	**7.78**	**120**		**Pn**	**04 45 26.4**	**-0.4**
SPCG	**Spurr Capps Gl**	**7.83**	**141**		**Pn**	**04 45 27.1**	**-0.3**
SPCR	**Spurr Chakacha**	**7.87**	**142**		**Pn**	**04 45 28.3**	**+0.4**
WAT6	**Susitna Watana**	**8.01**	**123**		**Pn**	**04 45 29.3**	**-0.7**
PS10	**TAPS Pump St10**	**8.09**	**114**		**Pn**	**04 45 31.3**	**+0.3**
RIDG	**Independent Ri**	**8.22**	**111**		**Pn**	**04 45 31.8**	**-0.9**
GHO	**Glory Hole Cre**	**8.26**	**130**		**Pn**	**04 45 33.5**	**+0.2**
PMR	**Palmer**	**8.35**	**131**	P	**Pn**	**04 45 34.5**	**+0.1**
PMR	**Palmer**	**8.35**	**131**		**Pn**	**04 45 34.5**	**+0.1**
RDWB	**Redoubt West**	**8.36**	**146**		**Pn**	**04 45 33.8**	**-0.9**
SCRK	**Sand Creek**	**8.39**	**108**		**Pn**	**04 45 33.8**	**-1.4**
SML	**Sawmill**	**8.41**	**128**		**Pn**	**04 45 35.0**	**-0.3**
DOT	**Dot Lake**	**8.56**	**110**		**Pn**	**04 45 36.5**	**-0.8**
ILW	**Iliamna West**	**8.69**	**148**		**Pn**	**04 45 38.5**	**-0.7**
SCM	**Sheep Creek Mo**	**8.70**	**126**	P	**Pn**	**04 45 38.9**	**-0.4**
SCM	**Sheep Creek Mo**	**8.70**	**126**		**Pn**	**04 45 38.9**	**-0.4**
IVE	**Iliamna Volcan**	**8.75**	**148**		**Pn**	**04 45 39.9**	**-0.1**
SLKM	**Skilak Lake**	**8.96**	**138**		**Pn**	**04 45 42.1**	**-0.7**
EGAK	**Eagle**	**9.02**	**99**		**Pn**	**04 45 42.8**	**-0.8**
PWL	**Port Wells**	**9.17**	**132**		**Pn**	**04 45 45.4**	**-0.2**
AUH	**Augustine H**	**9.27**	**151**		**Pn**	**04 45 46.2**	**-0.9**
BRSE	**Bradley Lake S**	**9.50**	**142**		**Pn**	**04 45 48.6**	**-1.6**
SEW	**Seward**	**9.50**	**137**		**Pn**	**04 45 51.0**	**+0.8**
EPYK	**Eagle Plains**	**10.06**	**86**	P	**Pn**	**04 45 56.1**	**-1.8**
	baz=289						
EYAK	**Cordova Ski Ar**	**10.18**	**127**		**Pn**	**04 45 58.2**	**-1.2**
INK	**Inuvik**	**10.76**	**74**	Pn	**Pn**	**04 46 05.0**	**-2.4**
	13nm,0.3s,baz=283,slow=14,SNR=80						
INK				Sn	Sn	04 47 56.0	-11
	6.1nm,0.3s,baz=318,slow=14,SNR=2.0						
INK				LR	LR	04 51 00.8	
	comp=Z,50μm,18.1s,baz=264,sl

TIXI LR LR 04 59 30.3
comp=Z,2µm,18.3s,baz=54,slow=42
TIXI Tiksi 22.99 311 *de*P **P 04 48 36.8 -0.9**
TIXI pmax pmax
comp=Z,202nm,2.5s
TIXI MLR MLR
comp=Z,6µm,14.0s
TIXI Tiksi 22.99 311 P **P 04 48 36.4 -1.4**
TIXI IAmb IAmb 04 48 53.3
comp=Z,272nm,1.5s
PET Petropavlovsk 23.70 251 *k i*P **P 04 48 44.6 -0.3**
PET *e* 04 52 30.5
PET *e*S **S 04 52 53.3 -5.8**
PET pmax pmax
comp=Z,4µm,4.7s
PET pmax pmax
comp=Z,2µm,5.8s
PET pmax pmax
comp=Z,223nm,1.1s
PET MLR MLR
comp=Z,13µm,12.0s
PET MLR MLR
comp=Z,16µm,12.0s
PET Petropavlovsk 23.70 251 P **P 04 48 45.1 +0.2**
PET IAmb IAmb 04 48 47.1
comp=Z,277nm,1.2s
PEA0B Petropavlovsk- 23.98 252 *de*P **P 04 48 47.4 -0.2**
PETK Petropavlovsk- 23.98 252 P **P 04 48 47.7 +0.1**
comp=Z,177nm,1.1s,baz=65,slow=12,SNR=91
PETK PcP **PcP 04 52 30.4 +1.3**
comp=Z,7.2nm,1.0s,baz=52,slow=2.4,SNR=3.3
PETK LR LR 04 58 41.1
comp=Z,13µm,19.6s,baz=38,slow=38
LLLB Lillooet 26.19 110 IAMs_20 IAMs_20 05 00 24.1
comp=Z,12µm,19.0s
SKR Severo-Kuril's 26.52 251 *e*P **P 04 49 08.9 -1.7**
SKR *e*S **S 04 53 44.2 +0.1**
SKR pmax pmax
comp=Z,500nm,3.9s
SKR pmax pmax
comp=Z,200nm,3.7s
SKR pmax pmax
comp=Z,128nm,1.2s
SKR pmax pmax
comp=Z,400nm,4.0s
SKR pmax pmax
comp=Z,100nm,3.5s
SKR MLR MLR
comp=Z,6µm,15.0s
SKR MLR MLR
comp=Z,7µm,15.0s
TULEG Thule 26.71 31 IAmb IAmb 04 49 19.2
comp=Z,402nm,1.6s
TULEG IAMs_20 IAMs_20 05 00 19.0
comp=Z,23µm,21.0s
PGC Sidney 27.28 115 IAmb IAmb 04 49 22.0
comp=Z,200nm,1.4s
A04D Lummi Island 27.48 114 P **P 04 49 19.3 -0.1**
baz=328,SNR=11
A04D S **S 04 54 03.8 +4.5**
baz=328
J45C J45C 27.65 123 S S 04 54 15.8 +15
YAK Yakutsk 28.03 292 P **P 04 49 23.8 -0.3**
comp=Z,23nm,0.4s,baz=74,slow=1.9,SNR=9.8
YAK PcP **PcP 04 52 38.5 +0.3**
comp=Z,14nm,0.4s,baz=206,slow=2.0,SNR=2.0
YAK Yakutsk 28.03 292 *e*P **P 04 49 23.8 -0.3**
YAK *e**PP **sP 04 49 30.4 +0.4**
YAK *e*PPP PPP 04 50 19.0
YAK *e* 04 52 38.4
YAK *e*S **S 04 54 09.6 +1.8**
YAK *e**SS **sS 04 54 18.7 +4.1**
YAK *e*SS **SnSn 04 55 27.6 +5.4**
YAK *e*SSS SSS 04 55 41.8
YAK pmax pmax
comp=Z,72nm,1.0s
YAK pmax pmax
comp=N,29nm,1.4s
YAK pmax pmax
comp=E,42nm,1.5s
YAK pmax pmax
comp=Z,263nm,2.3s
YAK pmax pmax
comp=N,235nm,2.2s
YAK pmax pmax
comp=E,281nm,2.2s
YAK smax smax
comp=N,146nm,2.1s
YAK smax smax
comp=E,213nm,2.3s
YAK MLR MLR
comp=Z,4µm,15.0s
YAK MLR MLR
comp=N,4µm,15.0s
YAK MLR MLR
comp=E,2µm,16.0s
YAK Yakutsk 28.03 292 P **P 04 49 24.9 +0.8**
YAK IAmb IAmb 04 49 57.7
comp=Z,148nm,1.2s
B05A Bryant 28.09 114 P **P 04 49 24.1 -0.6**
baz=328,SNR=14
B05A S **S 04 54 10.0 +1.2**
baz=328
D03D Eldon 28.37 116 P **P 04 49 27.5 +0.3**
baz=330,SNR=17
D03D S **S 04 54 15.6 +2.3**
baz=330
D04E Lakebay 28.78 116 P **P 04 49 30.7 -0.2**
baz=330
C06D Leavenworth 28.80 112 P **P 04 49 31.1 0.0**
baz=328
J29C J29C 28.82 124 S S 04 54 29.5 +10
J29C SS **SnSn 04 55 55.3 +14**
E04D Cinebar 29.39 116 P **P 04 49 36.5 +0.2**
baz=330,SNR=15
E04D S **S 04 54 30.9 +1.5**
baz=330
LON Longmire 29.48 115 IAmb IAmb 04 49 43.2
comp=Z,167nm,1.8s
F04D Rainier, OR 29.65 117 P **P 04 49 39.2 +0.5**
baz=331
F04D S **S 04 54 37.5 +4.0**
baz=331
NOR Nord 29.75 10⇓ *i*P **P 04 49 38.9 -0.4**
comp=Z,20µm,14.0s
NOR Nord 29.75 10⇓ *i*P **P 04 49 38.9 -0.4**
NOR MLR MLR
comp=Z,20µm,14.0s
NEW Newport 29.86 108 P **P 04 49 40.3 -0.3**
baz=327,SNR=17
NEW Newport 29.86 108 P **P 04 49 40.8 +0.3**
comp=Z,32nm,1.2s,baz=323,slow=9.0,SNR=19
NEW PcP **PcP 04 52 44.6 +1.4**
comp=Z,7.2nm,0.8s,baz=21,slow=6.7,SNR=3.7
NEW Newport 29.86 108 P **P 04 49 40.8 +0.3**
KULLO Kullorsuaq 30.21 31 *i*P **P 04 49 43.3 0.0**
comp=Z,15µm,18.0s
KULLO Kullorsuaq 30.21 31 *i*P **P 04 49 43.3 0.0**
KULLO MLR MLR
comp=Z,15µm,18.0s
D08A Wollman Farm, 30.23 111 IAMs_20 IAMs_20 05 02 48.5
comp=Z,9µm,18.0s
G03D McMinnville, O 30.33 118 P **P 04 49 44.9 +0.2**
baz=332
E07A Sunnyside 30.33 113 P **P 04 49 45.3 +0.6**
NKL Nikolayevsk 30.34 270 *e*P **P 04 49 44.2 -0.4**
NKL *e*S **S 04 54 49.2 +5.2**
NKL pmax pmax
comp=Z,46nm,1.3s
NKL pmax pmax
comp=E,1.0nm,1.4s
NKL pmax pmax
comp=N,4.0nm,0.6s
NKL smax smax
comp=E,5.0nm,2.1s
NKL smax smax
comp=N,5.0nm,4.2s
F05D White Salmon 30.36 115 P **P 04 49 45.5 +0.6**
baz=330,SNR=10
F05D S **S 04 54 48.4 +3.8**
baz=330
WALA Waterton Lakes 30.38 103 IAmb IAmb 04 49 49.3
comp=Z,219nm,1.4s
FCC Fort Churchill 30.39 73 P **P 04 49 44.8 -0.2**
FCC pmax pmax
comp=Z,133nm,1.5s
FCC Fort Churchill 30.39 73 P **P 04 49 44.8 -0.2**
FCC IAmb IAmb 04 49 47.6
comp=Z,133nm,1.4s
FFC Flin Flon 30.41 85 P **P 04 49 44.7 -0.6**
FFC pmax pmax
comp=Z,81nm,1.4s
FFC MLR MLR
comp=Z,8µm,19.0s
FFC Flin Flon 30.41 85 P **P 04 49 44.7 -0.6**
E08A Dider Farm, El 30.67 112 IAmb IAmb 04 49 51.5
comp=Z,150nm,1.4s
F07A Phinny Hill Vi 30.88 113 IAmb IAmb 04 49 54.0
comp=Z,134nm,1.3s
G05D Wamic, OR 30.96 116 P **P 04 49 51.0 +0.7**
baz=331,SNR=5.5
G05D S **S 04 54 50.7 -3.5**
baz=331
E09A Wood Farm, Sta 30.98 111 IAmb IAmb 04 49 54.2
comp=Z,106nm,1.3s
H04D Lebanon 31.11 118 P **P 04 49 51.5 -0.1**
baz=332
I02D Swisshome 31.11 120 P **P 04 49 51.2 -0.4**
baz=333
H04A Detroit Lake 31.16 117 P **P 04 49 52.8 +0.8**
H04A IAmb IAmb 04 49 56.4
comp=Z,95nm,1.3s
H04A PcP **PcP 04 52 48.3 +1.6**
G06A Carlson Farm, 31.21 115 IAmb IAmb 04 49 57.0
comp=Z,149nm,1.5s
JTMT Jette 31.33 105 P **P 04 49 54.0 +0.4**
JTMT IAmb IAmb 04 49 57.9
comp=Z,158nm,1.3s
JTMT IAMs_20 IAMs_20 05 04 15.4
comp=Z,9µm,18.0s
TYV Tymovskoe 31.39 265 *e*P **P 04 49 54.3 +0.4**
TYV *e*S **S 04 55 03.4 +2.8**
TYV pmax pmax
comp=Z,1µm,4.6s
TYV pmax pmax
comp=Z,52nm,1.1s
TYV smax smax
comp=N,16nm,1.4s
TYV MLR MLR
comp=E,6µm,15.0s
TYV MLR MLR
comp=Z,11µm,18.0s
I03D Drain, OR 31.64 120 P **P 04 49 56.0 -0.2**
baz=333
I03D S **S 04 55 10.4 +5.8**
baz=333
I05D Terrebonne, OR 31.75 117 P **P 04 49 57.5 +0.2**
baz=332,SNR=20
I05D S **S 04 55 12.0 +5.5**
baz=332
I04A Tendick Farm, 31.87 118 P **P 04 49 58.5 +0.1**
baz=332,SNR=14
J01E Myrtle Point 31.93 121 P **P 04 49 57.9 -0.8**
baz=334
MSO Missoula 32.23 106 P **P 04 50 00.9 -0.7**
baz=328,SNR=52
PINE Pine Mountain 32.37 117 IAmb IAmb 04 50 07.9
comp=Z,185nm,1.2s
K02D Willamette Mer 32.43 121 P **P 04 50 04.4 +1.1**
baz=334
K02D S **S 04 55 24.3 +7.2**
baz=334
J04D Umpqua Nationa 32.46 118 P **P 04 50 04.1 +0.4**
baz=333,SNR=11
J05D Fort Rock, OR 32.72 117 P **P 04 50 06.3 +0.4**
baz=332,SNR=40
J05D S **S 04 55 25.9 +4.1**
baz=332
EGMT Eagleton 32.78 100 P **P 04 50 05.8 -0.5**
baz=326,SNR=36
EGMT Eagleton 32.78 100 IAmb IAmb 04 50 09.9
comp=Z,134nm,1.4s
K04D Chiloquin, OR 33.13 119 P **P 04 50 10.3 +0.8**
baz=333
L04D Klamath Falls 33.31 120 P **P 04 50 11.4 +0.4**
baz=334,SNR=16
K05A Summer Lake 33.33 117 IAmb IAmb 04 50 16.6
comp=Z,220nm,1.4s
KBS Kingsbay 33.52 2 *ce*P **P 04 50 12.7 +0.4**
KBS pmax pmax
comp=Z,133nm,1.7s
KBS MLR MLR
comp=Z,8µm,16.0s
KBS Kingsbay 33.52 2 P **P 04 50 13.4 +1.1**
KBS Kingsbay 33.52 2 IAMs_20 IAMs_20 05 02 06.2
comp=Z,12µm,22.0s
KBS Kingsbay 33.52 2 *e*P **P 04 50 13.8 +1.4**
J08A Circle Bar Ran 33.60 114 IAmb IAmb 04 50 18.3
comp=Z,116nm,1.3s
YBH Yreka Blue Hor 33.61 120 IAmb IAmb 04 50 18.9
comp=Z,114nm,1.6s
GRNR Gornyy 33.84 271⇑ *i*P **P 04 50 14.9 -0.5**
GRNR *e*S **S 04 55 40.4 +1.7**
GRNR *e*SS **SS 04 58 16.8 +12**
GRNR pmax pmax
comp=N,30nm,1.0s
GRNR pmax pmax
comp=Z,60nm,1.1s
GRNR smax smax
comp=N,4.0nm,1.1s
GRNR MLR MLR
comp=E,4µm,16.0s
GRNR MLR MLR
comp=N,11µm,13.0s
GRNR MLR MLR
comp=Z,16µm,13.0s
M04C Macdoel 33.85 119 P **P 04 50 16.4 +0.6**
baz=334,SNR=7.8
M02C Callahan 33.87 121 P **P 04 50 17.1 +1.3**
baz=334,SNR=9.8
M02C S **S 04 55 47.2 +7.7**
baz=334
DLMT Dillon 33.97 106 IAMs_20 IAMs_20 05 05 21.2
comp=Z,9µm,18.0s
DAG Danmarks Havn 34.01 14⇓ *i*P **P 04 50 16.2 -0.4**
comp=Z,80nm,1.1s
comp=Z,10µm,14.0s
DAG Danmarks Havn 34.01 14⇓ *i*P **P 04 50 16.2 -0.4**
DAG pmax pmax
comp=Z,80nm,1.1s
KUR Kuril'sk 34.10 254 *d i*P **P 04 50 17.3 -0.4**
KUR *e*PPP PPP 04 51 49.3
KUR *e* 04 52 57.9
KUR *e*S **S 04 55 43.1 +0.3**
KUR pmax pmax
comp=Z,254nm,1.4s
KUR pmax pmax
comp=Z,1µm,3.2s
KUR MLR MLR
comp=Z,7µm,18.0s
KUR MLR MLR
comp=N,13µm,19.0s
KUR MLR MLR
comp=E,6µm,16.0s
MOD Modoc Plateau 34.26 117 IAmb IAmb 04 50 24.2
comp=Z,93nm,1.2s
N02D Trinity Center 34.29 121 P **P 04 50 19.8 +0.3**
baz=334,SNR=17
N02D S **S 04 55 51.8 +5.8**
baz=334
SPA0 Spitsbergen Ar 34.30 0 P **P 04 50 19.5 +0.3**
SPA0 IAmb IAmb 04 50 27.0
comp=Z,92nm,1.2s
SPA0 PcP **PcP 04 52 55.9 +1.1**
SPA0 Spitsbergen Ar 34.30 0 *e*P **P 04 50 18.8 -0.4**
SPITS Spitsbergen Ar 34.30 0 P **P 04 50 18.5 -0.7**
comp=Z,7.8nm,0.5s,baz=46,slow=6.0,SNR=34
SPITS PcP **PcP 04 52 54.4 -0.4**
comp=Z,15nm,0.6s,baz=79,slow=4.3,SNR=14
WVOR Wild Horse Val 34.36 115 IAmb IAmb 04 50 25.1
comp=Z,127nm,1.4s
DGMT Dagmar 34.52 94 P **P 04 50 21.1 -0.3**
baz=325,SNR=43
YSS Yuzh-Sakhalins 34.55 261 *k i*P **P 04 50 21.4 -0.2**
YSS *e**SP **sP 04 50 30.2 +2.8**
YSS *e* 04 51 34.8
YSS *e*PPP PPP 04 51 56.0
YSS *e* 04 52 58.6
YSS *e*S **S 04 55 47.8 -1.9**
YSS *e*SS **SS 04 58 27.0 +7.8**
YSS pmax pmax
comp=Z,60nm,1.1s
YSS pmax pmax
comp=N,40nm,1.2s
YSS pmax pmax
comp=E,40nm,1.3s
YSS pmax pmax
comp=Z,1µm,5.8s
YSS smax smax
comp=N,700nm,11.0s
YSS smax smax
comp=E,900nm,12.0s
YSS MLR MLR
comp=N,11µm,14.0s
YSS MLR MLR
comp=Z,20µm,14.0s
YSS MLR MLR
comp=E,6µm,13.0s
YSS Yuzh-Sakhalins 34.55 261 P **P 04 50 22.3 +0.8**
YSS IAmb IAmb 04 50 33.4
comp=Z,216nm,1.7s
YSS IAMs_20 IAMs_20 05 05 01.8
comp=Z,13µm,20.0s
KMRM Mail Ridge 34.65 123 IAmb IAmb 04 50 29.4
comp=Z,80nm,1.0s
WDC Whiskeytown Da 34.70 121 IAmb IAmb 04 50 27.3
comp=Z,112nm,1.4s
ZEA Zeya 34.96 282 *e*P **P 04 50 24.8 -0.2**
ZEA *e* 04 51 49.0
ZEA *e* 04 55 58.0
ZEA pmax pmax
comp=Z,58nm,1.0s
ZEA pmax pmax
comp=E,600nm,5.0s
ZEA pmax pmax
comp=Z,2µm,5.0s
ZEA pmax pmax
comp=N,800nm,6.0s
ZEA MLR MLR
comp=N,10µm,13.0s
ZEA MLR MLR
comp=E,11µm,13.0s
ZEA MLR MLR
comp=Z,23µm,13.0s
O02D Mt. Diablo Mer 34.98 122 P **P 04 50 26.1 +0.6**
baz=335
NRIK Noril'sk 35.13 325 P **P 04 50 26.2 -0.2**
comp=Z,139nm,0.8s,baz=50,slow=7.7,SNR=122
NRIK LR LR 05 08 21.0
comp=Z,7µm,18.3s,baz=34,slow=42
NRIK PKKP **PKKPdf 05 15 05.5 +1.1**
comp=Z,1.9nm,0.5s,baz=24,slow=2.9,SNR=3.6
SUMG Summit 35.16 26 *i*P **P 04 50 27.3 +0.2**
comp=Z,1µm,1.3s
comp=Z,28µm,19.0s
SUMG Summit 35.16 26 P **P 04 50 26.8 -0.3**
SUMG pmax pmax
comp=Z,356nm,1.2s
SUMG MLR MLR
comp=Z,11µm,19.0s
SUMG Summit 35.16 26 P **P 04 50 26.8 -0.3**
SUMG IAMs_20 IAMs_20 05 05 34.3
comp=Z,11µm,19.0s
KCPM Cahto Peak 35.17 123 IAmb IAmb 04 50 32.3
comp=Z,231nm,1.9s
O03E Paynes Creek 35.20 120 P **P 04 50 27.5 +0.1**
baz=335,SNR=32
LAO LASA Array 35.23 98 P **P 04 50 27.4 -0.1**
baz=327,SNR=77
LAO LASA Array 35.23 98 IAmb IAmb 04 50 31.7
comp=Z,233nm,1.4s
RLMT Red Lodge 35.41 102 P **P 04 50 29.3 0.0**
baz=328,SNR=46
RLMT Red Lodge 35.41 102 IAmb IAmb 04 50 33.5
comp=Z,126nm,1.3s
LKWY Lake 35.46 104 IAmb IAmb 04 50 37.5
comp=Z,215nm,1.3s
LKWY IAMs_20 IAMs_20 05 03 40.6
comp=Z,12µm,19.0s
ILULI Ilulissat 35.48 35 *i*P **P 04 50 30.4 +1.0**
comp=Z,19µm,23.0s
ILULI Ilulissat 35.48 35 *i*P **P 04 50 30.4 +1.0**
ILULI MLR MLR
comp=Z,19µm,23.0s
ILULI Ilulissat 35.48 35 IAMs_20 IAMs_20 05 05 39.8
comp=Z,16µm,22.0s
HSPB Hornsund (broa 35.48 1 *e*P **P 04 50 28.8 -0.6**
HSPB *e*S **S 04 56 03.0 -0.5**
HSPB *e*L L 05 02 49.0
comp=Z,14µm,23.0s
HSPB Hornsund (broa 35.48 1 *e*P **P 04 50 29.4 +0.1**
H17A Grant Village 35.54 104 P **P 04 50 30.2 -0.2**
baz=329,SNR=29
H17A S **S 04 56 11.2 +5.6**
baz=329
H17A Grant Village 35.54 104 IAmb IAmb 04 50 44.9
comp=Z,219nm,1.4s
FLWY Flagg Ranch 35.76 105 IAmb IAmb 04 50 39.0
comp=Z,259nm,1.4s
IMW Indian Meadow 35.84 105 IAmb IAmb 04 50 38.3
comp=Z,205nm,1.1s
HOPS Hopland Field 35.97 123 P **P 04 50 35.5 +1.6**
ORV Oroville 35.97 121 P **P 04 50 34.0 +0.1**
ORV PcP **PcP 04 53 01.3 +1.0**
TPAW Teton Pass 36.18 106 IAmb IAmb 04 50 41.1
comp=Z,99nm,1.1s
GDXM Geysers 36.23 123 P **P 04 50 39.1 +3.0**
ULM Lac du Bonnet 36.24 85 P **P 04 50 34.8 -1.2**
comp=Z,11nm,0.7s,baz=324,slow=9.4,SNR=12
ULM PcP **PcP 04 53 00.8 0.0**
comp=Z,30nm,0.8s,baz=315,slow=4.3,SNR=6.6
ULM LR LR 05 08 05.8
comp=Z,5µm,21.6s,baz=330,slow=41
ULM Lac du Bonnet 36.24 85 *d i*P **P 04 50 33.6 -2.5**
ULM Lac du Bonnet 36.24 85 P **P 04 50 35.4 -0.7**
ULM IAmb IAmb 04 50 39.6
comp=Z,154nm,1.7s
ULM Lac du Bonnet 36.24 85 IAMs_20 IAMs_20 05 07 09.7
comp=Z,8µm,18.0s
SNOW Snow King Moun 36.28 105 IAmb IAmb 04 50 43.4
comp=Z,97nm,1.1s
REDW Red Top Meadow 36.33 106 IAmb IAmb 04 50 42.2
comp=Z,151nm,1.3s
BOD Bodaibo 36.53 297 *e*P **P 04 50 38.1 -0.4**
BOD pmax pmax
comp=Z,86nm,1.1s
AFDM Forest Hills D 36.69 120 P **P 04 50 40.4 +0.3**
AFDM PcP **PcP 04 53 04.4 +2.0**
MDND Maddock 36.78 90 P **P 04 50 40.8 0.0**
baz=326,SNR=82
MDND S **S 04 56 27.4 +3.5**
baz=326
RUBR Rubicon Trail 36.87 119 IAmb IAmb 04 50 49.9
comp=Z,113nm,1.1s
HVU Hansel Valley 37.00 109 P **P 04 50 44.3 +1.4**
HVU pmax pmax
comp=Z,101nm,1.5s
HVU Hansel Valley 37.00 109 P **P 04 50 44.3 +1.4**
BW06 Boulder Array 37.32 105 P **P 04 50 45.4 -0.2**
baz=330,SNR=126
BW06 Boulder Array 37.32 105 IAmb IAmb 04 50 49.9
comp=Z,278nm,1.5s
PD31 Pinedale Array 37.32 105 IAmb IAmb 04 50 49.9
comp=Z,238nm,1.4s
PDAR Pinedale Array 37.32 105 P **P 04 50 45.8 +0.1**
comp=Z,88nm,1.1s,baz=337,slow=9.7,SNR=125
PDAR PcP **PcP 04 53 05.0 +0.4**
comp=Z,8.7nm,0.8s,baz=36,slow=1.1,SNR=5.4
SFJD Kangerlussuaq 37.38 37 *i*P **P 04 50 46.1 +0.6**
comp=Z,830nm,18.0s
SFJD Kangerlussuaq 37.38 37 P **P 04 50 45.4 -0.1**
SFJD pmax pmax
comp=Z,269nm,1.6s
SFJD MLR MLR
comp=Z,13µm,19.0s
SFJD Kangerlussuaq 37.38 37 P **P 04 50 45.4 -0.1**
SFJD IAmb IAmb 04 50 49.4
comp=Z,269nm,1.6s
SFJD Kangerlussuaq 37.38 37 IAMs_20 IAMs_20 05 08 16.9
comp=Z,13µm,19.0s
E28A Huff 37.42 93 IAMs_20 IAMs_20 05 06 56.1
comp=Z,9µm,20.0s
WAKR Walker 37.60 119 IAmb IAmb 04 50 52.9
comp=Z,160nm,1.2s
AGMN Agassiz Nation 37.83 87 P **P 04 50 48.7 -0.9**
baz=325,SNR=41
AGMN Agassiz Nation 37.83 87 IAmb IAmb 04 50 54.4
comp=Z,189nm,1.6s
AGMN IAMs_20 IAMs_20 05 08 23.9
comp=Z,8µm,18.0s
NVAR Mina Array Bea 38.05 118 P **P 04 50 52.8 +0.9**

comp=Z,71nm,0.9s,baz=314,slow=6.8,SNR=140
NVAR PcP **PcP** **04 53 07.7 +0.8**
comp=Z,4.8nm,0.7s,baz=308,slow=3.0,SNR=3.3
NVAR LR LR 05 05 15.5
comp=Z,3μm,21.9s,baz=336,slow=34
NV11 Mina Array Sit 38.09 117 IAmb IAmb 04 50 57.0
comp=Z,150nm,1.2s
RSSD Black Hills 38.22 98 P **P** **04 50 52.4 -0.8**
baz=328
RSSD Black Hills 38.22 98 P **P** **04 50 53.1 -0.1**
RSSD pmax pmax
comp=Z,36nm,1.1s
RSSD MLR MLR
comp=Z,5μm,19.0s
RSSD Black Hills 38.22 98 P **P** **04 50 53.1 -0.1**
D32A Dogwood Acres, 38.35 89 IAmb IAmb 04 50 58.6
comp=Z,398nm,1.6s
D32A IAMs_20 IAMs_20 05 08 32.8
comp=Z,7μm,20.0s
DUG Dugway, Tooele 38.38 110 P **P** **04 50 54.6 0.0**
baz=332,SNR=66
TEY Ternei 38.49 266⇑ *i* P **P** **04 50 53.5 -1.7**
TEY *e* 04 52 25.7
TEY pmax pmax
comp=N,10.0nm,2.5s
TEY pmax pmax
comp=E,10.0nm,2.4s
TEY pmax pmax
comp=Z,20nm,2.2s
TEY pmax pmax
comp=N,200nm,3.7s
TEY pmax pmax
comp=Z,300nm,4.6s
TEY pmax pmax
comp=E,100nm,3.8s
TEY pmax pmax
comp=Z,100nm,5.7s
MDPB Devils Postpil 38.51 119 IAmb IAmb 04 51 00.9
comp=Z,249nm,1.3s
K22A Casper 38.55 102 P **P** **04 50 54.9 -1.0**
baz=330,SNR=30
K22A S **S** **04 56 58.8 +7.6**
baz=330
OMMB Old Mammoth Mi 38.55 119 IAmb IAmb 04 51 01.4
comp=Z,220nm,1.3s
MLAC Mammoth, Mammc 38.59 119 P **P** **04 50 57.9 +1.5**
baz=335,SNR=22
MLAC S S 04 57 01.1 +9.0
baz=335
ERM Erimo 38.61 256 *ce* P **P** **04 50 57.5 +1.3**
ERM pmax pmax
comp=Z,159nm,1.3s
ERM Erimo 38.61 256 P **P** **04 50 57.5 +1.3**
ERM IAmb IAmb 04 50 58.5
comp=Z,175nm,1.3s
R11A Troy Canyon, C 39.05 115 P **P** **04 51 00.4 +0.2**
baz=334,SNR=250
R11A Troy Canyon, C 39.05 115 IAmb IAmb 04 51 04.6
comp=Z,151nm,1.2s
PMPB Monarch Peak 39.23 122 IAmb IAmb 04 51 06.9
comp=Z,195nm,1.3s
TIN Tinemaha, Big 39.31 119 P **P** **04 51 03.0 +0.6**
baz=335,SNR=9.6
SCO Scoresbysund 39.46 20 *i* P **P** **04 51 03.1 +0.1**
SCO *e* 04 52 27.4
comp=Z,10μm,15.0s
SCO Scoresbysund 39.46 20 *i* P **P** **04 51 03.1 +0.1**
SCO MLR MLR
comp=Z,10μm,15.0s
VOG Valley Oaks Go 39.60 120 P **P** **04 51 04.8 +0.3**
baz=336
GRAC Grapevine Rang 39.66 118 P **P** **04 51 06.4 +1.3**
baz=335,SNR=23
GRAC S **S** **04 57 14.3 +6.5**
baz=335
F33A 5 Mile Ranch, 39.71 89 IAmb IAmb 04 51 09.1
comp=Z,393nm,1.5s
EYMN Ely 39.78 83 P **P** **04 51 05.2 -0.8**
baz=326,SNR=55
EYMN Ely 39.78 83 IAmb IAmb 04 51 10.8
comp=Z,367nm,1.7s
EYMN Ely 39.78 83 IAMs_20 IAMs_20 05 09 26.4
comp=Z,8μm,20.0s
SUSD Miller 39.87 93 P **P** **04 51 05.9 -0.9**
baz=328
SUSD S **S** **04 57 12.7 +1.9**
baz=328
SUSD Miller 39.87 93 IAmb IAmb 04 51 10.4
comp=Z,291nm,1.4s
CWC Cottonwood Cre 39.92 119 P **P** **04 51 08.3 +0.8**
baz=336
TPNV Topopah Spring 40.08 116 P **P** **04 51 08.8 +0.1**
baz=335,SNR=86
O20A White River Ci 40.10 105 P **P** **04 51 08.2 -0.7**
baz=331,SNR=26
O20A White River Ci 40.10 105 IAMs_20 IAMs_20 05 08 40.3
comp=Z,7μm,20.0s
VES Vestal, Richgr 40.13 120 P **P** **04 51 08.6 -0.4**
baz=336,SNR=22
N23A Red Feather La 40.28 102 P **P** **04 51 09.7 -0.9**
baz=331,SNR=40
FURC Furnace Creek, 40.31 117 P **P** **04 51 10.9 +0.5**
baz=335,SNR=49
SMMC Simmler 40.32 122 P **P** **04 51 11.3 +0.7**
baz=337,SNR=11
MPMC Manual Prospec 40.47 118 P **P** **04 51 12.5 +0.4**
baz=336,SNR=77
ISA Isabella, Lake 40.50 120 P **P** **04 51 12.1 -0.1**
baz=336,SNR=55
ISA S **S** **04 57 23.5 +3.1**
baz=336
MIDW Midway 40.56 201 IAMs_20 IAMs_20 05 07 01.1
comp=Z,6μm,20.0s
F36A Milaca 40.75 87 IAmb IAmb 04 51 18.6
comp=Z,246nm,1.6s
F36A IAMs_20 IAMs_20 05 09 59.0
comp=Z,7μm,20.0s
PKM Mcpherson Peak 40.77 122 P **P** **04 51 15.4 +0.9**
baz=337,SNR=38
ARVC Arvin 40.87 120 P **P** **04 51 14.2 -1.0**
baz=336,SNR=6.0
E38A The Farm, Brul 40.87 84 IAmb IAmb 04 51 19.4
comp=Z,275nm,1.6s
E38A IAMs_20 IAMs_20 05 10 12.3
comp=Z,10μm,19.0s
LRMC Laurel Mtn Rad 40.93 119 P **P** **04 51 15.7 0.0**
baz=336,SNR=20
USA0B Ussuriysk Arra 40.95 269 *d* P **P** **04 51 13.0 -2.7**
USA0B Ussuriysk Arra 40.95 269 P **P** **04 51 15.3 -0.4**
USA0B IAMs_20 IAMs_20 05 08 16.2
comp=Z,9μm,19.0s
USRK Ussuriysk Ar, 40.95 269 P **P** **04 51 15.0 -0.7**
comp=Z,31nm,0.9s,baz=39,slow=7.5,SNR=51
USRK PcP **PcP** **04 53 17.5 +1.8**
comp=Z,9.5nm,0.8s,baz=33,slow=5.2,SNR=4.3
USRK LR LR 05 08 35.5
comp=Z,9μm,18.1s,baz=24,slow=37
SHOC Shoshone, Teco 41.02 117 P **P** **04 51 17.1 +0.7**
baz=335,SNR=54
SBC Santa Barbara 41.21 122 P **P** **04 51 18.1 +0.2**
baz=337
PV21 Cone Mtn., Par 41.21 107 IAmb IAmb 04 51 22.1
comp=Z,170nm,1.3s
PV23 Carpenter Ridg 41.30 107 IAmb IAmb 04 51 22.9
comp=Z,199nm,1.4s
HIA Hailar 41.34 284 IAMs_20 IAMs_20 05 07 32.5
comp=Z,8μm,18.0s
PV10 Paradox Valley 41.35 107 IAMs_20 IAMs_20 05 10 52.7
comp=Z,6μm,20.0s
ISCO Idaho Springs 41.36 103 P **P** **04 51 19.5 0.0**
baz=331,SNR=53
ECSD EROS Data Cent 41.37 91 P **P** **04 51 18.4 -0.8**
baz=328,SNR=65
ECSD EROS Data Cent 41.37 91 IAmb IAmb 04 51 23.6
comp=Z,252nm,1.9s
ECSD EROS Data Cent 41.37 91 IAMs_20 IAMs_20 05 08 22.6
comp=Z,8μm,19.0s
EDW2 Edwards Air Fo 41.37 120 P **P** **04 51 19.5 +0.2**
baz=336,SNR=23
OSI Osito Audit: C 41.37 121 P **P** **04 51 19.5 +0.1**
baz=337
OSI S **S** **04 57 39.0 +5.6**
baz=337
OSI Osito Audit: C 41.37 121 P **P** **04 51 20.9 +1.6**
GSC Goldstone, Bar 41.38 118 P **P** **04 51 19.9 +0.5**
baz=336,SNR=75
GSC Goldstone, Bar 41.38 118 IAmb IAmb 04 51 24.2
comp=Z,138nm,1.1s

PV04 Paradox Valley 41.39 107 IAmb IAmb 04 51 23.7
comp=Z,186nm,1.2s
PV20 West Nyswonger 41.41 107 IAmb IAmb 04 51 23.8
comp=Z,226nm,1.4s
PV11 David Mesa, Pa 41.48 107 IAMs_20 IAMs_20 05 11 00.1
comp=Z,6μm,19.0s
PV12 Saucer Basin, 41.49 107 IAMs_20 IAMs_20 05 09 57.3
comp=Z,10μm,18.0s
K31A O'Neill 41.50 94 IAmb IAmb 04 51 23.5
comp=Z,282nm,1.3s
MDJ Mudanjiang 41.52 272 P **P** **04 51 20.6 +0.3**
MDJ pP sP 04 51 25.4 -0.8
MDJ sP pP 04 51 27.8 +3.3
MDJ S **S** **04 57 34.4 -0.8**
MDJ pmax pmax
comp=Z,39nm,1.2s
MDJ pmax pmax
comp=Z,1μm,9.3s
MDJ LR LR
comp=Z,14μm,16.0s
MDJ LR LR
comp=Z,14μm,14.6s
MDJ LR LR
comp=Z,7μm,23.0s
MDJ Mudanjiang 41.52 272 IAMs_20 IAMs_20 05 07 40.9
comp=Z,9μm,20.0s
SPMN Marine on St. 41.56 86 P **P** **04 51 20.2 -0.5**
baz=328,SNR=18
SPMN Marine on St. 41.56 86 IAmb IAmb 04 51 24.6
comp=Z,352nm,1.8s
SPMN IAMs_20 IAMs_20 05 10 38.4
comp=Z,7μm,19.0s
TUQ Turquoise Moun 41.56 117 P **P** **04 51 21.6 +0.6**
baz=336,SNR=26
TUQ S **S** **04 57 40.6 +4.3**
baz=336
D41A Chassel 41.62 81 IAmb IAmb 04 51 23.9
comp=Z,143nm,1.2s
D41A IAMs_20 IAMs_20 05 09 25.0
comp=Z,11μm,21.0s
SCZ2 Santa Cruz Isl 41.65 122 P **P** **04 51 21.5 0.0**
baz=337
OGNE Ogallala 41.70 98 P **P** **04 51 22.0 0.0**
baz=330
OGNE Ogallala 41.70 98 IAmb IAmb 04 51 25.8
comp=Z,455nm,2.0s
OGNE IAMs_20 IAMs_20 05 10 52.7
comp=Z,6μm,19.0s
RRX Edison Barstow 41.71 118 P **P** **04 51 22.2 +0.2**
baz=336,SNR=6.3
HAMF Hammerfest 41.83 357 *e* P **P** **04 51 22.5 0.0**
DECC Green Verdugo 41.83 120 P **P** **04 51 23.2 +0.1**
baz=337,SNR=7.5
VLA Vladivostok 41.91 268 *i* P **P** **04 51 23.7 +0.1**
VLA pmax pmax
comp=Z,31nm,0.9s
VLA MLR MLR
comp=Z,6μm,16.0s
MWC Mount Wilson 41.95 120 P **P** **04 51 24.5 +0.3**
MWC pmax pmax
comp=Z,367nm,1.4s
MWC MLR MLR
comp=Z,3μm,20.0s
MWC Mount Wilson 41.95 120 P **P** **04 51 24.5 +0.3**
PASC Pasadena Art C 41.96 120 P **P** **04 51 24.7 +0.7**
PASC IAmb IAmb 04 51 28.6
comp=Z,189nm,1.3s
HEC Hector,Ludlow 41.97 118 P **P** **04 51 24.7 +0.5**
baz=336,SNR=17
HEC S **S** **04 57 47.1 +4.8**
baz=336
BFSC Mount Baldy Ra 42.07 120 P **P** **04 51 25.6 +0.5**
baz=336,SNR=109
BFSC S **S** **04 57 48.7 +4.9**
baz=336
COWI Conover 42.21 82 IAmb IAmb 04 51 29.4
comp=Z,228nm,1.8s
COWI IAMs_20 IAMs_20 05 09 44.6
comp=Z,10μm,22.0s
GMRC Granite Mounta 42.24 117 P **P** **04 51 27.0 +0.5**
baz=336,SNR=66
GMRC S **S** **04 57 49.5 +3.1**
baz=336
Q24A Divide 42.27 103 P **P** **04 51 26.9 0.0**
baz=332
Q24A S **S** **04 57 51.0 +4.0**
baz=332
BBRC Big Bear Solar 42.29 119 P **P** **04 51 27.8 +0.8**
baz=336
FMP Fort Macarthur 42.34 121 P **P** **04 51 27.0 -0.1**
baz=337
I37A Lemond, Waseca 42.35 88 IAMs_20 IAMs_20 05 10 44.6
comp=Z,8μm,20.0s
SNCC San Nicolas Is 42.37 122 P **P** **04 51 26.7 -0.7**
baz=338
G40A Rib Lake 42.51 84 IAMs_20 IAMs_20 05 11 10.6
comp=Z,8μm,20.0s
MVCO Mesa Verde 42.58 108 P **P** **04 51 28.8 -0.7**
baz=333,SNR=25
CIS Catalina Islan 42.59 121 P **P** **04 51 28.8 -0.4**
baz=337,SNR=13
NEE2 Needles Airpor 42.61 116 P **P** **04 51 29.3 0.0**
baz=336
NEE2 S **S** **04 57 57.6 +6.0**
baz=336
KEV Kevo 42.63 355 P **P** **04 51 28.5 -0.6**
KEV pmax pmax
comp=Z,50nm,0.9s
KEV Kevo 42.63 355 P **P** **04 51 28.5 -0.6**
KEV IAMs_20 IAMs_20 05 08 01.7
comp=Z,8μm,22.0s
MSHR Mys Shultsa 42.65 269 *ce* P **P** **04 51 28.8 -0.8**
MSHR pmax pmax
comp=Z,11nm,1.0s
MSHR MLR MLR
comp=Z,3μm,17.0s
S22A 4UR Ranch, Cre 42.72 106 P **P** **04 51 30.9 +0.4**
baz=332,SNR=64
S22A S **S** **04 57 58.8 +5.1**
baz=332
S22A 4UR Ranch, Cre 42.72 106 IAMs_20 IAMs_20 05 11 06.7
comp=Z,6μm,19.0s
BGNE Belgrade 42.77 94 P **P** **04 51 29.2 -1.5**
baz=330,SNR=10
BGNE Belgrade 42.77 94 IAmb IAmb 04 51 33.7
comp=Z,151nm,1.1s
BGNE IAMs_20 IAMs_20 05 10 38.9
comp=Z,11μm,20.0s
E43A Lone Tree Farm 42.79 80 IAmb IAmb 04 51 33.9
comp=Z,279nm,1.9s
E43A IAMs_20 IAMs_20 05 10 09.8
comp=Z,10μm,21.0s
MURC Murrieta 42.81 119 P **P** **04 51 31.1 +0.1**
baz=337,SNR=15
IVI Ivigtut 42.83 41 IAmb IAmb 04 51 37.7
comp=Z,124nm,0.9s
IVI IAMs_20 IAMs_20 05 10 33.1
comp=Z,10μm,21.0s
BELC Belle Mtn. Jos 42.84 118 P **P** **04 51 31.6 +0.2**
baz=336,SNR=38
BELC S **S** **04 57 55.3 0.0**
baz=336
SCHQ Schefferville 42.87 58 P **P** **04 51 30.5 -0.7**
comp=Z,58nm,0.9s,baz=334,slow=8.5,SNR=38
SCHQ LR LR 05 10 51.3
comp=Z,15μm,21.7s,baz=329,slow=38
SCHQ Schefferville 42.87 58 IAmb IAmb 04 51 34.8
comp=Z,137nm,1.2s
ARCES ARCESS Array B 42.89 356 P **P** **04 51 30.4 -0.9**
comp=Z,11nm,0.9s,baz=17,slow=9.1,SNR=30
ARCES PcP **PcP** **04 53 21.5 -0.2**
comp=Z,22nm,0.7s,baz=346,slow=3.5,SNR=12
ARCES LR LR 05 08 17.8
comp=Z,7μm,21.9s,baz=358,slow=35
ARE0 ARCESS Array S 42.89 356 P **P** **04 51 31.2 -0.1**
ARE0 PcP **PcP** **04 53 22.4 +0.7**
ARE0 ARCESS Array S 42.89 356 *eP* **P** **04 51 31.3 +0.1**
TRO Tromso 42.90 359 *eP* **P** **04 51 31.9 +0.7**
SCI2 San Clemente I 42.93 121 P **P** **04 51 31.9 -0.1**
baz=337,SNR=8.2
L34A Svendsen Farm, 42.97 92 IAmb IAmb 04 51 35.0
comp=Z,359nm,1.6s
IRM Iron Mountain 42.99 117 P **P** **04 51 33.2 +0.7**
baz=336,SNR=28
IRM S **S** **04 58 01.5 +4.3**
baz=336
PFO Pinyon Flats O 43.04 119 P **P** **04 51 32.9 -0.1**
baz=336,SNR=27

PFO Pinyon Flats O 43.04 119 P **P** **04 51 32.7 -0.3**
PFO pmax pmax
comp=Z,95nm,1.2s
PFO Pinyon Flats O 43.04 119 P **P** **04 51 32.7 -0.3**
XPFO Pion Flat 43.04 119 P **P** **04 51 33.2 +0.2**
WUAZ Wupatki 43.07 112 P **P** **04 51 33.6 +0.3**
baz=334,SNR=70
WUAZ Wupatki 43.07 112 IAmb IAmb 04 51 37.8
comp=Z,235nm,1.3s
KSCO Kaye Shedlock' 43.16 100 P **P** **04 51 33.8 -0.1**
baz=331,SNR=24
KSCO S **S** **04 58 02.6 +2.7**
baz=331
KSCO Kaye Shedlock' 43.16 100 IAMs_20 IAMs_20 05 11 56.4
comp=Z,6μm,19.0s
PDMCI Parker Dam,Lak 43.20 116 P **P** **04 51 34.3 +0.2**
baz=336,SNR=28
PDMCI S **S** **04 58 05.0 +4.8**
baz=336
SDCO Great Sand Dun 43.21 104 P **P** **04 51 34.4 -0.1**
baz=332,SNR=62
BC3 Big Chuckawall 43.34 117 P **P** **04 51 35.4 0.0**
baz=336,SNR=29
MATQ Matagami 43.40 70 P **P** **04 51 33.8 -1.8**
baz=326,SNR=23
D46A Sault St. Mari 43.46 78 P **P** **04 51 34.3 -1.8**
baz=327
KTK1 Kautokeino 43.47 357 *eP* **P** **04 51 36.5 +0.6**
109C Camp Elliot, M 43.49 120 P **P** **04 51 35.3 -1.1**
baz=337,SNR=19
109C Camp Elliot, M 43.49 120 IAmb IAmb 04 51 41.1
comp=Z,169nm,1.2s
I40A Norwalk 43.52 86 IAmb IAmb 04 51 41.5
comp=Z,270nm,1.6s
I40A IAMs_20 IAMs_20 05 12 20.3
comp=Z,5μm,20.0s
NRS Narsarsuaq 43.54 39 *i* P **P** **04 51 36.4 -0.1**
NRS *e* 04 53 18.4
comp=Z,17μm,20.0s
NRS Narsarsuaq 43.54 39 *eP* **P** **04 51 36.4 -0.1**
NRS *e* 04 53 18.4
NRS MLR MLR
comp=Z,17μm,20.0s
Y12C Blythe 43.57 116 P **P** **04 51 37.4 +0.2**
baz=336,SNR=35
Y12C S **S** **04 58 09.6 +4.0**
baz=336
Y12C Blythe 43.57 116 IAmb IAmb 04 51 41.8
comp=Z,123nm,1.1s
N33A J Bar K, Exete 43.62 94 IAmb IAmb 04 51 40.3
comp=Z,230nm,1.2s
N33A IAMs_20 IAMs_20 05 10 42.3
comp=Z,7μm,20.0s
D47A Chapleau 43.67 77 P **P** **04 51 36.0 -1.9**
baz=327,SNR=70
D47A S **S** **04 58 06.5 -0.4**
baz=327
MONP2 Monument Peak 43.71 119 P **P** **04 51 38.2 -0.3**
baz=337,SNR=59
K38A Parkersburg 43.76 88 IAMs_20 IAMs_20 05 11 57.8
comp=Z,8μm,21.0s
CN2 Changchun 43.78 275 *eP* **P** **04 51 38.4 -0.3**
CN2 PP **PP** **04 53 21.7 +1.3**
CN2 *eS* **S** **04 58 07.9 -0.6**
CN2 pmax pmax
comp=Z,30nm,1.3s
CN2 pmax pmax
comp=Z,1μm,5.0s
CN2 LR LR
comp=Z,14μm,14.0s
CN2 LR LR
comp=Z,15μm,14.0s
CN2 LR LR
comp=Z,12μm,14.0s
E46A Sault Ste Mari 43.80 78 IAmb IAmb 04 51 41.9
comp=Z,216nm,1.9s
CHJN Chongjin 43.84 269 P P 04 51 28.4 -11
SWSC Sam W. Stewart 43.87 118 P **P** **04 51 39.4 -0.1**
baz=337,SNR=16
Y14A Wickenburg 43.92 115 IAmb IAmb 04 51 44.0
comp=Z,133nm,1.6s
F45A CMU Biological 43.93 80 P **P** **04 51 38.5 -1.3**
baz=328,SNR=23
F45A S **S** **04 58 11.9 +1.4**
baz=328
W18A Petrified Fore 44.01 110 P **P** **04 51 40.8 0.0**
baz=334,SNR=16
W18A S **S** **04 58 16.6 +4.2**
baz=334
W18A Petrified Fore 44.01 110 IAmb IAmb 04 51 45.5
comp=Z,294nm,1.5s
IKP In-Ko-Pah, Jac 44.04 119 P **P** **04 51 41.0 0.0**
baz=337,SNR=18
D48A Paudash Townsh 44.05 75 P **P** **04 51 39.1 -1.7**
baz=327,SNR=37
D48A S **S** **04 58 11.9 -0.5**
baz=327
GLA Glamis 44.10 117 P **P** **04 51 41.7 +0.2**
baz=336,SNR=17
GLA Glamis 44.10 117 IAmb IAmb 04 51 46.0
comp=Z,95nm,1.1s
H43A Windswept, Lux 44.10 83 IAMs_20 IAMs_20 05 10 52.8
comp=Z,11μm,21.0s
E47A Iron Bridge 44.11 77 P **P** **04 51 39.7 -1.6**
baz=328,SNR=32
E47A S **S** **04 58 11.5 -1.7**
baz=328
LVZ Lovozero 44.13 351 *ce* P **P** **04 51 42.6 +1.3**
LVZ pmax pmax
comp=Z,168nm,2.5s
LVZ MLR MLR
comp=Z,9μm,20.0s
LVZ Lovozero 44.13 351 P **P** **04 51 40.5 -0.7**
LVZ IAMs_20 IAMs_20 05 10 14.3
comp=Z,9μm,20.0s
D49A Beulah Townshi 44.13 75 P **P** **04 51 40.5 -1.1**
baz=327,SNR=51
D49A S **S** **04 58 14.2 +0.6**
baz=327
T25A Trinidad 44.15 104 P **P** **04 51 41.5 -0.5**
baz=332,SNR=29
T25A S **S** **04 58 18.1 +3.7**
baz=332
T25A Trinidad 44.15 104 IAMs_20 IAMs_20 05 12 45.5
comp=Z,5μm,18.0s
I42A Draeger Farm, 44.16 84 IAMs_20 IAMs_20 05 11 25.4
comp=Z,6μm,19.0s
N35A Tabor 44.20 92 IAMs_20 IAMs_20 05 12 03.6
comp=Z,6μm,19.0s
LSQQ Lebel-sur-Quev 44.22 70 P **P** **04 51 40.9 -1.3**
baz=327
SCIA State Center 44.23 89 P **P** **04 51 41.8 -0.5**
baz=329,SNR=14
SCIA State Center 44.23 89 IAMs_20 IAMs_20 05 13 44.2
comp=Z,6μm,19.0s
IRK Irkutsk 44.34 299 *eP* **P** **04 51 43.4 +0.3**
IRK pmax pmax
comp=Z,215nm,2.9s
LOF Lofoten 44.38 2 *eP* **P** **04 51 42.4 -0.8**
G45A Suttons Bay 44.42 80 P **P** **04 51 42.6 -1.2**
baz=328,SNR=12
G45A S **S** **04 58 18.5 +0.7**
baz=328
CBKS Cedar Bluff 44.42 98 P **P** **04 51 43.1 -0.9**
baz=331,SNR=14
CBKS Cedar Bluff 44.42 98 IAmb IAmb 04 51 47.5
comp=Z,279nm,1.7s
CHGQ Chibougamau 44.43 67 P **P** **04 51 42.2 -1.7**
baz=327,SNR=16
X18A Snowflake 44.46 111 IAmb IAmb 04 51 49.2
comp=Z,164nm,1.4s
G46A Petoskey 44.48 79 P **P** **04 51 42.9 -1.4**
baz=328,SNR=10.0
G46A S **S** **04 58 19.7 +1.0**
baz=328
JFWS Jewell Farm 44.49 86 P **P** **04 51 43.3 -1.1**
baz=329,SNR=24
JFWS Jewell Farm 44.49 86 IAmb IAmb 04 51 48.6
comp=Z,249nm,1.7s
JFWS Jewell Farm 44.49 86 IAMs_20 IAMs_20 05 12 26.1
comp=Z,8μm,18.0s
E48A Lockeyer 44.50 76 P **P** **04 51 42.8 -1.7**
baz=328,SNR=37
E48A S **S** **04 58 18.9 -0.1**
baz=328
APA Apatity 44.53 351⇓ *i* P **P** **04 51 43.4 -1.0**
APA *i* 04 53 30.2

APA *i* S **S** **04 58 16.0 -2.8**
APA *i* 05 01 36.0
APA pmax pmax
comp=Z,27nm,0.8s
APA MLR MLR
comp=Z,11µm,15.0s
STEI Steigen 44.60 1 *e*P **P** **04 51 44.5 -0.5**
H45A Beulah 44.63 81 P **P** **04 51 44.3 -1.2**
baz=328
H45A S **S** **04 58 21.6 +0.8**
baz=328
113A Mohawk Valley, 44.72 116 IAmb IAmb 04 51 50.9
comp=Z,122nm,1.4s
D50A G1974 Best Tow 44.78 74 P **P** **04 51 45.4 -1.3**
baz=328,SNR=27
D50A S **S** **04 58 23.5 +0.6**
baz=328
VLDQ Val d'Or 44.85 71 IAmb IAmb 04 51 47.9
comp=Z,164nm,1.7s
L40A Anamosa 44.85 87 IAmb IAmb 04 51 48.6
comp=Z,76nm,0.9s
L40A IAMs_20 IAMs_20 05 12 32.6
comp=Z,7µm,21.0s
F48A Evansville 44.89 77 P **P** **04 51 46.3 -1.2**
baz=328,SNR=24
F48A S **S** **04 58 23.5 -1.0**
baz=328
BORG Borgarnes 44.92 22 P **P** **04 51 48.5 +0.9**
BORG pmax pmax
comp=Z,284nm,1.4s
BORG MLR MLR
comp=Z,4µm,19.0s
BORG Borgarnes 44.92 22 P **P** **04 51 48.5 +0.9**
G47A Hillman 44.98 79 P **P** **04 51 46.8 -1.4**
baz=328,SNR=14
G47A S **S** **04 58 26.2 +0.3**
baz=328
GLMI Grayling 44.99 80 P **P** **04 51 47.4 -1.0**
baz=329,SNR=13
GLMI Grayling 44.99 80 P **P** **04 51 47.3 -1.1**
H46A Fife Lake 45.01 80 P **P** **04 51 47.1 -1.4**
baz=328,SNR=13
H46A S **S** **04 58 27.4 +1.0**
baz=328
D51A Lot 18 Range I 45.01 73 P **P** **04 51 47.1 -1.4**
baz=328,SNR=12
D51A S **S** **04 58 27.0 +0.7**
baz=328
TLY Talaya 45.02 299 *ce*P **P** **04 51 50.3 +1.7**
TLY pmax pmax
comp=Z,33nm,1.0s
TLY MLR MLR
comp=Z,6µm,16.0s
TLY Talaya 45.02 299 P **P** **04 51 48.6 0.0**
TLY IAMs_20 IAMs_20 05 12 51.8
comp=Z,8µm,18.0s
I45A Fountain 45.05 82 P **P** **04 51 47.7 -1.2**
baz=329
I45A S **S** **04 58 27.8 +0.8**
baz=329
I45A Fountain 45.05 82 IAMs_20 IAMs_20 05 11 40.8
comp=Z,9µm,18.0s
E50A Wahnapitae 45.08 75 P **P** **04 51 47.8 -1.3**
baz=328,SNR=27
E50A S **S** **04 58 27.4 +0.1**
baz=328
F49A Sandfield 45.16 77 P **P** **04 51 48.2 -1.5**
baz=328,SNR=12
F49A S **S** **04 58 27.0 -1.4**
baz=328
R32A Long Quarter, 45.16 97 P **P** **04 51 47.9 -1.9**
R32A IAmb IAmb 04 51 52.9
comp=Z,121nm,1.2s
R32A PcP **PcP** **04 53 30.5 +0.6**
N38A Joes South For 45.18 90 IAmb IAmb 04 51 52.2
comp=Z,194nm,1.2s
N38A IAMs_20 IAMs_20 05 13 54.3
comp=Z,6µm,18.0s
MJB9 Matsu-Tunnel 45.24 258 IAmb IAmb 04 51 53.1
comp=Z,76nm,0.9s
MJB9 IAMs_20 IAMs_20 05 11 13.0
comp=Z,9µm,20.0s
MAJO Matsushiro 45.24 258 *di*P **P** **04 51 50.2 -0.3**
MAJO pmax pmax
comp=Z,86nm,0.9s
MAJO Matsushiro 45.24 258 P **P** **04 51 51.2 +0.7**
MAJO IAmb IAmb 04 51 53.1
comp=Z,77nm,0.9s
MAJO Matsushiro 45.24 258 IAMs_20 IAMs_20 05 10 52.0
comp=Z,8µm,20.0s
MAT Matsushiro 45.24 258 P **P** **04 51 50.6 +0.1**
MAT S **S** **04 58 29.6 -0.4**
MJAR Matsushiro Arr 45.24 258 P **P** **04 51 51.0 +0.5**
comp=Z,44nm,0.9s,baz=11,slow=7.1,SNR=65
MJAR LR LR 05 11 24.5
comp=Z,9µm,20.3s,baz=30,slow=37
H47A Mio 45.34 79 P **P** **04 51 49.2 -1.9**
baz=328,SNR=8.0
H47A S **S** **04 58 31.7 +0.6**
baz=328
ANMO Albuquerque 45.35 107 P **P** **04 51 51.9 +0.3**
baz=334
ANMO Albuquerque 45.35 107 *ce*P **P** **04 51 51.8 +0.3**
ANMO pmax pmax
comp=Z,122nm,1.3s
ANMO Albuquerque 45.35 107 P **P** **04 51 51.8 +0.2**
ANMO IAmb IAmb 04 51 56.1
comp=Z,116nm,1.2s
ANMO PcP **PcP** **04 53 31.6 +0.7**
KSU1 Kansas State U 45.36 95 P **P** **04 51 49.9 -1.5**
baz=331,SNR=6.7
KSU1 Kansas State U 45.36 95 IAMs_20 IAMs_20 05 12 43.3
comp=Z,11µm,21.0s
K43A Burlington 45.40 84 IAMs_20 IAMs_20 05 12 51.0
comp=Z,7µm,21.0s
I46A Reed City 45.43 81 P **P** **04 51 50.6 -1.3**
baz=329,SNR=6.5
I46A S **S** **04 58 33.2 +0.7**
baz=329
E51A G1948 Merrick 45.44 74 P **P** **04 51 50.6 -1.4**
baz=328,SNR=26
E51A S **S** **04 58 32.4 -0.1**
baz=328
D52A ZEK Kipawa Sen 45.46 73 P **P** **04 51 49.8 -2.3**
baz=328,SNR=33
D52A S **S** **04 58 33.2 +0.4**
baz=328
L42A Oliver, Polo 45.49 86 IAmb IAmb 04 51 54.4
comp=Z,104nm,1.2s
L42A IAMs_20 IAMs_20 05 12 58.6
comp=Z,8µm,18.0s
J45A Montague 45.51 82 P **P** **04 51 51.1 -1.4**
baz=329
J45A S **S** **04 58 34.7 +1.2**
baz=329
J45A Montague 45.51 82 IAMs_20 IAMs_20 05 11 54.9
comp=Z,7µm,18.0s
H48A Harrisville 45.58 79 P **P** **04 51 51.6 -1.4**
baz=328,SNR=19
H48A S **S** **04 58 34.4 -0.2**
baz=328
D53A Lac Vacive, Po 45.63 72 P **P** **04 51 52.7 -0.7**
baz=328,SNR=24
D53A S **S** **04 58 34.4 -0.9**
baz=328
D53A Lac Vacive, Po 45.63 72 IAmb IAmb 04 51 56.9
comp=Z,105nm,1.4s
D53A IAMs_20 IAMs_20 05 14 27.5
comp=Z,8µm,20.0s
I47A Gladwin 45.72 80 P **P** **04 51 53.1 -1.1**
baz=329,SNR=28
I47A S **S** **04 58 37.5 +0.9**
baz=329
KGE Kanggye 45.79 272 P **P** **04 51 54.4 -0.4**
214A Organ Pipe Nat 45.79 116 P **P** **04 51 55.3 +0.4**
baz=336,SNR=35
214A S **S** **04 58 42.9 +4.9**
baz=336
214A Organ Pipe Nat 45.79 116 IAmb IAmb 04 51 59.5
comp=Z,76nm,1.1s
F51A Arnstein 45.80 75 P **P** **04 51 53.0 -1.8**
baz=328,SNR=16
F51A S **S** **04 58 36.7 -1.0**
baz=328
J46A Howard City 45.86 82 P **P** **04 51 54.6 -0.7**
baz=329,SNR=8.8
J46A S **S** **04 58 39.8 +1.1**
baz=329
I48A Sherman Twp 45.88 79 P **P** **04 51 54.5 -0.8**
baz=329,SNR=26
I48A S **S** **04 58 39.0 +0.2**
baz=329
MOY Mondy 45.91 301 *e*P **P** **04 51 56.3 +0.5**
MOY pmax pmax
comp=Z,270nm,3.3s
D54A Lac Fusel, La 45.95 71 P **P** **04 51 54.6 -1.3**
baz=328,SNR=44
D54A S **S** **04 58 40.6 +0.7**
baz=328
Y22D IRIS PASSCAL I 45.96 108 P **P** **04 51 56.9 +0.6**
baz=334
E52A Mattawa 45.96 74 P **P** **04 51 54.6 -1.4**
baz=328,SNR=28
E52A S **S** **04 58 40.2 +0.2**
baz=328
L44A Lake County Fo 46.01 84 P **P** **04 51 55.7 -0.8**
baz=329,SNR=15
L44A S **S** **04 58 41.7 +0.9**
baz=329
L44A Lake County Fo 46.01 84 IAMs_20 IAMs_20 05 12 32.2
comp=Z,6µm,20.0s
KONS Konsvik 46.01 3 *e*P **P** **04 51 55.9 -0.3**
P38A Dawn 46.08 91 IAMs_20 IAMs_20 05 12 30.2
comp=Z,7µm,19.0s
F52A Sundridge 46.13 74 P **P** **04 51 56.1 -1.3**
baz=328,SNR=30
F52A S **S** **04 58 43.3 +0.8**
baz=328
N41A Harden Midland 46.16 88 IAMs_20 IAMs_20 05 13 21.2
comp=Z,9µm,20.0s
TUC Tucson 46.17 113 P **P** **04 51 58.5 +0.6**
baz=336
TUC Tucson 46.17 113 P **P** **04 51 57.7 -0.3**
TUC pmax pmax
comp=Z,90nm,1.5s
TUC MLR MLR
comp=Z,3µm,18.0s
TUC Tucson 46.17 113 P **P** **04 51 57.7 -0.3**
TUC IAmb IAmb 04 52 02.0
comp=Z,90nm,1.4s
SNY Shenyang 46.18 275 ⇓P **P** **04 51 57.1 -0.7**
SNY S **S** **04 58 43.9 +0.6**
SNY pmax pmax
comp=Z,52nm,1.1s
SNY pmax pmax
comp=Z,1µm,5.3s
SNY LR LR
comp=Z,12µm,15.3s
SNY LR LR
comp=Z,36µm,15.2s
SNY LR LR
comp=Z,13µm,13.3s
E53A Dumoine, Ponti 46.24 73 P **P** **04 51 57.1 -1.2**
baz=328,SNR=32
E53A S **S** **04 58 45.2 +1.1**
baz=328
ZAK Zakamensk 46.25 298 *e*P **P** **04 51 58.0 -0.4**
ZAK pmax pmax
comp=Z,27nm,1.1s
J47A Sunmer 46.27 81 P **P** **04 51 57.5 -0.9**
baz=329,SNR=9.1
J47A S **S** **04 58 45.6 +1.1**
baz=329
HHU Hamhung 46.32 270 P **P** **04 51 58.5 -0.4**
MOR8 Moi Rana 46.36 2 *e*P **P** **04 51 58.3 -0.7**
E54A Lac Daplat, Po 46.37 72 P **P** **04 51 58.1 -1.2**
baz=328
E54A S **S** **04 58 46.0 +0.1**
baz=328
I49A Point Hope 46.42 79 P **P** **04 51 58.3 -1.3**
baz=329,SNR=22
I49A S **S** **04 58 46.7 +0.1**
baz=329
I49A Point Hope 46.42 79 IAmb IAmb 04 52 01.7
comp=Z,136nm,1.2s
ALGO Algonquin Park 46.46 73 P **P** **04 51 58.5 -1.5**
baz=328,SNR=24
D55A Sainte-Anne-du 46.49 70 P **P** **04 51 59.1 -1.1**
baz=328,SNR=25
D55A S **S** **04 58 48.7 +1.1**
baz=328
J48A Bridge Port 46.61 80 P **P** **04 52 00.3 -0.8**
baz=329
J48A S **S** **04 58 50.6 +1.3**
baz=329
J48A Bridge Port 46.61 80 P **P** **04 52 00.9 -0.3**
J48A PcP **PcP** **04 53 35.6 +0.8**
M44A Midewin, Midew 46.64 85 IAMs_20 IAMs_20 05 13 45.9
comp=Z,6µm,20.0s
K47A Vermontville 46.69 81 P **P** **04 52 00.5 -1.3**
baz=329,SNR=17
K47A S **S** **04 58 51.0 +0.5**
baz=329
D56A ZEC Mazanza, M 46.72 70 P **P** **04 52 00.7 -1.3**
baz=328,SNR=23
D56A S **S** **04 58 50.2 -0.7**
baz=328
P40A Paris 46.72 90 IAmb IAmb 04 52 03.6
comp=Z,97nm,1.0s
P40A IAMs_20 IAMs_20 05 15 02.3
comp=Z,7µm,20.0s
INU Inuyama 46.75 258 IAMs_20 IAMs_20 05 11 39.7
comp=Z,5µm,21.0s
E55A Montcerf-Lytto 46.76 71 P **P** **04 52 00.8 -1.5**
baz=329,SNR=10
E55A S **S** **04 58 52.2 +0.7**
baz=329
L46A Eue Claire 46.76 83 IAMs_20 IAMs_20 05 10 21.1
comp=Z,5µm,22.0s
J49A Marlette 46.80 79 P **P** **04 52 01.2 -1.4**
baz=329,SNR=10
J49A S **S** **04 58 52.9 +0.9**
baz=329
U32A Winter Ranch, 46.84 99 IAmb IAmb 04 52 06.1
comp=Z,122nm,1.4s
U32A IAMs_20 IAMs_20 05 11 39.7
comp=Z,5µm,21.0s
HDIL Hopedale 46.88 87 P **P** **04 52 02.3 -1.1**
baz=330,SNR=40
HDIL Hopedale 46.88 87 IAMs_20 IAMs_20 05 14 26.4
comp=Z,7µm,20.0s
K48A Perry 46.91 81 P **P** **04 52 02.4 -1.1**
baz=329,SNR=13
K48A S **S** **04 58 54.5 +0.8**
baz=329
H52A Wyevale 46.91 76 P **P** **04 52 01.6 -1.9**
baz=329,SNR=14
H52A S **S** **04 58 53.3 -0.3**
baz=329
G54A Lake Saint Pet 46.92 74 P **P** **04 52 02.2 -1.4**
baz=329,SNR=26
G54A S **S** **04 58 54.1 +0.2**
baz=329
G53A Haliburton 46.96 74 P **P** **04 52 02.8 -1.1**
baz=329,SNR=51
G53A S **S** **04 58 54.1 -0.3**
baz=329
WOSN Wonsan 47.02 270 P **P** **04 52 04.5 +0.1**
121A Cookes Peak, D 47.03 110 P **P** **04 52 05.3 +0.5**
baz=335,SNR=34
121A S **S** **04 59 02.2 +6.2**
baz=335
121A Cookes Peak, D 47.03 110 IAmb IAmb 04 52 09.7
comp=Z,128nm,1.2s
E56A St. Veronique 47.05 70 P **P** **04 52 03.0 -1.6**
baz=329,SNR=12
E56A S **S** **04 58 56.0 +0.4**
baz=329
D57A Chemin Vers le 47.06 69 P **P** **04 52 03.3 -1.3**
baz=329,SNR=37
D57A S **S** **04 58 54.9 -0.9**
baz=329
SADO Sadowa 47.07 75 IAMs_20 IAMs_20 05 13 05.1
comp=Z,8µm,20.0s
ULN Ulaanbaatar 47.10 293 *ce*P **P** **04 52 05.8 +0.7**
ULN pmax pmax
comp=Z,29nm,1.3s
ULN Ulaanbaatar 47.10 293 P **P** **04 52 04.6 -0.5**
ULN Ulaanbaatar 47.10 293 IAMs_20 IAMs_20 05 13 03.7
comp=Z,6µm,20.0s
LATQ La Tuque 47.14 68 P **P** **04 52 04.5 -0.7**
baz=329,SNR=26
LATQ La Tuque 47.14 68 IAMs_20 IAMs_20 05 13 01.5
comp=Z,5µm,21.0s
K49A Clarkson 47.17 80 P **P** **04 52 04.3 -1.3**
baz=329
K49A S **S** **04 58 58.7 +1.3**
baz=329
F55A Otter Lake 47.18 72 P **P** **04 52 04.5 -1.1**
baz=329,SNR=21
F55A S **S** **04 58 58.0 +0.5**
baz=329
I51A Listowel 47.20 77 P **P** **04 52 04.4 -1.5**
baz=329,SNR=43
I51A S **S** **04 58 58.4 +0.4**
baz=329
I52A Shelburne 47.29 76 P **P** **04 52 05.0 -1.5**
baz=329,SNR=20
I52A S **S** **04 58 59.1 -0.1**
baz=329
SUJ Sinuiju 47.33 273 P **P** **04 52 06.2 -0.6**
D58A Chemin du LacG 47.35 68 P **P** **04 52 05.6 -1.3**
baz=329,SNR=25
D58A S **S** **04 58 59.1 -0.7**
baz=329
SONM Songino Array 47.35 294 P **P** **04 52 07.7 +0.6**
comp=Z,32nm,0.9s,baz=30,slow=6.6,SNR=95
SONM LR LR 05 12 18.4
comp=Z,4µm,19.0s,baz=36,slow=36
H53A Bobcaygeon 47.45 75 P **P** **04 52 06.3 -1.4**
baz=329,SNR=21
H53A S **S** **04 59 00.7 -0.6**
baz=329
E57A Chemin Saint G 47.48 70 P **P** **04 52 06.7 -1.3**
baz=329,SNR=21
K50A Casco 47.49 79 P **P** **04 52 06.8 -1.3**
baz=330
AAM Ann Arbor 47.51 81 P **P** **04 52 07.3 -0.9**
baz=330
L48A N Adams 47.53 81 IAmb IAmb 04 52 10.1
comp=Z,98nm,0.9s
L48A IAMs_20 IAMs_20 05 13 08.2
comp=Z,9µm,19.0s
G55A Calabogie 47.55 73 P **P** **04 52 06.9 -1.6**
baz=329,SNR=46
G55A S **S** **04 59 02.2 -0.5**
baz=329
O44A Mansfield 47.55 86 IAmb IAmb 04 52 10.5
comp=Z,159nm,1.6s
O44A IAMs_20 IAMs_20 05 14 12.0
comp=Z,7µm,19.0s
PYS Pyongsong 47.55 271 P **P** **04 52 11.2 +2.7**
319A Douglas 47.55 112 IAmb IAmb 04 52 14.7
comp=Z,99nm,1.1s
MSTX Muleshoe 47.57 104 P **P** **04 52 08.2 -0.7**
baz=334
M47A Cromwell 47.58 83 P **P** **04 52 07.8 -1.0**
baz=330
M47A S **S** **04 59 03.8 +0.5**
baz=330
TMCR Tamitsa 47.59 348 *e*P **P** **04 52 08.3 -0.2**
TMCR pmax pmax
comp=Z,32nm,1.0s
P43A Skaggs, Pawnee 47.59 88 IAMs_20 IAMs_20 05 13 29.1
comp=Z,7µm,21.0s
PLVO Plevna 47.60 73 IAmb IAmb 04 52 10.3
comp=Z,44nm,0.9s
PLVO IAMs_20 IAMs_20 05 12 07.9
comp=Z,8µm,18.0s
JHJ Hachijo jima 2 47.71 254 LR LR 05 12 50.7
comp=Z,2µm,20.6s,baz=71,slow=37
I53A Kortright Cn E 47.72 76 P **P** **04 52 08.9 -0.9**
baz=329
I53A S **S** **04 59 05.3 +0.2**
baz=329
R40A Maddies Statio 47.72 91 IAMs_20 IAMs_20 05 15 05.6
comp=Z,5µm,19.0s
PYAG Pyongyang 47.76 271 P **P** **04 52 11.0 +0.9**
PYAG sP sP 04 52 40.0 +24
PYAG PP **PP** **04 54 05.0 +3.4**
PYAG S **S** **04 59 05.0 -0.8**
PYAG sS sS 04 59 36.0 +23
D59A Saint-Raymond 47.79 68 P **P** **04 52 09.5 -0.8**
baz=329,SNR=6.5
D59A S **S** **04 59 07.3 +1.1**
baz=329
F57A Harrington 47.80 71 P **P** **04 52 09.1 -1.3**
baz=329
F57A S **S** **04 59 06.5 +0.2**
baz=329
ORIO Orleans, Innes 47.81 72 P **P** **04 52 09.2 -1.3**
baz=329,SNR=35
ORIO Orleans, Innes 47.81 72 IAMs_20 IAMs_20 05 15 31.6
comp=Z,4µm,20.0s
E58A La Victoria 47.83 69 P **P** **04 52 09.3 -1.3**
baz=329,SNR=20
E58A S **S** **04 59 08.0 +1.4**
baz=329
S39A Bolivar 47.84 92 IAmb IAmb 04 52 13.2
comp=Z,173nm,1.6s
S39A IAMs_20 IAMs_20 05 14 26.9
comp=Z,6µm,19.0s
DELO Deloro Mine 47.85 74 IAmb IAmb 04 52 12.8
comp=Z,128nm,1.5s
DELO IAMs_20 IAMs_20 05 13 38.6
comp=Z,9µm,21.0s
SFIN Lafayette 47.87 85 P **P** **04 52 10.0 -1.1**
baz=330,SNR=16
SFIN S **S** **04 59 08.0 +0.6**
baz=330
SFIN Lafayette 47.87 85 IAMs_20 IAMs_20 05 14 26.4
comp=Z,7µm,20.0s
J52A Paris 47.89 77 P **P** **04 52 09.5 -1.7**
baz=330,SNR=14
J52A S **S** **04 59 07.3 -0.4**
baz=330
K51A Iona Station 47.95 78 P **P** **04 52 10.2 -1.4**
baz=330,SNR=6.0
K51A S **S** **04 59 08.0 -0.5**
baz=330
NSS Namsos 47.97 3 *e*P **P** **04 52 11.6 +0.2**
N47A Urbana 47.97 83 IAMs_20 IAMs_20 05 12 24.0
comp=Z,7µm,22.0s
H55A Tweed 47.98 74 P **P** **04 52 10.4 -1.5**
baz=329,SNR=33
H55A S **S** **04 59 10.0 +1.1**
baz=329
E59A St. Maurice 48.01 68 P **P** **04 52 11.3 -0.7**
baz=329
L50A Kingsville 48.05 80 P **P** **04 52 11.3 -1.1**
baz=330,SNR=18
L50A S **S** **04 59 10.4 +0.4**
baz=330
F58A St-Lin Laurent 48.07 70 P **P** **04 52 11.2 -1.2**
baz=329
F58A S **S** **04 59 10.0 -0.1**
baz=329
I55A Frankford 48.09 74 P **P** **04 52 11.5 -1.1**
baz=329,SNR=15
I55A S **S** **04 59 10.4 0.0**
baz=329
D60A Saint Jean D'O 48.19 67 P **P** **04 52 12.0 -1.4**
baz=329,SNR=6.7
D60A S **S** **04 59 11.9 +0.1**
baz=329
SLM Saint Louis 48.19 89 IAMs_20 IAMs_20 05 15 59.1
comp=Z,6µm,22.0s
K52A Tillsonburg 48.20 78 P **P** **04 52 11.9 -1.6**
baz=330,SNR=7.5
K52A S **S** **04 59 12.3 +0.3**
baz=330
D61A St Aubert, Com 48.20 66 P **P** **04 52 11.6 -1.8**
baz=329,SNR=21
N48A Decatur 48.24 83 P **P** **04 52 12.5 -1.3**
baz=330,SNR=21
N48A S **S** **04 59 12.7 0.0**
baz=330
OKCFA Oklahoma City 48.28 98 IAmb IAmb 04 52 18.2
comp=Z,138nm,1.4s
H56A Elgin 48.28 73 P **P** **04 52 12.9 -1.2**
baz=330,SNR=26
H56A S **S** **04 59 13.1 0.0**
baz=330
G57A Newington 48.30 71 P **P** **04 52 13.1 -1.2**
baz=329,SNR=29
G57A S **S** **04 59 13.4 +0.1**
baz=329
CCM Cathedral Cave 48.31 90 P **P** **04 52 13.2 -1.3**
baz=331
CCM Cathedral Cave 48.31 90 P **P** **04 52 12.5 -2.0**
CCM pmax pmax
comp=Z,100nm,1.1s
CCM MLR MLR

comp=Z,7µm,21.0s
CCM Cathedral Cave 48.31 90 P **P** **04 52 12.5 -2.0**
CCM IAmb IAmb 04 52 15.7
comp=Z,100nm,1.1s
CCM Cathedral Cave 48.31 90 IAMs_20 IAMs_20 05 12 49.3
comp=Z,7µm,21.0s
KSRS Korea Array 48.33 268 P **P** **04 52 15.2 +0.6**
comp=Z,49nm,0.8s,baz=21,slow=7.9,SNR=125
KSRS LR LR 05 12 34.2
comp=Z,4µm,18.1s,baz=34,slow=36
WMOK Wichita Mounta 48.38 99 P **P** **04 52 13.9 -1.2**
baz=333,SNR=54
WMOK Wichita Mounta 48.38 99 IAmb IAmb 04 52 18.2
comp=Z,110nm,1.4s
WMOK Wichita Mounta 48.38 99 IAMs_20 IAMs_20 05 13 35.1
comp=Z,6µm,22.0s
Q44A Meyer Farm, Va 48.42 88 IAMs_20 IAMs_20 05 14 50.2
comp=Z,8µm,21.0s
F59A Saint Guilaume 48.45 69 P **P** **04 52 14.8 -0.6**
baz=330
F59A S **S** **04 59 15.8 +0.3**
baz=330
TUL1 Leonard 48.47 96 P **P** **04 52 14.3 -1.4**
baz=332,SNR=33
TUL1 Leonard 48.47 96 IAMs_20 IAMs_20 05 10 57.6
comp=Z,6µm,22.0s
E60A Ste Agathe de 48.48 68 P **P** **04 52 13.9 -1.7**
baz=330,SNR=26
P46A Rosedale 48.49 85 IAmb IAmb 04 52 16.7
comp=Z,117nm,1.1s
P46A IAMs_20 IAMs_20 05 14 01.8
comp=Z,7µm,18.0s
M50A Fremont 48.52 81 IAmb IAmb 04 52 18.1
comp=Z,143nm,1.4s
U38A Gravette 48.54 94 IAmb IAmb 04 52 18.2
comp=Z,96nm,1.4s
J54A Appleton 48.55 76 P **P** **04 52 14.8 -1.4**
baz=330,SNR=11
J54A S **S** **04 59 16.9 +0.1**
baz=330
J54A Appleton 48.55 76 IAmb IAmb 04 52 18.0
comp=Z,152nm,1.3s
PECO Prince Edward 48.58 74 IAMs_20 IAMs_20 05 14 10.9
comp=Z,9µm,20.0s
G58A Ormstown 48.60 71 P **P** **04 52 15.6 -1.0**
baz=330,SNR=5.7
F60A Warwick 48.64 68 P **P** **04 52 15.4 -1.5**
baz=330,SNR=15
F60A S **S** **04 59 18.9 +0.7**
baz=330
HJU Haeju 48.65 271 P **P** **04 52 19.0 +2.0**
MNTX Cornudas Mount 48.65 108 P **P** **04 52 17.3 +0.1**
baz=335,SNR=163
MNTX Cornudas Mount 48.65 108 IAmb IAmb 04 52 21.7
comp=Z,108nm,1.1s
MNTX IAMs_20 IAMs_20 05 15 24.6
comp=Z,4µm,19.0s
KHU Kahuku 48.66 172 IAMs_20 IAMs_20 05 09 26.1
comp=Z,5µm,20.0s
D62A Allapoint, All 48.70 65 P **P** **04 52 16.6 -0.7**
baz=330,SNR=13
D62A S **S** **04 59 19.6 +0.7**
baz=330
D62A Allapoint, All 48.70 65 IAmb IAmb 04 52 19.2
comp=Z,48nm,0.9s
O48A Farmland 48.71 83 P **P** **04 52 16.1 -1.4**
baz=330,SNR=92
O48A S **S** **04 59 19.3 -0.1**
baz=330
E61A Lac Etchemin 48.76 67 P **P** **04 52 17.0 -0.9**
baz=330,SNR=15
E61A S **S** **04 59 20.8 +0.9**
baz=330
INCN Inchon 48.79 269 P **P** **04 52 18.8 +0.6**
INCN pmax pmax
comp=Z,81nm,1.0s
INCN MLR MLR
comp=Z,7µm,21.0s
INCN Inchon 48.79 269 P **P** **04 52 18.8 +0.6**
INCN IAmb IAmb 04 52 20.2
comp=Z,81nm,1.0s
INCN Inchon 48.79 269 IAMs_20 IAMs_20 05 12 13.9
comp=Z,7µm,21.0s
ZAA0 Zalesovo Array 48.84 314 IAmb IAmb 04 52 19.5
comp=Z,90nm,0.8s
ZAA0 IAMs_20 IAMs_20 05 16 41.6
comp=Z,6µm,18.0s
ZALV Zalesovo Beam 48.84 314 P **P** **04 52 17.1 -1.2**
comp=Z,94nm,0.7s,baz=24,slow=5.5,SNR=208
HHAR Hobbs 48.84 94 IAmb IAmb 04 52 20.5
comp=Z,146nm,1.7s
HHAR IAMs_20 IAMs_20 05 14 59.5
comp=Z,5µm,19.0s
J55A Hilton 48.85 75 P **P** **04 52 17.0 -1.5**
baz=330,SNR=9.5
J55A S **S** **04 59 20.8 -0.4**
baz=330
J55A Hilton 48.85 75 P **P** **04 52 17.8 -0.8**
J55A **PcP** **04 53 43.0 +0.2**
LONY Lake Ozonia 48.87 71 P **P** **04 52 17.2 -1.5**
baz=330,SNR=35
LONY Lake Ozonia 48.87 71 IAmb IAmb 04 52 19.9
comp=Z,74nm,0.9s
M51A Elyria 48.90 80 P **P** **04 52 17.8 -1.1**
baz=330,SNR=17
M51A S **S** **04 59 21.6 -0.4**
baz=330
OLIL Olney 48.92 87 IAMs_20 IAMs_20 05 15 06.3
comp=Z,8µm,22.0s
E62A Clayton Lake 48.94 66 P **P** **04 52 18.2 -1.0**
baz=330,SNR=33
E62A S **S** **04 59 22.7 +0.4**
baz=330
E62A Clayton Lake 48.94 66 IAmb IAmb 04 52 21.1
comp=Z,104nm,0.9s
G59A Clarenceville 48.97 70 P **P** **04 52 19.0 -0.4**
baz=330,SNR=6.5
F61A St Evariste 48.98 68 P **P** **04 52 18.9 -0.6**
baz=330,SNR=15
F61A S **S** **04 59 23.9 +1.0**
baz=330
M52A Chesterland 49.03 79 P **P** **04 52 18.9 -1.1**
baz=330,SNR=15
M52A S **S** **04 59 22.7 -1.1**
baz=330
M52A Chesterland 49.03 79 IAmb IAmb 04 52 21.9
comp=Z,138nm,1.4s
FRNY Flat Rock 49.04 70 IAmb IAmb 04 52 21.1
comp=Z,45nm,0.8s
ERPA Erie 49.04 78 P **P** **04 52 18.4 -1.6**
baz=330,SNR=12
I57A Carthage 49.06 73 P **P** **04 52 18.7 -1.5**
baz=330,SNR=17
I57A S **S** **04 59 24.7 +0.5**
baz=330
D63A Stockholm 49.06 65 P **P** **04 52 19.2 -1.0**
baz=330,SNR=9.2
D63A S **S** **04 59 23.9 -0.2**
baz=330
L53A Girard 49.08 78 P **P** **04 52 18.8 -1.5**
baz=330,SNR=16
L53A S **S** **04 59 23.5 -1.0**
baz=330
O49A Covington 49.08 83 IAMs_20 IAMs_20 05 13 54.4
comp=Z,6µm,22.0s
K54A Basiliko Farm, 49.10 76 P **P** **04 52 18.6 -1.9**
baz=330,SNR=12
K54A S **S** **04 59 22.7 -2.0**
baz=330
HSIG 49.12 115 P **P** **04 52 21.5 +0.7**
HSIG IAmb IAmb 04 52 26.4
comp=Z,114nm,1.3s
BLO Bloomington 49.14 85 IAmb IAmb 04 52 24.6
comp=Z,182nm,1.7s
BLO IAMs_20 IAMs_20 05 14 23.0
comp=Z,6µm,18.0s
H59A Cadyville 49.16 71 P **P** **04 52 19.1 -1.8**
baz=330,SNR=16
H59A S **S** **04 59 26.2 +0.6**
baz=330
H58A Gabriels 49.19 71 P **P** **04 52 19.7 -1.4**
baz=330,SNR=38
H58A S **S** **04 59 25.8 -0.1**
baz=330
N51A Ashland 49.19 80 P **P** **04 52 19.6 -1.6**
baz=330,SNR=28
N51A S **S** **04 59 24.3 -1.7**
baz=330
L54A Sinclairville 49.19 77 P **P** **04 52 19.7 -1.5**
baz=330,SNR=17
L54A S **S** **04 59 24.3 -1.8**
baz=330
U40A Yellville 49.19 93 P **P** **04 52 19.1 -2.2**
baz=332,SNR=38
U40A S **S** **04 59 24.3 -1.9**
baz=332
U40A Yellville 49.19 93 IAmb IAmb 04 52 23.2
comp=Z,134nm,1.4s
J56A Wolcott 49.20 74 P **P** **04 52 19.3 -1.9**
baz=330,SNR=10
J56A S **S** **04 59 26.2 +0.2**
baz=330
J56A Wolcott 49.20 74 IAMs_20 IAMs_20 05 14 29.3
comp=Z,8µm,20.0s
K55A Perry 49.23 75 P **P** **04 52 19.6 -1.9**
baz=330,SNR=12
K55A S **S** **04 59 24.7 -1.9**
baz=330
G60A Masonville 49.26 69 P **P** **04 52 21.0 -0.7**
baz=330,SNR=14
G60A S **S** **04 59 27.4 +0.5**
baz=330
T42A Van Buren 49.27 91 IAMs_20 IAMs_20 05 16 54.7
comp=Z,5µm,20.0s
MMNY Mt. Morris Dam 49.28 75 IAmb IAmb 04 52 23.2
comp=Z,96nm,1.3s
MMNY IAMs_20 IAMs_20 05 14 13.5
comp=Z,7µm,18.0s
P48A Milroy 49.30 84 IAMs_20 IAMs_20 05 14 02.3
comp=Z,5µm,20.0s
WVNY West Valley, N 49.31 76 IAmb IAmb 04 52 23.6
comp=Z,104nm,1.2s
M53A WI Miller and 49.37 79 P **P** **04 52 21.2 -1.4**
baz=330,SNR=30
M53A S **S** **04 59 28.2 -0.4**
baz=330
G61A St-Isidore-de- 49.39 68 P **P** **04 52 21.6 -1.1**
baz=330,SNR=6.2
ALLY Alegheny Colle 49.39 78 IAMs_20 IAMs_20 05 13 57.5
comp=Z,7µm,20.0s
S44A Carbondale 49.39 89 IAMs_20 IAMs_20 05 16 50.8
comp=Z,6µm,18.0s
J57A Williamstown 49.40 73 P **P** **04 52 21.1 -1.7**
baz=330,SNR=20
J57A S **S** **04 59 28.9 +0.1**
baz=330
J57A Williamstown 49.40 73 IAmb IAmb 04 53 46.7
comp=Z,50nm,0.9s
J57A IAMs_20 IAMs_20 05 14 44.5
comp=Z,6µm,21.0s
DL2 Dalian 49.46 275 ⇓*i*P **P** **04 52 23.2 0.0**
DL2 PP **PP** **04 54 17.3 +0.2**
DL2 S **S** **04 59 31.6 +1.9**
DL2 pmax pmax
comp=Z,47nm,1.1s
DL2 pmax pmax
comp=Z,2µm,5.7s
DL2 LR LR
comp=Z,10µm,14.7s
DL2 LR LR
comp=Z,21µm,15.7s
DL2 LR LR
comp=Z,9µm,12.8s
TJN Taejon 49.49 268 *ce*P **P** **04 52 24.4 +0.9**
E63A Oxbow 49.49 65 P **P** **04 52 21.4 -2.0**
baz=330
E63A S **S** **04 59 29.7 -0.4**
baz=330
E63A Oxbow 49.49 65 IAmb IAmb 04 52 26.4
comp=Z,157nm,1.8s
P49A Miami Univ. Ec 49.51 83 P **P** **04 52 22.1 -1.5**
baz=331,SNR=27
P49A S **S** **04 59 29.3 -1.2**
baz=331
K56A Middlesex 49.53 75 P **P** **04 52 22.1 -1.7**
baz=330,SNR=14
K56A S **S** **04 59 29.3 -1.4**
baz=330
I58A Old Forge 49.53 72 P **P** **04 52 22.2 -1.6**
baz=330,SNR=10.0
I58A S **S** **04 59 30.9 +0.1**
baz=330
N52A McGinn's Farm, 49.54 80 P **P** **04 52 22.0 -1.8**
baz=330
N52A S **S** **04 59 30.5 -0.4**
baz=330
NCB Newcomb 49.56 71 IAMs_20 IAMs_20 05 16 45.6
comp=Z,8µm,20.0s
ACSO Alum Creek Sta 49.56 81 P **P** **04 52 22.9 -1.1**
baz=331,SNR=32
ACSO Alum Creek Sta 49.56 81 IAmb IAmb 04 52 25.3
comp=Z,89nm,0.9s
BATG Bathurst New B 49.56 63 IAmb IAmb 04 52 25.9
comp=Z,77nm,0.9s
L55A Hinsdale 49.56 76 P **P** **04 52 22.4 -1.7**
baz=330,SNR=42
L55A S **S** **04 59 30.5 -0.8**
baz=330
H60A Morristown 49.59 70 P **P** **04 52 23.6 -0.6**
baz=330,SNR=8.1
H60A S **S** **04 59 33.6 +1.9**
baz=330
M54A Oil Creek Stat 49.69 78 P **P** **04 52 23.5 -1.5**
baz=330,SNR=40
M54A S **S** **04 59 32.0 -1.1**
baz=330
M54A Oil Creek Stat 49.69 78 IAmb IAmb 04 52 26.6
comp=Z,112nm,1.1s
M54A IAMs_20 IAMs_20 05 14 25.4
comp=Z,8µm,18.0s
E64A Bridgewater 49.70 65 P **P** **04 52 23.0 -2.0**
baz=330,SNR=6.8
E64A S **S** **04 59 32.4 -0.5**
baz=330
J58A Remsen 49.70 73 P **P** **04 52 23.4 -1.7**
baz=330,SNR=12
J58A S **S** **04 59 33.2 +0.1**
baz=330
J58A Remsen 49.70 73 IAMs_20 IAMs_20 05 16 30.5
comp=Z,8µm,19.0s
USIN University of 49.76 87 P **P** **04 52 24.4 -1.1**
USIN IAMs_20 IAMs_20 05 16 07.4
comp=Z,6µm,21.0s
O51A Pataskala 49.77 81 P **P** **04 52 24.3 -1.4**
baz=331,SNR=46
O51A S **S** **04 59 33.6 -0.6**
baz=331
MOL Molde 49.79 6 *e*P **P** **04 52 26.4 +1.0**
G62A West of Eustis 49.79 68 P **P** **04 52 25.0 -0.7**
baz=330,SNR=9.8
G62A S **S** **04 59 35.5 +1.1**
baz=330
K57A Scipio Center 49.80 74 P **P** **04 52 24.1 -1.7**
baz=330,SNR=10
K57A S **S** **04 59 34.0 -0.5**
baz=330
X37A Clayton 49.80 96 IAmb IAmb 04 52 29.1
comp=Z,218nm,1.9s
I59A Olmsteadville 49.83 71 P **P** **04 52 24.9 -1.1**
baz=330,SNR=26
I59A S **S** **04 59 35.1 +0.1**
baz=330
W39A Magazine 49.86 94 P **P** **04 52 24.5 -1.9**
baz=332,SNR=28
W39A S **S** **04 59 34.0 -1.6**
baz=332
W39A Magazine 49.86 94 IAmb IAmb 04 52 28.9
comp=Z,203nm,1.6s
W39A IAMs_20 IAMs_20 05 13 42.4
comp=Z,5µm,21.0s
N53A Lisbon 49.86 79 P **P** **04 52 24.9 -1.4**
baz=331,SNR=18
N53A S **S** **04 59 34.7 -0.7**
baz=331
N53A Lisbon 49.86 79 IAmb IAmb 04 52 28.1
comp=Z,167nm,1.2s
F63A Nahmakanta, Br 49.88 66 P **P** **04 52 25.4 -0.9**
baz=330,SNR=13
F63A S **S** **04 59 35.5 0.0**
baz=330
F63A Nahmakanta, Br 49.88 66 IAmb IAmb 04 52 29.7
comp=Z,83nm,1.1s
FCAR Ozark Folk Cen 49.88 92 IAMs_20 IAMs_20 05 11 55.9
comp=Z,6µm,22.0s
H61A Lyndonville 49.89 69 P **P** **04 52 25.8 -0.7**
baz=330,SNR=12
H61A S **S** **04 59 39.4 +3.6**
baz=330
J59A Piesco 49.89 72 P **P** **04 52 25.1 -1.5**
baz=330,SNR=12
J59A S **S** **04 59 35.9 0.0**
baz=330
L56A Greenwood 49.93 75 P **P** **04 52 24.9 -1.9**
baz=330,SNR=30
L56A S **S** **04 59 34.3 -2.1**
baz=330
L56A Greenwood 49.93 75 IAmb IAmb 04 52 28.4
comp=Z,144nm,1.2s
ABTX Abilene, Hawle 49.94 102 P **P** **04 52 25.6 -1.4**
baz=334,SNR=11
ABTX Abilene, Hawle 49.94 102 IAmb IAmb 04 52 29.7
comp=Z,170nm,1.6s
ABTX IAMs_20 IAMs_20 05 15 45.4
comp=Z,7µm,18.0s
F64A Sherman 50.00 66 P **P** **04 52 26.8 -0.5**
baz=330
F64A S **S** **04 59 37.4 +0.3**
baz=330
F64A Sherman 50.00 66 IAmb IAmb 04 52 30.4
comp=Z,184nm,1.7s
I60A Shoreham 50.00 71 P **P** **04 52 26.3 -1.0**
baz=330,SNR=6.2
I60A S **S** **04 59 38.2 +1.0**
baz=330
N54A Moraine State 50.05 78 P **P** **04 52 25.9 -1.8**
baz=331,SNR=17
N54A S **S** **04 59 36.7 -1.3**
baz=331
N54A Moraine State 50.05 78 IAmb IAmb 04 52 29.3
comp=Z,99nm,1.2s
N54A IAMs_20 IAMs_20 05 13 21.8
comp=Z,5µm,21.0s
WCI Wyandotte Cave 50.05 86 P **P** **04 52 25.9 -1.8**
baz=331
WCI Wyandotte Cave 50.05 86 P **P** **04 52 26.2 -1.6**
WCI pmax pmax
comp=Z,166nm,1.4s
WCI MLR MLR
comp=Z,8µm,19.0s
WCI Wyandotte Cave 50.05 86 P **P** **04 52 26.2 -1.6**
WCI IAmb IAmb 04 52 29.3
comp=Z,166nm,1.4s
WCI Wyandotte Cave 50.05 86 IAMs_20 IAMs_20 05 15 47.1
comp=Z,8µm,19.0s
M55A Ridgway 50.06 77 P **P** **04 52 26.1 -1.8**
baz=330,SNR=33
M55A S **S** **04 59 36.7 -1.6**
baz=330
M55A Ridgway 50.06 77 IAmb IAmb 04 52 29.5
comp=Z,178nm,1.3s
K58A Earlville 50.09 73 P **P** **04 52 26.7 -1.4**
baz=330,SNR=8.9
K58A S **S** **04 59 38.2 -0.3**
baz=330
K58A Earlville 50.09 73 IAMs_20 IAMs_20 05 16 02.7
comp=Z,7µm,20.0s
O52A Adamsville 50.09 80 P **P** **04 52 26.6 -1.5**
baz=331,SNR=44
O52A S **S** **04 59 37.8 -0.8**
baz=331
LCAR Lake Charles 50.09 91 IAmb IAmb 04 53 49.8
comp=Z,95nm,1.0s
LCAR IAMs_20 IAMs_20 05 17 23.4
comp=Z,7µm,20.0s
PARMO Parma 50.10 90 IAMs_20 IAMs_20 05 13 53.7
comp=Z,7µm,21.0s
H62A Milan 50.13 69 P **P** **04 52 26.9 -1.4**
baz=330
H62A S **S** **04 59 41.3 +2.2**
baz=330
LBNH Lisbon 50.15 69 P **P** **04 52 27.6 -0.8**
baz=330,SNR=12
LBNH Lisbon 50.15 69 IAmb IAmb 04 52 32.5
comp=Z,161nm,1.4s
HENM Henderson Moun 50.16 89 IAMs_20 IAMs_20 05 17 07.3
comp=Z,7µm,19.0s
P51A Williamsport 50.18 82 P **P** **04 52 27.2 -1.5**
baz=331,SNR=18
P51A S **S** **04 59 40.2 +0.3**
baz=331
P51A Williamsport 50.18 82 IAmb IAmb 04 52 30.2
comp=Z,173nm,1.6s
Z35A Perchaven, San 50.20 99 IAmb IAmb 04 53 52.8
comp=Z,132nm,1.2s
Z35A IAMs_20 IAMs_20 05 15 29.4
comp=Z,8µm,19.0s
G63A Kingsbury 50.20 67 P **P** **04 52 28.3 -0.6**
baz=330,SNR=21
G63A S **S** **04 59 42.5 +2.3**
baz=330
O53A New Philadelph 50.21 80 P **P** **04 52 27.2 -1.7**
baz=331,SNR=17
O53A S **S** **04 59 38.6 -1.6**
baz=331
T45A Paducah 50.21 88 IAmb IAmb 04 52 29.6
comp=Z,91nm,1.0s
T45A IAMs_20 IAMs_20 05 15 34.6
comp=Z,7µm,21.0s
SRIG Santa Rosalia 50.23 117 P **P** **04 52 30.1 +0.8**
SRIG IAmb IAmb 04 52 33.9
comp=Z,202nm,1.3s
M56A Emporium 50.26 76 P **P** **04 52 27.7 -1.7**
baz=331,SNR=30
M56A S **S** **04 59 39.0 -2.1**
baz=331
M56A Emporium 50.26 76 IAmb IAmb 04 52 30.8
comp=Z,144nm,1.2s
M56A IAMs_20 IAMs_20 05 14 42.5
comp=Z,9µm,20.0s
ACCN Adirondack Com 50.27 71 IAmb IAmb 04 52 31.4
comp=Z,167nm,1.8s
L57A Andrews Acres 50.31 75 P **P** **04 52 28.1 -1.6**
baz=330,SNR=20
L57A S **S** **04 59 39.4 -2.3**
baz=330
PENMO Penman 50.34 90 IAMs_20 IAMs_20 05 14 00.9
comp=Z,7µm,20.0s
WHAR Wooly Hollow 50.35 93 IAmb IAmb 04 52 32.3
comp=Z,181nm,1.7s
WHAR IAMs_20 IAMs_20 05 15 42.2
comp=Z,4µm,19.0s
K59A Cooperstown 50.37 73 P **P** **04 52 28.4 -1.7**
baz=330,SNR=15
K59A S **S** **04 59 42.9 +0.4**
baz=330
DOMB Dombas 50.38 5 *e*P **P** **04 52 30.1 +0.2**
G64A Maxfield 50.39 66 P **P** **04 52 29.5 -0.7**
baz=330,SNR=8.0
P52A Corning 50.40 81 P **P** **04 52 28.3 -2.1**
baz=331,SNR=18
P52A S **S** **04 59 42.1 -0.8**
baz=331
HICK Hickman 50.41 89 IAMs_20 IAMs_20 05 17 22.8
comp=Z,6µm,19.0s
R49A Shelbyville 50.42 85 IAMs_20 IAMs_20 05 14 18.9
comp=Z,4µm,19.0s
BINY Binghamton 50.45 74 P **P** **04 52 29.1 -1.7**
baz=330,SNR=23
BINY Binghamton 50.45 74 IAmb IAmb 04 52 31.8
comp=Z,70nm,1.0s
H63A New Sharon 50.45 68 P **P** **04 52 29.6 -1.1**
baz=330,SNR=8.9
H63A S **S** **04 59 45.2 +1.7**
baz=330
W41B Gary Mavity, V 50.47 93 P **P** **04 52 29.2 -1.8**
baz=332
W41B Gary Mavity, V 50.47 93 IAMs_20 IAMs_20 05 15 46.4
comp=Z,5µm,19.0s
Q51A Peebles 50.47 82 IAmb IAmb 04 52 32.8
comp=Z,186nm,1.6s
Q51A IAMs_20 IAMs_20 05 15 20.1
comp=Z,7µm,21.0s
J60A Lant Hill Farm 50.48 71 P **P** **04 52 30.1 -0.9**
baz=330,SNR=22
J60A S **S** **04 59 45.6 +1.7**
baz=330
HNH Hanover 50.48 70 IAmb IAmb 04 52 55.4
comp=Z,93nm,1.2s
MIAR Mount Ida 50.52 95 P **P** **04 52 29.9 -1.4**
baz=333,SNR=74
MIAR Mount Ida 50.52 95 IAmb IAmb 04 52 34.2
comp=Z,183nm,1.3s
MIAR IAMs_20 IAMs_20 05 15 45.8
comp=Z,5µm,18.0s

BJI Beijing 50.53 280 P **P** **04 52 31.5 +0.2**
BJI PP **PP** **04 54 29.0 +2.2**
BJI S **S** **04 59 45.0 +0.4**
BJI pmax pmax
comp=Z,36nm,0.8s
BJI pmax pmax
comp=Z,1µm,3.5s
BJI LR LR
comp=Z,12µm,15.9s
BJI LR LR
comp=Z,16µm,17.1s
BJI LR LR
comp=Z,4µm,18.6s
PEBM Pemiscott Bayo 50.55 90 IAMs_20 IAMs_20 05 13 53.4
comp=Z,6µm,21.0s
BJT Baijiatuau 50.55 280 IAMs_20 IAMs_20 05 12 21.2
comp=Z,6µm,19.0s
N55A Marion Center 50.58 78 P **P** **04 52 30.3 -1.4**
baz=331,SNR=37
N55A S **S** **04 59 44.4 -1.0**
baz=331
O54A Avella 50.58 79 P **P** **04 52 30.2 -1.6**
baz=331,SNR=33
O54A S **S** **04 59 44.8 -0.6**
baz=331
DRLN Deer Lake 50.62 55 P **P** **04 52 31.3 -0.6**
DRLN IAmb IAmb 04 52 34.5
comp=Z,182nm,1.4s
DRLN IAMs_20 IAMs_20 05 15 03.3
comp=Z,8µm,20.0s
GNAR Gosnell 50.62 90 IAMs_20 IAMs_20 05 14 34.3
comp=Z,6µm,20.0s
GLAT Glass 50.63 90 IAMs_20 IAMs_20 05 17 30.6
comp=Z,6µm,21.0s
L58A Harry Jones Me 50.63 74 P **P** **04 52 30.7 -1.4**
baz=331,SNR=22
L58A S **S** **04 59 44.8 -1.4**
baz=331
I62A Tamworth 50.68 69 P **P** **04 52 31.5 -0.9**
baz=331
I62A S **S** **04 59 49.4 +2.8**
baz=331
I62A Tamworth 50.68 69 IAmb IAmb 04 52 36.5
comp=Z,153nm,1.4s
LNXT Lenox 50.70 90 IAMs_20 IAMs_20 05 16 07.4
comp=Z,6µm,19.0s
J61A Chester 50.70 71 P **P** **04 52 32.0 -0.7**
baz=331,SNR=10.0
J61A S **S** **04 59 48.7 +1.7**
baz=331
N56A West Decatur 50.71 77 P **P** **04 52 30.9 -1.9**
baz=331,SNR=24
N56A S **S** **04 59 46.7 -0.6**
baz=331
KLMR Klimovskoe 50.73 346 *d* iP **P** **04 52 31.9 -0.7**
KLMR *e*S **S** **04 59 45.8 -1.2**
KLMR pmax pmax
comp=Z,361nm,1.4s
KLMR MLR MLR
comp=Z,5µm,19.0s
KLMR Klimovskoe 50.73 346 ⇓ iP **P** **04 52 31.9 -0.7**
KLMR ⇑ iP **P** **04 52 31.9 -0.7**
KLMR ⇓ iP **P** **04 52 31.9 -0.7**
KLMR AMP 04 52 41.1
comp=Z,361nm,1.4s
KLMR *e*S **S** **04 59 45.8 -1.2**
KLMR *e*S **S** **04 59 45.8 -1.2**
KLMR LQ LQ 05 08 35.3
KLMR LQ LQ 05 08 35.3
KLMR LR LR 05 10 23.4
KLMR AMP 05 14 23.3
comp=Z,5µm,18.5s
HBAR Harrisburg 50.73 91 IAMs_20 IAMs_20 05 16 11.4
comp=Z,7µm,20.0s
R50A Paris 50.75 84 IAMs_20 IAMs_20 05 14 47.6
comp=Z,6µm,18.0s
H64A Troy 50.76 67 P **P** **04 52 31.8 -1.2**
baz=331,SNR=13
H64A S **S** **04 59 49.8 +2.1**
baz=331
M57A Sunshine Farm, 50.78 76 P **P** **04 52 31.7 -1.5**
baz=331,SNR=20
M57A S **S** **04 59 46.7 -1.5**
baz=331
UALR University of 50.78 93 IAmb IAmb 04 52 35.0
comp=Z,185nm,1.5s
I63A Otisfield 50.79 68 P **P** **04 52 32.1 -1.2**
baz=331
I63A S **S** **04 59 51.0 +2.7**
baz=331
I63A Otisfield 50.79 68 IAmb IAmb 04 52 37.3
comp=Z,116nm,1.4s
L59A Walton 50.80 73 P **P** **04 52 32.9 -0.6**
baz=331,SNR=12
L59A S **S** **04 59 48.7 +0.1**
baz=331
L59A Walton 50.80 73 IAmb IAmb 04 52 35.2
comp=Z,93nm,1.4s
L59A IAMs_20 IAMs_20 05 17 06.7
comp=Z,7µm,21.0s
P53A Whipple 50.80 80 P **P** **04 52 31.8 -1.7**
baz=331,SNR=30
P53A S **S** **04 59 47.1 -1.5**
baz=331
T47A Sharon Grove 50.83 87 IAMs_20 IAMs_20 05 13 35.8
comp=Z,5µm,19.0s
LPAR Lepanto 50.83 91 IAMs_20 IAMs_20 05 15 24.9
comp=Z,7µm,18.0s
G65A Princeton 50.85 65 P **P** **04 52 32.0 -1.7**
baz=331,SNR=6.9
G65A S **S** **04 59 49.1 +0.1**
baz=331
X40A Basin Creek Fa 50.85 94 P **P** **04 52 32.2 -1.6**
baz=333,SNR=21
X40A S **S** **04 59 49.1 -0.2**
baz=333
X40A Basin Creek Fa 50.85 94 IAmb IAmb 04 52 36.3
comp=Z,132nm,1.4s
K60A Five Rivers En 50.85 72 P **P** **04 52 31.9 -1.9**
baz=331
K60A S **S** **04 59 50.6 +1.5**
baz=331
HALT Halls 50.92 90 IAMs_20 IAMs_20 05 17 39.4
comp=Z,7µm,20.0s
Q52A Bidwell 50.93 82 P **P** **04 52 32.8 -1.6**
baz=331,SNR=29
Q52A S **S** **04 59 49.4 -0.9**
baz=331
O55A Ligonier 50.96 78 P **P** **04 52 32.6 -2.1**
baz=331,SNR=16
O55A S **S** **04 59 49.1 -1.7**
baz=331
FIA1 FINESS Array S 50.98 355 IAmb IAmb 04 52 39.3
comp=Z,183nm,1.6s
FINES FINESS Array B 50.98 355 P **P** **04 52 33.9 -0.6**
comp=Z,26nm,0.7s,baz=15,slow=7.9,SNR=67
FINES LR LR 05 13 22.8
comp=Z,5µm,21.5s,baz=8.5,slow=35
M58A Price's Panora 51.00 75 P **P** **04 52 32.8 -2.1**
baz=331,SNR=10
K61A Williamstown 51.03 72 P **P** **04 52 33.5 -1.7**
baz=331,SNR=12
K61A S **S** **04 59 53.7 +2.0**
baz=331
JNU Nakatsue 51.03 263 P **P** **04 52 36.2 +1.0**
comp=Z,17nm,0.7s,baz=56,slow=6.3,SNR=11
JNU LR LR 05 14 23.2
comp=Z,4µm,19.4s,baz=35,slow=36
P54A Burton 51.05 80 P **P** **04 52 33.7 -1.6**
baz=331,SNR=44
P54A S **S** **04 59 50.6 -1.4**
baz=331
H65A Eastbrook 51.05 66 P **P** **04 52 33.4 -1.8**
baz=331,SNR=5.7
H65A S **S** **04 59 52.5 +0.8**
baz=331
J62A Henniker 51.07 70 P **P** **04 52 34.7 -0.7**
baz=331,SNR=8.0
J62A S **S** **04 59 53.3 +1.2**
baz=331
SSPA Standing Stone 51.11 77 P **P** **04 52 33.6 -2.2**
baz=331
SSPA Standing Stone 51.11 77 P **P** **04 52 34.3 -1.5**
SSPA IAmb IAmb 04 52 38.1
comp=Z,165nm,1.6s
SSPA Standing Stone 51.11 77 IAMs_20 IAMs_20 05 11 39.4
comp=Z,6µm,20.0s
N57A Milroy 51.13 76 P **P** **04 52 34.0 -1.9**
baz=331,SNR=28
N57A S **S** **04 59 52.1 -0.9**
baz=331
JOHN Johnston Islan 51.18 189 IAMs_20 IAMs_20 05 11 59.1
comp=Z,7µm,19.0s
O56A Blue Knob Stat 51.18 77 P **P** **04 52 34.4 -1.9**
baz=331,SNR=24
O56A S **S** **04 59 52.9 -0.9**
baz=331
O56A Blue Knob Stat 51.18 77 IAmb IAmb 04 52 38.5
comp=Z,283nm,1.8s
NC204 NORSAR Array S 51.20 4 IAmb IAmb 04 52 40.1
comp=Z,240nm,1.5s
LMN Caledonia Moun 51.22 63 IAmb IAmb 04 52 38.7
comp=Z,164nm,1.4s
M59A Waymart 51.23 74 P **P** **04 52 34.1 -2.6**
baz=331,SNR=11
MCWV Mont Chateau 51.23 79 P **P** **04 52 35.1 -1.6**
baz=331,SNR=16
MCWV Mont Chateau 51.23 79 IAMs_20 IAMs_20 05 15 17.3
comp=Z,5µm,20.0s
I64A Boothbay 51.24 68 P **P** **04 52 35.1 -1.5**
baz=331
I64A S **S** **04 59 56.4 +2.0**
baz=331
L60A Shokan 51.28 73 P **P** **04 52 35.8 -1.2**
baz=331,SNR=8.4
J63A Strafford 51.29 69 P **P** **04 52 35.8 -1.2**
baz=331,SNR=5.8
J63A S **S** **04 59 57.6 +2.5**
baz=331
H66A Whiting 51.30 65 P **P** **04 52 35.0 -2.0**
baz=331
H66A S **S** **04 59 56.8 +1.6**
baz=331
Q53A Leroy 51.30 81 P **P** **04 52 35.6 -1.6**
baz=331,SNR=36
Q53A S **S** **04 59 55.2 -0.2**
baz=331
WVT Waverly 51.31 88 P **P** **04 52 36.2 -1.0**
baz=332
WVT Waverly 51.31 88 P **P** **04 52 36.5 -0.8**
WVT pmax pmax
comp=Z,248nm,1.8s
WVT MLR MLR
comp=Z,7µm,21.0s
WVT Waverly 51.31 88 P **P** **04 52 36.5 -0.8**
WVT IAmb IAmb 04 52 40.4
comp=Z,248nm,1.8s
WVT Waverly 51.31 88 IAMs_20 IAMs_20 05 16 16.5
comp=Z,7µm,21.0s
EMMW East Machias 51.31 66 IAmb IAmb 04 52 39.6
comp=Z,159nm,1.5s
WHTX Lake Whitney, 51.32 100 P **P** **04 52 36.0 -1.5**
baz=334,SNR=5.6
WHTX S **S** **04 59 56.0 +0.2**
baz=334
WHTX Lake Whitney, 51.32 100 IAMs_20 IAMs_20 05 14 34.1
comp=Z,6µm,20.0s
L61A Hillsdale 1, H 51.34 72 P **P** **04 52 36.5 -1.0**
baz=331,SNR=15
L61A S **S** **04 59 58.3 +2.4**
baz=331
N58A Sunbury 51.37 76 P **P** **04 52 35.9 -1.7**
baz=331,SNR=26
N58A Sunbury 51.37 76 IAmb IAmb 04 52 38.8
comp=Z,123nm,1.2s
P55A Reedsville 51.37 79 P **P** **04 52 36.4 -1.4**
baz=331,SNR=32
P55A S **S** **04 59 54.9 -1.6**
baz=331
K62A Royalston 51.41 71 P **P** **04 52 37.3 -0.6**
baz=331,SNR=12
K62A S **S** **04 59 58.3 +1.5**
baz=331
K62A Royalston 51.41 71 IAmb IAmb 04 52 40.6
comp=Z,213nm,1.6s
TX32 Lajitas Array 51.41 107 IAmb IAmb 04 52 42.4
comp=Z,178nm,1.1s
TXAR Lajitas Array 51.41 107 P **P** **04 52 38.8 +0.5**
comp=Z,74nm,0.8s,baz=334,slow=5.6,SNR=380
TXAR PcP **PcP** **04 53 52.4 -0.2**
comp=Z,15nm,1.0s,baz=342,slow=2.3,SNR=1.4
TXAR LR LR 05 17 30.4
comp=Z,3µm,18.7s,baz=0.0,slow=40
L61B Northampton 51.44 71 P **P** **04 52 37.2 -1.0**
baz=331
L61B S **S** **04 59 58.3 +1.1**
baz=331
NBO00 NORSAR Array S 51.44 4 IAmb IAmb 04 52 41.8
comp=Z,276nm,1.7s
NB2 NORSAR Subarra 51.45 4 P **P** **04 52 37.0 -1.0**
comp=Z,515nm,2.5s,baz=354,slow=7.4
NB2 NORSAR Subarra 51.45 4 P **P** **04 52 37.0 -1.0**
baz=354,slow=7.4
NOA NORSAR Array B 51.45 4 P **P** **04 52 37.5 -0.5**
comp=Z,8.0nm,1.0s,baz=356,slow=7.5,SNR=26
NOA PcP **PcP** **04 53 52.5 +0.3**
comp=Z,7.1nm,0.9s,baz=0.9,slow=4.3,SNR=7.7
NOA LR LR 05 14 09.2
comp=Z,2µm,19.3s,baz=350,slow=36
Q54A Coxs Mills 51.45 80 P **P** **04 52 36.7 -1.6**
baz=331
Q54A S **S** **04 59 56.4 -1.1**
baz=331
Q54A Coxs Mills 51.45 80 IAmb IAmb 04 52 40.0
comp=Z,162nm,1.4s
WLAR White Oak Lake 51.45 95 IAMs_20 IAMs_20 05 14 46.6
comp=Z,5µm,18.0s
HHC Hu-ho-hao-te 51.54 285 P **P** **04 52 39.5 +0.4**
HHC sP sP 04 52 50.1 +5.1
HHC S **S** **04 59 59.2 +0.3**
HHC pmax pmax
comp=Z,17nm,1.2s
HHC pmax pmax
comp=Z,500nm,5.7s
HHC LR LR
comp=Z,8µm,10.8s
HHC LR LR
comp=Z,4µm,17.5s
HHC LR LR
comp=Z,8µm,12.0s
X43A Marvell 51.57 92 P **P** **04 52 38.1 -1.1**
baz=333
X43A Marvell 51.57 92 IAmb IAmb 04 52 43.3
comp=Z,75nm,1.1s
X43A IAMs_20 IAMs_20 05 12 57.5
comp=Z,6µm,22.0s
O57A Amberson 51.58 77 P **P** **04 52 37.8 -1.5**
baz=331,SNR=45
O57A S **S** **04 59 58.7 -0.5**
baz=331
S51A Beattyville 51.59 84 IAmb IAmb 04 52 40.7
comp=Z,72nm,0.8s
S51A IAMs_20 IAMs_20 05 18 13.8
comp=Z,4µm,20.0s
R53A Hurricane 51.60 82 P **P** **04 52 38.2 -1.3**
baz=331,SNR=26
R53A S **S** **04 59 59.1 -0.5**
baz=331
R53A Hurricane 51.60 82 IAmb IAmb 04 52 40.8
comp=Z,97nm,0.8s
K63A Dunstable 51.64 70 P **P** **04 52 39.2 -0.5**
baz=331,SNR=20
K63A S **S** **05 00 02.2 +2.2**
baz=331
N59A State Game Lan 51.65 75 P **P** **04 52 38.1 -1.6**
baz=331,SNR=15
T50A Nancy 51.66 85 IAMs_20 IAMs_20 05 16 46.7
comp=Z,5µm,18.0s
LRW Lerwick 51.70 12 *e*P **P** **04 52 39.0 -0.8**
LRW IAmb IAmb 04 52 43.5
comp=Z,283nm,2.1s
LRW IAMs_20 IAMs_20 05 16 11.5
comp=Z,3µm,18.4s
M60A Port Jervis 51.71 73 P **P** **04 52 38.4 -1.9**
baz=331,SNR=17
Q55A Buckhannon 51.73 80 P **P** **04 52 39.2 -1.3**
baz=331,SNR=30
Q55A S **S** **05 00 00.7 -0.7**
baz=331
P56A Dayton Farm, R 51.74 78 P **P** **04 52 38.9 -1.6**
baz=331,SNR=20
P56A S **S** **05 00 00.7 -0.9**
baz=331
U49A Red Boiling Sp 51.75 86 IAMs_20 IAMs_20 05 17 39.1
comp=Z,7µm,18.0s
NC602 NORSAR Array S 51.76 4 *e*P **P** **04 52 40.6 +0.3**
CCAR Cane Creek 51.76 93 IAMs_20 IAMs_20 05 16 49.6
comp=Z,5µm,18.0s
SVE Sverdlovsk 51.76 332 *ce*P **P** **04 52 40.1 -0.3**
SVE *e*S **S** **04 59 59.1 -2.2**
SVE pmax pmax
comp=Z,165nm,1.9s
SVE MLR MLR
comp=Z,6µm,17.0s
HRV Adam Dziewonsk 51.79 70 P **P** **04 52 39.7 -1.1**
baz=331
HRV Adam Dziewonsk 51.79 70 P **P** **04 52 40.0 -0.8**
HRV pmax pmax
comp=Z,268nm,1.7s
HRV MLR MLR
comp=Z,10µm,20.0s
HRV Adam Dziewonsk 51.79 70 P **P** **04 52 40.0 -0.8**
HRV IAmb IAmb 04 52 44.7
comp=Z,268nm,1.6s
JCT Junction City 51.80 103 P **P** **04 52 40.1 -1.0**
baz=335,SNR=62
JCT Junction City 51.80 103 IAMs_20 IAMs_20 05 16 55.9
comp=Z,6µm,19.0s
L62A Suffield 51.81 71 P **P** **04 52 38.9 -2.0**
baz=331
KIRV Kirov 51.85 339 LR LR 05 17 03.7
comp=Z,10µm,21.9s,baz=13,slow=39
DGZ Jazzator, Alta 51.87 309 *d* iP **P** **04 52 41.1 -0.4**
DGZ pmax pmax
comp=Z,38nm,1.0s
CLTN Cedars of Leba 51.91 87 IAMs_20 IAMs_20 05 17 22.4
comp=Z,6µm,21.0s
O58A Lewisberry 51.92 76 P **P** **04 52 39.8 -1.9**
baz=331,SNR=32
O58A S **S** **05 00 03.0 -0.9**
baz=331
ODNJ Ogdensburg 51.93 74 IAMs_20 IAMs_20 05 17 51.5
comp=Z,7µm,19.0s
N60A Cedar Hill Far 51.93 74 P **P** **04 52 39.6 -2.3**
baz=331,SNR=17
N60A S **S** **05 00 01.8 -2.3**
baz=331
Z41A Richland Creek 51.95 95 P **P** **04 52 41.0 -1.1**
baz=333,SNR=13
Z41A S **S** **05 00 06.5 +2.0**
baz=333
Z41A Richland Creek 51.95 95 IAmb IAmb 04 52 44.7
comp=Z,144nm,1.2s
Z41A IAMs_20 IAMs_20 05 12 14.8
comp=Z,5µm,21.0s
Q56A Snyder Ridge, 52.02 79 P **P** **04 52 40.7 -1.9**
baz=331,SNR=22
Q56A S **S** **05 00 04.9 -0.5**
baz=331
Q56A Snyder Ridge, 52.02 79 IAmb IAmb 04 52 44.4
comp=Z,100nm,1.3s
O59A Robesonia 52.02 75 P **P** **04 52 40.4 -2.2**
baz=331,SNR=18
O59A S **S** **05 00 04.1 -1.2**
baz=331
V48A Smith Brothers 52.03 88 IAmb IAmb 04 52 44.9
comp=Z,118nm,1.5s
V48A IAMs_20 IAMs_20 05 16 52.7
comp=Z,8µm,20.0s
M61A Granite Spring 52.04 73 P **P** **04 52 40.3 -2.3**
baz=331
M61A S **S** **05 00 04.5 -1.0**
baz=331
P57A Homestead Farm 52.07 78 P **P** **04 52 41.0 -1.9**
baz=331,SNR=12
P57A S **S** **05 00 05.3 -0.7**
baz=331
P57A Homestead Farm 52.07 78 IAmb IAmb 04 52 45.3
comp=Z,239nm,1.9s
BCX Boston College 52.08 70 IAmb IAmb 04 52 46.6
comp=Z,296nm,1.8s
R54A Victor 52.10 81 P **P** **04 52 41.2 -2.0**
baz=332,SNR=21
R54A S **S** **05 00 06.1 -0.4**
baz=332
S53A Williamson 52.11 82 P **P** **04 52 42.0 -1.3**
baz=332,SNR=8.1
S53A S **S** **05 00 07.2 +0.6**
baz=332
OXF Oxford 52.13 91 P **P** **04 52 42.8 -0.7**
baz=333,SNR=104
OXF Oxford 52.13 91 P **P** **04 52 42.7 -0.7**
OXF pmax pmax
comp=Z,692nm,1.3s
OXF MLR MLR
comp=Z,6µm,18.0s
OXF Oxford 52.13 91 P **P** **04 52 42.7 -0.7**
OXF IAMs_20 IAMs_20 05 16 15.4
comp=Z,6µm,18.0s
PLAL Pickwick Lake 52.23 89 IAmb IAmb 04 52 45.5
comp=Z,89nm,1.1s
PLAL IAMs_20 IAMs_20 05 17 01.8
comp=Z,5µm,18.0s
MVL Millersville 52.24 76 IAmb IAmb 04 52 46.4
comp=Z,156nm,1.7s
M62A Hamden 52.24 72 P **P** **04 52 42.4 -1.7**
baz=331,SNR=8.2
PAL Palisades 52.25 73 P **P** **04 52 42.2 -2.0**
baz=331,SNR=11
PAL Palisades 52.25 73 IAMs_20 IAMs_20 05 18 22.1
comp=Z,8µm,20.0s
WAKE Wake Island 52.26 218 P **P** **04 52 45.0 +0.5**
BRNJ Basking Ridge 52.29 74 IAMs_20 IAMs_20 05 16 23.2
comp=Z,8µm,21.0s
O60A Telford 52.31 75 P **P** **04 52 42.5 -2.1**
baz=331,SNR=9.3
O60A S **S** **05 00 07.2 -1.9**
baz=331
BRYW Bryant College 52.31 71 IAmb IAmb 04 52 46.8
comp=Z,268nm,1.8s
S54A Dingess, Beckl 52.31 81 P **P** **04 52 43.4 -1.4**
baz=332,SNR=9.6
S54A S **S** **05 00 08.0 -1.4**
baz=332
BTO Baotou 52.32 286 *e*P **P** **04 52 43.2 -1.7**
Q57A Strasburg 52.32 78 P **P** **04 52 43.1 -1.7**
baz=332,SNR=12
Q57A S **S** **05 00 08.8 -0.6**
baz=332
WSPT Westport, CT 52.32 73 IAMs_20 IAMs_20 05 18 10.8
comp=Z,7µm,19.0s
P58A Pank, Wackersv 52.33 77 P **P** **04 52 42.8 -2.0**
baz=331,SNR=11
P58A S **S** **05 00 08.8 -0.8**
baz=331
N61A South Mountain 52.33 74 P **P** **04 52 43.2 -1.6**
baz=331
N61A S **S** **05 00 09.6 0.0**
baz=331
L63A North Scituate 52.33 71 P **P** **04 52 43.6 -1.3**
baz=331
L63A S **S** **05 00 11.1 +1.6**
baz=331
R55A Marlinton 52.34 80 P **P** **04 52 43.3 -1.7**
baz=332,SNR=9.8
R55A S **S** **05 00 10.0 +0.1**
baz=332
435B Jarrell 52.36 101 P **P** **04 52 43.6 -1.5**
baz=334
435B S **S** **05 00 11.5 +1.4**
baz=334
435B Jarrell 52.36 101 IAMs_20 IAMs_20 05 15 09.5
comp=Z,5µm,22.0s
CPNY Central Park 52.42 73 IAmb IAmb 04 52 48.0
comp=Z,199nm,1.9s
N62A Caumsett State 52.48 73 P **P** **04 52 44.3 -1.6**
baz=331
N62A S **S** **05 00 10.3 -1.2**
baz=331
ARU Arti 52.51 333 LR LR 05 17 35.1
comp=Z,9µm,20.2s,baz=12,slow=39
ARU Arti 52.51 333 *d* iP **P** **04 52 45.3 -0.6**
ARU 04 53 55.3
ARU 04 54 44.6
ARU PPP PPP 04 55 47.8
ARU S **S** **05 00 13.8 +2.2**
ARU 05 02 35.7
ARU SS **SS** **05 03 51.9 +3.1**
ARU SSS SSS 05 05 37.1
ARU pmax pmax
comp=Z,69nm,0.9s
ARU MLR MLR
comp=Z,10µm,20.0s

ARU Arti 52.51 333 P P 04 52 45.6 -0.4
OSL Oslo 52.54 4 eP P 04 52 47.0 +1.0
L64A Middleborough 52.55 70 P P 04 52 45.6 -0.8
baz=331,SNR=6.0
L64A S S 05 00 12.3 -0.1
baz=331
P59A Jarrettsville 52.55 76 P P 04 52 44.5 -1.9
baz=332,SNR=14
T53A Wise 52.57 83 P P 04 52 45.9 -0.9
baz=332,SNR=25
T53A S S 05 00 14.2 +1.2
baz=332
TZTN Tazewell 52.57 84 P P 04 52 46.1 -0.6
baz=332,SNR=52
TZTN Tazewell 52.57 84 IAMs_20 IAMs_20 05 17 43.8
comp=Z,5µm,21.0s
SDMD Soldier's Deli 52.57 77 IAMs_20 IAMs_20 05 15 55.6
comp=Z,5µm,19.0s
M63A Gales Ferry 52.58 71 P P 04 52 45.4 -1.3
baz=331,SNR=6.2
M63A S S 05 00 12.3 -0.6
baz=331
NATX Nacogdoches 52.58 97 P P 04 52 45.8 -1.0
baz=334
NATX Nacogdoches 52.58 97 IAmb IAmb 04 52 50.1
comp=Z,218nm,1.8s
NATX IAMs_20 IAMs_20 05 18 32.4
comp=Z,5µm,18.0s
S55A Lewisburg 52.64 81 P P 04 52 45.8 -1.4
baz=332,SNR=8.9
S55A S S 05 00 13.0 -0.9
baz=332
Y45A Yeager Farm, C 52.65 91 IAMs_20 IAMs_20 05 18 58.2
comp=Z,6µm,19.0s
P60A Greenville 52.66 75 P P 04 52 45.0 -2.3
baz=332,SNR=5.3
P60A S S 05 00 11.9 -2.2
baz=332
P60A Greenville 52.66 75 P P 04 52 46.0 -1.3
P60A PcP PcP 04 53 57.0 0.0
Q58A Fox Den Farm, 52.67 78 P P 04 52 45.5 -1.9
baz=332,SNR=39
Q58A S S 05 00 12.3 -1.9
baz=332
M64A Tiverton 52.75 71 P P 04 52 46.3 -1.6
baz=332
KONO Kongsberg 52.79 5 ceP P 04 52 49.4 +1.4
KONO pmax pmax
comp=Z,140nm,1.7s
KONO Kongsberg 52.79 5 P P 04 52 48.0 +0.1
KONO IAmb IAmb 04 52 54.3
comp=Z,84nm,1.1s
KONO Kongsberg 52.79 5 eP P 04 52 48.8 +0.8
O61A Allentown 52.81 74 P P 04 52 46.5 -1.9
baz=332
SWET Sewanee 52.84 87 IAmb IAmb 04 52 52.3
comp=Z,109nm,1.5s
SWET IAMs_20 IAMs_20 05 17 17.9
comp=Z,8µm,20.0s
T54A Tazewell 52.86 82 P P 04 52 47.8 -1.1
baz=332,SNR=17
T54A S S 05 00 16.5 -0.5
baz=332
HPIG 52.88 111 IAmb IAmb 04 52 53.4
comp=Z,146nm,1.2s
V51A Loudon 52.92 85 IAMs_20 IAMs_20 05 18 44.0
comp=Z,6µm,18.0s
R57A Stanardsville 52.92 79 P P 04 52 47.4 -1.9
baz=332,SNR=33
R57A S S 05 00 17.7 0.0
baz=332
M65A Busby, Falmout 52.94 70 P P 04 52 47.5 -1.8
baz=332
143A Socs Landing, 52.98 94 IAMs_20 IAMs_20 05 17 43.7
comp=Z,5µm,20.0s
S56A Natural Bridge 53.08 80 P P 04 52 48.1 -2.3
baz=332
S56A S S 05 00 19.2 -0.6
baz=332
W50A Signal Mountai 53.09 87 IAmb IAmb 04 52 54.8
comp=Z,118nm,1.6s
W50A IAMs_20 IAMs_20 05 18 07.5
comp=Z,7µm,20.0s
BIGH Upper Bighouse 53.09 14 eP P 04 52 50.1 -0.1
BIGH IAMs_20 IAMs_20 05 15 29.5
comp=Z,4µm,21.4s
X48A Hartselle 53.09 89 IAmb IAmb 04 52 53.4
comp=Z,157nm,1.5s
X48A IAMs_20 IAMs_20 05 19 03.6
comp=Z,6µm,19.0s
P61A Hammonton 53.10 75 P P 04 52 48.1 -2.3
baz=332
P61A Hammonton 53.10 75 IAMs_20 IAMs_20 05 16 40.5
comp=Z,7µm,20.0s
T55A Pulaski 53.11 81 P P 04 52 49.4 -1.3
baz=332,SNR=6.8
T55A S S 05 00 20.4 0.0
baz=332
R58A Rapidan 53.11 78 P P 04 52 49.0 -1.6
baz=332,SNR=7.3
R58A S S 05 00 19.2 -1.0
baz=332
Q59A Harwood 53.12 77 P P 04 52 49.0 -1.6
baz=332,SNR=15
Q59A S S 05 00 20.0 -0.3
baz=332
LEWI Lewis, Hebride 53.14 16 eP P 04 52 50.0 -0.5
LEWI IAmb IAmb 04 52 54.1
comp=Z,484nm,2.0s
LEWI IAMs_20 IAMs_20 05 14 09.6
comp=Z,6µm,20.1s
BLA Blacksburg 53.16 81 P P 04 52 49.6 -1.5
baz=332,SNR=7.7
CPCT Cooper Cave 53.16 86 IAmb IAmb 04 52 54.4
comp=Z,211nm,1.6s
CPCT IAMs_20 IAMs_20 05 19 49.6
comp=Z,7µm,18.0s
S57A Dark Hollow, R 53.23 79 P P 04 52 50.2 -1.4
baz=332,SNR=16
S57A S S 05 00 22.3 +0.4
baz=332
U54A Nelsons Funny 53.24 83 P P 04 52 50.9 -0.9
baz=332,SNR=15
U54A S S 05 00 23.1 +0.8
baz=332
U54A Nelsons Funny 53.24 83 IAMs_20 IAMs_20 05 17 06.6
comp=Z,5µm,20.0s
SEM Semipalatinsk 53.26 315 eP P 04 52 50.1 -1.8
comp=Z,168nm,2.9s,baz=315
SEM eS S 05 00 21.6 -0.9
baz=315
SEM Semipalatinsk 53.26 315 eP P 04 52 50.1 -1.8
SEM eS S 05 00 21.5 -0.9
SEM pmax pmax
comp=Z,168nm,2.9s
TKL Tuckaleechee C 53.27 85 IAMs_20 IAMs_20 05 17 01.2
comp=Z,5µm,18.0s
Q60A Greensboro 53.30 76 P P 04 52 50.1 -1.9
baz=332,SNR=9.7
BRVK Borovoye 53.31 323 ceP P 04 52 51.4 -0.5
BRVK pmax pmax
comp=Z,78nm,0.8s
BRVK Borovoye 53.31 323 P P 04 52 50.6 -1.3
BRVK IAmb IAmb 04 52 53.6
comp=Z,69nm,0.8s
BRVK Borovoye 53.31 323 IAMs_20 IAMs_20 05 18 51.7
comp=Z,6µm,20.0s
MLA1 Latheron 53.32 14 eP P 04 52 51.6 -0.3
KURK Kurchatov 53.42 316 ceP P 04 52 51.6 -1.1
KURK pmax pmax
comp=Z,132nm,0.8s
KURK Kurchatov 53.42 316 P P 04 52 51.7 -1.1
KURK IAmb IAmb 04 52 54.2
comp=Z,115nm,0.8s
KURK Kurchatov 53.42 316 IAMs_20 IAMs_20 05 19 27.7
comp=Z,5µm,18.0s
CBN Corbin Frederi 53.43 78 P P 04 52 50.9 -2.1
baz=332,SNR=15
R58B Mineral 53.46 78 P P 04 52 51.1 -2.1
baz=332,SNR=21
R58B S S 05 00 23.9 -1.0
baz=332
R58B Mineral 53.46 78 IAmb IAmb 04 52 54.9
comp=Z,68nm,1.1s
R58B IAMs_20 IAMs_20 05 16 56.1
comp=Z,7µm,20.0s
T56A Rocky Mt 53.47 81 P P 04 52 51.2 -2.2
baz=332,SNR=11
T56A S S 05 00 23.9 -1.3
baz=332
KURBB Kurchatov Arra 53.52 316 P P 04 52 51.7 -1.8
TIA Tai'an 53.53 277 P P 04 52 53.7 0.0
TIA S S 05 00 24.0 -2.0
TIA pmax pmax
comp=Z,25nm,1.2s
TIA pmax pmax
comp=Z,1µm,6.3s
TIA LR LR
comp=Z,9µm,19.6s
TIA LR LR
comp=Z,17µm,19.6s
TIA LR LR
comp=Z,3µm,19.0s
R59A King George, V 53.53 78 P P 04 52 51.6 -2.1
baz=332,SNR=15
R59A S S 05 00 26.2 +0.3
baz=332
U55A TA2, Sparta 53.55 82 P P 04 52 52.6 -1.4
baz=332,SNR=23
U55A S S 05 00 27.4 +0.9
baz=332
FPAL Fort Paine 53.55 87 IAmb IAmb 04 52 58.0
comp=Z,197nm,1.6s
Q61A Milford 53.60 76 P P 04 52 52.3 -1.9
baz=332
V53A Saluda 53.62 84 IAMs_20 IAMs_20 05 16 49.6
comp=Z,5µm,19.0s
R60A Leonardtown, M 53.67 77 P P 04 52 53.3 -1.4
baz=332,SNR=12
S58A Poland Farm, P 53.70 79 P P 04 52 53.0 -1.9
baz=332,SNR=16
S58A S S 05 00 27.8 -0.5
baz=332
S58A Poland Farm, P 53.70 79 IAmb IAmb 04 52 56.6
comp=Z,136nm,1.3s
W52A Murphy 53.71 85 IAMs_20 IAMs_20 05 19 07.9
comp=Z,5µm,18.0s
VBMS Vicksburg 53.75 93 P P 04 52 54.4 -1.0
baz=333
VBMS Vicksburg 53.75 93 IAmb IAmb 04 54 05.0
comp=Z,127nm,1.2s
VBMS IAMs_20 IAMs_20 05 18 12.2
comp=Z,5µm,20.0s
HKT Hockley 53.76 99 P P 04 52 55.3 -0.1
HKT pmax pmax
comp=Z,100nm,1.9s
HKT MLR MLR
comp=Z,12µm,21.0s
HKT Hockley 53.76 99 P P 04 52 55.3 -0.1
T57A Hurt 53.79 80 P P 04 52 53.8 -1.8
baz=332,SNR=15
T57A S S 05 00 28.5 -1.0
baz=332
T57A Hurt 53.79 80 IAmb IAmb 04 52 57.0
comp=Z,80nm,1.4s
Z47A Carrollton 53.81 90 IAMs_20 IAMs_20 05 17 39.8
comp=Z,5µm,18.0s
342A Flagon Creek P 53.81 95 IAMs_20 IAMs_20 05 13 25.1
comp=Z,5µm,19.0s
X51A Calhoun 53.82 86 IAmb IAmb 04 52 59.1
comp=Z,105nm,1.4s
X51A IAMs_20 IAMs_20 05 18 41.9
comp=Z,6µm,19.0s
S59A Mechanicsville 53.85 78 P P 04 52 54.1 -1.9
baz=332,SNR=11
S59A S S 05 00 30.1 -0.2
baz=332
V54A Nebo 53.85 83 P P 04 52 54.8 -1.3
baz=332,SNR=20
Y49A Blount Mountai 53.85 88 IAMs_20 IAMs_20 05 17 37.9
comp=Z,6µm,18.0s
833A Chaparral WMA, 53.90 104 P P 04 52 55.1 -1.4
baz=332,SNR=6.6
833A Chaparral WMA, 53.90 104 IAMs_20 IAMs_20 05 17 05.4
comp=Z,6µm,19.0s
KAC Achnashellach 53.94 15 eP P 04 52 56.3 -0.1
U56A King 53.94 81 P P 04 52 54.5 -2.3
baz=332,SNR=18
U56A King 53.94 81 IAmb IAmb 04 52 58.7
comp=Z,98nm,1.2s
VSU Vasula 53.94 354 eP P 04 52 56.6 +0.2
VSU Vasula 53.94 354 iP P 04 52 55.6 -0.8
VSU pmax pmax
comp=Z,156nm,1.1s
TIY Taiyuan 53.97 282 eP P 04 52 56.7 -0.3
TIY pmax pmax
comp=Z,810nm,7.0s
TIY LR LR
comp=Z,28µm,14.2s
TIY LR LR
comp=Z,35µm,16.0s
TIY LR LR
comp=Z,7µm,21.7s
KPL Plockton 54.06 15 eP P 04 52 57.2 -0.1
KPL IAmb IAmb 04 53 01.1
comp=Z,391nm,1.8s
KPL IAMs_20 IAMs_20 05 15 33.8
comp=Z,5µm,20.1s
V55A Taylorsville 54.06 82 P P 04 52 56.2 -1.4
baz=332,SNR=12
V55A Taylorsville 54.06 82 IAMs_20 IAMs_20 05 18 41.3
comp=Z,4µm,19.0s
MDO Dochfour 54.08 15 eP P 04 52 57.3 -0.2
T58A Grand View Acr 54.11 79 P P 04 52 55.9 -2.0
baz=332,SNR=9.5
S60A Water View 54.14 77 P P 04 52 56.7 -1.5
baz=332,SNR=12
BG3 Lake Jocassee 54.17 84 IAMs_20 IAMs_20 05 15 14.2
comp=Z,4µm,19.0s
U57A Blanch 54.26 80 P P 04 52 57.2 -1.9
baz=332,SNR=38
344A Westbrook Farm 54.35 94 IAmb IAmb 04 53 02.7
comp=Z,158nm,1.6s
LRAL Lakeview Retre 54.36 89 P P 04 52 58.1 -1.7
baz=333,SNR=25
LRAL Lakeview Retre 54.36 89 IAMs_20 IAMs_20 05 16 24.4
comp=Z,7µm,21.0s
SLBS Sierra La Lagu 54.37 117 P P 04 53 00.5 +0.4
SLBS IAmb IAmb 04 53 05.9
comp=Z,169nm,1.6s
V56A Mocksville 54.37 82 P P 04 52 58.7 -1.2
baz=332,SNR=8.0
W54A Cherokee Point 54.37 84 P P 04 52 58.9 -1.1
baz=333,SNR=25
T59A Double "B" Far 54.45 79 P P 04 52 58.3 -2.1
baz=332,SNR=15
T59A Double "B" Far 54.45 79 IAmb IAmb 04 53 01.9
comp=Z,70nm,1.2s
S61A Accomac 54.53 77 P P 04 52 59.0 -1.9
baz=332
V57A Coltrane Farms 54.58 81 P P 04 52 59.5 -1.9
baz=332,SNR=14
U58A Oxford 54.59 80 P P 04 52 59.3 -2.1
baz=332,SNR=8.4
T60A Surry 54.61 78 P P 04 52 59.5 -2.0
baz=332,SNR=19
T60A Surry 54.61 78 IAMs_20 IAMs_20 05 17 08.6
comp=Z,7µm,20.0s
ZSN Zaisan 54.64 310 ⇓iP P 04 53 01.4 -0.3
comp=Z,492nm,4.0s,baz=310
ZSN eS S 05 00 41.1 +0.3
baz=310
ZSN LR LR 05 19 48.5
baz=310
ZSN Zaisan 54.64 310 diP P 04 53 01.3 -0.4
ZSN eS S 05 00 41.1 +0.3
ZSN pmax pmax
comp=Z,492nm,4.0s
KMSC Kings Mountain 54.65 83 P P 04 53 00.4 -1.5
baz=333,SNR=21
KMSC Kings Mountain 54.65 83 IAmb IAmb 04 53 03.9
comp=Z,90nm,1.2s
KMSC IAMs_20 IAMs_20 05 17 49.7
comp=Z,6µm,22.0s
PAULI Pauline 54.75 84 IAmb IAmb 04 53 04.1
comp=Z,61nm,0.9s
PAULI IAMs_20 IAMs_20 05 19 12.4
comp=Z,4µm,20.0s
X54A Belton 54.78 84 P P 04 53 01.6 -1.3
baz=333,SNR=41
Z51A Franklin 54.81 87 IAmb IAmb 04 53 05.9
comp=Z,186nm,1.6s
346A Big Creek Wild 54.89 92 IAmb IAmb 04 53 05.2
comp=Z,134nm,1.4s
346A IAMs_20 IAMs_20 05 20 11.5
comp=Z,5µm,21.0s
SLIT Slitere, Latvi 54.91 357 eP P 04 53 03.5 +0.1
V58A Windy Hill, Pi 54.91 81 P P 04 53 02.1 -1.6
baz=333,SNR=15
V58A Windy Hill, Pi 54.91 81 IAmb IAmb 04 53 05.4
comp=Z,84nm,1.2s
U59A Littleton 54.91 79 P P 04 53 02.1 -1.7
baz=332,SNR=9.3
U59A Littleton 54.91 79 IAmb IAmb 04 53 05.4
comp=Z,80nm,1.4s
W56A Indian Trail 54.94 82 P P 04 53 02.8 -1.2
baz=333,SNR=9.5
U60A Pendleton 55.04 79 P P 04 53 02.7 -2.0
baz=332,SNR=12
EDU Dundee 55.09 14 eP P 04 53 04.5 -0.3
HODGE Hodges 55.10 84 IAMs_20 IAMs_20 05 18 48.8
comp=Z,5µm,20.0s
X55A Gracelyn & Ava 55.13 84 P P 04 53 03.6 -1.8
baz=333,SNR=26
W57A Gilead 55.14 82 P P 04 53 03.2 -2.3
baz=333,SNR=6.5
W57A Gilead 55.14 82 IAmb IAmb 04 53 09.3
comp=Z,99nm,1.6s
LAWE Loch Awe, Argy 55.15 15 eP P 04 53 05.1 -0.1
LAWE IAmb IAmb 04 53 08.9
comp=Z,707nm,2.2s
LAWE IAMs_20 IAMs_20 05 16 17.5
comp=Z,6µm,20.2s
V59A Middlesex 55.26 80 P P 04 53 04.9 -1.4
baz=333,SNR=22
EAB Aberfoyle 55.32 15 eP P 04 53 06.5 0.0
X56A White Oak 55.34 83 P P 04 53 05.3 -1.6
baz=333,SNR=21
GOGA Godfrey 55.37 86 P P 04 53 06.3 -0.8
baz=333
GOGA Godfrey 55.37 86 IAmb IAmb 04 53 10.6
comp=Z,239nm,2.0s
GOGA Godfrey 55.37 86 IAMs_20 IAMs_20 05 21 14.0
comp=Z,6µm,18.0s
GOET G??ttrup 55.39 6 iP P 04 53 06.3 -0.6
BIRD Birdtown, Kers 55.42 82 IAmb IAmb 04 53 10.5
comp=Z,136nm,1.5s
BIRD IAMs_20 IAMs_20 05 20 19.1
comp=Z,4µm,19.0s
U61A Possum Corner 55.43 78 P P 04 53 06.0 -1.5
baz=333,SNR=10
U61A Possum Corner 55.43 78 IAMs_20 IAMs_20 05 19 22.3
comp=Z,5µm,20.0s
JSC Jenkinsville 55.44 83 IAMs_20 IAMs_20 05 18 06.6
comp=Z,5µm,18.0s
Y55A Saluda 55.52 84 P P 04 53 07.1 -1.1
baz=333,SNR=38
W58A Raeford 55.55 81 P P 04 53 06.3 -2.1
baz=333,SNR=14
152A Waverly Hall 55.56 87 IAmb IAmb 04 53 10.2
comp=Z,133nm,1.4s
152A IAMs_20 IAMs_20 05 18 50.9
comp=Z,7µm,20.0s
250A Grady 55.58 89 IAMs_20 IAMs_20 05 20 30.7
comp=Z,7µm,18.0s
BRZS Berezniki 55.60 320 ⇓iP P 04 53 07.3 -1.3
comp=Z,377nm,4.1s,baz=320
BRZS eS S 05 00 52.8 -0.8
baz=320
BRZS LR LR 05 19 24.1
comp=Z,1µm,10.9s,baz=320
BRZS Berezniki 55.60 320 diP P 04 53 07.3 -1.3
BRZS eS S 05 00 52.7 -0.8
BRZS pmax pmax
comp=Z,377nm,4.1s
BRZS MLR MLR
comp=Z,1µm,11.0s
V60A Jim Taylor Roa 55.63 79 P P 04 53 06.4 -2.5
baz=333,SNR=7.1
W59A Clinton 55.71 80 P P 04 53 08.2 -1.4
baz=333,SNR=5.9
X57A Johnson Farm, 55.72 82 P P 04 53 08.5 -1.1
baz=333,SNR=5.3
ESY Stoneypath 55.75 14 eP P 04 53 09.4 -0.2
Y56A Pelion 55.85 84 P P 04 53 09.4 -1.2
baz=333,SNR=6.2
CNNC Cliffs of the 55.86 80 P P 04 53 09.0 -1.6
baz=333
V61A Roper 55.86 78 P P 04 53 08.9 -1.7
baz=333
V61A Roper 55.86 78 IAMs_20 IAMs_20 05 18 05.7
comp=Z,7µm,19.0s
X58A Rowland 55.92 82 P P 04 53 09.4 -1.7
baz=333,SNR=7.5
MOS Moscow 55.96 347 eP P 04 53 11.2 +0.2
MOS e 04 54 08.5
MOS e 04 55 16.2
MOS ePPP PPP 04 56 36.2
MOS eS S 05 01 00.1 +2.0
MOS e 05 02 56.6
MOS pmax pmax
comp=Z,167nm,1.6s
MOS pmax pmax
comp=Z,2µm,4.2s
MOS pmax pmax
comp=N,2µm,4.0s
MOS MLR MLR
comp=E,5µm,17.0s
MOS MLR MLR
comp=N,5µm,17.0s
MUD Monsted U'grnd 55.97 6 iP P 04 53 10.4 -0.7
comp=Z,3µm,20.0s
MUD Monsted U'grnd 55.97 6 iP P 04 53 10.4 -0.7
MUD MLR MLR
comp=Z,3µm,20.0s
MK31 Makanchi Array 55.98 311 iP P 04 53 10.2 -1.2
MK31 Makanchi Array 55.98 311 P P 04 53 09.7 -1.7
MKAR Makanchi Array 55.98 311 P P 04 53 10.4 -1.0
comp=Z,36nm,0.7s,baz=36,slow=3.7,SNR=165
MKAR PKPPKP P'P'df 05 23 13.0 -3.2
comp=Z,0.7nm,1.0s,baz=188,slow=4.9,SNR=3.6
Y57A Sumter 56.00 83 P P 04 53 09.7 -1.9
baz=333,SNR=7.5
Y57A Sumter 56.00 83 IAmb IAmb 04 53 13.0
comp=Z,122nm,1.3s
Y57A IAMs_20 IAMs_20 05 18 49.5
comp=Z,5µm,18.0s
MAKZ Makanchi 56.05 312 P P 04 53 10.7 -1.3
MAKZ pmax pmax
comp=Z,217nm,2.0s
MAKZ MLR MLR
comp=Z,7µm,20.0s
MAKZ Makanchi 56.05 312 P P 04 53 10.7 -1.3
MAKZ IAmb IAmb 04 53 20.0
comp=Z,217nm,1.9s
MAKZ IAMs_20 IAMs_20 05 21 29.6
comp=Z,7µm,20.0s
W60A Pink Hill 56.09 80 P P 04 53 10.8 -1.5
baz=333
X59A McDuffie Farm, 56.18 81 P P 04 53 11.2 -1.7
baz=333
154A Montrose 56.22 86 IAMs_20 IAMs_20 05 16 42.4
comp=Z,5µm,21.0s
Z56A Williston 56.24 84 P P 04 53 11.9 -1.5
baz=333,SNR=7.6
Z56A Williston 56.24 84 IAMs_20 IAMs_20 05 19 01.1
comp=Z,5µm,19.0s
W61A Ground Anchor 56.25 79 P P 04 53 12.4 -1.0
baz=333
ESK Eskdalemuir 56.29 14 eP P 04 53 13.5 +0.1
ESK IAmb IAmb 04 53 17.4
comp=Z,170nm,1.1s
ESK IAMs_20 IAMs_20 05 20 02.1
comp=Z,4µm,17.1s
ESK Eskdalemuir 56.29 14 P P 04 53 13.8 +0.3
ESK pmax pmax
comp=Z,174nm,1.1s
ESK Eskdalemuir 56.29 14 P P 04 53 13.8 +0.3
ESK Eskdalemuir 56.29 14 IAMs_20 IAMs_20 05 14 54.8
comp=Z,4µm,21.0s
V62A Hyde County Ai 56.30 78 P P 04 53 13.8 +0.1
baz=333
V62A Hyde County Ai 56.30 78 IAMs_20 IAMs_20 05 16 40.3
comp=Z,4µm,21.0s
Y58A Scranton 56.37 82 P P 04 53 12.9 -1.4
baz=333
X60A Albert Glenn T 56.41 80 P P 04 53 13.1 -1.5
baz=333
PBUR Paburge 56.52 357 eP P 04 53 15.3 +0.3
Z57A Bowman 56.52 83 P P 04 53 14.0 -1.4
baz=333,SNR=11
SSE Sheshan 56.52 271 P P 04 53 16.0 +0.6
SSE S S 05 01 06.8 +0.6

SSE pmax pmax
comp=Z,13nm,0.5s
SSE pmax pmax
comp=Z,560nm,5.4s
SSE LR LR
comp=Z,2µm,19.2s
SSE LR LR
comp=Z,4µm,16.0s
SSE Sheshan 56.52 271 IAMs_20 IAMs_20 05 17 57.2
comp=Z,4µm,20.0s
352A Blakely 56.54 88 IAMs_20 IAMs_20 05 19 19.9
comp=Z,6µm,22.0s
NJ2 Nanjing 56.56 273⇓*i*P **P 04 53 15.2 -0.5**
NJ2 pP **pP 04 53 19.2 -0.8**
NJ2 sP **sP 04 53 21.0 -0.7**
NJ2 PP **PP 04 55 23.0 +1.8**
NJ2 S **S 05 01 09.5 +2.9**
NJ2 sS **sS 05 01 16.6 +2.8**
NJ2 pmax pmax
comp=Z,40nm,0.9s
NJ2 pmax pmax
comp=Z,620nm,5.7s
NJ2 LR LR
comp=Z,6µm,19.4s
NJ2 LR LR
comp=Z,23µm,14.2s
NJ2 LR LR
comp=Z,9µm,16.1s
GAL1 Galloway 56.59 15 *e*P **P 04 53 15.3 -0.3**
GAL1 IAmb IAmb 04 53 19.2
comp=Z,117nm,1.1s
GAL1 IAMs_20 IAMs_20 05 19 04.4
comp=Z,5µm,16.1s
Y59A Loris 56.60 81 P **P 04 53 13.9 -2.0**
baz=333
OBN Obninsk 56.67 347 LR LR 05 19 13.7
comp=Z,927nm,21.5s,baz=5.5,slow=38
OBN Obninsk 56.67 347*de*P **P 04 53 15.6 -0.5**
OBN *i* 04 54 12.9
OBN *e* 04 55 24.8
OBN *i*S **S 05 01 11.0 +3.5**
OBN *e*SS **SS 05 04 55.9 +1.7**
OBN pmax pmax
comp=Z,141nm,1.7s
OBN MLR MLR
comp=Z,6µm,16.0s
OBN Obninsk 56.67 347 P **P 04 53 16.5 +0.4**
OBN IAmb IAmb 04 53 24.1
comp=Z,122nm,1.2s
OBN IAMs_20 IAMs_20 05 20 43.0
comp=Z,6µm,18.0s
IZAR Zarasai 56.67 354 *e*P **P 04 53 18.1 +2.0**
Z58A St. Stephen 56.83 83 P **P 04 53 16.9 -0.6**
baz=333
Y60A Bolivia 56.83 81 P **P 04 53 15.9 -1.7**
baz=333
ISAL Salakas 56.85 354 *e*P **P 04 53 19.4 +1.9**
NHSC New Hope 56.89 83 P **P 04 53 16.6 -1.4**
baz=333,SNR=12
NHSC New Hope 56.89 83 IAMs_20 IAMs_20 05 19 19.1
comp=Z,6µm,20.0s
157A Early Branch 56.96 84 P **P 04 53 17.5 -1.0**
baz=333
PABE Paberze 56.99 356 *e*P **P 04 53 19.3 +0.9**
451A Vernon 56.99 89 IAMs_20 IAMs_20 05 17 53.1
comp=Z,5µm,18.0s
GTA Gaotai 57.03 294⇓P **P 04 53 18.9 -0.2**
GTA pP sP 04 53 25.2 +0.1
GTA sP pP 04 53 28.4 +5.0
GTA S **S 05 01 13.4 +0.4**
GTA SS **SS 05 04 59.3 -1.5**
GTA pmax pmax
comp=Z,46nm,1.8s
GTA pmax pmax
comp=Z,1µm,6.0s
GTA LR LR
comp=Z,10µm,14.9s
GTA LR LR
comp=Z,8µm,12.3s
GTA LR LR
comp=Z,13µm,13.2s
WMQ Urumqi 57.07 306 P **P 04 53 20.5 +1.3**
WMQ sP sP 04 53 28.9 +3.7
WMQ PP **PP 04 55 27.4 +1.9**
WMQ S **S 05 01 13.3 0.0**
WMQ ScS **ScS 05 03 05.7 -2.1**
WMQ pmax pmax
comp=Z,59nm,1.3s
WMQ pmax pmax
comp=Z,360nm,4.7s
WMQ LR LR
comp=Z,3µm,18.9s
WMQ LR LR
comp=Z,2µm,19.9s
WMQ LR LR
comp=Z,5µm,20.7s
WMQ Urumqi 57.07 306 IAmb IAmb 04 53 31.8
comp=Z,103nm,1.1s
WMQ Urumqi 57.07 306 IAMs_20 IAMs_20 05 20 26.8
comp=Z,5µm,19.0s
255A Hazlehurst 57.07 86 IAMs_20 IAMs_20 05 21 31.0
comp=Z,5µm,19.0s
IIGN Ignalina 57.07 354 *e*P **P 04 53 19.6 +0.6**
TIGA Tifton 57.08 87 P **P 04 53 17.9 -1.4**
baz=334,SNR=8.2
TIGA Tifton 57.08 87 P **P 04 53 18.2 -1.2**
TIGA IAmb IAmb 04 53 23.2
comp=Z,129nm,1.3s
Z59A Georgetown, SC 57.11 82 P **P 04 53 18.1 -1.4**
baz=333
158A Hollywood 57.21 83 P **P 04 53 19.0 -1.3**
baz=333
OTUK Ortayu 57.30 320 P **P 04 53 20.3 -0.5**
BSD Bornholm Skovb 57.46 2 *i* P **P 04 53 19.2 -2.5**
comp=Z,3µm,18.0s
BSD Bornholm Skovb 57.46 2 *i* P **P 04 53 19.2 -2.5**
BSD MLR MLR
comp=Z,3µm,18.0s
NACGM Naroch 57.50 354 *e*P **P 04 53 21.0 -1.0**
NACGM *e*PP PP 04 55 20.0 -9.0
NACGM *e*PPP PPP 04 56 48.0
NACGM *e*S **S 05 01 20.0 +1.6**
NACGM *e*PS **PnS 05 01 40.0 +11**
NACGM *e*SS SS 05 05 20.0 +13
NACGM *e*SSS SSS 05 07 35.0
NACGM *e*LQ LQ 05 09 52.0
NACGM *e*LR LR 05 12 42.0
NACGM LRM MLR 05 16 38.0
comp=Z,32nm,22.0s
257A Skidaway Islan 57.58 84 IAMs_20 IAMs_20 05 20 25.4
comp=Z,7µm,20.0s
JOW Kunigami 57.66 262 P **P 04 53 23.6 +0.1**
comp=Z,3.0nm,0.8s,baz=124,slow=14,SNR=18
JOW Kunigami 57.66 262 P **P 04 53 22.9 -0.6**
JOW IAMs_20 IAMs_20 05 17 35.6
comp=Z,3µm,21.0s
HPK Haverah Park 57.78 13 *e*P **P 04 53 23.2 -0.8**
HPK IAMs_20 IAMs_20 05 20 49.6
comp=Z,4µm,18.8s
ZAIG Zacatecas 57.80 110 P **P 04 53 24.8 -0.1**
ZAIG IAMs_20 IAMs_20 05 21 30.8
comp=Z,4µm,18.0s
MICGM Minsk 57.85 353⇑*e*P **P 04 53 26.0 +1.5**
MICGM *e*P **P 04 53 26.0 +1.5**
MICGM *e*PP PP 04 55 20.0 -12
MICGM *e*S **S 05 01 25.0 +1.9**
MICGM *e*SS SS 05 05 30.0 +17
MICGM *e*SSS SSS 05 07 36.0
MICGM *e*LQ LQ 05 09 40.0
MICGM *e*LR LR 05 12 12.0
MICGM LRM MLR 05 17 14.0
comp=Z,10nm,20.0s
MNK Minsk 57.85 353 *e*P **P 04 53 26.0 +1.5**
MNK *e*S **S 05 01 25.0 +1.9**
RGN Rugen 58.00 3 *e*P **P 04 53 27.6 +2.1**
RGN Rugen 58.00 3 P **P 04 53 26.1 +0.6**
DSB Dublin 58.01 17 P **P 04 53 24.9 -0.8**
DSB IAmb IAmb 04 53 29.5
comp=Z,59nm,1.1s
DSB IAMs_20 IAMs_20 05 19 00.4
comp=Z,5µm,18.0s
WME Myndd Eilian 58.08 15 *e*P **P 04 53 25.8 -0.4**
WLF1 Llynfaes 58.18 15 *e*P **P 04 53 27.1 +0.3**
WLF1 IAMs_20 IAMs_20 05 20 01.7
comp=Z,8µm,16.8s

YRC Rhoscolyn 58.20 16 *e*P **P 04 53 27.0 +0.1**
456A Hilliard 58.32 86 IAMs_20 IAMs_20 05 21 20.0
comp=Z,4µm,19.0s
LBWR Ladybower, Pea 58.32 14 *e*P **P 04 53 27.6 -0.2**
LBWR IAmb IAmb 04 53 31.6
comp=Z,78nm,1.0s
LBWR IAMs_20 IAMs_20 05 21 14.0
comp=Z,4µm,17.6s
YLL Llanberis 58.35 15 *e*P **P 04 53 28.0 0.0**
SUW Suwalki 58.51 356 *e*P **P 04 53 28.1 -1.0**
SUW *e*S **S 05 01 30.9 -0.8**
SUW *e*L L 05 16 12.1
comp=Z,5µm,23.2s
SUW Suwalki 58.51 356 P **P 04 53 29.7 +0.6**
SUW pmax pmax
comp=Z,177nm,1.5s
SUW MLR MLR
comp=Z,4µm,20.0s
SUW Suwalki 58.51 356 P **P 04 53 29.7 +0.6**
SUW IAMs_20 IAMs_20 05 18 53.5
comp=Z,4µm,20.0s
XAN Xi'an 58.53 283 P **P 04 53 29.0 -0.6**
XAN pP sP 04 53 35.6 0.0
XAN PP **PP 04 55 42.8 +4.1**
XAN pmax pmax
comp=Z,16nm,1.1s
XAN pmax pmax
comp=Z,850nm,5.4s
XAN LR LR
comp=Z,22µm,18.1s
XAN LR LR
comp=Z,37µm,16.1s
XAN LR LR
comp=Z,21µm,12.8s
XAN Xi'an 58.53 283 P **P 04 53 27.9 -1.7**
XAN pmax pmax
comp=Z,31nm,1.1s
XAN MLR MLR
comp=Z,13µm,19.0s
XAN Xi'an 58.53 283 P **P 04 53 27.9 -1.7**
BSEG Bad Segeberg 58.53 5 *e*P **P 04 53 28.9 -0.3**
comp=Z,187nm,1.7s,baz=357,slow=6.8
LZH Lanzhou 58.56 289⇑P **P 04 53 31.1 +1.1**
LZH pP sP 04 53 36.6 +0.6
LZH sP pP 04 53 39.1 +4.8
LZH PP **PP 04 55 41.7 +2.6**
LZH S **S 05 01 31.9 -1.3**
LZH SS **SS 05 05 25.4 +0.2**
LZH pmax pmax
comp=Z,98nm,1.3s
LZH pmax pmax
comp=Z,1µm,5.6s
LZH LR LR
comp=Z,13µm,15.2s
LZH LR LR
comp=Z,19µm,15.7s
LZH LR LR
comp=Z,16µm,17.9s
TDK Taldyqorghan 58.71 314 *e*P **P 04 53 30.2 -0.6**
comp=Z,966nm,4.7s,baz=314
TDK *e*S **S 05 01 35.0 +0.4**
baz=314
TDK Taldyqorghan 58.71 314 *e*P **P 04 53 30.1 -0.6**
TDK *e*S **S 05 01 35.0 +0.4**
TDK pmax pmax
comp=Z,966nm,4.7s
LPSR Galich'ya Gora 58.94 345 *e*P **P 04 53 31.2 -0.9**
LPSR *e*S **S 05 01 35.5 -1.8**
LPSR pmax pmax
comp=Z,60nm,0.7s
LPSR smax smax
comp=E,240nm,2.8s
LPSR MLR MLR
comp=Z,7µm,23.0s
CWF Charnwood Fore 59.02 13 *e*P **P 04 53 33.3 +0.6**
CWF IAMs_20 IAMs_20 05 21 36.5
comp=Z,3µm,17.6s
HLM1 Long Mynd 59.09 14 *e*P **P 04 53 32.6 -0.6**
HLM1 IAmb IAmb 04 53 37.0
comp=Z,518nm,2.1s
WACR West Acre 59.19 12 *e*P **P 04 53 33.0 -0.8**
WACR IAmb IAmb 04 53 37.3
comp=Z,171nm,0.9s
WACR IAMs_20 IAMs_20 05 25 25.8
comp=Z,4µm,17.3s
GKP Gorka Klasztor 59.32 0 *e*P **P 04 53 34.7 -0.1**
GKP *e*S **S 05 01 42.4 +0.1**
GKP *e*L L 05 14 52.1
comp=Z,7µm,28.5s
RSBS Rosebush, Pemb 59.46 16 *e*P **P 04 53 35.2 -0.5**
RSBS IAmb IAmb 04 53 39.1
comp=Z,455nm,2.3s
RSBS IAMs_20 IAMs_20 05 19 35.9
comp=Z,5µm,19.3s
MCH1 Michaelchurch 59.59 15 *e*P **P 04 53 36.5 -0.1**
MCH1 IAmb IAmb 04 53 40.3
comp=Z,108nm,1.1s
MCH1 IAMs_20 IAMs_20 05 20 55.4
comp=Z,4µm,18.1s
RETH Rethem/Aller, 59.69 6 *e*P **P 04 53 36.9 -0.4**
comp=Z,305nm,2.1s,baz=357,slow=6.8
BTLS Baital 59.84 317 *i* P **P 04 53 37.8 -0.8**
comp=Z,108nm,2.0s,baz=317
BTLS *e*S **S 05 01 49.2 0.0**
baz=317
BTLS LR LR 05 21 15.2
comp=Z,506nm,11.5s,baz=317
BTLS Baital 59.84 317 *i* P **P 04 53 37.7 -0.8**
BTLS *e*S **S 05 01 49.2 0.0**
BTLS pmax pmax
comp=Z,108nm,2.0s
BTLS MLR MLR
comp=Z,506nm,12.0s
STRD Stroud 59.89 14 *e*P **P 04 53 38.0 -0.7**
STRD IAMs_20 IAMs_20 05 21 45.3
comp=Z,4µm,18.9s
PDGK Podgornoye 59.95 312 P **P 04 53 37.9 -1.5**
NRDL Niedersach Rie 59.97 5 *e*P **P 04 53 38.7 -0.4**
comp=Z,196nm,1.7s,baz=357,slow=6.8
VRH Novokhopyorsk 60.02 343 *e*P **P 04 53 39.6 0.0**
VRH *e*S **S 05 01 47.0 -4.3**
VRH pmax pmax
comp=Z,50nm,0.8s
VRH smax smax
comp=N,170nm,2.1s
IBBN Ibbenburen 60.06 7 *e*P **P 04 53 39.4 -0.4**
comp=N,317nm,1.8s,baz=357,slow=6.8
RUE Ruedersdorf 60.08 3 *e*P **P 04 53 41.4 +1.4**
RUE Ruedersdorf 60.08 3 *e*P **P 04 53 39.6 -0.3**
comp=N,498nm,2.1s,baz=357,slow=6.8
SHLS Shalkode 60.12 312 *e*P **P 04 53 39.8 -0.8**
comp=N,333nm,2.8s,baz=312
SHLS *e*S **S 05 01 52.7 -0.4**
baz=312
SHLS Shalkode 60.12 312 *e*P **P 04 53 39.7 -0.8**
SHLS *e*S **S 05 01 52.6 -0.4**
SHLS pmax pmax
comp=Z,333nm,2.8s
CHKK Chushkaly 60.16 314 *e*P **P 04 53 40.3 -0.5**
comp=Z,191nm,0.5s,baz=314
CHKK Chushkaly 60.16 314 *e*P **P 04 53 40.2 -0.5**
CHKK pmax pmax
comp=Z,191nm,0.5s
SWN1 Swindon 60.19 14 *e*P **P 04 53 40.6 -0.1**
SWN1 IAmb IAmb 04 53 45.0
comp=Z,303nm,1.3s
SWN1 IAMs_20 IAMs_20 05 25 17.9
comp=Z,4µm,13.3s
UZB Uzynbulak 60.25 312⇓*i*P **P 04 53 41.2 -0.4**
comp=Z,225nm,4.2s,baz=312
UZB *e*S **S 05 01 55.2 +0.4**
baz=312
UZB Uzynbulak 60.25 312*di*P **P 04 53 41.1 -0.4**
UZB *e*S **S 05 01 55.2 +0.4**
UZB pmax pmax
comp=Z,225nm,4.2s
VSR Storozhevoye 60.28 345 *e*P **P 04 53 40.5 -0.9**
VSR *e*S **S 05 01 52.0 -2.7**
VSR pmax pmax
comp=Z,60nm,0.9s
VSR smax smax
comp=N,360nm,3.6s
KUU Kurty 60.30 315⇓*i*P **P 04 53 41.0 -0.7**
comp=N,677nm,4.2s,baz=315
KUU *e*S **S 05 01 55.2 0.0**
baz=315

KUU LR LR 05 22 24.0
comp=N,2µm,11.6s,baz=315
KUU Kurty 60.30 315*di*P **P 04 53 40.9 -0.7**
KUU *e*S **S 05 01 55.2 0.0**
KUU pmax pmax
comp=Z,677nm,4.2s
KUU MLR MLR
comp=Z,2µm,12.0s
ASSE Asse, Remlinge 60.35 5 *e*P **P 04 53 41.3 -0.4**
comp=Z,338nm,2.2s,baz=357,slow=6.8
SATY Saty 60.50 313⇓*i*P **P 04 53 42.9 -0.3**
comp=Z,144nm,2.7s,baz=313
SATY *e*S **S 05 01 58.7 +0.6**
baz=313
SATY Saty 60.50 313*di*P **P 04 53 42.9 -0.3**
SATY *e*S **S 05 01 58.6 +0.6**
SATY pmax pmax
comp=Z,144nm,2.7s
BEL Belsk 60.74 358 *e*P **P 04 53 45.0 +0.5**
BEL *e*S **S 05 02 01.0 +0.6**
BEL *e*L L 05 17 12.5
comp=Z,6µm,23.1s
AAA Alma-Ata 60.78 314 *e*P **P 04 53 45.9 +0.9**
comp=Z,1µm,4.3s,baz=314
AAA *e*S **S 05 02 03.4 +2.0**
baz=314
AAA LR LR 05 22 49.1
comp=Z,2µm,11.8s,baz=314
AAA Alma-Ata 60.78 314 *e*P **P 04 53 45.9 +0.9**
AAA *e*S **S 05 02 03.3 +1.9**
AAA pmax pmax
comp=Z,1µm,4.3s
AAA MLR MLR
comp=Z,2µm,12.0s
MDOK Medeo 60.78 314 *i* P **P 04 53 44.5 -0.7**
comp=Z,1µm,4.4s,baz=314
MDOK *e*S **S 05 02 01.8 +0.1**
baz=314
MDOK LR LR 05 22 49.1
comp=Z,2µm,11.8s,baz=314
MDOK Medeo 60.78 314 *i* P **P 04 53 44.4 -0.7**
MDOK *e*S **S 05 02 01.8 +0.1**
MDOK pmax pmax
comp=Z,1µm,4.4s
MDOK MLR MLR
comp=Z,2µm,12.0s
DWPF Disney Wildern 60.88 87 P **P 04 53 44.8 -1.0**
baz=335
BUG Bochum--Univer 60.90 7 *e*P **P 04 53 44.6 -0.9**
comp=Z,145nm,1.8s,baz=357,slow=6.8
GTTG Gottingen 60.91 5 *e*P **P 04 53 45.5 -0.2**
comp=Z,151nm,1.5s,baz=357,slow=6.8
TNSS Tian-Shan 60.93 314 *e*P **P 04 53 46.7 +0.2**
comp=Z,338nm,1.1s,baz=314
TNSS Tian-Shan 60.93 314 *e*P **P 04 53 46.6 +0.2**
TNSS pmax pmax
comp=Z,338nm,1.1s
MTBS Maitube 60.98 314 *e*P **P 04 53 46.6 +0.2**
comp=Z,416nm,0.7s,baz=314
MTBS Maitube 60.98 314 *e*P **P 04 53 46.6 +0.2**
MTBS pmax pmax
comp=Z,416nm,0.7s
PRZ Przheval'sk 61.04 312 P **P 04 53 47.4 +0.5**
PRZ pmax pmax
comp=Z,71nm,1.0s
PRZ MLR MLR
comp=Z,5µm,20.0s
PRZ Przheval'sk 61.04 312 P **P 04 53 47.4 +0.5**
PRZ IAmb IAmb 04 54 00.3
comp=Z,71nm,1.0s
PRZ IAMs_20 IAMs_20 05 21 05.7
comp=Z,5µm,20.0s
MOIG Morelia 61.13 110 P **P 04 53 48.3 +0.5**
SGDS Sogindy 61.17 316⇓*i*P **P 04 53 47.4 -0.3**
comp=Z,291nm,2.8s,baz=316
SGDS *e*S **S 05 02 06.9 +0.4**
baz=316
SGDS LR LR 05 22 09.7
comp=Z,2µm,11.7s,baz=316
SGDS Sogindy 61.17 316*di*P **P 04 53 47.3 -0.3**
SGDS *e*S **S 05 02 06.8 +0.4**
SGDS pmax pmax
comp=Z,291nm,2.8s
SGDS MLR MLR
comp=Z,2µm,12.0s
CLL Collm 61.24 3 *i* P **P 04 53 49.7 +1.8**
comp=Z,229nm,1.9s
CLL *e*PcP **PcP 04 54 32.0 +1.7**
comp=Z,26nm,1.2s
CLL *e*PP **PP 04 56 05.0 +2.9**
CLL *e*S **S 05 02 09.0 +2.2**
CLL *e*SS **SS 05 06 12.0 +6.1**
CLL *e*SSS SSS 05 09 00.0
CLL *e*PKPPKPdf **P'P'df 05 23 02.0 -7.4**
comp=Z,79nm,2.7s
CLL LmV 05 28 00.0
comp=Z,2µm,19.1s
CLL Collm 61.24 3 *i* P **P 04 53 49.7 +1.8**
CLL *e* 04 54 32.0
CLL *e*S **S 05 02 09.0 +2.2**
CLL pmax pmax
comp=Z,229nm,1.9s
CLL pmax pmax
comp=Z,26nm,1.2s
CLL Collm 61.24 3 IAmb IAmb 04 53 52.9
comp=Z,137nm,1.6s
CLL IAMs_20 IAMs_20 05 20 52.6
comp=Z,3µm,18.0s
CLL Collm 61.24 3 *e*P **P 04 53 48.1 +0.2**
comp=Z,229nm,1.9s,baz=357,slow=6.8
NEUB Neuenburg 61.30 4 *e*P **P 04 53 47.8 -0.6**
comp=Z,268nm,1.8s,baz=357,slow=6.8
UCC Uccle 61.38 10 P **P 04 53 48.3 -0.5**
UCC pP **pP 04 53 51.8 -1.4**
UCC PcP **PcP 04 54 31.1 +0.3**
UCC Uccle 61.38 10 IAmb IAmb 04 53 52.6
comp=Z,51nm,1.1s
USP Ospenovka 61.38 316 P **P 04 53 50.6 +1.6**
SNR=27
TKM2 Tokmak 2 61.40 315 P **P 04 53 49.2 -0.2**
SNR=81
TKM2 Tokmak 2 61.40 315 P **P 04 53 48.4 -1.0**
BEBN Eben Emael 61.46 9 P **P 04 53 49.7 +0.3**
BEBN PcP **PcP 04 54 31.5 +0.3**
CHMS Chumysh 61.56 316 P **P 04 53 52.0 +1.8**
SNR=31
AKASG Malin Array Be 61.58 352 P **P 04 53 49.9 -0.3**
comp=Z,24nm,0.5s,baz=6.1,slow=6.5,SNR=70
AKASG LR LR 05 20 49.2
comp=Z,7µm,19.9s,baz=5.0,slow=36
AKASG PKPPKP 05 23 05.0
comp=Z,1.0nm,0.5s,baz=202,slow=2.5,SNR=6.0
AKASG Malin Array Be 61.58 352*ce*P **P 04 53 49.5 -0.7**
AKASG pmax pmax
comp=Z,24nm,0.5s
AKBB Malin Array Si 61.58 352*ce*P **P 04 53 49.7 -0.5**
AKBB Malin Array Si 61.58 352 IAmb IAmb 04 53 56.2
comp=Z,81nm,1.1s
FBE Freiberg 61.63 3 *e*P **P 04 53 50.3 -0.2**
comp=Z,455nm,2.2s,baz=357,slow=6.8
UBBA Unterbreizbach 61.64 6 *e*P **P 04 53 50.1 -0.3**
comp=Z,281nm,1.9s,baz=357,slow=6.8
SNF Seneffe 61.66 10 P **P 04 53 50.3 -0.4**
SNF x x 04 54 14.9
BSTI Sart Tilman 61.66 9 P **P 04 53 51.3 +0.5**
MEM Membach 61.66 8 P **P 04 53 50.4 -0.3**
MEM PcP **PcP 04 54 33.8 +1.7**
BRG Berggiesshubel 61.69 3 *i* P **P 04 53 50.8 -0.1**
comp=Z,242nm,2.0s
BRG *i* PCP **PcP 04 54 32.3 +0.1**
comp=Z,22nm,1.2s
BRG S **S 05 02 11.0 -1.6**
BRG SS **SS 05 06 11.0 -2.1**
BRG *e*PKPPKP P'P'df 05 22 55.5 -13
comp=Z,48nm,2.3s
comp=N,1µm,15.3s
comp=E,3µm,19.4s
comp=Z,2µm,18.5s
BRG Berggiesshubel 61.69 3 *i* P **P 04 53 50.8 -0.1**
BRG *i* 04 54 32.3
BRG S **S 05 02 11.0 -1.6**
BRG SS **SS 05 06 11.0 -2.1**
BRG pmax pmax
comp=Z,242nm,2.0s
BRG pmax pmax
comp=Z,22nm,1.2s

BRG pmax pmax
comp=Z,48nm,2.3s
BRG MLR MLR
comp=N,1µm,15.3s
BRG MLR MLR
comp=E,3µm,19.4s
BRG MLR MLR
comp=Z,2µm,18.5s
BRG Berggiesshubel 61.69 3 *e*P **P 04 53 50.4 -0.6**
comp=Z,241nm,2.0s,baz=357,slow=6.8
ENH Enshi 61.69 281 P **P 04 53 50.3 -1.0**
ENH IAmb IAmb 04 54 01.7
comp=Z,39nm,0.8s
ENH IAMs_20 IAMs_20 05 23 45.1
comp=Z,6µm,20.0s
KDJ Kajisay 61.70 313 P **P 04 53 50.6 -0.8**
KDJ pmax pmax
comp=Z,83nm,1.2s
KDJ MLR MLR
comp=Z,4µm,21.0s
KDJ Kajisay 61.70 313 P **P 04 53 50.6 -0.8**
KDJ IAmb IAmb 04 54 03.7
comp=Z,82nm,1.1s
KDJ IAMs_20 IAMs_20 05 22 37.3
comp=Z,4µm,21.0s
BOOM Boomskoye usch 61.71 314 P **P 04 53 50.6 -0.9**
BOOM pmax pmax
comp=Z,35nm,0.8s
BOOM MLR MLR
comp=Z,7µm,20.0s
BOOM Boomskoye usch 61.71 314 P **P 04 53 50.6 -0.9**
BOOM IAmb IAmb 04 53 53.7
comp=Z,35nm,0.8s
KSP Ksiaz 61.75 1 *e*P **P 04 53 51.2 -0.2**
KSP *e*PP **PP 04 56 06.7 +0.1**
KSP *e*S **S 05 02 12.9 -0.5**
KSP *e*L L 05 15 44.3
comp=Z,4µm,27.8s
AHRW Bad Neuenahr-A 61.79 8 *e*P **P 04 53 51.3 -0.3**
comp=Z,304nm,2.0s,baz=357,slow=6.8
YOJ Yonaguni jima 61.80 266 IAMs_20 IAMs_20 05 20 49.9
comp=Z,4µm,19.0s
BCLA Clavier 61.81 9 P **P 04 53 52.6 +0.9**
BCLA PcP **PcP 04 54 35.3 +2.6**
BGES Gesves 61.83 9 P **P 04 53 52.6 +0.7**
ULHL Ulahol 61.86 314 P **P 04 53 54.0 +1.5**
SNR=28
MOX Moxa 61.86 4 *e*P **P 04 53 51.8 -0.4**
comp=Z,254nm,2.0s,baz=357,slow=6.8
MOX *e*L L 05 23 19.1
comp=Z,2µm,20.5s
BMRD Maredsous 61.90 9 P **P 04 53 52.1 -0.3**
BMRD x x 04 54 08.9
TARG Taragay, Kyrgy 61.90 313 P **P 04 53 53.2 +0.1**
TARG IAmb IAmb 04 53 57.9
comp=Z,65nm,1.0s
TARG IAMs_20 IAMs_20 05 23 50.3
comp=Z,5µm,18.0s
TATO Taipei 61.91 267 IAMs_20 IAMs_20 05 21 06.0
comp=Z,4µm,19.0s
BHOU Houvegnez 61.92 8 P **P 04 53 53.7 +1.2**
BHOU x x 04 54 15.1
BHOU PcP **PcP 04 54 35.0 +1.8**
AAK Ala-Archa 61.96 316 PKPPKP 05 23 01.5
comp=Z,0.7nm,0.3s,baz=146,slow=5.9,SNR=3.8
AAK Ala-Archa 61.96 316 P **P 04 53 53.2 0.0**
SNR=51
AAK Ala-Archa 61.96 316 *i* P **P 04 53 52.5 -0.6**
SNR=60
AAK Ala-Archa 61.96 316 P **P 04 53 53.1 0.0**
AAK pmax pmax
comp=Z,84nm,1.1s
AAK MLR MLR
comp=Z,6µm,21.0s
AAK Ala-Archa 61.96 316 P **P 04 53 53.1 0.0**
AAK IAmb IAmb 04 54 05.7
comp=Z,84nm,1.1s
AAK Ala-Archa 61.96 316 IAMs_20 IAMs_20 05 25 27.8
comp=Z,6µm,21.0s
CHVC Chvalec 62.00 1 *e*S **S 05 02 18.9 +2.2**
OSTC Ostas 62.03 1 *e*P **P 04 53 55.0 +1.7**
OSTC *e*S **S 05 02 16.8 -0.3**
OSTC AMS AMS 05 25 30.0
comp=Z,3µm,18.4s
PLN Plauen 62.04 4 *e*P **P 04 53 53.0 -0.4**
comp=Z,263nm,2.0s,baz=357,slow=6.8
PVCC Panska Ves 62.05 2 AMS AMS 05 26 30.0
comp=Z,3µm,19.8s
UPC Upice 62.08 1 *e*P **P 04 53 54.8 +1.2**
UPC AMS AMS 05 25 20.0
comp=Z,4µm,19.3s
UPC Upice 62.08 1 *e*P **P 04 53 54.8 +1.2**
UPC MLR MLR
comp=Z,4µm,19.3s
DOU Dourbes 62.09 9 P **P 04 53 53.5 -0.1**
DOU x x 04 54 06.5
DOU PcP **PcP 04 54 34.2 +0.4**
TANN Tannenbergstha 62.12 4 *e*P **P 04 53 53.7 -0.2**
comp=Z,597nm,2.0s,baz=357,slow=6.8
EKS2 Erkin-Say 62.13 316 P **P 04 53 54.2 0.0**
SNR=82
GUNZ Gunzen 62.16 4 *e*P **P 04 53 54.0 -0.2**
comp=Z,282nm,2.0s,baz=357,slow=6.8
TNS Taunus Mts 62.17 7 *e*P **P 04 53 53.8 -0.5**
comp=Z,232nm,1.9s,baz=357,slow=6.8
UNM Universidad Na 62.18 108 IAMs_20 IAMs_20 05 22 08.8
comp=Z,3µm,19.0s
KWAJ Kwajalein Atol 62.18 214 P **P 04 53 56.4 +1.7**
KWAJ pmax pmax
comp=Z,366nm,1.4s
KWAJ Kwajalein Atol 62.18 214 P **P 04 53 56.4 +1.7**
YHNB Yeheng 62.23 267 IAMs_20 IAMs_20 05 20 24.5
comp=Z,5µm,18.0s
DPC Dobruska-Polom 62.24 1 *e*P **P 04 53 55.3 +0.6**
DPC *e*S **S 05 02 21.6 +1.9**
DPC AMS AMS 05 24 00.0
comp=Z,3µm,17.2s
DPC Dobruska-Polom 62.24 1 *e*P **P 04 53 55.3 +0.6**
DPC *e*S **S 05 02 21.6 +1.9**
DPC MLR MLR
comp=Z,3µm,17.2s
DPC Dobruska-Polom 62.24 1 *e*SG **S 05 02 21.7 +2.0**
WERN Wernitzgruen 62.24 4 *e*P **P 04 53 54.6 -0.1**
comp=Z,269nm,1.9s,baz=357,slow=6.8
060A Indiantown 62.26 86 IAMs_20 IAMs_20 05 23 48.4
comp=Z,5µm,18.0s
KZA Kyzart 62.28 315 P **P 04 53 55.6 0.0**
SNR=44
NKC Novy Kostel 62.30 4 *e*P **P 04 53 55.3 +0.2**
NKC *e*S **S 05 02 19.6 -0.8**
NKC AMS AMS 05 24 30.0
comp=Z,3µm,17.0s
NKC Novy Kostel 62.30 4 *e*P **P 04 53 55.3 +0.2**
NKC *e*S **S 05 02 19.6 -0.8**
NKC MLR MLR
comp=Z,3µm,17.0s
UCH Uchtor 62.34 315 P **P 04 53 56.0 -0.1**
SNR=23
OJC Ojcow 62.37 358 *e*P **P 04 53 55.3 -0.2**
OJC *e*PcP **PcP 04 54 33.4 -1.6**
OJC *e*PP **PP 04 56 13.0 +0.9**
OJC *e*S **S 05 02 18.3 -2.9**
OJC *e*L L 05 18 24.4
comp=Z,6µm,23.5s
OJC Ojcow 62.37 358 P **P 04 53 55.7 +0.2**
OJC pmax pmax
comp=Z,153nm,1.8s
OJC Ojcow 62.37 358 P **P 04 53 55.7 +0.2**
OJC IAmb IAmb 04 54 01.1
comp=Z,153nm,1.8s
PRA Prague 62.50 2 *e*P **P 04 53 58.5 +2.1**
PRA *e*S **S 05 02 23.5 +0.6**
PRA AMS AMS 05 29 10.0
comp=Z,2µm,17.8s
PRA Prague 62.50 2 *e*P **P 04 53 58.5 +2.1**
PRA *e*S **S 05 02 23.5 +0.6**
PRA MLR MLR
comp=Z,2µm,17.8s
KRLC Kraliky 62.52 1 *e*P **P 04 53 57.7 +1.1**
KRLC *e*S **S 05 02 26.6 +3.4**
KRLC AMS AMS 05 25 20.0
comp=Z,3µm,19.5s
KRLC Kraliky 62.52 1 *e*P **P 04 53 57.7 +1.1**
KRLC *e*S **S 05 02 26.6 +3.4**
KRLC MLR MLR
comp=Z,3µm,19.5s
MANZ Manzenberg 62.54 4 *e*P **P 04 53 56.3 -0.4**
comp=Z,142nm,1.9s,baz=357,slow=6.8
DZA Taraz 62.55 318 *e*P **P 04 53 58.3 +1.3**
comp=Z,40nm,1.2s,baz=318
DZA *e*S **S 05 02 24.8 +1.0**
baz=318
DZA Taraz 62.55 318 *e*P **P 04 53 58.2 +1.3**
DZA *e*S **S 05 02 24.8 +1.0**
DZA pmax pmax
comp=Z,40nm,1.2s
KK31 Karatay Array 62.56 319 P **P 04 53 56.5 -0.4**
KK31 Karatay Array 62.56 319 P **P 04 53 56.5 -0.4**
KK31 IAmb IAmb 04 54 05.9
comp=Z,71nm,1.2s
KKAR Karatay Array 62.56 319 P **P 04 53 56.5 -0.4**
KKAR pmax pmax
comp=Z,71nm,1.3s
KKAR Karatay Array 62.56 319 P **P 04 53 56.5 -0.4**
KKAR IAmb IAmb 04 54 05.9
comp=Z,71nm,1.2s
PRU Pruhonice 62.59 2 *e*P **P 04 53 58.9 +1.9**
PRU *e*S **S 05 02 25.6 +1.6**
PRU AMS AMS 05 29 20.0
comp=Z,3µm,16.8s
PRU Pruhonice 62.59 2 *e*P **P 04 53 58.9 +1.9**
PRU *e*S **S 05 02 25.6 +1.6**
PRU MLR MLR
comp=Z,3µm,16.8s
NACB Ninganchiao 62.59 267 P **P 04 53 57.2 -0.2**
NACB IAmb IAmb 04 54 03.3
comp=Z,86nm,1.5s
NACB IAMs_20 IAMs_20 05 20 05.2
comp=Z,5µm,18.0s
WLF Walferdange 62.61 8 P **P 04 53 58.5 +1.4**
WLF pP **pP 04 54 01.2 -0.3**
WLF Walferdange 62.61 8 P **P 04 53 57.8 +0.7**
WLF pmax pmax
comp=Z,69nm,1.2s
WLF MLR MLR
comp=Z,4µm,20.0s
WLF Walferdange 62.61 8 P **P 04 53 57.8 +0.7**
WLF IAmb IAmb 04 54 01.7
comp=Z,69nm,1.2s
WLF IAMs_20 IAMs_20 05 24 36.0
comp=Z,4µm,20.0s
WLF Walferdange 62.61 8 *e*P **P 04 53 56.8 -0.3**
comp=Z,188nm,1.8s,baz=357,slow=6.8
AML Almayashu 62.65 316 P **P 04 53 58.4 +0.3**
SNR=64
GOPC GO Pecny, Ondr 62.66 2 *e*P **P 04 53 58.1 +0.6**
GOPC *e*S **S 05 02 27.4 +2.4**
GOPC AMS AMS 05 26 00.0
comp=Z,4µm,18.4s
GOPC GO Pecny, Ondr 62.66 2 *e*P **P 04 53 58.1 +0.6**
GOPC *e*S **S 05 02 27.4 +2.4**
GOPC MLR MLR
comp=Z,4µm,18.4s
LVV L'vov 62.68 355 *e*P **P 04 53 58.2 +0.6**
LVV *e* 04 56 22.5
LVV *e*PPP PPP 04 57 47.1
LVV *e*S **S 05 02 22.3 -2.9**
LVV *e*PS **PnS 05 02 35.0 -5.4**
LVV *e*SS **SS 05 06 28.9 +0.3**
LVV *e*SSS SSS 05 09 14.1
LVV pmax pmax
comp=Z,150nm,1.6s
LVV MLR MLR
comp=N,3µm,18.0s
LVV MLR MLR
comp=E,2µm,18.0s
LVV MLR MLR
comp=Z,4µm,18.0s
ROTZ Rotzenmuhle 62.76 4 *e*P **P 04 53 58.1 -0.1**
comp=Z,246nm,2.0s,baz=357,slow=6.8
OKC Ostrava-Krasne 62.76 360 *e*S **S 05 02 26.5 +0.4**
OKC AMS AMS 05 19 30.0
comp=Z,4µm,21.0s
BRLS Boroldav 62.80 319 *e*S **S 05 02 31.1 +4.3**
baz=320
GRF Grafenberg Arr 62.80 5 *e*P **P 04 53 58.5 0.0**
comp=Z,242nm,2.1s,baz=357,slow=6.8
GRF *e*L L 05 23 57.2
comp=Z,2µm,22.0s
MORC Moravsky Berou 62.82 0 ⇓P **P 04 53 58.9 +0.3**
MORC Moravsky Berou 62.82 0 ⇓*i*P **P 04 53 58.2 -0.4**
MORC *e*S **S 05 02 29.3 +2.3**
MORC *e*PKPPKP **P'P'df 05 23 09.6 +2.7**
MORC Moravsky Berou 62.82 0 P **P 04 53 58.4 -0.2**
MORC pmax pmax
comp=Z,137nm,1.7s
MORC Moravsky Berou 62.82 0 P **P 04 53 58.4 -0.2**
MORC IAmb IAmb 04 54 04.1
comp=Z,137nm,1.7s
MORC IAMs_20 IAMs_20 05 19 42.5
comp=Z,3µm,21.0s
PBCC Pribram 62.88 3 *e*P **P 04 54 00.6 +1.6**
KWP Kalwaria Pacla 62.91 356 *e*P **P 04 53 59.4 +0.3**
KWP *e*S **S 05 02 27.5 -0.5**
KWP *e*L L 05 19 13.8
comp=Z,8µm,23.2s
KWP Kalwaria Pacla 62.91 356 IAMs_20 IAMs_20 05 21 02.8
comp=Z,6µm,22.0s
QZH Quanzhou 63.04 270 ⇓*i*P **P 04 53 58.7 -1.6**
QZH pmax pmax
comp=Z,40nm,2.3s
QZH pmax pmax
comp=Z,1µm,3.8s
QZH LR LR
comp=Z,3µm,14.2s
QZH LR LR
comp=Z,10µm,15.2s
QZH LR LR
comp=Z,8µm,13.3s
NIE Niedzica 63.16 358 *e*P **P 04 54 01.1 +0.2**
NIE *e*S **S 05 02 31.9 +0.6**
NIE *e*L L 05 19 03.7
comp=Z,8µm,23.0s
SSLB Suanglung 63.19 267 IAMs_20 IAMs_20 05 21 12.9
comp=Z,4µm,18.0s
CD2 Chengdu 63.24 286 ⇓P **P 04 54 00.2 -1.5**
CD2 sP sP 04 54 09.2 +1.5
CD2 PP **PP 04 56 19.4 -1.0**
CD2 S **S 05 02 30.2 -2.6**
CD2 pmax pmax
comp=Z,60nm,1.0s
CD2 pmax pmax
comp=Z,1µm,5.9s
CD2 LR LR
comp=Z,10µm,13.3s
CD2 LR LR
comp=Z,14µm,14.5s
CD2 LR LR
comp=Z,10µm,12.3s
BBSR BB Station 63.27 70 P **P 04 54 01.3 -0.4**
BBSR IAmb IAmb 04 54 02.8
comp=Z,104nm,1.4s
VRAC Vranov 63.29 1 LR LR 05 20 50.0
comp=Z,2µm,21.9s,baz=3.5,slow=35
VRAC PKPPKP 05 22 59.8
comp=Z,1.0nm,0.4s,baz=195,slow=3.6,SNR=4.5
VRAC Vranov 63.29 1 ⇓P **P 04 54 02.0 +0.4**
VRAC Vranov 63.29 1 ⇓*i*P **P 04 54 01.6 -0.1**
VRAC *e*S **S 05 02 34.7 +1.9**
VRAC *e*PKPPKP 05 23 09.7
TREC Trest 63.29 2 *e*P **P 04 54 02.8 +1.1**
TREC AMS AMS 05 26 10.0
comp=Z,3µm,16.4s
TREC Trest 63.29 2 *e*P **P 04 54 02.8 +1.1**
TREC MLR MLR
comp=Z,3µm,16.4s
WET Wettzell 63.40 4 *e*P **P 04 54 02.6 +0.2**
comp=Z,306nm,2.1s,baz=357,slow=6.8
KHC Kasperske Hory 63.43 3 *e*P **P 04 54 03.2 +0.6**
KHC *e*pP **pP 04 54 06.0 -1.0**
KHC *e*S **S 05 02 38.6 +4.0**
KHC AMS AMS 05 24 20.0
comp=Z,3µm,18.9s
KHC Kasperske Hory 63.43 3 *ce*P **P 04 54 03.4 +0.8**
KHC pmax pmax
comp=Z,288nm,1.7s
KHC Kasperske Hory 63.43 3 IAmb IAmb 04 54 08.7
comp=Z,71nm,1.5s
LANS Liptovska Anna 63.44 359 *e*P **P 04 54 03.9 +1.2**
LANS pmax pmax
comp=Z,26nm,1.2s
LANS Liptovska Anna 63.44 359 *e*P **P 04 54 03.9 +1.2**
KRUC Moravsky 63.53 1 ⇓*i*P **P 04 54 03.2 -0.1**
KRUC *e*S **S 05 02 39.5 +3.7**
KRUC *e*PKPPKP 05 23 08.9
KNMB Chin-men Tao 63.55 270 IAMs_20 IAMs_20 05 20 04.5
comp=Z,4µm,19.0s
IUG luzhnay 63.58 319 ⇓*i*P **P 04 54 03.5 -0.3**
comp=Z,62nm,4.3s,baz=319
IUG *e*S **S 05 02 37.1 +0.3**
baz=319
IUG LR LR 05 25 04.9
comp=Z,113nm,12.2s,baz=319
IUG luzhnay 63.58 319 *d*iP **P 04 54 03.5 -0.3**
IUG *e*S **S 05 02 37.1 +0.3**
IUG pmax pmax
comp=Z,62nm,4.3s
IUG MLR MLR
comp=Z,113nm,12.0s
ARSB Arsianbob 63.59 316 IAmb IAmb 04 54 10.8
comp=Z,50nm,0.9s
KOLS Kolonicke sedl 63.61 357 *e*P **P 04 54 05.2 +1.4**
KOLS Kolonicke sedl 63.61 357 *e*P **P 04 54 05.2 +1.4**
CRVS Cervenica-Dubn 63.66 357 *e*P **P 04 54 05.5 +1.3**
CRVS Cervenica-Dubn 63.66 357 *e*P **P 04 54 05.5 +1.3**
GEC2 GERESS Array S 63.72 3 IAMs_20 IAMs_20 05 26 44.2
comp=Z,4µm,21.0s
GEC2 GERESS Array S 63.72 3 *e*P **P 04 54 04.5 -0.1**
comp=Z,170nm,1.5s,baz=357,slow=6.8
GERES GERESS Array B 63.72 3 P **P 04 54 04.8 +0.2**
comp=Z,15nm,0.9s,baz=0.0,slow=6.7,SNR=82
JAVC Velka Javorina 63.74 360 ⇓*i*P **P 04 54 05.6 +0.9**
JAVC *e*S **S 05 02 42.2 +3.7**
JAVC *e*PKPPKP **P'P'df 05 23 05.0 -0.3**
TPUB Ta-pu 63.75 267 P **P 04 54 06.4 +1.3**
TPUB IAMs_20 IAMs_20 05 21 32.8
comp=Z,5µm,18.0s
GUMO Guam 63.90 240 IAMs_20 IAMs_20 05 20 51.7
comp=Z,3µm,20.0s
UZH Uzhgorod 63.91 357 ⇑*i*P **P 04 54 06.6 +0.8**
UZH *e* 04 54 10.9
UZH *e* 04 56 30.0
UZH *i*S **S 05 02 40.3 -0.3**
CLF Chambon-Foret 63.99 11 IAMs_20 IAMs_20 05 25 46.4
comp=Z,4µm,19.0s
TLIG Tlapa 64.02 108 P **P 04 54 06.7 -0.3**
TLIG IAMs_20 IAMs_20 05 26 05.7
comp=Z,3µm,19.0s
BFO Black Forest 64.05 7 P **P 04 54 07.1 +0.3**
BFO Black Forest 64.05 7 P **P 04 54 07.1 +0.3**
BFO Black Forest 64.05 7 *e*P **P 04 54 06.3 -0.5**
comp=Z,286nm,2.0s,baz=357,slow=6.8
KECS Kecovo 64.10 358 *e*P **P 04 54 09.0 +2.0**
KECS Kecovo 64.10 358 *e*P **P 04 54 09.0 +2.0**
VYHS Vyhne 64.10 359 *e*P **P 04 54 07.8 +0.7**
VYHS Vyhne 64.10 359 *e*P **P 04 54 07.8 +0.7**
ECH Echery 64.11 8 P **P 04 54 07.2 +0.1**
ECH pmax pmax
comp=Z,43nm,1.1s
ECH MLR MLR
comp=Z,3µm,18.0s
ECH Echery 64.11 8 P **P 04 54 07.2 +0.1**
ECH IAmb IAmb 04 54 11.3
comp=Z,43nm,1.1s
ECH IAMs_20 IAMs_20 05 26 31.6
comp=Z,3µm,18.0s
SORM Soroca 64.18 352 ⇓P **P 04 54 07.2 -0.3**
MODS Modra-Piesok 64.22 0 *e*P **P 04 54 08.0 +0.1**
MODS Modra-Piesok 64.22 0 *e*P **P 04 54 07.9 +0.1**
KSH Kashi 64.47 313 P **P 04 54 13.1 +3.4**
KSH sP sP 04 54 21.7 +5.9
KSH S **S 05 02 52.7 +4.7**
KSH ScS **SKSac 05 04 03.1 -0.3**
KSH pmax pmax
comp=Z,95nm,1.0s
KSH pmax pmax
comp=Z,2µm,6.3s
KSH LR LR
comp=Z,5µm,13.4s
KSH LR LR
comp=Z,7µm,10.2s
KSH LR LR
comp=Z,6µm,16.1s
TAS Tashkent 64.54 319 IAMs_20 IAMs_20 05 23 57.8
comp=Z,3µm,22.0s
CONA Conrad Observa 64.66 1 *i* pP **P 04 54 11.2 +0.4**
comp=Z,97nm,1.6s,SNR=54
PSZ Piszkesteto 64.67 358 P **P 04 54 10.1 -0.7**
PSZ pmax pmax
comp=Z,208nm,1.7s
PSZ Piszkesteto 64.67 358 P **P 04 54 10.1 -0.7**
PSZ IAMs_20 IAMs_20 05 21 42.4
comp=Z,5µm,21.0s
MOA Molin 64.72 3 *i* pP **P 04 54 11.1 -0.1**
comp=Z,97nm,1.4s,SNR=54
UBR Ueberruh 64.78 6 *e*P **P 04 54 11.3 -0.3**
comp=Z,322nm,2.1s,baz=357,slow=6.8
RJOB Jochberg 64.80 4 *e*P **P 04 54 11.5 -0.2**
comp=Z,178nm,1.9s,baz=357,slow=6.8
BUR08 Bucovina Ar. S 64.81 354 P **P 04 54 12.1 +0.3**
BUR08 IAmb IAmb 04 54 21.8
comp=Z,68nm,1.7s
BMR Baia Mare 64.84 356 ⇓P **P 04 54 12.6 +0.7**
BURAR Bucovina Array 64.84 354 ⇓P **P 04 54 11.9 -0.1**
RETA Reutte 64.99 5 *i* pP **P 04 54 12.9 -0.1**
comp=Z,61nm,1.7s,SNR=21
RETA *e*P'P'df **P'P'df 05 22 58.0 -5.3**
comp=Z,12nm,1.7s
MOTA Moosalm 65.15 5 *i* pP **P 04 54 14.0 -0.1**
comp=Z,49nm,1.3s,SNR=27
MOTA *e*P'P'df **P'P'df 05 22 58.6 -4.5**
comp=Z,18nm,2.1s
DAVA Damuels 65.16 6 *i* pP **P 04 54 14.4 +0.2**
comp=Z,28nm,1.4s,SNR=8.1
DAVA *e*P'P'df **P'P'df 05 22 56.8 -6.2**
comp=Z,7.3nm,1.2s
WATA Walderalm 65.17 5 *i* pP **P 04 54 14.3 +0.1**
comp=Z,98nm,1.8s,SNR=31
WATA *e*P'P'df **P'P'df 05 22 56.7 -6.4**
comp=Z,14nm,1.1s
WTTA Wattenberg 65.25 5 *i* pP **P 04 54 15.0 +0.3**
comp=Z,162nm,1.8s,SNR=50
WTTA *e*P'P'df **P'P'df 05 22 56.6 -6.3**
comp=Z,29nm,1.7s
SQTA Sankt Quirin 65.28 5 *i* pP **P 04 54 15.0 +0.2**
comp=Z,112nm,1.5s,SNR=44
SQTA *e*P'P'df **P'P'df 05 22 55.6 -7.2**
comp=Z,12nm,1.2s
KIS Kishinev 65.29 352 ⇓P **P 04 54 14.6 -0.2**
ARSA Arzberg 65.34 2 *i* pP **P 04 54 15.6 +0.4**
comp=Z,52nm,1.6s,SNR=8.2
ARSA *e*P'P'df P'P'df 05 22 54.1 -8.4
comp=Z,10nm,1.4s
BTK Batken 65.34 317 IAMs_20 IAMs_20 05 26 45.3
comp=Z,4µm,21.0s
MILM Milestii Mici 65.37 352 ⇑P **P 04 54 14.9 -0.4**
ARCR ARCALIA 65.40 355 ⇑P **P 04 54 16.4 +0.9**
TEIG Tepich 65.41 97 P **P 04 54 15.4 -0.5**
TEIG IAmb IAmb 04 54 17.0
comp=Z,42nm,0.9s
FETA Feichten 65.46 5 *i* pP **P 04 54 16.5 +0.4**
comp=Z,60nm,1.0s,SNR=38
FETA *e*P'P'df **P'P'df 05 22 55.1 -7.4**
comp=Z,5.4nm,1.2s
KBA Koelnbreinsper 65.47 3 *i* pP **P 04 54 16.9 +0.7**
comp=Z,106nm,1.4s,SNR=59
KBA *e*P'P'df P'P'df 05 22 53.0 -10
comp=Z,3.3nm,1.2s
BIZ Bicaz 65.48 354 ⇓P **P 04 54 16.2 +0.1**
XMAS Kiritimati 65.65 175 IAMs_20 IAMs_20 05 18 16.5
comp=Z,4µm,20.0s
DAVOX Davos/Dischmat 65.67 6 LR LR 05 21 42.0
comp=Z,2µm,21.3s,baz=8.5,slow=35
VASR Vaslui 65.70 352 ⇓P **P 04 54 17.5 0.0**
DRGR 65.74 356 ⇓P **P 04 54 18.0 +0.1**
ABTA Abfaltersbach 65.79 4 *i* pP **P 04 54 18.1 0.0**
comp=Z,43nm,1.0s,SNR=36
ABTA *e*P'P'df P'P'df 05 22 53.1 -8.8
comp=Z,7.4nm,1.6s
CJR Cluj-Napoca 65.80 356 ⇓P **P 04 54 18.4 +0.2**
FUORN Ofenpass-Fuorn 65.84 6 IAMs_20 IAMs_20 05 26 18.4
comp=Z,3µm,19.0s
LEOM Leova 65.85 352 ⇓P **P 04 54 18.5 +0.1**
TESR Tescani 65.89 353 ⇑P **P 04 54 18.6 -0.1**
SOKA Soboth 65.90 2 *i* pP **P 04 54 18.8 -0.1**
comp=Z,19nm,1.2s,SNR=18

SOKA eP'P'df P'P'df 05 22 53.0 -8.7
comp=Z,4.7nm,1.4s
GOF Gofitskoye 65.92 341 ⇑*i*P **P 04 54 19.2 +0.3**
GOF *e*S **S 05 03 07.0 +1.7**
GOF pmax pmax
comp=Z,76nm,0.8s
GOF smax smax
comp=E,64nm,1.6s
GOF smax smax
comp=N,155nm,1.9s
MYKA Terra Mystica 65.93 3 *i* pP **P 04 54 18.9 -0.1**
comp=N,49nm,1.3s,SNR=25
MYKA P'P'df P'P'df 05 22 51.8 -10
comp=N,5.5nm,1.3s
PERS Pernice 65.95 2 *i* P **P 04 54 19.2 +0.1**
PERS *i* S **S 05 03 09.4 +3.6**
TUE Stuetta 65.95 6 P **P 04 54 19.0 -0.4**
TUE IAmb IAmb 04 54 25.3
comp=Z,57nm,1.0s
SENIN Lac Senin/Sane 65.97 8 IAmb IAmb 04 54 25.2
comp=Z,103nm,1.6s
SENIN IAMs_20 IAMs_20 05 27 36.7
comp=Z,3µm,20.0s
ZOU Zoufplan 65.99 4 P **P 04 54 18.9 -0.6**
ZOU IAMs_20 IAMs_20 05 28 07.3
comp=Z,3µm,19.0s
OBKA Obir 66.07 2 *i* pP **P 04 54 20.2 +0.2**
comp=Z,104nm,1.0s,SNR=54
PRED Cave del Predi 66.11 3 IAmb IAmb 04 54 25.3
comp=Z,49nm,1.0s
PRED IAMs_20 IAMs_20 05 28 19.7
comp=Z,5µm,20.0s
BEHE Becsehely 66.13 1 ⇓*i*P **P 04 54 22.9 +2.7**
KOGS Kog 66.15 1 *e*P **P 04 54 20.3 0.0**
KOGS *e*S **S 05 03 11.4 +3.4**
GYA Guiyang 66.19 282 P **P 04 54 21.1 +0.1**
GYA PP **PP 04 56 44.1 -2.3**
GYA pmax pmax
comp=Z,41nm,1.7s
GYA pmax pmax
comp=Z,1µm,4.9s
GYA LR LR
comp=Z,2µm,17.4s
GYA LR LR
comp=Z,5µm,20.9s
GYA LR LR
comp=Z,2µm,19.3s
CIMO Cimolais 66.22 4 IAMs_20 IAMs_20 05 27 15.4
comp=Z,3µm,21.0s
SIRR Siria 66.29 357 ⇓P **P 04 54 22.2 +0.9**
PATS Pohnpei 66.30 223 P **P 04 54 21.5 -0.2**
PATS IAMs_20 IAMs_20 05 20 34.6
comp=Z,3µm,20.0s
OZUR 66.34 354 ⇓P **P 04 54 22.6 +1.0**
MORH Mrgy, Hungar 66.38 359 ⇓*i*P **P 04 54 21.5 -0.3**
CTI Castel Tesino 66.46 5 IAMs_20 IAMs_20 05 27 33.5
comp=Z,3µm,20.0s
DOPR Dopca 66.48 354 ⇓P **P 04 54 23.4 +0.9**
VRI Vrincioaia 66.53 353 ⇓P **P 04 54 23.1 +0.3**
LJU Ljubljana 66.53 2 *i* P **P 04 54 23.1 +0.3**
LJU Ljubljana 66.53 2 ⇓*i*P **P 04 54 21.6 -1.2**
PLOR Plostina 66.55 353 ⇓P **P 04 54 23.3 +0.3**
PETR Petresti 66.65 353 ⇓P **P 04 54 24.5 +1.0**
DEV Deva 66.65 356 ⇑P **P 04 54 24.0 +0.5**
GZH Guangzhou 66.72 274 P **P 04 54 20.1 -4.2**
GZH S **S 05 03 06.8 -8.7**
GZH LR LR
comp=Z,7µm,17.5s
GZH LR LR
comp=Z,13µm,17.6s
CRES Cresnjev 66.76 2 ⇓*i*P **P 04 54 23.7 -0.6**
ZAG Zagreb 66.77 1 *e*P **P 04 54 24.3 0.0**
ANN Anapa 66.81 345 *e*P **P 04 54 21.6 -2.9**
ANN *e*S **S 05 03 13.4 -2.6**
ANN pmax pmax
comp=Z,160nm,2.6s
ANN MLR MLR
comp=E,995nm,14.0s
ANN MLR MLR
comp=Z,5µm,15.0s
ANN MLR MLR
comp=N,5µm,16.0s
CEY Cerknica 66.83 2 ⇓*i*P **P 04 54 23.5 -1.3**
SALO Salr 66.85 5 P **P 04 54 25.6 +0.6**
SALO IAmb IAmb 04 54 28.6
comp=Z,66nm,0.9s
SALO IAMs_20 IAMs_20 05 27 11.2
comp=Z,3µm,19.0s
SSB Saint Sauveur 66.88 10 IAmb IAmb 04 54 29.5
comp=Z,102nm,1.4s
SSB Saint Sauveur 66.88 10 IAMs_20 IAMs_20 05 27 31.0
comp=Z,3µm,20.0s
MLR Muntele Rosu 66.94 354 ⇓P **P 04 54 26.4 +0.9**
MLR Muntele Rosu 66.94 354 IAMs_20 IAMs_20 05 22 42.5
comp=Z,5µm,22.0s
BZS Buzias 66.94 357 ⇓P **P 04 54 25.4 0.0**
VOIR 67.03 354 ⇓P **P 04 54 26.6 +0.5**
KIV Kislovodsk 67.05 341 *i* P **P 04 54 25.7 -0.6**
SNR=21
KIV Kislovodsk 67.05 341 *de*P **P 04 54 26.2 0.0**
KIV *i* 04 54 56.6
KIV *i* 04 56 55.1
KIV *e*S **S 05 03 25.1 +5.9**
KIV pmax pmax
comp=Z,31nm,0.6s
KIV MLR MLR
comp=Z,4µm,22.0s
KIV Kislovodsk 67.05 341 P **P 04 54 25.6 -0.6**
KIV IAmb IAmb 04 54 35.1
comp=Z,59nm,1.0s
KIV IAMs_20 IAMs_20 05 25 04.7
comp=Z,4µm,22.0s
TLCR 67.10 351 ⇑P **P 04 54 27.1 +0.7**
ARR Arges 67.11 355 ⇑P **P 04 54 27.4 +0.8**
GZR Gura Zlata 67.14 356 ⇑P **P 04 54 27.1 +0.4**
CFR Carcaliu 67.14 352 ⇓P **P 04 54 26.3 -0.4**
BNI Bardonecchia 67.24 8 IAMs_20 IAMs_20 05 28 42.4
comp=Z,3µm,18.0s
KBZ Khabaz 67.24 340 P **P 04 54 27.9 +0.6**
comp=Z,27nm,0.8s,baz=333,slow=2.7,SNR=30
KBZ Khabaz 67.24 340 *de*P **P 04 54 27.2 -0.1**
KBZ pmax pmax
comp=Z,69nm,1.0s
KBZ MLR MLR
comp=Z,6µm,22.0s
RIY Rijeka 67.25 2 ⇓*i*P **P 04 54 26.4 -1.0**
SHA1 Shidzhatmaz 67.26 341 *d i*P **P 04 54 27.1 -0.7**
ISR Istrita 67.28 353 ⇓P **P 04 54 28.3 +0.7**
MAK Makhachkala 67.35 337 *e*P **P 04 54 25.0 -3.0**
MAK *e* 04 56 51.4
MAK *e*S **S 05 03 20.1 -2.6**
MAK pmax pmax
comp=Z,219nm,1.2s
GROC Groznyy 67.37 338 *e*P **P 04 54 28.2 0.0**
GROC *e* 04 54 57.2
GROC *e* 04 56 58.1
GROC pmax pmax
comp=Z,39nm,0.5s
FRGS Fruska Gora 67.43 358 ⇓*i*P **P 04 54 28.0 -0.6**
CCIG Comitan 67.57 102 P **P 04 54 29.6 -0.3**
HARR Harsova 67.64 352 ⇓P **P 04 54 29.6 -0.2**
HERR Herculane 67.66 356 ⇑P **P 04 54 30.0 0.0**
PRMA PARMA 67.70 6 IAMs_20 IAMs_20 05 26 25.5
comp=Z,3µm,22.0s
SULR 67.73 353 ⇑P **P 04 54 30.2 -0.2**
NEY Neytrino 67.74 340 *i* P **P 04 54 31.5 +0.8**
NEY pmax pmax
comp=Z,18nm,1.6s
SOC Sochi 67.77 343 *d i*P **P 04 54 30.2 -0.5**
SOC *e* 04 54 56.8
SOC *e*PPP PPP 04 58 38.2
SOC *e*S **S 05 03 26.0 -1.7**
SOC *e* 05 04 24.7
SOC *e*SS **SS 05 07 54.3 +6.5**
SOC pmax pmax
comp=Z,71nm,2.0s
SOC MLR MLR
comp=Z,6µm,20.0s
MDVR Moldovita 67.78 357 ⇑P **P 04 54 30.8 0.0**
TIRR Tirgusor 67.85 352 ⇓P **P 04 54 30.9 -0.2**
TIRR Tirgusor 67.85 352 P **P 04 54 31.6 +0.5**
TIRR pmax pmax
comp=Z,105nm,1.1s
TIRR Tirgusor 67.85 352 P **P 04 54 31.6 +0.5**

BLY Banja Luka 67.85 0 ⇓*i*P **P 04 54 30.6 -0.6**
SRE Strehaia 67.86 356 ⇑P **P 04 54 31.2 -0.1**
HUMR Humele 67.94 354 ⇓P **P 04 54 31.4 -0.3**
ZEI Tsey 68.04 339 *e*P **P 04 54 30.4 -2.3**
ZEI *e*S **S 05 03 30.9 -0.5**
ZEI pmax pmax
comp=Z,42nm,0.9s
TEKS Tekeris 68.04 359 *e*P **P 04 54 31.4 -1.0**
MSSA Maissana 68.11 6 IAmb IAmb 04 54 36.4
comp=Z,44nm,1.0s
ZCCA Zocca 68.13 5 IAMs_20 IAMs_20 05 28 42.1
comp=Z,3µm,20.0s
ICOR Ion Corvin 68.22 352 ⇑P **P 04 54 33.7 +0.2**
VLC Villacollemand 68.30 6 IAMs_20 IAMs_20 05 26 57.6
comp=Z,3µm,21.0s
TARA Tarawa 68.42 207 IAMs_20 IAMs_20 05 19 22.1
comp=Z,5µm,21.0s
DIVS Divibare 68.49 358 P **P 04 54 34.4 -0.9**
DIVS IAmb IAmb 04 54 39.3
comp=Z,88nm,1.8s
DIVS IAMs_20 IAMs_20 05 23 38.5
comp=Z,4µm,22.0s
DIVS Divibare 68.49 358 ⇓*i*P **P 04 54 33.3 -2.0**
PSN Preselentsi 68.63 352 P **P 04 54 35.0 -1.1**
BBLS Lazići 68.73 359 ⇓*i*P **P 04 54 36.6 -0.2**
AKT Akhty 68.77 336 *e*P **P 04 54 36.5 -0.6**
AKT *e* 04 55 00.7
AKT *e* 04 57 11.3
AKT *e*S **S 05 03 41.5 +1.6**
AKT pmax pmax
comp=Z,114nm,1.8s
LSA Lhasa 68.81 297 P **P 04 54 38.7 +0.7**
LSA pmax pmax
comp=Z,62nm,1.1s
LSA Lhasa 68.81 297 P **P 04 54 38.8 +0.7**
LSA Lhasa 68.81 297 P **P 04 54 38.2 +0.2**
LSA pmax pmax
comp=Z,69nm,1.3s
LSA MLR MLR
comp=Z,6µm,19.0s
LSA Lhasa 68.81 297 P **P 04 54 38.2 +0.2**
LSA IAmb IAmb 04 54 51.7
comp=Z,69nm,1.3s
RAZG Razgrad 68.83 353 ⇑P **P 04 54 37.1 -0.3**
KMI Kunming 68.86 284 P **P 04 54 37.6 -0.4**
KMI pP sP 04 54 47.4 +3.3
KMI sP pP 04 54 51.2 +8.7
KMI PP **PP 04 57 05.9 -3.8**
KMI S **S 05 03 40.8 -0.8**
KMI SS **SS 05 08 06.0 -0.1**
KMI pmax pmax
comp=Z,19nm,1.2s
KMI pmax pmax
comp=Z,940nm,5.2s
KMI LR LR
comp=Z,10µm,12.9s
PGAV Gavieira, Arco 68.89 20 *e*P **P 04 54 39.6 +1.8**
comp=Z,333nm,1.8s
PGAV *e*S **S 05 03 49.8 +8.5**
PGAV Gavieira, Arco 68.89 20 *e*LR LR 05 16 33.4
comp=Z,4µm,20.0s
OSSC Osservatorio P 68.97 5 IAmb IAmb 04 54 43.1
comp=Z,35nm,0.9s
OSSC IAMs_20 IAMs_20 05 29 28.2
comp=Z,2µm,19.0s
PLVB Pleven 69.09 355 ⇓P **P 04 54 38.6 -0.3**
PRD Provadia 69.15 352 P **P 04 54 39.5 +0.2**
SZH Strazhica 69.16 354 P **P 04 54 38.0 -1.4**
PCAB Cabril 69.17 20 *e*P **P 04 54 41.2 +1.7**
comp=Z,196nm,1.6s
PBRG Braganca 69.24 19 *e*P **P 04 54 40.7 +0.7**
comp=Z,78nm,1.8s
MURB Monte Urbino 69.27 4 IAmb IAmb 04 54 44.7
comp=Z,51nm,0.8s
AKH Akhalkalaki 69.45 340 ⇓P **P 04 54 41.0 -0.5**
BATM Batumi 69.49 341 ⇑P **P 04 54 40.8 -0.6**
ELND Elena 69.50 354 ⇑P **P 04 54 41.4 -0.1**
PVRL Vila Real 69.64 20 *e*P **P 04 54 42.8 +0.4**
comp=Z,144nm,1.6s
BCA Borcka 69.65 341 ⇓P **P 04 54 41.6 -0.9**
CASP Castiglione de 69.69 5 IAmb IAmb 04 54 47.5
comp=Z,56nm,1.0s
BRY Bratogost 69.70 359 *e*P **P 04 54 42.2 -0.7**
NRCA Norcia 69.71 4 IAmb IAmb 04 54 49.2
comp=Z,105nm,1.1s
STON Ston 69.73 360 ⇓*i*P **P 04 54 40.8 -2.1**
MVO Moncorvo 69.83 20 *e*P **P 04 54 44.5 +0.8**
comp=Z,104nm,2.0s
MVO *e*S **S 05 03 57.9 +5.5**
MVO *e*SS SS 05 08 32.8 +13
MVO *e*LR LR 05 16 51.5
comp=Z,5µm,20.0s
ZIRO ZIRO 69.87 293 *e*P **P 04 54 45.0 +0.8**
ZIRO IAmb IAmb 04 54 54.0
comp=Z,31nm,1.0s
TREB Trebinje 69.88 359 *e*P **P 04 54 41.7 -2.2**
LATE Laterza 69.90 5 P **P 04 54 43.9 -0.1**
VTS Vitosha 69.90 356 ⇓P **P 04 54 43.4 -0.8**
VTS Vitosha 69.90 356 P **P 04 54 42.5 -1.7**
VTS Vitosha 69.90 356 IAMs_20 IAMs_20 05 23 44.9
comp=Z,5µm,22.0s
PGB Panagyurishte 69.94 355 P **P 04 54 42.0 -2.3**
PDG Podgorica 70.16 359 ⇓P **P 04 54 45.2 -0.3**
PDG Podgorica 70.16 359 IAmb IAmb 04 54 53.2
comp=Z,38nm,0.9s
PDG IAMs_20 IAMs_20 05 24 33.8
comp=Z,5µm,22.0s
PDG Podgorica 70.16 359 ⇓*i*P **P 04 54 43.8 -1.8**
PVIS Viseu 70.16 20 *e*P **P 04 54 47.1 +1.4**
comp=Z,133nm,2.1s
AQU L'Aquila 70.20 3 IAmb IAmb 04 54 58.4
comp=Z,65nm,1.0s
AQU IAMs_20 IAMs_20 05 30 15.7
comp=Z,3µm,21.0s
AQU L'Aquila 70.20 3 ⇓*i*P **P 04 54 46.1 +0.2**
ASHT Ashkhabad 70.27 327 IAMs_20 IAMs_20 05 30 22.3
comp=Z,3µm,20.0s
MTO3 Montecristo 70.33 100 IAMs_20 IAMs_20 05 28 37.6
comp=Z,3µm,22.0s
GEYT Alibeck 70.33 327 P **P 04 54 47.2 +0.4**
comp=Z,11nm,0.9s,baz=336,slow=3.3,SNR=18
GYA0B ALIBECK ARRAY 70.33 327 P **P 04 54 46.6 -0.1**
GYA0B IAmb IAmb 04 54 56.3
comp=Z,86nm,1.5s
DRME Dracevica, Mon 70.41 359 ⇓*i*P **P 04 54 46.1 -1.0**
MTE Manteigas 70.52 20 *e*P **P 04 54 48.6 +0.7**
comp=Z,158nm,1.7s
MTE *e*S **S 05 04 04.2 +3.7**
MTE *e*SS SS 05 08 43.6 +13
MTE *e*LR LR 05 17 07.0
comp=Z,4µm,18.0s
MTE Manteigas 70.52 20 IAmb IAmb 04 54 52.5
comp=Z,92nm,1.0s
MTE IAMs_20 IAMs_20 05 24 54.3
comp=Z,4µm,20.0s
SKO Skopje 70.59 357 *i* P **P 04 54 48.0 -0.2**
COI Coimbra 70.59 21 *e*S S 05 04 11.6 +10
COI Coimbra 70.59 21 IAMs_20 IAMs_20 05 23 11.0
comp=Z,4µm,21.0s
GTBY Guantanamo Bay 70.69 85 IAMs_20 IAMs_20 05 23 26.8
comp=Z,3µm,21.0s
NIL Nilore 70.72 313 P **P 04 54 48.8 -0.4**
NIL pmax pmax
comp=Z,140nm,1.4s
NIL MLR MLR
comp=Z,5µm,20.0s
NIL Nilore 70.72 313 P **P 04 54 48.8 -0.4**
NIL IAmb IAmb 04 54 58.5
comp=Z,140nm,1.4s
PCAS Casmilo, Conde 70.73 21 *e*P **P 04 54 46.4 -2.7**
comp=Z,348nm,1.7s
PCAS *e*S **S 05 04 07.4 +4.6**
KDZ Kurdzhali 70.79 354 P **P 04 54 48.0 -1.5**
SGRT San Giovanni R 70.83 2 IAmb IAmb 04 54 53.6
comp=Z,207nm,2.0s
MMB Musomiste 70.91 355 P **P 04 54 50.1 -0.1**
KBL Kabul 71.01 317 P **P 04 54 49.8 -1.4**
KBL pmax pmax
comp=Z,29nm,1.1s
KBL Kabul 71.01 317 P **P 04 54 49.8 -1.4**
PCBR Castelo Branco 71.08 20 *e*P **P 04 54 52.3 +1.1**
comp=Z,148nm,1.7s
UCM Universidad Co 71.13 17 ⇑*i*P **P 04 54 50.3 -1.3**
UCM *i* S **S 05 04 11.7 +4.2**
DHRM DHARAMSHALA 71.17 310 ⇓*i*P **P 04 54 51.7 -0.5**

DHRM IAmb IAmb 04 55 04.0
comp=Z,36nm,0.5s
PSBE So Bento 71.22 21 *e*P **P 04 54 54.3 +2.2**
comp=Z,174nm,1.8s
PSBE *e*S **S 05 04 16.7 +8.1**
TIR Tirane 71.24 358 IAmb IAmb 04 55 02.6
comp=Z,79nm,1.2s
MTDJ Mount Denham 71.32 88 P **P 04 54 53.7 +0.6**
MTDJ IAMs_20 IAMs_20 05 31 11.6
comp=Z,3µm,19.0s
TGUH Tegucigalpa,Un 71.43 98 IAMs_20 IAMs_20 05 30 45.6
comp=Z,2µm,19.0s
KOHI KOHIMA 71.43 292 *e*P **P 04 54 53.2 -0.5**
KOHI IAmb IAmb 04 55 02.3
comp=Z,24nm,0.8s
OHR Ohrid 71.46 358 *i* P **P 04 54 54.3 +0.7**
PMRV Marv??o 71.50 20 *e*P **P 04 54 54.8 +1.0**
comp=Z,73nm,1.8s
PMRV *e*S **S 05 04 19.4 +7.7**
PMRV *e*SS SS 05 09 02.4 +17
PMRV *e*LR LR 05 18 00.3
comp=Z,3µm,20.0s
ALN Alexandroupoli 71.52 353 IAmb IAmb 04 54 59.2
comp=Z,59nm,1.2s
PAOL Paolisi 71.54 2 IAmb IAmb 04 54 58.0
comp=Z,166nm,1.7s
ESBB Sonseca Array 71.68 17 IAmb IAmb 04 54 59.2
comp=Z,56nm,1.0s
ESDC Sonseca Array 71.68 17 P **P 04 54 54.8 -0.1**
comp=Z,27nm,0.8s,baz=352,slow=6.1,SNR=120
ESDC LR LR 05 27 56.3
comp=Z,5µm,18.5s,baz=355,slow=37
PMAFR Mafra 71.70 22 *e*P **P 04 54 55.6 +0.6**
comp=Z,458nm,1.7s
PMAFR *e*S **S 05 04 20.4 +6.3**
PMTG Montargil 71.74 21 *e*P **P 04 54 55.9 +0.7**
comp=Z,172nm,1.8s
PMTG *e*S **S 05 04 19.9 +5.4**
PMTG *e*SS **SS 05 08 56.1 +7.0**
QIZ Qiongzhong 71.74 275 P **P 04 54 54.6 -0.9**
QIZ S **S 05 04 14.4 -0.5**
QIZ SS **SS 05 08 50.2 0.0**
QIZ pmax pmax
comp=Z,770nm,5.0s
QIZ LR LR
comp=Z,7µm,16.9s
QIZ LR LR
comp=Z,14µm,18.8s
QIZ LR LR
comp=Z,8µm,15.3s
PAB San Pablo 71.76 18 P **P 04 54 54.9 -0.5**
PAB pmax pmax
comp=Z,63nm,1.1s
PAB MLR MLR
comp=Z,5µm,19.0s
PAB San Pablo 71.76 18 P **P 04 54 54.9 -0.5**
PAB IAmb IAmb 04 54 59.8
comp=Z,63nm,1.1s
BHK Bhakra 71.91 310 *ex* P 04 55 02.4 +6.0
LIS Lisbon 71.96 22 *e*P **P 04 54 56.5 0.0**
LIS *e*S **S 05 04 17.4 +0.5**
LIS AMS AMS 05 27 53.4
comp=Z,3µm,16.6s
LIS Lisbon 71.96 22 *e*P **P 04 54 56.5 0.0**
LIS *e*S **S 05 04 17.4 +0.5**
LIS Lisbon 71.96 22 *e*P **P 04 54 57.2 +0.7**
comp=Z,380nm,2.0s
SMLA Simla 71.96 309 *e*P **P 04 54 55.7 -1.0**
SMLA IAmb IAmb 04 55 07.6
comp=Z,125nm,1.5s
TGY Tagaytay City 72.02 263 P **P 04 54 58.1 +0.9**
comp=Z,219nm,0.4s,baz=214,slow=3.9,SNR=4.9
PESTR Estremoz 72.02 20 *e*S **SKiKP 05 04 25.7 -7.2**
PESTR *e*SS SS 05 09 11.1 +18
ANTO Ankara 72.12 348 P **P 04 54 58.4 +0.8**
ANTO pmax pmax
comp=Z,56nm,0.9s
ANTO Ankara 72.12 348 P **P 04 54 58.4 +0.8**
ANTO IAmb IAmb 04 55 06.1
comp=Z,56nm,0.8s
ANTO Ankara 72.12 348 IAMs_20 IAMs_20 05 32 32.7
comp=Z,4µm,19.0s
TAPN Taplejung 72.14 299 *e*P **P 04 54 58.1 0.0**
comp=Z,211nm,1.2s
BR131 Keskin Array S 72.19 347 P **P 04 54 57.7 -0.4**
SNR=18
BRTR Keskin Array B 72.19 347 P **P 04 54 58.2 +0.2**
comp=Z,8.7nm,0.8s,baz=354,slow=2.1,SNR=40
BRTR LR LR 05 31 50.6
comp=Z,2µm,19.7s,baz=357,slow=40
BRTR Keskin Array B 72.19 347 *ce*P **P 04 54 57.7 -0.4**
BRTR pmax pmax
comp=Z,9.0nm,0.8s
GUN Gumba 72.22 300 *e*P **P 04 54 58.7 0.0**
comp=Z,187nm,1.0s
EVO Evora 72.30 21 ⇑*i*P **P 04 54 59.2 +0.6**
EVO *i* S **S 05 04 26.4 +5.5**
EVO Evora 72.30 21 *e*P **P 04 54 59.1 +0.5**
comp=Z,172nm,1.7s
SHL Shillong 72.35 294 *e*P **P 04 54 58.1 -1.2**
SHL IAmb IAmb 04 55 07.9
comp=Z,15nm,0.3s
SHL Shillong 72.35 294 P **P 04 54 58.5 -0.8**
SNR=14
SHL Shillong 72.35 294 IAMs_20 IAMs_20 05 29 49.5
comp=Z,4µm,20.0s
JIRN Jiri 72.35 300 *e*P **P 04 54 59.7 +0.2**
comp=Z,314nm,1.1s
DDI Dehra Dun 72.45 308 *e*P **P 04 54 59.9 +0.2**
DDI IAmb IAmb 04 55 12.0
comp=Z,668nm,1.9s
DANN Dangsing 72.51 302 *e*P **P 04 55 00.3 0.0**
comp=Z,203nm,0.9s
SCTE Santa Cesarea 72.52 359 IAMs_20 IAMs_20 05 31 48.3
comp=Z,2µm,19.0s
PGP Puerto Galera 72.56 263 ⇓*e*P **P 04 54 60.0 -0.4**
PNCL Nicolau / Gran 72.64 21 *e*P **P 04 55 00.8 +0.2**
comp=Z,176nm,1.6s
PNCL *e*S **SKiKP 05 04 31.8 -2.0**
PKIN Phulchoki 72.69 301 *e*P **P 04 55 01.1 -0.3**
comp=Z,135nm,1.2s
PKI Pulchoki 72.69 301 *e*P **P 04 55 01.3 -0.2**
comp=Z,171nm,1.3s
ODAN Odare 72.69 299 *e*P **P 04 55 01.6 +0.2**
comp=Z,288nm,1.3s
CRIN San Cristobal 72.76 99 IAMs_20 IAMs_20 05 30 56.1
comp=Z,2µm,21.0s
DMN Daman 72.76 301 *e*P **P 04 55 01.8 0.0**
comp=Z,57nm,0.7s
SC01 Santiago de lo 72.81 81 IAmb IAmb 04 55 04.2
comp=Z,92nm,1.1s
PBEJ Beja 72.81 21 *e*P **P 04 55 02.7 +1.1**
comp=Z,71nm,2.0s
HRA Herat 72.83 323 IAmb IAmb 04 55 12.8
comp=Z,171nm,2.0s
RAMN Ramite 72.88 299 *e*P **P 04 55 02.3 -0.2**
VSL Villasalto 72.92 7 P **P 04 55 02.6 +0.3**
VSL IAmb IAmb 04 55 06.6
comp=Z,112nm,1.3s
VSL IAMs_20 IAMs_20 05 29 46.6
comp=Z,3µm,20.0s
MESJ Messejana 72.95 21 *e*P **P 04 55 02.6 +0.2**
MESJ *e*S **S 05 04 28.7 +0.4**
MESJ AMS AMS 05 27 36.2
comp=Z,3µm,15.6s
MESJ Messejana 72.95 21 *e*P **P 04 55 02.6 +0.2**
MESJ *e*S **S 05 04 28.7 +0.4**
MESJ Messejana 72.95 21 *e*P **P 04 55 03.8 +1.4**
comp=Z,84nm,1.9s
PYUN Piuthan 72.99 303 *e*P **P 04 55 02.8 -0.3**
comp=Z,488nm,1.2s
SDDR Presa de Saban 73.00 82 P **P 04 55 02.2 -0.9**
SDDR IAmb IAmb 04 55 04.2
comp=Z,81nm,0.9s
SDDR IAMs_20 IAMs_20 05 27 57.8
comp=Z,4µm,20.0s
KOLN Koldanda 73.10 302 *e*P **P 04 55 03.5 -0.2**
comp=Z,177nm,1.2s
PTEO Sao Teotonio 73.17 22 *e*P **P 04 55 05.2 +1.5**
comp=Z,169nm,1.7s
PCVE Castro Verde 73.18 21 *e*P **P 04 55 05.3 +1.5**
comp=Z,71nm,2.0s
MORF Marmelete 73.41 22 *e*P **P 04 55 05.4 +0.1**
MORF *e*S **S 05 04 34.4 +0.6**
MORF AMS AMS 05 29 03.5
comp=Z,3µm,20.9s

MORF Marmelete 73.41 22 *e*P **P** 04 55 05.3 +0.1
MORF *e*S **S** 05 04 34.3 +0.6
MORF Marmelete 73.41 22 *e*P **P** 04 55 06.6 +1.3
comp=Z,204nm,1.9s
MORF *e*S **SKiKP** 05 04 44.8 +10
TIP Timpagrande 73.42 1 ⇓P **P** 04 55 05.3 +0.1
TIP Timpagrande 73.42 1 IAmb IAmb 04 55 10.3
comp=Z,62nm,1.2s
TIP IAMs_20 IAMs_20 05 28 00.9
comp=Z,3µm,21.0s
PVAQ Vaqueiros 73.45 21 *e*P **P** 04 55 06.3 +0.9
comp=Z,129nm,1.7s
PVAQ *e*S **SKiKP** 05 04 42.9 +7.8
PVAQ *e*SS SS 05 09 33.3 +18
PVAQ *e*LR LR 05 18 20.2
comp=Z,3µm,18.0s
PVAQ Vaqueiros 73.45 21 IAmb IAmb 04 55 10.1
comp=Z,71nm,1.0s
PVAQ IAMs_20 IAMs_20 05 27 53.7
comp=Z,4µm,19.0s
AGG Agios Georgios 73.52 356 P **P** 04 55 05.4 -0.4
AGG pmax pmax
comp=Z,43nm,1.2s
AGG Agios Georgios 73.52 356 P **P** 04 55 05.4 -0.4
PFVI Vila Bisbo 73.56 22 *e*P **P** 04 55 07.4 +1.4
comp=Z,350nm,1.7s
PFVI *e*S **SKiKP** 05 04 41.8 +6.5
PFVI Vila Bisbo 73.56 22 IAMs_20 IAMs_20 05 28 31.7
comp=Z,3µm,19.0s
PBDV Barranco-do-Ve 73.57 21 *e*P **P** 04 55 07.7 +1.5
comp=Z,214nm,1.8s
PBDV *e*S S 05 04 45.1 +10
RCP Roxas 73.67 260⇑ *e*P **P** 04 55 07.8 +0.9
MANT Manisa 73.78 351 IAmb IAmb 04 55 12.3
comp=Z,75nm,0.9s
DR12 Loma Pena Alta 73.90 80 P **P** 04 55 08.1 -0.2
CART Cartagena 74.06 15⇑ *i*P **P** 04 55 11.5 +2.6
CART Cartagena 74.06 15 P **P** 04 55 09.3 +0.4
CART IAMs_20 IAMs_20 05 29 41.9
comp=Z,3µm,19.0s
ACON Acoyapa 74.14 97 IAmb IAmb 04 55 12.5
comp=Z,240nm,1.9s
NDI New Delhi 74.23 308 *ex* **P** 04 55 10.0 -0.1
ISP Isparta 74.32 349 P **P** 04 55 10.5 -0.1
ISP pmax pmax
comp=Z,44nm,0.8s
ISP MLR MLR
comp=Z,5µm,22.0s
ISP Isparta 74.32 349 P **P** 04 55 10.5 -0.1
ISP IAmb IAmb 04 55 22.4
comp=Z,44nm,0.8s
ISP Isparta 74.32 349 IAMs_20 IAMs_20 05 27 13.5
comp=Z,5µm,22.0s
GAZ Gaziantep 74.38 344 IAMs_20 IAMs_20 05 33 39.7
comp=Z,3µm,18.0s
EMAL Malaga-Limoner 74.50 18⇑ *i*P **P** 04 55 12.7 +1.2
EMAL *i*S **S** 05 04 50.1 +4.3
PCDR Punta Cana, DR 74.52 79 P **P** 04 55 12.4 +0.5
SFS San Fernando 74.57 20⇑ *i*P **P** 04 55 14.4 +2.4
SFS *i*S **S** 05 04 51.4 +4.8
SFS San Fernando 74.57 20 IAMs_20 IAMs_20 05 31 04.4
comp=Z,3µm,18.0s
CEU Ceuta 75.23 19⇑ *i*P **P** 04 55 17.3 +1.5
CEU *i*S **S** 05 05 00.0 +6.0
ITM Ithomi 75.36 356 IAMs_20 IAMs_20 05 34 09.5
comp=Z,3µm,20.0s
OBIP Obispado Ponce 75.62 78 IAMs_20 IAMs_20 05 31 45.0
comp=Z,4µm,22.0s
CMAH Djebel Manchou 75.68 8 P **P** 04 55 21.9 +3.5
CKFL Kef-Lekhel 75.86 9 P **P** 04 55 23.2 +3.6
MTP Monte Pirata 75.96 77 P **P** 04 55 20.5 +0.3
MTP IAmb IAmb 04 55 21.8
comp=Z,51nm,1.1s
CHTO Chiang Mai 76.02 285 P **P** 04 55 20.7 +0.2
CHTO pmax pmax
comp=Z,20nm,1.1s
CHTO MLR MLR
comp=Z,6µm,18.0s
CHTO Chiang Mai 76.02 285 P **P** 04 55 20.7 +0.2
BOK Bokaro 76.03 299 *e*P **P** 04 55 20.1 -0.5
BOK IAmb IAmb 04 55 30.0
comp=Z,81nm,1.6s
SANT Santorini 76.05 354 IAMs_20 IAMs_20 05 31 12.8
comp=Z,3µm,20.0s
PVLZ Peæn de 76.08 18⇑ *i*P P 04 55 13.8 -6.9
PVLZ *i*S **S** 05 05 01.9 -1.5
PMPST Porto Santo, M 76.30 29 *e*P **P** 04 55 19.5 -2.4
comp=Z,312nm,1.3s
CM31 Chiang Mai Arr 76.35 285 P **P** 04 55 21.9 -0.5
SNR=9.0
CM31 Chiang Mai Arr 76.35 285 P **P** 04 55 22.6 +0.2
CM31 IAmb IAmb 04 55 30.2
comp=Z,75nm,1.4s
CMAR Chiang Mai Arr 76.35 285 P **P** 04 55 21.9 -0.5
comp=Z,13nm,0.6s,baz=5.2,slow=6.6,SNR=44
CMAR LR LR 05 32 44.5
comp=Z,5µm,19.4s,baz=68,slow=39
PMOZ Porto Moniz, M 76.39 30 *e*S **S** 05 05 15.4 +8.3
PMOZ Porto Moniz, M 76.39 30 *e*LR LR 05 19 56.9
comp=Z,2µm,18.0s
PMAR Madeira 76.54 29 *e*P **P** 04 55 26.2 +2.7
comp=Z,312nm,1.5s
FUL Funchal 76.61 29 *e*P **P** 04 55 25.3 +1.6
comp=Z,229nm,1.7s
KEST Kesra 76.67 7 P **P** 04 55 24.2 +0.1
comp=Z,26nm,0.9s,baz=272,slow=1.5,SNR=24
KEST Kesra 76.67 7 IAmb IAmb 04 55 28.7
comp=Z,83nm,1.1s
KEST IAMs_20 IAMs_20 05 32 06.9
comp=Z,3µm,21.0s
WDD Wied Dalam 76.72 3 P **P** 04 55 24.4 +0.1
DAV Davao City (W) 76.74 256 P **P** 04 55 25.9 +1.3
comp=Z,146nm,0.4s,baz=67,slow=5.6,SNR=4.5
KARP Karpathos 76.79 352 IAMs_20 IAMs_20 05 29 22.4
comp=Z,3µm,20.0s
SMRT St. Maarten 76.92 75 IAMs_20 IAMs_20 05 31 04.3
comp=Z,4µm,21.0s
CSS Mathiatis 76.94 347 IAMs_20 IAMs_20 05 35 54.5
comp=Z,2µm,21.0s
KCP Kidapawan 76.97 256⇓ *i*P **P** 04 55 26.3 +0.3
IDI Anoyia 77.16 354 P **P** 04 55 27.4 +0.5
IDI IAMs_20 IAMs_20 05 31 30.0
comp=Z,2µm,22.0s
PBKT Sadao Pong 77.33 283 P **P** 04 55 27.8 -0.1
PBKT IAMs_20 IAMs_20 05 33 24.3
comp=Z,4µm,19.0s
DRK0 Durika 77.35 97 *e*P **P** 04 55 27.6 -0.7
AVE Averroes 77.53 21⇑ *i*P **P** 04 55 28.6 -0.2
AVE *i*S **S** 05 05 21.4 +2.1
IFR Ifrane 77.61 19⇑ *i*P **P** 04 55 29.0 -0.5
SKI Saint Kitts 77.70 75 IAMs_20 IAMs_20 05 31 30.0
comp=Z,4µm,20.0s
ANWB Willy Bob 77.74 74 IAMs_20 IAMs_20 05 33 52.1
comp=Z,3µm,20.0s
BRU2 Volcan 77.99 96 *e*P **P** 04 55 31.8 0.0
TAOE Nuku Hiva Isla 78.03 158 *e*SS SS 05 10 20.9 -5.8
comp=Z,696nm,32.4s
TAOE *e*LQ LQ 05 16 22.9
comp=Z,6µm,37.0s
TAOE *e*LR LR 05 19 38.3
comp=Z,4µm,23.5s,baz=360
BCO2 Palmira 78.12 96 *e*P **P** 04 55 32.4 -0.1
RABL Rabaul 78.50 227 IAMs_20 IAMs_20 05 28 27.0
comp=Z,4µm,20.0s
KRVT Keravat (AS076 78.65 227 P **P** 04 55 35.6 +0.4
comp=Z,42nm,0.7s,baz=193,slow=2.4,SNR=8.8
MMAI Mount Meron Ar 78.68 345 P **P** 04 55 36.0 +0.6
comp=Z,7.9nm,0.8s,baz=3.7,slow=4.5,SNR=5.8
FRIJ El Hiral 78.72 93 *e*P **P** 04 55 34.0 -1.6
BCIP Isla Barro Col 78.73 93 *e*P **P** 04 55 32.6 -3.1
ZANG Zanguenga, Cho 78.91 94 *e*P **P** 04 55 34.1 -2.6
UPA Univ. de Panam 79.01 93 *e*P **P** 04 55 33.0 -4.3
SMRC Santa Marta, M 79.04 87 *e*P **P** 04 55 34.6 -2.8
VTON El Valle, Cocl 79.13 94 *e*P **P** 04 55 38.3 +0.3
BHPL Bhopal 79.27 306 *e*P **P** 04 55 39.5 +0.8
BHPL IAmb IAmb 04 55 50.4
comp=Z,51nm,0.9s
ASF Jabal al Asfar 79.36 343 P **P** 04 55 39.0 -0.1
comp=Z,16nm,1.1s,baz=323,slow=6.3,SNR=14
AZU Azuero 79.82 94 *e*P **P** 04 55 39.3 -2.4
SJCC San Jacinto, C 79.83 89 *e*P **P** 04 55 41.1 -0.7
SJCC San Jacinto, C 79.83 89 *e*P **P** 04 55 39.7 -2.2
UPD2 Meteti 79.99 92 *e*P **P** 04 55 41.7 -0.9
CACAO El Cacao, Vera 80.01 95 *e*P P 04 55 32.4 -10
HATO Hato, Curacao 80.10 82 IAMs_20 IAMs_20 05 33 43.0
comp=Z,3µm,20.0s
CAPC Capurgana 80.16 91 *e*P P 04 55 35.3 -8.2
JAY Jayapura 80.37 238 P **P** 04 55 44.8 +0.2
comp=Z,15nm,0.8s,baz=272,slow=2.4,SNR=7.9
JAY Jayapura 80.37 238 P **P** 04 55 44.9 +0.3
comp=Z,843nmcomp=Z,34nm,2.0s
SMPI Sarmi 80.53 240 P **P** 04 55 46.5 +1.1
comp=Z,2µmcomp=Z,1µmcomp=Z,59nm,1.8s
FDF Fort de France 80.67 74 IAMs_20 IAMs_20 05 36 18.8
comp=Z,3µm,19.0s
KKM Kota Kinabalu 81.20 264 P **P** 04 55 48.8 -0.4
KKM IAmb IAmb 04 56 03.2
comp=Z,49nm,0.9s
KKM IAMs_20 IAMs_20 05 31 28.2
comp=Z,2µm,20.0s
SMLC San Martn de 81.26 88 *e*P **P** 04 55 47.5 -1.9
HNR Honiara 81.55 218 LR LR 05 29 11.6
comp=Z,2µm,20.1s,baz=0.0,slow=34
HNR Honiara 81.55 218 IAMs_20 IAMs_20 05 28 29.1
comp=Z,3µm,20.0s
UREC San Jos de Ur 81.67 90 *e*P **P** 04 55 50.9 -0.7
AFI Afiamalu 81.70 189 IAMs_20 IAMs_20 05 31 14.1
comp=Z,3µm,20.0s
TNTI Ternate 81.90 252 P **P** 04 55 53.5 +0.7
comp=Z,2µmcomp=Z,67nm,1.9s
SVB Belmont 81.98 75 IAMs_20 IAMs_20 05 33 26.4
comp=Z,3µm,22.0s
SIJI Sorong 82.03 248 P **P** 04 55 53.5 +0.1
comp=Z,42nm,0.9s,baz=8.4,slow=6.0,SNR=41
EIL Elat 82.04 345 P **P** 04 55 53.1 -0.3
comp=Z,4.3nm,0.8s,baz=346,slow=4.6,SNR=8.4
OCAC Ocana 82.06 88 *e*P P 04 55 48.7 -5.1
SHME Shamm 82.22 326 *i*P **P** 04 55 52.8 -1.6
SNR=8.8
WAMI Wamena 82.30 240 P **P** 04 55 55.8 +1.0
comp=Z,205nm,0.6s
BANOM Banah 82.31 325 *i*P **P** 04 55 53.1 -1.8
SNR=14
BANOM Banah 82.31 325 P **P** 04 55 53.6 -1.3
SNR=8.3
SPMM Sapulut 82.33 264 P **P** 04 55 57.0 +1.9
SDV Santo Domingo 82.49 85 *e*P **P** 04 55 55.3 -0.8
SDV Santo Domingo 82.49 85 P **P** 04 55 56.1 -0.1
SDV Santo Domingo 82.49 85 IAMs_20 IAMs_20 05 37 08.5
comp=Z,3µm,21.0s
SDV Santo Domingo 82.49 85 *e*P **P** 04 55 55.0 -1.1
SDV Santo Domingo 82.49 85 *e*P **P** 04 55 55.0 -1.1
RPR Rampur 82.79 303 *e*P **P** 04 55 56.4 -1.1
UMQ Umm Al-Quwin 82.83 326 *i*P **P** 04 55 56.9 -0.7
SNR=5.8
GRGR Grenville 82.88 76 IAMs_20 IAMs_20 05 37 58.3
comp=Z,3µm,20.0s
MSFE Esma-Masafi 82.89 325 *i*P **P** 04 55 56.2 -1.7
SNR=12
MDH Madha 82.91 325 *i*P **P** 04 55 56.3 -1.7
SNR=13
MDH Madha 82.91 325 P **P** 04 55 56.3 -1.7
SNR=6.5
SRSP Sriramsagar 83.03 304 *e*P **P** 04 55 57.3 -1.4
SRSP IVmB_BB 04 56 00.2
comp=Z,539nm,3.6s
SRSP IVMs_BB IVMs_BB 05 38 00.3
comp=Z,606nm,16.0s
HELC Santa Helena 83.10 91 *e*P **P** 04 55 57.2 -2.3
HELC Santa Helena 83.10 91 *i*P **P** 04 55 58.5 -1.0
LBMI Labuha 83.16 251 P **P** 04 56 00.1 +0.8
comp=Z,2µmcomp=Z,85nm,0.8s
PTBC PUERTO BERRIO, 83.19 89 *e*P **P** 04 55 58.4 -1.1
CBOC Ciudad Bolivar 83.22 91 *e*P **P** 04 55 59.7 -0.2
UOSS Minazif 83.28 325 *i*P **P** 04 55 58.9 -1.0
SNR=15
KMSI Cibinong 83.32 255 P **P** 04 56 01.0 +0.8
comp=Z,106nm,1.1s
NAZ Nazwa, Dubai 83.35 326 *i*P **P** 04 55 59.6 -0.6
SNR=10
NAZ Nazwa, Dubai 83.35 326 P **P** 04 55 58.9 -1.4
SNR=9.2
HATD Hatta, Dubai 83.41 325 *i*P **P** 04 55 58.4 -2.1
SNR=11
HATD Hatta, Dubai 83.41 325 P **P** 04 55 59.2 -1.4
SNR=9.4
PVM Polavaram 83.54 300 *e*P **P** 04 56 00.2 -1.1
PVM IVmB_BB 04 56 03.8
comp=Z,517nm,3.6s
PVM IVMs_BB IVMs_BB 05 36 08.3
comp=Z,388nm,13.0s
ASHO Ashiyiah 83.56 325 *i*P **P** 04 55 58.7 -2.7
SNR=13
ASHO Ashiyiah 83.56 325 P **P** 04 56 00.2 -1.2
SNR=10.0
FAKI Fak Fak 83.59 246 P **P** 04 56 03.4 +1.9
comp=Z,3µmcomp=Z,77nm,1.5s
FAQ Al Faqa, Dubai 83.60 326 *i*P **P** 04 55 59.4 -2.1
SNR=5.9
BARC Barichara 83.62 88 *e*P **P** 04 56 00.5 -1.5
PAYG Puerto Ayora 83.88 107 P **P** 04 56 05.2 +2.2
AJN Ajban 83.91 326 *i*P **P** 04 56 02.9 -0.2
SNR=7.6
NORC Norcasia 83.93 90 *e*P **P** 04 56 00.7 -2.6
PLMC San Jos del P 83.99 92 *e*P **P** 04 55 59.3 -4.4
GUY2C Guyana, Caldas 84.05 91 *e*P **P** 04 56 01.4 -3.1
TOSP Speyside 84.06 75 IAMs_20 IAMs_20 05 34 51.6
comp=Z,4µm,22.0s
SPBC San Pablo de B 84.15 89 *e*P **P** 04 56 03.0 -1.5
MRSI Marisa 84.17 257 P **P** 04 56 04.6 +0.1
comp=Z,4µmcomp=Z,189nm,1.6s
BIDO Bidbid 84.22 323 P **P** 04 56 03.9 -0.9
SNR=5.3
ALNE Al Ain 84.23 325 *i*P **P** 04 56 05.2 +0.4
SNR=14
TAMC Tame, Arauca 84.30 87 *e*P **P** 04 56 06.5 +1.3
RUSC La Rusia 84.31 88 *e*P **P** 04 56 04.3 -1.5
HOQ Hoqain 84.35 324 P **P** 04 56 03.9 -1.5
SNR=8.3
RREF El Recreo 84.35 91 *e*P **P** 04 56 07.2 +0.9
HYBB Hyderabad (bro 84.38 303 *e*P **P** 04 56 06.3 +0.7
HYBB IVmB_BB 04 56 07.3
comp=Z,500nm,3.5s
HYBB IVMs_BB IVMs_BB 05 37 07.7
comp=Z,715nm,11.0s
HYB Hyderabad 84.38 303 *i*P **P** 04 56 05.0 -0.6
HYB Hyderabad 84.38 303 *e*P **P** 04 56 05.3 -0.3
HYB IAmb IAmb 04 56 15.4
comp=Z,20nm,0.7s
WSAR Wadi Sarin 84.38 323 P **P** 04 56 05.4 -0.1
SNR=6.2
KLRI Killari 84.38 305 *e*P **P** 04 56 04.3 -1.4
KLRI IVmB_BB 04 56 07.1
comp=Z,810nm,3.6s
KLRI IVMs_BB IVMs_BB 05 38 01.8
comp=Z,642nm,14.6s
TOLC Tolima 84.65 91 *e*P **P** 04 56 06.8 -0.6
ARQ Aragi 84.76 325 P **P** 04 56 06.5 -1.0
SNR=12
POO Poona 84.79 308 *e*P **P** 04 56 07.2 -0.5
ROSC El Rosal 84.80 90 P **P** 04 56 08.6 +0.4
comp=Z,74nm,1.0s,baz=136,slow=4.4,SNR=28
ROSC El Rosal 84.80 90 *e*P **P** 04 56 07.9 -0.3
ROSC El Rosal 84.80 90 IAMs_20 IAMs_20 05 36 42.7
comp=Z,2µm,22.0s
YOTC Yotoco, Valle 84.81 92 *e*P **P** 04 56 06.1 -1.9
PBA Port Blair 84.87 288 *e*P P 04 56 06.6 -1.5
PMG Port Moresby 84.89 230 P **P** 04 56 09.6 +1.6
comp=Z,37nm,1.1s,baz=22,slow=9.7,SNR=7.7
PMG Port Moresby 84.89 230*ce*P **P** 04 56 08.5 +0.5
PMG pmax pmax
comp=Z,779nm,1.9s
PMG Port Moresby 84.89 230 IAMs_20 IAMs_20 05 30 12.2
comp=Z,3µm,20.0s
PMG Port Moresby 84.89 230 IAmb IAmb 04 56 12.0
comp=Z,416nm,2.0s
WBK Wadi Bani Khal 84.91 322 P **P** 04 56 07.9 -0.3
SNR=5.2
NJS Nagarjunasagar 84.94 302 *e*P **P** 04 56 07.4 -1.1
NJS IVmB_BB 04 56 10.3
comp=Z,502nm,3.6s
NJS IVMs_BB IVMs_BB 05 38 04.1
comp=Z,569nm,16.1s
SANI Sanana 85.01 252 P **P** 04 56 08.0 -0.7
MPSI Mapaga 85.06 259 P **P** 04 56 09.5 +0.5
comp=Z,3µmcomp=Z,107nm,1.5s
BSY Bisya 85.18 324 P **P** 04 56 08.6 -1.0
SNR=12
CHIC Chingaza 85.22 90 *e*P **P** 04 56 09.6 -0.7
LUWI Luwuk 85.26 256 P **P** 04 56 11.0 +1.0
comp=Z,8µmcomp=Z,135nm,1.3s
LUWI Luwuk 85.26 256 P **P** 04 56 09.0 -1.0
ORTC Ortega, Tolima 85.30 91 *e*P P 04 56 03.6 -6.7
JMDO Jabal Madar 85.34 323 P **P** 04 56 09.2 -1.2
SNR=9.1
ADKI Addanki 85.39 301 *e*P **P** 04 56 10.1 -0.6
ADKI IVmB_BB 04 56 13.3
comp=Z,356nm,2.9s
ADKI IVMs_BB IVMs_BB 05 37 45.9
comp=Z,550nm,17.4s
SRLM Srisailam 85.50 302 *e*P **P** 04 56 10.0 -1.3
SRLM IVmB_BB 04 56 10.9
comp=Z,406nm,5.0s
SRLM IVMs_BB IVMs_BB 05 38 56.5
comp=Z,726nm,13.6s
APSI Ampana 85.56 257 P **P** 04 56 10.6 -0.9
comp=Z,1µmcomp=Z,43nm,1.7s
PPT2 Papeete2 85.59 168 *e*S **S** 05 06 38.3 -4.5
comp=Z,1µm,24.0s
PPT2 Papeete2 85.59 168 *e*LQ LQ 05 19 32.7
comp=Z,5µm,39.0s
PPT2 *e*LR LR 05 23 14.1
comp=Z,4µm,26.2s,baz=351
PRAC Prado 85.62 91 *e*P P 04 55 59.3 -13
VILC Villavicencio, 85.71 90 *e*P **P** 04 56 11.6 -0.9
SANVU Saraoutou 85.86 209 IAMs_20 IAMs_20 05 28 24.3
comp=Z,3µm,21.0s
SBUM Sibu 86.02 267 P **P** 04 56 13.8 0.0
SBUM Sibu 86.02 267 P **P** 04 56 16.0 +2.2
RCLA Racherla 86.08 302 *e*P **P** 04 56 12.6 -1.6
BBAC Balboa, Cauca 86.27 94 *e*P **P** 04 56 14.4 -0.9
PCON Cinco Dias 86.31 93 *e*P **P** 04 56 13.4 -2.5
BETC Betania 86.35 92 *e*P **P** 04 56 15.4 -0.2
SOTA Rioblanco 86.41 93 *e*P **P** 04 56 15.7 -0.7
MSVF Nonsavu 86.43 199 P **P** 04 56 17.5 +1.9
MSVF pmax pmax
comp=Z,97nm,1.9s
MSVF Nonsavu 86.43 199 P **P** 04 56 17.5 +1.9
MSVF IAmb IAmb 04 56 37.6
comp=Z,97nm,1.9s
MHTO MHTO 86.70 323 P **P** 04 56 15.5 -1.6
SNR=7.9
RAYN Ar Rayn 86.70 335 *i*P **P** 04 56 17.0 -0.2
SNR=22
RAYN Ar Rayn 86.70 335 P **P** 04 56 16.6 -0.6
RAYN pmax pmax
comp=Z,64nm,1.3s
RAYN Ar Rayn 86.70 335 P **P** 04 56 16.6 -0.6
RAYN IAmb IAmb 04 56 22.3
comp=Z,64nm,1.2s
RAYN IAMs_20 IAMs_20 05 39 50.4
comp=Z,4µm,22.0s
SMKI Samarinda 86.79 261 P **P** 04 56 18.4 +0.8
comp=Z,112nm,0.4s
GARC Garzon, Huila 86.79 92 *e*P **P** 04 56 16.2 -1.7
GCUF Volcan Galeras 86.97 94 *e*P P 04 56 24.2 +5.2
URV Uravakonda 87.11 303 *e*P **P** 04 56 17.1 -2.1
URV IVmB_BB 04 56 18.3
comp=Z,258nm,4.3s
URV IVMs_BB IVMs_BB 05 40 02.9
comp=Z,616nm,14.6s
PAC1 Pacto, Paraso 87.30 96 *e*P **P** 04 56 19.1 -1.2
SKHT Srikalahasti 87.45 301 *e*P **P** 04 56 19.7 -1.1
SKHT IVmB_BB 04 56 23.3
comp=Z,326nm,3.1s
SKHT IVMs_BB IVMs_BB 05 38 49.3
comp=Z,449nm,17.4s
MACC Macarena, Meta 87.45 91 *e*P P 04 56 14.9 -6.0
KSM Kuching 87.64 268 P **P** 04 56 21.9 +0.2
KSM IAmb IAmb 04 56 24.0
comp=Z,54nm,1.2s
KSM Kuching 87.64 268 P **P** 04 56 22.0 +0.3
KULM Kulim 87.81 278 P **P** 04 56 22.4 -0.1
KULM IAmb IAmb 04 56 26.2
comp=Z,28nm,1.0s
KULM Kulim 87.81 278 P **P** 04 56 23.0 +0.5
PUAC Puerto Asis, P 87.88 94 *e*P **P** 04 56 22.4 -0.5
IPM Ipoh 88.41 278 P **P** 04 56 24.5 -0.9
IPM Ipoh 88.41 278 P **P** 04 56 26.0 +0.6
RAR Rarotonga 88.70 178 LR LR 05 28 53.4
comp=Z,1µm,20.7s,baz=3.5,slow=31
PTLC Puerto Leguiza 88.91 92 *e*P **P** 04 56 28.8 +1.1
LHMI Lhok Sumawe 89.25 282 P P 04 56 23.1 -6.2
TAM Tamanrasset 89.30 11 P **P** 04 56 28.9 -0.8
TAM pmax pmax
comp=Z,133nm,2.0s
TAM MLR MLR
comp=Z,2µm,19.0s
TAM Tamanrasset 89.30 11 P **P** 04 56 28.9 -0.8
TAM IAmb IAmb 04 56 34.1
comp=Z,132nm,2.0s
TAM IAMs_20 IAMs_20 05 39 24.6
comp=Z,2µm,19.0s
MYKOM Kota Tinggi 89.81 274 IAMs_20 IAMs_20 05 41 26.0
comp=Z,3µm,18.0s
COEN Coen 90.38 232 P **P** 04 56 35.2 +0.7
COEN IAmb IAmb 04 56 39.3
comp=Z,88nm,1.4s
COEN IAMs_20 IAMs_20 05 31 16.7
comp=Z,2µm,22.0s
PSI Prapat 90.74 279 P **P** 04 56 35.9 -0.6
PSI pmax pmax
comp=Z,44nm,1.1s
PSI MLR MLR
comp=Z,3µm,18.0s
RPSI Rantau Prapat 90.84 279 P **P** 04 56 35.9 -0.8
RPSI IAmb IAmb 04 56 39.9
comp=Z,44nm,1.1s
TBI Tubuai 91.31 168 *e*S **S** 05 07 27.7 -8.8
comp=Z,1µm,26.2s
TBI Tubuai 91.31 168 *e*LQ LQ 05 22 01.0
comp=Z,2µm,25.2s
TBI *e*LR LR 05 25 47.8
comp=Z,4µm,23.8s,baz=349
BKNI Bangkinang 92.22 276 IAMs_20 IAMs_20 05 43 51.8
comp=Z,3µm,18.0s
DZM Mont Dzumac 92.47 209 *e*P **P** 04 56 44.1 0.0
comp=Z,150nm,1.6s
DZM Mont Dzumac 92.47 209 *e*PP PP 05 00 21.6 -3.9
comp=Z,196nm,27.0s
DZM Mont Dzumac 92.47 209 *e*PS PS 05 09 04.4 +4.7
comp=Z,1µm,27.6s
DZM *e*SS SS 05 14 01.4 +2.2
comp=Z,2µm,26.6s
DZM Mont Dzumac 92.47 209 *e*LR LR 05 26 40.7
comp=Z,6µm,32.7s,baz=33
DZM Mont Dzumac 92.47 209 P **P** 04 56 43.6 -0.4
comp=Z,21nm,1.1s,baz=63,slow=6.9,SNR=9.7
DZM Mont Dzumac 92.47 209 P **P** 04 56 44.4 +0.3
DZM IAMs_20 IAMs_20 05 33 08.3
comp=Z,3µm,21.0s
GSI Gunungsitoli 92.63 280 IAmb IAmb 04 56 48.0
comp=Z,58nm,1.6s
RKT Rikitea 92.82 155 *e*S **S** 05 07 41.4 -8.7
comp=Z,890nm,30.2s
RKT Rikitea 92.82 155 *e*LQ LQ 05 22 34.3
comp=Z,2µm,30.0s
RKT *e*LR LR 05 26 29.1
comp=Z,3µm,25.8s
PALK Pallekele 93.17 298 IAMs_20 IAMs_20 05 46 04.6
comp=Z,2µm,20.0s
CTAO Charters Tower 95.29 228 IAMs_20 IAMs_20 05 37 51.9
comp=Z,2µm,20.0s
PTGA Pitinga 95.36 79 P **P** 04 56 56.7 -0.9
PTGA Pitinga 95.36 79 *e*P **P** 04 56 57.5 -0.1
PTGA Pitinga 95.36 79 *e*P **P** 04 56 57.5 -0.1
DAMY Dhamar 95.65 334 IAMs_20 IAMs_20 05 44 41.5
comp=Z,2µm,22.0s
SOCY Socotra 96.11 324 IAMs_20 IAMs_20 05 43 41.3
comp=Z,2µm,22.0s
KNRA Kununurra 96.67 245 IAMs_20 IAMs_20 05 38 18.0
comp=Z,2µm,22.0s
CISI Cisompet, Garu 96.88 267 IAMs_20 IAMs_20 05 44 43.7
comp=Z,2µm,18.0s
TOC1 Torodi Ar. Sit 98.49 16 IAMs_20 IAMs_20 05 44 10.0
comp=Z,2µm,20.0s
TOC7 Torodi Ar. Sit 98.50 16 IAMs_20 IAMs_20 05 40 51.2
comp=Z,2µm,22.0s
TOB1 Torodi Ar. Sit 98.50 16 IAMs_20 IAMs_20 05 43 59.3
comp=Z,1µm,20.0s
TOB5 Torodi Ar. Sit 98.51 16 IAMs_20 IAMs_20 05 43 59.5
comp=Z,2µm,21.0s
TOC2 Torodi Ar. Sit 98.51 16 IAMs_20 IAMs_20 05 44 10.5
comp=Z,1µm,20.0s
TOA0 Torodi Ar. Sit 98.51 16 IAMs_20 IAMs_20 05 44 00.6
comp=Z,1µm,20.0s
TOA2 Torodi Ar. Sit 98.51 16 IAMs_20 IAMs_20 05 44 00.7

	comp=Z,1µm,20.0s								
TORD	**Torodi Ar. Bea**	**98.51**	**16**	P		**P**		**04 57 10.2**	**-1.7**
	comp=Z,1.5nm,0.9s,baz=338,slow=5.3,SNR=6.2								
TORD				PP		**PP**		**05 01 10.7**	**-0.8**
	comp=Z,2.3nm,1.2s,baz=4.9,slow=3.8,SNR=2.5								
TORD				PKKPbc		**PKKPdf**		**05 13 39.2**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=165,slow=1.5,SNR=3.8								
TOA3	**Torodi Ar. Sit**	**98.52**	**16**	IAMs_20		IAMs_20		05 44 00.8	
	comp=Z,1µm,20.0s								
TOB4	**Torodi Ar. Sit**	**98.52**	**16**	IAMs_20		IAMs_20		05 44 00.9	
	comp=Z,1µm,20.0s								
TOB3	**Torodi Ar. Sit**	**98.53**	**16**	IAMs_20		IAMs_20		05 44 00.9	
	comp=Z,1µm,20.0s								
TOC3	**Torodi Ar. Sit**	**98.53**	**16**	IAMs_20		IAMs_20		05 40 52.0	
	comp=Z,2µm,22.0s								
TOC5	**Torodi Ar. Sit**	**98.53**	**16**	IAMs_20		IAMs_20		05 44 01.1	
	comp=Z,2µm,20.0s								
TOC4	**Torodi Ar. Sit**	**98.54**	**16**	IAMs_20		IAMs_20		05 40 51.3	
	comp=Z,2µm,22.0s								
WB0	**Warramunga Arr**	**98.59**	**238**	IAMs_20		IAMs_20		05 37 27.9	
	comp=Z,1µm,21.0s								
WR0	**Warramunga Arr**	**98.72**	**238**	IAMs_20		IAMs_20		05 46 03.4	
	comp=Z,1µm,18.0s								
WR9	**Warramunga Arr**	**98.73**	**238**	IAMs_20		IAMs_20		05 44 13.5	
	comp=Z,2µm,19.0s								
WR8	**Warramunga Arr**	**98.73**	**238**	IAMs_20		IAMs_20		05 44 05.8	
	comp=Z,1µm,19.0s								
WR6	**Warramunga Arr**	**98.74**	**238**	IAMs_20		IAMs_20		05 44 23.2	
	comp=Z,1µm,18.0s								
WC1	**Warramunga Arr**	**98.75**	**238**	IAMs_20		IAMs_20		05 43 49.4	
	comp=Z,1µm,20.0s								
WR4	**Warramunga Arr**	**98.76**	**238**	IAMs_20		IAMs_20		05 44 24.5	
	comp=Z,2µm,20.0s								
WRAB	**Tennant Creek**	**98.76**	**238**	IAMs_20		IAMs_20		05 43 58.5	
	comp=Z,2µm,18.0s								
WR3	**Warramunga Arr**	**98.76**	**238**	IAMs_20		IAMs_20		05 44 16.6	
	comp=Z,1µm,20.0s								
WB2	**Warramunga Arr**	**98.77**	**238**			**P**		**04 57 12.5**	**-0.3**
WB2				IAMs_20		IAMs_20		05 43 59.8	
	comp=Z,2µm,19.0s								
WR2	**Warramunga Arr**	**98.77**	**238**	IAMs_20		IAMs_20		05 43 56.8	
	comp=Z,1µm,20.0s								
WRA	**Warramunga Arr**	**98.77**	**238**	P		**P**		**04 57 12.2**	**-0.6**
	comp=Z,3.5nm,0.9s,baz=21,slow=4.6,SNR=9.3								
WRA				LR		LR		05 45 14.8	
	comp=Z,783nm,18.4s,baz=65,slow=38								
WC3	**Warramunga Arr**	**98.78**	**238**	IAMs_20		IAMs_20		05 44 11.0	
	comp=Z,2µm,20.0s								
WB1	**Warramunga Ar.**	**98.78**	**238**	IAMs_20		IAMs_20		05 44 17.2	
	comp=Z,2µm,19.0s								
FURI	**Furi**	**102.10**	**339**	IAMs_20		IAMs_20		05 49 33.1	
	comp=Z,1µm,20.0s								
ASAR	**Alice Springs**	**102.39**	**237**	P		**Pdif**		**04 57 29.1**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=20,slow=3.0,SNR=1.7								
ASAR				PKKPbc		**PKKPbc**		**05 13 29.4**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=224,slow=2.3,SNR=5.2								
PSAC3	**Pilbara Seismi**	**105.31**	**251**	IAMs_20		IAMs_20		05 46 17.7	
	comp=Z,1µm,20.0s								
STKA	**Stephens Creek**	**107.75**	**228**	PKKPbc		PKKPbc		05 13 11.1	-0.4
	comp=Z,0.9nm,0.7s,baz=135,slow=10.0,SNR=2.8								
PB12	**IPOC Station P**	**107.82**	**95**	IAMs_20		IAMs_20		05 51 29.1	
	comp=Z,1µm,21.0s								
MNMC	**Minye Minye**	**108.57**	**95**	IAMs_20		IAMs_20		05 50 26.0	
	comp=Z,1µm,21.0s								
PSGCX	**Pisagua**	**108.79**	**96**	IAMs_20		IAMs_20		05 54 02.9	
	comp=Z,1µm,20.0s								
CAN	**Canberra**	**109.04**	**221**	IAMs_20		IAMs_20		05 44 40.2	
	comp=Z,1µm,21.0s								
PB11	**IPOC Station P**	**109.12**	**95**	IAMs_20		IAMs_20		05 56 05.5	
	comp=Z,1µm,20.0s								
GO01	**Chusmiza**	**109.21**	**95**	IAMs_20		IAMs_20		05 49 56.9	
	comp=Z,1µm,20.0s								
PB04	**IPOC Station P**	**111.27**	**97**	IAMs_20		IAMs_20		05 57 30.4	
	comp=Z,2µm,20.0s								
PB06	**IPOC Station P**	**111.83**	**97**	IAMs_20		IAMs_20		05 52 14.2	
	comp=Z,1µm,19.0s								
LVC	**Limon Verde**	**111.99**	**96**	IAMs_20		IAMs_20		05 49 48.7	
	comp=Z,1µm,22.0s								
TOO	**Toolangi**	**112.06**	**223**	IAMs_20		IAMs_20		05 45 19.1	
	comp=Z,2µm,21.0s								
BDFB	**Brasilia**	**113.51**	**73**	IAMs_20		IAMs_20		05 51 13.1	
	comp=Z,2µm,21.0s								
MLZ	**Mavora Lakes**	**114.96**	**203**	IAMs_20		IAMs_20		05 47 19.8	
	comp=Z,2µm,20.0s								
DCZ	**Deep Cove**	**115.19**	**203**	IAMs_20		IAMs_20		05 49 16.8	
	comp=Z,1µm,19.0s								
WHZ	**Wether Hill Ro**	**115.50**	**203**	IAMs_20		IAMs_20		05 48 08.1	
	comp=Z,2µm,21.0s								
AC02	**Maricunga**	**115.73**	**98**	IAMs_20		IAMs_20		06 00 26.7	
	comp=Z,1µm,22.0s								
TAU	**Tasmania Unive**	**116.64**	**219**	IAMs_20		IAMs_20		05 50 36.1	
	comp=Z,2µm,21.0s								
CO01	**Juntas del Tor**	**118.20**	**100**	IAMs_20		IAMs_20		06 00 38.1	
	comp=Z,1µm,21.0s								
ZON	**Zonda**	**120.14**	**100**	IAMs_20		IAMs_20		06 00 20.3	
	comp=Z,2µm,22.0s								
CFA	**Coronel Fontan**	**120.36**	**100**	PKP		**PKPdf**		**05 02 23.1**	**-0.9**
	comp=Z,1.4nm,0.5s,baz=293,slow=6.7,SNR=3.6								
CPSB	**Cacapava Do Su**	**124.91**	**85**	*eP*		**PKPdf**		**05 02 32.7**	**0.0**
CPSB	**Cacapava Do Su**	**124.91**	**85**	*eP*		**PKPdf**		**05 02 32.7**	**0.0**
LSZ	**Lusaka**	**127.14**	**347**	PKIKP		**PKPdf**		**05 02 35.8**	**-1.7**
LSZ	**Lusaka**	**127.14**	**347**	PKPdf		**PKPdf**		**05 02 35.8**	**-1.7**
LSZ	**Lusaka**	**127.14**	**347**	IAMs_20		IAMs_20		06 07 15.6	
	comp=Z,1µm,20.0s								
PLCA	**Paso Flores**	**127.59**	**107**	PKP		**PKiKP**		**05 02 38.2**	**+0.1**
	comp=Z,14nm,1.0s,baz=308,slow=1.6,SNR=12								
PLCA	**Paso Flores**	**127.59**	**107**	PKPdf		**PKPdf**		**05 02 36.7**	**-0.9**
PLCA	**Paso Flores**	**127.59**	**107**	*eP*		**PKiKP**		**05 02 38.0**	**-0.2**
PLCA	**Paso Flores**	**127.59**	**107**	*eP*		**PKiKP**		**05 02 38.0**	**-0.2**
ABPO	**Ambohimpanom**	**127.82**	**324**	IAMs_20		IAMs_20		06 04 33.2	
	comp=Z,1µm,20.0s								
LL01	**San Ignacio de**	**128.35**	**109**			**PKiKP**		**05 02 39.2**	**-0.2**
TSUM	**Tsumeb**	**131.49**	**0**	PKPdf		**PKPdf**		**05 02 45.4**	**-0.4**
TSUM	**Tsumeb**	**131.49**	**0**	IAMs_20		IAMs_20		06 10 50.6	
	comp=Z,1µm,20.0s								
USHA	**Ushuaia**	**140.27**	**115**	PKP		**PKiKP**		**05 03 02.4**	**-0.9**
	comp=Z,28nm,0.6s,baz=321,slow=1.2,SNR=2.3								
BOSA	**Boshof**	**140.59**	**349**	PKhKP		PKPpre		05 02 53.4	
	comp=Z,7.1nm,1.0s,baz=295,slow=8.9,SNR=4.2								
BOSA				PKP		**PKPdf**		**05 03 01.4**	**-1.0**
	comp=Z,6.3nm,0.8s,baz=191,slow=2.2,SNR=7.7								
EFI	**East Falkland**	**141.44**	**105**	*c iP*	KIKP	**PKPdf**		**05 03 03.5**	**+0.6**
EFI					pmax	pmax			
	comp=Z,262nm,2.5s								
SUR	**Sutherland**	**144.57**	**355**	PKP		**PKPdf**		**05 03 08.9**	**-0.5**
	comp=Z,61nm,0.8s,baz=285,slow=1.0,SNR=19								
SUR	**Sutherland**	**144.57**	**355**	PKPdf		**PKPdf**		**05 03 09.2**	**-0.2**
VNDA	**Vanda**	**146.63**	**193**	PKPbc		**PKPbc**		**05 03 12.2**	**-0.8**
	comp=Z,14nm,0.8s,baz=321,slow=4.5,SNR=38								
VNDA	**Vanda**	**146.63**	**193**	PKPdf		**PKPdf**		**05 03 11.7**	**+0.4**
CASY	**Casey**	**146.90**	**228**	IAMs_20		IAMs_20		06 07 07.7	
	comp=Z,1µm,19.0s								
PMSA	**Palmer Station**	**149.19**	**124**	PKPbc		**PKiKP**		**05 03 20.7**	**-0.5**
	comp=Z,131nm,1.1s,baz=319,slow=1.2,SNR=24								
QSPA	**South Pole Qui**	**157.55**	**180**	PKP		**PKPdf**		**05 03 26.0**	**-1.9**
	comp=Z,13nm,1.0s,baz=7.7,slow=1.0,SNR=17								
QSPA				PKPab		**PKPab**		**05 03 59.9**	**-0.2**
	comp=Z,19nm,1.0s,baz=43,slow=1.8,SNR=8.7								
MAW	**Mawson**	**163.11**	**249**	PKPab		**PKPab**		**05 04 24.3**	**+0.2**
	comp=Z,6.0nm,0.9s,baz=21,slow=3.4,SNR=6.2								
MAW	**Mawson**	**163.11**	**249**			**PKPab**		**05 04 25.7**	**+1.5**
VNA3	**Neumayer Olymp**	**169.84**	**123**	PKPab		**PKPab**		**05 04 53.9**	**0.0**
VNA3	**Neumayer Olymp**	**169.84**	**123**	PKPdf		**PKPdf**		**05 03 35.1**	**-3.9**
VNA1	**Neumayer--Stat**	**170.37**	**119**	PKPab		**PKPab**		**05 04 56.4**	**+0.2**
VNA2	**Neumayer--Watz**	**170.62**	**121**	PKPab		**PKPab**		**05 04 57.4**	**0.0**
VNA2	**Neumayer--Watz**	**170.62**	**121**	PKPdf		**PKPdf**		**05 03 36.2**	**-3.3**
SYO	**Syowa Base**	**171.81**	**251**	*i eX*		**PKPdf**		**05 03 34.8**	**-5.3**
SNAA	**Sanae**	**171.88**	**128**	P		**PKPab**		**05 05 02.7**	**-0.4**
SNAA	**Sanae**	**171.88**	**128**	PKPdf		**PKPdf**		**05 03 35.0**	**-5.2**
SNAA	**Sanae**	**171.88**	**128**	PKPab		**PKPab**		**05 05 02.2**	**-0.8**
	comp=Z,10nm,0.9s,baz=242,slow=2.4,SNR=14								
SNAA	**Sanae**	**171.88**	**128**			**PKPab**		**05 05 02.7**	**-0.4**

*AEIC **07** 04:46:18±2.6, 67°.70N±0°.10×162°.2W±0°.2, h10km±8km, ML4.0, Error ellipse: s-maj=15.1km s-min=7.9km az=153.0*
*NEIC **07** 04:46:18.8±2.1, 67°.69N±0°.04×162°.4W±0°.2, h29km±7km, Error ellipse: s-maj=11.4km s-min=5.7km az=103.0*
*IDC **07** 04:46:19.3±2.0, 67°.85N×162°.06W, h0km, mb4.0/5, mb1 4.5/5, mb1mx3.9/49, mbtmp4.1/5, Error ellipse: s-maj=102.8km s-min=29.0km az=27.0*

ISC 07 04:46:18.9±0.8, 67°.64N±0°.09×162°.37W±0°.09, h10km, n31, σ2s01/32, mb4.0/4, Northern Alaska

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

RDOG	**Red Dog Mine**	**0.46**	**334**				**Pg**	**04 46 27.1**	**-0.9**
RDOG							**Sg**	**04 46 33.9**	**-0.2**
IM03		**3.79**	**112**				**Pn**	**04 47 17.3**	**0.0**
TT01	**Tatalina**	**5.45**	**148**				**Pn**	**04 47 41.2**	**+1.2**
ILAR	**Eielson Array**	**6.89**	**107**	Pn			**Pn**	**04 47 59.7**	**-0.1**
	19nm,0.3s,baz=304,slow=14,SNR=1.7								
EGAK	**Eagle**	**9.02**	**99**	Pn			**Pn**	**04 48 25.4**	**-3.7**
MENT	**Mentasta**	**9.10**	**112**	Pn			**Pn**	**04 48 28.0**	**-2.2**
HOM	**Homer**	**9.31**	**144**	Pn			**Pn**	**04 48 31.2**	**-1.8**
BRLK	**Bradley Lake**	**9.38**	**142**	Pn			**Pn**	**04 48 30.5**	**-3.6**
SEW	**Seward**	**9.45**	**137**	Pn			**Pn**	**04 48 32.7**	**-2.1**
GLI	**Glacier Island**	**9.47**	**128**	Pn			**Pn**	**04 48 34.4**	**-0.8**
CNPM	**China Poot**	**9.52**	**143**	Pn			**Pn**	**04 48 35.1**	**-0.8**
HIN	**Hinchinbrook I**	**10.03**	**129**	Pn			**Pn**	**04 48 39.5**	**-3.4**
DAWY	**Dawson**	**10.04**	**100**	Pn			**Pn**	**04 48 41.2**	**-1.8**
EPYK	**Eagle Plains**	**10.08**	**85**	Pn			**Pn**	**04 48 42.1**	**-1.5**
GLB	**Gilahina Butte**	**10.09**	**119**	Pn			**Pn**	**04 48 41.1**	**-2.6**
EYAK	**Cordova Ski Ar**	**10.14**	**127**	Pn			**Pn**	**04 48 42.0**	**-2.3**
VRDI	**Verde Repeater**	**10.36**	**119**	Pn			**Pn**	**04 48 46.2**	**-1.4**
BARN	**Barnard Glacie**	**11.09**	**117**	Pn			**Pn**	**04 48 53.7**	**-3.8**
WAX	**Waxell Ridge**	**11.13**	**121**	Pn			**Pn**	**04 48 56.1**	**-2.0**
OHAK	**Old Harbor**	**11.25**	**154**	Pn			**Pn**	**04 48 58.8**	**-0.7**
CHGN	**Chignik**	**11.53**	**169**	Pn			**Pn**	**04 49 02.1**	**-1.2**
YAH	**Yahtse**	**11.57**	**119**	Pn			**Pn**	**04 49 02.5**	**-1.6**
BILL	**Bilibino**	**11.78**	**286**	Pn			**Pn**	**04 49 05.8**	**-0.9**
SDPT	**Sand Point**	**12.37**	**175**	Pn			**Pn**	**04 49 13.9**	**-0.9**
HYT	**Haines Junctio**	**12.71**	**111**	Pn			**Pn**	**04 49 18.9**	**-0.6**
WHY	**Whitehorse**	**13.77**	**107**	Pn			**Pn**	**04 49 31.0**	**-3.0**
YKA	**Yellowknife Ar**	**20.33**	**82**	P			**P**	**04 50 54.9**	**0.0**
	5.0nm,0.6s,baz=304,slow=12,SNR=1.5								
PDAR	**Pinedale Array**	**37.31**	**105**	P			**P**	**04 53 32.8**	**+1.6**
	1.1nm,0.5s,baz=343,slow=5.8,SNR=1.1								
NVAR	**Mina Array Bea**	**38.02**	**118**	P			**P**	**04 53 39.1**	**+2.0**
	1.2nm,0.6s,baz=323,slow=8.4,SNR=1.2								
TXAR	**Lajitas Array**	**51.40**	**107**	P			**P**	**04 55 24.6**	**+0.9**
	1.7nm,0.6s,baz=335,slow=6.2,SNR=2.0								
MKAR	**Makanchi Array**	**56.03**	**312**	P			**P**	**04 55 58.9**	**+1.6**
	1.7nm,0.7s,baz=38,slow=7.3,SNR=0.8								

*IDC **07** 04:47:19.2±0.5, 67°.91N×162°.44W, h0km, mb4.4/30, mb1 4.6/32, mb1mx4.5/52, mbtmp4.5/32, ML3.9/1, Error ellipse: s-maj=14.2km s-min=10.6km az=20.0*
*AEIC **07** 04:47:19±2.6, 67°.72N±0°.06×162°.2W±0°.1, h10km±3km, ML4.5, mb4.7/24(NEIC), Error ellipse: s-maj=9.9km s-min=5.9km az=154.0*
*NEIC **07** 04:47:19.2±2.8, 67°.78N±0°.06×162°.4W±0°.1, h5km±3km, Error ellipse: s-maj=9.6km s-min=6.6km az=151.0*

ISC 07 04:47:19.8±0.4, 67°.78N±0°.07×162°.32W±0°.05, h10km, n79, σ1s78/83, mb4.6/33, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.36**	**321**				**Pb**	**04 47 27.4**	**-0.8**
RDOG							**Sb**	**04 47 33.7**	**-0.1**
IM03		**3.83**	**114**				**Pn**	**04 48 18.3**	**-0.4**
IM03							**Sn**	**04 49 03.4**	**-0.2**
TOLK	**Toolik Lake Re**	**4.83**	**74**				**Pn**	**04 48 32.2**	**-0.2**
TTA	**Tatalina**	**5.53**	**149**				**Pn**	**04 48 41.9**	**-0.3**
TT01	**Tatalina**	**5.55**	**149**				**Pn**	**04 48 42.3**	**-0.1**
BPAW	**Bear Paw Mtn.**	**5.92**	**123**				**Pn**	**04 48 46.4**	**-1.0**
TCOL	**CIGO, UAF Yank**	**6.50**	**110**				**Pn**	**04 48 55.0**	**-0.4**
POKR	**Poker Flat Res**	**6.53**	**107**				**Pn**	**04 48 55.7**	**0.0**
CCB	**Clear Creek Bu**	**6.65**	**111**				**Pn**	**04 48 57.0**	**-0.4**
IL31		**6.91**	**109**	Pn			**Pn**	**04 49 00.3**	**-0.6**
ILAR	**Eielson Array**	**6.91**	**109**	Pn			**Pn**	**04 49 01.5**	**+0.5**
	38nm,0.3s,baz=302,slow=14,SNR=12								
ILAR					Sn		**Sn**	**04 50 18.1**	**-1.5**
	7.6nm,0.3s,baz=304,slow=23,SNR=4.3								
INK	**Inuvik**	**10.74**	**74**	Pn			**Pn**	**04 49 51.4**	**-2.0**
	baz=37,slow=2.0,SNR=3.6								
INK					Sn		**Sn**	**04 51 48.0**	**-5.4**
	1.7nm,0.3s,baz=328,slow=13,SNR=2.2								
MID	**Middleton Isla**	**10.95**	**132**	Pn			**Pn**	**04 49 53.9**	**-2.3**
KDAK	**Kodiak Island**	**10.96**	**152**	Pn			**Pn**	**04 49 56.2**	**-0.1**
	0.8nm,0.3s,baz=105,slow=20,SNR=1.5								
CHGN	**Chignik**	**11.66**	**169**	Pn			Pn	04 49 58.2	-7.7
MESA	**MESA**	**11.69**	**121**	Pn			**Pn**	**04 50 03.1**	**-3.4**
BILL	**Bilibino**	**11.76**	**286**	Pn			**Pn**	**04 50 04.0**	**-3.3**
PCA	**Pinnacle**	**12.31**	**118**	Pn			**Pn**	**04 50 12.2**	**-2.7**
SDPT	**Sand Point**	**12.50**	**175**	Pn			**Pn**	**04 50 13.9**	**-3.5**
HYT	**Haines Junctio**	**12.74**	**111**	Pn			**Pn**	**04 50 18.4**	**-2.5**
WHY	**Whitehorse**	**13.79**	**108**	Pn			**Pn**	**04 50 34.9**	**-0.3**
BESE	**Bessie Mountai**	**15.29**	**114**	Pn			**Pn**	**04 50 51.3**	**-4.2**
JIS	**Juneau Island**	**15.69**	**114**	Pn			**Pn**	**04 50 55.6**	**-4.8**
JIS					IAmb		IAmb	04 51 07.9	
	comp=Z,41nm,1.1s								
SIT	**Sitka**	**16.31**	**118**	Pn			**Pn**	**04 51 04.3**	**-4.1**
WRAK	**Wrangell Islan**	**17.82**	**115**	Pn			**Pn**	**04 51 23.0**	**-4.5**
WRAK					IAmb		IAmb	04 51 43.6	
	comp=Z,108nm,1.9s								
YKA	**Yellowknife Ar**	**20.29**	**82**	P			**P**	**04 51 55.4**	**+0.2**
	comp=Z,17nm,0.7s,baz=302,slow=10,SNR=5.2								
RES	**Resolute Bay**	**21.50**	**42**	P			**P**	**04 52 09.7**	**+1.5**
	comp=Z,18nm,0.6s,baz=198,slow=20,SNR=2.3								
MA2	**Magadan**	**21.82**	**271**	P			**P**	**04 52 10.5**	**-1.2**
	comp=Z,11nm,0.9s,baz=106,slow=7.4,SNR=1.7								
BBB	**Bella Bella**	**22.71**	**116**	P			**P**	**04 52 21.5**	**+0.2**
	comp=Z,8.9nm,0.9s,baz=286,slow=11,SNR=3.0								
BBB	**Bella Bella**	**22.71**	**116**	IAmb			IAmb	04 52 41.3	
	comp=Z,60nm,1.6s								
TIXI	**Tiksi**	**22.96**	**311**	P			**P**	**04 52 23.4**	**-0.4**
	comp=Z,7.0nm,0.6s,baz=107,slow=10,SNR=3.4								
TIXI	**Tiksi**	**22.96**	**311**	IAmb			IAmb	04 52 30.3	
	comp=Z,14nm,0.9s								
PET	**Petropavlovsk**	**23.72**	**251**	P			**P**	**04 52 27.4**	**-4.1**
PEA0B	**Petropavlovsk-**	**24.00**	**252**	P			**P**	**04 52 34.1**	**-0.1**
PETK	**Petropavlovsk-**	**24.00**	**252**	P			**P**	**04 52 35.8**	**+1.7**
	comp=Z,22nm,0.9s,baz=69,slow=9.7,SNR=6.4								
SPITS	**Spitsbergen Ar**	**34.26**	**0**	P			**P**	**04 54 04.9**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=352,slow=2.9,SNR=1.1								
SPITS					PcP		**PcP**	**04 56 41.1**	**0.0**
	comp=Z,1.8nm,0.5s,baz=23,slow=3.2,SNR=6.8								
NRIK	**Noril'sk**	**35.10**	**325**	P			**P**	**04 54 12.8**	**+0.3**
	comp=Z,12nm,0.8s,baz=71,slow=7.0,SNR=6.2								
YHH	**Holmes Hill**	**35.11**	**104**	P			**P**	**04 54 13.6**	**+0.4**
PDAR	**Pinedale Array**	**37.32**	**105**	P			**P**	**04 54 33.6**	**+1.6**
	comp=Z,7.2nm,0.9s,baz=327,slow=7.8,SNR=4.0								
PDAR					PcP		**PcP**	**04 56 51.8**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=325,slow=1.1,SNR=2.1								
WAKR	**Walker**	**37.62**	**119**	P			**P**	**04 54 36.4**	**+1.8**
NVAR	**Mina Array Bea**	**38.06**	**118**	P			**P**	**04 54 40.1**	**+1.7**
	comp=Z,9.5nm,0.8s,baz=324,slow=7.5,SNR=7.3								
NVAR					PcP		**PcP**	**04 56 55.5**	**+2.2**
	comp=Z,1.6nm,0.9s,baz=339,slow=2.3,SNR=2.9								
NV11	**Mina Array Sit**	**38.11**	**118**	P			**P**	**04 54 40.5**	**+1.8**
OMMB	**Old Mammoth Mi**	**38.57**	**119**	P			**P**	**04 54 44.9**	**+2.2**
OMMB					IAmb		IAmb	04 54 48.1	
	comp=Z,16nm,1.0s								
USRK	**Ussuriysk Ar.**	**40.96**	**269**	P			**P**	**04 55 04.3**	**+2.1**
	comp=Z,3.2nm,0.8s,baz=133,slow=48,SNR=4.5								
GSC	**Goldstone, Bar**	**41.40**	**118**	P			**P**	**04 55 04.9**	**-1.1**
SCHQ	**Schefferville**	**42.84**	**58**	P			**P**	**04 55 18.8**	**+1.4**
	comp=Z,6.2nm,0.7s,baz=325,slow=13,SNR=2.5								
SCHQ	**Schefferville**	**42.84**	**58**	IAmb			IAmb	04 55 44.0	
	comp=Z,15nm,1.1s								
ARCES	**ARCESS Array B**	**42.84**	**356**	P			**P**	**04 55 17.5**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=19,slow=8.6,SNR=1.2								
ARCES					PcP		**PcP**	**04 57 08.0**	**+0.1**
	comp=Z,2.0nm,0.6s,baz=15,slow=3.7,SNR=5.1								
WUAZ	**Wupatki**	**43.08**	**112**	P			**P**	**04 55 21.3**	**+1.6**
WUAZ					IAmb		IAmb	04 55 24.5	
	comp=Z,15nm,0.9s								
Y14A	**Wickenburg**	**43.94**	**115**	P			**P**	**04 55 28.1**	**+1.6**
Y14A					IAmb		IAmb	04 55 30.9	
	comp=Z,11nm,1.0s								
MAJO	**Matsushiro**	**45.26**	**258**	P			**P**	**04 55 37.5**	**+0.5**
MJAR	**Matsushiro Arr**	**45.26**	**258**	P			**P**	**04 55 37.6**	**+0.6**
	comp=Z,7.6nm,0.9s,baz=8.5,slow=7.8,SNR=5.1								
SONM	**Songino Array**	**47.34**	**294**	P			**P**	**04 55 53.4**	**0.0**
	comp=Z,5.8nm,1.0s,baz=34,slow=5.8,SNR=4.6								
KSRS	**Korea Array**	**48.34**	**268**	P			**P**	**04 56 01.5**	**+0.5**
	comp=Z,5.9nm,0.8s,baz=19,slow=7.5,SNR=7.4								
ZALV	**Zalesovo Beam**	**48.81**	**314**	P			**P**	**04 56 03.5**	**-1.0**
	comp=Z,5.9nm,0.6s,baz=38,slow=6.4,SNR=7.9								
FINES	**FINESS Array B**	**50.93**	**355**	P			**P**	**04 56 19.9**	**-0.6**
	comp=Z,4.3nm,0.7s,baz=27,slow=9.4,SNR=3.8								
JNU	**Nakatsue**	**51.05**	**263**	P			**P**	**04 56 21.4**	**-0.4**
	comp=Z,6.9nm,1.0s,baz=142,slow=12,SNR=2.1								
NOA	**NORSAR Array B**	**51.40**	**4**	P			**P**	**04 56 24.1**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=356,slow=7.5,SNR=3.0								
TX32	**Lajitas Array**	**51.42**	**107**	P			**P**	**04 56 25.6**	**+0.9**
TXAR	**Lajitas Array**	**51.42**	**107**	P			**P**	**04 56 25.4**	**+0.7**
	comp=Z,12nm,0.9s,baz=337,slow=5.4,SNR=7.4								

WES	**Weston**	**51.96**	**70**	P			**P**	**04 56 28.4**	**0.0**
OXF	**Oxford**	**52.13**	**91**	P			**P**	**04 56 32.5**	**+2.7**
TKL	**Tuckaleechee C**	**53.25**	**85**	P			**P**	**04 56 39.5**	**+1.4**
MKAR	**Makanchi Array**	**55.95**	**311**	P			**P**	**04 56 56.4**	**-1.2**
	comp=Z,3.7nm,0.8s,baz=35,slow=6.5,SNR=6.3								
ZAIG	**Zacatecas**	**57.81**	**110**	P			**P**	**04 57 12.3**	**+0.9**
ZAIG				IAmb			IAmb	04 57 15.6	
	comp=Z,12nm,1.1s								
AKASG	**Malin Array Be**	**61.53**	**352**	P			**P**	**04 57 36.2**	**0.0**
	comp=Z,4.2nm,0.5s,baz=7.3,slow=6.6,SNR=8.3								
GERES	**GERESS Array B**	**63.66**	**3**	P			**P**	**04 57 51.4**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=6.5,slow=4.7,SNR=3.9								
CHGR	**Chuyangaron**	**67.06**	**318**	P			**P**	**04 58 13.1**	**+0.3**
KBZ	**Khabaz**	**67.20

comp=Z,9.3nm,0.4s
MORC Moravsky Berou 0.62 266 *e*PG Pg 05 01 45.3 -0.8
MORC eSG Sg 05 01 53.2 -0.8
LANS Liptovska Anna 0.93 136 *e*PG Pg 05 01 52.2 +0.2
JAVC Velka Javorina 1.10 209 *e*PG Pg 05 01 53.3 -2.1
KRLC Kraliky 1.13 284 *e*PG Pg 05 01 53.9 -2.1
KRLC eSG Sg 05 02 10.4 -0.3
VRAC Vranov 1.34 248 *e*PG Pg 05 01 57.8 -2.1
VRAC eSG Sg 05 02 15.4 -1.8
VYHS Vyhne 1.35 170 *e*PG Pg 05 01 58.6 -1.5
DPC Dobruska-Polom 1.49 292 *e*PG Pn 05 02 02.0 -0.4
KRJC Moravsky 1.56 242 *e*PG Pn 05 02 00.9 -2.4
KRJC eSG Sn 05 02 21.9 -2.4
CHVC Chvalec 1.74 297 *e*SG Sn 05 02 29.1 +0.3

*IDC **07** 05:07:07.8±5.5, 17°.45N×101°.69W, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.5/39, mbtmp3.3/4, ML3.4/2, Error ellipse: s-maj=119.5km s-min=36.0km az=29.0*
*MEX **07** 05:07:15.0±1.3, 17°.87N×101°.42W, h32km±18km, MD3.9*
ISC 07 05:07:13.3±1.2,**17°.89N**±0°.08×**101°.44W**±0°.04,
h30km±10km,**n14**,σ1°.**17**/**18**,**1C**,**Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.28**	**185**	⇑*i*P	**Pb**	**05 07 20.2**	**-0.3**
	baz=11,slow=12						
ZIIG				*i* S	**Sb**	**05 07 25.9**	**+0.5**
ARIG	**Puente Sto Nin**	**1.11**	**69**	*e*P	**Pn**	**05 07 32.5**	**-0.4**
ARIG				*i* S	**Sn**	**05 07 45.9**	**-1.3**
CAIG	**El Cayaco**	**1.40**	**127**	*e*P	**Pn**	**05 07 36.1**	**-0.7**
CAIG				*e*S	**Sn**	**05 07 52.9**	**-1.3**
MEIG	**Mezcala**	**1.73**	**88**	*e*P	**Pn**	**05 07 41.5**	**0.0**
MEIG				*i* S	**Sn**	**05 08 01.5**	**-1.1**
ACP2	**Acapulco**	**1.79**	**124**	*i* P	**Pn**	**05 07 42.5**	**+0.3**
ACP2				*i* S	**Sn**	**05 08 04.8**	**+0.8**
MMIG	**Aquila**	**1.85**	**283**	*e*P	**Pn**	**05 07 42.4**	**-0.7**
MMIG				*i* S	**Sn**	**05 08 04.5**	**-1.0**
PLIG	**Platanillo**	**1.91**	**74**	*i* P	**Pn**	**05 07 44.4**	**+0.4**
PLIG				*i* S	**Sn**	**05 08 06.2**	**-0.8**
CMIG	**Matias Romero**	**6.31**	**96**	Pn	**Pn**	**05 08 45.1**	**+0.8**
	0.5nm,0.3s,baz=273,slow=15,SNR=5.2			Sn			
CMIG					**Sn**	**05 09 53.1**	**-2.3**
	0.2nm,0.3s,baz=90,slow=20,SNR=1.7						
TXAR	**Lajitas Array**	**11.58**	**350**	Pn	Pn	05 10 02.5	+5.8
	0.1nm,0.3s,baz=187,slow=14,SNR=2.2						
NVAR	**Mina Array Bea**	**25.22**	**328**	P	**P**	**05 12 38.2**	**+1.5**
	0.7nm,0.7s,baz=157,slow=12,SNR=5.8						
PDAR	**Pinedale Array**	**25.74**	**346**	P	**P**	**05 12 43.0**	**+1.5**
	0.5nm,0.7s,baz=152,slow=10.0,SNR=4.4						
H03N2	**Juan Fernandez**	**55.38**	**157**	T	T	06 16 17.9	
	baz=337						
H03N1	**Juan Fernandez**	**55.39**	**157**	T	T	06 16 12.7	
	baz=337						
H03N3	**Juan Fernandez**	**55.40**	**157**	T	T	06 16 17.5	
	baz=337						

*IDC **07** 05:10:49.6±4.1, 34°.82N×72°.55E, h0km, mb3.5/3, mb1 3.6/5, mb1mx3.2/53, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=94.6km s-min=31.8km az=129.0*
ISC 07 05:10:51.9±1.2,**35°.0N**±0°.1×**72°.6E**±0°.1,**h10**km,**n7**,σ1°**.01**/8,
Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.67**	**134**	*e*P	**Sn**	**05 12 32.5**	**+0.5**
THN				*e*S	**Sb**	**05 12 41.5**	**+0.1**
MKAR	**Makanchi Array**	**13.84**	**29**	Pn	**P**	**05 14 15.0**	**-1.6**
	0.1nm,0.3s,baz=206,slow=13,SNR=3.0						
KURBB	**Kurchatov Arra**	**16.17**	**14**	Pn	**Pn**	**05 14 39.9**	**+0.8**
	0.0nm,0.3s,baz=204,slow=8.9,SNR=5.2						
AKTO	**Aktyubinsk**	**18.70**	**330**	P	**P**	**05 15 11.3**	**+1.0**
	0.4nm,0.3s,baz=133,slow=15,SNR=2.0						
ZALV	**Zalesovo Beam**	**20.77**	**21**	P	**P**	**05 15 33.5**	**+0.7**
	1.4nm,0.7s,baz=215,slow=11,SNR=7.1						
ARCES	**ARCESS Array B**	**42.99**	**338**	P	**P**	**05 18 51.0**	**+0.1**
	0.6nm,0.8s,baz=102,slow=8.4,SNR=3.7						
TORD	**Torodi Ar. Bea**	**67.00**	**270**	P	**P**	**05 21 44.7**	**-0.6**
	0.3nm,0.4s,baz=45,slow=5.8,SNR=6.6						

*JMA **07** 05:13:28.5±0.3, 45°.70N×142°.91E, h325km±2km, M4.0*
*IDC **07** 05:13:28.8±1.1, 45°.93N×142°.77E, h315km±13km, mb3.4/22, mb1 3.6/27, mb1mx3.4/52, mbtmp4.1/27, Error ellipse: s-maj=17.8km s-min=10.8km az=170.0*
*NEIC **07** 05:13:29.3±1.9, 45°.74N±0°.08×142°.8E±0°.1, h316km±5km, mb4.1/93, Error ellipse: s-maj=13.8km s-min=10.8km az=102.0*
*SKHL **07** 05:13:29.0±0.4, 45°.76N×142°.79E, h326km±3km, mb4.4/10, msh5.0/1*
ISC 07 05:13:28.6±0.5,**45°.70N**±0°.04×**142°.87E**±0°.05,**h322**km±5km,
n175,σ1°**.08**/199,**mb4.1**/71,**15C**,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.76**	**196**	⇑P	**Pn**	**05 14 10.7**	**+0.3**
JSE				*e*S	**S**	**05 14 43.3**	**-0.5**
JWK2	**Keihoku**	**0.78**	**241**	⇑P	**Pn**	**05 14 11.2**	**+0.8**
JWK2				*e*S	**S**	**05 14 43.8**	**0.0**
JRR	**Rishiri**	**1.23**	**244**	⇑P	**Pn**	**05 14 13.0**	**+0.6**
JRR				*e*S	**S**	**05 14 47.9**	**+0.6**
YSS	**Yuzh-Sakhalins**	**1.26**	**356**	*i* P	**Pn**	**05 14 12.5**	**+0.1**
YSS				AMB	AMB	05 14 13.6	
	70nm,0.4s						
YSS				*i* S	**S**	**05 14 46.0**	**-1.4**
YSS				A	A	05 14 47.0	
	580nm,0.7s						
YSS				A	A	05 14 47.0	
	320nm,0.7s						
YSS	**Yuzh-Sakhalins**	**1.26**	**356**		**Pn**	**05 14 12.7**	**+0.3**
YSS				S	**S**	**05 14 46.0**	**-1.4**
JRBN	**Rebuntou**	**1.30**	**259**	⇑P	**Pn**	**05 14 12.7**	**0.0**
JSS	**Shosan**	**1.48**	**210**	⇑P	**Pn**	**05 14 14.6**	**+0.8**
ASAJ	**Asahikawa**	**1.59**	**187**	P	**Pn**	**05 14 15.4**	**+0.9**
	27nm,0.3s,baz=355,slow=6.5,SNR=147						
ASAJ	**Asahikawa**	**1.59**	**187**	⇑P	**Pn**	**05 14 15.3**	**+0.8**
ASAJ				*e*S	**S**	**05 14 52.3**	**+1.1**
JKA	**Kamikawa-asahi**	**1.59**	**187**		**Pn**	**05 14 15.4**	**+0.9**
JYG	**Yagishiri**	**1.63**	**219**	⇑P	**Pn**	**05 14 15.3**	**+0.6**
JYG				*e*S	**S**	**05 14 51.9**	**+0.3**
JMP	**Maruseppu**	**1.72**	**168**	⇑P	**Pn**	**05 14 16.0**	**+0.6**
JMP				*e*S	**S**	**05 14 52.5**	**-0.3**
JKK2	**Kamakawa 2**	**1.82**	**183**	⇑P	**Pn**	**05 14 16.9**	**+0.8**
JTKR	**Abashiri--Toko**	**1.88**	**156**	⇑P	**Pn**	**05 14 17.2**	**+0.8**
JTKR				*e*S	**S**	**05 14 55.3**	**+0.7**
JHR	**Hokuryu**	**2.12**	**203**	P	**Pn**	**05 14 18.9**	**+0.7**
JAR	**Ashorobuto**	**2.48**	**165**	⇑P	**Pn**	**05 14 22.0**	**+0.8**
JAR				*e*S	**S**	**05 15 03.7**	**+0.3**
JFR	**Furan**	**2.54**	**185**	⇑P	**Pn**	**05 14 22.2**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**2.70**	**127**	*e*S	**S**	**05 15 07.7**	**+1.1**
YUK				A	A	05 15 11.7	
	570nm,0.7s						
YUK				A	A	05 15 11.7	
	280nm,0.7s						
JSK	**Shakotan**	**2.90**	**217**	P	**Pn**	**05 14 25.7**	**+0.7**
JAK	**Akkeshi**	**3.00**	**153**	*e*S	**S**	**05 15 09.8**	**-2.0**
JEW	**Eniwo**	**3.03**	**200**	⇑P	**Pn**	**05 14 27.4**	**+1.2**
JCH	**Churui**	**3.10**	**173**	⇑P	**Pn**	**05 14 25.9**	**-1.0**
JCH				*e*S	**S**	**05 15 09.7**	**-3.9**
NEM2	**Nemuro 2**	**3.10**	**138**	*e*S	**S**	**05 15 09.4**	**-4.2**
JNBK	**Urakawa-nobuka**	**3.42**	**181**	P	**Pn**	**05 14 29.4**	**-0.6**
JNBK				*e*S	**S**	**05 15 17.2**	**-2.0**
UGL	**Uglegorsk**	**3.43**	**351**	*e*P	**Pn**	**05 14 29.8**	**-0.1**
UGL				AMB	AMB	05 14 31.0	
	190nm,0.8s						
UGL				*e*S	**S**	**05 15 17.3**	**-1.8**
UGL				A	A	05 15 20.5	
	80nm,0.8s						
UGL				A	A	05 15 20.5	
	90nm,0.8s						
ERM	**Erimo**	**3.69**	**177**		**Pn**	**05 14 32.7**	**0.0**
ERM				S	**S**	**05 15 22.6**	**-1.6**
JKB	**Kayabe**	**4.03**	**200**	⇑P	**Pn**	**05 14 35.7**	**-0.6**
JKB				*e*S	**S**	**05 15 26.0**	**-4.8**
TEY	**Ternei**	**4.47**	**264**	*e*P	**Pn**	**05 14 41.1**	**+0.2**
TEY				AMB	AMB	05 14 42.0	
	40nm,0.8s						
TEY				*e*S	**S**	**05 15 37.7**	**-1.5**
TEY				A	A	05 15 40.1	
	30nm,1.0s						
TEY				A	A	05 15 40.1	
	30nm,1.0s						
TYV	**Tymovskoe**	**5.17**	**358**	*e*P	**Pn**	**05 14 48.0**	**-0.7**
TYV				AMB	AMB	05 14 49.2	
	11nm,0.4s						
TYV				*e*S	**S**	**05 15 52.7**	**-0.7**
TYV				A	A	05 15 54.2	
	22nm,0.8s						
TYV				A	A	05 15 54.2	
	22nm,0.8s						
USRK	**Ussuriysk Ar.**	**7.87**	**263**	P	**Pn**	**05 15 21.2**	**+0.5**
	baz=75,slow=14,SNR=26						
MDJ	**Mudanjiang**	**9.45**	**268**		**Pn**	**05 15 40.6**	**+0.8**
MJB9	**Matsu-Tunnel**	**9.79**	**203**		**Pn**	**05 15 44.8**	**+0.7**
MAJO	**Matsushiro**	**9.79**	**203**		**Pn**	**05 15 44.8**	**+0.6**
MAT	**Matsushiro**	**9.79**	**203**	P	**Pn**	**05 15 44.4**	**+0.2**
MAT				S	**S**	**05 17 31.4**	**-3.7**
MJAR	**Matsushiro Arr**	**9.79**	**203**	P	**Pn**	**05 15 45.0**	**+0.8**
	0.7nm,0.3s,baz=29,slow=9.8,SNR=34						
EKMR	**Ekimchan**	**9.81**	**322**	*e*P	**Pn**	**05 15 43.5**	**-0.6**
EKMR				AMB	AMB	05 15 44.9	
	18nm,0.8s						
INU	**Inuyama**	**11.25**	**205**		**Pn**	**05 16 01.8**	**0.0**
PETK	**Petropavlovsk-**	**12.16**	**47**	P	**Pn**	**05 16 11.1**	**-1.4**
	0.2nm,0.3s,baz=225,slow=12,SNR=4.3						
BMKR	**Bomnak**	**12.71**	**320**	*e*P	**P**	**05 16 19.7**	**+0.6**
BMKR				AMB	AMB	05 16 20.2	
	8.0nm,0.4s						
KROS	**Kirovskiy**	**13.42**	**316**	*e*P	**Pn**	**05 16 27.9**	**+0.4**
KROS				AMB	AMB	05 16 28.7	
	8.0nm,0.4s						
KSRS	**Korea Array**	**13.88**	**239**	P	**Pn**	**05 16 35.0**	**+1.9**
	0.4nm,0.3s,baz=46,slow=12,SNR=2.7						
MA2	**Magadan**	**14.69**	**16**	P	**P**	**05 16 41.0**	**+0.2**
	1.1nm,0.3s,baz=180,slow=6.3,SNR=6.6						
MA2	**Magadan**	**14.69**	**16**	P	**Pn**	**05 16 41.7**	**-0.6**
ULN	**Ulaanbaatar**	**24.49**	**288**	P	**P**	**05 18 19.6**	**+0.1**
ULN				IAmb	IAmb	05 18 20.0	
	comp=Z,3.5nm,0.5s						
SONM	**Songino Array**	**24.93**	**288**	P	**P**	**05 18 23.7**	**+0.2**
	comp=Z,2.2nm,0.6s,baz=78,slow=9.4,SNR=6.5						
CNBA	**Chernabura Isl**	**36.93**	**54**	P	**P**	**05 20 07.2**	**-0.1**
TTA	**Tatalina**	**37.89**	**41**	P	**P**	**05 20 15.5**	**+0.2**
SVW2	**Sparrevohn**	**38.22**	**44**	P	**P**	**05 20 18.6**	**+0.7**
OHAK	**Old Harbor**	**39.95**	**49**	P	**P**	**05 20 31.7**	**-0.5**
BPAW	**Bear Paw Mtn.**	**40.06**	**39**	P	**P**	**05 20 30.4**	**-2.7**
BPAW				PcP	**PcP**	**05 22 31.7**	**+1.1**
KTH	**Kantishna Hill**	**40.15**	**39**	P	**P**	**05 20 34.0**	**+0.2**
KTH				IAmb	IAmb	05 20 34.4	
	comp=Z,11nm,1.5s						
TOLK	**Toolik Lake Re**	**40.38**	**32**	P	**P**	**05 20 35.2**	**-0.5**
TRF	**Thorofare Moun**	**40.44**	**40**	P	**P**	**05 20 35.9**	**-0.4**
CNPM	**China Poot**	**40.57**	**46**	P	**P**	**05 20 37.5**	**+0.2**
MK31	**Makanchi Array**	**40.99**	**294**	P	**P**	**05 20 42.0**	**+1.2**
MKAR	**Makanchi Array**	**40.99**	**294**	P	**P**	**05 20 40.3**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=73,slow=7.1,SNR=8.7						
MKAR				PcP	**PcP**	**05 22 34.0**	**0.0**
	comp=Z,0.5nm,0.8s,baz=70,slow=3.9,SNR=2.5						
RC01	**Rabbit Creek A**	**41.03**	**43**	P	**P**	**05 20 39.3**	**-1.6**
RC01				IAmb	IAmb	05 20 53.4	
	comp=Z,20nm,1.3s						
RND	**Reindeer**	**41.09**	**40**	P	**P**	**05 20 41.0**	**-0.4**
RND				PcP	**PcP**	**05 22 34.7**	**+0.7**
PMR	**Palmer**	**41.23**	**42**	P	**P**	**05 20 42.5**	**0.0**
PMR				IAmb	IAmb	05 20 50.4	
	comp=Z,10nm,1.4s						
WRH	**Wood River Hil**	**41.28**	**38**	P	**P**	**05 20 41.9**	**-1.0**
GHO	**Glory Hole Cre**	**41.30**	**42**	P	**P**	**05 20 42.9**	**-0.3**
GHO				IAmb	IAmb	05 21 00.9	
	comp=Z,20nm,1.4s						
CCB	**Clear Creek Bu**	**41.38**	**38**	P	**P**	**05 20 42.7**	**-1.0**
IL31		**41.76**	**37**	P	**P**	**05 20 46.1**	**-0.5**
ILAR	**Eielson Array**	**41.76**	**37**	P	**P**	**05 20 45.8**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=272,slow=7.3,SNR=13						
DHY	**Denali Highway**	**41.80**	**40**	P	**P**	**05 20 46.3**	**-1.0**
DHY				IAmb	IAmb	05 20 48.2	
	comp=Z,12nm,1.4s						
DHY				PcP	**PcP**	**05 22 37.7**	**+1.2**
KURBB	**Kurchatov Arra**	**42.00**	**301**	P	**P**	**05 20 48.2**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=73,slow=8.7,SNR=7.3						
KURBB				PcP	**PcP**	**05 22 36.4**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=76,slow=3.4,SNR=6.6						
FYU	**Fort Yukon**	**42.20**	**34**	P	**P**	**05 20 49.7**	**-0.5**
FYU				IAmb	IAmb	05 20 50.7	
	comp=Z,10nm,1.3s						
PRP	**Porcupine Dome**	**42.22**	**36**	P	**P**	**05 20 50.2**	**-0.4**
RIDG	**Independent Ri**	**42.80**	**39**	P	**P**	**05 20 53.3**	**-1.9**
SCRK	**Sand Creek**	**43.13**	**38**	P	**P**	**05 20 56.2**	**-1.7**
DOT	**Dot Lake**	**43.16**	**39**	P	**P**	**05 20 57.5**	**-0.5**
VRDI	**Verde Repeater**	**43.98**	**42**	P	**P**	**05 21 05.4**	**+0.7**
VRDI				IAmb	IAmb	05 21 07.2	
	comp=Z,8.3nm,1.2s						
EGAK	**Eagle**	**44.17**	**37**	P	**P**	**05 21 04.9**	**-0.9**
BARN	**Barnard Glacie**	**44.87**	**42**	P	**P**	**05 21 12.2**	**+0.6**
EPYK	**Eagle Plains**	**45.59**	**34**	P	**P**	**05 21 16.7**	**-0.3**
EPYK				IAmb	IAmb	05 21 17.2	
	comp=Z,6.0nm,0.5s						
INK	**Inuvik**	**46.28**	**31**	P	**P**	**05 21 21.2**	**-1.0**
AAK	**Ala-Archa**	**47.78**	**292**	P	**P**	**05 21 34.6**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=184,slow=14,SNR=2.3						
AAK	**Ala-Archa**	**47.78**	**292**	P	**P**	**05 21 35.1**	**+0.7**
C36M	**Paulatuk**	**49.19**	**28**	P	**P**	**05 21 43.7**	**-0.6**
C36M				IAmb	IAmb	05 21 44.1	
	comp=Z,10nm,1.4s						
C36M				PcP	**PcP**	**05 23 02.2**	**+0.2**
KK31	**Karatay Array**	**50.12**	**295**	P	**P**	**05 21 51.5**	**-0.3**
CRAG	**Craig**	**51.09**	**47**	P	**P**	**05 22 00.9**	**+2.2**
SPITS	**Spitsbergen Ar**	**52.27**	**348**	P	**P**	**05 22 05.1**	**-2.0**
	comp=Z,0.9nm,0.6s,baz=64,slow=8.7,SNR=6.3						
RES	**Resolute Bay**	**53.96**	**16**	P	**P**	**05 22 18.3**	**-1.0**
RES				IAmb	IAmb	05 22 18.6	
	comp=Z,7.0nm,0.6s						
BBB	**Bella Bella**	**55.29**	**48**	P	**P**	**05 22 30.1**	**+1.0**
BBB				IAmb	IAmb	05 22 31.3	
	comp=Z,10.0nm,1.3s						
YKA	**Yellowknife Ar**	**55.86**	**33**	P	**P**	**05 22 32.6**	**-0.3**
	comp=Z,3.3nm,0.6s,baz=304,slow=6.7,SNR=30						
YKA				PcP	**PcP**	**05 23 26.9**	**-0.6**
	comp=Z,0.7nm,0.9s,baz=305,slow=2.5,SNR=3.6						
ARCES	**ARCESS Array B**	**56.33**	**338**	P	**P**	**05 22 35.6**	**-0.6**
	comp=Z,3.2nm,1.1s,baz=44,slow=4.0,SNR=1.6						
NLWA	**Neilton Lookou**	**60.24**	**51**	P	**P**	**05 23 05.3**	**+1.9**
NLWA				IAmb	IAmb	05 23 05.9	
	comp=Z,13nm,1.2s						
FIA1	**FINESS Array S**	**61.72**	**331**	P	**P**	**05 23 11.9**	**-1.1**
FIA1				IAmb	IAmb	05 23 12.4	
	comp=Z,4.4nm,0.6s						
FINES	**FINESS Array B**	**61.72**	**331**	P	**P**	**05 23 11.8**	**-1.2**
	comp=Z,3.5nm,0.5s,baz=47,slow=7.6,SNR=43						
SUMG	**Summit**	**62.03**	**0**	P	**P**	**05 23 14.7**	**-0.7**
SUMG				IAmb	IAmb	05 23 15.6	
	comp=Z,3.4nm,0.6s						
LTY	**Liberty**	**62.06**	**50**	P	**P**	**05 23 16.4**	**+0.7**
LTY				IAmb	IAmb	05 23 17.1	
	comp=Z,5.3nm,1.5s						
NEW	**Newport**	**63.30**	**47**	P	**P**	**05 23 24.9**	**+1.2**
NEW				IAmb	IAmb	05 23 25.2	
	comp=Z,2.7nm,0.7s						
WALA	**Waterton Lakes**	**64.42**	**45**	P	**P**	**05 23 32.0**	**+1.0**
WALA				IAmb	IAmb	05 23 32.2	
	comp=Z,2.8nm,1.0s						
K05A	**Summer Lake**	**64.78**	**54**	P	**P**	**05 23 35.4**	**+1.9**
K05A				IAmb	IAmb	05 23 36.9	
	comp=Z,6.9nm,1.2s						
BMO	**Blue Mountains**	**65.40**	**50**	P	**P**	**05 23 38.5**	**+1.2**
FCC	**Fort Churchill**	**65.82**	**29**	P	**P**	**05 23 39.3**	**-0.3**
MSO	**Missoula**	**65.87**	**47**	P	**P**	**05 23 41.5**	**+1.2**
FFC	**Fin Flon**	**65.91**	**35**	P	**P**	**05 23 40.6**	**+0.4**
NC405	**NORSAR Array S**	**66.45**	**336**	P	**P**	**05 23 42.8**	**-0.8**
NC303	**NORSAR Array S**	**66.45**	**337**	P	**P**	**05 23 42.7**	**-0.9**
NC204	**NORSAR Array S**	**66.58**	**337**	P	**P**	**05 23 43.4**	**-1.1**
NB201	**NORSAR Array S**	**66.62**	**337**	P	**P**	**05 23 43.8**	**-0.9**
NB2	**NORSAR Subarra**	**66.65**	**337**	P	**P**	**05 23 43.8**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=32,slow=6.9						
NOA	**NORSAR Array B**	**66.65**	**337**	P	**P**	**05 23 43.6**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=36,slow=6.3,SNR=12						
HFS	**Hagfors**	**66.68**	**335**	P	**P**	**05 23 43.8**	**-1.2**
	comp=Z,3.1nm,0.5s,baz=48,slow=6.6,SNR=28						
BEKR	**Beckworth**	**66.93**	**56**	P	**P**	**05 23 48.2**	**+1.0**
BEKR				IAmb	IAmb	05 23 48.7	
	comp=Z,4.3nm,1.2s						
EGMT	**Eagleton**	**67.16**	**44**	P	**P**	**05 23 49.1**	**+0.8**
EGMT				IAmb	IAmb	05 23 49.7	
	comp=Z,4.8nm,0.9s						
LRM	**Limekiln Ridge**	**67.31**	**47**	P	**P**	**05 23 50.4**	**+0.9**
DLMT	**Dillon**	**67.55**	**48**	P	**P**	**05 23 52.0**	**+1.1**
DLMT				IAmb	IAmb	05 23 52.6	
	comp=Z,4.1nm,0.7s						
PAHR	**Pah Rah Range**	**67.60**	**56**	P	**P**	**05 23 52.6**	**+1.3**
PAHR				IAmb	IAmb	05 23 53.1	
	comp=Z,3.7nm,0.9s						
BOZ	**Bozeman (W)**	**67.89**	**47**	P	**P**	**05 23 54.0**	**+1.0**
BOZ				IAmb	IAmb	05 23 54.5	
	comp=Z,2.8nm,0.6s						
YERR	**Yerington**	**68.16**	**56**	P	**P**	**05 23 56.4**	**+1.5**
YERR				IAmb	IAmb	05 23 56.8	
	comp=Z,5.1nm,1.0s						
AKASG	**Malin Array Be**	**68.18**	**321**	P	**P**	**05 23 53.8**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=35,slow=5.5,SNR=1.7						
KVN	**Kaiserville**	**68.78**	**56**	P	**P**	**05 23 59.8**	**+1.2**
KVN				IAmb	IAmb	05 24 00.6	
	comp=Z,3.4nm,0.7s						
NVAR	**Mina Array Bea**	**69.08**	**56**	P	**P**	**05 24 01.9**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=295,slow=6.6,SNR=11						
ASAR	**Alice Springs**	**69.51**	**189**	P	**P**	**05 24 04.9**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=8.4,slow=6.0,SNR=1.9						
R11A	**Troy Canyon, C**	**70.70**	**55**	P	**P**	**05 24 11.4**	**+1.1**
BW06	**Boulder Array**	**70.93**	**48**	P	**P**	**05 24 11.7**	**+0.1**
BW06				IAmb	IAmb	05 24 12.5	
	comp=Z,2.2nm,0.6s						
PD31	**Pinedale Array**	**70.93**	**48**	P	**P**	**05 24 12.2**	**+0.6**
PD31				IAmb	IAmb	05 24 12.5	
	comp=Z,2.0nm,0.6s						
PDAR	**Pinedale Array**	**70.93**	**48**	P	**P**	**05 24 12.1**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=297,slow=2.5,SNR=15						
TPNV	**Topopah Spring**	**71.28**	**56**	P	**P**	**05 24 15.0**	**+1.3**
TPNV				IAmb	IAmb	05 24 16.1	
	comp=Z,4.2nm,1.0s						
ULM	**Lac du Bonnet**	**71.73**	**35**	P	**P**	**05 24 15.4**	**-0.6**
	comp=Z,2.8nm,0.5s,baz=321,slow=7.0,SNR=3.9						
ULM	**Lac du Bonnet**	**71.73**	**35**	P	**P**	**05 24 15.5**	**-0.4**
ULM				IAmb	IAmb	05 24 15.9	
	comp=Z,3.6nm,0.6s						
MTPU	**Mount Pierson**	**72.84**	**53**	P	**P**	**05 24 24.9**	**+1.7**
SRU	**San Rafael Swe**	**73.00**	**51**	P	**P**	**05 24 25.5**	**+1.6**
U15A	**North Rim**	**73.92**	**54**	P	**P**	**05 24 30.9**	**+1.6**
U15A				IAmb	IAmb	05 24 31.6	
	comp=Z,2.7nm,0.8s						
BRTR	**Keskin Array B**	**73.98**	**311**	P	**P**	**05 24 29.6**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=68,slow=4.3,SNR=3.9						
B35A	**Bob, Littlefor**	**74.09**	**35**	P	**P**	**05 24 29.5**	**-0.2**
CLL	**Collm**	**74.14**	**330**	*e*P	**P**	**05 24 31.0**	**+1.1**
PV14	**Lion Creek, Pa**	**74.35**	**51**	P	**P**	**05 24 32.5**	**+0.8**
EYMN	**Ely**	**75.31**	**34**	P	**P**	**05 24 36.2**	**-0.5**
EYMN				IAmb	IAmb	05 24 37.7	
	comp=Z,3.1nm,0.7s						
GERES	**GERESS Array B**	**75.93**	**328**	P	**P**	**05 24 39.4**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=344,slow=3.3,SNR=2.8						
F36A	**Milaca**	**76.16**	**37**	P	**P**	**05 24 40.7**	**-0.8**
F36A				IAmb	IAmb	05 24 45.9	
	comp=Z,3.5nm,1.2s						
ECSD	**EROS Data Cent**	**76.50**	**40**	P	**P**	**05 24 43.4**	**-0.1**
ECSD				IAmb	IAmb	05 24 43.7	
	comp=Z,3.4nm,0.6s						
SCHQ	**Schefferville**	**76.73**	**17**	P	**P**	**05 24 44.1**	**-0.5**
	comp=Z,2.9nm,0.6s,baz=329,slow=3.8,SNR=9.3						
SCHQ	**Schefferville**	**76.73**	**17**	P	**P**	**05 24 44.4**	**-0.1**
VTS	**Vitosha**	**76.97**	**319**	P	**P**	**05 24 47.0**	**+0.8**
VTS				IAmb	IAmb	05 24 47.5	
	comp=Z,4.9nm,1.2s						
KBA	**Koelnbreinsper**	**77.54**	**327**	*i* P	**P**	**05 24 49.8**	**+0.5**
	comp=Z,2.3nm,0.4s						
I37A	**Lemond, Waseca**	**77.69**	**38**	P	**P**	**05 24 50.3**	**+0.3**
T25A	**Trinidad**	**77.73**	**49**	P	**P**	**05 24 51.2**	**+0.6**
T25A				IAmb	IAmb	05 24 51.9	
	comp=Z,1.8nm,0.7s						
COWI	**Conover**	**77.75**	**34**	P	**P**	**05 24 49.9**	**-0.5**
COWI				IAmb	IAmb	05 24 50.4	
	comp=Z,4.1nm,1.1s						
WATA	**Walderalm**	**77.98**	**329**	*e*P	**P**	**05 24 51.9**	**+0.2**
	comp=Z,4.5nm,0.7s						
G40A	**

WHZ	**Wether Hill Ro**	**19.72**	**213**		**P**		**05 18 38.3**	**-0.3**
WHZ				IAmb	IAmb		05 18 43.0	
	comp=Z,5.9nm,1.0s							
ASAR	**Alice Springs**	**43.99**	**266**	P	**P**		**05 22 17.9**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=109,slow=7.4,SNR=5.7							
WB2	**Warramunga Arr**	**44.94**	**271**	P	**P**		**05 22 25.6**	**+1.4**
WB2				IAmb	IAmb		05 22 27.5	
	comp=Z,15nm,1.4s							
WRA	**Warramunga Arr**	**44.95**	**271**	P	**P**		**05 22 25.5**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=111,slow=7.7,SNR=5.6							
WB0	**Warramunga Arr**	**44.98**	**272**	P	**P**		**05 22 26.1**	**+1.6**
FINES	**FINESS Array B**	**145.11**	**341**	PKPbc	**PKPdf**		**05 33 46.8**	**+1.2**
	comp=Z,1.5nm,0.8s,baz=21,slow=5.1,SNR=7.2							

*IDC **07** 05:19:44.3±1.3,28.6°N×142.1°E±0.3,* **h36**km**,n17,**
σ0.99/14,mb4.0/10,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MJAR	**Matsushiro Ar**	**8.52**	**339**	Pn	**Pn**		**05 21 50.2**	**-0.6**
	0.1nm,0.3s,baz=163,slow=13,SNR=5.3							
MAJO	**Matsushiro**	**8.52**	**339**	Pn	**Pn**		**05 21 51.0**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**24.30**	**106**	T	T		05 49 46.0	
	baz=299,slow=75							
H11N1	**WAKE ISLAND Hy**	**24.30**	**106**	T	T		05 49 36.9	
	baz=299,slow=75							
H11N3	**WAKE ISLAND Hy**	**24.31**	**106**	T	T		05 49 44.7	
	baz=299,slow=75							
COEN	**Coen**	**42.36**	**178**	P	**P**		**05 27 41.7**	**+0.9**
ZALV	**Zalesovo Beam**	**48.26**	**318**	P	**P**		**05 28 26.9**	**-0.2**
	1.3nm,0.7s,baz=98,slow=10,SNR=5.5							
WB0	**Warramunga Arr**	**48.69**	**190**		**P**		**05 28 29.6**	**-1.3**
WB0				IAmb	IAmb		05 28 36.8	
	comp=Z,9.3nm,1.2s							
WB2	**Warramunga Arr**	**48.87**	**190**	P	**P**		**05 28 30.7**	**-1.5**
WB2				IAmb	IAmb		05 28 31.6	
	comp=Z,6.2nm,0.9s							
WRA	**Warramunga Arr**	**48.87**	**190**	P	**P**		**05 28 30.5**	**-1.7**
	comp=Z,1.7nm,0.7s,baz=17,slow=8.9,SNR=5.7							
MK31	**Makanchi Array**	**49.41**	**309**	P	**P**		**05 28 35.8**	**-0.4**
MKAR	**Makanchi Array**	**49.41**	**309**	P	**P**		**05 28 36.3**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=95,slow=9.7,SNR=10							
MAKZ	**Makanchi**	**49.63**	**309**	P	**P**		**05 28 38.8**	**+1.0**
MAKZ				IAmb	IAmb		05 28 44.5	
	comp=Z,1.3nm,0.8s							
ASAR	**Alice Springs**	**52.60**	**189**	P	**P**		**05 29 01.1**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=16,slow=11,SNR=2.5							
ILAR	**Eielson Array**	**56.42**	**29**	P	**P**		**05 29 27.3**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=255,slow=6.4,SNR=2.6							
FINES	**FINESS Array B**	**76.51**	**334**	P	**P**		**05 31 36.9**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=63,slow=6.4,SNR=3.7							
BRTR	**Keskin Array B**	**84.87**	**313**	P	**P**		**05 32 20.8**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=90,slow=5.6,SNR=5.7							

IDC 07 05:30:54.8±2.7,14.89N×54.14E,h0km**,mb3.6/5,**
mb1 3.7/5,mb1mx3.4/34,mbtmp3.6/5,Error ellipse:
s-maj=76.1km s-min=42.6km az=58.0,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MKAR	**Makanchi Array**	**39.53**	**31**	P	P		05 38 27.1	-0.3
	0.2nm,0.5s,baz=216,slow=9.6,SNR=2.4							
ZALV	**Zalesovo Beam**	**45.77**	**25**	P	P		05 39 18.1	+0.1
	0.2nm,0.3s,baz=243,slow=6.3,SNR=1.1							
FINES	**FINESS Array B**	**50.66**	**343**	P	P		05 39 55.2	-0.4
	0.8nm,0.6s,baz=140,slow=11,SNR=4.2							
ARCES	**ARCESS Array B**	**57.48**	**348**	P	P		05 40 45.5	+0.2
	1.3nm,0.9s,baz=145,slow=5.2,SNR=1.6							
H01W3	**Cape Leeuwin H**	**75.40**	**133**	T	T		07 04 20.5	
	baz=301,slow=75,SNR=8.2							
H01W2	**Cape Leeuwin H**	**75.41**	**133**	T	T		07 04 34.1	
	baz=301,slow=75,SNR=9.7							
H01W1	**Cape Leeuwin H**	**75.42**	**133**	T	T		07 04 31.5	
	baz=301,slow=75,SNR=9.5							
ASAR	**Alice Springs**	**86.82**	**115**	P	P		05 43 41.7	0.0
	0.3nm,0.8s,baz=298,slow=5.9,SNR=2.0							

*IDC **07** 05:40:45.6±1.2,14.81N×54.76E,h0km,mb3.7/8,*
mb1 3.9/8,mb1mx3.6/43,mbtmp3.7/8,Error ellipse:
s-maj=35.5km s-min=28.0km az=28.0
IDC 07 05:40:47.0±1.2,14.8N±0.2×54.8E±0.2,h10km**,n12,**
σ1.926/9,mb3.7/8,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MKAR	**Makanchi Array**	**39.28**	**30**	P	**P**		**05 48 14.2**	**-1.9**
	0.2nm,0.4s,baz=210,slow=8.3,SNR=1.9							
ZALV	**Zalesovo Beam**	**45.58**	**24**	P	**P**		**05 49 09.0**	**+1.9**
	0.4nm,0.4s,baz=213,slow=10,SNR=2.1							
FINES	**FINESS Array B**	**50.91**	**343**	P	**P**		**05 49 48.9**	**+0.8**
	1.3nm,0.6s,baz=133,slow=12,SNR=6.1							
TORD	**Torodi Ar. Bea**	**51.43**	**275**	P	**P**		**05 49 52.4**	**-0.4**
	0.6nm,0.8s,baz=84,slow=6.5,SNR=3.5							
ESDC	**Sonseca Array**	**56.70**	**308**	P	**P**		**05 50 30.7**	**-0.3**
	0.4nm,0.6s,baz=80,slow=9.2,SNR=4.2							
ARCES	**ARCESS Array B**	**57.67**	**348**	P	**P**		**05 50 36.5**	**-0.8**
	0.5nm,0.6s,baz=159,slow=8.7,SNR=1.4							
H01W3	**Cape Leeuwin H**	**74.91**	**133**	T	T		07 14 23.0	
	baz=301,slow=76,SNR=13							
H01W2	**Cape Leeuwin H**	**74.91**	**133**	T	T		07 14 14.9	
	baz=301,slow=76,SNR=19							
H01W1	**Cape Leeuwin H**	**74.92**	**133**	T	T		07 14 15.9	
	baz=301,slow=76,SNR=24							
WRA	**Warramunga Arr**	**85.50**	**112**	P	**P**		**05 53 25.9**	**+0.1**
	0.6nm,0.8s,baz=289,slow=3.6,SNR=1.6							
ASAR	**Alice Springs**	**86.23**	**116**	P	**P**		**05 53 29.4**	**0.0**
	1.0nm,0.8s,baz=296,slow=4.2,SNR=5.7							
NVAR	**Mina Array Bea**	**126.63**	**353**	PKP	**PKiKP**		**05 59 52.8**	**+0.9**
	0.6nm,0.8s,baz=345,slow=1.0,SNR=4.3							

IDC 07 05:46:38.8±1.8,14.42N×54.50E,h0km**,mb3.8/5,**
mb1 3.9/5,mb1mx3.5/42,mbtmp3.8/5,MS4.7/1,Ms1 4.7/1,
ms1mx3.5/56,Error ellipse: s-maj=51.2km
s-min=35.7km az=43.0,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
MKAR	**Makanchi Array**	**39.76**	**30**	P	P		05 54 14.2	+0.9
	0.3nm,0.5s,baz=224,slow=9.8,SNR=2.4							
ZALV	**Zalesovo Beam**	**46.05**	**24**	P	P		05 55 02.8	-1.3
	0.5nm,0.4s,baz=231,slow=9.1,SNR=2.4							
FINES	**FINESS Array B**	**51.20**	**343**	P	P		05 55 43.7	0.0
	1.7nm,0.7s,baz=150,slow=8.8,SNR=7.6							
TLY	**Talaya**	**53.97**	**36**	LR	LR		06 21 54.3	
	comp=Z,670nm,20.9s,baz=10,slow=39							
ESDC	**Sonseca Array**	**56.73**	**308**	P	P		05 56 24.5	-0.1
	0.6nm,0.8s,baz=94,slow=5.3,SNR=2.0							
H01W3	**Cape Leeuwin H**	**74.83**	**133**	T	T		07 20 06.7	
	baz=300,slow=76,SNR=7.3							
H01W2	**Cape Leeuwin H**	**74.84**	**133**	T	T		07 20 07.8	
	baz=300,slow=76,SNR=8.6							
H01W1	**Cape Leeuwin H**	**74.85**	**133**	T	T		07 20 07.9	
	baz=300,slow=76,SNR=8.5							
ASAR	**Alice Springs**	**86.30**	**115**	P	P		05 59 23.2	0.0
	0.4nm,0.5s,baz=285,slow=5.4,SNR=2.5							

*UCR **07** 05:54:11.9±0.9,12.86N×88.93W,h40km±28km,ML3.5*
*INET **07** 05:54:11.9,12.87N×88.89W,h30km,ML2.8*
*SNET **07** 05:54:11.7±0.9,12.85N×88.93W,h40km±26km,MB,ML3.5*
ISC 07 05:54:10.8±2.3,12.8N±0.1×88.94W±0.04,h32km**±12**km**,**
n44,σ0.35/68,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
ALJI	**Alcalda de J**	**0.65**	**34**	*e*P	**Pb**		**05 54 23.7**	**-0.1**
ALJI				*e*S	**Sb**		**05 54 33.5**	**+0.9**
ALJI	**Alcalda de J**	**0.65**	**34**	*e*P	**Pb**		**05 54 23.7**	**-0.1**
ALJI				*e*S	**Sb**		**05 54 33.5**	**+0.9**
LALI	**Alcalda de L**	**0.79**	**332**	*e*P	**Pn**		**05 54 25.7**	**-0.1**
LALI				*e*S	**Sb**		**05 54 35.7**	**-0.8**
LALI	**Alcalda de L**	**0.79**	**332**	*e*P	**Pn**		**05 54 25.7**	**-0.1**
LALI				*e*S	**Sb**		**05 54 35.7**	**-0.8**
COEB	**Comit de Eme**	**0.81**	**30**	*e*P	**Pn**		**05 54 26.0**	**-0.2**
COEB				*e*S	**Sb**		**05 54 37.4**	**+0.1**
COEB				IAML			05 54 39.7	
	comp=Z,2μm,0.3s							
COEB	**Comit de Eme**	**0.81**	**30**	*e*P	**Pn**		**05 54 26.0**	**-0.2**
COEB				*e*S	**Sb**		**05 54 37.4**	**+0.1**
COEB				IAML			05 54 39.7	
	comp=Z,2μm,0.3s							
JUCU	**Jucuarįn**	**0.82**	**56**	*e*P	**Pn**		**05 54 26.0**	**-0.3**
JUCU				*e*S	**Sb**		**05 54 37.1**	**-0.4**
JUCU				IAML			05 54 40.3	
	comp=Z,1μm,0.3s							
JUCU	**Jucuarįn**	**0.82**	**56**	*e*P	**Pn**		**05 54 26.0**	**-0.3**
JUCU				*e*S	**Sb**		**05 54 37.1**	**-0.4**
JUCU				IAML			05 54 40.3	
	comp=Z,1μm,0.3s							
TECA	**Tecapa**	**0.82**	**31**	*e*P	**Pn**		**05 54 26.4**	**-0.1**
TECA	**Tecapa**	**0.82**	**31**	*e*P	**Pn**		**05 54 26.4**	**-0.1**
LFRS	**El Faro**	**0.84**	**352**	*e*P	**Pn**		**05 54 26.1**	**-0.5**
LFRS	**El Faro**	**0.84**	**352**	*e*P	**Pn**		**05 54 26.1**	**-0.5**
UESV	**Universidad de**	**0.86**	**10**	*e*P	**Pn**		**05 54 26.6**	**-0.2**
UESV				*e*S	**Sn**		**05 54 38.2**	**0.0**
UESV	**Universidad de**	**0.86**	**10**	*e*P	**Pn**		**05 54 26.6**	**-0.2**
UESV				*e*S	**Sn**		**05 54 38.2**	**0.0**
LCY	**Lacayo**	**0.89**	**45**	*e*P	**Pn**		**05 54 27.5**	**+0.2**
LCY	**Lacayo**	**0.89**	**45**	*e*P	**Pn**		**05 54 27.5**	**+0.2**
AEIL	**Aeropuerto Ilo**	**0.92**	**349**	*e*P	**Pn**		**05 54 27.9**	**+0.2**
AEIL				*e*S	**Sn**		**05 54 40.6**	**+0.7**
AEIL				IAML			05 54 47.3	
	comp=Z,2μm,0.2s							
AEIL	**Aeropuerto Ilo**	**0.92**	**349**	*e*P	**Pn**		**05 54 27.9**	**+0.2**
AEIL				*e*S	**Sn**		**05 54 40.6**	**+0.7**
AEIL				IAML			05 54 47.3	
	comp=Z,2μm,0.2s							
PAVA	**Las Pavas**	**0.92**	**0**	*e*P	**Pn**		**05 54 27.7**	**-0.1**
PAVA				*e*S	**Sn**		**05 54 40.0**	**0.0**
PAVA	**Las Pavas**	**0.92**	**0**	*e*P	**Pn**		**05 54 27.7**	**-0.1**
PAVA				*e*S	**Sn**		**05 54 40.0**	**0.0**
SNET	**Serv Nac Est T**	**0.94**	**343**	*e*P	**Pn**		**05 54 27.7**	**-0.2**
SNET	**Serv Nac Est T**	**0.94**	**343**	*e*P	**Pn**		**05 54 27.7**	**-0.2**
BLLM	**Bellamira**	**0.95**	**46**	*e*P	**Pn**		**05 54 28.1**	**0.0**
BLLM	**Bellamira**	**0.95**	**46**	*e*P	**Pn**		**05 54 28.1**	**0.0**
LBRS	**Las Brisas**	**0.95**	**354**	*e*P	**Pn**		**05 54 28.2**	**+0.1**
LBRS	**Las Brisas**	**0.95**	**354**	*e*P	**Pn**		**05 54 28.2**	**+0.1**
OPAM	**Oficina de Pla**	**0.95**	**345**	*e*P	**Pn**		**05 54 28.0**	**-0.1**
OPAM				*e*S	**Sn**		**05 54 40.4**	**-0.2**
OPAM	**Oficina de Pla**	**0.95**	**345**	*e*P	**Pn**		**05 54 28.0**	**-0.1**
OPAM				*e*S	**Sn**		**05 54 40.4**	**-0.2**
UEES	**Universidad Ev**	**0.97**	**343**	*e*P	**Pn**		**05 54 28.2**	**-0.2**
UEES				*e*S	**Sn**		**05 54 40.9**	**-0.1**
UEES	**Universidad Ev**	**0.97**	**343**	*e*P	**Pn**		**05 54 28.2**	**-0.2**
UEES				*e*S	**Sn**		**05 54 40.9**	**-0.1**
BOQS	**Boqueron**	**1.00**	**341**	*e*P	**Pn**		**05 54 28.9**	**0.0**
BOQS	**Boqueron**	**1.00**	**341**	*e*P	**Pn**		**05 54 28.9**	**0.0**
LCND	**La Caada**	**1.15**	**63**	*e*P	**Pn**		**05 54 30.7**	**0.0**
LCND				*e*S	**Sn**		**05 54 45.5**	**+0.1**
LCND				IAML			05 54 47.9	
	comp=Z,1μm,0.2s							
LCND	**La Caada**	**1.15**	**63**	*e*P	**Pn**		**05 54 30.7**	**0.0**
LCND				*e*S	**Sn**		**05 54 45.5**	**+0.1**
LCND				IAML			05 54 47.9	
	comp=Z,1μm,0.2s							
SBLS	**San Blas**	**1.24**	**328**	*e*P	**Pn**		**05 54 32.9**	**+0.7**
SBLS	**San Blas**	**1.24**	**328**	*e*P	**Pn**		**05 54 32.9**	**+0.7**
TACO	**Tacachico**	**1.24**	**341**	*e*P	**Pn**		**05 54 32.1**	**0.0**
TACO				*e*S	**Sn**		**05 54 48.1**	**+0.3**
TACO	**Tacachico**	**1.24**	**341**	*e*P	**Pn**		**05 54 32.1**	**0.0**
TACO				*e*S	**Sn**		**05 54 48.1**	**+0.3**
SNJE	**San Jose**	**1.25**	**329**	*e*P	**Pn**		**05 54 32.8**	**+0.4**
SNJE	**San Jose**	**1.25**	**329**	*e*P	**Pn**		**05 54 32.8**	**+0.4**
RTR	**El Retiro**	**1.30**	**328**	*e*P	**Pn**		**05 54 33.7**	**+0.7**
RTR	**El Retiro**	**1.30**	**328**	*e*P	**Pn**		**05 54 33.7**	**+0.7**
NUBE	**Las Nubes**	**1.38**	**324**	*e*P	**Pn**		**05 54 34.2**	**+0.2**
NUBE				*e*S	**Sn**		**05 54 51.1**	**-0.1**
NUBE				IAML			05 54 52.5	
	comp=Z,623nm,0.1s							
NUBE	**Las Nubes**	**1.38**	**324**	*e*P	**Pn**		**05 54 34.2**	**+0.2**
NUBE				*e*S	**Sn**		**05 54 51.1**	**-0.1**
NUBE				IAML			05 54 52.5	
	comp=Z,623nm,0.1s							

*IDC **07** 05:54:51.8±2.6,27.27S×134.96E,h0km,mb1 3.4/4,*
mb1mx3.3/44,mbtmp3.2/4,ML3.0/4,Error ellipse:
s-maj=35.6km s-min=16.7km az=57.0
*AUST **07** 05:54:53.7±1.0,27.25S×135.09E,h4km±7km,Error*
ellipse: s-maj=8.1km s-min=3.6km az=82.0
ISC 07 05:54:52.8±0.8,27.20S±0.05×135.12E±0.07,h10km**,n10,**
σ3.913/19,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
OOD	**Oodnadatta**	**0.78**	**140**	P	**Pg**		**05 55 08.5**	**+0.7**
	baz=0.8							
OOD				S	**Sg**		**05 55 18.8**	**+0.8**
	baz=0.8							
MULG	**Mulgathing**	**3.21**	**197**	P	**Pn**		**05 55 44.6**	**+1.3**
	baz=3.2							
MULG				S	**Sn**		**05 56 23.7**	**+2.1**
	baz=3.2							
ASAR	**Alice Springs**	**3.69**	**342**	Pn	**Pn**		**05 55 52.1**	**+2.2**
	0.5nm,0.3s,baz=173,slow=8.0,SNR=20							
ASAR				Pg	**Pb**		**05 56 01.3**	**+3.1**
	1.0nm,0.3s,baz=162,slow=16,SNR=20							
ASAR				Sn	**Sn**		**05 56 34.1**	**+0.6**
	1.3nm,0.3s,baz=166,slow=23,SNR=11							
ASAR				Lg	Lg		05 56 49.0	
	1.3nm,0.3s,baz=170,slow=25,SNR=4.7							
LCRK	**Leigh Creek**	**4.22**	**141**	P	**Pn**		**05 55 58.7**	**+1.5**
	baz=4.2							
BBOO	**Buckleboo**	**5.65**	**172**	P	**Pn**		**05 56 17.0**	**+0.2**
	baz=5.6							
BBOO				S	**Sn**		**05 57 18.1**	**-3.7**
	baz=5.6							
WC3	**Warramunga Arr**	**7.24**	**354**	P	**Pn**		**05 56 41.3**	**+2.5**
	baz=7.3							
WRA	**Warramunga Arr**	**7.26**	**354**	Pn	**Pn**		**05 56 38.9**	**-0.1**
	0.3nm,0.3s,baz=170,slow=14,SNR=2.2							
WRA				Sn	**Sn**		**05 57 58.6**	**-3.0**
	0.6nm,0.3s,baz=180,slow=10,SNR=8.0							
WRA				Lg	Lg		05 58 40.2	
	0.5nm,0.3s,baz=179,slow=28,SNR=5.0							
STKA	**Stephens Creek**	**7.31**	**131**	P	**Pn**		**05 56 41.2**	**+1.4**
	baz=7.3							
STKA				S	**Sn**		**05 57 58.9**	**-3.9**
	baz=7.3							
STKA	**Stephens Creek**	**7.31**	**131**	Pn	**Pn**		**05 56 41.1**	**+1.4**
	0.1nm,0.3s,baz=304,slow=13,SNR=1.7							
STKA				Sn	**Sn**		**05 57 58.2**	**-4.6**
	0.6nm,0.3s,baz=315,slow=17,SNR=4.8							
STKA				Lg	Lg		05 58 43.3	
	0.8nm,0.3s,baz=60,slow=22,SNR=3.5							
FITZ	**Fitzroy Crossi**	**12.59**	**314**	Pn	**Pn**		**05 57 52.3**	**+0.2**
	0.1nm,0.3s,baz=132,slow=14,SNR=1.2							
FITZ				Sn	**Sn**		**06 00 04.5**	**-7.9**
	0.1nm,0.3s,baz=308,slow=23,SNR=1.9							

*NNC **07** 06:05:25.6±1.2,40.95N×50.96E,h0km,mb5.8,Error*
ellipse: s-maj=15.1km s-min=9.5km az=176.0
*THR **07** 06:05:26.5±0.9,40.30N×51.55E,h14km±999km,ML5.6*
*BJI **07** 06:05:27.5±0.0,40.32N×51.08E,h45km,mB5.2/55,*
mb5.5/82,Ms5.2/83,Ms7 5.0/77
*MOS **07** 06:05:28.3±1.0,40.43N×51.59E,h29km,mb5.7/81,*
MS4.8/67,Error ellipse: s-maj=3.6km s-min=3.0km
az=35.0 Broadband fault plane solution: P waves.
M0 4.20000×10^17 NP1:φs136.00000°,δ22.00000°,
λ-61.00000°. NP2:φs285.00000°,δ71.00000°,
λ-101.00000°. Principal axes: T Plg25.0000°,
Azm23.0000°; N Plg11.0000°, Azm288.0000°; P
Plg62.0000°, Azm178.0000°;
*GII **07** 06:05:28.0±0.0,40.33N×51.58E,h12km*
*AZER **07** 06:05:29.2,40.14N×51.65E,h55km,ML5.6*
*IDC **07** 06:05:29.7±1.7,40.29N×51.53E,h30km±12km,mb5.1/50,*
mb1 5.1/63,mb1mx5.1/67,mbtmp5.3/63,ML4.9/10,
MS4.8/44,Ms1 4.8/44,ms1mx4.7/60,Error ellipse:
s-maj=9.0km s-min=6.5km az=172.0
*NEIC **07** 06:05:29.9±1.5,40.37N±0.06×51.57E±0.07,h31km±3km,*
mb5.5/323,Ms_20 5.0/479,Mwc5.5(GCMT),Error ellipse:
s-maj=8.9km s-min=7.2km az=198.0
*UNK **07** 06:05:30.6,40.37N×51.58E,h35km*
*TEH **07** 06:05:31.0,40.42N×51.62E,h25km,ML5.6*
*GCMT **07** 06:05:33.9±0.1,40.58N±0.01×51.70E±0.01,h46km±1km,*
MW5.4/136,Moment Tensor Solution. s102,c147;
s136,c254; Duration: 1s2 Moment tensor: Scale 10^17
Nm; Mrr-0.83±.03; Mθθ 1.08±.02; Mφφ-0.25±.02;
Mrθ 1.07±.03; Mrφ-0.57±.01; Mθr-0.19±.02; Best double
couple: M0 1.52400×10^17 NP1:φs127.00000°,δ24.00000°,
λ-64.00000°. NP2:φs280.00000°,δ68.00000°,
λ-101.00000°. Principal axes: T 1.7370, Plg23.0000°,
Azm18.0000°; N -0.4290, Plg10.0000°, Azm284.0000°; P
-1.3110, Plg65.0000°, Azm171.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
*NEIC **07** 06:05:36,40.63N×51.66E,h41km,Moment Tensor*
Solution. Moment tensor: Scale 10^17Nm; Mrr-1.06;
Mθθ 1.21; Mφφ-0.16; Mrθ 1.19; Mφθ-0.51; Mφr-0.20; Fault
plane solution: M0 1.74000×10^17 NP1:φs119.00000°,
δ24.00000°,λ-73.00000°. NP2:φs281.00000°,δ68.00000°,
λ-97.00000°. Principal axes: T 1.8701, Plg22.0000°,
Azm16.0000°; N -0.3026, Plg7.0000°, Azm284.0000°; P
-1.5675, Plg67.0000°, Azm178.0000°;
*BGR **07** 06:05:40.3±0.0,40.38N×50.19E,h33km,mb5.5,Ms4.4*
ISC 07 06:05:30.9±0.3,40.29N±0.02×51.57E±0.02,h41km**±2**km**,**
h41km**:pP-P,n2104,σ1.955/2084,mb5.5/376,MS5.0/357,**
89C-98D,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GALA	**Gala**	**1.09**	**277**	P	**Pn**		**06 05 53.3**	**+3.7**
	SNR=423							
GALA				S	**Sn**		**06 06 08.7**	**+5.2**
GALA	**Gala**	**1.09**	**277**	*e*Pg	**Pn**		**06 05 53.3**	**+3.7**
NDR	**Nardaran**	**1.24**	**284**	P	**Pn**		**06 05 55.3**	**+3.6**
	SNR=66							
NDR				S	**Sn**		**06 06 12.5**	**+5.2**
NDR	**Nardaran**	**1.24**	**284**	*e*Pg	**Pn**		**06 05 55.3**	**+3.6**
GOBA	**Gobu**	**1.41**	**275**	Pn	**Pn**		**06 05 57.8**	**+3.7**
	SNR=24							
GOBA				Sn	**Sn**		**06 06 15.4**	**+4.0**
GOBA	**Gobu**	**1.41**	**275**	*e*Pn	**Pn**		**06 05 57.2**	**+3.1**
ALIB	**Äli-Bayra**	**1.99**	**261**	Pn	**Pn**		**06 06 05.2**	**+3.1**
	SNR=21							
ALIB				Sg	**Sn**		**06 06 34.4**	**+8.6**
ALIB	**Äli-Bayra**	**1.99**	**261**	*e*Pn	**Pn**		**06 06 05.2**	**+3.1**
GBS	**Qobustan**	**2.02**	**278**	Pn	**Pn**		**06 06 05.1**	**+2.5**
	SNR=43							
GBS				Sg	Sn		06 06 38.7	+12
ATGJ	**Altiaghaj**	**2.08**	**287**	Pn	**Pn**		**06 06 05.2**	**+1.7**
	SNR=110							
ATGJ				Sn	**Sn**		**06 06 34.0**	**+5.8**
SIZA	**Siyzn**	**2.17**	**292**	Pn	**Pn**		**06 06 06.7**	**+2.0**
	SNR=516							
SIZA				Sn	**Sn**		**06 06 36.0**	**+5.6**
PQL	**Pirkuli**	**2.32**	**283**	Pn	**Pn**		**06 06 08.4**	**+1.6**
	SNR=305							
PQL				Sn	**Sn**		**06 06 36.3**	**+2.2**
SAAT	**Saatly**	**2.45**	**261**	Pn	**Pn**		**06 06 10.7**	**+2.3**
	SNR=40							
SAAT				Sn	**Sn**		**06 06 40.8**	**+3.7**
QUBA	**Quba, Azerbaij**	**2.56**	**295**	Pn	**Pn**		**06 06 11.9**	**+2.0**
	SNR=156							
QUBA				Sn	**Sn**		**06 06 42.6**	**+2.6**
KDMR	**Kurdemir**	**2.59**	**273**	Pn	**Pn**		**06 06 11.3**	**+1.0**
	SNR=56							
KDMR				Sn	**Sn**		**06 06 42.9**	**+2.4**
IML	**Ismayilli**	**2.63**	**282**	Pn	**Pn**		**06 06 11.9**	**+1.0**
	SNR=47							
IML				Sn	**Sn**		**06 06 43.9**	**+2.4**
GLBA	**Clilabad**	**2.66**	**248**	Pn	**Pn**		**06 06 11.5**	**+0.2**
	SNR=245							
GLBA				Sn	**Sn**		**06 06 42.8**	**+0.5**
GLBA	**Clilabad**	**2.66**	**248**	*e*Pn	**Pn**		**06 06 11.8**	**+0.5**
LKRN	**Lenkeran, Azer**	**2.67**	**235**	Pn	**Pn**		**06 06 11.6**	**+0.1**
	SNR=154							
LKRN				Sn	**Sn**		**06 06 41.7**	**-0.9**
LKRN	**Lenkeran, Azer**	**2.67**	**235**	*e*Pn	**Pn**		**06 06 11.6**	**+0.1**
XNQ	**Khinaliq**	**2.75**	**290**	Pn	**Pn**		**06 06 13.9**	**+1.2**
	SNR=548							
XNQ				Sn	**Sn**		**06 06 46.7**	**+1.9**
ASTR	**Astara**	**2.76**	**232**	Pn	**Pn**		**06 06 12.5**	**-0.1**
	SNR=357							
ASTR				Sn	**Sn**		**06 06 43.5**	**-1.2**
ASTR	**Astara**	**2.76**	**232**	*e*Pn	**Pn**		**06 06 12.5**	**-0.1**
QSAR	**Qusar**	**2.79**	**297**	Pn	**Pn**		**06 06 15.0**	**+2.0**
	SNR=381							
QSAR				Sn	**Sn**		**06 06 47.4**	**+1.9**
QBL	**Gabala**	**2.91**	**284**	Pn	**Pn**		**06 06 15.5**	**+0.7**
	SNR=477							
QBL				Sn	**Sn**		**06 06 50.5**	**+1.9**
YRD	**Yardimli**	**2.92**	**243**	Pn	**Pn**		**06 06 14.5**	**-0.4**
	SNR=73							
YRD				Sn	**

IDMV **Damavand** 4.72 175 *e*Pn Pn **06 06 41.9 +2.0**
QZX **Qazax, Azerbai** 4.77 281 Pn Pn **06 06 40.0 -0.3**
SNR=112
QZX Sn Sn **06 07 33.9 -0.5**
IMRD **Marand** 4.80 253 *e*Pn Pn **06 06 41.9 +1.0**
NAX **Nakhchivan** 4.81 259 Pn Pn **06 06 42.3 +1.3**
SNR=30
NAX Sn Sn **06 07 37.8 +2.3**
QABG **Abgarm-Qazvin** 4.84 200 *e*Pn Pn **06 06 40.2 -1.2**
IHSB **Hasanabad** 4.85 183 *e*Pn Pn **06 06 42.8 +1.3**
ILAS **Lasjerd** 5.03 167 *e*Pn Pn **06 06 45.4 +1.4**
IRAZ **Razeghan** 5.05 195 *e*Pn Pn **06 06 44.2 -0.1**
IAZR **Azarshahr** 5.08 241 *e*Pn Pn **06 06 46.0 +1.3**
IANJ **Anjilo** 5.16 158 *e*Pn Pn **06 06 47.6 +1.7**
HYR **Heyderabad** 5.19 266 Pn Pn **06 06 48.0 +1.9**
SNR=28
HYR Sn Sn **06 07 47.2 +2.5**
GROC **Groznyy** 5.20 306 *e*PN Pn **06 06 48.3 +2.1**
GROC *e* 06 07 48.3
GROC pmax pmax
comp=Z,2µm,0.6s
GROC smax smax
comp=N,3µm,0.6s
GROC smax smax
comp=N,3µm,0.6s
BJRD **Bojnurd** 5.24 118 *e*Pn Pn **06 06 46.9 +0.1**
BJRD **Bojnurd** 5.24 118 *e*Pn Pn **06 06 46.9 +0.1**
IVRN **Varamin** 5.29 179 *e*Pn Pn **06 06 48.8 +1.3**
BTNK **Botanikuri** 5.31 287 P Pn **06 06 47.6 -0.1**
BTNK S Sn **06 07 46.0 -1.5**
SEAG **Tbilisi Sea** 5.32 288 P Pn **06 06 48.7 +0.9**
SEAG S Sn **06 07 47.7 -0.3**
MAKU **Maku** 5.38 262 *e*Pn Pn **06 06 49.5 +0.7**
MAKU **Maku** 5.38 262 *e*Pn Pn **06 06 49.5 +0.7**
IQOM **Qom** 5.46 184 *e*Pn Pn **06 06 50.7 +0.7**
SHRO **Shahrood** 5.54 139 *e*P Pn **06 06 51.9 +0.9**
SHRO **Shahrood** 5.54 139 *e*Pn Pn **06 06 51.9 +0.9**
KZRT **Kazreti** 5.55 284 P Pn **06 06 50.2 -0.7**
GEYT **Alibeck** 5.61 113 Pn Pn **06 06 51.4 -0.5**
comp=N,23nm,0.3s,baz=287,slow=17,SNR=327
GEYT Sn Sn **06 07 49.0 -6.2**
comp=N,114nm,0.3s,baz=288,slow=17,SNR=6.0
GEYT Lg Lg 06 08 38.3
comp=N,36nm,0.3s,baz=276,slow=33,SNR=2.8
GEYT LR LR 06 09 39.8
comp=N,7µm,20.7s,baz=250,slow=44
GYA0B **ALIBECK ARRAY** 5.61 113 Pn Pn **06 06 51.4 -0.5**
TASB **TASBURUN-IGDIR** 5.63 269 P Pn **06 06 55.8 +3.7**
PNSH **Pansheti** 5.72 296 P Pn **06 06 54.7 +1.2**
GUDG **Gudauri** 5.76 294 P Pn **06 06 53.5 -0.5**
MAHB **Mahabad** 5.79 234 *e*Pn Pn **06 06 55.8 +1.4**
HAGD **Aghdareh** 5.79 200 *e*Pn Pn **06 06 54.9 +0.3**
ASHT **Ashkhabad** 5.80 112 P Pn **06 06 55.0 +0.6**
ASHT 06 07 59.5
ASHT **Ashkhabad** 5.80 112 Pn Pn **06 06 55.0 +0.6**
ASHT Sn Sn **06 07 59.5 -0.1**
GHVR **GHOM** 5.81 182 *e*Pn Pn **06 06 55.6 +1.0**
GHVR **GHOM** 5.81 182 *e*Pn Pn **06 06 55.6 +1.0**
ASAO **Ashtian** 5.87 193 *e*Pn Pn **06 06 55.2 -0.3**
ISFR **Sfrayin** 5.98 121 *e*Pn Pn **06 06 58.1 +0.9**
CLDR **Caldiran** 6.01 261 P Pn **06 06 59.8 +2.3**
BGD **Bogdanovka** 6.13 282 P Pn **06 06 58.5 -0.6**
SBZV **Sabzevar** 6.14 127 *e*Pn Pn **06 06 59.7 +0.3**
AKH **Akhalkalaki** 6.22 283 P Pn **06 07 00.9 +0.5**
AKH S Sn **06 08 10.1 -0.2**
AKH **Akhalkalaki** 6.22 283 ⇓P Pn **06 07 00.9 +0.5**
AKH **Akhalkalaki** 6.22 283 P Pn **06 07 00.5 +0.1**
AKH 06 08 10.7
AKH **Akhalkalaki** 6.22 283 Pn Pn **06 07 00.5 +0.1**
AKH Sn Sn **06 08 10.7 +0.4**
IEMG **Emamgholi** 6.23 115 *e*Pn Pn **06 07 00.4 -0.2**
BKRG **Bakuriani** 6.26 286 P Pn **06 07 00.2 -0.7**
ZEI **Tsey** 6.27 296 *e*P Pn **06 07 00.2 -0.8**
ZEI pmax pmax
comp=Z,145nm,0.6s
IKRD **Kardeh** 6.48 121 *e*Pn Pn 06 07 12.3 +8.3
KARS **Kars** 6.48 276 P Pn **06 07 08.1 +4.2**
HSAM **Samen** 6.51 202 *e*Pn Pn **06 07 05.4 +0.9**
ONI **Oni** 6.51 293 P Pn **06 07 05.0 +0.7**
IBZA **Bozab** 6.52 208 *e*Pn Pn **06 07 08.6 +4.0**
VANB **Van** 6.55 258 P Pn **06 07 07.9 +3.0**
AGRB **Hanur-Agry** 6.63 267 P Pn **06 07 10.9 +4.9**
KHMZ **Khomeyn** 6.67 192 *e*Pn Pn **06 07 07.3 +0.8**
KHMZ **Khomeyn** 6.67 192 *e*Pn Pn **06 07 07.3 +0.8**
IAKL **Akhelmad** 6.74 121 *e*Pn Pn **06 07 08.1 +0.5**
TKB **Tkibuli** 6.77 290 P Pn **06 07 08.0 +0.2**
IVIS **Veis** 6.87 215 *e*Pn Pn **06 07 10.3 +1.1**
KER **Kermanshah** 6.87 212 *e*Pn Pn **06 07 10.0 +0.7**
IKOM **Komasi** 6.91 209 *e*Pn Pn **06 07 11.2 +1.4**
CUKT **Cukurca** 6.92 246 P Pn **06 07 09.4 -0.5**
IDHR **Dehrash** 6.94 218 *e*Pn Pn **06 07 11.3 +1.1**
AKDM **Akdamar-Van** 6.94 256 P Pn **06 07 11.9 +1.6**
IKLH **Kolahrood** 6.96 180 *e*Pn Pn **06 07 12.4 +1.8**
IPAY **Payeh** 6.98 121 *e*Pn Pn **06 07 11.0 +0.1**
KCHF **Cheshme Sefid,** 7.01 212 *e*Pn Pn **06 07 12.5 +1.3**
IDOB **Doab** 7.04 204 *e*Pn Pn **06 07 14.6 +3.0**
SENK **Senkaya-Erzuru** 7.04 275 P Pn **06 07 15.9 +4.3**
MLAZ **Malazgirt-MUS** 7.05 263 P Pn **06 07 15.7 +4.0**
IGHG **Ghaleghazi** 7.16 215 *e*Pn Pn **06 07 15.0 +1.7**
IKMR **Kamar-syah** 7.23 202 *e*Pn Pn **06 07 16.9 +2.9**
NEY **Neytrino** 7.24 297⇑*e*P Pn **06 07 15.0 +0.7**
ANAR **Anarak** 7.30 166 *e*Pn Pn **06 07 15.8 +0.7**
KBZ **Khabaz** 7.31 301 Pn Pn **06 07 14.4 -0.6**
comp=Z,3.4nm,0.3s,baz=137,slow=9.8,SNR=36
KBZ Sn Sn **06 08 33.2 -3.5**
comp=Z,17nm,0.3s,baz=102,slow=14,SNR=4.1
KBZ **Khabaz** 7.31 301 *c i*P Pn **06 07 13.8 -1.3**
IZEF **Zefreh** 7.41 175 *e*Pn Pn **06 07 18.0 +1.2**
KOPR **Koprukoy-ERZUR** 7.45 271 P Pn **06 07 20.6 +3.4**
SHA1 **Shidzhatmaz** 7.47 300 *de*P Pn **06 07 15.6 -2.0**
TNSJ **Nastanj** 7.49 146 *e*Pn Pn **06 07 18.5 +0.8**
KVAR **Kislovodsk Arr** 7.54 302 Pn Pn **06 07 19.0 +0.6**
baz=272,slow=23,SNR=19
KVAR Sn Sn **06 08 36.7 -5.9**
baz=288,slow=22,SNR=2.3
KIV **Kislovodsk** 7.55 302 ⇑P Pn **06 07 16.6 -1.8**
KIV **Kislovodsk** 7.55 302 *i* P Pn **06 07 18.3 -0.1**
SNR=23
KIV **Kislovodsk** 7.55 302 P Pn **06 07 18.7 +0.2**
KIV S Sn **06 08 46.3 +3.6**
KIV **Kislovodsk** 7.55 302 *de*P Pn **06 07 17.8 -0.6**
KIV *e*S Sn **06 08 44.4 +1.7**
KIV pmax pmax
comp=Z,115nm,1.0s
KIV **Kislovodsk** 7.55 302 Pn Pn **06 07 17.7 -0.8**
BATM **Batumi** 7.59 283 ⇓P Pn **06 07 19.8 +0.8**
IPIR **Pirpir** 7.61 184 *e*Pn Pn **06 07 23.1 +3.5**
BCA **Borcka** 7.62 282 ⇑P Pn **06 07 19.4 -0.1**
BCA **Borcka** 7.62 282 P Pn 06 07 28.1 +8.6
SIRT **Sirnak** 7.64 252 P Pn **06 07 23.9 +4.1**
VRTB **Varto-Mus** 7.88 265 P Pn 06 07 28.3 +5.3
GOF **Gofitskoye** 7.88 310⇑*i*P Pn **06 07 22.1 -0.8**
GOF *e*S Sn **06 08 46.4 -4.3**
GOF pmax pmax
comp=Z,145nm,0.6s
GOF smax smax
comp=N,2µm,0.7s
GOF smax smax
comp=E,2µm,0.9s
IGAR **Gharneh** 7.88 177 *e*Pn Pn **06 07 25.7 +2.5**
ROKH **ROKH** 7.94 183 *e*Pn Pn **06 07 26.9 +2.8**
TABS **Tabas** 7.98 144 *e*Pn Pn **06 07 24.6 +0.2**
TABS **Tabas** 7.98 144 *e*Pn Pn **06 07 24.6 +0.2**
TKDS **Koohdasht(Taba** 8.01 145 *e*Pn Pn **06 07 25.9 +1.0**
JHBN **Jahan bin** 8.08 185 *e*Pn Pn **06 07 29.6 +3.6**
CHOM **Cayeli-Rize** 8.25 279 P Pn **06 07 31.1 +3.1**
YZKH **Yazd** 8.26 162 *e*Pn Pn **06 07 29.2 +1.0**
YZKH **Yazd** 8.26 162 *e*Pn Pn **06 07 29.2 +1.0**
TPRV **Parvadeh(Tabas** 8.33 149 *e*Pn Pn **06 07 30.3 +1.0**
ICHK **Chekchek** 8.35 163 *e*Pn Pn **06 07 30.1 +0.4**
SHGR **Shooshtar-Gavs** 8.47 196 *e*Pn Pn **06 07 31.9 +0.8**
SHGR **Shooshtar-Gavs** 8.47 196 *e*Pn Pn **06 07 31.9 +0.8**
IRAM **Ramesheh** 8.49 175 *e*Pn Pn **06 07 33.6 +2.0**
BNGB **Bingl** 8.50 265 P Pn **06 07 35.1 +3.5**
YEDI **Yedisu-Bingol** 8.52 268 P Pn **06 07 35.3 +3.4**
ISAD **Sadrabad** 8.54 168 *e*Pn Pn **06 07 33.1 +0.9**
KTUT **Trabzon** 9.00 278 ⇑P Pn **06 07 39.0 +0.8**
KTUT **Trabzon** 9.00 278 P Pn **06 07 38.7 +0.4**
AFRZ **Afriz** 9.09 137 *e*Pn Pn **06 07 40.7 +1.1**
ERZN **Erzincan** 9.13 269 P Pn **06 07 40.7 +0.5**
IMEH **Mehriz** 9.22 164 *e*Pn Pn **06 07 41.6 0.0**

KLNJ **Kolanjah** 9.27 180 *e*Pn Pn **06 07 44.0 +1.7**
IBAF **Bafgh** 9.27 158 *e*Pn Pn **06 07 42.9 +0.7**
ITEG **Tejag** 9.37 140 *e*Pn Pn **06 07 44.9 +1.4**
SOC **Sochi** 9.42 294 *e*P Pn **06 07 43.2 -0.8**
SOC *e* 06 09 27.1
SOC pmax pmax
comp=Z,20nm,0.6s
SOC MLR MLR
comp=Z,7µm,19.0s
PTK **Pertek** 9.50 265 P Pn **06 07 49.2 +3.8**
IMON **Monand** 9.61 135 *e*Pn Pn **06 07 47.4 +0.5**
SHRT **Shahrakht** 9.63 131 *e*Pn Pn **06 07 46.9 0.0**
SHRT **Shahrakht** 9.63 131 *e*Pn Pn **06 07 46.9 0.0**
SVRC **Sivrice-ELAZID** 9.69 263 P Pn **06 07 51.3 +3.4**
IKOO **Kooshah** 9.88 140 *e*Pn Pn **06 07 51.0 +0.4**
IDAH **Dahanechah** 10.07 136 *e*Pn Pn **06 07 53.6 +0.4**
BSRN **Basiran** 10.31 141 *e*Pn Pn **06 07 56.7 +0.3**
BSRN **Basiran** 10.31 141 *e*Pn Pn **06 07 56.7 +0.3**
HRA **Herat** 10.34 121 Pn Pn **06 07 56.3 -0.6**
URFA **Urfa** 10.34 258 P Pn 06 08 02.5 +5.8
MALT **Malatya** 10.38 263 P Pn **06 08 00.1 +2.9**
SHI **Shiraz** 10.65 176 *e*Pn Pn **06 08 03.4 +2.2**
KHGB **Koh Gabri** 10.67 156 *e*Pn Pn **06 08 02.3 +0.8**
AB31 **Akbulak array** 10.75 31 ⇓P Pn 06 07 56.7 -5.4
comp=Z,365nm,0.6s,baz=214,slow=13,SNR=3039
AB31 ⇓S **Sn** **06 09 55.7 -5.4**
comp=Z,873nm,0.8s,baz=216,slow=23,SNR=7.9
AB31 **Akbulak array** 10.75 31 P Pn **06 08 00.0 -2.2**
AB31 S Sn **06 09 52.5 -8.6**
ABKAR **Akbulak array** 10.75 31 Pn **06 07 59.9 -2.3**
RSDY **Resadiye-TOKAT** 10.87 275 P Pn **06 08 06.1 +2.1**
DARE **Darende-Malaty** 11.03 266 P Pn **06 08 09.9 +3.7**
AKTO **Aktyubinsk** 11.10 22 Pn Pn **06 08 05.0 -2.0**
comp=Z,134nm,0.3s,baz=206,slow=12,SNR=579
AKTO Sn Sn **06 10 01.8 -8.0**
comp=Z,71nm,0.3s,baz=172,slow=21,SNR=2.0
AKTO LR LR 06 13 32.8
comp=Z,71µm,21.1s,baz=215,slow=44
AKTO **Aktyubinsk** 11.10 22 ⇓P Pn 06 07 58.9 -8.1
comp=Z,825nm,0.6s
AKTO ⇓S Sn 06 10 00.4 -9.4
comp=Z,2µm,0.7s
TVBK **TV Kerman** 11.12 156 *e*Pn Pn **06 08 09.3 +1.6**
KRBR **Kerman** 11.13 156 *e*Pn Pn **06 08 09.0 +1.2**
KRBR **Kerman** 11.13 156 *e*Pn Pn **06 08 09.0 +1.2**
SVSK **Karacayir** 11.17 273 P Pn **06 08 09.7 +1.8**
NHDN **Nehbandan** 11.23 140 *e*Pn Pn **06 08 09.3 +0.3**
ANN **Anapa** 11.36 298 *e*P Pn **06 08 13.1 +2.6**
ANN *e*S Sn **06 10 21.5 +5.6**
ANN pmax pmax
comp=Z,133nm,0.9s
ANN MLR MLR
comp=Z,6µm,19.0s
ANN MLR MLR
comp=N,6µm,21.0s
AHBU **AHRAM** 11.40 181 *e*Pn Pn **06 08 11.9 +0.7**
TOKT **Tokat** 11.47 275 P Pn 06 08 18.3 +6.1
CHMN **Cheshme madani** 11.50 153 *e*Pn Pn **06 08 13.6 +0.8**
GAZ **Gaziantep** 11.64 259 P Pn **06 08 17.5 +3.0**
GAZ **Gaziantep** 11.64 259 Pn **06 08 16.7 +2.3**
KMRS **Kahramanmaras** 11.76 261 P Pn **06 08 17.7 +1.5**
KVT **Kavak** 11.81 279 P Pn **06 08 19.1 +2.3**
SARI **SarD1z-Kayseri** 11.88 266 P Pn 06 08 23.1 +5.2
BNN **Bunyan** 12.22 268 P Pn 06 08 27.9 +5.4
DIKM **Dikmen** 12.40 282 ⇓P Pn **06 08 25.6 +0.8**
DIKM **Dikmen** 12.40 282 P Pn **06 08 26.9 +2.1**
SNOP **Sinop** 12.45 283 P Pn **06 08 26.4 +0.9**
YOZ **Yozgat** 12.49 272 P Pn **06 08 28.7 +2.6**
KOZT **Kozan** 12.58 262 P P **06 08 33.9 -4.1**
TAHT **Tahtakopru-Hat** 12.69 257 P Pn **06 08 31.6 +2.8**
CEYT **Ceyhan** 12.79 260 P P **06 08 43.4 +3.1**
VRH **Novokhopyorsk** 12.88 331 *e*P Pn **06 08 29.5 -1.8**
VRH *e*S Sn **06 10 48.4 -4.7**
VRH pmax pmax
comp=Z,350nm,0.6s
VRH pmax pmax
comp=Z,320nm,0.5s
VRH smax smax
comp=N,180nm,3.9s
VRH MLR MLR
comp=Z,1µm,9.0s
YURE **YUREGIR** 12.94 260 P Pn **06 08 36.4 +4.1**
CORM **Corum** 12.95 275 P Pn **06 08 34.8 +2.4**
ZHSF **Zahedan** 13.05 142 *e*Pn Pn **06 08 34.4 +0.5**
ZHSF **Zahedan** 13.05 142 *e*Pn Pn **06 08 34.4 +0.5**
BZK **Bozkurt** 13.35 283 ⇑P Pn **06 08 37.9 +0.1**
BZK **Bozkurt** 13.35 283 P Pn **06 08 37.2 -0.5**
TAS **Tashkent** 13.47 80 P Pn **06 08 37.9 -1.5**
TAS **Tashkent** 13.47 80 Pn Pn **06 08 37.9 -1.5**
GULA **Gulagac** 13.56 267 P Pn **06 08 40.0 -0.8**
ILGA **Ilgaz** 13.57 279 Pn **06 08 40.8 -0.3**
SIM **Simferopol'** 13.66 296 *e*P Pn **06 08 44.0 +2.0**
SIM *e*S Sn **06 11 17.0 +4.7**
SIM pmax pmax
comp=Z,199nm,0.8s
CANT **Cankiri** 13.68 277 P P **06 08 51.7 +1.5**
VORD **Divnogorie** 13.68 325 *e*P Pn **06 08 40.3 -1.8**
VORD *e*S Sn **06 11 10.7 -1.9**
VORD pmax pmax
comp=Z,240nm,0.7s
VORD pmax pmax
comp=Z,310nm,0.9s
VORD smax smax
comp=E,20nm,0.8s
CHGR **Chuyangaron** 13.69 91 Pn Pn **06 08 40.9 -1.6**
BR131 **Keskin Array S** 13.76 273 P Pn **06 08 44.1 +0.6**
SNR=80
BR131 **Keskin Array S** 13.76 273 *d i*P Pn **06 08 44.1 +0.6**
BR131 **Keskin Array S** 13.76 273 Pn Pn **06 08 44.5 +1.0**
BRTR **Keskin Array B** 13.76 273 Pn Pn **06 08 44.5 +1.0**
comp=E,0.4nm,0.3s,baz=93,slow=12,SNR=134
BRTR LR LR 06 15 09.5
comp=E,3µm,21.9s,baz=50,slow=42
BRTR **Keskin Array B** 13.76 273 *i* P Pn **06 08 44.4 +1.0**
BRTR pmax pmax
comp=Z,29nm,0.9s
YAYX **Yaylak** 13.76 270 P Pn **06 08 45.4 +1.9**
MERS **Mersin** 13.77 261 P P **06 08 50.8 -0.4**
VSR **Storozhevoye** 13.91 326 *e*P Pn **06 08 42.7 -2.7**
VSR *e*S Sn **06 11 18.3 0.0**
VSR pmax pmax
comp=Z,430nm,0.8s
VSR pmax pmax
comp=Z,270nm,0.5s
VSR smax smax
comp=N,230nm,5.4s
VSR MLR MLR
comp=Z,2µm,11.0s
BRLS **Borolday** 13.93 73 *e*P Pn 06 08 41.1 -4.6
comp=Z,58nm,0.6s,baz=74
BRLS **Borolday** 13.93 73 *e*P Pn 06 08 41.0 -4.7
BRLS pmax pmax
comp=Z,58nm,0.6s
SERE **Sereflikochisa** 13.95 270 P P **06 08 49.8 -3.5**
IUG **luzhnay** 14.02 76⇑*i*P Pn **06 08 44.8 -2.2**
comp=Z,17nm,0.8s,baz=77
IUG *e*S Sn **06 11 21.0 -0.3**
baz=77
IUG **luzhnay** 14.02 76⇑*i*P Pn **06 08 44.8 -2.2**
IUG *e*S Sn **06 11 20.9 -0.3**
IUG pmax pmax
comp=Z,17nm,0.8s
SULT **Sultanhani-AKS** 14.15 267 P Pn **06 08 52.1 +3.4**
KIZK **Mersin** 14.19 260 P P **06 08 56.9 +1.1**
VORR **Voronezh** 14.23 327 *e*P Pn **06 08 48.0 -1.7**
VORR pmax pmax
comp=Z,700nm,0.8s
AFSR **Afar-Bala (An** 14.23 273 P Pn **06 08 51.1 +1.2**
KURC **Kurucasile-Bar** 14.29 282 P P **06 08 58.3 +1.4**
ASF **Jabal al Asfar** 14.34 240 Pn Pn **06 08 53.6 +2.4**
comp=Z,1.0nm,0.3s,baz=8.4,slow=6.7,SNR=32
KULU **Kulu** 14.36 271 P Pn **06 08 53.9 +2.3**
ANTO **Ankara** 14.38 274 ⇓P Pn **06 08 52.6 +0.7**
ANTO **Ankara** 14.38 274 P Pn **06 08 52.8 +0.9**
ANTO **Ankara** 14.38 274 P Pn **06 08 52.8 +0.9**
ANTO **Ankara** 14.38 274 Pn **06 08 52.8 +0.9**
SILI **Silifke-Mersin** 14.39 260 P P **06 09 00.1 +2.0**
BR231 **Keskin MP Arra** 14.40 274 Pn **06 08 53.2 +1.1**
LOD **Lodumlu** 14.40 274 P P **06 08 59.3 +1.0**
KK31 **Karatay Array** 14.43 73 ⇑P Pn **06 08 53.6 +1.1**
comp=Z,176nm,0.6s,baz=262,slow=16,SNR=1865
KK31 ⇓S **Sn** **06 11 38.9 +7.8**
comp=Z,746nm,1.4s,baz=238,slow=56,SNR=5.4

KK31 **Karatay Array** 14.43 73 P Pn **06 08 50.6 -1.8**
KK31 **Karatay Array** 14.43 73 Pn **06 08 50.6 -1.8**
KKAR **Karatay Array** 14.43 73 P Pn **06 08 50.8 -1.6**
KKAR **Karatay Array** 14.43 73 Pn **06 08 50.8 -1.6**
GAR **Garm** 14.51 89 Pn **06 08 52.0 -1.5**
KEBE **Keben-Mersin** 14.52 260 P Pn **06 08 56.5 +2.8**
CHBY **Cihanbeyli** 14.54 269 P P **06 09 00.1 +0.3**
GEM **Giv'at Ha'Em** 14.57 246 Pn Pn **06 08 55.4 +1.1**
KSDI **Kefar Szold** 14.58 246 Pn Pn **06 08 54.0 -0.5**
IKL **Isikli** 14.62 260 P P **06 09 01.6 +1.0**
SHME **Shamm** 14.71 164 *i* P Pn **06 08 55.4 -0.8**
SNR=50
BTK **Batken** 14.72 85 P Pn **06 08 53.9 -2.5**
BTK **Batken** 14.72 85 Pn Pn **06 08 53.9 -2.5**
TEVE **Tevekalti-Mers** 14.73 261 P Pn **06 08 59.0 +2.5**
AKKU **Akkuyu-Mersin** 14.75 259 P P **06 09 04.2 +2.1**
MMA0B **Mount Meron ar** 14.86 246 Pn Pn **06 08 58.9 +0.7**
MMAI **Mount Meron Ar** 14.86 246 Pn Pn **06 09 00.2 +2.0**
comp=Z,0.6nm,0.3s,baz=66,slow=15,SNR=16
MMAI LR LR 06 16 40.9
comp=Z,2µm,19.5s,baz=25,slow=45
BANOM **Banah** 14.87 163 *i* P Pn **06 08 57.7 -0.6**
SNR=95
BANOM **Banah** 14.87 163 P Pn **06 08 57.7 -0.6**
SNR=86
BANOM S Sn **06 11 40.7 -1.1**
BERE **Bereket-Mersin** 14.93 261 P P **06 09 05.7 +1.5**
DZA **Taraz** 15.01 74 *e*P Pn **06 08 59.0 -1.2**
comp=Z,322nm,1.3s,baz=74
DZA *e*S Sn **06 11 45.1 -0.2**
baz=74
DZA **Taraz** 15.01 74 *e*P Pn **06 08 59.0 -1.2**
DZA *e*S Sn **06 11 45.1 -0.2**
DZA pmax pmax
comp=Z,322nm,1.3s
KBL **Kabul** 15.02 107 P Pn **06 09 00.3 -0.2**
KBL **Kabul** 15.02 107 P Pn **06 09 00.2 -0.3**
KBL pmax pmax
comp=Z,211nm,1.3s
KBL **Kabul** 15.02 107 **06 09 00.2 -0.3**
LADK **Ladik-KONYA** 15.03 268 P Pn **06 09 01.7 +1.2**
LPSR **Galich'ya Gora** 15.05 329 *e*P Pn **06 08 58.7 -1.9**
LPSR *e*S Sn **06 11 42.6 -3.3**
LPSR pmax pmax
comp=Z,640nm,0.6s
LPSR pmax pmax
comp=Z,770nm,0.7s
LPSR smax smax
comp=N,340nm,6.4s
LPSR MLR MLR
comp=Z,2µm,14.0s
TEKE **Tekeli-Mersin** 15.08 260 P Pn **06 09 01.6 +0.5**
KONT **Konya--Tatoy** 15.09 267 P Pn **06 09 03.2 +1.9**
LFK **Lefkose** 15.11 256 P P **06 09 07.2 +1.1**
UMQ **Umm Al-Quwin** 15.12 166 *i* P Pn **06 09 02.2 +0.6**
SNR=16
UMQ **Umm Al-Quwin** 15.12 166 P Pn **06 09 02.4 +0.7**
SNR=25
UMQ S Sn **06 11 51.0 +3.0**
QRNJ **Al-Qirein** 15.13 243 Pn Pn **06 09 01.9 +0.2**
MMLI **Mount Malkishu** 15.17 244 Pn Pn **06 09 03.2 +0.8**
HMDT **Nahal Hemdat** 15.21 243 Pn Pn **06 09 02.4 -0.4**
KIZT **Kizilcal** 15.25 271 P Pn **06 09 03.9 +0.5**
OFRI **`Ofer** 15.37 245 Pn Pn **06 09 05.5 +0.6**
MSFE **Esma-Masafi** 15.38 164 *i* P Pn **06 09 04.4 -0.7**
SNR=150
CSS **Mathiatis** 15.39 256 Pn **06 09 04.0 -1.2**
SVRH **Sivrihisar-ESK** 15.42 273 P P **06 09 09.3 -0.3**
MDH **Madha** 15.47 164 *i* P Pn **06 09 05.0 -1.2**
SNR=64
MDH **Madha** 15.47 164 P Pn **06 09 05.0 -1.2**
SNR=61
MDH S Sn **06 11 55.2 -1.3**
MDUB **Mudurnu** 15.53 277 P P **06 09 10.8 0.0**
MDUB **Mudurnu** 15.53 277 Pn **06 09 07.1 +0.1**
SLTI **Sal'it** 15.55 244 Pn Pn **06 09 07.4 +0.2**
NAZ **Nazwa, Dubai** 15.64 166 *i* P Pn **06 09 08.3 -0.1**
SNR=54
NAZ **Nazwa, Dubai** 15.64 166 P Pn **06 09 08.2 -0.3**
SNR=84
GAZI **Gazipasa** 15.65 261 P Pn **06 09 09.6 +1.1**
LEF **Lefka** 15.65 257 ⇑P P **06 09 12.3 +0.2**
LEF **Lefka** 15.65 257 P P **06 09 13.6 +1.5**
DSI **Dead Sea** 15.72 241 Pn Pn **06 09 09.7 +0.3**
GHAJ **Ghor Haditha** 15.76 240 Pn Pn **06 09 10.0 +0.1**
CIFT **Cifteler, Eski** 15.78 273 P Pn **06 09 11.1 +0.8**
UOSS **Minazif** 15.79 164 *i* P Pn **06 09 09.1 -1.3**
SNR=58
UOSS **Minazif** 15.79 164 P Pn **06 09 09.0 -1.3**
UOSS S Sn **06 12 03.0 -1.3**
UOSS **Minazif** 15.79 164 Pn **06 09 08.8 -1.6**
UOSS IAmb IAmb 06 09 11.1
comp=Z,717nm,1.4s
FAQ **Al Faqa, Dubai** 15.87 167 *i* P Pn **06 09 10.3 -1.0**
SNR=14
FAQ **Al Faqa, Dubai** 15.87 167 P Pn **06 09 10.7 -0.6**
SNR=14
FAQ S Sn **06 12 05.4 -0.7**
HATD **Hatta, Dubai** 15.89 165 *i* P Pn **06 09 10.6 -1.1**
SNR=136
HATD **Hatta, Dubai** 15.89 165 P Pn **06 09 10.7 -1.0**
SNR=149
DAMI2 **DAM2** 15.93 240 Pn Pn **06 09 12.3 +0.3**
ASUD **Al Ashush, Dub** 15.94 167 P Pn **06 09 12.2 -0.1**
SRCK **Saricakaya, Es** 16.01 276 P Pn **06 09 13.9 +0.8**
ASHO **Ashiyiah** 16.02 165 *i* P Pn **06 09 12.3 -0.9**
SNR=214
ASHO **Ashiyiah** 16.02 165 P Pn **06 09 12.6 -0.7**
SNR=115
ASHO S Sn **06 12 06.8 -3.0**
YTIR **Yattir** 16.02 241 Pn Pn **06 09 13.7 +0.3**
GULT **Gulveren** 16.05 277 P P **06 09 17.3 +0.7**
AMAZ **Amatzia** 16.06 242 Pn Pn **06 09 14.4 +0.6**
SAUV **Serdivan-Sakar** 16.16 278 P P **06 09 18.5 +0.8**
SPNC **Sapanca-Adapaz** 16.18 278 P P **06 09 19.8 +1.9**
ARSB **Arslanbob** 16.25 79 P Pn **06 09 14.6 -1.6**
ARSB pmax pmax
comp=Z,401nm,1.0s
ARSB **Arslanbob** 16.25 79 **06 09 14.6 -1.6**
ARSB IAmb IAmb 06 09 29.4
comp=Z,400nm,0.9s
SHUT **Suhut-Afyon** 16.33 271 P Pn **06 09 17.7 +0.4**
ZFRI **Zfri** 16.50 239 Pn Pn **06 09 19.1 -0.2**
ISP **Isparta** 16.53 268 P Pn **06 09 19.6 -0.2**
ISP pmax pmax
comp=Z,137nm,0.9s
ISP **Isparta** 16.53 268 Pn Pn **06 09 19.3 -0.5**
ISP **Isparta** 16.53 268 Pn **06 09 19.6 -0.2**
ALNE **Al Ain** 16.57 166 *i* P Pn **06 09 19.4 -0.9**
SNR=35
CAVI **Cavuskoy** 16.59 277 P P **06 09 24.3 +1.8**
ADVT **Abdulvahap** 16.64 278 P P **06 09 23.9 +0.9**
SILT **Sile** 16.64 280 P P **06 09 23.4 +0.4**
SOHO **SOHO** 16.65 164 P Pn **06 09 19.3 -1.9**
SNR=36
SOHO S Sn **06 12 25.2 +0.2**
HRT **Hereke** 16.65 279 P Pn **06 09 20.9 -0.3**
PRNI **Paran** 16.74 239 Pn Pn **06 09 22.7 +0.3**
AML **Almayashu** 16.75 76 P Pn **06 09 22.9 +0.1**
SNR=31
ARU **Arti** 16.79 14 Pn Pn **06 09 18.7 -4.1**
comp=Z,0.3nm,0.3s,baz=194,slow=10,SNR=194
ARU Sn Sn 06 12 17.1 -11
comp=Z,0.1nm,0.3s,baz=18,slow=21,SNR=8.2
ARU LR LR 06 17 24.9
comp=Z,5µm,19.3s,baz=200,slow=43
ARU **Arti** 16.79 14 P Pn **06 09 19.2 -3.6**
ARU S Sn **06 12 25.7 -2.3**
ARU MLR MLR
comp=Z,6µm,17.0s
ARU **Arti** 16.79 14 **06 09 17.6 -5.2**
ARU IAmb IAmb 06 09 20.9
comp=Z,414nm,0.9s
KZIT **Kziot** 16.79 241 Pn Pn **06 09 23.1 +0.1**
EKS2 **Erkin-Say** 16.81 75 P Pn **06 09 23.3 0.0**
SNR=84
OTUK **Ortayu** 16.83 55 ⇑P Pn **06 09 21.8 -1.7**
comp=Z,508nm,1.1s
OTUK ⇑S Sn **06 12 31.5 +2.3**
comp=Z,966nm,0.9s
OTUK **Ortayu** 16.83 55 P Pn **06 09 20.7 -2.7**
KORT **Korkueli** 16.89 266 P P **06 09 27.2 +1.2**
YLV **Yalova** 16.90 278 P P **06 09 26.8 +0.8**
HRFI **Mount Harif** 16.93 238 Pn Pn **06 09 24.8 +0.1**

TVSB Tavsanli 16.99 274 P Pn 06 09 25.6 0.0
KRMI Paran Flat 17.08 239 Pn Pn 06 09 26.4 -0.2
KAVV Kandilli-Istan 17.09 280 P P 06 09 29.1 +1.1
ISK Istanbul-Kandi 17.09 280 P P 06 09 29.1 +1.1
GEDZ Gediz 17.10 273 P P 06 09 30.1 +1.8
AQBJ Aqaba 17.12 237 Pn P 06 09 27.9 -0.6
MBRI Mt Berech 17.17 238 Pn Pn 06 09 27.8 0.0
BTLS Baital 17.18 67 *eP* **Pn 06 09 25.6 -2.2**
comp=Z,56nm,0.9s,baz=67
BTLS *eS* **Sn 06 12 36.5 -1.3**
baz=67
BTLS Baital 17.18 67 *eP* **Pn 06 09 25.6 -2.2**
BTLS *eS* **Sn 06 12 36.5 -1.3**
BTLS pmax pmax
comp=Z,56nm,0.9s
EIL Elat 17.23 237 P **Pn 06 09 29.0 +0.5**
comp=Z,0.8nm,0.3s,baz=48,slow=3.3,SNR=28
EIL LR LR 06 16 58.7
comp=Z,2µm,19.8s,baz=47,slow=40
EIL Elat 17.23 237 Pn **Pn 06 09 28.7 +0.2**
ARMT Armutlu 17.29 278 P **P 06 09 30.9 +0.7**
MDNY Mudanya-Bursa 17.29 278 P **P 06 09 30.4 +0.2**
BGKT Bogazkoy 17.30 280 P **P 06 09 32.4 +2.2**
JURR Jurilovca 17.30 292 ⇓P **Pn 06 09 27.6 -1.5**
ELL Elmali 17.31 265 P **P 06 09 30.9 +0.3**
ELL Elmali 17.31 265 P **P 06 09 30.2 -0.4**
ELL pmax pmax
comp=Z,1µm,1.0s
ELL Elmali 17.31 265 P **P 06 09 30.2 -0.4**
MZR Muzera 17.32 174 *i* P **Pn 06 09 30.0 +0.4**
SNR=22
AAK Ala-Archa 17.34 75 P **P 06 09 30.6 -0.3**
comp=Z,8.6nm,0.3s,baz=263,slow=12,SNR=111
AAK LR LR 06 17 11.8
comp=Z,5µm,18.1s,baz=270,slow=40
AAK Ala-Archa 17.34 75 P **P 06 09 31.8 +0.9**
SNR=101
AAK Ala-Archa 17.34 75 ⇑P **P 06 09 32.2 +1.4**
comp=Z,353nm,1.4s
AAK ⇓S **S 06 12 50.0 +0.9**
comp=Z,309nm,1.4s
AAK Ala-Archa 17.34 75*c* *iP* **Pn 06 09 29.8 -0.1**
AAK pmax pmax
comp=Z,266nm,1.3s
AAK Ala-Archa 17.34 75 P **Pn 06 09 29.9 0.0**
USP Ospenovka 17.35 73 P **Pn 06 09 28.8 -1.1**
SNR=78
HOQ Hoqain 17.35 162 P **Pn 06 09 27.6 -2.5**
SNR=24
UCH Uchtor 17.35 76 P **Pn 06 09 31.0 +0.6**
SNR=146
TLCR 17.39 294 ⇓P **Pn 06 09 29.0 -1.4**
EFOR EFORIE 17.40 290 ⇑P **Pn 06 09 29.3 -1.2**
MANR Mangalia 17.41 289 ⇓P **Pn 06 09 30.8 +0.2**
SIMA Simav-Kutahya 17.42 273 P **Pn 06 09 29.3 -1.6**
FRU1 Bishkek 17.44 74 P **P 06 09 32.0 +0.1**
FRU1 pmax pmax
comp=Z,238nm,0.8s
FRU1 Bishkek 17.44 74 P **P 06 09 31.9 +0.1**
SGDS Sogindy 17.45 72 *eP* **Pn 06 09 30.0 -1.3**
comp=Z,242nm,2.1s,baz=72
SGDS *eS* **Sn 06 12 44.3 -0.2**
baz=72
SGDS Sogindy 17.45 72 *eP* **Pn 06 09 29.9 -1.3**
SGDS *eS* **Sn 06 12 44.2 -0.2**
SGDS pmax pmax
comp=Z,242nm,2.1s
CEP Cherat 17.46 105 P **Pn 06 09 31.9 +0.5**
RAYN Ar Rayn 17.49 199 *i* P **Pn 06 09 30.4 -1.3**
SNR=230
RAYN Ar Rayn 17.49 199 P **Pn 06 09 29.6 -2.1**
RAYN pmax pmax
comp=Z,306nm,0.9s
RAYN Ar Rayn 17.49 199 Pn 06 09 29.6 -2.1
RAYN IAmb IAmb 06 09 35.8
comp=Z,306nm,0.8s
CTKS Kestanelik-??a 17.49 281 P **Pn 06 09 30.4 -1.2**
CHMS Chumysh 17.53 74 P **Pn 06 09 31.8 -0.4**
SNR=64
SVE Sverdlovsk 17.57 17*de* P **Pn 06 09 28.7 -3.8**
SVE *eS* Sn 06 12 34.9 -12
SVE pmax pmax
comp=Z,576nm,1.4s
SVE MLR MLR
comp=Z,8µm,20.0s
TIRR Tirgusor 17.59 291 ⇑P **Pn 06 09 31.2 -1.6**
TIRR Tirgusor 17.59 291 P **Pn 06 09 30.8 -2.0**
TIRR pmax pmax
comp=Z,316nm,0.9s
TIRR Tirgusor 17.59 291 Pn 06 09 30.8 -2.0
TIRR IAmb IAmb 06 09 47.2
comp=Z,316nm,0.9s
BIDO Bidbid 17.61 160 P **Pn 06 09 32.0 -1.3**
SNR=16
BIDO S **Sn 06 12 47.6 -0.9**
TOPG Topolog 17.66 293 ⇓P **Pn 06 09 32.5 -1.3**
PSN Preselentsi 17.70 289 P P 06 09 52.2 +18
KCTX Karacabey (Bur 17.71 277 P **P 06 09 36.3 +1.5**
AKAS Kas 17.71 264 P **P 06 09 35.6 +0.6**
BRZS Berezniki 17.71 50 *eP* **Pn 06 09 31.3 -3.1**
comp=Z,86nm,1.0s,baz=50
BRZS *eS* Sn 06 12 35.0 -16
baz=50
BRZS Berezniki 17.71 50 *eP* **Pn 06 09 31.2 -3.1**
BRZS pmax pmax
comp=Z,86nm,1.0s
SLVT Silivri 17.71 281 P **P 06 09 37.8 +2.9**
MILM Milestii Mici 17.73 299 ⇑P **Pn 06 09 32.3 -2.1**
KIS Kishinev 17.74 300 ⇓*iP* **Pn 06 09 32.0 -2.7**
comp=Z,800nm,2.1s
KIS Kishinev 17.74 300 *i* S **Sn 06 12 50.0 -1.3**
comp=Z,450nm,2.4s
KIS Kishinev 17.74 300 ⇑P **Pn 06 09 33.3 -1.4**
KIS Kishinev 17.74 300 *i* P **Pn 06 09 31.8 -2.9**
KIS *i* S **Sn 06 12 50.0 -1.3**
KIS pmax pmax
comp=Z,780nm,2.1s
KIS smax smax
comp=N,450nm,2.4s
KIS smax smax
comp=E,2µm,3.6s
KIS Kishinev 17.74 300 *i* PP PP 06 09 50.0
KULA Kula-Manisa 17.79 272 P **Pn 06 09 34.7 -0.7**
THW Thamme Wali 17.83 108 P **P 06 09 36.8 +0.5**
TLBR Topalu 17.86 291 ⇑P **Pn 06 09 35.5 -0.6**
CFR Carcaliu 17.87 294 ⇓P **Pn 06 09 34.4 -1.9**
MANT Manisa 17.87 272 P **Pn 06 09 35.7 -0.9**
MANT IAmb IAmb 06 09 46.7
comp=Z,398nm,0.9s
OBN Obninsk 17.88 331 P **Pn 06 09 36.2 0.0**
comp=Z,13nm,0.3s,baz=132,slow=3.1,SNR=40
OBN S **Sn 06 12 43.9 -10**
comp=Z,3.7nm,0.3s,baz=337,slow=23,SNR=2.3
OBN LR LR 06 17 38.7
comp=Z,1µm,20.6s,baz=146,slow=41
OBN Obninsk 17.88 331*d* *iP* **Pn 06 09 34.5 -1.7**
OBN *eS* **Sn 06 12 44.5 -10**
OBN pmax pmax
comp=Z,233nm,0.6s
OBN MLR MLR
comp=Z,5µm,20.0s
OBN Obninsk 17.88 331 P **Pn 06 09 34.1 -2.1**
OBN IAmb IAmb 06 09 52.0
comp=Z,524nm,1.1s
KZA Kyzart 17.91 77 P **P 06 09 39.7 +2.3**
SNR=24
HARR Harsova 17.96 292 ⇑P **P 06 09 37.5 0.0**
FETY Fethiye 17.97 265 P **P 06 09 37.8 0.0**
MOS Moscow 17.99 334 *eP* **Pn 06 09 33.8 -3.9**
MOS *eS* Sn 06 12 43.2 -14
MOS pmax pmax
comp=Z,645nm,1.1s
MOS MLR MLR
comp=Z,3µm,18.0s
ICOR Ion Corvin 18.00 290 ⇓P **Pn 06 09 37.9 0.0**
LEOM Leova 18.01 298 ⇑P **Pn 06 09 36.3 -1.6**
WSAR Wadi Sarin 18.02 159 P **Pn 06 09 37.9 -0.4**
comp=Z,3.4nm,0.3s,baz=10.0,slow=8.9,SNR=44
WSAR Wadi Sarin 18.02 159 P **Pn 06 09 37.6 -0.7**
SNR=25
BRVK Borovoye 18.04 39 ⇑P **Pn 06 09 35.3 -2.9**
comp=Z,595nm,1.0s
BRVK ⇓S **Sn 06 12 54.0 -4.3**
comp=Z,502nm,1.0s
BRVK Borovoye 18.04 39 P **Pn 06 09 35.5 -2.7**
BRVK Borovoye 18.04 39*c* *iP* **Pn 06 09 35.2 -3.1**
BRVK pmax pmax
comp=Z,479nm,0.9s
BRVK Borovoye 18.04 39 P **Pn 06 09 35.8 -2.5**
BRVK IAmb IAmb 06 09 38.7
comp=Z,463nm,0.9s
BVAR Borovoye Array 18.07 39 P **Pn 06 09 36.8 -1.9**
comp=Z,15nm,0.3s,baz=226,slow=10,SNR=191
BVAR S **Sn 06 12 49.6 -9.5**
comp=Z,19nm,0.3s,baz=235,slow=23,SNR=7.8
EDC Edincik 18.07 278 P **Pn 06 09 38.1 -0.7**
TKM2 Tokmak 2 18.15 74 P **P 06 09 39.9 0.0**
SNR=120
TKM2 Tokmak 2 18.15 74 ⇑P **P 06 09 39.9 0.0**
comp=Z,214nm,0.8s
TKM2 ⇑S **S 06 13 09.9 +4.2**
comp=Z,228nm,1.4s
TKM2 Tokmak 2 18.15 74 P **Pn 06 09 40.6 +0.7**
BALB Balikesir 18.16 276 P **P 06 09 38.6 -1.2**
MRMT Marmara Adasi 18.24 279 P **Pn 06 09 41.4 +0.5**
DALY Dalyan (Mula) 18.24 266 P **P 06 09 40.7 0.0**
PRD Provadia 18.25 287 P **Pn 06 09 41.9 +1.0**
TURN Turunc 18.27 267 P **Pn 06 09 46.1 +4.9**
SORM Soroca 18.35 303 ⇑P **P 06 09 39.4 -2.4**
VASR Vaslui 18.35 298 ⇑P **P 06 09 40.1 -1.8**
KIRV Kirov 18.36 356 P **P 06 09 39.5 -2.3**
comp=Z,62nm,0.3s,baz=176,slow=4.0,SNR=100
KIRV S **Sn 06 13 06.3 +0.3**
comp=Z,9.3nm,0.3s,baz=353,slow=22,SNR=6.6
KIRV LR LR 06 18 21.6
comp=Z,4µm,19.5s,baz=177,slow=42
BOOM Boomskoye usch 18.41 75 P **Pn 06 09 43.9 +0.9**
BOOM pmax pmax
comp=Z,145nm,0.8s
BOOM Boomskoye usch 18.41 75 P **Pn 06 09 43.9 +0.9**
YER Yerkesik 18.43 268 P **Pn 06 09 43.4 +0.1**
KRBG Karabiga-Canak 18.49 278 P **P 06 09 43.7 +0.3**
GHRR 18.51 296 ⇑P **P 06 09 43.7 +0.1**
AYDB Zeytinkoy-Aydi 18.51 270 P **P 06 09 42.8 -1.0**
NIL Nilore 18.53 104 P **Pn 06 09 45.1 +0.7**
NIL pmax pmax
comp=Z,438nm,1.0s
NIL Nilore 18.53 104 Pn 06 09 45.1 +0.7
NIL IAmb IAmb 06 09 48.4
comp=Z,438nm,0.9s
CHCP Chirah Chowk 18.53 104 P **Pn 06 09 45.2 +0.7**
IAS Iasi 18.62 300 ⇓P **P 06 09 44.4 -0.4**
ULHL Ulahol 18.64 76 P **Pn 06 09 47.7 +1.9**
SNR=7.1
ODBI Odobesti 18.70 295 ⇓P **Pn 06 09 46.5 +0.1**
KUU Kurty 18.71 71 *eP* **P 06 09 46.1 +0.2**
comp=Z,201nm,0.8s,baz=71
KUU *eS* **Sn 06 13 15.8 +0.9**
baz=71
KUU Kurty 18.71 71 *eP* **P 06 09 46.0 +0.2**
KUU *eS* **Sn 06 13 15.7 +0.9**
KUU pmax pmax
comp=Z,201nm,0.8s
WBK Wadi Bani Khal 18.71 158 P **P 06 09 46.2 +0.2**
SNR=19
WBK S **Sn 06 13 13.8 -1.2**
LEHL Lehliu 18.73 291 ⇓P **Pn 06 09 46.7 0.0**
KSH Kashi 18.73 84 P **P 06 09 43.8 -2.4**
KSH PP **PnPn 06 09 59.4 -0.1**
KSH S **Sn 06 13 05.1 -10**
KSH pmax pmax
comp=Z,260nm,0.7s
KSH pmax pmax
comp=Z,560nm,3.6s
KSH LR LR
comp=Z,13µm,7.4s
KSH LR LR
comp=Z,7µm,7.3s
KSH LR LR
comp=Z,9µm,13.7s
AKASG Malin Array Be 18.73 311 P **P 06 09 43.9 -2.1**
comp=Z,68nm,0.3s,baz=114,slow=12,SNR=84
AKASG S **Sn 06 13 09.4 -5.7**
comp=Z,4.5nm,0.3s,baz=158,slow=40,SNR=9.1
AKASG LR LR 06 19 02.2
comp=Z,2µm,18.6s,baz=100,slow=43
AKBB Malin Array Si 18.73 311*c* *iP* **P 06 09 43.7 -2.3**
MTBS Maitube 18.76 73 *eP* **Pn 06 09 47.6 +0.3**
comp=Z,614nm,0.7s,baz=73
MTBS Maitube 18.76 73 *eP* **Pn 06 09 47.5 +0.3**
MTBS pmax pmax
comp=Z,614nm,0.7s
EDRB Edirne 18.77 283 P **Pn 06 09 48.3 +1.1**
LPK Lapseki 18.90 278 P **P 06 09 47.9 -0.1**
RAZG Razgrad 18.91 288 ⇑P **P 06 09 48.3 +0.3**
VRI Vrincioaia 18.95 295 ⇑P **P 06 09 48.5 +0.1**
SARP Sargodha 18.96 110 P **Pn 06 09 49.5 -0.1**
ISR Istrita 18.98 293 ⇓P **P 06 09 48.6 -0.2**
PLOR Plostina 19.00 295 ⇓P **P 06 09 48.8 -0.2**
DKL Dikili 19.01 274 P **Pn 06 09 50.0 -0.1**
ERIK Erikli-Kesan 19.05 279 P **Pn 06 09 51.9 +1.3**
BLCB Balcova 19.05 272 P **P 06 09 49.6 0.0**
GCAM G?zelcaml? 19.08 270 P **Pn 06 09 51.6 +0.6**
DAT Datca 19.09 267 P **P 06 09 49.9 -0.3**
TESR Tescani 19.10 297 ⇑P **P 06 09 49.5 -0.6**
AAA Alma-Ata 19.11 73 *eP* **Pn 06 09 51.8 +0.3**
comp=Z,124nm,0.9s,baz=73
AAA *eS* **S 06 13 26.1 +1.2**
baz=73
AAA Alma-Ata 19.11 73 *eP* **Pn 06 09 51.8 +0.3**
AAA *eS* **S 06 13 26.9 +2.0**
AAA pmax pmax
comp=Z,124nm,0.9s
GELI Tayfur-Gelibol 19.11 278 P **Pn 06 09 50.9 -0.5**
TNSS Tian-Shan 19.14 73 *eP* **Pn 06 09 52.8 +0.6**
comp=Z,1µm,0.7s,baz=74
TNSS Tian-Shan 19.14 73 *eP* **Pn 06 09 52.7 +0.6**
TNSS pmax pmax
comp=Z,1µm,0.7s
SULR 19.15 292 ⇑P **Pn 06 09 51.3 -0.5**
KNDC Almaty 19.15 73 ⇑P **Pn 06 09 52.8 +0.9**
comp=Z,333nm,1.2s
KNDC ⇑S **Sn 06 13 34.0 +8.5**
comp=Z,766nm,1.1s
CHKK Chushkaly 19.18 71 *eP* **P 06 09 51.2 +0.2**
comp=Z,1µm,0.7s,baz=71
CHKK Chushkaly 19.18 71 *eP* **P 06 09 51.1 +0.1**
CHKK pmax pmax
comp=Z,1µm,0.7s
BODT Bodrum 19.20 268 P **Pn 06 09 52.2 -0.2**
MDOK Medeo 19.21 73 *eP* **Pn 06 09 53.1 +0.3**
comp=Z,2µm,2.1s,baz=73
MDOK *eS* **Sn 06 13 29.0 +1.9**
baz=73
MDOK Medeo 19.21 73 ⇑P **Pn 06 09 53.0 +0.3**
comp=Z,211nm,1.1s
MDOK S **Sn 06 13 34.4 +7.3**
comp=Z,287nm,1.1s
MDOK Medeo 19.21 73 *eP* **Pn 06 09 53.0 +0.3**
MDOK *eS* **Sn 06 13 29.0 +1.9**
MDOK pmax pmax
comp=Z,2µm,2.1s
SECR 19.31 293 ⇑P **Pn 06 09 53.3 -0.4**
ENEZ Enez 19.31 280 P **Pn 06 09 53.4 -0.4**
KDJ Kajisay 19.34 76 P **Pn 06 09 55.0 +0.7**
KDJ pmax pmax
comp=Z,141nm,0.7s
KDJ Kajisay 19.34 76 Pn 06 09 55.0 +0.7
ELND Elena 19.37 286 ⇑P **P 06 09 53.7 +0.6**
ALN Alexandroupoli 19.38 280 P **P 06 09 53.4 +0.3**
ALN pmax pmax
comp=Z,313nm,1.4s
ALN Alexandroupoli 19.38 280 P **P 06 09 53.4 +0.3**
ALN IAmb IAmb 06 10 09.9
comp=Z,313nm,1.4s
URLA Izmir 19.40 272 P **P 06 09 53.9 +0.4**
MLR Muntele Rosu 19.44 294 P **Pn 06 09 54.8 -0.6**
comp=Z,3.5nm,0.3s,baz=68,slow=4.6,SNR=40
MLR LR LR 06 19 42.5
comp=Z,3µm,21.4s,baz=88,slow=44
MLR Muntele Rosu 19.44 294 ⇑P **Pn 06 09 55.0 -0.4**
MLR Muntele Rosu 19.44 294 P 06 09 54.5 +0.5
MLR IAmb IAmb 06 10 13.6
comp=Z,248nm,1.0s
BOZC Bozcaada 19.52 277 P **P 06 09 55.4 +0.7**
BIZ Bicaz 19.55 298 ⇑P **P 06 09 54.3 -0.7**
PRAR RASCA 19.55 300 ⇑P **P 06 09 55.1 +0.1**
GADA Gvkgeada 19.58 278 P **P 06 09 55.5 +0.1**
OZUR 19.63 296 ⇑P **P 06 09 55.8 -0.1**
KDZ Kurdzhali 19.77 282 P **P 06 09 58.1 +0.6**
KARP Karpathos 19.81 264 P **P 06 09 57.9 0.0**
TARG Taragay, Kyrgy 19.83 77 Pn 06 10 00.8 +0.4
COPA Copaceanca 19.86 290 ⇓P **Pn 06 09 59.5 -0.8**
DOPR Dopca 19.89 295 ⇑P **P 06 09 58.9 +0.2**
MHTO MHTO 20.01 162 P **P 06 09 59.8 -0.3**
SNR=53
MHTO S **S 06 13 40.4 -2.5**
MTUR Matau 20.03 293 ⇑P **Pn 06 10 03.2 +0.8**
HUMR Humele 20.05 291 ⇑P **P 06 10 01.0 +0.6**
VOIR 20.06 294 ⇑P **P 06 10 01.4 +0.7**
SATY Saty 20.21 73 *eP* **P 06 10 03.2 +0.8**
comp=Z,61nm,0.9s,baz=74
SATY *eS* Sn 06 13 50.2 -0.8
baz=74
SATY Saty 20.21 73 *eP* **P 06 10 03.1 +0.8**
SATY *eS* Sn 06 13 50.2 -0.8
SATY pmax pmax
comp=Z,61nm,0.9s
PRZ Przheval'sk 20.22 75 P **Pn 06 10 04.2 -0.5**
PRZ pmax pmax
comp=Z,188nm,0.9s
PRZ MLR MLR
comp=Z,5µm,22.0s
PRZ Przheval'sk 20.22 75 Pn 06 10 04.2 -0.6
PRZ IAmb IAmb 06 10 23.3
comp=Z,188nm,0.9s
TDK Taldyqorghan 20.25 68 *eP* **P 06 10 03.1 +0.4**
comp=Z,849nm,2.3s,baz=68
TDK *eS* **S 06 13 49.0 +1.4**
baz=68
TDK Taldyqorghan 20.25 68 *eP* **P 06 10 03.1 +0.4**
TDK *eS* **S 06 13 48.9 +1.4**
TDK pmax pmax
comp=Z,849nm,2.3s
BURAR Bucovina Array 20.27 300 ⇓P **P 06 10 02.3 -0.7**
PLD Plovdiv 20.27 284 P **P 06 10 02.6 -0.3**
PLVB Pleven 20.28 288 ⇓P **P 06 10 03.2 +0.3**
BUR08 Bucovina Ar. S 20.29 300 P **P 06 10 02.4 -0.7**
BUR08 IAmb IAmb 06 10 17.7
comp=Z,359nm,0.9s
RZN Rozhen 20.29 283 P **P 06 10 03.2 -0.1**
ARR Arges 20.35 293 ⇑P **P 06 10 04.3 +0.6**
VLAD Vladila 20.44 289 ⇑P **P 06 10 05.3 +0.6**
APE Apeiranthos 20.56 269*d* *iP* **P 06 10 06.5 +0.4**
APE pmax pmax
comp=Z,284nm,0.9s
APE MLR MLR
comp=Z,1µm,18.0s
PGB Panagyurishte 20.64 285 P **P 06 10 07.3 +0.4**
UZB Uzynbulak 20.66 73 *eP* **P 06 10 08.2 +0.9**
comp=Z,28nm,0.8s,baz=73
UZB *eS* Sn 06 13 59.4 -2.4
baz=73
UZB Uzynbulak 20.66 73 *eP* **P 06 10 08.1 +0.9**
UZB *eS* Sn 06 13 59.4 -2.4
UZB pmax pmax
comp=Z,28nm,0.8s
SANT Santorini 20.82 268 P **P 06 10 08.6 -0.4**
SANT IAmb IAmb 06 10 12.9
comp=Z,308nm,1.1s
LOT Lotru 20.96 293 ⇑P **P 06 10 10.5 0.0**
SHLS Shalkode 20.98 73 *eP* Pn 06 10 14.8 +1.3
comp=Z,175nm,0.7s,baz=73
SHLS *eS* Sn 06 14 11.4 +1.9
baz=73
SHLS Shalkode 20.98 73 *eP* Pn 06 10 14.7 +1.2
SHLS *eS* Sn 06 14 11.4 +1.9
SHLS pmax pmax
comp=Z,175nm,0.7s
PDGK Podgornoye 20.99 73 ⇓P Pn 06 10 13.3 -0.3
comp=Z,127nm,0.8s
PDGK ⇓S Sn 06 14 12.2 +2.3
comp=Z,92nm,1.0s
PDGK Podgornoye 20.99 73 P **P 06 10 10.7 -0.1**
MMB Musomiste 21.04 283 P **P 06 10 11.4 +0.2**
CJR Cluj-Napoca 21.21 297 ⇑P **P 06 10 13.4 +0.4**
MICGM Minsk 21.28 320 ⇑*iP* **P 06 10 12.0 -1.7**
MICGM *iP* **P 06 10 12.0 -1.7**
MICGM PM 06 10 13.0
comp=Z,0.8nm,1.0s
MICGM *e*PP **PnPn 06 10 44.0 +10**
MICGM *e*PPP PPP 06 10 57.0
MICGM *e*S **S 06 14 02.0 -5.7**
MICGM *e*SS **SnSn 06 14 34.0 +2.3**
MICGM *e*SSS SSS 06 14 47.0
MICGM *e*LQ LQ 06 16 46.0
MICGM *e*LR LR 06 17 40.0
MICGM LRM MLR 06 18 58.0
comp=Z,2.6nm,26.0s
MNK Minsk 21.28 320 ⇑*iP* **P 06 10 12.0 -1.7**
MNK *e* 06 10 44.0
MNK *e*S **S 06 14 02.0 -5.7**
MNK *e*SS **SnSn 06 14 34.0 +2.3**
MNK pmax pmax
comp=Z,750nm,1.0s
SRE Strehaia 21.32 291 ⇑P **P 06 10 14.4 +0.2**
VTS Vitosha 21.32 286 P **P 06 10 14.4 0.0**
VTS Vitosha 21.32 286 ⇓P **P 06 10 15.2 +0.8**
VTS Vitosha 21.32 286 P **P 06 10 14.8 +0.4**
VTS IAmb IAmb 06 10 32.7
comp=Z,183nm,0.8s
BMR Baia Mare 21.42 299 ⇑P **P 06 10 15.1 -0.1**
KURBB Kurchatov Arra 21.43 52 P **P 06 10 15.5 +0.2**
comp=Z,121nm,0.8s,baz=254,slow=11,SNR=210
KURBB S **S 06 14 11.9 +1.1**
comp=Z,26nm,0.8s,baz=268,slow=24,SNR=5.3
KURBB Kurchatov Arra 21.43 52 ⇑P **P 06 10 15.5 +0.2**
comp=Z,343nm,1.2s
KURBB Kurchatov Arra 21.43 52 P **P 06 10 15.3 0.0**
DHRM DHARAMSHALA 21.45 104 *eP* **P 06 10 17.2 +1.3**
DHRM IAmb IAmb 06 10 18.7
comp=Z,506nm,0.6s
KKB Krupnik 21.49 284 P **P 06 10 15.8 -0.3**
KURK Kurchatov 21.52 52 ⇓P **P 06 10 16.4 +0.2**
comp=Z,573nm,1.0s
KURK Kurchatov 21.52 52 P **P 06 10 16.8 +0.6**
KURK P **P 06 10 16.8 +0.6**
KURK Kurchatov 21.52 52*c* *iP* **P 06 10 16.7 +0.5**
KURK pmax pmax
comp=Z,377nm,0.8s
KURK MLR MLR
comp=Z,6µm,18.0s
KURK Kurchatov 21.52 52 P **P 06 10 16.9 +0.6**
KURK Kurchatov 21.52 52 IAMs_20 IAMs_20 06 19 44.5
comp=Z,7µm,18.0s
LVV L'vov 21.55 305 *eP* **P 06 10 15.6 -1.0**
LVV *eS* **S 06 14 07.0 -6.1**
LVV pmax pmax
comp=Z,300nm,1.5s
DEV Deva 21.60 294 ⇑P **P 06 10 17.5 +0.3**
IDI Anoyia 21.63 265 P **P 06 10 16.1 -1.5**
comp=Z,57nm,0.4s,baz=62,slow=8.4,SNR=67
IDI S **S 06 14 12.0 -3.0**
comp=Z,19nm,0.6s,baz=130,slow=17,SNR=2.6
IDI LR LR 06 20 34.2
comp=Z,730nm,21.8s,baz=64,slow=42
IDI Anoyia 21.63 265 P **P 06 10 16.2 -1.5**
GZR Gura Zlata 21.66 293 ⇓P **P 06 10 16.9 -0.9**
DRGR 21.82 297 ⇓P **P 06 10 19.3 -0.3**
KLMR Klimovskoe 21.89 344*c* *iP* **P 06 10 17.4 -2.6**
KLMR *eS* **S 06 14 18.9 -0.5**
KLMR pmax pmax
comp=Z,671nm,1.2s
KLMR MLR MLR
comp=Z,2µm,9.0s
KLMR Klimovskoe 21.89 344 ⇑*iP* **P 06 10 17.5 -2.6**
KLMR ⇑*iP* **P 06 10 17.5 -2.6**
KLMR ⇓*iP* **P 06 10 17.5 -2.6**
KLMR AMP 06 10 25.3
comp=Z,671nm,1.2s
KLMR *eS* **S 06 14 19.0 -0.5**
KLMR *eS* **S 06 14 19.0 -0.5**
KLMR LQ LQ 06 16 59.8
KLMR LQ LQ 06 16 59.8
KLMR LR LR 06 18 19.1
KLMR AMP 06 20 15.1
comp=Z,2µm,9.4s
NACGM Naroch 22.04 320 *eP* **P 06 10 20.0 -1.7**
NACGM PM 06 10 37.0
comp=Z,1.2nm,1.0s
NACGM *e*PP **PnPn 06 10 54.0 +9.5**
NACGM *e*PPP PPP 06 11 17.0
NACGM *e*S **S 06 14 14.0 -8.3**

NACGM eSS SnSn 06 15 06.0 +16
NACGM eSSS SSS 06 15 40.0
NACGM eLQ LQ 06 17 44.0
NACGM eLR LR 06 18 22.0
NACGM LRM MLR 06 19 22.0
comp=Z,12nm,26.0s
LIT Litokhoron 22.17 279 P **P 06 10 22.2 -1.2**
LIT pmax pmax
comp=Z,36nm,0.9s
LIT Litokhoron 22.17 279 P **P 06 10 22.2 -1.2**
KWP Kalwaria Pacla 22.34 304 eP **P 06 10 24.3 -0.7**
KWP epP **pP 06 10 37.8 +2.6**
KWP eS **S 06 14 24.8 -3.1**
KWP eL L 06 19 53.5
comp=Z,5µm,24.5s
WHFO Wadi Hawf 22.38 174 P **P 06 10 24.3 -1.4**
SNR=16
WHFO P **P 06 10 24.3 -1.4**
SNR=16
WHFO S **S 06 14 25.9 -3.2**
WHFO S **S 06 14 25.9 -3.2**
UZH Uzhgorod 22.39 302 eP **P 06 10 23.9 -1.7**
UZH *i* 06 10 35.1
UZH *e* 06 10 55.7
UZH *e* 06 11 01.1
UZH *i* S **S 06 14 22.8 -6.0**
UZH *i* 06 14 35.2
SEM Semipalatinsk 22.42 54 eP **P 06 10 27.9 +1.6**
comp=Z,65nm,1.1s,baz=54
SEM eS **S 06 14 33.9 +4.0**
baz=54
SEM LR LR 06 19 17.6
comp=Z,2µm,14.5s,baz=54
SEM Semipalatinsk 22.42 54 eP **P 06 10 27.8 +1.6**
SEM pmax pmax
comp=Z,65nm,1.1s
SEM MLR MLR
comp=Z,2µm,14.0s
KOLS Kolonicke sedl 22.46 302 eP **P 06 10 25.5 -0.9**
KOLS Kolonicke sedl 22.46 302 eP **P 06 10 25.5 -0.9**
SHAO Shalim 22.47 170 *i* P **P 06 10 25.1 -1.6**
SNR=27
SHAO Shalim 22.47 170 P **P 06 10 25.4 -1.3**
SNR=7.9
BZS Buzias 22.48 294 ⇑P **P 06 10 26.0 -0.6**
AGG Agios Georgios 22.50 276 P **P 06 10 26.4 -0.6**
AGG pmax pmax
comp=Z,304nm,1.0s
AGG Agios Georgios 22.50 276 P **P 06 10 26.4 -0.6**
IIGN Ignalina 22.55 320 eP **P 06 10 26.8 -0.4**
IIGN IAmb IAmb 06 10 36.7
comp=Z,133nm,0.8s
SMLA Simla 22.65 106 eP **P 06 10 29.5 +1.0**
SMLA IAmb IAmb 06 10 33.7
comp=Z,239nm,1.0s
DMTO DMTO 22.69 172 P **P 06 10 27.5 -1.5**
SNR=11
DMTO P **P 06 10 27.5 -1.5**
SNR=11
DMTO S **S 06 14 29.4 -5.1**
DMTO S **S 06 14 29.4 -5.1**
SKO Skopje 22.70 284 *i* P **P 06 10 30.6 +1.6**
ISAL Salakas 22.71 321 eP **P 06 10 28.1 -0.8**
ISAL IAmb IAmb 06 10 35.5
comp=Z,118nm,0.7s
ISAL eS **S 06 14 31.4 -2.9**
IZAR Zarasai 22.75 321 eP **P 06 10 29.0 -0.3**
RBK Rabkut 22.82 174 P **P 06 10 30.0 -0.5**
SNR=32
MAKZ Makanchi 22.89 63 ⇑P **P 06 10 31.2 +0.3**
comp=Z,268nm,1.0s
MAKZ ⇑S **S 06 14 45.7 +8.1**
comp=Z,222nm,1.1s
MAKZ Makanchi 22.89 63 P **P 06 10 31.4 +0.5**
MAKZ Makanchi 22.89 63 P **P 06 10 30.9 0.0**
MAKZ IAmb IAmb 06 10 34.5
comp=Z,182nm,0.8s
CRVS Cervenica-Dubn 22.98 302 eP **P 06 10 31.3 -0.5**
CRVS Cervenica-Dubn 22.98 302 eP **P 06 10 31.3 -0.5**
MK31 Makanchi Array 23.10 63 ⇑P **P 06 10 33.3 +0.2**
comp=Z,95nm,0.7s
MK31 ⇓S **S 06 14 49.8 +8.5**
comp=Z,316nm,1.2s
MK31 Makanchi Array 23.10 63 P **P 06 10 33.3 +0.2**
MK31 pmax pmax
comp=Z,110nm,0.9s
MK31 Makanchi Array 23.10 63 P **P 06 10 33.3 +0.2**
MK31 IAmb IAmb 06 10 36.4
comp=Z,110nm,0.8s
MKAR Makanchi Array 23.10 63 P **P 06 10 33.4 +0.3**
comp=Z,96nm,0.7s,baz=258,slow=9.3,SNR=406
MKAR LR LR 06 20 32.7
comp=Z,3µm,18.4s,baz=244,slow=39
MKAR P3KPbc 06 44 04.4
comp=Z,5.1nm,0.9s,baz=84,slow=4.0,SNR=31
ITM Ithomi 23.28 272 P **P 06 10 32.9 -2.0**
ITM IAmb IAmb 06 10 35.1
comp=Z,161nm,0.8s
OHR Ohrid 23.29 282 *i* P **P 06 10 35.4 +0.4**
SUW Suwalki 23.48 315 eP **P 06 10 36.9 +0.2**
SUW eS **S 06 14 44.5 -2.8**
SUW eL L 06 20 31.7
comp=Z,5µm,24.2s
SUW Suwalki 23.48 315 P **P 06 10 36.6 -0.1**
SUW pmax pmax
comp=Z,584nm,1.0s
SUW MLR MLR
comp=Z,900nm,21.0s
SUW Suwalki 23.48 315 P **P 06 10 36.5 -0.1**
KECS Kecovo 23.55 301 eP **P 06 10 37.0 -0.4**
KECS Kecovo 23.55 301 eP **P 06 10 37.0 -0.4**
PUL Pulkovo 23.60 333 eP **P 06 10 37.5 -0.3**
PUL eS **S 06 14 46.0 -5.0**
PUL Pulkovo 23.60 333 ⇑eP **P 06 10 37.0 -0.8**
PUL pmax pmax
comp=Z,160nm,0.7s
PUL MLR MLR
comp=Z,3µm,21.0s
DIVS Divibare 23.62 290 P **P 06 10 37.8 -0.5**
DIVS IAmb IAmb 06 10 40.6
comp=Z,245nm,1.1s
DIVS Divibare 23.62 290 ⇓*i* P **P 06 10 37.4 -0.8**
DDI Dehra Dun 23.72 107 eP **P 06 10 40.2 +1.0**
DDI IAmb IAmb 06 10 42.4
comp=Z,222nm,0.6s
PABE Paberze 23.74 319 eP **P 06 10 39.2 +0.1**
PABE eS **S 06 14 52.0 +0.7**
PVY Plav 23.74 286 ⇓*i* P **P 06 10 39.6 +0.2**
FRGS Fruska Gora 23.74 292 ⇓*i* P **P 06 10 38.9 -0.4**
IVA Berane 23.76 287 ⇓*i* P **P 06 10 39.8 +0.2**
NIE Niedzica 23.82 303 eP **P 06 10 39.5 -0.5**
NIE epP **pP 06 10 53.0 +2.1**
NIE eL L 06 21 08.4
comp=Z,6µm,23.2s
PSZ Piszkesteto 23.86 299 P **P 06 10 40.4 0.0**
PSZ pmax pmax
comp=Z,393nm,1.2s
PSZ MLR MLR
comp=Z,2µm,21.0s
PSZ Piszkesteto 23.86 299 P **P 06 10 40.4 0.0**
TEKS Tekeris 23.94 291 eP **P 06 10 41.8 +0.6**
TIR Tirane 23.95 283 ⇑P **P 06 10 40.8 -0.4**
TIR Tirane 23.95 283 P **P 06 10 39.8 -1.4**
TIR IAmb IAmb 06 10 58.0
comp=Z,197nm,1.0s
KOME Kolasin 24.04 287 ⇓*i* P **P 06 10 42.6 +0.4**
BBLS Lazići 24.05 289 ⇓*i* P **P 06 10 42.1 -0.2**
BEL Belsk 24.09 309 eP **P 06 10 42.2 -0.2**
BEL epP **pP 06 10 54.8 +1.4**
BEL eL L 06 21 46.8
comp=Z,4µm,20.6s
VSU Vasula 24.09 327 eP **P 06 10 41.6 -0.7**
VSU IAmb IAmb 06 11 07.7
comp=Z,635nm,0.6s
VSU eS **S 06 14 58.0 +1.0**
VSU Vasula 24.09 327*c* *i*P **P 06 10 41.7 -0.7**
VSU pmax pmax
comp=Z,259nm,0.7s
VSU MLR MLR
comp=Z,7µm,20.0s
PLE Pljevlja 24.10 288 ⇓*i*P **P 06 10 43.0 +0.3**
PDG Podgorica 24.27 286 P **P 06 10 43.7 -0.5**
PDG Podgorica 24.27 286 ⇓*i* P **P 06 10 43.6 -0.5**
TTG Podgorica 24.27 286 ⇓*i*P **P 06 10 43.8 -0.3**

OJC Ojcow 24.30 305 *e*P **P 06 10 43.5 -0.8**
OJC *e*pP **pP 06 10 57.0 +1.6**
OJC *e*S **S 06 14 58.0 -2.5**
OJC *e*L L 06 21 04.6
comp=Z,3µm,24.6s
OJC Ojcow 24.30 305 P **P 06 10 43.6 -0.8**
OJC pmax pmax
comp=Z,382nm,1.2s
OJC Ojcow 24.30 305 P **P 06 10 43.6 -0.8**
LANS Liptovska Anna 24.31 302 *e*P **P 06 10 46.4 +1.8**
LANS Liptovska Anna 24.31 302 *e*P **P 06 10 46.4 +1.8**
ULC Ulcinj 24.33 285 ⇓*i*P **P 06 10 43.9 -0.9**
DRME Dracevica, Mon 24.35 285 ⇓*i*P **P 06 10 44.6 -0.3**
DRME Dracevica, Mon 24.35 285 ⇓*i*P **P 06 10 44.0 -0.9**
UPM Unac-Piva 24.46 288 ⇓*i*P **P 06 10 45.8 -0.3**
UPM Unac-Piva 24.46 288 *e*P **P 06 10 49.1 +3.0**
NKME Niksic 24.46 287 ⇓*i*P **P 06 10 45.9 0.0**
CEME Cevo 24.51 286 ⇓*i*P **P 06 10 45.9 -0.5**
BUM Brajici-Budva 24.55 285 ⇓*i*P **P 06 10 46.3 -0.5**
MORH Mrgy, Hungar 24.58 295 ⇓*i*P **P 06 10 47.1 +0.2**
VYHS Vyhne 24.63 300 *e*P **P 06 10 48.4 +1.0**
VYHS Vyhne 24.63 300 *e*P **P 06 10 48.4 +1.0**
BRY Bratogost 24.75 287 ⇓*i*P **P 06 10 48.7 +0.1**
BRY Bratogost 24.75 287 *e*P **P 06 10 48.8 +0.1**
HCY Herceg Novi 24.83 286 ⇓*i*P **P 06 10 48.7 -0.5**
HCY Herceg Novi 24.83 286 *e*P **P 06 10 48.6 -0.6**
TREB Trebinje 24.91 287 *e*P **P 06 10 49.5 -0.4**
ZSN Zaisan 24.91 62 *e*P **P 06 10 51.1 +1.2**
comp=Z,34nm,0.8s,baz=62
ZSN *e*S **S 06 15 14.8 +4.4**
baz=62
ZSN Zaisan 24.91 62 *e*P **P 06 10 51.1 +1.2**
ZSN *e*S **S 06 15 14.7 +4.4**
ZSN pmax pmax
comp=Z,34nm,0.8s
PBUR Paburge 25.00 319 *e*P **P 06 10 50.5 -0.1**
PBUR *e*S **S 06 15 13.3 +1.7**
DBRK Dubrovnik 25.06 286 P **P 06 10 50.7 -0.6**
TMCR Tamitsa 25.19 346 *e*P **P 06 10 51.4 -0.8**
TMCR *e*S **S 06 15 17.7 +3.3**
TMCR pmax pmax
comp=Z,275nm,0.9s
SCTE Santa Cesarea 25.21 280 P **P 06 10 51.3 -1.4**
OKC Ostrava-Krasne 25.27 303 *e*P **P 06 10 53.8 +0.6**
OKC *e*sP **sP 06 11 08.8 -0.3**
OKC *e*S **S 06 15 16.9 +0.8**
OKC AMS AMS 06 22 00.0
comp=Z,2µm,15.9s
OKC Ostrava-Krasne 25.27 303 *e*P **P 06 10 53.8 +0.6**
OKC *e* 06 11 08.8
OKC *e*S **S 06 15 16.9 +0.8**
OKC MLR MLR
comp=Z,2µm,15.9s
STON Ston 25.37 287 P **P 06 10 53.4 -0.7**
STON Ston 25.37 287 ⇓*i*P **P 06 10 53.2 -0.9**
JAVC Velka Javorina 25.45 301 *e*S **S 06 15 19.3 +0.4**
JAVC Velka Javorina 25.45 301 *e*P **P 06 10 55.7 +0.9**
JAVC Velka Javorina 25.45 301 *e*pP pP 06 11 09.5 +3.7
SMOL Smolenice 25.57 300 *e*P **P 06 10 56.8 +0.9**
SMOL Smolenice 25.57 300 *e*P **P 06 10 56.8 +0.9**
SLIT Slitere, Latvi 25.59 322 *e*P **P 06 10 54.8 -1.1**
BLY Banja Luka 25.61 291 ⇓*i*P **P 06 10 56.7 +0.4**
MORC Moravsky Berou 25.65 303 *e*P **P 06 10 56.8 +0.1**
MORC *e*pP **pP 06 11 10.4 +2.7**
MORC *e*S **S 06 15 21.9 -0.3**
MORC Moravsky Berou 25.65 303 ⇑P **P 06 10 57.3 +0.6**
MORC Moravsky Berou 25.65 303 P **P 06 10 56.9 +0.2**
MODS Modra-Piesok 25.65 300 *e*P **P 06 10 56.7 0.0**
MODS Modra-Piesok 25.65 300 *e*P **P 06 10 56.7 0.0**
MGRS Mrkonjic Grad 25.70 291 *e*P **P 06 10 59.0 +1.9**
ZST Bratislava 25.75 299 *e*P **P 06 10 57.5 0.0**
ZST Bratislava 25.75 299 *e*P **P 06 10 57.5 0.0**
MAKA Makarska 25.82 288 P **P 06 10 57.6 -0.6**
BEHE Becsehely 25.88 295 ⇓*i*P **P 06 11 01.6 +2.9**
MOSL Moslavina 25.89 293 P **P 06 10 58.9 0.0**
TAR1 Taranto 26.01 282 *e*P **P 06 10 58.7 -1.3**
KALN Kalnik 26.10 295 P **P 06 11 01.0 +0.2**
ZAA0 Zalesovo Array 26.14 47 ⇑P **P 06 11 00.9 -0.1**
comp=Z,21nm,0.8s
ZAA0 Zalesovo Array 26.14 47 P **P 06 11 00.9 -0.1**
ZAA0 IAmb IAmb 06 11 03.4
comp=Z,111nm,0.7s
ZAA0 IAMs_20 IAMs_20 06 22 36.7
comp=Z,5µm,19.0s
ZALV Zalesovo Beam 26.14 47 P **P 06 11 01.0 0.0**
comp=Z,136nm,0.8s,baz=262,slow=10,SNR=224
ZALV LR LR 06 22 47.7
comp=Z,4µm,19.3s,baz=245,slow=40
ZALV P3KPbc 06 43 48.1
comp=Z,2.5nm,0.6s,baz=83,slow=4.8,SNR=10
ZALV Zalesovo Beam 26.14 47 *i* P **P 06 11 01.0 0.0**
ZALV pmax pmax
comp=Z,138nm,0.8s
KRLC Kraliky 26.18 304 *e*P **P 06 11 02.0 +0.5**
KRLC *e*sP **sP 06 11 16.1 -1.3**
KRLC AMS AMS 06 21 50.0
comp=Z,2µm,24.0s
KRLC Kraliky 26.18 304 *e*P **P 06 11 02.0 +0.5**
KRLC *e* 06 11 16.1
KRLC MLR MLR
comp=Z,2µm,24.0s
VRAC Vranov 26.20 302 P **P 06 11 02.0 +0.4**
comp=Z,24nm,0.8s,baz=99,slow=9.0,SNR=31
VRAC LR LR 06 23 25.8
comp=Z,2µm,21.7s,baz=132,slow=41
VRAC Vranov 26.20 302 *e*P **P 06 11 01.8 +0.2**
VRAC *e*pP **pP 06 11 15.5 +2.9**
VRAC *e*S **S 06 15 29.4 -1.4**
VRAC Vranov 26.20 302 ⇑P **P 06 11 02.5 +0.9**
KIJV Kijevo 26.21 290 P **P 06 11 01.4 -0.3**
BAI Bari 26.21 283 *e*P **P 06 11 00.8 -0.9**
KOGS Kog 26.25 295 *e*pP pP 06 11 16.5 +3.4
KOGS Kog 26.25 295 *i* P **P 06 11 02.6 +0.6**
HVAR Hvar 26.25 288 P **P 06 11 01.3 -0.8**
FIA1 FINESS Array S 26.27 332 P **P 06 11 01.6 -0.5**
FINES FINESS Array B 26.27 332 P **P 06 11 01.6 -0.5**
comp=Z,82nm,0.6s,baz=140,slow=11,SNR=273
FINES LR LR 06 22 52.2
comp=Z,4µm,20.3s,baz=134,slow=40
FINES P3KPbc 06 43 47.6
comp=Z,3.0nm,0.8s,baz=318,slow=2.6,SNR=10
FINES FINESS Array B 26.27 332 *i* P **P 06 11 01.6 -0.5**
FINES pmax pmax
comp=Z,83nm,0.6s
KRUC Moravsky 26.30 301 *e*P **P 06 11 02.7 +0.2**
KRUC *e*pP **sP 06 11 18.0 -0.5**
KRUC *e*S **S 06 15 33.8 +1.4**
DAMY Dhamar 26.38 196 P **P 06 11 06.2 +2.4**
SNR=89
DAMY Dhamar 26.38 196 P **P 06 11 06.0 +2.2**
SG1 Sgolgore (BA) 26.41 283 *e*P **P 06 11 02.5 -1.1**
ZAG Zagreb 26.43 294 P **P 06 11 04.1 +0.4**
ZAG Zagreb 26.43 294 *e*P **P 06 11 04.1 +0.4**
PTJ Puntijarka 26.44 294 P **P 06 11 04.0 +0.1**
DPC Dobruska-Polom 26.52 304 *e*P **P 06 11 05.6 +1.1**
DPC *e*x x 06 11 19.5
DPC *e*S **S 06 15 37.8 +2.0**
DPC AMS AMS 06 21 50.0
comp=Z,2µm,25.3s
DPC Dobruska-Polom 26.52 304 *e*P **P 06 11 05.6 +1.1**
DPC *e* 06 11 19.5
DPC *e*S **S 06 15 37.8 +2.0**
DPC MLR MLR
comp=Z,2µm,25.3s
CONA Conrad Observa 26.56 299 *e*P **P 06 11 05.2 +0.2**
comp=Z,206nm,1.1s,SNR=46
GKP Gorka Klasztor 26.57 311 *e*P **P 06 11 04.7 -0.2**
GKP *e*L L 06 22 33.9
comp=Z,2µm,24.8s
KSP Ksiaz 26.61 305 *e*P **P 06 11 05.8 +0.5**
KSP *e*pP **pP 06 11 18.3 +2.0**
KSP *e*S **S 06 15 34.2 -3.0**
KSP *e*L L 06 21 46.6
comp=Z,2µm,27.6s
OSTC Ostas 26.61 305 *e*P **P 06 11 06.4 +1.0**
OSTC AMS AMS 06 22 20.0
comp=Z,2µm,20.7s
UDBI Udbina 26.63 291 P **P 06 11 05.4 -0.3**
GOLS Golise 26.68 294 *i* P **P 06 11 06.3 +0.3**
GOLS *i* pP **sP 06 11 20.2 -1.7**
TIP Timpagrande 26.69 279 P **P 06 11 05.2 -1.0**
CHVC Chvalec 26.72 305 *e*P **P 06 11 07.4 +1.1**

MORI Morici 26.72 290 P **P 06 11 05.6 -0.7**
UPC Upice 26.74 304 *e*P **P 06 11 07.6 +1.2**
UPC AMS AMS 06 21 40.0
comp=Z,2µm,19.4s
UPC Upice 26.74 304 *e*P **P 06 11 07.6 +1.2**
UPC MLR MLR
comp=Z,2µm,19.4s
ARSA Arzberg 26.76 297 *i* P **P 06 11 07.0 +0.3**
comp=Z,270nm,1.0s,SNR=55
ZIRJ Zirje 26.79 289 P **P 06 11 06.2 -0.7**
OZLJ Ozalj 26.80 293 P **P 06 11 07.5 +0.5**
CRES Cresnjev 26.80 294 ⇓*i*P **P 06 11 07.2 +0.1**
DGZ Jazzator, Alta 26.82 57*c* *i*P **P 06 11 07.9 +0.5**
DGZ pmax pmax
comp=Z,52nm,0.8s
DGZ MLR MLR
comp=Z,5µm,19.0s
WMQ Urumqi 26.92 70 P **P 06 11 09.5 +1.3**
WMQ S **S 06 15 42.1 -0.2**
WMQ PcS **PcS 06 18 09.8 -1.0**
WMQ pmax pmax
comp=Z,99nm,0.9s
WMQ pmax pmax
comp=Z,200nm,7.1s
WMQ LR LR
comp=Z,1µm,23.3s
WMQ LR LR
comp=Z,1µm,21.5s
WMQ LR LR
comp=Z,2µm,23.3s
TREC Trest 26.92 302 AMS AMS 06 23 00.0
comp=Z,4µm,24.3s
SGRT San Giovanni R 26.95 285 P **P 06 11 07.3 -1.3**
SGRT IAmb IAmb 06 11 24.3
comp=Z,109nm,1.0s
BOJS Bojanci 26.95 293 *i* P **P 06 11 08.8 +0.4**
BOJS *e*pP **sP 06 11 22.8 -1.5**
BOJS *e*S **S 06 15 42.2 -0.4**
PERS Pernice 27.03 296 *i* P **P 06 11 09.6 +0.4**
SOKA Soboth 27.09 296 *i* P **P 06 11 10.1 +0.4**
comp=Z,537nm,1.0s,SNR=148
DUGI Dugi Otok 27.18 290 P **P 06 11 09.5 -0.9**
NVLJ Novalja 27.27 291 P **P 06 11 11.0 -0.2**
OBKA Obir 27.42 295 *i* P **P 06 11 13.2 +0.5**
comp=Z,113nm,1.1s,SNR=34
GOPC GO Pecny, Ondr 27.44 303 *e*P **P 06 11 13.3 +0.5**
GOPC *e*sP **pP 06 11 26.6 +2.8**
GOPC AMS AMS 06 22 40.0
comp=Z,3µm,23.0s
GOPC GO Pecny, Ondr 27.44 303 *e*P **P 06 11 13.3 +0.5**
GOPC *e* 06 11 26.6
GOPC MLR MLR
comp=Z,3µm,23.0s
LJU Ljubljana 27.44 294 *i* P **P 06 11 13.3 +0.5**
LJU *e* 06 11 16.9
LJU *e*pP **sP 06 11 27.3 -1.5**
LJU *i* PcP PcP 06 14 46.0 +15
LJU *e*S **S 06 15 51.1 +0.7**
LJU *e*ScP **ScP 06 18 07.7 0.0**
LJU *e* 06 18 27.8
LJU Ljubljana 27.44 294 ⇓*i*P **P 06 11 13.3 +0.5**
RIY Rijeka 27.50 293 P **P 06 11 12.5 -0.8**
RIY Rijeka 27.50 293 *e*P **P 06 11 12.6 -0.7**
CEY Cerknica 27.52 294 ⇓*i*P **P 06 11 13.8 +0.2**
CEL Celeste 27.58 277 P **P 06 11 13.1 -1.1**
PRU Pruhonice 27.60 303 *e*P **P 06 11 14.5 +0.3**
PRU *ex* x 06 11 30.2
PRU *ex* x 06 16 05.5
PRU AMS AMS 06 22 20.0
comp=Z,3µm,31.1s
PRU Pruhonice 27.60 303 *e*P **P 06 11 14.5 +0.3**
PRU *e* 06 11 30.2
MOA Molln 27.63 298 *i* P **P 06 11 14.4 -0.1**
comp=Z,72nm,0.9s,SNR=20
BHPL Bhopal 27.64 120 ⇓*i*P **P 06 11 16.7 +1.9**
BHPL IAmb IAmb 06 11 20.9
comp=Z,110nm,0.8s
PVCC Panska Ves 27.65 304 *e*P **P 06 11 15.5 +0.9**
PVCC AMS AMS 06 22 30.0
comp=Z,1µm,17.2s
PVCC Panska Ves 27.65 304 *e*P **P 06 11 15.5 +0.9**
PVCC MLR MLR
comp=Z,1µm,17.2s
PRA Prague 27.68 303 *e*P **P 06 11 15.8 +0.9**
PRA *e*sP **sP 06 11 33.1 +2.3**
PRA *e*S S 06 16 10.1 +16
PRA AMS AMS 06 22 50.0
comp=Z,1µm,21.5s
PRA Prague 27.68 303 *e*P **P 06 11 15.8 +0.9**
PRA MLR MLR
comp=Z,1µm,21.5s
PBCC Pribram 27.93 302 *e*P **P 06 11 17.2 +0.1**
PAOL Paolisi 27.95 284 P **P 06 11 17.6 +0.1**
CADS Cadrg 27.99 295 *i* P **P 06 11 17.7 0.0**
BRJN Brijuni 28.04 292 P **P 06 11 17.6 -0.5**
MYKA Terra Mystica 28.05 296 *i* P **P 06 11 18.4 +0.1**
comp=Z,141nm,1.8s,SNR=20
GEC2 GERESS Array S 28.05 300 P **P 06 11 18.2 -0.1**
GEC2 GERESS Array S 28.05 300 *e*P **P 06 11 18.3 -0.1**
comp=Z,39nm,1.0s,baz=96,slow=9.0
GERES GERESS Array B 28.05 300 P **P 06 11 18.3 -0.1**
comp=Z,19nm,0.7s,baz=98,slow=8.4,SNR=178
GERES LR LR 06 24 33.4
comp=Z,2µm,20.9s,baz=104,slow=41
SOCY Socotra 28.08 175 P **P 06 11 15.8 -3.0**
SOCY IAmb IAmb 06 11 18.7
comp=Z,189nm,1.3s
BRG Berggiesshubel 28.09 305 S **S 06 16 00.0 -0.5**
BRG Berggiesshubel 28.09 305 ⇓*i*P **P 06 11 19.4 +0.9**
BRG *i* *PP **pP 06 11 32.5 +2.9**
BRG S **S 06 16 00.0 -0.5**
BRG pmax pmax
comp=Z,129nm,1.1s
BRG MLR MLR
comp=N,1µm,15.7s
BRG MLR MLR
comp=E,770nm,17.3s
BRG MLR MLR
comp=Z,1µm,16.2s
BRG Berggiesshubel 28.09 305 *e*X 06 11 32.5
BRG Berggiesshubel 28.09 305 *e*P **P 06 11 19.4 +0.9**
comp=Z,129nm,1.1s,baz=96,slow=9.0
BRG Berggiesshubel 28.09 305
comp=Z,1µm,16.2s
BRG Berggiesshubel 28.09 305
comp=E,770nm,17.3s
BRG Berggiesshubel 28.09 305
comp=N,1µm,15.7s
BRG Berggiesshubel 28.09 305 ⇓*i*P **P 06 11 19.4 +0.9**
comp=N,129nm,1.1s
BRG Berggiesshubel 28.09 305 *i* pP pP 06 11 32.5 +2.9
comp=N,249nm,1.1s
PRED Cave del Predi 28.10 295 P **P 06 11 18.6 -0.1**
PRED IAmb IAmb 06 11 37.4
comp=Z,134nm,1.2s
KHC Kasperske Hory 28.15 301 *e*P **P 06 11 19.3 +0.1**
KHC *ex* x 06 11 32.5
KHC *ex* x 06 16 17.0
KHC AMS AMS 06 23 10.0
comp=Z,3µm,23.6s
KHC Kasperske Hory 28.15 301*d* *i*P **P 06 11 18.8 -0.4**
KHC pmax pmax
comp=Z,102nm,1.1s
KHC MLR MLR
comp=Z,7µm,25.0s
KHC Kasperske Hory 28.15 301 P **P 06 11 19.0 -0.2**
KBA Koelnbreinsper 28.25 297 *i* P **P 06 11 20.4 +0.2**
comp=Z,160nm,0.9s,SNR=71
INTR Introdacqua 28.27 286 P **P 06 11 20.0 -0.3**
INTR IAmb IAmb 06 11 37.8
comp=Z,89nm,1.1s
BSD Bornholm Skovb 28.38 314 *i* P **P 06 11 19.4 -1.6**
comp=Z,40nm,0.9s
BSD Bornholm Skovb 28.38 314 *i* P **P 06 11 19.4 -1.6**
BSD pmax pmax
comp=Z,40nm,0.9s
RUE Ruedersdorf 28.44 308 *e*P **P 06 11 21.1 -0.5**
RUE Ruedersdorf 28.44 308 *e*X 06 11 34.7
RUE Ruedersdorf 28.44 308 *e*P **P 06 11 21.7 +0.1**
comp=Z,145nm,1.1s,baz=96,slow=9.0
FBE Freiberg 28.47 305 *e*X 06 11 36.2
FBE Freiberg 28.47 305 *e*P **P 06 11 23.0 +1.2**
comp=Z,162nm,1.1s,baz=96,slow=9.0
ZOU Zoufplan 28.51 296 P **P 06 11 22.4 -0.2**

ZOU IAmb IAmb 06 11 37.7
comp=Z,112nm,1.0s
PYUN Piuthan 28.54 105 *e*P **P 06 11 24.2 +1.2**
AQU L'Aquila 28.58 287 P **P 06 11 23.6 +0.5**
AQU pmax pmax
comp=Z,113nm,1.0s
AQU L'Aquila 28.58 287 P **P 06 11 23.6 +0.5**
AQU IAmb IAmb 06 11 38.9
comp=Z,114nm,1.0s
AQU L'Aquila 28.58 287 ⇓ *i*P **P 06 11 23.3 +0.2**
WET Wettzell 28.61 301 *e*P **P 06 11 22.8 -0.5**
comp=Z,16nm,1.1s,baz=96,slow=9.0
RJOB Jochberg 28.62 298 *e*P **P 06 11 23.3 -0.1**
comp=Z,85nm,0.8s,baz=96,slow=9.0
STAL STALIGIAL 28.70 295 P **P 06 11 23.6 -0.5**
NRCA Norcia 28.72 288 P **P 06 11 24.3 0.0**
CLL Collm 28.73 306 *i* (sP) sP 06 11 39.2 -1.0
comp=Z,188nm,1.2s
CLL Collm 28.73 306 ⇓ *i*P **P 06 11 25.8 +1.6**
CLL *i* *PP **sP 06 11 39.2 -1.0**
CLL *eS* **S 06 16 15.0 +4.4**
CLL pmax pmax
comp=Z,76nm,0.9s
CLL Collm 28.73 306 P **P 06 11 25.4 +1.2**
CLL IAmb IAmb 06 11 41.3
comp=Z,202nm,1.2s
CLL Collm 28.73 306 *e*Pmax 06 11 41.0
CLL Collm 28.73 306 *e* 06 11 44.0
CLL Collm 28.73 306 *e*PPP PPP 06 12 28.0
CLL Collm 28.73 306 *e*S **S 06 16 15.0 +4.4**
CLL Collm 28.73 306 *e*SSS SSS 06 17 48.0
CLL Collm 28.73 306 Lmax 06 22 00.0
CLL Collm 28.73 306 LmH 06 24 00.0
comp=N,1μm,21.2s
CLL Collm 28.73 306 LmH 06 24 00.0
comp=E,1μm,20.8s
CLL Collm 28.73 306 LmV 06 25 00.0
comp=Z,2μm,20.2s
CLL Collm 28.73 306 ⇓ *i*P **P 06 11 25.8 +1.6**
comp=Z,76nm,0.9s
ABTA Abfaltersbach 28.82 296 *i* P **P 06 11 25.1 -0.1**
comp=Z,92nm,1.2s,SNR=34
CIMO Cimolais 28.89 295 P **P 06 11 25.4 -0.3**
CIMO IAmb IAmb 06 11 40.5
comp=Z,121nm,1.3s
VAE Valguarnera 28.92 277 P **P 06 11 27.8 +1.7**
comp=Z,39nm,0.8s,baz=23,slow=3.2,SNR=20
POO Poona 28.95 132 *e*P **P 06 11 28.0 +1.5**
NKC Novy Kostel 28.97 303 *e*P **P 06 11 26.4 0.0**
NKC AMS AMS 06 23 20.0
comp=Z,2μm,23.7s
NKC Novy Kostel 28.97 303 *e*P **P 06 11 26.4 0.0**
NKC MLR MLR
comp=Z,2μm,23.7s
DANN Dangsing 28.98 104 *e*P **P 06 11 28.3 +1.3**
comp=Z,527nm,0.8s
TANN Tannenbergstha 28.98 304 *e*X 06 11 40.1
TANN Tannenbergstha 28.98 304 *e*P **P 06 11 27.0 +0.5**
comp=Z,99nm,1.2s,baz=96,slow=9.0
WERN Wernitzgruen 29.02 303 *e*X 06 11 40.7
WERN Wernitzgruen 29.02 303 *e*P **P 06 11 27.5 +0.7**
comp=Z,52nm,1.1s,baz=96,slow=9.0
GUNZ Gunzen 29.05 303 *e*X 06 11 40.9
GUNZ Gunzen 29.05 303 *e*P **P 06 11 27.7 +0.6**
comp=Z,44nm,1.3s,baz=96,slow=9.0
MURB Monte Urbino 29.09 289 P **P 06 11 28.7 +1.1**
ROTZ Rotzenmuhle 29.09 302 *e*X 06 11 40.7
ROTZ Rotzenmuhle 29.09 302 *e*P **P 06 11 27.6 +0.1**
comp=Z,44nm,1.2s,baz=96,slow=9.0
APA Apatity 29.10 346 ⇑ *i*P **P 06 11 26.2 -1.1**
APA *i* S **S 06 16 14.0 -2.0**
APA *i* SS **SnSn 06 17 37.0 -5.4**
APA pmax pmax
comp=Z,14nm,0.7s
RGN Rugen 29.13 312 *e*P **P 06 11 28.9 +1.2**
RGN Rugen 29.13 312 P **P 06 11 27.9 +0.2**
RGN IAmb IAmb 06 11 44.8
comp=Z,152nm,1.0s
LVZ Lovozero 29.17 347 *ce*P **P 06 11 28.0 0.0**
LVZ pmax pmax
comp=Z,30nm,0.8s
LVZ MLR MLR
comp=Z,4μm,18.0s
LVZ Lovozero 29.17 347 P **P 06 11 27.5 -0.5**
LVZ IAmb IAmb 06 11 46.8
comp=Z,132nm,0.9s
LVZ IAMs_20 IAMs_20 06 24 41.7
comp=Z,5μm,19.0s
MANZ Manzenberg 29.17 303 *e*P **P 06 11 28.4 +0.2**
comp=Z,15nm,0.9s,baz=96,slow=9.0
KOLN Koldanda 29.18 105 *e*P **P 06 11 29.6 +1.0**
comp=Z,315nm,1.0s
PLN Plauen 29.18 304 *e*X 06 11 41.7
PLN Plauen 29.18 304 *e*P **P 06 11 28.6 +0.4**
comp=Z,50nm,1.1s,baz=96,slow=9.0
WDD Wied Dalam 29.36 273 P **P 06 11 29.8 -0.2**
WTTA Wattenberg 29.41 297 *i* P **P 06 11 30.2 -0.3**
comp=Z,224nm,0.8s,SNR=91
WTTA *i* PcP **PcP 06 14 36.1 +0.5**
comp=Z,21nm,0.6s
CTI Castel Tesino 29.45 295 P **P 06 11 30.7 -0.1**
CTI pmax pmax
comp=Z,79nm,0.8s
CTI Castel Tesino 29.45 295 P **P 06 11 30.7 -0.1**
CTI IAmb IAmb 06 11 46.8
comp=Z,79nm,0.8s
WATA Walderalm 29.45 297 *i* P **P 06 11 30.2 -0.6**
comp=Z,161nm,1.2s,SNR=47
WATA *e*PcP **PcP 06 14 36.0 +0.3**
comp=Z,21nm,0.7s
NEUB Neuenburg 29.49 305 *e*X 06 11 44.8
NEUB Neuenburg 29.49 305 *e*P **P 06 11 31.9 +1.0**
comp=Z,183nm,0.8s,baz=96,slow=9.0
MOX Moxa 29.54 304 *e*P **P 06 11 32.1 +0.7**
comp=Z,95nm,0.9s,baz=96,slow=9.0
MOX Moxa 29.54 304 *e*X 06 11 45.3
MOX Moxa 29.54 304 *e*L L 06 25 47.2
comp=Z,715nm,20.6s
CORL Corleone 29.64 278 P **P 06 11 31.9 -0.7**
CORL IAmb IAmb 06 11 48.7
comp=Z,105nm,1.3s
FUR Furstenfeldbru 29.65 299 *e*X 06 11 45.9
FUR Furstenfeldbru 29.65 299 *e*P **P 06 11 31.6 -0.8**
comp=Z,102nm,0.8s,baz=96,slow=9.0
ATD Arta Tunnel 29.67 197 P **P 06 11 34.3 +1.4**
comp=Z,23nm,0.8s,baz=350,slow=6.9,SNR=27
ATD PcP **PcP 06 14 38.3 +1.7**
comp=Z,16nm,0.7s,baz=4.1,slow=7.5,SNR=4.5
ATD LR LR 06 25 47.2
comp=Z,2μm,18.3s,baz=356,slow=41
ATD Arta Tunnel 29.67 197 P **P 06 11 35.5 +2.6**
SNR=14
ATD Arta Tunnel 29.67 197 P **P 06 11 34.6 +1.8**
SQTA Sankt Quirin 29.70 297 *i* P **P 06 11 32.4 -0.6**
comp=Z,111nm,1.1s,SNR=40
SQTA *e*PcP **PcP 06 14 36.8 +0.5**
comp=Z,67nm,1.6s
LATE Laterza 29.71 288 P **P 06 11 32.8 -0.2**
GRA1 Grafenberg Arr 29.72 302 P **P 06 11 33.3 +0.2**
GRF Grafenberg Arr 29.72 302 P **P 06 11 33.3 +0.2**
GRF pmax pmax
comp=Z,65nm,1.0s
GRF MLR MLR
comp=Z,1μm,20.0s
GRF Grafenberg Arr 29.72 302 *e*L L 06 25 21.8
comp=Z,1μm,20.7s
GRF Grafenberg Arr 29.72 302 *e*P **P 06 11 33.5 +0.4**
comp=Z,42nm,0.8s,baz=96,slow=9.0
GRF Grafenberg Arr 29.72 302 *e*X 06 11 46.7
MOTA Moosalm 29.77 297 *i* P **P 06 11 32.8 -0.8**
comp=Z,65nm,0.8s,SNR=41
MOTA *e*PcP **PcP 06 14 36.9 +0.5**
comp=Z,32nm,0.8s
CLTB Caltabellotta 29.80 277 P **P 06 11 33.7 -0.3**
CLTB IAmb IAmb 06 11 34.9
comp=Z,88nm,1.3s
GKN Gorkha 29.82 104 *e*P **P 06 11 35.2 +0.9**
OSSC Osservatorio P 29.98 290 P **P 06 11 35.1 -0.2**
RETA Reutte 30.00 298 *i* P **P 06 11 34.7 -0.9**
comp=Z,42nm,0.9s,SNR=19
RETA *e*PcP **PcP 06 14 36.9 -0.1**
comp=Z,17nm,0.9s
FETA Feichten 30.04 297 *i* P **P 06 11 35.4 -0.6**
comp=Z,98nm,0.9s,SNR=47
ZCCA Zocca 30.07 291 P **P 06 11 37.6 +1.4**
ZCCA IAmb IAmb 06 11 53.9
comp=Z,100nm,1.0s
SALO Salr 30.26 294 P **P 06 11 37.8 -0.1**
SALO IAmb IAmb 06 11 40.3
comp=Z,74nm,0.8s
ASSE Asse, Remlinge 30.27 307 *eX* 06 11 51.6
ASSE Asse, Remlinge 30.27 307 *eP* **P 06 11 38.4 +0.6**
comp=Z,58nm,1.2s,baz=96,slow=9.0
CASP Castiglione de 30.36 288 P **P 06 11 37.6 -1.2**
FUORN Ofenpass-Fuorn 30.37 296 P **P 06 11 38.8 -0.3**
FUORN IAmb IAmb 06 11 54.2
comp=Z,121nm,1.1s
DMN Daman 30.38 104 *e*P **P 06 11 40.3 +1.0**
comp=Z,225nm,1.1s
KKN Kakani 30.41 104 *e*P **P 06 11 40.2 +0.6**
UBR Ueberruh 30.44 298 *eX* 06 11 52.2
UBR Ueberruh 30.44 298 *e*P **P 06 11 38.9 -0.6**
comp=Z,78nm,0.8s,baz=96,slow=9.0
PRMA PARMA 30.49 292 P **P 06 11 39.3 -0.5**
PRMA IAmb IAmb 06 11 56.1
comp=Z,124nm,0.9s
VLC Villacollemand 30.51 291 P **P 06 11 39.9 -0.2**
VLC IAmb IAmb 06 11 57.2
comp=Z,117nm,1.0s
UBBA Unterbreizbach 30.57 304 *eX* 06 11 54.8
UBBA Unterbreizbach 30.57 304 *eP* **P 06 11 41.5 +1.1**
comp=Z,68nm,1.0s,baz=96,slow=9.0
DAVA Damuels 30.60 297 *i* P **P 06 11 40.3 -0.8**
comp=Z,114nm,0.9s,SNR=41
DAVA *e*PcP **PcP 06 14 39.4 +0.7**
comp=Z,36nm,0.8s
PKIN Phulchoki 30.61 104 *e*P **P 06 11 42.1 +0.7**
comp=Z,185nm,1.0s
PKI Pulchoki 30.62 104 *e*P **P 06 11 42.2 +0.6**
comp=Z,217nm,1.0s
DAVOX Davos/Dischmat 30.63 296 P **P 06 11 40.9 -0.4**
comp=Z,73nm,0.8s,baz=91,slow=7.0,SNR=123
GTTG Gottingen 30.65 306 *eX* 06 11 55.3
GTTG Gottingen 30.65 306 *eP* **P 06 11 42.1 +0.9**
comp=Z,105nm,1.0s,baz=96,slow=9.0
NRDL Niedersach Rie 30.66 307 *eX* 06 11 55.2
NRDL Niedersach Rie 30.66 307 *eP* **P 06 11 42.0 +0.8**
comp=Z,65nm,1.8s,baz=96,slow=9.0
HFS Hagfors 30.70 323 P **P 06 11 41.0 -0.5**
comp=Z,75nm,0.8s,baz=115,slow=10.0,SNR=112
HFS LR LR 06 25 26.9
comp=Z,2μm,19.0s,baz=107,slow=39
HFS Hagfors 30.70 323 P **P 06 11 41.0 -0.5**
BSEG Bad Segeberg 30.74 310 *e*P **P 06 11 42.8 +0.9**
comp=Z,104nm,0.9s,baz=96,slow=9.0
GUN Gumba 30.79 103 *e*P **P 06 11 43.9 +0.8**
comp=Z,408nm,1.0s
KLRI Killari 30.92 128 *e*P **P 06 11 45.0 +1.0**
KLRI IVmBBB 06 11 45.5
comp=Z,1μm,1.0s
TUE Stuetta 31.01 296 P **P 06 11 43.9 -0.8**
TUE IAmb IAmb 06 12 00.2
comp=Z,118nm,0.9s
MSSA Maissana 31.11 291 P **P 06 11 45.3 -0.1**
RETH Rethem/Aller, 31.14 308 *e*P **P 06 11 46.6 +1.1**
comp=Z,53nm,1.1s,baz=96,slow=9.0
RETH Rethem/Aller, 31.14 308 *eX* 06 11 59.6
JIRN Jiri 31.16 103 *e*P **P 06 11 47.4 +1.1**
KRAR Krasnoyarsk 31.16 46 ⇑ *e*P **P 06 11 46.9 +1.2**
SRSP Sriramsagar 31.34 125 *e*P **P 06 11 48.1 +0.6**
SRSP IVmB_BB 06 11 48.7
comp=Z,488nm,0.6s
SKMB Sankelmark Bun 31.37 312 *e*P **P 06 11 48.6 +1.1**
comp=Z,72nm,1.1s,baz=96,slow=9.0
GOA Goa 31.41 136 *e*P **P 06 11 49.5 +1.3**
GOA IAmb IAmb 06 11 51.2
comp=Z,80nm,1.0s
TNS Taunus Mts 31.53 303 *eX* 06 12 03.2
TNS Taunus Mts 31.53 303 *eP* **P 06 11 50.1 +1.0**
comp=Z,76nm,1.0s,baz=96,slow=9.0
BFO Black Forest 31.61 299 P **P 06 11 48.7 -1.1**
BFO pmax pmax
comp=Z,67nm,1.0s
BFO MLR MLR
comp=Z,1μm,20.0s
BFO Black Forest 31.61 299 P **P 06 11 48.7 -1.1**
BFO IAmb IAmb 06 12 05.3
comp=Z,67nm,1.0s
BFO Black Forest 31.61 299 *eX* 06 12 02.8
BFO Black Forest 31.61 299 *eP* **P 06 11 49.0 -0.8**
comp=Z,29nm,0.8s,baz=96,slow=9.0
RAMN Ramite 31.85 104 *e*P **P 06 11 52.8 +0.5**
comp=Z,215nm,0.9s
MUD Monsted U'grnd 31.86 315 *i* P **P 06 11 52.2 +0.5**
MUD Monsted U'grnd 31.86 315 *e*P **P 06 11 52.2 +0.5**
NC602 NORSAR Array S 31.91 323 P **P 06 11 51.5 -0.7**
NC602 IAmb IAmb 06 11 52.5
comp=Z,112nm,1.1s
NC602 NORSAR Array S 31.91 323 *e*P **P 06 11 51.5 -0.7**
GOET G??ttrup 31.96 316 *i* P **P 06 11 53.0 +0.4**
GOET *i* 06 12 10.4
NC405 NORSAR Array S 31.98 324 P **P 06 11 52.1 -0.7**
RPR Rampur 31.99 124 *e*P **P 06 11 54.5 +1.2**
RPR IVmB_BB 06 11 54.9
comp=Z,405nm,0.7s
OSL Oslo 32.02 322 *e*P **P 06 11 52.8 -0.3**
IBBN Ibbenburen 32.08 307 *eX* 06 12 07.7
IBBN Ibbenburen 32.08 307 *eP* **P 06 11 54.5 +0.8**
comp=Z,136nm,1.1s,baz=96,slow=9.0
NB201 NORSAR Array S 32.14 324 P **P 06 11 53.5 -0.7**
VSL Villasalto 32.16 283 P **P 06 11 54.3 -0.3**
NB2 NORSAR Subarra 32.17 324 P **P 06 11 53.5 -1.1**
comp=Z,83nm,1.0s,baz=112,slow=9.3
NB2 NORSAR Subarra 32.17 324 P **P 06 11 53.5 -1.1**
baz=112,slow=9.3
NC303 NORSAR Array S 32.17 324 P **P 06 11 53.8 -0.7**
NOA NORSAR Array B 32.17 324 P **P 06 11 53.5 -1.1**
comp=Z,44nm,0.9s,baz=113,slow=8.3,SNR=166
NOA PP **PP 06 13 04.5 -3.0**
comp=Z,21nm,0.7s,baz=110,slow=13,SNR=4.9
NOA LR LR 06 26 12.8
comp=Z,2μm,19.5s,baz=105,slow=39
NAO01 NORSAR Array S 32.25 323 P **P 06 11 54.5 -0.7**
NAO01 IAmb IAmb 06 11 55.4
comp=Z,87nm,0.9s
BUG Bochum--Univer 32.33 305 *eX* 06 12 10.1
BUG Bochum--Univer 32.33 305 *eP* **P 06 11 56.9 +1.0**
comp=Z,63nm,0.9s,baz=96,slow=9.0
ARCES ARCESS Array B 32.36 343 P **P 06 11 56.0 -0.1**
comp=Z,5.8nm,0.5s,baz=148,slow=11,SNR=58
ARCES PP **PnPn 06 13 00.1 -3.5**
comp=Z,53nm,0.6s,baz=141,slow=12,SNR=6.1
ARCES LR LR 06 26 30.6
comp=Z,2μm,21.0s,baz=140,slow=39
ARCES ARCESS Array B 32.36 343 P **P 06 11 56.0 -0.1**
ARE0 ARCESS Array S 32.36 343 P **P 06 11 56.0 -0.1**
ARE0 ARCESS Array S 32.36 343 *eP* **P 06 11 55.9 -0.1**
NBO00 NORSAR Array S 32.37 324 P **P 06 11 55.2 -1.0**
NBO00 IAmb IAmb 06 11 56.5
comp=Z,83nm,1.0s
ECH Echery 32.40 299 P **P 06 11 55.6 -1.1**
ECH pmax pmax
comp=Z,152nm,1.0s
ECH MLR MLR
comp=Z,800nm,20.0s
ECH Echery 32.40 299 P **P 06 11 55.6 -1.1**
AHRW Bad Neuenahr-A 32.42 303 *eX* 06 12 11.3
AHRW Bad Neuenahr-A 32.42 303 *eP* **P 06 11 58.2 +1.4**
comp=Z,84nm,0.9s,baz=96,slow=9.0
SENIN Lac Senin/Sane 32.43 296 P **P 06 11 56.0 -1.3**
TAPN Taplejung 32.46 102 *e*P **P 06 11 58.7 +1.0**
comp=Z,136nm,0.9s
KONO Kongsberg 32.46 321 *ce*P **P 06 11 56.6 -0.4**
KONO pmax pmax
comp=Z,48nm,1.3s
KONO MLR MLR
comp=Z,3μm,21.0s
KONO Kongsberg 32.46 321 P **P 06 11 56.1 -1.0**
KONO IAmb IAmb 06 12 15.6
comp=Z,61nm,1.1s
KONO Kongsberg 32.46 321 *e*P **P 06 11 56.3 -0.7**
NC204 NORSAR Array S 32.47 324 P **P 06 11 56.4 -0.8**
NC204 IAmb IAmb 06 11 57.4
comp=Z,80nm,1.0s
ODAN Odare 32.48 103 *e*P **P 06 11 59.1 +1.2**
comp=Z,421nm,1.1s
KTK1 Kautokeino 32.49 341 *e*P **P 06 11 57.4 +0.2**
HYBB Hyderabad (bro 32.61 126 *e*P **P 06 11 59.6 +0.9**
HYBB IVmB_BB 06 12 00.2
comp=Z,1μm,1.4s
HYB Hyderabad 32.61 126 *i* P **P 06 12 00.0 +1.2**
comp=Z,230nm,1.0s
HYB Hyderabad 32.61 126 *e*P **P 06 11 59.7 +0.9**
HYB IAmb IAmb 06 12 01.1
comp=Z,132nm,1.0s
HOMB Homborsund 32.63 318 *e*P **P 06 11 57.6 -0.8**
WLF Walferdange 33.02 302 P **P 06 12 03.1 +1.1**
WLF Walferdange 33.02 302 x x 06 12 15.9
WLF Walferdange 33.02 302 P **P 06 12 02.3 +0.3**
WLF pmax pmax
comp=Z,203nm,1.0s
WLF MLR MLR
comp=Z,2μm,21.0s
WLF Walferdange 33.02 302 P **P 06 12 02.3 +0.3**
WLF Walferdange 33.02 302 *eX* 06 12 16.4
WLF Walferdange 33.02 302 *eP* **P 06 12 03.3 +1.3**
comp=Z,139nm,1.2s,baz=96,slow=9.0
BNI Bardonecchia 33.02 293 P **P 06 12 01.5 -0.8**
BNI pmax pmax
comp=Z,159nm,1.1s
BNI Bardonecchia 33.02 293 P **P 06 12 01.5 -0.8**
BHOU Houvegnez 33.10 303 P **P 06 12 03.2 +0.4**
BHOU x x 06 12 16.6
MEM Membach 33.10 304 x x 06 12 15.5
MEM Membach 33.10 304 P **P 06 12 04.1 +1.3**
BOK Bokaro 33.16 109 *e*P **P 06 12 04.4 +0.8**
BOK IAmb IAmb 06 12 05.9
comp=Z,90nm,0.7s
MOR8 Moi Rana 33.24 333 *e*P **P 06 12 03.3 -0.5**
SNART Snartemo 33.31 318 *e*P **P 06 12 04.7 +0.3**
BEBN Eben Emael 33.31 304 P **P 06 12 05.5 +1.0**
BEBN Eben Emael 33.31 304 x x 06 12 18.0
BEBN Eben Emael 33.31 304 x x 06 12 33.0
NSS Namsos 33.31 330 *e*P **P 06 12 04.4 0.0**
KEST Kesra 33.34 276 P **P 06 12 06.2 +1.0**
comp=Z,64nm,0.8s,baz=17,slow=2.9,SNR=96
KEST PcP **PcP 06 14 47.1 +0.8**
comp=Z,13nm,0.7s,baz=312,slow=4.1,SNR=1.9
KEST Kesra 33.34 276 P **P 06 12 05.9 +0.8**
KEST IAmb IAmb 06 12 07.4
comp=Z,83nm,0.8s
BSTI Sart Tilman 33.38 304 P **P 06 12 06.0 +0.8**
BSTI x x 06 12 19.7
BSTI PnPn **PnPn 06 13 12.9 -3.8**
SKAR Skarslia 33.40 322 *e*P **P 06 12 05.6 +0.4**
TBLU Trondheim 33.44 327 *e*P **P 06 12 05.5 -0.1**
DOMB Dombas 33.50 325 *e*P **P 06 12 06.2 +0.1**
N2ST Straumen 33.52 336 *e*P **P 06 12 05.7 -0.5**
BCLA Clavier 33.55 303 PP PP 06 13 22.2 -0.7
BCLA Clavier 33.55 303 P **P 06 12 07.6 +1.0**
BCLA Clavier 33.55 303 x x 06 12 20.9
BCLA Clavier 33.55 303 PnPn PnPn 06 13 17.3 -1.5
HAMF Hammerfest 33.62 344 *e*P **P 06 12 07.2 +0.2**
BGES Gesves 33.69 303 x x 06 12 44.7
BGES Gesves 33.69 303 P **P 06 12 08.9 +1.0**
BGES Gesves 33.69 303 x x 06 12 21.9
BGES Gesves 33.69 303 x x 06 12 32.7
NJS Nagarjunasagar 33.73 126 *e*P **P 06 12 09.6 +1.1**
NJS IVmB_BB 06 12 10.4
comp=Z,1μm,0.7s
NBB17 Glomfjord BΨr 33.75 334 *e*P **P 06 12 08.6 +0.4**
URV Uravakonda 33.76 131 *e*P **P 06 12 09.9 +1.1**
URV IVmB_BB 06 12 10.4
comp=Z,1μm,0.8s
N2IH Innhavet 33.78 337 *e*P **P 06 12 08.5 +0.1**
NBB28 Valnes 33.80 335 *e*P **P 06 12 08.6 +0.1**
STOK Stokkvaagen 33.82 333 *e*P **P 06 12 08.2 -0.6**
SRLM Srisailam 33.82 128 *e*P **P 06 12 10.6 +1.3**
SRLM IVmB_BB 06 12 11.2
comp=Z,2μm,1.1s
NBB05 Inndyr 33.85 335 *e*P **P 06 12 08.9 -0.1**
LSA Lhasa 33.85 96 P **P 06 12 11.5 +1.4**
LSA pmax pmax
comp=Z,300nm,0.8s
LSA Lhasa 33.85 96 P **P 06 12 11.4 +1.4**
LSA pmax pmax
comp=Z,58nm,0.8s
LSA MLR MLR
comp=Z,600nm,19.0s
LSA Lhasa 33.85 96 P **P 06 12 11.4 +1.3**
LSA IAmb IAmb 06 12 12.5
comp=Z,58nm,0.8s
KONS Konsvik 33.87 333 *e*P **P 06 12 09.1 -0.1**
BMRD Maredsous 33.90 303 P **P 06 12 10.2 +0.6**
BMRD x x 06 12 23.4
BMRD x x 06 12 39.3
BLS5 Blasjo 33.94 320 *e*P **P 06 12 10.9 +0.9**
STEI Steigen 33.98 336 *e*P **P 06 12 10.0 -0.1**
ODD1 Odda 33.98 320 *e*P **P 06 12 14.1 +3.8**
DOU Dourbes 34.01 303 PnPn PnPn 06 13 22.7 -1.9
DOU Dourbes 34.01 303 P **P 06 12 10.2 +1.4**
DOU Dourbes 34.01 303 x x 06 12 18.8
DOU Dourbes 34.01 303 x x 06 12 24.6
TRO Tromso 34.01 340 *e*P **P 06 12 10.4 0.0**
SNF Seneffe 34.20 303 x x 06 12 24.5
SNF Seneffe 34.20 303 P **P 06 12 13.3 +1.0**
MOL Molde 34.34 325 *e*P **P 06 12 13.5 +0.2**
RCLA Racherla 34.36 128 *e*P **P 06 12 15.6 +1.6**
AKN Aaknes 34.46 324 *e*P **P 06 12 15.1 +0.6**
SSB Saint Sauveur 34.48 294 P **P 06 12 14.5 -0.4**
SSB pmax pmax
comp=Z,190nm,1.0s
SSB MLR MLR
comp=Z,900nm,21.0s
SSB Saint Sauveur 34.48 294 P **P 06 12 14.5 -0.4**
CMAH Djebel Manchou 34.50 278 P **P 06 12 15.0 -0.1**
HYA Hoyanger 34.53 322 *e*P **P 06 12 15.6 +0.7**
HYA *e*PP **PP 06 13 37.9 +4.4**
LOF Lofoten 34.62 336 *e*P **P 06 12 15.3 -0.3**
N2VA Vr,y 34.63 335 *e*P **P 06 12 15.4 -0.3**
PVM Polavaram 34.67 123 *e*P **P 06 12 17.9 +1.3**
PVM IVmB_BB 06 12 18.5
comp=Z,878nm,0.9s
ADKI Addanki 34.68 126 *e*P **P 06 12 17.9 +1.2**
ADKI IVmB_BB 06 12 18.4
comp=Z,842nm,1.0s
NRIK Noril'sk 34.73 21 P **P 06 12 17.5 +0.9**
comp=Z,15nm,0.8s,baz=228,slow=7.2,SNR=17
NRIK PP **PnPn 06 13 26.8 -6.4**
comp=Z,63nm,0.9s,baz=234,slow=14,SNR=6.5
NRIK LR LR 06 29 22.5
comp=Z,2μm,18.9s,baz=238,slow=41
BER Bergen 34.73 321 *e*P **P 06 12 17.4 +0.7**
N2RO R,st 34.74 335 *e*P **P 06 12 15.9 -0.8**
ASK Askoy 34.82 321 *e*P **P 06 12 18.0 +0.5**
CKFL Kef-Lekhel 35.10 278 P **P 06 12 20.0 -0.4**
SUE Sulen 35.17 322 *e*P **P 06 12 20.7 +0.3**
FOO Floro 35.17 323 *e*P **P 06 12 20.2 -0.3**
CASM Ain Smara 35.33 278 P **P 06 12 22.3 +0.1**
CTEI Djebel Teioual 35.46 278 P **P 06 12 24.1 +0.8**
MOY Mondy 35.53 54 *e*P **P 06 12 25.7 +1.8**
MOY *e* 06 13 43.2
MOY pmax pmax
comp=Z,63nm,2.2s
CLF Chambon-Foret 35.69 299 P **P 06 12 25.1 0.0**
DFRA Djebel Bou Aff 35.69 279 P **P 06 12 25.6 +0.1**
SKHT Srikalahasti 36.15 129 *e*P **P 06 12 30.9 +1.5**
SKHT IVmB_BB 06 12 31.5
comp=Z,1μm,0.7s
SHL Shillong 36.56 101 *e*P **P 06 12 33.1 0.0**
SHL IAmb IAmb 06 12 39.3
comp=Z,97nm,0.7s
SHL Shillong 36.56 101 P **P 06 12 33.2 +0.2**
SNR=65
SHL Shillong 36.56 101 P **P 06 12 32.8 -0.2**
SHL pmax pmax
comp=Z,203nm,0.8s
SHL Shillong 36.56 101 P **P 06 12 32.8 -0.2**
GTA Gaotai 36.69 75 ⇓ P **P 06 12 35.3 +1.4**
GTA S **S 06 18 16.0 +1.4**
GTA SS **SnSn 06 20 51.1 +3.9**
GTA pmax pmax
comp=Z,42nm,1.0s
GTA pmax pmax
comp=Z,230nm,4.3s
GTA LR LR
comp=Z,1μm,20.8s
GTA LR LR
comp=Z,1μm,18.7s
GTA LR LR
comp=Z,1μm,16.2s
HMNX Herstmonceux 36.70 304 *e*P **P 06 12 34.0 +0.4**
MDRS Chennai 37.00 129 *e*P **P 06 12 38.0 +1.4**
MDRS IAmb IAmb 06 12 39.9

comp=Z,129nm,0.6s
ZAK Zakamensk 37.03 57 *e*P **P 06 12 38.0 +1.3**
ZAK *e* 06 14 04.5
comp=Z,20nm,1.4s
ZAK pmax pmax
comp=Z,28nm,1.5s
TLY Talaya 37.18 54 P **P 06 12 40.5 +2.6**
comp=Z,6.5nm,0.5s,baz=258,slow=5.5,SNR=5.2
TLY Talaya 37.18 54*c i*P **P 06 12 37.6 -0.2**
TLY *e* 06 14 03.6
TLY *e*PPP PPP 06 14 20.6
TLY *e*S **S 06 18 23.4 +1.9**
TLY *e*SS **SnSn 06 20 53.8 -4.7**
TLY pmax pmax
comp=Z,43nm,1.5s
TLY MLR MLR
comp=Z,8µm,17.0s
TLY Talaya 37.18 54 P **P 06 12 37.4 -0.4**
GDLE Glaisdale, N Y 37.29 310 *e*P **P 06 12 38.7 0.0**
GDLE IAMs_20 IAMs_20 06 28 15.9
comp=Z,2µm,26.1s
BJO1 Bjornoya 37.46 346 *e*P **P 06 12 40.0 +0.1**
IRK Irkutsk 37.53 53 *e*P **P 06 12 40.6 -0.2**
IRK *e* 06 14 07.4
IRK pmax pmax
comp=Z,212nm,1.9s
BELO BELONIA 37.56 105 *e*P **P 06 12 43.2 +1.9**
CWF Charnwood Fore 37.62 307 *e*P **P 06 12 41.0 -0.5**
CWF IAmb IAmb 06 12 42.0
comp=Z,40nm,0.8s
CWF IAMs_20 IAMs_20 06 30 12.2
comp=Z,2µm,20.0s
WOL Wolverton 37.65 305 *e*P **P 06 12 41.9 +0.2**
HPK Haverah Park 37.77 309 *e*P **P 06 12 42.7 -0.1**
HPK IAmb IAmb 06 12 43.7
comp=Z,155nm,0.8s
HPK IAMs_20 IAMs_20 06 28 57.7
comp=Z,1µm,17.6s
LBWR Ladybower, Pea 37.84 309 *e*P **P 06 12 43.0 -0.4**
LBWR IAmb IAmb 06 12 44.6
comp=Z,133nm,0.9s
LBWR IAMs_20 IAMs_20 06 30 38.7
comp=Z,2µm,24.0s
LRW Lerwick 37.87 320 *e*P **P 06 12 43.1 -0.4**
LRW IAmb IAmb 06 12 44.5
comp=Z,82nm,0.9s
SWN1 Swindon 37.99 305 *e*P **P 06 12 44.8 +0.1**
SWN1 IAmb IAmb 06 12 46.0
comp=Z,415nm,0.9s
WAL1 Walls 38.10 320 *e*P **P 06 12 44.6 -0.9**
HOPEN Hopen 38.11 350 *e*P **P 06 12 47.1 +1.7**
HOPEN *e*PP **PnPn 06 14 14.8 +0.3**
KOHI KOHIMA 38.15 99 *e*P **P 06 12 47.0 +0.5**
KOHI IAmb IAmb 06 12 50.5
comp=Z,126nm,1.1s
DRUM Mains of Drumt 38.29 314 *e*P **P 06 12 46.8 -0.3**
DRUM IAmb IAmb 06 12 48.0
comp=Z,84nm,0.8s
DRUM IAMs_20 IAMs_20 06 30 24.8
comp=Z,2µm,21.0s
BATH Bath 38.33 305 *e*P **P 06 12 47.6 +0.1**
ESY Stoneypath 38.34 313 *e*P **P 06 12 47.5 0.0**
JSA Saint Aubin 38.47 302 *e*P **P 06 12 48.3 -0.4**
JSA IAMs_20 IAMs_20 06 28 46.9
comp=Z,2µm,21.4s
EBL Broad Law 38.58 312 *e*P **P 06 12 49.3 -0.2**
MONM Monmouth 38.59 306 *e*P **P 06 12 49.2 -0.5**
MONM IAmb IAmb 06 12 50.1
comp=Z,50nm,0.9s
KESW Keswick, Cumbr 38.62 310 *e*P **P 06 12 49.7 -0.3**
KESW IAMs_20 IAMs_20 06 29 04.9
comp=Z,3µm,29.6s
EKA Eskdalemuir Ar 38.64 312 P **P 06 12 49.8 -0.3**
comp=Z,16nm,0.4s,baz=97,slow=8.8,SNR=112
ESK Eskdalemuir 38.67 312 *e*P **P 06 12 49.9 -0.5**
ESK IAmb IAmb 06 12 50.9
comp=Z,48nm,0.8s
ESK IAMs_20 IAMs_20 06 29 17.8
comp=Z,2µm,24.9s
ESK Eskdalemuir 38.67 312 P **P 06 12 49.8 -0.5**
ESK pmax pmax
comp=Z,51nm,0.9s
ESK MLR MLR
comp=Z,1µm,20.0s
ESK Eskdalemuir 38.67 312 P **P 06 12 49.8 -0.5**
MCH1 Michaelchurch 38.70 306 *e*P **P 06 12 50.3 -0.3**
MCH1 IAmb IAmb 06 12 51.2
comp=Z,96nm,0.8s
MCD Coleburn Disti 38.73 315 *e*P **P 06 12 50.3 -0.5**
FOEL Foel Wylfa 38.76 308 *e*P **P 06 12 51.3 +0.2**
FOEL IAmb IAmb 06 12 52.2
comp=Z,83nm,0.9s
FOEL IAMs_20 IAMs_20 06 30 57.3
comp=Z,2µm,21.7s
MLA1 Latheron 38.82 316 *e*P **P 06 12 51.1 -0.5**
ELO Logie Almond 38.95 313 *e*P **P 06 12 52.2 -0.6**
LLW Llanuwychllyn 39.04 308 *e*P **P 06 12 53.5 +0.1**
BIGH Upper Bighouse 39.12 317 *e*P **P 06 12 53.8 -0.2**
BIGH IAMs_20 IAMs_20 06 30 01.6
comp=Z,2µm,24.5s
INVG Invergeldie, C 39.14 313 *e*P **P 06 12 53.5 -0.7**
INVG IAmb IAmb 06 12 54.8
comp=Z,58nm,1.0s
EAB Aberfoyle 39.30 313 *e*P **P 06 12 54.0 -1.6**
MDO Dochfour 39.32 315 *e*P **P 06 12 54.3 -1.5**
YLL Llanberis 39.32 308 *e*P **P 06 12 55.3 -0.5**
WME Myndd Eilian 39.39 309 *e*P **P 06 12 55.8 -0.6**
SONM Songino Array 39.39 60 P **P 06 12 57.6 +1.0**
comp=Z,8.9nm,0.7s,baz=276,slow=10,SNR=16
SONM PcP **PcP 06 15 03.2 -1.0**
comp=Z,5.0nm,0.8s,baz=271,slow=5.5,SNR=4.4
SONM LR LR 06 30 41.6
comp=Z,2µm,19.2s,baz=283,slow=38
SONM P3KPbc 06 42 52.9
comp=Z,1.1nm,0.8s,baz=109,slow=5.1,SNR=4.8
DYA Yadsworthy 39.44 304 *e*P **P 06 12 56.1 -0.7**
DYA IAmb IAmb 06 12 57.2
comp=Z,79nm,0.9s
WLF1 Llynfaes 39.45 308 *e*P **P 06 12 56.4 -0.5**
WLF1 IAmb IAmb 06 12 57.7
comp=Z,146nm,0.9s
WLF1 IAMs_20 IAMs_20 06 31 38.1
comp=Z,4µm,22.4s
LODK Lodwar 39.52 206 *i*P **P 06 12 57.8 -0.2**
LODK *i*S **pP 06 13 08.8 -0.5**
LODK Lodwar 39.52 206 P **P 06 12 59.8 +1.9**
SNR=14
GAL1 Galloway 39.55 311 *e*P **P 06 12 57.4 -0.2**
GAL1 IAmb IAmb 06 12 58.5
comp=Z,48nm,0.9s
GAL1 IAMs_20 IAMs_20 06 29 31.7
comp=Z,2µm,24.0s
YRC Rhoscolyn 39.56 308 *e*P **P 06 12 57.8 0.0**
RSBS Rosebush, Pemb 39.78 306 *e*P **P 06 12 59.1 -0.5**
ULN Ulaanbaatar 39.82 60*d i*P **P 06 13 01.3 +1.1**
ULN pmax pmax
comp=Z,91nm,1.7s
ULN Ulaanbaatar 39.82 60 P **P 06 13 01.3 +1.1**
ULN IAmb IAmb 06 13 17.1
comp=Z,66nm,0.8s
KAC Achnashellach 39.83 315 *e*P **P 06 12 59.6 -0.3**
HSPB Hornsund (broa 39.87 348 *e*P **P 06 12 59.8 -0.2**
HSPB *e*PP **PP 06 14 32.9 +0.9**
HSPB *e*L L 06 29 56.5
comp=Z,2µm,25.5s
HSPB Hornsund (broa 39.87 348 *e*P **P 06 13 01.0 +0.9**
HSPB *i*S **pP 06 14 26.7 -5.3**
HSPB Hornsund (broa 39.87 348 *e*P **P 06 13 00.8 +0.7**
HSPB *e*PP **PnPn 06 14 34.7 -0.8**
LAWE Loch Awe, Argy 39.90 313 *e*P **P 06 13 00.5 0.0**
LAWE IAmb IAmb 06 13 01.3
comp=Z,60nm,0.9s
LAWE IAMs_20 IAMs_20 06 29 00.5
comp=Z,2µm,24.8s
KPL Plockton 40.02 315 *e*P **P 06 13 01.8 +0.2**
KPL IAmb IAmb 06 13 02.2
comp=Z,57nm,1.0s
KPL IAMs_20 IAMs_20 06 28 45.8
comp=Z,2µm,30.4s
SPA0 Spitsbergen Ar 40.60 349 *e*P **P 06 13 05.7 -0.4**
SPA0 Spitsbergen Ar 40.60 349 P **P 06 13 06.6 +0.4**
SPA0 IAmb IAmb 06 13 19.0
comp=Z,67nm,0.9s
SPA0 Spitsbergen Ar 40.60 349 *e*P **P 06 13 06.7 +0.5**
SPA0 *e*PP **PP 06 14 41.6 +1.6**
SPITS Spitsbergen Ar 40.60 349 P **P 06 13 06.7 +0.5**
comp=Z,20nm,0.6s,baz=128,slow=12,SNR=30
DSB Dublin 40.64 309 P **P 06 13 06.3 -0.4**
DSB IAmb IAmb 06 13 22.6
comp=Z,174nm,1.5s
ZFI2 Zemlya Franca- 40.67 359 *e*P **P 06 13 07.0 +0.3**
ZFI2 *i*S **PP 06 14 37.5 -3.1**
LEWI Lewis, Hebride 40.67 316 *e*P **P 06 13 06.3 -0.7**
LEWI IAMs_20 IAMs_20 06 30 56.6
comp=Z,2µm,25.2s
ODJA Bouhanifia 40.68 280 P **P 06 13 09.0 +1.6**
LZH Lanzhou 40.81 79 ‖P **P 06 13 10.1 +1.5**
LZH PP **PnPn 06 14 46.7 -0.7**
LZH S **S 06 19 18.4 +1.5**
LZH SS **SS 06 22 15.4 -3.4**
LZH pmax pmax
comp=Z,91nm,1.0s
LZH pmax pmax
comp=Z,300nm,4.6s
LZH LR LR
comp=Z,2µm,13.2s
LZH LR LR
comp=Z,1µm,13.4s
LZH LR LR
comp=Z,2µm,16.3s
KBS Kingsbay 41.76 349 *e*P **P 06 13 15.9 +0.2**
KBS Kingsbay 41.76 349 P **P 06 13 16.2 +0.6**
KBS pmax pmax
comp=Z,30nm,0.9s
KBS MLR MLR
comp=Z,2µm,20.0s
KBS Kingsbay 41.76 349 P **P 06 13 16.2 +0.6**
KBS Kingsbay 41.76 349 IAMs_20 IAMs_20 06 32 40.3
comp=Z,2µm,20.0s
KBS Kingsbay 41.76 349 *e*P **P 06 13 16.4 +0.8**
ESBB Sonseca Array 41.95 288 P **P 06 13 17.0 -0.8**
ESBB IAmb IAmb 06 13 18.2
comp=Z,77nm,0.8s
ESDC Sonseca Array 41.95 288 P **P 06 13 17.0 -0.7**
comp=Z,60nm,0.8s,baz=66,slow=8.1,SNR=313
ESDC PcP **PcP 06 15 13.2 +0.7**
comp=Z,4.9nm,0.7s,baz=57,slow=3.6,SNR=2.0
ESDC ScP **ScP 06 18 58.3 -1.3**
comp=Z,1.9nm,0.9s,baz=52,slow=4.7,SNR=4.0
ESDC LR LR 06 34 17.6
comp=Z,473nm,21.6s,baz=205,slow=41
PAB San Pablo 42.27 288 P **P 06 13 19.5 -0.9**
PAB pmax pmax
comp=Z,60nm,0.9s
PAB San Pablo 42.27 288 P **P 06 13 19.5 -0.9**
TAM Tamanrasset 42.43 260 P **P 06 13 22.6 +0.6**
TAM pmax pmax
comp=Z,67nm,1.0s
TAM Tamanrasset 42.43 260 P **P 06 13 22.6 +0.6**
BOD Bodaibo 42.81 44 *e*P **P 06 13 24.6 +0.2**
BOD pmax pmax
comp=Z,87nm,0.7s
CD2 Chengdu 42.92 86 P **P 06 13 26.6 +0.9**
CD2 PP **PP 06 15 05.7 0.0**
CD2 S **S 06 19 49.3 +1.4**
CD2 SS **SS 06 22 56.9 -3.4**
CD2 pmax pmax
comp=Z,140nm,0.9s
CD2 pmax pmax
comp=Z,410nm,10.8s
CD2 LR LR
comp=Z,1µm,18.7s
CD2 LR LR
comp=Z,1µm,18.7s
CD2 LR LR
comp=Z,2µm,23.0s
KMBO Kilima Mbogo 43.25 201 P **P 06 13 31.6 +3.0**
comp=Z,23nm,1.0s,baz=20,slow=9.4,SNR=30
KMBO LR LR 06 33 40.1
comp=Z,1µm,19.4s,baz=35,slow=39
KMBO Kilima Mbogo 43.25 201 *i*P **P 06 13 30.3 +1.7**
SNR=18
KMBO Kilima Mbogo 43.25 201 P **P 06 13 29.6 +1.0**
KMBO pmax pmax
comp=Z,64nm,1.2s
KMBO MLR MLR
comp=Z,1µm,20.0s
KMBO Kilima Mbogo 43.25 201 P **P 06 13 29.6 +1.0**
PBRG Braganca 43.26 292 *e*P **P 06 13 28.1 -0.3**
comp=Z,120nm,1.5s
PBRG *i*LQ LQ 06 13 42.7
MVO Moncorvo 43.67 291 *e*P **P 06 13 31.5 -0.2**
comp=Z,92nm,1.3s
MVO *i*LQ LQ 06 13 46.5
MVO Moncorvo 43.67 291 *e*LR LR 06 28 34.7
comp=Z,529nm,20.0s
BTO Baotou 43.75 70 *e*P **P 06 13 31.9 -0.5**
PVRL Vila Real 44.13 291 *e*P **P 06 13 35.3 0.0**
comp=Z,184nm,1.5s
PVRL *i*LQ LQ 06 13 49.8
KIBK Kibwezi 44.20 200 *i*P **P 06 13 36.6 +0.5**
KIBK *i*S **pP 06 13 50.3 +2.7**
KIBK Kibwezi 44.20 200 P **P 06 13 37.7 +1.6**
SNR=17
PGAV Gavieira, Arco 44.30 293 *e*P **P 06 13 37.4 +0.7**
comp=Z,323nm,1.1s
PGAV *i*LQ LQ 06 13 52.0
PGAV Gavieira, Arco 44.30 293 *e*LR LR 06 29 43.1
comp=Z,397nm,22.0s
MTE Manteigas 44.30 290 *e*P **P 06 13 36.9 +0.2**
comp=Z,282nm,1.3s
MTE *i*LQ LQ 06 13 51.6
MTE Manteigas 44.30 290 *e*LR LR 06 29 03.9
comp=Z,665nm,22.0s
MTE Manteigas 44.30 290 P **P 06 13 36.4 -0.3**
PVIS Viseu 44.44 291 *e*P **P 06 13 38.3 +0.5**
comp=Z,134nm,1.4s
PVIS *i*LQ LQ 06 13 53.0
PCBR Castelo Branco 44.44 289 *e*P **P 06 13 37.6 -0.2**
comp=Z,167nm,1.5s
PCBR *i*LQ LQ 06 13 52.6
PMRV Marv??o 44.52 289 *e*P **P 06 13 38.7 +0.2**
comp=Z,202nm,1.4s
PMRV *i*LQ LQ 06 13 53.4
PMRV Marv??o 44.52 289 *e*LR LR 06 29 08.0
comp=Z,592nm,22.0s
HHC Hu-ho-hao-te 44.78 69 P **P 06 13 41.9 +1.3**
HHC S **S 06 20 18.5 +3.6**
HHC pmax pmax
comp=Z,20nm,1.3s
HHC pmax pmax
comp=Z,130nm,5.7s
HHC LR LR
comp=Z,440nm,15.3s
HHC LR LR
comp=Z,770nm,18.8s
HHC LR LR
comp=Z,630nm,21.8s
PESTR Estremoz 44.87 288 P **P 06 13 40.4 -0.8**
MBAR Mbarara 44.92 210 P **P 06 13 42.8 +0.8**
comp=Z,22nm,0.7s,baz=28,slow=9.6,SNR=31
MBAR PcP **PcP 06 15 23.7 +0.8**
comp=Z,6.2nm,0.6s,baz=336,slow=1.6,SNR=5.0
MBAR Mbarara 44.92 210*d i*P **P 06 13 42.5 +0.6**
MBAR pmax pmax
comp=Z,24nm,0.9s
MBAR MLR MLR
comp=Z,596nm,19.0s
MBAR Mbarara 44.92 210 P **P 06 13 42.6 +0.6**
COI Coimbra 44.98 290 P **P 06 13 42.8 +0.7**
COI pmax pmax
comp=Z,222nm,1.0s
COI Coimbra 44.98 290 *e*P **P 06 13 42.9 +0.8**
comp=Z,234nm,0.9s
COI Coimbra 44.98 290 P **P 06 13 42.8 +0.7**
KMI Kunming 45.03 93 P **P 06 13 43.5 +0.6**
KMI pP pP 06 13 55.9 +1.5
KMI sP sP 06 14 01.3 +2.1
KMI PP **PP 06 15 32.0 +3.4**
KMI S **S 06 20 18.9 -0.2**
KMI sS sS 06 20 39.6 +1.4
KMI SS **ScS 06 23 35.2 -1.8**
KMI pmax pmax
comp=Z,330nm,3.1s
KMI LR LR
comp=Z,790nm,23.1s
KMI LR LR
comp=Z,430nm,31.2s
KMI LR LR
comp=Z,730nm,26.3s
KMI Kunming 45.03 93 P **P 06 13 43.7 +0.8**
KMI pmax pmax
comp=Z,156nm,0.9s
KMI Kunming 45.03 93 P **P 06 13 43.7 +0.8**
MDT Midelt 45.09 279 P **P 06 13 43.0 -0.2**
comp=Z,18nm,0.9s,baz=80,slow=8.8,SNR=36
PCAS Casmilo, Conde 45.10 290 *e*P **P 06 13 39.4 -3.7**
comp=Z,176nm,1.6s
PCAS *i*LQ LQ 06 13 54.1
PMTG Montargil 45.26 289 *e*P **P 06 13 44.2 -0.1**
comp=Z,190nm,1.4s
PMTG *i*LQ LQ 06 13 58.2
EVO Evora 45.30 288 *e*P **P 06 13 44.8 +0.2**
comp=Z,74nm,1.6s
EVO *i*LQ LQ 06 13 59.2
PBEJ Beja 45.38 287 *e*P **P 06 13 45.2 -0.1**
comp=Z,102nm,1.2s
PBEJ *i*LQ LQ 06 13 59.9
XAN Xi'an 45.45 79 P **P 06 13 46.6 +0.6**
XAN S **S 06 20 26.9 +2.3**
XAN pmax pmax
comp=Z,83nm,0.9s
XAN pmax pmax
comp=Z,280nm,3.5s
XAN LR LR
comp=Z,2µm,24.5s
XAN LR LR
comp=Z,780nm,17.2s
XAN LR LR
comp=Z,2µm,17.0s
XAN Xi'an 45.45 79 P **P 06 13 46.5 +0.6**
XAN pmax pmax
comp=Z,100nm,1.0s
XAN MLR MLR
comp=Z,1µm,18.0s
XAN Xi'an 45.45 79 P **P 06 13 46.5 +0.6**
XAN IAmb IAmb 06 13 47.4
comp=Z,100nm,1.0s
PSBE So Bento 45.51 290 *e*P **P 06 13 46.9 +0.6**
comp=Z,181nm,1.5s
PSBE *i*LQ LQ 06 14 01.5
PVAQ Vaqueiros 45.51 286 *e*P **P 06 13 46.1 -0.2**
comp=Z,186nm,1.3s
PVAQ *i*LQ LQ 06 14 00.8
PVAQ Vaqueiros 45.51 286 P **P 06 13 45.8 -0.5**
PCVE Castro Verde 45.66 287 *e*P **P 06 13 46.7 -0.8**
MESJ Messejana 45.71 287 *e*P **P 06 13 48.0 +0.1**
MESJ AMb AMB 06 13 48.5
comp=Z,54nm,0.9s
MESJ *e*S **S 06 20 32.0 +3.7**
MESJ Messejana 45.71 287 *e*P **P 06 13 48.0 +0.1**
MESJ *e*S **S 06 20 31.9 +3.7**
MESJ Messejana 45.71 287 *e*P **P 06 13 47.8 -0.1**
comp=Z,78nm,1.4s
MESJ *i*LQ LQ 06 14 02.3
PBDV Barranco-do-Ve 45.73 286 *e*P **P 06 13 47.8 -0.3**
comp=Z,162nm,1.7s
PBDV *i*LQ LQ 06 14 02.8
CHTO Chiang Mai 45.80 104 P **P 06 13 49.0 +0.2**
CHTO pmax pmax
comp=Z,50nm,0.8s
CHTO Chiang Mai 45.80 104 P **P 06 13 49.0 +0.2**
CHTO IAmb IAmb 06 13 50.0
comp=Z,50nm,0.8s
PNCL Nicolau / Gran 45.84 288 *e*P **P 06 13 49.5 +0.6**
comp=Z,110nm,1.6s
PNCL *i*LQ LQ 06 14 03.8
CM31 Chiang Mai Arr 46.02 104 P **P 06 13 50.8 +0.3**
SNR=20
CM31 Chiang Mai Arr 46.02 104 P **P 06 13 50.8 +0.3**
CM31 IAmb IAmb 06 13 52.0
comp=Z,71nm,0.9s
CMAR Chiang Mai Arr 46.02 104 P **P 06 13 50.9 +0.3**
comp=Z,57nm,0.9s,baz=301,slow=8.3,SNR=194
CMAR LR LR 06 37 40.7
comp=Z,301nm,19.1s,baz=348,slow=42
LIS Lisbon 46.06 289 *e*P **P 06 13 51.0 +0.3**
LIS Lisbon 46.06 289 *e*P **P 06 13 50.9 +0.3**
PBA Port Blair 46.11 116 *e*P P 06 13 53.2 +2.0
PBA IAmb IAmb 06 13 55.7
comp=Z,144nm,0.4s
PBA Port Blair 46.11 116 P P 06 13 53.2 +2.0
PTEO Sao Teotonio 46.20 287 *e*P **P 06 13 51.9 +0.2**
comp=Z,99nm,1.6s
PTEO *i*LQ LQ 06 14 06.7
MORF Marmelete 46.24 287 *e*P **P 06 13 52.3 +0.1**
MORF AMb AMB 06 13 53.4
comp=Z,71nm,0.9s
MORF Marmelete 46.24 287 *e*P **P 06 13 52.2 +0.1**
MORF Marmelete 46.24 287 *e*P **P 06 13 52.0 -0.1**
comp=Z,81nm,1.8s
PFVI Vila Bisbo 46.43 286 *e*P **P 06 13 53.9 +0.3**
comp=Z,113nm,1.7s
PFVI *i*LQ LQ 06 14 09.0
PFVI Vila Bisbo 46.43 286 P **P 06 13 53.8 +0.2**
TIY Taiyuan 46.55 73 *e*P **P 06 13 55.8 +1.2**
TIY pP **sP 06 14 09.7 -1.2**
TIY S **S 06 20 42.8 +2.4**
TIY sS **sS 06 21 03.2 +3.7**
TIY pmax pmax
comp=Z,33nm,0.8s
TIY LR LR
comp=Z,900nm,5.6s
TIY LR LR
comp=Z,680nm,7.2s
TIY LR LR
comp=Z,500nm,12.4s
DAG Danmarks Havn 46.65 343⇑ *i*P **P 06 13 55.2 +0.5**
comp=Z,17nm,0.7s
DAG Danmarks Havn 46.65 343⇑ *i*P **P 06 13 55.2 +0.5**
DAG pmax pmax
comp=Z,17nm,0.7s
SCO Scoresbysund 47.19 334 *i*P **P 06 14 00.4 +1.4**
SCO Scoresbysund 47.19 334 *e*P **P 06 14 00.4 +1.4**
NOR Nord 47.25 349 *i*P **P 06 13 59.8 +0.4**
comp=Z,10nm,0.9s
NOR Nord 47.25 349 *i*P **P 06 13 59.8 +0.4**
NOR pmax pmax
comp=Z,11nm,0.9s
BORG Borgarnes 47.28 326 P **P 06 14 01.1 +1.3**
BORG pmax pmax
comp=Z,41nm,1.2s
BORG MLR MLR
comp=Z,2µm,22.0s
BORG Borgarnes 47.28 326 P **P 06 14 01.1 +1.3**
BORG Borgarnes 47.28 326 IAMs_20 IAMs_20 06 34 40.3
comp=Z,2µm,22.0s
GYA Guiyang 47.33 89 P **P 06 14 00.7 -0.1**
GYA S **S 06 20 50.4 -1.4**
GYA SS **SS 06 24 15.8 -3.7**
GYA pmax pmax
comp=Z,72nm,1.3s
GYA pmax pmax
comp=Z,120nm,3.5s
GYA LR LR
comp=Z,450nm,22.5s
GYA LR LR
comp=Z,770nm,17.3s
GYA LR LR
comp=Z,1µm,17.1s
ENH Enshi 47.58 83 P **P 06 14 03.0 +0.3**
HIA Hailar 47.70 55 P **P 06 14 04.3 +0.9**
HIA pmax pmax
comp=Z,53nm,1.0s
HIA MLR MLR
comp=Z,2µm,19.0s
HIA Hailar 47.70 55 P **P 06 14 04.3 +0.9**
HIA IAmb IAmb 06 14 20.4
comp=Z,53nm,1.0s
HIA Hailar 47.70 55 IAMs_20 IAMs_20 06 35 42.5
comp=Z,2µm,19.0s
SLVN Son La 48.03 97 P **P 06 14 06.6 +0.3**
SLVN IAmb IAmb 06 14 08.3
comp=Z,41nm,1.0s
BJI Beijing 48.35 68 P **P 06 14 09.4 +1.0**
BJI PcP **PcP 06 15 34.1 -0.4**
BJI S **S 06 21 09.2 +3.5**
BJI pmax pmax
comp=Z,18nm,0.9s
BJI LR LR
comp=Z,760nm,9.0s
BJI LR LR
comp=Z,620nm,9.0s
BJI LR LR

comp=Z,840nm,32.2s
BJT Baijiatuau 48.35 68 P **P** **06 14 09.3 +0.8**
BJT pmax pmax
comp=Z,19nm,1.0s
BJT MLR MLR
comp=Z,800nm,20.0s
BJT Baijiatuau 48.35 68 P **P** **06 14 09.3 +0.8**
TIXI Tiksi 48.37 24 P **P** **06 14 08.4 +0.2**
comp=Z,24nm,0.8s,baz=293,slow=6.3,SNR=39
TIXI LR LR 06 38 32.5
comp=Z,3µm,19.2s,baz=258,slow=41
TIXI Tiksi 48.37 24*c iP* **P** **06 14 08.1 -0.1**
TIXI pmax pmax
comp=Z,37nm,1.3s
TIXI MLR MLR
comp=Z,3µm,18.0s
TIXI Tiksi 48.37 24 P **P** **06 14 09.1 +0.9**
PBKT Sadao Pong 48.71 104 P **P** **06 14 11.9 +0.5**
PBKT IAmb IAmb 06 14 13.4
comp=Z,79nm,1.0s
YAK Yakutsk 50.03 37 P **P** **06 14 22.3 +1.4**
comp=Z,26nm,0.6s,baz=335,slow=0.2,SNR=5.8
YAK LR LR 06 38 32.0
comp=Z,4µm,18.3s,baz=274,slow=40
YAK Yakutsk 50.03 37 *e*P **P** **06 14 21.9 +1.0**
YAK *e* 06 15 40.5
YAK *e* 06 16 16.8
YAK *e*PPP PPP 06 17 15.9
YAK *e*S **S** **06 21 25.0 -3.7**
YAK *e* 06 24 05.4
YAK *e*SS **SS** **06 25 00.2 -1.3**
YAK *e*SSS SSS 06 26 31.4
YAK pmax pmax
comp=Z,18nm,0.6s
YAK pmax pmax
comp=N,3.0nm,0.7s
YAK pmax pmax
comp=E,4.0nm,0.7s
YAK pmax pmax
comp=Z,60nm,1.6s
YAK pmax pmax
comp=N,55nm,1.5s
YAK pmax pmax
comp=E,62nm,1.7s
YAK smax smax
comp=N,331nm,1.8s
YAK smax smax
comp=E,210nm,2.0s
YAK Yakutsk 50.03 37 P **P** **06 14 21.9 +1.0**
TIA Tiʻan 50.59 72 P **P** **06 14 26.4 +0.8**
TIA S **S** **06 21 38.7 +1.5**
TIA pmax pmax
comp=E,25nm,1.0s
TIA pmax pmax
comp=E,160nm,5.6s
TIA LR LR
comp=E,610nm,15.3s
TIA LR LR
comp=E,760nm,20.0s
TIA LR LR
comp=E,970nm,19.7s
ZEA Zeya 50.91 48 *e*P **P** **06 14 25.0 -2.7**
ZEA pmax pmax
comp=Z,48nm,1.6s
ZEA MLR MLR
comp=N,1µm,18.0s
ZEA MLR MLR
comp=E,2µm,18.0s
ZEA MLR MLR
comp=Z,2µm,18.0s
WHN Wuhan 51.13 80 P **P** **06 14 30.4 +0.7**
WHN S **S** **06 21 45.6 +0.8**
WHN pmax pmax
comp=Z,160nm,0.9s
WHN pmax pmax
comp=Z,280nm,8.0s
WHN LR LR
comp=Z,1µm,8.3s
WHN LR LR
comp=Z,610nm,8.3s
WHN LR LR
comp=Z,2µm,20.3s
TOA0 Torodi Ar. Sit 51.26 253 P **P** **06 14 30.1 -0.8**
SNR=6.7
TOA0 Torodi Ar. Sit 51.26 253 P **P** **06 14 29.7 -1.1**
TOA0 IAmb IAmb 06 14 31.3
comp=Z,64nm,1.3s
TORD Torodi Ar. Bea 51.26 253 P **P** **06 14 29.9 -0.9**
comp=Z,25nm,1.0s,baz=56,slow=7.7,SNR=86
TORD PcP **PcP** **06 15 46.0 +0.5**
comp=Z,16nm,0.7s,baz=32,slow=4.8,SNR=5.7
TORD LR LR 06 40 15.8
comp=Z,430nm,20.6s,baz=20,slow=41
SUMG Summit 52.11 338⇓*iP* **P** **06 14 38.0 +1.1**
comp=Z,222nm,0.9s
SUMG Summit 52.11 338⇓*iP* **P** **06 14 38.0 +1.1**
SUMG pmax pmax
comp=Z,220nm,0.9s
SUMG Summit 52.11 338 P **P** **06 14 37.7 +0.8**
DL2 Dalian 52.67 67 P **P** **06 14 41.9 +0.9**
DL2 S **S** **06 22 08.9 +3.2**
DL2 pmax pmax
comp=Z,88nm,0.9s
DL2 LR LR
comp=Z,670nm,20.1s
DL2 LR LR
comp=Z,610nm,16.2s
DL2 LR LR
comp=Z,990nm,17.5s
SNY Shenyang 52.80 63⇓P **P** **06 14 45.7 +3.7**
SNY sP **sP** **06 15 03.3 +4.8**
SNY S **S** **06 22 11.2 +3.7**
SNY pmax pmax
comp=Z,12nm,0.6s
SNY pmax pmax
comp=Z,100nm,5.8s
SNY LR LR
comp=Z,740nm,19.3s
SNY LR LR
comp=Z,530nm,22.6s
SNY LR LR
comp=Z,1µm,18.9s
CN2 Changchun 53.27 60 *e*P **P** **06 14 45.6 +0.2**
CN2 *e*S **S** **06 22 10.4 -3.4**
CN2 pmax pmax
comp=Z,30nm,1.0s
CN2 pmax pmax
comp=Z,130nm,4.0s
CN2 LR LR
comp=Z,1µm,18.0s
CN2 LR LR
comp=Z,2µm,18.0s
CN2 LR LR
comp=Z,3µm,19.0s
ALE Alert 53.28 351 IAMs_20 IAMs_20 06 40 53.8
comp=Z,1µm,18.0s
SBV Sambava 53.50 182 P **P** **06 14 48.7 +1.4**
SNR=5.7
LHMI Lhok Sumawe 53.60 118 P **P** **06 14 47.5 -0.7**
comp=Z,128nm,0.8s
NJ2 Nanjing 53.77 76 *e*P **P** **06 14 49.7 +0.5**
NJ2 S **S** **06 22 20.7 -0.2**
NJ2 pmax pmax
comp=Z,64nm,0.6s
NJ2 pmax pmax
comp=Z,240nm,6.2s
NJ2 LR LR
comp=Z,720nm,14.2s
NJ2 LR LR
comp=Z,710nm,11.8s
NJ2 LR LR
comp=Z,890nm,20.8s
QIZ Qiongzhong 53.90 95 P **P** **06 14 49.9 -0.4**
QIZ S **S** **06 22 25.6 +2.8**
QIZ LR LR
comp=Z,380nm,15.9s
QIZ LR LR
comp=Z,460nm,16.1s
QIZ LR LR
comp=Z,410nm,14.5s
QIZ Qiongzhong 53.90 95 P **P** **06 14 50.3 0.0**
QIZ IAmb IAmb 06 14 51.7
comp=Z,75nm,1.3s
MLSI Meulaboh, Aceh 53.95 120 P **P** **06 14 51.9 +1.2**
GZH Guangzhou 54.25 89 P **P** **06 14 53.1 +0.3**
PMAR Madeira 54.33 285 *e*P **P** **06 14 53.8 +0.2**
comp=Z,345nm,1.4s
PMAR *i* LQ LQ 06 15 09.0
PMOZ Porto Moniz, M 54.49 285 *e*P **P** **06 14 53.4 -1.3**
comp=Z,230nm,1.4s
TPTI 55.21 120 P **P** **06 14 57.9 -1.9**
comp=Z,11nm,0.6s
HKPS Hong Kong Po S 55.31 89 P **P** **06 15 01.0 +0.4**
KCSI Kotacane, Aceh 55.41 119 P **P** **06 14 58.9 -2.4**
comp=Z,1µmcomp=Z,69nm,0.9s
MDJ Mudanjiang 55.65 58 P **P** **06 15 03.3 +0.6**
MDJ pmax pmax
comp=Z,12nm,0.9s
MDJ pmax pmax
comp=Z,200nm,6.3s
SSE Sheshan 55.97 76 P **P** **06 15 05.9 +0.7**
SSE pmax pmax
comp=Z,53nm,0.9s
SSE LR LR
comp=Z,250nm,17.6s
SSE LR LR
comp=Z,260nm,15.4s
KULM Kulim 56.09 115 P **P** **06 15 05.6 -0.6**
KULM IAmb IAmb 06 15 06.4
comp=Z,38nm,0.8s
KULM Kulim 56.09 115 P **P** **06 15 06.0 -0.2**
KULLO Kullorsuaq 56.30 342 *i* P **P** **06 15 06.9 0.0**
comp=Z,26nm,0.9s
KULLO Kullorsuaq 56.30 342 *i* P **P** **06 15 06.9 0.0**
KULLO pmax pmax
comp=Z,26nm,0.9s
PSI Prapat 56.71 118 P **P** **06 15 09.6 -1.2**
comp=Z,140nm,0.8s,baz=359,slow=3.8,SNR=56
PSI LR LR 06 41 41.7
comp=Z,781nm,21.1s,baz=271,slow=38
RPSI Rantau Prapat 56.79 119 P **P** **06 15 08.9 -2.2**
RPSI Rantau Prapat 56.79 119 P **P** **06 15 09.6 -1.6**
GSI Gunungsitoli 56.93 121 P **P** **06 15 12.1 0.0**
comp=Z,952nm,0.8s
IPM Ipoh 56.93 115 P **P** **06 15 10.6 -1.6**
IPM Ipoh 56.93 115 P **P** **06 15 12.0 -0.2**
ILULI Ilulissat 57.19 336 *i* P **P** **06 15 13.1 -0.2**
comp=Z,51nm,0.9s
ILULI Ilulissat 57.19 336 *i* P **P** **06 15 13.1 -0.2**
ILULI pmax pmax
comp=Z,51nm,0.9s
ILULI Ilulissat 57.19 336 P **P** **06 15 12.8 -0.5**
ILULI IAMs_20 IAMs_20 06 39 39.4
comp=Z,1µm,21.0s
GRNR Gornyy 57.23 49⇓*iP* **P** **06 15 14.4 +0.5**
GRNR *e*S **S** **06 23 12.7 +6.1**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR smax smax
comp=N,3.0nm,0.8s
GRNR MLR MLR
comp=E,600nm,18.0s
GRNR MLR MLR
comp=N,560nm,12.0s
GRNR MLR MLR
comp=Z,960nm,17.0s
USA0B Ussuriysk Arra 57.38 57*d iP* **P** **06 15 14.5 -0.5**
USA0B Ussuriysk Arra 57.38 57 P **P** **06 15 14.5 -0.5**
USA0B IAmb IAmb 06 15 33.8
comp=Z,46nm,0.8s
USRK Ussuriysk Ar. 57.38 57 P **P** **06 15 15.0 0.0**
comp=Z,36nm,0.7s,baz=273,slow=6.9,SNR=32
USRK LR LR 06 42 11.8
comp=Z,3µm,18.8s,baz=294,slow=38
USRK Ussuriysk Ar. 57.38 57 P **P** **06 15 15.0 0.0**
MSHR Mys Shultsa 57.56 59*d iP* **P** **06 15 16.2 -0.1**
TULEG Thule 57.62 346 P **P** **06 15 16.4 +0.3**
TULEG IAmb IAmb 06 15 21.6
comp=Z,57nm,1.2s
KS19 Wonju Array Si 57.68 66 P **P** **06 15 17.5 +0.2**
KS19 IAmb IAmb 06 15 18.7
comp=Z,55nm,0.9s
KSRS Korea Array 57.75 66 P **P** **06 15 17.7 +0.1**
comp=Z,42nm,0.9s,baz=286,slow=6.8,SNR=137
KSRS LR LR 06 42 14.5
comp=Z,524nm,20.2s,baz=302,slow=38
VLA Vladivostok 57.80 59*c iP* **P** **06 15 17.2 -0.7**
VLA pmax pmax
comp=Z,51nm,1.1s
VLA MLR MLR
comp=Z,4µm,18.0s
TJN Taejon 57.87 67*c iP* **P** **06 15 18.0 -0.5**
SFJD Kangerlussuaq 58.07 333 P **P** **06 15 19.2 -0.3**
comp=Z,16nm,0.6s,baz=65,slow=7.8,SNR=11
SFJD Kangerlussuaq 58.07 333 *i* P **P** **06 15 19.0 -0.5**
comp=Z,1.3nm,0.9s
SFJD Kangerlussuaq 58.07 333 P **P** **06 15 19.2 -0.3**
SFJD IAmb IAmb 06 15 30.9
comp=Z,36nm,0.8s
SFJD Kangerlussuaq 58.07 333 IAMs_20 IAMs_20 06 40 16.7
comp=Z,1µm,20.0s
MNSI Mandailing Nat 58.63 119 P **P** **06 15 23.1 -1.0**
comp=Z,97nm,0.8s
NRS Narsarsuaq 58.78 326 *i* P **P** **06 15 24.6 +0.1**
comp=Z,73nm,0.8s
NRS Narsarsuaq 58.78 326 *i* P **P** **06 15 24.6 +0.1**
NRS pmax pmax
comp=Z,73nm,0.8s
ABPO Ambohimpanom 59.14 185 P **P** **06 15 28.7 +1.1**
ABPO pmax pmax
comp=Z,82nm,0.9s
ABPO Ambohimpanom 59.14 185 P **P** **06 15 28.7 +1.1**
LSZ Lusaka 59.41 206 *i* P **P** **06 15 31.1 +1.6**
LSZ Lusaka 59.41 206 *i* P **P** **06 15 31.1 +1.6**
LSZ Lusaka 59.41 206 *i* P **P** **06 15 31.1 +1.6**
LSZ Lusaka 59.41 206 P **P** **06 15 30.0 +0.5**
LSZ pmax pmax
comp=Z,63nm,0.8s
LSZ MLR MLR
comp=Z,1µm,20.0s
LSZ Lusaka 59.41 206 P **P** **06 15 30.0 +0.5**
LSZ Lusaka 59.41 206 IAMs_20 IAMs_20 06 43 37.8
comp=Z,1µm,20.0s
YHNB Yeheng 59.50 82 P **P** **06 15 30.9 +0.8**
SSLB Suanglung 59.67 83 P **P** **06 15 32.0 +0.7**
TPUB Ta-pu 59.69 84 P **P** **06 15 32.7 +1.3**
SISI Saibi 59.90 122 P **P** **06 15 33.0 +0.2**
comp=Z,126nm,0.9s
TEY Ternei 59.92 55⇓*iP* **P** **06 15 31.9 -0.7**
TEY *e* 06 15 46.2
TEY pmax pmax
comp=E,20nm,1.0s
TEY pmax pmax
comp=Z,60nm,0.8s
TEY pmax pmax
comp=N,20nm,0.8s
BKNI Bangkinang 59.96 119 P **P** **06 15 32.1 -1.2**
comp=N,3µmcomp=N,253nm,1.1s
BKNI Bangkinang 59.96 119 P **P** **06 15 32.0 -1.2**
YULB Yu-li 60.15 84 P **P** **06 15 35.1 +0.6**
YULB IAmb IAmb 06 15 37.0
comp=Z,36nm,0.9s
DBIC Dimbokro 60.36 252 P **P** **06 15 35.6 -0.4**
comp=Z,54nm,0.7s,baz=23,slow=8.5,SNR=46
DBIC Dimbokro 60.36 252 P **P** **06 15 35.4 -0.6**
PDSI Padang 60.49 120 P **P** **06 15 35.8 -1.1**
comp=Z,53nm,1.2s
KIC Kosan Boka 60.49 252 *e*P **P** **06 15 35.9 -1.0**
comp=Z,789nm,1.4s
TIC Toumodi 60.50 252 *e*P **P** **06 15 34.9 -2.1**
MA2 Magadan 60.51 35 P **P** **06 15 37.3 +0.9**
comp=Z,24nm,0.8s,baz=317,slow=9.5,SNR=4.3
MA2 Magadan 60.51 35*c iP* **P** **06 15 37.3 +0.9**
MA2 pmax pmax
comp=Z,19nm,1.1s
MA2 MLR MLR
comp=Z,2µm,18.0s
TYV Tymovskoe 60.72 47 *e*P **P** **06 15 38.9 +0.9**
TYV *e*S **S** **06 23 57.5 +5.8**
TYV pmax pmax
comp=Z,29nm,1.7s
TYV pmax pmax
comp=Z,200nm,2.6s
TYV smax smax
comp=N,200nm,3.3s
TYV MLR MLR
comp=E,1µm,15.0s
LIC Lamto 60.79 252 *e*P **P** **06 15 37.9 -1.1**
comp=E,725nm,1.1s
MYKOM Kota Tinggi 60.81 115 P **P** **06 15 39.0 -0.1**
SDSI Sungai Dareh 61.14 119 P **P** **06 15 39.5 -1.8**
comp=E,47nm,0.8s
RER Riviere de l'E 61.26 176 P **P** **06 15 42.5 +0.6**
BILL Bilibino 61.53 23*c iP* **P** **06 15 43.9 +0.6**
BILL *i* 06 15 55.5
BILL *e* 06 17 59.0
BILL *e*S **S** **06 24 02.8 +1.2**
BILL pmax pmax
comp=Z,51nm,1.3s
BILL MLR MLR
comp=Z,2µm,19.0s
BILL Bilibino 61.53 23 P **P** **06 15 43.7 +0.4**
BILL IAmb IAmb 06 15 56.2
comp=Z,45nm,1.0s
TPRI Tanjung Pinang 61.90 115 P **P** **06 15 45.9 -0.6**
JNU Nakatsue 62.01 69 P **P** **06 15 47.4 +0.3**
comp=Z,60nm,0.9s,baz=1.3,slow=1.1,SNR=24
JNU LR LR 06 46 14.5
comp=Z,1µm,18.9s,baz=308,slow=39
JNU Nakatsue 62.01 69 P **P** **06 15 47.0 0.0**
JNU IAMs_20 IAMs_20 06 45 54.2
comp=Z,1µm,19.0s
KRJI Kerinci 62.03 120 P **P** **06 15 46.8 -0.6**
comp=Z,13µmcomp=Z,1µm,0.9s
YSS Yuzh-Sakhalins 62.71 50⇑*iP* **P** **06 15 52.1 +0.6**
YSS *e* 06 16 02.0
YSS *e* 06 16 08.7
YSS pmax pmax
comp=Z,40nm,0.9s
YSS MLR MLR
comp=Z,900nm,18.0s
YSS MLR MLR
comp=E,500nm,15.0s
YSS Yuzh-Sakhalins 62.71 50 IAMs_20 IAMs_20 06 45 50.2
comp=Z,1µm,20.0s
RES Resolute Bay 63.16 351 P **P** **06 15 54.9 +0.9**
comp=Z,6.6nm,1.0s,baz=19,slow=12,SNR=6.6
RES Resolute Bay 63.16 351 P **P** **06 15 54.3 +0.3**
RES IAMs_20 IAMs_20 06 46 23.6
comp=Z,957nm,20.0s
MASI Maura Aman, Be 63.32 120 P **P** **06 15 55.9 -0.1**
comp=Z,10µmcomp=Z,700nm,1.0s
JOW Kunigami 63.49 76 P **P** **06 15 56.1 -0.8**
comp=Z,1.7nm,0.7s,baz=167,slow=13,SNR=6.9
JOW Kunigami 63.49 76 P **P** **06 15 55.6 -1.4**
ASAJ Asahikawa 64.09 53 P **P** **06 16 00.3 -0.4**
comp=Z,25nm,0.8s,baz=300,slow=7.3,SNR=9.2
JKA Kamikawa-asahi 64.09 53 P **P** **06 16 00.2 -0.4**
LHSI Lahat 64.68 120 P **P** **06 16 02.6 -2.2**
comp=Z,47nm,1.0s
INU Inuyama 65.12 64 P **P** **06 16 07.0 -0.5**
INU IAmb IAmb 06 16 07.8
comp=Z,30nm,0.9s
PPBI Pangkal Pinang 65.23 116 P **P** **06 16 08.0 -0.4**
MJB9 Matsu-Tunnel 65.29 62 P **P** **06 16 08.0 -0.6**
MJB9 IAmb IAmb 06 16 08.8
comp=Z,35nm,1.0s
MAJO Matsushiro 65.29 62 P **P** **06 16 07.9 -0.8**
MAJO pmax pmax
comp=Z,33nm,1.0s
MAJO Matsushiro 65.29 62 P **P** **06 16 07.9 -0.8**
MAJO IAmb IAmb 06 16 08.9
comp=Z,33nm,1.0s
MAT Matsushiro 65.29 62 P **P** **06 16 07.7 -0.9**
MJAR Matsushiro Arr 65.29 62 P **P** **06 16 08.0 -0.6**
comp=Z,20nm,0.9s,baz=301,slow=6.0,SNR=27
MJAR LR LR 06 46 51.6
comp=Z,824nm,18.4s,baz=315,slow=38
ERM Erimo 65.56 55⇓*eP* **P** **06 16 09.9 -0.3**
ERM pmax pmax
comp=Z,47nm,1.3s
ERM MLR MLR
comp=Z,588nm,20.0s
KSM Kuching 65.59 110 P **P** **06 16 10.4 -0.4**
KSM Kuching 65.59 110 P **P** **06 16 11.0 +0.2**
MDSI Maura Dua 65.61 120 P **P** **06 16 08.5 -2.3**
comp=Z,23nm,1.0s
LWLI Liwa 65.92 120 P **P** **06 16 11.5 -1.5**
comp=Z,7µmcomp=Z,513nm,0.9s
SBUM Sibu 66.30 108 P **P** **06 16 15.9 +0.6**
SBUM Sibu 66.30 108 P **P** **06 16 17.0 +1.6**
KASI Kota Agung 66.59 120 P **P** **06 16 15.4 -1.7**
comp=Z,2µmcomp=Z,331nm,0.8s
TPI Tanjungpandan 66.70 116 P **P** **06 16 17.8 -0.1**
comp=Z,932nmcomp=Z,78nm,1.1s
BLSI Bandar Lampung 66.97 119 P **P** **06 16 16.7 -2.9**
comp=Z,89nm,0.4s
TSUM Tsumeb 67.12 215 *i* P **P** **06 16 21.6 +1.1**
TSUM Tsumeb 67.12 215 *i* P **P** **06 16 21.6 +1.1**
TSUM Tsumeb 67.12 215 *i* P **P** **06 16 21.6 +1.1**
TSUM Tsumeb 67.12 215 P **P** **06 16 20.7 +0.1**
TSUM IAmb IAmb 06 16 22.3
comp=Z,40nm,0.9s
PETK Petropavlovsk- 67.31 39 P **P** **06 16 20.6 -0.6**
comp=Z,9.7nm,1.0s,baz=298,slow=3.2,SNR=5.2
PETK LR LR 06 48 46.5
comp=Z,1µm,19.9s,baz=285,slow=39
PET Petropavlovsk 67.81 39 IAMs_20 IAMs_20 06 49 09.5
comp=Z,1µm,18.0s
SPMM Sapulut 67.92 103 P **P** **06 16 27.0 +1.3**
A36M Sachs Harbour 68.00 359 P **P** **06 16 25.3 0.0**
baz=2.6,SNR=23
A36M S **S** **06 25 20.6 -0.4**
baz=2.6
RCP Roxas 68.28 93⇑*eP* **P** **06 16 28.1 +0.2**
LBTB Lobatse 69.33 205 *i* P **P** **06 16 36.2 +2.0**
LBTB Lobatse 69.33 205 *i* P **P** **06 16 36.2 +2.0**
LBTB Lobatse 69.33 205 *i* P **P** **06 16 36.2 +2.0**
LBTB Lobatse 69.33 205 P **P** **06 16 35.4 +1.2**
LBTB pmax pmax
comp=Z,199nm,0.7s
LBTB Lobatse 69.33 205 P **P** **06 16 35.4 +1.2**
LEM Lembang 69.63 119 LR LR 06 49 57.7
comp=Z,343nm,20.1s,baz=260,slow=38
CNJI Cibinong 69.66 119 P **P** **06 16 34.3 -2.1**
comp=Z,227nm,1.0s
TOLK Toolik Lake Re 70.24 8 P **P** **06 16 39.9 +0.5**
baz=343
TOLK S **S** **06 25 48.8 +1.1**
baz=343
TOLK Toolik Lake Re 70.24 8 IAMs_20 IAMs_20 06 51 38.8
comp=Z,714nm,19.0s
CISI Cisompet, Garu 70.30 119 P **P** **06 16 39.1 -1.3**
comp=Z,196nm,0.8s
CISI Cisompet, Garu 70.30 119 P **P** **06 16 38.9 -1.5**
C36M Paulatuk 70.63 358 P **P** **06 16 41.0 -0.6**
baz=3.5,SNR=8.2
C36M Paulatuk 70.63 358 P **P** **06 16 40.9 -0.6**
C36M IAmb IAmb 06 16 53.1
comp=Z,37nm,0.7s
GAMB Gambell 70.75 19 IAMs_20 IAMs_20 06 50 38.4
comp=Z,838nm,22.0s
COLD Coldfoot 71.53 9 IAMs_20 IAMs_20 06 52 23.8
comp=Z,938nm,20.0s
SCHQ Schefferville 71.64 328 P **P** **06 16 48.0 0.0**
comp=Z,19nm,0.7s,baz=40,slow=6.5,SNR=39
SCHQ LR LR 06 48 24.1
comp=Z,516nm,21.0s,baz=91,slow=36
SCHQ Schefferville 71.64 328 P **P** **06 16 47.6 -0.4**
SCHQ IAmb IAmb 06 17 04.6
comp=Z,38nm,0.9s
INK Inuvik 71.65 2 P **P** **06 16 47.7 -0.1**
comp=Z,11nm,0.9s,baz=331,slow=9.1,SNR=8.3
INK Inuvik 71.65 2 P **P** **06 16 47.0 -0.8**
CTBH Cotabato--PC H 72.16 96⇑*iP* **P** **06 16 52.7 +1.0**
BOSA Boshof 72.79 204 P **P** **06 16 55.6 +0.5**
comp=Z,81nm,0.8s,baz=23,slow=5.7,SNR=104
BOSA LR LR 06 49 43.5
comp=Z,1µm,20.0s,baz=118,slow=36
BOSA Boshof 72.79 204 *i* P **P** **06 16 56.4 +1.3**
BOSA Boshof 72.79 204 *i* P **P** **06 16 56.4 +1.3**
BOSA Boshof 72.79 204 *i* P **P** **06 16 56.4 +1.3**
BOSA Boshof 72.79 204 P **P** **06 16 55.4 +0.2**
KCP Kidapawan 72.94 95⇓*iP* **P** **06 16 56.4 0.0**
KBKI Kotabaru 73.10 110 P **P** **06 16 57.1 -0.1**
comp=Z,63nm,1.0s
DAV Davao City (W) 73.27 95 LR LR 06 54 06.5
comp=Z,230nm,18.1s,baz=328,slow=40
MPSI Mapaga 73.37 104 P **P** **06 16 59.3 +0.5**
comp=Z,844nmcomp=Z,77nm,1.1s
EPYK Eagle Plains 73.47 3 P **P** **06 16 58.4 -0.3**
baz=353
EPYK S **S** **06 26 24.2 -0.7**
baz=353
EPYK Eagle Plains 73.47 3 P **P** **06 16 58.4 -0.3**
EPYK IAmb IAmb 06 17 10.8
comp=Z,44nm,1.1s
POKR Poker Plat Res 73.88 8 P **P** **06 17 01.3 +0.2**

POKR baz=345 S **S** **06 26 31.3 +1.9**
TCOL baz=345 **CIGO, UAF Yank** **74.07** **8** P **P** **06 17 02.2 +0.1**
TCOL baz=345 S **S** **06 26 32.9 +1.5**
COLA baz=345 **College** **74.07** **8** P **P** **06 17 02.4 +0.3**
COLA comp=Z,55nm,1.0s pmax pmax
COLA comp=Z,600nm,20.0s MLR MLR
COLA comp=Z,55nm,0.9s **College** **74.07** **8** P **P** **06 17 02.4 +0.3**
COLA comp=Z,6.4nm,0.8s,baz=347,slow=3.9,SNR=9.4 IAmb IAmb 06 17 15.0
ILAR comp=Z,0.6nm,0.8s,baz=244,slow=0.4,SNR=4.9 **Eielson Array** **74.27** **8** PKPPKP **P'P'df** **06 44 35.1 -4.7**
ILAR comp=Z,378nm,21.7s,baz=352,slow=38 LR LR 06 52 27.4
CCB **Clear Creek Bu** **74.29** **9** P **P** **06 17 03.5 0.0**
BPAW **Bear Paw Mtn.** **74.42** **10** P **P** **06 17 04.1 -0.2**
BPAW comp=Z,39nm,1.0s IAmb IAmb 06 17 17.9
BPAW comp=Z,834nm,21.0s IAMs_20 IAMs_20 06 53 26.5
WRH **Wood River Hil** **74.43** **9** P **P** **06 17 03.7 -0.6**
HDA baz=345 **Harding Lake** **74.62** **8** P **P** **06 17 04.4 -1.0**
TTA comp=Z,20nm,1.2s **Tatalina** **74.77** **13** P **P** **06 17 07.5 +1.1**
TTA comp=Z,2,974nm,22.0s pmax pmax
TTA **Tatalina** **74.77** **13** P **P** **06 17 07.5 +1.1**
EGAK **Eagle** **74.79** **6** P **P** **06 17 06.4 0.0**
EGAK comp=Z,44nm,0.9s IAmb IAmb 06 17 21.7
MRSI **Marisa** **74.80** **103** P **P** **06 17 07.0 -0.2**
SMY **Shemya** **74.86** **32** IAMs_20 IAMs_20 06 53 14.5
KTH comp=Z,2,974nm,22.0s **Kantishna Hill** **74.96** **10** P **P** **06 17 07.5 0.0**
KTH comp=Z,62nm,1.4s IAmb IAmb 06 17 22.9
KTH comp=Z,888nm,19.0s IAMs_20 IAMs_20 06 54 05.5
MCK **McKinley** **75.04** **9** P **P** **06 17 08.0 +0.1**
MCK comp=Z,29nm,0.9s pmax pmax
MCK comp=Z,800nm,20.0s MLR MLR
MCK **McKinley** **75.04** **9** P **P** **06 17 08.0 +0.1**
MCK comp=Z,847nm,20.0s IAMs_20 IAMs_20 06 54 29.7
TRF **Thorofare Moun** **75.14** **10** P **P** **06 17 09.6 +1.0**
SCRK **Sand Creek** **75.34** **7** P **P** **06 17 09.8 +0.1**
RND **Reindeer** **75.37** **9** P **P** **06 17 09.0 -0.8**
RND comp=Z,46nm,0.9s pmax pmax
RND comp=Z,800nm,21.0s MLR MLR
RND **Reindeer** **75.37** **9** P **P** **06 17 09.0 -0.8**
RND comp=Z,46nm,0.9s IAmb IAmb 06 17 22.0
RND comp=Z,787nm,21.0s IAMs_20 IAMs_20 06 53 35.3
PPLA **Purkeypile** **75.41** **11** P **P** **06 17 10.2 +0.1**
PPLA comp=Z,930nm,21.0s IAMs_20 IAMs_20 06 54 39.3
RIDG **Independent Ri** **75.49** **7** P **P** **06 17 10.4 -0.1**
RIDG comp=Z,45nm,1.0s IAmb IAmb 06 17 23.0
APSI **Ampana** **75.50** **104** P **P** **06 17 14.8 +3.6**
TTSI **Tana Toraja** **75.58** **107** P **P** **06 17 12.3 +0.7**
DAWY **Dawson** **75.62** **5** P **P** **06 17 11.3 +0.1**
DAWY comp=Z,48nm,0.9s IAmb IAmb 06 17 23.6
DOT **Dot Lake** **75.66** **7** P **P** **06 17 11.6 +0.2**
DOT comp=Z,46nm,1.0s IAmb IAmb 06 17 24.3
DHY **Denali Highway** **75.86** **9** P **P** **06 17 12.7 -0.1**
DHY comp=Z,849nm,22.0s IAMs_20 IAMs_20 06 53 20.4
SPSI **Sidrap Palu** **76.17** **107** P **P** **06 17 14.8 -0.2**
MENT **Mentasta** **76.39** **7** P **P** **06 17 15.9 +0.3**
MENT comp=Z,46nm,0.8s IAmb IAmb 06 17 21.0
SVW2 **Sparrevohn** **76.56** **13** IAMs_20 IAMs_20 06 55 12.5
BATG comp=Z,706nm,20.0s **Bathurst New B** **76.69** **322** P **P** **06 17 17.9 +0.4**
BATG comp=Z,80nm,1.0s IAmb IAmb 06 17 35.0
HARP **HAARP** **76.77** **8** P **P** **06 17 18.0 +0.2**
KAPI **Kappang** **76.86** **108** P **P** **06 17 18.4 -0.6**
KAPI comp=Z,90nm,1.3s pmax pmax
KAPI **Kappang** **76.86** **108** P **P** **06 17 18.4 -0.6**
KAPI comp=Z,90nm,1.2s IAmb IAmb 06 17 20.4
GHO **Glory Hole Cre** **76.94** **10** P **P** **06 17 18.8 0.0**
GHO comp=Z,46nm,1.0s IAmb IAmb 06 17 34.5
GHO comp=Z,1μm,22.0s IAMs_20 IAMs_20 06 56 16.8
YKA **Yellowknife Ar** **76.96** **353** P **P** **06 17 18.3 -0.4**
YKA comp=Z,566nm,21.7s,baz=0.0,slow=38 LR LR 06 54 23.0
SML comp=Z,14nm,0.7s,baz=8.7,slow=6.0,SNR=22 **Sawmill** **76.98** **10** P **P** **06 17 19.0 0.0**
SML comp=Z,53nm,0.7s IAmb IAmb 06 17 23.9
SCM **Sheep Creek Mo** **77.08** **9** P **P** **06 17 19.7 +0.2**
SCM comp=Z,39nm,1.0s pmax pmax
SCM comp=Z,600nm,21.0s MLR MLR
SCM **Sheep Creek Mo** **77.08** **9** P **P** **06 17 19.7 +0.2**
SCM comp=Z,39nm,1.0s IAmb IAmb 06 17 34.6
PMR **Palmer** **77.08** **10** P **P** **06 17 19.7 +0.3**
PMR comp=Z,41nm,0.9s pmax pmax
PMR comp=Z,800nm,20.0s MLR MLR
PMR **Palmer** **77.08** **10** P **P** **06 17 19.7 +0.3**
PMR comp=Z,41nm,0.9s IAmb IAmb 06 17 35.8
PMR comp=Z,827nm,20.0s IAMs_20 IAMs_20 06 56 21.6
ASCN **Ascension** **77.25** **248** P **P** **06 17 22.2 +1.1**
FCC **Fort Churchill** **77.25** **342** P **P** **06 17 20.7 +0.3**
FCC comp=Z,40nm,0.8s pmax pmax
FCC **Fort Churchill** **77.25** **342** P **P** **06 17 20.7 +0.3**
FCC comp=Z,40nm,0.8s IAmb IAmb 06 17 33.2
H10N2 **ASCENSION HYDR** **77.27** **248** P **P** **06 17 22.8 +2.0**
H10N1 baz=56,slow=5.8,SNR=19 **ASCENSION HYDR** **77.27** **248** P **P** **06 17 22.4 +1.5**
H10N3 baz=56,slow=5.8,SNR=13 **ASCENSION HYDR** **77.29** **248** P **P** **06 17 22.4 +1.5**
KNK baz=56,slow=5.8,SNR=10 **Knik Glacier** **77.34** **10** P **P** **06 17 20.8 -0.2**
KNK comp=Z,58nm,0.8s IAmb IAmb 06 17 37.8
KNK comp=Z,776nm,20.0s IAMs_20 IAMs_20 06 56 28.5
BKSI **Bulukumba** **77.34** **108** P **P** **06 17 21.7 +0.1**
HAL **Halifax** **77.36** **319** P **P** **06 17 21.6 +0.3**
HAL comp=Z,104nm,0.9s pmax pmax
HAL **Halifax** **77.36** **319** P **P** **06 17 21.6 +0.3**
RC01 **Rabbit Creek A** **77.48** **10** P **P** **06 17 21.3 -0.5**
RC01 comp=Z,43nm,0.8s IAmb IAmb 06 17 38.1
RC01 comp=Z,745nm,20.0s IAMs_20 IAMs_20 06 55 25.3
RSO **Redoubt South** **77.63** **12** P **P** **06 17 22.7 -0.2**
D63A **Stockholm** **77.82** **323** P **P** **06 17 23.8 -0.1**
GLI baz=43,SNR=5.7 **Glacier Island** **78.03** **9** P **P** **06 17 26.6 +1.8**
GLI comp=Z,717nm,22.0s IAMs_20 IAMs_20 06 55 19.7
VRDI **Verde Repeater** **78.09** **7** P **P** **06 17 25.9 +0.6**
E64A **Bridgewater** **78.15** **322** P **P** **06 17 26.0 +0.3**
D62A baz=43,SNR=5.3 **Allapoint, All** **78.23** **323** P **P** **06 17 26.2 +0.1**
baz=42,SNR=12
D62A **Allapoint, All** **78.23** **323** P **P** **06 17 26.5 +0.4**
D62A comp=Z,58nm,0.9s IAmb IAmb 06 17 43.2
D62A comp=Z,936nm,22.0s IAMs_20 IAMs_20 06 51 24.2
FID **Port Fidalgo** **78.23** **9** P **P** **06 17 26.6 +0.7**
FID comp=Z,699nm,22.0s IAMs_20 IAMs_20 06 55 26.2
BALM **Baldy** **78.39** **7** P **P** **06 17 27.5 +0.7**
BALM comp=Z,45nm,0.9s IAmb IAmb 06 17 39.9
CHGQ **Chibougamau** **78.39** **328** P **P** **06 17 27.3 +0.3**
baz=39
E63A **Oxbow** **78.42** **322** P **P** **06 17 28.0 +0.8**
baz=42,SNR=7.0
E63A **Oxbow** **78.42** **322** P **P** **06 17 27.8 +0.6**
E63A comp=Z,49nm,0.9s IAmb IAmb 06 17 44.6
BARN **Barnard Glacie** **78.42** **7** P **P** **06 17 28.3 +1.1**
SEW **Seward** **78.47** **11** P **P** **06 17 27.3 +0.1**
SEW comp=Z,55nm,0.8s IAmb IAmb 06 17 32.2
SEW comp=Z,1μm,22.0s IAMs_20 IAMs_20 06 55 00.7
HOM **Homer** **78.57** **12** IAMs_20 IAMs_20 06 56 39.1
BRLK comp=Z,839nm,19.0s **Bradley Lake** **78.59** **11** P **P** **06 17 27.7 -0.2**
BRLK comp=Z,912nm,21.0s IAMs_20 IAMs_20 06 55 59.8
D61A **St Aubert, Com** **78.66** **324** P **P** **06 17 29.4 +1.0**
baz=41,SNR=7.6
TNTI **Ternate** **78.68** **99** P **P** **06 17 31.6 +2.5**
CNPM **China Poot** **78.76** **12** P **P** **06 17 28.4 -0.4**
CNPM comp=Z,35nm,0.8s IAmb IAmb 06 17 43.6
CNPM comp=Z,937nm,21.0s IAMs_20 IAMs_20 06 56 45.1
E62A **Clayton Lake** **78.79** **323** P **P** **06 17 29.7 +0.5**
baz=42,SNR=12
E62A **Clayton Lake** **78.79** **323** P **P** **06 17 29.5 +0.2**
E62A comp=Z,50nm,0.9s IAmb IAmb 06 17 47.0
E62A comp=Z,955nm,22.0s IAMs_20 IAMs_20 06 51 29.9
F64A **Sherman** **78.80** **322** P **P** **06 17 29.9 +0.7**
baz=42,SNR=5.5
F64A **Sherman** **78.80** **322** P **P** **06 17 29.7 +0.4**
F64A comp=Z,41nm,0.9s IAmb IAmb 06 17 46.8
G65A **Princeton** **78.91** **321** P **P** **06 17 30.1 +0.2**
baz=43
WAX **Waxell Ridge** **78.92** **7** IAMs_20 IAMs_20 06 57 42.1
HYT comp=Z,655nm,18.0s **Haines Junctio** **78.96** **5** P **P** **06 17 30.5 +0.4**
HYT comp=Z,47nm,0.9s IAmb IAmb 06 17 43.7
H66A **Whiting** **79.09** **321** P **P** **06 17 30.9 0.0**
baz=43
D60A **Saint Jean D'O** **79.20** **324** P **P** **06 17 31.6 +0.2**
baz=41
F63A **Nahmakanta, Br** **79.27** **322** P **P** **06 17 32.6 +0.7**
baz=42
E61A **Lac Etchemin** **79.37** **323** P **P** **06 17 33.3 +0.8**
baz=41
G64A **Maxfield** **79.44** **322** P **P** **06 17 34.0 +1.1**
baz=42,SNR=5.7
SANI **Sanana** **79.49** **102** P **P** **06 17 32.4 -1.1**
D59A **Saint-Raymond** **79.54** **324** P **P** **06 17 33.9 +0.6**
baz=40,SNR=6.6
H65A **Eastbrook** **79.61** **321** P **P** **06 17 33.9 +0.2**
baz=42
LATQ **La Tuque** **79.67** **325** P **P** **06 17 34.6 +0.6**
baz=40,SNR=7.1
LBMI **Labuha** **79.70** **100** P **P** **06 17 36.4 +1.7**
comp=Z,1μmcomp=Z,113nm,1.1s
MATQ **Matagami** **79.82** **329** P **P** **06 17 35.4 +0.6**
baz=37
E60A **Ste Agathe de** **79.85** **324** P **P** **06 17 35.3 +0.3**
baz=40,SNR=5.8
D58A **Chemin du LacG** **79.94** **325** P **P** **06 17 35.8 +0.3**
baz=40,SNR=5.3
F61A **St Evariste** **79.94** **323** P **P** **06 17 36.5 +1.0**
baz=41,SNR=7.1
G63A **Kingsbury** **79.95** **322** P **P** **06 17 35.5 -0.1**
baz=42
LSQQ **Lebel-sur-Quev** **80.12** **329** P **P** **06 17 37.0 +0.6**
baz=37
H64A **Troy** **80.12** **322** P **P** **06 17 36.9 +0.4**
baz=42
KDAK **Kodiak Island** **80.21** **13** P **P** **06 17 37.1 +0.4**
comp=Z,41nm,1.0s,baz=342,slow=2.2,SNR=6.0
G62A **West of Eustis** **80.30** **323** P **P** **06 17 38.4 +0.9**
baz=41,SNR=5.5
G62A **West of Eustis** **80.30** **323** P **P** **06 17 38.5 +1.0**
F60A **Warwick** **80.38** **324** P **P** **06 17 38.4 +0.5**
baz=40,SNR=5.8
D57A **Chemin Vers le** **80.43** **326** P **P** **06 17 38.8 +0.7**
baz=39,SNR=29
H63A **New Sharon** **80.49** **322** P **P** **06 17 38.9 +0.4**
baz=41
E58A **La Victoria** **80.67** **325** P **P** **06 17 40.1 +0.7**
baz=39,SNR=21
UNV **Unalaska Valle** **80.67** **22** IAMs_20 IAMs_20 06 58 56.8
G61A comp=Z,848nm,19.0s **St-Isidore-de-** **80.71** **323** P **P** **06 17 40.9 +1.2**
baz=40,SNR=8.0
D56A **ZEC Mazanza, M** **80.78** **326** P **P** **06 17 40.6 +0.5**
baz=38,SNR=23
F59A **Saint Guilaume** **80.85** **324** P **P** **06 17 41.1 +0.8**
baz=40,SNR=11
I64A **Boothbay** **80.86** **321** P **P** **06 17 41.1 +0.7**
baz=41
E57A **Chemin Saint G** **81.02** **325** P **P** **06 17 42.0 +0.6**
baz=39,SNR=27
VLDQ **Val d'Or** **81.06** **328** P **P** **06 17 42.2 +0.8**
VLDQ comp=Z,53nm,0.8s IAmb IAmb 06 17 43.6
H62A **Milan** **81.08** **323** P **P** **06 17 41.8 +0.2**
baz=40
H62A **Milan** **81.08** **323** IAMs_20 IAMs_20 06 52 49.6
comp=Z,676nm,22.0s
D55A **Sainte-Anne-du** **81.11** **326** P **P** **06 17 42.7 +1.0**
baz=38,SNR=42
I63A **Otisfield** **81.21** **322** P **P** **06 17 43.0 +0.7**
baz=41
I63A **Otisfield** **81.21** **322** IAMs_20 IAMs_20 06 53 51.0
comp=Z,851nm,20.0s
G60A **Masonville** **81.22** **323** P **P** **06 17 42.6 +0.1**
baz=40
F58A **St-Lin Laurent** **81.29** **325** P **P** **06 17 43.1 +0.4**
baz=39
E56A **St. Veronique** **81.30** **326** P **P** **06 17 43.4 +0.7**
baz=38,SNR=24
TRQ **Mont Tremblant** **81.34** **325** P **P** **06 17 43.5 +0.4**
H61A **Lyndonville** **81.47** **323** P **P** **06 17 44.7 +1.0**
baz=40,SNR=7.2
D54A **Lac Fusel, La** **81.50** **327** P **P** **06 17 44.2 +0.3**
baz=37,SNR=13
G59A **Clarenceville** **81.62** **324** P **P** **06 17 44.2 -0.2**
baz=39
DLBC **Dease Lake** **81.62** **1** P **P** **06 17 45.2 +0.9**
comp=Z,12nm,0.8s,baz=322,slow=4.3,SNR=14
DLBC **Dease Lake** **81.62** **1** P **P** **06 17 45.1 +0.8**
DLBC comp=Z,626nm,21.0s IAMs_20 IAMs_20 06 58 48.6
LBNH **Lisbon** **81.69** **323** P **P** **06 17 46.1 +1.2**
baz=40,SNR=7.3
LBNH **Lisbon** **81.69** **323** P **P** **06 17 46.1 +1.2**
LBNH comp=Z,51nm,1.2s pmax pmax
LBNH comp=Z,700nm,22.0s MLR MLR
LBNH **Lisbon** **81.69** **323** P **P** **06 17 46.1 +1.2**
LBNH comp=Z,51nm,1.1s IAmb IAmb 06 18 02.5
LBNH comp=Z,685nm,22.0s IAMs_20 IAMs_20 06 53 29.8
I62A **Tamworth** **81.70** **322** P **P** **06 17 45.7 +0.8**
baz=40
F57A **Harrington** **81.72** **325** P **P** **06 17 45.5 +0.5**
baz=38
H60A **Morristown** **81.80** **323** P **P** **06 17 46.6 +1.1**
baz=40,SNR=9.4
E55A **Montcerf-Lytto** **81.80** **326** P **P** **06 17 46.2 +0.8**
baz=38,SNR=14
G58A **Ormstown** **81.96** **324** P **P** **06 17 46.5 +0.3**
baz=39
D53A **Lac Vacive, Po** **81.99** **328** P **P** **06 17 47.1 +0.7**
baz=37,SNR=28
D53A **Lac Vacive, Po** **81.99** **328** P **P** **06 17 46.9 +0.5**
D53A comp=Z,43nm,0.9s IAmb IAmb 06 17 48.4
FRNY **Flat Rock** **81.99** **324** P **P** **06 17 47.1 +0.7**
FRNY comp=Z,721nm,21.0s IAMs_20 IAMs_20 06 53 51.7
VT1 **Waterbury** **82.00** **323** IAMs_20 IAMs_20 06 53 51.2
comp=Z,911nm,21.0s
J63A **Strafford** **82.03** **322** P **P** **06 17 46.6 0.0**
baz=40
H59A **Cadyville** **82.19** **324** P **P** **06 17 48.3 +0.8**
baz=39,SNR=7.9
HNH **Hanover** **82.27** **323** P **P** **06 17 49.1 +1.2**
HNH comp=Z,52nm,1.0s IAmb IAmb 06 18 05.9
E54A **Lac Daplat, Po** **82.29** **327** P **P** **06 17 48.5 +0.5**
baz=37,SNR=9.1
D52A **ZEK Kipawa Sen** **82.36** **328** P **P** **06 17 49.0 +0.6**
baz=36,SNR=18
ORIO **Orleans, Innes** **82.36** **325** P **P** **06 17 49.2 +0.9**
baz=38,SNR=8.4
ORIO **Orleans, Innes** **82.36** **325** P **P** **06 17 49.0 +0.7**
G57A **Newington** **82.40** **325** P **P** **06 17 49.4 +0.8**
baz=38,SNR=11
J62A **Henniker** **82.42** **322** P **P** **06 17 49.7 +1.0**
baz=40,SNR=5.3
F55A **Otter Lake** **82.42** **326** P **P** **06 17 49.0 +0.4**
baz=37,SNR=6.0
L65A **Cape Cod Natio** **82.48** **320** P **P** **06 17 49.7 +0.7**
baz=41
E53A **Dumoine, Ponti** **82.53** **327** P **P** **06 17 50.0 +0.7**
baz=37
H58A **Gabriels** **82.58** **324** P **P** **06 17 50.0 +0.4**
baz=39,SNR=9.2
LONY **Lake Ozonia** **82.61** **324** P **P** **06 17 50.4 +0.7**
baz=38,SNR=21
LONY **Lake Ozonia** **82.61** **324** P **P** **06 17 50.5 +0.7**
LONY comp=Z,52nm,0.9s IAmb IAmb 06 18 07.3
I60A **Shoreham** **82.63** **323** P **P** **06 17 50.9 +1.1**
baz=39,SNR=5.7
D51A **Lot 18 Range I** **82.65** **329** P **P** **06 17 50.5 +0.6**
baz=36,SNR=8.9
J61A **Chester** **82.67** **322** P **P** **06 17 50.8 +0.8**
baz=40,SNR=6.2
FFC **Flin Flon** **82.68** **345** IAMs_20 IAMs_20 06 57 03.7
comp=Z,735nm,18.0s
K63A **Dunstable** **82.69** **321** P **P** **06 17 50.6 +0.4**
baz=40
D50A **G1974 Best Tow** **82.78** **329** P **P** **06 17 51.1 +0.6**
baz=35,SNR=11
HRV **Adam Dziewonsk** **82.84** **321** P **P** **06 17 51.5 +0.5**
baz=40
I59A **Olmsteadville** **82.93** **324** P **P** **06 17 52.0 +0.6**
baz=39,SNR=12
L64A **Middleborough** **82.93** **321** P **P** **06 17 52.1 +0.7**
baz=40
NCB **Newcomb** **82.95** **324** IAMs_20 IAMs_20 06 54 30.0
comp=Z,643nm,21.0s
E52A **Mattawa** **83.02** **328** P **P** **06 17 52.5 +0.7**
baz=36,SNR=11
ALGO **Algonquin Park** **83.04** **327** P **P** **06 17 52.6 +0.7**
baz=36,SNR=18
G55A **Calabogie** **83.04** **326** P **P** **06 17 52.7 +0.8**
baz=37,SNR=16
K62A **Royalston** **83.04** **322** P **P** **06 17 53.1 +1.1**
baz=40,SNR=6.8
K62A **Royalston** **83.04** **322** P **P** **06 17 52.9 +0.9**
K62A comp=Z,36nm,0.9s IAmb IAmb 06 18 09.9
M65A **Busby, Falmout** **83.12** **320** IAMs_20 IAMs_20 06 54 19.8
comp=Z,749nm,22.0s
J60A **Lant Hill Farm** **83.15** **323** P **P** **06 17 53.6 +1.1**
baz=39,SNR=16
ACCN **Adirondack Com** **83.16** **323** P **P** **06 17 53.3 +0.8**
ACCN comp=Z,59nm,1.1s IAmb IAmb 06 18 09.8
ACCN comp=Z,893nm,21.0s IAMs_20 IAMs_20 06 53 43.5
E51A **G1948 Merrick** **83.16** **328** P **P** **06 17 53.1 +0.6**
baz=35,SNR=20
D49A **Beulah Townshi** **83.28** **330** P **P** **06 17 53.7 +0.6**
baz=34,SNR=5.2
PLVO **Plevna** **83.36** **326** P **P** **06 17 54.1 +0.5**
PLVO comp=Z,45nm,0.9s IAmb IAmb 06 17 55.6
L63A **North Scituate** **83.36** **321** P **P** **06 17 53.8 +0.2**
baz=40
H56A **Elgin** **83.36** **325** P **P** **06 17 54.4 +0.8**
baz=37,SNR=11
M64A **Tiverton** **83.41** **321** P **P** **06 17 54.5 +0.7**
baz=40,SNR=5.6
L61B **Northampton** **83.42** **322** P **P** **06 17 54.7 +0.8**
baz=39,SNR=9.4
J59A **Piesco** **83.47** **324** P **P** **06 17 55.0 +0.8**
baz=38,SNR=24
J59A **Piesco** **83.47** **324** P **P** **06 17 55.0 +0.8**
J59A comp=Z,684nm,21.0s IAMs_20 IAMs_20 06 54 23.9
G54A **Lake Saint Pet** **83.50** **327** P **P** **06 17 55.1 +0.7**
baz=36,SNR=37
I58A **Old Forge** **83.51** **324** P **P** **06 17 55.3 +0.8**
baz=38,SNR=28
K61A **Williamstown** **83.53** **322** P **P** **06 17 54.4 -0.1**
baz=39,SNR=6.3
D48A **Paudash Townsh** **83.53** **330** P **P** **06 17 54.9 +0.5**
baz=34,SNR=28
I57A **Carthage** **83.62** **325** P **P** **06 17 55.6 +0.6**
baz=38,SNR=23
TRY **Troy** **83.66** **323** P **P** **06 17 55.5 +0.4**
TRY comp=Z,28nm,0.9s IAmb IAmb 06 18 13.6
F52A **Sundridge** **83.69** **328** P **P** **06 17 56.2 +1.0**
baz=35,SNR=39
L62A **Suffield** **83.73** **322** P **P** **06 17 55.7 +0.2**
baz=39
E50A **Wahnapitae** **83.74** **329** P **P** **06 17 56.4 +0.9**
baz=34,SNR=20
H55A **Tweed** **83.80** **326** P **P** **06 17 56.5 +0.7**
baz=37,SNR=20
F51A **Arnstein** **83.82** **328** P **P** **06 17 56.7 +0.8**
baz=35,SNR=25
K60A **Five Rivers En** **83.85** **323** P **P** **06 17 57.1 +1.0**
baz=39,SNR=6.3
J58A **Remsen** **83.91** **324** P **P** **06 17 57.2 +0.7**
baz=38,SNR=14
J58A **Remsen** **83.91** **324** P **P** **06 17 56.8 +0.3**
J58A comp=Z,50nm,1.1s IAmb IAmb 06 18 13.6
J58A comp=Z,755nm,19.0s IAMs_20 IAMs_20 06 54 58.4
M63A **Gales Ferry** **83.92** **321** P **P** **06 17 56.9 +0.5**
baz=40
G53A **Haliburton** **83.94** **327** P **P** **06 17 57.0 +0.5**
baz=36,SNR=24
DELO **Deloro Mine** **84.01** **326** P **P** **06 17 57.0 +0.1**
DELO comp=Z,45nm,0.9s IAmb IAmb 06 17 58.7
L61A **Hillsdale 1, H** **84.03** **322** P **P** **06 17 57.6 +0.6**
baz=39,SNR=9.6
D47A **Chapleau** **84.12** **331** P **P** **06 17 58.2 +0.7**
baz=33,SNR=47
K59A **Cooperstown** **84.17** **323** P **P** **06 17 58.2 +0.3**
baz=38,SNR=11
J57A **Williamstown** **84.19** **325** P **P** **06 17 58.2 +0.4**
baz=37,SNR=22
J57A **Williamstown** **84.19** **325** P **P** **06 17 58.5 +0.6**
PECO **Prince Edward** **84.21** **325** P **P** **06 17 58.1 +0.2**
PECO comp=Z,46nm,0.9s IAmb IAmb 06 17 59.6
E48A **Lockeyer** **84.25** **330** P **P** **06 17 58.8 +0.7**
baz=34,SNR=57
I55A **Frankford** **84.28** **326** P **P** **06 17 58.6 +0.3**
baz=36,SNR=9.4
M62A **Hamden** **84.30** **321** P **P** **06 17 58.4 0.0**
baz=39,SNR=5.1
KSCT **Kent School, K** **84.36** **322** P **P** **06 17 59.2 +0.5**
KSCT comp=Z,38nm,1.1s IAmb IAmb 06 18 15.4
H53A **Bobcaygeon** **84.37** **327** P **P** **06 17 59.1 +0.4**
baz=36,SNR=24
SADO **Sadowa** **84.45** **327** P **P** **06 17 59.5 +0.4**
SADO comp=Z,37nm,1.1s IAmb IAmb 06 18 00.7
L60A **Shokan** **84.50** **323** P **P** **06 17 58.8 -0.6**

baz=38
K58A **Earlville** 84.54 324 P P 06 18 00.0 +0.3
baz=38,SNR=9.4
K58A **Earlville** 84.54 324 P P 06 18 00.4 +0.7
K58A IAMs_20 IAMs_20 06 55 18.1
comp=Z,827nm,21.0s
D46A **Sault St. Mari** 84.61 331 P P 06 18 00.7 +0.8
baz=32,SNR=55
J56A **Wolcott** 84.67 325 P P 06 18 00.6 +0.4
baz=37,SNR=12
J56A **Wolcott** 84.67 325 P P 06 18 00.7 +0.4
J56A IAmb IAmb 06 18 01.8
comp=Z,41nm,1.0s
E47A **Iron Bridge** 84.69 331 P P 06 18 00.9 +0.6
baz=33,SNR=36
L59A **Walton** 84.72 323 P P 06 18 00.9 +0.3
baz=38,SNR=7.3
L59A **Walton** 84.72 323 P P 06 18 00.2 -0.4
L59A IAmb IAmb 06 18 17.5
comp=Z,36nm,1.0s
L59A IAMs_20 IAMs_20 06 56 01.9
comp=Z,665nm,20.0s
FAKI **Fak Fak** 84.77 98 P P 06 18 01.6 +0.4
FAKI **Fak Fak** 84.77 98 P P 06 18 01.1 -0.1
F49A **Sandfield** 84.80 329 P P 06 18 01.5 +0.7
baz=34,SNR=22
M61A **Granite Spring** 84.81 322 P P 06 18 00.9 -0.1
baz=39
H52A **Wyevale** 84.86 328 P P 06 18 01.5 +0.3
baz=35,SNR=13
K57A **Scipio Center** 84.96 324 P P 06 18 02.1 +0.3
baz=37,SNR=6.0
F48A **Evansville** 84.97 330 P P 06 18 02.4 +0.7
baz=33,SNR=31
N62A **Caumsett State** 84.97 321 P P 06 18 01.4 -0.3
baz=39
J55A **Hilton** 85.10 325 P P 06 18 02.5 +0.1
baz=36,SNR=8.4
J55A **Hilton** 85.10 325 P P 06 18 02.4 0.0
J55A IAmb IAmb 06 18 03.8
comp=Z,34nm,0.9s
J55A IAMs_20 IAMs_20 06 58 55.8
comp=Z,562nm,18.0s
PAL **Palisades** 85.12 322 P P 06 18 02.3 -0.2
baz=38
BINY **Binghamton** 85.14 324 P P 06 18 02.8 +0.1
baz=37
BINY **Binghamton** 85.14 324 IAMs_20 IAMs_20 06 55 47.0
comp=Z,863nm,20.0s
E46A **Sault Ste Mari** 85.15 331 P P 06 18 03.0 +0.4
L58A **Harry Jones Me** 85.20 324 P P 06 18 03.6 +0.6
baz=37
M60A **Port Jervis** 85.20 322 P P 06 18 02.8 -0.2
baz=38
K56A **Middlesex** 85.34 325 P P 06 18 03.9 +0.2
baz=36,SNR=5.6
I53A **Kortright Cn E** 85.40 327 P P 06 18 03.9 -0.1
baz=35
M59A **Waymart** 85.41 323 P P 06 18 04.4 +0.4
baz=38
ULM **Lac du Bonnet** 85.41 340 P P 06 18 03.2 -0.6
comp=Z,22nm,0.9s,baz=15,slow=4.8,SNR=16
ULM LR LR 06 57 43.6
comp=Z,830nm,20.3s,baz=10.0,slow=37
ULM **Lac du Bonnet** 85.41 340 *ceP* P 06 18 02.5 -1.3
ULM **Lac du Bonnet** 85.41 340 P P 06 18 03.2 -0.6
ULM IAmb IAmb 06 18 16.1
comp=Z,33nm,0.9s
I52A **Shelburne** 85.45 327 P P 06 18 04.7 +0.5
baz=35,SNR=16
J54A **Appleton** 85.45 326 P P 06 18 03.9 -0.3
baz=36
KSPA **Keystone Colle** 85.55 323 IAMs_20 IAMs_20 06 55 26.9
comp=Z,781nm,22.0s
MMNY **Mt. Morris Dam** 85.57 325 P P 06 18 04.4 -0.4
MMNY IAmb IAmb 06 18 20.3
comp=Z,38nm,1.1s
MMNY IAMs_20 IAMs_20 06 58 01.2
comp=Z,535nm,20.0s
K55A **Perry** 85.64 325 P P 06 18 05.3 +0.1
baz=36
L57A **Andrews Acres** 85.69 324 P P 06 18 05.4 0.0
baz=37,SNR=9.6
N60A **Cedar Hill Far** 85.78 322 P P 06 18 05.7 -0.1
baz=38
L56A **Greenwood** 85.89 325 P P 06 18 06.2 -0.3
baz=36,SNR=7.8
L56A **Greenwood** 85.89 325 P P 06 18 06.0 -0.4
L56A IAMs_20 IAMs_20 06 58 05.9
comp=Z,570nm,20.0s
G47A **Hillman** 85.99 330 P P 06 18 07.6 +0.8
baz=32,SNR=61
K54A **Basiliko Farm,** 86.01 326 P P 06 18 07.1 +0.1
baz=36,SNR=7.3
I51A **Listowel** 86.01 328 P P 06 18 07.3 +0.3
baz=34,SNR=14
M58A **Price's Panora** 86.01 324 P P 06 18 07.2 +0.1
baz=37
D41A **Chassel** 86.06 334 P P 06 18 07.3 +0.1
D41A IAmb IAmb 06 18 08.6
comp=Z,44nm,0.8s
N59A **State Game Lan** 86.06 323 P P 06 18 06.5 -0.8
baz=37
E43A **Lone Tree Farm** 86.11 333 P P 06 18 07.1 -0.3
E43A IAmb IAmb 06 18 08.7
comp=Z,35nm,0.8s
F45A **CMU Biological** 86.17 331 P P 06 18 08.0 +0.3
baz=31,SNR=13
H48A **Harrisville** 86.18 330 P P 06 18 08.0 +0.2
baz=33,SNR=12
EYMN **Ely** 86.22 336 P P 06 18 08.0 +0.1
baz=27,SNR=18
EYMN **Ely** 86.22 336 P P 06 18 07.2 -0.7
EYMN IAmb IAmb 06 18 09.1
comp=Z,24nm,0.9s
L55A **Hinsdale** 86.24 325 P P 06 18 08.2 0.0
baz=36,SNR=8.2
G46A **Petoskey** 86.25 331 P P 06 18 08.0 0.0
baz=32,SNR=5.6
J52A **Paris** 86.25 327 P P 06 18 08.3 +0.1
baz=34,SNR=9.0
M57A **Sunshine Farm,** 86.34 324 P P 06 18 07.9 -0.7
baz=37
M57A **Sunshine Farm,** 86.34 324 IAMs_20 IAMs_20 06 56 22.8
comp=Z,835nm,21.0s
O60A **Telford** 86.36 322 P P 06 18 08.3 -0.5
baz=38
B35A **Bob, Littlefor** 86.53 338 IAMs_20 IAMs_20 06 59 32.4
comp=Z,750nm,21.0s
N58A **Sunbury** 86.56 323 P P 06 18 09.6 0.0
baz=37
N58A **Sunbury** 86.56 323 IAMs_20 IAMs_20 06 56 30.4
comp=Z,803nm,21.0s
GLMI **Grayling** 86.57 330 P P 06 18 10.0 +0.3
baz=32,SNR=6.1
GLMI **Grayling** 86.57 330 IAMs_20 IAMs_20 06 55 24.4
comp=Z,597nm,22.0s
L54A **Sinclairville** 86.58 326 P P 06 18 09.6 -0.2
baz=35,SNR=6.2
H47A **Mio** 86.61 330 P P 06 18 10.3 +0.4
baz=32,SNR=5.1
I49A **Point Hope** 86.62 329 P P 06 18 10.2 +0.2
baz=33,SNR=11
I49A **Point Hope** 86.62 329 P P 06 18 10.6 +0.7
M56A **Emporium** 86.70 325 P P 06 18 10.1 -0.3
baz=36
K52A **Tillsonburg** 86.73 327 P P 06 18 10.0 -0.5
baz=34
O59A **Robesonia** 86.73 323 P P 06 18 10.1 -0.5
baz=37
I48A **Sherman Twp** 86.76 330 P P 06 18 10.8 +0.2
baz=32,SNR=6.5
G45A **Suttons Bay** 86.78 331 P P 06 18 10.8 +0.1
baz=31,SNR=8.2
G45A **Suttons Bay** 86.78 331 P P 06 18 10.8 +0.1
G45A IAmb IAmb 06 18 27.4
comp=Z,43nm,0.9s
M55A **Ridgway** 86.97 325 P P 06 18 11.4 -0.3
baz=36
ERPA **Erie** 86.97 326 P P 06 18 11.4 -0.3
baz=35
N57A **Milroy** 87.00 324 P P 06 18 11.6 -0.3
baz=36
H46A **Fife Lake** 87.03 331 P P 06 18 12.2 +0.2
baz=32,SNR=9.0
COWI **Conover** 87.09 334 P P 06 18 11.9 -0.3
COWI IAmb IAmb 06 18 13.3
comp=Z,31nm,0.9s

K51A **Iona Station** 87.11 327 P P 06 18 12.0 -0.3
baz=34
AGMN **Agassiz Nation** 87.19 339 P P 06 18 12.2 -0.4
baz=24
AGMN **Agassiz Nation** 87.19 339 P P 06 18 12.4 -0.3
AGMN IAmb IAmb 06 18 25.1
comp=Z,36nm,0.8s
N56A **West Decatur** 87.20 324 P P 06 18 12.2 -0.7
baz=36
I47A **Gladwin** 87.21 330 P P 06 18 13.2 +0.4
baz=32,SNR=5.7
L53A **Girard** 87.22 326 P P 06 18 12.5 -0.4
baz=35
O58A **Lewisberry** 87.22 323 P P 06 18 12.5 -0.5
baz=37
J49A **Marlette** 87.23 329 P P 06 18 12.5 -0.4
baz=33
SSPA **Standing Stone** 87.25 324 P P 06 18 12.7 -0.4
baz=36
SSPA **Standing Stone** 87.25 324 IAMs_20 IAMs_20 06 57 41.8
comp=Z,536nm,20.0s
H45A **Beulah** 87.28 331 P P 06 18 13.1 0.0
baz=31
M54A **Oil Creek Stat** 87.33 326 P P 06 18 13.3 -0.2
baz=35
P59A **Jarrettsville** 87.41 322 P P 06 18 13.1 -0.7
baz=37
E38A **The Farm, Brul** 87.43 336 P P 06 18 13.7 -0.2
E38A IAmb IAmb 06 18 14.7
comp=Z,36nm,0.8s
E38A IAMs_20 IAMs_20 06 57 37.0
comp=Z,860nm,22.0s
O57A **Amberson** 87.48 324 P P 06 18 13.7 -0.5
baz=36
K50A **Casco** 87.52 328 P P 06 18 14.1 -0.2
baz=33
J48A **Bridge Port** 87.54 329 P P 06 18 14.5 +0.1
baz=32,SNR=8.5
Q60A **Greensboro** 87.61 322 P P 06 18 14.8 0.0
baz=37
N55A **Marion Center** 87.62 325 P P 06 18 14.4 -0.6
baz=35
I46A **Reed City** 87.64 330 P P 06 18 15.0 +0.1
baz=31
M53A **Wl Miller and** 87.82 326 P P 06 18 15.2 -0.6
baz=34
K49A **Clarkson** 87.84 329 P P 06 18 15.7 -0.2
baz=33
I45A **Fountain** 87.85 331 P P 06 18 15.8 -0.1
baz=31
I45A **Fountain** 87.85 331 IAMs_20 IAMs_20 06 57 21.2
comp=Z,860nm,22.0s
O56A **Blue Knob Stat** 87.85 324 P P 06 18 15.5 -0.6
baz=36
O56A **Blue Knob Stat** 87.85 324 IAMs_20 IAMs_20 06 57 58.7
comp=Z,570nm,21.0s
BBB **Bella Bella** 87.90 360 P P 06 18 16.3 +0.4
comp=Z,7.4nm,0.9s,baz=320,slow=7.8,SNR=7.0
BBB **Bella Bella** 87.90 360 IAMs_20 IAMs_20 07 00 27.6
comp=Z,586nm,21.0s
R61A **Willards** 87.90 321 P P 06 18 15.4 -0.8
baz=38
P58A **Pank, Wackersv** 87.90 323 P P 06 18 15.1 -1.1
baz=36
J47A **Sunmer** 88.00 330 P P 06 18 16.7 +0.1
baz=32,SNR=5.5
J47A **Sunmer** 88.00 330 P P 06 18 17.2 +0.6
J47A IAmb IAmb 06 18 33.4
comp=Z,30nm,1.1s
M52A **Chesterland** 88.02 327 P P 06 18 16.5 -0.3
baz=34
K48A **Perry** 88.09 329 P P 06 18 16.7 -0.3
baz=32
Q59A **Harwood** 88.10 322 P P 06 18 17.3 +0.1
baz=37
G40A **Rib Lake** 88.18 334 P P 06 18 17.5 +0.1
L50A **Kingsville** 88.20 328 P P 06 18 17.4 -0.2
baz=33
J46A **Howard City** 88.22 330 P P 06 18 17.7 0.0
baz=31
O55A **Ligonier** 88.23 325 P P 06 18 18.2 +0.4
baz=35
P57A **Homestead Farm** 88.23 323 P P 06 18 17.4 -0.4
baz=36
P57A **Homestead Farm** 88.23 323 IAMs_20 IAMs_20 06 58 01.9
comp=Z,777nm,20.0s
AAM **Ann Arbor** 88.33 328 P P 06 18 17.7 -0.5
baz=32
PSA00 **Pilbara Seismi** 88.39 120 P P 06 18 18.2 -0.4
N53A **Lisbon** 88.41 326 P P 06 18 17.9 -0.8
baz=34
N53A **Lisbon** 88.41 326 IAMs_20 IAMs_20 06 58 42.3
comp=Z,663nm,22.0s
J45A **Montague** 88.42 331 IAMs_20 IAMs_20 06 57 49.4
comp=Z,577nm,20.0s
Q58A **Fox Den Farm,** 88.52 323 P P 06 18 19.0 -0.1
baz=36
M51A **Elyria** 88.54 327 P P 06 18 18.1 -1.1
baz=33
R60A **Leonardtown, M** 88.54 322 P P 06 18 19.0 -0.2
baz=37
K47A **Vermontville** 88.55 330 P P 06 18 19.1 -0.1
baz=32
D32A **Dogwood Acres,** 88.56 339 IAMs_20 IAMs_20 07 02 00.7
comp=Z,669nm,20.0s
MDND **Maddock** 88.58 341 P P 06 18 19.0 -0.3
baz=22,SNR=13
MDND **Maddock** 88.58 341 P P 06 18 19.1 -0.2
MDND IAMs_20 IAMs_20 06 58 23.1
comp=Z,773nm,21.0s
P56A **Dayton Farm, R** 88.59 324 P P 06 18 18.9 -0.6
baz=36
F36A **Milaca** 88.71 336 P P 06 18 19.5 -0.4
F36A IAmb IAmb 06 18 20.8
comp=Z,22nm,0.8s
O54A **Avella** 88.72 325 P P 06 18 19.4 -0.8
baz=34
O54A **Avella** 88.72 325 IAMs_20 IAMs_20 07 00 40.7
comp=Z,644nm,20.0s
N52A **McGinn's Farm,** 88.76 326 P P 06 18 20.0 -0.3
baz=34,SNR=6.3
Q57A **Strasburg** 88.78 323 P P 06 18 20.2 -0.2
baz=36
R59A **King George, V** 88.85 322 P P 06 18 20.6 -0.1
baz=36
MCWV **Mont Chateau** 88.92 325 P P 06 18 21.2 +0.2
baz=35
L48A **N Adams** 88.94 329 P P 06 18 20.7 -0.4
L48A IAMs_20 IAMs_20 06 57 48.2
comp=Z,651nm,22.0s
N51A **Ashland** 88.97 327 P P 06 18 20.7 -0.5
baz=33,SNR=5.3
S60A **Water View** 89.03 321 P P 06 18 22.0 +0.5
baz=37
O53A **New Philadelph** 89.03 326 P P 06 18 21.4 -0.2
baz=34
P55A **Reedsville** 89.03 325 P P 06 18 21.5 -0.1
baz=35
DGMT **Dagmar** 89.05 344 P P 06 18 21.6 +0.1
baz=18
DGMT **Dagmar** 89.05 344 P P 06 18 21.9 +0.4
DGMT **Dagmar** 89.05 344 IAMs_20 IAMs_20 07 00 44.3
comp=Z,762nm,19.0s
SPMN **Marine on St.** 89.06 336 P P 06 18 21.4 -0.2
baz=26,SNR=12
Q56A **Snyder Ridge,** 89.13 324 P P 06 18 22.3 +0.3
baz=35
Q56A **Snyder Ridge,** 89.13 324 IAMs_20 IAMs_20 06 58 19.5
comp=Z,631nm,20.0s
R58A **Rapidan** 89.19 323 P P 06 18 22.2 -0.1
baz=36
P54A **Burton** 89.24 325 P P 06 18 22.5 -0.1
baz=34
S59A **Mechanicsville** 89.29 322 P P 06 18 22.4 -0.3
baz=36
LLLB **Lillooet** 89.29 356 P P 06 18 23.2 +0.6
LLLB IAmb IAmb 06 18 42.9
comp=Z,29nm,0.9s
R58B **Mineral** 89.40 322 P P 06 18 23.6 +0.3
baz=36
R58B **Mineral** 89.40 322 IAMs_20 IAMs_20 07 00 59.8
comp=Z,658nm,18.0s
O52A **Adamsville** 89.41 326 P P 06 18 22.9 -0.4
baz=34,SNR=6.2
R57A **Stanardsville** 89.43 323 P P 06 18 22.5 -0.9
baz=36
I40A **Norwalk** 89.53 334 P P 06 18 24.4 +0.6
I40A IAmb IAmb 06 18 25.2

comp=Z,42nm,1.1s
F33A **5 Mile Ranch,** 89.55 338 IAMs_20 IAMs_20 07 02 49.8
comp=Z,508nm,20.0s
Q55A **Buckhannon** 89.56 324 P P 06 18 23.3 -0.8
baz=35
L46A **Eue Claire** 89.61 330 IAMs_20 IAMs_20 07 00 14.8
comp=Z,506nm,19.0s
N49A **Columbus Grove** 89.70 328 P P 06 18 24.2 -0.5
N49A IAmb IAmb 06 18 40.7
comp=Z,25nm,1.0s
O51A **Pataskala** 89.70 327 P P 06 18 24.4 -0.3
baz=33,SNR=18
P53A **Whipple** 89.73 326 P P 06 18 24.8 0.0
baz=34,SNR=9.9
P53A **Whipple** 89.73 326 P P 06 18 24.9 0.0
P53A IAmb IAmb 06 18 26.1
comp=Z,39nm,1.4s
P53A IAMs_20 IAMs_20 06 59 25.5
comp=Z,683nm,22.0s
ACSO **Alum Creek Sta** 89.79 327 P P 06 18 24.6 -0.5
baz=33,SNR=10.0
ACSO **Alum Creek Sta** 89.79 327 P P 06 18 25.2 +0.1
ACSO IAmb IAmb 06 18 25.9
comp=Z,24nm,0.9s
M47A **Cromwell** 89.91 329 P P 06 18 25.1 -0.6
baz=31
Q54A **Coxs Mills** 89.91 325 IAMs_20 IAMs_20 07 02 34.1
comp=Z,690nm,19.0s
P52A **Corning** 89.93 326 P P 06 18 25.1 -0.7
baz=33,SNR=6.9
FITZ **Fitzroy Crossi** 89.96 114 P P 06 18 25.6 -0.4
comp=Z,12nm,1.0s,baz=230,slow=3.3,SNR=6.5
U61A **Possum Corner** 90.02 320 P P 06 18 25.9 -0.3
baz=37
U61A **Possum Corner** 90.02 320 IAMs_20 IAMs_20 07 01 51.4
comp=Z,632nm,20.0s
E28A **Huff** 90.04 341 P P 06 18 26.5 +0.3
E28A IAmb IAmb 06 18 43.4
comp=Z,43nm,0.9s
T59A **Double "B" Far** 90.04 322 P P 06 18 26.1 -0.2
baz=36
S57A **Dark Hollow, R** 90.06 323 IAMs_20 IAMs_20 06 58 03.3
comp=Z,740nm,22.0s
L44A **Lake County Fo** 90.07 331 P P 06 18 25.9 -0.4
baz=30
L44A **Lake County Fo** 90.07 331 IAMs_20 IAMs_20 06 57 55.0
comp=Z,900nm,22.0s
N48A **Decatur** 90.10 329 P P 06 18 25.9 -0.6
baz=32,SNR=5.2
WALA **Waterton Lakes** 90.11 351 P P 06 18 26.4 -0.2
R55A **Marlinton** 90.17 324 IAMs_20 IAMs_20 06 58 31.0
comp=Z,689nm,21.0s
U60A **Pendleton** 90.26 321 P P 06 18 27.2 -0.1
baz=36
JFWS **Jewell Farm** 90.27 333 P P 06 18 26.9 -0.4
baz=28,SNR=7.9
JFWS **Jewell Farm** 90.27 333 P P 06 18 27.1 -0.2
JFWS pmax pmax
comp=Z,22nm,1.0s
JFWS MLR MLR
comp=Z,1μm,22.0s
JFWS **Jewell Farm** 90.27 333 P P 06 18 27.1 -0.2
Q53A **Leroy** 90.31 325 P P 06 18 27.3 -0.3
baz=34,SNR=7.5
I37A **Lemond, Waseca** 90.33 336 P P 06 18 28.2 +0.6
N47A **Urbana** 90.34 329 P P 06 18 27.0 -0.7
N47A IAMs_20 IAMs_20 06 59 13.3
comp=Z,649nm,21.0s
O49A **Covington** 90.39 328 IAMs_20 IAMs_20 07 01 26.6
comp=Z,536nm,21.0s
P51A **Williamsport** 90.45 327 P P 06 18 27.4 -0.8
baz=33,SNR=6.5
P51A **Williamsport** 90.45 327 P P 06 18 27.7 -0.5
P51A IAmb IAmb 06 18 28.6
comp=Z,20nm,0.8s
EGMT **Eagleton** 90.51 348 P P 06 18 27.9 -0.6
baz=14
EGMT **Eagleton** 90.51 348 P P 06 18 28.5 0.0
EGMT IAmb IAmb 06 18 43.0
comp=Z,26nm,0.9s
EGMT IAMs_20 IAMs_20 07 01 04.0
comp=Z,818nm,22.0s
V61A **Roper** 90.52 320 P P 06 18 27.3 -1.2
baz=37
T58A **Grand View Acr** 90.53 322 P P 06 18 27.3 -1.3
baz=36
Q52A **Bidwell** 90.55 326 P P 06 18 28.4 -0.2
baz=33,SNR=12
U59A **Littleton** 90.66 321 IAMs_20 IAMs_20 07 00 40.1
comp=Z,525nm,21.0s
O48A **Farmland** 90.66 328 P P 06 18 28.3 -0.9
baz=32,SNR=9.0
S55A **Lewisburg** 90.76 324 P P 06 18 29.2 -0.5
baz=34
T57A **Hurt** 90.82 323 P P 06 18 30.0 +0.1
baz=35
T57A **Hurt** 90.82 323 IAMs_20 IAMs_20 07 00 04.4
comp=Z,515nm,21.0s
V60A **Jim Taylor Roa** 90.87 321 P P 06 18 29.4 -0.8
baz=36
V60A **Jim Taylor Roa** 90.87 321 IAMs_20 IAMs_20 07 02 27.9
comp=Z,490nm,20.0s
R53A **Hurricane** 90.94 325 P P 06 18 30.5 0.0
baz=34,SNR=6.1
JAY **Jayapura** 90.95 92 LR LR 07 00 05.2
comp=Z,105nm,19.8s,baz=236,slow=36
Q51A **Peebles** 90.95 327 P P 06 18 29.7 -0.8
U58A **Oxford** 90.98 322 P P 06 18 30.0 -0.7
baz=36
P49A **Miami Univ. Ec** 91.10 328 P P 06 18 30.3 -0.9
baz=32,SNR=5.4
S54A **Dingess, Beckl** 91.10 325 P P 06 18 31.2 -0.1
baz=34
S54A **Dingess, Beckl** 91.10 325 IAMs_20 IAMs_20 06 59 22.6
comp=Z,514nm,20.0s
T56A **Rocky Mt** 91.15 323 P P 06 18 31.7 +0.1
baz=35
LAO **LASA Array** 91.16 345 P P 06 18 32.5 +1.1
baz=17,SNR=48
LAO **LASA Array** 91.16 345 P P 06 18 32.6 +1.1
LAO IAMs_20 IAMs_20 07 00 44.1
comp=Z,899nm,22.0s
BLA **Blacksburg** 91.18 324 IAMs_20 IAMs_20 06 59 01.9
comp=Z,832nm,21.0s
NEW **Newport** 91.25 352 P P 06 18 32.5 +0.7
baz=8.6,SNR=14
NEW **Newport** 91.25 352 IAMs_20 IAMs_20 07 01 03.4
comp=Z,621nm,22.0s
MORW **Morawa** 91.31 128 IAMs_20 IAMs_20 07 00 40.7
comp=Z,584nm,20.0s
U57A **Blanch** 91.32 322 P P 06 18 31.9 -0.4
baz=35
SFIN **Lafayette** 91.32 330 P P 06 18 31.6 -0.6
baz=30,SNR=7.8
SFIN **Lafayette** 91.32 330 P P 06 18 31.7 -0.6
SFIN IAmb IAmb 06 18 32.6
comp=Z,17nm,0.8s
SFIN IAMs_20 IAMs_20 07 02 00.1
comp=Z,505nm,20.0s
V59A **Middlesex** 91.34 321 P P 06 18 31.9 -0.5
baz=36
B06A **Marblemount** 91.36 355 IAMs_20 IAMs_20 07 05 25.0
comp=Z,620nm,20.0s
L40A **Anamosa** 91.36 333 P P 06 18 31.8 -0.5
L40A IAmb IAmb 06 18 33.0
comp=Z,31nm,1.1s
B08A **Colville Reser** 91.36 354 P P 06 18 32.0 -0.3
B08A IAMs_20 IAMs_20 07 02 03.2
comp=Z,891nm,22.0s
T55A **Pulaski** 91.42 324 P P 06 18 32.6 -0.2
baz=34
JTMT **Jette** 91.44 351 P P 06 18 33.1 +0.2
JTMT IAMs_20 IAMs_20 07 03 35.5
comp=Z,461nm,19.0s
P48A **Milroy** 91.45 328 P P 06 18 31.9 -1.0
P48A IAmb IAmb 06 18 33.0
comp=Z,23nm,0.9s
S53A **Williamson** 91.55 325 P P 06 18 33.0 -0.4
baz=33
ECSD **EROS Data Cent** 91.57 338 P P 06 18 33.0 -0.3
baz=24
ECSD **EROS Data Cent** 91.57 338 P P 06 18 33.1 -0.2
ECSD **EROS Data Cent** 91.57 338 IAMs_20 IAMs_20 07 00 09.3
comp=Z,820nm,22.0s
SUSD **Miller** 91.57 339 P P 06 18 33.3 0.0
baz=22,SNR=6.2
SUSD **Miller** 91.57 339 P P 06 18 33.4 0.0

SUSD IAMs_20 IAMs_20 07 03 51.3
comp=Z,735nm,22.0s
CNNC Cliffs of the 91.60 321 P **P** **06 18 33.0 -0.6**
baz=36
CNNC Cliffs of the 91.60 321 IAMs_20 IAMs_20 07 00 14.1
comp=Z,568nm,22.0s
B05A Bryant 91.64 356 P **P** **06 18 33.2 -0.3**
baz=4.8
V58A Windy Hill, Pi 91.73 322 P **P** **06 18 34.5 +0.3**
baz=35
V58A Windy Hill, Pi 91.73 322 IAMs_20 IAMs_20 07 02 54.6
comp=Z,434nm,18.0s
T54A Tazewell 91.83 324 P **P** **06 18 34.5 -0.2**
baz=34
U56A King 91.87 323 P **P** **06 18 34.4 -0.4**
baz=34
U56A King 91.87 323 IAMs_20 IAMs_20 06 59 32.2
comp=Z,542nm,20.0s
W59A Clinton 91.92 321 P **P** **06 18 34.8 -0.2**
baz=36
V57A Coltrane Farms 91.97 322 P **P** **06 18 35.2 -0.1**
baz=35
HDIL Hopedale 92.00 331 P **P** **06 18 34.3 -1.0**
baz=29
HDIL Hopedale 92.00 331 P **P** **06 18 35.2 -0.1**
HDIL IAmb IAmb 06 18 36.4
comp=Z,24nm,1.1s
HDIL IAMs_20 IAMs_20 06 59 37.9
comp=Z,582nm,21.0s
P46A Rosedale 92.02 329 IAMs_20 IAMs_20 07 01 47.7
comp=Z,599nm,20.0s
O44A Mansfield 92.04 330 P **P** **06 18 35.6 0.0**
O44A IAMs_20 IAMs_20 07 01 40.1
comp=Z,597nm,21.0s
U55A TA2, Sparta 92.05 324 P **P** **06 18 35.6 -0.2**
baz=34
BLO Bloomington 92.13 329 IAMs_20 IAMs_20 06 59 32.7
comp=Z,540nm,20.0s
SCIA State Center 92.17 334 P **P** **06 18 36.0 -0.1**
baz=26
S51A Beattyville 92.22 326 P **P** **06 18 36.3 -0.2**
MSO Missoula 92.30 350 P **P** **06 18 36.8 0.0**
baz=11
MSO Missoula 92.30 350 IAMs_20 IAMs_20 07 06 23.2
comp=Z,638nm,20.0s
T53A Wise 92.31 325 P **P** **06 18 37.1 +0.1**
baz=33,SNR=6.1
R49A Shelbyville 92.34 327 P **P** **06 18 36.4 -0.6**
R49A IAmb IAmb 06 18 37.5
comp=Z,24nm,1.1s
V56A Mocksville 92.37 323 P **P** **06 18 37.0 -0.2**
baz=34
U54A Nelsons Funny 92.38 324 P **P** **06 18 37.5 +0.2**
baz=34
U54A Nelsons Funny 92.38 324 IAMs_20 IAMs_20 06 59 40.6
comp=Z,840nm,22.0s
W58A Raeford 92.42 322 P **P** **06 18 37.5 +0.1**
baz=35
D03D Eldon 92.42 356 P **P** **06 18 38.2 +1.0**
baz=4.1,SNR=6.4
X59A McDuffie Farm, 92.48 321 P **P** **06 18 38.1 +0.4**
baz=36
LTY Liberty 92.56 355 IAMs_20 IAMs_20 07 03 02.9
comp=Z,756nm,21.0s
NLWA Neilton Lookou 92.60 357 IAMs_20 IAMs_20 07 06 37.0
comp=Z,476nm,19.0s
D08A Wollman Farm, 92.62 354 P **P** **06 18 38.9 +0.8**
D08A IAmb IAmb 06 18 54.1
comp=Z,16nm,1.0s
V55A Taylorsville 92.66 323 P **P** **06 18 38.2 -0.3**
baz=34
V55A Taylorsville 92.66 323 IAMs_20 IAMs_20 07 00 07.9
comp=Z,767nm,20.0s
GCMT Greycliff 92.66 347 P **P** **06 18 39.3 +0.8**
W57A Gilead 92.67 322 P **P** **06 18 38.6 +0.1**
baz=35
D04E Lakebay 92.76 356 P **P** **06 18 38.6 -0.1**
baz=4.3
X58A Rowland 92.85 321 P **P** **06 18 39.7 +0.3**
baz=35
X58A Rowland 92.85 321 IAMs_20 IAMs_20 07 04 02.2
comp=Z,656nm,20.0s
WCI Wyandotte Cave 92.85 328 P **P** **06 18 38.6 -0.7**
baz=31
P43A Skaggs, Pawnee 92.88 331 IAMs_20 IAMs_20 07 03 14.3
comp=Z,520nm,20.0s
W56A Indian Trail 92.96 323 P **P** **06 18 40.4 +0.5**
baz=34
V54A Nebo 93.06 324 P **P** **06 18 40.9 +0.6**
baz=34
LRM Limekiln Ridge 93.08 349 P **P** **06 18 40.4 -0.2**
Y59A Loris 93.08 321 IAMs_20 IAMs_20 07 00 42.4
comp=Z,619nm,22.0s
E09A Wood Farm, Sta 93.09 353 IAMs_20 IAMs_20 07 02 31.9
comp=Z,693nm,22.0s
L34A Svendsen Farm, 93.11 337 IAMs_20 IAMs_20 07 00 42.2
comp=Z,779nm,22.0s
TZTN Tazewell 93.13 325 P **P** **06 18 40.4 -0.3**
baz=33
TZTN Tazewell 93.13 325 P **P** **06 18 40.7 +0.1**
TZTN IAmb IAmb 06 18 57.0
comp=Z,19nm,1.0s
TZTN IAMs_20 IAMs_20 07 01 43.2
comp=Z,605nm,20.0s
OLIL Olney 93.13 330 P **P** **06 18 40.3 -0.3**
OLIL IAMs_20 IAMs_20 07 02 57.1
comp=Z,524nm,20.0s
LON Longmire 93.14 355 P **P** **06 18 40.8 +0.2**
LON pmax pmax
comp=Z,17nm,1.1s
LON MLR MLR
comp=Z,800nm,20.0s
LON Longmire 93.14 355 P **P** **06 18 40.8 +0.2**
LON IAmb IAmb 06 18 55.6
comp=Z,17nm,1.1s
LON IAMs_20 IAMs_20 07 03 57.2
comp=Z,765nm,20.0s
RSSD Black Hills 93.14 343 P **P** **06 18 40.8 -0.1**
baz=18
RSSD Black Hills 93.14 343 P **P** **06 18 41.3 +0.5**
RSSD pmax pmax
comp=Z,14nm,0.7s
RSSD MLR MLR
comp=Z,900nm,22.0s
RSSD Black Hills 93.14 343 P **P** **06 18 41.3 +0.5**
RSSD IAmb IAmb 06 18 54.0
comp=Z,14nm,0.7s
N38A Joes South For 93.17 334 P **P** **06 18 40.7 -0.1**
N38A IAMs_20 IAMs_20 07 02 04.9
comp=Z,691nm,20.0s
BOZ Bozeman (W) 93.17 348 IAMs_20 IAMs_20 07 02 57.9
comp=Z,728nm,21.0s
E07A Sunnyside 93.19 354 IAMs_20 IAMs_20 07 03 20.6
comp=Z,752nm,21.0s
K31A O'Neill 93.20 339 IAMs_20 IAMs_20 07 02 35.5
comp=Z,611nm,21.0s
RLMT Red Lodge 93.24 347 P **P** **06 18 41.3 0.0**
baz=14
RLMT Red Lodge 93.24 347 P **P** **06 18 41.7 +0.4**
T50A Nancy 93.28 326 IAMs_20 IAMs_20 07 02 31.2
comp=Z,484nm,19.0s
X57A Johnson Farm, 93.28 322 P **P** **06 18 41.5 +0.2**
baz=35
KMSC Kings Mountain 93.30 323 P **P** **06 18 41.3 -0.2**
baz=34
KMSC Kings Mountain 93.30 323 IAMs_20 IAMs_20 07 00 38.1
comp=Z,529nm,20.0s
HAWA Hanford 93.33 354 P **P** **06 18 41.9 +0.5**
Q44A Meyer Farm, Va 93.33 330 P **P** **06 18 41.5 0.0**
Q44A IAmb IAmb 06 18 43.0
comp=Z,29nm,1.1s
Q44A IAMs_20 IAMs_20 07 02 19.4
comp=Z,510nm,20.0s
E04D Cinebar 93.37 356 P **P** **06 18 42.1 +0.5**
baz=4.5
E03A Lebam 93.43 357 P **P** **06 18 42.3 +0.5**
E03A IAMs_20 IAMs_20 07 04 15.0
comp=Z,536nm,20.0s
YNE Yellowstone No 93.48 347 P **P** **06 18 43.2 +0.8**
F10A Beach Ranch, E 93.53 352 IAMs_20 IAMs_20 07 04 19.8
comp=Z,487nm,20.0s
Y58A Scranton 93.53 321 P **P** **06 18 42.4 -0.2**
baz=35
V53A Saluda 93.53 324 P **P** **06 18 42.6 0.0**
V53A IAMs_20 IAMs_20 07 00 38.1
comp=Z,735nm,22.0s
DLMT Dillon 93.55 349 P **P** **06 18 42.4 -0.2**
DLMT IAmb IAmb 06 19 00.0
comp=Z,24nm,0.9s
USIN University of 93.63 329 IAMs_20 IAMs_20 07 06 22.2
comp=Z,598nm,20.0s
X56A White Oak 93.70 322 P **P** **06 18 42.6 -0.6**
baz=34
V52A Sevierville 93.74 325 P **P** **06 18 43.3 -0.2**
V52A IAMs_20 IAMs_20 07 02 11.4
comp=Z,480nm,21.0s
W54A Cherokee Point 93.74 324 P **P** **06 18 43.4 -0.1**
baz=34
PAULI Pauline 93.79 323 IAMs_20 IAMs_20 07 00 52.9
comp=Z,607nm,21.0s
Y57A Sumter 93.79 322 P **P** **06 18 43.8 +0.1**
baz=35
Y57A Sumter 93.79 322 IAMs_20 IAMs_20 07 04 30.0
comp=Z,628nm,18.0s
YHH Holmes Hill 93.84 348 P **P** **06 18 44.5 +0.4**
F04D Rainier, OR 93.87 356 P **P** **06 18 42.9 -1.0**
baz=4.1
Z59A Georgetown, SC 93.89 321 P **P** **06 18 43.4 -0.7**
baz=35
P40A Paris 93.89 333 P **P** **06 18 43.7 -0.4**
P40A IAmb IAmb 06 18 45.0
comp=Z,23nm,0.8s
YHB Horse Butte 93.93 348 P **P** **06 18 45.0 +0.5**
F05D White Salmon 93.98 355 P **P** **06 18 44.3 -0.1**
baz=5.3
F04A Amboy 93.99 356 IAMs_20 IAMs_20 06 55 44.7
comp=Z,450nm,18.0s
X55A Gracelyn & Ava 94.00 323 P **P** **06 18 44.3 -0.3**
baz=34
F03A Seaside 94.05 357 IAMs_20 IAMs_20 07 05 55.3
comp=Z,600nm,20.0s
Z58A St. Stephen 94.07 321 P **P** **06 18 44.8 -0.2**
baz=35
V51A Loudon 94.10 325 IAMs_20 IAMs_20 07 02 01.0
comp=Z,629nm,22.0s
U49A Red Boiling Sp 94.11 327 IAMs_20 IAMs_20 07 02 30.1
comp=Z,565nm,21.0s
MCMT McKenzie Canyo 94.11 349 P **P** **06 18 45.5 +0.2**
BGNE Belgrade 94.15 338 P **P** **06 18 45.4 +0.1**
baz=23
BGNE Belgrade 94.15 338 IAMs_20 IAMs_20 07 03 17.6
comp=Z,476nm,19.0s
BG3 Lake Jocassee 94.15 324 IAMs_20 IAMs_20 07 00 44.5
comp=Z,596nm,22.0s
H17A Grat Village 94.17 347 P **P** **06 18 47.2 +1.5**
baz=14,SNR=8.8
H17A Grant Village 94.17 347 P **P** **06 18 47.1 +1.4**
T47A Sharon Grove 94.24 328 IAMs_20 IAMs_20 07 02 41.7
comp=Z,498nm,21.0s
X54A Belton 94.27 323 P **P** **06 18 46.0 +0.1**
baz=33
P38A Dawn 94.32 334 P **P** **06 18 45.2 -0.8**
P38A IAmb IAmb 06 18 46.7
comp=Z,18nm,0.9s
G08A Pilot Rock 94.38 353 P **P** **06 18 47.9 +1.5**
G08A IAMs_20 IAMs_20 07 03 34.0
comp=Z,741nm,22.0s
Y56A Pelion 94.40 322 P **P** **06 18 46.6 0.0**
baz=34
NHSC New Hope 94.43 321 P **P** **06 18 47.1 +0.4**
baz=35
NHSC New Hope 94.43 321 IAMs_20 IAMs_20 07 03 23.1
comp=Z,484nm,21.0s
CPCT Cooper Cave 94.47 325 IAMs_20 IAMs_20 07 04 29.8
comp=Z,626nm,19.0s
HODGE Hodges 94.48 323 IAMs_20 IAMs_20 07 01 42.3
comp=Z,581nm,20.0s
S44A Carbondale 94.48 330 P **P** **06 18 46.4 -0.4**
S44A IAmb IAmb 06 18 47.7
comp=Z,20nm,0.8s
S44A IAMs_20 IAMs_20 07 03 49.8
comp=Z,571nm,20.0s
FLWY Flagg Ranch 94.50 347 P **P** **06 18 48.3 +1.2**
FLWY IAmb IAmb 06 19 01.4
comp=Z,17nm,0.9s
FLWY IAMs_20 IAMs_20 07 05 23.4
comp=Z,764nm,20.0s
W52A Murphy 94.51 325 IAMs_20 IAMs_20 07 02 46.0
comp=Z,608nm,20.0s
Z57A Bowman 94.53 322 P **P** **06 18 46.8 -0.3**
baz=34
Y55A Saluda 94.54 323 P **P** **06 18 46.5 -0.7**
baz=34
N33A J Bar K, Exete 94.56 337 IAMs_20 IAMs_20 07 01 27.5
comp=Z,791nm,22.0s
G06A Carlson Farm, 94.57 354 IAMs_20 IAMs_20 07 04 25.0
comp=Z,658nm,20.0s
RGRS Roger Stewart 94.60 321 P **P** **06 18 48.0 +0.5**
BMO Blue Mountains 94.65 352 P **P** **06 18 47.0 -0.6**
BMO pmax pmax
comp=Z,8.0nm,0.8s
BMO MLR MLR
comp=Z,800nm,22.0s
BMO Blue Mountains 94.65 352 P **P** **06 18 47.0 -0.6**
BMO IAMs_20 IAMs_20 07 04 25.2
comp=Z,788nm,22.0s
CLTN Cedars of Leba 94.70 327 IAMs_20 IAMs_20 07 03 06.7
comp=Z,464nm,20.0s
G03D McMinnville, O 94.75 356 P **P** **06 18 48.0 +0.1**
baz=3.9
Z56A Williston 94.82 322 P **P** **06 18 48.5 0.0**
baz=34
Z56A Williston 94.82 322 IAMs_20 IAMs_20 07 01 22.3
comp=Z,531nm,22.0s
T45A Paducah 94.83 329 IAMs_20 IAMs_20 07 03 58.2
comp=Z,519nm,18.0s
CCM Cathedral Cave 94.91 331 P **P** **06 18 48.5 -0.3**
baz=28
CCM Cathedral Cave 94.91 331 IAMs_20 IAMs_20 07 04 35.1
comp=Z,597nm,21.0s
W50A Signal Mountai 95.02 326 P **P** **06 18 48.2 -1.2**
R40A Maddies Statio 95.07 332 P **P** **06 18 49.2 -0.3**
K22A Casper 95.09 344 P **P** **06 18 49.2 -0.5**
baz=17
K22A Casper 95.09 344 IAMs_20 IAMs_20 07 04 26.1
comp=Z,735nm,20.0s
SNOW Snow King Moun 95.11 347 IAMs_20 IAMs_20 07 05 31.6
comp=Z,677nm,20.0s
TPAW Teton Pass 95.12 347 P **P** **06 18 51.1 +1.1**
157A Early Branch 95.17 321 P **P** **06 18 50.1 0.0**
baz=34
V48A Smith Brothers 95.20 327 IAMs_20 IAMs_20 07 04 32.0
comp=Z,484nm,18.0s
H04A Detroit Lake 95.22 356 IAMs_20 IAMs_20 07 05 12.3
comp=Z,749nm,21.0s
REDW Red Top Meadow 95.22 347 P **P** **06 18 50.9 +0.5**
REDW IAMs_20 IAMs_20 07 05 45.6
comp=Z,751nm,20.0s
SWET Sewanee 95.28 326 IAMs_20 IAMs_20 07 02 01.1
comp=Z,538nm,21.0s
WVT Waverly 95.28 328 P **P** **06 18 49.3 -1.2**
baz=30
WVT Waverly 95.28 328 IAMs_20 IAMs_20 07 07 31.0
comp=Z,482nm,21.0s
X51A Calhoun 95.36 325 IAMs_20 IAMs_20 07 03 12.5
comp=Z,572nm,22.0s
COR Corvallis 95.38 356 IAMs_20 IAMs_20 07 02 03.5
comp=Z,692nm,22.0s
HENM Henderson Moun 95.42 330 IAMs_20 IAMs_20 07 04 26.7
comp=Z,547nm,19.0s
WAKE Wake Island 95.44 59 IAMs_20 IAMs_20 06 56 32.2
comp=Z,483nm,18.0s
I05D Terrebonne, OR 95.51 355 P **P** **06 18 50.7 -0.8**
baz=5.4
PARMO Parma 95.57 330 IAMs_20 IAMs_20 07 04 22.7
comp=Z,547nm,19.0s
PDAR Pinedale Array 95.58 346 P **P** **06 18 51.5 -0.6**
comp=Z,0.6nm,0.7s,baz=357,slow=3.0,SNR=6.2
PDAR PKKPbc **PKKPbc** **06 35 41.4 -0.7**
comp=Z,3.3nm,0.7s,baz=179,slow=3.3,SNR=22
PDAR LR LR 07 04 13.8
comp=Z,492nm,21.3s,baz=12,slow=37
OGNE Ogallala 95.65 340 IAMs_20 IAMs_20 07 04 09.2
comp=Z,645nm,20.0s
FPAL Fort Paine 95.71 326 IAMs_20 IAMs_20 07 05 16.7
comp=Z,510nm,19.0s
GOGA Godfrey 95.72 324 IAMs_20 IAMs_20 07 01 51.0
comp=Z,643nm,20.0s
T42A Van Buren 95.76 331 P **P** **06 18 52.4 -0.3**
T42A IAMs_20 IAMs_20 07 04 05.6
comp=Z,704nm,20.0s
257A Skidaway Islan 95.77 321 IAMs_20 IAMs_20 07 03 20.5
comp=Z,465nm,19.0s
KSU1 Kansas State U 95.80 336 P **P** **06 18 52.3 -0.5**
baz=24
KSU1 Kansas State U 95.80 336 P **P** **06 18 52.3 -0.5**
MFID Camas Ranch 95.90 351 P **P** **06 18 54.1 +0.7**
MFID IAmb IAmb 06 19 09.5
comp=Z,23nm,0.9s
LNXT Lenox 95.96 329 IAMs_20 IAMs_20 07 04 36.1
comp=Z,678nm,19.0s
S39A Bolivar 95.98 333 P **P** **06 18 53.1 -0.6**
S39A IAmb IAmb 06 18 54.2
comp=Z,30nm,1.5s
PINE Pine Mountain 96.02 355 P **P** **06 18 55.4 +1.4**
PINE IAmb IAmb 06 18 56.5
comp=Z,22nm,1.1s
HALT Halls 96.07 329 IAMs_20 IAMs_20 07 04 38.0
comp=Z,553nm,20.0s
PEBM Pemiscott Bayo 96.10 329 IAMs_20 IAMs_20 07 04 47.6
comp=Z,523nm,19.0s
I04A Tendick Farm, 96.12 356 P **P** **06 18 54.2 -0.1**
baz=4.6
PHWY Pilot Hill 96.14 343 P **P** **06 18 54.2 -0.5**
RWWY Rawlins 96.15 344 IAMs_20 IAMs_20 07 05 08.3
comp=Z,754nm,21.0s
154A Montrose 96.22 323 IAMs_20 IAMs_20 07 05 41.3
comp=Z,485nm,21.0s
J08A Circle Bar Ran 96.25 353 P **P** **06 18 55.4 +0.5**
J08A IAMs_20 IAMs_20 07 06 04.5
comp=Z,671nm,19.0s
I03D Drain, OR 96.27 356 P **P** **06 18 55.3 +0.4**
baz=3.9
GNAR Gosnell 96.29 330 IAMs_20 IAMs_20 07 07 35.7
comp=Z,482nm,22.0s
X48A Hartselle 96.40 327 IAMs_20 IAMs_20 07 03 41.6
comp=Z,497nm,22.0s
J05D Fort Rock, OR 96.55 355 P **P** **06 18 56.9 +0.5**
baz=5.5
Z51A Franklin 96.56 325 IAMs_20 IAMs_20 07 02 22.2
comp=Z,707nm,22.0s
N23A Red Feather La 96.64 343 P **P** **06 18 56.8 -0.1**
baz=17
N23A Red Feather La 96.64 343 IAMs_20 IAMs_20 07 04 14.3
comp=Z,543nm,20.0s
J04D Umpqua Nationa 96.65 355 P **P** **06 18 56.9 0.0**
baz=4.8
LPAR Lepanto 96.72 330 IAMs_20 IAMs_20 07 05 08.0
comp=Z,570nm,20.0s
MET Memphis--Engin 96.99 329 IAMs_20 IAMs_20 07 08 12.3
comp=Z,566nm,19.0s
U40A Yellville 97.01 332 P **P** **06 18 58.0 -0.4**
baz=26
U40A Yellville 97.01 332 IAMs_20 IAMs_20 07 04 37.5
comp=Z,454nm,20.0s
HWUT Hardware Ranch 97.05 347 P **P** **06 18 58.6 -0.1**
FCAR Ozark Folk Cen 97.15 331 IAMs_20 IAMs_20 07 05 52.5
comp=Z,614nm,19.0s
WVOR Wild Horse Val 97.18 353 P Pdif 06 18 59.4 +0.1
WVOR pmax pmax
comp=Z,15nm,0.8s
WVOR MLR MLR
comp=Z,600nm,20.0s
WVOR Wild Horse Val 97.18 353 P Pdif 06 18 59.4 +0.1
WVOR IAmb IAmb 06 19 12.7
comp=Z,15nm,0.8s
WVOR IAMs_20 IAMs_20 07 05 15.1
comp=Z,569nm,20.0s
WB9 Warramunga Arr 97.28 110 IAMs_20 IAMs_20 06 54 05.3
comp=Z,804nm,22.0s
WRA Warramunga Arr 97.35 110 P **P** **06 18 59.3 -0.8**
comp=Z,7.9nm,0.9s,baz=321,slow=4.2,SNR=20
WRA PP **PP** **06 22 57.5 +0.1**
comp=Z,9.2nm,1.1s,baz=317,slow=7.5,SNR=9.6
WRA PKKPbc **PKKPbc** **06 35 38.0 +1.0**
comp=Z,1.6nm,0.6s,baz=122,slow=3.0,SNR=11
WRAB Tennant Creek 97.35 110*ceP* **P** **06 18 58.7 -1.3**
WRAB pmax pmax
comp=Z,32nm,2.5s
WRAB MLR MLR
comp=Z,444nm,19.0s
LRAL Lakeview Retre 97.60 326 P **P** **06 19 00.4 -0.7**
baz=30
LRAL Lakeview Retre 97.60 326 IAMs_20 IAMs_20 07 07 24.5
comp=Z,455nm,20.0s
ISCO Idaho Springs 97.61 342 P **P** **06 19 01.4 0.0**
baz=17
KSCO Kaye Shedlock' 97.62 340 P **P** **06 19 01.1 -0.2**
baz=20
KSCO Kaye Shedlock' 97.62 340 IAMs_20 IAMs_20 07 07 30.4
comp=Z,546nm,22.0s
L04D Klamath Falls 97.68 355 P **P** **06 19 01.4 -0.1**
baz=4.7
WHAR Wooly Hollow 97.75 331 IAMs_20 IAMs_20 07 03 39.2
comp=Z,570nm,20.0s
W41B Gary Mavity, V 97.84 331 P Pdif 06 19 02.2 0.0
baz=27
W41B Gary Mavity, V 97.84 331 IAMs_20 IAMs_20 07 03 19.6
comp=Z,616nm,21.0s
MOD Modoc Plateau 97.85 354 P Pdif 06 19 03.2 +0.9
MOD IAmb IAmb 06 19 18.8
comp=Z,17nm,1.1s
MOD IAMs_20 IAMs_20 07 06 11.0
comp=Z,522nm,20.0s
O20A White River Ci 97.86 345 P **P** **06 19 02.1 -0.3**
baz=15
Z47A Carrollton 97.91 327 IAMs_20 IAMs_20 07 04 47.8
comp=Z,422nm,19.0s
Y45A Yeager Farm, C 97.94 328 IAMs_20 IAMs_20 07 06 18.4
comp=Z,650nm,20.0s
352A Blakely 98.00 324 IAMs_20 IAMs_20 07 04 26.5
comp=Z,635nm,22.0s
M04C Macdoel 98.09 355 P Pdif 06 19 03.5 +0.1
baz=5.1
YBH Yreka Blue Hor 98.19 356 P Pdif 06 19 04.3 +0.6
comp=Z,2.4nm,0.9s,baz=302,slow=16,SNR=2.3
UALR University of 98.22 331 IAMs_20 IAMs_20 07 03 53.9
comp=Z,683nm,22.0s
Q24A Divide 98.30 342 P **P** **06 19 04.1 -0.5**
baz=18
Q24A Divide 98.30 342 IAMs_20 IAMs_20 07 05 31.2
comp=Z,640nm,20.0s
W39A Magazine 98.38 332 P **P** **06 19 04.3 -0.2**
baz=26
W39A Magazine 98.38 332 IAMs_20 IAMs_20 07 05 30.9
comp=Z,501nm,21.0s
TUL1 Leonard 98.44 334 P **P** **06 19 04.5 -0.4**
baz=24
TUL1 Leonard 98.44 334 P **P** **06 19 04.0 -0.8**
TUL1 IAmb IAmb 06 19 05.4
comp=Z,16nm,0.8s
ELK Elko 98.45 350 P Pdif 06 19 05.8 +0.7
ELK pmax pmax
comp=Z,8.0nm,0.9s
ELK Elko 98.45 350 P Pdif 06 19 05.8 +0.7
DUG Dugway, Tooele 98.64 348 P **P** **06 19 05.6 -0.2**
baz=12
X40A Basin Creek Fa 98.67 331 P **P** **06 19 05.7 -0.1**
baz=27
X40A Basin Creek Fa 98.67 331 IAMs_20 IAMs_20 07 04 17.5
comp=Z,680nm,21.0s
CCAR Cane Creek 98.77 330 IAMs_20 IAMs_20 07 06 39.3
comp=Z,665nm,21.0s
146A Union 98.81 327 IAMs_20 IAMs_20 07 06 32.5
comp=Z,485nm,20.0s
MIAR Mount Ida 98.89 331 P Pdif 06 19 07.4 +0.6
baz=26
MIAR Mount Ida 98.89 331 IAMs_20 IAMs_20 07 03 44.3
comp=Z,534nm,21.0s
451A Vernon 99.11 324 IAMs_20 IAMs_20 07 05 11.7
comp=Z,702nm,21.0s
TMUT Trail Mountain 99.24 347 P **Pdif** **06 19 09.2 +0.4**
ASAR Alice Springs 99.42 113 P **Pdif** **06 19 08.2 -1.0**
comp=Z,1.9nm,0.9s,baz=303,slow=4.2,SNR=9.1
ASAR PP **PP** **06 23 08.8 -4.6**
comp=Z,1.7nm,0.9s,baz=318,slow=7.9,SNR=2.9
ASAR PKiKP **PKiKP** **06 23 38.0 -0.7**
comp=Z,1.7nm,0.8s,baz=313,slow=0.5,SNR=7.2
ASAR PKKPbc **PKKPbc** **06 35 32.6 +1.3**
comp=Z,1.1nm,0.6s,baz=122,slow=3.8,SNR=15
060A Indiantown 99.48 318 IAMs_20 IAMs_20 07 02 10.0
comp=Z,489nm,21.0s
WLAR White Oak Lake 99.48 331 IAMs_20 IAMs_20 07 04 40.1
comp=Z,576nm,21.0s
PV22 Blue Mesa, Par 99.51 344 P **Pdif** **06 19 09.7 -0.1**
PV22 IAMs_20 IAMs_20 07 07 06.2
comp=Z,600nm,18.0s
PV21 Cone Mtn., Par 99.53 345 P **Pdif** **06 19 10.1 +0.1**
PV21 IAMs_20 IAMs_20 07 07 52.6
comp=Z,536nm,20.0s
SDCO Great Sand Dun 99.54 342 P **Pdif** **06 19 09.4 -0.7**
baz=18

SDCO	**Great Sand Dun**	**99.54**	**342**	IAMs_20	IAMs_20	07 03 44.1	
	comp=Z,665nm,22.0s						
O03E	**Paynes Creek**	**99.56**	**355**	P	**Pdif**	**06 19 10.5**	**+0.6**
	baz=5.1						
Q16A	**Castle Valley**	**99.60**	**346**	P	**Pdif**	**06 19 10.6**	**+0.4**
PV23	**Carpenter Ridg**	**99.64**	**345**	P	**Pdif**	**06 19 10.8**	**+0.3**
PV23				IAmb	IAmb	06 19 23.6	
	comp=Z,10nm,0.7s						
PV12	**Saucer Basin,**	**99.73**	**344**	IAMs_20	IAMs_20	06 55 41.3	
	comp=Z,487nm,19.0s						
PV20	**West Nyswonger**	**99.74**	**345**	IAMs_20	IAMs_20	07 06 25.1	
	comp=Z,660nm,21.0s						
Z41A	**Richland Creek**	**99.75**	**330**	IAMs_20	IAMs_20	07 08 21.2	
	comp=Z,480nm,19.0s						
VBMS	**Vicksburg**	**99.77**	**328**	IAMs_20	IAMs_20	07 10 03.0	
	comp=Z,448nm,18.0s						
PV18	**Skein Mesa, Pa**	**99.82**	**345**	Pdif	**Pdif**	**06 19 11.0**	**-0.2**
S22A	**4UR Ranch, Cre**	**99.85**	**343**	P	**Pdif**	**06 19 11.3**	**-0.2**
	baz=16						
PV05	**Paradox Valley**	**100.02**	**345**	IAMs_20	IAMs_20	07 05 30.1	
	comp=Z,590nm,21.0s						
346A	**Big Creek Wild**	**100.06**	**327**	IAMs_20	IAMs_20	07 06 16.8	
	comp=Z,512nm,20.0s						
ORV	**Oroville**	**100.28**	**355**	IAMs_20	IAMs_20	07 07 51.2	
	comp=Z,632nm,22.0s						
WMOK	**Wichita Mounta**	**100.49**	**336**	P	**Pdif**	**06 19 13.8**	**-0.2**
	baz=22						
PNTR	**Pine Nut**	**100.58**	**353**	Pdif	**Pdif**	**06 19 14.4**	**-0.2**
PNTR				IAMs_20	IAMs_20	07 08 55.3	
	comp=Z,681nm,21.0s						
SDDR	**Presa de Saban**	**100.63**	**306**	IAMs_20	IAMs_20	07 01 07.4	
	comp=Z,660nm,22.0s						
RUBR	**Rubicon Trail**	**100.67**	**353**	IAMs_20	IAMs_20	07 07 30.6	
	comp=Z,670nm,20.0s						
061Z	**Ochoppi**	**100.71**	**317**	IAMs_20	IAMs_20	07 02 32.7	
	comp=Z,503nm,22.0s						
AFDM	**Forest Hills D**	**100.84**	**354**	IAMs_20	IAMs_20	07 08 50.2	
	comp=Z,448nm,20.0s						
R11A	**Troy Canyon, C**	**100.86**	**350**	P	**Pdif**	**06 19 15.9**	**+0.1**
	baz=9.9						
RYN	**Ryan**	**100.93**	**352**	IAMs_20	IAMs_20	07 08 12.6	
	comp=Z,647nm,22.0s						
NVAR	**Mina Array Bea**	**101.11**	**352**	P	**Pdif**	**06 19 17.4**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=39,slow=4.9,SNR=5.4						
NVAR				PKiKP	**PKiKP**	**06 23 43.4**	**+1.6**
	comp=Z,1.0nm,0.7s,baz=350,slow=1.1,SNR=4.5						
NVAR				PKKPbc	**PKKPbc**	**06 35 27.0**	**+0.3**
	comp=Z,2.3nm,0.7s,baz=197,slow=4.9,SNR=19						
WAKR	**Walker**	**101.15**	**353**	IAMs_20	IAMs_20	07 09 14.2	
	comp=Z,588nm,21.0s						
342A	**Flagon Creek P**	**101.23**	**329**	IAMs_20	IAMs_20	07 10 39.7	
	comp=Z,482nm,20.0s						
NATX	**Nacogdoches**	**101.78**	**331**	IAMs_20	IAMs_20	07 08 09.0	
	comp=Z,488nm,20.0s						
TPNV	**Topopah Spring**	**102.32**	**350**	P	**Pdif**	**06 19 22.1**	**-0.2**
	baz=9.4						
ANMO	**Albuquerque**	**102.44**	**342**	IAMs_20	IAMs_20	07 06 56.8	
	comp=Z,697nm,22.0s						
SHPR	**Sheep Range**	**102.61**	**349**	IAMs_20	IAMs_20	07 03 55.0	
	comp=Z,480nm,22.0s						
ABTX	**Abilene, Hawle**	**102.71**	**335**	P	**Pdif**	**06 19 23.2**	**-0.7**
	baz=22						
W18A	**Petrified Fore**	**103.00**	**344**	IAMs_20	IAMs_20	07 06 53.4	
	comp=Z,673nm,22.0s						
GMRC	**Granite Mounta**	**104.37**	**349**	P	**Pdif**	**06 19 32.2**	**+0.8**
	baz=10.0						
JCT	**Junction City**	**104.74**	**335**	IAMs_20	IAMs_20	07 07 12.2	
	comp=Z,662nm,21.0s						
Y14A	**Wickenburg**	**104.77**	**347**	IAMs_20	IAMs_20	07 13 45.0	
	comp=Z,494nm,19.0s						
121A	**Cookes Peak, D**	**105.06**	**342**	IAMs_20	IAMs_20	07 12 38.2	
	comp=Z,625nm,20.0s						
EPT	**El Paso**	**105.47**	**341**	IAMs_20	IAMs_20	07 09 38.2	
	comp=Z,523nm,20.0s						
TXAR	**Lajitas Array**	**107.01**	**338**	Pdiff	**Pdif**	**06 19 43.6**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=128,slow=30,SNR=2.5						
TXAR				PKiKP	**PKiKP**	**06 23 53.3**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=54,slow=4.7,SNR=2.9						
TXAR				PP	**PP**	**06 24 10.2**	**+1.6**
	comp=Z,2.4nm,1.0s,baz=22,slow=7.1,SNR=5.2						
TXAR				PKKPbc	**PKKPbc**	**06 35 09.2**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=187,slow=5.2,SNR=12						
TXAR				PKKP	**PKKPab**	**06 35 24.3**	**-3.9**
	comp=Z,1.2nm,0.7s,baz=191,slow=6.8,SNR=6.7						
BDFB	**Brasilia**	**107.17**	**264**	Pdiff	**Pdif**	**06 19 46.6**	**+2.6**
	comp=Z,1.5nm,0.9s,baz=276,slow=27,SNR=1.3						
MAW	**Mawson**	**107.91**	**175**	PKiKP	**PKiKP**	**06 23 53.0**	**+0.3**
	comp=Z,3.6nm,0.8s,baz=301,slow=7.2,SNR=6.6						
MAW				PKKPbc	**PKKPbc**	**06 35 07.3**	**+0.1**
	comp=Z,2.9nm,0.8s,baz=356,slow=6.6,SNR=5.9						
MAW				PKKP	**PKKPab**	**06 35 17.5**	**+1.2**
	comp=Z,3.2nm,0.9s,baz=213,slow=4.5,SNR=4.4						
TEIG	**Tepich**	**109.12**	**320**	IAMs_20	IAMs_20	07 08 55.3	
	comp=Z,397nm,21.0s						
STKA	**Stephens Creek**	**109.81**	**115**	PKiKP	**PKiKP**	**06 23 56.4**	**-1.0**
	comp=Z,3.4nm,0.8s,baz=335,slow=5.8,SNR=7.2						
HPIG		**109.84**	**338**	IAMs_20	IAMs_20	07 16 25.9	
	comp=Z,420nm,20.0s						
ROSC	**El Rosal**	**113.13**	**299**	PKiKP	**PKiKP**	**06 24 05.2**	**+0.3**
	comp=Z,3.2nm,0.4s,baz=98,slow=9.9,SNR=4.2						
ROSC	**El Rosal**	**113.13**	**299**		**PKiKP**	**06 24 03.9**	**-1.0**
ROSC				IAMs_20	IAMs_20	07 10 19.4	
	comp=Z,611nm,22.0s						
LPIG	**La Paz**	**113.75**	**342**	PKKP		06 35 07.9	
	comp=Z,13nm,0.3s,baz=150,slow=5.7,SNR=6.1						
NVL	**N'lazarevskaya**	**114.38**	**193**	*e*PKiKP	PKPdf	06 24 03.8	-1.1
NVL				pmax	pmax		
	comp=Z,16nm,0.8s						
MTO3	**Montecristo**	**114.60**	**318**	IAMs_20	IAMs_20	07 13 11.6	
	comp=Z,347nm,21.0s						
SNAA	**Sanae**	**118.05**	**197**	PKPdf	**PKPdf**	**06 24 11.6**	**-0.5**
VNA2	**Neumayer--Watz**	**118.60**	**199**	PKPdf	**PKPdf**	**06 24 12.9**	**-0.1**
VNA1	**Neumayer--Stat**	**118.63**	**199**	PKPdf	**PKiKP**	**06 24 13.1**	**0.0**
VNA3	**Neumayer Olymp**	**119.37**	**199**	PKPdf	**PKPdf**	**06 24 14.3**	**-0.3**
LPAZ	**La Paz**	**122.92**	**276**	PKP	**PKPdf**	**06 24 23.6**	**-0.2**
	comp=Z,3.3nm,0.8s,baz=52,slow=3.7,SNR=18						
LPAZ				PKKPbc	**PKKPbc**	**06 34 13.5**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=45,slow=3.6,SNR=6.0						
LPAZ	**La Paz**	**122.92**	**276**	PKPdf	**PKPdf**	**06 24 23.1**	**-0.7**
GO01	**Chusmiza**	**125.75**	**274**		**PKiKP**	**06 24 29.2**	**-0.2**
PB08	**IPOC Station P**	**125.99**	**273**		**PKPdf**	**06 24 29.4**	**+0.1**
PB11	**IPOC Station P**	**126.15**	**274**	PKPdf	**PKPdf**	**06 24 29.4**	**+0.1**
LVC	**Limon Verde**	**127.21**	**271**	PKiKP	**PKiKP**	**06 24 32.5**	**+0.5**
LVC	**Limon Verde**	**127.21**	**271**	PKPdf	**PKiKP**	**06 24 32.5**	**+0.5**
QSPA	**South Pole Qui**	**130.11**	**180**	PKPdf	**PKPdf**	**06 24 33.7**	**-1.6**
AC05	**El Transito**	**131.54**	**265**	PKPdf	**PKiKP**	**06 24 40.4**	**+0.1**
CO01	**Juntas del Tor**	**131.96**	**263**		**PKiKP**	**06 24 40.7**	**-0.5**
GO04	**Tololo Observa**	**132.59**	**263**		**PKiKP**	**06 24 41.9**	**-0.6**
VNDA	**Vanda**	**133.35**	**164**	PKhKP	PKPpre	06 24 32.9	
	comp=Z,0.6nm,0.7s,baz=328,slow=5.4,SNR=6.8						
VNDA				PKP	**PKPdf**	**06 24 39.8**	**-1.3**
	comp=Z,3.2nm,0.8s,baz=265,slow=4.9,SNR=18						
VNDA				PP	**PP**	**06 27 06.9**	**-2.6**
	comp=Z,5.3nm,1.2s,baz=262,slow=8.4,SNR=9.0						
VNDA	**Vanda**	**133.35**	**164**	PKiKP	**PKPdf**	**06 24 41.5**	**+0.4**
VNDA	**Vanda**	**133.35**	**164**		**PKPdf**	**06 24 41.5**	**+0.4**
VA03	**San Esteban**	**133.60**	**260**	IAMs_20	IAMs_20	07 22 48.6	
	comp=Z,391nm,21.0s						
BO02	**Sierra Bellavi**	**134.65**	**258**		**PKiKP**	**06 24 46.1**	**-0.3**
FOZ	**Fox Glacier**	**134.86**	**115**		**PKiKP**	**06 24 45.8**	**-0.6**
RPZ	**Rata Peaks**	**135.77**	**115**	PKPdf	**PKPdf**	**06 24 46.5**	**-0.2**
OXZ	**Oxford**	**136.34**	**114**		**PKPdf**	**06 24 47.6**	**-0.1**
PMSA	**Palmer Station**	**136.36**	**214**		**PKPdf**	**06 24 47.3**	**+0.3**
PLCA	**Paso Flores**	**136.70**	**250**	PKhKP	PKPpre	06 24 43.3	
	comp=Z,1.6nm,0.7s,baz=104,slow=6.0,SNR=3.9						
PLCA				PKP	**PKPdf**	**06 24 48.7**	**+0.2**
	comp=Z,12nm,1.0s,baz=86,slow=2.7,SNR=12						
PLCA				SKPbc	**SKPbc**	**06 28 17.3**	**-0.5**
	comp=Z,17nm,1.1s,baz=94,slow=4.5,SNR=7.6						
PLCA	**Paso Flores**	**136.70**	**250**		**PKPdf**	**06 24 48.6**	**0.0**
KHZ	**Kahutara**	**137.12**	**113**		**PKPdf**	**06 24 48.0**	**-1.1**
RAR	**Rarotonga**	**147.27**	**64**	PKPbc	**PKPbc**	**06 25 10.3**	**+0.1**
	comp=Z,44nm,0.9s,baz=19,slow=10,SNR=2.8						
RAR	**Rarotonga**	**147.27**	**64**		**PKPbc**	**06 25 09.8**	**-0.4**
PPT	**Papeete**	**150.90**	**45**	PKPbc	**PKPbc**	**06 25 18.6**	**-0.8**
	comp=Z,76nm,0.8s,baz=126,slow=9.2,SNR=6.5						
PPT2	**Papeete2**	**150.92**	**45**	*e*PKPbc	**PKPbc**	**06 25 19.0**	**-0.5**
	comp=Z,118nm,1.0s						
PPT2	**Papeete2**	**150.92**	**45**	*e*LR	LR	07 15 21.1	
	comp=Z,706nm,24.2s						
PAE	**Paea**	**150.97**	**45**	*e*PKPbc	**PKPbc**	**06 25 19.0**	**-0.6**
	comp=Z,19nm,0.9s						
TIAR	**Tiarei**	**151.02**	**45**	*e*PKPbc	**PKPbc**	**06 25 19.1**	**-0.6**
	comp=Z,12nm,0.9s						
TVO	**Taravao**	**151.25**	**45**	*e*PKPbc	**PKPbc**	**06 25 19.7**	**-0.6**
	comp=Z,25nm,0.8s						
TBI	**Tubuai**	**155.51**	**53**	*e*LR	LR	07 17 28.5	
	comp=Z,755nm,30.8s						

*IDC **07** 06:12:17.4±3.3, 68°.02N×162°.85W, h0km, mb3.7/3, mb1 4.3/5, mb1mx3.7/63, mbtmp4.0/5, ML4.3/2, Error ellipse: s-maj=64.9km s-min=29.4km az=42.0*
*AEIC **07** 06:12:19±1.0, 67°.73N±0°.07×162°.5W±0°.1, h18km±5km, ML3.7, Error ellipse: s-maj=10.3km s-min=4.8km az=162.0*
*NEIC **07** 06:12:20.2±0.8, 67°.77N±0°.04×162°.6W±0°.2, h22km±4km, Error ellipse: s-maj=9.9km s-min=6.1km az=96.0*
ISC 07 06:12:18.8±0.8, **67°.76N**±0°.05×**162°.46W**±0°.06, **h10**km, **n48,** σ**0§91/52, Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**0.34**	**331**		**Pb**	**06 12 27.0**	**+0.1**
RDOG					**Sb**	**06 12 32.9**	**+0.5**
ANM	**Nome**	**3.42**	**202**		**Pn**	**06 13 11.9**	**-0.2**
ANM				Pg	**Pg**	**06 13 24.3**	**+0.1**
ANM					**Sn**	**06 13 52.1**	**-0.5**
IM03		**3.87**	**113**		**Pn**	**06 13 18.7**	**+0.5**
IM03					LR	06 14 03.8	
PS05	**TAPS Pump Stn5**	**4.67**	**96**		**Pn**	**06 13 29.8**	**+0.5**
COLD	**Coldfoot**	**4.74**	**91**		**Pn**	**06 13 31.4**	**+1.1**
TOLK	**Toolik Lake Re**	**4.89**	**74**		**Pn**	**06 13 32.8**	**+0.6**
PS04	**TAPS Pump Stn4**	**4.96**	**76**		**Pn**	**06 13 33.6**	**+0.4**
GAMB	**Gambell**	**5.52**	**228**		**Pn**	**06 13 40.9**	**+0.1**
TTA	**Tatalina**	**5.55**	**148**		**Pn**	**06 13 42.1**	**+0.7**
TT01	**Tatalina**	**5.57**	**148**		**Pn**	**06 13 42.0**	**+0.5**
CHUM	**Lake Minchumin**	**5.70**	**128**		**Pn**	**06 13 43.6**	**+0.3**
BPAW	**Bear Paw Mtn.**	**5.96**	**123**		**Pn**	**06 13 47.9**	**+1.0**
KTH	**Kantishna Hill**	**6.36**	**126**		**Pn**	**06 13 53.2**	**+0.6**
MDM	**Murphy Dome**	**6.37**	**109**		**Pn**	**06 13 53.1**	**+0.5**
PPLA	**Purkeypile**	**6.50**	**134**		**Pn**	**06 13 56.0**	**+1.5**
TCOL	**CIGO, UAF Yank**	**6.55**	**109**		**Pn**	**06 13 55.6**	**+0.6**
COLA	**College**	**6.55**	**109**		**Pn**	**06 13 56.0**	**+1.0**
POKR	**Poker Plat Res**	**6.58**	**107**		**Pn**	**06 13 55.7**	**+0.3**
TRF	**Thorofare Moun**	**6.63**	**125**		**Pn**	**06 13 57.6**	**+1.2**
CCB	**Clear Creek Bu**	**6.70**	**111**		**Pn**	**06 13 57.6**	**+0.5**
WRH	**Wood River Hil**	**6.70**	**113**		**Pn**	**06 13 57.4**	**+0.4**
FYU	**Fort Yukon**	**6.81**	**92**		**Pn**	**06 13 59.2**	**+0.7**
BM03	**Burnt Mountain**	**6.83**	**85**		**Pn**	**06 13 59.5**	**+0.6**
MCK	**McKinley**	**6.88**	**120**		**Pn**	**06 14 00.7**	**+1.1**
IL31		**6.96**	**108**		**Pn**	**06 14 01.4**	**+0.9**
ILAR	**Eielson Array**	**6.96**	**108**	Pn	**Pn**	**06 14 00.8**	**+0.1**
	7.3nm,0.3s,baz=303,slow=14,SNR=366						
ILAR				Sn	**Sn**	**06 15 18.4**	**-1.3**
	1.6nm,0.3s,baz=308,slow=25,SNR=5.7						
RND	**Reindeer**	**7.12**	**121**		**Pn**	**06 14 04.1**	**+1.1**
HDA	**Harding Lake**	**7.14**	**111**		**Pn**	**06 14 03.7**	**+0.6**
SVW2	**Sparrevohn**	**7.32**	**153**		**Pn**	**06 14 06.0**	**+0.5**
WAT2	**Susitna Watana**	**7.52**	**123**		**Pn**	**06 14 08.7**	**+0.2**
WAT1	**Susitna Watana**	**7.63**	**124**		**Pn**	**06 14 10.3**	**+0.4**
STLK	**Strandline Lak**	**7.75**	**139**		**Pn**	**06 14 12.7**	**+1.0**
SPBG	**Spurr Blockage**	**7.83**	**142**		**Pn**	**06 14 12.1**	**-0.6**
DHY	**Denali Highway**	**7.84**	**120**		**Pn**	**06 14 13.8**	**+1.0**
WAT6	**Susitna Watana**	**8.07**	**123**		**Pn**	**06 14 16.6**	**+0.5**
RIDG	**Independent Ri**	**8.28**	**111**		**Pn**	**06 14 19.5**	**+0.7**
SCRK	**Sand Creek**	**8.45**	**108**		**Pn**	**06 14 21.8**	**+0.7**
DOT	**Dot Lake**	**8.61**	**110**		**Pn**	**06 14 23.2**	**-0.1**
HARP	**HAARP**	**9.05**	**118**		**Pn**	**06 14 32.4**	**+3.1**
EGAK	**Eagle**	**9.07**	**99**		**Pn**	**06 14 30.4**	**+0.8**
MENT	**Mentasta**	**9.18**	**113**		**Pn**	**06 14 29.9**	**-1.1**
DAWY	**Dawson**	**10.10**	**101**		**Pn**	**06 14 43.7**	**+0.1**
EPYK	**Eagle Plains**	**10.11**	**86**		**Pn**	**06 14 44.3**	**+0.5**
INK	**Inuvik**	**10.80**	**74**	Pn	**Pn**	**06 14 52.1**	**-1.1**
	1.2nm,0.3s,baz=284,slow=13,SNR=9.3						
WHY	**Whitehorse**	**13.84**	**108**	Pn	**Pn**	**06 15 32.5**	**-2.3**
YKA	**Yellowknife Ar**	**20.35**	**82**	P	**P**	**06 16 55.5**	**+0.6**
	2.6nm,0.8s,baz=302,slow=10,SNR=9.4						
TXAR	**Lajitas Array**	**51.47**	**107**	P	**P**	**06 21 24.3**	**+0.2**
	0.7nm,0.6s,baz=327,slow=6.5,SNR=4.1						
EKA	**Eskdalemuir Ar**	**56.26**	**14**	P	**P**	**06 21 58.1**	**-0.5**
	0.5nm,0.4s,baz=356,slow=6.5,SNR=4.3						

*IDC **07** 06:40:49.0±1.7, 30°.32N×81°.61E, h0km, mb3.6/5, mb1 3.7/7, mb1mx3.4/42, mbtmp3.6/7, ML3.8/2, Error ellipse: s-maj=53.5km s-min=22.9km az=62.0*
*NEIC **07** 06:40:52.8±2.2, 30°.3N±0°.1×81°.6E±0°.1, h27km±4km, mb4.5/9, Error ellipse: s-maj=16.1km s-min=14.7km az=54.0*
ISC 07 06:40:50.3±0.7, **30°.2N**±0°.1×**81°.6E**±0°.1, **h10**km, **n22,** σ**1§04/21, mb4.0/10, Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDI	**Dehra Dun**	**3.07**	**272**	*e*P	**Pn**	**06 41 38.9**	**-0.1**
DDI				*i* x	x	06 41 44.7	
SMLA	**Simla**	**3.92**	**284**	*e*P	**Pn**	**06 41 50.7**	**+0.1**
SMLA				*i* x	x	06 42 00.2	
DHRM	**DHARAMSHALA**	**4.96**	**295**	*e*P	Pn	06 41 58.3	-6.8
DHRM				*i* x	x	06 42 19.2	
NIL	**Nilore**	**7.87**	**298**		**Pn**	**06 42 44.9**	**+0.1**
KBL	**Kabul**	**11.45**	**295**		**Pn**	**06 43 33.5**	**-0.5**
ARSB	**Arslanbob**	**13.08**	**330**		**Pn**	**06 43 58.6**	**+2.4**
MK31	**Makanchi Array**	**16.54**	**2**	Pn	**Pn**	**06 44 41.7**	**-0.5**
MKAR	**Makanchi Array**	**16.54**	**2**	Pn	**Pn**	**06 44 40.2**	**-2.1**
	0.1nm,0.3s,baz=184,slow=11,SNR=1.3						
CMAR	**Chiang Mai Arr**	**19.65**	**123**	P	**P**	**06 45 18.1**	**-1.2**
	0.2nm,0.3s,baz=321,slow=9.8,SNR=4.2						
KURK	**Kurchatov**	**20.57**	**355**	P	**P**	**06 45 29.2**	**+0.1**
ZALV	**Zalesovo Beam**	**23.80**	**5**	P	**P**	**06 46 02.5**	**-0.6**
	1.5nm,0.5s,baz=194,slow=10,SNR=4.8						
ENH	**Enshi**	**24.06**	**83**	P	**P**	**06 46 06.9**	**+1.0**
ENH				IAmb	IAmb	06 46 07.5	
	comp=Z,11nm,0.4s						
SONM	**Songino Array**	**25.89**	**40**	P	**P**	**06 46 22.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=246,slow=11,SNR=2.7						
FIA1	**FINESS Array S**	**47.56**	**328**	P	**P**	**06 49 25.5**	**-0.1**
FIA1				IAmb	IAmb	06 49 28.0	
	comp=Z,4.9nm,1.4s						
FINES	**FINESS Array B**	**47.56**	**328**	P	**P**	**06 49 24.8**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=98,slow=7.2,SNR=7.7						
TIXI	**Tiksi**	**48.60**	**18**	P	**P**	**06 49 33.5**	**-0.1**
TIXI				IAmb	IAmb	06 49 38.7	
	comp=Z,2.9nm,1.5s						
NC303	**NORSAR Array S**	**54.54**	**326**	P	**P**	**06 50 19.0**	**+0.8**
LSZ	**Lusaka**	**68.50**	**236**	P	**P**	**06 51 53.2**	**0.0**
LSZ				IAmb	IAmb	06 51 57.6	
	comp=Z,10.0nm,1.5s						
WRA	**Warramunga Arr**	**71.15**	**128**	P	**P**	**06 52 10.0**	**+0.6**
	comp=Z,0.6nm,0.9s,baz=324,slow=6.0,SNR=1.8						
NWAO	**Narrogin (SRO)**	**71.31**	**149**	P	**P**	**06 52 09.3**	**-0.7**
ASAR	**Alice Springs**	**73.43**	**131**	P	**P**	**06 52 24.9**	**+1.9**
	comp=Z,0.4nm,0.8s,baz=327,slow=6.6,SNR=2.6						
DOT	**Dot Lake**	**79.71**	**19**	P	**P**	**06 52 58.4**	**+0.3**
DOT				IAmb	IAmb	06 53 04.5	
	comp=Z,6.6nm,1.4s						

*MEX **07** 06:48:21.1±0.8, 14°.94N×92°.82W, h88km±10km, MD3.8*
*GCG **07** 06:48:26.7±0.3, 14°.70N×92°.72W, h35km±450km, MD3.9*
ISC 07 06:48:23.5±2.6, **15°.1N**±0°.1×**92°.8W**±0°.1, **h24**km±19km, **n7,** σ**1§38/12, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.54**	**112**	*e*P	**Pn**	**06 48 34.8**	**-0.9**
THIG				*i* S	**Sn**	**06 48 45.4**	**+1.4**
PCIG		**0.72**	**324**	*e*P	**Pn**	**06 48 38.1**	**-0.2**
PCIG				*e*S	**Sn**	**06 48 50.2**	**+1.6**
STG3	**Santiaguito 3,**	**1.24**	**109**	*e*P	**Pb**	**06 48 46.4**	**+0.1**
CCIG	**Comitan**	**1.31**	**28**	*e*P	**Pb**	**06 48 49.2**	**+1.6**
TGIG		**1.69**	**349**	*e*P	**Pn**	**06 48 49.9**	**-1.6**
TGIG				*e*S	**Sb**	**06 49 13.0**	**-1.7**
FUG	**Fuego 3**	**1.99**	**109**	*e*P	**Pn**	**06 48 56.4**	**+0.6**
FUG				*e*S	**Sn**	**06 49 19.6**	**-0.5**
IXG	**Ixpaco**	**2.45**	**112**	*e*P	**Pn**	**06 49 02.5**	**+0.3**
IXG				*e*S	**Sn**	**06 49 30.4**	**-1.1**

*IDC **07** 06:54:48.5±2.0, 1°.80N×126°.92E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.3/52, mbtmp3.5/4, Error ellipse: s-maj=193.7km s-min=22.6km az=67.0*
*DJA **07** 06:55:01.4±0.7, 2°.N±2°×12°.7E±°, h11km±6km, M4.1/8, mb5.1/1, MLv3.7/8*
ISC 07 06:54:49.1±1.5, **2°.58N**±0°.08×**127°.8E**±0°.2, **h10**km, **n9,** σ**2§61/11, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.85**	**195**	P	**Pg**	**06 55 26.4**	**+1.7**
TNTI				S	**Sb**	**06 55 45.3**	**-1.0**
LBMI	**Labuha**	**3.21**	**186**	P	**Pb**	**06 55 45.7**	**-0.6**
LBMI				S	**Sn**	**06 56 20.1**	**+2.1**
KMSI	**Cibinong**	**4.33**	**243**	P	**Pn**	**06 55 54.0**	**-1.1**
SANI	**Sanana**	**4.95**	**202**	P	**Pn**	**06 56 05.4**	**+1.8**
LUWI	**Luwuk**	**6.21**	**235**	P	**Pn**	**06 56 19.8**	**-1.1**
WRA	**Warramunga Arr**	**23.27**	**164**	P	**P**	**06 59 52.6**	**-4.6**
	0.4nm,0.3s,baz=340,slow=11,SNR=6.6						
ASAR	**Alice Springs**	**26.75**	**168**	P	**P**	**07 00 25.8**	**-3.4**
	0.2nm,0.6s,baz=354,slow=7.5,SNR=1.3						
MKAR	**Makanchi Array**	**59.13**	**325**	P	**P**	**07 04 52.3**	**+2.3**
	0.6nm,0.5s,baz=122,slow=7.2,SNR=6.1						
KURBB	**Kurchatov Arra**	**63.30**	**327**	P	**P**	**07 05 19.7**	**+1.5**
	0.5nm,0.5s,baz=129,slow=6.1,SNR=6.7						

*IDC **07** 06:58:28.0±6.8, 36°.65N×71°.41E, h94km±62km, mb3.1/3, mb1 3.2/9, mb1mx3.0/57, mbtmp3.6/9, ML3.4/6, Error ellipse: s-maj=47.7km s-min=30.7km az=17.0*
*NNC **07** 06:58:30.7±2.9, 37°.26N×71°.02E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=25.7km s-min=20.2km az=66.0*
ISC 07 06:58:29.0±1.2, **36°.8N**±0°.1×**71°.2E**±0°.1, **h100**km, **n20,** σ**1§27/23, mb3.3/3, 3C-2D, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.66**	**19**	P	**Pn**	**06 59 51.4**	**+0.4**
	SNR=50						
UCH	**Uchtor**	**5.99**	**24**	P	**Pn**	**06 59 56.4**	**+0.9**
	SNR=11						
KZA	**Kyzart**	**6.12**	**29**	P	**Pn**	**06 59 57.9**	**+0.6**
	SNR=8.5						
EKS2	**Erkin-Say**	**6.17**	**18**	P	**Pn**	**06 59 59.0**	**+1.2**
	SNR=19						
KK31	**Karatay Array**	**6.32**	**355**	⇑Pn	**Pn**	**06 59 59.4**	**-0.2**
	1.7nm,0.3s,baz=172,slow=12,SNR=63						
KK31				⇑Sn	**Sn**	**07 01 07.2**	**-3.1**
	4.0nm,0.4s						
KK31				⇑Lg	Lg	07 01 37.8	
	5.5nm,0.7s,baz=171,slow=27,SNR=4.3						
AAK	**Ala-Archa**	**6.35**	**22**	P	**Pn**	**07 00 01.4**	**+1.2**
	5.7nm,0.3s,baz=181,slow=7.5,SNR=35						
AAK				S	**Sn**	**07 01 12.4**	**+1.0**
	0.7nm,0.3s,baz=319,slow=17,SNR=4.5						
AAK	**Ala-Archa**	**6.35**	**22**	P	**Pn**	**07 00 01.3**	**+1.2**
	SNR=10						
AAK	**Ala-Archa**	**6.35**	**22**	⇓Pn	**Pn**	**07 00 01.1**	**+0.9**
	9.7nm,0.4s						
AAK				Sn	**Sn**	**07 01 12.0**	**+0.7**
	4.0nm,0.6s						
CHMS

*JMA **07** 07:26:04.0±0.1,33°.18N×140°.32E,h90^{km}±2^{km},M3.5*
*IDC **07** 07:26:04.6±0.7,32°.96N×139°.70E,h94^{km}±9^{km},mb3.4/5, mb1 3.4/6,mb1mx3.1/40,mbtmp3.6/6,Error ellipse: s-maj=33.9km s-min=11.9km az=59.0*

ISC 07 07:26:03.6±1.1,33°.12N±0°.05×140°.3E±0°.1,h97^{km}±7^{km}, n24,σ0^{s}76/28,mb3.7/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
JHJ2	**Mitsune**	**0.37**	**269**	P	**Pn**	**07**	**26**	**18.3**	**+0.1**
JHJ2				S	**Sn**	**07**	**26**	**29.3**	**+0.2**
JHCJ	**Hachijojimakas**	**0.39**	**263**	P	**Pn**	**07**	**26**	**18.3**	**0.0**
JHCJ				*e*S	**Sn**	**07**	**26**	**29.3**	**0.0**
JHJ	**Hachijo jima 2**	**0.40**	**270**	P	**Pn**	**07**	**26**	**18.5**	**+0.1**
	baz=229,slow=19								
JHJ				S	**Sn**	**07**	**26**	**29.6**	**+0.2**
	1μm,0.3s,baz=72,slow=20,SNR=16								
JAOM	**Aogashimamukai**	**0.78**	**213**	P	**Pn**	**07**	**26**	**22.1**	**+0.6**
JAOM				S	**Sn**	**07**	**26**	**36.1**	**+1.2**
JMKN	**Mikurajimanish**	**0.95**	**324**	P	**Pn**	**07**	**26**	**23.2**	**-0.1**
JMKN				S	**Sn**	**07**	**26**	**36.9**	**-1.2**
JKO	**Kozu shima**	**1.42**	**319**	P	**Pn**	**07**	**26**	**29.2**	**+0.5**
JKO				S	**Sn**	**07**	**26**	**47.9**	**+0.2**
BSO3	**Boso 3**	**1.69**	**7**	P	**Pn**	**07**	**26**	**32.5**	**+0.6**
BSO3				S	**Sn**	**07**	**26**	**54.6**	**+1.3**
JIM2	**Oshima 3**	**1.74**	**337**	P	**Pn**	**07**	**26**	**32.7**	**0.0**
JIM2				*e*S	**Sn**	**07**	**26**	**54.0**	**-0.9**
BSO4	**Boso 4**	**1.87**	**2**	P	**Pn**	**07**	**26**	**35.3**	**+1.0**
JIZS	**Izushimoda**	**1.97**	**325**	P	**Pn**	**07**	**26**	**36.2**	**+0.6**
TK02	**Tokai 2**	**2.25**	**292**	P	**Pn**	**07**	**26**	**40.8**	**+1.7**
MJAR	**Matsushiro Arr**	**3.81**	**334**	P	**Pn**	**07**	**27**	**00.2**	**0.0**
	0.3nm,0.3s,baz=145,slow=15,SNR=6.0								
MJAR				S	**Sn**	**07**	**27**	**44.0**	**0.0**
	0.1nm,0.3s,baz=158,slow=25,SNR=1.9								
MAT	**Matsushiro**	**3.81**	**334**	P	**Pn**	**07**	**27**	**01.6**	**+1.4**
MAT				*e*S	**Sn**	**07**	**27**	**44.4**	**+0.4**
H11N2	**WAKE ISLAND Hy 27.23**	**113**		T	T	08	00	30.7	
	baz=306,slow=75,SNR=24								
H11N1	**WAKE ISLAND Hy 27.24**	**113**		T	T	08	00	33.4	
	baz=306,slow=75,SNR=24								
H11N3	**WAKE ISLAND Hy 27.25**	**113**		T	T	08	00	34.3	
	baz=306,slow=75,SNR=19								
H11S3	**WAKE ISLAND Hy 27.79**	**115**		T	T	08	01	11.4	
	baz=307,slow=75,SNR=5.1								
H11S1	**WAKE ISLAND Hy 27.79**	**115**		T	T	08	01	12.3	
	baz=307,slow=75,SNR=4.5								
H11S2	**WAKE ISLAND Hy 27.81**	**115**		T	T	08	01	18.0	
	baz=307,slow=75,SNR=2.8								
MKAR	**Makanchi Array**	**45.50**	**305**	P	**P**	**07**	**34**	**12.8**	**-0.4**
	0.7nm,0.6s,baz=84,slow=9.4,SNR=6.9								
KURBB	**Kurchatov Arra**	**47.75**	**311**	P	**P**	**07**	**34**	**30.3**	**-0.3**
	0.7nm,0.5s,baz=90,slow=7.4,SNR=10								
WRA	**Warramunga Arr**	**53.06**	**187**	P	**P**	**07**	**35**	**10.3**	**-0.6**
	0.3nm,0.4s,baz=3.8,slow=7.3,SNR=9.6								
ASAR	**Alice Springs**	**56.79**	**187**	P	**P**	**07**	**35**	**37.1**	**-0.7**
	0.4nm,0.5s,baz=8.3,slow=7.2,SNR=8.6								
FINES	**FINESS Array B**	**71.84**	**333**	P	**P**	**07**	**37**	**15.7**	**+0.2**
	0.9nm,0.9s,baz=79,slow=7.2,SNR=1.9								

*NEIC **07** 07:29:13.7±1.5,58°.4S±0°.1×24°.4W±0°.2,h30^{km}±6^{km}, mb4.5/10,Error ellipse: s-maj=19.7km s-min=12.0km az=157.0*
*IDC **07** 07:29:13.3±5.5,57°.54S×24°.89W,h0^{km},mb4.0/3, mb1 4.2/3,mb1mx3.9/15,mbtmp4.0/3,Error ellipse: s-maj=174.7km s-min=37.6km az=166.0*

ISC 07 07:29:10.7±0.7,58°.3S±0°.1×24°.2W±0°.1,h10^{km},n25, σ0^{s}93/25,mb4.4/7,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
VNA1	**Neumayer--Stat**	**14.12**	**158**	P	**Pn**	**07**	**32**	**31.0**	**+0.7**
VNA3	**Neumayer Olymp**	**14.35**	**161**	P	**Pn**	**07**	**32**	**33.4**	**-0.1**
VNA2	**Neumayer--Watz**	**14.51**	**158**	P	**Pn**	**07**	**32**	**35.9**	**+0.2**
	baz=322,slow=14								
SNAA	**Sanae**	**16.04**	**155**	P	**Pn**	**07**	**32**	**56.6**	**+0.5**
SNAA	**Sanae**	**16.04**	**155**		**Pn**	**07**	**32**	**56.5**	**+0.5**
PMSA	**Palmer Station**	**19.78**	**234**	Pn	**Pn**	**07**	**33**	**42.7**	**+0.6**
PMSA				IAmb	IAmb	07	33	51.7	
	comp=Z,10.0nm,0.7s								
EFI	**East Falkland**	**20.35**	**274**	Pn	**P**	**07**	**33**	**48.1**	**+1.2**
PLCA	**Paso Flores**	**33.99**	**281**	P	**P**	**07**	**35**	**53.9**	**-0.4**
	comp=Z,4.5nm,1.0s,baz=132,slow=12,SNR=6.7								
PLCA	**Paso Flores**	**33.99**	**281**	P	**P**	**07**	**35**	**53.9**	**-0.4**
PLCA				IAmb	IAmb	07	36	12.3	
	comp=Z,12nm,1.5s								
CO01	**Juntas del Tor**	**42.16**	**292**		**P**	**07**	**37**	**03.9**	**+0.4**
CO01				IAmb	IAmb	07	37	21.1	
	comp=Z,4.2nm,1.1s								
AC05	**El Transito**	**43.19**	**293**	P	**P**	**07**	**37**	**10.8**	**-0.9**
AC05				IAmb	IAmb	07	37	15.6	
	comp=Z,8.0nm,1.1s								
GO02	**Mina Guanaco**	**45.94**	**296**	P	**P**	**07**	**37**	**33.0**	**-0.9**
GO02				IAmb	IAmb	07	37	38.5	
	comp=Z,12nm,1.1s								
PB07	**IPOC Station P**	**49.02**	**298**	P	**P**	**07**	**37**	**56.4**	**-1.3**
MNMC	**Minye Minye**	**51.14**	**300**	P	**P**	**07**	**38**	**13.5**	**-0.4**
MNMC				IAmb	IAmb	07	38	18.4	
	comp=Z,14nm,1.3s								
LPAZ	**La Paz**	**52.97**	**303**	P	**P**	**07**	**38**	**27.2**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=164,slow=4.8,SNR=10								
LPAZ	**La Paz**	**52.97**	**303**	P	**P**	**07**	**38**	**27.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**74.28**	**26**	P	**P**	**07**	**40**	**49.1**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=197,slow=6.2,SNR=6.0								
TULEG	**Thule**	**137.50**	**346**	PKPdf	**PKPdf**	**07**	**48**	**32.1**	**-0.6**
SPA0	**Spitsbergen Ar**	**138.43**	**12**	PKPdf	**PKiKP**	**07**	**48**	**36.7**	**+0.2**
YKA	**Yellowknife Ar**	**138.91**	**315**	PKP	**PKiKP**	**07**	**48**	**39.1**	**+1.3**
	comp=Z,0.1nm,0.5s,baz=126,slow=2.4,SNR=1.9								
DAWY	**Dawson**	**149.47**	**308**	PKPbc	**PKiKP**	**07**	**49**	**00.1**	**+0.6**
VRDI	**Verde Repeater**	**150.21**	**302**	PKPbc	**PKiKP**	**07**	**49**	**01.3**	**-0.1**
RIDG	**Independent Ri**	**151.66**	**306**	PKPbc	**PKPbc**	**07**	**49**	**03.5**	**-0.2**
MAJO	**Matsushiro**	**155.36**	**144**	PKPab	**PKPab**	**07**	**49**	**26.3**	**-2.6**
USA0B	**Ussuriysk Arra**	**159.65**	**123**		**PKPab**	**07**	**49**	**46.8**	**-0.4**

*IDC **07** 07:35:47.0±1.4,54°.30N×160°.43E,h0^{km},mb3.5/5, mb1 3.7/6,mb1mx3.4/43,mbtmp3.4/6,ML2.6/1,MS4.5/1, Ms1 4.5/1,ms1mx2.9/47,Error ellipse: s-maj=46.5km s-min=19.7km az=150.0*
*KRSC **07** 07:35:49.4±1.0,53°.70N×160°.93E,h49^{km}±18^{km},ML4.0*
*MOS **07** 07:35:51.1±0.6,53°.70N×160°.86E,h53^{km},mb3.9/1,Error ellipse: s-maj=9.2km s-min=4.3km az=78.2*
*NEIC **07** 07:35:54.0±1.6,53°.9N±0°.2×160°.4E±0°.2,h68^{km}±15^{km}, mb4.1/8,Error ellipse: s-maj=29.6km s-min=13.8km az=160.0*

ISC 07 07:35:51.4±1.1,53°.73N±0°.03×160°.84E±0°.04,h45^{km}±12^{km}, n106,σ1^{s}45/149,1D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
SPN	**Mys Shipunski**	**0.80**	**218**	*e*P	**Pn**	**07**	**36**	**06.0**	**-0.3**
SPN				*e*S	**Sn**	**07**	**36**	**10.6**	**-0.5**
SPN	**Mys Shipunski**	**0.80**	**218**	PN	**Pn**	**07**	**36**	**06.0**	**-0.3**
SPN				S	**Sn**	**07**	**36**	**16.6**	**-0.5**
KII	**Karymskiy**	**0.88**	**291**	*e*P	**Pn**	**07**	**36**	**07.2**	**-0.2**
KII				*e*S	**Sn**	**07**	**36**	**18.8**	**-0.3**
KII	**Karymskiy**	**0.88**	**291**	PN	**Pn**	**07**	**36**	**07.2**	**-0.2**
KII				S	**Sn**	**07**	**36**	**18.8**	**-0.3**
NLC	**Nalytchevo**	**1.05**	**238**	*e*P	**Pn**	**07**	**36**	**09.6**	**-0.1**
NLC				*e*S	**Sn**	**07**	**36**	**23.1**	**-0.1**
NLC	**Nalytchevo**	**1.05**	**238**	PN	**Pn**	**07**	**36**	**09.6**	**-0.1**
NLC				S	**Sn**	**07**	**36**	**23.1**	**-0.1**
SDLR	**Sedlovina**	**1.25**	**250**	*e*P	**Pn**	**07**	**36**	**12.9**	**+0.3**
SDLR				*e*S	**Sn**	**07**	**36**	**28.8**	**+0.5**
SDLR	**Sedlovina**	**1.25**	**250**	PN	**Pn**	**07**	**36**	**12.9**	**+0.3**
SDLR				S	**Sn**	**07**	**36**	**28.8**	**+0.5**
SMAR	**Somma**	**1.30**	**250**	*e*P	**Pn**	**07**	**36**	**13.7**	**+0.3**
SMAR				*e*S	**Sn**	**07**	**36**	**29.6**	**-0.1**
SMAR	**Somma**	**1.30**	**250**	PN	**Pn**	**07**	**36**	**13.7**	**+0.3**
SMAR				S	**Sn**	**07**	**36**	**29.6**	**-0.1**
UGLR	**Uglovaya**	**1.31**	**247**	*e*P	**Pn**	**07**	**36**	**14.0**	**+0.6**
UGLR				*e*S	**Sn**	**07**	**36**	**30.2**	**+0.5**
UGLR	**Uglovaya**	**1.31**	**247**	PN	**Pn**	**07**	**36**	**14.0**	**+0.6**
UGLR				S	**Sn**	**07**	**36**	**30.2**	**+0.5**
KRER	**Koryakskii**	**1.32**	**252**	*e*P	**Pn**	**07**	**36**	**14.1**	**+0.5**
KRER				*e*S	**Sn**	**07**	**36**	**31.0**	**+1.0**
KRER	**Koryakskii**	**1.32**	**252**	PN	**Pn**	**07**	**36**	**14.1**	**+0.5**
KRER				S	**Sn**	**07**	**36**	**31.0**	**+1.0**
AVH	**Avacha**	**1.34**	**250**	*e*P	**Pn**	**07**	**36**	**14.5**	**+0.8**
AVH				*e*S	**Sn**	**07**	**36**	**31.1**	**+0.8**
AVH	**Avacha**	**1.34**	**250**	PN	**Pn**	**07**	**36**	**14.5**	**+0.8**
AVH				S	**Sn**	**07**	**36**	**31.1**	**+0.8**
KRX	**Arik**	**1.36**	**255**	*e*P	**Pn**	**07**	**36**	**14.4**	**+0.4**
KRX				*e*S	**Sn**	**07**	**36**	**31.2**	**+0.3**
KRX	**Arik**	**1.36**	**255**	PN	**Pn**	**07**	**36**	**14.4**	**+0.4**
KRX				S	**Sn**	**07**	**36**	**31.2**	**+0.3**
KOK	**Koryaka**	**1.39**	**252**	*e*P	**Pn**	**07**	**36**	**14.9**	**+0.5**
KOK				*e*S	**Sn**	**07**	**36**	**32.0**	**+0.5**
KOK	**Koryaka**	**1.39**	**252**	PN	**Pn**	**07**	**36**	**14.9**	**+0.5**
KOK				S	**Sn**	**07**	**36**	**32.0**	**+0.5**
KZV	**Kizimen**	**1.42**	**347**	*e*P	**Pn**	**07**	**36**	**15.3**	**+0.4**
KZV				*e*S	**Sn**	**07**	**36**	**32.2**	**-0.3**
KZV	**Kizimen**	**1.42**	**347**	PN	**Pn**	**07**	**36**	**15.3**	**+0.4**
KZV				S	**Sn**	**07**	**36**	**32.2**	**-0.3**
DALK	**Dalny**	**1.43**	**242**	*e*P	**Pn**	**07**	**36**	**15.1**	**+0.2**
DALK				*e*S	**Sn**	**07**	**36**	**32.5**	**0.0**
DALK	**Dalny**	**1.43**	**242**	PN	**Pn**	**07**	**36**	**15.1**	**+0.2**
DALK				S	**Sn**	**07**	**36**	**32.5**	**0.0**
PET	**Petropavlovsk**	**1.49**	**242**	*e*P	**Pn**	**07**	**36**	**16.0**	**+0.4**
PET				*e*S	**Sn**	**07**	**36**	**34.2**	**+0.3**
PET	**Petropavlovsk**	**1.49**	**242**	⇓*i*PN	**Pn**	**07**	**36**	**16.1**	**+0.4**
PET				*i* S	**Sn**	**07**	**36**	**34.1**	**+0.2**
PET				pmax	pmax				
	comp=Z,48nm,0.3s								
PET				smax	smax				
	comp=N,533nm,0.5s								
PET				smax	smax				
	comp=E,472nm,0.5s								
PET	**Petropavlovsk**	**1.49**	**242**		**Pn**	**07**	**36**	**16.1**	**+0.5**
PET				Sn	**Sn**	**07**	**36**	**33.8**	**-0.1**
TUMD	**Tumrok D**	**1.50**	**350**	*e*P	**Pn**	**07**	**36**	**16.0**	**+0.1**
TUMD				*e*S	**Sn**	**07**	**36**	**33.6**	**-0.6**
TUMR	**Tumrok**	**1.61**	**346**	*e*P	**Pn**	**07**	**36**	**18.3**	**+0.8**
TUMR				*e*S	**Sn**	**07**	**36**	**38.3**	**+1.3**
TUMR	**Tumrok**	**1.61**	**346**	PN	**Pn**	**07**	**36**	**16.0**	**-1.5**
TUMR				S	**Sn**	**07**	**36**	**33.6**	**-3.4**
KRMR	**Karymshinskiy**	**1.86**	**242**	*e*P	**Pn**	**07**	**36**	**21.6**	**+0.9**
KRMR				*e*S	**Sn**	**07**	**36**	**44.1**	**+1.1**
KRMR	**Karymshinskiy**	**1.86**	**242**	PN	**Pn**	**07**	**36**	**21.6**	**+0.9**
KRMR				S	**Sn**	**07**	**36**	**44.1**	**+1.1**
RUS	**Russkaya**	**1.91**	**228**	*e*P	**Pn**	**07**	**36**	**21.8**	**+0.3**
RUS				*e*S	**Sn**	**07**	**36**	**46.0**	**+1.7**
RUS	**Russkaya**	**1.91**	**228**	PN	**Pn**	**07**	**36**	**21.8**	**+0.3**
RUS				S	**Sn**	**07**	**36**	**46.0**	**+1.7**
PEA0B	**Petropavlovsk-**	**1.98**	**253**		**Pn**	**07**	**36**	**23.2**	**+0.8**
PEA0B				Sn	**Sn**	**07**	**36**	**46.8**	**+0.8**
PETK	**Petropavlovsk-**	**1.98**	**253**	Pn	**Pn**	**07**	**36**	**23.2**	**+0.8**
	comp=E,12nm,0.3s,baz=75,slow=18,SNR=236								
PETK				Sn	**Sn**	**07**	**36**	**49.0**	**+3.1**
	comp=E,26nm,0.3s,baz=192,slow=30,SNR=12								
MTVR	**Mutnovka**	**2.03**	**233**	*e*P	**Pn**	**07**	**36**	**24.3**	**+1.1**
MTVR				*e*S	**Sn**	**07**	**36**	**48.2**	**+0.8**
MTVR	**Mutnovka**	**2.03**	**233**	PN	**Pn**	**07**	**36**	**24.3**	**+1.1**
MTVR				S	**Sn**	**07**	**36**	**48.2**	**+0.8**
GRL	**Gorelyy**	**2.04**	**236**	*e*P	**Pn**	**07**	**36**	**25.0**	**+1.6**
GRL				*e*S	**Sn**	**07**	**36**	**50.0**	**+2.3**
GRL	**Gorelyy**	**2.04**	**236**	PN	**Pn**	**07**	**36**	**25.0**	**+1.6**
GRL				S	**Sn**	**07**	**36**	**50.0**	**+2.3**
KMNR	**Kamenistaya**	**2.06**	**351**	*e*P	**Pn**	**07**	**36**	**25.1**	**+1.5**
KMNR	**Kamenistaya**	**2.06**	**351**	PN	**Pn**	**07**	**36**	**25.1**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**2.22**	**358**	*e*P	**Pn**	**07**	**36**	**27.3**	**+1.5**
BZGR				*e*S	**Sn**	**07**	**36**	**54.4**	**+2.4**
BZGR	**Bezymyannyi-Gr**	**2.22**	**358**	PN	**Pn**	**07**	**36**	**27.3**	**+1.5**
BZGR				S	**Sn**	**07**	**36**	**54.4**	**+2.4**
ASAK	**Asacha**	**2.23**	**234**	*e*P	**Pn**	**07**	**36**	**27.8**	**+1.9**
ASAK				*e*S	**Sn**	**07**	**36**	**55.3**	**+3.1**
ASAK	**Asacha**	**2.23**	**234**	PN	**Pn**	**07**	**36**	**27.8**	**+1.9**
ASAK				S	**Sn**	**07**	**36**	**55.3**	**+3.1**
KIRR	**Kirishev**	**2.25**	**353**	*e*P	**Pn**	**07**	**36**	**27.9**	**+1.7**
KIRR	**Kirishev**	**2.25**	**353**	PN	**Pn**	**07**	**36**	**27.9**	**+1.7**
BZWR	**Bezymyannyi-We**	**2.25**	**355**	*e*P	**Pn**	**07**	**36**	**28.1**	**+1.8**
BZWR	**Bezymyannyi-We**	**2.25**	**355**	PN	**Pn**	**07**	**36**	**28.1**	**+1.8**
KPT	**Kopyto**	**2.27**	**351**	*e*P	**Pn**	**07**	**36**	**28.2**	**+1.7**
KPT	**Kopyto**	**2.27**	**351**	PN	**Pn**	**07**	**36**	**28.2**	**+1.7**
ZLN	**Zelenaya**	**2.29**	**360**	*e*P	**Pn**	**07**	**36**	**28.8**	**+2.0**
ZLN				*e*S	**Sn**	**07**	**36**	**57.4**	**+3.6**
ZLN	**Zelenaya**	**2.29**	**360**	PN	**Pn**	**07**	**36**	**28.8**	**+2.0**
ZLN				S	**Sn**	**07**	**36**	**57.4**	**+3.6**
APC	**Apacha**	**2.35**	**251**	*e*P	**Pn**	**07**	**36**	**28.9**	**+1.4**
APC				*e*S	**Sn**	**07**	**36**	**57.8**	**+2.8**
APC	**Apacha**	**2.35**	**251**	PN	**Pn**	**07**	**36**	**28.9**	**+1.4**
APC				S	**Sn**	**07**	**36**	**57.8**	**+2.8**
LGNR	**Loginova**	**2.36**	**358**	*e*P	**Pn**	**07**	**36**	**30.3**	**+2.4**
LGNR	**Loginova**	**2.36**	**358**	PN	**Pn**	**07**	**36**	**30.3**	**+2.4**
CIRR	**Tsirk**	**2.39**	**359**	*e*P	**Pn**	**07**	**36**	**30.2**	**+2.0**
CIRR	**Tsirk**	**2.39**	**359**	PN	**Pn**	**07**	**36**	**30.2**	**+2.0**
KOZ	**Kozyrevsk**	**2.40**	**347**	*e*P	**Pn**	**07**	**36**	**29.4**	**+1.2**
KOZ	**Kozyrevsk**	**2.40**	**347**	PN	**Pn**	**07**	**36**	**29.4**	**+1.2**
KRSR	**Krestovskiy**	**2.50**	**357**	*e*P	**Pn**	**07**	**36**	**31.1**	**+1.5**
KRSR	**Krestovskiy**	**2.50**	**357**	PN	**Pn**	**07**	**36**	**31.1**	**+1.5**
ESO	**Esso**	**2.52**	**332**	*e*P	**Pn**	**07**	**36**	**30.5**	**+0.6**
ESO	**Esso**	**2.52**	**332**	PN	**Pn**	**07**	**36**	**30.5**	**+0.6**
KLY	**Klyuchi**	**2.59**	**358**	*e*P	**Pn**	**07**	**36**	**32.5**	**+1.7**
KLY	**Klyuchi**	**2.59**	**358**	PN	**Pn**	**07**	**36**	**32.5**	**+1.7**
SRDR	**Sredinnyy**	**2.67**	**346**	*e*P	**Pn**	**07**	**36**	**32.6**	**+0.6**
SRDR	**Sredinnyy**	**2.67**	**346**	PN	**Pn**	**07**	**36**	**32.6**	**+0.6**
KBTR	**Krutoberegovo**	**2.73**	**24**	*e*P	**Pn**	**07**	**36**	**34.5**	**+1.7**
KBTR	**Krutoberegovo**	**2.73**	**24**	PN	**Pn**	**07**	**36**	**34.5**	**+1.7**
KBG	**Krutoberegovo**	**2.75**	**22**	*e*P	**Pn**	**07**	**36**	**32.5**	**-0.5**
KBG	**Krutoberegovo**	**2.75**	**22**	PN	**Pn**	**07**	**36**	**32.5**	**-0.5**
BDR	**Baidarnaya**	**2.85**	**4**	*e*P	**Pn**	**07**	**36**	**36.5**	**+2.0**
BDR	**Baidarnaya**	**2.85**	**4**	PN	**Pn**	**07**	**36**	**36.5**	**+2.0**
MIPR	**Malaya Ipel'ka**	**2.86**	**241**	*e*P	**Pn**	**07**	**36**	**36.0**	**+1.5**
MIPR	**Malaya Ipel'ka**	**2.86**	**241**	PN	**Pn**	**07**	**36**	**36.0**	**+1.5**
SMKR	**Semkarok**	**2.88**	**7**	*e*P	**Pn**	**07**	**36**	**36.7**	**+1.8**
SMKR	**Semkarok**	**2.88**	**7**	PN	**Pn**	**07**	**36**	**36.7**	**+1.8**
SRKR	**Sorokina**	**2.94**	**4**	*e*P	**Pn**	**07**	**36**	**37.5**	**+1.9**
SRKR	**Sorokina**	**2.94**	**4**	PN	**Pn**	**07**	**36**	**37.5**	**+1.9**
BKI	**Bering**	**3.34**	**62**	*e*P	**Pn**	**07**	**36**	**42.2**	**+1.1**
BKI				*e*S	**Sn**	**07**	**37**	**17.7**	**-1.7**
BKI	**Bering**	**3.34**	**62**	PN	**Pn**	**07**	**36**	**42.2**	**+1.1**
BKI				S	**Sn**	**07**	**37**	**17.7**	**-1.7**
KDAK	**Kodiak Island**	**26.11**	**62**	P	**P**	**07**	**41**	**23.2**	**+2.6**
KDAK	**Kodiak Island**	**26.11**	**62**	P	**P**	**07**	**41**	**23.2**	**+2.6**
KDAK				IAmb	IAmb	07	41	24.0	
	comp=Z,22nm,1.1s								
GHO	**Glory Hole Cre**	**27.34**	**53**	P	**P**	**07**	**41**	**31.0**	**-0.8**
GHO				IAmb	IAmb	07	41	33.3	
	comp=Z,5.3nm,0.9s								
CCB	**Clear Creek Bu**	**27.66**	**46**	P	**P**	**07**	**41**	**37.2**	**+2.6**
ILAR	**Eielson Array**	**28.05**	**46**	P	**P**	**07**	**41**	**37.6**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=264,slow=9.0,SNR=2.8								
INK	**Inuvik**	**33.09**	**38**	P	**P**	**07**	**42**	**22.5**	**+0.1**
INK				pmax	pmax				
	comp=Z,1.0nm,1.0s								
INK	**Inuvik**	**33.09**	**38**	P	**P**	**07**	**42**	**22.5**	**+0.1**
INK				IAmb	IAmb	07	42	28.7	
	comp=Z,1.2nm,1.0s								
H11N2	**WAKE ISLAND Hy 34.26**	**170**		T	T	08	19	32.6	
	baz=354,slow=76,SNR=49								
H11N3	**WAKE ISLAND Hy 34.27**	**170**		T	T	08	19	30.6	
	baz=354,slow=76,SNR=51								
H11N1	**WAKE ISLAND Hy 34.27**	**170**		T	T	08	19	33.8	
	baz=354,slow=76,SNR=50								
H11S1	**WAKE ISLAND Hy 35.45**	**170**		T	T	08	20	38.9	
	baz=352								
H11S3	**WAKE ISLAND Hy 35.46**	**170**		T	T	08	20	41.9	
	baz=352,SNR=4.2								
H11S2	**WAKE ISLAND Hy 35.46**	**170**		T	T	08	20	40.7	
	baz=352								
C36M	**Paulatuk**	**36.27**	**35**	P	**P**	**07**	**42**	**50.2**	**+0.4**
YKA	**Yellowknife Ar**	**42.39**	**43**	P	**P**	**07**	**43**	**41.5**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=297,slow=7.6,SNR=3.8								
SPA0	**Spitsbergen Ar**	**46.58**	**351**	P	**P**	**07**	**44**	**12.8**	**-1.4**
MKAR	**Makanchi Array**	**48.28**	**296**	P	**P**	**07**	**44**	**24.1**	**-3.7**
	comp=Z,0.1nm,0.4s,baz=55,slow=8.4,SNR=2.0								
AAK	**Ala-Archa**	**55.19**	**296**	LR	LR	08	08	48.3	
	comp=Z,397nm,20.1s,baz=244,slow=36								
FINES	**FINESS Array B**	**59.71**	**337**	P	**P**	**07**	**45**	**49.1**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=26,slow=7.7,SNR=7.2								
TX31	**Lajitas Ar. Si**	**69.98**	**68**	P	**P**	**07**	**46**	**59.2**	**+1.0**
TX31				IAmb	IAmb	07	47	01.2	
	comp=Z,2.3nm,1.1s								
TX32	**Lajitas Array**	**69.98**	**68**	P	**P**	**07**	**46**	**59.4**	**+1.1**
TXAR	**Lajitas Array**	**69.98**	**68**	P	**P**	**07**	**46**	**59.5**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=309,slow=5.5,SNR=4.7								

*IDC **07** 08:05:51.8±0.9,9°.36N×127°.00E,h0^{km},mb3.9/10, mb1 4.0/11,mb1mx3.7/49,mbtmp3.9/11,ML4.5/1,Error ellipse: s-maj=39.5km s-min=15.8km az=80.0*
*NEIC **07** 08:05:54.0±2.9,9°.41N±0°.08×126°.91E±0°.08,h10^{km}±1^{km}, mb4.5/7,Error ellipse: s-maj=14.3km s-min=12.3km az=40.0*
*MAN **07** 08:05:55.7,9°.30N×126°.53E,h1^{km},mb4.6,ML3.5,MS3.4*

ISC 07 08:05:56.9±2.6,9°.36N±0°.06×126°.78E±0°.08,h31^{km}±18^{km}, n31,σ1^{s}35/40,mb4.0/13,3C-3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
BIPH	**Bislig**	**1.24**	**200**	⇓*i*P	**Pn**	**08**	**06**	**25.2**	**+5.4**
BIPH				*i* S	**Sb**	**08**	**06**	**37.9**	**+2.5**
SCPH	**Surigao**	**1.34**	**288**	⇑*e*P	**Pn**	**08**	**06**	**17.8**	**-1.8**
SCPH				*e*S	**Sn**	**08**	**06**	**35.3**	**-1.1**
MSLP	**Maasin**	**2.05**	**292**	*e*P	**Pn**	**08**	**06**	**28.0**	**-1.3**
MSLP				*e*S	**Sn**	**08**	**06**	**55.7**	**+1.9**
BUKP	**Musuan**	**2.25**	**229**	*e*P	**Pn**	**08**	**06**	**31.4**	**-0.7**
BUKP				*e*S	**Sn**	**08**	**06**	**59.9**	**+1.1**
CGP	**Cagayan de Oro**	**2.25**	**247**	⇓*e*P	**Pn**	**08**	**06**	**31.1**	**-1.0**
CGP				*e*S	**Sn**	**08**	**06**	**57.3**	**-1.5**
DAV	**Davao City (W)**	**2.57**	**208**	Pn	**Pn**	**08**	**06**	**38.3**	**+1.8**
	78nm,0.3s,baz=335,slow=14,SNR=1.7								
DAV				Sn	**Sb**	**08**	**07**	**11.8**	**-1.8**
	112nm,0.3s,baz=307,slow=21,SNR=6.5								
DMPH	**Davao City--Mi**	**2.59**	**209**	⇑*e*P	**Pn**	**08**	**06**	**37.8**	**+1.0**
DMPH				*e*S	**Sn**	**08**	**07**	**08.0**	**+0.8**
TBP	**Tagbilaran**	**2.90**	**277**	*e*P	**Pn**	**08**	**06**

DBBC	**Dabeiba**	**3.00 256**	*eP*		**Pn**	**08 24 52.6**	**+0.4**
ROSC	**El Rosal**	**3.09 200**	P		**Pn**	**08 24 55.3**	**+1.6**
	comp=Z,33nm,0.3s,baz=320,slow=16,SNR=54						
ROSC			S		**Sn**	**08 25 34.6**	**+4.0**
	comp=Z,43nm,0.3s,baz=357,slow=21,SNR=6.6						
ROSC	**El Rosal**	**3.09 200**	*eP*		**Pn**	**08 24 54.0**	**+0.4**
ROSC			*eS*		**Sn**	**08 25 31.1**	**+0.5**
ROSC			*i*			08 25 44.2	
	comp=Z,254nm,0.3s						
ROSC	**El Rosal**	**3.09 200**			**Pn**	**08 24 55.1**	**+1.5**
CHIC	**Chingaza**	**3.15 188**	*eP*		**Pn**	**08 24 55.5**	**+1.0**
CHIC			*eS*		**Sn**	**08 25 32.1**	**-0.1**
CHIC			*i*			08 25 46.9	
	comp=Z,178nm,0.6s						
LCBC	**Los crdobas,**	**3.24 290**	*eP*		**Pn**	**08 24 54.4**	**-0.9**
LCBC			*eS*		**Sn**	**08 25 33.6**	**+0.1**
LCBC			*i*			08 25 38.4	
	comp=Z,313nm,0.3s						
GUY2C	**Guyana, Caldas**	**3.27 219**	*eP*		**Pn**	**08 24 57.5**	**+1.4**
GUY2C			*eS*		**Sn**	**08 25 35.3**	**+0.3**
GUY2C			*i*			08 25 46.0	
	comp=Z,236nm,1.1s						
CBOC	**Ciudad Bolivar**	**3.31 235**	*eP*		**Pn**	**08 24 57.1**	**+0.8**
CBOC			*eS*		**Sn**	**08 25 35.1**	**-0.3**
CBOC			*i*			08 25 48.0	
	comp=Z,209nm,0.9s						
SMRC	**Santa Marta, M**	**3.50 345**	*eP*		**Pn**	**08 24 59.9**	**+1.2**
SMRC			*eS*		**Sn**	**08 25 39.3**	**-0.3**
SMRC			*i*			08 25 43.1	
	comp=Z,153nm,0.4s						
RREF	**El Recreo**	**3.51 216**	*eP*		**Pn**	**08 25 00.7**	**+1.2**
RREF			*eS*		**Sn**	**08 25 41.0**	**+0.1**
RREF			*i*			08 25 49.2	
	comp=Z,230nm,0.8s						
VILC	**Villavicencio,**	**3.66 186**	*eP*		**Pn**	**08 25 01.4**	**+0.5**
VILC			*eS*		**Sn**	**08 25 43.4**	**-0.3**
VILC			*i*			08 25 56.1	
	comp=Z,253nm,0.4s						
PTGC	**Puerto Gaitan,**	**3.73 162**	*eP*		**Pn**	**08 25 00.5**	**-1.3**
PTGC			*eS*		**Sn**	**08 25 42.1**	**-3.1**
PTGC			*i*			08 25 58.3	
	comp=Z,77nm,0.3s						
TOLC	**Tolima**	**3.76 213**	*eP*		**Pn**	**08 25 03.7**	**+1.3**
TOLC			*eS*		**Sn**	**08 25 46.4**	**0.0**
TOLC			*i*			08 25 54.8	
	comp=Z,487nm,0.5s						
URIC	**Uribia, Colomb**	**4.11 18**	Pn		**Pn**	**08 25 06.8**	**+0.1**
PLMC	**San Jos del P**	**4.12 226**	*eP*		**Pn**	**08 25 07.7**	**+0.6**
PLMC			*eS*		**Sn**	**08 25 54.1**	**-0.5**
PLMC			*i*			08 25 59.4	
	comp=Z,129nm,0.2s						
ORTC	**Ortega, Tolima**	**4.30 207**	*eP*		**Pn**	**08 25 10.5**	**+1.0**
ORTC			*eS*		**Sn**	**08 26 03.1**	**+4.2**
ORTC			*i*			08 26 09.3	
	comp=Z,107nm,1.0s						
PRAC	**Prado**	**4.33 202**	*eP*		**Pn**	**08 25 09.9**	**0.0**
PRAC			*eS*		**Sn**	**08 26 02.2**	**+2.5**
PRAC			*i*			08 26 13.3	
	comp=Z,210nm,0.5s						
PTAC	**Punta Ardita,**	**4.53 262**	*eP*		**Pn**	**08 25 11.3**	**-1.1**
PTAC			*eS*		**Sn**	**08 25 59.9**	**-4.3**
PTAC			*i*			08 26 04.7	
	comp=Z,431nm,0.3s						
UPD2	**Meteti**	**4.75 280**	*i* P		**Pn**	**08 25 14.2**	**-1.1**
UPD2			*i* S		**Sn**	**08 26 06.1**	**-3.3**
YOTC	**Yotoco, Valle**	**4.84 219**	*eP*		**Pn**	**08 25 16.4**	**-0.3**
GUVC	**San Jose del G**	**5.23 173**	*eP*		**Pn**	**08 25 20.4**	**-1.5**
GUVC			*eS*		**Sn**	**08 26 20.0**	**-1.2**
GUVC			*i*			08 26 28.9	
	comp=Z,132nm,0.3s						
BETC	**Betania**	**5.49 203**	*eP*		**Pn**	**08 25 25.8**	**+0.3**
BETC			*eS*		**Sn**	**08 26 29.0**	**+1.4**
MACC	**Macarena, Meta**	**5.62 186**	*eP*		**Pn**	**08 25 26.**	**-1.5**
MACC			*eS*		**Sn**	**08 26 27.8**	**-2.7**
MACC			*i*			08 26 33.8	
	comp=Z,54nm,1.1s						
CHPO	**Chepo, Panama**	**5.93 284**	*eP*		**Pn**	**08 25 29.9**	**-1.3**
CHPO			*eS*		**Sn**	**08 26 32.0**	**-6.1**
GARC	**Garzon, Huila**	**5.97 202**	*eP*		**Pn**	**08 25 30.7**	**-1.3**
GARC			*eS*		**Sn**	**08 26 40.3**	**+1.0**
GARC			*i*			08 26 45.2	
	comp=Z,66nm,0.3s						
PCON	**Cinco Dias**	**6.23 210**	*eP*		**Pn**	**08 25 38.6**	**+2.7**
PCON			*i*			08 26 55.8	
	comp=Z,24nm,0.6s						
UPA	**Univ. de Panam**	**6.30 281**	*eP*		**Pn**	**08 25 35.5**	**-0.7**
SOTA	**Rioblanco**	**6.50 211**	*eP*		**Pn**	**08 25 42.3**	**+2.9**
SOTA			*i*			08 27 07.1	
	comp=Z,18nm,0.8s						
CHOR3	**La Chorrera**	**6.51 280**	*eP*		**Pn**	**08 25 38.9**	**-0.2**
ZANG	**Zanguenga, Cho**	**6.62 281**	*eP*		**Pn**	**08 25 39.7**	**-0.8**
BCIP	**Isla Barro Col**	**6.63 283**	*eP*		**Pn**	**08 25 39.1**	**-1.5**
BCIP			*eS*		**Sn**	**08 26 49.5**	**-5.3**
BCIP			*i*			08 26 58.9	
	comp=Z,34nm,1.4s						
BCIP	**Isla Barro Col**	**6.63 283**	Pn		**Pn**	**08 25 40.1**	**-0.5**
AZU	**Azuero**	**6.93 271**	*eP*		**Pn**	**08 25 43.9**	**-0.8**
BBAC	**Balboa, Cauca**	**6.94 215**	*eP*		**Pn**	**08 25 45.4**	**+0.3**
TOSI3	**Tonosi**	**7.10 268**	*eP*		**Pn**	**08 25 47.8**	**+0.8**
PCRV	**Puerto La Cruz**	**8.87 74**	P		**Pn**	**08 26 12.7**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=233,slow=5.1,SNR=2.2						
PCRV			S		**Sn**	**08 27 47.0**	**-2.3**
	comp=Z,1.9nm,0.3s,baz=53,slow=17,SNR=6.4						
PLCV	**Puerto La Cruz**	**8.91 74**			**Pn**	**08 26 12.7**	**+1.1**
PLCV					**Sn**	**08 27 47.0**	**-3.2**
MTDJ	**Mount Denham**	**11.19 339**	Pn		**Pn**	**08 26 44.3**	**+2.2**
SDDR	**Presa de Saban**	**11.31 10**	Pn		**Pn**	**08 26 47.1**	**+3.3**
DR12	**Loma Pena Alta**	**11.59 19**	Pn		**Pn**	**08 26 47.9**	**+0.5**
ESPN	**Las Esperanzas**	**11.71 293**	Pn		**Pn**	**08 26 49.8**	**+0.9**
GTBY	**Guantanamo Bay**	**12.21 352**	Pn		**Pn**	**08 26 59.0**	**+3.4**
CDVI	**St. Croix**	**12.93 39**	Pn		**Pn**	**08 27 03.6**	**-1.3**
BBGH	**Gun Hill**	**14.51 67**	P		**P**	**08 27 22.1**	**-1.3**
PTGA	**Pitinga**	**15.74 122**	P		**Pn**	**08 27 41.2**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=270,slow=20,SNR=5.9						
PTGA			S		**Sn**	**08 30 26.4**	**-8.9**
	comp=Z,0.3nm,0.3s,baz=174,slow=10,SNR=3.2						
MTO3	**Montecristo**	**17.09 294**	P		**Pn**	**08 27 58.5**	**+1.1**
MTO3			IAmb		IAmb	08 28 00.5	
	comp=Z,9.1nm,1.0s						
TEIG	**Tepich**	**19.08 312**	P		**Pn**	**08 28 20.4**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=139,slow=7.6,SNR=1.8						
TEIG	**Tepich**	**19.08 312**	P		**Pn**	**08 28 20.3**	**-0.5**
TEIG			IAmb		IAmb	08 28 33.3	
	comp=Z,22nm,1.1s						
SAML	**Samuel**	**19.42 149**	P		**P**	**08 28 21.3**	**-1.1**
MDP	**Montagnes des**	**20.68 96**	P		**P**	**08 28 37.0**	**+1.0**
	comp=Z,9.6nm,0.8s,baz=284,slow=11,SNR=5.2						
LPAZ	**La Paz**	**24.44 168**	P		**P**	**08 29 12.8**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=290,slow=4.6,SNR=4.0						
LPAZ	**La Paz**	**24.44 168**	P		**P**	**08 29 12.7**	**-1.0**
Z47A	**Carrollton**	**28.77 334**	P		**P**	**08 29 53.7**	**+2.0**
W50A	**Signal Mountai**	**29.45 340**	P		**P**	**08 29 57.4**	**-0.4**
V52A	**Sevierville**	**29.49 343**	P		**P**	**08 29 59.3**	**+1.2**
PLAL	**Pickwick Lake**	**30.30 335**	P		**P**	**08 30 07.1**	**+1.9**
R61A	**Willards**	**30.48 357**	P		**P**	**08 30 04.8**	**-2.0**
WVT	**Waverly**	**31.20 337**	P		**P**	**08 30 14.3**	**+1.1**
WVT			IAmb		IAmb	08 30 14.4	
	comp=Z,2.3nm,0.8s						
WHAR	**Wooly Hollow**	**32.47 330**	P		**P**	**08 30 25.1**	**+0.8**
WHAR			IAmb		IAmb	08 30 25.6	
	comp=Z,3.6nm,0.8s						
FCAR	**Ozark Folk Cen**	**32.87 331**	P		**P**	**08 30 28.2**	**+0.5**
FCAR			IAmb		IAmb	08 30 28.5	
	comp=Z,2.5nm,0.6s						
T42A	**Van Buren**	**33.33 334**	P		**P**	**08 30 32.7**	**+1.0**
T42A			IAmb		IAmb	08 30 33.0	
	comp=Z,1.6nm,0.6s						
U40A	**Yellville**	**33.59 331**	P		**P**	**08 30 35.1**	**+1.1**
BDFB	**Brasilia**	**34.17 133**	P		**P**	**08 30 38.6**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=271,slow=8.9,SNR=3.2						
BDFB	**Brasilia**	**34.17 133**	P		**P**	**08 30 39.1**	**-0.3**
BDFB			IAmb		IAmb	08 30 50.2	
	comp=Z,6.1nm,1.1s						
CCM	**Cathedral Cave**	**34.25 334**	P		**P**	**08 30 40.5**	**+0.8**
CCM			IAmb		IAmb	08 30 40.9	
	comp=Z,4.8nm,0.6s						
SFIN	**Lafayette**	**34.74 341**	P		**P**	**08 30 44.8**	**+0.9**
WMOK	**Wichita Mounta**	**35.63 323**	P		**P**	**08 30 51.6**	**0.0**
WMOK			IAmb		IAmb	08 31 09.0	
	comp=Z,4.7nm,1.4s						
TXAR	**Lajitas Array**	**35.72 311**	P		**P**	**08 30 52.9**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=133,slow=10,SNR=6.7						
TX31	**Lajitas Ar. Si**	**35.72 311**	P		**P**	**08 30 52.9**	**+0.2**
TX31			IAmb		IAmb	08 30 58.7	
	comp=Z,8.6nm,1.5s						
MNTX	**Cornudas Mount**	**38.20 313**	P		**P**	**08 31 14.6**	**+1.1**
D62A	**Allapoint, All**	**39.34 5**	P		**P**	**08 31 24.1**	**+1.4**
D62A			IAmb		IAmb	08 31 25.6	
	comp=Z,8.9nm,1.1s						
E46A	**Sault Ste Mari**	**39.61 348**	P		**P**	**08 31 26.3**	**+1.4**
E46A			IAmb		IAmb	08 31 26.5	
	comp=Z,2.9nm,0.8s						
D41A	**Chassel**	**41.27 344**	P		**P**	**08 31 39.6**	**+0.9**
D41A			IAmb		IAmb	08 31 53.8	
	comp=Z,9.5nm,1.5s						
EYMN	**Ely**	**42.92 342**	P		**P**	**08 31 52.1**	**+0.1**
EYMN			IAmb		IAmb	08 31 52.5	
	comp=Z,2.6nm,0.6s						
PV13	**Radium Mtn., P**	**44.08 319**	P		**P**	**08 32 02.9**	**+1.1**
MSU	**Marysvale**	**46.50 317**	P		**P**	**08 32 22.1**	**+1.2**
PDAR	**Pinedale Array**	**47.22 324**	P		**P**	**08 32 26.8**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=102,slow=8.4,SNR=2.2						
BGU	**Big Grassy Mou**	**48.32 320**	P		**P**	**08 32 35.6**	**+0.8**
DLMT	**Dillon**	**50.52 325**	P		**P**	**08 32 52.7**	**+1.2**
NVAR	**Mina Array Bea**	**50.71 314**	P		**P**	**08 32 53.8**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=119,slow=7.8,SNR=3.1						
YBH	**Yreka Blue Hor**	**55.15 316**	P		**P**	**08 33 24.6**	**-0.8**
YBH			IAmb		IAmb	08 33 25.6	
	comp=Z,5.7nm,1.1s						
YKA	**Yellowknife Ar**	**62.32 340**	P		**P**	**08 34 14.4**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=134,slow=7.0,SNR=19						
TORD	**Torodi Ar. Bea**	**73.71 79**	P		**P**	**08 35 25.4**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=272,slow=7.4,SNR=1.6						
DOT	**Dot Lake**	**74.58 334**	P		**P**	**08 35 31.8**	**+1.0**
PPLA	**Purkeypile**	**78.07 333**	P		**P**	**08 35 51.2**	**+0.5**
ASAR	**Alice Springs**	**149.52 236**	PKPbc		**PKPbc**	**08 43 39.9**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=110,slow=3.0,SNR=6.0						
WRA	**Warramunga Arr**	**150.64 243**	PKPbc		**PKPbc**	**08 43 42.9**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=107,slow=2.8,SNR=12						
WRA			pPKPbc		**pPKPbc**	**08 44 17.5**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=106,slow=2.9,SNR=2.5						

IDC 07 08:28:03.8±5.5,5.74S×147.42E,h200km±57km,mb3.3/2, mb1 3.4/4,mb1mx3.0/29,mbtmpg3.7/4,Error ellipse: s-maj=104.2km s-min=48.0km az=124.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.65**	**184**	P	Pn	08 29 01.5	+0.3
	5.6nm,0.3s,baz=348,slow=14,SNR=11						
PMG				S	Sn	08 29 46.6	+0.2
	5.7nm,0.3s,baz=189,slow=20,SNR=7.1						
WRA	**Warramunga Arr**	**19.00**	**221**	P	P	08 32 10.4	-0.2
	0.4nm,0.3s,baz=45,slow=12,SNR=17						
ASAR	**Alice Springs**	**22.07**	**215**	P	P	08 32 43.5	+0.7
	1.2nm,0.8s,baz=49,slow=9.5,SNR=12						
FITZ	**Fitzroy Crossi**	**24.55**	**238**	P	P	08 33 05.5	+0.1
	5.5nm,1.0s,baz=62,slow=11,SNR=2.5						
TORD	**Torodi Ar. Bea**	**145.43**	**285**	PKPbc	PKPdf	08 47 17.7	-1.3
	0.3nm,0.7s,baz=78,slow=2.9,SNR=1.9						

*IDC **07** 08:48:43.3±4.8,67.81N×162.76W,h0km,mb3.1/2, mb1 3.7/4,mb1mx3.3/39,mbtmpg3.4/4,ML3.5/2,MS3.2/1, Ms1 3.2/1,ms1mx2.3/23,Error ellipse: s-maj=67.6km s-min=56.1km az=37.0*

*AEIC **07** 08:48:43±2.9,67.72N±0.05×162.2W±0.2,h18km±6km, ML3.0,Error ellipse: s-maj=10.6km s-min=3.3km az=130.0*

*NEIC **07** 08:48:45.1±2.5,67.75N±0.04×162.7W±0.2,h34km±5km, Error ellipse: s-maj=11.2km s-min=5.5km az=109.0*

ISC 07 08:48:43.9±0.9,67.76N±0.06×162.32W±0.06,h10km,n29, σ1§50/34,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.37**	**323**		**Pb**	**08 48 52.1**	**-0.4**
RDOG					**Sb**	**08 48 58.5**	**+0.2**
ANM	**Nome**	**3.44**	**203**		**Pn**	**08 49 35.4**	**-2.1**
ANM					**Sn**	**08 50 17.6**	**-0.7**
IM03		**3.82**	**114**		**Pn**	**08 49 42.1**	**-0.6**
IM03					**Sn**	**08 50 26.0**	**-1.6**
COLD	**Coldfoot**	**4.69**	**91**		**Pn**	**08 49 56.1**	**+1.5**
TOLK	**Toolik Lake Re**	**4.83**	**74**		**Pn**	**08 49 55.8**	**-0.8**
TOLK					**Sn**	**08 50 53.1**	**+0.6**
TTA	**Tatalina**	**5.52**	**149**		**Pn**	**08 50 04.8**	**-1.3**
TT01	**Tatalina**	**5.54**	**149**		**Pn**	**08 50 05.8**	**-0.5**
BPAW	**Bear Paw Mtn.**	**5.91**	**123**		**Pn**	**08 50 11.1**	**-0.3**
MDM	**Murphy Dome**	**6.32**	**110**		**Pn**	**08 50 15.8**	**-1.2**
KTH	**Kantishna Hill**	**6.32**	**127**		**Pn**	**08 50 17.5**	**+0.4**
PPLA	**Purkeypile**	**6.46**	**134**		**Pn**	**08 50 19.9**	**+0.8**
COLA	**College**	**6.50**	**110**		**Pn**	**08 50 20.1**	**+0.6**
POKR	**Poker Plat Res**	**6.53**	**107**		**Pn**	**08 50 18.8**	**-1.0**
TRF	**Thorofare Moun**	**6.59**	**125**		**Pn**	**08 50 21.5**	**+0.6**
CCB	**Clear Creek Bu**	**6.65**	**111**		**Pn**	**08 50 21.5**	**+0.1**
WRH	**Wood River Hil**	**6.65**	**113**		**Pn**	**08 50 21.9**	**+0.5**
FYU	**Fort Yukon**	**6.75**	**92**	Pn	**Pn**	**08 50 23.7**	**+0.8**
BM03	**Burnt Mountain**	**6.78**	**85**		**Pn**	**08 50 22.7**	**-0.6**
IL31		**6.91**	**108**		**Pn**	**08 50 24.4**	**-0.6**
ILAR	**Eielson Array**	**6.91**	**108**	Pn	**Pn**	**08 50 25.0**	**0.0**
	1.3nm,0.3s,baz=305,slow=13,SNR=71						
ILAR				Sn	**Sn**	**08 51 40.9**	**-2.7**
	0.3nm,0.3s,baz=304,slow=24,SNR=5.5						
HDA	**Harding Lake**	**7.09**	**111**		**Pn**	**08 50 27.7**	**+0.2**
SVW2	**Sparrevohn**	**7.29**	**153**	Pn	**Pn**	**08 50 31.1**	**+0.8**
DHY	**Denali Highway**	**7.79**	**120**	Pn	**Pn**	**08 50 38.8**	**+1.5**
SPU	**Mount Spurr**	**7.94**	**141**	Pn	**Pn**	**08 50 39.4**	**+0.1**
SCRK	**Sand Creek**	**8.40**	**108**	Pn	**Pn**	**08 50 47.0**	**+1.4**
INK	**Inuvik**	**10.75**	**74**	Pn	**Pn**	**08 51 16.6**	**-1.0**
	0.2nm,0.3s,baz=287,slow=7.0,SNR=7.6						
INK				Sn	**Sn**	**08 53 12.3**	**-5.4**
	0.2nm,0.3s,baz=131,slow=21,SNR=6.9						
YKA	**Yellowknife Ar**	**20.30**	**82**	P	**P**	**08 53 21.7**	**+2.3**
	0.4nm,0.6s,baz=303,slow=10.0,SNR=4.4						
MJAR	**Matsushiro Arr**	**45.26**	**328**	LR	LR	09 16 32.2	
	comp=Z,29nm,20.5s,baz=35,slow=37						
TXAR	**Lajitas Array**	**51.42**	**107**	P	**P**	**08 57 50.7**	**+1.9**
	0.2nm,0.6s,baz=349,slow=8.3,SNR=2.9						

*IDC **07** 08:59:10.2±1.6,67.96N×162.70W,h0km,mb3.5/8, mb1 3.9/10,mb1mx3.6/52,mbtmpg3.7/10,ML4.0/2,Error ellipse: s-maj=42.5km s-min=17.8km az=37.0*

*AEIC **07** 08:59:11±1.5,67.75N±0.01×162.3W±0.2,h21km±5km, ML3.5,Error ellipse: s-maj=9.0km s-min=1.5km az=93.0*

*NEIC **07** 08:59:12.4±1.5,67.74N±0.04×162.42W±0.10,h22km±5km, Error ellipse: s-maj=6.6km s-min=5.2km az=212.0*

ISC 07 08:59:11.2±0.7,67.77N±0.05×162.36W±0.06,h10km,n60, σ1§05/65,mb3.5/7,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.36**	**324**	Pg	**Pb**	**08 59 19.5**	**-0.1**
RDOG				Sg	**Sb**	**08 59 26.5**	**+1.2**
ANM	**Nome**	**3.44**	**202**	Pn	**Pn**	**09 00 04.9**	**+0.1**
ANM				Sn	**Sn**	**09 00 44.9**	**-0.7**
IM03		**3.84**	**114**		**Pn**	**09 00 09.4**	**-0.8**
COLD	**Coldfoot**	**4.70**	**91**	Pn	**Pn**	**09 00 23.3**	**+1.2**
TOLK	**Toolik Lake Re**	**4.84**	**74**	Pn	**Pn**	**09 00 25.7**	**+1.6**
TOLK				Sn	**Sn**	**09 01 20.0**	**-0.2**
PS04	**TAPS Pump Stn4**	**4.91**	**76**		**Pn**	**09 00 25.5**	**+0.4**
TTA	**Tatalina**	**5.53**	**148**	Pn	**Pn**	**09 00 33.1**	**-0.5**
PS01	**TAPS Pump Stn**	**5.53**	**57**		**Pn**	**09 00 33.7**	**+0.2**
TT01	**Tatalina**	**5.55**	**149**		**Pn**	**09 00 33.1**	**-0.6**
CHUM	**Lake Minchumin**	**5.67**	**129**		**Pn**	**09 00 35.5**	**+0.1**
BPAW	**Bear Paw Mtn.**	**5.93**	**123**	Pn	**Pn**	**09 00 39.0**	**+0.1**
KTH	**Kantishna Hill**	**6.34**	**126**		**Pn**	**09 00 44.3**	**-0.3**
MDM	**Murphy Dome**	**6.34**	**110**		**Pn**	**09 00 45.2**	**+0.7**
PPLA	**Purkeypile**	**6.47**	**134**	Pn	**Pn**	**09 00 46.5**	**-0.1**
TCOL	**CIGO, UAF Yank**	**6.51**	**110**		**Pn**	**09 00 47.5**	**+0.5**
COLA	**College**	**6.52**	**110**		**Pn**	**09 00 47.1**	**+0.1**
POKR	**Poker Plat Res**	**6.54**	**107**		**Pn**	**09 00 46.8**	**-0.6**
TRF	**Thorofare Moun**	**6.61**	**125**	Pn	**Pn**	**09 00 48.8**	**+0.4**
CCB	**Clear Creek Bu**	**6.66**	**111**	Pn	**Pn**	**09 00 49.0**	**+0.1**
WRH	**Wood River Hil**	**6.66**	**113**		**Pn**	**09 00 49.1**	**+0.1**
FYU	**Fort Yukon**	**6.77**	**92**	Pn	**Pn**	**09 00 50.3**	**-0.1**
BM03	**Burnt Mountain**	**6.79**	**85**		**Pn**	**09 00 50.3**	**-0.5**
MCK	**McKinley**	**6.84**	**120**	Pn	**Pn**	**09 00 51.8**	**+0.2**
IL31		**6.92**	**108**	Pn	**Pn**	**09 00 52.5**	**0.0**
ILAR	**Eielson Array**	**6.92**	**108**	Pn	**Pn**	**09 00 52.1**	**-0.5**
	3.9nm,0.3s,baz=299,slow=13,SNR=112						
ILAR				Sn	**Sn**	**09 02 08.7**	**-2.5**
	0.9nm,0.3s,baz=306,slow=24,SNR=7.2						
PRP	**Porcupine Dome**	**7.05**	**101**		**Pn**	**09 00 54.5**	**0.0**
PS08	**TAPS Pump Stn8**	**7.07**	**110**		**Pn**	**09 00 54.5**	**-0.1**
RND	**Reindeer**	**7.09**	**122**	Pn	**Pn**	**09 00 54.8**	**-0.2**
HDA	**Harding Lake**	**7.10**	**111**		**Pn**	**09 00 55.6**	**+0.6**
SVW2	**Sparrevohn**	**7.30**	**153**		**Pn**	**09 00 57.9**	**+0.1**
WAT2	**Susitna Watana**	**7.50**	**123**		**Pn**	**09 01 00.6**	**+0.1**
WAT1	**Susitna Watana**	**7.60**	**124**		**Pn**	**09 01 01.5**	**-0.4**
STLK	**Strandline Lak**	**7.74**	**139**		**Pn**	**09 01 03.1**	**-0.6**
DHY	**Denali Highway**	**7.81**	**120**		**Pn**	**09 01 04.8**	**0.0**
WAT6	**Susitna Watana**	**8.04**	**123**		**Pn**	**09 01 07.9**	**-0.2**
RIDG	**Independent Ri**	**8.24**	**111**		**Pn**	**09 01 10.8**	**+0.1**
GHO	**Glory Hole Cre**	**8.30**	**130**	Pn	**Pn**	**09 01 12.0**	**+0.5**
PMR	**Palmer**	**8.38**	**131**	Pn	**Pn**	**09 01 13.4**	**+0.9**
SCRK	**Sand Creek**	**8.41**	**108**	Pn	**Pn**	**09 01 13.1**	**0.0**
RSO	**Redoubt South**	**8.44**	**146**	Pn	**Pn**	**09 01 14.5**	**+0.9**
SML	**Sawmill**	**8.44**	**128**	Pn	**Pn**	**09 01 13.3**	**-0.1**
DOT	**Dot Lake**	**8.58**	**110**		**Pn**	**09 01 15.2**	**-0.1**
SCM	**Sheep Creek Mo**	**8.73**	**126**	Pn	**Pn**	**09 01 18.6**	**+1.2**
EGAK	**Eagle**	**9.04**	**99**	Pn	**Pn**	**09 01 21.4**	**0.0**
MENT	**Mentasta**	**9.14**	**113**		**Pn**	**09 01 24.1**	**+1.1**
BC03		**9.75**	**109**		**Pn**	**09 01 29.1**	**-2.2**
FID	**Port Fidalgo**	**9.83**	**128**	Pn	**Pn**	**09 01 33.9**	**+1.5**
DAWY	**Dawson**	**10.06**	**101**	Pn	**Pn**	**09 01 37.4**	**+1.9**
EPYK	**Eagle Plains**	**10.07**	**86**	Pn	**Pn**	**09 01 36.1**	**+0.4**
INK	**Inuvik**	**10.76**	**74**	Pn	**Pn**	**09 01 43.6**	**-1.4**
	0.4nm,0.3s,baz=286,slow=6.9,SNR=19						
INK					Sn	09 03 37.1	-8.2
	0.7nm,0.3s,baz=136,slow=20,SNR=7.2						
INK	**Inuvik**	**10.76**	**74**	Pn	**Pn**	**09 01 43.4**	**-1.6**
C36M	**Paulatuk**	**13.93**	**66**	Pn	**Pn**	**09 02 26.1**	**-2.3**
YKA	**Yellowknife Ar**	**20.31**	**82**	P	**P**	**09 03 48.2**	**+1.4**
	1.2nm,0.6s,baz=306,slow=9.8,SNR=9.0						
RES	**Resolute Bay**	**21.52**	**42**	P	**P**	**09 03 59.8**	**-0.1**
	4.1nm,1.1s,baz=290,slow=12,SNR=1.2						
RES				S	**S**	**09 07 54.7**	**-3.2**
	2.7nm,0.8s,baz=329,slow=18,SNR=1.3						
PDAR	**Pinedale Array**	**37.34**	**105**	P	**P**	**09 06 25.9**	**+2.3**
	0.3nm,0.6s,baz=355,slow=9.1,SNR=2.3						
NVAR	**Mina Array Bea**	**38.07**	**118**	P	**P**	**09 06 31.9**	**+2.0**
	0.8nm,0.8s,baz=319,slow=6.9,SNR=7.1						
ARCES	**ARCESS Array B**	**42.85**	**356**	P	**P**	**09 07 07.3**	**-1.5**
	1.3nm,0.8s,baz=4.8,slow=12,SNR=1.9						
FINES	**FINESS Array B**	**50.94**	**355**	P	**P**	**09 08 11.3**	**-0.7**
	0.2nm,0.5s,baz=1.9,slow=8.3,SNR=4.5						
TXAR	**Lajitas Array**	**51.43**	**107**	P	**P**	**09 08 17.4**	**+1.1**
	1.0nm,0.8s,baz=337,slow=6.3,SNR=11						
MKAR	**Makanchi Array**	**55.95**	**311**	P	**P**	**09 08 48.0**	**-1.0**
	0.3nm,0.7s,baz=35,slow=5.3,SNR=2.2						

*IDC **07** 09:04:03.6±0.8,14.73N×54.62E,h0km,mb3.8/19, mb1 4.0/20,mb1mx3.8/55,mbtmpg3.8/20,ML3.5/1,MS3.4/15, Ms1 3.4/15,ms1mx3.2/44,Error ellipse: s-maj=20.2km s-min=18.5km az=8.0*

*NEIC **07** 09:04:04.6±1.1,14.65N±0.06×54.6E±0.1,h10km±1km, mb4.3/21,Error ellipse: s-maj=17.8km s-min=9.7km az=283.0*

*OMAN **07** 09:04:06.6±0.

comp=Z,1.7nm,0.6s,baz=132,slow=10,SNR=11
FINES LR LR 09 38 06.6
comp=Z,60nm,18.8s,baz=176,slow=40
TORD Torodi Ar. Bea 51.24 275 P **P 09 13 10.4 +0.5**
comp=Z,0.8nm,0.9s,baz=82,slow=10,SNR=3.1
XAN Xi'an 52.42 58 P **P 09 13 19.4 +0.9**
XAN pP pwP 09 13 24.4 +0.5
XAN pmax pmax
comp=Z,11nm,0.9s
SONM Songino Array 53.79 41 P **P 09 13 29.3 +0.8**
comp=Z,0.5nm,0.5s,baz=239,slow=4.9,SNR=4.1
HHC Hu-ho-hao-te 55.57 50 P **P 09 13 42.1 +0.6**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,32nm,6.6s
NOA NORSAR Array B 55.64 336 P **P 09 13 41.1 -0.5**
comp=Z,0.1nm,0.3s,baz=140,slow=12,SNR=0.9
NOA LR LR 09 40 46.1
comp=Z,34nm,20.1s,baz=60,slow=40
ESDC Sonseca Array 56.54 308 P **P 09 13 48.6 +0.2**
comp=Z,1.5nm,1.1s,baz=84,slow=7.2,SNR=3.4
ARCES ARCESS Array B 57.63 348 P **P 09 13 55.1 -0.4**
comp=Z,2.9nm,0.9s,baz=140,slow=4.7,SNR=5.9
ARCES LR LR 09 42 33.0
comp=Z,31nm,18.0s,baz=136,slow=40
NRIK Noril'sk 58.28 13 LR LR 09 41 47.7
comp=Z,52nm,19.8s,baz=210,slow=39
KSRS Korea Array 68.00 55 P **P 09 15 05.3 +0.1**
comp=Z,0.7nm,0.5s,baz=268,slow=5.7,SNR=4.3
TIXI Tiksi 71.08 19 P **P 09 15 23.0 -0.6**
comp=Z,0.4nm,0.3s,baz=283,slow=3.2,SNR=1.6
TIXI LR LR 09 51 41.8
comp=Z,37nm,19.6s,baz=198,slow=40
TIXI Tiksi 71.08 19 IAmb IAmb 09 15 29.2
comp=Z,1.2nm,0.7s
H01W3 Cape Leeuwin H 75.05 133 T T 10 37 12.6
baz=300,slow=75,SNR=77
H01W2 Cape Leeuwin H 75.06 133 T T 10 37 15.3
baz=300,slow=75,SNR=68
H01W1 Cape Leeuwin H 75.07 133 T T 10 37 14.1
baz=300,slow=75,SNR=87
MA2 Magadan 80.45 31 LR LR 09 53 35.4
comp=Z,20nm,19.3s,baz=119,slow=37
MAW Mawson 82.43 177 LR LR 09 45 45.6
comp=Z,48nm,19.6s,baz=58,slow=30
FORT Forrest 83.85 124 P **P 09 16 33.9 -1.8**
WRA Warramunga Arr 85.67 112 P **P 09 16 43.7 -1.5**
comp=Z,1.5nm,0.8s,baz=302,slow=3.7,SNR=5.5
WRAB Tennant Creek 85.68 112 P **P 09 16 43.4 -1.9**
WB2 Warramunga Arr 85.69 112 P **P 09 16 44.0 -1.2**
ASAR Alice Springs 86.41 115 P **P 09 16 46.9 -1.9**
comp=Z,1.5nm,0.7s,baz=290,slow=4.1,SNR=6.4
RES Resolute Bay 88.64 352 P **P 09 16 58.0 -0.5**
NVAR Mina Array Bea 126.60 353 PKP **PKiKP 09 23 10.6 +0.3**
comp=Z,1.4nm,0.9s,baz=260,slow=0.4,SNR=7.2
TXAR Lajitas Array 131.30 334 PKP **PKPdf 09 23 19.6 +0.6**
comp=Z,0.2nm,0.8s,baz=170,slow=0.5,SNR=2.1

*IDC **07** 09:31:39.8±3.9, 68°.28N× 162°.79W, h0km, mb3.1/3, mb1 3.7/4, mb1mx3.3/35, mbtmp3.3/4, ML3.9/2, Error ellipse: s-maj=59.1km s-min=47.8km az=161.0*
*NEIC **07** 09:31:42.7±1.1, 67°.78N±0°.05× 162°.7W±0°.3, h30km±7km, Error ellipse: s-maj=15.9km s-min=6.1km az=102.0*
*AEIC **07** 09:31:42±1.3, 67°.75N±0°.04× 162°.6W±0°.3, h24km±7km, ML3.4, Error ellipse: s-maj=14.6km s-min=5.4km az=98.0*
ISC 07 09:31:41.9±1.1, 67°.87N±0°.07× 162°.30W±0°.07, h10km, n50, σ1§16/56, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**0.29**	**309**		**Pn**	**09 31 49.7**	**-2.6**
RDOG					**Sb**	**09 31 54.1**	**-0.1**
IM03		**3.86**	**115**		**Pn**	**09 32 41.2**	**+0.1**
TOLK	**Toolik Lake Re**	**4.80**	**75**		**Pn**	**09 32 53.1**	**-1.0**
TTA	**Tatalina**	**5.61**	**149**		**Pn**	**09 33 04.2**	**-1.1**
TT01	**Tatalina**	**5.63**	**149**		**Pn**	**09 33 04.5**	**-1.0**
CHUM	**Lake Minchumin**	**5.72**	**130**		**Pn**	**09 33 06.8**	**0.0**
BPAW	**Bear Paw Mtn.**	**5.97**	**124**		**Pn**	**09 33 10.2**	**0.0**
MDM	**Murphy Dome**	**6.35**	**111**		**Pn**	**09 33 16.1**	**+0.7**
KTH	**Kantishna Hill**	**6.38**	**127**		**Pn**	**09 33 15.6**	**-0.3**
TCOL	**CIGO, UAF Yank**	**6.53**	**111**		**Pn**	**09 33 18.1**	**+0.2**
PPLA	**Purkeypile**	**6.53**	**135**		**Pn**	**09 33 18.1**	**0.0**
COLA	**College**	**6.54**	**111**		**Pn**	**09 33 18.2**	**+0.3**
COLA	**College**	**6.54**	**111**		**Pn**	**09 33 18.5**	**+0.6**
POKR	**Poker Plat Res**	**6.55**	**108**		**Pn**	**09 33 18.7**	**+0.5**
TRF	**Thorofare Moun**	**6.65**	**126**		**Pn**	**09 33 19.5**	**-0.2**
CCB	**Clear Creek Bu**	**6.68**	**112**		**Pn**	**09 33 19.6**	**-0.2**
WRH	**Wood River Hil**	**6.69**	**114**		**Pn**	**09 33 19.9**	**-0.1**
FYU	**Fort Yukon**	**6.75**	**93**		**Pn**	**09 33 21.4**	**+0.5**
BM03	**Burnt Mountain**	**6.76**	**86**		**Pn**	**09 33 22.0**	**+1.0**
MCK	**McKinley**	**6.88**	**121**		**Pn**	**09 33 21.7**	**-0.9**
IL31		**6.94**	**109**		**Pn**	**09 33 23.2**	**+0.1**
ILAR	**Eielson Array**	**6.94**	**109**	Pn	**Pn**	**09 33 24.0**	**+0.6**
	4.7nm,0.3s,baz=303,slow=14,SNR=125						
ILAR				Sn	**Sn**	**09 34 40.2**	**-2.0**
	0.6nm,0.3s,baz=306,slow=23,SNR=5.1						
PRP	**Porcupine Dome**	**7.05**	**102**		**Pn**	**09 33 25.0**	**-0.2**
PRP				Sn	**Sn**	**09 34 43.0**	**-2.4**
PS08	**TAPS Pump Stn8**	**7.09**	**111**		**Pn**	**09 33 25.8**	**+0.3**
HDA	**Harding Lake**	**7.12**	**112**		**Pn**	**09 33 26.4**	**+0.4**
RND	**Reindeer**	**7.13**	**123**		**Pn**	**09 33 26.5**	**+0.3**
SVW2	**Sparrevohn**	**7.39**	**154**		**Pn**	**09 33 29.0**	**-0.6**
SVW2				Sn	**Sn**	**09 34 50.3**	**-3.1**
WAT2	**Susitna Watana**	**7.54**	**124**		**Pn**	**09 33 31.7**	**0.0**
WAT1	**Susitna Watana**	**7.64**	**125**		**Pn**	**09 33 33.2**	**+0.1**
STLK	**Strandline Lak**	**7.80**	**140**		**Pn**	**09 33 34.9**	**-0.5**
DHY	**Denali Highway**	**7.84**	**121**		**Pn**	**09 33 36.7**	**+0.8**
DHY					**Sn**	**09 35 05.8**	**+1.1**
WAT6	**Susitna Watana**	**8.08**	**124**		**Pn**	**09 33 39.3**	**0.0**
RIDG	**Independent Ri**	**8.26**	**112**		**Pn**	**09 33 42.2**	**+0.5**
GHO	**Glory Hole Cre**	**8.35**	**131**		**Pn**	**09 33 43.8**	**+1.0**
SCRK	**Sand Creek**	**8.43**	**109**		**Pn**	**09 33 44.9**	**+1.0**
PMR	**Palmer**	**8.43**	**132**	Pn	**Pn**	**09 33 45.7**	**+1.8**
SML	**Sawmill**	**8.49**	**129**	Pn	**Pn**	**09 33 44.8**	**0.0**
DOT	**Dot Lake**	**8.60**	**111**		**Pn**	**09 33 46.1**	**-0.1**
SCM	**Sheep Creek Mo**	**8.77**	**126**	Pn	**Pn**	**09 33 48.9**	**+0.2**
EGAK	**Eagle**	**9.03**	**100**	Pn	**Pn**	**09 33 52.2**	**+0.1**
MENT	**Mentasta**	**9.17**	**114**	Pn	**Pn**	**09 33 54.1**	**+0.1**
BC03		**9.77**	**110**		**Pn**	**09 34 01.9**	**-0.2**
EPYK	**Eagle Plains**	**10.04**	**87**	Pn	**Pn**	**09 34 07.4**	**+1.4**
DAWY	**Dawson**	**10.06**	**101**		**Pn**	**09 34 07.7**	**+1.5**
GLB	**Gilahina Butte**	**10.18**	**120**	Pn	**Pn**	**09 34 07.3**	**-0.6**
INK	**Inuvik**	**10.71**	**74**	Pn	**Pn**	**09 34 13.7**	**-1.4**
	0.3nm,0.3s,baz=282,slow=7.0,SNR=21						
INK				Sn	**Sn**	**09 36 10.7**	**-4.1**
	0.3nm,0.3s,baz=89,slow=18,SNR=3.0						
INK	**Inuvik**	**10.71**	**74**		**Pn**	**09 34 14.6**	**-0.5**
YKA	**Yellowknife Ar**	**20.27**	**82**	P	**P**	**09 36 17.1**	**0.0**
	0.4nm,0.6s,baz=304,slow=10.0,SNR=4.5						
NVAR	**Mina Array Bea**	**38.10**	**118**	P	**P**	**09 39 02.4**	**+1.6**
	0.2nm,0.5s,baz=346,slow=6.5,SNR=2.2						
TXAR	**Lajitas Array**	**51.45**	**108**	P	**P**	**09 40 49.0**	**+2.0**
	0.2nm,0.8s,baz=339,slow=6.7,SNR=3.9						

*IDC **07** 09:45:51.7±3.8, 68°.28N× 162°.60W, h0km, mb3.2/3, mb1 3.9/5, mb1mx3.4/36, mbtmp3.5/5, ML3.5/2, Error ellipse: s-maj=57.2km s-min=46.6km az=159.0*
*NEIC **07** 09:45:54.6±2.0, 67°.74N±0°.04× 162°.6W±0°.1, h31km±7km, Error ellipse: s-maj=7.0km s-min=5.6km az=114.0*
*AEIC **07** 09:45:54±2.5, 67°.71N±0°.03× 162°.4W±0°.2, h21km±6km, ML3.1, Error ellipse: s-maj=9.8km s-min=3.6km az=101.0*
ISC 07 09:45:53.5±0.9, 67°.71N±0°.06× 162°.41W±0°.06, h10km, n36, σ1§22/41, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**0.40**	**332**		**Pb**	**09 46 02.4**	**-0.2**
RDOG				Sg	**Sb**	**09 46 07.7**	**-1.2**
ANM	**Nome**	**3.38**	**202**		**Pn**	**09 46 45.0**	**-1.1**
ANM				Sn	**Sn**	**09 47 25.0**	**-1.2**
IM03		**3.83**	**113**		**Pn**	**09 46 52.2**	**-0.1**
IM03					**Sn**	**09 47 36.7**	**-0.7**
TOLK	**Toolik Lake Re**	**4.88**	**73**		**Pn**	**09 47 07.7**	**+0.8**
TOLK					**Pn**	**09 47 08.9**	**+2.0**
TOLK					**Sn**	**09 48 02.2**	**-1.1**
TTA	**Tatalina**	**5.49**	**148**		**Pn**	**09 47 15.1**	**-0.1**
TT01	**Tatalina**	**5.51**	**148**		**Pn**	**09 47 16.3**	**+0.8**
BPAW	**Bear Paw Mtn.**	**5.91**	**122**		**Pn**	**09 47 22.0**	**+1.1**
KTH	**Kantishna Hill**	**6.32**	**126**	Pn	**Pn**	**09 47 25.3**	**-1.3**
MDM	**Murphy Dome**	**6.33**	**109**		**Pn**	**09 47 27.8**	**+1.0**
PPLA	**Purkeypile**	**6.45**	**134**	Pn	**Pn**	**09 47 29.4**	**+1.0**
TCOL	**CIGO, UAF Yank**	**6.51**	**109**		**Pn**	**09 47 29.9**	**+0.7**
COLA	**College**	**6.52**	**109**		**Pn**	**09 47 30.1**	**+0.9**
COLA	**College**	**6.52**	**109**	Pn	**Pn**	**09 47 30.0**	**+0.8**
TRF	**Thorofare Moun**	**6.59**	**125**		**Pn**	**09 47 28.6**	**-1.8**
WRH	**Wood River Hil**	**6.66**	**112**		**Pn**	**09 47 32.1**	**+1.0**
CCB	**Clear Creek Bu**	**6.66**	**111**		**Pn**	**09 47 31.8**	**+0.6**
FYU	**Fort Yukon**	**6.79**	**92**		**Pn**	**09 47 33.6**	**+0.7**
BM03	**Burnt Mountain**	**6.81**	**84**		**Pn**	**09 47 33.9**	**+0.4**
MCK	**McKinley**	**6.83**	**119**	Pn	**Pn**	**09 47 33.0**	**-0.6**
IL31		**6.92**	**108**		**Pn**	**09 47 34.6**	**-0.1**
ILAR	**Eielson Array**	**6.92**	**108**	Pn	**Pn**	**09 47 35.1**	**+0.3**
	1.5nm,0.3s,baz=303,slow=14,SNR=118						
ILAR				Sn	**Sn**	**09 48 50.5**	**-3.0**
	0.5nm,0.3s,baz=305,slow=26,SNR=7.3						
PRP	**Porcupine Dome**	**7.06**	**100**	Pn	**Pn**	**09 47 35.9**	**-1.0**
RND	**Reindeer**	**7.08**	**121**		**Pn**	**09 47 36.7**	**-0.3**
HDA	**Harding Lake**	**7.10**	**110**		**Pn**	**09 47 37.1**	**-0.1**
SVW2	**Sparrevohn**	**7.26**	**153**		**Pn**	**09 47 41.0**	**+1.5**
WAT2	**Susitna Watana**	**7.48**	**123**		**Pn**	**09 47 43.4**	**+0.8**
DHY	**Denali Highway**	**7.79**	**119**		**Pn**	**09 47 48.2**	**+1.3**
SCRK	**Sand Creek**	**8.41**	**108**		**Pn**	**09 47 54.8**	**-0.5**
DOT	**Dot Lake**	**8.57**	**110**		**Pn**	**09 47 57.1**	**-0.4**
GLI	**Glacier Island**	**9.52**	**129**	Pn	Pn	09 48 06.0	-4.4
EPYK	**Eagle Plains**	**10.09**	**86**		**Pn**	**09 48 18.7**	**+0.4**
INK	**Inuvik**	**10.80**	**73**	Pn	**Pn**	**09 48 25.6**	**-2.2**
	0.1nm,0.3s,baz=292,slow=9.4,SNR=12						
INK				Sn	Sn	09 50 18.7	-10
	0.2nm,0.3s,baz=128,slow=17,SNR=4.3						
INK	**Inuvik**	**10.80**	**73**		**Pn**	**09 48 25.8**	**-2.0**
YKA	**Yellowknife Ar**	**20.34**	**82**	P	**P**	**09 50 28.1**	**-1.3**
	0.6nm,0.6s,baz=301,slow=10,SNR=4.6						
NVAR	**Mina Array Bea**	**38.06**	**118**	P	**P**	**09 53 14.4**	**+2.4**
	0.2nm,0.5s,baz=340,slow=4.2,SNR=2.2						
TXAR	**Lajitas Array**	**51.43**	**107**	P	**P**	**09 54 59.6**	**+1.1**
	0.4nm,0.7s,baz=326,slow=6.0,SNR=6.0						

*SOME **07** 10:05:32.1, 42°.85N× 71°.15E, h0km*
*KRNET **07** 10:05:32.3±0.1, 43°.08N× 70°.91E, mb2.7*
*NNC **07** 10:05:34.6±0.4, 42°.93N× 71°.06E, h0km, mb2.7, mpv2.4, Error ellipse: s-maj=3.5km s-min=1.8km az=22.0, Suspected Mining explosion.*
ISC 07 10:05:34.1±0.8, 42°.95N±0°.03× 70°.97E±0°.02, h0km, n30, σ1§08/56, 23C-12D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK06	**Karatay Array**	**0.35**	**293**	⇑P	**Pb**	**10 05 43.2**	**-0.1**
KK06				⇑S	**Sb**	**10 05 48.9**	**-0.6**
KK05	**Karatay Array**	**0.36**	**297**	⇓P	**Pb**	**10 05 43.3**	**-0.2**
KK05				⇑S	**Sb**	**10 05 49.3**	**-0.5**
KK02	**Karatay Array**	**0.37**	**294**	⇑P	**Pb**	**10 05 43.4**	**-0.1**
KK02				⇑S	**Sb**	**10 05 49.4**	**-0.5**
KK31	**Karatay Array**	**0.37**	**294**	⇑P	**Pb**	**10 05 43.4**	**-0.1**
	0.5nm,0.2s						
KK31				S	**Sb**	**10 05 49.5**	**-0.3**
	4.8nm,0.2s,baz=120,slow=31,SNR=29						
KK07	**Karatay Array**	**0.37**	**292**	⇑P	**Pb**	**10 05 43.5**	**-0.1**
KK07				⇑S	**Sb**	**10 05 49.4**	**-0.5**
KK01	**Karatay Array**	**0.37**	**294**	⇓P	**Pb**	**10 05 43.5**	**-0.1**
KK01				⇓S	**Sb**	**10 05 49.3**	**-0.7**
KK03	**Karatay Array**	**0.37**	**294**	⇑P	**Pb**	**10 05 43.5**	**-0.2**
KK03				⇓S	**Sb**	**10 05 49.4**	**-0.6**
KK04	**Karatay Array**	**0.37**	**295**	⇓P	**Pb**	**10 05 43.5**	**-0.2**
KK04				⇑S	**Sb**	**10 05 49.4**	**-0.7**
KK09	**Karatay Array**	**0.38**	**296**	⇑P	**Pb**	**10 05 43.6**	**-0.2**
KK09				⇑S	**Sb**	**10 05 49.9**	**-0.4**
KK08	**Karatay Array**	**0.39**	**293**	⇑P	**Pb**	**10 05 43.7**	**-0.1**
KK08				⇑S	**Sb**	**10 05 49.8**	**-0.5**
BRLS	**Borolday**	**0.83**	**276**	*e*P	**Pn**	**10 05 53.2**	**+0.1**
	4.1nm,0.1s						
BRLS				*e*S	**Sn**	**10 06 08.2**	**+2.1**
	9.8nm,0.3s						
BRLS	**Borolday**	**0.83**	**276**	P	**Pn**	**10 05 52.6**	**-0.5**
	2.4nm,0.7s						
BRLS				S	**Sn**	**10 06 07.5**	**+1.3**
	11nm,0.3s						
IUG	**Iuzhnay**	**1.06**	**221**	*e*P	**Pg**	**10 05 54.1**	**-0.4**
	0.6nm,0.1s						
IUG				*e*S	**Sb**	**10 06 09.7**	**-0.3**
	32nm,0.3s						
IUG	**Iuzhnay**	**1.06**	**221**	P	**Pb**	**10 05 55.4**	**0.0**
	0.8nm,0.3s						
IUG				S	**Sn**	**10 06 12.1**	**+0.2**
	32nm,0.3s						
ARK	**Arkit**	**1.37**	**147**	⇓*i*P	**Pb**	**10 06 01.2**	**+0.5**
	baz=48						
ARK				⇓*i*S	**Sn**	**10 06 22.1**	**+2.6**
	baz=48						
MRKS	**Merke**	**1.67**	**96**	*e*P	**Pg**	**10 06 05.6**	**-0.5**
	2.6nm,0.2s						
MRKS				*e*S	**Sg**	**10 06 28.6**	**+0.8**
	5.2nm,0.3s						
EKS2	**Erkin-Say**	**2.09**	**97**	⇑*e*P	**Pb**	**10 06 11.6**	**-1.3**
	baz=0.0						
EKS2				⇑*i*S	**Sg**	**10 06 40.2**	**-0.9**
	baz=0.0						
AML	**Almayashu**	**2.17**	**111**	⇓*i*P	**Pb**	**10 06 13.5**	**-1.0**
	baz=14						
AML				⇓*i*S	**Sg**	**10 06 43.3**	**-0.6**
	baz=14						
ARSB	**Arslanbob**	**2.21**	**137**	⇓*i*P	**Pb**	**10 06 14.2**	**-0.8**
	baz=38						
ARSB				⇓*i*S	**Sg**	**10 06 44.9**	**-0.2**
	baz=38						
USP	**Ospenovka**	**2.60**	**82**	⇑*i*P	**Pn**	**10 06 18.2**	**+0.7**
	baz=85						
USP				⇑*i*S	**Sb**	**10 06 52.0**	**-2.2**
	baz=85						
AAK	**Ala-Archa**	**2.61**	**96**	Pg	**Pb**	**10 06 21.1**	**-0.8**
	0.9nm,0.3s						
AAK				Lg	Lg	10 06 56.3	
	5.8nm,0.6s						
ARLS	**Aral**	**2.71**	**113**	⇑*e*P	**Pb**	**10 06 20.7**	**-2.9**
	baz=14						
ARLS				⇑*i*S	**Sb**	**10 06 56.1**	**-1.4**
	baz=14						
UCH	**Uchtor**	**2.71**	**104**	⇑*i*P	**Pn**	**10 06 20.8**	**+1.4**
	baz=7.0						
UCH				⇑*i*S	**Sb**	**10 06 56.2**	**-1.6**
	baz=7.0						
BTLS	**Baital**	**3.05**	**46**	*e*P	**Pb**	**10 06 29.5**	**+0.4**
	0.4nm,0.1s						
BTLS				*e*S	**Sg**	**10 07 10.2**	**-1.7**
	1.4nm,0.5s						
TKM2	**Tokmak 2**	**3.40**	**89**	⇓Pg	**Pb**	**10 06 34.8**	**-0.5**
	1.2nm,0.6s						
TKM2				⇑Lg	Lg	10 07 21.8	
	2.0nm,0.8s						
KRBS	**Karabastau**	**3.51**	**76**	*e*P	**Pb**	**10 06 36.0**	**-1.1**
	0.8nm,0.4s						
KRBS				*e*S	**Sb**	**10 07 22.1**	**+1.7**
	2.1nm,0.6s						
KRBS	**Karabastau**	**3.51**	**76**	Pg	**Pb**	**10 06 36.3**	**-0.9**
	0.8nm,0.4s						
KRBS				Lg	Lg	10 07 22.1	
	2.1nm,0.6s						
DGS	**Degeres**	**3.53**	**84**	*e*P	**Pb**	**10 06 36.5**	**-0.9**
	0.3nm,0.7s						
DGS				*e*S	**Sb**	**10 07 23.1**	**+2.3**
	2.4nm,0.7s						
KST	**Kastek**	**3.66**	**87**	*e*P	**Pb**	**10 06 39.4**	**-0.4**
	1.2nm,0.2s						
KST				*e*S	**Sb**	**10 07 27.0**	**+2.2**
	2.0nm,0.4s						
KST	**Kastek**	**3.66**	**87**	Pg	**Pb**	**10 06 39.6**	**-0.2**
	1.8nm,0.5s						
KST				Lg	Lg	10 07 27.8	
	1.1nm,0.5s						

*IDC **07** 10:19:16.3±2.9, 36°.19N× 81°.94E, h0km, mb3.4/2, mb1 3.5/6, mb1mx3.3/43, mbtmp3.5/6, ML3.4/3, MS2.5/1, Ms1 2.5/1, ms1mx2.2/30, Error ellipse: s-maj=37.1km s-min=30.7km az=5.0*
*BJI **07** 10:19:16.1±0.0, 35°.95N× 82°.08E, h7km, ML3.7/7*
*NNC **07** 10:19:23.7±11.0, 36°.78N× 85°.34E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=91.6km s-min=86.1km az=176.0*
ISC 07 10:19:19.6±1.7, 36°.4N±0°.1× 81°.8E±0°.1, h10km, n13, σ2§49/17, 5C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PDGK	**Podgornoye**	**7.20**	**346**	⇑P	**Pb**	**10 21 20.5**	**-4.3**
	2.8nm,0.6s						
PDGK				⇑S	**Sb**	**10 22 53.1**	**+2.4**
	26nm,1.1s						
TKM2	**Tokmak 2**	**8.13**	**326**	⇓P	**Pb**	**10 21 43.6**	**+2.9**
	1.3nm,0.5s						
TKM2				⇓S	**Sg**	**10 23 35.7**	**-4.8**
	6.6nm,0.8s						
AAK	**Ala-Archa**	**8.46**	**320**	Pg	Pb	10 21 52.1	+5.9
	0.3nm,0.3s,baz=142,slow=12,SNR=1.7						
AAK				Lg	Lg	10 23 51.6	
	0.2nm,0.3s,baz=255,slow=20,SNR=4.3						
AAK	**Ala-Archa**	**8.46**	**320**	P	Pb	10 21 53.2	+7.0
	3.1nm,0.7s						
AAK				⇑S	**Sg**	**10 23 51.2**	**+0.2**
	16nm,1.1s						
WMQ	**Urumqi**	**8.71**	**29**	*e*P	**Pn**	**10 21 26.7**	**+0.9**
WMQ				smax	smax		
	comp=N,20nm,0.9s						
WMQ				smax	smax		
	comp=E,30nm,0.9s						
MK31	**Makanchi Array**	**10.44**	**2**	⇓P	**Pn**	**10 21 49.8**	**+0.4**
	1.4nm,0.4s,baz=180,slow=13,SNR=42						
MK31				⇑S	**Sn**	**10 23 49.1**	**+2.6**
	0.5nm,0.5s,baz=180,slow=22						
MKAR	**Makanchi Array**	**10.44**	**2**	Pn	**Pn**	**10 21 50.4**	**+1.0**
	1.3nm,0.3s,baz=178,slow=12,SNR=50						
MKAR				Sn	**Sn**	**10 23 47.0**	**+0.6**
	0.2nm,0.3s,baz=183,slow=23,SNR=2.6						
MAKZ	**Makanchi**	**10.45**	**1**	⇓P	**Pn**	**10 21 52.6**	**+3.0**
	2.0nm,0.5s						
MAKZ				⇑S	**Sn**	**10 23 48.0**	**+1.4**
	1.7nm,0.7s						
KURBB	**Kurchatov Array**	**14.46**	**352**	Pn	**Pn**	**10 22 42.4**	**-2.0**
	baz=174,slow=12,SNR=5.6						
ZALV	**Zalesovo Beam**	**17.72**	**6**	P	**Pn**	**10 23 24.3**	**-2.1**
	0.1nm,0.3s,baz=186,slow=13,SNR=5.1						
ZALV				LR	LR	10 30 38.4	
	comp=Z,15nm,20.0s,baz=88,slow=38						
BVAR	**Borovoye Array**	**18.51**	**338**	P	**Pn**	**10 23 37.0**	**+1.0**
	0.1nm,0.3s,baz=148,slow=11,SNR=2.2						
SONM	**Songino Array**	**21.45**	**50**	P	**P**	**10 24 07.0**	**-1.1**
	1.5nm,0.7s,baz=244,slow=11,SNR=5.3						
BRTR	**Keskin Array B**	**37.74**	**290**	P	**P**	**10 26 34.9**	**-0.9**
	0.3nm,0.5s,baz=91,slow=10,SNR=2.5						

*IDC **07** 10:35:17.8±3.8, 68°.27N× 162°.95W, h0km, mb3.2/3, mb1 3.8/5, mb1mx3.4/36, mbtmp3.4/5, ML3.7/2, Error ellipse: s-maj=60.3km s-min=47.3km az=167.0*
*AEIC **07** 10:35:21±2.1, 67°.74N±0°.03× 162°.4W±0°.2, h22km±6km, ML3.2, Error ellipse: s-maj=10.3km s-min=2.2km az=110.0*
*NEIC **07** 10:35:22.4±2.0, 67°.74N±0°.04× 162°.4W±0°.2, h25km±7km, Error ellipse: s-maj=10.6km s-min=5.7km az=106.0*
ISC 07 10:35:19.7±0.9, 67°.64N±0°.04× 162°.54W±0°.07, h10km, n35, σ2§02/45, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**0.44**	**342**		**Pb**	**10 35 29.3**	**-0.2**
RDOG					**Sb**	**10 35 35.9**	**-0.2**
ANM	**Nome**	**3.30**	**202**	Pn	**Pn**	**10 36 12.9**	**+1.7**
ANM					**Pb**	**10 36 15.0**	**-3.2**
ANM					**Sb**	**10 36 54.9**	**-3.4**
IM03		**3.85**	**111**		**Pn**	**10 36 19.6**	**+0.7**
IM03					**Sn**	**10 37 06.6**	**+2.5**
COLD	**Coldfoot**	**4.77**	**89**		**Pn**	**10 36 32.1**	**+0.5**
TOLK	**Toolik Lake Re**	**4.95**	**72**	Pn	**Pn**	**10 36 34.6**	**+0.6**
TOLK					**Pn**	**10 36 34.7**	**+0.7**
TOLK					**Sn**	**10 37 27.6**	**-3.6**
TTA	**Tatalina**	**5.46**	**147**		**Pn**	**10 36 42.8**	**+1.7**
TT01	**Tatalina**	**5.48**	**147**		**Pn**	**10 36 43.4**	**+2.1**
BPAW	**Bear Paw Mtn.**	**5.92**	**121**		**Pn**	**10 36 48.6**	**+1.4**
KTH	**Kantishna Hill**	**6.32**	**125**		**Pn**	**10 36 53.6**	**+0.7**
MDM	**Murphy Dome**	**6.36**	**108**		**Pn**	**10 36 53.7**	**+0.3**
TCOL	**CIGO, UAF Yank**	**6.54**	**108**		**Pn**	**10 36 57.2**	**+1.4**
COLA	**College**	**6.54**	**108**		**Pn**	**10 36 54.9**	**-0.9**
COLA	**College**	**6.54**	**108**		**Pn**	**10 36 55.6**	**-0.2**
TRF	**Thorofare Moun**	**6.59**	**124**		**Pn**	**10 36 56.5**	**-0.2**
WRH	**Wood River Hil**	**6.68**	**112**		**Pn**	**10 36 56.8**	**-0.9**
CCB	**Clear Creek Bu**	**6.68**	**110**		**Pn**	**10 36 57.9**	**+0.2**
FYU	**Fort Yukon**	**6.83**	**91**	Pn	**Pn**	**10 36 59.6**	**-0.2**
MCK	**McKinley**	**6.84**	**119**	Pn	**Pn**	**10 37 02.2**	**+2.2**
BM03	**Burnt Mountain**	**6.87**	**84**		**Pn**	**10 37 00.8**	**+0.4**
IL31		**6.95**	**107**		**Pn**	**10 37 02.4**	**+1.1**
ILAR	**Eielson Array**	**6.95**	**107**	Pn	**Pn**	**10 37 02.3**	**+0.9**
	1.4nm,0.3s,baz=303,slow=14,SNR=91						
ILAR				Sn	**Sn**	**10 38 19.9**	**-0.5**
	0.4nm,0.3s,baz=307,slow=22,SNR=5.8						
PRP	**Porcupine Dome**	**7.10**	**99**	Pn	**Pn**	**10 37 05.8**	**+2

DHY	Denali Highway	7.77 120		Pn	10 59 44.5	+0.5
WAT6	Susitna Watana	8.00 124		Pn	10 59 47.0	-0.3
RIDG	Independent Ri	8.20 111	Pn	Pn	10 59 51.2	+1.3
GHO	Glory Hole Cre	8.26 130	Pn	Pn	10 59 51.7	+1.0
PMR	Palmer	8.34 132	Pn	Pn	10 59 52.3	+0.6
SCRK	Sand Creek	8.37 108		Pn	10 59 52.9	+0.7
SML	Sawmill	8.40 129	Pn	Pn	10 59 51.8	-0.9
RSO	Redoubt South	8.41 146	Pn	Pn	10 59 54.4	+1.6
DOT	Dot Lake	8.54 110		Pn	10 59 55.2	+0.7
MENT	Mentasta	9.10 113	Pn	Pn	11 00 04.1	+1.9
BC03		9.71 109		Pn	11 00 09.2	-1.2
EPYK	Eagle Plains	10.03 86	Pn	Pn	11 00 15.4	+0.5
INK	Inuvik	10.72 74	Pn	Pn	11 00 23.1	-1.2
	0.2nm,0.3s,baz=278,slow=11,SNR=14					
INK			Sn	Sn	11 02 17.7	-6.5
	0.5nm,0.3s,baz=130,slow=10,SNR=7.2					
YKA	Yellowknife Ar	20.27 82	P	P	11 02 26.8	+0.6
	0.9nm,0.7s,baz=306,slow=9.8,SNR=6.6					
TIXI	Tiksi	23.00 311	LR	LR	11 13 25.9	
	comp=Z,35nm,18.4s,baz=162,slow=41					
AHID	Auburn Hatcher	36.73 106		S	11 10 43.1	+1.4
NVAR	Mina Array Bea	38.03 118	P	P	11 05 11.7	+2.4
	0.5nm,0.8s,baz=316,slow=6.4,SNR=5.2					
FINES	FINESS Array B	50.95 355	P	P	11 06 51.7	-0.2
	0.4nm,0.7s,baz=2.9,slow=7.6,SNR=4.1					
TXAR	Lajitas Array	51.39 108	P	P	11 06 57.4	+1.7
	0.9nm,0.8s,baz=330,slow=6.3,SNR=12					
BVAR	Borovoye Array	53.32 323	P	P	11 07 09.1	-0.5
	0.3nm,0.4s,baz=28,slow=9.8,SNR=2.1					
MKAR	Makanchi Array	55.98 312	P	P	11 07 28.2	-0.9
	0.3nm,0.7s,baz=46,slow=5.2,SNR=2.2					
MKAR			LR	LR	11 35 56.6	
	comp=Z,36nm,18.3s,baz=202,slow=41					

JMA 07 11:00:48.7±0.2, 37°29N×144°40E, h42km, M3.6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	Ishinomakibobu	2.54	295	P	Pn	11 01 28.8	+1.4
JIKH				eS	Sn	11 01 58.5	+1.5
JIO	Ouri	2.68	297	P	Pn	11 01 30.8	+1.5
JIO				eS	Sn	11 02 02.1	+1.6
JKMT	Kesennumamotoy	2.76	304	P	Pn	11 01 31.9	+1.4
JKMT				S	Sn	11 02 04.3	+1.7
OFUJ	Ofunato	2.80	311	P	Pn	11 01 32.4	+1.5
OFUJ				S	Sn	11 02 05.3	+1.9
JFK	Kawauchi	2.81	273	eS	Sn	11 02 04.8	+1.0
JMK	Ichinoseki	3.01	304	P	Pn	11 01 35.8	+2.0
JMK				eS	Sn	11 02 10.9	+2.3
JFT	Otama	3.24	275	P	Pn	11 01 39.2	+2.1
JFT				eS	Sn	11 02 16.8	+2.3
JKB	Kayabe	5.28	332	eS	Sn	11 03 05.4	+0.9
JCH	Churui	5.38	352	P	Pn	11 02 06.2	-0.1
JCH				eS	Sn	11 03 05.5	-1.4
NEM2	Nemuro 2	6.15	9	P	Pn	11 02 14.3	-2.7
NEM2				eS	Sn	11 03 20.8	-5.2
JTKR	Abashiri--Toko	6.68	357	P	Pn	11 02 23.9	-0.4
JTKR				eS	Sn	11 03 37.1	-2.0

*IDC **07** 11:03:20.2±1.2, 13°.31N×51°.02E, h0km, mb3.7/12, mb1 3.9/13, mb1mx3.7/50, mbtmp3.8/13, ML4.4/1, MS3.4/17, Ms1 3.4/17, ms1mx3.2/45, Error ellipse: s-maj=29.8km s-min=20.5km az=171.0*

*OMAN **07** 11:03:21.9±0.5, 13°.21N×51°.27E, h66km, ml3.5/3, Error ellipse: s-maj=10.1km s-min=2.0km az=267.0*

ISC 07 11:03:22.2±0.9, 13°.4N±0°.1×51°.1E±0°.1, h12km, n30, σ1s27/22, mb3.8/12, MS3.4/15, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	Socotra	3.12	113	P	Pn	11 04 03.4	-8.0
	SNR=101						
ABTO	Aybut	4.46	29	P	Pn	11 04 28.5	-1.2
	SNR=12						
ABTO				S	Sn	11 05 20.0	-1.5
RBK	Rabkut	5.06	37	P	Pn	11 04 38.1	+0.2
RBK				S	Sn	11 05 34.2	-2.3
WHFO	Wadi Hawf	5.17	30	P	Pn	11 04 38.5	-1.0
	SNR=49						
WHFO				S	Sn	11 05 38.9	-0.3
ATD	Arta Tunnel	8.23	258	Pn	Pn	11 05 19.8	-1.9
	5.2nm,0.3s,baz=202,slon=21,SNR=14						
ATD				LR	LR	11 07 45.1	
	comp=Z,280nm,19.9s,baz=83,slow=32						
ATD	Arta Tunnel	8.23	258	P	Pn	11 05 20.8	-0.9
	SNR=6.7						
WSAR	Wadi Sarin	12.11	35	LR	LR	11 10 39.9	
	comp=Z,289nm,20.6s,baz=232,slow=36						
GEYT	Alibeck	25.19	13	P	P	11 08 49.7	+2.0
	1.1nm,0.5s,baz=196,slow=10,SNR=2.0						
GEYT				LR	LR	11 20 40.0	
	comp=Z,147nm,18.8s,baz=95,slow=41						
BRTR	Keskin Array B	30.34	333	P	P	11 09 36.4	+2.4
	0.6nm,0.7s,baz=134,slow=7.1,SNR=4.2						
BRTR				LR	LR	11 21 35.8	
	comp=Z,24nm,20.3s,baz=162,slow=36						
KBZ	Khabaz	30.99	348	LR	LR	11 24 32.9	
	comp=Z,104nm,19.6s,baz=158,slow=41						
AAK	Ala-Archa	35.46	30	LR	LR	11 26 54.9	
	comp=Z,56nm,18.5s,baz=196,slow=40						
LSZ	Lusaka	36.41	219	LR	LR	11 24 54.2	
	comp=Z,48nm,18.4s,baz=121,slow=36						
AKTO	Aktyubinsk	37.33	7	LR	LR	11 29 34.2	
	comp=Z,94nm,18.1s,baz=172,slow=42						
MKAR	Makanchi Array	42.32	32	P	P	11 11 16.5	+0.5
	0.3nm,0.5s,baz=211,slow=7.7,SNR=4.6						
BVAR	Borovoye Array	42.39	17	P	P	11 11 17.2	+0.8
	0.4nm,0.5s,baz=202,slow=7.2,SNR=1.6						
KURBB	Kurchatov Arra	43.29	25	P	P	11 11 24.8	+1.0
	0.9nm,1.0s,baz=221,slow=7.5,SNR=4.0						
KIRV	Kirov	45.08	359	LR	LR	11 35 18.3	
	comp=Z,63nm,18.9s,baz=199,slow=42						
CMAR	Chiang Mai Arr	46.22	77	P	P	11 11 46.7	-0.9
	0.8nm,0.7s,baz=277,slow=8.4,SNR=4.9						
CMAR				LR	LR	11 32 29.3	
	comp=Z,78nm,18.2s,baz=232,slow=38						
TORD	Torodi Ar. Bea	47.97	276	P	P	11 12 00.3	-1.0
	1.1nm,0.9s,baz=94,slow=8.2,SNR=4.0						
ZALV	Zalesovo Beam	48.37	26	P	P	11 12 03.4	-0.4
	0.4nm,0.3s,baz=231,slow=9.1,SNR=3.7						
ZALV				LR	LR	11 35 00.1	
	comp=Z,25nm,18.8s,baz=176,slow=39						
BOSA	Boshof	48.69	211	LR	LR	11 32 05.4	
	comp=Z,31nm,19.4s,baz=24,slow=36						
FINES	FINESS Array B	51.22	345	P	P	11 12 25.8	+0.5
	1.1nm,0.8s,baz=151,slow=9.5,SNR=3.1						
FINES				LR	LR	11 37 53.0	
	comp=Z,31nm,18.6s,baz=80,slow=40						
HFS	Hagfors	54.05	338	LR	LR	11 40 19.9	
	comp=Z,29nm,18.4s,baz=158,slow=41						
ESDC	Sonseca Array	54.73	309	P	P	11 12 52.1	+0.3
	3.4nm,1.0s,baz=88,slow=5.7,SNR=14						
NOA	NORSAR Array B	55.57	338	P	P	11 12 57.2	-0.2
	0.6nm,0.7s,baz=124,slow=7.7,SNR=3.3						
NOA				LR	LR	11 41 49.4	
	comp=Z,11nm,18.5s,baz=100,slow=42						
TLY	Talaya	56.72	36	LR	LR	11 39 24.4	
	comp=Z,40nm,20.7s,baz=250,slow=38						
NRIK	Noril'sk	60.43	14	LR	LR	11 44 36.3	
	comp=Z,39nm,18.9s,baz=205,slow=41						
WRA	Warramunga Arr	88.36	111	P	P	11 16 15.9	+1.3
	0.6nm,0.7s,baz=299,slow=4.0,SNR=6.6						
NVAR	Mina Array Bea	127.45	349	PKP	PKiKP	11 22 28.7	+0.3
	0.5nm,0.9s,baz=302,slow=2.3,SNR=2.9						
TXAR	Lajitas Array	130.97	330	PKP	PKPdf	11 22 33.7	-1.0
	0.3nm,0.8s,baz=126,slow=1.6,SNR=3.4						

*KRAR **07** 11:37:14.4±0.1, 53°.32N×89°.28E, M1.8, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

IDC 07 11:37:15.8±3.3, 53°.27N×89°.03E, h0km, mb1 2.9/3, mb1mx2.8/39, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=29.7km s-min=22.1km az=80.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	ZALESOVO INFRA	2.60	287	*i*		11 53 42.0	
	baz=100,slow=322,SNR=2.4						
ZALV	Zalesovo Beam	2.60	287	Pn	Pn	11 37 59.5	+0.5
	2.4nm,0.3s,baz=101,slow=15,SNR=22						
ZALV				Sn	Sb	11 38 34.0	-1.6
	3.8nm,0.3s,baz=109,slow=26,SNR=23						
KURBB	Kurchatov Arra	7.01	252	Pn	Pn	11 39 00.1	+0.5
	0.0nm,0.3s,baz=64,slow=14,SNR=4.8						
KURBB				Sn	Sn	11 40 18.8	-1.2
	0.0nm,0.3s,baz=66,slow=23,SNR=2.3						
KURBB				Lg	Lg	11 40 54.1	
	baz=67,slow=32,SNR=3.8						
MKAR	Makanchi Array	7.80	216	Pn	Pn	11 39 11.2	+0.7
	0.2nm,0.3s,baz=37,slow=12,SNR=7.1						
MKAR				Sn	Sn	11 40 39.8	+0.3
	0.3nm,0.3s,baz=35,slow=26,SNR=8.0						

DJA 07 11:44:31.7±0.8, 2°N±3°×99°8E±°, h53km±28km, M2.9/6, MLv2.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	Gunungsitoli	0.95	236	P	Pn	11 44 49.1	+0.3
MNSI	Mandailing Nat	1.60	130	P	Pn	11 44 57.9	+0.3
MNSI				S	Sn	11 45 17.2	0.0
TSI	Tuntungan	1.66	7	P	Pn	11 45 00.4	+1.9
KCSI	Kotacane, Aceh	1.77	341	P	Pn	11 44 59.7	-0.3
KCSI				S	Sn	11 45 21.3	-0.1
TPTI		1.84	320	P	Pn	11 45 00.7	-0.2
TPTI				S	Sn	11 45 23.9	+0.9

TRN 07 11:44:35.6, 17°.23N×60°.18W, h25km, MD3.8, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABD	La Joyeuse, An	1.47	239	eP	Pb	11 45 01.4	-0.8
ABD				eS	Sb	11 45 20.4	-0.1
ANWB	Willy Bob	1.60	286	eP	Pn	11 44 59.9	-2.5
ANWB				eS	Sn	11 45 22.9	+0.7
MAGL	Barre de l'ile	1.66	220	eP	Pn	11 45 04.2	+1.0
MAGL				eS	Sb	11 45 25.2	-0.8
CBE	Ff, Capester	1.79	230	eP	Pb	11 45 07.0	-0.9
CBE				eS	Sb	11 45 30.6	+0.6
TDBA	Terre de Bas,	1.96	226	eP	Pb	11 45 09.5	-1.2
TDBA				eS	Sn	11 45 32.0	+0.9
MLYT	Lee's Yard	1.99	256	eP	Pn	11 45 08.7	+0.9
MLYT				eS	Sb	11 45 35.6	-0.1
SKI	Saint Kitts	2.45	273	eP	Pn	11 45 15.3	+1.2
SKI				eS	Sn	11 45 45.3	+2.0
CXM	Morne La Croix	2.59	202	eP	Pn	11 45 18.2	+2.1
GBMF	Grand Be	2.60	202	eP	Pn	11 45 17.8	+1.6
PCM	Pelee Case Pet	2.60	203	eP	Pn	11 45 17.9	+1.7
PML	Morne Lenard	2.62	202	eP	Pn	11 45 18.7	+2.3
FDF	Fort de France	2.65	201	eS	Sn	11 45 49.7	+1.3
LPMF	Morne Lapointe	2.75	196	eP	Pn	11 45 19.8	+1.6
MVM	Montagne Vaucl	2.75	195	eP	Pn	11 45 20.3	+2.1
ZAM	Aeronautique	2.77	197	eP	Pn	11 45 20.0	+1.6
BIM	Bigot	2.83	198	eP	Pn	11 45 21.4	+2.0
BIM				eS	Sn	11 45 53.9	+1.1
MPOM	Morne Pois Mar	2.85	193	eP	Pn	11 45 21.9	+2.4
MPOM				eS	Sn	11 45 53.0	0.0
SMRT	St. Maarten	2.88	287	*e*	Pb	11 45 23.8	-2.6
SMRT	St. Maarten	2.88	287	eP	Pb	11 45 23.8	-2.6
SMRT	St. Maarten	2.88	287	*e*	Pb	11 45 31.7	+5.3
SMRT				eS	Sn	11 45 54.5	+0.6
SLBI	Saint Lucia, B	3.28	194	eP	Pn	11 45 27.6	+2.1

*IDC **07** 11:48:54.2±2.0, 6°.13N×127°.15E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/44, mbtmp3.8/6, Error ellipse: s-maj=202.1km s-min=22.7km az=68.0*

ISC 07 11:48:55.1±1.1, 6°.1N±0°.2×127°.1E±0°.2, h10km, n7, σ2s56/8, mb3.8/6, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	Kidapawan	2.23	294	‖ *i* P	Pn	11 49 27.8	-4.4
KCP				*i* S	Sg	11 50 10.0	+3.2
WRA	Warramunga Arr	26.84	165	P	P	11 54 37.0	+1.1
	0.7nm,0.8s,baz=346,slow=10,SNR=2.1						
ASAR	Alice Springs	30.32	168	P	P	11 55 07.6	+0.5
	0.3nm,0.7s,baz=338,slow=8.0,SNR=1.8						
MKAR	Makanchi Array	55.87	324	P	P	11 58 33.9	+0.9
	0.3nm,0.4s,baz=124,slow=8.6,SNR=4.4						
KURBB	Kurchatov Arra	59.98	327	P	P	11 59 02.2	+0.4
	0.8nm,0.3s,baz=128,slow=6.2,SNR=4.7						
BVAR	Borovoye Array	65.57	326	P	P	11 59 39.7	+0.7
	0.9nm,0.7s,baz=124,slow=8.0,SNR=5.4						
FINES	FINESS Array B	89.94	332	P	P	12 01 54.8	+0.3
	0.7nm,0.8s,baz=64,slow=6.3,SNR=4.6						

*IDC **07** 11:53:07.3±3.9, 68°.13N×162°.87W, h0km, mb3.2/3, mb1 3.7/4, mb1mx3.3/47, mbtmp3.3/4, ML3.9/2, Error ellipse: s-maj=59.0km s-min=47.3km az=160.0*

*AEIC **07** 11:53:09.1±5.5, 67°.73N±0°.02×162°.5W±0°.2, h23km±7km, ML3.0, Error ellipse: s-maj=10.4km s-min=2.9km az=94.0*

*NEIC **07** 11:53:11.6±2.2, 67°.72N±0°.02×162°.6W±0°.2, h34km±7km, Error ellipse: s-maj=10.7km s-min=3.4km az=95.0*

ISC 07 11:53:09.5±0.9, 67°.76N±0°.06×162°.35W±0°.06, h10km, n32, σ1s45/41, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	Red Dog Mine	0.36	325		Pb	11 53 17.6	-0.4
RDOG					Sb	11 53 23.6	-0.1
ANM	Nome	3.44	202		Pn	11 54 02.3	-0.7
ANM					Sn	11 54 41.7	-2.0
IM03		3.83	114		Pn	11 54 09.0	+0.6
COLD	Coldfoot	4.70	91		Pn	11 54 22.4	+2.0
TOLK	Toolik Lake Re	4.85	74		Pn	11 54 24.1	+1.7
TOLK					Sn	11 55 18.8	+0.2
TTA	Tatalina	5.53	148		Pn	11 54 32.4	+0.6
TT01	Tatalina	5.55	148		Pn	11 54 32.4	+0.4
BPAW	Bear Paw Mtn.	5.92	123		Pn	11 54 38.0	+0.8
KTH	Kantishna Hill	6.33	126		Pn	11 54 43.7	+0.9
MDM	Murphy Dome	6.33	110		Pn	11 54 43.2	+0.4
TCOL	CIGO, UAF Yank	6.51	110		Pn	11 54 46.2	+1.0
COLA	College	6.52	110		Pn	11 54 46.0	+0.7
POKR	Poker Plat Res	6.54	107		Pn	11 54 45.6	0.0
TRF	Thorofare Moun	6.60	125		Pn	11 54 46.6	0.0
CCB	Clear Creek Bu	6.66	111		Pn	11 54 48.2	+1.0
WRH	Wood River Hil	6.66	113		Pn	11 54 47.9	+0.7
WRH					Sn	11 56 01.9	-1.2
BM03	Burnt Mountain	6.79	85		Pn	11 54 49.4	+0.3
IL31		6.92	108		Pn	11 54 50.9	+0.1
IL31					Sn	11 56 07.3	-2.1
ILAR	Eielson Array	6.92	108	Pn	Pn	11 54 51.1	+0.3
	4.2nm,0.3s,baz=303,slon=14,SNR=194						
ILAR				Sn	Sn	11 56 07.0	-2.5
	0.3nm,0.3s,baz=303,slow=24,SNR=8.1						
RND	Reindeer	7.09	122		Pn	11 54 53.8	+0.5
HDA	Harding Lake	7.10	111		Pn	11 54 54.0	+0.7
HDA					Sn	11 56 11.9	-2.0
SVW2	Sparrevohn	7.30	153		Pn	11 54 56.1	+0.1
DHY	Denali Highway	7.80	120		Pn	11 55 04.4	+1.3
DHY					Sn	11 56 31.1	-0.3
SCRK	Sand Creek	8.41	108		Pn	11 55 11.8	+0.5
DOT	Dot Lake	8.58	110		Pn	11 55 14.0	+0.4
BC03		9.75	109		Pn	11 55 28.8	-0.7
EPYK	Eagle Plains	10.07	86	Pn	Pn	11 55 34.7	+0.7
INK	Inuvik	10.76	74	Pn	Pn	11 55 42.8	-0.6
	0.3nm,0.3s,baz=290,slow=13,SNR=14						
INK				Sn	Sn	11 57 37.6	-6.0
	0.1nm,0.3s,baz=3.2,slow=14,SNR=1.9						
INK	Inuvik	10.76	74		Pn	11 55 42.2	-1.2
YKA	Yellowknife Ar	20.31	82	P	P	11 57 44.9	-0.2
	0.6nm,0.8s,baz=302,slow=10,SNR=2.2						
NVAR	Mina Array Bea	38.07	118	P	P	12 00 30.1	+2.0
	0.3nm,0.5s,baz=322,slow=5.7,SNR=2.4						
TXAR	Lajitas Array	51.43	107	P	P	12 02 15.7	+1.2
	0.3nm,0.7s,baz=322,slow=6.9,SNR=3.6						

*NEIC **07** 12:05:25.2±2.4, 72°.56N±0°.08×3°.0E±0°.3, h5km±5km, mb4.0/14, Error ellipse: s-maj=13.7km s-min=11.6km az=69.0*

*IDC **07** 12:05:25.5±1.0, 72°.51N×3°.16E, h0km, mb3.8/8, mb1 3.9/14, mb1mx3.7/50, mbtmp3.8/14, ML3.2/6, MS3.2/21, Ms1 3.2/21, ms1mx3.0/46, Error ellipse: s-maj=21.8km s-min=15.7km az=86.0*

*NAO **07** 12:05:26.5±508.0, 72°.55N×3°.02E, h24km±654km, ML3.7*

*BER **07** 12:05:27.7±2.1, 72°.65N×2°.75E, h22km±16km, ML2.3, ML3.7(NAO), Confirmed Earthquake*

ISC 07 12:05:25.6±0.6, 72°.59N±0°.05×3°.33E±0°.06, h10km, n105, σ2s01/105, mb3.9/15, MS3.1/15, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMIC	Jan Mayen	4.04	252	Pn	Pn	12 06 25.7	-1.7
JMIC	Jan Mayen	4.04	252	eP	Pn	12 06 25.8	-1.7
BJO1	Bjornoya	4.85	59	Pn	Pn	12 06 38.6	+0.1
BJO1	Bjornoya	4.85	59	eP	Pn	12 06 39.0	+0.5
BJO1				eS	Sn	12 07 32.2	-2.3
BJO1				IAML		12 07 33.1	
	comp=Z,5.9nm,0.6s						
HSPB	Hornsund (broa	5.46	30	Pn	Pn	12 06 46.3	-0.6
HSPB	Hornsund (broa	5.46	30	eP	Pn	12 06 46.5	-0.4
HSPB				eS	Sn	12 07 46.1	-3.6
HSPB				IAML		12 08 02.2	
	comp=Z,1.8nm,0.6s						
LOF	Lofoten	5.64	137	eP	Pn	12 06 50.9	+1.5
LOF				eS	Sn	12 07 51.5	-2.6
LOF				IAML		12 07 55.5	
	comp=Z,6.1nm,0.4s						
TRO	Tromso	5.86	113	Pn	Pn	12 06 52.3	-0.1
TRO	Tromso	5.86	113	eP	Pn	12 06 52.6	+0.2
TRO				eS	Sn	12 07 56.5	-3.0
TRO				IAML		12 07 58.3	
	comp=Z,7.9nm,0.6s						
N2VA	Vr_y	5.88	143	eP	Pn	12 06 53.5	+0.8
N2VA				eS	Sn	12 07 57.4	-2.6
N2VA				IAML		12 08 02.5	
	comp=Z,6.5nm,0.5s						
N2RO	R_st	5.91	145	eP	Pn	12 06 53.5	+0.4
N2RO				eS	Sn	12 07 56.9	-3.8
N2RO				IAML		12 07 58.4	
	comp=Z,6.1nm,0.5s						
STEI	Steigen	6.17	133	eP	Pn	12 06 56.9	+0.3
STEI				eS	Sn	12 08 04.0	-3.0
STEI				IAML		12 08 07.0	
	comp=Z,7.4nm,0.6s						
N2IH	Innhavet	6.29	131	eP	Pn	12 06 59.3	+1.0
N2IH				eS	Sn	12 08 06.8	-3.3
N2IH				IAML		12 08 10.6	
	comp=Z,12nm,0.6s						
SPA0	Spitsbergen Ar	6.49	24	Pn	Pn	12 07 01.5	+0.4
	baz=219,slow=14						
SPA0	Spitsbergen Ar	6.49	24		Pn	12 07 02.0	+1.0
SPA0	Spitsbergen Ar	6.49	24	Pn	Pn	12 07 01.5	+0.4
	baz=219,slow=14						
SPITS	Spitsbergen Ar	6.49	24	Pn	Pn	12 07 01.7	+0.6
	baz=206,slow=15,SNR=36						
SPITS				Sn	Sn	12 08 13.6	-1.4
	baz=210,slow=25,SNR=0.8						
SPITS				LR	LR	12 09 10.8	
	comp=Z,92nm,18.1s,baz=105,slow=34						
NBB05	Inndyr	6.68	141	eP	Pn	12 07 03.6	-0.1
NBB30	Finnes	6.68	142	eP	Pn	12 07 04.3	+0.6
KBS	Kingsbay	6.71	14	Pn	Pn	12 07 03.5	-0.5
KBS	Kingsbay	6.71	14	Pn	Pn	12 07 03.8	-0.2
KBS	Kingsbay	6.71	14	eP	Pn	12 07 03.4	-0.5
HAMF	Hammerfest	6.71	97	Pn	Pn	12 07 03.6	-0.5
HAMF	Hammerfest	6.71	97	eP	Pn	12 07 04.0	-0.1
KIF	Kilpisjarvi	6.78	113	eP	Pn	12 07 05.5	+0.6
NBB17	Glomfjord BØr	6.86	142	eP	Pn	12 07 06.3	+0.1
DBG	Daneborg	6.92	295	*i* P	Pn	12 07 02.2	-4.6
DBG				*i* P	Pn	12 07 02.8	-4.0
DBG				*i* S	Sn	12 08 13.4	-12
DBG				IAML		12 08 29.4	
	comp=Z,1.9nm,0.5s						
KONS	Konsvik	7.00	146	eP	Pn	12 07 09.1	+1.0
KONS				IAML		12 08 28.1	
	comp=Z,6.8nm,0.5s						
DAG	Danmarks Havn	7.13	316	*i* P	Pn	12 07 05.6	-4.1
DAG				eS	Sn	12 08 16.3	-14
DAG	Danmarks Havn	7.13	316	*e*	Pn	12 07 05.2	-4.5
	baz=123,slow=18						
DAG				*i* P	Pn	12 07 05.7	-4.1
DAG				eS	Sn	12 08 16.4	-14
DAG				IAML		12 08 21.5	
	comp=Z,13nm,0.4s						
STOK	Stokkvaagen	7.14	147	eP	Pn	12 07 10.5	+0.6
MOR8	Moi Rana	7.53	143	eP	Pn	12 07 13.8	-1.5
ARA0	ARCESS Array S	7.81	102	Pn	Pn	12 07 19.1	0.0
	baz=312,slow=12						
ARA0	ARCESS Array S	7.81	102	Pn	Pn	12 07 19.1	0.0
	baz=312,slow=12						
ARCES	ARCESS Array B	7.81	102	Pn	Pn	12 07 19.4	+0.3
	comp=Z,0.5nm,0.3s,baz=312,slow=13,SNR=13						
ARCES				Sn	Sn	12 08 43.5	-3.9
	comp=Z,0.2nm,0.3s,baz=296,slow=24,SNR=1.2						
ARE0	ARCESS Array S	7.81	102	Pn	Pn	12 07 20.4	+1.3
HEF	Hetta	7.96	112	eP	Pn	12 07 21.9	+0.7
KEV	Kevo	8.13	99	Pn	Pn	12 07 23.4	-0.1
NSS	Namsos	8.68	154	eP	Pn	12 07 30.5	-0.5
NOR	Nord	9.99	343	Pn	Pn	12 07 47.1	-1.8
NOR	Nord	9.99	343	Pn	Pn	12 07 47.1	-1.8
AKN	Aaknes	10.55	171	Pn	Pn	12 07 56.0	-0.6
AKN	Aaknes	10.55	171	Pn	Pn	12 07 56.0	-0.6
NC204	NORSAR Array S	11.71	162	Pn	Pn	12 08 11.8	-0.8
BORG	Borgarnes	11.82	241	LR	LR	12 11 42.0	
	comp=Z,57nm,18.2s,baz=21,slow=32						
NC303	NORSAR Array S	11.82	161		Pn	12 08 13.9	-0.1
NC405	NORSAR Array S	11.97	160	Pn	Pn	12 08 15.7	-0.3
NB2	NORSAR Subarra	11.99	161	Pn	Pn	12 08 15.4	-1.0
NB2	NORSAR Subarra	11.99	161	Pn	Pn	12 08 15.4	-1.0
NOA	NORSAR Array B	11.99	161	Pn	Pn	12 08 16.7	+0.4
	comp=Z,0.0nm,0.3s,baz=351,slow=14,SNR=4.1						
NOA				Sn	Sn	12 10 21.1	-8.8

comp=Z,29nm,19.7s,baz=3.5,slow=36
GEC2 GERESS Array S 24.28 163 P **P** 12 10 42.5 -0.3
GEC2 lAmb lAmb 12 10 45.6
comp=Z,4.3nm,1.0s
GERES GERESS Array B 24.28 163 P **P** 12 10 45.1 +2.3
comp=Z,2.7nm,0.8s,baz=354,slow=9.4,SNR=19
BFO Black Forest 24.44 172 P **P** 12 10 44.7 +0.5
AKASG Malin Array Be 24.74 138 P **P** 12 10 47.8 +1.0
comp=Z,1.1nm,0.5s,baz=347,slow=10.0,SNR=4.9
AKASG LR LR 12 20 11.3
comp=Z,104nm,18.6s,baz=325,slow=36
AKBB Malin Array Si 24.74 138 P **P** 12 10 47.6 +0.8
RES Resolute Bay 24.79 321 LR LR 12 20 24.6
comp=Z,61nm,20.2s,baz=356,slow=36
VYHS Vyhne 25.18 155 *eP* **P** 12 10 53.1 +2.3
KOLS Kolonicke sedl 25.22 150 *eP* **P** 12 10 53.5 +2.3
PSZ Piszkesteto 25.88 154 P **P** 12 10 58.0 +0.8
PSZ lAmb lAmb 12 10 60.0
comp=Z,3.1nm,0.8s
DAVOX Davos/Dischmat 26.07 170 LR LR 12 21 56.9
comp=Z,48nm,18.4s,baz=89,slow=38
FRB Frobisher Bay 26.39 288 LR LR 12 20 28.3
comp=Z,31nm,18.9s,baz=314,slow=34
BUR08 Bucovina Ar. S 26.94 146 P **P** 12 11 07.3 +0.5
BUR08 lAmb lAmb 12 11 21.0
comp=Z,4.2nm,1.1s
ARU Arti 27.34 96 LR LR 12 21 42.7
comp=Z,44nm,21.6s,baz=197,slow=36
MLR Muntele Rosu 29.16 146 LR LR 12 23 27.6
comp=Z,109nm,18.1s,baz=310,slow=37
INTR Introdacqua 31.08 165 P **P** 12 11 43.7 0.0
ESDC Sonseca Array 33.19 190 P **P** 12 12 03.0 +0.9
comp=Z,0.9nm,0.9s,baz=16,slow=9.9,SNR=4.2
ESDC Sonseca Array 33.19 190 P **P** 12 12 03.0 +0.9
BVAR Borovoye Array 33.81 88 P **P** 12 12 09.8 +2.4
comp=Z,1.6nm,0.8s,baz=323,slow=9.5,SNR=6.3
BRTR Keskin Array B 36.15 139 P **P** 12 12 30.8 +2.9
comp=Z,1.3nm,0.9s,baz=339,slow=6.6,SNR=5.2
BRTR LR LR 12 27 23.5
comp=Z,26nm,18.4s,baz=338,slow=36
INK Inuvik 36.53 335 LR LR 12 28 00.6
comp=Z,29nm,19.1s,baz=71,slow=37
YKA Yellowknife Ar 38.82 319 LR LR 12 28 43.7
comp=Z,52nm,18.4s,baz=0.0,slow=36
DAWY Dawson 41.31 336 P **P** 12 13 11.9 +1.1
IL31 41.45 341 P **P** 12 13 13.2 +1.5
ILAR Eielson Array 41.45 341 P **P** 12 13 13.6 +1.8
comp=Z,0.7nm,0.8s,baz=1.8,slow=7.8,SNR=8.5
KK31 Karatay Array 42.71 96 P **P** 12 13 23.9 +1.5
KK31 lAmb lAmb 12 13 26.0
comp=Z,2.5nm,1.0s
KKAR Karatay Array 42.71 96 P **P** 12 13 23.6 +1.3
KKAR lAmb lAmb 12 13 26.0
comp=Z,2.5nm,1.0s
MKAR Makanchi Array 42.91 82 P **P** 12 13 26.1 +2.2
comp=Z,0.3nm,0.6s,baz=338,slow=6.5,SNR=3.4
MKAR LR LR 12 33 57.7
comp=Z,25nm,19.3s,baz=336,slow=40
GEYT Alibeck 43.86 111 LR LR 12 32 51.2
comp=Z,42nm,19.7s,baz=255,slow=38
PDAR Pinedale Array 56.02 305 LR LR 12 37 09.3
comp=Z,17nm,20.2s,baz=326,slow=34
TORD Torodi Ar. Bea 59.42 182 P **P** 12 15 29.0 +0.9
comp=Z,2.5nm,0.8s,baz=358,slow=6.9,SNR=12
TXAR Lajitas Array 67.17 295 LR LR 12 45 21.5
comp=Z,27nm,18.8s,baz=0.0,slow=36
ASAR Alice Springs 124.07 57 PKP **PKPdf** 12 24 23.1 -0.4
comp=Z,0.5nm,0.6s,baz=337,slow=0.8,SNR=6.9

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*IDC **07** 12:50:19.5±2.2,6°.23S×130°.61E,h109km±22km,mb3.6/7, mb1 3.8/10,mb1mx3.6/27,mbtmp4.1/10,Error ellipse: s-maj=23.8km s-min=17.8km az=89.0*
*NEIC **07** 12:50:19.7±1.6,6°.24S±0°.06×130°.55E±0°.04,h115km±8km, mb4.2/15, Error ellipse: s-maj=9.1km s-min=5.7km az=198.0*
*DJA **07** 12:50:20.3±0.2,6°.S±2°×13°.1E±°,h134km±6km,M4.8/17, mb4.7/16,mB5.4/8,MLv4.8/17,Mw(mB)4.9/8*
ISC 07 12:50:18.8±0.5,**6°.26S**±0°.04×**130°.58E**±0°.05,**h100**km,**n55,** σ**2**§**29**/64,**mb4.0**/13,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BNDI	**Bandanaira**	**1.85**	**339**	P		**Pn**	**12 50 53.1**	**+3.6**
BNDI				S		**Sn**	**12 51 18.7**	**+5.9**
SAUI	**Saumlaki**	**1.86**	**157**	P		**Pn**	**12 50 53.4**	**+3.8**
SAUI				S		**Sn**	**12 51 18.3**	**+5.3**
SAUI	**Saumlaki**	**1.86**		Pn		**Pn**	**12 50 53.2**	**+3.6**
SAUI						**Sn**	**12 51 15.6**	**+2.7**
MSAI	**Masohi**	**3.33**	**330**	P		**Pn**	**12 51 12.0**	**+3.0**
MSAI				S		**Sn**	**12 51 51.9**	**+4.2**
AAI	**Ambon**	**3.49**	**317**	P		**Pn**	**12 51 14.0**	**+2.9**
FAKI	**Fak Fak**	**3.71**	**27**	P		**Pn**	**12 51 15.3**	**+1.1**
FAKI				S		**Sn**	**12 51 57.2**	**+0.2**
FAKI	**Fak Fak**	**3.71**	**27**	Pn		**Pn**	**12 51 15.2**	**+1.1**
NLAI	**Namlea**	**4.58**	**311**	P		**Pn**	**12 51 29.5**	**+3.6**
SIJI	**Sorong**	**5.40**	**7**	P		**Pn**	**12 51 36.9**	**0.0**
	98nm,0.3s,baz=228,slow=22,SNR=202							
SIJI				S		**Sn**	**12 52 33.1**	**-4.7**
	137nm,0.3s,baz=258,slow=23,SNR=26							
RKPI	**Ransiki, Papua**	**5.93**	**37**	P		**Pn**	**12 51 46.5**	**+2.4**
	5.4nm7μm89nm,0.4s							
RKPI				S		**Sn**	**12 52 51.6**	**+0.9**
	5.4nm7μm89nm,0.4s							
SANI	**Sanana**	**6.20**	**312**	P		**Pn**	**12 51 51.1**	**+3.3**
	0.1nm1μm40nm,0.7s							
LBMI	**Labuha**	**6.37**	**331**	P		**Pn**	**12 51 52.2**	**+2.0**
	2.1nm3μm169nm,0.7s							
MTN	**Manton Dam**	**6.57**	**175**	Pn		**Pn**	**12 51 53.6**	**+0.8**
SOEI	**Soe**	**7.15**	**241**	P		**Pn**	**12 52 03.3**	**+2.4**
	0.6nm65nm,1.3s							
SOEI				S		**Sn**	**12 53 22.9**	**+2.2**
	0.6nm65nm,1.3s							
SOEI	**Soe**	**7.15**	**241**	Pn		**Pn**	**12 52 03.6**	**+2.7**
SOEI						**Sn**	**12 53 21.5**	**+0.8**
TNTI	**Ternate**	**7.68**	**335**	P		**Pn**	**12 52 09.5**	**+1.5**
	0.2nm61nm,0.7s							
TNTI	**Ternate**	**7.68**	**335**	Pn		**Pn**	**12 52 07.8**	**-0.3**
BATI	**Baumata**	**7.89**	**240**	P		**Pn**	**12 52 13.1**	**+2.3**
	17nm,0.3s,baz=25,slow=3.2,SNR=12							
BATI				S		**Sn**	**12 53 36.0**	**-2.5**
	21nm,0.3s,baz=66,slow=20,SNR=7.8							
BATI	**Baumata**	**7.89**	**240**	P		**Pn**	**12 52 13.1**	**+2.3**
	0.3nm48nm,1.6s							
BBSI	**Bau Bau**	**8.00**	**275**	P		**Pn**	**12 52 14.7**	**+2.3**
	5.1nm,1.0s							
WAMI	**Wamena**	**8.44**	**74**	P		**Pn**	**12 52 22.6**	**+4.3**
	103nm,0.8s							
EDFI	**Ende, Flores**	**9.15**	**254**	P		**Pn**	**12 52 30.3**	**+2.2**
	8.0nm,1.7s							
LUWI	**Luwuk**	**9.36**	**303**	P		**Pn**	**12 52 32.9**	**+2.1**
	6μm59nm,0.8s							
KNRA	**Kununurra**	**9.53**	**191**	Pn		**Pn**	**12 52 32.6**	**-0.5**
JAY	**Jayapura**	**10.76**	**70**	P		**Pn**	**12 52 49.6**	**-0.3**
	0.6nm,0.3s,baz=161,slow=18,SNR=1.3							
MRSI	**Marisa**	**10.91**	**308**	P		**Pn**	**12 52 54.5**	**+2.5**
	1μm18nm,0.7s							
WBSI	**Waikabubak, Su**	**11.58**	**252**	P		**Pn**	**12 53 03.1**	**+2.1**
FITZ	**Fitzroy Crossi**	**12.72**	**202**	P		Pn	12 53 12.8	-3.2
	6.9nm,0.3s,baz=37,slow=12,SNR=78							
FITZ				S		Sn	12 55 21.6	-14
	2.3nm,0.3s,baz=18,slow=19,SNR=3.3							
FITZ	**Fitzroy Crossi**	**12.72**	**202**	Pn		**Pn**	**12 53 13.2**	**-2.8**
WB0	**Warramunga Arr**	**13.93**	**165**			**Pn**	**12 53 28.7**	**-3.2**
WRA	**Warramunga Arr**	**14.09**	**165**	P		Pn	12 53 29.8	-4.1
	4.5nm,0.3s,baz=353,slow=13,SNR=52							
WRA				S		Sn	12 55 58.9	-10
	1.9nm,0.3s,baz=352,slow=21,SNR=4.1							
COEN	**Coen**	**14.56**	**123**	Pn		**Pn**	**12 53 40.1**	**0.0**
JAGI	**Jajag, Banyuwa**	**16.44**	**261**			**Pn**	**12 54 01.9**	**-1.7**
AS31	**Alice Springs**	**17.60**	**170**			**P**	**12 54 16.9**	**-0.5**
AS31				lAmb		lAmb	12 54 20.1	
	comp=Z,6.8nm,0.7s							
ASAR	**Alice Springs**	**17.60**	**170**	P		**P**	**12 54 17.2**	**-0.2**
	comp=Z,2.7nm,0.3s,baz=345,slow=9.1,SNR=174							
ASAR				S		Sn	12 57 22.6	-11
	comp=Z,0.6nm,0.3s,baz=355,slow=28,SNR=4.3							
PSA00	**Pilbara Seismi**	**18.43**	**213**	P		**P**	**12 54 26.9**	**+0.5**
PSA00				lAmb		lAmb	12 54 28.1	
	comp=Z,12nm,0.5s							
KKM	**Kota Kinabalu**	**18.84**	**310**	P		**P**	**12 54 31.4**	**+0.2**
KKM				lAmb		lAmb	12 54 44.2	
	comp=Z,7.6nm,0.7s							
SBUM	**Sibu**	**20.27**	**295**	P		**P**	**12 54 46.6**	**0.0**
CISI	**Cisompet, Garu**	**22.63**	**265**	P		**P**	**12 55 11.0**	**-0.7**
GIRL	**Giralia**	**22.67**	**222**	P		**P**	**12 55 12.2**	**+0.2**
MORW	**Morawa**	**26.52**	**209**	P		**P**	**12 55 46.8**	**-0.4**
MORW				lAmb		lAmb	12 55 55.5	
	comp=Z,14nm,1.4s							
BBOO	**Buckleboo**	**26.91**	**170**	P		**P**	**12 55 50.3**	**-0.3**
BBOO				lAmb		lAmb	12 55 54.4	
	comp=Z,17nm,1.5s							
STKA	**Stephens Creek**	**27.49**	**159**	P		**P**	**12 55 55.9**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=328,slow=8.8,SNR=4.5							
STKA				pP		**pwP**	**12 56 21.7**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=336,slow=12,SNR=2.3							
STKA	**Stephens Creek**	**27.49**	**159**	P		**P**	**12 55 55.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**39.71**	**309**	P		**P**	**12 57 41.4**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=137,slow=7.2,SNR=9.5							
MJAR	**Matsushiro Arr**	**43.17**	**9**	P		**P**	**12 58 09.4**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=195,slow=9.3,SNR=2.3							
KSRS	**Korea Array**	**43.56**	**357**	P		**P**	**12 58 12.3**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=194,slow=9.0,SNR=4.3							
PETK	**Petropavlovsk-**	**63.45**	**18**	P		**P**	**13 00 38.1**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=155,slow=3.9,SNR=4.8							
MK31	**Makanchi Array**	**67.93**	**326**	P		**P**	**13 01 06.2**	**-0.6**
MKAR	**Makanchi Array**	**67.93**	**326**	P		**P**	**13 01 06.5**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=121,slow=7.5,SNR=17							
YAK	**Yakutsk**	**68.09**	**360**	P		**P**	**13 01 06.5**	**-1.0**
YAK				lAmb		lAmb	13 01 07.0	
	comp=Z,8.8nm,0.8s							
ZALV	**Zalesovo Beam**	**71.18**	**333**	P		**P**	**13 01 25.8**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=134,slow=4.2,SNR=2.3							
KK31	**Karatay Array**	**73.17**	**318**	P		**P**	**13 01 37.8**	**-1.0**
KK31				lAmb		lAmb	13 01 55.4	
	comp=Z,4.4nm,1.4s							
BRVK	**Borovoye**	**77.82**	**328**	P		**P**	**13 02 03.3**	**-1.8**
BRVK				lAmb		lAmb	13 02 11.2	
	comp=Z,2.0nm,0.8s							
QSPA	**South Pole Qui**	**83.71**	**180**	P		**P**	**13 02 35.4**	**-1.1**
QSPA				lAmb		lAmb	13 02 47.4	
	comp=Z,3.9nm,1.3s							

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*IDC **07** 13:02:44.3±1.8,7°.42S×128°.74E,h0km,mb3.9/3, mb1 4.2/5,mb1mx3.8/26,mbtmp4.0/5,ML4.3/2,Error ellipse: s-maj=281.9km s-min=23.5km az=65.0*
ISC 07 13:02:45.5±1.6,**7°.6S**±0°.7×**12°9E**±°,**h10**km,**n6,** σ1§**60**/6, **mb3.9**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.51**	**156**	Pn		**Pn**	**13 05 57.1**	**-0.3**
	1.7nm,0.3s,baz=339,slow=13,SNR=32							
WRA				Sn		Sn	13 08 16.4	-11
	2.9nm,0.3s,baz=333,slow=23,SNR=12							
ASAR	**Alice Springs**	**16.80**	**163**	Pn		**P**	**13 06 42.4**	**-0.8**
	1.0nm,0.3s,baz=342,slow=10,SNR=36							
ASAR				Sn		Sn	13 09 38.0	-10
	0.7nm,0.3s,baz=343,slow=25,SNR=6.2							
STKA	**Stephens Creek**	**27.06**	**155**	P		**P**	**13 08 30.1**	**+1.8**
	0.7nm,0.4s,baz=347,slow=14,SNR=3.8							
MKAR	**Makanchi Array**	**67.93**	**328**	P		**P**	**13 13 45.8**	**+1.3**
	0.6nm,0.4s,baz=116,slow=8.1,SNR=7.1							
ZALV	**Zalesovo Beam**	**71.47**	**334**	P		**P**	**13 14 05.0**	**-1.1**
	0.4nm,0.4s,baz=118,slow=6.0,SNR=2.7							
TORD	**Torodi Ar. Bea**	**127.49**	**281**	PKP		**PKiKP**	**13 21 51.6**	**-0.8**
	0.6nm,0.7s,baz=73,slow=3.0,SNR=2.6							

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*BJI **07** 13:11:34.6±0.0,50°.73N×157°.11E,h56km,mB5.0/70, mb5.2/82,Ms5.1/92,Ms7 4.9/85*
*NEIC **07** 13:11:36.0±1.6,50°.68N±0°.07×157°.1E±0°.1,h41km±4km, mb5.6/382,Ms_20 4.8/525,Mwb5.5/77,Mww5.5, Mwc5.5(GCMT),Error ellipse: s-maj=13.1km s-min=5.9km az=137.0*
*KEA **07** 13:11:35.2±0.0,52°.10N×155°.90E,h15km,mB5.5/1*
*KRSC **07** 13:11:35.0±2.4,50°.55N×157°.33E,h66km±21km,ML5.9, FELT [IV-V] at Severo-Kurilsk; [III-IV] at Paujetka, Ozernovskiy; [III] at lighthouse Kurbatova, RNS Podgornay, lighthouse Krugliy; [II-III] at Zaporojye, Viluchinsk.*
*NEIC **07** 13:11:36.6,50°.70N×157°.12E,h46km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}2.01; $M_{\theta\theta}$-1.03; $M_{\phi\phi}$-0.98; $M_{r\theta}$0.57; $M_{\theta\phi}$-1.27; $M_{\phi r}$0.60; Fault plane solution: $M_0$2.31000×10^{17} NP1:ϕ_s226.44000°, δ34.47000°,λ91.38000°. NP2:ϕ_s44.76000°,δ55.54000°, λ89.05000°. Principal axes: T 2.1627, Plg79.0000°, Azm311.0000°; N 0.2671, Plg1.0000°, Azm45.0000°; P -2.4299, Plg11.0000°, Azm135.0000°;*
*MOS **07** 13:11:37.7±0.9,50°.70N×156°.99E,h76km,mb5.4/66, MS5.0/52 Error ellipse: s-maj=5.9km s-min=2.6km az=82.0*
MOS Felt (IV-V) at Severo-Kuril'sk.
*UNK **07** 13:11:37.8,50°.71N×157°.11E,h56km*
*BGR **07** 13:11:38.8±0.0,51°.56N×156°.45E,h33km,mb5.2,Ms5.1*
*IDC **07** 13:11:38.6±2.0,50°.81N×156°.97E,h64km±17km,mb4.8/32, mb1 5.0/38,mb1mx5.0/41,mbtmp5.1/38,MS4.8/42, Ms1 4.8/42,ms1mx4.7/50,Error ellipse: s-maj=11.8km s-min=8.5km az=145.0*
*NEIC **07** 13:11:38,50°.71N×157°.27E,h50km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.62; $M_{\theta\theta}$-0.69; $M_{\phi\phi}$-0.93; $M_{r\theta}$1.21; $M_{\theta\phi}$-0.79; $M_{\phi r}$1.39; Fault plane solution: $M_0$2.45000×10^{17} NP1:ϕ_s220.00000°, δ21.00000°,λ90.00000°. NP2:ϕ_s41.00000°,δ69.00000°, λ90.00000°. Principal axes: T 2.4537, Plg66.0000°, Azm311.0000°; N -0.0103, Plg0.0000°, Azm221.0000°; P -2.4434, Plg24.0000°, Azm131.0000°;*
*GCMT **07** 13:11:39.0±0.1,50°.58N±0°.01×157°.44E±0°.01,h52km, MW5.5/159,Moment Tensor Solution. s152,c295; s159,c318; Duration: 1§3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.88±.02; $M_{\theta\theta}$-0.66±.02; $M_{\phi\phi}$-1.22±.02; $M_{r\theta}$0.37±.02; $M_{\theta\phi}$-0.96±.01; $M_{\phi r}$0.74±.02; Best double couple: $M_0$2.08200×10^{17} NP1:ϕ_s221.00000°,δ34.00000°, λ97.00000°. NP2:ϕ_s33.00000°,δ57.00000°,λ85.00000°. Principal axes: T 2.0560, Plg78.0000°, Azm287.0000°; N 0.0490, Plg4.0000°, Azm35.0000°; P -2.1070, Plg12.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **07** 13:11:40,50°.50N×157°.53E,h57km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.83; $M_{\theta\theta}$-0.65; $M_{\phi\phi}$-1.18; $M_{r\theta}$0.25; $M_{\theta\phi}$-1.11; $M_{\phi r}$0.65; Fault plane solution: $M_0$2.07000×10^{17} NP1:ϕ_s225.00000°, δ36.00000°,λ101.00000°. NP2:ϕ_s32.00000°,δ55.00000°, λ82.00000°. Principal axes: T 1.9664, Plg78.0000°, Azm273.0000°; N 0.2022, Plg6.0000°, Azm36.0000°; P -2.1685, Plg10.0000°, Azm127.0000°;*
ISC 07 13:11:38.9±0.5,**50°.73N**±0°.04×**157°.04E**±0°.03,**h69**km±3km, **h69**km:**pP-P,n1681,**σ1§**15**/1431,**mb5.4**/393,**56C-38D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.59**	**266**	*eP*		**Pn**	**13 11 51.4**	**-1.1**
SKR				*eS*		**Sn**	**13 12 02.2**	**-0.3**
SKR	**Severo-Kuril's**	**0.59**	**266**	*d* iPN		**Pn**	**13 11 51.3**	**-1.2**
PAU	**Pauzhetka**	**0.75**	**349**	*eP*		**Pn**	**13 11 54.4**	**+0.1**
PAU				*eS*		**Sn**	**13 12 07.9**	**+2.2**
PAU	**Pauzhetka**	**0.75**	**349**	PN		**Pn**	**13 11 54.4**	**+0.1**
PAU				S		**Sn**	**13 12 07.9**	**+2.2**
ALID	**Alaid**	**0.95**	**279**	*eP*		**Pn**	**13 11 57.4**	**+0.5**
ALID	**Alaid**	**0.95**	**279**	PN		**Pn**	**13 11 57.4**	**+0.5**
MIPR	**Malaya Ipel'ka**	**1.56**	**354**	*eP*		**Pn**	**13 12 05.7**	**+1.1**
MIPR	**Malaya Ipel'ka**	**1.56**	**354**	PN		**Pn**	**13 12 05.7**	**+1.1**
ASAK	**Asacha**	**1.74**	**18**	*eP*		**Pn**	**13 12 06.8**	**-0.3**
ASAK	**Asacha**	**1.74**	**18**	PN		**Pn**	**13 12 06.8**	**-0.3**
MTVR	**Mutnovka**	**1.90**	**22**	*eP*		**Pn**	**13 12 08.5**	**-0.7**
MTVR	**Mutnovka**	**1.90**	**22**	PN		**Pn**	**13 12 08.5**	**-0.7**
GRL	**Gorelyy**	**1.94**	**19**	*eP*		**Pn**	**13 12 09.7**	**0.0**
GRL	**Gorelyy**	**1.94**	**19**	PN		**Pn**	**13 12 09.7**	**0.0**
RUS	**Russkaya**	**1.94**	**28**	*eP*		**Pn**	**13 12 07.9**	**-1.7**
RUS	**Russkaya**	**1.94**	**28**	PN		**Pn**	**13 12 07.9**	**-1.7**
APC	**Apacha**	**2.20**	**2**	*eP*		**Pn**	**13 12 14.3**	**+1.1**
APC	**Apacha**	**2.20**	**2**	PN		**Pn**	**13 12 14.3**	**+1.1**
KRMR	**Karymshinskiy**	**2.21**	**17**	*eP*		**Pn**	**13 12 14.8**	**+1.5**
KRMR	**Karymshinskiy**	**2.21**	**17**	PN		**Pn**	**13 12 14.8**	**+1.5**
I44RU	**PETROPAVLOVSK-**	**2.42**	**10**	P		**Pn**	**13 12 14.5**	**-1.6**
	baz=190,slow=15,SNR=5.7							
PEA0B	**Petropavlovsk-**	**2.42**	**10**	*d* iPN		**Pn**	**13 12 17.1**	**+1.0**
PEA0B	**Petropavlovsk-**	**2.42**	**10**			**Pn**	**13 12 17.1**	**+1.0**
PETK	**Petropavlovsk-**	**2.42**	**10**	P		**Pn**	**13 12 16.8**	**+0.7**
	143nm,0.3s,baz=165,slow=15,SNR=834							
PETK				S		**Sn**	**13 12 45.9**	**+1.2**
	258nm,0.3s,baz=163,slow=25,SNR=6.4							
PETK				LR		LR	13 13 33.8	
	comp=Z,25μm,21.6s,baz=138,slow=49							
PET	**Petropavlovsk**	**2.51**	**23**	*eP*		**Pn**	**13 12 17.0**	**-0.3**
PET				*eS*		**Sn**	**13 12 48.3**	**+1.5**
PET	**Petropavlovsk**	**2.51**	**23**K	*i* PN		**Pn**	**13 12 16.8**	**-0.5**
PET				*i* S		**Sn**	**13 12 47.8**	**+1.0**
PET				pmax	pmax			
	comp=Z,3μm,1.5s							
PET				pmax	pmax			
	comp=Z,400nm,1.5s							
PET				pmax	pmax			
	comp=Z,986nm,0.4s							
PET				smax	smax			
	comp=N,22μm,0.5s							
PET				smax	smax			
	comp=E,22μm,0.6s							
PET				MLR	MLR			
	comp=Z,23μm,19.0s							
PET	**Petropavlovsk**	**2.51**	**23**	Pn		**Pn**	**13 12 16.9**	**-0.5**
DALK	**Dalny**	**2.54**	**24**	*eP*		**Pn**	**13 12 17.4**	**-0.3**
DALK				*eS*		**Sn**	**13 12 48.5**	**+0.9**
DALK	**Dalny**	**2.54**	**24**	PN		**Pn**	**13 12 17.4**	**-0.3**
DALK				S		**Sn**	**13 12 48.5**	**+0.9**
UGLR	**Uglovaya**	**2.72**	**23**	*eP*		**Pn**	**13 12 20.7**	**+0.4**
UGLR	**Uglovaya**	**2.72**	**23**	PN		**Pn**	**13 12 20.7**	**+0.4**
AVH	**Avacha**	**2.75**	**22**	*eP*		**Pn**	**13 12 21.6**	**+0.9**
AVH	**Avacha**	**2.75**	**22**	PN		**Pn**	**13 12 21.6**	**+0.9**
KOK	**Koryaka**	**2.75**	**20**	*eP*		**Pn**	**13 12 21.9**	**+1.2**
KOK	**Koryaka**	**2.75**	**20**	PN		**Pn**	**13 12 21.9**	**+1.2**
SMAR	**Somma**	**2.76**	**23**	*eP*		**Pn**	**13 12 21.6**	**+0.6**
SMAR	**Somma**	**2.76**	**23**	PN		**Pn**	**13 12 21.6**	**+0.6**
KRER	**Koryakskii**	**2.79**	**22**	*eP*		**Pn**	**13 12 22.0**	**+0.7**
KRER	**Koryakskii**	**2.79**	**22**	PN		**Pn**	**13 12 22.0**	**+0.7**
SDLR	**Sedlovina**	**2.80**	**23**	*eP*		**Pn**	**13 12 21.4**	**0.0**
SDLR	**Sedlovina**	**2.80**	**23**	PN		**Pn**	**13 12 21.4**	**0.0**
KRX	**Arik**	**2.82**	**20**	*eP*		**Pn**	**13 12 22.6**	**+0.9**
KRX	**Arik**	**2.82**	**20**	PN		**Pn**	**13 12 22.6**	**+0.9**
NLC	**Nalytchevo**	**2.83**	**29**	*eP*		**Pn**	**13 12 19.6**	**-2.1**
NLC	**Nalytchevo**	**2.83**	**29**	PN		**Pn**	**13 12 19.6**	**-2.1**
SPN	**Mys Shipunski**	**3.01**	**37**	*eP*		**Pn**	**13 12 23.1**	**-1.0**
SPN	**Mys Shipunski**	**3.01**	**37**	PN		**Pn**	**13 12 23.1**	**-1.0**
KII	**Karymskiy**	**3.63**	**23**	*eP*		**Pn**	**13 12 35.1**	**+2.5**
KII	**Karymskiy**	**3.63**	**23**	PN		**Pn**	**13 12 35.1**	**+2.5**
KZV	**Kizimen**	**4.81**	**23**	*eP*		**Pn**	**13 12 50.0**	**+1.1**
KZV	**Kizimen**	**4.81**	**23**	PN		**Pn**	**13 12 50.0**	**+1.1**
TUMD	**Tumrok D**	**4.92**	**23**	*eP*		**Pn**	**13 12 51.2**	**+1.0**
TUMR	**Tumrok**	**4.93**	**21**	*eP*		**Pn**	**13 12 52.7**	**+2.2**
TUMR	**Tumrok**	**4.93**	**21**	PN		**Pn**	**13 12 51.2**	**+0.7**
ESO	**Esso**	**5.30**	**10**	*eP*		**Pn**	**13 12 58.2**	**+2.8**
ESO	**Esso**	**5.30**	**10**	PN		**Pn**	**13 12 58.2**	**+2.8**
KMNR	**Kamenistaya**	**5.39**	**20**	*eP*		**Pn**	**13 12 58.7**	**+2.0**
KMNR	**Kamenistaya**	**5.39**	**20**	PN		**Pn**	**13 12 58.7**	**+2.0**
KPT	**Kopyto**	**5.58**	**19**	*eP*		**Pn**	**13 13 01.1**	**+1.8**
KPT	**Kopyto**	**5.58**	**19**	PN		**Pn**	**13 13 01.1**	**+1.8**
KIRR	**Kirishev**	**5.59**	**19**	*eP*		**Pn**	**13 13 01.0**	**+1.4**
KIRR	**Kirishev**	**5.59**	**19**	PN		**Pn**	**13 13 01.0**	**+1.4**
KOZ	**Kozyrevsk**	**5.60**	**17**	*eP*		**Pn**	**13 13 01.4**	**+1.9**
KOZ	**Kozyrevsk**	**5.60**	**17**	PN		**Pn**	**13 13 01.4**	**+1.9**
BZMR	**Bezymyannaya**	**5.61**	**20**	*eP*		**Pn**	**13 13 02.4**	**+2.6**
BZMR	**Bezymyannaya**	**5.61**	**20**	PN		**Pn**	**13 13 02.4**	**+2.6**
BZWR	**Bezymyannyi-We**	**5.64**	**20**	*eP*		**Pn**	**13 13 02.0**	**+1.8**
BZWR	**Bezymyannyi-We**	**5.64**	**20**	PN		**Pn**	**13 13 02.0**	**+1.8**
BZGR	**Bezymyannyi-Gr**	**5.66**	**21**	*eP*		**Pn**	**13 13 01.4**	**+1.0**
BZGR				*eS*		**Sn**	**13 14 02.0**	**-2.0**
BZGR	**Bezymyannyi-Gr**	**5.66**	**21**	PN		**Pn**	**13 13 01.4**	**+1.0**
BZGR				S		**Sn**	**13 14 02.0**	**-2.0**
ZLN	**Zelenaya**	**5.76**	**22**	*eP*		**Pn**	**13 13 03.9**	**+2.2**
ZLN	**Zelenaya**	**5.76**	**22**	PN		**Pn**	**13 13 03.9**	**+2.2**
LGNR	**Loginova**	**5.79**	**21**	*eP*		**Pn**	**13 13 04.8**	**+2.4**
LGNR	**Loginova**	**5.79**	**21**	PN		**Pn**	**13 13 04.8**	**+2.4**
SRDR	**Sredinnyy**	**5.82**	**15**	*eP*		**Pn**	**13 13 04.6**	**+2.0**
SRDR	**Sredinnyy**	**5.82**	**15**	PN		**Pn**	**13 13 04

YUK	**Yuzh-Kuril'sk**	**10.11**	**233**	*e*	PN	**Pn**	**13 14 01.1**	**+0.1**
YUK					pmax	pmax			
	comp=Z,973µm,0.5s								
YUK					pmax	pmax			
	comp=N,401µm,0.4s								
YUK					pmax	pmax			
	comp=E,387µm,0.4s								
YUK					pmax	pmax			
	comp=Z,478nm,1.0s								
YUK					MLR	MLR			
	comp=N,2µm,19.0s								
YUK					MLR	MLR			
	comp=Z,6µm,19.0s								
YUK					MLR	MLR			
	comp=E,4µm,17.0s								
YSS	**Yuzh-Sakhalins**	**10.14**	**254**	*ce*	PN	**Pn**	**13 14 05.1**	**+3.6**
YSS				*e*	S	**Sn**	**13 15 59.3**	**+5.8**
YSS					pmax	pmax			
	comp=Z,230nm,1.1s								
YSS					pmax	pmax			
	comp=N,110nm,1.3s								
YSS					pmax	pmax			
	comp=E,200nm,1.3s								
YSS					pmax	pmax			
	comp=Z,400nm,3.2s								
YSS					smax	smax			
	comp=N,90nm,0.8s								
YSS					MLR	MLR			
	comp=E,3µm,18.0s								
YSS					MLR	MLR			
	comp=Z,4µm,18.0s								
YSS	**Yuzh-Sakhalins**	**10.14**	**254**		Pn	**Pn**	**13 14 04.5**	**+3.0**
GRPR	**Tuman**	**10.18**	**233**	*e*	PN	**Pn**	**13 14 01.7**	**-0.4**
GRPR					pmax	pmax			
	comp=N,504nm,0.4s								
GRPR					pmax	pmax			
	comp=Z,504nm,0.4s								
GRPR					pmax	pmax			
	comp=Z,588nm,1.1s								
RUSJ	**Misakicho**	**10.37**	**235**	*e*	PN	**Pn**	**13 14 01.7**	**-3.0**
RUSJ					pmax	pmax			
	comp=Z,504nm,0.4s								
NKL	**Nikolayevsk**	**10.39**	**290**	*e*	PN	**Pn**	**13 14 07.8**	**+3.0**
NKL					pmax	pmax			
	comp=Z,283nm,1.3s								
NKL					pmax	pmax			
	comp=E,8.0nm,1.0s								
NKL					pmax	pmax			
	comp=N,4.0nm,0.8s								
GLVR	**Golovnino**	**10.49**	**233**	*e*	PN	**Pn**	**13 14 06.8**	**+0.5**
GLVR				*i*	S	**Sn**	**13 16 02.6**	**+0.6**
GLVR					pmax	pmax			
	comp=Z,684nm,0.6s								
GLVR					pmax	pmax			
	comp=N,404nm,0.5s								
GLVR					pmax	pmax			
	comp=E,460nm,0.5s								
GLVR					pmax	pmax			
	comp=Z,1µm,1.1s								
NMR	**Nemuro--Hokkai**	**10.65**	**231**	*e*	PN	Pn	13 14 03.7	-4.8
SMY	**Shemya**	**10.77**	**73**		PN	**Pn**	**13 14 06.3**	**-3.8**
SMY	**Shemya**	**10.77**	**73**		Pn	**Pn**	**13 14 06.3**	**-3.8**
TILK	**Tilichiki**	**11.01**	**24**	*e*	P	**Pn**	**13 14 13.7**	**+0.5**
TILK	**Tilichiki**	**11.01**	**24**		PN	**Pn**	**13 14 13.7**	**+0.5**
JKA	**Kamikawa-asahi**	**11.79**	**241**			**Pn**	**13 14 24.3**	**+0.2**
ASAJ	**Asahikawa**	**11.80**	**241**		P	**Pn**	**13 14 24.3**	**+0.2**
	comp=Z,8.2nm,0.3s,baz=68,slow=16,SNR=67								
ASAJ					S	**Sn**	**13 16 33.1**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=90,slow=20,SNR=1.0								
ASAJ					LR	LR	13 18 28.8		
	comp=Z,3µm,18.4s,baz=54,slow=35								
KMSK	**Kamenskaya**	**12.79**	**20**	*e*	P	**Pn**	**13 14 37.9**	**+0.5**
KMSK	**Kamenskaya**	**12.79**	**20**		PN	**Pn**	**13 14 37.9**	**+0.5**
ERM	**Erimo**	**12.94**	**233**	*c i*	PN	**Pn**	**13 14 36.5**	**-3.1**
ERM	**Erimo**	**12.94**	**233**		Pn	**Pn**	**13 14 35.9**	**-3.7**
GRNR	**Gornyy**	**13.05**	**278**	⇑ *i*	PN	**P**	**13 14 45.8**	**-3.2**
GRNR				*e*	S	S	13 17 15.8	-10
GRNR					pmax	pmax			
	comp=E,100nm,1.0s								
GRNR					pmax	pmax			
	comp=N,20nm,1.1s								
GRNR					pmax	pmax			
	comp=Z,100nm,1.0s								
GRNR					smax	smax			
	comp=N,10.0nm,0.9s								
GRNR					MLR	MLR			
	comp=E,1µm,18.0s								
GRNR					MLR	MLR			
	comp=N,1µm,13.0s								
GRNR					MLR	MLR			
	comp=Z,2µm,15.0s								
TEY	**Ternei**	**14.83**	**255**	⇓ *e*	P	**Pn**	**13 15 06.7**	**+2.2**
TEY				*e*	S	**Sn**	**13 17 50.2**	**+2.7**
TEY					pmax	pmax			
	comp=Z,50nm,1.0s								
TEY					pmax	pmax			
	comp=E,50nm,1.0s								
TEY					pmax	pmax			
	comp=N,20nm,1.2s								
TEY					pmax	pmax			
	comp=Z,1µm,5.2s								
TEY					MLR	MLR			
	comp=E,3µm,21.0s								
TEY					MLR	MLR			
	comp=N,2µm,23.0s								
ADK	**Adak**	**16.45**	**76**		P	**Pn**	**13 15 21.9**	**-3.1**
ADK					pmax	pmax			
	comp=Z,198nm,1.5s								
ADK	**Adak**	**16.45**	**76**		Pn	**Pn**	**13 15 21.9**	**-3.1**
BILL	**Bilibino**	**17.95**	**11**	*c i*	P	**P**	**13 15 43.4**	**+0.3**
BILL					pmax	pmax			
	comp=Z,72nm,1.0s								
BILL					MLR	MLR			
	comp=Z,6µm,21.0s								
BILL	**Bilibino**	**17.95**	**11**		P	**P**	**13 15 43.4**	**+0.3**
USA0B	**Ussuriysk Arra**	**18.10**	**259**	*de*	P	**P**	**13 15 44.3**	**-0.6**
USA0B	**Ussuriysk Arra**	**18.10**	**259**		P	**Pn**	**13 15 45.5**	**+0.1**
USRK	**Ussuriysk Ar.**	**18.10**	**259**		P	**P**	**13 15 43.9**	**-1.0**
	baz=66,slow=9.8,SNR=22								
USRK					LR	LR	13 22 37.8		
	comp=Z,4µm,21.4s,baz=53,slow=36								
ZEA	**Zeya**	**18.43**	**291**	*e*	P	**Pn**	**13 15 49.2**	**0.0**
ZEA					pmax	pmax			
	comp=N,58nm,1.2s								
ZEA					pmax	pmax			
	comp=E,86nm,1.2s								
ZEA					pmax	pmax			
	comp=Z,150nm,1.2s								
ZEA					pmax	pmax			
	comp=Z,3µm,8.0s								
ZEA					pmax	pmax			
	comp=E,200nm,9.0s								
ZEA					MLR	MLR			
	comp=N,2µm,16.0s								
VLA	**Vladivostok**	**18.73**	**256**	⇓ *e*	P	**P**	**13 15 51.6**	**-0.1**
YAK	**Yakutsk**	**18.74**	**318**		P	**P**	**13 15 52.0**	**+0.3**
	comp=N,1.9nm,0.3s,baz=118,slow=2.1,SNR=48								
YAK					LR	LR	13 23 41.4		
	comp=N,6µm,19.2s,baz=156,slow=39								
YAK	**Yakutsk**	**18.74**	**318**	*c i*	P	**P**	**13 15 52.2**	**+0.5**
YAK				*e*	S	**Sn**	**13 19 22.9**	**+1.3**
YAK					pmax	pmax			
	comp=Z,198nm,0.7s								
YAK					pmax	pmax			
	comp=N,49nm,0.8s								
YAK					pmax	pmax			
	comp=E,88nm,0.9s								
YAK					smax	smax			
	comp=N,406nm,2.3s								
YAK					smax	smax			
	comp=E,257nm,2.5s								
YAK	**Yakutsk**	**18.74**	**318**		P	**P**	**13 15 51.4**	**-0.3**
YAK					IAmb	IAmb	13 15 53.6		
	comp=Z,304nm,0.7s								
MDJ	**Mudanjiang**	**19.40**	**262**		P	**P**	**13 15 58.6**	**-0.5**
MDJ					pP	pP	13 16 11.0	-2.5
MDJ					sP	sP	13 16 18.6	-3.7
MDJ					pmax	pmax			
	comp=Z,39nm,0.6s								
MDJ					pmax	pmax			
	comp=Z,87nm,2.7s								
MDJ					LR	LR			
	comp=Z,3µm,21.2s								
MDJ					LR	LR			
	comp=Z,4µm,18.6s								
MDJ					LR	LR			
	comp=Z,5µm,20.2s								
MDJ	**Mudanjiang**	**19.40**	**262**		P	**P**	**13 15 57.2**	**-1.9**
MSHR	**Mys Shultsa**	**19.47**	**255**	⇑ *e*	P	**Pn**	**13 16 01.1**	**-0.6**
MJB9	**Matsu-Tunnel**	**19.59**	**231**		P	**P**	**13 15 59.9**	**-1.3**
MAJO	**Matsushiro**	**19.59**	**231**	*c i*	P	**P**	**13 16 00.7**	**-0.5**
MAJO					pmax	pmax			
	comp=Z,139nm,0.9s								
MAJO					MLR	MLR			
	comp=Z,3µm,23.0s								
MAJO	**Matsushiro**	**19.59**	**231**		P	**P**	**13 15 59.8**	**-1.4**
MAT	**Matsushiro**	**19.59**	**231**		P	**P**	**13 16 00.3**	**-0.9**
MAT					S	**S**	**13 19 38.4**	**-0.2**
MJAR	**Matsushiro Arr**	**19.59**	**231**		P	**P**	**13 16 00.2**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=26,slow=9.5,SNR=155								
MJAR					LR	LR	13 23 50.5		
	comp=Z,3µm,21.6s,baz=50,slow=37								
CHJN	**Chongjin**	**20.74**	**255**		P	Pn	13 16 15.4	-1.2
GAMB	**Gambell**	**21.08**	**40**		P	**P**	**13 16 17.2**	**+0.1**
INU	**Inuyama**	**21.12**	**231**		P	**P**	**13 16 16.9**	**-0.8**
INU					IAmb	IAmb	13 16 19.1		
	comp=Z,248nm,0.9s								
CN2	**Changchun**	**22.41**	**264**	*e*	P	**P**	**13 16 29.3**	**-2.2**
CN2				*e*	S	**S**	**13 20 29.8**	**-3.0**
CN2					pmax	pmax			
	comp=Z,10.0nm,1.2s								
CN2					pmax	pmax			
	comp=Z,270nm,4.0s								
CN2					LR	LR			
	comp=Z,3µm,19.0s								
CN2					LR	LR			
	comp=Z,3µm,19.0s								
CN2					LR	LR			
	comp=Z,3µm,19.0s								
KGE	**Kanggye**	**23.20**	**257**		P	**P**	**13 16 38.0**	**-1.6**
HHU	**Hamhung**	**23.24**	**254**		P	**P**	**13 16 38.1**	**-1.8**
WOSN	**Wonsan**	**23.77**	**252**		P	**P**	**13 16 44.8**	**0.0**
HIA	**Hailar**	**23.86**	**281**		P	**P**	**13 16 44.2**	**-1.4**
HIA					pmax	pmax			
	comp=Z,25nm,0.6s								
HIA					MLR	MLR			
	comp=Z,2µm,20.0s								
HIA	**Hailar**	**23.86**	**281**		P	**P**	**13 16 44.2**	**-1.4**
ANM	**Nome**	**23.96**	**40**		P	**P**	**13 16 46.9**	**+0.6**
ANM					pmax	pmax			
	comp=Z,137nm,1.1s								
ANM	**Nome**	**23.96**	**40**		P	**P**	**13 16 46.9**	**+0.6**
ANM					IAmb	IAmb	13 17 01.5		
	comp=Z,137nm,1.1s								
TIXI	**Tiksi**	**24.52**	**339**		P	**P**	**13 16 50.3**	**-1.1**
	comp=Z,12nm,0.6s,baz=130,slow=11,SNR=38								
TIXI					PcP	**PcP**	**13 20 28.4**	**+0.9**
	comp=Z,14nm,0.8s,baz=111,slow=4.5,SNR=3.9								
TIXI					LR	LR	13 28 14.1		
	comp=Z,3µm,18.2s,baz=140,slow=41								
TIXI	**Tiksi**	**24.52**	**339**	*ce*	P	**P**	**13 16 50.6**	**-0.7**
TIXI					pmax	pmax			
	comp=Z,33nm,1.3s								
TIXI					MLR	MLR			
	comp=Z,3µm,17.0s								
TIXI	**Tiksi**	**24.52**	**339**		P	**P**	**13 16 50.9**	**-0.5**
TIXI					IAmb	IAmb	13 17 09.0		
	comp=Z,194nm,1.2s								
TIXI	**Tiksi**	**24.52**	**339**		IAMs_20	IAMs_20	13 27 54.4		
	comp=Z,3µm,20.0s								
KSRS	**Korea Array**	**24.58**	**249**		P	**P**	**13 16 52.4**	**+0.3**
	comp=Z,30nm,0.6s,baz=46,slow=9.9,SNR=179								
KSRS					PcP	**PcP**	**13 20 29.4**	**+1.1**
	comp=Z,3.5nm,0.9s,baz=331,slow=0.5,SNR=5.6								
KSRS					LR	LR	13 25 32.3		
	comp=Z,2µm,21.4s,baz=53,slow=34								
KS19	**Wonju Array Si**	**24.58**	**249**		P	**P**	**13 16 52.4**	**+0.2**
SNY	**Shenyang**	**24.60**	**262**	⇑	P	**P**	**13 16 51.8**	**-0.5**
SNY					sP	**pP**	**13 17 08.7**	**0.0**
SNY					S	**S**	**13 21 07.0**	**-1.3**
SNY					pmax	pmax			
	comp=Z,18nm,2.2s								
SNY					pmax	pmax			
	comp=Z,220nm,10.8s								
SNY					LR	LR			
	comp=Z,1µm,19.9s								
SNY					LR	LR			
	comp=Z,2µm,19.9s								
SNY					LR	LR			
	comp=Z,3µm,22.2s								
PYAG	**Pyongyang**	**24.86**	**254**		P	**P**	**13 16 56.0**	**+1.3**
PYAG					PP	**PnPn**	**13 17 32.0**	**+1.3**
PYAG					PPP	PPP	13 17 44.0		
PYAG					S	**S**	**13 21 14.0**	**+1.5**
PYAG					SS	**SnSn**	**13 22 12.0**	**+5.7**
SUJ	**Sinuiju**	**25.00**	**258**		P	**P**	**13 16 55.0**	**-1.0**
INCN	**Inchon**	**25.33**	**250**		P	**P**	**13 16 59.7**	**+0.7**
HJU	**Haeju**	**25.51**	**252**		P	**P**	**13 17 02.7**	**+2.1**
TJN	**Taejon**	**25.64**	**247**	*ce*	P	**P**	**13 17 02.1**	**+0.3**
BOD	**Bodaibo**	**25.73**	**303**	*e*	P	**P**	**13 17 02.6**	**+0.1**
BOD					pmax	pmax			
	comp=Z,152nm,1.8s								
JNU	**Nakatsue**	**26.03**	**237**		P	**P**	**13 17 06.0**	**+0.7**
	comp=Z,264nm,0.9s,baz=38,slow=7.0,SNR=79								
JNU	**Nakatsue**	**26.03**	**237**		P	**P**	**13 17 06.5**	**+1.1**
RDOG	**Red Dog Mine**	**26.06**	**33**		P	**P**	**13 17 06.0**	**+0.6**
CNBA	**Chernabura Isl**	**26.23**	**64**		IAMs_20	IAMs_20	13 27 54.0		
	comp=Z,3µm,21.0s								
DL2	**Dalian**	**27.49**	**258**		P	**P**	**13 17 17.7**	**-0.7**
DL2					S	**S**	**13 21 56.8**	**+2.7**
DL2					pmax	pmax			
	comp=Z,25nm,0.7s								
DL2					pmax	pmax			
	comp=Z,220nm,9.4s								
DL2					LR	LR			
	comp=Z,2µm,19.3s								
DL2					LR	LR			
	comp=Z,2µm,19.8s								
DL2					LR	LR			
	comp=Z,2µm,24.5s								
TTA	**Tatalina**	**27.75**	**46**		P	**P**	**13 17 20.9**	**+0.3**
TTA					pmax	pmax			
	comp=Z,62nm,0.9s								
TTA	**Tatalina**	**27.75**	**46**		P	**P**	**13 17 20.9**	**+0.3**
OHAK	**Old Harbor**	**29.36**	**58**		P	**P**	**13 17 33.9**	**-1.0**
OHAK					IAmb	IAmb	13 17 47.9		
	comp=Z,116nm,1.2s								
OHAK					IAMs_20	IAMs_20	13 31 26.8		
	comp=Z,3µm,20.0s								
PPLA	**Purkeypile**	**29.49**	**46**		P	**P**	**13 17 36.5**	**+0.3**
KDAK	**Kodiak Island**	**29.65**	**57**		P	**P**	**13 17 36.1**	**-1.4**
	comp=Z,49nm,0.8s,baz=301,slow=5.0,SNR=22								
KDAK					PcP	**PcP**	**13 20 41.3**	**+1.2**
	comp=Z,25nm,1.1s,baz=186,slow=3.2,SNR=4.0								
KDAK	**Kodiak Island**	**29.65**	**57**		P	**P**	**13 17 36.0**	**-1.5**
KDAK	**Kodiak Island**	**29.65**	**57**		IAMs_20	IAMs_20	13 31 02.6		
	comp=Z,3µm,21.0s								
BPAW	**Bear Paw Mtn.**	**30.05**	**44**		P	**P**	**13 17 41.1**	**+0.1**
KTH	**Kantishna Hill**	**30.07**	**45**		P	**P**	**13 17 41.6**	**+0.4**
KTH					IAmb	IAmb	13 17 55.8		
	comp=Z,95nm,1.0s								
CNPM	**China Poot**	**30.13**	**53**		IAmb	IAmb	13 17 43.1		
	comp=Z,82nm,0.7s								
BJI	**Beijing**	**30.26**	**265**		P	**P**	**13 17 42.8**	**-0.2**
BJI					sP	**pP**	**13 18 01.6**	**+2.0**
BJI					PcP	**PcP**	**13 20 42.6**	**+0.7**
BJI					S	**S**	**13 22 34.5**	**-3.1**
BJI					sS	sS	13 22 58.2	-7.8
BJI					pmax	pmax			
	comp=Z,8.0nm,1.0s								
BJI					LR	LR			
	comp=Z,3µm,21.6s								
BJI					LR	LR			
	comp=Z,2µm,22.0s								
BJI					LR	LR			
	comp=Z,2µm,23.5s								
BRLK	**Bradley Lake**	**30.28**	**52**		P	**P**	**13 17 41.8**	**-1.3**
RC01	**Rabbit Creek A**	**30.72**	**50**		P	**P**	**13 17 46.1**	**-0.8**
SEW	**Seward**	**30.96**	**52**		P	**P**	**13 17 48.1**	**-0.9**
SEW					IAmb	IAmb	13 18 05.8		
	comp=Z,84nm,0.9s								
PMR	**Palmer**	**30.97**	**49**		P	**P**	**13 17 49.2**	**+0.2**
PMR					pmax	pmax			
	comp=Z,19nm,1.0s								
PMR					MLR	MLR			
	comp=Z,1µm,22.0s								
PMR	**Palmer**	**30.97**	**49**		P	**P**	**13 17 49.2**	**+0.2**
TOLK	**Toolik Lake Re**	**30.99**	**35**		P	**P**	**13 17 49.0**	**-0.2**
	baz=262,SNR=25								
TOLK					S	**S**	**13 22 49.7**	**+1.1**
	baz=262								
TOLK	**Toolik Lake Re**	**30.99**	**35**		P	**P**	**13 17 49.6**	**+0.4**
RND	**Reindeer**	**31.00**	**45**		P	**P**	**13 17 48.7**	**-0.7**
RND					pmax	pmax			
	comp=Z,105nm,0.9s								
RND					MLR	MLR			
	comp=Z,2µm,20.0s								
RND	**Reindeer**	**31.00**	**45**		P	**P**	**13 17 48.7**	**-0.7**
RND					IAmb	IAmb	13 18 02.9		
	comp=Z,105nm,0.9s								
GHO	**Glory Hole Cre**	**31.06**	**48**		P	**P**	**13 17 49.9**	**0.0**
MDM	**Murphy Dome**	**31.26**	**42**		P	**P**	**13 17 50.3**	**-1.3**
KNK	**Knik Glacier**	**31.31**	**49**		P	**P**	**13 17 51.6**	**-0.4**
WRH	**Wood River Hil**	**31.32**	**43**		P	**P**	**13 17 52.8**	**+0.7**
WRH					IAmb	IAmb	13 18 06.4		
	comp=Z,152nm,1.1s								
SML	**Sawmill**	**31.33**	**48**		P	**P**	**13 17 52.2**	**-0.1**
TCOL	**CIGO, UAF Yank**	**31.42**	**42**		P	**P**	**13 17 52.9**	**0.0**
	baz=270,SNR=31								
COLA	**College**	**31.42**	**42**	*c i*	P	**P**	**13 17 52.2**	**-0.7**
COLA					pmax	pmax			
	comp=Z,74nm,0.9s								
COLA					MLR	MLR			
	comp=Z,838nm,18.0s								
COLA	**College**	**31.42**	**42**		P	**P**	**13 17 52.6**	**-0.3**
COLA					IAmb	IAmb	13 18 07.3		
	comp=Z,114nm,0.8s								
CCB	**Clear Creek Bu**	**31.44**	**43**		P	**P**	**13 17 53.4**	**+0.3**
CCB					IAmb	IAmb	13 18 07.2		
	comp=Z,94nm,1.0s								
POKR	**Poker Plat Res**	**31.60**	**42**		P	**P**	**13 17 54.6**	**0.0**
	baz=270,SNR=13								
POKR					S	**S**	**13 22 59.1**	**+1.0**
	baz=270								
DHY	**Denali Highway**	**31.69**	**46**		IAmb	IAmb	13 18 09.2		
	comp=Z,112nm,1.3s								
HDA	**Harding Lake**	**31.82**	**43**		P	**P**	**13 17 55.3**	**-1.1**
	baz=272,SNR=22								
HDA	**Harding Lake**	**31.82**	**43**		P	**P**	**13 17 56.3**	**-0.1**
HDA					IAmb	IAmb	13 18 10.7		
	comp=Z,47nm,0.7s								
IL31		**31.83**	**42**		P	**P**	**13 17 56.6**	**+0.1**
IL31					IAmb	IAmb	13 18 10.3		
	comp=Z,68nm,0.9s								
ILAR	**Eielson Array**	**31.83**	**42**		P	**P**	**13 17 55.8**	**-0.9**
	comp=Z,25nm,0.9s,baz=260,slow=8.2,SNR=162								
ILAR					LR	LR	13 31 59.7		
	comp=Z,855nm,20.5s,baz=272,slow=38								
ILAR					P3KPbc		13 49 29.0		
	comp=Z,1.0nm,0.9s,baz=86,slow=3.6,SNR=6.5								
H11N2	**WAKE ISLAND Hy**	**31.90**	**162**		T	T	13 51 34.8		
	baz=348,slow=76,SNR=3127								
H11N1	**WAKE ISLAND Hy**	**31.92**	**162**		T	T	13 51 42.2		
	baz=348,slow=76,SNR=2257								
H11N3	**WAKE ISLAND Hy**	**31.92**	**162**		T	T	13 51 35.9		
	baz=348,slow=76,SNR=4338								
TIA	**Tai'an**	**31.97**	**259**		P	**P**	**13 17 57.8**	**-0.3**
TIA					pmax	pmax			
	comp=Z,10.0nm,0.8s								
ULN	**Ulaanbaatar**	**32.22**	**285**		P	**P**	**13 18 00.3**	**-0.1**
ULN	**Ulaanbaatar**	**32.22**	**285**	*ce*	P	**P**	**13 18 00.3**	**-0.1**
ULN					pmax	pmax			
	comp=Z,10.0nm,1.0s								
ULN					MLR	MLR			
	comp=Z,3µm,21.0s								
ULN	**Ulaanbaatar**	**32.22**	**285**		P	**P**	**13 18 00.5**	**+0.1**
ULN	**Ulaanbaatar**	**32.22**	**285**		IAMs_20	IAMs_20	13 32 06.2		
	comp=Z,2µm,20.0s								
IRK	**Irkutsk**	**32.29**	**294**	*e*	P	**P**	**13 18 00.1**	**-0.7**
IRK				*e*			13 20 48.2		
IRK					pmax	pmax			
	comp=Z,58nm,1.9s								
WAKE	**Wake Island**	**32.29**	**163**		IAMs_20	IAMs_20	13 28 07.4		
	comp=Z,2µm,20.0s								
FID	**Port Fidalgo**	**32.34**	**50**		P	**P**	**13 17 59.7**	**-1.4**
FID					IAmb	IAmb	13 18 14.5		
	comp=Z,82nm,1.3s								
JOW	**Kunigami**	**32.39**	**233**		P	**P**	**13 18 02.4**	**+0.6**
	comp=Z,4.7nm,0.8s,baz=90,slow=14,SNR=28								
JOW					PcP	**PcP**	**13 20 48.3**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=104,slow=8.3,SNR=3.7								
PRP	**Porcupine Dome**	**32.40**	**41**		P	**P**	**13 18 02.1**	**+0.4**
FYU	**Fort Yukon**	**32.51**	**39**		P	**P**	**13 18 03.5**	**+1.0**
SONM	**Songino Array**	**32.64**	**285**		P	**P**	**13 18 04.5**	**+0.5**
	comp=Z,5.1nm,0.5s,baz=67,slow=8.1,SNR=39								
SONM					PcP	**PcP**	**13 20 49.3**	**+0.9**
	comp=Z,10nm,0.9s,baz=84,slow=2.2,SNR=9.5								
SONM					LR	LR	13 32 31.6		
	comp=Z,3µm,20.2s,baz=69,slow=38								
EYAK	**Cordova Ski Ar**	**32.73**	**50**		P	**P**	**13 18 03.7**	**-0.7**
EYAK					IAmb	IAmb	13 18 19.9		
	comp=Z,75nm,1.2s								
HHC	**Hu-ho-hao-te**	**32.74**	**270**		P	**P**	**13 18 04.8**	**-0.1**
HHC					S	**S**	**13 23 16.4**	**-0.1**
HHC					pmax	pmax			
	comp=Z,9.0nm,0.9s								
HHC					pmax	pmax			
	comp=Z,87nm,6.6s								
HHC					LR	LR			
	comp=Z,840nm,18.3s								
HHC					LR	LR			
	comp=Z,900nm,18.3s								
HHC					LR	LR			
	comp=Z,1µm,16.6s								
HARP	**HAARP**	**32.76**	**47**		IAmb	IAmb	13 18 18.7		
	comp=Z,58nm,0.8s								
RIDG	**Independent Ri**	**32.78**	**44**		IAmb	IAmb	13 18 18.1		
	comp=Z,90nm,1.0s								
TLY	**Talaya**	**32.85**	**293**		P	**P**	**13 18 05.9**	**+0.3**
	comp=Z,16nm,0.8s,baz=40,slow=6.6,SNR=26								
TLY					PcP	**PcP**	**13 20 50.0**	**+1.3**
	comp=Z,9.7nm,0.8s,baz=114,slow=2.8,SNR=6.4								
TLY					LR	LR	13 32 16.3		
	comp=Z,3µm,20.3s,baz=58,slow=38								
TLY	**Talaya**	**32.85**	**293**		P	**P**	**13 18 06.3**	**+0.7**
TLY	**Talaya**	**32.85**	**293**	*c i*	P	**P**	**13 18 06.0**	**+0.3**
TLY				*e*			13 20 49.5		
TLY				*e*			13 28 25.6		
TLY					pmax	pmax			
	comp=Z,70nm,1.1s								
TLY					MLR	MLR			
	comp=Z,6µm,15.0s								
TLY	**Talaya**	**32.85**	**293**		P	**P**	**13 18 05.6**	**0.0**
SSE	**Sheshan**	**33.00**	**247**		P	**P**	**13 18 08.8**	**+1.7**
SSE					S	**S**	**13 23 21.0**	**+0.6**
SSE					pmax	pmax			
	comp=Z,31nm,0.7s								
SSE					pmax	pmax			
	comp=Z,230nm,6.1s								
SSE					LR	LR			
	comp=Z,250nm,25.0s								
SSE					LR	LR			
	comp=Z,280nm,20.9s								
H11S1	**WAKE ISLAND Hy**	**33.06**	**163**		T	T	13 52 59.6		
	baz=349,slow=76,SNR=5511								
**H11S

TIY pmax pmax
comp=Z,26nm,0.6s
TIY pmax pmax
comp=Z,140nm,11.0s
TIY LR LR
comp=Z,2µm,20.6s
TIY LR LR
comp=Z,280nm,8.1s
TIY LR LR
comp=Z,1µm,22.7s
WAX Waxell Ridge 34.16 50 IAmb IAmb 13 18 31.3
comp=Z,68nm,1.0s
EGAK Eagle 34.28 42 P **P** **13 18 17.5 -0.4**
EGAK IAmb IAmb 13 18 31.4
comp=Z,87nm,0.8s
MOY Mondy 34.40 294 *e*P **P** **13 18 20.6 +1.4**
MOY pmax pmax
comp=Z,62nm,1.5s
BARN Barnard Glacie 34.61 49 IAmb IAmb 13 18 36.0
comp=Z,52nm,0.8s
MESA MESA 34.65 50 IAMs_20 IAMs_20 13 32 14.1
comp=Z,2µm,22.0s
EPYK Eagle Plains 35.93 39 P **P** **13 18 32.4 +0.3**
baz=278,SNR=49
HYT Haines Junctio 36.64 48 IAmb IAmb 13 18 55.0
comp=Z,96nm,1.1s
NRIK Noril'sk 36.79 326 P **P** **13 18 38.1 -1.2**
comp=Z,3.3nm,0.5s,baz=86,slow=9.2,SNR=10
NRIK PcP **PcP** **13 21 01.1 +1.2**
comp=Z,21nm,0.9s,baz=65,slow=4.5,SNR=5.8
NRIK LR LR 13 34 28.3
comp=Z,2µm,21.9s,baz=69,slow=37
INK Inuvik 36.90 35 PcP **PcP** **13 21 00.8 +0.6**
comp=Z,10nm,0.8s,baz=303,slow=3.8,SNR=2.8
INK Inuvik 36.90 35 IAmb IAmb 13 18 42.2
comp=Z,51nm,0.8s
KRAR Krasnoyarsk 37.41 304⇓ *e*P **P** **13 18 44.9 +0.2**
WHN Wuhan 37.49 254⇓ *i*P **P** **13 18 45.6 -0.1**
WHN S **S** **13 24 23.3 -6.0**
WHN pmax pmax
comp=Z,77nm,0.9s
WHN pmax pmax
comp=Z,610nm,4.4s
WHN LR LR
comp=Z,820nm,12.0s
WHN LR LR
comp=Z,2µm,14.4s
WHN LR LR
comp=Z,2µm,16.8s
YHNB Yeheng 37.79 240 P **P** **13 18 48.6 +0.2**
WHY Whitehorse 37.93 48 IAmb IAmb 13 19 04.5
comp=Z,94nm,1.1s
SKAG Skagway 38.07 50 IAmb IAmb 13 19 05.8
comp=Z,83nm,1.0s
XAN Xi'an 38.51 263 P **P** **13 18 54.0 -0.3**
XAN S **S** **13 24 42.0 -2.8**
XAN pmax pmax
comp=Z,16nm,1.3s
XAN pmax pmax
comp=Z,250nm,7.2s
XAN LR LR
comp=Z,950nm,20.3s
XAN LR LR
comp=Z,2µm,18.3s
XAN LR LR
comp=Z,3µm,19.8s
XAN Xi'an 38.51 263 IAMs_20 IAMs_20 13 35 43.4
comp=Z,2µm,20.0s
YULB Yu-li 38.85 239 P **P** **13 18 56.8 -0.5**
A36M Sachs Harbour 39.12 29 P **P** **13 18 59.6 +0.7**
baz=280,SNR=67
A36M S **S** **13 24 54.3 +1.2**
baz=280
QZH Quanzhou 39.13 243⇑ *i*P **P** **13 19 00.7 +1.2**
QZH S **S** **13 24 54.1 -0.1**
QZH pmax pmax
comp=Z,65nm,0.9s
QZH pmax pmax
comp=Z,680nm,6.1s
QZH LR LR
comp=Z,470nm,15.6s
QZH LR LR
comp=Z,380nm,14.7s
QZH LR LR
comp=Z,380nm,19.4s
TPUB Ta-pu 39.29 240 P **P** **13 19 01.9 +1.0**
TPUB IAmb IAmb 13 19 02.5
comp=Z,70nm,0.8s
TWG Pinlang 39.44 239 IAMs_20 IAMs_20 13 37 56.6
comp=Z,2µm,20.0s
C36M Paulatuk 40.07 33 P **P** **13 19 06.9 +0.1**
baz=284,SNR=38
C36M Paulatuk 40.07 33 P **P** **13 19 07.4 +0.6**
C36M IAmb IAmb 13 19 08.6
comp=Z,127nm,1.1s
LZH Lanzhou 40.43 270⇑ P **P** **13 19 10.8 +0.4**
LZH pP pP 13 19 25.7 -1.8
LZH sP sP 13 19 31.7 -3.8
LZH PP **PnPn** **13 20 48.1 -0.7**
LZH PcP **PcP** **13 21 13.8 +1.7**
LZH PcS **PcS** **13 25 03.5 +0.6**
LZH S **S** **13 25 15.2 +1.4**
LZH sS sS 13 25 40.1 -2.7
LZH SS **SS** **13 28 12.3 -2.7**
LZH pmax pmax
comp=Z,58nm,1.2s
LZH pmax pmax
comp=Z,450nm,5.3s
LZH LR LR
comp=Z,2µm,13.1s
LZH LR LR
comp=Z,2µm,13.2s
LZH LR LR
comp=Z,2µm,16.5s
WRAK Wrangell Islan 40.62 54 P **P** **13 19 13.5 +2.1**
WRAK IAmb IAmb 13 19 14.7
comp=Z,69nm,0.8s
ENH Enshi 40.68 258 IAMs_20 IAMs_20 13 37 59.6
comp=Z,1µm,19.0s
GTA Gaotai 41.00 277⇓ P **P** **13 19 15.6 +0.6**
GTA pP pP 13 19 33.5 +1.4
GTA PP **PP** **13 20 52.2 +1.7**
GTA PcP **PcP** **13 21 15.2 +1.4**
GTA PcS **PcS** **13 25 06.6 +1.6**
GTA S **S** **13 25 20.8 -1.3**
GTA sS sS 13 25 44.5 -6.7
GTA pmax pmax
comp=Z,13nm,1.4s
GTA pmax pmax
comp=Z,220nm,5.5s
GTA LR LR
comp=Z,1µm,17.4s
GTA LR LR
comp=Z,2µm,19.1s
GTA LR LR
comp=Z,2µm,22.1s
DIB Dawson Inlet, 41.89 58 IAMs_20 IAMs_20 13 34 24.2
comp=Z,1µm,22.0s
ZAA0 Zalesovo Array 42.48 304 P **P** **13 19 26.8 +0.1**
ZALV Zalesovo Beam 42.48 304 P **P** **13 19 26.0 -0.8**
comp=Z,5.5nm,0.6s,baz=60,slow=5.8,SNR=37
PcP **PcP** **13 21 19.0 +0.7**
ZALV comp=Z,18nm,0.8s,baz=52,slow=2.4,SNR=14
LR LR 13 37 48.3
comp=Z,992nm,20.3s,baz=48,slow=37
DGZ Jazzator, Alta 43.03 297⇓ *e*P **P** **13 19 31.9 +0.4**
DGZ pmax pmax
comp=Z,6.0nm,0.4s
DGZ MLR MLR
comp=Z,4µm,22.0s
GZH Guangzhou 43.60 247 P **P** **13 19 31.8 -4.3**
GZH S **S** **13 25 53.6 -6.7**
GZH LR LR
comp=Z,610nm,19.4s
GZH LR LR
comp=Z,570nm,19.3s
PATS Pohnpei 43.76 178 IAMs_20 IAMs_20 13 33 31.2
comp=Z,2µm,22.0s
CD2 Chengdu 43.84 264 P **P** **13 19 38.6 +0.5**
CD2 sP pP 13 19 56.7 +1.4
CD2 PP **PcP** **13 21 23.6 +0.3**
CD2 S **S** **13 26 00.5 -3.4**
CD2 sS sS 13 26 24.2 -9.0
CD2 pmax pmax
comp=Z,50nm,0.9s
CD2 pmax pmax
comp=Z,400nm,8.3s
CD2 LR LR
comp=Z,1µm,27.3s
CD2 LR LR
comp=Z,1µm,20.1s
CD2 LR LR
comp=Z,2µm,17.2s
BBB Bella Bella 44.71 58 P **P** **13 19 46.0 +1.3**
BBB IAmb IAmb 13 19 47.1
comp=Z,59nm,0.9s
GYA Guiyang 45.13 257 P **P** **13 19 48.5 0.0**
GYA pP pP 13 20 04.7 -1.1
GYA sP sP 13 20 11.4 -2.3
GYA PcP **PcP** **13 21 28.4 +0.5**
GYA PP **PP** **13 21 36.2 +1.2**
GYA S **S** **13 26 20.2 -2.6**
GYA sS sS 13 26 49.3 -2.9
GYA pmax pmax
comp=Z,63nm,0.8s
GYA pmax pmax
comp=Z,340nm,3.5s
GYA LR LR
comp=Z,650nm,19.1s
GYA LR LR
comp=Z,630nm,22.1s
GYA LR LR
comp=Z,380nm,22.3s
ALE Alert 45.50 7 IAMs_20 IAMs_20 13 38 34.0
comp=Z,1µm,22.0s
ZSN Zaisan 45.65 295 *i* P **P** **13 19 52.1 -0.2**
comp=Z,54nm,2.8s,baz=295
ZSN *e*S **S** **13 26 31.3 +1.7**
baz=295
ZSN LR LR 13 39 28.7
comp=Z,251nm,12.7s,baz=295
ZSN Zaisan 45.65 295 *i* P **P** **13 19 52.0 -0.2**
ZSN *e*S **S** **13 26 31.3 +1.7**
ZSN pmax pmax
comp=Z,54nm,2.8s
ZSN MLR MLR
comp=Z,251nm,13.0s
WMQ Urumqi 45.97 290 *e*P **P** **13 19 56.9 +2.0**
WMQ pP pP 13 20 10.3 -1.9
WMQ S **S** **13 26 37.4 +2.9**
WMQ ScS **ScS** **13 29 45.3 +1.7**
WMQ pmax pmax
comp=Z,48nm,1.3s
WMQ pmax pmax
comp=Z,140nm,4.1s
WMQ LR LR
comp=Z,850nm,23.1s
WMQ LR LR
comp=Z,1µm,23.1s
WMQ LR LR
comp=Z,3µm,24.3s
YKA Yellowknife Ar 46.19 40 P **P** **13 19 56.5 +0.3**
comp=Z,40nm,0.7s,baz=295,slow=7.6,SNR=161
YKA PcP **PcP** **13 21 32.0 +1.2**
comp=Z,14nm,0.9s,baz=298,slow=3.2,SNR=9.8
YKA LR LR 13 42 38.9
comp=Z,461nm,19.9s,baz=0.0,slow=40
RES Resolute Bay 46.22 20 P **P** **13 19 57.5 +1.2**
RES pmax pmax
comp=Z,41nm,0.9s
RES Resolute Bay 46.22 20 P **P** **13 19 57.5 +1.2**
RES IAmb IAmb 13 19 58.3
comp=Z,41nm,0.9s
SEM Semipalatinsk 46.66 301 *e*P **P** **13 19 58.9 -1.5**
comp=Z,50nm,1.5s,baz=301
SEM *e*S **S** **13 26 44.7 +0.1**
baz=301
SEM LR LR 13 40 10.4
comp=Z,347nm,17.1s,baz=301
SEM Semipalatinsk 46.66 301 *e*P **P** **13 19 58.9 -1.5**
SEM *e*S **S** **13 26 44.6 +0.1**
SEM pmax pmax
comp=Z,50nm,1.5s
SEM MLR MLR
comp=Z,347nm,17.0s
KURK Kurchatov 47.38 302 P **P** **13 20 05.1 -0.6**
KURK Kurchatov 47.38 302 *c i*P **P** **13 20 04.9 -0.8**
KURK pmax pmax
comp=Z,140nm,1.3s
KURK MLR MLR
comp=Z,1µm,18.0s
KURK Kurchatov 47.38 302 P **P** **13 20 06.0 +0.3**
KURK Kurchatov 47.38 302 **PcP** **13 21 35.9 +0.7**
KURK Kurchatov 47.38 302 IAMs_20 IAMs_20 13 41 33.2
comp=Z,2µm,18.0s
MK31 Makanchi Array 47.48 296 P **P** **13 20 06.7 +0.1**
MK31 pmax pmax
comp=Z,48nm,1.3s
MK31 Makanchi Array 47.48 296 P **P** **13 20 06.7 +0.1**
MKAR Makanchi Array 47.48 296 P **P** **13 20 06.4 -0.2**
comp=Z,12nm,0.5s,baz=54,slow=6.3,SNR=132
MKAR LR LR 13 40 53.2
comp=Z,3µm,21.5s,baz=44,slow=37
KURBB Kurchatov Arra 47.48 302 P **P** **13 20 04.2 -2.3**
comp=Z,22nm,0.5s,baz=64,slow=7.9,SNR=91
KURBB PcP **PcP** **13 21 35.9 +0.3**
comp=Z,16nm,0.9s,baz=62,slow=4.2,SNR=6.9
KURBB Kurchatov Arra 47.48 302 P **P** **13 20 06.1 -0.3**
MAKZ Makanchi 47.65 296 P **P** **13 20 08.0 +0.1**
MAKZ pmax pmax
comp=Z,63nm,1.5s
MAKZ MLR MLR
comp=Z,4µm,20.0s
MAKZ Makanchi 47.65 296 P **P** **13 20 08.0 +0.1**
MAKZ IAmb IAmb 13 20 09.0
comp=Z,63nm,1.4s
NOR Nord 47.87 359⇑ *i*P **P** **13 20 08.6 -0.5**
comp=Z,11nm,0.9s
NOR Nord 47.87 359⇑ *i*P **P** **13 20 08.6 -0.5**
NOR pmax pmax
comp=Z,11nm,0.9s
RCP Roxas 48.07 228⇑ *e*P **P** **13 20 12.0 +0.7**
KMI Kunming 48.53 259 P **P** **13 20 15.1 0.0**
KMI pP pP 13 20 32.0 -0.6
KMI sP sP 13 20 40.2 -0.3
KMI PcP **PcP** **13 21 41.4 +1.3**
KMI PP **PP** **13 22 08.8 +0.5**
KMI PcS **PcS** **13 25 36.4 -0.1**
KMI S **S** **13 27 07.1 -4.4**
KMI SS **SS** **13 30 36.9 -5.1**
KMI pmax pmax
comp=Z,55nm,1.8s
KMI pmax pmax
comp=Z,450nm,6.4s
KMI LR LR
comp=Z,750nm,23.1s
KMI LR LR
comp=Z,520nm,19.4s
KMI LR LR
comp=Z,950nm,29.4s
KMI Kunming 48.53 259 IAmb IAmb 13 20 17.2
comp=Z,75nm,1.2s
KMI Kunming 48.53 259 IAMs_20 IAMs_20 13 42 59.8
comp=Z,898nm,19.0s
QIZ Qiongzhong 48.79 247 P **P** **13 20 17.1 +0.2**
QIZ S **S** **13 27 17.2 +2.4**
QIZ pmax pmax
comp=Z,18nm,1.6s
QIZ pmax pmax
comp=Z,590nm,2.8s
QIZ LR LR
comp=Z,400nm,20.7s
QIZ LR LR
comp=Z,500nm,23.5s
QIZ LR LR
comp=Z,490nm,20.8s
LLLB Lillooet 48.87 57 IAmb IAmb 13 20 19.3
comp=Z,56nm,0.9s
KBS Kingsbay 48.95 352⇑ *e*P **P** **13 20 17.2 -0.2**
KBS pmax pmax
comp=Z,14nm,0.6s
KBS Kingsbay 48.95 352 *e*P **P** **13 20 17.4 0.0**
SPA0 Spitsbergen Ar 49.15 350 P **P** **13 20 18.3 -0.7**
SPA0 IAmb IAmb 13 20 20.9
comp=Z,45nm,1.2s
SPA0 Spitsbergen Ar 49.15 350 *e*P **P** **13 20 19.3 +0.4**
A04D Lummi Island 49.48 59 P **P** **13 20 22.0 +0.3**
baz=304
NLWA Neilton Lookou 49.59 61 P **P** **13 20 24.0 +1.2**
D03D Eldon 49.95 61 P **P** **13 20 26.0 +0.6**
baz=305,SNR=19
B05A Bryant 50.07 59 P **P** **13 20 26.6 +0.3**
baz=305,SNR=21
HSPB Hornsund (broa 50.25 349 *e*P **P** **13 20 27.1 -0.2**
D04E Lakebay 50.33 61 P **P** **13 20 27.9 -0.3**
baz=306
BVAR Borovoye Array 50.38 308 P **P** **13 20 27.6 -1.0**
comp=Z,10nm,0.5s,baz=58,slow=9.0,SNR=49
BVAR PcP **PcP** **13 21 46.3 +0.2**
comp=Z,9.7nm,0.7s,baz=60,slow=4.0,SNR=4.3
BRVK Borovoye 50.41 309 P **P** **13 20 27.3 -1.5**
BRVK Borovoye 50.41 309 P **P** **13 20 27.7 -1.1**
BRVK pmax pmax
comp=Z,16nm,0.8s
BRVK MLR MLR
comp=Z,2µm,20.0s
BRVK Borovoye 50.41 309 P **P** **13 20 27.7 -1.1**
SLVN Son La 50.60 255 P **P** **13 20 31.4 +0.7**
SLVN IAMs_20 IAMs_20 13 44 08.8
comp=Z,1µm,19.0s
TDK Taldyqorghan 50.73 296 *e*P **P** **13 20 30.6 -0.8**
comp=Z,164nm,1.5s,baz=296
TDK *e*S **S** **13 27 42.3 +0.9**
baz=296
TDK LR LR 13 41 18.1
comp=Z,2µm,19.5s,baz=296
TDK Taldyqorghan 50.73 296 *e*P **P** **13 20 30.5 -0.8**
TDK *e*S **S** **13 27 42.2 +0.9**
TDK pmax pmax
comp=Z,164nm,1.5s
TDK MLR MLR
comp=Z,2µm,19.0s
E04D Cinebar 50.81 61 P **P** **13 20 32.4 +0.6**
baz=306,SNR=19
F04D Rainier, OR 50.84 62 P **P** **13 20 32.4 +0.2**
baz=306
C06D Leavenworth 50.93 59 P **P** **13 20 32.9 +0.1**
baz=306
BRZS Berezniki 50.95 304 *e*P **P** **13 20 31.9 -1.0**
comp=Z,105nm,1.9s,baz=304
BRZS LR LR 13 42 26.6
comp=Z,363nm,17.5s,baz=304
BRZS Berezniki 50.95 304 *e*P **P** **13 20 31.9 -1.0**
BRZS pmax pmax
comp=Z,105nm,1.9s
BRZS MLR MLR
comp=Z,363nm,17.0s
TARA Tarawa 51.01 159 IAMs_20 IAMs_20 13 37 33.6
comp=Z,1µm,20.0s
KCP Kidapawan 51.03 222⇓ *i*P **P** **13 20 35.3 +1.3**
PDGK Podgornoye 51.10 294 P **P** **13 20 33.4 -0.9**
CTBH Cotabato--PC H 51.21 224⇓ *i*P **P** **13 20 37.1 +1.9**
G03D McMinnville, O 51.21 63 P **P** **13 20 35.6 +0.7**
baz=307
SHLS Shalkode 51.22 294 *e*P **P** **13 20 33.3 -1.9**
comp=Z,57nm,1.5s,baz=293
SHLS *e*S **S** **13 27 46.6 -1.9**
baz=293
SHLS LR LR 13 42 42.3
comp=Z,221nm,14.2s,baz=293
SHLS Shalkode 51.22 294 *e*P **P** **13 20 33.3 -1.9**
SHLS *e*S **S** **13 27 46.6 -1.9**
SHLS pmax pmax
comp=Z,57nm,1.5s
SHLS MLR MLR
comp=Z,221nm,14.0s
F04A Amboy 51.26 62 IAmb IAmb 13 20 50.9
comp=Z,101nm,1.2s
UZB Uzunbulak 51.49 294 *e*P **P** **13 20 37.0 -0.3**
comp=Z,28nm,1.4s,baz=293
UZB LR LR 13 42 45.3
comp=Z,268nm,16.6s,baz=293
UZB Uzunbulak 51.49 294 *e*P **P** **13 20 36.9 -0.3**
UZB pmax pmax
comp=Z,28nm,1.4s
UZB MLR MLR
comp=Z,268nm,17.0s
B08A Colville Reser 51.52 58 IAmb IAmb 13 20 38.9
comp=Z,62nm,0.9s
I02D Swieshome 51.54 65 P **P** **13 20 38.5 +1.1**
baz=307
COR Corvallis 51.56 64 IAMs_20 IAMs_20 13 38 25.0
comp=Z,666nm,18.0s
F05D White Salmon 51.82 61 P **P** **13 20 40.0 +0.4**
baz=307
SATY Saty 51.90 294 *e*P **P** **13 20 40.5 +0.2**
comp=Z,33nm,1.6s,baz=294
SATY LR LR 13 42 37.1
comp=Z,345nm,19.0s,baz=294
SATY Saty 51.90 294 *e*P **P** **13 20 40.5 +0.2**
SATY pmax pmax
comp=Z,33nm,1.6s
SATY MLR MLR
comp=Z,345nm,19.0s
H04D Lebanon 51.92 64 P **P** **13 20 40.7 +0.5**
baz=307,SNR=6.2
J01E Myrtle Point 52.07 66 P **P** **13 20 42.5 +1.2**
baz=308
I03D Drain, OR 52.08 65 P **P** **13 20 42.5 +1.1**
baz=308
H04A Detroit Lake 52.14 63 IAmb IAmb 13 20 57.8
comp=Z,66nm,1.1s
CHKK Chushkaly 52.23 296 *e*P **P** **13 20 42.5 -0.2**
baz=295
CHKK Chushkaly 52.23 296 *e*P **P** **13 20 42.4 -0.2**
PRZ Przheval'sk 52.25 293 IAMs_20 IAMs_20 13 43 41.6
comp=Z,1µm,21.0s
G05D Wamic, OR 52.29 62 P **P** **13 20 43.5 +0.5**
baz=307,SNR=9.0
C09A Chrisman Ranch 52.42 58 IAmb IAmb 13 20 45.4
comp=Z,45nm,0.9s
K02D Willamette Mer 52.51 66 P **P** **13 20 45.9 +1.2**
baz=308
I04A Tendick Farm, 52.55 64 P **P** **13 20 45.5 +0.5**
baz=308,SNR=8.0
KUU Kurty 52.58 296 *e*P **P** **13 20 44.1 -1.1**
comp=Z,50nm,1.4s,baz=296
KUU *e*S **S** **13 28 07.1 +0.3**
baz=296
KUU LR LR 13 43 09.1
comp=Z,864nm,14.7s,baz=296
KUU Kurty 52.58 296 *e*P **P** **13 20 44.1 -1.1**
KUU *e*S **S** **13 28 07.1 +0.3**
KUU pmax pmax
comp=Z,50nm,1.4s
KUU MLR MLR
comp=Z,864nm,15.0s
MDOK Medeo 52.62 295 *e*P **P** **13 20 45.3 -0.4**
comp=Z,273nm,2.2s,baz=294
MDOK *e*S **S** **13 28 08.7 +1.0**
baz=294
MDOK LR LR 13 41 48.7
comp=Z,2µm,20.4s,baz=294
MDOK Medeo 52.62 295 *e*P **P** **13 20 45.2 -0.4**
MDOK *e*S **S** **13 28 08.7 +1.0**
MDOK pmax pmax
comp=Z,273nm,2.2s
MDOK MLR MLR
comp=Z,2µm,20.0s
LSA Lhasa 52.66 273 P **P** **13 20 47.2 +0.7**
SVE Sverdlovsk 52.70 317 *de*P **P** **13 20 45.2 -0.6**
SVE pmax pmax
comp=Z,52nm,0.9s
SVE MLR MLR
comp=Z,2µm,18.0s
DAG Danmarks Havn 52.74 359 *i* P **P** **13 20 45.5 -0.4**
comp=Z,43nm,0.7s
DAG Danmarks Havn 52.74 359 *i* P **P** **13 20 45.5 -0.4**
DAG pmax pmax
comp=Z,43nm,0.7s
TNSS Tian-Shan 52.76 295 *e*P **P** **13 20 47.4 +0.4**
baz=294
TNSS Tian-Shan 52.76 295 *e*P **P** **13 20 47.3 +0.3**
NEW Newport 52.76 57 P **P** **13 20 46.6 +0.1**
baz=307,SNR=18
I05D Terrebonne, OR 52.83 63 P **P** **13 20 47.5 +0.4**
baz=308,SNR=9.2
J04D Umpqua Nationa 53.07 64 P **P** **13 20 49.5 +0.5**
baz=308,SNR=10.0
BTLS Baital 53.17 298 *e*P **P** **13 20 49.3 -0.2**
comp=Z,23nm,1.6s,baz=298
BTLS *e*S **S** **13 28 16.1 +1.4**
baz=298
BTLS LR LR 13 44 04.9
comp=Z,165nm,13.1s,baz=298
BTLS Baital 53.17 298 *e*P **P** **13 20 49.2 -0.2**
BTLS *e*S **S** **13 28 16.1 +1.4**
BTLS pmax pmax
comp=Z,23nm,1.6s

BTLS MLR MLR
comp=Z,165nm,13.0s
KDJ Kajisay 53.18 294 IAmb IAmb 13 20 51.5
comp=Z,69nm,1.2s
E09A Wood Farm, Sta 53.27 59 IAmb IAmb 13 20 51.7
comp=Z,57nm,0.8s
PINE Pine Mountain 53.39 63 IAmb IAmb 13 21 07.4
comp=Z,57nm,1.0s
J05D Fort Rock, OR 53.54 64 P **P** **13 20 53.6 +1.2**
baz=309,SNR=20
KOHI KOHIMA 53.55 267 *e*P **P** **13 20 53.0 +0.4**
KOHI IAmb IAmb 13 20 56.5
comp=Z,34nm,0.4s
L04D Klamath Falls 53.59 66 P **P** **13 20 53.6 +0.8**
baz=309,SNR=12
TKM2 Tokmak 2 53.60 296 P **P** **13 20 53.7 +0.7**
SNR=22
TKM2 Tokmak 2 53.60 296 P **P** **13 20 52.5 -0.5**
ULHL Ulahol 53.66 294 P **P** **13 20 54.2 +0.9**
SNR=11
K04D Chiloquin, OR 53.66 65 P **P** **13 20 53.9 +0.7**
baz=309
YBH Yreka Blue Hor 53.66 66 LR LR 13 43 41.3
comp=Z,193nm,18.4s,baz=304,slow=36
YBH Yreka Blue Hor 53.66 66 IAmb IAmb 13 21 10.2
comp=Z,73nm,0.9s
YBH IAMs_20 IAMs_20 13 38 59.6
comp=Z,1µm,22.0s
M02C Callahan 53.79 67 P **P** **13 20 55.3 +1.1**
baz=309,SNR=5.2
SGDS Sogindy 53.82 297 *e*P **P** **13 20 54.4 0.0**
comp=Z,40nm,1.5s,baz=296
SGDS LR LR 13 44 29.5
comp=Z,593nm,15.0s,baz=296
SGDS Sogindy 53.82 297 *e*P **P** **13 20 54.4 0.0**
SGDS pmax pmax
comp=Z,40nm,1.5s
SGDS MLR MLR
comp=Z,593nm,15.0s
ARU Arti 53.85 317 *c i*P **P** **13 20 53.0 -1.2**
ARU pmax pmax
comp=Z,66nm,0.8s
ARU MLR MLR
comp=Z,2µm,18.0s
WALA Waterton Lakes 53.95 54 P **P** **13 20 56.0 +0.7**
WALA IAMs_20 IAMs_20 13 42 54.3
comp=Z,851nm,22.0s
USP Ospenovka 54.01 296 P **P** **13 20 56.4 +0.7**
SNR=18
CHMS Chumysh 54.04 296 P **P** **13 20 56.7 +0.8**
SNR=7.2
K05A Summer Lake 54.09 64 IAMs_20 IAMs_20 13 39 43.8
comp=Z,733nm,21.0s
M04C Macdoel 54.14 66 P **P** **13 20 57.4 +0.7**
baz=309,SNR=7.5
LVZ Lovozero 54.14 337⇑ *e*P **P** **13 20 54.6 -1.7**
LVZ pmax pmax
comp=Z,10.0nm,0.9s
LVZ MLR MLR
comp=Z,1µm,17.0s
LVZ Lovozero 54.14 337 IAMs_20 IAMs_20 13 48 33.2
comp=Z,1µm,18.0s
N02D Trinity Center 54.15 67 P **P** **13 20 58.0 +1.3**
baz=309,SNR=7.8
KZA Kyzart 54.33 295 P **P** **13 20 59.7 +1.2**
SNR=14
HAMF Hammerfest 54.38 343 *e*P **P** **13 20 58.4 +0.5**
AAK Ala-Archa 54.41 296 P **P** **13 20 59.6 +0.8**
SNR=20
AAK Ala-Archa 54.41 296 *i* P **P** **13 20 58.6 -0.2**
SNR=8.4
AAK Ala-Archa 54.41 296 P **P** **13 20 59.2 +0.4**
AAK pmax pmax
comp=Z,55nm,1.3s
AAK MLR MLR
comp=Z,3µm,22.0s
AAK Ala-Archa 54.41 296 P **P** **13 20 59.2 +0.4**
AAK IAmb IAmb 13 21 00.3
comp=Z,55nm,1.3s
KEV Kevo 54.44 341 IAMs_20 IAMs_20 13 47 15.1
comp=Z,841nm,21.0s
O02D Mt. Diablo Mer 54.60 68 P **P** **13 21 01.3 +1.2**
baz=310
UCH Uchtor 54.66 295 P **P** **13 21 01.6 +0.7**
SNR=5.7
APA Apatity 54.70 337⇑ *i*P **P** **13 20 59.5 -0.8**
APA pmax pmax
comp=Z,4.0nm,0.8s
APA MLR MLR
comp=Z,2µm,17.0s
BMO Blue Mountains 54.77 60 IAmb IAmb 13 21 16.6
comp=Z,29nm,0.8s
EKS2 Erkin-Say 54.81 296 P **P** **13 21 01.8 +0.2**
SNR=14
SMPI Sarmi 54.81 203 P **P** **13 21 03.0 +1.4**
comp=Z,888nmcomp=Z,78nm,0.9s
JAY Jayapura 54.85 200 P **P** **13 21 03.2 +1.2**
comp=Z,361nmcomp=Z,20nm,1.7s
ARCES ARCESS Array B 54.93 341 P **P** **13 21 00.3 -1.6**
comp=Z,2.2nm,0.5s,baz=43,slow=7.3,SNR=13
ARCES LR LR 13 47 48.6
comp=Z,1µm,21.5s,baz=30,slow=40
MOD Modoc Plateau 54.95 65 IAMs_20 IAMs_20 13 39 57.6
comp=Z,779nm,22.0s
KRVT Keravat (AS076 54.99 186 LR LR 13 40 28.4
comp=Z,568nm,21.4s,baz=0.6,slow=31
GENI Genyem 55.05 201 P **P** **13 21 03.8 +0.4**
comp=Z,2µmcomp=Z,115nm,1.6s
SHL Shillong 55.07 269 *e*P **P** **13 21 03.8 0.0**
SHL IAmb IAmb 13 21 09.4
comp=Z,22nm,0.9s
SHL Shillong 55.07 269 P **P** **13 21 04.7 +0.9**
SNR=13
SHL Shillong 55.07 269 P **P** **13 21 03.9 +0.2**
SHL pmax pmax
comp=Z,40nm,0.7s
SHL MLR MLR
comp=Z,700nm,20.0s
SHL Shillong 55.07 269 P **P** **13 21 03.9 +0.2**
SHL IAmb IAmb 13 21 05.0
comp=Z,40nm,0.7s
SHL IAMs_20 IAMs_20 13 46 26.6
comp=Z,689nm,20.0s
O03E Paynes Creek 55.11 67 P **P** **13 21 04.1 +0.3**
baz=310,SNR=16
AML Almayashu 55.19 296 P **P** **13 21 05.7 +1.0**
SNR=11
MSO Missoula 55.34 57 P **P** **13 21 05.4 0.0**
baz=309,SNR=42
GDXM Geysers 55.48 69 IAMs_20 IAMs_20 13 40 09.7
comp=Z,1µm,20.0s
CHTO Chiang Mai 55.55 257 P **P** **13 21 08.8 +1.7**
CHTO pmax pmax
comp=Z,192nm,0.8s
CHTO Chiang Mai 55.55 257 P **P** **13 21 08.8 +1.7**
CHTO Chiang Mai 55.55 257 IAMs_20 IAMs_20 13 44 25.7
comp=Z,887nm,22.0s
KSH Kashi 55.55 292 P **P** **13 21 11.3 +4.3**
KSH pP pP 13 21 25.2 +0.4
KSH S **S** **13 28 51.8 +4.6**
KSH sS sS 13 29 17.4 +0.2
KSH pmax pmax
comp=Z,120nm,1.3s
KSH pmax pmax
comp=Z,620nm,3.6s
KSH LR LR
comp=Z,2µm,16.1s
KSH LR LR
comp=Z,1µm,13.1s
KSH LR LR
comp=Z,1µm,16.6s
TNTI Ternate 55.77 217 P **P** **13 21 08.8 +0.2**
comp=Z,22nm,1.5s
CM31 Chiang Mai Arr 55.82 257 P **P** **13 21 10.8 +1.9**
SNR=28
CMAR Chiang Mai Arr 55.82 257 P **P** **13 21 10.5 +1.5**
comp=Z,94nm,0.8s,baz=30,slow=7.0,SNR=306
CMAR LR LR 13 45 58.2
comp=Z,552nm,19.5s,baz=76,slow=37
CMAR Chiang Mai Arr 55.82 257 *ce*P **P** **13 21 10.5 +1.5**
CMAR pmax pmax
comp=Z,97nm,0.8s
KTK1 Kautokeino 55.82 342 *e*P **P** **13 21 07.2 -1.2**
PBKT Sadao Pong 56.01 254 P **P** **13 21 12.2 +1.9**
PBKT IAmb IAmb 13 21 13.9
comp=Z,43nm,0.7s
TMCR Tamitsa 56.01 332 *e*P **P** **13 21 08.8 -0.9**
TMCR pmax pmax
comp=Z,18nm,0.8s
FFC Flin Flon 56.04 43 P **P** **13 21 11.2 +1.1**
FFC pmax pmax
comp=Z,62nm,0.9s
FFC MLR MLR
comp=Z,1µm,21.0s
FFC Flin Flon 56.04 43 P **P** **13 21 11.2 +1.1**
FFC IAmb IAmb 13 21 12.1
comp=Z,62nm,0.9s
FFC Flin Flon 56.04 43 IAMs_20 IAMs_20 13 47 38.6
comp=Z,970nm,21.0s
TRO Tromso 56.11 344 *e*P **P** **13 21 10.2 -0.1**
KK31 Karatay Array 56.37 299 *e*P **P** **13 21 12.2 -0.4**
AFDM Forest Hills D 56.47 68 IAmb IAmb 13 21 29.7
comp=Z,47nm,1.1s
TAPN Taplejung 56.47 273 *e*P **P** **13 21 14.1 +0.2**
MFID Camas Ranch 56.50 61 IAmb IAmb 13 21 29.4
comp=Z,95nm,1.5s
FCC Fort Churchill 56.51 36 P **P** **13 21 13.9 +0.6**
FCC pmax pmax
comp=Z,95nm,0.9s
FCC Fort Churchill 56.51 36 P **P** **13 21 13.9 +0.6**
SUMG Summit 56.52 6⇑ *i*P **P** **13 21 13.9 +0.2**
comp=Z,442nm,1.0s
SUMG Summit 56.52 6⇑ *i*P **P** **13 21 13.9 +0.2**
EGMT Eagleton 56.74 53 P **P** **13 21 15.6 +0.3**
baz=311,SNR=35
EGMT Eagleton 56.74 53 IAmb IAmb 13 21 17.0
comp=Z,63nm,1.1s
EGMT IAMs_20 IAMs_20 13 44 05.2
comp=Z,930nm,22.0s
PAHR Pah Rah Range 56.90 66 IAmb IAmb 13 21 33.0
comp=Z,93nm,1.2s
DLMT Dillon 57.00 57 IAmb IAmb 13 21 32.6
comp=Z,55nm,1.3s
ODAN Odare 57.01 273 *e*P **P** **13 21 17.9 +0.2**
comp=Z,12nm,0.6s
VCNR Virginia City 57.02 67 IAmb IAmb 13 21 34.1
comp=Z,62nm,1.0s
LBMI Labuha 57.02 216 P **P** **13 21 18.2 +0.7**
comp=Z,1µmcomp=Z,56nm,0.8s
JIRN Jiri 57.22 275 *e*P **P** **13 21 19.1 -0.2**
GUN Gumba 57.24 275 *e*P **P** **13 21 20.3 +0.9**
comp=Z,27nm,0.5s
IUG Iuzhnay 57.26 298 *e*P **P** **13 21 19.7 +0.6**
comp=Z,2.6nm,0.6s,baz=298
IUG *e*S **S** **13 29 11.5 +1.8**
baz=298
IUG LR LR 13 46 12.3
comp=Z,62nm,18.2s,baz=298
IUG Iuzhnay 57.26 298 *e*P **P** **13 21 19.7 +0.6**
IUG *e*S **S** **13 29 11.5 +1.8**
IUG pmax pmax
comp=Z,3.0nm,0.6s
CMB Columbia Colle 57.41 68 IAMs_20 IAMs_20 13 40 38.9
comp=Z,665nm,22.0s
RAMN Ramite 57.45 274 *e*P **P** **13 21 21.0 +0.2**
comp=Z,63nm,0.6s
FAKI Fak Fak 57.51 210 P **P** **13 21 21.8 +0.9**
WAKR Walker 57.66 67 IAmb IAmb 13 21 38.8
comp=Z,64nm,0.9s
PKI Pulchoki 57.77 275 *e*P **P** **13 21 22.9 -0.2**
PKIN Phulchoki 57.78 275 *e*P **P** **13 21 23.2 +0.1**
DMN Daman 57.94 275 *e*P **P** **13 21 24.8 +0.6**
comp=Z,34nm,0.6s
GKN Gorkha 57.96 276 *e*P **P** **13 21 24.5 +0.3**
KLMR Klimovskoe 58.03 329 *e*P **P** **13 21 21.6 -2.4**
KLMR *e*S **S** **13 29 18.6 -0.3**
KLMR pmax pmax
comp=Z,17nm,0.7s
KLMR MLR MLR
comp=Z,855nm,17.0s
KLMR Klimovskoe 58.03 329 *e*P **P** **13 21 21.7 -2.3**
KLMR AMP 13 21 24.8
comp=Z,17nm,0.7s
KLMR *e*S **S** **13 29 18.6 -0.3**
KLMR *e*S **S** **13 29 18.6 -0.3**
KLMR LQ LQ 13 42 53.0
KLMR LQ LQ 13 42 53.0
KLMR LR LR 13 45 02.7
KLMR AMP 13 50 03.9
comp=Z,855nm,16.6s
RYN Ryan 58.12 67 IAmb IAmb 13 21 41.7
comp=Z,54nm,0.9s
BTK Batken 58.19 296 IAmb IAmb 13 21 26.9
comp=Z,62nm,1.1s
MRSI Marisa 58.24 223 P **P** **13 21 26.3 +0.3**
comp=Z,986nmcomp=Z,1µmcomp=Z,61nm,1.1s
DANN Dangsing 58.27 277 *e*P **P** **13 21 27.4 +0.8**
comp=Z,68nm,0.5s
LOF Lofoten 58.37 345 *e*P **P** **13 21 25.4 -0.8**
NVAR Mina Array Bea 58.38 67 P **P** **13 21 27.9 +0.8**
comp=Z,11nm,0.8s,baz=292,slow=7.2,SNR=64
NVAR LR LR 13 42 38.2
comp=Z,253nm,21.7s,baz=301,slow=32
ELK Elko 58.59 63 IAmb IAmb 13 21 45.8
comp=Z,24nm,0.8s
ILULI Ilulissat 58.59 11 IAMs_20 IAMs_20 13 47 12.7
comp=Z,855nm,22.0s
MLAC Mammoth, Mammo 58.60 68 P **P** **13 21 29.5 +0.8**
baz=312
LKWY Lake 58.69 57 IAmb IAmb 13 21 33.0
comp=Z,56nm,0.8s
LKWY IAMs_20 IAMs_20 13 46 44.0
comp=Z,640nm,22.0s
H17A Grant Village 58.71 57 P **P** **13 21 31.7 +2.3**
baz=312,SNR=64
KOLN Koldanda 58.78 277 *e*P **P** **13 21 30.3 +0.3**
comp=Z,46nm,0.6s
RLMT Red Lodge 58.92 56 P **P** **13 21 31.6 +0.8**
baz=312,SNR=66
RLMT Red Lodge 58.92 56 IAMs_20 IAMs_20 13 48 19.9
comp=Z,601nm,19.0s
PYUN Piuthan 58.93 277 *e*P **P** **13 21 31.4 +0.3**
comp=Z,52nm,0.5s
FXWY Fox Creek 58.98 58 IAmb IAmb 13 21 34.1
comp=Z,35nm,0.9s
MSAI Masohi 59.01 213 P **P** **13 21 31.8 +0.4**
comp=Z,14nm,0.8s
SCO Scoresbysund 59.10 360 *i* P **P** **13 21 31.0 -0.3**
SCO Scoresbysund 59.10 360 *i* P **P** **13 21 31.0 -0.3**
VOG Valley Oaks Go 59.16 69 P **P** **13 21 32.3 +0.1**
baz=313
DGMT Dagmar 59.22 50 P **P** **13 21 32.8 +0.2**
baz=313,SNR=13
DGMT Dagmar 59.22 50 IAMs_20 IAMs_20 13 48 14.7
comp=Z,906nm,21.0s
SNOW Snow King Moun 59.24 58 IAmb IAmb 13 21 36.3
comp=Z,59nm,0.9s
MPSI Mapga 59.26 225 P **P** **13 21 33.9 +0.8**
comp=Z,612nmcomp=Z,32nm,1.8s
TIN Tinemaha, Big 59.34 68 P **P** **13 21 34.6 +0.9**
baz=313
LAO LASA Array 59.43 53 P **P** **13 21 34.9 +0.8**
baz=313,SNR=55
LAO LASA Array 59.43 53 IAMs_20 IAMs_20 13 46 35.3
comp=Z,930nm,22.0s
SMMC Simmler 59.47 70 P **P** **13 21 35.2 +0.7**
baz=313
NLAI Namlea 59.57 215 P **P** **13 21 36.3 +1.1**
comp=Z,15nm,0.7s
AAI Ambon 59.59 214 P **P** **13 21 34.4 -0.9**
comp=Z,74nm,1.4s
APSI Ampana 59.61 222 P **P** **13 21 35.9 +0.4**
comp=Z,40nm,1.2s
VES Vestal, Richgr 59.66 69 P **P** **13 21 35.6 -0.1**
baz=313
BNDI Bandanaira 59.77 212 P **P** **13 21 37.5 +0.9**
comp=Z,159nm,1.2s
CWC Cottonwood Cre 59.85 68 P **P** **13 21 37.6 +0.4**
baz=313
PKM Mcpherson Peak 59.87 71 P **P** **13 21 37.8 +0.4**
baz=313
GRAC Grapevine Rang 59.89 67 P **P** **13 21 38.3 +1.0**
baz=313,SNR=6.4
HNR Honiara 59.96 177 LR LR 13 43 19.6
comp=Z,928nm,21.7s,baz=6.5,slow=32
HNR Honiara 59.96 177 IAMs_20 IAMs_20 13 42 34.8
comp=Z,1µm,21.0s
R11A Troy Canyon, C 60.01 65 P **P** **13 21 38.7 +0.4**
baz=313,SNR=45
R11A Troy Canyon, C 60.01 65 IAmb IAmb 13 21 54.5
comp=Z,36nm,0.8s
CHGR Chuyangaron 60.08 295 P **P** **13 21 39.0 +0.3**
BOK Bokaro 60.14 272 *e*P **P** **13 21 40.0 +0.8**
BOK IAmb IAmb 13 21 41.1
comp=Z,13nm,0.7s
ISA Isabella, Lake 60.14 69 P **P** **13 21 38.8 -0.4**
baz=313
DHRM DHARAMSHALA 60.22 286 *e*P **P** **13 21 39.7 -0.2**
DHRM IAmb IAmb 13 21 44.5
comp=Z,126nm,0.4s
SBC Santa Barbara 60.24 71 P **P** **13 21 39.9 +0.2**
baz=313
ARVC Arvin 60.30 70 P **P** **13 21 40.2 +0.1**
baz=313
DUG Dugway, Tooele 60.33 62 P **P** **13 21 41.4 +1.0**
baz=313,SNR=26
BW06 Boulder Array 60.36 58 P **P** **13 21 41.2 +0.5**
baz=313,SNR=102
PDAR Pinedale Array 60.36 58 P **P** **13 21 41.3 +0.6**
comp=Z,56nm,0.8s,baz=310,slow=2.3,SNR=285
PDAR PKP2bc 13 51 14.6
comp=Z,0.9nm,1.0s,baz=111,slow=4.0,SNR=4.5
MPMC Manual Prospec 60.46 68 P **P** **13 21 41.8 +0.4**
baz=313,SNR=20
SMLA Simla 60.46 284 *e*P **P** **13 21 41.0 -0.2**
SMLA IAmb IAmb 13 21 46.3
comp=Z,73nm,0.7s
DDI Dehra Dun 60.47 283 *e*P **P** **13 21 42.0 +0.6**
DDI IAmb IAmb 13 21 45.8
comp=Z,54nm,0.7s
PMG Port Moresby 60.50 191 LR LR 13 44 36.3
comp=Z,485nm,21.5s,baz=12,slow=33
FURC Furnace Creek, 60.55 67 P **P** **13 21 42.2 +0.5**
baz=313,SNR=35
TPNV Topopah Spring 60.58 67 P **P** **13 21 42.5 +0.3**
baz=313,SNR=31
SCZ2 Santa Cruz Isl 60.59 71 P **P** **13 21 42.4 +0.3**
baz=314
OSI Osito Audit: C 60.71 70 P **P** **13 21 43.2 +0.2**
baz=314
LRMC Laurel Mtn Rad 60.74 69 P **P** **13 21 43.3 0.0**
baz=314,SNR=7.8
SFJD Kangerlussuaq 60.74 12 P **P** **13 21 42.8 +0.2**
SFJD pmax pmax
comp=Z,67nm,1.1s
SFJD MLR MLR
comp=Z,700nm,20.0s
SFJD Kangerlussuaq 60.74 12 P **P** **13 21 42.8 +0.2**
SFJD IAmb IAmb 13 21 43.7
comp=Z,67nm,1.1s
SFJD Kangerlussuaq 60.74 12 IAMs_20 IAMs_20 13 51 22.6
comp=Z,740nm,20.0s
EDW2 Edwards Air Fo 60.97 70 P **P** **13 21 45.0 +0.3**
baz=314,SNR=9.9
SBUM Sibu 61.10 234 P **P** **13 21 47.0 +1.3**
SNCC San Nicolas Is 61.17 72 P **P** **13 21 46.2 +0.1**
baz=314
SMKI Samarinda 61.18 227 P **P** **13 21 47.0 +0.8**
DECC Green Verdugo 61.19 70 P **P** **13 21 46.1 -0.2**
baz=314
SHOC Shoshone, Teco 61.28 68 P **P** **13 21 47.6 +0.8**
baz=314
GSC Goldstone, Bar 61.38 68 P **P** **13 21 47.7 +0.2**
baz=314,SNR=12
GSC Goldstone, Bar 61.38 68 IAmb IAmb 13 22 03.7
comp=Z,41nm,0.9s
FIA1 FINESS Array S 61.51 336 P **P** **13 21 46.9 -1.0**
SHPR Sheep Range 61.51 66 IAmb IAmb 13 22 04.5
comp=Z,48nm,1.2s
FINES FINESS Array B 61.52 336 P **P** **13 21 46.6 -1.3**
comp=Z,6.1nm,0.6s,baz=35,slow=7.1,SNR=55
FINES LR LR 13 52 00.6
comp=Z,2µm,20.7s,baz=28,slow=39
FINES FINESS Array B 61.52 336 *i* P **P** **13 21 46.5 -1.4**
FINES pmax pmax
comp=Z,6.0nm,0.6s
RRX Edison Barstow 61.56 69 P **P** **13 21 48.9 +0.2**
baz=314
FMP Fort Macarthur 61.59 71 P **P** **13 21 48.5 -0.3**
baz=314
BFSC Mount Baldy Ra 61.61 70 P **P** **13 21 49.3 +0.1**
baz=314,SNR=5.9
CIS Catalina Islan 61.73 71 P **P** **13 21 50.1 +0.2**
baz=314
TUQ Turquoise Moun 61.81 68 P **P** **13 21 50.7 +0.2**
baz=314,SNR=17
ULM Lac du Bonnet 61.83 44 P **P** **13 21 50.2 -0.1**
comp=Z,12nm,0.7s,baz=312,slow=6.8,SNR=16
ULM LR LR 13 49 40.9
comp=Z,567nm,21.8s,baz=326,slow=37
MDND Maddock 61.85 48 P **P** **13 21 51.2 +0.7**
baz=316,SNR=16
SCI2 San Clemente I 61.95 71 P **P** **13 21 51.3 0.0**
baz=314
HEC Hector,Ludlow 61.98 68 P **P** **13 21 51.9 +0.3**
baz=314,SNR=8.6
BBRC Big Bear Solar 62.03 69 P **P** **13 21 52.3 +0.1**
baz=314
BKB Balikpapan 62.04 227 IAMs_20 IAMs_20 13 45 22.1
comp=Z,755nm,21.0s
K22A Casper 62.06 56 P **P** **13 21 52.4 +0.3**
baz=314,SNR=18
K22A Casper 62.06 56 IAmb IAmb 13 21 54.1
comp=Z,34nm,0.9s
E28A Huff 62.24 50 IAMs_20 IAMs_20 13 50 29.7
comp=Z,1µm,20.0s
TTSI Tana Toraja 62.31 223 P **P** **13 21 54.1 +0.3**
comp=Z,613nmcomp=Z,16nm,1.4s
RSSD Black Hills 62.31 53 P **P** **13 21 54.3 +0.5**
baz=315
RSSD Black Hills 62.31 53 P **P** **13 21 54.8 +0.9**
RSSD pmax pmax
comp=Z,126nm,0.9s
RSSD Black Hills 62.31 53 P **P** **13 21 54.8 +0.9**
RSSD Black Hills 62.31 53 IAMs_20 IAMs_20 13 48 26.8
comp=Z,592nm,22.0s
MURC Murrieta 62.33 70 P **P** **13 21 53.8 -0.1**
baz=314,SNR=7.5
RWWY Rawlins 62.36 57 IAmb IAmb 13 21 56.1
comp=Z,57nm,0.9s
GMRC Granite Mounta 62.41 68 P **P** **13 21 54.9 +0.3**
baz=314,SNR=16
MOS Moscow 62.60 326 *e*P **P** **13 21 51.3 -3.9**
MOS *e* 13 22 31.0
MOS *e* 13 25 53.5
MOS MLR MLR
comp=N,1µm,22.0s
MOS MLR MLR
comp=E,1µm,22.0s
MOS MLR MLR
comp=Z,2µm,22.0s
PFO Pinyon Flats O 62.76 70 P **P** **13 21 56.9 +0.1**
baz=315
PFO Pinyon Flats O 62.76 70‖ *e*P **P** **13 21 56.9 +0.1**
PFO pmax pmax
comp=Z,10.0nm,1.0s
PFO Pinyon Flats O 62.76 70 P **P** **13 21 57.8 +0.9**
BELC Belle Mtn. Jos 62.76 69 P **P** **13 21 56.8 -0.1**
baz=315
XPFO Pion Flat 62.76 70 P **P** **13 21 57.9 +1.0**
TPFO Pinon Flats 62.77 70 P **P** **13 21 57.2 +0.3**
baz=315
109C Camp Elliot, M 62.88 71 P **P** **13 21 57.7 +0.3**
baz=315
O20A White River Ci 62.90 59 P **P** **13 21 58.4 +0.6**
baz=315,SNR=25
O20A White River Ci 62.90 59 P **P** **13 21 58.0 +0.2**
O20A IAmb IAmb 13 21 59.8
comp=Z,62nm,1.1s
KSM Kuching 62.92 235 IAmb IAmb 13 22 01.0
comp=Z,74nm,1.1s
KSM Kuching 62.92 235 P **P** **13 22 00.0 +2.1**
KBL Kabul 62.99 292 P **P** **13 21 57.1 -1.4**
KBL Kabul 62.99 292 P **P** **13 21 58.4 -0.1**
KBL pmax pmax
comp=Z,27nm,1.1s
KBL MLR MLR
comp=Z,1µm,21.0s
KBL Kabul 62.99 292 P **P** **13 21 58.4 -0.1**
NEE2 Needles Airpor 63.04 67 P **P** **13 21 58.6 +0.1**
baz=315
IRM Iron Mountain 63.16 68 P **P** **13 21 59.7 +0.4**
baz=315,SNR=12
SPSI Sidrap Palu 63.16 223 P **P** **13 21 58.9 -0.5**
comp=Z,1µmcomp=Z,61nm,1.2s
U15A North Rim 63.23 65 IAMs_20 IAMs_20 13 45 26.1
comp=Z,684nm,21.0s
AGMN Agassiz Nation 63.26 46 P **P** **13 21 59.4 -0.4**
baz=317,SNR=14
MONP2 Monument Peak 63.28 70 P **P** **13 22 00.3 -0.1**
baz=315

BC3	Big Chuckawall	63.33	69	P		P		13 22 00.4	-0.2	
	baz=315,SNR=9.5									
BNSI	Bone	63.40	222	P		P		13 22 01.9	+0.8	
	comp=Z,35nm,1.2s									
OBN	Obninsk	63.46	326	*de*	P		P	13 22 00.2	-0.8	
OBN				*e*				13 22 37.1		
OBN				*e*				13 24 20.6		
OBN				*e*	S		S	13 30 24.7	-3.6	
OBN				*e*	SS		SS	13 34 31.3	-4.0	
OBN					pmax		pmax			
	comp=Z,10.0nm,0.4s									
OBN					MLR		MLR			
	comp=Z,2µm,23.0s									
DGPR	DIGLIPUR	63.56	258	*e*	P		P	13 22 03.2	+1.0	
DGPR					IAmb		IAmb	13 22 11.3		
	comp=Z,105nm,0.8s									
D32A	Dogwood Acres,	63.58	47		IAMs_20		IAMs_20	13 51 28.2		
	comp=Z,735nm,20.0s									
N23A	Red Feather La	63.60	57	P		P		13 22 03.2	+0.7	
	baz=315,SNR=56									
PV21	Cone Mtn., Par	63.60	61	IAmb		IAmb		13 22 04.6		
	comp=Z,55nm,0.9s									
SWSC	Sam W. Stewart	63.62	70	P		P		13 22 02.3	-0.1	
	baz=315									
IKP	In-Ko-Pah, Jac	63.64	70	P		P		13 22 02.4	-0.3	
	baz=315									
PDMCI	Parker Dam,Lak	63.64	67	P		P		13 22 02.3	-0.3	
	baz=315,SNR=7.9									
PV14	Lion Creek, Pa	63.71	61		IAMs_20		IAMs_20	13 44 50.7		
	comp=Z,938nm,22.0s									
PV22	Blue Mesa, Par	63.72	61		IAMs_20		IAMs_20	13 39 49.1		
	comp=Z,531nm,20.0s									
Y12C	Blythe	63.81	68	P		P		13 22 03.9	+0.3	
	baz=315,SNR=6.3									
VSU	Vasula	63.85	333	*e*	P		P	13 22 02.9	-0.6	
VSU	Vasula	63.85	333	*ce*	P		P	13 22 02.6	-0.8	
VSU					pmax		pmax			
	comp=Z,28nm,0.7s									
VSU					MLR		MLR			
	comp=Z,3µm,17.0s									
GLA	Glamis	64.12	69	P		P		13 22 06.1	+0.4	
	baz=315,SNR=9.3									
KBKI	Kotabaru	64.17	227	P		P		13 22 06.4	+0.3	
	comp=Z,102nm,1.0s									
BKSI	Bulukumba	64.22	222	P		P		13 22 07.0	+0.6	
	comp=Z,564nmcomp=Z,39nm,0.8s									
WUAZ	Wupatki	64.40	65	P		P		13 22 08.4	+0.7	
	baz=315,SNR=20									
WUAZ	Wupatki	64.40	65		IAMs_20		IAMs_20	13 45 39.0		
	comp=Z,776nm,22.0s									
ISCO	Idaho Springs	64.56	58	P		P		13 22 09.7	+0.9	
	baz=316,SNR=89									
Y14A	Wickenburg	64.57	67	IAmb		IAmb		13 22 24.6		
	comp=Z,28nm,0.8s									
LPSR	Galich'ya Gora	64.58	323	*e*	P		P	13 22 07.1	-1.3	
LPSR					pmax		pmax			
	comp=Z,20nm,0.7s									
LPSR					MLR		MLR			
	comp=Z,2µm,22.0s									
VRH	Novokhopyorsk	64.58	321	*e*	P		P	13 22 06.5	-1.9	
VRH					pmax		pmax			
	comp=Z,20nm,0.6s									
SUSD	Miller	64.62	50	P		P		13 22 08.5	-0.3	
	baz=317									
SUSD	Miller	64.62	50		IAMs_20		IAMs_20	13 49 15.8		
	comp=Z,981nm,22.0s									
DOMB	Dombas	64.72	344	*e*	P		P	13 22 09.5	+0.4	
MVCO	Mesa Verde	64.82	62	P		P		13 22 10.8	+0.3	
	baz=316,SNR=34									
MVCO	Mesa Verde	64.82	62	IAmb		IAmb		13 22 12.6		
	comp=Z,49nm,1.0s									
BORG	Borgarnes	64.85	359	P		P		13 22 12.2	+2.3	
BORG					pmax		pmax			
	comp=Z,105nm,1.1s									
BORG	Borgarnes	64.85	359	P		P		13 22 12.2	+2.3	
F33A	5 Mile Ranch,	64.87	48	IAmb		IAmb		13 22 11.9		
	comp=Z,63nm,0.8s									
F33A					IAMs_20		IAMs_20	13 49 46.4		
	comp=Z,919nm,22.0s									
NC405	NORSAR Array S	65.09	342	IAmb		IAmb		13 22 14.2		
	comp=Z,30nm,0.9s									
KULM	Kulim	65.10	246	P		P		13 22 13.9	+1.7	
KULM				IAmb		IAmb		13 22 15.3		
	comp=Z,69nm,1.1s									
KULM	Kulim	65.10	246	P		P		13 22 14.0	+1.7	
NC204	NORSAR Array S	65.12	343	IAmb		IAmb		13 22 12.9		
	comp=Z,43nm,1.1s									
X16A	Lo Mia Camp, P	65.14	66	IAmb		IAmb		13 22 29.4		
	comp=Z,38nm,0.8s									
NB2	NORSAR Subarra	65.26	342	P		P		13 22 11.9	-0.8	
	comp=Z,35nm,1.4s,baz=24,slow=6.9									
NB2	NORSAR Subarra	65.26	342	P		P		13 22 11.9	-0.8	
	baz=24,slow=6.9									
NOA	NORSAR Array B	65.26	342	P		P		13 22 11.4	-1.2	
	comp=Z,7.7nm,0.8s,baz=23,slow=6.6,SNR=44									
NOA					LR		LR	13 55 58.3		
	comp=Z,706nm,19.6s,baz=25,slow=41									
S22A	4UR Ranch, Cre	65.37	60	P		P		13 22 15.2	+1.0	
	baz=316,SNR=83									
S22A	4UR Ranch, Cre	65.37	60	IAmb		IAmb		13 22 16.8		
	comp=Z,62nm,1.1s									
Q24A	Divide	65.41	58	P		P		13 22 14.8	+0.5	
	baz=316,SNR=18									
EYMN	Ely	65.47	43	P		P		13 22 13.7	-0.6	
	baz=320,SNR=35									
EYMN	Ely	65.47	43	IAmb		IAmb		13 22 15.4		
	comp=Z,61nm,0.8s									
NC602	NORSAR Array S	65.47	342	*e*	P		P	13 22 12.9	-1.1	
IPM	Ipoh	65.54	245	P		P		13 22 16.2	+1.1	
IPM				IAmb		IAmb		13 22 17.4		
	comp=Z,49nm,1.2s									
IPM	Ipoh	65.54	245	P		P		13 22 17.0	+1.9	
COEN	Coen	65.54	195	P		P		13 22 13.6	-1.4	
COEN				IAmb		IAmb		13 22 16.2		
	comp=Z,36nm,0.9s									
VSR	Storozhevoye	65.58	322	*e*	P		P	13 22 13.7	-1.2	
VSR					pmax		pmax			
	comp=Z,20nm,1.1s									
VSR					MLR		MLR			
	comp=Z,2µm,20.0s									
HFS	Hagfors	65.59	341	LR		LR		13 56 12.4		
	comp=Z,1µm,19.0s,baz=23,slow=41									
W18A	Petrified Fore	65.62	64	P		P		13 22 16.1	+0.4	
	baz=316									
W18A	Petrified Fore	65.62	64		IAMs_20		IAMs_20	13 46 44.4		
	comp=Z,659nm,21.0s									
OGNE	Ogallala	65.62	55	P		P		13 22 16.1	+0.6	
	baz=317,SNR=21									
BHPL	Bhopal	65.90	278	*e*	P		P	13 22 16.4	-1.0	
BHPL					IAmb		IAmb	13 22 19.2		
	comp=Z,52nm,0.8s									
X18A	Snowflake	65.92	65		IAMs_20		IAMs_20	13 46 36.3		
	comp=Z,569nm,22.0s									
K31A	O'Neill	66.06	52		IAMs_20		IAMs_20	13 52 46.8		
	comp=Z,885nm,19.0s									
214A	Organ Pipe Nat	66.09	68	P		P		13 22 18.8	+0.3	
	baz=316,SNR=14									
214A	Organ Pipe Nat	66.09	68		IAMs_20		IAMs_20	13 45 46.1		
	comp=Z,465nm,19.0s									
SDCO	Great Sand Dun	66.10	59	P		P		13 22 19.2	+0.4	
	baz=316,SNR=59									
SDCO	Great Sand Dun	66.10	59	IAmb		IAmb		13 22 21.2		
	comp=Z,59nm,1.3s									
MYKOM	Kota Tinggi	66.13	241	P		P		13 22 21.0	+2.1	
F36A	Milaca	66.14	46		IAMs_20		IAMs_20	13 53 15.9		
	comp=Z,622nm,20.0s									
ECSD	EROS Data Cent	66.28	49	P		P		13 22 19.1	-0.4	
	baz=318,SNR=89									
ECSD	EROS Data Cent	66.28	49		IAMs_20		IAMs_20	13 50 00.8		
	comp=Z,728nm,21.0s									
IZAR	Zarasai	66.29	332	*e*	P		P	13 22 19.0	-0.3	
MMRI	Maumere	66.37	218	P		P		13 22 19.4	-0.9	
	comp=Z,2µmcomp=Z,72nm,1.1s									
OSL	Oslo	66.37	342	*e*	P		P	13 22 19.4	-0.3	
ISAL	Salakas	66.48	332	*e*	P		P	13 22 20.1	-0.4	
TPRI	Tanjung Pinang	66.48	240	P		P		13 22 22.9	+1.8	
	comp=Z,12µmcomp=Z,36nm,1.1s									
SANVU	Saraoutou	66.49	169		IAMs_20		IAMs_20	13 45 18.5		
	comp=Z,524nm,22.0s									
IIGN	Ignalina	66.64	332	*e*	P		P	13 22 21.1	-0.5	
EDFI	Ende, Flores	66.69	219	P		P		13 22 23.2	+0.7	
	comp=Z,19nm,1.1s									
KSCO	Kaye Shedlock'	66.72	57	P		P		13 22 22.7	+0.2	
	baz=317,SNR=6.5									
GEYT	Alibeck	66.75	302	P		P		13 22 23.2	+0.5	
	comp=Z,25nm,0.8s,baz=42,slow=2.4,SNR=39									
GEYT					LR		LR	13 54 34.5		
	comp=Z,717nm,18.4s,baz=145,slow=39									
GYA0B	ALIBECK ARRAY	66.75	302		IAmb		IAmb	13 22 25.6		
	comp=Z,38nm,1.1s									
NACGM	Naroch	66.85	331	*e*		P		13 22 22.0	-0.9	
NACGM				*e*	LQ	LQ		13 44 20.0		
NACGM				*e*	LR	LR		13 48 50.0		
NACGM					LRM	MLR		13 54 27.0		
	comp=Z,5.5nm,19.0s									
KONO	Kongsberg	66.85	343	⇓*e*	P		P	13 22 23.1	+0.3	
KONO					pmax		pmax			
	comp=Z,11nm,1.0s									
KONO	Kongsberg	66.85	343	P		P		13 22 21.9	-0.9	
KONO	Kongsberg	66.85	343		IAMs_20		IAMs_20	13 56 34.1		
	comp=Z,821nm,19.0s									
KONO	Kongsberg	66.85	343	*e*	P		P	13 22 23.1	+0.3	
SPMN	Marine on St.	66.95	46	P		P		13 22 23.6	-0.2	
	baz=320,SNR=9.6									
SPMN	Marine on St.	66.95	46		IAMs_20		IAMs_20	13 53 41.5		
	comp=Z,597nm,19.0s									
TUC	Tucson	67.03	67	P		P		13 22 24.9	+0.3	
	baz=316									
TUC	Tucson	67.03	67	P		P		13 22 25.3	+0.8	
TUC					pmax		pmax			
	comp=Z,31nm,1.2s									
TUC	Tucson	67.03	67	P		P		13 22 25.3	+0.8	
HRA	Herat	67.04	296	P		P		13 22 25.7	+1.0	
HRA					IAmb		IAmb	13 22 26.8		
	comp=Z,25nm,0.7s									
T25A	Trinidad	67.13	59	P		P		13 22 25.6	+0.3	
	baz=317,SNR=45									
T25A	Trinidad	67.13	59	IAmb		IAmb		13 22 27.4		
	comp=Z,74nm,1.1s									
PABE	Paberze	67.17	333	*e*	P		P	13 22 24.4	-0.5	
BATI	Baumata	67.26	216	P		P		13 22 26.5	+0.5	
	comp=Z,32nm,1.1s									
BGNE	Belgrade	67.26	52	P		P		13 22 25.4	-0.4	
	baz=318,SNR=9.6									
BGNE	Belgrade	67.26	52		IAMs_20		IAMs_20	13 53 16.7		
	comp=Z,829nm,21.0s									
PBUR	Paburge	67.29	335	*e*	P		P	13 22 25.3	-0.3	
LHMI	Lk Sumawe	67.33	249	P		P		13 22 30.0	+3.5	
	comp=Z,310nm,0.9s									
D41A	Chassel	67.42	42	IAmb		IAmb		13 22 28.7		
	comp=Z,42nm,0.8s									
ANMO	Albuquerque	67.60	62	P		P		13 22 28.8	+0.5	
	baz=317									
ANMO	Albuquerque	67.60	62	*c*	P		P	13 22 28.6	+0.3	
ANMO					pmax		pmax			
	comp=Z,19nm,1.0s									
ANMO	Albuquerque	67.60	62	P		P		13 22 29.4	+1.2	
I37A	Leonid, Waseca	67.60	47		IAMs_20		IAMs_20	13 53 41.5		
	comp=Z,975nm,21.0s									
PVM	Polavaram	67.64	270	*e*	P		P	13 22 29.1	+0.7	
PVM					IVmB_BB			13 22 29.9		
	comp=Z,459nm,0.7s									
L34A	Svendsen Farm,	67.72	51		IAMs_20		IAMs_20	13 50 58.9		
	comp=Z,698nm,22.0s									
COWI	Conover	67.92	43	IAmb		IAmb		13 22 30.8		
	comp=Z,30nm,0.8s									
RPR	Rampur	67.92	273	*e*	P		P	13 22 30.7	+0.5	
RPR					IVmBBB			13 22 31.4		
	comp=Z,452nm,0.6s									
Y22D	IRIS PASSCAL I	67.97	63	P		P		13 22 31.6	+1.1	
	baz=317									
Y22D	IRIS PASSCAL I	67.97	63		IAMs_20		IAMs_20	13 48 48.7		
	comp=Z,588nm,20.0s									
G40A	Rib Lake	68.10	45	IAmb		IAmb		13 22 32.0		
	comp=Z,32nm,0.9s									
N33A	J Bar K, Exete	68.11	52		IAMs_20		IAMs_20	13 53 53.2		
	comp=Z,907nm,21.0s									
PLAI	Plampang	68.37	222	P		P		13 22 33.0	+0.1	
CBKS	Cedar Bluff	68.39	55	P		P		13 22 32.0	-0.9	
	baz=318,SNR=9.6									
MAK	Makhachkala	68.39	312	*d*	P		P	13 22 31.1	-1.7	
MAK					*e**PP		pP	13 22 47.0	-4.2	
MAK					*e**SP		PcP	13 22 54.2	-3.6	
MAK					*e*			13 25 02.2		
MAK					*e*PPP		PPP	13 26 41.7		
MAK					*e*S		S	13 31 27.8	-0.7	
MAK					*e**SS		sS	13 31 55.8	-3.6	
MAK					*e*SS		SS	13 35 46.9	-5.3	
MAK					pmax		pmax			
	comp=Z,126nm,1.1s									
MAK					MLR		MLR			
	comp=Z,1µm,19.0s									
MLSI	Meulaboh, Aceh	68.42	249	P		P		13 22 33.8	+0.5	
	comp=Z,169nm,0.8s									
SRSP	Sriramsagar	68.48	274	*e*	P		P	13 22 33.5	-0.2	
SRSP					IVmB_BB			13 22 34.4		
	comp=Z,476nm,0.7s									
121A	Cookes Peak, D	68.61	65	P		P		13 22 35.5	+0.9	
	baz=317,SNR=13									
SCHQ	Schefferville	68.61	26	P		P		13 22 34.0	-0.1	
	comp=Z,56nm,0.8s,baz=348,slow=6.9,SNR=55									
SCHQ					LR		LR	13 57 57.6		
	comp=Z,282nm,18.2s,baz=330,slow=40									
SCHQ	Schefferville	68.61	26		IAMs_20		IAMs_20	13 55 13.2		
	comp=Z,542nm,22.0s									
F42A	Maple Grove Fa	68.62	43		IAMs_20		IAMs_20	13 53 56.5		
	comp=Z,639nm,22.0s									
E43A	Lone Tree Farm	68.63	42	IAmb		IAmb		13 22 35.1		
	comp=Z,39nm,0.8s									
E43A					IAMs_20		IAMs_20	13 54 13.6		
	comp=Z,538nm,21.0s									
GOF	Gofitskoye	68.81	316	⇑*e*	P		P	13 22 35.3	-0.1	
GOF					pmax		pmax			
	comp=Z,46nm,0.6s									
BKNI	Bangkinang	68.91	243	P		P		13 22 37.6	+1.2	
	comp=Z,2µmcomp=Z,148nm,1.5s									
N35A	Tabor	68.92	51		IAMs_20		IAMs_20	13 54 51.6		
	comp=Z,653nm,20.0s									
I40A	Norwalk	68.98	46		IAMs_20		IAMs_20	13 55 22.0		
	comp=Z,523nm,20.0s									
GROC	Groznyy	69.00	313	*e*	P		P	13 22 36.7	+0.1	
GROC					*e**PP		pP	13 22 55.2	+0.1	
GROC					*e**SP		PcP	13 23 00.2	-0.2	
GROC					*e*			13 23 02.7		
GROC					pmax		pmax			
	comp=Z,23nm,0.5s									
SCIA	State Center	69.30	49	P		P		13 22 38.2	-0.3	
	baz=320,SNR=29									
AKT	Akhty	69.42	311	*e*	P		P	13 22 39.1	-0.3	
AKT					*e*			13 22 59.9		
AKT					*e**SP		PcP	13 23 01.0	-1.3	
AKT					pmax		pmax			
	comp=Z,16nm,0.6s									
D46A	Sault St. Mari	69.45	40	P		P		13 22 38.3	-1.0	
	baz=324,SNR=33									
HYBB	Hyderabad (bro	69.46	273	*e*	P		P	13 22 40.2	+0.3	
HYBB					IVmB_BB			13 22 40.9		
	comp=Z,745nm,0.5s									
HYB	Hyderabad	69.46	273	*i*	P		P	13 22 40.0	+0.1	
	comp=Z,177nm,0.8s									
HYB	Hyderabad	69.46	273	*e*	P		P	13 22 40.0	+0.1	
MATQ	Matagami	69.55	34	P		P		13 22 39.1	-0.8	
	baz=326,SNR=25									
PMBI	Palembang	69.56	237	P		P		13 22 41.9	+1.6	
	comp=Z,15µmcomp=Z,469nm,0.4s									
NJS	Nagarjunasagar	69.62	271	*e*	P		P	13 22 40.9	0.0	
NJS					IVmB_BB			13 22 41.9		
	comp=Z,433nm,1.1s									
AKASG	Malin Array Be	69.63	328		P		P	13 22 38.6	-1.7	
	comp=Z,6.6nm,0.5s,baz=32,slow=6.3,SNR=19									
AKASG					LR		LR	13 56 15.4		
	comp=Z,2µm,20.4s,baz=30,slow=38									
AKBB	Malin Array Si	69.63	328	⇓*e*	P		P	13 22 39.2	-1.2	
D47A	Chapleau	69.69	39	P		P		13 22 39.6	-1.2	
	baz=324,SNR=32									
SDSI	Sungai Dareh	69.73	242	P		P		13 22 43.2	+1.8	
	comp=Z,41nm,1.8s									
ADKI	Addanki	69.73	270	*e*	P		P	13 22 42.3	+0.8	
ADKI					IVmBBB			13 22 43.0		
	comp=Z,275nm,1.0s									
I42A	Draeger Farm,	69.75	45	IAmb		IAmb		13 22 42.1		
	comp=Z,50nm,0.8s									
E46A	Sault Ste Mari	69.76	40		IAMs_20		IAMs_20	13 55 27.6		
	comp=Z,471nm,21.0s									
KSU1	Kansas State U	69.77	53	P		P		13 22 40.3	-1.1	
	baz=320,SNR=15									
KSU1	Kansas State U	69.77	53	IAmb		IAmb		13 22 42.0		
	comp=Z,67nm,0.8s									
KSU1	Kansas State U	69.77	53		IAMs_20		IAMs_20	13 55 30.2		
	comp=Z,666nm,20.0s									
H43A	Windswept, Lux	69.80	44	IAmb		IAmb		13 22 42.6		
	comp=Z,63nm,0.8s									
F45A	CMU Biological	69.80	42	P		P		13 22 40.9	-0.6	
	baz=323,SNR=15									
KIV	Kislovodsk	69.83	315	*i*	P		P	13 22 41.2	-0.7	
	SNR=6.8									
KIV	Kislovodsk	69.83	315		P		P	13 22 41.2	-0.7	
KIV	Kislovodsk	69.83	315	*de*	P		P	13 22 42.2	+0.3	
KIV				*i*				13 23 03.0		
KIV				*e*				13 25 13.7		
KIV				*e*	S		S	13 31 48.3	+2.5	
KIV				*e*	SS		SS	13 36 20.7	+6.1	
KIV					pmax		pmax			
	comp=Z,8.0nm,0.8s									
KIV					MLR		MLR			
	comp=Z,865nm,22.0s									
KIV	Kislovodsk	69.83	315		IAMs_20		IAMs_20	13 55 57.6		
	comp=Z,876nm,22.0s									
BSD	Bornholm Skovb	69.90	338	*i*	P		P	13 22 41.7	-0.2	
BSD	Bornholm Skovb	69.90	338	*i*	P		P	13 22 41.7	-0.2	
JFWS	Jewell Farm	69.91	46	P		P		13 22 41.1	-1.2	
	baz=321,SNR=8.2									
JFWS	Jewell Farm	69.91	46		IAMs_20		IAMs_20	13 54 34.6		
	comp=Z,615nm,20.0s									
KBZ	Khabaz	69.92	315	P		P		13 22 42.5	+0.3	
	comp=Z,15nm,0.7s,baz=63,slow=3.4,SNR=28									
KBZ					LR		LR	13 56 36.8		
	comp=Z,1µm,21.9s,baz=30,slow=39									
KBZ	Khabaz	69.92	315	*ce*	P		P	13 22 42.3	+0.1	
KBZ					pmax		pmax			
	comp=Z,21nm,0.9s									
SNSI	Sinabang, Aceh	69.95	248	P		P		13 22 44.5	+1.7	
	comp=Z,251nm,1.0s									
GSI	Gunungsitoli	70.11	246	P		P		13 22 44.6	+0.8	
	comp=Z,141nm,0.7s									
E47A	Iron Bridge	70.11	40	P		P		13 22 42.1	-1.3	
	baz=324,SNR=38									
D48A	Paudash Townsh	70.11	38	P		P		13 22 42.0	-1.4	
	baz=325,SNR=26									
L40A	Anamosa	70.12	47	IAmb		IAmb		13 22 44.1		
	comp=Z,54nm,0.8s									
L40A					IAMs_20		IAMs_20	13 55 19.3		
	comp=Z,929nm,21.0s									
N38A	Joes South For	70.15	49		IAMs_20		IAMs_20	13 53 43.0		
	comp=Z,840nm,21.0s									
ZEI	Tsey	70.20	314	*e*	P		P	13 22 42.5	-1.8	
ZEI					pmax		pmax			
	comp=Z,14nm,0.6s									
D49A	Beulah Townshi	70.21	38	P		P		13 22 42.6	-1.4	
	baz=325,SNR=16									
KLRI	Killari	70.22	275	*e*	P		P	13 22 44.5	0.0	
KLRI					IVmB_BB			13 22 45.4		
	comp=Z,902nm,0.6s									
SRLM	Srisailam	70.23	271	*e*	P		P	13 22 44.6	+0.1	
SRLM					IVmB_BB			13 22 45.4		
	comp=Z,475nm,0.9s									
PDSI	Padang	70.25	242	P		P		13 22 45.0	+0.3	
	comp=Z,4µmcomp=Z,16nm,0.8s									
G45A	Suttons Bay	70.26	42	P		P		13 22 43.9	-0.5	
	baz=323,SNR=8.0									
G45A	Suttons Bay	70.26	42		IAMs_20		IAMs_20	13 55 46.8		
	comp=Z,499nm,21.0s									
AMTX	Amarillo	70.28	59	P		P		13 22 44.9	+0.1	
	baz=319									
MSTX	Muleshoe	70.37	60	P		P		13 22 45.1	-0.2	
	baz=318,SNR=31									
MSTX	Muleshoe	70.37	60		IAMs_20		IAMs_20	13 49 19.1		
	comp=Z,472nm,22.0s									
G46A	Petoskey	70.37	41	P		P		13 22 44.6	-0.4	
	baz=324,SNR=22									
NEY	Neytrino	70.37	315	⇑*e*	P		P	13 22 44.7	-0.6	
NEY					MLR		MLR			
	comp=Z,285nm,16.0s									
LSQQ	Lebel-sur-Quev	70.37	34	P		P		13 22 44.2	-0.8	
	baz=327									
H45A	Beulah	70.43	43	P		P		13 22 44.9	-0.5	
	baz=323,SNR=8.3									
E48A	Lockeyer	70.54	39	P		P		13 22 44.8	-1.2	
	baz=325,SNR=26									
CHGQ	Chibougamau	70.56	32	P		P		13 22 45.4	-0.8	
	baz=328,SNR=30									
MNTX	Cornudas Mount	70.59	64	P		P		13 22 47.1	+0.5	
	baz=318,SNR=42									
MNTX	Cornudas Mount	70.59	64	IAmb		IAmb		13 23 02.6		
	comp=Z,46nm,1.1s									
KNRA	Kununurra	70.62	209	IAmb		IAmb		13 22 48.1		
	comp=Z,42nm,0.9s									
KRJI	Kerinci	70.67	241	P		P		13 22 48.3	+1.0	
	comp=Z,4µmcomp=Z,322nm,0.8s									
I45A	Fountain	70.81	43	P		P		13 22 47.5	-0.2	
	baz=323									
I45A	Fountain	70.81	43		IAMs_20		IAMs_20	13 55 34.5		
	comp=Z,550nm,22.0s									
H46A	Fife Lake	70.85	42	P		P		13 22 47.7	-0.3	
	baz=324,SNR=10									
GLMI	Grayling	70.87	42	P		P		13 22 47.7	-0.3	
	baz=324									
GLMI	Grayling	70.87	42		IAMs_20		IAMs_20	13 56 25.0		
	comp=Z,604nm,20.0s									
D50A	G1974 Best Tow

comp=Z,384nm,1.0s
H48A Harrisville 71.51 41 P P 13 22 51.2 -0.7
baz=324,SNR=9.2
H48A Harrisville 71.51 41 IAMs_20 IAMs_20 13 55 35.0
comp=Z,545nm,20.0s
E51A G1948 Merrick 71.54 37 P P 13 22 50.7 -1.4
baz=326,SNR=23
L44A Lake County Fo 71.55 45 P P 13 22 51.6 -0.6
baz=323
I47A Gladwin 71.57 42 P P 13 22 51.7 -0.5
baz=324
D52A ZEK Kipawa Sen 71.59 36 P P 13 22 51.3 -1.0
baz=327,SNR=14
POO Poona 71.61 277 eP P 13 22 53.4 +0.4
POO IAmb IAmb 13 22 55.8
comp=Z,45nm,0.7s
POO Poona 71.61 277 eP P 13 22 53.0 0.0
J46A Howard City 71.62 43 P P 13 22 52.1 -0.5
baz=324,SNR=5.3
MDRS Chennai 71.64 268 eP P 13 22 54.7 +1.7
MDRS IAmb IAmb 13 22 56.4
comp=Z,52nm,0.9s
P40A Paris 71.70 50 IAMs_20 IAMs_20 13 54 40.1
comp=Z,800nm,22.0s
D53A Lac Vacive, Po 71.77 36 P P 13 22 52.5 -0.9
baz=327,SNR=27
D53A Lac Vacive, Po 71.77 36 IAmb IAmb 13 22 54.1
comp=Z,60nm,1.1s
D53A IAMs_20 IAMs_20 13 56 51.7
comp=Z,528nm,20.0s
I48A Sherman Twp 71.77 41 P P 13 22 53.0 -0.4
baz=324,SNR=8.0
F51A Arnstein 71.88 38 P P 13 22 52.9 -1.3
baz=326,SNR=9.9
WMOK Wichita Mounta 71.96 57 P P 13 22 54.6 -0.2
baz=320,SNR=72
WMOK Wichita Mounta 71.96 57 IAmb IAmb 13 22 56.3
comp=Z,59nm,0.8s
BSEG Bad Segeberg 72.03 340 eP P 13 22 54.6 -0.3
comp=Z,33nm,1.6s,baz=22,slow=5.8
INVG Invergeldie, C 72.06 349 eP P 13 22 54.8 -0.2
INVG IAmb IAmb 13 22 55.2
comp=Z,19nm,0.9s
J47A Sunmer 72.06 43 P P 13 22 54.7 -0.5
baz=324,SNR=8.1
J47A Sunmer 72.06 43 IAMs_20 IAMs_20 13 58 03.5
comp=Z,461nm,21.0s
E52A Mattawa 72.07 37 P P 13 22 53.8 -1.4
baz=326,SNR=9.6
D54A Lac Fusel, La 72.09 35 P P 13 22 54.4 -1.0
baz=328,SNR=31
LVV L'vov 72.09 330 eP P 13 22 54.3 -1.0
LVV MLR MLR
comp=N,700nm,18.0s
LVV MLR MLR
comp=E,400nm,18.0s
LVV MLR MLR
comp=Z,800nm,18.0s
SORM Soroca 72.11 327 ⇓P P 13 22 54.5 -0.9
URV Uravakonda 72.13 272 eP P 13 22 56.2 +0.1
URV IVmBBB 13 22 57.1
comp=Z,294nm,0.7s
BATM Batumi 72.14 315 ⇑P P 13 22 55.9 +0.1
HDIL Hopedale 72.20 47 P P 13 22 55.4 -0.8
baz=322,SNR=18
HDIL Hopedale 72.20 47 IAMs_20 IAMs_20 13 56 54.3
comp=Z,427nm,20.0s
F52A Sundridge 72.22 38 P P 13 22 55.2 -1.0
baz=326,SNR=24
BCA Borcka 72.30 315 ⇑P P 13 22 56.8 0.0
EAB Aberfoyle 72.33 349 eP P 13 22 57.0 +0.4
E53A Dumoine, Ponti 72.37 36 P P 13 22 55.9 -1.1
baz=327,SNR=25
LAWE Loch Awe, Argy 72.39 350 eP P 13 22 56.8 -0.1
LAWE IAmb IAmb 13 22 58.0
comp=Z,40nm,1.0s
K47A Vermontville 72.45 43 P P 13 22 57.1 -0.4
baz=324,SNR=16
J48A Bridge Port 72.46 42 P P 13 22 57.1 -0.5
baz=324,SNR=9.6
J48A Bridge Port 72.46 42 IAMs_20 IAMs_20 13 55 24.0
comp=Z,544nm,22.0s
E54A Lac Daplat, Po 72.50 36 P P 13 22 56.7 -1.1
baz=327,SNR=30
S39A Bolivar 72.51 52 IAmb IAmb 13 22 58.2
comp=Z,58nm,1.1s
S39A IAMs_20 IAMs_20 13 57 58.5
comp=Z,531nm,20.0s
R40A Maddies Statio 72.56 50 IAMs_20 IAMs_20 13 53 38.9
comp=Z,514nm,22.0s
ALGO Algonquin Park 72.58 37 P P 13 22 57.2 -1.1
baz=327,SNR=19
EBL Broad Law 72.58 348 eP P 13 22 57.8 -0.4
RUE Ruedersdorf 72.58 337 eP P 13 22 57.7 -0.4
baz=22,slow=5.8
TUL1 Leonard 72.63 54 P P 13 22 58.6 -0.2
baz=321,SNR=15
TUL1 Leonard 72.63 54 IAmb IAmb 13 23 00.0
comp=Z,72nm,0.9s
TUL1 IAMs_20 IAMs_20 13 56 12.7
comp=Z,508nm,22.0s
D55A Sainte-Anne-du 72.64 35 P P 13 22 57.9 -0.7
baz=328,SNR=37
SIM Simferopol' 72.64 321 eP P 13 22 50.0 -8.7
SIM S S 13 32 09.0 -9.0
SIM pmax pmax
comp=Z,8.0nm,1.0s
SIM MLR MLR
comp=N,700nm,17.0s
KWP Kalwaria Pacla 72.67 331 eP P 13 22 58.6 -0.2
KWP eL L 13 57 40.8
comp=N,3µm,21.3s
J49A Marlette 72.68 42 P P 13 22 58.2 -0.7
baz=325,SNR=6.6
K48A Perry 72.72 42 P P 13 22 59.0 -0.2
baz=324,SNR=27
P43A Skaggs, Pawnee 72.82 48 IAmb IAmb 13 23 00.8
comp=Z,72nm,0.8s
D56A ZEC Mazanza, M 72.87 34 P P 13 22 59.4 -0.6
baz=328,SNR=28
E55A Montcerf-Lytto 72.90 35 P P 13 22 59.6 -0.6
baz=328,SNR=10
U38A Gravette 72.94 53 IAmb IAmb 13 23 01.4
comp=Z,49nm,0.9s
U38A IAMs_20 IAMs_20 13 54 58.1
comp=Z,715nm,22.0s
DZM Mont Dzumac 72.95 171 eP P 13 23 01.9 +1.2
comp=Z,104nm,1.1s
DZM epP PcP 13 23 16.4 -0.9
comp=Z,126nm,1.2s
DZM eS SKiKP 13 32 26.5 -0.3
comp=Z,693nm,28.4s
DZM eLQ LQ 13 41 47.7
comp=Z,638nm,32.6s
DZM eLR LR 13 45 20.1
comp=Z,2µm,26.1s,baz=5.0
H52A Wyevale 72.96 39 P P 13 22 59.7 -0.9
baz=326,SNR=8.3
WB0 Warramunga Arr 72.97 202 IAmb IAmb 13 23 01.7
comp=Z,116nm,1.2s
K49A Clarkson 73.02 42 P P 13 23 01.0 +0.1
baz=325,SNR=8.4
OJC Ojcow 73.02 333 eP P 13 23 00.5 -0.4
OJC eL L 13 56 20.0
comp=Z,1µm,24.6s
G54A Lake Saint Pet 73.03 37 P P 13 22 59.9 -1.1
baz=327,SNR=16
ESK Eskdalemuir 73.05 348 eP P 13 23 00.8 -0.1
ESK IAmb IAmb 13 23 01.9
comp=Z,42nm,1.1s
ESK Eskdalemuir 73.05 348 P P 13 23 01.0 +0.1
ESK pmax pmax
comp=Z,38nm,1.1s
ESK Eskdalemuir 73.05 348 P P 13 23 01.0 +0.1
G53A Haliburton 73.06 38 P P 13 23 00.3 -0.8
baz=327,SNR=5.3
ABTX Abilene, Hawle 73.10 59 P P 13 23 01.7 0.0
baz=320,SNR=21
ABTX Abilene, Hawle 73.10 59 IAmb IAmb 13 23 03.3
comp=Z,90nm,0.9s
ABTX IAMs_20 IAMs_20 13 52 51.4
comp=Z,480nm,22.0s
WR0 Warramunga Arr 73.12 202 IAmb IAmb 13 23 02.6
comp=Z,71nm,1.1s
WR7 Warramunga Arr 73.13 202 IAMs_20 IAMs_20 13 49 05.2
comp=Z,457nm,18.0s
WRAB Tennant Creek 73.14 202 deP P 13 23 02.1 +0.3
WRAB pmax pmax
comp=Z,108nm,1.7s
WB2 Warramunga Arr 73.15 202 IAmb IAmb 13 23 02.9
comp=Z,91nm,1.1s
WR1 Warramunga Arr 73.15 202 IAMs_20 IAMs_20 13 50 07.8
comp=Z,669nm,21.0s
WRA Warramunga Arr 73.15 202 P P 13 23 01.0 -0.9
comp=Z,42nm,0.9s,baz=19,slow=6.3,SNR=66
WRA LR LR 13 55 19.3
comp=Z,175nm,20.1s,baz=65,slow=36
WRA Warramunga Arr 73.15 202 i P P 13 23 01.6 -0.2
WRA pmax pmax
comp=Z,44nm,0.9s
I51A Listowel 73.19 40 P P 13 23 01.4 -0.6
baz=326,SNR=25
E56A St. Veronique 73.20 35 P P 13 23 01.3 -0.6
baz=328,SNR=30
D57A Chemin Vers le 73.20 34 P P 13 23 01.9 -0.1
baz=329,SNR=96
M47A Cromwell 73.23 44 P P 13 23 01.6 -0.6
baz=324,SNR=6.0
CCM Cathedral Cave 73.25 50 P P 13 23 01.9 -0.5
baz=322
CCM Cathedral Cave 73.25 50 P P 13 23 02.0 -0.3
CCM pmax pmax
comp=Z,64nm,1.0s
CCM MLR MLR
comp=Z,700nm,22.0s
CCM Cathedral Cave 73.25 50 P P 13 23 02.0 -0.3
CCM IAmb IAmb 13 23 03.3
comp=Z,64nm,1.0s
CCM Cathedral Cave 73.25 50 IAMs_20 IAMs_20 13 55 27.0
comp=Z,661nm,22.0s
LATQ La Tuque 73.28 33 P P 13 23 01.9 -0.4
baz=330
L48A N Adams 73.28 43 IAMs_20 IAMs_20 13 56 58.7
comp=Z,707nm,22.0s
HHAR Hobbs 73.29 53 IAmb IAmb 13 23 03.4
comp=Z,53nm,0.8s
HHAR IAMs_20 IAMs_20 13 58 14.3
comp=Z,621nm,20.0s
I52A Shelburne 73.32 39 P P 13 23 01.9 -0.8
baz=326,SNR=6.0
F55A Otter Lake 73.32 36 P P 13 23 01.3 -1.3
baz=328,SNR=14
AAM Ann Arbor 73.33 42 P P 13 23 02.7 0.0
baz=325
AAM Ann Arbor 73.33 42 IAMs_20 IAMs_20 13 57 42.0
comp=Z,473nm,20.0s
TXAR Lajitas Array 73.34 64 P P 13 23 03.5 +0.3
comp=Z,30nm,0.7s,baz=298,slow=4.4,SNR=250
RETH Rethem/Aller, 73.36 340 eP P 13 23 02.8 +0.1
comp=Z,20nm,1.2s,baz=22,slow=5.8
SFIN Lafayette 73.36 46 P P 13 23 02.2 -0.8
baz=323,SNR=19
SFIN Lafayette 73.36 46 IAmb IAmb 13 23 03.8
comp=Z,42nm,0.8s
SFIN IAMs_20 IAMs_20 13 56 40.9
comp=Z,779nm,22.0s
K50A Casco 73.38 42 P P 13 23 02.9 -0.2
baz=325
K50A Casco 73.38 42 IAMs_20 IAMs_20 13 56 02.3
comp=Z,522nm,21.0s
NRDL Niedersach Rie 73.42 340 eP P 13 23 02.7 -0.4
comp=Z,30nm,1.5s,baz=22,slow=5.8
KSP Ksiaz 73.44 335 eP P 13 23 02.8 -0.5
KSP eL L 14 00 06.2
comp=Z,2µm,18.3s
D58A Chemin du LacG 73.49 33 P P 13 23 03.1 -0.6
baz=330,SNR=26
H53A Bobcaygeon 73.53 38 P P 13 23 03.0 -0.9
baz=327,SNR=17
N47A Urbana 73.59 45 IAmb IAmb 13 23 04.8
comp=Z,51nm,0.9s
NIE Niedzica 73.59 332 eP P 13 23 04.6 +0.3
NIE eL L 13 56 51.2
comp=Z,2µm,24.3s
CLGH Cloghs, Cushen 73.62 350 eP P 13 23 04.7 +0.4
CLGH IAmb IAmb 13 23 05.5
comp=Z,89nm,1.2s
BURAR Bucovina Array 73.63 328 ⇑P P 13 23 04.3 -0.3
E57A Chemin Saint G 73.63 34 P P 13 23 03.9 -0.6
baz=329,SNR=55
ASSE Asse, Remlinge 73.64 339 eP P 13 23 04.0 -0.3
comp=Z,27nm,1.5s,baz=22,slow=5.8
Q44A Meyer Farm, Va 73.64 48 IAmb IAmb 13 23 05.8
comp=Z,68nm,0.8s
G55A Calabogie 73.67 36 P P 13 23 03.5 -1.2
baz=328,SNR=31
GAL1 Galloway 73.67 349 eP P 13 23 04.5 -0.1
GAL1 IAmb IAmb 13 23 05.5
comp=Z,88nm,1.3s
CRVS Cervenica-Dubn 73.70 331 eP P 13 23 05.8 +0.9
CRVS Cervenica-Dubn 73.70 331 eP P 13 23 05.8 +0.9
OSTC Ostas 73.72 335 eP P 13 23 05.2 +0.2
OSTC ex x 13 23 14.0
OSTC AMS AMS 14 00 00.0
comp=Z,2µm,18.2s
PLVO Plevna 73.72 37 IAmb IAmb 13 23 05.7
comp=Z,43nm,0.9s
KESW Keswick, Cumbr 73.75 348 eP P 13 23 05.5 +0.6
KESW IAmb IAmb 13 23 06.4
comp=Z,91nm,1.0s
I53A Kortright Cn E 73.76 39 P P 13 23 04.6 -0.6
baz=326
U40A Yellville 73.78 52 P P 13 23 04.7 -0.8
baz=322,SNR=80
U40A Yellville 73.78 52 IAMs_20 IAMs_20 13 57 36.2
comp=Z,533nm,20.0s
UPC Upice 73.82 335 eP P 13 23 06.7 +1.2
UPC eS S 13 32 32.3 +1.2
UPC AMS AMS 14 00 00.0
comp=Z,2µm,18.5s
UPC Upice 73.82 335 eP P 13 23 06.7 +1.2
UPC eS S 13 32 32.3 +1.2
UPC MLR MLR
comp=Z,2µm,18.5s
OKC Ostrava-Krasne 73.84 334 eP P 13 23 05.7 +0.1
OKC AMS AMS 13 58 30.0
comp=Z,1µm,20.0s
OKC Ostrava-Krasne 73.84 334 eP P 13 23 05.7 +0.1
OKC MLR MLR
comp=Z,1µm,20.0s
Z35A Perchaven, San 73.85 57 IAMs_20 IAMs_20 14 00 17.2
comp=Z,391nm,19.0s
CLL Colim 73.85 337 i P P 13 23 06.5 +0.8
comp=Z,21nm,1.0s
CLL i 13 23 14.4
CLL epP PcP 13 23 20.0 -0.9
CLL ePP PP 13 25 54.0 +3.6
CLL ePPP PPP 13 27 48.0
CLL eS S 13 32 32.0 +0.6
CLL eSS SS 13 37 30.0 +15
CLL e 13 38 48.0
CLL e 13 41 30.0
CLL eSSSS 13 42 36.0
CLL Lm MLR 14 00 00.0
comp=Z,1µm,18.5s
CLL Colim 73.85 337 i P P 13 23 06.5 +0.8
CLL e*PP PcP 13 23 20.0 -0.9
CLL eS S 13 32 32.0 +0.6
CLL pmax pmax
comp=Z,21nm,1.0s
CLL MLR MLR
comp=Z,1µm,18.5s
X37A Clayton 73.87 55 IAMs_20 IAMs_20 13 55 22.6
comp=Z,570nm,22.0s
DPC Dobruska-Polom 73.88 335 eP P 13 23 07.0 +1.1
DPC AMS AMS 14 00 00.0
comp=Z,1µm,18.3s
DPC Dobruska-Polom 73.88 335 eP P 13 23 07.0 +1.1
DPC MLR MLR
comp=Z,1µm,18.3s
FITZ Fitzroy Crossi 73.88 211 IAmb IAmb 13 23 08.1
comp=Z,51nm,0.9s
J52A Paris 73.88 40 P P 13 23 05.4 -0.6
baz=326,SNR=10
K51A Iona Station 73.89 41 P P 13 23 05.9 -0.2
baz=326
GOA Goa 73.90 275 eP P 13 23 07.6 +1.2
GOA IAmb IAmb 13 23 09.2
comp=Z,100nm,0.8s
L50A Kingsville 73.90 42 P P 13 23 05.4 -0.7
baz=325,SNR=15
P46A Rosedale 73.92 46 IAMs_20 IAMs_20 13 58 05.7
comp=Z,729nm,20.0s
BIZ Bicaz 73.92 327 ⇑P P 13 23 06.6 +0.4
D59A Saint-Raymond 73.93 32 P P 13 23 06.4 +0.3
baz=330,SNR=6.2
DELO Deloro Mine 73.95 37 IAmb IAmb 13 23 07.1
comp=Z,39nm,0.9s
ORIO Orleans, Innes 73.96 36 P P 13 23 05.2 -1.1
baz=328,SNR=12
E58A La Victoria 73.97 34 P P 13 23 06.1 -0.4
baz=329,SNR=51
KRLC Kraliky 74.00 335 eP P 13 23 07.3 +0.6
KRLC epP PcP 13 23 20.5 -1.1
KRLC AMS AMS 13 59 20.0
comp=Z,1µm,20.2s
KRLC Kraliky 74.00 335 eP P 13 23 07.3 +0.6
KRLC e 13 23 20.5
KRLC MLR MLR
comp=Z,1µm,20.2s
BRG Berggiesshubel 74.02 337 eP P 13 23 06.2 -0.4
comp=Z,13nm,1.4s
BRG e 13 23 14.0
comp=Z,8.0nm,1.1s
BRG S SKiKP 13 32 27.0 -0.8
comp=N,816nm,17.9s
comp=E,614nm,16.6s
comp=Z,2µm,17.9s
BRG Berggiesshubel 74.02 337 eP P 13 23 06.2 -0.4
BRG S SKiKP 13 32 27.0 -0.8
BRG pmax pmax
comp=Z,13nm,1.4s
BRG MLR MLR
comp=N,816nm,17.9s
BRG MLR MLR
comp=E,614nm,16.6s
BRG MLR MLR
comp=Z,2µm,17.9s
BRG Berggiesshubel 74.02 337 eP P 13 23 05.9 -0.7
comp=Z,13nm,1.4s,baz=22,slow=5.8
TRPA Tarpa 74.05 330 ⇑P P 13 23 07.3 +0.5
MORC Moravsky Berou 74.06 334 ⇓P P 13 23 06.3 -0.7
MORC Moravsky Berou 74.06 334 i⇑P P 13 23 07.0 0.0
LANS Liptovska Anna 74.08 333 eP P 13 23 08.7 +1.6
LANS pmax pmax
comp=Z,16nm,1.1s
LANS Liptovska Anna 74.08 333 eP P 13 23 08.7 +1.6
H55A Tweed 74.09 37 P P 13 23 06.3 -0.9
baz=328,SNR=27
TESR Tescani 74.10 327 ⇑P P 13 23 06.7 -0.5
IBBN Ibbenburen 74.10 341 eP P 13 23 07.0 -0.1
comp=Z,37nm,1.3s,baz=22,slow=5.8
FBE Freiberg 74.12 337 eP P 13 23 06.8 -0.4
comp=Z,21nm,1.2s,baz=22,slow=5.8
T42A Van Buren 74.13 51 IAmb IAmb 13 23 08.3
comp=Z,37nm,0.8s
T42A IAMs_20 IAMs_20 13 54 14.3
comp=Z,541nm,22.0s
E59A St. Maurice 74.15 33 P P 13 23 07.7 +0.2
baz=330
HPK Haverah Park 74.16 347 eP P 13 23 07.9 +0.5
HPK IAmb IAmb 13 23 08.8
comp=Z,130nm,1.1s
K52A Tillsonburg 74.17 40 P P 13 23 07.5 -0.2
baz=326
I55A Frankford 74.18 38 P P 13 23 06.7 -1.0
baz=327,SNR=20
OLIL Olney 74.21 48 IAMs_20 IAMs_20 13 55 24.5
comp=Z,828nm,21.0s
W39A Magazine 74.22 53 P P 13 23 07.4 -0.7
baz=322,SNR=23
W39A Magazine 74.22 53 IAmb IAmb 13 23 09.2
comp=Z,68nm,1.2s
W39A IAMs_20 IAMs_20 13 57 56.8
comp=Z,609nm,20.0s
F58A St-Lin Laurent 74.22 34 P P 13 23 07.4 -0.5
baz=329
N49A Columbus Grove 74.22 44 IAmb IAmb 13 23 09.1
comp=Z,79nm,1.2s
NEUB Neuenburg 74.24 338 eP P 13 23 07.2 -0.7
baz=22,slow=5.8
IOMK Kirk Michael 74.25 349 eP P 13 23 08.2 +0.3
IOMK IAmb IAmb 13 23 09.0
comp=Z,115nm,1.2s
D61A St Aubert, Com 74.31 31 P P 13 23 08.1 -0.3
baz=331,SNR=14
D60A Saint Jean D'O 74.32 32 P P 13 23 08.1 -0.3
baz=331,SNR=27
M50A Fremont 74.32 43 IAmb IAmb 13 23 09.6
comp=Z,60nm,0.8s
O48A Farmland 74.33 45 P P 13 23 07.9 -0.8
baz=324,SNR=22
WIM Isle of Man 74.38 349 eP P 13 23 08.8 +0.1
H56A Elgin 74.41 36 P P 13 23 08.3 -0.7
baz=328,SNR=19
G57A Newington 74.45 35 P P 13 23 08.1 -1.1
baz=329,SNR=24
TLCR 74.47 325 ⇓P P 13 23 09.5 +0.2
S44A Carbondale 74.49 49 IAmb IAmb 13 23 10.8
comp=Z,81nm,0.8s
S44A IAMs_20 IAMs_20 13 54 56.0
comp=Z,818nm,22.0s
FCAR Ozark Folk Cen 74.51 52 IAmb IAmb 13 23 10.4
comp=Z,67nm,0.8s
FCAR IAMs_20 IAMs_20 13 57 56.6
comp=Z,415nm,20.0s
BLO Bloomington 74.59 46 IAMs_20 IAMs_20 13 57 19.5
comp=Z,744nm,22.0s
J54A Appleton 74.60 39 P P 13 23 09.4 -0.8
baz=327,SNR=15
J54A Appleton 74.60 39 IAMs_20 IAMs_20 13 59 31.6
comp=Z,480nm,20.0s
F59A Saint Guilaume 74.60 34 P P 13 23 10.3 +0.2
baz=330
E60A Ste Agathe de 74.61 33 P P 13 23 09.8 -0.3
baz=330,SNR=43
PRA Prague 74.63 336 eP P 13 23 10.6 +0.4
PRA AMS AMS 14 00 10.0
comp=Z,900nm,17.6s
PRA Prague 74.63 336 eP P 13 23 10.6 +0.4
PRA MLR MLR
comp=Z,900nm,17.6s
VRI Vrincioaia 74.63 326 ⇑P P 13 23 10.8 +0.5
JCT Junction City 74.65 61 P P 13 23 10.6 -0.1
baz=320,SNR=22
JCT Junction City 74.65 61 IAMs_20 IAMs_20 13 52 49.4
comp=Z,436nm,21.0s
PRU Pruhonice 74.68 336 eP P 13 23 10.9 +0.4
PRU eS S 13 32 38.2 -2.5
PRU AMS AMS 14 00 10.0
comp=Z,2µm,17.3s
PRU Pruhonice 74.68 336 eP P 13 23 10.9 +0.4
PRU eS S 13 32 38.2 -2.5
PRU MLR MLR
comp=Z,2µm,17.3s
PECO Prince Edward 74.69 37 IAmb IAmb 13 23 11.3
comp=Z,73nm,0.9s
LBWR Ladybower, Pea 74.71 347 eP P 13 23 11.0 +0.3
LBWR IAmb IAmb 13 23 11.9
comp=Z,130nm,1.2s
CFR Carcaliu 74.72 325 ⇓P P 13 23 10.7 -0.1
G58A Ormstown 74.75 35 P P 13 23 10.4 -0.6
baz=329
M51A Elyria 74.75 42 P P 13 23 10.4 -0.7
baz=326,SNR=7.1
VRAC Vranov 74.75 334 LR LR 14 00 24.1
comp=Z,1µm,18.1s,baz=20,slow=39
VRAC Vranov 74.75 334 ⇑P P 13 23 10.3 -0.7
VRAC Vranov 74.75 334 i⇑P P 13 23 11.0 0.0
WHTX Lake Whitney, 74.77 58 P P 13 23 11.4 +0.1
baz=321,SNR=12
WHTX Lake Whitney, 74.77 58 IAMs_20 IAMs_20 13 52 55.6
comp=Z,439nm,22.0s
D62A Allapoint, All 74.79 31 P P 13 23 11.2 0.0
baz=332,SNR=26
D62A Allapoint, All 74.79 31 IAMs_20 IAMs_20 13 57 02.7
comp=Z,814nm,22.0s
F60A Warwick 74.79 33 P P 13 23 10.9 -0.3
baz=330,SNR=8.1
MOX Moxa 74.80 338 eL L 13 59 35.2
comp=Z,880nm,21.2s
JURR Jurilovca 74.80 325 ⇑P P 13 23 11.0 -0.3
TANN Tannenbergstha 74.81 337 eP P 13 23 11.0 -0.3
comp=Z,67nm,1.8s,baz=22,slow=5.8
PLN Plauen 74.82 338 eP P 13 23 10.9 -0.4
comp=Z,42nm,1.8s,baz=22,slow=5.8
MIAR Mount Ida 74.83 54 P P 13 23 11.5 -0.1
baz=322,SNR=44
MIAR Mount Ida 74.83 54 IAmb IAmb 13 23 13.0
comp=Z,62nm,0.9s

MIAR IAMs_20 IAMs_20 13 58 08.1
comp=Z,549nm,20.0s
VYHS Vyhne 74.85 333 *eP* **P 13 23 12.0 +0.4**
VYHS Vyhne 74.85 333 *eP* **P 13 23 12.0 +0.4**
P48A Milroy 74.86 45 IAmb IAmb 13 23 12.5
comp=Z,76nm,0.8s
P48A IAMs_20 IAMs_20 13 58 08.5
comp=Z,558nm,22.0s
JAVC Velka Javorina 74.86 334 ⇑*iP* **P 13 23 12.8 +1.2**
E61A Lac Etchemin 74.88 32 P **P 13 23 11.5 -0.3**
baz=331,SNR=10
GUNZ Gunzen 74.89 337 *eP* **P 13 23 11.6 -0.2**
comp=Z,36nm,1.7s,baz=22,slow=5.8
TOPG Topolog 74.89 325 ⇓P **P 13 23 12.1 +0.3**
WHAR Wooly Hollow 74.90 52 IAMs_20 IAMs_20 13 58 00.9
comp=Z,562nm,22.0s
DIKM Dikmen 74.91 319 ⇑P **P 13 23 12.8 +0.8**
M52A Chesterland 74.93 41 P **P 13 23 12.0 -0.2**
baz=326,SNR=27
M52A Chesterland 74.93 41 IAMs_20 IAMs_20 13 57 20.4
comp=Z,539nm,21.0s
J55A Hilton 74.93 38 P **P 13 23 11.6 -0.4**
baz=328,SNR=29
WERN Wernitzgruen 74.95 337 *eP* **P 13 23 11.9 -0.2**
comp=Z,25nm,1.5s,baz=22,slow=5.8
NKC Novy Kostel 74.98 337 *eP* **P 13 23 13.0 +0.7**
NKC AMS AMS 14 01 20.0
comp=Z,1μm,17.2s
NKC Novy Kostel 74.98 337 *eP* **P 13 23 13.0 +0.7**
NKC MLR MLR
comp=Z,1μm,17.2s
DOPR Dopca 75.01 327 ⇑P **P 13 23 13.4 +0.9**
N51A Ashland 75.01 42 P **P 13 23 12.2 -0.4**
baz=326,SNR=20
N51A Ashland 75.01 42 IAMs_20 IAMs_20 13 56 42.5
comp=Z,525nm,21.0s
LONY Lake Ozonia 75.01 35 P **P 13 23 11.6 -0.9**
baz=329,SNR=14
LONY Lake Ozonia 75.01 35 IAmb IAmb 13 23 13.1
comp=Z,42nm,0.9s
LONY IAMs_20 IAMs_20 13 59 20.4
comp=Z,468nm,20.0s
UBBA Unterbreizbach 75.01 339 *eP* **P 13 23 12.0 -0.3**
comp=Z,53nm,1.9s,baz=22,slow=5.8
W41B Gary Mavity, V 75.01 52 P **P 13 23 12.2 -0.5**
baz=322,SNR=45
W41B Gary Mavity, V 75.01 52 IAmb IAmb 13 23 13.8
comp=Z,85nm,1.1s
W41B IAMs_20 IAMs_20 13 58 03.9
comp=Z,509nm,21.0s
ERPA Erie 75.02 40 P **P 13 23 12.1 -0.5**
baz=327,SNR=8.7
BUG Bochum--Univer 75.02 341 *eP* **P 13 23 11.9 -0.6**
comp=Z,45nm,1.4s,baz=22,slow=5.8
KRUC Moravsky 75.03 334 ⇑*iP* **P 13 23 12.9 +0.3**
E62A Clayton Lake 75.04 31 P **P 13 23 12.6 0.0**
baz=332,SNR=53
E62A Clayton Lake 75.04 31 IAMs_20 IAMs_20 13 57 21.3
comp=Z,661nm,22.0s
L53A Girard 75.04 41 P **P 13 23 12.7 -0.1**
baz=326,SNR=50
TREC Trest 75.06 335 *eP* **P 13 23 13.3 +0.5**
TREC AMS AMS 14 00 50.0
comp=Z,2μm,18.6s
TREC Trest 75.06 335 *eP* **P 13 23 13.3 +0.5**
TREC MLR MLR
comp=Z,2μm,18.6s
WME Mynydd Eilian 75.06 349 *eP* **P 13 23 12.7 0.0**
PARMO Parma 75.07 50 IAMs_20 IAMs_20 13 56 42.3
comp=Z,545nm,21.0s
WPS Cemaes, Angles 75.08 349 *eP* **P 13 23 12.6 -0.2**
PBCC Pribram 75.09 336 *eP* **P 13 23 13.3 +0.4**
Z38A Mt. Pleasant 75.10 56 IAMs_20 IAMs_20 13 59 33.3
comp=Z,517nm,20.0s
F61A St Evariste 75.11 32 P **P 13 23 13.1 0.0**
baz=331,SNR=38
P49A Miami Univ. Ec 75.11 45 P **P 13 23 12.6 -0.7**
baz=325,SNR=17
G59A Clarenceville 75.12 34 P **P 13 23 12.4 -0.7**
baz=330
D63A Stockholm 75.13 30 P **P 13 23 13.0 -0.2**
baz=332,SNR=11
K54A Basiliko Farm, 75.13 39 P **P 13 23 13.0 -0.3**
baz=327,SNR=22
HENM Henderson Moun 75.17 50 IAMs_20 IAMs_20 13 56 45.8
comp=Z,604nm,22.0s
DRGR 75.18 329 ⇓P **P 13 23 13.8 +0.2**
WLF1 Llynfaes 75.18 349 *eP* **P 13 23 13.3 0.0**
WLF1 IAmb IAmb 13 23 14.2
comp=Z,72nm,1.1s
FRNY Flat Rock 75.19 35 IAMs_20 IAMs_20 13 58 03.1
comp=Z,540nm,21.0s
I57A Carthage 75.19 36 P **P 13 23 12.5 -1.1**
baz=328,SNR=20
L54A Sinclairville 75.19 40 P **P 13 23 13.3 -0.4**
baz=327,SNR=20
MLR Muntele Rosu 75.23 327 ⇑P **P 13 23 14.3 +0.4**
TIRR Tirgusor 75.24 325 ⇓P **P 13 23 13.2 -0.6**
TIRR Tirgusor 75.24 325 ⇓P **P 13 23 13.2 -0.6**
SMOL Smolenice 75.24 334 *eP* **P 13 23 14.9 +1.1**
SMOL Smolenice 75.24 334 *eP* **P 13 23 14.8 +1.0**
YRC Rhoscolyn 75.24 349 *eP* **P 13 23 13.6 -0.1**
X40A Basin Creek Fa 75.26 53 P **P 13 23 13.6 -0.5**
baz=322,SNR=17
X40A Basin Creek Fa 75.26 53 IAMs_20 IAMs_20 13 58 16.3
comp=Z,612nm,20.0s
UALR University of 75.28 53 IAMs_20 IAMs_20 13 56 19.9
comp=Z,606nm,22.0s
K55A Perry 75.28 39 P **P 13 23 13.5 -0.6**
baz=327,SNR=50
MANZ Manzenberg 75.29 337 *eP* **P 13 23 13.7 -0.4**
comp=Z,11nm,1.1s,baz=22,slow=5.8
J56A Wolcott 75.29 38 P **P 13 23 13.3 -0.8**
baz=328,SNR=30
J56A Wolcott 75.29 38 IAmb IAmb 13 23 14.8
comp=Z,80nm,0.8s
PVMO Portageville 75.30 50 IAMs_20 IAMs_20 13 56 51.3
comp=Z,605nm,22.0s
CWF Charnwood Fore 75.30 347 *eP* **P 13 23 14.3 +0.3**
TLBR Topalu 75.30 325 ⇑P **P 13 23 14.6 +0.4**
M53A Wi Miller and 75.30 41 P **P 13 23 14.0 -0.2**
baz=326,SNR=41
YLL Llanberis 75.30 348 *eP* **P 13 23 14.1 +0.1**
PENMO Penman 75.30 50 IAMs_20 IAMs_20 13 56 39.4
comp=Z,552nm,22.0s
ACSO Alum Creek Sta 75.31 43 P **P 13 23 14.0 -0.3**
baz=325,SNR=11
ACSO Alum Creek Sta 75.31 43 IAMs_20 IAMs_20 13 58 20.5
comp=Z,646nm,22.0s
H59A Cadyville 75.31 35 P **P 13 23 13.5 -0.8**
baz=330,SNR=26
T45A Paducah 75.32 49 IAMs_20 IAMs_20 13 55 21.0
comp=Z,656nm,22.0s
H58A Gabriels 75.33 35 P **P 13 23 13.7 -0.7**
baz=329,SNR=17
MMNY Mt. Morris Dam 75.34 39 IAMs_20 IAMs_20 13 59 54.3
comp=Z,421nm,20.0s
N52A McGinn's Farm, 75.39 42 P **P 13 23 14.3 -0.5**
baz=326
MODS Modra-Piesok 75.41 334 *eP* **P 13 23 15.0 +0.2**
MODS Modra-Piesok 75.41 334 *eP* **P 13 23 15.0 +0.2**
G60A Masonville 75.41 34 P **P 13 23 14.5 -0.3**
baz=330,SNR=11
FOEL Foel Wylfa 75.42 348 *eP* **P 13 23 14.7 0.0**
FOEL IAmb IAmb 13 23 16.1
comp=Z,64nm,0.9s
HICK Hickman 75.42 50 IAMs_20 IAMs_20 13 57 03.6
comp=Z,558nm,21.0s
PEBM Pemiscott Bayo 75.45 50 IAMs_20 IAMs_20 13 56 45.5
comp=Z,564nm,22.0s
WCI Wyandotte Cave 75.46 47 P **P 13 23 15.2 0.0**
baz=324
WCI Wyandotte Cave 75.46 47 P **P 13 23 15.3 +0.1**
WCI pmax pmax
comp=Z,101nm,0.9s
WCI MLR MLR
comp=Z,900nm,20.0s
WCI Wyandotte Cave 75.46 47 P **P 13 23 15.3 +0.1**
ROTZ Rotzenmuhle 75.47 337 *eP* **P 13 23 14.9 -0.2**
comp=Z,30nm,1.6s,baz=22,slow=5.8
GNAR Gosnell 75.50 51 IAMs_20 IAMs_20 13 56 12.6
comp=Z,597nm,22.0s
HBAR Harrisburg 75.51 51 IAMs_20 IAMs_20 13 59 58.9
comp=Z,404nm,19.0s
J57A Williamstown 75.51 37 P **P 13 23 14.4 -1.0**
baz=328,SNR=20
J57A Williamstown 75.51 37 IAmb IAmb 13 23 16.9
comp=Z,53nm,0.9s
LLW Llanuwychllyn 75.52 348 *eP* **P 13 23 15.8 +0.6**
LLW IAmb IAmb 13 23 16.6
comp=Z,32nm,1.1s
G61A St-Isidore-de- 75.53 33 P **P 13 23 15.8 +0.3**
baz=331,SNR=41
O51A Pataskala 75.54 43 P **P 13 23 15.4 -0.3**
baz=326,SNR=17
BATG Bathurst New B 75.56 29 IAMs_20 IAMs_20 13 59 41.0
comp=Z,454nm,19.0s
E63A Oxbow 75.57 31 P **P 13 23 15.3 -0.4**
baz=332,SNR=13
E63A Oxbow 75.57 31 IAmb IAmb 13 23 16.8
comp=Z,54nm,0.8s
E63A IAMs_20 IAMs_20 13 57 48.5
comp=Z,701nm,22.0s
VOIR 75.59 327 ⇓P **P 13 23 16.6 +0.7**
L55A Hinsdale 75.59 39 P **P 13 23 15.4 -0.6**
baz=327,SNR=27
K56A Middlesex 75.60 38 P **P 13 23 15.3 -0.7**
baz=328,SNR=29
ZST Bratislava 75.62 334 *eP* **P 13 23 15.9 0.0**
ZST Bratislava 75.62 334 *eP* **P 13 23 15.8 -0.1**
435B Jarrell 75.63 59 P **P 13 23 16.5 +0.1**
baz=321
LNXT Lenox 75.65 50 IAMs_20 IAMs_20 13 56 50.6
comp=Z,532nm,21.0s
I58A Bad Ems 75.66 36 P **P 13 23 15.3 -1.0**
baz=329,SNR=9.9
M54A Oil Creek Stat 75.66 40 P **P 13 23 15.7 -0.6**
baz=327,SNR=42
NCB Newcomb 75.70 36 IAmb IAmb 13 23 17.5
comp=Z,48nm,0.9s
NCB IAMs_20 IAMs_20 13 59 19.6
comp=Z,497nm,21.0s
KHC Kasperske Hory 75.71 336 *eP* **P 13 23 17.2 +0.7**
KHC *ex* x 13 23 43.0
KHC *eS* **S 13 32 50.2 -2.2**
KHC AMS AMS 14 00 50.0
comp=Z,2μm,17.8s
KHC Kasperske Hory 75.71 336 *ceP* **P 13 23 16.7 +0.2**
KHC pmax pmax
comp=Z,39nm,1.0s
KHC MLR MLR
comp=Z,2μm,22.0s
HLM1 Long Mynd 75.74 347 *eP* **P 13 23 16.9 +0.4**
HLM1 IAmb IAmb 13 23 17.9
comp=Z,73nm,1.3s
WLAR White Oak Lake 75.74 54 IAMs_20 IAMs_20 13 59 55.2
comp=Z,620nm,19.0s
H60A Morristown 75.75 34 P **P 13 23 16.3 -0.5**
baz=330,SNR=16
N53A Lisbon 75.75 42 P **P 13 23 16.5 -0.3**
baz=326,SNR=23
N53A Lisbon 75.75 42 IAmb IAmb 13 23 18.2
comp=Z,98nm,1.0s
N53A IAMs_20 IAMs_20 13 57 46.3
comp=Z,579nm,22.0s
PALK Pallekele 75.76 264 P **P 13 23 17.9 +0.6**
E64A Bridgewater 75.77 30 P **P 13 23 16.1 -0.7**
baz=332,SNR=24
GRF Grafenberg Arr 75.78 338 *eP* **P 13 23 16.8 -0.1**
comp=Z,28nm,1.7s,baz=22,slow=5.8
GRF *eL* L 14 02 15.1
comp=Z,1μm,18.2s
ARR Arges 75.79 328 ⇓P **P 13 23 16.3 -0.7**
J58A Remsen 75.83 37 P **P 13 23 16.5 -0.7**
baz=326,SNR=44
J58A Remsen 75.83 37 IAmb IAmb 13 23 18.0
comp=Z,85nm,0.9s
J58A IAMs_20 IAMs_20 13 59 03.0
comp=Z,449nm,20.0s
HALT Halls 75.87 50 IAMs_20 IAMs_20 13 56 57.5
comp=Z,522nm,22.0s
WET Wettzell 75.88 337 *eP* **P 13 23 17.3 -0.1**
comp=Z,33nm,1.3s,baz=22,slow=5.8
K57A Scipio Center 75.89 38 P **P 13 23 16.6 -1.0**
baz=328,SNR=17
P51A Williamsport 75.89 44 P **P 13 23 17.0 -0.7**
baz=325
O52A Adamsville 75.90 43 P **P 13 23 17.4 -0.3**
baz=326,SNR=26
O52A Adamsville 75.90 43 IAmb IAmb 13 23 18.8
comp=Z,87nm,0.9s
O52A IAMs_20 IAMs_20 13 57 08.2
comp=Z,516nm,22.0s
AHRW Bad Neuenahr-A 75.91 341 *eP* **P 13 23 17.4 -0.1**
comp=Z,41nm,1.4s,baz=22,slow=5.8
TNS Taunus Mts 75.92 340 *eP* **P 13 23 17.4 -0.3**
comp=Z,22nm,1.1s,baz=22,slow=5.8
R49A Shelbyville 75.92 46 IAMs_20 IAMs_20 13 58 30.7
comp=Z,687nm,22.0s
VT1 Waterbury 75.92 34 IAMs_20 IAMs_20 13 58 13.9
comp=Z,650nm,22.0s
G62A West of Eustis 75.93 33 P **P 13 23 18.2 +0.4**
baz=331,SNR=55
G62A West of Eustis 75.93 33 IAMs_20 IAMs_20 14 02 45.9
comp=Z,372nm,19.0s
GEC2 GERESS Array S 75.94 336 *eP* **P 13 23 17.4 -0.6**
comp=Z,38nm,1.9s,baz=22,slow=5.8
GERES GERESS Array B 75.94 336 P **P 13 23 17.7 -0.3**
comp=Z,3.8nm,0.5s,baz=35,slow=6.2,SNR=36
GERES LR LR 14 01 34.9
comp=Z,2μm,18.4s,baz=26,slow=40
BEBN Eben Emael 75.95 342 P **P 13 23 17.8 +0.1**
I59A Olmsteadville 75.98 35 P **P 13 23 17.4 -0.7**
baz=330,SNR=28
N54A Moraine State 75.98 41 P **P 13 23 17.7 -0.5**
baz=327,SNR=32
N54A Moraine State 75.98 41 IAMs_20 IAMs_20 13 58 11.2
comp=Z,466nm,21.0s
L56A Greenwood 75.98 39 P **P 13 23 17.7 -0.5**
baz=328,SNR=36
L56A Greenwood 75.98 39 IAMs_20 IAMs_20 14 00 43.2
comp=Z,444nm,20.0s
F63A Nahmakanta, Br 75.98 31 P **P 13 23 18.0 -0.1**
baz=332,SNR=19
F63A Nahmakanta, Br 75.98 31 IAmb IAmb 13 23 19.8
comp=Z,77nm,0.9s
F63A IAMs_20 IAMs_20 13 57 27.4
comp=Z,825nm,22.0s
J59A Piesco 76.03 36 P **P 13 23 17.7 -0.7**
baz=329,SNR=32
J59A Piesco 76.03 36 IAmb IAmb 13 23 19.2
comp=Z,61nm,0.8s
J59A IAMs_20 IAMs_20 13 59 49.4
comp=Z,568nm,20.0s
H61A Lyndonville 76.04 34 P **P 13 23 18.4 0.0**
baz=330,SNR=44
ILGA Ilgaz 76.05 319 IAMs_20 IAMs_20 14 00 33.9
comp=Z,591nm,21.0s
O53A New Philadelph 76.06 42 P **P 13 23 18.0 -0.6**
baz=326,SNR=14
M55A Ridgway 76.06 40 P **P 13 23 18.1 -0.5**
baz=327,SNR=52
MEM Membach 76.07 341 P **P 13 23 18.5 +0.1**
T47A Sharon Grove 76.08 48 IAmb IAmb 13 23 20.4
comp=Z,93nm,1.0s
F64A Sherman 76.09 31 P **P 13 23 18.6 -0.1**
baz=332,SNR=18
F64A Sherman 76.09 31 IAMs_20 IAMs_20 14 02 27.2
comp=Z,456nm,19.0s
Q51A Peebles 76.14 44 IAmb IAmb 13 23 20.3
comp=Z,65nm,0.8s
I60A Shoreham 76.15 35 P **P 13 23 18.3 -0.8**
baz=330,SNR=14
P52A Corning 76.17 43 P **P 13 23 18.6 -0.7**
baz=326,SNR=8.2
BSTI Sart Tilman 76.18 342 P **P 13 23 20.1 +1.0**
BSTI PcP **PcP 13 23 30.0 -0.9**
K58A Earlville 76.20 37 P **P 13 23 19.1 -0.3**
baz=329,SNR=28
CONA Conrad Observa 76.21 334 *iP* **P 13 23 19.9 +0.4**
comp=Z,8.9nm,0.7s,SNR=12
MET Memphis--Engin 76.21 51 IAMs_20 IAMs_20 13 56 35.3
comp=Z,576nm,22.0s
X43A Marvell 76.22 52 P **P 13 23 19.3 -0.3**
baz=323
X43A Marvell 76.22 52 IAMs_20 IAMs_20 13 58 58.7
comp=Z,464nm,18.0s
Z41A Richland Creek 76.24 54 P **P 13 23 19.8 +0.1**
baz=322
Z41A Richland Creek 76.24 54 IAMs_20 IAMs_20 14 00 20.3
comp=Z,687nm,19.0s
CCAR Cane Creek 76.25 53 IAMs_20 IAMs_20 13 58 33.5
comp=Z,652nm,21.0s
MCH1 Michaelchurch 76.26 347 *eP* **P 13 23 19.5 0.0**
H62A Milan 76.28 33 P **P 13 23 19.7 -0.1**
baz=331,SNR=63
H62A Milan 76.28 33 IAMs_20 IAMs_20 14 01 08.9
comp=Z,403nm,21.0s
M56A Emporium 76.28 39 P **P 13 23 19.4 -0.4**
baz=328,SNR=24
M56A Emporium 76.28 39 IAmb IAmb 13 23 21.0
comp=Z,85nm,1.1s
LBNH Lisbon 76.30 34 P **P 13 23 19.9 0.0**
baz=330,SNR=16
LBNH Lisbon 76.30 34 IAmb IAmb 13 23 21.7
comp=Z,63nm,0.9s
LBNH IAMs_20 IAMs_20 13 58 45.5
comp=Z,576nm,22.0s
BHOU Houvegnez 76.31 341 P **P 13 23 20.3 +0.5**
PKME Peaks-Kenny Pk 76.31 32 P **P 13 23 19.9 0.0**
baz=332
PKME Peaks-Kenny Pk 76.31 32 IAmb IAmb 13 23 21.7
comp=Z,68nm,1.0s
PKME IAMs_20 IAMs_20 13 59 30.9
comp=Z,720nm,21.0s
G63A Kingsbury 76.33 32 P **P 13 23 20.5 +0.4**
baz=332,SNR=19
L57A Andrews Acres 76.38 38 P **P 13 23 19.7 -0.7**
baz=328,SNR=17
BCLA Clavier 76.39 342 P **P 13 23 20.1 -0.2**
MONM Monmouth 76.39 347 *eP* **P 13 23 20.8 +0.6**
ACCN Adirondack Com 76.41 35 IAmb IAmb 13 23 21.6
comp=Z,74nm,0.9s
WVT Waverly 76.43 49 P **P 13 23 20.7 -0.1**
baz=324
WVT Waverly 76.43 49 P **P 13 23 20.9 +0.2**
WVT pmax pmax
comp=Z,33nm,0.9s
WVT MLR MLR
comp=Z,600nm,21.0s
WVT Waverly 76.43 49 P **P 13 23 20.9 +0.2**
WVT Waverly 76.43 49 IAMs_20 IAMs_20 13 57 46.2
comp=Z,562nm,21.0s
NATX Nacogdoches 76.44 56 P **P 13 23 21.1 +0.2**
baz=322,SNR=6.9
NATX Nacogdoches 76.44 56 IAMs_20 IAMs_20 14 00 41.8
comp=Z,557nm,20.0s
BGES Gesves 76.46 342 ⇑P **P 13 23 21.1 +0.4**
O54A Avella 76.47 42 P **P 13 23 20.6 -0.3**
baz=327,SNR=17
O54A Avella 76.47 42 IAMs_20 IAMs_20 13 58 18.1
comp=Z,548nm,20.0s
K59A Cooperstown 76.49 37 P **P 13 23 20.3 -0.7**
baz=329,SNR=49
G64A Maxfield 76.50 31 P **P 13 23 21.0 0.0**
baz=332,SNR=18
SNF Seneffe 76.50 343 P **P 13 23 21.1 +0.2**
833A Chaparral WMA, 76.53 62 P **P 13 23 22.0 +0.5**
baz=321
833A Chaparral WMA, 76.53 62 IAMs_20 IAMs_20 13 52 51.3
comp=Z,517nm,22.0s
RSBS Rosebush, Pemb 76.53 349 *eP* **P 13 23 21.2 +0.1**
RSBS IAmb IAmb 13 23 26.8
comp=Z,158nm,1.9s
BINY Binghamton 76.55 38 P **P 13 23 20.6 -0.8**
baz=329,SNR=16
N55A Marion Center 76.55 40 P **P 13 23 21.0 -0.4**
baz=327,SNR=29
SWN1 Swindon 76.56 347 *eP* **P 13 23 21.1 -0.1**
SWN1 IAmb IAmb 13 23 22.9
comp=Z,193nm,1.0s
BZS Buzias 76.57 330 ⇑P **P 13 23 20.8 -0.6**
H63A New Sharon 76.59 32 P **P 13 23 21.4 0.0**
baz=331,SNR=9.8
BMRD Maredsous 76.60 342 P **P 13 23 22.3 +0.8**
comp=Z,47nm,1.5s
P53A Whipple 76.62 43 P **P 13 23 21.3 -0.5**
baz=326,SNR=7.5
J60A Lant Hill Farm 76.62 35 P **P 13 23 21.3 -0.4**
baz=330,SNR=16
HNH Hanover 76.63 34 IAmb IAmb 13 23 23.4
comp=Z,52nm,0.8s
HNH IAMs_20 IAMs_20 13 58 34.4
comp=Z,657nm,22.0s
COPA Copaceanca 76.67 327 ⇑P **P 13 23 22.0 0.0**
Q52A Bidwell 76.67 44 P **P 13 23 21.4 -0.6**
baz=326,SNR=13
MOA Molln 76.71 335 *eP* **P 13 23 22.4 +0.2**
comp=Z,18nm,1.8s
N56A West Decatur 76.72 40 P **P 13 23 21.9 -0.4**
baz=328,SNR=28
L58A Harry Jones Me 76.73 38 P **P 13 23 21.9 -0.5**
baz=329,SNR=17
SHME Shamm 76.75 295 *i* P **P 13 23 22.3 -0.5**
SNR=40
BANOM Banah 76.76 295 *i* P **P 13 23 22.7 -0.2**
SNR=81
BANOM Banah 76.76 295 P **P 13 23 22.6 -0.2**
SNR=32
WVL Waterville 76.80 32 IAmb IAmb 13 23 25.1
comp=Z,73nm,1.0s
WVL IAMs_20 IAMs_20 14 03 46.9
comp=Z,493nm,18.0s
I62A Tamworth 76.83 34 P **P 13 23 22.9 0.0**
baz=331,SNR=8.9
I62A Tamworth 76.83 34 IAmb IAmb 13 23 24.7
comp=Z,48nm,1.1s
I62A IAMs_20 IAMs_20 14 01 03.4
comp=Z,562nm,21.0s
M57A Sunshine Farm, 76.83 39 P **P 13 23 22.4 -0.6**
baz=328,SNR=32
DOU Dourbes 76.83 342 P **P 13 23 22.8 +0.1**
ASAR Alice Springs 76.84 202 P **P 13 23 23.2 +0.2**
comp=Z,22nm,0.7s,baz=14,slow=5.4,SNR=236
ASAR LR LR 13 54 50.3
comp=Z,287nm,21.9s,baz=18,slow=34
J61A Chester 76.85 35 P **P 13 23 23.0 0.0**
baz=330,SNR=21
H64A Troy 76.88 32 P **P 13 23 23.5 +0.3**
baz=332,SNR=16
O55A Ligonier 76.90 41 P **P 13 23 23.1 -0.2**
baz=327,SNR=12
P54A Burton 76.91 42 P **P 13 23 23.0 -0.4**
baz=327,SNR=17
L59A Walton 76.92 37 P **P 13 23 22.8 -0.7**
baz=329,SNR=29
ARSA Arzberg 76.92 334 *i* P **P 13 23 23.7 +0.3**
comp=Z,6.6nm,0.7s,SNR=10.0
WLF Walferdange 76.93 341 P **P 13 23 24.3 +0.9**
WLF x x 13 23 53.1
WLF x x 13 24 11.6
WLF Walferdange 76.93 341 *eP* **P 13 23 23.2 -0.1**
baz=22,slow=5.8
G65A Princeton 76.93 31 P **P 13 23 23.6 +0.1**
baz=333,SNR=16
G65A Princeton 76.93 31 IAMs_20 IAMs_20 13 58 18.3
comp=Z,672nm,22.0s
I63A Otisfield 76.94 33 P **P 13 23 24.0 +0.6**
baz=331,SNR=32
I63A Otisfield 76.94 33 IAMs_20 IAMs_20 13 57 50.4
comp=Z,528nm,22.0s
OXF Oxford 76.95 51 P **P 13 23 23.5 -0.2**
baz=323,SNR=16
OXF Oxford 76.95 51 IAMs_20 IAMs_20 13 56 57.2
comp=Z,440nm,22.0s
HERR Herculane 76.96 329 ⇑P **P 13 23 23.5 -0.1**
TRY Troy 76.97 36 IAMs_20 IAMs_20 13 59 57.4
comp=Z,546nm,19.0s
K60A Five Rivers En 76.99 36 P **P 13 23 23.2 -0.6**
baz=330
735A Kenedy 77.00 60 IAMs_20 IAMs_20 13 56 49.7
comp=Z,434nm,20.0s
M58A Price's Panora 77.07 38 P **P 13 23 23.5 -0.8**
baz=328,SNR=19
Q53A Leroy 77.08 43 P **P 13 23 24.3 -0.1**
baz=326,SNR=27
U49A Red Boiling Sp 77.09 47 IAmb IAmb 13 23 25.8
comp=Z,61nm,0.9s
SSPA Standing Stone 77.12 40 P **P 13 23 24.0 -0.6**
baz=328
SSPA Standing Stone 77.12 40 P **P 13 23 24.5 -0.1**
SSPA IAmb IAmb 13 23 25.9
comp=Z,90nm,1.1s
MCWV Mont Chateau 77.13 42 P **P 13 23 24.6 0.0**
baz=327,SNR=9.2
O56A Blue Knob Stat 77.15 40 P **P 13 23 24.5 -0.4**
baz=328,SNR=18
O56A Blue Knob Stat 77.15 40 IAmb IAmb 13 23 26.1
comp=Z,74nm,1.1s
O56A IAMs_20 IAMs_20 14 00 01.2
comp=Z,432nm,20.0s
N57A Milroy 77.15 39 P **P 13 23 24.6 -0.2**
baz=328,SNR=36

H65A	Eastbrook	77.16	31	P	P	13 23 24.7	+0.1			
	baz=332,SNR=13									
SZH	Strazhica	77.17	326	P	P	13 23 23.0	-1.8			
CLTN	Cedars of Leba	77.17	48	IAmb	IAmb	13 23 26.4				
	comp=Z,67nm,0.9s									
S51A	Beattyville	77.17	45	IAmb	IAmb	13 23 26.1				
	comp=Z,46nm,0.9s									
K61A	Williamstown	77.17	36	P	P	13 23 24.4	-0.4			
	baz=330,SNR=19									
KSPA	Keystone Colle	77.18	38	IAMs_20	IAMs_20	14 01 03.9				
	comp=Z,422nm,20.0s									
FUR	Furstenfeldbru	77.19	337	eP	P	13 23 24.7	-0.2			
	baz=22,slow=5.8									
BR131	Keskin Array S	77.19	319	P	P	13 23 25.0	-0.1			
	SNR=13									
BR131	Keskin Array S	77.19	319	c iP	P	13 23 25.0	-0.1			
BRTR	Keskin Array B	77.19	319	P	P	13 23 25.1	-0.2			
	comp=Z,11nm,0.8s,baz=44,slow=3.9,SNR=46									
BRTR				LR	LR	14 02 12.3				
	comp=Z,306nm,20.3s,baz=1.5,slow=39									
BRTR	Keskin Array B	77.19	319	i P	P	13 23 25.5	+0.3			
BRTR				pmax	pmax					
	comp=Z,11nm,0.8s									
RJOB	Jochberg	77.20	336	eP	P	13 23 25.1	+0.1			
	comp=Z,28nm,1.5s,baz=22,slow=5.8									
LMN	Caledonia Moun	77.22	29	IAMs_20	IAMs_20	14 01 23.9				
	comp=Z,427nm,20.0s									
J62A	Henniker	77.22	34	P	P	13 23 25.4	+0.3			
	baz=331,SNR=14									
V48A	Smith Brothers	77.22	48	IAmb	IAmb	13 23 26.5				
	comp=Z,46nm,0.9s									
HKT	Hockley	77.23	58	IAMs_20	IAMs_20	14 02 30.4				
	comp=Z,393nm,20.0s									
PLAL	Pickwick Lake	77.23	50	IAmb	IAmb	13 23 26.3				
	comp=Z,40nm,0.9s									
PLAL				IAMs_20	IAMs_20	13 55 30.5				
	comp=Z,624nm,22.0s									
MDH	Madha	77.24	294	i P	P	13 23 24.7	-0.7			
	SNR=21									
MDH	Madha	77.24	294	P	P	13 23 24.7	-0.7			
	SNR=16									
GGN	Saint George	77.24	30	IAMs_20	IAMs_20	13 58 51.8				
	comp=Z,594nm,22.0s									
P55A	Reedsville	77.27	42	P	P	13 23 25.5	0.0			
	baz=327,SNR=25									
MSFE	Esma-Masafi	77.27	294	i P	P	13 23 25.3	-0.4			
	SNR=12									
Q54A	Coxs Mills	77.27	43	P	P	13 23 25.4	0.0			
	baz=327,SNR=11									
Q54A	Coxs Mills	77.27	43	IAmb	IAmb	13 23 27.0				
	comp=Z,78nm,1.3s									
Q54A				IAMs_20	IAMs_20	13 59 24.5				
	comp=Z,528nm,19.0s									
MDVR	Moldovita	77.28	329	⇓P	P	13 23 25.5	+0.1			
M59A	Waymart	77.32	38	P	P	13 23 25.0	-0.7			
	baz=329,SNR=18									
R53A	Hurricane	77.33	44	P	P	13 23 25.4	-0.4			
	baz=326,SNR=10									
I64A	Boothbay	77.38	33	P	P	13 23 26.2	+0.3			
	baz=332,SNR=8.4									
H66A	Whiting	77.38	31	P	P	13 23 25.9	0.0			
	baz=333,SNR=11									
143A	Socs Landing,	77.39	53	IAMs_20	IAMs_20	14 00 03.9				
	comp=Z,564nm,20.0s									
L60A	Shokan	77.40	37	P	P	13 23 25.6	-0.5			
	baz=330,SNR=26									
EMMW	East Machias	77.40	31	IAMs_20	IAMs_20	13 58 44.0				
	comp=Z,575nm,22.0s									
Y45A	Yeager Farm, C	77.41	51	IAMs_20	IAMs_20	13 58 27.2				
	comp=Z,436nm,22.0s									
N58A	Sunbury	77.42	39	P	P	13 23 25.7	-0.6			
	baz=328,SNR=27									
N58A	Sunbury	77.42	39	IAMs_20	IAMs_20	13 58 47.2				
	comp=Z,403nm,21.0s									
ANTO	Ankara	77.42	319	IAMs_20	IAMs_20	14 03 54.3				
	comp=Z,467nm,21.0s									
UMQ	Umm Al-Quwin	77.43	295	i P	P	13 23 26.6	+0.1			
	SNR=5.1									
J63A	Strafford	77.44	34	P	P	13 23 26.1	-0.2			
	baz=331,SNR=7.7									
WSAR	Wadi Sarin	77.44	291	LR	LR	14 01 45.6				
	comp=Z,1µm,21.0s,baz=74,slow=39									
WSAR	Wadi Sarin	77.44	291	P	P	13 23 27.2	+0.5			
	SNR=5.5									
HTL	Hartland	77.44	348	eP	P	13 23 26.8	+0.7			
KOGS	Kog	77.45	333	i P	P	13 23 26.1	-0.2			
L61A	Hillsdale 1, H	77.48	36	P	P	13 23 26.3	-0.2			
	baz=330,SNR=15									
BIDO	Bidbid	77.52	292	P	P	13 23 27.5	+0.5			
	SNR=6.1									
PLVB	Pleven	77.53	327	⇓P	P	13 23 27.0	+0.2			
K62A	Royalston	77.56	35	P	P	13 23 26.7	-0.3			
	baz=330,SNR=11									
K62A	Royalston	77.56	35	IAMs_20	IAMs_20	13 58 38.8				
	comp=Z,656nm,22.0s									
UOSS	Minazif	77.56	294	i P	P	13 23 26.8	-0.4			
	SNR=7.1									
UOSS	Minazif	77.56	294	P	P	13 23 27.4	+0.1			
UOSS	Minazif	77.56	294	IAMs_20	IAMs_20	14 00 35.4				
	comp=Z,678nm,22.0s									
SOKA	Soboth	77.58	334	i P	P	13 23 27.4	+0.3			
	comp=Z,32nm,1.4s,SNR=21									
L61B	Northampton	77.58	35	P	P	13 23 26.8	-0.3			
	baz=330,SNR=8.2									
O57A	Amberson	77.58	40	P	P	13 23 27.0	-0.2			
	baz=328,SNR=28									
Q55A	Buckhannon	77.59	42	P	P	13 23 27.2	-0.1			
	baz=327,SNR=15									
PERS	Pernice	77.60	334	i P	P	13 23 27.5	+0.3			
KBA	Koelnbreinsper	77.67	336	eP	P	13 23 28.4	+0.6			
	comp=Z,49nm,1.0s,SNR=39									
KALN	Kalnik	77.68	333	P	P	13 23 26.6	-1.0			
P56A	Dayton Farm, R	77.68	41	P	P	13 23 27.7	0.0			
	baz=328,SNR=31									
ORH	Orhaniye	77.69	322	P	P	13 23 27.0	-0.7			
HATD	Hatta, Dubai	77.69	294	i P	P	13 23 27.7	-0.3			
	SNR=71									
HATD	Hatta, Dubai	77.69	294	P	P	13 23 28.0	0.0			
	SNR=43									
WBK	Wadi Bani Khal	77.72	291	P	P	13 23 29.0	+0.8			
	SNR=11									
BFO	Black Forest	77.72	339	P	P	13 23 26.9	-1.0			
BFO				pmax	pmax					
	comp=Z,16nm,1.0s									
BFO				MLR	MLR					
	comp=Z,800nm,22.0s									
BFO	Black Forest	77.72	339	P	P	13 23 26.9	-1.0			
BFO	Black Forest	77.72	339	eP	P	13 23 27.5	-0.4			
	comp=Z,21nm,1.1s,baz=22,slow=5.8									
N59A	State Game Lan	77.73	38	P	P	13 23 27.6	-0.4			
	baz=329,SNR=17									
N59A	State Game Lan	77.73	38	IAmb	IAmb	13 23 29.1				
	comp=Z,61nm,1.0s									
N59A				IAMs_20	IAMs_20	14 00 31.3				
	comp=Z,482nm,21.0s									
S53A	Williamson	77.79	44	P	P	13 23 28.0	-0.4			
	baz=326									
K63A	Dunstable	77.79	34	P	P	13 23 28.6	+0.3			
	baz=331,SNR=16									
M60A	Port Jervis	77.82	37	P	P	13 23 27.9	-0.6			
	baz=329,SNR=16									
NAZ	Nazwa, Dubai	77.84	294	i P	P	13 23 28.6	-0.3			
	SNR=11									
NAZ	Nazwa, Dubai	77.84	294	P	P	13 23 28.7	-0.2			
	SNR=17									
ASHO	Ashiyiah	77.85	294	i P	P	13 23 28.7	-0.3			
	SNR=55									
ASHO	Ashiyiah	77.85	294	P	P	13 23 28.8	-0.1			
	SNR=33									
OBKA	Obir	77.87	335	eP	P	13 23 29.0	+0.2			
	comp=Z,25nm,1.2s,SNR=12									
R54A	Victor	77.87	43	P	P	13 23 28.5	-0.4			
	baz=327,SNR=18									
WATA	Walderalm	77.88	337	i P	P	13 23 29.8	+0.9			
	comp=Z,54nm,1.2s,SNR=12									
KSCT	Kent School, K	77.91	36	IAMs_20	IAMs_20	14 00 26.1				
	comp=Z,550nm,21.0s									
UBR	Ueberruh	77.92	338	eP	P	13 23 28.8	-0.2			
	comp=Z,50nm,1.6s,baz=22,slow=5.8									
SMDO	Samad	77.92	292	P	P	13 23 29.7	+0.2			
	SNR=11									
Q56A	Snyder Ridge,	77.93	41	P	P	13 23 28.6	-0.5			
	baz=327,SNR=9.3									
Q56A	Snyder Ridge,	77.93	41	IAMs_20	IAMs_20	13 58 43.7				
	comp=Z,485nm,22.0s									
WTTA	Wattenberg	77.94	337	i P	P	13 23 29.9	+0.6			
	comp=Z,61nm,1.3s,SNR=16									
HRV	Adam Dziewonsk	77.94	35	P	P	13 23 29.2	+0.1			
	baz=331									
HRV	Adam Dziewonsk	77.94	35	P	P	13 23 29.2	+0.1			
HRV				pmax	pmax					
	comp=Z,58nm,0.9s									
HRV				MLR	MLR					
	comp=Z,600nm,22.0s									
HRV	Adam Dziewonsk	77.94	35	P	P	13 23 29.2	+0.1			
HRV				IAmb	IAmb	13 23 30.7				
	comp=Z,58nm,0.9s									
HRV	Adam Dziewonsk	77.94	35	IAMs_20	IAMs_20	13 59 11.9				
	comp=Z,612nm,22.0s									
O58A	Lewisberry	77.94	39	P	P	13 23 28.7	-0.5			
	baz=328,SNR=15									
RETA	Reutte	77.94	337	i P	P	13 23 29.3	+0.2			
	comp=Z,13nm,1.0s,SNR=8.0									
L62A	Suffield	77.95	36	P	P	13 23 28.3	-0.8			
	baz=330									
HOQ	Hoqain	77.96	292	P	P	13 23 29.5	0.0			
	SNR=17									
342A	Flagon Creek P	77.97	55	IAMs_20	IAMs_20	14 00 22.3				
	comp=Z,571nm,20.0s									
SOHO	SOHO	77.99	293	P	P	13 23 29.2	-0.5			
	SNR=33									
MOTA	Moosalm	77.99	337	i P	P	13 23 29.8	+0.2			
	comp=Z,45nm,1.0s,SNR=24									
MYKA	Terra Mystica	78.00	335	i P	P	13 23 29.2	-0.2			
	baz=329,SNR=8.9									
PTJ	Puntijarka	78.02	333	P	P	13 23 28.9	-0.7			
N60A	Cedar Hill Far	78.03	38	P	P	13 23 29.0	-0.6			
	baz=329,SNR=10									
P57A	Homestead Farm	78.04	40	P	P	13 23 29.3	-0.5			
	baz=328,SNR=8.5									
P57A	Homestead Farm	78.04	40	IAMs_20	IAMs_20	13 58 07.8				
	comp=Z,383nm,20.0s									
S54A	Dingess, Beckl	78.05	44	P	P	13 23 29.5	-0.4			
	baz=326,SNR=9.7									
S54A	Dingess, Beckl	78.05	44	IAMs_20	IAMs_20	13 59 34.1				
	comp=Z,483nm,21.0s									
MOSL	Moslavina	78.06	333	P	P	13 23 28.8	-1.0			
FAQ	Al Faqa, Dubai	78.07	294	i P	P	13 23 29.4	-0.7			
	SNR=6.2									
FAQ	Al Faqa, Dubai	78.07	294	P	P	13 23 30.3	+0.2			
	SNR=5.5									
SWET	Sewanee	78.07	48	IAmb	IAmb	13 23 30.9				
	comp=Z,69nm,0.9s									
O59A	Robesonia	78.08	39	P	P	13 23 29.6	-0.4			
	baz=329									
SQTA	Sankt Quirin	78.08	337	i P	P	13 23 30.5	+0.5			
	comp=Z,51nm,1.2s,SNR=16									
TZTN	Tazewell	78.09	46	P	P	13 23 29.8	-0.3			
	baz=326,SNR=14									
TZTN	Tazewell	78.09	46	IAmb	IAmb	13 23 31.6				
	comp=Z,52nm,0.8s									
TZTN				IAMs_20	IAMs_20	14 00 11.2				
	comp=Z,608nm,21.0s									
ZAG	Zagreb	78.09	333	P	P	13 23 30.5	+0.6			
ECH	Echery	78.09	340	IAMs_20	IAMs_20	14 02 45.5				
	comp=Z,654nm,20.0s									
WES	Weston	78.13	34	IAmb	IAmb	13 23 30.7				
	comp=Z,73nm,0.9s									
X48A	Hartselle	78.16	49	IAMs_20	IAMs_20	13 59 00.0				
	comp=Z,544nm,22.0s									
M61A	Granite Spring	78.16	37	P	P	13 23 30.0	-0.4			
	baz=330,SNR=12									
R55A	Marlinton	78.17	42	P	P	13 23 30.5	0.0			
	baz=327,SNR=20									
R55A	Marlinton	78.17	42	IAMs_20	IAMs_20	13 59 11.1				
	comp=Z,493nm,21.0s									
T53A	Wise	78.19	45	P	P	13 23 30.4	-0.3			
	baz=326,SNR=20									
ABTA	Abfaltersbach	78.19	336	i P	P	13 23 30.5	-0.1			
	comp=Z,43nm,1.4s,SNR=14									
VBMS	Vicksburg	78.23	53	P	P	13 23 31.0	+0.1			
	baz=329									
VBMS	Vicksburg	78.23	53	IAMs_20	IAMs_20	14 00 18.1				
	comp=Z,460nm,20.0s									
Q57A	Strasburg	78.26	41	P	P	13 23 30.6	-0.4			
	baz=328,SNR=8.7									
MVL	Millersville	78.28	39	IAMs_20	IAMs_20	13 59 13.0				
	comp=Z,426nm,22.0s									
LJU	Ljubljana	78.30	334	i P	P	13 23 30.8	-0.2			
P58A	Pank, Wackersv	78.33	40	P	P	13 23 30.5	-0.8			
	baz=328,SNR=12									
DAVA	Daniels	78.34	338	i P	P	13 23 31.7	+0.3			
	comp=Z,32nm,1.1s,SNR=12									
CADS	Cadrg	78.35	335	i P	P	13 23 30.5	-0.9			
PAL	Palisades	78.37	37	P	P	13 23 30.9	-0.6			
	baz=330,SNR=12									
PAL	Palisades	78.37	37	IAmb	IAmb	13 23 32.6				
	comp=Z,67nm,0.8s									
M62A	Hamden	78.38	36	P	P	13 23 30.6	-0.9			
	baz=330									
W50A	Signal Mountai	78.38	48	IAmb	IAmb	13 23 32.9				
	comp=Z,46nm,0.9s									
O60A	Telford	78.38	38	P	P	13 23 30.8	-0.8			
	baz=329,SNR=5.3									
FETA	Feichten	78.39	337	i P	P	13 23 32.1	+0.4			
	comp=Z,31nm,1.1s,SNR=13									
JMDO	Jabal Madar	78.42	291	P	P	13 23 32.2	+0.1			
	SNR=26									
S55A	Lewisburg	78.43	43	P	P	13 23 31.5	-0.4			
	baz=327,SNR=7.7									
OZLJ	Ozalj	78.43	334	P	P	13 23 31.3	-0.5			
N61A	South Mountain	78.44	37	P	P	13 23 31.7	-0.2			
	baz=330									
WSPT	Westport, CT	78.45	36	IAmb	IAmb	13 23 32.6				
	comp=Z,44nm,0.9s									
WSPT				IAMs_20	IAMs_20	14 02 11.4				
	comp=Z,459nm,20.0s									
BRYW	Bryant College	78.46	35	IAmb	IAmb	13 23 33.3				
	comp=Z,72nm,0.8s									
BRYW				IAMs_20	IAMs_20	13 59 05.8				
	comp=Z,535nm,20.0s									
L63A	North Scituate	78.48	35	P	P	13 23 31.6	-0.5			
	baz=331,SNR=5.6									
ALNE	Al Ain	78.51	294	i P	P	13 23 32.3	-0.2			
	SNR=15									
CPCT	Cooper Cave	78.54	47	IAmb	IAmb	13 23 33.7				
	comp=Z,40nm,0.9s									
T54A	Tazewell	78.55	44	P	P	13 23 32.5	-0.2			
	baz=326,SNR=24									
AJN	Ajban	78.56	295	i P	P	13 23 32.9	+0.1			
	SNR=7.8									
AJN	Ajban	78.56	295	P	P	13 23 33.0	+0.1			
	SNR=9.7									
P59A	Jarrettsville	78.58	39	P	P	13 23 32.1	-0.5			
	baz=329,SNR=8.6									
BOJS	Bojanci	78.59	334	eP	P	13 23 31.9	-0.7			
N62A	Caumsett State	78.60	37	P	P	13 23 31.9	-0.9			
	baz=330									
ARQ	Araqi	78.61	293	P	P	13 23 33.3	+0.2			
	SNR=19									
146A	Union	78.63	52	IAMs_20	IAMs_20	13 59 31.7				
	comp=Z,469nm,22.0s									
Q58A	Fox Den Farm,	78.64	40	P	P	13 23 32.7	-0.4			
	baz=328,SNR=22									
V52A	Sevierville	78.65	46	IAmb	IAmb	13 23 34.6				
	comp=Z,55nm,0.9s									
V52A				IAMs_20	IAMs_20	14 00 15.9				
	comp=Z,765nm,21.0s									
BSY	Bisya	78.66	292	P	P	13 23 33.8	+0.3			
	SNR=31									
Z47A	Carrollton	78.67	51	IAmb	IAmb	13 23 34.5				
	comp=Z,72nm,0.8s									
Z47A				IAMs_20	IAMs_20	13 57 25.6				
	comp=Z,597nm,22.0s									
VTS	Vitosha	78.69	327	⇓P	P	13 23 33.7	+0.3			
VTS	Vitosha	78.69	327	P	P	13 23 32.0	-1.4			
L64A	Middleborough	78.70	34	P	P	13 23 33.2	-0.1			
	baz=331,SNR=17									
PSUB	Penn St. - Bra	78.70	38	IAMs_20	IAMs_20	14 00 27.1				
	comp=Z,490nm,21.0s									
M63A	Gales Ferry	78.72	35	P	P	13 23 33.1	-0.4			
	baz=331,SNR=12									
P60A	Greenville	78.72	39	P	P	13 23 32.7	-0.8			
	baz=329									
P60A	Greenville	78.72	39	IAMs_20	IAMs_20	14 00 08.8				
	comp=Z,485nm,20.0s									
344A	Westbrook Farm	78.73	54	IAMs_20	IAMs_20	14 01 55.4				
	comp=Z,686nm,20.0s									
KDZ	Kurdzhali	78.77	325	P	P	13 23 33.0	-0.7			
FPAL	Fort Paine	78.77	48	IAmb	IAmb	13 23 35.0				
	comp=Z,61nm,0.9s									
FPAL				IAMs_20	IAMs_20	13 57 52.3				
	comp=Z,563nm,22.0s									
JLP	Les Platons	78.82	346	eP	P	13 23 34.2	+0.4			
DAVOX	Davos/Dischmat	78.82	338	LR	LR	14 02 09.8				
	comp=Z,857nm,21.8s,baz=40,slow=38									
R57A	Stanardsville	78.83	41	P	P	13 23 34.0	-0.1			
	baz=328,SNR=19									
T55A	Pulaski	78.85	44	P	P	13 23 34.2	-0.1			
	baz=327,SNR=14									
FUORN	Ofenpass-Fuorn	78.88	337	IAmb	IAmb	13 23 40.3				
	comp=Z,51nm,1.1s									
JSA	Saint Aubin	78.88	346	eP	P	13 23 34.8	+0.6			
JSA				IAmb	IAmb	13 23 35.5				
	comp=Z,101nm,1.1s									
U54A	Nelsons Funny	78.89	45	P	P	13 23 34.3	-0.3			
	baz=326,SNR=15									
U54A	Nelsons Funny	78.89	45	IAmb	IAmb	13 23 35.9				
	comp=Z,65nm,0.8s									
U54A				IAMs_20	IAMs_20	14 01 17.3				
	comp=Z,617nm,22.0s									
M64A	Tiverton	78.90	35	P	P	13 23 34.7	+0.4			
	baz=331									
O61A	Allentown	78.91	38	P	P	13 23 34.0	-0.4			
	baz=330									
S56A	Natural Bridge	78.91	42	P	P	13 23 34.5	0.0			
	baz=327,SNR=8.6									
BLA	Blacksburg	78.93	43	P	P	13 23 34.7	-0.1			
	baz=327,SNR=19									
BLA	Blacksburg	78.93	43	IAmb	IAmb	13 23 36.1				
	comp=Z,70nm,0.9s									
Y49A	Blount Mountai	78.94	49	IAMs_20	IAMs_20	13 59 23.9				
	comp=Z,603nm,22.0s									
RIY	Rijeka	78.97	334	P	P	13 23 33.8	-0.9			
RZN	Rozhen	78.98	326	P	P	13 23 34.0	-1.1			
R58A	Rapidan	79.05	41	P	P	13 23 35.2	-0.1			
	baz=328,SNR=15									
M65A	Busby, Falmout	79.09	34	P	P	13 23 35.2	-0.2			
	baz=331									
M65A	Busby, Falmout	79.09	34	IAMs_20	IAMs_20	14 04 45.5				
	comp=Z,604nm,20.0s									
S57A	Dark Hollow, R	79.10	42	P	P	13 23 35.7	+0.1			
	baz=328,SNR=13									
S57A	Dark Hollow, R	79.10	42	IAmb	IAmb	13 23 37.2				
	comp=Z,50nm,1.0s									
S57A				IAMs_20	IAMs_20	13 59 40.8				
	comp=Z,630nm,20.0s									
X51A	Calhoun	79.11	48	IAMs_20	IAMs_20	13 58 04.2				
	comp=Z,766nm,22.0s									
Q59A	Harwood	79.12	40	P	P	13 23 35.4	-0.3			
	baz=329									
V53A	Saluda	79.15	46	IAMs_20	IAMs_20	14 00 42.1				
	comp=Z,749nm,22.0s									
P61A	Hammonton	79.18	38	P	P	13 23 35.2	-0.8			
	baz=330									
P61A	Hammonton	79.18	38	IAMs_20	IAMs_20	14 01 33.7				
	comp=Z,463nm,20.0s									
TUE	Stuetta	79.24	338	IAmb	IAmb	13 23 41.0				
	comp=Z,40nm,0.9s									
U55A	TA2, Sparta	79.25	44	P	P	13 23 36.0	-0.5			
	baz=327,SNR=18									
T56A	Rocky Mt	79.25	43	P	P	13 23 36.1	-0.4			
	baz=327,SNR=6.9									
LRAL	Lakeview Retre	79.33	50	P	P	13 23 36.4	-0.5			
	baz=324,SNR=12									
LRAL	Lakeview Retre	79.33	50	IAMs_20	IAMs_20	13 58 52.1				
	comp=Z,417nm,21.0s									
Q60A	Greensboro	79.33	39	P	P	13 23 36.7	-0.1			
	baz=329									
UDBI	Udbina	79.34	333	P	P	13 23 36.1	-0.7			
R58B	Mineral	79.38	41	P	P	13 23 37.1	0.0			
	baz=328,SNR=12									
R58B	Mineral	79.38	41	IAMs_20	IAMs_20	13 59 48.3				
	comp=Z,373nm,20.0s									
CBN	Corbin Frederi	79.39	41	P	P	13 23 37.2	0.0			
	baz=328									
MMB	Musomiste	79.42	326	P	P	13 23 37.0	-0.3			
346A	Big Creek Wild	79.43	53	IAMs_20	IAMs_20	14 01 22.8				
	comp=Z,435nm,21.0s									
V54A	Nebo	79.45	45	P	P	13 23 37.3	-0.3			
	baz=326,SNR=10									
R59A	King George, V	79.50	41	P	P	13 23 37.5	-0.2			
	baz=328									
MHTO	MHTO	79.56	290	P	P	13 23 39.0	+0.7			
	SNR=72									
BRJN	Brijuni	79.56	334	P	P	13 23 37.2	-0.8			
NVLJ	Novalja	79.56	334	P	P	13 23 36.9	-1.0			
S58A	Poland Farm, P	79.61	41	P	P	13 23 38.1	-0.2			
	baz=328,SNR=9.7									
S58A	Poland Farm, P	79.61	41	IAMs_20	IAMs_20	13 59 36.2				
	comp=Z,513nm,20.0s									
T57A	Hurt	79.61	43	P	P	13 23 38.1	-0.3			
	baz=328,SNR=9.4									
T57A	Hurt	79.61	43	IAmb	IAmb	13 23 39.6				
	comp=Z,39nm,0.9s									
T57A				IAMs_20	IAMs_20	14 00 06.5				
	comp=Z,467nm,21.0s									
KIJV	Kijevo	79.63	332	P	P	13 23 38.2	-0.2			
Q61A	Milford	79.65	39	P	P	13 23 38.3	-0.2			
	baz=329									
BG3	Lake Jocassee	79.65	46	IAMs_20	IAMs_20	14 00 47.5				
	comp=Z,555nm,21.0s									
R60A	Leonard

GOGA	Godfrey	80.71	48	P	P		13 23 44.0	-0.4	
	baz=326,SNR=7.3								
152A	Waverly Hall	80.73	49	IAMs_20	IAMs_20		14 02 05.1		
	comp=Z,629nm,21.0s								
U59A	Littleton	80.79	42	P	P		13 23 44.7	+0.1	
	baz=328								
U59A	Littleton	80.79	42	IAMs_20	IAMs_20		14 00 31.4		
	comp=Z,578nm,20.0s								
W57A	Gilead	80.84	44	P	P		13 23 44.7	-0.3	
	baz=327,SNR=8.4								
W57A	Gilead	80.84	44	IAmb	IAmb		13 23 46.3		
	comp=Z,40nm,0.9s								
OHR	Ohrid	80.86	328	*i* P	P		13 23 45.2	+0.2	
X56A	White Oak	80.93	45	P	P		13 23 45.2	-0.3	
	baz=327,SNR=7.7								
U60A	Pendleton	80.95	41	P	P		13 23 45.4	-0.2	
	baz=329								
TIR	Tirane	80.96	329	⇓P	P		13 23 46.2	+0.7	
JSC	Jenkinsville	81.01	45	IAMs_20	IAMs_20		14 02 22.3		
	comp=Z,377nm,22.0s								
Y55A	Saluda	81.02	46	P	P		13 23 46.0	0.0	
	baz=327,SNR=13								
V59A	Middlesex	81.09	43	P	P		13 23 46.3	0.0	
	baz=328,SNR=9.5								
RAR	Rarotonga	81.11	140	LR	LR		13 52 46.1		
	comp=Z,450nm,20.0s,baz=282,slow=30								
MSSA	Maissana	81.22	337	IAmb	IAmb		13 23 48.7		
	comp=Z,64nm,1.1s								
W58A	Raeford	81.29	44	P	P		13 23 47.4	0.0	
	baz=328,SNR=16								
CSS	Mathiatis	81.33	316	IAmb	IAmb		13 23 48.9		
	comp=Z,56nm,1.0s								
U61A	Possum Corner	81.37	41	P	P		13 23 47.6	-0.2	
	baz=329								
U61A	Possum Corner	81.37	41	IAMs_20	IAMs_20		14 01 08.9		
	comp=Z,419nm,22.0s								
X57A	Johnson Farm,	81.38	45	P	P		13 23 47.9	+0.1	
	baz=327								
Y56A	Pelion	81.39	46	P	P		13 23 47.8	-0.1	
	baz=327								
SSB	Saint Sauveur	81.44	341	IAMs_20	IAMs_20		14 06 44.1		
	comp=Z,657nm,19.0s								
V60A	Jim Taylor Roa	81.51	42	P	P		13 23 48.4	-0.1	
	baz=329								
V60A	Jim Taylor Roa	81.51	42	IAMs_20	IAMs_20		14 00 52.6		
	comp=Z,692nm,20.0s								
W59A	Clinton	81.51	43	P	P		13 23 48.2	-0.4	
	baz=328								
OSSC	Osservatorio P	81.52	336	IAmb	IAmb		13 23 49.8		
	comp=Z,52nm,0.8s								
154A	Montrose	81.54	48	IAMs_20	IAMs_20		13 59 39.6		
	comp=Z,605nm,21.0s								
352A	Blakely	81.61	50	IAMs_20	IAMs_20		14 00 45.3		
	comp=Z,566nm,21.0s								
Y57A	Sumter	81.62	45	P	P		13 23 49.1	0.0	
	baz=327								
X58A	Rowland	81.64	44	P	P		13 23 49.4	+0.2	
	baz=328								
CNNC	Cliffs of the	81.69	43	P	P		13 23 49.3	-0.1	
	baz=328								
Z56A	Williston	81.75	46	P	P		13 23 50.0	+0.1	
	baz=327								
V61A	Roper	81.78	41	P	P		13 23 49.9	0.0	
	baz=329								
V61A	Roper	81.78	41	IAMs_20	IAMs_20		14 01 10.7		
	comp=Z,705nm,21.0s								
451A	Vernon	81.91	51	IAMs_20	IAMs_20		14 00 02.5		
	comp=Z,466nm,21.0s								
W60A	Pink Hill	81.92	43	P	P		13 23 50.5	-0.3	
	baz=328								
X59A	McDuffie Farm,	81.95	43	P	P		13 23 50.6	-0.2	
	baz=328								
Y58A	Scranton	82.04	45	P	P		13 23 51.1	-0.2	
	baz=328								
Z57A	Bowman	82.08	46	P	P		13 23 51.7	+0.1	
	baz=327,SNR=8.0								
W61A	Ground Anchor	82.13	42	P	P		13 23 51.6	-0.1	
	baz=329								
X60A	Albert Glenn T	82.21	43	P	P		13 23 52.1	-0.1	
	baz=328								
V62A	Hyde County Ai	82.23	41	P	P		13 23 52.3	0.0	
	baz=329								
TIGA	Tifton	82.28	49	P	P		13 23 53.3	+0.6	
	baz=326,SNR=12								
TIGA	Tifton	82.28	49	IAMs_20	IAMs_20		14 03 03.2		
	comp=Z,551nm,20.0s								
Y59A	Loris	82.32	44	P	P		13 23 52.7	-0.1	
	baz=328								
Z58A	St. Stephen	82.45	45	P	P		13 23 52.8	-0.7	
	baz=328								
157A	Early Branch	82.47	46	P	P		13 23 53.8	+0.2	
	baz=327								
NHSC	New Hope	82.48	45	P	P		13 23 54.1	+0.5	
	baz=328								
PPT	Papeete	82.53	129	LR	LR		13 54 06.1		
	comp=Z,470nm,20.8s,baz=341,slow=31								
PPT2	Papeete2	82.55	129	*e*S	S		13 34 13.3	+7.8	
	comp=Z,217nm,25.8s								
PPT2	Papeete2	82.55	129	*e*LR	LR		13 49 50.4		
	comp=Z,691nm,21.2s,baz=314								
Y60A	Bolivia	82.59	43	P	P		13 23 54.2	0.0	
	baz=328								
Z59A	Georgetown, SC	82.77	45	P	P		13 23 55.2	0.0	
	baz=328								
158A	Hollywood	82.78	46	P	P		13 23 55.8	+0.6	
	baz=328								
553A	Crawfordville	82.91	50	IAMs_20	IAMs_20		14 01 14.8		
	comp=Z,429nm,21.0s								
SHAO	Shalim	83.24	290	P	P		13 23 57.7	-0.1	
SANT	Santorini	83.37	323	IAMs_20	IAMs_20		14 04 47.5		
	comp=Z,652nm,20.0s								
STKA	Stephens Creek	83.37	193	P	P		13 23 58.3	+0.3	
	comp=Z,14nm,0.9s,baz=354,slow=8.0,SNR=22								
STKA				LR	LR		13 57 49.3		
	comp=Z,227nm,21.8s,baz=18,slow=33								
TIP	Timpagrande	83.92	330	⇑P	P		13 24 01.9	+0.8	
TIP	Timpagrande	83.92	330	IAmb	IAmb		13 24 02.7		
	comp=Z,47nm,0.9s								
WHFO	Wadi Hawf	84.42	291	P	P		13 24 03.5	-0.4	
	SNR=8.5								
656A	Willston	84.50	49	IAMs_20	IAMs_20		14 04 33.1		
	comp=Z,546nm,21.0s								
IDI	Anoyia	84.54	322	IAmb	IAmb		13 24 04.7		
	comp=Z,22nm,0.8s								
RAYN	Ar Rayn	84.70	301	*i* P	P		13 24 05.3	0.0	
	SNR=13								
RAYN	Ar Rayn	84.70	301	P	P		13 24 04.8	-0.5	
RAYN				pmax	pmax				
	comp=Z,164nm,0.8s								
RAYN	Ar Rayn	84.70	301	P	P		13 24 04.8	-0.5	
FORT	Forrest	85.10	205	P	P		13 24 06.8	0.0	
BBOO	Buckleboo	85.22	198	P	P		13 24 07.5	+0.2	
BBOO				IAmb	IAmb		13 24 08.6		
	comp=Z,63nm,1.1s								
TLIG	Tlapa	85.36	68	IAMs_20	IAMs_20		13 55 26.5		
	comp=Z,410nm,20.0s								
DWPF	Disney Wildern	86.08	49	P	P		13 24 12.7	+0.8	
	baz=327								
DWPF	Disney Wildern	86.08	49	IAMs_20	IAMs_20		14 05 29.9		
	comp=Z,624nm,20.0s								
TBI	Tubuai	87.53	132	*e*S	S		13 34 56.2	+1.9	
	comp=Z,240nm,27.0s								
TBI	Tubuai	87.53	132	*e*LR	LR		13 51 50.4		
	comp=Z,1μm,33.0s,baz=325								
061Z	Ochoppi	88.22	50	IAMs_20	IAMs_20		14 04 59.5		
	comp=Z,578nm,22.0s								
ESDC	Sonseca Array	88.44	345	P	P		13 24 22.9	-0.4	
	comp=Z,9.8nm,0.8s,baz=3.8,slow=4.4,SNR=42								
ESDC				LR	LR		14 10 30.0		
	comp=Z,656nm,20.1s,baz=30,slow=40								
PAB	San Pablo	88.63	346	P	P		13 24 23.7	-0.5	
PAB				pmax	pmax				
	comp=Z,12nm,0.9s								
PAB	San Pablo	88.63	346	P	P		13 24 23.7	-0.5	
TEIG	Tepich	89.08	59	IAMs_20	IAMs_20		14 08 41.6		
	comp=Z,305nm,20.0s								
KEST	Kesra	89.32	334	P	P		13 24 28.1	+0.6	
	comp=Z,52nm,1.0s,baz=263,slow=0.8,SNR=38								
KEST				LR	LR		14 10 09.5		
	comp=Z,831nm,19.1s,baz=342,slow=39								
OXZ	Oxford	94.58	169	IAMs_20	IAMs_20		14 06 06.4		
	comp=Z,448nm,22.0s								
TGUH	Tegucigalpa,Un	94.65	61	IAMs_20	IAMs_20		14 03 43.2		
	comp=Z,343nm,22.0s								
SDDR	Presa de Saban	98.64	46	IAMs_20	IAMs_20		14 08 31.5		
	comp=Z,449nm,21.0s								
SJG	San Juan	101.66	42	IAMs_20	IAMs_20		14 09 56.4		
	comp=Z,341nm,22.0s								
SMRT	St. Maarten	102.98	39	IAMs_20	IAMs_20		14 16 12.2		
	comp=Z,336nm,18.0s								
SKI	Saint Kitts	103.76	39	IAMs_20	IAMs_20		14 16 10.9		
	comp=Z,307nm,20.0s								
SDV	Santo Domingo	107.72	50	IAMs_20	IAMs_20		14 17 59.3		
	comp=Z,245nm,20.0s								
ROSC	El Rosal	109.32	56	IAMs_20	IAMs_20		14 16 09.6		
	comp=Z,353nm,21.0s								
MBAR	Mbarara	112.60	299	IAMs_20	IAMs_20		14 12 22.5		
	comp=Z,270nm,18.0s								
TORD	Torodi Ar. Bea	112.84	334	Pdiff	Pdif		13 26 13.4	-0.2	
	comp=Z,0.4nm,0.8s,baz=25,slow=4.6,SNR=2.2								
TORD				PKiKP	PKiKP		13 30 08.0	+0.1	
	comp=Z,2.9nm,0.9s,baz=353,slow=2.5,SNR=9.3								
TORD				PKKPbc	PKKPbc		13 40 52.6	-0.7	
	comp=Z,1.2nm,0.9s,baz=197,slow=1.7,SNR=5.6								
TORD				PKKPab	PKKPab		13 41 03.1	-2.9	
	comp=Z,4.4nm,0.8s,baz=200,slow=3.9,SNR=17								
DBIC	Dimbokro	120.73	339	PKP	PKiKP		13 30 23.4	+0.2	
	comp=Z,13nm,0.7s,baz=38,slow=2.0,SNR=15								
DBIC	Dimbokro	120.73	339	PKIKP	PKiKP		13 30 23.7	+0.5	
DBIC	Dimbokro	120.73	339	PKPdf	PKiKP		13 30 23.7	+0.5	
TIC	Toumodi	120.79	339	*e*PKIKP	PKiKP		13 30 23.5	+0.2	
KIC	Kosan Boka	121.00	339	*e*PKIKP	PKPdf		13 30 23.4	-0.2	
	comp=Z,35nm,1.0s								
LIC	Lamto	121.20	339	*e*PKIKP	PKPdf		13 30 23.8	-0.2	
	comp=Z,58nm,1.1s								
MALB	Monte Alegre	124.58	39	*e*P	PKiKP		13 30 31.8	+1.0	
MALB	Monte Alegre	124.58	39	*e*P	PKiKP		13 30 31.8	+1.0	
LSZ	Lusaka	125.94	292	PKP	PKiKP		13 30 34.0	+0.5	
	comp=Z,5.8nm,0.7s,baz=319,slow=1.8,SNR=3.5								
LSZ	Lusaka	125.94	292	PKIKP	PKiKP		13 30 34.0	+0.5	
ITTB	Itaituba	126.25	42	*e*P	PKiKP		13 30 34.3	+0.3	
ITTB	Itaituba	126.25	42	*e*P	PKiKP		13 30 34.3	+0.3	
VNDA	Vanda	128.01	179	PKP	PKPdf		13 30 35.0	0.0	
	comp=Z,3.2nm,0.7s,baz=319,slow=4.0,SNR=23								
VNDA	Vanda	128.01	179	PKIKP	PKPdf		13 30 35.0	0.0	
NPGB	Novo Progresso	128.81	43	*e*P	PKiKP		13 30 38.9	-0.3	
NPGB	Novo Progresso	128.81	43	*e*P	PKiKP		13 30 38.9	-0.3	
LPAZ	La Paz	130.21	63	PKP	PKiKP		13 30 42.4	-0.3	
	comp=Z,6.9nm,0.8s,baz=15,slow=5.0,SNR=20								
LPAZ	La Paz	130.21	63	*e*P	PKPdf		13 30 41.2	-0.6	
LPAZ	La Paz	130.21	63	*e*P	PKPdf		13 30 41.2	-0.6	
PRPB	Parauapebas	130.26	36	*e*P	PKPdf		13 30 41.6	+0.3	
PRPB	Parauapebas	130.26	36	*e*P	PKPdf		13 30 41.6	+0.3	
VILB	Vilhena	131.70	52	*e*P	PKiKP		13 30 44.5	-0.5	
VILB	Vilhena	131.70	52	*e*P	PKiKP		13 30 44.5	-0.5	
CLDB	Colider	132.01	46	*e*P	PKPdf		13 30 44.6	+0.1	
CLDB	Colider	132.01	46	*e*P	PKPdf		13 30 44.6	+0.1	
SMTB	Santa Maria do	133.56	35	*e*P	PKPdf		13 30 47.9	+0.4	
SMTB	Santa Maria do	133.56	35	*e*P	PKPdf		13 30 47.9	+0.4	
RCBR	Riachuelo	133.96	18	*e*P	PKiKP		13 30 49.2	-0.4	
RCBR	Riachuelo	133.96	18	*e*P	PKiKP		13 30 49.2	-0.4	
PTLB	Pontes e Lacer	134.35	53	*e*P	PKPdf		13 30 49.3	+0.5	
PTLB	Pontes e Lacer	134.35	53	*e*P	PKPdf		13 30 49.3	+0.5	
LVC	Limon Verde	134.71	69	*e*P	PKPdf		13 30 49.7	-0.1	
LVC	Limon Verde	134.71	69	*e*P	PKPdf		13 30 49.7	-0.1	
TSUM	Tsumeb	135.14	299	PKP	PKPdf		13 30 49.6	-0.8	
	comp=Z,3.2nm,0.9s,baz=67,slow=13,SNR=4.6								
H03N2	Juan Fernandez	136.13	89	T	T		16 01 49.2		
	baz=313,slow=77,SNR=1570								
H03N1	Juan Fernandez	136.14	89	T	T		16 01 50.5		
	baz=313,slow=77,SNR=1142								
H03N3	Juan Fernandez	136.14	89	T	T		16 01 59.2		
	baz=313,slow=77,SNR=1507								
PEXB	Peixe	136.28	37	*e*P	PKPdf		13 30 52.8	+0.3	
PEXB	Peixe	136.28	37	*e*P	PKPdf		13 30 52.8	+0.3	
SALV	Santo Antonio	136.44	49	*e*P	PKiKP		13 30 53.9	-0.6	
SALV	Santo Antonio	136.44	49	*e*P	PKiKP		13 30 53.9	-0.6	
MAW	Mawson	136.96	214	PKP	PKPdf		13 30 52.0	-0.1	
	comp=Z,8.9nm,0.8s,baz=51,slow=2.3,SNR=16								
MAW	Mawson	136.96	214	PKIKP	PKPdf		13 30 52.0	-0.1	
BOSA	Boshof	137.74	283	PKP	PKPdf		13 30 52.9	-2.1	
	comp=Z,5.5nm,0.9s,baz=97,slow=1.9,SNR=5.7								
ARAG	Araguaiana, MT	138.06	44	*e*P	PKiKP		13 30 57.4	-0.4	
ARAG	Araguaiana, MT	138.06	44	*e*P	PKiKP		13 30 57.4	-0.4	
BDFB	Brasilia	139.60	39	PKP	PKPdf		13 30 59.7	+1.0	
	comp=Z,11nm,0.9s,baz=282,slow=2.0,SNR=7.0								
C2SB	Chapadao do Su	140.27	48	*e*P	PKiKP		13 31 01.8	-0.4	
C2SB	Chapadao do Su	140.27	48	*e*P	PKiKP		13 31 01.8	-0.4	
AQDB	Aquidauana	140.33	53	*e*P	PKPdf		13 31 00.9	+1.2	
AQDB	Aquidauana	140.33	53	*e*P	PKPdf		13 31 00.9	+1.2	
GDU01	Guandu, BA	140.70	26	*e*P	PKiKP		13 31 01.9	-1.3	
GDU01	Guandu, BA	140.70	26	*e*P	PKiKP		13 31 01.9	-1.3	
IPMB	Ipameri, GO	141.63	41	*e*P	PKPdf		13 31 02.5	+0.3	
IPMB	Ipameri, GO	141.63	41	*e*P	PKPdf		13 31 02.5	+0.3	
MC01	Montes Claros	142.12	34	*e*P	PKPdf		13 31 04.2	+1.0	
MC01	Montes Claros	142.12	34	*e*P	PKPdf		13 31 04.2	+1.0	
SUR	Sutherland	143.11	283	PKP	PKPbc		13 31 02.4	+0.6	
	comp=Z,10nm,0.9s,baz=89,slow=4.8,SNR=5.8								
PCMB	Pacaembu	143.46	48	*e*P	PKPdf		13 31 04.6	-0.7	
PCMB	Pacaembu	143.46	48	*e*P	PKPdf		13 31 04.6	-0.7	
TRCB	Terra Rica	143.81	51	*e*P	PKPbc		13 31 04.2	+0.5	
TRCB	Terra Rica	143.81	51	*e*P	PKPbc		13 31 04.2	+0.5	
BB19B	Bebedouro	144.23	44	*e*P	PKPdf		13 31 07.0	+0.3	
BB19B	Bebedouro	144.23	44	*e*P	PKPdf		13 31 07.0	+0.3	
SJMB	Sao Joao De Ma	144.91	31	*e*P	PKPdf		13 31 08.0	0.0	
SJMB	Sao Joao De Ma	144.91	31	*e*P	PKPdf		13 31 08.0	0.0	
BSFB	Barra de Sao F	145.14	31	*e*P	PKPdf		13 31 08.7	+0.4	
BSFB	Barra de Sao F	145.14	31	*e*P	PKPdf		13 31 08.7	+0.4	
LL01	San Ignacio de	145.55	96		PKPbc		13 31 08.5	-0.1	
BSCB	Bom Sucesso	145.73	38	*e*P	PKPab		13 31 10.4	+0.1	
BSCB	Bom Sucesso	145.73	38	*e*P	PKPab		13 31 10.4	+0.1	
RIB01	Linhares ES	145.74	30	*e*P	PKPab		13 31 10.3	+0.1	
RIB01	Linhares ES	145.74	30	*e*P	PKPab		13 31 10.3	+0.1	
FRTB	Fartura	145.74	47	*e*P	PKPab		13 31 10.3	0.0	
FRTB	Fartura	145.74	47	*e*P	PKPab		13 31 10.3	0.0	
PLCA	Paso Flores	145.85	92	PKPbc	PKPdf		13 31 09.2	+0.2	
	comp=Z,25nm,0.8s,baz=289,slow=3.5,SNR=39								
PLCA	Paso Flores	145.85	92	PKPdf	PKPab		13 31 10.0	-0.3	
PLCA	Paso Flores	145.85	92	*e*P	PKPdf		13 31 07.1	-1.9	
PLCA	Paso Flores	145.85	92	*e*P	PKPdf		13 31 07.1	-1.9	
RCLB	Rio Claro- Sao	145.85	43	*e*P	PKPbc		13 31 10.0	-0.2	
RCLB	Rio Claro- Sao	145.85	43	*e*P	PKPbc		13 31 10.0	-0.2	
VAO	Valinhos	146.61	43	*e*P	PKPdf		13 31 11.3	+0.4	
VAO	Valinhos	146.61	43	*e*P	PKPdf		13 31 11.3	+0.4	
VAS01	Vassouras-RJ	147.40	37	*e*P	PKPdf		13 31 12.9	+0.8	
VAS01	Vassouras-RJ	147.40	37	*e*P	PKPdf		13 31 12.9	+0.8	
PARB	Paraibuna	147.48	41	*e*P	PKPbc		13 31 14.0	-0.9	
PARB	Paraibuna	147.48	41	*e*P	PKPbc		13 31 14.0	-0.9	
PET01	Itanhaem-SP	147.60	45	*e*P	PKPbc		13 31 14.1	-1.0	
PET01	Itanhaem-SP	147.60	45	*e*P	PKPbc		13 31 14.1	-1.0	
CAM01	Campos-RJ	147.65	34	*e*P	PKPdf		13 31 13.7	+1.2	
CAM01	Campos-RJ	147.65	34	*e*P	PKPdf		13 31 13.7	+1.2	
TIJ01	Guaruva-PR	147.69	48	*e*P	PKPdf		13 31 12.5	-0.2	
TIJ01	Guaruva-PR	147.69	48	*e*P	PKPdf		13 31 12.5	-0.2	
MAN01	Angra dos Reis	147.73	38	*e*P	PKPbc		13 31 14.4	-1.1	
MAN01	Angra dos Reis	147.73	38	*e*P	PKPbc		13 31 14.4	-1.1	
CPSB	Cacapava Do Su	149.54	60	*e*P	PKPdf		13 31 15.5	+0.2	
CPSB	Cacapava Do Su	149.54	60	*e*P	PKPdf		13 31 15.5	+0.2	
PLTB	Pedras Altas	150.49	62	*e*P	PKPdf		13 31 17.2	+0.5	
PLTB	Pedras Altas	150.49	62	*e*P	PKPdf		13 31 17.2	+0.5	
VNA2	Neumayer--Watz	158.50	194	P	PKPdf		13 31 26.4	-0.2	
VNA3	Neumayer Olymp	158.53	192	P	PKPdf		13 31 25.4	-1.3	

JMA 07 13:24:46.9±0.1, 38.80N×142.41E, h33km±2km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	Ofunato	0.64	296	P	Pn	13 24 59.6	-0.1
OFUJ				S	Sb	13 25 08.2	-0.4
JKMT	Kesennumamotoy	0.73	271	P	Pn	13 25 00.8	-0.1
JKMT				S	Sn	13 25 10.2	-0.7
JIO	Ouri	0.90	248	P	Pn	13 25 03.0	-0.2
JIO				S	Sn	13 25 14.1	-0.9
JMK	Ichinoseki	0.94	280	P	Pn	13 25 04.0	+0.2
JMK				S	Sn	13 25 16.2	+0.1
JOM	Ohasama	1.10	308	P	Pn	13 25 06.6	+0.6
JOM				S	Sn	13 25 20.5	+0.5
JTH	Tanohata	1.21	340	P	Pn	13 25 08.0	+0.4
JOU	Okura	1.44	253	P	Pn	13 25 11.6	+1.0
JOU				*e*S	Sb	13 25 29.8	-1.2
JRG	Rokugo	1.50	294	P	Ph	13 25 13.1	-1.1
JRG				*e*S	Sb	13 25 32.8	-0.2
JMM	Marumori	1.58	234	P	Pn	13 25 13.0	+0.5
JMM				*e*S	Sn	13 25 32.4	+0.6
JYK	Kaneyama	1.61	275	P	Pn	13 25 14.4	+1.5
JANG	Nango	1.72	337	P	Pn	13 25 16.1	+1.6
JANG				S	Sb	13 25 38.1	-0.9
MAT	Matsushiro	4.02	237	P	Pn	13 25 46.9	+0.7
MAT				*e*S	Sn	13 26 31.9	-0.3

IDC 07 13:42:44.5±2.6, 6.00S×130.47E, h0km, mb3.5/1, mb1 3.4/3, mb1mx3.2/39, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=145.8km s-min=33.3km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	14.37	165	P	Pn	13 46 08.0	-1.3
	0.1nm,0.3s,baz=348,slow=13,SNR=5.2						
WRA				Sn	Sn	13 48 35.3	-14
	0.3nm,0.3s,baz=340,slow=22,SNR=6.1						
ASAR	Alice Springs	17.88	170	P	P	13 46 55.5	-0.1
	0.1nm,0.3s,baz=348,slow=11,SNR=7.8						
ASAR				S	Sn	13 50 00.3	-15
	0.1nm,0.3s,baz=355,slow=27,SNR=1.9						
MKAR	Makanchi Array	67.65	326	P	P	13 53 43.5	0.0
	0.2nm,0.4s,baz=113,slow=5.7,SNR=2.9						

NNC 07 13:43:50.8±5.9, 37.16N×71.04E, h0km, mb4.0, mpv3.7, 4C-1D, Error ellipse: s-maj=45.6km s-min=39.8km az=166.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	5.37	22	P	Pn	13 45 13.5	+1.0
	SNR=90						
UCH	Uchtor	5.73	27	P	Pn	13 45 17.9	+0.5
	SNR=15						
EKS2	Erkin-Say	5.89	20	P	Pn	13 45 20.7	+1.3
	SNR=7.2						
KZA	Kyzart	5.89	32	P	Pn	13 45 19.5	-0.2
	SNR=5.3						
KK31	Karatay Array	5.95	356	⇑Pn	Pn	13 45 20.6	+0.4
	1.3nm,0.3s,baz=168,slow=12,SNR=27						
KK31				⇑Sn	Sn	13 46 29.1	+0.1
	3.7nm,0.3s,baz=173,slow=22,SNR=12						
AAK	Ala-Archa	6.08	25	P	Pn	13 45 22.6	+0.6
	SNR=9.7						
AAK	Ala-Archa	6.08	25	⇓Pn	Pn	13 45 22.1	0.0
	4.7nm,0.3s						
AAK				Sn	Sn	13 46 35.8	+3.3
	6.9nm,0.7s						
ULHL	Ulahol	6.47	37	P	Pn	13 45 26.8	-0.7
	SNR=5.8						
TKM2	Tokmak 2	6.74	30	P	Pn	13 45 30.6	-0.5
	SNR=6.7						
TKM2	Tokmak 2	6.74	30	⇑Pn	Pn	13 45 30.3	-0.7
	2.2nm,0.5s						
TKM2				⇑Sn	Sn	13 46 48.7	+0.1
	2.8nm,0.7s						

*SJA **07** 13:55:17.0±0.6, 35.13S×71.95W, h52km±4km, ML4.3, MW4.3*

*GUC **07** 13:55:18.5±0.8, 35.20S×71.79W, h42km±2km, ML4.6*

*NEIC **07** 13:55:18.3±1.5, 35.16S±0.05×71.80W±0.08, h51km±6km, Error ellipse: s-maj=10.1km s-min=6.9km az=117.0*

*IDC **07** 13:55:19.9±2.5, 35.15S×71.65W, h63km±21km, mb4.2/9, mb1 4.2/13, mb1mx4.0/28, mbtmp4.4/13, MS3.3/3, Ms1 3.2/3, ms1mx3.1/21, Error ellipse: s-maj=29.6km s-min=14.3km az=92.0*

*VAO **07** 13:55:22.9±1.4, 35.53S×72.31W, h170km±15km, mb4.3*

ISC 07 13:55:17.9±0.6, 35.11S±0.04×71.99W±0.05, h50km±4km, n123, σ1968/128, mb4.6/12, 3C-1D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO05	Huala	0.11	25	⇑*i*P	Pn	13 55 25.8	0.0
GO05				*i* S

ACDV					IAML			13 57 57.7
	comp=Z,134nm,0.5s							
PLCA	**Paso Flores**	**5.72**	**169**		P	**Pn**	**13 56 41.1**	**+0.7**
	comp=Z,2.2nm,0.3s,baz=343,slow=12,SNR=30							
PLCA					LR	LR	13 59 00.5	
	comp=Z,192nm,19.8s,baz=338,slow=39							
PLCA	**Paso Flores**	**5.72**	**169**		Pn	**Pn**	**13 56 41.6**	**+1.2**
PLCA	**Paso Flores**	**5.72**	**169**	*eP*		**Pn**	**13 56 41.4**	**+1.0**
PLCA	**Paso Flores**	**5.72**	**169**	*eP*		**Pn**	**13 56 41.4**	**+1.0**
H03S1	**Juan Fernandez**	**5.85**	**281**		T	T	14 02 49.4	
	baz=104,slow=75							
H03S3	**Juan Fernandez**	**5.86**	**281**		T	T	14 02 50.8	
	baz=104,slow=75							
H03S2	**Juan Fernandez**	**5.87**	**281**		T	T	14 02 46.7	
	baz=104,slow=75							
MRA	**San Martin**	**5.87**	**65**	*eP*		**Pn**	**13 56 42.9**	**+0.4**
MRA					IAML		13 58 12.2	
	comp=Z,47nm,0.7s							
H03N1	**Juan Fernandez**	**5.97**	**284**		T	T	14 02 58.0	
	baz=108,slow=80							
H03N3	**Juan Fernandez**	**5.97**	**284**		T	T	14 02 59.3	
	baz=108,slow=80							
H03N2	**Juan Fernandez**	**5.99**	**284**		T	T	14 02 58.0	
	baz=108,slow=80							
AC05	**El Transito**	**6.43**	**14**		Pn	**Pn**	**13 56 50.0**	**-0.1**
AC04	**Llanos de Chal**	**6.93**	**7**		Pn	**Pn**	**13 56 55.9**	**-1.0**
GO03	**Copiap**	**7.64**	**12**		Pn	**Pn**	**13 57 05.3**	**-1.4**
LVC	**Limon Verde**	**12.75**	**13**		P	**Pn**	**13 58 17.7**	**+0.9**
	comp=Z,0.6nm,0.3s,baz=180,slow=4.0,SNR=2.1							
ITQB	**Itaqui**	**14.07**	**72**	*eP*		**P**	**13 58 40.8**	**0.0**
ITQB	**Itaqui**	**14.07**	**72**	*eP*		**P**	**13 58 40.8**	**0.0**
PB01	**IPOC Station P**	**14.19**	**10**		P	**P**	**13 58 43.0**	**+0.7**
PB11	**IPOC Station P**	**15.43**	**8**		P	**P**	**13 58 57.1**	**+0.9**
PB11					IAmb	IAmb	13 58 59.6	
	comp=Z,18nm,0.9s							
PLTB	**Pedras Altas**	**15.71**	**83**	*eP*		**P**	**13 58 59.0**	**-0.1**
PLTB	**Pedras Altas**	**15.71**	**83**	*eP*		**P**	**13 58 59.0**	**-0.1**
MNMC	**Minye Minye**	**16.06**	**8**		P	**P**	**13 59 05.5**	**+2.2**
MNMC					IAmb	IAmb	13 59 24.9	
	comp=Z,25nm,0.6s							
CNLB	**Canela**	**18.78**	**78**	*eP*		**P**	**13 59 32.2**	**-0.9**
CNLB	**Canela**	**18.78**	**78**	*eP*		**P**	**13 59 32.2**	**-0.9**
LPAZ	**La Paz**	**19.06**	**11**		P	**Pn**	**13 59 38.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=184,slow=6.1,SNR=11							
LPAZ	**La Paz**	**19.06**	**11**		P	**Pn**	**13 59 38.9**	**+0.9**
PTGB	**Pitanga**	**20.11**	**64**	*eP*		**P**	**13 59 45.5**	**-2.1**
PTGB	**Pitanga**	**20.11**	**64**	*eP*		**P**	**13 59 45.5**	**-2.1**
TRCB	**Terra Rica**	**20.87**	**59**	*eP*		Pn	13 59 57.4	-1.4
TRCB	**Terra Rica**	**20.87**	**59**	*eP*		Pn	13 59 57.4	-1.4
PCMB	**Pacaembu**	**22.61**	**59**	*eP*		**P**	**14 00 12.5**	**-1.9**
PCMB	**Pacaembu**	**22.61**	**59**	*eP*		**P**	**14 00 12.5**	**-1.9**
PTLB	**Pontes e Lacer**	**22.73**	**34**	*eP*		**P**	**14 00 14.6**	**-1.1**
PTLB	**Pontes e Lacer**	**22.73**	**34**	*eP*		**P**	**14 00 14.6**	**-1.1**
PET01	**Itanhaem-SP**	**23.96**	**70**	*eP*		**P**	**14 00 24.8**	**-2.8**
PET01	**Itanhaem-SP**	**23.96**	**70**	*eP*		**P**	**14 00 24.8**	**-2.8**
SALV	**Santo Antonio**	**24.07**	**41**	*eP*		**P**	**14 00 27.0**	**-1.6**
SALV	**Santo Antonio**	**24.07**	**41**	*eP*		**P**	**14 00 27.0**	**-1.6**
ITRB	**Iturama**	**24.50**	**57**	*eP*		**P**	**14 00 31.5**	**-1.1**
ITRB	**Iturama**	**24.50**	**57**	*eP*		**P**	**14 00 31.5**	**-1.1**
BDFB	**Brasilia**	**28.94**	**54**		P	**P**	**14 01 10.1**	**-2.5**
	comp=Z,1.6nm,0.4s,baz=265,slow=11,SNR=3.1							
BDFB					LR	LR	14 13 12.5	
	comp=Z,106nm,20.3s,baz=211,slow=37							
BDFB	**Brasilia**	**28.94**	**54**		IAmb	IAmb	14 01 19.5	
	comp=Z,5.2nm,1.1s							
CAM01	**Campos-RJ**	**29.64**	**72**	*eP*		**P**	**14 01 16.2**	**-2.5**
CAM01	**Campos-RJ**	**29.64**	**72**	*eP*		**P**	**14 01 16.2**	**-2.5**
PEXB	**Peixe**	**31.40**	**49**	*eP*		**P**	**14 01 32.6**	**-1.6**
PEXB	**Peixe**	**31.40**	**49**	*eP*		**P**	**14 01 32.6**	**-1.6**
JANB	**Januaria**	**31.87**	**58**	*eP*		**P**	**14 01 36.3**	**-2.2**
JANB	**Januaria**	**31.87**	**58**	*eP*		**P**	**14 01 36.3**	**-2.2**
PTGA	**Pitinga**	**36.00**	**21**	*eP*		**P**	**14 02 11.4**	**-2.8**
PTGA	**Pitinga**	**36.00**	**21**	*eP*		**P**	**14 02 11.4**	**-2.8**
GDU01	**Guandu, BA**	**36.14**	**62**	*eP*		**P**	**14 02 13.3**	**-2.2**
GDU01	**Guandu, BA**	**36.14**	**62**	*eP*		**P**	**14 02 13.3**	**-2.2**
VNA3	**Neumayer Olymp**	**48.32**	**157**		P	**P**	**14 03 53.6**	**-0.3**
VNA2	**Neumayer--Watz**	**48.97**	**157**		P	**P**	**14 03 58.6**	**-0.3**
	baz=284,slow=8.7							
SNAA	**Sanae**	**50.54**	**157**		P	**P**	**14 04 10.4**	**-0.5**
SNAA	**Sanae**	**50.54**	**157**		P	**P**	**14 04 10.1**	**-0.7**
	comp=Z,3.2nm,0.7s,baz=273,slow=8.3,SNR=19							
SNAA	**Sanae**	**50.54**	**157**		P	**P**	**14 04 09.5**	**-1.4**
SNAA					IAmb	IAmb	14 04 11.3	
	comp=Z,4.8nm,0.9s							
QSPA	**South Pole Qui**	**55.12**	**180**		P	**P**	**14 04 45.4**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=160,slow=5.2,SNR=25							
QSPA	**South Pole Qui**	**55.12**	**180**		P	**P**	**14 04 45.6**	**+0.8**
QSPA					IAmb	IAmb	14 04 47.3	
	comp=Z,13nm,1.4s							
TXAR	**Lajitas Array**	**70.72**	**331**		P	**P**	**14 06 30.3**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=150,slow=7.8,SNR=7.6							
TXAR					pP	**PcP**	**14 06 49.5**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=154,slow=8.4,SNR=9.4							
V48A	**Smith Brothers**	**71.84**	**347**		P	**P**	**14 06 36.0**	**+0.8**
MAW	**Mawson**	**72.10**	**163**		P	**P**	**14 06 36.1**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=267,slow=3.0,SNR=7.9							
MAW	**Mawson**	**72.10**	**163**		IAmb	IAmb	14 06 37.3	
	comp=Z,0.6nm,0.8s							
WVT	**Waverly**	**72.40**	**347**		P	**P**	**14 06 39.0**	**+0.5**
WVT					IAmb	IAmb	14 06 39.7	
	comp=Z,5.4nm,0.7s							
LIC	**Lamto**	**75.09**	**71**	*eP*		**P**	**14 06 54.0**	**-0.8**
	comp=Z,16nm,0.5s							
TIC	**Toumodi**	**75.36**	**71**	*eP*		**P**	**14 06 55.6**	**-0.8**
KIC	**Kosan Boka**	**75.40**	**71**	*eP*		**P**	**14 06 55.8**	**-0.8**
	comp=Z,21nm,0.6s							
DBIC	**Dimbokro**	**75.50**	**71**		P	**P**	**14 06 56.6**	**-0.6**
	comp=Z,5.1nm,0.5s,baz=209,slow=6.8,SNR=10							
DBIC	**Dimbokro**	**75.50**	**71**		IAmb	IAmb	14 06 56.9	
	comp=Z,6.2nm,0.8s							
BOSA	**Boshof**	**79.52**	**118**		P	**P**	**14 07 18.9**	**-0.8**
	comp=Z,6.1nm,0.7s,baz=250,slow=3.2,SNR=10.0							
BOSA	**Boshof**	**79.52**	**118**		IAmb	IAmb	14 07 19.6	
	comp=Z,10.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**84.55**	**70**		P	**P**	**14 07 45.3**	**-0.7**
	comp=Z,4.8nm,0.6s,baz=276,slow=5.5,SNR=45							
TORD					pP	**pP**	**14 08 03.7**	**+3.1**
	comp=Z,0.8nm,0.7s,baz=289,slow=3.8,SNR=4.4							
ULM	**Lac du Bonnet**	**87.58**	**345**		P	**P**	**14 07 59.7**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=169,slow=5.2,SNR=3.5							
BRTR	**Keskin Array B**	**122.33**	**62**		PKP	**PKPdf**	**14 14 07.2**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=246,slow=2.2,SNR=4.4							
ZALV	**Zalesovo Beam**	**155.14**	**34**		PKPab	**PKPab**	**14 15 29.4**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=307,slow=5.6,SNR=9.2							
ZALV					pPKPab	**sPKPab**	**14 15 49.5**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=322,slow=4.5,SNR=4.0							
MKAR	**Makanchi Array**	**157.45**	**51**		PKPab	**PKPab**	**14 15 39.6**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=301,slow=2.8,SNR=9.3							
SONM	**Songino Array**	**167.23**	**5**		PKPab	**PKPab**	**14 16 23.5**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=17,slow=1.5,SNR=2.3							
LZH	**Lanzhou**	**176.47**	**73**	*eP*	KP	**PKPdf**	**14 15 23.0**	**+0.3**
LZH					pPKP	pPKPdf	14 15 38.2	+0.1
LZH					sPKP		14 15 43.7	
LZH					PKP	**PKPab**	**14 17 06.3**	**+2.0**
LZH					LR	LR		
	comp=N,62nm,18.0s							
LZH					LR	LR		
	comp=E,69nm,18.3s							
LZH					LR	LR		
	comp=Z,85nm,20.1s							

*IDC **07** 13:59:35.1±54.0, 44.˚54N×149.˚11E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.4/26, mbtmp3.7/3, MS3.5/1, Ms1 3.7/1, ms1mx2.8/38, Error ellipse: s-maj=1255.0km s-min=83.9km az=155.0*

*SKHL **07** 13:59:35.1±0.2, 43.˚91N×149.˚41E, h52km±2km, mb4.1/4*

*MOS **07** 13:59:40.0±1.9, 44.˚19N×148.˚69E, h64km, mb4.0/1, Error ellipse: s-maj=24.8km s-min=16.7km az=0.9*

*JMA **07** 13:59:41.0±0.4, 44.˚33N×148.˚71E, h30km, M3.4*

ISC 07 13:59:39.2±3.1, 44.˚1N±0.˚1×148.˚8E±0.˚1, h31km±16km, n35, σ1§83/37, mb3.6/3, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.30**	**329**	*i* P	**Pb**	**14 00 02.0**	**-1.1**
KUR				AMB	AMB	14 00 07.7	
	50nm,0.3s						
KUR				*i* S	**Sb**	**14 00 22.0**	**+2.5**
KUR				A	A	14 00 24.7	
	180nm,0.4s						
KUR				A	A	14 00 24.7	
	420nm,0.4s						
KUR	**Kuril'sk**	**1.30**	**329**	*c i* PN	**Pb**	**14 00 02.0**	**-1.1**
KUR					pmax	pmax		
	comp=Z,104μm,0.2s							
KUR					pmax	pmax		
	comp=N,10μm,0.1s							
KUR					pmax	pmax		
	comp=E,22μm,0.2s							
YUK	**Yuzh-Kuril'sk**	**2.14**	**269**	*i* P		**Pn**	**14 00 14.0**	**+1.3**
YUK					AMB	AMB	14 00 15.0	
	comp=E,20nm,0.3s							
YUK				*i* S		**Sb**	**14 00 43.3**	**-0.1**
YUK				A		A	14 00 46.0	
	comp=E,110nm,0.3s							
YUK				A		A	14 00 46.0	
	comp=E,120nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**2.14**	**269**	*d i* PN		**Pn**	**14 00 14.3**	**+1.6**
YUK					pmax	pmax		
	comp=Z,66μm,0.3s							
YUK					pmax	pmax		
	comp=N,24μm,0.2s							
GRPR	**Tuman**	**2.21**	**268**	*e*P		**Pn**	**14 00 15.0**	**+1.3**
GRPR					AMB	AMB	14 00 19.0	
	comp=N,30nm,0.3s							
GRPR				*i* S		**Sb**	**14 00 45.2**	**-0.2**
GRPR				A		A	14 00 47.0	
	comp=N,120nm,0.3s							
GRPR				A		A	14 00 47.0	
	comp=N,170nm,0.3s							
GRPR	**Tuman**	**2.21**	**268**	PN		**Pn**	**14 00 15.2**	**+1.5**
GRPR				pmax		pmax		
	comp=Z,53nm,0.3s							
GRPR				pmax		pmax		
	comp=N,36nm,0.2s							
NEM2	**Nemuro 2**	**2.36**	**252**	P		**Pn**	**14 00 16.3**	**+0.5**
NEM2				*e*S		**Sn**	**14 00 42.7**	**-1.0**
NMR	**Nemuro--Hokkai**	**2.37**	**253**	*e*P		**Pn**	**14 00 16.0**	**+0.1**
NMR				*i* S		**Sn**	**14 00 46.0**	**+2.1**
NMR	**Nemuro--Hokkai**	**2.37**	**253**	*e*PN		**Pn**	**14 00 16.3**	**+0.4**
NMR				*i* S		**Sn**	**14 00 46.9**	**+3.0**
GLVR	**Golovnino**	**2.42**	**262**	*e*P		**Pn**	**14 00 18.0**	**+1.4**
GLVR					AMB	AMB	14 00 21.0	
	comp=N,20nm,0.3s							
GLVR				*i* S		**Sb**	**14 00 50.0**	**-1.5**
GLVR				A		A	14 00 53.0	
	comp=N,190nm,0.4s							
GLVR				A		A	14 00 53.0	
	comp=N,160nm,0.4s							
GLVR	**Golovnino**	**2.42**	**262**	*e*PN		**Pn**	**14 00 18.1**	**+1.4**
GLVR					pmax	pmax		
	comp=Z,75nm,0.2s							
RUSJ	**Misakicho**	**2.58**	**271**	PN		**Pn**	**14 00 15.2**	**-3.6**
RUSJ				*i* S		**Sn**	**14 00 46.2**	**-2.9**
RUSJ				pmax		pmax		
	comp=Z,5.0nm,0.3s							
RUSJ				pmax		pmax		
	comp=Z,12nm,0.2s							
JRA	**Rausu**	**2.68**	**267**	P		**Pn**	**14 00 22.7**	**+2.5**
JNK	**Nakash**	**3.02**	**261**	P		**Pn**	**14 00 26.4**	**+1.5**
JAK	**Akkeshi**	**3.21**	**251**	P		**Pn**	**14 00 28.2**	**+0.8**
JAK				*e*S		**Sn**	**14 01 03.3**	**-1.3**
JTKR	**Abashiri--Toko**	**3.55**	**269**	P		**Pn**	**14 00 34.9**	**+2.8**
JAR	**Ashorobuto**	**3.76**	**259**	P		**Pn**	**14 00 37.1**	**+2.1**
JOB	**Onbets**	**3.83**	**253**	P		**Pn**	**14 00 37.3**	**+1.3**
JCH	**Churui**	**4.26**	**251**	P		**Pn**	**14 00 43.5**	**+1.6**
JFR	**Furan**	**4.63**	**260**	P		**Pn**	**14 00 50.0**	**+3.1**
JNBK	**Urakawa-nobuka**	**4.81**	**250**	P		**Pn**	**14 00 51.0**	**+1.6**
JBT2	**Biratori 2**	**4.90**	**256**	P		**Pn**	**14 00 52.2**	**+1.6**
JNB	**Noboribetsu**	**5.92**	**256**	P		**Pn**	**14 01 06.8**	**+2.1**
JKB	**Kayabe**	**6.14**	**251**	P		**Pn**	**14 01 09.1**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**28.62**	**142**	T		T	14 36 32.9	
	baz=333,slow=75,SNR=16							
H11N1	**WAKE ISLAND Hy**	**28.64**	**142**	T		T	14 36 39.6	
	baz=333,slow=75,SNR=19							
H11N3	**WAKE ISLAND Hy**	**28.64**	**142**	T		T	14 36 39.6	
	baz=333,slow=75,SNR=13							
H11S1	**WAKE ISLAND Hy**	**29.62**	**144**	T		T	14 37 47.5	
	baz=334,slow=76,SNR=15							
H11S3	**WAKE ISLAND Hy**	**29.63**	**144**	T		T	14 37 48.9	
	baz=334,slow=76,SNR=10							
H11S2	**WAKE ISLAND Hy**	**29.64**	**144**	T		T	14 37 51.6	
	baz=334,slow=76,SNR=12							
MKAR	**Makanchi Array**	**45.48**	**298**	P		**P**	**14 07 55.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=72,slow=8.4,SNR=7.3							
CMAR	**Chiang Mai Arr**	**48.80**	**255**	LR		LR	14 28 40.3	
	comp=Z,50nm,18.3s,baz=332,slow=36							
FINES	**FINESS Array B**	**65.09**	**334**	P		**P**	**14 10 15.1**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=35,slow=5.1,SNR=2.3							
NB2	**NORSAR Subarra**	**69.68**	**340**	P		**P**	**14 10 44.5**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**69.68**	**340**	P		**P**	**14 10 44.2**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=30,slow=6.4,SNR=4.0							

*THE **07** 14:03:20.0, 35.˚47N×21.˚57E, h31km±34km, ML2.7/10, Error ellipse: s-maj=34.5km s-min=0.7km az=49.0*

ATH 07 14:03:18.3, 35.˚47N×21.˚55E, h44km±8km, ML2.7/8, Error ellipse: s-maj=9.3km s-min=1.3km az=231.0, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**1.43**	**6**	P	Pn	14 03 42.7	+0.9
PYL				S	Sn	14 04 01.3	+1.9
	102nm,0.3s						
PYL	**PYLOS**	**1.43**	**6**	P	Pn	14 03 42.7	+0.9
PYL				S	Sn	14 04 01.3	+1.9
PYL				AML	AML	14 04 05.9	
	comp=E,220μm,0.4s						
PYL				AML	AML	14 04 06.7	
	comp=N,186μm,0.3s						
KTHA	**Kythira Island**	**1.45**	**57**	P	Pn	14 03 44.1	+1.9
KTHA				S	Sn	14 04 01.5	+1.5
	comp=N,190nm,0.7s						
KTHA	**Kythira Island**	**1.45**	**57**	P	Pn	14 03 44.1	+2.0
KTHA				S	Sn	14 04 01.5	+1.5
KTHA				AML	AML	14 04 08.3	
	comp=E,443μm,0.7s						
KTHA				AML	AML	14 04 14.0	
	comp=N,224μm,0.4s						
ANKY	**Antikythira Is**	**1.48**	**74**	P	Pn	14 03 44.3	+1.9
ANKY				S	Sn	14 04 02.4	+1.8
	comp=N,230nm,0.4s						
ANKY	**Antikythira Is**	**1.48**	**74**	P	Pn	14 03 44.3	+1.8
ANKY				S	Sn	14 04 02.4	+1.8
ANKY				AML	AML	14 04 11.0	
	comp=E,458μm,0.5s						
ANKY				AML	AML	14 04 14.0	
	comp=N,514μm,0.4s						
VLI	**Veliai**	**1.67**	**42**	P	Pn	14 03 47.2	+2.0
VLI				S	Sn	14 04 07.2	+1.8
	comp=N,185nm,0.6s						
VLI	**Veliai**	**1.67**	**42**	P	Pn	14 03 47.2	+2.0
VLI				S	Sn	14 04 07.2	+1.8
VLI				AML	AML	14 04 12.8	
	comp=E,363μm,0.6s						
VLI				AML	AML	14 04 14.5	
	comp=N,387μm,0.5s						
ITM	**Ithomi**	**1.73**	**10**	P	Pn	14 03 47.2	+1.3
ITM				S	Sn	14 04 08.9	+2.1
	comp=N,75nm,0.5s						
ITM	**Ithomi**	**1.73**	**10**	P	Pn	14 03 47.2	+1.3
ITM				S	Sn	14 04 08.3	+1.5
ITM				AML	AML	14 04 09.6	
	comp=E,99μm,0.3s						
ITM				AML	AML	14 04 10.1	
	comp=N,154μm,0.4s						
IMMV	**Iera Moni Meta**	**1.98**	**90**	P	Pn	14 03 50.7	+1.3
IMMV				S	Sn	14 04 15.3	+2.3
	comp=N,148nm,0.7s						
IMMV	**Iera Moni Meta**	**1.98**	**90**	P	Pn	14 03 50.7	+1.3
IMMV				S	Sn	14 04 15.3	+2.3
IMMV				AML	AML	14 04 27.1	
	comp=E,266μm,0.9s						
IMMV				AML	AML	14 04 41.4	
	comp=N,317μm,0.7s						
AMT	**Artemida-Makis**	**2.06**	**3**	P	Pn	14 03 51.8	+1.3
AMT				S	Sn	14 04 16.6	+1.7
	comp=N,82nm,0.5s						
AMT	**Artemida-Makis**	**2.06**	**3**	P	Pn	14 03 51.6	+1.2
AMT				S	Sn	14 04 16.2	+1.3
GVD	**Gavdhos**	**2.17**	**106**	P	Pn	14 03 53.4	+1.4
GVD				S	Sn	14 04 19.0	+1.3
	comp=N,212nm,0.3s						
GVD	**Gavdhos**	**2.17**	**106**	P	Pn	14 03 53.4	+1.4
GVD				S	Sn	14 04 19.0	+1.3
GVD				AML	AML	14 04 23.5	
	comp=E,423μm,0.3s						
GVD				AML	AML	14 04 24.0	
	comp=N,428μm,0.3s						
DID	**Didima**	**2.44**	**33**	P	Pn	14 03 57.0	+1.3
DID				S	Sn	14 04 26.9	+2.6
	comp=N,118nm,0.2s						
DID	**Didima**	**2.44**	**33**	P	Pn	14 03 57.0	+1.3
DID				S	Sn	14 04 25.3	+0.9
DRO	**Drossia**	**2.48**	**3**	P	Pn	14 03 58.1	+1.9
DRO	**Drossia**	**2.48**	**3**	P	Pn	14 03 58.1	+1.9
GUR	**Goura**	**2.54**	**14**	P	Pn	14 03 59.0	+1.9
GUR	**Goura**	**2.54**	**14**	P	Pn	14 03 59.0	+1.9
MHLO	**Agia Marina, M**	**2.61**	**61**	P	Pn	14 03 59.1	+1.1
MHLO	**Agia Marina, M**	**2.61**	**61**	P	Pn	14 03 59.1	+1.1
KLV	**Kalavryta, Ach**	**2.61**	**10**	P	Pn	14 03 59.9	+1.8
KLV	**Kalavryta, Ach**	**2.61**	**10**	P	Pn	14 03 59.9	+1.9
IDI	**Anoyia**	**2.73**	**93**	P	Pn	14 04 01.2	+1.4
IDI				S	Sn	14 04 33.0	+1.4
	comp=N,70nm,0.3s						
IDI	**Anoyia**	**2.73**	**93**	P	Pn	14 04 01.2	+1.4
IDI				S	Sn	14 04 33.0	+1.3
IDI				AML	AML	14 04 35.1	
	comp=N,134μm,0.4s						
IDI				AML	AML	14 04 42.8	
	comp=E,97μm,0.3s						
VLS	**Valsamata**	**2.81**	**344**	P	Pn	14 04 02.4	+1.7
VLS	**Valsamata**	**2.81**	**344**	P	Pn	14 04 02.4	+1.6
SERI	**Serifos**	**2.91**	**54**	P	Pn	14 04 02.9	+0.8
TRIZ	**Trizonia**	**2.92**	**8**	P	Pn	14 04 04.6	+2.4
TRIZ	**Trizonia**	**2.92**	**8**	P	Pn	14 04 04.8	+2.6
VLY	**Voula,Athens**	**2.98**	**37**	P	Pn	14 04 05.6	+2.5
VLY	**Voula,Athens**	**2.98**	**37**	P	Pn	14 04 05.6	+2.5
VILL	**Villia**	**3.03**	**27**	P	Pn	14 04 05.3	+1.4
VIL2	**Platees**	**3.06**	**26**	P	Pn	14 04 04.4	+0.2
ANX	**Ano Chora**	**3.13**	**5**	P	Pn	14 04 07.5	+2.3
ANX	**Ano Chora**	**3.13**	**5**	P	Pn	14 04 07.5	+2.3
PVO	**Paravola**	**3.14**	**360**	P	Pn	14 04 07.7	+2.5
PVO	**Paravola**	**3.14**	**360**	P	Pn	14 04 07.7	+2.4
DION	**Dionisos Attik**	**3.23**	**36**	P	Pn	14 04 07.2	+0.7
LKR	**Lokris**	**3.38**	**20**	P	Pn	14 04 10.9	+2.4
LKR	**Lokris**	**3.38**	**20**	P	Pn	14 04 10.9	+2.4
LKD2	**Lefkada island**	**3.38**	**348**	P	Pn	14 04 09.4	+0.7
EVR	**Evrytania**	**3.44**	**3**	P	Pn	14 04 11.9	+2.4
EVR	**Evrytania**	**3.44**	**3**	P	Pn	14 04 11.9	+2.4
MAKR	**Makrakomi, Fth**	**3.56**	**7**	P	Pn	14 04 13.6	+2.5
MAKR	**Makrakomi, Fth**	**3.56**	**7**	P	Pn	14 04 13.6	+2.4
AGG	**Agios Georgios**	**3.60**	**10**	P	Pn	14 04 13.7	+2.1
AGG	**Agios Georgios**	**3.60**	**10**	P	Pn	14 04 13.7	+2.1
DBRK	**Dubrovnik**	**7.66**	**341**	Sn	Sn	14 06 23.0	-10
STON	**Ston**	**7.97**	**339**	Sn	Sn	14 06 31.2	-9.0
MAKA	**Makarska**	**8.55**	**337**	Sn	Sn	14 06 47.0	-7.7
HVAR	**Hvar**	**8.65**	**334**	Sn	Sn	14 06 48.2	-8.7
ZIRJ	**Zirje**	**9.35**	**333**	Sn	Sn	14 07 04.9	-9.3
KIJV	**Kijevo**	**9.39**	**337**	*e*Pn	Pn	14 05 30.4	-0.7
KIJV					Sn	14 07 05.9	-9.4
MORI	**Morici**	**9.51**	**334**	*e*Pn	Pn	14 05 34.0	+1.4
MORI					Sn	14 07 09.2	-9.0

*ROM **07** 14:12:00.8±0.2, 44.˚526N±0.˚008×6.˚68E±0.˚01, h12km±2km, ML2.0/8, Error ellipse: s-maj=1.1km s-min=0.3km az=53.0*

*GEN **07** 14:12:00.9, 44.˚52N×6.˚65E, h5km±3km, MI1.9*

*STR **07** 14:12:01.3±0.2, 45.˚N±1.˚×±.˚, h7km±4km, MLv1.8/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*

*LDG **07** 14:12:01.2±0.1, 44.˚55N×6.˚70E, h2km, Md2.6/3, Ml2.4/14, Error ellipse: s-maj=1.4km s-min=1.0km az=55.0*

ISC 07 14:12:01.4±0.8, 44.˚53N±0.˚02×6.˚72E±0.˚02, h15km±6km, n67, σ1§20/107, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SURF	**Saint Ours**	**0.08**	**128**	Pg	**Pg**	**14 12 03.6**	**-1.1**
OGAG	**Argentiere**	**0.15**	**240**	Pg	**Pg**	**14 12 06.5**	**+1.1**
OGAG				Sg	**Sb**	**14 12 10.5**	**+1.3**
MBDF	**Montbardon**	**0.20**	**10**	*e*Pg	**Pg**	**14 12 05.4**	**-0.7**
MBDF				*e*Sg	**Sg**	**14 12 08.0**	**-1.3**
PZZ	**Stroppo**	**0.28**	**95**	P	**Pg**	**14 12 07.5**	**0.0**
PZZ		

CALF	**Calern**	**0.79**	**169**	Pg	**Pb**	**14 12 16.4 -0.5**
GDM	**Grand'Maison**	**0.80**	**328**	Pg	**Pb**	**14 12 15.8 -1.4**
GDM				Sg	**Sb**	**14 12 26.1 -1.7**
SAOF	**Saorge**	**0.81**	**132**	P	**Pb**	**14 12 16.9 -0.3**
SAOF				S	**Sb**	**14 12 27.5 -0.5**
SAOF	**Saorge**	**0.81**	**132**	AML	AML	
	comp=E,116μm,1.5s					
SAOF				AML	AML	
	comp=N,130μm,0.5s					
SAOF	**Saorge**	**0.81**	**132**	Pg	**Pb**	**14 12 16.9 -0.3**
SAOF				Sg	**Sb**	**14 12 27.9 -0.1**
ESCA	**l'Escarene**	**0.84**	**146**	Pg	**Pb**	**14 12 17.5 -0.2**
ESCA				Sg	**Sb**	**14 12 28.7 -0.2**
SBF	**Sospel**	**0.84**	**142**	*e*Pg	**Pb**	**14 12 17.2 -0.6**
SBF				*e*Sg	**Sb**	**14 12 28.4 -0.5**
	comp=N,58nm,0.4s					
GBOS	**Grotte di Boss**	**0.85**	**109**	P	**Pb**	**14 12 17.7 -0.3**
GBOS				S	**Sb**	**14 12 28.8 -0.4**
GBOS	**Grotte di Boss**	**0.85**	**109**	AML	AML	
	comp=E,84μm,0.2s					
GBOS				AML	AML	
	comp=N,107μm,1.1s					
MLYF	**Mely**	**0.88**	**232**	Pg	**Pb**	**14 12 18.7 +0.3**
MLYF				Sn	**Sn**	**14 12 33.6 +1.8**
LPG	**La Plagne**	**0.97**	**1**	*e*Pg	**Pb**	**14 12 19.5 -0.6**
LPG				*e*Sg	**Sb**	**14 12 31.5 -1.3**
FRF	**La Foret Royal**	**0.97**	**183**	*e*Pg	**Pb**	**14 12 19.3 -0.7**
FRF				*e*Sg	**Sb**	**14 12 31.7 -0.9**
	comp=N,18nm,0.2s					
LSD	**Lago del Serru**	**0.97**	**17**	AML	AML	
	comp=N,37μm,0.7s					
LSD				AML	AML	
	comp=E,52μm,1.0s					
NEGI	**Seborga**	**0.98**	**134**	P	**Pb**	**14 12 20.2 +0.1**
NEGI				S	**Sb**	**14 12 32.9 0.0**
NEGI	**Seborga**	**0.98**	**134**	P	**Pb**	**14 12 20.3 +0.1**
NEGI				S	**Sb**	**14 12 33.1 +0.2**
NEGI				AML	AML	
	comp=E,124μm,0.2s					
NEGI				AML	AML	
	comp=N,110μm,1.4s					
LPL	**La Plagne**	**0.98**	**0**	*e*Pg	**Pb**	**14 12 19.5 -0.8**
LPL				*e*Sg	**Sb**	**14 12 32.2 -1.1**
	comp=N,9.5nm,0.2s					
SMRF	**Simiane la Rot**	**0.99**	**236**	*e*Pg	**Pb**	**14 12 19.6 -0.8**
SMRF				*e*Sg	**Sb**	**14 12 32.0 -1.3**
	comp=N,15nm,0.3s					
GRN	**Grenoble**	**0.99**	**316**	Pg	**Pb**	**14 12 19.8 -0.6**
BSTF	**la Bastide-des**	**1.01**	**230**	Pg	**Pg**	**14 12 22.2 +1.2**
IMI	**Imperia**	**1.04**	**126**	P	**Pb**	**14 12 21.1 -0.1**
IMI				S	**Sb**	**14 12 34.8 -0.1**
RORO	**Rocca Rossa**	**1.05**	**113**	AML	AML	
	comp=E,87μm,1.0s					
RORO				AML	AML	
	comp=N,83μm,0.4s					
RUSF	**Rustrel**	**1.07**	**237**	Pg	**Pb**	**14 12 22.0 +0.4**
ARTF	**Artigues**	**1.15**	**215**	Pg	**Pn**	**14 12 23.0 -0.1**
QLNO	**Quiliano**	**1.18**	**100**	AML	AML	
	comp=E,46μm,0.2s					
QLNO				AML	AML	
	comp=N,36μm,0.2s					
FINB	**Finale Ligure**	**1.20**	**107**	AML	AML	
	comp=E,38μm,1.0s					
FINB				AML	AML	
	comp=N,43μm,0.5s					
LMR	**La Mourre**	**1.21**	**187**	*e*Pn	**Pn**	**14 12 23.5 -0.3**
LMR				*e*Sn	**Sb**	**14 12 39.1 -0.3**
	comp=N,9.7nm,0.2s					
CIRO	**Champorcher**	**1.23**	**29**	AML	AML	
	comp=N,19μm,1.5s					
CIRO				AML	AML	
	comp=E,20μm,0.3s					
OGSM	**Saint Maurice**	**1.30**	**326**	Pg	**Pn**	**14 12 25.8 +0.7**
VIVF	**Saint-Julien-l**	**1.50**	**283**	*e*Pn	**Pn**	**14 12 27.4 -0.4**
VIVF	**Saint-Julien-l**	**1.50**	**283**	*e*Pg	**Pn**	**14 12 28.8 +1.0**
VIVF				*e*Sn	**Sn**	**14 12 47.6 +0.5**
	comp=E,6.9nm,0.2s					
OG35	**Corcelles**	**1.72**	**332**	Pn	**Pn**	**14 12 31.9 +1.0**
LASF	**Ste Croix**	**2.11**	**259**	*e*Pn	**Pn**	**14 12 35.2 -1.0**
LASF				*e*Sn	**Sn**	**14 13 00.4 -1.8**
CABF	**La Chapelle**	**2.13**	**348**	*e*P	**Pn**	**14 12 38.2 +1.7**
CABF	**La Chapelle**	**2.13**	**348**	*e*Pg	**Pb**	**14 12 41.1 +1.4**
CABF				*e*Sn	**Sn**	**14 13 01.1 -1.7**
CABF				*e*Sg	**Sb**	**14 13 07.9 +1.9**
	comp=E,2.3nm,0.3s					
PGF	**Pioggiola**	**2.58**	**139**	*e*Pn	**Pn**	**14 12 43.6 +0.8**
PGF				*e*Sn	**Sn**	**14 13 12.6 -1.4**
	comp=E,2.6nm,0.3s					
SMF	**Signal de Mont**	**2.93**	**317**	*e*P	**Pn**	**14 12 48.6 +1.2**
SMF	**Signal de Mont**	**2.93**	**317**	*e*Pg	**Pb**	**14 12 55.2 +1.9**
SMF				*e*Sn	**Sn**	**14 13 19.2 -3.2**
SMF				*e*Sg	**Sb**	**14 13 32.3 +3.4**
	comp=E,2.3nm,0.3s					
AVF	**Avril sur Loir**	**3.27**	**315**	*e*P	**Pn**	**14 12 53.2 +1.1**
HINF	**Hinteralfeld**	**3.29**	**2**	*e*P	**Pn**	**14 12 54.1 +1.7**
SSF	**Saint Saulge**	**3.39**	**319**	*e*P	**Pn**	**14 12 54.9 +1.2**
SSF	**Saint Saulge**	**3.39**	**319**	*e*Pg	**Pb**	**14 13 03.6 +2.5**
SSF				*e*Sn	**Sn**	**14 13 31.1 -2.6**
SSF				*e*Sg	**Sb**	**14 13 46.5 +4.4**
	comp=E,1.9nm,0.3s					
LOR	**Lormes**	**3.39**	**325**	*e*P	**Pn**	**14 12 55.0 +1.2**
	baz=143					
LOR				*e*Sn	**Sn**	**14 13 31.4 -2.4**
	comp=E,2.2nm,0.3s					
BGF	**Bois d'Agland**	**3.40**	**308**	*e*P	**Pn**	**14 12 55.0 +1.1**
BGF				*e*Sn	**Sn**	**14 13 31.4 -2.5**
	comp=E,4.7nm,0.3s					
TCF	**Toulx Ste Croi**	**3.63**	**301**	*e*P	**Pn**	**14 12 58.0 +0.9**
PAGF	**Fort de Pagny**	**4.08**	**351**	*e*P	**Pn**	**14 13 05.7 +2.4**

*IDC **07** 14:22:03.9±0.9,30°.20S×177°.07W,h0km,mb4.1/7, mb1 4.3/7,mb1mx4.1/26,mbtmp4.1/7,MS3.4/2,Ms1 3.4/2, ms1mx2.9/32,Error ellipse: s-maj=27.9km s-min=25.7km az=57.0*

*NEIC **07** 14:22:05.5±1.5,30°.36S±0°.09×177°.2W±0°.2,h13km±2km, mb4.4/7,Error ellipse: s-maj=21.7km s-min=8.9km az=60.0*

ISC 07 14:22:07.6±0.9,**30°.34S**±0°.10×**177°.2W**±0°.2,**h24**km,**n25**, σ1s**35**/19,**mb4.2**/9,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.26**	**329**	Pn	**Pn**	**14 22 29.3**	**-0.4**
	142nm,0.3s,baz=67,slow=22,SNR=2.6						
RAO				Sn	**Sb**	**14 22 46.6**	**+0.2**
	527nm,0.3s,baz=158,slow=19,SNR=8.0						
RPZ	**Rata Peaks**	**16.30**	**212**	Pn	**Pn**	**14 25 51.4**	**-3.5**
	1.0nm,0.3s,baz=39,slow=2.7,SNR=6.2						
RPZ				Sn	Sn	14 28 40.2	-15
	0.1nm,0.3s,baz=43,slow=19,SNR=1.9						
RPZ	**Rata Peaks**	**16.30**	**212**	IAmb	IAmb	14 26 02.3	
	comp=Z,21nm,1.4s						
DZM	**Mont Dzumac**	**16.83**	**295**	LR	LR	14 31 41.3	
	comp=Z,192nm,18.1s,baz=80,slow=34						
HNR	**Honiara**	**29.80**	**310**	LR	LR	14 37 53.8	
	comp=Z,42nm,18.3s,baz=192,slow=32						
STKA	**Stephens Creek**	**35.18**	**257**	P	**P**	**14 29 01.9**	**+2.1**
	comp=Z,2.6nm,0.8s,baz=97,slow=8.5,SNR=4.8						
STKA	**Stephens Creek**	**35.18**	**257**	IAmb	IAmb	14 29 20.1	
	comp=Z,1.5nm,1.2s						
AS31	**Alice Springs**	**43.81**	**267**	P	**P**	**14 30 11.6**	**-0.3**
ASAR	**Alice Springs**	**43.82**	**267**	P	**P**	**14 30 11.8**	**-0.2**
	comp=Z,2.2nm,0.8s,baz=102,slow=6.6,SNR=16						
ASAR				PcP	**PcP**	**14 31 59.7**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=126,slow=3.7,SNR=2.4						
WB2	**Warramunga Arr**	**44.79**	**272**	P	**P**	**14 30 19.9**	**+0.2**
WRA	**Warramunga Arr**	**44.80**	**272**	P	**P**	**14 30 19.5**	**-0.3**
	comp=Z,2.8nm,0.6s,baz=112,slow=7.6,SNR=12						
WB0	**Warramunga Arr**	**44.82**	**272**	P	**P**	**14 30 19.3**	**-0.6**
WB0				IAmb	IAmb	14 30 22.0	
	comp=Z,7.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**53.06**	**269**	P	**P**	**14 31 23.6**	**+0.4**
FITZ				IAmb	IAmb	14 31 35.6	
	comp=Z,7.9nm,1.1s						
QSPA	**South Pole Qui**	**59.77**	**180**	P	**P**	**14 32 12.5**	**+2.1**
	comp=Z,1.9nm,1.0s,baz=185,slow=3.7,SNR=3.3						
QSPA	**South Pole Qui**	**59.77**	**180**	IAmb	IAmb	14 32 20.4	
	comp=Z,8.7nm,1.5s						
MJAR	**Matsushiro Arr**	**78.60**	**325**	P	**P**	**14 34 06.5**	**-0.7**
	comp=Z,2.2nm,1.0s,baz=161,slow=7.7,SNR=4.3						
KSRS	**Korea Array**	**84.76**	**319**	P	**P**	**14 34 40.4**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=131,slow=5.5,SNR=3.5						
NVAR	**Mina Array Bea**	**87.72**	**42**	P	**P**	**14 34 54.4**	**-0.2**
	comp=Z,1.1nm,0.9s,baz=213,slow=7.9,SNR=4.4						
H10N3	**ASCENSION HYDR**	**138.55**	**154**	T	T	17 15 57.2	
	baz=204						
H10N1	**ASCENSION HYDR**	**138.56**	**154**	T	T	17 16 03.4	
	baz=204						
H10N2	**ASCENSION HYDR**	**138.57**	**154**	T	T	17 16 03.0	
	baz=204						
FINES	**FINESS Array B**	**145.33**	**341**	PKPbc	**PKPbc**	**14 41 41.4**	**-1.1**
	comp=Z,7.9nm,0.9s,baz=54,slow=4.9,SNR=23						
NOA	**NORSAR Array B**	**148.80**	**352**	PKPbc	**PKPbc**	**14 41 51.2**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=14,slow=4.2,SNR=3.2						
AKASG	**Malin Array Be**	**151.68**	**323**	PKPbc	**PKPbc**	**14 41 58.5**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=49,slow=2.6,SNR=6.0						
TORD	**Torodi Ar. Bea**	**162.86**	**176**	PKPab	**PKPab**	**14 42 56.9**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=188,slow=2.9,SNR=2.6						

*UNK **07** 14:33:42.0,67°.73N×162°.33W,h9km*

*AEIC **07** 14:33:42.9±1.5,67°.73N±0°.04×162°.33W±0°.09,h9km±4km, ML4.1,mb3.5/1(NEIC),Error ellipse: s-maj=6.6km s-min=4.4km az=208.0*

*IDC **07** 14:33:43.3±0.6,68°.06N×162°.44W,h0km,mb3.9/18, mb1 4.2/21,mb1mx4.0/44,mbtmp4.0/21,ML4.0/4,MS3.4/12, Ms1 3.5/12,ms1mx3.1/52,Error ellipse: s-maj=18.4km s-min=11.2km az=28.0*

*NEIC **07** 14:33:43.6±1.3,67°.74N±0°.06×162°.4W±0°.1,h10km±4km, Error ellipse: s-maj=10.3km s-min=6.4km az=147.0*

*ANF **07** 14:33:46.2±3.1,68°.00N×162°.18W,h25km,ML4.5/1,Error ellipse: s-maj=27.6km s-min=21.6km az=99.0*

ISC 07 14:33:43.2±0.5,**67°.79N**±0°.05×**162°.21W**±0°.04,**h10**km,**n86**, σ1s**81**/96,**mb4.0**/18,**MS3.6**/9,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.38**	**316**		**Pg**	**Sg**	**14 33 50.4**	**-0.2**
RDOG						**Sg**	**14 33 57.0**	**+1.4**
ANM	**Nome**	**3.48**	**203**			**Pn**	**14 34 36.1**	**-1.2**
ANM						**Sn**	**14 35 17.1**	**-1.4**
IM03		**3.80**	**115**			**Pn**	**14 34 42.3**	**+0.7**
IM03						**Sn**	**14 35 27.1**	**+0.9**
TOLK	**Toolik Lake Re**	**4.79**	**74**	P	**Pn**	**14 34 57.1**	**+1.9**
	baz=265,SNR=125							
TOLK				S	**Sn**	**14 35 53.5**	**+2.7**
	baz=265							
TOLK	**Toolik Lake Re**	**4.79**	**74**		**Pn**	**14 34 57.2**	**+1.9**
TOLK					**Sn**	**14 35 53.3**	**+2.5**
PS04	**TAPS Pump Stn4**	**4.86**	**77**		**Pn**	**14 34 57.8**	**+1.6**
TTA	**Tatalina**	**5.52**	**149**		**Pn**	**14 35 05.5**	**+0.1**
TT01	**Tatalina**	**5.54**	**149**		**Pn**	**14 35 05.7**	**+0.1**
CHUM	**Lake Minchumin**	**5.64**	**129**		**Pn**	**14 35 08.2**	**+1.2**
BPAW	**Bear Paw Mtn.**	**5.89**	**124**		**Pn**	**14 35 11.6**	**+1.2**
PS07	**TAPS Pump Stn7**	**6.09**	**108**		**Pn**	**14 35 14.2**	**+1.1**
MDM	**Murphy Dome**	**6.29**	**110**		**Pn**	**14 35 17.4**	**+1.5**
KTH	**Kantishna Hill**	**6.30**	**127**		**Pn**	**14 35 17.0**	**+0.9**
PPLA	**Purkeypile**	**6.45**	**135**		**Pn**	**14 35 19.2**	**+1.0**
TCOL	**CIGO, UAF Yank**	**6.47**	**110**	P	**Pn**	**14 35 20.1**	**+1.8**
	baz=303,SNR=44							
TCOL				S	**Sn**	**14 36 33.4**	**+1.3**
	baz=303							
TCOL	**CIGO, UAF Yank**	**6.47**	**110**		**Pn**	**14 35 20.1**	**+1.8**
COLA	**College**	**6.47**	**110**		**Pn**	**14 35 20.1**	**+1.8**
POKR	**Poker Plat Res**	**6.50**	**107**	P	**Pn**	**14 35 20.4**	**+1.7**
	baz=300,SNR=9.6							
POKR				S	**Sn**	**14 36 34.4**	**+1.6**
	baz=300							
POKR	**Poker Plat Res**	**6.50**	**107**		**Pn**	**14 35 20.5**	**+1.8**
CCB	**Clear Creek Bu**	**6.62**	**112**		**Pn**	**14 35 21.6**	**+1.3**
WRH	**Wood River Hil**	**6.62**	**113**		**Pn**	**14 35 21.5**	**+1.1**
FYU	**Fort Yukon**	**6.71**	**93**	Pn	**Pn**	**14 35 23.2**	**+1.5**
BM03	**Burnt Mountain**	**6.74**	**85**		**Pn**	**14 35 23.3**	**+1.3**
IL31		**6.88**	**109**		**Pn**	**14 35 25.4**	**+1.6**
ILAR	**Eielson Array**	**6.88**	**109**	Pn	**Pn**	**14 35 24.5**	**+0.6**
	15nm,0.3s,baz=304,slow=13,SNR=466							
ILAR				Sn	**Sn**	**14 36 41.9**	**-0.2**
	2.4nm,0.3s,baz=297,slow=24,SNR=10							
ILAR				Lg	Lg	14 37 19.2	
	baz=304,slow=28,SNR=2.7							
ILAR				LR	LR	14 38 32.1	
	comp=Z,183nm,20.2s,baz=284,slow=41							
PRP	**Porcupine Dome**	**7.01**	**101**		**Pn**	**14 35 27.3**	**+1.5**
PS08	**TAPS Pump Stn8**	**7.03**	**110**		**Pn**	**14 35 26.9**	**+1.0**
RND	**Reindeer**	**7.06**	**122**		**Pn**	**14 35 27.5**	**+1.1**
HDA	**Harding Lake**	**7.06**	**111**	P	**Pn**	**14 35 27.6**	**+1.2**
	baz=305,SNR=48							
HDA				S	**Sn**	**14 36 44.7**	**-1.8**
	baz=305							
HDA	**Harding Lake**	**7.06**	**111**		**Pn**	**14 35 27.5**	**+1.2**
SVW2	**Sparrevohn**	**7.30**	**154**		**Pn**	**14 35 30.2**	**+0.5**
WAT2	**Susitna Watana**	**7.46**	**124**		**Pn**	**14 35 33.3**	**+1.3**
STLK	**Strandline Lak**	**7.71**	**140**		**Pn**	**14 35 36.3**	**+0.9**
DHY	**Denali Highway**	**7.77**	**120**		**Pn**	**14 35 37.6**	**+1.4**
SPBG	**Spurr Blockage**	**7.79**	**142**		**Pn**	**14 35 37.3**	**+0.7**
RIDG	**Independent Ri**	**8.20**	**111**		**Pn**	**14 35 42.9**	**+0.8**
GHO	**Glory Hole Cre**	**8.27**	**131**		**Pn**	**14 35 43.8**	**+0.8**
PMR	**Palmer**	**8.35**	**132**	Pn	**Pn**	**14 35 44.9**	**+0.8**
SCRK	**Sand Creek**	**8.37**	**109**	Pn	**Pn**	**14 35 45.9**	**+1.5**
RDWB	**Redoubt West**	**8.38**	**146**		**Pn**	**14 35 44.7**	**0.0**
SML	**Sawmill**	**8.41**	**129**		**Pn**	**14 35 45.7**	**+0.7**
RSO	**Redoubt South**	**8.42**	**146**		**Pn**	**14 35 45.1**	**-0.2**
RED	**Redoubt Volcan**	**8.46**	**146**		**Pn**	**14 35 45.5**	**-0.1**
DOT	**Dot Lake**	**8.54**	**110**		**Pn**	**14 35 48.6**	**+1.9**
HARP	**HAARP**	**8.98**	**119**		**Pn**	**14 35 53.5**	**+0.8**
EGAK	**Eagle**	**8.98**	**100**	Pn	**Pn**	**14 35 55.4**	**+2.7**
MENT	**Mentasta**	**9.10**	**113**		**Pn**	**14 35 57.1**	**+2.7**
DAWY	**Dawson**	**10.01**	**101**	Pn	**Pn**	**14 36 09.3**	**+2.5**
EPYK	**Eagle Plains**	**10.01**	**86**	P	**Pn**	**14 36 07.7**	**+0.9**
	baz=289,SNR=41							
EPYK				S	**Sn**	**14 37 59.1**	**0.0**
	baz=289							
EPYK	**Eagle Plains**	**10.01**	**86**	Pn	**Pn**	**14 36 08.5**	**+1.6**
INK	**Inuvik**	**10.70**	**74**	Pn	**Pn**	**14 36 16.3**	**+0.1**
	1.4nm,0.3s,baz=292,slow=7.5,SNR=16							
INK				Sn	**Sn**	**14 38 11.6**	**-4.3**
	1.3nm,0.3s,baz=297,slow=16,SNR=4.3							
INK				LR	LR	14 41 09.5	
	comp=Z,154nm,19.4s,baz=274,slow=42							
INK	**Inuvik**	**10.70**	**74**	Pn	**Pn**	**14 36 16.6**	**+0.4**
KDAK	**Kodiak Island**	**10.95**	**152**	Pn	**Pn**	**14 36 20.5**	**+0.9**
	0.4nm,0.3s,baz=8.1,slow=8.0,SNR=6.4							
KDAK	**Kodiak Island**	**10.95**	**152**		**Pn**	**14 36 20.3**	**+0.7**
BILL	**Bilibino**	**11.79**	**280**	Pn	**Pn**	**14 36 29.5**	**-1.7**
A36M	**Sachs Harbour**	**13.22**	**55**	P	**Pn**	**14 36 49.0**	**-1.5**
	baz=270,SNR=8.9							
A36M				S	**Sn**	**14 39 10.3**	**-7.0**
	baz=270							
C36M	**Paulatuk**	**13.88**	**66**	P	**Pn**	**14 36 57.1**	**-2.4**
	baz=282							
C36M				S	**Sn**	**14 39 28.8**	**-4.6**
	baz=282							
C36M	**Paulatuk**	**13.88**	**66**	Pn	**Pn**	**14 36 57.5**	**-2.0**
DLBC	**Dease Lake**	**17.08**	**107**	Pn	**Pn**	**14 37 43.3**	**+1.5**
	0.1nm,0.3s,baz=333,slow=11,SNR=5.2							
DLBC				LR	LR	14 44 42.5	
	comp=Z,155nm,18.1s,baz=360,slow=38							
DLBC	**Dease Lake**	**17.08**	**107**		**Pn**	**14 37 40.5**	**-1.3**
DLBC				IAmb	IAmb	14 37 55.4	
	comp=Z,4.4nm,1.0s							
YKA	**Yellowknife Ar**	**20.25**	**82**	P	**P**	**14 38 19.1**	**+1.0**
	comp=Z,3.1nm,0.7s,baz=302,slow=10,SNR=16							
RES	**Resolute Bay**	**21.47**	**42**	P	**P**	**14 38 32.7**	**+1.5**
	comp=Z,9.9nm,1.1s,baz=336,slow=10.0,SNR=2.3							
RES				S	**S**	**14 42 23.7**	**-5.2**
	comp=Z,4.4nm,0.9s,baz=60,slow=14,SNR=1.8							
RES				LR	LR	14 48 00.3	
	comp=Z,58nm,21.8s,baz=337,slow=40							
BBB	**Bella Bella**	**22.68**	**116**	LR	LR	14 48 18.0	
	comp=Z,80nm,19.5s,baz=17,slow=38							
TIXI	**Tiksi**	**22.99**	**311**	P	**P**	**14 38 46.3**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=69,slow=9.9,SNR=4.7							
PETK	**Petropavlovsk-**	**24.04**	**252**	P	**P**	**14 39 00.1**	**+2.2**
	comp=Z,2.6nm,0.8s,baz=61,slow=12,SNR=3.1							
MCMT	**McKenzie Canyo**	**34.31**	**107**	P	**P**	**14 40 29.1**	**-0.5**
NRIK	**Noril'sk**	**35.11**	**325**	P	**P**	**14 40 36.5**	**+0.5**
	comp=Z,1.8nm,0.4s,baz=43,slow=6.5,SNR=5.4							
PDAR	**Pinedale Array**	**37.29**	**105**	P	**P**	**14 40 58.8**	**+3.6**
	comp=Z,1.9nm,0.7s,baz=326,slow=9.2,SNR=8.8							
NVAR	**Mina Array Bea**	**38.03**	**118**	P	**P**	**14 41 04.8**	**+3.3**
	comp=Z,3.1nm,0.6s,baz=323,slow=7.8,SNR=29							
NV11	**Mina Array Sit**	**38.08**	**118**	P	**P**	**14 41 01.9**	**+0.1**
SCHQ	**Schefferville**	**42.80**	**58**	LR	LR	15 00 44.1	
	comp=Z,73nm,20.3s,baz=12,slow=38							
ARCES	**ARCESS Array B**	**42.84**	**356**	P	**P**	**14 41 39.8**	**-0.9**
	comp=Z,0.8nm,0.7s,baz=6.8,slow=9.1,SNR=1.5							
MJAR	**Matsushiro Arr**	**45.30**	**258**	P	**P**	**14 42 03.0**	**+2.2**
	comp=Z,2.0nm,1.0s,baz=352,slow=9.7,SNR=3.3							
SONM	**Songino Array**	**47.37**	**294**	P	**P**	**14 42 18.2**	**+1.2**
	comp=Z,0.3nm,0.4s,baz=20,slow=4.6,SNR=2.3							
KSRS	**Korea Array**	**48.38**	**268**	P	**P**	**14 42 24.9**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=20,slow=7.5,SNR=6.9							
KSRS				LR	LR	15 03 00.3	
	comp=Z,13nm,18.1s,baz=265,slow=36							
ZALV	**Zalesovo Beam**	**48.83**	**314**	P	**P**	**14 42 27.0**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=37,slow=7.8,SNR=6.9							
FINES	**FINESS Array B**	**50.93**	**355**	P	**P**	**14 42 45.6**	**+1.8**
	comp=Z,0.9nm,0.6s,baz=6.4,slow=5.7,SNR=4.1							
FINES				LR	LR	15 04 10.7	
	comp=Z,18nm,20.1s,baz=16,slow=36							
TXAR	**Lajitas Array**	**51.39**	**108**	P	**P**	**14 42 49.2**	**+1.3**
	comp=Z,3.3nm,0.8s,baz=332,slow=5.6,SNR=29							
TXAR				LR	LR	15 08 01.0	
	comp=Z,71nm,18.6s,baz=0.0,slow=40							
MKAR	**Makanchi Array**	**55.98**	**312**	P	**P**	**14 43 19.6**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=45,slow=6.6,SNR=10.0							
MKAR				LR	LR	15 10 34.4	
	comp=Z,54nm,18.2s,baz=16,slow=40							
AKASG	**Malin Array Be**	**61.52**	**352**	P	**P**	**14 43 59.5**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=8.1,slow=6.6,SNR=6.0							
GERES	**GERESS Array B**	**63.65**	**3**	P	**P**	**14 44 13.7**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=350,slow=5.4,SNR=4.0							
ESDC	**Sonseca Array**	**71.61**	**18**	P	**P**	**14 45 04.9**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=348,slow=6.2,SNR=9.3							
BRTR	**Keskin Array B**	**72.14**	**347**	P	**P**	**14 45 08.3**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=21,slow=5.6,SNR=3.0							
CMAR	**Chiang Mai Arr**	**76.38**	**285**	LR	LR	15 22 40.2	
	comp=Z,74nm,18.4s,baz=90,slow=38							
SDV	**Santo Domingo**	**82.44**	**85**	LR	LR	15 26 42.1	
	comp=Z,47nm,18.2s,baz=77,slow=38							
VNDA	**Vanda**	**146.69**	**193**	PKPbc	**PKPab**	**14 53 25.7**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=319,slow=5.8,SNR=8.6							

IDC 07 14:54:39.8±3.0,**4°.48S**×**144°.50E**,**h97**km±31km,**mb3.1**/2, **mb1 3.2**/5,**mb1mx3.0**/39,**mbtmp3.4**/5,**Error ellipse: s-maj=37.7km s-min=26.0km az=82.0,Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.26**	**297**	P	P	Pn	**14 55 42.5**	**-0.1**
	1.1nm,0.3s,baz=190,slow=4.6,SNR=7.0							
PMG	**Port Moresby**	**5.56**	**152**	P	P	Pn	**14 56 00.2**	**+0.1**
	0.8nm,0.3s,baz=318,slow=12,SNR=1.9							
PMG				S	S	Sn	**14 56 57.6**	**-5.2**
	0.7nm,0.3s,baz=319,slow=20,SNR=3.2							
WRA	**Warramunga Arr**	**18.28**	**212**	P	P	Pn	**14 58 46.8**	**-0.3**
	0.1nm,0.3s,baz=38,slow=11,SNR=1.6							
ASAR	**Alice Springs**	**21.64**	**207**	P	P	P	**14 59 22.0**	**-0.4**
	0.8nm,0.7s,baz=32,slow=12,SNR=9.7							
ILAR	**Eielson Array**	**85.09**	**24**	P	P	P	**15 07 04.6**	**0.0**
	0.4nm,0.6s,baz=254,slow=5.0,SNR=6.3							

*IDC **07** 14:58:43.0±2.6,30°.55S×178°.00W,h63km±22km,mb4.1/7, mb1 4.2/7,mb1mx3.7/35,mbtmp4.3/7,MS3.3/1,Ms1 3.3/1, ms1mx2.8/17,Error ellipse: s-maj=26.3km s-min=22.5km az=148.0*

*NEIC **07** 14:58:42.9±2.5,30°.5S±0°.1×178°.1W±0°.2,h65km±9km, mb4.6/12,Error ellipse: s-maj=29.7km s-min=14.5km az=93.0*

ISC 07 14:58:40.8±0.8,**30°.61S**±0°.09×**178°.0W**±0°.2,**h46**km,**n37**, σ1s**27**/29,**mb4.5**/12,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.36**	**4**	P	P	**Pn**	**14 59 04.4**	**+1.1**
	282nm,0.3s,baz=220,slow=21,SNR=6.3							
RAO				S	S	**Sn**	**14 59 20.6**	**+0.4**
	734nm,0.3s,baz=65,slow=21,SNR=

THZ	**Tophouse**	**1.38**	**28**	P	Pg	15 00 51.8 0.0
FOZ	**Fox Glacier**	**1.72**	**251**	P	Pg	15 00 58.3 +0.1
LBZ	**Lake Benmore**	**1.94**	**223**	P	Pg	15 01 04.3 +1.8
NNZ	**Nelson**	**2.03**	**30**	P	Pb	15 01 01.9 -0.7
QRZ	**Quartz Range**	**2.19**	**10**	P	Pb	15 01 04.0 -1.4
ODZ	**Otahua Downs**	**2.29**	**206**	P	Pn	15 01 03.9 +0.2

*IDC **07** 15:00:47.3±2.3,38.°17N×15.°28E,h0km,mb3.3/3, mb1 3.5/5,mb1mx3.3/44,mbtmp3.3/5,ML3.3/2,Error ellipse: s-maj=45.5km s-min=26.6km az=136.0*
*ROM **07** 15:00:48.6±0.1,38.°088N±0.°004×15.°104E±0.°005, h10km,ML3.5/60,Mw3.6,Error ellipse: s-maj=0.4km s-min=0.4km az=129.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-3.13; Mθθ2.24; Mφφ0.90; Mrθ-0.22; Mθφ1.50; Mrφ0.36; Fault plane solution: Ms3.20186×10¹⁴ NP1:φs65.00000°,δ45.00000°, λ-79.00000°. NP2:φs229.00000°,δ46.00000°, λ-101.00000°.*
*BEO **07** 15:00:51.7±0.9,38.°38N×15.°09E,h0km,ML3.4/8*
ISC 07 15:00:48.6±0.8,38.°09N±0.°02×15.°13E±0.°02,h15km±5km, n78,σ1s72/74,mb3.5/3,Sicily

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NOV	**Novara**	**0.07**	**173**	P			**Pg**	**15 00 51.1**	**-0.6**
NOV				S			**Sg**	**15 00 52.8**	**-0.8**
NOV				AML			AML		
NOV				AML			AML		
MCSR	**Castroreale**	**0.10**	**107**	P			**Pb**	**15 00 51.7**	**-0.6**
MCSR				S			**Sb**	**15 00 54.0**	**-0.9**
MCSR				AML			AML		
MCSR				AML			AML		
AIO	**Antillo**	**0.15**	**146**	P			**Pb**	**15 00 52.4**	**-0.8**
AIO				S			**Sb**	**15 00 55.1**	**-1.0**
AIO				AML			AML		
	comp=N,90500μm,0.2s								
AIO				AML			AML		
	comp=E,50950μm,0.2s								
AIO				AML			AML		
	comp=E,50950μm,0.2s								
MPNC	**Port Mandanici**	**0.18**	**74**	P			**Pb**	**15 00 53.5**	**-0.2**
MPNC				S			**Sb**	**15 00 57.1**	**-0.1**
MPNC				AML			AML		
	comp=E,66650μm,0.3s								
MPNC				AML			AML		
MPNC				AML			AML		
MPNC				AML			AML		
	comp=E,66650μm,0.3s								
MILZ	**Milazzo**	**0.20**	**25**	P			**Pb**	**15 00 53.8**	**-0.1**
MILZ				S			**Sg**	**15 00 57.4**	**+1.1**
MILZ				AML			AML		
	comp=E,45750μm,1.2s								
MILZ				AML			AML		
	comp=E,45700μm,1.2s								
MILZ				AML			AML		
	comp=N,55250μm,0.8s								
MILZ				AML			AML		
	comp=E,45700μm,1.2s								
MUCR	**Ucria**	**0.21**	**256**	P			**Pb**	**15 00 52.9**	**-1.2**
MUCR				S			**Sb**	**15 00 56.1**	**-1.7**
MUCR				AML			AML		
	comp=E,28150μm,0.6s								
MUCR				AML			AML		
	comp=E,28150μm,0.6s								
MUCR				AML			AML		
	comp=N,26300μm,1.3s								
VPL	**Vulcano Piano**	**0.31**	**338**	P			**Pg**	**15 00 55.7**	**+0.6**
VPL				S			**Sb**	**15 01 00.8**	**+0.2**
VPL				AML			AML		
VPL				AML			AML		
MCPD	**Capo d'Orlando**	**0.31**	**275**	P			**Pg**	**15 00 54.7**	**-0.4**
MCPD				S			**Sg**	**15 01 00.1**	**+0.5**
MCPD				AML			AML		
	comp=E,14900μm,0.5s								
MCPD				AML			AML		
	comp=N,10565μm,0.5s								
EPZF	**Pizzo Felice**	**0.34**	**218**	P			**Pg**	**15 00 56.0**	**+0.2**
EPZF				S			**Sg**	**15 01 01.9**	**+1.3**
EPZF				AML			AML		
	comp=E,9365μm,0.6s								
EPZF				AML			AML		
	comp=N,10235μm,0.6s								
MSRU	**Castanea**	**0.34**	**61**	P			**Pg**	**15 00 56.4**	**+0.6**
MSRU				S			**Sb**	**15 01 02.3**	**+0.5**
MSRU				AML			AML		
	comp=E,30450μm,0.9s								
MSRU				AML			AML		
	comp=N,30300μm,0.4s								
MSRU				AML			AML		
	comp=E,30450μm,0.9s								
MSRU				AML			AML		
	comp=N,30300μm,0.4s								
MNO	**Monte Soro**	**0.38**	**245**	P			**Pg**	**15 00 56.3**	**-0.1**
MNO				AML			AML		
	comp=E,10280μm,0.9s								
MNO				AML			AML		
	comp=N,13750μm,0.7s								
MNO				AML			AML		
	comp=E,10255μm,0.9s								
MNO				AML			AML		
	comp=N,13800μm,0.7s								
MNO				AML			AML		
	comp=E,10270μm,0.9s								
LLI	**Lipari**	**0.38**	**338**	P			**Pg**	**15 00 57.0**	**+0.7**
LLI				AML			AML		
LLI				AML			AML		
ESLN	**Serra La Nave**	**0.42**	**197**	P			**Pg**	**15 00 58.0**	**+0.9**
ESLN				AML			AML		
	comp=N,7075μm,0.9s								
ESLN				AML			AML		
	comp=E,7665μm,1.1s								
MSFR	**San Fratello**	**0.43**	**262**	P			**Pg**	**15 00 56.9**	**-0.3**
MSFR				S			**Sg**	**15 01 03.6**	**+0.6**
MSFR				AML			AML		
	comp=E,3605μm,0.3s								
MSFR				AML			AML		
	comp=N,4170μm,0.9s								
MSCL	**Scilla**	**0.54**	**75**	P			**Pg**	**15 00 59.5**	**+0.1**
MSCL				AML			AML		
	comp=E,13750μm,0.5s								
MSCL				AML			AML		
	comp=N,7035μm,0.5s								
GMB	**Gambarie**	**0.56**	**82**	P			**Pg**	**15 00 59.9**	**+0.3**
GMB				AML			AML		
	comp=N,27550μm,0.2s								
GMB				AML			AML		
	comp=E,28500μm,0.4s								
GMB				AML			AML		
	comp=N,27550μm,0.2s								
GALF	**Gagliano Caste**	**0.58**	**229**	P			**Pb**	**15 01 00.8**	**+0.2**
GALF				AML			AML		
	comp=E,3700μm,0.6s								
GALF				AML			AML		
	comp=N,5180μm,0.7s								
GALF				AML			AML		
	comp=N,5185μm,0.7s								
CEL	**Celeste**	**0.63**	**74**	P			**Pb**	**15 01 00.9**	**-0.4**
CEL				AML			AML		
	comp=E,3340μm,1.6s								
CEL				AML			AML		
	comp=N,3535μm,0.5s								
CEL				AML			AML		
	comp=E,4040μm,1.6s								
CEL				AML			AML		
	comp=E,3335μm,1.6s								
CEL				AML			AML		
	comp=N,3540μm,0.5s								
CEL				AML			AML		
	comp=N,4335μm,0.5s								
IFIL	**Filicudi I Eol**	**0.64**	**317**	P			**Pb**	**15 01 01.1**	**-0.5**
IFIL				AML			AML		
	comp=E,55500μm,1.0s								
IFIL				AML			AML		
	comp=N,26650μm,0.5s								
IFIL				AML			AML		
	comp=N,26650μm,0.5s								
MPAZ	**Palizzi**	**0.71**	**101**	P			**Pb**	**15 01 02.2**	**-0.5**
MPAZ				AML			AML		
	comp=E,4560μm,0.9s								
MPAZ				AML			AML		
	comp=N,4800μm,0.4s								
SOI	**Samo**	**0.73**	**91**	P			**Pb**	**15 01 02.5**	**-0.6**
SOI				AML			AML		
	comp=E,2440μm,0.4s								
SOI				AML			AML		
	comp=N,3130μm,0.7s								
IACL	**Alicudi**	**0.75**	**306**	P			**Pb**	**15 01 02.2**	**-1.1**
IACL				AML			AML		
	comp=E,10760μm,0.4s								
IACL				AML			AML		
	comp=N,11850μm,0.5s								
IACL				AML			AML		
	comp=E,10765μm,0.4s								
HLNI	**Lentini**	**0.77**	**195**	P			**Pb**	**15 01 03.1**	**-0.6**
JOPP	**Joppolo**	**0.79**	**49**	P			**Pb**	**15 01 04.0**	**0.0**
JOPP				AML			AML		
	comp=E,2785μm,1.6s								
JOPP				AML			AML		
	comp=N,2795μm,0.8s								
HAGA	**Augusta**	**0.81**	**178**	P			**Pb**	**15 01 03.7**	**-0.6**
HAGA				AML			AML		
	comp=E,2105μm,0.7s								
HAGA				AML			AML		
	comp=N,1595μm,0.7s								
HCRL	**Carlentini**	**0.81**	**185**	P			**Pb**	**15 01 04.0**	**-0.4**
HCRL				AML			AML		
	comp=N,2245μm,1.2s								
HCRL				AML			AML		
	comp=E,4850μm,1.1s								
AGST	**Augusta-Monte**	**0.84**	**175**	P			**Pb**	**15 01 04.3**	**-0.6**
AGST				AML			AML		
	comp=E,2700μm,0.6s								
AGST				AML			AML		
	comp=N,3865μm,1.6s								
AGST				AML			AML		
	comp=E,2695μm,0.6s								
AGST				AML			AML		
	comp=N,3860μm,1.6s								
PETRA	**Petralia Sopra**	**0.84**	**252**	P			**Pb**	**15 01 04.0**	**-1.0**
PETRA				AML			AML		
	comp=N,4785μm,0.6s								
PETRA				AML			AML		
	comp=E,4185μm,0.7s								
GIB	**Gibilmanna**	**0.88**	**263**	P			**Pb**	**15 01 04.5**	**-1.1**
GIB				AML			AML		
	comp=E,5730μm,0.6s								
GIB				AML			AML		
	comp=N,4595μm,0.5s								
SSY	**Sortino**	**0.94**	**183**	P			**Pb**	**15 01 05.9**	**-0.7**
SSY				AML			AML		
	comp=N,3830μm,0.3s								
SSY				AML			AML		
	comp=E,4555μm,0.7s								
MEU	**Monte Lauro**	**1.00**	**189**	P			**Pb**	**15 01 06.9**	**-0.9**
MEU				AML			AML		
	comp=N,2305μm,0.6s								
MEU				AML			AML		
	comp=E,2410μm,0.5s								
HBSP	**Bosco Santo Pi**	**1.09**	**208**	P			**Pb**	**15 01 08.8**	**-0.3**
HBSP				AML			AML		
	comp=E,2880μm,0.8s								
HBSP				AML			AML		
	comp=N,3015μm,1.1s								
PLAC	**Placanica**	**1.09**	**71**	AML			AML		
	comp=E,1835μm,0.7s								
PLAC				AML			AML		
	comp=E,2820μm,0.6s								
PLAC				AML			AML		
	comp=N,2940μm,0.6s								
PLAC				AML			AML		
	comp=N,1690μm,0.7s								
HAVL	**Avola**	**1.13**	**180**	P			**Pn**	**15 01 09.1**	**-0.9**
HAVL				AML			AML		
	comp=N,2380μm,0.8s								
HAVL				AML			AML		
	comp=E,2185μm,1.2s								
ALJA	**Alia**	**1.14**	**253**	AML			AML		
	comp=E,1800μm,1.0s								
ALJA				AML			AML		
	comp=N,2240μm,1.5s								
GRI	**Girifalco**	**1.25**	**54**	P			**Pn**	**15 01 11.6**	**0.0**
GRI				AML			AML		
	comp=N,1240μm,0.5s								
GRI				AML			AML		
	comp=E,1405μm,0.5s								
SOLUN	**Solunto**	**1.26**	**270**	AML			AML		
	comp=E,556μm,1.0s								
SOLUN				AML			AML		
	comp=N,694μm,1.1s								
CLTA	**Licata**	**1.31**	**225**	AML			AML		
	comp=E,1935μm,1.5s								
CLTA				AML			AML		
	comp=N,2815μm,1.2s								
HPAC	**Pachino**	**1.40**	**181**	AML			AML		
	comp=N,1810μm,0.8s								
HPAC				AML			AML		
	comp=E,2025μm,1.6s								
MPG	**Monte Pellegri**	**1.40**	**273**	AML			AML		
	comp=N,506μm,1.3s								
MPG				AML			AML		
	comp=E,583μm,0.7s								
CAR1	**CAROLEI**	**1.44**	**36**	AML			AML		
	comp=N,2610μm,1.6s								
CAR1				AML			AML		
	comp=E,2595μm,0.4s								
CAR1				AML			AML		
	comp=E,2255μm,0.4s								
CAR1				AML			AML		
	comp=N,2150μm,0.4s								
CORL	**Corleone**	**1.45**	**263**	P			**Pn**	**15 01 14.9**	**+0.5**
CORL				AML			AML		
	comp=E,1065μm,0.8s								
CORL				AML			AML		
	comp=N,1228μm,0.9s								
CET2	**Cetraro**	**1.57**	**24**	AML			AML		
	comp=E,1280μm,0.7s								
CET2				AML			AML		
	comp=N,1645μm,0.8s								
USI	**Ustica**	**1.65**	**292**	AML			AML		
	comp=E,1090μm,0.8s								
USI				AML			AML		
	comp=N,1330μm,0.6s								
TIP	**Timpagrande**	**1.68**	**49**	AML			AML		
	comp=N,286μm,0.7s								
TIP				AML			AML		
	comp=E,356μm,0.5s								
TIP				AML			AML		
	comp=N,375μm,0.7s								
TIP				AML			AML		
	comp=E,420μm,0.5s								
CELI	**Celico**	**1.70**	**39**	AML			AML		
	comp=N,1251μm,0.9s								
CELI				AML			AML		
	comp=E,1625μm,1.1s								
TDS	**Terranova Siba**	**1.83**	**31**	AML			AML		
	comp=E,368μm,1.1s								
TDS				AML			AML		
	comp=N,324μm,0.9s								
CUC	**Castrocucco**	**1.97**	**16**	AML			AML		
	comp=E,498μm,0.4s								
CUC				AML			AML		
	comp=E,402μm,0.6s								
CUC				AML			AML		
	comp=N,256μm,0.7s								
CUC				AML			AML		
	comp=N,310μm,0.7s								
BULG	**Bulgheria - Ca**	**1.99**	**6**	AML			AML		
	comp=E,410μm,0.4s								
BULG				AML			AML		
	comp=E,436μm,0.4s								
BULG				AML			AML		
	comp=N,600μm,1.1s								
BULG				AML			AML		
	comp=N,594μm,1.2s								
SALB	**San Lorenzo Be**	**2.02**	**28**	AML			AML		
	comp=E,449μm,0.4s								
SALB				AML			AML		
	comp=N,424μm,0.7s								
MGR	**Morigerati**	**2.07**	**9**	AML			AML		
	comp=N,211μm,0.4s								
MGR				AML			AML		
	comp=E,365μm,0.4s								
SIRI	**Monte Sirino -**	**2.16**	**15**	AML			AML		
	comp=N,406μm,1.0s								
SIRI				AML			AML		
	comp=E,464μm,0.9s								
MTSN	**Montesano sull**	**2.22**	**12**	AML			AML		
	comp=E,324μm,1.0s								
MTSN				AML			AML		
	comp=N,292μm,0.6s								
SCHR	**S. Chirico Rap**	**2.23**	**19**	AML			AML		
	comp=E,261μm,0.8s								
SCHR				AML			AML		
	comp=N,228μm,0.5s								
MCEL	**Monticello**	**2.29**	**13**	AML			AML		
	comp=N,272μm,0.6s								
MCEL				AML			AML		
	comp=E,253μm,1.3s								
SLCN	**Sala Consilina**	**2.33**	**10**	AML			AML		
	comp=N,334μm,0.4s								
SLCN				AML			AML		
	comp=E,528μm,1.3s								
SLCN				AML			AML		
	comp=N,362μm,1.3s								
SLCN				AML			AML		
	comp=E,300μm,1.6s								
CDRU	**Civita di Ruta**	**2.40**	**3**	AML			AML		
	comp=N,110μm,0.5s								
CDRU				AML			AML		
	comp=E,176μm,0.4s								
PZUN	**Potenza**	**2.60**	**11**	AML			AML		
	comp=N,199μm,0.4s								
PZUN				AML			AML		
	comp=E,238μm,0.6s								
PZUN				AML			AML		
	comp=N,212μm,0.7s								
PZUN				AML			AML		
	comp=E,245μm,0.6s								
ACER	**Acerenza**	**2.76**	**13**	AML			AML		
	comp=N,272μm,0.5s								
ACER				AML			AML		
	comp=E,274μm,0.5s								
ACER				AML			AML		
	comp=E,280μm,0.6s								
ACER				AML			AML		
	comp=N,290μm,0.6s								
TAR1	**Taranto**	**2.95**	**34**	*e*Pn			**Pn**	**15 01 35.4**	**+0.5**
SG1	**Sgolgore (BA)**	**2.99**	**23**	*e*Pn			**Pn**	**15 01 36.3**	**+0.8**
AMUR	**Altamura**	**3.03**	**22**	AML			AML		
	comp=E,146μm,0.7s								
AMUR				AML			AML		
	comp=N,136μm,0.5s								
STON	**Ston**	**5.16**	**22**	*e*Pn			**Pn**	**15 02 05.7**	**+0.5**
STON				*e*Sn			**Sn**	**15 03 02.2**	**-2.3**
KEST	**Kesra**	**5.20**	**245**	Pn			**Pn**	**15 02 08.2**	**+2.3**
	comp=N,0.5nm,0.3s,baz=67,slow=9.5,SNR=5.0								
KEST				Sn			**Sn**	**15 03 11.9**	**+6.4**
	comp=N,0.2nm,0.3s,baz=345,slow=17,SNR=1.4								
TREB	**Trebinje**	**5.23**	**27**	*e*Pn			**Pn**	**15 02 07.6**	**+1.3**
TREB				*e*Sn			**Sn**	**15 03 04.0**	**-2.3**
PDG	**Podgorica**	**5.36**	**35**	*e*Pn			**Pn**	**15 02 08.5**	**+0.5**
PDG				*e*Sn			**Sn**	**15 03 07.6**	**-1.8**
KIJV	**Kijevo**	**5.98**	**9**	*e*Pn			**Pn**	**15 02 17.3**	**+0.7**
KIJV				Sn			**Sn**	**15 03 18.2**	**-6.6**
SJES	**Sjenica**	**6.34**	**34**	*e*Pn			**Pn**	**15 02 21.9**	**+0.3**
SJES				*e*Sn			**Sn**	**15 03 30.9**	**-2.9**
BBLS	**Lazići**	**6.61**	**28**	*e*Sn			**Sn**	**15 03 37.9**	**-2.5**
IVAS	**Ivanjica**	**6.67**	**33**	*e*Pn			**Pn**	**15 02 27.3**	**+1.2**
IVAS				*e*Sn			**Sn**	**15 03 39.0**	**-2.8**
DIVS	**Divibare**	**7.03**	**30**	*e*Pn			**Pn**	**15 02 31.6**	**+0.5**
DIVS				*e*Sn			**Sn**	**15 03 47.0**	**-3.8**
BOSS	**Bosilegrad**	**7.13**	**50**	*e*Pn			**Pn**	**15 02 35.3**	**+2.9**
ZAPS	**Zavoj**	**7.70**	**45**	*e*Pn			**Pn**	**15 02 42.2**	**+2.0**
ZAPS				*e*Sn			**Sn**	**15 04 04.2**	**-2.9**
ZAGS	**Zajecar**	**7.84**	**41**	*e*Pn			**Pn**	**15 02 42.4**	**+0.3**
ZAGS				*e*Sn			**Sn**	**15 04 06.3**	**-4.3**
GERES	**GERESS Array B**	**10.80**	**355**	Pn			**Pn**	**15 03 23.0**	**+0.3**
	comp=N,0.1nm,0.3s,baz=167,slow=13,SNR=1.5								
NOA	**NORSAR Array B**	**23.10**	**355**	P			**P**	**15 05 53.7**	**+0.1**
	comp=N,0.3nm,0.6s,baz=170,slow=9.9,SNR=3.3								
FINES	**FINESS Array B**	**24.35**	**13**	P			**P**	**15 06 05.5**	**-0.2**
	comp=N,0.7nm,0.5s,baz=187,slow=11,SNR=6.4								
MKAR	**Makanchi Array**	**48.94**	**57**	P			**P**	**15 09 34.2**	**+0.1**
	comp=N,0.3nm,0.6s,baz=277,slow=8.5,SNR=2.9								

*IDC **07** 15:05:13.1±1.4,24.°09S×66.°87W,h202km±19km,mb3.2/1, mb1 3.3/6,mb1mx3.1/40,mbtmp3.8/6,MS3.3/1,Ms1 3.3/1, ms1mx2.8/11,Error ellipse: s-maj=29.6km s-min=19.0km az=87.0*
*SJA **07** 15:05:13.2±0.7,24.°16S×66.°88W,h196km±12km,ML3.6, MW3.8*
*GUC **07** 15:05:14.9±0.6,24.°06S×67.°26W,h238km±15km,ML3.9*
ISC 07 15:05:13.0±0.9,24.°10S±0.°06×66.°95W±0.°05,h211km±9km, n34,σ1s43/51,8C-1D,Salta Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.66**	**58**	*i* P			**Pn**	**15 05 49.5**	**-0.1**
YJA	**Yavi**	**2.32**	**35**	*e*P			**Pn**	**15 05 56.3**	**+0.1**
YJA				*i* S			**S**	**15 06 28.9**	**-0.6**
LVC	**Limon Verde**	**2.33**	**309**	P			**Pn**	**15 05 57.0**	**+0.8**
	5.6nm,0.3s,baz=109,slow=9.0,SNR=26								
LVC				S			**S**	**15 06 29.7**	**+0.2**
	14nm,0.3s,baz=255,slow=23,SNR=68								
PB15	**IPOC Station P**	**2.48**	**290**	⇑*i* P			**Pn**	**15 05 58.8**	**+1.2**
PB15				*i* S			**S**	**15 06 31.9**	**-0.1**
PB15	**IPOC Station P**	**2.48**	**290**	*i* P			**Pn**	**15 05 58.9**	**+1.2**
PB15				*i* S			**S**	**15 06 32.0**	**+0.1**
GO02	**Mina Guanaco**	**2.63**	**246**	⇑*i* P			**Pn**	**15 06 00.4**	**+1.1**
GO02				*i* S			**S**	**15 06 36.0**	**+0.8**
GO02				IAML				15 06 38.8	
	comp=N,415nm,0.3s								
PB06	**IPOC Station P**	**2.78**	**299**	⇑*i* P			**Pn**	**15 06 02.0**	**+1.1**
PB06				*i* S			**S**	**15 06 37.2**	**-0.7**
PB06				IAML				15 06 38.7	
	comp=N,231nm,0.6s								
PB06	**IPOC Station P**	**2.78**	**299**	*e*P			**Pn**	**15 06 02.0**	**+1.1**
PB06				*i* S			**S**	**15 06 37.5**	**-0.4**
PB06				IAML				15 06 41.7	
	comp=Z,186nm,0.3s								
PB09	**IPOC Station P**	**3.12**	**317**	⇑*i* P			**Pn**	**15 06 06.2**	**+1.4**
PB09				*i* S			**S**	**15 06 45.3**	**+0.3**
PB09				IAML				15 06 48.0	
	comp=E,109nm,0.5s								
PB09	**IPOC Station P**	**3.12**	**317**	*i* P			**Pn**	**15 06 06.2**	**+1.4**
PB09				*i* S			**S**	**15 06 45.3**	**+0.3**
PB09				IAML				15 06 50.6	
	comp=Z,67nm,0.3s								
PB05	**IPOC Station P**	**3.24**	**292**	⇑*i* P			**Pn**	**15 06 06.9**	**+0.8**
PB05				*i* S			**S**	**15 06 45.6**	**-1.8**
PB05	**IPOC Station P**	**3.24**	**292**	*i* P			**Pn**	**15 06 07.0**	**+0.9**
PB05				*i* S			**S**	**15 06 45.5**	**-1.8**
PB05				IAML				15 06 49.8	
	comp=Z,49nm,0.5s								
PB03	**IPOC Station P**	**3.29**	**308**	⇑*i* P			**Pn**	**15 06 07.4**	**+0.6**
PB03				*i* S			**S**	**15 06 47.3**	**-1.3**
PB10	**IPOC Station P**	**3.35**	**279**	⇑*i* P			**Pn**	**15 06 08.3**	**+0.9**
PB10				*i* S			**S**	**15 06 47.9**	**-1.8**
PB10	**IPOC Station P**	**3.35**	**279**	*i* P			**Pn**	**15 06 08.5**	**+1.1**
PB10				*e*S			**S**	**15 06 49.0**	**-0.7**
PB10				IAML				15 06 53.9	
	comp=Z,76nm,0.4s								
PB04	**IPOC Station P**	**3.43**	**300**	⇓*i* P			**Pn**	**15 06 09.3**	**+0.8**
PB04				*i* S			**S**	**15 06 50.0**	**-1.5**
PB04	**IPOC Station P**	**3.43**	**300**	*e*P			**Pn**	**15 06 09.6**	**+1.1**
PB04				*e*S			**S**	**15 06 50.1**	**-1.5**
PB04				IAML				15 06 53.6	
	comp=Z,193nm,0.5s								
PB07	**IPOC Station P**	**3.59**	**310**	⇑*i* P			**Pn**	**15 06 10.8**	**+0.4**
PB01	**IPOC Station P**	**3.84**	**322**	*e*P			**Pn**	**15 06 13.5**	**+0.1**
PB02	**IPOC Station P**	**3.88**	**315**	*i* P			**Pn**	**15 06 13.9**	**0.0**
PB02				*i* S			**S**	**15 06 58.4**	**-2.9**
AC01	**Pan de Azucar**	**3.89**	**238**	*e*P			**Pn**	**15 06 13.8**	**0.0**
PATCX	**Punta Patache**	**4.41**	**317**	*e*P			**Pn**	**15 06 19.7**	**-0.6**
PB08	**IPOC Station P**	**4.44**	**332**	*e*P			**Pn**	**15 06 21.7**	**+0.7**
GO01	**Chusmiza**	**4.88**	**334**	*e*P			**Pn**	**15 06 27.4**	**+0.8**
PB11	**IPOC Station P**	**4.99**	**329**	*e*P			**Pn**	**15 06 26.9**	**-0.9**
CFA	**Coronel Fontan**	**7.57**	**188**	P			**Pn**	**15 07 00.3**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=336,slow=9.4,SNR=22								
CFA				S			**S**	**15 08 20.1**	**-6.3**
	comp=Z,2.3nm,0.3s,baz=157,slow=19,SNR=9.0								
LPAZ	**La Paz**	**7.85**	**352**	P			**Pn**	**15 07 06.2**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=200,slow=6.9,SNR=5.6								
LPAZ				S			**S**	**15 08 31.4**	**-2.8**
	comp=Z,0.0nm,0.3s,baz=72,slow=20,SNR=2.0								
LPAZ	**La Paz**	**7.85**	**352**	*i* P			**Pn**	**15 07 05.7**	**+0.7**
PLCA	**Paso Flores**	**16.86**	**189**	P			**Pn**	**15 08 58.1**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=354,slow=10,SNR=1.6								
BDFB	**Brasilia**	**19.68**	**68**	P			**P**	**15 09 26.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=229,slow=23,SNR=3.4								
JTS	**Las Juntas de**	**38.44**	**331**	LR			LR	15 28 35.7	
	comp=Z,41nm,20.3s,baz=194,slow=36								
TORD	**Torodi Ar. Bea**	**76.56**	**69**	P			**P**	**15 16 40.7**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=252,slow=5.4,SNR=6.3								

ZALV	**Zalesovo Beam**	**143.46**	**28**	PKP	PKPbc	15 24 21.9	+2.0
	comp=Z,0.6nm,0.5s,baz=225,slow=1.8,SNR=3.6						
MKAR	**Makanchi Array**	**146.57**	**40**	PKPbc	**PKPbc**	**15 24 29.9**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=307,slow=3.2,SNR=7.6						

*IDC **07** 15:15:16.6±7.8, 15°.83N×93°.24W, h101km±24km, mb3.3/4, mb1 3.8/7, mb1mx3.4/40, mbtmp3.9/7, Error ellipse: s-maj=121.6km s-min=31.0km az=177.0*
*GCG **07** 15:15:17.6±0.3, 16°.46N×93°.42W, h43km, MD4.5*
*MEX **07** 15:15:19.7±0.9, 16°.00N×93°.48W, h114km±6km, MD4.0*
ISC 07 15:15:19.2±0.9, 16°.04N±0°.05×93°.51W±0°.03, h106km±7km, n22, σ1§60/35, mb3.6/4, Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PCIG		**0.43**	**139**	*eP*		**Pn**	**15 15 34.8**	**-0.4**
PCIG				*i* S		**Sn**	**15 15 46.7**	**-0.5**
TGIG		**0.83**	**27**	*i* P		**Pn**	**15 15 38.9**	**+0.5**
TGIG				*eS*		**Sn**	**15 15 53.1**	**+0.2**
TGBT	**Tuxtla Gutierr**	**0.84**	**29**	*i* P		**Pn**	**15 15 39.0**	**+0.5**
TGBT				*i* S		**Sn**	**15 15 53.5**	**+0.5**
CCIG	**Comitan**	**1.34**	**79**	*eP*		**Pn**	**15 15 43.8**	**-0.2**
CCIG				*eS*		**Sn**	**15 16 02.1**	**-0.9**
THIG		**1.65**	**133**	*eP*		**Pn**	**15 15 46.8**	**-0.7**
THIG				*i* S		**Sn**	**15 16 08.5**	**-0.6**
CMIG	**Matias Romero**	**1.68**	**309**	P		**Pn**	**15 15 48.7**	**+0.6**
	54nm,0.3s,baz=132,slow=12,SNR=480							
CMIG				S		**Sn**	**15 16 10.7**	**+0.8**
	234nm,0.3s,baz=44,slow=21,SNR=131							
CMIG	**Matias Romero**	**1.68**	**309**	*eP*		**Pn**	**15 15 48.6**	**+0.6**
CMIG				*i* S		**Sn**	**15 16 11.0**	**+1.0**
TUIG	**Tuzandepetl**	**2.17**	**336**	*i* P		**Pn**	**15 15 54.8**	**+0.7**
STG3	**Santiaguito 3,**	**2.29**	**125**	*eP*		**Pn**	**15 15 56.4**	**+0.4**
HUIG	**Huatulco**	**2.51**	**264**	*i* P		**Pn**	**15 15 56.9**	**-1.7**
HUIG				*i* S		**Sn**	**15 16 26.8**	**-2.1**
FUG	**Fuego 3**	**3.02**	**121**	*eS*		**Sn**	**15 16 44.0**	**+2.7**
VHO	**Vista Hermosa**	**3.26**	**289**	*i* P		**Pn**	**15 16 09.1**	**+0.4**
VHO				*i* S		**Sn**	**15 16 46.4**	**-0.5**
PEIG	**Puerto Escondi**	**3.50**	**270**	*i* P		**Pn**	**15 16 10.2**	**-1.5**
PEIG				*i* S		**Sn**	**15 16 51.3**	**-1.1**
IXG	**Ixpaco**	**3.50**	**122**	*eP*		**Pn**	**15 16 12.9**	**+1.0**
IXG				*eS*		**Sn**	**15 16 54.1**	**+1.5**
SCIG	**Sabancuy**	**3.66**	**37**	*i* P		**Pn**	**15 16 13.3**	**-0.7**
SCIG				*i* S		**Sn**	**15 16 55.9**	**-0.4**
MRL	**Marmol**	**3.81**	**104**	*eP*		**Pn**	**15 16 15.4**	**-0.7**
TEIG	**Tepich**	**6.49**	**49**	P		**Pn**	**15 16 49.7**	**-2.5**
	11nm,0.3s,baz=320,slow=0.9,SNR=39							
TEIG				S		**Sn**	**15 17 59.2**	**-5.6**
	baz=319,slow=19							
TXAR	**Lajitas Array**	**16.20**	**327**	P		**P**	**15 19 02.9**	**+1.0**
	0.3nm,0.3s,baz=146,slow=15,SNR=17							
ANMO	**Albuquerque**	**22.12**	**331**	P		**P**	**15 20 07.3**	**+1.1**
	2.1nm,0.7s,baz=138,slow=13,SNR=6.7							
NVAR	**Mina Array Bea**	**31.18**	**320**	P		**P**	**15 21 31.1**	**+2.7**
	1.3nm,0.7s,baz=122,slow=8.6,SNR=12							
YKA	**Yellowknife Ar**	**48.72**	**347**	P		**P**	**15 23 51.0**	**-1.6**
	0.5nm,0.7s,baz=164,slow=7.1,SNR=3.6							
ILAR	**Eielson Array**	**60.40**	**337**	P		**P**	**15 25 16.2**	**-0.8**
	0.2nm,0.6s,baz=128,slow=5.3,SNR=4.8							

*IDC **07** 15:18:32.8±5.0, 12°.57S×167°.02E, h209km±51km, mb3.5/12, mb1 3.7/13, mb1mx3.6/30, mbtmp4.0/13, Error ellipse: s-maj=29.8km s-min=24.2km az=168.0*
ISC 07 15:18:33.5±0.7, 12°.68S±0°.08×167°.1E±0°.2, h220km, n15, σ0§91/16, mb3.8/12, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.36**	**184**	P		**Pn**	**15 20 45.2**	**+0.9**
	0.2nm,0.3s,baz=18,slow=20,SNR=1.9							
DZM				S		**S**	**15 22 27.9**	**-1.7**
	0.1nm,0.3s,baz=108,slow=20,SNR=1.6							
CTA	**Charters Tower**	**21.29**	**247**	P		**P**	**15 23 02.9**	**-0.3**
	4.6nm,0.7s,baz=76,slow=11,SNR=8.0							
STKA	**Stephens Creek**	**30.22**	**227**	P		**P**	**15 24 24.7**	**+1.0**
	0.9nm,0.5s,baz=69,slow=9.3,SNR=5.1							
MJAR	**Matsushiro Arr**	**56.02**	**332**	P		**P**	**15 27 48.2**	**-1.3**
	1.3nm,0.6s,baz=168,slow=8.1,SNR=5.0							
KSRS	**Korea Array**	**61.96**	**325**	P		**P**	**15 28 29.9**	**-0.3**
	0.5nm,0.7s,baz=141,slow=7.8,SNR=3.7							
PETK	**Petropavlovsk-**	**66.02**	**354**	P		**P**	**15 28 56.9**	**+0.6**
	1.4nm,0.6s,baz=161,slow=7.2,SNR=4.6							
SONM	**Songino Array**	**80.76**	**323**	P		**P**	**15 30 22.8**	**+0.3**
	0.4nm,0.5s,baz=132,slow=4.7,SNR=2.3							
ILAR	**Eielson Array**	**84.65**	**18**	P		**P**	**15 30 41.6**	**-0.3**
	2.7nm,0.5s,baz=238,slow=5.0,SNR=37							
NVAR	**Mina Array Bea**	**86.08**	**49**	P		**P**	**15 30 50.7**	**+0.7**
	0.4nm,0.7s,baz=239,slow=6.3,SNR=4.2							
ELK	**Elko**	**89.06**	**48**	P		**P**	**15 31 04.9**	**+0.8**
	0.3nm,0.5s,baz=226,slow=4.4,SNR=4.5							
TXAR	**Lajitas Array**	**95.46**	**61**	P		**P**	**15 31 33.8**	**+0.1**
	0.2nm,0.6s,baz=243,slow=4.4,SNR=2.4							
MKAR	**Makanchi Array**	**95.61**	**317**	P		**P**	**15 31 33.9**	**-0.1**
	0.5nm,0.6s,baz=91,slow=6.7,SNR=7.9							
YKA	**Yellowknife Ar**	**95.82**	**27**	P		**P**	**15 31 33.2**	**-1.2**
	0.3nm,0.5s,baz=256,slow=4.8,SNR=2.8							
ARCES	**ARCESS Array B**	**118.24**	**346**	PKP		**PKPdf**	**15 36 53.2**	**-0.7**
	2.0nm,0.8s,baz=64,slow=2.8,SNR=4.4							
ESDC	**Sonseca Array**	**151.98**	**345**	PKPab		**PKPab**	**15 38 13.5**	**+0.6**
	0.5nm,0.8s,baz=14,slow=4.2,SNR=5.1							

*AUST **07** 15:21:22.9±0.3, 19°.82S×133°.94E, h10km, Error ellipse: s-maj=5.2km s-min=3.3km az=25.0*
*IDC **07** 15:21:24.7±1.5, 20°.00S×133°.98E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.4/19, mbtmp3.5/3, ML3.7/2, Error ellipse: s-maj=9.5km s-min=3.1km az=82.0*
ISC 07 15:21:23.3±0.6, 19°.87S±0°.05×133°.93E±0°.05, h12km, n23, σ1§42/30, Northern Territory

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**0.39**	**101**	Pg		**Pb**	**15 21 31.6**	**-0.7**
	30nm,0.3s,baz=265,slow=18,SNR=633							
WRA				Lg		Lg	15 21 35.9	
	138nm,0.3s,baz=260,slow=34,SNR=44							
WB2	**Warramunga Arr**	**0.41**	**100**	P		**Pb**	**15 21 32.2**	**-0.2**
	baz=0.4							
WB2				S		**Sg**	**15 21 36.3**	**-0.5**
	baz=0.4							
WC3	**Warramunga Arr**	**0.43**	**102**	P		**Pb**	**15 21 32.5**	**-0.3**
	baz=0.4							
ASAR	**Alice Springs**	**3.78**	**180**	Pn		**Pn**	**15 22 24.5**	**+3.0**
	4.2nm,0.3s,baz=4.8,slow=14,SNR=214							
ASAR				Sn		**Sn**	**15 23 07.0**	**+1.0**
	2.5nm,0.3s,baz=1.2,slow=28,SNR=6.3							
ASAR				Lg		Lg	15 23 19.4	
	4.4nm,0.3s,baz=0.8,slow=31,SNR=5.1							
QIS	**Mount Isa**	**5.38**	**98**	P		**Pn**	**15 22 43.0**	**-0.4**
	baz=5.4,SNR=4.1							
QIS				S		**Sn**	**15 23 44.2**	**-1.1**
	baz=5.4							
KNRA	**Kununurra**	**6.45**	**309**	P		**Pn**	**15 22 59.0**	**+0.9**
	baz=6.4							
KNRA				S		**Sn**	**15 24 10.6**	**-1.1**
	baz=6.4							
KDU	**Kakadu**	**7.28**	**349**	P		**Pn**	**15 23 10.1**	**+0.6**
	baz=7.3,SNR=11							
KDU				S		**Sn**	**15 24 31.2**	**-0.9**
	baz=7.3							
WRKA	**Warakurna**	**7.32**	**224**	P		**Pn**	**15 23 10.5**	**+0.4**
	baz=7.4							
MTN	**Manton Dam**	**7.48**	**339**	P		**Pn**	**15 23 12.9**	**+0.5**
	baz=7.5							
MTN				S		**Sn**	**15 24 35.0**	**-2.2**
	baz=7.5							
FITZ	**Fitzroy Crossi**	**8.04**	**281**	P		**Pn**	**15 23 19.1**	**-0.9**
	baz=8.0,SNR=4.4							
FITZ				S		**Sn**	**15 24 47.4**	**-3.4**
	baz=8.0							
OOD	**Oodnadatta**	**8.05**	**169**	P		**Pn**	**15 23 21.6**	**+1.4**
	baz=8.1,SNR=4.1							
OOD				S		**Sn**	**15 24 49.1**	**-2.1**
	baz=8.1							
MTSU	**Mount Surprise**	**9.98**	**82**	P		**Pn**	**15 23 45.7**	**-0.9**
	baz=10.0							
COEN	**Coen**	**10.62**	**58**	P		**Pn**	**15 23 55.3**	**-0.1**
	baz=11,SNR=4.6							
CTA	**Charters Tower**	**11.59**	**93**	Lg		Lg	15 27 28.3	
	0.3nm,0.3s,baz=343,slow=19,SNR=1.3							
FORT	**Forrest**	**12.09**	**205**	P		**Pn**	**15 24 14.8**	**-0.6**
	baz=12,SNR=8.9							
BBOO	**Buckleboo**	**13.03**	**172**	P		**Pn**	**15 24 27.8**	**-0.5**
	baz=13							
STKA	**Stephens Creek**	**13.80**	**152**	Pn		**Pn**	**15 24 38.7**	**-0.1**
	0.2nm,0.3s,baz=324,slow=16,SNR=3.9							
STKA				Sn		Sn	15 27 02.1	-10
	0.2nm,0.3s,baz=314,slow=18,SNR=3.2							
MEEK	**Meekatharra**	**15.60**	**242**	P		**Pn**	**15 25 02.4**	**-0.7**
	baz=16,SNR=4.1							
KLBR	**Kellerberrin**	**18.64**	**228**	P		**P**	**15 25 40.8**	**-0.3**
	baz=19							
MORW	**Morawa**	**18.66**	**237**	P		**P**	**15 25 41.2**	**0.0**
	baz=19							
BLDU	**Ballidu**	**18.87**	**232**	P		**Pn**	**15 25 44.0**	**-0.1**
	baz=19							
NWAO	**Narrogin (SRO)**	**19.78**	**226**	P		**P**	**15 25 53.2**	**-0.3**
	baz=20							
MKAR	**Makanchi Array**	**81.03**	**327**	P		**P**	**15 33 41.5**	**+3.5**
	0.2nm,0.5s,baz=145,slow=5.3,SNR=3.1							

TAP 07 15:34:37.1, 24°.18N×121°.71E, h12km, ML1.8, 1D, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.10**	**264**	⇓*iP*		Pb	15 34 40.7	-0.4
	baz=264							
NACB				S		Sg	15 34 42.8	+0.7
	baz=264							
TWD	**Chiawan**	**0.14**	**224**	P		Pb	15 34 41.2	-0.6
	baz=222							
TWD				*eS*		Sg	15 34 43.9	+0.8
	baz=222							
ETLH	**Xiulin Townshi**	**0.21**	**276**	P		Pb	15 34 42.5	-0.4
	baz=276							
ETLH				*eS*		Sg	15 34 46.0	+1.2
	baz=276							
ENA	**Nanau**	**0.24**	**7**	*i* P		Pb	15 34 42.9	-0.6
	baz=8.0							
ENA				S		Sg	15 34 46.5	+0.8
	baz=8.0							
NNSB	**Datong**	**0.38**	**310**	*eP*		Pb	15 34 45.8	-0.1
	baz=309							
NNSB				*eS*		Sb	15 34 51.4	-0.5
	baz=309							
NNSH	**Datong**	**0.38**	**310**	P		Pb	15 34 45.8	-0.2
	baz=309							
NNSH				*eS*		Sb	15 34 51.3	-0.6
	baz=309							
NNS	**Nan Shan**	**0.40**	**310**	*eP*		Pb	15 34 46.0	-0.2
	baz=310							
NNS				*eS*		Sb	15 34 52.2	-0.1
	baz=310							
WHF	**Hehuan Shan**	**0.41**	**265**	*eP*		Pb	15 34 46.2	-0.3
	baz=264							
WHF				*eS*		Sb	15 34 52.2	-0.6
	baz=264							
TWC	**Suao**	**0.44**	**17**	*eP*		Pb	15 34 46.8	-0.1
	baz=18							
TWC				*eS*		Sb	15 34 53.0	-0.5
	baz=18							
ESL	**Shilin**	**0.45**	**214**	*eP*		Pb	15 34 46.5	-0.5
	baz=213							
ESL				*eS*		Sb	15 34 52.8	-0.8
	baz=213							
NDT	**Datong Townshi**	**0.45**	**337**	*i* P		Pb	15 34 47.2	+0.2
	baz=336							
NDT				*eS*		Sb	15 34 54.2	+0.4
	baz=336							
CHGB	**Renai**	**0.50**	**256**	*eP*		Pb	15 34 48.1	+0.1
	baz=255							
CHGB				*eS*		Sb	15 34 55.2	-0.2
	baz=255							
TWE	**Neicheng**	**0.54**	**356**	*eP*		Pb	15 34 48.7	+0.2
	baz=357							
TWE				*eS*		Sb	15 34 56.3	+0.1
	baz=357							
YHNB	**Yeheng**	**0.57**	**328**	*eP*		Pb	15 34 49.5	+0.4
	baz=328							
YHNB				*eS*		Sb	15 34 57.4	+0.2
	baz=328							
NSK	**Sanguang**	**0.58**	**327**	*eP*		Pb	15 34 49.6	+0.3
	baz=327							
NSK				*eS*		Sb	15 34 57.8	+0.1
	baz=327							
NWLT	**Wulai**	**0.62**	**343**	*eP*		Pb	15 34 50.4	+0.4
	baz=342							
NWLT				*eS*		Sb	15 34 58.4	-0.3
	baz=342							
VWDT	**VWDT**	**0.67**	**231**	*eP*		Pb	15 34 51.1	+0.3
	baz=230							
VWDT				*eS*		Sb	15 35 00.8	+0.8
	baz=230							

JMA 07 15:35:08.2±0.2, 24°.93N×123°.37E, h26km±5km, M1.4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.57**	**215**	P		Pb	15 35 19.3	-0.3
YOJ				S		Sb	15 35 27.5	+0.1
JYNG	**Yonagunijimaku**	**0.61**	**219**	P		Pb	15 35 20.0	-0.4
IRIF	**Iriomote-Funau**	**0.68**	**151**	P		Pb	15 35 21.1	-0.3
IRIF				*eS*		Sb	15 35 30.1	-0.3
JIJ	**Ishigaki jima**	**0.90**	**129**	P		Pn	15 35 24.5	-0.7
JIJ				S		Sb	15 35 35.5	-1.3
JKRS	**Kuro-shima**	**0.90**	**140**	P		Pn	15 35 25.0	-0.2
JKRS				S		Sb	15 35 36.6	-0.2
JISG	**Ishigakijimahi**	**0.92**	**112**	P		Pn	15 35 25.2	-0.3
JISG				S		Sb	15 35 36.7	-0.7
HATJ	**Hateruma jima**	**0.96**	**155**	P		Pn	15 35 25.7	-0.2
HATJ				S		Sb	15 35 37.7	-0.7

JMA 07 15:36:37.3±0.1, 24°.94N×123°.37E, h26km±4km, M1.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.58**	**215**	P		Pb	15 36 48.4	-0.5
JYNG	**Yonagunijimaku**	**0.62**	**219**	P		Pb	15 36 49.3	-0.3
JYNG				S		Sb	15 36 57.7	-0.2
IRIF	**Iriomote-Funau**	**0.69**	**151**	P		Pb	15 36 50.3	-0.4
IRIF				S		Sb	15 36 59.4	-0.4
JIJ	**Ishigaki jima**	**0.91**	**129**	P		Pn	15 36 53.8	-0.6
JIJ				S		Sb	15 37 04.8	-1.3
JKRS	**Kuro-shima**	**0.91**	**140**	P		Pn	15 36 54.1	-0.3
JKRS				S		Sb	15 37 05.8	-0.3
JISG	**Ishigakijimahi**	**0.93**	**112**	P		Pn	15 36 54.0	-0.6
JISG				S		Sb	15 37 06.1	-0.5
HATJ	**Hateruma jima**	**0.96**	**156**	P		Pn	15 36 54.8	-0.4
HATJ				S		Sb	15 37 07.2	-0.5

TAP 07 15:37:00.4, 24°.17N×121°.68E, h12km, ML1.3, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.08**	**272**	*i* P		Pg	15 37 03.5	+0.5
	baz=272							
NACB				*eS*		Sg	15 37 05.6	+0.7
	baz=272							
TWD	**Chiawan**	**0.12**	**221**	*i* P		Pg	15 37 03.9	+0.5
	baz=217							
TWD				*eS*		Sg	15 37 06.7	+1.0
	baz=217							
ETLH	**Xiulin Townshi**	**0.18**	**281**	*i* P		Pb	15 37 05.3	-0.4
	baz=281							
ETLH				*eS*		Sg	15 37 08.8	+1.3
	baz=281							
ENA	**Nanau**	**0.26**	**12**	*eP*		Pg	15 37 05.7	-0.1
	baz=13							
ENA				*eS*		Sg	15 37 09.3	-0.2
	baz=13							
NNSB	**Datong**	**0.37**	**313**	*eP*		Pb	15 37 08.7	-0.3
	baz=313							
NNSB				*eS*		Sb	15 37 14.2	-0.6
	baz=313							
WHF	**Hehuan Shan**	**0.38**	**266**	*eP*		Pb	15 37 08.8	-0.5
	baz=265							
WHF				*eS*		Sb	15 37 15.0	-0.4
	baz=265							
NNS	**Nan Shan**	**0.39**	**314**	*eP*		Pb	15 37 08.8	-0.5
	baz=314							
NNS				*eS*		Sb	15 37 15.0	-0.3
	baz=314							
NDT	**Datong Townshi**	**0.46**	**340**	P		Pb	15 37 10.0	-0.4
	baz=340							
NDT				*eS*		Sb	15 37 17.4	+0.3
	baz=340							
YHNB	**Yeheng**	**0.57**	**331**	*eP*		Pb	15 37 12.2	-0.1
	baz=330							
YHNB				*eS*		Sb	15 37 20.9	+0.4
	baz=330							

*TAP **07** 15:52:21.1, 24°.12N×122°.11E, h42km, ML2.6, B*
*JMA **07** 15:52:21.0±0.1, 24°.07N×122°.09E, h40km±3km, M1.9*
ISC 07 15:52:21.2±1.0, 24°.09N±0°.02×122°.11E±0°.02, h33km±8km, n56, σ0§61/101, 7D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TWD	**Chiawan**	**0.47**	**269**	⇓*iP*		**Pb**	**15 52 31.3**	**0.0**
	baz=257							
TWD				*i* S		**Sb**	**15 52 38.9**	**+0.6**
	baz=257							
ENA	**Nanau**	**0.48**	**315**	⇓*iP*		**Pb**	**15 52 31.6**	**+0.1**
	baz=324							
ENA				*eS*		**Sn**	**15 52 39.6**	**+0.5**
	baz=324							
HWA	**Hwalien**	**0.48**	**256**	P		**Pb**	**15 52 32.0**	**+0.5**
	baz=253							
HWA				*eS*		**Sn**	**15 52 40.2**	**+1.2**
	baz=253							
NACB	**Ninganchiao**	**0.48**	**280**	⇓*iP*		**Pb**	**15 52 31.4**	**-0.1**
	baz=269							
NACB				*eS*		**Sn**	**15 52 39.1**	**0.0**
	baz=269							
TWC	**Suao**	**0.57**	**335**	*i* P		**Pb**	**15 52 32.7**	**-0.2**
	baz=343							
TWC				*i* S		**Sb**	**15 52 40.8**	**-0.1**
	baz=343							
ETLH	**Xiulin Townshi**	**0.59**	**281**	⇓*iP*		**Pb**	**15 52 32.9**	**-0.4**
	baz=279							
ETLH				S		**Sb**	**15 52 41.4**	**-0.1**
	baz=279							
ESL	**Shilin**	**0.68**	**246**	P		**Pb**	**15 52 34.1**	**-0.6**
	baz=243							
ESL				*eS*		**Sb**	**15 52 44.4**	**+0.4**
	baz=243							
NNSB	**Datong**	**0.75**	**297**	*i* P		**Pb**	**15 52 35.4**	**-0.5**
	baz=295							
NNSB				*eS*		**Sb**	**15 52 45.4**	**-0.5**
	baz=295							
NNSH	**Datong**	**0.75**	**297**	⇓*iP*		**Pb**	**15 52 35.3**	**-0.6**
	baz=291							
NNSH				*eS*		**Sb**	**15 52 45.5**	**-0.4**
	baz=291							
NDT	**Datong Townshi**	**0.75**	**313**	⇓*iP*		**Pb**	**15 52 35.3**	**-0.5**
	baz=312							
NDT				*eS*		**Sn**	**15 52 46.0**	**+0.3**
	baz=312							
TWE	**Neicheng**	**0.75**	**327**	⇓*iP*		**Pb**	**15 52 35.5**	**-0.3**
	baz=327							
TWE				S		**Sn**	**15 52 45.9**	**+0.2**
	baz=327							
EGFH	**Guangfu**	**0.76**	**236**	*eP*		**Pb**	**15 52 35.5**	**-0.4**
	baz=227							
EGFH				*eS*		**Sb**	**15 52 46.4**	**+0.4**
	baz=227							
NNS	**Nan Shan**	**0.76**	**297**	P		**Pb**	**15 52 35.5**	**-0.7**
	baz=296							
NNS				S		**Sb**	**15 52 46.0**	**-0.3**
	baz=296							
EGS		**0.77**	**348**	P		**Pn**	**15 52 36.3**	**+0.5**
	baz=356							
EGS				*eS*		**Sn**	**15 52 46.5**	**+0.3**
	baz=356							
WHF	**Hehuan Shan**	**0.78**	**274**	*i* P		**Pb**	**15 52 35.8**	**-0.8**
	baz=272							
WHF				*eS*		**Sb**	**15 52 46.5**	**-0.5**
	baz=272							
NTC	**Toucheng**	**0.80**	**341**	P		**Pn**	**15 52 36.6**	**+0.4**
	baz=352							
NTC				*eS*		**Sn**	**15 52 47.1**	**+0.1**
	baz=352							
JYNG	**Yonagunijimaku**	**0.84**	**65**	P		**Pn**	**15 52 37.1**	**+0.3**
JYNG				S		**Sn**	**15 52 49.3**	**+1.3**
CHGB	**Renai**	**0.86**	**268**	*eP*		**Pb**	**15 52 37.1**	**-0.7**
	baz=257							
CHGB				*eS*		**Sb**	**15 52 48.5**	**-0.6**
	baz=257							
HGSD	**Ruisui**	**0.87**	**227**	*eP*		**Pn**	**15 52 35.3**	**-1.9**
	baz=220							
TWT	**Tachien**	**0.87**	**281**	*eS*		**Sb**	**15 52 49.1**	**-0.3**
	baz=269							
NWLT	**Wulai**	**0.88**	**321**	P		**Pb**	**15 52 37.4**	**-0.7**
	baz=320							
NWLT				*eS*		**Sb**	**15 52 48.8**	**-0.8**
	baz=320							
YHNB	**Yeheng**	**0.89**	**311**	P		**Pb**	**15 52 37.3**	**-0.9**
	baz=310							
YHNB				*eS*		**Sb**	**15 52 48.6**	**-1.1**
	baz=310							
TDCB	**Techi**	**0.89**	**281**	*eP*		**Pn**	**15 52 37.8**	**+0.2**
	baz=269							
TDCB				*eS*		**Sb**	**15 52 49.0**	**-0.8**
	baz=269							
YOJ	**Yonaguni jima**	**0.90**	**66**	*eP*		**Pb**	**15 52 38.0**	**-0.4**
	baz=67							
YOJ				*eS*		**Sn**	**15 52 49.9**	**+0.4**
	baz=67							
YOJ	**Yonaguni jima**	**0.90**	**66**	P		**Pb**	**15 52 38.0**	**-0.4**
YOJ				S		**Sb**	**15 52 49.4**	**-0.7**
TIPB	**Shuangxi**	**0.92**	**343**	P		**Pb**	**15 52 38.3**	**-0.4**
	baz=343							
TIPB				*eS*		**Sn**	**15 52 50.4**	**+0.4**
	baz=343							
TWB1	**Santiao Chiao**	**0.92**	**353**	*i* P		**Pn**	**15 52 37.7**	**-0.2**
	baz=353							
TWB1				*eS*		**Sb**	**15 52 49.4**	**-1.3**
	baz=353							
VWDT	**VWDT**	**0.95**	**249**	*eP*		**Pn**	**15 52 38.7**	**+0.4**
	baz=239							
VWDT				*eS*		**Sb**	**15 52 50.7**	**-0.8**
	baz=239							
TWA	**Mucha**	**1.01**	**332**	*eP*		**Pb**	**15 52 40.0**	**-0.2**
	baz=331							
NHDH	**Xindian Distri**	**1.02**	**328**	*eP*		**Pb**	**15 52 40.0**	**-0.4**
	baz=328							
NHDH				*eS*		**Sn**	**15 52 53.0**	**+0.5**
	baz=328							
YULB	**Yu-li**	**1.02**	**227**	*eP*		**Pn**	**15 52 39.1**	**-0.2**
	baz=238							
TATO	**Taipei**	**1.05**	**327**	*eP*		**Pn**	**15 52 40.0**	**+0.4**
	baz=326							
TATO				*eS*		**Sb**	**15 52 53.8**	**-0.6**
	baz=326							
TWF1	**Yuli**	**1.05**	**226**	*eP*		**Pn**	**15 52 39.6**	**-0.1**
	baz=237							
WHP	**Taichung City**	**1.08**	**280**	*eP*		**

baz=327
YM03 **YM03** **1.20 334** *e*P **Pn** **15 52 42.1 +0.2**
baz=333
WHYT **Xinyi Township** **1.22 251** *e*P **Pb** **15 52 43.6 -0.2**
baz=245
NTST **Danshui** **1.23 331** *e*P **Pn** **15 52 42.4 +0.2**
baz=342
NTST *e*S **Sn** **15 52 58.1 +0.6**
baz=342
TWQ1 **Liyutan** **1.25 282** *e*P **Pb** **15 52 44.2 0.0**
baz=281
TWQ1 *e*S **Sb** **15 53 00.4 +0.4**
baz=281
ELDTW **Lidau** **1.35 228** *e*P **Pn** **15 52 43.7 -0.2**
baz=227
ELDTW *e*S **Sn** **15 53 00.6 -0.1**
baz=227
CHN5 **Tsauling** **1.40 250** *e*P **Pb** **15 52 46.5 -0.4**
baz=249
TWH **Lutao** **1.49 203** P **Pn** **15 52 45.4 -0.4**
baz=201
TWH *e*S **Sn** **15 53 03.5 -0.7**
baz=201
IRIF **Iriomote-Funau** **1.50 80** P **Pn** **15 52 46.5 +0.7**
IRIF S **Sn** **15 53 04.6 +0.4**
JKRS **Kuro-shima** **1.74 85** P **Pn** **15 52 50.2 +1.1**
JKRS S **Sn** **15 53 11.4 +1.2**
JIJ **Ishigaki jima** **1.87 81** P **Pn** **15 52 51.3 +0.3**
JIJ S **Sn** **15 53 12.6 -0.9**
MASBT **Mashibuluo** **2.00 223** *e*P **Pn** **15 52 54.3 +1.5**
baz=223
JISG **Ishigakijimahi** **2.06 76** P **Pn** **15 52 53.9 +0.3**
JISG S **Sn** **15 53 17.6 -0.6**
JTJ **Tarama** **2.42 76** P **Pn** **15 52 59.4 +0.8**
JTJ *e*S **Sn** **15 53 27.4 +0.3**

*ISK **07** 15:52:58.6, 40˚.61N×36˚.75E, h5km, ML2.4/9*
*DDA **07** 15:52:58.6, 40˚.60N×36˚.78E, h12km±1km, ML2.5*
ISC 07 15:52:59.7±1.1, **40˚.61N**±0˚.03×**36˚.75E**±0˚.03, **h7**km±9km, **n17**, σ0**s56**/26, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ERBA	**Erbaa**	**0.07**	**2**	*i* P	**Pg**	**15 53 01.5**	**-0.2**
ERBA				*i* S	**Sg**	**15 53 03.1**	**0.0**
TOKT	**Tokat**	**0.33**	**209**	PG	**Pg**	**15 53 05.7**	**-0.4**
TOKT				SG	**Sg**	**15 53 10.9**	**+0.5**
TOKA	**Tokat**	**0.35**	**216**	*i* P	**Pg**	**15 53 06.3**	**-0.3**
RSDY	**Resadiye-TOKAT**	**0.49**	**115**	PG	**Pg**	**15 53 08.7**	**-0.4**
RSDY				SG	**Sg**	**15 53 15.1**	**-0.4**
KUPE	**Kupecik-Ladik(**	**0.60**	**297**	PG	**Pg**	**15 53 10.7**	**-0.6**
KUPE				SG	**Sg**	**15 53 19.5**	**+0.4**
HKOY	**Hamitkoy-Ladik**	**0.65**	**296**	PG	**Pg**	**15 53 11.8**	**-0.4**
HKOY				SG	**Sg**	**15 53 21.1**	**+0.5**
AMSY	**Amasya-Merkez**	**0.70**	**273**	*i* P	**Pg**	**15 53 12.5**	**-0.6**
AMSY				IAML		15 53 23.0	
	comp=E,364nm,0.5s						
AMSY				*i* S	**Sg**	**15 53 23.3**	**+1.1**
AMSY				IAML		15 53 24.0	
	comp=N,202nm,0.4s						
KVT	**Kavak**	**0.71**	**312**	PG	**Pg**	**15 53 12.8**	**-0.7**
KVT				SG	**Sg**	**15 53 23.4**	**+0.6**
SVSK	**Karacayir**	**0.71**	**165**	PG	**Pg**	**15 53 13.0**	**-0.4**
SVSK				SG	**Sg**	**15 53 23.5**	**+0.8**
GULF	**Gulfidan-Ladik**	**0.73**	**295**	PG	**Pg**	**15 53 13.2**	**-0.6**
GULF				SG	**Sg**	**15 53 23.9**	**+0.6**
YARM	**Yarimca-Ladik(**	**0.77**	**295**	PG	**Pg**	**15 53 13.9**	**-0.6**
KAYA	**Kayacik-Havza(**	**0.83**	**294**	PG	**Pg**	**15 53 15.0**	**-0.7**
YOZ	**Yozgat**	**1.46**	**229**	PN	**Pn**	**15 53 26.4**	**-0.2**
DIKM	**Dikmen**	**1.54**	**313**	PN	**Pn**	**15 53 27.4**	**-0.1**
CORM	**Corum**	**1.68**	**256**	PN	**Pn**	**15 53 29.4**	**-0.1**
SNOP	**Sinop**	**1.83**	**321**	PN	**Pn**	**15 53 31.9**	**+0.4**
BAYT	**Aydıntepe-Bayb**	**2.59**	**94**	PN	**Pn**	**15 53 42.7**	**+0.5**

*TAP **07** 15:54:20.6, 24˚.72N×122˚.38E, h100km, ML2.6, C*
*JMA **07** 15:54:20.5±0.1, 24˚.64N×122˚.36E, h101km±2km, M1.5*
ISC 07 15:54:21.6±1.6, **24˚.66N**±0˚.05×**122˚.39E**±0˚.03, **h93**km±10km, **n51**, σ0**s62**/88, **4C, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.49**	**264**	*i* P	**Pn**	**15 54 36.3**	**-0.2**
	baz=254						
TWC				S	**Sn**	**15 54 47.4**	**-0.3**
	baz=254						
TWB1	**Santiao Chiao**	**0.50**	**313**	*i* P	**Pn**	**15 54 36.4**	**-0.2**
	baz=302						
TWB1				S	**Sn**	**15 54 47.7**	**-0.2**
	baz=302						
NTC	**Toucheng**	**0.54**	**291**	P	**Pn**	**15 54 36.6**	**-0.4**
	baz=286						
JYNG	**Yonagunijimaku**	**0.55**	**113**	P	**Pn**	**15 54 37.1**	**+0.1**
JYNG				S	**Sn**	**15 54 49.1**	**+0.6**
ILA	**Ilan**	**0.59**	**280**	*e*P	**Pn**	**15 54 37.0**	**-0.3**
	baz=275						
ILA				*e*S	**Sn**	**15 54 48.6**	**-0.5**
	baz=275						
TIPB	**Shuangxi**	**0.60**	**301**	⇑*i* P	**Pn**	**15 54 37.2**	**-0.2**
	baz=294						
TIPB				*i* S	**Sn**	**15 54 48.8**	**-0.6**
	baz=294						
YOJ	**Yonaguni jima**	**0.60**	**109**	P	**Pn**	**15 54 37.6**	**+0.2**
	baz=119						
YOJ				*e*S	**Sn**	**15 54 50.2**	**+1.0**
	baz=119						
YOJ	**Yonaguni jima**	**0.60**	**109**	P	**Pn**	**15 54 37.5**	**+0.1**
YOJ				S	**Sn**	**15 54 50.1**	**+0.8**
ENA	**Nanau**	**0.64**	**248**	P	**Pn**	**15 54 37.9**	**+0.2**
	baz=243						
ENA				*e*S	**Sn**	**15 54 50.8**	**+0.9**
	baz=243						
TWE	**Neicheng**	**0.66**	**275**	⇑*i* P	**Pn**	**15 54 37.9**	**0.0**
	baz=275						
TWE				*e*S	**Sn**	**15 54 50.3**	**+0.1**
	baz=275						
TWA	**Mucha**	**0.80**	**293**	*e*P	**Pn**	**15 54 38.9**	**-0.4**
	baz=290						
NDT	**Datong Townshi**	**0.80**	**266**	*i* P	**Pn**	**15 54 39.7**	**+0.4**
	baz=264						
NDT				*e*S	**Sn**	**15 54 53.6**	**+1.0**
	baz=264						
NWLT	**Wulai**	**0.81**	**278**	P	**Pn**	**15 54 39.3**	**-0.2**
	baz=281						
NWLT				*e*S	**Sn**	**15 54 52.6**	**-0.3**
	baz=281						
NHDH	**Xindian Distri**	**0.84**	**291**	P	**Pn**	**15 54 39.3**	**-0.4**
	baz=288						
NACB	**Ninganchiao**	**0.87**	**236**	*e*P	**Pn**	**15 54 39.6**	**-0.5**
	baz=228						
NACB				*e*S	**Sn**	**15 54 54.0**	**0.0**
	baz=228						
TATO	**Taipei**	**0.88**	**291**	*e*P	**Pn**	**15 54 39.5**	**-0.6**
	baz=282						
YM01	**YM01**	**0.89**	**303**	*e*P	**Pn**	**15 54 39.9**	**-0.4**
	baz=293						
YM11	**YM11**	**0.89**	**304**	*e*P	**Pn**	**15 54 39.9**	**-0.5**
	baz=294						
YM10	**YM10**	**0.90**	**303**	*e*P	**Pn**	**15 54 40.0**	**-0.5**
	baz=293						
YM10				*e*S	**Sn**	**15 54 54.2**	**-0.4**
	baz=293						
YHNB	**Yeheng**	**0.92**	**271**	⇑*i* P	**Pn**	**15 54 40.8**	**+0.1**
	baz=274						
YHNB				S	**Sn**	**15 54 55.1**	**+0.1**
	baz=274						
TWD	**Chiawan**	**0.93**	**231**	*e*P	**Pn**	**15 54 40.2**	**-0.4**
	baz=228						
TWD				*e*S	**Sn**	**15 54 55.3**	**+0.3**
	baz=228						
NSK	**Sanguang**	**0.94**	**271**	⇑*i* P	**Pn**	**15 54 40.9**	**+0.1**
	baz=274						
NSK				*e*S	**Sn**	**15 54 55.2**	**-0.1**
	baz=274						
ETLH	**Xiulin Townshi**	**0.94**	**241**	*i* P	**Pn**	**15 54 40.6**	**-0.3**
	baz=232						
ETLH				*e*S	**Sn**	**15 54 55.4**	**0.0**
	baz=232						
NNSB	**Datong**	**0.95**	**256**	P	**Pn**	**15 54 41.1**	**+0.1**
	baz=248						
NNSB				*e*S	**Sn**	**15 54 56.1**	**+0.5**
	baz=248						
NNSH	**Datong**	**0.95**	**256**	*i* P	**Pn**	**15 54 41.1**	**+0.1**
	baz=248						
NNSH				*e*S	**Sn**	**15 54 56.1**	**+0.5**
	baz=248						
NNS	**Nan Shan**	**0.95**	**257**	P	**Pn**	**15 54 41.1**	**+0.1**
	baz=248						
NNS				*e*S	**Sn**	**15 54 56.6**	**+0.9**
	baz=248						
TWS1	**Kuangyinshan**	**0.98**	**296**	*e*P	**Pn**	**15 54 41.0**	**-0.3**
	baz=294						
WLTB	**Daxi**	**1.05**	**281**	*e*P	**Pn**	**15 54 42.4**	**+0.3**
	baz=279						
WHF	**Hehuan Shan**	**1.15**	**244**	P	**Pn**	**15 54 43.6**	**-0.1**
	baz=240						
WHF				*e*S	**Sn**	**15 54 60.0**	**-0.2**
	baz=240						
TDCB	**Techi**	**1.19**	**250**	*e*P	**Pn**	**15 54 44.4**	**+0.6**
	baz=241						
ESL	**Shilin**	**1.22**	**226**	*e*P	**Pn**	**15 54 43.4**	**-0.6**
	baz=231						
ESL				*e*S	**Sn**	**15 54 59.7**	**-1.2**
	baz=231						
LIOB	**Emei**	**1.25**	**269**	*e*P	**Pn**	**15 54 44.5**	**+0.1**
	baz=267						
LIOB				*e*S	**Sn**	**15 55 01.6**	**0.0**
	baz=267						
CHGB	**Renai**	**1.26**	**242**	*e*P	**Pn**	**15 54 45.0**	**+0.3**
	baz=233						
CHGB				*e*S	**Sn**	**15 55 02.5**	**+0.3**
	baz=233						
NSTT	**Nanjuang**	**1.26**	**269**	*e*P	**Pn**	**15 54 44.5**	**0.0**
	baz=266						
IRIF	**Iriomote-Funau**	**1.27**	**105**	P	**Pn**	**15 54 44.4**	**-0.1**
IRIF				S	**Sn**	**15 55 01.9**	**0.0**
EGFH	**Guangfu**	**1.32**	**222**	*e*P	**Pn**	**15 54 44.9**	**-0.4**
	baz=229						
EGFH				*e*S	**Sn**	**15 55 02.3**	**-0.9**
	baz=229						
WHP	**Taichung City**	**1.37**	**254**	*e*P	**Pn**	**15 54 46.6**	**+0.7**
	baz=260						
WHP				*e*S	**Sn**	**15 55 05.0**	**+0.7**
	baz=260						
HATJ	**Hateruma jima**	**1.43**	**115**	*e*S	**Sn**	**15 55 05.6**	**+0.2**
VWDT	**VWDT**	**1.46**	**232**	*e*P	**Pn**	**15 54 47.0**	**+0.1**
	baz=224						
VWDT				*e*S	**Sn**	**15 55 06.2**	**+0.1**
	baz=224						
NMLH	**Miaoli**	**1.46**	**265**	*e*P	**Pn**	**15 54 47.0**	**0.0**
	baz=263						
HGSD	**Ruisui**	**1.46**	**217**	*e*P	**Pn**	**15 54 46.6**	**-0.4**
	baz=209						
HGSD				*e*S	**Sn**	**15 55 06.1**	**-0.1**
	baz=209						
JKRS	**Kuro-shima**	**1.54**	**106**	P	**Pn**	**15 54 48.1**	**+0.2**
JKRS				S	**Sn**	**15 55 08.2**	**+0.3**
SMLT	**Sun Moon Lake**	**1.56**	**241**	*e*P	**Pn**	**15 54 49.6**	**+1.2**
	baz=232						
YULB	**Yu-li**	**1.61**	**218**	*e*P	**Pn**	**15 54 47.9**	**-1.0**
	baz=216						
YULB				*e*S	**Sn**	**15 55 07.6**	**-2.0**
	baz=216						
JIJ	**Ishigaki jima**	**1.62**	**100**	P	**Pn**	**15 54 48.9**	**-0.1**
JIJ				S	**Sn**	**15 55 09.1**	**-0.8**
WHYT	**Xinyi Township**	**1.70**	**236**	*e*P	**Pn**	**15 54 51.4**	**+1.3**
	baz=228						
WHYT				*e*S	**Sn**	**15 55 13.7**	**+2.0**
	baz=228						
JISG	**Ishigakijimahi**	**1.75**	**92**	P	**Pn**	**15 54 50.5**	**-0.1**
JISG				S	**Sn**	**15 55 12.2**	**-0.5**
FULB	**Fuli**	**1.77**	**215**	*e*P	**Pn**	**15 54 50.6**	**-0.3**
	baz=222						
FULB				*e*S	**Sn**	**15 55 13.0**	**-0.2**
	baz=222						
ALS	**Alishan**	**1.85**	**232**	*e*P	**Pn**	**15 54 52.8**	**+0.6**
	baz=223						
ALS				*e*S	**Sn**	**15 55 17.1**	**+1.7**
	baz=223						
ELDTW	**Lidau**	**1.93**	**221**	*e*P	**Pn**	**15 54 52.4**	**-0.8**
	baz=214						
ELDTW				*e*S	**Sn**	**15 55 15.9**	**-1.2**
	baz=214						
JTJ	**Tarama**	**2.10**	**90**	S	**Sn**	**15 55 21.5**	**+0.5**

*MAN **07** 16:13:00.6, 13˚.23N×120˚.20E, h1km, mb4.9, ML3.8, MS3.8*
*IDC **07** 16:13:07.5±2.1, 13˚.36N×120˚.47E, h57km±21km, mb3.7/10, mb1 3.9/10, mb1mx3.5/42, mbtmp4.0/10, MS3.4/10, Ms1 3.4/10, ms1mx3.0/45, Error ellipse: s-maj=33.4km s-min=14.6km az=65.0*
ISC 07 16:13:01.9±1.2, **13˚.29N**±0˚.02×**120˚.25E**±0˚.04, **h12**km±8km, **n39**, σ1**s58**/50, **mb4.0**/10, **MS3.2**/10, **1C-6D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.44**	**359**	*e*P	**Pg**	**16 13 10.9**	**+0.2**
LUBP				*e*S	**Sg**	**16 13 16.7**	**0.0**
PGP	**Puerto Galera**	**0.71**	**73**	⇓*e*P	**Pb**	**16 13 15.6**	**-0.7**
PGP				*i* S	**Sn**	**16 13 25.2**	**-3.5**
TGY	**Tagaytay City**	**1.04**	**39**	P	**Pn**	**16 13 23.0**	**+0.5**
	559nm,0.3s,baz=258,slow=2.0,SNR=42						
TGY				S	**Sn**	**16 13 36.8**	**-0.2**
	2µm,0.3s,baz=113,slow=20,SNR=8.4						
TGY	**Tagaytay City**	**1.04**	**39**	⇑*e*P	**Pn**	**16 13 22.9**	**+0.4**
TGY				*e*S	**Sn**	**16 13 37.7**	**+0.7**
SJMP	**San Jose**	**1.18**	**134**	*e*P	**Pg**	**16 13 24.6**	**0.0**
SJMP				*e*S	**Sg**	**16 13 41.5**	**+1.5**
BUSP	**Coron**	**1.28**	**182**	*e*P	**Pn**	**16 13 25.9**	**+0.3**
BUSP				*e*S	**Sn**	**16 13 42.8**	**+0.1**
LQP	**Lukban**	**1.49**	**57**	⇓*e*P	**Pg**	**16 13 29.5**	**-1.1**
LQP				*i* S	**Sg**	**16 13 51.5**	**+1.4**
BOAC	**Boac**	**1.56**	**84**	*e*P	**Pb**	**16 13 30.1**	**-0.6**
BOAC				*e*S	**Sg**	**16 13 51.5**	**-0.6**
OTRP	**Odiongan**	**1.95**	**118**	*e*P	**Pn**	**16 13 35.3**	**+0.4**
POLP	**Polilio Island**	**2.17**	**49**	*e*P	**Pb**	**16 13 39.6**	**-1.5**
GQP	**Guinayangan**	**2.22**	**74**	⇓*e*P	**Pb**	**16 13 41.1**	**-0.8**
GQP				*e*S	**Sb**	**16 14 09.1**	**-0.3**
ENPP	**El Nido**	**2.22**	**201**	*e*P	**Pn**	**16 13 37.7**	**-0.9**
ENPP				*e*S	**Sn**	**16 14 01.9**	**-4.1**
PCPH	**Palayan**	**2.40**	**20**	⇓*e*P	**Pb**	**16 13 42.3**	**-2.8**
PCPH				*e*S	**Sb**	**16 14 14.2**	**-0.5**
SCZP	**Santa Cruz**	**2.50**	**352**	*e*P	**Pn**	**16 13 43.9**	**+1.6**
SCZP				*e*S	**Sb**	**16 14 18.8**	**+1.4**
CUYO	**Cuyo Island**	**2.54**	**163**	*e*P	**Pn**	**16 13 43.0**	**+0.1**
CUYO				*e*S	**Sn**	**16 14 12.8**	**-0.9**
BALP	**Baler**	**2.75**	**28**	*e*P	**Pb**	**16 13 49.0**	**-2.0**
BALP				*e*S	**Sb**	**16 14 23.0**	**-1.8**
SMPP	**San Manuel, Pa**	**2.87**	**8**	*e*P	**Pn**	**16 13 48.8**	**+1.2**
SMPP				*e*S	**Sb**	**16 14 24.7**	**-3.6**
RCP	**Roxas**	**2.98**	**125**	⇓*e*P	**Pb**	**16 13 54.6**	**-0.3**
JAP	**San Jose, Anti**	**3.02**	**147**	⇓*e*P	**Pn**	**16 13 50.6**	**+1.0**
GUIM	**Jordan**	**3.50**	**139**	*e*P	**Pn**	**16 13 57.1**	**+1.0**
GUIM				*e*S	**Sn**	**16 14 39.8**	**+2.4**
CAUP	**Cauayan**	**3.94**	**22**	*e*P	Pb	16 14 06.4	-4.8
APYP	**Conner**	**4.64**	**12**	*e*P	**Pn**	**16 14 15.4**	**+3.5**
CMAR	**Chiang Mai Arr**	**21.13**	**287**	P	**P**	**16 17 50.1**	**+3.3**
	4.5nm,0.8s,baz=100,slow=9.1,SNR=23						
BATI	**Baumata**	**23.59**	**172**	LR	LR	16 29 21.4	
	comp=Z,207nm,18.3s,baz=140,slow=41						
KSRS	**Korea Array**	**25.02**	**15**	LR	LR	16 29 38.5	
	comp=Z,73nm,18.2s,baz=194,slow=40						
JAY	**Jayapura**	**25.66**	**126**	LR	LR	16 28 54.6	
	comp=Z,70nm,19.3s,baz=228,slow=37						
USRK	**Ussuriysk Ar.**	**32.40**	**16**	LR	LR	16 32 41.8	
	comp=Z,49nm,19.1s,baz=44,slow=36						
WRA	**Warramunga Arr**	**35.81**	**157**	P	**P**	**16 20 01.2**	**-0.2**
	1.1nm,0.4s,baz=330,slow=10,SNR=17						
SONM	**Songino Array**	**36.33**	**344**	P	**P**	**16 20 05.0**	**-0.7**
	2.9nm,0.7s,baz=159,slow=9.9,SNR=15						
ASAR	**Alice Springs**	**39.08**	**160**	P	**P**	**16 20 29.6**	**+0.6**
	2.1nm,0.6s,baz=337,slow=7.6,SNR=54						
ASAR				PcP	**PcP**	**16 22 38.2**	**-0.8**
	0.3nm,0.8s,baz=333,slow=3.6,SNR=1.7						
TLY	**Talaya**	**40.57**	**344**	LR	LR	16 37 37.6	
	comp=Z,37nm,20.2s,baz=146,slow=36						
MKAR	**Makanchi Array**	**46.11**	**324**	P	**P**	**16 21 27.2**	**+1.2**
	1.1nm,0.7s,baz=128,slow=9.7,SNR=13						
MKAR				PcP	**PcP**	**16 23 02.9**	**+0.8**
	0.5nm,0.8s,baz=122,slow=4.4,SNR=3.5						
MKAR				LR	LR	16 41 12.5	
	comp=Z,34nm,19.4s,baz=104,slow=36						
ZALV	**Zalesovo Beam**	**49.22**	**333**	P	**P**	**16 21 50.4**	**+0.3**
	0.5nm,0.4s,baz=148,slow=8.6,SNR=4.3						
ZALV				LR	LR	16 41 48.8	
	comp=Z,25nm,18.3s,baz=64,slow=35						
PETK	**Petropavlovsk-**	**49.59**	**29**	LR	LR	16 45 55.6	
	comp=Z,20nm,18.1s,baz=233,slow=40						
GEYT	**Alibeck**	**60.03**	**306**	P	**P**	**16 23 10.1**	**+1.2**
	1.5nm,0.6s,baz=119,slow=8.6,SNR=5.2						
FINES	**FINESS Array B**	**80.43**	**331**	P	**P**	**16 25 12.7**	**-0.6**
	0.7nm,0.6s,baz=49,slow=5.8,SNR=4.9						
FINES				LR	LR	17 01 44.9	
	comp=Z,44nm,18.6s,baz=49,slow=36						
NB2	**NORSAR Subarra**	**87.42**	**333**	P	**P**	**16 25 47.9**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=63,slow=4.8						
NOA	**NORSAR Array B**	**87.42**	**333**	P	**P**	**16 25 47.9**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=68,slow=4.6,SNR=3.9						
NOA				LR	LR	17 08 27.2	
	comp=Z,26nm,19.7s,baz=110,slow=38						
GERES	**GERESS Array B**	**90.67**	**321**	P	**P**	**16 26 04.4**	**-0.3**
	comp=Z,0.3nm,0.2s,baz=76,slow=5.6,SNR=3.5						

*NNC **07** 16:51:05.3±0.6, 42˚.70N×73˚.44E, h0km, mb2.6, mpv2.4, Error ellipse: s-maj=7.3km s-min=3.0km az=7.0*
*KRNET **07** 16:51:05.5±0.1, 42˚.61N×73˚.42E, h23km, mb2.1*
*SOME **07** 16:51:05.7, 42˚.63N×73˚.43E, h15km*
ISC 07 16:51:05.7±0.9, **42˚.63N**±0˚.03×**73˚.45E**±0˚.02, **h16**km±8km, **n40**, σ1**s22**/72, **25C-11D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRKS	**Merke**	**0.20**	**306**	⇑*i* P	**Pg**	**16 51 10.4**	**-0.2**
	baz=13						
MRKS				⇑*i* S	**Sb**	**16 51 13.8**	**-1.0**
	baz=13						
MRKS	**Merke**	**0.20**	**306**	⇑*i* P	**Pg**	**16 51 10.4**	**-0.2**
	21nm,0.1s						
MRKS				⇑*i* S	**Sb**	**16 51 13.7**	**-1.0**
	142nm,0.2s						
EKS2	**Erkin-Say**	**0.24**	**82**	⇑*e*P	**Pg**	**16 51 11.4**	**+0.1**
	baz=80						
EKS2				⇑*i* S	**Sb**	**16 51 15.8**	**-0.1**
	baz=80						
AML	**Almayashu**	**0.53**	**160**	⇓*i* P	**Pg**	**16 51 16.0**	**-0.4**
	baz=57						
AML				⇓*i* S	**Sg**	**16 51 23.4**	**-0.1**
	baz=57						
AAK	**Ala-Archa**	**0.77**	**89**	⇑*i* P	**Pg**	**16 51 20.5**	**-0.3**
	baz=88						
AAK				⇑*i* S	**Sg**	**16 51 31.3**	**+0.3**
	baz=88						
AAK	**Ala-Archa**	**0.77**	**89**	⇑P	**Pb**	**16 51 21.0**	**+0.2**
	0.8nm,0.5s						
AAK				⇓S	**Sg**	**16 51 31.2**	**+0.3**
	1.7nm,0.3s						
UCH	**Uchtor**	**0.88**	**117**	⇑*i* P	**Pg**	**16 51 22.8**	**-0.1**
	baz=15						
UCH				⇑*i* S	**Sb**	**16 51 35.0**	**+0.4**
	baz=15						
FRU1	**Bishkek**	**0.89**	**78**	⇑*i* P	**Pg**	**16 51 23.1**	**+0.1**
	baz=77						
FRU1				⇑*i* S	**Sg**	**16 51 35.3**	**+0.6**
	baz=77						
USP	**Ospenovka**	**1.00**	**50**	⇑*i* P	**Pb**	**16 51 24.6**	**-0.1**
	baz=50						
USP				⇑*i* S	**Sg**	**16 51 38.5**	**+0.2**
	baz=50						
ARLS	**Aral**	**1.00**	**139**	⇑*i* P	**Pb**	**16 51 24.2**	**-0.6**
	baz=37						
ARLS				⇑*i* S	**Sb**	**16 51 37.7**	**-0.1**
	baz=37						
CHMS	**Chumysh**	**1.03**	**68**	⇓*i* P	**Pb**	**16 51 24.7**	**-0.4**
	baz=68						
CHMS				⇓*i* S	**Sg**	**16 51 38.9**	**-0.2**
	baz=68						
ARSB	**Arslanbob**	**1.35**	**195**	⇓*i* P	**Pn**	**16 51 29.8**	**-0.2**
	baz=94						
ARSB				⇓*i* S	**Sn**	**16 51 47.4**	**-0.2**
	baz=94						
KZA	**Kyzart**	**1.44**	**112**	⇑*e*P	**Pb**	**16 51 32.4**	**0.0**
	baz=11						
KZA				⇑*i* S	**Sg**	**16 51 52.2**	**-0.2**
	baz=11						
TKM2	**Tokmak 2**	**1.61**	**79**	⇑*i* P	**Pb**	**16 51 35.2**	**+0.1**
	baz=78						
TKM2				⇑*i* S	**Sg**	**16 51 56.7**	**-0.9**
	baz=78						
TKM2	**Tokmak 2**	**1.61**	**79**	⇑P	**Pb**	**16 51 35.0**	**-0.1**
	1.4nm,0.7s						
TKM2				⇓S	**Sb**	**16 51 56.5**	**+1.3**
	4.9nm,0.2s						
DGS	**Degeres**	**1.81**	**69**	*e*P	**Pb**	**16 51 38.7**	**+0.1**
	baz=69						
DGS				*e*S	**Sb**	**16 52 02.7**	**+1.6**
	baz=69						
DGS	**Degeres**	**1.81**	**69**	*e*P	**Pb**	**16 51 38.6**	**+0.1**
	2.3nm,0.3s						
DGS				*e*S	**Sb**	**16 52 02.6**	**+1.6**
	7.5nm,0.3s						
BOOM	**Boomskoye usch**	**1.84**	**93**	⇓*i* P	**Pb**	**16 51 39.3**	**+0.2**
	baz=93						
BOOM				⇓*i* S	**Sb**	**16 52 03.3**	**+1.3**
	baz=93						
KST	**Kastek**	**1.89**	**76**	*e*P	**Pb**	**16 51 40.1**	**+0.2**
	baz=76						
KST				*e*S	**Sb**	**16 52 04.8**	**+1.4**
	baz=76						
KST	**Kastek**	**1.89**	**76**	*e*P	**Pb**	**16 51 40.1**	**+0.2**
	3.9nm,0.4s						
KST				*e*S	**Sb**	**16 52 04.8**	**+1.4**
	7.0nm,0.4s						
KRBS	**Karabastau**	**1.95**	**56**	*e*P	**Pb**	**16 51 41.6**	**+0.7**
	1.0nm,0.1s						
KRBS				*e*S	**Sg**	**16 52 07.3**	**-1.1**
	8.6nm,0.4s						
KRBS	**Karabastau**	**1.95**	**56**	Pg	**Pb**	**16 51 41.6**	**+0.7**
	1.0nm,0.1s						
KRBS				Lg	Lg	16 52 07.3	
	8.6nm,0.4s						
ULHL	**Ulahol**	**2.10**	**100**	⇑*i* P	**Pb**	**16 51 42.3**	**-1.2**
	baz=99						
ULHL				⇑*i* S	**Sb**	**16 52 09.3**	**-0.1**
	baz=99						
KK31	**Karatay Array**	**2.21**	**283**	⇓Pg	**Pb**	**16 51 44.8**	**-0.5**
	0.2nm,0.5s,baz=102,slow=16,SNR=3.5						
KK31				⇑Lg	Lg	16 52 13.2	
	1.2nm,0.5s,baz=102,slow=31,SNR=12						
IZV	**Izvestkoviy**	**2.36**	**79**	*e*P	**Pb**	**16 51 49.0**	**+1.1**
	1.0nm,0.2s						
IZV				*e*S	**Sg**	**16 52 20.0**	**-1.7**
	5.0nm,0.4s						
IZV	**Izvestkoviy**	**2.36**	**79**	Pg	**Pb**	**16 51 49.0**	**+1.1**
	1.0nm,0.2s						
IZV				Lg	Lg	16 52 20.0	
	4.6nm,0.2s						
BTLS	**Baital**	**2.45**	**10**	*e*P	**

1.8nm,0.1s
BRLS *e*S **Sg** **16 52 33.8 +1.7**
2.2nm,0.2s
CHKK Chushkaly 2.86 63 *e*P **Pg** **16 51 58.8 -1.8**
1.4nm,0.1s
CHKK *e*S **Sg** **16 52 36.5 -1.1**
5.9nm,0.2s
ARXS Arharly 3.56 62 *e*P **Pb** **16 52 10.5 +2.2**
2.5nm,0.5s
ARXS *e*S **Sg** **16 52 56.7 -3.3**
3.1nm,0.7s
MNBS Baschi 3.89 66 *e*P **Pb** **16 52 16.9 +2.9**
MNBS *e*S **Sg** **16 53 07.9 -2.7**

*NEIC **07** 17:01:07.3±1.3,25°3S±0°1×179°8E±0°2, h480km±11km, mb4.6/16, Error ellipse: s-maj=22.8km s-min=16.9km az=135.0*
*IDC **07** 17:01:09.0±10.0,25°24S×179°84E, h509km±89km, mb3.4/5,mb1 3.5/6,mb1mx3.1/33,mbtmp4.3/6, Error ellipse: s-maj=109.3km s-min=53.1km az=131.0*
ISC 07 17:01:08.2±0.8,25°3S±0°1×179°8E±0°1, h493km, n29, σ1§16/28, mb4.4/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**7.68**	**347**	P		**P**	**17 03 00.6**	**-0.8**
DZM	**Mont Dzumac**	**12.65**	**282**	P		**P**	**17 03 54.7**	**+0.8**
	0.2nm,0.3s,baz=86,slow=16,SNR=2.7							
AFI	**Afiamalu**	**13.81**	**37**	P		**P**	**17 04 04.9**	**-1.3**
BKZ	**Black Stump Fm**	**14.12**	**191**	P		**P**	**17 04 07.5**	**-1.6**
QRZ	**Quartz Range**	**16.65**	**200**	P		**P**	**17 04 35.1**	**-0.4**
NNZ	**Nelson**	**16.77**	**197**	P		**P**	**17 04 35.1**	**-1.7**
TUWZ	**Tuamarina**	**16.83**	**195**	P		**P**	**17 04 33.8**	**-3.6**
THZ	**Tophouse**	**17.41**	**197**	P		**P**	**17 04 42.0**	**-1.2**
THZ				IAmb		IAmb	17 04 59.7	
	comp=Z,36nm,1.4s							
LTZ	**Lake Taylor**	**18.52**	**198**	P		**P**	**17 04 53.0**	**-0.6**
LTZ				IAmb		IAmb	17 05 06.1	
	comp=Z,47nm,1.7s							
FOZ	**Fox Glacier**	**19.96**	**202**	P		**P**	**17 05 05.8**	**-0.7**
FOZ				IAmb		IAmb	17 05 12.3	
	comp=Z,44nm,1.4s							
EIDS	**Eidsvold**	**25.94**	**264**	P		**P**	**17 06 00.1**	**-0.4**
EIDS				IAmb		IAmb	17 06 09.1	
	comp=Z,29nm,1.6s							
PPTF	**Pamatai, Papee**	**29.47**	**81**	P		**P**	**17 06 33.4**	**+1.8**
CTA	**Charters Tower**	**31.33**	**273**	P		**P**	**17 06 48.2**	**+0.7**
	comp=Z,9.7nm,0.5s,baz=96,slow=10,SNR=18							
CTAO	**Charters Tower**	**31.33**	**273**	P		**P**	**17 06 48.3**	**+0.7**
CTAO				IAmb		IAmb	17 06 48.7	
	comp=Z,12nm,0.6s							
MCQ	**Macquarie Isla**	**33.02**	**202**	P		**P**	**17 07 02.8**	**+1.3**
STKA	**Stephens Creek**	**34.06**	**250**	P		**P**	**17 07 11.3**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=94,slow=10.0,SNR=6.3							
STKA	**Stephens Creek**	**34.06**	**250**	P		**P**	**17 07 11.1**	**+0.4**
COEN	**Coen**	**36.18**	**281**	P		**P**	**17 07 29.0**	**+0.4**
COEN				IAmb		IAmb	17 07 39.2	
	comp=Z,18nm,1.1s							
AS31	**Alice Springs**	**41.65**	**262**	P		**P**	**17 08 12.7**	**-0.3**
ASAR	**Alice Springs**	**41.65**	**262**	P		**P**	**17 08 12.4**	**-0.5**
	comp=Z,4.0nm,0.8s,baz=92,slow=7.4,SNR=74							
WB2	**Warramunga Arr**	**42.14**	**268**	P		**P**	**17 08 16.2**	**-0.6**
WB2				IAmb		IAmb	17 08 40.3	
	comp=Z,18nm,1.4s							
WB0	**Warramunga Arr**	**42.15**	**268**	P		**P**	**17 08 16.2**	**-0.7**
WRA	**Warramunga Arr**	**42.15**	**268**	P		**P**	**17 08 16.1**	**-0.8**
	comp=Z,3.1nm,0.6s,baz=104,slow=7.7,SNR=12							
KNRA	**Kununurra**	**48.52**	**271**	P		**P**	**17 09 05.6**	**-0.2**
KNRA				IAmb		IAmb	17 09 19.7	
	comp=Z,69nm,1.6s							
FITZ	**Fitzroy Crossi**	**50.56**	**267**	P		**P**	**17 09 20.8**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=122,slow=8.6,SNR=6.3							
FITZ	**Fitzroy Crossi**	**50.56**	**267**	P		**P**	**17 09 20.8**	**-0.1**
FITZ				IAmb		IAmb	17 09 37.6	
	comp=Z,29nm,1.6s							
NOA	**NORSAR Array B**	**143.41**	**351**	PKP		PKPab	17 19 42.6	-1.0
	comp=Z,0.6nm,0.8s,baz=16,slow=4.9,SNR=3.4							
AKASG	**Malin Array Be**	**146.02**	**326**	PKPbc		**PKPdf**	**17 19 50.8**	**+0.6**
	comp=Z,0.1nm,0.2s,baz=43,slow=3.9,SNR=4.2							
BRTR	**Keskin Array B**	**148.25**	**305**	PKPbc		**PKPbc**	**17 19 58.2**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=82,slow=4.3,SNR=3.2							

*NEIC **07** 17:29:53.6±1.8,24°6S±0°1×115°4W±0°1, h10km±1km, mb4.7/33, Error ellipse: s-maj=21.7km s-min=20.4km az=72.0*
*IDC **07** 17:29:54.5±1.4,24°13S×115°73W, h0km, mb3.7/5, mb1 4.1/5,mb1mx3.8/31,mbtmp3.7/5,MS3.8/7,Ms1 3.9/7, ms1mx3.5/22, Error ellipse: s-maj=48.6km s-min=36.8km az=29.0*
ISC 07 17:29:54.1±0.9,24°4S±0°2×115°6W±0°2, h10km, n62, σ1§26/42, mb4.7/19, MS3.8/9, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RPN	**Rapa Nui**	**6.30**	**117**	LR		LR	17 33 13.1	
	comp=Z,960nm,18.7s,baz=316,slow=31							
RKT	**Rikitea**	**17.74**	**270**	*e*LR		LR	17 38 13.7	
	comp=Z,870nm,29.2s							
RKT	**Rikitea**	**17.74**	**270**	*e*T		T	17 52 16.4	
	5.3nm,0.3s							
TAOE	**Nuku Hiva Isla**	**28.04**	**299**	*e*LR		LR	17 42 53.3	
	comp=Z,427nm,25.8s							
TBI	**Tubuai**	**30.90**	**265**	*e*LR		LR	17 44 15.4	
	comp=Z,228nm,27.8s,baz=94							
PPT2	**Papeete2**	**32.34**	**276**	*e*LR		LR	17 44 46.7	
	comp=Z,249nm,28.0s							
H03N2	**Juan Fernandez**	**33.23**	**114**	T		T	18 11 30.8	
	baz=281,slow=75,SNR=19							
H03N3	**Juan Fernandez**	**33.24**	**114**	T		T	18 11 43.7	
	baz=281,slow=75,SNR=18							
H03N1	**Juan Fernandez**	**33.24**	**114**	T		T	18 11 47.1	
	baz=281,slow=75,SNR=26							
RAR	**Rarotonga**	**40.68**	**265**	LR		LR	17 47 57.8	
	comp=Z,73nm,21.5s,baz=316,slow=27							
PLCA	**Paso Flores**	**40.87**	**125**	LR		LR	17 50 13.6	
	comp=Z,235nm,19.2s,baz=308,slow=30							
PB10	**IPOC Station P**	**41.08**	**98**	P		P	17 37 31.9	-6.4
CFA	**Coronel Fontan**	**42.20**	**111**	LR		LR	17 50 50.2	
	comp=Z,262nm,21.5s,baz=267,slow=30							
LPAZ	**La Paz**	**45.10**	**89**	P		**P**	**17 38 14.3**	**+2.8**
	2.6nm,0.9s,baz=282,slow=6.0,SNR=7.3							
LPAZ				LR		LR	17 52 31.3	
	comp=Z,76nm,19.3s,baz=289,slow=30							
LPAZ	**La Paz**	**45.10**	**89**	P		**P**	**17 38 10.3**	**-1.3**
LPAZ				IAmb		IAmb	17 38 15.0	
	comp=Z,6.6nm,1.1s							
TXAR	**Lajitas Array**	**54.66**	**13**	P		**P**	**17 39 22.8**	**-0.7**
	comp=Z,0.5nm,1.0s,baz=207,slow=7.8,SNR=2.7							
SDV	**Santo Domingo**	**54.98**	**59**	P		**P**	**17 39 25.2**	**-1.0**
SDV				IAmb		IAmb	17 39 28.5	
	comp=Z,7.1nm,1.0s							
MNTX	**Cornudas Mount**	**56.65**	**10**	P		**P**	**17 39 37.2**	**-0.3**
MNTX				IAmb		IAmb	17 39 41.2	
	comp=Z,7.8nm,1.5s							
JCT	**Junction City**	**56.66**	**16**	P		**P**	**17 39 37.5**	**-0.2**
JCT				IAmb		IAmb	17 39 39.5	
	comp=Z,25nm,1.8s							
109C	**Camp Elliot, M**	**57.00**	**359**	P		**P**	**17 39 40.7**	**+0.7**
109C				IAmb		IAmb	17 39 47.6	
	comp=Z,31nm,1.6s							
121A	**Cookes Peak, D**	**57.12**	**8**	P		**P**	**17 39 42.0**	**+0.9**
GLA	**Glamis**	**57.15**	**1**	P		**P**	**17 39 43.7**	**+2.6**
SHPR	**Sheep Range**	**60.59**	**0**	P		**P**	**17 40 06.3**	**+1.2**
SHPR				IAmb		IAmb	17 40 13.6	
	comp=Z,5.1nm,1.0s							
U15A	**North Rim**	**60.59**	**3**	P		**P**	**17 40 06.3**	**+1.0**
U15A				IAmb		IAmb	17 40 16.8	
	comp=Z,5.0nm,1.2s							
THZ	**Tophouse**	**60.68**	**234**	P		**P**	**17 40 05.7**	**0.0**
CCUT	**Cedar City**	**61.67**	**2**	P		**P**	**17 40 13.6**	**+1.1**
R11A	**Troy Canyon, C**	**62.43**	**0**	P		**P**	**17 40 19.3**	**+1.7**
NV11	**Mina Array Sit**	**62.56**	**358**	P		**P**	**17 40 19.2**	**+0.8**
NV11				IAmb		IAmb	17 40 26.6	
	comp=Z,3.9nm,1.1s							
SDCO	**Great Sand Dun**	**62.56**	**9**	P		**P**	**17 40 17.9**	**-0.6**
NVAR	**Mina Array Bea**	**62.56**	**358**	P		**P**	**17 40 19.5**	**+1.1**
	comp=Z,1.4nm,0.9s,baz=185,slow=9.0,SNR=5.0							
PV14	**Lion Creek, Pa**	**62.76**	**6**	P		**P**	**17 40 20.4**	**+0.6**
PV14				IAmb		IAmb	17 40 33.5	
	comp=Z,6.4nm,1.1s							
Y45A	**Yeager Farm, C**	**63.05**	**24**	P		**P**	**17 40 23.2**	**+1.7**
Q16A	**Castle Valley**	**63.14**	**4**	P		**P**	**17 40 21.7**	**-0.5**
YERR	**Yerington**	**63.16**	**357**	P		**P**	**17 40 23.7**	**+1.3**
YERR				IAmb		IAmb	17 40 30.9	
	comp=Z,6.4nm,1.1s							
KVN	**Kaiserville**	**63.17**	**358**	P		**P**	**17 40 22.6**	**+0.1**
AFDM	**Forest Hills D**	**63.23**	**355**	P		**P**	**17 40 22.9**	**+0.3**
AFDM				IAmb		IAmb	17 40 40.1	
	comp=Z,12nm,1.8s							
PNTR	**Pine Nut**	**63.28**	**357**	P		**P**	**17 40 23.5**	**+0.3**
PNTR				IAmb		IAmb	17 40 31.7	
	comp=Z,5.4nm,0.9s							
LRAL	**Lakeview Retre**	**63.32**	**27**	P		**P**	**17 40 22.4**	**-0.9**
LRAL				IAmb		IAmb	17 40 26.7	
	comp=Z,23nm,1.6s							
SRU	**San Rafael Swe**	**63.37**	**4**	P		**P**	**17 40 22.4**	**-1.4**
MLPR	**Magueyes Islan**	**63.40**	**53**	P		**P**	**17 40 24.1**	**-0.1**
FUNA	**Funafuti**	**63.94**	**272**	P		**P**	**17 40 27.2**	**-0.6**
PLAL	**Pickwick Lake**	**64.60**	**25**	P		**P**	**17 40 31.7**	**0.0**
VNDA	**Vanda**	**64.72**	**194**	LR		LR	18 03 14.4	
	comp=Z,63nm,18.6s,baz=161,slow=31							
ELK	**Elko**	**64.82**	**0**	P		**P**	**17 40 34.7**	**+1.3**
PDAR	**Pinedale Array**	**67.08**	**5**	P		**P**	**17 40 48.3**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=170,slow=5.5,SNR=1.7							
FXWY	**Fox Creek**	**67.85**	**4**	P		**P**	**17 40 52.0**	**-0.7**
WCI	**Wyandotte Cave**	**68.13**	**25**	P		**P**	**17 40 53.5**	**-0.8**
WCI				IAmb		IAmb	17 41 05.2	
	comp=Z,5.5nm,0.7s							
FLWY	**Flagg Ranch**	**68.31**	**4**	P		**P**	**17 40 53.7**	**-1.9**
FLWY				IAmb		IAmb	17 42 37.9	
	comp=Z,5.6nm,0.8s							
MCMT	**McKenzie Canyo**	**68.95**	**2**	P		**P**	**17 40 58.8**	**-0.8**
RLMT	**Red Lodge**	**69.44**	**5**	P		**P**	**17 40 58.6**	**-3.9**
HNR	**Honiara**	**81.11**	**264**	LR		LR	18 13 26.1	
	comp=Z,53nm,18.9s,baz=174,slow=32							
YKA	**Yellowknife Ar**	**86.61**	**0**	P		**P**	**17 42 37.8**	**+0.6**
	comp=Z,1.2nm,1.1s,baz=187,slow=4.8,SNR=2.8							
H11S2	**WAKE ISLAND Hy**	**86.82**	**292**	T		T	19 18 51.5	
	baz=117,slow=75,SNR=256							
H11S1	**WAKE ISLAND Hy**	**86.83**	**292**	T		T	19 18 42.9	
	baz=117,slow=75,SNR=162							
H11S3	**WAKE ISLAND Hy**	**86.84**	**292**	T		T	19 18 52.8	
	baz=117,slow=75,SNR=189							
H11N3	**WAKE ISLAND Hy**	**87.20**	**293**	T		T	19 19 09.8	
	baz=114,slow=78,SNR=40							
H11N1	**WAKE ISLAND Hy**	**87.22**	**293**	T		T	19 19 16.9	
	baz=114,slow=78,SNR=38							
H11N2	**WAKE ISLAND Hy**	**87.22**	**293**	T		T	19 19 19.6	
	baz=114,slow=78,SNR=102							
ZALV	**Zalesovo Beam**	**146.76**	**338**	PKPbc		**PKPbc**	**17 49 36.0**	**0.0**
	comp=Z,0.5nm,0.3s,baz=40,slow=2.5,SNR=5.4							
CMAR	**Chiang Mai Arr**	**147.32**	**266**	PKPbc		**PKPab**	**17 40 40.9**	**+0.3**
	comp=Z,1.2nm,1.0s,baz=129,slow=0.6,SNR=4.7							
BRTR	**Keskin Array B**	**150.00**	**52**	PKPbc		**PKiKP**	**17 49 46.6**	**+0.5**
	comp=Z,2.7nm,0.9s,baz=241,slow=1.5,SNR=6.0							
MKAR	**Makanchi Array**	**153.45**	**332**	PKPbc		**PKPbc**	**17 49 52.2**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=36,slow=2.2,SNR=2.5							
MKAR				PKPab		**PKPab**	**17 50 06.2**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=58,slow=3.0,SNR=3.9							

*IDC **07** 17:37:46.9±0.7,16°33S×14°34W, h0km, mb4.2/17, mb1 4.3/17,mb1mx4.1/30,mbtmp4.2/17,MS3.5/13, Ms1 3.5/13,ms1mx3.4/22, Error ellipse: s-maj=25.6km s-min=18.0km az=97.0*
*NEIC **07** 17:37:48.4±1.7,16°4S±0°1×14°3W±0°1, h10km±4km, mb4.9/32, Error ellipse: s-maj=18.8km s-min=17.3km az=112.0*
ISC 07 17:37:48.4±0.5,16°4S±0°1×14°4W±0°1, h10km, n58, σ0§71/51, mb4.6/28, MS3.5/13, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RCBR	**Riachuelo**	**23.55**	**294**	P		**P**	**17 42 58.7**	**-0.5**
	11nm,0.7s,baz=110,slow=6.5,SNR=4.6							
RCBR				LR		LR	17 49 55.2	
	comp=Z,161nm,20.6s,baz=102,slow=31							
RCBR	**Riachuelo**	**23.55**	**294**	P		**P**	**17 42 58.6**	**-0.7**
RCBR				IAmb		IAmb	17 43 24.7	
	comp=Z,23nm,1.1s							
DBIC	**Dimbokro**	**24.74**	**23**	P		**P**	**17 43 09.1**	**-1.1**
	comp=Z,12nm,1.1s,baz=192,slow=12,SNR=5.8							
DBIC				LR		LR	17 50 36.0	
	comp=Z,66nm,18.3s,baz=184,slow=31							
DBIC	**Dimbokro**	**24.74**	**23**	P		**P**	**17 43 08.8**	**-1.4**
TOA0	**Torodi Ar. Sit**	**33.34**	**29**	P		**P**	**17 44 25.9**	**-0.9**
TOA0				IAmb		IAmb	17 44 41.0	
	comp=Z,34nm,1.9s							
TORD	**Torodi Ar. Bea**	**33.34**	**29**	P		**P**	**17 44 25.8**	**-1.0**
	comp=Z,4.6nm,0.6s,baz=212,slow=9.0,SNR=23							
TORD				LR		LR	17 55 36.0	
	comp=Z,121nm,19.8s,baz=180,slow=32							
BOSA	**Boshof**	**38.42**	**116**	LR		LR	17 57 51.3	
	comp=Z,149nm,20.9s,baz=269,slow=31							
LSZ	**Lusaka**	**40.91**	**95**	P		**P**	**17 45 31.2**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=298,slow=3.5,SNR=5.7							
LSZ	**Lusaka**	**40.91**	**95**	P		**P**	**17 45 30.8**	**-0.6**
TAM	**Tamanrasset**	**43.51**	**27**	P		**P**	**17 45 52.5**	**+0.1**
LPAZ	**La Paz**	**51.46**	**262**	LR		LR	18 07 51.6	
	comp=Z,29nm,18.6s,baz=118,slow=35							
PSGCX	**Pisagua**	**52.94**	**258**	P		**P**	**17 47 03.6**	**-1.9**
KMBO	**Kilima Mbogo**	**53.03**	**79**	LR		LR	18 07 04.0	
	comp=Z,44nm,21.9s,baz=94,slow=33							
PLCA	**Paso Flores**	**53.99**	**231**	LR		LR	18 08 03.9	
	comp=Z,74nm,19.1s,baz=129,slow=34							
SNAA	**Sanae**	**55.73**	**176**	P		**P**	**17 47 25.1**	**+0.2**
	comp=Z,2.5nm,1.0s,baz=344,slow=8.1,SNR=4.9							
SNAA	**Sanae**	**55.73**	**176**	P		**P**	**17 47 24.7**	**-0.1**
SNAA				IAmb		IAmb	17 47 30.3	
	comp=Z,17nm,1.8s							
KEST	**Kesra**	**56.47**	**23**	P		**P**	**17 47 31.5**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=119,slow=4.1,SNR=5.0							
KEST	**Kesra**	**56.47**	**23**	P		**P**	**17 47 30.6**	**-0.1**
KEST				IAmb		IAmb	17 47 34.9	
	comp=Z,27nm,1.7s							
ESDC	**Sonseca Array**	**56.58**	**10**	P		**P**	**17 47 32.3**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=181,slow=6.8,SNR=2.5							
SDV	**Santo Domingo**	**61.06**	**290**	P		**P**	**17 48 04.2**	**+1.0**
SDV				IAmb		IAmb	17 49 37.0	
	comp=Z,10nm,0.9s							
ROSC	**El Rosal**	**62.90**	**284**	LR		LR	18 16 47.4	
	comp=Z,110nm,18.2s,baz=84,slow=37							
LIT	**Litokhoron**	**65.82**	**30**	P		**P**	**17 48 33.6**	**-0.4**
CIMO	**Cimolais**	**66.91**	**20**	P		**P**	**17 48 40.5**	**-0.3**
STAL	**STALIGIAL**	**66.95**	**20**	P		**P**	**17 48 41.6**	**+0.5**
DIVS	**Divibare**	**67.86**	**26**	P		**P**	**17 48 47.1**	**+0.2**
GERES	**GERESS Array B**	**69.55**	**19**	P		**P**	**17 48 56.8**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=193,slow=5.5,SNR=5.9							
GERES				LR		LR	18 17 18.4	
	comp=Z,24nm,20.2s,baz=244,slow=34							
MAW	**Mawson**	**70.13**	**157**	P		**P**	**17 49 00.8**	**+0.1**
	comp=Z,3.3nm,1.0s,baz=315,slow=18,SNR=3.8							
MAW	**Mawson**	**70.13**	**157**	P		**P**	**17 49 01.2**	**+0.5**
PSZ	**Piszkesteto**	**70.94**	**24**	P		**P**	**17 49 06.2**	**+0.3**
BRTR	**Keskin Array B**	**71.51**	**37**	P		**P**	**17 49 09.8**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=210,slow=5.4,SNR=13							
BRTR				LR		LR	18 19 09.9	
	comp=Z,15nm,21.7s,baz=200,slow=35							
BR131	**Keskin Array S**	**71.51**	**37**	P		**P**	**17 49 10.0**	**+0.4**
MLR	**Muntele Rosu**	**71.58**	**29**	P		**P**	**17 49 09.0**	**-0.9**
MLR				IAmb		IAmb	17 49 19.1	
	comp=Z,16nm,1.3s							
ESK	**Eskdalemuir**	**72.02**	**7**	P		**P**	**17 49 12.7**	**+0.5**
QSPA	**South Pole Qui**	**73.81**	**180**	P		**P**	**17 49 23.6**	**+0.6**
	comp=Z,4.4nm,1.0s,baz=227,slow=3.6,SNR=3.1							
QSPA	**South Pole Qui**	**73.81**	**180**	P		**P**	**17 49 23.4**	**+0.4**
QSPA				IAmb		IAmb	17 49 26.4	
	comp=Z,8.4nm,1.1s							
AKASG	**Malin Array Be**	**76.93**	**27**	P		**P**	**17 49 40.3**	**-0.6**
	comp=Z,1.0nm,0.4s,baz=221,slow=5.4,SNR=11							
AKASG				LR		LR	18 24 38.8	
	comp=Z,19nm,18.8s,baz=40,slow=37							
AKBB	**Malin Array Si**	**76.93**	**27**	P		**P**	**17 49 40.1**	**-0.8**
F64A	**Sherman**	**78.80**	**325**	P		**P**	**17 49 52.1**	**+0.8**
E63A	**Oxbow**	**79.18**	**325**	P		**P**	**17 49 54.2**	**+0.8**
E63A				IAmb		IAmb	17 52 28.1	
	comp=Z,25nm,1.4s							
KBZ	**Khabaz**	**79.42**	**38**	P		**P**	**17 49 54.5**	**-0.3**
	comp=Z,2.0nm,0.8s,baz=256,slow=4.9,SNR=4.0							
NOA	**NORSAR Array B**	**79.81**	**12**	P		**P**	**17 49 58.4**	**+1.8**
	comp=Z,0.8nm,1.0s,baz=203,slow=5.6,SNR=2.6							
NOA				LR		LR	18 27 08.5	
	comp=Z,15nm,18.4s,baz=305,slow=37							
E62A	**Clayton Lake**	**79.91**	**325**	P		**P**	**17 49 58.0**	**+0.6**
D62A	**Allapoint, All**	**79.92**	**326**	P		**P**	**17 49 58.2**	**+0.8**
D62A				IAmb		IAmb	17 50 32.9	
	comp=Z,39nm,1.9s							
SCHQ	**Schefferville**	**83.68**	**333**	P		**P**	**17 50 17.3**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=189,slow=19,SNR=1.9							
FINES	**FINESS Array B**	**83.94**	**18**	P		**P**	**17 50 18.1**	**-0.2**
	comp=Z,1.2nm,0.8s,baz=185,slow=8.6,SNR=4.1							
V48A	**Smith Brothers**	**85.83**	**309**	P		**P**	**17 50 28.0**	**-0.5**
V48A				IAmb		IAmb	17 50 30.1	
	comp=Z,6.2nm,0.8s							
PLAL	**Pickwick Lake**	**86.48**	**308**	P		**P**	**17 50 31.2**	**-0.5**
PLAL				IAmb		IAmb	17 50 32.6	
	comp=Z,4.8nm,0.7s							
T47A	**Sharon Grove**	**86.54**	**310**	P		**P**	**17 50 32.0**	**+0.1**
WVT	**Waverly**	**86.74**	**309**	P		**P**	**17 50 32.7**	**-0.2**
W45A	**Hickory Valley**	**87.39**	**308**	P		**P**	**17 50 36.3**	**+0.2**
WHAR	**Wooly Hollow**	**89.81**	**307**			**P**	**17 50 46.8**	**-0.8**
WHAR				IAmb		IAmb	17 50 48.8	
	comp=Z,5.5nm,0.8s							
CCM	**Cathedral Cave**	**89.99**	**310**	P		**P**	**17 50 49.1**	**+0.8**
CCM				IAmb		IAmb	17 50 50.0	
	comp=Z,7.3nm,0.8s							
R40A	**Maddies Statio**	**90.83**	**310**	P		**P**	**17 50 52.9**	**+0.7**
R40A				IAmb		IAmb	17 51 01.6	
	comp=Z,13nm,1.3s							
P40A	**Paris**	**91.09**	**311**	P		**P**	**17 50 53.4**	**0.0**
P40A				IAmb		IAmb	17 50 55.2	
	comp=Z,4.5nm,0.8s							
HHAR	**Hobbs**	**91.41**	**307**	P		**P**	**17 50 55.1**	**+0.2**
HHAR				IAmb		IAmb	17 50 57.2	
	comp=Z,7.6nm,1.2s							
ULM	**Lac du Bonnet**	**97.10**	**320**	LR		LR	18 27 23.7	
	comp=Z,39nm,21.2s,baz=54,slow=31							
TXAR	**Lajitas Array**	**97.25**	**298**	P		Pdif	17 51 22.4	+0.3
	comp=Z,0.4nm,0.8s,baz=120,slow=7.4,SNR=4.5							
ILAR	**Eielson Array**	**122.07**	**338**	PKP		**PKPdf**	**17 56 42.2**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=2.9,slow=1.8,SNR=3.0							

*IDC **07** 17:39:43.3±4.0,19°10S×176°45W, h0km, mb3.7/4, mb1 4.1/4,mb1mx3.7/27,mbtmp3.7/4,MS3.4/3,Ms1 3.4/3, ms1mx3.0/26, Error ellipse: s-maj=215.4km s-min=29.6km az=149.0*
*NEIC **07** 17:39:45.6±0.5,19°3S±0°2×176°32W±0°09, h19km±4km, mb4.8/5, Error ellipse: s-maj=24.9km s-min=11.9km az=173.0*
ISC 07 17:39:47.8±0.8,19°3S±0°2×176°32W±0°10, h35km, n19, σ0§86/13, MS3.3/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**5.56**	**285**	Pn		**Pn**	**17 41 07.1**	**-1.1**
NIUE	**Niue**	**6.05**	**89**	Pn		**Pn**	**17 41 14.1**	**-0.7**
DZM	**Mont Dzumac**	**16.36**	**257**	*e*LR		LR	17 48 02.7	
	comp=Z,196nm,24.4s							
DZM	**Mont Dzumac**	**16.36**	**257**	LR		LR	17 48 55.7	
	comp=Z,125nm,19.4s,baz=68,slow=34							
TBI	**Tubuai**	**25.33**	**104**	*e*LR		LR	17 51 36.0	
	comp=Z,117nm,28.0s							
PPT2	**Papeete2**	**25.42**	**91**	*e*LR		LR	17 51 25.7	
	comp=Z,153nm,27.8s							
PPT	**Papeete**	**25.42**	**90**	LR		LR	17 53 45.9	
	comp=Z,66nm,18.8s,baz=228,slow=33							
PYZ	**Puysegur Point**	**30.25**	**204**	P		**P**	**17 45 55.6**	**+0.3**
CTAO	**Charters Tower**	**35.20**	**262**	P		**P**	**17 46 39.6**	**+0.7**
CTAO				IAmb		IAmb	17 47 02.9	
	comp=Z,28nm,1.3s							
AS31	**Alice Springs**	**46.34**	**255**	P		**P**	**17 48 11.5**	**+0.7**
AS31				IAmb		IAmb	17 48 17.7	
	comp=Z,2.3nm,1.4s							
ASAR	**Alice Springs**	**46.34**	**255**	P		**P**	**17 48 10.8**	**0.0**
	comp=Z,0.6nm,0.6s,baz=88,slow=8.3,SNR=15							
WRA	**Warramunga Arr**	**46.34**	**261**	P		**P**	**17 48 09.9**	**-1.0**
	comp=Z,1.4nm,0.9s,baz=96,slow=7.8,SNR=4.2							
FALS	**False Pass**	**74.67**	**8**	P		**P**	**17 51 25.0**	**+1.7**
BAR	**Barrett**	**76.94**	**48**	P		**P**	**17 51 36.3**	**-0.6**
BAR				IAmb		IAmb	17 51 37.6	
	comp=Z,27n

YKA **Yellowknife Ar** 145.48 45 PKPbc **PKPab** 18 05 36.9 0.0
comp=Z,3.2nm,1.0s,baz=260,slow=3.3,SNR=16

JMA 07 18:18:06.0, 35.78N×137.51E, h10km±1km, M2.6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGF	**Kuroka**	**0.22**	**215**	P	Pg	18 18 10.6	+0.1
JGF				S	Sg	18 18 13.5	-0.1
JYTA	**Yamagatataniai**	**0.66**	**254**	P	Pg	18 18 18.6	-0.1
JYTA				S	Sg	18 18 27.3	0.0
JTT	**Ttatey**	**0.84**	**350**	P	Pg	18 18 22.3	+0.2
JYN	**Shimob**	**0.89**	**108**	P	Pg	18 18 23.1	0.0
JYN				S	Sb	18 18 35.3	-0.2
MAT	**Matsushiro**	**0.95**	**36**	P	Pg	18 18 23.7	-0.6
MAT				S	Sg	18 18 36.1	-0.5

NEIC ***07*** *18:23:02.7±2.3, 23.8S±0.1×179.8W±0.1, h523km±8km, mb4.6/40, Error ellipse: s-maj=17.1km s-min=14.6km az=115.0*

IDC ***07*** *18:23:03.1±2.2, 23.90S×179.79W, h524km±25km, mb3.2/10, mb1 3.5/10, mb1mx3.3/24, mbtmp4.1/10, Error ellipse: s-maj=21.3km s-min=17.6km az=179.0*

ISC 07 18:23:02.4±0.5, 23.80S±0.07×179.80W±0.08, h518km, n63, σ1§29/65, mb4.5/27, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.68**	**163**	P	**P**	**18 24 37.3**	**+0.9**
	220nm,0.3s,baz=358,slow=18,SNR=5.7						
RAO	**Raoul Island**	**5.68**	**163**	P	**P**	**18 24 37.1**	**+0.7**
MSVF	**Nonsavu**	**6.37**	**341**	P	**P**	**18 24 44.0**	**+0.7**
NIUE	**Niue**	**10.32**	**65**	P	**P**	**18 25 24.8**	**+1.4**
AFI	**Afiamalu**	**12.42**	**39**	P	**P**	**18 25 44.2**	**-1.4**
OUZ	**Omahuta**	**12.74**	**205**	P	**P**	**18 25 48.1**	**-0.5**
DZM	**Mont Dzumac**	**12.80**	**275**	P	**P**	**18 25 51.2**	**+1.8**
MXZ	**Matakaoa Point**	**13.81**	**186**	P	**P**	**18 26 00.1**	**+0.4**
HIZ	**Hauiti**	**15.36**	**196**	P	**P**	**18 26 18.5**	**+2.6**
BKZ	**Black Stump Fm**	**15.64**	**191**	P	**P**	**18 26 16.9**	**-2.0**
BKZ				IAmb	IAmb	18 26 45.3	
	comp=Z,35nm,1.7s						
BFZ	**Birch Farm**	**17.16**	**190**	P	**P**	**18 26 30.9**	**-3.0**
MSWZ	**Moikau Station**	**18.05**	**192**	P	**P**	**18 26 38.8**	**-3.3**
QRZ	**Quartz Range**	**18.16**	**199**	P	**P**	**18 26 42.5**	**-0.7**
TUWZ	**Tuamarina**	**18.34**	**195**	P	**P**	**18 26 42.3**	**-2.4**
THZ	**Tophouse**	**18.92**	**197**	P	**P**	**18 26 48.7**	**-1.4**
RPZ	**Rata Peaks**	**21.24**	**199**	P	**P**	**18 27 09.0**	**-2.1**
	comp=Z,3.1nm,0.5s,baz=41,slow=8.1,SNR=6.1						
RPZ	**Rata Peaks**	**21.24**	**199**	P	**P**	**18 27 09.4**	**-1.7**
RPZ				IAmb	IAmb	18 27 22.9	
	comp=Z,38nm,1.6s						
FOZ	**Fox Glacier**	**21.46**	**201**	P	**P**	**18 27 11.5**	**-1.6**
WHZ	**Wether Hill Ro**	**24.17**	**201**	P	**P**	**18 27 36.5**	**-0.8**
WHZ				IAmb	IAmb	18 27 42.2	
	comp=Z,28nm,1.3s						
ARMA	**Armidale**	**26.23**	**249**	P	**P**	**18 27 57.2**	**+1.3**
ARMA				IAmb	IAmb	18 28 25.6	
	comp=Z,32nm,1.4s						
EIDS	**Eidsvold**	**26.51**	**261**	P	**P**	**18 27 59.3**	**+1.0**
EIDS				IAmb	IAmb	18 28 19.2	
	comp=Z,30nm,1.4s						
CAN	**Canberra**	**29.35**	**240**	P	**P**	**18 28 24.2**	**+1.1**
CAN				IAmb	IAmb	18 28 25.2	
	comp=Z,12nm,0.9s						
CTAO	**Charters Tower**	**31.66**	**270**	P	**P**	**18 28 44.4**	**+1.2**
CTAO				IAmb	IAmb	18 28 45.0	
	comp=Z,18nm,0.7s						
TOO	**Toolangi**	**32.66**	**237**	P	**P**	**18 28 52.3**	**+0.8**
TOO				IAmb	IAmb	18 28 56.7	
	comp=Z,21nm,1.4s						
TAU	**Tasmania Univ**	**33.13**	**227**	P	**P**	**18 28 56.1**	**+0.7**
TAU				IAmb	IAmb	18 29 15.3	
	comp=Z,33nm,1.2s						
PMG	**Port Moresby**	**34.64**	**289**	P	**P**	**18 29 06.8**	**-1.6**
STKA	**Stephens Creek**	**34.93**	**248**	P	**P**	**18 29 11.0**	**+0.3**
	comp=Z,2.4nm,0.5s,baz=98,slow=11,SNR=12						
STKA	**Stephens Creek**	**34.93**	**248**	P	**P**	**18 29 11.0**	**+0.3**
COEN	**Coen**	**36.28**	**279**	P	**P**	**18 29 21.9**	**-0.2**
BBOO	**Buckleboo**	**39.65**	**247**	P	**P**	**18 29 49.1**	**-0.3**
BBOO				IAmb	IAmb	18 29 49.4	
	comp=Z,7.7nm,0.6s						
AS31	**Alice Springs**	**42.23**	**260**	P	**P**	**18 30 10.4**	**+0.3**
ASAR	**Alice Springs**	**42.23**	**260**	P	**P**	**18 30 10.4**	**+0.3**
	comp=Z,8.8nm,0.8s,baz=95,slow=7.5,SNR=85						
WR0	**Warramunga Arr**	**42.41**	**266**	P	**P**	**18 30 11.0**	**-0.5**
WB2	**Warramunga Arr**	**42.59**	**266**	P	**P**	**18 30 12.8**	**-0.1**
WB2				IAmb	IAmb	18 30 13.5	
	comp=Z,18nm,0.8s						
WB0	**Warramunga Arr**	**42.59**	**266**	P	**P**	**18 30 12.5**	**-0.4**
WB0				IAmb	IAmb	18 30 13.4	
	comp=Z,16nm,0.7s						
WRA	**Warramunga Arr**	**42.60**	**266**	P	**P**	**18 30 12.8**	**-0.2**
	comp=Z,13nm,0.6s,baz=102,slow=8.4,SNR=39						
FORT	**Forrest**	**46.52**	**249**	P	**P**	**18 30 42.6**	**-0.5**
KNRA	**Kununurra**	**48.87**	**270**	P	**P**	**18 31 00.9**	**0.0**
FITZ	**Fitzroy Crossi**	**51.02**	**265**	P	**P**	**18 31 17.1**	**+0.5**
FITZ				IAmb	IAmb	18 31 37.7	
	comp=Z,30nm,1.5s						
VNDA	**Vanda**	**54.49**	**185**	P	**P**	**18 31 40.5**	**0.0**
	comp=Z,0.4nm,0.5s,baz=16,slow=8.5,SNR=4.2						
VNDA				PcP	**PcP**	**18 32 36.5**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=346,slow=4.4,SNR=2.4						
VNDA	**Vanda**	**54.49**	**185**	P	**P**	**18 31 41.8**	**+1.3**
VNDA				PcP	**PcP**	**18 32 36.8**	**+0.9**
PSA00	**Pilbara Seismi**	**55.36**	**259**	P	**P**	**18 31 46.0**	**-1.6**
PSA00				IAmb	IAmb	18 31 59.3	
	comp=Z,22nm,1.3s						
NWAO	**Narrogin (SRO)**	**55.44**	**245**	P	**P**	**18 31 44.5**	**-3.4**
NWAO				IAmb	IAmb	18 31 49.8	
	comp=Z,46nm,1.6s						
NWAO	**Narrogin (SRO)**	**55.44**	**245**	P	**P**	**18 31 45.0**	**-2.9**
NWAO				IAmb	IAmb	18 31 45.6	
	comp=Z,26nm,1.4s						
MORW	**Morawa**	**57.08**	**250**	P	**P**	**18 31 59.1**	**-0.3**
MMRI	**Maumere**	**57.30**	**275**	P	**P**	**18 32 01.1**	**+0.1**
MMRI				IAmb	IAmb	18 32 29.3	
	comp=Z,57nm,1.3s						
CASY	**Casey**	**60.28**	**206**	P	**P**	**18 32 19.5**	**-0.7**
QSPA	**South Pole Qui**	**66.28**	**180**	P	**P**	**18 32 59.6**	**+0.7**
KKM	**Kota Kinabalu**	**69.05**	**287**	P	**P**	**18 33 17.2**	**+0.6**
KKM				IAmb	IAmb	18 33 18.1	
	comp=Z,8.6nm,1.0s						
MJAR	**Matsushiro Arr**	**71.92**	**325**	P	**P**	**18 33 33.4**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=136,slow=5.2,SNR=2.2						
KSM	**Kuching**	**72.27**	**280**	P	**P**	**18 33 36.5**	**+0.9**
ADK	**Adak**	**75.41**	**2**	P	**P**	**18 33 52.4**	**-0.1**
ADK				IAmb	IAmb	18 34 20.8	
	comp=Z,27nm,1.3s						
MAW	**Mawson**	**77.90**	**200**	P	**P**	**18 34 06.5**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=90,slow=8.1,SNR=3.7						
MAW	**Mawson**	**77.90**	**200**	P	**P**	**18 34 06.6**	**+0.5**
NVAR	**Mina Array Bea**	**84.55**	**44**	P	**P**	**18 34 41.7**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=229,slow=8.2,SNR=2.8						
SNAA	**Sanae**	**84.76**	**179**		**P**	**18 34 40.9**	**-0.5**
SVW2	**Sparrevohn**	**86.85**	**12**		**P**	**18 34 50.1**	**-1.1**
SVW2				IAmb	IAmb	18 35 12.6	
	comp=Z,11nm,1.5s						
KNK	**Knik Glacier**	**88.60**	**14**	P	**P**	**18 34 59.1**	**-0.4**
TXAR	**Lajitas Array**	**90.22**	**58**	P	**P**	**18 35 07.4**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=227,slow=4.9,SNR=7.2						
PDAR	**Pinedale Array**	**92.49**	**44**	P	**P**	**18 35 19.4**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=216,slow=4.5,SNR=2.0						
KURBB	**Kurchatov Arra**	**115.31**	**316**	PKP	**PKPdf**	**18 40 44.1**	**-0.5**
	comp=Z,0.1nm,0.4s,baz=101,slow=4.8,SNR=1.6						
TORD	**Torodi Ar. Bea**	**169.31**	**188**	PKPab	**PKPab**	**18 43 26.0**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=187,slow=3.0,SNR=3.1						
TORD	**Torodi Ar. Bea**	**169.31**	**188**		**PKPab**	**18 43 26.0**	**-0.7**

IDC ***07*** *18:34:36.9±1.4, 0.42N×96.28E, h0km, mb3.6/8, mb1 3.7/10, mb1mx3.4/54, mbtmp3.6/10, ML3.4/2, MS3.1/3, Ms1 3.2/3, ms1mx2.7/31, Error ellipse: s-maj=47.6km s-min=18.9km az=59.0*

DJA ***07*** *18:34:43.7±1.0, 0.7N±4.4°×97.7E±°, h26km±14km, M4.2/14, mB5.3/2, mb4.4/6, MLv4.1/14, Mw(mB)4.7/2*

ISC 07 18:34:40.9±0.9, 0.47N±0.06×96.51E±0.07, h20km, n28, σ1§15/27, mb3.6/8, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.35**	**52**	P	**Pb**	**18 35 05.0**	**-0.5**
GSI				S	**Sb**	**18 35 22.1**	**-0.3**
SNSI	**Sinabang, Aceh**	**1.93**	**355**	P	**Pb**	**18 35 17.9**	**+2.5**
MNSI	**Mandailing Nat**	**3.09**	**84**	P	**Pn**	**18 35 29.6**	**+1.1**
MNSI				S	**Sn**	**18 36 04.9**	**0.0**
SISI	**Saibi**	**3.14**	**125**	P	**Pn**	**18 35 29.3**	**+0.1**
KCSI	**Kotacane, Aceh**	**3.28**	**23**	P	**Pn**	**18 35 30.0**	**-1.2**
KCSI				S	**Sn**	**18 36 10.2**	**+0.5**
PSI	**Prapat**	**3.34**	**46**	Pn	**Pn**	**18 35 32.3**	**+0.1**
	3.0nm,0.3s,baz=180,slow=7.0,SNR=9.2						
PSI				Sn	**Sn**	**18 36 12.4**	**+1.0**
	2.2nm,0.3s,baz=180,slow=15,SNR=3.3						
PSI				LR	LR	18 36 33.2	
	comp=Z,201nm,19.5s,baz=108,slow=33						
TSI	**Tuntungan**	**3.64**	**34**	P	**Pn**	**18 35 37.1**	**+0.9**
TSI				S	**Sn**	**18 36 20.2**	**+1.6**
MLSI	**Meulaboh, Aceh**	**3.77**	**358**	P	**Pn**	**18 35 38.9**	**+1.0**
PDSI	**Padang**	**4.19**	**109**	P	**Pn**	**18 35 44.4**	**+0.7**
SDSI	**Sungai Dareh**	**5.11**	**106**	P	**Pn**	**18 35 57.8**	**+1.4**
	0.1nm16nm,0.7s						
KRJI	**Kerinci**	**5.57**	**117**	P	**Pn**	**18 36 04.7**	**+1.9**
	1.2nm5µm245nm,0.9s						
CMAR	**Chiang Mai Arr**	**18.03**	**7**	P	**P**	**18 38 49.3**	**-1.5**
	0.1nm,0.3s,baz=197,slow=12,SNR=5.8						
CMAR				LR	LR	18 45 50.3	
	comp=Z,63nm,18.4s,baz=195,slow=37						
H08S2	**Diego Garcia H**	**25.27**	**251**	T	T	19 06 15.2	
	baz=72						
H08S3	**Diego Garcia H**	**25.27**	**251**	T	T	19 06 04.1	
	baz=72						
H08S1	**Diego Carcia H**	**25.29**	**251**	T	T	19 06 07.8	
	baz=72						
H01W3	**Cape Leeuwin H**	**38.85**	**157**	T	T	19 24 13.1	
	baz=334,slow=76						
H01W2	**Cape Leeuwin H**	**38.86**	**157**	T	T	19 24 12.6	
	baz=334,slow=76,SNR=6.1						
H01W1	**Cape Leeuwin H**	**38.86**	**157**	T	T	19 24 12.6	
	baz=334,slow=76,SNR=7.7						
WRA	**Warramunga Arr**	**42.25**	**121**	P	**P**	**18 42 33.2**	**0.0**
	0.6nm,0.6s,baz=302,slow=8.9,SNR=2.6						
ASAR	**Alice Springs**	**43.52**	**126**	P	**P**	**18 42 43.7**	**+0.2**
	0.6nm,0.6s,baz=296,slow=7.8,SNR=5.2						
KSRS	**Korea Array**	**46.84**	**35**	LR	LR	19 06 57.8	
	comp=Z,21nm,18.9s,baz=60,slow=41						
MKAR	**Makanchi Array**	**47.78**	**347**	P	**P**	**18 43 15.9**	**-0.9**
	0.6nm,0.7s,baz=161,slow=7.8,SNR=7.8						
SONM	**Songino Array**	**47.95**	**9**	P	**P**	**18 43 18.7**	**+0.4**
	0.3nm,0.5s,baz=198,slow=8.9,SNR=2.2						
KURBB	**Kurchatov Arra**	**52.25**	**346**	P	**P**	**18 43 49.6**	**-1.0**
	0.3nm,0.6s,baz=165,slow=6.9,SNR=4.7						
KURBB				PcP	**PcP**	**18 45 01.3**	**-0.6**
	0.3nm,0.6s,baz=158,slow=4.7,SNR=2.0						
STKA	**Stephens Creek**	**53.39**	**131**	P	**P**	**18 43 59.9**	**+0.5**
	1.1nm,0.7s,baz=321,slow=8.7,SNR=3.0						
ZALV	**Zalesovo Beam**	**54.17**	**352**	P	**P**	**18 44 04.0**	**-0.6**
	1.1nm,0.4s,baz=168,slow=7.3,SNR=6.8						
BVAR	**Borovoye Array**	**56.71**	**341**	P	**P**	**18 44 21.5**	**-1.5**
	0.3nm,0.5s,baz=159,slow=8.9,SNR=2.2						
TXAR	**Lajitas Array**	**144.65**	**31**	PKP	**PKPdf**	**18 54 15.2**	**-1.8**
	0.3nm,0.7s,baz=225,slow=1.2,SNR=4.0						

IDC ***07*** *18:36:37.5±1.8, 10.00S×118.46E, h0km, mb3.3/3, mb1 3.6/6, mb1mx3.3/50, mbtmp3.4/6, ML3.2/3, Error ellipse: s-maj=69.2km s-min=23.1km az=57.0*

ISC 07 18:36:43.5±1.5, 9.8S±0.1×119.1E±0.2, h33km, n9, σ3§24/8, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**4.83**	**8**	Pn	**Pn**	**18 37 56.2**	**+2.3**
	1.4nm,0.3s,baz=190,slow=8.3,SNR=10						
KAPI				Sn	**Sn**	**18 38 46.2**	**-2.5**
	4.7nm,0.3s,baz=45,slow=23,SNR=10.0						
FITZ	**Fitzroy Crossi**	**10.39**	**143**	Pn	**Pn**	**18 39 12.3**	**+2.0**
	0.1nm,0.3s,baz=326,slow=14,SNR=13						
FITZ				Sn	**Sn**	**18 41 00.8**	**-4.8**
	0.2nm,0.3s,baz=253,slow=21,SNR=1.3						
WRA	**Warramunga Arr**	**17.83**	**126**	P	**Pn**	**18 40 50.5**	**+1.3**
	0.1nm,0.3s,baz=298,slow=12,SNR=1.3						
ASAR	**Alice Springs**	**19.74**	**136**	P	**P**	**18 41 13.1**	**+2.4**
	0.5nm,0.7s,baz=318,slow=12,SNR=2.5						
H08S2	**Diego Garcia H**	**46.08**	**269**	T	T	19 34 29.8	
	baz=95,slow=75,SNR=5.0						
H08S3	**Diego Garcia H**	**46.09**	**269**	T	T	19 34 30.2	
	baz=95,slow=75,SNR=3.6						
H08S1	**Diego Carcia H**	**46.10**	**269**	T	T	19 34 31.2	
	baz=95,slow=75,SNR=4.2						
MKAR	**Makanchi Array**	**65.23**	**333**	P	**P**	**18 47 20.1**	**-1.6**
	0.3nm,0.7s,baz=139,slow=6.8,SNR=2.8						
KURBB	**Kurchatov Arra**	**69.74**	**334**	P	**P**	**18 47 48.3**	**-1.8**
	0.3nm,0.6s,baz=140,slow=6.0,SNR=2.5						

NIED ***07*** *18:44:00, 43.20N×146.50E, h44km, Mw3.6 Best double couple: M₀3.03000×10¹⁴ NP1:φ=57.00000°, δ63.00000°, λ122.00000°. NP2:φ=183.00000°, δ41.00000°, λ44.00000°.*

JMA ***07*** *18:44:32.6±0.1, 43.18N×146.47E, h51km±1km, M3.7*

MOS ***07*** *18:44:33.3±1.6, 43.38N×146.26E, h59km, mb4.6/6, Error ellipse: s-maj=11.1km s-min=8.7km az=86.8*

SKHL ***07*** *18:44:33.1±0.1, 43.16N×146.50E, h58km±7km, mb4.2/5*

NEIC ***07*** *18:44:36.3±1.2, 43.31N±0.07×146.4E±0.1, h76km±6km, mb4.7/14, Error ellipse: s-maj=15.6km s-min=10.5km az=98.0*

IDC ***07*** *18:44:37.3±3.1, 43.31N×146.25E, h83km±31km, mb3.6/8, mb1 3.7/10, mb1mx3.2/47, mbtmp3.8/10, Error ellipse: s-maj=43.7km s-min=28.6km az=172.0*

ISC 07 18:44:33.5±1.0, 43.22N±0.05×146.47E±0.05, h49km±8km, n73, σ1§74/91, mb4.2/17, 2C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.55**	**286**	P	**Pn**	**18 44 44.8**	**-0.4**
NEM2				eS	**Sn**	**18 44 53.4**	**-0.2**
NMR	**Nemuro--Hokkai**	**0.56**	**286**	*i* P	**Pn**	**18 44 44.9**	**-0.4**
NMR				*i* S	**Sn**	**18 44 53.7**	**-0.2**
NMR	**Nemuro--Hokkai**	**0.56**	**286**	*i* PN	**Pn**	**18 44 44.9**	**-0.4**
NMR				*i* S	**Sn**	**18 44 53.7**	**-0.2**
GLVR	**Golovnino**	**0.86**	**307**	*e*P	**Pn**	**18 44 49.0**	**-0.3**
GLVR				AMB	AMB	18 44 49.0	
	120nm,0.2s						
GLVR				*i* S	**Sn**	**18 45 01.3**	**+0.5**
GLVR				A	A	18 45 01.7	
	840nm,0.3s						
GLVR				A	A	18 45 01.7	
	1µm,0.3s						
GLVR	**Golovnino**	**0.86**	**307**	*e*PN	**Pn**	**18 44 49.0**	**-0.3**
GLVR				*i* S	**Sn**	**18 45 01.3**	**+0.5**
GLVR				pmax	pmax		
	comp=E,433nm,0.1s						
GLVR				pmax	pmax		
	comp=Z,1µm,0.1s						
GLVR				smax	smax		
	comp=N,3µm,0.3s						
GLVR				smax	smax		
	comp=E,4µm,0.3s						
GRPR	**Tuman**	**0.92**	**327**	*e*P	**Pn**	**18 44 48.8**	**-1.3**
GRPR				AMB	AMB	18 44 50.0	
	comp=E,180nm,0.3s						
GRPR				*i* S	**Sn**	**18 45 01.3**	**-1.0**
GRPR				A	A	18 45 02.0	
	comp=E,1µm,0.3s						
GRPR				A	A	18 45 02.0	
	comp=E,900nm,0.3s						
GRPR	**Tuman**	**0.92**	**327**	*e*PN	**Pn**	**18 44 48.8**	**-1.3**
GRPR				*i* S	**Sn**	**18 45 01.3**	**-1.0**
GRPR				pmax	pmax		
	comp=Z,2µm,0.2s						
GRPR				pmax	pmax		
	comp=E,739nm,0.3s						
GRPR				pmax	pmax		
	comp=N,623nm,0.2s						
GRPR				smax	smax		
	comp=N,4µm,0.3s						
GRPR				smax	smax		
	comp=E,4µm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.93**	**332**	*i* P	**Pn**	**18 44 49.6**	**-0.6**
YUK				AMB	AMB	18 44 50.0	
	comp=E,110nm,0.2s						
YUK				*i* S	**Sn**	**18 45 02.1**	**-0.2**
YUK				A	A	18 45 04.7	
	comp=E,1µm,0.4s						
YUK				A	A	18 45 04.7	
	comp=E,1µm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.93**	**332**	*d i* PN	**Pn**	**18 44 49.5**	**-0.6**
YUK				*i* S	**Sn**	**18 45 02.1**	**-0.2**
YUK				pmax	pmax		
	comp=Z,1081µm,0.2s						
YUK				pmax	pmax		
	comp=N,299µm,0.1s						
YUK				pmax	pmax		
	comp=E,380µm,0.2s						
YUK				smax	smax		
	comp=N,2µm,0.2s						
YUK				smax	smax		
	comp=E,3µm,0.2s						
JKHN	**Kushirohamanak**	**0.96**	**262**	P	**Pn**	**18 44 50.5**	**-0.1**
JKHN				S	**Sn**	**18 45 03.5**	**+0.2**
JNSB	**Nemuroshibetsu**	**1.20**	**298**	P	**Pn**	**18 44 53.6**	**-0.2**
JNSB				*e*S	**Sn**	**18 45 08.7**	**-0.3**
JRA	**Rausu**	**1.21**	**307**	P	**Pn**	**18 44 54.1**	**+0.1**
JRA				*e*S	**Sn**	**18 45 09.9**	**+0.6**
RUSJ	**Misakicho**	**1.25**	**315**	*e*PN	Pn	18 44 48.8	-5.7
RUSJ				*i* S	**Sn**	**18 45 01.3**	**-8.9**
RUSJ				pmax	pmax		
	comp=Z,623nm,0.2s						
JAK	**Akkeshi**	**1.31**	**261**	P	**Pn**	**18 44 54.9**	**-0.5**
JAK				*e*S	**Sn**	**18 45 11.3**	**-0.5**
JNK	**Nakash**	**1.32**	**287**	P	**Pn**	**18 44 55.0**	**-0.5**
JNK				*e*S	**Sn**	**18 45 12.0**	**0.0**
JOB	**Onbets**	**1.95**	**262**	P	**Pn**	**18 45 03.9**	**-0.2**
JOB				*e*S	**Sn**	**18 45 27.5**	**+0.1**
JAR	**Ashorobuto**	**1.97**	**273**	P	**Pn**	**18 45 04.4**	**0.0**
JAR				S	**Sn**	**18 45 28.7**	**+0.8**
JTKR	**Abashiri--Toko**	**2.00**	**293**	P	**Pn**	**18 45 05.7**	**+0.9**
JTKR				S	**Sn**	**18 45 29.9**	**+1.3**
KUR	**Kuril'sk**	**2.25**	**26**	*e*P	**Pn**	**18 45 08.5**	**+0.3**
KUR				AMB	AMB	18 45 09.8	
	comp=Z,30nm,0.4s						
KUR				*i* S	**Sn**	**18 45 34.5**	**-0.2**
KUR				A	A	18 45 37.6	
	comp=Z,190nm,0.3s						
KUR				A	A	18 45 37.6	
	comp=Z,250nm,0.3s						
KUR	**Kuril'sk**	**2.25**	**26**	*d i* PN	**Pn**	**18 45 08.7**	**+0.5**
KUR				*i* S	**Sn**	**18 45 36.3**	**+1.6**
KUR				pmax	pmax		
	comp=Z,55µm,0.3s						
KUR				pmax	pmax		
	comp=N,35µm,0.2s						
KUR				pmax	pmax		
	comp=E,43µm,0.1s						
KUR				smax	smax		
	comp=N,191nm,0.2s						
KUR				smax	smax		
	comp=E,252nm,0.2s						
JCH	**Churui**	**2.36**	**256**	P	**Pn**	**18 45 09.1**	**-0.6**
JCH				*e*S	**Sn**	**18 45 36.3**	**-1.1**
JMP	**Maruseppu**	**2.39**	**290**	P	**Pn**	**18 45 11.1**	**+1.0**
ERM	**Erimo**	**2.72**	**245**	PN	**Pn**	**18 45 16.0**	**+1.3**
ERM	**Erimo**	**2.72**	**245**	Pn	**Pn**	**18 45 16.0**	**+1.3**
JKA	**Kamikawa-asahi**	**2.94**	**289**	*e*P	**Pn**	**18 45 19.6**	**+1.9**
JKA	**Kamikawa-asahi**	**2.94**	**289**		**Pn**	**18 45 19.6**	**+1.9**
JKA					**Sn**	**18 45 58.2**	**+6.4**
JKA	**Kamikawa-asahi**	**2.94**	**289**	Pn	**Pn**	**18 45 19.4**	**+1.7**
ASAJ	**Asahikawa**	**2.95**	**289**	P	**Pn**	**18 45 19.6**	**+1.8**
	comp=E,15nm,0.3s,baz=109,slow=10,SNR=58						
ASAJ				S	**Sn**	**18 45 58.2**	**+6.4**
	comp=E,4.6nm,0.3s,baz=226,slow=29,SNR=7.7						
YSS	**Yuzh-Sakhalins**	**4.56**	**326**	*e*P	**Pn**	**18 45 41.5**	**+1.6**
YSS				AMB	AMB	18 45 42.9	
	comp=E,6.0nm,0.3s						
YSS				*e*S	**Sn**	**18 46 31.1**	**-0.5**
YSS	**Yuzh-Sakhalins**	**4.56**	**326**	PN	**Pn**	**18 45 41.8**	**+1.9**
YSS	**Yuzh-Sakhalins**	**4.56**	**326**	Pn	**Pn**	**18 45 41.8**	**+1.9**
MJAR	**Matsushiro Arr**	**9.20**	**226**	P	Pn	18 46 46.5	+2.9
	comp=E,0.0nm,0.3s,baz=30,slow=13,SNR=3.5						
USA0B	**Ussuriysk Arra**	**10.53**	**280**	*i* ePN	**Pn**	**18 46 59.2**	**-2.4**
MSHR	**Mys Shultsa**	**11.25**	**272**	*i* ePN	**Pn**	**18 47 09.3**	**-2.2**
PEA0B	**Petropavlovsk-**	**12.40**	**33**	*i* ePN	**Pn**	**18 47 28.5**	**+1.4**
H11N2	**WAKE ISLAND Hy**	**29.04**	**137**	T	T	19 21 14.9	
	baz=328,slow=75,SNR=54						
H11N1	**WAKE ISLAND Hy**	**29.05**	**137**	T	T	19 21 24.3	
	baz=328,slow=75,SNR=84						
H11N3	**WAKE ISLAND Hy**	**29.06**	**137**	T	T	19 21 12.5	
	baz=328,slow=75,SNR=86						
H11S1	**WAKE ISLAND Hy**	**29.98**	**139**	T	T	19 22 27.5	
	baz=330,slow=76,SNR=113						
H11S3	**WAKE ISLAND Hy**	**29.99**	**139**	T	T	19 22 34.5	
	baz=330,slow=76,SNR=104						
H11S2	**WAKE ISLAND Hy**	**30.00**	**139**	T	T	19 22 34.8	
	baz=330,slow=76,SNR=71						
KDAK	**Kodiak Island**	**39.97**	**47**	P	**P**	**18 52 02.6**	**-0.3**
KDAK	**Kodiak Island**	**39.97**	**47**	P	**P**	**18 52 02.6**	**-0.3**
BRLK	**Bradley Lake**	**40.67**	**44**	P	**P**	**18 52 06.2**	**-2.4**
RND	**Reindeer**	**41.41**	**38**	P	**P**	**18 52 14.2**	**-0.6**
RND				pmax	pmax		
	comp=Z,5.0nm,1.3s						
RND	**Reindeer**	**41.41**	**38**	P	**P**	**18 52 14.2**	**-0.6**
RND				IAmb	IAmb	18 52 21.7	
	comp=Z,5.0nm,1.3s						
ILAR	**Eielson

*OSPL **07** 18:49:58.8±1.1, 19.˙08N×67.˙77W, h4km±12km, ML2.3*
*RSPR **07** 18:49:59.2, 19.˙23N×67.˙78W, h26km±10km, MD3.0/6*
ISC 07 18:49:58.2±1.8, 19.˙1N±0.˙1×67.˙76W±0.˙04, h20km, n21, σθ340/28, 5C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDE	**Isla Desecheo**	**0.76**	**159**	⇑*eP*	**Pb**	**18 50 12.2**	**-0.5**
IDE	**Isla Desecheo**	**0.76**	**159**		**Pb**	**18 50 12.2**	**-0.5**
PCDR	**Punta Cana, DR**	**0.83**	**225**	⇑*eP*	**Pb**	**18 50 14.2**	**+0.2**
PCDR	**Punta Cana, DR**	**0.83**	**225**		**Pb**	**18 50 14.2**	**+0.2**
PCDR				*eS*	**Sb**	**18 50 25.0**	**+0.3**
PCDR	**Punta Cana, DR**	**0.83**	**225**	*i* P	**Pb**	**18 50 12.6**	**-1.4**
PCDR				*eS*	**Sb**	**18 50 24.6**	**-0.1**
PCDR				IAML		18 50 27.3	
	comp=Z,116nm,0.5s						
AGPR	**Aguadilla, PR**	**0.88**	**136**	⇑*eP*	**Pb**	**18 50 15.0**	**+0.2**
AGPR	**Aguadilla, PR**	**0.88**	**136**		**Pb**	**18 50 15.0**	**+0.2**
AGPR	**Aguadilla, PR**	**0.88**	**136**	*i* P	**Pb**	**18 50 14.9**	**+0.1**
AGPR				*eS*	**Sb**	**18 50 25.9**	**-0.2**
AGPR				IAML		18 50 32.2	
	comp=Z,73nm,0.1s						
MPR	**Mayaguez**	**1.06**	**146**	*i* P	**Pn**	**18 50 18.0**	**+0.1**
MPR				*eS*	**Sb**	**18 50 31.3**	**0.0**
MPR				IAML		18 50 46.4	
	comp=Z,118nm,0.2s						
AOPR	**Arecibo Observ**	**1.21**	**128**	⇓*eP*	**Pn**	**18 50 19.8**	**-0.3**
AOPR	**Arecibo Observ**	**1.21**	**128**	*eS*	**Sb**	**18 50 35.7**	**0.0**
AOPR	**Arecibo Observ**	**1.21**	**128**		**Pn**	**18 50 19.8**	**-0.3**
AOPR					**Sb**	**18 50 35.7**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.25**	**150**	⇓*eP*	**Pn**	**18 50 20.5**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.25**	**150**	*eS*	**Sn**	**18 50 37.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.25**	**150**		**Pn**	**18 50 20.5**	**-0.1**
CRPR					**Sn**	**18 50 37.3**	**+0.5**
MLPR	**Magueyes Islan**	**1.31**	**149**	⇑*eP*	**Pn**	**18 50 21.5**	**+0.1**
MLPR	**Magueyes Islan**	**1.31**	**149**	*eS*	**Sn**	**18 50 38.8**	**+0.5**
MLPR	**Magueyes Islan**	**1.31**	**149**		**Sn**	**18 50 21.5**	**+0.1**
MLPR					**Sn**	**18 50 38.8**	**+0.5**
EMPR	**Esperanza - Ma**	**1.32**	**118**	⇑*eP*	**Pn**	**18 50 21.1**	**-0.4**
EMPR	**Esperanza - Ma**	**1.32**	**118**		**Pn**	**18 50 21.1**	**-0.4**
SDDR	**Presa de Saban**	**3.34**	**269**	Pn	**Pn**	**18 50 49.6**	**+0.2**

*NEIC **07** 19:10:59.5±1.7, 19.˙79S±0.˙04×71.˙15W±0.˙06, h14km±4km, mb4.8/21, Mwr4.2/47, Error ellipse: s-maj=7.7km s-min=5.3km az=89.0*
*NEIC **07** 19:11:00.3, 19.˙82S×71.˙11W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=1.59; $M_{\theta\theta}$=-0.02; $M_{\phi\phi}$=-1.57; $M_{r\theta}$=0.51; $M_{r\phi}$=0.72; $M_{\theta\phi}$=-1.47; Fault plane solution: M_o=2.33000×10^{15} NP1:ϕs336.19000°, δ23.97000°, λ86.39000°. NP2:ϕs160.14000°, δ66.08000°, λ91.61000°. Principal axes: T 2.1923, Plg69.0000°, Azm73.0000°; N 0.2596, Plg1.0000°, Azm339.0000°; P -2.4519, Plg21.0000°, Azm249.0000°;*
*GUC **07** 19:11:01.8±0.5, 19.˙74S×71.˙15W, h41km±3km, ML4.2*
*VAO **07** 19:11:02.8±1.4, 19.˙74S×71.˙50W, h82km±9km, mb4.3*
*IDC **07** 19:11:03.2±6.0, 19.˙64S×70.˙60W, h21km±39km, mb3.8/7, mb1 4.1/8, mb1mx3.8/26, mbtmp4.0/8, ML3.7/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/21, Error ellipse: s-maj=28.8km s-min=21.1km az=70.0*
ISC 07 19:10:58.2±1.0, 19.˙85S±0.˙03×71.˙22W±0.˙04, h7km±6km, n128, σ1s72/131, mb4.7/13, 11C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSGC	**Pisagua**	**1.06**	**76**	⇓*iP*	**Pb**	**19 11 18.2**	**-0.8**
PSGC				*i* S	**Sb**	**19 11 31.1**	**-2.1**
PSGC				IAML		19 11 33.4	
	comp=E,5μm,0.6s						
PSGCX	**Pisagua**	**1.06**	**76**		**Pb**	**19 11 17.7**	**-1.2**
PSGCX				Sg	**Sb**	**19 11 31.4**	**-1.7**
TA02	**Huaiquique**	**1.10**	**112**	⇑*iP*	**Pg**	**19 11 20.0**	**+0.6**
TA02				*i* S	**Sb**	**19 11 34.2**	**0.0**
TA02				IAML		19 11 35.9	
	comp=N,10μm,0.6s						
TA01	**Diego Aracena**	**1.21**	**126**	⇑*iP*	**Pg**	**19 11 22.0**	**+0.7**
TA01				*i* S	**Sn**	**19 11 36.6**	**-1.4**
TA01				IAML		19 11 43.2	
	comp=N,5μm,0.4s						
TA01	**Diego Aracena**	**1.21**	**126**		**Pg**	**19 11 22.0**	**+0.7**
TA01				Sg	**Sb**	**19 11 36.4**	**-0.7**
PATCX	**Punta Patache**	**1.39**	**134**	⇑*iP*	**Pg**	**19 11 24.7**	**-0.1**
PATCX				*i* S	**Sg**	**19 11 42.8**	**-0.1**
PATCX				IAML		19 11 53.1	
	comp=N,5μm,0.7s						
PATCX	**Punta Patache**	**1.39**	**134**		**Pg**	**19 11 24.8**	**-0.1**
PB11	**IPOC Station P**	**1.47**	**87**	⇑*iP*	**Pn**	**19 11 25.0**	**-0.3**
PB11				*i* S	**Sn**	**19 11 43.0**	**-2.0**
PB11				IAML		19 11 44.9	
	comp=N,5μm,0.3s						
PB11	**IPOC Station P**	**1.47**	**87**	Pn	**Pn**	**19 11 24.9**	**-0.3**
PB11				Sn	**Sn**	**19 11 42.9**	**-2.1**
PB12	**IPOC Station P**	**1.49**	**34**	⇑*iP*	**Pn**	**19 11 24.2**	**-1.2**
PB12				*i* S	**Sn**	**19 11 41.6**	**-3.7**
PB12				IAML		19 11 44.6	
	comp=N,4μm,0.3s						
PB12	**IPOC Station P**	**1.49**	**34**	Pn	**Pn**	**19 11 24.2**	**-1.2**
AP01	**Chacalluta**	**1.69**	**30**	*eP*	**Pn**	**19 11 27.0**	**-1.2**
AP01				*eS*	**Sn**	**19 11 46.2**	**-3.8**
AP01				IAML		19 12 06.6	
	comp=E,6μm,0.7s						
AP01	**Chacalluta**	**1.69**	**30**		**Pn**	**19 11 26.9**	**-1.2**
MNMC	**Minye Minye**	**1.69**	**65**	⇑*iP*	**Pn**	**19 11 28.0**	**-0.4**
MNMC				*i* S	**Sn**	**19 11 48.5**	**-1.9**
MNMC				IAML		19 11 54.0	
	comp=E,9μm,0.7s						
MNMC	**Minye Minye**	**1.69**	**65**		**Pn**	**19 11 27.7**	**-0.7**
PB02	**IPOC Station P**	**1.92**	**140**	⇑*iP*	**Pb**	**19 11 32.4**	**-1.1**
PB02				IAML		19 12 07.8	
	comp=N,5μm,0.4s						
GO01	**Chusmiza**	**1.92**	**85**	⇑*iP*	**Pn**	**19 11 31.7**	**0.0**
GO01				*eS*	**Sn**	**19 11 55.2**	**-1.0**
GO01				IAML		19 12 01.2	
	comp=N,5μm,0.3s						
GO01	**Chusmiza**	**1.92**	**85**		**Pn**	**19 11 31.7**	**0.0**
PB08	**IPOC Station P**	**1.96**	**99**	⇑*iP*	**Pn**	**19 11 32.6**	**+0.3**
PB08				*i* S	**Sn**	**19 11 56.5**	**-0.8**
PB08				IAML		19 12 06.7	
	comp=N,1μm,0.3s						
PB08	**IPOC Station P**	**1.96**	**99**		**Pn**	**19 11 32.5**	**+0.3**
PB01	**IPOC Station P**	**2.01**	**126**	⇑*iP*	**Pb**	**19 11 33.6**	**-1.6**
PB01				*i* S	**Sn**	**19 11 58.2**	**+0.1**
PB01				IAML		19 12 10.2	
	comp=E,3μm,0.4s						
PB01	**IPOC Station P**	**2.01**	**126**		**Pb**	**19 11 33.5**	**-1.6**
PB07	**IPOC Station P**	**2.24**	**146**	*eP*	**Pb**	**19 11 37.1**	**-2.1**
PB07				*i* S	**Sg**	**19 12 10.2**	**-0.2**
PB07				IAML		19 12 22.0	
	comp=E,3μm,0.6s						
PB07	**IPOC Station P**	**2.24**	**146**	Pn	**Pb**	**19 11 36.9**	**-2.3**
PB03	**IPOC Station P**	**2.58**	**148**	*eP*	**Pb**	**19 11 41.8**	**-3.0**
PB03				IAML		19 12 34.5	
	comp=E,876nm,0.4s						
PB04	**IPOC Station P**	**2.66**	**158**	*eP*	**Pb**	**19 11 42.8**	**-3.5**
PB04				IAML		19 12 37.7	
	comp=N,2μm,0.6s						
PB04	**IPOC Station P**	**2.66**	**158**		**Pn**	**19 11 42.5**	**+0.8**
PB09	**IPOC Station P**	**2.68**	**137**	⇑*iP*	**Pb**	**19 11 43.9**	**-2.6**
PB09				IAML		19 12 33.6	
	comp=E,2μm,0.5s						
PB09	**IPOC Station P**	**2.68**	**137**		**Pb**	**19 11 43.9**	**-2.6**
PB05	**IPOC Station P**	**3.13**	**163**	*eP*	**Pn**	**19 11 48.9**	**+0.8**
PB05				IAML		19 12 56.2	
	comp=N,496nm,0.5s						
PB06	**IPOC Station P**	**3.23**	**152**	*eP*	**Pn**	**19 11 50.3**	**+0.9**
PB06				IAML		19 12 49.9	
	comp=E,557nm,0.5s						
PB06	**IPOC Station P**	**3.23**	**152**		**Pn**	**19 11 50.3**	**+0.9**
LVC	**Limon Verde**	**3.49**	**142**	Pn	**Pn**	**19 11 55.5**	**+2.3**
	comp=E,7.0nm,0.3s,baz=306,slow=9.0,SNR=26						
LVC				Sn	**Sn**	**19 12 36.1**	**+1.2**
	comp=E,33nm,0.3s,baz=110,slow=20,SNR=5.8						
LVC				Lg	Lg	19 12 48.3	
	comp=E,26nm,0.3s,baz=189,slow=17,SNR=4.6						
LVC	**Limon Verde**	**3.49**	**142**	Pn	**Pn**	**19 11 55.7**	**+2.5**
LVC	**Limon Verde**	**3.49**	**142**	*eS*	**Sb**	**19 12 41.7**	**-1.5**
LVC	**Limon Verde**	**3.49**	**142**	*eS*	**Sb**	**19 12 41.7**	**-1.5**
PB10	**IPOC Station P**	**3.69**	**170**	*eP*	**Pn**	**19 11 56.4**	**+0.7**
PB10	**IPOC Station P**	**3.69**	**170**	Pn	**Pn**	**19 11 56.5**	**+0.8**
PB15	**IPOC Station P**	**3.71**	**154**	*eP*	**Pn**	**19 11 56.9**	**+0.8**
PB15	**IPOC Station P**	**3.71**	**154**		**Pn**	**19 11 57.1**	**+1.0**
LPAZ	**La Paz**	**4.60**	**40**	Pn	**Pn**	**19 12 11.3**	**+2.6**
	comp=E,2.0nm,0.3s,baz=223,slow=4.4,SNR=30						
LPAZ	**La Paz**	**4.60**	**40**	*eP*	**Pn**	**19 12 11.2**	**+2.4**
LPAZ	**La Paz**	**4.60**	**40**	*eP*	**Pn**	**19 12 11.2**	**+2.4**
GO02	**Mina Guanaco**	**5.50**	**164**	Pn	**Pn**	**19 12 22.1**	**+1.4**
AC01	**Pan de Azucar**	**6.29**	**175**	Pn	**Pn**	**19 12 31.5**	**+0.1**
AC02	**Maricunga**	**7.21**	**165**	Pn	**Pn**	**19 12 46.3**	**+1.8**
AC05	**El Transito**	**8.98**	**175**	Pn	**Pn**	**19 13 08.0**	**-0.5**
NNA	**Nana**	**9.51**	**325**	LR	LR	19 17 11.5	
	comp=E,66nm,21.0s,baz=138,slow=38						
GO04	**Tololo Observa**	**10.28**	**178**	Pn	**Pn**	**19 13 27.1**	**+0.7**
CFA	**Coronel Fontan**	**12.01**	**168**	LR	LR	19 18 30.4	
	comp=E,60nm,18.6s,baz=265,slow=37						
PTLB	**Pontes e Lacer**	**12.32**	**71**	*eP*	**Pn**	**19 13 57.9**	**+3.8**
PTLB	**Pontes e Lacer**	**12.32**	**71**	*eP*	**Pn**	**19 13 57.9**	**+3.8**
VILB	**Vilhena**	**12.60**	**59**	*eS*	**Sn**	**19 16 22.2**	**+3.6**
VILB	**Vilhena**	**12.60**	**59**	*eS*	**Sn**	**19 16 22.2**	**+3.6**
VA03	**San Esteban**	**12.87**	**177**	Pn	**Pn**	**19 14 01.7**	**0.0**
ROC1	**El Roble**	**13.07**	**179**	Pn	**Pn**	**19 14 02.1**	**-2.5**
MT02	**Curacav**	**13.35**	**180**	Pn	**Pn**	**19 14 05.3**	**-2.9**
AQDB	**Aquidauana**	**14.59**	**95**	*eP*	**P**	**19 14 29.4**	**-2.3**
AQDB	**Aquidauana**	**14.59**	**95**	*eP*	**P**	**19 14 29.4**	**-2.3**
H03N1	**Juan Fernandez**	**15.17**	**205**	T	T	19 30 36.7	
	baz=33,slow=72,SNR=7.5						
H03N2	**Juan Fernandez**	**15.18**	**205**	T	T	19 30 36.3	
	baz=33,slow=72,SNR=7.8						
H03N3	**Juan Fernandez**	**15.19**	**205**	T	T	19 30 27.0	
	baz=33,slow=72,SNR=13						
SALV	**Santo Antonio**	**15.29**	**78**	*eP*	**P**	**19 14 37.3**	**-2.2**
SALV	**Santo Antonio**	**15.29**	**78**	*eP*	**P**	**19 14 37.3**	**-2.2**
ARAG	**Araguaiana, MT**	**18.93**	**81**	*eP*	**P**	**19 15 19.3**	**-0.6**
ARAG	**Araguaiana, MT**	**18.93**	**81**	*eP*	**P**	**19 15 19.3**	**-0.6**
ITRB	**Iturama**	**19.63**	**93**	*eP*	**P**	**19 15 27.9**	**+0.4**
ITRB	**Iturama**	**19.63**	**93**	*eP*	**P**	**19 15 27.9**	**+0.4**
NPGB	**Novo Progresso**	**19.98**	**53**	*eP*	**P**	**19 15 30.1**	**-1.2**
NPGB	**Novo Progresso**	**19.98**	**53**	*eP*	**P**	**19 15 30.1**	**-1.2**
FRTB	**Fartura**	**20.43**	**104**	*eP*	Pn	19 15 37.2	-1.1
FRTB	**Fartura**	**20.43**	**104**	*eP*	Pn	19 15 37.2	-1.1
PLCA	**Paso Flores**	**20.82**	**179**	P	Pn	19 15 45.9	+3.1
	comp=E,2.3nm,0.9s,baz=13,slow=14,SNR=2.1						
PLCA	**Paso Flores**	**20.82**	**179**		**Pn**	19 15 45.2	+2.4
IPMB	**Ipameri, GO**	**21.84**	**89**	*eP*	**P**	**19 15 50.3**	**-1.2**
IPMB	**Ipameri, GO**	**21.84**	**89**	*eP*	**P**	**19 15 50.3**	**-1.2**
PTGA	**Pitinga**	**21.97**	**31**	P	**P**	**19 15 50.6**	**-2.1**
	comp=E,5.0nm,0.3s,baz=242,slow=24,SNR=17						
PTGA	**Pitinga**	**21.97**	**31**	P	**P**		
PTGA				IAmb	IAmb	19 16 01.2	
	comp=Z,11nm,0.6s						
PTGA	**Pitinga**	**21.97**	**31**	*eP*	**P**	**19 15 50.4**	**-2.4**
PTGA	**Pitinga**	**21.97**	**31**	*eP*	**P**	**19 15 50.4**	**-2.4**
BDFB	**Brasilia**	**22.49**	**83**	P	**P**	**19 15 55.1**	**-3.4**
	comp=Z,1.6nm,0.5s,baz=172,slow=15,SNR=1.9						
BDFB				LR	LR	19 25 33.2	
	comp=Z,92nm,20.1s,baz=320,slow=40						
BDFB	**Brasilia**	**22.49**	**83**	P	**P**	**19 15 56.6**	**-1.9**
PCON	**Cinco Dias**	**22.62**	**346**	*eP*	P	19 16 14.9	+15
PRAC	**Prado**	**23.70**	**351**	*eP*	**P**	**19 16 11.7**	**+0.9**
ORTC	**Ortega, Tolima**	**23.94**	**350**	*eP*	**P**	**19 16 13.1**	**-0.1**
ROSC	**El Rosal**	**24.73**	**353**	P	**P**	**19 16 19.2**	**-1.5**
ROSC				IAmb	IAmb	19 16 34.0	
	comp=Z,9.6nm,0.5s						
RREF	**El Recreo**	**24.93**	**350**	*eP*	**P**	**19 16 25.5**	**+2.7**
GUY2C	**Guyana, Caldas**	**25.25**	**350**	*eP*	**P**	**19 16 28.8**	**+3.2**
SMTB	**Santa Maria do**	**25.33**	**68**	*eP*	**P**	**19 16 24.8**	**-1.0**
SMTB	**Santa Maria do**	**25.33**	**68**	*eP*	**P**	**19 16 24.8**	**-1.0**
SPBC	**San Pablo de B**	**25.50**	**353**	*eP*	**P**	**19 16 27.4**	**0.0**
NORC	**Norcasia**	**25.51**	**352**	*eP*	**P**	**19 16 27.4**	**-0.1**
RUSC	**La Rusia**	**25.65**	**356**	P	**P**	**19 16 29.6**	**+0.4**
MC01	**Montes Claros**	**26.08**	**88**	*eP*	**P**	**19 16 31.1**	**-1.6**
MC01	**Montes Claros**	**26.08**	**88**	*eP*	**P**	**19 16 31.1**	**-1.6**
JANB	**Januaria**	**26.09**	**84**	*eP*	**P**	**19 16 30.9**	**-2.0**
JANB	**Januaria**	**26.09**	**84**	*eP*	**P**	**19 16 30.9**	**-2.0**
ROSB	**Rosrio**	**31.36**	**61**	*eP*	**P**	**19 17 17.8**	**-2.0**
ROSB	**Rosrio**	**31.36**	**61**	*eP*	**P**	**19 17 17.8**	**-2.0**
ACON	**Acoyapa**	**34.48**	**335**	P	**P**	**19 17 48.2**	**+1.3**
ACON				IAmb	IAmb	19 18 15.6	
	comp=Z,32nm,1.5s						
MTP	**Monte Pirata**	**38.12**	**9**	P	**P**	**19 18 18.7**	**+0.7**
AOPR	**Arecibo Observ**	**38.21**	**7**	P	**P**	**19 18 20.2**	**+1.4**
AOPR				IAmb	IAmb	19 18 36.3	
	comp=Z,23nm,1.1s						
WVT	**Waverly**	**57.85**	**344**	P	**P**	**19 20 49.5**	**-1.0**
TXAR	**Lajitas Array**	**58.06**	**326**	P	**P**	**19 20 56.4**	**+4.2**
	comp=Z,1.3nm,1.0s,baz=147,slow=7.6,SNR=7.0						
MIAR	**Mount Ida**	**58.13**	**338**	P	**P**	**19 20 54.1**	**+1.6**
M56A	**Emporium**	**61.36**	**354**	P	**P**	**19 21 15.6**	**+0.9**
M56A				IAmb	IAmb	19 21 32.1	
	comp=Z,20nm,1.5s						
M55A	**Ridgway**	**61.41**	**354**	P	**P**	**19 21 13.9**	**-1.0**
SNAA	**Sanae**	**64.53**	**161**	P	**P**	**19 21 35.5**	**0.0**
SADO	**Sadowa**	**64.71**	**354**	P	**P**	**19 21 36.8**	**0.0**
SADO				IAmb	IAmb	19 21 47.6	
	comp=Z,6.6nm,0.8s						
G62A	**West of Eustis**	**64.76**	**1**	P	**P**	**19 21 37.1**	**0.0**
F64A	**Sherman**	**65.45**	**2**		**P**	**19 21 41.8**	**+0.2**
LMN	**Caledonia Moun**	**65.65**	**5**	P	**P**	**19 21 42.6**	**-0.3**
E62A	**Clayton Lake**	**66.18**	**1**	P	**P**	**19 21 46.0**	**-0.2**
D53A	**Lac Vacive, Po**	**66.87**	**355**	P	**P**	**19 21 50.2**	**-0.6**
D53A				IAmb	IAmb	19 22 02.1	
	comp=Z,4.0nm,0.8s						
NVAR	**Mina Array Bea**	**72.88**	**323**	P	P	19 22 32.5	+4.3
	comp=Z,0.4nm,0.8s,baz=240,slow=32,SNR=2.6						
MCCM	**Marconi Confer**	**75.36**	**320**	P	**P**	**19 22 41.8**	**-0.6**
TOA0	**Torodi Ar. Sit**	**78.87**	**72**	P	**P**	**19 23 02.1**	**-0.5**
TOA0				IAmb	IAmb	19 23 02.3	
	comp=Z,4.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**78.87**	**72**	P	**P**	**19 23 01.9**	**-0.8**
	comp=Z,4.0nm,0.6s,baz=248,slow=5.6,SNR=33						
TORD				LR	LR	19 56 10.7	
	comp=Z,35nm,18.9s,baz=150,slow=35						
YKA	**Yellowknife Ar**	**88.93**	**341**	P	**P**	**19 23 54.3**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=138,slow=4.9,SNR=14						
H11S2	**WAKE ISLAND Hy**	**125.51**	**279**	T	T	21 49 22.4	
	baz=101,slow=74,SNR=17						
H11S1	**WAKE ISLAND Hy**	**125.52**	**279**	T	T	21 49 17.2	
	baz=101,slow=74,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**125.53**	**279**	T	T	21 49 17.6	
	baz=101,slow=74,SNR=4.1						
ZALV	**Zalesovo Beam**	**141.33**	**23**	PKP	**PKiKP**	**19 30 31.0**	**-1.3**
	comp=Z,1.0nm,0.6s,baz=314,slow=3.8,SNR=4.4						
MAKZ	**Makanchi**	**145.33**	**33**		**PKPab**	**19 30 37.3**	**+0.5**
MKAR	**Makanchi Array**	**145.50**	**33**	PKPbc	**PKPab**	**19 30 38.3**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=324,slow=6.0,SNR=6.8						
MJAR	**Matsushiro Arr**	**149.36**	**309**	PKPbc	**PKPab**	**19 30 50.8**	**-2.1**
	comp=Z,1.4nm,0.9s,baz=45,slow=3.0,SNR=5.1						
SONM	**Songino Array**	**152.02**	**3**	PKPbc	**PKiKP**	**19 30 55.5**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=331,slow=1.6,SNR=3.9						
LZH	**Lanzhou**	**163.25**	**14**	*e*PKP	**PKPdf**	**19 31 01.5**	**-0.6**
LZH				pPKP	sPKPdf	19 31 06.1	+3.1
LZH				sPKP		19 31 07.6	
LZH				PKP	**sPKPab**	**19 31 54.2**	**+1.1**

*IDC **07** 19:20:32.0±0.7, 9.˚62N×126.˚48E, h0km, mb4.0/14, mb1 4.1/15, mb1mx3.9/36, mbtmp4.0/15, ML4.6/2, MS3.2/6, Ms1 3.2/6, ms1mx2.9/37, Error ellipse: s-maj=46.5km s-min=13.1km az=79.0*
*NEIC **07** 19:20:33.3±1.5, 9.˚66N±0.˚08×126.˚7E±0.˚1, h10km±1km, mb4.4/31, Error ellipse: s-maj=23.7km s-min=13.3km az=87.0*
*MAN **07** 19:20:37.5, 9.˚56N×126.˚66E, h47km, mb5.1, ML4.0, MS4.1*
ISC 07 19:20:38.1±1.4, 9.˚58N±0.˚04×126.˚83E±0.˚07, h49km±13km, n75, σ1s69/78, mb4.2/29, MS2.9/3, 3C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.34**	**279**	⇓*eP*	**Pn**	**19 20 57.6**	**-2.7**
BIPH	**Bislig**	**1.47**	**198**	⇓*iP*	Pn	19 21 08.7	+6.6
BIPH				*i* S	**Sn**	**19 21 24.3**	**+4.2**
MSLP	**Maasin**	**2.02**	**286**	*eP*	**Pn**	**19 21 08.4**	**-1.3**
MSLP				*eS*	**Sn**	**19 21 36.2**	**+2.5**
CGP	**Cagayan de Oro**	**2.39**	**242**	⇓*iP*	**Pn**	**19 21 12.7**	**-2.0**
CGP				*eS*	**Sn**	**19 21 44.6**	**+1.8**
BUKP	**Musuan**	**2.43**	**226**	*eP*	**Pn**	**19 21 13.6**	**-1.8**
BUKP				*eS*	**Sn**	**19 21 45.2**	**+1.2**
OCLP	**Ormoc**	**2.63**	**304**	*eP*	**Pn**	**19 21 14.7**	**-3.4**
MATI	**Mati**	**2.68**	**192**	*eP*	**Pn**	**19 21 15.8**	**-3.0**
MATI				*eS*	**Sn**	**19 21 44.0**	**-6.0**
DAV	**Davao City (W)**	**2.79**	**206**	Pn	**Pn**	**19 21 24.7**	**+4.5**
	31nm,0.3s,baz=236,slow=1.5,SNR=8.0						
DAV				Sn	Sn	19 22 02.5	+10
	56nm,0.3s,baz=148,slow=22,SNR=5.6						
DAV				LR	LR	19 22 37.3	
	comp=Z,898nm,18.2s,baz=38,slow=47						
DMPH	**Davao City--Mi**	**2.81**	**208**	⇑*iP*	**Pn**	**19 21 22.0**	**+1.5**
DMPH				*i* S	**Sn**	**19 21 52.1**	**-1.0**
TBP	**Tagbilaran**	**2.93**	**272**	*eP*	**Pn**	**19 21 21.0**	**-1.1**
KCP	**Kidapawan**	**3.08**	**214**	⇑*eP*	**Pn**	**19 21 24.6**	**+0.2**
CTBH	**Cotabato--PC H**	**3.47**	**228**	⇓*iP*	**Pn**	**19 21 27.9**	**-1.6**
SNPH	**Sibulan**	**3.55**	**266**	*iP*	**Pn**	**19 21 32.1**	**+1.3**
CNP	**Catarman**	**3.60**	**324**	*eP*	**Pn**	**19 21 30.2**	**-1.2**
CNP				*eS*	**Sn**	**19 22 10.7**	**-2.1**
DDMP	**Don Marcelino,**	**3.63**	**198**	*eP*	**Pn**	**19 21 31.5**	**-0.3**
DDMP				*eS*	**Sn**	**19 22 13.2**	**-0.2**
PAGZ	**Pagadian**	**3.82**	**243**	*eP*	**Pn**	**19 21 33.1**	**-1.3**
CNOP	**Candoni, Negro**	**4.14**	**274**	*eP*	**Pn**	**19 21 36.8**	**-2.0**
GUIM	**Jordan**	**4.30**	**284**	*eP*	**Pn**	**19 21 40.5**	**-0.5**
GUIM				*eS*	**Sn**	**19 22 35.2**	**+5.2**
RCP	**Roxas**	**4.47**	**296**	⇑*eP*	**Pn**	**19 21 43.0**	**-0.3**
PVCP	**Virac**	**4.77**	**327**	*eP*	**Pn**	**19 21 48.5**	**+1.0**
LQP	**Lukban**	**6.86**	**312**	*eP*	**Pn**	**19 22 17.2**	**+0.9**
TGY	**Tagaytay City**	**7.31**	**308**	LR	LR	19 25 25.6	
	comp=Z,190nm,19.7s,baz=258,slow=42						
TNTI	**Ternate**	**8.77**	**176**	Pn	**Pn**	**19 22 41.2**	**-1.1**
SIJI	**Sorong**	**11.28**	**157**	Pn	**Pn**	**19 23 18.5**	**+1.7**
	1.4nm,0.3s,baz=351,slow=23,SNR=6.1						
SBUM	**Sibu**	**16.16**	**245**	P	**P**	**19 24 24.6**	**+0.1**
KSM	**Kuching**	**18.30**	**245**		**Pn**	**19 24 48.5**	**-0.1**
JAY	**Jayapura**	**18.32**	**130**	LR	LR	19 32 51.5	
	comp=Z,100nm,18.7s,baz=340,slow=40						
MMRI	**Maumere**	**18.67**	**194**		**Pn**	**19 24 53.1**	**+0.2**
MMRI				IAmb	IAmb	19 25 00.5	
	comp=Z,40nm,1.0s						
BATI	**Baumata**	**19.91**	**189**	P	**P**	**19 25 06.2**	**+0.4**
	comp=Z,5.3nm,0.3s,baz=10,slow=2.3,SNR=7.8						
MTN	**Manton Dam**	**22.69**	**169**	P	**P**	**19 25 35.7**	**0.0**
MTN				IAmb	IAmb	19 25 48.1	
	comp=Z,38nm,1.4s						
JNU	**Nakatsue**	**23.72**	**8**	LR	LR	19 35 33.1	
	comp=Z,36nm,18.7s,baz=184,slow=38						
MYKOM	**Kota Tinggi**	**24.12**	**253**	P	**P**	**19 25 49.7**	**0.0**
MYKOM				IAmb	IAmb	19 25 56.6	
	comp=Z,11nm,1.0s						
KNRA	**Kununurra**	**25.17**	**176**	P	**P**	**19 26 00.3**	**+1.3**
JHJ	**Hachijo jima 2**	**26.30**	**25**	LR	LR	19 35 55.0	
	comp=Z,56nm,19.0s,baz=162,slow=35						
FITZ	**Fitzroy Crossi**	**27.53**	**182**	P	**P**	**19 26 21.4**	**+1.1**
	comp=Z,6.9nm,1.0s,baz=32,slow=1.0,SNR=8.9						
FITZ	**Fitzroy Crossi**	**27.53**	**182**	P	**P

comp=N,2.5nm,0.4s
ATHAL AML AML 20 20 14.2
comp=N,2.5nm,0.4s
ATHAL AML AML 20 20 14.6
comp=N,1.8nm,0.4s
ATHAL AML AML 20 20 14.6
comp=N,1.8nm,0.4s
SZAC Souni 0.30 225 P Pn **20 20 06.9 +0.2**
SZAC AML AML 20 20 15.1
comp=N,2.1nm,0.2s
SZAC AML AML 20 20 15.1
comp=N,2.1nm,0.2s
SZAC AML AML 20 20 15.5
comp=N,2.0nm,0.3s
SZAC AML AML 20 20 15.5
comp=N,2.0nm,0.3s
SZAC S Sn **20 20 15.5 +1.3**
MVOU Mavrovouni 0.41 83 ⇓P Pn **20 20 06.9 -0.6**
MVOU AML AML 20 20 15.4
comp=N,1.0nm,0.2s
MVOU AML AML 20 20 15.4
comp=N,1.0nm,0.2s
MVOU S Sn **20 20 15.4 -0.3**
MVOU AML AML 20 20 15.5
comp=N,1.9nm,0.4s
MVOU AML AML 20 20 15.5
comp=N,1.9nm,0.4s
LFK Lefkose 0.45 46 PG Pn **20 20 07.8 -0.2**
LFK SG Sn **20 20 17.5 +1.0**
ALFC Alefka 0.48 293 P Pn **20 20 07.9 -0.4**
ALFC AML AML 20 20 16.9
comp=N,1.6nm,0.2s
ALFC AML AML 20 20 16.9
comp=N,1.6nm,0.2s
ALFC S Sn **20 20 17.0 -0.1**
ALFC AML AML 20 20 17.1
comp=N,2.5nm,0.2s
ALFC AML AML 20 20 17.1
comp=N,2.5nm,0.2s
NATA Nata 0.51 248 P Pn **20 20 09.1 +0.6**
NATA AML AML 20 20 21.2
comp=N,1.0nm,0.7s
NATA AML AML 20 20 23.0
comp=N,1.5nm,0.4s
AKMS Akamas 0.66 275 P Pn **20 20 10.6 +0.3**
AKMS S Sn **20 20 21.7 +1.2**
AKMS AML AML 20 20 24.2
comp=N,0.5nm,0.8s
AKMS AML AML 20 20 24.2
comp=N,0.5nm,0.8s
AKMS AML AML 20 20 27.3
comp=N,0.9nm,0.5s
AKMS AML AML 20 20 27.3
comp=N,0.9nm,0.5s
EREN Erenkoy 1.01 56 PG Pn **20 20 15.1 +0.5**
EREN SG Sn **20 20 29.6 +1.5**
EREN Erenkoy 1.01 56 *i* P Pn **20 20 14.9 +0.4**
EREN *i* S Sn **20 20 29.7 +1.6**
EREN IAML 20 20 32.0
comp=E,29nm,0.5s
EREN IAML 20 20 32.0
comp=N,59nm,0.5s
TEKE Tekeli-Mersin 1.17 359 PN Pn **20 20 16.0 -0.7**
AKK1 Akkuyu-Mersin 1.22 15 PN Pn **20 20 17.0 -0.3**
AKKU Akkuyu-Mersin 1.24 16 PN Pn **20 20 16.8 -0.7**
GULN MERSIN_Gulnar 1.26 15 *i* P Pn **20 20 17.0 -0.8**
GULN *i* S Sn **20 20 32.4 -1.5**
TISA Tisan-Mersin 1.27 20 PN Pn **20 20 17.8 -0.2**
KARG Kargicak-Mersi 1.32 20 PN Pn **20 20 18.3 -0.3**
IKL Isikli 1.34 19 PN Pn **20 20 18.3 -0.6**
BERE Bereket-Mersin 1.38 3 PN Pn **20 20 19.1 -0.5**
GAZI Gazipasa 1.43 332 PN Pn **20 20 19.0 -1.1**
GAZI Gazipasa 1.43 332 *i* P Pn **20 20 19.9 -0.3**
GAZI IAML 20 20 37.0
comp=N,45nm,0.5s
GAZI *i* S Sn **20 20 37.1 -0.9**
TEVE Tevekalti-Mers 1.49 9 PN Pn **20 20 20.6 -0.3**
SILI Silifke-Mersin 1.54 24 PN Pn **20 20 21.6 +0.1**
KEBE Keben-Mersin 1.55 17 PN Pn **20 20 21.6 -0.1**
SLFK Silifke-Mersin 1.57 25 PN Pn **20 20 22.1 +0.2**
KIZK Mersin 1.72 28 PN Pn **20 20 24.2 +0.3**
KIZK Mersin 1.72 28 *i* P Pn **20 20 24.7 +0.8**
KIZK *i* S Sn **20 20 44.9 +0.1**
KIZK IAML 20 20 45.0
comp=N,14nm,0.6s
KIZK IAML 20 20 46.0
comp=E,13nm,0.8s
MERS Mersin 2.20 30 PN Pn **20 20 31.0 +0.4**
KRTS Karatas 2.42 48 PN Pn **20 20 34.5 +1.0**
HNTI Hanita 2.53 137 Pn Pn **20 20 34.8 -0.2**
HNTI Sn Sn **20 21 02.8 -1.8**
MMA0B Mount Meron ar 2.71 135 Pn Pn **20 20 37.1 -0.4**
MMA0B Sn Sn **20 21 06.7 -2.4**
GEM Giv'at Ha'Em 2.73 129 Pn Pn **20 20 37.4 -0.3**
KSDI Kefar Szold 2.74 130 Pn Pn **20 20 37.4 -0.4**
KSDI Sn Sn **20 21 07.1 -2.7**
NATI Neve Ativ 2.74 128 Pn Pn **20 20 37.5 -0.4**
NATI Sn Sn **20 21 07.3 -2.6**
OFRI `Ofer 2.80 146 Pn Pn **20 20 39.0 +0.3**
BLGI Bet Lehem HaGe 2.81 142 Pn Pn **20 20 39.2 +0.4**
TAHT Tahtakopru-Hat 2.85 60 PN Pn **20 20 40.7 +1.4**
CMRD Camardi-Nigde 3.08 29 PN Pn **20 20 43.4 +0.8**
SLTI Sal'it 3.15 149 Pn Pn **20 20 44.2 +0.8**
MMLI Mount Malkishu 3.16 142 Pn Pn **20 20 44.9 +1.3**
HMDT Nahal Hemdat 3.36 143 Pn Pn **20 20 47.2 +0.9**
HMDT Sn Sn **20 21 25.4 +0.4**
DSI Dead Sea 3.87 150 Pn Pn **20 20 54.4 +1.1**
DSI Sn Sn **20 21 37.7 +0.1**
GHAJ Ghor Haditha 4.18 150 Pn Pn **20 20 58.9 +1.4**

*IDC **07** 20:23:13.4±0.8,9.°69N×126.°58E,h0km,mb3.9/12, mb1 4.0/13,mb1mx3.8/44,mbtmp4.0/13,ML5.0/1,MS3.3/7, Ms1 3.3/7,ms1mx2.9/40,Error ellipse: s-maj=64.7km s-min=14.2km az=74.0*
*NEIC **07** 20:23:14.7±2.2,9.°72N±0.°08×126.°7E±0.°1,h10km±1km, mb4.3/23,Error ellipse: s-maj=19.2km s-min=13.1km az=92.0*
*MAN **07** 20:23:16.6,9.°68N×126.°57E,h1km,mb4.9,ML3.8,MS3.8*
ISC 07 20:23:16.6±2.0,9.°68N±0.°03×126.°63E±0.°06,h18km±12km, n66,σ1°79/72,mb4.2/23,MS3.0/4,7C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h m s	Res
SCPH	**Surigao**	**1.13**	**275**	⇑	*eP*	**Pn**	**20 23 37.5**	**0.0**
BIPH	**Bislig**	**1.51**	**190**	⇑	*iP*	Pg	20 23 51.3	+5.6
BIPH					*iS*	**Sg**	**20 24 08.6**	**+3.2**
MSLP	**Maasin**	**1.80**	**285**		*eP*	**Pb**	**20 23 48.3**	**-0.8**
MSLP					*eS*	**Sg**	**20 24 13.6**	**-1.1**
CGP	**Cagayan de Oro**	**2.27**	**238**	⇑	*iP*	**Pn**	**20 23 54.8**	**+1.6**
CGP					*iS*	**Sb**	**20 24 23.5**	**-1.2**
BUKP	**Musuan**	**2.37**	**221**		*eP*	**Pb**	**20 23 57.2**	**-1.5**
BUKP					*eS*	**Sb**	**20 24 26.9**	**-0.8**
OCLP	**Ormoc**	**2.41**	**305**		*eP*	**Pb**	**20 23 57.8**	**-1.7**
OCLP					*eS*	**Sg**	**20 24 32.1**	**-2.1**
TBP	**Tagbilaran**	**2.73**	**271**		*eP*	**Pn**	**20 24 01.5**	**+2.0**
MATI	**Mati**	**2.74**	**188**		*eP*	**Pn**	**20 23 58.5**	**-1.2**
DAV	**Davao City (W)**	**2.79**	**202**		Pn	**Pb**	**20 24 05.3**	**-0.6**
	12nm,0.3s,baz=205,slow=22,SNR=1.2							
DAV					Sn	**Sb**	**20 24 43.0**	**+3.2**
	34nm,0.3s,baz=64,slow=20,SNR=2.6							
DAV					LR	LR	20 25 11.6	
	comp=Z,890nm,18.8s,baz=28,slow=42							
DAV	**Davao City (W)**	**2.79**	**202**			**Pn**	**20 24 02.2**	**+1.8**
DAV					Sn	**Sn**	**20 24 33.5**	**-0.2**
DMPH	**Davao City--Mi**	**2.81**	**203**	⇑	*iP*	Pn	20 23 54.0	-6.7
DMPH					*i* S	Sn	20 24 25.6	-8.5
KCP	**Kidapawan**	**3.06**	**210**	⇓	*eP*	**Pn**	**20 24 07.0**	**+2.8**
KCP					*i* S	**Sn**	**20 24 41.2**	**+0.9**
SNPH	**Sibulan**	**3.36**	**265**	⇓	*iP*	**Pb**	**20 24 13.6**	**-2.2**
SNPH					*eS*	**Sb**	**20 24 54.5**	**-1.9**
CTBH	**Cotabato--PC H**	**3.39**	**224**	⇑	*iP*	**Pn**	**20 24 12.0**	**+3.3**
CNP	**Catarman**	**3.41**	**326**		*eP*	**Pn**	**20 24 10.1**	**+1.2**
CNP					*eS*	**Sn**	**20 24 52.9**	**+3.9**
DDMP	**Don Marcelino,**	**3.67**	**194**		*eP*	**Pn**	**20 24 15.7**	**+3.2**
PAGZ	**Pagadian**	**3.69**	**241**		*eP*	**Pn**	**20 24 14.7**	**+1.9**
CNOP	**Candoni, Negro**	**3.94**	**273**		*eP*	**Pn**	**20 24 17.6**	**+1.4**
CNOP					*eS*	**Sn**	**20 25 06.2**	**+4.2**
GUIM	**Jordan**	**4.09**	**284**		*eP*	**Pn**	**20 24 21.2**	**+2.9**
GUIM					*eS*	**Sn**	**20 25 08.0**	**+2.3**
RCP	**Roxas**	**4.25**	**296**	⇑	*eP*	**Pn**	**20 24 23.4**	**+2.9**
PVCP	**Virac**	**4.59**	**328**		*eP*	**Pn**	**20 24 28.4**	**+3.2**
PVCP					*eS*	**Sb**	**20 25 35.7**	**+4.1**
JAP	**San Jose, Anti**	**4.73**	**283**	⇑	*eP*	**Pn**	**20 24 29.3**	**+2.2**
LQP	**Lukban**	**6.65**	**312**		*eP*	**Pn**	**20 24 54.7**	**+1.0**
TGY	**Tagaytay City**	**7.10**	**309**		LR	LR	20 28 02.9	
	comp=Z,370nm,19.7s,baz=144,slow=41							
TNTI	**Ternate**	**8.88**	**175**		Pn	**Pn**	**20 25 25.5**	**+1.4**
SBUM	**Sibu**	**16.02**	**244**		P	**P**	**20 27 05.0**	**+0.5**
JAY	**Jayapura**	**18.53**	**130**		LR	LR	20 35 21.3	
	comp=Z,126nm,18.1s,baz=8.0,slow=39							
BATI	**Baumata**	**19.97**	**169**		P	**P**	**20 27 49.3**	**+1.1**
	4.6nm,0.3s,baz=324,slow=5.8,SNR=4.5							
MTN	**Manton Dam**	**22.82**	**169**		P	**P**	**20 28 18.0**	**-0.7**
KNRA	**Kununurra**	**25.28**	**175**		P	**P**	**20 28 42.2**	**+0.1**
PBKT	**Sadao Pong**	**25.89**	**288**		P	**P**	**20 28 49.8**	**+2.0**
PBKT					IAmb	IAmb	20 29 08.7	
	comp=Z,5.1nm,1.1s							
IPM	**Ipoh**	**25.92**	**260**		P	**P**	**20 28 49.5**	**+1.5**
IPM					IAmb	IAmb	20 29 03.7	
	comp=Z,10.0nm,1.2s							
FITZ	**Fitzroy Crossi**	**27.62**	**182**		P	**P**	**20 29 02.9**	**-0.3**
	comp=Z,4.7nm,0.9s,baz=15,slow=8.0,SNR=6.8							
FITZ	**Fitzroy Crossi**	**27.62**	**182**		P	**P**	**20 29 02.7**	**-0.5**
FITZ					IAmb	IAmb	20 29 17.7	
	comp=Z,14nm,1.2s							
KSRS	**Korea Array**	**27.68**	**2**		LR	LR	20 39 26.1	
	comp=Z,34nm,21.6s,baz=204,slow=35							
CMAR	**Chiang Mai Arr**	**28.20**	**291**		LR	LR	20 39 29.5	
	comp=Z,38nm,20.2s,baz=183,slow=35							
MJAR	**Matsushiro Arr**	**28.73**	**20**		LR	LR	20 41 29.7	
	comp=Z,34nm,18.0s,baz=200,slow=38							
WRA	**Warramunga Arr**	**30.40**	**166**		P	**P**	**20 29 28.5**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=344,slow=9.5,SNR=1.3							
WB2	**Warramunga Arr**	**30.40**	**166**		P	**P**	**20 29 28.2**	**+0.3**
WB2					IAmb	IAmb	20 29 36.4	
	comp=Z,15nm,1.4s							
PSA00	**Pilbara Seismi**	**31.76**	**192**		P	**P**	**20 29 39.0**	**-0.9**
AS31	**Alice Springs**	**33.89**	**168**		P	**P**	**20 29 59.3**	**+0.6**
ASAR	**Alice Springs**	**33.89**	**168**		P	**P**	**20 29 57.5**	**-1.1**
	comp=Z,0.8nm,1.0s,baz=342,slow=7.6,SNR=10							
SHL	**Shillong**	**36.54**	**300**		P	**P**	**20 30 21.7**	**0.0**
SHL					IAmb	IAmb	20 30 22.3	
	comp=Z,3.7nm,0.7s							
LSA	**Lhasa**	**38.66**	**306**		P	**P**	**20 30 39.6**	**-0.3**
LSA					IAmb	IAmb	20 30 46.6	
	comp=Z,6.9nm,1.4s							
MORW	**Morawa**	**39.85**	**195**		P	**P**	**20 30 48.8**	**-0.4**
MORW					IAmb	IAmb	20 30 53.9	
	comp=Z,17nm,1.4s							
ULN	**Ulaanbaatar**	**41.50**	**340**		P	**P**	**20 31 01.7**	**-1.2**
ULN					IAmb	IAmb	20 31 06.4	
	comp=Z,2.1nm,0.7s							
SONM	**Songino Array**	**41.70**	**339**		P	**P**	**20 31 05.6**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=146,slow=8.5,SNR=2.9							
BBOO	**Buckleboo**	**43.20**	**168**		P	**P**	**20 31 15.9**	**-0.7**
BBOO					IAmb	IAmb	20 31 25.6	
	comp=Z,19nm,1.4s							
NWAO	**Narrogin (SRO)**	**43.30**	**192**		P	**P**	**20 31 17.8**	**+0.3**
STKA	**Stephens Creek**	**43.73**	**161**		P	**P**	**20 31 20.2**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=341,slow=12,SNR=1.3							
STKA	**Stephens Creek**	**43.73**	**161**		P	**P**	**20 31 19.4**	**-1.5**
MK31	**Makanchi Array**	**52.71**	**323**		P	**P**	**20 32 29.0**	**-1.3**
MKAR	**Makanchi Array**	**52.71**	**323**		P	**P**	**20 32 29.8**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=115,slow=8.2,SNR=7.8							
MAKZ	**Makanchi**	**52.90**	**323**		P	**P**	**20 32 30.8**	**-0.9**
ZALV	**Zalesovo Beam**	**55.31**	**341**		P	**P**	**20 32 47.2**	**-1.9**
	comp=Z,0.3nm,0.4s,baz=132,slow=4.2,SNR=3.8							
ZALV					LR	LR	20 58 03.6	
	comp=Z,17nm,20.1s,baz=102,slow=38							
KURK	**Kurchatov**	**56.75**	**326**		P	**P**	**20 32 58.9**	**-0.5**
KURK					IAmb	IAmb	20 33 00.0	
	comp=Z,1.5nm,0.8s							
KURBB	**Kurchatov Arra**	**56.76**	**325**		P	**P**	**20 32 58.7**	**-0.8**
	baz=122,slow=7.5							
KK31	**Karatay Array**	**58.92**	**315**		P	**P**	**20 33 13.8**	**-1.0**
KK31					IAmb	IAmb	20 33 15.3	
	comp=Z,2.2nm,1.1s							
NRIK	**Noril'sk**	**64.67**	**346**		P	**P**	**20 33 52.9**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=146,slow=7.2,SNR=3.0							
ARU	**Arti**	**69.91**	**327**		P	**P**	**20 34 25.2**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=72,slow=2.9,SNR=6.2							
ARU	**Arti**	**69.91**	**327**		P	**P**	**20 34 25.1**	**-1.4**
ARU					IAmb	IAmb	20 34 28.1	
	comp=Z,2.3nm,0.5s							
RAYN	**Ar Rayn**	**78.12**	**292**		P	**P**	**20 35 13.9**	**-1.3**
RAYN					IAmb	IAmb	20 35 14.5	
	comp=Z,1.8nm,0.8s							
ARCES	**ARCESS Array B**	**84.87**	**340**		P	**P**	**20 35 50.4**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=72,slow=7.8,SNR=8.9							
FIA1	**FINESS Array S**	**86.58**	**332**		P	**P**	**20 35 56.5**	**-2.1**
FINES	**FINESS Array B**	**86.58**	**332**		P	**P**	**20 35 58.0**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=69,slow=6.3,SNR=8.7							
YKA	**Yellowknife Ar**	**94.15**	**24**		P	**P**	**20 36 34.1**	**0.0**
	comp=Z,0.2nm,0.6s,baz=294,slow=4.6,SNR=2.5							

*ATH **07** 20:36:48.9,38.°91N×26.°20E,h30km±1km,ML3.7/5,Error ellipse: s-maj=1.9km s-min=1.0km az=101.0*
*DDA **07** 20:36:49.3,38.°94N×26.°09E,h29km±1km,MW3.6*
*ISK **07** 20:36:49.1,38.°92N×26.°09E,h13km,ML3.7/30*
*THE **07** 20:36:50.1,38.°93N×26.°1E,h8km,ML3.4/10,Error ellipse: s-maj=0.8km s-min=0.4km az=84.0*
ISC 07 20:36:50.1±0.9,38.°93N±0.°02×26.°14E±0.°02,h16km±7km, n122,σ0°62/145,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	h m s	Res
PRK	**Paraskevi**	**0.33**	**19**		P	**Pg**	**20 36 57.2**	**+0.1**
PRK					S	**Sg**	**20 37 02.2**	**+0.4**
	10μm,0.5s							
PRK	**Paraskevi**	**0.33**	**19**		P	**Pg**	**20 36 57.2**	**+0.1**
PRK					S	**Sg**	**20 37 02.4**	**+0.6**
PRK					AML	AML	20 37 06.9	
	comp=N,22602μm,0.5s							
PRK					AML	AML	20 37 07.8	
	comp=E,16579μm,0.5s							
SIGR	**SIGRI**	**0.35**	**322**		P	**Pg**	**20 36 57.1**	**-0.3**
SIGR					S	**Sg**	**20 37 02.1**	**-0.4**
	comp=E,7μm,0.4s							
SIGR	**SIGRI**	**0.35**	**322**		P	**Pg**	**20 36 57.1**	**-0.3**
SIGR					AML	AML	20 37 02.7	
	comp=E,17769μm,0.4s							
SIGR					AML	AML	20 37 03.3	
	comp=N,11556μm,0.3s							
SIGR	**SIGRI**	**0.35**	**322**		PG	**Pg**	**20 36 56.7**	**-0.7**
SIGR					SG	**Sg**	**20 37 02.1**	**-0.4**
KRBN	**Karaburun**	**0.47**	**136**		PG	**Pg**	**20 36 58.9**	**-0.6**
KRBN					SG	**Sb**	**20 37 06.9**	**+0.2**
CHOS	**Chios island**	**0.55**	**187**		P	**Pb**	**20 37 00.7**	**-0.7**
CHOS					S	**Sg**	**20 37 08.9**	**+0.6**
	comp=N,19μm,0.4s							
CHOS	**Chios island**	**0.55**	**187**		P	**Pb**	**20 37 00.7**	**-0.7**
CHOS					AML	AML	20 37 12.6	
	comp=E,49713μm,0.4s							
CHOS					AML	AML	20 37 13.0	
	comp=N,23451μm,0.4s							
CHOS	**Chios island**	**0.55**	**187**		PG	**Pb**	**20 37 00.3**	**-1.1**
PSRA	**Psara**	**0.59**	**229**		P	**Pg**	**20 37 02.9**	**+1.2**
PSRA					S	**Sg**	**20 37 11.2**	**+1.5**
PSRA					AML	AML	20 37 14.9	
	comp=N,22664μm,0.3s							
PSRA					AML	AML	20 37 15.3	
	comp=E,29173μm,0.3s							
CESE	**eme**	**0.61**	**168**		PG	**Pb**	**20 37 01.6**	**-0.8**
DKL	**Dikili**	**0.62**	**77**		PG	**Pb**	**20 37 01.7**	**-0.8**
DKL					SG	**Sn**	**20 37 12.7**	**-1.1**
URLA	**Izmir**	**0.67**	**147**		PG	**Pb**	**20 37 02.7**	**-0.8**
URLA	**Izmir**	**0.67**	**147**		*iP*	**Pb**	**20 37 02.7**	**-0.8**
URLA					*iS*	**Sn**	**20 37 14.9**	**-0.3**
URLA					IAML		20 37 16.0	
	comp=N,1μm,0.4s							
URLA					IAML		20 37 16.0	
	comp=E,1μm,0.7s							
ZEDA	**zmir-Bergama**	**0.74**	**87**		*iP*	**Pb**	**20 37 03.5**	**-1.0**
ZEDA					IAML		20 37 16.0	
	comp=E,1μm,0.3s							
ZEDA					IAML		20 37 16.0	
	comp=N,2μm,0.2s							
BAYC	**CANAKKALE_Bayr**	**0.87**	**21**		*iP*	**Pb**	**20 37 06.5**	**-0.3**
BAYC					IAML		20 37 19.0	
	comp=N,2μm,0.7s							
BAYC					*iS*	**Sg**	**20 37 19.1**	**+0.6**
BAYC					IAML		20 37 20.0	
	comp=E,2μm,0.4s							
BLCB	**Balcova**	**0.90**	**127**		P	**Pb**	**20 37 06.6**	**-0.6**
BLCB					S	**Sb**	**20 37 19.5**	**+0.6**
BLCB	**Balcova**	**0.90**	**127**		PG	**Pb**	**20 37 06.9**	**-0.3**
EZN	**Ezine**	**0.91**	**9**		P	**Pb**	**20 37 06.6**	**-0.9**
EZN					S	**Sg**	**20 37 20.4**	**+0.8**
	comp=E,4μm,0.4s							
EZN	**Ezine**	**0.91**	**9**		PG	**Pb**	**20 37 06.7**	**-0.8**
BOZC	**Bozcaada**	**0.91**	**356**		PG	**Pb**	**20 37 07.0**	**-0.6**
BOZC	**Bozcaada**	**0.91**	**356**		*iP*	**Pb**	**20 37 06.6**	**-1.0**
BOZC					IAML		20 37 21.0	
	comp=N,2μm,0.7s							
BOZC					IAML		20 37 21.0	
	comp=E,1μm,0.3s							
GMLD	**Gumuldur**	**1.05**	**144**		PG	**Pb**	**20 37 09.9**	**0.0**
DGB	**zmir**	**1.05**	**146**		*iP*	**Pb**	**20 37 09.3**	**-0.7**
DGB					*iS*	**Sn**	**20 37 24.4**	**-0.2**
DGB					IAML		20 37 27.0	
	comp=E,539nm,0.4s							
DGB					IAML		20 37 28.0	
	comp=N,717nm,0.5s							
EFSA	**Agios Efstrati**	**1.08**	**305**		P	**Pn**	**20 37 10.8**	**+0.3**
LIA	**Limnos Island**	**1.22**	**323**		P	**Pn**	**20 37 12.5**	**+0.1**
LIA					S	**Sg**	**20 37 30.2**	**+0.8**
	comp=N,2μm,0.6s							
LIA	**Limnos Island**	**1.22**	**323**		P	**Pn**	**20 37 12.5**	**+0.1**
GOKA	**anakkale-Gk**	**1.27**	**352**		*iP*	**Pn**	**20 37 13.1**	**-0.1**
GADA	**Gvkgeada**	**1.27**	**352**		P	**Pn**	**20 37 13.1**	**-0.1**
GADA					S	**Sn**	**20 37 30.1**	**+0.1**
	comp=N,2μm,0.5s							
GADA	**Gvkgeada**	**1.27**	**352**		PN	**Pn**	**20 37 13.3**	**+0.1**
STEP	**BALIKESIR_Sava**	**1.31**	**70**		*iP*	**Pn**	**20 37 13.3**	**-0.4**
STEP					*iS*	**Sn**	**20 37 30.7**	**-0.2**
STEP					IAML		20 37 35.0	
	comp=E,1μm,0.6s							
STEP					IAML		20 37 38.0	
	comp=N,996nm,0.6s							
AKS	**Akhisar**	**1.31**	**92**		PN	**Pn**	**20 37 13.9**	**+0.1**
AKHS	**Akhisar**	**1.31**	**92**		*iP*	**Pn**	**20 37 13.4**	**-0.4**
AKHS					*iS*	**Sg**	**20 37 32.9**	**+0.4**
SMG	**Samos**	**1.34**	**155**		P	**Pn**	**20 37 13.6**	**-0.5**
SMG					S	**Sb**	**20 37 32.7**	**+1.0**
	comp=N,2μm,0.4s							
SMG	**Samos**	**1.34**	**155**		P	**Pn**	**20 37 13.6**	**-0.5**
SMG					AML	AML	20 37 36.6	
	comp=N,3480μm,0.4s							
SMG					AML	AML	20 37 36.9	
	comp=E,3191μm,0.3s							
BALY	**Balya**	**1.41**	**54**		*iP*	**Pn**	**20 37 15.6**	**+0.5**
BALY					IAML		20 37 36.0	
	comp=N,553nm,0.8s							
BALY					IAML		20 37 37.0	
	comp=E,514nm,0.5s							
GOMA	**Golmarmara-Man**	**1.41**	**99**		PN	**Pn**	**20 37 15.3**	**+0.2**
GELI	**Tayfur-Gelibol**	**1.49**	**10**		PN	**Pn**	**20 37 16.3**	**+0.1**
GCAM	**G?zelcaml?**	**1.50**	**145**		PN	**Pn**	**20 37 16.5**	**+0.1**
GCAM	**G?zelcaml?**	**1.50**	**145**		*iP*	**Pb**	**20 37 18.0**	**+0.4**
GCAM					*iS*	**Sg**	**20 37 39.0**	**+0.5**
GCAM					IAML		20 37 40.0	
	comp=E,743nm,0.5s							
GCAM					IAML		20 37 41.0	
	comp=N,970nm,1.0s							
LPK	**Lapseki**	**1.52**	**18**		PN	**Pn**	**20 37 16.8**	**+0.2**
BALB	**Balikesir**	**1.53**	**62**		PN	**Pn**	**20 37 16.6**	**-0.1**
TNSA	**Tinos**	**1.58**	**209**		P	**Pn**	**20 37 16.5**	**-1.0**
KARY	**Karystos**	**1.61**	**237**		P	**Pn**	**20 37 17.3**	**-0.5**
KARY	**Karystos**	**1.61**	**237**		P	**Pn**	**20 37 17.3**	**-0.5**
SMTH	**Samothraki Isl**	**1.61**	**343**		P	**Pn**	**20 37 17.7**	**-0.2**
SMTH					S	**Sb**	**20 37 38.9**	**-0.6**
	comp=N,622nm,0.5s							
SMTH	**Samothraki Isl**	**1.61**	**343**		P	**Pn**	**20 37 17.7**	**-0.2**
KYMI	**Kymi, Euboea I**	**1.62**	**260**		P	**Pn**	**20 37 17.8**	**-0.2**
KYMI	**Kymi, Euboea I**	**1.62**	**260**		P	**Pn**	**20 37 17.8**	**-0.2**
GONE	**Gonen-Balikesi**	**1.64**	**47**		PN	**Pn**	**20 37 18.8**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**1.69**	**125**		PN	**Pn**	**20 37 19.4**	**+0.3**
KRBG	**Karabiga-Canak**	**1.71**	**31**		PN	**Pn**	**20 37 19.6**	**+0.3**
AOS	**Alonnisos**	**1.77**	**278**		P	**Pn**	**20 37 20.5**	**+0.4**
ENEZ	**Enez**	**1.80**	**0**		P	**Pn**	**20 37 21.1**	**+0.6**
ENEZ					S	**Sn**	**20 37 43.8**	**+0.7**
	comp=N,1μm,0.5s							
APE	**Apeiranthos**	**1.92**	**195**		P	**Pn**	**20 37 21.7**	**-0.5**
APE	**Apeiranthos**	**1.92**	**195**		P	**Pn**	**20 37 21.7**	**-0.5**
APE	**Apeiranthos**	**1.92**	**195**		PN	**Pn**	**20 37 21.3**	**-0.9**
DION	**Dionisos Attik**	**1.93**	**244**		P	**Pn**	**20 37 22.1**	**-0.1**
DION	**Dionisos Attik**	**1.93**	**244**		P	**Pn**	**20 37 22.1**	**-0.1**
DURS	**Dursunbey**	**1.94**	**69**		*iP*	**Pn**	**20 37 22.1**	**-0.4**
DURS					IAML		20 37 52.0	
	comp=E,259nm,0.4s							
DURS					IAML		20 38 01.0	
	comp=N,277nm,0.6s							
KESN	**Edirne-Kesan**	**1.94**	**12**		*iP*	**Pn**	**20 37 23.6**	**+0.8**
KESN					IAML		20 37 53.0	
	comp=N,380nm,0.6s							
KESN					IAML		20 37 57.0	
	comp=E,411nm,0.6s							
EDC	**Edincik**	**1.94**	**43**		PN	**Pn**	**20 37 22.4**	**-0.1**
ALN	**Alexandroupoli**	**1.97**	**358**		P	**Pn**	**20 37 22.9**	**+0.1**
ALN					S	**Sb**	**20 37 48.5**	**-1.3**
	comp=E,310nm,0.4s							
ALN	**Alexandroupoli**	**1.97**	**358**		P	**Pn**	**20 37 22.9**	**+0.1**
PTL	**Penteli**	**1.99**	**244**		P	**Pn**	**20 37 22.9**	**-0.2**
PTL	**Penteli**	**1.99**	**244**		P	**Pn**	**20 37 22.9**	**-0.2**
THAS	**Thassos island**	**2.00**	**327**		P	**Pn**	**20 37 22.9**	**-0.3**
THAS	**Thassos island**	**2.00**	**327**		P	**Pn**	**20 37 22.9**	**-0.3**
MRKA	**Markates**	**2.00**	**264**		P	**Pn**	**20 37 23.3**	**0.0**
MRKA	**Markates**	**2.00**	**264**		P	**Pn**	**20 37 23.3**	**0.0**
KULA	**Kula-Manisa**	**2.02**	**101**		PN	**Pn**	**20 37 24.0**	**+0.4**
DST	**Dursunbey**	**2.04**	**70**		P

*IDC **07** 20:45:01.7±0.7,9.63N×126.49E,h0km,mb3.8/17, mb1 4.0/18,mb1mx3.9/34,mbtmp3.9/18,ML4.7/1,MS3.4/19, Ms1 3.4/19,ms1mx3.2/45,Error ellipse: s-maj=38.3km s-min=14.2km az=76.0*

*NEIC **07** 20:45:03.4±1.4,9.57N±0.07×126.5E±0.1,h10km±1km, mb4.5/35, Error ellipse: s-maj=19.4km s-min=11.8km az=93.0*

*MAN **07** 20:45:04.1,9.67N×126.80E,h16km,mb5.0,ML3.9,MS4.0*

ISC 07 20:45:04.1±1.7,**9.65N**±0.03×**126.52E**±0.06,**h14**km±10km, **n87**,σ1°**56**/85,**mb4.2**/35,**MS3.4**/16,**7C-1D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.03**	**277**	⇑*eP*	**Pn**		**20 45 26.2**	**+2.2**
BIPH	**Bislig**	**1.47**	**186**	⇑*iP*	Pg		20 45 39.9	+7.5
BIPH				*i* S	Sg		20 46 05.0	+14
MSLP	**Maasin**	**1.71**	**287**	*eP*	**Pg**		**20 45 36.7**	**-0.2**
MSLP				*e*S	Sg		20 46 11.9	+13
CGP	**Cagayan de Oro**	**2.16**	**237**	⇑*iP*	**Pb**		**20 45 42.8**	**-0.2**
CGP				*i* S	**Sg**		**20 46 13.1**	**-0.6**
BUKP	**Musuan**	**2.27**	**219**	*eP*	**Pb**		**20 45 45.0**	**0.0**
BUKP				*e*S	**Sg**		**20 46 21.2**	**+3.8**
OCLP	**Ormoc**	**2.34**	**307**	*eP*	**Pb**		**20 45 45.8**	**-0.3**
TBP	**Tagbilaran**	**2.62**	**271**	*eP*	**Pb**		**20 45 50.1**	**-0.8**
MATI	**Mati**	**2.70**	**186**	*eP*	**Pn**		**20 45 48.1**	**+1.0**
MATI				*e*S	**Sb**		**20 46 25.0**	**-0.2**
DAV	**Davao City (W)**	**2.73**	**200**	LR	LR		20 46 54.6	
	comp=Z,752nm,19.2s,baz=26,slow=42							
DAV	**Davao City (W)**	**2.73**	**200**	Pn	**Pn**		**20 45 46.0**	**-1.6**
DAV				Sn	**Sn**		**20 46 17.1**	**-3.2**
DMPH	**Davao City--Mi**	**2.74**	**202**	⇑*eP*	**Pg**		**20 45 57.3**	**+0.6**
DMPH				*e*S	**Sb**		**20 46 26.4**	**-0.1**
KCP	**Kidapawan**	**2.98**	**208**	⇑*eP*	**Pb**		**20 45 57.9**	**+0.8**
KCP				*i* S	**Sb**		**20 46 35.8**	**+2.3**
SNPH	**Sibulan**	**3.25**	**265**	*i* P	**Pg**		**20 46 05.3**	**-1.2**
CTBH	**Cotabato--PC H**	**3.30**	**223**	⇑*iP*	**Pb**		**20 45 59.5**	**-2.9**
CNP	**Catarman**	**3.38**	**327**	*eP*	**Pn**		**20 45 59.4**	**+2.9**
CNP				*e*S	**Sb**		**20 46 41.0**	**-3.8**
PAGZ	**Pagadian**	**3.58**	**240**	*eP*	**Pn**		**20 46 02.7**	**+3.5**
PAGZ				*e*S	**Sb**		**20 46 52.5**	**+1.9**
DDMP	**Don Marcelino,**	**3.61**	**193**	*eP*	**Pb**		**20 46 04.5**	**-3.3**
DDMP				*e*S	**Sb**		**20 46 51.4**	**-0.1**
CNOP	**Candoni, Negro**	**3.83**	**273**	*eP*	**Pb**		**20 46 07.2**	**-4.3**
CNOP				*e*S	**Sb**		**20 46 57.0**	**-0.8**
RCP	**Roxas**	**4.17**	**297**	⇓*eP*	Pb		20 46 12.2	-5.1
PVCP	**Virac**	**4.56**	**330**	*eP*	**Pn**		**20 46 17.2**	**+4.6**
JAP	**San Jose, Anti**	**4.63**	**284**	⇑*eP*	**Pb**		**20 46 21.2**	**-4.0**
LQP	**Lukban**	**6.59**	**313**	*eP*	**Pn**		**20 46 44.4**	**+3.6**
TGY	**Tagaytay City**	**7.03**	**310**	LR	LR		20 49 54.4	
	comp=Z,521nm,19.3s,baz=137,slow=42							
TNTI	**Ternate**	**8.86**	**175**	Pn	**Pn**		**20 47 10.6**	**-1.3**
FAKI	**Fak Fak**	**13.73**	**155**	Pn	**Pn**		**20 48 16.9**	**-1.6**
SBUM	**Sibu**	**15.91**	**244**		**Pn**		**20 48 47.3**	**-0.5**
KSM	**Kuching**	**18.05**	**244**		**P**		**20 49 15.0**	**-0.1**
JAY	**Jayapura**	**18.59**	**130**	LR	LR		20 56 05.2	
	comp=Z,125nm,19.3s,baz=352,slow=36							
SOEI	**Soe**	**19.41**	**187**		**Pn**		**20 49 31.1**	**-0.2**
SOEI				IAmb	IAmb		20 49 41.0	
	comp=Z,41nm,1.1s							
BATI	**Baumata**	**19.93**	**188**	P	**P**		**20 49 35.1**	**-0.6**
	comp=Z,21nm,0.3s,baz=304,slow=22,SNR=1.8							
MTN	**Manton Dam**	**22.81**	**168**	P	**P**		**20 50 06.2**	**-0.6**
MTN				IAmb	IAmb		20 50 19.6	
	comp=Z,36nm,1.4s							
JNU	**Nakatsue**	**23.70**	**9**	LR	LR		21 01 26.6	
	comp=Z,41nm,18.3s,baz=207,slow=42							
MYKOM	**Kota Tinggi**	**23.86**	**252**	P	**P**		**20 50 16.2**	**-1.0**
MYKOM				IAmb	IAmb		20 50 25.0	
	comp=Z,18nm,0.8s							
KNRA	**Kununurra**	**25.26**	**175**	P	**P**		**20 50 30.7**	**+0.7**
PBKT	**Sadao Pong**	**25.80**	**288**	P	**P**		**20 50 36.3**	**+1.3**
IPM	**Ipoh**	**25.81**	**260**	P	**P**		**20 50 34.7**	**-0.4**
IPM				IAmb	IAmb		20 50 46.3	
	comp=Z,14nm,1.1s							
JHJ	**Hachijo jima 2**	**26.36**	**26**	LR	LR		21 01 26.7	
	comp=Z,50nm,18.8s,baz=137,slow=37							
FITZ	**Fitzroy Crossi**	**27.59**	**182**	P	**P**		**20 50 50.9**	**-0.1**
	comp=Z,3.6nm,0.9s,baz=222,slow=22,SNR=2.1							
FITZ	**Fitzroy Crossi**	**27.59**	**182**	P	**P**		**20 50 50.1**	**-0.9**
KSRS	**Korea Array**	**27.71**	**2**	P	**P**		**20 50 51.8**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=132,slow=19,SNR=2.4							
KSRS				LR	LR		21 03 44.0	
	comp=Z,44nm,18.9s,baz=225,slow=40							
CMAR	**Chiang Mai Arr**	**28.11**	**291**	P	**P**		**20 50 55.5**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=134,slow=23,SNR=1.0							
CMAR				LR	LR		21 02 40.5	
	comp=Z,97nm,18.2s,baz=187,slow=38							
XAN	**Xi'an**	**29.16**	**329**	P	**P**		**20 51 05.5**	**+0.4**
XAN				IAmb	IAmb		20 51 10.7	
	comp=Z,4.1nm,0.9s							
GSI	**Gunungsitoli**	**29.96**	**256**		**P**		**20 51 12.2**	**0.0**
GSI				IAmb	IAmb		20 51 19.3	
	comp=Z,9.7nm,1.0s							
WB0	**Warramunga Arr**	**30.24**	**165**	P	**P**		**20 51 14.2**	**-0.5**
WB0				IAmb	IAmb		20 51 31.0	
	comp=Z,13nm,1.3s							
WRA	**Warramunga Arr**	**30.40**	**165**	P	**P**		**20 51 15.6**	**-0.5**
	comp=Z,1.1nm,1.0s,baz=310,slow=25,SNR=5.2							
WB2	**Warramunga Arr**	**30.40**	**165**	P	**P**		**20 51 16.6**	**+0.5**
WB2				IAmb	IAmb		20 51 29.7	
	comp=Z,7.6nm,1.1s							
PSA00	**Pilbara Seismi**	**31.71**	**192**	P	**P**		**20 51 27.9**	**+0.2**
AS31	**Alice Springs**	**33.89**	**168**	P	**P**		**20 51 46.8**	**+0.1**
ASAR	**Alice Springs**	**33.89**	**168**	P	**P**		**20 51 46.0**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=351,slow=7.1,SNR=10.0							
ASAR				LR	LR		21 08 32.1	
	comp=Z,46nm,18.2s,baz=312,slow=42							
SHL	**Shillong**	**36.47**	**300**	P	**P**		**20 52 08.9**	**-0.2**
SHL				IAmb	IAmb		20 52 22.1	
	comp=Z,7.3nm,0.7s							
MORW	**Morawa**	**39.80**	**194**	P	**P**		**20 52 36.9**	**0.0**
MORW				IAmb	IAmb		20 52 42.7	
	comp=Z,12nm,0.9s							
FORT	**Forrest**	**40.22**	**178**	P	**P**		**20 52 40.2**	**-0.2**
SONM	**Songino Array**	**41.68**	**340**	P	**P**		**20 52 52.7**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=160,slow=9.4,SNR=2.4							
SONM				LR	LR		21 12 04.0	
	comp=Z,53nm,18.9s,baz=99,slow=39							
BBOO	**Buckleboo**	**43.19**	**168**	P	**P**		**20 53 04.4**	**-0.3**
BBOO				IAmb	IAmb		20 53 23.2	
	comp=Z,17nm,1.4s							
NWAO	**Narrogin (SRO)**	**43.26**	**191**	P	**P**		**20 53 05.5**	**+0.3**
NWAO				IAmb	IAmb		20 53 11.4	
	comp=Z,20nm,1.2s							
STKA	**Stephens Creek**	**43.74**	**161**	P	**P**		**20 53 08.8**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=350,slow=5.1,SNR=3.7							
STKA	**Stephens Creek**	**43.74**	**161**	P	**P**		**20 53 08.7**	**-0.4**
TLY	**Talaya**	**45.90**	**340**	P	**P**		**20 53 27.5**	**+1.4**
TLY				IAmb	IAmb		20 53 33.5	
	comp=Z,2.8nm,0.9s							
PETK	**Petropavlovsk-**	**50.10**	**24**	LR	LR		21 16 44.8	
	comp=Z,35nm,18.6s,baz=247,slow=38							
YAK	**Yakutsk**	**52.34**	**2**	LR	LR		21 16 37.6	
	comp=Z,23nm,20.0s,baz=154,slow=36							
MK31	**Makanchi Array**	**52.67**	**323**	P	**P**		**20 54 17.7**	**-0.3**
MKAR	**Makanchi Array**	**52.67**	**323**	P	**P**		**20 54 17.8**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=118,slow=7.9,SNR=7.4							
MAKZ	**Makanchi**	**52.86**	**323**	P	**P**		**20 54 19.3**	**-0.2**
NIL	**Nilore**	**54.29**	**305**	P	**P**		**20 54 29.6**	**-0.5**
ZALV	**Zalesovo Beam**	**55.29**	**331**	P	**P**		**20 54 36.4**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=98,slow=6.4,SNR=1.7							
ZALV				LR	LR		21 20 21.0	
	comp=Z,33nm,18.1s,baz=82,slow=38							
KURK	**Kurchatov**	**56.72**	**326**	P	**P**		**20 54 46.6**	**-0.7**
GAR	**Garm**	**57.88**	**310**	P	**P**		**20 54 55.9**	**0.0**
CHGR	**Chuyangaron**	**58.67**	**309**	P	**P**		**20 55 01.1**	**-0.3**
KK31	**Karatay Array**	**58.86**	**315**	P	**P**		**20 55 01.9**	**-0.6**
KK31				IAmb	IAmb		20 55 07.6	
	comp=Z,1.4nm,0.6s							
TIXI	**Tiksi**	**61.96**	**1**	P	**P**		**20 55 23.9**	**+0.7**
TIXI				IAmb	IAmb		20 55 39.8	
	comp=Z,2.2nm,0.8s							
BRVK	**Borovoye**	**62.38**	**326**	P	**P**		**20 55 26.7**	**+0.3**
BRVK				IAmb	IAmb		20 55 43.6	
	comp=Z,3.7nm,1.1s							
NRIK	**Noril'sk**	**64.67**	**346**	P	**P**		**20 55 41.5**	**+0.3**
	comp=Z,2.7nm,0.5s,baz=116,slow=6.3,SNR=2.5							
NRIK				LR	LR		21 25 30.6	
	comp=Z,45nm,21.8s,baz=76,slow=38							
GEYT	**Alibeck**	**67.11**	**307**	LR	LR		21 29 36.7	
	comp=Z,58nm,18.7s,baz=75,slow=40							
ARU	**Arti**	**69.88**	**327**	P	**P**		**20 56 14.0**	**-0.5**
ARU				IAmb	IAmb		20 56 28.0	
	comp=Z,4.3nm,1.1s							
RAYN	**Ar Rayn**	**78.03**	**292**	P	**P**		**20 57 02.3**	**-0.6**
RAYN				IAmb	IAmb		20 57 07.3	
	comp=Z,2.1nm,0.7s							
KBZ	**Khabaz**	**78.81**	**313**	LR	LR		21 36 59.1	
	comp=Z,52nm,18.2s,baz=97,slow=40							
ILAR	**Eielson Array**	**79.89**	**26**	P	**P**		**20 57 12.8**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=257,slow=6.2,SNR=1.7							
ARCES	**ARCESS Array B**	**84.86**	**340**	P	**P**		**20 57 38.0**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=62,slow=8.4,SNR=7.1							
BRTR	**Keskin Array B**	**86.11**	**309**	P	**P**		**20 57 45.2**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=110,slow=3.8,SNR=1.7							
BRTR				LR	LR		21 41 37.0	
	comp=Z,19nm,18.2s,baz=173,slow=39							
FIA1	**FINESS Array S**	**86.55**	**332**	P	**P**		**20 57 46.3**	**-0.3**
FINES	**FINESS Array B**	**86.55**	**332**	P	**P**		**20 57 46.1**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=116,slow=4.4,SNR=7.8							
AKASG	**Malin Array Be**	**87.20**	**321**	P	**P**		**20 57 50.5**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=62,slow=4.5,SNR=2.8							
AKASG				LR	LR		21 39 22.9	
	comp=Z,17nm,21.0s,baz=300,slow=37							
VNDA	**Vanda**	**89.29**	**173**	P	**P**		**20 57 59.5**	**+0.2**
VNDA				IAmb	IAmb		20 58 08.9	
	comp=Z,3.0nm,1.4s							
NB2	**NORSAR Subarra**	**93.42**	**334**	P	**P**		**20 58 22.3**	**+3.3**
	comp=Z,0.5nm,0.7s,baz=68,slow=4.6							
NOA	**NORSAR Array B**	**93.42**	**334**	P	**P**		**20 58 18.3**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=64,slow=4.5,SNR=2.2							
NOA				LR	LR		21 43 17.5	
	comp=Z,13nm,19.0s,baz=285,slow=37							
YKA	**Yellowknife Ar**	**94.22**	**24**	P	**P**		**20 58 22.5**	**0.0**
	comp=Z,0.4nm,0.6s,baz=290,slow=4.1,SNR=3.6							
YBH	**Yreka Blue Hor**	**98.70**	**45**	LR	LR		21 40 05.9	
	comp=Z,12nm,18.9s,baz=281,slow=34							

*SJA **07** 21:06:25.7±1.3,20.78S×67.90W,h183km±10km,ML3.5, MW3.5*

*IDC **07** 21:06:27.4±0.8,20.78S×67.93W,h174km±14km,mb3.4/2, mb1 3.4/5,mb1mx3.1/29,mbtmp3.7/5,Error ellipse: s-maj=34.7km s-min=11.4km az=98.0*

*GUC **07** 21:06:28.2±0.5,20.78S×68.00W,h179km±4km,ML4.0*

ISC 07 21:06:27.1±0.9,**20.79S**±0.04×**67.98W**±0.05,**h177**km±8km, **n37**,σ0°**98**/64,**10C-2D,Southern Bolivia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.27**	**300**	⇑*iP*	**Pn**		**21 06 57.6**	**+0.4**
PB08				*i* S	**Sn**		**21 07 20.7**	**+0.3**
PB08	**IPOC Station P**	**1.27**	**300**	*i* P	**Pn**		**21 06 57.6**	**+0.4**
PB08				*e*S	**Sn**		**21 07 20.8**	**+0.5**
PB08				IAML			21 07 22.7	
	comp=Z,160nm,0.2s							
PB01	**IPOC Station P**	**1.43**	**259**	⇑*iP*	**Pn**		**21 06 58.4**	**+0.1**
PB01				*i* S	**Sn**		**21 07 21.8**	**-0.5**
PB01	**IPOC Station P**	**1.43**	**259**	*i* P	**Pn**		**21 06 58.4**	**+0.1**
PB01				*e*S	**Sn**		**21 07 22.7**	**+0.4**
PB01				IAML			21 07 23.7	
	comp=Z,356nm,0.2s							
PB09	**IPOC Station P**	**1.55**	**229**	⇑*iP*	**Pn**		**21 07 00.5**	**+1.0**
PB09				*i* S	**Sn**		**21 07 25.4**	**+0.8**
PB09	**IPOC Station P**	**1.55**	**229**	*i* P	**Pn**		**21 07 00.4**	**+1.0**
PB09				*e*S	**Sn**		**21 07 25.9**	**+1.3**
PB09				IAML			21 07 26.1	
	comp=Z,158nm,0.7s							
PB02	**IPOC Station P**	**1.86**	**253**	⇑*iP*	**Pn**		**21 07 03.0**	**+0.3**
PB02				*i* S	**Sn**		**21 07 29.5**	**-0.6**
PB02				IAML			21 07 31.1	
	comp=E,1μm,0.1s							
PB11	**IPOC Station P**	**1.87**	**303**	⇑*iP*	**Pn**		**21 07 02.8**	**0.0**
PB11				*i* S	**Sn**		**21 07 29.7**	**-0.7**
PB11				IAML			21 07 32.8	
	comp=N,918nm,0.2s							
PB07	**IPOC Station P**	**2.01**	**242**	*e*P	**Pn**		**21 07 04.6**	**+0.4**
PB07				*i* S	**Sn**		**21 07 32.3**	**-0.7**
PB07				IAML			21 07 33.8	
	comp=N,589nm,0.3s							
LVC	**Limon Verde**	**2.01**	**205**	P	**Pn**		**21 07 05.5**	**+1.0**
	comp=N,2.8nm,0.3s,baz=35,slow=8.1,SNR=17							
LVC				S	**Sn**		**21 07 33.8**	**+0.3**
	comp=N,18nm,0.3s,baz=14,slow=4.9,SNR=9.9							
LVC	**Limon Verde**	**2.01**	**205**	*i* P	**Pn**		**21 07 04.5**	**0.0**
PATCX	**Punta Patache**	**2.03**	**269**	⇑*iP*	**Pn**		**21 07 04.7**	**+0.3**
PATCX				*i* S	**Sn**		**21 07 32.3**	**-1.0**
PATCX				IAML			21 07 34.6	
	comp=N,872nm,0.2s							
PATCX	**Punta Patache**	**2.03**	**269**	*i* P	**Pn**		**21 07 04.6**	**+0.3**
PATCX				*e*S	**Sn**		**21 07 33.0**	**-0.2**
PATCX				IAML			21 07 35.1	
	comp=Z,305nm,0.4s							
TA01	**Diego Aracena**	**2.07**	**276**	⇑*iP*	**Pn**		**21 07 04.7**	**-0.1**
TA01				*i* S	**Sn**		**21 07 32.5**	**-1.3**
TA01				IAML			21 07 33.8	
	comp=E,617nm,0.2s							
PB03	**IPOC Station P**	**2.07**	**232**	⇓*iP*	**Pn**		**21 07 05.1**	**+0.2**
PB03				*i* S	**Sn**		**21 07 33.6**	**-0.7**
TA02	**Huaiquique**	**2.08**	**284**	*i* P	**Pn**		**21 07 04.7**	**-0.1**
TA02				*i* S	**Sn**		**21 07 32.9**	**-1.1**
MNMC	**Minye Minye**	**2.24**	**317**	⇑*iP*	**Pn**		**21 07 05.5**	**+0.6**
MNMC				*i* S	**Sn**		**21 07 38.0**	**+0.2**
MNMC				IAML			21 07 40.1	
	comp=N,883nm,0.2s							
MNMCX	**Minye Minye**	**2.24**	**317**	*i* P	**Pn**		**21 07 07.3**	**+0.4**
MNMCX				*e*S	**Sn**		**21 07 38.7**	**+0.9**
MNMCX				IAML			21 07 40.4	
	comp=Z,549nm,0.2s							
PSGC	**Pisagua**	**2.33**	**300**	⇑*iP*	**Pn**		**21 07 07.4**	**-0.4**
PSGC				*i* S	**Sn**		**21 07 37.8**	**-1.6**
PSGC				IAML			21 07 39.8	
	comp=E,411nm,0.3s							
PSGCX	**Pisagua**	**2.33**	**300**	*i* P	**Pn**		**21 07 07.7**	**-0.2**
PSGCX				*e*S	**Sn**		**21 07 38.3**	**-1.1**
PSGCX				IAML			21 07 40.1	
	comp=Z,253nm,0.7s							
PB06	**IPOC Station P**	**2.42**	**217**	⇑*iP*	**Pn**		**21 07 09.4**	**+0.6**
PB06				*i* S	**Sn**		**21 07 40.9**	**-0.4**
PB06				IAML			21 07 42.0	
	comp=E,465nm,0.2s							
PB06	**IPOC Station P**	**2.42**	**217**	*i* P	**Pn**		**21 07 09.6**	**+0.8**
PB06				IAML			21 07 46.4	
	comp=Z,163nm,0.5s							
PB04	**IPOC Station P**	**2.54**	**232**	⇓*iP*	**Pn**		**21 07 10.8**	**+0.6**
PB04				*i* S	**Sn**		**21 07 42.4**	**-1.4**
PB04				IAML			21 07 44.1	
	comp=E,300nm,0.2s							
PB04	**IPOC Station P**	**2.54**	**232**	*i* P	**Pn**		**21 07 10.8**	**+0.6**
PB04				IAML			21 07 46.4	
	comp=Z,170nm,0.1s							
YJA	**Yavi**	**2.68**	**122**	*i* P	**Pn**		**21 07 12.0**	**-0.2**
YJA				*i* Sg	**Sn**		**21 07 45.3**	**-2.1**
YJA				IAML			21 07 48.0	
	comp=Z,22nm,1.5s							
PB15	**IPOC Station P**	**2.78**	**210**	*e*P	**Pn**		**21 07 14.0**	**+0.8**
PB15				*e*S	**Sn**		**21 07 49.2**	**+0.1**
PB15	**IPOC Station P**	**2.78**	**210**	*i* P	**Pn**		**21 07 14.4**	**+1.2**
PB15				*i* Sg	**Sn**		**21 07 47.5**	**-1.6**
PB05	**IPOC Station P**	**2.91**	**225**	*e*P	**Pn**		**21 07 15.1**	**+0.4**
PB05				*e*S	**Sn**		**21 07 50.0**	**-1.8**
PB05				IAML			21 07 57.5	
	comp=E,149nm,0.3s							
PB05	**IPOC Station P**	**2.91**	**225**	*i* P	**Pn**		**21 07 15.1**	**+0.4**
PB05				IAML			21 07 53.9	
	comp=Z,110nm,0.4s							
PB12	**IPOC Station P**	**3.09**	**314**	*e*P	**Pn**		**21 07 15.8**	**-1.1**
PB12				*e*S	**Sn**		**21 07 52.8**	**-2.8**
PB12				IAML			21 07 55.5	
	comp=E,201nm,0.1s							
PB10	**IPOC Station P**	**3.61**	**221**	*i* P	**Pn**		**21 07 23.6**	**+0.4**
PB10				IAML			21 08 11.6	
	comp=Z,31nm,0.4s							
LPAZ	**La Paz**	**4.47**	**358**	P	**Pn**		**21 07 36.6**	**+1.8**
	comp=Z,0.8nm,0.3s,baz=163,slow=7.3,SNR=11							
LPAZ				S	**Sn**		**21 08 27.1**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=311,slow=16,SNR=3.7							
LPAZ	**La Paz**	**4.47**	**358**	*i* P	**Pn**		**21 07 36.7**	**+1.8**
BDFB	**Brasilia**	**19.64**	**78**	P	**Pn**		**21 10 44.0**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=233,slow=11,SNR=4.0							
TORD	**Torodi Ar. Bea**	**76.30**	**70**	P	**P**		**21 17 56.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=254,slow=5.2,SNR=17							
YKA	**Yellowknife Ar**	**90.81**	**340**	P	**P**		**21 19 11.0**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=134,slow=4.3,SNR=3.5							
MKAR	**Makanchi Array**	**144.55**	**36**	PKP	**PKPdf**		**21 25 43.4**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=281,slow=3.9,SNR=2.7							

*KRSC **07** 22:01:08.7±1.8,50.52N×157.51E,h43km±25km,ML4.6, FELT [II-III] at Severo-Kurilsk.*

*MOS **07** 22:01:09.8±0.8,50.47N×157.35E,h59km,mb4.1/3,Error ellipse: s-maj=14.7km s-min=3.4km az=78.6*

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

*IDC **07** 22:01:14.2±2.6,50.77N×157.01E,h81km±23km,mb3.4/11, mb1 3.6/14,mb1mx3.4/38,mbtmp3.7/14,MS2.7/4, Ms1 2.8/4,ms1mx2.4/35,Error ellipse: s-maj=26.1km s-min=14.4km az=136.0*

ISC 07 22:01:11.0±1.2,**50.51N**±0.08×**157.33E**±0.06,**h55**km±11km, **n113**,σ1°**53**/122,**mb3.7**/12,**5C-2D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.79**	**283**	*eP*	**Pn**		**22 01 25.5**	**-0.6**
SKR				*e*S	**Sn**		**22 01 36.3**	**-0.8**
SKR	**Severo-Kuril's**	**0.79**	**283**	PN	**Pn**		**22 01 25.5**	**-0.6**
SKR				S	**Sn**		**22 01 36.3**	**-0.8**
PAU	**Pauzhetka**	**1.01**	**341**	*eP*	**Pn**		**22 01 28.3**	**-0.7**
PAU				*e*S	**Sn**		**22 01 41.8**	**-0.5**
PAU	**Pauzhetka**	**1.01**	**341**	PN	**Pn**		**22 01 28.3**	**-0.7**
PAU				S	**Sn**		**22 01 41.8**	**-0.5**
ALID	**Alaid**	**1.19**	**288**	*eP*	**Pn**		**22 01 31.6**	**+0.2**
ALID	**Alaid**	**1.19**	**288**	PN	**Pn**		**22 01 31.6**	**+0.2**
MIPR	**Malaya Ipel'ka**	**1.81**	**349**	*eP*	**Pn**		**22 01 39.7**	**0.0**
MIPR	**Malaya Ipel'ka**	**1.81**	**349**	PN	**Pn**		**22 01 39.7**	**0.0**
ASAK	**Asacha**	**1.91**	**11**	*eP*	**Pn**		**22 01 40.6**	**-0.6**
ASAK	**Asacha**	**1.91**	**11**	PN	**Pn**		**22 01 40.6**	**-0.6**
MTVR	**Mutnovka**	**2.05**	**15**	*eP*	**Pn**		**22 01 42.5**	**-0.6**
MTVR				*e*S	**Sn**		**22 02 06.6**	**-0.9**
MTVR	**Mutnovka**	**2.05**	**15**	PN	**Pn**		**22 01 42.5**	**-0.6**
MTVR				S	**Sn**		**22 02 06.6**	**-0.9**
RUS	**Russkaya**	**2.06**	**21**	*eP*	**Pn**		**22 01 41.8**	**-1.4**
RUS	**Russkaya**	**2.06**	**21**	PN	**Pn**		**22 01 41.8**	**-1.4**
GRL	**Gorelyy**	**2.10**	**13**	*eP*	**Pn**		**22 01 43.6**	**-0.2**
GRL				*e*S	**Sn**		**22 02 08.2**	**-0.5**
GRL	**Gorelyy**	**2.10**	**13**	PN	**Pn**		**22 01 43.6**	**-0.2**
GRL				S	**Sn**		**22 02 08.2**	**-0.5**
KRMR	**Karymshinskiy**	**2.38**	**12**	*eP*	**Pn**		**22 01 49.1**	**+1.7**
KRMR				*e*S	**Sn**		**22 02 17.6**	**+2.2**
KRMR	**Karymshinskiy**	**2.38**	**12**	PN	**Pn**		**22 01 49.1**	**+1.7**
KRMR				S	**Sn**		**22 02 17.6**	**+2.2**
APC	**Apacha**	**2.42**	**358**	*eP*	**Pn**		**22 01 48.4**	**+0.4**
APC	**Apacha**	**2.42**	**358**	PN	**Pn**		**22 01 48.4**	**+0.4**
PEA0B	**Petropavlovsk-**	**2.61**	**5**	*de*PN	**Pn**		**22 01 50.8**	**+0.1**
PETK	**Petropavlovsk-**	**2.61**	**5**	P	**Pn**		**22 01 51.0**	**+0.3**
	4.0nm,0.3s,baz=169,slow=14,SNR=83							
PETK				LR	LR		22 03 06.7	
	comp=Z,94nm,20.8s,baz=241,slow=47							
PETK	**Petropavlovsk-**	**2.61**	**5**	PN	**Pn**		**22 01 51.0**	**+0.3**
PET	**Petropavlovsk**	**2.65**	**18**	*eP*	**Pn**		**22 01 50.9**	**-0.2**
PET				*e*S	**Sn**		**22 02 20.8**	**-1.2**
PET	**Petropavlovsk**	**2.65**	**18**	⇑*iPN*	**Pn**		**22 01 50.7**	**-0.4**
PET				*e*S	**Sn**		**22 02 20.9**	**-1.1**
PET				pmax	pmax			
	comp=Z,44nm,0.4s							
PET				smax	smax			
	comp=E,263nm,0.6s							
PET				smax	smax			
	comp=N,

comp=Z,0.2nm,0.4s,baz=46,slow=6.9,SNR=6.5
MKAR Makanchi Array 47.74 296 *e*P **P 22 09 40.7 -1.4**
CMAR Chiang Mai Arr 55.95 257 P **P 22 10 44.2 +0.7**
comp=Z,1.2nm,0.6s,baz=33,slow=6.7,SNR=10
PDAR Pinedale Array 60.32 58 P **P 22 11 15.0 +0.9**
comp=Z,0.8nm,0.8s,baz=325,slow=2.3,SNR=5.6
FINES FINESS Array B 61.79 336 P **P 22 11 20.9 -2.5**
comp=Z,0.8nm,0.7s,baz=76,slow=8.0,SNR=4.9
FINES FINESS Array B 61.79 336 *e*P **P 22 11 22.6 -0.8**
FINES pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 65.52 343 P **P 22 11 45.8 -2.3**
comp=Z,0.3nm,0.6s,baz=33,slow=7.4,SNR=2.3
NOA LR LR 22 43 54.8
comp=Z,5.8nm,19.5s,baz=90,slow=39
WRA Warramunga Arr 73.02 203 P **P 22 12 35.4 +0.6**
comp=Z,1.6nm,1.1s,baz=15,slow=6.0,SNR=2.2
TXAR Lajitas Array 73.27 64 P **P 22 12 37.4 +0.9**
comp=Z,0.6nm,0.7s,baz=296,slow=4.1,SNR=5.4
GERES GERESS Array B 76.22 336 P **P 22 12 52.0 -1.2**
comp=Z,0.2nm,0.3s,baz=38,slow=6.5,SNR=2.1
ASAR Alice Springs 76.70 202 P **P 22 12 56.8 +0.8**
comp=Z,0.3nm,0.5s,baz=91,slow=8.0,SNR=6.1
H03N2 Juan Fernandez 135.94 89 T T 00 51 36.8
baz=313,slow=77,SNR=46
H03N1 Juan Fernandez 135.96 89 T T 00 51 39.7
baz=313,slow=77,SNR=44
H03N3 Juan Fernandez 135.96 89 T T 00 51 36.8
baz=313,slow=77,SNR=45

IDC 07 22:09:47.1±2.3,11°29N×126°21E,h0km,mb3.2/3, mb1 3.5/3,mb1mx3.2/39,mbtmp3.3/3,MS3.4/1,Ms1 3.6/1, ms1mx2.7/14,Error ellipse: s-maj=195.8km s-min=28.8km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.56**	**160**	P	P	22 14 49.5	+0.4
	0.6nm,0.5s,baz=338,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**25.91**	**164**	P	P	22 15 20.6	-0.5
	0.1nm,0.3s,baz=347,slow=12,SNR=2.1						
CMAR	**Chiang Mai Arr**	**31.73**	**304**	LR	LR	22 28 33.4	
	comp=Z,69nm,21.1s,baz=346,slow=36						
MKAR	**Makanchi Array**	**59.27**	**326**	P	P	22 19 50.6	+0.1
	0.1nm,0.4s,baz=107,slow=7.3,SNR=2.0						

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*IDC **07** 22:18:43.0±4.6,67.80N×163.08W,h0km,mb3.2/2, mb1 3.9/4,mb1mx3.2/62,mbtmp3.5/4,ML3.6/2,MS2.8/1, Ms1 2.8/1,ms1mx2.2/23,Error ellipse: s-maj=74.9km s-min=55.6km az=24.0*
*AEIC **07** 22:18:44±1.9,67.70N±0.06×162.15W±0.07,h16km±7km, ML3.1,Error ellipse: s-maj=8.5km s-min=3.6km az=178.0*
*NEIC **07** 22:18:45.6±2.2,67.70N±0.01×162.3W±0.2,h24km±6km, Error ellipse: s-maj=9.2km s-min=1.7km az=94.0*
ISC 07 22:18:44.4±1.0,67.72N±0.06×162.21W±0.06,h10km,n37, σ1§46/40,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**0.43**	**322**		**Pb**	**22 18 53.7**	**-0.3**
RDOG					**Sb**	**22 19 00.5**	**-0.1**
ANM	**Nome**	**3.42**	**204**	Pn	**Pn**	**22 19 37.7**	**0.0**
ANM	**Nome**	**3.42**	**204**		**Sn**	**22 20 18.4**	**+0.1**
IM03		**3.77**	**114**		**Pn**	**22 19 42.9**	**+0.4**
IM03					**Sn**	**22 20 26.5**	**-0.3**
COLD	**Coldfoot**	**4.65**	**91**		**Pn**	**22 19 53.8**	**-0.8**
TOLK	**Toolik Lake Re**	**4.81**	**73**	Pn	**Pn**	**22 19 56.1**	**-0.7**
TOLK					**Sn**	**22 20 52.8**	**+0.4**
PS04	**TAPS Pump Stn4**	**4.87**	**76**		**Sn**	**22 20 57.1**	**+3.0**
TTA	**Tatalina**	**5.46**	**149**		**Pn**	**22 20 05.4**	**-0.4**
TT01	**Tatalina**	**5.48**	**149**		**Pn**	**22 20 06.9**	**+0.9**
BPAW	**Bear Paw Mtn.**	**5.86**	**123**		**Pn**	**22 20 11.2**	**+0.1**
KTH	**Kantishna Hill**	**6.26**	**127**	Pn	**Pn**	**22 20 15.9**	**-0.9**
MDM	**Murphy Dome**	**6.27**	**110**	Pn	**Pn**	**22 20 15.8**	**-1.0**
PPLA	**Purkeypile**	**6.40**	**134**	Pn	**Pn**	**22 20 15.8**	**-3.0**
COLA	**College**	**6.45**	**110**		**Pn**	**22 20 19.9**	**+0.6**
COLA	**College**	**6.45**	**110**	Pn	**Pn**	**22 20 18.9**	**-0.3**
TRF	**Thorofare Moun**	**6.54**	**125**	Pn	**Pn**	**22 20 20.9**	**+0.3**
CCB	**Clear Creek Bu**	**6.59**	**111**		**Pn**	**22 20 21.1**	**-0.1**
WRH	**Wood River Hil**	**6.59**	**113**		**Pn**	**22 20 21.4**	**+0.1**
FYU	**Fort Yukon**	**6.71**	**92**	Pn	**Pn**	**22 20 21.5**	**-1.3**
BM03	**Burnt Mountain**	**6.74**	**84**		**Pn**	**22 20 24.6**	**+1.3**
MCK	**McKinley**	**6.77**	**120**	Pn	**Pn**	**22 20 22.0**	**-1.8**
IL31		**6.85**	**108**		**Pn**	**22 20 24.7**	**0.0**
ILAR	**Eielson Array**	**6.85**	**108**	Pn	**Pn**	**22 20 25.9**	**+1.1**
	1.6nm,0.3s,baz=305,slow=14,SNR=56						
ILAR				Sn	**Sn**	**22 21 42.0**	**-0.8**
	0.6nm,0.3s,baz=18,slow=30,SNR=6.5						
PRP	**Porcupine Dome**	**6.99**	**101**	Pn	**Pn**	**22 20 26.0**	**-0.9**
RND	**Reindeer**	**7.02**	**122**	Pn	**Pn**	**22 20 25.2**	**-2.0**
HDA	**Harding Lake**	**7.03**	**111**		**Pn**	**22 20 27.0**	**-0.3**
SVW2	**Sparrevohn**	**7.24**	**154**		**Pn**	**22 20 30.0**	**-0.1**
DHY	**Denali Highway**	**7.74**	**120**	Pn	**Pn**	**22 20 37.1**	**0.0**
RIDG	**Independent Ri**	**8.18**	**111**	Pn	**Pn**	**22 20 43.6**	**+0.6**
GHO	**Glory Hole Cre**	**8.22**	**130**	Pn	**Pn**	**22 20 42.2**	**-1.5**
RDWB	**Redoubt West**	**8.33**	**146**		**Pn**	**22 20 44.5**	**-0.7**
SCRK	**Sand Creek**	**8.35**	**108**	Pn	**Pn**	**22 20 45.8**	**+0.4**
RSO	**Redoubt South**	**8.37**	**146**		**Pn**	**22 20 45.5**	**-0.3**
INK	**Inuvik**	**10.72**	**74**	Pn	**Pn**	**22 21 18.6**	**+0.9**
	0.2nm,0.3s,baz=318,slow=4.6,SNR=11						
INK				Sn	**Sn**	**22 23 11.7**	**-5.8**
	0.2nm,0.3s,baz=129,slow=21,SNR=2.8						
YKA	**Yellowknife Ar**	**20.26**	**82**	P	Pn	22 23 22.9	+1.5
	0.5nm,0.5s,baz=302,slow=9.9,SNR=6.0						
TIXI	**Tiksi**	**23.03**	**311**	LR	LR	22 32 45.5	
	comp=Z,20nm,18.1s,baz=1.0,slow=37						
TXAR	**Lajitas Array**	**51.37**	**108**	P	**P**	**22 27 51.1**	**+2.1**
	0.3nm,0.7s,baz=308,slow=4.6,SNR=4.1						

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*IDC **07** 22:23:13.3±0.7,23.25N×94.21E,h0km,mb4.1/16, mb1 4.2/17,mb1mx3.8/56,mbtmp4.0/17,ML3.5/1,MS3.3/4, Ms1 3.3/4,ms1mx2.8/33,Error ellipse: s-maj=29.1km s-min=14.5km az=55.0*
*BJI **07** 22:23:16.9±0.0,22.88N×93.92E,h54km,mB4.4/19, mb4.3/23,ML4.1/1,Ms4.1/4,Ms7 3.8/2*
*NEIC **07** 22:23:21.7±1.6,23.31N±0.10×94.11E±0.06,h67km±8km, mb4.4/27,Error ellipse: s-maj=16.3km s-min=2.2km az=209.0*
ISC 07 22:23:20.6±0.6,23.20N±0.07×93.95E±0.05,h58km,n74, σ1§53/84,mb4.3/29,MS3.4/5,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**3.02**	**322**	Pn	**Pn**	**22 24 07.2**	**+1.0**
SHL				Sn	**Sn**	**22 24 42.3**	**+1.0**
CHTO	**Chiang Mai**	**6.38**	**132**	Pn	**Pn**	**22 24 52.7**	**+0.6**
CM31	**Chiang Mai Arr**	**6.63**	**134**	Pn	**Pn**	**22 24 57.1**	**+1.5**
CMAR	**Chiang Mai Arr**	**6.63**	**134**	Pn	**Pn**	**22 24 52.2**	**-3.3**
	0.3nm,0.3s,baz=311,slow=13,SNR=11						
CMAR				Lg	Lg	22 26 36.4	
	baz=305,slow=28,SNR=1.7						
LSA	**Lhasa**	**6.95**	**339**	P	**Pn**	**22 25 01.3**	**+1.0**
LSA				S	**Sn**	**22 26 15.4**	**-2.7**
LSA				smax	smax		
	comp=N,80nm,0.7s						
LSA				smax	smax		
	comp=E,63nm,0.6s						
LSA	**Lhasa**	**6.95**	**339**	Pn	**Pn**	**22 25 01.2**	**+1.0**
ODAN	**Odare**	**6.98**	**303**	*e*Pn	**Pn**	**22 25 00.9**	**+0.4**
ODAN				*e*Sn	**Sn**	**22 26 17.8**	**-0.8**
	118nm,0.5s						
TAPN	**Taplejung**	**7.00**	**307**	*e*Pn	**Pn**	**22 25 01.8**	**+1.0**
TAPN				*e*Sn	**Sn**	**22 26 19.6**	**+0.4**
	123nm,0.6s						
RAMN	**Ramite**	**7.64**	**301**	*e*Pn	**Pn**	**22 25 10.0**	**+0.4**
KMI	**Kunming**	**8.25**	**75**	P	**Pn**	**22 25 19.0**	**+1.1**
KMI				S	**Sn**	**22 26 49.5**	**-0.3**
KMI				pmax	pmax		
	comp=Z,14nm,0.7s						
KMI				pmax	pmax		
	comp=Z,98nm,4.6s						
KMI	**Kunming**	**8.25**	**75**	Pn	**Pn**	**22 25 17.0**	**-0.9**
JIRN	**Jiri**	**8.31**	**304**	*e*Pn	**Pn**	**22 25 19.0**	**+0.2**
JIRN				*e*Sn	**Sn**	**22 26 50.4**	**-0.9**
	179nm,0.5s						
GUN	**Gumba**	**8.67**	**304**	*e*Pn	**Pn**	**22 25 23.8**	**+0.1**
GUN				*e*Sn	**Sn**	**22 26 59.6**	**-0.6**
	103nm,0.6s						

PKI	**Pulchoki**	**8.87**	**301**	*e*Pn	**Pn**	**22 25 26.1**	**-0.3**
PKIN	**Phulchoki**	**8.88**	**301**	*e*Pn	**Pn**	**22 25 26.7**	**+0.2**
PKIN				*e*Sn	**Sn**	**22 27 03.3**	**-2.0**
DMN	**Daman**	**9.12**	**301**	*e*Pn	**Pn**	**22 25 29.9**	**0.0**
DMN				*e*Sn	**Sn**	**22 27 08.1**	**-3.1**
	9.8nm,0.4s						
PBKT	**Sadao Pong**	**9.33**	**134**	Pn	**Pn**	**22 25 32.2**	**-0.2**
SLVN	**Son La**	**9.40**	**99**	Pn	**Pn**	**22 25 32.5**	**-1.0**
GKN	**Gorkha**	**9.67**	**302**	*e*Pn	**Pn**	**22 25 36.7**	**-0.6**
GKN				*e*Sn	**Sn**	**22 27 21.1**	**-3.4**
	87nm,0.5s						
KOLN	**Koldanda**	**10.40**	**298**	*e*Pn	**Pn**	**22 25 46.2**	**-1.1**
KOLN				*e*Sn	**Sn**	**22 27 38.0**	**-4.4**
	62nm,0.4s						
DANN	**Dangsing**	**10.52**	**301**	*e*Pn	**Pn**	**22 25 48.8**	**-0.2**
DANN				*e*Sn	**Sn**	**22 27 41.6**	**-3.9**
	86nm,0.7s						
PYUN	**Piuthan**	**11.03**	**299**	*e*Pn	**Pn**	**22 25 54.7**	**-1.1**
LZH	**Lanzhou**	**15.45**	**31**	*e*P	**Pn**	**22 26 53.8**	**-1.2**
LZH				pP	pP	22 27 04.9	-6.2
LZH				PP	**PnPn**	**22 27 08.0**	**+3.6**
LZH				sP	sP	22 27 14.7	-3.8
LZH				pmax	pmax		
	comp=Z,23nm,1.0s						
LZH				pmax	pmax		
	comp=Z,68nm,4.7s						
LZH				LR	LR		
	comp=N,320nm,11.0s						
LZH				LR	LR		
	comp=E,340nm,11.2s						
LZH				LR	LR		
	comp=Z,450nm,13.5s						
ENH	**Enshi**	**15.56**	**60**	Pn	**Pn**	**22 26 55.2**	**-1.1**
ENH				IAmb	IAmb	22 27 00.6	
	comp=Z,21nm,1.2s						
XAN	**Xi'an**	**16.99**	**47**	P	**P**	**22 27 15.1**	**-0.4**
XAN				pP	pP	22 27 21.3	-6.8
XAN				pmax	pmax		
	comp=Z,15nm,1.0s						
XAN	**Xi'an**	**16.99**	**47**		**Pn**	**22 27 12.8**	**-1.7**
WHN	**Wuhan**	**19.60**	**64**	P	**P**	**22 27 43.3**	**-0.8**
WMQ	**Urumqi**	**21.21**	**347**	*e*P	**P**	**22 28 02.9**	**+1.4**
KSH	**Kashi**	**22.30**	**321**	*e*P	**P**	**22 28 14.8**	**+1.4**
KSH				pmax	pmax		
	comp=Z,26nm,0.9s						
KSH				pmax	pmax		
	comp=Z,190nm,5.3s						
KSH				LR	LR		
	comp=Z,390nm,11.8s						
KSH				LR	LR		
	comp=Z,280nm,9.3s						
KSH				LR	LR		
	comp=Z,140nm,10.4s						
TARG	**Taragay, Kyrgy**	**22.89**	**328**	P	**P**	**22 28 15.3**	**-4.6**
HHC	**Hu-ho-hao-te**	**23.01**	**36**	P	**P**	**22 28 19.3**	**-1.4**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,27nm,6.6s						
PRZ	**Przheval'sk**	**23.18**	**330**	P	**P**	**22 28 23.6**	**+1.1**
KDJ	**Kajisay**	**23.50**	**327**	P	**P**	**22 28 24.6**	**-0.9**
KBL	**Kabul**	**24.50**	**303**	P	**P**	**22 28 36.9**	**+2.1**
KBL				IAmb	IAmb	22 28 38.7	
	comp=Z,12nm,1.0s						
AAK	**Ala-Archa**	**25.24**	**325**	P	**P**	**22 28 43.9**	**+2.6**
	comp=Z,2.4nm,0.6s,baz=114,slow=6.0,SNR=5.8						
FRU1	**Bishkek**	**25.29**	**325**	P	**P**	**22 28 42.3**	**+0.6**
NACB	**Ninganchiao**	**25.32**	**82**	P	**P**	**22 28 42.0**	**0.0**
NACB				IAmb	IAmb	22 28 45.2	
	comp=Z,44nm,1.5s						
MK31	**Makanchi Array**	**25.35**	**341**	P	**P**	**22 28 42.6**	**+0.4**
MK31				IAmb	IAmb	22 28 44.6	
	comp=Z,7.0nm,0.8s						
MKAR	**Makanchi Array**	**25.35**	**341**	P	**P**	**22 28 43.3**	**+1.2**
	comp=Z,8.3nm,0.7s,baz=149,slow=10,SNR=101						
MAKZ	**Makanchi**	**25.46**	**341**	P	**P**	**22 28 44.0**	**+0.9**
GAR	**Garm**	**25.54**	**314**	P	**P**	**22 28 45.5**	**+1.4**
BTK	**Batken**	**25.78**	**316**	IAmb	IAmb	22 28 52.1	
	comp=Z,12nm,1.1s						
SONM	**Songino Array**	**26.52**	**19**	P	**P**	**22 28 50.9**	**-1.9**
	comp=Z,0.9nm,0.7s,baz=198,slow=9.2,SNR=3.6						
KURBB	**Kurchatov Arra**	**29.90**	**340**	P	**P**	**22 29 23.5**	**+0.8**
	comp=Z,2.8nm,0.8s,baz=154,slow=8.2,SNR=17						
ZALV	**Zalesovo Beam**	**31.47**	**350**	P	**P**	**22 29 36.6**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=175,slow=8.9,SNR=3.9						
KSRS	**Korea Array**	**32.39**	**56**	LR	LR	22 43 18.1	
	comp=Z,22nm,19.7s,baz=310,slow=38						
AKTO	**Aktyubinsk**	**38.97**	**323**	P	**P**	**22 30 42.6**	**+1.6**
	comp=Z,2.4nm,0.7s,baz=129,slow=8.7,SNR=8.3						
TIXI	**Tiksi**	**52.38**	**13**	P	**P**	**22 32 25.5**	**-1.0**
	comp=Z,2.7nm,0.5s,baz=191,slow=4.5,SNR=22						
TIXI	**Tiksi**	**52.38**	**13**	P	**P**	**22 32 24.9**	**-1.6**
TIXI				IAmb	IAmb	22 32 26.2	
	comp=Z,3.2nm,0.5s						
BRTR	**Keskin Array B**	**53.08**	**303**	P	**P**	**22 32 33.8**	**+1.4**
	comp=Z,0.4nm,0.9s,baz=75,slow=1.4,SNR=4.0						
ELL	**Elmali**	**56.17**	**300**	P	**P**	**22 32 55.5**	**+0.8**
AKASG	**Malin Array Be**	**56.49**	**316**	P	**P**	**22 32 57.0**	**+0.3**
	comp=Z,2.0nm,0.5s,baz=81,slow=6.3,SNR=8.8						
AKASG				LR	LR	23 00 38.8	
	comp=Z,17nm,18.1s,baz=220,slow=40						
AKBB	**Malin Array Si**	**56.49**	**316**	P	**P**	**22 32 56.9**	**+0.3**
AKBB				IAmb	IAmb	22 32 57.8	
	comp=Z,3.4nm,0.8s						
WB0	**Warramunga Arr**	**58.14**	**134**	P	**P**	**22 33 07.0**	**-1.6**
WRA	**Warramunga Arr**	**58.23**	**134**	P	**P**	**22 33 08.7**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=324,slow=7.5,SNR=5.9						
WB2	**Warramunga Arr**	**58.23**	**134**	P	**P**	**22 33 09.2**	**-0.1**
WB2				IAmb	IAmb	22 33 23.6	
	comp=Z,5.6nm,1.1s						
MLR	**Muntele Rosu**	**58.62**	**310**	P	**P**	**22 33 13.6**	**+1.7**
	comp=Z,6.5nm,0.9s,baz=150,slow=2.7,SNR=12						
MLR	**Muntele Rosu**	**58.62**	**310**	P	**P**	**22 33 13.1**	**+1.2**
ALN	**Alexandroupoli**	**58.82**	**305**	P	**P**	**22 33 13.5**	**+0.4**
ALN				IAmb	IAmb	22 33 15.2	
	comp=Z,7.1nm,0.9s						
BUR08	**Bucovina Ar. S**	**59.07**	**313**	P	**P**	**22 33 15.2**	**+0.2**
BUR08				IAmb	IAmb	22 33 20.4	
	comp=Z,3.1nm,1.3s						
FINES	**FINESS Array B**	**59.34**	**329**	P	**P**	**22 33 17.2**	**+0.8**
	comp=Z,2.5nm,1.0s,baz=124,slow=6.9,SNR=2.1						
FINES				LR	LR	23 01 27.0	
	comp=Z,25nm,18.4s,baz=126,slow=39						
IDI	**Anoyia**	**60.38**	**298**	P	**P**	**22 33 24.4**	**+0.3**
ASAR	**Alice Springs**	**60.63**	**138**	P	**P**	**22 33 25.8**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=320,slow=6.9,SNR=14						
AGG	**Agios Georgios**	**61.87**	**303**	P	**P**	**22 33 33.8**	**-0.2**
AGG				IAmb	IAmb	22 33 35.4	
	comp=Z,9.9nm,1.4s						
NB2	**NORSAR Subarra**	**66.50**	**328**	P	**P**	**22 34 03.8**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=84,slow=6.5						
NOA	**NORSAR Array B**	**66.50**	**328**	P	**P**	**22 34 03.8**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=85,slow=6.4,SNR=5.1						
GERES	**GERESS Array B**	**66.61**	**315**	P	**P**	**22 34 06.4**	**+1.3**
	comp=Z,1.1nm,0.6s,baz=78,slow=6.4,SNR=15						
NRCA	**Norcia**	**68.09**	**308**	P	**P**	**22 34 14.8**	**+0.3**
NRCA				IAmb	IAmb	22 34 17.7	
	comp=Z,4.3nm,1.1s						
LBTB	**Lobatse**	**81.77**	**238**	P	**P**	**22 35 35.3**	**+1.7**
LBTB				IAmb	IAmb	22 35 36.1	
	comp=Z,2.5nm,0.6s						
C36M	**Paulatuk**	**83.74**	**13**	P	**P**	**22 35 42.2**	**-0.7**
BOSA	**Boshof**	**83.84**	**235**	P	**P**	**22 35 46.1**	**+1.8**
	comp=Z,2.4nm,0.7s,baz=62,slow=4.5,SNR=5.5						
BOSA	**Boshof**	**83.84**	**235**	P	**P**	**22 35 44.6**	**+0.3**
BOSA				IAmb	IAmb	22 35 46.3	
	comp=Z,5.4nm,1.1s						
TORD	**Torodi Ar. Bea**	**86.95**	**283**	LR	LR	23 20 51.9	
	comp=Z,30nm,18.2s,baz=130,slow=40						
TXAR	**Lajitas Array**	**125.09**	**19**	PKP	**PKPdf**	**22 42 14.8**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=296,slow=0.3,SNR=4.0						

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*MDD **07** 22:26:07.8±1.1,45.22N×8.50W,h40km,mb4.1/8,Error ellipse: s-maj=12.3km s-min=4.6km az=117.0*
*LDG **07** 22:26:08.8±0.2,45.19N×8.36W,h20km,Ml2.8/22,Error ellipse: s-maj=5.6km s-min=2.4km az=111.0*
*INMG **07** 22:26:10.7±1.5,45.08N×8.54W,h31km,ML2.2,Error ellipse: s-maj=11.3km s-min=5.8km az=117.0*
ISC 07 22:26:04.8±1.2,45.14N±0.04×8.16W±0.06,h10km,n94, σ2§92/157,1C-1D,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EPON	**Pontenova**	**1.95**	**158**	P	**Pb**	**22 26 40.2**	**-0.2**
	4.8nm,0.2s,SNR=10						
EPON				S	**Sg**	**22 27 03.7**	**-3.8**
	15nm,0.3s,SNR=7.9						
EMAZ	**Mazaricos**	**2.27**	**195**	S	**Sn**	**22 27 06.6**	**-3.7**
	6.0nm,0.1s,SNR=7.9						
EAGO	**Agolada(Pontev**	**2.34**	**179**	P	**Pn**	**22 26 44.0**	**+0.7**
	0.4nm,0.1s,SNR=7.9						
EAGO				S	**Sn**	**22 27 10.8**	**-1.2**
	7.8nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**2.80**	**130**	⇓P	**Pb**	**22 26 53.6**	**-1.4**
	3.9nm,0.1s,SNR=18						
EARI				S	**Sb**	**22 27 27.0**	**-2.4**
	2.6nm,0.1s						
EZAM	**Zamans**	**3.01**	**188**	P	**Pn**	**22 26 52.9**	**+0.4**
	0.8nm,0.1s,SNR=7.9						
EZAM				S	**Sn**	**22 27 25.3**	**-3.4**
	3.3nm,0.1s,SNR=7.9						
PGAV	**Gavieira, Arco**	**3.17**	**182**	P	**Pn**	**22 26 55.9**	**+1.1**
PGAV				S	**Sn**	**22 27 29.9**	**-2.9**
	6.6nm,0.3s						
PGAV	**Gavieira, Arco**	**3.17**	**182**	*e*Pn	**Pn**	**22 26 55.9**	**+1.1**
PGAV				*e*Sn	**Sn**	**22 27 29.9**	**-2.9**
PGAV				A	A	22 27 31.4	
	6.6nm,0.3s						
ELOB	**Lobios**	**3.27**	**179**	P	**Pn**	**22 26 57.4**	**+1.3**
	0.7nm,0.1s,SNR=7.4						
ELOB				S	**Sn**	**22 27 32.4**	**-2.7**
	7.5nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**3.36**	**162**	P	**Pn**	**22 27 00.2**	**+2.9**
	2.6nm,0.2s,SNR=7.9						
ECAL				S	**Sn**	**22 27 38.0**	**+0.7**
	3.4nm,0.2s						
PCAB	**Cabril**	**3.43**	**178**	S	**Sn**	**22 27 37.0**	**-2.0**
	3.4nm,0.2s						
PCAB	**Cabril**	**3.43**	**178**	*e*Sn	**Sn**	**22 27 37.0**	**-2.0**
PCAB				A	A	22 27 47.4	
	6.8nm,0.2s						
PBRG	**Braganca**	**3.49**	**162**	P	**Pn**	**22 27 01.8**	**+2.7**
PBRG				S	**Sn**	**22 27 41.0**	**+0.5**
	1.3nm,0.4s						
PBRG	**Braganca**	**3.49**	**162**	*e*Pn	**Pn**	**22 27 01.8**	**+2.7**
PBRG				*e*Sn	**Sn**	**22 27 41.0**	**+0.5**
PBRG				A	A	22 27 43.6	
	2.6nm,0.4s						
PVRL	**Vila Real**	**3.87**	**175**	S	**Sn**	**22 27 47.5**	**-2.5**
	2.3nm,0.3s						
PVRL	**Vila Real**	**3.87**	**175**	*e*Sn	**Sn**	**22 27 47.5**	**-2.5**
PVRL				A	A	22 27 49.5	
	4.7nm,0.3s						
ELAN	**Lanestosa**	**3.90**	**118**	P	**Pn**	**22 27 08.5**	**+3.8**
	0.7nm,0.1s,SNR=76						
ELAN				S	**Sb**	**22 27 52.8**	**-7.9**
	3.5nm,0.2s						
MVO	**Moncorvo**	**4.06**	**168**	P	**Pn**	**22 27 09.1**	**+2.2**
	0.6nm,0.1s,SNR=13						
MVO				S	**Sn**	**22 27 53.8**	**-0.7**
	3.9nm,0.1s						
MVO	**Moncorvo**	**4.06**	**168**	*e*Pn	**Pn**	**22 27 09.1**	**+2.2**
MVO				*e*Sn	**Sn**	**22 27 53.5**	**-1.0**
MVO				A	A	22 27 56.9	
	3.5nm,0.3s						
PVIS	**Viseu**	**4.42**	**177**	P	**Pn**	**22 27 13.9**	**+1.9**
PVIS				S	**Sn**	**22 28 00.2**	**-3.4**
	1.7nm,0.3s						
PVIS	**Viseu**	**4.42**	**177**	*e*Pn	**Pn**	**22 27 13.9**	**+1.9**
PVIS				*e*Sn	**Sn**	**22 28 00.2**	**-3.4**
PVIS				A	A	22 28 00.9	
	3.4nm,0.3s						
QUIF	**Quistinic**	**4.43**	**49**	*e*Pn	**Pn**	**22 27 13.7**	**+1.8**
QUIF	**Quistinic**	**4.43**	**49**	*e*P	Pn	22 27 18.0	+6.1
QUIF				*e*Sn	**Sn**	**22 28 01.3**	**-2.2**
QUIF	**Quistinic**	**4.43**	**49**	P	**Pn**	**22 27 13.7**	**+1.8**
QUIF				S	**Sn**	**22 28 01.3**	**-2.2**
ROSF	**Rostrenen**	**4.64**	**45**	*e*Pn	**Pn**	**22 27 16.4**	**+1.6**
ROSF				*e*Sn	**Sn**	**22 28 06.0**	**-2.7**
	1.5nm,0.3s						
ROSF	**Rostrenen**	**4.64**	**45**	P	**Pn**	**22 27 16.4**	**+1.6**
ROSF				S	**Sn**	**22 28 06.0**	**-2.7**
	0.8nm,0.3s						
MTE	**Manteigas**	**4.76**	**174**	S	**Sn**	**22 28 09.5**	**-2.3**
	2.0nm,0.4s						
MTE	**Manteigas**	**4.76**	**174**	*e*Sn	**Sn**	**22 28 09.5**	**-2.3**
MTE				A	A	22 28 11.9	
	4.0nm,0.4s						
SGMF	**Saint Gilles**	**4.96**	**49**	*e*Pn	**Pn**	**22 27 21.6**	**+2.4**
SGMF	**Saint Gilles**	**4.96**	**49**	*e*P	Pn	22 27 25.6	+6.4
SGMF				*e*Sn	**Sn**	**22 28 15.7**	**-0.8**
	3.1nm,0.3s						
SGMF	**Saint Gilles**	**4.96**	**49**	P	**Pn**	**22 27 21.6**	**+2.4**
SGMF				S	**Sn**	**22 28 15.7**	**-0.8**
	1.6nm,0.3s						
PCAS	**Casmilo, Conde**	**5.09**	**183**	S	**Sn**	**22 28 11.2**	**-8.7**
	2.4nm,0.6s						
PCAS	**Casmilo, Conde**	**5.09**	**183**	*e*Sn	**Sn**	**22 28 11.2**	**-8.7**
PCAS				A	A	22 28 20.5	
	2.4nm,0.6s						
EALK	**Alkurruntz**	**5.15**	**110**	P	**P

	0.4nm,0.3s,SNR=7.9								
ESDC	**Sonseca Array**	**6.28**	**149**	P		**Pn**	**22 27 40.1**	**+2.6**
	1.1nm,0.3s,baz=328,slow=12,SNR=4.0								
PESTR	**Estremoz**	**6.28**	**176**	*e*Sn		**Sn**	**22 28 45.0**	**-4.3**
LFF	**La Frestale**	**6.31**	**89**	*e*Pn		**Pn**	**22 27 39.9**	**+2.1**
LFF				*e*Sn		**Sn**	**22 28 46.9**	**-3.0**
	1.2nm,0.2s								
LFF	**La Frestale**	**6.31**	**89**	P		**Pn**	**22 27 39.9**	**+2.1**
LFF				S		**Sn**	**22 28 46.9**	**-3.0**
	0.6nm,0.2s								
FLN	**La Foliniere**	**6.38**	**53**	*e*Pn		**Pn**	**22 27 41.5**	**+2.7**
FLN				*e*Sn		**Sn**	**22 28 50.5**	**-1.2**
	2.4nm,0.6s								
FLN	**La Foliniere**	**6.38**	**53**	P		**Pn**	**22 27 41.5**	**+2.7**
FLN				S		**Sn**	**22 28 50.5**	**-1.2**
	1.2nm,0.6s								
EBAD	**Badajoz**	**6.43**	**172**	S		**Sn**	**22 28 50.2**	**-2.8**
	0.7nm,0.3s,SNR=5.9								
EPF	**Esparros**	**6.47**	**106**	*e*Pn		**Pn**	**22 27 42.7**	**+2.6**
EPF	**Esparros**	**6.47**	**106**	*e*P		Pn	22 27 47.5	+7.4
EPF				*e*Sn		**Sn**	**22 28 52.1**	**-1.9**
	0.9nm,0.4s								
EPF	**Esparros**	**6.47**	**106**	P		**Pn**	**22 27 42.7**	**+2.6**
EPF				S		**Sn**	**22 28 52.1**	**-1.9**
	0.4nm,0.4s								
LDF	**La Druitiere**	**6.50**	**55**	*e*Pn		**Pn**	**22 27 42.4**	**+2.0**
LDF				*e*Sn		**Sn**	**22 28 52.4**	**-2.2**
	0.8nm,0.3s								
ESAC	**San Caprasio**	**6.56**	**119**	S		**Sn**	**22 28 57.9**	**+1.8**
	12nm,0.4s,SNR=7.9								
RJF	**Les Rejaudoux**	**6.83**	**85**	*e*Pn		**Pn**	**22 27 47.4**	**+2.4**
RJF				*e*Sn		**Sn**	**22 29 00.4**	**-2.5**
	1.4nm,0.3s								
RJF	**Les Rejaudoux**	**6.83**	**85**	P		**Pn**	**22 27 47.4**	**+2.4**
RJF				S		**Sn**	**22 29 00.4**	**-2.5**
	0.7nm,0.3s								
CAF	**Calviac**	**7.25**	**88**	*e*Pn		**Pn**	**22 27 53.5**	**+2.8**
CAF				*e*Sn		**Sn**	**22 29 11.0**	**-2.0**
	1.4nm,0.3s								
CAF	**Calviac**	**7.25**	**88**	P		**Pn**	**22 27 53.5**	**+2.8**
CAF				S		**Sn**	**22 29 11.0**	**-2.0**
	0.7nm,0.3s								
MESJ	**Messejana**	**7.29**	**180**	P		**Pn**	**22 27 52.5**	**+1.2**
MESJ				S		**Sn**	**22 29 10.4**	**-3.7**
MESJ	**Messejana**	**7.29**	**180**	*e*Pn		**Pn**	**22 27 52.5**	**+1.2**
MESJ				*e*Sn		**Sn**	**22 29 10.4**	**-3.7**
ECAB	**El Cabril**	**7.35**	**163**	P		**Pn**	**22 27 55.0**	**+2.8**
	1.3nm,0.2s,SNR=7.9								
ECAB				S		**Sn**	**22 29 12.9**	**-2.7**
	1.4nm,0.3s,SNR=7.9								
TCF	**Toulx Ste Croi**	**7.35**	**77**	*e*Pn		**Pn**	**22 27 54.3**	**+2.2**
TCF				*e*Sn		**Sn**	**22 29 12.9**	**-2.6**
	1.7nm,0.2s								
TCF	**Toulx Ste Croi**	**7.35**	**77**	P		**Pn**	**22 27 54.3**	**+2.2**
TCF				S		**Sn**	**22 29 12.9**	**-2.6**
	0.9nm,0.2s								
MTLF	**Montolieu**	**7.66**	**100**	*e*Pn		**Pn**	**22 27 58.2**	**+1.8**
MTLF				*e*Sn		**Sn**	**22 29 19.2**	**-4.1**
	1.2nm,0.3s								
MTLF	**Montolieu**	**7.66**	**100**	P		**Pn**	**22 27 58.2**	**+1.8**
MTLF				S		**Sn**	**22 29 19.2**	**-4.1**
	0.6nm,0.3s								
BGF	**Bois d'Agland**	**7.81**	**76**	*e*Pn		**Pn**	**22 28 00.3**	**+1.8**
BGF				*e*Sn		**Sn**	**22 29 22.8**	**-4.1**
	4.9nm,0.3s								
BGF	**Bois d'Agland**	**7.81**	**76**	P		**Pn**	**22 28 00.3**	**+1.8**
BGF				S		**Sn**	**22 29 22.8**	**-4.1**
	2.5nm,0.3s								
ETOB	**Tobarra**	**8.15**	**140**	P		**Pn**	**22 28 06.1**	**+3.0**
	0.3nm,0.1s,SNR=7.9								
AVF	**Avril sur Loir**	**8.19**	**74**	*e*Pn		**Pn**	**22 28 06.1**	**+2.5**
AVF				*e*Sn		**Sn**	**22 29 33.5**	**-2.6**
	0.5nm,0.3s								
AVF	**Avril sur Loir**	**8.19**	**74**	P		**Pn**	**22 28 06.1**	**+2.5**
AVF				S		**Sn**	**22 29 33.5**	**-2.6**
	0.2nm,0.3s								
SSF	**Saint Saulge**	**8.33**	**73**	*e*Pn		**Pn**	**22 28 07.3**	**+1.7**
SSF				*e*Sn		**Sn**	**22 29 35.1**	**-4.6**
	1.0nm,0.2s								
SSF	**Saint Saulge**	**8.33**	**73**	P		**Pn**	**22 28 07.3**	**+1.7**
SSF				S		**Sn**	**22 29 35.1**	**-4.6**
	0.5nm,0.2s								
SMF	**Signal de Mont**	**8.51**	**76**	*e*Pn		**Pn**	**22 28 09.3**	**+1.3**
SMF				*e*Sn		**Sn**	**22 29 39.9**	**-4.1**
	0.4nm,0.2s								
SMF	**Signal de Mont**	**8.51**	**76**	P		**Pn**	**22 28 09.3**	**+1.3**
SMF				S		**Sn**	**22 29 39.9**	**-4.1**
	0.2nm,0.2s								
LOR	**Lormes**	**8.60**	**71**	*e*Pn		**Pn**	**22 28 12.6**	**+3.3**
LOR				*e*Sn		**Sn**	**22 29 43.2**	**-3.2**
	0.8nm,0.3s								
LOR	**Lormes**	**8.60**	**71**	P		**Pn**	**22 28 12.6**	**+3.3**
LOR				S		**Sn**	**22 29 43.2**	**-3.2**
	0.4nm,0.3s								
LASF	**Ste Croix**	**8.64**	**93**	*e*Pn		**Pn**	**22 28 11.9**	**+2.1**
LASF				*e*Sn		**Sn**	**22 29 43.4**	**-3.9**
	0.2nm,0.2s								
LASF	**Ste Croix**	**8.64**	**93**	P		**Pn**	**22 28 11.9**	**+2.1**
LASF				S		**Sn**	**22 29 43.4**	**-3.9**
	0.1nm,0.2s								
VIVF	**Saint-Julien-l**	**9.10**	**87**	*e*Pn		**Pn**	**22 28 17.9**	**+1.8**
VIVF	**Saint-Julien-l**	**9.10**	**87**	P		**Pn**	**22 28 17.9**	**+1.8**

*SJA **07** 22:31:36.6±1.0,22°.57S×68°.85W,h106km±7km, ML3.6, MW3.6*
*GUC **07** 22:31:37.7±0.7,22°.55S×68°.83W,h104km±3km, ML3.8*
ISC 07 22:31:37.9±1.5,**22°.54S**±0°.04×**68°.87W**±0°.06,
h100km±10km,**n29,σ0s94**/42,**10C-3D**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**0.08**	**205**	*i*P		**Pn**	**22 31 51.7**	**-0.6**
LVC				*e*S		**Sn**	**22 32 02.2**	**-0.9**
LVC	**Limon Verde**	**0.08**	**205**	*i* P		**Pn**	**22 31 51.6**	**-0.7**
LVC				IAML			22 32 03.5	
	comp=Z,736nm,0.2s							
PB06	**IPOC Station P**	**0.67**	**255**	*i*P		**Pn**	**22 31 55.2**	**0.0**
PB06				*i* S		**Sn**	**22 32 08.9**	**+0.7**
PB06				IAML			22 32 10.4	
	comp=E,3μm,0.2s							
PB06	**IPOC Station P**	**0.67**	**255**	*i* P		**Pn**	**22 31 55.3**	**0.0**
PB06				*e*S		**Sn**	**22 32 09.2**	**+1.0**
PB06				IAML			22 32 10.2	
	comp=Z,2μm,0.2s							
PB09	**IPOC Station P**	**0.81**	**335**	*i*P		**Pn**	**22 31 57.1**	**+0.5**
PB09				*i* S		**Sn**	**22 32 11.7**	**+1.1**
PB09	**IPOC Station P**	**0.81**	**335**	*i* P		**Pn**	**22 31 57.0**	**+0.3**
PB09				IAML			22 32 16.1	
	comp=Z,864nm,0.2s							
PB15	**IPOC Station P**	**0.86**	**219**	*i*P		**Pn**	**22 31 57.5**	**+0.3**
PB15				*i* S		**Sn**	**22 32 12.3**	**+0.7**
PB03	**IPOC Station P**	**0.95**	**301**	*i*P		**Pn**	**22 31 58.2**	**+0.2**
PB03				*i* S		**Sn**	**22 32 13.6**	**+0.5**
PB03				IAML			22 32 14.2	
	comp=N,4μm,0.3s							
PB04	**IPOC Station P**	**1.20**	**280**	*i*P		**Pn**	**22 32 01.0**	**+0.2**
PB04				*i* S		**Sn**	**22 32 18.8**	**+0.9**
PB04				IAML			22 32 23.1	
	comp=N,2μm,0.2s							
PB04	**IPOC Station P**	**1.20**	**280**	*i* P		**Pn**	**22 32 01.1**	**+0.4**
PB04				IAML			22 32 22.1	
	comp=Z,2μm,0.1s							
PB07	**IPOC Station P**	**1.24**	**311**	*i*P		**Pn**	**22 32 01.6**	**+0.4**
PB07				*i* S		**Sn**	**22 32 19.5**	**+0.6**
PB07				IAML			22 32 22.7	
	comp=N,2μm,0.3s							
PB05	**IPOC Station P**	**1.27**	**255**	*i*P		**Pn**	**22 32 01.7**	**+0.2**
PB05				*e*S		**Sn**	**22 32 19.6**	**+0.3**
PB05	**IPOC Station P**	**1.27**	**255**	*i* P		**Pn**	**22 32 01.7**	**+0.2**
PB05				IAML			22 32 23.7	
	comp=Z,476nm,0.5s							
PB02	**IPOC Station P**	**1.54**	**322**	*i*P		**Pn**	**22 32 05.2**	**+0.4**
PB02				*i* S		**Sn**	**22 32 25.5**	**+0.3**
PB01	**IPOC Station P**	**1.59**	**339**	*i*P		**Pn**	**22 32 05.6**	**+0.2**
PB01				*i* S		**Sn**	**22 32 26.9**	**+0.6**
PB01				IAML			22 32 28.2	
	comp=N,2μm,0.3s							
PB10	**IPOC Station P**	**1.83**	**238**	*i*P		**Pn**	**22 32 08.9**	**+0.6**
PB10	**IPOC Station P**	**1.83**	**238**	*i* P		**Pn**	**22 32 08.6**	**+0.3**
PB10				IAML			22 32 38.5	
	comp=Z,213nm,0.6s							
PATCX	**Punta Patache**	**2.08**	**325**	*i*P		**Pn**	**22 32 11.1**	**-0.6**
PATCX				*e*S		**Sn**	**22 32 35.0**	**-2.4**

TA01	**Diego Aracena**	**2.31**	**328**	*e*P		**Pn**	**22 32 13.8**	**-0.8**
TA01				*e*S		**Sn**	**22 32 43.7**	**+1.1**
TA01				IAML			22 32 51.8	
	comp=N,367nm,0.4s							
PB08	**IPOC Station P**	**2.40**	**354**	*e*P		**Pn**	**22 32 16.4**	**+0.3**
PB08				IAML			22 32 52.6	
	comp=E,242nm,0.3s							
GO02	**Mina Guanaco**	**2.69**	**194**	*i*P		**Pn**	**22 32 19.4**	**-0.5**
GO02				IAML			22 33 16.5	
	comp=N,329nm,0.7s							
PB11	**IPOC Station P**	**2.86**	**345**	*e*P		**Pn**	**22 32 21.1**	**-0.9**
PB11				IAML			22 33 05.9	
	comp=E,258nm,0.4s							
GO01	**Chusmiza**	**2.87**	**354**	*e*P		**Pn**	**22 32 22.3**	**-0.1**
GO01				IAML			22 33 09.0	
	comp=N,292nm,0.2s							
YJA	**Yavi**	**3.13**	**84**	*i* P		**Pn**	**22 32 27.1**	**+1.3**
PSGC	**Pisagua**	**3.15**	**338**	*e*P		**Pn**	**22 32 23.7**	**-2.1**
PSGC				IAML			22 33 30.3	
	comp=E,144nm,0.2s							
MNMC	**Minye Minye**	**3.46**	**349**	*i* P		**Pn**	**22 32 28.9**	**-1.2**
PB12	**IPOC Station P**	**4.13**	**341**	*e*P		**Pn**	**22 32 36.6**	**-2.5**
ACDV	**Cuesta del Vie**	**7.60**	**182**	*i* P		**Pn**	**22 33 25.2**	**-1.0**
ACDV				IAML			22 35 00.3	
	comp=Z,11nm,2.1s							
ACCO	**Cerro Coronel**	**8.02**	**181**	*i* P		**Pn**	**22 33 30.8**	**-1.2**

*ISN **07** 22:40:40.8±1.0,32°.64N×46°.63E,h7km±5km, ML3.1*
*TEH **07** 22:40:41.0,32°.71N×46°.71E,h19km, ML3.1*
ISC 07 22:40:41.6±1.3,**32°.66N**±0°.08×**46°.71E**±0°.05,**h10**km,**n23,**
σ0s77/26,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
IBDR	**Badra**	**0.80**	**305**	*e*Pg		**Pg**	**22 40 56.0**	**-1.0**
IBDR				*e*Sg		**Sg**	**22 41 06.0**	**-1.4**
IBDR				AML		AML	22 41 22.6	
	comp=N,105nm,0.3s							
IBDR				AML		AML	22 41 32.1	
	comp=E,2μm,2.2s							
KCHF	**Cheshme Sefid,**	**1.64**	**10**	*e*Pg		**Pn**	**22 41 10.2**	**-0.5**
KCHF				*e*			22 41 33.8	
IKMR	**Kamar-syah**	**1.65**	**58**	*e*Pg		**Pn**	**22 41 11.1**	**+0.5**
IKMR				*e*			22 41 36.3	
IKOM	**Komasi**	**1.66**	**24**	*e*Pg		**Pn**	**22 41 10.7**	**-0.2**
IKOM				*e*			22 41 36.0	
IDOB	**Doab**	**1.67**	**47**	*e*Pn		**Pn**	**22 41 11.1**	**-0.1**
IDOB				*e*			22 41 16.7	
IGHG	**Ghaleghazi**	**1.67**	**356**	*e*Pg		**Pn**	**22 41 11.4**	**+0.2**
IGHG				*e*			22 41 38.0	
KER	**Kermanshah**	**1.76**	**12**	*e*Pg		**Pn**	**22 41 12.1**	**-0.3**
IVIS	**Veis**	**1.87**	**4**	*e*Pn		**Pn**	**22 41 14.6**	**+0.8**
IVIS				*e*			22 41 46.5	
BHD	**Baghdad**	**2.05**	**288**	*e*Pn		**Pn**	**22 41 17.0**	**+0.8**
BHD				*e*Sn		**Sn**	**22 41 43.0**	**+1.2**
IBZA	**Bozab**	**2.05**	**28**	*e*Pn		**Pn**	**22 41 16.6**	**+0.2**
IDHR	**Dehrash**	**2.06**	**353**	*e*Pn		**Pn**	**22 41 16.1**	**-0.4**
IDHR				*e*			22 41 49.4	
HSAM	**Samen**	**2.22**	**45**	*e*Pn		**Pn**	**22 41 19.1**	**+0.3**
IALM	**Almabolaq**	**2.51**	**29**	*e*Pn		**Pn**	**22 41 24.0**	**+1.2**
HAGD	**Aghdareh**	**2.96**	**42**	*e*Pn		**Pn**	**22 41 29.3**	**+0.3**
IKRK	**Kirkuk**	**3.37**	**325**	*e*Pn		**Pn**	**22 41 35.0**	**+0.6**
IKRK				*e*Sn		**Sn**	**22 42 16.0**	**+1.6**
IKRK				AML		AML	22 42 25.1	
	comp=N,167nm,0.5s							
IKRK				AML		AML	22 42 29.4	
	comp=E,155nm,0.2s							
JHBN	**Jahan bin**	**3.37**	**96**	*e*Pn		**Pn**	**22 41 35.3**	**+0.6**
IPIR	**Pirpir**	**3.53**	**88**	*e*Pn		**Pn**	**22 41 37.3**	**+0.5**
IRAZ	**Razeghan**	**3.83**	**43**	*e*Pn		**Pn**	**22 41 41.8**	**+0.9**
QABG	**Abgarm-Qazvin**	**3.87**	**37**	*e*Pn		**Pn**	**22 41 41.5**	**+0.1**
IKLH	**Kolahrood**	**4.15**	**80**	*e*Pn		**Pn**	**22 41 45.7**	**+0.4**
QSDN	**Sirdan**	**4.34**	**27**	*e*Pn		**Pn**	**22 41 48.7**	**+0.7**
KLNJ	**Kolanjah**	**4.47**	**110**	*e*Pn		**Pn**	**22 41 49.1**	**-0.7**
QALM	**Alamut, Qazvin**	**4.98**	**40**	*e*Pn		**Pn**	**22 41 56.9**	**+0.3**

*KRSC **07** 22:55:01.0±1.3,51°.34N×158°.18E,h40km±21km, ML4.1*
*MOS **07** 22:55:03.2±0.8,51°.40N×157°.88E,h50km, mb3.9/3, Error ellipse: s-maj=15.3km s-min=3.9km az=80.0*
ISC 07 22:55:02.5±1.1,**51°.32N**±0°.05×**158°.15E**±0°.05,**h49**km±14km,
n79,σ1s74/106,**mb3.7**/3,**4C-5D**,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
PAU	**Pauzhetka**	**0.85**	**280**	*e*P		**Pn**	**22 55 18.5**	**+0.4**
PAU	**Pauzhetka**	**0.85**	**280**	PN		**Pn**	**22 55 18.5**	**+0.4**
ASAK	**Asacha**	**1.07**	**352**	*e*P		**Pn**	**22 55 21.0**	**-0.2**
ASAK				*e*S		**Sn**	**22 55 34.1**	**-1.0**
ASAK	**Asacha**	**1.07**	**352**	PN		**Pn**	**22 55 21.0**	**-0.2**
ASAK				S		**Sn**	**22 55 34.1**	**-1.0**
RUS	**Russkaya**	**1.13**	**11**	*e*P		**Pn**	**22 55 21.5**	**-0.4**
RUS				*e*S		**Sn**	**22 55 35.6**	**-0.8**
RUS	**Russkaya**	**1.13**	**11**	PN		**Pn**	**22 55 21.5**	**-0.4**
RUS				S		**Sn**	**22 55 35.6**	**-0.8**
MTVR	**Mutnovka**	**1.16**	**1**	*e*P		**Pn**	**22 55 22.2**	**-0.3**
MTVR				*e*S		**Sn**	**22 55 36.7**	**-0.6**
MTVR	**Mutnovka**	**1.16**	**1**	PN		**Pn**	**22 55 22.2**	**-0.3**
MTVR				S		**Sn**	**22 55 36.7**	**-0.6**
GRL	**Gorelyy**	**1.23**	**358**	*e*P		**Pn**	**22 55 23.3**	**-0.1**
GRL				*e*S		**Sn**	**22 55 39.0**	**0.0**
GRL	**Gorelyy**	**1.23**	**358**	PN		**Pn**	**22 55 23.3**	**-0.1**
GRL				S		**Sn**	**22 55 39.0**	**0.0**
MIPR	**Malaya Ipel'ka**	**1.29**	**318**	*e*P		**Pn**	**22 55 23.3**	**-0.7**
MIPR				*e*S		**Sn**	**22 55 39.1**	**-1.0**
MIPR	**Malaya Ipel'ka**	**1.29**	**318**	PN		**Pn**	**22 55 23.3**	**-0.7**
MIPR				S		**Sn**	**22 55 39.1**	**-1.0**
SKR	**Severo-Kuril's**	**1.43**	**244**	*e*P		**Pn**	**22 55 26.5**	**+0.4**
SKR				*e*S		**Sn**	**22 55 44.3**	**+0.6**
SKR	**Severo-Kuril's**	**1.43**	**244**	*ce*PN		**Pn**	**22 55 26.4**	**+0.4**
KRMR	**Karymshinskiy**	**1.51**	**360**	*e*P		**Pn**	**22 55 28.5**	**+1.5**
KRMR				*e*S		**Sn**	**22 55 47.3**	**+1.8**
KRMR	**Karymshinskiy**	**1.51**	**360**	PN		**Pn**	**22 55 28.5**	**+1.5**
KRMR				S		**Sn**	**22 55 47.3**	**+1.8**
ALID	**Alaid**	**1.70**	**255**	*e*P		**Pn**	**22 55 30.0**	**+0.2**
ALID				*e*S		**Sn**	**22 55 51.1**	**+0.7**
ALID	**Alaid**	**1.70**	**255**	PN		**Pn**	**22 55 30.0**	**+0.2**
ALID				S		**Sn**	**22 55 51.1**	**+0.7**
APC	**Apacha**	**1.72**	**340**	*e*P		**Pn**	**22 55 29.3**	**-0.6**
APC				*e*S		**Sn**	**22 55 49.2**	**-1.4**
APC	**Apacha**	**1.72**	**340**	PN		**Pn**	**22 55 29.3**	**-0.6**
APC				S		**Sn**	**22 55 49.2**	**-1.4**
PET	**Petropavlovsk**	**1.73**	**10**	*e*P		**Pn**	**22 55 30.0**	**-0.1**
PET				*e*S		**Sn**	**22 55 50.3**	**-0.7**
PET	**Petropavlovsk**	**1.73**	**10**	*e*PN		**Pn**	**22 55 29.9**	**-0.1**
PET				*e*S		**Sn**	**22 55 50.4**	**-0.6**
PET				pmax		pmax		
	comp=Z,44nm,0.5s							
PET				smax		smax		
	comp=N,800nm,0.6s							
PET				smax		smax		
	comp=N,930nm,0.5s							
PET				smax		smax		
	comp=E,463nm,0.5s							
DALK	**Dalny**	**1.75**	**12**	*e*P		**Pn**	**22 55 30.3**	**0.0**
DALK				*e*S		**Sn**	**22 55 51.0**	**-0.4**
DALK	**Dalny**	**1.75**	**12**	PN		**Pn**	**22 55 30.3**	**0.0**
DALK				S		**Sn**	**22 55 51.0**	**-0.4**
PEA0B	**Petropavlovsk-**	**1.81**	**351**	*e*PN		**Pn**	**22 55 31.1**	**-0.1**
UGLR	**Uglovaya**	**1.93**	**12**	*e*P		**Pn**	**22 55 33.4**	**+0.4**
UGLR	**Uglovaya**	**1.93**	**12**	PN		**Pn**	**22 55 33.4**	**+0.4**
AVH	**Avacha**	**1.98**	**10**	*e*P		**Pn**	**22 55 34.9**	**+1.4**
AVH	**Avacha**	**1.98**	**10**	PN		**Pn**	**22 55 34.9**	**+1.4**
SMAR	**Somma**	**1.98**	**11**	*e*P		**Pn**	**22 55 33.9**	**+0.2**
SMAR	**Somma**	**1.98**	**11**	PN		**Pn**	**22 55 33.9**	**+0.2**
NLC	**Nalytchevo**	**1.99**	**21**	*e*P		**Pn**	**22 55 32.7**	**-0.9**
NLC				*e*S		**Sn**	**22 55 54.9**	**-2.4**
NLC	**Nalytchevo**	**1.99**	**21**	PN		**Pn**	**22 55 32.7**	**-0.9**
NLC				S		**Sn**	**22 55 54.9**	**-2.4**
KOK	**Koryaka**	**1.99**	**8**	*e*P		**Pn**	**22 55 35.0**	**+1.2**
KOK				*e*S		**Sn**	**22 55 59.0**	**+1.4**
KOK	**Koryaka**	**1.99**	**8**	PN		**Pn**	**22 55 35.0**	**+1.2**
KOK				S		**Sn**	**22 55 59.0**	**+1.4**
SDLR	**Sedlovina**	**2.01**	**13**	*e*P		**Pn**	**22 55 33.9**	**-0.1**
SDLR	**Sedlovina**	**2.01**	**13**	PN		**Pn**	**22 55 33.9**	**-0.1**
KRER	**Koryakskii**	**2.02**	**10**	*e*P		**Pn**	**22 55 35.1**	**+0.9**
KRER				*e*S		**Sn**	**22 55 59.2**	**+0.9**
KRER	**Koryakskii**	**2.02**	**10**	PN		**Pn**	**22 55 35.1**	**+0.9**
KRER				S		**Sn**	**22 55 59.2**	**+0.9**

KRX	**Arik**	**2.06**	**8**	*e*P		**Pn**	**22 55 35.4**	**+0.7**
KRX	**Arik**	**2.06**	**8**	PN		**Pn**	**22 55 35.4**	**+0.7**
SPN	**Mys Shipunski**	**2.12**	**32**	*e*P		**Pn**	**22 55 36.0**	**+0.6**
SPN				*e*S		**Sn**	**22 56 00.6**	**+0.1**
SPN	**Mys Shipunski**	**2.12**	**32**	PN		**Pn**	**22 55 36.0**	**+0.6**
SPN				S		**Sn**	**22 56 00.6**	**+0.1**
KII	**Karymskiy**	**2.83**	**16**	*e*P		**Pn**	**22 55 46.9**	**+1.7**
KII	**Karymskiy**	**2.83**	**16**	PN		**Pn**	**22 55 46.9**	**+1.7**
KZV	**Kizimen**	**4.01**	**18**	*e*P		**Pn**	**22 56 05.5**	**+4.1**
KZV	**Kizimen**	**4.01**	**18**	PN		**Pn**	**22 56 05.5**	**+4.1**
TUMD	**Tumrok D**	**4.12**	**18**	*e*P		**Pn**	**22 56 06.6**	**+3.8**
TUMR	**Tumrok**	**4.14**	**16**	*e*P		**Pn**	**22 56 05.9**	**+2.7**
TUMR	**Tumrok**	**4.14**	**16**	PN		**Pn**	**22 56 05.9**	**+2.7**
KMNR	**Kamenistaya**	**4.61**	**15**	*e*P		**Pn**	**22 56 12.7**	**+3.1**
KMNR	**Kamenistaya**	**4.61**	**15**	PN		**Pn**	**22 56 12.7**	**+3.1**
KPT	**Kopyto**	**4.81**	**14**	*e*P		**Pn**	**22 56 14.8**	**+2.4**
KPT	**Kopyto**	**4.81**	**14**	PN		**Pn**	**22 56 14.8**	**+2.4**
KIRR	**Kirishev**	**4.82**	**15**	*e*P		**Pn**	**22 56 15.8**	**+3.3**
KIRR	**Kirishev**	**4.82**	**15**	PN		**Pn**	**22 56 15.8**	**+3.3**
BZWR	**Bezymyannyi-We**	**4.85**	**16**	*e*P		**Pn**	**22 56 15.8**	**+2.8**
BZWR	**Bezymyannyi-We**	**4.85**	**16**	PN		**Pn**	**22 56 15.8**	**+2.8**
BZGR	**Bezymyannyi-Gr**	**4.87**	**17**	*e*P		**Pn**	**22 56 16.8**	**+3.7**
BZGR	**Bezymyannyi-Gr**	**4.87**	**17**	PN		**Pn**	**22 56 16.8**	**+3.7**
ZLN	**Zelenaya**	**4.96**	**18**	*e*P		Pn	22 56 20.0	+5.6
ZLN	**Zelenaya**	**4.96**	**18**	PN		Pn	22 56 20.0	+5.6
SRDR	**Sredinnyy**	**5.09**	**10**	*e*P		**Pn**	**22 56 18.4**	**+2.3**
SRDR	**Sredinnyy**	**5.09**	**10**	PN		**Pn**	**22 56 18.4**	**+2.3**
KRSR	**Krestovskiy**	**5.11**	**15**	*e*P		**Pn**	**22 56 19.0**	**+2.6**
KRSR	**Krestovskiy**	**5.11**	**15**	PN		**Pn**	**22 56 19.0**	**+2.6**
BDR	**Baidarnaya**	**5.56**	**18**	*e*P		**Pn**	**22 56 26.6**	**+4.0**
BDR	**Baidarnaya**	**5.56**	**18**	PN		**Pn**	**22 56 26.6**	**+4.0**
SRKR	**Sorokina**	**5.63**	**17**	*e*P		**Pn**	**22 56 26.1**	**+2.5**
SRKR	**Sorokina**	**5.63**	**17**	PN		**Pn**	**22 56 26.1**	**+2.5**
BKI	**Bering**	**6.09**	**47**	*e*P		**Pn**	**22 56 29.1**	**-0.7**
BKI	**Bering**	**6.09**	**47**	PN		**Pn**	**22 56 29.1**	**-0.7**
YSS	**Yuzh-Sakhalins**	**10.99**	**253**	*e*PN		**Pn**	**22 57 38.5**	**+1.7**
YUK	**Yuzh-Kuril'sk**	**11.03**	**233**	*e*PN		**Pn**	**22 57 40.1**	**+2.7**
ERM	**Erimo**	**13.85**	**234**	*ce*P		**Pn**	**22 58 13.4**	**-2.6**
TIXI	**Tiksi**	**24.23**	**338**	*e*P		**P**	**23 00 14.2**	**0.0**
COLA	**College**	**30.51**	**43**	*e*P		**P**	**23 01 08.3**	**-2.1**
COLA				pmax		pmax		
	comp=Z,2.0nm,1.2s							
DGZ	**Jazzator, Alta**	**43.39**	**297**	*e*P		**P**	**23 03 00.2**	**+0.2**
DGZ				pmax		pmax		
	comp=Z,1.0nm,0.9s							
KURK	**Kurchatov**	**47.66**	**302**	*e*P		**P**	**23 03 32.5**	**-1.0**
KURK				pmax		pmax		
	comp=Z,1.0nm,1.1s							

*IDC **07** 23:18:36.4±1.6,3°.52N×126°.23E,h0km,mb3.6/4, mb1 3.8/5,mb1mx3.5/32,mbtmp3.7/5,ML3.7/1, Error ellipse: s-maj=96.8km s-min=25.2km az=60.0*
ISC 07 23:18:37.3±0.9,**3°.8N**±0°.2×**126°.7E**±0°.3,**h10**km,**n6,σ2s37**/8,
mb3.6/4,**1D,Talaud Islands**

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

0.4nm,0.7s,baz=86,slow=9.3,SNR=3.0
WRA Warramunga Arr 56.83 189 P **P 23 40 49.2 -1.3**
1.1nm,0.8s,baz=3.9,slow=7.1,SNR=3.3
ASAR Alice Springs 60.56 189 P **P 23 41 15.9 -0.5**
0.3nm,0.6s,baz=17,slow=6.8,SNR=4.9

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*JMA **07** 23:45:11.5±0.3, 46°.77N×141°.60E, h0km, M2.7*
*SKHL **07** 23:45:12.0±0.3, 46°.76N×141°.81E, h10km, mb3.7/3*
ISC 07 23:45:11.7±2.6, 46°.8N±0°.1×141°.7E±0°.2, h9km, n3, σ0s22/6, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**0.72**	**75**	*e*Pg		**Pg**	**23 45 25.5**	**0.0**
YSS					AMB	AMB	23 45 29.0	
	30nm,0.5s							
YSS				*e*Sg		**Sg**	**23 45 35.0**	**+0.1**
YSS				A		A	23 45 35.8	
	110nm,0.4s							
YSS				A		A	23 45 35.8	
	90nm,0.4s							
JRBN	**Rebuntou**	**1.43**	**199**	P		**Pn**	**23 45 37.9**	**+0.2**
JRBN				*e*S		**Sn**	**23 45 56.3**	**-0.3**
JWK2	**Keihoku**	**1.46**	**176**	P		**Pb**	**23 45 38.9**	**-0.1**
JWK2				*e*S		**Sg**	**23 45 58.7**	**+0.1**

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*SNET **07** 23:48:14.8±1.2, 13°.29N×90°.19W, h26km±4km, ML3.4*
*GCG **07** 23:48:17.2±0.3, 13°.64N×90°.12W, h66km±33km, MD3.8*
ISC 07 23:48:14.7±2.2, 13°.4N±0°.1×90°.23W±0°.06, h21km±6km, n18, σ0s50/29, 1C, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NUBE	**Las Nubes**	**0.70**	**38**	*e*P		**Pn**	**23 48 29.1**	**-0.4**
NUBE				*e*S		**Sn**	**23 48 39.6**	**-0.2**
CEVE	**Cerro Verde**	**0.76**	**51**	*e*P		**Pb**	**23 48 28.9**	**-0.4**
CEVE				*e*S		**Sn**	**23 48 41.1**	**-0.2**
CEVE				IAML			23 48 42.7	
	comp=Z,2μm,0.1s							
SBLS	**San Blas**	**0.76**	**50**	*e*P		**Pn**	**23 48 30.2**	**-0.3**
SBLS				*e*S		**Sn**	**23 48 41.9**	**+0.5**
RTR	**El Retiro**	**0.79**	**46**	*e*P		**Pn**	**23 48 30.5**	**-0.2**
RTR				*e*S		**Sn**	**23 48 42.5**	**+0.6**
SNJE	**San Jose**	**0.80**	**49**	*e*P		**Pn**	**23 48 30.5**	**+0.6**
SNJE				*e*S		**Sn**	**23 48 42.2**	**0.0**
IXG	**Ixpaco**	**0.85**	**346**	*e*P		**Pn**	**23 48 31.5**	**-0.1**
UNIC	**Universidad Ca**	**0.91**	**46**	*e*P		**Pb**	**23 48 32.0**	**+0.2**
UNIC				*e*S		**Sn**	**23 48 45.5**	**+0.6**
UNIC				IAML			23 48 46.9	
	comp=Z,960nm,0.1s							
BOQS	**Boqueron**	**1.00**	**67**	*e*P		**Pb**	**23 48 33.2**	**-0.2**
BOQS				*e*S		**Sn**	**23 48 48.2**	**+1.0**
UEES	**Universidad Ev**	**1.03**	**69**	*e*P		**Pb**	**23 48 33.3**	**-0.5**
UEES				*e*S		**Sn**	**23 48 48.2**	**+0.5**
TACO	**Tacachico**	**1.05**	**54**	*e*P		**Pb**	**23 48 34.1**	**-0.1**
TACO				*e*S		**Sn**	**23 48 49.3**	**+1.0**
LFRS	**El Faro**	**1.17**	**76**	*e*P		**Pb**	**23 48 35.3**	**-0.5**
LFRS				*e*S		**Sb**	**23 48 51.0**	**+0.1**
LBRS	**Las Brisas**	**1.21**	**71**	*e*P		**Pn**	**23 48 36.4**	**-0.1**
FUG	**Fuego 3**	**1.25**	**331**	*e*P		**Pn**	**23 48 37.0**	**-0.1**
FUG				*e*S		**Sn**	**23 48 52.4**	**-0.9**
PAVA	**Las Pavas**	**1.30**	**74**	*e*P		**Pn**	**23 48 37.9**	**+0.1**
MTO3	**Montecristo**	**1.34**	**39**	*e*P		**Pn**	**23 48 38.0**	**-0.4**
ESQI	**Esquipulas**	**1.48**	**35**	*e*P		**Pn**	**23 48 40.0**	**-0.2**
PACA	**Pacayal**	**1.85**	**86**	*e*P		**Pn**	**23 48 45.1**	**-0.2**
STG3	**Santiaguito 3,**	**1.88**	**316**	*e*P		**Pn**	**23 48 46.4**	**+0.6**

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*IDC **08** 00:12:31.2±1.0, 17°.62N×82°.73W, h0km, mb3.7/8, mb1 4.1/12, mb1mx3.8/36, mbtmp3.8/12, ML3.6/4, MS3.1/11, Ms1 3.1/11, ms1mx2.8/43, Error ellipse: s-maj=26.8km s-min=20.8km az=36.0*
*NEIC **08** 00:12:32.3±1.5, 17°.53N±0°.08×82°.65W±0°.08, h15km±6km, mb4.2/71, Error ellipse: s-maj=12.0km s-min=9.6km az=138.0*
ISC 08 00:12:32.2±0.6, 17°.57N±0°.07×82°.70W±0°.06, h10km, n110, σ0s95/96, mb4.1/22, MS3.0/4, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FSCY	**Frank Sound, G**	**2.25**	**40**	Pn		**Pn**	**00 13 09.4**	**-0.2**
CBCY	**The Bluff, Cay**	**3.52**	**52**	Pn		**Pn**	**00 13 26.6**	**-0.4**
MTDJ	**Mount Denham**	**4.96**	**82**	Pn		**Pn**	**00 13 44.5**	**-2.5**
PCJ	**Portland Cotta**	**5.29**	**87**	*i* P		Pg	00 14 22.0	+8.4
ESPN	**Las Esperanzas**	**5.57**	**196**	Pn		**Pn**	**00 13 54.5**	**-0.6**
MATN	**Matagalpa**	**5.57**	**214**	Pn		**Pn**	**00 13 55.1**	**-0.2**
TGUH	**Tegucigalpa,Un**	**5.62**	**232**			**Pn**	**00 13 55.7**	**-0.3**
STH	**Stony Hill**	**5.63**	**84**	*i* P		**Sn**	**00 15 01.7**	**+0.7**
GWJ	**Greenwich**	**5.71**	**84**	*i* P		**Sn**	**00 15 04.8**	**+1.8**
TEIG	**Tepich**	**5.90**	**297**	Pn		**Pn**	**00 13 58.5**	**-1.3**
	7.0nm,0.3s,baz=134,slow=0.5,SNR=53							
TEIG				Sn		Sn	00 14 59.0	-8.5
	16nm,0.3s,baz=139,slow=22,SNR=12							
TEIG				LR		LR	00 16 15.5	
	comp=Z,200nm,18.2s,baz=226,slow=38							
TEIG	**Tepich**	**5.90**	**297**	Pn		**Pn**	**00 13 58.9**	**-0.9**
ACON	**Acoyapa**	**6.06**	**204**			**Pn**	**00 14 01.2**	**-0.8**
JTS	**Las Juntas de**	**7.56**	**197**	Pn		**Pn**	**00 14 24.5**	**+1.8**
	0.6nm,0.3s,baz=27,slow=22,SNR=2.8							
JTS				LR		LR	00 17 15.4	
	comp=Z,107nm,18.1s,baz=118,slow=37							
061Z	**Ochoppi**	**8.42**	**11**	Pn		**Pn**	**00 14 34.8**	**+0.5**
CMIG	**Matias Romero**	**11.64**	**269**	LR		LR	00 19 38.1	
	comp=Z,79nm,20.1s,baz=92,slow=37							
656A	**Williston**	**11.74**	**1**	Pn		**Pn**	**00 15 19.6**	**-0.3**
URIC	**Uribia, Colomb**	**11.89**	**118**	Pn		**Pn**	**00 15 19.9**	**-2.1**
SDD	**Santo Domingo**	**12.20**	**84**	Pn		**Pn**	**00 15 23.0**	**-3.2**
553A	**Crawfordville**	**12.66**	**353**	Pn		**Pn**	**00 15 32.9**	**+0.5**
456A	**Hilliard**	**13.11**	**3**	Pn		**Pn**	**00 15 39.1**	**+0.5**
451A	**Vernon**	**13.28**	**348**	Pn		**Pn**	**00 15 40.0**	**-0.9**
PCDR	**Punta Cana, DR**	**13.65**	**84**	Pn		**Pn**	**00 15 43.5**	**-2.5**
TIGA	**Tifton**	**13.83**	**357**			**Pn**	**00 15 47.9**	**-0.5**
352A	**Blakely**	**13.99**	**352**			**Pn**	**00 15 51.7**	**+1.0**
SDV	**Santo Domingo**	**14.57**	**125**	Pn		**Pn**	**00 16 01.4**	**+2.5**
	0.4nm,0.3s,baz=327,slow=17,SNR=2.6							
SDV				LR		LR	00 22 36.7	
	comp=Z,98nm,18.6s,baz=33,slow=41							
250A	**Grady**	**14.70**	**348**			**Pn**	**00 16 01.2**	**+0.8**
RUSC	**La Rusia**	**14.94**	**140**	Pn		**Pn**	**00 16 03.5**	**-0.6**
154A	**Montrose**	**14.98**	**359**			**Pn**	**00 16 05.4**	**+1.3**
ROSC	**El Rosal**	**15.08**	**146**	LR		LR	00 22 15.0	
	comp=Z,116nm,19.1s,baz=14,slow=39							
152A	**Waverly Hall**	**15.14**	**353**	Pn		**Pn**	**00 16 04.7**	**-1.5**
152A				IAmb		IAmb	00 16 08.9	
	comp=Z,9.3nm,0.7s							
SJG	**San Juan**	**15.77**	**86**	LR		LR	00 22 33.0	
	comp=Z,12nm,20.6s,baz=263,slow=38							
GOGA	**Godfrey**	**15.79**	**358**			**Pn**	**00 16 14.6**	**-0.2**
GOGA				IAmb		IAmb	00 16 24.9	
	comp=Z,18nm,1.4s							
Z51A	**Franklin**	**15.83**	**352**	Pn		**Pn**	**00 16 15.4**	**+0.1**
Z51A				IAmb		IAmb	00 16 17.3	
	comp=Z,9.0nm,0.7s							
LRAL	**Lakeview Retre**	**15.88**	**347**	Pn		**Pn**	**00 16 14.4**	**-1.4**
342A	**Flagon Creek P**	**16.28**	**329**			**Pn**	**00 16 20.2**	**-0.8**
Y49A	**Blount Mountai**	**16.55**	**349**			**P**	**00 16 26.3**	**-0.8**
HODGE	**Hodges**	**16.59**	**1**			**Pn**	**00 16 26.0**	**+1.0**
HODGE				IAmb		IAmb	00 16 38.9	
	comp=Z,25nm,1.4s							
JSC	**Jenkinsville**	**16.69**	**4**			**Pn**	**00 16 27.4**	**+1.1**
FPAL	**Fort Paine**	**17.10**	**352**			**Pn**	**00 16 31.8**	**+0.4**
BIRD	**Birdtown, Kers**	**17.12**	**6**			**Pn**	**00 16 30.8**	**-0.9**
BIRD				IAmb		IAmb	00 16 32.7	
	comp=Z,14nm,0.9s							
HKT	**Hockley**	**17.19**	**318**	Pn		**Pn**	**00 16 33.0**	**+0.4**
BG3	**Lake Jocassee**	**17.35**	**359**	P		**Pn**	**00 16 35.0**	**+0.4**
W50A	**Signal Mountai**	**17.71**	**353**	P		**Pn**	**00 16 39.4**	**+0.3**
SWET	**Sewanee**	**17.81**	**351**			**P**	**00 16 40.9**	**-0.1**
CPCT	**Cooper Cave**	**17.88**	**355**			**Pn**	**00 16 40.6**	**-0.5**
OXF	**Oxford**	**17.90**	**342**	P		**Pn**	**00 16 41.1**	**-0.3**
PLAL	**Pickwick Lake**	**17.99**	**346**			**Pn**	**00 16 41.7**	**-0.8**
V53A	**Saluda**	**18.02**	**360**	IAmb		IAmb	00 16 56.6	
	comp=Z,13nm,0.7s							
TKL	**Tuckaleechee C**	**18.04**	**357**	P		**Pn**	**00 16 42.2**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=177,slow=15,SNR=8.6							
TKL				LR		LR	00 23 44.7	
	comp=Z,75nm,19.6s,baz=176,slow=37							
TKL	**Tuckaleechee C**	**18.04**	**357**			**P**	**00 16 43.4**	**-0.1**
Z41A	**Richland Creek**	**18.07**	**332**			**P**	**00 16 43.9**	**+0.1**
Z41A				IAmb		IAmb	00 16 46.7	
	comp=Z,14nm,0.7s							
V55A	**Taylorsville**	**18.25**	**4**	P		**Pn**	**00 16 45.3**	**-0.5**
V55A				IAmb		IAmb	00 16 47.7	
	comp=Z,16nm,1.1s							
V48A	**Smith Brothers**	**18.46**	**349**	IAmb		IAmb	00 16 50.3	
	comp=Z,22nm,1.1s							
WLAR	**White Oak Lake**	**18.57**	**332**			**Pn**	**00 16 49.8**	**+0.2**
WLAR				IAmb		IAmb	00 16 53.5	
	comp=Z,11nm,0.7s							
TZTN	**Tazewell**	**18.91**	**358**	P		**P**	**00 16 51.9**	**-1.2**
TZTN				IAmb		IAmb	00 16 59.2	
	comp=Z,29nm,1.4s							
WVT	**Waverly**	**19.03**	**347**			**P**	**00 16 54.6**	**+0.2**
U49A	**Red Boiling Sp**	**19.06**	**352**	P		**Pn**	**00 16 55.4**	**-0.2**
T50A	**Nancy**	**19.46**	**355**	P		**P**	**00 16 59.4**	**+0.2**
W41B	**Gary Mavity, V**	**19.48**	**336**	P		**P**	**00 16 59.8**	**+0.4**
W41B				IAmb		IAmb	00 17 13.4	
	comp=Z,15nm,1.4s							
MIAR	**Mount Ida**	**19.50**	**332**			**P**	**00 17 00.3**	**+0.7**
WHAR	**Wooly Hollow**	**19.60**	**336**			**P**	**00 17 00.6**	**-0.1**
WHAR				IAmb		IAmb	00 17 18.1	
	comp=Z,9.9nm,1.0s							
T47A	**Sharon Grove**	**19.73**	**350**	P		**P**	**00 17 02.4**	**+0.3**
T47A				IAmb		IAmb	00 17 20.1	
	comp=Z,8.0nm,0.8s							
S51A	**Beattyville**	**20.01**	**358**	P		Pn	00 17 06.2	-0.6
S51A				IAmb		IAmb	00 17 09.1	
	comp=Z,12nm,0.8s							
FCAR	**Ozark Folk Cen**	**20.07**	**337**	P		**P**	**00 17 05.9**	**+0.1**
FCAR				IAmb		IAmb	00 17 07.9	
	comp=Z,8.1nm,0.8s							
X37A	**Clayton**	**20.38**	**329**			Pn	00 17 11.8	+0.6
X37A				IAmb		IAmb	00 17 27.0	
	comp=Z,11nm,0.8s							
R50A	**Paris**	**20.68**	**356**	P		**P**	**00 17 12.3**	**-0.1**
R50A				IAmb		IAmb	00 17 15.3	
	comp=Z,13nm,1.0s							
R58B	**Mineral**	**20.75**	**11**	P		**P**	**00 17 14.3**	**+1.2**
R49A	**Shelbyville**	**20.75**	**355**	P		**P**	**00 17 13.9**	**+0.7**
R49A				IAmb		IAmb	00 17 15.5	
	comp=Z,17nm,1.1s							
R55A	**Marlinton**	**20.76**	**6**	P		**P**	**00 17 14.1**	**+0.8**
R55A				IAmb		IAmb	00 17 18.8	
	comp=Z,7.5nm,0.9s							
U40A	**Yellville**	**20.76**	**336**	P		**P**	**00 17 13.9**	**+0.6**
U40A				IAmb		IAmb	00 17 15.0	
	comp=Z,6.9nm,0.8s							
WCI	**Wyandotte Cave**	**20.82**	**352**	P		**P**	**00 17 14.4**	**+0.5**
WCI				IAmb		IAmb	00 17 33.9	
	comp=Z,7.5nm,0.6s							
HHAR	**Hobbs**	**21.13**	**334**	P		**P**	**00 17 17.1**	**-0.2**
HHAR				IAmb		IAmb	00 17 19.0	
	comp=Z,7.4nm,0.7s							
Q51A	**Peebles**	**21.38**	**359**	P		**P**	**00 17 20.3**	**+0.3**
Q54A	**Coxs Mills**	**21.39**	**4**	P		**P**	**00 17 20.7**	**+0.6**
Q54A				IAmb		IAmb	00 17 22.5	
	comp=Z,12nm,0.9s							
ABTX	**Abilene, Hawle**	**21.40**	**318**	P		**P**	**00 17 20.2**	**-0.1**
ABTX				IAmb		IAmb	00 17 33.7	
	comp=Z,6.7nm,0.8s							
U38A	**Gravette**	**21.45**	**333**	P		**P**	**00 17 21.5**	**+0.8**
U38A				IAmb		IAmb	00 17 40.0	
	comp=Z,12nm,1.4s							
TUL1	**Leonard**	**21.64**	**330**	P		**P**	**00 17 22.8**	**0.0**
TUL1				IAmb		IAmb	00 17 24.3	
	comp=Z,6.5nm,0.8s							
CCM	**Cathedral Cave**	**21.74**	**342**	P		**P**	**00 17 24.1**	**+0.3**
BLO	**Bloomington**	**21.78**	**352**	P		**P**	**00 17 23.5**	**-0.7**
BLO				IAmb		IAmb	00 17 25.7	
	comp=Z,12nm,0.9s							
P51A	**Williamsport**	**21.83**	**359**	P		**P**	**00 17 24.4**	**-0.5**
P53A	**Whipple**	**21.86**	**3**	P		**P**	**00 17 25.5**	**+0.3**
P48A	**Milroy**	**21.94**	**354**	P		**P**	**00 17 24.7**	**-1.2**
S39A	**Bolivar**	**22.11**	**337**	IAmb		IAmb	00 17 31.9	
	comp=Z,13nm,1.4s							
MCWV	**Mont Chateau**	**22.15**	**6**	P		**P**	**00 17 29.1**	**+0.9**
MCWV				IAmb		IAmb	00 17 30.7	
	comp=Z,9.1nm,1.3s							
R40A	**Maddies Statio**	**22.28**	**340**	P		**P**	**00 17 29.2**	**-0.4**
R40A				IAmb		IAmb	00 17 33.2	
	comp=Z,8.2nm,0.9s							
TX32	**Lajitas Array**	**22.47**	**305**	P		**P**	**00 17 31.5**	**-0.4**
TXAR	**Lajitas Array**	**22.47**	**305**	P		**P**	**00 17 31.9**	**0.0**
	comp=Z,0.7nm,0.7s,baz=128,slow=11,SNR=6.6							
TX31	**Lajitas Ar. Si**	**22.48**	**305**	P		**P**	**00 17 32.5**	**+0.6**
O49A	**Covington**	**22.58**	**357**	P		**P**	**00 17 32.5**	**-0.3**
O49A				IAmb		IAmb	00 17 47.0	
	comp=Z,5.2nm,0.8s							
ACSO	**Alum Creek Sta**	**22.58**	**359**	P		**P**	**00 17 32.6**	**-0.2**
O54A	**Avella**	**22.62**	**5**	P		**P**	**00 17 31.7**	**-1.5**
O54A				IAmb		IAmb	00 17 50.9	
	comp=Z,10nm,1.1s							
P38A	**Dawn**	**23.90**	**339**	P		**P**	**00 17 45.9**	**-0.3**
M54A	**Oil Creek Stat**	**24.00**	**6**	P		**P**	**00 17 47.6**	**+0.5**
MNTX	**Cornudas Mount**	**24.89**	**309**	P		**P**	**00 17 55.5**	**+0.2**
MNTX				IAmb		IAmb	00 17 56.5	
	comp=Z,4.4nm,0.8s							
SADO	**Sadowa**	**27.28**	**6**	P		**P**	**00 18 18.1**	**+1.3**
	comp=Z,0.7nm,0.4s,baz=198,slow=3.2,SNR=4.0							
SADO				LR		LR	00 29 29.4	
	comp=Z,44nm,18.9s,baz=40,slow=37							
T25A	**Trinidad**	**27.30**	**320**	IAmb		IAmb	00 18 21.3	
	comp=Z,7.0nm,0.9s							
ANMO	**Albuquerque**	**27.33**	**314**	P		**P**	**00 18 17.8**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=135,slow=9.3,SNR=4.9							
PTGA	**Pitinga**	**28.84**	**127**	LR		LR	00 31 41.1	
	comp=Z,64nm,18.4s,baz=322,slow=40							
NVAR	**Mina Array Bea**	**37.35**	**311**	P		**P**	**00 19 46.6**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=72,slow=12,SNR=2.6							
WVOR	**Wild Horse Val**	**39.33**	**317**	IAmb		IAmb	00 20 03.5	
	comp=Z,6.7nm,1.2s							
BDFB	**Brasilia**	**47.52**	**132**	LR		LR	00 43 18.7	
	comp=Z,12nm,18.3s,baz=317,slow=39							
YKA	**Yellowknife Ar**	**50.08**	**341**	P		**P**	**00 21 26.3**	**-0.8**
	comp=Z,1.2nm,0.8s,baz=135,slow=8.2,SNR=14							
DLBC	**Dease Lake**	**53.46**	**331**	P		**P**	**00 21 54.3**	**+1.7**
ILAR	**Eielson Array**	**63.31**	**334**	P		**P**	**00 23 01.6**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=107,slow=4.6,SNR=5.9							
ESDC	**Sonseca Array**	**70.45**	**53**	P		**P**	**00 23 48.2**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=277,slow=6.7,SNR=7.8							
NOA	**NORSAR Array B**	**76.68**	**30**	LR		LR	00 57 03.0	
	comp=Z,6.5nm,18.8s,baz=260,slow=35							
TORD	**Torodi Ar. Bea**	**80.88**	**79**	P		**P**	**00 24 47.0**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=304,slow=5.3,SNR=2.8							
LZH	**Lanzhou**	**126.28**	**353**	*e*PKP		**PKPdf**	**00 31 34.9**	**-1.0**
LZH				pPKP		sPKPdf	00 31 39.7	+0.5
LZH				sPKP			00 31 41.5	
WRA	**Warramunga Arr**	**144.89**	**260**	PKP		**PKPab**	**00 32 09.4**	**-0.2**
	comp=Z,2.7nm,1.0s,baz=87,slow=3.8,SNR=6.3							
ASAR	**Alice Springs**	**145.28**	**254**	PKPbc		**PKPbc**	**00 32 10.3**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=105,slow=4.0,SNR=13							

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*IDC **08** 01:14:40.7±1.5, 33°.64N×48°.46E, h0km, mb3.6/10, mb1 3.7/14, mb1mx3.5/48, mbtmp3.6/14, ML3.4/4, MS2.4/1, Ms1 2.4/1, ms1mx2.0/29, Error ellipse: s-maj=29.7km s-min=19.5km az=173.0*
*TEH **08** 01:14:41.3, 33°.63N×48°.51E, h7km, ML3.5*
*THR **08** 01:14:42.8±0.5, 33°.66N×48°.72E, h18km±5km, ML3.6*
ISC 08 01:14:41.4±1.3, 33°.66N±0°.03×48°.57E±0°.03, h4km±10km, n66, σ1s54/66, mb3.9/16, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IKMR	**Kamar-syah**	**0.21**	**229**	*e*Pg		**Pg**	**01 14 45.2**	**-0.2**
IDOB	**Doab**	**0.35**	**292**	*e*Pg		**Pb**	**01 14 48.6**	**-1.8**
HSAM	**Samen**	**0.56**	**3**	*e*Pg		**Pg**	**01 14 52.3**	**+0.2**
HSAM				*e*			01 15 04.9	
IBZA	**Bozab**	**1.00**	**324**	*e*Pg		**Pb**	**01 15 00.7**	**-0.8**
IBZA				*e*			01 15 21.4	
IKOM	**Komasi**	**1.02**	**301**	*e*Pg		**Pg**	**01 15 00.3**	**-0.7**
IKOM				*e*			01 15 30.1	
KHMZ	**Khomeyn**	**1.16**	**86**	*e*Pg		**Pg**	**01 15 02.3**	**-1.4**
KHMZ	**Khomeyn**	**1.16**	**86**	*e*Pg		**Pg**	**01 15 02.3**	**-1.4**
IALM	**Almabolaq**	**1.25**	**345**	*e*Pg		**Pg**	**01 15 05.1**	**-0.2**
HAGD	**Aghdareh**	**1.26**	**22**	*e*			01 15 26.2	
HAGD				*e*Pg		**Pn**	**01 15 04.4**	**-1.6**
KER	**Kermanshah**	**1.40**	**302**	*e*Pg		**Pg**	**01 15 08.6**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.41**	**296**	*e*			01 15 39.3	
KCHF				*e*Pg		**Pg**	**01 15 07.7**	**-0.8**
ASAO	**Ashtian**	**1.50**	**53**	*e*Pg		**Pn**	**01 15 09.0**	**-0.4**
ASAO	**Ashtian**	**1.50**	**53**	*e*Pg		**Pn**	**01 15 09.0**	**-0.4**
SHGR	**Shooshtar-Gavs**	**1.56**	**173**	*e*Pg		**Pg**	**01 15 11.0**	**-0.2**
SHGR				*e*Sg		**Sg**	**01 15 32.0**	**+0.7**
SHGR				IAML			01 15 40.2	
	comp=E,745nm,0.6s							
SHGR	**Shooshtar-Gavs**	**1.56**	**173**	*e*Pg		**Pg**	**01 15 11.0**	**-0.2**
IVIS	**Veis**	**1.67**	**302**	*e*Pn		**Pg**	**01 15 12.6**	**-0.8**
IGHG	**Ghaleghazi**	**1.79**	**293**	*e*Pg		**Pg**	**01 15 15.7**	**-0.1**
ILIN	**Lien**	**1.83**	**314**	*e*Pg		**Pg**	**01 15 16.8**	**+0.3**
IRAZ	**Razeghan**	**2.08**	**32**	*e*Pn		**Pb**	**01 15 19.1**	**-0.7**
IDHR	**Dehrash**	**2.09**	**301**	*e*Pn		**Pb**	**01 15 19.7**	**-0.3**
IDHR				*e*			01 16 06.4	
IPIR	**Pirpir**	**2.18**	**116**	*e*Pn		**Pn**	**01 15 19.6**	**+0.9**
IPIR				*e*			01 16 04.0	
QABG	**Abgarm-Qazvin**	**2.21**	**22**	*e*Pn		**Pn**	**01 15 20.4**	**+1.3**
JHBN	**Jahan bin**	**2.26**	**128**	*e*Pn		**Pn**	**01 15 20.9**	**+1.0**
JHBN				*e*			01 16 09.6	
IQOM	**Qom**	**2.39**	**60**	*e*Pn		**Pb**	**01 15 24.1**	**-1.0**
GHVR	**GHOM**	**2.41**	**69**	*e*Pn		**Pn**	**01 15 21.3**	**-0.4**
GHVR	**GHOM**	**2.41**	**69**	*e*Pn		**Pn**	**01 15 21.3**	**-0.4**
ROKH	**ROKH**	**2.45**	**122**	*e*Pn		**Pn**	**01 15 24.0**	**+1.6**
IKLH	**Kolahrood**	**2.54**	**97**	*e*Pn		**Pb**	**01 15 26.7**	**-1.0**
IKLH				*e*			01 16 10.1	
IMHD	**Mahdasht**	**2.66**	**40**	*e*Pn		**Pb**	**01 15 28.6**	**-1.1**
IHSB	**Hasanabad**	**2.85**	**51**	*e*Pn		**Pb**	**01 15 31.0**	**-2.0**
QSDN	**Sirdan**	**2.88**	**10**	*e*Pn		**Pb**	**01 15 32.1**	**-1.5**
IVRN	**Varamin**	**2.94**	**62**	*e*Pn		**Pn**	**01 15 31.3**	**+2.4**
IGAR	**Gharneh**	**3.17**	**112**	*e*Pn		**Pn**	**01 15 34.0**	**+1.7**
IGAR				*e*			01 16 31.6	
IZEF	**Zefreh**	**3.24**	**103**	*e*Pn		**Pn**	**01 15 35.3**	**+2.0**
QALM	**Alamut, Qazvin**	**3.25**	**31**	*e*Pn		**Pn**	**01 15 36.3**	**+2.9**
IDMV	**Damavand**	**3.44**	**55**	*e*Pn		**Pn**	**01 15 38.4**	**+2.3**
IRAM	**Ramesheh**	**3.70**	**119**	*e*Pn		**Pn**	**01 15 41.5**	**+1.9**
ILAS	**Lasjerd**	**4.01**	**63**	*e*Pn		**Pn**	**01 15 45.9**	**+2.0**
IPRN	**Peran**	**4.03**	**49**	*e*Pn		**Pn**	**01 15 48.5**	**+4.5**
ANAR	**Anarak**	**4.34**	**95**	*e*Pn		**Pn**	**01 15 50.2**	**+1.9**
ISHM	**Shahmirzad**	**4.44**	**60**	*e*Pn		**Pn**	**01 15 53.1**	**+3.3**
IGLO	**Ghaloghah**	**5.17**	**55**	*e*Pn		**Pn**	**01 16 03.3**	**+3.6**
GEYT	**Alibeck**	**8.85**	**58**	Pn		**Pn**	**01 16 54.5**	**+4.4**
	comp=E,0.1nm,0.3s,baz=246,slow=7.1,SNR=2.4							
GEYT				LR		LR	01 21 10.6	
	comp=E,21nm,19.9s,baz=180,slow=44							
BRTR	**Keskin Array B**	**13.42**	**301**	Pn		**Pn**	**01 17 54.5**	**+1.8**
	comp=E,0.0nm,0.3s,baz=118,slow=13,SNR=5.7							
WSAR	**Wadi Sarin**	**13.63**	**137**	Pn		**Pn**	**01 17 55.8**	**+0.3**
	comp=E,0.3nm,0.3s,baz=336,slow=8.9,SNR=4.3							
AKTO	**Aktyubinsk**	**18.15**	**20**	P		**P**	**01 18 55.1**	**+0.5**
	comp=E,0.1nm,0.3s,baz=208,slow=16,SNR=2.3							
IDI	**Anoyia**	**19.58**	**281**	P		**Pn**	**01 19 10.3**	**-1.5**
	comp=E,0.5nm,0.3s,baz=130,slow=13,SNR=8.1							
MLR	**Muntele Rosu**	**20.99**	**311**	P		**P**	**01 19 25.5**	**-0.3**
	comp=E,2.4nm,1.0s,baz=167,slow=15,SNR=3.0							
AKASG	**Malin Array Be**	**22.15**	**326**	P		**P**	**01 19 37.1**	**-1.0**
	comp=E,0.2nm,0.3s,baz

MBAZ	**Motutapu North**	**1.67**	**308**	P		Pn	01 15 43.5	0.0
AWAZ	**Awhitu Peninsu**	**1.68**	**295**	P		Pn	01 15 43.3	-0.3
TRVZ	**Turoa**	**1.69**	**207**	P		Pn	01 15 43.7	-0.2
MOVZ	**Moawhango**	**1.72**	**201**	P		Pn	01 15 43.2	-0.8
MHGZ	**Mahia Peninsul**	**1.72**	**142**	P		Pn	01 15 45.1	+1.1
BHHZ	**Black Hill Sta**	**1.73**	**192**	P		Pn	01 15 43.5	-0.5
PKVZ	**Pokaka**	**1.76**	**212**	P		Pn	01 15 44.0	-0.4
GRZ	**Great Barrier**	**1.77**	**330**	P		Pn	01 15 44.5	-0.1
MTVZ	**Mangateitei**	**1.79**	**208**	P		Pn	01 15 44.3	-0.4
KRHZ	**Kereru**	**1.84**	**184**	P		Pn	01 15 44.9	-0.3
CKHZ	**Cape Kidnapper**	**1.90**	**167**	P		Pn	01 15 46.3	+0.5
VRZ	**Vera Road**	**1.93**	**226**	P		Pn	01 15 46.1	0.0
KAHZ	**Kahuranaki**	**2.01**	**173**	P		Pn	01 15 47.3	+0.3
PNHZ	**Pukenui**	**2.13**	**187**	P		Pn	01 15 47.5	-0.8
PXZ	**Pawanui**	**2.24**	**174**	P		Pn	01 15 49.3	-0.1
WPHZ	**Waipukurau**	**2.26**	**182**	P		Pn	01 15 49.2	-0.5
TSZ	**Takapari Road**	**2.30**	**191**	P		Pn	01 15 49.3	-0.9
WAZ	**Wanganui**	**2.30**	**212**	P		Pn	01 15 49.5	-0.7
LREZ	**Lake Rotokare**	**2.36**	**225**	P		Pn	01 15 51.0	+0.3
PKE	**Pukeiti**	**2.44**	**234**	P		Pn	01 15 52.0	+0.3
PRHZ	**Porangahau**	**2.46**	**178**	P		Pn	01 15 51.4	-0.5
KHEZ	**Kahui Hut**	**2.48**	**232**	P		Pn	01 15 52.5	+0.2
DVHZ	**Dannevirke**	**2.51**	**187**	P		Pn	01 15 51.5	-1.1
OHWZ	**Ohakea**	**2.58**	**201**	P		Pn	01 15 52.6	-0.8
ANWZ	**Angora Road**	**2.66**	**181**	P		Pn	01 15 53.8	-0.4
POWZ	**Post Office Ro**	**2.66**	**193**	P		Pn	01 15 53.0	-1.3
PRWZ	**Pori Road**	**2.79**	**189**	P		Pn	01 15 54.8	-0.9
BFZ	**Birch Farm**	**2.89**	**185**	P		Pn	01 15 55.7	-1.3
MRZ	**Mangatainoka R**	**2.95**	**194**	P		Pn	01 15 56.0	-1.8
TIWZ	**Tintock**	**3.01**	**190**	P		Pn	01 15 57.1	-1.5
CPWZ	**Castlepoint**	**3.12**	**185**	P		Pn	01 15 58.9	-0.8
HOWZ	**Holdsworth Sta**	**3.19**	**194**	P		Pn	01 15 58.5	-2.2
OGWZ	**Otaki Gorge**	**3.19**	**199**	P		Pn	01 15 58.7	-2.0
KIW	**Kapiti Island**	**3.31**	**202**	P		Pn	01 15 59.7	-2.4
TMWZ	**Te Maipa**	**3.34**	**189**	P		Pn	01 16 00.5	-2.0
CAW	**Cannon Point**	**3.49**	**199**	P		Pn	01 16 02.0	-2.4
DUWZ	**D'Urville Isla**	**3.62**	**213**	P		Pn	01 16 03.2	-2.8
TRWZ	**Traveller**	**3.65**	**190**	P		Pn	01 16 04.0	-2.3
PAWZ	**Paruwai Farm**	**3.68**	**193**	P		Pn	01 16 04.1	-2.6
WEL	**Wellington**	**3.74**	**201**	P		Pn	01 16 04.9	-2.6
MSWZ	**Moikau Station**	**3.75**	**195**	P		Pn	01 16 04.7	-2.8
BHW	**Baring Head**	**3.83**	**199**	P		Pn	01 16 05.5	-3.0
TCW	**Tory Channel**	**3.83**	**207**	P		Pn	01 16 05.8	-2.8
PLWZ	**Palliser**	**3.89**	**194**	P		Pn	01 16 06.5	-2.9
TUWZ	**Tuamarina**	**4.14**	**208**	P		Pn	01 16 09.3	-3.2
NNZ	**Nelson**	**4.20**	**215**	P		Pn	01 16 09.9	-3.3
QRZ	**Quartz Range**	**4.34**	**225**	P		Pn	01 16 11.1	-3.9
BSWZ	**Blackbirch Sta**	**4.42**	**207**	P		Pn	01 16 12.9	-3.1
THZ	**Tophouse**	**4.85**	**214**	P		Pn	01 16 17.9	-3.7
KHZ	**Kahutara**	**5.15**	**206**	P		Pn	01 16 22.1	-3.3
DSZ	**Denniston Nort**	**5.37**	**221**	P		Pn	01 16 24.4	-3.9
GVZ	**Greta Valley S**	**5.81**	**206**	P		Pn	01 16 30.2	-3.9
LTZ	**Lake Taylor**	**5.95**	**212**	P		Pn	01 16 31.7	-4.2
INZ	**Inchbonnie**	**6.28**	**217**	P		Pn	01 16 35.3	-4.9
OKCZ	**Okains Bay**	**6.48**	**203**	P		Pn	01 16 38.9	-4.0
OXZ	**Oxford**	**6.50**	**210**	P		Pn	01 16 38.6	-4.4
MQZ	**McQueen's Vall**	**6.60**	**205**	P		Pn	01 16 39.2	-5.1
AKCZ	**Akaroa Harbour**	**6.66**	**203**	P		Pn	01 16 41.2	-4.0
RPZ	**Rata Peaks**	**7.23**	**213**	P		Pn	01 16 48.3	-4.3
FOZ	**Fox Glacier**	**7.67**	**220**	P		Pn	01 16 54.1	-4.3
LBZ	**Lake Benmore**	**8.14**	**214**	P		Pn	01 17 00.1	-4.5
ODZ	**Otahua Downs**	**8.48**	**210**	P		Pn	01 17 04.7	-4.3
JCZ	**Jackson Bay**	**8.58**	**221**	P		Pn	01 17 06.2	-4.3
WKZ	**Wanaka**	**9.02**	**217**	P		Pn	01 17 11.3	-4.8
MLZ	**Mavora Lakes**	**9.84**	**217**	P		Pn	01 17 23.3	-3.6

IDC ***08*** *01:18:42.8±0.8, 52°.36N×170°.36W, h0km, mb3.9/18, mb1 4.1/21,mb1mx3.9/49,mbtmp3.9/21, ML3.2/3, Error ellipse: s-maj=24.5km s-min=14.0km az=161.0*

NEIC ***08*** *01:18:49.9±2.3, 52°.2N±0°.1×170°.5W±0°.1, h35km±2km, mb4.3/11,ML3.8(AEIC), Error ellipse: s-maj=21.4km s-min=7.5km az=158.0*

AEIC ***08*** *01:18:49±1.7, 52°.2N±0°.2×170°.4W±0°.2, h30km±4km, Error ellipse: s-maj=25.0km s-min=13.4km az=150.0*

ISC 08 01:18:50.7±1.2, 52°.3N±0°.1×170°.44W±0°.05, h59km±10km, n71, σ1°21/72, mb4.0/21, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NIKH	**Nikolski High**	**1.18**	**55**			**Pn**	**01 19 10.0**	**-1.0**
NIKH						**Sn**	**01 19 24.9**	**-1.2**
OKSP	**Okmok Steeple**	**1.61**	**53**			**Pn**	**01 19 16.4**	**-0.5**
OKSP						**Sn**	**01 19 36.9**	**+0.2**
OKCE	**Okmok Cone E**	**1.78**	**50**			**Pn**	**01 19 19.7**	**+0.5**
OKCE						**Sn**	**01 19 43.9**	**+3.2**
OKNC	**Okmok New Cone**	**1.82**	**50**			**Pn**	**01 19 20.6**	**+0.9**
OKFG	**Magazine Ridge**	**1.89**	**53**			**Pn**	**01 19 21.1**	**+0.4**
OKFG						**Sn**	**01 19 44.6**	**+1.2**
KOSE	**Korovin Southe**	**2.21**	**272**			**Pn**	**01 19 25.6**	**+0.6**
KOFP	**Korovin Flat P**	**2.25**	**271**			**Pn**	**01 19 25.4**	**0.0**
KOKL	**Mount Kliuchef**	**2.31**	**272**			**Pn**	**01 19 26.4**	**+0.1**
ATKA	**Atka Island**	**2.31**	**269**			**Pn**	**01 19 25.5**	**-0.8**
ATKA						**Sn**	**01 19 54.4**	**+0.9**
MREP	**Makushin Rep't**	**2.69**	**54**			**Pn**	**01 19 32.2**	**+0.6**
MSW	**Makushin Switc**	**2.73**	**52**			**Pn**	**01 19 33.2**	**+1.1**
MNAT	**Makushin Natee**	**2.76**	**54**			**Pn**	**01 19 33.4**	**+0.9**
MTBL	**Makushin Table**	**2.81**	**52**			**Pn**	**01 19 34.5**	**+1.3**
UNV	**Unalaska Valle**	**2.83**	**55**			**Pn**	**01 19 34.1**	**+0.7**
AKRB	**Akutan Reef Bi**	**3.20**	**53**			**Pn**	**01 19 39.8**	**+1.3**
AKMO	**Akutan Morgan**	**3.21**	**54**			**Pn**	**01 19 39.9**	**+1.3**
AKBBA	**Akutan Broad B**	**3.25**	**55**			**Pn**	**01 19 40.4**	**+1.2**
AKUT	**Akutan**	**3.35**	**55**	Pn		**Pn**	**01 19 41.0**	**+0.4**
GSTR	**Great Sitkin T**	**3.46**	**269**			**Pn**	**01 19 42.4**	**+0.3**
GSMY	**Great Sitkin M**	**3.47**	**268**			**Pn**	**01 19 42.4**	**+0.2**
GSTD	**Great Sitkin T**	**3.52**	**268**			**Pn**	**01 19 42.8**	**-0.1**
ADK	**Adak**	**3.87**	**266**			**Pn**	**01 19 47.6**	**-0.1**
WESP	**Westdahl Peak**	**4.07**	**55**			**Pn**	**01 19 51.4**	**+1.0**
KIKV	**Kanaga Island**	**4.17**	**267**			**Pn**	**01 19 51.4**	**-0.4**
KICM	**Kanaga Island**	**4.18**	**267**			**Pn**	**01 19 52.6**	**+0.8**
KIMD	**Kanaga Island**	**4.23**	**265**			**Pn**	**01 19 53.3**	**+0.8**
TAPA	**Tanaga Point A**	**4.58**	**267**			**Pn**	**01 19 58.0**	**+0.7**
SPIA	**Saint Paul Isl**	**4.88**	**1**			**Pn**	**01 20 02.7**	**+1.3**
CESW	**Semis' Southwe**	**6.17**	**270**			**Pn**	**01 20 21.0**	**+1.8**
AMKA	**Amchitka**	**6.42**	**266**			**Pn**	**01 20 23.4**	**+0.8**
SDPT	**Sand Point**	**6.64**	**59**			**Pn**	**01 20 27.5**	**+2.0**
LSPA	**Little Sitkin**	**6.77**	**271**			**Pn**	**01 20 28.9**	**+1.6**
LSSA	**Little Sitkin**	**6.81**	**271**			**Pn**	**01 20 29.4**	**+1.4**
CNBA	**Chernabura Isl**	**6.94**	**64**			**Pn**	**01 20 29.8**	**+0.2**
KDAK	**Kodiak Island**	**11.60**	**55**	Pn		**Pn**	**01 21 30.3**	**-3.0**
	0.2nm,0.3s,baz=227,slow=19,SNR=1.2							
ILAR	**Eielson Array**	**17.38**	**35**	P		**Pn**	**01 22 46.1**	**-2.7**
	0.0nm,0.3s,baz=231,slow=11,SNR=2.1							
ILAR				PcP		**PcP**	**01 27 27.9**	**+0.8**
	0.0nm,0.3s,baz=256,slow=2.8,SNR=4.8							
PETK	**Petropavlovsk-**	**19.24**	**285**	P		**P**	**01 23 09.0**	**-0.9**
	1.3nm,0.3s,baz=84,slow=13,SNR=28							
HYT	**Haines Junctio**	**19.86**	**52**	P		**Pn**	**01 23 18.8**	**0.0**
HYT				IAmb		IAmb	01 23 21.1	
	comp=Z,18nm,1.3s							
DLBC	**Dease Lake**	**23.48**	**59**	P		**P**	**01 23 51.2**	**-3.7**
	comp=Z,1.1nm,0.3s,baz=275,slow=12,SNR=9.9							
DLBC	**Dease Lake**	**23.48**	**59**	P		**P**	**01 23 54.9**	**0.0**
DLBC				IAmb		IAmb	01 24 17.1	
	comp=Z,16nm,1.8s							
INK	**Inuvik**	**23.76**	**34**	P		**P**	**01 23 56.1**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=224,slow=8.3,SNR=4.7							
H11N2	**WAKE ISLAND Hy**	**37.00**	**217**	T		T	02 05 10.9	
	baz=22,slow=76,SNR=34							
H11N3	**WAKE ISLAND Hy**	**37.01**	**217**	T		T	02 05 08.0	
	baz=22,slow=76,SNR=34							
H11N1	**WAKE ISLAND Hy**	**37.02**	**217**	T		T	02 05 09.0	
	baz=22,slow=76,SNR=27							
H11S1	**WAKE ISLAND Hy**	**38.19**	**217**	T		T	02 07 04.1	
	baz=22,slow=76,SNR=176							
H11S2	**WAKE ISLAND Hy**	**38.21**	**217**	T		T	02 07 05.2	
	baz=22,slow=76,SNR=144							
H11S3	**WAKE ISLAND Hy**	**38.21**	**217**	T		T	02 07 02.0	
	baz=22,slow=76,SNR=86							
MJAR	**Matsushiro Arr**	**39.03**	**267**	P		**P**	**01 26 12.0**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=43,slow=8.2,SNR=6.8							
MJAR				PcP		**PcP**	**01 28 20.8**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=69,slow=2.8,SNR=4.6							
PDAR	**Pinedale Array**	**41.06**	**78**	P		**P**	**01 26 28.8**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=307,slow=5.2,SNR=7.5							
O20A	**White River Ci**	**43.42**	**81**	P		**P**	**01 26 49.8**	**+2.1**
O20A				IAmb		IAmb	01 26 50.8	
	comp=Z,4.0nm,0.9s							
PV13	**Radium Mtn., P**	**44.30**	**83**	P		**P**	**01 26 57.3**	**+2.5**
PV13				IAmb		IAmb	01 26 57.9	
	comp=Z,4.4nm,0.9s							

KSRS	**Korea Array**	**44.76**	**276**	P		**P**	**01 26 58.0**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=52,slow=7.9,SNR=4.2							
SPITS	**Spitsbergen Ar**	**49.71**	**358**	P		**P**	**01 27 36.4**	**+0.2**
	comp=Z,8.2nm,0.9s,baz=29,slow=5.3,SNR=4.6							
SPITS				PcP		**PcP**	**01 28 56.8**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=342,slow=1.1,SNR=5.6							
TX32	**Lajitas Array**	**53.41**	**88**	P		**P**	**01 28 06.6**	**+2.1**
TX32				IAmb		IAmb	01 28 48.4	
	comp=Z,5.6nm,1.6s							
TXAR	**Lajitas Array**	**53.41**	**88**	P		**P**	**01 28 04.1**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=307,slow=4.6,SNR=10.0							
SCHQ	**Schefferville**	**55.93**	**43**	P		**P**	**01 28 22.4**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=321,slow=13,SNR=3.9							
ARCES	**ARCESS Array B**	**57.91**	**353**	P		**P**	**01 28 35.9**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=17,slow=8.9,SNR=4.9							
ARCES				PcP		**PcP**	**01 29 28.3**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=3.8,slow=5.4,SNR=6.2							
MKAR	**Makanchi Array**	**63.37**	**313**	P		**P**	**01 29 12.9**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=54,slow=7.3,SNR=3.0							
FINES	**FINESS Array B**	**65.84**	**351**	P		**P**	**01 29 28.7**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=5.8,slow=8.5,SNR=8.2							
FINES				PcP		**PcP**	**01 30 00.1**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=64,slow=4.4,SNR=4.0							
NC405	**NORSAR Array S**	**66.92**	**359**	P		**P**	**01 29 36.4**	**+0.2**
NB2	**NORSAR Subarra**	**67.00**	**359**	P		**P**	**01 29 36.8**	**0.0**
	comp=Z,0.5nm,0.5s,baz=0.7,slow=6.9							
NOA	**NORSAR Array B**	**67.00**	**359**	P		**P**	**01 29 36.9**	**0.0**
	comp=Z,0.6nm,0.5s,baz=0.7,slow=6.4,SNR=9.5							
CMAR	**Chiang Mai Arr**	**75.99**	**282**	P		**P**	**01 30 32.4**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=28,slow=6.4,SNR=6.4							
AKASG	**Malin Array Be**	**76.03**	**347**	P		**P**	**01 30 30.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=16,slow=5.5,SNR=2.4							
GERES	**GERESS Array B**	**79.16**	**357**	P		**P**	**01 30 48.6**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=14,slow=6.1,SNR=4.7							
ESDC	**Sonseca Array**	**87.64**	**10**	P		**P**	**01 31 31.4**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=360,slow=3.7,SNR=5.7							
ASAR	**Alice Springs**	**89.85**	**229**	P		**P**	**01 31 43.6**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=28,slow=5.3,SNR=9.3							
STKA	**Stephens Creek**	**93.73**	**219**	P		**P**	**01 31 59.4**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=339,slow=15,SNR=3.2							
H03N2	**Juan Fernandez**	**116.52**	**111**	T		T	03 44 57.8	
	baz=318,slow=77,SNR=25							
H03N1	**Juan Fernandez**	**116.53**	**111**	T		T	03 44 54.4	
	baz=318,slow=77,SNR=30							
H03N3	**Juan Fernandez**	**116.53**	**111**	T		T	03 44 51.4	
	baz=318,slow=77,SNR=24							

IDC 08 01:29:20.0±12.0, 0°.89N×124°.82E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/29, mbtmp3.8/3, Error ellipse: s-maj=195.4km s-min=186.6km az=51.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.71**	**156**	P		P	01 34 23.6	0.0
	2.0nm,0.6s,baz=334,slow=11,SNR=6.4							
ASAR	**Alice Springs**	**25.96**	**161**	P		P	01 34 55.5	+1.0
	0.3nm,0.4s,baz=341,slow=7.9,SNR=6.6							
STKA	**Stephens Creek**	**36.26**	**155**	P		P	01 36 24.1	-1.1
	1.6nm,0.5s,baz=333,slow=6.0,SNR=5.0							

CNRM ***08*** *01:40:10.2±1.4, 36°.42N×4°.73W, h116km±18km, Error ellipse: s-maj=16.8km s-min=5.7km az=86.0*

INMG ***08*** *01:40:11.0±2.2, 36°.26N×4°.59W, h88km±6km, ML2.0, Error ellipse: s-maj=16.6km s-min=4.4km az=164.0*

SFS ***08*** *01:40:12.0, 36°.36N×4°.60W, h84km, ML2.8, ALBORAN W.*

MDD ***08*** *01:40:12.8±0.7, 36°.42N×4°.62W, h79km±5km, mb2.2/9, Error ellipse: s-maj=6.6km s-min=3.4km az=164.0, PRXIMO*

ISC 08 01:40:10.7±1.2, 36°.44N±0°.03×4°.61W±0°.03, h95km±6km, n61, σ1°31/103, 4C-2D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EMIJ	**Mijas**	**0.18**	**314**	P		**Pn**	**01 40 24.0**	**-0.4**
	3.1nm,0.1s,SNR=54							
EMIJ				S		**Sn**	**01 40 33.7**	**-0.7**
	14nm,0.2s							
EMAL	**Malaga-Limoner**	**0.35**	**24**	⇑*e*P		**Pn**	**01 40 24.9**	**-0.1**
EMAL				*e*S		**Sn**	**01 40 35.1**	**-0.6**
EJIF	**Jimena Fronter**	**0.69**	**271**	P		**Pn**	**01 40 29.0**	**+1.4**
	71nm,0.1s,SNR=7.9							
EJIF				S		**Sn**	**01 40 37.2**	**-3.1**
	82nm,0.1s,SNR=7.9							
EGOR	**Sierra Gorda,**	**0.78**	**31**	P		**Pn**	**01 40 30.1**	**+1.4**
	1.4nm,0.2s,SNR=7.9							
EGOR				S		**Sn**	**01 40 42.9**	**+0.9**
	2.6nm,0.1s,SNR=7.9							
CEU	**Ceuta**	**0.82**	**229**	P		**Pn**	**01 40 30.4**	**+1.5**
CEU				S		**Sn**	**01 40 40.8**	**-1.6**
CEU	**Ceuta**	**0.82**	**229**	*e*P		**Pn**	**01 40 30.4**	**+1.5**
CEU				*es*		**Sn**	**01 40 40.8**	**-1.6**
ECEU	**Ceuta**	**0.82**	**229**	S		**Sn**	**01 40 42.4**	**-0.1**
	SNR=7.9							
ELGU	**Los Guajares,**	**0.90**	**61**	⇓P		**Pn**	**01 40 29.2**	**-0.5**
	0.8nm,0.1s,SNR=18							
ELGU				S		**Sn**	**01 40 42.0**	**-2.1**
	3.7nm,0.1s,SNR=7.9							
ESPR	**Espera**	**1.09**	**294**	⇑P		**Pn**	**01 40 33.2**	**+1.4**
	1.4nm,0.1s,SNR=18							
ESPR				S		**Sn**	**01 40 47.5**	**-0.1**
	4.7nm,0.3s,SNR=6.3							
EQUE	**Quentar**	**1.21**	**50**	P		**Pn**	**01 40 35.4**	**+2.1**
	1.0nm,0.3s,SNR=5.0							
EQUE				S		**Sn**	**01 40 50.5**	**+0.2**
	1.3nm,0.2s,SNR=7.9							
CHEFC	**Chefchaouen**	**1.46**	**204**	P		**Pn**	**01 40 37.7**	**+1.4**
CHEFC				S		**Sn**	**01 40 57.0**	**+1.4**
EBER	**Berja**	**1.46**	**71**	P		**Pn**	**01 40 37.6**	**+1.2**
	0.7nm,0.2s,SNR=7.9							
EBER				S		**Sn**	**01 40 54.5**	**-1.2**
	2.8nm,0.4s,SNR=7.9							
HORN	**Hornachuelos**	**1.50**	**340**	P		**Pn**	**01 40 37.7**	**+1.0**
HORN				S		**Sn**	**01 40 56.6**	**+0.3**
GORA	**Gorafe**	**1.63**	**50**	S		**Sn**	**01 41 01.0**	**+1.6**
	1.1nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**1.73**	**1**	⇑P		**Pn**	**01 40 41.0**	**+1.4**
	1.6nm,0.1s,SNR=18							
EADA				S		**Sn**	**01 41 01.5**	**-0.1**
	6.6nm,0.0s,SNR=27							
ECAB	**El Cabril**	**1.76**	**339**	P		**Pn**	**01 40 40.9**	**+0.9**
	0.5nm,0.2s,SNR=6.6							
ECAB				S		**Sn**	**01 41 02.0**	**-0.2**
	4.2nm,0.0s,SNR=49							
EQES	**Quesada**	**1.83**	**42**	P		**Pn**	**01 40 42.3**	**+1.3**
	0.6nm,0.1s,SNR=13							
EQES				S		**Sn**	**01 41 04.3**	**+0.1**
	1.8nm,0.1s,SNR=22							
RSA	**Sarsar**	**1.84**	**213**	P		**Pn**	**01 40 42.3**	**+1.2**
RSA				S		**Sn**	**01 41 04.8**	**+0.7**
AKLM	**AKL**	**2.02**	**162**	P		**Pn**	**01 40 44.2**	**+0.8**
AKLM				S		**Sn**	**01 41 08.1**	**-0.3**
EMIN	**Mina Concepcio**	**2.12**	**309**	⇑P		**Pn**	**01 40 45.5**	**+0.8**
	0.5nm,0.1s,SNR=18							
EMIN				S		**Sn**	**01 41 09.7**	**-0.8**
	5.0nm,0.1s,SNR=6.6							
SESP	**Santiago Espad**	**2.35**	**44**	⇓P		**Pn**	**01 40 48.8**	**+1.0**
	1.2nm,0.2s,SNR=18							
SESP				S		**Sn**	**01 41 15.1**	**-1.1**
	0.7nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**2.55**	**296**	P		**Pn**	**01 40 51.3**	**+1.0**
	0.3nm,0.1s,SNR=7.9							
EGRO				S		**Sn**	**01 41 19.4**	**-1.3**
	2.6nm,0.1s,SNR=7.9							
PBAR	**Barrancos**	**2.60**	**313**	S		**Sn**	**01 41 21.2**	**-0.7**
PBAR	**Barrancos**	**2.60**	**313**	*e*S		**Sn**	**01 41 21.2**	**-0.7**
PVAQ	**Vaqueiros**	**2.67**	**292**	P		**Pn**	**01 40 52.8**	**+0.9**
PVAQ				S		**Sn**	**01 41 21.8**	**-1.8**
	2.5nm,0.2s							
PVAQ	**Vaqueiros**	**2.67**	**292**	*e*P		**Pn**	**01 40 52.8**	**+0.9**
PVAQ				*e*S		**Sn**	**01 41 21.8**	**-1.8**
PVAQ				A		A	01 41 24.4	
	2.5nm,0.2s							
PBDV	**Barranco-do-Ve**	**2.78**	**288**	S		**Sn**	**01 41 25.5**	**-0.8**
	2.8nm,0.4s							
PBDV	**Barranco-do-Ve**	**2.78**	**288**	*e*S		**Sn**	**01 41 25.5**	**-0.8**
PBDV				A		A	01 41 37.5	
	2.8nm,0.4s							
PCVE	**Castro Verde**	**2.99**	**294**	P		**Pn**	**01 40 57.1**	**+0.9**
PCVE				S		**Sn**	**01 41 30.0**	**-1.3**
	1.8nm,0.5s							
PCVE	**Castro Verde**	**2.99**	**294**	*e*P		**Pn**	**01 40 57.1**	**+0.9**

PCVE				*e*S		**Sn**	**01 41 30.0**	**-1.3**
PCVE				A		A	01 41 31.1	
	1.8nm,0.5s							
EBAD	**Badajoz**	**3.00**	**321**	P		**Pn**	**01 40 57.8**	**+1.4**
	0.5nm,0.1s,SNR=11							
EBAD				S		**Sn**	**01 41 31.0**	**-0.5**
	5.7nm,0.1s,SNR=22							
PBEJ	**Beja**	**3.04**	**302**	S		**Sn**	**01 41 31.0**	**-1.6**
	1.2nm,0.2s							
PBEJ	**Beja**	**3.04**	**302**	*e*S		**Sn**	**01 41 31.0**	**-1.6**
PBEJ				A		A	01 41 32.3	
	2.4nm,0.2s							
PAB	**San Pablo**	**3.11**	**4**	P		**Pn**	**01 40 58.9**	**+1.1**
	0.3nm,0.2s,SNR=7.9							
PAB				S		**Sn**	**01 41 33.1**	**-1.1**
	0.9nm,0.1s,SNR=7.9							
MESJ	**Messejana**	**3.21**	**297**	P		**Pn**	**01 41 00.4**	**+1.3**
MESJ				S		**Sn**	**01 41 35.0**	**-1.4**
	1.8nm,0.7s							
MESJ	**Messejana**	**3.21**	**297**	*e*P		**Pn**	**01 41 00.4**	**+1.3**
MESJ				*e*S		**Sn**	**01 41 35.0**	**-1.4**
MESJ				A		A	01 41 47.2	
	1.8nm,0.7s							
ESDC	**Sonseca Array**	**3.27**	**9**	P		**Pn**	**01 41 01.2**	**+1.2**
	0.1nm,0.3s,baz=192,slow=13,SNR=4.5							
ESDC				S		**Sn**	**01 41 36.7**	**-1.3**
	0.1nm,0.1s,baz=187,slow=23,SNR=5.1							
ETOB	**Tobarra**	**3.28**	**47**	P		**Pn**	**01 41 01.1**	**+0.9**
	0.9nm,0.2s,SNR=13							
ETOB				S		**Sn**	**01 41 36.4**	**-1.9**
	1.3nm,0.2s,SNR=39							
MORF	**Marmelete**	**3.35**	**286**	S		**Sn**	**01 41 38.5**	**-1.6**
	2.2nm,0.3s							
MORF	**Marmelete**	**3.35**	**286**	*e*S		**Sn**	**01 41 38.5**	**-1.6**
MORF				A		A	01 41 42.0	
	2.2nm,0.3s							
PESTR	**Estremoz**	**3.39**	**317**	*e*P		**Pn**	**01 41 03.2**	**+1.7**
PESTR				*e*S		**Sn**	**01 41 40.1**	**-0.7**
EVO	**Evora**	**3.42**	**309**	P		**Pn**	**01 41 03.5**	**+1.5**
EVO				S		**Sn**	**01 41 40.6**	**-1.0**
	3.7nm,0.3s							
EVO	**Evora**	**3.42**	**309**	*e*P		**Pn**	**01 41 03.5**	**+1.5**
EVO				*e*S		**Sn**	**01 41 40.6**	**-1.0**
EVO				A		A	01 41 41.1	
	3.7nm,0.3s							
PFVI	**Vila Bisbo**	**3.46**	**283**	S		**Sn**	**01 41 40.8**	**-1.7**
	5.2nm,0.1s,SNR=7.4

UGLR	Uglovaya	2.96	16	*e*P		Pn		02 07 34.3	+1.4
UGLR	Uglovaya	2.96	16	PN		Pn		02 07 34.3	+1.4
AVH	Avacha	3.00	15	*e*P		Pn		02 07 35.7	+2.3
AVH				*e*S		Sn		02 08 10.6	+2.5
AVH	Avacha	3.00	15	PN		Pn		02 07 35.7	+2.3
AVH				S		Sn		02 08 10.6	+2.5
SMAR	Somma	3.01	16	*e*P		Pn		02 07 35.1	+1.5
SMAR	Somma	3.01	16	PN		Pn		02 07 35.1	+1.5
KOK	Koryaka	3.01	14	*e*P		Pn		02 07 35.7	+2.2
KOK				*e*S		Sn		02 08 09.8	+1.4
KOK	Koryaka	3.01	14	PN		Pn		02 07 35.7	+2.2
KOK				S		Sn		02 08 09.8	+1.4
NLC	Nalytchevo	3.04	22	*e*P		Pn		02 07 33.4	-0.3
NLC				*e*S		Sn		02 08 05.8	-3.0
NLC	Nalytchevo	3.04	22	PN		Pn		02 07 33.4	-0.3
SDLR	Sedlovina	3.04	16	*e*P		Pn		02 07 34.5	+0.6
SDLR	Sedlovina	3.04	16	PN		Pn		02 07 34.5	+0.6
KRER	Koryakskii	3.04	15	*e*P		Pn		02 07 35.2	+1.2
KRER				*e*S		Sn		02 08 10.9	+1.6
KRER	Koryakskii	3.04	15	PN		Pn		02 07 35.2	+1.2
KRER				S		Sn		02 08 10.9	+1.6
KRX	Arik	3.08	13	*e*P		Pn		02 07 36.2	+1.7
KRX				*e*S		Sn		02 08 10.8	+0.7
KRX	Arik	3.08	13	PN		Pn		02 07 36.2	+1.7
KRX				S		Sn		02 08 10.8	+0.7
SPN	Mys Shipunski	3.16	29	*e*P		Pn		02 07 36.6	+1.1
SPN				*e*S		Sn		02 08 11.7	-0.2
SPN	Mys Shipunski	3.16	29	PN		Pn		02 07 36.6	+1.1
SPN				S		Sn		02 08 11.7	-0.2
KII	Karymskiy	3.87	18	*e*P		Pn		02 07 48.8	+3.6
KII	Karymskiy	3.87	18	PN		Pn		02 07 48.8	+3.6
KZV	Kizimen	5.05	19	*e*P		Pn		02 08 04.0	+2.5
KZV	Kizimen	5.05	19	PN		Pn		02 08 04.0	+2.5
TUMD	Tumrok D	5.16	19	*e*P		Pn		02 08 05.2	+2.3
TUMR	Tumrok	5.18	17	*e*P		Pn		02 08 06.1	+2.8
TUMR	Tumrok	5.18	17	PN		Pn		02 08 06.1	+2.8
KMNR	Kamenistaya	5.65	16	*e*P		Pn		02 08 12.4	+2.8
KMNR	Kamenistaya	5.65	16	PN		Pn		02 08 12.4	+2.8
KPT	Kopyto	5.84	15	*e*P		Pn		02 08 14.6	+2.3
KPT	Kopyto	5.84	15	PN		Pn		02 08 14.6	+2.3
KIRR	Kirishev	5.85	16	*e*P		Pn		02 08 16.0	+3.5
KIRR	Kirishev	5.85	16	PN		Pn		02 08 16.0	+3.5
BZWR	Bezymyannyi-We	5.89	17	*e*P		Pn		02 08 15.7	+2.6
BZWR	Bezymyannyi-We	5.89	17	PN		Pn		02 08 15.7	+2.6
BZGR	Bezymyannyi-Gr	5.91	18	*e*P		Pn		02 08 15.5	+2.3
BZGR	Bezymyannyi-Gr	5.91	18	PN		Pn		02 08 15.5	+2.3
ZLN	Zelenaya	6.00	18	*e*P		Pn		02 08 18.0	+3.5
ZLN	Zelenaya	6.00	18	PN		Pn		02 08 18.0	+3.5
LGNR	Loginova	6.04	18	*e*P		Pn		02 08 18.9	+3.7
LGNR	Loginova	6.04	18	PN		Pn		02 08 18.9	+3.7
CIRR	Tsirk	6.08	18	*e*P		Pn		02 08 19.3	+3.7
CIRR	Tsirk	6.08	18	PN		Pn		02 08 19.3	+3.7
SRDR	Sredinnyy	6.11	12	*e*P		Pn		02 08 18.9	+3.0
SRDR	Sredinnyy	6.11	12	PN		Pn		02 08 18.9	+3.0
KRSR	Krestovskiy	6.14	16	*e*P		Pn		02 08 18.7	+2.2
KRSR	Krestovskiy	6.14	16	PN		Pn		02 08 18.7	+2.2
BDR	Baidarnaya	6.60	18	*e*P		Pn		02 08 25.0	+2.4
BDR	Baidarnaya	6.60	18	PN		Pn		02 08 25.0	+2.4
SMKR	Semkarok	6.66	20	*e*P		Pn		02 08 25.4	+1.8
SMKR	Semkarok	6.66	20	PN		Pn		02 08 25.4	+1.8
KBTR	Krutoberegovo	6.67	27	*e*P		Pn		02 08 24.7	+1.1
KBTR	Krutoberegovo	6.67	27	PN		Pn		02 08 24.7	+1.1
SRKR	Sorokina	6.67	18	*e*P		Pn		02 08 25.9	+2.3
SRKR	Sorokina	6.67	18	PN		Pn		02 08 25.9	+2.3
BKI	Bering	7.08	44	*e*P		Pn		02 08 30.1	+1.0
BKI				*e*S		Sn		02 09 41.5	-6.6
BKI	Bering	7.08	44	PN		Pn		02 08 30.1	+1.0
MA2	Magadan	9.98	340	LR		LR		02 13 02.5	
	comp=N,42nm,20.5s,baz=132,slow=39								
YSS	Yuzh-Sakhalins	10.31	256	*e*PN		Pn		02 09 15.0	+1.6
BILL	Bilibino	18.25	11	*e*P		P		02 10 53.4	-4.1
BILL				pmax		pmax			
	comp=Z,1.0nm,0.9s								
BILL				MLR		MLR			
	comp=Z,49nm,19.0s								
YAK	Yakutsk	19.18	318	*e*P		P		02 11 04.3	-3.4
YAK				pmax		pmax			
	comp=Z,4.0nm,0.7s								
MAJO	Matsushiro	19.57	232	*e*P		P		02 11 11.1	-1.2
MAJO				pmax		pmax			
	comp=Z,3.0nm,1.2s								
TIXI	Tiksi	24.95	339	LR		LR		02 22 09.5	
	comp=Z,26nm,18.7s,baz=265,slow=38								
H11N2	WAKE ISLAND Hy	31.48	163	T		T		02 46 47.6	
	baz=348,slow=76,SNR=147								
H11N3	WAKE ISLAND Hy	31.50	163	T		T		02 46 48.7	
	baz=348,slow=76,SNR=223								
H11N1	WAKE ISLAND Hy	31.50	163	T		T		02 46 48.8	
	baz=348,slow=76,SNR=115								
COLA	College	31.51	42	*e*P		P		02 13 07.0	+1.6
ILAR	Eielson Array	31.92	42	P		P		02 13 08.4	-0.6
	comp=Z,0.4nm,0.6s,baz=254,slow=6.0,SNR=5.3								
H11S1	WAKE ISLAND Hy	32.64	164	T		T		02 48 13.1	
	baz=349,slow=76,SNR=171								
H11S3	WAKE ISLAND Hy	32.65	164	T		T		02 48 15.5	
	baz=349,slow=76,SNR=210								
H11S2	WAKE ISLAND Hy	32.66	164	T		T		02 48 15.8	
	baz=349,slow=76,SNR=158								
TLY	Talaya	33.23	294	*e*P		P		02 13 21.3	+0.6
INK	Inuvik	37.03	35	P		P		02 13 53.9	+0.7
	comp=Z,0.7nm,0.5s,baz=292,slow=8.2,SNR=1.6								
DGZ	Jazzator, Alta	43.43	297	*e*P		P		02 14 43.9	-2.6
DGZ				pmax		pmax			
	comp=Z,1.0nm,0.9s								
YKA	Yellowknife Ar	46.29	40	P		P		02 15 10.3	+1.4
	comp=Z,0.8nm,0.6s,baz=295,slow=7.7,SNR=8.1								
MKAR	Makanchi Array	47.87	296	P		P		02 15 20.4	-1.0
	comp=Z,0.3nm,0.4s,baz=64,slow=6.2,SNR=6.0								
CMAR	Chiang Mai Arr	56.00	258	P		P		02 16 23.9	+1.7
	comp=Z,0.6nm,0.3s,baz=29,slow=6.8,SNR=4.8								
CMAR	Chiang Mai Arr	56.00	258	P		P		02 16 24.0	+1.7
NVAR	Mina Array Bea	58.27	67	LR		LR		02 39 57.3	
	comp=Z,47nm,20.8s,baz=308,slow=34								
PDAR	Pinedale Array	60.33	58	P		P		02 16 54.4	+1.9
	comp=Z,0.3nm,0.4s,baz=335,slow=4.1,SNR=2.5								
PDAR				LR		LR		02 40 26.7	
	comp=Z,17nm,21.8s,baz=136,slow=33								
FINES	FINESS Array B	61.95	336	P		P		02 17 00.6	-2.2
	comp=Z,0.3nm,0.4s,baz=41,slow=6.9,SNR=7.5								
FINES	FINESS Array B	61.95	336	*i* P		P		02 17 04.0	+1.2
NOA	NORSAR Array B	65.67	343	P		P		02 17 24.5	-2.9
	comp=Z,0.1nm,0.5s,baz=11,slow=7.2,SNR=2.3								
NOA				LR		LR		02 50 35.6	
	comp=Z,4.9nm,18.9s,baz=25,slow=40								
SCHQ	Schefferville	68.82	26	P		P		02 17 47.5	0.0
	comp=Z,1.7nm,0.7s,baz=345,slow=12,SNR=2.0								
TXAR	Lajitas Array	73.26	64	P		P		02 18 15.7	+0.9
	comp=Z,0.4nm,0.7s,baz=316,slow=6.3,SNR=2.4								
H03N2	Juan Fernandez	135.87	90	T		T		04 57 04.1	
	baz=313,slow=77,SNR=42								
H03N1	Juan Fernandez	135.88	90	T		T		04 57 13.2	
	baz=313,slow=77,SNR=53								
H03N3	Juan Fernandez	135.88	90	T		T		04 57 03.3	
	baz=313,slow=77,SNR=34								

*INET **08** 02:14:29.3, 12°.37N×86°.48W, h5km, ML4.0*
*SNET **08** 02:14:30.4±1.0, 12°.37N×86°.54W, h6km±18km, ML3.9*
*UCR **08** 02:14:30.9±2.5, 12°.28N×86°.57W, h12km±13km, ML3.7*
ISC 08 02:14:30.3±1.2, 12°.34N±0°.07×86°.49W±0°.08, h10km, n25, σ0§78/38, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	Conchagua	1.61	306	*e*P	Pn	02 14 58.2	-0.7
CNCH	Conchagua	1.61	306	*e*P	Pn	02 14 58.2	-0.7
LCND	La Caada	1.67	305	*e*P	Pn	02 14 58.3	-1.3
LCND				*e*S	Sn	02 15 21.9	+0.8
LCND				IAML		02 15 25.8	
	comp=Z,1μm,0.5s						
LCND	La Caada	1.67	305	*e*P	Pn	02 14 58.3	-1.3
LCND				*e*S	Sn	02 15 21.9	+0.8
LCND				IAML		02 15 25.8	
	comp=Z,1μm,0.5s						
GB1A	Borinquen Arri	1.85	145	*e*P	Pn	02 15 01.2	-0.9
TGUH	Tegucigalpa,Un	1.87	336	*e*P	Pn	02 15 02.3	-0.2
TGUH				*e*S	Sn	02 15 26.1	-0.2
TGUH	Tegucigalpa,Un	1.87	336	*e*P	Pn	02 15 02.3	-0.2
TGUH				*e*S	Sn	02 15 26.1	-0.2
JUCU	Jucuar¡n	1.94	298	*e*P	Pn	02 15 03.4	0.0
JUCU				*e*S	Sn	02 15 28.4	+0.5
JUCU				IAML		02 15 33.9	
	comp=Z,1μm,0.4s						
FAGO	Alcalda de S	2.07	311	*e*P	Pn	02 15 04.4	-0.8
FAGO				*e*S	Sn	02 15 31.3	+0.2
FAGO	Alcalda de S	2.07	311	*e*P	Pn	02 15 04.4	-0.8
FAGO				*e*S	Sn	02 15 31.3	+0.2
CUI	Cuipilapa	2.12	142	*e*P	Pn	02 15 05.6	-0.2
CUI				*e*S	Sn	02 15 33.2	+1.0
ALJI	Alcalda de J	2.25	296	*e*P	Pn	02 15 07.0	-0.6
ALJI	Alcalda de J	2.25	296	*e*P	Pn	02 15 07.0	-0.6
PLVR	Palo Verde	2.27	150	*e*P	Pn	02 15 07.6	-0.4
PLVR				*e*S	Sn	02 15 33.6	-2.6
TECA	Tecapa	2.27	301	*e*P	Pn	02 15 08.2	+0.1
TECA	Tecapa	2.27	301	*e*P	Pn	02 15 08.2	+0.1
COEB	Comit de Eme	2.30	300	*e*P	Pn	02 15 08.7	+0.3
COEB				*e*S	Sn	02 15 37.4	+0.6
COEB	Comit de Eme	2.30	300	*e*P	Pn	02 15 08.7	+0.3
COEB				*e*S	Sn	02 15 37.4	+0.6
JTS	Las Juntas de	2.53	143	*e*P	Pn	02 15 11.7	+0.2
JTS				*e*S	Sn	02 15 43.5	+1.0
ARE1	Arenal 1	2.55	137	*e*P	Pn	02 15 13.1	+1.4
LFRS	El Faro	2.81	297	*e*P	Pn	02 15 15.6	+0.1
LFRS	El Faro	2.81	297	*e*P	Pn	02 15 15.6	+0.1
CEVE	Cerro Verde	3.39	296	*e*P	Pn	02 15 23.3	-0.2
CEVE				IAML		02 16 11.1	
	comp=Z,299nm,0.4s						
CEVE	Cerro Verde	3.39	296	*e*P	Pn	02 15 23.3	-0.2
CEVE				IAML		02 16 11.1	
	comp=Z,299nm,0.4s						

*TAP **08** 02:17:50.6, 25°.34N×122°.43E, h233km, ML3.2, C*
*JMA **08** 02:17:51.6±0.2, 25°.19N×122°.33E, h223km±3km, M3.2*
ISC 08 02:17:51.8±2.4, 25°.3N±0°.1×122°.38E±0°.04, h222km±13km, n48, σ0§57/85, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	Santiao Chiao	0.43	236	P	Pn	02 18 21.4	+0.1
	baz=226						
NWF	Wu-fen Shan	0.57	252	P	Pn	02 18 21.9	0.0
	baz=235						
WFSB	Wu-fen Shan	0.57	252	*e*P	Pn	02 18 22.0	+0.3
	baz=234						
TIPB	Shuangxi	0.57	241	P	Pn	02 18 21.5	-0.2
	baz=244						
TIPB				*e*S	S	02 18 45.2	+0.2
	baz=244						
NTC	Toucheng	0.63	232	*e*P	Pn	02 18 21.8	-0.2
	baz=216						
NTC				*e*S	S	02 18 46.0	+0.5
	baz=216						
TWY	Chenhua	0.70	272	*e*P	Pn	02 18 22.6	+0.4
	baz=264						
TWC	Suao	0.80	217	*e*P	Pn	02 18 22.7	-0.1
	baz=207						
TWC				*e*S	S	02 18 46.5	-0.2
	baz=207						
TWE	Neicheng	0.83	231	P	Pn	02 18 23.2	+0.3
	baz=223						
TWE				S	S	02 18 47.5	+0.4
	baz=223						
NWLT	Wulai	0.92	240	P	Pn	02 18 23.1	-0.3
	baz=234						
NWLT				S	S	02 18 47.5	-0.5
	baz=234						
JYNG	Yonagunijimaku	0.95	147	P	Pn	02 18 23.6	0.0
JYNG				S	S	02 18 48.8	+0.6
YOJ	Yonaguni jima	0.97	144	P	Pn	02 18 23.7	0.0
YOJ				S	S	02 18 48.7	+0.2
ENA	Nanau	1.00	215	P	Pn	02 18 24.3	+0.4
	baz=209						
ENA				S	S	02 18 49.0	+0.1
	baz=209						
NDT	Datong Townshi	1.01	231	*i* P	Pn	02 18 23.9	-0.1
	baz=236						
NDT				*i* S	S	02 18 49.2	+0.2
	baz=236						
YHNB	Yeheng	1.08	238	P	Pn	02 18 23.9	-0.6
	baz=233						
YHNB				S	S	02 18 48.7	-1.1
	baz=233						
NSK	Sanguang	1.09	239	P	Pn	02 18 24.0	-0.5
	baz=234						
NSK				*i* S	S	02 18 49.0	-0.9
	baz=234						
NNS	Nan Shan	1.22	229	*i* P	Pn	02 18 25.9	+0.4
	baz=224						
NNS				S	S	02 18 51.5	-0.1
	baz=224						
NNSB	Datong	1.22	228	P	Pn	02 18 25.5	0.0
	baz=223						
NNSB				S	S	02 18 51.5	-0.1
	baz=223						
NNSH	Datong	1.22	228	*i* P	Pn	02 18 25.4	-0.1
	baz=224						
NNSH				*i* S	S	02 18 51.2	-0.4
	baz=224						
NACB	Ninganchiao	1.28	214	P	Pn	02 18 25.4	-0.5
	baz=209						
NACB				S	S	02 18 51.1	-1.1
	baz=209						
ETLH	Xiulin Townshi	1.32	218	P	Pn	02 18 25.9	-0.3
	baz=207						
ETLH				S	S	02 18 52.5	-0.3
	baz=207						
TWD	Chiawan	1.36	212	P	Pn	02 18 26.3	-0.2
	baz=212						
TWD				S	S	02 18 53.0	-0.3
	baz=212						
NSTT	Nanjuang	1.39	244	P	Pn	02 18 26.4	-0.3
	baz=240						
TWT	Tachien	1.48	228	P	Pn	02 18 28.1	+0.6
	baz=230						
TWT				*e*S	S	02 18 56.0	+0.8
	baz=230						
TDCB	Techi	1.49	228	P	Pn	02 18 28.0	+0.4
	baz=231						
TDCB				S	S	02 18 55.3	0.0
	baz=231						
WHF	Hehuan Shan	1.49	223	P	Pn	02 18 28.4	+0.5
	baz=212						
WHF				S	S	02 18 56.4	+0.5
	baz=212						
IRIF	Iriomote-Funau	1.53	126	P	Pn	02 18 27.8	+0.1
IRIF				S	S	02 18 55.7	+0.1
CHGB	Renai	1.61	223	P	Pn	02 18 29.5	+0.8
	baz=213						
CHGB				S	S	02 18 58.1	+0.8
	baz=213						
WHP	Taichung City	1.62	234	P	Pn	02 18 28.7	0.0
	baz=230						
WHP				S	S	02 18 56.9	-0.2
	baz=230						
HATJ	Hateruma jima	1.76	132	P	Pn	02 18 30.4	+0.7
HATJ				S	S	02 18 59.3	+0.1
JKRS	Kuro-shima	1.79	124	P	Pn	02 18 30.6	+0.6
JKRS				S	S	02 19 00.1	+0.4
JIJ	Ishigaki jima	1.83	118	P	Pn	02 18 30.4	0.0
JIJ				S	S	02 18 59.5	-0.8
VWDT	VWDT	1.87	217	P	Pn	02 18 31.4	+0.7
	baz=219						
VWDT				*e*S	S	02 19 01.6	+0.6
	baz=219						
JISG	Ishigakijimahi	1.88	110	P	Pn	02 18 31.2	+0.4
JISG				S	S	02 19 00.7	-0.3
SMLT	Sun Moon Lake	1.91	225	*e*P	Pn	02 18 31.5	+0.2
	baz=215						
TYC	Yuchr	1.93	226	*e*P	Pn	02 18 31.4	+0.1
	baz=216						
TYC				*e*S	S	02 19 02.0	+0.1
	baz=216						
SSLB	Suanglung	1.95	222	P	Pn	02 18 31.8	+0.2
	baz=218						
SSLB				S	S	02 19 02.5	+0.1
	baz=218						
HGSD	Ruisui	1.95	207	P	Pn	02 18 31.6	+0.1
	baz=206						
HGSD				*e*S	S	02 19 02.1	-0.3
	baz=206						
WHYT	Xinyi Township	2.08	222	P	Pn	02 18 33.0	+0.2
	baz=219						
YULB	Yu-li	2.09	208	*e*P	Pn	02 18 32.2	-0.8
	baz=205						
YULB				*e*S	S	02 19 02.5	-2.4
	baz=205						
JTJ	Tarama	2.19	106	P	Pn	02 18 34.6	+0.7
JTJ				S	S	02 19 06.7	+0.1
ALS	Alishan	2.25	220	*e*P	Pn	02 18 35.1	+0.2
	baz=220						
WTP	Ta-pu	2.56	219	P	Pn	02 18 38.0	+0.1
	baz=220						
JIRB	Irabujima	2.57	99	P	Pn	02 18 38.0	+0.2
JIRB				S	S	02 19 12.8	-0.8
JIKM	Ikemajima	2.62	96	P	Pn	02 18 39.1	+0.7
CHN1	Nanshi	2.66	220	*e*P	Pn	02 18 39.0	+0.1
	baz=219						
JMJ	Miyako jima 2	2.68	99	*e*P	Pn	02 18 39.2	+0.2
	baz=103						
JMJ				*e*S	S	02 19 13.7	-2.1
	baz=103						
JMJ2	Miyako jima3	2.73	100	P	Pn	02 18 40.1	+0.6
JMJ2				S	S	02 19 16.4	-0.3
SLGT	Liugui	2.75	216	*e*P	Pn	02 18 40.4	+0.5
	baz=206						
SLGT				*e*S	S	02 19 17.5	+0.2
	baz=206						

*AEIC **08** 02:23:31±1.9, 67°.74N×0°.04×162°.5W±0°.2, h26km±4km, ML3.7, mb4.2/6(NEIC), Error ellipse: s-maj=8.9km s-min=5.1km az=102.0*
*IDC **08** 02:23:31.5±0.8, 68°.08N×162°.10W, h0km, mb3.6/11, mb1 3.9/13, mb1mx3.6/50, mbtmp3.7/13, ML3.9/3, MS2.4/2, Ms1 2.4/2, ms1mx2.2/54, Error ellipse: s-maj=26.7km s-min=13.7km az=34.0*
*NEIC **08** 02:23:33.0±1.3, 67°.73N±0°.01×162°.3W±0°.1, h21km±5km, Error ellipse: s-maj=7.9km s-min=1.6km az=82.0*
ISC 08 02:23:31.6±0.6, 67°.78N±0°.06×162°.21W±0°.05, h10km, n55, σ1§19/59, mb3.7/12, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	Red Dog Mine	0.39	317		Pb	02 23 39.8	-0.7
RDOG					Sb	02 23 47.1	+0.6
ANM	Nome	3.47	203		Pn	02 24 24.8	-0.7
ANM					Sn	02 25 05.4	-1.3
IM03		3.79	114		Pn	02 24 30.0	+0.1
COLD	Coldfoot	4.64	91		Pn	02 24 42.9	+1.2
TOLK	Toolik Lake Re	4.79	74		Pn	02 24 45.0	+1.3
TOLK					Sn	02 25 41.2	+2.0
PS04	TAPS Pump Stn4	4.86	76		Pn	02 24 45.0	+0.4
PS01	TAPS Pump Stn	5.48	57		Pn	02 24 53.6	+0.5
TTA	Tatalina	5.51	149		Pn	02 24 53.6	0.0
TT01	Tatalina	5.53	149		Pn	02 24 53.3	-0.5
GAMB	Gambell	5.60	229		Pn	02 24 53.3	-1.5
CHUM	Lake Minchumin	5.63	129		Pn	02 24 55.9	+0.6
BPAW	Bear Paw Mtn.	5.88	124		Pn	02 24 58.6	-0.1
MDM	Murphy Dome	6.29	110		Pn	02 25 04.3	+0.1
KTH	Kantishna Hill	6.30	127		Pn	02 25 04.4	0.0
PPLA	Purkeypile	6.44	135		Pn	02 25 06.7	+0.2
COLA	College	6.47	110		Pn	02 25 07.1	+0.5
POKR	Poker Plat Res	6.49	107		Pn	02 25 07.3	+0.3
TRR	Thorofare Moun	6.56	126		Pn	02 25 08.2	0.0
CCB	Clear Creek Blu	6.61	112		Pn	02 25 09.1	+0.5
WRH	Wood River Hil	6.61	113		Pn	02 25 09.3	+0.6
FYU	Fort Yukon	6.71	92	Pn	Pn	02 25 11.6	+1.6
BM03	Burnt Mountain	6.73	85		Pn	02 25 09.9	-0.4
MCK	McKinley	6.80	120	Pn	Pn	02 25 11.1	-0.1
IL31		6.87	109		Pn	02 25 12.0	-0.1
ILAR	Eielson Array	6.87	109	Pn	Pn	02 25 11.8	-0.4
	4.7nm,0.3s,baz=303,slow=14,SNR=228						
ILAR				Sn	Sn	02 26 30.6	+0.3
	1.4nm,0.3s,baz=306,slow=24,SNR=6.2						
PS08	TAPS Pump Stn8	7.02	110		Pn	02 25 14.4	+0.2
RND	Reindeer	7.05	122		Pn	02 25 15.1	+0.4
HDA	Harding Lake	7.05	111		Pn	02 25 14.9	+0.2
SVW2	Sparrevohn	7.29	154		Pn	02 25 18.0	+0.1
WAT2	Susitna Watana	7.45	124		Pn	02 25 21.6	+1.3
SPNN	North Nagishla	7.62	143		Pn	02 25 22.3	-0.3
STLK	Strandline Lak	7.70	140		Pn	02 25 23.8	+0.1
DHY	Denali Highway	7.76	120		Pn	02 25 24.8	+0.2
SCRK	Sand Creek	8.36	108		Pn	02 25 32.7	0.0
SML	Sawmill	8.40	129	Pn	Pn	02 25 33.2	-0.1
DOT	Dot Lake	8.53	110		Pn	02 25 35.4	+0.5
BC03		9.70	109		Pn	02 25 49.2	-1.7
EPYK	Eagle Plains	10.01	86	Pn	Pn	02 25 54.5	-0.8
INK	Inuvik	10.70	74	Pn	Pn	02 26 03.6	-1.0
	0.5nm,0.3s,baz=287,slow=14,SNR=21						
INK				Sn	Sn	02 27 57.8	-6.4
	0.8nm,0.3s,baz=152,slow=24,SNR=6.5						
INK				LR	LR	02 31 27.0	
	comp=Z,7.6nm,20.5s,baz=58,slow=45						
KDAK	Kodiak Island	10.93	152	Pn	Pn	02 26 09.7	+1.9
	0.4nm,0.3s,baz=5.4,slow=12,SNR=4.2						
YKA	Yellowknife Ar	20.25	82	P	P	02 28 05.5	-1.1
	0.7nm,0.4s,baz=302,slow=11,SNR=10						
RES	Resolute Bay	21.48	42	LR	LR	02 38 28.7	
	comp=Z,31nm,18.4s,baz=172,slow=42						
PDAR	Pinedale Array	37.28	105	P	P	02 30 44.5	+1.0
	0.9nm,0.9s,baz=350,slow=7.5,SNR=3.9						
NVAR	Mina Array Bea	38.03	118	P	P	02 30 51.0	+1.1
	0.9nm,0.6s,baz=326,slow=8.1,SNR=5.9						
SDCO	Great Sand Dun	43.17	104	P	P	02 31 32.6	+0.2
SDCO				IAmb	IAmb	02 31 37.0	
	comp=Z,6.7nm,1.5s						
KSRS	Korea Array	48.38	268	P	P	02 32 14.5	+1.4
	comp=Z,0.7nm,0.3s,baz=17,slow=8.9,SNR=2.9						
ZALV	Zalesovo Beam	48.84	314	P	P	02 32 16.4	-0.1
	comp=Z,0.6nm,0.4s,baz=53,slow=5.7,SNR=4.2						
FINES	FINESS Array B	50.94	355	P	P	02 32 31.6	-0.7
	comp=Z,0.4nm,0.4s,baz=18,slow=6.4,SNR=10						
TX32	Lajitas Array	51.38	108	P	P	02 32 37.7

EDDO	**Dominical**	**1.50**	**309**	*e*P	**Pn**	**02 24 40.3**	**0.0**
EDDO				*e*S	**Sn**	**02 25 00.6**	**+1.9**
GMAL	**Guarumal, Vera**	**1.53**	**110**	*e*P	**Pn**	**02 24 39.1**	**-1.6**
GMAL				*e*S	**Sn**	**02 24 58.8**	**-0.8**
LCR2	**La Lucha 2**	**1.93**	**318**	*e*P	**Pn**	**02 24 46.6**	**+0.1**
CVTR	**Volcan Turrial**	**2.01**	**328**	*e*P	**Pn**	**02 24 48.3**	**+0.6**
CACAO	**El Cacao, Vera**	**2.04**	**118**	*e*P	**Pn**	**02 24 48.0**	**+0.3**
CACAO				*e*S	**Sn**	**02 25 11.3**	**-0.8**
AZU	**Azuero**	**2.44**	**102**	*e*S	**Sn**	**02 25 23.2**	**+1.3**
ARE1	**Arenal 1**	**2.94**	**317**	*e*P	**Pn**	**02 25 01.3**	**+1.2**
JTS	**Las Juntas de**	**2.98**	**312**	*e*P	**Pn**	**02 25 01.8**	**+1.0**
PLVR	**Palo Verde**	**3.32**	**308**	*e*P	**Pn**	**02 25 05.2**	**-0.4**
CUI	**Cuipilapa**	**3.38**	**314**	*e*P	**Pn**	**02 25 06.4**	**+0.1**

*IDC **08** 02:40:21.8±1.3, 12°.29S×25°.79E, h0km, mb3.6/2, mb1 3.8/7, mb1mx3.5/40, mbtmp3.8/7, ML3.8/5, Error ellipse: s-maj=29.9km s-min=13.9km az=70.0*

*NEIC **08** 02:40:23.5±2.9, 12°.27S±0°.09×25°.82E±0°.07, h10km±2km, mb4.1/3, Error ellipse: s-maj=15.3km s-min=9.9km az=25.0*

*LSZ **08** 02:40:29.9±0.3, 11°.97S×26°.10E, h10km, MD2.8*

ISC 08 02:40:23.6±0.8, 12°.30S±0°.06×25°.87E±0°.10, h10km, n26, σ2s15/24, Zambia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ITZ	**Itezhi-Tezhi**	**3.42**	**178**		*e*P		**Pg**	**02 41 28.6**	**-0.7**
ITZ					*i*			02 41 28.6	
	baz=0.9,slow=11								
ITZ					*e*S		**Sg**	**02 42 11.4**	**-2.4**
LSZ	**Lusaka**	**3.72**	**143**	Pn			**Pn**	**02 41 23.0**	**+1.8**
	5.3nm,0.3s,baz=314,slow=14,SNR=6								
LSZ						Sn	**Sn**	**02 42 07.5**	**+2.3**
	12nm,0.3s,baz=355,slow=20,SNR=6.3								
LSZ						Lg	Lg	02 42 22.0	
	17nm,0.3s,baz=54,slow=21,SNR=7.8								
LSZ	**Lusaka**	**3.72**	**143**	*i* P			**Sn**	**02 42 03.0**	**-2.2**
LSZ	**Lusaka**	**3.72**	**143**	*i* P			**Sn**	**02 42 03.0**	**-2.2**
LSZ	**Lusaka**	**3.72**	**143**	*i* P			**Sn**	**02 42 03.0**	**-2.2**
LSZ	**Lusaka**	**3.72**	**143**				**Pn**	**02 41 23.3**	**+2.0**
MATP	**Matopo**	**8.46**	**163**	Pn			**Pn**	**02 42 27.6**	**+1.1**
	1.9nm,0.3s,baz=346,slow=14,SNR=40								
MATP						Sn	**Sn**	**02 44 01.8**	**-0.3**
	0.8nm,0.3s,baz=152,slow=22,SNR=1.5								
MATP						Lg	Lg	02 44 51.6	
	1.6nm,0.3s,baz=73,slow=23,SNR=9.5								
TSUM	**Tsumeb**	**10.52**	**228**	*i* P			**Pn**	**02 42 55.6**	**+0.9**
TSUM	**Tsumeb**	**10.52**	**228**	*i* P			**Pn**	**02 42 55.6**	**+0.9**
TSUM	**Tsumeb**	**10.52**	**228**	*i* P			**Pn**	**02 42 55.6**	**+0.9**
TSUM	**Tsumeb**	**10.52**	**228**				**Pn**	**02 42 54.9**	**+0.3**
MBAR	**Mbarara**	**12.59**	**23**	Pn			**Pn**	**02 43 22.8**	**-0.3**
	0.7nm,0.3s,baz=30,slow=22,SNR=3.0								
LBTB	**Lobatse**	**12.64**	**181**	*i* P			Pn	02 43 30.0	+6.2
LBTB				*i* S			Sn	02 45 24.1	-21
LBTB	**Lobatse**	**12.64**	**181**	*i* P			Pn	02 43 30.0	+6.2
LBTB				*i* S			Sn	02 45 24.1	-21
LBTB	**Lobatse**	**12.64**	**181**	*i* P			Pn	02 43 30.0	+6.2
LBTB				*i* S			Sn	02 45 24.1	-21
LBTB	**Lobatse**	**12.64**	**181**	Pn			**Pn**	**02 43 21.1**	**-2.6**
KMBO	**Kilima Mbogo**	**15.84**	**46**	Pn			**Pn**	**02 44 07.5**	**+0.5**
	0.2nm,0.3s,baz=216,slow=18,SNR=2.2								
KMBO						Lg	Lg	02 48 44.5	
	0.1nm,0.3s,baz=355,slow=22,SNR=4.8								
KMBO	**Kilima Mbogo**	**15.84**	**46**	IAmb			IAmb	02 44 56.9	
	comp=Z,15nm,1.9s								
BOSA	**Boshof**	**16.24**	**182**	Pn			**Pn**	**02 44 10.3**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=7.1,slow=15,SNR=1.9								
BOSA						Lg	Lg	02 48 55.8	
	comp=Z,0.1nm,0.3s,baz=104,slow=22,SNR=3.3								
BOSA	**Boshof**	**16.24**	**182**	*i* P			**P**	**02 44 19.1**	**+3.9**
BOSA				*i* S			Sn	02 46 51.1	-21
BOSA	**Boshof**	**16.24**	**182**	*i* P			**P**	**02 44 19.1**	**+3.9**
BOSA				*i* S			Sn	02 46 51.1	-21
BOSA	**Boshof**	**16.24**	**182**	*i* P			**P**	**02 44 19.1**	**+3.9**
BOSA				*i* S			Sn	02 46 51.1	-21
BOSA	**Boshof**	**16.24**	**182**	IAmb			IAmb	02 44 51.4	
	comp=Z,40nm,1.8s								
TOA0	**Torodi Ar. Sit**	**34.85**	**316**	P			**P**	**02 47 13.8**	**-1.5**
TORD	**Torodi Ar. Bea**	**34.85**	**316**	P			**P**	**02 47 14.7**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=126,slow=7.7,SNR=9.9								
BRTR	**Keskin Array B**	**52.26**	**8**	P			**P**	**02 49 34.0**	**-1.4**
	comp=Z,0.3nm,0.9s,baz=182,slow=11,SNR=2.3								

*IDC **08** 02:41:29.9±1.9, 20°.67S×178°.64W, h581km±19km, mb3.6/15, mb1 3.8/16, mb1mx3.6/35, mbtmp4.5/16, Error ellipse: s-maj=16.9km s-min=12.5km az=82.0*

*NEIC **08** 02:41:29.7±1.9, 20°.8S±0°.1×178°.5W±0°.1, h589km±3km, mb4.3/22, Error ellipse: s-maj=17.8km s-min=13.8km az=114.0*

ISC 08 02:41:29.6±0.4, 20°.72S±0°.08×178°.54W±0°.09, h587km, n61, σ1s08/66, mb4.2/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.38**	**312**	P			**P**	**02 42 59.1**	**+2.1**
RAO	**Raoul Island**	**8.52**	**176**	P			**P**	**02 43 32.6**	**-0.7**
AFI	**Afiamalu**	**9.36**	**45**	P			**P**	**02 43 41.1**	**-0.8**
DZM	**Mont Dzumac**	**14.05**	**262**	P			**P**	**02 44 29.5**	**+0.2**
	0.6nm,0.3s,baz=147,slow=12,SNR=6.2								
OXZ	**Oxford**	**23.88**	**197**	P			**P**	**02 45 57.2**	**-1.1**
RPZ	**Rata Peaks**	**24.52**	**198**	P			**P**	**02 46 04.6**	**+0.5**
	3.9nm,0.4s,baz=328,slow=0.9,SNR=7.5								
STKA	**Stephens Creek**	**37.24**	**244**	P			**P**	**02 47 52.2**	**-0.4**
	5.1nm,0.7s,baz=94,slow=11,SNR=13								
STKA	**Stephens Creek**	**37.24**	**244**	P			**P**	**02 47 52.9**	**+0.2**
ASAR	**Alice Springs**	**43.97**	**257**	P			**P**	**02 48 46.2**	**0.0**
	2.7nm,0.5s,baz=90,slow=7.5,SNR=64								
ASAR						ScP	**ScP**	**02 53 15.9**	**+0.7**
	0.2nm,0.5s,baz=118,slow=4.8,SNR=4.6								
ASAR						S	**S**	**02 54 33.4**	**-3.2**
	4.5nm,0.7s,baz=94,slow=16,SNR=18								
WRA	**Warramunga Arr**	**44.07**	**262**	P			**P**	**02 48 46.5**	**-0.5**
	3.9nm,0.4s,baz=97,slow=7.5,SNR=33								
WRA						S	**S**	**02 54 37.6**	**-0.2**
	0.8nm,0.7s,baz=105,slow=15,SNR=4.6								
SIJI	**Sorong**	**52.80**	**285**	P			**P**	**02 49 51.8**	**+0.1**
	28nm,0.7s,baz=82,slow=5.7,SNR=27								
VNDA	**Vanda**	**57.65**	**185**	P			**P**	**02 50 26.1**	**+1.8**
	2.7nm,0.6s,baz=1.5,slow=6.9,SNR=27								
VNDA	**Vanda**	**57.65**	**185**	P			**P**	**02 50 25.3**	**+1.0**
CASY	**Casey**	**63.55**	**205**	P			**P**	**02 51 03.2**	**+0.1**
CASY						IAmb	IAmb	02 51 04.5	
	comp=Z,15nm,1.1s								
KKM	**Kota Kinabalu**	**69.32**	**285**	P			**P**	**02 51 38.6**	**-1.2**
KKM						IAmb	IAmb	02 51 44.4	
	comp=Z,11nm,1.1s								
QSPA	**South Pole Qui**	**69.35**	**180**	P			**P**	**02 51 39.5**	**+0.5**
MJAR	**Matsushiro Arr**	**70.08**	**324**	P			**P**	**02 51 43.8**	**+0.1**
	comp=Z,4.7nm,0.6s,baz=155,slow=6.3,SNR=25								
MAT	**Matsushiro**	**70.08**	**324**	P			**P**	**02 51 43.5**	**-0.2**
PETK	**Petropavlovsk-**	**76.35**	**346**	P			**P**	**02 52 19.5**	**+0.5**
	comp=Z,5.3nm,0.6s,baz=139,slow=7.0,SNR=8.7								
KSRS	**Korea Array**	**76.71**	**319**	P			**P**	**02 52 22.4**	**+1.2**
	comp=Z,1.4nm,0.6s,baz=132,slow=5.8,SNR=8.3								
USRK	**Ussuriysk Ar.**	**78.86**	**326**	P			**P**	**02 52 33.2**	**+0.5**
	comp=Z,4.2nm,0.7s,baz=120,slow=2.8,SNR=7.0								
MAW	**Mawson**	**81.19**	**200**	P			**P**	**02 52 44.9**	**+0.4**
	comp=Z,2.6nm,0.5s,baz=119,slow=3.7,SNR=8.2								
MAW	**Mawson**	**81.19**	**200**	IAmb			IAmb	02 54 09.9	
	comp=Z,10.0nm,2.0s								
WVOR	**Wild Horse Val**	**83.62**	**40**	P			**P**	**02 52 56.0**	**-1.3**
WVOR						IAmb	IAmb	02 54 05.7	
	comp=Z,12nm,1.8s								
TRF	**Thorofare Moun**	**86.77**	**12**	P			**P**	**02 53 12.1**	**+0.1**
RND	**Reindeer**	**87.02**	**13**				**P**	**02 53 13.6**	**+0.5**
MVCO	**Mesa Verde**	**87.52**	**49**	P			**P**	**02 53 13.1**	**-3.2**
MVCO						IAmb	IAmb	02 56 46.8	
	comp=Z,15nm,1.7s								
TX31	**Lajitas Ar. Si**	**87.60**	**58**	P			**P**	**02 53 17.4**	**+0.8**
TX32	**Lajitas Array**	**87.60**	**58**	P			**P**	**02 53 17.6**	**+1.0**
TXAR	**Lajitas Array**	**87.60**	**58**	P			**P**	**02 53 18.4**	**+1.7**
	comp=Z,1.1nm,0.8s,baz=214,slow=5.9,SNR=12								
SNAA	**Sanae**	**87.81**	**179**	P			**P**	**02 53 16.1**	**-0.7**
VNA3	**Neumayer Olymp**	**87.96**	**176**	P			**P**	**02 53 16.9**	**-0.6**
WRH	**Wood River Hil**	**88.12**	**13**	IAmb			IAmb	02 53 19.0	
	comp=Z,5.6nm,0.8s								
HDA	**Harding Lake**	**88.31**	**13**	P			**P**	**02 53 18.7**	**-0.3**
HDA						IAmb	IAmb	02 53 19.8	
	comp=Z,4.8nm,0.8s								
VNA2	**Neumayer--Watz**	**88.39**	**177**	P			**P**	**02 53 19.2**	**-0.2**
	baz=195,slow=3.4								
WHY	**Whitehorse**	**88.43**	**20**	P			**P**	**02 53 20.9**	**+1.1**
COLA	**College**	**88.53**	**13**	P			**P**	**02 53 19.4**	**-0.5**
VNA1	**Neumayer--Stat**	**88.62**	**177**	P			**P**	**02 53 20.2**	**-0.3**
IL31		**88.64**	**13**	P			**P**	**02 53 19.2**	**-1.2**
ILAR	**Eielson Array**	**88.64**	**13**	P			**P**	**02 53 20.2**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=225,slow=5.6,SNR=14								
ILAR						pP	**pwP**	**02 55 31.3**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=235,slow=7.0,SNR=4.2								
PLCA	**Paso Flores**	**89.49**	**134**	P			**P**	**02 53 26.9**	**+1.5**
	comp=Z,3.8nm,0.9s,baz=206,slow=3.7,SNR=4.4								
CMAR	**Chiang Mai Arr**	**89.71**	**290**	P			**P**	**02 53 28.4**	**+1.9**
	comp=Z,1.2nm,0.5s,baz=127,slow=2.8,SNR=6.8								
INK	**Inuvik**	**94.61**	**15**	P			**P**	**02 53 47.2**	**-0.7**
MKAR	**Makanchi Array**	**110.98**	**313**	PKKPbc		PKKPbc	PKKPbc	03 09 56.6	-0.2
	comp=Z,0.5nm,0.7s,baz=292,slow=3.4,SNR=3.7								
FINES	**FINESS Array B**	**135.83**	**343**	PKhKP		PKPpre		02 59 35.4	
	comp=Z,0.7nm,0.8s,baz=48,slow=2.8,SNR=3.5								
FINES						PKP	**PKiKP**	**02 59 45.0**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=46,slow=8.2,SNR=10.0								
FINES						SKPbc	**SKPbc**	**03 02 21.1**	**+0.2**
	comp=Z,6.0nm,0.8s,baz=64,slow=4.4,SNR=20								
NB2	**NORSAR Subarra**	**139.13**	**353**	PKP			**SKPbc**	**03 02 30.9**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=11,slow=2.9								
NOA	**NORSAR Array B**	**139.13**	**353**	SKPbc			**SKPbc**	**03 02 30.9**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=16,slow=4.3,SNR=5.8								
AKASG	**Malin Array Be**	**142.95**	**331**	PKhKP			**PKPdf**	**02 59 54.1**	**-2.9**
	comp=Z,9.5nm,0.5s,baz=40,slow=4.3,SNR=36								
AKASG						SKPbc	**SKPbc**	**03 02 40.4**	**0.0**
	comp=Z,0.3nm,0.4s,baz=34,slow=2.8,SNR=5.8								
BR131	**Keskin Array S**	**146.60**	**312**				**PKPbc**	**03 00 06.3**	**-0.2**
BRTR	**Keskin Array B**	**146.60**	**312**	PKPbc			**PKPbc**	**03 00 06.2**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=139,slow=4.5,SNR=8.9								
BUR08	**Bucovina Ar. S**	**146.98**	**330**				**PKPbc**	**03 00 08.2**	**+1.0**
KHC	**Kasperske Hory**	**150.04**	**344**				**PKPbc**	**03 00 14.4**	**-0.2**
GERES	**GERESS Array B**	**150.27**	**344**	PKPbc			**PKPbc**	**03 00 15.4**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=33,slow=3.2,SNR=7.8								
GERES						PKPab	**PKPab**	**03 00 23.8**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=1.9,slow=4.0,SNR=5.5								
CONA	**Conrad Observa**	**150.46**	**340**	*e*PKPab			**PKPab**	**03 00 26.0**	**+1.1**
	comp=Z,2.6nm,0.8s								
WATA	**Walderalm**	**152.20**	**345**	*e*PKPab			**PKPab**	**03 00 32.7**	**+0.3**
	comp=Z,2.5nm,0.9s								
RETA	**Reutte**	**152.25**	**346**	*e*PKPab			**PKPab**	**03 00 32.8**	**+0.4**
	comp=Z,1.5nm,0.6s								
WTTA	**Wattenberg**	**152.26**	**345**	*e*PKPab			**PKPab**	**03 00 33.3**	**+0.7**
	comp=Z,3.4nm,0.5s								
MOTA	**Moosalm**	**152.31**	**346**	*e*PKPab			**PKPab**	**03 00 33.1**	**+0.3**
	comp=Z,2.1nm,0.5s								
PRED	**Cave del Predi**	**152.50**	**342**	PKPdf			**PKPdf**	**03 00 10.5**	**-2.2**
PRED							**PKPab**	**03 00 33.5**	**-0.1**
ESDC	**Sonseca Array**	**160.54**	**13**	PKPab			**PKPab**	**03 01 08.3**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=339,slow=6.5,SNR=4.3								
TORD	**Torodi Ar. Bea**	**172.47**	**182**	PKPab			**PKPab**	**03 02 00.7**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=170,slow=2.9,SNR=7.9								

IDC 08 02:50:36.1±2.4, 1°.68N×126°.54E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.3/31, mbtmp3.4/3, Error ellipse: s-maj=200.8km s-min=29.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.81**	**161**	P			P	02 55 40.7	0.0
	0.8nm,0.6s,baz=340,slow=11,SNR=2.9								
ASAR	**Alice Springs**	**26.19**	**165**	P			P	02 56 12.7	-0.1
	0.4nm,0.7s,baz=342,slow=7.6,SNR=5.2								
MKAR	**Makanchi Array**	**59.13**	**326**	P			P	03 00 38.7	0.0
	0.2nm,0.4s,baz=119,slow=7.5,SNR=2.0								

*DDA **08** 02:57:08.4, 36°.84N×41°.78E, h7km±4km, ML2.7*

*ISN **08** 02:57:08.4±0.3, 37°.02N×42°.33E, h0km, ML2.9*

*ISK **08** 02:57:09.1, 36°.91N×41°.75E, h4km, ML3.0/12*

*ATA **08** 02:57:09.5±0.6, 36°.93N×41°.48E, h90km±55km, ML3.1, MW3.3*

ISC 08 02:57:10.4±1.2, 36°.95N±0°.04×41°.80E±0°.03, h10km±10km, n35, σ1s09/54, Iraq

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIRN	**Sirnak**	**0.74**	**42**	*i* P			**Pb**	**02 57 24.7**	**-0.7**
SIRN				*i* S			**Sn**	**02 57 36.9**	**-1.4**
SIRN					IAML			02 57 39.0	
	comp=E,254nm,0.6s								
SIRN					IAML			02 57 39.0	
	comp=N,298nm,0.3s								
SIRT	**Sirnak**	**0.76**	**42**	PG			**Pb**	**02 57 25.0**	**-0.7**
SIRT				SG			**Sb**	**02 57 36.9**	**+0.8**
MARD	**Mardin**	**0.89**	**295**	*i* P			**Pb**	**02 57 26.9**	**-1.2**
MARD				*i* S			**Sn**	**02 57 44.0**	**+1.7**
MARD					IAML			02 57 44.0	
	comp=E,260nm,0.4s								
MARD					IAML			02 57 45.0	
	comp=N,517nm,0.7s								
BTMN	**Batman**	**1.03**	**336**	*i* P			**Pn**	**02 57 30.7**	**-0.4**
BTMN				*i* S			**Sn**	**02 57 45.8**	**+0.1**
BTMN					IAML			02 57 48.0	
	comp=E,334nm,0.6s								
BTMN					IAML			02 57 49.0	
	comp=N,238nm,0.3s								
SRTM	**Siirt_Merkez**	**1.05**	**5**	*i* P			**Pn**	**02 57 30.9**	**-0.4**
SRTM				*i* S			**Sn**	**02 57 46.8**	**+0.7**
SRTM					IAML			02 57 49.0	
	comp=E,316nm,0.4s								
MAZI	**Mazidag**	**1.20**	**296**	PN			**Pb**	**02 57 32.0**	**-1.2**
SVAN	**Silvan-Diyarba**	**1.29**	**339**	PN			**Pg**	**02 57 35.0**	**-0.3**
SVAN				SN			**Sn**	**02 57 53.6**	**+1.5**
SVAN	**Silvan-Diyarba**	**1.29**	**339**	*i* P			**Pg**	**02 57 35.0**	**-0.3**
SVAN					IAML			02 57 54.0	
	comp=E,149nm,0.5s								
SVAN				*i* S			**Sn**	**02 57 54.2**	**+2.1**
SVAN					IAML			02 57 55.0	
	comp=N,97nm,0.4s								
CUKT	**Cukurca**	**1.48**	**78**	*i* P			Pg	02 57 52.0	+13
CUKT				*i* S			**Sg**	**02 57 57.9**	**-0.1**
BLIS	**Bitlis-Merkez**	**1.49**	**10**	*e*P			**Pb**	**02 57 37.7**	**-0.6**
BLIS				*e*S			**Sg**	**02 57 59.7**	**+1.4**
BLIS					IAML			02 58 02.5	
	comp=Z,65nm,0.3s								
BLIS	**Bitlis-Merkez**	**1.49**	**10**	*i* P			**Pb**	**02 57 37.7**	**-0.6**
BLIS				*i* S			**Sg**	**02 57 59.9**	**+1.6**
BLIS					IAML			02 58 04.0	
	comp=E,123nm,0.8s								
BLIS					IAML			02 58 05.0	
	comp=N,201nm,0.6s								
GURO	**Guroymak-BITLI**	**1.61**	**7**	PN			**Pg**	**02 57 40.3**	**-1.1**
HAKT	**HAKKARI**	**1.64**	**68**	*i* P			**Pb**	**02 57 39.9**	**-1.0**
HAKT				*i* S			**Sg**	**02 58 02.9**	**-0.3**
HAKT					IAML			02 58 04.0	
	comp=E,73nm,0.5s								
HAKT					IAML			02 58 07.0	
	comp=N,158nm,0.6s								
DIYA	**Diyarbakir**	**1.65**	**307**	*i* P			**Pb**	**02 57 39.8**	**-1.3**
DIYA				*i* S			**Sg**	**02 58 04.0**	**+0.4**
DIYA					IAML			02 58 06.0	
	comp=E,141nm,0.3s								
DIYA					IAML			02 58 09.0	
	comp=N,162nm,0.3s								
AKDM	**Akdamar-Van**	**1.67**	**34**	PN			**Pb**	**02 57 40.8**	**-0.6**
GEVA	**Gevas**	**1.69**	**36**	*e*P			**Pb**	**02 57 41.4**	**-0.3**
GEVA				*e*S			**Sg**	**02 58 06.4**	**+1.5**
GEVA					IAML			02 58 16.3	
	comp=Z,40nm,0.5s								
GEVA	**Gevas**	**1.69**	**36**	*i* P			**Pb**	**02 57 41.4**	**-0.3**
GEVA				*i* S			**Sg**	**02 58 07.1**	**+2.2**
GEVA					IAML			02 58 09.0	
	comp=E,58nm,0.8s								
MUSM	**Mu-Merkez**	**1.79**	**353**	*e*P			**Pn**	**02 57 41.4**	**-0.2**
MUSM				*e*S			**Sn**	**02 58 04.0**	**-0.5**
MUSM					IAML			02 58 15.3	
	comp=Z,45nm,0.6s								
MUSM	**Mu-Merkez**	**1.79**	**353**	*i* P			**Pn**	**02 57 41.5**	**0.0**
MUSM				*i* S			**Sb**	**02 58 06.0**	**0.0**
MUSM					IAML			02 58 11.0	
	comp=N,58nm,0.8s								
MUSM					IAML			02 58 12.0	
	comp=E,74nm,0.5s								
HANI	**Diyarbakir_Han**	**1.84**	**323**	*i* P			**Pb**	**02 57 43.0**	**-1.2**
HANI				*i* S			**Sg**	**02 58 10.5**	**+1.0**
HANI					IAML			02 58 11.0	
	comp=N,116nm,0.4s								
HANI					IAML			02 58 13.0	
	comp=E,193nm,0.4s								
TVAN	**Van**	**2.03**	**38**	*e*P			**Pb**	**02 57 46.9**	**-0.7**
TVAN						*e*S	**Sg**	**02 58 16.2**	**+0.5**
TVAN					IAML			02 58 34.1	
	comp=Z,20nm,1.5s								
VANB	**Van**	**2.07**	**37**	PN			**Pn**	**02 57 45.8**	**+0.4**
BNGB	**Bingl**	**2.23**	**337**	PN			**Pn**	**02 57 48.1**	**+0.6**
URFA	**Urfa**	**2.43**	**283**	PN			**Pn**	**02 57 49.4**	**-0.9**
SVRC	**Sivrice-ELAZID**	**2.44**	**307**	PN			**Pn**	**02 57 51.1**	**+0.6**
IKRK	**Kirkuk**	**2.57**	**126**	*e*Pg			**Pg**	**02 57 59.3**	**-0.3**
IKRK				*e*Sg			**Sg**	**02 58 35.0**	**+2.0**
	baz=315								
IKRK					AML		AML	02 58 50.0	
	comp=N,460nm,1.6s								
IKRK					AML		AML	02 58 50.3	
	comp=E,22nm,0.6s								
TUTA	**Tutak**	**2.58**	**18**	*e*P			**Pb**	**02 57 54.3**	**-2.6**
TUTA					IAML			02 58 39.4	
	comp=Z,13nm,0.6s								
YEDI	**Yedisu-Bingol**	**2.68**	**339**	PN			**Pn**	**02 57 54.7**	**+0.9**
PTK	**Pertek**	**2.72**	**316**	PN			**Pn**	**02 57 54.8**	**+0.4**
TNCL	**Tunceli-Merkez**	**2.81**	**321**	*e*P			**Pn**	**02 57 55.5**	**0.0**
TNCL				*e*				02 58 03.4	
	baz=259,slow=8.6								
TNCL						*e*S	**Sn**	**02 58 27.3**	**-2.1**
MALT	**Malatya**	**3.00**	**298**	PN			**Pn**	**02 57 58.9**	**+0.7**
ARPR	**Arapgir-MALATY**	**3.48**	**309**	PN			**Pn**	**02 58 05.8**	**+1.1**
KEMA	**Kemaliye**	**3.49**	**313**	*e*P			**Pn**	**02 58 05.2**	**+0.3**
GAZ	**Gaziantep**	**3.68**	**275**	PN			**Pn**	**02 58 08.1**	**+0.7**
DARE	**Darende-Malaty**	**3.79**	**297**	PN			**Pn**	**02 58 09.9**	**+1.0**

*IDC **08** 03:07:16.6±0.7, 15°.08S×167°.51E, h0km, mb4.1/19, mb1 4.3/19, mb1mx4.2/37, mbtmp4.1/19, ML5.3/1, MS3.9/27, Ms1 3.9/27, ms1mx3.8/33, Error ellipse: s-maj=23.9km s-min=16.6km az=125.0*

*GCMT **08** 03:07:23.6±0.3, 15°.00S±0°.02×167°.35E±0°.02, h30km±1km, MW5.0/106, Moment Tensor Solution. s29,c33; s106,c138; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.16±.24; Mθθ4.71±.17; Mϕϕ-3.55±.17; Mrθ0.24±.25; Mθϕ-0.11±.15; Mϕr1.57±.27; Best double couple: M=4.52600×10^16 NP1:ϕs133.00000°, δ70.00000°, λ-18.00000°. NP2:ϕs229.00000°, δ73.00000°, λ-159.00000°. Principal axes: T 4.7200, Plg2.0000°, Azm0.0000°; N -0.3870, Plg63.0000°, Azm266.0000°; P -4.3330, Plg26.0000°, Azm91.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **08** 03:07:24.8±0.0, 15°.35S×167°.36E, h6km, mB5.1/19, mb4.9/28, Ms4.7/7, Ms7 4.4/6*

*NEIC **08** 03:07:25.6±1.9, 15°.60S±0°.07×167°.31E±0°.10, h5km±2km, mb4.7/24, Error ellipse: s-maj=16.0km s-min=4.9km az=54.0*

ISC 08 03:07:24.8±1.8, 15°.63S±0°.07×167°.30E±0°.09, h7km±10km, n110, σ2s48/78, mb4.5/33, MS3.9/27, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.21**	**334**				**Pg**	**03 07 29.1**	**+0.2**
DZM	**Mont Dzumac**	**6.45**	**187**	Pn			**Pn**	**03 09 01.8**	**+1.5**
	56nm,0.3s,baz=358,slow=20,SNR=365								
DZM						Sn	**Sn**	**03 10 19.4**	**+5.1**
	23nm,0.3s,baz=320,slow=23,SNR=5.8								
DZM						LR	LR	03 11 04.1

ASAJ				LR	LR	03 40 44.7	
	comp=Z,40nm,21.2s,baz=178,slow=32						
KSRS	**Korea Array**	**64.50 326**		P	P	03 17 54.3	-8.0
	comp=Z,0.6nm,0.8s,baz=143,slow=7.1,SNR=1.5						
KSRS				LR	LR	03 43 46.0	
	comp=Z,59nm,20.8s,baz=144,slow=34						
NJ2	**Nanjing**	**66.34 316**	*e*P		**P**	**03 18 16.6**	**+2.3**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
USRK	**Ussuriysk Ar.**	**67.70 333**		P	P	03 18 15.1	-7.6
	comp=Z,1.2nm,0.9s,baz=164,slow=6.8,SNR=1.5						
PETK	**Petropavlovsk-**	**68.96 354**		LR	LR	03 44 10.2	
	comp=Z,65nm,20.2s,baz=233,slow=32						
PSI	**Prapat**	**70.02 279**		LR	LR	03 50 43.4	
	comp=Z,142nm,18.5s,baz=144,slow=37						
CN2	**Changchun**	**70.43 329**	*e*P		**P**	**03 18 41.7**	**+2.0**
ENH	**Enshi**	**71.96 310**		P	**P**	**03 18 50.3**	**+1.0**
GYA	**Guiyang**	**72.25 305**		P	**P**	**03 18 52.8**	**+1.5**
GYA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
BJT	**Baijiatuau**	**72.97 321**		P	**P**	**03 18 56.2**	**+1.1**
BJT				IAmb	IAmb	03 19 08.2	
	comp=Z,4.9nm,0.6s						
BJI	**Beijing**	**72.98 321**		P	**P**	**03 18 57.9**	**+2.7**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.5s						
XAN	**Xi'an**	**74.32 313**		P	**P**	**03 19 05.6**	**+2.3**
XAN				pP	sP	03 19 10.2	+3.9
XAN				pmax	pmax		
	comp=Z,5.0nm,0.5s						
XAN	**Xi'an**	**74.32 313**		P	**P**	**03 19 04.7**	**+1.5**
XAN				IAmb	IAmb	03 19 12.9	
	comp=Z,9.1nm,1.1s						
QSPA	**South Pole Qui**	**74.40 180**		P	**P**	**03 19 03.3**	**0.0**
QSPA				IAmb	IAmb	03 19 19.9	
	comp=Z,9.5nm,1.1s						
KMI	**Kunming**	**74.80 302**		P	**P**	**03 19 06.3**	**-0.2**
KMI				pP	sP	03 19 10.9	+1.4
KMI				pmax	pmax		
	comp=Z,19nm,1.5s						
KMI	**Kunming**	**74.80 302**		P	**P**	**03 19 09.1**	**+2.7**
CM31	**Chiang Mai Arr**	**75.34 294**		P	**P**	**03 19 12.4**	**+3.0**
CMAR	**Chiang Mai Arr**	**75.34 294**		P	P	03 19 02.2	-7.2
	comp=Z,0.6nm,0.3s,baz=123,slow=4.4,SNR=2.1						
CMAR				LR	LR	03 51 38.5	
	comp=Z,28nm,19.3s,baz=171,slow=35						
CHTO	**Chiang Mai**	**75.48 295**		P	**P**	**03 19 12.1**	**+1.9**
CHTO				IAmb	IAmb	03 19 13.9	
	comp=Z,8.6nm,0.9s						
HHC	**Hu-ho-hao-te**	**76.29 320**	*e*P		**P**	**03 19 14.4**	**-0.1**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,40nm,6.2s						
HHC				LR	LR		
	comp=Z,140nm,18.8s						
HHC				LR	LR		
	comp=Z,140nm,15.4s						
CD2	**Chengdu**	**76.58 308**	*e*P		**P**	**03 19 17.0**	**+0.7**
LZH	**Lanzhou**	**78.95 312**	*e*P		**P**	**03 19 30.2**	**+0.6**
LZH				pP	pP	03 19 32.1	+0.3
LZH			*e*PP		**PP**	**03 22 31.5**	**+2.9**
LZH				pmax	pmax		
	comp=Z,24nm,1.3s						
LZH				pmax	pmax		
	comp=Z,92nm,8.7s						
LZH				LR	LR		
	comp=Z,210nm,16.2s						
LZH				LR	LR		
	comp=Z,230nm,16.0s						
LZH				LR	LR		
	comp=Z,360nm,18.5s						
MAW	**Mawson**	**81.06 202**		LR	LR	03 50 14.6	
	comp=Z,122nm,21.4s,baz=63,slow=32						
ULN	**Ulaanbaatar**	**82.88 324**		P	**P**	**03 19 51.0**	**+0.7**
ULN				IAmb	IAmb	03 19 53.8	
	comp=Z,10nm,1.4s						
SONM	**Songino Array**	**83.24 324**		P	P	03 19 43.7	-8.4
	comp=Z,0.4nm,0.3s,baz=134,slow=4.2,SNR=1.5						
GTA	**Gaotai**	**83.31 314**		P	**P**	**03 19 55.3**	**+2.6**
GTA				pP	PcP	03 19 58.9	+1.8
GTA				sP	sP	03 20 01.3	+5.5
GTA				pmax	pmax		
	comp=Z,7.0nm,1.6s						
GTA				pmax	pmax		
	comp=Z,68nm,5.3s						
GTA				LR	LR		
	comp=Z,68nm,19.6s						
GTA				LR	LR		
	comp=Z,130nm,19.6s						
GTA				LR	LR		
	comp=Z,75nm,22.1s						
BILL	**Bilibino**	**83.44 360**		P	**P**	**03 19 53.9**	**+1.4**
BILL				IAmb	IAmb	03 20 03.1	
	comp=Z,6.1nm,1.0s						
SHL	**Shillong**	**84.02 298**		P	**P**	**03 19 57.6**	**+0.9**
LSA	**Lhasa**	**86.06 302**		P	**P**	**03 20 09.2**	**+2.0**
ILAR	**Eielson Array**	**87.37 18**		P	P	03 20 00.7	-12
	comp=Z,1.3nm,0.8s,baz=242,slow=5.4,SNR=14						
ILAR				LR	LR	03 52 18.3	
	comp=Z,94nm,21.6s,baz=242,slow=31						
NVAR	**Mina Array Bea**	**87.84 49**		P	P	03 20 05.0	-10
	comp=Z,0.9nm,0.8s,baz=231,slow=9.3,SNR=5.3						
SYO	**Syowa Base**	**87.85 197**	*e*P		**P**	**03 20 16.4**	**+1.8**
SNAA	**Sanae**	**92.65 183**		P	P	03 20 30.2	-6.9
VNA3	**Neumayer Olymp**	**93.31 181**		P	P	03 20 31.1	-9.1
WMQ	**Urumqi**	**93.38 315**	*e*P		**P**	**03 20 43.5**	**+2.6**
WMQ				LR	LR		
	comp=Z,120nm,21.1s						
WMQ				LR	LR		
	comp=Z,160nm,28.9s						
WMQ				LR	LR		
	comp=Z,380nm,23.7s						
VNA2	**Neumayer--Watz**	**93.58 182**		P	P	03 20 35.8	-5.5
	baz=170,slow=3.8						
PDAR	**Pinedale Array**	**95.54 47**		P	P	03 20 41.8	-9.2
	comp=Z,0.4nm,0.7s,baz=232,slow=2.2,SNR=2.1						
PDAR				LR	LR	03 58 03.0	
	comp=Z,43nm,18.9s,baz=300,slow=32						
TXAR	**Lajitas Array**	**96.68 62**		P	P	03 20 47.7	-8.7
	comp=Z,0.5nm,0.7s,baz=222,slow=5.4,SNR=7.4						
TXAR				LR	LR	03 55 17.6	
	comp=Z,57nm,21.6s,baz=0.0,slow=30						
MKAR	**Makanchi Array**	**97.87 316**		P	P	03 20 51.6	-10
	comp=Z,0.1nm,0.4s,baz=121,slow=5.6,SNR=1.4						
MKAR				LR	LR	04 08 08.1	
	comp=Z,15nm,18.3s,baz=98,slow=37						
MAKZ	**Makanchi**	**98.09 316**			Pdif	03 21 03.3	+1.1
ZALV	**Zalesovo Beam**	**98.13 324**		P	P	03 20 53.4	-8.8
	comp=Z,0.3nm,0.3s,baz=101,slow=6.0,SNR=1.3						
ZALV				LR	LR	04 04 24.4	
	comp=Z,20nm,21.6s,baz=66,slow=35						
YKA	**Yellowknife Ar**	**98.33 27**		P	P	03 20 51.5	-11
	comp=Z,0.3nm,0.8s,baz=248,slow=4.4,SNR=6.1						
YKA				LR	LR	04 02 58.9	
	comp=Z,26nm,18.0s,baz=0.0,slow=34						
ARCES	**ARCESS Array B**	**121.13 345**		PKP	**PKPdf**	**03 26 10.4**	**-7.4**
	comp=Z,1.8nm,0.8s,baz=48,slow=1.3,SNR=2.0						
FINES	**FINESS Array B**	**126.57 338**		PKP	**PKPdf**	**03 26 22.5**	**-5.9**
	comp=Z,1.0nm,0.9s,baz=22,slow=1.5,SNR=1.6						
BRG	**Berggiesshubel**	**138.84 334**	*e*PKP		**PKPdf**	**03 26 48.3**	**-3.5**
	comp=Z,4.2nm,1.3s						
CLL	**Collm**	**138.89 336**	*e*PKPdf		**PKiKP**	**03 26 54.0**	**-0.1**
KHC	**Kasperske Hory**	**140.30 333**	*e*PKP		**PKiKP**	**03 27 00.9**	**+3.8**
GERES	**GERESS Array B**	**140.46 333**		PKP	**PKPdf**	**03 26 47.9**	**-7.1**
	comp=Z,0.2nm,0.4s,baz=20,slow=3.1,SNR=2.4						
FUORN	**Ofenpass-Fuorn**	**143.66 333**		PKPdf	**PKPdf**	**03 27 01.4**	**+0.5**
TUE	**Stuetta**	**144.17 334**			**PKPdf**	**03 27 02.9**	**+1.1**
SENIN	**Lac Senin/Sane**	**145.10 336**			**PKPab**	**03 27 03.4**	**+0.5**
AQU	**L'Aquila**	**145.19 325**			**PKPdf**	**03 27 04.8**	**+1.3**
PAOL	**Paolisi**	**145.39 322**			**PKPdf**	**03 27 05.2**	**+1.4**
LATE	**Laterza**	**145.88 327**		PKPbc	**PKiKP**	**03 27 07.5**	**-1.3**
BNI	**Bardonecchia**	**146.42 335**		PKPbc	**PKiKP**	**03 27 09.5**	**-0.4**
SSB	**Saint Sauveur**	**147.07 337**			**PKPab**	**03 27 09.8**	**-0.4**
CLTB	**Caltabellotta**	**148.33 319**			**PKPab**	**03 27 16.9**	**+1.4**
KEST	**Kesra**	**151.92 320**		PKPbc	**PKPdf**	**03 27 14.4**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=315,slow=2.9,SNR=1.7						
KEST	**Kesra**	**151.92 320**			**PKiKP**	**03 27 23.5**	**+2.0**
TORD	**Torodi Ar. Bea**	**165.84 262**		PKP	PKPdf	03 27 22.9	-8.6
	comp=Z,0.3nm,0.6s,baz=260,slow=0.3,SNR=2.1						
TORD				PKPab	**PKPab**	**03 28 25.2**	**-5.8**
	comp=Z,0.3nm,0.6s,baz=62,slow=2.5,SNR=1.3						

TAP 08 03:13:38.1,25.91N×119.20E,h9km±1km,ML1.6,1C,C,

Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MHZQ	**Yeshan**	**0.24**	**322**	⇑P		Pg	03 13 44.0	+1.0
	baz=322							
MHZQ				*e*S		Sg	03 13 47.8	+1.5
	baz=322							
PTTC	**Pingtan**	**0.66**	**128**	P		Pb	03 13 51.7	0.0
	baz=128							
PTTC				*e*S		Sb	03 14 01.5	+0.5
	baz=128							
MATB	**Ma-tsu**	**0.72**	**70**	P		Pg	03 13 52.4	+0.4
	baz=70							
MATB				*e*S		Sb	03 14 02.4	-0.3
	baz=70							
LYJJ	**Jianjiangzhen**	**0.82**	**38**	P		Pn	03 13 55.3	-0.5
	baz=38							
LYJJ				S		Sb	03 14 06.5	+0.9
	baz=38							
PTMZ	**Houxiangcun**	**0.87**	**185**	P		Pb	03 13 55.6	+0.3
	baz=184							
PTMZ				S		Sb	03 14 08.0	+1.0
	baz=184							
VWUC	**VWUC**	**0.94**	**166**	*e*P		Pg	03 13 55.1	-1.1
	baz=165							
VWUC				S		Sn	03 14 10.1	-0.9
	baz=165							
XPSS	**Dashiqiu**	**1.35**	**41**	*e*P		Pg	03 14 03.9	-0.2
	baz=41							
XPSS				*e*S		Sb	03 14 21.1	+0.1
	baz=41							
AXDP	**Jialang**	**1.49**	**228**	P		Pn	03 14 05.4	+0.3
	baz=227							
KNMB	**Chin-men Tao**	**1.61**	**207**	*e*P		Pn	03 14 06.3	-0.4
	baz=206							
PTSB	**Yuanli**	**2.00**	**136**	*e*P		Pb	03 14 13.3	-1.2
	baz=136							

TAP 08 03:14:01.9,25.85N×119.15E,h18km±2km,ML1.9,1C,B,

Near coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MHZQ	**Yeshan**	**0.27**	**337**	⇑P		Pb	03 14 09.0	+0.9
	baz=336							
MHZQ				S		Sb	03 14 12.9	+0.7
	baz=336							
PTTC	**Pingtan**	**0.66**	**122**	*e*P		Pn	03 14 15.6	-0.7
	baz=122							
PTTC				*e*S		Sg	03 14 24.1	+0.3
	baz=122							
MATB	**Ma-tsu**	**0.78**	**67**	P		Pg	03 14 17.2	+0.2
	baz=67							
MATB				S		Sg	03 14 27.5	+0.1
	baz=67							
PTMZ	**Houxiangcun**	**0.81**	**182**	*e*P		Pn	03 14 18.0	-0.3
	baz=181							
PTMZ				*e*S		Sn	03 14 29.4	-0.4
	baz=181							
LYJJ	**Jianjiangzhen**	**0.89**	**38**	P		Pn	03 14 20.2	+0.8
	baz=38							
LYJJ				S		Sn	03 14 31.7	0.0
	baz=38							
VWUC	**VWUC**	**0.90**	**162**	P		Pn	03 14 20.0	+0.5
	baz=162							
VWUC				S		Sn	03 14 32.0	0.0
	baz=162							
AXDP	**Jialang**	**1.43**	**229**	*e*P		Pn	03 14 26.2	-0.6
	baz=228							
AXDP				*e*S		Sn	03 14 44.2	-0.9
	baz=228							
AXDP	**Jialang**	**1.43**	**229**	S		Pn	03 14 25.7	-1.1
	baz=227							
KNMB	**Chin-men Tao**	**1.54**	**207**	*e*P		Pn	03 14 27.8	-0.6
	baz=206							
KNMB				*e*S		Sn	03 14 48.1	+0.1
	baz=206							
KNMB	**Chin-men Tao**	**1.54**	**207**	*e*S		Pn	03 14 27.8	-0.6
	baz=206							
KNM	**Kinmen**	**1.57**	**205**	*i* P		Pb	03 14 30.1	-0.2
	baz=208							
KNM				*i* S		Sg	03 14 51.2	-1.3
	baz=208							
ZZJH	**Jiuhuzhen**	**1.95**	**225**	*e*S		Sn	03 14 57.9	0.0
	baz=225							

*IDC **08** 03:39:30.1±4.5,21.42S×70.20W,h0km,mb4.0/1,*
mb1 3.9/2,mb1mx3.5/18,mbtmp3.8/2,ML3.4/1,MS3.2/1,
Ms1 3.1/1,ms1mx2.7/18,Error ellipse: s-maj=139.3km
s-min=61.6km az=93.0
*GUC **08** 03:39:32.9±0.7,20.60S×70.75W,h38km±1km,ML3.5*
ISC 08 03:39:31.8±3.4,20.60S±0.03×70.82W±0.08,h16km±22km,
n21,σ0.69/31,6C-6D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.60**	**87**	⇓*i*P		**Pb**	**03 39 43.5**	**-0.4**
TA01					IAML		03 39 53.6	
	comp=N,3μm,0.3s							
PATCX	**Punta Patache**	**0.66**	**110**	⇓*i*P		**Pb**	**03 39 45.0**	**0.0**
PATCX				*i* S		**Sb**	**03 39 54.1**	**+0.1**
PATCX					IAML		03 39 56.1	
	comp=N,4μm,0.4s							
TA02	**Huaiquique**	**0.72**	**63**	*e*P		**Pb**	**03 39 45.8**	**-0.2**
TA02				*i* S		**Sb**	**03 39 54.7**	**-1.0**
TA02					IAML		03 39 57.9	
	comp=N,5μm,0.1s							
PSGC	**Pisagua**	**1.19**	**33**	⇓*e*P		**Pn**	**03 39 53.6**	**-0.3**
PSGC				*i* S		**Sb**	**03 40 09.0**	**-0.3**
PSGC					IAML		03 40 11.1	
	comp=N,872nm,0.4s							
PB01	**IPOC Station P**	**1.32**	**110**	⇓*i*P		**Pn**	**03 39 55.6**	**-0.1**
PB01				*i* S		**Sn**	**03 40 12.0**	**-1.0**
PB01					IAML		03 40 13.1	
	comp=N,2μm,0.3s							
PB11	**IPOC Station P**	**1.37**	**53**	⇓*i*P		**Pn**	**03 39 56.4**	**-0.1**
PB11				*i* S		**Sn**	**03 40 13.6**	**-0.8**
PB11					IAML		03 40 19.2	
	comp=N,2μm,0.4s							
PB07	**IPOC Station P**	**1.42**	**142**	⇑*i*P		**Pn**	**03 39 57.6**	**+0.5**
PB07				*i* S		**Sn**	**03 40 15.6**	**0.0**
PB07					IAML		03 40 22.5	
	comp=E,1μm,0.5s							
PB08	**IPOC Station P**	**1.63**	**74**	⇓*i*P		**Pn**	**03 40 00.4**	**+0.3**
PB08				*i* S		**Sn**	**03 40 21.7**	**+0.8**
PB08					IAML		03 40 23.6	
	comp=N,533nm,0.3s							
PB03	**IPOC Station P**	**1.75**	**146**	⇑*i*P		**Pn**	**03 40 02.2**	**+0.6**
PB03				*e*S		**Sn**	**03 40 24.1**	**+0.3**
PB03					IAML		03 40 33.2	
	comp=N,495nm,0.6s							
GO01	**Chusmiza**	**1.79**	**59**	⇑*i*P		**Pn**	**03 40 02.9**	**+0.5**
GO01				*e*S		**Sn**	**03 40 25.5**	**+0.5**
GO01					IAML		03 40 31.3	
	comp=N,1μm,0.1s							
PB04	**IPOC Station P**	**1.83**	**160**	*e*P		**Pn**	**03 40 03.1**	**+0.3**
PB04				*i* S		**Sn**	**03 40 24.4**	**-1.4**
MNMC	**Minye Minye**	**1.86**	**38**	*e*P		**Pn**	**03 40 03.7**	**+0.5**
MNMC				*e*S		**Sn**	**03 40 27.6**	**+1.0**
MNMC					IAML		03 40 34.9	
	comp=N,2μm,0.3s							
PB09	**IPOC Station P**	**1.89**	**129**	⇑*i*P		**Pn**	**03 40 05.4**	**+1.8**
PB09				*e*S		**Sb**	**03 40 29.9**	**+0.3**
PB09					IAML		03 40 41.1	
	comp=N,654nm,0.5s							
PB12	**IPOC Station P**	**2.03**	**13**	*e*P		**Pn**	**03 40 06.1**	**+0.7**
PB12					IAML		03 40 41.6	
	comp=E,915nm,0.8s							
PB05	**IPOC Station P**	**2.31**	**166**	⇑*i*P		**Pn**	**03 40 09.4**	**0.0**
PB05					IAML		03 40 54.2	
	comp=N,412nm,0.4s							
PB06	**IPOC Station P**	**2.40**	**151**	⇑*i*P		**Pn**	**03 40 10.9**	**+0.4**
PB06					IAML		03 40 51.4	
	comp=N,569nm,0.7s							
PB15	**IPOC Station P**	**2.88**	**155**	*e*P		**Pn**	**03 40 17.6**	**+0.3**
LPAZ	**La Paz**	**4.99**	**31**	Pn	Pn		03 40 53.4	+6.8
	comp=N,0.7nm,0.3s,baz=214,slow=9.1,SNR=22							
BDFB	**Brasilia**	**22.22**	**81**	LR	LR		03 54 22.1	
	comp=N,59nm,18.4s,baz=310,slow=41							
TORD	**Torodi Ar. Bea**	**78.75**	**71**	P		**P**	**03 51 33.5**	**-0.6**
	comp=N,0.7nm,0.4s,baz=250,slow=5.3,SNR=18							
MKAR	**Makanchi Array**	**145.91**	**34**	PKPbc		**PKPab**	**03 59 11.8**	**+0.7**
	comp=N,0.3nm,0.3s,baz=336,slow=3.2,SNR=2.2							

DDA 08 03:42:40.5,40.58N×35.82E,h5km,ML1.3,Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AMSY	**Amasya-Merkez**	**0.06**	**14**	*i* P		Pg	03 42 42.1	0.0
AMSY				*i* S		Sg	03 42 43.8	+0.5
AMSY					IAML		03 42 44.0	
	comp=N,441nm,0.1s							
HAVZ	**Havza**	**0.50**	**352**	*i* P		Pg	03 42 50.5	+0.3
HAVZ				*i* S		Sg	03 42 58.0	+1.2
HAVZ					IAML		03 42 58.0	
	comp=N,38nm,0.3s							
HAVZ					IAML		03 42 58.0	
	comp=E,37nm,0.2s							
TOKA	**Tokat**	**0.56**	**116**	*i* P		Pg	03 42 51.7	+0.3
COAL	**Corum-Alaca**	**0.71**	**243**	*i* P		Pg	03 42 53.1	-1.0
COAL				*i* S		Sg	03 43 03.6	+0.3
CTAK	**Corum_Osmancik**	**0.78**	**276**	*i* P		Pb	03 42 56.1	-0.6
CTAK				*i* S		Sb	03 43 07.2	-0.5
CTAK					IAML		03 43 08.0	
	comp=E,9.7nm,0.3s							
SAMS	**Samsun-Alacam**	**0.83**	**20**	*i* P		Pg	03 42 56.5	0.0
SAMS				*i* S		Sb	03 43 08.5	-0.5
SAMS					IAML		03 43 10.0	
	comp=E,8.5nm,0.3s							
SAMS					IAML		03 43 10.0	
	comp=N,10nm,0.3s							

*BUC **08** 03:43:52.3±0.3,45.76N×26.71E,h90km±3km,ml3.6/41,*
Error ellipse: s-maj=1.9km s-min=1.9km az=69.0
*SOF **08** 03:43:54.4,45.68N×26.68E,h49km,MD3.3*
ISC 08 03:43:52.0±1.2,45.78N±0.02×26.70E±0.02,h95km±5km,
n104,σ0.72/170,88C-76D,Romania

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.08**	**333**	⇑P		**Pn**	**03 44 05.1**	**-0.3**
PLOR				⇓S		**Sn**	**03 44 14.6**	**-0.7**
PLOR	**Plostina**	**0.08**	**333**	⇑P		**Pn**	**03 44 05.1**	**-0.3**
PLOR				⇓S		**Sn**	**03 44 14.6**	**-0.7**
VRI	**Vrincioaia**	**0.09**	**11**	⇑P		**Pn**	**03 44 05.2**	**-0.2**
VRI				⇓S		**Sn**	**03 44 14.2**	**-1.1**
VRI	**Vrincioaia**	**0.09**	**11**	⇑P		**Pn**	**03 44 05.2**	**-0.2**
VRI				⇓S		**Sn**	**03 44 14.2**	**-1.1**
BISRR	**Bisoca**	**0.23**	**179**	⇓P		**Pn**	**03 44 06.2**	**+0.4**
BISRR				⇓S		**Sn**	**03 44 16.3**	**+0.2**
BISRR	**Bisoca**	**0.23**	**179**	⇓P		**Pn**	**03 44 06.2**	**+0.4**
BISRR				⇓S		**Sn**	**03 44 16.3**	**+0.2**
ODBI	**Odobesti**	**0.25**	**93**	⇓P		**Pn**	**03 44 06.4**	**+0.7**
ODBI				⇓S		**Sn**	**03 44 16.1**	**+0.2**
ODBI	**Odobesti**	**0.25**	**93**	⇓P		**Pn**	**03 44 06.4**	**+0.7**
ODBI				⇓S		**Sn**	**03 44 16.1**	**+0.2**
PETR	**Petresti**	**0.37**	**98**	⇑P		**Pn**	**03 44 06.8**	**+0.4**
PETR				⇓S		**Sn**	**03 44 17.1**	**+0.1**
PETR	**Petresti**	**0.37**	**98**	⇑P		**Pn**	**03 44 06.8**	**+0.4**
PETR				⇓S		**Sn**	**03 44 17.1**	**+0.1**
GRER		**0.44**	**154**	⇓P		**Pn**	**03 44 07.9**	**+1.1**
GRER				⇓S		**Sn**	**03 44 18.3**	**+0.5**
GRER		**0.44**	**154**	⇓P		**Pn**	**03 44 07.9**	**+1.1**
GRER				⇓S		**Sn**	**03 44 18.3**	**+0.5**
MLR	**Muntele Rosu**	**0.60**	**242**	⇑P		**Pn**	**03 44 08.7**	**+0.4**
MLR				⇓S		**Sn**	**03 44 19.8**	**-0.6**
MLR	**Muntele Rosu**	**0.60**	**242**	⇑P		**Pn**	**03 44 08.7**	**+0.4**
MLR				⇓S		**Sn**	**03 44 19.8**	**-0.6**
TUDR		**0.70**	**105**	⇑P		**Pn**	**03 44 08.5**	**-0.4**
TUDR				⇓S		**Sn**	**03 44 20.8**	**-0.7**
TUDR		**0.70**	**105**	⇑P		**Pn**	**03 44 08.5**	**-0.4**
TUDR				⇓S		**Sn**	**03 44 20.8**	**-0.7**
OZUR		**0.71**	**297**	⇓P		**Pn**	**03 44 08.3**	**-0.8**
OZUR				⇓S		**Sn**	**03 44 21.0**	**-1.0**
OZUR		**0.71**	**297**	⇓P		**Pn**	**03 44 08.3**	**-0.8**
OZUR				⇓S		**Sn**	**03 44 21.0**	**-1.0**
TESR	**Tescani**	**0.73**	**357**	⇑P		**Pn**	**03 44 09.4**	**+0.1**
TESR				⇓S		**Sn**	**03 44 20.9**	**-1.3**
TESR	**Tescani**	**0.73**	**357**	⇑P		**Pn**	**03 44 09.4**	**+0.1**
TESR				⇓S		**Sn**	**03 44 20.9**	**-1.3**
BIR	**Birlad**	**0.81**	**52**	⇑P		**Pn**	**03 44 10.5**	**+0.6**
BIR				⇓S		**Sn**	**03 44 23.6**	**+0.1**
BIR	**Birlad**	**0.81**	**52**	⇑P		**Pn**	**03 44 10.5**	**+0.6**
BIR				⇓S		**Sn**	**03 44 23.6**	**+0.1**
VARL	**Varlezi**	**0.81**	**81**	⇑P		**Pn**	**03 44 10.7**	**+0.8**
VARL				⇓S		**Sn**	**03 44 23.5**	**+0.1**
VARL	**Varlezi**	**0.81**	**81**	⇑P		**Pn**	**03 44 10.7**	**+0.8**
VARL				⇓S		**Sn**	**03 44 23.5**	**+0.1**
SCHL	**Schela**	**0.84**	**109**	⇓P		**Pn**	**03 44 10.1**	**-0.1**
SCHL				⇓S		**Sn**	**03 44 22.5**	**-1.4**
SCHL	**Schela**	**0.84**	**109**	⇓P		**Pn**	**03 44 10.1**	**-0.1**
SCHL				⇓S		**Sn**	**03 44 22.5**	**-1.4**
SECR		**0.87**	**211**	⇓P		**Pn**	**03 44 11.4**	**+0.8**
SECR		**0.87**	**211**	⇓P		**Pn**	**03 44 11.4**	**+0.8**
DOPR	**Dopca**	**0.94**	**282**	⇑P		**Pn**	**03 44 11.7**	**+0.3**
DOPR				⇓S		**Sn**	**03 44 25.8**	**-0.1**
DOPR	**Dopca**	**0.94**	**282**	⇑P		**Pn**	**03 44 11.7**	**+0.3**
DOPR				⇓S		**Sn**	**03 44 25.8**	**-0.1**
GISR	**Galati**	**1.01**	**109**	⇓S		**Sn**	**03 44 26.8**	**-0.4**
GISR	**Galati**	**1.01**	**109**	⇓S		**Sn**	**03 44 26.8**	**-0.4**
GIUM	**Giurgiulesti**	**1.10**	**105**	⇓P		**Pn**	**03 44 13.9**	**+0.8**
GIUM				⇓S		**Sn**	**03 44 29.0**	**+0.1**
GIUM	**Giurgiulesti**	**1.10**	**105**	⇓P		**Pn**	**03 44 13.9**	**+0.8**
GIUM				⇓S		**Sn**	**03 44 29.0**	**+0.1**
SULR		**1.14**	**196**	⇓P		**Pn**	**03 44 14.6**	**+1.0**
SULR				⇓S		**Sn**	**03 44 30.8**	**+0.9**
SULR		**1.14**	**196**	⇓P		**Pn**	**03 44 14.6**	**+1.0**
SULR			

TIRR	**Tirgusor**	**1.79**	**137**	⇑S		**Sn**	**03 44 42.5**	**-1.7**
ICOR	**Ion Corvin**	**1.83**	**154**	⇑P		**Pn**	**03 44 22.9**	**+0.7**
ICOR				⇑S		**Sn**	**03 44 44.0**	**-1.2**
ICOR	**Ion Corvin**	**1.83**	**154**	⇑S		**Sn**	**03 44 44.0**	**-1.2**
ICOR	**Ion Corvin**	**1.83**	**154**	⇑P		**Pn**	**03 44 22.9**	**+0.7**
MILM	**Milestii Mici**	**1.85**	**51**	⇓P		**Pn**	**03 44 23.5**	**+1.1**
MILM				⇓S		**Sn**	**03 44 44.8**	**-0.8**
MILM	**Milestii Mici**	**1.85**	**51**	⇓P		**Pn**	**03 44 23.5**	**+1.1**
MILM				⇓S		**Sn**	**03 44 44.8**	**-0.8**
MFTR	**Murfatlar**	**2.01**	**142**	⇑P		**Pn**	**03 44 24.8**	**+0.3**
MFTR				⇑S		**Sn**	**03 44 48.6**	**-0.6**
MFTR	**Murfatlar**	**2.01**	**142**	⇑P		**Pn**	**03 44 24.8**	**+0.3**
MFTR				⇑S		**Sn**	**03 44 48.6**	**-0.6**
EFOR	**EFORIE**	**2.18**	**140**	⇑P		**Pn**	**03 44 26.7**	**0.0**
EFOR				⇑S		**Sn**	**03 44 52.9**	**-0.4**
EFOR	**EFORIE**	**2.18**	**140**	⇑P		**Pn**	**03 44 26.7**	**0.0**
EFOR				⇑S		**Sn**	**03 44 52.9**	**-0.4**
RAZG	**Razgrad**	**2.22**	**184**	⇑P		**Pn**	**03 44 27.4**	**+0.2**
RAZG				⇓S		**Sn**	**03 44 52.5**	**-1.6**
RAZG	**Razgrad**	**2.22**	**184**	⇑P		**Pn**	**03 44 27.4**	**+0.2**
RAZG				⇓S		**Sn**	**03 44 52.5**	**-1.6**
ZIMR		**2.33**	**205**	⇓S		**Sn**	**03 44 55.1**	**-1.5**
ZIMR		**2.33**	**205**	⇓S		**Sn**	**03 44 55.1**	**-1.5**
PSN	**Preselentsi**	**2.35**	**153**	P		**Pn**	**03 44 29.9**	**+1.0**
MANR	**Mangalia**	**2.38**	**145**	⇑P		**Pn**	**03 44 29.9**	**+0.6**
MANR				⇓S		**Sn**	**03 44 58.2**	**+0.4**
MANR	**Mangalia**	**2.38**	**145**	⇓S		**Sn**	**03 44 58.2**	**+0.4**
MANR	**Mangalia**	**2.38**	**145**	⇑P		**Pn**	**03 44 29.9**	**+0.6**
SZH	**Strazhica**	**2.57**	**193**	P		**Pn**	**03 44 32.1**	**+0.2**
SORM	**Soroca**	**2.61**	**25**	⇑P		**Pn**	**03 44 32.5**	**+0.1**
SORM	**Soroca**	**2.61**	**25**	⇑P		**Pn**	**03 44 32.5**	**+0.1**
PRD	**Provadia**	**2.62**	**169**	*i* P		**Pn**	**03 44 33.8**	**+1.2**
ROIA	**ROIAK**	**2.73**	**170**	P		**Pn**	**03 44 34.9**	**+0.9**
PLVB	**Pleven**	**2.82**	**213**	⇓P		**Pn**	**03 44 35.2**	**0.0**
PLVB	**Pleven**	**2.82**	**213**	⇓P		**Pn**	**03 44 35.2**	**0.0**
ELND	**Elena**	**2.91**	**192**	⇓S		**Sn**	**03 45 09.3**	**-1.3**
ELND	**Elena**	**2.91**	**192**	⇓S		**Sn**	**03 45 09.3**	**-1.3**
DRGR		**2.95**	**292**	⇑P		**Pn**	**03 44 37.6**	**+0.6**
DRGR		**2.95**	**292**	⇑P		**Pn**	**03 44 37.6**	**+0.6**
HERR	**Herculane**	**3.15**	**255**	⇓S		**Sn**	**03 45 15.8**	**-0.6**
HERR	**Herculane**	**3.15**	**255**	⇓S		**Sn**	**03 45 15.8**	**-0.6**
MPEP	**Malo Peshtene**	**3.22**	**222**	P		**Pn**	**03 44 41.4**	**+0.9**
JMB	**Yambol**	**3.31**	**182**	P		**Pn**	**03 44 42.1**	**+0.3**
SIRR	**Siria**	**3.55**	**280**	⇑P		**Pn**	**03 44 45.7**	**+0.7**
SIRR	**Siria**	**3.55**	**280**	⇑P		**Pn**	**03 44 45.7**	**+0.7**
MDVR	**Moldovita**	**3.66**	**256**	⇓S		**Sn**	**03 45 28.3**	**-0.5**
MDVR	**Moldovita**	**3.66**	**256**	⇓S		**Sn**	**03 45 28.3**	**-0.5**

*GUC **08** 03:57:44.8±0.7, 21°.66S×68°.54W, h143km±4km, ML3.6*
*IDC **08** 03:57:44.4±1.0, 21°.72S×68°.25W, h133km±11km, mb3.3/4, mb1 3.5/7, mb1mx3.3/25, mbtmp3.7/7, MS2.9/1, Ms1 2.9/1, ms1mx2.5/8, Error ellipse: s-maj=32.7km s-min=16.9km az=88.0*

ISC 08 03:57:44.8±0.9, **21°.67S**±0°.04×**68°.43W**±0°.09, **h141**km±8km, **n29**, σ0s**87**/44, **mb3.6**/4, **8C, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.77**	**260**	⇑	*i*	P	**Pn**	**03 58 07.3**	**+0.4**
PB09					*i*	S	**Sn**	**03 58 23.9**	**+0.1**
PB09					IAML			03 58 25.2	
	comp=N,758nm,0.3s								
LVC	**Limon Verde**	**1.04**	**205**		P		**Pn**	**03 58 09.2**	**-0.3**
	comp=N,39nm,0.3s,baz=21,slow=9.3,SNR=93								
LVC					S		**Sn**	**03 58 27.3**	**-0.9**
	comp=N,73nm,0.3s,baz=245,slow=21,SNR=64								
LVC	**Limon Verde**	**1.04**	**205**	*e*	P		**Pn**	**03 58 09.1**	**-0.3**
LVC					*e*S		**Sn**	**03 58 27.6**	**-0.6**
PB01	**IPOC Station P**	**1.16**	**302**	⇑	*i*	P	**Pn**	**03 58 10.3**	**0.0**
PB01					*e*S		**Sn**	**03 58 29.8**	**+0.1**
PB01					IAML			03 58 31.5	
	comp=N,1μm,0.3s								
PB03	**IPOC Station P**	**1.29**	**253**	⇑	*i*	P	**Pn**	**03 58 11.8**	**+0.3**
PB03					*i*	S	**Sn**	**03 58 31.8**	**-0.2**
PB03					IAML			03 58 32.3	
	comp=E,1μm,0.2s								
PB07	**IPOC Station P**	**1.35**	**267**	⇑	*i*	P	**Pn**	**03 58 12.5**	**+0.2**
PB07					*i*	S	**Sn**	**03 58 33.0**	**-0.2**
PB07					IAML			03 58 34.0	
	comp=E,2μm,0.3s								
PB06	**IPOC Station P**	**1.48**	**225**	⇑	*i*	P	**Pn**	**03 58 13.9**	**+0.3**
PB06					*e*S		**Sn**	**03 58 35.9**	**+0.3**
PB06					IAML			03 58 37.0	
	comp=E,1μm,0.4s								
PB08	**IPOC Station P**	**1.66**	**336**	⇑	*i*	P	**Pn**	**03 58 16.4**	**+0.5**
PB08					*i*	S	**Sn**	**03 58 40.4**	**+0.9**
PB08					IAML			03 58 41.7	
	comp=E,361nm,0.3s								
PB04	**IPOC Station P**	**1.73**	**247**	*e*	P		**Pn**	**03 58 16.4**	**+0.1**
PB04					*e*S		**Sn**	**03 58 40.1**	**-0.4**
PB04					IAML			03 58 43.2	
	comp=N,708nm,0.4s								
PB15	**IPOC Station P**	**1.81**	**212**	*e*	P		**Pn**	**03 58 18.1**	**+0.8**
PB15					*e*S		**Sn**	**03 58 42.7**	**+0.4**
PATCX	**Punta Patache**	**1.81**	**297**	*e*	P		**Pn**	**03 58 17.3**	**+0.1**
PATCX					*e*S		**Sn**	**03 58 42.0**	**-0.1**
PATCX					IAML			03 58 44.9	
	comp=E,757nm,0.5s								
TA01	**Diego Aracena**	**1.97**	**304**	*e*	P		**Pn**	**03 58 18.5**	**-0.4**
TA01					*e*S		**Sn**	**03 58 44.8**	**-0.3**
TA01					IAML			03 58 46.5	
	comp=E,548nm,0.4s								
PB05	**IPOC Station P**	**2.02**	**234**	*e*	P		**Pn**	**03 58 19.8**	**+0.1**
PB05					*e*S		**Sn**	**03 58 45.5**	**-1.0**
PB05					IAML			03 58 50.4	
	comp=N,345nm,0.3s								
TA02	**Huaiquique**	**2.11**	**311**	*e*	S		**Sn**	**03 58 47.3**	**-0.9**
GO01	**Chusmiza**	**2.11**	**340**	*e*	P		**Pn**	**03 58 21.2**	**0.0**
GO01					*e*S		**Sn**	**03 58 48.4**	**-0.7**
GO01					IAML			03 58 52.3	
	comp=E,383nm,0.3s								
PB11	**IPOC Station P**	**2.22**	**329**	⇑	*e*	P	**Pn**	**03 58 21.6**	**-0.5**
PB11					*e*S		**Sn**	**03 58 50.4**	**-0.4**
PSGC	**Pisagua**	**2.60**	**322**	⇑	*i*	P	**Pn**	**03 58 25.5**	**-1.3**
PSGC					*e*S		**Sn**	**03 58 57.0**	**-2.2**
PSGC					IAML			03 58 59.3	
	comp=N,233nm,0.7s								
PB10	**IPOC Station P**	**2.69**	**226**		IAML			03 59 07.1	
	comp=N,96nm,0.3s								
MNMC	**Minye Minye**	**2.75**	**336**	*e*	P		**Pn**	**03 58 28.7**	**-0.2**
MNMC					*e*S		**Sn**	**03 59 02.7**	**-0.1**
MNMC					IAML			03 59 04.8	
	comp=N,634nm,0.4s								
PB12	**IPOC Station P**	**3.52**	**329**	*e*	P		**Pn**	**03 58 36.8**	**-1.8**
GO02	**Mina Guanaco**	**3.61**	**197**	*e*	P		**Pn**	**03 58 39.6**	**-0.7**
LPAZ	**La Paz**	**5.36**	**3**		P		**Pn**	**03 59 03.5**	**+0.1**
	comp=N,1.6nm,0.3s,baz=174,slow=6.2,SNR=72								
CFA	**Coronel Fontan**	**9.90**	**179**		P		**Pn**	**04 00 00.7**	**-2.9**
	comp=N,0.4nm,0.3s,baz=13,slow=16,SNR=13								
CFA					S		Sn	04 01 42.6	-10
	comp=N,0.6nm,0.3s,baz=197,slow=16,SNR=5.6								
PLCA	**Paso Flores**	**19.09**	**185**		P		**P**	**04 01 55.6**	**-1.0**
	comp=N,0.1nm,0.3s,baz=3.6,slow=10,SNR=3.5								
PTGA	**Pitinga**	**22.39**	**23**		LR		LR	04 10 41.3	
	comp=N,35nm,21.9s,baz=263,slow=35								
TXAR	**Lajitas Array**	**61.02**	**325**		P		**P**	**04 07 45.1**	**+1.4**
	comp=N,0.1nm,0.5s,baz=146,slow=8.4,SNR=1.8								
SNAA	**Sanae**	**61.98**	**161**		P		**P**	**04 07 50.0**	**+0.5**
	comp=N,0.9nm,1.2s,baz=266,slow=5.6,SNR=6.2								
TORD	**Torodi Ar. Bea**	**76.99**	**70**		P		**P**	**04 09 22.0**	**-0.5**
	comp=N,0.4nm,0.3s,baz=255,slow=5.5,SNR=13								
YKA	**Yellowknife Ar**	**91.49**	**340**		P		**P**	**04 10 35.9**	**+1.2**
	comp=N,0.5nm,0.6s,baz=135,slow=4.5,SNR=8.6								

*MAN **08** 04:33:10.9, 13°.15N×120°.13E, h1km, mb5.7, ML4.8, MS5.1*
*IDC **08** 04:33:17.8±1.8, 13°.29N×120°.27E, h43km±17km, mb4.0/26, mb1 4.2/27, mb1mx4.1/42, mbtmp4.3/27, ML4.2/1, MS3.9/21, Ms1 4.0/21, ms1mx3.8/29, Error ellipse: s-maj=17.0km s-min=10.9km az=82.0*
*NEIC **08** 04:33:20.9±1.6, 13°.3N±0°.1×120°.3E±0°.1, h72km±5km, mb4.7/60, Error ellipse: s-maj=15.6km s-min=14.5km az=73.0*

ISC 08 04:33:13.8±1.0, **13°.22N**±0°.02×**120°.22E**±0°.03, **h11**km±6km, **n186**, σ1s**90**/204, **mb4.6**/59, **MS4.0**/28, **20C-9D, Mindoro**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.51**	**2**	*e*	P		**Pg**	**04 33 22.1**	**-1.6**
LUBP					*e*S		**Sg**	**04 33 28.4**	**-2.0**
PGP	**Puerto Galera**	**0.76**	**69**	⇑	*e*	P	**Pn**	**04 33 29.4**	**-1.2**
PGP					*i* S		**Sg**	**04 33 36.8**	**-1.7**
TGY	**Tagaytay City**	**1.11**	**38**		P		**Pb**	**04 33 34.1**	**-1.1**
	1μm,0.3s,baz=233,slow=5.1,SNR=78								
TGY					S		**Sb**	**04 33 49.7**	**0.0**
	6μm,0.3s,baz=106,slow=22,SNR=10								
TGY					LR		LR	04 34 18.0	
	comp=Z,6μm,20.1s,baz=244,slow=58								
TGY	**Tagaytay City**	**1.11**	**38**	⇑	*e*P		**Pb**	**04 33 33.7**	**-1.4**
TGY					*i* S		**Sn**	**04 33 53.1**	**+2.3**
SJMP	**San Jose**	**1.16**	**131**		*e*P		**Pg**	**04 33 35.8**	**-0.3**
SJMP					*e*S		**Sn**	**04 33 52.3**	**+0.5**
BUSP	**Coron**	**1.21**	**181**		*e*P		**Pg**	**04 33 36.9**	**-0.3**
BUSP					*e*S		**Sn**	**04 33 54.5**	**+1.3**
LQP	**Lukban**	**1.55**	**55**		*e*P		Pg	04 33 56.0	+12
LQP					*i* S		**Sn**	**04 34 02.0**	**+0.1**
BOAC	**Boac**	**1.59**	**81**		*e*P		**Pb**	**04 33 42.0**	**-1.3**
BOAC					*e*S		**Sg**	**04 34 04.4**	**-0.7**
OTRP	**Odiongan**	**1.95**	**116**		*e*P		**Pn**	**04 33 46.6**	**-0.3**
OTRP					*e*S		**Sg**	**04 34 19.2**	**+2.6**
ENPP	**El Nido**	**2.15**	**201**		*e*P		**Pb**	**04 33 50.0**	**-2.8**
ENPP					*e*S		**Sb**	**04 34 15.6**	**-3.9**
POLP	**Polilio Island**	**2.24**	**48**		*e*P		**Pn**	**04 33 51.2**	**+0.4**
GQP	**Guinayangan**	**2.26**	**72**	⇓	*e*P		**Pb**	**04 33 52.7**	**-2.0**
GQP					*e*S		**Sn**	**04 34 18.9**	**-0.2**
PCPH	**Palayan**	**2.47**	**20**	⇑	*e*P		**Pn**	**04 33 54.3**	**+0.2**
PCPH					*e*S		**Sn**	**04 34 24.9**	**+0.7**
CUYO	**Cuyo Island**	**2.48**	**162**		*e*P		**Pn**	**04 33 54.1**	**-0.2**
CUYO					*e*S		**Sn**	**04 34 22.7**	**-1.9**
SCZP	**Santa Cruz**	**2.56**	**353**		*e*P		**Pn**	**04 33 56.0**	**+0.9**
SCZP					*e*S		**Sg**	**04 34 34.2**	**-1.8**
BALP	**Baler**	**2.82**	**27**		*e*P		**Pn**	**04 34 00.2**	**+1.3**
BALP					*e*S		**Sn**	**04 34 35.5**	**+2.5**
SMPP	**San Manuel, Pa**	**2.94**	**9**		*e*P		**Pn**	**04 33 59.4**	**-1.1**
SMPP					*e*S		**Sb**	**04 34 38.7**	**-3.6**
RCP	**Roxas**	**2.97**	**124**	⇑	*e*P		**Pb**	**04 34 02.9**	**-3.8**
RCP					*e*S		**Sg**	**04 34 53.5**	**+4.4**
JAP	**San Jose, Anti**	**2.98**	**145**	⇓	*e*P		**Pn**	**04 34 01.4**	**+0.4**
BOLP	**Bolinao**	**3.15**	**355**		*e*P		**Pn**	**04 34 00.7**	**-2.7**
BOLP					*e*S		**Sg**	**04 34 54.3**	**-0.9**
GUIM	**Jordan**	**3.47**	**138**		*e*P		**Pn**	**04 34 06.9**	**-0.9**
PVCP	**Virac**	**3.84**	**84**		*e*P		**Pn**	**04 34 14.9**	**+2.0**
CAUP	**Cauayan**	**4.01**	**22**		*e*P		**Pn**	**04 34 16.6**	**+1.5**
CNOP	**Candoni, Negro**	**4.12**	**145**		*e*P		**Pn**	**04 34 17.5**	**+0.7**
PALP	**Palanan**	**4.37**	**29**		*e*P		**Pn**	**04 34 21.9**	**+1.8**
CNP	**Catarman**	**4.39**	**99**		*e*P		**Pb**	**04 34 30.7**	**-0.3**
SIPP	**Brgy, Tapao**	**4.68**	**3**	⇓	*e*P		Pb	04 34 30.3	-5.6
SIPP					*e*S		**Sb**	**04 35 31.5**	**-0.8**
APYP	**Conner**	**4.71**	**12**		*e*P		**Pn**	**04 34 26.7**	**+1.8**
APYP					*e*S		**Sn**	**04 35 23.4**	**+3.8**
PAGZ	**Pagadian**	**6.18**	**150**		*e*P		**Pn**	**04 34 47.2**	**+2.2**
KCP	**Kidapawan**	**7.81**	**142**	⇓	*e*P		Pn	04 34 56.3	-11
DAV	**Davao City (W)**	**8.07**	**139**	⇓	*e*P		LR	04 38 48.0	
	comp=Z,693nm,21.8s,baz=170,slow=41								
DAV	**Davao City (W)**	**8.07**	**139**	⇓	*e*P		Pn	04 35 19.8	+8.7
KKM	**Kota Kinabalu**	**8.16**	**209**		Pn		Pn	04 35 16.9	+4.5
QIZ	**Qiongzhong**	**11.52**	**301**		P		**Pn**	**04 36 01.0**	**+2.6**
QIZ					S		**Sn**	**04 38 09.9**	**+2.7**
QIZ					pmax		pmax		
	comp=Z,120nm,3.9s								
QIZ					LR		LR		
	comp=N,380nm,10.6s								
QIZ					LR		LR		
	comp=E,520nm,14.1s								
QIZ					LR		LR		
	comp=Z,670nm,12.4s								
DLV	**T Lat**	**11.53**	**265**		Pn		Pn	04 36 03.9	+5.2
SBUM	**Sibu**	**13.31**	**217**				**P**	**04 36 35.1**	**+2.4**
KSM	**Kuching**	**15.25**	**221**				**P**	**04 36 57.3**	**+3.0**
JOW	**Kunigami**	**15.50**	**28**				**P**	**04 36 57.4**	**+0.5**
SLVN	**Son La**	**17.54**	**300**				**P**	**04 37 19.8**	**+0.3**
SIJI	**Sorong**	**17.78**	**141**		P		**P**	**04 37 23.2**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=340,slow=20,SNR=5.3								
WHN	**Wuhan**	**18.07**	**343**	⇓	P		**P**	**04 37 29.3**	**+4.0**
WHN					S		**S**	**04 40 56.2**	**+3.8**
WHN					LR		LR		
	comp=N,1μm,14.7s								
WHN					LR		LR		
	comp=E,2μm,14.9s								
WHN					LR		LR		
	comp=Z,2μm,15.4s								
GYA	**Guiyang**	**18.31**	**318**		P		P	04 37 34.7	+6.6
GYA					pP		pwP	04 37 44.6	+11
GYA					S		**S**	**04 41 01.4**	**+3.8**
GYA					sS		pS	04 41 10.2	-4.3
GYA					SS		**SnSn**	**04 41 17.9**	**+11**
GYA					pmax		pmax		
	comp=Z,240nm,6.5s								
GYA					LR		LR		
	comp=N,410nm,12.1s								
GYA					LR		LR		
	comp=E,490nm,14.7s								
GYA					LR		LR		
	comp=Z,700nm,14.3s								
NJ2	**Nanjing**	**18.78**	**356**	*e*	P		**Pn**	**04 37 35.2**	**+1.6**
NJ2					S		**S**	**04 41 12.4**	**+5.6**
NJ2					pmax		pmax		
	comp=Z,10.0nm,0.5s								
NJ2					pmax		pmax		
	comp=Z,300nm,4.4s								
NJ2					LR		LR		
	comp=N,500nm,20.3s								
NJ2					LR		LR		
	comp=E,880nm,21.0s								
NJ2					LR		LR		
	comp=Z,680nm,23.1s								
PBKT	**Sadao Pong**	**18.90**	**283**		P		**Pn**	**04 37 36.5**	**+1.3**
ENH	**Enshi**	**19.66**	**331**		P		**Pn**	**04 37 44.1**	**-0.1**
FAKI	**Fak Fak**	**19.99**	**143**		P		**Pn**	**04 37 49.0**	**+0.7**
FAKI					IAmb		IAmb	04 37 55.5	
	comp=Z,28nm,1.0s								
KMI	**Kunming**	**20.29**	**308**		P		Pn	04 37 53.1	+1.1
KMI					pP		pwP	04 38 07.6	+12
KMI					sP		sP	04 38 17.8	+24
KMI					S		Sn	04 41 42.7	+2.1
KMI					sS		pS	04 42 06.2	+18
KMI					pmax		pmax		
	comp=Z,8.0nm,1.1s								
KMI					pmax		pmax		
	comp=Z,140nm,6.7s								
KMI					LR		LR		
	comp=N,570nm,14.4s								
KMI					LR		LR		
	comp=E,290nm,16.6s								
KMI					LR		LR		
	comp=Z,470nm,12.6s								
IPM	**Ipoh**	**20.85**	**247**		P		Pn	04 37 57.8	-0.6
KULM	**Kulim**	**20.85**	**250**		P		Pn	04 37 58.4	0.0
KULM					IAmb		IAmb	04 38 00.4	
	comp=Z,52nm,1.3s								
CM31	**Chiang Mai Arr**	**21.12**	**287**		P		**P**	**04 38 01.4**	**+2.6**
CMAR	**Chiang Mai Arr**	**21.12**	**287**		P		**P**	**04 38 00.2**	**+1.5**
	comp=Z,29nm,1.0s,baz=97,slow=8.8,SNR=86								
CMAR					LR		LR	04 46 19.5	
	comp=Z,212nm,18.1s,baz=105,slow=37								
CHTO	**Chiang Mai**	**21.19**	**288**		P		**P**	**04 38 01.1**	**+1.6**
JNU	**Nakatsue**	**22.07**	**24**		P		**P**	**04 38 09.8**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=158,slow=19,SNR=1.5								
XAN	**Xi'an**	**23.13**	**336**		P		**P**	**04 38 19.2**	**-0.9**
XAN					pP		pwP	04 38 27.2	+1.4
XAN					PP		**PnPn**	**04 38 47.7**	**+2.2**
XAN					S		**S**	**04 42 33.3**	**+1.8**
XAN					SS		SS	04 43 32.3	
XAN					pmax		pmax		
	comp=Z,9.0nm,1.0s								
XAN					pmax		pmax		
	comp=Z,84nm,5.7s								
XAN					LR		LR		
	comp=N,540nm,19.4s								
XAN					LR		LR		
	comp=E,780nm,15.3s								
XAN					LR		LR		
	comp=Z,1μm,17.2s								
XAN	**Xi'an**	**23.13**	**336**		P		**P**	**04 38 22.2**	**+2.1**
CD2	**Chengdu**	**23.24**	**322**	⇓	P		**P**	**04 38 21.7**	**+0.4**
CD2					S		**S**	**04 42 28.5**	**-5.0**
CD2					pmax		pmax		
	comp=Z,30nm,0.8s								
CD2					LR		LR		
	comp=N,880nm,13.1s								
CD2					LR		LR		
	comp=E,780nm,16.3s								
CD2					LR		LR		
	comp=Z,1μm,15.1s								
PSI	**Prapat**	**23.47**	**246**		P		**P**	**04 38 25.6**	**+1.8**
	comp=Z,19nm,1.0s,baz=2.2,slow=4.3,SNR=9.2								
PSI					LR		LR	04 47 27.2	
	comp=Z,266nm,21.1s,baz=87,slow=36								
RPSI	**Rantau Prapat**	**23.52**	**245**		P		**P**	**04 38 26.1**	**+1.9**
RPSI					IAmb		IAmb	04 38 27.6	
	comp=Z,24nm,1.0s								
BATI	**Baumata**	**23.53**	**171**		P		**P**	**04 38 25.9**	**+1.7**
	comp=Z,22nm,0.3s,baz=336,slow=4.9,SNR=3.5								
KSRS	**Korea Array**	**25.09**	**15**		P		**P**	**04 38 39.1**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=198,slow=7.7,SNR=1.7								
KSRS					LR		LR	04 49 49.9	
	comp=Z,467nm,18.6s,baz=198,slow=40								
GSI	**Gunungsitoli**	**25.36**	**244**		P		**P**	**04 38 41.1**	**-0.1**
GSI					IAmb		IAmb	04 38 43.5	
	comp=Z,20nm,1.1s								
LZH	**Lanzhou**	**27.12**	**330**	*e*	P		**P**	**04 38 57.6**	**+0.5**
LZH					pP		pwP	04 39 17.0	+14
LZH					sP		sP	04 39 27.6	+27
LZH					S		**S**	**04 43 29.0**	**-6.4**
LZH					sS		sS	04 43 59.3	+20
LZH					SS		**SnSn**	**04 44 47.0**	**+4.7**
LZH					pmax		pmax		
	comp=Z,26nm,1.0s								
LZH					pmax		pmax		
	comp=Z,110nm,4.6s								
LZH					LR		LR		
	comp=N,950nm,12.1s								
LZH					LR		LR		
	comp=E,920nm,12.0s								
LZH					LR		LR		
	comp=Z,970nm,14.2s								
MJAR	**Matsushiro Arr**	**28.27**	**32**		P		**P**	**04 39 08.0**	**+0.7**
	comp=Z,1.4nm,0.9s,baz=226,slow=8.2,SNR=3.2								
HHC	**Hu-ho-hao-te**	**28.55**	**346**	*e*	P		**P**	**04 39 10.4**	**+0.6**
HHC					PP		**PP**	**04 40 09.1**	**-5.2**
HHC					pmax		pmax		
	comp=Z,15nm,0.9s								
HHC					pmax		pmax		
	comp=Z,77nm,5.0s								
HHC					LR		LR		
	comp=N,280nm,15.1s								
HHC					LR		LR		
	comp=E,350nm,15.3s								
HHC					LR		LR		
	comp=Z,280nm,13.4s								
SHL	**Shillong**	**29.34**	**299**		P		**P**	**04 39 16.2**	**-0.9**
CN2	**Changchun**	**30.80**	**7**	*e*	P		**P**	**04 39 30.6**	**+1.1**
CN2					*e*S		**S**	**04 44 25.6**	**-7.2**
CN2					LR		LR		
	comp=N,290nm,20.0s								
CN2					LR		LR		
	comp=E,320nm,24.0s								
CN2					LR		LR		
	comp=Z,350nm,20.0s								
GTA	**Gaotai**	**31.70**	**329**		P		**P**	**04 39 38.6**	**+0.9**
GTA					pP		pwP	04 39 59.2	+16
GTA					sP		sP	04 40 08.6	+27
GTA					pmax		pmax		
	comp=Z,4.0nm,1.4s								
GTA					pmax		pmax		
	comp=Z,91nm,4.7s								
GTA					LR		LR		
	comp=N,480nm,14.5s								
GTA					LR		LR		
	comp=E,710nm,17.4s								
GTA					LR		LR		
	comp=Z,920nm,17.0s								
USRK	**Ussuriysk Ar.**	**32.47**	**16**		LR		LR	04 54 01.2	
	comp=Z,237nm,19.0s,baz=189,slow=38								
ODAN	**Odare**	**33.58**	**299**	*e*	P		**P**	**04 39 54.8**	**+0.3**
	comp=Z,44nm,1.0s								
RAMN	**Ramite**	**34.28**	**299**	*e*	P		**P**	**04 40 00.9**	**+0.3**
JIRN	**Jiri**	**34.84**	**300**	*e*	P		**P**	**04 40 05.9**	**+0.4**
GUN	**Gumba**	**35.17**	**300**	*e*	P		**P**	**04 40 08.6**	**+0.2**
	comp=Z,48nm,0.8s								
PKI	**Pulchoki**	**35.47**	**299**	*e*	P		**P**	**04 40 10.8**	**-0.2**
	comp=Z,64nm,1.2s								
PKIN	**Phulchoki**	**35.49**	**299**	*e*	P		**P**	**04 40 10.6**	**-0.4**
	comp=Z,13nm,0.6s								
DMN	**Daman**	**35.74**	**299**	*e*	P		**P**	**04 40 13.1**	**-0.1**
	comp=Z,74nm,1.2s								
WRA	**Warramunga Arr**	**35.77**	**157**

KK31				PcP	**PcP**	**04 43 35.1**	**-0.4**
KKAR	**Karatay Array**	**51.98**	**315**	IAmb	IAmb	04 42 24.3	
	comp=Z,12nm,1.1s						
BRVK	**Borovoye**	**55.98**	**326**	P	**P**	**04 42 52.4**	**+0.2**
HRA	**Herat**	**56.30**	**303**	P	**P**	**04 42 54.6**	**-0.5**
HRA				IAmb	IAmb	04 42 55.6	
	comp=Z,5.1nm,1.0s						
NRIK	**Noril'sk**	**59.77**	**347**	P	**P**	**04 43 16.5**	**-2.0**
	comp=Z,1.5nm,0.3s,baz=120,slow=4.3,SNR=5.2						
NRIK				LR	LR	05 11 18.1	
	comp=Z,268nm,18.3s,baz=153,slow=38						
GEYT	**Alibeck**	**60.04**	**306**	P	**P**	**04 43 20.9**	**-0.1**
	comp=Z,14nm,1.0s,baz=108,slow=4.8,SNR=23						
GEYT				LR	LR	05 13 05.7	
	comp=Z,96nm,18.5s,baz=130,slow=40						
GYA0B	**ALIBECK ARRAY**	**60.04**	**306**	P	**P**	**04 43 21.3**	**+0.3**
AKTO	**Aktyubinsk**	**62.28**	**320**	P	**P**	**04 43 35.0**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=102,slow=3.6,SNR=4.9						
ATKA	**Atka Island**	**64.73**	**38**	P	**P**	**04 43 49.9**	**-2.1**
RAYN	**Ar Rayn**	**70.99**	**291**	P	**P**	**04 44 32.7**	**+0.6**
AKH	**Akhalkalaki**	**71.46**	**309**	P	**P**	**04 44 35.1**	**+0.3**
AKH				IAmb	IAmb	04 44 36.8	
	comp=Z,13nm,1.2s						
KBZ	**Khabaz**	**71.85**	**312**	P	**P**	**04 44 36.0**	**-0.9**
	comp=Z,3.1nm,0.9s,baz=57,slow=2.9,SNR=6.5						
KBZ				LR	LR	05 19 15.0	
	comp=Z,86nm,20.3s,baz=46,slow=38						
KLMR	**Klimovskoe**	**74.03**	**330**	*e*P	**P**	**04 44 46.5**	**-2.9**
KLMR				AMP		04 44 48.7	
	comp=Z,23nm,1.1s						
GAZ	**Gaziantep**	**76.62**	**305**	P	**P**	**04 45 05.3**	**+0.3**
GAZ				IAmb	IAmb	04 45 18.5	
	comp=Z,7.7nm,1.0s						
ASF	**Jabal al Asfar**	**77.50**	**300**	P	**P**	**04 45 10.5**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=21,slow=0.9,SNR=5.6						
BPAW	**Bear Paw Mtn.**	**77.69**	**27**	P	**P**	**04 45 08.3**	**-2.0**
BRTR	**Keskin Array B**	**79.08**	**308**	P	**P**	**04 45 17.2**	**-1.5**
	comp=Z,0.8nm,0.9s,baz=116,slow=5.7,SNR=5.0						
BRTR				LR	LR	05 24 47.9	
	comp=Z,42nm,19.5s,baz=358,slow=39						
ARCES	**ARCESS Array B**	**79.36**	**339**	P	**P**	**04 45 17.7**	**-1.8**
	comp=Z,1.3nm,0.6s,baz=82,slow=7.2,SNR=12						
ARCES				LR	LR	05 22 52.3	
	comp=Z,112nm,19.9s,baz=78,slow=38						
ILAR	**Eielson Array**	**79.38**	**26**	P	**P**	**04 45 19.0**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=264,slow=3.2,SNR=3.6						
CSS	**Mathiatis**	**80.04**	**304**	P	**P**	**04 45 23.6**	**-0.3**
CSS				IAmb	IAmb	04 45 25.0	
	comp=Z,13nm,1.1s						
FIA1	**FINESS Array S**	**80.47**	**331**	P	**P**	**04 45 23.7**	**-1.9**
FIA1				IAmb	IAmb	04 45 25.5	
	comp=Z,8.5nm,1.1s						
FINES	**FINESS Array B**	**80.47**	**331**	P	**P**	**04 45 24.1**	**-1.5**
	comp=Z,4.1nm,0.9s,baz=62,slow=6.1,SNR=15						
FINES				LR	LR	05 24 20.8	
	comp=Z,190nm,18.2s,baz=76,slow=38						
AKASG	**Malin Array Be**	**80.52**	**320**	P	**P**	**04 45 24.6**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=64,slow=5.4,SNR=9.2						
AKASG				LR	LR	05 23 35.0	
	comp=Z,63nm,19.7s,baz=70,slow=38						
SORM	**Soroca**	**81.52**	**317**	⇑P	**P**	**04 45 29.8**	**-1.7**
CFR	**Carcaliu**	**82.21**	**314**	⇓P	**P**	**04 45 34.4**	**-0.8**
ELL	**Elmali**	**82.47**	**306**	P	**P**	**04 45 34.8**	**-2.0**
TESR	**Tescani**	**82.97**	**316**	⇑P	**P**	**04 45 38.7**	**-0.5**
VRI	**Vrincioaia**	**83.04**	**315**	⇑P	**P**	**04 45 38.4**	**-1.2**
BIZ	**Bicaz**	**83.25**	**317**	⇓P	**P**	**04 45 39.2**	**-1.4**
SUW	**Suwalki**	**83.51**	**324**	P	**P**	**04 45 40.4**	**-1.4**
MLR	**Muntele Rosu**	**83.66**	**315**	⇑P	**P**	**04 45 42.8**	**-0.1**
BURAR	**Bucovina Array**	**83.69**	**317**	⇑P	**P**	**04 45 42.8**	**-0.1**
ARR	**Arges**	**84.59**	**315**	⇑P	**P**	**04 45 47.2**	**-0.3**
KWP	**Kalwaria Pacla**	**84.84**	**320**	*e*P	**P**	**04 45 48.3**	**-0.4**
KWP	**Kalwaria Pacla**	**84.84**	**320**	P	**P**	**04 45 47.7**	**-1.0**
PLVB	**Pleven**	**85.05**	**313**	⇑P	**P**	**04 45 49.0**	**-0.8**
LOT	**Lotru**	**85.16**	**315**	⇑P	**P**	**04 45 50.0**	**-0.5**
BEL	**Belsk**	**85.46**	**322**	*e*P	**P**	**04 45 51.5**	**-0.1**
DRGR		**85.55**	**317**	⇑P	**P**	**04 45 51.9**	**-0.5**
CRVS	**Cervenica-Dubn**	**85.82**	**319**	*e*P	**P**	**04 45 53.5**	**-0.1**
VTS	**Vitosha**	**86.22**	**313**	⇑P	**P**	**04 45 56.5**	**+0.7**
VTS	**Vitosha**	**86.22**	**313**	IAmb	IAmb	04 45 56.4	
	comp=Z,9.3nm,1.4s						
HERR	**Herculane**	**86.23**	**315**	⇑P	**P**	**04 45 55.3**	**-0.3**
SIRR	**Siria**	**86.38**	**317**	⇑P	**P**	**04 45 56.7**	**+0.3**
NIE	**Niedzica**	**86.41**	**320**	*e*P	**P**	**04 45 56.3**	**-0.2**
OJC	**Ojcow**	**86.50**	**321**	*e*P	**P**	**04 45 56.2**	**-0.6**
BZS	**Buzias**	**86.58**	**316**	⇑P	**P**	**04 45 57.2**	**-0.2**
MDVR	**Moldovita**	**86.74**	**315**	⇑P	**P**	**04 45 57.9**	**-0.4**
PSZ	**Piszkesteto**	**87.09**	**318**	⇑P	**P**	**04 45 59.3**	**-0.6**
PSZ	**Piszkesteto**	**87.09**	**318**	P	**P**	**04 45 59.0**	**-0.9**
PSZ				IAmb	IAmb	04 46 00.2	
	comp=Z,10nm,1.3s						
NB2	**NORSAR Subarra**	**87.47**	**333**	P	**P**	**04 45 59.0**	**-2.4**
	comp=Z,1.1nm,0.7s,baz=67,slow=4.6						
NOA	**NORSAR Array B**	**87.47**	**333**	P	**P**	**04 45 59.0**	**-2.4**
	comp=Z,4.7nm,1.0s,baz=68,slow=4.6,SNR=14						
NOA				LR	LR	05 28 29.9	
	comp=Z,171nm,20.1s,baz=70,slow=38						
VYHS	**Vyhne**	**87.60**	**319**	*e*P	**P**	**04 46 01.5**	**-0.8**
MORC	**Moravsky Berou**	**88.02**	**321**	⇑P	**P**	**04 46 03.5**	**-0.9**
MORC	**Moravsky Berou**	**88.02**	**321**	*e*P	**P**	**04 46 03.9**	**-0.4**
MORC	**Moravsky Berou**	**88.02**	**321**	P	**P**	**04 46 03.2**	**-1.1**
MORC					**P**	**04 46 04.2**	**-0.1**
MORC				IAmb	IAmb	04 46 04.8	
	comp=Z,6.8nm,1.1s						
JAVC	**Velka Javorina**	**88.23**	**320**	*e*P	**P**	**04 46 06.0**	**+0.7**
KSP	**Ksiaz**	**88.44**	**322**	*e*P	**P**	**04 46 05.2**	**-1.0**
VRAC	**Vranov**	**88.76**	**320**	*e*P	**P**	**04 46 07.4**	**-0.4**
KRUC	**Moravsky**	**88.96**	**320**	*e*P	**P**	**04 46 08.2**	**-0.5**
BRG	**Berggiesshubel**	**89.83**	**323**	*e*P	**P**	**04 46 12.1**	**-0.7**
	comp=Z,7.4nm,1.0s						
CLL	**Collm**	**90.23**	**323**	*i* P	**P**	**04 46 14.4**	**-0.2**
	comp=Z,8.0nm,1.3s						
CLL				LmH		05 29 00.0	
	comp=N,100nm,21.0s						
CLL				LmH		05 29 00.0	
	comp=E,100nm,21.0s						
CLL	**Collm**	**90.23**	**323**	P	**P**	**04 46 14.7**	**+0.1**
CLL				IAmb	IAmb	04 46 15.3	
	comp=Z,5.5nm,1.2s						
SOKA	**Soboth**	**90.62**	**318**	*e*PcP	**P**	**04 46 15.5**	**-1.1**
	comp=Z,2.1nm,0.8s						
KHC	**Kasperske Hory**	**90.68**	**321**	*e*P	**P**	**04 46 16.2**	**-0.6**
GEC2	**GERESS Array S**	**90.70**	**321**	P	**P**	**04 46 16.1**	**-0.9**
GEC2					**P**	**04 46 16.6**	**-0.3**
GEC2				IAmb	IAmb	04 46 17.0	
	comp=Z,4.3nm,1.1s						
GERES	**GERESS Array B**	**90.70**	**321**	P	**P**	**04 46 15.6**	**-1.4**
	comp=Z,1.8nm,0.9s,baz=59,slow=5.1,SNR=16						
MOA	**Molln**	**90.71**	**320**	*e*PcP	**P**	**04 46 16.1**	**-0.9**
	comp=Z,7.6nm,1.0s,SNR=5.9						
ABTA	**Abfaltersbach**	**92.22**	**319**	*e*P	**P**	**04 46 22.0**	**-2.1**
	comp=Z,3.2nm,1.0s						
CIMO	**Cimolais**	**92.43**	**319**	P	**P**	**04 46 23.5**	**-1.5**
WTTA	**Wattenberg**	**92.58**	**320**	*e*PcP	**P**	**04 46 24.3**	**-1.6**
	comp=Z,12nm,1.0s,SNR=7.6						
WATA	**Walderalm**	**92.59**	**320**	*e*PcP	**P**	**04 46 24.4**	**-1.4**
	comp=Z,7.7nm,0.9s						
SQTA	**Sankt Quirin**	**92.86**	**320**	*e*PcP	**P**	**04 46 26.0**	**-1.0**
	comp=Z,6.2nm,0.8s,SNR=5.0						
MOTA	**Moosalm**	**92.88**	**320**	*e*PcP	**P**	**04 46 25.9**	**-1.3**
	comp=Z,9.6nm,1.0s,SNR=5.9						
FETA	**Feichten**	**93.24**	**320**	*e*PcP	**P**	**04 46 27.4**	**-1.5**
	comp=Z,5.5nm,0.9s,SNR=5.6						
YKA	**Yellowknife Ar**	**93.39**	**22**	P	**P**	**04 46 29.2**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=299,slow=4.1,SNR=4.4						
VNDA	**Vanda**	**93.64**	**172**	LR	LR	05 29 46.7	
	comp=Z,25nm,19.9s,baz=328,slow=36						
FUORN	**Ofenpass-Fuorn**	**93.69**	**320**	P	**P**	**04 46 30.3**	**-0.8**
FUORN					**P**	**04 46 30.6**	**-0.5**
PPT	**Papeete**	**94.10**	**107**	LR	LR	05 21 28.1	
	comp=Z,38nm,20.4s,baz=328,slow=31						

GCG ***08*** *04:51:44.8±0.6, 13°.27N×91°.58W, h24km±90km, MD4.1*
SNET ***08*** *04:51:50.7±1.1, 13°.74N×91°.33W, h13km±408km, ML3.4*

ISC 08 04:51:42.7±3.5, 13°.3N±0°.1×91°.6W±0°.2, h4km±28km, n22, σ1°.45/29, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**1.09**	**3**	*e*P	**Pn**	**04 52 05.4**	**+0.6**
FUG	**Fuego 3**	**1.34**	**35**	*e*P	**Pn**	**04 52 08.7**	**+0.3**
STG3	**Santiaguito 3,**	**1.36**	**3**	*e*P	**Pn**	**04 52 08.4**	**-0.3**
IXG	**Ixpaco**	**1.42**	**54**	*e*P	**Pn**	**04 52 09.5**	**+0.1**
PCG	**Pacaya**	**1.44**	**44**	*e*P	**Pb**	**04 52 10.7**	**+0.4**
NBG	**Las Nubes**	**1.76**	**45**	*e*P	**Pb**	**04 52 16.4**	**+0.7**
NBG				*e*S	**Sn**	**04 52 38.2**	**+1.0**
NUBE	**Las Nubes**	**1.89**	**73**	*e*P	**Pn**	**04 52 17.0**	**+1.2**
NUBE				*e*S	**Sn**	**04 52 38.0**	**-2.1**
NUBE				IAML		04 52 44.5	
	comp=Z,179nm,0.3s						
CEVE	**Cerro Verde**	**2.01**	**76**	*e*P	**Pn**	**04 52 18.7**	**+1.0**
CEVE				*e*S	**Sn**	**04 52 42.2**	**-1.2**
CEVE				IAML		04 52 49.9	
	comp=Z,1μm,0.2s						
SBLS	**San Blas**	**2.02**	**76**	*e*P	**Pb**	**04 52 19.4**	**-0.7**
SNJE	**San Jose**	**2.04**	**75**	*e*P	**Pb**	**04 52 19.8**	**-0.6**
JAYA	**Jayaque - finc**	**2.15**	**81**	*e*P	**Pb**	**04 52 21.5**	**-0.7**
JAYA				*e*S	**Sn**	**04 52 45.4**	**-1.2**
TACO	**Tacachico**	**2.30**	**74**	*e*P	**Pn**	**04 52 23.2**	**+1.8**
BOQS	**Boqueron**	**2.32**	**80**	*e*P	**Pb**	**04 52 24.5**	**-0.7**
BOQS				*e*S	**Sn**	**04 52 51.0**	**0.0**
UEES	**Universidad Ev**	**2.36**	**81**	*e*P	**Pb**	**04 52 24.8**	**-1.0**
SNET	**Serv Nac Est T**	**2.36**	**81**	*e*P	**Pb**	**04 52 24.8**	**-1.0**
SNET				*e*S	**Sn**	**04 52 50.4**	**-1.3**
MTO3	**Montecristo**	**2.44**	**64**	*e*P	**Pn**	**04 52 24.9**	**+1.4**
LFRS	**El Faro**	**2.52**	**83**	*e*P	**Pb**	**04 52 27.4**	**-1.1**
LFRS				*e*S	**Sn**	**04 52 55.7**	**0.0**
LBRS	**Las Brisas**	**2.55**	**81**	*e*P	**Pb**	**04 52 27.6**	**-1.5**
PAVA	**Las Pavas**	**2.65**	**82**	*e*P	**Pb**	**04 52 29.0**	**-1.7**
PAVA				IAML		04 53 09.7	
	comp=Z,164nm,0.5s						
COEB	**Comit de Eme**	**3.02**	**87**	*e*P	**Pn**	**04 52 34.0**	**+2.6**
TECA	**Tecapa**	**3.05**	**87**	*e*P	**Pn**	**04 52 35.1**	**-2.6**
LCND	**La Caada**	**3.64**	**90**	*e*P	**Pn**	**04 52 43.0**	**+3.2**
LCND				IAML		04 53 33.1	
	comp=Z,101nm,0.5s						

ATA ***08*** *05:06:33.0±1.3, 38°.74N×43°.29E, h20km±23km, ML1.7, MW3.5*
ISK ***08*** *05:06:34.0, 38°.69N×43°.09E, h5km, ML2.0/5*

ISC 08 05:06:33.6±1.2, 38°.72N±0°.04×43°.17E±0°.04, h10km±12km, n8, σ0°.79/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.21**	**126**	PG	**Pb**	**05 06 40.8**	**+1.2**
TVAN	**Van**	**0.26**	**136**	*e*P	**Pg**	**05 06 38.6**	**-0.4**
TVAN				*e*S	**Sb**	**05 06 44.4**	**-0.8**
TVAN				IAML		05 06 47.0	
	comp=Z,109nm,0.3s						
GEVA	**Gevas**	**0.41**	**192**	*e*P	**Pb**	**05 06 42.6**	**-0.4**
GEVA				*e*S	**Sb**	**05 06 50.8**	**+1.3**
GEVA				IAML		05 06 53.7	
	comp=Z,28nm,0.7s						
AKDM	**Akdamar-Van**	**0.42**	**201**	PG	**Pg**	**05 06 41.8**	**0.0**
AKDM				SG	**Sg**	**05 06 47.8**	**+0.5**
CLDR	**Caldiran**	**0.72**	**54**	PG	**Pn**	**05 06 49.5**	**-0.5**
TUTA	**Tutak**	**0.74**	**338**	*e*P	**Pb**	**05 06 49.2**	**+0.5**
TUTA				*e*S	**Sb**	**05 06 59.7**	**+0.8**
TUTA				IAML		05 07 04.6	
	comp=Z,28nm,0.3s						
AGRB	**Hanur-Agry**	**0.87**	**351**	PG	**Pn**	**05 06 51.6**	**-0.4**
AGRB				SG	**Sn**	**05 07 04.3**	**-0.5**
GURO	**Guroymak-BITLI**	**0.91**	**260**	PG	**Pg**	**05 06 50.8**	**-0.3**
GURO				SG	**Sg**	**05 07 02.7**	**-0.2**

STR ***08*** *05:20:00.7±0.5, 49°.N×2°.×±°, h11km±5km, MLv1.2/6,*
smi:scs/0.6/LOCSAT earthModelID
smi:scs/0.6/haslach_taup-2.11 preliminary

LDG 08 05:20:00.5±0.1, 49°.14N×8°.15E, h5km, Md1.8/2, MI2.0/16, Error ellipse: s-maj=1.7km s-min=1.3km az=117.0, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTD	**Kalmit**	**0.18**	**346**	Sg	Sg	05 20 06.6	0.0
KTD	**Kalmit**	**0.18**	**346**	Pg	Pg	05 20 03.9	-0.2
LANF	**Langenberg**	**0.28**	**235**	Pg	Pg	05 20 05.9	0.0
LANF	**Langenberg**	**0.28**	**235**	Sg	Sg	05 20 10.1	+0.4
OPP	**Oppenau**	**0.65**	**178**	Pg	Pg	05 20 13.6	+0.7
OPP				Sg	Sb	05 20 23.1	-0.5
ABH	**Alteburg**	**0.84**	**332**	Pg	Pg	05 20 16.2	-0.4
ABH	**Alteburg**	**0.84**	**332**	Sg	Sg	05 20 27.3	-0.2
WLS	**Welschbruch**	**0.90**	**216**	Pg	Pg	05 20 18.1	+0.3
WLS				Sg	Sb	05 20 30.5	-0.5
CDF	**Champ du Feu**	**0.93**	**219**	*e*Pg	Pg	05 20 17.6	-0.8
CDF				*e*Sg	Sg	05 20 31.2	+0.7
	6.3nm,0.4s						
ECH	**Echery**	**1.14**	**216**	Pg	Pg	05 20 22.0	-0.3
ECH				Sg	Sg	05 20 36.4	-0.7
KIZ	**Kirchzarten**	**1.20**	**188**	Sg	Sg	05 20 37.1	-1.8
KIZ	**Kirchzarten**	**1.20**	**188**	Pg	Pg	05 20 22.9	-0.5
HINF	**Hinteralfeld**	**1.58**	**214**	*e*Pn	Pn	05 20 26.2	-3.1
HINF	**Hinteralfeld**	**1.58**	**214**	*e*Pg	Pn	05 20 29.0	-0.3
HINF				*e*Sn	Sn	05 20 46.8	-3.3
HINF				*e*Sg	Sb	05 20 50.8	+0.2
	3.2nm,0.3s						
HAU	**Haudompre**	**1.65**	**227**	*e*Pn	Pn	05 20 27.6	-2.6
HAU	**Haudompre**	**1.65**	**227**	*e*Pg	Pb	05 20 31.5	+0.1
HAU				*e*Sg	Sg	05 20 53.7	+0.1
	2.6nm,0.2s						
PAGF	**Fort de Pagny** baz=73	**1.71**	**251**	*e*Pn	Pn	05 20 28.9	-2.0
PAGF	**Fort de Pagny**	**1.71**	**251**	*e*Pg	Pb	05 20 32.5	+0.1
PAGF				*e*Sn	Sn	05 20 51.8	-1.3
	2.0nm,0.3s						
PAGF				*e*Sg	Sg	05 20 56.9	+1.6
	3.2nm,0.4s						
MEZF	**Maizieres J'vi** baz=75	**2.15**	**254**	*e*Pn	Pn	05 20 35.0	-2.0
MEZF	**Maizieres J'vi**	**2.15**	**254**	*e*Pg	Pb	05 20 40.3	+0.5
MEZF				*e*Sn	Sn	05 21 02.5	-1.5
	2.3nm,0.3s						
SFTF	**Sexfontaines**	**2.27**	**247**	*e*Pn	Pn	05 20 36.4	-2.2
SFTF	**Sexfontaines**	**2.27**	**247**	*e*Pg	Pb	05 20 42.8	+0.9
SFTF				*e*Sn	Sn	05 21 05.3	-1.6
	3.1nm,0.4s						
SFTF				*e*Sg	Sg	05 21 14.2	+0.9
	0.9nm,0.2s						
BAIF	**Baives**	**2.73**	**291**	*e*Pn	Pn	05 20 42.4	-2.5
BAIF	**Baives**	**2.73**	**291**	*e*Pg	Pg	05 20 51.2	-1.5
BAIF				*e*Sg	Sg	05 21 27.4	-0.6
	0.8nm,0.3s						
CABF	**La Chapelle**	**2.89**	**210**	*e*Pn	Pn	05 20 44.2	-3.0
CABF	**La Chapelle**	**2.89**	**210**	*e*Pg	Pb	05 20 53.3	+0.7
CABF				*e*Sn	Sn	05 21 18.4	-4.0
CABF				*e*Sg	Sg	05 21 31.9	-1.4
	0.5nm,0.3s						
LOR	**Lormes**	**3.43**	**238**	*e*Pn	Pn	05 20 52.1	-2.5
LOR	**Lormes**	**3.43**	**238**	*e*Pg	Pb	05 21 03.9	+2.2
LOR				*e*Sn	Sn	05 21 32.2	-3.4
LOR				*e*Sg	Sg	05 21 49.1	-1.5
	1.0nm,0.2s						
SSF	**Saint Saulge**	**3.75**	**238**	*e*Pn	Pn	05 20 56.6	-2.3
SSF	**Saint Saulge**	**3.75**	**238**	*e*Pg	Pb	05 21 09.6	+2.5
SSF				*e*Sg	Sg	05 21 59.0	-1.8
	0.6nm,0.3s						
LPL	**La Plagne**	**3.75**	**195**	*e*Pn	Pn	05 20 55.7	-3.6
LPG	**La Plagne**	**3.77**	**195**	*e*Pn	Pn	05 20 55.9	-3.6
LPG				*e*Sg	Sb	05 21 57.3	+3.6
	0.6nm,0.3s						
SMF	**Signal de Mont**	**3.83**	**231**	*e*P	Pn	05 21 01.0	+0.9
SMF				*e*Sg	Sg	05 22 02.0	-1.4
	1.1nm,0.3s						
MBDF	**Montbardon**	**4.52**	**193**	*e*Sn	Sn	05 21 56.0	-6.6
	1.4nm,0.3s						

MAN 08 05:20:32.4, 18°.94N×121°.03E, h0km, mb4.0, ML2.7, MS2.3, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**1.09**	**169**	*e*P	Pg	05 20 53.7	+0.3
APYP				*e*S	Sn	05 21 10.8	0.0
SIPP	**Brgy, Tapao**	**1.15**	**208**	‖*e*P	Pg	05 20 54.5	0.0
SMPP	**San Manuel, Pa**	**2.80**	**187**	*e*P	Pn	05 21 19.4	+0.9
SMPP				*e*S	Sn	05 21 54.4	+1.4

NIED ***08*** *05:24:00, 39°.10N×141°.80E, h65km, Mw4.9 Best double couple: M₀2.39000×10¹⁶ NP1:φ₅198.00000°, δ53.00000°, λ79.00000°. NP2:φ₅37.00000°, δ38.00000°, λ105.00000°.*
BJI ***08*** *05:24:26.8±0.0, 39°.06N×141°.82E, h70km, mB4.9/58, mb5.1/77, Ms4.3/74, Ms7 4.1/70*
IDC ***08*** *05:24:29.0±0.4, 39°.10N×141°.68E, h64km±3km, mb4.7/31, mb1 4.8/36, mb1mx4.8/44, mbtmp5.0/36, MS3.9/29, Ms1 3.9/29, ms1mx3.8/38, Error ellipse: s-maj=11.0km s-min=8.4km az=91.0*
MOS ***08*** *05:24:28.4±0.9, 39°.24N×141°.68E, h64km, mb5.4/120, Error ellipse: s-maj=5.1km s-min=3.6km az=104.7*
JMA ***08*** *05:24:29.6, 39°.12N×141°.75E, h67km±1km, M5.0 Broadband fault plane solution: P waves. NP1: φ₅56.00000°, δ42.00000°, λ126.00000°. NP2: φ₅191.00000°, δ57.00000°, λ62.00000°. Principal axes: T Plg65.0000°, Azm49.0000°; N Plg23.0000°, Azm208.0000°; P Plg8.0000°, Azm301.0000°;*
JMA Felt IV J1.
GCMT ***08*** *05:24:31.4±0.3, 39°.27N±0°.02×141°.69E±0°.03, h59km±1km, MW5.0/99, Moment Tensor Solution. s58,c66; s99,c131; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_rr2.95±.14; Mθθ-0.52±.11; Mφφ-2.44±.10; Mrθ0.54±.08; Mφθ-1.49±.09; Mφr-1.15±.08; Best double couple: M₀3.36100×10¹⁶ NP1:φ₅46.00000°, δ41.00000°, λ118.00000°. NP2: φ₅191.00000°, δ55.00000°, λ68.00000°. Principal axes: T 3.3770, Plg71.0000°, Azm47.0000°; N -0.0380, Plg18.0000°, Azm204.0000°; P -3.3450, Plg7.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
UNK ***08*** *05:24:32.7, 39°.18N×141°.69E, h89km*
NEIC ***08*** *05:24:33.4±1.6, 39°.16N±0°.06×141°.71E±0°.09, h96km±4km, mb5.2/439, Error ellipse: s-maj=11.4km s-min=8.1km az=123.0*
BGR ***08*** *05:24:33.3±0.0, 39°.89N×142°.58E, h64km±1km, mb5.1*

ISC 08 05:24:29.2±0.2, 39°.13N±0°.02×141°.80E±0°.03, h67km±1km, h67km:pP-P, n1409, σ1°.28/1564, mb5.2/375, 106C-51D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.11**	**244**	⇑P	**Pn**	**05 24 39.5**	**+0.4**
OFUJ				S	**Sn**	**05 24 46.7**	**+0.4**
JKMT	**Kesennumamotoy**	**0.41**	**218**	⇑P	**Pn**	**05 24 41.1**	**+0.3**
JKMT				*e*S	**Sn**	**05 24 49.1**	**-0.2**
MIYJ	**Miyakonagasawa**	**0.45**	**2**	⇑P	**Pn**	**05 24 41.8**	**+0.6**
MIYJ				S	**Sn**	**05 24 50.7**	**+0.7**
JMK	**Ichinoseki**	**0.48**	**249**	⇑P	**Pn**	**05 24 41.6**	**+0.1**
JMK				*e*S	**Sn**	**05 24 50.3**	**-0.3**
JOM	**Ohasama**	**0.52**	**311**	⇓P	**Pn**	**05 24 42.3**	**+0.4**
JOM				S	**Sn**	**05 24 51.5**	**+0.3**
JIO	**Ouri**	**0.76**	**208**	⇑P	**Pn**	**05 24 44.6**	**+0.1**
JIO				S	**Sn**	**05 24 55.3**	**-0.6**
JTH	**Tanohata**	**0.81**	**4**	⇓P	**Pn**	**05 24 45.9**	**+0.8**
JTH				S	**Sn**	**05 24 57.7**	**+0.8**
JIKH	**Ishinomakikobu**	**0.86**	**198**	⇑P	**Pn**	**05 24 45.7**	**0.0**
JIKH				S	**Sn**	**05 24 57.4**	**-0.6**
JOFO	**Osakifurukawao**	**0.87**	**233**	⇑P	**Pn**	**05 24 46.1**	**+0.2**
JSZI	**Iwateshizukuis**	**0.90**	**313**	⇓P	**Pn**	**05 24 46.3**	**+0.1**
JKZ	**Kuzumaki**	**0.93**	**337**	⇓P	**Pn**	**05 24 47.1**	**+0.5**
JRG	**Rokugo**	**0.94**	**287**	⇓P	**Pn**	**05 24 46.7**	**-0.1**
JRG				*e*S	**Sn**	**05 24 59.7**	**-0.1**
JKEN	**Kujiedanarisaw**	**1.08**	**356**	⇓P	**Pn**	**05 24 49.1**	**+0.6**
JYK	**Kaneyama**	**1.14**	**260**	⇓P	**Pn**	**05 24 49.6**	**+0.3**
JYK				S	**Sn**	**05 25 04.7**	**+0.4**
JOU	**Okura**	**1.17**	**230**	⇑P	**Pn**	**05 24 49.8**	**+0.1**
JOU				S	**Sn**	**05 25 04.8**	**-0.2**
JANG	**Nango**	**1.26**	**350**	⇓P	**Pn**	**05 24 51.1**	**+0.2**
JANG				*e*S	**Sn**	**05 25 08.0**	**+0.9**
JYW	**Yuwa**	**1.30**	**289**	⇓P	**Pn**	**05 24 51.7**	**+0.4**
JYW				S	**Sn**	**05 25 09.0**	**+1.0**
JAH	**Hinai**	**1.39**	**320**	⇓P	**Pn**	**05 24 53.3**	**+0.8**
JYYZ	**Yamagatayuza**	**1.46**	**266**	⇓P	**Pn**	**05 24 54.4**	**+1.0**
JMM	**Marumori**	**1.49**	**212**	⇑P	**Pn**	**05 24 53.5**	**-0.4**
JMM				S	**Sn**	**05 25 11.8**	**-0.6**
JMST	**Minamisoumatoc**	**1.57**	**207**	⇑P	**Pn**	**05 24 54.7**	**-0.3**
JYS	**Shirataka**	**1.63**	**237**	⇑P	**Pn**	**05 24

comp=N,126nm,0.2s
YUK pmax pmax
comp=Z,463nm,0.2s
YUK pmax pmax
comp=E,88nm,0.1s
YUK pmax pmax
comp=Z,625nm,1.1s
YUK smax smax
comp=N,3µm,0.6s
YUK smax smax
comp=E,4µm,0.6s
TSUJ Tsu 2 6.17 226 P **Pn 05 26 00.9 +3.3**
JHJ Hachijo jima 2 6.22 196 P **Pn 05 25 57.1 -1.1**
comp=E,38nm,0.3s,baz=147,slow=22,SNR=18
JHJ S **Sn 05 27 05.2 -2.7**
comp=E,296nm,0.3s,baz=270,slow=23,SNR=6.9
JHJ2 Mitsune 6.22 196 Pn **Pn 05 25 57.0 -1.3**
JMMH Miemihama 7.05 223 P **Pn 05 26 11.2 +1.5**
TEY Ternei 7.05 328⇑*iP* **Pn 05 26 12.8 +3.2**
TEY pmax pmax
comp=E,200nm,1.1s
TEY pmax pmax
comp=N,400nm,0.9s
TEY pmax pmax
comp=Z,400nm,0.9s
TEY pmax pmax
comp=N,370nm,0.7s
TEY pmax pmax
comp=E,200nm,0.7s
TEY pmax pmax
comp=Z,350nm,0.7s
TEY pmax pmax
comp=N,970nm,1.3s
TEY pmax pmax
comp=Z,1µm,1.3s
TEY pmax pmax
comp=E,720nm,1.1s
KUR Kuril'sk 7.58 34 *eP* **Pn 05 26 17.0 +0.1**
KUR *eS* **Sn 05 27 36.2 -5.0**
KUR pmax pmax
comp=Z,187nm,0.6s
KUR pmax pmax
comp=N,67nm,0.4s
KUR pmax pmax
comp=E,47nm,0.8s
KUR smax smax
comp=E,422nm,0.3s
KUR smax smax
comp=N,228nm,0.2s
YSS Yuzh-Sakhalins 7.85 5⇑*eP* **Pn 05 26 20.5 -0.1**
YSS *eS* **Sn 05 27 44.6 -3.2**
YSS pmax pmax
comp=Z,70nm,1.2s
YSS pmax pmax
comp=N,70nm,1.3s
YSS pmax pmax
comp=Z,400nm,4.7s
YSS smax smax
comp=N,300nm,2.7s
YSS smax smax
comp=E,500nm,3.4s
YSS MLR MLR
comp=Z,600nm,13.0s
YSS MLR MLR
comp=N,500nm,16.0s
YSS MLR MLR
comp=E,600nm,14.0s
YSS Yuzh-Sakhalins 7.85 5 Pn **Pn 05 26 21.7 +1.1**
VLA Vladivostok 8.47 301*d iP* **Pn 05 26 29.7 +0.6**
MSHR Mys Shultsa 8.77 297*de*P **Pn 05 26 34.5 +1.4**
USA0B Ussuriysk Arra 8.92 308*de*P **Pn 05 26 36.4 +1.3**
USA0B Ussuriysk Arra 8.92 308 Pn **Pn 05 26 36.9 +1.8**
USRK Ussuriysk Ar. 8.92 308 P **Pn 05 26 35.1 -0.1**
baz=116,slow=18,SNR=184
USRK LR LR 05 30 02.6
comp=E,558nm,18.1s,baz=89,slow=38
MDJ Mudanjiang 10.62 305 P **Pn 05 27 00.8 +2.4**
MDJ S **Sn 05 28 54.6 -1.0**
MDJ pmax pmax
comp=E,250nm,1.1s
MDJ pmax pmax
comp=E,510nm,3.9s
MDJ LR LR
comp=E,880nm,13.4s
MDJ LR LR
comp=E,660nm,19.8s
MDJ Mudanjiang 10.62 305 Pn **Pn 05 27 01.5 +3.1**
JNU Nakatsue 10.67 239 P **Pn 05 27 00.9 +1.7**
comp=E,4.1nm,0.3s,baz=205,slow=2.4,SNR=20
JNU LR LR 05 31 29.2
comp=E,450nm,18.9s,baz=55,slow=40
JNU Nakatsue 10.67 239 Pn **Pn 05 27 01.8 +2.6**
KSRS Korea Array 11.03 266 P **Pn 05 27 04.8 +0.8**
comp=E,3.9nm,0.3s,baz=72,slow=13,SNR=70
KSRS S **Sn 05 29 10.7 +5.0**
comp=E,0.7nm,0.3s,baz=68,slow=25,SNR=5.0
KSRS LR LR 05 31 03.8
comp=E,589nm,18.4s,baz=90,slow=36
KS19 Wonju Array Si 11.07 266 **Pn 05 27 07.6 +3.0**
TYV Tymovskoe 11.75 3 *eP* Pn 05 27 24.6 +11
TYV pmax pmax
comp=Z,15nm,0.9s
TYV MLR MLR
comp=Z,500nm,14.0s
TJN Taejon 11.75 261*de*P **Pn 05 27 16.4 +2.5**
JCJ Chichijima 12.01 178 Pn **Pn 05 27 13.8 -3.6**
GRNR Gornyy 12.24 344⇓*iP* **Pn 05 27 21.8 +1.3**
GRNR *eS* **Sn 05 29 38.8 +3.7**
GRNR pmax pmax
comp=Z,4.0nm,0.7s
GRNR smax smax
comp=N,7.0nm,0.6s
GRNR MLR MLR
comp=E,340nm,19.0s
GRNR MLR MLR
comp=N,310nm,16.0s
GRNR MLR MLR
comp=Z,280nm,19.0s
CN2 Changchun 13.12 296 *eP* **Pn 05 27 32.5 +0.1**
CN2 *es*P P 05 27 52.4 +12
CN2 *eS* **Sn 05 29 55.1 -1.3**
CN2 pmax pmax
comp=Z,40nm,1.2s
CN2 pmax pmax
comp=Z,700nm,3.0s
CN2 LR LR
comp=Z,360nm,12.0s
CN2 LR LR
comp=Z,370nm,19.0s
CN2 LR LR
comp=Z,510nm,20.0s
SNY Shenyang 14.13 287⇑P **Pn 05 27 46.6 +0.7**
SNY pmax pmax
comp=Z,16nm,0.8s
SNY LR LR
comp=Z,280nm,15.5s
SNY LR LR
comp=Z,360nm,20.6s
SNY LR LR
comp=Z,910nm,27.0s
SKR Severo-Kuril's 15.34 36⇑*eP* **Pn 05 28 02.5 +1.0**
DL2 Dalian 15.68 276 P **Pn 05 28 06.7 +0.8**
DL2 sP **pP 05 28 23.3 +0.7**
DL2 S **Sn 05 31 01.8 +3.1**
DL2 pmax pmax
comp=Z,100nm,1.2s
DL2 pmax pmax
comp=Z,380nm,3.7s
DL2 LR LR
comp=Z,550nm,12.3s
DL2 LR LR
comp=Z,530nm,17.1s
DL2 LR LR
comp=Z,580nm,16.9s
JOW Kunigami 16.68 227 P **Pn 05 28 19.1 +0.5**
comp=Z,0.3nm,0.3s,baz=98,slow=17,SNR=6.4
JOW Kunigami 16.68 227 **P 05 28 19.6 -0.3**
JOW P P 05 28 27.3 +7.4
ZEA Zeya 17.67 331 *eP* **Pn 05 28 28.8 -1.7**
ZEA pmax pmax
comp=N,52nm,0.8s
ZEA pmax pmax
comp=E,21nm,0.8s
ZEA pmax pmax
comp=Z,56nm,0.8s
ZEA MLR MLR
comp=Z,600nm,15.0s
ZEA MLR MLR
comp=E,400nm,14.0s
ZEA MLR MLR
comp=N,600nm,16.0s
PEA0B Petropavlovsk- 17.74 33⇓*eP* **P 05 28 31.4 0.0**
PEA0B Petropavlovsk- 17.74 33 P **P 05 28 29.5 -1.9**
PETK Petropavlovsk- 17.74 33 P **P 05 28 28.8 -2.6**
comp=N,0.2nm,0.3s,baz=195,slow=11,SNR=8.1
PETK LR LR 05 35 00.7
comp=N,185nm,21.0s,baz=236,slow=35
SSE Sheshan 18.64 251 P **P 05 28 41.6 +0.1**
SSE S **S 05 32 06.1 -4.0**
SSE pmax pmax
comp=N,9.0nm,1.0s
SSE LR LR
comp=N,240nm,20.6s
SSE LR LR
comp=N,110nm,13.8s
SSE Sheshan 18.64 251 **Pn 05 28 44.0 +1.5**
SSE IAmb IAmb 05 28 45.6
comp=Z,212nm,1.4s
TIA Tai'an 19.73 269 P **P 05 28 51.9 -1.5**
TIA pP **pP 05 29 08.0 +0.5**
TIA S **S 05 32 24.2 -8.0**
TIA SS SS 05 33 00.2
TIA pmax pmax
comp=Z,11nm,0.6s
TIA pmax pmax
comp=Z,27nm,3.5s
TIA LR LR
comp=Z,170nm,10.0s
TIA LR LR
comp=Z,340nm,15.0s
TIA LR LR
comp=Z,450nm,11.4s
BJT Baijiatuau 19.76 281 P **P 05 28 51.9 -1.7**
BJT pmax pmax
comp=Z,61nm,0.8s
BJT Baijiatuau 19.76 281 P **P 05 28 51.9 -1.7**
NJ2 Nanjing 19.92 256 *eP* **P 05 28 55.1 -0.3**
NJ2 pmax pmax
comp=Z,130nm,0.8s
NJ2 LR LR
comp=Z,420nm,13.7s
NJ2 LR LR
comp=Z,440nm,15.6s
NJ2 LR LR
comp=Z,700nm,22.7s
MA2 Magadan 21.24 13 P **P 05 29 09.3 -0.2**
comp=Z,60nm,0.8s,baz=192,slow=9.7,SNR=11
MA2 Magadan 21.24 13*de*P **P 05 29 10.2 +0.8**
MA2 pmax pmax
comp=Z,104nm,1.3s
MA2 Magadan 21.24 13 P **P 05 29 10.3 +0.8**
MA2 IAmb IAmb 05 29 11.1
comp=Z,106nm,1.0s
YHNB Yeheng 22.48 236 P **P 05 29 20.6 -2.5**
NACB Ninganchiao 22.69 235 P **P 05 29 22.4 -2.8**
TIY Taiyuan 23.01 276 *eP* **P 05 29 29.7 +1.2**
TIY pP **pP 05 29 44.6 +1.7**
TIY S **S 05 33 28.3 -5.5**
TIY pmax pmax
comp=Z,140nm,3.5s
TIY LR LR
comp=Z,210nm,13.5s
TIY LR LR
comp=Z,290nm,12.5s
TIY LR LR
comp=Z,460nm,15.1s
HHC Hu-ho-hao-te 23.18 284 P **P 05 29 28.6 -1.5**
HHC pP pP 05 29 46.7 +1.9
HHC PP **PnPn 05 30 01.5 +3.2**
HHC S **S 05 33 28.1 -8.5**
HHC pmax pmax
comp=Z,34nm,0.9s
HHC pmax pmax
comp=Z,95nm,3.7s
HHC LR LR
comp=Z,170nm,11.6s
HHC LR LR
comp=Z,290nm,12.3s
HHC LR LR
comp=Z,350nm,14.9s
SSLB Suanglung 23.37 235 P **P 05 29 29.1 -2.9**
YULB Yu-li 23.44 234 P **P 05 29 28.7 -3.9**
TPUB Ta-pu 23.93 235 P **P 05 29 34.6 -2.5**
TPUB IAmb IAmb 05 29 53.1
comp=Z,61nm,0.8s
TWG Pinlang 24.00 233 P **P 05 29 37.2 -0.5**
WHN Wuhan 24.03 258⇓*iP* **P 05 29 37.4 -0.5**
WHN S S 05 33 39.5 -11
WHN LR LR
comp=Z,880nm,14.2s
WHN LR LR
comp=Z,480nm,11.2s
WHN LR LR
comp=Z,1µm,20.3s
YAK Yakutsk 24.10 346 P **P 05 29 36.9 -1.3**
comp=Z,74nm,0.6s,baz=41,slow=0.9,SNR=22
YAK Yakutsk 24.10 346 P **P 05 29 37.1 -1.1**
YAK pmax pmax
comp=Z,124nm,0.6s
YAK Yakutsk 24.10 346 P **P 05 29 37.1 -1.1**
YAK **P 05 29 38.6 +0.4**
BTO Baotou 24.37 284 *eP* **P 05 29 40.8 -0.2**
BOD Bodaibo 25.95 325 *eP* **P 05 29 54.6 -0.4**
BOD pmax pmax
comp=Z,34nm,0.8s
ULN Ulaanbaatar 26.49 301⇓*eP* **P 05 30 01.2 +1.0**
ULN pmax pmax
comp=Z,25nm,1.3s
ULN Ulaanbaatar 26.49 301 P **P 05 30 01.3 +1.0**
ULN **P 05 30 01.6 +1.4**
XAN Xi'an 26.79 269 P **P 05 30 03.5 +0.6**
XAN PP **PnPn 05 30 55.4 +7.7**
XAN S **S 05 34 37.9 +3.6**
XAN pmax pmax
comp=Z,26nm,0.8s
XAN pmax pmax
comp=Z,86nm,3.5s
XAN LR LR
comp=Z,320nm,16.9s
XAN LR LR
comp=Z,270nm,14.2s
XAN LR LR
comp=Z,390nm,25.0s
XAN Xi'an 26.79 269 P **P 05 30 03.6 +0.6**
XAN pmax pmax
comp=Z,26nm,0.7s
XAN Xi'an 26.79 269 P **P 05 30 03.6 +0.6**
SONM Songino Array 26.93 300 P **P 05 30 03.3 -0.8**
comp=Z,8.6nm,0.8s,baz=116,slow=9.3,SNR=19
SONM pPcP 05 33 43.1
comp=Z,4.1nm,0.6s,baz=124,slow=2.6,SNR=8.0
SONM ScP **ScP 05 36 58.7 0.0**
comp=Z,1.5nm,0.8s,baz=114,slow=3.7,SNR=4.3
SONM LR LR 05 40 51.4
comp=Z,319nm,21.2s,baz=71,slow=37
ENH Enshi 27.88 261 P **P 05 30 11.3 -1.4**
H11N2 WAKE ISLAND Hy 29.02 125 T T 06 00 52.2
baz=317,slow=75,SNR=9352
H11N1 WAKE ISLAND Hy 29.03 125 T T 06 00 52.0
baz=317,slow=75,SNR=9989
H11N3 WAKE ISLAND Hy 29.04 125 T T 06 00 52.7
baz=317,slow=75,SNR=9650
TLY Talaya 29.23 308 P **P 05 30 24.4 -0.1**
comp=Z,3.7nm,0.5s,baz=108,slow=5.9,SNR=5.7
TLY LR LR 05 42 15.5
comp=Z,325nm,20.1s,baz=104,slow=36
TLY Talaya 29.23 308 *eP* **P 05 30 24.3 -0.2**
TLY *e* 05 31 25.2
TLY *eS* **S 05 35 18.8 +6.5**
TLY *eSS* **ScP 05 37 01.2 -4.5**
TLY pmax pmax
comp=Z,18nm,1.1s
TLY MLR MLR
comp=Z,457nm,16.0s
TLY Talaya 29.23 308 P **P 05 30 24.3 -0.2**
ZAK Zakamensk 29.26 305 *eP* **P 05 30 23.8 -1.0**
ZAK *e* 05 33 28.9
ZAK pmax pmax
comp=Z,7.0nm,1.0s
ZAK pmax pmax
comp=Z,6.0nm,1.1s
H11S1 WAKE ISLAND Hy 29.80 126 T T 06 01 47.6
baz=318,slow=76,SNR=1488
H11S3 WAKE ISLAND Hy 29.80 127 T T 06 01 47.8
baz=318,slow=76,SNR=3299
H11S2 WAKE ISLAND Hy 29.82 127 T T 06 01 48.9
baz=318,slow=76,SNR=2156
LZH Lanzhou 30.08 276 *eP* **P 05 30 32.9 +0.6**
LZH pP sP 05 30 54.5 -1.9
LZH PP **PP 05 31 37.4 -3.7**
LZH *eS* **S 05 35 22.4 -3.7**
LZH sS sS 05 35 57.8 +4.0
LZH SS **ScP 05 37 06.7 -2.2**
LZH pmax pmax
comp=Z,49nm,1.0s
LZH pmax pmax
comp=Z,180nm,4.6s
LZH LR LR
comp=Z,290nm,13.0s
LZH LR LR
comp=Z,430nm,13.1s
LZH LR LR
comp=Z,590nm,16.3s
ADK Adak 31.33 52 P **P 05 30 43.2 +0.3**
ADK pmax pmax
comp=Z,29nm,1.1s
ADK Adak 31.33 52 P **P 05 30 43.1 +0.3**
GYA Guiyang 31.92 257 P **P 05 30 47.9 -0.7**
GYA sP sP 05 31 19.1 +6.4
GYA PcP **PcP 05 33 37.7 +0.1**
GYA S **S 05 35 50.2 -4.9**
GYA SS **SnSn 05 37 52.6 +3.2**
GYA pmax pmax
comp=Z,39nm,0.8s
GYA pmax pmax
comp=Z,92nm,3.5s
GYA LR LR
comp=Z,180nm,10.9s
GYA LR LR
comp=Z,240nm,17.3s
GYA LR LR
comp=Z,240nm,17.3s
BILL Bilibino 31.93 17*c iP* **P 05 30 48.3 +0.2**
BILL *e**PP **pP 05 30 59.8 -4.5**
BILL *e**SP **sP 05 31 16.4 +4.2**
BILL 05 33 37.0
BILL pmax pmax
comp=Z,32nm,1.3s
BILL MLR MLR
comp=Z,106nm,16.0s
BILL Bilibino 31.93 17 P **P 05 30 48.4 +0.3**
CD2 Chengdu 32.03 267 P **P 05 30 50.7 +1.3**
CD2 S **S 05 35 55.7 -0.8**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 LR LR
comp=Z,350nm,12.3s
CD2 LR LR
comp=Z,390nm,15.7s
CD2 LR LR
comp=Z,530nm,16.7s
GTA Gaotai 32.29 284 P **P 05 30 52.2 +0.5**
GTA PcP **PcP 05 33 39.5 +1.1**
GTA ScP **ScP 05 37 16.4 +0.2**
GTA PcS **PcS 05 37 23.5 0.0**
GTA ScS **ScS 05 41 13.7 -1.7**
GTA pmax pmax
comp=Z,13nm,1.3s
GTA pmax pmax
comp=Z,68nm,4.8s
GTA LR LR
comp=Z,230nm,19.1s
GTA LR LR
comp=Z,480nm,18.7s
GTA LR LR
comp=Z,580nm,19.6s
ATKA Atka Island 32.89 52 P **P 05 30 56.6 0.0**
TIXI Tiksi 33.25 353*ce*P **P 05 30 58.6 -0.9**
TIXI pmax pmax
comp=Z,15nm,2.5s
TIXI MLR MLR
comp=Z,138nm,17.0s
TIXI Tiksi 33.25 353 P **P 05 30 57.4 -2.1**
TIXI **P 05 30 58.4 -1.2**
QIZ Qiongzhong 34.10 243 P **P 05 31 08.4 +0.9**
QIZ S **S 05 36 28.7 0.0**
QIZ LR LR
comp=Z,250nm,14.3s
QIZ LR LR
comp=Z,340nm,14.7s
QIZ LR LR
comp=Z,340nm,15.5s
KMI Kunming 35.62 259 P **P 05 31 20.5 -0.3**
KMI pP pP 05 31 36.9 -0.3
KMI sP sP 05 31 44.5 -0.5
KMI S **S 05 36 54.8 +2.3**
KMI sS sS 05 37 22.6 +2.2
KMI pmax pmax
comp=Z,29nm,1.1s
KMI pmax pmax
comp=Z,86nm,4.4s
KMI LR LR
comp=Z,170nm,23.3s
KMI LR LR
comp=Z,250nm,17.6s
KMI LR LR
comp=Z,380nm,24.7s
KMI Kunming 35.62 259 P **P 05 31 21.7 +0.9**
KMI pmax pmax
comp=Z,32nm,0.8s
KMI Kunming 35.62 259 P **P 05 31 21.7 +0.9**
KMI IAmb IAmb 05 31 26.2
comp=Z,32nm,0.8s
KRAR Krasnoyarsk 36.19 314⇑*eP* **P 05 31 26.7 +1.7**
SLVN Son La 36.91 252 P **P 05 31 32.3 +0.7**
DGZ Jazzator, Alta 39.44 304*d iP* **P 05 31 53.6 +0.8**
DGZ pmax pmax
comp=Z,56nm,0.8s
ANM Nome 39.66 33 P **P 05 31 54.7 +0.6**
ANM pmax pmax
comp=Z,131nm,1.5s
ANM Nome 39.66 33 P **P 05 31 54.7 +0.6**
DLV T Lat 40.06 237 P **P 05 31 58.3 0.0**
DLV IAmb IAmb 05 32 09.1
comp=Z,28nm,1.1s
WMQ Urumqi 40.20 295 *eP* **P 05 32 01.1 +2.1**
WMQ S **S 05 38 00.4 -0.7**
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ pmax pmax
comp=Z,27nm,3.7s
WMQ LR LR
comp=Z,110nm,20.1s
WMQ LR LR
comp=Z,140nm,19.7s
WMQ LR LR
comp=Z,270nm,25.7s
KKM Kota Kinabalu 40.23 222 **P 05 31 57.2 -2.3**
TNTI Ternate 40.40 203 P **P 05 32 01.1 +0.4**
ZAA0 Zalesovo Array 40.76 311 P **P 05 32 02.9 -0.5**
ZAA0 **P 05 32 03.1 -0.3**
ZAA0 IAmb IAmb 05 32 05.9
comp=Z,41nm,0.8s
ZALV Zalesovo Beam 40.76 311 P **P 05 32 03.4 0.0**
comp=Z,54nm,0.7s,baz=89,slow=8.0,SNR=126
ZALV pP **pP 05 32 20.2 +0.1**
comp=Z,36nm,0.6s,baz=91,slow=7.4,SNR=12
ZALV PcP **PcP 05 34 03.4 0.0**
comp=Z,18nm,0.7s,baz=113,slow=3.5,SNR=6.5
ZALV pPcP 05 34 21.9
comp=Z,12nm,0.4s,baz=96,slow=3.4,SNR=9.2
ZALV ScP **ScP 05 37 46.9 -0.1**
comp=Z,3.3nm,1.0s,baz=85,slow=3.3,SNR=3.5
ZALV LR LR 05 49 09.6
comp=Z,182nm,21.2s,baz=101,slow=36
SMPI Sarmi 41.02 185 P **P 05 32 06.0 +0.2**
comp=Z,2µmcomp=Z,21nm,1.3s
ZSN Zaisan 41.44 301⇓*iP* **P 05 32 09.9 +0.7**
comp=Z,22nm,1.0s,baz=301
ZSN *eS* **S 05 38 20.2 +0.9**
baz=301
ZSN Zaisan 41.44 301*d iP* **P 05 32 09.8 +0.7**
ZSN *eS* **S 05 38 20.2 +0.9**
ZSN pmax pmax
comp=Z,22nm,1.0s
JAY Jayapura 41.45 182 P **P 05 32 09.5 0.0**
comp=Z,230nmcomp=Z,15nm,1.2s
NRIK Noril'sk 41.50 334 P **P 05 32 09.0 -0.2**

comp=Z,6.9nm,0.5s,baz=108,slow=8.5,SNR=13
NRIK LR LR 05 50 30.3

comp=Z,351nm,18.8s,baz=104,slow=38
RDOG Red Dog Mine 41.51 28 P **P** **05 32 09.6 +0.3**
GENI Genyem 41.54 182 P **P** **05 32 10.7 +0.5**
comp=Z,97nm,0.7s
CNBA Chernabura Isl 41.67 48 P **P** **05 32 11.0 +0.2**
KMSI Cibinong 41.69 207 P **P** **05 32 12.3 +0.9**
comp=Z,236nm,0.7s
PBKT Sadao Pong 42.05 249 P **P** **05 32 14.0 -0.3**
CHTO Chiang Mai 42.13 254 P **P** **05 32 15.1 +0.1**
CHTO pmax pmax

comp=Z,34nm,0.7s
CHTO Chiang Mai 42.13 254 P **P** **05 32 15.1 +0.1**
CHTO **P** **05 32 15.5 +0.5**
CHTO IAmb IAmb 05 32 23.4

comp=Z,34nm,0.7s
CM31 Chiang Mai Arr 42.35 253 P **P** **05 32 16.6 -0.2**
CMAR Chiang Mai Arr 42.35 253 P **P** **05 32 16.5 -0.3**
comp=Z,4.4nm,0.7s,baz=45,slow=6.1,SNR=19
CMAR PcP **PcP** **05 34 09.4 +0.2**
comp=Z,4.5nm,0.8s,baz=5.1,slow=1.6,SNR=6.2
CMAR pPcP 05 34 28.5
comp=Z,7.1nm,0.9s,baz=22,slow=2.8,SNR=9.0
CMAR LR LR 05 53 17.8

comp=Z,137nm,18.1s,baz=174,slow=41
LSA Lhasa 42.36 273 P **P** **05 32 15.2 -2.1**
LSA pmax pmax

comp=Z,16nm,0.8s
LSA Lhasa 42.36 273 P **P** **05 32 15.2 -2.1**
MRSI Marisa 42.55 210 P **P** **05 32 19.0 +0.7**
comp=Z,781nmcomp=Z,46nm,0.7s
FAKI Fak Fak 42.76 194 P **P** **05 32 20.3 +0.2**
comp=Z,37nm,0.9s
FAKI Fak Fak 42.76 194 P **P** **05 32 20.2 +0.2**
MK31 Makanchi Array 43.29 300 *i* P **P** **05 32 23.9 -0.3**
MK31 Makanchi Array 43.29 300 P **P** **05 32 24.2 0.0**
MKAR Makanchi Array 43.29 300 P **P** **05 32 24.1 0.0**
comp=Z,63nm,0.8s,baz=84,slow=8.0,SNR=171
MKAR ScP **ScP** **05 37 57.0 -0.4**
comp=Z,2.3nm,0.9s,baz=87,slow=5.1,SNR=4.0
MKAR LR LR 05 51 00.1

comp=Z,228nm,21.6s,baz=96,slow=37
MAKZ Makanchi 43.50 300 P **P** **05 32 25.7 -0.1**
MAKZ pmax pmax

comp=Z,55nm,1.0s
MAKZ Makanchi 43.50 300 P **P** **05 32 25.7 -0.1**
MAKZ **P** **05 32 25.8 0.0**
MAKZ IAmb IAmb 05 32 28.1

comp=Z,55nm,0.9s
MPSI Mapaga 43.50 213 P **P** **05 32 26.7 +0.6**
comp=Z,35nm,0.9s
SHL Shillong 43.77 267 P **P** **05 32 28.3 -0.1**
SHL pmax pmax

comp=Z,26nm,0.6s
SHL Shillong 43.77 267 P **P** **05 32 28.3 -0.1**
SHL IAmb IAmb 05 32 36.3

comp=Z,26nm,0.6s
SEM Semipalatinsk 43.94 306 *e*P **P** **05 32 29.6 0.0**
comp=Z,6.0nm,0.8s,baz=306
SEM *es*P **sP** **05 32 55.3 +1.1**
baz=306
SEM Semipalatinsk 43.94 306 *e*P **P** **05 32 29.5 0.0**
SEM *e**SP **sP** **05 32 55.2 +1.1**
SEM pmax pmax

comp=Z,6.0nm,0.8s
KURK Kurchatov 44.90 307 *d i*P **P** **05 32 36.9 0.0**
KURK pmax pmax

comp=Z,65nm,0.7s
KURK Kurchatov 44.90 307 P **P** **05 32 37.0 0.0**
KURBB Kurchatov Arra 44.98 306 S **S** **05 39 08.3 -2.5**
comp=Z,1.0nm,0.9s,baz=59,slow=11,SNR=3.6
KURBB Kurchatov Arra 44.98 306 P **P** **05 32 36.9 -0.6**
KDAK Kodiak Island 45.35 43 P **P** **05 32 41.0 +0.6**
KDAK pmax pmax

comp=Z,69nm,0.9s
KDAK Kodiak Island 45.35 43 P **P** **05 32 41.0 +0.6**
SBUM Sibu 45.37 224 P pP 05 32 58.0 +0.1
PDGK Podgornoye 46.09 296 P **P** **05 32 46.0 -0.6**
TAPN Taplejung 46.13 272 *e*P **P** **05 32 47.5 +0.2**
comp=Z,15nm,0.5s
SHLS Shalkode 46.16 296 *e*P **P** **05 32 45.1 -2.1**
comp=Z,11nm,0.9s,baz=296
SHLS Shalkode 46.16 296 *e*P **P** **05 32 45.0 -2.1**
SHLS pmax pmax

comp=Z,11nm,0.9s
TDK Taldyqorghan 46.36 299 *e*P **P** **05 32 49.9 +1.3**
comp=Z,23nm,0.9s,baz=299
TDK *e*S **S** **05 39 29.6 -1.4**
baz=299
TDK LR LR 05 52 03.7

comp=Z,121nm,15.3s,baz=299
TDK Taldyqorghan 46.36 299 *e*P **P** **05 32 49.8 +1.3**
TDK *e*S **S** **05 39 29.6 -1.4**
TDK pmax pmax

comp=Z,23nm,0.9s
TDK MLR MLR

comp=Z,121nm,15.0s
UZB Uzynbulak 46.47 296 ⇓ *i*P **P** **05 32 49.7 0.0**
comp=Z,14nm,1.1s,baz=296
UZB *e*S **S** **05 39 32.6 -0.2**
baz=296
UZB Uzynbulak 46.47 296 *d i*P **P** **05 32 49.6 0.0**
UZB *e*S **S** **05 39 32.6 -0.2**
UZB pmax pmax

comp=Z,14nm,1.1s
TOLK Toolik Lake Re 46.48 28 P **P** **05 32 50.8 +1.7**
baz=268
TOLK Toolik Lake Re 46.48 28 P **P** **05 32 51.1 +1.9**
TOLK IAmb IAmb 05 32 52.2

comp=Z,42nm,1.2s
ODAN Odare 46.62 272 *e*P **P** **05 32 51.2 +0.2**
comp=Z,43nm,0.6s
SATY Saty 46.93 296 *e*P **P** **05 32 53.7 +0.5**
comp=Z,8.8nm,0.9s,baz=296
SATY *e*S **S** **05 39 39.7 +0.3**
baz=296
SATY Saty 46.93 296 *e*P **P** **05 32 53.7 +0.5**
SATY *e*S **S** **05 39 39.6 +0.3**
SATY pmax pmax

comp=Z,9.0nm,0.9s
PRZ Przheval'sk 47.11 295 P **P** **05 32 56.2 +1.6**
PRZ pmax pmax

comp=Z,47nm,1.2s
PRZ Przheval'sk 47.11 295 P **P** **05 32 56.2 +1.6**
PRZ IAmb IAmb 05 33 12.6

comp=Z,47nm,1.2s
TCOL CIGO, UAF Yank 47.15 33 P **P** **05 32 56.2 +1.8**
baz=273
JIRN Jiri 47.16 273 *e*P **P** **05 32 56.1 +0.7**
comp=Z,87nm,0.5s
RAMN Ramite 47.19 272 *e*P **P** **05 32 55.8 +0.3**
comp=Z,56nm,0.6s
KSM Kuching 47.23 225 P **P** **05 32 56.0 +0.4**
KSM IAmb IAmb 05 33 13.3

comp=Z,28nm,0.9s
KSM Kuching 47.23 225 P **P** **05 32 57.0 +1.4**
GUN Gumba 47.28 274 *e*P **P** **05 32 56.4 +0.1**
comp=Z,183nm,0.7s
POKR Poker Plat Res 47.32 33 P **P** **05 32 57.9 +2.2**
baz=273
ILAR Eielson Array 47.57 33 P **P** **05 32 59.1 +1.4**
comp=Z,29nm,0.7s,baz=268,slow=6.7,SNR=27
ILAR LR LR 05 53 58.0

comp=Z,55nm,21.6s,baz=292,slow=37
CHKK Chushkaly 47.67 298 *e*P **P** **05 32 59.0 +0.2**
comp=Z,194nm,0.7s,baz=298
CHKK Chushkaly 47.67 298 *e*P **P** **05 32 58.9 +0.2**
CHKK pmax pmax

comp=Z,194nm,0.7s
TARG Taragay, Kyrgy 47.77 295 P **P** **05 33 01.1 +1.0**
TARG IAmb IAmb 05 33 04.0

comp=Z,30nm,0.9s
PKI Pulchoki 47.81 274 *e*P **P** **05 33 00.3 -0.1**
comp=Z,38nm,0.6s
PKIN Phulchoki 47.82 274 *e*P **P** **05 33 00.7 +0.3**
comp=Z,31nm,0.5s
MDOK Medeo 47.84 297 *e*P **P** **05 33 01.1 +0.8**
comp=Z,355nm,1.0s,baz=297
MDOK *es*P **sP** **05 33 27.0 +2.0**
baz=297
MDOK *e*S **S** **05 39 51.7 -0.7**
baz=297
MDOK Medeo 47.84 297 *e*P **P** **05 33 01.0 +0.8**
MDOK *e**SP **sP** **05 33 27.0 +2.0**
MDOK *e*S **S** **05 39 51.6 -0.7**

MDOK pmax pmax
comp=Z,355nm,1.0s
DMN Daman 48.03 274 *e*P **P** **05 33 02.7 +0.7**
comp=Z,22nm,0.5s
KDJ Kajisay 48.08 295 P **P** **05 33 02.8 +0.6**
KDJ pmax pmax

comp=Z,19nm,1.0s
KDJ Kajisay 48.08 295 P **P** **05 33 02.8 +0.6**
KUU Kurty 48.10 298 *e*P **P** **05 33 01.9 -0.2**
comp=Z,36nm,0.7s,baz=298
KUU Kurty 48.10 298 *e*P **P** **05 33 01.9 -0.2**
KUU pmax pmax

comp=Z,36nm,0.7s
PMG Port Moresby 48.54 173 ⇓ *e*P **P** **05 33 07.0 +1.4**
PMG pmax pmax

comp=Z,140nm,1.3s
DANN Dangsing 48.72 276 *e*P **P** **05 33 07.7 +0.4**
comp=Z,198nm,0.7s
BRZS Berezniki 48.78 307 *e*P **P** **05 33 07.2 0.0**
comp=Z,36nm,1.0s,baz=307
BRZS Berezniki 48.78 307 *e*P **P** **05 33 07.2 0.0**
BRZS pmax pmax

comp=Z,36nm,1.0s
BOOM Boomskoye usch 48.83 296 P **P** **05 33 08.9 +1.0**
BOOM pmax pmax

comp=Z,28nm,0.7s
BOOM Boomskoye usch 48.83 296 P **P** **05 33 08.9 +1.0**
BOOM IAmb IAmb 05 33 14.5

comp=Z,28nm,0.7s
TKM2 Tokmak 2 48.93 297 P **P** **05 33 09.6 +0.9**
SNR=73
TKM2 Tokmak 2 48.93 297 P **P** **05 33 09.1 +0.4**
KOLN Koldanda 49.12 275 *e*P **P** **05 33 10.3 0.0**
comp=Z,52nm,0.4s
BTLS Baital 49.30 300 *e*P **P** **05 33 11.2 -0.1**
comp=Z,8.9nm,0.9s,baz=300
BTLS Baital 49.30 300 *e*P **P** **05 33 11.1 -0.1**
BTLS pmax pmax

comp=Z,9.0nm,0.9s
BVAR Bovoye Array 49.41 311 S **S** **05 40 12.5 -1.3**
comp=Z,3.9nm,1.0s,baz=69,slow=13,SNR=7.2
SGDS Sogindy 49.42 298 ⇓ *i*P **P** **05 33 12.5 +0.2**
comp=Z,14nm,1.2s,baz=298
SGDS *e*S **S** **05 40 14.3 0.0**
baz=298
SGDS Sogindy 49.42 298 *d i*P **P** **05 33 12.4 +0.2**
SGDS *e*S **S** **05 40 14.3 0.0**
SGDS pmax pmax

comp=Z,14nm,1.2s
PYUN Piuthan 49.43 276 *e*P **P** **05 33 12.9 +0.2**
comp=Z,131nm,0.4s
KZA Kyzart 49.45 296 P **P** **05 33 14.2 +1.2**
SNR=19
BRVK Borovoye 49.46 311 P **P** **05 33 12.8 +0.5**
BRVK pmax pmax

comp=Z,23nm,0.8s
BRVK Borovoye 49.46 311 P **P** **05 33 12.8 +0.5**
BRVK IAmb IAmb 05 33 15.3

comp=Z,23nm,0.8s
OTUK Ortayu 49.47 305 P **P** **05 33 12.0 -0.5**
USP Osenovka 49.57 298 P **P** **05 33 13.9 +0.5**
SNR=11
AAK Ala-Archa 49.79 297 P **P** **05 33 15.5 +0.2**
SNR=11
AAK Ala-Archa 49.79 297 P **P** **05 33 15.4 +0.2**
AAK pmax pmax

comp=Z,11nm,0.7s
AAK Ala-Archa 49.79 297 P **P** **05 33 15.4 +0.2**
KSH Kashi 49.85 293 *e*P **P** **05 33 20.1 +4.4**
KSH PcP **PcP** **05 34 39.0 +3.6**
KSH S **S** **05 40 23.0 +2.3**
KSH sS sS 05 40 55.5 +5.8
KSH pmax pmax

comp=Z,45nm,0.6s
KSH pmax pmax

comp=Z,250nm,5.6s
KSH LR LR

comp=Z,330nm,11.8s
KSH LR LR

comp=Z,360nm,12.7s
KSH LR LR

comp=Z,250nm,12.3s
UCH Uchtor 49.91 296 P **P** **05 33 17.6 +1.1**
SNR=9.3
KULM Kulim 50.15 239 P **P** **05 33 20.7 +2.7**
KULM IAmb IAmb 05 33 21.3

comp=Z,18nm,0.9s
KULM Kulim 50.15 239 P **P** **05 33 19.0 +1.0**
EKS2 Erkin-Say 50.27 297 P **P** **05 33 19.1 +0.3**
SNR=14
IPM Ipoh 50.51 238 P **P** **05 33 20.6 -0.1**
IPM IAmb IAmb 05 33 23.3

comp=Z,18nm,0.9s
IPM Ipoh 50.51 238 P **P** **05 33 23.0 +2.3**
AML Almayashu 50.52 297 P **P** **05 33 21.8 +0.8**
SNR=39
EPYK Eagle Plains 51.56 31 P **P** **05 33 30.1 +2.0**
baz=281
EPYK Eagle Plains 51.56 31 P **P** **05 33 30.3 +2.2**
DZA Taraz 51.88 298 *e*P **P** **05 33 32.2 +1.5**
comp=Z,28nm,0.8s,baz=298
DZA Taraz 51.88 298 *e*P **P** **05 33 32.2 +1.5**
DZA pmax pmax

comp=Z,28nm,0.8s
KK31 Karatay Array 52.36 299 P **P** **05 33 34.3 0.0**
KK31 pmax pmax

comp=Z,26nm,0.8s
KK31 Karatay Array 52.36 299 P **P** **05 33 34.3 0.0**
KK31 IAmb IAmb 05 33 37.0

comp=Z,26nm,0.8s
KKAR Karatay Array 52.36 299 P **P** **05 33 34.3 0.0**
KKAR pmax pmax

comp=Z,26nm,0.8s
KKAR Karatay Array 52.36 299 P **P** **05 33 34.3 0.0**
KKAR IAmb IAmb 05 33 37.0

comp=Z,26nm,0.8s
INK Inuvik 52.39 28 P **P** **05 33 35.7 +1.7**
INK pmax pmax

comp=Z,39nm,0.9s
INK Inuvik 52.39 28 P **P** **05 33 35.7 +1.7**
HYT Haines Junctio 52.45 38 P **P** **05 33 37.7 +2.9**
COEN Coen 52.83 178 P **P** **05 33 38.9 +1.0**
COEN IAmb IAmb 05 33 39.5

comp=Z,22nm,0.9s
IUG luzhnay 53.05 298 *e*P **P** **05 33 40.2 +0.7**
comp=Z,3.7nm,1.1s,baz=298
IUG *e*S **S** **05 41 04.7 +0.2**
baz=298
IUG luzhnay 53.05 298 *e*P **P** **05 33 40.1 +0.7**
IUG *e*S **S** **05 41 04.7 +0.2**
IUG pmax pmax

comp=Z,4.0nm,1.1s
PSI Prapat 53.14 238 P **P** **05 33 39.9 -0.6**
comp=Z,6.3nm,0.7s,baz=3.0,slow=4.5,SNR=3.0
PSI pP **pP** **05 33 56.2 -1.6**
comp=Z,17nm,0.8s,baz=1.6,slow=2.9,SNR=6.4
RPSI Rantau Prapat 53.22 238 P **P** **05 33 39.9 -1.0**
BTK Batken 53.31 295 P **P** **05 33 43.2 +1.8**
BTK pmax pmax

comp=Z,31nm,1.5s
BTK Batken 53.31 295 P **P** **05 33 43.2 +1.8**
BTK IAmb IAmb 05 34 01.6

comp=Z,31nm,1.4s
WHY Whitehorse 53.73 37 P **P** **05 33 46.2 +2.0**
WHY IAmb IAmb 05 33 47.7

comp=Z,23nm,0.9s
SVE Sverdlovsk 53.79 318 *de*P **P** **05 33 45.1 +0.6**
SVE *e*S **S** **05 41 13.1 -0.8**
SVE pmax pmax

comp=Z,62nm,0.8s
SKAG Skagway 53.87 39 P **P** **05 33 48.0 +2.9**
SKAG IAmb IAmb 05 33 48.8

comp=Z,23nm,1.2s
SKAG Skagway 53.87 39 **P** **05 33 48.0 +2.9**
GAR Garm 54.09 294 P **P** **05 33 47.4 +0.2**
GAR IAmb IAmb 05 34 06.7

comp=Z,22nm,0.7s
A36M Sachs Harbour 54.21 23 P **P** **05 33 49.0 +1.7**
baz=287
NIL Nilore 54.27 287 P **P** **05 33 49.4 +0.9**
NIL pmax pmax

comp=Z,116nm,0.9s
NIL Nilore 54.27 287 P **P** **05 33 49.4 +0.9**
BESE Bessie Mountai 54.37 40 P **P** **05 33 51.7 +2.9**
BESE IAmb IAmb 05 33 52.3

comp=Z,49nm,1.4s
SIT Sitka 54.61 42 P **P** **05 33 53.5 +3.0**
SIT pmax pmax

comp=Z,48nm,1.2s
SIT Sitka 54.61 42 P **P** **05 33 53.5 +3.0**
JIS Juneau Island 54.70 40 P **P** **05 33 53.8 +2.7**
JIS IAmb IAmb 05 33 54.8

comp=Z,43nm,1.2s
ARU Arti 55.01 318 *c i*P **P** **05 33 53.4 0.0**
ARU *PP **pP** **05 34 10.4 -0.4**
ARU 05 34 55.3
ARU 05 35 57.7
ARU S **S** **05 41 30.1 -0.1**
ARU *SS **sS** **05 41 58.3 -1.5**
ARU pmax pmax

comp=Z,44nm,0.7s
ARU MLR MLR

comp=Z,223nm,21.0s
ARU Arti 55.01 318 P **P** **05 33 53.1 -0.3**
CHGR Chuyangaron 55.06 294 P **P** **05 33 54.5 +0.3**
GSI Gunungsitoli 55.15 238 P **P** **05 33 55.7 +0.7**
C36M Paulatuk 55.41 25 P **P** **05 33 57.4 +1.3**
baz=290
C36M Paulatuk 55.41 25 P **P** **05 33 57.3 +1.3**
C36M IAmb IAmb 05 33 57.8

comp=Z,29nm,0.8s
LEM Lembang 55.62 223 P **P** **05 33 57.9 -0.5**
comp=Z,51nm,0.7s,baz=343,slow=18,SNR=2.7
KNRA Kununurra 55.87 195 P **P** **05 34 00.4 +0.5**
PVM Polavaram 56.30 265 *e*P **P** **05 34 03.1 0.0**
DLBC Dease Lake 56.80 39 P **P** **05 34 09.1 +2.9**
DLBC IAmb IAmb 05 34 10.2

comp=Z,29nm,1.1s
KBL Kabul 56.97 290 P **P** **05 34 09.9 +1.9**
KBL pmax pmax

comp=Z,37nm,0.9s
KBL Kabul 56.97 290 P **P** **05 34 09.9 +1.9**
RPR Rampur 57.18 268 *e*P **P** **05 34 09.1 -0.3**
AKTO Aktyubinsk 57.51 311 P **P** **05 34 10.5 -0.8**
SRSP Sriramsagar 57.88 269 *e*P **P** **05 34 13.9 -0.4**
ADKI Addanki 58.40 265 *e*P **P** **05 34 17.8 -0.1**
NJS Nagarjunasagar 58.50 266 *e*P **P** **05 34 18.6 -0.1**
HYB Hyderabad 58.58 267 *i* P **P** **05 34 19.0 -0.3**
HYB *ep*P **sP** **05 34 45.0 +0.6**
HYBB Hyderabad (bro 58.58 267 *e*P **P** **05 34 18.7 -0.6**
NOR Nord 58.98 356 ⇑ *i*P **P** **05 34 21.4 +0.3**
comp=Z,18nm,0.9s
NOR Nord 58.98 356 ⇑ *i*P **P** **05 34 21.4 +0.3**
NOR pmax pmax

comp=Z,18nm,0.9s
WB0 Warramunga Arr 59.00 188 P **P** **05 34 21.3 -0.6**
SRLM Srisailam 59.09 266 *e*P **P** **05 34 22.4 -0.4**
WRAB Tennant Creek 59.16 188 *c i*P **P** **05 34 22.2 -0.9**
WRAB pmax pmax

comp=Z,30nm,1.0s
WR0 Warramunga Arr 59.17 188 P **P** **05 34 21.8 -1.3**
WB2 Warramunga Arr 59.17 188 P **P** **05 34 22.4 -0.7**
WRA Warramunga Arr 59.17 188 P **P** **05 34 22.4 -0.7**
comp=Z,30nm,0.5s,baz=6.1,slow=7.0,SNR=102
WRA pP **pP** **05 34 39.5 -1.1**
comp=Z,15nm,0.5s,baz=7.0,slow=7.1,SNR=7.8
SANVU Saraoutou 59.26 151 P **P** **05 34 24.4 +0.6**
RCLA Racherla 59.42 265 *e*P **P** **05 34 24.7 -0.3**
HSPB Hornsund (broa 59.46 348 *e*P **P** **05 34 21.8 -2.7**
HSPB *ep*P **pP** **05 34 42.2 0.0**
HSPB *es*P **sP** **05 34 47.8 -1.9**
KLRI Killari 59.73 269 *e*P **P** **05 34 26.3 -0.9**
SKHT Srikalahasti 59.86 263 *e*P **P** **05 34 27.9 -0.1**
LVZ Lovozero 60.33 335 *c i*P **P** **05 34 30.8 +0.2**
LVZ pmax pmax

comp=Z,8.0nm,0.6s
LVZ Lovozero 60.33 335 P **P** **05 34 31.0 +0.4**
BBB Bella Bella 60.36 45 P **P** **05 34 32.7 +1.7**
BBB IAmb IAmb 05 34 32.9

comp=Z,16nm,0.9s
RES Resolute Bay 60.50 15 P **P** **05 34 32.0 +0.4**
RES pmax pmax

comp=Z,38nm,0.9s
RES Resolute Bay 60.50 15 P **P** **05 34 31.9 +0.4**
APA Apatity 60.91 335 ⇑ *i*P **P** **05 34 33.3 -1.1**
APA *i* 05 34 51.0
APA pmax pmax

comp=Z,11nm,0.7s
APA MLR MLR

comp=Z,300nm,18.0s
TMCR Tamitsa 61.06 331 *e*P **P** **05 34 34.2 -1.3**
TMCR pmax pmax

comp=Z,31nm,0.9s
YKA Yellowknife Ar 61.85 31 P **P** **05 34 41.6 +0.7**
comp=Z,9.1nm,0.8s,baz=296,slow=6.5,SNR=22
HRA Herat 61.97 293 P **P** **05 34 43.6 +1.2**
ARCES ARCESS Array B 62.15 339 P **P** **05 34 43.1 +0.3**
comp=Z,5.4nm,0.8s,baz=45,slow=7.5,SNR=12
ARCES pP **pP** **05 34 59.7 -0.8**
comp=Z,8.8nm,0.9s,baz=60,slow=7.2,SNR=6.6
ARCES LR LR 06 04 05.9

comp=Z,106nm,22.0s,baz=58,slow=38
KLMR Klimovskoe 62.15 327 *e*P **P** **05 34 41.8 -1.1**
KLMR *e* 05 36 58.0
KLMR pmax pmax

comp=Z,17nm,0.8s
KLMR Klimovskoe 62.15 327 *e*P **P** **05 34 41.8 -1.1**
KLMR AMP 05 34 43.7

comp=Z,17nm,0.8s
KLMR *ep*P **pP** **05 36 58.1 -1.8**
AS31 Alice Springs 62.90 188 P **P** **05 34 48.0 -0.3**
ASAR Alice Springs 62.90 188 P **P** **05 34 48.1 -0.3**
comp=Z,13nm,0.8s,baz=3.9,slow=4.7,SNR=104
ASAR pP **pP** **05 35 04.9 -1.1**
comp=Z,6.3nm,0.6s,baz=6.5,slow=7.3,SNR=7.1
ASAR LR LR 06 02 17.9

comp=Z,60nm,19.1s,baz=352,slow=36
TULEG Thule 62.98 8 P **P** **05 34 47.9 -0.4**
GEYT Alibeck 63.10 298 P **P** **05 34 49.9 +0.2**
comp=Z,12nm,0.7s,baz=42,slow=4.6,SNR=19
GEYT pP **pP** **05 35 06.2 -1.3**
comp=Z,15nm,0.7s,baz=75,slow=1.7,SNR=9.5
GEYT LR LR 06 03 47.9

comp=Z,102nm,20.6s,baz=130,slow=37
GYA0 ALIBECK ARRAY 63.10 298 P **P** **05 34 47.6 -2.1**
GYA0B ALIBECK ARRAY 63.10 298 P **P** **05 34 49.9 +0.2**
GYA0B IAmb IAmb 05 35 07.6

comp=Z,16nm,0.7s
DAG Danmarks Havn 63.72 355 ⇑ *i*P **P** **05 34 53.0 -0.1**
comp=Z,27nm,0.9s
DAG *i* 05 35 10.2
DAG Danmarks Havn 63.72 355 ⇑ *i*P **P** **05 34 53.0 -0.1**
DAG *i* 05 35 10.2
DAG pmax pmax

comp=Z,27nm,0.9s
LLLB Lillooet 64.54 45 P **P** **05 35 00.9 +1.9**
A04D Lummi Island 65.06 47 P **P** **05 35 04.0 +1.7**
baz=302
NLWA Neilton Lookou 65.09 48 P **P** **05 35 05.2 +2.6**
DZM Mont Dzumac 65.11 155 *e*LR LR 05 54 39.7
comp=Z,179nm,22.9s
DZM Mont Dzumac 65.11 155 P **P** **05 35 03.9 +1.0**
comp=Z,9.0nm,0.8s,baz=285,slow=22,SNR=5.5
DZM Mont Dzumac 65.11 155 P **P** **05 35 04.5 +1.6**
D03D Eldon 65.46 48 P **P** **05 35 07.4 +2.5**
baz=302,SNR=19
B05A Bryant 65.65 47 P **P** **05 35 07.8 +1.7**
baz=302,SNR=9.2
E03A Lebam 65.71 49 P **P** **05 35 09.3 +2.8**
MOS Moscow 65.75 323 *e*P **P** **05 35 05.6 -1.0**
MOS *i* 05 35 23.4
MOS *e* 05 35 40.1
MOS *eS* **S** **05 43 44.0 -3.6**
MOS pmax pmax

comp=Z,37nm,0.6s
D04E Lakebay 65.83 48 P **P** **05 35 09.3 +2.0**
baz=302
B06A Marblemount 65.86 46 P **P** **05 35 09.4 +2.0**
B06A IAmb IAmb 05 35 09.9

comp=Z,30nm,1.0s
KULLO Kullorsuaq 65.86 5 *i* P **P** **05 35 06.9 -0.2**
comp=Z,19nm,0.8s
KULLO Kullorsuaq 65.86 5 *i* P **P** **05 35 06.9 -0.2**
KULLO pmax pmax

comp=Z,19nm,0.8s
VRH Novokhopyorsk 66.24 317 *e*P **P** **05 35 08.9 -0.9**
VRH pmax pmax

comp=Z,30nm,0.7s
F04D Rainier, OR 66.28 49 P **P** **05 35 12.1 +1.9**
baz=302

E04D Cinebar 66.28 49 P P 05 35 11.2 +1.0
baz=302,SNR=13
G03D McMinnville, O 66.59 50 P P 05 35 14.3 +2.1
baz=303
OBN Obninsk 66.61 323 *de*P P 05 35 12.2 +0.1
OBN *i* *PP **pP** 05 35 29.5 -0.6
OBN *e**SP **sP** 05 35 36.8 -0.8
OBN *eS* **S** 05 43 56.6 -1.3
OBN *e* 05 45 05.8
OBN pmax pmax
comp=Z,28nm,0.8s
OBN MLR MLR
comp=Z,49nm,16.0s
LON Longmire 66.62 48 P P 05 35 14.2 +1.7
LON pmax pmax
comp=Z,9.0nm,1.0s
LON Longmire 66.62 48 P P 05 35 14.2 +1.7
F04A Amboy 66.71 49 P P 05 35 15.3 +2.3
F04A IAmb IAmb 05 35 15.8
comp=Z,36nm,0.8s
I02D Swisshome 66.83 51 P P 05 35 15.6 +1.8
baz=303
LPSR Galich'ya Gora 66.89 320 *e*P P 05 35 13.5 -0.5
LPSR pmax pmax
comp=Z,30nm,0.8s
COR Corvallis 66.91 51 P P 05 35 17.3 +3.1
COR pmax pmax
comp=Z,65nm,1.1s
COR Corvallis 66.91 51 P P 05 35 17.3 +3.1
LTY Liberty 67.00 47 P P 05 35 16.4 +1.6
FIA1 FINESS Array S 67.11 332 P P 05 35 15.2 0.0
FINES FINESS Array B 67.11 332 P P 05 35 15.0 -0.1
comp=Z,23nm,0.7s,baz=46,slow=8.2,SNR=101
FINES pP **pP** 05 35 32.0 -1.2
comp=Z,26nm,0.7s,baz=48,slow=8.5,SNR=12
FINES LR LR 06 06 13.9
comp=Z,119nm,21.6s,baz=50,slow=37
B08A Colville Reser 67.15 46 P P 05 35 16.9 +1.1
B08A IAmb IAmb 05 35 18.4
comp=Z,47nm,1.4s
H04D Lebanon 67.28 51 P P 05 35 18.5 +1.9
baz=303
J01E Myrtle Point 67.29 52 P P 05 35 18.2 +1.5
baz=303
F05D White Salmon 67.30 49 P P 05 35 18.6 +1.9
baz=303
I03D Drain, OR 67.36 52 P P 05 35 19.4 +2.3
baz=303
H04A Detroit Lake 67.52 50 P P 05 35 20.4 +2.2
H04A IAmb IAmb 05 35 21.0
comp=Z,27nm,0.9s
VSR Storozhevoye 67.56 318 *e*P P 05 35 17.7 -0.5
VSR pmax pmax
comp=Z,20nm,0.7s
K02D Willamette Mer 67.71 53 P P 05 35 21.4 +1.9
baz=303
G05D Wamic, OR 67.73 49 P P 05 35 21.4 +2.0
baz=304
I04A Tendick Farm, 67.88 51 P P 05 35 22.1 +1.6
baz=304,SNR=7.9
C09A Chrisman Ranch 68.05 46 P P 05 35 22.9 +1.5
C09A IAmb IAmb 05 35 23.9
comp=Z,25nm,0.8s
AKT Akhty 68.08 306 *e*P P 05 35 21.5 -0.4
AKT *e**PP **pP** 05 35 38.7 -1.1
AKT *e* 05 35 46.9
AKT *e* 05 37 53.4
AKT pmax pmax
comp=Z,19nm,0.6s
D08A Wollman Farm, 68.11 47 P P 05 35 23.6 +1.9
G06A Carlson Farm, 68.14 49 P P 05 35 24.3 +2.2
F07A Phinny Hill Vi 68.18 48 P P 05 35 24.7 +2.5
F07A IAmb IAmb 05 35 25.2
comp=Z,24nm,0.8s
I05D Terrebonne, OR 68.22 50 P P 05 35 23.6 +1.0
baz=304,SNR=6.1
GROC Groznyy 68.33 309 *e*P P 05 35 22.7 -0.5
GROC *e**PP **pP** 05 35 40.4 -0.8
GROC *e**SP **PcP** 05 35 48.1 -0.3
GROC *e* 05 37 54.9
GROC pmax pmax
comp=Z,20nm,0.5s
J04D Umpqua Nationa 68.36 51 P P 05 35 25.5 +1.8
baz=304,SNR=6.6
NEW Newport 68.42 45 P P 05 35 25.0 +1.2
baz=305,SNR=18
NEW Newport 68.42 45 P P 05 35 25.3 +1.5
NEW pmax pmax
comp=Z,26nm,1.1s
NEW Newport 68.42 45 P P 05 35 25.2 +1.5
NEW IAmb IAmb 05 35 26.4
comp=Z,26nm,1.1s
SUMG Summit 68.59 0⇑ *i*P P 05 35 25.7 +0.8
SUMG Summit 68.59 0⇑ *i*P P 05 35 25.7 +0.8
SUMG Summit 68.59 0 P P 05 35 25.8 +1.0
SUMG IAmb IAmb 05 35 26.7
comp=Z,34nm,0.8s
PINE Pine Mountain 68.76 50 P P 05 35 28.5 +2.3
PINE IAmb IAmb 05 35 29.6
comp=Z,41nm,1.0s
VSU Vasula 68.81 329 *e*P P 05 35 25.8 -0.1
VSU *ep*P **pP** 05 35 43.9 -0.1
VSU Vasula 68.81 329 *c* *i*P P 05 35 25.9 0.0
VSU pmax pmax
comp=Z,74nm,0.9s
L04D Klamath Falls 68.81 52 P P 05 35 27.7 +1.3
baz=304,SNR=7.3
YBH Yreka Blue Hor 68.83 53 P P 05 35 28.9 +2.4
YBH pmax pmax
comp=Z,18nm,1.2s
YBH Yreka Blue Hor 68.83 53 P P 05 35 28.9 +2.4
E09A Wood Farm, Sta 68.85 47 P P 05 35 28.5 +2.1
J05D Fort Rock, OR 68.87 51 P P 05 35 28.8 +2.1
baz=304,SNR=14
K04D Chiloquin, OR 68.92 52 P P 05 35 29.3 +2.2
baz=304
GOF Gofitskoye 68.93 311⇑ *e*P P 05 35 27.4 +0.5
GOF pmax pmax
comp=Z,49nm,0.6s
M02C Callahan 68.93 53 P P 05 35 29.4 +2.3
baz=304
G08A Pilot Rock 69.08 48 P P 05 35 30.0 +2.0
N02D Trinity Center 69.26 54 P P 05 35 30.4 +1.3
baz=304,SNR=5.4
M04C Macdoel 69.34 53 P P 05 35 31.7 +2.0
baz=304,SNR=11
K05A Summer Lake 69.39 51 P P 05 35 32.8 +2.7
WDC Whiskeytown Da 69.58 54 P P 05 35 33.2 +2.2
WDC pmax pmax
comp=Z,15nm,1.0s
WDC Whiskeytown Da 69.58 54 P P 05 35 33.2 +2.2
O02D Mt. Diablo Mer 69.66 54 P P 05 35 33.6 +2.0
baz=304
F10A Beach Ranch, E 69.68 47 P P 05 35 33.5 +1.8
WALA Waterton Lakes 69.69 43 P P 05 35 33.2 +1.5
WALA IAmb IAmb 05 35 34.3
comp=Z,41nm,1.1s
ZEI Tsey 69.71 309 *e*P P 05 35 30.4 -1.7
ZEI pmax pmax
comp=Z,11nm,0.6s
KIV Kislovodsk 69.77 311 ⇑P P 05 35 32.7 +0.5
KIV Kislovodsk 69.77 311 *c* *i*P P 05 35 32.6 +0.3
KIV *i* *PP **pP** 05 35 49.4 -0.9
KIV *e* 05 35 57.4
KIV *SP **sP** 05 36 01.2 +3.4
KIV *eS* **S** 05 44 35.1 -1.1
KIV *SS **sS** 05 45 04.0 -2.7
KIV SSS SSS 05 52 11.0
KIV pmax pmax
comp=Z,50nm,0.8s
KIV MLR MLR
comp=Z,46nm,18.0s
KIV Kislovodsk 69.77 311 P P 05 35 32.9 +0.6
KIV IAmb IAmb 05 35 34.5
comp=Z,44nm,0.8s
KBZ Khabaz 69.78 310 P P 05 35 32.2 +0.1
comp=Z,21nm,0.8s,baz=66,slow=4.0,SNR=36
KBZ LR LR 06 07 49.4
comp=Z,69nm,20.7s,baz=66,slow=37
KBZ Khabaz 69.78 310 *c* *i*P P 05 35 32.4 +0.3
KBZ pmax pmax
comp=Z,21nm,0.8s
SCO Scoresbysund 70.06 354 *i* P P 05 35 33.7 +0.3
comp=Z,12nm,0.9s
SCO Scoresbysund 70.06 354 *i* P P 05 35 33.7 +0.3
SCO pmax pmax
comp=Z,12nm,0.9s
NEY Neytrino 70.16 310 ⇓ *e*P P 05 35 35.1 +0.4
NEY pmax pmax
comp=Z,4.0nm,0.8s
O03E Paynes Creek 70.21 54 P P 05 35 36.2 +1.2
baz=305,SNR=7.4
MOD Modoc Plateau 70.22 52 P P 05 35 36.8 +1.7
JTMT Jette 70.27 44 P P 05 35 37.1 +1.8
JTMT IAmb IAmb 05 35 38.1
comp=Z,25nm,0.8s
BMO Blue Mountains 70.29 48 P P 05 35 37.1 +1.6
BMO pmax pmax
comp=Z,10.0nm,0.9s
BMO Blue Mountains 70.29 48 P P 05 35 37.1 +1.6
J08A Circle Bar Ran 70.48 50 P P 05 35 38.6 +2.0
J08A IAmb IAmb 05 35 39.9
comp=Z,37nm,1.3s
STKA Stephens Creek 70.65 180 P P 05 35 36.7 -0.7
comp=Z,5.2nm,0.7s,baz=331,slow=8.2,SNR=13
STKA Stephens Creek 70.65 180 P P 05 35 37.6 +0.2
AKH Akhalkalaki 70.75 308 ⇑P P 05 35 39.2 +0.8
AKH Akhalkalaki 70.75 308 P P 05 35 39.7 +1.3
AKH pmax pmax
comp=Z,13nm,0.7s
AKH Akhalkalaki 70.75 308 P P 05 35 39.7 +1.3
IZAR Zarasai 70.81 327 *e*P P 05 35 38.4 +0.2
ORV Oroville 70.82 54 P P 05 35 39.8 +1.2
ORV pmax pmax
comp=Z,16nm,1.0s
ORV Oroville 70.82 54 P P 05 35 39.8 +1.2
MICGM Minsk 70.93 326 *e* P 05 35 39.0 0.0
MNK Minsk 70.93 326 *e*P P 05 35 39.0 0.0
MSO Missoula 71.01 45 P P 05 35 40.7 +0.8
baz=307,SNR=14
MSO Missoula 71.01 45 P P 05 35 40.9 +1.1
SLIT Slitere, Latvi 71.11 330 *e*P P 05 35 39.2 -0.8
SLIT *ep*P **pP** 05 35 57.2 -0.9
NACGM Naroch 71.14 326 *e* P 05 35 39.0 -1.3
UOSS Minazif 71.47 287 P P 05 35 42.8 +0.1
UOSS IAmb IAmb 05 36 01.6
comp=Z,15nm,0.7s
AFDM Forest Hills D 71.51 55 P P 05 35 44.1 +1.3
SOC Sochi 71.73 312 *e*P P 05 35 43.8 -0.2
SOC *e**PP **pP** 05 36 00.8 -1.4
SOC *e* 05 38 28.5
SOC pmax pmax
comp=Z,20nm,0.6s
BATM Batumi 71.73 309 ⇑P P 05 35 44.2 +0.1
FFC Flin Flon 71.78 33 P P 05 35 44.9 +0.7
FFC pmax pmax
comp=Z,27nm,0.9s
FFC Flin Flon 71.78 33 P P 05 35 44.9 +0.7
FFC IAmb IAmb 05 35 46.0
comp=Z,27nm,0.9s
BCA Borcka 71.87 309 ⇑P P 05 35 45.1 +0.2
PABE Paberze 71.92 328 *e*P P 05 35 45.2 +0.3
PABE *ep*P **pP** 05 36 03.0 -0.1
RUBR Rubicon Trail 71.97 54 P P 05 35 48.0 +2.1
RUBR IAmb IAmb 05 35 48.6
comp=Z,31nm,0.9s
MFID Camas Ranch 72.00 48 P P 05 35 47.5 +1.6
PAHR Pah Rah Range 72.06 53 P P 05 35 48.0 +1.6
PAHR IAmb IAmb 05 35 49.0
comp=Z,28nm,1.0s
VCNR Virginia City 72.14 54 P P 05 35 49.1 +2.2
NC405 NORSAR Array S 72.17 337 P P 05 35 46.5 +0.2
NC405 IAmb IAmb 05 36 05.8
comp=Z,63nm,1.1s
NC303 NORSAR Array S 72.18 337 P P 05 35 46.5 0.0
PNTR Pine Nut 72.29 54 P P 05 35 49.7 +1.9
PNTR IAmb IAmb 05 35 50.7
comp=Z,21nm,0.9s
NC204 NORSAR Array S 72.32 338 P P 05 35 47.5 +0.2
NB201 NORSAR Array S 72.34 337 P P 05 35 47.6 +0.1
NB2 NORSAR Subarra 72.37 337 P P 05 35 47.3 -0.3
comp=Z,5.6nm,0.7s,baz=38,slow=6.2
NOA NORSAR Array B 72.37 337 P P 05 35 47.6 -0.1
comp=Z,12nm,0.8s,baz=39,slow=5.9,SNR=57
NOA pP **PcP** 05 36 04.9 -0.3
comp=Z,1.7nm,0.5s,baz=53,slow=6.9,SNR=6.6
NOA LR LR 06 11 22.1
comp=Z,81nm,20.4s,baz=40,slow=39
CMB Columbia Colle 72.42 55 P P 05 35 49.9 +1.6
CMB pmax pmax
comp=Z,25nm,1.1s
CMB Columbia Colle 72.42 55 P P 05 35 49.9 +1.6
CMB IAmb IAmb 05 35 51.0
comp=Z,25nm,1.1s
LRM Limekiln Ridge 72.44 45 P P 05 35 50.0 +1.4
EGMT Eagleton 72.50 42 P P 05 35 49.8 +1.1
baz=310,SNR=18
EGMT Eagleton 72.50 42 P P 05 35 50.0 +1.3
EGMT IAmb IAmb 05 35 51.0
comp=Z,75nm,1.4s
NBO00 NORSAR Array S 72.51 337 P P 05 35 48.8 +0.3
NC602 NORSAR Array S 72.51 337 P P 05 35 48.3 -0.1
NC602 IAmb IAmb 05 36 06.7
comp=Z,48nm,1.2s
YERR Yerington 72.58 54 P P 05 35 51.3 +1.8
YERR IAmb IAmb 05 35 52.3
comp=Z,37nm,1.0s
NAO01 NORSAR Array S 72.63 337 P P 05 35 49.2 +0.1
NAO01 IAmb IAmb 05 36 07.0
comp=Z,44nm,1.1s
DLMT Dillon 72.65 45 P P 05 35 51.0 +1.3
DLMT IAmb IAmb 05 35 52.3
comp=Z,30nm,0.8s
WAKR Walker 72.74 54 P P 05 35 52.4 +2.0
AKASG Malin Array Be 72.83 322 P P 05 35 50.1 -0.3
comp=Z,16nm,0.6s,baz=45,slow=6.0,SNR=78
AKASG pP **PcP** 05 36 07.8 +0.5
comp=Z,25nm,0.8s,baz=45,slow=6.3,SNR=10
AKASG LR LR 06 10 48.2
comp=Z,76nm,20.7s,baz=45,slow=38
AKBB Malin Array Si 72.83 322 P P 05 35 50.2 -0.2
AKBB pmax pmax
comp=Z,33nm,0.9s
AKBB Malin Array Si 72.83 322 P P 05 35 50.2 -0.2
AKBB IAmb IAmb 05 36 08.6
comp=Z,32nm,0.9s
MCMT McKenzie Canyo 72.84 46 P P 05 35 52.3 +1.3
RYN Ryan 73.24 54 P P 05 35 55.3 +1.9
KVN Kaiserville 73.25 53 P P 05 35 55.2 +1.8
KVN pmax pmax
comp=Z,36nm,1.0s
KVN Kaiserville 73.25 53 P P 05 35 55.2 +1.8
KVN IAmb IAmb 05 35 56.3
comp=Z,36nm,1.0s
SUW Suwalki 73.29 327 *e*P P 05 35 53.0 -0.1
SUW *ep*P **pP** 05 36 10.7 -0.6
MDPB Devils Postpil 73.49 55 P P 05 35 56.7 +1.8
NVAR Mina Array Bea 73.50 54 P P 05 35 56.8 +1.8
comp=Z,16nm,0.8s,baz=288,slow=6.0,SNR=92
OMMB Old Mammoth Mi 73.55 55 P P 05 35 57.5 +2.1
NV11 Mina Array Sit 73.59 54 P P 05 35 57.1 +1.7
QLMT Earthquake Lak 73.62 45 P P 05 35 57.2 +1.7
MLAC Mammoth, Mammo 73.64 55 P P 05 35 58.0 +2.2
baz=307
SFJD Kangerlussuaq 73.77 5⇑ *i*P P 05 35 56.0 +0.3
SFJD Kangerlussuaq 73.77 5⇑ *i*P P 05 35 56.0 +0.3
SFJD Kangerlussuaq 73.77 5 P P 05 35 56.1 +0.3
SFJD IAmb IAmb 05 35 57.0
comp=Z,29nm,0.8s
YHB Horse Butte 73.81 45 P P 05 35 58.6 +2.0
PAGB Antelope Grade 73.87 57 P P 05 35 59.1 +2.2
PAGB IAmb IAmb 05 35 59.9
comp=Z,37nm,1.0s
KONO Kongsberg 73.97 337 *ce*P P 05 35 57.1 +0.1
KONO pmax pmax
comp=Z,18nm,2.5s
YHH Holmes Hill 73.97 45 P P 05 35 59.8 +2.1
ELK Elko 73.97 50 P P 05 35 59.6 +1.9
ELK pmax pmax
comp=Z,9.0nm,0.9s
ELK Elko 73.97 50 P P 05 35 59.6 +1.9
GCMT Greycliff 73.97 44 P P 05 35 59.4 +1.9
YMR Madison River 73.98 45 P P 05 36 00.0 +2.3
SIM Simferopol' 74.05 315 *e*P P 05 35 58.3 +0.6
SIM *i* 05 36 15.3
SIM *e**PP **sP** 05 36 26.0 +2.6
SIM pmax pmax
comp=Z,18nm,0.8s
VOG Valley Oaks Go 74.08 56 P P 05 35 59.3 +1.2
baz=307
SMMC Simmler 74.28 57 P P 05 36 01.0 +1.6
baz=307
YNE Yellowstone No 74.29 44 P P 05 36 01.1 +1.7
YPP Pitchstone Pla 74.33 45 P P 05 36 02.9 +3.2
H17A Grant Village 74.37 45 P P 05 36 03.2 +3.2
baz=310,SNR=8.1
H17A Grant Village 74.37 45 P P 05 36 03.5 +3.5
H17A IAmb IAmb 05 36 04.4
comp=Z,44nm,0.9s
TIN Tinemaha, Big 74.37 55 P P 05 36 01.3 +1.4
baz=308
YMP Mirror Lake Pl 74.38 45 P P 05 36 02.6 +2.5
IMW Indian Meadow 74.49 46 P P 05 36 03.0 +2.3
IMW IAmb IAmb 05 36 04.1
comp=Z,25nm,0.8s
FLWY Flagg Ranch 74.50 45 P P 05 36 03.3 +2.6
VES Vestal, Richgr 74.56 56 P P 05 36 01.5 +0.6
baz=307,SNR=11
FXWY Fox Creek 74.61 46 P P 05 36 03.5 +2.2
RLMT Red Lodge 74.62 44 P P 05 36 02.8 +1.5
baz=310,SNR=16
RLMT Red Lodge 74.62 44 P P 05 36 03.0 +1.7
PKM Mcpherson Peak 74.66 57 P P 05 36 03.5 +1.8
baz=307
TPAW Teton Pass 74.74 46 P P 05 36 04.4 +2.2
TPAW IAmb IAmb 05 36 05.5
comp=Z,43nm,1.4s
HVU Hansel Valley 74.78 48 P P 05 36 04.7 +2.4
HVU pmax pmax
comp=Z,21nm,0.9s
HVU Hansel Valley 74.78 48 P P 05 36 04.7 +2.4
CWC Cottonwood Cre 74.84 55 P P 05 36 04.0 +1.3
baz=308
SNOW Snow King Moun 74.87 46 P P 05 36 05.1 +2.2
REDW Red Top Meadow 74.88 46 P P 05 36 05.2 +2.3
GRAC Grapevine Rang 74.96 55 P P 05 36 04.8 +1.6
baz=308,SNR=19
SORM Soroca 74.97 320 ⇑P P 05 36 02.6 -0.3
DGMT Dagmar 75.02 39 P P 05 36 04.0 +0.6
baz=313
DGMT Dagmar 75.02 39 P P 05 36 04.7 +1.3
DGMT IAmb IAmb 05 36 05.4
comp=Z,22nm,0.9s
ISA Isabella, Lake 75.06 56 P P 05 36 04.4 +0.5
baz=308,SNR=5.4
ISA Isabella, Lake 75.06 56 P P 05 36 04.9 +1.1
ISA pmax pmax
comp=Z,11nm,1.0s
ISA Isabella, Lake 75.06 56 P P 05 36 04.9 +1.1
AHID Auburn Hatcher 75.12 47 P P 05 36 06.1 +1.9
ARVC Arvin 75.16 57 P P 05 36 05.5 +1.2
baz=308
BGU Big Grassy Mou 75.17 49 P P 05 36 06.7 +2.2
LAO LASA Array 75.20 41 P P 05 36 05.7 +1.3
baz=312,SNR=26
LAO LASA Array 75.20 41 P P 05 36 06.0 +1.6
LAO IAmb IAmb 05 36 07.1
comp=Z,41nm,0.9s
R11A Troy Canyon, C 75.24 53 P P 05 36 06.6 +1.7
baz=308,SNR=48
R11A Troy Canyon, C 75.24 53 P P 05 36 06.7 +1.7
R11A IAmb IAmb 05 36 07.8
comp=Z,30nm,1.1s
SPUT South Promonto 75.27 49 P P 05 36 06.9 +1.8
SCZ2 Santa Cruz Isl 75.31 58 P P 05 36 07.0 +1.7
baz=308
MPMC Manual Prospec 75.45 55 P P 05 36 07.7 +1.5
baz=308,SNR=11
DIKM Dikmen 75.51 312 ⇓P P 05 36 07.3 +1.0
OSI Osito Audit: C 75.54 57 P P 05 36 08.1 +1.5
baz=308
OSI Osito Audit: C 75.54 57 P P 05 36 08.6 +2.1
OSI IAmb IAmb 05 36 09.2
comp=Z,24nm,0.9s
MILM Milestii Mici 75.56 319 ⇓P P 05 36 05.9 -0.5
HWUT Hardware Ranch 75.59 48 P P 05 36 08.9 +1.9
HWUT IAmb IAmb 05 36 10.0
comp=Z,46nm,1.1s
FURC Furnace Creek, 75.60 55 P P 05 36 08.3 +1.5
baz=308,SNR=32
LRMC Laurel Mtn Rad 75.68 56 P P 05 36 08.8 +1.3
baz=308
TPNV Topopah Spring 75.69 54 P P 05 36 08.9 +1.4
baz=308,SNR=51
TPNV Topopah Spring 75.69 54 P P 05 36 09.2 +1.6
TPNV pmax pmax
comp=Z,38nm,1.0s
TPNV Topopah Spring 75.69 54 P P 05 36 09.2 +1.6
TPNV IAmb IAmb 05 36 10.3
comp=Z,38nm,0.9s
BSD Bornholm Skovb 75.75 332 ⇑ *i*P P 05 36 07.0 -0.3
comp=Z,28nm,0.9s
BSD *i* 05 36 24.5
BSD Bornholm Skovb 75.75 332 ⇑ *i*P P 05 36 07.0 -0.3
BSD *i* 05 36 24.5
BSD pmax pmax
comp=Z,28nm,0.9s
DUG Dugway, Tooele 75.76 50 P P 05 36 09.2 +1.3
baz=310,SNR=5.5
DUG Dugway, Tooele 75.76 50 P P 05 36 10.0 +2.1
DUG pmax pmax
comp=Z,40nm,1.1s
DUG Dugway, Tooele 75.76 50 P P 05 36 10.0 +2.1
DUG IAmb IAmb 05 36 10.9
comp=Z,40nm,1.1s
EDW2 Edwards Air Fo 75.85 57 P P 05 36 09.8 +1.4
baz=308,SNR=11
BEL Belsk 75.86 327 *e*P P 05 36 08.8 +0.7
BEL *ep*P **pP** 05 36 26.2 -0.1
BEL *eS*P **sP** 05 36 33.5 -0.3
LVV L'vov 75.87 324 *e*P P 05 36 08.3 +0.2
BW06 Boulder Array 75.99 46 P P 05 36 10.1 +0.9
baz=311,SNR=16
BW06 Boulder Array 75.99 46 P P 05 36 10.3 +1.1
PD31 Pinedale Array 75.99 46 P P 05 36 10.4 +1.2
PDAR Pinedale Array 75.99 46 P P 05 36 10.3 +1.1
comp=Z,12nm,0.7s,baz=276,slow=2.5,SNR=99
TCUT Toone Canyon 76.00 48 P P 05 36 11.3 +1.9
DECC Green Verdugo 76.01 57 P P 05 36 10.4 +1.1
baz=308
CTU Camp Tracy 76.07 49 P P 05 36 11.7 +2.0
PSUT Pine Spring 76.19 51 P P 05 36 12.2 +1.7
GOET G??ttrup 76.19 336 *i* P P 05 36 10.2 +0.4
comp=Z,70nm,0.7s
GOET *i* 05 36 28.1
MWC Mount Wilson 76.21 57 P P 05 36 12.1 +1.5
MWC pmax pmax
comp=Z,18nm,1.0s
MWC Mount Wilson 76.21 57 P P 05 36 12.1 +1.5
VASR Vaslui 76.26 320 ⇑P P 05 36 11.3 +0.9
JLU Jordanelle 76.30 49 P P 05 36 12.8 +1.7
SHOC Shoshone, Teco 76.33 55 P P 05 36 12.4 +1.4
baz=309,SNR=8.9
GSC Goldstone, Bar 76.36 56 P P 05 36 12.4 +1.1
baz=308,SNR=12
GSC Goldstone, Bar 76.36 56 P P 05 36 12.7 +1.4
GSC pmax pmax
comp=Z,22nm,1.2s
GSC Goldstone, Bar 76.36 56 P P 05 36 12.7 +1.4
BFSC Mount Baldy Ra 76.46 57 P P 05 36 12.8 +0.9
baz=308,SNR=8.2
CIS Catalina Islan 76.48 58 P P 05 36 13.2 +1.3
baz=308
MPU Maple Canyon 76.57 49 P P 05 36 14.4 +1.8
KWP Kalwaria Pacla 76.61 324 *e*P P 05 36 13.3 +0.9
KWP *ep*P **pP** 05 36 30.2 -0.5
SCI2 San Clemente I 76.65 58 P P 05 36 14.3 +1.4
baz=308
SHPR Sheep Range 76.65 54 P P 05 36 15.0 +1.9
SHPR IAmb IAmb 05 36 16.1
comp=Z,31nm,1.0s
MUD Monsted U'grnd 76.68 335 *i* P P 05 36 11.0 -1.6
MUD Monsted U'grnd 76.68 335 *i* P P 05 36 11.0 -1.6
RGN Rugen 76.77 332 *e*P P 05 36 13.4 +0.3
RGN *ep*P **pP** 05 36 31.6 +0.1
RGN Rugen 76.77 332 P P 05 36 13.7 +0.6
RGN **sP** 05 36 39.5 +0.6
RGN Rugen 76.77 332 *e*P P 05 36 13.7 +0.6
comp=Z,34nm,0.8s,baz=36,slow=5.3
ILGA Ilgaz 76.78 312 P P 05 36 15.2 +1.4
ILGA IAmb IAmb 05 36 33.4
comp=Z,38nm,0.9s
TUQ Turquoise Moun 76.84 55 P P 05 36 15.7 +1.6
baz=309

BUR08 **Bucovina Ar. S** 76.85 322 P **P** 05 36 14.3 +0.5
BUR08 IAmb IAmb 05 36 33.3
comp=Z,21nm,0.8s
BURAR **Bucovina Array** 76.86 322 ⇑P **P** 05 36 14.4 +0.5
BIZ **Bicaz** 76.90 321 ⇑P **P** 05 36 14.5 +0.5
TESR **Tescani** 76.92 320 ⇑P **P** 05 36 14.4 +0.2
BBRC **Big Bear Solar** 76.93 56 P **P** 05 36 15.7 +1.0
baz=309
HEC **Hector,Ludlow** 76.95 56 P **P** 05 36 16.0 +1.4
baz=309,SNR=5.8
CFR **Carcaliu** 77.08 318 ⇑P **P** 05 36 15.0 -0.1
CCUT **Cedar City** 77.11 52 P **P** 05 36 17.6 +2.0
MURC **Murrieta** 77.16 57 P **P** 05 36 17.0 +1.2
baz=309
TOPG **Topolog** 77.16 318 ⇑P **P** 05 36 15.7 +0.2
GAZ **Gaziantep** 77.19 308 P **P** 05 36 17.3 +1.4
GAZ IAmb IAmb 05 36 35.4
comp=Z,36nm,1.1s
MSU **Marysvale** 77.21 51 P **P** 05 36 18.5 +2.2
MSU **Marysvale** 77.21 51 P **P** 05 36 18.5 +2.2
SZCU **Shurtz Canyon** 77.25 52 P **P** 05 36 18.2 +1.8
KOLS **Kolonicke sedl** 77.31 324 *eP* **P** 05 36 16.6 +0.3
KOLS pmax pmax
comp=Z,7.0nm,0.9s
KOLS **Kolonicke sedl** 77.31 324 *eP* **P** 05 36 16.6 +0.3
VRI **Vrincioaia** 77.33 320 ⇑P **P** 05 36 17.6 +1.1
PLOR **Plostina** 77.38 320 ⇑P **P** 05 36 17.6 +0.8
GMRC **Granite Mounta** 77.41 55 P **P** 05 36 18.7 +1.4
baz=309,SNR=16
RDMU **Red Mountain** 77.41 48 P **P** 05 36 19.1 +1.8
OJC **Ojcow** 77.47 326 *eP* **P** 05 36 17.6 +0.5
OJC *epP* **pP** 05 36 35.1 -0.4
OJC *esP* **sP** 05 36 42.6 -0.3
OJC *eL* L 06 13 27.8
comp=Z,152nm,18.8s
OJC **Ojcow** 77.47 326 P **P** 05 36 17.7 +0.5
OJC pmax pmax
comp=Z,58nm,0.9s
OJC **Ojcow** 77.47 326 P **P** 05 36 17.7 +0.5
MTPU **Mount Pierson** 77.51 51 P **P** 05 36 20.4 +2.3
UZH **Uzhgorod** 77.52 324 *eP* **P** 05 36 18.3 +0.9
UZH *e* 05 36 34.9
HARR **Harsova** 77.52 318 ⇑P **P** 05 36 17.7 +0.2
LCMT **Little Creek M** 77.52 52 P **P** 05 36 19.9 +2.0
Q16A **Castle Valley** 77.55 50 P **P** 05 36 20.0 +1.9
ULM **Lac du Bonnet** 77.59 34 P **P** 05 36 18.0 +0.2
comp=Z,15nm,0.9s,baz=320,slow=7.6,SNR=13
ULM LR LR 06 12 42.7
comp=Z,26nm,18.2s,baz=322,slow=37
ULM **Lac du Bonnet** 77.59 34 *c iP* **P** 05 36 17.7 -0.1
ULM **Lac du Bonnet** 77.59 34 P **P** 05 36 18.3 +0.5
PFO **Pinyon Flats O** 77.63 57 P **P** 05 36 19.5 +1.0
baz=309,SNR=7.6
PFO **Pinyon Flats O** 77.63 57 *c iP* **P** 05 36 19.0 +0.5
PFO pmax pmax
comp=Z,18nm,1.0s
PFO **Pinyon Flats O** 77.63 57 P **P** 05 36 20.0 +1.5
XPFO **Pion Flat** 77.63 57 P **P** 05 36 20.0 +1.5
OZUR 77.64 320 ⇓P **P** 05 36 19.5 +1.3
ARCR **ARCALIA** 77.65 322 ⇑P **P** 05 36 19.6 +1.4
MDND **Maddock** 77.66 37 P **P** 05 36 19.1 +0.8
baz=316,SNR=7.1
MDND **Maddock** 77.66 37 P **P** 05 36 19.3 +1.1
MDND IAmb IAmb 05 36 20.4
comp=Z,47nm,0.9s
109C **Camp Elliot, M** 77.66 58 P **P** 05 36 19.7 +1.2
baz=309
109C **Camp Elliot, M** 77.66 58 P **P** 05 36 19.5 +1.0
BELC **Belle Mtn. Jos** 77.69 56 P **P** 05 36 19.5 +0.6
baz=309,SNR=12
BR131 **Keskin Array S** 77.69 311 *c iP* **P** 05 36 18.7 -0.1
BR131 **Keskin Array S** 77.69 311 P **P** 05 36 19.0 +0.2
BR131 IAmb IAmb 05 36 37.6
comp=Z,34nm,1.4s
BRTR **Keskin Array B** 77.69 311 P **P** 05 36 18.9 +0.1
comp=Z,4.5nm,0.6s,baz=81,slow=3.7,SNR=34
BRTR *pP* **pP** 05 36 36.6 -0.5
comp=Z,4.8nm,0.7s,baz=94,slow=3.7,SNR=6.7
BRTR LR LR 06 15 50.9
comp=Z,37nm,18.3s,baz=31,slow=40
CRVS **Cervenica-Dubn** 77.70 324 *eP* **P** 05 36 19.1 +0.6
CRVS *e* 05 36 37.4
CRVS pmax pmax
comp=Z,21nm,1.2s
CRVS **Cervenica-Dubn** 77.70 324 *eP* **P** 05 36 19.1 +0.6
CRVS *e* 05 36 37.4
K22A **Casper** 77.74 45 P **P** 05 36 19.7 +0.7
baz=312,SNR=16
K22A **Casper** 77.74 45 P **P** 05 36 19.7 +0.7
K22A IAmb IAmb 05 36 21.2
comp=Z,33nm,1.1s
TRPA **Tarpa** 77.76 323 ⇑P **P** 05 36 19.6 +0.8
KNB **Kanab** 77.78 52 P **P** 05 36 21.5 +2.1
KNB pmax pmax
comp=Z,35nm,1.1s
KNB **Kanab** 77.78 52 P **P** 05 36 21.5 +2.1
SRU **San Rafael Swe** 77.81 49 P **P** 05 36 21.1 +1.6
SRU pmax pmax
comp=Z,50nm,0.8s
SRU **San Rafael Swe** 77.81 49 P **P** 05 36 21.1 +1.6
PKCU **Pink Cliffs** 77.82 52 P **P** 05 36 22.1 +2.4
NIE **Niedzica** 77.84 325 *eP* **P** 05 36 20.2 +0.9
NIE *epP* **pP** 05 36 37.8 +0.2
NIE *eL* L 06 13 54.4
comp=Z,206nm,16.8s
DOPR **Dopca** 77.93 320 ⇑P **P** 05 36 20.9 +1.1
MLR **Muntele Rosu** 77.98 320 ⇑P **P** 05 36 20.7 +0.4
MLR **Muntele Rosu** 77.98 320 P **P** 05 36 20.6 +0.3
MLR pmax pmax
comp=Z,19nm,1.3s
MLR **Muntele Rosu** 77.98 320 P **P** 05 36 20.6 +0.3
RWWY **Rawlins** 78.01 46 P **P** 05 36 21.8 +1.2
RWWY IAmb IAmb 05 36 22.8
comp=Z,41nm,1.0s
E28A **Huff** 78.04 39 P **P** 05 36 21.4 +1.0
E28A IAmb IAmb 05 36 22.3
comp=Z,26nm,0.9s
RSSD **Black Hills** 78.07 42 P **P** 05 36 21.7 +0.8
baz=314
RSSD **Black Hills** 78.07 42 P **P** 05 36 21.7 +0.8
RSSD pmax pmax
comp=Z,22nm,0.9s
RSSD **Black Hills** 78.07 42 P **P** 05 36 21.7 +0.8
RSSD IAmb IAmb 05 36 22.8
comp=Z,22nm,0.9s
BAR **Barrett** 78.07 58 P **P** 05 36 22.1 +1.2
NEE2 **Needles Airpor** 78.09 55 P **P** 05 36 22.2 +1.3
baz=310
ANTO **Ankara** 78.09 312 ⇑P **P** 05 36 21.7 +0.9
ANTO **Ankara** 78.09 312 P **P** 05 36 21.8 +0.9
ANTO pmax pmax
comp=Z,30nm,0.9s
ANTO **Ankara** 78.09 312 P **P** 05 36 21.8 +0.9
ANTO IAmb IAmb 05 36 39.9
comp=Z,30nm,0.9s
MONP2 **Monument Peak** 78.11 57 P **P** 05 36 22.5 +1.2
baz=309,SNR=5.1
IRM **Iron Mountain** 78.14 56 P **P** 05 36 22.7 +1.5
baz=310,SNR=17
RUE **Ruedersdorf** 78.21 331 *eP* **P** 05 36 21.2 0.0
RUE **Ruedersdorf** 78.21 331 *eP* **P** 05 36 21.6 +0.5
comp=Z,27nm,1.2s,baz=36,slow=5.3
BC3 **Big Chuckawall** 78.26 56 P **P** 05 36 22.8 +0.9
baz=309,SNR=15
CJR **Cluj-Napoca** 78.28 322 ⇑P **P** 05 36 22.9 +1.1
BSEG **Bad Segeberg** 78.33 333 *eP* **P** 05 36 22.3 +0.5
comp=Z,34nm,1.1s,baz=36,slow=5.3
W13A **Hualapai Mount** 78.34 54 P **P** 05 36 24.1 +1.6
LANS **Liptovska Anna** 78.41 326 *eP* **P** 05 36 23.8 +1.4
LANS *e* 05 36 42.0
LANS pmax pmax
comp=Z,8.0nm,1.0s
LANS **Liptovska Anna** 78.41 326 *eP* **P** 05 36 23.8 +1.4
LANS *e* 05 36 42.0
IKP **In-Ko-Pah, Jac** 78.46 57 P **P** 05 36 24.2 +1.2
baz=309,SNR=6.1
O20A **White River Ci** 78.46 47 P **P** 05 36 23.9 +0.8
baz=312,SNR=15
O20A **White River Ci** 78.46 47 P **P** 05 36 24.2 +1.1
O20A IAmb IAmb 05 36 25.4
comp=Z,26nm,0.9s
OKC **Ostrava-Krasne** 78.47 327 *eP* **P** 05 36 23.2 +0.5
OKC *ex* x 05 36 41.0
OKC **Ostrava-Krasne** 78.47 327 *eP* **P** 05 36 23.2 +0.5
OKC *e* 05 36 41.0
VOIR 78.47 320 ⇑P **P** 05 36 24.0 +1.1
SWSC **Sam W. Stewart** 78.48 57 P **P** 05 36 24.2 +1.2
baz=309,SNR=5.6
KSP **Ksiaz** 78.48 328 *eP* **P** 05 36 23.2 +0.5
KSP *epP* **pP** 05 36 40.7 -0.4
KSP *esP* **sP** 05 36 48.4 -0.2
KSP *eL* L 06 12 46.9
comp=Z,126nm,23.7s
U15A **North Rim** 78.48 52 P **P** 05 36 25.3 +1.9
U15A IAmb IAmb 05 36 26.6
comp=Z,36nm,1.0s
MDUB **Mudurnu** 78.60 313 P **P** 05 36 24.4 +0.7
DRGR 78.64 322 ⇑P **P** 05 36 24.1 +0.2
PDMCI **Parker Dam,Lak** 78.69 55 P **P** 05 36 25.3 +1.1
baz=310,SNR=14
ARR **Arges** 78.73 320 ⇑P **P** 05 36 25.3 +1.0
OSTC **Ostas** 78.73 328 *eP* **P** 05 36 24.7 +0.5
OSTC *ex* x 05 36 42.4
MORC **Moravsky Berou** 78.77 327 ⇑P **P** 05 36 25.0 +0.6
MORC **Moravsky Berou** 78.77 327 ⇑*iP* **P** 05 36 24.8 +0.4
MORC *e* 05 36 42.7
MORC **Moravsky Berou** 78.77 327 P **P** 05 36 25.0 +0.6
MORC pmax pmax
comp=Z,34nm,0.9s
MORC **Moravsky Berou** 78.77 327 P **P** 05 36 25.0 +0.6
MORC IAmb IAmb 05 36 43.8
comp=Z,34nm,0.9s
CHVC **Chvalec** 78.77 328 *eP* **P** 05 36 24.9 +0.5
CHVC *ex* x 05 36 42.7
Y12C **Blythe** 78.79 56 P **P** 05 36 26.1 +1.4
baz=310,SNR=7.8
Y12C **Blythe** 78.79 56 P **P** 05 36 26.8 +2.0
Y12C IAmb IAmb 05 36 27.4
comp=Z,32nm,0.9s
DPC **Dobruska-Polom** 78.85 328 *eP* **P** 05 36 25.4 +0.6
DPC *ex* x 05 36 43.6
DPC **Dobruska-Polom** 78.85 328 *eP* **P** 05 36 25.4 +0.6
DPC *e* 05 36 43.6
UPC **Upice** 78.85 328 *eP* **P** 05 36 25.5 +0.7
UPC *ex* x 05 36 43.4
UPC *epP* **sP** 05 36 49.4 -1.2
UPC **Upice** 78.85 328 *eP* **P** 05 36 25.5 +0.7
UPC *e* 05 36 43.4
UPC *e* 05 36 49.4
PV09 **Paradox Valley** 79.03 49 P **P** 05 36 28.1 +1.7
GLA **Glamis** 79.04 56 P **P** 05 36 27.5 +1.3
baz=310,SNR=8.4
GLA **Glamis** 79.04 56 P **P** 05 36 28.2 +2.0
GLA pmax pmax
comp=Z,28nm,0.9s
GLA **Glamis** 79.04 56 P **P** 05 36 28.2 +2.0
GLA IAmb IAmb 05 36 28.8
comp=Z,28nm,0.9s
AGMN **Agassiz Nation** 79.05 35 P **P** 05 36 25.8 -0.1
baz=318,SNR=9.1
AGMN **Agassiz Nation** 79.05 35 P **P** 05 36 25.9 0.0
PV21 **Cone Mtn., Par** 79.08 49 P **P** 05 36 28.2 +1.6
LOT **Lotru** 79.10 321 ⇑P **P** 05 36 26.6 +0.2
PSZ **Piszkesteto** 79.13 324 ⇑P **P** 05 36 27.0 +0.6
PSZ **Piszkesteto** 79.13 324 P **P** 05 36 27.1 +0.6
PSZ pmax pmax
comp=Z,37nm,1.0s
PSZ **Piszkesteto** 79.13 324 P **P** 05 36 27.1 +0.7
PSZ IAmb IAmb 05 36 46.0
comp=Z,37nm,1.0s
PV23 **Carpenter Ridg** 79.14 49 P **P** 05 36 28.6 +1.7
PV10 **Paradox Valley** 79.17 49 P **P** 05 36 29.2 +2.1
VYHS **Vyhne** 79.17 325 *eP* **P** 05 36 27.4 +0.8
VYHS *e* 05 36 45.2
VYHS pmax pmax
comp=Z,11nm,1.1s
VYHS **Vyhne** 79.17 325 *eP* **P** 05 36 27.4 +0.8
VYHS *e* 05 36 45.2
PV14 **Lion Creek, Pa** 79.18 49 P **P** 05 36 28.8 +1.6
PV22 **Blue Mesa, Par** 79.21 49 P **P** 05 36 28.9 +1.7
PV22 IAmb IAmb 05 36 29.9
comp=Z,43nm,1.0s
PV20 **West Nyswonger** 79.23 49 P **P** 05 36 29.0 +1.7
PV04 **Paradox Valley** 79.24 49 P **P** 05 36 29.1 +1.7
PV04 IAmb IAmb 05 36 30.2
comp=Z,42nm,0.9s
PV19 **Morning Glory** 79.25 49 P **P** 05 36 29.3 +1.8
N23A **Red Feather La** 79.25 46 P **P** 05 36 28.9 +1.4
baz=313,SNR=20
N23A **Red Feather La** 79.25 46 P **P** 05 36 29.2 +1.7
N23A IAmb IAmb 05 36 30.4
comp=Z,40nm,1.1s
PV17 **East Wray Mesa** 79.28 49 P **P** 05 36 29.4 +1.7
PV11 **David Mesa, Pa** 79.32 49 P **P** 05 36 29.6 +1.8
PV11 IAmb IAmb 05 36 30.6
comp=Z,41nm,0.8s
PV05 **Paradox Valley** 79.33 49 P **P** 05 36 29.8 +1.9
PV18 **Skein Mesa, Pa** 79.33 49 P **P** 05 36 29.6 +1.7
PV18 IAmb IAmb 05 36 30.6
comp=Z,42nm,0.9s
PV12 **Saucer Basin,** 79.35 49 P **P** 05 36 29.6 +1.6
PV12 IAmb IAmb 05 36 42.2
comp=Z,26nm,1.0s
PV07 **Paradox Valley** 79.36 49 P **P** 05 36 29.6 +1.5
PV07 IAmb IAmb 05 36 30.7
comp=Z,27nm,1.2s
PV03 **Paradox Valley** 79.36 49 P **P** 05 36 29.6 +1.6
PV03 IAmb IAmb 05 36 30.8
comp=Z,32nm,0.9s
BRG **Berggiesshubel** 79.41 329 *iP* **P** 05 36 28.1 +0.3
comp=Z,13nm,0.8s
BRG *i* pP **pP** 05 36 45.8 -0.4
comp=Z,26nm,0.9s
BRG *i* sP **sP** 05 36 53.2 -0.4
comp=Z,8.4nm,0.9s
BRG *ePP* **PP** 05 39 27.9 0.0
comp=Z,6.9nm,1.4s
BRG **Berggiesshubel** 79.41 329 ⇑*iP* **P** 05 36 28.1 +0.3
BRG *i* *PP **pP** 05 36 45.8 -0.4
BRG *i* *SP **sP** 05 36 53.2 -0.4
BRG *e* 05 39 27.9
BRG pmax pmax
comp=Z,13nm,0.8s
BRG pmax pmax
comp=Z,26nm,0.9s
BRG pmax pmax
comp=N,8.0nm,0.9s
BRG pmax pmax
comp=Z,7.0nm,1.5s
BRG **Berggiesshubel** 79.41 329 *eP* **P** 05 36 28.1 +0.3
comp=Z,13nm,0.8s,baz=36,slow=5.3
JAVC **Velka Javorina** 79.41 326 ⇑*iP* **P** 05 36 29.3 +1.4
JAVC *e* 05 36 47.2
PVCC **Panska Ves** 79.42 329 *eP* **P** 05 36 28.9 +1.0
PVCC **Panska Ves** 79.42 329 *eP* **P** 05 36 28.9 +1.0
CLL **Collm** 79.43 330 ⇑*iP* **P** 05 36 28.8 +0.9
comp=Z,28nm,0.9s
CLL *i* 05 36 46.3
comp=Z,52nm,0.8s
CLL *i* pP **sP** 05 36 53.8 +0.1
CLL *ePP* **PP** 05 39 27.0 -1.1
CLL *e* 05 39 45.0
CLL Lm MLR 06 14 00.0
comp=N,100nm,19.4s
CLL Lm MLR 06 14 00.0
comp=E,100nm,19.0s
CLL **Collm** 79.43 330 *i* P pP 05 36 46.3 0.0
comp=Z,52nm,0.8s
CLL **Collm** 79.43 330 ⇑*iP* **P** 05 36 28.8 +0.9
CLL *i* *PP **pP** 05 36 46.3 0.0
CLL pmax pmax
comp=Z,28nm,0.9s
CLL **Collm** 79.43 330 P **P** 05 36 28.8 +0.9
CLL IAmb IAmb 05 36 47.6
comp=Z,45nm,0.8s
CLL **Collm** 79.43 330 *eP* **P** 05 36 28.9 +0.9
comp=Z,28nm,0.8s,baz=36,slow=5.3
PV13 **Radium Mtn., P** 79.44 49 P **P** 05 36 30.2 +1.6
PV02 **Paradox Valley** 79.46 49 P **P** 05 36 30.3 +1.7
PV02 IAmb IAmb 05 36 32.0
comp=Z,24nm,0.8s
PV15 **Paradox Valley** 79.52 49 P **P** 05 36 30.6 +1.6
SIRR **Siria** 79.53 322 ⇓P **P** 05 36 28.8 +0.2
VRAC **Vranov** 79.53 327 ⇑P **P** 05 36 29.2 +0.7
VRAC **Vranov** 79.53 327 ⇑*iP* **P** 05 36 29.0 +0.5
VRAC *e* 05 36 47.0
NRDL **Niedersach Rie** 79.57 332 *eP* **P** 05 36 28.9 +0.4
comp=Z,10nm,0.8s,baz=36,slow=5.3
FBE **Freiberg** 79.60 330 *eP* **P** 05 36 29.4 +0.6
comp=Z,27nm,0.8s,baz=36,slow=5.3
PV01 **Paradox Valley** 79.61 49 P **P** 05 36 31.1 +1.6
PV01 IAmb IAmb 05 36 32.1
comp=Z,26nm,1.0s
GZR **Gura Zlata** 79.62 321 ⇑P **P** 05 36 29.1 -0.1
RETH **Rethem/Aller,** 79.64 333 *eP* **P** 05 36 29.3 +0.4
comp=Z,21nm,0.9s,baz=36,slow=5.3
WUAZ **Wupatki** 79.64 53 P **P** 05 36 31.1 +1.5
baz=311,SNR=25
WUAZ **Wupatki** 79.64 53 P **P** 05 36 31.5 +2.0
WUAZ IAmb IAmb 05 36 32.6
comp=Z,34nm,0.9s
Y14A **Wickenburg** 79.64 55 P **P** 05 36 31.1 +1.6
Y14A IAmb IAmb 05 36 32.1
comp=Z,29nm,0.9s
ASSE **Asse, Remlinge** 79.66 332 *eP* **P** 05 36 29.4 +0.4
comp=Z,13nm,1.1s,baz=36,slow=5.3
SMOL **Smolenice** 79.78 326 *eP* **P** 05 36 31.0 +1.1
SMOL pmax pmax
comp=Z,8.0nm,1.0s
SMOL **Smolenice** 79.78 326 *eP* **P** 05 36 31.0 +1.1
KRUC **Moravsky** 79.80 327 ⇑*iP* **P** 05 36 30.3 +0.3
KRUC *e* 05 36 48.2
PRU **Pruhonice** 79.86 329 *eP* **P** 05 36 30.8 +0.6
PRU *ex* x 05 36 48.7
PRU *epP* **sP** 05 36 53.4 -2.7
PRU **Pruhonice** 79.86 329 *eP* **P** 05 36 30.8 +0.6
PRU *e* 05 36 48.7
PRU *e* 05 36 53.4
113A **Mohawk Valley,** 79.91 56 P **P** 05 36 32.5 +1.7
113A IAmb IAmb 05 36 33.2
comp=Z,24nm,1.0s
B35A **Bob, Littlefor** 79.94 34 P **P** 05 36 30.9 +0.1
B35A IAmb IAmb 05 36 32.0
comp=Z,25nm,1.1s
MODS **Modra-Piesok** 79.95 326 *eP* **P** 05 36 31.0 +0.2
MODS *e* 05 36 49.0
MODS pmax pmax
comp=Z,19nm,1.2s
MODS **Modra-Piesok** 79.95 326 *eP* **P** 05 36 31.0 +0.2
MODS *e* 05 36 49.0
NEUB **Neuenburg** 79.98 331 *eP* **P** 05 36 31.0 +0.2
comp=Z,22nm,0.8s,baz=36,slow=5.3
TREC **Trest** 80.00 328 *eP* **P** 05 36 31.4 +0.3
TREC *ex* x 05 36 49.2
TREC *epP* **sP** 05 36 57.4 +0.4
TREC **Trest** 80.00 328 *eP* **P** 05 36 31.4 +0.3
TREC *e* 05 36 49.2
TREC *e* 05 36 57.4
BZS **Buzias** 80.02 322 ⇑P **P** 05 36 31.0 -0.2
PLVB **Pleven** 80.14 319 ⇑P **P** 05 36 32.1 +0.2
RAYN **Ar Rayn** 80.14 292 P **P** 05 36 32.1 -0.3
RAYN pmax pmax
comp=Z,10.0nm,0.7s
RAYN **Ar Rayn** 80.14 292 P **P** 05 36 32.1 -0.3
ZST **Bratislava** 80.16 326 *eP* **P** 05 36 31.8 -0.1
ZST *e* 05 36 49.8
ZST pmax pmax
comp=Z,11nm,1.2s
ZST **Bratislava** 80.16 326 *eP* **P** 05 36 31.8 -0.1
ZST *e* 05 36 49.8
HERR **Herculane** 80.17 321 ⇓P **P** 05 36 32.0 0.0
ISCO **Idaho Springs** 80.18 46 P **P** 05 36 34.0 +1.4
baz=313,SNR=19
ISCO **Idaho Springs** 80.18 46 P **P** 05 36 34.3 +1.7
ISCO pmax pmax
comp=Z,15nm,0.9s
ISCO **Idaho Springs** 80.18 46 P **P** 05 36 34.3 +1.7
MVCO **Mesa Verde** 80.26 50 P **P** 05 36 34.3 +1.2
baz=312,SNR=26
MVCO **Mesa Verde** 80.26 50 P **P** 05 36 34.6 +1.6
MVCO IAmb IAmb 05 36 35.7
comp=Z,28nm,0.9s
X16A **Lo Mia Camp, P** 80.32 53 P **P** 05 36 35.3 +2.0
X16A IAmb IAmb 05 36 36.4
comp=Z,28nm,0.9s
TANN **Tannenbergstha** 80.35 330 *eP* **P** 05 36 33.2 +0.3
comp=Z,16nm,1.0s,baz=36,slow=5.3
GTTG **Gottingen** 80.39 332 *eP* **P** 05 36 33.4 +0.4
comp=Z,25nm,0.9s,baz=36,slow=5.3
PLN **Plauen** 80.41 330 *eP* **P** 05 36 33.5 +0.3
comp=Z,15nm,1.5s,baz=36,slow=5.3
PLN *epP* **pP** 05 36 51.3 -0.4
SUSD **Miller** 80.42 39 P **P** 05 36 33.9 +0.4
baz=317,SNR=6.0
SUSD **Miller** 80.42 39 P **P** 05 36 34.5 +1.0
GUNZ **Gunzen** 80.44 330 *eP* **P** 05 36 33.8 +0.4
comp=Z,17nm,1.2s,baz=36,slow=5.3
WERN **Wernitzgruen** 80.48 330 *eP* **P** 05 36 34.2 +0.5
comp=Z,19nm,1.0s,baz=36,slow=5.3
MOX **Moxa** 80.49 330 *eP* **P** 05 36 34.0 +0.3
comp=Z,20nm,1.3s,baz=36,slow=5.3
NKC **Novy Kostel** 80.50 330 *eP* **P** 05 36 34.5 +0.8
NKC *ex* x 05 36 51.8
NKC *epP* **sP** 05 36 59.9 +0.3
NKC **Novy Kostel** 80.50 330 *eP* **P** 05 36 34.5 +0.8
NKC *e* 05 36 51.8
NKC *e* 05 36 59.9
IBBN **Ibbenburen** 80.55 333 *eP* **P** 05 36 34.1 +0.2
comp=Z,29nm,0.8s,baz=36,slow=5.3
MDVR **Moldovita** 80.58 321 ⇑P **P** 05 36 34.1 -0.2
MANZ **Manzenberg** 80.83 330 *eP* **P** 05 36 35.9 +0.4
comp=Z,14nm,1.1s,baz=36,slow=5.3
S22A **4UR Ranch, Cre** 80.88 48 P **P** 05 36 38.0 +1.6
baz=313,SNR=30
S22A **4UR Ranch, Cre** 80.88 48 P **P** 05 36 38.3 +1.9
CONA **Conrad Observa** 80.90 327 *eP* **P** 05 36 36.8 +0.8
comp=Z,14nm,0.9s,SNR=13
CONA *epP* **pP** 05 36 54.5 0.0
comp=Z,20nm,0.8s
W18A **Petrified Fore** 80.91 52 P **P** 05 36 38.0 +1.6
baz=312,SNR=7.7
W18A **Petrified Fore** 80.91 52 P **P** 05 36 38.3 +1.9
KHC **Kasperske Hory** 80.92 328 *eP* **P** 05 36 36.5 +0.5
KHC *ex* x 05 36 54.4
KHC *epP* **sP** 05 37 02.3 +0.4
KHC **Kasperske Hory** 80.92 328 *eP* **P** 05 36 36.5 +0.5
KHC *e* 05 36 54.4
KHC *e* 05 37 02.3
KHC **Kasperske Hory** 80.92 328 P **P** 05 36 36.5 +0.5
ROTZ **Rotzenmuhle** 80.96 330 *eP* **P** 05 36 37.0 +0.8
comp=Z,28nm,1.5s,baz=36,slow=5.3
UBBA **Unterbreizbach** 80.96 331 *eP* **P** 05 36 36.3 +0.3
comp=Z,5.8nm,0.8s,baz=36,slow=5.3
UBBA *epP* **pP** 05 36 53.8 -0.7
MORH **Mrgy, Hungar** 80.97 324 ⇑*iP* **P** 05 36 36.0 -0.3
MMAI **Mount Meron Ar** 81.00 305 LR LR 06 16 09.6
comp=Z,65nm,19.9s,baz=175,slow=38
CSS **Mathiatis** 81.01 308 P **P** 05 36 36.9 +0.2
Q24A **Divide** 81.01 47 P **P** 05 36 38.3 +1.2
baz=314
214A **Organ Pipe Nat** 81.05 56 P **P** 05 36 38.4 +1.4
baz=311,SNR=6.2
214A **Organ Pipe Nat** 81.05 56 P **P** 05 36 38.9 +1.9
GEC2 **GERESS Array S** 81.09 328 P **P** 05 36 36.9 -0.2
GEC2 **GERESS Array S** 81.09 328 *eP* **P** 05 36 37.1 +0.1
comp=Z,7.9nm,0.8s,baz=36,slow=5.3
GERES **GERESS Array B** 81.09 328 P **P** 05 36 37.1 +0.1
comp=Z,5.0nm,0.7s,baz=36,slow=5.3,SNR=60
GERES pP **pP** 05 36 55.1 -0.4
comp=Z,11nm,0.8s,baz=32,slow=5.2,SNR=20
GERES LR LR 06 15 18.1
comp=Z,137nm,21.0s,baz=45,slow=38
X18A **Snowflake** 81.17 53 P **P** 05 36 39.7 +1.8
WET **Wettzell** 81.19 329 *eP* **P** 05 36 38.1 +0.7
comp=Z,18nm,1.3s,baz=36,slow=5.3
EYMN **Ely** 81.22 33 P **P** 05 36 37.6 0.0
baz=321,SNR=17
EYMN **Ely** 81.22 33 P **P** 05 36 37.8 +0.2
FRGS **Fruska Gora** 81.22 323 ⇑*iP* **P** 05 36 37.8 +0.1
OGNE **Ogallala** 81.35 43 P **P** 05 36 39.2 +0.6
baz=315
VTS **Vitosha** 81.40 319 ⇑P **P** 05 36 39.4 +0.5
VTS **Vitosha** 81.40 319 P **P** 05 36 38.8 -0.1
VTS pmax pmax
comp=Z,18nm,0.9s
VTS **Vitosha** 81.40 319 P **P** 05 36 38.8 -0.1
GRA1 **Grafenberg Arr** 81.41 330 P **P** 05 36 39.4 +0.8
GRF **Grafenberg Arr** 81.41 330 P **P** 05 36 39.4 +0.8
GRF pmax pmax
comp=Z,66nm,0.9s
GRF **Grafenberg Arr** 81.41 330 *eP* **P** 05 36 39.4 +0.8
comp=Z,8.1nm,1.2s,baz=36,slow=5.3

BUG Bochum--Univer 81.44 333 *e*P **P 05 36 38.7 0.0**
comp=Z,22nm,1.0s,baz=36,slow=5.3
BUG *e*pP **pP 05 36 56.4 -0.7**
MANT Manisa 81.45 313 P **P 05 36 39.9 +0.6**
MANT IAmb IAmb 05 36 57.7
comp=Z,43nm,1.0s
ARSA Arzberg 81.57 326 *e*P **P 05 36 39.7 +0.2**
comp=Z,5.9nm,0.7s,SNR=7.1
ARSA *e*pP **pP 05 36 57.8 -0.2**
comp=Z,11nm,0.7s
BEHE Becsehely 81.62 325 *e*P **P 05 36 41.6 +1.9**
MOA Molln 81.64 327 *e*P **P 05 36 40.0 +0.2**
comp=Z,9.9nm,1.1s,SNR=5.8
SDCO Great Sand Dun 81.65 48 P **P 05 36 41.9 +1.5**
baz=314,SNR=29
SDCO Great Sand Dun 81.65 48 P **P 05 36 42.0 +1.5**
K31A O'Neill 81.85 40 P **P 05 36 41.8 +0.7**
ELL Elmali 81.86 311 P **P 05 36 41.5 +0.1**
ELL pmax pmax
comp=Z,51nm,0.8s
ELL Elmali 81.86 311 P **P 05 36 41.5 +0.1**
DIVS Divibare 81.92 322 P **P 05 36 41.2 -0.2**
DIVS Divibare 81.92 322⇑ *i*P **P 05 36 41.1 -0.4**
KALN Kalnik 82.02 325 P **P 05 36 41.7 -0.2**
TNS Taunus Mts 82.02 332 *e*P **P 05 36 42.1 +0.2**
comp=Z,16nm,1.1s,baz=36,slow=5.3
TNS *e*pP **pP 05 36 59.9 -0.4**
ECSD EROS Data Cent 82.09 39 P **P 05 36 42.7 +0.4**
baz=318,SNR=8.6
ECSD EROS Data Cent 82.09 39 P **P 05 36 43.1 +0.8**
ECSD IAmb IAmb 05 36 43.7
comp=Z,23nm,0.9s
TUC Tucson 82.11 55 P **P 05 36 44.2 +1.5**
baz=312
TUC Tucson 82.11 55 P **P 05 36 44.3 +1.5**
TUC pmax pmax
comp=Z,13nm,1.0s
TUC Tucson 82.11 55 P **P 05 36 44.3 +1.5**
GROS Grobnik 82.19 326 *i* P **P 05 36 42.7 -0.2**
GROS *i* pP **pP 05 37 00.5 -0.8**
SOKA Soboth 82.22 326 *e*P **P 05 36 43.3 +0.2**
comp=Z,23nm,1.0s,SNR=29
SOKA *e*pP **pP 05 37 01.1 -0.5**
comp=Z,26nm,0.7s
E38A The Farm, Brul 82.23 34 P **P 05 36 42.8 -0.2**
E38A IAmb IAmb 05 36 43.9
comp=Z,24nm,0.8s
AHRW Bad Neuenahr-A 82.26 333 *e*P **P 05 36 43.2 +0.3**
comp=Z,19nm,0.9s,baz=36,slow=5.3
MOSL Moslavina 82.29 325 P **P 05 36 43.0 -0.3**
RJOB Jochberg 82.34 328 *e*P **P 05 36 44.3 +0.7**
comp=Z,29nm,0.9s,baz=36,slow=5.3
BBLS Lazići 82.38 322⇑ *i*P **P 05 36 44.0 +0.1**
KSCO Kaye Shedlock' 82.39 45 P **P 05 36 44.8 +0.7**
baz=315
KSCO Kaye Shedlock' 82.39 45 P **P 05 36 45.4 +1.3**
KSCO IAmb IAmb 05 36 46.1
comp=Z,24nm,1.1s
PTJ Puntijarka 82.41 325 P **P 05 36 44.0 0.0**
OBKA Obir 82.57 326 *e*P **P 05 36 44.7 -0.1**
comp=Z,9.0nm,0.8s,SNR=6.4
OBKA *e*pP **pP 05 37 02.6 -0.7**
comp=Z,16nm,0.8s
FUR Furstenfeldbru 82.61 329 *e*P **P 05 36 45.4 +0.5**
comp=Z,37nm,0.9s,baz=36,slow=5.3
KBA Koelnbreinsper 82.63 327 *e*P **P 05 36 45.3 +0.1**
comp=Z,14nm,0.8s,SNR=11
KBA *e*pP **pP 05 37 03.1 -0.7**
comp=Z,20nm,0.7s
T25A Trinidad 82.70 47 P **P 05 36 46.9 +1.1**
baz=314,SNR=38
T25A Trinidad 82.70 47 P **P 05 36 47.1 +1.3**
T25A IAmb IAmb 05 36 48.2
comp=Z,31nm,0.8s
CRES Cresnjev 82.70 325⇑ *i*P **P 05 36 45.0 -0.4**
SPMN Marine on St. 82.75 36 P **P 05 36 45.4 -0.3**
baz=320,SNR=6.2
SPMN Marine on St. 82.75 36 P **P 05 36 45.8 +0.2**
BLY Banja Luka 82.75 324⇑ *i*P **P 05 36 48.4 +2.7**
SKO Skopje 82.78 320 *i* P **P 05 36 46.9 +1.0**
MYKA Terra Mystica 82.86 327 *e*P **P 05 36 45.9 -0.5**
comp=Z,12nm,0.7s,SNR=12
MYKA *e*pP **pP 05 37 03.5 -1.3**
comp=Z,20nm,0.7s
OZLJ Ozalj 82.86 325 P **P 05 36 46.3 +0.1**
ANMO Albuquerque 83.01 50 P **P 05 36 49.3 +1.8**
baz=314
ANMO Albuquerque 83.01 50*c i*P **P 05 36 49.1 +1.7**
ANMO pmax pmax
comp=Z,30nm,1.3s
ANMO Albuquerque 83.01 50 P **P 05 36 49.2 +1.7**
ANMO IAmb IAmb 05 36 50.5
comp=Z,24nm,1.1s
PRED Cave del Predi 83.04 327 P **P 05 36 46.5 -0.7**
PRED IAmb IAmb 05 37 05.2
comp=Z,23nm,0.8s
BGNE Belgrade 83.04 41 P **P 05 36 47.5 +0.2**
baz=318,SNR=6.0
BGNE Belgrade 83.04 41 P **P 05 36 48.1 +0.8**
BOJS Bojanci 83.04 325 *i* P **P 05 36 46.9 -0.3**
BOJS *i* pP **pP 05 37 04.7 -1.0**
BOJS *i* sP **sP 05 37 14.2 +1.2**
MGRS Mrkonjic Grad 83.05 324 *e*P **P 05 36 48.3 +1.0**
D41A Chassel 83.14 32 P **P 05 36 47.9 +0.3**
WATA Walderalm 83.16 328 *e*P **P 05 36 48.0 +0.1**
comp=Z,11nm,0.9s,SNR=7.5
WATA *e*pP **pP 05 37 05.8 -0.6**
comp=Z,18nm,0.8s
WTTA Wattenberg 83.19 328 *e*P **P 05 36 48.3 +0.2**
comp=Z,14nm,0.9s,SNR=7.8
WTTA *e*pP **pP 05 37 06.2 -0.5**
comp=Z,32nm,0.9s
ZOU Zoufplan 83.20 327 P **P 05 36 47.6 -0.7**
ZOU IAmb IAmb 05 37 06.1
comp=Z,20nm,1.0s
CEY Cerknica 83.22 326⇑ *i*P **P 05 36 47.1 -1.0**
ABTA Abfaltersbach 83.24 328 *e*P **P 05 36 47.9 -0.4**
comp=Z,7.0nm,0.8s,SNR=8.7
ABTA *e*pP **pP 05 37 05.1 -1.8**
comp=Z,24nm,1.1s
SCHQ Schefferville 83.24 16 P **P 05 36 48.0 0.0**
comp=Z,11nm,0.8s,baz=360,slow=6.7,SNR=13
SCHQ LR LR 06 15 10.4
comp=Z,45nm,21.9s,baz=2.5,slow=36
SCHQ Schefferville 83.24 16 P **P 05 36 48.8 +0.7**
JAVS Javornik 83.26 326 *i* P **P 05 36 47.5 -1.0**
JAVS *i* pP **pP 05 37 05.3 -1.7**
Y22D IRIS PASSCAL I 83.33 51 P **P 05 36 51.0 +2.0**
baz=313
Y22D IRIS PASSCAL I 83.33 51 P **P 05 36 51.6 +2.6**
Y22D IAmb IAmb 05 36 52.2
comp=Z,26nm,0.8s
MOTA Moosalm 83.34 329 *e*P **P 05 36 49.0 +0.1**
comp=Z,32nm,1.0s,SNR=16
MOTA *i* pP **pP 05 37 07.0 -0.5**
comp=Z,38nm,0.8s
RETA Reutte 83.36 329 *e*P **P 05 36 49.3 +0.4**
comp=Z,25nm,0.9s,SNR=26
RETA *e*pP **pP 05 37 06.6 -0.8**
comp=Z,45nm,0.8s
SQTA Sankt Quirin 83.40 329 *e*P **P 05 36 49.2 +0.1**
comp=Z,7.0nm,0.8s,SNR=7.5
SQTA *i* pP **pP 05 37 07.1 -0.6**
comp=Z,20nm,0.7s
I37A Lemond, Waseca 83.40 37 P **P 05 36 50.0 +1.0**
BNM Barren Site 83.45 51 P **P 05 36 51.5 +1.7**
UBR Ueberruh 83.47 329 *e*P **P 05 36 49.2 -0.2**
comp=Z,13nm,1.2s,baz=36,slow=5.3
EIL Elat 83.49 303 LR LR 06 17 30.9
comp=Z,48nm,19.9s,baz=85,slow=38
BRY Bratogost 83.52 322 *e*P **P 05 36 49.2 -0.7**
L34A Svendsen Farm, 83.52 40 P **P 05 36 50.4 +0.7**
L34A IAmb IAmb 05 36 51.0
comp=Z,30nm,0.8s
PDG Podgorica 83.53 321⇑ P **P 05 36 49.6 -0.1**
PDG Podgorica 83.53 321 P **P 05 36 49.7 0.0**
PDG Podgorica 83.53 321⇑ *i*P **P 05 36 49.5 -0.1**
STAL STALIGIAL 83.55 327 P **P 05 36 48.7 -1.1**
LIT Litokhoron 83.61 318 P **P 05 36 50.3 0.0**
LIT pmax pmax
comp=Z,29nm,0.9s
LIT Litokhoron 83.61 318 P **P 05 36 50.3 0.0**
LIT IAmb IAmb 05 37 09.5
comp=Z,29nm,0.9s
CIMO Cimolais 83.62 327 P **P 05 36 49.3 -0.9**
CIMO IAmb IAmb 05 37 07.7
comp=Z,21nm,0.7s
BFO Black Forest 83.62 331 P **P 05 36 50.4 +0.2**
BFO pmax pmax
comp=Z,36nm,1.2s
BFO Black Forest 83.62 331 P **P 05 36 50.4 +0.2**
BFO IAmb IAmb 05 36 52.0
comp=Z,36nm,1.2s
BFO Black Forest 83.62 331 *e*P **P 05 36 50.4 +0.2**
comp=Z,36nm,1.2s,baz=36,slow=5.3
COWI Conover 83.66 33 P **P 05 36 50.5 +0.1**
KIJV Kijevo 83.68 324 P **P 05 36 50.4 -0.2**
319A Douglas 83.69 54 P **P 05 36 52.6 +1.7**
OHR Ohrid 83.74 319 *i* P **P 05 36 50.9 0.0**
DRME Dracevica, Mon 83.74 321⇑ *i*P **P 05 36 50.9 0.0**
FETA Feichten 83.75 329 *e*P **P 05 36 51.2 +0.1**
comp=Z,15nm,0.8s,SNR=11
FETA *e*pP **pP 05 37 09.1 -0.5**
comp=Z,36nm,0.9s
121A Cookes Peak, D 83.85 53 P **P 05 36 53.2 +1.4**
baz=313,SNR=14
121A Cookes Peak, D 83.85 53 P **P 05 36 53.7 +1.9**
121A IAmb IAmb 05 36 54.7
comp=Z,32nm,0.9s
G40A Rib Lake 83.86 34 P **P 05 36 51.8 +0.3**
G40A IAmb IAmb 05 36 52.7
comp=Z,22nm,0.9s
DAVA Damuels 83.88 329 *e*P **P 05 36 51.8 +0.2**
comp=Z,29nm,0.9s,SNR=19
DAVA *e*pP **pP 05 37 09.5 -0.7**
comp=Z,31nm,0.9s
HCY Herceg Novi 83.88 322 *e*P **P 05 36 51.3 -0.3**
MAKA Makarska 83.95 323 P **P 05 36 51.2 -0.6**
TIR Tirane 84.03 320⇓ P **P 05 36 52.8 +0.5**
CBKS Cedar Bluff 84.10 44 P **P 05 36 52.8 0.0**
baz=317,SNR=5.4
CBKS Cedar Bluff 84.10 44 P **P 05 36 53.2 +0.4**
CBKS pmax pmax
comp=Z,28nm,0.9s
CBKS Cedar Bluff 84.10 44 P **P 05 36 53.2 +0.4**
CBKS IAmb IAmb 05 36 54.0
comp=Z,28nm,0.9s
MORI Morici 84.11 324 P **P 05 36 51.2 -1.5**
CTI Castel Tesino 84.16 328 P **P 05 36 52.4 -0.7**
CTI pmax pmax
comp=Z,27nm,0.7s
CTI Castel Tesino 84.16 328 P **P 05 36 52.4 -0.7**
CTI IAmb IAmb 05 37 10.8
comp=Z,27nm,0.7s
ECH Echery 84.16 331 P **P 05 36 52.9 0.0**
ECH pmax pmax
comp=Z,22nm,0.9s
ECH Echery 84.16 331 P **P 05 36 52.9 0.0**
ECH IAmb IAmb 05 37 11.6
comp=Z,22nm,0.9s
HSIG 84.19 57 P **P 05 36 54.5 +1.1**
FUORN Ofenpass-Fuorn 84.27 329 P **P 05 36 54.3 +0.5**
HVAR Hvar 84.30 323 P **P 05 36 52.6 -1.0**
ZIRJ Zirje 84.30 324 P **P 05 36 53.1 -0.5**
DUGI Dugi Otok 84.31 324 P **P 05 36 53.2 -0.4**
E43A Lone Tree Farm 84.33 32 P **P 05 36 54.2 +0.4**
E43A IAmb IAmb 05 36 54.8
comp=Z,16nm,0.8s
AGG Agios Georgios 84.49 317 P **P 05 36 53.7 -1.0**
AGG pmax pmax
comp=Z,17nm,0.9s
AGG Agios Georgios 84.49 317 P **P 05 36 53.7 -1.0**
AGG IAmb IAmb 05 37 12.1
comp=Z,17nm,0.9s
N35A Tabor 84.71 40 P **P 05 36 56.7 +0.9**
K38A Parkersburg 84.75 37 P **P 05 36 56.6 +0.7**
K38A IAmb IAmb 05 36 57.3
comp=Z,31nm,1.4s
TUE Stuetta 84.75 329 P **P 05 36 56.3 +0.2**
TUE IAmb IAmb 05 37 15.1
comp=Z,31nm,0.9s
I40A Norwalk 84.76 35 P **P 05 36 56.2 +0.2**
I40A IAmb IAmb 05 36 57.2
comp=Z,19nm,0.9s
MATQ Matagami 84.90 24 P **P 05 36 55.9 -0.7**
baz=330,SNR=6.0
R32A Long Quarter, 84.94 43 P **P 05 36 57.3 +0.3**
SALO Salr 84.97 328 P **P 05 36 56.4 -0.7**
D46A Sault St. Mari 85.08 30 P **P 05 36 57.0 -0.5**
baz=326,SNR=16
SCIA State Center 85.10 38 P **P 05 36 58.2 +0.5**
baz=320
SCIA State Center 85.10 38 P **P 05 36 59.1 +1.3**
SCIA IAmb IAmb 05 36 59.7
comp=Z,35nm,0.8s
D47A Chapleau 85.30 29 P **P 05 36 58.3 -0.3**
baz=327,SNR=12
PPT Papeete 85.31 117 LR LR 06 07 14.7
comp=Z,118nm,21.9s,baz=348,slow=30
PPT2 Papeete2 85.32 117 *e*LR LR 06 04 04.8
comp=Z,218nm,24.8s
PPT2 Papeete2 85.32 117 *e*T T 07 11 08.7
comp=Z,25nm,0.4s
PAE Paea 85.37 117 *e*T T 07 11 11.7
comp=Z,6.2nm,0.4s
E46A Sault Ste Mari 85.41 30 P **P 05 36 59.5 +0.4**
E46A IAmb IAmb 05 37 00.3
comp=Z,39nm,1.3s
TIAR Tiarei 85.46 117 *e*T T 07 11 18.6
comp=Z,9.9nm,0.3s
F45A CMU Biological 85.49 31 P **P 05 36 59.8 +0.2**
baz=325
I42A Draeger Farm, 85.52 34 P **P 05 37 00.3 +0.5**
I42A IAmb IAmb 05 37 01.2
comp=Z,32nm,0.9s
KSU1 Kansas State U 85.54 42 P **P 05 36 59.8 -0.1**
baz=319,SNR=6.2
KSU1 Kansas State U 85.54 42 P **P 05 37 00.5 +0.5**
KSU1 IAmb IAmb 05 37 01.2
comp=Z,27nm,0.9s
SENIN Lac Senin/Sane 85.65 330 P **P 05 37 00.4 -0.2**
SENIN IAmb IAmb 05 37 19.3
comp=Z,26nm,0.8s
D48A Paudash Townsh 85.68 28 P **P 05 36 60.0 -0.6**
baz=328
JFWS Jewell Farm 85.70 36 P **P 05 37 00.3 -0.3**
baz=322,SNR=6.0
JFWS Jewell Farm 85.70 36 P **P 05 37 00.7 0.0**
JFWS pmax pmax
comp=Z,17nm,0.9s
JFWS Jewell Farm 85.70 36 P **P 05 37 00.7 0.0**
JFWS IAmb IAmb 05 37 01.6
comp=Z,17nm,0.9s
LSQQ Lebel-sur-Quev 85.72 24 P **P 05 37 00.6 0.0**
baz=331
E47A Iron Bridge 85.73 29 P **P 05 37 00.6 -0.2**
baz=327,SNR=16
D49A Beulah Townshi 85.76 28 P **P 05 37 00.6 -0.3**
baz=328,SNR=8.1
CHGQ Chibougamau 85.78 22 P **P 05 37 00.4 -0.5**
baz=333,SNR=9.6
IDI Anoyia 85.78 313⇑ P **P 05 37 00.3 -1.0**
IDI Anoyia 85.78 313 P **P 05 37 00.5 -0.9**
IDI IAmb IAmb 05 37 19.4
comp=Z,20nm,0.9s
ZCCA Zocca 85.81 327 P **P 05 37 02.7 +1.4**
ZCCA IAmb IAmb 05 37 21.3
comp=Z,21nm,0.8s
AMTX Amarillo 85.85 48 P **P 05 37 02.9 +1.2**
baz=316
AMTX Amarillo 85.85 48 P **P 05 37 03.2 +1.5**
AMTX IAmb IAmb 05 37 04.0
comp=Z,27nm,0.9s
MSTX Muleshoe 85.87 49 P **P 05 37 02.6 +0.8**
baz=316
MSTX Muleshoe 85.87 49 P **P 05 37 02.8 +0.9**
MSTX IAmb IAmb 05 37 03.8
comp=Z,24nm,1.0s
MNTX Cornudas Mount 85.90 52 P **P 05 37 02.9 +1.1**
baz=314,SNR=16
MNTX Cornudas Mount 85.90 52 P **P 05 37 03.0 +1.1**
L40A Anamosa 85.92 37 P **P 05 37 01.9 +0.1**
L40A IAmb IAmb 05 37 03.0
comp=Z,28nm,0.8s
N38A Joes South For 85.95 39 P **P 05 37 02.7 +0.7**
G45A Suttons Bay 85.96 32 P **P 05 37 02.3 +0.4**
baz=325
MURB Monte Urbino 86.01 325 P **P 05 37 03.1 +0.8**
MURB IAmb IAmb 05 37 22.6
comp=Z,33nm,0.9s
ITM Ithomi 86.05 316 P **P 05 37 01.9 -0.6**
G46A Petoskey 86.06 31 P **P 05 37 02.6 +0.2**
baz=326,SNR=6.8
CLF Chambon-Foret 86.06 334 P **P 05 37 02.6 +0.3**
NRCA Norcia 86.09 325 P **P 05 37 03.1 +0.4**
MATE Matera 86.12 321⇑ P **P 05 37 03.1 +0.4**
E48A Lockeyer 86.13 29 P **P 05 37 02.4 -0.3**
baz=327,SNR=6.1
H45A Beulah 86.15 32 P **P 05 37 03.2 +0.4**
baz=325
GDL2 Guadalupe Moun 86.17 51 P **P 05 37 04.6 +1.3**
AQU L'Aquila 86.34 324 P **P 05 37 04.4 +0.5**
AQU pmax pmax
comp=Z,37nm,1.0s
AQU L'Aquila 86.34 324 P **P 05 37 04.4 +0.5**
AQU IAmb IAmb 05 37 23.0
comp=Z,37nm,1.0s
AQU L'Aquila 86.34 324 *e*P **P 05 37 03.5 -0.4**
OSSC Osservatorio P 86.36 326 P **P 05 37 04.0 +0.1**
OSSC IAmb IAmb 05 37 22.1
comp=Z,22nm,1.1s
INTR Introdacqua 86.38 324 P **P 05 37 03.6 -0.5**
INTR IAmb IAmb 05 37 22.7
comp=Z,22nm,0.9s
TAOE Nuku Hiva Isla 86.39 104 *e*T T 07 12 30.2
comp=Z,28nm,0.3s
D50A G1974 Best Tow 86.39 27 P **P 05 37 03.2 -0.8**
baz=329,SNR=6.3
VLDQ Val d'Or 86.39 25 P **P 05 37 03.3 -0.7**
VLDQ IAmb IAmb 05 37 03.8
comp=Z,20nm,1.0s
F48A Evansville 86.51 29 P **P 05 37 04.2 -0.4**
baz=327,SNR=6.5
I45A Fountain 86.55 32 P **P 05 37 05.4 +0.6**
baz=325
H46A Fife Lake 86.56 32 P **P 05 37 05.0 +0.2**
baz=325,SNR=8.1
GLMI Grayling 86.56 31 P **P 05 37 05.2 +0.3**
baz=326,SNR=6.6
MEH Mehetia 86.56 116 *e*T T 07 12 41.8
comp=Z,217nm,0.3s
G47A Hillman 86.58 30 P **P 05 37 05.3 +0.3**
baz=326
D51A Lot 18 Range I 86.62 27 P **P 05 37 04.9 -0.2**
baz=329
P38A Dawn 86.70 40 P **P 05 37 06.3 +0.7**
P38A IAmb IAmb 05 37 07.4
comp=Z,33nm,0.9s
E50A Wahnapitae 86.71 28 P **P 05 37 05.5 -0.1**
baz=328
F49A Sandfield 86.78 29 P **P 05 37 05.8 -0.1**
baz=328,SNR=8.8
H47A Mio 86.91 31 P **P 05 37 06.6 0.0**
baz=326,SNR=7.1
I46A Reed City 86.95 32 P **P 05 37 07.5 +0.7**
baz=325
BNI Bardonecchia 86.98 330 P **P 05 37 09.9 +2.8**
BNI pmax pmax
comp=Z,6.0nm,0.9s
BNI Bardonecchia 86.98 330 P **P 05 37 09.9 +2.8**
LBZ Lake Benmore 86.99 160 P **P 05 37 08.5 +1.9**
LBZ IAmb IAmb 05 37 08.9
comp=Z,36nm,1.1s
D52A ZEK Kipawa Sen 87.06 26 P **P 05 37 07.1 -0.1**
baz=330,SNR=7.1
E51A G1948 Merrick 87.06 27 P **P 05 37 06.6 -0.7**
baz=329,SNR=6.6
H48A Harrisville 87.18 30 P **P 05 37 08.4 +0.5**
baz=327
H48A Harrisville 87.18 30 P **P 05 37 08.9 +1.0**
H48A IAmb IAmb 05 37 09.5
comp=Z,34nm,1.2s
D53A Lac Vacive, Po 87.21 26 P **P 05 37 07.7 -0.3**
baz=330,SNR=7.7
D53A Lac Vacive, Po 87.21 26 P **P 05 37 08.0 0.0**
T35A Sooner Cattle 87.22 43 P **P 05 37 09.2 +0.9**
T35A IAmb IAmb 05 37 10.2
comp=Z,32nm,1.2s
TIP Timpagrande 87.23 320⇑ P **P 05 37 06.8 -1.5**
I47A Gladwin 87.27 31 P **P 05 37 08.7 +0.4**
baz=326,SNR=5.3
I47A Gladwin 87.27 31 P **P 05 37 09.6 +1.3**
I47A IAmb IAmb 05 37 10.4
comp=Z,37nm,1.2s
J46A Howard City 87.35 33 P **P 05 37 09.3 +0.5**
baz=325
F51A Arnstein 87.43 28 P **P 05 37 08.9 -0.1**
baz=329,SNR=5.4
I48A Sherman Twp 87.46 31 P **P 05 37 09.7 +0.5**
baz=326,SNR=5.8
D54A Lac Fusel, La 87.50 25 P **P 05 37 08.7 -0.7**
baz=331,SNR=6.3
P40A Paris 87.50 39 P **P 05 37 10.3 +0.7**
E52A Mattawa 87.57 27 P **P 05 37 09.3 -0.4**
baz=330
WMOK Wichita Mounta 87.60 46 P **P 05 37 10.7 +0.6**
baz=318,SNR=11
SSB Saint Sauveur 87.60 331 P **P 05 37 10.1 +0.1**
SSB pmax pmax
comp=Z,9.0nm,0.8s
SSB Saint Sauveur 87.60 331 P **P 05 37 10.1 +0.1**
F52A Sundridge 87.76 27 P **P 05 37 10.4 -0.2**
baz=329,SNR=10
J47A Sunmer 87.79 32 P **P 05 37 11.3 +0.5**
baz=326,SNR=10
J47A Sunmer 87.79 32 P **P 05 37 12.0 +1.1**
E53A Dumoine, Ponti 87.83 26 P **P 05 37 10.9 -0.1**
baz=330
E54A Lac Daplat, Po 87.95 26 P **P 05 37 11.0 -0.5**
baz=331,SNR=8.8
D55A Sainte-Anne-du 88.00 24 P **P 05 37 11.6 -0.2**
baz=332,SNR=7.0
HDIL Hopedale 88.00 36 P **P 05 37 12.0 +0.1**
baz=323,SNR=6.3
HDIL Hopedale 88.00 36 P **P 05 37 12.6 +0.7**
I49A Point Hope 88.01 31 P **P 05 37 12.7 +0.8**
baz=327
ALGO Algonquin Park 88.07 27 P **P 05 37 11.5 -0.6**
baz=330,SNR=6.8
J48A Bridge Port 88.16 31 P **P 05 37 13.3 +0.7**
baz=326,SNR=12
J48A Bridge Port 88.16 31 P **P 05 37 13.9 +1.4**
L46A Eue Claire 88.17 34 P **P 05 37 12.9 +0.2**
K47A Vermontville 88.18 33 P **P 05 37 13.1 +0.4**
baz=326
D56A ZEC Mazanza, M 88.20 24 P **P 05 37 12.7 -0.1**
baz=333,SNR=14
S39A Bolivar 88.29 41 P **P 05 37 13.2 -0.1**
S39A IAmb IAmb 05 37 14.3
comp=Z,21nm,0.8s
E55A Montcerf-Lytto 88.31 25 P **P 05 37 13.1 -0.1**
baz=332
W35A Tecumseh 88.34 44 P **P 05 37 14.8 +1.2**
R40A Maddies Statio 88.36 40 P **P 05 37 14.0 +0.4**
R40A IAmb IAmb 05 37 15.0
comp=Z,22nm,0.8s
TUL1 Leonard 88.36 43 P **P 05 37 14.1 +0.4**
baz=319,SNR=6.4
TUL1 Leonard 88.36 43 P **P 05 37 14.6 +0.9**
TUL1 IAmb IAmb 05 37 15.6
comp=Z,16nm,0.8s
J49A Marlette 88.37 31 P **P 05 37 14.2 +0.6**
baz=327,SNR=5.4
K48A Perry 88.44 32 P **P 05 37 14.4 +0.5**
baz=326,SNR=14
D57A Chemin Vers le 88.50 24 P **P 05 37 14.3 +0.1**
baz=333,SNR=16
G54A Lake Saint Pet 88.54 27 P **P 05 37 14.2 -0.2**
baz=330,SNR=8.2
H52A Wyevale 88.54 28 P **P 05 37 14.2 -0.1**
baz=329,SNR=7.7
E56A St. Veronique 88.56 24 P **P 05 37 14.5 +0.1**
baz=332,SNR=9.5
G53A Haliburton 88.58 27 P **P 05 37 14.5 0.0**
baz=330,SNR=8.4
TX31 Lajitas Ar. Si 88.61 53 P **P 05 37 16.2 +1.1**
TX32 Lajitas Array 88.61 53 P **P 05 37 16.2 +1.1**
TX32 IAmb IAmb 05 37 17.2
comp=Z,11nm,0.8s
TXAR Lajitas Array 88.61 53 P **P 05 37 16.1 +1.0**
comp=Z,7.8nm,0.7s,baz=295,slow=3.4,SNR=124
TXAR PP **PP 05 40 44.8 +1.1**
comp=Z,1.3nm,1.1s,baz=305,slow=2.6,SNR=3.5
TXAR LR LR 06 12 52.3
comp=Z,20nm,20.9s,baz=0.0,slow=33
ABTX Abilene, Hawle 88.66 48 P **P 05 37 15.9 +0.7**
baz=317,SNR=5.9
ABTX Abilene, Hawle 88.66 48 P **P 05 37 16.6 +1.4**

ABTX IAmb IAmb 05 37 17.3
comp=Z,28nm,1.1s
U38A Gravette 88.70 42 P P 05 37 15.8 +0.4
U38A IAmb IAmb 05 37 16.8
comp=Z,18nm,0.9s
U38A pP **sP 05 37 40.9 -0.2**
SADO Sadowa 88.70 28 P P **05 37 15.4 +0.3**
K49A Clarkson 88.72 32 P P **05 37 15.6 +0.4**
baz=327,SNR=6.4
D58A Chemin du LacG 88.74 23 P P **05 37 15.3 0.0**
baz=334
F55A Otter Lake 88.75 26 P P **05 37 15.1 -0.2**
baz=332
I51A Listowel 88.83 29 P P **05 37 16.6 +0.9**
baz=328
I52A Shelburne 88.92 29 P P **05 37 16.7 +0.5**
baz=329,SNR=5.3
E57A Chemin Saint G 88.96 24 P P **05 37 16.5 +0.1**
baz=333,SNR=7.2
TRQ Mont Tremblant 89.00 24 P P **05 37 17.0 +0.4**
TRQ pP **pP 05 37 35.2 -0.1**
L48A N Adams 89.02 33 P P **05 37 17.4 +0.8**
L48A pP **pP 05 37 35.5 +0.3**
HPIG 89.02 56 P P **05 37 18.5 +1.3**
HPIG IAmb IAmb 05 37 19.4
comp=Z,14nm,1.0s
AAM Ann Arbor 89.04 32 P P **05 37 17.5 +0.7**
baz=326
AAM Ann Arbor 89.04 32 pP pP 05 37 35.6 +0.3
CCM Cathedral Cave 89.04 39 P P **05 37 17.5 +0.6**
CCM *PP **pP 05 37 35.4 0.0**
CCM pmax pmax
comp=Z,32nm,0.9s
CCM Cathedral Cave 89.04 39 P P **05 37 17.5 +0.6**
CCM pP **pP 05 37 35.4 0.0**
HHAR Hobbs 89.05 42 P P **05 37 17.3 +0.3**
HHAR IAmb IAmb 05 37 18.3
comp=Z,16nm,1.0s
H53A Bobcaygeon 89.07 28 P P **05 37 17.1 +0.2**
baz=330,SNR=9.3
SLM Saint Louis 89.08 38 P P **05 37 17.7 +0.7**
SLM pP **pP 05 37 35.8 +0.2**
D59A Saint-Raymond 89.13 22 P P **05 37 17.3 +0.2**
baz=335
G55A Calabogie 89.14 26 P P **05 37 17.1 0.0**
baz=331,SNR=8.2
SFIN Lafayette 89.14 35 P P **05 37 17.8 +0.5**
baz=324
SFIN Lafayette 89.14 35 P P **05 37 18.1 +0.8**
SFIN IAmb IAmb 05 37 18.9
comp=Z,21nm,0.8s
PLVO Plevna 89.20 26 P P **05 37 17.8 +0.3**
PLVO IAmb IAmb 05 37 18.7
comp=Z,11nm,0.9s
PLVO pP **pP 05 37 35.6 -0.5**
E58A La Victoria 89.27 23 P P **05 37 18.0 +0.3**
baz=334,SNR=5.1
TBI Tubuai 89.34 121 *e*T T 07 16 09.0
comp=Z,148nm,0.3s
N47A Urbana 89.35 34 P P **05 37 18.6 +0.4**
ORIO Orleans, Innes 89.37 25 P P **05 37 18.0 -0.3**
baz=332,SNR=6.9
ORIO Orleans, Innes 89.37 25 P P **05 37 18.4 +0.2**
D61A St Aubert, Com 89.43 21 P P **05 37 18.9 +0.4**
baz=336
Q44A Meyer Farm, Va 89.45 37 P P **05 37 19.7 +1.0**
DELO Deloro Mine 89.47 27 P P **05 37 19.3 +0.6**
DELO IAmb IAmb 05 37 20.1
comp=Z,16nm,1.0s
D60A Saint Jean D'O 89.48 22 P P **05 37 18.8 +0.1**
baz=335,SNR=6.6
Z35A Perchaven, San 89.49 46 P P **05 37 19.9 +0.9**
J52A Paris 89.51 29 P P **05 37 19.7 +0.8**
baz=329,SNR=6.0
K51A Iona Station 89.55 30 P P **05 37 19.8 +0.7**
baz=328,SNR=5.9
U40A Yellville 89.56 41 P P **05 37 19.6 +0.2**
baz=321,SNR=40
U40A Yellville 89.56 41 P P **05 37 19.7 +0.4**
X37A Clayton 89.58 44 P P **05 37 20.5 +1.1**
H55A Tweed 89.59 27 P P **05 37 19.6 +0.3**
baz=331,SNR=9.9
I55A Frankford 89.71 27 P P **05 37 19.9 +0.1**
baz=331,SNR=6.6
P46A Rosedale 89.71 36 P P **05 37 20.8 +0.9**
K52A Tillsonburg 89.81 30 P P **05 37 21.3 +0.9**
baz=328,SNR=8.8
E60A Ste Agathe de 89.83 22 P P **05 37 20.5 +0.1**
baz=335
G57A Newington 89.85 25 P P **05 37 20.4 0.0**
baz=332,SNR=8.2
D62A Allapoint, All 89.86 21 P P **05 37 20.7 +0.2**
baz=337
D62A Allapoint, All 89.86 21 P P **05 37 21.3 +0.9**
H56A Elgin 89.87 26 P P **05 37 20.8 +0.2**
baz=332,SNR=6.7
F59A Saint Guilaume 89.89 23 P P **05 37 20.9 +0.3**
baz=334
T42A Van Buren 89.92 40 P P **05 37 21.5 +0.5**
W39A Magazine 89.97 43 P P **05 37 21.7 +0.5**
baz=320
W39A Magazine 89.97 43 P P **05 37 22.1 +0.8**
W39A IAmb IAmb 05 37 22.8
comp=Z,16nm,1.2s
N49A Columbus Grove 89.97 33 P P **05 37 22.2 +1.1**
OLIL Olney 90.01 37 P P **05 37 22.4 +1.0**
F60A Warwick 90.04 23 P P **05 37 21.9 +0.6**
baz=335
E61A Lac Etchemin 90.05 22 P P **05 37 21.6 +0.2**
baz=336
O48A Farmland 90.10 34 P P **05 37 21.8 0.0**
baz=326,SNR=10
JCT Junction City 90.12 49 P P **05 37 22.9 +0.7**
baz=317
JCT Junction City 90.12 49 P P **05 37 22.8 +0.7**
JCT pmax pmax
comp=Z,25nm,0.8s
JCT Junction City 90.12 49 P P **05 37 22.8 +0.7**
E62A Clayton Lake 90.15 21 P P **05 37 22.2 +0.3**
baz=336
D63A Stockholm 90.15 20 P P **05 37 22.5 +0.6**
baz=337
J54A Appleton 90.18 28 P P **05 37 22.6 +0.6**
baz=330
PECO Prince Edward 90.19 27 P P **05 37 22.8 +0.7**
PECO IAmb IAmb 05 37 23.4
comp=Z,19nm,1.2s
FCAR Ozark Folk Cen 90.29 41 P P **05 37 22.8 +0.1**
FCAR IAmb IAmb 05 37 24.0
comp=Z,23nm,1.0s
S44A Carbondale 90.30 38 P P **05 37 23.9 +1.1**
F61A St Evariste 90.32 22 P P **05 37 23.3 +0.7**
baz=335,SNR=7.5
WHTX Lake Whitney, 90.37 47 P P **05 37 23.9 +0.7**
baz=318,SNR=7.7
WHTX Lake Whitney, 90.37 47 P P **05 37 24.6 +1.4**
LONY Lake Ozonia 90.41 25 P P **05 37 23.4 +0.3**
baz=333
G59A Clarenceville 90.45 24 P P **05 37 23.5 +0.2**
baz=334
M51A Elyria 90.46 32 P P **05 37 23.9 +0.5**
baz=328
J55A Hilton 90.48 28 P P **05 37 23.7 +0.2**
baz=330,SNR=6.2
J55A Hilton 90.48 28 P P **05 37 24.2 +0.8**
J55A IAmb IAmb 05 37 24.9
comp=Z,19nm,0.8s
O49A Covington 90.51 34 P P **05 37 24.6 +0.9**
O49A IAmb IAmb 05 37 24.8
comp=Z,13nm,0.8s
MOQ Mont Orford 90.54 23 P P **05 37 24.5 +0.7**
MIAR Mount Ida 90.57 43 P P **05 37 24.7 +0.6**
baz=320,SNR=24
MIAR Mount Ida 90.57 43 P P **05 37 25.0 +0.9**
MIAR pmax pmax
comp=Z,24nm,0.9s
MIAR Mount Ida 90.57 43 P P **05 37 25.0 +0.9**
M52A Chesterland 90.61 31 P P **05 37 24.8 +0.6**
baz=328,SNR=5.1
M52A Chesterland 90.61 31 P P **05 37 25.3 +1.2**
E63A Oxbow 90.63 20 P P **05 37 24.2 +0.1**
baz=337
P48A Milroy 90.63 35 P P **05 37 24.6 +0.4**
LCAR Lake Charles 90.64 40 P P **05 37 25.2 +0.8**
LCAR IAmb IAmb 05 37 26.0
comp=Z,21nm,1.4s

I57A Carthage 90.66 26 P P **05 37 24.5 +0.2**
baz=332
ERPA Erie 90.66 30 P P **05 37 25.0 +0.6**
baz=329,SNR=5.5
ERPA Erie 90.66 30 P P **05 37 25.6 +1.3**
WHAR Wooly Hollow 90.67 41 P P **05 37 25.3 +0.8**
H59A Cadyville 90.68 24 P P **05 37 24.4 0.0**
baz=333,SNR=6.4
L53A Girard 90.69 30 P P **05 37 25.3 +0.8**
baz=329,SNR=14
G60A Masonville 90.70 23 P P **05 37 25.0 +0.5**
baz=334
H58A Gabriels 90.72 25 P P **05 37 24.8 +0.2**
baz=333,SNR=7.6
N51A Ashland 90.72 32 P P **05 37 24.9 +0.3**
baz=327
K54A Basiliko Farm, 90.73 29 P P **05 37 25.3 +0.6**
baz=330,SNR=7.1
W41B Gary Mavity, V 90.78 42 P P **05 37 25.2 +0.2**
baz=321,SNR=8.2
W41B Gary Mavity, V 90.78 42 P P **05 37 25.8 +0.7**
W41B IAmb IAmb 05 37 26.5
comp=Z,12nm,0.9s
G61A St-Isidore-de- 90.78 23 P P **05 37 25.6 +0.8**
baz=335,SNR=7.1
E64A Bridgewater 90.80 20 P P **05 37 25.3 +0.5**
baz=339
L54A Sinclairville 90.82 29 P P **05 37 25.6 +0.5**
baz=329,SNR=11
J56A Wolcott 90.82 27 P P **05 37 25.2 +0.2**
baz=331,SNR=6.7
J56A Wolcott 90.82 27 P P **05 37 25.3 +0.3**
J56A IAmb IAmb 05 37 26.2
comp=Z,31nm,1.4s
K55A Perry 90.86 28 P P **05 37 25.6 +0.4**
baz=330,SNR=8.1
PARMO Parma 90.87 39 P P **05 37 27.0 +1.6**
P49A Miami Univ. Ec 90.89 34 P P **05 37 25.8 +0.4**
baz=326,SNR=8.8
MMNY Mt. Morris Dam 90.91 28 P P **05 37 26.4 +0.9**
H06N1 SOCORRO T-PHAS 90.92 65 T T 07 18 41.4
SNR=13
WVNY West Valley, N 90.94 29 P P **05 37 26.6 +1.0**
M53A WI Miller and 90.97 31 P P **05 37 26.6 +0.8**
baz=328
ALLY Alegheny Colle 91.00 30 P P **05 37 27.1 +1.2**
J57A Williamstown 91.00 27 P P **05 37 26.2 +0.3**
baz=332,SNR=9.2
J57A Williamstown 91.00 27 P P **05 37 26.7 +0.8**
J57A IAmb IAmb 05 37 27.4
comp=Z,17nm,0.9s
X40A Basin Creek Fa 91.01 42 P P **05 37 26.5 +0.4**
baz=321,SNR=13
X40A Basin Creek Fa 91.01 42 P P **05 37 27.4 +1.3**
X40A IAmb IAmb 05 37 28.0
comp=Z,14nm,0.9s
H06E1 SOCORRO T-PHAS 91.02 65 T T 07 18 37.2
SNR=14
ACSO Alum Creek Sta 91.05 33 P P **05 37 26.6 +0.4**
baz=327,SNR=7.4
ACSO Alum Creek Sta 91.05 33 P P **05 37 26.9 +0.7**
ACSO IAmb IAmb 05 37 27.8
comp=Z,17nm,0.8s
H60A Morristown 91.07 24 P P **05 37 26.7 +0.4**
baz=334,SNR=5.3
N52A McGinn's Farm, 91.09 31 P P **05 37 26.9 +0.5**
baz=328
F63A Nahmakanta, Br 91.11 21 P P **05 37 26.9 +0.5**
baz=337
I58A Old Forge 91.11 26 P P **05 37 26.7 +0.3**
baz=332
NCB Newcomb 91.11 25 P P **05 37 26.9 +0.5**
NCB IAmb IAmb 05 37 27.8
comp=Z,7.2nm,0.8s
G62A West of Eustis 91.14 22 P P **05 37 27.4 +0.9**
baz=336
K56A Middlesex 91.16 28 P P **05 37 27.1 +0.4**
baz=331,SNR=7.1
F64A Sherman 91.17 21 P P **05 37 27.0 +0.4**
baz=337
L55A Hinsdale 91.19 29 P P **05 37 27.4 +0.6**
baz=330
435B Jarrell 91.19 48 P P **05 37 27.8 +0.8**
baz=318
435B Jarrell 91.19 48 P P **05 37 28.0 +1.0**
WCI Wyandotte Cave 91.25 36 P P **05 37 27.7 +0.6**
baz=325
WCI Wyandotte Cave 91.25 36 P P **05 37 28.2 +1.1**
WCI pmax pmax
comp=Z,14nm,1.0s
WCI Wyandotte Cave 91.25 36 P P **05 37 28.2 +1.1**
WCI IAmb IAmb 05 37 28.9
comp=Z,14nm,1.0s
VT1 Waterbury 91.26 24 P P **05 37 28.3 +1.2**
VT1 IAmb IAmb 05 37 28.9
comp=Z,14nm,1.1s
O51A Pataskala 91.28 32 P P **05 37 27.8 +0.5**
baz=327
J58A Remsen 91.29 26 P P **05 37 27.4 +0.1**
baz=332,SNR=8.6
J58A Remsen 91.29 26 P P **05 37 27.6 +0.3**
J58A IAmb IAmb 05 37 28.2
comp=Z,11nm,0.8s
M54A Oil Creek Stat 91.31 30 P P **05 37 27.9 +0.5**
baz=329,SNR=6.2
M54A Oil Creek Stat 91.31 30 P P **05 37 28.4 +1.0**
M54A IAmb IAmb 05 37 29.2
comp=Z,13nm,0.9s
H61A Lyndonville 91.34 23 P P **05 37 28.5 +1.1**
baz=335,SNR=6.4
I59A Olmsteadville 91.38 25 P P **05 37 28.3 +0.6**
baz=333
K57A Scipio Center 91.42 27 P P **05 37 28.2 +0.3**
baz=331
N53A Lisbon 91.44 31 P P **05 37 28.5 +0.5**
baz=328
PKME Peaks-Kenny Pk 91.45 21 P P **05 37 28.4 +0.5**
baz=336
J59A Piesco 91.46 26 P P **05 37 28.3 +0.2**
baz=333,SNR=7.9
J59A Piesco 91.46 26 P P **05 37 28.0 -0.1**
J59A IAmb IAmb 05 37 29.5
comp=Z,13nm,0.9s
WLAR White Oak Lake 91.48 43 P P **05 37 30.3 +2.0**
G63A Kingsbury 91.50 22 P P **05 37 28.8 +0.7**
baz=336
I60A Shoreham 91.53 25 P P **05 37 29.1 +0.8**
baz=334,SNR=5.8
H62A Milan 91.54 23 P P **05 37 29.3 +1.0**
baz=335,SNR=8.4
H62A Milan 91.54 23 P P **05 37 29.4 +1.0**
L56A Greenwood 91.56 28 P P **05 37 29.0 +0.4**
baz=331,SNR=7.2
L56A Greenwood 91.56 28 P P **05 37 29.5 +0.9**
LBNH Lisbon 91.60 24 P P **05 37 29.7 +1.0**
baz=335
G64A Maxfield 91.62 21 P P **05 37 29.3 +0.6**
baz=337
O52A Adamsville 91.62 32 P P **05 37 29.3 +0.5**
baz=328
P51A Williamsport 91.64 33 P P **05 37 29.1 +0.1**
baz=327
P51A Williamsport 91.64 33 P P **05 37 29.6 +0.6**
P51A IAmb IAmb 05 37 30.2
comp=Z,12nm,0.9s
N54A Moraine State 91.65 30 P P **05 37 30.0 +1.0**
baz=329
N54A Moraine State 91.65 30 P P **05 37 29.9 +1.0**
N54A IAmb IAmb 05 37 31.8
comp=Z,13nm,1.0s
M55A Ridgway 91.69 29 P P **05 37 30.1 +1.0**
baz=330
M55A Ridgway 91.69 29 P P **05 37 29.9 +0.8**
M55A IAmb IAmb 05 37 31.0
comp=Z,11nm,0.9s
K58A Earlville 91.69 27 P P **05 37 29.8 +0.7**
baz=332,SNR=7.1
K58A Earlville 91.69 27 P P **05 37 30.2 +1.0**
O53A New Philadelph 91.76 31 P P **05 37 30.1 +0.6**
baz=328
H63A New Sharon 91.79 22 P P **05 37 30.4 +0.9**
baz=336
ACCN Adirondack Com 91.81 25 P P **05 37 30.3 +0.6**
ACCN IAmb IAmb 05 37 30.8
comp=Z,8.0nm,0.8s
T47A Sharon Grove 91.88 37 P P **05 37 30.9 +0.8**
T47A IAmb IAmb 05 37 31.4
comp=Z,10nm,0.7s

M56A Emporium 91.89 29 P P **05 37 30.7 +0.7**
baz=330
M56A Emporium 91.89 29 P P **05 37 31.1 +1.0**
M56A IAmb IAmb 05 37 31.8
comp=Z,16nm,1.1s
Q51A Peebles 91.90 34 P P **05 37 30.9 +0.7**
P52A Corning 91.91 32 P P **05 37 30.3 +0.2**
baz=328
833A Chaparral WMA, 91.94 51 P P **05 37 31.7 +1.2**
baz=317
L57A Andrews Acres 91.94 28 P P **05 37 30.9 +0.6**
baz=331
K59A Cooperstown 91.96 26 P P **05 37 30.3 0.0**
baz=332,SNR=7.2
Z41A Richland Creek 91.97 43 P P **05 37 31.7 +1.2**
baz=321
G65A Princeton 91.99 20 P P **05 37 31.1 +0.7**
baz=338
X43A Marvell 92.00 41 P P **05 37 31.6 +1.0**
baz=322
CCAR Cane Creek 92.01 42 P P **05 37 32.5 +1.8**
J60A Lant Hill Farm 92.02 25 P P **05 37 31.3 +0.7**
baz=334
H64A Troy 92.05 22 P P **05 37 31.5 +0.9**
baz=336
BINY Binghamton 92.07 27 P P **05 37 31.4 +0.5**
baz=332
BINY Binghamton 92.07 27 P P **05 37 31.8 +0.9**
BINY IAmb IAmb 05 37 32.4
comp=Z,8.2nm,0.9s
R50A Paris 92.09 35 P P **05 37 32.1 +1.1**
R50A IAmb IAmb 05 37 32.7
comp=Z,7.5nm,1.0s
I62A Tamworth 92.12 23 P P **05 37 31.7 +0.7**
baz=335
O54A Avella 92.16 31 P P **05 37 32.1 +0.8**
baz=329
O54A Avella 92.16 31 P P **05 37 32.4 +1.1**
O54A IAmb IAmb 05 37 32.9
comp=Z,10nm,0.8s
I63A Otisfield 92.19 23 P P **05 37 32.6 +1.2**
baz=336,SNR=5.2
I63A Otisfield 92.19 23 P P **05 37 33.1 +1.8**
I63A IAmb IAmb 05 37 33.8
comp=Z,16nm,0.9s
N55A Marion Center 92.19 30 P P **05 37 32.2 +0.7**
baz=330
J61A Chester 92.21 24 P P **05 37 32.5 +1.0**
baz=334
WVT Waverly 92.23 38 P P **05 37 32.3 +0.6**
baz=324
WVT Waverly 92.23 38 P P **05 37 32.6 +0.9**
WVT pmax pmax
comp=Z,7.0nm,0.8s
WVT Waverly 92.23 38 P P **05 37 32.6 +0.9**
WVT IAmb IAmb 05 37 32.8
comp=Z,6.5nm,0.8s
L58A Harry Jones Me 92.25 27 P P **05 37 32.1 +0.3**
baz=332,SNR=6.1
H65A Eastbrook 92.27 21 P P **05 37 32.5 +0.8**
baz=337
P53A Whipple 92.34 32 P P **05 37 32.7 +0.6**
baz=328
N56A West Decatur 92.34 29 P P **05 37 32.9 +0.7**
baz=330
W45A Hickory Valley 92.34 40 P P **05 37 33.2 +1.0**
W45A IAmb IAmb 05 37 33.8
comp=Z,14nm,0.8s
L59A Walton 92.41 26 P P **05 37 33.0 +0.5**
baz=332,SNR=7.3
L59A Walton 92.41 26 P P **05 37 33.5 +1.0**
M57A Sunshine Farm, 92.41 28 P P **05 37 33.2 +0.7**
baz=331,SNR=6.9
M57A Sunshine Farm, 92.41 28 P P **05 37 33.7 +1.2**
M57A IAmb IAmb 05 37 34.3
comp=Z,13nm,0.8s
Q52A Bidwell 92.41 33 P P **05 37 32.7 +0.2**
baz=327
K60A Five Rivers En 92.42 26 P P **05 37 33.0 +0.6**
baz=333
O55A Ligonier 92.56 30 P P **05 37 33.6 +0.4**
baz=329
K61A Williamstown 92.58 25 P P **05 37 33.7 +0.5**
baz=334
I64A Boothbay 92.59 22 P P **05 37 33.7 +0.6**
baz=336
P54A Burton 92.61 31 P P **05 37 33.8 +0.4**
baz=329,SNR=6.0
M58A Price's Panora 92.63 28 P P **05 37 34.0 +0.5**
baz=331,SNR=5.6
J63A Strafford 92.73 23 P P **05 37 34.7 +0.9**
baz=335
SSPA Standing Stone 92.74 29 P P **05 37 34.6 +0.7**
baz=330
OXF Oxford 92.75 40 P P **05 37 34.8 +0.7**
baz=323
OXF Oxford 92.75 40 P P **05 37 35.5 +1.4**
OXF pmax pmax
comp=Z,28nm,1.0s
OXF Oxford 92.75 40 P P **05 37 35.5 +1.4**
N57A Milroy 92.76 29 P P **05 37 34.7 +0.6**
baz=331
O56A Blue Knob Stat 92.80 30 P P **05 37 34.9 +0.6**
baz=330
Q53A Leroy 92.81 32 P P **05 37 35.1 +0.8**
baz=328
MCWV Mont Chateau 92.82 31 P P **05 37 35.1 +0.8**
baz=329
MCWV Mont Chateau 92.82 31 P P **05 37 35.6 +1.3**
HKT Hockley 92.82 47 P P **05 37 35.9 +1.5**
HKT pmax pmax
comp=Z,14nm,1.4s
HKT Hockley 92.82 47 P P **05 37 35.9 +1.5**
HKT IAmb IAmb 05 37 36.7
comp=Z,14nm,1.4s
M59A Waymart 92.84 27 P P **05 37 34.9 +0.4**
baz=332
L60A Shokan 92.87 26 P P **05 37 35.0 +0.5**
baz=333
U49A Red Boiling Sp 92.89 37 P P **05 37 35.4 +0.7**
U49A IAmb IAmb 05 37 36.3
comp=Z,8.6nm,0.8s
T50A Nancy 92.90 36 P P **05 37 35.6 +0.8**
T50A IAmb IAmb 05 37 36.3
comp=Z,9.9nm,0.8s
L61A Hillsdale 1, H 92.91 26 P P **05 37 35.2 +0.5**
baz=333
K62A Royalston 92.92 24 P P **05 37 35.4 +0.6**
baz=334
P55A Reedsville 92.95 31 P P **05 37 35.8 +0.8**
baz=329
CLTN Cedars of Leba 92.97 37 P P **05 37 36.1 +1.0**
L61B Northampton 92.97 25 P P **05 37 35.4 +0.4**
baz=334
Q54A Coxs Mills 92.99 32 P P **05 37 35.7 +0.5**
baz=328
N58A Sunbury 93.00 28 P P **05 37 35.7 +0.5**
baz=331
V48A Smith Brothers 93.03 38 P P **05 37 36.1 +0.7**
V48A IAmb IAmb 05 37 36.8
comp=Z,14nm,1.2s
PLAL Pickwick Lake 93.03 39 P P **05 37 35.3 -0.1**
K63A Dunstable 93.13 24 P P **05 37 36.6 +0.9**
baz=335
Y45A Yeager Farm, C 93.19 41 P P **05 37 36.7 +1.4**
N59A State Game Lan 93.27 28 P P **05 37 37.2 +0.8**
baz=332
HRV Adam Dziewonsk 93.28 24 P P **05 37 37.3 +0.8**
baz=335
Q55A Buckhannon 93.29 31 P P **05 37 37.2 +0.5**
baz=329
M60A Port Jervis 93.32 27 P P **05 37 37.0 +0.3**
baz=333
P56A Dayton Farm, R 93.35 30 P P **05 37 37.5 +0.7**
baz=330
KEST Kesra 93.54 323 P P **05 37 37.6 -0.2**
comp=Z,4.7nm,1.1s,baz=245,slow=6.8,SNR=4.4
KEST LR LR 06 24 33.5
comp=Z,126nm,18.3s,baz=264,slow=38
O58A Lewisberry 93.55 29 P P **05 37 37.8 +0.1**
baz=331
S53A Williamson 93.55 33 P P **05 37 38.2 +0.4**
baz=328
R54A Victor 93.61 32 P P **05 37 38.5 +0.5**
baz=328
Q56A Snyder Ridge, 93.61 31 P P **05 37 38.5 +0.4**

baz=330
M61A Granite Spring 93.63 26 P P 05 37 38.4 +0.4
baz=333
O59A Robesonia 93.66 28 P P 05 37 38.5 +0.2
baz=332
S54A Dingess, Beckl 93.80 33 P P 05 37 39.4 +0.5
baz=328
M62A Hamden 93.81 25 P P 05 37 37.9 -0.9
baz=334
SWET Sewanee 93.87 37 P P 05 37 39.7 +0.3
SWET IAmb IAmb 05 37 40.2
comp=Z,11nm,1.0s
TZTN Tazewell 93.88 35 P P 05 37 39.8 +0.5
baz=326
R55A Marlinton 93.88 32 P P 05 37 40.0 +0.7
baz=329
Q57A Strasburg 93.92 30 P P 05 37 39.6 +0.2
baz=330
ZAIG Zacatecas 93.94 57 P P 05 37 42.3 +2.1
ZAIG IAmb IAmb 05 37 43.0
comp=Z,12nm,1.1s
N61A South Mountain 93.94 27 P P 05 37 39.9 +0.4
baz=333
P58A Pank, Wackersv 93.96 29 P P 05 37 39.9 +0.4
baz=331
T53A Wise 93.96 34 P P 05 37 40.2 +0.5
baz=327
X48A Hartselle 93.96 39 P P 05 37 40.0 +0.2
X48A IAmb IAmb 05 37 40.5
comp=Z,5.1nm,0.8s
L64A Middleborough 94.03 24 P P 05 37 40.4 +0.6
baz=335
V51A Loudon 94.13 36 P P 05 37 41.1 +0.7
V51A IAmb IAmb 05 37 41.8
comp=Z,9.6nm,0.9s
S55A Lewisburg 94.16 32 P P 05 37 40.9 +0.2
baz=329
T54A Tazewell 94.31 33 P P 05 37 41.6 +0.2
baz=328
CPCT Cooper Cave 94.34 36 P P 05 37 42.1 +0.7
CPCT IAmb IAmb 05 37 42.7
comp=Z,7.9nm,1.0s
V52A Sevierville 94.44 35 P P 05 37 42.6 +0.7
V52A IAmb IAmb 05 37 42.9
comp=Z,9.0nm,0.9s
TKL Tuckaleechee C 94.51 36 P P 05 37 43.0 +0.8
TKL pmax pmax
comp=Z,8.0nm,0.8s
TKL Tuckaleechee C 94.51 36 P P 05 37 43.0 +0.8
TKL IAmb IAmb 05 37 43.5
comp=Z,8.3nm,0.8s
T55A Pulaski 94.59 33 P P 05 37 43.3 +0.6
baz=328
BLA Blacksburg 94.67 33 P P 05 37 42.8 -0.2
baz=329
Q59A Harwood 94.75 29 P P 05 37 43.2 0.0
baz=331
Q60A Greensboro 94.93 29 P P 05 37 44.4 +0.3
baz=332
T56A Rocky Mt 94.99 32 P P 05 37 44.6 +0.2
baz=329
U55A TA2, Sparta 95.00 33 P P 05 37 44.5 -0.1
baz=328
V54A Nebo 95.22 34 P P 05 37 45.4 -0.1
baz=328
BG3 Lake Jocassee 95.44 35 P P 05 37 47.0 +0.5
BG3 IAmb IAmb 05 37 48.0
comp=Z,7.8nm,0.8s
ESDC Sonseca Array 95.54 334 P P 05 37 46.0 -1.0
comp=Z,2.1nm,0.8s,baz=13,slow=3.9,SNR=16
ESDC pP **pP** 05 38 04.5 -1.2
comp=Z,4.1nm,0.8s,baz=16,slow=4.2,SNR=15
ESDC LR LR 06 25 40.4
comp=Z,112nm,19.7s,baz=30,slow=38
W54A Cherokee Point 95.70 35 P P 05 37 48.0 +0.4
baz=327
V56A Mocksville 95.83 33 P P 05 37 48.3 +0.1
baz=328
KMSC Kings Mountain 96.03 34 P P 05 37 49.3 +0.1
baz=328
X54A Belton 96.07 35 P P 05 37 49.7 +0.4
baz=327
U58A Oxford 96.14 32 P P 05 37 49.4 -0.2
baz=330
GOGA Godfrey 96.51 37 P P 05 37 52.0 +0.6
baz=326
W57A Gilead 96.60 33 P P 05 37 51.8 +0.1
baz=329
X56A White Oak 96.71 34 P P 05 37 52.0 -0.3
baz=328
Y55A Saluda 96.81 35 P P 05 37 53.4 +0.7
baz=328
V59A Middlesex 96.81 32 P P 05 37 53.0 +0.4
baz=330
W58A Raeford 97.03 33 P Pdif 05 37 54.2 +0.4
baz=329
X57A Johnson Farm, 97.14 34 P P 05 37 54.3 +0.1
baz=329
TORD Torodi Ar. Bea 116.05 316 PKP **PKPdf** 05 43 03.9 -1.1
comp=Z,0.9nm,0.7s,baz=358,slow=2.2,SNR=6.0
TORD pPKP pPKPdf 05 43 23.2 -1.2
comp=Z,1.1nm,0.9s,baz=24,slow=2.1,SNR=3.8
TORD PP **PP** 05 44 04.2 -5.2
comp=Z,1.1nm,0.7s,baz=33,slow=5.6,SNR=4.8
VNDA Vanda 117.04 175 PKP **PKPdf** 05 43 03.4 -1.6
comp=Z,1.2nm,0.6s,baz=331,slow=1.8,SNR=11
MAW Mawson 121.56 206 PKP **PKPdf** 05 43 13.7 -0.2
comp=Z,5.6nm,0.8s,baz=102,slow=5.6,SNR=8.6
MAW Mawson 121.56 206 PKIKP **PKPdf** 05 43 13.9 0.0
MAW Mawson 121.56 206 **PKPdf** 05 43 13.9 0.0
SMLC San Martn de 121.83 43 *eP* **PKPdf** 05 43 14.9 -1.2
OCAC Ocana 122.70 43 *eP* **PKiKP** 05 43 18.3 +0.1
PTBC PUERTO BERRIO 123.51 45 *eP* **PKPdf** 05 43 18.2 -1.2
SDV Santo Domingo 123.52 39 *eP* **PKPdf** 05 43 19.2 -0.4
SDV Santo Domingo 123.52 39 PKPdf **PKiKP** 05 43 20.1 +0.2
GUY2C Guyana, Caldas 124.09 47 *eP* **PKPdf** 05 43 21.1 +0.1
NORC Norcasia 124.09 46 *eP* **PKPdf** 05 43 20.1 -0.5
SPBC San Pablo de B 124.45 45 *eP* **PKPdf** 05 43 20.0 -1.3
YOTC Yotoco, Valle 124.53 48 *eP* **PKPdf** 05 43 20.1 -1.4
TOLC Tolima 124.63 47 *eP* **PKPdf** 05 43 22.1 +0.1
RUSC La Rusia 124.79 44 *eP* **PKPdf** 05 43 21.4 -1.1
RUSC La Rusia 124.79 44 PKPdf **PKPdf** 05 43 21.8 -0.7
ROSC El Rosal 124.99 46 PKP **PKiKP** 05 43 23.0 0.0
comp=Z,8.0nm,0.8s,baz=99,slow=12,SNR=5.1
ROSC El Rosal 124.99 46 *eP* **PKPdf** 05 43 22.7 0.0
ROSC El Rosal 124.99 46 PKPdf **PKiKP** 05 43 23.2 +0.1
LBTB Lobatse 125.16 265 PKIKP **PKPdf** 05 43 22.3 0.0
LBTB Lobatse 125.16 265 PKPdf **PKPdf** 05 43 22.3 0.0
ORTC Ortega, Tolima 125.23 47 *eP* **PKPdf** 05 43 22.6 -0.1
BBAC Balboa, Cauca 125.57 51 *eP* **PKPdf** 05 43 23.1 -0.6
PRAC Prado 125.59 47 *eP* **PKPdf** 05 43 22.8 -0.7
VILC Villavicencio, 125.94 46 *eP* **PKPdf** 05 43 22.6 -1.6
BOSA Boshof 127.23 261 PKP **PKPdf** 05 43 26.0 -0.2
comp=Z,3.1nm,0.9s,baz=19,slow=8.2,SNR=4.5
BOSA Boshof 127.23 261 PKIKP **PKPdf** 05 43 26.1 -0.1
BOSA Boshof 127.23 261 **PKPdf** 05 43 26.1 -0.1
MACC Macarena, Meta 127.46 47 *eP* **PKPdf** 05 43 26.0 -1.0
QSPA South Pole Qui 128.87 180 PKP **PKPdf** 05 43 27.7 -0.3
comp=Z,6.1nm,0.6s,baz=275,slow=0.8,SNR=60
QSPA pPKP **pPKPdf** 05 43 46.0 -1.3
comp=Z,5.5nm,0.7s,baz=255,slow=2.7,SNR=7.5
QSPA South Pole Qui 128.87 180 PKPdf **PKPdf** 05 43 27.3 -0.7
PTGA Pitinga 136.91 33 PKPdf **PKPdf** 05 43 45.2 +0.4
SAML Samuel 142.53 43 PKIKP **PKPdf** 05 43 55.9 +1.0
SAML Samuel 142.53 43 **PKPdf** 05 43 55.9 +1.0
SNAA Sanae 142.84 198 PKPdf **PKPdf** 05 43 49.2 -4.6
VNA2 Neumayer--Watz 144.41 197 PKPdf **PKPab** 05 43 54.9 +0.1
VNA3 Neumayer Olymp 144.66 195 PKPdf **PKPab** 05 43 55.5 -0.3
VNA1 Neumayer--Stat 144.81 197 PKPdf **PKPab** 05 43 56.3 0.0
LPAZ La Paz 145.34 57 PKPbc **PKPab** 05 44 00.7 +0.1
comp=Z,28nm,0.8s,baz=341,slow=3.8,SNR=102
LPAZ La Paz 145.34 57 PKIKP **PKPdf** 05 44 00.5 0.0
LPAZ La Paz 145.34 57 **PKPdf** 05 44 00.5 0.0
PB12 IPOC Station P 145.50 63 PKPdf **PKPab** 05 44 01.1 +0.6
MNMC Minye Minye 146.35 63 **PKPbc** 05 44 02.7 -0.3
PB06 IPOC Station P 148.70 68 **PKiKP** 05 44 10.3 -0.3
AC02 Maricunga 151.45 74 **PKiKP** 05 44 17.5 +0.9
AC05 El Transito 151.62 79 PKPdf **PKPdf** 05 44 12.2 +2.4
AC05 PKPbc **PKiKP** 05 44 17.7 +1.2
GO04 Tololo Observa 151.86 82 PKPbc **PKiKP** 05 44 17.4 +0.3
CO02 Combarbal 152.16 84 **PKiKP** 05 44 17.8 +0.3
CO01 Juntas del Tor 152.31 81 **PKiKP** 05 44 19.7 +1.6
MT02 Curacav 152.88 88 **PKiKP** 05 44 19.2 +0.4
VA03 San Esteban 153.15 86 **PKiKP** 05 44 20.1 +0.7
PEL Peldehue 153.19 87 PKIKP **PKiKP** 05 44 20.8 +0.8
PEL Peldehue 153.19 87 **PKiKP** 05 44 20.3 +0.8
BO02 Sierra Bellavi 153.69 91 **PKiKP** 05 44 21.6 +1.1
BDFB Brasilia 155.07 23 PKPbc PKPdf 05 44 23.0 +8.0
comp=Z,3.9nm,1.0s,baz=67,slow=5.1,SNR=3.3
BDFB PKPab sPKPdf 05 44 40.6 -1.1
comp=Z,7.3nm,0.7s,baz=25,slow=3.0,SNR=8.3
PLCA Paso Flores 155.22 104 PKPab **PKPab** 05 44 40.5 +0.7
comp=Z,3.7nm,0.8s,baz=258,slow=5.6,SNR=4.9

*TEH **08** 05:25:52.4, 35°.97N × 45°.62E, h10km, ML2.8*
*DDA **08** 05:25:55.0, 35°.61N × 45°.00E, h5km ± 648km, ML2.4*
ISC 08 05:25:54.3 ± 1.6, **35°.6N** ± 0°.1 × **45°.1E** ± 0°.2, **h18**km ± 7km, **n7, s157/13, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**1.38**	**131**	*e*Pg	**Pn**	**05 26 18.9**	**+0.1**
IDHR				*e*Pg	**Pb**	**05 26 19.5**	**-0.2**
IDHR				*e*		05 26 20.2	
IDHR				*e*		05 26 20.6	
IGHG	**Ghaleghazi**	**1.75**	**137**	*e*Pg	**Pb**	**05 26 27.1**	**+1.1**
IGHG				*e*Sg	**Sg**	**05 26 53.1**	**+2.4**
IVIS	**Veis**	**1.78**	**127**	*e*Pg	**Pb**	**05 26 26.8**	**+0.3**
IVIS				*e*Sg	**Sg**	**05 26 51.4**	**-0.5**
IVIS				*e*		05 26 53.0	
CUKT	**Cukurca**	**2.04**	**324**	*i* P	**Pg**	**05 26 32.4**	**-1.1**
CUKT				*i* S	**Sg**	**05 27 01.7**	**+1.6**
YOVA	**Hakkari_Yksek**	**2.08**	**342**	*i* P	**Pg**	**05 26 34.1**	**-0.3**
YOVA				*i* S	**Sg**	**05 27 03.6**	**+2.1**
YOVA				IAML		05 27 04.0	
	comp=E,38nm,0.6s						
YOVA				IAML		05 27 05.0	
	comp=N,65nm,0.7s						
HAKT	**HAKKARI**	**2.25**	**330**	*i* P	**Pg**	**05 26 35.4**	**-2.2**
HAKT				*i* S	**Sg**	**05 27 07.7**	**+0.8**
HAKT				IAML		05 27 08.0	
	comp=E,34nm,0.5s						
HAKT				IAML		05 27 09.0	
	comp=N,21nm,0.5s						
IKOM	**Komasi**	**2.43**	**125**	*e*Pg	**Pb**	**05 26 36.7**	**-0.9**
IKOM				*e*		05 26 43.8	

*NEIC **08** 05:30:29.4 ± 1.6, 60°.57N ± 0°.02 × 150°.68W ± 0°.05, h53km ± 10km, Error ellipse: s-maj=4.0km s-min=3.1km az=106.0*
AEIC 08 05:30:29 ± 1.4, **60°.54N** ± 0°.03 × **150°.67W** ± 0°.05, **h52**km ± 7km, **ML3.3, Error ellipse: s-maj=3.9km s-min=3.8km az=113.0, Kenai Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**0.23**	**99**		Pn	05 30 38.0	+0.3
SLKM					Sn	05 30 44.2	+0.2
CAPN	**Captain Cook N**	**0.33**	**314**		Pn	05 30 39.6	+1.1
FIS	**Fire Island**	**0.64**	**20**		Pn	05 30 43.2	+1.1
RC01	**Rabbit Creek A**	**0.71**	**39**		Pn	05 30 43.0	0.0
RC01					Sn	05 30 53.1	-0.1
SEW	**Seward**	**0.75**	**125**		Pn	05 30 43.5	+0.1
SEW	**Seward**	**0.75**	**125**		Sn	05 30 55.7	+1.8
BRLK	**Bradley Lake**	**0.79**	**188**		Pn	05 30 44.5	+0.5
BRSE	**Bradley Lake S**	**0.81**	**183**		Pn	05 30 44.7	+0.5
BRSE					Sn	05 30 56.4	+1.1
SPU	**Mount Spurr**	**0.93**	**314**		Pn	05 30 45.5	-0.4
SPU				Sn	Sn	05 30 57.7	0.6
DFR	**Drift River**	**1.00**	**274**		Pn	05 30 46.6	-0.2
DFR					Sn	05 31 00.2	+0.4
SPCG	**Spurr Capps Gl**	**1.00**	**319**		Pn	05 30 46.7	-0.2
SPCG					Sn	05 31 01.0	+1.0
SPCR	**Spurr Chakacha**	**1.00**	**312**		Pn	05 30 46.4	-0.4
HOM	**Homer**	**1.01**	**209**		Pn	05 30 47.8	+0.9
RSO	**Redoubt South**	**1.03**	**266**		Pn	05 30 47.3	-0.1
RED	**Redoubt Volcan**	**1.05**	**264**		Pn	05 30 47.3	-0.2
RED					Sn	05 31 01.4	+0.2
RDJH	**Redoubt Jeurge**	**1.05**	**274**		Pn	05 30 47.5	-0.1
RDJH					Sn	05 31 01.7	+0.3
CNPM	**China Poot**	**1.06**	**196**		Pn	05 30 48.0	+0.4
RDWB	**Redoubt West**	**1.07**	**268**		Pn	05 30 47.7	-0.2
SPBG	**Spurr Blockage**	**1.10**	**312**		Pn	05 30 48.0	-0.2
STLK	**Strandline Lak**	**1.11**	**330**		Pn	05 30 48.5	+0.2
PWL	**Port Wells**	**1.19**	**74**		Pn	05 30 49.5	+0.2
PWL					Sn	05 31 05.2	+0.7
IVE	**Iliamna Volcan**	**1.28**	**247**		Pn	05 30 50.7	0.0
IVE					Sn	05 31 07.2	+0.4
PMR	**Palmer**	**1.29**	**35**		Pn	05 30 50.8	+0.1
ILW	**Iliamna West**	**1.32**	**250**		Pn	05 30 51.5	+0.3
ILS	**Iliamna Low So**	**1.33**	**245**		Pn	05 30 51.7	+0.3
KNK	**Knik Glacier**	**1.39**	**50**		Pn	05 30 52.5	+0.5
GHO	**Glory Hole Cre**	**1.50**	**34**		Pn	05 30 53.7	+0.2
SML	**Sawmill**	**1.70**	**41**		Pn	05 30 56.6	+0.3
GLI	**Glacier Island**	**1.79**	**78**		Pn	05 30 56.6	-0.8
AU22	**Augustine Moun**	**1.79**	**230**		Pn	05 30 58.9	+1.4
AUP	**Augustine Pinn**	**1.82**	**231**		Pn	05 30 59.1	+1.1
AUH	**Augustine H**	**1.83**	**231**		Pn	05 30 59.0	+0.9
AUW	**Augustine West**	**1.84**	**231**		Pn	05 30 58.5	+0.5
CUT	**Chulitna**	**1.88**	**6**		Pn	05 30 59.1	+0.5
SCM	**Sheep Creek Mo**	**2.07**	**50**		Pn	05 31 01.3	0.0
FID	**Fort Fidalgo**	**2.08**	**82**		Pn	05 31 00.1	-1.2
EYAK	**Eyarduva Ski Ar**	**2.43**	**88**		Pn	05 31 05.4	-0.7
MID	**Middleton Isla**	**2.45**	**115**		Pn	05 31 05.8	-0.6
SVW2	**Sparrevohn**	**2.47**	**285**		Pn	05 31 06.7	0.0
PPLA	**Purkeypile**	**2.47**	**344**		Pn	05 31 08.1	+1.2
WAT6	**Susitna Watana**	**2.48**	**33**		Pn	05 31 07.8	+0.8
WAT1	**Susitna Watana**	**2.51**	**23**		Pn	05 31 07.8	+0.5
WAT2	**Susitna Watana**	**2.62**	**21**		Pn	05 31 09.2	+0.3
PS12	**TAPS Pump St12**	**2.85**	**68**		Pn	05 31 12.3	+0.4
TRF	**Thorofare Moun**	**2.92**	**3**		Pn	05 31 13.8	+0.7
GOAT	**Goat Mountain**	**2.94**	**87**		Pn	05 31 12.3	-0.8
KDAK	**Kodiak Island**	**2.94**	**200**		Pn	05 31 13.3	+0.2
DHY	**Denali Highway**	**2.98**	**30**		Pn	05 31 14.4	+0.5
RND	**Reindeer**	**3.00**	**16**		Pn	05 31 15.1	+1.1
KTH	**Kantishna Hill**	**3.02**	**358**		Pn	05 31 16.1	+1.7
HARP	**HAARP**	**3.23**	**52**		Pn	05 31 18.2	+0.9
MCK	**McKinley**	**3.30**	**14**		Pn	05 31 19.5	+1.4
CHUM	**Lake Minchumin**	**3.44**	**348**		Pn	05 31 21.1	+1.1
GLB	**Gillahina Butte**	**3.46**	**72**		Pn	05 31 20.4	0.0
TT01	**Tatalina**	**3.48**	**315**		Pn	05 31 21.3	+0.8
TTA	**Tatalina**	**3.49**	**316**		Pn	05 31 21.3	+0.5
BPAW	**Bear Paw Mtn.**	**3.57**	**358**		Pn	05 31 22.7	+0.9
VRDI	**Verde Repeater**	**3.59**	**76**		Pn	05 31 21.9	-0.4
OHAK	**Old Harbor**	**3.60**	**203**		Pn	05 31 22.1	-0.1
GRIN	**Grindle Hills**	**3.66**	**91**		Pn	05 31 23.0	0.0
WAX	**Waxell Ridge**	**3.87**	**88**		Pn	05 31 24.8	-1.2
MENT	**Mentasta**	**4.09**	**51**	Pn	Pn	05 31 28.8	-0.1
KIAG	**Kiagna River**	**4.10**	**81**		Pn	05 31 28.3	-0.9
BALM	**Baldy**	**4.11**	**79**		Pn	05 31 28.9	-0.5
WRH	**Wood River Hil**	**4.12**	**16**		Pn	05 31 30.5	+1.2
HDA	**Harding Lake**	**4.25**	**22**		Pn	05 31 32.2	+1.2
CCB	**Clear Creek Bu**	**4.33**	**17**		Pn	05 31 32.9	+0.7
PS08	**TAPS Pump Stn8**	**4.39**	**22**		Pn	05 31 34.3	+1.3
DOT	**Dot Lake**	**4.40**	**42**		Pn	05 31 34.3	+1.2
YAH	**Yahtse**	**4.42**	**88**	Pn	Pn	05 31 33.0	-0.7
YAH					Sn	05 32 23.4	-0.5
BARN	**Barnard Glacie**	**4.45**	**79**		Pn	05 31 33.9	-0.1
TCOL	**CIGO, UAF Yank**	**4.54**	**15**		Pn	05 31 36.0	+1.0
COLA	**College**	**4.54**	**15**		Pn	05 31 36.0	+1.0
COLA	**College**	**4.54**	**15**		Pn	05 31 36.4	+1.4
MDM	**Murphy Dome**	**4.57**	**13**		Pn	05 31 36.8	+1.3
IL31		**4.59**	**21**		Pn	05 31 37.0	+1.3
POKR	**Poker Plat Res**	**4.82**	**17**		Pn	05 31 39.8	+0.8
BC03		**4.92**	**55**		Pn	05 31 40.5	+0.3
YUK2	**White River**	**4.92**	**71**		Pn	05 31 40.9	+0.6
YUK3	**Moose Creek**	**5.10**	**72**		Pn	05 31 43.2	+0.3
PCA	**Pinnacle**	**5.20**	**90**		Sn	05 32 41.2	-1.5
PCA	**Pinnacle**	**5.20**	**90**		Pn	05 31 44.2	0.0
IM03		**5.63**	**347**		Pn	05 31 50.3	+0.3
PNL	**Peninsula**	**5.71**	**94**		Pn	05 31 50.4	-0.7
EGAK	**Eagle**	**6.10**	**42**		Pn	05 31 56.9	+0.5
DAWY	**Dawson**	**6.33**	**51**	Pn	Pn	05 32 00.2	+0.6
DHAK	**Deception Hill**	**6.45**	**98**		Pn	05 32 01.1	-0.2
HYT	**Haines Junctio**	**6.47**	**82**	Pn	Pn	05 32 02.1	+0.4
FYU	**Fort Yukon**	**6.51**	**20**	Pn	Pn	05 32 03.3	+1.2
BM03	**Burnt Mountain**	**7.40**	**18**		Pn	05 32 19.4	+0.2
WHY	**Whitehorse**	**7.77**	**82**	Pn	Pn	05 32 19.0	-0.4
SIT	**Sitka**	**8.69**	**107**	Pn	Pn	05 32 31.7	-0.2

*NEIC **08** 05:32:28.9 ± 1.8, 9°.13N ± 0°.08 × 126°.94E ± 0°.09, h10km ± 1km, mb4.5/16, Error ellipse: s-maj=17.6km s-min=10.1km az=134.0*
*MAN **08** 05:32:31.8, 9°.30N × 127°.18E, h37km, mb4.7, ML3.6, MS3.5*
*IDC **08** 05:32:31.3 ± 1.3, 9°.21N × 126°.50E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/43, mbtmp3.6/5, Error ellipse: s-maj=91.3km s-min=24.9km az=69.0*
ISC 08 05:32:33.6 ± 0.6, **9°.34N** ± 0°.04 × **127°.05E** ± 0°.07, **h41**km, **n38, s72/43, mb4.0/12, 3C-2D, Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.34**	**211**	⇑*iP*	**Pn**	05 33 04.9	+9.1
BIPH				*i* S	**Sn**	**05 33 17.6**	**+5.2**
MSLP	**Maasan**	**2.30**	**290**	*eP*	**Pn**	**05 33 09.7**	**+0.7**
MSLP				*eS*	**Sn**	**05 33 38.9**	**+2.8**
BUKP	**Musuan**	**2.45**	**234**	*eP*	**Pn**	**05 33 11.3**	**+0.3**
BUKP				*eS*	**Sn**	**05 33 41.2**	**+1.4**
CGP	**Cagayan de Oro**	**2.49**	**249**	⇓*eP*	**Pn**	**05 33 11.7**	**+0.1**
CGP				*eS*	**Sn**	**05 33 38.0**	**-2.8**
DAV	**Davao City (W)**	**2.69**	**213**	Pn	**Pn**	**05 33 17.7**	**+3.4**
	77nm,0.3s,baz=271,slow=8.0,SNR=5.5						
DAV				Sn	**Sn**	**05 33 54.1**	**+8.5**
	19nm,0.3s,baz=271,slow=17,SNR=5.7						
DAV	**Davao City (W)**	**2.69**	**213**		**Pn**	**05 33 18.0**	**+3.7**
DAV					Lg	05 33 48.7	
KCP	**Kidapawan**	**3.02**	**220**	⇓*iP*	**Pn**	**05 33 23.0**	**+4.0**
KCP				*i* S	**Sn**	**05 33 57.6**	**+3.6**
TBP	**Tagbilaran**	**3.17**	**277**	*eP*	**Pn**	**05 33 21.0**	**+0.1**
DDMP	**Don Marcelino,**	**3.48**	**203**	*eP*	**Pn**	**05 33 25.4**	**+0.1**
DDMP				*eS*	**Sn**	**05 34 03.0**	**-2.2**
CTBH	**Cotabato--PC H**	**3.49**	**233**	⇑*iP*	**Pn**	**05 33 26.5**	**+1.2**
PAGZ	**Pagadian**	**3.92**	**248**	*eP*	**Pn**	**05 33 32.3**	**+1.0**
CNP	**Catarman**	**3.93**	**324**	*eP*	**Pn**	**05 33 31.6**	**+0.2**
CNP				*eS*	**Sn**	**05 34 19.4**	**+3.2**
RCP	**Roxas**	**4.78**	**298**	⇑*eP*	**Pn**	**05 33 45.6**	**+2.6**
PVCP	**Virac**	**5.09**	**326**	*eP*	**Pn**	**05 33 50.1**	**+2.7**
TNTI	**Ternate**	**8.52**	**178**	Pn	**Pn**	**05 34 29.9**	**-4.6**
SZP	**Santa**	**10.38**	**323**	Pn	**Pn**	**05 34 57.8**	**-2.1**
KKM	**Kota Kinabalu**	**11.23**	**254**	Pn	Pn	05 35 05.4	-6.3
KAPI	**Kappang**	**16.01**	**207**		**Pn**	**05 36 15.2**	**-0.8**
KAPI				IAmb	IAmb	05 36 18.3	
	comp=Z,18nm,1.2s						
SBUM	**Sibu**	**16.26**	**246**		**Pn**	**05 36 18.7**	**-0.4**
SAUI	**Saumlaki**	**17.72**	**166**	P	**Pn**	**05 36 35.0**	**-2.4**
MAJO	**Matsushiro**	**28.91**	**19**	P	**P**	**05 38 27.9**	**-0.9**
MAJO				IAmb	IAmb	05 38 45.2	
	comp=Z,3.6nm,1.1s						
MJB9	**Matsu-Tunnel**	**28.91**	**19**	P	**P**	**05 38 28.3**	**-0.5**
MJB9				IAmb	IAmb	05 38 45.2	
	comp=Z,3.5nm,1.0s						
WRA	**Warramunga Arr**	**29.97**	**166**	P	**P**	**05 38 42.2**	**+3.9**
	comp=Z,0.3nm,0.3s,baz=347,slow=9.4,SNR=1.8						
GSI	**Gunungsitoli**	**30.39**	**257**	P	**P**	**05 38 39.3**	**-2.9**
GSI				IAmb	IAmb	05 38 45.4	
	comp=Z,12nm,0.6s						
ASAR	**Alice Springs**	**33.48**	**169**	P	**P**	**05 39 11.9**	**+2.7**
	comp=Z,0.3nm,0.4s,baz=358,slow=7.2,SNR=2.1						
FORT	**Forrest**	**39.90**	**179**	P	**P**	**05 40 01.6**	**-2.1**
FORT				IAmb	IAmb	05 40 16.0	
	comp=Z,49nm,1.2s						
MK31	**Makanchi Array**	**53.23**	**323**	P	**P**	**05 41 47.2**	**-0.7**
MKAR	**Makanchi Array**	**53.23**	**323**	P	**P**	**05 41 50.1**	**+2.2**
	comp=Z,0.2nm,0.5s,baz=130,slow=7.9,SNR=2.2						
MAKZ	**Makanchi**	**53.42**	**323**	P	**P**	**05 41 50.3**	**+0.9**
DGAR	**Diego Garcia**	**56.88**	**255**	P	**P**	**05 42 12.8**	**-2.1**
KURK	**Kurchatov**	**57.26**	**326**	P	**P**	**05 42 18.1**	**+1.1**
KURK				IAmb	IAmb	05 42 24.5	
	comp=Z,1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**57.27**	**325**	P	**P**	**05 42 18.8**	**+1.9**
	comp=Z,0.3nm,0.4s,baz=123,slow=7.6,SNR=4.2						
SMY	**Shemya**	**57.52**	**32**	P	**P**	**05 42 19.5**	**+0.8**
CHGR	**Chuyangaron**	**59.27**	**310**	P	**P**	**05 42 31.9**	**+0.5**
CHGR				IAmb	IAmb	05 42 32.5	
	comp=Z,11nm,1.2s						
BILL	**Bilibino**	**64.09**	**15**	P	**P**	**05 43 05.7**	**+2.6**
BILL				IAmb	IAmb	05 43 21.6	
	comp=Z,4.6nm,1.4s						
RAO	**Raoul Island**	**65.42**	**128**	P	**P**	**05 43 10.9**	**-1.5**
MWH	**Moku'aweowe**	**75.09**	**72**	P	**P**	**05 44 13.1**	**+0.6**
YKA	**Yellowknife Ar**	**94.28**	**24**	P	P	05 45 54.0	+5.6
	comp=Z,0.1nm,0.3s,baz=305,slow=4.5,SNR=3.6						

*IDC **08** 05:33:55.7 ± 2.5, 21°.83S × 70°.44W, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.6/20, mbtmp3.7/3, ML3.3/1, Error ellipse: s-maj=71.5km s-min=62.6km az=88.0*
*GUC **08** 05:34:03.6 ± 0.7, 21°.16S × 70°.21W, h41km ± 1km, ML3.8*
ISC 08 05:34:02.5 ± 1.3, **21°.14S** ± 0°.02 × **70°.31W** ± 0°.06, **h26**km ± 11km, **n22, σ0°.91/36, 4C-8D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATCX	**Punta Patache**	**0.34**	**25**	*eP*	**Pn**	**05 34 12.9**	**+1.0**
PATCX				*i* S	**Sn**	**05 34 19.0**	**+0.9**
PATCX				IAML		05 34 19.6	
	comp=E,25μm,0.3s						
TA01	**Diego Aracena**	**0.58**	**12**	⇓*iP*	**Pn**	**05 34 15.9**	**+0.8**
TA01				*i* S	**Sn**	**05 34 24.0**	**+0.3**
PB07	**IPOC Station P**	**0.71**	**146**	⇑*iP*	**Pn**	**05 34 17.1**	**+0.1**
PB07				*i* S	**Sb**	**05 34 26.0**	**+0.3**
PB07				IAML		05 34 27.3	
	comp=E,6μm,0.3s						
PB01	**IPOC Station P**	**0.77**	**83**	⇓*iP*	**Pb**	**05 34 17.7**	**+0.3**
PB01				*i* S	**Sb**	**05 34 27.1**	**-0.4**
PB01				IAML		05 34 28.9	
	comp=E,5μm,0.2s						
TA02	**Huaiquique**	**0.88**	**11**	⇓*iP*	**Pn**	**05 34 20.1**	**+0.9**
TA02				*i* S	**Sn**	**05 34 31.2**	**+0.2**
TA02				IAML		05 34 34.4	
	comp=N,5μm,0.1s						
PB03	**IPOC Station P**	**1.04**	**151**	⇑*iP*	**Pn**	**05 34 21.9**	**+0.3**

az=62.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.04**	**35**	P	Pg	05 34 22.8	0.0
ATFO				S	Sg	05 34 24.2	0.0
ATFO				AML	AML		
	comp=E,647μm,0.1s						
ATFO				AML	AML		
	comp=N,282μm,1.1s						
MURB	**Monte Urbino**	**0.07**	**188**	P	Pg	05 34 23.2	+0.1
MURB				S	Sg	05 34 24.7	+0.2
MURB				AML	AML		
	comp=E,820μm,0.3s						
MURB				AML	AML		
	comp=N,990μm,0.3s						
MURB				AML	AML		
	comp=N,925μm,0.2s						
MURB				AML	AML		
	comp=E,874μm,0.2s						
ATVO	**AVT- Monte Val**	**0.11**	**299**	P	Pg	05 34 23.9	+0.4
ATVO				S	Sg	05 34 26.1	+0.6
ATVO				AML	AML		
	comp=E,95μm,0.2s						
ATVO				AML	AML		
	comp=N,96μm,0.6s						
ATVO				AML	AML		
	comp=N,96μm,0.6s						
ATPI	**Pietralunga -**	**0.16**	**321**	P	Pg	05 34 24.9	+0.5
ATPI				S	Sg	05 34 27.8	+1.2
ATPI				AML	AML		
	comp=E,30μm,1.5s						
ATPI				AML	AML		
	comp=N,55μm,0.9s						
ATCC	**AVT- Casa Cast**	**0.16**	**152**	P	Pg	05 34 25.1	+0.7
ATCC				S	Sg	05 34 28.6	+1.7
ATCC				AML	AML		
	comp=E,140μm,0.6s						
ATCC				AML	AML		
	comp=N,95μm,0.2s						
ATCC				AML	AML		
	comp=E,140μm,0.6s						
ATCC				AML	AML		
	comp=N,95μm,0.2s						
FOSV	**Fossato di Vic**	**0.17**	**102**	P	Pg	05 34 25.0	+0.5
FOSV				S	Sg	05 34 28.3	+1.4
FOSV				AML	AML		
	comp=N,35μm,0.5s						
FOSV				AML	AML		
	comp=E,28μm,1.4s						
ATMI	**Monte Miggiano**	**0.20**	**271**	S	Sg	05 34 30.0	+2.2
PIEI	**Pieia**	**0.21**	**360**	P	Pg	05 34 26.0	+0.8
PIEI				S	Sg	05 34 29.7	+1.6
PIEI				AML	AML		
	comp=N,32μm,0.3s						
PIEI				AML	AML		
	comp=E,48μm,0.3s						
FRON	**Frontone**	**0.23**	**36**	P	Pg	05 34 26.2	+0.6
FRON				S	Sg	05 34 30.3	+1.4
BADI	**Badiali**	**0.28**	**310**	P	Pg	05 34 27.2	+0.7
BADI				S	Sb	05 34 32.2	-0.8
NARO	**Abbazia di Nar**	**0.28**	**6**	P	Pb	05 34 27.4	-0.8
NARO				AML	AML		
	comp=N,17μm,1.1s						
NARO				AML	AML		
	comp=E,15μm,0.8s						
NARO				AML	AML		
	comp=N,17μm,1.1s						
ASSB	**Assisi San Ben**	**0.30**	**163**	P	Pg	05 34 27.4	+0.5
ASSB				AML	AML		
	comp=E,22μm,0.6s						
ASSB				AML	AML		
	comp=N,26μm,1.5s						
SNTG	**Esanatoglia**	**0.30**	**104**	P	Pg	05 34 27.6	+0.6
SNTG				AML	AML		
	comp=E,16μm,0.3s						
SNTG				AML	AML		
	comp=N,28μm,0.2s						
CAFI	**Castiglion Fio**	**0.42**	**270**	P	Pg	05 34 29.7	+0.7

*MAN **08** 05:35:32.6, 9.°58N× 127.°01E, h11km, mb5.5, ML4.5, MS4.8*
*IDC **08** 05:35:32.5± 0.5, 9.°49N× 126.°48E, h0km, mb4.2/23, mb1 4.3/24, mb1mx4.2/39, mbtmp4.2/24, ML4.9/2, MS3.8/9, Ms1 3.8/9, ms1mx3.5/36, Error ellipse: s-maj=25.8km s-min=11.7km az=79.0*
*NEIC **08** 05:35:34.2± 1.1, 9.°40N± 0.°07× 126.°36E± 0.°08, h10km± 1km, mb4.7/45, Error ellipse: s-maj=14.1km s-min=11.0km az=106.0*

ISC 08 05:35:34.8±1.4, **9.°52N**±0.°03× **126.°55E**±0.°05, **h13**km±8km, **n121**, σ2**9**09/**125**, **mb4.5**/47, **MS4.0**/15, **7C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.08**	**284**⇑	*e*P	**Pn**	**05 35 59.2**	**+3.5**
SCPH				*e*S	**Sn**	**05 36 16.8**	**+6.3**
BIPH	**Bislig**	**1.34**	**188**⇓	*i*P	Pg	05 36 08.5	+7.9
BIPH				*i* S	**Sg**	**05 36 25.3**	**+7.3**
MSLP	**Maasin**	**1.77**	**290**	*e*P	**Pg**	**05 36 08.1**	**-0.8**
MSLP				*e*S	**Sg**	**05 36 37.4**	**+5.4**
CGP	**Cagayan de Oro**	**2.12**	**240**⇑	*e*P	**Pg**	**05 36 13.6**	**-1.8**
CGP				*i* S	**Sg**	**05 36 46.0**	**+3.1**
BUKP	**Musuan**	**2.19**	**222**	*e*P	**Pb**	**05 36 14.6**	**+0.2**
BUKP				*e*S	**Sg**	**05 36 48.3**	**+2.8**
OCLP	**Ormoc**	**2.44**	**309**	*e*P	Pn	05 36 04.7	-10
MATI	**Mati**	**2.57**	**186**	*e*P	**Pn**	**05 36 15.9**	**-0.3**
DAV	**Davao City (W)**	**2.62**	**202**	Pn	**Pb**	**05 36 20.6**	**-1.0**
	40nm,0.3s,baz=70,slow=14,SNR=1.9						
DAV				LR	LR	05 37 39.7	
	comp=Z,5μm,18.6s,baz=43,slow=50						
DAV	**Davao City (W)**	**2.62**	**202**⇑	*e*P	**Pb**	**05 36 20.4**	**-1.3**
DMPH	**Davao City--Mi**	**2.63**	**203**	*e*P	**Pg**	**05 36 24.0**	**-1.3**
DMPH				*e*S	**Sg**	**05 37 00.3**	**+0.8**
TBP	**Tagbilaran**	**2.66**	**274**	*e*P	**Pb**	**05 36 22.2**	**-0.1**
KCP	**Kidapawan**	**2.88**	**210**⇓	*i*P	**Pb**	**05 36 27.3**	**+1.1**
KCP				*i* S	**Sb**	**05 37 03.4**	**+2.0**
CTBH	**Cotabato--PC H**	**3.23**	**225**⇑	*i*P	**Pb**	**05 36 29.9**	**-2.1**
SNPH	**Sibulan**	**3.27**	**267**	*e*P	**Pb**	**05 36 33.2**	**+0.3**
DDMP	**Don Marcelino,**	**3.49**	**194**	*e*P	**Pn**	**05 36 31.1**	**+2.2**
DDMP				*e*S	**Sb**	**05 37 20.2**	**+1.2**
CNP	**Catarman**	**3.50**	**328**	*e*P	**Pn**	**05 36 32.4**	**+3.3**
CNP				*e*S	**Sn**	**05 37 14.4**	**+3.9**
PAGZ	**Pagadian**	**3.54**	**242**	*e*P	**Pb**	**05 36 34.0**	**-3.5**
CNOP	**Candoni, Negro**	**3.87**	**275**	*e*P	**Pb**	**05 36 38.5**	**-4.5**
GUIM	**Jordan**	**4.05**	**286**	*e*P	**Pb**	**05 36 42.5**	**-3.7**
RCP	**Roxas**	**4.26**	**299**⇑	*e*P	Pn	05 36 44.0	+4.6
PVCP	**Virac**	**4.68**	**330**	*e*P	**Pn**	**05 36 47.5**	**+2.2**
PVCP				*e*S	**Sg**	**05 38 01.6**	**-3.7**
JAP	**San Jose, Anti**	**4.69**	**285**⇑	*e*P	**Pb**	**05 36 54.4**	**-2.7**
LQP	**Lukban**	**6.70**	**313**	*e*P	Pn	05 37 18.1	+4.9
TGY	**Tagaytay City**	**7.14**	**310**	LR	LR	05 40 27.7	
	comp=Z,729nm,20.1s,baz=129,slow=42						
TNTI	**Ternate**	**8.73**	**175**	Pn	**Pn**	**05 37 39.8**	**-1.1**
KKM	**Kota Kinabalu**	**10.81**	**252**	Pn	**Pn**	**05 38 07.0**	**-2.5**
SIJI	**Sorong**	**11.34**	**155**	Pn	**Pn**	**05 38 15.7**	**-1.0**
	2.1nm,0.3s,baz=323,slow=15,SNR=5.0						
FAKI	**Fak Fak**	**13.60**	**155**	Pn	**Pn**	**05 38 46.2**	**-1.4**
YULB	**Yu-li**	**14.68**	**341**		**P**	**05 39 08.8**	**+0.1**
TPUB	**Ta-pu**	**14.83**	**338**	Pn	**Pn**	**05 39 05.6**	**+1.1**
YOJ	**Yonaguni jima**	**15.24**	**348**	Pn	**Pn**	**05 39 10.8**	**+0.9**
SBUM	**Sibu**	**15.88**	**245**	Pn	**Pn**	**05 39 14.8**	**-3.5**
KAPI	**Kappang**	**15.95**	**205**	LR	LR	05 45 51.2	
	comp=Z,149nm,20.2s,baz=24,slow=39						
KSM	**Kuching**	**18.02**	**245**	Pn	**Pn**	**05 39 40.4**	**-4.9**
KSM				IAmb	IAmb	05 39 52.6	
	comp=Z,36nm,0.9s						
MMRI	**Maumere**	**18.54**	**194**	P	**P**	**05 39 48.2**	**-3.2**
MMRI				IAmb	IAmb	05 40 01.6	
	comp=Z,69nm,1.1s						
QIZ	**Qiongzhong**	**18.73**	**302**	P	**P**	**05 39 51.8**	**-1.7**
SOEI	**Soe**	**19.28**	**187**	P	**P**	**05 39 57.9**	**-1.8**
SOEI				IAmb	IAmb	05 40 07.2	
	comp=Z,107nm,1.5s						
BATI	**Baumata**	**19.80**	**188**	P	**P**	**05 40 04.7**	**-0.6**
	comp=Z,11nm,0.3s,baz=230,slow=1.7,SNR=8.8						
NJ2	**Nanjing**	**23.53**	**343**	*e*P	**P**	**05 40 47.8**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,23nm,0.5s						
NJ2				LR	LR		
	comp=N,260nm,13.3s						
NJ2				LR	LR		
	comp=E,280nm,13.3s						
NJ2				LR	LR		
	comp=Z,750nm,20.4s						
WHN	**Wuhan**	**23.81**	**333**⇑	P	P	05 40 55.6	+8.0
WHN				S	**S**	**05 45 09.4**	**+6.2**
WHN				LR	LR		
	comp=N,320nm,8.8s						
WHN				LR	LR		
	comp=E,620nm,15.5s						
WHN				LR	LR		
	comp=Z,550nm,17.9s						
JNU	**Nakatsue**	**23.83**	**9**	P	**P**	**05 40 47.4**	**-0.4**
	comp=Z,9.8nm,0.8s,baz=104,slow=4.9,SNR=6.7						
JNU	**Nakatsue**	**23.83**	**9**	P	**P**	**05 40 49.0**	**+1.2**
JNU				IAmb	IAmb	05 40 51.9	
	comp=Z,15nm,1.0s						
KNRA	**Kununurra**	**25.13**	**175**	P	**P**	**05 41 00.9**	**+1.1**
KNRA				IAmb	IAmb	05 41 12.0	
	comp=Z,28nm,1.1s						
GYA	**Guiyang**	**25.27**	**314**	P	**P**	**05 41 00.8**	**-0.4**
GYA				PP	**PnPn**	**05 41 36.6**	**+1.0**
GYA				S	**S**	**05 45 23.2**	**-3.7**
GYA				sS	sS	05 45 40.6	+10
GYA				pmax	pmax		
	comp=Z,150nm,8.0s						
GYA				LR	LR		
	comp=N,230nm,12.2s						
GYA				LR	LR		
	comp=E,310nm,16.8s						
GYA				LR	LR		
	comp=Z,320nm,16.1s						
PBKT	**Sadao Pong**	**25.87**	**288**	P	**P**	**05 41 05.3**	**-1.2**
JHJ2	**Mitsune**	**26.48**	**26**	P	**P**	**05 41 12.7**	**+0.8**
FITZ	**Fitzroy Crossi**	**27.45**	**182**	P	**P**	**05 41 21.5**	**+0.7**
	comp=Z,8.0nm,0.9s,baz=40,slow=8.3,SNR=10.0						
FITZ	**Fitzroy Crossi**	**27.45**	**182**	P	**P**	**05 41 17.3**	**-3.5**
KSRS	**Korea Array**	**27.84**	**2**	P	**P**	**05 41 25.0**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=183,slow=11,SNR=7.3						
KSRS				LR	LR	05 54 03.4	
	comp=Z,181nm,19.0s,baz=174,slow=40						
CMAR	**Chiang Mai Arr**	**28.19**	**291**	P	**P**	**05 41 27.1**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=101,slow=6.7,SNR=8.8						
RPSI	**Rantau Prapat**	**28.28**	**258**	P	**P**	**05 41 24.9**	**-3.4**
RPSI				IAmb	IAmb	05 41 35.4	
	comp=Z,14nm,1.1s						
MJAR	**Matsushiro Arr**	**28.91**	**20**	LR	LR	05 52 54.5	
	comp=Z,178nm,19.4s,baz=205,slow=36						
XAN	**Xi'an**	**29.29**	**329**	P	P	05 41 43.3	+6.2
XAN				pP	pwP	05 41 47.7	+1.4
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,240nm,12.0s						
XAN				LR	LR		
	comp=N,260nm,17.3s						
XAN				LR	LR		
	comp=E,180nm,16.7s						
XAN				LR	LR		
	comp=Z,380nm,16.3s						
XAN	**Xi'an**	**29.29**	**329**	P	**P**	**05 41 36.6**	**-0.5**
GSI	**Gunungsitoli**	**29.95**	**256**	P	**P**	**05 41 39.9**	**-3.3**
CD2	**Chengdu**	**30.05**	**318**	*e*P	**P**	**05 41 44.5**	**+0.6**
CD2				S	**S**	**05 46 40.8**	**-1.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=N,340nm,17.7s						
CD2				LR	LR		
	comp=E,390nm,16.7s						
CD2				LR	LR		
	comp=Z,460nm,17.7s						
WRA	**Warramunga Arr**	**30.26**	**165**	P	**P**	**05 41 43.8**	**-2.1**
	comp=Z,2.4nm,1.1s,baz=349,slow=9.0,SNR=3.9						
PSAC1	**Pilbara Seismi**	**31.56**	**192**	P	**P**	**05 41 57.1**	**-0.1**
PSAB1	**Pilbara Seismi**	**31.59**	**192**	P	**P**	**05 41 57.4**	**-0.1**
BJT	**Baijiatuao**	**31.75**	**345**	P	**P**	**05 41 59.3**	**+0.6**
BJT				IAmb	IAmb	05 42 09.6	
	comp=Z,5.2nm,0.6s						
LZH	**Lanzhou**	**33.55**	**326**	*e*P	**P**	**05 42 17.3**	**+2.5**
LZH				pP	pwP	05 42 28.5	+4.5
LZH				sP	sP	05 42 32.2	+14
LZH				*e*PP	**PP**	**05 43 30.1**	**-0.6**
LZH				pmax	pmax		
	comp=Z,23nm,1.2s						
LZH				pmax	pmax		
	comp=Z,76nm,5.0s						
LZH				LR	LR		
	comp=N,430nm,12.9s						
LZH				LR	LR		
	comp=E,440nm,13.2s						
LZH				LR	LR		
	comp=Z,570nm,16.5s						
ASAR	**Alice Springs**	**33.76**	**168**	P	**P**	**05 42 14.8**	**-1.7**
	comp=Z,8.6nm,1.1s,baz=231,slow=6.5,SNR=3.8						
HHC	**Hu-ho-hao-te**	**33.91**	**339**	P	**P**	**05 42 19.4**	**+1.6**
HHC				pmax	pmax		
	comp=Z,12nm,0.9s						
HHC				pmax	pmax		
	comp=Z,70nm,4.3s						
HHC				LR	LR		
	comp=N,140nm,12.9s						
HHC				LR	LR		
	comp=E,140nm,13.0s						
HHC				LR	LR		
	comp=Z,130nm,12.4s						
CN2	**Changchun**	**34.17**	**359**	*e*P	**P**	**05 42 24.2**	**+4.4**
USA0B	**Ussuriysk Arra**	**34.87**	**7**	P	**P**	**05 42 26.2**	**+0.3**
USRK	**Ussuriysk Ar.**	**34.87**	**7**	P	**P**	**05 42 27.0**	**+1.1**
	comp=Z,1.8nm,0.6s,baz=194,slow=10,SNR=3.3						
SHL	**Shillong**	**36.55**	**300**	P	**P**	**05 42 39.9**	**-1.0**
SHL				IAmb	IAmb	05 42 45.4	
	comp=Z,10nm,0.7s						
ASAJ	**Asahikawa**	**37.18**	**19**	P	**P**	**05 42 47.1**	**+1.4**
	comp=Z,8.6nm,1.1s,baz=231,slow=6.5,SNR=3.8						
JKA	**Kamikawa-asahi**	**37.18**	**19**	P	**P**	**05 42 47.1**	**+1.4**
JKA	**Kamikawa-asahi**	**37.18**	**19**	P	**P**	**05 42 46.7**	**+1.0**
JKA				IAmb	IAmb	05 42 47.8	
	comp=Z,23nm,1.3s						
GTA	**Gaotai**	**38.15**	**326**	*e*P	**P**	**05 42 56.0**	**+1.8**
GTA				pP	pwP	05 43 02.2	-1.2
GTA				sP	sP	05 43 05.0	+7.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.2s						
GTA				LR	LR		
	comp=N,160nm,19.6s						
GTA				LR	LR		
	comp=E,250nm,20.8s						
GTA				LR	LR		
	comp=Z,140nm,18.7s						
ULN	**Ulaanbaatar**	**41.62**	**340**	P	**P**	**05 43 22.2**	**-0.7**
SONM	**Songino Array**	**41.82**	**340**	P	**P**	**05 43 24.7**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=147,slow=8.5,SNR=6.7						
SONM				LR	LR	06 03 45.8	
	comp=Z,172nm,18.1s,baz=96,slow=40						
BBOO	**Buckleboo**	**43.06**	**168**	P	**P**	**05 43 32.7**	**-1.8**
BBOO				IAmb	IAmb	05 43 46.8	
	comp=Z,32nm,1.4s						
STKA	**Stephens Creek**	**43.61**	**161**	P	**P**	**05 43 40.0**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=331,slow=13,SNR=4.2						
STKA	**Stephens Creek**	**43.61**	**161**	P	**P**	**05 43 38.4**	**-0.7**
TLY	**Talaya**	**46.03**	**340**	P	**P**	**05 43 59.2**	**+1.0**
TLY				IAmb	IAmb	05 44 07.0	
	comp=Z,7.1nm,1.0s						
WMQ	**Urumqi**	**47.98**	**322**	*e*P	**P**	**05 44 14.9**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,63nm,3.6s						
WMQ				LR	LR		
	comp=N,200nm,18.5s						
WMQ				LR	LR		
	comp=E,170nm,18.7s						
WMQ				LR	LR		
	comp=Z,150nm,23.5s						
PETK	**Petropavlovsk-**	**50.21**	**24**	LR	LR	06 05 58.3	
	comp=Z,117nm,19.1s,baz=235,slow=36						
YAK	**Yakutsk**	**52.47**	**2**	P	**P**	**05 44 48.0**	**+0.8**
MK31	**Makanchi Array**	**52.79**	**323**	P	**P**	**05 44 49.8**	**-0.1**
MKAR	**Makanchi Array**	**52.79**	**323**	P	**P**	**05 44 50.0**	**0.0**
	comp=Z,1.4nm,0.6s,baz=125,slow=8.1,SNR=10						
MAKZ	**Makanchi**	**52.98**	**323**	P	**P**	**05 44 51.1**	**-0.3**
NIL	**Nilore**	**54.38**	**305**	P	**P**	**05 45 01.1**	**-0.7**
ZAA0	**Zalesovo Array**	**55.41**	**331**	P	**P**	**05 45 07.5**	**-1.3**
ZALV	**Zalesovo Beam**	**55.41**	**331**	P	**P**	**05 45 07.7**	**-1.2**
	comp=Z,2.2nm,0.7s,baz=115,slow=6.3,SNR=8.6						
ZALV				LR	LR	06 10 54.7	
	comp=Z,70nm,18.6s,baz=96,slow=38						
KURK	**Kurchatov**	**56.84**	**326**	P	**P**	**05 45 19.0**	**-0.2**
KURK				IAmb	IAmb	05 45 19.8	
	comp=Z,4.6nm,0.8s						
GAR	**Garm**	**57.98**	**310**	P	**P**	**05 45 27.0**	**-0.6**
KBL	**Kabul**	**57.98**	**305**	P	**P**	**05 45 26.1**	**-1.7**
KBL				IAmb	IAmb	05 45 28.1	
	comp=Z,8.8nm,0.9s						
CHGR	**Chuyangaron**	**58.78**	**310**	P	**P**	**05 45 32.6**	**-0.5**
KK31	**Karatay Array**	**58.97**	**315**	P	**P**	**05 45 33.8**	**-0.5**
KK31				IAmb	IAmb	05 45 34.7	
	comp=Z,3.5nm,0.8s						
KKAR	**Karatay Array**	**58.97**	**315**	P	**P**	**05 45 33.8**	**-0.5**
KKAR				IAmb	IAmb	05 45 34.7	
	comp=Z,3.5nm,0.8s						
TIXI	**Tiksi**	**62.09**	**1**	P	**P**	**05 45 56.5**	**+1.5**
TIXI				IAmb	IAmb	05 46 01.4	
	comp=Z,7.5nm,1.2s						
BRVK	**Borovoye**	**62.51**	**326**	P	**P**	**05 45 57.7**	**-0.4**
BRVK				IAmb	IAmb	05 46 10.0	
	comp=Z,4.8nm,0.9s						
BILL	**Bilibino**	**64.05**	**16**	P	**P**	**05 46 08.3**	**+0.2**
BILL				IAmb	IAmb	05 46 22.4	
	comp=Z,6.7nm,1.1s						
NRIK	**Noril'sk**	**64.81**	**346**	P	**P**	**05 46 13.2**	**+0.2**
	comp=Z,6.0nm,0.9s,baz=140,slow=6.9,SNR=5.7						
GEYT	**Alibeck**	**67.21**	**307**	P	**P**	**05 46 28.4**	**-0.8**
	comp=Z,2.0nm,0.8s,baz=57,slow=5.3,SNR=2.7						
RAYN	**Ar Rayn**	**78.11**	**292**	P	**P**	**05 47 33.9**	**-0.4**
RAYN				IAmb	IAmb	05 47 36.6	
	comp=Z,6.5nm,0.9s						
BPAW	**Bear Paw Mtn.**	**78.20**	**26**	P	**P**	**05 47 35.9**	**+1.8**
BPAW				IAmb	IAmb	05 47 39.3	
	comp=Z,11nm,1.4s						
KBZ	**Khabaz**	**78.92**	**313**	P	**P**	**05 47 37.8**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=136,slow=16,SNR=3.6						
ILAR	**Eielson Array**	**79.99**	**26**	P	**P**	**05 47 42.4**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=236,slow=5.2,SNR=6.6						
KLMR	**Klimovskoe**	**80.31**	**330**	*e*	**P**	**05 47 43.9**	**-1.6**
KLMR				AMP		05 47 45.6	
	comp=Z,12nm,1.0s						
DAWY	**Dawson**	**83.29**	**26**	P	**P**	**05 48 02.0**	**+0.8**
DAWY				IAmb	IAmb	05 48 11.2	
	comp=Z,5.7nm,1.4s						
ARCES	**ARCESS Array B**	**84.99**	**340**	P	**P**	**05 48 09.4**	**-0.4**
	comp=Z,3.5nm,0.7s,baz=77,slow=6.5,SNR=10						
BRTR	**Keskin Array B**	**86.22**	**309**	P	**P**	**05 48 16.0**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=102,slow=4.3,SNR=5.6						
CRZF	**Crozet Islands**	**86.47**	**222**	P	P	05 48 12.5	-4.9
FIA1	**FINESS Array S**	**86.68**	**332**	P	**P**	**05 48 18.2**	**0.0**
FIA1				IAmb	IAmb	05 48 30.0	
	comp=Z,8.1nm,1.1s						
FINES	**FINESS Array B**	**86.68**	**332**	P	**P**	**05 48 17.8**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=86,slow=5.1,SNR=14						
AKASG	**Malin Array Be**	**87.32**	**321**	P	**P**	**05 48 20.9**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=76,slow=4.3,SNR=2.0						
C36M	**Paulatuk**	**87.85**	**20**	P	**P**	**05 48 24.7**	**+0.9**
MAW	**Mawson**	**89.09**	**200**	LR	LR	06 29 01.8	
	comp=Z,33nm,19.0s,baz=62,slow=36						
VNDA	**Vanda**	**89.15**	**173**	P	**P**	**05 48 29.2**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=328,slow=6.3,SNR=6.2						
VNDA	**Vanda**	**89.15**	**173**	P	**P**	**05 48 29.5**	**-0.1**
VNDA				IAmb	IAmb	05 48 33.9	
	comp=Z,2.9nm,1.1s						
NB2	**NORSAR Subarra**	**93.55**	**334**	P	**P**	**05 48 49.2**	**-1.4**
	comp=Z,6.6nm,0.7s,baz=70,slow=4.1						
NOA	**NORSAR Array B**	**93.55**	**334**	P	**P**	**05 48 49.5**	**-1.1**
	comp=Z,0.8nm,0.9s,baz=62,slow=4.7,SNR=5.2						
YKA	**Yellowknife Ar**	**94.33**	**24**	P	**P**	**05 48 53.7**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=294,slow=4.4,SNR=9.7						
CLL	**Collm**	**96.86**	**325**	*e*P	**P**	**05 49 06.0**	**+0.2**
CLL				*e*PP	**PP**	**05 53 02.0**	**+1.4**
TXAR	**Lajitas Array**	**118.10**	**50**	PKP	**PKPdf**	**05 54 22.3**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=293,slow=0.7,SNR=2.1						
TORD	**Torodi Ar. Bea**	**120.80**	**291**	PKP	**PKPdf**	**05 54 27.1**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=28,slow=4.0,SNR=2.4						
PLCA	**Paso Flores**	**145.41**	**157**	PKPbc	**PKPbc**	**05 55 13.1**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=225,slow=3.5,SNR=4.6						
PLCA	**Paso Flores**	**145.41**	**157**	PKPbc	**PKPab**	**05 55 13.8**	**+0.6**

*IDC **08** 05:46:59.4± 48.0, 31.°72N× 46.°34E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/26, mbtmp3.6/4, Error ellipse: s-maj=911.2km s-min=52.0km az=13.0*
*ISN **08** 05:47:07.2± 1.3, 32.°62N× 46.°64E, h0km± 5km, ML3.5*
*THR **08** 05:47:10.7± 0.3, 32.°74N× 46.°70E, h18km± 9km, ML3.3*
*TEH **08** 05:47:10.8, 32.°78N× 46.°64E, h23km, ML3.4*

ISC 08 05:47:12.9±1.1, **32.°70N**±0.°08× **46.°57E**±0.°04, **h35**km, **n26,** σ1**522**/**29**, **mb3.7**/**4**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.68**	**307**	*e*Pg	**Pn**	**05 47 25.0**	**-0.9**
IBDR				*e*Sg	**Sn**	**05 47 36.0**	**+0.7**
IBDR				AML	AML	05 47 38.1	
	comp=N,788nm,0.6s						
IBDR				AML	AML	05 47 40.1	
	comp=E,2μm,0.4s						
IBDR	**Badra**	**0.68**	**307**	*e*Pg	**Pn**	**05 47 25.0**	**-0.9**
IGHG	**Ghaleghazi**	**1.62**	**360**	*e*Pg	**Pn**	**05 47 39.3**	**+0.1**
IDOB	**Doab**	**1.72**	**51**	*e*Pg	**Pn**	**05 47 39.4**	**-1.2**
IDOB				*e*		05 48 14.1	
BHD	**Baghdad**	**1.93**	**288**	*e*Pn	**Pn**	**05 47 43.0**	**-0.1**
BHD				*e*Sn	**Sn**	**05 48 09.0**	**+2.9**
BHD	**Baghdad**	**1.93**	**288**	*e*Pn	**Pn**	**05 47 43.0**	**-0.1**
SHGR	**Shooshtar-Gavs**	**1.98**	**107**	*e*Pn	**Pn**	**05 47 44.1**	**+0.3**
SHGR				*e*Sg	**Sn**	**05 48 10.3**	**+2.9**
SHGR				IAML		05 48 13.0	
	comp=N,179nm,0.4s						
SHGR				IAML		05 48 13.2	
	comp=E,226nm,0.2s						
SHGR	**Shooshtar-Gavs**	**1.98**	**107**	*e*Pn	**Pn**	**05 47 44.1**	**+0.3**
IDHR	**Dehrash**	**2.00**	**356**	*e*Pg	**Pn**	**05 47 45.2**	**+0.9**
IBZA	**Bozab**	**2.06**	**31**	*e*Pg	Pn	05 47 47.6	+2.3
IBZA				*e*		05 48 24.8	
HSAM	**Samen**	**2.27**	**48**	*e*Pn	**Pn**	**05 47 47.1**	**-1.0**
HSAM				*e*		05 48 25.9	
HAGD	**Aghdareh**	**3.00**	**45**	*e*Pn	**Pn**	**05 47 57.2**	**-1.0**
HAGD				*e*		05 48 35.1	
KHMZ	**Khomeyn**	**3.02**	**69**	*e*

CFA Coronel Fontan 1.59 257 Pg Pn 06 05 32.5 -2.0
comp=Z,248nm,0.3s,baz=72,slow=16,SNR=951
CFA Lg Lg 06 05 51.4
comp=Z,9µm,0.3s,baz=190,slow=22,SNR=149
CFA Coronel Fontan 1.59 257 *i* P **Pn 06 05 32.9 -1.6**
CFA IAML 06 05 57.3
comp=Z,7µm,0.3s
RTLL Cerro Villicun 1.76 268 *i* P **Pn 06 05 35.9 -0.9**
RTLL *eS* **Sn 06 05 57.2 -2.1**
RTLL IAML 06 06 00.9
comp=Z,7µm,0.3s
RTCV Cerro Valdivia 1.90 251 *i* P **Pn 06 05 38.3 -0.5**
RTCV IAML 06 06 18.0
comp=Z,2µm,2.9s
ZON Zonda 1.95 261 Pn 06 05 39.5 0.0
ZON Sn **Sn 06 06 03.1 -0.9**
ZON Zonda 1.95 261 *i* P **Pn 06 05 39.1 -0.3**
ZON *i* Sg **Sn 06 06 03.0 -1.0**
ZON IAML 06 06 05.7
comp=Z,3µm,0.5s
ACCO Cerro Coronel 2.37 286 *i* P **Pn 06 05 46.4 +0.9**
ACDV Cuesta del Vie 2.57 295 *i* P **Pb 06 05 50.2 -2.3**
ACDV IAML 06 06 30.4
comp=Z,2µm,0.7s
UTNM Universidad Te 2.63 231 *i* P **Pb 06 05 53.9 +0.6**
UTNM IAML 06 06 37.5
comp=Z,1µm,0.6s
AROD Rodeo 2.85 292 *i* P **Pn 06 05 54.2 +2.1**
CYA Choya 2.87 11 *i* P **Pn 06 05 52.8 +0.8**
CYA IAML 06 06 37.4
comp=Z,3µm,0.5s
VCA Vinchina 2.96 328 *i* P **Pn 06 05 55.8 +2.4**
VCA IAML 06 06 51.9
comp=Z,3µm,0.9s
CO01 Juntas del Tor 3.42 291 Pn 06 06 02.1 +2.3
CO03 El Pedregal 3.69 276 Pn 06 06 05.4 +2.0
VA03 San Esteban 3.81 246 Pn 06 06 06.8 +1.8
VA03 **Sb 06 07 01.1 +1.2**
CO02 Combarbal 3.92 270 Pn 06 06 08.1 +1.5
GO04 Tololo Observa 3.93 285 Pn 06 06 08.4 +1.7
PEL Peldehue 4.07 242 Pn 06 06 11.9 +3.4
AC05 El Transito 4.13 305 Pn 06 06 11.8 +2.4
AC05 Sn **Sn 06 06 59.3 +1.4**
MT05 Renca 4.22 239 Pn 06 06 13.8 +3.1
ROC1 El Roble 4.25 245 Pn 06 06 13.8 +2.6
MT02 Curacav 4.46 242 Pn 06 06 15.3 +1.4
MT01 Popeta 4.83 236 Pn 06 06 19.9 +1.0
GO03 Copiap 4.95 317 Pn 06 06 21.9 +1.3
AC02 Maricunga 5.01 331 Pn 06 06 25.1 +3.2
AC04 Llanos de Chal 5.07 306 Pn 06 06 22.8 +0.6
BO02 Sierra Bellavi 5.07 225 Pn 06 06 25.4 +3.0
GO05 Huala 5.94 230 Pn 06 06 34.2 0.0
AC01 Pan de Azucar 6.29 323 Pn 06 06 40.0 +1.0
GO02 Mina Guanaco 6.70 335 Pn 06 06 46.4 +1.5
PB15 IPOC Station P 8.48 341 Pn 06 07 09.3 +0.1
PB10 IPOC Station P 8.55 334 Pn Pn 06 07 09.9 -0.3
LVC Limon Verde 8.91 345 Pn Pn 06 07 14.5 -0.8
comp=Z,3.4nm,0.3s,baz=166,slow=6.7,SNR=27
LVC Lg Lg 06 09 34.7
comp=Z,0.9nm,0.3s,baz=26,slow=17,SNR=1.8
LVC LR LR 06 10 57.8
comp=Z,331nm,19.9s,baz=188,slow=40
LVC Limon Verde 8.91 345 Pn 06 07 15.3 0.0
LVC Limon Verde 8.91 345 *eP* **Pn 06 07 16.9 +1.6**
LVC Limon Verde 8.91 345 *eP* **Pn 06 07 16.9 +1.6**
PB06 IPOC Station P 8.98 341 Pn 06 07 16.1 0.0
CPUP Villa Florida 9.37 61 Pn 06 07 21.1 -0.2
PB04 IPOC Station P 9.50 339 Pn Pn 06 07 23.9 +0.6
PB09 IPOC Station P 9.77 344 Pn 06 07 27.3 +0.3
PB07 IPOC Station P 10.00 341 Pn Pn 06 07 30.0 -0.1
PLCA Paso Flores 10.02 198 Pn Pn 06 07 31.2 +1.0
comp=Z,0.6nm,0.3s,baz=15,slow=11,SNR=19
PLCA Lg Lg 06 10 13.6
comp=Z,0.3nm,0.3s,baz=140,slow=22,SNR=1.6
PLCA LR LR 06 10 59.7
comp=Z,97nm,19.3s,baz=22,slow=35
PLCA Paso Flores 10.02 198 Pn 06 07 31.7 +1.5
PB01 IPOC Station P 10.55 344 Pn 06 07 37.3 -0.3
PATCX Punta Patache 10.93 341 Pn Pn 06 07 43.0 +0.1
PLTB Pedras Altas 10.95 96 *eP* **Pn 06 07 41.9 -1.1**
PLTB Pedras Altas 10.95 96 *eP* **Pn 06 07 41.9 -1.1**
TA01 Diego Aracena 11.18 342 Pn Pn 06 07 46.2 +0.1
GO01 Chusmiza 11.82 347 Pn 06 07 56.1 +0.8
PB11 IPOC Station P 11.83 345 Pn Pn 06 07 53.9 -1.2
PSGCX Pisagua 12.09 343 Pn Pn 06 07 57.3 -1.4
MNMC Minye Minye 12.42 346 Pn Pn 06 08 02.9 -0.5
ITAB Concordia 13.11 76 *eP* **Pn 06 08 16.8 +4.4**
ITAB Concordia 13.11 76 *eP* **Pn 06 08 16.8 +4.4**
CNLB Canela 13.59 86 *eP* **Pn 06 08 19.7 +0.6**
CNLB Canela 13.59 86 *eP* **Pn 06 08 19.7 +0.6**
PTGB Pitanga 14.26 66 *eP* **P 06 08 34.1 -1.6**
PTGB Pitanga 14.26 66 *eP* **P 06 08 34.1 -1.6**
TRCB Terra Rica 14.89 59 *eP* **P 06 08 42.8 +0.1**
TRCB Terra Rica 14.89 59 *eP* **P 06 08 42.8 +0.1**
LPAZ La Paz 15.00 354 Pn Pn 06 08 37.7 -1.1
comp=Z,0.4nm,0.3s,baz=164,slow=6.3,SNR=11
LPAZ LR LR 06 15 25.3
comp=Z,254nm,20.6s,baz=161,slow=42
LPAZ La Paz 15.00 354 Pn 06 08 37.9 -1.0
LPAZ La Paz 15.00 354 *eP* **Pn 06 08 40.4 +1.6**
LPAZ La Paz 15.00 354 *eP* **Pn 06 08 40.4 +1.6**
TIJ01 Guaruva-PR 16.44 73 *eP* **P 06 09 00.0 +0.1**
TIJ01 Guaruva-PR 16.44 73 *eP* **P 06 09 00.0 +0.1**
PCMB Pacaembu 16.62 58 *eP* **P 06 09 02.6 +0.8**
PCMB Pacaembu 16.62 58 *eP* **P 06 09 02.6 +0.8**
FRTB Fartura 16.92 66 *eP* **P 06 09 06.3 +1.1**
FRTB Fartura 16.92 66 *eP* **P 06 09 06.3 +1.1**
PTLB Pontes e Lacer 17.10 25 *eP* **P 06 09 09.2 +2.1**
PTLB Pontes e Lacer 17.10 25 *eP* **P 06 09 09.2 +2.1**
C2SB Chapadao do Su 17.48 48 *eP* **P 06 09 14.6 +3.3**
C2SB Chapadao do Su 17.48 48 *eP* **P 06 09 14.6 +3.3**
PET01 Itanhaem-SP 18.30 72 *eP* **P 06 09 23.6 +3.2**
PET01 Itanhaem-SP 18.30 72 *eP* **P 06 09 23.6 +3.2**
ITRB Iturama 18.49 55 *eP* **Pn 06 09 23.8 +1.2**
ITRB Iturama 18.49 55 *eP* **Pn 06 09 23.8 +1.2**
SPB Sao Paulo 18.49 70 *eP* **Pn 06 09 25.2 +2.6**
SPB Sao Paulo 18.49 70 *eP* **Pn 06 09 25.2 +2.6**
BB19B Bebedouro 18.98 62 *eP* **Pn 06 09 29.4 +0.8**
BB19B Bebedouro 18.98 62 *eP* **Pn 06 09 29.4 +0.8**
RCLB Rio Claro- Sao 19.00 67 *eP* **Pn 06 09 29.8 +0.9**
RCLB Rio Claro- Sao 19.00 67 *eP* **Pn 06 09 29.8 +0.9**
VAO Valinhos 19.15 69 *eP* **Pn 06 09 32.6 +1.9**
VAO Valinhos 19.15 69 *eP* **Pn 06 09 32.6 +1.9**
PARB Paraibuna 20.08 72 *eP* Pn 06 09 41.7 0.0
PARB Paraibuna 20.08 72 *eP* Pn 06 09 41.7 0.0
ARAG Araguaiana, MT 20.45 44 *eP* Pn 06 09 46.5 +0.4
ARAG Araguaiana, MT 20.45 44 *eP* Pn 06 09 46.5 +0.4
EFI East Falkland 21.30 166 P **P 06 09 52.4 -0.4**
EFI IAmb IAmb 06 09 53.7
comp=Z,52nm,1.1s
NNA Nana 21.47 331 P **P 06 09 53.7 -1.3**
comp=Z,8.2nm,0.7s,baz=18,slow=17,SNR=1.8
NNA Nana 21.47 331 P **P 06 09 54.3 -0.7**
NNA IAmb IAmb 06 10 00.4
comp=Z,69nm,1.4s
GO10 Punta Arenas 22.13 187 P **P 06 10 02.0 +0.2**
GO10 IAmb IAmb 06 10 06.0
comp=Z,51nm,0.9s
VAS01 Vassouras-RJ 22.35 72 *eP* **P 06 10 06.8 +2.4**
VAS01 Vassouras-RJ 22.35 72 *eP* **P 06 10 06.8 +2.4**
SAML Samuel 22.41 8 P **P 06 10 04.9 -0.2**
SAML Samuel 22.41 8 *eP* **P 06 10 06.3 +1.3**
SAML Samuel 22.41 8 *eP* **P 06 10 06.3 +1.3**
BDFB Brasilia 22.90 51 P **P 06 10 09.1 -1.4**
comp=Z,5.5nm,0.5s,baz=232,slow=10.0,SNR=11
BDFB LR LR 06 19 13.6
comp=Z,35nm,19.3s,baz=248,slow=37
BDFB Brasilia 22.90 51 P **P 06 10 09.0 -1.4**
MG01 Puerto William 23.67 182 P **P 06 10 16.7 -0.9**
MG01 IAmb IAmb 06 10 22.2
comp=Z,54nm,1.2s
CAM01 Campos-RJ 24.02 73 *eP* **P 06 10 22.3 +0.9**
CAM01 Campos-RJ 24.02 73 *eP* **P 06 10 22.3 +0.9**
MC01 Montes Claros 25.07 60 *eP* **P 06 10 30.4 -0.6**
MC01 Montes Claros 25.07 60 *eP* **P 06 10 30.4 -0.6**
PEXB Peixe 25.37 45 *eP* **P 06 10 34.4 +0.7**
PEXB Peixe 25.37 45 *eP* **P 06 10 34.4 +0.7**
JANB Januaria 25.87 56 *eP* **P 06 10 39.7 +1.4**
JANB Januaria 25.87 56 *eP* **P 06 10 39.7 +1.4**
PTGA Pitinga 30.98 13 P **P 06 11 22.8 -1.1**
comp=Z,2.2nm,0.5s,baz=53,slow=23,SNR=2.1
PTGA Pitinga 30.98 13 P **P 06 11 24.8 +1.0**

SOTA Rioblanco 34.61 342 *eP* **P 06 12 00.1 +4.0**
BBAC Balboa, Cauca 34.67 341 *eP* **P 06 11 57.2 +0.8**
ORTC Ortega, Tolima 35.98 345 *eP* **P 06 12 06.9 -0.5**
YOTC Yotoco, Valle 36.31 343 *eP* **P 06 12 10.8 +0.5**
TOLC Tolima 36.65 345 *eP* **P 06 12 11.6 -1.8**
ROSC El Rosal 36.69 347 LR LR 06 29 07.1
comp=Z,107nm,19.6s,baz=152,slow=39
RREF El Recreo 36.97 345 *eP* **P 06 12 19.3 +2.9**
PLMC San Jos del P 37.19 344 *eP* **P 06 12 17.7 0.0**
GUY2C Guyana, Caldas 37.28 345 *eP* **P 06 12 18.5 -0.5**
SPBC San Pablo de B 37.44 347 *eP* **P 06 12 19.3 -0.5**
RUSC La Rusia 37.50 349 *eP* **P 06 12 19.1 -1.7**
RUSC La Rusia 37.50 349 P **P 06 12 20.7 -0.1**
CBOC Ciudad Bolivar 38.05 344 *eP* **P 06 12 23.4 -1.7**
HELC Santa Helena 38.25 345 *eP* **P 06 12 25.8 -1.3**
PTBC PUERTO BERRIO, 38.37 347 *eP* **P 06 12 23.7 -4.0**
SMLC San Martn de 40.51 348 *eP* **P 06 12 41.2 -4.3**
OBIP Obispado Ponce 49.03 360 P **P 06 13 53.4 0.0**
OBIP IAmb IAmb 06 13 54.0
comp=Z,19nm,1.1s
TGUH Tegucigalpa,Un 49.32 333 P **P 06 13 56.3 +0.6**
VNA3 Neumayer Olymp 50.16 159 P **P 06 14 02.1 +0.6**
VNA1 Neumayer--Stat 50.39 158 P **P 06 14 04.2 +1.0**
VNA2 Neumayer--Watz 50.75 159 P **P 06 14 06.6 +0.7**
baz=287,slow=9.3
SNAA Sanae 52.37 159 P **P 06 14 18.5 +0.3**
baz=330,slow=16
SNAA Sanae 52.37 159 P **P 06 14 18.4 +0.3**
comp=Z,15nm,0.5s,baz=285,slow=7.7,SNR=455
SNAA Sanae 52.37 159 P **P 06 14 18.8 +0.7**
TEIG Tepich 55.34 335 P **P 06 14 39.5 -0.7**
comp=Z,14nm,0.6s,baz=319,slow=2.3,SNR=5.2
TEIG Tepich 55.34 335 P **P 06 14 40.5 +0.2**
061Z Ochoppi 58.48 345 P **P 06 15 05.5 +3.0**
QSPA South Pole Qui 58.96 180 P **P 06 15 06.2 +0.6**
656A Willston 62.22 344 P **P 06 15 30.9 +2.9**
SYO Syowa Base 66.63 158 *eP* **P 06 15 55.2 -1.2**
SYO Syowa Base 66.63 158 *eS* **P 06 15 57.4 +1.0**
BIRD Birdtown, Kers 66.89 347 P **P 06 16 01.9 +3.5**
BIRD IAmb IAmb 06 16 20.7
comp=Z,8.7nm,1.3s
W57A Gilead 67.29 348 P **P 06 16 04.2 +3.2**
W57A IAmb IAmb 06 16 04.9
comp=Z,7.0nm,0.8s
VNDA Vanda 67.66 190 P **P 06 16 02.6 -0.2**
comp=Z,1.7nm,0.9s,baz=138,slow=6.0,SNR=7.6
VNDA Vanda 67.66 190 P **P 06 16 04.0 +1.2**
X51A Calhoun 67.75 344 P **P 06 16 07.0 +3.1**
V58A Windy Hill, Pi 67.77 349 P **P 06 16 06.3 +2.4**
V58A IAmb IAmb 06 16 07.9
comp=Z,9.4nm,1.0s
143A Socs Landing, 67.87 337 P **P 06 16 05.0 +0.3**
143A pP **sP 06 16 08.8 -0.6**
X48A Hartselle 68.20 342 P **P 06 16 05.5 -1.2**
X48A IAmb IAmb 06 16 10.4
comp=Z,12nm,1.1s
W50A Signal Mountai 68.47 343 P **P 06 16 09.1 +0.6**
W50A pP **sP 06 16 12.8 -0.4**
W50A IAmb IAmb 06 16 12.9
comp=Z,12nm,1.2s
TKL Tuckaleechee C 68.54 345 P **P 06 16 08.3 -0.6**
comp=Z,1.2nm,0.5s,baz=163,slow=14,SNR=2.9
TKL Tuckaleechee C 68.54 345 IAmb IAmb 06 16 22.7
comp=Z,7.0nm,1.1s
SWET Sewanee 68.63 343 P **P 06 16 09.0 -0.5**
SWET pP **pP 06 16 12.6 -0.3**
SWET IAmb IAmb 06 16 12.9
comp=Z,12nm,1.0s
237A Washetta, Mont 68.81 333 P **P 06 16 11.1 +0.5**
237A pP **pP 06 16 14.5 +0.5**
JCT Junction City 69.11 329 P **P 06 16 12.3 -0.3**
JCT pP **pP 06 16 16.0 0.0**
JCT IAmb IAmb 06 16 16.6
comp=Z,6.1nm,0.7s
V48A Smith Brothers 69.36 342 P **P 06 16 13.8 -0.1**
V48A IAmb IAmb 06 16 17.3
comp=Z,12nm,1.2s
R61A Willards 69.74 353 P **P 06 16 16.7 +0.5**
DBIC Dimbokro 69.79 69 P **P 06 16 16.3 -0.8**
comp=Z,2.7nm,0.6s,baz=214,slow=8.4,SNR=5.6
DBIC Dimbokro 69.79 69 P **P 06 16 16.6 -0.5**
DBIC IAmb IAmb 06 16 21.1
comp=Z,7.4nm,0.9s
TX31 Lajitas Ar. Si 69.92 326 P **P 06 16 17.5 -0.1**
TX31 IAmb IAmb 06 16 22.8
comp=Z,5.8nm,0.7s
TX32 Lajitas Array 69.92 326 P **P 06 16 17.5 -0.1**
TXAR Lajitas Array 69.92 326 P **P 06 16 17.2 -0.5**
comp=Z,2.2nm,0.7s,baz=149,slow=7.9,SNR=15
WVT Waverly 69.99 342 P **P 06 16 17.3 -0.5**
S54A Dingess, Beckl 70.11 347 P **P 06 16 18.8 +0.2**
S54A IAmb IAmb 06 16 21.7
comp=Z,5.8nm,0.8s
W41B Gary Mavity, V 70.42 338 P **P 06 16 21.3 +0.8**
LNXT Lenox 70.43 340 P **P 06 16 20.5 0.0**
Z35A Perchaven, San 70.55 333 P **P 06 16 21.2 0.0**
T47A Sharon Grove 70.61 343 P **P 06 16 20.0 -1.6**
T47A IAmb IAmb 06 16 25.1
comp=Z,7.3nm,0.9s
PVMO Portageville 70.78 340 P **P 06 16 20.5 -2.2**
ABTX Abilene, Hawle 70.89 331 P **P 06 16 22.9 -0.5**
ABTX IAmb IAmb 06 16 27.2
comp=Z,9.1nm,0.9s
LCAR Lake Charles 70.89 339 P **P 06 16 22.3 -1.1**
LCAR IAmb IAmb 06 16 26.9
comp=Z,12nm,0.9s
W39A Magazine 70.95 337 P **P 06 16 23.4 -0.3**
W39A IAmb IAmb 06 16 28.1
comp=Z,10.0nm,0.9s
PARMO Parma 71.03 340 P **P 06 16 23.5 -0.6**
FCAR Ozark Folk Cen 71.03 338 P **P 06 16 23.4 -0.8**
FCAR IAmb IAmb 06 16 27.7
comp=Z,7.2nm,1.1s
WCI Wyandotte Cave 71.58 344 P **P 06 16 26.6 -0.9**
WCI IAmb IAmb 06 16 30.3
comp=Z,7.4nm,0.8s
U40A Yellville 71.69 338 P **P 06 16 28.2 0.0**
U40A IAmb IAmb 06 16 31.9
comp=Z,9.3nm,1.1s
HHAR Hobbs 71.98 337 P **P 06 16 29.1 -0.8**
U38A Gravette 72.28 337 P **P 06 16 30.7 -1.0**
TUL1 Leonard 72.29 335 P **P 06 16 31.0 -0.8**
TUL1 IAmb IAmb 06 16 35.9
comp=Z,6.4nm,0.8s
OLIL Olney 72.52 342 P **P 06 16 32.4 -0.6**
OLIL IAmb IAmb 06 16 35.9
comp=Z,9.8nm,1.0s
GDL2 Guadalupe Moun 72.63 327 P **P 06 16 33.1 -0.9**
MNTX Cornudas Mount 72.70 326 P **P 06 16 32.7 -1.6**
CCM Cathedral Cave 72.76 340 P **P 06 16 33.7 -0.8**
CCM IAmb IAmb 06 16 38.1
comp=Z,16nm,1.1s
S39A Bolivar 73.06 338 P **P 06 16 35.8 -0.5**
R40A Maddies Statio 73.28 339 P **P 06 16 36.1 -1.5**
R40A IAmb IAmb 06 16 41.2
comp=Z,14nm,0.9s
MSTX Muleshoe 73.39 329 P **P 06 16 37.5 -1.0**
HSIG 73.42 320 P **P 06 16 38.9 +0.3**
HSIG IAmb IAmb 06 16 43.1
comp=Z,7.4nm,0.8s
T35A Sooner Cattle 73.45 335 P **P 06 16 37.6 -1.1**
T35A IAmb IAmb 06 16 42.5
comp=Z,11nm,1.1s
P40A Paris 74.36 340 P **P 06 16 43.3 -0.6**
MAW Mawson 74.38 162 P **P 06 16 43.8 +0.1**
comp=Z,4.9nm,0.9s,baz=260,slow=13,SNR=4.3
MAW Mawson 74.38 162 P **P 06 16 44.0 +0.3**
319A Douglas 74.38 323 P **P 06 16 44.5 +0.2**
121A Cookes Peak, D 74.55 325 P **P 06 16 45.5 +0.1**
121A IAmb IAmb 06 16 50.4
comp=Z,13nm,0.8s
J56A Wolcott 74.80 352 P **P 06 16 45.7 -0.6**
J56A IAmb IAmb 06 16 50.1
comp=Z,6.4nm,0.8s
R32A Long Quarter, 75.59 334 P **P 06 16 51.5 +0.4**
R32A IAmb IAmb 06 16 55.2
comp=Z,11nm,0.8s
ANMO Albuquerque 75.88 327 P **P 06 16 51.9 -1.1**
comp=Z,3.1nm,0.7s,baz=156,slow=5.6,SNR=7.7
CBKS Cedar Bluff 76.32 334 P **P 06 16 54.7 -0.6**
CBKS IAmb IAmb 06 16 59.6
comp=Z,14nm,0.9s
L40A Anamosa 76.47 341 P **P 06 16 54.5 -1.4**

N35A Tabor 76.69 338 P **P 06 16 56.4 -0.9**
214A Organ Pipe Nat 76.70 321 P **P 06 16 56.1 -1.5**
214A IAmb IAmb 06 17 02.5
comp=Z,6.7nm,1.0s
T25A Trinidad 76.78 330 P **P 06 16 57.8 -0.3**
T25A IAmb IAmb 06 17 02.9
comp=Z,12nm,0.8s
BOSA Boshof 77.05 116 P **P 06 16 59.7 -0.2**
comp=Z,4.5nm,0.6s,baz=255,slow=4.3,SNR=16
BOSA Boshof 77.05 116 *i* P **P 06 16 60.0 0.0**
BOSA Boshof 77.05 116 *i* P **P 06 16 60.0 0.0**
BOSA Boshof 77.05 116 *i* P **P 06 16 60.0 0.0**
BOSA Boshof 77.05 116 IAmb IAmb 06 17 00.7
comp=Z,4.7nm,0.7s
TRQ Mont Tremblant 77.48 354 P **P 06 17 01.9 +0.2**
W18A Petrified Fore 77.59 325 P **P 06 17 01.9 -0.8**
W18A IAmb IAmb 06 17 07.5
comp=Z,6.1nm,0.9s
KSCO Kaye Shedlock' 77.62 332 P **P 06 17 01.7 -1.0**
KSCO IAmb IAmb 06 17 08.1
comp=Z,12nm,1.0s
SDCO Great Sand Dun 77.76 329 P **P 06 17 03.2 -0.5**
X16A Lo Mia Camp, P 77.89 323 P **P 06 17 04.5 +0.1**
X16A IAmb IAmb 06 17 10.3
comp=Z,7.6nm,0.8s
L34A Svendsen Farm, 77.93 338 P **P 06 17 03.5 -0.6**
L34A IAmb IAmb 06 17 08.0
comp=Z,14nm,0.8s
BGNE Belgrade 78.03 336 P **P 06 17 04.7 -0.1**
Y14A Wickenburg 78.33 322 P **P 06 17 06.7 0.0**
S22A 4UR Ranch, Cre 78.35 328 P **P 06 17 06.9 -0.1**
MVCO Mesa Verde 78.68 327 P **P 06 17 08.4 -0.3**
MVCO IAmb IAmb 06 17 13.4
comp=Z,7.7nm,0.8s
WUAZ Wupatki 78.72 324 P **P 06 17 09.1 +0.2**
TOA0 Torodi Ar. Sit 78.80 67 P **P 06 17 09.7 +0.1**
TOA0 IAmb IAmb 06 17 13.3
comp=Z,5.8nm,0.8s
TORD Torodi Ar. Bea 78.80 67 P **P 06 17 09.3 -0.3**
comp=Z,3.6nm,0.5s,baz=280,slow=6.7,SNR=24
I37A Lemond, Waseca 78.88 341 P **P 06 17 08.8 -0.6**
K31A O'Neill 79.31 336 P **P 06 17 11.6 -0.2**
PV01 Paradox Valley 79.46 327 P **P 06 17 13.0 0.0**
ISCO Idaho Springs 79.52 330 P **P 06 17 13.5 +0.1**
ECSD EROS Data Cent 79.59 338 P **P 06 17 12.8 -0.5**
ECSD IAmb IAmb 06 17 17.0
comp=Z,10.0nm,0.8s
PV13 Radium Mtn., P 79.59 327 P **P 06 17 13.0 -0.7**
PV13 IAmb IAmb 06 17 18.3
comp=Z,7.7nm,0.9s
PV02 Paradox Valley 79.59 327 P **P 06 17 13.7 0.0**
PV12 Saucer Basin, 79.71 327 P **P 06 17 14.4 0.0**
PV07 Paradox Valley 79.74 328 P **P 06 17 14.7 +0.2**
PV14 Lion Creek, Pa 79.86 327 P **P 06 17 14.8 -0.4**
PV14 IAmb IAmb 06 17 19.7
comp=Z,9.8nm,1.2s
PV22 Blue Mesa, Par 79.88 328 P **P 06 17 16.0 +0.7**
U15A North Rim 79.89 324 P **P 06 17 15.2 -0.2**
D41A Chassel 80.49 345 P **P 06 17 18.4 +0.4**
D41A IAmb IAmb 06 17 22.3
comp=Z,15nm,0.9s
F36A Milaca 80.61 341 P **P 06 17 17.8 -0.9**
KNB Kanab 80.62 324 P **P 06 17 19.1 -0.1**
PKCU Pink Cliffs 80.70 325 P **P 06 17 20.2 +0.4**
LCMT Little Creek M 80.83 324 P **P 06 17 20.0 -0.3**
O20A White River Ci 80.93 329 P **P 06 17 21.2 +0.3**
MTPU Mount Pierson 81.10 325 P **P 06 17 22.0 0.0**
SRU San Rafael Swe 81.15 327 P **P 06 17 21.6 -0.5**
Q16A Castle Valley 81.30 326 P **P 06 17 22.8 -0.1**
CCUT Cedar City 81.31 324 P **P 06 17 23.3 +0.4**
SHPR Sheep Range 81.43 322 P **P 06 17 23.7 +0.2**
MSU Marysvale 81.47 325 P **P 06 17 23.9 +0.1**
P17A Butcher Ranch, 81.54 327 P **P 06 17 24.0 0.0**
RWWY Rawlins 81.76 330 P **P 06 17 25.7 +0.4**
EYMN Ely 82.01 343 P **P 06 17 25.4 -0.7**
K22A Casper 82.27 331 P **P 06 17 28.0 +0.2**
K22A IAmb IAmb 06 17 33.1
comp=Z,9.0nm,0.9s
PSUT Pine Spring 82.31 324 P **P 06 17 28.1 -0.1**
TPNV Topopah Spring 82.34 322 P **P 06 17 27.6 -0.7**
RSSD Black Hills 82.52 334 pP 06 17 32.7 +0.1
B35A Bob, Littlefor 82.96 342 P **P 06 17 30.1 -1.0**
B35A IAmb IAmb 06 17 34.7
comp=Z,6.4nm,0.8s
R11A Troy Canyon, C 83.05 323 P **P 06 17 31.9 -0.1**
R11A IAmb IAmb 06 17 36.9
comp=Z,7.5nm,1.2s
DUG Dugway, Tooele 83.09 326 P **P 06 17 32.2 +0.1**
E28A Huff 83.44 337 P **P 06 17 33.6 0.0**
AGMN Agassiz Nation 83.49 341 P **P 06 17 33.1 -0.7**
AGMN IAmb IAmb 06 17 37.5
comp=Z,5.7nm,0.8s
HWUT Hardware Ranch 83.61 328 P **P 06 17 34.6 -0.3**
HWUT IAmb IAmb 06 17 38.9
comp=Z,7.2nm,0.8s
BW06 Boulder Array 83.65 330 P **P 06 17 34.3 -0.7**
BW06 IAmb IAmb 06 17 40.0
comp=Z,3.7nm,0.7s
PD31 Pinedale Array 83.65 330 P **P 06 17 35.0 0.0**
PDAR Pinedale Array 83.65 330 P **P 06 17 33.1 -1.9**
comp=Z,0.5nm,0.7s,baz=37,slow=45,SNR=8.8
OMMB Old Mammoth Mi 84.30 321 P **P 06 17 38.4 -0.3**
OMMB IAmb IAmb 06 17 43.0
comp=Z,6.2nm,0.9s
NVAR Mina Array Bea 84.53 322 P **P 06 17 37.0 -2.7**
comp=Z,0.9nm,0.8s,baz=159,slow=7.7,SNR=5.4
ELK Elko 84.69 325 P **P 06 17 40.2 -0.2**
ELK IAmb IAmb 06 17 45.3
comp=Z,5.5nm,0.8s
KVN Kaiserville 84.88 322 P **P 06 17 40.8 -0.5**
WAKR Walker 85.19 321 P **P 06 17 42.8 -0.1**
WAKR IAmb IAmb 06 17 47.9
comp=Z,6.5nm,1.1s
FLWY Flagg Ranch 85.20 330 P **P 06 17 42.7 -0.1**
FLWY IAmb IAmb 06 17 47.4
comp=Z,5.1nm,0.8s
ULM Lac du Bonnet 85.26 342 P **P 06 17 41.9 -0.8**
comp=Z,5.3nm,0.7s,baz=240,slow=4.7,SNR=3.4
ULM Lac du Bonnet 85.26 342 IAmb IAmb 06 17 46.3
comp=Z,8.9nm,1.1s
RLMT Red Lodge 85.43 331 P **P 06 17 43.6 -0.4**
RLMT IAmb IAmb 06 17 48.2
comp=Z,4.2nm,0.7s
YNE Yellowstone No 85.65 331 P **P 06 17 45.1 0.0**
PNTR Pine Nut 85.70 321 P **P 06 17 45.5 0.0**
PNTR IAmb IAmb 06 17 50.7
comp=Z,7.9nm,0.8s
YHH Holmes Hill 85.83 330 P **P 06 17 46.7 +0.6**
PAHR Pah Rah Range 86.03 322 P **P 06 17 47.9 +0.9**
PAHR IAmb IAmb 06 17 51.7
comp=Z,7.4nm,1.1s
QLMT Earthquake Lak 86.11 330 P **P 06 17 47.4 0.0**
GCMT Greycliff 86.14 331 P **P 06 17 47.3 -0.1**
MCMT McKenzie Canyo 86.73 329 P **P 06 17 51.0 +0.5**
MFID Camas Ranch 87.00 326 P **P 06 17 50.3 -1.4**
DLMT Dillon 87.04 329 P **P 06 17 51.4 -0.4**
DLMT IAmb IAmb 06 17 56.4
comp=Z,7.0nm,1.2s
ORV Oroville 87.06 321 P **P 06 17 51.0 -0.9**
ORV IAmb IAmb 06 17 56.3
comp=Z,7.0nm,1.1s
LRM Limekiln Ridge 87.34 330 P **P 06 17 53.6 +0.3**
EGMT Eagleton 87.98 333 P **P 06 17 55.5 -0.7**
EGMT IAmb IAmb 06 17 60.0
comp=Z,6.4nm,0.8s
MOD Modoc Plateau 88.10 323 P **P 06 17 57.2 +0.2**
MOD IAmb IAmb 06 18 01.4
comp=Z,5.4nm,0.8s
J08A Circle Bar Ran 88.24 325 P **P 06 17 57.9 +0.2**
K05A Summer Lake 89.00 323 P **P 06 18 02.0 +0.7**
PINE Pine Mountain 89.79 324 P **P 06 18 05.9 +0.9**
QRZ Quartz Range 89.93 221 P **P 06 18 05.4 -0.3**
ESDC Sonseca Array 91.31 43 P **P 06 18 11.3 -0.7**
comp=Z,1.5nm,0.9s,baz=233,slow=4.5,SNR=4.5
YKA Yellowknife Ar 101.09 339 P **Pdif 06 18 54.9 -0.8**
comp=Z,0.6nm,0.7s,baz=144,slow=4.5,SNR=7.0
ASAR Alice Springs 122.01 202 PKP **PKPdf 06 23 59.9 -1.6**
comp=Z,0.6nm,0.9s,baz=139,slow=1.7,SNR=2.3
WRA Warramunga Arr 125.32 204 PKP **PKPdf 06 24 06.9 -1.1**
comp=Z,0.9nm,0.6s,baz=160,slow=1.7,SNR=1.5
BVAR Borovoye Array 142.07 42 PKP **PKPdf 06 24 37.3 -0.8**
comp=Z,0.7nm,0.6s,baz=253,slow=1.5,SNR=1.8
GAR Garm 144.06 65 PKPdf PKPbc 06 24 40.4 +0.2
BTK Batken 144.45 64 PKPdf **PKPab 06 24 40.1 -1.0**

AAK	**Ala-Archa**	**147.04**	**59**	PKPbc	**PKPbc**	**06 24 48.4**	**-0.9**
	comp=Z,7.6nm,0.8s,baz=182,slow=4.0,SNR=9.6						
AAK	**Ala-Archa**	**147.04**	**59**	PKPdf	**PKPbc**	**06 24 48.8**	**-0.6**
KURBB	**Kurchatov Arra**	**147.64**	**43**	PKPbc	**PKPdf**	**06 24 48.8**	**+1.0**
	comp=Z,2.7nm,0.7s,baz=293,slow=3.4,SNR=20						
KURK	**Kurchatov**	**147.66**	**43**		**PKPbc**	**06 24 50.9**	**+0.4**
KURK				PKPab	**pPKPbc**	**06 24 54.2**	**+0.2**
KSH	**Kashi**	**148.44**	**64**	*e*PKPbc	**PKPbc**	**06 24 53.3**	**+0.1**
KSH				LR	LR		
	comp=Z,150nm,16.5s						
ZAA0	**Zalesovo Array**	**149.35**	**34**	PKPdf	**PKPdf**	**06 24 49.5**	**-1.0**
ZAA0				PKPbc	**sPKPdf**	**06 24 55.2**	**0.0**
ZALV	**Zalesovo Beam**	**149.35**	**34**	PKPbc	**PKPbc**	**06 24 54.0**	**-0.8**
	comp=Z,3.6nm,0.6s,baz=295,slow=3.2,SNR=10						
TARG	**Taragay, Kyrgy**	**149.60**	**60**	PKPdf	**PKPdf**	**06 24 51.4**	**-0.5**
TARG					**sPKPdf**	**06 24 56.8**	**+0.2**
MAKZ	**Makanchi**	**151.20**	**48**		**PKPbc**	**06 24 59.5**	**-0.1**
MK31	**Makanchi Array**	**151.41**	**48**		**PKiKP**	**06 25 00.3**	**-0.2**
MKAR	**Makanchi Array**	**151.41**	**48**	PKPbc	**PKPbc**	**06 24 59.7**	**-0.3**
	comp=Z,4.3nm,0.7s,baz=299,slow=1.9,SNR=42						
WMQ	**Urumqi**	**156.06**	**51**	*e*PKP	**PKPdf**	**06 25 00.6**	**-0.2**
WMQ				LR	LR		
	comp=Z,240nm,15.9s						
WMQ				LR	LR		
	comp=Z,190nm,20.1s						
HHC	**Hu-ho-hao-te**	**170.30**	**9**	*e*PKP	**PKPdf**	**06 25 13.5**	**-0.9**
HHC				LR	LR		
	comp=Z,190nm,21.1s						
HHC				LR	LR		
	comp=Z,140nm,20.1s						
LZH	**Lanzhou**	**170.57**	**57**	*e*PKP	**PKPdf**	**06 25 13.8**	**-1.0**
LZH				pPKP	**pPKPdf**	**06 25 16.9**	**-1.5**
LZH				LR	LR		
	comp=Z,140nm,18.1s						
LZH				LR	LR		
	comp=Z,130nm,18.3s						
LZH				LR	LR		
	comp=Z,160nm,20.2s						
CD2	**Chengdu**	**171.57**	**90**	PKP	**PKPdf**	**06 25 15.0**	**-0.3**
NJ2	**Nanjing**	**175.44**	**281**	*e*PKP	**PKPdf**	**06 25 18.1**	**+1.5**

*GCG **08** 06:08:37.9±0.5, 13°.08N×91°.91W, h34km±999km, MD4.1*
*IDC **08** 06:08:43.8±2.0, 13°.77N×91°.48W, h0km, mb3.7/6, mb1 4.1/10, mb1mx3.8/40, mbtmp3.8/10, ML3.9/4, MS3.5/3, Ms1 3.5/3, ms1mx2.7/38, Error ellipse: s-maj=44.6km s-min=26.7km az=30.0*
*SNET **08** 06:08:47.3±1.5, 13°.69N×91°.37W, h15km±14km, ML4.1*
*NEIC **08** 06:08:47.7±1.8, 13°.61N±0°.08×91°.53W±0°.07, h34km±5km, mb4.1/21, Error ellipse: s-maj=13.6km s-min=6.1km az=215.0*
*UCR **08** 06:08:47.3±1.6, 13°.68N×91°.39W, h16km±14km, ML3.9, mb4.1(NEIC)*

ISC 08 06:08:46.9±2.0, 13°.68N±0°.07×91°.50W±0°.05, h25km±13km, n95, σ1§01/109, mb4.0/13, MS3.6/3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.86**	**348**	*e*P	**Pb**	**06 09 02.4**	**-0.8**
RTAL				*e*S	**Sn**	**06 09 15.9**	**+0.6**
FUG	**Fuego 3**	**1.00**	**40**	*e*P	**Pn**	**06 09 05.8**	**+0.3**
STG3	**Santiaguito 3,**	**1.03**	**356**	*e*P	**Pb**	**06 09 05.2**	**-0.9**
PCG	**Pacaya**	**1.12**	**51**	*e*P	**Pb**	**06 09 08.0**	**+0.2**
IXG	**Ixpaco**	**1.14**	**64**	*e*P	**Pn**	**06 09 06.1**	**-1.3**
IXG	**Ixpaco**	**1.14**	**64**	*e*P	**Pn**	**06 09 07.1**	**-0.4**
IXG	**Ixpaco**	**1.14**	**64**	*e*P	**Pn**	**06 09 06.1**	**-1.3**
NBG	**Las Nubes**	**1.44**	**51**	*e*P	**Pb**	**06 09 13.6**	**+0.4**
HUEH	**Huehuetenango**	**1.63**	**0**	*e*P	**Pb**	**06 09 16.2**	**-0.2**
NUBE	**Las Nubes**	**1.69**	**82**	*e*P	**Pn**	**06 09 14.3**	**-0.7**
NUBE	**Las Nubes**	**1.69**	**82**	*e*P	**Pn**	**06 09 14.3**	**-0.7**
CEVE	**Cerro Verde**	**1.83**	**85**	*e*P	**Pn**	**06 09 15.8**	**-1.2**
CEVE				*e*S	**Sn**	**06 09 39.9**	**+0.3**
CEVE				IAML		06 09 48.7	
	comp=Z,3µm,0.6s						
CEVE	**Cerro Verde**	**1.83**	**85**	*e*P	**Pn**	**06 09 15.8**	**-1.2**
CEVE				*e*S	**Sn**	**06 09 39.9**	**+0.3**
CEVE				IAML		06 09 48.7	
	comp=Z,3µm,0.6s						
SBLS	**San Blas**	**1.83**	**85**	*e*P	**Pn**	**06 09 16.3**	**-0.8**
SBLS	**San Blas**	**1.83**	**85**	*e*P	**Pn**	**06 09 16.3**	**-0.8**
SNJE	**San Jose**	**1.85**	**84**	*e*P	**Pn**	**06 09 16.9**	**-0.4**
SNJE	**San Jose**	**1.85**	**84**	*e*P	**Pn**	**06 09 16.9**	**-0.4**
JAYA	**Jayaque - finc**	**2.00**	**90**	*e*P	**Pn**	**06 09 18.0**	**-1.2**
JAYA				*e*S	**Sn**	**06 09 42.4**	**-1.2**
JAYA	**Jayaque - finc**	**2.00**	**90**	*e*P	**Pn**	**06 09 18.0**	**-1.2**
JAYA				*e*S	**Sn**	**06 09 42.4**	**-1.2**
CEDA	**San Andres**	**2.05**	**86**	*e*P	**Pn**	**06 09 19.5**	**-0.4**
CEDA				IAML		06 09 55.5	
	comp=Z,2µm,0.4s						
CEDA	**San Andres**	**2.05**	**86**	*e*P	**Pn**	**06 09 19.5**	**-0.4**
CEDA				IAML		06 09 55.5	
	comp=Z,2µm,0.4s						
TACO	**Tacachico**	**2.11**	**82**	*e*P	**Pn**	**06 09 20.9**	**+0.3**
TACO				*e*S	**Sn**	**06 09 45.2**	**-0.8**
TACO	**Tacachico**	**2.11**	**82**	*e*P	**Pn**	**06 09 20.9**	**+0.3**
TACO				*e*S	**Sn**	**06 09 45.2**	**-0.8**
LALI	**Alcalda de L**	**2.13**	**95**	*e*P	**Pn**	**06 09 20.9**	**0.0**
LALI	**Alcalda de L**	**2.13**	**95**	*e*P	**Pn**	**06 09 20.9**	**0.0**
BOQS	**Boqueron**	**2.16**	**88**	*e*P	**Pn**	**06 09 22.1**	**+0.5**
BOQS				*e*S	**Sn**	**06 09 47.9**	**+0.2**
BOQS	**Boqueron**	**2.16**	**88**	*e*P	**Pn**	**06 09 22.1**	**+0.5**
BOQS				*e*S	**Sn**	**06 09 47.9**	**+0.2**
MTO3	**Montecristo**	**2.20**	**71**	*e*P	**Pn**	**06 09 22.4**	**+0.3**
MTO3	**Montecristo**	**2.20**	**71**		**Pn**	**06 09 22.3**	**+0.2**
MTO3	**Montecristo**	**2.20**	**71**	*e*P	**Pn**	**06 09 22.4**	**+0.3**
UEES	**Universidad Ev**	**2.20**	**89**	*e*P	**Pn**	**06 09 21.5**	**-0.5**
UEES	**Universidad Ev**	**2.20**	**89**	*e*P	**Pn**	**06 09 21.5**	**-0.5**
SNET	**Serv Nac Est T**	**2.21**	**90**	*e*P	**Pn**	**06 09 21.7**	**-0.4**
SNET				IAML		06 09 54.8	
	comp=Z,1µm,0.4s						
SNET	**Serv Nac Est T**	**2.21**	**90**		**Pn**	**06 09 21.9**	**-0.1**
SNET				Sn	**Sn**	**06 09 49.1**	**+0.4**
SNET	**Serv Nac Est T**	**2.21**	**90**	*e*P	**Pn**	**06 09 21.7**	**-0.4**
SNET				IAML		06 09 54.8	
	comp=Z,1µm,0.4s						
OPAM	**Oficina de Pla**	**2.24**	**89**	*e*P	**Pn**	**06 09 22.6**	**+0.1**
OPAM	**Oficina de Pla**	**2.24**	**89**	*e*P	**Pn**	**06 09 22.6**	**+0.1**
ESQI	**Esquipulas**	**2.27**	**67**	*e*P	**Pn**	**06 09 23.3**	**+0.5**
AEIL	**Aeropuerto Ilo**	**2.32**	**89**	IAML		06 10 05.5	
	comp=Z,2µm,0.5s						
AEIL	**Aeropuerto Ilo**	**2.32**	**89**	IAML		06 10 05.5	
	comp=Z,2µm,0.5s						
LFRS	**El Faro**	**2.37**	**91**	*e*P	**Pn**	**06 09 24.2**	**-0.1**
LFRS				*e*S	**Sn**	**06 09 53.5**	**+0.7**
LFRS	**El Faro**	**2.37**	**91**	*e*P	**Pn**	**06 09 24.2**	**-0.1**
LFRS				*e*S	**Sn**	**06 09 53.5**	**+0.7**
LBRS	**Las Brisas**	**2.39**	**88**	*e*P	**Pn**	**06 09 24.8**	**+0.2**
LBRS	**Las Brisas**	**2.39**	**88**	*e*P	**Pn**	**06 09 24.8**	**+0.2**
PAVA	**Las Pavas**	**2.49**	**89**	*e*P	**Pn**	**06 09 26.2**	**+0.2**
PAVA				IAML		06 10 02.5	
	comp=Z,468nm,0.5s						
PAVA	**Las Pavas**	**2.49**	**89**	*e*P	**Pn**	**06 09 26.2**	**+0.2**
PAVA				IAML		06 10 02.5	
	comp=Z,468nm,0.5s						
UESV	**Universidad de**	**2.64**	**91**	*e*P	**Pn**	**06 09 27.9**	**0.0**
UESV				*e*S	**Sn**	**06 09 59.7**	**+0.5**
UESV	**Universidad de**	**2.64**	**91**	*e*P	**Pn**	**06 09 27.9**	**0.0**
UESV				*e*S	**Sn**	**06 09 59.7**	**+0.5**
CCIG	**Comitan**	**2.66**	**347**		**Pn**	**06 09 30.3**	**+1.9**
ALJI	**Alcalda de J**	**2.87**	**97**	*e*P	**Pn**	**06 09 30.4**	**-0.7**
ALJI	**Alcalda de J**	**2.87**	**97**	*e*P	**Pn**	**06 09 30.4**	**-0.7**
COEB	**Comit de Eme**	**2.90**	**93**	*e*P	**Pn**	**06 09 31.7**	**+0.1**
COEB	**Comit de Eme**	**2.90**	**93**	*e*P	**Pn**	**06 09 31.7**	**+0.1**
TECA	**Tecapa**	**2.92**	**93**	*e*P	**Pn**	**06 09 32.3**	**+0.3**
TECA	**Tecapa**	**2.92**	**93**	*e*P	**Pn**	**06 09 32.3**	**+0.3**
JUCU	**Jucuarán**	**3.19**	**97**	*e*P	**Pn**	**06 09 33.9**	**-1.7**
JUCU				*e*S	**Sn**	**06 10 12.0**	**-1.0**
JUCU				IAML		06 10 24.0	
	comp=Z,301nm,0.4s						
JUCU	**Jucuarán**	**3.19**	**97**	*e*P	**Pn**	**06 09 33.9**	**-1.7**
JUCU				*e*S	**Sn**	**06 10 12.0**	**-1.0**
JUCU				IAML		06 10 24.0	
	comp=Z,301nm,0.4s						
TGUH	**Tegucigalpa,Un**	**4.12**	**84**		**Pn**	**06 09 49.0**	**+0.5**
CMIG	**Matias Romero**	**4.71**	**317**	Pn	**Pn**	**06 09 55.2**	**-1.1**
	comp=Z,3.0nm,0.3s,baz=133,slow=11,SNR=24						
CMIG				Sn	**Sn**	**06 10 48.7**	**-1.5**
	comp=Z,3.6nm,0.3s,baz=86,slow=8.1,SNR=6.5						
MATN	**Matagalpa**	**5.48**	**97**		**Pn**	**06 10 07.7**	**+0.6**
TEIG	**Tepich**	**7.21**	**25**	Pn	**Pn**	**06 10 31.1**	**+0.4**
	comp=Z,7.0nm,0.3s,baz=318,slow=0.8,SNR=72						
TEIG				Sn	**Sn**	**06 11 49.9**	**-1.8**
	baz=319,slow=16,SNR=0.6						
TEIG	**Tepich**	**7.21**	**25**		**Pn**	**06 10 32.0**	**+1.3**
TEIG					**Sn**	**06 11 50.0**	**-1.8**
JTS	**Las Juntas de**	**7.24**	**117**	Pn	**Pn**	**06 10 32.4**	**+1.2**
	comp=Z,0.7nm,0.3s,baz=169,slow=22,SNR=12						
JTS				Sn	**Sn**	**06 11 53.8**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=46,slow=20,SNR=1.3						
TXAR	**Lajitas Array**	**19.23**	**326**	P	**Pn**	**06 13 10.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=154,slow=12,SNR=26						
TX31	**Lajitas Ar. Si**	**19.23**	**326**	P	**Pn**	**06 13 12.3**	**+1.7**
TX31				IAmb	IAmb	06 13 13.5	
	comp=Z,7.4nm,0.8s						
TX32	**Lajitas Array**	**19.23**	**326**	P	**Pn**	**06 13 12.3**	**+1.7**
H06E1	**SOCORRO T-PHAS**	**19.32**	**288**	T	T	06 33 01.7	
	SNR=8.8						
GOGA	**Godfrey**	**20.96**	**19**	P	Pn	06 13 30.3	-0.5
GOGA				IAmb	IAmb	06 13 31.6	
	comp=Z,3.7nm,0.7s						
MNTX	**Cornudas Mount**	**22.00**	**327**	P	**P**	**06 13 43.0**	**+3.7**
MNTX				IAmb	IAmb	06 13 43.6	
	comp=Z,5.7nm,0.8s						
SWET	**Sewanee**	**22.03**	**12**	P	**P**	**06 13 40.7**	**+1.0**
HODGE	**Hodges**	**22.11**	**21**	P	**P**	**06 13 40.9**	**+0.3**
LCAR	**Lake Charles**	**22.30**	**1**	P	**P**	**06 13 41.1**	**-1.4**
TKL	**Tuckaleechee C**	**22.97**	**16**	P	**P**	**06 13 48.5**	**-1.1**
	comp=Z,2.3nm,0.6s,baz=178,slow=12,SNR=11						
TKL	**Tuckaleechee C**	**22.97**	**16**	P	**P**	**06 13 49.8**	**+0.2**
TKL				IAmb	IAmb	06 13 51.4	
	comp=Z,15nm,1.5s						
V53A	**Saluda**	**23.25**	**18**	P	**P**	**06 13 53.1**	**+0.5**
V53A				IAmb	IAmb	06 14 04.6	
	comp=Z,5.0nm,1.1s						
TZTN	**Tazewell**	**23.86**	**16**	P	**P**	**06 13 57.5**	**-0.9**
TZTN				IAmb	IAmb	06 14 02.8	
	comp=Z,3.6nm,0.9s						
V55A	**Taylorsville**	**23.94**	**21**	P	**P**	**06 13 58.3**	**-0.8**
V55A				IAmb	IAmb	06 14 12.9	
	comp=Z,15nm,1.4s						
ANMO	**Albuquerque**	**25.12**	**330**	P	**P**	**06 14 10.5**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=162,slow=11,SNR=5.8						
PCRV	**Puerto La Cruz**	**26.51**	**95**	LR	LR	06 25 47.9	
	comp=Z,231nm,20.8s,slow=39						
MTPU	**Mount Pierson**	**30.43**	**327**	P	**P**	**06 15 02.1**	**+4.2**
K58A	**Earlville**	**32.05**	**22**	P	**P**	**06 15 10.5**	**-1.2**
J56A	**Wolcott**	**32.08**	**20**	P	**P**	**06 15 10.4**	**-1.4**
J56A				IAmb	IAmb	06 15 28.2	
	comp=Z,4.5nm,1.1s						
PDAR	**Pinedale Array**	**32.91**	**335**	P	**P**	**06 15 19.5**	**0.0**
	comp=Z,0.3nm,0.5s,baz=142,slow=9.1,SNR=2.1						
PDAR				LR	LR	06 32 42.7	
	comp=Z,46nm,18.3s,baz=316,slow=44						
REDW	**Red Top Meadow**	**33.94**	**334**	P	**P**	**06 15 29.1**	**+0.7**
REDW				IAmb	IAmb	06 15 37.9	
	comp=Z,2.3nm,1.1s						
SNOW	**Snow King Moun**	**33.98**	**335**	P	**P**	**06 15 30.0**	**+1.2**
NVAR	**Mina Array Bea**	**34.22**	**321**	P	**P**	**06 15 32.0**	**+1.0**
	comp=Z,1.4nm,0.7s,baz=128,slow=9.0,SNR=14						
MCMT	**McKenzie Canyo**	**35.97**	**334**	P	**P**	**06 15 47.7**	**+1.8**
LRM	**Limekiln Ridge**	**36.61**	**335**	P	**P**	**06 15 50.5**	**-0.8**
J08A	**Circle Bar Ran**	**37.57**	**327**	P	**P**	**06 15 59.9**	**+0.5**
F10A	**Beach Ranch, E**	**38.82**	**331**	P	**P**	**06 16 10.1**	**+0.2**
LON	**Longmire**	**41.61**	**328**	P	**P**	**06 16 33.9**	**+0.8**
LON				IAmb	IAmb	06 16 35.8	
	comp=Z,4.4nm,0.9s						
YKA	**Yellowknife Ar**	**51.45**	**347**	P	**P**	**06 17 48.4**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=146,slow=7.6,SNR=15						
ILAR	**Eielson Array**	**63.32**	**337**	P	**P**	**06 19 13.0**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=173,slow=4.6,SNR=7.3						
PETK	**Petropavlovsk-**	**91.18**	**326**	LR	LR	07 01 34.1	
	comp=Z,23nm,21.3s,baz=241,slow=35						
CMAR	**Chiang Mai Arr**	**146.45**	**342**	PKPbc	**PKPbc**	**06 28 26.7**	**-0.1**
	comp=Z,1.3nm,0.4s,baz=316,slow=3.8,SNR=2.8						

*THR **08** 06:09:55.8±0.4, 27°.55N×54°.44E, h14km±5km, ML3.8*
*DSN **08** 06:09:56.8±0.9, 28°.18N×54°.70E, h10km, ML4.2/6, Error ellipse: s-maj=21.7km s-min=5.7km az=52.0*
*TEH **08** 06:09:57.3, 27°.73N×54°.33E, h5km, ML4.0*
*NEIC **08** 06:10:01.5±2.1, 27°.64N±0°.08×54°.24E±0°.03, h41km±9km, Error ellipse: s-maj=12.3km s-min=2.8km az=172.0*
*IDC **08** 06:10:02.7±2.4, 27°.60N×54°.30E, h53km±25km, mb3.6/19, mb1 3.7/22, mb1mx3.6/46, mbtmp3.9/22, ML3.6/3, MS3.2/3, Ms1 3.2/3, ms1mx2.7/46, Error ellipse: s-maj=15.8km s-min=13.1km az=40.0*
*OMAN **08** 06:10:04.2±0.2, 27°.21N×53°.83E, h20km±1km, ml3.9/10, Error ellipse: s-maj=5.8km s-min=3.1km az=2.0*

ISC 08 06:09:56.2±1.5, 27°.60N±0°.03×54°.27E±0°.03, h1km±10km, n129, σ1§91/142, mb3.9/22, 3C-6D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.12**	**55**	*e*Pg	**Pg**	**06 09 59.3**	**+0.8**
LMD1	**Lamerd**	**1.01**	**255**	*e*Pg	**Pn**	**06 10 20.6**	**+3.0**
LMD1				*e*		06 10 49.7	
JHRM	**Jahrom**	**1.09**	**326**	*e*Pg	**Pb**	**06 10 18.2**	**+0.3**
BNDS	**Bandar-Abbas**	**1.70**	**96**	*e*Pg	**Pn**	**06 10 24.2**	**-3.1**
BNDS	**Bandar-Abbas**	**1.70**	**96**	*e*Pg	**Pn**	**06 10 24.2**	**-3.1**
GENO	**Geno**	**1.71**	**96**	*e*Pn	**Pb**	**06 10 28.4**	**-0.1**
IBND	**Bandar-abas**	**2.02**	**94**	*e*Pn	**Pb**	**06 10 33.4**	**-0.4**
IBND				*e*		06 11 21.7	
SHME	**Shamm**	**2.28**	**132**	*e*Pn	**Pb**	**06 10 37.4**	**-0.8**
UMQ	**Umm Al-Quwin**	**2.42**	**149**	*e*Pn	**Pb**	**06 10 40.9**	**+0.4**
BANOM	**Banah**	**2.47**	**132**	*e*P	**Pn**	**06 10 39.9**	**+2.3**
	SNR=15						
BANOM				S	**Sb**	**06 11 13.2**	**+0.9**
BANOM	**Banah**	**2.47**	**132**	P	**Pb**	**06 10 40.6**	**-0.8**
	SNR=14						
BANOM	**Banah**	**2.47**	**132**	*e*Pn	**Pb**	**06 10 40.5**	**-0.9**
SHI	**Shiraz**	**2.55**	**323**	*e*Pn	**Pn**	**06 10 40.3**	**+1.4**
MSFE	**Esma-Masafi**	**2.81**	**142**	*i* P	**Pb**	**06 10 45.6**	**-1.5**
	SNR=7.7						
MSFE				S	**Sb**	**06 11 23.9**	**+1.9**
MSFE	**Esma-Masafi**	**2.81**	**142**	*e*Pn	**Pb**	**06 10 46.5**	**-0.6**
NAZ	**Nazwa, Dubai**	**2.89**	**154**	P	**Pb**	**06 10 48.9**	**+0.4**
NAZ	**Nazwa, Dubai**	**2.89**	**154**	*e*Pn	**Pb**	**06 10 48.7**	**+0.2**
MDH	**Madha**	**2.93**	**141**	*i* P	**Pb**	**06 10 47.5**	**-1.7**
	SNR=6.6						
MDH	**Madha**	**2.93**	**141**	P	**Pb**	**06 10 49.0**	**-0.3**
	SNR=6.6						
MDH	**Madha**	**2.93**	**141**	*e*Pn	**Pb**	**06 10 48.0**	**-1.2**
JRN	**Qarnain Island**	**2.94**	**206**	*e*Pn	**Pb**	**06 10 48.7**	**-0.7**
NGRK	**Negar Kerman**	**2.97**	**46**	*e*Pn	**Pn**	**06 10 45.8**	**+0.9**
NGRK				*e*		06 11 39.6	
UOSS	**Minazif**	**3.17**	**146**	*i* P	**Pb**	**06 10 51.2**	**-2.0**
	SNR=8.1						
UOSS	**Minazif**	**3.17**	**146**	*e*Pn	**Pb**	**06 10 51.3**	**-2.0**
UOSS	**Minazif**	**3.17**	**146**		**Pb**	**06 10 51.0**	**-2.3**
UOSS				Sn	**Sn**	**06 11 24.9**	**-0.8**
KRBR	**Kerman**	**3.23**	**42**	*e*Pn	**Pn**	**06 10 47.5**	**-0.8**
KRBR				*e*Sg	**Sb**	**06 11 34.7**	**+0.2**
KRBR				IAML		06 11 52.1	
	comp=E,192nm,0.8s						
KRBR	**Kerman**	**3.23**	**42**	*e*Pn	**Pn**	**06 10 47.5**	**-0.8**
TVBK	**TV Kerman**	**3.23**	**42**	*e*Pn	**Pn**	**06 10 50.0**	**+1.6**
TVBK				*e*		06 11 32.4	
HATD	**Hatta, Dubai**	**3.23**	**148**	*i* P	**Pb**	**06 10 52.6**	**-1.8**
	SNR=8.1						
HATD	**Hatta, Dubai**	**3.23**	**148**	P	**Pb**	**06 10 52.6**	**-1.8**
	SNR=8.1						
HATD				S	**Sb**	**06 11 31.8**	**-2.5**
HATD	**Hatta, Dubai**	**3.23**	**148**	*e*Pn	**Pb**	**06 10 52.7**	**-1.8**
ASHO	**Ashiyiah**	**3.32**	**151**	*i* P	**Pn**	**06 10 53.1**	**+3.7**
	SNR=18						
ASHO	**Ashiyiah**	**3.32**	**151**	P	**Pb**	**06 10 55.0**	**-1.0**
	SNR=6.2						
ASHO	**Ashiyiah**	**3.32**	**151**	*e*Pn	**Pn**	**06 10 53.3**	**+3.9**
KHGB	**Koh Gabri**	**3.37**	**34**	*e*Pn	**Pn**	**06 10 51.6**	**+1.3**
KHGB				*e*		06 11 45.1	
IMEH	**Mehriz**	**3.79**	**4**	*e*Pn	**Pn**	**06 10 58.3**	**+2.3**
SOHO	**SOHO**	**4.01**	**149**	P	**Pn**	**06 11 02.8**	**+4.0**
SOHO				S	**Sn**	**06 11 50.5**	**+4.0**
KLNJ	**Kolanjah**	**4.12**	**326**	*e*Pn	**Pn**	**06 11 01.3**	**+0.7**
IBAF	**Bafgh**	**4.13**	**16**	*e*Pn	**Pn**	**06 11 02.6**	**+2.0**
ISAD	**Sadrabad**	**4.33**	**353**	*e*Pn	**Pn**	**06 11 05.1**	**+1.7**
IRAM	**Ramesheh**	**4.50**	**339**	*e*Pn	**Pn**	**06 11 07.4**	**+1.6**
ARQ	**Araqi**	**4.71**	**154**	P	**Pn**	**06 11 12.0**	**+3.5**
ARQ				P	Pn	06 11 13.3	+4.8
	SNR=6.9						
ARQ				S	**Sn**	**06 12 08.4**	**+4.5**
YZKH	**Yazd**	**4.78**	**3**	*e*Pn	**Pn**	**06 11 10.8**	**+1.3**
YZKH	**Yazd**	**4.78**	**3**	*e*Pn	**Pn**	**06 11 10.8**	**+1.3**
HOQ	**Hoqain**	**4.86**	**145**	P	Pn	06 11 15.7	+5.3
HOQ				S	**Sn**	**06 12 11.0**	**+3.6**
UMZA	**Um Al Zommool**	**4.93**	**170**	*e*Pn	Pn	06 11 16.6	+5.1
IGAR	**Gharneh**	**5.16**	**339**	*e*Pn	**Pn**	**06 11 16.6**	**+1.8**
BSY	**Bisya**	**5.52**	**151**	P	Pn	**06 11 22.4**	**+2.9**
BSY				S	**Sn**	**06 12 27.5**	**+3.8**
JHBN	**Jahan bin**	**5.57**	**327**	*e*Pn	**Pn**	**06 11 22.6**	**+2.0**
ANAR	**Anarak**	**5.59**	**355**	*e*Pn	**Pn**	**06 11 21.4**	**+0.8**
SMDO	**Samad**	**5.67**	**142**	P	**Pn**	**06 11 25.9**	**+4.1**
	SNR=16						
SMDO				S	**Sn**	**06 12 32.0**	**+4.4**
TPRV	**Parvadeh(Tabas**	**5.80**	**21**	*e*Pn	**Pn**	**06 11 24.5**	**+1.0**
IPIR	**Pirpir**	**5.85**	**331**	*e*Pn	**Pn**	**06 11 24.6**	**+0.3**
WSAR	**Wadi Sarin**	**5.87**	**137**	P	**Pn**	**06 11 27.1**	**+2.7**
	comp=E,2.4nm,0.3s,baz=334,slow=11,SNR=19						
WSAR				S	**Sn**	**06 12 32.5**	**+0.2**
	comp=E,3.1nm,0.3s,baz=138,slow=16,SNR=8.7						
WSAR				LR	LR	06 14 15.3	
	comp=E,99nm,20.6s,baz=327,slow=43						
WSAR	**Wadi Sarin**	**5.87**	**137**	P	**Pn**	**06 11 28.0**	**+3.6**
	SNR=6.8						
BSRN	**Basiran**	**6.06**	**43**	*e*Pn	**Pn**	**06 11 26.4**	**-0.7**
BSRN	**Basiran**	**6.06**	**43**	*e*Pn	**Pn**	**06 11 26.4**	**-0.7**
ZHSF	**Zahedan**	**6.06**	**69**	*e*Pn	**Pn**	**06 11 25.8**	**-1.4**
ZHSF	**Zahedan**	**6.06**	**69**	*e*Pn	**Pn**	**06 11 25.8**	**-1.4**
TKDS	**Koohdasht(Taba**	**6.48**	**22**	*e*Pn	**Pn**	**06 11 34.5**	**+1.7**
TABS	**Tabas**	**6.51**	**21**	*e*Pn	**Pn**	**06 11 33.4**	**+0.2**
TABS	**Tabas**	**6.51**	**21**	*e*Pn	**Pn**	**06 11 33.4**	**+0.2**
SHGR	**Shooshtar-Gavs**	**6.53**	**315**	*e*Pn	**Pn**	**06 11 35.6**	**+2.1**
SHGR	**Shooshtar-Gavs**	**6.53**	**315**	*e*Pn	**Pn**	**06 11 35.6**	**+2.1**
WBK	**Wadi Bani Khal**	**6.55**	**138**	P	**Pn**	**06 11 37.0**	**+3.2**
	SNR=6.6						
WBK				S	**Sn**	**06 12 52.2**	**+3.1**
AFRZ	**Afriz**	**7.10**	**34**	*e*Pn	**Pn**	**06 11 43.1**	**+1.7**
KHMZ	**Khomeyn**	**7.15**	**330**	*e*Pn	**Pn**	**06 11 44.1**	**+1.9**
KHMZ	**Khomeyn**	**7.15**	**330**	*e*Pn	**Pn**	**06 11 44.1**	**+1.9**
GHVR	**GHOM**	**7.31**	**340**	*e*Pn	**Pn**	**06 11 45.9**	**+1.6**
GHVR	**GHOM**	**7.31**	**340**	*e*Pn	**Pn**	**06 11 45.9**	**+1.6**
MHTO	**MHTO**	**7.40**	**152**	P	**Pn**	**06 11 47.3**	**+1.9**
MHTO				S	**Sn**	**06 13 10.4**	**+0.3**
SHRT	**Shahrakht**	**7.95**	**39**	*e*Pn	**Pn**	**06 11 52.7**	**-0.3**
SHRT	**Shahrakht**	**7.95**	**39**	*e*Pn	**Pn**	**06 11 52.7**	**-0.3**
RAYN	**Ar Rayn**	**8.89**	**245**		**Pn**	**06 12 07.4**	**+1.4**
RAYN				Sn	**Sn**	**06 13 45.3**	**-1.6**
WHFO	**Wadi Hawf**	**9.65**	**183**	P	**Pn**	**06 12 17.2**	**+0.9**
	SNR=34						
WHFO				S	**Sn**	**06 13 59.8**	**-5.6**
ZNJK	**Zanjan**	**10.20**	**334**	*e*P	**Pn**	**06 12 25.6**	**+1.

BOZY SG Sn 06 25 09.3 0.0
ALAN Alanya-ANTALYA 0.73 347 PG Pn 06 24 59.4 +0.4
ALAN SG Sn 06 25 10.6 -0.2
ALFC Alefka 0.75 157 P Pn 06 24 59.2 0.0
ALFC S Sn 06 25 11.0 -0.2
ALFC AML AML 06 25 13.1
comp=E,3.1nm,0.2s
ALFC AML AML 06 25 13.1
comp=E,3.1nm,0.2s
ALFC AML AML 06 25 15.6
comp=E,3.2nm,0.2s
ALFC AML AML 06 25 15.6
comp=E,3.2nm,0.2s
TEKE Tekeli-Mersin 0.77 67 PG Pn 06 24 59.9 +0.5
TEKE SG Sn 06 25 11.6 +0.1
AKDN Akdeniz- Kıbrı 0.81 132 PG Pn 06 25 00.8 +1.0
AKMS Akamas 0.83 174 P Pn 06 25 00.9 +0.8
AKMS S Sn 06 25 13.8 +1.2
AKMS AML AML 06 25 14.4
comp=E,2.5nm,0.2s
AKMS AML AML 06 25 14.4
comp=E,2.5nm,0.2s
AKMS AML AML 06 25 14.6
comp=E,1.8nm,0.2s
AKMS AML AML 06 25 14.6
comp=E,1.8nm,0.2s
LEF Lefka 0.90 143 PG Pn 06 25 00.8 -0.1
LEF Lefka 0.90 143 *i* P Pn 06 25 00.8 -0.1
LEF *i* S Sn 06 25 12.8 -1.3
BERE Bereket-Mersin 0.94 58 PG Pn 06 25 02.1 +0.5
ERMK Ermenek 0.97 34 *i* P Pn 06 25 02.6 +0.7
YORU Yoruktepe-Mers 1.00 72 PG Pn 06 25 02.1 0.0
OREN Orenkoy-Mersin 1.06 70 PG Pn 06 25 03.4 +0.7
NATA Nata 1.10 165 S Sn 06 25 20.9 +2.6
AKK1 Akkuyu-Mersin 1.10 74 PG Pn 06 25 03.6 +0.4
AKK1 SG Sn 06 25 18.6 +0.3
AKK2 Akkuyu-Mersin 1.10 74 PG Pn 06 25 03.4 +0.1
AKK2 SG Sn 06 25 18.2 -0.2
AKKU Akkuyu-Mersin 1.11 73 PN Pn 06 25 04.0 +0.6
AKKU SN Sn 06 25 19.0 +0.4
GULN MERSIN_Gulnar 1.11 72 *i* P Pn 06 25 03.8 +0.4
GULN *i* S Sn 06 25 18.2 -0.4
TEVE Tevekalti-Mers 1.14 58 PN Pn 06 25 04.6 +0.7
KEPZ Antalya-Kepez 1.17 334 *i* P Pn 06 25 05.1 +0.9
KEPZ *i* S Sn 06 25 21.0 +1.0
KEPZ IAML 06 25 22.0
comp=N,124nm,0.5s
ATHAL Athalassa 1.18 126 P Pn 06 25 04.6 +0.3
ATHAL S Sn 06 25 20.6 +0.5
YESI Yesilovacik-Me 1.19 72 PN Pn 06 25 04.9 +0.5
LFK Lefkose 1.20 118 PN Pn 06 25 05.5 +0.9
SZAC Souni 1.21 154 P Pn 06 25 06.3 +1.6
SZAC AML AML 06 25 24.4
comp=N,1.0nm,0.9s
SZAC AML AML 06 25 31.9
comp=N,1.0nm,0.3s
TISA Tisan-Mersin 1.21 74 PN Pn 06 25 05.1 +0.4
IKL Isikli 1.24 71 PN Pn 06 25 05.7 +0.7
KARG Kargicak-Mersi 1.25 73 PN Pn 06 25 05.8 +0.7
CSS Mathiatis 1.25 134 PN Pn 06 25 04.9 -0.4
CSS Mathiatis 1.25 134 Pn Pn 06 25 04.9 -0.4
CSS Mathiatis 1.25 134 P Pn 06 25 04.8 -0.4
KEBE Keben-Mersin 1.34 63 PN Pn 06 25 06.8 +0.5
SILS Silifke-Mersin 1.46 69 PN Pn 06 25 08.7 +0.8
SLFK Silifke-Mersin 1.49 68 PN Pn 06 25 08.8 +0.6
KRMN Karaman 1.56 32 PN Pn 06 25 10.5 +1.2
SEYD Seydisehir-KON 1.59 349 PN Pn 06 25 10.9 +1.2
EREN Erenkoy 1.60 101 PN Pn 06 25 10.5 +0.8
EREN Erenkoy 1.60 101 *i* P Pn 06 25 09.1 -0.6
EREN *i* S Sn 06 25 29.3 -0.5
EREN IAML 06 25 32.0
comp=E,90nm,0.5s
EREN IAML 06 25 32.0
comp=N,152nm,0.6s
AKUM Antalya-Kumluc 1.61 288 *i* P Pn 06 25 10.5 +0.8
AKUM *i* S Sn 06 25 29.9 0.0
ANTB Antalya 1.66 310 PN Pn 06 25 10.9 +0.5
KIZK Mersin 1.67 67 PN Pn 06 25 11.6 +1.0
KIZK Mersin 1.67 67 *i* P Pn 06 25 11.1 +0.5
KIZK *i* S Sn 06 25 31.1 -0.3
KORT Korkueli 1.91 308 PN Pn 06 25 15.1 +1.2
KORT Korkueli 1.91 308 *i* P Pn 06 25 14.9 +1.0
KMER Konya-Meram 1.92 3 *i* P Pn 06 25 15.0 +0.9
KMER *i* S Sn 06 25 37.6 0.0
KMER IAML 06 25 40.0
comp=E,51nm,0.5s
ELL Elmali 2.09 296 PN Pn 06 25 17.5 +1.3
BCK Bucak 2.09 321 PN Pn 06 25 17.3 +1.1
KONT Konya--Tatoy 2.10 3 PN Pn 06 25 17.4 +1.1
KONT Konya--Tatoy 2.10 3 *i* P Pn 06 25 17.4 +1.1
KONT *i* S Sn 06 25 41.3 -0.4
MERS Mersin 2.11 60 PN Pn 06 25 17.3 +0.8
AKAS Kas 2.17 281 PN Pn 06 25 18.6 +1.3
AKAS Kas 2.17 281 *i* P Pn 06 25 18.5 -1.0
KERG Konya-Eregli 2.18 44 *i* P Pn 06 25 18.5 +0.9
KERG *i* S Sn 06 25 42.8 -1.0
DOGA KONYA_Doganhis 2.30 349 *i* P Pn 06 25 20.4 +1.3
DED Mersin 2.35 61 *i* P Pn 06 25 20.4 +0.7
DED *i* S Sn 06 25 47.0 -0.7
LADK Ladik-KONYA 2.35 2 PN Pn 06 25 20.3 +0.5
ISP Isparta 2.41 326 PN Pn 06 25 21.4 +0.9
BAGO Egridir - ISPA 2.44 332 *i* P Pn 06 25 22.8 +1.9
BAGO *i* S Sn 06 25 51.2 +1.4
GULE Gulek 2.50 54 *i* P Pn 06 25 22.4 +0.5
GULE *i* S Sn 06 25 54.2 +2.7
GULE IAML 06 25 57.0
comp=E,50nm,0.4s
BRDR BURDUR-Merkez 2.54 317 *i* P Pn 06 25 22.4 +0.1
GOLH Golhisar 2.56 304 *i* P Pn 06 25 24.6 +2.0
SULT Sultanhani-AKS 2.56 23 PN Pn 06 25 23.2 +0.6
KRTS Karatas 2.64 73 PN Pn 06 25 25.2 +1.7
FETY Fethiye 2.67 288 PN Pn 06 25 24.7 +0.8
FETY Fethiye 2.67 288 *i* P Pn 06 25 24.2 +0.3
KDHN Kadinhani 2.67 358 *i* P Pn 06 25 24.2 +0.1
KDHN *i* S Sn 06 25 54.1 -1.5
CHBY Cihanbeyli 2.78 11 PN Pn 06 25 26.8 +1.2
CMRD Camardi-Nigde 2.86 50 PN Pn 06 25 28.1 +1.4
YURE YUREGIR 2.91 69 PN Pn 06 25 28.1 +0.8
YURE YUREGIR 2.91 69 *i* P Pn 06 25 26.9 -0.3
KZIL AFYON_Kizioren 2.94 326 *i* P Pn 06 25 27.9 +0.3
KIZT Kizilcal 3.04 355 PN Pn 06 25 29.7 +0.6
AKO Adana 3.04 57 *i* P Pn 06 25 29.8 +0.7
BOLV Bolvadin 3.05 341 *i* P Pn 06 25 32.0 +2.8
DALY Dalyan (Mula) 3.05 290 PN Pn 06 25 30.2 +1.1
DALY Dalyan (Mula) 3.05 290 *i* P Pn 06 25 28.9 -0.2
DALY *i* S Sn 06 26 03.0 -1.5
DALY IAML 06 26 04.0
comp=E,40nm,0.6s
DALY IAML 06 26 05.0
comp=N,55nm,0.2s
CEYT Ceyhan 3.06 67 PN Pn 06 25 29.5 +0.3
TAVA DENIZLI_Tavas 3.12 302 *i* P Pn 06 25 30.9 +0.7
TAVA *i* S Sn 06 25 05.2 -1.3
TAHT Tahtakopru-Hat 3.24 79 PN Pn 06 25 33.4 +1.7
KOZT Kozan 3.32 59 PN Pn 06 25 32.9 +0.2
KHAL Karahalli 3.34 320 *i* P Pn 06 25 33.4 +0.3
KHAL *i* S Sn 06 26 11.3 -0.5
YAHY KAYSERI_Yahyal 3.36 47 *i* P Pn 06 25 33.9 +0.5
ANDN Andirin 3.73 61 *i* P Pn 06 25 37.8 -0.6
ANDN IAML 06 26 22.0
comp=N,21nm,0.4s
SAIM ADANA 3.75 54 *i* P Pn 06 26 36.7 -1.9
KAMA Osmaniye 3.81 68 *i* P Pn 06 25 39.5 -0.1
KAMA *i* S Sn 06 26 20.4 -2.9
KAMA IAML 06 26 22.0
comp=N,23nm,0.3s
USAK Uak-Merkez 3.85 319 *i* P Pn 06 25 39.8 -0.2
USAK *i* S Sn 06 26 23.1 -1.0
USAK IAML 06 26 26.0
comp=N,14nm,0.3s
MMA0B Mount Meron ar 3.85 136 Pn Pn 06 25 40.4 +0.4
GEM Giv'at Ha'Em 3.86 132 Pn Pn 06 25 40.8 +0.7
DAT Datca 3.87 285 *i* P Pn 06 25 39.7 -0.6
DAT IAML 06 26 24.0
comp=N,15nm,0.2s
KSDI Kefar Szold 3.87 132 Pn Pn 06 25 39.9 -0.3
MANT Manisa 3.95 313 *i* P Pn 06 25 41.5 -0.1
HCB Kahramanmara 4.05 67 *i* P Pn 06 25 42.9 +0.2
HCB *i* S Sn 06 26 26.0 -2.9
BDRM Kayabasi 4.05 289 *i* P Pn 06 25 42.7 0.0
BDRM *i* S Sn 06 26 26.1 -2.8
BDRM IAML 06 26 29.0
comp=N,25nm,0.3s
CDAG Cicekdag 4.14 24 *i* P Pn 06 25 45.8 +1.8
MMLI Mount Malkishu 4.30 141 Pn Pn 06 25 45.6 -0.6
MMLI Sn Sn 06 26 34.7 -0.5
HMDT Nahal Hemdat 4.50 142 Pn Pn 06 25 49.6 +0.7
HMDT Sn Sn 06 26 40.0 0.0
DSI Dead Sea 5.00 148 Pn Pn 06 25 56.3 +0.6
KZIT Kziot 5.25 159 Pn Pn 06 25 59.6 +0.6
PRNI Paran 5.95 156 Pn Pn 06 26 08.7 +0.1
MBRI Mt Berech 6.44 159 Pn Pn 06 26 15.9 +0.5
EIL Elat 6.57 159 Pn Pn 06 26 17.3 +0.2

MAN 08 06:27:07.0, 9.21N×123.07E, h148km, mb4.2, ML3.1, MS2.8, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.99**	**62**	*eP*	Pn	06 27 42.4	+0.5
MSLP				*eS*	Sn	06 28 08.9	+0.3
BUKP	**Musuan**	**2.37**	**124**	*eP*	Pn	06 27 47.1	+0.6
BUKP				*eS*	Sn	06 28 18.1	+1.1
KCP	**Kidapawan**	**2.96**	**137**	*eP*	Pn	06 27 54.5	+0.6
KCP				*i* S	Sn	06 28 35.7	+5.6

*BJI **08** 06:34:53.0±0.0, 19.24N×121.09E, h21km, mB4.4/17, mb4.4/24, Ms3.9/14, Ms7.3/13*
*MAN **08** 06:34:54.1, 19.10N×121.14E, h23km, mb5.3, ML4.3, MS4.4*
*NEIC **08** 06:34:54.8±2.3, 19.16N±0.05×121.06E±0.08, h35km±2km, mb4.2/20, Error ellipse: s-maj=13.0km s-min=9.2km az=92.0*
*IDC **08** 06:34:57.5±2.0, 18.94N×121.46E, h91km±20km, mb3.5/18, mb1 3.6/21, mb1mx3.5/51, mbtmp3.8/21, MS3.5/10, Ms1 3.5/10, ms1mx3.2/37, Error ellipse: s-maj=19.4km s-min=10.7km az=82.0*

ISC 08 06:34:53.6±1.0, 19.14N±0.03×121.12E±0.04, h32km±3km, n79, σ1s79/80, mb4.0/26, MS3.6/10, 3D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.26**	**135**	*eP*	Pn	06 35 15.0	+0.1
SGCP				*eS*	Sn	06 35 30.9	+0.2
APYP	**Conner**	**1.28**	**175**	*eP*	Pn	06 35 15.2	0.0
APYP				*eS*	Sb	06 35 32.3	-0.9
SIPP	**Brgy, Tapao**	**1.36**	**207**	*eP*	Pn	06 35 17.1	+0.7
SIPP				*eS*	Sb	06 35 40.7	+5.1
BBP	**Basco**	**1.52**	**32**	*eP*	Pn	06 35 20.2	+1.6
BBP				*eS*	Sn	06 35 40.1	+2.9
CVP	**Callao Caves**	**1.58**	**155**	*iP*	Pn	06 35 20.6	+1.2
CVP				*i* S	Sb	06 35 40.5	-1.3
CAUP	**Cauayan**	**2.29**	**163**	*eP*	Pb	06 35 32.1	-2.1
CAUP				*eS*	Sb	06 36 11.0	+8.9
PALP	**Palanan**	**2.41**	**149**	*eP*	Pn	06 35 32.3	+1.5
PALP				*eS*	Sn	06 36 02.3	+3.1
BOLP	**Bolinao**	**2.97**	**203**	*eP*	Pn	06 35 39.6	+1.0
BOLP				*eS*	Sb	06 36 19.6	-2.3
SMPP	**San Manuel, Pa**	**3.00**	**188**	*eP*	Pn	06 35 40.2	+1.2
SMPP				*eS*	Sn	06 36 12.9	-1.0
BALP	**Baler**	**3.41**	**173**	*eP*	Pn	06 35 47.0	+2.4
BALP				*eS*	Sn	06 36 27.1	+3.2
PCPH	**Palayan**	**3.56**	**180**	*eP*	Pn	06 35 49.3	+2.7
TWG	**Pinlang**	**3.66**	**359**		Pn	06 35 49.3	+1.3
TPUB	**Ta-pu**	**4.16**	**354**	Pn	Pn	06 35 55.7	+0.7
TPUB				Sn	Sn	06 36 43.0	+0.4
YULB	**Yu-li**	**4.23**	**2**		Pn	06 35 57.0	+1.1
YULB				Sn	Sn	06 36 46.1	+1.9
POLP	**Polilio Island**	**4.46**	**170**	*eP*	Pn	06 36 01.7	+2.8
POLP				*eS*	Sn	06 36 52.8	+3.0
SSLB	**Suanglung**	**4.63**	**358**	Pn	Pn	06 36 02.8	+1.5
SSLB				Sn	Sn	06 36 54.9	+0.9
TGY	**Tagaytay City**	**5.01**	**182**	P	Pn	06 36 08.7	+2.1
TGY	44nm,0.3s,baz=216,slow=13,SNR=1.7			S	Sn	06 37 04.3	+0.8
TGY	56nm,0.3s,baz=70,slow=15,SNR=1.3			LR	LR	06 38 31.6	
LQP	comp=Z,534nm,18.3s,baz=2.0,slow=44 **Lukban**	**5.02**	**175**	*eP*	Pn	06 36 08.6	+1.7
NACB	**Ninganchiao**	**5.03**	**5**	Pn	Pn	06 36 08.5	+1.7
YHNB	**Yeheng**	**5.51**	**2**		Pn	06 36 16.3	+2.9
YOJ	**Yonaguni jima**	**5.58**	**18**	Pn	Pn	06 36 17.7	+3.3
TATO	**Taipei**	**5.82**	**3**	Pn	Pn	06 36 20.7	+3.1
KNMB	**Chin-men Tao**	**5.87**	**335**	Pn	Pn	06 36 17.8	-0.6
KNMB				Sn	Sn	06 37 22.8	-1.8
HKPS	**Hong Kong Po S**	**7.23**	**297**		Pn	06 36 37.5	+0.4
HKPS				Sn	Sn	06 37 56.3	-1.9
JOW	**Kunigami**	**10.10**	**39**	P	Pn	06 37 18.6	+2.2
	0.1nm,0.3s,baz=71,slow=25,SNR=2.4						
QIZ	**Qiongzhong**	**10.66**	**271**	Pn	Pn	06 37 23.2	-0.9
QIZ					Sn	06 39 21.9	-0.5
GYA	**Guiyang**	**15.18**	**301**	P	P	06 38 33.7	+3.2
GYA				pmax	pmax		
GYA	comp=Z,11nm,0.6s			LR	LR		
GYA	comp=N,150nm,9.9s			LR	LR		
GYA	comp=E,180nm,14.3s			LR	LR		
ENH	comp=Z,230nm,12.4s **Enshi**	**15.30**	**319**	Pn	Pn	06 38 29.9	+2.7
ENH				IAmb	IAmb	06 38 30.8	
SLVN	comp=Z,14nm,1.0s **Son La**	**16.30**	**281**	P	Pn	06 38 42.1	+1.9
JNU	**Nakatsue**	**16.44**	**30**	P	Pn	06 38 42.3	+0.4
JNU	comp=Z,0.1nm,0.3s,baz=184,slow=0.3,SNR=4.3			LR	LR	06 45 06.7	
JNU	comp=Z,36nm,19.1s,baz=216,slow=37 **Nakatsue**	**16.44**	**30**	Pn	Pn	06 38 42.9	+1.0
XAN	**Xi'an**	**18.39**	**326**	P	P	06 39 07.7	+1.8
XAN				IAmb	IAmb	06 39 09.1	
SBUM	comp=Z,12nm,1.1s **Sibu**	**18.73**	**209**	P	P	06 39 10.3	+0.5
KSRS	**Korea Array**	**19.19**	**17**	P	P	06 39 13.8	-0.8
	comp=Z,0.4nm,0.3s,baz=198,slow=12,SNR=5.9						
CHTO	**Chiang Mai**	**20.97**	**273**	P	P	06 39 34.8	+0.6
CHTO				IAmb	IAmb	06 39 39.0	
CMAR	comp=Z,5.7nm,0.8s **Chiang Mai Arr**	**21.00**	**272**	P	P	06 39 36.4	+1.9
	comp=Z,1.7nm,0.4s,baz=70,slow=7.8,SNR=13						
CMAR				LR	LR	06 46 54.4	
BJT	comp=Z,64nm,20.5s,baz=144,slow=34 **Baijiatuau**	**21.24**	**349**	P	P	06 39 37.8	+1.0
BJT				IAmb	IAmb	06 39 43.9	
MAJO	comp=Z,9.7nm,0.7s **Matsushiro**	**22.93**	**37**	P	P	06 39 55.4	+0.4
MAJO				IAmb	IAmb	06 40 09.9	
MJAR	comp=Z,14nm,1.5s **Matsushiro Arr**	**22.94**	**37**	P	P	06 39 53.5	-1.5
	comp=Z,0.5nm,0.7s,baz=224,slow=10,SNR=1.5						
MJB9	**Matsu-Tunnel**	**22.94**	**37**	P	P	06 39 55.3	+0.2
MJB9				IAmb	IAmb	06 40 02.6	
HHC	comp=Z,7.7nm,1.1s **Hu-ho-hao-te**	**23.13**	**341**	*eP*	P	06 39 59.4	+2.3
HHC				pmax	pmax		
HHC	comp=Z,12nm,0.8s			pmax	pmax		
HHC	comp=Z,64nm,4.3s			LR	LR		
HHC	comp=Z,130nm,11.8s			LR	LR		
HHC	comp=Z,130nm,11.1s			LR	LR		
KAPI	comp=Z,110nm,12.9s **Kappang**	**24.04**	**183**	LR	LR	06 49 24.4	
	comp=Z,109nm,20.8s,baz=358,slow=36						
GTA	**Gaotai**	**27.32**	**322**	*eP*	P	06 40 37.8	+2.2
GTA				pP	pP	06 40 41.1	-3.4
GTA				sP	sP	06 40 43.8	-4.5
GTA	comp=Z,5.0nm,0.8s			pmax	pmax		
JAY	**Jayapura**	**28.88**	**136**	LR	LR	06 50 11.0	
	comp=Z,112nm,20.9s,baz=338,slow=32						
ERM	**Erimo**	**29.50**	**35**	P	P	06 40 54.9	+0.1
SONM	**Songino Array**	**31.03**	**341**	P	P	06 41 09.8	+1.3
SONM	comp=Z,1.5nm,0.7s,baz=165,slow=8.5,SNR=7.6			LR	LR	06 55 05.2	
WMQ	comp=Z,96nm,18.0s,baz=118,slow=38 **Urumqi**	**37.25**	**319**	*eP*	P	06 42 04.7	+2.4
WMQ				pP	sP	06 42 15.1	0.0
WMQ				LR	LR		
WMQ	comp=Z,140nm,19.7s			LR	LR		
WMQ	comp=Z,260nm,25.3s			LR	LR		
FITZ	comp=Z,260nm,24.1s **Fitzroy Crossi**	**37.27**	**173**	P	P	06 41 57.1	-5.5
	comp=Z,2.9nm,0.9s,baz=15,slow=12,SNR=1.5						
FITZ	**Fitzroy Crossi**	**37.27**	**173**	IAmb	IAmb	06 42 02.9	
WRA	comp=Z,16nm,1.3s **Warramunga Arr**	**40.95**	**161**	P	P	06 42 27.6	-5.8
	comp=Z,0.8nm,0.5s,baz=305,slow=4.8,SNR=6.4						
MK31	**Makanchi Array**	**42.02**	**320**	P	P	06 42 40.9	-1.1
MK31				IAmb	IAmb	06 42 58.3	
MKAR	comp=Z,2.6nm,0.8s **Makanchi Array**	**42.02**	**320**	P	P	06 42 43.5	+1.5
	comp=Z,1.4nm,0.7s,baz=111,slow=9.7,SNR=13						
MKAR				LR	LR	07 01 12.8	
H11S3	comp=Z,58nm,19.4s,baz=122,slow=37 **WAKE ISLAND Hy**	**43.05**	**83**	T	T	07 28 38.1	
	baz=274,slow=75,SNR=41						
H11S1	**WAKE ISLAND Hy**	**43.06**	**83**	T	T	07 28 37.5	
	baz=274,slow=75,SNR=16						
H11S2	**WAKE ISLAND Hy**	**43.06**	**83**	T	T	07 28 50.9	
	baz=274,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**43.07**	**81**	T	T	07 28 50.1	
	baz=277,slow=75,SNR=50						
H11N2	**WAKE ISLAND Hy**	**43.08**	**81**	T	T	07 28 51.5	
	baz=277,slow=75,SNR=38						
H11N3	**WAKE ISLAND Hy**	**43.09**	**81**	T	T	07 28 38.4	
	baz=277,slow=75,SNR=48						
AS31	**Alice Springs**	**44.34**	**163**	P	P	06 43 01.8	+0.9
ASAR	**Alice Springs**	**44.34**	**163**	P	P	06 42 56.9	-4.1
	comp=Z,1.6nm,0.5s,baz=342,slow=7.3,SNR=21						
ZALV	**Zalesovo Beam**	**44.50**	**330**	P	P	06 43 02.2	+0.4
	comp=Z,0.5nm,0.3s,baz=113,slow=11,SNR=4.6						
ZALV				LR	LR	07 02 44.5	
NIL	comp=Z,77nm,18.8s,baz=56,slow=37 **Nilore**	**44.86**	**299**	P	P	06 43 06.2	+1.1
BTK	**Batken**	**47.74**	**307**	P	P	06 43 27.5	-0.2
BTK				IAmb	IAmb	06 43 30.4	
GAR	comp=Z,9.4nm,1.4s **Garm**	**47.94**	**306**	P	P	06 43 31.0	+1.7
FORT	**Forrest**	**50.08**	**172**	P	P	06 43 45.9	+0.5
BVAR	**Borovoye Array**	**51.59**	**323**	P	P	06 43 57.3	+0.6
	comp=Z,0.8nm,0.7s,baz=110,slow=13,SNR=4.4						
TIXI	**Tiksi**	**52.71**	**3**	P	P	06 44 04.2	-0.5
TIXI				IAmb	IAmb	06 44 05.0	
NRIK	comp=Z,3.2nm,0.9s **Noril'sk**	**54.24**	**346**	P	P	06 44 15.8	-0.2
	comp=Z,3.7nm,0.6s,baz=131,slow=8.7,SNR=10						
NRIK				LR	LR	07 09 41.7	
STKA	comp=Z,67nm,18.3s,baz=112,slow=38 **Stephens Creek**	**54.40**	**159**	P	P	06 44 13.7	-3.8
	comp=Z,1.0nm,0.5s,baz=347,slow=10,SNR=4.2						
STKA	**Stephens Creek**	**54.40**	**159**	IAmb	IAmb	06 44 21.8	
	comp=Z,1.5nm,1.2s						
ARU	**Arti**	**59.13**	**325**	P	P	06 44 50.4	-0.5
	comp=Z,1.2nm,0.5s,baz=63,slow=4.8,SNR=4.7						
ARU	**Arti**	**59.13**	**325**	IAmb	IAmb	06 44 51.7	
	comp=Z,3.3nm,0.6s						
KIRV	**Kirov**	**64.33**	**327**	LR	LR	07 15 32.3	
	comp=Z,62nm,19.1s,baz=81,slow=38						
ILAR	**Eielson Array**	**73.72**	**27**	P	P	06 46 22.5	-1.6
	comp=Z,0.2nm,0.7s,baz=263,slow=4.3,SNR=1.6						
FINES	**FINESS Array B**	**75.76**	**330**	P	P	06 46 34.7	-1.2
	comp=Z,1.8nm,1.0s,baz=84,slow=4.3,SNR=2.6						
BRTR	**Keskin Array B**	**76.14**	**307**	P	P	06 46 38.4	-0.3
	comp=Z,0.3nm,0.8s,baz=83,slow=6.0,SNR=1.9						
AKASG	**Malin Array Be**	**76.60**	**319**	P	P	06 46 39.8	-1.1
	comp=Z,0.2nm,0.3s,baz=66,slow=5.4,SNR=1.4						
NOA	**NORSAR Array B**	**82.64**	**333**	P	P	06 47 11.7	-1.9
	comp=Z,0.2nm,0.7s,baz=64,slow=5.0,SNR=2.0						
YKA	**Yellowknife Ar**	**87.62**	**23**	P	P	06 47 36.3	-2.2
	comp=Z,0.3nm,0.5s,baz=311,slow=4.7,SNR=9.8						

*UCR **08** 06:38:51.5±1.9, 11.74N×86.71W, h0km±3km, ML4.0, mb4.5(NEIC)*
*NEIC **08** 06:38:52.6±2.6, 11.37N±0.06×86.67W±0.06, h35km±1km, mb4.5/162, Error ellipse: s-maj=12.5km s-min=7.6km az=225.0*
*INET **08** 06:38:54.4, 11.42N×86.67W, h54km, ML4.2*
*UNK **08** 06:38:55.6, 11.47N×86.61W, h55km*
*IDC **08** 06:38:56.4±1.4, 11.68N×86.40W, h69km±14km, mb3.8/16, mb1 4.0/20, mb1mx3.8/47, mbtmp4.1/20, MS3.4/14, Ms1 3.5/14, ms1mx3.3/29, Error ellipse: s-maj=24.1km s-min=9.7km az=52.0*
*SNET **08** 06:38:57.7±1.3, 11.68N×86.96W, h15km±439km, ML4.1*

ISC 08 06:38:56.0±0.8, 11.52N±0.06×86.66W±0.05, h68km±8km, n477, σ1s23/489, mb4.4/86, 4C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASN	**Masaya**	**0.68**	**47**	*eP*	Pn	06 39 08.5	-2.1
CRIN	**San Cristobal**	**1.23**	**342**		Pn	06 39 16.2	-1.3
CRIN				Sn	Sn	06 39 33.5	0.0
GBS3	**Finca Las Img**	**1.39**	**122**	*eP*	Pn	06 39 17.2	-2.3
GBS3				*eS*	Sn	06 39 39.0	+1.8
LAPC	**Finca la Perla**	**1.42**	**122**	*eP*	Pn	06 39 17.4	-2.5
GB1A	**Borinquen Arri**	**1.42**	**119**	*eP*	Pn	06 39 17.7	-2.3
GB1A				*eS*	Sn	06 39 41.1	+3.1
BUEV	**Buena Vista**	**1.42**	**120**	*eP*	Pn	06 39 17.6	-2.4
BUAI	**Buenos Aires**	**1.45**	**116**	*eP*	Pn	06 39 18.4	-1.9
GPS3	**Bodega del ICE**	**1.48**	**121**	*eP*	Pn	06 39 18.5	-2.2
GPS1	**Guardaparques**	**1.48**	**120**	*eP*	Pn	06 39 21.0	+0.1
GPS2	**Hotel Rincn d**	**1.49**	**121**	*eP*	Pn	06 39 18.9	-2.0
ACON	**Acoyapa**	**1.52**	**73**	*iP*	Pn	06 39 19.5	-1.7
ACON	**Acoyapa**	**1.52**	**73**		Pn	06 39 19.5	-1.7
MATN	**Matagalpa**	**1.57**	**27**		Pn	06 39 21.5	-0.5
LIM1	**Limonal**	**1.60**	**121**	*eP*	Pn	06 39 21.4	-1.0
GUAB	**Guayabo de Bag**	**1.62**	**120**	*eP*	Pn	06 39 21.6	-0.9
HORNC	**Hornillas**	**1.66**	**119**	*eP*	Pn	06 39 22.0	-1.2
HORNC				*eS*	Sn	06 39 44.7	+1.0
COLC	**Colonia**	**1.66**	**121**	*eP*	Pn	06 39 21.5	-1.6
COLC				*eS*	Sn	06 39 45.6	+1.9
GUAI	**GUAI**	**1.68**	**138**	*eP*	Pn	06 39 22.6	-0.7
GUAI				*eS*	Sn	06 39 45.5	+1.5
CUI	**Cuipilapa**	**1.70**	**120**	*eP*	Pn	06 39 22.1	-1.5
PLVR	**Palo Verde**	**1.73**	**132**	*eP*	Pn	06 39 23.0	-1.3
PLVR				*eS*	Sn	06 39 48.3	+2.7
ACAL	**Aguas Claras**	**1.82**	**119**	*eP*	Pn	06 39 24.0	-1.3
ACAL				*eS*	Sn	06 39 51.2	+3.7
PTEN	**Parque Tenorio**	**1.82**	**116**	*iP*	Pn	06 39 24.1	-1.3
JTS	**Las Juntas de**	**2.07**	**126**	P	Pn	06 39 28.2	-0.5
JTS	42nm,0.3s,baz=352,slow=22,SNR=135			S	Sn	06 39 52.2	-1.3
JTS	74nm,0.3s,baz=55,slow=17,SNR=7.2 **Las Juntas de**	**2.07**	**126**	*eP*	Pn	06 39 26.9	-1.8
JTS	**Las Juntas de**	**2.07**	**126**	Pn	Pn	06 39 26.9	-1.8
CNCH	**Conchagua**	**2.09**	**327**	*eP*	Pn	06 39 28.6	-0.4
CNCH	**Conchagua**	**2.09**	**327**	*eP*	Pn	06 39 28.6	-0.4
LCND	**La Caada**	**2.15**	**326**	*eP*	Pn	06 39 28.4	-1.3
LCND				IAML		06 40 02.2	
LCND	comp=Z,2µm,0.5s **La Caada**	**2.15**	**326**	*eP*	Pn	06 39 28.4	-1.3
LCND				IAML		06 40 02.2	
ARE1	comp=Z,2µm,0.5s **Arenal 1**	**2.18**	**119**	*eP*	Pn	06 39 28.2	-1.9
CASO	**Castillo**	**2.18**	**120**	*eP*	Pn	06 39 28.8	-1.3
CEDE	**Laguna Cedeo**	**2.18**	**118**	*eP*	Pn	06 39 29.0	-1.1
FORC	**Fortuna**	**2.22**	**118**	*eP*	Pn	06 39 29.2	-1.4
JUCU	**Jucuarn**	**2.32**	**318**	*eP*	Pn	06 39 30.7	-1.3
JUCU				IAML		06 40 06.4	
LCND	comp=Z,1µm,0.3s **La Caada**	**2.

TECA eS Sn 06 40 06.8 -1.4
COEB Comit de Eme 2.68 317 eP Pn 06 39 35.9 -1.2
COEB IAML 06 40 22.9
comp=Z,664nm,0.5s
COEB Comit de Eme 2.68 317 eP Pn 06 39 35.9 -1.2
COEB eS Sn 06 40 06.5 -2.0
COEB IAML 06 40 22.9
comp=Z,664nm,0.5s
HDC Heredia 2.92 121 eP Pn 06 39 39.9 -0.4
HDC Heredia 2.92 121 Pn 06 39 39.8 -0.4
UESV Universidad de 2.96 316 eP Pn 06 39 40.0 -0.7
UESV IAML 06 40 28.9
comp=Z,701nm,0.5s
UESV Universidad de 2.96 316 eP Pn 06 39 40.0 -0.7
UESV IAML 06 40 28.9
comp=Z,701nm,0.5s
PAVA Las Pavas 3.11 315 eP Pn 06 39 42.8 -0.1
PAVA Las Pavas 3.11 315 eP Pn 06 39 42.8 -0.1
LFRS El Faro 3.14 312 eP Pn 06 39 42.1 -1.1
LFRS El Faro 3.14 312 eP Pn 06 39 42.1 -1.1
LFRS eS Sn 06 40 15.9 -3.8
LCR2 La Lucha 2 3.15 124 eP Pn 06 39 42.9 -0.6
LBRS Las Brisas 3.21 314 eP Pn 06 39 43.7 -0.4
LBRS Las Brisas 3.21 314 eP Pn 06 39 43.7 -0.4
CVTR Volcan Turrial 3.21 117 eP Pn 06 39 45.9 +1.3
AEIL Aeropuerto Ilo 3.23 312 eP Pn 06 39 43.3 -1.1
AEIL Aeropuerto Ilo 3.23 312 eP Pn 06 39 43.3 -1.1
SNET Serv Nac Est T 3.31 311 Pn 06 39 44.9 -0.7
UEES Universidad Ev 3.33 311 eP Pn 06 39 45.0 -0.9
UEES Universidad Ev 3.33 311 eP Pn 06 39 45.0 -0.9
BOQS Boqueron 3.38 311 eP Pn 06 39 45.4 -1.2
BOQS Boqueron 3.38 311 eP Pn 06 39 45.4 -1.2
JAYA Jayaque - finc 3.45 308 eP Pn 06 39 46.2 -1.3
JAYA Jayaque - finc 3.45 308 eP Pn 06 39 46.2 -1.3
TACO Tacachico 3.58 313 eP Pn 06 39 48.6 -0.6
TACO Tacachico 3.58 313 eP Pn 06 39 48.6 -0.6
CEVE Cerro Verde 3.69 309 eP Pn 06 39 50.4 -0.6
CEVE IAML 06 40 50.1
comp=Z,792nm,0.4s
CEVE Cerro Verde 3.69 309 eP Pn 06 39 50.4 -0.6
CEVE eS Sn 06 40 32.1 -1.3
CEVE IAML 06 40 50.1
comp=Z,792nm,0.4s
NUBE Las Nubes 3.86 308 eP Pn 06 39 52.6 -0.5
NUBE Las Nubes 3.86 308 eP Pn 06 39 52.6 -0.5
MTO3 Montecristo 3.89 318 Pn 06 39 53.6 0.0
DRK0 Durika 4.04 123 eP Pn 06 39 55.5 -0.1
BRU2 Volcan 4.75 124 eP Pn 06 40 05.1 -0.3
CCIG Comitan 7.12 312 Pn 06 40 38.5 +0.8
TEIG Tepich 8.79 350 P Pn 06 40 59.3 -1.2
baz=139,slow=9.7
TEIG LR LR 06 44 52.1
comp=Z,349nm,21.1s,baz=50,slow=41
TEIG Tepich 8.79 350 Pn 06 40 59.9 -0.5
CMIG Matias Romero 9.70 306 P Pn 06 41 13.5 +0.5
comp=Z,1.4nm,0.3s,baz=148,slow=10,SNR=45
CMIG S Sn 06 43 01.7 +1.3
comp=Z,0.1nm,0.3s,baz=75,slow=22,SNR=1.4
SJCC San Jacinto, C 11.39 97 eP Pn 06 41 34.5 -1.7
SMLC San Martn de 12.68 101 eP P 06 42 01.7 -0.7
GUY2C Guyana, Caldas 12.80 118 eP Pn 06 41 58.9 +3.2
RREF El Recreo 12.98 120 eP P 06 42 08.3 +1.9
TLIG Tlapa 12.99 299 Pn Pn 06 41 60.0 +2.0
PTBC PUERTO BERRIO, 13.03 111 eP P 06 42 04.6 -1.7
TOLC Tolima 13.17 121 eP P 06 42 10.7 +2.5
BBAC Balboa, Cauca 13.28 135 eP P 06 42 10.9 +0.9
OCAC Ocana 13.54 103 eP P 06 42 11.8 -0.3
ORTC Ortega, Tolima 13.60 123 eP P 06 42 14.7 +2.0
SOTA Rioblanco 13.65 132 eP P 06 42 15.7 +2.0
SPBC San Pablo de B 13.74 114 eP P 06 42 14.1 -0.2
ROSC El Rosal 13.89 118 P Pn 06 42 09.3 -0.9
comp=Z,0.8nm,0.3s,baz=61,slow=23,SNR=1.7
ROSC LR LR 06 47 37.1
comp=Z,148nm,19.8s,baz=334,slow=38
ROSC El Rosal 13.89 118 eP P 06 42 17.8 +1.5
PRAC Prado 14.00 123 eP P 06 42 18.6 +1.4
BARC Barichara 14.18 109 eP P 06 42 20.7 +1.4
RUSC La Rusia 14.53 111 eP P 06 42 22.3 -1.2
VILC Villavicencio, 14.80 119 eP P 06 42 27.5 +1.4
MACC Macarena, Meta 15.76 125 eP P 06 42 37.0 +0.4
SDV Santo Domingo 15.99 98 P Pn 06 42 34.3 -2.7
comp=Z,0.3nm,0.3s,baz=30,slow=13,SNR=1.8
SDV LR LR 06 49 30.5
comp=Z,78nm,18.4s,baz=340,slow=40
SDV Santo Domingo 15.99 98 eP Pn 06 42 38.4 +1.4
SDV Santo Domingo 15.99 98 Pn 06 42 39.2 +2.2
TIGA Tifton 20.02 8 P Pn 06 43 26.1 +0.4
baz=189
HKT Hockley 20.23 336 P Pn 06 43 27.8 -0.2
ATAH Atahualpa 20.28 156 LR LR 06 50 27.3
comp=Z,183nm,19.5s,baz=299,slow=34
833A Chaparral WMA, 20.53 326 P P 06 43 30.3 +1.3
baz=142
833A Chaparral WMA, 20.53 326 P P 06 43 29.7 +0.8
833A IAmb IAmb 06 43 38.6
comp=Z,16nm,0.8s
SJG San Juan 20.87 69 LR LR 06 50 53.9
comp=Z,125nm,20.8s,baz=254,slow=35
CBYP Canovanas 21.18 69 P P 06 43 33.9 -2.1
CBYP IAmb IAmb 06 43 34.8
comp=Z,35nm,1.3s
LRAL Lakeview Retre 21.41 359 P P 06 43 40.3 +2.0
baz=179
LRAL Lakeview Retre 21.41 359 P P 06 43 39.3 +0.9
PCRV Puerto La Cruz 21.67 91 P P 06 43 40.3 -1.0
comp=Z,5.7nm,0.6s,baz=222,slow=5.8,SNR=5.7
435B Jarrell 21.68 334 P P 06 43 42.2 +0.9
baz=150
435B Jarrell 21.68 334 P P 06 43 39.5 -1.7
435B IAmb IAmb 06 43 43.1
comp=Z,11nm,0.7s
PLCV Puerto La Cruz 21.72 91 P P 06 43 40.3 -1.5
GOGA Godfrey 21.98 7 P P 06 43 46.9 +2.5
baz=188
Y49A Blount Mountai 22.23 1 P P 06 43 48.4 +1.2
Y49A IAmb IAmb 06 43 49.5
comp=Z,12nm,0.6s
Z56A Williston 22.24 12 P P 06 43 48.0 +0.9
baz=194
Z41A Richland Creek 22.36 346 P P 06 43 50.6 +2.2
baz=164
Z41A Richland Creek 22.36 346 P P 06 43 49.9 +1.4
Z41A IAmb IAmb 06 43 52.2
comp=Z,11nm,0.8s
Y52A Lilburn 22.36 6 P P 06 43 49.1 +0.6
Y52A IAmb IAmb 06 43 52.1
comp=Z,12nm,0.9s
JCT Junction City 22.46 329 P P 06 43 50.4 +0.7
baz=144
JCT Junction City 22.46 329 P P 06 43 50.9 +1.1
Z58A St. Stephen 22.60 15 P P 06 43 52.3 +1.2
baz=198
WHTX Lake Whitney, 22.68 336 P P 06 43 52.4 +0.5
baz=152,SNR=7.3
WHTX Lake Whitney, 22.68 336 P P 06 43 51.8 -0.1
WHTX IAmb IAmb 06 43 53.6
comp=Z,17nm,0.8s
Y55A Saluda 22.74 10 P P 06 43 54.1 +1.5
baz=192
WLAR White Oak Lake 22.84 346 P P 06 43 55.2 +1.7
WLAR IAmb IAmb 06 43 56.9
comp=Z,8.8nm,0.7s
FPAL Fort Paine 22.93 2 P P 06 43 55.6 +1.0
X51A Calhoun 23.00 4 P P 06 43 56.8 +1.6
OXF Oxford 23.02 354 P P 06 43 56.6 +1.2
baz=173
Y57A Sumter 23.11 13 P P 06 43 57.9 +1.6
baz=196
Y58A Scranton 23.18 15 P P 06 43 58.7 +1.8
baz=197
JSC Jenkinsville 23.18 11 P P 06 43 58.0 +1.1
X54A Belton 23.25 9 P P 06 43 58.8 +1.1
baz=190
X55A Gracelyn & Ava 23.30 11 P P 06 43 59.5 +1.4
baz=192
PLAL Pickwick Lake 23.39 357 P P 06 43 58.4 -0.5
X56A White Oak 23.43 12 P P 06 44 00.6 +1.3
baz=194
X40A Basin Creek Fa 23.54 347 P P 06 44 01.3 +1.0
baz=165
HPIG 23.55 313 P P 06 44 00.4 -0.3
SWET Sewanee 23.60 1 P P 06 43 59.6 -1.3
W50A Signal Mountai 23.60 3 P P 06 44 02.7 +1.8
W50A IAmb IAmb 06 44 03.9
comp=Z,9.4nm,0.6s
X57A Johnson Farm, 23.61 14 P P 06 44 02.1 +1.2
baz=196
W45A Hickory Valley 23.64 355 P P 06 44 01.4 +0.2
W45A IAmb IAmb 06 44 03.7
comp=Z,8.7nm,0.6s
UALR University of 23.72 348 P P 06 44 02.4 +0.5
UALR IAmb IAmb 06 44 03.6
comp=Z,9.0nm,0.7s
MIAR Mount Ida 23.77 346 P P 06 44 03.2 +0.8
baz=163,SNR=14
MIAR Mount Ida 23.77 346 P P 06 44 03.1 +0.7
MIAR IAmb IAmb 06 44 03.7
comp=Z,11nm,0.8s
TXAR Lajitas Array 23.78 321 P P 06 44 03.6 +0.9
comp=Z,2.6nm,0.4s,baz=140,slow=10,SNR=42
TXAR PcP PcP 06 47 44.7 -0.1
comp=Z,0.7nm,1.0s,baz=154,slow=4.6,SNR=3.5
TXAR LR LR 06 53 46.2
comp=Z,52nm,18.6s,baz=0.0,slow=37
TX31 Lajitas Ar. Si 23.78 321 P P 06 44 03.6 +0.9
TX31 IAmb IAmb 06 44 06.9
comp=Z,16nm,0.8s
TX32 Lajitas Array 23.78 321 P P 06 44 03.6 +1.0
Z35A Perchaven, San 23.78 338 P P 06 44 02.8 +0.3
Z35A IAmb IAmb 06 44 04.0
comp=Z,14nm,0.7s
W54A Cherokee Point 23.81 9 P P 06 44 04.1 +1.4
baz=191
X58A Rowland 23.88 15 P P 06 44 04.5 +1.2
baz=198
CPCT Cooper Cave 23.90 4 P P 06 44 05.2 +1.7
CPCT IAmb IAmb 06 44 07.4
comp=Z,12nm,0.7s
KMSC Kings Mountain 24.01 11 P P 06 44 05.6 +1.2
baz=193
KMSC Kings Mountain 24.01 11 P P 06 44 06.5 +2.0
W41B Gary Mavity, V 24.09 349 P P 06 44 06.1 +0.9
baz=166,SNR=6.5
W41B Gary Mavity, V 24.09 349 P P 06 44 05.9 +0.7
V48A Smith Brothers 24.11 360 P P 06 44 06.5 +1.1
W56A Indian Trail 24.15 12 P P 06 44 07.0 +1.3
baz=194
ABTX Abilene, Hawle 24.16 332 P P 06 44 06.9 +1.0
baz=148
ABTX Abilene, Hawle 24.16 332 P P 06 44 06.8 +0.8
ABTX IAmb IAmb 06 44 20.8
comp=Z,10nm,0.8s
TKL Tuckaleechee C 24.17 6 P P 06 44 05.1 -0.9
comp=Z,5.5nm,0.6s,baz=180,slow=12,SNR=17
TKL LR LR 06 54 05.0
comp=Z,86nm,19.8s,baz=188,slow=38
TKL Tuckaleechee C 24.17 6 P P 06 44 07.5 +1.5
WHAR Wooly Hollow 24.21 349 P P 06 44 06.8 +0.5
WHAR IAmb IAmb 06 44 07.9
comp=Z,9.7nm,0.6s
V51A Loudon 24.26 5 P P 06 44 08.5 +1.7
V51A IAmb IAmb 06 44 13.4
comp=Z,11nm,1.1s
V53A Saluda 24.29 8 P P 06 44 09.0 +1.9
V53A IAmb IAmb 06 44 11.2
comp=Z,8.8nm,0.6s
W57A Gilead 24.29 13 P P 06 44 08.5 +1.5
baz=196
W57A Gilead 24.29 13 P P 06 44 08.5 +1.5
W57A IAmb IAmb 06 44 09.1
comp=Z,7.8nm,0.6s
X37A Clayton 24.30 342 P P 06 44 09.5 +2.4
X37A IAmb IAmb 06 44 23.0
comp=Z,13nm,0.8s
W58A Raeford 24.35 15 P P 06 44 09.1 +1.6
baz=198
V52A Sevierville 24.37 6 P P 06 44 09.6 +1.8
W39A Magazine 24.44 346 P P 06 44 10.0 +1.6
baz=163
W39A Magazine 24.44 346 P P 06 44 09.4 +1.0
W39A IAmb IAmb 06 44 10.2
comp=Z,6.9nm,0.8s
CLTN Cedars of Leba 24.46 1 P P 06 44 09.0 +0.4
CLTN IAmb IAmb 06 44 11.9
comp=Z,8.0nm,0.6s
H06E1 SOCORRO T-PHAS 24.49 290 T T 07 09 18.6
SNR=4.1
V54A Nebo 24.52 9 P P 06 44 11.1 +1.9
baz=191,SNR=5.2
WVT Waverly 24.52 358 P P 06 44 10.7 +1.6
baz=177
V55A Taylorsville 24.72 11 P P 06 44 12.6 +1.6
baz=193
FCAR Ozark Folk Cen 24.76 349 P P 06 44 10.8 -0.6
FCAR IAmb IAmb 06 44 12.6
comp=Z,6.5nm,0.6s
LCAR Lake Charles 24.78 351 P P 06 44 10.3 -1.1
V56A Mocksville 24.82 12 P P 06 44 13.2 +1.4
baz=194
U49A Red Boiling Sp 24.89 2 P P 06 44 12.3 -0.3
CNNC Cliffs of the 24.92 17 P P 06 44 14.1 +1.3
baz=200
V57A Coltrane Farms 25.05 13 P P 06 44 15.4 +1.5
baz=196
V58A Windy Hill, Pi 25.11 15 P P 06 44 15.7 +1.1
baz=197,SNR=5.3
V58A Windy Hill, Pi 25.11 15 P P 06 44 16.0 +1.5
U54A Nelsons Funny 25.27 9 P P 06 44 17.3 +1.2
baz=191
NNA Nana 25.31 157 P P 06 44 14.1 -2.5
V59A Middlesex 25.31 16 P P 06 44 17.3 +1.0
baz=199
U40A Yellville 25.35 348 P P 06 44 17.1 +0.4
baz=166,SNR=12
U40A Yellville 25.35 348 P P 06 44 17.0 +0.4
U40A IAmb IAmb 06 44 18.4
comp=Z,10nm,0.8s
U56A King 25.36 12 P P 06 44 18.3 +1.5
baz=194
U56A King 25.36 12 P P 06 44 20.9 +4.1
U56A IAmb IAmb 06 44 22.2
comp=Z,12nm,1.1s
T47A Sharon Grove 25.36 359 P P 06 44 17.3 +0.6
HHAR Hobbs 25.51 346 P P 06 44 18.3 +0.1
WMOK Wichita Mounta 25.61 336 P P 06 44 21.0 +1.9
baz=152,SNR=9.8
WMOK Wichita Mounta 25.61 336 P P 06 44 21.5 +2.4
TUL1 Leonard 25.65 343 P P 06 44 19.1 -0.3
baz=159,SNR=5.6
TUL1 Leonard 25.65 343 P P 06 44 19.3 -0.1
TUL1 IAmb IAmb 06 44 20.1
comp=Z,9.5nm,0.8s
U57A Blanch 25.67 14 P P 06 44 20.7 +1.1
baz=197
OKCFA Oklahoma City 25.73 339 P P 06 44 20.2 0.0
OKCFA IAmb IAmb 06 44 25.0
comp=Z,10nm,0.7s
U38A Gravette 25.77 346 P P 06 44 20.1 -0.4
T54A Tazewell 25.84 9 P P 06 44 22.2 +1.0
baz=191
T55A Pulaski 26.03 11 P P 06 44 24.2 +1.4
baz=193
T56A Rocky Mt 26.09 12 P P 06 44 24.3 +0.9
baz=195
S44A Carbondale 26.16 355 P P 06 44 24.5 +0.5
S44A IAmb IAmb 06 44 42.8
comp=Z,9.2nm,1.1s
BLA Blacksburg 26.19 11 P P 06 44 25.9 +1.6
baz=194
T57A Hurt 26.23 13 P P 06 44 25.9 +1.3
baz=196
MNTX Cornudas Mount 26.49 322 P P 06 44 28.1 +0.9
baz=135
MNTX Cornudas Mount 26.49 322 P P 06 44 28.7 +1.6
WCI Wyandotte Cave 26.60 1 P P 06 44 29.1 +1.1
baz=181
WCI Wyandotte Cave 26.60 1 P P 06 44 29.4 +1.4
WCI IAmb IAmb 06 44 30.3
comp=Z,6.8nm,0.8s
S55A Lewisburg 26.72 11 P P 06 44 30.5 +1.4
baz=193
S39A Bolivar 26.73 348 P P 06 44 29.2 0.0
S39A IAmb IAmb 06 44 30.4
comp=Z,12nm,0.7s
CCM Cathedral Cave 26.74 352 P P 06 44 30.0 +0.8
baz=170
CCM Cathedral Cave 26.74 352 P P 06 44 29.1 -0.1
CCM IAmb IAmb 06 44 30.1
comp=Z,12nm,1.4s
MSTX Muleshoe 26.76 329 P P 06 44 30.2 +0.6
baz=143
MSTX Muleshoe 26.76 329 P P 06 44 29.8 +0.2
MSTX IAmb IAmb 06 44 41.6
comp=Z,12nm,0.9s
AMTX Amarillo 26.97 332 P P 06 44 32.0 +0.5
baz=146
AMTX Amarillo 26.97 332 P P 06 44 31.6 +0.1
S57A Dark Hollow, R 27.02 14 P P 06 44 32.5 +0.7
baz=197
R53A Hurricane 27.03 8 P P 06 44 32.9 +1.1
baz=190
S58A Poland Farm, P 27.10 15 P P 06 44 33.6 +1.2
baz=199
R40A Maddies Statio 27.12 350 P P 06 44 32.7 0.0
U32A Winter Ranch, 27.14 338 P P 06 44 33.9 +1.0
Q51A Peebles 27.55 6 P P 06 44 36.1 -0.4
Q52A Bidwell 27.61 7 P P 06 44 37.9 +0.9
baz=189
R57A Stanardsville 27.64 14 P P 06 44 38.6 +1.3
baz=197
Q54A Coxs Mills 27.84 10 P P 06 44 40.6 +1.6
baz=192
P48A Milroy 27.85 2 P P 06 44 39.4 +0.3
P48A IAmb IAmb 06 44 40.5
comp=Z,5.4nm,0.7s
Q55A Buckhannon 27.98 11 P P 06 44 41.8 +1.4
baz=194
Q56A Snyder Ridge, 28.20 12 P P 06 44 44.1 +1.7
baz=196
P53A Whipple 28.24 9 P P 06 44 44.4 +1.7
baz=191
P52A Corning 28.28 7 P P 06 44 44.7 +1.6
baz=189
Q58A Fox Den Farm, 28.45 15 P P 06 44 46.0 +1.5
baz=198
P54A Burton 28.50 10 P P 06 44 46.2 +1.2
baz=193
P55A Reedsville 28.52 11 P P 06 44 46.7 +1.5
baz=194
O44A Mansfield 28.56 357 P P 06 44 45.5 +0.1
P38A Dawn 28.65 349 P P 06 44 45.6 -0.6
MCWV Mont Chateau 28.67 11 P P 06 44 48.3 +1.9
baz=194
P56A Dayton Farm, R 28.72 13 P P 06 44 49.5 +2.6
baz=196
O51A Pataskala 28.73 6 P P 06 44 47.9 +0.8
baz=188
SFIN Lafayette 28.75 359 P P 06 44 47.4 +0.3
baz=179
ACSO Alum Creek Sta 28.78 6 P P 06 44 48.3 +0.9
baz=187
O52A Adamsville 28.80 8 P P 06 44 48.6 +1.1
baz=190
KSU1 Kansas State U 28.86 344 P P 06 44 48.6 +0.4
baz=160
KSU1 Kansas State U 28.86 344 P P 06 44 47.6 -0.6
P57A Homestead Farm 28.89 14 P P 06 44 50.0 +1.6
baz=198
P57A Homestead Farm 28.89 14 P P 06 44 48.0 -0.4
P57A IAmb IAmb 06 44 51.2
comp=Z,4.8nm,0.7s
Q60A Greensboro 29.01 18 P P 06 44 50.6 +1.1
baz=202
O53A New Philadelph 29.02 9 P P 06 44 50.6 +1.0
baz=191,SNR=5.0
P58A Pank, Wackersv 29.07 15 P P 06 44 51.1 +1.2
baz=199
O54A Avella 29.08 10 P P 06 44 51.2 +1.1
baz=193
P59A Jarrettsville 29.41 16 P P 06 44 54.5 +1.5
baz=201
ANMO Albuquerque 29.46 326 P P 06 44 54.4 +0.6
comp=Z,1.3nm,0.5s,baz=166,slow=5.2,SNR=6.5
ANMO Albuquerque 29.46 326 P P 06 44 54.9 +1.2
N53A Lisbon 29.62 9 P P 06 44 55.9 +1.0
baz=191
N38A Joes South For 29.73 350 P P 06 44 55.9 +0.1
O58A Lewisberry 29.76 15 P P 06 44 57.6 +1.5
baz=199
N54A Moraine State 29.91 10 P P 06 44 58.8 +1.4
baz=193
N55A Marion Center 29.92 12 P P 06 44 58.9 +1.3
baz=195
SSPA Standing Stone 30.01 13 P P 06 44 59.4 +1.1
baz=197
SSPA Standing Stone 30.01 13 P P 06 44 58.0 -0.4
SSPA IAmb IAmb 06 45 00.5
comp=Z,4.6nm,0.7s
T25A Trinidad 30.09 331 P P 06 45 00.5 +1.1
baz=144
T25A Trinidad 30.09 331 P P 06 45 00.4 +1.0
O59A Robesonia 30.13 16 P P 06 45 00.9 +1.5
baz=201
N56A West Decatur 30.19 13 P P 06 45 01.3 +1.3
baz=196
N57A Milroy 30.20 14 P P 06 45 01.1 +1.1
baz=198
M53A WI Miller and 30.26 9 P P 06 45 01.6 +1.1
baz=192
N35A Tabor 30.28 346 P P 06 45 01.0 +0.3
O60A Telford 30.36 17 P P 06 45 02.4 +1.0
baz=202
N58A Sunbury 30.49 15 P P 06 45 03.5 +1.0
baz=199
N58A Sunbury 30.49 15 P P 06 45 03.7 +1.1
N58A IAmb IAmb 06 45 05.5
comp=Z,4.9nm,0.8s
M54A Oil Creek Stat 30.49 10 P P 06 45 03.5 +0.9
baz=193
M54A Oil Creek Stat 30.49 10 P P 06 45 03.4 +0.7
M54A IAmb IAmb 06 45 04.5
comp=Z,4.4nm,0.6s
N33A J Bar K, Exete 30.62 344 P P 06 45 03.7 0.0
M56A Emporium 30.76 13 P P 06 45 05.9 +1.0
baz=196
N59A State Game Lan 30.81 16 P P 06 45 06.9 +1.4
baz=201,SNR=11
N59A State Game Lan 30.81 16 P P 06 45 06.2 +0.8
L53A Girard 30.83 9 P P 06 45 05.9 +0.4
baz=192,SNR=5.2
KSCO Kaye Shedlock' 30.85 335 P P 06 45 06.8 +0.9
baz=148
M57A Sunshine Farm, 30.86 14 P P 06 45 06.8 +1.0
baz=198
M57A Sunshine Farm, 30.86 14 P P 06 45 05.7 -0.1
M57A IAmb IAmb 06 45 08.8
comp=Z,5.7nm,0.7s
N60A Cedar Hill Far 30.95 17 P P 06 45 07.6 +0.9
baz=202
SAML Samuel 30.96 130 P P 06 45 05.0 -2.0
ERPA Erie 31.03 10 P P 06 45 08.5 +1.2
baz=193
ERPA Erie 31.03 10 P P 06 45 07.9 +0.6
M58A Price's Panora 31.05 15 P P 06 45 08.6 +1.0
baz=200
K47A Vermontville 31.07 2 P P 06 45 08.0 +0.4
baz=183
SDCO Great Sand Dun 31.10 330 P P 06 45 09.8 +1.5
baz=142,SNR=11
SDCO Great Sand Dun 31.10 330 P P 06 45 09.2 +0.9
L55A Hinsdale 31.38 12 P P 06 45 11.1 +0.7
baz=195
JFWS Jewell Farm 31.43 355 P P 06 45 10.8 -0.1
baz=173
BGNE Belgrade 31.43 343 P P 06 45 10.8 -0.2
baz=158
K38A Parkersburg 31.46 351 P P 06 45 10.8 -0.3
M59A Waymart 31.48 16 P P 06 45 12.6 +1.2
baz=201
L34A Svendsen Farm, 31.50 346 P P 06 45 10.8 -0.7
M60A Port Jervis 31.51 17 P P 06 45 12.3 +0.8
baz=203
L56A Greenwood 31.52 13 P P 06 45 12.5 +0.8
baz=197
L57A Andrews Acres 31.55 14 P P 06 45 12.4 +0.5
baz=198
J47A Sunmer 31.64 3 P P 06 45 12.5 -0.1
baz=183
S22A 4UR Ranch, Cre 31.76 329 P P 06 45 15.3 +1.2
baz=140
S22A 4UR Ranch, Cre 31.76 329 P P 06 45 15.0 +0.9
M61A Granite Spring 31.76 19 P P 06 45 14.9 +1.2
baz=204
L58A Harry Jones Me 31.84 15 P P 06 45 15.7 +1.2
baz=200
BINY Binghamton 31.95 15 P P 06 45 16.3 +0.9
baz=200,SNR=5.3

BINY **Binghamton** 31.95 15 P P 06 45 16.1 +0.7
BINY IAmb IAmb 06 45 17.8
comp=Z,6.7nm,0.8s
J52A **Paris** 32.05 9 P P 06 45 16.9 +0.6
baz=191
X16A **Lo Mia Camp, P** 32.08 319 P P 06 45 18.4 +1.6
K56A **Middlesex** 32.11 13 P P 06 45 17.4 +0.6
baz=197
L59A **Walton** 32.19 16 P P 06 45 18.9 +1.3
baz=202
L59A **Walton** 32.19 16 P P 06 45 18.3 +0.8
L59A IAmb IAmb 06 45 20.1
comp=Z,6.0nm,0.8s
MVCO **Mesa Verde** 32.24 326 P P 06 45 19.6 +1.3
baz=137
MVCO **Mesa Verde** 32.24 326 P P 06 45 20.1 +1.8
MVCO IAmb IAmb 06 45 34.1
comp=Z,3.4nm,0.7s
L60A **Shokan** 32.24 18 P P 06 45 20.0 +2.0
baz=203
I42A **Draeger Farm,** 32.31 357 P P 06 45 18.5 0.0
I42A IAmb IAmb 06 45 19.3
comp=Z,5.7nm,0.7s
I40A **Norwalk** 32.43 355 P P 06 45 19.5 -0.1
I51A **Listowel** 32.53 8 P P 06 45 20.9 +0.4
baz=190
J55A **Hilton** 32.54 12 P P 06 45 21.0 +0.5
baz=196
K58A **Earlville** 32.57 15 P P 06 45 21.7 +0.9
baz=200
K58A **Earlville** 32.57 15 P P 06 45 22.0 +1.2
K58A IAmb IAmb 06 45 22.5
comp=Z,4.0nm,0.7s
L61A **Hillsdale 1, H** 32.63 18 P P 06 45 22.3 +1.0
baz=204
K31A **O'Neill** 32.73 343 P P 06 45 22.9 +0.7
J56A **Wolcott** 32.76 13 P P 06 45 22.6 +0.2
baz=198,SNR=7.4
J56A **Wolcott** 32.76 13 P P 06 45 23.3 +0.8
K59A **Cooperstown** 32.79 16 P P 06 45 23.7 +1.0
baz=202
I37A **Lemond, Waseca** 32.90 351 P P 06 45 23.7 0.0
I52A **Shelburne** 32.91 9 P P 06 45 24.0 +0.2
baz=192,SNR=5.1
J57A **Williamstown** 33.09 14 P P 06 45 25.6 +0.3
baz=199
J57A **Williamstown** 33.09 14 P P 06 45 26.6 +1.3
J57A IAmb IAmb 06 45 26.6
comp=Z,5.0nm,0.8s
PV13 **Radium Mtn., P** 33.11 327 P P 06 45 28.5 +2.6
L61B **Northampton** 33.13 19 P P 06 45 26.5 +0.7
baz=206
K61A **Williamstown** 33.15 18 P P 06 45 26.6 +0.7
baz=204
LPAZ **La Paz** 33.16 146 LR LR 06 59 47.6
comp=Z,55nm,19.6s,baz=308,slow=38
H48A **Harrisville** 33.19 4 P P 06 45 27.0 +0.9
baz=186
PV03 **Paradox Valley** 33.19 327 P P 06 45 28.5 +1.9
PV12 **Saucer Basin,** 33.21 327 P P 06 45 29.0 +2.2
PV18 **Skein Mesa, Pa** 33.22 327 P P 06 45 28.8 +2.0
J58A **Remsen** 33.22 15 P P 06 45 27.5 +1.0
baz=200
J58A **Remsen** 33.22 15 P P 06 45 27.7 +1.2
J58A IAmb IAmb 06 45 28.1
comp=Z,3.2nm,0.6s
ECSD **EROS Data Cent** 33.23 347 P P 06 45 25.6 -1.1
baz=162,SNR=7.3
ECSD **EROS Data Cent** 33.23 347 P P 06 45 25.9 -0.7
ECSD IAmb IAmb 06 45 27.0
comp=Z,6.8nm,1.1s
PV11 **David Mesa, Pa** 33.24 327 P P 06 45 29.2 +2.2
PV17 **East Wray Mesa** 33.27 327 P P 06 45 29.4 +2.1
PV19 **Morning Glory** 33.30 327 P P 06 45 29.6 +2.0
PV20 **West Nyswonger** 33.32 327 P P 06 45 29.7 +2.0
PV20 IAmb IAmb 06 45 30.1
comp=Z,4.5nm,0.6s
PV04 **Paradox Valley** 33.32 327 P P 06 45 29.8 +2.1
PV04 IAmb IAmb 06 45 36.0
comp=Z,4.4nm,0.7s
PV14 **Lion Creek, Pa** 33.37 327 P P 06 45 30.1 +1.9
PV14 IAmb IAmb 06 45 48.1
comp=Z,4.5nm,0.7s
PV23 **Carpenter Ridg** 33.42 327 P P 06 45 31.3 +2.6
PV23 IAmb IAmb 06 45 37.7
comp=Z,5.7nm,0.8s
H52A **Wyevale** 33.51 9 P P 06 45 28.9 -0.1
baz=192
J59A **Piesco** 33.52 16 P P 06 45 29.2 +0.1
baz=202
I58A **Old Forge** 33.61 15 P P 06 45 30.2 +0.3
baz=201
H53A **Bobcaygeon** 33.66 10 P P 06 45 30.4 +0.1
baz=194,SNR=7.4
K63A **Dunstable** 33.73 20 P P 06 45 31.6 +0.7
baz=207
SADO **Sadowa** 33.75 10 P P 06 45 29.9 -1.2
comp=Z,2.7nm,0.6s,baz=248,slow=3.6,SNR=6.1
SADO LR LR 06 59 21.1
comp=Z,73nm,19.4s,baz=180,slow=36
SADO **Sadowa** 33.75 10 P P 06 45 30.9 -0.2
SADO IAmb IAmb 06 45 31.7
comp=Z,3.2nm,0.8s
G40A **Rib Lake** 33.77 355 P P 06 45 31.2 0.0
G40A IAmb IAmb 06 45 32.0
comp=Z,6.6nm,1.1s
H55A **Tweed** 33.91 12 P P 06 45 32.3 -0.1
baz=197
SPMN **Marine on St.** 33.99 352 P P 06 45 32.2 -1.0
baz=169,SNR=8.0
SPMN **Marine on St.** 33.99 352 P P 06 45 32.7 -0.5
I59A **Olmsteadville** 34.00 17 P P 06 45 33.4 +0.1
baz=203
F45A **CMU Biological** 34.06 1 P P 06 45 34.5 +0.8
baz=182
J62A **Henniker** 34.11 20 P P 06 45 35.8 +1.6
baz=206
H56A **Elgin** 34.15 13 P P 06 45 34.2 -0.3
baz=198
G53A **Haliburton** 34.18 10 P P 06 45 34.8 0.0
baz=194
O20A **White River Ci** 34.30 330 P P 06 45 37.3 +1.2
baz=140
O20A **White River Ci** 34.30 330 P P 06 45 38.4 +2.2
O20A IAmb IAmb 06 45 53.2
comp=Z,4.8nm,0.8s
F48A **Evansville** 34.36 5 P P 06 45 36.1 -0.3
baz=187
SUSD **Miller** 34.47 344 P P 06 45 37.3 -0.1
baz=158
H58A **Gabriels** 34.49 16 P P 06 45 37.8 +0.3
baz=202
COWI **Conover** 34.52 357 P P 06 45 37.4 -0.5
COWI IAmb IAmb 06 45 38.5
comp=Z,5.0nm,0.7s
G54A **Lake Saint Pet** 34.55 11 P P 06 45 37.9 -0.1
baz=195
LONY **Lake Ozonia** 34.58 15 P P 06 45 38.2 0.0
baz=201
PKCU **Pink Cliffs** 34.58 323 P P 06 45 41.4 +2.6
G55A **Calabogie** 34.67 12 P P 06 45 39.1 +0.1
baz=197
SRU **San Rafael Swe** 34.71 326 P P 06 45 41.4 +1.7
F36A **Milaca** 34.72 352 P P 06 45 39.1 -0.4
F36A IAmb IAmb 06 45 39.4
comp=Z,4.4nm,0.7s
F52A **Sundridge** 34.72 9 P P 06 45 39.4 -0.1
baz=193
MTPU **Mount Pierson** 34.90 324 P P 06 45 44.6 +3.0
E47A **Iron Bridge** 34.93 4 P P 06 45 41.1 -0.2
baz=186
LBNH **Lisbon** 34.99 19 P P 06 45 43.5 +1.8
LBNH IAmb IAmb 06 45 51.1
comp=Z,7.6nm,1.2s
E48A **Lockeyer** 35.05 5 P P 06 45 42.1 -0.2
baz=188
ALGO **Algonquin Park** 35.09 10 P P 06 45 42.5 -0.1
baz=195
P17A **Butcher Ranch,** 35.09 327 P P 06 45 45.1 +2.1
ORIO **Orleans, Innes** 35.13 14 P P 06 45 42.6 -0.4
baz=199
E50A **Wahnapitae** 35.15 7 P P 06 45 42.6 -0.5
baz=190
F33A **5 Mile Ranch,** 35.17 348 P P 06 45 42.6 -0.8
E38A **The Farm, Brul** 35.21 354 P P 06 45 43.1 -0.6
H61A **Lyndonville** 35.25 18 P P 06 45 44.7 +0.7
baz=205
E52A **Mattawa** 35.31 10 P P 06 45 43.9 -0.6
baz=194
D46A **Sault St. Mari** 35.32 3 P P 06 45 44.0 -0.6
baz=184
E51A **G1948 Merrick** 35.42 9 P P 06 45 44.9 -0.6
baz=192
D47A **Chapleau** 35.54 4 P P 06 45 45.9 -0.7
baz=186
E53A **Dumoine, Ponti** 35.57 11 P P 06 45 46.5 -0.3
baz=195
E54A **Lac Daplat, Po** 35.71 11 P P 06 45 47.7 -0.3
baz=196
D48A **Paudash Townsh** 35.77 6 P P 06 45 47.8 -0.7
baz=188
D49A **Beulah Townshi** 35.91 6 P P 06 45 49.3 -0.4
baz=189
D53A **Lac Vacive, Po** 36.24 10 P P 06 45 52.8 +0.3
baz=195
D53A **Lac Vacive, Po** 36.24 10 P P 06 45 53.3 +0.8
D53A IAmb IAmb 06 46 08.3
comp=Z,4.4nm,1.0s
G62A **West of Eustis** 36.31 19 P P 06 45 54.1 +1.0
baz=207
G62A **West of Eustis** 36.31 19 P P 06 45 54.4 +1.3
G62A IAmb IAmb 06 45 56.1
comp=Z,5.5nm,0.8s
D54A **Lac Fusel, La** 36.50 11 P P 06 45 54.4 -0.3
baz=196
G63A **Kingsbury** 36.52 20 P P 06 45 55.6 +0.7
baz=209
EYMN **Ely** 36.53 355 P P 06 45 54.3 -0.7
baz=172
F60A **Warwick** 36.54 17 P P 06 45 54.5 -0.5
baz=204
E58A **La Victoria** 36.54 16 P P 06 45 54.6 -0.5
baz=202
D32A **Dogwood Acres,** 36.56 348 P P 06 45 55.0 -0.2
D55A **Sainte-Anne-du** 36.62 13 P P 06 45 55.6 -0.1
baz=198
PKME **Peaks-Kenny Pk** 36.76 21 P P 06 45 58.3 +1.4
BW06 **Boulder Array** 36.95 332 P P 06 45 59.0 +0.1
baz=141
BW06 **Boulder Array** 36.95 332 P P 06 45 59.9 +0.9
PD31 **Pinedale Array** 36.95 332 P P 06 45 59.8 +0.9
PDAR **Pinedale Array** 36.95 332 P P 06 45 59.4 +0.5
comp=Z,1.7nm,0.6s,baz=128,slow=10,SNR=15
PDAR PcP PcP 06 48 18.6 -0.4
comp=Z,0.3nm,0.5s,baz=134,slow=6.4,SNR=2.6
PDAR LR LR 07 04 04.2
comp=Z,47nm,20.1s,baz=130,slow=41
HWUT **Hardware Ranch** 37.07 328 P P 06 46 01.0 +1.1
HWUT IAmb IAmb 06 46 01.7
comp=Z,6.1nm,0.8s
D58A **Chemin du LacG** 37.32 16 P P 06 46 02.0 +0.4
baz=202
AGMN **Agassiz Nation** 37.46 350 P P 06 46 02.0 -0.8
baz=165,SNR=9.3
AGMN **Agassiz Nation** 37.46 350 P P 06 46 02.6 -0.2
AGMN IAmb IAmb 06 46 03.0
comp=Z,5.9nm,0.7s
ARVC **Arvin** 37.47 314 P P 06 46 02.1 -1.0
baz=121
MDND **Maddock** 37.81 346 P P 06 46 06.2 +0.4
baz=159
MDND **Maddock** 37.81 346 P P 06 46 06.3 +0.5
REDW **Red Top Meadow** 38.02 331 P P 06 46 09.3 +1.4
REDW IAmb IAmb 06 46 09.7
comp=Z,6.6nm,0.7s
SNOW **Snow King Moun** 38.05 331 P P 06 46 09.5 +1.3
SNOW IAmb IAmb 06 46 10.6
comp=Z,7.1nm,0.7s
TPAW **Teton Pass** 38.16 331 P P 06 46 10.7 +1.5
D62A **Allapoint, All** 38.44 19 P P 06 46 11.9 +0.9
baz=208
D62A **Allapoint, All** 38.44 19 P P 06 46 12.3 +1.3
D62A IAmb IAmb 06 46 14.6
comp=Z,7.4nm,1.1s
ELK **Elko** 38.47 324 P P 06 46 11.9 +0.2
comp=Z,0.5nm,0.5s,baz=118,slow=8.3,SNR=3.9
ELK PcP PcP 06 48 24.2 +0.5
comp=Z,0.3nm,0.3s,baz=250,slow=3.8,SNR=3.6
LAO **LASA Array** 38.77 338 P P 06 46 14.3 +0.3
baz=148
MATQ **Matagami** 38.85 9 P P 06 46 14.9 +0.4
baz=194
NVAR **Mina Array Bea** 38.91 319 P P 06 46 16.4 +1.0
comp=Z,0.9nm,0.6s,baz=128,slow=7.9,SNR=8.3
NVAR PcP PcP 06 48 26.4 +1.3
comp=Z,1.4nm,0.7s,baz=134,slow=4.8,SNR=11
NVAR LR LR 07 03 28.5
comp=Z,61nm,18.1s,baz=308,slow=38
LMN **Caledonia Moun** 38.95 24 P P 06 46 16.2 +0.9
LMN IAmb IAmb 06 46 16.9
comp=Z,6.8nm,0.7s
ULM **Lac du Bonnet** 39.35 351 P P 06 46 16.2 -2.4
comp=Z,5.1nm,0.5s,baz=182,slow=7.4,SNR=5.4
ULM **Lac du Bonnet** 39.35 351 P P 06 46 17.5 -1.2
ULM IAmb IAmb 06 46 18.2
comp=Z,6.1nm,0.6s
DGMT **Dagmar** 39.64 342 P P 06 46 20.4 -0.7
baz=152,SNR=5.1
DGMT **Dagmar** 39.64 342 P P 06 46 21.8 +0.6
MCMT **McKenzie Canyo** 40.07 331 P P 06 46 27.5 +2.5
BOZ **Bozeman (W)** 40.08 333 P P 06 46 26.5 +1.5
EGMT **Eagleton** 41.21 336 P P 06 46 34.5 +0.3
baz=144
WVOR **West Horse Val** 41.51 324 P P 06 46 38.5 +1.8
MSO **Missoula** 42.06 332 P P 06 46 41.2 0.0
baz=138
BMO **Blue Mountains** 42.33 327 P P 06 46 44.4 +1.0
F10A **Beach Ranch, E** 43.05 329 P P 06 46 50.2 +1.0
FFC **Flin Flon** 44.77 347 P P 06 47 02.9 +0.2
FFC IAmb IAmb 06 47 03.4
comp=Z,5.7nm,0.6s
H04A **Detroit Lake** 44.92 324 P P 06 47 05.0 +0.8
H04A IAmb IAmb 06 47 14.8
comp=Z,3.8nm,0.7s
SCHQ **Schefferville** 45.95 16 P P 06 47 10.7 -1.3
comp=Z,2.2nm,0.6s,baz=219,slow=7.8,SNR=4.4
SCHQ PcP PcP 06 48 46.6 -1.3
comp=Z,1.6nm,0.5s,baz=201,slow=8.1,SNR=3.7
SCHQ LR LR 07 05 59.8
comp=Z,119nm,21.7s,baz=16,slow=36
SCHQ **Schefferville** 45.95 16 P P 06 47 11.4 -0.7
BDFB **Brasilia** 46.82 124 P P 06 47 18.0 -1.5
comp=Z,5.3nm,0.8s,baz=301,slow=8.0,SNR=8.4
BDFB **Brasilia** 46.82 124 P P 06 47 18.8 -0.7
BDFB IAmb IAmb 06 47 19.8
comp=Z,4.7nm,0.9s
FCC **Fort Churchill** 47.48 355 P P 06 47 23.9 0.0
FCC IAmb IAmb 06 47 39.2
comp=Z,3.6nm,0.8s
PLCA **Paso Flores** 54.09 165 P P 06 48 14.5 +0.6
comp=Z,1.3nm,0.8s,baz=326,slow=3.8,SNR=3.1
YKA **Yellowknife Ar** 54.71 345 P P 06 48 17.5 -0.5
comp=Z,1.7nm,0.7s,baz=143,slow=7.6,SNR=22
YKA PcP PcP 06 49 19.4 -0.6
comp=Z,0.3nm,0.6s,baz=146,slow=4.4,SNR=6.3
YKA PP PP 06 50 21.4 +0.2
comp=Z,0.1nm,0.3s,baz=138,slow=5.6,SNR=3.9
YKA LR LR 07 13 57.0
comp=Z,32nm,19.8s,baz=0.0,slow=38
RES **Resolute Bay** 63.31 358 P P 06 49 17.1 -0.3
comp=Z,2.1nm,0.7s,baz=203,slow=5.3,SNR=4.2
RES **Resolute Bay** 63.31 358 IAmb IAmb 06 49 27.3
comp=Z,6.0nm,1.1s
EPYK **Eagle Plains** 64.20 340 P P 06 49 23.6 +0.1
baz=123
DOT **Dot Lake** 65.59 336 P P 06 49 33.5 +1.0
DOT IAmb IAmb 06 49 34.0
comp=Z,3.1nm,0.6s
HDA **Harding Lake** 67.06 336 P P 06 49 41.7 -0.2
baz=112
IL31 67.18 336 P P 06 49 42.6 +0.1
IL31 IAmb IAmb 06 49 43.9
comp=Z,2.0nm,0.7s
ILAR **Eielson Array** 67.18 336 P P 06 49 42.4 -0.2
comp=Z,1.2nm,0.6s,baz=141,slow=4.4,SNR=18
RND **Reindeer** 67.48 334 P P 06 49 45.5 +0.8
KDAK **Kodiak Island** 67.56 328 P P 06 49 46.4 +1.3
TRF **Thorofare Moun** 68.11 334 P P 06 49 49.4 +0.7
TRF IAmb IAmb 06 49 59.9
comp=Z,4.7nm,1.2s
SVW2 **Sparrevohn** 69.84 331 P P 06 49 58.9 -0.4
SVW2 IAmb IAmb 06 50 14.0
comp=Z,5.3nm,1.2s
CHGN **Chignik** 70.38 326 P P 06 50 03.4 +0.8
ESDC **Sonseca Array** 77.15 52 P P 06 50 40.6 -2.1
comp=Z,0.4nm,0.6s,baz=280,slow=7.2,SNR=2.9
ADK **Adak** 81.06 321 P P 06 51 05.3 +1.6
AKASG **Malin Array Be** 96.83 35 LR LR 07 33 22.8
comp=Z,37nm,20.9s,baz=235,slow=34
KSRS **Korea Array** 121.47 328 PKP PKPdf 06 57 42.1 0.0
comp=Z,0.9nm,0.6s,baz=8.8,slow=1.7,SNR=7.3
STKA **Stephens Creek** 131.26 238 PKP PKiKP 06 58 02.3 +0.3
comp=Z,1.0nm,0.6s,baz=107,slow=6.2,SNR=4.4
LZH **Lanzhou** 131.62 349 *e*PKP PKPdf 06 58 01.2 -0.7
LZH pPKP pPKPdf 06 58 17.3 -4.2
LZH sPKP 06 58 23.6
LZH LR LR
comp=N,42nm,17.8s
LZH LR LR
comp=E,47nm,18.0s
LZH LR LR
comp=Z,68nm,20.1s
ASAR **Alice Springs** 139.63 247 PKhKP PKPpre 06 58 13.0
comp=Z,0.3nm,0.7s,baz=114,slow=3.1,SNR=2.4
WRA **Warramunga Arr** 139.75 253 PKP PKPdf 06 58 17.2 0.0
comp=Z,1.4nm,0.7s,baz=92,slow=2.0,SNR=6.9
CMAR **Chiang Mai Arr** 149.70 349 PKPbc PKPbc 06 58 38.4 -0.7
comp=Z,0.6nm,0.3s,baz=306,slow=3.1,SNR=4.4

IDC 08 06:43:12.7±2.8, 13°47S×75°19W, h102km±20km, mb3.0/2, mb1 3.4/5, mb1mx3.2/40, mbtmp3.6/5, Error ellipse: s-maj=92.5km s-min=18.0km az=35.0, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.18**	**312**	P	Pn	06 43 48.1	+0.3
	33nm,0.3s,baz=130,slow=11,SNR=59						
NNA				S	Sn	06 44 15.0	+0.4
	73nm,0.3s,baz=233,slow=3.6,SNR=21						
ATAH	**Atahualpa**	**7.04**	**333**	P	Pn	06 44 55.4	+1.8
	0.3nm,0.3s,baz=159,slow=7.3,SNR=2.5						
LPAZ	**La Paz**	**7.38**	**113**	P	Pn	06 44 58.3	-0.1
	0.6nm,0.3s,baz=302,slow=9.9,SNR=14						
TXAR	**Lajitas Array**	**50.66**	**327**	P	P	06 52 02.0	+0.1
	0.2nm,0.7s,baz=138,slow=9.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**80.64**	**74**	P	P	06 55 14.6	-0.3
	0.3nm,0.6s,baz=266,slow=5.7,SNR=2.3						

*IDC **08** 06:48:24.3±1.1, 7°03N×124°63E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.5/34, mbtmp3.8/5, MS3.0/2, Ms1 3.0/2, ms1mx2.5/34, Error ellipse: s-maj=22.9km s-min=12.2km az=4.0*

*MAN **08** 06:48:25.2, 7°33N×124°77E, h1km, mb4.8, ML3.7, MS3.7*

ISC 08 06:48:24.5±1.3, 7°28N±0°04×124°69E±0°03, h5km±10km, n23, σ1s80/27, mb3.8/5, 4C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTBH	**Cotabato--PC H**	**0.44**	**263**	*e*P	Pn	06 48 36.3	-1.2
KCP	**Kidapawan**	**0.48**	**124**	*i*P	Pb	06 48 34.8	-0.7
KCP				*i* S	Sb	06 48 42.5	-0.4
BUKP	**Musuan**	**0.70**	**32**	*e*P	Pg	06 48 37.5	-0.7
BUKP				*e*S	Sg	06 48 46.8	-0.5
SKMP	**Bagumbayan, Su**	**0.77**	**191**	*e*P	Pn	06 48 40.9	-1.1
SKMP				*e*S	Sn	06 48 53.5	-0.4
DMPH	**Davao City--Mi**	**0.84**	**103**	*e*P	Pn	06 48 43.5	+0.5
DMPH				*e*S	Sg	06 48 52.5	+1.0
DAV	**Davao City (W)**	**0.91**	**103**	Pg	Pg	06 48 42.5	+0.5
	184nm,0.3s,baz=70,slow=1.0,SNR=20						
DAV				Lg	Lg	06 48 55.6	
	189nm,0.3s,baz=144,slow=22,SNR=3.8						
CGP	**Cagayan de Oro**	**1.17**	**0**	*i*P	Pg	06 48 46.1	-0.9
CGP				*i* S	Sg	06 49 01.4	-0.8
GSPH	**General Santos**	**1.21**	**168**	*i*P	Pn	06 48 54.9	+6.7
PAGZ	**Pagadian**	**1.41**	**294**	*e*P	Pg	06 48 52.1	+0.4
PAGZ				*e*S	Sn	06 49 13.0	+3.1
DDMP	**Don Marcelino,**	**1.55**	**139**	*e*P	Pn	06 48 52.2	-0.6
DDMP				*e*S	Sg	06 49 18.5	+4.2
MATI	**Mati**	**1.59**	**102**	*e*P	Pn	06 48 51.9	-1.5
MATI				*e*S	Sb	06 49 15.8	+0.9
BIPH	**Bislig**	**1.89**	**61**	*i*P	Pg	06 49 08.6	+7.8
BIPH				*i* S	Sg	06 49 38.5	+13
ZCP	**Zamboanga City**	**2.62**	**263**	*i*P	Pb	06 49 11.0	-0.9
ZCP				*i* S	Sb	06 49 44.5	+0.2
RCP	**Roxas**	**4.67**	**336**	*e*P	Pn	06 49 40.9	+5.2
LQP	**Lukban**	**7.46**	**336**	*e*P	Pn	06 50 18.2	+3.9
POLP	**Polilio Island**	**7.88**	**340**	*e*P	Pn	06 50 17.1	-2.8
WRA	**Warramunga Arr**	**28.67**	**161**	P	P	06 54 21.4	-1.1
	1.9nm,0.9s,baz=336,slow=10.4,SNR=4.4						
KSRS	**Korea Array**	**30.18**	**5**	LR	LR	07 08 55.5	
	comp=Z,16nm,18.9s,baz=255,slow=40						
ASAR	**Alice Springs**	**32.05**	**164**	P	P	06 54 51.6	-0.8
	0.4nm,0.7s,baz=345,slow=6.9,SNR=5.3						
STKA	**Stephens Creek**	**42.15**	**158**	P	P	06 56 16.0	-2.1
	1.0nm,0.5s,baz=338,slow=5.4,SNR=1.7						
TLY	**Talaya**	**47.55**	**342**	LR	LR	07 20 22.6	
	comp=Z,27nm,18.1s,baz=122,slow=40						
MKAR	**Makanchi Array**	**53.50**	**325**	P	P	06 57 47.4	+1.3
	0.8nm,0.8s,baz=143,slow=7.1,SNR=5.9						
KURBB	**Kurchatov Array**	**57.67**	**327**	P	P	06 58 18.1	+2.1
	0.6nm,0.7s,baz=132,slow=5.9,SNR=6.0						

*BEO **08** 06:50:15.6±0.9, 40°97N×19°71E, h8km±2km, ML2.3/8*

*ATH **08** 06:50:18.6, 41°10N×19°72E, h20km±3km, ML2.2/4, Error ellipse: s-maj=4.5km s-min=1.3km az=2.0*

*PDG **08** 06:50:19.3±0.3, 41°18N×19°68E, h14km, ML2.7/13, Error ellipse: s-maj=0.4km s-min=0.8km az=0.0*

*TIR **08** 06:50:19.0, 41°18N×19°70E, h19km, Md2.6/5*

*SKO **08** 06:50:20.5, 41°19N×19°70E, h2km*

ISC 08 06:50:19.1±1.0, 41°16N±0°02×19°65E±0°03, h18km±2km, n49, σ1s02/86, 12C-2D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIR	**Tirane**	**0.25**	**41**	*e*Pg	Pg	06 50 24.1	-0.8
TIR				*e*Sg	Sb	06 50 29.5	+0.8
TIR	**Tirane**	**0.25**	**41**	*i* PG	Pb	06 50 24.5	-0.4
TIR				*i* SG	Sb	06 50 28.4	-0.3
TIR	**Tirane**	**0.25**	**41**	P	Pb	06 50 24.6	-0.4
TIR				S	Sb	06 50 29.4	+0.6
TIR				AML	AML	06 50 29.5	
	comp=E,4500μm,0.5s						
TIR				AML	AML	06 50 30.1	
	comp=N,2215μm,0.5s						
PHP	**Peshkopia**	**0.79**	**48**	*i* PG	Pg	06 50 33.4	-1.3
PHP				*i* SG	Sb	06 50 45.1	+0.3
ULC	**Ulcinj**	**0.86**	**339**	*i*Pg	Pg	06 50 35.5	-0.4
ULC				*i* Sg	Sn	06 50 48.1	-0.3
OHR	**Ohrid**	**0.87**	**93**	*i*Pg	Pb	06 50 35.5	-0.2
OHR				*i* Sg	Sb	06 50 47.0	0.0
OHR				*e*Lg	Lg	06 50 47.1	
	comp=N,48nm,0.6s						
PUK	**Puka**	**0.90**	**12**	*i* PG	Pb	06 50 36.0	-0.2
PUK				*i* SG	Sn	06 50 49.0	-0.5
DRME	**Dracevica, Mon**	**1.08**	**341**	*i*Pg	Pb	06 50 39.5	+0.2
DRME				*i* Sg	Sn	06 50 56.0	+2.1
BCI	**Bajram Curri**	**1.25**	**14**	*i* PN	Pg	06 50 42.3	-0.9
BCI				*i* SN	Sg	06 51 00.5	+1.0
BUM	**Brajici-Budva**	**1.27**	**334**	*i*Pg	Pn	06 50 42.6	+0.6
BUM				*i* Sg	Sg	06 51 02.4	+2.0
NEST	**Nestorio**	**1.30**	**125**	P	Pn	06 50 42.6	+0.1
NEST				AML	AML	06 51 04.0	
	comp=N,116μm,0.6s						
NEST				AML	AML	06 51 06.3	
	comp=E,104μm,0.4s						
PDG	**Podgorica**	**1.30**	**347**	*e*Pg	Pg	06 50 43.6	-0.7
PDG				*e*Sg	Sg	06 51 02.4	+1.1
TTG	**Podgorica**	**1.30**	**347**	*i*Pg	Pn	06 50 42.9	+0.5
TTG				*i* Sg	Sg	06 51 03.1	+1.8
SRN	**Sarande**	**1.31**	**168**	*i* PN	Pb	06 50 44.0	+0.9
SRN				*i* SN	Sg	06 51 02.2	+0.7
SCTE	**Santa Cesarea**	**1.41**	**220**	P	Pn	06 50 44.7	+0.8
KEK	**Kerkira**	**1.45**	**175**	P	Pn	06 50 44.6	+0.2
KEK				AML	AML	06 51 08.4	
	comp=E,154μm,0.4s						
KEK				AML	AML	06 51 11.2	
	comp=N,165μm,0.3s						
PVY	**Plav**	**1.45**	**9**	*i*Pg	Pb	06 50 45.4	-0.3
PVY				*i* Sg	Sg	06 51 07.1	+1.0
CEME	**Cevo**	**1.49**	**339**	*i*Pg	Pn	06 50 45.7	+0.7
CEME				*i* Sg	Sg	06 51 08.2	+0.9
HCY	**Herceg Novi**	**1.55**	**327**	*i*Pg	Pn	06 50 46.4	+0.6
HCY				*i* Sg	Sg	06 51 09.7	+0.5

SKO	Skopje	1.57	58	*i* Pg	Pn	06 50 46.5	+0.4
NKME	Niksic	1.69	342	⇑*i* Pn	Pb	06 50 49.1	-0.6
NKME				*i* Sn	Sg	06 51 13.0	-0.6
KOME	Kolasin	1.69	357	⇑*i* Pn	Pb	06 50 49.3	-0.5
KOME				*i* Sn	Sg	06 51 12.8	-1.0
IGT	Igoumenitsa	1.71	162	P	Pn	06 50 48.8	+0.8
IGT				AML	AML	06 51 19.4	
	comp=E,101μm,0.5s						
IGT				AML	AML	06 51 20.5	
	comp=N,113μm,0.6s						
IVA	Berane	1.72	6	⇑*i* Pn	Pb	06 50 49.5	-0.7
IVA				*i* Sn	Sg	06 51 13.7	-1.0
KPRO	Kipourio	1.78	132	P	Pn	06 50 48.9	-0.1
TREB	Trebinje	1.83	329	*e*Pg	Pn	06 50 50.1	+0.4
TREB				*e*Sg	Sg	06 51 19.7	+1.5
DBRK	Dubrovnik	1.88	324	*e*Pn	Pn	06 50 50.4	+0.1
DBRK				Sn	Sn	06 51 12.2	-1.3
BRY	Bratogost	1.93	335	⇓*i* Pn	Pn	06 50 52.5	+1.4
BRY				*i* Sn	Sb	06 51 18.9	+1.4
NOCI	Noci	1.99	260	P	Pb	06 50 54.9	+0.1
SJES	Sjenica	2.11	6	*e*Pg	Pb	06 50 56.3	-0.7
SJES				*e*Sn	Sb	06 51 22.9	0.0
UPM	Unac-Piva	2.12	345	⇑*i* Pn	Pn	06 50 55.5	+1.8
UPM				*i* Sn	Sb	06 51 23.1	+0.1
PLE	Pljevlja	2.18	355	⇑*i* Pn	Pn	06 50 55.6	+1.1
PLE				*i* Sn	Sb	06 51 24.6	-0.1
STON	Ston	2.24	320	*e*Pg	Pn	06 50 55.2	-0.1
BARS	Barje	2.31	44	*e*Pg	Pb	06 50 59.2	-1.1
BARS				*e*Sn	Sn	06 51 25.8	+1.5
SELS	Selova	2.33	27	*e*Pg	Pb	06 51 00.8	+0.2
SELS				*e*Sn	Sb	06 51 26.6	-2.4
IVAS	Ivanjica	2.44	9	*e*Pg	Pb	06 51 02.5	0.0
IVAS				*e*Sn	Sn	06 51 29.6	+2.0
LKD2	Lefkada island	2.49	162	P	Pn	06 50 58.8	+0.1
BOSS	Bosilegrad	2.50	57	*e*Pg	Pn	06 51 00.4	+1.5
BBLS	Lazići	2.71	356	*e*Pg	Pb	06 51 08.8	+1.7
MAKA	Makarska	2.89	318	*e*Pn	Pn	06 51 04.0	-0.2
MAKA				Sn	Sn	06 51 36.6	-1.7
DIVS	Divibare	2.95	5	*e*Pg	Pb	06 51 11.5	+0.3
DIVS				*e*Sn	Sn	06 51 43.0	+3.0
ZAPS	Zavoj	3.06	45	*e*Pg	Pb	06 51 12.4	-0.7
ZAPS				*e*Sn	Sn	06 51 42.1	-0.7
HVAR	Hvar	3.12	311	*e*Pn	Pn	06 51 07.1	-0.2
HVAR				Sn	Sn	06 51 42.2	-1.9
ZAGS	Zajecar	3.27	35	*e*Pn	Pn	06 51 09.7	+0.3
KIJV	Kijevo	3.72	321	*e*Pn	Pn	06 51 15.9	+0.3
KIJV				Sn	Sn	06 51 58.4	-0.5
ZIRJ	Zirje	3.87	311	*e*Pn	Pn	06 51 18.0	+0.3
ZIRJ				Sn	Sn	06 52 02.6	-0.1
MORI	Morici	3.98	314	*e*Pn	Pn	06 51 19.8	+0.7
MORI				Sn	Sn	06 52 03.6	-1.6
DUGI	Dugi Otok	4.42	311	*e*Pn	Pn	06 51 25.4	+0.3
DUGI				Sn	Sn	06 52 15.1	-1.0
BRJN	Brijuni	5.72	313	*e*Pn	Pn	06 51 42.9	-0.1
BRJN				Sn	Sn	06 52 46.2	-1.9

*IDC **08** 07:02:43.7±0.8,50°03'S×127°02'E,h0km,mb4.5/9, mb1 4.6/9,mb1mx4.2/29,mbtmp4.4/9,Error ellipse: s-maj=44.8km s-min=15.2km az=102.0*
*NEIC **08** 07:02:45.3±1.3,50°04'S±0°09'×127°0E±0°3,h10km±1km, mb4.4/12,Error ellipse: s-maj=37.2km s-min=8.9km az=289.0*

ISC 08 07:02:45.3±0.7,**50°06S**±0°10'×**127°0E**±0°2,**h10**km,**n33,** σ0§**49**/27,**mb4.4/9,Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	Cape Leeuwin H	17.85	323	T	T	07 25 08.0	
	baz=150,slow=74,SNR=62						
H01W2	Cape Leeuwin H	17.85	323	T	T	07 25 04.4	
	baz=150,slow=74,SNR=70						
H01W3	Cape Leeuwin H	17.86	323	T	T	07 25 06.6	
	baz=150,slow=74,SNR=55						
CASY	Casey	18.34	201	P	P	07 06 59.3	-0.2
CASY				IAmb	IAmb	07 07 00.7	
	comp=Z,16nm,1.1s						
BBOO	Buckleboo	18.48	25	P	Pn	07 07 02.3	+0.8
BBOO				IAmb	IAmb	07 07 04.7	
	comp=Z,32nm,1.5s						
FORT	Forrest	19.27	3	P	P	07 07 09.2	-0.8
FORT				IAmb	IAmb	07 07 12.8	
	comp=Z,41nm,1.1s						
STKA	Stephens Creek	21.16	36	P	P	07 07 30.8	+0.2
	comp=Z,12nm,0.9s,baz=198,slow=12,SNR=18						
STKA	Stephens Creek	21.16	36	P	P	07 07 31.0	+0.5
ASAR	Alice Springs	26.88	14	P	P	07 08 25.6	-0.7
	comp=Z,6.8nm,0.7s,baz=187,slow=9.3,SNR=37						
AS31	Alice Springs	26.88	14	P	P	07 08 25.7	-0.6
ARMA	Armidale	26.94	52	P	P	07 08 26.6	-0.3
VNDA	Vanda	30.53	166	P	P	07 08 57.8	-0.5
	comp=Z,3.3nm,1.1s,baz=318,slow=8.2,SNR=11						
VNDA	Vanda	30.53	166	P	P	07 08 58.1	-0.1
VNDA				IAmb	IAmb	07 08 59.7	
	comp=Z,7.0nm,1.4s						
WRA	Warramunga Arr	30.60	14	P	P	07 08 58.7	-0.8
	comp=Z,1.5nm,0.7s,baz=187,slow=12,SNR=6.7						
WB2	Warramunga Arr	30.61	14	P	P	07 08 60.0	+0.5
WR0	Warramunga Arr	30.62	14	P	P	07 08 59.7	+0.1
WR0				IAmb	IAmb	07 09 00.8	
	comp=Z,11nm,1.2s						
WB0	Warramunga Arr	30.78	14	P	P	07 09 00.6	-0.4
MAW	Mawson	35.53	216	P	P	07 09 42.0	+0.1
	comp=Z,4.9nm,0.9s,baz=68,slow=11,SNR=4.5						
MAW	Mawson	35.53	216	P	P	07 09 42.3	+0.4
QSPA	South Pole Qui	40.06	180	P	P	07 10 20.5	0.0
	comp=Z,10nm,1.1s,baz=270,slow=0.8,SNR=17						
QSPA	South Pole Qui	40.06	180	P	P	07 10 20.9	+0.4
QSPA				IAmb	IAmb	07 10 21.8	
	comp=Z,7.4nm,0.8s						
SNAA	Sanae	53.52	198	P	P	07 12 05.7	+0.2
SNAA	Sanae	53.52	198	P	P	07 12 05.7	+0.2
	comp=Z,14nm,0.9s,baz=171,slow=11,SNR=62						
SNAA	Sanae	53.52	198	P	P	07 12 05.7	+0.2
VNA2	Neumayer--Watz	54.99	197	P	P	07 12 16.4	+0.3
	baz=151,slow=7.4						
VNA3	Neumayer Olymp	55.13	196	P	P	07 12 17.2	0.0
VNA1	Neumayer--Stat	55.38	197	P	P	07 12 19.4	+0.4
H08S2	Diego Garcia H	61.86	294	T	T	08 19 58.1	
	baz=144,slow=76,SNR=7.6						
H08S1	Diego Garcia H	61.87	294	T	T	08 20 00.9	
	baz=144,slow=76,SNR=5.9						
H08S3	Diego Garcia H	61.88	294	T	T	08 20 01.4	
	baz=144,slow=76,SNR=11						
CMAR	Chiang Mai Arr	72.59	332	P	P	07 14 12.8	+0.1
	comp=Z,0.7nm,0.3s,baz=201,slow=4.7,SNR=1.6						
SONM	Songino Array	99.12	346	P	Pdif	07 16 25.1	-1.1
	comp=Z,0.5nm,0.4s,baz=163,slow=6.0,SNR=2.3						
YKA	Yellowknife Ar	145.01	45	PKPbc	PKPdf	07 22 21.2	-0.2
	comp=Z,0.7nm,0.7s,baz=254,slow=3.8,SNR=12						

*IDC **08** 07:10:11.2±2.4,60°13S×26°64W,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.7/16,mbtmp3.8/3,ML4.2/1,MS3.4/4, Ms1 3.4/4,ms1mx3.2/15,Error ellipse: s-maj=108.3km s-min=36.3km az=97.0*

ISC 08 07:10:15.1±1.5,**60°3S**±0°2×**25°7W**±0°4,**h19**km,**n16,** σ2§**31**/10,**MS3.5/4,South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	12.61	153	P	Pn	07 13 16.1	+3.0
VNA3	Neumayer Olymp	12.75	156	P	Pn	07 13 16.5	+1.4
	baz=170,slow=3.8						
VNA2	Neumayer--Watz	13.00	153	P	Pn	07 13 21.1	+2.6
	baz=303,slow=15						
SNAA	Sanae	14.59	151	P	P	07 13 43.8	-2.7
SNAA	Sanae	14.59	151	Pn	Pn	07 13 42.7	+2.5
	1.0nm,0.3s,baz=4.0,slow=8.6,SNR=34						
SNAA				Sn	Sn	07 16 19.4	-1.7
	0.2nm,0.3s,baz=311,slow=21,SNR=7.6						
PLCA	Paso Flores	33.70	285	LR	LR	07 29 37.9	
	comp=Z,122nm,18.4s,baz=139,slow=35						
VNDA	Vanda	42.37	182	P	P	07 18 07.3	0.0
	0.8nm,0.9s,baz=198,slow=5.3,SNR=2.8						
BOSA	Boshof	46.44	70	LR	LR	07 35 14.3	
	comp=Z,56nm,20.1s,baz=204,slow=32						
H10N1	ASCENSION HYDR	53.00	14	T	T	08 17 49.8	
	baz=186						
H10N3	ASCENSION HYDR	53.00	14	T	T	08 17 45.7	
	baz=186						
H10N2	ASCENSION HYDR	53.01	14	T	T	08 17 49.2	
	baz=186						

LPAZ	La Paz	53.50	306	LR	LR	07 43 23.3		
	comp=Z,13nm,20.4s,baz=124,slow=38							
DBIC	Dimbokro	68.74	22	LR	LR	07 45 46.8		
	comp=Z,26nm,18.7s,baz=143,slow=31							
TORD	Torodi Ar. Bea	76.40	27	P	P	07 22 02.4	-0.5	
	0.4nm,0.6s,baz=196,slow=6.6,SNR=1.5							
ZALV	Zalesovo Beam	143.37	68	PKP	PKPdf	07 29 46.1	-0.6	
	0.5nm,0.3s,baz=251,slow=4.4,SNR=1.7							
SONM	Songino Array	149.96	93	PKPab	PKPab	07 30 10.3	+1.4	
	0.7nm,0.4s,baz=238,slow=2.5,SNR=4.1							

UCR 08 07:21:26.3±1.8,9°63N×84°78W,**h11**km±9km,**MD3.7, 2C-1D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRA1	San Ramn	0.54	33	*i* P	Pg	07 21 36.9	+0.1
SRA1				*e*S	Sb	07 21 44.9	-0.8
JTS	Las Juntas de	0.68	345	⇓*i* P	Pg	07 21 38.9	-0.6
JTS				*e*S	Sg	07 21 48.5	0.0
HDC	Heredia	0.75	60	*e*P	Pg	07 21 40.2	-0.6
HDC				*e*S	Sb	07 21 52.1	+0.3
LCR2	La Lucha 2	0.77	82	*e*P	Pg	07 21 40.2	-1.0
LCR2				*e*S	Sg	07 21 51.7	+0.3
ARE1	Arenal 1	0.83	4	*e*P	Pg	07 21 42.1	-0.2
ARE1				*e*S	Sb	07 21 54.5	+0.6
PLVR	Palo Verde	0.91	322	*e*P	Pg	07 21 42.9	-1.0
PLVR				*e*S	Sg	07 21 55.8	0.0
ACAL	Aguas Claras	1.03	346	*i* P	Pg	07 21 45.0	-1.1
CUI	Cuipilapa	1.09	340	⇑*e*P	Pb	07 21 45.8	-1.4
CUI				*e*S	Sb	07 22 00.7	-0.8
EDBA	Buenos Aires	1.55	107	*e*P	Pn	07 21 54.3	+0.3
EDBA				*e*S	Sb	07 22 15.1	+0.3
DRK0	Durika	1.56	103	*e*P	Pn	07 21 52.6	-1.5
DRK0				*e*S	Sn	07 22 12.4	-1.9

*IDC **08** 07:31:45.1±5.6,27°34N×111°69W,h0km,mb1 3.5/3, mb1mx3.3/33,mbtmp3.0/3,ML4.0/2,Error ellipse: s-maj=74.3km s-min=21.3km az=17.0*
*MEX **08** 07:31:48.4±0.5,27°70N×111°75W,h7km±8km,MD3.8*

ISC 08 07:31:47.1±1.6,**27°4N**±0°2×**111°60W**±0°09,**h10**km,**n6,** σ1§**36**/7,**Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	Santa Rosalia	0.57	263	*e*P	Pb	07 31 58.9	-0.4
SRIG				*i* S	Sb	07 32 06.8	-0.7
GUYB	Guaymas	0.82	52	*e*P	Pg	07 32 02.1	-0.9
GUYB				*i* S	Sg	07 32 12.7	-0.9
TXAR	Lajitas Array	7.25	73	Pn	Pn	07 33 34.6	+1.3
	0.5nm,0.3s,baz=248,slow=13,SNR=27						
TXAR				Lg	Lg	07 35 36.5	
	0.5nm,0.3s,baz=249,slow=30,SNR=7.3						
ANMO	Albuquerque	8.72	29	Lg	Lg	07 36 12.1	
	0.1nm,0.3s,baz=310,slow=6.9,SNR=4.0						
NVAR	Mina Array Bea	12.36	335	Pn	Pn	07 34 44.9	+1.6
	0.1nm,0.3s,baz=150,slow=17,SNR=2.2						
PDAR	Pinedale Array	15.43	6	Pn	P	07 35 28.7	-1.0
	0.1nm,0.3s,baz=179,slow=14,SNR=4.0						

*NEIC **08** 07:49:40.2±1.1,17°09N±0°05×94°32W±0°05,h159km±5km, Error ellipse: s-maj=7.6km s-min=6.6km az=52.0*
*MEX **08** 07:49:40.4±0.9,17°25N×94°32W,h168km±7km,MD4.1*

ISC 08 07:49:40.1±0.9,**17°15N**±0°09×**94°32W**±0°04,**h159**km±8km, **n16,**σ0§**81**/26,**Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	Matias Romero	0.54	264		Pn	07 50 03.1	+0.5
CMIG					Sn	07 50 19.6	-0.2
CMIG	Matias Romero	0.54	264	*i* P	Pn	07 50 03.1	+0.5
CMIG				*e*S	Sn	07 50 19.6	-0.2
TGIG		1.21	108		Pn	07 50 07.7	+0.1
TGIG					Sn	07 50 27.2	-1.5
TGIG		1.21	108	*i* P	Pn	07 50 07.7	+0.1
TGIG				*i* S	Sn	07 50 28.5	-0.1
HUIG	Huatulco	2.20	232		Pn	07 50 17.4	-0.7
HUIG					Sn	07 50 47.6	+0.2
HUIG	Huatulco	2.20	232	*e*P	Pn	07 50 17.4	-0.7
HUIG				*e*S	Sn	07 50 47.6	+0.2
CCIG	Comitan	2.27	112		Pn	07 50 19.2	+0.1
CCIG				Sn	Sn	07 50 48.7	-0.4
VHO	Vista Hermosa	2.31	268	*e*P	Pn	07 50 20.1	+0.6
VHO				*e*S	Sn	07 50 50.1	+0.1
TOIG	Toxpalan	2.78	290	*e*P	Pn	07 50 24.9	+0.3
TOIG				*e*S	Sn	07 50 57.9	-2.2
TLIG	Tlapa	4.07	276	Pn	Pn	07 50 41.8	+0.2
TLIG					Sn	07 51 30.2	+0.6
PLAL	Pickwick Lake	18.61	16	P	P	07 53 45.8	+0.5
TZTN	Tazewell	21.55	24	P	P	07 54 17.9	+1.0
TZTN				IAmb	IAmb	07 54 29.0	
	comp=Z,5.3nm,1.2s						
HDIL	Hopedale	23.73	10	P	P	07 54 38.7	+1.2
HDIL				IAmb	IAmb	07 54 40.5	
	comp=Z,15nm,0.8s						
L40A	Anamosa	24.97	5	P	P	07 54 49.8	+1.0
L40A				IAmb	IAmb	07 54 50.1	
	comp=Z,11nm,1.4s						
YERR	Yerington	30.75	320	P	P	07 55 40.4	-0.2
MCMT	McKenzie Canyo	31.68	334		S	08 00 45.4	-1.2

*NEIC **08** 07:50:06.5±1.6,61°49N±0°01×140°71W±0°03,h2km,8km, Error ellipse: s-maj=2.7km s-min=0.8km az=124.0*
*AEIC **08** 07:50:06±1.9,61°50N±0°01×140°73W±0°04,h5km±5km, Error ellipse: s-maj=2.9km s-min=1.9km az=100.0*
*PGC **08** 07:50:07.4±0.0,61°49N×140°70W,h5km,ML2.7/11, 189km Wnw of Haines Jct., Yt Southern Yukon Territory, Canada*

ISC 08 07:50:06.6±1.0,**61°49N**±0°02×**140°72W**±0°02,**h5**km±9km, **n62,**σ0§**82**/92,**Southern Yukon Territory**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK2	White River	0.31	349	P	Pg	07 50 12.6	0.0
YUK2				S	Sg	07 50 17.1	+0.5
YUK2	White River	0.31	349		Pg	07 50 12.4	-0.2
YUK2					Sg	07 50 17.5	+0.8
YUK3	Moose Creek	0.32	23	P	Pg	07 50 12.4	-0.3
YUK3				S	Sg	07 50 17.0	0.0
YUK3	Moose Creek	0.32	23		Pg	07 50 12.4	-0.3
YUK3					Sg	07 50 17.3	+0.3
BARN	Barnard Glacie	0.62	227		Pg	07 50 18.4	-0.2
BARN					Sg	07 50 27.8	+1.2
YUK1	Sand Pete Hill	0.68	8	P	Pg	07 50 18.9	-0.7
YUK1				S	Sg	07 50 28.0	-0.3
YUK1	Sand Pete Hill	0.68	8		Pg	07 50 18.8	-0.7
YUK1					Sg	07 50 28.4	0.0
BALM	Baldy	0.91	241	P	Pg	07 50 23.3	-0.6
BALM				S	Sg	07 50 36.2	+0.6
BALM	Baldy	0.91	241		Pg	07 50 23.3	-0.6
BVCY	Beaver Creek	0.94	356	P	Pg	07 50 23.6	-0.8
BVCY				S	Sg	07 50 36.1	-0.5
BVCY	Beaver Creek	0.94	356		Pg	07 50 23.6	-0.8
KIAG	Kiagna River	0.97	235	P	Pg	07 50 24.6	-0.6
KIAG				S	Sg	07 50 38.7	+0.9
KIAG	Kiagna River	0.97	235		Pg	07 50 24.6	-0.6
KIAG					Sg	07 50 38.9	+1.1
YUK4	Talbot Arm	1.01	97	P	Pg	07 50 26.2	+0.3
MCARA	McCarthy VSAT	1.11	266		Pb	07 50 27.3	-1.0
MCARA					Sg	07 50 43.3	+1.1
RKAV	Rock Avalanche	1.23	195	P	Pn	07 50 29.2	-1.3
RKAV				S	Sb	07 50 45.0	-1.5
RKAV	Rock Avalanche	1.23	195		Pn	07 50 29.4	-1.1
YAH	Yahtse	1.23	204		Pn	07 50 29.8	-0.9
YAH					Sb	07 50 47.2	+0.4
YUK6	Outpost Mounta	1.26	114	P	Pn	07 50 29.7	-1.4
YUK6				S	Sb	07 50 47.1	-0.5
YUK6	Outpost Mounta	1.26	114		Pn	07 50 30.0	-1.1
YUK6					Sg	07 50 47.9	+0.8
VRDI	Verde Repeater	1.34	260	Pn	Pn	07 50 30.9	-1.3
VRDI					Pb	07 50 49.9	-1.3
VRDI					Sb	07 50 49.6	-0.2
PCA	Pinnacle	1.41	171	Pn	Pn	07 50 33.0	0.0
PCA				Sg	Sb	07 50 52.1	+0.4
PCA	Pinnacle	1.41	171		Pn	07 50 33.0	0.0
YUK5	Granite Creek	1.43	103	Pn	Pn	07 50 32.1	-1.1
YUK5				Sg	Sn	07 50 51.8	-0.7
YUK5	Granite Creek	1.43	103		Pn	07 50 33.4	+0.2
MESA	MESA	1.44	205	Pn	Pn	07 50 33.9	+0.4
MESA				Sg	Sn	07 50 52.9	0.0
MESA	MESA	1.44	205		Pn	07 50 34.0	+0.5
WAX	Waxell Ridge	1.47	226		Pn	07 50 33.4	-0.4
GLB	Gilahina Butte	1.48	270		Pn	07 50 33.8	-0.2
YUK7	Dusty Glacier	1.58	126	Pn	Pn	07 50 35.6	+0.2
YUK7				Sg	Sb	07 50 56.9	+0.2
YUK7	Dusty Glacier	1.58	126		Pn	07 50 35.7	+0.3
KHIT	Khitrov Hills	1.62	231		Pn	07 50 36.4	+0.6
BC03		1.66	343		Pn	07 50 36.0	-0.3
HYT	Haines Junctio	1.69	112	Pn	Pn	07 50 37.4	+0.5
HYT				Sg	Sb	07 50 59.5	-0.4
HYT	Haines Junctio	1.69	112		Pn	07 50 37.4	+0.5
GRIN	Grindle Hills	1.75	228		Pn	07 50 38.8	+1.1
BERG	Berg Lake	1.82	234		Pn	07 50 39.6	+1.0
PNL	Peninsula	1.94	160	Pn	Pn	07 50 41.3	+1.2
PNL				Sg	Sb	07 51 08.3	+1.5
PNL	Peninsula	1.94	160		Pb	07 50 41.9	-0.4
MENT	Mentasta	2.02	317		Pn	07 50 41.4	0.0
GOAT	Goat Mountain	2.15	247		Pn	07 50 44.8	+1.7
HARP	HAARP	2.29	296	Pg	Pb	07 50 48.6	+0.3
EYAK	Cordova Ski Ar	2.62	251		Pn	07 50 49.8	+0.3
DAWY	Dawson	2.66	13	Pn	Pn	07 50 50.3	+0.2
DAWY				Sn	Sn	07 51 21.9	-0.9
DAWY				Sg	Sb	07 51 29.2	+1.6
DAWY	Dawson	2.66	13		Pn	07 50 50.2	+0.2
DOT	Dot Lake	2.67	326	Pn	Pn	07 50 50.0	-0.1
DOT				Sg	Sb	07 51 29.3	+1.5
DOT	Dot Lake	2.67	326		Pn	07 50 50.4	+0.2
WHY	Whitehorse	2.96	104	Pn	Pn	07 50 54.6	+0.4
WHY				Sn	Sn	07 51 31.1	+1.0
WHY				Sg	Sb	07 51 38.3	+2.1
WHY	Whitehorse	2.96	104		Pn	07 50 54.6	+0.4
PLBC	Pleasant Camp	2.96	131	Pg	Pb	07 51 00.1	+0.3
PLBC				Sg	Sg	07 51 39.5	-2.2
EGAK	Eagle	3.31	357		Pn	07 50 59.7	+0.7
SKAG	Skagway	3.35	125	Pn	Pn	07 50 59.3	-0.3
DHY	Denali Highway	3.50	300		Pn	07 51 01.7	0.0
HDA	Harding Lake	4.09	319		Pn	07 51 09.5	-0.1
PS08	TAPS Pump Stn8	4.14	320		Pn	07 51 09.3	-1.0
IL31		4.33	322		Pn	07 51 12.0	-0.9
WRH	Wood River Hil	4.50	315		Pn	07 51 15.2	-0.1
CCB	Clear Creek Bu	4.52	318		Pn	07 51 15.5	-0.1
JIS	Juneau Island	4.53	132	Pn	Pn	07 51 16.3	+0.6
TRF	Thorofare Moun	4.86	298		Pn	07 51 21.1	+0.7
FYU	Fort Yukon	5.47	341	Pn	Pn	07 51 29.2	+0.6
BM03	Burnt Mountain	6.19	346		Pn	07 51 39.4	+0.9

TRN 08 08:02:41.7,16°91N×61°13W,h24km,MD3.6,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABD	La Joyeuse, An	0.55	218	*e*P	Pn	08 02 54.5	+0.4
ABD				*e*S	Sn	08 03 04.2	+1.7
CBE	Ff, Capester	0.95	209	*e*P	Pn	08 03 00.8	+1.2
CBE				*e*S	Sn	08 03 16.3	+3.8
ANWB	Willy Bob	0.98	320	*e*P	Pb	08 03 00.9	+1.0
ANWB				*e*S	Sn	08 03 15.4	+2.3
MLYT	Lee's Yard	1.03	260	*e*P	Pb	08 03 02.7	+1.8
MLYT				*e*S	Sn	08 03 18.1	+3.6
TDBA	Terre de Bas,	1.16	205	*e*P	Pb	08 03 04.5	+1.4
TDBA				*e*S	Sb	08 03 20.1	+2.3
SKI	Saint Kitts	1.59	285	*e*P	Pb	08 03 10.7	+0.2
SKI				*e*S	Sb	08 03 31.4	+1.2
MPOM	Morne Pois Mar	2.47	174	*e*P	Pn	08 03 22.6	+2.2

*KRNET **08** 08:08:49.8±0.1,39°75N×77°40E,mb2.9*
*NNC **08** 08:08:50.7±1.4,39°93N×77°05E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=9.5km s-min=7.5km az=172.0*

ISC 08 08:08:55.7±2.5,**40°1N**±0°1×**77°15E**±0°06,**h10**km,**n26,** σ1§**40**/36,**11C-15D,Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.74	16	⇓*i* P	Pn	08 09 25.3	-1.0
	baz=9.0						
TARG				⇓*i* S	Sg	08 09 51.3	-0.3
	baz=9.0						
KDJ	Kajisay	2.06	1	⇑*e*P	Pn	08 09 30.7	+0.1
	baz=56						
KDJ				⇑*i* S	Sb	08 10 00.2	+1.0
	baz=56						
ULHL	Ulahol	2.29	343	⇑*i* P	Pn	08 09 34.2	+0.5
	baz=41						
ULHL				⇑*i* S	Sb	08 10 06.8	+1.2
	baz=41						
KZA	Kyzart	2.47	325	⇓*i* P	Pn	08 09 36.9	+0.5
	baz=26						
KZA				⇓*i* S	Sb	08 10 11.6	+0.5
	baz=26						
BOOM	Boomskoye usch	2.59	340	⇓*i* P	Pn	08 09 38.3	+0.5
	baz=39						
BOOM				⇓*i* S	Sb	08 10 13.8	-0.5
	baz=39						
PRZ	Przheval'sk	2.59	21	⇓*e*P	Pn	08 09 36.6	-1.3
	baz=15						
PRZ				⇓*i* S	Sn	08 10 11.1	+1.5
	baz=15						
ANVS	Anan'yevo	2.75	8	⇑*i* P	Pn	08 09 39.7	-0.3
	baz=4.0						
ANVS				⇑*i* S	Sb	08 10 16.2	-2.5
	baz=4.0

2.9nm,0.5s
KUU Kurty 3.88 351 Pg Pb 08 10 02.9 -1.2
1.1nm,0.2s
KUU Lg Lg 08 10 56.4
5.6nm,0.9s
MRKS Merke 3.99 314 Pg Pb 08 10 04.4 -1.7
7.2nm,0.6s
MRKS Lg Lg 08 10 58.8
MNBS Baschi 4.12 13 Pg Pb 08 10 09.3 +1.0
2.1nm,0.3s
MNBS Lg Lg 08 11 07.2
DJR Jarkent 4.69 24 Pg Pb 08 10 18.2 +0.1
0.8nm,0.4s
DJR Lg Lg 08 11 23.2
1.9nm,0.4s

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*NEIC **08** 08:13:49.7, 32°.58S×71°.90W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr3.50; Mθθ-0.00; Mφφ-3.50; Mrθ-0.16; Mθφ0.30; Mφr-2.94; Fault plane solution: M0 4.58000×10^15^ NP1:φs180.27000°, δ65.01000°, λ94.35000°. NP2:φs350.05000°, δ25.34000°, λ80.75000°. Principal axes: T 4.5842, Plg70.0000°, Azm99.0000°; N -0.0067, Plg4.0000°, Azm358.0000°; P -4.5775, Plg20.0000°, Azm267.0000°;*
*UNK **08** 08:13:50.0, 32°.59S×71°.92W, h16km*
*VAO **08** 08:13:49.9±5.6, 32°.61S×71°.85W, h26km±28km, mb4.5*
*SJA **08** 08:13:50.4±0.8, 32°.57S×71°.82W, h10km±6km, ML4.4, MW4.2*
*NEIC **08** 08:13:51.2±1.6, 32°.55S±0°.04×71°.80W±0°.05, h22km±3km, Error ellipse: s-maj=6.1km s-min=5.1km az=48.0*
*GUC **08** 08:13:52.3±0.8, 32°.60S×71°.67W, h20km±6km, ML4.4*
*IDC **08** 08:13:53.9±2.6, 32°.59S×71°.77W, h47km±23km, mb4.1/11, mb1 4.3/14, mb1mx4.2/24, mbtmp4.4/14, ML4.6/3, MS3.8/8, ms1 3.8/8, ms1mx3.5/22, Error ellipse: s-maj=22.6km s-min=18.4km az=88.0*
ISC 08 08:13:49.2±1.1, 32°.58S±0°.02×71°.99W±0°.04, h14km±6km, n530, σ1°25/556, mb4.8/65, MS3.7/5, 8C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.91**	**116**		**Pb**	**08 14 06.4**	**-0.6**
ROC1				Sg	**Sb**	**08 14 17.6**	**-1.5**
ROC1	**El Roble**	**0.91**	**116**	*i* P	**Pb**	**08 14 06.6**	**-0.4**
ROC1				*e*S	**Sb**	**08 14 17.6**	**-1.5**
ROCH	**El Roble**	**0.91**	**116**	⇓*i*P	**Pb**	**08 14 06.5**	**-0.5**
ROCH				*i* S	**Sb**	**08 14 16.9**	**-2.2**
MT02	**Curacav**	**0.99**	**134**	⇓*i*P	**Pb**	**08 14 07.7**	**-0.5**
MT02				*i* S	**Sb**	**08 14 19.4**	**-1.6**
MT02	**Curacav**	**0.99**	**134**		**Pb**	**08 14 07.6**	**-0.5**
MT02				Sg	**Sb**	**08 14 19.4**	**-1.6**
VA03	**San Esteban**	**1.23**	**99**	⇓*i*P	**Pn**	**08 14 10.9**	**-1.1**
VA03				*i* S	**Sb**	**08 14 25.0**	**-3.0**
VA03				IAML		08 14 27.2	
	comp=E,16μm,0.2s						
VA03	**San Esteban**	**1.23**	**99**		**Pn**	**08 14 10.9**	**-1.1**
PEL	**Peldehue**	**1.23**	**118**	*e*P	**Pn**	**08 14 11.1**	**-1.0**
PEL				*i* S	**Sb**	**08 14 25.7**	**-2.5**
PEL				IAML		08 14 29.4	
	comp=E,18μm,0.3s						
PEL	**Peldehue**	**1.23**	**118**		**Pn**	**08 14 11.6**	**-0.5**
PEL				Sg	**Sb**	**08 14 27.0**	**-1.2**
PEL	**Peldehue**	**1.23**	**118**	*i* P	**Pn**	**08 14 11.7**	**-0.4**
PEL				*i* S	**Sb**	**08 14 27.0**	**-1.2**
MT05	**Renca**	**1.33**	**128**		**Pn**	**08 14 13.3**	**-0.1**
MT01	**Popeta**	**1.43**	**155**	⇑*i*P	**Pn**	**08 14 14.9**	**+0.2**
MT01				*i* S	**Sn**	**08 14 32.8**	**-0.6**
MT01	**Popeta**	**1.43**	**155**		**Pn**	**08 14 14.9**	**+0.2**
MT01				Sn	**Sn**	**08 14 32.3**	**-1.1**
CLCH	**Cerro Calan**	**1.47**	**124**	⇓*i*P	**Pn**	**08 14 15.5**	**+0.1**
CLCH				*i* S	**Sn**	**08 14 33.5**	**-0.9**
CLCH				IAML		08 14 37.5	
	comp=E,14μm,0.6s						
MT03	**Universidad Ad**	**1.54**	**127**	*e*P	**Pn**	**08 14 16.6**	**+0.2**
MT03				*i* S	**Sn**	**08 14 35.8**	**-0.6**
MT03				IAML		08 14 41.1	
	comp=N,15μm,0.2s						
CO02	**Combarbal**	**1.60**	**32**	⇑*i*P	**Pn**	**08 14 17.5**	**+0.2**
CO02				*i* S	**Sb**	**08 14 37.7**	**-1.3**
CO02				IAML		08 14 39.0	
	comp=E,20μm,0.3s						
CO02	**Combarbal**	**1.60**	**32**		**Pn**	**08 14 17.5**	**+0.2**
CO03	**El Pedregal**	**2.06**	**33**	⇑*i*P	**Pn**	**08 14 24.0**	**+0.5**
CO03				*e*S	**Sn**	**08 14 49.1**	**+0.2**
CO03				IAML		08 14 59.3	
	comp=E,4μm,0.4s						
CO03	**El Pedregal**	**2.06**	**33**	Pn	**Pn**	**08 14 23.8**	**+0.3**
AUSP	**Uspallata**	**2.23**	**82**	*e*P	**Pb**	**08 14 28.6**	**-0.9**
BO02	**Sierra Bellavi**	**2.43**	**156**	*e*P	**Pn**	**08 14 29.3**	**+0.7**
BO02				IAML		08 15 14.6	
	comp=E,4μm,0.4s						
BO02	**Sierra Bellavi**	**2.43**	**156**	Pn	**Pn**	**08 14 29.6**	**+1.0**
GO05	**Huala**	**2.43**	**179**	⇑*i*P	**Pn**	**08 14 28.4**	**-0.1**
GO05				IAML		08 15 13.6	
	comp=E,1μm,0.4s						
GO05	**Huala**	**2.43**	**179**		**Pn**	**08 14 28.4**	**-0.1**
GO05	**Huala**	**2.43**	**179**	*i* P	**Pn**	**08 14 28.5**	**-0.1**
GO05				*e*S	**Sg**	**08 15 06.1**	**-1.2**
GO04	**Tololo Observa**	**2.60**	**23**	⇑*i*P	**Pn**	**08 14 31.3**	**+0.1**
GO04				*i* S	**Sb**	**08 15 07.1**	**-0.7**
GO04	**Tololo Observa**	**2.60**	**23**	*e*P	**Pn**	**08 14 31.4**	**+0.3**
GO04	**Tololo Observa**	**2.60**	**23**	*e*P	**Pn**	**08 14 31.3**	**+0.1**
GO04				*i* S	**Sb**	**08 15 07.1**	**-0.7**
UTNM	**Universidad Te**	**2.66**	**98**	*i* P	**Pb**	**08 14 36.0**	**-0.7**
UTNM				*e*S	**Sb**	**08 15 09.9**	**+0.7**
UTNM				IAML		08 15 13.3	
	comp=Z,752nm,2.1s						
ZON	**Zonda**	**2.99**	**71**		**Pn**	**08 14 39.0**	**+2.7**
ZON	**Zonda**	**2.99**	**71**	*i* P	**Pb**	**08 14 40.2**	**-2.1**
ZON				*e*S	**Sb**	**08 15 17.1**	**-1.7**
ZON				IAML		08 15 34.7	
	comp=Z,887nm,1.9s						
RTCV	**Cerro Valdivia**	**3.01**	**77**	*e*P	**Pn**	**08 14 39.1**	**+2.6**
RTCV				IAML		08 15 26.2	
	comp=Z,1μm,2.1s						
CO01	**Juntas del Tor**	**3.06**	**33**	*e*P	**Pn**	**08 14 38.4**	**+1.0**
CO01				IAML		08 15 23.9	
	comp=E,1μm,0.5s						
CO01	**Juntas del Tor**	**3.06**	**33**		**Pn**	**08 14 38.9**	**+1.5**
ACCO	**Cerro Coronel**	**3.19**	**52**	*e*P	**Pn**	**08 14 42.0**	**+2.8**
ACCO				*e*S	**Sb**	**08 15 22.3**	**-2.3**
ACCO				IAML		08 15 35.6	
	comp=Z,1μm,1.2s						
COIS	**El Sosneado**	**3.22**	**142**	*e*P	**Pb**	**08 14 47.6**	**+1.4**
AROD	**Rodeo**	**3.22**	**42**	*e*P	**Pn**	**08 14 42.4**	**+2.6**
AROD				*e*S	**Sb**	**08 15 26.6**	**+0.9**
RTLL	**Cerro Villicun**	**3.23**	**68**	*e*P	**Pn**	**08 14 41.9**	**+2.2**
RTLL				*e*S	**Sn**	**08 15 20.5**	**+2.5**
RTLL				IAML		08 15 35.2	
	comp=Z,998nm,1.0s						
LAMA	**Las Malvinas**	**3.30**	**136**	*e*P	**Pn**	**08 14 43.5**	**+3.0**
CFA	**Coronel Fontan**	**3.33**	**74**	P	**Pn**	**08 14 42.8**	**+1.9**
	comp=Z,34nm,0.3s,baz=230,slow=7.3,SNR=114						
CFA				S	**Sb**	**08 15 24.4**	**-4.0**
	comp=Z,85nm,0.3s,baz=78,slow=9.1,SNR=9.7						
CFA				LR	LR	08 16 12.7	
	comp=Z,2μm,18.8s,baz=306,slow=44						
CFA	**Coronel Fontan**	**3.33**	**74**	*e*P	**Pn**	**08 14 43.0**	**+2.1**
CFA				*e*S	**Sb**	**08 15 27.4**	**-1.0**
CFA				IAML		08 15 33.2	
	comp=Z,544nm,0.8s						
ACDV	**Cuesta del Vie**	**3.43**	**46**	*e*P	**Pn**	**08 14 45.2**	**+2.7**
ACDV				IAML		08 15 40.3	
	comp=Z,675nm,0.6s						
PUMA	**Malargue**	**3.59**	**145**	*e*P	**Pn**	**08 14 47.9**	**+3.4**
EDS3	**Malargue**	**3.84**	**147**	*i* P	**Pn**	**08 14 51.7**	**+3.6**
EDS3				*e*S	**Sb**	**08 15 46.7**	**+3.4**
AC05	**El Transito**	**4.01**	**22**	⇑*i*P	**Pn**	**08 14 50.9**	**+0.5**
AC05	**El Transito**	**4.01**	**22**	Pn	**Pn**	**08 14 51.0**	**+0.7**
ACAN	**Cantantal**	**4.07**	**87**	*e*P	**Pn**	**08 14 52.8**	**+1.7**
ACAN				IAML		08 16 00.5	
	comp=Z,228nm,0.5s						
BI03	**Tigo**	**4.34**	**191**	*i* S	**Sn**	**08 15 41.8**	**-3.5**
BI03	**Tigo**	**4.34**	**191**		**Pn**	**08 14 55.3**	**+0.5**
AC04	**Llanos de Chal**	**4.43**	**10**	*e*P	**Pn**	**08 14 55.0**	**-1.1**
AC04	**Llanos de Chal**	**4.43**	**10**	Pn	**Pn**	**08 14 55.2**	**-0.8**
GO03	**Copiap**	**5.19**	**17**	Pn	**Pn**	**08 15 06.1**	**-0.5**
GO03	**Copiap**	**5.19**	**17**	*e*P	**Pn**	**08 15 06.1**	**-0.5**
H03N1	**Juan Fernandez**	**5.88**	**260**	P	**Pn**	**08 15 17.7**	**+1.9**
	baz=207,slow=79,SNR=15						
H03N1				T	T	08 21 48.5	
	baz=88,slow=74,SNR=227						
H03N3	**Juan Fernandez**	**5.89**	**260**	P	**Pn**	**08 15 17.5**	**+1.6**
	baz=207,slow=79,SNR=16						
H03N3				T	T	08 21 52.1	
	baz=88,slow=74,SNR=321						
H03N2	**Juan Fernandez**	**5.90**	**260**	P	**Pn**	**08 15 17.8**	**+1.8**
	baz=207,slow=79,SNR=12						
H03N2				T	T	08 21 43.7	
	baz=88,slow=74,SNR=278						
H03S1	**Juan Fernandez**	**5.94**	**256**	P	**Pn**	**08 15 16.4**	**0.0**
	baz=103,slow=74,SNR=6.6						
H03S1				S	**Sn**	**08 16 19.2**	**-4.9**
	baz=124,slow=78,SNR=2.7						
H03S1				T	T	08 21 42.7	
	baz=82,slow=75,SNR=186						
H03S3	**Juan Fernandez**	**5.94**	**256**	P	**Pn**	**08 15 17.4**	**+1.0**
	baz=103,slow=74,SNR=7.4						
H03S3				S	**Sn**	**08 16 19.5**	**-4.7**
	baz=124,slow=78,SNR=3.5						
H03S3				T	T	08 21 44.0	
	baz=82,slow=75,SNR=210						
H03S2	**Juan Fernandez**	**5.95**	**256**	P	**Pn**	**08 15 16.4**	**-0.3**
	baz=103						
H03S2				S	**Sn**	**08 16 19.2**	**-5.3**
	baz=124,slow=78,SNR=4.3						
H03S2				T	T	08 21 43.6	
	baz=82,slow=75,SNR=310						
AC02	**Maricunga**	**6.24**	**24**	Pn	**Pn**	**08 15 21.3**	**0.0**
LC01	**Cunco**	**6.31**	**179**		**Pn**	**08 15 22.1**	**+0.3**
TCA	**Tanti**	**6.40**	**81**	*i* P	**Pn**	**08 15 23.5**	**+0.2**
TCA				*e*S	**Sn**	**08 16 36.8**	**+0.6**
TCA				IAML		08 16 45.2	
	comp=Z,553nm,1.0s						
CYA	**Choya**	**6.74**	**54**	*e*P	**Pn**	**08 15 26.8**	**-1.0**
CYA				*e*S	**Sn**	**08 16 46.8**	**+2.3**
CYA				IAML		08 17 19.6	
	comp=Z,140nm,0.8s						
GO02	**Mina Guanaco**	**7.68**	**16**	Pn	**Pn**	**08 15 38.5**	**-2.4**
PLCA	**Paso Flores**	**8.22**	**172**	P	**Pn**	**08 15 49.0**	**+0.8**
	comp=Z,2.9nm,0.3s,baz=336,slow=11,SNR=90						
PLCA				Lg	Lg	08 18 05.6	
	baz=270,slow=21,SNR=2.9						
PLCA				LR	LR	08 19 06.2	
	comp=Z,521nm,18.3s,baz=348,slow=38						
PLCA	**Paso Flores**	**8.22**	**172**	Pn	**Pn**	**08 15 49.6**	**+1.5**
PB15	**IPOC Station P**	**9.59**	**14**		**Pn**	**08 16 04.2**	**-3.0**
LVC	**Limon Verde**	**10.29**	**16**	P	**Pn**	**08 16 12.5**	**-4.4**
	comp=Z,0.6nm,0.3s,baz=124,slow=15,SNR=2.6						
LVC				S	**Sn**	**08 18 20.6**	**+8.2**
	comp=Z,1.1nm,0.3s,baz=213,slow=19,SNR=2.0						
LVC				LR	LR	08 20 15.7	
	comp=Z,588nm,21.4s,baz=212,slow=37						
LVC	**Limon Verde**	**10.29**	**16**		**Pn**	**08 16 14.9**	**-2.0**
LVC	**Limon Verde**	**10.29**	**16**	*e*P	**Pn**	**08 16 14.7**	**-2.2**
LVC	**Limon Verde**	**10.29**	**16**	*e*P	**Pn**	**08 16 14.7**	**-2.2**
PB07	**IPOC Station P**	**10.97**	**10**		**Pn**	**08 16 27.5**	**+1.5**
PB09	**IPOC Station P**	**11.01**	**13**		**Pn**	**08 16 27.7**	**+1.2**
PB11	**IPOC Station P**	**12.93**	**10**		**Pn**	**08 16 52.8**	**0.0**
GO01	**Chusmiza**	**13.10**	**12**	Pn	**Pn**	**08 16 57.3**	**+2.0**
MNMC	**Minye Minye**	**13.56**	**10**		**Pn**	**08 17 04.2**	**+2.7**
CPUP	**Villa Florida**	**14.22**	**68**	Pn	**Pn**	**08 17 08.3**	**-1.7**
LPAZ	**La Paz**	**16.59**	**13**	P	**Pn**	**08 17 42.5**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=187,slow=7.6,SNR=44						
LPAZ	**La Paz**	**16.59**	**13**	Pn	**Pn**	**08 17 42.7**	**+0.6**
LPAZ					**P**	**08 17 42.9**	**-1.8**
LPAZ	**La Paz**	**16.59**	**13**	*e*P	**Pn**	**08 17 42.1**	**0.0**
LPAZ	**La Paz**	**16.59**	**13**	*e*P	**Pn**	**08 17 42.1**	**0.0**
AQDB	**Aquidauana**	**18.88**	**54**	*e*P	**P**	**08 18 08.2**	**-1.1**
AQDB	**Aquidauana**	**18.88**	**54**	*e*P	**P**	**08 18 08.2**	**-1.1**
PTLB	**Pontes e Lacer**	**20.67**	**37**	*e*P	**P**	**08 18 27.7**	**-1.0**
PTLB	**Pontes e Lacer**	**20.67**	**37**	*e*P	**P**	**08 18 27.7**	**-1.0**
NNA	**Nana**	**20.97**	**347**	LR	LR	08 25 05.8	
	comp=Z,112nm,18.4s,baz=178,slow=32						
PCMB	**Pacaembu**	**21.40**	**64**	*e*P	**P**	**08 18 34.9**	**-1.8**
PCMB	**Pacaembu**	**21.40**	**64**	*e*P	**P**	**08 18 34.9**	**-1.8**
EFI	**East Falkland**	**21.63**	**156**	P	**P**	**08 18 38.8**	**-0.1**
EFI				IAmb	IAmb	08 18 41.5	
	comp=Z,65nm,1.3s						
SALV	**Santo Antonio**	**22.23**	**46**	*e*P	**P**	**08 18 43.6**	**-2.0**
SALV	**Santo Antonio**	**22.23**	**46**	*e*P	**P**	**08 18 43.6**	**-2.0**
VILB	**Vilhena**	**22.32**	**32**	*e*P	**P**	**08 18 45.1**	**-1.4**
VILB	**Vilhena**	**22.32**	**32**	*e*P	**P**	**08 18 45.1**	**-1.4**
ITRB	**Iturama**	**23.21**	**62**	*e*P	**P**	**08 18 53.5**	**-2.4**
ITRB	**Iturama**	**23.21**	**62**	*e*P	**P**	**08 18 53.5**	**-2.4**
RCLB	**Rio Claro- Sao**	**23.89**	**71**	*e*P	**P**	**08 19 00.8**	**-1.8**
RCLB	**Rio Claro- Sao**	**23.89**	**71**	*e*P	**P**	**08 19 00.8**	**-1.8**
VAO	**Valinhos**	**24.05**	**73**	*e*P	**P**	**08 19 02.4**	**-1.8**
VAO	**Valinhos**	**24.05**	**73**	*e*P	**P**	**08 19 02.4**	**-1.8**
ARAG	**Araguaiana, MT**	**24.84**	**52**	*e*P	**P**	**08 19 09.5**	**-1.9**
ARAG	**Araguaiana, MT**	**24.84**	**52**	*e*P	**P**	**08 19 09.5**	**-1.9**
SAML	**Samuel**	**24.89**	**21**	P	**P**	**08 19 12.2**	**+0.5**
IPMB	**Ipameri, GO**	**25.87**	**62**	*e*P	**P**	**08 19 17.9**	**-2.8**
IPMB	**Ipameri, GO**	**25.87**	**62**	*e*P	**P**	**08 19 17.9**	**-2.8**
CLDB	**Colider**	**26.25**	**38**	*e*P	**P**	**08 19 22.6**	**-1.5**
CLDB	**Colider**	**26.25**	**38**	*e*P	**P**	**08 19 22.6**	**-1.5**
BDFB	**Brasilia**	**27.52**	**58**	P	**P**	**08 19 33.8**	**-1.8**
	comp=Z,15nm,0.9s,baz=221,slow=7.7,SNR=14						
BDFB				LR	LR	08 30 51.0	
	comp=Z,226nm,20.6s,baz=233,slow=37						
BDFB	**Brasilia**	**27.52**	**58**	P	**P**	**08 19 34.1**	**-1.6**
BDFB				IAmb	IAmb	08 19 35.2	
	comp=Z,26nm,1.1s						
NPGB	**Novo Progresso**	**29.74**	**35**	*e*P	**P**	**08 19 53.1**	**-2.2**
NPGB	**Novo Progresso**	**29.74**	**35**	*e*P	**P**	**08 19 53.1**	**-2.2**
MACA	**Manacapuru-AM**	**31.12**	**22**	*e*P	**P**	**08 20 06.8**	**-0.7**
MACA	**Manacapuru-AM**	**31.12**	**22**	*e*P	**P**	**08 20 06.8**	**-0.7**
PRPB	**Parauapebas**	**33.42**	**43**	*e*P	**P**	**08 20 25.8**	**-2.0**
PRPB	**Parauapebas**	**33.42**	**43**	*e*P	**P**	**08 20 25.8**	**-2.0**
BBAC	**Balboa, Cauca**	**34.77**	**351**	*e*P	**P**	**08 20 41.0**	**+1.4**
PRAC	**Prado**	**36.20**	**355**	*e*P	**P**	**08 20 53.0**	**+1.3**
ORTC	**Ortega, Tolima**	**36.42**	**355**	*e*P	**P**	**08 20 55.6**	**+2.1**
YOTC	**Yotoco, Valle**	**36.59**	**353**	*e*P	**P**	**08 20 55.0**	**-0.1**
TOLC	**Tolima**	**37.09**	**354**	*e*P	**P**	**08 21 04.3**	**+4.6**
ROSC	**El Rosal**	**37.28**	**356**	*e*P	P	08 21 11.2	+10
RREF	**El Recreo**	**37.41**	**354**	*e*P	P	08 21 13.8	+11
GUY2C	**Guyana, Caldas**	**37.73**	**354**	*e*P	**P**	**08 21 06.3**	**+1.1**
RUSC	**La Rusia**	**38.27**	**358**	*e*P	**P**	**08 21 10.5**	**+0.7**
RUSC	**La Rusia**	**38.27**	**358**	P	**P**	**08 21 11.6**	**+1.9**
CBOC	**Ciudad Bolivar**	**38.42**	**354**	*e*P	**P**	**08 21 11.6**	**+1.0**
HELC	**Santa Helena**	**38.70**	**354**	*e*P	**P**	**08 21 14.4**	**+1.2**
PTBC	**PUERTO BERRIO,**	**38.97**	**356**	*e*P	P	08 21 09.9	-5.2
SMLC	**San Martn de**	**41.19**	**357**	*e*P	**P**	**08 21 33.3**	**-0.3**
SDV	**Santo Domingo**	**41.25**	**2**	*e*P	**P**	**08 21 37.1**	**+2.9**
SDV	**Santo Domingo**	**41.25**	**2**	P	**P**	**08 21 33.6**	**-0.6**
CRPR	**Cabo Rojo, PR**	**50.51**	**6**	P	**P**	**08 22 47.4**	**+0.3**
OBIP	**Obispado Ponce**	**50.59**	**7**	P	**P**	**08 22 48.4**	**+0.7**
VNA3	**Neumayer Olymp**	**50.66**	**158**	P	**P**	**08 22 48.3**	**+0.6**
VNA1	**Neumayer--Stat**	**50.97**	**157**	P	**P**	**08 22 50.8**	**+0.9**
	baz=287,slow=9.3						
VNA2	**Neumayer--Watz**	**51.31**	**158**	P	**P**	**08 22 53.1**	**+0.6**
	baz=289,slow=7.9						
SNAA	**Sanae**	**52.89**	**158**	P	**P**	**08 23 04.8**	**+0.4**
SNAA	**Sanae**	**52.89**	**158**	P	**P**	**08 23 05.0**	**+0.7**
SNAA				IAmb	IAmb	08 23 05.9	
	comp=Z,15nm,1.3s						
QSPA	**South Pole Qui**	**57.66**	**180**	P	**P**	**08 23 40.3**	**+1.3**
656A	**Willston**	**62.41**	**350**	P	**P**	**08 24 12.5**	**+0.8**
VNDA	**Vanda**	**65.50**	**191**	P	**P**	**08 24 32.8**	**+1.3**
	comp=Z,0.8nm,1.0s,baz=125,slow=9.0,SNR=3.7						
LRAL	**Lakeview Retre**	**66.78**	**346**	P	**P**	**08 24 40.9**	**+0.8**
	baz=166						
X60A	**Albert Glenn T**	**67.04**	**355**	P	**P**	**08 24 42.6**	**+0.8**
	baz=174						
X59A	**McDuffie Farm,**	**67.08**	**354**	P	**P**	**08 24 42.3**	**+0.3**
	baz=174						
X57A	**Johnson Farm,**	**67.12**	**353**	P	**P**	**08 24 42.8**	**+0.5**
	baz=173						
X58A	**Rowland**	**67.13**	**353**	P	**P**	**08 24 43.0**	**+0.6**
	baz=173						
SYO	**Syowa Base**	**67.17**	**159**	⇑*e*P	**P**	**08 24 41.1**	**-1.2**
SYO	**Syowa Base**	**67.17**	**159**	⇑*e*P	**P**	**08 24 44.8**	**+2.5**
X55A	**Gracelyn & Ava**	**67.31**	**351**	P	**P**	**08 24 43.5**	**0.0**
	baz=171						
W58A	**Raeford**	**67.58**	**354**	P	**P**	**08 24 45.8**	**+0.6**
	baz=173						
KMSC	**Kings Mountain**	**67.93**	**352**	P	**P**	**08 24 48.0**	**+0.6**
	baz=172						
W54A	**Cherokee Point**	**67.98**	**351**	P	**P**	**08 24 48.4**	**+0.7**
	baz=171						
BG3	**Lake Jocassee**	**68.00**	**350**	P	**P**	**08 24 48.2**	**+0.4**
BG3				IAmb	IAmb	08 24 48.5	
	comp=Z,8.0nm,1.2s						
JCT	**Junction City**	**68.02**	**334**	P	**P**	**08 24 49.2**	**+1.1**
	baz=155						
JCT	**Junction City**	**68.02**	**334**	P	**P**	**08 24 49.3**	**+1.1**
JCT				IAmb	IAmb	08 25 03.5	
	comp=Z,6.8nm,1.2s						
237A	**Washetta, Mont**	**68.06**	**338**	P	**P**	**08 24 49.8**	**+1.5**
Y45A	**Yeager Farm, C**	**68.12**	**344**	P	**P**	**08 24 49.6**	**+1.0**
X48A	**Hartselle**	**68.16**	**347**	P	**P**	**08 24 49.5**	**+0.7**
X48A				IAmb	IAmb	08 24 50.0	
	comp=Z,4.1nm,0.7s						
V59A	**Middlesex**	**68.24**	**355**	P	**P**	**08 24 50.0**	**+0.7**
	baz=174						
V58A	**Windy Hill, Pi**	**68.34**	**354**	P	**P**	**08 24 50.4**	**+0.5**
	baz=174						
V58A	**Windy Hill, Pi**	**68.34**	**354**	P	**P**	**08 24 50.2**	**+0.2**
V58A				IAmb	IAmb	08 24 51.1	
	comp=Z,8.2nm,1.1s						
V56A	**Mocksville**	**68.50**	**353**	P	**P**	**08 24 51.7**	**+0.8**
	baz=172						
TX32	**Lajitas Array**	**68.52**	**330**	P	**P**	**08 24 52.6**	**+1.3**
TXAR	**Lajitas Array**	**68.52**	**330**	P	**P**	**08 24 52.4**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=152,slow=8.2,SNR=20						
TX31	**Lajitas Ar. Si**	**68.52**	**330**	P	**P**	**08 24 52.8**	**+1.4**
W50A	**Signal Mountai**	**68.57**	**348**	P	**P**	**08 24 51.6**	**+0.2**
V55A	**Taylorsville**	**68.62**	**352**	P	**P**	**08 24 52.3**	**+0.6**
	baz=172						
V55A	**Taylorsville**	**68.62**	**352**	P	**P**	**08 24 52.3**	**+0.6**
V55A				IAmb	IAmb	08 24 52.8	
	comp=Z,5.3nm,0.8s						
V54A	**Nebo**	**68.64**	**351**	P	**P**	**08 24 52.2**	**+0.3**
	baz=171						
V53A	**Saluda**	**68.64**	**351**	P	**P**	**08 24 51.8**	**-0.2**
V53A				IAmb	IAmb	08 24 52.8	
	comp=Z,4.1nm,0.7s						
U61A	**Possum Corner**	**68.68**	**356**	P	**P**	**08 24 52.7**	**+0.6**
	baz=176						
CPCT	**Cooper Cave**	**68.68**	**349**	P	**P**	**08 24 52.6**	**+0.5**
CPCT				IAmb	IAmb	08 24 53.2	
	comp=Z,4.3nm,0.7s						
SWET	**Sewanee**	**68.70**	**348**	P	**P**	**08 24 52.3**	**0.0**
OXF	**Oxford**	**68.72**	**345**	P	**P**	**08 24 52.5**	**+0.2**
	baz=164						
TKL	**Tuckaleechee C**	**68.77**	**350**	P	**P**	**08 24 53.0**	**+0.4**
TKL				IAmb	IAmb	08 24 53.3	
	comp=Z,3.9nm,0.7s						
U59A	**Littleton**	**68.79**	**355**	P	**P**	**08 24 53.4**	**+0.7**
	baz=175						
U59A	**Littleton**	**68.79**	**355**	P	**P**	**08 24 54.0**	**+1.3**
U60A	**Pendleton**	**68.86**	**356**	P	**P**	**08 24 53.7**	**+0.5**
	baz=175						
PLAL	**Pickwick Lake**	**68.88**	**346**	P	**P**	**08 24 53.8**	**+0.5**
U58A	**Oxford**	**68.89**	**354**	P	**P**	**08 24 54.1**	**+0.7**
	baz=174						
V52A	**Sevierville**	**68.92**	**350**	P	**P**	**08 24 53.0**	**-0.7**
V52A				IAmb	IAmb	08 24 54.2	
	comp=Z,5.7nm,0.8s						
U57A	**Blanch**	**68.99**	**354**	P	**P**	**08 24 54.5**	**+0.5**
	baz=173						
V51A	**Loudon**	**69.00**	**349**	P	**P**	**08 24 54.5**	**+0.5**
V51A				IAmb	IAmb	08 24 54.8	
	comp=Z,5.3nm,0.8s						
U56A	**King**	**69.01**	**353**	P	**P**	**08 24 54.9**	**+0.7**
	baz=172						
U55A	**TA2, Sparta**	**69.24**	**352**	P	**P**	**08 24 55.9**	**+0.3**
	baz=172						
U54A	**Nelsons Funny**	**69.35**	**352**	P	**P**	**08 24 56.7**	**+0.4**
	baz=171						
U54A	**Nelsons Funny**	**69.35**	**352**	P	**P**	**08 24 56.8**	**+0.5**
V48A	**Smith Brothers**	**69.37**	**347**	P	**P**	**08 24 56.6**	**+0.2**
V48A				IAmb	IAmb	08 24 58.1	
	comp=Z,7.6nm,0.8s						
T59A	**Double "B" Far**	**69.38**	**355**	P	**P**	**08 24 57.3**	**+0.9**
	baz=175						
T59A	**Double "B" Far**	**69.38**	**355**	P	**P**	**08 24 57.4**	**+1.0**
T58A	**Grand View Acr**	**69.43**	**354**	P	**P**	**08 24 57.6**	**+0.8**
	baz=174						
T57A	**Hurt**	**69.55**	**354**	P	**P**	**08 24 57.9**	**+0.5**
	baz=173						
TZTN	**

Q54A	Coxs Mills	71.67	353	P		P	08 25 10.2	-0.2
	baz=172							
USIN	University of	71.69	347	P		P	08 25 10.5	0.0
WCI	Wyandotte Cave	71.69	348	P		P	08 25 10.3	-0.2
	baz=167							
WCI	Wyandotte Cave	71.69	348	P		P	08 25 10.2	-0.2
Q52A	Bidwell	71.81	352	P		P	08 25 11.5	+0.3
	baz=171							
P58A	Pank, Wackersv	71.87	356	P		P	08 25 12.6	+1.0
	baz=175,SNR=6.0							
P57A	Homestead Farm	71.91	355	P		P	08 25 12.5	+0.8
	baz=175							
P59A	Jarrettsville	71.94	356	P		P	08 25 13.0	+1.0
	baz=176,SNR=6.3							
P56A	Dayton Farm, R	72.00	354	P		P	08 25 13.6	+1.3
	baz=174							
Q51A	Peebles	72.02	351	P		P	08 25 12.1	-0.3
Q51A				IAmb	IAmb		08 25 13.2	
	comp=Z,9.4nm,0.9s							
P55A	Reedsville	72.09	354	P		P	08 25 13.4	+0.5
	baz=173							
P60A	Greenville	72.10	357	P		P	08 25 13.7	+0.8
	baz=177							
P60A	Greenville	72.10	357	P		P	08 25 14.1	+1.2
P53A	Whipple	72.23	352	P		P	08 25 13.5	-0.2
	baz=172							
MCWV	Mont Chateau	72.24	354	P		P	08 25 13.5	-0.3
	baz=173							
P54A	Burton	72.25	353	P		P	08 25 13.7	-0.1
	baz=172,SNR=5.0							
O61A	Allentown	72.34	358	P		P	08 25 15.0	+0.7
	baz=178							
P51A	Williamsport	72.43	351	P		P	08 25 15.0	+0.2
	baz=170							
P51A	Williamsport	72.43	351	P		P	08 25 14.7	-0.2
P51A				IAmb	IAmb		08 25 15.6	
	comp=Z,8.8nm,0.8s							
P52A	Corning	72.46	352	P		P	08 25 14.9	-0.2
	baz=171							
O58A	Lewisberry	72.48	356	P		P	08 25 16.2	+1.1
	baz=176							
CCM	Cathedral Cave	72.53	344	P		P	08 25 15.9	+0.4
	baz=163							
CCM	Cathedral Cave	72.53	344	P		P	08 25 16.1	+0.7
CCM				IAmb	IAmb		08 25 16.7	
	comp=Z,6.1nm,0.8s							
O60A	Telford	72.60	357	P		P	08 25 16.8	+1.0
	baz=177							
O57A	Amberson	72.61	355	P		P	08 25 16.9	+1.0
	baz=175							
O59A	Robesonia	72.63	357	P		P	08 25 17.1	+1.1
	baz=176							
S39A	Bolivar	72.68	342	P		P	08 25 17.0	+0.5
S39A				IAmb	IAmb		08 25 17.8	
	comp=Z,11nm,1.5s							
P49A	Miami Univ. Ec	72.71	350	P		P	08 25 15.9	-0.7
	baz=169							
O55A	Ligonier	72.74	354	P		P	08 25 16.7	0.0
	baz=174							
O52A	Adamsville	72.90	352	P		P	08 25 17.5	-0.2
	baz=171							
O53A	New Philadelph	72.96	353	P		P	08 25 17.9	-0.2
	baz=172							
R40A	Maddies Statio	72.99	343	P		P	08 25 18.8	+0.5
R40A				IAmb	IAmb		08 25 18.9	
	comp=Z,6.4nm,0.8s							
N61A	South Mountain	73.00	358	P		P	08 25 18.4	+0.2
	baz=178							
O51A	Pataskala	73.02	352	P		P	08 25 17.9	-0.5
	baz=171,SNR=5.3							
121A	Cookes Peak, D	73.04	329	P		P	08 25 21.2	+2.3
SSPA	Standing Stone	73.05	355	P		P	08 25 19.1	+0.5
	baz=175							
N60A	Cedar Hill Far	73.14	358	P		P	08 25 19.6	+0.6
	baz=177,SNR=5.4							
N57A	Milroy	73.15	356	P		P	08 25 20.0	+0.8
	baz=175							
N62A	Caumsett State	73.16	359	P		P	08 25 19.6	+0.4
	baz=179							
ACSO	Alum Creek Sta	73.16	351	P		P	08 25 18.9	-0.2
	baz=170,SNR=6.5							
ACSO	Alum Creek Sta	73.16	351	P		P	08 25 19.4	+0.3
N58A	Sunbury	73.18	356	P		P	08 25 19.9	+0.6
	baz=176							
N59A	State Game Lan	73.21	357	P		P	08 25 20.5	+0.9
	baz=177							
N59A	State Game Lan	73.21	357	P		P	08 25 20.9	+1.4
N59A				IAmb	IAmb		08 25 21.6	
	comp=Z,6.4nm,0.9s							
N55A	Marion Center	73.28	354	P		P	08 25 20.2	+0.2
	baz=174							
O49A	Covington	73.30	350	P		P	08 25 20.1	0.0
N53A	Lisbon	73.47	353	P		P	08 25 20.0	-1.1
	baz=172							
O48A	Farmland	73.49	350	P		P	08 25 20.6	-0.5
	baz=168							
M61A	Granite Spring	73.54	359	P		P	08 25 21.5	+0.1
	baz=178							
N54A	Moraine State	73.55	354	P		P	08 25 21.7	+0.3
	baz=173							
N52A	McGinn's Farm,	73.57	352	P		P	08 25 20.8	-0.9
	baz=171							
M60A	Port Jervis	73.58	358	P		P	08 25 21.4	-0.3
	baz=178							
M63A	Gales Ferry	73.61	360	P		P	08 25 22.1	+0.3
	baz=180							
M62A	Hamden	73.66	359	P		P	08 25 23.0	+1.0
	baz=179,SNR=5.0							
M58A	Price's Panora	73.70	356	P		P	08 25 23.4	+1.0
	baz=176							
M57A	Sunshine Farm,	73.70	356	P		P	08 25 22.9	+0.5
	baz=175							
N51A	Ashland	73.76	352	P		P	08 25 22.6	-0.1
	baz=171							
M59A	Waymart	73.82	357	P		P	08 25 23.3	+0.3
	baz=177							
M56A	Emporium	73.92	355	P		P	08 25 23.7	0.0
	baz=174							
M56A	Emporium	73.92	355	P		P	08 25 24.3	+0.7
M56A				IAmb	IAmb		08 25 38.3	
	comp=Z,6.5nm,0.8s							
M55A	Ridgway	73.94	355	P		P	08 25 24.3	+0.5
	baz=174							
N49A	Columbus Grove	74.00	350	P		P	08 25 24.2	+0.2
M54A	Oil Creek Stat	74.06	354	P		P	08 25 24.3	-0.2
	baz=173							
L63A	North Scituate	74.07	0	P		P	08 25 25.2	+0.6
	baz=180,SNR=5.2							
M53A	WI Miller and	74.08	353	P		P	08 25 24.9	+0.3
	baz=172							
P40A	Paris	74.12	344	P		P	08 25 25.3	+0.4
P40A				IAmb	IAmb		08 25 26.0	
	comp=Z,11nm,0.9s							
BRYW	Bryant College	74.13	0	P		P	08 25 26.2	+1.3
L64A	Middleborough	74.15	1	P		P	08 25 25.3	+0.3
	baz=181							
TUC	Tucson	74.21	327	P		P	08 25 25.7	0.0
	baz=147							
L60A	Shokan	74.23	358	P		P	08 25 25.7	+0.3
	baz=178							
M52A	Chesterland	74.25	353	P		P	08 25 25.7	0.0
	baz=172							
LIC	Lamto	74.29	72	eP		P	08 25 24.9	-1.6
	comp=Z,46nm,0.8s							
L58A	Harry Jones Me	74.34	357	P		P	08 25 26.7	+0.6
	baz=177							
L57A	Andrews Acres	74.35	356	P		P	08 25 26.8	+0.6
	baz=176							
L59A	Walton	74.45	358	P		P	08 25 27.4	+0.6
	baz=177							
L59A	Walton	74.45	358	P		P	08 25 27.9	+1.1
QUA2	Belchertown	74.49	360	P		P	08 25 27.8	+0.9
QUA2				IAmb	IAmb		08 25 28.7	
	comp=Z,7.8nm,0.9s							
BINY	Binghamton	74.50	357	P		P	08 25 27.6	+0.6
	baz=176							
L56A	Greenwood	74.52	356	P		P	08 25 27.7	+0.4
	baz=175							
L56A	Greenwood	74.52	356	P		P	08 25 28.1	+0.8
L56A				IAmb	IAmb		08 25 28.6	
	comp=Z,8.4nm,0.8s							
MAW	Mawson	74.53	164	P		P	08 25 25.5	-1.5
	comp=Z,5.8nm,1.0s,baz=232,slow=8.4,SNR=4.3							
MAW	Mawson	74.53	164	P		P	08 25 27.7	+0.7
TIC	Toumodi	74.54	72	eP		P	08 25 27.0	-1.0
L53A	Girard	74.55	354	P		P	08 25 27.5	+0.2
	baz=173							
ANMO	Albuquerque	74.56	331	P		P	08 25 27.8	0.0
	baz=150							
ANMO	Albuquerque	74.56	331	P		P	08 25 28.9	+1.1
KIC	Kosan Boka	74.60	72	eP		P	08 25 27.4	-0.9
	comp=Z,27nm,0.8s							
L55A	Hinsdale	74.63	355	P		P	08 25 28.3	+0.5
	baz=174,SNR=6.5							
L61B	Northampton	74.66	359	P		P	08 25 28.9	+1.0
	baz=179							
DBIC	Dimbokro	74.69	72	P		P	08 25 28.0	-0.7
	comp=Z,10.0nm,0.6s,baz=219,slow=6.6,SNR=16							
DBIC				LR		LR	08 56 24.1	
	comp=Z,40nm,18.9s,baz=176,slow=34							
DBIC	Dimbokro	74.69	72	P		P	08 25 28.2	-0.5
ERPA	Erie	74.69	354	P		P	08 25 28.2	+0.1
	baz=173							
HRV	Adam Dziewonsk	74.72	0	P		P	08 25 29.7	+1.4
	baz=180							
HRV	Adam Dziewonsk	74.72	0	P		P	08 25 29.7	+1.4
HRV				IAmb	IAmb		08 25 30.3	
	comp=Z,9.5nm,0.9s							
L54A	Sinclairville	74.75	354	P		P	08 25 28.7	+0.2
	baz=174,SNR=5.7							
WVNY	West Valley, N	74.86	355	P		P	08 25 30.0	+0.9
WVNY				IAmb	IAmb		08 25 30.6	
	comp=Z,8.3nm,0.8s							
K62A	Royalston	74.88	360	P		P	08 25 30.4	+1.2
	baz=180							
K61A	Williamstown	74.89	359	P		P	08 25 30.9	+1.6
	baz=179							
L50A	Kingsville	74.92	352	P		P	08 25 29.8	+0.4
	baz=170							
K59A	Cooperstown	75.03	358	P		P	08 25 30.4	+0.2
	baz=177							
K58A	Earlville	75.05	357	P		P	08 25 30.8	+0.6
	baz=177							
K58A	Earlville	75.05	357	P		P	08 25 30.8	+0.6
K58A				IAmb	IAmb		08 25 31.5	
	comp=Z,6.4nm,0.8s							
K57A	Scipio Center	75.06	357	P		P	08 25 30.5	+0.3
	baz=176							
K56A	Middlesex	75.07	356	P		P	08 25 30.5	+0.1
	baz=175							
K54A	Basiliko Farm,	75.07	355	P		P	08 25 31.1	+0.7
	baz=174							
MMNY	Mt. Morris Dam	75.14	355	P		P	08 25 31.1	+0.4
MMNY				IAmb	IAmb		08 25 31.9	
	comp=Z,7.0nm,0.8s							
K55A	Perry	75.15	355	P		P	08 25 31.0	+0.3
	baz=175							
K52A	Tillsonburg	75.42	353	P		P	08 25 32.2	0.0
	baz=172							
J62A	Henniker	75.44	0	P		P	08 25 33.6	+1.2
	baz=180							
J61A	Chester	75.56	360	P		P	08 25 33.4	+0.3
	baz=179							
J56A	Wolcott	75.62	356	P		P	08 25 33.4	-0.1
	baz=176,SNR=5.9							
J56A	Wolcott	75.62	356	P		P	08 25 33.3	-0.1
J56A				IAmb	IAmb		08 25 34.4	
	comp=Z,9.4nm,0.9s							
J58A	Remsen	75.63	358	P		P	08 25 34.3	+0.7
	baz=177							
T25A	Trinidad	75.68	334	P		P	08 25 35.7	+1.5
	baz=152,SNR=6.5							
T25A	Trinidad	75.68	334	P		P	08 25 36.2	+2.0
J57A	Williamstown	75.71	357	P		P	08 25 34.2	+0.3
	baz=176							
J57A	Williamstown	75.71	357	P		P	08 25 34.2	+0.3
J59A	Piesco	75.71	358	P		P	08 25 34.4	+0.4
	baz=178							
J59A	Piesco	75.71	358	P		P	08 25 34.6	+0.6
J59A				IAmb	IAmb		08 25 47.7	
	comp=Z,7.1nm,1.0s							
J54A	Appleton	75.73	355	P		P	08 25 34.5	+0.4
	baz=174							
J54A	Appleton	75.73	355	P		P	08 25 34.8	+0.8
K47A	Vermontville	75.83	350	P		P	08 25 34.0	-0.6
	baz=169							
K48A	Perry	75.83	351	P		P	08 25 34.2	-0.5
	baz=169							
J52A	Paris	75.85	354	P		P	08 25 34.6	-0.2
	baz=173							
I58A	Old Forge	75.95	358	P		P	08 25 35.5	+0.2
	baz=177,SNR=5.0							
I59A	Olmsteadville	76.03	359	P		P	08 25 35.8	0.0
	baz=178							
I60A	Shoreham	76.06	359	P		P	08 25 36.8	+0.9
	baz=179							
I62A	Tamworth	76.09	0	P		P	08 25 37.5	+1.4
	baz=180							
W18A	Petrified Fore	76.09	329	P		P	08 25 37.3	+0.7
	baz=148							
I64A	Boothbay	76.16	2	P		P	08 25 37.6	+1.1
	baz=182							
I57A	Carthage	76.22	357	P		P	08 25 37.0	+0.2
	baz=177							
J49A	Marlette	76.26	352	P		P	08 25 35.9	-1.2
	baz=170							
X16A	Lo Mia Camp, P	76.26	327	P		P	08 25 39.9	+2.2
I63A	Otisfield	76.27	1	P		P	08 25 37.4	+0.3
	baz=181							
J48A	Bridge Port	76.28	351	P		P	08 25 37.0	-0.2
	baz=170							
J48A	Bridge Port	76.28	351	P		P	08 25 37.2	0.0
PECO	Prince Edward	76.28	356	P		P	08 25 37.8	+0.6
PECO				IAmb	IAmb		08 25 38.3	
	comp=Z,7.2nm,0.7s							
L40A	Anamosa	76.35	345	P		P	08 25 37.8	+0.2
L40A				IAmb	IAmb		08 25 38.8	
	comp=Z,9.0nm,0.8s							
J47A	Sunmer	76.36	350	P		P	08 25 37.6	-0.1
	baz=169							
LBNH	Lisbon	76.45	0	P		P	08 25 38.9	+0.7
	baz=180							
I51A	Listowel	76.46	353	P		P	08 25 38.1	-0.1
	baz=172,SNR=6.5							
I55A	Frankford	76.60	356	P		P	08 25 39.1	+0.1
	baz=175							
SDCO	Great Sand Dun	76.62	333	P		P	08 25 40.9	+1.2
	baz=151,SNR=5.8							
SDCO	Great Sand Dun	76.62	333	P		P	08 25 41.1	+1.4
I52A	Shelburne	76.64	354	P		P	08 25 39.5	+0.2
	baz=173							
H58A	Gabriels	76.65	358	P		P	08 25 39.8	+0.5
	baz=178							
H61A	Lyndonville	76.74	0	P		P	08 25 41.0	+1.2
	baz=180,SNR=5.1							
H60A	Morristown	76.77	359	P		P	08 25 41.1	+1.0
	baz=179							
H62A	Milan	76.79	1	P		P	08 25 40.8	+0.7
	baz=181							
LONY	Lake Ozonia	76.86	358	P		P	08 25 41.0	+0.5
	baz=178							
H59A	Cadyville	76.87	359	P		P	08 25 40.8	+0.3
	baz=178							
H63A	New Sharon	76.89	1	P		P	08 25 41.5	+0.9
	baz=182							
H56A	Elgin	76.90	357	P		P	08 25 41.0	+0.3
	baz=176,SNR=5.5							
H55A	Tweed	76.91	356	P		P	08 25 41.1	+0.4
	baz=176							
JFWS	Jewell Farm	76.97	346	P		P	08 25 41.3	+0.2
	baz=164							
H65A	Eastbrook	76.98	3	P		P	08 25 42.1	+1.0
	baz=183							
H53A	Bobcaygeon	77.02	355	P		P	08 25 41.6	+0.3
	baz=174							
FRNY	Flat Rock	77.06	359	P		P	08 25 42.4	+0.8
FRNY				IAmb	IAmb		08 25 55.4	
	comp=Z,7.5nm,1.1s							
IKP	In-Ko-Pah, Jac	77.08	323	P		P	08 25 41.7	-0.5
	baz=143							
I47A	Gladwin	77.08	351	P		P	08 25 41.5	-0.2
	baz=169							
H66A	Whiting	77.11	3	P		P	08 25 41.5	-0.4
	baz=184							
H52A	Wyevale	77.19	354	P		P	08 25 41.9	-0.4
	baz=173							
MVCO	Mesa Verde	77.34	331	P		P	08 25 44.5	+0.8
	baz=149							
I45A	Fountain	77.35	350	P		P	08 25 44.3	+1.1
	baz=168							
G63A	Kingsbury	77.35	2	P		P	08 25 44.1	+0.8
	baz=182							
G57A	Newington	77.36	358	P		P	08 25 43.4	+0.2
	baz=177							
G62A	West of Eustis	77.44	1	P		P	08 25 45.2	+1.5
	baz=181							
G62A	West of Eustis	77.44	1	P		P	08 25 44.9	+1.1
G61A	St-Isidore-de-	77.49	0	P		P	08 25 45.5	+1.5
	baz=180							
G65A	Princeton	77.51	3	P		P	08 25 45.4	+1.3
	baz=184							
G64A	Maxfield	77.52	2	P		P	08 25 45.1	+1.0
	baz=183							
BC3	Big Chuckawall	77.55	324	P		P	08 25 46.1	+1.3
	baz=144							
Q24A	Divide	77.56	334	P		P	08 25 46.3	+1.4
	baz=152							
G53A	Haliburton	77.57	355	P		P	08 25 45.0	+0.6
	baz=174							
G55A	Calabogie	77.58	357	P		P	08 25 44.4	-0.1
	baz=176							
H48A	Harrisville	77.60	352	P		P	08 25 44.9	+0.3
	baz=170							
H47A	Mio	77.61	351	P		P	08 25 45.1	+0.4
	baz=169							
H46A	Fife Lake	77.69	350	P		P	08 25 45.3	+0.1
	baz=169							
ORIO	Orleans, Innes	77.73	357	P		P	08 25 45.1	-0.1
	baz=177							
G54A	Lake Saint Pet	77.81	356	P		P	08 25 46.0	+0.2
	baz=175							
GLMI	Grayling	77.89	351	P		P	08 25 46.1	-0.1
	baz=169							
F63A	Nahmakanta, Br	77.96	2	P		P	08 25 47.9	+1.3
	baz=182							
F62A	Pittston Farm,	78.13	1	P		P	08 25 48.8	+1.3
	baz=182							
F62A	Pittston Farm,	78.13	1	P		P	08 25 48.7	+1.2
G47A	Hillman	78.13	351	P		P	08 25 47.8	+0.3
	baz=170							
F64A	Sherman	78.14	3	P		P	08 25 48.5	+0.9
	baz=183							
F55A	Otter Lake	78.14	357	P		P	08 25 48.0	+0.4
	baz=176							
F60A	Warwick	78.18	0	P		P	08 25 48.0	+0.2
	baz=180							
OGNE	Ogallala	78.24	337	P		P	08 25 48.4	0.0
	baz=154							
PV13	Radium Mtn., P	78.29	331	P		P	08 25 50.4	+1.5
F52A	Sundridge	78.29	355	P		P	08 25 48.5	0.0
	baz=174							
PV02	Paradox Valley	78.29	331	P		P	08 25 50.5	+1.5
U15A	North Rim	78.32	328	P		P	08 25 51.2	+2.0
ALGO	Algonquin Park	78.36	356	P		P	08 25 48.7	-0.1
	baz=175							
SMCO	Snowmass	78.43	333	P		P	08 25 50.2	+0.3
ISCO	Idaho Springs	78.47	334	P		P	08 25 51.3	+1.4
TRQ	Mont Tremblant	78.47	358	P		P	08 25 49.9	+0.4
F51A	Arnstein	78.47	354	P		P	08 25 48.8	-0.6
	baz=173							
F49A	Sandfield	78.50	353	P		P	08 25 49.1	-0.5
	baz=171							
GMRC	Granite Mounta	78.56	325	P		P	08 25 51.7	+1.3
	baz=144							
E60A	Ste Agathe de	78.58	0	P		P	08 25 50.6	+0.6
	baz=180							
E58A	La Victoria	78.59	359	P		P	08 25 50.6	+0.5
	baz=179							
F48A	Evansville	78.63	352	P		P	08 25 50.3	+0.1
	baz=171							
E57A	Chemin Saint G	78.64	358	P		P	08 25 50.4	0.0
	baz=178							
I37A	Lemond, Waseca	78.69	344	P		P	08 25 50.8	+0.1
I37A				IAmb	IAmb		08 25 51.6	
	comp=Z,8.7nm,0.8s							
E63A	Oxbow	78.70	3	P		P	08 25 51.4	+0.7
	baz=183							
PV09	Paradox Valley	78.70	331	P		P	08 25 53.4	+2.1
E64A	Bridgewater	78.72	3	P		P	08 25 51.4	+0.6
	baz=184							
E53A	Dumoine, Ponti	78.75	356	P		P	08 25 51.0	0.0
	baz=175							
E54A	Lac Daplat, Po	78.78	356	P		P	08 25 51.5	+0.4
	baz=176							
E56A	St. Veronique	78.80	358	P		P	08 25 51.2	-0.1
	baz=177							
E62A	Clayton Lake	78.86	2	P		P	08 25 52.1	+0.6
	baz=182							
E62A	Clayton Lake	78.86	2	P		P	08 25 52.9	+1.3
E62A				IAmb	IAmb		08 26 05.7	
	comp=Z,8.4nm,0.8s							
E51A	G1948 Merrick	79.03	355	P		P	08 25 53.1	+0.6
	baz=174							
KNB	Kanab	79.04	328	P		P	08 25 55.3	+2.3
D60A	Saint Jean D'O	79.13	1	P		P	08 25 53.8	+0.9
	baz=181							
ECSD	EROS Data Cent	79.21	342	P		P	08 25 53.7	+0.1
	baz=159,SNR=10							
ECSD	EROS Data Cent	79.21	342	P		P	08 25 53.9	+0.3
ECSD				IAmb	IAmb		08 25 54.8	
	comp=Z,7.9nm,0.8s							
E48A	Lockeyer	79.23	353	P		P	08 25 53.6	0.0
	baz=171							
D57A	Chemin Vers le	79.25	359	P		P	08 25 54.0	+0.3
	baz=178,SNR=5.0							
D55A	Sainte-Anne-du	79.29	358	P		P	08 25 53.8	-0.1
	baz=177,SNR=5.9							
D56A	ZEC Mazanza, M	79.30	358	P		P	08 25 53.9	-0.1
	baz=178							
D58A	Chemin du LacG	79.31	359	P		P	08 25 54.4	+0.4
	baz=179,SNR=6.8							
D63A	Stockholm	79.32	3	P		P	08 25 54.8	+0.7
	baz=183							
E47A	Iron Bridge	79.32	352	P		P	08 25 53.8	-0.3
	baz=170							
D62A	Allapoint, All	79.34	2	P		P	08 25 54.6	+0.5
	baz=182							
D62A	Allapoint, All	79.34	2	P		P	08 25 55.5	+1.3
D62A				IAmb	IAmb		08 25 55.9	
	comp=Z,8.4nm,0.9s							
D52A	ZEK Kipawa Sen	79.40	356	P		P	08 25 54.7	+0.2
	baz=174							
D53A	Lac Vacive, Po	79.46	356	P		P	08 25 54.6	-0.2
	baz=175							
D53A	Lac Vacive, Po	79.46	356	P		P	08 25 55.2	+0.4
D54A	Lac Fusel, La	79.47	357	P		P	08 25 54.8	-0.1
	baz=176							
N23A	Red Feather La	79.55	334	P		P	08 25 56.5	+0.6
	baz=151							
TSUM	Tsumeb	79.56	106	P		P	08 25 55.9	-0.5
TSUM				IAmb	IAmb		08 25 57.4	
	comp=Z,8.9nm,0.9s							
LATQ	La Tuque	79.60	359	P		P	08 25 55.8	+0.3
	baz=179							
D50A	G1974 Best Tow	79.69	355	P		P	08 25 56.3	+0.2
	baz=173							
SPMN	Marine on St.	79.71	345	P		P	08 25 56.1	-0.2
	baz=162							
CCUT	Cedar City	79.73	328	P		P	08 25 59.5	+2.6
SRU	San Rafael Swe	79.80	330	P		P	08 25 58.8	+1.7
D46A	Sault St. Mari	79.84	352	P		P	08 25 57.2	+0.2
	baz=170							
D48A	Paudash Townsh	79.88	353	P		P	08 25 56.9	-0.2
	baz=172							
D49A	Beulah Townshi	79.93	354	P		P	08 25 57.8	+0.5
	baz=172							
MSU	Marysvale	80.00	329	P		P	08 26 00.1	+1.8
VLDQ	Val d'Or	80.47	356	P		P	08 26 00.8	+0.6
VLDQ				IAmb	IAmb		08 26 01.5	
	comp=Z,8.2nm,0.9s							
FURC	Furnace Creek,	80.49	325	P		P	08 26 02.2	+1.5
	baz=143							
SUSD	Miller	80.50	341	P		P	08 26 01.1	+0.5
	baz=157							
D41A	Chassel	80.67	349	P		P	08 26 02.2	+0.9
BOSA	Boshof	80.69	118	P		P	08 26 02.0	-0.3
	comp=Z,9.1nm,0.8s,baz=239,slow=3.7,SNR=16							
BOSA	Boshof	80.69	118	IAmb	IAmb		08 26 02.7	
	comp=Z,12nm,0.9s							
VES	Vestal, Richgr	81.11	323	P		P	08 26 04.0	+0.1
	baz=141							
K22A	Casper	81.29	335	P		P	08 26 06.4	+1.3
	baz=151							
R11A	Troy Canyon, C	81.39	327	P		P	08

MATQ	**Matagami**	**82.12**	**356**	P	**P**	**08 26 09.2**	**+0.2**
	baz=175							
CHGQ	**Chibougamau**	**82.15**	**358**	P	**P**	**08 26 09.2**	**+0.1**
	baz=178							
PDAR	**Pinedale Array**	**82.52**	**333**	P	**P**	**08 26 12.1**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=134,slow=5.2,SNR=1.9							
NVAR	**Mina Array Bea**	**82.74**	**325**	P	**P**	**08 26 13.6**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=157,slow=6.0,SNR=5.7							
NVAR				PKKP	**PKKPdf**	**08 44 26.2**	**-3.8**
	comp=Z,0.3nm,0.5s,baz=304,slow=0.5,SNR=3.7							
B35A	**Bob, Littlefor**	**82.89**	**346**	P	**P**	**08 26 12.9**	**-0.1**
B35A				IAmb	IAmb	08 26 13.7		
	comp=Z,4.9nm,0.7s							
AGMN	**Agassiz Nation**	**83.30**	**344**	P	**P**	**08 26 15.4**	**+0.2**
	baz=160							
AGMN	**Agassiz Nation**	**83.30**	**344**	P	**P**	**08 26 15.0**	**-0.2**
AGMN				IAmb	IAmb	08 26 16.0		
	comp=Z,4.0nm,0.8s							
TOA0	**Torodi Ar. Sit**	**83.69**	**70**	P	**P**	**08 26 17.6**	**-0.4**
TORD	**Torodi Ar. Bea**	**83.69**	**70**	P	**P**	**08 26 17.1**	**-0.9**
	comp=Z,9.2nm,0.7s,baz=264,slow=4.5,SNR=49							
TORD				LR	LR	09 03 41.4		
	comp=Z,57nm,18.1s,baz=175,slow=36							
MDND	**Maddock**	**83.81**	**342**	P	**P**	**08 26 18.2**	**+0.4**
	baz=157							
MDND	**Maddock**	**83.81**	**342**	P	**P**	**08 26 18.3**	**+0.5**
H17A	**Grant Village**	**84.29**	**333**	P	**P**	**08 26 20.5**	**-0.2**
	baz=148							
LAO	**LASA Array**	**84.73**	**337**	P	**P**	**08 26 21.5**	**-1.1**
	baz=152							
ULM	**Lac du Bonnet**	**85.14**	**345**	P	**P**	**08 26 24.5**	**0.0**
	comp=Z,2.6nm,0.6s,baz=37,slow=2.0,SNR=3.2							
ULM	**Lac du Bonnet**	**85.14**	**345**	P	**P**	**08 26 26.2**	**+1.8**
MCMT	**McKenzie Canyo**	**85.53**	**332**	P	**P**	**08 26 28.7**	**+1.8**
DGMT	**Dagmar**	**85.67**	**339**	P	**P**	**08 26 27.5**	**+0.2**
	baz=153							
DGMT	**Dagmar**	**85.67**	**339**	P	**P**	**08 26 29.1**	**+1.9**
DGMT				IAmb	IAmb	08 26 47.1		
	comp=Z,7.1nm,1.0s							
O03E	**Paynes Creek**	**85.90**	**324**	P	**P**	**08 26 28.8**	**+0.1**
	baz=140							
J08A	**Circle Bar Ran**	**86.71**	**328**	P	**P**	**08 26 33.8**	**+1.2**
J08A				IAmb	IAmb	08 26 34.9		
	comp=Z,8.9nm,1.3s							
ESDC	**Sonseca Array**	**95.56**	**46**	P	**P**	**08 27 13.3**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=258,slow=6.4,SNR=3.3							
ESDC				LR	LR	09 09 30.4		
	comp=Z,34nm,18.6s,baz=175,slow=35							
YKA	**Yellowknife Ar**	**100.73**	**341**	P	**Pdif**	**08 27 35.5**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=141,slow=4.4,SNR=2.3							
BRTR	**Keskin Array B**	**121.10**	**60**	PKP	**PKPdf**	**08 32 41.2**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=199,slow=3.6,SNR=5.0							
WRA	**Warramunga Arr**	**122.02**	**209**	PKP	**PKPdf**	**08 32 43.3**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=153,slow=1.6,SNR=6.9							
H11S2	**WAKE ISLAND Hyd**	**125.82**	**270**	T	T	10 51 57.0		
	baz=118,slow=75,SNR=195							
H11S1	**WAKE ISLAND Hyd**	**125.83**	**270**	T	T	10 51 53.0		
	baz=118,slow=75,SNR=148							
H11S3	**WAKE ISLAND Hyd**	**125.84**	**270**	T	T	10 51 51.1		
	baz=118,slow=75,SNR=93							
H11N3	**WAKE ISLAND Hyd**	**126.20**	**272**	T	T	10 52 21.6		
	baz=113,slow=77,SNR=27							
H11N1	**WAKE ISLAND Hyd**	**126.21**	**272**	T	T	10 52 20.6		
	baz=113,slow=77,SNR=13							
H11N2	**WAKE ISLAND Hyd**	**126.22**	**272**	T	T	10 52 20.5		
	baz=113,slow=77,SNR=50							
BRVK	**Borovoye**	**146.13**	**42**	PKPdf	**PKPbc**	**08 33 28.1**	**-0.3**
CHGR	**Chuyangeron**	**146.01**	**68**	PKPdf	**PKPdf**	**08 33 32.1**	**+0.9**
KK31	**Karatay Array**	**148.81**	**59**		**PKPbc**	**08 33 36.1**	**-0.2**
KKAR	**Karatay Array**	**148.81**	**59**		**PKPbc**	**08 33 36.2**	**0.0**
GAR	**Garm**	**148.92**	**67**	PKPdf	**PKPdf**	**08 33 33.8**	**+1.0**
NIL	**Nilore**	**150.94**	**78**		**PKPbc**	**08 33 41.3**	**-0.4**
AAK	**Ala-Archa**	**151.77**	**59**		**PKiKP**	**08 33 44.2**	**+0.2**
KURK	**Kurchatov**	**151.80**	**41**		**PKiKP**	**08 33 43.3**	**-0.1**
KURK					**sPKPab**	**08 33 58.8**	**+1.6**
ZAA0	**Zalesovo Array**	**152.99**	**31**	PKPdf	**PKPdf**	**08 33 41.6**	**+3.2**
ZALV	**Zalesovo Beam**	**152.99**	**31**	PKPbc	**PKPbc**	**08 33 45.4**	**-0.2**
	comp=Z,7.2nm,0.6s,baz=294,slow=3.3,SNR=29							
ZALV				PKPab	**PKPab**	**08 33 56.2**	**-0.8**
	comp=Z,4.8nm,0.7s,baz=303,slow=3.5,SNR=7.8							
MJAR	**Matsushiro Arr**	**154.87**	**287**	PKPbc	**PKiKP**	**08 33 52.5**	**+2.2**
	comp=Z,0.5nm,0.5s,baz=116,slow=2.8,SNR=3.1							
MKAR	**Makanchi Array**	**155.78**	**47**	PKP	**PKPdf**	**08 33 42.2**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=278,slow=3.2,SNR=2.2							
MKAR				PKPab	**PKPab**	**08 34 08.5**	**-0.6**
	comp=Z,2.9nm,0.6s,baz=290,slow=3.7,SNR=14							

IDC ***08*** *08:33:20.6±1.0, 19°.80S×174°.92E, h0km, mb4.1/10, mb1 4.3/11, mb1mx4.1/26, mbtmp4.0/11, ML2.9/1, MS3.3/7, Ms1 3.3/7, ms1mx3.1/32, Error ellipse: s-maj=37.2km s-min=20.5km az=151.0*

NEIC ***08*** *08:33:25.6±1.5, 20°.1S±0°.2×174°.88E±0°.06, h35km±1km, mb4.7/9, Error ellipse: s-maj=33.5km s-min=8.9km az=174.0*

ISC 08 08:33:25.7±0.7, 19°.9S±0°.2×174°.9E±0°.1, h35km, n32, σ0s87/26, mb4.2/13, MS3.3/8, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.69**	**55**		Pn	08 34 12.9	-7.5
DZM	**Mont Dzumac**	**8.18**	**253**	*e*P	Pn	08 35 27.3	+5.2
	30nm,0.8s						
DZM				*e*LR	LR	08 37 14.9	
	comp=Z,936nm,25.6s						
DZM	**Mont Dzumac**	**8.18**	**253**	Pn	**Pn**	**08 35 21.8**	**-0.3**
	0.1nm,0.3s,baz=347,slow=24,SNR=3.0						
DZM	**Mont Dzumac**	**8.18**	**253**		**Pn**	**08 35 21.2**	**-0.9**
CTA	**Charters Tower**	**26.90**	**265**	P	**P**	**08 39 03.5**	**-0.2**
	5.0nm,0.9s,baz=93,slow=15,SNR=1.4						
STKA	**Stephens Creek**	**32.11**	**241**	P	**P**	**08 39 51.0**	**+1.2**
	2.8nm,0.8s,baz=79,slow=9.9,SNR=7.0						
STKA				LR	LR	08 51 15.2	
	comp=Z,65nm,19.5s,baz=33,slow=33						
PPT2	**Papeete2**	**33.68**	**92**	*e*LR	LR	08 48 52.4	
	comp=Z,166nm,26.8s						
PPT	**Papeete**	**33.69**	**92**	LR	LR	08 51 37.3	
	comp=Z,43nm,18.2s,baz=200,slow=33						
BBOO	**Buckleboo**	**36.89**	**242**	P	**P**	**08 40 30.3**	**-0.8**
BBOO				IAmb	IAmb	08 40 34.0	
	comp=Z,14nm,1.2s						
JAY	**Jayapura**	**37.60**	**293**	LR	LR	08 53 07.7	
	comp=Z,42nm,20.4s,baz=171,slow=32						
WR0	**Warramunga Arr**	**37.87**	**263**	P	**P**	**08 40 38.5**	**-1.2**
WB0	**Warramunga Arr**	**38.03**	**263**	P	**P**	**08 40 39.3**	**-1.7**
WB2	**Warramunga Arr**	**38.05**	**263**	P	**P**	**08 40 40.9**	**-0.2**
WB2				IAmb	IAmb	08 40 41.6	
	comp=Z,8.6nm,0.8s						
WRAB	**Tennant Creek**	**38.05**	**263**	P	**P**	**08 40 40.2**	**-1.0**
WRA	**Warramunga Arr**	**38.06**	**263**	P	**P**	**08 40 40.9**	**-0.4**
	comp=Z,6.2nm,0.7s,baz=97,slow=8.6,SNR=28						
AS31	**Alice Springs**	**38.16**	**257**	P	**P**	**08 40 40.7**	**-1.3**
ASAR	**Alice Springs**	**38.16**	**257**	P	**P**	**08 40 42.4**	**+0.3**
	comp=Z,14nm,0.8s,baz=89,slow=9.1,SNR=124						
ASAR				LR	LR	08 55 43.2	
	comp=Z,131nm,20.3s,baz=92,slow=35						
FORT	**Forrest**	**43.42**	**246**	P	**P**	**08 41 26.1**	**+0.8**
KNRA	**Kununurra**	**44.03**	**268**	P	**P**	**08 41 30.4**	**+0.1**
FITZ	**Fitzroy Crossi**	**46.48**	**264**	P	**P**	**08 41 50.4**	**+0.7**
VNDA	**Vanda**	**58.00**	**183**	P	**P**	**08 43 15.6**	**+1.1**
	comp=Z,0.3nm,0.9s,baz=350,slow=6.1,SNR=1.2						
MJAR	**Matsushiro Arr**	**65.99**	**328**	P	**P**	**08 44 08.9**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=138,slow=7.5,SNR=2.6						
MJAR				LR	LR	09 08 36.1	
	comp=Z,13nm,21.4s,baz=80,slow=32						
QSPA	**South Pole Qui**	**70.15**	**180**	P	**P**	**08 44 33.1**	**-1.4**
QSPA				IAmb	IAmb	08 44 36.1	
	comp=Z,11nm,1.4s						
KSRS	**Korea Array**	**72.19**	**322**	LR	LR	09 14 34.4	
	comp=Z,12nm,18.7s,baz=250,slow=34						
CMAR	**Chiang Mai Arr**	**83.67**	**292**	P	**P**	**08 45 51.8**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=123,slow=4.1,SNR=7.1						
NVAR	**Mina Array Bea**	**85.32**	**46**	P	**P**	**08 45 59.5**	**0.0**
	comp=Z,0.4nm,0.6s,baz=232,slow=5.6,SNR=3.6						

BJI 08 08:15:27.0±0.0, 21°.37N×117°.82E, h8km, ML4.0/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QZH	**Quanzhou**	**3.63**	**11**	Pn	Pn	08 16 23.6	+0.1
QZH				Sn	Sn	08 17 04.6	-1.9
GYA	**Guiyang**	**11.39**	**299**	P	Pn	08 18 13.1	+2.9
GYA				S	Sn	08 20 11.9	-5.9
WMQ	**Urumqi**	**33.54**	**319**	*e*P	P	08 22 08.1	+0.8

ILAR	**Eielson Array**	**89.37**	**15**	P	**P**	**08 46 18.4**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=215,slow=6.2,SNR=2.5							
TXAR	**Lajitas Array**	**92.44**	**60**	P	**P**	**08 46 33.3**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=210,slow=7.2,SNR=5.9							
PDAR	**Pinedale Array**	**93.22**	**46**	LR	LR	09 23 17.9		
	comp=Z,21nm,18.2s,baz=314,slow=32							
CLL	**Collm**	**145.58**	**340**	*i* PKPbc	**PKPab**	**08 53 00.2**	**-0.4**
CLL				*i* PKiKP	**PKiKP**	**08 53 04.6**	**+0.5**
CLL				*i*		08 53 06.9		
CLL				*i* pPKPdf	pPKPab	08 53 11.4	+0.6
BRG	**Berggiesshubel**	**145.64**	**339**	*e*PKP	**PKiKP**	**08 53 04.6**	**+0.4**
	comp=Z,2.5nm,0.9s							
GERES	**GERESS Array B**	**147.41**	**337**	PKPbc	**PKPbc**	**08 53 04.5**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=29,slow=2.2,SNR=4.0							

IDC ***08*** *08:42:34.5±1.2, 57°.15S×26°.05W, h0km, mb4.1/2, mb1 4.1/2, mb1mx3.8/19, mbtmp4.1/2, MS3.8/2, Ms1 3.8/2, ms1mx3.1/17, Error ellipse: s-maj=54.4km s-min=49.5km az=173.0*

NEIC ***08*** *08:42:46.7±1.1, 56°.9S±0°.1×26°.1W±0°.2, h88km±7km, mb4.4/10, Error ellipse: s-maj=22.4km s-min=15.7km az=46.0*

ISC 08 08:42:43.8±0.6, 56°.9S±0°.1×25°.9W±0°.1, h61km, n33, σ0s69/26, mb4.3/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.55**	**289**	Pn	**Pn**	**08 44 18.7**	**+1.4**
VNA1	**Neumayer--Stat**	**15.78**	**158**	P	**Pn**	**08 46 22.5**	**+0.7**
VNA3	**Neumayer Olymp**	**15.99**	**161**	P	**P**	**08 46 26.7**	**-0.3**
	baz=316,slow=12							
VNA2	**Neumayer--Watz**	**16.18**	**158**	P	**P**	**08 46 28.4**	**-0.6**
	baz=348,slow=14							
SNAA	**Sanae**	**17.71**	**156**	P	**P**	**08 46 45.9**	**-0.2**
SNAA	**Sanae**	**17.71**	**156**	P	**P**	**08 46 46.1**	**+0.1**
EFI	**East Falkland**	**19.39**	**272**	P	**P**	**08 47 03.7**	**-0.7**
QSPA	**South Pole Qui**	**33.40**	**180**	P	**P**	**08 49 17.1**	**+0.9**
CO01	**Juntas del Tor**	**40.80**	**292**	P	**P**	**08 50 18.3**	**-1.0**
CO01				IAmb	IAmb	08 50 28.6	
	comp=Z,7.8nm,1.4s							
BDFB	**Brasilia**	**44.42**	**329**	P	**P**	**08 50 48.7**	**+0.1**
	comp=Z,2.9nm,1.0s,baz=18,slow=12,SNR=3.4							
BDFB	**Brasilia**	**44.42**	**329**	P	**P**	**08 50 49.6**	**+1.0**
BDFB				IAmb	IAmb	08 50 55.2		
	comp=Z,5.3nm,1.1s							
VNDA	**Vanda**	**45.81**	**182**	P	**P**	**08 50 58.8**	**0.0**
H10S2	**ASCENSION HYDR**	**48.57**	**15**	T	T	09 44 07.9		
	baz=31,slow=74,SNR=12							
H10S3	**ASCENSION HYDR**	**48.57**	**15**	T	T	09 44 06.7		
	baz=189,slow=74,SNR=22							
TSUM	**Tsumeb**	**49.45**	**59**	LR	LR	09 10 36.3		
	comp=Z,20nm,18.6s,baz=230,slow=34							
H10N1	**ASCENSION HYDR**	**49.69**	**15**	T	T	09 45 26.9		
	baz=181,slow=70,SNR=14							
H10N3	**ASCENSION HYDR**	**49.69**	**15**	T	T	09 45 26.2		
	baz=181,slow=70,SNR=32							
H10N2	**ASCENSION HYDR**	**49.70**	**15**	T	T	09 45 33.8		
	baz=181,slow=70,SNR=26							
CASY	**Casey**	**52.91**	**160**	P	**P**	**08 51 52.6**	**-0.3**
CASY				IAmb	IAmb	08 51 58.7		
	comp=Z,8.5nm,1.3s							
SAML	**Samuel**	**55.88**	**314**	P	**P**	**08 52 14.6**	**-0.5**
SAML				IAmb	IAmb	08 52 15.6		
	comp=Z,5.3nm,1.2s							
TOA0	**Torodi Ar. Sit**	**73.40**	**28**	P	**P**	**08 54 10.0**	**+0.9**
TOA0				IAmb	IAmb	08 54 25.5		
	comp=Z,3.0nm,0.9s							
TORD	**Torodi Ar. Bea**	**73.40**	**28**	P	**P**	**08 54 09.9**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=201,slow=6.3,SNR=22							
RAR	**Rarotonga**	**93.15**	**222**	LR	LR	09 28 17.7		
	comp=Z,216nm,21.9s,baz=335,slow=30							
NVAR	**Mina Array Bea**	**122.38**	**292**	PKP	**PKPdf**	**09 01 30.8**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=159,slow=2.7,SNR=3.2							
FINES	**FINESS Array B**	**124.75**	**27**	PKP	**PKPdf**	**09 01 34.3**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=214,slow=1.5,SNR=1.9							
YKA	**Yellowknife Ar**	**137.26**	**317**	PKP	**PKPdf**	**09 01 58.0**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=133,slow=2.6,SNR=17							
INK	**Inuvik**	**146.89**	**320**	PKPbc	**PKPbc**	**09 02 17.4**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=202,slow=1.5,SNR=6.1							
INK	**Inuvik**	**146.89**	**320**		**PKPbc**	**09 02 17.8**	**+0.3**
SONM	**Songino Array**	**150.04**	**87**	PKPbc	**PKPbc**	**09 02 26.3**	**-0.2**
	comp=Z,1.5nm,0.5s,baz=221,slow=3.0,SNR=7.0							
ILAR	**Eielson Array**	**151.19**	**310**	PKPbc	**PKPbc**	**09 02 28.1**	**-0.5**
	comp=Z,1.8nm,1.0s,baz=140,slow=1.9,SNR=12							
KDAK	**Kodiak Island**	**151.82**	**295**	PKPbc	**PKPbc**	**09 02 29.0**	**-1.1**
	comp=Z,3.5nm,0.6s,baz=182,slow=3.3,SNR=5.8							
KDAK	**Kodiak Island**	**151.82**	**295**		**PKPbc**	**09 02 30.1**	**0.0**
TOLK	**Toolik Lake Re**	**152.76**	**318**		**PKiKP**	**09 02 32.4**	**+0.2**

IDC ***08*** *09:02:17.9±0.6, 60°.41S×27°.53W, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.2/22, mbtmp4.3/10, ML4.9/1, MS4.0/15, Ms1 3.9/15, ms1mx3.9/18, Error ellipse: s-maj=24.2km s-min=19.9km az=76.0*

GCMT ***08*** *09:02:24.5±0.3, 60°.60S±0°.04×27°.82W±0°.04, h13km±1km, MW5.0/95, Moment Tensor Solution. s15,c17; s95,c117; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.50±.21; Mθθ=0.24±.13; Mφφ=2.25±.14; Mrθ=1.12±.39; Mrφ=-0.87±.08; Mθφ=2.28±.37; Best double couple: M=3.54700×10^16 NP1:φs=321.00000°, δ=31.00000°, λ=-133.00000°. NP2: φs=188.00000°, δ=68.00000°, λ=-68.00000°. Principal axes: T 3.2230, Plg=20.0000°, Azm=261.0000°; N 0.6420, Plg=20.0000°, Azm=359.0000°; P -3.8720, Plg=61.0000°, Azm=130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***08*** *09:02:24.5±1.9, 60°.45S±0°.08×27°.8W±0°.2, h47km±4km, mb4.7/20 Error ellipse: s-maj=17.4km s-min=10.9km az=70.0*

ISC 08 09:02:19.6±0.5, 60°.52S±0°.1×27°.61W±0°.1, h10km, n60, σ1s29/47, mb4.5/16, MS4.1/13, 2C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.85**	**150**	P	**Pn**	**09 05 20.3**	**-1.6**
VNA3	**Neumayer Olymp**	**12.94**	**154**	P	**Pn**	**09 05 21.4**	**-1.8**
VNA2	**Neumayer--Watz**	**13.24**	**150**	P	**Pn**	**09 05 25.7**	**-1.7**
	baz=305,slow=15							
SNAA	**Sanae**	**14.86**	**149**	P	**Pn**	**09 05 47.8**	**-1.7**
SNAA	**Sanae**	**14.86**	**149**	Pn	**Pn**	**09 05 49.3**	**-0.2**
	4.8nm,0.3s,baz=313,slow=13,SNR=189							
SNAA				Sn	Sn	09 08 21.8	-12	
	0.3nm,0.3s,baz=210,slow=22,SNR=5.3							
SNAA				LR	LR	09 10 39.6		
	comp=Z,284nm,18.5s,baz=311,slow=34							
SNAA	**Sanae**	**14.86**	**149**		**Pn**	**09 05 48.6**	**-0.9**
PMSA	**Palmer Station**	**17.10**	**240**	LR	LR	09 12 02.3		
	comp=Z,1µm,18.2s,baz=82,slow=34							
EFI	**East Falkland**	**18.99**	**284**	P	**Pn**	**09 06 41.4**	**-0.3**
EFI				IAmb	IAmb	09 06 58.4		
	comp=Z,92nm,1.4s							
USHA	**Ushuaia**	**22.26**	**267**	P	**P**	**09 07 17.7**	**+1.4**
	comp=Z,6.5nm,0.4s,baz=122,slow=14,SNR=1.9							
USHA				LR	LR	09 14 21.3		
	comp=Z,867nm,18.7s,baz=112,slow=32							
GO10	**Punta Arenas**	**24.48**	**268**	P	P	**09 07 38.0**	**-0.5**
SYO	**Syowa Base**	**28.38**	**136**	*e*P	**P**	**09 08 11.4**	**-2.0**
SYO	**Syowa Base**	**28.38**	**136**	*e*pP	pP	09 08 23.0	+7.2
QSPA	**South Pole Qui**	**29.71**	**180**	P	**P**	**09 08 26.0**	**+0.5**
	comp=Z,10nm,1.1s,baz=197,slow=6.1,SNR=17							
QSPA				LR	LR	09 19 45.7		
	comp=Z,141nm,19.7s,baz=190,slow=35							
QSPA	**South Pole Qui**	**29.71**	**180**	P	**P**	**09 08 26.0**	**+0.5**
QSPA				IAmb	IAmb	09 08 28.4		
	comp=Z,31nm,1.3s							
LC01	**Cunco**	**34.92**	**288**	P	P	09 09 03.8	-7.4
MAW	**Mawson**	**36.76**	**140**	LR	LR	09 23 13.7		
	comp=Z,165nm,18.6s,baz=238,slow=34							
MAW	**Mawson**	**36.76**	**140**	P	**P**	**09 09 28.5**	**+2.0**
CFA	**Coronel Fontan**	**39.33**	**299**	P	**P**	**09 09 46.8**	**-1.9**
	comp=Z,1.0nm,0.5s,baz=154,slow=15,SNR=2.0							
CO02	**Combarbal**	**40.88**	**296**	P	**P**	**09 10 04.6**	**+2.9**
VNDA	**Vanda**	**42.08**	**183**	P	**P**	**09 10 12.4**	**+1.6**
	comp=Z,2.9nm,1.0s,baz=191,slow=7.5,SNR=11							
VNDA				LR	LR	09 26 07.5		
	comp=Z,42nm,20.9s,baz=164,slow=34							
VNDA	**Vanda**	**42.08**	**183**	P	**P**	**09 10 13.1**	**+2.3**
AC05	**El Transito**	**42.60**	**299**	P	**P**	**09 10 14.8**	**-1.0**
AC05				IAmb	IAmb	09 10 34.0		
	comp=Z,17nm,1.3s							

AC02	**Maricunga**	**43.85**	**301**	P	**P**	**09 10 25.9**	**-0.4**
AC02				IAmb	IAmb	09 10 27.9		
	comp=Z,9.2nm,1.0s							
GO02	**Mina Guanaco**	**45.52**	**302**	P	**P**	**09 10 38.6**	**-0.8**
BDFB	**Brasilia**	**47.20**	**333**	LR	LR	09 31 14.0		
	comp=Z,83nm,18.8s,baz=190,slow=37							
BOSA	**Boshof**	**47.42**	**72**	P	**P**	**09 10 54.0**	**-0.1**
	comp=Z,3.2nm,1.1s,baz=216,slow=8.7,SNR=3.5							
BOSA				LR	LR	09 26 08.1		
	comp=Z,222nm,21.7s,baz=196,slow=30							
BOSA	**Boshof**	**47.42**	**72**	P	**P**	**09 10 53.9**	**-0.3**
BOSA				IAmb	IAmb	09 11 00.3		
	comp=Z,9.2nm,1.2s							
PB01	**IPOC Station P**	**49.14**	**304**	P	**P**	**09 11 07.0**	**-0.4**
GO01	**Chusmiza**	**50.25**	**306**	P	**P**	**09 11 15.4**	**-0.9**
GO01				IAmb	IAmb	09 11 30.2		
	comp=Z,14nm,1.4s							
MNMC	**Minye Minye**	**50.90**	**305**	P	**P**	**09 11 20.4**	**-0.6**
MNMC				IAmb	IAmb	09 11 32.4		
	comp=Z,8.0nm,0.9s							
TSUM	**Tsumeb**	**52.16**	**58**	P	**P**	**09 11 30.9**	**+0.7**
TSUM				IAmb	IAmb	09 11 39.8		
	comp=Z,8.9nm,1.2s							
H10S2	**ASCENSION HYDR**	**52.37**	**16**	T	T	10 08 31.1		
	baz=31,slow=74,SNR=4.6							
H10S3	**ASCENSION HYDR**	**52.37**	**16**	T	T	10 08 27.4		
	baz=189,slow=74,SNR=11							
LPAZ	**La Paz**	**52.89**	**309**	P	**P**	**09 11 36.3**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=128,slow=3.6,SNR=3.3							
LPAZ				LR	LR	09 35 38.8		
	comp=Z,42nm,20.4s,baz=145,slow=38							
LPAZ	**La Paz**	**52.89**	**309**	P	**P**	**09 11 36.4**	**+0.1**
H10N1	**ASCENSION HYDR**	**53.48**	**16**	T	T	10 09 54.3		
	baz=188,slow=75,SNR=4.6							
H10N3	**ASCENSION HYDR**	**53.49**	**16**	T	T	10 09 53.1		
	baz=188,slow=75,SNR=13							
H10N2	**ASCENSION HYDR**	**53.50**	**16**	T	T	10 09 55.6		
	baz=188,slow=75,SNR=9.0							
LSZ	**Lusaka**	**60.27**	**67**	P	**P**	**09 12 31.2**	**+3.0**
DBIC	**Dimbokro**	**69.34**	**24**	LR	LR	09 37 38.8		
	comp=Z,74nm,20.0s,baz=156,slow=31							
ROSC	**El Rosal**	**74.63**	**311**	LR	LR	09 49 07.8		
	comp=Z,108nm,18.8s,baz=226,slow=38							
TOA0	**Torodi Ar. Sit**	**77.08**	**29**	P	**P**	**09 14 12.0**	**-0.7**
TOA0				IAmb	IAmb	09 14 28.4		
	comp=Z,3.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**77.08**	**29**	P	**P**	**09 14 12.1**	**-0.6**
	comp=Z,2.4nm,0.5s,baz=198,slow=5.3,SNR=24							
TORD				LR	LR	09 43 37.1		
	comp=Z,117nm,18.6s,baz=180,slow=32							
SJG	**San Juan**	**84.30**	**323**	P	**P**	**09 14 49.7**	**-1.6**
SJG				IAmb	IAmb	09 15 08.3		
	comp=Z,14nm,1.2s							
STKA	**Stephens Creek**	**87.51**	**171**	P	**P**	**09 15 07.3**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=182,slow=6.9,SNR=4.5							
STKA	**Stephens Creek**	**87.51**	**171**	P	**P**	**09 15 07.4**	**+0.1**
PPT	**Papeete**	**89.37**	**234**	LR	LR	09 47 51.1		
	comp=Z,174nm,20.1s,baz=172,slow=31							
ASAR	**Alice Springs**	**94.77**	**163**	P	**P**	**09 15 40.5**	**-0.7**
	comp=Z,1.5nm,0.9s,baz=190,slow=5.3,SNR=7.8							
ASAR				LR	LR	09 55 41.0		
	comp=Z,101nm,19.8s,baz=206,slow=34							
DZM	**Mont Dzumac**	**96.91**	**193**	LR	LR	09 56 48.4		
	comp=Z,92nm,18.3s,baz=180,slow=34							
FINES	**FINESS Array B**	**128.43**	**30**	PKP	**PKPdf**	**09 21 23.9**	**-0.9**
	comp=Z,2.3nm,0.9s,baz=199,slow=2.9,SNR=6.6							
BVAR	**Borovoye Array**	**137.24**	**62**	PKP	**PKPdf**	**09 21 41.9**	**+0.2**
	comp=Z,0.

CM01	**Chiang Mai Arr**	**2.95**	**112**	P		**Pn**	**09 15 46.4**	**-0.7**
CM09	**Chiang Mai Arr**	**2.97**	**111**	P		**Pn**	**09 15 47.1**	**-0.3**
CM04	**Chiang Mai Arr**	**2.98**	**112**	P		**Pn**	**09 15 47.5**	**0.0**
CM34	**Chiang Mai Arr**	**2.98**	**103**	P		**Pn**	**09 15 47.5**	**-0.1**
LAMP	**Lampang**	**3.51**	**106**	P		**Pn**	**09 15 54.8**	**-0.1**
PAYA	**Payao**	**3.58**	**92**	P		**Pn**	**09 15 55.9**	**+0.1**
CRAI	**Chiangrai**	**4.10**	**80**	P		**Pn**	**09 16 02.3**	**-0.6**
BRDH	**Bariadhala**	**5.18**	**308**	Sn		**Sn**	**09 17 19.9**	**+2.4**
	12nm,0.3s,baz=154,slow=23,SNR=3.7							
PBKT	**Sadao Pong**	**5.52**	**122**	P		**Pn**	**09 16 22.3**	**-0.1**
PBKT	**Sadao Pong**	**5.52**	**122**	Pn		**Pn**	**09 16 21.9**	**-0.5**
SRDT	**SRDT**	**5.94**	**150**	P		**Pn**	**09 16 26.9**	**-1.4**
SHL	**Shillong**	**7.13**	**328**	*e*P		**Pn**	**09 16 46.1**	**+1.4**
SHL				*e*S		**Sn**	**09 18 06.3**	**+0.4**
SHL				IAML			09 18 09.9	
	comp=N,84nm,0.5s							
SHL				IAML			09 18 10.1	
	comp=E,45nm,0.4s							
SHL	**Shillong**	**7.13**	**328**	Pn		**Pn**	**09 16 46.0**	**+1.2**
SLVN	**Son La**	**7.55**	**75**	Pn		Pn	09 16 48.0	-2.4
KMI	**Kunming**	**8.29**	**47**	Pn		**Pg**	**09 17 42.1**	**+3.2**
KMI				Sn		Sg	09 19 19.3	-7.0
KMI				smax		smax		
	comp=N,58nm,1.2s							
KMI				smax		smax		
	comp=E,36nm,1.1s							
KMI				LR		LR		
	comp=N,430nm,5.7s							
KMI				LR		LR		
	comp=E,190nm,7.3s							
KMI				LR		LR		
	comp=Z,310nm,7.1s							
PBA	**Port Blair**	**8.49**	**203**	Pn		Pn	09 17 04.5	+1.2
ODAN	**Odare**	**10.80**	**314**	*e*Pn		**Pn**	**09 17 35.7**	**+0.6**
TAPN	**Taplejung**	**10.91**	**317**	*e*Pn		**Pn**	**09 17 36.8**	**0.0**
TAPN				*e*Sn		**Sn**	**09 19 35.6**	**-3.6**
	comp=Z,48nm,0.6s							
LSA	**Lhasa**	**11.05**	**337**	Pn		**Pn**	**09 17 37.9**	**-0.8**
RAMN	**Ramite**	**11.40**	**312**	*e*Pn		**Pn**	**09 17 44.0**	**+0.6**
GYA	**Guiyang**	**11.92**	**53**	P		**Pn**	**09 17 52.0**	**+1.6**
GYA				S		**Sn**	**09 20 06.1**	**+2.5**
GYA				SS		**SnSn**	**09 20 18.8**	**+3.0**
GYA				pmax		pmax		
	comp=Z,5.0nm,1.2s							
GYA				LR		LR		
	comp=Z,290nm,6.3s							
GYA				LR		LR		
	comp=Z,400nm,7.9s							
GYA				LR		LR		
	comp=Z,430nm,7.7s							
JIRN	**Jiri**	**12.13**	**314**	*e*Pn		**Pn**	**09 17 53.4**	**-0.1**
GUN	**Gumba**	**12.50**	**314**	*e*Pn		**Pn**	**09 17 58.7**	**+0.2**
PKIN	**Phulchoki**	**12.63**	**311**	*e*Pn		**Pn**	**09 18 00.8**	**+0.5**
CD2	**Chengdu**	**13.26**	**30**	P		**Pn**	**09 18 07.8**	**-0.9**
CD2				S		**Sn**	**09 20 34.6**	**-1.7**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CD2				LR		LR		
	comp=Z,360nm,8.6s							
CD2				LR		LR		
	comp=Z,380nm,8.6s							
CD2				LR		LR		
	comp=Z,760nm,7.8s							
GKN	**Gorkha**	**13.42**	**311**	*e*Pn		**Pn**	**09 18 11.8**	**+0.8**
KOLN	**Koldanda**	**14.05**	**308**	*e*Pn		**Pn**	**09 18 20.4**	**+0.8**
DANN	**Dangsing**	**14.26**	**310**	*e*Pn		**Pn**	**09 18 22.3**	**-0.2**
IPM	**Ipoh**	**15.74**	**162**			**Pn**	**09 18 44.8**	**+2.7**
PSI	**Prapat**	**16.88**	**170**	Pn		**P**	**09 19 02.5**	**+3.6**
	baz=0.2,slow=9.7,SNR=4.0							
RPSI	**Rantau Prapat**	**16.99**	**170**	P		**Pn**	**09 19 01.3**	**+3.2**
RPSI	**Rantau Prapat**	**16.99**	**170**	P		**P**	**09 19 02.5**	**+2.6**
XAN	**Xi'an**	**18.40**	**36**	P		**Pn**	**09 19 16.1**	**+0.6**
XAN				pP		pP	09 19 20.6	+2.2
XAN				pmax		pmax		
	comp=Z,8.0nm,0.7s							
XAN	**Xi'an**	**18.40**	**36**	P		**Pn**	**09 19 14.3**	**-1.2**
NJ2	**Nanjing**	**23.93**	**54**	*e*P		**P**	**09 20 13.4**	**-1.0**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
NIL	**Nilore**	**24.70**	**309**	P		**P**	**09 20 21.4**	**-0.2**
HHC	**Hu-ho-hao-te**	**25.01**	**29**	*e*P		**P**	**09 20 24.7**	**+0.3**
HHC				pmax		pmax		
	comp=Z,10.0nm,0.9s							
HHC				pmax		pmax		
	comp=Z,68nm,5.2s							
HHC				LR		LR		
	comp=Z,120nm,12.9s							
HHC				LR		LR		
	comp=Z,96nm,13.0s							
HHC				LR		LR		
	comp=Z,78nm,12.1s							
WMQ	**Urumqi**	**25.19**	**346**	*e*P		**P**	**09 20 26.9**	**+0.9**
WMQ				pP		sP	09 20 36.8	+6.5
WMQ				LR		LR		
	comp=Z,340nm,16.9s							
WMQ				LR		LR		
	comp=Z,210nm,18.3s							
WMQ				LR		LR		
	comp=Z,94nm,23.5s							
BJI	**Beijing**	**26.73**	**36**	P		**P**	**09 20 38.0**	**-1.9**
BJI				pmax		pmax		
	comp=Z,3.0nm,0.5s							
TARG	**Taragay, Kyrgy**	**27.01**	**329**	P		**P**	**09 20 42.3**	**-0.6**
KBL	**Kabul**	**28.21**	**307**	P		**P**	**09 20 53.0**	**-0.5**
KBL				IAmb		IAmb	09 21 02.5	
	comp=Z,10nm,0.9s							
AAK	**Ala-Archa**	**29.35**	**326**	P		**P**	**09 21 03.6**	**+0.1**
	comp=Z,0.8nm,0.2s,baz=151,slow=13,SNR=3.6							
AAK	**Ala-Archa**	**29.35**	**326**	P		**P**	**09 21 03.0**	**-0.4**
MK31	**Makanchi Array**	**29.42**	**341**	P		**P**	**09 21 03.3**	**-0.6**
MKAR	**Makanchi Array**	**29.42**	**341**	P		**P**	**09 21 03.8**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=154,slow=9.3,SNR=11							
SONM	**Songino Array**	**29.43**	**14**	P		**P**	**09 21 05.0**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=205,slow=12,SNR=2.4							
GAR	**Garm**	**29.50**	**317**	P		**P**	**09 21 04.5**	**-0.3**
GAR				IAmb		IAmb	09 21 08.7	
	comp=Z,12nm,0.8s							
CHGR	**Chuyangaron**	**30.08**	**315**	P		P	09 21 08.3	-1.6
KK31	**Karatay Array**	**31.83**	**323**	P		**P**	**09 21 24.0**	**-1.2**
KSRS	**Korea Array**	**32.97**	**51**	LR		LR	09 36 25.5	
	comp=Z,37nm,18.6s,baz=211,slow=39							
KURBB	**Kurchatov Arra**	**33.98**	**340**	P		**P**	**09 21 42.9**	**-0.9**
	comp=Z,2.8nm,0.6s,baz=150,slow=8.8,SNR=9.1							
KURK	**Kurchatov**	**34.03**	**340**	P		**P**	**09 21 44.1**	**-0.2**
KURK				IAmb		IAmb	09 21 48.6	
	comp=Z,3.3nm,0.7s							
ZAA0	**Zalesovo Array**	**35.41**	**349**	P		**P**	**09 21 56.1**	**0.0**
ZAA0				IAmb		IAmb	09 21 57.2	
	comp=Z,4.4nm,0.8s							
GEYT	**Alibeck**	**37.66**	**307**	P		**P**	**09 22 14.5**	**-1.2**
	comp=Z,17nm,0.6s,baz=274,slow=40,SNR=13							
USRK	**Ussuriysk Ar.**	**38.69**	**42**	P		**P**	**09 22 23.9**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=245,slow=6.6,SNR=4.4							
BVAR	**Borovoye Array**	**38.88**	**335**	P		**P**	**09 22 24.9**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=142,slow=7.5,SNR=4.8							
NRIK	**Noril'sk**	**50.05**	**356**	P		**P**	**09 23 54.5**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=110,slow=1.3,SNR=2.4							
NRIK				LR		LR	09 46 25.8	
	comp=Z,26nm,20.2s,baz=62,slow=38							
KIV	**Kislovodsk**	**50.48**	**311**	P		**P**	**09 23 58.6**	**0.0**
KIV				IAmb		IAmb	09 24 04.5	
	comp=Z,9.1nm,1.0s							
WB0	**Warramunga Arr**	**54.20**	**134**	P		**P**	**09 24 26.5**	**+0.2**
WRA	**Warramunga Arr**	**54.28**	**134**	P		**P**	**09 24 26.8**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=320,slow=7.5,SNR=7.2							
WB2	**Warramunga Arr**	**54.29**	**134**	P		**P**	**09 24 27.2**	**+0.2**
WB2				IAmb		IAmb	09 24 37.2	
	comp=Z,13nm,1.5s							
TIXI	**Tiksi**	**55.48**	**12**	P		**P**	**09 24 34.1**	**-0.7**
TIXI				IAmb		IAmb	09 24 38.6	
	comp=Z,12nm,1.4s							
BZK	**Bozkurt**	**56.56**	**308**	⇑P		**P**	**09 24 43.3**	**+0.3**
ASAR	**Alice Springs**	**56.62**	**138**	P		**P**	**09 24 44.2**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=320,slow=7.0,SNR=16							
BRTR	**Keskin Array B**	**56.75**	**305**	P		**P**	**09 24 43.1**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=120,slow=8.8,SNR=3.8							
CSS	**Mathiatis**	**57.01**	**299**	P		**P**	**09 24 45.8**	**-0.7**
CSS				IAmb		IAmb	09 24 51.2	
	comp=Z,6.7nm,0.8s							
PETK	**Petropavlovsk-**	**57.61**	**39**	P		**P**	**09 24 51.1**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=290,slow=9.3,SNR=2.5							
ELL	**Elmali**	**59.72**	**302**	P		**P**	**09 25 04.8**	**-0.6**
AKASG	**Malin Array Be**	**60.49**	**318**	P		**P**	**09 25 08.8**	**-1.5**
	comp=Z,3.2nm,0.6s,baz=82,slow=6.4,SNR=8.9							
AKBB	**Malin Array Si**	**60.49**	**318**	P		**P**	**09 25 08.9**	**-1.4**

VRI	**Vrincioaia**	**61.94**	**312**	⇑P		**P**	**09 25 20.4**	**+0.1**
BIZ	**Bicaz**	**62.38**	**313**	⇑P		**P**	**09 25 23.2**	**0.0**
MLR	**Muntele Rosu**	**62.49**	**312**	P		**P**	**09 25 23.4**	**-0.7**
BURAR	**Bucovina Array**	**62.99**	**314**	⇑P		**P**	**09 25 26.5**	**-0.9**
BUR08	**Bucovina Ar. S**	**63.00**	**314**	P		**P**	**09 25 27.1**	**-0.4**
BUR08				IAmb		IAmb	09 25 31.9	
	comp=Z,4.4nm,1.2s							
SANT	**Santorini**	**63.32**	**302**	P		**P**	**09 25 28.9**	**-0.8**
FIA1	**FINESS Array S**	**63.46**	**330**	P		**P**	**09 25 29.3**	**-0.8**
FIA1				IAmb		IAmb	09 25 44.7	
	comp=Z,9.0nm,1.3s							
FINES	**FINESS Array B**	**63.46**	**330**	P		**P**	**09 25 28.7**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=95,slow=6.0,SNR=10							
IDI	**Anoyia**	**63.89**	**300**	P		**P**	**09 25 33.4**	**-0.1**
VTS	**Vitosha**	**64.55**	**309**	⇑P		**P**	**09 25 37.7**	**-0.1**
KWP	**Kalwaria Pacla**	**64.64**	**316**	P		**P**	**09 25 37.2**	**-0.9**
DRGR		**64.71**	**313**	⇑P		P	09 25 35.5	-3.2
KOLS	**Kolonicke sedl**	**64.94**	**316**	*e*P		**P**	**09 25 42.1**	**+2.0**
ARCES	**ARCESS Array B**	**65.05**	**339**	P		**P**	**09 25 39.9**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=81,slow=7.5,SNR=3.7							
CRVS	**Cervenica-Dubn**	**65.48**	**316**	*e*P		**P**	**09 25 44.1**	**+0.6**
STKA	**Stephens Creek**	**67.21**	**139**	P		**P**	**09 25 55.3**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=321,slow=8.4,SNR=8.8							
STKA	**Stephens Creek**	**67.21**	**139**	P		**P**	**09 25 55.5**	**+0.7**
BRG	**Berggiesshubel**	**70.17**	**318**	*e*P		**P**	**09 26 13.2**	**+0.1**
	comp=Z,3.8nm,0.6s							
BRG				*i*			09 26 16.8	
	comp=Z,2.9nm,0.9s							
MOA	**Molln**	**70.34**	**315**	*e*P		**P**	**09 26 13.8**	**-0.4**
	comp=Z,1.8nm,0.6s							
GEC2	**GERESS Array S**	**70.58**	**316**	P		**P**	**09 26 16.2**	**+0.4**
GEC2				IAmb		IAmb	09 26 20.0	
	comp=Z,4.2nm,0.8s							
GERES	**GERESS Array B**	**70.58**	**316**	P		**P**	**09 26 15.2**	**-0.6**
	comp=Z,3.2nm,0.7s,baz=73,slow=6.5,SNR=14							
GERES				LR		LR	10 01 06.6	
	comp=Z,53nm,21.8s,baz=238,slow=39							
NB2	**NORSAR Subarra**	**70.62**	**329**	P		**P**	**09 26 14.3**	**-1.4**
	comp=Z,0.8nm,0.7s,baz=93,slow=5.3							
NOA	**NORSAR Array B**	**70.62**	**329**	P		**P**	**09 26 14.2**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=86,slow=6.1,SNR=4.6							
CLL	**Collm**	**70.71**	**319**	*e*P		**P**	**09 26 18.0**	**+1.7**
CLL				*e*pP		**sP**	**09 26 25.0**	**+4.1**
PRED	**Cave del Predi**	**71.02**	**314**	P		**P**	**09 26 18.2**	**-0.2**
PRED				IAmb		IAmb	09 26 22.1	
	comp=Z,3.0nm,0.7s							
STAL	**STALIGIAL**	**71.63**	**313**	P		**P**	**09 26 21.4**	**-0.7**
STAL				IAmb		IAmb	09 26 25.5	
	comp=Z,5.5nm,0.7s							
CIMO	**Cimolais**	**71.81**	**314**	P		**P**	**09 26 22.4**	**-0.8**
WTTA	**Wattenberg**	**72.19**	**315**	*e*P		**P**	**09 26 24.6**	**-1.1**
	comp=Z,2.5nm,0.8s							
SQTA	**Sankt Quirin**	**72.49**	**315**	*e*P		**P**	**09 26 26.2**	**-1.1**
	comp=Z,3.2nm,0.8s							
MOTA	**Moosalm**	**72.53**	**315**	*e*P		**P**	**09 26 26.9**	**-0.7**
	comp=Z,1.9nm,0.6s							
VLC	**Villacollemand**	**73.62**	**312**	P		**P**	**09 26 34.5**	**+0.5**
VLC				IAmb		IAmb	09 26 37.3	
	comp=Z,6.6nm,0.9s							
MEM	**Membach**	**75.19**	**319**	P		P	09 26 40.4	-2.5
MEM				pP		sP	09 26 51.2	+3.8
KEST	**Kesra**	**76.28**	**303**	P		**P**	**09 26 49.3**	**-0.3**
	comp=Z,6.8nm,1.1s,baz=164,slow=7.0,SNR=2.6							
TOLK	**Toolik Lake Re**	**80.38**	**20**	P		**P**	**09 27 11.5**	**-0.1**
TOLK				IAmb		IAmb	09 27 17.8	
	comp=Z,5.6nm,0.8s							
LBTB	**Lobatse**	**81.61**	**240**	P		**P**	**09 27 19.5**	**+0.6**
LBTB				IAmb		IAmb	09 27 22.6	
	comp=Z,5.0nm,1.2s							
ILAR	**Eielson Array**	**83.28**	**23**	P		**P**	**09 27 25.7**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=305,slow=5.3,SNR=17							
BOSA	**Boshof**	**83.46**	**237**	P		**P**	**09 27 27.5**	**-1.1**
	comp=Z,1.8nm,0.5s,baz=46,slow=3.1,SNR=5.6							
BOSA	**Boshof**	**83.46**	**237**	P		**P**	**09 27 29.0**	**+0.5**
BOSA				IAmb		IAmb	09 27 34.3	
	comp=Z,8.1nm,1.1s							
DOT	**Dot Lake**	**84.94**	**23**	P		**P**	**09 27 34.8**	**-0.6**
DOT				IAmb		IAmb	09 27 36.0	
	comp=Z,4.1nm,1.0s							
ESDC	**Sonseca Array**	**85.14**	**310**	P		**P**	**09 27 36.2**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=32,slow=3.8,SNR=3.1							
INK	**Inuvik**	**85.31**	**17**	P		**P**	**09 27 37.0**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=325,slow=4.1,SNR=7.4							
INK	**Inuvik**	**85.31**	**17**	P		**P**	**09 27 37.1**	**+0.1**
INK				IAmb		IAmb	09 27 41.0	
	comp=Z,3.7nm,0.7s							
EPYK	**Eagle Plains**	**85.72**	**19**	P		**P**	**09 27 38.6**	**-0.6**
EPYK				IAmb		IAmb	09 27 43.5	
	comp=Z,4.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**89.72**	**284**	P		**P**	**09 27 58.7**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=62,slow=6.7,SNR=3.1							
YKA	**Yellowknife Ar**	**94.69**	**14**	P		**P**	**09 28 20.5**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=323,slow=3.3,SNR=6.1							
TXAR	**Lajitas Array**	**127.79**	**22**	PKP		**PKPdf**	**09 34 05.7**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=9.5,slow=3.8,SNR=2.6							
BDFB	**Brasilia**	**145.59**	**271**	PKPbc		**PKPdf**	**09 34 39.3**	**-0.5**
	comp=Z,3.6nm,0.8s,baz=58,slow=4.9,SNR=4.2							

*IDC **08** 09:25:00.1±21.0, 10˚.34N×126˚.76E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.5/57, mbtmp3.9/5, Error ellipse: s-maj=370.0km s-min=107.1km az=177.0*
*NEIC **08** 09:25:03.1±0.4, 10˚.36N±0˚.09×126˚.9E±0˚.2, h21km±8km, mb4.7/10, Error ellipse: s-maj=30.2km s-min=12.1km az=84.0*
*MAN **08** 09:25:06.1, 9˚.71N×127˚.05E, h12km, mb4.8, ML3.7, MS3.6*

ISC 08 09:25:08.3±1.0, 9˚.58N±0˚.05×126˚.84E±0˚.09, h10km, n31, σ1s47/28, mb4.5/9, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**2.03**	**286**	*e*P	**Pn**	**09 25 43.4**	**+0.9**
MSLP				*e*S	**Sb**	**09 26 10.1**	**-0.5**
BUKP	**Musuan**	**2.43**	**226**	*e*P	**Pn**	**09 25 48.6**	**+0.4**
BUKP				*e*S	**Sb**	**09 26 20.3**	**-2.1**
DAV	**Davao City (W)**	**2.78**	**207**	Pn	**Pb**	**09 25 56.7**	**-1.5**
TBP	**Tagbilaran**	**2.94**	**272**	*e*P	**Pn**	**09 25 55.7**	**+0.6**
KCP	**Kidapawan**	**3.08**	**214**	⇑*e*P	**Pn**	**09 25 59.2**	**+2.1**
KCP				*i* S	**Sb**	**09 26 39.0**	**-2.1**
CNP	**Catarman**	**3.61**	**324**	*e*P	**Pn**	**09 26 03.5**	**-0.9**
CNP				*e*S	**Sn**	**09 26 46.9**	**-0.3**
DDMP	**Don Marcelino,**	**3.62**	**198**	*e*P	**Pn**	**09 26 05.2**	**+0.6**
DDMP				*e*S	**Sb**	**09 26 57.3**	**+0.6**
RCP	**Roxas**	**4.48**	**296**	⇓*e*P	**Pn**	**09 26 18.9**	**+2.5**
SZP	**Santa**	**10.06**	**323**	Pn	Pn	09 27 19.1	-14
LUWI	**Luwuk**	**11.30**	**201**	Pn	**Pn**	**09 27 53.5**	**+3.5**
KNRA	**Kununurra**	**25.16**	**176**	P	**P**	**09 30 34.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**27.52**	**182**	P	**P**	**09 30 55.8**	**+0.4**
	3.3nm,0.9s,baz=5.7,slow=10,SNR=1.6						
FITZ	**Fitzroy Crossi**	**27.52**	**182**	P	**P**	**09 30 55.7**	**+0.4**
FITZ				IAmb	IAmb	09 31 13.3	
	comp=Z,19nm,1.4s						
WRA	**Warramunga Arr**	**30.25**	**166**	P	**P**	**09 31 18.5**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=344,slow=9.3,SNR=1.3						
PSAD1	**Pilbara Seismi**	**31.60**	**193**	P	**P**	**09 31 33.5**	**+2.0**
PSAD1				IAmb	IAmb	09 31 48.4	
	comp=Z,17nm,1.1s						
PSAA2	**Pilbara Seismi**	**31.70**	**192**	P	**P**	**09 31 32.4**	**+0.1**
PSAA2				IAmb	IAmb	09 31 32.9	
	comp=Z,12nm,1.2s						
ASAR	**Alice Springs**	**33.75**	**168**	P	**P**	**09 31 50.9**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=349,slow=7.2,SNR=1.3						
H11S3	**WAKE ISLAND Hy**	**39.59**	**73**	T	T	10 15 47.2	
	baz=246,SNR=5.2						
H11S1	**WAKE ISLAND Hy**	**39.60**	**73**	T	T	10 15 48.7	
	baz=246						
H11S2	**WAKE ISLAND Hy**	**39.60**	**73**	T	T	10 15 42.1	
	baz=246						
MORW	**Morawa**	**39.81**	**195**	P	**P**	**09 32 41.3**	**-0.6**
MORW				IAmb	IAmb	09 32 51.1	
	comp=Z,31nm,1.5s						
H11N1	**WAKE ISLAND Hy**	**39.95**	**71**	T	T	10 16 25.8	
	baz=263,slow=75,SNR=3.9						
H11N2	**WAKE ISLAND Hy**	**39.96**	**71**	T	T	10 16 27.1	
	baz=263						
H11N3	**WAKE ISLAND Hy**	**39.97**	**71**	T	T	10 16 24.6	
	baz=263,slow=75,SNR=3.6						
BBOO	**Buckleboo**	**43.06**	**169**	P	**P**	**09 33 10.5**	**+2.0**
BBOO				IAmb	IAmb	09 33 28.2	
	comp=Z,17nm,1.4s						
NWAO	**Narrogin (SRO)**	**43.25**	**192**	P	**P**	**09 33 09.1**	**-0.9**
	comp=Z,4.2nm,0.7s,baz=338,slow=7.5,SNR=1.1						
NWAO	**Narrogin (SRO)**	**43.25**	**192**	P	**P**	**09 33 09.3**	**-0.7**
NWAO				IAmb	IAmb	09 33 17.8	
	comp=Z,14nm,1.2s						
STKA	**Stephens Creek**	**43.57**	**162**	P	**P**	**09 33 11.6**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=0.0,slow=8.1,SNR=2.2						
STKA	**Stephens Creek**	**43.57**	**162**	P	**P**	**09 33 11.4**	**-1.3**
TOO	**Toolangi**	**50.05**	**161**	P	**P**	**09 34 01.6**	**-1.7**
TOLK	**Toolik Lake Re**	**78.81**	**22**	P	P	09 36 59.5	-12

*IDC **08** 09:27:22.0±2.6, 36˚.29N×70˚.72E, h173km±22km, mb3.5/16, mb1 3.7/22, mb1mx3.5/52, mbtmp4.1/22, Error ellipse: s-maj=17.4km s-min=12.1km az=177.0*
*NEIC **08** 09:27:26.0±2.4, 36˚.48N±0˚.04×70˚.66E±0˚.09, h208km±3km, mb4.2/33, Error ellipse: s-maj=10.1km s-min=6.3km az=90.0*
*NNC **08** 09:27:26.9±2.0, 36˚.79N×70˚.56E, h187km±22km, mb3.8, mpv5.0, Error ellipse: s-maj=18.9km s-min=11.9km az=166.0*

ISC 08 09:27:25.2±0.4, 36˚.47N±0˚.04×70˚.75E±0˚.04, h200km, n137, σ1s72/157, mb4.0/34, 17C-7D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.38**	**216**	Pn	**Pn**	**09 28 08.3**	**+0.3**
KBL				Sn	**Sn**	**09 28 40.0**	**-1.3**
CHGR	**Chuyangaron**	**2.52**	**330**	Pn	**Pn**	**09 28 09.8**	**+0.5**
CHGR				Sn	**Sn**	**09 28 42.0**	**-1.9**
GAR	**Garm**	**2.55**	**352**	Pn	**Pn**	**09 28 10.3**	**+0.7**
GAR				Sn	**Sn**	**09 28 43.1**	**-1.4**
CEP	**Cherat**	**2.81**	**160**	P	**Pn**	**09 28 13.5**	**+0.7**
CEP				S	**Sn**	**09 28 49.0**	**-0.9**
CHCP	**Chirah Chowk**	**3.48**	**143**	P	**Pn**	**09 28 21.5**	**+0.8**
NIL	**Nilore**	**3.48**	**143**		**Pn**	**09 28 21.7**	**+1.0**
BTK	**Batken**	**3.58**	**1**	Pn	**Pn**	**09 28 23.2**	**+1.4**
THW	**Thamme Wali**	**3.76**	**167**	⇑P	**Pn**	**09 28 24.4**	**+0.3**
SARP	**Sargodha**	**4.81**	**160**	P	**Pn**	**09 28 36.6**	**-0.6**
TAS	**Tashkent**	**4.98**	**347**	Pn	**Pn**	**09 28 40.0**	**+0.8**
JMU	**Jammu**	**5.07**	**136**	*e*P	Pn	09 28 53.5	+13
JMU				*e*S	Sn	09 29 25.0	-15
KSH	**Kashi**	**5.12**	**52**	P	Pn	09 28 37.2	-4.0
KSH				S	Sn	09 29 28.3	-13
KSH				smax	smax		
	comp=N,2μm,0.6s						
KSH				smax	smax		
	comp=E,1μm,0.6s						
ARSB	**Arslanbob**	**5.15**	**19**	Pn	**Pn**	**09 28 41.2**	**-0.3**
IUG	**Iuzhnay**	**5.69**	**355**	⇑*i* P	Pn	09 29 05.2	+17
	6.8nm,0.6s,baz=355						
IUG				*e*S	Sn	09 30 07.0	+13
	baz=355						
THN	**Thein Dam**	**5.75**	**133**	*e*P	**Pn**	**09 28 49.0**	**-0.2**
THN				*e*S	**Sn**	**09 29 52.0**	**-3.5**
CHM	**Chimkent**	**5.91**	**352**	*e*P	Pn	09 29 02.0	+11
	35nm,0.6s,baz=352						
CHM				*e*S	**Sn**	**09 30 06.5**	**+7.3**
	baz=352						
AML	**Almayashu**	**6.09**	**21**	P	**Pn**	**09 28 54.0**	**+0.1**
	SNR=420						
DHRM	**DHARAMSHALA**	**6.23**	**131**	*e*P	**Pn**	**09 28 55.2**	**-0.4**
DHRM				*e*S	**Sn**	**09 30 03.3**	**-3.8**
DHRM				IAML		09 30 06.2	
	comp=N,499nm,0.2s						
DZA	**Taraz**	**6.43**	**4**	*e*P	**Pn**	**09 28 58.8**	**+0.9**
	comp=N,98nm,0.5s,baz=4.6						
DZA				*e*S	**Sn**	**09 30 08.3**	**-3.1**
	baz=4.6						
UCH	**Uchtor**	**6.44**	**26**	P	**Pn**	**09 28 58.5**	**0.0**
	SNR=184						
KZA	**Kyzart**	**6.59**	**31**	P	**Pn**	**09 29 00.1**	**-0.3**
	SNR=32						
EKS2	**Erkin-Say**	**6.61**	**20**	P	**Pn**	**09 29 00.6**	**+0.3**
	SNR=89						
KK31	**Karatay Array**	**6.62**	**

GKN	Gorkha	14.46	122	*e*P		Pn	09 30 40.5	-0.4
	comp=E,44nm,0.2s							
WMQ	Urumqi	14.88	55	*e*P		P	09 30 47.8	+1.2
WMQ				LR		LR		
	comp=E,64nm,11.5s							
WMQ				LR		LR		
	comp=E,84nm,13.7s							
WMQ				LR		LR		
	comp=E,84nm,15.1s							
AB31	Akbulak array	15.01	332	P		Pn	09 30 46.4	-1.0
	comp=E,7.4nm,0.3s,baz=144,slow=9.7,SNR=56							
AB31				⇑S		S	09 33 27.6	-6.2
	comp=E,9.5nm,0.2s,baz=152,slow=24,SNR=4.5							
DMN	Daman	15.03	122	*e*P		Pn	09 30 47.1	-0.9
	comp=E,36nm,0.5s							
KURBB	Kurchatov Arra	15.21	19	P		Pn	09 30 48.6	-1.1
	comp=E,0.8nm,0.3s,baz=211,slow=10,SNR=34							
PKIN	Phulchoki	15.25	121	*e*P		Pn	09 30 49.5	-1.2
	comp=E,62nm,0.5s							
PKI	Pulchoki	15.26	121	*e*P		Pn	09 30 49.7	-1.2
	comp=E,41nm,0.5s							
KURK	Kurchatov	15.32	19	⇑P		Pn	09 30 49.1	-2.0
	comp=E,13nm,0.8s							
KURK	Kurchatov	15.32	19			Pn	09 30 49.9	-1.2
KURK				IAmb		IAmb	09 30 55.0	
	comp=Z,11nm,0.8s							
GUN	Gumba	15.38	119	*e*P		Pn	09 30 51.3	-1.0
	comp=Z,23nm,0.4s							
JIRN	Jiri	15.75	120	*e*P		P	09 30 56.4	-0.3
	comp=Z,82nm,0.4s							
RAMN	Ramite	16.47	121	*e*P		P	09 31 04.7	+0.1
	comp=Z,34nm,0.4s							
BVAR	Borovoye Array	16.55	359	P		P	09 31 05.8	+0.9
	comp=Z,4.8nm,0.3s,baz=172,slow=12,SNR=54							
BRVK	Borovoye	16.59	359	⇑P		P	09 31 06.2	+0.9
	comp=Z,17nm,0.8s							
BRVK	Borovoye	16.59	359	P		P	09 31 05.8	+0.5
AKTO	Aktyubinsk	16.70	331	P		Pn	09 31 08.1	+0.4
	comp=Z,1.5nm,0.3s,baz=139,slow=10,SNR=18							
AKTO				S		S	09 34 06.3	-4.4
	baz=231,slow=17,SNR=1.8							
AKTO	Aktyubinsk	16.70	331	⇑P		P	09 31 06.6	0.0
	comp=Z,7.8nm,0.7s							
UOSS	Minazif	16.96	231	P		P	09 31 08.3	-1.4
UOSS				IAmb		IAmb	09 31 13.7	
	comp=Z,9.8nm,0.8s							
TAPN	Taplejung	17.01	118	*e*P		P	09 31 12.0	+1.5
	comp=Z,24nm,0.3s							
ODAN	Odare	17.08	119	*e*P		P	09 31 12.5	+1.3
	comp=Z,40nm,0.6s							
ZAA0	Zalesovo Array	20.02	25	⇑P		P	09 31 42.5	0.0
	comp=Z,4.4nm,0.7s							
ZAA0	Zalesovo Array	20.02	25	P		P	09 31 42.5	0.0
ZALV	Zalesovo Beam	20.02	25	P		P	09 31 42.6	+0.2
	comp=Z,26nm,0.3s,baz=219,slow=12,SNR=106							
SHL	Shillong	21.08	115	P		P	09 31 54.1	-0.1
ARU	Arti	21.59	341	P		P	09 31 58.9	-0.1
	comp=Z,1.7nm,0.5s,baz=161,slow=9.7,SNR=8.5							
ARU	Arti	21.59	341	P		P	09 31 59.1	+0.1
ARU				IAmb		IAmb	09 32 02.3	
	comp=Z,6.8nm,0.7s							
GTA	Gaotai	23.07	74	*e*P		P	09 32 15.7	+2.6
GTA				pP		pP	09 32 54.5	+4.1
GTA				sP		sP	09 33 17.7	+1.6
GTA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
RAYN	Ar Rayn	25.30	246	P		P	09 32 33.4	-0.1
RAYN				IAmb		IAmb	09 32 35.1	
	comp=Z,10nm,1.1s							
LZH	Lanzhou	26.61	81	⇑P		P	09 32 47.2	+2.0
LZH				pP		pP	09 33 27.5	+0.8
LZH				PP		PnPn	09 33 41.6	+2.9
LZH				sP		sP	09 33 51.7	+1.1
LZH				pmax		pmax		
	comp=Z,18nm,1.0s							
LZH				pmax		pmax		
	comp=Z,56nm,4.7s							
SONM	Songino Array	28.52	55	P		P	09 33 02.9	+0.9
	comp=Z,1.0nm,0.7s,baz=248,slow=7.8,SNR=4.4							
BRTR	Keskin Array B	29.25	288	P		P	09 33 09.3	+0.7
	comp=Z,0.4nm,0.6s,baz=93,slow=8.9,SNR=2.9							
HHC	Hu-ho-hao-te	31.96	70	*e*P		P	09 33 33.4	+1.1
HHC				pmax		pmax		
	comp=Z,18nm,0.9s							
HHC				pmax		pmax		
	comp=Z,38nm,4.6s							
ELL	Elmali	32.61	283	P		P	09 33 38.8	+0.8
AKASG	Malin Array Be	32.81	309	P		P	09 33 39.9	+0.4
	comp=Z,1.0nm,0.4s,baz=81,slow=6.8,SNR=4.2							
AKBB	Malin Array Si	32.81	309	P		P	09 33 39.8	+0.3
AKBB				IAmb		IAmb	09 33 52.5	
	comp=Z,6.3nm,1.4s							
NRIK	Noril'sk	34.19	11	P		P	09 33 52.9	+1.8
	comp=Z,8.7nm,0.5s,baz=206,slow=6.1,SNR=10							
MLR	Muntele Rosu	34.62	299	P		P	09 33 56.4	+1.1
MLR				IAmb		IAmb	09 34 00.8	
	comp=Z,4.8nm,0.9s							
BUR08	Bucovina Ar. S	35.14	303	P		P	09 34 00.5	+0.8
IDI	Anoyia	36.91	282	P		P	09 34 14.3	-0.5
IDI				IAmb		IAmb	09 34 28.2	
	comp=Z,9.3nm,1.1s							
FIA1	FINESS Array S	37.39	326	P		P	09 34 18.9	+0.5
FIA1				IAmb		IAmb	09 34 19.5	
	comp=Z,3.9nm,0.9s							
FINES	FINESS Array B	37.39	326	P		P	09 34 19.3	+0.9
	comp=Z,1.3nm,0.4s,baz=122,slow=9.1,SNR=31							
ARCES	ARCESS Array B	41.09	338	P		P	09 34 50.2	+1.3
	comp=Z,1.7nm,0.5s,baz=104,slow=8.9,SNR=13							
ARE0	ARCESS Array S	41.09	338	P		P	09 34 50.0	+1.1
HFS	Hagfors	42.96	322	P		P	09 35 04.6	+0.4
	comp=Z,2.9nm,0.5s,baz=103,slow=9.6,SNR=20							
PRED	Cave del Predi	43.15	302	P		P	09 35 06.8	+0.8
NC405	NORSAR Array S	44.05	323	P		P	09 35 12.8	+0.1
NC405				IAmb		IAmb	09 35 24.2	
	comp=Z,11nm,1.3s							
NC303	NORSAR Array S	44.23	323	P		P	09 35 14.9	+0.8
NC303				IAmb		IAmb	09 35 32.3	
	comp=Z,12nm,1.4s							
NB2	NORSAR Subarra	44.28	323	P		P	09 35 14.5	-0.2
	comp=Z,1.1nm,0.5s,baz=97,slow=7.9							
NOA	NORSAR Array B	44.28	323	P		P	09 35 14.8	+0.1
	comp=Z,1.2nm,0.5s,baz=97,slow=7.7,SNR=15							
NBO00	NORSAR Array S	44.49	323	P		P	09 35 16.3	0.0
NBO00				IAmb		IAmb	09 35 29.9	
	comp=Z,6.5nm,1.1s							
NC204	NORSAR Array S	44.52	323	P		P	09 35 17.1	+0.5
NC204				IAmb		IAmb	09 35 32.1	
	comp=Z,12nm,1.4s							
TIXI	Tiksi	45.87	22	P		P	09 35 27.5	+0.5
	comp=Z,10nm,0.3s,baz=263,slow=4.0,SNR=34							
TIXI	Tiksi	45.87	22	P		P	09 35 27.5	+0.5
TIXI				IAmb		IAmb	09 35 28.2	
	comp=Z,9.1nm,0.8s							
MSSA	Maissana	46.33	300	P		P	09 35 31.2	+0.2
SPA0	Spitsbergen Ar	47.47	347	P		P	09 35 40.8	+1.5
SPITS	Spitsbergen Ar	47.47	347	P		P	09 35 40.9	+1.5
	comp=Z,1.0nm,0.4s,baz=116,slow=11,SNR=7.4							
BNI	Bardonecchia	48.14	301	P		P	09 35 46.6	+1.5
KMBO	Kilima Mbogo	48.66	227	P		P	09 35 51.3	+1.8
	comp=Z,1.5nm,0.5s,baz=30,slow=11,SNR=4.9							
KMBO	Kilima Mbogo	48.66	227	P		P	09 35 50.4	+0.9
ERM	Erimo	54.81	60	P		P	09 36 36.8	+2.5
ESDC	Sonseca Array	57.29	298	P		P	09 36 52.2	+0.1
	comp=Z,0.4nm,0.5s,baz=69,slow=7.1,SNR=3.1							
TOA0	Torodi Ar. Sit	65.52	268	P		P	09 37 46.0	-1.3
TOA0				IAmb		IAmb	09 37 47.8	
	comp=Z,5.8nm,1.2s							
TORD	Torodi Ar. Bea	65.52	268	P		P	09 37 45.6	-1.7
	comp=Z,2.3nm,0.6s,baz=49,slow=5.8,SNR=33							
TOLK	Toolik Lake Re	71.00	15	P		P	09 38 20.4	-0.2
C36M	Paulatuk	73.92	5	P		P	09 38 30.0	+0.2
LBTB	Lobatse	74.52	222	P		P	09 38 42.4	+0.4
TSUM	Tsumeb	74.74	232	P		P	09 38 43.7	+0.3
TSUM				IAmb		IAmb	09 39 01.0	
	comp=Z,5.6nm,1.4s							
ILAR	Eielson Array	74.86	16	P		P	09 38 43.4	+0.1
	comp=Z,0.1nm,0.5s,baz=318,slow=3.9,SNR=3.7							
DAWY	Dawson	76.99	13	P		P	09 38 58.3	+2.9
YKA	Yellowknife Ar	81.28	3	P		P	09 39 18.8	+0.2
	comp=Z,0.3nm,0.4s,baz=352,slow=5.2,SNR=16							
WRA	Warramunga Arr	82.15	122	P		P	09 39 23.4	-0.3
	comp=Z,0.3nm,0.4s,baz=324,slow=4.9,SNR=14							
WB2	Warramunga Arr	82.16	122	P		P	09 39 22.7	-1.1
WB2				IAmb		IAmb	09 39 23.5	
	comp=Z,6.8nm,1.0s							
WR0	Warramunga Arr	82.30	122	P		P	09 39 23.2	-1.3
WR0				IAmb		IAmb	09 39 36.2	
	comp=Z,8.4nm,1.4s							
ASAR	Alice Springs	84.40	125	P		P	09 39 35.4	+0.1
	comp=Z,0.4nm,0.5s,baz=312,slow=4.9,SNR=7.7							
GO05	Huala	149.79	262	PKPbc		PKPbc	09 46 50.7	-0.7

DDA ***08*** *09:56:14.7, 40.39N×26.17E, h7km±3km, ML1.5*

ISK 08 09:56:14.5, 40.42N×26.17E, h16km, ML1.6/11, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GELI	Tayfur-Gelibol	0.24	96	PG		Pg	09 56 20.0	+0.2
GELI				SG		Sb	09 56 24.4	+0.1
GOKA	anakkale-Gk	0.30	221	*i* P		Pg	09 56 21.2	+0.3
GOKA				*i* S		Sb	09 56 25.9	-0.3
GOKA				IAML			09 56 27.0	
	comp=N,113nm,0.3s							
ENEZ	Enez	0.32	358	PG		Pb	09 56 21.7	0.0
ENEZ				SG		Sb	09 56 26.6	0.0
ERIK	Erikli-Kesan	0.36	47	PG		Pb	09 56 22.5	-0.1
ERIK				SG		Sb	09 56 27.9	-0.1
LPK	Lapseki	0.46	96	PG		Pb	09 56 24.2	+0.1
ALN	Alexandroupoli	0.48	349	PG		Pb	09 56 24.6	0.0
ALN				SG		Sb	09 56 31.2	-0.3
KESN	Edirne-Kesan	0.56	44	*i* P		Pg	09 56 25.5	-0.3
KESN				*i* S		Sg	09 56 33.6	+0.2
KESN				IAML			09 56 35.0	
	comp=N,32nm,0.7s							
KESN				IAML			09 56 35.0	
	comp=E,16nm,0.6s							
BOZC	Bozcaada	0.58	189	PG		Pb	09 56 26.6	+0.3
BOZC	Bozcaada	0.58	189	*i* P		Pb	09 56 26.6	+0.2
BOZC				*i* S		Sg	09 56 33.3	-0.6
BOZC				IAML			09 56 35.0	
	comp=E,17nm,0.1s							
EZN	Ezine	0.61	168	PG		Pb	09 56 26.7	0.0
BAYC	CANAKKALE_Bayr	0.74	157	*i* P		Pg	09 56 28.8	-0.1
BAYC				*i* S		Sg	09 56 38.8	0.0
RKY	Sarkoy-Tekirda	0.81	71	PG		Pn	09 56 30.9	-0.5
SART	Tekirdag	0.82	71	*i* P		Pg	09 56 30.4	0.0
SART				*i* S		Sg	09 56 41.8	+0.6
SART				IAML			09 56 43.0	
	comp=E,44nm,0.3s							
KRBG	Karabiga-Canak	0.86	91	PG		Pn	09 56 31.9	-0.1
RDO	Rodhopi	0.87	327	PG		Pn	09 56 31.9	-0.1
MRMT	Marmara Adasi	1.10	80	PN		Pn	09 56 35.4	0.0
SIGR	SIGRI	1.23	191	PN		Pb	09 56 37.3	-0.1
BALY	Balya	1.31	121	*i* P		Pn	09 56 38.3	+0.2
BALY				*i* S		Sg	09 56 56.2	-0.5
BALY				IAML			09 56 59.0	
	comp=E,5.7nm,0.3s							
BALY				IAML			09 56 59.0	
	comp=N,6.0nm,0.6s							

BUC 08 09:57:48.2±0.2, 45.61N×22.86E, h2km, ml2.1/16, 28C-32D, Error ellipse: s-maj=1.6km s-min=1.3km az=133.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GZR	Gura Zlata	0.23	194	⇑P		Pg	09 57 53.1	+0.5
GZR				⇓S		Sg	09 57 56.3	+0.8
GZR	Gura Zlata	0.23	194	⇓P		Pg	09 57 53.1	+0.5
GZR				⇓S		Sg	09 57 56.3	+0.8
DEV	Deva	0.27	7	⇑P		Pg	09 57 54.5	+1.0
DEV				⇓S		Sg	09 57 58.2	+1.2
DEV	Deva	0.27	7	⇓P		Pg	09 57 54.5	+1.0
DEV				⇓S		Sg	09 57 58.2	+1.2
LOT	Lotru	0.66	104	⇑P		Pg	09 58 00.4	-0.5
LOT				⇓S		Sg	09 58 09.1	-0.5
LOT	Lotru	0.66	104	⇓P		Pg	09 58 00.4	-0.5
LOT				⇓S		Sg	09 58 09.1	-0.5
HERR	Herculane	0.80	203	⇓P		Pg	09 58 03.3	-0.1
HERR				⇓S		Sg	09 58 13.9	+0.1
HERR	Herculane	0.80	203	⇓P		Pg	09 58 03.3	-0.1
HERR				⇓S		Sg	09 58 13.9	+0.1
BZS	Buzias	0.87	271	⇑P		Pg	09 58 04.7	-0.2
BZS				⇓S		Sg	09 58 16.2	+0.1
BZS	Buzias	0.87	271	⇑P		Pg	09 58 04.7	-0.2
BZS				⇓S		Sg	09 58 16.2	+0.1
SRE	Strehaia	0.98	165	⇑S		Sb	09 58 22.3	+0.9
SRE	Strehaia	0.98	165	⇑S		Sb	09 58 22.3	+0.9
SIRR	Siria	1.06	309	⇓P		Pg	09 58 08.8	+0.2
SIRR				⇓S		Sb	09 58 23.4	-0.3
SIRR	Siria	1.06	309	⇓P		Pg	09 58 08.8	+0.2
SIRR				⇓S		Sb	09 58 23.4	-0.3
MDVR	Moldovita	1.16	225	⇓P		Pg	09 58 10.1	-0.4
MDVR				⇓S		Sb	09 58 26.7	+0.2
MDVR	Moldovita	1.16	225	⇓P		Pg	09 58 10.1	-0.4
MDVR				⇓S		Sb	09 58 26.7	+0.2
DRGR		1.18	355	⇑P		Pb	09 58 11.4	0.0
DRGR				⇓S		Sb	09 58 26.9	-0.4
DRGR		1.18	355	⇑P		Pb	09 58 11.4	0.0
DRGR				⇓S		Sb	09 58 26.9	-0.4
MDB	Medias	1.19	63	⇓P		Pb	09 58 11.6	+0.1
MDB				⇓S		Sb	09 58 27.7	+0.3
MDB	Medias	1.19	63	⇓P		Pb	09 58 11.6	+0.1
MDB				⇓S		Sb	09 58 27.7	+0.3
CJR	Cluj-Napoca	1.22	25	⇓P		Pg	09 58 11.4	-0.2
CJR				⇓S		Sb	09 58 28.2	+0.1
CJR	Cluj-Napoca	1.22	25	⇓P		Pg	09 58 11.4	-0.2
CJR				⇓S		Sb	09 58 28.2	+0.1
BANR	Banloc	1.23	260	⇑S		Sb	09 58 28.7	+0.1
BANR	Banloc	1.23	260	⇑S		Sb	09 58 28.7	+0.1
VOIR		1.55	96	⇑P		Pn	09 58 15.6	-1.4
VOIR				⇓S		Sg	09 58 38.9	+0.8
VOIR		1.55	96	⇑P		Pn	09 58 15.6	-1.4
VOIR				⇓S		Sg	09 58 38.9	+0.8
DOPR	Dopca	1.81	78	⇑P		Pn	09 58 19.7	-0.8
DOPR				⇓S		Sb	09 58 45.0	-0.2
DOPR	Dopca	1.81	78	⇑P		Pn	09 58 19.7	-0.8
DOPR				⇓S		Sb	09 58 45.0	-0.2
BMR	Baia Mare	2.11	12	⇓P		Pn	09 58 24.2	-0.3
BMR				⇓S		Sn	09 58 52.2	+0.9
BMR	Baia Mare	2.11	12	⇓P		Pn	09 58 24.2	-0.3
BMR				⇓S		Sn	09 58 52.2	+0.9
MLR	Muntele Rosu	2.17	92	⇓S		Sb	09 58 54.9	-0.9
MLR	Muntele Rosu	2.17	92	⇓S		Sb	09 58 54.9	-0.9
VRI	Vrincioaia	2.72	83	⇓S		Sn	09 59 08.1	+1.6
VRI	Vrincioaia	2.72	83	⇓S		Sn	09 59 08.1	+1.6

IDC ***08*** *10:26:40.3±0.8, 35.08S×106.99W, h0km, mb4.0/6, mb1 4.3/6, mb1mx4.0/27, mbtmp4.0/6, MS3.6/7, Ms1 3.6/7, ms1mx3.4/17, Error ellipse: s-maj=35.4km s-min=23.6km az=78.0*

NEIC ***08*** *10:26:42.2±2.7, 35.24S±0.08×107.0W±0.2, h10km±1km, mb4.5/10, Error ellipse: s-maj=32.5km s-min=10.5km az=284.0*

GCMT ***08*** *10:26:47.2±0.4, 35.20S±0.02×106.64W±0.03, h27km±1km, MW4.9/89, Moment Tensor Solution. s13,c14; s89,c104; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.69±.18; Mθθ-0.47±.14; Mφφ 1.16±.14; Mrθ 1.02±.26; Mrφ-2.01±.09; Mθφ-0.45±.23; Best double couple: M=2.44300×10^16 NP1:φs191.00000°, δ60.00000°, λ-8.00000°. NP2: φs285.00000°, δ83.00000°, λ-150.00000°. Principal axes: T 2.7760, Plg15.0000°, Azm54.0000°; N -0.6640, Plg59.0000°, Azm296.0000°; P -2.1110, Plg26.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 10:26:42.0±0.7, 35.2S±0.1×106.9W±0.2, h10km, n41, σ1§33/25, mb4.4/10, MS3.7/8, 1C-1D, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
RPN	Rapa Nui	8.32	345	LR		LR	10 30 53.6	
	comp=Z,392nm,18.1s,baz=152,slow=31							
H03S2	Juan Fernandez	23.09	95	T		T	10 55 53.6	
	baz=245,slow=76,SNR=7.1							
H03S1	Juan Fernandez	23.10	95	T		T	10 55 53.9	
	baz=245,slow=76,SNR=11							
H03S3	Juan Fernandez	23.10	95	T		T	10 55 52.0	
	baz=245,slow=76,SNR=11							
H03N2	Juan Fernandez	23.16	94	T		T	10 56 05.4	
	baz=284							
H03N3	Juan Fernandez	23.16	94	T		T	10 55 58.0	
	baz=284							
H03N1	Juan Fernandez	23.18	94	T		T	10 55 58.6	
	baz=284,SNR=3.2							
PLCA	Paso Flores	29.06	112	P		P	10 32 42.8	+0.2
	2.6nm,0.9s,baz=247,slow=10,SNR=3.3							
PLCA				LR		LR	10 42 02.9	
	comp=Z,34nm,19.9s,baz=310,slow=32							
PLCA	Paso Flores	29.06	112	P		P	10 32 43.0	+0.5
PLCA				IAmb		IAmb	10 32 45.0	
	comp=Z,7.9nm,1.2s							
TBI	Tubuai	38.67	276	*e*LQ		LQ	10 43 00.8	
	comp=Z,380nm,33.0s							
TBI				*e*LR		LR	10 44 39.7	
	comp=Z,182nm,26.8s							
LPAZ	La Paz	39.39	71	P		P	10 34 12.8	0.0
	comp=Z,0.6nm,0.6s,baz=224,slow=14,SNR=2.0							
LPAZ				LR		LR	10 46 39.5	
	comp=Z,61nm,19.7s,baz=266,slow=30							
LPAZ	La Paz	39.39	71	P		P	10 34 13.6	+0.9
PPT2	Papeete2	41.68	284	*e*LQ		LQ	10 44 09.4	
	comp=Z,359nm,27.0s							
PPT2				*e*LR		LR	10 45 56.3	
	comp=Z,167nm,25.8s							
PPT	Papeete	41.69	284	LR		LR	10 46 38.6	
	comp=Z,84nm,22.0s,baz=168,slow=29							
ROSC	El Rosal	50.27	44	LR		LR	10 53 10.3	
	comp=Z,98nm,18.0s,baz=48,slow=32							
QSPA	South Pole Qui	54.99	180	P		P	10 36 14.9	+1.7
	comp=Z,6.2nm,0.9s,baz=121,slow=2.4,SNR=22							
QSPA	South Pole Qui	54.99	180	P		P	10 36 14.8	+1.5
BDFB	Brasilia	55.87	85	LR		LR	10 58 40.7	
	comp=Z,76nm,18.1s,baz=307,slow=34							
VNDA	Vanda	56.18	195	P		P	10 36 21.4	-0.1
VNA3	Neumayer Olymp	59.35	158	P		P	10 36 43.7	-0.2
	baz=306,slow=16							
VNA1	Neumayer--Stat	59.99	158	P		P	10 36 49.0	+0.7
VNA2	Neumayer--Watz	60.16	158	P		P	10 36 49.4	0.0
	baz=268,slow=4.6							
SNAA	Sanae	61.22	160	P		P	10 36 56.0	-0.7
SNAA	Sanae	61.22	160	P		P	10 36 56.3	-0.4
TX31	Lajitas Ar. Si	64.28	3	P		P	10 37 18.3	+0.8
TX31				IAmb		IAmb	10 37 25.0	
	comp=Z,4.5nm,1.1s							
TXAR	Lajitas Array	64.28	3	P		P	10 37 16.4	-1.1
	comp=Z,0.2nm,0.9s,baz=173,slow=8.2,SNR=3.6							
TXAR				LR		LR	10 59 44.4	
	comp=Z,45nm,19.5s,baz=0.0,slow=31							
SYO	Syowa Base	73.18	168	*e*P		P	10 38 09.4	-3.0
SYO	Syowa Base	73.18	168	*e*P		P	10 38 17.0	+4.6
NVAR	Mina Array Bea	74.03	351	P		P	10 38 18.4	+0.4
	comp=Z,2.6nm,0.9s,baz=182,slow=8.2,SNR=9.4							
CASY	Casey	74.81	195	P		P	10 38 23.6	+1.6
CASY				IAmb		IAmb	10 38 27.4	
	comp=Z,10nm,1.4s							
BW06	Boulder Array	77.65	358	P		P	10 38 38.7	+0.1
BW06				IAmb		IAmb	10 38 42.0	
	comp=Z,3.4nm,0.9s							
PD31	Pinedale Array	77.65	358	P		P	10 38 38.8	+0.2
PD31				IAmb		IAmb	10 38 42.0	
	comp=Z,3.2nm,0.9s							
PDAR	Pinedale Array	77.65	358	P		P	10 38 37.8	-0.8
	comp=Z,2.4nm,0.9s,baz=165,slow=6.2,SNR=14							
PINE	Pine Mountain	79.66	350	P		P	10 38 52.8	+3.1
PINE				IAmb		IAmb	10 38 53.8	
	comp=Z,6.2nm,0.9s							
H01W1	Cape Leeuwin H	100.39	213	T		T	12 33 10.2	
	baz=145,slow=76,SNR=6.3							
H01W2	Cape Leeuwin H	100.40	213	T		T	12 33 08.8	
	baz=145,slow=76,SNR=6.2							
H01W3	Cape Leeuwin H	100.41	213	T		T	12 33 11.6	
	baz=145,slow=76,SNR=5.4							
AKASG	Malin Array Be	144.94	50	PKP		PKPdf	10 46 19.3	+0.4
	comp=Z,0.4nm,0.4s,baz=283,slow=3.5,SNR=1.8							
BRTR	Keskin Array B	148.56	70	PKPbc		PKPbc	10 46 27.7	-1.5
	comp=Z,1.0nm,0.9s,baz=194,slow=2.5,SNR=4.9							
CMAR	Chiang Mai Arr	151.64	241	PKPbc		PKPbc	10 46 36.1	-0.9
	comp=Z,0.4nm,0.4s,baz=87,slow=3.1,SNR=1.3							
SONM	Songino Array	152.27	307	PKPbc		PKPbc	10 46 35.9	-2.0
	comp=Z,1.3nm,0.8s,baz=122,slow=2.0,SNR=5.4							

IDC ***08*** *10:29:10.6±1.1, 39.57N×20.34E, h0km, mb3.5/8, mb1 3.6/11, mb1mx3.4/41, mbtmp3.5/11, ML3.5/3, Error ellipse: s-maj=22.4km s-min=18.6km az=56.0*

ATH ***08*** *10:29:12.2, 39.46N×20.35E, h7km±1km, ML3.2/24, Error ellipse: s-maj=2.0km s-min=0.7km az=311.0*

THE ***08*** *10:29:12.6, 39.46N×20.35E, h0km±1km, ML3.2/10, Error ellipse: s-maj=1.4km s-min=0.4km az=295.0*

PDG ***08*** *10:29:12.6±0.5, 39.56N×20.27E, h0km±11km, ML3.4/12, Error ellipse: s-maj=0.9km s-min=1.3km az=0.0*

ISC 08 10:29:11.9±0.8, 39.49N±0.02×20.34E±0.02, h10km±4km, n107, σ1§36/145, mb3.5/8, 8C-8D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
IGT	Igoumenitsa	0.05	353	P		Pg	10 29 13.9	+0.1
IGT				S		Sg	10 29 15.4	+0.1
	22μm,0.3s			

NEST				AML	AML	10 29 59.9
	comp=N,1755μm,0.6s					
KEF4	**Livadi, Kephal**	**1.23 177**		P	**Pn**	**10 29 34.9 -0.2**
PVO	**Paravola**	**1.27 133**		P	**Pg**	**10 29 36.4 +0.2**
PVO	**Paravola**	**1.27 133**		P	**Pg**	**10 29 36.4 +0.2**
PVO				AML	AML	10 30 00.6
	comp=N,1331μm,0.5s					
PVO				AML	AML	10 30 03.1
	comp=E,1238μm,0.5s					
EVR	**Evrytania**	**1.27 116**		P	**Pg**	**10 29 36.4 +0.1**
EVR				S	**Sn**	**10 29 54.5 +1.4**
	comp=E,902nm,0.4s					
EVR	**Evrytania**	**1.27 116**		P	**Pg**	**10 29 36.4 +0.1**
EVR				AML	AML	10 29 58.9
	comp=E,1810μm,0.4s					
EVR				AML	AML	10 29 58.9
	comp=N,1788μm,0.4s					
THL	**Klokotos Trika**	**1.30 86**		P	**Pg**	**10 29 36.7 -0.1**
THL				S	**Sg**	**10 29 55.6 +2.0**
	comp=N,740nm,0.5s					
THL	**Klokotos Trika**	**1.30 86**		P	**Pg**	**10 29 36.3 -0.5**
THL				AML	AML	10 29 59.8
	comp=E,1252μm,0.4s					
THL				AML	AML	10 30 00.7
	comp=N,1685μm,0.5s					
VLS	**Valsamata**	**1.32 171**		P	**Pb**	**10 29 36.8 +0.1**
VLS				S	**Sg**	**10 29 56.1 +1.8**
	comp=N,2μm,0.4s					
VLS	**Valsamata**	**1.32 171**		P	**Pb**	**10 29 36.8 +0.1**
VLS				AML	AML	10 29 58.7
	comp=E,3822μm,0.5s					
VLS				AML	AML	10 30 02.2
	comp=N,2750μm,0.5s					
KZN	**Kozani**	**1.37 53**		P	**Pg**	**10 29 37.9 -0.3**
KZN	**Kozani**	**1.37 53**		P	**Pg**	**10 29 37.9 -0.3**
KZN				AML	AML	10 30 02.4
	comp=E,1566μm,0.5s					
KZN				AML	AML	10 30 03.5
	comp=N,1448μm,0.6s					
KFL	**Anninata**	**1.42 166**		P	**Pb**	**10 29 38.5 +0.1**
KFL	**Anninata**	**1.42 166**		P	**Pb**	**10 29 38.5 +0.1**
KFL				AML	AML	10 30 04.9
	comp=N,3327μm,0.4s					
KFL				AML	AML	10 30 09.8
	comp=E,2848μm,0.4s					
MAKR	**Makrakomi, Fth**	**1.47 108**		P	**Pg**	**10 29 39.5 -0.6**
MAKR	**Makrakomi, Fth**	**1.47 108**		P	**Pg**	**10 29 39.5 -0.6**
MAKR				AML	AML	10 30 05.6
	comp=E,3961μm,0.4s					
MAKR				AML	AML	10 30 06.8
	comp=N,3041μm,0.6s					
ANX	**Ano Chora**	**1.52 125**		P	**Pg**	**10 29 41.0 -0.1**
ANX				AML	AML	10 30 08.8
	comp=E,1144μm,0.7s					
ANX				AML	AML	10 30 19.2
	comp=N,1386μm,0.4s					
AGG	**Agios Georgios**	**1.61 106**		P	**Pb**	**10 29 41.5 -0.3**
AGG				S	**Sg**	**10 30 03.8 +0.1**
	comp=N,748nm,0.4s					
AGG	**Agios Georgios**	**1.61 106**		P	**Pb**	**10 29 41.5 -0.3**
AGG				AML	AML	10 30 07.6
	comp=E,1357μm,0.4s					
AGG				AML	AML	10 30 14.7
	comp=N,1651μm,0.5s					
VLMS	**Volimes, Zakyn**	**1.63 171**		P	**Pb**	**10 29 41.4 -0.6**
OHR	**Ohrid**	**1.66 12**	*i*	Pn	**Pg**	**10 29 44.7 +1.0**
OHR			*i*	Sn	**Sg**	**10 30 08.4 +3.1**
RLS	**Riolos of Patr**	**1.68 148**		P	**Pb**	**10 29 42.8 0.0**
RLS	**Riolos of Patr**	**1.68 148**		P	**Pb**	**10 29 42.8 0.0**
RLS				AML	AML	10 30 22.7
	comp=N,580μm,1.0s					
RLS				AML	AML	10 30 25.3
	comp=E,534μm,0.6s					
SERG	**Sergoula**	**1.71 128**		P	**Pg**	**10 29 44.3 -0.4**
SERG				AML	AML	10 30 23.8
	comp=N,936μm,0.5s					
SERG				AML	AML	10 30 24.6
	comp=E,637μm,0.5s					
TRIZ	**Trizonia**	**1.75 129**		P	**Pg**	**10 29 45.4 -0.1**
LIT	**Litokhoron**	**1.77 69**		P	**Pb**	**10 29 44.3 -0.1**
LIT	**Litokhoron**	**1.77 69**		P	**Pg**	**10 29 44.8 -0.9**
LIT				AML	AML	10 30 16.5
	comp=E,995μm,0.5s					
LIT				AML	AML	10 30 18.0
	comp=N,1092μm,0.4s					
KALE	**Kalithea**	**1.78 127**		P	**Pg**	**10 29 45.6 -0.4**
KALE				AML	AML	10 30 22.4
	comp=E,516μm,0.4s					
KALE				AML	AML	10 30 22.9
	comp=N,880μm,0.7s					
DRO	**Drossia**	**1.87 145**		P	**Pb**	**10 29 45.9 -0.2**
DRO				AML	AML	10 30 24.2
	comp=E,330μm,0.3s					
DRO				AML	AML	10 30 26.7
	comp=N,1146μm,0.6s					
AXAR	**Agios Charalam**	**1.94 111**		P	**Pg**	**10 29 47.9 -1.2**
KLV	**Kalavryta, Ach**	**2.02 135**		P	**Pb**	**10 29 48.7 0.0**
KLV				AML	AML	10 30 36.0
	comp=N,332μm,1.2s					
KLV				AML	AML	10 30 45.3
	comp=E,356μm,0.7s					
GUR	**Goura**	**2.20 134**		P	**Pb**	**10 29 51.1 -0.8**
XOR	**Xorichti**	**2.21 92**		P	**Pb**	**10 29 51.0 -1.0**
PROD	**Prodromos**	**2.34 121**		P	**Pb**	**10 29 52.8 -1.4**
ULC	**Ulcinj**	**2.61 342**	⇓*i*	Pn	**Pn**	**10 29 55.3 +1.1**
ULC			*i*	Sn	**Sb**	**10 30 29.5 -1.5**
VIL2	**Platees**	**2.62 118**		P	**Pb**	**10 29 57.1 -1.7**
VIL2				AML	AML	10 30 46.5
	comp=N,285μm,0.9s					
VIL2				AML	AML	10 30 48.9
	comp=E,394μm,0.6s					
MRKA	**Markates**	**2.64 106**		P	**Pb**	**10 29 56.8 -2.6**
TIP	**Timpagrande**	**2.79 265**	⇓	P	**Pn**	**10 29 57.7 +1.0**
DRME	**Dracevica, Mon**	**2.84 342**	⇑*i*	Pn	**Pn**	**10 29 58.6 +1.3**
DRME			*i*	Sn	**Sb**	**10 30 35.0 -2.4**
BUM	**Brajici-Budva**	**3.02 339**	⇑*i*	Pn	**Pn**	**10 30 01.2 +1.4**
BUM			*i*	Sn	**Sb**	**10 30 39.3 -3.4**
MATE	**Matera**	**3.02 294**	⇓	P	**Pn**	**10 29 58.8 -0.9**
PDG	**Podgorica**	**3.06 345**	⇑	P	**Pn**	**10 29 57.6 -2.6**
TTG	**Podgorica**	**3.06 345**	⇓*i*	Pn	**Pn**	**10 30 01.8 +1.6**
TTG			*i*	Sn	**Sb**	**10 30 40.1 -3.6**
PVY	**Plav**	**3.12 355**	⇓*i*	Pn	**Pn**	**10 30 03.2 +1.9**
PVY			*i*	Sn	**Sb**	**10 30 41.7 +3.0**
DION	**Dionisos Attik**	**3.14 115**		P	**Pn**	**10 30 03.6 +2.2**
VLY	**Voula,Athens**	**3.16 120**		P	**Pn**	**10 30 04.4 +2.7**
CEME	**Cevo**	**3.24 341**	⇑*i*	Pn	**Pn**	**10 30 03.9 +1.0**
CEME			*i*	Sn	**Sn**	**10 30 44.9 +3.3**
HCY	**Herceg Novi**	**3.27 335**	⇑*i*	Pn	**Pn**	**10 30 03.8 +0.6**
HCY			*i*	Sn	**Sn**	**10 30 45.3 +3.0**
IVA	**Berane**	**3.40 354**	⇑*i*	Pn	**Pn**	**10 30 07.1 +2.0**
IVA			*i*	Sn	**Sn**	**10 30 48.8 +3.3**
KOME	**Kolasin**	**3.42 350**	⇓*i*	Pn	**Pn**	**10 30 07.5 +2.2**
KOME			*i*	Sn	**Sn**	**10 30 48.9 +2.9**
NKME	**Niksic**	**3.44 343**	⇓*i*	Pn	**Pn**	**10 30 07.3 +1.7**
NKME			*i*	Sn	**Sn**	**10 30 49.4 +2.9**
NKY	**Niksic**	**3.48 343**	⇑*i*	Pn	**Pn**	**10 30 07.6 +1.5**
NKY			*i*	Sn	**Sn**	**10 30 50.6 +3.2**
DBRK	**Dubrovnik**	**3.59 333**	*e*	Pn	**Pn**	**10 30 07.5 0.0**
DBRK				Sn	**Sn**	**10 30 49.8 -0.2**
BRY	**Bratogost**	**3.67 339**	⇑*i*	Pn	**Pn**	**10 30 10.8 +1.9**
BRY			*i*	Sn	**Sn**	**10 30 54.8 +2.5**
PLE	**Pljevlja**	**3.91 350**	⇓*i*	Pn	**Pn**	**10 30 13.6 +1.5**
PLE			*i*	Sn	**Sn**	**10 31 00.6 +2.5**
STON	**Ston**	**3.93 330**	*e*	Pn	**Pn**	**10 30 12.6 +0.4**
STON				Sn	**Sn**	**10 30 57.9 -0.4**
MAKA	**Makarska**	**4.55 328**	*e*	Pn	**Pn**	**10 30 21.8 +1.1**
MAKA				Sn	**Sn**	**10 31 13.1 -0.5**
HVAR	**Hvar**	**4.71 323**	*e*	Pn	**Pn**	**10 30 23.6 +0.6**
HVAR				Sn	**Sn**	**10 31 16.3 -1.4**
KIJV	**Kijevo**	**5.39 328**	*e*	Pn	**Pn**	**10 30 33.3 +0.9**
KIJV				Sn	**Sn**	**10 31 32.8 -1.6**
ZIRJ	**Zirje**	**5.45 321**	*e*	Pn	**Pn**	**10 30 33.3 +0.1**
ZIRJ				Sn	**Sn**	**10 31 33.5 -2.5**
IDI	**Anoyia**	**5.54 138**		Pn	**Pn**	**10 30 35.7 +1.3**
	comp=E,0.4nm,0.3s,baz=2.1,slow=6.6,SNR=7.2					
IDI				Sn	**Sn**	**10 31 36.7 -1.5**
	comp=E,2.5nm,0.3s,baz=315,slow=13,SNR=8.2					
MORI	**Morici**	**5.58 323**	*e*	Pn	**Pn**	**10 30 35.0 0.0**
MORI				Sn	**Sn**	**10 31 36.4 -2.8**
DUGI	**Dugi Otok**	**5.99 320**	*e*	Pn	**Pn**	**10 30 40.9 +0.3**
DUGI				Sn	**Sn**	**10 31 47.2 -2.0**
UDBI	**Udbina**	**6.08 327**	*e*	Pn	**Pn**	**10 30 43.4 +1.5**
UDBI				Sn	**Sn**	**10 31 50.8 -0.8**
MOSL	**Moslavina**	**6.67 338**	*e*	Pn	**Pn**	**10 30 49.8 -0.1**
MOSL				Sn	**Sn**	**10 32 05.4 -0.6**
OZLJ	**Ozalj**	**7.10 331**	*e*	Pn	**Pn**	**10 30 56.8 +1.0**
KALN	**Kalnik**	**7.23 338**	*e*	Pn	**Pn**	**10 30 58.7 +1.1**
MLR	**Muntele Rosu**	**7.29 33**		Pn	Pn	10 31 03.6 +5.1
	comp=E,0.4nm,0.3s,baz=173,slow=7.3,SNR=6.1					
BRJN	**Brijuni**	**7.30 320**	*e*	Pn	**Pn**	**10 30 58.5 +0.1**
BRJN				Sn	**Sn**	**10 32 19.1 -2.2**
SOKA	**Soboth**	**8.17 333**	*e*	Pn	**Pn**	**10 31 10.0 -0.6**
	comp=E,0.8nm,0.3s					
OBKA	**Obir**	**8.20 331**	*e*	Pn	**Pn**	**10 31 10.7 -0.3**
	comp=E,0.5nm,0.2s					
ABTA	**Abfaltersbach**	**9.24 324**	*e*	Pn	**Pn**	**10 31 24.1 -1.1**
	comp=E,0.5nm,0.3s					
MOTA	**Moosalm**	**10.33 323**	*e*	Pn	**Pn**	**10 31 39.6 -0.7**
	comp=E,1.8nm,0.5s					
GERES	**GERESS Array B**	**10.50 335**		Pn	**Pn**	**10 31 41.4 -1.0**
	comp=E,0.1nm,0.3s,baz=134,slow=17,SNR=2.7					
ESDC	**Sonseca Array**	**18.73 278**		P	**Pn**	**10 33 32.0 +1.0**
	comp=E,0.1nm,0.3s,baz=70,slow=11,SNR=4.5					
HFS	**Hagfors**	**21.09 351**		P	**P**	**10 33 56.4 +0.2**
	comp=E,0.8nm,0.7s,baz=140,slow=7.8,SNR=5.4					
FINES	**FINESS Array B**	**22.27 7**		P	**P**	**10 34 08.6 -0.2**
	comp=E,1.3nm,0.8s,baz=179,slow=11,SNR=4.7					
EKA	**Eskdalemuir Ar**	**22.29 323**		P	**P**	**10 34 08.2 -0.9**
	comp=E,1.1nm,0.7s,baz=124,slow=8.2,SNR=4.6					
NB2	**NORSAR Subarra**	**22.31 348**		P	**P**	**10 34 08.6 -0.8**
	comp=E,0.2nm,0.5s,baz=156,slow=9.3					
NOA	**NORSAR Array B**	**22.31 348**		P	**P**	**10 34 09.1 -0.3**
	comp=E,0.8nm,0.8s,baz=165,slow=11,SNR=4.7					
GEYT	**Alibeck**	**29.38 81**		P	**P**	**10 35 15.6 +0.4**
	comp=E,1.0nm,0.5s,baz=305,slow=5.1,SNR=2.5					
TORD	**Torodi Ar. Bea**	**30.97 217**		P	**P**	**10 35 29.8 +0.4**
	comp=E,0.7nm,0.6s,baz=33,slow=9.6,SNR=6.8					
MKAR	**Makanchi Array**	**44.75 59**		P	**P**	**10 37 24.6 -0.7**
	comp=E,0.5nm,0.6s,baz=289,slow=6.3,SNR=4.7					
ZALV	**Zalesovo Beam**	**44.93 49**		P	**P**	**10 37 26.2 -0.5**
	comp=E,0.4nm,0.3s,baz=277,slow=6.6,SNR=2.5					

IDC ***08*** *10:37:24.4±1.1, 57.20S×148.48E, h0km, mb4.6/8, mb1 4.7/8, mb1mx4.4/22, mbtmp4.6/8, MS3.8/6, Ms1 3.7/6, ms1mx3.6/12, Error ellipse: s-maj=74.2km s-min=17.2km az=80.0*

NEIC ***08*** *10:37:27.2±1.8, 57.41S±0.09×147.7E±0.3, h11km±2km, mb4.8/26, Error ellipse: s-maj=22.1km s-min=13.7km az=88.0*

GCMT ***08*** *10:37:28.2±0.3, 57.34S±0.02×147.58E±0.04, h12km±2km, MW4.8/84, Moment Tensor Solution. s8,c8; s84,c111; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.21±.11; Mθθ0.88±.08; Mϕϕ-0.67±.10; Mrθ-0.42±.24; Mϕθ-1.71±.08; Mϕr-0.85±.34; Best double couple: M≥2.10100×10^16 NP1:ϕs81.00000°, δ70.00000°, λ-164.00000°. NP2: ϕs345.00000°, δ75.00000°, λ-21.00000°. Principal axes: T 1.9890, Plg3.0000°, Azm34.0000°; N 0.2240, Plg65.0000°, Azm130.0000°; P -2.2140, Plg25.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 10:37:26.9±0.5, 57.43S±0.07×147.8E±0.1, h10km, n68, σ1$42/58, mb4.8/20, MS3.8/10, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**14.54**	**359**	Pn	**Pn**		**10 40 52.1**	**-0.4**
WKZ	**Wanaka**	**18.25**	**55**	P	**P**		**10 41 40.5**	**+0.3**
WKZ				IAmb	IAmb		10 41 45.2	
	comp=Z,154nm,1.5s							
CASY	**Casey**	**19.38**	**228**	P	**P**		**10 41 52.8**	**+0.3**
TOO	**Toolangi**	**19.93**	**355**	P	**P**		**10 41 57.5**	**-1.2**
TOO				IAmb	IAmb		10 42 01.0	
	comp=Z,47nm,1.1s							
RPZ	**Rata Peaks**	**20.03**	**57**	LR	LR		10 48 15.7	
	comp=Z,328nm,21.7s,baz=214,slow=33							
VNDA	**Vanda**	**20.76**	**171**	P	**P**		**10 42 06.7**	**-0.7**
	comp=Z,7.7nm,1.1s,baz=339,slow=13,SNR=13							
VNDA				LR	LR		10 48 42.0	
	comp=Z,146nm,21.7s,baz=342,slow=32							
VNDA	**Vanda**	**20.76**	**171**	P	**P**		**10 42 06.4**	**-1.0**
OXZ	**Oxford**	**20.78**	**58**	P	**P**		**10 42 08.9**	**+1.0**
OXZ				IAmb	IAmb		10 42 14.4	
	comp=Z,31nm,1.2s							
BBOO	**Buckleboo**	**25.90**	**337**	P	**P**		**10 42 59.2**	**+0.4**
BBOO				IAmb	IAmb		10 43 01.1	
	comp=Z,35nm,1.1s							
STKA	**Stephens Creek**	**25.90**	**348**	P	**P**		**10 42 57.9**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=162,slow=10,SNR=15							
STKA	**Stephens Creek**	**25.90**	**348**	P	**P**		**10 42 59.9**	**+1.0**
FORT	**Forrest**	**29.95**	**324**	P	**P**		**10 43 35.5**	**+0.5**
FORT				IAmb	IAmb		10 43 35.7	
	comp=Z,24nm,0.8s							
H01W1	**Cape Leeuwin H**	**31.88**	**300**	T	T		11 17 19.4	
	baz=145,slow=75,SNR=162							
H01W2	**Cape Leeuwin H**	**31.88**	**300**	T	T		11 17 20.7	
	baz=145,slow=75,SNR=218							
H01W3	**Cape Leeuwin H**	**31.88**	**300**	T	T		11 17 21.5	
	baz=145,slow=75,SNR=137							
QSPA	**South Pole Qui**	**32.67**	**180**	P	**P**		**10 43 59.3**	**+0.4**
	comp=Z,5.1nm,1.2s,baz=1.9,slow=5.1,SNR=4.5							
QSPA	**South Pole Qui**	**32.67**	**180**	P	**P**		**10 43 59.4**	**+0.4**
QSPA				IAmb	IAmb		10 44 00.2	
	comp=Z,12nm,1.4s							
ASAR	**Alice Springs**	**35.20**	**338**	P	**P**		**10 44 18.7**	**-2.4**
	comp=Z,3.7nm,0.8s,baz=164,slow=9.7,SNR=34							
ASAR				PcP	**PcP**		**10 46 51.9**	**-0.1**
	comp=Z,2.0nm,1.1s,baz=176,slow=3.5,SNR=4.5							
ASAR				LR	LR		10 58 12.0	
	comp=Z,78nm,18.9s,baz=162,slow=36							
AS31	**Alice Springs**	**35.20**	**338**	P	**P**		**10 44 21.6**	**+0.5**
CTA	**Charters Tower**	**37.31**	**358**	P	**P**		**10 44 35.6**	**-3.4**
	comp=Z,16nm,1.2s,baz=217,slow=12,SNR=2.5							
MAW	**Mawson**	**37.32**	**219**	LR	LR		10 58 38.8	
	comp=Z,371nm,21.8s,baz=66,slow=34							
DZM	**Mont Dzumac**	**37.85**	**29**	*e*S	**S**		**10 50 36.6**	**+1.7**
	comp=Z,88nm,24.4s							
DZM				*e*LR	LR		10 55 04.3	
	comp=Z,701nm,26.0s							
DZM	**Mont Dzumac**	**37.85**	**29**	P	**P**		**10 44 45.0**	**+1.2**
DZM				IAmb	IAmb		10 44 45.9	
	comp=Z,13nm,1.2s							
WR0	**Warramunga Arr**	**38.68**	**340**	P	**P**		**10 44 50.4**	**-0.2**
WR0				IAmb	IAmb		10 44 51.0	
	comp=Z,15nm,0.9s							
WB2	**Warramunga Arr**	**38.73**	**340**	P	**P**		**10 44 49.1**	**-2.0**
WRA	**Warramunga Arr**	**38.73**	**340**	P	**P**		**10 44 48.5**	**-2.7**
	comp=Z,10nm,0.8s,baz=166,slow=7.5,SNR=34							
WRA				PcP	**PcP**		**10 47 02.2**	**-0.5**
	comp=Z,1.7nm,1.0s,baz=174,slow=3.3,SNR=3.1							
WRAB	**Tennant Creek**	**38.74**	**340**	P	**P**		**10 44 50.5**	**-0.7**
WRAB				IAmb	IAmb		10 44 51.3	
	comp=Z,16nm,0.7s							
WB0	**Warramunga Arr**	**38.89**	**340**	P	**P**		**10 44 50.5**	**-2.0**
WB0				IAmb	IAmb		10 44 52.5	
	comp=Z,14nm,0.9s							
FITZ	**Fitzroy Crossi**	**42.59**	**328**	P	**P**		**10 45 20.6**	**-2.3**
	comp=Z,11nm,1.1s,baz=152,slow=5.0,SNR=3.0							
FITZ	**Fitzroy Crossi**	**42.59**	**328**	P	**P**		**10 45 22.3**	**-0.7**
KNRA	**Kununurra**	**44.07**	**333**	P	**P**		**10 45 34.7**	**-0.2**
MTN	**Manton Dam**	**46.27**	**337**	P	**P**		**10 45 52.8**	**+0.4**
SNAA	**Sanae**	**49.55**	**192**	P	**P**		**10 46 17.1**	**-0.2**
SNAA	**Sanae**	**49.55**	**192**	P	**P**		**10 46 17.6**	**+0.3**
SNAA				IAmb	IAmb		10 46 23.9	
	comp=Z,10nm,1.1s							
VNA3	**Neumayer Olymp**	**50.64**	**189**	P	**P**		**10 46 24.8**	**-0.6**
VNA2	**Neumayer--Watz**	**50.73**	**190**	P	**P**		**10 46 25.6**	**-0.7**
	baz=165,slow=5.8							
SAUI	**Saumlaki**	**50.97**	**339**	P	**P**		**10 46 28.5**	**-0.1**
	comp=Z,800nm,1.1s							
VNA1	**Neumayer--Stat**	**51.08**	**190**	P	**P**		**10 46 28.5**	**-0.3**
BASI	**Baing, Sumba**	**51.55**	**325**	P	**P**		**10 46 33.1**	**+0.1**
	comp=Z,86nm,1.0s							
FAKI	**Fak Fak**	**55.73**	**341**	P	**P**		**10 47 05.0**	**+1.4**
PMSA	**Palmer Station**	**55.74**	**164**	P	**P**		**10 47 03.1**	**+0.1**
TBI	**Tubuai**	**56.01**	**80**	*e*LR	LR		11 03 19.5	
	comp=Z,74nm,27.5s							
LEM	**Lembang**	**59.35**	**312**	P	**P**		**10 47 29.2**	**-0.1**
	comp=Z,9.5nm,0.4s,baz=137,slow=6.8,SNR=4.0							
PPT2	**Papeete2**	**60.67**	**76**	*e*LR	LR		11 05 30.7	
	comp=Z,93nm,23.2s							
RKT	**Rikitea**	**64.00**	**93**	*e*T	T		11 57 12.7	
	comp=Z,16nm,0.3s							
KSM	**Kuching**	**65.94**	**318**	P	**P**		**10 48 12.9**	**-0.2**
KSM				IAmb	IAmb		10 48 15.8	
	comp=Z,10nm,1.0s							
SBUM	**Sibu**	**66.18**	**321**	P	**P**		**10 48 13.8**	**-0.8**
GSI	**Gunungsitoli**	**70.91**	**306**	P	**P**		**10 48 45.5**	**+1.4**
IPM	**Ipoh**	**72.29**	**310**	P	**P**		**10 48 51.2**	**-1.3**
IPM				IAmb	IAmb		10 49 00.9	
	comp=Z,21nm,1.5s							
KULM	**Kulim**	**73.18**	**310**	P	**P**		**10 48 55.8**	**-1.9**
KULM				IAmb	IAmb		10 48 58.8	
	comp=Z,13nm,0.9s							
H08S2	**Diego Garcia H**	**75.68**	**278**	T	T		12 12 05.3	
	baz=147,slow=76,SNR=140							
H08S1	**Diego Carcia H**	**75.69**	**278**	T	T		12 12 13.7	
	baz=147,slow=76,SNR=96							
H08S3	**Diego Garcia H**	**75.70**	**278**	T	T		12 12 06.8	
	baz=147,slow=76,SNR=108							
PLCA	**Paso Flores**	**77.04**	**151**	LR	LR		11 16 54.7	
	comp=Z,64nm,19.4s,baz=163,slow=31							
BOSA	**Boshof**	**81.66**	**229**	LR	LR		11 18 25.2	
	comp=Z,46nm,21.2s,baz=184,slow=30							
NJ2	**Nanjing**	**92.42**	**336**	*e*P	**P**		**10 50 39.8**	**+2.5**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
LZH	**Lanzhou**	**100.24**	**325**	*e*P	**Pdif**		**10 51 13.9**	**+1.0**
LZH				pP	sP		10 51 17.2	+0.9
LZH				sP	pwP		10 51 18.7	-0.1
LZH				*e*PP	**PP**		**10 55 23.8**	**+4.4**
LZH				pmax	pmax			
	comp=Z,20nm,1.4s							
LZH				pmax	pmax			
	comp=Z,87nm,9.3s							
LZH				LR	LR			
	comp=N,130nm,17.0s							
LZH				LR	LR			
	comp=E,140nm,16.9s							
LZH				LR	LR			
	comp=Z,200nm,19.5s							
TORD	**Torodi Ar. Bea**	**128.86**	**224**	PKP	**PKiKP**		**10 56 36.2**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=171,slow=2.4,SNR=2.6							
YKA	**Yellowknife Ar**	**141.09**	**47**	PKP	**PKPdf**		**10 56 51.8**	**-4.1**
	comp=Z,0.1nm,0.6s,baz=232,slow=3.8,SNR=4.5							
COWI	**Conover**	**144.05**	**83**		**PKPdf**		**10 57 02.2**	**+0.5**
AKASG	**Malin Array Be**	**144.45**	**286**	PKP	**PKPab**		**10 57 00.5**	**0.0**
	comp=Z,0.6nm,0.4s,baz=92,slow=2.5,SNR=5.3							
KEST	**Kesra**	**144.92**	**250**	PKPbc	**PKPdf**		**10 57 04.3**	**+0.7**
	comp=Z,7.5nm,0.9s,baz=344,slow=2.7,SNR=7.4							
KEST	**Kesra**	**144.92**	**250**		**PKPab**		**10 57 02.9**	**0.0**
DIVS	**Divibare**	**145.29**	**270**		**PKPbc**		**10 57 02.8**	**-1.0**
VYHS	**Vyhne**	**148.67**	**276**	*e*PKP	**PKPbc**		**10 57 13.4**	**+0.2**
FINES	**FINESS Array B**	**150.95**	**303**	PKPbc	**PKPbc**		**10 57 17.8**	**-0.5**
	comp=Z,3.5nm,0.7s,baz=94,slow=5.7,SNR=12							
GERES	**GERESS Array B**	**151.65**	**272**	PKPbc	**PKPbc**		**10 57 19.6**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=118,slow=2.0,SNR=8.5							
CLL	**Collm**	**153.37**	**276**	*e*PKPab	**PKPab**		**10 57 38.0**	**+1.7**
	comp=Z,5.0nm,1.2s							

IDC ***08*** *11:08:45.9±0.6, 15.83S×179.67W, h0km, mb4.4/13, mb1 4.6/13, mb1mx4.5/24, mbtmp4.3/13, MS4.4/19, Ms1 4.4/19, ms1mx4.3/24, Error ellipse: s-maj=24.6km s-min=17.2km az=133.0*

BJI ***08*** *11:08:45.5±0.0, 16.00S×179.70W, h5km, mB5.3/20, mb4.8/26, Ms4.9/18, Ms7 4.6/17*

NEIC ***08*** *11:08:47.0±1.2, 16.0S±0.1×179.7W±0.1, h6km±3km, mb4.8/104, Error ellipse: s-maj=20.5km s-min=13.2km az=128.0*

GCMT ***08*** *11:08:49.0±0.1, 15.77S±0.01×179.36W±0.01, h19km, MW5.1/139, Moment Tensor Solution. s80,c112; s139,c221; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.59±.12; Mθθ0.72±.11; Mϕϕ-0.12±.10; Mrθ-0.03±.22; Mϕθ6.20±.10; Mϕr-0.15±.20; Best double couple: M≥6.21600×10^16 NP1:ϕs272.00000°, δ89.00000°, λ0.00000°. NP2:ϕs182.00000°, δ90.00000°, λ179.00000°. Principal axes: T 6.5140, Plg1.0000°, Azm137.0000°; N -0.5960, Plg89.0000°, Azm360.0000°; P -5.9190, Plg1.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 11:08:49.4±0.4, 16.03S±0.08×179.54W±0.07, h22km, n204, σ1$06/190, mb4.8/63, MS4.5/26, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.86**	**233**			**Pn**	**11 09 32.0**	**-1.8**
FUNA	**Funafuti**	**7.56**	**350**			Pn	11 10 42.2	+3.8
RAO	**Raoul Island**	**13.24**	**174**	LR	LR		11 16 15.7	
	comp=Z,3μm,21.2s,baz=336,slow=33							
DZM	**Mont Dzumac**	**14.54**	**243**	*e*Pn	**P**		**11 12 21.0**	**+0.5**
	98nm,1.6s							
DZM				*e*LQ	LQ		11 15 06.8	
	2μm,26.2s							
DZM				*e*LR	LR		11 15 47.0	
	comp=Z,3μm,26.4s							
DZM	**Mont Dzumac**	**14.54

VNDA Vanda 62.22 184 P **P** **11 19 10.8 +1.9**
comp=Z,2.6nm,1.2s,baz=345,slow=1.4,SNR=4.5
VNDA LR LR 11 41 51.1
comp=Z,171nm,20.1s,baz=26,slow=32
VNDA Vanda 62.22 184 P **P** **11 19 08.3 -0.5**
MJAR Matsushiro Arr 65.76 324 P **P** **11 19 30.6 -2.2**
comp=Z,4.0nm,0.9s,baz=160,slow=6.2,SNR=12
MJAR LR LR 11 42 54.2
comp=Z,258nm,21.8s,baz=120,slow=31
MAJO Matsushiro 65.77 324 P **P** **11 19 31.4 -1.4**
MAJO IAmb IAmb 11 19 37.0
comp=Z,12nm,1.1s
MAT Matsushiro 65.77 324 P **P** **11 19 30.1 -2.7**
MAT S **S** **11 28 18.8 +0.7**
CASY Casey 67.39 204 P **P** **11 19 43.5 +0.7**
SBUM Sibu 69.85 279 P **P** **11 19 58.3 -0.7**
KSM Kuching 71.38 277 P **P** **11 20 08.0 -0.4**
KSM IAmb IAmb 11 20 12.6
comp=Z,10.0nm,1.0s
PETK Petropavlovsk- 71.60 346 LR LR 11 46 06.1
comp=Z,211nm,21.0s,baz=205,slow=31
KSRS Korea Array 72.59 319 P **P** **11 20 14.7 -0.4**
comp=Z,0.9nm,0.6s,baz=126,slow=5.5,SNR=6.3
KSRS LR LR 11 49 31.4
comp=Z,143nm,19.2s,baz=144,slow=34
QSPA South Pole Qui 74.01 180 P **P** **11 20 24.5 +1.2**
comp=Z,5.0nm,0.8s,baz=150,slow=1.0,SNR=15
QSPA South Pole Qui 74.01 180 P **P** **11 20 24.8 +1.5**
QSPA IAmb IAmb 11 20 30.6
comp=Z,14nm,1.1s
H06S1 SOCORRO T 75.81 66 T T 12 43 23.2
SNR=4.1
SAO San Andreas Ge 75.84 45 P **P** **11 20 34.8 +0.7**
H06E1 SOCORRO T-PHAS 75.86 65 T T 12 43 20.8
SNR=11
NJ2 Nanjing 75.92 310 *e*P **P** **11 20 35.1 +0.5**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
PMPB Monarch Peak 75.99 45 P **P** **11 20 36.2 +1.2**
WDC Whiskeytown Da 77.23 41 P **P** **11 20 42.5 +0.6**
WDC IAmb IAmb 11 20 43.6
comp=Z,12nm,1.2s
CMB Columbia Colle 77.24 44 P **P** **11 20 41.8 -0.2**
CMB IAmb IAmb 11 20 43.8
comp=Z,8.6nm,1.1s
ISA Isabella, Lake 77.32 47 P **P** **11 20 43.3 +0.7**
ISA IAmb IAmb 11 20 45.4
comp=Z,13nm,1.4s
ORV Oroville 77.32 42 P **P** **11 20 42.9 +0.4**
AFDM Forest Hills D 77.34 43 P **P** **11 20 42.2 -0.3**
AFDM IAmb IAmb 11 20 44.8
comp=Z,7.5nm,1.1s
QIZ Qiongzhong 77.70 294 P **P** **11 20 44.2 -0.8**
QIZ S **S** **11 30 37.7 +1.4**
QIZ LR LR
comp=Z,83nm,10.0s
QIZ LR LR
comp=Z,130nm,16.4s
QIZ LR LR
comp=Z,170nm,29.9s
YBH Yreka Blue Hor 77.77 40 P **P** **11 20 45.9 +0.9**
CN2 Changchun 77.88 323 *e*P **P** **11 20 45.0 -0.4**
MDPB Devils Postpil 77.91 45 P **P** **11 20 46.6 +0.5**
MDPB IAmb IAmb 11 20 48.0
comp=Z,10nm,1.2s
OMMB Old Mammoth Mi 77.95 45 P **P** **11 20 47.1 +0.7**
OMMB IAmb IAmb 11 20 48.5
comp=Z,9.4nm,1.4s
WAKR Walker 78.12 44 P **P** **11 20 47.7 +0.6**
WAKR IAmb IAmb 11 20 48.9
comp=Z,8.3nm,1.0s
PNTR Pine Nut 78.32 43 P **P** **11 20 49.0 +0.7**
PNTR IAmb IAmb 11 20 50.3
comp=Z,10nm,0.9s
GSC Goldstone, Bar 78.32 48 P **P** **11 20 48.5 +0.3**
VCNR Virginia City 78.39 43 P **P** **11 20 49.5 +0.9**
YERR Yerington 78.50 44 P **P** **11 20 49.8 +0.6**
YERR IAmb IAmb 11 20 54.3
comp=Z,15nm,1.4s
PAHR Pah Rah Range 78.78 43 P **P** **11 20 51.4 +0.7**
PAHR IAmb IAmb 11 20 55.9
comp=Z,14nm,1.4s
RYN Ryan 78.80 44 P **P** **11 20 50.9 +0.1**
NVAR Mina Array Bea 78.84 45 P **P** **11 20 50.4 -0.8**
comp=Z,7.3nm,1.1s,baz=232,slow=9.1,SNR=23
NVAR LR LR 11 47 39.1
comp=Z,277nm,21.1s,baz=218,slow=30
NV11 Mina Array Sit 78.94 45 P **P** **11 20 51.9 +0.2**
NV11 IAmb IAmb 11 20 54.3
comp=Z,13nm,1.3s
RSO Redoubt South 79.22 13 P **P** **11 20 52.6 -0.1**
KVN Kaiserville 79.30 44 P **P** **11 20 53.6 0.0**
MOD Modoc Plateau 79.36 41 P **P** **11 20 53.8 0.0**
MOD IAmb IAmb 11 20 56.3
comp=Z,15nm,1.4s
K05A Summer Lake 79.45 40 P **P** **11 20 54.8 +0.5**
K05A IAmb IAmb 11 20 56.6
comp=Z,16nm,1.1s
TPNV Topopah Spring 79.52 47 P **P** **11 20 55.0 +0.2**
TPNV IAmb IAmb 11 20 60.0
comp=Z,13nm,1.4s
H04A Detroit Lake 79.76 38 P **P** **11 20 56.4 +0.5**
H04A IAmb IAmb 11 20 58.6
comp=Z,16nm,1.3s
H02S1 DAWSON INLET T 79.93 27 T T 12 48 54.4
SNR=86
PINE Pine Mountain 80.01 39 P **P** **11 20 57.6 +0.2**
E03A Lebam 80.05 36 P **P** **11 20 57.4 +0.2**
F04A Amboy 80.34 36 P **P** **11 20 58.0 -0.9**
F04A IAmb IAmb 11 21 01.2
comp=Z,16nm,1.3s
R11A Troy Canyon, C 80.65 46 P **P** **11 21 01.6 +0.6**
WVOR Wild Horse Val 80.70 41 P **P** **11 21 00.9 -0.1**
J08A Circle Bar Ran 81.28 40 P **P** **11 21 04.3 +0.2**
J08A IAmb IAmb 11 21 06.0
comp=Z,10nm,1.1s
TUC Tucson 81.43 53 P **P** **11 21 06.3 +1.2**
BJI Beijing 81.69 316 P **P** **11 21 06.4 +0.2**
BJI S **S** **11 31 19.2 +1.5**
BJI pmax pmax
comp=Z,3.0nm,0.6s
BJI LR LR
comp=Z,120nm,20.9s
CCUT Cedar City 81.83 47 P **P** **11 21 09.1 +1.8**
X16A Lo Mia Camp, P 81.83 51 P **P** **11 21 08.3 +1.0**
PSUT Pine Spring 81.94 46 P **P** **11 21 08.5 +0.7**
KNB Kanab 81.97 48 P **P** **11 21 08.6 +0.6**
G08A Pilot Rock 82.01 38 P **P** **11 21 08.2 +0.3**
G08A IAmb IAmb 11 21 10.3
comp=Z,15nm,1.2s
ELK Elko 82.05 44 P **P** **11 21 08.2 -0.1**
U15A North Rim 82.09 49 P **P** **11 21 09.2 +0.5**
HAWA Hanford 82.26 37 P **P** **11 21 08.8 -0.2**
HAWA IAmb IAmb 11 21 11.0
comp=Z,9.2nm,0.9s
ENH Enshi 82.33 304 P **P** **11 21 07.6 -2.2**
PKCU Pink Cliffs 82.53 48 P **P** **11 21 12.5 +1.4**
RND Reindeer 82.70 13 P **P** **11 21 10.9 -0.2**
RND IAmb IAmb 11 21 12.8
comp=Z,9.9nm,1.2s
BMO Blue Mountains 82.78 39 P **P** **11 21 11.8 -0.1**
BMO IAmb IAmb 11 21 14.1
comp=Z,7.0nm,1.2s
MTPU Mount Pierson 82.88 47 P **P** **11 21 14.2 +1.2**
MCK McKinley 82.97 13 P **P** **11 21 11.8 -0.5**
MFID Camas Ranch 82.97 41 P **P** **11 21 13.0 0.0**
MFID IAmb IAmb 11 21 15.4
comp=Z,14nm,1.3s
MSU Marysvale 83.10 47 P **P** **11 21 14.6 +0.7**
F10A Beach Ranch, E 83.40 38 P **P** **11 21 15.5 +0.4**
F10A IAmb IAmb 11 21 26.3
comp=Z,7.0nm,1.1s
DUG Dugway, Tooele 83.42 45 P **P** **11 21 15.7 +0.3**
B08A Colville Reser 83.44 36 P **P** **11 21 15.4 +0.2**
B08A IAmb IAmb 11 21 16.2
comp=Z,4.8nm,0.9s
GSI Gunungsitoli 83.52 273 P **P** **11 21 16.8 +0.5**
WRH Wood River Hil 83.79 13 P **P** **11 21 16.5 0.0**
HDA Harding Lake 83.99 14 P **P** **11 21 17.0 -0.6**
CCB Clear Creek Bu 84.01 13 P **P** **11 21 16.8 -0.9**
DOT Dot Lake 84.04 15 P **P** **11 21 17.4 -0.5**
DOT IAmb IAmb 11 21 19.7
comp=Z,14nm,1.5s
TMUT Trail Mountain 84.12 46 P **P** **11 21 20.0 +0.7**

MPU Maple Canyon 84.15 46 P **P** **11 21 19.8 +0.6**
COLA College 84.19 13 P **P** **11 21 17.4 -1.1**
COLA IAmb IAmb 11 21 19.5
comp=Z,8.6nm,0.9s
XAN Xi'an 84.27 308 P **P** **11 21 23.5 +3.8**
XAN pP sP 11 21 30.9 +2.1
XAN pmax pmax
comp=Z,6.0nm,1.1s
XAN pmax pmax
comp=Z,39nm,3.5s
XAN LR LR
comp=Z,160nm,20.8s
XAN LR LR
comp=Z,180nm,21.2s
XAN LR LR
comp=Z,300nm,20.1s
IL31 84.32 13 P **P** **11 21 17.8 -1.4**
ILAR Eielson Array 84.32 13 P **P** **11 21 17.1 -2.1**
comp=Z,6.6nm,1.1s,baz=221,slow=6.5,SNR=28
ILAR LR LR 11 54 48.9
comp=Z,78nm,20.4s,baz=234,slow=33
SRU San Rafael Swe 84.52 47 P **P** **11 21 21.2 +0.1**
TCUT Toone Canyon 84.79 45 P **P** **11 21 22.8 +0.3**
HHC Hu-ho-hao-te 85.19 315 *e*P **P** **11 21 24.7 +0.4**
HHC S **S** **11 31 55.8 +2.5**
HHC pmax pmax
comp=Z,13nm,1.3s
HHC pmax pmax
comp=Z,48nm,6.7s
HHC LR LR
comp=Z,230nm,18.4s
HHC LR LR
comp=Z,150nm,18.1s
HHC LR LR
comp=Z,190nm,20.3s
MAW Mawson 85.25 200 LR LR 11 57 04.1
comp=Z,259nm,19.1s,baz=98,slow=34
PV23 Carpenter Ridg 85.31 48 P **P** **11 21 25.4 +0.2**
PV23 IAmb IAmb 11 21 36.3
comp=Z,12nm,1.3s
PV13 Radium Mtn., P 85.33 48 P **P** **11 21 26.2 +1.0**
PV13 IAmb IAmb 11 21 27.9
comp=Z,11nm,1.4s
BNM Barren Site 85.36 53 P **P** **11 21 25.7 +0.2**
PV21 Cone Mtn., Par 85.39 48 P **P** **11 21 26.4 +0.8**
PV12 Saucer Basin, 85.41 48 P **P** **11 21 26.2 +0.6**
PV12 IAmb IAmb 11 21 28.4
comp=Z,13nm,1.3s
MCMT McKenzie Canyo 85.53 41 P **P** **11 21 26.3 +0.2**
DAWY Dawson 85.60 17 P **P** **11 21 25.4 -0.3**
EGAK Eagle 85.70 15 P **P** **11 21 25.9 -0.3**
EGAK IAmb IAmb 11 21 28.1
comp=Z,9.1nm,1.1s
AHID Auburn Hatcher 85.72 43 P **P** **11 21 27.1 +0.1**
COLD Coldfoot 85.78 11 P **P** **11 21 27.2 +0.6**
ANMO Albuquerque 85.79 52 P **P** **11 21 28.6 +1.0**
ANMO IAmb IAmb 11 21 31.3
comp=Z,8.8nm,1.4s
MSO Missoula 85.80 39 P **P** **11 21 28.4 +1.2**
MSO IAmb IAmb 11 21 29.8
comp=Z,9.2nm,1.4s
TX31 Lajitas Ar. Si 85.92 58 P **P** **11 21 29.0 +0.8**
TX31 IAmb IAmb 11 21 30.8
comp=Z,10nm,1.1s
TX32 Lajitas Array 85.92 58 P **P** **11 21 28.9 +0.7**
TXAR Lajitas Array 85.92 58 P **P** **11 21 26.6 -1.6**
comp=Z,2.5nm,1.1s,baz=208,slow=5.1,SNR=13
TXAR LR LR 11 52 38.9
comp=Z,305nm,19.2s,baz=0.0,slow=31
DLMT Dillon 85.94 41 P **P** **11 21 28.3 +0.3**
DLMT IAmb IAmb 11 21 30.8
comp=Z,8.2nm,1.2s
TPAW Teton Pass 86.14 43 P **P** **11 21 29.8 +0.5**
TPAW IAmb IAmb 11 21 32.1
comp=Z,9.0nm,1.3s
REDW Red Top Meadow 86.15 43 P **P** **11 21 29.9 +0.7**
FXWY Fox Creek 86.16 43 P **P** **11 21 30.8 +1.6**
FXWY IAmb IAmb 11 21 34.9
comp=Z,13nm,1.5s
LRM Limekiln Ridge 86.24 40 P **P** **11 21 30.2 +0.6**
SNOW Snow King Moun 86.26 43 P **P** **11 21 30.3 +0.6**
IMW Indian Meadow 86.33 42 P **P** **11 21 29.9 -0.3**
IMW IAmb IAmb 11 21 33.1
comp=Z,15nm,1.4s
S22A 4UR Ranch, Cre 86.60 49 P **P** **11 21 33.4 +1.7**
S22A IAmb IAmb 11 21 35.8
comp=Z,9.2nm,1.3s
BW06 Boulder Array 86.75 44 P **P** **11 21 32.2 0.0**
PDAR Pinedale Array 86.75 44 P **P** **11 21 32.2 0.0**
comp=Z,3.5nm,1.2s,baz=222,slow=4.0,SNR=9.6
PDAR LR LR 11 52 28.6
comp=Z,181nm,21.6s,baz=278,slow=30
CD2 Chengdu 87.14 303 *e*P **P** **11 21 33.5 -0.6**
CMAR Chiang Mai Arr 87.23 290 P **P** **11 21 38.0 +3.2**
comp=Z,1.0nm,0.5s,baz=104,slow=4.5,SNR=9.0
YNE Yellowstone No 87.42 42 P **P** **11 21 36.1 +0.7**
RLMT Red Lodge 87.94 42 P **P** **11 21 38.9 +1.0**
RLMT IAmb IAmb 11 21 45.1
comp=Z,9.9nm,1.5s
LZH Lanzhou 88.89 308 *e*P **P** **11 21 42.3 -0.2**
LZH pP PcP 11 21 43.5 -0.5
LZH *e*PP **PP** **11 25 13.7 +1.4**
LZH pmax pmax
comp=Z,19nm,1.4s
LZH pmax pmax
comp=Z,92nm,9.0s
LZH LR LR
comp=Z,200nm,16.7s
LZH LR LR
comp=Z,200nm,16.5s
LZH LR LR
comp=Z,280nm,19.2s
LAO LASA Array 90.52 41 P **P** **11 21 50.7 +1.0**
SYO Syowa Base 90.73 193 ⇓ *e*P **P** **11 21 49.2 -1.1**
SYO Syowa Base 90.73 193 ⇓ *e*PcP **P** **11 21 50.4 +0.1**
ULN Ulaanbaatar 91.03 320 P **P** **11 21 51.0 -1.2**
SONM Songino Array 91.43 320 P **P** **11 21 53.3 -0.7**
comp=Z,3.0nm,1.0s,baz=108,slow=3.4,SNR=11
SNAA Sanae 92.49 179 P **P** **11 21 58.3 -0.2**
SNAA Sanae 92.49 179 P **P** **11 21 58.8 +0.3**
VNA3 Neumayer Olymp 92.67 177 P **P** **11 21 59.4 +0.1**
YKA Yellowknife Ar 93.09 25 P **P** **11 22 00.0 -1.1**
comp=Z,0.4nm,0.9s,baz=283,slow=36,SNR=2.9
YKA LR LR 12 00 23.1
comp=Z,225nm,18.3s,baz=0.0,slow=33
VNA2 Neumayer--Watz 93.09 177 P **P** **11 22 02.0 +0.7**
baz=193,slow=2.9
VNA1 Neumayer--Stat 93.33 177 P **P** **11 22 03.6 +1.3**
ULM Lac du Bonnet 98.18 40 LR LR 12 00 01.8
comp=Z,135nm,20.7s,baz=281,slow=31
WMQ Urumqi 102.88 312 *e*P **Pdif** **11 22 46.3 +0.4**
WMQ LR LR
comp=Z,190nm,20.5s
WMQ LR LR
comp=Z,120nm,23.7s
WMQ LR LR
comp=Z,390nm,26.5s
BVAR Borovoye Array 114.71 321 PKP **PKiKP** **11 27 28.6 +0.7**
comp=Z,0.6nm,0.7s,baz=116,slow=3.4,SNR=3.6
ARU Arti 120.70 327 PKP **PKiKP** **11 27 40.3 +0.8**
comp=Z,0.8nm,0.3s,baz=152,slow=7.3,SNR=3.7
AKTO Aktyubinsk 122.75 320 PKP **PKiKP** **11 27 45.5 +1.8**
comp=Z,1.2nm,0.7s,baz=349,slow=13,SNR=3.6
GEYT Alibeck 125.09 305 PKP **PKiKP** **11 27 50.1 +1.3**
comp=Z,1.2nm,0.6s,baz=201,slow=12,SNR=4.0
KLMR Klimovskoe 127.22 337 *e*PKPdf **PKPdf** **11 27 50.9 -0.8**
KLMR AMP 11 27 57.1
comp=Z,9.0nm,1.3s
AKASG Malin Array Be 138.41 333 PKP **PKPdf** **11 28 10.6 -2.5**
comp=Z,0.5nm,0.4s,baz=54,slow=1.6,SNR=1.3
BRTR Keskin Array B 142.69 316 PKP **PKPdf** **11 28 20.1 -1.4**
comp=Z,0.8nm,0.9s,baz=88,slow=4.1,SNR=4.9
CLL Collm 143.40 347 *e*PKiKP **PKiKP** **11 28 26.0 +0.6**
comp=Z,12nm,1.9s
CLL *e*PP PP 11 31 18.0 -15
CLL *e*PPS PPS 11 43 48.0
CLL *e*SS SS 11 50 12.0 +0.4
CLL Lm MLR 12 35 00.0
comp=Z,100nm,20.0s
BRG Berggiesshubel 143.59 346 *e*PKP **PKiKP** **11 28 25.3 -0.6**
comp=Z,3.1nm,1.0s
MORC Moravsky Berou 143.60 341 *e*PKP PKPbc 11 28 21.0 +1.1
VYHS Vyhne 144.29 339 *e*PKP **PKPdf** **11 28 23.8 0.0**
VRAC Vranov 144.30 342 *e*PKP **PKPab** **11 28 21.7 0.0**
JAVC Velka Javorina 144.36 340 *e*PKP **PKPdf** **11 28 23.9 0.0**

KRUC Moravsky 144.58 342 *e*PKP **PKPab** **11 28 22.6 -0.1**
CSS Mathiatis 145.08 309 PKPdf **PKPdf** **11 28 26.9 +1.3**
KHC Kasperske Hory 145.29 345 *e*PKP **PKPdf** **11 28 27.2 +1.7**
GEC2 GERESS Array S 145.53 344 **PKPdf** **11 28 27.3 +1.3**
GERES GERESS Array B 145.53 344 PKPbc **PKPab** **11 28 26.3 0.0**
comp=Z,1.8nm,1.0s,baz=26,slow=3.4,SNR=12
CONA Conrad Observa 145.75 341 *es*PKPdf **PKPab** **11 28 28.4 +1.2**
comp=Z,6.0nm,1.0s
WLF Walferdange 146.14 353 PKiKP **PKPab** **11 28 29.7 +1.2**
MOA Molln 146.29 343 *ep*PKPab **PKPab** **11 28 29.9 +0.8**
comp=Z,7.3nm,1.6s
SOKA Soboth 147.12 341 *ep*PKPbc **PKPab** **11 28 31.8 -0.6**
comp=Z,5.9nm,1.3s
BFO Black Forest 147.15 350 **PKPbc** **11 28 30.5 -0.3**
ECH Echery 147.44 352 **PKPbc** **11 28 31.9 +0.2**
WATA Walderalm 147.46 346 *e*PKPab **PKPbc** **11 28 32.1 +0.2**
comp=Z,4.4nm,1.0s
RETA Reutte 147.50 347 *es*PKPbc **PKPab** **11 28 33.1 -0.8**
comp=Z,3.4nm,1.0s
WTTA Wattenberg 147.51 346 *e*PKPab **PKPbc** **11 28 32.6 +0.5**
comp=Z,7.5nm,1.1s
MOTA Moosalm 147.56 346 *e*PKPab **PKPbc** **11 28 32.1 -0.1**
comp=Z,6.7nm,1.1s
MYKA Terra Mystica 147.57 343 *ep*PKPbc **PKPbc** **11 28 32.7 +0.5**
comp=Z,4.5nm,1.0s
SQTA Sankt Quirin 147.65 346 *ep*PKPbc **PKPbc** **11 28 32.6 +0.2**
comp=Z,5.7nm,0.9s
ABTA Abfaltersbach 147.77 344 *ep*PKPbc **PKPbc** **11 28 33.3 +0.6**
comp=Z,4.1nm,1.1s
DAVA Damuels 147.87 348 *es*PKPbc **PKiKP** **11 28 34.8 -0.2**
comp=Z,6.5nm,1.2s
FETA Feichten 147.94 347 *ep*PKPbc **PKPbc** **11 28 34.1 +0.9**
comp=Z,7.6nm,1.2s
STAL STALIGIAL 148.17 344 **PKPbc** **11 28 33.2 -0.5**
CIMO Cimolais 148.20 344 **PKPbc** **11 28 33.9 +0.2**
FUORN Ofenpass-Fuorn 148.43 347 **PKPdf** **11 28 32.5 +1.3**
CTI Castel Tesino 148.64 345 PKPab **PKPab** **11 28 39.6 +1.0**
TUE Stuetta 148.76 348 **PKPdf** **11 28 33.3 +1.7**
LIT Litokhoron 149.30 326 **PKiKP** **11 28 37.8 -0.2**
BNI Bardonecchia 150.60 351 **PKiKP** **11 28 41.3 +0.7**
MSSA Maissana 150.78 347 **PKPbc** **11 28 39.6 -0.7**
INTR Introdacqua 151.64 339 **PKPbc** **11 28 42.6 +0.2**
TORD Torodi Ar. Bea 176.89 203 PKP **PKPdf** **11 28 58.8 -0.2**
comp=Z,2.1nm,1.0s,baz=12,slow=1.3,SNR=5.9
TORD PKPab PKPab 11 30 42.8 +1.1
comp=Z,3.6nm,1.2s,baz=185,slow=2.9,SNR=6.2

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*KRNET **08** 11:17:27.9±0.1, 43.°84N×78.°03E, h19km, mb3.3*
*NNC **08** 11:17:27.1±0.2, 43.°82N×78.°07E, h2km, 2km, mb3.4,*
mpv3.5, Error ellipse: s-maj=2.1km s-min=1.3km az=165.0
*SOME **08** 11:17:27.6, 43.°83N×78.°05E, h15km*

ISC 08 11:17:27.9±0.9, **43.°83N**±0.°02×**78.°02E**±0.°01, **h13**km±8km,
n71, σ1°38/132, 26C-15D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KURS	**Kuram**	**0.36**	**162**	*e*P		**Pg**	**11 17 35.1**	**-0.1**
	baz=64							
KURS				*e*S		**Sg**	**11 17 40.2**	**+0.1**
	baz=64							
KURS	**Kuram**	**0.36**	**162**	*e*P		**Pg**	**11 17 35.1**	**-0.1**
	205nm,0.2s							
KURS				*e*S		**Sg**	**11 17 40.3**	**+0.1**
	108nm,0.3s							
KURS	**Kuram**	**0.36**	**162**	P		**Pg**	**11 17 35.1**	**-0.1**
	205nm,0.2s							
KURS				S		**Sg**	**11 17 40.3**	**+0.1**
	108nm,0.3s							
MNBS	**Baschi**	**0.37**	**48**	*e*P		**Pb**	**11 17 35.4**	**-1.0**
	baz=69							
MNBS				*e*S		**Sb**	**11 17 40.7**	**-1.4**
	baz=69							
MNBS	**Baschi**	**0.37**	**48**	*e*P		**Pb**	**11 17 35.4**	**-1.0**
	98nm,0.1s							
MNBS				*e*S		**Sb**	**11 17 40.8**	**-1.4**
	592nm,0.2s							
MNBS	**Baschi**	**0.37**	**48**	P		**Pb**	**11 17 35.4**	**-1.0**
	98nm,0.1s							
MNBS				S		**Sb**	**11 17 40.7**	**-1.4**
	592nm,0.2s							
ARXS	**Arharly**	**0.41**	**340**	*e*P		**Pg**	**11 17 35.9**	**-0.1**
	117nm,0.2s							
ARXS				*e*S		**Sg**	**11 17 41.7**	**+0.2**
	609nm,0.3s							
ARXS	**Arharly**	**0.41**	**340**	P		**Pg**	**11 17 35.9**	**-0.1**
	117nm,0.2s							
ARXS				S		**Sg**	**11 17 41.7**	**+0.2**
	609nm,0.3s							
SATY	**Saty**	**0.82**	**160**	*e*P		**Pg**	**11 17 43.0**	**-0.8**
	24nm,0.1s							
SATY				*e*S		**Sg**	**11 17 53.9**	**-0.7**
	325nm,0.1s							
SATY	**Saty**	**0.82**	**160**	P		**Pg**	**11 17 43.0**	**-0.8**
	24nm,0.1s							
SATY				S		**Sg**	**11 17 53.9**	**-0.7**
	325nm,0.1s							
KOTS	**Kotyrbulak**	**0.89**	**228**	*e*P		**Pb**	**11 17 45.1**	**-0.2**
	baz=28							
KOTS				*e*S		**Sg**	**11 17 57.4**	**+0.7**
	baz=28							
KOTS	**Kotyrbulak**	**0.89**	**228**	*e*P		**Pb**	**11 17 45.1**	**-0.2**
	24nm,0.1s							
KOTS				*e*S		**Sg**	**11 17 57.4**	**+0.7**
	216nm,0.3s							
KOTS	**Kotyrbulak**	**0.89**	**228**	P		**Pb**	**11 17 45.1**	**-0.2**
	24nm,0.1s							
KOTS				S		**Sg**	**11 17 57.4**	**+0.7**
	216nm,0.3s							
MDOK	**Medeo**	**0.97**	**227**	*e*P		**Pb**	**11 17 46.4**	**-0.3**
	baz=27							
MDOK				*e*S		**Sg**	**11 17 59.6**	**+0.2**
	baz=27							
MDOK	**Medeo**	**0.97**	**227**	*e*P		**Pb**	**11 17 46.4**	**-0.3**
	13nm,0.1s							
MDOK				*e*S		**Sg**	**11 17 59.7**	**+0.2**
	32nm,0.3s							
MDOK	**Medeo**	**0.97**	**227**	⇑P		**Pb**	**11 17 46.4**	**-0.3**
	6.5nm,0.5s							
MDOK				⇓S		**Sb**	**11 17 59.4**	**-0.1**
	33nm,0.6s							
MDOK	**Medeo**	**0.97**	**227**	Pg		**Pb**	**11 17 46.4**	**-0.3**
	13nm,0.1s							
MDOK				Lg		Lg	11 17 59.7	
	32nm,0.3s							
KTBS	**Karatobe**	**0.98**	**263**	*e*P		**Pb**	**11 17 46.2**	**-0.4**
	17nm,0.3s							
KTBS				*e*S		**Sb**	**11 17 59.4**	**0.0**
	57nm,0.2s							
KTBS	**Karatobe**	**0.98**	**263**	P		**Pb**	**11 17 46.2**	**-0.4**
	17nm,0.3s							
KTBS				S		**Sb**	**11 17 59.4**	**0.0**
	57nm,0.2s							
KNDC	**Almaty**	**0.98**	**232**	⇑P		**Pb**	**11 17 46.7**	**-0.1**
	11nm,0.3s							
KNDC				⇑S		**Sg**	**11 17 59.9**	**+0.3**
	52nm,0.3s							
UZB	**Uzynbulak**	**1.00**	**133**	*e*P		**Pb**	**11 17 45.9**	**-1.3**
	26nm,0.1s							
UZB				*e*S		**Sb**	**11 17 58.5**	**-1.8**
	116nm,0.1s							
UZB	**Uzynbulak**	**1.00**	**133**	P		**Pb**	**11 17 45.9**	**-1.3**
	26nm,0.1s							
UZB				S		**Sb**	**11 17 58.5**	**-1.8**
	116nm,0.1s							
AAA	**Alma-Ata**	**1.02**	**233**	*e*P		**Pg**	**11 17 47.5**	**0.0**
	baz=32							
AAA				*e*S		**Sg**	**11 18 01.4**	**+0.7**
	baz=32							
AAA	**Alma-Ata**	**1.02**	**233**	*e*P		**Pg**	**11 17 47.5**	**0.0**
	26nm,0.1s							
AAA				*e*S		**Sg**	**11 18 01.4**	**+0.7**
	12nm,0.1s							
AAA	**Alma-Ata**	**1.02**	**233**	P		**Pg**	**11 17 47.5**	**0.0**
	26nm,0.1s							
AAA				S		**Sg**	**11 18 01.4**	**+0.7**
	12nm,0.1s							
ANVS	**Anan'yevo**	**1.08**	**194**	⇓*i*P		**Pb**	**11 17 48.2**	**-0.3**
	baz=94							
ANVS				⇓*i*S		**Sn**	**11 18 03.1**	**-0.7**
	baz=94							
PDGK	**Podgornoye**	**1.18**	**115**	P		**Pn**	**11 17 48.9**	**-1.4**
	14nm,0.1s							
PDGK				S		**Sb**	**11 18 03.7**	**-1.8**
	18nm,0.1s							
PDGK	**Podgornoye**	**1.18**	**115**	⇑P		**Pn**	**11 17 48.8**	**-1.4**
	6.1nm,0.2s							

PDGK				⇓S		Sb	11 18 03.5	-2.0
	17nm,0.5s							
TDK	**Taldyqorghan**	**1.20**	**13**	*eP*		**Pn**	**11 17 49.7**	**-0.8**
	100nm,0.2s							
TDK				*eS*		**Sb**	**11 18 05.1**	**-0.8**
	168nm,0.2s							
TDK	**Taldyqorghan**	**1.20**	**13**	P		**Pn**	**11 17 49.7**	**-0.8**
	100nm,0.2s							
TDK				S		**Sb**	**11 18 05.1**	**-0.8**
	168nm,0.2s							
KUU	**Kurty**	**1.22**	**273**	*eP*		**Pn**	**11 17 50.3**	**-0.3**
	baz=73							
KUU				*eS*		**Sb**	**11 18 06.6**	**+0.2**
	baz=73							
KUU	**Kurty**	**1.22**	**273**	*eP*		**Pn**	**11 17 50.3**	**-0.3**
	9.1nm,0.1s							
KUU				*eS*		**Sb**	**11 18 06.6**	**+0.2**
	122nm,0.1s							
KUU	**Kurty**	**1.22**	**273**	P		**Pn**	**11 17 50.3**	**-0.3**
	9.1nm,0.1s							
KUU				S		**Sb**	**11 18 06.6**	**+0.2**
	122nm,0.1s							
SHLS	**Shalkode**	**1.25**	**122**	*eP*		**Pg**	**11 17 54.8**	**+2.9**
	55nm,0.2s							
SHLS				*eS*		**Sg**	**11 18 14.1**	**+6.0**
	126nm,0.4s							
SHLS	**Shalkode**	**1.25**	**122**	P		**Pg**	**11 17 54.8**	**+2.9**
	55nm,0.2s							
SHLS				S		**Sg**	**11 18 14.1**	**+6.0**
	126nm,0.4s							
IZV	**Izvestkoviy**	**1.30**	**233**	*eP*		**Pb**	**11 17 52.3**	**+0.1**
	baz=33							
IZV				*eS*		**Sg**	**11 18 09.9**	**+0.2**
	baz=33							
IZV	**Izvestkoviy**	**1.30**	**233**	*eP*		**Pb**	**11 17 52.3**	**+0.1**
	5.5nm,0.1s							
IZV				*eS*		**Sg**	**11 18 09.8**	**+0.2**
	43nm,0.1s							
IZV	**Izvestkoviy**	**1.30**	**233**	P		**Pb**	**11 17 52.3**	**+0.1**
	5.5nm,0.1s							
IZV				S		**Sg**	**11 18 09.8**	**+0.2**
	43nm,0.1s							
DJR	**Jarkent**	**1.37**	**68**	*eP*		**Pb**	**11 17 52.7**	**-0.8**
	27nm,0.2s							
DJR				*eS*		**Sg**	**11 18 10.5**	**-1.5**
	105nm,0.3s							
DJR	**Jarkent**	**1.37**	**68**	P		**Pb**	**11 17 52.7**	**-0.8**
	27nm,0.2s							
DJR				S		**Sg**	**11 18 10.5**	**-1.5**
	105nm,0.3s							
PRZ	**Przheval'sk**	**1.38**	**168**	⇓*iP*		**Pb**	**11 17 53.4**	**-0.2**
	baz=68							
PRZ				⇓*iS*		**Sg**	**11 18 11.7**	**-0.6**
	baz=68							
KST	**Kastek**	**1.69**	**243**	*eP*		**Pb**	**11 17 59.1**	**+0.2**
	baz=43							
KST				*eS*		**Sb**	**11 18 21.2**	**+1.0**
	baz=43							
KST	**Kastek**	**1.69**	**243**	*eP*		**Pb**	**11 17 59.1**	**+0.2**
	21nm,0.2s							
KST				*eS*		**Sb**	**11 18 21.2**	**+1.0**
	26nm,0.3s							
KST	**Kastek**	**1.69**	**243**	P		**Pb**	**11 17 59.1**	**+0.2**
	21nm,0.2s							
KST				S		**Sb**	**11 18 21.2**	**+1.0**
	26nm,0.3s							
KRBS	**Karabastau**	**1.70**	**266**	*eP*		**Pb**	**11 17 59.4**	**+0.3**
	5.8nm,0.3s							
KRBS				*eS*		**Sb**	**11 18 21.6**	**+1.2**
	18nm,0.1s							
KRBS	**Karabastau**	**1.70**	**266**	P		**Pb**	**11 17 59.4**	**+0.3**
	5.8nm,0.3s							
KRBS				S		**Sb**	**11 18 21.6**	**+1.2**
	18nm,0.1s							
DGS	**Degeres**	**1.74**	**251**	*eP*		**Pb**	**11 17 59.7**	**0.0**
	baz=51							
DGS				*eS*		**Sb**	**11 18 22.3**	**+0.9**
	baz=51							
DGS	**Degeres**	**1.74**	**251**	*eP*		**Pb**	**11 17 59.7**	**0.0**
	0.7nm,0.3s							
DGS				*eS*		**Sb**	**11 18 22.4**	**+0.9**
	46nm,0.3s							
DGS	**Degeres**	**1.74**	**251**	P		**Pb**	**11 17 59.7**	**0.0**
	0.7nm,0.3s							
DGS				S		**Sb**	**11 18 22.4**	**+0.9**
	46nm,0.3s							
KTMS	**Ketmen**	**1.74**	**102**	*eP*		**Pb**	**11 17 58.5**	**-1.2**
	12nm,0.1s							
KTMS				*eS*		**Sb**	**11 18 20.5**	**-1.0**
	62nm,0.4s							
KTMS	**Ketmen**	**1.74**	**102**	P		**Pb**	**11 17 58.5**	**-1.2**
	12nm,0.1s							
KTMS				S		**Sb**	**11 18 20.5**	**-1.0**
	62nm,0.4s							
KAPS	**Kapalarasan**	**1.74**	**33**	*eP*		**Pb**	**11 17 59.2**	**-0.5**
	32nm,0.3s							
KAPS				*eS*		**Sb**	**11 18 21.6**	**+0.1**
	57nm,0.2s							
KAPS	**Kapalarasan**	**1.74**	**33**	P		**Pb**	**11 17 59.2**	**-0.5**
	32nm,0.3s							
KAPS				S		**Sb**	**11 18 21.6**	**+0.1**
	57nm,0.2s							
KDJ	**Kajisay**	**1.81**	**200**	⇑*iP*		**Pb**	**11 18 00.7**	**-0.3**
	baz=0.0							
KDJ				⇑*iS*		**Sg**	**11 18 25.0**	**-1.1**
	baz=0.0							
TKM2	**Tokmak 2**	**1.99**	**244**	⇓*iP*		**Pb**	**11 18 03.7**	**-0.3**
	baz=43							
TKM2				⇓*iS*		**Sb**	**11 18 29.6**	**+0.8**
	baz=43							
TKM2	**Tokmak 2**	**1.99**	**244**	⇓Pn		**Pb**	**11 18 03.5**	**-0.5**
	10nm,0.3s							
TKM2				⇑Lg	Lg		11 18 30.4	
	17nm,0.5s							
BOOM	**Boomskoye usch**	**2.03**	**229**	⇑*eP*		**Pb**	**11 18 04.0**	**-0.7**
	baz=29							
BOOM				⇑*iS*		**Sb**	**11 18 30.0**	**+0.1**
	baz=29							
ULHL	**Ulahol**	**2.05**	**220**	⇑*iP*		**Pb**	**11 18 04.4**	**-0.7**
	baz=20							
ULHL				⇑*iS*		**Sb**	**11 18 30.7**	**+0.1**
	baz=20							
TARG	**Taragay, Kyrgy**	**2.11**	**184**	⇑*iP*		**Pb**	**11 18 05.3**	**-0.9**
	baz=85							
TARG				⇑*iS*		**Sb**	**11 18 32.4**	**0.0**
	baz=85							
CHMS	**Chumysh**	**2.52**	**252**	⇑*iP*		**Pb**	**11 18 11.0**	**-2.0**
	baz=52							
CHMS				⇑*iS*		**Sb**	**11 18 42.0**	**-2.0**
	baz=52							
USP	**Ospenovka**	**2.62**	**259**	⇑*iP*		**Pb**	**11 18 12.5**	**-2.2**
	baz=59							
USP				⇑*iS*		**Sb**	**11 18 44.6**	**-2.2**
	baz=59							
KZA	**Kyzart**	**2.69**	**230**	⇑*iP*		**Pb**	**11 18 13.4**	**-2.6**
	baz=30							
KZA				⇑*iS*		**Sb**	**11 18 46.4**	**-2.6**
	baz=30							
AAK	**Ala-Archa**	**2.84**	**246**	⇑*iP*		**Pn**	**11 18 15.3**	**+2.2**
	baz=46							
AAK				⇑*iS*		**Sn**	**11 18 49.7**	**+2.5**
	baz=46							
AAK	**Ala-Archa**	**2.84**	**246**	⇑Pg		**Pb**	**11 18 19.3**	**+0.8**
	1.8nm,0.3s							
AAK				⇓Lg	Lg		11 18 58.4	
	11nm,0.6s							
BTLS	**Baital**	**3.09**	**294**	*eP*		**Pb**	**11 18 24.2**	**+1.5**
	1.6nm,0.2s							
BTLS				*eS*		**Sg**	**11 19 04.3**	**-2.8**
	6.1nm,0.3s							
BTLS	**Baital**	**3.09**	**294**	Pg		**Pb**	**11 18 24.2**	**+1.5**
	1.6nm,0.2s							
BTLS				Lg	Lg		11 19 04.3	
	6.1nm,0.3s							
MAKZ	**Makanchi**	**4.08**	**42**	⇓Lg	Lg		11 19 35.9	
	2.9nm,0.5s							
MK31	**Makanchi Array**	**4.22**	**44**	⇓Pn		**Pn**	**11 18 33.9**	**+2.0**
	0.1nm,0.2s,baz=220,slow=14,SNR=7.5							
MK31				⇓Pg		**Pb**	**11 18 44.1**	**+2.1**
	0.4nm,0.3s,baz=229,slow=16,SNR=7.6							
MK31				⇑Sn		**Sn**	**11 19 23.5**	**+2.4**
	0.2nm,0.2s,baz=220,slow=26,SNR=4.6							
MK31				⇓Lg	Lg		11 19 39.7	
	1.0nm,0.3s,baz=219,slow=30,SNR=6.7							
KK31	**Karatay Array**	**5.51**	**265**	⇑Pg		**Pg**	**11 19 08.8**	**-4.6**
	0.4nm,0.3s,baz=79,slow=16,SNR=8.1							
KK31				⇓Lg	Lg		11 20 23.2	
	0.5nm,0.3s,baz=74,slow=28,SNR=7.5							
OTUK	**Ortayu**	**5.92**	**320**	⇑Lg	Lg		11 20 37.1	
	4.9nm,0.7s							
KURK	**Kurchatov**	**6.90**	**3**	⇑Lg	Lg		11 21 07.7	
	2.5nm,0.7s							

*IDC **08** 11:31:08.3±0.6, 0°.70S×67°.31E, h0km, mb4.1/16, mb1 4.2/16, mb1mx3.9/41, mbtmp4.1/16, MS3.8/12, Ms1 3.8/12, ms1mx3.6/34, Error ellipse: s-maj=19.6km s-min=17.1km az=16.0*

*NEIC **08** 11:31:09.8±2.5, 0°.8S±0°.1×67°.28E±0°.09, h10km±1km, mb4.4/15, Error ellipse: s-maj=19.8km s-min=13.3km az=208.0*

*GCMT **08** 11:31:12.8±0.3, 0°.87S±0°.02×67°.41E±0°.02, h20km±1km, MW4.9/84, Moment Tensor Solution. s17,c17; s84,c103; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=1.26±.17; Mθθ=0.07±.15; Mφφ=1.33±.14; Mrθ=0.68±.24; Mrφ=-2.04±.10; Mθφ=0.81±.21; Best double couple: M=2.61600×10^16 NP1:φs=287.00000°,δ59.00000°,λ=-151.00000°. NP2: φs=181.00000°,δ65.00000°,λ=-35.00000°. Principal axes: T 2.8030, Plg4.0000°, Azm235.0000°; N -0.3800, Plg48.0000°, Azm330.0000°; P -2.4280, Plg41.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 11:31:11.6±0.6, 0°.7S±0°.1×67°.3E±0°.1, h19km, n49, σ1°9 17/35, mb4.2/24, MS3.8/12, 1D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**8.61**	**143**	T		T	T	11 42 12.9	
	baz=299,slow=80,SNR=10								
H08S1	**Diego Garcia H**	**8.62**	**143**	T		T	T	11 42 12.2	
	baz=299,slow=80,SNR=18								
H08S2	**Diego Garcia H**	**8.63**	**143**	T		T	T	11 42 17.9	
	baz=299,slow=80,SNR=15								
PALK	**Pallekele**	**15.56**	**59**	Pn		**Pn**		**11 34 50.8**	**+0.6**
WSAR	**Wadi Sarin**	**25.25**	**341**	LR		LR		11 44 41.6	
	comp=Z,251nm,18.3s,baz=173,slow=32								
OPO	**Ambohidratompo**	**26.53**	**227**	LR		LR		11 44 50.6	
	comp=Z,297nm,19.9s,baz=165,slow=31								
ATD	**Arta Tunnel**	**27.15**	**297**	LR		LR		11 46 26.7	
	comp=Z,96nm,19.0s,baz=78,slow=34								
KMBO	**Kilima Mbogo**	**30.02**	**269**	LR		LR		11 46 54.4	
	comp=Z,310nm,21.0s,baz=70,slow=32								
NIL	**Nilore**	**34.64**	**9**	P		**P**		**11 37 58.5**	**-1.3**
NIL				IAmb		IAmb		11 38 10.7	
	comp=Z,11nm,1.2s								
HRA	**Herat**	**35.23**	**353**	P		**P**		**11 38 03.4**	**-1.7**
HRA				IAmb		IAmb		11 38 19.5	
	comp=Z,2.8nm,0.8s								
SHL	**Shillong**	**35.33**	**41**	P		**P**		**11 38 08.3**	**+2.2**
SHL				IAmb		IAmb		11 38 15.4	
	comp=Z,7.3nm,1.1s								
CMAR	**Chiang Mai Arr**	**36.49**	**57**	P		**P**		**11 38 16.0**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=229,slow=9.4,SNR=1.4								
LSA	**Lhasa**	**37.86**	**35**	P		**P**		**11 38 29.7**	**+1.7**
LSA				IAmb		IAmb		11 38 36.3	
	comp=Z,4.1nm,0.7s								
GEYT	**Alibeck**	**39.37**	**349**	LR		PKP		11 53 47.3	
	comp=Z,150nm,21.0s,baz=40,slow=34								
LEM	**Lembang**	**40.69**	**100**	P		**P**		**11 38 52.8**	**+1.3**
	comp=Z,10nm,0.5s,baz=244,slow=17,SNR=3.5								
LSZ	**Lusaka**	**41.21**	**247**	P		**P**		**11 38 56.2**	**+0.5**
	comp=Z,7.0nm,0.6s,baz=77,slow=4.8,SNR=10.0								
LSZ	**Lusaka**	**41.21**	**247**	P		**P**		**11 38 56.1**	**+0.3**
LSZ				IAmb		IAmb		11 38 58.0	
	comp=Z,8.7nm,0.8s								
MATP	**Matopo**	**42.66**	**240**	P		**P**		**11 39 08.7**	**+1.1**
	comp=Z,2.9nm,0.9s,baz=43,slow=3.9,SNR=3.6								
AKH	**Akhalkalaki**	**47.14**	**336**	P		**P**		**11 39 45.1**	**+2.1**
MK31	**Makanchi Array**	**49.11**	**14**	⇓Pn		P		11 39 50.1	-7.8
	comp=Z,0.2nm,0.2s,baz=110,slow=16,SNR=57								
MKAR	**Makanchi Array**	**49.11**	**14**	P		**P**		**11 39 59.1**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=190,slow=7.3,SNR=3.9								
KBZ	**Khabaz**	**49.32**	**337**	P		**P**		**11 39 59.8**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=105,slow=4.1,SNR=4.2								
KBZ				LR		LR		12 01 04.7	
	comp=Z,55nm,21.0s,baz=166,slow=36								
BR131	**Keskin Array S**	**50.64**	**326**	P		**P**		**11 40 10.9**	**+1.1**
BR131				IAmb		IAmb		11 40 12.8	
	comp=Z,4.6nm,1.3s								
BRTR	**Keskin Array B**	**50.64**	**326**	P		**P**		**11 40 09.0**	**-0.8**
	comp=Z,1.2nm,0.9s,baz=144,slow=12,SNR=6.9								
BRTR				LR		LR		12 01 34.8	
	comp=Z,69nm,19.5s,baz=151,slow=36								
KURK	**Kurchatov**	**52.14**	**9**	P		**P**		**11 40 20.2**	**-0.5**
KURK				IAmb		IAmb		11 40 30.2	
	comp=Z,5.3nm,1.1s								
XAN	**Xi'an**	**52.15**	**44**	P		**P**		**11 40 20.2**	**-0.9**
H01W3	**Cape Leeuwin H**	**55.31**	**133**	T		T		12 40 18.2	
	baz=298,slow=75,SNR=7.5								
H01W2	**Cape Leeuwin H**	**55.32**	**133**	T		T		12 40 18.6	
	baz=298,slow=75,SNR=6.8								
H01W1	**Cape Leeuwin H**	**55.33**	**133**	T		T		12 40 22.0	
	baz=298,slow=75,SNR=6.6								
ZALV	**Zalesovo Beam**	**56.38**	**12**	P		**P**		**11 40 50.2**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=216,slow=7.2,SNR=4.6								
SONM	**Songino Array**	**59.10**	**30**	P		**P**		**11 41 11.4**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=222,slow=7.2,SNR=8.0								
DIVS	**Divibare**	**61.30**	**323**	P		**P**		**11 41 28.0**	**+1.9**
DIVS				IAmb		IAmb		11 41 28.9	
	comp=Z,4.0nm,1.0s								
KSRS	**Korea Array**	**67.50**	**49**	P		**P**		**11 42 05.8**	**-0.8**
	comp=Z,1.0nm,0.8s,baz=239,slow=7.1,SNR=4.8								
KSRS				LR		LR		12 13 42.9	
	comp=Z,112nm,18.4s,baz=218,slow=38								
WRA	**Warramunga Arr**	**68.24**	**111**	P		**P**		**11 42 10.8**	**-0.9**
	comp=Z,5.4nm,0.8s,baz=291,slow=5.6,SNR=17								
WRAB	**Tennant Creek**	**68.25**	**111**	P		**P**		**11 42 10.5**	**-1.2**
ASAR	**Alice Springs**	**68.37**	**115**	P		**P**		**11 42 11.7**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=287,slow=6.1,SNR=27								
AS31	**Alice Springs**	**68.37**	**115**	P		**P**		**11 42 11.9**	**-0.5**
CLL	**Collm**	**69.09**	**327**	P		**P**		**11 42 17.2**	**+0.9**
CLL				IAmb		IAmb		11 42 27.7	
	comp=Z,6.7nm,1.5s								
NOA	**NORSAR Array B**	**74.87**	**335**	LR		LR		12 16 32.7	
	comp=Z,34nm,21.7s,baz=100,slow=36								
MJAR	**Matsushiro Arr**	**75.18**	**52**	P		**P**		**11 42 52.9**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=188,slow=3.6,SNR=2.4								
MJAR				LR		LR		12 15 22.4	
	comp=Z,56nm,21.3s,baz=215,slow=35								
ESDC	**Sonseca Array**	**76.09**	**311**	P		**P**		**11 42 57.9**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=105,slow=3.0,SNR=5.0								
STKA	**Stephens Creek**	**76.33**	**123**	P		**P**		**11 42 59.5**	**-0.3**
	comp=Z,2.6nm,1.0s,baz=304,slow=12,SNR=3.4								
STKA				LR		LR		12 14 08.1	
	comp=Z,52nm,19.1s,baz=213,slow=34								
STKA	**Stephens Creek**	**76.33**	**123**	P		**P**		**11 42 59.6**	**-0.2**
VNDA	**Vanda**	**90.31**	**167**	P		**P**		**11 44 11.0**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=276,slow=10,SNR=3.8								
PETK	**Petropavlovsk-**	**90.82**	**37**	LR		LR		12 27 39.0	
	comp=Z,7.7nm,18.2s,baz=240,slow=37								
YKA	**Yellowknife Ar**	**118.35**	**1**	PKP		**PKPdf**		**11 49 56.2**	**-1.4**
	comp=Z,0.2nm,0.8s,baz=0.1,slow=1.7,SNR=2.5								
TX31	**Lajitas Ar. Si**	**150.25**	**344**			**PKPbc**		**11 51 01.5**	**-0.9**
TX32	**Lajitas Array**	**150.25**	**344**			**PKPbc**		**11 51 01.5**	**-0.9**
TXAR	**Lajitas Array**	**150.25**	**344**	PKPbc		**PKPbc**		**11 51 00.1**	**-2.3**
	comp=Z,1.7nm,1.0s,baz=107,slow=1.6,SNR=11								

*IDC **08** 11:42:37.6±0.8, 60°.47S×26°.93W, h0km, mb4.2/5, mb1 4.3/6, mb1mx4.0/21, mbtmp4.2/6, ML4.3/1, MS3.9/9, Ms1 3.9/9, ms1mx3.7/18, Error ellipse: s-maj=54.5km s-min=21.6km az=87.0*

*NEIC **08** 11:42:42.1±1.9, 60°.51S±0°.05×27°.4W±0°.3, h30km±5km, mb4.7/12, Error ellipse: s-maj=18.5km s-min=5.4km az=107.0*

ISC 08 11:42:40.3±0.6, 60°.60S±0°.10×27°.2W±0°.1, h19km, n40, σ1°52/29, mb4.5/8, MS4.0/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.67**	**150**	P		**Pn**		**11 45 39.9**	**+0.7**
VNA3	**Neumayer Olymp**	**12.78**	**154**	P		**Pn**		**11 45 40.5**	**-0.1**
VNA2	**Neumayer--Watz**	**13.07**	**151**	P		**Pn**		**11 45 45.4**	**+0.8**
	baz=301,slow=16								
SNAA	**Sanae**	**14.68**	**149**	P		**Pn**		**11 46 07.6**	**+0.9**
SNAA	**Sanae**	**14.68**	**149**	Pn		**Pn**		**11 46 08.0**	**+1.4**
	1.4nm,0.3s,baz=318,slow=17,SNR=100								
SNAA				Sn		**Sn**		**11 48 43.5**	**-5.1**
	0.3nm,0.3s,baz=314,slow=20,SNR=8.2								
SNAA				LR		LR		11 50 39.8	
	comp=Z,272nm,20.9s,baz=312,slow=33								
PMSA	**Palmer Station**	**17.24**	**240**	Pn		**Pn**		**11 46 37.9**	**-1.7**
EFI	**East Falkland**	**19.21**	**284**	P		**P**		**11 47 02.7**	**-0.1**
EFI				IAmb		IAmb		11 47 02.8	
	comp=Z,72nm,1.4s								
QSPA	**South Pole Qui**	**29.63**	**180**	P		**P**		**11 48 46.0**	**+1.8**
	comp=Z,5.6nm,1.0s,baz=203,slow=5.8,SNR=7.7								
QSPA				LR		LR		11 59 44.1	
	comp=Z,150nm,20.9s,baz=191,slow=34								
QSPA	**South Pole Qui**	**29.63**	**180**	P		**P**		**11 48 46.6**	**+2.4**
QSPA				IAmb		IAmb		11 48 52.0	
	comp=Z,13nm,1.2s								
PLCA	**Paso Flores**	**33.07**	**287**	LR		LR		12 02 02.8	
	comp=Z,368nm,18.2s,baz=158,slow=35								
VA03	**San Esteban**	**39.58**	**295**	P		**P**		**11 50 09.6**	**-0.5**
VNDA	**Vanda**	**42.01**	**183**	P		**P**		**11 50 30.6**	**+1.1**
	comp=Z,1.5nm,1.0s,baz=203,slow=4.2,SNR=6.8								
VNDA	**Vanda**	**42.01**	**183**	P		**P**		**11 50 32.3**	**+2.7**
AC02	**Maricunga**	**44.07**	**301**	P		**P**		**11 50 47.0**	**-0.4**
AC02				IAmb		IAmb		11 51 02.1	
	comp=Z,9.7nm,1.1s								
GO02	**Mina Guanaco**	**45.74**	**301**	P		**P**		**11 50 59.4**	**-1.0**
GO02				IAmb		IAmb		11 51 13.5	
	comp=Z,15nm,1.0s								
BOSA	**Boshof**	**47.25**	**72**	LR		LR		12 06 27.5	
	comp=Z,213nm,21.6s,baz=184,slow=30								
BDFB	**Brasilia**	**47.36**	**332**	P		**P**		**11 51 12.9**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=217,slow=10,SNR=3.0								
BDFB	**Brasilia**	**47.36**	**332**	P		**P**		**11 51 12.3**	**-0.7**
BDFB				IAmb		IAmb		11 51 20.6	
	comp=Z,10nm,1.5s								
PB07	**IPOC Station P**	**48.91**	**303**	P		**P**		**11 51 24.0**	**-1.0**
PB01	**IPOC Station P**	**49.35**	**304**	P		**P**		**11 51 27.9**	**-0.4**
PB01				IAmb		IAmb		11 51 31.4	
	comp=Z,8.6nm,1.0s								
PB11	**IPOC Station P**	**50.57**	**305**	P		**P**		**11 51 36.2**	**-1.5**
H10S2	**ASCENSION HYDR**	**52.38**	**16**	T		T		12 48 48.8	
	baz=189								
H10S3	**ASCENSION HYDR**	**52.39**	**16**	T		T		12 48 43.0	
	baz=31,SNR=7.3								
LPAZ	**La Paz**	**53.10**	**308**	LR		LR		12 16 08.0	
	comp=Z,43nm,20.0s,baz=164,slow=38								
H10N1	**ASCENSION HYDR**	**53.50**	**16**	T		T		12 50 13.8	
	baz=182								
H10N3	**ASCENSION HYDR**	**53.51**	**16**	T		T		12 50 14.0	
	baz=182,slow=74,SNR=13								
H10N2	**ASCENSION HYDR**	**53.52**	**16**	T		T		12 50 13.9	
	baz=182,slow=74,SNR=7.8								
DBIC	**Dimbokro**	**59.33**	**24**	LR		LR		12 17 25.7	
	comp=Z,78nm,20.8s,baz=146,slow=30								
ROSC	**El Rosal**	**74.84**	**311**	LR		LR		12 28 58.3	
	comp=Z,78nm,19.3s,baz=125,slow=37								
RPZ	**Rata Peaks**	**74.97**	**194**	LR		LR		12 23 48.6	
	comp=Z,57nm,18.1s,baz=198,slow=33								
TOA0	**Torodi Ar. Sit**	**77.04**	**29**	P		**P**		**11 54 32.6**	**+0.9**
TORD	**Torodi Ar. Bea**	**77.04**	**29**	P		**P**		**11 54 31.1**	**-0.6**
	comp=Z,1.8nm,0.7s,baz=198,slow=6.3,SNR=15								
PPT	**Papeete**	**89.49**	**234**	LR		LR		12 28 01.9	
	comp=Z,121nm,19.9s,baz=176,slow=30								
ASAR	**Alice Springs**	**94.63**	**163**	P		**P**		**11 56 00.1**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=179,slow=3.9,SNR=6.9								
FINES	**FINESS Array B**	**128.39**	**29**	PKP		**PKiKP**		**12 01 45.0**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=183,slow=2.6,SNR=3.0								
YKA	**Yellowknife Ar**	**139.47**	**314**	PKP		**PKPdf**		**12 02 03.2**	**-1.4**
	comp=Z,0.2nm,0.7s,baz=128,slow=4.0,SNR=2.9								
ZALV	**Zalesovo Beam**	**144.18**	**69**	PKP		**PKPab**		**12 02 10.7**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=235,slow=3.6,SNR=5.3								
SONM	**Songino Array**	**150.69**	**95**	PKPbc		**PKPbc**		**12 02 30.1**	**0.0**
	comp=Z,1.9nm,0.7s,baz=238,slow=3.0,SNR=5.9								
KSRS	**Korea Array**	**151.99**	**135**	PKPbc		**PKiKP**		**12 02 33.7**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=189,slow=2.5,SNR=7.4								
ILAR	**Eielson Array**	**152.95**	**305**	PKPbc		**PKiKP**		**12 02 35.2**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=138,slow=6.1,SNR=4.0								

*SSNC **08** 12:07:25.2±1.6, 19°.79N×75°.23W, h44km±17km, MD2.5, ML2.5, MW2.6*

ISC 08 12:07:23.1±1.6, 19°.86N±0°.07×75°.27W±0°.05, h62km±11km, n8, σ0°90/14, 1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GTMO	**Guantanamo**	**0.24**	**29**	*i* Pg		**Pn**		**12 07 33.0**	**0.0**
GTMO				*i* Sg		**Sn**		**12 07 39.2**	**-0.9**
RCC	**Rio Carpintero**	**0.42**	**288**	*i* P		**Pn**		**12 07 35.2**	**+0.7**
RCC				*i* S		**Sn**		**12 07 42.6**	**-0.1**
RCC				IAML				12 07 43.1	
	comp=N,228nm,0.2s								
RCC				IAML				12 07 43.3	
	comp=E,376nm,0.2s				

PEL	**Peldehue**	**5.97**	**42**		**Pn**	**12 10 59.0**	**-1.6**
VA03	**San Esteban**	**6.33**	**40**		**Pn**	**12 11 03.4**	**-2.3**
CO02	**Combarbal**	**7.44**	**31**		**Pn**	**12 11 18.6**	**-2.3**
CO03	**El Pedregal**	**7.88**	**31**		**Pn**	**12 11 25.5**	**-1.4**
GO04	**Tololo Observa**	**8.43**	**28**		**Pn**	**12 11 32.1**	**-2.5**
CO01	**Juntas del Tor**	**8.88**	**31**	Pn	**Pn**	**12 11 39.5**	**-1.3**
AC05	**El Transito**	**9.83**	**27**	Pn	**Pn**	**12 11 52.1**	**-1.6**
AC02	**Maricunga**	**12.07**	**28**	Pn	**Pn**	**12 12 23.7**	**-1.0**
GO02	**Mina Guanaco**	**13.45**	**23**	Pn	**Pn**	**12 12 42.8**	**-0.5**
LPAZ	**La Paz**	**22.28**	**19**	P	**P**	**12 14 33.9**	**+4.3**
	1.6nm,0.8s,baz=169,slow=5.1,SNR=6.2						
LPAZ	**La Paz**	**22.28**	**19**	P	**P**	**12 14 33.8**	**+4.3**
BDFB	**Brasilia**	**32.69**	**55**	LR	LR	12 29 06.6	
	comp=Z,68nm,18.1s,baz=107,slow=36						
VNA3	**Neumayer Olymp**	**47.02**	**156**	P	**P**	**12 18 01.9**	**-0.3**
VNA2	**Neumayer--Watz**	**47.72**	**156**	P	**P**	**12 18 07.0**	**-0.6**
	baz=260,slow=3.2						
SNAA	**Sanae**	**49.24**	**157**	P	**P**	**12 18 18.8**	**-0.5**
SNAA	**Sanae**	**49.24**	**157**	P	**P**	**12 18 18.2**	**-1.1**
SNAA				IAmb	IAmb	12 18 19.6	
	comp=Z,3.3nm,1.0s						
QSPA	**South Pole Qui**	**52.54**	**180**	P	**P**	**12 18 43.9**	**-0.4**
QSPA				IAmb	IAmb	12 18 49.7	
	comp=Z,5.1nm,1.4s						
MAW	**Mawson**	**70.39**	**164**	P	**P**	**12 20 44.5**	**-0.1**
MAW				IAmb	IAmb	12 20 44.9	
	comp=Z,1.7nm,1.2s						
TXAR	**Lajitas Array**	**71.75**	**334**	P	**P**	**12 20 55.4**	**+2.0**
	comp=Z,0.6nm,0.7s,baz=157,slow=7.6,SNR=8.8						
TX31	**Lajitas Ar. Si**	**71.75**	**334**	P	**P**	**12 20 56.0**	**+2.7**
PDAR	**Pinedale Array**	**85.91**	**336**	P	**P**	**12 22 12.9**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=156,slow=7.5,SNR=4.1						
TORD	**Torodi Ar. Bea**	**88.01**	**72**	P	**P**	**12 22 23.2**	**+1.7**
	comp=Z,0.6nm,0.9s,baz=210,slow=4.8,SNR=2.3						

*BJI **08** 12:13:14.8±0.0, 11°.65N×144°.59E, h30km, mB4.9/23, mb4.7/25, Ms4.3/8, Ms7 4.1/3*
*IDC **08** 12:13:16.6±0.6, 12°.06N×144°.10E, h0km, mb4.3/19, mb1 4.5/19, mb1mx4.3/39, mbtmp4.3/19, MS3.4/9, Ms1 3.4/9, ms1mx3.0/38, Error ellipse: s-maj=22.7km s-min=14.0km az=80.0*
*NEIC **08** 12:13:22.7±1.9, 11°.97N±0°.08×144°.0E±0°.1, h38km±6km, mb4.7/75, Error ellipse: s-maj=16.7km s-min=11.0km az=101.0*

ISC 08 12:13:20.7±0.4, 11°.96N±0°.06×144°.08E±0°.08, h26km, n120, σ1§97/108, mb4.7/60, MS3.5/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.79**	**25**	Pn	**Pb**	**12 13 52.4**	**-0.5**
GUMO				Sn	**Sn**	**12 14 12.7**	**+0.7**
JAY	**Jayapura**	**14.76**	**193**	LR	LR	12 21 59.3	
	comp=Z,154nm,18.2s,baz=9.0,slow=35						
PATS	**Pohnpei**	**14.93**	**109**	Pn	**Pn**	**12 16 49.1**	**-1.1**
KRVT	**Keravat (AS076**	**17.98**	**153**	LR	LR	12 23 03.0	
	comp=Z,104nm,21.9s,baz=287,slow=32						
FAKI	**Fak Fak**	**18.89**	**219**	P	**P**	**12 17 38.2**	**-1.2**
JOW	**Kunigami**	**20.97**	**317**	P	Pn	12 18 04.1	-0.6
	1.1nm,0.5s,baz=167,slow=14,SNR=3.4						
JOW	**Kunigami**	**20.97**	**317**	P	Pn	12 18 04.2	-0.5
H11S3	**WAKE ISLAND Hy**	**22.75**	**71**	T	T	12 41 50.9	
	baz=254,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**22.76**	**71**	T	T	12 42 18.5	
	baz=254,slow=75,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**22.76**	**71**	T	T	12 41 47.2	
	baz=254,slow=75,SNR=14						
H11N1	**WAKE ISLAND Hy**	**23.24**	**68**	T	T	12 42 16.1	
	baz=266,SNR=5.1						
H11N2	**WAKE ISLAND Hy**	**23.25**	**68**	T	T	12 43 10.5	
	baz=266,slow=75,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**23.26**	**68**	T	T	12 43 10.4	
	baz=266,slow=75,SNR=16						
JNU	**Nakatsue**	**24.29**	**332**	P	**P**	**12 18 35.3**	**-0.8**
	9.0nm,0.6s,baz=171,slow=2.3,SNR=19						
JNU	**Nakatsue**	**24.29**	**332**	P	**P**	**12 18 35.7**	**-0.5**
MJAR	**Matsushiro Arr**	**25.04**	**349**	P	**P**	**12 18 40.4**	**-2.5**
	4.1nm,0.6s,baz=169,slow=9.0,SNR=19						
MJAR				LR	LR	12 27 53.0	
	comp=Z,86nm,19.2s,baz=205,slow=35						
MAJO	**Matsushiro**	**25.05**	**349**	P	**P**	**12 18 41.4**	**-1.5**
MAT	**Matsushiro**	**25.05**	**349**	P	**P**	**12 18 40.4**	**-2.5**
MJB9	**Matsu-Tunnel**	**25.05**	**349**	P	**P**	**12 18 41.3**	**-1.6**
KSRS	**Korea Array**	**29.23**	**333**	P	**P**	**12 19 18.6**	**-1.9**
	0.9nm,0.6s,baz=130,slow=10,SNR=7.7						
KSRS				LR	LR	12 28 52.7	
	comp=Z,38nm,21.7s,baz=192,slow=32						
NJ2	**Nanjing**	**30.63**	**315**	*e*P	**P**	**12 19 33.7**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
CTAO	**Charters Tower**	**31.92**	**176**	P	**P**	**12 19 45.8**	**+1.4**
CTAO				IAmb	IAmb	12 19 53.0	
	comp=Z,19nm,1.1s						
WR0	**Warramunga Arr**	**33.08**	**197**	P	**P**	**12 19 54.6**	**0.0**
WR0				IAmb	IAmb	12 20 07.2	
	comp=Z,7.6nm,1.1s						
WB2	**Warramunga Arr**	**33.12**	**197**	P	**P**	**12 19 55.5**	**+0.6**
WB2				IAmb	IAmb	12 20 08.4	
	comp=Z,13nm,1.2s						
WRA	**Warramunga Arr**	**33.12**	**197**	P	**P**	**12 19 54.6**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=21,slow=9.8,SNR=6.7						
CN2	**Changchun**	**35.57**	**337**	*e*P	**P**	**12 20 18.2**	**+2.3**
AS31	**Alice Springs**	**36.78**	**196**	P	**P**	**12 20 27.1**	**+0.6**
ASAR	**Alice Springs**	**36.78**	**196**	P	**P**	**12 20 27.1**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=18,slow=10,SNR=25						
BJI	**Beijing**	**37.27**	**324**	P	**P**	**12 20 31.0**	**+0.6**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
EIDS	**Eidsvold**	**37.72**	**170**	P	**P**	**12 20 34.4**	**0.0**
EIDS				IAmb	IAmb	12 20 47.4	
	comp=Z,20nm,1.3s						
DZM	**Mont Dzumac**	**40.31**	**147**	P	**P**	**12 20 57.2**	**+1.0**
	comp=Z,6.6nm,0.9s,baz=283,slow=15,SNR=5.5						
DZM				LR	LR	12 35 03.1	
	comp=Z,53nm,20.7s,baz=187,slow=32						
DZM	**Mont Dzumac**	**40.31**	**147**	P	**P**	**12 20 58.1**	**+1.9**
DZM				IAmb	IAmb	12 21 16.8	
	comp=Z,9.3nm,1.0s						
HHC	**Hu-ho-hao-te**	**40.53**	**321**	*e*P	**P**	**12 20 57.7**	**-0.2**
HHC				pmax	pmax		
	comp=Z,13nm,1.0s						
HHC				pmax	pmax		
	comp=Z,43nm,5.6s						
HHC				LR	LR		
	comp=Z,110nm,13.9s						
HHC				LR	LR		
	comp=Z,82nm,15.1s						
CD2	**Chengdu**	**41.72**	**303**	*e*P	**P**	**12 21 07.0**	**-0.8**
PETK	**Petropavlovsk-**	**42.47**	**12**	LR	LR	12 36 17.0	
	comp=Z,40nm,20.7s,baz=238,slow=33						
ARMA	**Armidale**	**42.75**	**170**	P	**P**	**12 21 17.2**	**+1.0**
ARMA				IAmb	IAmb	12 21 28.8	
	comp=Z,31nm,1.4s						
LZH	**Lanzhou**	**43.46**	**310**	*e*P	**P**	**12 21 24.0**	**+1.9**
LZH				pP	pwP	12 21 35.7	-1.1
LZH				sP	sP	12 21 39.8	+10
LZH				*e*PP	**PcP**	**12 23 07.3**	**-2.7**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,92nm,5.9s						
LZH				LR	LR		
	comp=Z,410nm,14.0s						
LZH				LR	LR		
	comp=Z,430nm,13.7s						
LZH				LR	LR		
	comp=Z,620nm,16.6s						
STKA	**Stephens Creek**	**43.65**	**183**	P	**P**	**12 21 22.7**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=342,slow=10,SNR=3.7						
STKA	**Stephens Creek**	**43.65**	**183**	P	**P**	**12 21 23.2**	**0.0**
CMAR	**Chiang Mai Arr**	**43.95**	**284**	P	**P**	**12 21 27.4**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=89,slow=6.3,SNR=8.2						
BBOO	**Buckleboo**	**45.17**	**190**	P	**P**	**12 21 36.0**	**+0.5**
BBOO				IAmb	IAmb	12 21 51.5	
	comp=Z,21nm,1.4s						
SONM	**Songino Array**	**47.63**	**326**	P	**P**	**12 21 54.7**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=141,slow=9.3,SNR=5.4						
GTA	**Gaotai**	**47.70**	**313**	*e*P	**P**	**12 21 56.0**	**+0.5**
GTA				pP	sP	12 22 04.3	+0.8
GTA				sP	pwP	12 22 08.3	-2.4
GTA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,36nm,5.2s						
GTA				LR	LR		
	comp=Z,47nm,15.7s						
GTA				LR	LR		
	comp=Z,180nm,18.7s						
MA2	**Magadan**	**47.79**	**5**	P	**P**	**12 21 55.6**	**-0.1**
TOO	**Toolangi**	**49.28**	**179**	P	**P**	**12 22 09.3**	**+1.8**
TOO				IAmb	IAmb	12 22 20.8	
	comp=Z,19nm,1.4s						
ADK	**Adak**	**50.85**	**30**	P	**P**	**12 22 19.2**	**+0.1**
NWAO	**Narrogin (SRO)**	**51.47**	**209**	P	**P**	**12 22 20.6**	**-3.4**
ATKA	**Atka Island**	**52.28**	**31**	P	**P**	**12 22 29.7**	**-0.2**
WMQ	**Urumqi**	**57.71**	**315**	*e*P	**P**	**12 23 11.4**	**+2.0**
WMQ				sP	pwP	12 23 24.6	-0.1
WMQ				pmax	pmax		
	comp=Z,97nm,3.8s						
WMQ				LR	LR		
	comp=Z,130nm,15.3s						
WMQ				LR	LR		
	comp=Z,170nm,16.5s						
WMQ				LR	LR		
	comp=Z,63nm,15.3s						
MK31	**Makanchi Array**	**62.14**	**317**	P	**P**	**12 23 39.9**	**+0.2**
MK31				IAmb	IAmb	12 23 40.4	
	comp=Z,3.1nm,0.7s						
MKAR	**Makanchi Array**	**62.14**	**317**	P	**P**	**12 23 40.0**	**+0.3**
	comp=Z,3.6nm,0.5s,baz=91,slow=8.8,SNR=36						
MAKZ	**Makanchi**	**62.35**	**317**	P	**P**	**12 23 41.7**	**+0.6**
ZAA0	**Zalesovo Array**	**62.50**	**325**	P	**P**	**12 23 41.2**	**-0.7**
ZAA0				IAmb	IAmb	12 23 42.2	
	comp=Z,3.8nm,0.8s						
ZALV	**Zalesovo Beam**	**62.50**	**325**	P	**P**	**12 23 41.4**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=104,slow=5.9,SNR=16						
ZALV				PcP	**PcP**	**12 24 20.2**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=128,slow=4.0,SNR=3.8						
OHAK	**Old Harbor**	**65.33**	**32**	P	**P**	**12 24 01.2**	**+0.7**
OHAK				IAmb	IAmb	12 24 02.7	
	comp=Z,6.2nm,1.0s						
KURK	**Kurchatov**	**65.34**	**320**	P	**P**	**12 24 00.6**	**-0.1**
SVW2	**Sparrevohn**	**65.47**	**28**	P	**P**	**12 24 02.0**	**+0.6**
KDAK	**Kodiak Island**	**65.85**	**32**	P	**P**	**12 24 04.1**	**+0.3**
TTA	**Tatalina**	**65.95**	**26**	P	**P**	**12 24 05.0**	**+0.5**
CNPM	**China Poot**	**67.02**	**30**	P	**P**	**12 24 11.2**	**-0.2**
BRLK	**Bradley Lake**	**67.26**	**30**	P	**P**	**12 24 12.1**	**-0.8**
BRLK				IAmb	IAmb	12 24 19.6	
	comp=Z,9.2nm,1.1s						
NRIK	**Noril'sk**	**67.42**	**341**	P	**P**	**12 24 12.6**	**-1.0**
	comp=Z,4.9nm,0.9s,baz=121,slow=5.4,SNR=6.3						
NIL	**Nilore**	**67.57**	**302**	P	**P**	**12 24 16.2**	**+0.9**
PPLA	**Purkeypile**	**67.58**	**26**	P	**P**	**12 24 15.4**	**+0.4**
PPLA				IAmb	IAmb	12 24 17.0	
	comp=Z,3.4nm,0.8s						
SEW	**Seward**	**68.04**	**30**	P	**P**	**12 24 17.6**	**-0.2**
SEW				IAmb	IAmb	12 24 19.2	
	comp=Z,11nm,1.0s						
RC01	**Rabbit Creek A**	**68.16**	**29**	P	**P**	**12 24 18.4**	**-0.1**
RC01				IAmb	IAmb	12 24 18.7	
	comp=Z,10nm,0.8s						
BPAW	**Bear Paw Mtn.**	**68.47**	**25**	P	**P**	**12 24 20.1**	**-0.4**
TRF	**Thorofare Moun**	**68.57**	**26**	P	**P**	**12 24 20.7**	**-0.6**
PMR	**Palmer**	**68.58**	**28**	P	**P**	**12 24 20.5**	**-0.5**
PMR				IAmb	IAmb	12 24 21.4	
	comp=Z,4.8nm,0.7s						
KNK	**Knik Glacier**	**68.84**	**28**	P	**P**	**12 24 23.9**	**+1.1**
KNK				IAmb	IAmb	12 24 33.7	
	comp=Z,7.6nm,1.0s						
RND	**Reindeer**	**69.18**	**26**	P	**P**	**12 24 24.3**	**-0.6**
RND				IAmb	IAmb	12 24 32.4	
	comp=Z,6.4nm,1.3s						
SCM	**Sheep Creek Mo**	**69.47**	**28**	P	**P**	**12 24 26.8**	**+0.1**
SCM				IAmb	IAmb	12 24 28.3	
	comp=Z,14nm,1.2s						
FID	**Port Fidalgo**	**69.63**	**29**	P	**P**	**12 24 27.8**	**+0.1**
DHY	**Denali Highway**	**69.74**	**27**	P	**P**	**12 24 29.8**	**+1.3**
KK31	**Karatay Array**	**69.95**	**312**	P	**P**	**12 24 30.6**	**+0.7**
KK31				IAmb	IAmb	12 24 30.9	
	comp=Z,5.0nm,0.8s						
KKAR	**Karatay Array**	**69.95**	**312**	P	**P**	**12 24 30.6**	**+0.6**
KKAR				IAmb	IAmb	12 24 30.9	
	comp=Z,5.0nm,0.8s						
CCB	**Clear Creek Bu**	**69.95**	**25**	P	**P**	**12 24 29.1**	**-0.4**
GAR	**Garm**	**69.99**	**307**	P	**P**	**12 24 30.9**	**+0.4**
HDA	**Harding Lake**	**70.25**	**26**	P	**P**	**12 24 30.8**	**-0.6**
IL31		**70.36**	**25**	P	**P**	**12 24 30.8**	**-1.2**
IL31				IAmb	IAmb	12 24 31.9	
	comp=Z,2.8nm,0.5s						
ILAR	**Eielson Array**	**70.36**	**25**	P	**P**	**12 24 30.5**	**-1.6**
	comp=Z,1.8nm,0.4s,baz=249,slow=5.8,SNR=33						
TOLK	**Toolik Lake Re**	**70.40**	**21**	P	**P**	**12 24 33.1**	**+0.8**
TOLK				IAmb	IAmb	12 24 34.4	
	comp=Z,13nm,1.4s						
BRVK	**Borovoye**	**70.80**	**322**	P	**P**	**12 24 35.4**	**+0.5**
CHGR	**Chuyangaron**	**70.89**	**307**	P	**P**	**12 24 36.1**	**+0.2**
VRDI	**Verde Repeater**	**71.17**	**29**	P	**P**	**12 24 37.5**	**+0.2**
DOT	**Dot Lake**	**71.32**	**27**	P	**P**	**12 24 37.9**	**-0.1**
YAH	**Yahtse**	**71.86**	**30**	P	**P**	**12 24 42.3**	**+0.8**
BARN	**Barnard Glacie**	**72.00**	**29**	P	**P**	**12 24 43.0**	**+0.6**
BARN				IAmb	IAmb	12 25 00.2	
	comp=Z,9.5nm,1.3s						
EGAK	**Eagle**	**72.77**	**26**	P	**P**	**12 24 47.4**	**+0.8**
DAWY	**Dawson**	**73.43**	**26**	P	**P**	**12 24 51.1**	**+0.5**
EPYK	**Eagle Plains**	**74.79**	**24**	P	**P**	**12 24 59.0**	**+0.5**
EPYK				IAmb	IAmb	12 24 59.7	
	comp=Z,3.3nm,0.7s						
INK	**Inuvik**	**76.16**	**22**	P	**P**	**12 25 06.1**	**-0.1**
INK				IAmb	IAmb	12 25 07.5	
	comp=Z,3.6nm,0.7s						
ARU	**Arti**	**77.67**	**325**	P	**P**	**12 25 15.1**	**+0.2**
ARU				IAmb	IAmb	12 25 15.3	
	comp=Z,9.3nm,0.7s						
GEYT	**Alibeck**	**79.60**	**307**	P	**P**	**12 25 26.1**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=31,slow=0.9,SNR=5.4						
NLWA	**Neilton Lookou**	**82.69**	**43**	P	**P**	**12 25 44.1**	**+1.9**
NLWA				IAmb	IAmb	12 25 52.4	
	comp=Z,11nm,1.4s						
YBH	**Yreka Blue Hor**	**84.52**	**49**	P	**P**	**12 25 53.4**	**+1.5**
	comp=Z,2.9nm,0.9s,baz=232,slow=5.8,SNR=4.4						
YBH	**Yreka Blue Hor**	**84.52**	**49**	IAmb	IAmb	12 25 57.5	
	comp=Z,8.8nm,1.1s						
YKA	**Yellowknife Ar**	**84.65**	**27**	P	**P**	**12 25 52.0**	**0.0**
	comp=Z,2.7nm,0.7s,baz=283,slow=4.9,SNR=51						
YKA				LR	LR	13 01 39.8	
	comp=Z,23nm,20.6s,baz=0.0,slow=34						
PINE	**Pine Mountain**	**85.38**	**46**	P	**P**	**12 25 55.8**	**-0.5**
PINE				IAmb	IAmb	12 26 01.2	
	comp=Z,5.8nm,0.8s						
B08A	**Colville Reser**	**85.50**	**42**	P	**P**	**12 25 56.5**	**0.0**
B08A				IAmb	IAmb	12 26 00.4	
	comp=Z,5.2nm,0.8s						
NEW	**Newport**	**86.95**	**41**	P	**P**	**12 26 04.4**	**+0.6**
F10A	**Beach Ranch, E**	**87.45**	**44**	P	**P**	**12 26 07.7**	**+1.4**
F10A				IAmb	IAmb	12 26 13.8	
	comp=Z,4.3nm,0.9s						
BMO	**Blue Mountains**	**87.68**	**45**	P	**P**	**12 26 08.7**	**+1.3**
ARCES	**ARCESS Array B**	**88.39**	**342**	P	**P**	**12 26 09.7**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=70,slow=7.9,SNR=3.9						
NVAR	**Mina Array Bea**	**88.53**	**51**	P	**P**	**12 26 12.8**	**+1.0**
	comp=Z,4.7nm,0.8s,baz=272,slow=4.9,SNR=21						
KVN	**Kaiserville**	**88.54**	**51**	P	**P**	**12 26 12.8**	**+1.1**
KVN				IAmb	IAmb	12 26 17.1	
	comp=Z,3.2nm,0.8s						
NV11	**Mina Array Sit**	**88.65**	**51**	P	**P**	**12 26 13.3**	**+1.1**
NV11				IAmb	IAmb	12 26 18.2	
	comp=Z,4.0nm,0.9s						
MFID	**Camas Ranch**	**89.08**	**46**	P	**P**	**12 26 15.2**	**+1.2**
GSC	**Goldstone, Bar**	**90.48**	**54**	P	**P**	**12 26 21.9**	**+1.1**
GSC				IAmb	IAmb	12 26 26.5	
	comp=Z,2.9nm,0.7s						
TPNV	**Topopah Spring**	**90.48**	**52**	P	**P**	**12 26 21.2**	**+0.4**
TPNV				IAmb	IAmb	12 26 26.9	
	comp=Z,4.3nm,0.8s						
FINES	**FINESS Array B**	**92.31**	**335**	P	**P**	**12 26 27.0**	**-1.5**
	comp=Z,2.0nm,0.5s,baz=71,slow=5.4,SNR=26						
IMW	**Indian Meadow**	**92.33**	**44**	P	**P**	**12 26 31.0**	**+1.6**
IMW				IAmb	IAmb	12 26 35.0	
	comp=Z,3.0nm,0.8s						
MTPU	**Mount Pierson**	**93.27**	**50**	P	**P**	**12 26 32.5**	**-1.4**
PDAR	**Pinedale Array**	**93.65**	**45**	P	**P**	**12 26 37.6**	**+2.1**
	comp=Z,0.6nm,0.6s,baz=274,slow=1.7,SNR=5.8						
HFS	**Hagfors**	**98.00**	**337**	LR	LR	13 10 54.8	
	comp=Z,28nm,20.1s,baz=176,slow=35						
NOA	**NORSAR Array B**	**98.29**	**339**	LR	LR	13 13 23.0	
	comp=Z,15nm,21.6s,baz=125,slow=37						
DBIC	**Dimbokro**	**143.99**	**299**	PKP	PKPab	12 32 52.8	+0.5
	comp=Z,8.7nm,1.1s,baz=125,slow=4.6,SNR=3.8						
KIC	**Kosan Boka**	**144.05**	**299**	*e*PKP2	**PKPab**	**12 32 52.2**	**-0.4**
	comp=Z,5.3nm,0.6s						
TIC	**Toumodi**	**144.14**	**299**	*e*PKP2	**PKPab**	**12 32 52.8**	**-0.2**
LIC	**Lamto**	**144.36**	**299**	*e*PKP2	**PKPab**	**12 32 53.5**	**-0.3**
	comp=Z,15nm,0.5s						

*IDC **08** 12:34:35.4±0.8, 9°.12N×126°.51E, h0km, mb3.8/11, mb1 4.0/11, mb1mx3.8/35, mbtmp3.8/11, MS2.9/1, Ms1 2.9/1, ms1mx2.3/38, Error ellipse: s-maj=58.5km s-min=16.8km az=74.0*
*NEIC **08** 12:34:37.6±2.4, 9°.29N±0°.08×126°.7E±0°.1, h10km±1km, mb4.5/12, Error ellipse: s-maj=19.6km s-min=10.1km az=127.0*
*MAN **08** 12:34:40.7, 9°.24N×126°.86E, h34km, mb4.7, ML3.6, MS3.5*

ISC 08 12:34:40.9±1.9, 9°.21N±0°.04×126°.85E±0°.07, h32km±13km, n49, σ1§30/49, mb4.2/17, 4C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.46**	**293**	*e*P	**Pn**	**12 35 04.2**	**-0.8**
MSLP	**Maasin**	**2.17**	**295**	*e*P	**Pn**	**12 35 15.8**	**+1.0**
MSLP				*e*S	**Sb**	**12 35 47.0**	**+0.9**
BUKP	**Musuan**	**2.21**	**233**	*e*P	**Pn**	**12 35 16.0**	**+0.6**
BUKP				*e*S	**Sb**	**12 35 46.4**	**-0.9**
CGP	**Cagayan de Oro**	**2.26**	**251**	*e*P	**Pn**	**12 35 17.0**	**+1.0**
CGP				*e*S	**Sn**	**12 35 43.9**	**+1.0**
MATI	**Mati**	**2.32**	**195**	*e*P	**Pn**	**12 35 17.4**	**+0.5**
DAV	**Davao City (W)**	**2.47**	**211**	Pn	**Pb**	**12 35 22.8**	**-1.8**
	39nm,0.3s,baz=98,slow=22,SNR=1.5						
DAV				LR	LR	12 36 26.2	
	comp=Z,264nm,19.4s,baz=349,slow=50						
DAV	**Davao City (W)**	**2.47**	**211**		**Pn**	**12 35 20.8**	**+1.8**
KCP	**Kidapawan**	**2.80**	**219**	*i*P	**Pn**	**12 35 24.6**	**+1.1**
KCP				*i* S	**Sn**	**12 35 56.6**	**+0.4**
OCLP	**Ormoc**	**2.87**	**310**	*e*P	**Pn**	**12 35 26.6**	**+2.2**
TBP	**Tagbilaran**	**2.99**	**279**	*e*P	**Pn**	**12 35 26.3**	**+0.2**
TBP				*i* S	**Sn**	**12 36 02.9**	**+2.0**
CTBH	**Cotabato--PC H**	**3.25**	**233**	*i*P	**Pn**	**12 35 30.8**	**+1.1**
DDMP	**Don Marcelino,**	**3.29**	**200**	*e*P	**Pn**	**12 35 31.5**	**+1.4**
SNPH	**Sibulan**	**3.57**	**272**	*i* P	**Pn**	**12 35 37.3**	**+3.2**
PAGZ	**Pagadian**	**3.69**	**249**	*e*P	**Pn**	**12 35 37.0**	**+1.3**
CNP	**Catarman**	**3.92**	**327**	*e*P	**Pn**	**12 35 39.2**	**+0.3**
CNP				*e*S	**Sn**	**12 36 24.5**	**+0.6**
CNOP	**Candoni, Negro**	**4.20**	**279**	*e*P	**Pn**	**12 35 43.5**	**+0.7**
RCP	**Roxas**	**4.67**	**300**	*i*P	**Pn**	**12 35 51.6**	**+2.4**
PVCP	**Virac**	**5.10**	**329**	*e*P	**Pn**	**12 35 56.3**	**+1.2**
LUWI	**Luwuk**	**10.96**	**202**	Pn	**Pn**	**12 37 15.5**	**-0.2**
FAKI	**Fak Fak**	**13.19**	**156**	Pn	**Pn**	**12 37 49.4**	**+3.2**
MTN	**Manton Dam**	**22.32**	**169**	P	**P**	**12 39 36.7**	**+0.7**
MTN				IAmb	IAmb	12 39 38.0	
	comp=Z,35nm,1.4s						
KNRA	**Kununurra**	**24.80**	**176**	P	**P**	**12 39 59.8**	**-0.3**
KSRS	**Korea Array**	**28.14**	**2**	P	**P**	**12 40 29.1**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=180,slow=9.4,SNR=2.0						
WRA	**Warramunga Arr**	**29.89**	**166**	P	**P**	**12 40 44.4**	**-1.5**
	comp=Z,0.7nm,0.6s,baz=333,slow=11,SNR=6.0						
WB2	**Warramunga Arr**	**29.89**	**166**	P	**P**	**12 40 46.4**	**+0.5**
WR0	**Warramunga Arr**	**29.96**	**165**	P	**P**	**12 40 45.3**	**-1.2**
WR0				IAmb	IAmb	12 40 52.8	
	comp=Z,14nm,1.4s						
GSI	**Gunungsitoli**	**30.17**	**257**	P	**P**	**12 40 47.2**	**-1.2**
GSI				IAmb	IAmb	12 40 55.5	
	comp=Z,7.0nm,0.9s						
AS31	**Alice Springs**	**33.39**	**168**	P	**P**	**12 41 16.0**	**-0.7**
ASAR	**Alice Springs**	**33.39**	**168**	P	**P**	**12 41 15.8**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=353,slow=6.8,SNR=36						
MORW	**Morawa**	**39.46**	**195**	P	**P**	**12 42 08.0**	**-0.3**
MORW				IAmb	IAmb	12 42 08.1	
	comp=Z,16nm,1.4s						
H11S3	**WAKE ISLAND Hy**	**39.68**	**72**	T	T	13 25 13.2	
	baz=245,SNR=9.9						
H11S1	**WAKE ISLAND Hy**	**39.70**	**72**	T	T	13 25 21.0	
	baz=245						
H11S2	**WAKE ISLAND Hy**	**39.70**	**72**	T	T	13 25 21.8	
	baz=245						
FORT	**Forrest**	**39.77**	**178**	P	**P**	**12 42 11.7**	**+0.8**
H11N1	**WAKE ISLAND Hy**	**40.05**	**70**	T	T	13 25 53.2	
	baz=265,slow=74,SNR=6.3						
**H

SONM	**Songino Array**	**42.28**	**339**	LR	LR	13 02 38.4	
	comp=Z,52nm,20.7s,baz=254,slow=38						
BBOO	**Buckleboo**	**42.65**	**169**	P	**P**	**12 43 40.8**	**+1.1**
BBOO				IAmb	IAmb	12 43 57.1	
	comp=Z,8.5nm,1.1s						
NWAO	**Narrogin (SRO)**	**42.90**	**192**	P	**P**	**12 43 41.2**	**-0.5**
NWAO				IAmb	IAmb	12 43 42.1	
	comp=Z,9.0nm,0.9s						
MK31	**Makanchi Array**	**53.31**	**323**	P	**P**	**12 45 02.0**	**-0.1**
MKAR	**Makanchi Array**	**53.31**	**323**	P	**P**	**12 45 01.4**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=125,slow=8.6,SNR=6.7						
KK31	**Karatay Array**	**59.51**	**315**	P	**P**	**12 45 45.1**	**-1.2**
ARCES	**ARCESS Array B**	**85.45**	**340**	P	**P**	**12 48 19.9**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=80,slow=6.5,SNR=1.4						

GCG ***08*** *12:57:16.8±0.4, 13°.69N×89°.20W, h14km, MD4.0*
SNET ***08*** *12:57:17.2±1.2, 13°.13N×89°.59W, h32km±2km, ML3.4*
ISC 08 12:57:17.4±2.1, 13°.10N±0°.10×89°.58W±0°.05, h28km±13km, n32, σ0°69/53, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.46**	**33**	*e*P		**Pb**	**12 57 27.1**	**+0.1**
LALI				*e*S		**Sb**	**12 57 34.1**	**+0.5**
JAYA	**Jayaque - finc**	**0.56**	**13**	*e*P		**Pb**	**12 57 28.8**	**-0.1**
JAYA				*e*S		**Sb**	**12 57 36.6**	**-0.1**
SNET	**Serv Nac Est T**	**0.67**	**30**	*e*P		**Pb**	**12 57 30.4**	**-0.3**
SNET				IAML			12 57 31.0	
	comp=Z,1μm,0.3s							
SNET				*e*S		**Sb**	**12 57 40.0**	**+0.4**
BOQS	**Boqueron**	**0.69**	**25**	*e*P		**Pb**	**12 57 30.9**	**-0.2**
BOQS				*e*S		**Sb**	**12 57 41.5**	**+1.1**
UEES	**Universidad Ev**	**0.69**	**28**	*e*P		**Pb**	**12 57 30.7**	**-0.3**
UEES				*e*S		**Sb**	**12 57 40.9**	**+0.7**
OPAM	**Oficina de Pla**	**0.71**	**31**	*e*P		**Pb**	**12 57 31.1**	**-0.1**
OPAM				*e*S		**Sb**	**12 57 41.9**	**+1.2**
UESS	**Universidad de**	**0.71**	**31**	*e*P		**Pb**	**12 57 31.2**	**-0.1**
UESS				*e*S		**Sb**	**12 57 42.0**	**+1.1**
CEDA	**San Andres**	**0.72**	**14**	*e*P		**Pb**	**12 57 30.9**	**-0.5**
CEDA				*e*S		**Sb**	**12 57 41.3**	**+0.3**
LFRS	**El Faro**	**0.72**	**44**	*e*P		**Pb**	**12 57 31.3**	**-0.2**
LFRS				*e*S		**Sb**	**12 57 41.2**	**+0.1**
CEVE	**Cerro Verde**	**0.72**	**356**	*e*P		**Pb**	**12 57 29.9**	**-1.7**
CEVE				IAML			12 57 42.7	
	comp=Z,2μm,0.3s							
SBLS	**San Blas**	**0.73**	**356**	*e*P		**Pb**	**12 57 31.1**	**-0.7**
UDBS	**Universidad Do**	**0.73**	**34**	*e*P		**Pb**	**12 57 31.6**	**-0.1**
UDBS				*e*S		**Sb**	**12 57 42.1**	**+0.7**
SNJE	**San Jose**	**0.76**	**358**	*e*P		**Pb**	**12 57 31.4**	**-0.8**
RTR	**El Retiro**	**0.79**	**355**	*e*P		**Pb**	**12 57 32.1**	**-0.6**
LBRS	**Las Brisas**	**0.82**	**39**	*e*P		**Pb**	**12 57 33.1**	**0.0**
LBRS				*e*S		**Sb**	**12 57 44.5**	**+0.7**
NUBE	**Las Nubes**	**0.82**	**346**	*e*P		**Pb**	**12 57 31.9**	**-1.3**
NUBE				*e*S		**Sb**	**12 57 42.9**	**-1.0**
PAVA	**Las Pavas**	**0.87**	**46**	*e*P		**Pb**	**12 57 33.8**	**-0.1**
PAVA				*e*S		**Sb**	**12 57 45.6**	**+0.3**
UNIC	**Universidad Ca**	**0.87**	**2**	*e*P		**Pb**	**12 57 33.1**	**-0.9**
UNIC				*e*S		**Sb**	**12 57 46.0**	**+0.6**
TACO	**Tacachico**	**0.89**	**14**	*e*P		**Pn**	**12 57 33.2**	**-0.9**
TACO				*e*S		**Sb**	**12 57 46.0**	**+0.2**
UESV	**Universidad de**	**0.93**	**55**	*e*P		**Pn**	**12 57 34.3**	**-0.4**
ALJI	**Alcalda de J**	**1.00**	**77**	*e*P		**Pn**	**12 57 35.2**	**-0.4**
ALJI				*e*S		**Sb**	**12 57 48.9**	**-0.1**
COEB	**Comit de Eme**	**1.09**	**69**	*e*P		**Pn**	**12 57 36.4**	**-0.5**
COEB				*e*S		**Sn**	**12 57 51.2**	**0.0**
COEB				IAML			12 57 55.1	
	comp=Z,488nm,0.3s							
TECA	**Tecapa**	**1.11**	**69**	*e*P		**Pn**	**12 57 36.7**	**-0.6**
LLGN	**La Laguna**	**1.22**	**30**	*e*P		**Pn**	**12 57 38.4**	**-0.3**
JUCU	**Jucuarɲn**	**1.30**	**83**	*e*P		**Pn**	**12 57 39.2**	**-0.6**
JUCU				*e*S		**Sn**	**12 57 56.3**	**0.0**
MTO3	**Montecristo**	**1.30**	**9**	*e*P		**Pn**	**12 57 39.5**	**-0.5**
IXG	**Ixpaco**	**1.35**	**322**	*e*P		**Pn**	**12 57 40.2**	**-0.4**
ESQI	**Esquipulas**	**1.47**	**9**	*e*P		**Pn**	**12 57 42.1**	**0.0**
FAGO	**Alcalda de S**	**1.55**	**67**	*e*P		**Pn**	**12 57 42.8**	**-0.3**
LCND	**La Caada**	**1.66**	**83**	*e*P		**Pn**	**12 57 44.1**	**-0.5**
LCND				*e*S		**Sn**	**12 58 05.5**	**+0.5**
LCND				IAML			12 58 12.5	
	comp=Z,612nm,0.4s							
FUG	**Fuego 3**	**1.82**	**318**	*e*P		**Pn**	**12 57 47.0**	**0.0**
FUG				*e*S		**Sn**	**12 58 09.1**	**-0.1**
STG3	**Santiaguito 3,**	**2.51**	**310**	*e*P		**Pn**	**12 57 57.7**	**+1.2**
STG3				*e*S		**Sn**	**12 58 28.2**	**+1.8**

NNC 08 12:57:49.5±7.1, 36°.40N×70°.73E, h0km, mb3.8, mpv3.5, 1C-1D, Error ellipse: s-maj=59.3km s-min=49.0km az=147.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.70**	**359**	⇑P		Pn	12 59 30.2	+0.9
	0.7nm,0.2s,baz=173,slow=12,SNR=24							
KK31				⇓S		Sn	13 00 48.1	+1.8
	0.8nm,0.3s,baz=182,slow=21,SNR=3.8							
AAK	**Ala-Archa**	**6.88**	**24**	P		Pn	12 59 31.9	+0.1
	2.2nm,0.5s							
AAK				S		Sn	13 00 51.0	+0.2
	2.0nm,0.6s							
AB31	**Akbulak array**	**15.07**	**332**	P		Pn	13 01 20.9	-2.7
	0.4nm,0.2s,baz=150,slow=13,SNR=11							

CNRM ***08*** *12:58:51.5±1.4, 35°.91N×0°.27W, h20km, Error ellipse: s-maj=10.5km s-min=8.7km az=77.0*
IDC ***08*** *12:58:58.5±1.9, 35°.45N×0°.96W, h0km, mb2.8/1, mb1 3.3/4, mb1mx3.1/40, mbtmp3.3/4, ML3.3/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/15, Error ellipse: s-maj=25.1km s-min=20.4km az=108.0*
CRAAG ***08*** *12:58:58.8, 35°.38N×1°.00W, Ml3.7*
MDD ***08*** *12:58:59.6±1.1, 35°.19N×0°.99W, h22km±18km, mb4.5/43, Error ellipse: s-maj=18.7km s-min=5.3km az=149.0, PRXIMO*
LDG ***08*** *12:59:00.1±0.2, 35°.22N×1°.00W, h10km, Ml3.2/12, Error ellipse: s-maj=4.6km s-min=2.5km az=150.0*
INMG ***08*** *12:59:00.6±1.5, 35°.43N×1°.08W, h10km, ML2.8, Error ellipse: s-maj=6.5km s-min=4.4km az=151.0*
ISC 08 12:58:59.0±0.6, 35°.37N±0°.04×1°.00W±0°.03, h14km, n148, σ2°38/237, 1D, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OTSS	**Djebel Tessala**	**0.19**	**117**	P		**Pb**	**12 59 04.0**	**-0.3**
OTSS	**Djebel Tessala**	**0.19**	**117**	P		**Pb**	**12 59 04.0**	**-0.3**
OLHC	**Oulhaca**	**0.36**	**251**	P		**Pn**	**12 59 09.1**	**-0.8**
OLHC	**Oulhaca**	**0.36**	**251**	P		**Pn**	**12 59 09.1**	**-0.8**
USTO	**Oran**	**0.52**	**45**	P		**Pg**	**12 59 09.3**	**+0.1**
USTO	**Oran**	**0.52**	**45**	P		**Pg**	**12 59 09.3**	**+0.1**
ODJA	**Bouhanifia**	**0.69**	**93**	P		**Pb**	**12 59 13.1**	**+0.2**
ODJA	**Bouhanifia**	**0.69**	**93**	P		**Pb**	**12 59 13.1**	**+0.2**
MELI	**Melilla**	**1.58**	**268**	P		**Pn**	**12 59 25.7**	**-0.9**
	174nm,0.4s,SNR=7.9							
MELI				S		**Sn**	**12 59 43.0**	**-3.9**
	608nm,0.8s,SNR=4.0							
MELI	**Melilla**	**1.58**	**268**	*i* Pn		**Pn**	**12 59 26.0**	**-0.6**
MELI	**Melilla**	**1.58**	**268**	*i* Pg		**Pg**	**12 59 29.9**	**+0.5**
MELI				*e*S		**Sn**	**12 59 45.4**	**-1.5**
EMEL	**Melilla**	**1.60**	**268**	P		**Pn**	**12 59 26.1**	**-0.8**
	139nm,0.2s,SNR=10.0							
EMEL				S		**Sn**	**12 59 44.4**	**-2.9**
	424nm,0.3s							
GOG	**Mont Gurugu**	**1.64**	**265**	S		**Sg**	**12 59 55.7**	**+3.9**
EALB	**Alboran**	**1.75**	**290**	P		**Pn**	**12 59 28.4**	**-0.5**
	39nm,0.2s,SNR=9.1							
EALB				S		**Sn**	**12 59 50.2**	**-0.8**
	135nm,0.5s							
EANR	**'Ain N'Sour**	**1.81**	**71**	P		**Pg**	**12 59 34.5**	**+0.9**
EANR	**'Ain N'Sour**	**1.81**	**71**	P		**Pg**	**12 59 34.5**	**+0.9**
ENIJ	**Nijar**	**1.88**	**329**	P		**Pn**	**12 59 30.2**	**-0.5**
	77nm,0.3s,SNR=7.9							
ENIJ				S		**Sn**	**12 59 53.0**	**-1.1**
	363nm,0.3s,SNR=7.9							
ECHF	**Ech Chlef**	**2.06**	**67**	P		**Pb**	**12 59 37.0**	**+0.9**
ECHA	**Ech Chlef**	**2.08**	**67**	P		**Pb**	**12 59 37.0**	**+0.6**
EBER	**Berja**	**2.16**	**315**	P		**Pn**	**12 59 34.2**	**-0.6**
	41nm,0.2s,SNR=69							
EBER				S		**Sn**	**13 00 01.3**	**-0.2**
	235nm,0.6s,SNR=5.2							
CART	**Cartagena**	**2.21**	**360**	P		**Pn**	**12 59 34.0**	**-1.3**
CART				S		**Sn**	**12 59 58.9**	**-3.5**
CART	**Cartagena**	**2.21**	**360**	*e*Pn		**Pn**	**12 59 34.0**	**-1.3**
CART	**Cartagena**	**2.21**	**360**	*i* Pg		**Pn**	**12 59 36.1**	**+0.9**
CART				*e*S		**Sn**	**12 59 58.9**	**-3.5**
CART				*e*Cod			13 01 18.9	
EBNR	**Beni Rached**	**2.25**	**65**	P		**Pg**	**12 59 45.9**	**+3.7**
TLOR	**Lorca, Murcia**	**2.35**	**347**	P		**Pn**	**12 59 37.8**	**+0.7**
	79nm,0.1s,SNR=7.9							
TLOR				S		**Sn**	**13 00 06.3**	**+0.5**
	136nm,0.2s,SNR=7.9							
PALE	**Palemas**	**2.41**	**267**	S		**Sg**	**13 00 15.4**	**-1.1**
EMUR	**La Murta**	**2.48**	**356**	P		**Pn**	**12 59 38.6**	**-0.3**
	34nm,0.4s,SNR=91							
EMUR				S		**Sn**	**13 00 05.8**	**-3.2**
	40nm,0.3s,SNR=6.6							
AKLM	**AKL**	**2.50**	**251**	S		**Sg**	**13 00 21.6**	**+2.2**
ELGU	**Los Guajares,**	**2.60**	**306**	P		**Pn**	**12 59 39.4**	**-1.3**
	12nm,0.2s,SNR=7.9							
ELGU				S		**Sn**	**13 00 09.2**	**-2.9**
	116nm,0.4s,SNR=7.9							
ETRV	**Los Montesinos**	**2.65**	**4**	P		**Pn**	**12 59 41.4**	**+0.1**
	38nm,0.3s,SNR=7.9							
ETRV				S		**Sn**	**13 00 14.5**	**+1.2**
	111nm,0.3s,SNR=7.9							
EQUE	**Quentar**	**2.69**	**314**	P		**Pn**	**12 59 42.9**	**+0.9**
	32nm,0.3s,SNR=132							
EQUE				S		**Sn**	**13 00 14.8**	**+0.4**
	48nm,0.4s							
EQES	**Quesada**	**2.95**	**326**	P		**Pn**	**12 59 47.5**	**+2.0**
	50nm,0.4s,SNR=144							
EQES				S		**Sn**	**13 00 20.8**	**+0.1**
	93nm,0.4s,SNR=7.6							
SESP	**Santiago Espad**	**3.01**	**336**	P		**Pn**	**12 59 48.3**	**+1.9**
	116nm,0.3s,SNR=7.9							
SESP				S		**Sn**	**13 00 24.0**	**+1.6**
	103nm,0.2s,SNR=7.9							
EGOR	**Sierra Gorda,**	**3.06**	**306**	P		**Pn**	**12 59 48.0**	**+1.0**
	9.8nm,0.4s,SNR=7.9							
EGOR				S		**Sn**	**13 00 22.6**	**-0.9**
	59nm,0.9s,SNR=7.9							
EMAL	**Malaga-Limoner**	**3.11**	**298**	*e*P		**Pn**	**12 59 47.7**	**+0.2**
EMAL				*e*S		**Sn**	**13 00 22.1**	**-2.4**
EMIJ	**Mijas**	**3.29**	**292**	P		**Pn**	**12 59 48.6**	**-1.4**
	5.3nm,0.2s,SNR=14							
EMIJ				S		**Sn**	**13 00 25.1**	**-3.9**
	40nm,0.6s,SNR=6.1							
ETOB	**Tobarra**	**3.30**	**353**	P		**Pn**	**12 59 51.6**	**+1.3**
	22nm,0.2s,SNR=96							
ETOB				S		**Sn**	**13 00 28.2**	**-1.2**
	57nm,0.5s,SNR=7.1							
AFON	**Font Roja**	**3.31**	**6**	P		**Pn**	**12 59 52.0**	**+1.5**
	24nm,0.5s,SNR=11							
AFON				S		**Sn**	**13 00 29.0**	**-0.6**
	79nm,0.8s							
CHEFC	**Chefchaouen**	**3.56**	**267**	P		**Pn**	**12 59 54.3**	**+0.4**
CHEFC				S		**Sb**	**13 00 43.3**	**-1.6**
CEU	**Ceuta**	**3.60**	**280**	P		**Pn**	**12 59 54.2**	**-0.1**
CEU				S		**Sn**	**13 00 36.5**	**-0.1**
CEU	**Ceuta**	**3.60**	**280**	*e*P		**Pn**	**12 59 54.2**	**-0.1**
CEU				*e*S		**Sn**	**13 00 36.5**	**-0.1**
IFR	**Ifrane**	**3.88**	**243**	⇓*i*P		**Pb**	**13 00 06.3**	**-1.0**
IFR				*e*S		**Sb**	**13 00 54.6**	**+0.4**
MDT	**Midelt**	**3.93**	**231**	Pn		**Pn**	**12 59 59.9**	**+0.9**
	0.5nm,0.3s,baz=44,slow=12,SNR=10							
MDT				Pg		**Pg**	**13 00 15.2**	**+0.9**
	1.4nm,0.3s,baz=60,slow=19,SNR=16							
MDT				Lg		Lg	13 01 05.2	
	1.6nm,0.3s,baz=285,slow=20,SNR=4.3							
MDT	**Midelt**	**3.93**	**231**	S		**Sb**	**13 00 59.0**	**+3.4**
RSA	**Sarsar**	**3.98**	**264**	P		**Pn**	**13 00 01.5**	**+1.9**
RSA				S		**Sb**	**13 00 55.1**	**-1.8**
MD31	**MD31**	**3.99**	**232**	P		**Pn**	**13 00 00.9**	**+1.1**
MD31				S		**Sb**	**13 01 00.1**	**+2.8**
EADA	**Adamuz**	**4.01**	**315**	P		**Pn**	**13 00 01.6**	**+1.6**
	5.8nm,0.5s,SNR=7.9							
EADA				S		**Sn**	**13 00 44.2**	**-2.5**
	14nm,0.4s,SNR=7.9							
CZD	**Col de Zad**	**4.08**	**236**	P		**Pn**	**13 00 03.1**	**+1.9**
CZD				S		**Sb**	**13 01 00.1**	**+0.1**
EIBI	**Ibiza**	**4.10**	**26**	P		**Pn**	**13 00 00.9**	**-0.4**
	27nm,0.3s,SNR=11							
EIBI				S		**Sn**	**13 00 46.0**	**-3.1**
	27nm,0.5s,SNR=5.0							
ESPR	**Espera**	**4.21**	**292**	P		**Pn**	**13 00 03.4**	**+0.8**
	6.9nm,0.5s,SNR=7.9							
HORN	**Hornachuelos**	**4.22**	**307**	S		**Sn**	**13 00 51.6**	**-0.5**
ECAB	**El Cabril**	**4.46**	**309**	P		**Pn**	**13 00 06.8**	**+0.6**
	2.5nm,0.3s,SNR=9.9							
ECAB				S		**Sn**	**13 00 56.3**	**-1.6**
	13nm,0.4s,SNR=7.9							
ESDC	**Sonseca Array**	**4.90**	**332**	Pn		**Pn**	**13 00 13.5**	**+1.2**
	1.0nm,0.3s,baz=145,slow=13,SNR=75							
ESDC				Pg		**Pb**	**13 00 27.9**	**+3.3**
	2.0nm,0.3s,baz=151,slow=14,SNR=15							
ESDC				Sn		**Sn**	**13 01 08.8**	**0.0**
	1.0nm,0.3s,baz=149,slow=22,SNR=5.2							
ESDC				Lg		Lg	13 01 24.0	
	1.3nm,0.3s,baz=148,slow=28,SNR=8.7							
ESDC	**Sonseca Array**	**4.90**	**332**	P		**Pn**	**13 00 13.5**	**+1.2**
	3.0nm,0.4s,baz=147,slow=13,SNR=44							
ESDC				S		**Sn**	**13 01 08.4**	**-0.4**
	13nm,0.8s,baz=147,slow=22,SNR=9.1							
PAB	**San Pablo**	**4.95**	**328**	P		**Pn**	**13 00 14.3**	**+1.3**
	5.3nm,0.3s,SNR=7.9							
PAB				S		**Sn**	**13 01 08.1**	**-1.9**
	10nm,0.5s,SNR=7.9							
EMOS	**Mosqueruela**	**5.00**	**5**	P		**Pn**	**13 00 16.3**	**+2.5**
	12nm,0.4s,SNR=36							
EMOS				S		**Sn**	**13 01 09.8**	**-1.8**
	7.9nm,0.5s							
ZHG	**ZHG**	**5.04**	**249**	P		**Pn**	**13 00 16.5**	**+2.3**
ZHG				S		**Sb**	**13 01 25.2**	**-2.3**
EMIN	**Mina Concepcio**	**5.16**	**299**	P		**Pn**	**13 00 14.6**	**-1.1**
	1.2nm,0.2s,SNR=8.9							
EMIN				S		**Sn**	**13 01 12.4**	**-2.6**
	4.6nm,0.5s							
UCM	**Universidad Co**	**5.24**	**341**	*e*P		**Pn**	**13 00 18.9**	**+1.9**
UCM				*e*S		**Sn**	**13 01 14.1**	**-3.0**
ETOS	**Mallorca**	**5.33**	**33**	P		**Pn**	**13 00 19.6**	**+1.4**
	4.6nm,0.4s,SNR=7.0							
ETOS				S		**Sn**	**13 01 18.0**	**-1.5**
	25nm,0.7s,SNR=5.1							
ETOR	**Torete**	**5.51**	**352**	P		**Pn**	**13 00 22.6**	**+2.0**
	16nm,0.3s,SNR=15							
ETOR				S		**Sn**	**13 01 21.3**	**-2.4**
	17nm,0.7s,SNR=7.9							
EGRO	**El Granado**	**5.66**	**294**	P		**Pn**	**13 00 22.4**	**-0.2**
	2.6nm,0.3s,SNR=5.9							
EGRO				S		**Sn**	**13 01 24.1**	**-3.3**
	8.1nm,0.4s							
ERTA	**Horta de San J**	**5.68**	**10**	P		**Pn**	**13 00 24.1**	**+1.2**
	8.6nm,0.4s,SNR=7.4							
ERTA				S		**Sn**	**13 01 26.6**	**-1.3**
	17nm,0.9s							
PVAQ	**Vaqueiros**	**5.79**	**293**	P		**Pn**	**13 00 24.7**	**+0.3**
PVAQ				S		**Sn**	**13 01 27.9**	**-2.7**
	5.5nm,0.5s							
PVAQ	**Vaqueiros**	**5.79**	**293**	*e*Pn		**Pn**	**13 00 24.7**	**+0.3**
PVAQ				*e*Sn		**Sn**	**13 01 27.9**	**-2.7**
PVAQ				A		A	13 01 33.6	
	5.5nm,0.5s							
GUD	**Guadarrama**	**5.83**	**336**	P		**Pn**	**13 00 26.3**	**+1.2**
	5.4nm,0.3s,SNR=18							
GUD				S		**Sn**	**13 01 30.5**	**-1.2**
	13nm,0.9s							
EBAD	**Badajoz**	**5.88**	**307**	P		**Pn**	**13 00 25.0**	**-0.6**
	1.9nm,0.3s,SNR=8.0							
EBAD				S		**Sn**	**13 01 29.5**	**-3.3**
	4.5nm,0.3s							
PBDV	**Barranco-do-Ve**	**5.90**	**290**	P		**Pn**	**13 00 26.0**	**0.0**
PBDV				S		**Sn**	**13 01 30.3**	**-3.1**
	5.1nm,0.5s							
PBDV	**Barranco-do-Ve**	**5.90**	**290**	*e*Pn		**Pn**	**13 00 26.0**	**0.0**
PBDV				*e*Sn		**Sn**	**13 01 30.3**	**-3.1**
PBDV				A		A	13 01 38.0	
	5.1nm,0.5s							
TZRR	**Tazzarine**	**5.97**	**221**	P		Pn	13 00 31.2	+4.2
TZRR				S		**Sb**	**13 01 49.1**	**-5.0**
PCVE	**Castro Verde**	**6.10**	**294**	P		**Pn**	**13 00 30.8**	**+2.1**
PCVE				S		**Sn**	**13 01 36.6**	**-1.8**
	5.9nm,0.5s							
PCVE	**Castro Verde**	**6.10**	**294**	*e*Pn		**Pn**	**13 00 30.8**	**+2.1**
PCVE				*e*Sn		**Sn**	**13 01 36.6**	**-1.8**
PCVE				A		A	13 01 40.4	
	5.9nm,0.5s							
PBEJ	**Beja**	**6.12**	**298**	P		**Pn**	**13 00 29.8**	**+0.8**
PBEJ				S		**Sn**	**13 01 38.2**	**-0.6**
	1.4nm,0.4s							
PBEJ	**Beja**	**6.12**	**298**	*e*Pn		**Pn**	**13 00 29.8**	**+0.8**
PBEJ				*e*Sn		**Sn**	**13 01 38.2**	**-0.6**
PBEJ				A		A	13 01 38.9	
	2.8nm,0.4s							
EPLA	**Plasencia**	**6.18**	**321**	P		**Pn**	**13 00 30.8**	**+1.0**
	2.2nm,0.3s,SNR=6.7							
EPLA				S		**Sn**	**13 01 38.9**	**-1.4**
	37nm,1.3s							
EPOB	**Poblet**	**6.19**	**15**	P		**Pn**	**13 00 30.3**	**+0.3**
	4.1nm,0.3s,SNR=8.8							
EPOB				S		**Sn**	**13 01 35.3**	**-5.4**
	11nm,1.0s							
MESJ	**Messejana**	**6.31**	**295**	P		**Pn**	**13 00 32.2**	**+0.6**
MESJ				S		**Sn**	**13 01 40.6**	**-2.8**
	4.1nm,0.5s							
MESJ	**Messejana**	**6.31**	**295**	*e*Pn		**Pn**	**13 00 32.2**	**+0.6**
MESJ				*e*Sn		**Sn**	**13 01 40.6**	**-2.8**
MESJ				A		A	13 01 42.1	
	4.1nm,0.5s							
PESTR	**Estremoz**	**6.32**	**305**	*e*Pn		**Pn**	**13 00 32.3**	**+0.6**
PESTR				*e*Sn		**Sn**	**13 01 40.5**	**-3.2**
EVO	**Evora**	**6.44**	**301**	P		**Pn**	**13 00 34.0**	**+0.6**
EVO				S		**Sn**	**13 01 42.8**	**-3.9**
EVO	**Evora**	**6.44**	**301**	*e*P		**Pn**	**13 00 34.0**	**+0.6**
EVO				*e*S		**Sn**	**13 01 42.8**	**-3.9**
EVO	**Evora**	**6.44**	**301**	*e*Pn		**Pn**	**13 00 34.1**	**+0.7**
EVO				*e*Sn		**Sn**	**13 01 45.1**	**-1.6**
EVO				A		A	13 01 45.6	
	5.0nm,0.5s							
MORF	**Marmelete**	**6.47**	**290**	P		**Pn**	**13 00 34.8**	**+1.0**
MORF				S		**Sn**	**13 01 44.6**	**-2.9**
	3.9nm,0.4s							
MORF	**Marmelete**	**6.47**	**290**	*e*Pn		**Pn**	**13 00 34.8**	**+1.0**
MORF				*e*Sn		**Sn**	**13 01 44.6**	**-2.9**
MORF				A		A	13 01 49.5	
	3.9nm,0.4s							
PMRV	**Marv??o**	**6.50**	**310**	P		**Pn**	**13 00 35.3**	**+1.0**
PMRV				S		**Sn**	**13 01 45.0**	**-3.3**
	6.8nm,0.6s							
PMRV	**Marv??o**	**6.50**	**310**	*e*Pn		**Pn**	**13 00 35.3**	**+1.0**
PMRV				*e*Sn		**Sn**	**13 01 45.0**	**-3.3**
PMRV				A		A	13 02 23.2	
	6.8nm,0.6s							
ZGR	**Zagora**	**6.52**	**218**	P		**Pn**	**13 00 37.1**	**+2.5**
ZGR				S		Sb	13 02 00.5	-10
OUZM	**OUZ**	**6.56**	**229**	P		Pn	13 00 40.8	+5.6
OUZM				S		**Sb**	**13 02 05.1**	**-6.3**
PTEO	**Sao Teotonio**	**6.59**	**291**	P		**Pn**	**13 00 38.5**	**+3.0**
PTEO				S		**Sn**	**13 01 47.9**	**-2.5**
	3.2nm,0.7s							
PTEO	**Sao Teotonio**	**6.59**	**291**	*e*Pn		**Pn**	**13 00 38.5**	**+3.0**
PTEO				*e*Sn		**Sn**	**13 01 47.9**	**-2.5**
PTEO				A		A	13 01 50.3	
	6.3nm,0.7s							
PNCL	**Nicolau / Gran**	**6.64**	**297**	P		**Pn**	**13 00 36.2**	**+0.2**
PNCL				S		**Sn**	**13 01 49.9**	**-1.6**
	3.0nm,0.7s							
PNCL	**Nicolau / Gran**	**6.64**	**297**	*e*Pn		**Pn**	**13 00 36.2**	**+0.2**
PNCL				*e*Sn		**Sn**	**13 01 49.9**	**-1.6**
PNCL				A		A	13 01 58.6	
	3.0nm,0.7s							
PCBR	**Castelo Branco**	**6.81**	**313**	P		**Pn**	**13 00 39.5**	**+1.1**
PCBR				S		**Sn**	**13 01 52.3**	**-3.4**
	3.3nm,0.6s							
PCBR	**Castelo Branco**	**6.81**	**313**	*e*Pn		**Pn**	**13 00 39.5**	**+1.1**
PCBR				*e*Sn		**Sn**	**13 01 52.3**	**-3.4**
PCBR				A		A	13 02 02.0	
	6.7nm,0.6s							
PMTG	**Montargil**	**6.85**	**305**	P		**Pn**	**13 00 41.5**	**+2.6**
PMTG	**Montargil**	**6.85**	**305**	*e*Pn		**Pn**	**13 00 41.5**	**+2.6**
CFON	**Fontmartina**	**6.93**	**22**	P		**Pn**	**13 00 42.3**	**+2.1**
	1.7nm,0.2s,SNR=7.9							
OUK	**Oukaimeden**	**7.09**	**236**	P		**Pn**	**13 00 46.1**	**+3.5**
OUK				S		Sb	13 02 17.1	-10
CSOR	**Sort**	**7.19**	**13**	P		**Pn**	**13 00 45.1**	**+1.3**
	4.2nm,0.6s,SNR=7.9							
MTE	**Manteigas**	**7.21**	**316**	S		**Sn**

FRF	**La Foret Royal**	**10.09**	**34**	*e*P		Pn	13 01 29.4	+6.0
FRF				*e*Sn		Sn	13 03 07.4	-8.9
	0.5nm,0.3s							
FRF	**La Foret Royal**	**10.09**	**34**	P		Pn	13 01 29.4	+6.0
FRF				S		Sn	13 03 07.4	-8.9
	0.2nm,0.3s							
PGF	**Pioggiola**	**10.58**	**44**	*e*Pn		**Pn**	**13 01 30.6**	**+0.4**
PGF	**Pioggiola**	**10.58**	**44**	P		**Pn**	**13 01 30.6**	**+0.4**
QUIF	**Quistinic**	**12.64**	**353**	*e*Pn		**Pn**	**13 01 59.4**	**+1.1**
QUIF				*e*Sn		**Sn**	**13 04 12.7**	**-6.1**
	0.7nm,0.3s							
QUIF	**Quistinic**	**12.64**	**353**	P		**Pn**	**13 01 59.4**	**+1.1**
QUIF				S		**Sn**	**13 04 12.7**	**-6.1**
	0.3nm,0.3s							
SGMF	**Saint Gilles**	**12.93**	**355**	*e*Pn		**Pn**	**13 02 02.9**	**+0.7**
SGMF				*e*Sn		**Sn**	**13 04 19.4**	**-6.4**
	0.3nm,0.2s							
SGMF	**Saint Gilles**	**12.93**	**355**	P		**Pn**	**13 02 02.9**	**+0.7**
SGMF				S		**Sn**	**13 04 19.4**	**-6.4**
	0.2nm,0.2s							
ROSF	**Rostrenen**	**13.07**	**353**	*e*Pn		**Pn**	**13 02 05.0**	**+0.9**
ROSF				*e*Sn		**Sn**	**13 04 22.7**	**-6.5**
	0.3nm,0.2s							
ROSF	**Rostrenen**	**13.07**	**353**	P		**Pn**	**13 02 05.0**	**+0.9**
ROSF				S		**Sn**	**13 04 22.7**	**-6.5**
	0.2nm,0.2s							
FLN	**La Foliniere**	**13.39**	**1**	*e*Pn		**Pn**	**13 02 09.3**	**+0.8**
	baz=180							
FLN	**La Foliniere**	**13.39**	**1**	P		**Pn**	**13 02 09.3**	**+0.8**
TORD	**Torodi Ar. Bea**	**22.26**	**173**	P		**P**	**13 03 59.1**	**+3.6**
	0.3nm,0.7s,baz=346,slow=11,SNR=1.8							
MLR	**Muntele Rosu**	**22.77**	**55**	LR		LR	13 12 13.8	
	comp=Z,68nm,18.5s,baz=116,slow=35							

*IDC **08** 13:06:34.5±9.7, 17°.62S×178°.65W, h568km±123km, mb3.1/6, mb1 3.5/6, mb1mx3.0/40, mbtmp4.1/6, Error ellipse: s-maj=117.9km s-min=35.0km az=161.0*
*NEIC **08** 13:06:37.3±0.9, 17°.8S±0°.2×178°.6W±0°.2, h608km±8km, mb4.6/13, Error ellipse: s-maj=32.6km s-min=12.3km az=144.0*

ISC 08 13:06:35.0±1.2, **17°.6S**±0°.2×**178°.4W**±0°.2, **h600**km, **n23,**
σ1**§02**/20, **mb4.5**/11, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**3.36**	**267**	P		P	13 07 58.6	+2.3
DZM	**Mont Dzumac**	**14.91**	**250**	P		**P**	**13 09 43.3**	**+0.9**
OUZ	**Omahuta**	**18.93**	**200**	P		**P**	**13 10 18.6**	**-0.2**
LTZ	**Lake Taylor**	**26.32**	**196**	P		**P**	**13 11 25.0**	**+0.4**
EIDS	**Eidsvold**	**29.35**	**249**	P		**P**	**13 11 51.0**	**-0.3**
CTAO	**Charters Tower**	**33.48**	**260**	P		**P**	**13 12 26.7**	**+0.4**
COEN	**Coen**	**37.08**	**270**	P		**P**	**13 12 57.7**	**+1.5**
TOO	**Toolangi**	**37.35**	**230**	P		**P**	**13 12 58.1**	**0.0**
STKA	**Stephens Creek**	**38.76**	**241**	P		**P**	**13 13 08.9**	**-0.7**
	2.9nm,0.8s,baz=81,slow=6.2,SNR=6.3							
STKA	**Stephens Creek**	**38.76**	**241**	P		**P**	**13 13 09.5**	**-0.1**
BBOO	**Buckleboo**	**43.54**	**241**	P		**P**	**13 13 46.8**	**-0.4**
BBOO				IAmb		IAmb	13 13 54.3	
	comp=Z,25nm,1.4s							
WR0	**Warramunga Arr**	**44.48**	**259**	P		**P**	**13 13 54.5**	**-0.2**
WR0				IAmb		IAmb	13 15 05.9	
	comp=Z,26nm,1.6s							
WB0	**Warramunga Arr**	**44.63**	**259**	P		**P**	**13 13 55.4**	**-0.4**
WB0				IAmb		IAmb	13 14 51.9	
	comp=Z,63nm,2.0s							
WB2	**Warramunga Arr**	**44.66**	**259**	P		**P**	**13 13 55.7**	**-0.3**
WB2				IAmb		IAmb	13 15 12.5	
	comp=Z,51nm,1.9s							
WRA	**Warramunga Arr**	**44.67**	**259**	P		**P**	**13 13 56.0**	**-0.1**
	comp=Z,2.3nm,0.5s,baz=96,slow=7.2,SNR=67							
AS31	**Alice Springs**	**44.85**	**254**	P		**P**	**13 13 57.5**	**0.0**
ASAR	**Alice Springs**	**44.85**	**254**	P		**P**	**13 13 57.6**	**+0.1**
	comp=Z,11nm,0.6s,baz=87,slow=8.7,SNR=281							
FORT	**Forrest**	**50.12**	**244**	P		**P**	**13 14 35.6**	**-1.0**
FORT				IAmb		IAmb	13 14 45.3	
	comp=Z,22nm,1.0s							
NVAR	**Mina Array Bea**	**79.22**	**44**	P		P	13 17 42.6	+3.2
	comp=Z,0.1nm,0.3s,baz=226,slow=9.9,SNR=2.7							
TXAR	**Lajitas Array**	**85.85**	**58**	P		P	13 18 16.5	+3.8
	comp=Z,0.4nm,0.7s,baz=210,slow=7.1,SNR=6.0							
PDAR	**Pinedale Array**	**87.14**	**43**	P		**P**	**13 18 20.4**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=225,slow=1.1,SNR=2.0							
BRTR	**Keskin Array B**	**144.55**	**315**	PKP		**PKiKP**	**13 25 06.5**	**-2.0**
	comp=Z,0.4nm,0.5s,baz=135,slow=2.2,SNR=2.4							
GERES	**GERESS Array B**	**147.31**	**345**	PKPbc		**PKPab**	**13 25 13.8**	**-2.3**
	comp=Z,0.2nm,0.3s,baz=285,slow=1.9,SNR=3.1							

*IDC **08** 13:13:03.5±0.9, 9°.06N×126°.47E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/36, mbtmp3.8/10, Error ellipse: s-maj=53.4km s-min=18.6km az=80.0*
*NEIC **08** 13:13:05.9±2.0, 9°.20N±0°.09×126°.9E±0°.2, h10km±1km, mb4.4/9, Error ellipse: s-maj=30.4km s-min=5.5km az=116.0*
*MAN **08** 13:13:06.5, 9°.24N×127°.06E, h41km, mb4.7, ML3.6, MS3.6*

ISC 08 13:13:09.8±0.6, **9°.25N**±0°.04×**126°.87E**±0°.07, **h38**km, **n43,**
σ1**§83**/43, **mb3.9**/12, **4C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSLP	**Maasin**	**2.17**	**294**	*e*P		**Pn**	**13 13 42.7**	**-0.6**
MSLP				*e*S		**Sn**	**13 14 11.6**	**+2.6**
BUKP	**Musuan**	**2.24**	**233**	*e*P		**Pn**	**13 13 44.3**	**-0.1**
BUKP				*e*S		**Sn**	**13 14 13.2**	**+2.2**
CGP	**Cagayan de Oro**	**2.29**	**250**	*e*P		**Pn**	**13 13 44.6**	**-0.4**
CGP				*e*S		**Sn**	**13 14 10.3**	**-1.6**
MATI	**Mati**	**2.36**	**195**	*e*P		**Pn**	**13 13 43.8**	**-2.3**
DAV	**Davao City (W)**	**2.51**	**211**			**Pn**	**13 13 46.5**	**-1.6**
DMPH	**Davao City--Mi**	**2.54**	**212**	*e*P		**Pn**	**13 13 50.3**	**+1.9**
DMPH				*e*S		**Sn**	**13 14 15.9**	**-2.2**
KCP	**Kidapawan**	**2.83**	**219**	*e*P		**Pn**	**13 13 52.6**	**0.0**
OCLP	**Ormoc**	**2.86**	**309**	*e*P		**Pn**	**13 13 53.6**	**+0.7**
TBP	**Tagbilaran**	**3.00**	**279**	*e*P		**Pn**	**13 13 53.6**	**-1.2**
TBP				*i*S		**Sn**	**13 14 29.5**	**0.0**
CTBH	**Cotabato--PC H**	**3.28**	**232**	*i*P		**Pn**	**13 13 58.2**	**-0.5**
DDMP	**Don Marcelino,**	**3.32**	**200**	*e*P		**Pn**	**13 13 59.5**	**+0.2**
DDMP				*e*S		**Sn**	**13 14 44.2**	**+6.6**
PAGZ	**Pagadian**	**3.72**	**248**	*e*P		**Pn**	**13 14 05.1**	**+0.4**
CNP	**Catarman**	**3.90**	**326**	*e*P		**Pn**	**13 14 04.5**	**-2.7**
CNP				*e*S		**Sn**	**13 14 49.8**	**-2.0**
CNOP	**Candoni, Negro**	**4.21**	**278**	*e*P		**Pn**	**13 14 11.4**	**-0.1**
GUIM	**Jordan**	**4.43**	**288**	*e*P		**Pn**	**13 14 10.7**	**-3.9**
RCP	**Roxas**	**4.66**	**300**	*e*P		**Pn**	**13 14 19.3**	**+1.6**
PVCP	**Virac**	**5.08**	**329**	*e*P		**Pn**	**13 14 23.9**	**+0.6**
TNTI	**Ternate**	**8.43**	**177**	Pn		**Pn**	**13 15 07.5**	**-1.9**
SBUM	**Sibu**	**16.05**	**246**	P		**P**	**13 16 56.9**	**+1.1**
MTN	**Manton Dam**	**22.35**	**169**	P		**P**	**13 18 04.2**	**-0.5**
KNRA	**Kununurra**	**24.83**	**176**	P		**P**	**13 18 28.4**	**-0.3**
FITZ	**Fitzroy Crossi**	**27.20**	**183**	P		**P**	**13 18 49.0**	**-1.0**
FITZ				IAmb		IAmb	13 18 58.5	
	comp=Z,55nm,1.9s							
KSRS	**Korea Array**	**28.10**	**2**	P		**P**	**13 18 59.0**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=177,slow=11,SNR=4.4							
WRA	**Warramunga Arr**	**29.92**	**166**	P		**P**	**13 19 13.1**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=347,slow=9.2,SNR=1.9							
ASAR	**Alice Springs**	**33.42**	**168**	P		**P**	**13 19 44.2**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=355,slow=6.7,SNR=6.9							
MORW	**Morawa**	**39.50**	**195**	P		**P**	**13 20 36.0**	**-0.9**
H11S3	**WAKE ISLAND Hy**	**39.66**	**72**	T		T	14 03 41.2	
	baz=271,slow=76,SNR=11							
H11S1	**WAKE ISLAND Hy**	**39.67**	**72**	T		T	14 03 50.3	
	baz=271,slow=76,SNR=7.3							
H11S2	**WAKE ISLAND Hy**	**39.67**	**72**	T		T	14 03 45.8	
	baz=271,slow=76,SNR=4.8							
FORT	**Forrest**	**39.81**	**178**	P		**P**	**13 20 39.4**	**0.0**
H11N1	**WAKE ISLAND Hy**	**40.03**	**70**	T		T	14 04 21.1	
	baz=265,slow=74,SNR=9.2							
H11N2	**WAKE ISLAND Hy**	**40.04**	**70**	T		T	14 04 20.1	
	baz=265,slow=74,SNR=6.3							
H11N3	**WAKE ISLAND Hy**	**40.05**	**70**	T		T	14 04 25.1	
	baz=265,slow=74,SNR=10.0							
BBOO	**Buckleboo**	**42.73**	**169**	P		**P**	**13 21 03.3**	**-0.1**
BBOO				IAmb		IAmb	13 21 34.1	
	comp=Z,13nm,1.1s							
NWAO	**Narrogin (SRO)**	**42.93**	**192**	P		**P**	**13 21 04.8**	**-0.2**
STKA	**Stephens Creek**	**43.25**	**162**	P		**P**	**13 21 04.9**	**-2.7**
	comp=Z,0.8nm,0.5s,baz=333,slow=9.0,SNR=2.1							
STKA	**Stephens Creek**	**43.25**	**162**	IAmb		IAmb	13 22 19.5	
	comp=Z,2.3nm,1.4s							
PETK	**Petropavlovsk-**	**50.33**	**24**	P		**P**	**13 22 04.8**	**+2.1**
	comp=Z,2.1nm,0.8s,baz=206,slow=5.8,SNR=2.2							
MKAR	**Makanchi Array**	**53.20**	**323**	P		**P**	**13 22 23.1**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=124,slow=7.2,SNR=5.0							
ILAR	**Eielson Array**	**80.10**	**26**	P		**P**	**13 25 16.4**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=251,slow=5.0,SNR=4.6							
ARCES	**ARCESS Array B**	**85.35**	**340**	P		**P**	**13 25 42.6**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=96,slow=7.4,SNR=4.3							
FINES	**FINESS Array B**	**87.07**	**332**	P		**P**	**13 25 50.1**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=98,slow=12,SNR=2.0							
YKA	**Yellowknife Ar**	**94.45**	**24**	P		**P**	**13 26 27.0**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=295,slow=4.5,SNR=8.8							

*MDD **08** 13:33:46.8±2.4, 35°.48N×0°.13W, h0km, mb3.7/11, Error ellipse: s-maj=24.0km s-min=13.9km az=161.0, PRXIMO*
*CNRM **08** 13:33:50.5±1.3, 35°.42N×0°.36W, h95km±29km, Error ellipse: s-maj=13.2km s-min=5.7km az=89.0*

ISC 08 13:33:44.9±1.3, **35°.46N**±0°.04×**0°.17W**±0°.06, **h16**km, **n20,**
σ2**§31**/35, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TAF	**Taforalt**	**1.95**	**251**	P		**Pb**	**13 34 20.4**	**+0.4**
TAF				S		**Sg**	**13 34 44.8**	**-2.8**
ENIJ	**Nijar**	**2.23**	**313**	P		**Pb**	**13 34 23.6**	**-1.2**
	2.0nm,0.1s,SNR=7.9							
ENIJ				S		**Sn**	**13 34 48.4**	**0.0**
	3.4nm,0.2s,SNR=7.9							
JBK	**JBK**	**2.27**	**241**	P		**Pb**	**13 34 24.9**	**-0.6**
EMUR	**La Murta**	**2.52**	**340**	P		**Pn**	**13 34 27.2**	**+1.9**
	1.0nm,0.1s,SNR=8.1							
EMUR				S		**Sn**	**13 34 56.7**	**+1.0**
	2.0nm,0.2s,SNR=7.9							
EBER	**Berja**	**2.62**	**304**	P		**Pn**	**13 34 28.8**	**+2.0**
	3.3nm,0.2s,SNR=28							
EBER				S		**Sb**	**13 35 02.3**	**-1.4**
	2.1nm,0.3s,SNR=4.6							
TDRA	**Tendrara**	**2.87**	**213**	P		**Pb**	**13 34 34.6**	**-1.2**
TDRA				S		**Sb**	**13 35 07.5**	**-3.2**
ELGU	**Los Guajares,**	**3.13**	**298**	P		**Pn**	**13 34 35.2**	**+1.7**
	4.0nm,0.2s,SNR=7.9							
ELGU				S		**Sn**	**13 35 12.3**	**+1.7**
	2.9nm,0.4s,SNR=7.9							
EQUE	**Quentar**	**3.16**	**304**	P		**Pb**	**13 34 37.7**	**-3.0**
	2.2nm,0.2s,SNR=15							
EQUE				S		**Sn**	**13 35 14.5**	**+3.0**
	1.0nm,0.4s,SNR=7.9							
AKLM	**AKL**	**3.18**	**254**	P		**Pb**	**13 34 39.0**	**-2.0**
AKLM				S		**Sn**	**13 35 13.1**	**+1.2**
EBEN2	**Beniarda presa**	**3.21**	**360**	S		**Sn**	**13 35 10.9**	**-1.6**
	1.0nm,0.2s,SNR=7.9							
SESP	**Santiago Espad**	**3.26**	**325**	P		**Pn**	**13 34 39.3**	**+3.7**
	9.2nm,0.1s,SNR=7.9							
SESP				S		**Sn**	**13 35 17.2**	**+3.0**
	SNR=7.9							
SESP	**Santiago Espad**	**3.26**	**325**	P		**Pb**	**13 34 39.7**	**-2.8**
SESP				S		**Sn**	**13 35 16.6**	**+2.4**
EQES	**Quesada**	**3.30**	**316**	P		**Pb**	**13 34 40.5**	**-2.6**
	2.8nm,0.1s,SNR=7.9							
EQES				S		**Sn**	**13 35 17.6**	**+2.7**
	0.5nm,0.7s,SNR=7.9							
ETOB	**Tobarra**	**3.36**	**341**	P		**Pn**	**13 34 40.3**	**+3.5**
	0.9nm,0.2s,SNR=14							
ETOB				S		**Sn**	**13 35 15.9**	**-0.5**
	0.8nm,0.3s,SNR=5.8							
EIBI	**Ibiza**	**3.76**	**18**	P		**Pn**	**13 34 44.8**	**+2.7**
	2.1nm,0.1s,SNR=4.9							
EIBI				S		**Sn**	**13 35 25.4**	**-0.6**
	149nm,1.1s,SNR=4.9							
MDT	**Midelt**	**4.53**	**236**	P		**Pn**	**13 34 55.7**	**+2.9**
MDT				S		**Sn**	**13 35 45.9**	**+0.6**
HORN	**Hornachuelos**	**4.73**	**302**	P		**Pn**	**13 34 58.5**	**+2.9**
HORN				S		**Sn**	**13 35 50.4**	**+0.3**
EMOS	**Mosqueruela**	**4.90**	**357**	P		**Pn**	**13 35 00.9**	**+2.9**
	0.4nm,0.2s,SNR=7.9							
ECAB	**El Cabril**	**4.95**	**303**	P		**Pn**	**13 35 00.5**	**+1.9**
	0.5nm,0.3s,SNR=7.9							
PAB	**San Pablo**	**5.26**	**322**	P		**Pn**	**13 35 05.6**	**+2.7**
	0.3nm,0.2s,SNR=7.9							

*NEIC **08** 13:48:14.8±1.0, 1°.49N±0°.07×99°.52E±0°.02, h152km±9km, mb4.3/10, Error ellipse: s-maj=10.8km s-min=2.6km az=187.0*
*IDC **08** 13:48:14.7±3.4, 1°.40N×99°.34E, h156km±12km, mb3.6/4, mb1 3.7/4, mb1mx3.0/42, mbtmp4.0/4, Error ellipse: s-maj=133.2km s-min=16.8km az=56.0*
*DJA **08** 13:48:15.7±0.5, 1°N±4°×9°9E±°, h148km±6km, M3.6/12, MLv3.6/12*

ISC 08 13:48:15.3±0.8, **1°.51N**±0°.05×**99°.49E**±0°.06, **h166**km, **n31,**
σ1**§19**/34, **mb4.0**/8, **Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.72**	**173**	P		**Pn**	**13 48 39.3**	**-0.4**
MNSI				S		**Sn**	**13 48 56.3**	**-2.1**
RPSI	**Rantau Prapat**	**1.30**	**334**			**Pn**	**13 48 43.2**	**-1.0**
RPSI				Sn		**Sn**	**13 49 04.5**	**-2.0**
PSI	**Prapat**	**1.40**	**336**	P		**Pn**	**13 48 44.0**	**-1.3**
	3.9nm,0.3s,baz=180,slow=9.5,SNR=9.9							
PSI				S		**Sn**	**13 49 05.3**	**-3.1**
	3.2nm,0.3s,baz=0.0,slow=20,SNR=20							
GSI	**Gunungsitoli**	**1.93**	**264**	P		**Pn**	**13 48 50.4**	**-0.2**
GSI	**Gunungsitoli**	**1.93**	**264**			**Pn**	**13 48 50.4**	**-0.2**
BKNI	**Bangkinang**	**1.95**	**127**	Pn		**Pn**	**13 48 48.0**	**-2.8**
PDSI	**Padang**	**2.60**	**158**	P		**Pn**	**13 48 58.3**	**-0.1**
KCSI	**Kotacane, Aceh**	**2.63**	**319**	P		**Pn**	**13 48 58.6**	**-0.2**
SISI	**Saibi**	**2.85**	**188**	P		**Pn**	**13 48 59.2**	**-2.3**
TPTI		**2.89**	**307**	P		**Pn**	**13 49 02.2**	**+0.3**
SDSI	**Sungai Dareh**	**3.11**	**141**	P		**Pn**	**13 49 05.2**	**+0.5**
SNSI	**Sinabang, Aceh**	**3.28**	**286**	P		**Pn**	**13 49 06.3**	**-0.6**
IPM	**Ipoh**	**3.32**	**27**			**Pn**	**13 49 06.7**	**-0.7**
KULM	**Kulim**	**3.93**	**17**			**Pn**	**13 49 14.5**	**-0.5**
MLSI	**Meulaboh, Aceh**	**4.12**	**312**	P		**Pn**	**13 49 17.3**	**-0.3**
MYKOM	**Kota Tinggi**	**4.37**	**86**	Pn		**Pn**	**13 49 20.6**	**-0.2**
LHMI	**Lhok Sumawe**	**4.48**	**326**	Pn		**Pn**	**13 49 21.7**	**-0.5**
CHTO	**Chiang Mai**	**17.20**	**358**	P		**P**	**13 52 04.5**	**-0.3**
FITZ	**Fitzroy Crossi**	**32.29**	**128**	P		**P**	**13 54 29.0**	**+0.4**
WB0	**Warramunga Arr**	**40.24**	**123**	P		**P**	**13 55 36.8**	**+0.6**
WRA	**Warramunga Arr**	**40.28**	**124**	P		**P**	**13 55 37.5**	**+1.0**
	2.7nm,0.3s,baz=302,slow=8.7,SNR=57							
WRAB	**Tennant Creek**	**40.29**	**124**	P		**P**	**13 55 37.2**	**+0.7**
WB2	**Warramunga Arr**	**40.29**	**124**	P		**P**	**13 55 37.2**	**+0.6**
WB2				IAmb		IAmb	13 55 39.0	
	comp=Z,8.7nm,0.9s							
WR0	**Warramunga Arr**	**40.46**	**124**	P		**P**	**13 55 38.9**	**+1.0**
WR0				IAmb		IAmb	13 55 40.7	
	comp=Z,11nm,0.9s							
ASAR	**Alice Springs**	**41.78**	**129**	P		**P**	**13 55 49.0**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=302,slow=7.6,SNR=9.7							
MK31	**Makanchi Array**	**47.53**	**344**	P		**P**	**13 56 34.8**	**+0.9**
MKAR	**Makanchi Array**	**47.53**	**344**	P		**P**	**13 56 34.9**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=155,slow=8.4,SNR=17							
MAKZ	**Makanchi**	**47.63**	**344**	P		**P**	**13 56 35.1**	**+0.4**
MAKZ				IAmb		IAmb	13 58 19.8	
	comp=Z,5.5nm,1.4s							
KURK	**Kurchatov**	**52.12**	**343**	P		**P**	**13 57 09.0**	**+0.7**
KURK				IAmb		IAmb	13 57 43.9	
	comp=Z,7.2nm,1.8s							
ZALV	**Zalesovo Beam**	**53.65**	**349**	P		**P**	**13 57 20.2**	**+0.8**
	comp=Z,0.7nm,0.4s,baz=175,slow=3.2,SNR=2.6							
EIDS	**Eidsvold**	**56.59**	**122**	P		**P**	**13 57 42.5**	**+1.4**

*JMA **08** 14:07:27.0±0.1, 23°.48N×121°.58E, h46km±2km, M2.4*
*TAP **08** 14:07:27.8, 23°.50N×121°.59E, h40km, ML2.9, C*

ISC 08 14:07:27.4±1.0, **23°.48N**±0°.02×**121°.64E**±0°.02, **h32**km±1km, **n77,** σ0**§88**/136, **Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HGSD	**Ruisui**	**0.20**	**273**	P		**Pn**	**14 07 35.0**	**+0.8**
	baz=269							
HGSD				*e*S		**Sn**	**14 07 40.6**	**+2.2**
	baz=269							
EGFH	**Guangfu**	**0.27**	**313**	*e*P		**Pb**	**14 07 35.5**	**+0.7**
	baz=307							
EGFH				*e*S		**Sn**	**14 07 41.8**	**+1.7**
	baz=307							
EHY	**Hungye**	**0.29**	**275**	*e*P		**Pb**	**14 07 35.2**	**+0.2**
	baz=272							
EHY				*e*S		**Sb**	**14 07 40.7**	**+0.5**
	baz=272							
YULB	**Yu-li**	**0.33**	**254**	P		**Pb**	**14 07 35.9**	**+0.4**
	baz=260							
YULB				*e*S		**Sb**	**14 07 41.6**	**+0.7**
	baz=260							
TWF1	**Yuli**	**0.34**	**248**	*i*P		**Pb**	**14 07 36.1**	**+0.4**
	baz=254							
TWF1				*e*S		**Sb**	**14 07 42.0**	**+0.7**
	baz=254							
ESL	**Shilin**	**0.38**	**330**	P		**Pb**	**14 07 36.2**	**0.0**
	baz=330							
ESL				S		**Sb**	**14 07 42.3**	**+0.1**
	baz=330							
FULB	**Fuli**	**0.43**	**229**	*i*P		**Pb**	**14 07 37.8**	**+0.9**
	baz=233							
CHKT	**Chengkung**	**0.46**	**214**	*e*P		**Pb**	**14 07 37.6**	**+0.3**
	baz=200							
CHKT				*e*S		**Sb**	**14 07 44.8**	**+0.7**
	baz=200							
HWA	**Hwalien**	**0.49**	**356**	*e*P		**Pb**	**14 07 38.3**	**+0.5**
	baz=9.0							
HWA				*e*S		**Sn**	**14 07 47.2**	**+1.5**
	baz=9.0							
VWDT	**VWDT**	**0.53**	**300**	*e*P		**Pb**	**14 07 38.7**	**+0.3**
	baz=299							
VWDT				*e*S		**Sb**	**14 07 46.4**	**+0.4**
	baz=299							
TWD	**Chiawan**	**0.60**	**356**	*e*P		**Pb**	**14 07 39.2**	**-0.3**
	baz=351							
TWD				*e*S		**Sb**	**14 07 48.4**	**+0.6**
	baz=351							
YUS	**Yu-Shan**	**0.63**	**271**	P		**Pb**	**14 07 40.5**	**0.0**
	baz=264							
ELDTW	**Lidau**	**0.65**	**243**	P		**Pb**	**14 07 39.6**	**-0.8**
	baz=235							
ELDTW				*e*S		**Sb**	**14 07 47.6**	**-1.6**
	baz=235							
NACB	**Ninganchiao**	**0.69**	**356**	P		**Pn**	**14 07 40.3**	**-0.6**
	baz=351							
NACB				*e*S		**Sb**	**14 07 49.7**	**-0.6**
	baz=351							
SSLB	**Suanglung**	**0.70**	**296**	*e*P		**Pn**	**14 07 40.6**	**-0.5**
	baz=292							
SSLB				*e*S		**Sb**	**14 07 49.8**	**-0.9**
	baz=292							
CHGB	**Renai**	**0.72**	**323**	*e*P		**Pn**	**14 07 41.1**	**-0.4**
	baz=334							
CHGB				*e*S		**Sb**	**14 07 50.8**	**-0.5**
	baz=334							
ETLH	**Xiulin Townshi**	**0.74**	**348**	*e*P		**Pn**	**14 07 41.4**	**-0.2**
	baz=352							
ETLH				*e*S		**Sb**	**14 07 50.0**	**-1.8**
	baz=352							
WHF	**Hehuan Shan**	**0.74**	**332**	*e*P		**Pn**	**14 07 41.4**	**-0.7**
	baz=336							
WHF				*e*S		**Sb**	**14 07 51.3**	**-1.0**
	baz=336							
WHYT	**Xinyi Township**	**0.76**	**286**	*e*P		**Pn**	**14 07 42.1**	**+0.3**
	baz=287							
WHYT				*e*S		**Sb**	**14 07 52.4**	**+0.3**
	baz=287							
ALS	**Alishan**	**0.77**	**272**	*i*P		**Pn**	**14 07 42.6**	**+0.4**
	baz=279							
ALS				*e*S		**Sb**	**14 07 52.9**	**+0.1**
	baz=279							
TWH	**Lutao**	**0.78**	**191**	P		**Pn**	**14 07 41.8**	**-0.3**
	baz=179							
TWH				*e*S		**Sn**	**14 07 52.8**	**0.0**
	baz=179							
SMLT	**Sun Moon Lake**	**0.79**	**300**	*e*P		**Pn**	**14 07 42.2**	**-0.1**
	baz=304							
SMLT				*e*S		**Sn**	**14 07 53.6**	**+0.5**
	baz=304							
TYC	**Yuchr**	**0.83**	**300**	*e*P		**Pn**	**14 07 43.2**	**+0.4**
	baz=302							
TYC				*e*S		**Sn**	**14 07 53.7**	**-0.4**
	baz=302							
TWGBT	**Beinan**	**0.84**	**218**	*e*P		**Pn**	**14 07 41.8**	**-1.1**
	baz=214							
TWG	**Pinlang**	**0.84**	**219**	*e*P		**Pn**	**14 07 41.9**	**-1.1**
	baz=214							
DPDB	**Guoxing**	**0.85**	**310**	*e*P		**Pn**	**14 07 43.4**	**+0.2**
	baz=317							
DPDB				*e*S		**Sn**	**14 07 53.1**	**-1.6**
	baz=317							
STYT	**Tauyuan**	**0.87**	**249**	*e*P		**Pn**	**14 07

YHNB				*e*S		**Sn**	**14 08 03.9 +0.5**
NSK	**Sanguang**	**1.22**	**348**	*e*P		**Pn**	**14 07 48.8 +0.6**
	baz=350						
NSK				*e*S		**Sn**	**14 08 03.2 -0.4**
	baz=350						
NSY	**Sanyi**	**1.23**	**319**	*e*P		**Pn**	**14 07 48.7 +0.3**
	baz=333						
NSY				*e*S		**Sb**	**14 08 06.4 +0.8**
	baz=333						
TWE	**Neicheng**	**1.23**	**1**	*e*P		**Pn**	**14 07 49.0 +0.7**
	baz=356						
RLNB	**Erlin**	**1.25**	**289**	*e*P		**Pn**	**14 07 49.0 +0.5**
	baz=281						
RLNB				*e*S		**Sn**	**14 08 05.8 +1.6**
	baz=281						
WDJ	**Dajia District**	**1.26**	**313**	*e*P		**Pn**	**14 07 49.9 +1.2**
	baz=327						
WDJ				*e*S		**Sb**	**14 08 06.7 +0.3**
	baz=327						
MASBT	**Mashibuluo**	**1.27**	**227**	*e*P		**Pn**	**14 07 49.3 +0.4**
	baz=225						
MASBT				*e*S		**Sn**	**14 08 05.2 +0.4**
	baz=225						
PTSB	**Yuanli**	**1.29**	**318**	*e*P		**Pn**	**14 07 50.0 +0.8**
	baz=319						
PTSB				*e*S		**Sn**	**14 08 07.0 +1.8**
	baz=319						
LIOB	**Emei**	**1.29**	**334**	*e*P		**Pn**	**14 07 50.3 +1.1**
	baz=335						
LIOB				*e*S		**Sb**	**14 08 07.8 +0.4**
	baz=335						
NWLT	**Wulai**	**1.29**	**354**	*e*P		**Pn**	**14 07 49.9 +0.7**
	baz=5.0						
WTCT	**Ta-ch'eng**	**1.30**	**287**	*e*P		**Pn**	**14 07 49.6 +0.3**
	baz=287						
NMLH	**Miaoli**	**1.31**	**324**	*e*P		**Pn**	**14 07 50.3 +0.9**
	baz=324						
NMLH				*e*S		**Sn**	**14 08 07.2 +1.4**
	baz=324						
EAST	**Anshuo**	**1.32**	**214**	*e*P		**Pn**	**14 07 50.0 +0.5**
	baz=204						
CHN8	**Yiju**	**1.32**	**264**	P		**Pn**	**14 07 50.3 +0.7**
	baz=264						
CHN8				*e*S		**Sn**	**14 08 07.1 +1.0**
	baz=264						
NTC	**Toucheng**	**1.38**	**7**	*e*P		**Pn**	**14 07 51.6 +1.3**
	baz=21						
SSPT	**Xinbi**	**1.40**	**225**	*e*P		**Pb**	**14 07 52.8 -0.2**
	baz=212						
LAY	**Lan-yu**	**1.44**	**183**	*e*P		**Pn**	**14 07 51.0 -0.3**
	baz=174						
SCZT	**Fangliau**	**1.45**	**221**	*e*P		**Pn**	**14 07 52.9 +1.5**
	baz=209						
TIPB	**Shuangxi**	**1.49**	**6**	*e*P		**Pn**	**14 07 53.3 +1.4**
	baz=355						
JYNG	**Yonagunijimaku**	**1.53**	**51**	P		**Pn**	**14 07 53.5 +1.0**
JYNG				*e*S		**Sn**	**14 08 12.2 +0.9**
YOJ	**Yonaguni jima**	**1.59**	**52**	P		**Pn**	**14 07 54.4 +1.2**
YOJ				S		**Sn**	**14 08 14.3 +1.7**
HATJ	**Hateruma jima**	**2.06**	**73**	P		**Pn**	**14 08 00.6 +0.8**
HATJ				*e*S		**Sn**	**14 08 25.2 +0.8**
IRIF	**Iriomote-Funau**	**2.09**	**66**	P		**Pn**	**14 08 01.7 +1.6**
IRIF				S		**Sn**	**14 08 27.0 +1.9**
JKRS	**Kuro-shima**	**2.29**	**70**	P		**Pn**	**14 08 04.6 +1.7**
JKRS				*e*S		**Sn**	**14 08 31.9 +1.8**
JIJ	**Ishigaki jima**	**2.45**	**69**	P		**Pn**	**14 08 05.9 +0.8**
JIJ				*e*S		**Sn**	**14 08 33.9 -0.1**
JISG	**Ishigakijimahi**	**2.67**	**65**	P		**Pn**	**14 08 08.6 +0.4**
JISG				*e*S		**Sn**	**14 08 39.2 -0.3**
JTJ	**Tarama**	**3.02**	**67**	P		**Pn**	**14 08 13.7 +0.7**
JTJ				S		**Sn**	**14 08 48.7 +0.6**

*IDC **08** 14:14:08.6±1.1,9°.53N×126°.93E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.6/49, mbtmp3.8/8, ML5.1/1, MS2.8/1, Ms1 2.8/1, ms1mx2.2/37, Error ellipse: s-maj=59.4km s-min=18.4km az=71.0*

*NEIC **08** 14:14:09.9±1.4,9°.59N±0°.08×127°.1E±0°.1, h10km±1km, mb4.5/17, Error ellipse: s-maj=20.0km s-min=12.7km az=103.0*

*MAN **08** 14:14:13.4, 9°.55N×126°.76E, h29km, mb4.9, ML3.8, MS3.7*

ISC 08 14:14:14.1±0.6, 9°.56N±0°.04×126°.99E±0°.07, h41km, n44, σ1°45/48, mb4.1/12, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.50**	**279**	⇑*e*P		**Pn**	**14 14 35.6**	**-2.9**
MSLP	**Maasin**	**2.17**	**285**	*e*P		**Pn**	**14 14 46.8**	**-1.0**
MSLP				*e*S		**Sn**	**14 15 11.9**	**-1.7**
BUKP	**Musuan**	**2.53**	**229**	*e*P		**Pn**	**14 14 51.5**	**-1.3**
BUKP				*e*S		**Sn**	**14 15 23.9**	**+1.4**
MATI	**Mati**	**2.70**	**196**	*e*P		**Pn**	**14 14 52.2**	**-2.8**
OCTP	**Ormoc**	**2.77**	**303**	*e*P		**Pn**	**14 14 58.8**	**+2.7**
DAV	**Davao City (W)**	**2.84**	**210**	Pn		**Pn**	**14 14 54.8**	**-2.2**
TBP	**Tagbilaran**	**3.09**	**273**	*e*P		**Pn**	**14 14 58.9**	**-1.4**
KCP	**Kidapawan**	**3.15**	**217**	⇓*i*P		**Pn**	**14 15 04.0**	**+2.6**
KCP				*i*S		**Sn**	**14 15 40.5**	**+2.7**
CTBH	**Cotabato--PC H**	**3.57**	**230**	⇑*i*P		**Pn**	**14 15 05.7**	**-1.3**
DDMP	**Don Marcelino,**	**3.66**	**200**	*e*P		**Pn**	**14 15 08.1**	**-0.2**
DDMP				*e*S		**Sn**	**14 15 50.2**	**+0.1**
CNP	**Catarman**	**3.72**	**322**	*e*P		**Pn**	**14 15 09.4**	**+0.4**
CNP				*e*S		**Sn**	**14 15 50.7**	**-0.9**
CNOP	**Candoni, Negro**	**4.30**	**274**	*e*P		**Pn**	**14 15 14.9**	**-2.1**
GUIM	**Jordan**	**4.46**	**284**	*e*P		**Pn**	**14 15 16.6**	**-2.6**
RCP	**Roxas**	**4.62**	**296**	⇓*e*P		**Pn**	**14 15 24.5**	**+3.1**
PVCP	**Virac**	**4.88**	**326**	*e*P		**Pn**	**14 15 23.9**	**-1.1**
TGY	**Tagaytay City**	**7.45**	**308**	LR		LR	**14 19 11.9**	
	comp=Z,68nm,20.0s,baz=142,slow=41							
BKB	**Balikpapan**	**14.72**	**224**	P		**P**	**14 17 44.5**	**-0.6**
TATO	**Taipei**	**16.20**	**342**	Pn		**Pn**	**14 17 57.5**	**-1.4**
SBUM	**Sibu**	**16.29**	**245**	Pn		**Pn**	**14 18 00.7**	**+0.6**
GUMO	**Guam**	**17.97**	**75**			**Pn**	**14 18 19.7**	**-1.3**
GUMO				IAmb		IAmb	14 18 44.7	
	comp=Z,48nm,1.0s							
KSM	**Kuching**	**18.43**	**245**			**Pn**	**14 18 27.8**	**+1.1**
MMRI	**Maumere**	**18.68**	**195**	P		**Pn**	**14 18 29.4**	**-0.3**
MMRI				IAmb		IAmb	14 19 03.1	
	comp=Z,37nm,1.0s							
BATI	**Baumata**	**19.91**	**190**	P		**P**	**14 18 43.0**	**+0.6**
	comp=Z,5.3nm,0.3s,baz=87,slow=4.9,SNR=4.9							
MYKOM	**Kota Tinggi**	**24.27**	**253**	P		**P**	**14 19 27.4**	**-0.3**
KNRA	**Kununurra**	**25.14**	**176**	P		**P**	**14 19 35.4**	**0.0**
IPM	**Ipoh**	**26.25**	**261**	P		**P**	**14 19 46.2**	**+0.4**
IPM				IAmb		IAmb	14 19 52.8	
	comp=Z,18nm,1.4s							
FITZ	**Fitzroy Crossi**	**27.51**	**183**	P		**P**	**14 19 57.7**	**+0.8**
PMG	**Port Moresby**	**27.54**	**133**	P		**P**	**14 19 56.6**	**-0.6**
CMAR	**Chiang Mai Arr**	**28.58**	**291**	P		**P**	**14 20 05.9**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=106,slow=5.7,SNR=2.7							
MAJO	**Matsushiro**	**28.73**	**19**	P		**P**	**14 20 07.4**	**-0.3**
MAJO				IAmb		IAmb	14 20 11.9	
	comp=Z,20nm,1.9s							
MJB9	**Matsu-Tunnel**	**28.73**	**19**	P		**P**	**14 20 07.5**	**-0.2**
MJB9				IAmb		IAmb	14 20 11.9	
	comp=Z,20nm,1.9s							
WRA	**Warramunga Arr**	**30.20**	**166**	P		**P**	**14 20 19.9**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=348,slow=9.7,SNR=2.0							
ASAR	**Alice Springs**	**33.71**	**169**	P		**P**	**14 20 51.3**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=345,slow=6.9,SNR=6.3							
ASAR				PcP		**PcP**	**14 23 31.2**	**+0.4**
	comp=Z,0.3nm,0.8s,baz=344,slow=3.1,SNR=1.5							
MORW	**Morawa**	**39.83**	**195**	P		**P**	**14 21 44.0**	**+0.3**
NWAO	**Narrogin (SRO)**	**43.26**	**192**	P		**P**	**14 22 12.4**	**+0.7**
NWAO	**Narrogin (SRO)**	**43.26**	**192**	P		**P**	**14 22 12.4**	**+0.7**
NWAO				IAmb		IAmb	14 23 12.9	
	comp=Z,50nm,1.4s							
STKA	**Stephens Creek**	**43.51**	**162**	P		**P**	**14 22 14.3**	**+0.6**
MKAR	**Makanchi Array**	**53.02**	**323**	P		**P**	**14 23 26.8**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=126,slow=7.9,SNR=6.4							
KURK	**Kurchatov**	**57.05**	**326**	P		**P**	**14 23 55.6**	**-0.4**
KURK	**Kurchatov**	**57.05**	**326**	IAmb		IAmb	14 24 32.6	
	comp=Z,2.5nm,0.6s							
KURBB	**Kurchatov Arra**	**57.06**	**325**	P		**P**	**14 23 55.6**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=125,slow=6.8,SNR=6.5							
NRIK	**Noril'sk**	**64.87**	**346**	P		**P**	**14 24 49.6**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=52,slow=5.3,SNR=4.2							
ARCES	**ARCESS Array B**	**85.10**	**340**	P		**P**	**14 26 45.9**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=71,slow=6.1,SNR=4.8							
FINES	**FINESS Array B**	**86.85**	**332**	P		**P**	**14 26 56.7**	**+2.5**
	comp=Z,0.8nm,0.7s,baz=48,slow=2.8,SNR=3.8							

*ATH **08** 14:14:33.6, 36°.48N×28°.62E, h40km±1km, ML2.8/4, Error ellipse: s-maj=3.9km s-min=1.3km az=175.0*

*ISK **08** 14:14:34.4, 36°.49N×28°.57E, h29km, ML2.9/20*

*NIC **08** 14:14:34.6±0.0, 36°.25N×28°.55E, h54km±1km, MI3.1/4*

*DDA **08** 14:14:34.4, 36°.51N×28°.56E, h34km±1km, ML2.7*

*THE **08** 14:14:35.5, 36°.47N×28°.62E, h23km±1km, ML2.7/4, Error ellipse: s-maj=1.9km s-min=0.6km az=115.0*

ISC 08 14:14:34.4±1.1, 36°.47N±0°.02×28°.58E±0°.02, h34km±2km, n71, σ0°.95/107, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DALY	**Dalyan (Mula)**	**0.35**	**10**	PG		**Pb**	**14 14 42.9**	**-0.1**
DALY				SG		**Sb**	**14 14 48.9**	**+0.1**
DALY	**Dalyan (Mula)**	**0.35**	**10**	*i*P		**Pb**	**14 14 42.8**	**-0.1**
DALY				*i*S		**Sn**	**14 14 48.3**	**-0.5**
DALY				IAML			14 14 49.0	
	comp=E,498nm,0.3s							
MRSB	**Marmaris-Mugla**	**0.40**	**309**	PG		**Pn**	**14 14 43.5**	**-0.3**
MRSB				SG		**Sn**	**14 14 50.0**	**0.0**
TURN	**Turunc**	**0.41**	**3**	PG		**Pn**	**14 14 43.8**	**-0.2**
TURN				SG		**Sn**	**14 14 50.3**	**+0.1**
TURN	**Turunc**	**0.41**	**3**	*i*P		**Pn**	**14 14 43.7**	**-0.2**
TURN				*i*S		**Sn**	**14 14 49.9**	**-0.4**
TURN				IAML			14 14 51.0	
	comp=N,542nm,0.2s							
FETY	**Fethiye**	**0.44**	**67**	P		**Pb**	**14 14 43.9**	**-0.2**
FETY				S		**Sn**	**14 14 51.7**	**+0.5**
FETY	**Fethiye**	**0.44**	**67**	PG		**Pb**	**14 14 44.1**	**-0.1**
FETY				SG		**Sn**	**14 14 51.7**	**+0.5**
FETY	**Fethiye**	**0.44**	**67**	*i*P		**Pb**	**14 14 44.0**	**-0.1**
FETY				*i*S		**Sn**	**14 14 51.9**	**+0.8**
ARG	**Arkhangelos**	**0.44**	**236**	P		**Pn**	**14 14 44.7**	**+0.3**
ARG				S		**Sn**	**14 14 52.5**	**+1.3**
	comp=N,1μm,0.3s							
ARG	**Arkhangelos**	**0.44**	**236**	P		**Pn**	**14 14 44.7**	**+0.3**
ARG				S		**Sn**	**14 14 52.5**	**+1.3**
ARG				AML	AML		14 14 52.9	
	comp=E,2707μm,0.3s							
ARG				AML	AML		14 14 54.5	
	comp=N,1981μm,0.3s							
ARG	**Arkhangelos**	**0.44**	**236**	PG		**Pn**	**14 14 44.7**	**+0.3**
ARG				SG		**Sn**	**14 14 52.0**	**+0.8**
ARG	**Arkhangelos**	**0.44**	**236**	P		**Pn**	**14 14 44.6**	**+0.1**
ARG				S		**Sn**	**14 14 52.4**	**+1.3**
YER	**Yerkesik**	**0.71**	**340**	P		**Pb**	**14 14 48.2**	**-0.2**
YER				S		**Sb**	**14 14 58.6**	**+0.6**
YER	**Yerkesik**	**0.71**	**340**	PG		**Pb**	**14 14 48.3**	**-0.2**
DATC	**Datca-Mugla**	**0.80**	**292**	PG		**Pb**	**14 14 49.6**	**-0.2**
DAT	**Datca**	**0.85**	**288**	P		**Pb**	**14 14 50.6**	**-0.2**
DAT				S		**Sb**	**14 15 03.1**	**+1.1**
DAT	**Datca**	**0.85**	**288**	PG		**Pn**	**14 14 50.1**	**+0.1**
DAT	**Datca**	**0.85**	**288**	*i*P		**Pb**	**14 14 50.6**	**-0.2**
DAT				*i*S		**Sb**	**14 15 02.6**	**+0.6**
DAT				IAML			14 15 04.0	
	comp=N,268nm,0.2s							
DAT				IAML			14 15 04.0	
	comp=E,256nm,0.2s							
KSL	**Kastellorizon**	**0.87**	**111**	P		**Pn**	**14 14 50.8**	**+0.6**
KSL				S		**Sn**	**14 15 01.6**	**-0.1**
	comp=E,248nm,0.4s							
KSL	**Kastellorizon**	**0.87**	**111**	P		**Pn**	**14 14 50.8**	**+0.6**
KSL				S		**Sn**	**14 15 01.6**	**-0.1**
KSL				AML	AML		14 15 04.3	
	comp=N,376μm,0.4s							
KSL				AML	AML		14 15 05.9	
	comp=E,610μm,0.4s							
KSL	**Kastellorizon**	**0.87**	**111**	P		**Pn**	**14 14 50.7**	**+0.6**
KSL				S		**Sb**	**14 15 03.1**	**+0.7**
KSL				AML	AML		14 15 05.9	
	comp=E,0.6nm,0.4s							
KSL				AML	AML		14 15 05.9	
	comp=E,0.6nm,0.4s							
TAVA	**DENIZLI_Tavas**	**1.03**	**15**	*i*P		**Pb**	**14 14 53.7**	**-0.2**
TAVA				*i*S		**Sb**	**14 15 07.2**	**0.0**
TAVA				IAML			14 15 09.0	
	comp=N,206nm,0.2s							
BDRM	**Kayabasi**	**1.09**	**304**	*i*P		**Pb**	**14 14 54.1**	**-0.7**
BDRM				*i*S		**Sn**	**14 15 07.3**	**+0.1**
ELL	**Elmali**	**1.11**	**75**	PN		**Pb**	**14 14 54.6**	**-0.5**
ELL	**Elmali**	**1.11**	**75**	P		**Pb**	**14 14 55.1**	**0.0**
ELL				S		**Sb**	**14 15 11.6**	**+2.3**
NISR	**Nisiros**	**1.18**	**278**	P		**Pb**	**14 14 55.8**	**-0.4**
NISR	**Nisiros**	**1.18**	**278**	P		**Pb**	**14 14 55.8**	**-0.4**
BODT	**Bodrum**	**1.18**	**301**	P		**Pb**	**14 14 55.2**	**-1.1**
BODT				S		**Sb**	**14 15 11.2**	**-0.1**
BODT	**Bodrum**	**1.18**	**301**	PN		**Pn**	**14 14 55.1**	**+0.6**
YKAV	**Yalikavak-Bodr**	**1.23**	**303**	PN		**Pn**	**14 14 55.5**	**+0.3**
AKUM	**Antalya-Kumluc**	**1.43**	**95**	*i*P		**Pn**	**14 14 57.7**	**-0.2**
AKUM				*i*S		**Sb**	**14 15 19.6**	**+1.2**
KARP	**Karpathos**	**1.47**	**232**	P		**Pn**	**14 14 59.8**	**+1.3**
KARP				S		**Sb**	**14 15 19.0**	**-0.6**
	comp=N,185nm,0.3s							
KARP	**Karpathos**	**1.47**	**232**	P		**Pn**	**14 14 59.8**	**+1.3**
KARP				S		**Sb**	**14 15 19.0**	**-0.6**
KARP				AML	AML		14 15 26.3	
	comp=N,388μm,0.5s							
KARP				AML	AML		14 15 26.9	
	comp=E,406μm,0.4s							
KARP	**Karpathos**	**1.47**	**232**	PN		**Pn**	**14 14 59.8**	**+1.3**
KORT	**Korkueli**	**1.52**	**69**	PN		**Pn**	**14 15 00.4**	**+1.1**
KORT	**Korkueli**	**1.52**	**69**	*i*P		**Pb**	**14 15 02.0**	**0.0**
AYDB	**Zeytinkoy-Aydi**	**1.58**	**340**	PN		**Pn**	**14 15 00.3**	**+0.2**
GCAM	**G?zelcaml?**	**1.64**	**319**	PN		**Pn**	**14 15 00.7**	**-0.1**
GCAM	**G?zelcaml?**	**1.64**	**319**	*i*P		**Pn**	**14 15 01.9**	**+1.1**
GCAM				*i*S		**Sn**	**14 15 21.6**	**+1.0**
GCAM				IAML			14 15 23.0	
	comp=N,203nm,0.2s							
GCAM				IAML			14 15 23.0	
	comp=E,153nm,0.2s							
BRDR	**BURDUR-Merkez**	**1.71**	**44**	*i*P		**Pn**	**14 15 03.4**	**+1.5**
SMG	**Samos**	**1.86**	**312**	P		**Pn**	**14 15 04.5**	**+0.5**
SMG				S		**Sb**	**14 15 28.2**	**-2.6**
	comp=E,322nm,0.3s							
SMG	**Samos**	**1.86**	**312**	P		**Pn**	**14 15 04.5**	**+0.5**
SMG				AML	AML		14 15 29.6	
	comp=E,630μm,0.2s							
SMG				AML	AML		14 15 29.6	
	comp=N,660μm,0.3s							
BCK	**Bucak**	**1.89**	**58**	PN		**Pn**	**14 15 05.9**	**+1.5**
KHAL	**Karahalli**	**2.04**	**21**	*i*P		**Pn**	**14 15 06.8**	**+0.4**
KHAL				*i*S		**Sn**	**14 15 30.3**	**-0.4**
KULA	**Kula-Manisa**	**2.05**	**2**	PN		**Pn**	**14 15 06.2**	**-0.3**
ISP	**Isparta**	**2.06**	**48**	PN		**Pn**	**14 15 07.7**	**+1.0**
DGB	**zmir**	**2.08**	**320**	*i*P		**Pn**	**14 15 07.3**	**+0.4**
DGB				*i*S		**Sn**	**14 15 31.4**	**-0.2**
DGB				IAML			14 15 34.0	
	comp=N,76nm,0.5s							
DGB				IAML			14 15 34.0	
	comp=E,106nm,0.5s							
ANAF	**Anafi Island**	**2.27**	**268**	P		**Pn**	**14 15 10.6**	**+1.1**
ANAF	**Anafi Island**	**2.27**	**268**	P		**Pn**	**14 15 10.6**	**+1.1**
USAK	**Uak-Merkez**	**2.27**	**9**	*i*P		**Pn**	**14 15 10.2**	**+0.6**
USAK				IAML			14 15 36.0	
	comp=N,79nm,0.7s							
USAK				*i*S		**Sn**	**14 15 36.3**	**-0.1**
USAK				IAML			14 15 37.0	
	comp=E,125nm,0.8s							
BLCB	**Balcova**	**2.27**	**328**	PN		**Pn**	**14 15 08.9**	**-0.6**
BAGO	**Egridir - ISPA**	**2.33**	**49**	*i*P		**Pb**	**14 15 15.3**	**-0.4**
ZKR	**Zakros**	**2.35**	**236**	P		**Pn**	**14 15 11.4**	**+0.8**
ZKR	**Zakros**	**2.35**	**236**	P		**Pn**	**14 15 11.4**	**+0.8**
ZKR	**Zakros**	**2.35**	**236**	PN		**Pn**	**14 15 11.8**	**+1.2**
ZKR	**Zakros**	**2.35**	**236**	P		**Pn**	**14 15 09.6**	**-1.0**
ZKR				AML	AML		14 15 32.3	
	comp=E,0.1nm,1.5s							
ZKR				AML	AML		14 15 32.3	
	comp=E,0.1nm,1.5s							
ZKR				S		**Sn**	**14 15 36.3**	**-1.9**
URLA	**Izmir**	**2.46**	**321**	PN		**Pn**	**14 15 13.6**	**+1.4**
URLA	**Izmir**	**2.46**	**321**	*i*P		**Pn**	**14 15 13.4**	**+1.2**
URLA				*i*S		**Sn**	**14 15 41.8**	**+0.7**
URLA				IAML			14 15 45.0	
	comp=E,33nm,0.8s							
KEPZ	**Antalya-Kepez**	**2.47**	**79**	*i*P		**Pn**	**14 15 14.4**	**+2.1**
KEPZ				*i*S		**Sb**	**14 15 45.0**	**-3.1**
DEMI	**Demirci**	**2.58**	**2**	*i*P		**Pn**	**14 15 13.2**	**-0.6**
DEMI				*i*S		**Sn**	**14 15 43.8**	**-0.2**
SEYD	**Seydisehir-KON**	**2.77**	**69**	PN		**Pn**	**14 15 18.4**	**+1.9**
CHOS	**Chios island**	**2.78**	**314**	PN		**Pn**	**14 15 17.7**	**+1.2**
LAST	**Lasithi**	**2.84**	**244**	P		**Pn**	**14 15 18.7**	**+1.4**
LAST	**Lasithi**	**2.84**	**244**	P		**Pn**	**14 15 18.7**	**+1.4**
IDI	**Anoyia**	**3.22**	**250**	PN		**Pn**	**14 15 23.7**	**+1.1**
AKMS	**Akamas**	**3.38**	**114**	P		**Pn**	**14 15 24.5**	**-0.3**
AKMS				AML	AML		14 16 03.2	
	comp=E,0.2nm,0.3s							
ALFC	**Alefka**	**3.52**	**111**	P		**Pn**	**14 15 26.4**	**-0.3**
ALFC				AML	AML		14 16 06.4	
	comp=E,0.1nm,0.2s							
ALFC				AML	AML		14 16 07.4	
	comp=E,0.1nm,0.2s							
OSC1	**CSNet OBS 1**	**3.70**	**142**	P		**Pn**	**14 15 28.0**	**-1.1**
OSC1				S		**Sn**	**14 16 09.4**	**-2.1**
SZAC	**Souni**	**3.90**	**115**	P		**Pn**	**14 15 32.1**	**+0.2**
ASGA	**Asgata**	**4.16**	**112**	P		**Pn**	**14 15 35.7**	**+0.3**
OSC2	**CSNet OBS 4**	**4.54**	**137**	P		**Pn**	**14 15 40.8**	**+0.1**
OSC2				S		**Sn**	**14 16 30.3**	**-2.1**

*STR **08** 14:15:54.0±1.3, 50°.5N×5°.4E, h3km±9km, MLv3.5/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/haslach_taup-2.11 preliminary*

*BUG **08** 14:15:55.8±0.0, 49°.81N×8°.85E, h9km±2km, ML3.1/6*

*BGR **08** 14:15:56.7±0.1, 49°.82N×8°.81E, h10km, ML3.3/32, Error ellipse: s-maj=3.3km s-min=2.2km az=166.0*

*BNS **08** 14:15:57.6±0.6, 49°.83N×8°.78E, h8km±75km, ML3.0*

*LDG **08** 14:15:57.2±0.1, 49°.80N×8°.71E, h7km, Md3.4/1, MI3.4/40, Error ellipse: s-maj=2.1km s-min=2.1km az=18.0*

*PRU **08** 14:15:59.7±0.0, 49°.74N×9°.09E, h0km*

ISC 08 14:15:55.8±0.6, 49°.81N±0°.01×8°.77E±0°.01, h16km±3km, n197, σ2°.26/333, 5C-9D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WBB	**Darmstadt**	**0.08**	**299**	Pg		**Pg**	**14 15 58.9**	**-0.1**
WBB				Sg		**Sg**	**14 16 00.2**	**-0.9**
WBA	**Furth**	**0.15**	**169**	⇓Pg		**Pg**	**14 16 00.3**	**+0.5**
WBA				Sg		**Sg**	**14 16 02.7**	**+0.2**
TOD	**Tromm**	**0.20**	**174**	⇓Pg		**Pg**	**14 16 00.9**	**+0.4**
TOD				Sg		**Sg**	**14 16 04.0**	**+0.3**
SWS	**Schriesheim-Wi**	**0.32**	**188**	⇓Pg		**Pg**	**14 16 03.0**	**+0.5**
SWS				P*		**Pb**	**14 16 04.8**	**+1.6**
SWS				Sg		**Sg**	**14 16 07.4**	**+0.2**
TNS	**Taunus Mts**	**0.47**	**334**	⇓Pg		**Pg**	**14 16 05.6**	**+0.4**
TNS				P*		**Pb**	**14 16 06.5**	**+0.8**
TNS				Sg		**Sg**	**14 16 12.7**	**+1.2**
WBG	**Bieber**	**0.52**	**45**	⇑Pg		**Pg**	**14 16 05.0**	**-1.2**
IMS	**Imsbach**	**0.60**	**250**	⇑*e*Pg		**Pg**	**14 16 08.1**	**+0.4**
IMS				Sg		**Sg**	**14 16 16.8**	**+1.1**
KTD	**Kalmit**	**0.66**	**223**	Pg		**Pg**	**14 16 09.5**	**+0.8**
KTD				Sg		**Sg**	**14 16 19.3**	**+1.8**
KTD				SmS			14 16 22.3	
KTD	**Kalmit**	**0.66**	**223**	Pg		**Pg**	**14 16 09.5**	**+0.8**
GWBC	**Aumenau**	**0.67**	**331**	⇓Pg		**Pg**	**14 16 09.8**	**+0.8**
GWBC				SmS			14 16 21.2	
SIND	**Sindeldorf**	**0.71**	**130**	⇓Pg		**Pg**	**14 16 10.6**	**+0.9**
SIND				Sg		**Sb**	**14 16 20.1**	**+0.8**
FACH	**Fachingen**	**0.75**	**318**	⇑Pg		**Pg**	**14 16 10.9**	**+0.6**
FACH				Sg		**Sg**	**14 16 20.6**	**+0.4**
FACH				SmS			14 16 23.2	
BRET	**Bretten**	**0.79**	**184**	⇓Pg		**Pg**	**14 16 12.2**	**+0.9**
BRET				PmP			14 16 13.0	
BRET				Sg		**Sg**	**14 16 22.5**	**+0.8**
BRET				SmS			14 16 24.7	
ABH	**Alteburg**	**0.80**	**276**	Pg		**Pg**	**14 16 11.3**	**0.0**
ABH				PmP			14 16 13.1	
ABH	**Alteburg**	**0.80**	**276**	Pg		**Pg**	**14 16 11.3**	**0.0**
KOE	**Koeppel**	**0.91**	**313**	⇓*e*Pg		**Pg**	**14 16 14.1**	**+0.6**
BGG	**Burgeitz**	**1.01**	**294**	*e*Pg		**Pg**	**14 16 15.7**	**+0.4**
PEB	**Petersbachel**	**1.01**	**223**	Pn		**Pg**	**14 16 15.3**	**0.0**
PEB				Pg		**Pb**	**14 16 16.2**	**+1.3**
LANF	**Langenberg**	**1.04**	**218**	Pn		**Pg**	**14 16 15.5**	**-0.3**
LANF				Pg		**Pb**	**14 16 16.6**	**+1.2**
LANF				Sg		**Sg**	**14 16 31.7**	**+2.2**
LANF	**Langenberg**	**1.04**	**218**	Pg		**Pg**	**14 16 15.6**	**-0.3**
SUBF	**Surbourg**	**1.08**	**214**	Sg		**Sg**	**14 16 32.5**	**+1.9**
SUBF	**Surbourg**	**1.08**	**214**	Pg		**Pg**	**14 16 16.

GRC1	**Grafenberg Arr**	**1.97**	**113**	Pn		**Pn**	14 16 29.9	+1.4
GRC1				Sg		**Sb**	14 16 57.4	+1.7
HMES	**Hamm, Michael-**	**1.97**	**341**	Sn		**Sn**	14 16 55.8	+2.9
BERGE	**Lenzkirch (DE)**	**1.97**	**192**	Pn		**Pn**	14 16 28.6	0.0
BERGE				*e*Pg		**Pb**	14 16 33.5	+2.1
BERGE				*e*Sg		**Sb**	14 16 57.7	+2.0
MOX	**Moxa**	**2.01**	**64**	*e*Pn		**Pn**	14 16 29.4	+0.3
MOX				*e*Pg		**Pb**	14 16 32.9	+1.0
MOX				*e*Sg		**Sg**	14 16 59.4	-1.1
GRB5	**Grafenberg Arr**	**2.02**	**109**	*e*Sg		**Sb**	14 16 58.9	+1.9
SLE	**Schleitheim**	**2.05**	**185**	Pn		**Pn**	14 16 29.9	+0.2
GRC3	**Grafenberg Arr**	**2.06**	**115**	*e*Sg		**Sb**	14 17 00.3	+2.3
METMA	**Mettma DE**	**2.12**	**190**	Pn		**Pn**	14 16 30.5	-0.1
METMA				*e*Sg		**Sb**	14 17 03.6	+3.6
SISB	**Singen-Schiene**	**2.12**	**176**	Pn		**Pn**	14 16 31.4	+0.7
ENDD	**Endenburg**	**2.20**	**198**	Pn		**Pn**	14 16 31.1	-0.6
ENDD				Pg		**Pg**	14 16 39.4	+1.4
MOF	**Molkenrain**	**2.23**	**210**	Pn		**Pn**	14 16 31.8	-0.5
MOF				Pg		**Pb**	14 16 38.9	+3.0
PLN	**Plauen**	**2.28**	**71**	*e*Sg		**Sg**	14 17 07.7	-1.4
UBR	**Ueberruh**	**2.30**	**157**	⇑Pn		**Pn**	14 16 34.7	+1.5
UBR				Pg		**Pg**	14 16 41.8	+1.9
SULZ	**Cheisacher**	**2.32**	**191**	Pn		**Pn**	14 16 33.2	-0.1
FUR	**Furstenfeldbru**	**2.33**	**134**	*e*Sg		**Sg**	14 17 10.6	+0.1
PAGF	**Fort de Pagny**	**2.36**	**239**	*e*Pn		**Pn**	14 16 34.2	+0.4
	baz=59							
PAGF	**Fort de Pagny**	**2.36**	**239**	*e*Pg		**Pb**	14 16 41.7	+3.8
	baz=60							
PAGF				*e*Sn		**Sn**	14 17 00.5	-2.0
PAGF				*e*Sg		**Sb**	14 17 11.0	+4.3
	40nm,0.2s							
HINF	**Hinteralfeld**	**2.36**	**213**	*e*Pn		**Pn**	14 16 32.8	-1.1
HINF	**Hinteralfeld**	**2.36**	**213**	*e*Pg		**Pb**	14 16 40.4	+2.5
HINF				*e*Sn		**Sn**	14 17 01.7	-0.9
	24nm,0.2s							
HINF				*e*Sg		**Sb**	14 17 11.3	+4.5
	120nm,0.2s							
GUNZ	**Gunzen**	**2.36**	**75**	*e*Pn		**Pn**	14 16 35.2	+1.2
GUNZ				*e*Pg		**Pg**	14 16 40.3	-0.7
GUNZ				*e*Sg		**Sg**	14 17 09.9	-1.8
WERN	**Wernitzgruen**	**2.37**	**77**	*e*Pn		**Pn**	14 16 35.5	+1.4
WERN				*e*Pg		**Pg**	14 16 40.6	-0.7
WERN				*e*Sg		**Sb**	14 17 09.7	+2.5
NEUB	**Neuenburg**	**2.38**	**53**	*e*Pn		**Pb**	14 16 39.8	+1.6
NEUB				*e*Sg		**Sg**	14 17 11.6	-0.5
WILA	**Wila**	**2.39**	**178**	Pg		**Pg**	14 16 43.6	+2.0
HAU	**Haudompre**	**2.41**	**223**	*e*Pn		**Pn**	14 16 33.4	-1.2
HAU	**Haudompre**	**2.41**	**223**	*e*Pg		**Pb**	14 16 41.1	+2.3
HAU				*e*Sn		**Sn**	14 17 02.9	-0.8
HAU				*e*Sg		**Sb**	14 17 12.4	+4.2
	188nm,0.2s							
NKC	**Novy Kostel**	**2.41**	**78**	*e*PG		**Pg**	14 16 41.6	-0.4
NKC				*e*SG		**Sb**	14 17 10.9	+2.6
	comp=Z,106nm,0.3s							
TANN	**Tannenbergstha**	**2.45**	**74**	*e*Pn		**Pn**	14 16 36.3	+1.1
TANN				*e*Pg		**Pg**	14 16 42.4	-0.4
TANN				*e*Sg		**Sb**	14 17 12.3	+2.7
LIENZ	**Kamor/St.Gall**	**2.56**	**169**	Pn		**Pn**	14 16 38.0	+1.2
LIENZ				Sn		**Sn**	14 17 08.9	+1.3
LIENZ				Sg		**Sg**	14 17 20.7	+2.7
IBBS	**Ibbenbueren So**	**2.56**	**346**	Pg		**Pb**	14 16 43.3	+1.9
GIVF	**Givet**	**2.57**	**278**	*e*Pn		**Pn**	14 16 37.2	+0.5
GIVF	**Givet**	**2.57**	**278**	*e*Pg		**Pb**	14 16 44.2	+2.8
GIVF				*e*Sn		**Sn**	14 17 05.7	-1.9
GIVF				*e*Sg		**Sb**	14 17 16.1	+3.3
	79nm,0.3s							
BALST	**Balsthal**	**2.57**	**197**	Pn		**Pn**	14 16 36.5	-0.3
IBBE	**Ibbenbueren Ea**	**2.57**	**347**	Pg		**Pb**	14 16 44.1	+2.6
IBBN	**Ibbenbueren**	**2.59**	**346**	*e*Pg		**Pb**	14 16 44.6	+2.8
OBER	**Oberstdorf**	**2.60**	**157**	Pn		**Pn**	14 16 39.1	+1.8
BOURR	**Bourrignon**	**2.62**	**204**	Sg		**Sg**	14 17 21.1	+1.1
DAVA	**Damuels**	**2.63**	**163**	Pn		**Pn**	14 16 39.0	+1.4
DAVA				Pg		**Pg**	14 16 48.0	+1.8
DAVA	**Damuels**	**2.63**	**163**	Pn		**Pn**	14 16 38.9	+1.2
	5.3nm,0.3s,SNR=8.8							
DAVA				Pg		**Pg**	14 16 47.9	+1.8
	13nm,0.3s							
DAVA				Sg		**Sg**	14 17 23.5	+3.4
	52nm,0.4s							
RETA	**Reutte**	**2.67**	**150**	*e*Pn		**Pn**	14 16 39.7	+1.5
	4.3nm,0.1s,SNR=15							
MEZF	**Maizieres J'vi**	**2.77**	**243**	*e*Pn		**Pn**	14 16 39.2	-0.3
	baz=63							
MEZF				*e*Sn		**Sn**	14 17 10.5	-2.0
MEZF				*e*Sg		**Sb**	14 17 23.0	+4.5
	44nm,0.4s							
NRDL	**Niedersach Rie**	**2.82**	**17**	Pg		**Pg**	14 16 50.2	+0.4
MOTA	**Moosalm**	**2.91**	**147**	*e*Pn		**Pn**	14 16 43.0	+1.4
	2.5nm,0.2s,SNR=11							
MOTA				Sg		**Sg**	14 17 29.4	+0.2
	12nm,0.3s							
SFTF	**Sexfontaines**	**2.93**	**238**	*e*Pn		**Pn**	14 16 41.2	-0.6
	baz=57							
SFTF	**Sexfontaines**	**2.93**	**238**	*e*Pg		**Pb**	14 16 50.8	+3.1
SFTF				*e*Sn		**Sn**	14 17 15.0	-1.6
SFTF				*e*Sg		**Sb**	14 17 28.6	+5.3
	36nm,0.2s							
BAIF	**Baives**	**2.96**	**277**	*e*Pn		**Pn**	14 16 43.0	+0.9
BAIF	**Baives**	**2.96**	**277**	*e*Pg		**Pb**	14 16 50.9	+2.8
BAIF				*e*Sn		**Sn**	14 17 14.4	-2.9
BAIF				*e*Sg		**Sb**	14 17 28.5	+4.5
	41nm,0.3s							
SQTA	**Sankt Quirin**	**3.05**	**147**	*e*Pn		**Pn**	14 16 45.0	+1.5
	3.9nm,0.1s,SNR=8.8							
SQTA				*e*Sn		**Sn**	14 17 23.8	+4.1
	22nm,0.3s							
FETA	**Feichten**	**3.08**	**154**	*e*Pn		**Pn**	14 16 45.6	+1.7
	2.2nm,0.4s,SNR=17							
CLL	**Collm**	**3.09**	**59**	*e*Pg		**Pg**	14 16 54.7	-0.3
CLL	**Collm**	**3.09**	**59**	*e*Pn		**Pn**	14 16 46.0	+2.1
CLL				*e*Pg		**Pg**	14 16 55.0	0.0
CLL				*e*Sg		**Sg**	14 17 33.0	-2.0
	comp=Z,42nm,0.6s							
WATA	**Walderalm**	**3.09**	**142**	*e*Pn		**Pn**	14 16 45.9	+1.8
	comp=Z,9.0nm,0.2s,SNR=10							
WATA				Sg		**Sg**	14 17 35.5	+0.4
	comp=Z,18nm,0.3s							
WTTA	**Wattenberg**	**3.18**	**142**	*i* Pn		**Pn**	14 16 47.4	+2.1
	comp=Z,8.3nm,0.2s,SNR=12							
WTTA				Sg		**Sg**	14 17 38.0	+0.2
	comp=Z,8.4nm,0.2s							
KHC	**Kasperske Hory**	**3.21**	**100**	*e*PN		**Pn**	14 16 47.7	+2.1
KHC				*e*PG		**Pg**	14 16 55.9	-1.3
KHC				*e*SN		**Sn**	14 17 22.8	-0.7
KHC				*e*SG		**Sg**	14 17 36.7	-2.1
	comp=Z,36nm,0.3s							
PBCC	**Pribram**	**3.39**	**90**	*e*SG		**Sg**	14 17 41.2	-3.4
	comp=Z,14nm,0.6s							
BRG	**Berggiesshubel**	**3.48**	**70**	PG		**Pg**	14 17 00.8	-1.6
BRG				SG		**Sg**	14 17 45.8	-1.7
	comp=Z,22nm,0.4s							
CABF	**La Chapelle**	**3.67**	**210**	*e*Pn		**Pn**	14 16 51.8	-0.1
CABF	**La Chapelle**	**3.67**	**210**	*e*Pg		Pb	14 17 05.2	+5.0
CABF				*e*Sn		**Sn**	14 17 33.2	-1.6
CABF				*e*Sg		**Sg**	14 17 53.8	+0.3
	comp=Z,54nm,0.6s							
PRA	**Prague**	**3.67**	**84**	*e*SG		**Sg**	14 17 51.5	-2.0
	comp=Z,16nm,0.7s							
PRU	**Pruhonice**	**3.73**	**85**	*e*PN		**Pn**	14 16 55.8	+3.0
PRU				*e*PG		**Pg**	14 17 06.1	-1.2
PRU				*e*SG		**Sg**	14 17 52.7	-3.0
	comp=Z,21nm,0.4s							
PVCC	**Panska Ves**	**3.80**	**77**	*e*PG		**Pg**	14 17 07.6	-0.9
PVCC				*e*SG		**Sg**	14 17 56.2	-1.4
	comp=Z,40nm,0.3s							
GOPC	**GO Pecny, Ondr**	**3.89**	**86**	*e*PG		**Pg**	14 17 08.3	-2.0
GOPC				*e*SG		**Sg**	14 17 57.5	-3.2
	comp=Z,33nm,1.0s							
ABTA	**Abfaltersbach**	**3.95**	**139**	*i* Pn		**Pn**	14 16 58.6	+2.8
	comp=Z,3.3nm,0.3s,SNR=12							
ABTA				*e*Sn		**Sn**	14 17 46.3	+4.5
	comp=Z,10nm,0.5s							
KBA	**Koelnbreinsper**	**4.09**	**130**	*i* Pn		**Pn**	14 17 00.9	+3.1
	comp=Z,4.1nm,0.3s							
MOA	**Molln**	**4.12**	**116**	*e*Pn		**Pn**	14 17 00.5	+2.3
	comp=Z,1.8nm,0.2s							
MOA				*e*Sn		**Sn**	14 17 46.2	+0.2
	comp=Z,3.6nm,0.3s							
MOA				Sg		**Sg**	14 18 07.1	-1.1
	comp=Z,12nm,0.3s							
LOR	**Lormes**	**4.13**	**234**	*e*Pn		**Pn**	14 16 57.0	-1.3
	baz=54							
LOR	**Lormes**	**4.13**	**234**	*e*Pg		Pb	14 17 13.0	+4.8
	baz=53							
LOR				*e*Sn		**Sn**	14 17 43.7	-2.6
LOR				*e*Sg		**Sb**	14 18 06.0	+8.1
	comp=Z,27nm,0.3s,baz=54							
TREC	**Trest**	**4.40**	**94**	*e*SG		**Sg**	14 18 14.7	-2.3
	comp=Z,30nm,0.7s							
SSF	**Saint Saulge**	**4.45**	**234**	*e*Pn		**Pn**	14 17 01.7	-0.9
SSF	**Saint Saulge**	**4.45**	**234**	*e*Pg		Pb	14 17 19.0	+5.4
SSF				*e*Sn		**Sn**	14 17 51.9	-2.2
SSF				*e*Sg		Sb	14 18 16.0	+9.0
	comp=Z,27nm,0.4s							
LPL	**La Plagne**	**4.51**	**199**	*e*Pg		**Pg**	14 17 23.9	+1.8
LPL				*e*Sg		**Sg**	14 18 19.2	-1.2
	comp=Z,12nm,0.5s							
LPG	**La Plagne**	**4.52**	**198**	*e*Pg		**Pg**	14 17 22.0	-0.4
LPG				*e*Sg		**Sg**	14 18 20.0	-0.9
	comp=Z,16nm,0.4s							
MYKA	**Terra Mystica**	**4.55**	**132**	*e*Pn		**Pn**	14 17 07.8	+3.8
	comp=Z,1.2nm,0.2s							
MYKA				Sg		**Sg**	14 18 22.8	+1.1
	comp=Z,6.1nm,0.5s							
SMF	**Signal de Mont**	**4.57**	**228**	*e*Pn		**Pn**	14 17 02.9	-1.3
SMF	**Signal de Mont**	**4.57**	**228**	*e*Pg		Pb	14 17 21.0	+5.5
SMF				*e*Sg		**Sg**	14 18 19.8	-2.5
	comp=Z,61nm,0.5s							
UPC	**Upice**	**4.71**	**79**	*e*SG		**Sg**	14 18 23.9	-2.9
	comp=Z,15nm,0.7s							
AVF	**Avril sur Loir**	**4.71**	**232**	*e*Pn		**Pn**	14 17 04.5	-1.6
AVF	**Avril sur Loir**	**4.71**	**232**	*e*Pg		Pb	14 17 24.1	+6.2
AVF				*e*Sn		**Sn**	14 17 57.6	-2.8
AVF				*e*Sg		**Sg**	14 18 24.0	-2.9
	comp=Z,12nm,0.4s							
CHVC	**Chvalec**	**4.74**	**78**	*e*PG		**Pg**	14 17 23.8	-2.8
CHVC				*e*SG		**Sg**	14 18 25.2	-2.8
	comp=Z,24nm,0.9s							
HYF	**Humbligny**	**4.80**	**240**	*e*Pn		**Pn**	14 17 07.4	0.0
HYF	**Humbligny**	**4.80**	**240**	*e*Pg		**Pg**	14 17 29.0	+1.3
HYF				*e*Sn		**Sn**	14 17 59.7	-3.0
HYF				*e*Sg		**Sg**	14 18 27.6	-2.2
OSTC	**Ostas**	**4.84**	**78**	*e*PG		**Pg**	14 17 25.6	-2.9
OSTC				*e*SG		**Sg**	14 18 28.1	-3.0
	comp=Z,12nm,0.6s							
DPC	**Dobruska-Polom**	**4.89**	**81**	*e*SG		**Sg**	14 18 29.0	-3.8
	comp=Z,12nm,0.6s							
KSP	**Ksiaz**	**4.93**	**75**	*e*Pg		**Pg**	14 17 28.3	-1.8
KSP				*e*Sg		**Sg**	14 18 30.2	-3.8
KRUC	**Moravsky**	**5.03**	**96**	*e*PN		**Pn**	14 17 14.2	+3.6
KRUC				*e*SB		**Sg**	14 18 32.0	-5.2
CONA	**Conrad Observa**	**5.04**	**109**	*e*Pn		**Pn**	14 17 14.4	+3.5
	comp=Z,0.3nm,0.1s							
CONA				Sg		**Sg**	14 18 36.4	-1.2
	comp=Z,32nm,0.5s							
OBKA	**Obir**	**5.08**	**128**	*e*Pn		**Pn**	14 17 14.2	+2.9
	comp=Z,1.4nm,0.3s							
VRAC	**Vranov**	**5.12**	**93**	*e*PN		**Pn**	14 17 15.6	+3.9
VRAC				*e*SB		**Sg**	14 18 34.7	-5.8
BGF	**Bois d'Agland**	**5.12**	**233**	*e*Pn		**Pn**	14 17 10.7	-1.2
BGF	**Bois d'Agland**	**5.12**	**233**	*e*Pg		**Pg**	14 17 32.7	-1.2
BGF				*e*Sn		**Sn**	14 18 07.5	-3.2
BGF				*e*Sg		**Sg**	14 18 37.4	-2.8
	comp=Z,31nm,0.4s							
ARSA	**Arzberg**	**5.16**	**117**	*e*Pn		**Pn**	14 17 15.2	+2.8
	comp=Z,1.4nm,0.2s							
ARSA				*e*Sn		**Sn**	14 18 10.1	-1.5
	comp=Z,2.2nm,0.3s							
ARSA				Sg		**Sg**	14 18 40.9	-0.5
	comp=Z,4.6nm,0.5s							
MBDF	**Montbardon**	**5.26**	**196**	*e*Pn		**Pn**	14 17 13.1	-0.8
MBDF	**Montbardon**	**5.26**	**196**	*e*Pg		**Pg**	14 17 35.7	-0.8
MBDF				*e*Sn		**Sn**	14 18 12.0	-2.2
MBDF				*e*Sg		**Sg**	14 18 43.6	-1.0
	comp=Z,9.1nm,0.5s							
ORIF	**Oris-en-Rattie**	**5.27**	**203**	*e*Pg		Pb	14 17 33.8	+6.3
ORIF				*e*Sn		**Sn**	14 18 09.3	-5.0
ORIF				*e*Sg		**Sg**	14 18 43.5	-1.3
	comp=Z,18nm,0.6s							
TCF	**Toulx Ste Croi**	**5.63**	**234**	*e*Pn		**Pn**	14 17 17.9	-1.0
TCF	**Toulx Ste Croi**	**5.63**	**234**	*e*Pg		Pb	14 17 40.7	+7.0
TCF				*e*Sn		**Sn**	14 18 20.3	-2.9
TCF				*e*Sg		**Sg**	14 18 53.0	-3.5
	comp=Z,6.6nm,0.3s							
VIVF	**Saint-Julien-l**	**5.68**	**211**	*e*Pn		**Pn**	14 17 18.5	-1.0
VIVF	**Saint-Julien-l**	**5.68**	**211**	*e*Pg		**Pg**	14 17 42.0	-2.5
VIVF				*e*Sn		**Sn**	14 18 21.2	-3.2
VIVF				*e*Sg		**Sg**	14 18 54.3	-3.7
	comp=Z,8.8nm,0.3s							
MORC	**Moravsky Berou**	**5.68**	**87**	*e*SB		**Sg**	14 18 51.7	-6.3
MODS	**Modra-Piesok**	**5.77**	**101**	*e*SG		**Sg**	14 18 57.6	-3.2
LDF	**La Druitiere**	**5.96**	**262**	*e*Pn		**Pn**	14 17 23.3	+0.1
LDF	**La Druitiere**	**5.96**	**262**	*e*Pg		**Pg**	14 17 47.8	-1.9
LDF				*e*Sn		Sn	14 18 25.7	-5.4
LDF				*e*Sg		**Sg**	14 19 02.4	-4.4
	comp=Z,3.8nm,0.3s							
SBF	**Sospel**	**6.01**	**189**	*e*P		**Pn**	14 17 27.6	+3.5
OKC	**Ostrava-Krasne**	**6.07**	**86**	*e*SG		**Sg**	14 19 07.9	-2.5
	comp=Z,14nm,0.9s							
FLN	**La Foliniere**	**6.14**	**264**	*e*Pn		**Pn**	14 17 25.5	-0.3
	baz=84							
FLN	**La Foliniere**	**6.14**	**264**	*e*Pg		Pb	14 17 50.1	+7.7
	baz=83							
FLN				*e*Sn		Sn	14 18 30.4	-5.3
FLN				*e*Sg		**Sg**	14 19 08.9	-4.0
	comp=Z,7.1nm,0.4s,baz=85							
SMRF	**Simiane la Rot**	**6.23**	**202**	*e*Pn		**Pn**	14 17 26.8	-0.3
SMRF				*e*Sn		**Sn**	14 18 33.3	-4.6
	comp=Z,1.1nm,0.2s							
FRF	**La Foret Royal**	**6.42**	**194**	*e*P		**Pn**	14 17 33.0	+3.4
FRF				*e*Sn		**Sn**	14 18 38.0	-4.4
	comp=Z,2.0nm,0.4s							
GRR	**Gorron**	**6.48**	**261**	*e*Pn		**Pn**	14 17 30.5	0.0
GRR				*e*Sn		Sn	14 18 38.7	-5.3
	comp=Z,7.0nm,0.3s							
LASF	**Ste Croix**	**6.64**	**212**	*e*Pn		**Pn**	14 17 32.3	-0.4
LASF	**Ste Croix**	**6.64**	**212**	*e*Pg		Pg	14 18 00.0	-2.9
LASF				*e*Sn		**Sn**	14 18 44.1	-4.0
LASF				*e*Sg		**Sg**	14 19 25.0	-3.9
	comp=Z,7.4nm,0.5s							
LMR	**La Mourre**	**6.66**	**194**	*e*P		**Pn**	14 17 36.6	+3.7
RJF	**Les Rejaudoux**	**6.66**	**230**	*e*Pn		**Pn**	14 17 31.4	-1.6
RJF	**Les Rejaudoux**	**6.66**	**230**	*e*Pg		**Pg**	14 18 01.4	-1.8
RJF				*e*Sg		**Sg**	14 19 24.5	-4.9
	comp=Z,7.1nm,0.4s							
CAF	**Calviac**	**6.67**	**226**	*e*Pn		**Pn**	14 17 33.2	0.0
CAF	**Calviac**	**6.67**	**226**	*e*Pg		Pg	14 18 00.0	-3.5
CAF				*e*Sg		**Sg**	14 19 25.6	-4.3
	comp=Z,12nm,0.7s							
VYHS	**Vyhne**	**6.73**	**97**	*e*PN		**Pn**	14 17 36.3	+2.4
VYHS				*e*SG		**Sg**	14 19 22.9	-8.8
MFF	**Saint Martin d**	**6.77**	**245**	*e*Pn		**Pn**	14 17 33.1	-1.3
MFF				*e*Sn		**Sn**	14 18 46.3	-4.8
MFF				*e*Sg		**Sg**	14 19 28.4	-4.4
	comp=Z,4.3nm,0.4s							
MOSL	**Moslavina**	**6.82**	**125**	*e*Pn		**Pn**	14 17 36.8	+1.6
MOSL				Sn		**Sn**	14 18 47.5	-5.1
DUGI	**Dugi Otok**	**7.23**	**141**	*e*Pn		**Pn**	14 17 42.2	+1.4
DUGI				Sn		**Sn**	14 19 02.2	-0.4
LFF	**La Frestale**	**7.31**	**231**	*e*Pn		**Pn**	14 17 40.3	-1.5
LFF	**La Frestale**	**7.31**	**231**	*e*Pg		Pg	14 18 12.6	-3.0
LFF				*e*Sg		**Sg**	14 19 45.6	-4.5
	comp=Z,11nm,0.5s							
MORI	**Morici**	**7.61**	**139**	*e*Pn		**Pn**	14 17 49.6	+3.7
MORI				Sn		**Sn**	14 19 10.9	-0.8
SGMF	**Saint Gilles**	**7.61**	**263**	*e*Pn		**Pn**	14 17 45.6	-0.3
SGMF				*e*Sn		Sn	14 19 05.7	-6.1
	comp=Z,1.6nm,0.3s							
SGMF				*e*Sg			14 19 54.8	
	comp=Z,4.0nm,0.5s							
MTLF	**Montolieu**	**7.88**	**217**	*e*Pg			14 18 22.1	
MTLF				*e*Sg			14 20 03.8	
	comp=Z,3.1nm,0.5s							
ROSF	**Rostrenen**	**8.05**	**264**	*e*Pn		**Pn**	14 17 50.5	-1.4
ROSF				*e*Sn		Sn	14 19 16.1	-6.5
	comp=Z,2.5nm,0.3s							
QUIF	**Quistinic**	**8.10**	**261**	*e*Pn		**Pn**	14 17 51.9	-0.7
QUIF				*e*Sn		Sn	14 19 16.1	-7.7
	comp=Z,2.1nm,0.4s							

NEIC ***08*** *14:50:30.5±1.5,20.5N±0.1×144.9E±0.2, h178km±9km, mb4.2/9, Error ellipse: s-maj=28.0km s-min=17.8km az=91.0*

IDC ***08*** *14:50:33.0±7.9,20.48N×144.85E, h203km±76km, mb3.1/9, mb1 3.3/10, mb1mx3.1/37, mbtmp3.6/10, Error ellipse: s-maj=30.3km s-min=15.1km az=88.0*

ISC 08 14:50:25.1±0.8, 20.4N±0.1×144.9E±0.2, h129km, n19, σ1.9 07/19, mb3.5/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**17.09**	**341**	P		**Pn**	**14 54 16.9**	**+0.7**
	0.0nm,0.3s,baz=173,slow=10,SNR=4.6							
MAJO	**Matsushiro**	**17.09**	**341**			**Pn**	**14 54 17.8**	**+1.6**
MAJO				IAmb		IAmb	14 54 37.0	
	comp=Z,20nm,1.9s							
MJB9	**Matsu-Tunnel**	**17.09**	**341**			**Pn**	**14 54 17.7**	**+1.5**
MJB9				IAmb		IAmb	14 54 36.9	
	comp=Z,20nm,1.9s							
JNU	**Nakatsue**	**17.78**	**318**	P		**Pn**	**14 54 24.0**	**-0.6**
KSRS	**Korea Array**	**22.50**	**323**	P		**P**	**14 55 15.2**	**+1.3**
	comp=Z,9.9nm,0.6s,baz=149,slow=8.3,SNR=7.1							
WR0	**Warramunga Arr**	**41.42**	**195**	P		**P**	**14 58 00.3**	**+1.2**
WR0				IAmb		IAmb	14 59 00.9	
	comp=Z,13nm,1.2s							
WRAB	**Tennant Creek**	**41.44**	**195**	P		**P**	**14 58 00.8**	**+1.5**
WB2	**Warramunga Arr**	**41.45**	**195**	P		**P**	**14 58 00.2**	**+0.8**
WRA	**Warramunga Arr**	**41.46**	**195**	P		**P**	**14 57 59.9**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=9.5,slow=8.7,SNR=7.5							
FITZ	**Fitzroy Crossi**	**42.72**	**208**	P		**P**	**14 58 09.7**	**0.0**
ASAR	**Alice Springs**	**45.14**	**194**	P		**P**	**14 58 29.5**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=11,slow=7.3,SNR=6.8							
STKA	**Stephens Creek**	**52.12**	**184**	P		**P**	**14 59 21.5**	**-0.6**
STKA				IAmb		IAmb	15 01 20.8	
	comp=Z,8.9nm,1.9s							
ZALV	**Zalesovo Beam**	**56.20**	**322**	P		**P**	**14 59 50.6**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=119,slow=12,SNR=2.4							
MKAR	**Makanchi Array**	**56.75**	**313**	P		**P**	**14 59 55.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=70,slow=11,SNR=8.2							
GLI	**Glacier Island**	**61.65**	**31**	P		**P**	**15 00 29.2**	**+0.2**
ILAR	**Eielson Array**	**62.41**	**27**	P		**P**	**15 00 33.5**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=232,slow=4.4,SNR=4.5							
YKA	**Yellowknife Ar**	**76.79**	**28**	P		**P**	**15 02 02.3**	**0.0**
	comp=Z,0.5nm,0.6s,baz=284,slow=5.2,SNR=9.5							
NVAR	**Mina Array Bea**	**82.63**	**52**	P		**P**	**15 02 35.0**	**+0.3**
	comp=Z,0.8nm,1.0s,baz=273,slow=3.8,SNR=4.2							
FINES	**FINESS Array B**	**85.01**	**335**	P		**P**	**15 02 43.9**	**-2.0**
	comp=Z,0.9nm,0.5s,baz=59,slow=4.7,SNR=9.8							

IDC 08 14:39:46.0±11.0, 3.38S×138.28E, h0km, mb3.5/2, mb1 3.6/4, mb1mx3.4/22, mbtmp3.4/4, ML2.5/2, MS3.3/1, Ms1 3.3/1, ms1mx2.4/26, Error ellipse: s-maj=234.6km s-min=25.9km az=138.0, Irian Jaya

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

JAY	**Jayapura**	**2.57**	**70**	Pn		Pn	14 40 28.8	-0.3
	0.2nm,0.3s,baz=270,slow=20,SNR=0.7								
JAY				Sn		Sb	14 41 03.8	-1.6	
	0.5nm,0.3s,baz=279,slow=8.1,SNR=1.6							

PKGZ	Pakihiroa	1.81	71	P	Pg	14 52 05.5	-0.4
WIAZ	Waiheke Island	1.82	340	P	Pb	14 52 04.7	+0.1
NMEZ	Namu Road	1.83	240	P	Pb	14 52 04.6	-0.2
PRHZ	Porangahau	1.84	163	P	Pb	14 52 05.4	+0.4
EPAZ	Eden Park BICE	1.88	330	P	Pb	14 52 05.2	-0.4
POWZ	Post Office Ro	1.88	184	P	Pb	14 52 05.8	+0.1
PUZ	Puketiti	1.89	77	P	Pb	14 52 06.2	+0.4
WTAZ	Waiatarua	1.90	325	P	Pn	14 52 03.6	0.0
HBAZ	Herne Bay Bore	1.91	330	P	Pb	14 52 05.5	-0.5
MBAZ	Motutapu North	1.92	335	P	Pb	14 52 06.0	-0.2
RVAZ	Riverhead Bore	2.04	328	P	Pn	14 52 05.5	+0.1
PRWZ	Pori Road	2.04	179	P	Pg	14 52 09.6	-0.8
WMGZ	Waiomatatini S	2.08	71	P	Pb	14 52 09.8	+0.8
MRZ	Mangatainoka R	2.17	187	P	Pb	14 52 09.1	-1.4
BFZ	Birch Farm	2.19	173	P	Pb	14 52 09.4	-1.4
TIWZ	Tintock	2.27	181	P	Pb	14 52 11.1	-1.1
GRZ	Great Barrier	2.28	351	P	Pg	14 52 13.9	-1.1
OGWZ	Otaki Gorge	2.38	194	P	Pb	14 52 12.6	-1.5
HOWZ	Holdsworth Sta	2.41	187	P	Pn	14 52 12.4	+1.8
CPWZ	Castlepoint	2.41	175	P	Pg	14 52 19.1	+1.7
KIW	Kapiti Island	2.48	198	P	Pb	14 52 15.9	+0.1
CAW	Cannon Point	2.68	194	P	Pb	14 52 19.1	-0.1
DUWZ	D'Urville Isla	2.76	213	P	Pb	14 52 20.9	+0.3
WCZ	Waipu Caves	2.86	333	P	Pn	14 52 16.7	-0.1
TCW	Tory Channel	2.98	205	P	Pb	14 52 24.9	+0.5
BHW	Baring Head	3.01	195	P	Pb	14 52 24.8	+0.1
TUWZ	Tuamarina	3.29	207	P	Pb	14 52 30.0	+0.4
NNZ	Nelson	3.34	215	P	Pb	14 52 31.6	+1.1
QRZ	Quartz Range	3.49	227	P	Pn	14 52 27.2	+1.6
THZ	Tophouse	3.99	214	P	Pn	14 52 36.8	+4.4
KHZ	Kahutara	4.30	204	P	Pn	14 52 39.2	+2.6
EAZ	Earnscleugh	8.33	214	P	Pn	14 53 33.6	+1.7

IDC 08 14:54:06.1±1.9, 6°37S×130°26E, h0km, mb3.4/1, mb1 3.5/4, mb1mx3.3/24, mbtmp3.4/4, ML2.9/3, Error ellipse: s-maj=80.0km s-min=29.1km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.55**	**10**	Pn	Pn	14 55 32.0	+1.8
	2.0nm,0.3s,baz=120,slow=21,SNR=6.9						
SIJI				Sn	Sn	14 56 30.1	-4.7
	1.5nm,0.3s,baz=226,slow=22,SNR=6.5						
WRA	**Warramunga Arr**	**14.06**	**164**	Pn	Pn	14 57 27.9	+1.1
	0.0nm,0.3s,baz=347,slow=11,SNR=1.6						
ASAR	**Alice Springs**	**17.55**	**169**	P	Pn	14 58 12.3	-0.2
	0.0nm,0.3s,baz=346,slow=10,SNR=5.1						
MKAR	**Makanchi Array**	**67.84**	**327**	P	P	15 05 05.5	-0.7
	0.2nm,0.6s,baz=125,slow=7.6,SNR=2.0						

*IDC **08** 15:10:04.7±1.7, 24°.92N×97°.35E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.1/56, mbtmp3.5/3, ML3.9/1, Error ellipse: s-maj=69.3km s-min=19.2km az=74.0*

*BJI **08** 15:10:05.2±0.0, 25°.03N×97°.83E, h12km, ML3.7/7*

ISC 08 15:10:07.5±1.3, 25°.2N±0°.1×97°.66E±0°.09, h10km, n5, σ0§58/7, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**4.60**	**90**	Pn	**Pn**	**15 11 17.8**	**+0.5**
KMI				Pg	**Pb**	**15 11 28.2**	**-0.2**
KMI				Sg	**Sb**	**15 12 23.9**	**-0.1**
KMI				smax	smax		
	comp=N,170nm,0.8s						
KMI				smax	smax		
	comp=E,89nm,1.0s						
CMAR	**Chiang Mai Arr**	**6.86**	**170**	Pn	Pn	15 11 43.0	-5.1
	0.7nm,0.3s,baz=345,slow=13,SNR=5.0						
CMAR				Pg	**Pb**	**15 12 06.5**	**-0.2**
	0.7nm,0.3s,baz=348,slow=17,SNR=8.9						
CMAR				Lg	Lg	15 13 33.2	
	1.7nm,0.3s,baz=339,slow=30,SNR=10.0						
WMQ	**Urumqi**	**20.24**	**339**	*eP*	**P**	**15 14 42.8**	**-0.1**
WMQ				pmax	pmax		
	comp=Z,24nm,1.1s						
MKAR	**Makanchi Array**	**24.76**	**334**	P	**P**	**15 15 30.2**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=143,slow=9.6,SNR=7.9						
ZALV	**Zalesovo Beam**	**30.23**	**345**	P	**P**	**15 16 17.9**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=161,slow=7.8,SNR=2.6						

*BJI **08** 15:10:45.9±0.0, 38°.22N×21°.52E, h8km, mB4.9/20, mb4.7/26, Ms4.8/7, Ms7 4.6/3*

*TIR **08** 15:10:47.9, 38°.16N×22°.15E, h15km, Md4.5/8*

*BEO **08** 15:10:50.6±0.9, 38°.19N×22°.21E, h0km, ML3.8/4*

*IDC **08** 15:10:50.3±0.5, 38°.35N×22°.13E, h0km, mb4.2/30, mb1 4.2/42, mb1mx4.2/56, mbtmp4.1/42, ML3.6/12, MS3.5/32, Ms1 3.5/32, ms1mx3.3/53, Error ellipse: s-maj=10.5km s-min=9.9km az=165.0*

*ATH **08** 15:10:50.9, 38°.33N×22°.05E, h15km, ML4.1/46, Error ellipse: s-maj=0.9km s-min=0.6km az=236.0*

*MED_RC **08** 15:10:51.0±0.6, 38°.29N×22°.02E, h10km, MW4.4/23, Moment Tensor Solution.Mantle waves: s23,c28; Duration: 1§0 Moment tensor: Scale 10^15Nm; Mrr=5.19±.20; Mθθ=4.88±.18; Mφφ=0.31±.19; Mrθ=0.35±.85; Mθφ=-1.38±.19; Mφr=-0.39±1.03; Best double couple: M=5.25000×10^15 NP1:φ=102.00000°, δ=43.00000°, λ=-95.00000°. NP2:φ=289.00000°, δ=47.00000°, λ=-86.00000°. Principal axes: T 5.2800, Plg2.0000°, Azm16.0000°; N -0.0600, Plg3.0000°, Azm106.0000°; P -5.2200, Plg86.0000°, Azm248.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*THE **08** 15:10:51.3, 38°.32N×22°.07E, h13km, ML4.3/18 Error ellipse: s-maj=0.5km s-min=0.3km az=228.0*

*PDG **08** 15:10:51.4±0.5, 38°.33N×22°.07E, h9km, ML4.3/13, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*

*NEIC **08** 15:10:52.6, 38°.36N×22°.15E, h6km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=3.31; Mθθ=3.03; Mφφ=0.28; Mrθ=1.18; Mθφ=-1.03; Mφr=-0.03; Fault plane solution: M=3.54000×10^15 NP1:φ=113.98000°, δ=35.92000°, λ=-80.91000°. NP2:φ=282.80000°, δ=54.60000°, λ=-96.53000°. Principal axes: T 3.5560, Plg9.0000°, Azm17.0000°; N -0.0290, Plg5.0000°, Azm287.0000°; P -3.5270, Plg79.0000°, Azm167.0000°;*

*UNK **08** 15:10:52.6, 38°.36N×22°.15E, h10km*

*NEIC **08** 15:10:52.6±1.1, 38°.36N±0°.02×22°.15E±0°.07, h10km±1km, mb4.8/178, Mwr4.3/19, ML4.3(THE), Error ellipse: s-maj=8.8km s-min=3.7km az=99.0*

*MOS **08** 15:10:53.1±1.0, 38°.38N×22°.12E, h26km, mb4.7/32, Error ellipse: s-maj=6.4km s-min=3.9km az=89.8*

ISC 08 15:10:51.9±0.6, 38°.32N±0°.01×22°.07E±0°.01, h10km±3km, n862, σ1§31/941, mb4.8/140, MS3.6/26, 22C-20D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.04**	**5**	P	**Pg**	**15 10 53.2**	**-0.8**
TRIZ				S	**Sg**	**15 10 55.5**	**+0.1**
	811µm,0.4s						
TRIZ	**Trizonia**	**0.04**	**5**	P	**Pg**	**15 10 53.2**	**-0.8**
TRIZ				S	**Sg**	**15 10 54.7**	**-0.7**
ALIK	**Aliki, Aigiali**	**0.07**	**150**	P	**Pg**	**15 10 54.1**	**-0.1**
ALIK				S	**Sg**	**15 10 55.9**	**+0.1**
KALE	**Kalithea**	**0.09**	**39**	P	**Pg**	**15 10 54.1**	**-0.4**
KALE				S	**Sg**	**15 10 56.4**	**0.0**
	518µm,0.3s						
KALE	**Kalithea**	**0.09**	**39**	P	**Pg**	**15 10 54.1**	**-0.4**
KALE				S	**Sg**	**15 10 56.4**	**0.0**
KALE				AML	AML	15 10 56.9	
KALE				AML	AML	15 10 57.2	
LAKA	**Lakka**	**0.11**	**221**	P	**Pg**	**15 10 54.2**	**-0.5**
LAKA				S	**Sg**	**15 10 56.4**	**-0.3**
	150µm,0.6s						
LAKA	**Lakka**	**0.11**	**221**	P	**Pg**	**15 10 54.0**	**-0.7**
LAKA				S	**Sg**	**15 10 55.7**	**-1.0**
LAKA				AML	AML	15 10 56.5	
LAKA				AML	AML	15 10 58.8	
KLV	**Kalavryta, Ach**	**0.28**	**167**	P	**Pg**	**15 10 57.3**	**-0.4**
KLV				S	**Sg**	**15 11 01.3**	**-0.3**
	17µm,0.8s						
KLV	**Kalavryta, Ach**	**0.28**	**167**	P	**Pg**	**15 10 57.3**	**-0.4**
KLV				S	**Sg**	**15 11 02.2**	**+0.6**
KLV				AML	AML	15 11 08.0	
	comp=N,32866µm,1.0s						
KLV				AML	AML	15 11 08.2	
	comp=E,35895µm,0.7s						
DLFA	**Delphi**	**0.37**	**65**	P	**Pg**	**15 10 58.8**	**-0.5**
DLFA				S	**Sg**	**15 11 04.8**	**+0.5**
DLFA				AML	AML	15 11 08.1	
	comp=E,85356µm,0.8s						
DLFA				AML	AML	15 11 08.5	
	comp=N,62126µm,0.4s						
GUR	**Goura**	**0.44**	**150**	P	**Pg**	**15 11 00.0**	**-0.6**
GUR				S	**Sg**	**15 11 06.6**	**+0.2**
	comp=N,37µm,0.5s						
GUR	**Goura**	**0.44**	**150**	P	**Pg**	**15 10 59.9**	**-0.7**
GUR				S	**Sg**	**15 11 06.2**	**-0.3**
GUR				AML	AML	15 11 14.1	
	comp=N,80031µm,0.4s						
GUR				AML	AML	15 11 14.6	
	comp=E,60422µm,0.7s						
DRO	**Drossia**	**0.46**	**218**	P	**Pg**	**15 11 00.4**	**-0.6**
DRO				S	**Sg**	**15 11 07.6**	**+0.5**
	comp=E,37µm,0.5s						
DRO	**Drossia**	**0.46**	**218**	P	**Pg**	**15 11 00.3**	**-0.6**
DRO				S	**Sg**	**15 11 06.6**	**-0.5**
DRO				AML	AML	15 11 12.0	
	comp=E,54071µm,0.4s						
DRO				AML	AML	15 11 21.0	
PVO	**Paravola**	**0.52**	**305**	P	**Pg**	**15 11 01.2**	**-0.8**
PVO				S	**Sg**	**15 11 09.1**	**+0.2**
	comp=E,29µm,0.3s						
PVO	**Paravola**	**0.52**	**305**	P	**Pg**	**15 11 01.2**	**-0.8**
PVO				AML	AML	15 11 13.7	
	comp=E,60915µm,0.4s						
PVO				AML	AML	15 11 13.8	
	comp=N,52489µm,0.4s						
RLS	**Riolos of Patr**	**0.54**	**241**	P	**Pg**	**15 11 01.7**	**-0.8**
RLS				S	**Sg**	**15 11 09.5**	**-0.1**
	comp=N,27µm,0.3s						
RLS	**Riolos of Patr**	**0.54**	**241**	P	**Pg**	**15 11 01.6**	**-0.9**
RLS				S	**Sg**	**15 11 09.3**	**-0.3**
RLS				AML	AML	15 11 12.2	
	comp=N,63458µm,0.3s						
RLS				AML	AML	15 11 12.3	
	comp=E,47663µm,0.3s						
EVR	**Evrytania**	**0.63**	**341**	P	**Pg**	**15 11 03.2**	**-1.0**
EVR				S	**Sg**	**15 11 12.7**	**+0.3**
	comp=E,21µm,0.6s						
EVR	**Evrytania**	**0.63**	**341**	P	**Pg**	**15 11 03.1**	**-1.0**
EVR				S	**Sg**	**15 11 11.3**	**-1.1**
EVR				AML	AML	15 11 17.2	
	comp=E,42858µm,0.7s						
EVR				AML	AML	15 11 18.6	
	comp=N,41735µm,0.5s						
AXAR	**Agios Charalam**	**0.64**	**46**	P	**Pg**	**15 11 03.5**	**-0.9**
AXAR				S	**Sg**	**15 11 13.1**	**+0.3**
	comp=N,70µm,0.5s						
AXAR	**Agios Charalam**	**0.64**	**46**	P	**Pg**	**15 11 03.5**	**-0.9**
AXAR				AML	AML	15 11 20.3	
AXAR				AML	AML	15 11 23.3	
MAKR	**Makrakomi, Fth**	**0.69**	**4**	P	**Pg**	**15 11 04.3**	**-1.0**
MAKR				S	**Sg**	**15 11 14.5**	**+0.1**
	comp=N,30µm,0.6s						
MAKR	**Makrakomi, Fth**	**0.69**	**4**	P	**Pg**	**15 11 04.4**	**-1.0**
MAKR				AML	AML	15 11 17.1	
	comp=E,59600µm,0.3s						
MAKR				AML	AML	15 11 22.4	
	comp=N,60800µm,0.8s						
AGG	**Agios Georgios**	**0.73**	**16**	P	**Pg**	**15 11 04.6**	**-1.5**
AGG				S	**Sg**	**15 11 15.7**	**+0.1**
	comp=N,18µm,0.6s						
AGG	**Agios Georgios**	**0.73**	**16**	P	**Pg**	**15 11 04.7**	**-1.5**
AGG				AML	AML	15 11 18.1	
	comp=E,34162µm,0.5s						
AGG				AML	AML	15 11 21.7	
	comp=N,34489µm,0.9s						
AGG	**Agios Georgios**	**0.73**	**16**	P	**Pg**	**15 11 04.5**	**-1.5**
AGG	**Agios Georgios**	**0.73**	**16**	P	**Pg**	**15 11 04.7**	**-1.3**
AGG						15 11 13.6	
AGG	**Agios Georgios**	**0.73**	**16**	Pg	**Pg**	**15 11 04.7**	**-1.3**
AGG				Sg	**Sg**	**15 11 13.6**	**-2.0**
LOUT	**Loutraki**	**0.79**	**115**	P	**Pg**	**15 11 05.9**	**-1.2**
LOUT				S	**Sb**	**15 11 18.1**	**-0.3**
	comp=N,9µm,0.6s						
LOUT	**Loutraki**	**0.79**	**115**	P	**Pg**	**15 11 06.8**	**-0.3**
LOUT				AML	AML	15 11 27.0	
	comp=N,2577µm,0.4s						
LOUT				AML	AML	15 11 27.8	
	comp=E,4480µm,0.8s						
AST1	**Astakos**	**0.80**	**286**	P	**Pg**	**15 11 06.6**	**-0.7**
AST1				S	**Sb**	**15 11 19.2**	**+0.5**
	comp=E,30µm,0.4s						
LKR	**Lokris**	**0.80**	**65**	P	**Pg**	**15 11 06.1**	**-1.3**
LKR				S	**Sb**	**15 11 18.3**	**-0.5**
	comp=E,17µm,0.6s						
LKR	**Lokris**	**0.80**	**65**	P	**Pg**	**15 11 06.0**	**-1.4**
LKR				S	**Sg**	**15 11 17.4**	**-0.4**
LKR				AML	AML	15 11 23.9	
	comp=N,35656µm,0.6s						
LKR				AML	AML	15 11 24.3	
	comp=E,31251µm,0.6s						
VTN	**Vitineika**	**0.80**	**240**	P	**Pg**	**15 11 06.8**	**-0.7**
TRIP	**Tripoli**	**0.81**	**168**	P	**Pg**	**15 11 06.4**	**-1.1**
TRIP				S	**Sg**	**15 11 18.0**	**-0.1**
	comp=E,20µm,0.7s						
TRIP	**Tripoli**	**0.81**	**168**	P	**Pg**	**15 11 06.6**	**-1.0**
TRIP				AML	AML	15 11 24.6	
	comp=E,39417µm,0.6s						
TRIP				AML	AML	15 11 24.9	
	comp=N,42878µm,0.6s						
AMT	**Artemida-Makis**	**0.84**	**200**	P	**Pg**	**15 11 07.0**	**-1.1**
AMT				S	**Sg**	**15 11 19.5**	**+0.5**
	comp=N,35µm,0.6s						
AMT	**Artemida-Makis**	**0.84**	**200**	P	**Pg**	**15 11 06.7**	**-1.3**
AMT				AML	AML	15 11 32.7	
	comp=N,81027µm,0.7s						
AMT				AML	AML	15 11 32.8	
	comp=E,54231µm,0.6s						
VIL2	**Platees**	**0.95**	**96**	P	**Pn**	**15 11 10.6**	**-0.7**
VIL2				AML	AML	15 11 33.4	
	comp=N,24807µm,0.9s						
VIL2				AML	AML	15 11 34.8	
	comp=E,58327µm,0.9s						
VLX	**Vlachokerasia**	**0.98**	**165**	P	**Pg**	**15 11 08.9**	**-1.9**
VLX	**Vlachokerasia**	**0.98**	**165**	P	**Pg**	**15 11 09.5**	**-1.3**
VLX				AML	AML	15 11 29.2	
	comp=E,71662µm,0.7s						
VLX				AML	AML	15 11 29.4	
	comp=N,72864µm,0.9s						
VILL	**Villia**	**0.99**	**99**	P	**Pg**	**15 11 10.0**	**-1.0**
VILL				S	**Sb**	**15 11 23.8**	**-0.5**
	comp=N,23µm,0.8s						
KFL	**Anninata**	**1.03**	**259**	P	**Pg**	**15 11 10.5**	**-1.2**
KFL	**Anninata**	**1.03**	**259**	P	**Pg**	**15 11 10.6**	**-1.2**
MGNA	**Meganis**	**1.06**	**289**	P	**Pb**	**15 11 10.8**	**-1.4**
MGNA				AML	AML	15 11 38.3	
	comp=E,10585µm,0.6s						
MGNA				AML	AML	15 11 39.3	
	comp=N,15237µm,0.6s						
ITM	**Ithomi**	**1.15**	**186**	P	**Pb**	**15 11 12.3**	**-1.5**
ITM	**Ithomi**	**1.15**	**186**	P	**Pb**	**15 11 12.6**	**-1.2**
ITM				AML	AML	15 11 38.0	
	comp=N,17530µm,1.1s						
ITM				AML	AML	15 11 40.9	
	comp=E,18271µm,0.7s						
ITM	**Ithomi**	**1.15**	**186**		**Pb**	**15 11 12.4**	**-1.3**
ITM				Sg	**Sn**	**15 11 29.4**	**-0.3**
EVGI	**Lefkada island**	**1.15**	**286**	P	**Pb**	**15 11 12.3**	**-1.5**
EVGI	**Lefkada island**	**1.15**	**286**	P	**Pb**	**15 11 12.0**	**-1.8**
VLS	**Valsamata**	**1.17**	**263**	P	**Pb**	**15 11 12.4**	**-1.8**
VLS	**Valsamata**	**1.17**	**263**	P	**Pb**	**15 11 12.4**	**-1.8**
VLS				AML	AML	15 11 34.5	
	comp=N,19196µm,0.7s						
VLS				AML	AML	15 11 35.3	
	comp=E,12364µm,0.4s						
VLMS	**Volimes, Zakyn**	**1.19**	**249**	P	**Pn**	**15 11 13.1**	**-1.6**
VLMS				AML	AML	15 11 36.2	
	comp=N,45720µm,0.4s						
VLMS				AML	AML	15 11 36.2	
	comp=E,33250µm,0.6s						
LKD2	**Lefkada island**	**1.20**	**293**	P	**Pn**	**15 11 13.4**	**-1.4**
LKD2				AML	AML	15 11 38.9	
	comp=E,17885µm,0.6s						
LKD2				AML	AML	15 11 40.0	
	comp=N,26702µm,0.6s						
DID	**Didima**	**1.23**	**131**	P	**Pn**	**15 11 14.4**	**-0.8**
DID				AML	AML	15 11 36.6	
	comp=N,16439µm,0.7s						
DID				AML	AML	15 11 37.8	
	comp=E,15664µm,0.6s						
THL	**Klokotos Trika**	**1.24**	**358**	P	**Pn**	**15 11 14.1**	**-1.2**
THL	**Klokotos Trika**	**1.24**	**358**	P	**Pn**	**15 11 13.8**	**-1.5**
THL				AML	AML	15 11 36.1	
	comp=E,13734µm,0.7s						
THL				AML	AML	15 11 37.1	
	comp=N,9307µm,0.8s						
MRKA	**Markates**	**1.25**	**72**	P	**Pn**	**15 11 14.5**	**-1.0**
MRKA				AML	AML	15 11 40.5	
	comp=N,13850µm,1.0s						
MRKA				AML	AML	15 11 41.2	
	comp=E,9186µm,1.2s						
ARGA	**Argostoli. Kep**	**1.26**	**264**	P	**Pn**	**15 11 14.1**	**-1.4**
KRND	**KRANIDI**	**1.27**	**137**	P	**Pn**	**15 11 15.5**	**-0.1**
KRND				AML	AML	15 11 44.9	
	comp=E,16721µm,1.0s						
KRND				AML	AML	15 11 48.4	
	comp=N,14339µm,0.7s						
NEO	**Neokhori**	**1.34**	**42**	P	**Pn**	**15 11 16.3**	**-0.3**
NEO				AML	AML	15 11 46.2	
	comp=N,9728µm,0.5s						
NEO				AML	AML	15 11 46.4	
	comp=E,9148µm,0.6s						
ATH	**Athens Observa**	**1.35**	**104**	P	**Pg**	**15 11 17.4**	**-0.4**
KEF3	**Kipouria, Keph**	**1.36**	**266**	P	**Pn**	**15 11 15.6**	**-1.3**
XOR	**Xorichti**	**1.36**	**40**	P	**Pn**	**15 11 16.5**	**-0.5**
XOR				AML	AML	15 11 41.2	
	comp=E,6618µm,0.5s						
XOR				AML	AML	15 11 46.0	
	comp=N,11484µm,1.0s						
LRSO	**Larissa Observ**	**1.37**	**11**	P	**Pn**	**15 11 17.0**	**0.0**
SKIA	**Skiathos**	**1.38**	**52**	P	**Pn**	**15 11 17.1**	**-0.1**
SKIA				AML	AML	15 11 42.7	
	comp=N,15236µm,0.8s						
SKIA				AML	AML	15 11 42.7	
	comp=E,8042µm,0.7s						
ATHU	**Athens Univers**	**1.40**	**104**	P	**Pb**	**15 11 17.8**	**-0.3**
ATHU				AML	AML	15 11 41.9	
	comp=N,4210µm,0.6s						
ATHU				AML	AML	15 11 48.9	
	comp=E,2260µm,1.4s						
VLY	**Voula,Athens**	**1.44**	**108**	P	**Pb**	**15 11 18.5**	**-0.4**
VLY				AML	AML	15 11 44.1	
	comp=E,8230µm,0.6s						
VLY				AML	AML	15 11 47.9	
	comp=N,6661µm,0.8s						
PTL	**Penteli**	**1.44**	**100**	P	**Pb**	**15 11 18.5**	**-0.4**
PTL				S	**Sg**	**15 11 38.3**	**0.0**
PTL				AML	AML	15 11 43.0	
	comp=E,6904µm,0.5s						
PTL				AML	AML	15 11 50.5	
	comp=N,7304µm,1.4s						
PYL	**PYLOS**	**1.45**	**190**	P	**Pn**	**15 11 17.6**	**-0.5**
PYL				AML	AML	15 11 47.0	
	comp=E,18297µm,0.8s						
PYL				AML	AML	15 11 51.8	
	comp=N,8480µm,0.9s						
DION	**Dionisos Attik**	**1.49**	**99**	P	**Pb**	**15 11 19.4**	**-0.2**
KYMI	**Kymi, Euboea I**	**1.62**	**78**	P	**Pn**	**15 11 20.7**	**+0.1**
KYMI				AML	AML	15 11 50.1	
	comp=E,4513µm,0.8s						
KYMI				AML	AML	15 11 51.3	
	comp=N,4088µm,1.1s						
ALNA	**Alonissos**	**1.63**	**59**	P	**Pn**	**15 11 20.8**	**+0.2**
ALNA				AML	AML	15 11 54.6	
	comp=N,11176µm,0.9s						
ALNA				AML	AML	15 11 57.1	
	comp=E,12495µm,0.9s						
JAN	**Janina**	**1.64**	**325**	P	**Pb**	**15 11 22.2**	**0.0**
JAN				AML	AML	15 11 53.4	
	comp=N,11123µm,1.4s						
JAN				AML	AML	15 11 55.3	
	comp=E,13115µm,0.7s						
AOS	**Alonnisos**	**1.65**	**59**	P	**Pn**	**15 11 20.7**	**-0.3**
AOS				AML	AML	15 11 52.5	
	comp=E,4282µm,0.6s						
AOS				AML	AML	15 11 54.4	
	comp=N,5139µm,0.8s						
AOS	**Alonnisos**	**1.65**	**59**	P	**Pn**	**15 11 20.3**	**-0.6**
VLI	**Veliai**	**1.74**	**156**	P	**Pn**	**15 11 22.8**	**+0.6**
VLI				AML	AML	15 11 55.1	
	comp=N,16866µm,1.0s						
VLI				AML	AML	15 12 02.5	
	comp=E,21524µm,1.0s						
LIT	**Litokhoron**	**1.81**	**10**	P	**Pn**	**15 11 23.1**	**0.0**
LIT				AML	AML	15 11 57.6	
	comp=E,10305µm,0.7s						
LIT				AML	AML	15 11 57.6	
	comp=N,7967µm,0.7s						
LIT	**Litokhoron**	**1.81**	**10**	P	**Pn**	**15 11 22.9**	**-0.2**
LIT	**Litokhoron**	**1.81**	**10**	Pn	**Pn**	**15 11 22.9**	**-0.2**
IGT	**Igoumenitsa**	**1.81**	**312**	*e*Pg	**Pb**	**15 11 25.3**	**+0.1**
IGT				*e*Sg	**Sg**	**15 11 53.5**	**+3.2**
IGT	**Igoumenitsa**	**1.81**	**312**	*i* PN	**Pb**	**15 11 25.1**	**-0.1**
IGT				*i* SN	**Sg**	**15 11 53.9**	**+3.6**
IGT	**Igoumenitsa**	**1.81**	**312**	P	**Pb**	**15 11 24.7**	**-0.5**
IGT				AML	AML	15 12 07.0	
	comp=E,5194µm,1.1s						
IGT				AML	AML	15 12 13.2	
	comp=N,4526µm,0.8s						
KARY	**Karystos**	**1.89**	**98**	P	**Pn**	**15 11 24.7**	**+0.5**
KARY				AML	AML	15 12 02.5	
	comp=E,3549µm,0.7s						
KARY				AML	AML	15 12 09.0	
	comp=N,2918µm,1.4s						
KZN	**Kozani**	**2.00**	**353**	P	**Pn**	**15 11 26.5**	**+0.7**
KZN				AML	AML	15 12 00.4	
	comp=E,5146µm,0.8s						
KZN				AML	AML	15 12 08.2	
	comp=N,3301µm,0.7s						
PAIG	**Paliouri**	**2.04**	**38**	P	**Pn**	**15 11 25.7**	**-0.5**
KTHA	**Kythira Island**	**2.21**	**159**	P	**Pn**	**15 11 29.8**	**+1.2**
KTHA				AML	AML	15 12 13.6	
	comp=N,4383µm,1.1s						
KTHA				AML	AML	15 12 15.1	
	comp=E,11114µm,1.0s						
KTHA	**Kythira Island**	**2.21**	**159**	*eP*	**Pn**	**15 11 29.4**	**+0.8**
SRN	**Sarande**	**2.24**	**315**	*i* PN	**Pb**	**15 11 31.4**	**-1.0**
SRN				*i* SN	**Sg**	**15 12 03.1**	**-0.8**
SERI	**Serifos**	**2.24**	**120**	P	**Pn**	**15 11 29.6**	**+0.5**
SERI				AML	AML	15 12 08.8	
	comp=N,2389µm,0.8s						
SERI				AML	AML	15 12 08.9	
	comp=E,1259µm,0.9s						
KEK	**Kerkira**	**2.25**	**309**	P	**Pn**	**15 11 30.7**	**+1.6**
PLG	**Polygyros**	**2.31**	**27**	P	**Pn**	**15 11 29.4**	**-0.6**
PLG				AML	AML	15 12 13.8	
	comp=E,1498µm,1.5s						
PLG				AML	AML	15 12 19.7	
	comp=N,1388µm,1.1s						
HORT	**Hortiatis**	**2.41**	**19**	P	**Pn**	**15 11 30.8**	**-0.6**
HORT	**Hortiatis**	**2.41**	**19**	*eP*	**Pn**	**15 11 31.1**	**-0.3**
OUR	**Ouranopolis**	**2.50**	**36**	P	**Pn**	**15 11 32.7**	**+0.1**
OUR	**Ouranopolis**	**2.50**	**36**	*eP*	**Pn**	**15 11 32.5**	**-0.1**

PHP **Peshkopia** 3.58 340 *i* PN Pn 15 11 50.6 +3.1
PHP *i* SN Sb 15 12 39.6 +0.7
EZN **Ezine** 3.64 64 *e*P Pn 15 11 49.7 +1.5
SKO **Skopje** 3.68 353 *e*Pn Pn 15 11 51.5 +2.7
SKO *e*Sn Sn 15 12 35.9 +3.7
SKO **Skopje** 3.68 353 *i* Pn Pn 15 11 51.4 +2.6
IDI **Anoyia** 3.78 142 Pn Pn 15 11 49.4 -0.8
comp=N,3.1nm,0.3s,baz=315,slow=18,SNR=38
IDI Sn Sn 15 12 30.7 -4.1
comp=N,8.0nm,0.3s,baz=323,slow=20,SNR=2.3
IDI **Anoyia** 3.78 142 ⇓P Pn 15 11 51.2 +1.0
IDI **Anoyia** 3.78 142 Pn Pn 15 11 50.8 +0.5
DKL **Dikili** 3.86 77 *e*P Pn 15 11 52.4 +1.2
RDO **Rodhopi** 3.89 42 *e*P Pn 15 11 52.8 +1.1
GELI **Tayfur-Gelibol** 4.00 57 *e*P Pn 15 11 53.7 +0.6
ALN **Alexandroupoli** 4.01 49 *e*P Pn 15 11 54.6 +1.3
ALN **Alexandroupoli** 4.01 49 P Pn 15 11 53.2 -0.1
ALN **Alexandroupoli** 4.01 49 Pn 15 11 53.2 -0.1
PUK **Puka** 4.07 337 *i* PN Pn 15 11 57.0 +2.7
BOSS **Bosilegrad** 4.18 4 *e*Pn Pn 15 11 56.9 +1.2
KDZ **Kurdzhali** 4.20 37 *e*P Pn 15 11 55.9 -0.1
ULC **Ulcinj** 4.23 330⇑ *i*Pn Pn 15 11 57.6 +1.2
ULC *i* Sn Sn 15 12 47.2 +1.3
TIP **Timpagrande** 4.24 283 ⇑P Pn 15 11 57.6 +1.1
TIP **Timpagrande** 4.24 283 Pn Pn 15 11 57.3 +0.7
PLD **Plovdiv** 4.28 27 *e*P Pn 15 11 57.7 +0.6
BCI **Bajram Curri** 4.32 340 *i* PN Pn 15 12 01.3 +3.7
VTS **Vitosha** 4.38 11 *e*Pn Pn 15 11 59.1 +0.5
VTS *e*Sn Sn 15 12 50.7 +0.9
VTS **Vitosha** 4.38 11 ⇑P Pn 15 11 59.2 +0.6
VTS **Vitosha** 4.38 11 P Pn 15 11 58.6 0.0
VTS **Vitosha** 4.38 11 Pn Pn 15 11 58.6 0.0
DRME **Dracevica, Mon** 4.45 331⇑ *i*Pn Pn 15 12 00.9 +1.5
DRME *i* Sn Sn 15 12 52.9 +1.8
DRME **Dracevica, Mon** 4.45 331 *e*Pn Pn 15 12 01.2 +1.8
BARS **Barje** 4.50 358 *e*Pn Pn 15 12 00.7 +0.7
PVY **Plav** 4.56 340⇓ *i*Pn Pn 15 12 02.1 +1.0
PVY *i* Sn Sn 15 12 55.8 +1.7
PDG **Podgorica** 4.63 333 *e*Pn Pn 15 12 03.9 +2.0
PDG **Podgorica** 4.63 333 ⇓P Pn 15 12 03.8 +1.9
PDG **Podgorica** 4.63 333 Pn Pn 15 12 02.7 +0.9
PDG **Podgorica** 4.63 333 *e*Pn Pn 15 12 03.8 +1.9
TTG **Podgorica** 4.63 333⇓ *i*Pn Pn 15 12 02.8 +0.9
TTG *i* Sn Sn 15 12 57.2 +1.5
BUM **Brajici-Budva** 4.66 330⇓ *i*Pn Pn 15 12 03.2 +0.9
BUM *i* Sn Sn 15 12 57.4 +1.0
MATE **Matera** 4.76 301 ⇓P Pn 15 12 04.9 +1.4
IVA **Berane** 4.84 341⇓ *i*Pn Pn 15 12 06.5 +1.7
IVA *i* Sn Sn 15 13 02.5 +1.6
CEME **Cevo** 4.86 331⇑ *i*Pn Pn 15 12 05.8 +0.8
CEME *i* Sn Sn 15 13 02.7 +1.4
CEL **Celeste** 4.86 271 Pn Pn 15 12 06.1 +1.0
KOME **Kolasin** 4.92 338⇑ *i*Pn Pn 15 12 07.8 +1.8
KOME *i* Sn Sn 15 13 04.8 +1.8
HCY **Herceg Novi** 4.94 328⇓ *i*Pn Pn 15 12 07.1 +0.9
HCY *i* Sn Sn 15 13 04.7 +1.3
HCY **Herceg Novi** 4.94 328 *e*Pn Pn 15 12 05.4 -0.8
ZAPS **Zavoj** 4.97 5 *e*Pn Pn 15 12 07.7 +1.2
NKME **Niksic** 5.04 333⇑ *i*Pn Pn 15 12 08.5 +1.0
NKME *i* Sn Sn 15 13 07.1 +1.4
NKY **Niksic** 5.06 333⇑ *i*Pn Pn 15 12 08.5 +0.6
NKY *i* Sn Sn 15 13 07.6 +1.2
MANT **Manisa** 5.10 86 Pn Pn 15 12 08.5 0.0
SJES **Sjenica** 5.18 343 *e*Pn Pn 15 12 11.4 +1.8
TREB **Trebinje** 5.22 328 *e*Pn Pn 15 12 10.7 +0.7
TREB **Trebinje** 5.22 328 *e*Pn Pn 15 12 10.2 +0.2
DBRK **Dubrovnik** 5.27 327 *e*Pn Pn 15 12 11.5 +0.8
DBRK Sn Sn 15 13 09.2 -2.2
BRY **Bratogost** 5.30 331⇓ *i*Pn Pn 15 12 12.0 +0.7
BRY *i* Sn Sn 15 13 13.1 +0.6
BRY **Bratogost** 5.30 331 *e*Pn Pn 15 12 12.6 +1.3
PLE **Pljevlja** 5.40 339⇓ *i*Pn Pn 15 12 13.8 +1.2
PLE *i* Sn Sn 15 13 15.2 +0.4
PLVB **Pleven** 5.42 20 ⇑P Pn 15 12 14.6 +1.9
IVAS **Ivanjica** 5.45 345 *e*Pn Pn 15 12 14.7 +1.6
ZAGS **Zajecar** 5.49 1 *e*Pn Pn 15 12 14.5 +0.9
STON **Ston** 5.63 325 *e*Pn Pn 15 12 15.6 0.0
STON Sn Sn 15 13 17.8 -2.5
STON **Ston** 5.63 325 *e*Pn Pn 15 12 15.5 -0.1
GRUS **Gruza** 5.66 350 *e*Pn Pn 15 12 18.1 +2.2
RUDO **Rudo** 5.67 340 *e*Pn Pn 15 12 16.9 +0.7
BBLS **Lazići** 5.89 341 *e*Pn Pn 15 12 20.1 +0.8
BBLS **Lazići** 5.89 341 *e*Pn Pn 15 12 20.7 +1.4
SGRT **San Giovanni R** 5.94 307 Pn Pn 15 12 20.4 +0.4
DIVS **Divibare** 5.98 345 *e*Pn Pn 15 12 21.9 +1.4
DIVS **Divibare** 5.98 345 Pn Pn 15 12 21.4 +0.9
DIVS **Divibare** 5.98 345 *e*Pn Pn 15 12 22.1 +1.6
TRUS **Trudelj** 6.03 349 *e*Pn Pn 15 12 23.1 +2.0
VAE **Valguarnera** 6.11 264 Pn Pn 15 12 23.8 +1.4
comp=N,3.4nm,0.3s,baz=27,slow=2.3,SNR=3.1
VAE Sn Sn 15 13 33.8 +1.5
comp=N,3.0nm,0.3s,baz=354,slow=5.8,SNR=1.7
MAKA **Makarska** 6.27 324 *e*Pn Pn 15 12 25.6 +1.3
PAOL **Paolisi** 6.39 297 Pn Pn 15 12 27.3 +1.3
HVAR **Hvar** 6.46 320 *e*Pn Pn 15 12 27.0 +0.7
HVAR Sn Sn 15 13 38.2 -2.5
MDVR **Moldovita** 6.46 358 ⇓P Pn 15 12 27.6 +0.6
TEKS **Tekeris** 6.51 344 *e*Pn Pn 15 12 28.6 +0.9
WDD **Wied Dalam** 6.52 250 Pn Pn 15 12 29.8 +1.9
HERR **Herculane** 6.56 2 ⇓P Pn 15 12 28.9 +0.6
ISP **Isparta** 6.69 92 P Pn 15 12 31.2 +0.9
ISP **Isparta** 6.69 92 Pn Pn 15 12 31.2 +0.9
CORL **Corleone** 6.92 269 Pn Pn 15 12 34.8 +1.4
FRGS **Fruska Gora** 7.04 347 *e*Pn Pn 15 12 35.6 +0.7
GZR **Gura Zlata** 7.09 4 ⇑P Pn 15 12 37.7 +2.0
KIJV **Kijevo** 7.10 325 *e*Pn Pn 15 12 36.3 +0.5
KIJV Sn Sn 15 13 54.3 -2.3
MGRS **Mrkonjic Grad** 7.15 330 *e*Pn Pn 15 12 37.7 +1.2
ZIRJ **Zirje** 7.21 320 *e*Pn Pn 15 12 38.9 +1.6
ZIRJ Sn Sn 15 13 56.0 -3.2
INTR **Introdacqua** 7.26 303 Pn Pn 15 12 39.0 +1.0
BZS **Buzias** 7.30 358 ⇑P Pn 15 12 38.9 +0.4
MORI **Morici** 7.33 321 *e*Pn Pn 15 12 39.9 +0.9
MORI Sn Sn 15 13 59.7 -2.4
MDUB **Mudurnu** 7.39 70 Pn Pn 15 12 40.4 +0.5
BLY **Banja Luka** 7.39 332 *e*Pn Pn 15 12 40.8 +1.0
VOIR 7.45 16 ⇑P Pn 15 12 42.2 +1.6
MLR **Muntele Rosu** 7.72 21 Pn Pn 15 12 46.8 +2.3
comp=N,0.7nm,0.3s,baz=219,slow=7.0,SNR=12
MLR LR LR 15 16 30.3
comp=N,644nm,19.9s,baz=159,slow=44
MLR **Muntele Rosu** 7.72 21 ⇑P Pn 15 12 46.3 +1.8
MLR **Muntele Rosu** 7.72 21 Pn Pn 15 12 46.4 +1.9
HARR **Harsova** 7.73 33 ⇑P Pn 15 12 45.9 +1.4
AQU **L'Aquila** 7.75 304 P Pn 15 12 45.8 +1.1
AQU **L'Aquila** 7.75 304 Pn Pn 15 12 45.8 +1.1
AQU **L'Aquila** 7.75 304 *e*Pn Pn 15 12 46.8 +2.1
DUGI **Dugi Otok** 7.75 319 *e*Pn Pn 15 12 45.8 +1.1
DUGI Sn Sn 15 14 10.3 -2.1
TIRR **Tirgusor** 7.77 36 ⇑P Pn 15 12 46.2 +1.4
UDBI **Udbina** 7.80 325 *e*Pn Pn 15 12 46.7 +1.3
UDBI Sn Sn 15 14 12.3 -1.5
SIRR **Siria** 7.95 358 ⇓P Pn 15 12 48.6 +1.2
NRCA **Norcia** 8.17 306 Pn Pn 15 12 51.6 +1.0
CFR **Carcaliu** 8.21 32 ⇑P Pn 15 12 52.7 +1.7
NVLJ **Novalja** 8.25 321 *e*Pn Pn 15 12 52.9 +1.3
NVLJ Sn Sn 15 14 21.5 -3.2
PLOR **Plostina** 8.26 23 ⇑P Pn 15 12 53.7 +2.0
MORH **Mrgy, Hungar** 8.29 343 *e*Pn Pn 15 12 52.1 +0.1
MOSL **Moslavina** 8.29 333 *e*Pn Pn 15 12 52.4 +0.3
MOSL Sn Sn 15 14 22.9 -2.9
VRI **Vrincioaia** 8.30 23 ⇓P Pn 15 12 54.4 +2.2
DRGR 8.48 3 ⇓P Pn 15 12 57.1 +2.3
MURB **Monte Urbino** 8.76 307 Pn Pn 15 12 59.5 +1.0
OZLJ **Ozalj** 8.79 328 *e*Pn Pn 15 12 59.2 +0.3
OZLJ Sn Sn 15 14 35.1 -2.8
PTJ **Puntijarka** 8.83 331 *e*Pn Pn 15 12 59.4 -0.2
PTJ Sn Sn 15 14 35.5 -3.6
KALN **Kalnik** 8.84 334 *e*Pn Pn 15 12 59.4 -0.3
KALN Sn Sn 15 14 34.8 -4.5
TESR **Tescani** 8.86 21 ⇑P Pn 15 13 00.4 +0.5
CRES **Cresnjev** 8.96 329 *e*Pn Pn 15 13 00.7 -0.6
RIY **Rijeka** 9.00 323 *e*Pn Pn 15 13 02.0 +0.2
RIY Sn Sn 15 14 39.3 -3.8
RIY **Rijeka** 9.00 323 *e*Pn Pn 15 13 01.6 -0.2
BEHE **Becsehely** 9.03 336 *e*Pn Pn 15 13 06.1 +3.8
BRJN **Brijuni** 9.06 319 *i* Pn Pn 15 13 03.8 +1.2
BRJN Sn Sn 15 14 42.3 -2.2
BR131 **Keskin Array S** 9.12 78 *i* P Pn 15 13 06.2 +2.6
BR131 **Keskin Array S** 9.12 78 Pn Pn 15 13 03.3 -0.3

BRTR **Keskin Array B** 9.12 78 Pn Pn 15 13 06.2 +2.6
comp=N,0.6nm,0.3s,baz=260,slow=12,SNR=28
BRTR LR LR 15 16 42.4
comp=N,168nm,20.9s,baz=244,slow=39
CEY **Cerknica** 9.34 325 *e*Pn Pn 15 13 06.0 -0.5
LJU **Ljubljana** 9.53 326 *e*Pn Pn 15 13 10.5 +1.4
BURAR **Bucovina Array** 9.57 13 ⇓P Pn 15 13 10.7 +1.0
BUR08 **Bucovina Ar. S** 9.60 13 Pn Pn 15 13 10.2 +0.1
OSSC **Osservatorio P** 9.70 306 Pn 15 13 10.8 -0.7
PSZ **Piszkesteto** 9.72 351 ⇑P Pn 15 13 13.9 +2.1
PSZ **Piszkesteto** 9.72 351 P Pn 15 13 12.2 +0.4
PSZ **Piszkesteto** 9.72 351 Pn Pn 15 13 12.2 +0.4
SOKA **Soboth** 9.83 330 *e*Pn Pn 15 13 13.7 +0.4
comp=N,5.7nm,0.7s
SOKA *e*Sn Sn 15 14 59.5 -4.2
comp=N,7.2nm,0.7s
OBKA **Obir** 9.89 328 *e*Pn Pn 15 13 15.5 +1.5
comp=N,3.9nm,0.4s
OBKA *e*Sn Sn 15 15 04.5 -0.6
comp=N,16nm,0.6s
VSL **Villasalto** 9.96 281 Pn Pn 15 13 14.7 -0.4
ARSA **Arzberg** 10.13 334 *e*Pn Pn 15 13 17.6 +0.2
comp=N,2.9nm,0.4s
PRED **Cave del Predi** 10.26 325 Pn 15 13 18.9 -0.3
MYKA **Terra Mystica** 10.37 326 *e*Pn Pn 15 13 22.4 +1.8
comp=N,2.5nm,0.5s
VYHS **Vyhne** 10.44 348 *e*P Pn 15 13 23.2 +1.7
VYHS *e* 15 15 19.3
VYHS **Vyhne** 10.44 348 *e*PN Pn 15 13 23.2 +1.7
VYHS *e*SN Sn 15 15 19.3 +0.9
KEST **Kesra** 10.49 260 Pn Pn 15 13 21.6 -0.9
comp=N,0.1nm,0.3s,baz=14,slow=12,SNR=2.5
KEST **Kesra** 10.49 260 Pn Pn 15 13 23.1 +0.7
CONA **Conrad Observa** 10.62 337 *e*Pn Pn 15 13 24.6 +0.6
comp=N,2.2nm,0.6s
ZOU **Zoufplan** 10.62 324 Pn Pn 15 13 24.1 -0.1
MODS **Modra-Piesok** 10.63 342 *e*P Pn 15 13 24.0 -0.2
MODS *e* 15 15 19.1
MODS **Modra-Piesok** 10.63 342 *e*PN Pn 15 13 24.0 -0.2
MODS *e*SN Sn 15 15 19.1 -4.2
CIMO **Cimolais** 10.70 321 Pn 15 13 23.7 -1.4
KBA **Koelnbreinsper** 10.85 327 P Pn 15 13 30.3 +3.0
KBA pmax pmax
comp=Z,16nm,1.1s
PRMA **PARMA** 10.90 310 Pn Pn 15 13 27.9 0.0
CTI **Castel Tesino** 10.92 318 P Pn 15 13 27.7 -0.5
CTI **Castel Tesino** 10.92 318 Pn Pn 15 13 27.7 -0.5
ABTA **Abfaltersbach** 10.97 323 *e*Pn Pn 15 13 29.8 +0.8
comp=Z,13nm,0.6s,SNR=13
ABTA Sn Sn 15 15 28.8 -3.0
comp=Z,21nm,0.7s
JAVC **Velka Javorina** 11.00 345 *e*PN Pn 15 13 29.8 +0.5
MOA **Molln** 11.09 332 *e*Pn Pn 15 13 31.6 +1.0
comp=Z,2.0nm,0.3s
MOA *e*Sn Sn 15 15 33.9 -0.7
comp=Z,5.4nm,0.5s
MSSA **Maissana** 11.17 306 Pn Pn 15 13 33.3 +1.7
SALO **Salr** 11.26 314 Pn Pn 15 13 34.0 +1.2
KWP **Kalwaria Pacla** 11.32 2 P Pn 15 13 34.2 +0.6
KWP **Kalwaria Pacla** 11.32 2 Pn Pn 15 13 34.2 +0.6
KRUC **Moravsky** 11.49 341 *e*PN Pn 15 13 36.4 +0.5
LVV **L'vov** 11.58 6 *e*P Pn 15 13 45.2 +8.1
LVV MLR MLR
comp=N,100nm,11.0s
LVV MLR MLR
comp=E,200nm,11.0s
LVV MLR MLR
comp=Z,200nm,12.0s
VRAC **Vranov** 11.67 342 Pn Pn 15 13 37.8 -0.6
comp=Z,0.2nm,0.3s,baz=174,slow=13,SNR=6.4
VRAC LR LR 15 19 48.7
comp=Z,301nm,18.1s,baz=177,slow=46
VRAC **Vranov** 11.67 342 *e*PN Pn 15 13 38.4 0.0
WTTA **Wattenberg** 11.76 323 *e*Pn Pn 15 13 40.1 +0.3
comp=Z,5.8nm,0.4s
WTTA Sn Sn 15 15 45.2 -6.0
comp=Z,18nm,0.7s
WATA **Walderalm** 11.84 323 *e*Pn Pn 15 13 41.3 +0.4
comp=Z,19nm,0.5s,SNR=15
WATA *e*Sn Sn 15 15 50.9 -2.2
comp=Z,15nm,0.7s
OKC **Ostrava-Krasne** 11.85 348 AMS AMS 15 18 50.0
comp=Z,300nm,10.0s
MORC **Moravsky Berou** 11.90 346 ⇑P Pn 15 13 42.6 +1.0
MORC **Moravsky Berou** 11.90 346 *e*PN Pn 15 13 42.1 +0.5
MORC **Moravsky Berou** 11.90 346 P Pn 15 13 42.1 +0.5
MORC **Moravsky Berou** 11.90 346 Pn Pn 15 13 42.1 +0.5
SQTA **Sankt Quirin** 11.94 322 *e*Pn Pn 15 13 43.0 +0.8
comp=Z,6.7nm,0.4s,SNR=7.5
SQTA *e*Sn Sn 15 15 53.8 -1.6
comp=Z,15nm,0.6s
TREC **Trest** 11.95 339 AMS AMS 15 19 20.0
comp=Z,400nm,10.9s
FUORN **Ofenpass-Fuorn** 12.02 317 Pn Pn 15 13 43.4 0.0
FETA **Feichten** 12.04 320 *e*Pn Pn 15 13 45.0 +1.4
comp=Z,4.0nm,0.6s
FETA Sn Sn 15 15 56.6 -1.3
comp=Z,5.3nm,0.6s
MMAI **Mount Meron Ar** 12.06 112 Pn Pn 15 13 45.0 +1.1
comp=Z,0.6nm,0.3s,baz=308,slow=14,SNR=3.2
MMAI LR LR 15 19 11.9
comp=Z,43nm,18.6s,baz=285,slow=42
MOTA **Moosalm** 12.07 322 *e*Pn Pn 15 13 44.4 +0.3
comp=Z,11nm,0.6s,SNR=9.8
MOTA *e*Sn Sn 15 15 56.2 -2.6
comp=Z,20nm,0.7s
GEC2 **GERESS Array S** 12.13 333 Pn Pn 15 13 45.1 +0.3
GERES **GERESS Array B** 12.13 333 Pn Pn 15 13 46.5 +1.6
comp=Z,0.1nm,0.3s,baz=150,slow=14,SNR=13
GERES Sn Sn 15 15 57.8 -2.3
comp=Z,0.2nm,0.3s,baz=156,slow=25,SNR=3.9
GERES LR LR 15 19 22.7
comp=Z,528nm,21.9s,baz=138,slow=42
RETA **Reutte** 12.34 322 *e*Pn Pn 15 13 47.7 +0.1
comp=Z,3.6nm,0.6s
RETA Sn Sn 15 16 03.7 -1.5
comp=Z,10nm,0.6s
KHC **Kasperske Hory** 12.42 333 *e*P Pn 15 13 52.2 +3.6
KHC *ex* x 15 14 02.2
KHC *ex* x 15 14 14.0
KHC AMS AMS 15 18 50.0
comp=Z,600nm,19.9s
KHC **Kasperske Hory** 12.42 333 *e*P Pn 15 13 52.2 +3.6
KHC MLR MLR
comp=Z,600nm,19.9s
KHC **Kasperske Hory** 12.42 333 Pn Pn 15 13 48.6 0.0
TUE **Stuetta** 12.43 315 Pn Pn 15 13 48.7 -0.2
DAVA **Damuels** 12.65 319 *e*Pn Pn 15 13 55.4 +3.5
comp=Z,4.6nm,0.5s
DPC **Dobruska-Polom** 12.70 343 *e*P Pn 15 13 54.1 +1.6
DPC *ex* x 15 13 59.4
DPC AMS AMS 15 20 00.0
comp=Z,300nm,10.8s
DPC **Dobruska-Polom** 12.70 343 *e*P Pn 15 13 54.1 +1.6
DPC MLR MLR
comp=Z,300nm,10.8s
GOPC **GO Pecny, Ondr** 12.71 338 AMS AMS 15 18 50.0
comp=Z,400nm,24.4s
PRU **Pruhonice** 12.85 338 *e*P P 15 14 02.6 -2.8
PRU AMS AMS 15 18 40.0
comp=Z,400nm,24.5s
PRU **Pruhonice** 12.85 338 *e*P P 15 14 02.6 -2.8
PRU MLR MLR
comp=Z,400nm,24.5s
OSTC **Ostas** 12.92 343 *e*P Pn 15 13 58.5 +3.0
OSTC *ex* x 15 14 07.4
OSTC AMS AMS 15 20 10.0
comp=Z,300nm,11.7s
UPC **Upice** 12.92 342 AMS AMS 15 20 10.0
comp=Z,300nm,21.9s
PRA **Prague** 12.95 338 AMS AMS 15 19 50.0
comp=Z,200nm,16.7s
CHVC **Chvalec** 12.99 343 AMS AMS 15 19 50.0
comp=Z,200nm,16.6s
PVCC **Panska Ves** 13.32 339 AMS AMS 15 19 00.0
comp=Z,200nm,15.4s
AKASG **Malin Array Be** 13.38 20 Pn Pn 15 14 00.8 -0.9
comp=Z,0.3nm,0.3s,baz=209,slow=13,SNR=2.7
AKASG LR LR 15 19 57.1
comp=Z,260nm,19.8s,baz=200,slow=41
AKASG **Malin Array Be** 13.38 20 *i* P Pn 15 14 05.1 +3.4
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKBB **Malin Array Si** 13.38 20 *i* P Pn 15 14 03.1 +1.4
SENIN **Lac Senin/Sane** 13.55 311 Pn Pn 15 14 04.5 +0.2

ASF **Jabal al Asfar** 13.58 112 Pn Pn 15 14 04.6 0.0
comp=Z,0.2nm,0.3s,baz=216,slow=5.1,SNR=2.3
EIL **Elat** 13.72 125 Pn Pn 15 14 05.2 -1.4
comp=Z,0.2nm,0.3s,baz=320,slow=17,SNR=2.0
EIL LR LR 15 20 46.1
comp=Z,48nm,19.8s,baz=282,slow=44
NKC **Novy Kostel** 13.74 333 AMS AMS 15 19 30.0
comp=Z,500nm,20.8s
BRG **Berggiesshubel** 13.81 338 *e*P Pn 15 14 07.2 -0.4
comp=Z,7.9nm,1.7s
BRG *e* 15 14 17.1
comp=Z,3.8nm,0.8s
BRG **Berggiesshubel** 13.81 338 *e*P Pn 15 14 07.2 -0.4
BRG pmax pmax
comp=Z,8.0nm,1.7s
BRG pmax pmax
comp=Z,4.0nm,0.9s
BFO **Black Forest** 14.12 319 P Pn 15 14 12.2 +0.3
BFO **Black Forest** 14.12 319 Pn Pn 15 14 12.2 +0.3
SOC **Sochi** 14.33 63 *e*P P 15 14 18.9 -3.0
SOC *e* 15 17 01.6
SOC pmax pmax
comp=Z,10.0nm,0.7s
MOX **Moxa** 14.38 332 P P 15 14 19.1 -3.4
MOX pmax pmax
comp=Z,5.0nm,0.7s
CLL **Collm** 14.47 337 *e*PP P 15 14 25.0 +1.6
comp=Z,14nm,0.9s
CLL *i* sPP 15 14 28.2
CLL *i* 15 14 46.1
CLL *e* 15 15 54.0
CLL *e*S Sn 15 17 00.0 +2.9
CLL **Collm** 14.47 337 P P 15 14 24.6 +1.1
CLL **Collm** 14.47 337 P 15 14 24.6 +1.1
SUW **Suwalki** 15.71 2 P P 15 14 37.1 -0.1
SUW pmax pmax
comp=Z,65nm,1.0s
SUW **Suwalki** 15.71 2 P P 15 14 37.1 -0.1
SUW IAmb IAmb 15 14 39.8
comp=Z,65nm,1.0s
WLF **Walferdange** 16.08 320 P P 15 14 41.5 +0.2
WLF pmax pmax
comp=Z,10.0nm,0.9s
WLF **Walferdange** 16.08 320 P P 15 14 41.5 +0.2
SSF **Saint Saulge** 16.17 309 P P 15 14 42.7 +0.4
SSF pmax pmax
comp=Z,23nm,0.9s
NEY **Neytrino** 16.39 66 *i* P P 15 14 45.7 +0.7
KIV **Kislovodsk** 16.51 64⇓ *e*P P 15 14 45.1 -1.1
KIV pmax pmax
comp=Z,5.0nm,1.4s
KIV MLR MLR
comp=Z,53nm,16.0s
KVAR **Kislovodsk Arr** 16.51 64 LR LR 15 22 21.5
comp=Z,112nm,20.9s,baz=107,slow=42
KBZ **Khabaz** 16.61 64 Pn P 15 14 47.6 +0.5
comp=Z,0.1nm,0.3s,baz=315,slow=4.3,SNR=1.2
KBZ LR LR 15 22 22.3
comp=Z,80nm,18.6s,baz=255,slow=42
PABE **Paberze** 17.24 4 *e*P Pn 15 14 52.7 +0.2
PABE IAmb IAmb 15 14 58.1
comp=Z,22nm,0.7s
IIGN **Ignalina** 17.27 8 *e*P P 15 14 55.6 +1.3
ISAL **Salakas** 17.47 8 *e*P Pn 15 14 55.6 +0.2
ISAL IAmb IAmb 15 15 20.3
comp=Z,7.9nm,0.9s
BSD **Bornholm Skovb** 17.48 346 *i* P Pn 15 14 55.9 +0.3
comp=Z,5.7nm,0.6s
BSD **Bornholm Skovb** 17.48 346 *i* P Pn 15 14 55.9 +0.3
BSD pmax pmax
comp=Z,6.0nm,0.6s
VSR **Storozhevoye** 17.65 38 *e*P P 15 14 59.5 +0.8
VSR pmax pmax
comp=Z,5.0nm,0.4s
IZAR **Zarasai** 17.66 8 *e*P Pn 15 14 57.2 -0.6
LPSR **Galich'ya Gora** 18.47 34 *e*P Pn 15 15 10.7 +2.9
LPSR pmax pmax
comp=Z,10.0nm,0.6s
VRH **Novokhopyorsk** 18.91 41 *e*P Pn 15 15 15.5 +2.4
VRH pmax pmax
comp=Z,50nm,1.7s
OBN **Obninsk** 19.45 26 LR LR 15 23 13.2
comp=Z,35nm,19.9s,baz=184,slow=38
OBN **Obninsk** 19.45 26⇓ *e*P Pn 15 15 22.5 +2.9
OBN pmax pmax
comp=Z,14nm,1.5s
OBN MLR MLR
comp=Z,47nm,15.0s
ESBB **Sonseca Array** 20.26 282 P P 15 15 28.4 +1.0
ESDC **Sonseca Array** 20.26 282 P P 15 15 28.4 +1.0
comp=Z,13nm,0.8s,baz=77,slow=10,SNR=104
VSU **Vasula** 20.38 7 *e*P P 15 15 28.9 +0.4
VSU IAmb IAmb 15 15 35.7
comp=Z,152nm,0.8s
VSU **Vasula** 20.38 7 *i* P Pn 15 15 30.0 -0.6
VSU pmax pmax
comp=Z,149nm,0.8s
PAB **San Pablo** 20.57 282 P P 15 15 31.7 +0.9
PAB pmax pmax
comp=Z,19nm,0.9s
PAB **San Pablo** 20.57 282 P P 15 15 31.7 +0.9
MDT **Midelt** 22.34 264 P P 15 15 50.2 +0.2
comp=Z,3.9nm,0.9s,baz=87,slow=11,SNR=5.7
HFS **Hagfors** 22.47 349 P P 15 15 50.0 -0.9
comp=Z,4.9nm,0.7s,baz=165,slow=12,SNR=14
HFS LR LR 15 26 08.2
comp=Z,130nm,20.1s,baz=172,slow=41
MVO **Moncorvo** 22.51 286 *e*P P 15 15 52.0 +0.3
KONO **Kongsberg** 22.78 344 P P 15 15 53.1 -1.2
KONO pmax pmax
comp=Z,18nm,1.1s
KONO **Kongsberg** 22.78 344 P P 15 15 53.1 -1.2
PMRV **Marv??o** 22.92 282 *e*P P 15 15 55.9 -0.1
PCBR **Castelo Branco** 22.94 283 *e*P P 15 15 56.3 +0.2
MTE **Manteigas** 22.94 285 *e*P P 15 15 57.5 +1.2
PVIS **Viseu** 23.19 285 *e*P P 15 15 58.8 +0.1
FINES **FINESS Array B** 23.28 5 P P 15 15 58.3 -1.1
comp=Z,1.1nm,0.6s,baz=164,slow=7.5,SNR=13
FINES PcP **PcP** 15 19 46.2 -0.3
comp=Z,1.2nm,0.7s,baz=102,slow=2.0,SNR=3.7
FINES LR LR 15 25 30.5
comp=Z,139nm,20.5s,baz=190,slow=38
FINES **FINESS Array B** 23.28 5 *i* P P 15 16 01.6 +2.2
FINES pmax pmax
comp=Z,6.0nm,0.8s
FIA1 **FINESS Array S** 23.28 5 P P 15 15 59.1 -0.3
NC602 **NORSAR Array S** 23.39 347 P P 15 15 59.7 -0.9
NC602 IAmb IAmb 15 16 00.7
comp=Z,20nm,0.9s
PGAV **Gavieira, Arco** 23.41 289 *e*P P 15 16 00.1 -1.0
PBEJ **Beja** 23.49 279 *e*P P 15 16 03.0 +1.2
PVAQ **Vaqueiros** 23.49 277 *e*P P 15 16 03.0 +1.3
PVAQ **Vaqueiros** 23.49 277 P P 15 16 01.6 -0.1
EVO **Evora** 23.52 280 *e*P P 15 16 01.4 -0.6
PMTG **Montargil** 23.61 281 *e*P P 15 16 03.1 +0.2
NAO01 **NORSAR Array S** 23.61 346 P P 15 16 01.7 -1.0
NAO01 IAmb IAmb 15 16 06.0
comp=Z,49nm,1.3s
PBDV **Barranco-do-Ve** 23.69 277 *e*P P 15 16 03.5 -0.2
PCVE **Castro Verde** 23.70 278 *e*P P 15 16 07.0 +3.2
NC405 **NORSAR Array S** 23.72 347 P P 15 16 02.5 -1.2
NC405 IAmb IAmb 15 16 05.7
comp=Z,49nm,1.4s
NB201 **NORSAR Array S** 23.73 347 P P 15 16 02.6 -1.3
NB2 **NORSAR Subarra** 23.74 347 P P 15 16 03.0 -1.0
comp=Z,27nm,1.2s,baz=154,slow=9.3
NOA **NORSAR Array B** 23.74 347 P P 15 16 03.0 -1.0
comp=Z,2.8nm,0.7s,baz=157,slow=8.6,SNR=16
NOA LR LR 15 27 32.5
comp=Z,86nm,19.2s,baz=165,slow=42
NOA **NORSAR Array B** 23.74 347 P P 15 16 03.0 -1.0
MESJ **Messejana** 23.80 278 *e*P P 15 16 04.6 -0.1
NBO00 **NORSAR Array S** 23.81 346 P P 15 16 03.9 -0.8
NBO00 IAmb IAmb 15 16 08.0
comp=Z,56nm,1.4s
NC303 **NORSAR Array S** 23.88 347 P P 15 16 04.7 -0.6
NC303 IAmb IAmb 15 16 12.8
comp=Z,20nm,0.8s
EKA **Eskdalemuir Ar** 24.03 323 P P 15 16 06.9 +0.2
comp=Z,22nm,0.7s,baz=124,slow=10,SNR=69
NC204 **NORSAR Array S** 24.04 347 P P 15 16 06.5 -0.3
NC204 IAmb IAmb 15 16 10.2
comp=Z,36nm,1.0s
ESK **Eskdalemuir** 24.04 323 P P 15 16 06.8 0.0
ESK pmax pmax

comp=Z,30nm,0.7s
ESK Eskdalemuir 24.04 323 P P 15 16 06.8 0.0
MORF Marmelete 24.24 277 *e*P **P 15 16 10.0 +1.0**
PTEO Sao Teotonio 24.25 278 *e*P **P 15 16 09.8 +0.8**
RAYN Ar Rayn 24.84 120 P **P 15 16 14.0 -0.5**
RAYN pmax pmax
comp=Z,6.0nm,1.1s
RAYN Ar Rayn 24.84 120 P **P 15 16 14.0 -0.5**
KLMR Klimovskoe 25.07 20 *e*P **P 15 16 14.9 -1.3**
KLMR pmax pmax
comp=Z,15nm,1.0s
KLMR Klimovskoe 25.07 20 *e*P **P 15 16 14.9 -1.3**
KLMR AMP 15 16 25.6
comp=Z,15nm,1.0s
KIRV Kirov 26.88 32 P **P 15 16 31.3 -1.2**
comp=Z,7.4nm,0.7s,baz=241,slow=8.0,SNR=8.0
KIRV LR LR 15 27 19.3
comp=Z,120nm,19.6s,baz=228,slow=37
AKTO Aktyubinsk 28.12 53 P **P 15 16 42.9 -1.0**
comp=Z,0.4nm,0.3s,baz=245,slow=15,SNR=1.6
GEYT Alibeck 28.25 79 LR LR 15 29 10.4
comp=Z,51nm,20.3s,baz=0.0,slow=39
ARU Arti 30.15 41 P **P 15 17 01.9 +0.2**
comp=Z,0.7nm,0.3s,baz=278,slow=5.2,SNR=5.2
ARU LR LR 15 29 41.6
comp=Z,78nm,19.0s,baz=242,slow=38
ARU Arti 30.15 41 *d i* P **P 15 17 02.0 +0.3**
ARU 15 17 56.7
ARU S **S 15 22 05.2 +4.8**
ARU SS **ScP 15 23 39.5 -5.4**
ARU pmax pmax
comp=Z,8.0nm,1.2s
ARU MLR MLR
comp=Z,76nm,14.0s
ARU Arti 30.15 41 P **P 15 17 01.6 -0.1**
TOA0 Torodi Ar. Sit 30.92 221 P **P 15 17 09.7 +0.8**
TOA0 IAmb IAmb 15 17 10.7
comp=Z,16nm,1.4s
TORD Torodi Ar. Bea 30.92 221 P **P 15 17 10.2 +1.2**
comp=Z,5.4nm,0.7s,baz=30,slow=9.0,SNR=56
TORD PcP **PcP 15 20 05.8 +0.4**
comp=Z,0.3nm,0.6s,baz=18,slow=5.4,SNR=2.3
TORD LR LR 15 29 20.8
comp=Z,31nm,20.2s,baz=125,slow=36
ARCES ARCESS Array B 31.33 2 P **P 15 17 13.2 +1.2**
comp=Z,1.7nm,0.7s,baz=192,slow=9.3,SNR=5.4
ARCES PcP **PcP 15 20 05.1 -0.5**
comp=Z,0.8nm,0.7s,baz=165,slow=3.7,SNR=1.2
ARCES LR LR 15 30 54.0
comp=Z,125nm,19.2s,baz=92,slow=38
SVE Sverdlovsk 31.36 41 *e*P **P 15 17 12.5 +0.1**
SVE pmax pmax
comp=Z,11nm,1.1s
KEV Kevo 31.61 3 P **P 15 17 14.9 +0.5**
KEV pmax pmax
comp=Z,26nm,1.4s
KEV Kevo 31.61 3 P **P 15 17 14.9 +0.5**
KEV IAmb IAmb 15 18 06.7
comp=Z,26nm,1.4s
BRVK Borovoye 36.03 50 *i* P **P 15 17 53.5 +0.4**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BRVK Borovoye 36.03 50 P **P 15 17 53.1 0.0**
BVAR Borovoye Array 36.09 50 P **P 15 17 53.9 +0.3**
comp=Z,0.9nm,0.7s,baz=275,slow=6.3,SNR=5.2
CHGR Chuyangaron 36.54 74 P **P 15 17 57.9 +0.2**
CHGR IAmb IAmb 15 18 00.5
comp=Z,15nm,1.0s
KK31 Karatay Array 36.62 67 P **P 15 17 57.8 -0.5**
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KK31 Karatay Array 36.62 67 P **P 15 17 57.8 -0.5**
KKAR Karatay Array 36.62 67 P **P 15 17 57.9 -0.4**
KKAR pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 36.62 67 P **P 15 17 57.9 -0.4**
BTK Batken 37.45 72 P **P 15 18 05.3 -0.1**
BTK pmax pmax
comp=Z,4.0nm,0.8s
BTK Batken 37.45 72 P **P 15 18 05.3 -0.1**
AAK Ala-Archa 39.59 67 P **P 15 18 22.7 -0.7**
comp=Z,3.5nm,0.7s,baz=216,slow=5.8,SNR=8.5
AAK Ala-Archa 39.59 67 *i* P **P 15 18 23.9 +0.5**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 39.59 67 P **P 15 18 23.4 -0.1**
DBIC Dimbokro 39.84 225 P **P 15 18 26.7 +1.2**
comp=Z,6.8nm,0.7s,baz=5.4,slow=8.5,SNR=7.2
DBIC LR LR 15 35 50.3
comp=Z,45nm,18.4s,baz=25,slow=38
DBIC Dimbokro 39.84 225 P **P 15 18 26.6 +1.1**
DBIC IAmb IAmb 15 18 26.9
comp=Z,49nm,1.8s
TIC Toumodi 39.95 225 *e*P **P 15 18 27.8 +1.3**
KIC Kosan Boka 40.03 224 *e*P **P 15 18 27.9 +0.7**
comp=Z,3.5nm,0.5s
LIC Lamto 40.30 224 *e*P **P 15 18 30.4 +1.0**
comp=Z,27nm,0.5s
KURBB Kurchatov Arra 41.16 54 P **P 15 18 35.9 -0.3**
KURBB PcP **PcP 15 20 35.3 +0.1**
comp=Z,2.1nm,0.8s,baz=282,slow=8.6,SNR=10
comp=Z,0.5nm,0.7s,baz=282,slow=4.3,SNR=2.7
KURK Kurchatov 41.21 54 *i* P **P 15 18 36.1 -0.5**
KURK pmax pmax
comp=Z,3.0nm,1.2s
KURK Kurchatov 41.21 54 P **P 15 18 36.0 -0.5**
KURK Kurchatov 41.21 54 **PcP 15 20 35.4 -0.1**
KDJ Kajisay 41.64 67 P **P 15 18 40.4 0.0**
KDJ pmax pmax
comp=Z,8.0nm,0.9s
KDJ Kajisay 41.64 67 P **P 15 18 40.4 0.0**
TARG Taragay, Kyrgy 42.19 67 P **P 15 18 46.0 +0.8**
MAKZ Makanchi 43.97 59 P **P 15 18 58.6 -0.5**
MAKZ pmax pmax
comp=Z,4.0nm,1.0s
MAKZ Makanchi 43.97 59 P **P 15 18 58.6 -0.5**
MK31 Makanchi Array 44.19 59 P **P 15 19 00.3 -0.5**
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MK31 Makanchi Array 44.19 59 P **P 15 19 00.3 -0.5**
MKAR Makanchi Array 44.19 59 P **P 15 19 00.8 -0.1**
comp=Z,4.3nm,0.5s,baz=278,slow=7.4,SNR=44
MKAR PcP **PcP 15 20 45.1 -0.4**
comp=Z,0.7nm,0.8s,baz=270,slow=2.9,SNR=1.7
MKAR ScP **ScP 15 24 36.1 -1.2**
comp=Z,1.5nm,0.9s,baz=270,slow=3.6,SNR=7.0
MKAR LR LR 15 41 45.2
comp=Z,36nm,19.3s,baz=284,slow=42
ZAA0 Zalesovo Array 44.69 48 P **P 15 19 03.6 -1.0**
ZAA0 IAmb IAmb 15 19 11.8
comp=Z,7.4nm,0.7s
ZALV Zalesovo Beam 44.69 48 P **P 15 19 04.3 -0.4**
comp=Z,4.6nm,0.6s,baz=272,slow=9.0,SNR=20
ZALV LR LR 15 38 55.7
comp=Z,36nm,18.5s,baz=288,slow=38
NOR Nord 45.49 353 *i* P P 15 19 15.8 +5.0
NOR Nord 45.49 353 *i* P P 15 19 15.8 +5.0
NRIK Noril'sk 46.12 27 P **P 15 19 14.9 -0.9**
comp=Z,2.0nm,0.6s,baz=236,slow=6.0,SNR=5.6
NRIK LR LR 15 40 03.7
comp=Z,116nm,21.2s,baz=237,slow=38
NRIK Noril'sk 46.12 27 P **P 15 19 15.0 -0.9**
DGZ Jazzator, Alta 46.96 54 ǁ *e*P **P 15 19 22.6 -0.3**
DGZ pmax pmax
comp=Z,4.0nm,0.8s
WMQ Urumqi 48.62 61 *e*P **P 15 19 38.7 +2.9**
WMQ LR LR
comp=Z,160nm,28.5s
WMQ LR LR
comp=Z,140nm,26.5s
ILULI Ilulissat 48.84 333 P **P 15 19 38.3 +1.3**
ILULI pmax pmax
comp=Z,81nm,1.5s
ILULI Ilulissat 48.84 333 P **P 15 19 38.3 +1.3**
DRLN Deer Lake 55.96 309 P **P 15 20 30.5 +0.4**
TLY Talaya 56.29 48 *e*P **P 15 20 33.2 +0.7**
TLY pmax pmax
comp=Z,14nm,1.3s
TLY MLR MLR
comp=Z,171nm,16.0s
GTA Gaotai 58.68 62 P **P 15 20 49.5 -0.2**
GTA pP sP 15 20 54.9 +0.3
GTA sP pP 15 20 57.8 +4.6
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA pmax pmax
comp=Z,69nm,4.5s
GTA LR LR
comp=Z,48nm,18.3s
GTA LR LR
comp=Z,120nm,22.1s
TIXI Tiksi 59.09 21 *i* P **P 15 20 51.5 -0.3**
TIXI pmax pmax
comp=Z,1.0nm,1.1s
SCHQ Schefferville 59.18 318 P **P 15 20 52.6 -0.1**
comp=Z,4.3nm,0.8s,baz=53,slow=9.2,SNR=5.3
SCHQ LR LR 15 46 58.0
comp=Z,37nm,18.0s,baz=64,slow=37
SCHQ Schefferville 59.18 318 P **P 15 20 52.6 -0.1**
SONM Songino Array 59.42 51 P **P 15 20 54.1 -0.6**
comp=Z,2.7nm,1.0s,baz=282,slow=8.2,SNR=11
SONM LR LR 15 48 36.3
comp=Z,55nm,19.1s,baz=258,slow=38
ULN Ulaanbaatar 59.81 51 *ce*P **P 15 20 57.0 -0.4**
ULN pmax pmax
comp=Z,3.0nm,0.9s
ULN Ulaanbaatar 59.81 51 P **P 15 20 57.0 -0.4**
LMN Caledonia Moun 61.86 308 P **P 15 21 11.8 +0.6**
BATG Bathurst New B 61.98 310 P **P 15 21 12.8 +0.9**
LZH Lanzhou 63.05 64 *e*P **P 15 21 17.5 -2.0**
LZH pP pP 15 21 20.7 -2.3
LZH *e*PP **PP 15 23 37.6 -0.2**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,87nm,5.2s
LZH LR LR
comp=Z,300nm,14.9s
LZH LR LR
comp=Z,310nm,15.2s
LZH LR LR
comp=Z,450nm,18.0s
LBTB Lobatse 63.09 176 P **P 15 21 20.5 +1.0**
LBTB pmax pmax
comp=Z,45nm,2.0s
LBTB Lobatse 63.09 176 P **P 15 21 20.5 +1.0**
E64A Bridgewater 63.46 309 P **P 15 21 22.4 +0.7**
baz=61
GGN Saint George 63.47 308 P **P 15 21 22.8 +0.9**
E63A Oxbow 63.82 310 P **P 15 21 24.8 +0.7**
baz=61
E63A Oxbow 63.82 310 P **P 15 21 25.2 +1.1**
D62A Allapoint, All 63.88 310 P **P 15 21 25.4 +0.9**
baz=61
D62A Allapoint, All 63.88 310 P **P 15 21 25.7 +1.2**
D62A IAmb IAmb 15 21 30.9
comp=Z,7.4nm,0.8s
G65A Princeton 63.88 308 P **P 15 21 25.1 +0.6**
baz=61
G65A Princeton 63.88 308 P **P 15 21 25.6 +1.0**
H66A Whiting 63.92 308 P **P 15 21 25.4 +0.6**
baz=61
F64A Sherman 64.04 309 P **P 15 21 26.5 +0.9**
baz=61
F64A Sherman 64.04 309 P **P 15 21 26.6 +0.9**
EMMW East Machias 64.05 308 P **P 15 21 26.7 +1.0**
E62A Clayton Lake 64.38 310 P **P 15 21 28.6 +0.8**
baz=60
E62A Clayton Lake 64.38 310 P **P 15 21 29.0 +1.1**
E62A IAmb IAmb 15 21 29.9
comp=Z,7.2nm,0.8s
H65A Eastbrook 64.55 308 P **P 15 21 29.8 +0.8**
baz=60
F63A Nahmakanta, Br 64.58 309 P **P 15 21 30.1 +0.9**
baz=60
F63A Nahmakanta, Br 64.58 309 P **P 15 21 30.5 +1.3**
G64A Maxfield 64.59 309 P **P 15 21 29.8 +0.6**
baz=60
PKME Peaks-Kenny Pk 64.91 309 P **P 15 21 32.4 +1.0**
baz=60
PKME Peaks-Kenny Pk 64.91 309 P **P 15 21 32.5 +1.2**
F62A Pittston Farm, 65.01 310 P **P 15 21 33.2 +1.2**
baz=60
E61A Lac Etchemin 65.06 310 P **P 15 21 33.2 +0.8**
baz=60
H64A Troy 65.18 308 P **P 15 21 34.4 +1.4**
baz=60
G63A Kingsbury 65.19 309 P **P 15 21 34.0 +0.9**
baz=60
WVL Waterville 65.49 308 P **P 15 21 36.3 +1.2**
CHGQ Chibougamau 65.54 315 P **P 15 21 36.2 +0.8**
baz=59
CD2 Chengdu 65.58 69 *e*P **P 15 21 35.0 -1.0**
G62A West of Eustis 65.69 309 P **P 15 21 37.8 +1.3**
baz=59
G62A West of Eustis 65.69 309 P **P 15 21 37.9 +1.4**
I64A Bootsbay 65.80 308 P **P 15 21 38.6 +1.5**
baz=59
HHC Hu-ho-hao-te 65.95 56 *e*P **P 15 21 39.7 +1.4**
HHC PP **PP 15 24 02.2 -0.9**
HHC pmax pmax
comp=Z,10.0nm,1.1s
HHC pmax pmax
comp=Z,37nm,6.6s
D58A Chemin du LacG 66.14 312 P **P 15 21 40.0 +0.7**
baz=59
F60A Warwick 66.17 310 P **P 15 21 40.4 +1.0**
baz=59
G61A St-Isidore-de- 66.27 310 P **P 15 21 41.3 +1.2**
baz=59
I63A Otisfield 66.32 308 P **P 15 21 41.6 +1.1**
baz=59
I63A Otisfield 66.32 308 P **P 15 21 42.2 +1.8**
I63A IAmb IAmb 15 21 42.7
comp=Z,5.6nm,0.7s
H62A Milan 66.40 309 P **P 15 21 42.5 +1.4**
baz=59
H62A Milan 66.40 309 P **P 15 21 42.0 +1.0**
H62A IAmb IAmb 15 21 43.4
comp=Z,6.4nm,0.8s
HIA Hailar 66.56 45 *i* P **P 15 21 41.3 -0.7**
HIA pmax pmax
comp=Z,4.0nm,0.9s
BOSA Boshof 66.65 177 P **P 15 21 43.4 +0.7**
comp=Z,1.9nm,0.5s,baz=1.0,slow=6.2,SNR=12
BOSA LR LR 15 54 06.1
comp=Z,75nm,18.6s,baz=19,slow=39
BOSA Boshof 66.65 177 P **P 15 21 43.7 +1.0**
BOSA pmax pmax
comp=Z,63nm,2.0s
BOSA Boshof 66.65 177 P **P 15 21 43.7 +1.0**
E58A La Victoria 66.75 311 P **P 15 21 44.2 +1.1**
baz=58
D57A Chemin Vers le 66.77 312 P **P 15 21 44.1 +0.8**
baz=58
G60A Masonville 66.85 310 P **P 15 21 44.4 +0.5**
baz=58
I62A Tamworth 66.88 308 P **P 15 21 45.6 +1.6**
baz=58
I62A Tamworth 66.88 308 P **P 15 21 45.8 +1.8**
H61A Lyndonville 66.90 309 P **P 15 21 45.7 +1.5**
baz=58
J63A Strafford 67.03 308 P **P 15 21 46.2 +1.3**
baz=58
LBNH Lisbon 67.05 309 P **P 15 21 46.5 +1.3**
baz=58
LBNH Lisbon 67.05 309 P **P 15 21 46.6 +1.4**
LBNH pmax pmax
comp=Z,9.0nm,1.1s
LBNH Lisbon 67.05 309 P **P 15 21 46.6 +1.4**
LBNH IAmb IAmb 15 21 52.4
comp=Z,9.1nm,1.1s
E57A Chemin Saint G 67.24 312 P **P 15 21 47.4 +1.0**
baz=58
D56A ZEC Mazanza, M 67.25 313 P **P 15 21 47.0 +0.6**
baz=58
MATQ Matagami 67.42 316 P **P 15 21 48.2 +0.8**
baz=57
LSQQ Lebel-sur-Quev 67.44 315 P **P 15 21 48.5 +1.0**
baz=57
TRQ Mont Tremblant 67.58 312 P **P 15 21 49.7 +1.2**
L64A Middleborough 67.58 306 P **P 15 21 49.3 +0.8**
baz=58
K63A Dunstable 67.62 307 P **P 15 21 49.4 +0.7**
baz=58
WES Weston 67.65 307 P **P 15 21 49.6 +0.7**
WES pmax pmax
comp=Z,9.0nm,0.7s
WES Weston 67.65 307 P **P 15 21 49.6 +0.7**
D55A Sainte-Anne-du 67.68 313 P **P 15 21 50.3 +1.2**
baz=57,SNR=5.4
E56A St. Veronique 67.69 312 P **P 15 21 50.2 +1.1**
baz=57,SNR=5.5
HRV Adam Dziewonsk 67.73 307 P **P 15 21 50.7 +1.3**
baz=58
HRV Adam Dziewonsk 67.73 307 P **P 15 21 50.1 +0.6**
HRV pmax pmax
comp=Z,18nm,1.4s
HRV Adam Dziewonsk 67.73 307 P **P 15 21 50.1 +0.6**
FRNY Flat Rock 67.74 310 P **P 15 21 50.2 +0.7**
FRNY IAmb IAmb 15 21 53.6
comp=Z,7.9nm,1.3s
H59A Cadyville 67.91 310 P **P 15 21 52.0 +1.4**
baz=58
VLDQ Val d'Or 68.22 315 P **P 15 21 54.1 +1.7**
VLDQ IAmb IAmb 15 21 58.1
comp=Z,6.4nm,0.8s
D54A Lac Fusel, La 68.29 313 P **P 15 21 54.2 +1.3**
baz=57,SNR=5.7
H58A Gabriels 68.32 310 P **P 15 21 54.6 +1.4**
baz=57
E55A Montcerf-Lytto 68.33 313 P **P 15 21 54.4 +1.3**
baz=57
QUA2 Belchertown 68.35 307 P **P 15 21 54.6 +1.2**
QUA2 IAmb IAmb 15 21 56.2
comp=Z,7.0nm,0.9s
LONY Lake Ozonia 68.46 310 P **P 15 21 55.1 +1.1**
baz=57
LONY Lake Ozonia 68.46 310 P **P 15 21 54.6 +0.6**
LONY IAmb IAmb 15 21 59.2
comp=Z,5.9nm,0.9s
L61B Northampton 68.47 308 P **P 15 21 55.5 +1.5**
baz=57
I59A Olmsteadville 68.47 309 P **P 15 21 55.9 +1.8**
baz=57
ORIO Orleans, Innes 68.56 311 P **P 15 21 56.0 +1.4**
baz=57
ORIO Orleans, Innes 68.56 311 P **P 15 21 55.5 +0.9**
M63A Gales Ferry 68.63 306 P **P 15 21 56.4 +1.3**
baz=57
CMAR Chiang Mai Arr 68.66 83 P **P 15 21 53.9 -1.8**
comp=Z,0.7nm,0.7s,baz=301,slow=7.6,SNR=6.4
K61A Williamstown 68.71 308 P **P 15 21 57.3 +1.7**
baz=57
D53A Lac Vacive, Po 68.92 314 P **P 15 21 58.3 +1.4**
baz=56,SNR=5.8
D53A Lac Vacive, Po 68.92 314 P **P 15 21 58.3 +1.4**
E54A Lac Daplat, Po 68.99 313 P **P 15 21 58.3 +1.1**
baz=56
J59A Piesco 69.04 309 P **P 15 21 58.6 +0.9**
baz=57
J59A Piesco 69.04 309 P **P 15 21 58.9 +1.2**
J59A IAmb IAmb 15 22 02.8
comp=Z,5.4nm,0.7s
L61A Hillsdale 1, H 69.15 308 P **P 15 21 59.6 +1.2**
baz=57
I58A Old Forge 69.20 310 P **P 15 21 59.7 +1.0**
baz=56
E53A Dumoine, Ponti 69.30 313 P **P 15 22 00.6 +1.4**
baz=56,SNR=8.1
G55A Calabogie 69.38 312 P **P 15 22 00.7 +1.0**
baz=56
D52A ZEK Kipawa Sen 69.39 314 P **P 15 22 01.0 +1.3**
baz=56
H56A Elgin 69.47 311 P **P 15 22 01.0 +0.8**
baz=56
I57A Carthage 69.48 310 P **P 15 22 01.8 +1.4**
baz=56,SNR=5.9
J58A Remsen 69.57 309 P **P 15 22 02.0 +1.1**
baz=56
J58A Remsen 69.57 309 P **P 15 22 02.1 +1.2**
J58A IAmb IAmb 15 22 03.7
comp=Z,5.1nm,0.7s
K59A Cooperstown 69.63 309 P **P 15 22 02.3 +0.9**
baz=56
PLVO Plevna 69.70 312 P **P 15 22 03.3 +1.5**
ALGO Algonquin Park 69.76 313 P **P 15 22 03.1 +1.1**
baz=56,SNR=6.7
C36M Paulatuk 69.78 348 P **P 15 22 02.6 +0.9**
D51A Lot 18 Range I 69.86 314 P **P 15 22 03.8 +1.1**
baz=55
E52A Mattawa 69.92 313 P **P 15 22 04.3 +1.3**
baz=55
J57A Williamstown 69.97 310 P **P 15 22 04.9 +1.4**
baz=56
J57A Williamstown 69.97 310 P **P 15 22 05.0 +1.6**
J57A IAmb IAmb 15 22 05.6
comp=Z,5.8nm,0.9s
PAL Palisades 70.02 307 P **P 15 22 04.9 +1.2**
baz=56
PAL Palisades 70.02 307 P **P 15 22 03.9 +0.2**
PAL pmax pmax
comp=Z,8.0nm,1.0s
PAL Palisades 70.02 307 P **P 15 22 03.9 +0.2**
PAL IAmb IAmb 15 24 26.0
comp=Z,8.4nm,0.9s
H55A Tweed 70.04 311 P **P 15 22 05.2 +1.4**
baz=56
L59A Walton 70.07 308 P **P 15 22 05.5 +1.4**
baz=56
L59A Walton 70.07 308 P **P 15 22 04.8 +0.7**
L59A IAmb IAmb 15 22 07.0
comp=Z,7.1nm,0.8s
D50A G1974 Best Tow 70.08 315 P **P 15 22 05.3 +1.3**
baz=55,SNR=6.8
G54A Lake Saint Pet 70.09 312 P **P 15 22 06.1 +1.9**
baz=55,SNR=6.7
K58A Earlville 70.12 309 P **P 15 22 05.9 +1.5**
baz=56
K58A Earlville 70.12 309 P **P 15 22 05.9 +1.5**
K58A IAmb IAmb 15 22 07.1
comp=Z,5.6nm,0.7s
E51A G1948 Merrick 70.25 314 P **P 15 22 06.5 +1.5**
baz=55
N61A South Mountain 70.41 307 P **P 15 22 07.7 +1.6**
baz=56
I55A Frankford 70.53 311 P **P 15 22 08.5 +1.8**
baz=55
G53A Haliburton 70.56 312 P **P 15 22 08.7 +1.7**
baz=55
J56A Wolcott 70.57 310 P **P 15 22 08.8 +1.8**
baz=55
J56A Wolcott 70.57 310 P **P 15 22 08.5 +1.5**
J56A IAmb IAmb 15 22 09.7
comp=Z,7.6nm,0.9s
F52A Sundridge 70.58 313 P **P 15 22 08.8 +1.7**
baz=55
BILL Bilibino 70.60 13 *i* P **P 15 22 07.5 +0.7**
BILL pmax pmax
comp=Z,2.0nm,1.1s
BINY Binghamton 70.65 309 P **P 15 22 09.5 +1.9**
baz=56
BINY Binghamton 70.65 309 P **P 15 22 08.5 +0.9**
L58A Harry Jones Me 70.65 309 P **P 15 22 09.4 +1.8**
baz=56
K57A Scipio Center 70.67 309 P **P 15 22 09.4 +1.6**
baz=55
M59A Waymart 70.68 308 P **P 15 22 09.0 +1.2**
baz=56
F51A Arnstein 70.84 314 P **P 15 22 09.8 +1.2**
baz=54
N60A Cedar Hill Far 70.85 307 P **P 15 22 10.0 +1.2**
baz=56
H53A Bobcaygeon 70.85 312 P **P 15 22 10.1 +1.3**
baz=55
D49A Beulah Townshi 70.86 315 P **P 15 22 09.9 +1.1**
baz=54
KSPA Keystone Colle 70.88 308 P **P 15 22 10.5 +1.5**
E50A Wahnapitae 71.02 314 P **P 15 22 11.1 +1.4**
baz=54
SADO Sadowa 71.06 312 P **P 15 22 11.6 +1.6**
D48A Paudash Townsh 71.17 316 P **P 15 22 11.9 +1.2**
baz=54
K56A Middlesex 71.18 310 P **P 15 22 12.7 +1.8**
baz=55
N59A State Game Lan 71.24 308 P **P 15 22 13.0 +1.8**
baz=55
N59A State Game Lan 71.24 308 P **P 15 22 13.0 +1.8**
N59A IAmb IAmb 15 22 14.0
comp=Z,8.1nm,0.9s
L57A Andrews Acres 71.29 309 P **P 15 22 13.2 +1.7**
baz=55,SNR=5.8
O60A Telford 71.35 307 P **P 15 22 13.3 +1.5**
baz=55
M58A Price's Panora 71.41 308 P **P 15 22 13.9 +1.6**
baz=55
MMNY Mt. Morris Dam 71.51 310 P **P 15 22 14.4 +1.6**
MMNY IAmb IAmb 15 22 18.1

comp=Z,7,9nm,0.7s
PSUB Penn St. - Bra 71.60 307 P P 15 22 14.6 +1.2
K55A Perry 71.61 310 P P 15 22 15.2 +1.7
baz=54
L56A Greenwood 71.64 309 P P 15 22 15.1 +1.5
baz=55
L56A Greenwood 71.64 309 P P 15 22 15.2 +1.5
L56A IAmb IAmb 15 22 16.3
comp=Z,7,6nm,0.9s
E48A Lockeyer 71.78 315 P P 15 22 15.8 +1.5
baz=53
M57A Sunshine Farm, 71.84 309 P P 15 22 16.6 +1.8
baz=55
M57A Sunshine Farm, 71.84 309 P P 15 22 16.4 +1.6
M57A IAmb IAmb 15 22 17.6
comp=Z,8.9nm,0.8s
O59A Robesonia 71.84 307 P P 15 22 16.2 +1.3
baz=55
N58A Sunbury 71.87 308 P P 15 22 16.8 +1.8
baz=55
N58A Sunbury 71.87 308 P P 15 22 16.0 +1.0
N58A IAmb IAmb 15 22 17.5
comp=Z,7,0nm,0.7s
D47A Chapleau 71.95 316 P P 15 22 16.9 +1.5
baz=53
K54A Basiliko Farm, 72.05 310 P P 15 22 17.7 +1.6
baz=54
I52A Shelburne 72.08 312 P P 15 22 17.8 +1.6
baz=54
WVNY West Valley, N 72.12 310 P P 15 22 17.5 +1.0
INK Inuvik 72.12 351 P P 15 22 16.6 +0.6
INK pmax pmax
comp=Z,12nm,1.8s
INK Inuvik 72.12 351 P P 15 22 16.6 +0.6
INK IAmb IAmb 15 22 31.1
comp=Z,12nm,1.8s
F49A Sandfield 72.14 314 P P 15 22 18.0 +1.5
baz=53
L55A Hinsdale 72.15 310 P P 15 22 18.2 +1.5
baz=54
M56A Emporium 72.40 309 P P 15 22 19.7 +1.5
baz=54
M56A Emporium 72.40 309 P P 15 22 19.1 +0.9
M56A IAmb IAmb 15 22 22.5
comp=Z,14nm,1.2s
P59A Jarrettsville 72.40 307 P P 15 22 19.7 +1.5
baz=54
E47A Iron Bridge 72.41 316 P P 15 22 19.6 +1.5
baz=53
O58A Lewisberry 72.42 307 P P 15 22 19.7 +1.4
baz=54
F48A Evansville 72.42 315 P P 15 22 19.6 +1.4
baz=53
N57A Milroy 72.44 308 P P 15 22 20.1 +1.7
baz=54
D46A Sault St. Mari 72.56 316 P P 15 22 20.1 +1.1
baz=52
L54A Sinclairville 72.65 310 P P 15 22 21.0 +1.4
baz=54
SSPA Standing Stone 72.72 308 P P 15 22 21.6 +1.6
baz=54
SSPA Standing Stone 72.72 308 P P 15 22 21.2 +1.1
SSPA IAmb IAmb 15 22 22.7
comp=Z,7.3nm,0.8s
I51A Listowel 72.73 312 P P 15 22 21.5 +1.5
baz=53
J52A Paris 72.74 312 P P 15 22 21.9 +1.7
baz=53
M55A Ridgway 72.77 309 P P 15 22 22.2 +1.8
baz=54,SNR=6.9
M55A Ridgway 72.77 309 P P 15 22 21.8 +1.4
N56A West Decatur 72.80 309 P P 15 22 22.4 +1.8
baz=54,SNR=5.5
O57A Amberson 72.81 308 P P 15 22 22.1 +1.4
baz=54
P58A Pank, Wackersv 73.02 307 P P 15 22 22.9 +1.0
baz=54
E46A Sault Ste Mari 73.03 316 P P 15 22 22.8 +1.0
E46A IAmb IAmb 15 22 28.2
comp=Z,11nm,1.1s
ERPA Erie 73.12 311 P P 15 22 23.9 +1.5
baz=53
ERPA Erie 73.12 311 P P 15 22 23.8 +1.3
TOLK Toolik Lake Re 73.17 357 P P 15 22 23.8 +1.5
M54A Oil Creek Stat 73.29 310 P P 15 22 25.1 +1.6
baz=53
M54A Oil Creek Stat 73.29 310 P P 15 22 24.6 +1.1
N55A Marion Center 73.31 309 P P 15 22 25.3 +1.7
baz=54,SNR=7.8
O56A Blue Knob Stat 73.35 308 P P 15 22 25.0 +1.1
baz=54
O56A Blue Knob Stat 73.35 308 P P 15 22 24.7 +0.8
O56A IAmb IAmb 15 22 29.2
comp=Z,8.0nm,0.8s
P57A Homestead Farm 73.47 307 P P 15 22 25.9 +1.3
baz=54
P57A Homestead Farm 73.47 307 P P 15 22 25.8 +1.2
P57A IAmb IAmb 15 22 27.2
comp=Z,16nm,1.3s
H48A Harrisville 73.50 314 P P 15 22 26.0 +1.4
baz=52
H48A Harrisville 73.50 314 P P 15 22 26.3 +1.7
G47A Hillman 73.51 315 P P 15 22 26.0 +1.4
baz=52
Q58A Fox Den Farm, 73.58 307 P P 15 22 26.4 +1.2
baz=54
YKA Yellowknife Ar 73.67 341 P P 15 22 25.6 +0.4
comp=Z,1.8nm,0.8s,baz=34,slow=4.9,SNR=15
YKA LR LR 15 55 24.8
comp=Z,30nm,20.8s,baz=0.0,slow=36
N54A Moraine State 73.81 310 P P 15 22 27.8 +1.3
baz=53
N54A Moraine State 73.81 310 P P 15 22 28.2 +1.6
N54A IAmb IAmb 15 22 29.2
comp=Z,11nm,1.0s
O55A Ligonier 73.84 309 P P 15 22 28.1 +1.4
baz=53
M53A WI Miller and 73.94 310 P P 15 22 28.3 +1.1
baz=53
P56A Dayton Farm, R 73.97 308 P P 15 22 29.0 +1.6
baz=53
Q57A Strasburg 73.98 307 P P 15 22 29.5 +1.9
baz=53
I48A Sherman Twp 74.03 314 P P 15 22 29.1 +1.4
baz=52
J49A Marlette 74.22 313 P P 15 22 30.4 +1.6
baz=52
R58B Mineral 74.28 306 P P 15 22 30.8 +1.5
baz=53
R58B Mineral 74.28 306 P P 15 22 29.8 +0.5
M52A Chesterland 74.28 311 P P 15 22 31.0 +1.7
baz=52
M52A Chesterland 74.28 311 P P 15 22 30.5 +1.2
U61A Possum Corner 74.32 304 P P 15 22 31.2 +1.7
baz=54
U61A Possum Corner 74.32 304 P P 15 22 31.2 +1.7
EPYK Eagle Plains 74.36 351 P P 15 22 30.5 +1.1
baz=17
EPYK Eagle Plains 74.36 351 P P 15 22 30.4 +1.1
EPYK IAmb IAmb 15 22 34.9
comp=Z,5.6nm,0.8s
N53A Lisbon 74.42 310 P P 15 22 31.5 +1.4
baz=53
N53A Lisbon 74.42 310 P P 15 22 31.6 +1.5
N53A IAmb IAmb 15 22 35.0
comp=Z,7.0nm,0.8s
V62A Hyde County Ai 74.45 303 P P 15 22 31.7 +1.4
Q56A Snyder Ridge, 74.47 308 P P 15 22 31.5 +1.0
baz=53,SNR=8.0
Q56A Snyder Ridge, 74.47 308 P P 15 22 31.4 +1.0
E43A Lone Tree Farm 74.47 317 P P 15 22 31.4 +1.1
R57A Stanardsville 74.49 307 P P 15 22 32.1 +1.6
baz=53
MCWV Mont Chateau 74.50 308 P P 15 22 32.2 +1.7
baz=53
MCWV Mont Chateau 74.50 308 P P 15 22 32.1 +1.5
MCWV IAmb IAmb 15 22 36.1
comp=Z,6.4nm,0.7s
O54A Avella 74.52 309 P P 15 22 31.9 +1.3
baz=53
O54A Avella 74.52 309 P P 15 22 31.9 +1.3
O54A IAmb IAmb 15 22 33.1
comp=Z,7.7nm,0.8s
P55A Reedsville 74.58 308 P P 15 22 32.5 +1.4
baz=53
G45A Suttons Bay 74.59 316 P P 15 22 33.5 +2.5
baz=51
S58A Poland Farm, P 74.60 306 P P 15 22 32.5 +1.4
baz=53
S58A Poland Farm, P 74.60 306 P P 15 22 32.3 +1.2
H46A Fife Lake 74.65 315 P P 15 22 32.9 +1.6
baz=51
T59A Double "B" Far 74.66 305 P P 15 22 33.3 +1.7
baz=53
T59A Double "B" Far 74.66 305 P P 15 22 32.8 +1.3
D41A Chassel 74.86 318 P P 15 22 33.5 +1.0
N52A McGinn's Farm, 74.92 310 P P 15 22 34.6 +1.6
baz=52
P54A Burton 74.93 309 P P 15 22 34.8 +1.7
baz=52
O53A New Philadelph 74.98 310 P P 15 22 34.9 +1.5
baz=52
Q55A Buckhannon 75.05 308 P P 15 22 34.8 +1.0
baz=53
S57A Dark Hollow, R 75.09 306 P P 15 22 35.0 +1.0
baz=53
K48A Perry 75.13 313 P P 15 22 35.2 +1.0
baz=51
I46A Reed City 75.17 315 P P 15 22 35.7 +1.3
baz=51
U59A Littleton 75.19 305 P P 15 22 36.2 +1.6
baz=53
V60A Jim Taylor Roa 75.19 304 P P 15 22 36.2 +1.7
baz=53
J47A Sunmer 75.26 314 P P 15 22 36.2 +1.4
baz=51
N51A Ashland 75.27 311 P P 15 22 36.2 +1.2
baz=52
N51A Ashland 75.27 311 P P 15 22 35.6 +0.6
T58A Grand View Acr 75.31 306 P P 15 22 36.4 +1.2
baz=53
O52A Adamsville 75.44 310 P P 15 22 37.5 +1.5
baz=52,SNR=5.9
O52A Adamsville 75.44 310 P P 15 22 37.0 +1.0
R55A Marlinton 75.50 307 P P 15 22 37.7 +1.2
baz=52
R55A Marlinton 75.50 307 P P 15 22 37.9 +1.4
R55A IAmb IAmb 15 22 39.0
comp=Z,8.4nm,0.8s
Q54A Coxs Mills 75.52 308 P P 15 22 37.6 +1.1
baz=52
Q54A Coxs Mills 75.52 308 P P 15 22 37.5 +1.0
P53A Whipple 75.56 309 P P 15 22 37.9 +1.2
baz=52
P53A Whipple 75.56 309 P P 15 22 38.2 +1.6
P53A IAmb IAmb 15 22 41.7
comp=Z,7.9nm,0.7s
U58A Oxford 75.65 305 P P 15 22 38.5 +1.3
baz=53
NJ2 Nanjing 75.69 60 eP P 15 22 36.5 -1.0
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
K47A Vermontville 75.72 313 P P 15 22 38.8 +1.3
baz=51
T57A Hurt 75.74 306 P P 15 22 38.8 +1.0
baz=52
EYMN Ely 75.78 321 P P 15 22 38.7 +0.9
baz=48
EYMN Ely 75.78 321 P P 15 22 38.6 +0.9
COWI Conover 75.79 318 P P 15 22 38.9 +1.0
V59A Middlesex 75.83 304 P P 15 22 39.8 +1.5
baz=53
O51A Pataskala 75.89 310 P P 15 22 39.6 +1.0
baz=52
W60A Pink Hill 75.91 304 P P 15 22 40.3 +1.6
baz=53
P52A Corning 75.92 309 P P 15 22 39.6 +0.8
baz=52
Q53A Leroy 76.02 309 P P 15 22 40.5 +1.2
baz=52
S55A Lewisburg 76.05 307 P P 15 22 41.3 +1.7
baz=52
ACSO Alum Creek Sta 76.06 310 P P 15 22 40.7 +1.2
baz=51
R54A Victor 76.11 308 P P 15 22 41.3 +1.4
baz=52
H43A Windswept, Lux 76.11 316 P P 15 22 40.7 +1.0
U57A Blanch 76.13 305 P P 15 22 41.3 +1.3
baz=52
T56A Rocky Mt 76.21 306 P P 15 22 41.5 +1.0
baz=52
ULM Lac du Bonnet 76.30 324 P P 15 22 41.0 +0.3
comp=Z,2.6nm,0.5s,baz=65,slow=1.2,SNR=3.7
ULM LR LR 15 56 24.7
comp=Z,53nm,19.6s,baz=84,slow=36
ULM Lac du Bonnet 76.30 324 P P 15 22 41.0 +0.3
ULM Lac du Bonnet 76.30 324 P P 15 22 41.0 +0.3
USRK Ussuriysk Ar. 76.33 44 P P 15 22 39.8 -1.2
comp=Z,2.6nm,0.8s,baz=256,slow=6.3,SNR=5.1
N49A Columbus Grove 76.34 312 P P 15 22 42.0 +0.9
BLA Blacksburg 76.35 307 P P 15 22 42.7 +1.4
BLA pmax pmax
comp=Z,26nm,1.7s
BLA Blacksburg 76.35 307 P P 15 22 42.7 +1.4
V58A Windy Hill, Pi 76.38 305 P P 15 22 42.4 +1.1
baz=52
Q52A Bidwell 76.42 309 P P 15 22 42.8 +1.2
baz=51
S54A Dingess, Beckl 76.54 308 P P 15 22 43.4 +1.0
baz=52
S54A Dingess, Beckl 76.54 308 P P 15 22 43.1 +0.8
P51A Williamsport 76.57 310 P P 15 22 43.6 +1.2
baz=51
P51A Williamsport 76.57 310 P P 15 22 43.1 +0.6
B35A Bob, Littlefor 76.59 322 P P 15 22 43.5 +1.1
R53A Hurricane 76.61 308 P P 15 22 44.1 +1.4
baz=52
R53A Hurricane 76.61 308 P P 15 22 43.5 +0.8
T55A Pulaski 76.63 307 P P 15 22 44.2 +1.3
baz=52
E38A The Farm, Brul 76.70 320 P P 15 22 43.5 +0.4
E38A IAmb IAmb 15 22 44.5
comp=Z,6.6nm,1.0s
V57A Coltrane Farms 76.75 305 P P 15 22 44.3 +0.8
baz=52
X59A McDuffie Farm, 76.78 304 P P 15 22 45.0 +1.3
baz=52
U56A King 76.85 306 P P 15 22 45.2 +1.1
baz=52
IL31 76.88 355 P P 15 22 45.2 +1.6
IL31 IAmb IAmb 15 23 44.8
comp=Z,16nm,2.0s
ILAR Eielson Array 76.88 355 P P 15 22 44.8 +1.0
comp=Z,0.4nm,0.5s,baz=348,slow=3.3,SNR=11
ILAR LR LR 15 58 12.7
comp=Z,20nm,19.9s,baz=50,slow=37
Q49A Covington 76.89 311 P P 15 22 45.2 +0.9
G40A Rib Lake 76.89 318 P P 15 22 45.4 +1.2
G40A IAmb IAmb 15 22 50.5
comp=Z,6.4nm,0.9s
DAWY Dawson 76.90 352 P P 15 22 44.9 +1.0
W58A Raeford 76.92 304 P P 15 22 45.7 +1.2
baz=52
Q51A Peebles 77.03 310 P P 15 22 46.0 +0.9
Q51A IAmb IAmb 15 22 47.0
comp=Z,9.6nm,0.9s
I42A Draeger Farm, 77.11 316 P P 15 22 46.7 +1.3
S53A Williamson 77.12 308 P P 15 22 46.3 +0.7
baz=51
T54A Tazewell 77.17 307 P P 15 22 46.9 +0.9
baz=51,SNR=5.0
U55A TA2, Sparta 77.18 306 P P 15 22 46.7 +0.7
baz=52,SNR=7.6
HDA Harding Lake 77.24 355 P P 15 22 46.1 +0.4
baz=8.8
HDA Harding Lake 77.24 355 P P 15 22 46.1 +0.4
V56A Mocksville 77.25 306 P P 15 22 47.6 +1.3
baz=52
O48A Farmland 77.33 311 P P 15 22 47.7 +0.9
baz=50
U54A Nelsons Funny 77.65 307 P P 15 22 50.2 +1.5
baz=51
U54A Nelsons Funny 77.65 307 P P 15 22 49.9 +1.2
U54A IAmb IAmb 15 22 53.7
comp=Z,9.4nm,0.8s
L44A Lake County Fo 77.68 314 P P 15 22 50.4 +1.7
V55A Taylorsville 77.69 306 P P 15 22 50.4 +1.6
baz=51
W56A Indian Trail 77.73 305 P P 15 22 50.3 +1.3
baz=52
DOT Dot Lake 77.77 354 P P 15 22 49.7 +0.9
DOT IAmb IAmb 15 24 14.2
comp=Z,10nm,1.6s
GSI Gunungsitoli 77.83 98 P P 15 22 49.6 -0.3
GSI IAmb IAmb 15 24 49.6
comp=Z,12nm,1.1s
P48A Milroy 78.00 311 P P 15 22 50.9 +0.4
P48A IAmb IAmb 15 22 51.8
comp=Z,7.5nm,0.9s
I40A Norwalk 78.04 317 P P 15 22 51.2 +0.6
I40A IAmb IAmb 15 22 55.3
comp=Z,6.1nm,0.7s
S51A Beattyville 78.06 309 P P 15 22 52.1 +1.3
V54A Nebo 78.20 306 P P 15 22 52.7 +1.1
baz=51
KMSC Kings Mountain 78.20 305 P P 15 22 53.1 +1.5
baz=51
KMSC Kings Mountain 78.20 305 P P 15 22 52.2 +0.6
KSRS Korea Array 78.29 51 P P 15 22 51.0 -1.1
comp=Z,1.7nm,0.8s,baz=308,slow=5.0,SNR=10.0
KSRS LR LR 16 01 17.0
comp=Z,26nm,18.2s,baz=291,slow=39
KSRS Korea Array 78.29 51 P P 15 22 51.0 -1.1
KTH Kantishna Hill 78.31 357 P P 15 22 53.1 +1.3
KTH IAmb IAmb 15 25 36.7
comp=Z,6.9nm,0.6s
X56A White Oak 78.41 305 P P 15 22 53.9 +1.1
baz=51
JFWS Jewell Farm 78.49 316 P P 15 22 53.7 +0.6
baz=48
R49A Shelbyville 78.60 310 P P 15 22 54.6 +0.8
JSC Jenkinsville 78.69 305 P P 15 22 55.4 +1.0
JSC pmax pmax
comp=Z,31nm,1.7s
JSC Jenkinsville 78.69 305 P P 15 22 55.4 +1.0
PAULI Pauline 78.71 305 P P 15 22 55.6 +1.2
PAULI IAmb IAmb 15 22 56.7
comp=Z,6.7nm,0.8s
W54A Cherokee Point 78.78 306 P P 15 22 56.1 +1.2
baz=51
V53A Saluda 78.81 307 P P 15 22 56.0 +0.9
X55A Gracelyn & Ava 78.81 305 P P 15 22 56.4 +1.4
baz=51
BLO Bloomington 78.84 311 P P 15 22 56.0 +0.9
BLO pmax pmax
comp=Z,15nm,0.9s
BLO Bloomington 78.84 311 P P 15 22 56.0 +0.9
Z57A Bowman 78.94 304 P P 15 22 56.9 +1.2
baz=51
TTA Tatalina 79.08 359 P P 15 22 57.3 +1.2
TTA pmax pmax
comp=Z,19nm,1.9s
TTA Tatalina 79.08 359 P P 15 22 57.3 +1.2
TTA IAmb IAmb 15 25 34.1
comp=Z,19nm,1.9s
T50A Nancy 79.21 309 P P 15 22 58.4 +1.2
X54A Belton 79.24 306 P P 15 22 59.1 +1.7
baz=51
Y55A Saluda 79.29 305 P P 15 22 58.8 +1.2
baz=51
WCI Wyandotte Cave 79.32 310 P P 15 22 58.2 +0.5
baz=49
WCI Wyandotte Cave 79.32 310 P P 15 22 58.2 +0.5
WCI pmax pmax
comp=Z,8.0nm,0.8s
WCI Wyandotte Cave 79.32 310 P P 15 22 58.2 +0.5
WCI IAmb IAmb 15 22 59.8
comp=Z,8.4nm,0.8s
O44A Mansfield 79.33 313 P P 15 22 58.8 +1.0
O44A IAmb IAmb 15 22 59.7
comp=Z,10nm,0.7s
Z56A Williston 79.36 304 P P 15 22 59.1 +1.1
baz=51
TKL Tuckaleechee C 79.42 307 P P 15 22 59.5 +1.1
TKL pmax pmax
comp=Z,5.0nm,0.9s
TKL Tuckaleechee C 79.42 307 P P 15 22 59.5 +1.1
L40A Anamosa 79.60 316 P P 15 22 59.8 +0.6
L40A IAmb IAmb 15 23 05.2
comp=Z,12nm,0.9s
W52A Murphy 79.88 307 P P 15 23 01.9 +1.0
CPCT Cooper Cave 80.03 307 P P 15 23 03.0 +1.3
CPCT IAmb IAmb 15 23 04.1
comp=Z,9.0nm,1.0s
U49A Red Boiling Sp 80.12 309 P P 15 23 03.3 +1.2
U49A IAmb IAmb 15 23 04.4
comp=Z,13nm,1.1s
T47A Sharon Grove 80.61 310 P P 15 23 05.7 +0.9
T47A IAmb IAmb 15 23 06.7
comp=Z,9.8nm,0.8s
GOGA Godfrey 80.66 305 P P 15 23 06.2 +1.1
baz=50
W50A Signal Mountai 80.68 308 P P 15 23 06.6 +1.4
W50A IAmb IAmb 15 23 07.6
comp=Z,10nm,0.8s
CLTN Cedars of Leba 80.73 309 P P 15 23 06.5 +1.1
CLTN IAmb IAmb 15 23 07.5
comp=Z,9.7nm,1.1s
PETK Petropavlovsk- 81.16 25 LR LR 16 02 28.0
comp=Z,46nm,19.7s,baz=250,slow=38
V48A Smith Brothers 81.26 309 P P 15 23 09.1 +0.8
ECSD EROS Data Cent 81.27 320 P P 15 23 08.6 +0.4
baz=44
ECSD EROS Data Cent 81.27 320 P P 15 23 08.9 +0.7
WVT Waverly 81.62 310 P P 15 23 10.6 +0.4
baz=48
WVT Waverly 81.62 310 P P 15 23 10.5 +0.4
WVT pmax pmax
comp=Z,5.0nm,1.0s
WVT Waverly 81.62 310 P P 15 23 10.5 +0.4
P40A Paris 81.78 315 P P 15 23 11.6 +0.6
P40A IAmb IAmb 15 23 12.5
comp=Z,7.2nm,0.9s
152A Waverly Hall 81.94 305 P P 15 23 12.8 +0.9
152A IAmb IAmb 15 23 16.4
comp=Z,5.0nm,0.7s
TIGA Tifton 82.01 304 P P 15 23 13.4 +1.2
baz=50
Y49A Blount Mountai 82.24 307 P P 15 23 14.6 +1.1
Y49A IAmb IAmb 15 23 19.6
comp=Z,5.5nm,0.8s
X48A Hartselle 82.25 308 P P 15 23 14.3 +0.8
X48A IAmb IAmb 15 23 19.0
comp=Z,8.4nm,0.8s
CCM Cathedral Cave 82.34 313 P P 15 23 14.8 +0.9
baz=47
CCM Cathedral Cave 82.34 313 P P 15 23 14.3 +0.4
CCM pmax pmax
comp=Z,7.0nm,1.1s
CCM Cathedral Cave 82.34 313 P P 15 23 14.3 +0.4
CCM IAmb IAmb 15 23 19.7
comp=Z,7.2nm,1.1s
P38A Dawn 82.54 315 P P 15 23 15.9 +0.9
R40A Maddies Statio 82.76 314 P P 15 23 17.1 +1.1
R40A IAmb IAmb 15 23 18.3
comp=Z,9.4nm,0.9s
LRAL Lakeview Retre 83.15 307 P P 15 23 19.2 +1.0
baz=48
LRAL Lakeview Retre 83.15 307 P P 15 23 19.0 +0.8
LRAL IAmb IAmb 15 23 20.4
comp=Z,9.3nm,1.1s
S39A Bolivar 83.78 314 P P 15 23 22.4 +1.0
EGMT Eagleton 83.94 330 P P 15 23 22.6 +0.5
baz=36
EGMT Eagleton 83.94 330 P P 15 23 22.9 +0.8
EGMT IAmb IAmb 15 23 28.8
comp=Z,7.1nm,1.1s
FCAR Ozark Folk Cen 84.34 312 P P 15 23 25.2 +1.0
U40A Yellville 84.44 313 P P 15 23 25.4 +0.6
baz=46
U40A Yellville 84.44 313 P P 15 23 24.8 0.0
U40A IAmb IAmb 15 23 32.6
comp=Z,5.5nm,1.1s
KSU1 Kansas State U 84.60 317 P P 15 23 26.5 +1.0
baz=44
WHAR Wooly Hollow 84.85 312 P P 15 23 27.8 +1.0
W41B Gary Mavity, V 84.91 311 P P 15 23 28.0 +0.9
baz=46
W41B Gary Mavity, V 84.91 311 P P 15 23 27.8 +0.7
W41B IAmb IAmb 15 23 29.3
comp=Z,7.5nm,1.2s
MAT Matsushiro 85.01 47 P P 15 23 25.9 -1.7
MJAR Matsushiro Arr 85.01 47 P P 15 23 26.6 -1.1
comp=Z,1.8nm,0.8s,baz=307,slow=4.6,SNR=8.3
HHAR Hobbs 85.12 313 P P 15 23 28.9 +0.8
HHAR IAmb IAmb 15 23 30.1
comp=Z,7.7nm,1.2s
U38A Gravette 85.26 314 P P 15 23 29.7 +0.8
U38A IAmb IAmb 15 23 34.9
comp=Z,6.1nm,0.9s

X40A	**Basin Creek Fa**	**85.73**	**311**	P		**P**	**15 23 32.1**	**+0.9**
	baz=46							
W39A	**Magazine**	**85.79**	**312**	P		**P**	**15 23 32.1**	**+0.5**
	baz=45							
T35A	**Sooner Cattle**	**86.12**	**315**	P		**P**	**15 23 34.0**	**+0.8**
MIAR	**Mount Ida**	**86.12**	**312**	P		**P**	**15 23 34.4**	**+1.3**
	baz=45							
MIAR	**Mount Ida**	**86.12**	**312**	P		**P**	**15 23 34.5**	**+1.3**
MIAR				pmax	pmax			
	comp=Z,9.0nm,1.2s							
MIAR	**Mount Ida**	**86.12**	**312**	P		**P**	**15 23 34.5**	**+1.3**
MIAR				IAmb	IAmb		15 23 35.8	
	comp=Z,9.4nm,1.2s							
TUL1	**Leonard**	**86.43**	**314**	P		**P**	**15 23 36.0**	**+1.3**
	baz=44							
TUL1	**Leonard**	**86.43**	**314**	P		**P**	**15 23 35.9**	**+1.2**
TUL1				IAmb	IAmb		15 23 41.4	
	comp=Z,9.0nm,1.1s							
NEW	**Newport**	**86.47**	**334**	P		**P**	**15 23 35.2**	**+0.5**
	baz=31							
X37A	**Clayton**	**87.14**	**313**	P		**P**	**15 23 39.3**	**+1.2**
PDAR	**Pinedale Array**	**88.11**	**327**	P		**P**	**15 23 42.7**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=60,slow=5.3,SNR=2.4							
PDAR				LR	LR		16 03 13.4	
	comp=Z,54nm,21.8s,baz=14,slow=36							
WMOK	**Wichita Mounta**	**88.96**	**315**	P		**P**	**15 23 47.5**	**+0.6**
	baz=42							
NVAR	**Mina Array Bea**	**95.37**	**330**	LR		LR	16 08 54.1	
	comp=Z,63nm,19.7s,baz=343,slow=37							
TXAR	**Lajitas Array**	**95.75**	**315**	P		**P**	**15 24 19.1**	**+0.6**
	comp=Z,0.7nm,0.9s,baz=90,slow=3.8,SNR=6.2							
ASAR	**Alice Springs**	**120.98**	**97**	PKP		**PKPdf**	**15 29 44.4**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=301,slow=1.3,SNR=3.3							

AUST 08 15:41:51.8±0.2, 33.29S×138.67E, h0km, Error ellipse: s-maj=4.5km s-min=2.0km az=41.0, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUJCS	**Jamestown Cent**	**0.10**	**330**	P	Pg	15 41 53.5	-0.2
	baz=0.1						
AUJCS				S	Sg	15 41 54.8	-0.3
	baz=0.1						
HTT	**Hallett**	**0.25**	**124**	P	Pg	15 41 56.0	-0.6
	baz=0.3						
HTT				S	Sg	15 41 59.6	-0.3
	baz=0.3						
AUMAR	**Marden Senior**	**1.60**	**181**	P	Pb	15 42 21.8	-0.3
	baz=1.6						
BBOO	**Buckleboo**	**2.25**	**282**	P	Pn	15 42 30.1	-0.1
	baz=2.2						
STKA	**Stephens Creek**	**2.84**	**61**	P	Pn	15 42 39.5	+1.1
	baz=2.8						
ARPS	**Mount Arapiles**	**4.34**	**144**	P	Pn	15 42 59.7	+0.8
	baz=4.3						

*GUC **08** 16:19:30.3±0.7, 32.73S×71.57W, h44km±3km, ML3.7*
*SJA **08** 16:19:30.2±0.7, 32.89S×71.60W, h32km±5km, ML3.4, MW3.7*

ISC 08 16:19:28.9±1.6, 32.77S±0.03×71.64W±0.05, h14km±10km, n31, σ1s55/51, 4C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROC1	**El Roble**	**0.56**	**112**	*i* P	**Pn**	**16 19 41.6**	**-1.2**
ROC1				*eS*	**Sn**	**16 19 49.8**	**-2.2**
ROCH	**El Roble**	**0.56**	**112**	⇓*i* P	**Pn**	**16 19 41.6**	**-1.2**
ROCH				*i* S	**Sn**	**16 19 49.8**	**-2.3**
ROCH				IAML		16 19 52.2	
	comp=E,4μm,0.3s						
MT02	**Curacav**	**0.65**	**140**	⇓*i* P	**Pn**	**16 19 43.0**	**-0.7**
MT02				*i* S	**Sb**	**16 19 52.0**	**+1.0**
MT02				IAML		16 19 52.4	
	comp=N,5μm,0.1s						
PEL	**Peldehue**	**0.88**	**116**	⇑*i* P	**Pg**	**16 19 46.0**	**0.0**
PEL				*i* S	**Sn**	**16 19 58.3**	**-1.4**
PEL				IAML		16 19 59.6	
	comp=N,5μm,0.2s						
PEL	**Peldehue**	**0.88**	**116**	*i* P	**Pn**	**16 19 46.5**	**-0.5**
PEL				*i* S	**Sn**	**16 19 58.5**	**-1.2**
VA03	**San Esteban**	**0.92**	**90**	⇓*i* P	**Pb**	**16 19 46.2**	**-0.4**
VA03				*i* S	**Sg**	**16 19 58.1**	**-0.5**
VA03				IAML		16 19 58.7	
	comp=E,9μm,0.2s						
RCDM	**Rinconada Maip**	**1.00**	**136**	*e*P	**Pn**	**16 19 49.1**	**+0.5**
RCDM				*e*S	**Sn**	**16 20 02.5**	**-0.1**
CLCH	**Cerro Calan**	**1.12**	**125**	⇓*i* P	**Pn**	**16 19 50.0**	**-0.2**
CLCH				*i* S	**Sb**	**16 20 04.3**	**-0.2**
CLCH				IAML		16 20 10.6	
	comp=N,5μm,0.9s						
MT01	**Popeta**	**1.14**	**164**	⇓*i* P	**Pb**	**16 19 50.8**	**+0.4**
MT01				*i* S	**Sn**	**16 20 06.0**	**-0.1**
MT01				IAML		16 20 08.9	
	comp=N,1μm,0.4s						
FSR	**Penalolen**	**1.17**	**128**	*e*P	**Pg**	**16 19 52.1**	**+0.7**
FSR				*e*S	**Sg**	**16 20 07.6**	**+0.8**
MT03	**Universidad Ad**	**1.19**	**128**	⇓*i* P	**Pb**	**16 19 51.3**	**-0.1**
MT03				*i* S	**Sg**	**16 20 07.2**	**-0.2**
MT03				IAML		16 20 08.8	
	comp=N,4μm,0.1s						
CO02	**Combarbal**	**1.65**	**19**	⇑*i* P	**Pn**	**16 19 57.4**	**-0.2**
CO02				*i* S	**Sn**	**16 20 18.3**	**-0.3**
CO02				IAML		16 20 20.4	
	comp=E,2μm,0.2s						
AUSP	**Uspallata**	**1.98**	**75**	*e*P	**Pb**	**16 20 04.5**	**-0.3**
CO03	**El Pedregal**	**2.08**	**23**	⇑*i* P	**Pn**	**16 20 03.6**	**+0.1**
CO03				*i* S	**Sn**	**16 20 28.4**	**-0.9**
CO03				IAML		16 20 35.3	
	comp=N,381nm,0.2s						
BO02	**Sierra Bellavi**	**2.14**	**161**	⇑*i* P	**Pn**	**16 20 05.5**	**+1.2**
BO02				*i* S	**Sn**	**16 20 31.6**	**+0.7**
BO02				IAML		16 20 41.1	
	comp=E,1μm,0.4s						
RTLS	**Leoncito**	**2.20**	**65**	*i* P	**Pb**	**16 20 07.8**	**-0.9**
RTLS				IAML		16 20 44.6	
	comp=Z,94nm,0.5s						
GO05	**Huala**	**2.25**	**186**	*e*P	**Pn**	**16 20 05.5**	**-0.3**
GO05	**Huala**	**2.25**	**186**	*e*P	**Pn**	**16 20 05.7**	**-0.1**
GO04	**Tololo Observa**	**2.68**	**16**	*e*P	**Pn**	**16 20 11.7**	**-0.2**
GO04	**Tololo Observa**	**2.68**	**16**	*i* P	**Pn**	**16 20 11.8**	**-0.2**
GO04				*e*S	**Sb**	**16 20 47.8**	**-1.9**
RTCV	**Cerro Valdivia**	**2.77**	**72**	*e*P	**Pb**	**16 20 16.1**	**-2.1**
RTCV				IAML		16 21 04.6	
	comp=Z,77nm,0.7s						
ZON	**Zonda**	**2.79**	**65**	*i* P	**Pb**	**16 20 16.1**	**-2.4**
ZON				*i* S	**Sb**	**16 20 52.7**	**+0.1**
ZON				IAML		16 20 58.5	
	comp=Z,99nm,0.4s						
RTLL	**Cerro Villicun**	**3.04**	**63**	*i* P	**Pn**	**16 20 18.9**	**+2.2**
RTLL				*e*S	**Sb**	**16 20 59.6**	**-0.3**
RTLL				IAML		16 21 03.9	
	comp=Z,217nm,0.4s						
CFA	**Coronel Fontan**	**3.10**	**69**	*e*P	**Pn**	**16 20 19.9**	**+2.4**
CFA				*e*S	**Sb**	**16 21 01.3**	**-0.4**
CFA				IAML		16 21 04.8	
	comp=Z,57nm,0.3s						
ACDV	**Cuesta del Vie**	**3.36**	**40**	*e*P	**Pn**	**16 20 24.5**	**+3.3**
ACDV				IAML		16 21 20.5	
	comp=Z,51nm,0.5s						
AC05	**El Transito**	**4.09**	**17**	*e*P	**Pn**	**16 20 31.3**	**+0.2**
AC05				IAML		16 21 37.6	
	comp=N,115nm,0.7s						
AGUA	**GUANDACOL**	**4.24**	**40**	*e*P	**Pn**	**16 20 35.7**	**+2.5**
AGUA				IAML		16 21 52.3	
	comp=Z,77nm,0.6s						
APLL	**PUNTA DE LOS L**	**4.96**	**63**	*e*P	**Pn**	**16 20 44.8**	**+1.7**
APLL				*e*S	**Sn**	**16 21 45.9**	**+5.7**
VCA	**Vinchina**	**4.98**	**37**	*e*P	**Pn**	**16 20 46.5**	**+3.1**
VCA				IAML		16 22 16.6	
	comp=Z,59nm,0.8s						
MRA	**San Martin**	**5.01**	**88**	*e*P	**Pn**	**16 20 45.3**	**+1.5**
MRA				IAML		16 22 10.0	
	comp=Z,31nm,0.6s						
TCA	**Tanti**	**6.14**	**78**	*i* P	**Pn**	**16 20 59.5**	**+0.1**
TCA				*i* S	**Sn**	**16 22 08.7**	**-0.8**
TCA				IAML		16 22 28.7	
	comp=Z,26nm,0.9s						

*NEIC **08** 16:28:02.8±1.2, 29.50S±0.08×179.2W±0.2, h334km±7km, mb4.5/13, Error ellipse: s-maj=25.3km s-min=11.9km az=90.0*
*IDC **08** 16:28:13.5±6.9, 29.64S×179.54W, h431km±68km, mb3.3/7, mb1 3.4/8, mb1mx3.2/21, mbtmp4.1/8, Error ellipse: s-maj=41.8km s-min=21.8km az=71.0*

ISC 08 16:28:03.5±0.7, 29.89S±0.06×179.1W±0.1, h350km, n75, σ1s80/84, mb4.1/12, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.20**	**59**	P	Pn	16 28 47.1	-3.0
GLKZ				S	S	16 29 15.6	-12
RIZ	**Raoul Island**	**1.21**	**58**	P	**Pn**	**16 28 47.9**	**-2.2**
RIZ				S	S	16 29 15.7	-12
RAO	**Raoul Island**	**1.21**	**58**	Pn	**Pn**	**16 28 47.4**	**-2.8**
MXZ	**Matakaoa Point**	**7.95**	**195**	P	**Pn**	**16 29 58.5**	**+1.6**
MXZ				S	**S**	**16 31 25.5**	**-3.9**
MXZ	**Matakaoa Point**	**7.95**	**195**		**Pn**	**16 30 00.5**	**+3.7**
WCZ	**Waipu Caves**	**8.17**	**221**	P	**P**	**16 30 04.2**	**+1.8**
WMGZ	**Waiomatatini S**	**8.17**	**194**	P	**Pn**	**16 29 59.8**	**+0.3**
WMGZ				S	**S**	**16 31 30.5**	**-3.7**
HAZ	**Te Kaha**	**8.26**	**197**	P	**Pn**	**16 30 01.4**	**+0.9**
HAZ				S	**S**	**16 31 34.7**	**-1.4**
PKGZ	**Pakihiroa**	**8.31**	**196**	P	**Pn**	**16 30 00.7**	**-0.5**
PKGZ				S	**S**	**16 31 32.3**	**-5.1**
PUZ	**Puketiti**	**8.45**	**194**	P	**Pn**	**16 30 02.0**	**-0.9**
PUZ				S	**S**	**16 31 36.4**	**-3.9**
RUGZ	**Raukumara Rang**	**8.49**	**198**	P	**P**	**16 30 04.8**	**-1.3**
RUGZ				S	**S**	**16 31 37.2**	**-4.0**
TWGZ	**Tauwhareparae**	**8.61**	**196**	P	**P**	**16 30 06.6**	**-0.8**
TWGZ				S	**S**	**16 31 41.5**	**-2.4**
MARZ	**Manawahe**	**8.80**	**202**	P	**P**	**16 30 10.8**	**+1.3**
CNGZ	**Carnagh Statio**	**8.86**	**194**	P	**P**	**16 30 11.1**	**+1.0**
MWZ	**Matawai**	**8.87**	**197**	P	**Pn**	**16 30 07.9**	**0.0**
MWZ				S	**S**	**16 31 46.3**	**-3.3**
TKGZ	**Te Karaka**	**8.89**	**196**	P	**Pn**	**16 30 07.1**	**-0.9**
TKGZ				S	**S**	**16 31 48.1**	**-1.8**
URZ	**Urewera**	**8.92**	**200**	P	**Pn**	**16 30 08.9**	**+0.6**
URZ				S	**S**	**16 31 47.3**	**-3.2**
TOZ	**Tahuroa Road**	**9.02**	**208**	P	**P**	**16 30 14.0**	**+2.2**
RAGZ	**Rawiri**	**9.05**	**198**	P	**P**	**16 30 12.7**	**+0.3**
RIGZ	**Rimuhau**	**9.17**	**196**	P	**P**	**16 30 12.9**	**-0.6**
MUGZ	**Murupara**	**9.22**	**201**	P	**Pn**	**16 30 12.3**	**+0.3**
RTZ	**Ruatahuna**	**9.29**	**199**	P	**P**	**16 30 14.7**	**-0.2**
SNGZ	**Shannon Statio**	**9.34**	**197**	P	**P**	**16 30 14.8**	**-0.7**
PRRZ	**Plateau Road**	**9.36**	**202**	P	**P**	**16 30 16.2**	**+0.6**
TLZ	**Tolley Road**	**9.52**	**206**	P	**P**	**16 30 20.9**	**+3.5**
MTHZ	**Maungataniwha**	**9.55**	**199**	P	**P**	**16 30 17.4**	**-0.4**
MHGZ	**Mahia Peninsul**	**9.56**	**194**	P	**P**	**16 30 19.0**	**+1.1**
WHHZ	**Waihua**	**9.65**	**197**	P	**P**	**16 30 19.1**	**+0.3**
MRHZ	**Matea Rd**	**9.66**	**201**	P	**P**	**16 30 18.5**	**-0.5**
NMHZ	**Naumai**	**9.78**	**199**	P	**P**	**16 30 20.3**	**-0.1**
HATZ	**Hinemaiaia**	**9.81**	**203**	P	**P**	**16 30 21.2**	**+0.4**
ARHZ	**Aropaoanui**	**9.89**	**198**	P	**Pn**	**16 30 20.3**	**+0.4**
BKZ	**Black Stump Fm**	**9.94**	**200**	P	**Pn**	**16 30 19.0**	**-1.6**
HIZ	**Hauiti**	**9.95**	**209**	P	**P**	**16 30 25.4**	**+3.2**
MCHZ	**McNeill Hill**	**10.14**	**199**	P	**Pn**	**16 30 23.6**	**+0.7**
BHHZ	**Black Hill Sta**	**10.37**	**201**	P	**Pn**	**16 30 25.4**	**-0.3**
KRHZ	**Kereru**	**10.42**	**200**	P	**Pn**	**16 30 26.2**	**-0.1**
BFZ	**Birch Farm**	**11.41**	**198**	P	**Pn**	**16 30 36.4**	**-1.8**
MSVF	**Nonsavu**	**12.38**	**347**	P	**P**	**16 30 47.2**	**-2.3**
BHW	**Baring Head**	**12.49**	**201**	P	**P**	**16 30 50.1**	**-0.2**
TUWZ	**Tuamarina**	**12.82**	**204**	P	**P**	**16 30 52.9**	**-1.1**
NNZ	**Nelson**	**12.85**	**206**	P	**P**	**16 30 52.9**	**-1.4**
QRZ	**Quartz Range**	**12.86**	**210**	P	**Pn**	**16 30 55.6**	**+0.4**
BSWZ	**Blackbirch Sta**	**13.10**	**204**	P	**P**	**16 30 57.4**	**+0.3**
THZ	**Tophouse**	**13.50**	**206**	P	**P**	**16 31 01.8**	**+0.3**
KHZ	**Kahutara**	**13.83**	**203**	P	**P**	**16 31 04.2**	**-0.9**
LTZ	**Lake Taylor**	**14.61**	**206**	P	**P**	**16 31 13.7**	**0.0**
DZM	**Mont Dzumac**	**15.15**	**298**	P	**Pn**	**16 31 22.4**	**+0.2**
	0.7nm,0.3s,baz=156,slow=15,SNR=7.2						
OXZ	**Oxford**	**15.17**	**205**	P	**P**	**16 31 18.7**	**-1.0**
MQZ	**McQueen's Vall**	**15.28**	**203**	P	**P**	**16 31 21.1**	**+0.2**
MQZ				IAmb	IAmb	16 31 45.5	
	comp=Z,46nm,1.5s						
EIDS	**Eidsvold**	**26.76**	**272**	P	**P**	**16 33 10.8**	**-1.7**
STKA	**Stephens Creek**	**33.67**	**256**	P	**P**	**16 34 13.9**	**+1.1**
	comp=Z,1.5nm,0.8s,baz=113,slow=15,SNR=2.1						
AS31	**Alice Springs**	**42.19**	**267**	P	**P**	**16 35 23.6**	**+0.2**
ASAR	**Alice Springs**	**42.19**	**267**	P	**P**	**16 35 23.6**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=101,slow=7.0,SNR=30						
ASAR				PcP	**sP**	**16 37 10.8**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=118,slow=3.8,SNR=2.1						
WR0	**Warramunga Arr**	**42.95**	**272**	P	**P**	**16 35 29.5**	**+0.1**
WR0				IAmb	IAmb	16 37 06.9	
	comp=Z,51nm,1.9s						
WB2	**Warramunga Arr**	**43.12**	**272**	P	**P**	**16 35 30.8**	**+0.1**
WB2				IAmb	IAmb	16 35 50.6	
	comp=Z,54nm,1.8s						
WRA	**Warramunga Arr**	**43.13**	**272**	P	**P**	**16 35 31.6**	**+0.7**
	comp=Z,3.8nm,0.4s,baz=111,slow=7.7,SNR=79						
WB0	**Warramunga Arr**	**43.15**	**272**	P	**P**	**16 35 31.0**	**0.0**
WB0				IAmb	IAmb	16 35 44.8	
	comp=Z,31nm,1.5s						
VNDA	**Vanda**	**48.51**	**185**	P	**P**	**16 36 15.7**	**+4.1**
MTN	**Manton Dam**	**48.96**	**279**	P	**P**	**16 36 15.4**	**-0.5**
KNRA	**Kununurra**	**49.72**	**275**	P	**P**	**16 36 22.4**	**+0.9**
KNRA				IAmb	IAmb	16 37 26.1	
	comp=Z,45nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.41**	**270**	P	**P**	**16 36 34.8**	**+0.7**
FITZ				IAmb	IAmb	16 36 56.6	
	comp=Z,51nm,1.8s						
QSPA	**South Pole Qui**	**60.22**	**180**	P	**P**	**16 37 39.7**	**+4.3**
	comp=Z,2.0nm,0.8s,baz=44,slow=0.7,SNR=8.9						
QSPA	**South Pole Qui**	**60.22**	**180**	IAmb	IAmb	16 38 31.1	
	comp=Z,11nm,1.6s						
MJAR	**Matsushiro Arr**	**77.29**	**326**	P	**P**	**16 39 19.0**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=168,slow=6.2,SNR=4.7						
KSRS	**Korea Array**	**83.35**	**320**	P	**P**	**16 39 50.9**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=160,slow=4.0,SNR=4.1						
PETK	**Petropavlovsk-**	**85.09**	**346**	P	**P**	**16 40 00.7**	**+0.5**
	comp=Z,2.6nm,0.7s,baz=126,slow=7.0,SNR=7.8						
ARCES	**ARCESS Array B**	**137.89**	**347**	PKhKP	PKPpre	16 46 38.1	
	comp=Z,1.2nm,0.9s,baz=58,slow=1.5,SNR=6.3						
ARCES				PKP	**PKPdf**	**16 46 46.7**	**+1.0**
	comp=Z,2.2nm,1.0s,baz=30,slow=2.5,SNR=4.0						
FIA1	**FINESS Array S**	**144.34**	**339**		**PKPab**	**16 46 56.8**	**+0.1**
FINES	**FINESS Array B**	**144.34**	**339**	PKP	**PKPab**	**16 46 56.8**	**0.0**
	comp=Z,4.6nm,0.3s,baz=50,slow=3.8,SNR=91						
NC303	**NORSAR Array S**	**147.90**	**350**		**PKPbc**	**16 47 07.5**	**+0.5**
NB2	**NORSAR Subarra**	**148.10**	**351**	PKP	**PKPbc**	**16 47 08.1**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=15,slow=2.6						
NOA	**NORSAR Array B**	**148.10**	**351**	PKPbc	**PKPbc**	**16 47 08.2**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=17,slow=4.3,SNR=8.4						
AKASG	**Malin Array Be**	**150.32**	**322**	PKPbc	**PKPbc**	**16 47 13.1**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=58,slow=2.6,SNR=4.4						
CLL	**Collm**	**156.78**	**341**	*e*PKPab	**PKPab**	**16 47 45.0**	**-3.4**

*NIED **08** 16:54:00, 34.50N×141.70E, h17km, Mw4.1 Best double couple: M0 1.75000×10^15 NP1:φs343.00000°, δ85.00000°, λ-167.00000°. NP2:φs252.00000°, δ77.00000°, λ-5.00000°.*
*JMA **08** 16:54:47.9±0.5, 34.51N×141.67E, h34km±2km, M3.5*
*IDC **08** 16:54:47.5±0.8, 34.60N×141.54E, h0km, mb3.6/10, mb1 3.8/15, mb1mx3.7/38, mbtmp3.6/15, ML3.3/5, MS3.2/9, Ms1 3.2/9, ms1mx2.9/52, Error ellipse: s-maj=19.8km s-min=16.3km az=111.0*
*NEIC **08** 16:54:47.7±1.3, 34.59N±0.05×141.62E±0.09, h5km±4km, mb4.4/9, Error ellipse: s-maj=11.1km s-min=7.5km az=98.0*

ISC 08 16:54:49.7±1.6, 34.67N±0.05×141.60E±0.06, h18km±9km, n58, σ1s46/56, mb3.7/12, MS3.5/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.52**	**269**	P	**Pg**	**16 54 59.5**	**-0.4**
BSO3	**Boso 3**	**0.91**	**279**	P	**Pb**	**16 55 06.2**	**-0.6**
BSO4	**Boso 4**	**1.09**	**288**	P	**Pb**	**16 55 09.4**	**-0.6**
KTR	**Katsuura**	**1.16**	**295**	P	**Pn**	**16 55 10.4**	**-0.7**
KTR				*e*S	**Sb**	**16 55 26.6**	**+0.6**
CHOJ	**Chosi**	**1.20**	**330**	P	**Pn**	**16 55 11.5**	**-0.1**
CHOJ				*e*S	**Sg**	**16 55 28.6**	**-0.1**
JKUC	**kamogawauchiur**	**1.25**	**293**	P	**Pn**	**16 55 11.4**	**-1.0**
JKUC				S	**Sb**	**16 55 29.1**	**+0.4**
JIM2	**Oshima 3**	**1.79**	**272**	P	**Pn**	**16 55 18.2**	**-1.6**
JMKN	**Mikurajimanish**	**1.84**	**246**	P	**Pn**	**16 55 19.1**	**-1.3**
JMKN				*e*S	**Sn**	**16 55 41.2**	**-2.0**
JHJ2	**Mitsune**	**2.15**	**224**	P	**Pn**	**16 55 23.9**	**-0.7**
JHJ2				*e*S	**Sn**	**16 55 50.5**	**-0.3**
JHJ2	**Mitsune**	**2.15**	**224**		**Pn**	**16 55 23.5**	**-1.1**
JOD2	**Odawara 2**	**2.15**	**287**	P	**Pn**	**16 55 23.5**	**-1.2**
JHJ	**Hachijo jima 2**	**2.16**	**225**	Pn	**Pn**	**16 55 24.0**	**-0.8**
	30nm,0.3s,baz=142,slow=23,SNR=23						
JHJ				Sn	**Sn**	**16 55 49.1**	**-2.1**
	251nm,0.3s,baz=50,slow=22,SNR=18						
JIZS	**Izushimoda**	**2.25**	**272**	P	**Pn**	**16 55 25.3**	**-0.7**
MJAR	**Matsushiro Arr**	**3.34**	**305**	Pn	**Pn**	**16 55 41.3**	**+0.3**
	0.6nm,0.3s,baz=115,slow=8.3,SNR=68						
MJAR				Sn	**Sn**	**16 56 20.3**	**+0.1**
	0.6nm,0.3s,baz=137,slow=13,SNR=6.7						
MJAR				LR	LR	16 57 21.8	
	comp=Z,408nm,19.1s,baz=130,slow=47						
MAJO	**Matsushiro**	**3.34**	**305**		**Pn**	**16 55 41.8**	**+0.7**
MAT	**Matsushiro**	**3.34**	**305**	P	**Pn**	**16 55 41.7**	**+0.6**
MAT				*e*S	**Sn**	**16 56 19.1**	**-1.2**
MJB9	**Matsu-Tunnel**	**3.34**	**305**		**Pn**	**16 55 41.8**	**+0.6**
INU	**Inuyama**	**3.83**	**282**		**Pn**	**16 55 48.4**	**+0.7**
ERM	**Erimo**	**7.44**	**9**	Pn	**Pn**	**16 56 36.2**	**-1.1**
JCJ	**Chichijima**	**7.56**	**176**	Pn	**Pn**	**16 56 37.6**	**-1.5**
JNU	**Nakatsue**	**9.05**	**263**	Pn	**Pn**	**16 57 00.4**	**+0.9**
	0.3nm,0.3s,baz=26,slow=18,SNR=5.2						
JNU				LR	LR	17 00 16.4	
	comp=Z,49nm,19.5s,baz=72,slow=37						
ASAJ	**Asahikawa**	**9.47**	**4**	Pn	**Pn**	**16 57 04.6**	**-0.6**
	0.6nm,0.3s,baz=208,slow=15,SNR=13						
ASAJ				Sn	**Sn**	**16 58 45.4**	**-5.7**
	0.4nm,0.3s,baz=246,slow=20,SNR=1.9						
JKA	**Kamikawa-asahi**	**9.47**	**4**		**Pn**	**16 57 04.6**	**-0.6**
JKA					**Sn**	**16 58 45.4**	**-5.7**
JKA	**Kamikawa-asahi**	**9.47**	**4**	Pn	**Pn**	**16 57 04.3**	**-0.8**
KSRS	**Korea Array**	**11.42**	**288**	Pn	**Pn**	**16 57 33.2**	**+1.4**
	0.1nm,0.3s,baz=86,slow=15,SNR=3.1						
USRK	**Ussuriysk Ar.**	**12.07**	**325**	LR	LR	17 02 12.8	
	comp=Z,80nm,21.7s,baz=246,slow=37						
YSS	**Yuzh-Sakhalins**	**12.30**	**4**	Pn	**Pn**	**16 57 44.6**	**+0.7**
MA2	**Magadan**	**25.64**	**11**	LR	LR	17 11 42.3	
	comp=Z,40nm,18.4s,baz=238,slow=40						
H11N2	**WAKE ISLAND Hy**	**26.87**	**117**	T	T	17 28 39.1	
	baz=309,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**26.88**	**117**	T	T	17 28 40.6	
	baz=309,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**26.89**	**117**	T	T	17 28 43.0	
	baz=309,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**27.50**	**119**	T	T	17 29 32.5	
	baz=312,slow=75,SNR=29						
H11S3	**WAKE ISLAND Hy**	**27.50**	**119**	T	T	17 29 31.0	
	baz=312,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**27.52**	**119**	T	T	17 29 29.8	
	baz=312,slow=75,SNR=12						
SONM	**Songino Array**	**29.29**	**307**	LR	LR	17 13 16.0	
	comp=Z,96nm,18.2s,baz=108,slow=38						
CMAR	**Chiang Mai Arr**	**41.10**	**258**	LR	LR	17 19 22.6	
	comp=Z,8.4nm,19.2s,baz=95,slow=36						
ZALV	**Zalesovo Beam**	**43.65**	**314**	P	**P**	**17 02 53.6**	**+0.6**
	0.6nm,0.5s,baz=96,slow=4.3,SNR=2.6						
MKAR	**Makanchi Array**	**45.54**	**304**	P	**P**	**17 03 08.8**	**+0.5**
	0.5nm,0.5s,baz=86,slow=9.9,SNR=7.1						
MKAR				LR	LR	17 22 58.3	
	comp=Z,46nm,18.4s,baz=85,slow=37						
KURK	**Kurchatov**	**47.54**	**310**	P	**P**	**17 03 23.3**	**-0.6**
KURK				IAmb	IAmb	17 03 39.0	
	comp=Z,3.5nm,0.8s						
MTN	**Manton Dam**	**48.28**	**194**	P	**P**	**17 03 30.0**	**+0.1**
KDAK	**Kodiak Island**	**48.77**	**41**	P	**P**	**17 03 33.9**	**+0.7**
ILAR	**Eielson Array**	**51.42**	**31**	P	**P**	**17 03 55.0**	**+1.8**
	comp=Z,0.3nm,0.7s,baz=261,slow=6.4,SNR=4.9						
KNRA	**Kununurra**	**51.53**	**196**	P	**P**	**17 03 55.3**	**+0.7**
KK31	**Karatay Array**	**54.47**	**302**	P	**P**	**17 04 16.4**	**+0.3**
KKAR	**Karatay Array**	**54.47**	**302**	P	**P**	**17 04 16.4**	**+0.3**
KKAR				IAmb	IAmb	17 04 30.1	
	comp=Z,5.5nm,1.6s						
WB0	**Warramunga Arr**	**54.56**	**188**	P	**P**	**17 04 16.0**	**-0.9**
WR0	**Warramunga Arr**	**54.74**	**188**	P	**P**	**17 04 18.2**	**0.0**
WB2	**Warramunga Arr**	**54.74**	**188**	P	**P**	**17 04 17.4**	**-0.8**
WRA	**Warramunga Arr

0.4nm,0.3s,baz=252,slow=20,SNR=1.4
JKA Kamikawa-asahi 9.47 4 Pn 17 05 20.8 -0.1
JKA Sn 17 07 00.7 -5.8
PETK Petropavlovsk- 21.66 27 LR LR 17 16 57.5
comp=Z,21nm,21.2s,baz=236,slow=38
H11N2 WAKE ISLAND Hy 26.79 117 T T 17 36 59.0
baz=309,slow=75,SNR=12
H11N1 WAKE ISLAND Hy 26.79 117 T T 17 37 00.0
baz=309,slow=75,SNR=14
H11N3 WAKE ISLAND Hy 26.80 117 T T 17 36 54.1
baz=309,slow=75,SNR=8.2
H11S3 WAKE ISLAND Hy 27.42 120 T T 17 37 48.4
baz=312,slow=75,SNR=11
H11S1 WAKE ISLAND Hy 27.43 119 T T 17 37 47.8
baz=312,slow=75,SNR=12
H11S2 WAKE ISLAND Hy 27.44 120 T T 17 37 47.3
baz=312,slow=75,SNR=11
MKAR Makanchi Array 45.62 304 P P **17 11 24.2 0.0**
0.5nm,0.7s,baz=80,slow=8.4,SNR=2.4
KURK Kurchatov 47.61 310 P P **17 11 39.8 +0.1**
KURK IAmb IAmb 17 11 58.7
comp=Z,2.3nm,0.8s
ILAR Eielson Array 51.38 31 P P **17 12 11.2 +2.8**
comp=Z,0.3nm,0.6s,baz=270,slow=6.1,SNR=5.9
ILAR LR LR 17 38 19.1
comp=Z,9.8nm,18.8s,baz=244,slow=41
FITZ Fitzroy Crossi 54.64 199 P P **17 12 31.1 -1.6**
FITZ IAmb IAmb 17 12 35.6
comp=Z,13nm,1.2s
WRA Warramunga Arr 54.74 188 P P **17 12 35.0 +1.5**
comp=Z,0.7nm,0.7s,baz=1.1,slow=7.5,SNR=1.9
ASAR Alice Springs 58.47 188 P P **17 13 01.6 +1.6**
comp=Z,0.7nm,0.7s,baz=4.6,slow=6.6,SNR=9.6
AKTO Aktyubinsk 60.45 313 LR LR 17 40 54.4
comp=Z,22nm,18.3s,baz=68,slow=38
FINES FINESS Array B 71.03 333 P P **17 14 22.3 +0.8**
comp=Z,1.5nm,1.0s,baz=356,slow=5.7,SNR=2.5

*IDC **08** 17:09:54.1±2.3, 1°.92S×133°.65E, h0km, mb3.4/2, mb1 3.7/5, mb1mx3.4/40, mbtmp3.5/5, ML3.3/3, MS3.5/1, Ms1 3.7/1, ms1mx2.5/21, Error ellipse: s-maj=52.0km s-min=23.1km az=62.0*
*DJA **08** 17:09:55.5±1.0, 2°.S±9°×13°.4E±°, h14km±10km, M3.1/5, MLv3.1/5*
ISC 08 17:09:56.8±0.9, 1°.89S±0°.09×133°.75E±0°.06, h25km, n9, σ1°20/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.57**	**48**	P		P	**Pb**	**17 10 07.9**	**-0.3**
FAKI	**Fak Fak**	**1.81**	**236**	P		P	**Pn**	**17 10 27.2**	**+0.8**
SRPI	**Serui, Papua**	**2.49**	**90**	P		P	**Pn**	**17 10 36.0**	**+0.3**
SIJI	**Sorong**	**2.68**	**292**	Pn		Pn	**Pn**	**17 10 39.0**	**+0.6**
SIJI	4.2nm,0.3s,baz=164,slow=20,SNR=89						Sn	**17 11 09.0**	**-1.1**
WRA	6.4nm,0.3s,baz=90,slow=20,SNR=7.7 **Warramunga Arr**	**17.95**	**178**	P		P	**P**	**17 14 05.6**	**+0.4**
FITZ	0.1nm,0.3s,baz=357,slow=12,SNR=1.3 **Fitzroy Crossi**	**17.97**	**206**	P		P	**Pn**	**17 14 02.9**	**-2.1**
ASAR	0.1nm,0.3s,baz=27,slow=11,SNR=2.6 **Alice Springs**	**21.65**	**180**	P		P	**P**	**17 14 46.6**	**+1.1**
CMAR	0.7nm,0.7s,baz=1.8,slow=12,SNR=6.5 **Chiang Mai Arr**	**39.77**	**302**	LR		LR		17 34 27.8	
MKAR	comp=Z,61nm,16.6s,baz=200,slow=37 **Makanchi Array**	**66.17**	**324**	P		P	**P**	**17 20 43.0**	**+0.7**
	0.4nm,0.6s,baz=106,slow=6.4,SNR=3.5								

*IDC **08** 17:11:35.9±8.4, 2°.40N×126°.36E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/45, mbtmp3.6/3, Error ellipse: s-maj=196.5km s-min=131.8km az=73.0*
*DJA **08** 17:11:47.7±0.9, 2°.N±3°×12°.8E±°, h176km±5km, M3.0/6, MLv3.0/6*
ISC 08 17:12:00.8±1.9, 1°.0N±0°.2×127°.2E±0°.1, h100km, n7, σ0.59/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.33**	**139**	P		P	**Pn**	**17 12 15.7**	**+0.1**
TNTI				S		S	Sn	17 12 38.1	+12
LBMI	**Labuha**	**1.69**	**168**	P		P	**Pn**	**17 12 29.0**	**-0.5**
LBMI				S		S	Sn	17 13 01.6	+10
KMSI	**Cibinong**	**3.20**	**262**	P		P	**Pn**	**17 12 49.1**	**-0.2**
SANI	**Sanana**	**3.27**	**201**	P		P	**Pn**	**17 12 50.4**	**+0.2**
WRA	**Warramunga Arr**	**22.00**	**162**	P		P	**P**	**17 16 47.8**	**+0.8**
ASAR	0.8nm,0.4s,baz=339,slow=10,SNR=4.9 **Alice Springs**	**25.40**	**165**	P		P	**P**	**17 17 19.6**	**+0.4**
STKA	0.3nm,0.5s,baz=342,slow=10.0,SNR=9.7 **Stephens Creek**	**35.47**	**159**	P		P	**P**	**17 18 47.3**	**-0.5**
	1.2nm,0.7s,baz=340,slow=12,SNR=4.7								

*NEIC **08** 17:21:27.8±2.2, 6°.24S±0°.06×147°.55E±0°.09, h75km±8km, mb4.3/6, Error ellipse: s-maj=13.0km s-min=9.0km az=76.0*
*IDC **08** 17:21:27.0±1.6, 6°.10S×147°.56E, h64km±16km, mb3.6/10, mb1 3.9/16, mb1mx3.7/38, mbtmp4.0/16, MS2.9/7, Ms1 2.9/7, ms1mx2.7/31, Error ellipse: s-maj=20.6km s-min=10.3km az=105.0*
ISC 08 17:21:28.0±0.6, 6°.16S±0°.07×147°.48E±0°.09, h77km, n38, σ2.935/32, mb3.8/12, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.24**	**186**	P		P	**Pn**	**17 22 15.5**	**-1.0**
PMG	15nm,0.3s,baz=32,slow=6.0,SNR=38			S			**Sn**	**17 22 55.0**	**+1.0**
PMG	61nm,0.3s,baz=197,slow=21,SNR=8.4			LR		LR	LR	17 23 55.9	
PMG	comp=Z,199nm,21.0s,baz=45,slow=45 **Port Moresby**	**3.24**	**186**				**Pn**	**17 22 15.2**	**-1.3**
KRVT	**Keravat (AS076**	**4.89**	**68**	P		P	**Pn**	**17 22 37.6**	**-1.5**
KRVT	7.9nm,0.3s,baz=202,slow=2.7,SNR=16			LR		LR	LR	17 24 31.4	
RABL	comp=Z,139nm,21.1s,baz=202,slow=38 **Rabaul**	**5.06**	**67**				**Pn**	**17 22 41.6**	**+0.1**
JAY	**Jayapura**	**7.66**	**298**	P		P	**Pn**	**17 23 17.5**	**+0.5**
JAY	2.0nm,0.3s,baz=171,slow=6.6,SNR=14			LR		LR	LR	17 26 39.5	
COEN	comp=Z,108nm,21.3s,baz=188,slow=40 **Coen**	**8.83**	**208**	Pn		Pn	**Pn**	**17 23 32.0**	**-0.8**
HNR	**Honiara**	**12.78**	**106**	LR		LR	LR	17 28 04.0	
CTA	comp=Z,52nm,20.1s,baz=265,slow=31 **Charters Tower**	**13.89**	**185**	P		P	**Pn**	**17 24 42.2**	**+0.7**
SIJI	0.1nm,0.3s,baz=297,slow=7.5,SNR=3.0 **Sorong**	**17.01**	**287**	P		P	**Pn**	**17 25 20.5**	**-0.6**
WB2	0.7nm,0.3s,baz=143,slow=20,SNR=3.8 **Warramunga Arr**	**18.71**	**222**	P		P	**P**	**17 25 40.7**	**+0.1**
WB2				IAmb		IAmb	IAmb	17 25 57.6	
WRA	comp=Z,12nm,1.1s **Warramunga Arr**	**18.72**	**222**	P		P	**P**	**17 25 40.8**	**+0.1**
WRA	comp=Z,0.7nm,0.3s,baz=50,slow=11,SNR=5.9			S		S	**S**	**17 29 02.4**	**-7.2**
KNRA	comp=Z,0.1nm,0.3s,baz=35,slow=22,SNR=1.6 **Kununurra**	**20.64**	**241**	P		P	**P**	**17 26 01.6**	**+0.1**
KNRA				IAmb		IAmb	IAmb	17 26 12.5	
AS31	comp=Z,45nm,1.4s **Alice Springs**	**21.75**	**215**	P		P	**P**	**17 26 14.6**	**+1.2**
AS31				IAmb		IAmb	IAmb	17 26 31.6	
ASAR	comp=Z,3.8nm,0.5s **Alice Springs**	**21.76**	**215**	P		P	**P**	**17 26 14.0**	**+0.6**
ASAR	comp=Z,2.1nm,0.5s,baz=46,slow=8.4,SNR=30			S		S	**S**	**17 30 13.6**	**+3.6**
BATI	comp=Z,1.4nm,0.8s,baz=33,slow=24,SNR=3.4 **Baumata**	**23.90**	**259**	P		P	**P**	**17 26 36.7**	**+1.7**
FITZ	comp=Z,37nm,0.7s,baz=125,slow=2.0,SNR=5.4 **Fitzroy Crossi**	**24.38**	**239**	P		P	**P**	**17 26 40.4**	**+1.2**
	comp=Z,11nm,0.7s,baz=51,slow=8.2,SNR=25								
FITZ	**Fitzroy Crossi**	**24.38**	**239**	P		P	**P**	**17 26 39.9**	**+0.7**
FITZ	comp=Z,16nm,0.9s			IAmb		IAmb	IAmb	17 26 41.7	
MMRI	**Maumere**	**25.14**	**263**	P		P	**P**	**17 26 46.9**	**+0.7**
STKA	**Stephens Creek**	**26.17**	**191**	P		P	**P**	**17 26 56.9**	**+1.7**
STKA	comp=Z,3.3nm,0.7s,baz=5.0,slow=10.0,SNR=8.0 **Stephens Creek**	**26.17**	**191**	IAmb		IAmb	IAmb	17 27 00.8	
KAPI	comp=Z,0.6nm,0.8s **Kappang**	**27.61**	**271**	LR		LR	LR	17 40 17.4	
H11S3	comp=Z,25nm,19.0s,baz=320,slow=41 **WAKE ISLAND Hy 30.97**	**37**		T		T	T	18 00 18.4	
H11S2	baz=220,slow=76,SNR=39 **WAKE ISLAND Hy 30.98**	**37**		T		T	T	18 00 17.8	
H11S1	baz=220,slow=76,SNR=14 **WAKE ISLAND Hy 30.99**	**37**		T		T	T	18 00 19.0	
	baz=220,slow=76,SNR=12								
H11N1	**WAKE ISLAND Hy 32.04**	**36**		T		T		18 01 34.2	
	baz=218,slow=76,SNR=6.8								
H11N3	**WAKE ISLAND Hy 32.05**	**36**		T		T		18 01 36.9	
	baz=218,slow=76,SNR=5.0								
H11N2	**WAKE ISLAND Hy 32.05**	**36**		T		T		18 01 35.9	
	baz=218,slow=76,SNR=14								
MJAR	**Matsushiro Arr**	**43.36**	**349**	P		P		**17 29 22.5**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=172,slow=10,SNR=6.1								
KSRS	**Korea Array**	**47.07**	**339**	P		P		**17 29 52.8**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=148,slow=10,SNR=4.1								
KSRS				LR		LR		17 48 44.2	
	comp=Z,13nm,19.9s,baz=171,slow=35								
PETK	**Petropavlovsk-**	**59.68**	**7**	P		P		**17 31 24.3**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=180,slow=8.6,SNR=2.5								
PETK				LR		LR		17 53 19.8	
	comp=Z,9.4nm,21.3s,baz=65,slow=32								
VNDA	**Vanda**	**71.72**	**177**	P		P		**17 32 42.9**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=339,slow=7.1,SNR=3.2								
MKAR	**Makanchi Array**	**77.92**	**320**	P		P		**17 33 19.2**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=105,slow=6.3,SNR=3.4								
ZALV	**Zalesovo Beam**	**79.40**	**328**	P		P		**17 33 24.1**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=129,slow=5.3,SNR=3.6								
ILAR	**Eielson Array**	**85.44**	**23**	P		P		**17 33 56.0**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=262,slow=5.5,SNR=6.2								
VNA2	**Neumayer--Watz**	**101.26**	**188**	P			**Pdif**	**17 35 06.8**	**-3.0**
	baz=259,slow=17								
VNA1	**Neumayer--Stat**	**101.63**	**188**	P			**Pdif**	**17 35 04.0**	**-7.5**
LPAZ	**La Paz**	**138.30**	**123**	PKP			**PKPdf**	**17 40 44.3**	**-1.9**
	comp=Z,1.1nm,0.7s,baz=252,slow=3.2,SNR=2.2								
TORD	**Torodi Ar. Bea**	**145.59**	**284**	PKPbc			**PKPbc**	**17 40 59.1**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=74,slow=4.1,SNR=18								

WEL 08 17:26:32.4±0.8, 33°.S±17°×17°.9E±2°.4, h308km±32km, M3.9/13, mB4.4/7, ML4.6/1, MLv4.2/13, Mw(mB)3.5/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**5.10**	**185**	P		P	Pn	17 27 51.6	+0.3
WMGZ				S		S	S	17 28 56.2	+1.3
HAZ	**Te Kaha**	**5.12**	**191**	P		P	Pn	17 27 51.7	+0.2
HAZ				S		S	S	17 28 56.3	+1.2
PKGZ	**Pakihiroa**	**5.21**	**188**	P		P	Pn	17 27 52.2	-0.4
PKGZ				S		S	S	17 28 56.8	-0.3
RUGZ	**Raukumara Rang**	**5.34**	**191**	P		P	Pn	17 27 54.0	-0.1
RUGZ				S		S	S	17 28 58.7	-1.4
PUZ	**Puketiti**	**5.37**	**186**	P		P	Pn	17 27 54.9	+0.5
PUZ				S		S	S	17 28 59.5	-0.9
TWGZ	**Tauwhareparae**	**5.50**	**188**	P		P	Pn	17 27 56.8	+0.8
TWGZ				S		S	S	17 29 03.6	+0.2
MWZ	**Matawai**	**5.72**	**192**	P		P	Pn	17 27 56.4	-2.1
MWZ				S		S	S	17 29 09.2	+1.1
URZ	**Urewera**	**5.73**	**195**	P		P	Pn	17 27 58.3	-0.3
URZ				S		S	S	17 29 09.3	+1.2
TKGZ	**Te Karaka**	**5.78**	**189**	P		P	Pn	17 27 59.2	0.0
TKGZ				S		S	S	17 29 10.2	+1.1
CNGZ	**Carnagh Statio**	**5.78**	**186**	P		P	Pn	17 28 00.1	+0.9
RAGZ	**Rawiri**	**5.90**	**192**	P		P	Pn	17 28 01.2	+0.5
MUGZ	**Murupara**	**6.02**	**197**	P		P	Pn	17 28 02.5	+0.5
RIGZ	**Rimuhau**	**6.05**	**189**	P		P	Pn	17 28 01.6	-0.8
RTZ	**Ruatahuna**	**6.10**	**195**	P		P	Pn	17 28 02.8	-0.3
SNGZ	**Shannon Statio**	**6.19**	**192**	P		P	Pn	17 28 04.0	-0.1
MTHZ	**Maungataniwha**	**6.36**	**195**	P		P	Pn	17 28 06.4	+0.3
RAHZ	**Arahi**	**6.37**	**194**	P		P	Pn	17 28 06.1	-0.1
MHGZ	**Mahia Peninsul**	**6.47**	**188**	P		P	Pn	17 28 03.4	-4.1

*IDC **08** 17:32:55.7±1.1, 28°.70N×55°.86E, h0km, mb3.7/9, mb1 3.7/12, mb1mx3.5/54, mbtmp3.7/12, ML3.7/3, MS2.7/2, Ms1 2.7/2, ms1mx2.2/51, Error ellipse: s-maj=24.8km s-min=19.6km az=173.0*
*TEH **08** 17:32:57.8, 28°.81N×56°.09E, h9km, ML3.8*
*OMAN **08** 17:33:21.4±0.2, 27°.18N×56°.29E, h10km, ml2.6/11, Error ellipse: s-maj=4.1km s-min=1.7km az=247.0*
ISC 08 17:32:57.5±0.6, 28°.81N±0°.04×55°.95E±0°.06, h10km, n56, σ1°82/55, mb3.7/16, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NGRK	**Negar Kerman**	**1.07**	**39**	*e*Pg			**Pb**	**17 33 17.9**	**-0.5**
NGRK				*e*				17 33 38.7	
TVBK	**TV Kerman**	**1.37**	**31**	*e*Pg			**Pn**	**17 33 23.2**	**+0.2**
TVBK				*e*				17 33 49.0	
GENO	**Geno**	**1.42**	**172**	*e*Pg			**Pn**	**17 33 24.6**	**+1.0**
GENO				*e*				17 33 48.9	
IBND	**Bandar-abas**	**1.45**	**159**	*e*Pg			**Pn**	**17 33 25.1**	**+1.2**
IBND				*e*				17 33 53.6	
KHGB	**Koh Gabri**	**1.62**	**16**	*e*Pg			**Pn**	**17 33 27.9**	**+1.4**
KHGB				*e*				17 33 55.9	
CHMN	**Cheshme madani**	**1.74**	**53**	*e*Pg			**Pn**	**17 33 28.8**	**+0.7**
CHMN				*e*				17 33 57.2	
KHNJ	**Kahnooj**	**1.77**	**119**	*e*Pg			**Pn**	**17 33 29.7**	**+1.5**
LAR1	**LAR**	**1.80**	**231**	*e*Pn			**Pg**	**17 33 32.1**	**0.0**
LAR1				*e*				17 34 05.8	
JHRM	**Jahrom**	**2.11**	**262**	*e*Pn			**Pg**	**17 33 37.0**	**-1.0**
JHRM				*e*				17 34 14.0	
BANOM	**Banah**	**2.89**	**174**	P			**Pn**	**17 33 46.1**	**+2.3**
BANOM	SNR=11 **Banah**	**2.89**	**174**	*e*Pn			**Pn**	**17 33 46.3**	**+2.6**
MSFE	**Esma-Masafi**	**3.44**	**177**	*e*Pn			**Pn**	**17 33 52.6**	**+1.3**
MDH	**Madha**	**3.51**	**175**	P			**Pn**	**17 33 53.7**	**+1.5**
MDH	**Madha**	**3.51**	**175**	*e*Pn			**Pn**	**17 33 51.0**	**-1.2**
ISAD	**Sadrabad**	**3.66**	**328**	*e*Pn			**Pn**	**17 33 58.8**	**+4.3**
NAZ	**Nazwa, Dubai**	**3.82**	**184**	P			**Pn**	**17 33 59.8**	**+3.4**
NAZ	**Nazwa, Dubai**	**3.82**	**184**	*e*Pn			**Pn**	**17 33 58.9**	**+2.5**
UOSS	**Minazif**	**3.86**	**177**	P			**Pn**	**17 33 58.2**	**+1.3**
UOSS	**Minazif**	**3.86**	**177**	*e*Pn			**Pn**	**17 33 56.3**	**-0.7**
HATD	**Hatta, Dubai**	**3.97**	**178**	P			**Pn**	**17 33 59.5**	**+0.9**
HATD	**Hatta, Dubai**	**3.97**	**178**	*e*Pn			**Pn**	**17 33 59.5**	**+0.9**
ASHO	**Ashiyiah**	**4.11**	**179**	P			**Pn**	**17 34 01.8**	**+1.2**
ASHO	SNR=22 **Ashiyiah**	**4.11**	**179**	*e*Pn			**Pn**	**17 34 01.5**	**+1.0**
TPRV	**Parvadeh(Tabas**	**4.25**	**8**	*e*Pn			**Pn**	**17 34 05.4**	**+2.9**
IRAM	**Ramesheh**	**4.30**	**315**	*e*Pn			**Pn**	**17 34 06.7**	**+3.5**
KLNJ	**Kolanjah**	**4.37**	**301**	*e*Pn			**Pn**	**17 34 07.4**	**+3.0**
NHDN	**Nehbandan**	**4.38**	**53**	*e*Pn			**Pn**	**17 34 06.6**	**+2.3**
SOHO	**SOHO**	**4.69**	**173**	*e*Pn			**Pn**	**17 34 07.7**	**-0.7**
ITEG	**Tejag**	**4.73**	**30**	*e*Pn			**Pn**	**17 34 11.1**	**+2.0**
ANAR	**Anarak**	**4.76**	**337**	*e*Pn			**Pn**	**17 34 13.5**	**+4.0**
IGAR	**Ghurneh**	**4.92**	**318**	*e*Pn			**Pn**	**17 34 16.8**	**+5.0**
HOQ	**Hoqain**	**5.35**	**167**	P			**Pn**	**17 34 19.9**	**+2.4**
ARQ	**Araqi**	**5.48**	**175**	P			**Pn**	**17 34 21.0**	**+1.7**
SMDO	SNR=11 **Samad**	**6.03**	**161**	P			**Pn**	**17 34 29.1**	**+2.2**
WSAR	**Wadi Sarin**	**6.05**	**156**	Pn			**Pn**	**17 34 26.5**	**-0.6**
WSAR	1.0nm,0.3s,baz=351,slow=11,SNR=24			Sn			Sn	17 35 30.7	-5.8
WSAR	0.7nm,0.3s,baz=324,slow=14,SNR=1.4			LR			LR	17 37 08.7	
WSAR	comp=Z,53nm,19.4s,baz=50,slow=42 **Wadi Sarin**	**6.05**	**156**	P			**Pn**	**17 34 28.8**	**+1.7**
UMZA	**Um Al Zommool**	**6.11**	**187**	*e*Pn			**Pn**	**17 34 28.3**	**+0.3**
BSY	**Bisya**	**6.14**	**169**	P			**Pn**	**17 34 30.4**	**+2.0**
ASF	**Jabal al Asfar**	**16.76**	**286**	Pn			**Pn**	**17 36 50.5**	**-2.0**
MMAI	0.4nm,0.3s,baz=74,slow=4.9,SNR=2.8 **Mount Meron Ar**	**18.12**	**289**	P			**Pn**	**17 37 08.9**	**-0.5**
BRTR	0.2nm,0.3s,baz=104,slow=18,SNR=2.5 **Keskin Array B**	**21.36**	**306**	P			**P**	**17 37 44.2**	**-0.9**
BRTR	1.2nm,0.6s,baz=130,slow=13,SNR=8.2			LR			LR	17 47 42.9	
BVAR	comp=Z,21nm,18.9s,baz=46,slow=42 **Borovoye Array**	**26.43**	**20**	P			**P**	**17 38 36.0**	**+1.6**
MKAR	0.4nm,0.6s,baz=205,slow=9.4,SNR=3.7 **Makanchi Array**	**27.29**	**42**	P			**P**	**17 38 44.1**	**+2.0**
KURBB	0.4nm,0.8s,baz=235,slow=8.5,SNR=1.7 **Kurchatov Arra**	**27.66**	**32**	P			**P**	**17 38 46.0**	**+0.6**
ZALV	0.2nm,0.3s,baz=229,slow=8.1,SNR=1.8 **Zalesovo Beam**	**32.75**	**32**	P			**P**	**17 39 30.2**	**-0.3**
CONA	0.6nm,0.4s,baz=256,slow=12,SNR=4.8 **Conrad Observa**	**36.26**	**313**	*i* P			**P**	**17 40 00.9**	**-0.1**
MYKA	0.6nm,0.8s **Terra Mystica**	**37.38**	**310**	*i* P			**P**	**17 40 11.0**	**+0.5**
KBA	1.3nm,0.3s **Koelnbreinsper**	**37.68**	**311**	*i* P			**P**	**17 40 10.9**	**-2.3**
FINES	1.1nm,0.5s **FINESS Array B**	**38.18**	**337**	P			**P**	**17 40 18.0**	**+1.1**
WTTA	0.5nm,0.6s,baz=134,slow=11,SNR=6.5 **Wattenberg**	**38.86**	**311**	*i* P			**P**	**17 40 22.6**	**-0.5**
SQTA	1.5nm,0.5s **Sankt Quirin**	**39.13**	**311**	*i* P			**P**	**17 40 24.5**	**-0.8**
FETA	0.6nm,0.6s **Feichten**	**39.42**	**310**	*i* P			**P**	**17 40 25.4**	**-2.3**
	2.9nm,1.1s								
DAVA	**Damuels**	**40.03**	**310**	*i* P			**P**	**17 40 31.9**	**-1.0**
TORD	3.4nm,0.5s **Torodi Ar. Bea**	**52.58**	**265**	P			**P**	**17 42 10.6**	**-1.1**
KSRS	4.4nm,0.5s,baz=62,slow=7.8,SNR=22 **Korea Array**	**59.57**	**61**	P			**P**	**17 43 01.1**	**-0.4**
ASAR	0.3nm,0.5s,baz=280,slow=6.4,SNR=2.5 **Alice Springs**	**91.34**	**116**	P			**P**	**17 46 03.9**	**-0.1**
	0.3nm,0.7s,baz=304,slow=5.2,SNR=4.7								

*IDC **08** 18:00:50.8±1.5, 12°.10N×46°.40E, h0km, mb3.6/8, mb1 3.8/11, mb1mx3.6/50, mbtmp3.7/11, ML3.5/3, MS3.4/4, Ms1 3.3/4, ms1mx3.0/28, Error ellipse: s-maj=37.7km s-min=20.7km az=160.0*
ISC 08 18:00:52.1±1.0, 12°.1N±0°.2×46°.4E±0°.1, h10km, n14, σ0.674/12, mb3.6/8, MS3.3/4, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**3.50**	**261**	Pn		Pn	**Pn**	**18 01 46.1**	**-0.6**
ATD	8.8nm,0.3s,baz=201,slow=15,SNR=21			Sn			**Sn**	**18 02 27.6**	**-0.6**
KMBO	9.3nm,0.3s,baz=50,slow=20,SNR=4.2 **Kilima Mbogo**	**15.95**	**215**	Pn		Pn	**Pn**	**18 04 37.2**	**+0.2**
WSAR	0.1nm,0.3s,baz=12,slow=18,SNR=1.2 **Wadi Sarin**	**16.09**	**45**	Pn		Pn	**Pn**	**18 04 37.6**	**-1.0**
BRTR	0.3nm,0.3s,baz=234,slow=14,SNR=1.7 **Keskin Array B**	**29.74**	**340**	P		P	**P**	**18 07 00.1**	**+1.2**
BRTR	0.5nm,0.6s,baz=156,slow=11,SNR=5.3			LR		LR	LR	18 19 27.0	
KBZ	comp=Z,76nm,18.6s,baz=130,slow=38 **Khabaz**	**31.67**	**355**	LR		LR	LR	18 20 26.0	
TORD	comp=Z,53nm,19.6s,baz=176,slow=37 **Torodi Ar. Bea**	**43.57**	**276**	P		P	**P**	**18 08 57.8**	**+1.0**
BOSA	0.9nm,0.7s,baz=96,slow=7.2,SNR=5.1 **Boshof**	**45.33**	**206**	LR		LR	LR	18 27 01.7	
GERES	comp=Z,72nm,18.9s,baz=32,slow=35 **GERESS Array B**	**45.56**	**330**	P		P	**P**	**18 09 12.0**	**-0.3**
MKAR	0.7nm,0.6s,baz=119,slow=7.9,SNR=7.6 **Makanchi Array**	**45.94**	**34**	P		P	**P**	**18 09 15.3**	**0.0**
CMAR	0.4nm,0.7s,baz=224,slow=6.5,SNR=5.0 **Chiang Mai Arr**	**50.97**	**76**	P		P	**P**	**18 09 54.5**	**0.0**
FINES	0.8nm,0.9s,baz=275,slow=7.6,SNR=3.5 **FINESS Array B**	**51.44**	**348**	P		P	**P**	**18 09 56.7**	**-0.6**
ZALV	0.7nm,0.8s,baz=195,slow=15,SNR=2.4 **Zalesovo Beam**	**51.63**	**28**	P		P	**P**	**18 09 58.5**	**-0.4**
NOA	0.6nm,0.5s,baz=224,slow=8.1,SNR=2.6 **NORSAR Array B**	**55.18**	**340**	LR		LR		18 35 28.9	
SONM	comp=Z,18nm,18.7s,baz=155,slow=38 **Songino Array**	**61.12**	**42**	P		P	**P**	**18 11 07.2**	**+0.4**
	0.5nm,0.6s,baz=236,slow=6.8,SNR=3.6								

*IDC **08** 18:02:10.7±2.4, 6°.38S×130°.58E, h112km±24km, mb3.6/4, mb1 3.7/9, mb1mx3.4/35, mbtmp4.0/9, Error ellipse: s-maj=29.9km s-min=19.3km az=103.0*
*NEIC **08** 18:02:11.1±2.8, 6°.42S±0°.05×130°.6E±0°.1, h118km±12km, mb4.1/3, Error ellipse: s-maj=20.8km s-min=7.3km az=82.0*
ISC 08 18:02:08.7±0.6, 6°.46S±0°.05×130°.65E±0°.09, h90km, n21, σ2.893/25, mb3.9/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.87**	**24**				**Pn**	**18 03 08.8**	**+2.9**
SIJI	**Sorong**	**5.59**	**6**	P		P	**Pn**	**18 03 30.6**	**+1.1**
SIJI	10nm,0.3s,baz=322,slow=23,SNR=47			S			**Sn**	**18 04 27.6**	**-4.8**
MTN	27nm,0.3s,baz=165,slow=21,SNR=30 **Manton Dam**	**6.36**	**176**	Pn		Pn	**Pn**	18 03 46.0	+6.1
SOEI	**Soe**	**7.11**	**242**	Pn		Pn	**Pn**	**18 03 51.1**	**+0.9**
BATI	**Baumata**	**7.85**	**241**	P		P	**Pn**	**18 04 02.4**	**+2.2**
BATI	3.2nm,0.3s,baz=153,slow=9.0,SNR=1.2			S			**Sn**	**18 05 29.4**	**+2.0**
KNRA	2.1nm,0.3s,baz=288,slow=20,SNR=2.1 **Kununurra**	**9.34**	**191**	Pn		Pn	**Pn**	**18 04 24.9**	**+4.4**
FITZ	**Fitzroy Crossi**	**12.55**	**202**	P		P	**Pn**	**18 05 05.8**	**+1.7**
FITZ	0.7nm,0.3s,baz=38,slow=10,SNR=13			S			**Sn**	**18 07 16.8**	**-5.3**
WB0	0.4nm,0.3s,baz=196,slow=15,SNR=1.7 **Warramunga Arr**	**13.72**	**165**	P		P	**Pn**	**18 05 21.8**	**+2.3**
WRAB	**Tennant Creek**	**13.87**	**165**	P		P	**Pn**	**18 05 23.1**	**+1.7**
WRA	**Warramunga Arr**	**13.87**	**165**	P		P	**Pn**	**18 05 22.9**	**+1.5**
WRA	0.2nm,0.3s,baz=352,slow=13,SNR=2.2			S			**Sn**	**

JHU Hanno 7.91 340 P **Pn** 18 10 10.0 0.0
JRY Ryogami san 8.18 338 P **Pn** 18 10 14.1 +0.3
JRY eS **Sn** 18 11 45.3 -0.1
JAG Ashikaga 8.40 342 P **Pn** 18 10 16.4 -0.3
MJAR Matsushiro Arr 8.89 336 Pn **Pn** 18 10 23.6 0.0
0.4nm,0.3s,baz=156,slow=11,SNR=31
MJAR Sn **Sn** 18 12 01.9 -1.0
0.0nm,0.3s,baz=158,slow=12,SNR=2.4
MJAR LR LR 18 13 22.2
comp=Z,461nm,21.1s,baz=170,slow=35
MAJO Matsushiro 8.89 336 Pn **Pn** 18 10 24.0 +0.5
MAT Matsushiro 8.89 336 P **Pn** 18 10 23.2 -0.3
MAT S **Sn** 18 12 01.7 -1.2
MJB9 Matsu-Tunnel 8.90 336 Pn **Pn** 18 10 24.0 +0.4
JNU Nakatsue 11.12 298 Pn **Pn** 18 10 54.2 +0.1
0.1nm,0.3s,baz=172,slow=4.5,SNR=1.5
JNU LR LR 18 15 02.9
comp=Z,1μm,18.1s,baz=86,slow=37
KSRS Korea Array 15.25 310 Pn **P** 18 11 53.2 -1.7
0.5nm,0.3s,baz=121,slow=11,SNR=24
KSRS LR LR 18 17 42.0
comp=Z,849nm,18.2s,baz=120,slow=37
ASAJ Asahikawa 15.64 360 Pn **Pn** 18 11 54.0 -1.4
0.3nm,0.3s,baz=248,slow=11,SNR=2.3
ASAJ LR LR 18 19 05.7
comp=Z,409nm,21.2s,baz=194,slow=42
JKA Kamikawa-asahi 15.64 360 **Pn** 18 11 54.0 -1.4
USRK Ussuriysk Ar. 17.88 334 P **Pn** 18 12 21.8 -1.8
baz=160,slow=8.8,SNR=4.6
MDJ Mudanjiang 19.20 331 P **Pn** 18 12 39.5 0.0
MDJ pP pP 18 12 45.5 +1.2
MDJ sP pwP 18 12 48.9 -0.3
MDJ S **S** **18 16 14.4 -0.1**
MDJ sS sS 18 16 23.5 -0.6
MDJ pmax pmax
comp=Z,25nm,1.4s
MDJ pmax pmax
comp=Z,220nm,2.8s
MDJ LR LR
comp=N,470nm,16.2s
MDJ LR LR
comp=E,310nm,14.4s
MDJ LR LR
comp=Z,400nm,18.9s
MDJ Mudanjiang 19.20 331 P **Pn** **18 12 39.4 -0.2**
YULB Yu-li 19.82 260 P **Pn** **18 12 46.9 -0.2**
YULB IAmb IAmb 18 12 50.6
comp=Z,53nm,1.3s
SSLB Suanglung 19.99 262 P **Pn** **18 12 49.3 0.0**
SSLB IAmb IAmb 18 12 54.5
comp=Z,70nm,1.1s
DL2 Dalian 20.31 306 P P 18 12 41.4 -9.2
DL2 eS S 18 16 24.9 -12
DL2 pmax pmax
comp=Z,120nm,9.0s
DL2 LR LR
comp=N,690nm,14.6s
DL2 LR LR
comp=E,940nm,13.8s
DL2 LR LR
comp=Z,1μm,15.9s
CN2 Changchun 20.61 323 eP Pn 18 12 55.4 -0.8
CN2 eS **S** **18 16 38.9 -4.1**
CN2 LR LR
comp=Z,650nm,17.0s
CN2 LR LR
comp=Z,590nm,16.0s
CN2 LR LR
comp=Z,810nm,16.0s
NJ2 Nanjing 20.84 286 eP **P** **18 12 56.7 +0.3**
NJ2 pP **pP** **18 13 03.7 +1.1**
NJ2 S **S** **18 16 48.8 +1.1**
NJ2 pmax pmax
comp=Z,22nm,1.1s
NJ2 pmax pmax
comp=Z,140nm,4.0s
NJ2 LR LR
comp=Z,380nm,14.2s
NJ2 LR LR
comp=Z,340nm,13.3s
NJ2 LR LR
comp=Z,340nm,16.6s
H11N2 WAKE ISLAND Hy 23.76 106 T T 18 38 19.1
baz=296,slow=74
H11N1 WAKE ISLAND Hy 23.77 106 T T 18 38 08.0
baz=296,slow=74
H11N3 WAKE ISLAND Hy 23.78 106 T T 18 38 26.0
baz=296,slow=74
BJI Beijing 24.64 305 P **P** **18 13 33.8 -1.3**
BJI pmax pmax
comp=Z,8.0nm,1.2s
BJI LR LR
comp=Z,320nm,18.6s
BJI LR LR
comp=Z,760nm,16.7s
BJI LR LR
comp=Z,520nm,18.6s
WHN Wuhan 24.67 282 ⇑P **P** **18 13 33.9 -1.6**
WHN S **S** **18 17 53.7 -2.1**
WHN LR LR
comp=Z,670nm,16.1s
TGY Tagaytay City 24.68 239 P **P** **18 13 39.0 +3.3**
comp=Z,55nm,0.6s,baz=169,slow=5.2,SNR=2.2
PETK Petropavlovsk- 27.04 20 LR LR 18 25 54.3
comp=Z,122nm,19.9s,baz=235,slow=39
HHC Hu-ho-hao-te 28.24 304 eP **P** **18 14 09.6 +1.9**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,55nm,5.0s
HHC LR LR
comp=Z,280nm,15.4s
HHC LR LR
comp=Z,570nm,14.5s
HHC LR LR
comp=Z,670nm,14.7s
XAN Xi'an 29.26 290 P **P** **18 14 16.0 -0.8**
XAN pP pP 18 14 20.4 -3.2
XAN pmax pmax
comp=Z,9.0nm,1.8s
XAN pmax pmax
comp=Z,63nm,6.3s
XAN LR LR
comp=Z,160nm,10.6s
XAN LR LR
comp=Z,650nm,15.6s
XAN LR LR
comp=Z,820nm,16.8s
QIZ Qiongzhong 31.35 260 P **P** **18 14 33.8 -1.6**
QIZ S **S** **18 19 39.8 -1.5**
QIZ LR LR
comp=Z,170nm,15.1s
QIZ LR LR
comp=Z,150nm,17.0s
QIZ LR LR
comp=Z,220nm,17.1s
MA2 Magadan 31.62 8 P **P** **18 14 38.3 +1.0**
comp=Z,3.6nm,0.8s,baz=180,slow=20,SNR=2.1
MA2 Magadan 31.62 8 IAmb IAmb 18 14 44.8
comp=Z,27nm,1.4s
GYA Guiyang 31.90 275 P **P** **18 14 39.5 -0.8**
GYA pP sP 18 14 49.5 -0.3
GYA sP pwP 18 14 52.3 +2.1
GYA PP **PnPn** **18 15 47.3 +2.0**
GYA S **S** **18 19 52.7 +2.7**
GYA SS **SnSn** **18 21 40.1 +1.1**
GYA pmax pmax
comp=Z,16nm,1.2s
GYA pmax pmax
comp=Z,96nm,3.8s
GYA LR LR
comp=Z,190nm,10.4s
GYA LR LR
comp=Z,380nm,16.0s
GYA LR LR
comp=Z,450nm,18.2s
LBMI Labuha 32.34 209 P **P** **18 14 48.7 +4.6**
comp=Z,17nm,1.3s
LZH Lanzhou 33.49 293 eP **P** **18 14 54.7 +0.5**
LZH pP pwP 18 15 04.5 +0.6
LZH ePP **PnPn** **18 16 07.2 +1.6**
LZH pmax pmax
comp=Z,25nm,1.2s
LZH pmax pmax
comp=Z,92nm,5.1s
LZH LR LR
comp=Z,400nm,12.8s
LZH LR LR
comp=Z,410nm,13.0s
LZH LR LR
comp=Z,650nm,16.5s
CD2 Chengdu 33.74 284 P **P** **18 14 55.9 -0.4**
CD2 S **S** **18 20 17.0 -1.4**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 LR LR
comp=Z,560nm,15.7s
CD2 LR LR
comp=Z,820nm,14.7s
CD2 LR LR
comp=Z,740nm,18.1s
KRVT Keravat (AS076 33.80 163 P **P** **18 14 55.7 -1.0**
comp=Z,4.7nm,0.7s,baz=197,slow=20,SNR=1.3
SONM Songino Array 34.03 315 P **P** **18 14 58.5 -0.1**
comp=Z,0.8nm,0.3s,baz=128,slow=8.5,SNR=14
SONM PcP **PcP** **18 17 35.7 -0.4**
comp=Z,1.0nm,0.8s,baz=102,slow=4.7,SNR=4.0
SONM LR LR 18 29 36.6
comp=Z,302nm,19.3s,baz=112,slow=38
MRSI Marisa 34.13 219 P **P** **18 14 59.5 -0.1**
comp=Z,566nmcomp=Z,27nm,1.1s
SANI Sanana 34.27 211 P **P** **18 15 03.4 +2.6**
comp=Z,1μmcomp=Z,16nm,0.9s
KMI Kunming 35.65 274 P **P** **18 15 13.5 +0.5**
KMI pmax pmax
comp=Z,13nm,1.2s
KMI LR LR
comp=Z,110nm,21.2s
KMI LR LR
comp=Z,430nm,15.0s
KMI LR LR
comp=Z,390nm,17.8s
SLVN Son La 35.71 267 P **P** **18 15 11.7 -1.7**
SLVN IAmb IAmb 18 15 15.6
comp=Z,28nm,1.3s
GTA Gaotai 36.86 299 P **P** **18 15 22.3 -0.8**
GTA pP sP 18 15 31.5 -0.9
GTA sP pwP 18 15 35.9 +2.2
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA pmax pmax
comp=Z,84nm,5.4s
GTA LR LR
comp=Z,190nm,18.7s
GTA LR LR
comp=Z,300nm,16.2s
GTA LR LR
comp=Z,330nm,15.7s
TLY Talaya 37.16 320 P **P** **18 15 26.6 +1.2**
comp=Z,3.4nm,0.5s,baz=122,slow=10,SNR=6.8
KAPI Kappang 39.90 217 P **P** **18 15 48.2 -0.4**
comp=Z,3.4nm,0.3s,baz=36,slow=8.7,SNR=2.0
KAPI Kappang 39.90 217 IAmb IAmb 18 15 53.7
comp=Z,16nm,1.1s
PBKT Sadao Pong 40.06 262 P **P** **18 15 49.8 -0.3**
PBKT IAmb IAmb 18 15 52.5
comp=Z,23nm,1.3s
KSM Kuching 40.88 235 P **P** **18 15 56.6 -0.3**
CHTO Chiang Mai 40.96 266 P **P** **18 15 55.8 -1.7**
CMAR Chiang Mai Arr 41.09 266 P **P** **18 15 58.0 -0.6**
comp=Z,3.9nm,1.1s,baz=54,slow=7.8,SNR=12
CMAR LR LR 18 33 23.0
comp=Z,152nm,19.0s,baz=129,slow=37
MTN Manton Dam 42.52 197 P **P** **18 16 09.2 -0.9**
BATI Baumata 42.57 208 P **P** **18 16 09.7 -1.0**
comp=Z,21nm,0.5s,baz=250,slow=2.1,SNR=5.4
TIXI Tiksi 43.92 354 P **P** **18 16 21.1 +0.2**
KULM Kulim 45.94 248 P **P** **18 16 38.7 +1.0**
KULM IAmb IAmb 18 16 39.6
comp=Z,21nm,1.3s
WMQ Urumqi 46.12 305 eP **P** **18 16 40.2 +1.3**
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ LR LR
comp=Z,120nm,20.9s
WMQ LR LR
comp=Z,120nm,20.9s
WMQ LR LR
comp=Z,250nm,19.3s
TAPN Taplejung 48.18 282 eP **P** **18 16 55.9 +0.4**
comp=Z,3.8nm,0.4s
ODAN Odare 48.58 282 eP **P** **18 16 58.2 -0.3**
comp=Z,7.3nm,0.5s
WB0 Warramunga Arr 48.58 190 P **P** **18 16 57.6 -0.5**
LEM Lembang 48.67 229 P **P** **18 16 58.8 -0.3**
comp=Z,27nm,0.8s,baz=40,slow=5.7,SNR=6.2
ZAA0 Zalesovo Array 48.73 318 P **P** **18 16 59.3 +0.3**
ZAA0 IAmb IAmb 18 17 00.8
comp=Z,23nm,1.4s
ZALV Zalesovo Beam 48.73 318 P **P** **18 16 59.7 +0.7**
comp=Z,3.1nm,0.6s,baz=101,slow=6.2,SNR=25
ZALV PcP **PcP** **18 18 23.9 +0.1**
comp=Z,1.6nm,0.5s,baz=118,slow=2.8,SNR=5.2
ZALV LR LR 18 38 16.1
comp=Z,284nm,18.4s,baz=96,slow=37
WR0 Warramunga Arr 48.75 190 P **P** **18 16 58.7 -0.7**
WB2 Warramunga Arr 48.76 190 P **P** **18 16 59.2 -0.3**
WRA Warramunga Arr 48.76 190 P **P** **18 16 58.7 -0.8**
comp=Z,11nm,0.7s,baz=13,slow=8.4,SNR=31
WRA PcP **PcP** **18 18 24.4 +0.1**
comp=Z,0.9nm,0.6s,baz=5.6,slow=3.7,SNR=0.9
PSI Prapat 48.78 247 P **P** **18 16 59.5 -0.5**
comp=Z,10nm,0.7s,baz=3.1,slow=1.7,SNR=7.9
RPSI Rantau Prapat 48.84 246 P **P** **18 17 00.2 -0.1**
RPSI IAmb IAmb 18 17 01.9
comp=Z,11nm,0.7s
FITZ Fitzroy Crossi 49.10 202 P **P** **18 17 00.9 -1.2**
comp=Z,5.3nm,0.7s,baz=14,slow=6.5,SNR=14
FITZ Fitzroy Crossi 49.10 202 P **P** **18 17 01.9 -0.1**
FITZ IAmb IAmb 18 17 15.2
comp=Z,19nm,1.3s
RAMN Ramite 49.24 282 eP **P** **18 17 03.1 -0.4**
comp=Z,7.8nm,0.6s
JIRN Jiri 49.41 283 eP **P** **18 17 05.2 +0.2**
GUN Gumba 49.61 284 eP **P** **18 17 06.4 -0.1**
MK31 Makanchi Array 49.93 309 P **P** **18 17 08.7 +0.5**
MKAR Makanchi Array 49.93 309 P **P** **18 17 08.2 -0.1**
comp=Z,2.3nm,0.6s,baz=87,slow=10,SNR=17
MKAR PcP **PcP** **18 18 28.0 -0.3**
comp=Z,0.5nm,0.5s,baz=69,slow=7.9,SNR=1.5
MKAR LR LR 18 39 23.1
comp=Z,391nm,18.1s,baz=89,slow=37
PKI Pulchoki 50.10 283 eP **P** **18 17 09.7 -0.5**
PKIN Phulchoki 50.11 283 eP **P** **18 17 09.5 -0.7**
MAKZ Makanchi 50.14 309 P **P** **18 17 10.6 +0.8**
MAKZ IAmb IAmb 18 17 11.5
comp=Z,8.1nm,1.2s
DMN Daman 50.35 284 eP **P** **18 17 11.8 -0.2**
GSI Gunungsitoli 50.75 246 P **P** **18 17 14.9 +0.1**
DANN Dangsing 51.30 285 eP **P** **18 17 19.2 0.0**
NRIK Norilʹsk 51.54 338 P **P** **18 17 20.4 +0.3**
comp=Z,1.4nm,0.3s,baz=126,slow=6.9,SNR=7.4
KOLN Koldanda 51.59 284 eP **P** **18 17 21.1 -0.2**
PYUN Piuthan 52.02 285 eP **P** **18 17 24.2 -0.3**
KURK Kurchatov 52.33 314 P **P** **18 17 26.7 +0.6**
ASAR Alice Springs 52.48 190 P **P** **18 17 26.5 -1.1**
comp=Z,0.9nm,0.5s,baz=7.9,slow=7.2,SNR=22
ASAR PcP **PcP** **18 18 37.9 -0.1**
comp=Z,0.7nm,0.6s,baz=18,slow=2.6,SNR=5.3
ASAR LR LR 18 38 07.9
comp=Z,179nm,21.8s,baz=2.5,slow=34
KDAK Kodiak Island 53.06 37 P **P** **18 17 31.0 -0.5**
comp=Z,4.0nm,0.7s,baz=219,slow=4.2,SNR=7.0
KDAK Kodiak Island 53.06 37 IAmb IAmb 18 17 47.2
comp=Z,22nm,1.4s
PPLA Purkeypile 53.81 31 P **P** **18 17 39.2 +2.1**
PPLA IAmb IAmb 18 17 51.8
comp=Z,9.5nm,1.2s
TRF Thorofare Moun 54.74 30 P **P** **18 17 45.0 +1.2**
TRF IAmb IAmb 18 17 47.6
comp=Z,5.1nm,0.9s
KSH Kashi 55.23 300 eP **P** **18 17 51.6 +3.8**
KSH pmax pmax
comp=Z,21nm,1.0s
KSH pmax pmax
comp=Z,140nm,4.6s
KSH LR LR
comp=Z,780nm,18.0s
KSH LR LR
comp=Z,470nm,12.5s
KSH LR LR
comp=Z,690nm,17.6s
DZM Mont Dzumac 55.23 153 eLR LR 18 33 49.9
comp=Z,199nm,21.9s
DZM Mont Dzumac 55.23 153 LR LR 18 38 54.7
comp=Z,134nm,20.9s,baz=26,slow=33
RND Reindeer 55.38 31 P **P** **18 17 49.9 +1.5**
RND IAmb IAmb 18 17 51.4
comp=Z,4.5nm,0.8s
KNK Knik Glacier 55.41 33 P **P** **18 17 50.8 +2.3**
KNK IAmb IAmb 18 17 52.0
comp=Z,8.3nm,0.6s
SML Sawmill 55.49 33 P **P** **18 17 50.0 +0.9**
SML IAmb IAmb 18 17 55.3
comp=Z,9.2nm,1.1s
SCM Sheep Creek Mo 55.97 33 P **P** **18 17 53.6 +1.0**
SCM IAmb IAmb 18 17 57.0
comp=Z,9.5nm,0.8s
GLI Glacier Island 56.04 34 P **P** **18 17 53.5 +0.4**
GLI IAmb IAmb 18 17 56.7
comp=Z,8.4nm,0.7s
ILAR Eielson Array 56.35 29 P **P** **18 17 54.8 -0.5**
comp=Z,1.2nm,0.7s,baz=259,slow=6.5,SNR=14
BRVK Borovoye 57.38 317 P **P** **18 18 03.0 +0.3**
BRVK IAmb IAmb 18 18 08.6
comp=Z,9.3nm,0.8s
DOT Dot Lake 57.53 30 P **P** **18 18 04.0 +0.3**
DOT IAmb IAmb 18 18 06.3
comp=Z,7.1nm,1.4s
KK31 Karatay Array 58.62 305 P **P** **18 18 10.9 -0.7**
KKAR Karatay Array 58.62 305 P **P** **18 18 10.9 -0.7**
STKA Stephens Creek 59.99 181 P **P** **18 18 20.0 -1.0**
comp=Z,7.7nm,0.6s,baz=343,slow=8.7,SNR=9.2
STKA Stephens Creek 59.99 181 IAmb IAmb 18 18 22.2
comp=Z,0.8nm,0.8s
INK Inuvik 61.65 25 P **P** **18 18 32.7 +0.9**
comp=Z,2.7nm,0.7s,baz=294,slow=10,SNR=5.1
ARU Arti 63.60 322 P **P** **18 18 44.6 -0.5**
GEYT Alibeck 69.10 303 P **P** **18 19 21.8 +1.0**
comp=Z,2.1nm,0.9s,baz=55,slow=5.6,SNR=6.5
GEYT LR LR 18 52 36.5
comp=Z,133nm,18.2s,baz=155,slow=38
YKA Yellowknife Ar 70.78 29 P **P** **18 19 30.2 -0.3**
comp=Z,1.5nm,0.7s,baz=292,slow=6.2,SNR=13
YKA LR LR 18 50 01.1
comp=Z,43nm,21.1s,baz=0.0,slow=35
KLMR Klimovskoe 71.61 330 eP **P** **18 19 33.9 -1.7**
KLMR AMP 18 19 37.2
comp=Z,11nm,1.5s
ARCES ARCESS Array B 72.40 341 P **P** **18 19 40.2 0.0**
comp=Z,1.4nm,0.6s,baz=60,slow=7.2,SNR=6.6
PINE Pine Mountain 75.21 48 P **P** **18 19 57.6 +0.2**
NEW Newport 75.66 43 P **P** **18 20 00.8 +1.2**
comp=Z,2.7nm,0.7s,baz=272,slow=5.0,SNR=5.7
FINES FINESS Array B 76.91 334 P **P** **18 20 06.9 +0.4**
comp=Z,1.1nm,0.6s,baz=66,slow=6.4,SNR=8.8
KBZ Khabaz 77.38 313 P **P** **18 20 10.4 +1.0**
comp=Z,9.9nm,0.9s,baz=150,slow=1.9,SNR=17
KBZ LR LR 18 57 25.6
comp=Z,121nm,18.3s,baz=73,slow=38
PNTR Pine Nut 78.18 52 P **P** **18 20 16.3 +2.0**
PNTR IAmb IAmb 18 20 18.5
comp=Z,4.7nm,0.7s
KVN Kaiserville 79.24 51 P **P** **18 20 21.3 +1.2**
NVAR Mina Array Bea 79.39 52 P **P** **18 20 21.2 +0.3**
comp=Z,1.8nm,0.7s,baz=286,slow=5.8,SNR=14
NVAR LR LR 18 54 50.2
comp=Z,117nm,18.2s,baz=266,slow=35
PPT Papeete 79.91 116 LR LR 18 54 03.6
comp=Z,54nm,18.6s,baz=327,slow=34
PPT2 Papeete2 79.92 116 eLR LR 18 45 05.9
comp=Z,122nm,25.0s
ELK Elko 80.37 49 P **P** **18 20 26.7 +0.5**
comp=Z,1.1nm,0.8s,baz=300,slow=7.7,SNR=4.2
AKASG Malin Array Be 81.76 324 P **P** **18 20 32.6 -0.5**
comp=Z,1.2nm,0.5s,baz=52,slow=5.4,SNR=8.8
NB2 NORSAR Subarra 82.50 338 P **P** **18 20 36.6 -0.3**
comp=Z,10nm,1.7s,baz=42,slow=5.3
NOA NORSAR Array B 82.50 338 P **P** **18 20 36.5 -0.4**
comp=Z,1.8nm,0.9s,baz=41,slow=5.2,SNR=3.8
PDAR Pinedale Array 82.99 45 P **P** **18 20 39.5 -0.5**
comp=Z,0.5nm,0.6s,baz=132,slow=1.3,SNR=3.2
PDAR LR LR 18 53 03.3
comp=Z,105nm,19.6s,baz=279,slow=32
TBI Tubuai 83.25 121 eLR LR 18 46 30.2
comp=Z,163nm,31.5s
RAYN Ar Rayn 84.96 294 P **P** **18 20 51.7 +1.5**
BR131 Keskin Array S 85.37 313 P **P** **18 20 52.4 +0.3**
BR131 IAmb IAmb 18 20 55.1
comp=Z,3.6nm,0.7s
BRTR Keskin Array B 85.37 313 P **P** **18 20 52.9 +0.8**
comp=Z,2.8nm,0.6s,baz=109,slow=4.2,SNR=20
BRTR LR LR 19 02 01.4
comp=Z,52nm,21.9s,baz=358,slow=38
ULM Lac du Bonnet 86.11 33 LR LR 19 01 46.5
comp=Z,44nm,18.0s,baz=302,slow=37
VYHS Vyhne 88.39 326 eP **P** **18 21 06.5 +0.1**
CONA Conrad Observa 90.22 327 *i* P **P** **18 21 14.0 -1.1**
comp=Z,3.3nm,1.5s
GERES GERESS Array B 90.56 329 P **P** **18 21 15.1 -1.6**
comp=Z,0.2nm,0.6s,baz=44,slow=7.1,SNR=2.1
ARSA Arzberg 90.86 327 *i* PcP **P** **18 21 18.1 +0.1**
comp=Z,1.4nm,1.0s
MOA Molln 91.02 328 *i* PcP **P** **18 21 18.3 -0.5**
SOKA Soboth 91.50 327 *i* PcP **P** **18 21 20.8 -0.3**
comp=Z,2.4nm,0.9s
WATA Walderalm 92.64 329 *i* PcP **P** **18 21 27.6 +1.2**
comp=Z,3.4nm,1.3s
RETA Reutte 92.89 330 *i* PcP **P** **18 21 28.2 +0.7**
comp=Z,2.8nm,1.0s
FETA Feichten 93.25 329 *i* PcP **P** **18 21 29.5 +0.2**
comp=Z,3.5nm,1.2s
SCHQ Schefferville 93.28 17 LR LR 19 05 52.9
comp=Z,44nm,20.5s,baz=298,slow=37
DAVA Damuels 93.43 330 *i* pP **P** **18 21 32.2 +2.2**
comp=Z,1.9nm,0.8s
TXAR Lajitas Array 94.49 53 P **P** **18 21 34.3 -1.0**
comp=Z,0.9nm,0.7s,baz=295,slow=6.6,SNR=6.6
TXAR LR LR 19 01 10.2
comp=Z,69nm,19.5s,baz=0.0,slow=34
TORD Torodi Ar. Bea 123.98 312 PKP **PKPdf** **18 27 13.2 -0.2**
comp=Z,0.4nm,0.6s,baz=9.6,slow=3.0,SNR=3.2
PTGA Pitinga 144.99 42 PKPbc **PKPab** **18 27 51.3 -0.4**
comp=Z,6.2nm,0.7s,baz=293,slow=5.0,SNR=10.0
LPAZ La Paz 149.19 73 PKPbc **PKPbc** **18 28 03.9 -0.5**
comp=Z,4.3nm,0.8s,baz=218,slow=7.6,SNR=10
PLCA Paso Flores 150.24 123 PKPbc **PKiKP** **18 28 06.3 -0.1**
comp=Z,1.6nm,0.7s,baz=157,slow=3.4,SNR=4.2

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*LSZ **08** 18:09:06.7±0.3, 11°.47S×24°.05E, h10km, MD3.2*
*IDC **08** 18:09:20.2±2.5, 12°.45S×25°.98E, h0km, mb4.0/1, mb1 3.9/3, mb1mx3.5/32, mbtmp3.9/3, ML3.7/2, Error ellipse: s-maj=46.5km s-min=36.3km az=126.0*
ISC 08 18:09:21.5±1.3, 12°.48S±0°.07×25°.9E±0°.2, h10km, n4, σ5.9 28/7, Zambia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ITZ	**Itezhi-Tezhi**	**3.25**	**178**	*eP*		**Pb**	**18 10 17.7**	**-1.6**
ITZ				*i*			18 10 17.7	
	baz=335,slow=22							
ITZ				*e*Pg		**Pg**	**18 10 26.8**	**+3.0**
ITZ				*e*S		**Sg**	**18 11 09.5**	**+3.5**
KMBO	**Kilima Mbogo**	**15.95**	**46**	Pn		**Pn**	**18 13 05.9**	**-0.5**
	0.2nm,0.3s,baz=223,slow=19,SNR=2.3							
KMBO				Lg		Lg	18 17 43.3	
	0.1nm,0.3s,baz=16,slow=20,SNR=4.6							
BOSA	**Boshof**	**16.06**	**182**	Pn		**Pn**	**18 13 08.1**	**+0.4**
	0.3nm,0.3s,baz=6.1,slow=12,SNR=7.8							
BOSA				Sn		**Sn**	**18 15 56.7**	**-9.3**
	0.1nm,0.3s,baz=180,slow=15,SNR=1.6							
BOSA				Lg		Lg	18 17 42.9	
	0.0nm,0.3s,baz=90,slow=20,SNR=1.8							
TORD	**Torodi Ar. Bea**	**34.98**	**316**	P		**P**	**18 16 14.8**	**+0.6**
	1.7nm,0.7s,baz=124,slow=7.4,SNR=12							

IDC 08 18:12:51.4±4.9, 16°.85N×84°.90W, h0km, mb3.3/2, mb1 4.1/4, mb1mx3.5/40, mbtmp3.8/4, ML3.8/1, MS2.7/2, Ms1 2.7/2, ms1mx2.4/22, Error ellipse: s-maj=71.8km s-min=67.8km az=148.0, North of Honduras

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**4.64**	**317**	Pn		Pn	18 14 00.9	-1.8
	baz=139,slow=0.7							
TEIG				Sn		Sn	18 14 47.8	-9.5
	48nm,0.3s,baz=319,slow=14,SNR=17							

JTS	**Las Juntas de**	**6.52 180**	LR	LR	18 17 12.0		
	comp=Z,550nm,19.4s,baz=70,slow=40						
CMIG	**Matias Romero**	**9.55 273**	Pn	Pn	18 15 10.7	+0.4	
	0.9nm,0.3s,baz=68,slow=8.9,SNR=9.1						
CMIG			LR	LR	18 19 06.7		
	comp=Z,49nm,18.9s,baz=122,slow=39						
TXAR	**Lajitas Array**	**21.23 309**	P	P	18 17 39.7	+0.6	
	0.6nm,0.7s,baz=126,slow=12,SNR=8.4						
PDAR	**Pinedale Array**	**33.30 326**	P	P	18 19 31.5	+0.4	
	0.5nm,0.5s,baz=128,slow=9.6,SNR=4.2						
ASAR	**Alice Springs**	**143.05 253**	PKP	PKPdf	18 32 26.6	-1.6	
	0.5nm,0.7s,baz=119,slow=3.4,SNR=6.6						

*IDC **08** 18:16:10.1±3.5,39.68N×140.56E,h0km,mb3.6/2, mb1 3.3/4,mb1mx3.1/39,mbtmp3.3/4,ML2.5/2,Error ellipse: s-maj=71.8km s-min=27.8km az=114.0*
*JMA **08** 18:16:10.0,39.12N×141.76E,h66km±1km,M3.2 Broadband fault plane solution: P waves. NP1: ϕ=83.00000°,δ24.00000°,λ127.00000°. NP2: ϕ=223.00000°,δ71.00000°,λ75.00000°. Principal axes: T Plg61.0000°, Azm111.0000°; N Plg14.0000°, Azm228.0000°; P Plg25.0000°, Azm325.0000°;*
JMA Felt I J1.

ISC 08 18:16:09.3±1.3,39°12N±0°.04×141°.83E±0°.08,h69km±7km, n16,σ0§69/29,7C-2D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
OFUJ	**Ofunato**	**0.13 252**		⇑P			**Pn**	**18 16 19.9**	**+0.4**
OFUJ				S			**Sn**	**18 16 26.8**	**-0.2**
JKMT	**Kesennumamotoy**	**0.42 222**		⇑P			**Pn**	**18 16 21.5**	**+0.2**
JKMT				S			**Sn**	**18 16 29.6**	**-0.4**
MIYJ	**Miyakonagasawa**	**0.46 359**		⇑P			**Pn**	**18 16 22.1**	**+0.5**
MIYJ				S			**Sn**	**18 16 30.8**	**+0.1**
JMK	**Ichinoseki**	**0.50 251**		⇑P			**Pn**	**18 16 22.4**	**+0.3**
JMK				S			**Sn**	**18 16 31.2**	**-0.2**
JOM	**Ohasama**	**0.54 310**		⇑P			**Pn**	**18 16 22.6**	**+0.1**
JOM				S			**Sn**	**18 16 31.9**	**-0.3**
JIO	**Ouri**	**0.76 210**		⇓P			**Pn**	**18 16 24.9**	**0.0**
JIO				S			**Sn**	**18 16 35.7**	**-0.7**
JRG	**Rokugo**	**0.97 287**		⇑P			**Pn**	**18 16 27.4**	**+0.1**
JRG				S			**Sn**	**18 16 40.3**	**-0.4**
JYK	**Kaneyama**	**1.16 260**		⇑P			**Pn**	**18 16 30.0**	**+0.2**
JYK				S			**Sn**	**18 16 45.0**	**-0.1**
JOU	**Okura**	**1.18 231**		P			**Pn**	**18 16 30.4**	**+0.3**
JOU				S			**Sn**	**18 16 45.3**	**-0.3**
JANG	**Nango**	**1.27 349**		P			**Pn**	**18 16 31.6**	**+0.3**
JANG				S			**Sn**	**18 16 48.3**	**+0.6**
JAH	**Hinai**	**1.41 320**		⇓P			**Pn**	**18 16 33.7**	**+0.7**
JAH				S			**Sn**	**18 16 49.6**	**-1.2**
JMM	**Marumori**	**1.49 213**		P			**Pn**	**18 16 34.1**	**-0.1**
JMM				eS			**Sn**	**18 16 51.9**	**-1.0**
MJAR	**Matsushiro Arr**	**3.85 229**		Pn			**Pn**	**18 17 07.9**	**+1.7**
	0.1nm,0.3s,baz=34,slow=12,SNR=8.3								
ASAJ	**Asahikawa**	**5.02 6**		Pn			**Pn**	**18 17 22.8**	**+0.7**
	0.3nm,0.3s,baz=244,slow=11,SNR=6.2								
ASAJ				Sn			**Sn**	**18 18 16.9**	**-1.9**
	0.5nm,0.3s,baz=126,slow=19,SNR=1.4								
ZALV	**Zalesovo Beam**	**40.78 311**		P			**P**	**18 23 43.3**	**-0.1**
	0.3nm,0.3s,baz=79,slow=10,SNR=2.5								
MKAR	**Makanchi Array**	**43.32 300**		P			**P**	**18 24 04.3**	**0.0**
	0.6nm,0.8s,baz=87,slow=7.0,SNR=4.3								

*IDC **08** 18:30:16.6±1.2,15.02N×147.10E,h0km,mb3.9/12, mb1 4.0/12,mb1mx3.8/43,mbtmp3.9/12,Error ellipse: s-maj=38.5km s-min=16.6km az=93.0*
*NEIC **08** 18:30:22.8±1.9,15.0N±0.1×147.0E±0.2,h45km±10km, mb4.4/8,Error ellipse: s-maj=25.2km s-min=16.0km az=121.0*

ISC 08 18:30:21.6±1.1,15°.0N±0°.1×147°.0E±0°.2,h32km,n24, σ1§15/23,mb4.0/16,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
GUMO	**Guam**	**2.54 236**					**Pn**	**18 31 00.5**	**-0.1**
SIJI	**Sorong**	**22.20 226**		P			**P**	**18 35 15.7**	**+0.3**
	11nm,0.9s,baz=36,slow=11,SNR=9.5								
MJAR	**Matsushiro Arr**	**22.84 341**		P			**P**	**18 35 17.7**	**-4.4**
	0.4nm,0.5s,baz=170,slow=9.2,SNR=2.1								
JNU	**Nakatsue**	**23.24 324**		P			**P**	**18 35 25.7**	**-0.5**
	2.4nm,0.7s,baz=112,slow=5.4,SNR=2.2								
JNU	**Nakatsue**	**23.24 324**		IAmb	IAmb		IAmb	18 35 30.9	
	comp=Z,6.1nm,1.1s								
KSRS	**Korea Array**	**28.06 326**		P			**P**	**18 36 09.3**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=148,slow=9.7,SNR=5.1								
ASAJ	**Asahikawa**	**29.25 353**		P			**P**	**18 36 21.1**	**+0.5**
	comp=Z,5.4nm,1.0s,baz=233,slow=10,SNR=2.0								
JKA	**Kamikawa-asahi**	**29.25 353**		P			**P**	**18 36 21.1**	**+0.5**
WB0	**Warramunga Arr**	**36.74 200**		P			**P**	**18 37 25.6**	**-0.6**
WB0				IAmb	IAmb		IAmb	18 37 34.1	
	comp=Z,6.3nm,1.1s								
WR0	**Warramunga Arr**	**36.87 200**		P			**P**	**18 37 27.1**	**-0.2**
WRAB	**Tennant Creek**	**36.91 200**		P			**P**	**18 37 26.7**	**-0.9**
WB2	**Warramunga Arr**	**36.92 200**		P			**P**	**18 37 27.8**	**+0.1**
WB2				IAmb	IAmb		IAmb	18 37 28.3	
	comp=Z,5.1nm,0.8s								
WRA	**Warramunga Arr**	**36.92 200**		P			**P**	**18 37 27.4**	**-0.3**
	comp=Z,4.5nm,0.8s,baz=23,slow=9.2,SNR=18								
AS31	**Alice Springs**	**40.53 199**		P			**P**	**18 37 58.0**	**0.0**
ASAR	**Alice Springs**	**40.54 199**		P			**P**	**18 37 58.1**	**0.0**
	comp=Z,0.9nm,0.5s,baz=14,slow=13,SNR=21								
CMAR	**Chiang Mai Arr**	**46.09 281**		P			**P**	**18 38 43.1**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=79,slow=6.5,SNR=5.1								
SONM	**Songino Array**	**46.82 323**		P			**P**	**18 38 49.1**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=121,slow=7.1,SNR=3.7								
ZALV	**Zalesovo Beam**	**61.73 324**		P			**P**	**18 40 37.0**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=110,slow=8.7,SNR=3.8								
MKAR	**Makanchi Array**	**61.95 315**		P			**P**	**18 40 39.2**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=91,slow=8.5,SNR=28								
MAKZ	**Makanchi**	**62.16 315**		P			**P**	**18 40 40.7**	**+0.8**
KURK	**Kurchatov**	**64.87 319**		P			**P**	**18 40 58.0**	**+0.4**
KURK				IAmb	IAmb		IAmb	18 40 58.5	
	comp=Z,3.1nm,0.8s								
ILAR	**Eielson Array**	**66.38 25**		P			**P**	**18 41 07.4**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=247,slow=4.7,SNR=2.8								
FINES	**FINESS Array B**	**90.75 336**		P			**P**	**18 43 19.8**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=76,slow=5.9,SNR=4.1								
DBIC	**Dimbokro**	**144.78 306**		PKP			**PKPdf**	**18 49 55.7**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=48,slow=5.1,SNR=4.5								

IDC 08 18:32:52.2±31.0,18°.81S×178°.49W,h650km±285km, mb2.8/3,mb1 3.0/3,mb1mx2.6/34,mbtmp3.9/3,Error ellipse: s-maj=342.7km s-min=89.6km az=122.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
CTA	**Charters Tower**	**33.23 262**		P			P	18 38 39.2	+0.4
	2.8nm,0.7s,baz=77,slow=10,SNR=1.8								
WRA	**Warramunga Arr**	**44.40 260**		P			P	18 40 08.0	-0.1
	0.4nm,0.3s,baz=98,slow=7.3,SNR=8.1								
ASAR	**Alice Springs**	**44.48 255**		P			P	18 40 08.7	0.0
	1.0nm,0.7s,baz=85,slow=8.3,SNR=12								
ASAR				PcP			PcP	18 41 37.3	0.0
	0.5nm,0.9s,baz=110,slow=3.8,SNR=4.4								
GERES	**GERESS Array B**	**148.45 345**		PKPbc			PKPbc	18 51 27.0	-0.4
	0.1nm,0.3s,baz=33,slow=2.3,SNR=4.7								

*BJI **08** 19:07:14.2±0.0,10.43S×162.96E,h5km,mB5.0/14, mb4.7/18,Ms4.8/4,Ms7 4.5/1*
*NEIC **08** 19:07:15.8±2.9,11.01S±0.09×162.4E±0.1,h10km±1km, mb4.7/17,Error ellipse: s-maj=20.4km s-min=11.4km az=49.0*
*IDC **08** 19:07:18.0±0.7,11.01S×162.28E,h27km±3km,mb4.0/15, mb1 4.2/19,mb1mx4.1/33,mbtmp4.2/19,ML4.0/2,MS3.8/28, Ms1 3.8/28,ms1mx3.7/33,Error ellipse: s-maj=19.1km s-min=13.4km az=101.0*

ISC 08 19:07:19.2±0.5,11°.04S±0°.06×162°.42E±0°.08,h35km,n72, σ1§83/62,mb4.5/29,MS3.9/30,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
HNR	**Honiara**	**2.91 303**		Pn			**Pn**	**19 08 02.6**	**-0.5**
	112nm,0.3s,baz=5.0,slow=0.5,SNR=57								
HNR				Sn			**Sn**	**19 08 38.6**	**+1.8**
	222nm,0.3s,baz=309,slow=22,SNR=9.8								
HNR				LR			LR	19 09 14.4	
	comp=Z,4µm,18.7s,baz=148,slow=42								
HNR	**Honiara**	**2.91 303**		Pn			**Pn**	**19 08 03.0**	**-0.1**
SANVU	**Saraoutou**	**6.39 134**		Pn			**Pn**	**19 08 53.1**	**+2.1**
DZM	**Mont Dzumac**	**11.63 161**		*e*Pn			**Pn**	**19 10 05.3**	**+2.5**
	19nm,0.6s								
DZM				*e*Sn			**Sn**	**19 12 06.9**	**-4.6**
	18nm,0.6s								
DZM				*e*LR			LR	19 12 43.3	
	comp=Z,842nm,23.8s								
DZM	**Mont Dzumac**	**11.63 161**		Pn			**Pn**	**19 10 04.8**	**+2.0**
	1.0nm,0.3s,baz=12,slow=12,SNR=20								
DZM				Sn			**Sn**	**19 12 10.9**	**-0.6**
	1.2nm,0.3s,baz=253,slow=18,SNR=5.5								
DZM				LR			LR	19 13 55.7	
	comp=Z,544nm,19.5s,baz=8.5,slow=34								
DZM	**Mont Dzumac**	**11.63 161**					**Sn**	**19 12 12.2**	**+0.7**
KRVT	**Keravat (AS076**	**12.28 302**		Pn			**Pn**	**19 10 11.5**	**-0.2**
	0.9nm,0.3s,baz=92,slow=1.1,SNR=2.2								
KRVT				LR			LR	19 15 11.4	
	comp=Z,1µm,20.9s,baz=118,slow=39								
PMG	**Port Moresby**	**15.11 275**		Pn			**Pn**	**19 10 49.1**	**-1.0**
	0.3nm,0.3s,baz=156,slow=12,SNR=2.2								
PMG				LR			LR	19 16 17.1	
	comp=Z,1µm,20.8s,baz=101,slow=36								
EIDS	**Eidsvold**	**17.84 215**					**P**	**19 11 26.6**	**+1.3**
CTA	**Charters Tower**	**17.97 238**		P			**P**	**19 11 27.9**	**+1.1**
	1.5nm,0.3s,baz=63,slow=13,SNR=21								
CTAO	**Charters Tower**	**17.97 238**		P			**P**	**19 11 28.6**	**+1.8**
CTAO				IAmb	IAmb		IAmb	19 11 31.5	
	comp=Z,138nm,1.1s								
COEN	**Coen**	**19.01 259**					**Pn**	**19 11 40.0**	**+0.9**
COEN				IAmb	IAmb		IAmb	19 11 41.4	
	comp=Z,43nm,1.1s								
ARMA	**Armidale**	**21.73 206**		P			**P**	**19 12 09.2**	**+1.5**
SMPI	**Sarmi**	**25.19 289**		P			**P**	**19 12 47.4**	**+5.6**
	comp=Z,35nm,1.2s								
STKA	**Stephens Creek**	**28.28 220**		P			**P**	**19 13 08.7**	**-0.7**
	comp=Z,3.6nm,0.9s,baz=48,slow=10,SNR=6.1								
STKA				LR			LR	19 24 22.5	
	comp=Z,401nm,18.5s,baz=33,slow=36								
WRA	**Warramunga Arr**	**28.43 248**		P			**P**	**19 13 08.8**	**-2.2**
	comp=Z,3.9nm,0.9s,baz=75,slow=9.4,SNR=7.0								
WRA				pP			**pP**	**19 13 18.1**	**-1.8**
	comp=Z,3.0nm,0.6s,baz=77,slow=9.4,SNR=6.9								
WRA				PcP			**PcP**	**19 16 22.5**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=75,slow=2.7,SNR=2.5								
WRA				LR			LR	19 24 38.5	
	comp=Z,704nm,18.5s,baz=65,slow=37								
H11S2	**WAKE ISLAND Hy**	**29.65**	**8**	T			T	19 44 14.3	
	baz=188,slow=76								
H11S3	**WAKE ISLAND Hy**	**29.65**	**8**	T			T	19 44 14.0	
	baz=188,slow=76								
H11S1	**WAKE ISLAND Hy**	**29.66**	**8**	T			T	19 44 14.8	
	baz=188,slow=76								
ASAR	**Alice Springs**	**29.90 241**		P			**P**	**19 13 21.8**	**-2.2**
	comp=Z,2.4nm,0.8s,baz=67,slow=9.9,SNR=29								
ASAR				pP			**pP**	**19 13 30.9**	**-2.3**
	comp=Z,4.4nm,0.8s,baz=64,slow=10.0,SNR=13								
ASAR				PcP			**PcP**	**19 16 25.5**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=70,slow=1.4,SNR=4.1								
ASAR				LR			LR	19 24 41.1	
	comp=Z,272nm,21.0s,baz=59,slow=35								
H11N1	**WAKE ISLAND Hy**	**30.88**	**8**	T			T	19 45 45.2	
	baz=188,slow=76								
H11N3	**WAKE ISLAND Hy**	**30.88**	**8**	T			T	19 45 47.2	
	baz=188,slow=76								
H11N2	**WAKE ISLAND Hy**	**30.89**	**8**	T			T	19 45 47.8	
	baz=188,slow=76								
BBOO	**Buckleboo**	**32.50 224**		P			**P**	**19 13 46.0**	**-0.7**
RPZ	**Rata Peaks**	**33.40 169**		LR			LR	19 25 19.9	
	comp=Z,101nm,20.9s,baz=5.5,slow=32								
RAR	**Rarotonga**	**37.61 110**		LR			LR	19 26 42.5	
	comp=Z,114nm,20.6s,baz=276,slow=31								
PPT	**Papeete**	**46.87 104**		LR			LR	19 30 41.1	
	comp=Z,77nm,20.4s,baz=290,slow=30								
PPT2	**Papeete2**	**46.87 104**		eLQ			LQ	19 27 16.3	
	comp=Z,256nm,27.0s								
PPT2				*e*LR			LR	19 29 13.1	
	comp=Z,310nm,25.8s,baz=276								
TBI	**Tubuai**	**47.37 112**		*e*LQ			LQ	19 27 24.7	
	comp=Z,332nm,35.0s								
TBI				*e*LR			LR	19 29 26.2	
	comp=Z,180nm,33.5s								
JAGI	**Jajag, Banyuwa**	**47.60 269**		P			**P**	**19 15 54.5**	**+2.3**
	comp=Z,77nm,1.1s								
JAGI	**Jajag, Banyuwa**	**47.60 269**		P			**P**	**19 15 50.0**	**-2.2**
MJAR	**Matsushiro Arr**	**52.53 335**		P			**P**	**19 16 27.3**	**-1.8**
	comp=Z,0.7nm,0.6s,baz=166,slow=9.0,SNR=5.8								
MJAR				pP			**pP**	**19 16 35.4**	**-4.3**
	comp=Z,1.9nm,0.7s,baz=167,slow=9.4,SNR=6.8								
MJAR				LR			LR	19 42 38.7	
	comp=Z,19nm,18.0s,baz=210,slow=40								
MAT	**Matsushiro**	**52.54 335**		P			**P**	**19 16 28.3**	**-0.9**
JKA	**Kamikawa-asahi**	**57.78 343**		P			**P**	**19 17 07.3**	**+0.5**
ASAJ	**Asahikawa**	**57.78 343**		P			**P**	**19 17 07.3**	**+0.5**
	comp=Z,5.2nm,0.8s,baz=186,slow=10,SNR=2.3								
ASAJ				pP			**pP**	**19 17 15.5**	**-2.0**
	comp=Z,21nm,1.0s,baz=242,slow=16,SNR=6.0								
KSRS	**Korea Array**	**58.08 328**		P			**P**	**19 17 09.2**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=156,slow=9.6,SNR=4.6								
KSRS				pP			**pP**	**19 17 17.3**	**-2.2**
	comp=Z,1.1nm,0.8s,baz=136,slow=7.0,SNR=5.3								
KSRS				LR			LR	19 40 16.3	
	comp=Z,59nm,19.2s,baz=132,slow=34								
NJ2	**Nanjing**	**59.76 317**		*e*P			**P**	**19 17 22.3**	**+1.4**
NJ2				pmax			pmax		
	comp=Z,5.0nm,0.5s								
RKT	**Rikitea**	**60.65 110**		*e*LR			LR	19 35 36.0	
	comp=Z,324nm,24.2s								
USRK	**Ussuriysk Ar.**	**61.53 336**		P			**P**	**19 17 33.0**	**+0.3**
	comp=Z,5.4nm,0.9s,baz=150,slow=6.7,SNR=7.1								
MNSI	**Mandailing Nat**	**63.55 276**		P			P	19 17 52.8	+6.0
PETK	**Petropavlovsk-**	**64.02 357**		LR			LR	19 42 11.3	
	comp=Z,44nm,20.9s,baz=226,slow=33								
BJI	**Beijing**	**66.46 323**		P			**P**	**19 18 08.0**	**+2.8**
BJI				pmax			pmax		
	comp=Z,4.0nm,1.5s								
VNDA	**Vanda**	**66.47 180**		P			**P**	**19 18 05.7**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=351,slow=5.8,SNR=7.2								
VNDA				pP			**pP**	**19 18 13.6**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=357,slow=6.7,SNR=3.6								
VNDA				LR			LR	19 42 22.9	
	comp=Z,33nm,19.4s,baz=345,slow=32								
CMAR	**Chiang Mai Arr**	**69.13 295**		P			**P**	**19 18 21.2**	**-1.2**
	comp=Z,0.4nm,0.8s,baz=141,slow=5.8,SNR=3.0								
CMAR				pP			**pP**	**19 18 29.1**	**-4.1**
	comp=Z,0.6nm,0.6s,baz=126,slow=5.4,SNR=4.6								
CMAR				LR			LR	19 48 35.4	
	comp=Z,19nm,19.4s,baz=265,slow=36								
HHC	**Hu-ho-hao-te**	**69.75 321**		*e*P			**P**	**19 18 27.0**	**+1.0**
HHC				pmax			pmax		
	comp=Z,13nm,1.2s								
HHC				pmax			pmax		
	comp=Z,34nm,6.3s								
LZH	**Lanzhou**	**72.36 314**		*e*P			**P**	**19 18 42.8**	**+0.8**
LZH				pP			pP	19 18 46.1	-6.6
LZH				sP			sP	19 18 47.5	-9.2
LZH				*e*PP			**PP**	**19 21 26.1**	**+2.8**
LZH				pmax			pmax		
	comp=Z,20nm,1.3s								
LZH				pmax			pmax		
	comp=Z,67nm,7.4s								
LZH				LR			LR		
	comp=Z,140nm,15.0s								
LZH				LR			LR		
	comp=Z,150nm,15.2s								
LZH				LR			LR		
	comp=Z,230nm,17.9s								
GTA	**Gaotai**	**76.72 315**		*e*P			P	19 19 17.5	+10
GTA				pP			sP	19 19 27.7	+5.7
GTA				sP			PcP	19 19 32.4	+14
GTA				pmax			pmax		
	comp=Z,3.0nm,1.7s								
GTA				pmax			pmax		
	comp=Z,99nm,4.7s								
GTA				LR			LR		
	comp=N,50nm,20.8s								
GTA				LR			LR		
	comp=E,95nm,22.5s								
GTA				LR			LR		
	comp=Z,57nm,21.3s								
SONM	**Songino Array**	**76.76 325**		P			**P**	**19 19 06.9**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=142,slow=6.1,SNR=7.6								
SONM				LR			LR	19 54 22.5	
	comp=Z,60nm,18.1s,baz=120,slow=37								
KDAK	**Kodiak Island**	**77.81 23**		P			**P**	**19 19 12.4**	**-0.3**
	comp=Z,4.8nm,0.9s,baz=191,slow=3.0,SNR=3.6								
QSPA	**South Pole Qui**	**78.96 180**		P			**P**	**19 19 20.4**	**+1.1**
QSPA				IAmb	IAmb		IAmb	19 19 32.5	
	comp=Z,8.9nm,1.1s								
SVW2	**Sparrevohn**	**79.16 19**		P			**P**	**19 19 21.1**	**+1.0**
SVW2				IAmb	IAmb		IAmb	19 19 30.4	
	comp=Z,13nm,1.0s								
MAW	**Mawson**	**83.49 202**		LR			LR	19 53 40.2	
	comp=Z,26nm,19.5s,baz=54,slow=33								
CTGM	**Chitina Glacie**	**84.26 24**		P			**P**	**19 19 47.8**	**+0.5**
HDA	**Harding Lake**	**84.32 20**		P			**P**	**19 19 47.5**	**+0.2**
HDA				IAmb	IAmb		IAmb	19 19 57.0	
	comp=Z,6.0nm,0.9s								
ILAR	**Eielson Array**	**84.57 19**		P			**P**	**19 19 47.6**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=241,slow=5.8,SNR=12								
ILAR				LR			LR	19 53 13.7	
	comp=Z,63nm,19.6s,baz=268,slow=33								
TIXI	**Tiksi**	**85.49 350**		LR			LR	20 00 46.7	
	comp=Z,15nm,18.1s,baz=186,slow=38								
BBB	**Bella Bella**	**86.44 35**		LR			LR	19 58 30.4	
	comp=Z,31nm,18.5s,baz=254,slow=36								
WMQ	**Urumqi**	**86.79 316**		*e*P			**P**	**19 20 01.3**	**+1.2**
WMQ				pP			PcP	19 20 05.8	+3.4
WMQ				LR			LR		
	comp=Z,180nm,16.5s								
WMQ				LR			LR		
	comp=Z,210nm,24.9s								
DLBC	**Dease Lake**	**87.98 29**		LR			LR	19 53 35.3	
	comp=Z,89nm,18.9s,baz=250,slow=32								
PINE	**Pine Mountain**	**88.11 45**		P			**P**	**19 20 08.0**	**+1.3**
PINE				IAmb	IAmb		IAmb	19 20 08.5	
	comp=Z,3.8nm,0.8s								
RYN	**Ryan**	**88.42 50**		P			**P**	**19 20 08.9**	**+0.7**
RYN				IAmb	IAmb		IAmb	19 20 10.8	
	comp=Z,3.0nm,0.9s								
NVAR	**Mina Array Bea**	**88.53 51**		P			**P**	**19 20 09.4**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=234,slow=7.2,SNR=17								
NVAR				LR			LR	19 54 38.6	
	comp=Z,78nm,18.3s,baz=280,slow=32								
SHPR	**Sheep Range**	**90.48 53**		P			**P**	**19 20 17.8**	**-0.1**
SHPR				IAmb	IAmb		IAmb	19 20 19.8	
	comp=Z,3.5nm,1.0s								
BMO	**Blue Mountains**	**90.91 45**		P			**P**	**19 20 18.8**	**-0.8**
MKAR	**Makanchi Array**	**91.30 317**		P			**P**	**19 20 19.8**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=95,slow=6.8,SNR=6.9								
MKAR				LR			LR	20 02 44.6	
	comp=Z,23nm,19.5s,baz=117,slow=36								
ELK	**Elko**	**91.39 49**		P			**P**	**19 20 22.6**	**+0.4**
ELK				IAmb	IAmb		IAmb	19 20 23.8	
	comp=Z,4.4nm,1.1s								
ZALV	**Zalesovo Beam**	**91.65 325**		LR			LR	20 03 44.2	
	comp=Z,3nm,18.2s,baz=110,slow=37								
NRIK	**Noril'sk**	**94.99 340**		LR			LR	20 02 01.1	
	comp=Z,39nm,22.0s,baz=91,slow=35								
PDAR	**Pinedale Array**	**95.96 48**		LR			LR	20 00 37.8	
	comp=Z,35nm,18.0s,baz=270,slow=33								
YKA	**Yellowknife Ar**	**96.48 28**		P			**P**	**19 20 43.2**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=251,slow=4.6,SNR=6.7								
YKA				LR			LR	20 02 26.4	
	comp=Z,37nm,18.0s,baz=0.0,slow=34								
TXAR	**Lajitas Array**	**98.70 62**		LR			LR	19 57 08.0	
	comp=Z,54nm,20.5s,baz=0.0,slow=30								
ESDC	**Sonseca Array**	**149.02 339**		PKPbc			**PKPbc**	**19 27 04.6**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=28,slow=4.5,SNR=2.3								

IDC 08 19:12:29.1±2.0,2°.03S×134°.52E,h0km,mb3.3/2, mb1 3.6/4,mb1mx3.3/29,mbtmp3.5/4,ML3.3/2,Error ellipse: s-maj=43.0km s-min=22.0km az=45.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
SIJI	**Sorong**	**3.45 290**		Pn			Pn	19 13 24.0	-0.1
	6.7nm,0.3s,baz=168,slow=23,SNR=106								
SIJI				Sn			Sn	19 14 01.6	-4.1
	3.3nm,0.3s,baz=88,slow=18,SNR=3.6								
SIJI				Lg			Lg	19 14 18.8	
	0.9nm,0.3s,baz=142,slow=11,SNR=3.6								
WRA	**Warramunga Arr**	**17.80 181**		P			P	19 16 39.0	-0.3
	0.1nm,0.3s,baz=359,slow=12,SNR=2.1								
ASAR	**Alice Springs**	**21.51 182**		P			P	19 17 19.5	-0.3
	0.5n

H10S3	**ASCENSION HYDR** SNR=14	**142.57**	**150**	T	T	22 14 32.3
AKASG	**Malin Array Be** comp=Z,2.1nm,0.5s,baz=44,slow=3.9,SNR=8.5	**146.91**	**329**	PKPbc	**PKPbc**	**19 32 51.2 -1.4**
BRTR	**Keskin Array B** comp=Z,0.7nm,0.7s,baz=132,slow=5.1,SNR=5.5	**150.14**	**308**	PKPbc	**PKiKP**	**19 33 01.3 -1.0**
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,0.8s,baz=189,slow=4.3,SNR=5.0	**168.70**	**173**	PKPab	**PKPab**	**19 34 28.1 -0.3**

*BJI **08** 19:32:42.4±0.0, 42°.02N×87°.87E, h5km, ML3.2/7*
*NNC **08** 19:32:50.4±2.0, 42°.29N×87°.25E, h7km±7km, mb3.7, mpv3.4, Error ellipse: s-maj=12.0km s-min=8.7km az=128.0*
ISC 08 19:32:43.8±1.5, **42°.0N**±0°.1×**87°.67E**±0°.08, **h10**km, **n7,** σ1§**45**/9, **5C-6D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.81**	**1**			Pg	**Pn**	**19 33 15.8**	**+0.7**
WMQ						Sg	**Sn**	**19 33 38.5**	**+0.3**
MK31	**Makanchi Array** 1.1nm,0.3s,baz=139,slow=14,SNR=64	**6.14**	**323**	⇓Pn			**Pn**	**19 34 16.2**	**+1.7**
MK31						⇑Sn	**Sn**	**19 35 23.3**	**-1.6**
MK31	1.4nm,0.4s,baz=136,slow=24,SNR=4.4					⇓Lg	Lg	19 35 52.7	
MAKZ	**Makanchi** 4.0nm,0.8s	**6.30**	**322**	⇑Pn			**Pn**	**19 34 17.8**	**+1.2**
MAKZ						⇓Sn	**Sn**	**19 35 26.6**	**-2.0**
MAKZ	4.2nm,0.7s					⇓Lg	Lg	19 35 56.9	
MDOK	**Medeo** 5.0nm,1.0s	**7.93**	**282**	⇑Sn			**Sn**	**19 36 09.0**	**0.0**
MDOK						⇑Lg	Lg	19 36 50.1	
TKM2	**Tokmak 2** 2.7nm,0.7s	**8.97**	**280**	⇑Sn			**Sn**	**19 36 33.9**	**-0.9**
TKM2	4.0nm,0.9s					⇓Lg	Lg	19 37 24.2	
GTA	**Gaotai**	**9.58**	**102**	*e*P			**Pn**	**19 35 01.2**	**-0.6**
GTA				pP				19 35 05.1	
GTA				sP				19 35 07.6	
GTA	comp=N,10.0nm,1.4s			smax	smax				
GTA	comp=E,9.0nm,1.0s			smax	smax				
KURBB	**Kurchatov Arra** 6.3nm,0.7s	**10.68**	**327**	⇓Lg		Lg		19 38 19.1	

*IDC **08** 19:41:09.8±4.7, 68°.12N×162°.90W, h0km, mb3.0/2, mb1 3.8/3, mb1mx3.2/31, mbtmp3.3/3, ML3.7/1, Error ellipse: s-maj=85.7km s-min=56.8km az=29.0*
*AEIC **08** 19:41:12.9±1.1, 67°.70N±0°.05×162°.6W±0°.3, h28km±7km, ML2.9, Error ellipse: s-maj=15.2km s-min=6.1km az=101.0*
*NEIC **08** 19:41:13.2±1.1, 67°.70N±0°.05×162°.7W±0°.3, h33km±7km, Error ellipse: s-maj=16.0km s-min=6.5km az=99.0*
ISC 08 19:41:11.8±1.0, **67°.70N**±0°.07×**162°.28W**±0°.07, **h10**km, **n23,** σ1§**47**/25, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.43**	**327**				**Pb**	**19 41 21.0**	**-0.5**
RDOG							**Sb**	**19 41 27.7**	**-0.3**
ANM	**Nome**	**3.39**	**203**				**Sn**	**19 42 43.4**	**-1.5**
IM03		**3.79**	**113**				**Pn**	**19 42 10.9**	**+0.8**
COLD	**Coldfoot**	**4.67**	**90**				**Pn**	**19 42 23.9**	**+1.6**
TTA	**Tatalina**	**5.46**	**148**				**Pn**	**19 42 33.8**	**+0.6**
TT01	**Tatalina**	**5.48**	**148**				**Pn**	**19 42 33.5**	**+0.2**
BPAW	**Bear Paw Mtn.**	**5.87**	**123**				**Pn**	**19 42 40.1**	**+1.4**
KTH	**Kantishna Hill**	**6.27**	**126**				**Pn**	**19 42 45.5**	**+1.2**
MDM	**Murphy Dome**	**6.29**	**109**				**Pn**	**19 42 45.7**	**+1.2**
PPLA	**Purkeypile**	**6.41**	**134**				**Pn**	**19 42 47.4**	**+1.1**
POKR	**Poker Plat Res**	**6.49**	**107**				**Pn**	**19 42 48.5**	**+1.2**
TRF	**Thorofare Moun**	**6.54**	**125**				**Pn**	**19 42 49.1**	**+0.9**
WRH	**Wood River Hil**	**6.61**	**113**				**Pn**	**19 42 47.1**	**-1.7**
CCB	**Clear Creek Bu**	**6.61**	**111**				**Pn**	**19 42 49.8**	**+1.0**
BM03	**Burnt Mountain**	**6.77**	**84**				**Pn**	**19 42 52.7**	**+1.6**
IL31		**6.87**	**108**				**Pn**	**19 42 54.0**	**+1.6**
ILAR	**Eielson Array** 1.4nm,0.3s,baz=301,slow=14,SNR=67	**6.87**	**108**	Pn			**Pn**	**19 42 53.6**	**+1.2**
ILAR	0.3nm,0.3s,baz=303,slow=24,SNR=11					Sn	**Sn**	**19 44 09.6**	**-1.1**
WAT2	**Susitna Watana**	**7.43**	**123**				**Pn**	**19 43 01.8**	**+1.5**
DHY	**Denali Highway**	**7.75**	**109**				**Pn**	**19 43 05.6**	**+1.0**
BC03		**7.70**	**109**				**Pn**	**19 43 30.7**	**-0.5**
INK	**Inuvik** 0.2nm,0.3s,baz=173,slow=15,SNR=2.6	**10.75**	**73**	Sn			**Sn**	**19 45 41.9**	**-3.8**
YKA	**Yellowknife Ar** 0.3nm,0.6s,baz=302,slow=10,SNR=3.1	**20.29**	**82**	P			**P**	**19 45 48.0**	**+0.8**
TXAR	**Lajitas Array** 0.3nm,0.7s,baz=343,slow=5.9,SNR=4.1	**51.39**	**107**	P			**P**	**19 50 18.1**	**+1.6**

*IDC **08** 19:47:55.4±3.7, 68°.40N×162°.87W, h0km, mb3.3/3, mb1 3.9/6, mb1mx3.4/36, mbtmp3.6/6, ML3.6/3, Error ellipse: s-maj=51.2km s-min=37.0km az=122.0*
*NEIC **08** 19:47:59.7±1.6, 67°.70N±0°.04×162°.7W±0°.2, h29km±5km, Error ellipse: s-maj=10.9km s-min=5.3km az=106.0*
*AEIC **08** 19:47:59.2±1.7, 67°.70N±0°.04×162°.6W±0°.2, h29km±5km, ML3.2, Error ellipse: s-maj=10.7km s-min=5.3km az=108.0*
ISC 08 19:47:57.6±1.0, **67°.76N**±0°.05×**162°.50W**±0°.06, **h10**km, **n29,** σ1§**95**/34, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.33**	**332**				**Pn**	**19 48 07.5**	**-1.0**
RDOG							**Sb**	**19 48 14.2**	**+3.2**
ANM	**Nome**	**3.42**	**201**				**Pn**	**19 48 49.8**	**-1.1**
ANM							**Sn**	**19 49 29.3**	**-2.1**
IM03		**3.89**	**113**				**Pn**	**19 48 57.4**	**+0.1**
IM03							**Sn**	**19 49 42.2**	**-0.7**
COLD	**Coldfoot**	**4.76**	**91**	Pn			**Pn**	**19 49 11.8**	**+2.5**
TOLK	**Toolik Lake Re**	**4.90**	**74**				**Pn**	**19 49 11.8**	**+0.5**
PS04	**TAPS Pump Stn4**	**4.97**	**76**				**Pn**	**19 49 13.2**	**+0.9**
GAMB	**Gambell**	**5.51**	**228**				**Pn**	**19 49 18.9**	**-0.7**
TTA	**Tatalina**	**5.56**	**148**				**Pn**	**19 49 20.8**	**+0.5**
TT01	**Tatalina**	**5.58**	**148**				**Pn**	**19 49 20.7**	**+0.1**
CHUM	**Lake Minchumin**	**5.71**	**128**				**Pn**	**19 49 22.3**	**-0.1**
BPAW	**Bear Paw Mtn.**	**5.97**	**123**				**Pn**	**19 49 26.2**	**+0.2**
MDM	**Murphy Dome**	**6.39**	**109**				**Pn**	**19 49 32.9**	**+1.2**
COLA	**College**	**6.57**	**109**				**Pn**	**19 49 34.7**	**+0.6**
POKR	**Poker Plat Res**	**6.59**	**107**				**Pn**	**19 49 34.7**	**+0.3**
CCB	**Clear Creek Bu**	**6.71**	**111**				**Pn**	**19 49 36.8**	**+0.7**
WRH	**Wood River Hil**	**6.71**	**113**				**Pn**	**19 49 36.9**	**+0.8**
FYU	**Fort Yukon**	**6.82**	**92**	Pn			**Pn**	**19 49 38.8**	**+1.2**
BM03	**Burnt Mountain**	**6.85**	**85**				**Pn**	**19 49 39.0**	**+1.0**
IL31		**6.97**	**108**				**Pn**	**19 49 40.2**	**+0.6**
ILAR	**Eielson Array** 2.9nm,0.3s,baz=302,slow=14,SNR=111	**6.97**	**108**	Pn			**Pn**	**19 49 40.2**	**+0.5**
ILAR	0.5nm,0.3s,baz=303,slow=24,SNR=8.1					Sn	**Sn**	**19 50 56.7**	**-2.2**
RND	**Reindeer**	**7.14**	**121**	Pn			**Pn**	**19 49 41.2**	**-0.8**
HDA	**Harding Lake**	**7.15**	**111**				**Pn**	**19 49 41.9**	**-0.3**
SVW2	**Sparrevohn**	**7.33**	**153**				**Pn**	**19 49 44.8**	**+0.2**
DHY	**Denali Highway**	**7.85**	**120**				**Pn**	**19 49 51.5**	**-0.4**
INK	**Inuvik** 0.3nm,0.3s,baz=264,slow=5.6,SNR=6.5	**10.81**	**74**	Pn			**Pn**	**19 50 28.5**	**-3.7**
INK	0.4nm,0.3s,baz=112,slow=15,SNR=2.7					Sn	**Sn**	**19 52 26.4**	**-6.7**
KDAK	**Kodiak Island** 0.1nm,0.3s,baz=306,slow=14,SNR=1.4	**10.98**	**151**	Pn			**Pn**	**19 50 38.5**	**+4.0**
YKA	**Yellowknife Ar** 0.7nm,0.7s,baz=301,slow=10,SNR=5.1	**20.36**	**82**	P			**P**	**19 52 34.0**	**+0.2**
NVAR	**Mina Array Bea** 0.4nm,0.7s,baz=305,slow=6.4,SNR=2.6	**38.12**	**118**	P			**P**	**19 55 18.7**	**+2.0**
TXAR	**Lajitas Array** 0.5nm,0.6s,baz=333,slow=5.4,SNR=8.8	**51.49**	**107**	P			**P**	**19 57 04.2**	**+1.1**

*MDD **08** 20:05:28.0±1.3, 42°.59N×10°.65W, h0km, mb3.7/9, Error ellipse: s-maj=11.7km s-min=6.7km az=121.0, PRXIMO*
*INMG **08** 20:05:29.2±1.4, 42°.78N×11°.07W, h10km, ML2.2, Error ellipse: s-maj=6.7km s-min=3.6km az=103.0*
*LDG **08** 20:05:30.7, 42°.71N×10°.53W, h30km*
ISC 08 20:05:24.4±1.9, **42°.75N**±0°.05×**10°.7W**±0°.1, **h10**km, **n80,** σ3§**19**/142, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos** 4.8nm,0.1s,SNR=7.9	**1.25**	**80**	P			**Pg**	**20 05 51.0**	**+2.7**
EMAZ	45nm,0.1s,SNR=7.9			S			**Sn**	**20 06 07.5**	**+2.7**
EZAM	**Zamans** 1.8nm,0.0s,SNR=7.9	**1.57**	**112**	P			**Pn**	**20 05 55.0**	**+2.7**
EZAM	4.5nm,0.0s,SNR=7.9			S			**Sn**	**20 06 15.0**	**+2.3**
EAGO	**Agolada(Pontev** 0.9nm,0.1s,SNR=7.9	**1.89**	**88**	P			**Pn**	**20 05 59.9**	**+3.2**
EAGO	6.4nm,0.0s,SNR=7.9			S			**Sn**	**20 06 22.9**	**+2.3**
PGAV	**Gavieira, Arco** 8.6nm,0.1s	**1.93**	**113**	P			**Pn**	**20 06 00.4**	**+3.0**
PGAV				S			**Sn**	**20 06 23.7**	**+1.9**
PGAV	**Gavieira, Arco** 8.6nm,0.1s	**1.93**	**113**	*e*Pn			**Pn**	**20 06 00.4**	**+3.0**
PGAV				*e*Sn			**Sn**	**20 06 23.7**	**+1.9**
PGAV				A			A	20 06 28.1	
ELOB	**Lobios** 1.5nm,0.0s,SNR=19	**2.12**	**114**	P			**Pn**	**20 06 03.1**	**+3.2**
ELOB	4.1nm,0.1s,SNR=7.4			S			**Sn**	**20 06 29.0**	**+2.7**
PCAB	**Cabril**	**2.21**	**117**	P			**Pn**	**20 06 04.2**	**+3.1**
PCAB	4.5nm,0.4s			S			**Sn**	**20 06 31.3**	**+2.7**
PCAB	**Cabril**	**2.21**	**117**	*e*Pn			**Pn**	**20 06 04.2**	**+3.1**
PCAB				*e*Sn			**Sn**	**20 06 31.3**	**+2.7**
PCAB	9.0nm,0.4s			A			A	20 06 34.9	
EPON	**Pontenova** 1.0nm,0.1s,SNR=12	**2.63**	**76**	P			**Pn**	**20 06 10.5**	**+3.6**
EPON	12nm,0.2s,SNR=9.9			S			**Sn**	**20 06 40.8**	**+1.9**
PVRL	**Vila Real** 3.1nm,0.3s	**2.64**	**123**	P			**Pn**	**20 06 09.8**	**+2.8**
PVRL				S			**Sn**	**20 06 40.6**	**+1.5**
PVRL	**Vila Real** 6.1nm,0.3s	**2.64**	**123**	*e*Pn			**Pn**	**20 06 09.8**	**+2.8**
PVRL				*e*Sn			**Sn**	**20 06 40.6**	**+1.5**
PVRL				A			A	20 06 48.5	
PVIS	**Viseu** 4.8nm,0.1s	**2.90**	**134**	P			**Pn**	**20 06 12.4**	**+1.8**
PVIS				S			**Sn**	**20 06 45.5**	**0.0**
PVIS	**Viseu** 9.5nm,0.1s	**2.90**	**134**	*e*Pn			**Pn**	**20 06 12.4**	**+1.8**
PVIS				*e*Sn			**Sn**	**20 06 45.5**	**0.0**
PVIS				A			A	20 06 48.9	
ECAL	**Calabor** 1.6nm,0.2s,SNR=9.6	**3.02**	**104**	P			**Pn**	**20 06 15.7**	**+3.5**
ECAL	3.2nm,0.1s,SNR=4.9			S			**Sn**	**20 06 51.0**	**+2.5**
PBRG	**Braganca** 1.2nm,0.3s	**3.05**	**107**	P			**Pn**	**20 06 16.7**	**+4.0**
PBRG				S			**Sn**	**20 06 52.1**	**+2.7**
PBRG	**Braganca**	**3.05**	**107**	*e*Pn			**Pn**	**20 06 16.7**	**+4.0**
PBRG				*e*Sn			**Sn**	**20 06 52.1**	**+2.7**
PBRG	2.4nm,0.3s			A			A	20 06 53.9	
MVO	**Moncorvo** 1.5nm,0.1s,SNR=7.9	**3.13**	**119**	P			**Pn**	**20 06 16.0**	**+2.2**
MVO	3.0nm,0.1s,SNR=7.9			S			**Sn**	**20 06 51.2**	**-0.2**
MVO	**Moncorvo**	**3.13**	**119**	*e*Pn			**Pn**	**20 06 16.3**	**+2.4**
MVO				*e*Sn			**Sn**	**20 06 52.2**	**+0.8**
MVO	2.7nm,0.2s			A			A	20 06 54.6	
PCAS	**Casmilo, Conde** 2.6nm,0.1s	**3.15**	**148**	P			Pn	20 06 11.4	-2.6
PCAS				S			**Sn**	**20 06 46.0**	**-5.6**
PCAS	**Casmilo, Conde** 2.6nm,0.1s	**3.15**	**148**	*e*Pn			Pn	20 06 11.4	-2.6
PCAS				*e*Sn			**Sn**	**20 06 46.0**	**-5.6**
PCAS				A			A	20 06 51.6	
MTE	**Manteigas** 2.3nm,0.2s	**3.31**	**134**	P			**Pn**	**20 06 18.2**	**+1.9**
MTE				S			**Sn**	**20 06 56.3**	**+0.6**
MTE	**Manteigas**	**3.31**	**134**	*e*Pn			**Pn**	**20 06 18.2**	**+1.9**
MTE				*e*Sn			**Sn**	**20 06 56.3**	**+0.6**
PSBE	**So Bento**	**3.52**	**156**	*e*Pn			**Pn**	**20 06 20.1**	**+0.9**
PSBE				*e*Sn			**Sn**	**20 06 58.6**	**-2.3**
PSBE	2.5nm,0.2s			A			A	20 07 02.9	
PCBR	**Castelo Branco** 1.1nm,0.1s	**3.77**	**139**	P			**Pn**	**20 06 24.4**	**+1.9**
PCBR				S			**Sn**	**20 07 05.5**	**-1.3**
PCBR	**Castelo Branco** 2.1nm,0.1s	**3.77**	**139**	*e*Pn			**Pn**	**20 06 24.4**	**+1.9**
PCBR				*e*Sn			**Sn**	**20 07 05.5**	**-1.3**
PCBR				A			A	20 07 07.7	
PMAFR	**Mafra** 7.2nm,0.1s,SNR=7.9	**3.93**	**164**	S			**Sn**	**20 07 07.7**	**-3.3**
PMAFR	**Mafra** 4.5nm,0.1s	**3.93**	**164**	*e*Pn			**Pn**	**20 06 25.5**	**+0.7**
PMAFR				*e*Sn			**Sn**	**20 07 07.5**	**-3.4**
PMAFR				A			A	20 07 09.8	
EARI	**Arriondas** 0.9nm,0.2s,SNR=7.3	**4.03**	**80**	P			**Pn**	**20 06 30.2**	**+4.0**
EARI	1.1nm,0.1s			S			**Sn**	**20 07 15.2**	**+1.7**
PMTG	**Montargil** 2.3nm,0.2s	**4.11**	**153**	P			**Pn**	**20 06 27.9**	**+0.7**
PMTG				S			**Sn**	**20 07 12.8**	**-2.6**
PMTG	**Montargil** 2.3nm,0.2s	**4.11**	**153**	*e*Pn			**Pn**	**20 06 27.9**	**+0.7**
PMTG				*e*Sn			**Sn**	**20 07 12.8**	**-2.6**
PMTG				A			A	20 07 15.3	
PMRV	**Marv??o** 2.2nm,0.1s	**4.13**	**142**	P			**Pn**	**20 06 29.0**	**+1.4**
PMRV				S			**Sn**	**20 07 13.6**	**-2.4**
PMRV	**Marv??o** 2.2nm,0.1s	**4.13**	**142**	*e*Pn			**Pn**	**20 06 29.0**	**+1.4**
PMRV				*e*Sn			**Sn**	**20 07 13.6**	**-2.4**
PMRV				A			A	20 07 17.3	
EPLA	**Plasencia** 1.5nm,0.1s,SNR=9.7	**4.36**	**126**	P			**Pn**	**20 06 33.4**	**+2.7**
EPLA	1.7nm,0.1s			S			**Sn**	**20 07 21.9**	**+0.2**
PESTR	**Estremoz**	**4.52**	**148**	*e*Pn			**Pn**	**20 06 34.0**	**+1.1**
PESTR				*e*Sn			**Sn**	**20 07 23.1**	**-2.4**
EVO	**Evora**	**4.67**	**154**	P			**Pn**	**20 06 35.4**	**+0.5**
EVO				S			**Sn**	**20 07 24.0**	**-5.1**
EVO	**Evora**	**4.67**	**154**	*e*P			**Pn**	**20 06 35.4**	**+0.5**
EVO				*e*S			**Sn**	**20 07 24.0**	**-5.1**
EVO	**Evora**	**4.67**	**154**	*e*Pn			**Pn**	**20 06 35.5**	**+0.6**
EVO				*e*Sn			**Sn**	**20 07 25.3**	**-3.8**
EVO	3.6nm,0.1s			A			A	20 07 26.3	
EBAD	**Badajoz** 0.8nm,0.1s,SNR=11	**4.86**	**144**	P			**Pn**	**20 06 38.6**	**+1.1**
EBAD	2.5nm,0.2s,SNR=8.5			S			**Sn**	**20 07 30.7**	**-3.0**
PNCL	**Nicolau / Gran** 2.3nm,0.4s	**4.91**	**160**	P			**Pn**	**20 06 39.4**	**+1.2**
PNCL				S			**Sn**	**20 07 30.3**	**-4.7**
PNCL	**Nicolau / Gran** 2.3nm,0.4s	**4.91**	**160**	*e*Pn			**Pn**	**20 06 39.4**	**+1.2**
PNCL				*e*Sn			**Sn**	**20 07 30.3**	**-4.7**
PNCL				A			A	20 07 32.5	
PBEJ	**Beja** 1.8nm,0.2s	**5.18**	**155**	S			**Sn**	**20 07 37.9**	**-3.7**
PBEJ	**Beja**	**5.18**	**155**	*e*Sn			**Sn**	**20 07 37.9**	**-3.7**
MESJ	**Messejana**	**5.25**	**158**	P			**Pn**	**20 06 44.0**	**+1.2**
MESJ				S			**Sn**	**20 07 38.7**	**-4.6**
MESJ	**Messejana** 1.8nm,0.2s	**5.25**	**158**	*e*Pn			**Pn**	**20 06 44.0**	**+1.2**
MESJ				*e*Sn			**Sn**	**20 07 38.7**	**-4.6**
MESJ				A			A	20 07 42.2	
GUD	**Guadarrama** 1.3nm,0.3s,SNR=5.9	**5.30**	**111**	P			**Pn**	**20 06 47.4**	**+3.6**
GUD	0.8nm,0.3s			S			**Sn**	**20 07 46.0**	**+1.0**
ELAN	**Lanestosa** 1.1nm,0.2s,SNR=7.9	**5.32**	**82**	P			Pn	20 06 49.0	+5.2
ELAN	3.5nm,0.3s,SNR=7.9			S			**Sn**	**20 07 44.7**	**-0.5**
PTEO	**Sao Teotonio**	**5.41**	**163**	P			**Pn**	**20 06 46.0**	**+1.0**
PTEO				S			**Sn**	**20 07 42.9**	**-4.3**
PTEO	**Sao Teotonio**	**5.41**	**163**	*e*Pn			**Pn**	**20 06 46.0**	**+1.0**
PTEO				*e*Sn			**Sn**	**20 07 42.9**	**-4.3**
PCVE	**Castro Verde** 1.6nm,0.2s	**5.49**	**158**	S			**Sn**	**20 07 44.0**	**-5.4**
PCVE	**Castro Verde** 1.6nm,0.2s	**5.49**	**158**	*e*Sn			**Sn**	**20 07 44.0**	**-5.4**
PCVE				A			A	20 07 47.2	
MORF	**Marmelete**	**5.65**	**164**	P			**Pn**	**20 06 51.2**	**+2.8**
MORF	2.5nm,0.1s			S			**Sn**	**20 07 49.7**	**-3.7**
MORF	**Marmelete**	**5.65**	**164**	*e*Pn			**Pn**	**20 06 51.2**	**+2.8**
MORF				*e*Sn			**Sn**	**20 07 49.7**	**-3.7**
MORF	2.5nm,0.1s			A			A	20 07 53.5	
PAB	**San Pablo** 0.8nm,0.3s,SNR=7.9	**5.74**	**122**	P			**Pn**	**20 06 52.1**	**+2.4**
PAB	1.6nm,0.5s,SNR=7.9			S			**Sn**	**20 07 54.2**	**-1.4**
PVAQ	**Vaqueiros** 2.6nm,0.4s	**5.79**	**156**	P			**Pn**	**20 06 51.8**	**+1.4**
PVAQ				S			**Sn**	**20 07 50.8**	**-6.1**
PVAQ	**Vaqueiros** 2.6nm,0.4s	**5.79**	**156**	*e*Pn			**Pn**	**20 06 51.8**	**+1.4**
PVAQ				*e*Sn			**Sn**	**20 07 50.8**	**-6.1**
PVAQ				A			A	20 07 56.6	
EMIN	**Mina Concepcio** 0.4nm,0.1s,SNR=6.6	**5.83**	**147**	P			**Pn**	**20 06 52.2**	**+1.3**
PBDV	**Barranco-do-Ve** 3.0nm,0.7s	**5.88**	**158**	S			**Sn**	**20 07 54.9**	**-4.2**
PBDV	**Barranco-do-Ve** 3.0nm,0.7s	**5.88**	**158**	*e*Sn			**Sn**	**20 07 54.9**	**-4.2**
PBDV				A			A	20 08 07.8	
ESDC	**Sonseca Array** 0.3nm,0.3s,baz=295,slow=24,SNR=3.8	**5.91**	**119**	S			**Sn**	**20 07 58.4**	**-1.4**
ECAB	**El Cabril** 0.3nm,0.1s,SNR=9.5	**6.14**	**138**	P			**Pn**	**20 06 56.6**	**+1.4**
ECAB	0.9nm,0.3s,SNR=8.6			S			**Sn**	**20 08 02.2**	**-3.3**
EADA	**Adamuz** 0.4nm,0.1s,SNR=7.9	**6.51**	**133**	P			**Pn**	**20 07 02.1**	**+1.9**
EADA	0.3nm,0.2s,SNR=7.9			S			**Sn**	**20 08 12.1**	**-2.5**
SJPF	**Ste Jean** 0.4nm,0.3s	**6.93**	**84**	*e*Pn			**Pn**	**20 07 06.0**	**0.0**
SJPF				*e*Sn			**Sn**	**20 08 19.9**	**-5.0**
SJPF	**Ste Jean** 0.2nm,0.3s	**6.93**	**84**	P			**Pn**	**20 07 06.0**	**0.0**
SJPF				S			**Sn**	**20 08 19.9**	**-5.0**
QUIF	**Quistinic** 1.5nm,0.3s	**7.38**	**43**	*e*Pn			**Pn**	**20 07 14.0**	**+1.9**
QUIF				*e*Sn			**Sn**	**20 08 31.3**	**-4.6**
QUIF	**Quistinic** 0.8nm,0.3s	**7.38**	**43**	P			**Pn**	**20 07 14.0**	**+1.9**
QUIF				S			**Sn**	**20 08 31.3**	**-4.6**
ROSF	**Rostrenen** 0.6nm,0.3s	**7.62**	**40**	*e*Pn			**Pn**	**20 07 16.7**	**+1.4**
ROSF				*e*Sn			**Sn**	**20 08 38.0**	**-3.7**
ROSF	**Rostrenen** 0.3nm,0.3s	**7.62**	**40**	P			**Pn**	**20 07 16.7**	**+1.4**
ROSF				S			**Sn**	**20 08 38.0**	**-3.7**
SGMF	**Saint Gilles** 0.5nm,0.3s	**7.91**	**43**	*e*Pn			**Pn**	**20 07 21.0**	**+1.6**
SGMF				*e*Sn			**Sn**	**20 08 44.9**	**-4.0**
SGMF	**Saint Gilles** 0.2nm,0.3s	**7.91**	**43**	P			**Pn**	**20 07 21.0**	**+1.6**
SGMF				S			**Sn**	**20 08 44.9**	**-4.0**
MFF	**Saint Martin d** 1.1nm,0.3s	**8.42**	**59**	*e*Pn			**Pn**	**20 07 28.3**	**+1.9**
MFF				*e*Sn			**Sn**	**20 08 56.2**	**-5.2**
MFF	**Saint Martin d** 0.6nm,0.3s	**8.42**	**59**	P			**Pn**	**20 07 28.3**	**+1.9**
MFF				S			**Sn**	**20 08 56.2**	**-5.2**
RJF	**Les Rejaudoux** 1.5nm,0.3s	**9.13**	**70**	*e*Sn			Sn	20 09 12.2	-6.8
RJF	**Les Rejaudoux** 0.8nm,0.3s	**9.13**	**70**	S			Sn	20 09 12.2	-6.8
LDF	**La Druitiere** 1.4nm,0.4s	**9.40**	**48**	*e*Pn			**Pn**	**20 07 41.6**	**+1.8**
LDF				*e*Sn			**Sn**	**20 09 20.1**	**-5.5**
CAF	**Calviac** 1.0nm,0.4s	**9.45**	**72**	*e*Sn			**Sn**	**20 09 20.5**	**-6.2**
CAF	**Calviac** 0.5nm,0.4s	**9.45**	**72**	S			**Sn**	**20 09 20.5**	**-6.2**
TCF	**Toulx Ste Croi** 1.0nm,0.3s	**9.85**	**65**	*e*Pn			**Pn**	**20 07 47.4**	**+1.5**
TCF				*e*Sn			**Sn**	**20 09 30.5**	**-6.0**
TCF	**Toulx Ste Croi** 0.5nm,0.3s	**9.85**	**65**	P			**Pn**	**20 07 47.4**	**+1.5**
TCF				S			**Sn**	**20 09 30.5**	**-6.0**
AVF	**Avril sur Loir** 0.4nm,0.2s	**10.75**	**63**	*e*Pn			**Pn**	**20 07 59.3**	**+1.1**
AVF				*e*Sn			**Sn**	**20 09 51.9**	**-6.6**
AVF	**Avril sur Loir** 0.2nm,0.2s	**10.75**	**63**	P			**Pn**	**20 07 59.3**	**+1.1**
AVF				S			**Sn**	**20 09 51.9**	**-6.6**

IDC 08 20:10:33.6±2.6, **1°.98S**×**144°.41E, h0**km, **mb3.2**/3, **mb1 3.4**/4, **mb1mx3.2**/32, **mbtmp3.3**/4, **ML3.1**/1, **Error ellipse: s-maj=48.0km s-min=36.3km az=96.0, Ninigo Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura** 1.3nm,0.3s,baz=150,slow=2.9,SNR=12	**3.74**	**262**	Pn		Pn	**Pn**	**20 11 33.2**	**+0.5**
JAY	0.4nm,0.3s,baz=109,slow=18,SNR=1.3					Sn	**Sn**	**20 12 17.1**	**-0.4**
WRA	**Warramunga Arr** 0.8nm,1.0s,baz=38,slow=9.6,SNR=2.4	**20.39**	**208**	P		P	P	**20 15 12.5**	**+0.3**
ASAR	**Alice Springs** 0.4nm,0.8s,baz=39,slow=4.7,SNR=2.6	**23.84**	**204**	P		P	P	20 15 48.6	-0.2
MKAR	**Makanchi Array** 0.3nm,0.9s,baz=99,slow=9.3,SNR=2.4	**72.77**	**321**	P		P	P	20 22 04.0	0.0

*VAO **08** 20:19:28.6±1.1, 31°.83S×69°.40W, h91km±2km, mb4.7*
*NEIC **08** 20:19:35.5±1.7, 31°.43S±0°.05×68°.96W±0°.05, h113km±2km, mb4.8/140, Md5.0(SJA), Error ellipse: s-maj=7.4km s-min=5.4km az=198.0*
*UNK **08** 20:19:35.7, 31°.38S×68°.95W, h114km*
*SJA **08** 20:19:35.2±0.4, 31°.41S×69°.01W, h113km±2km, ML4.4, MW4.6*
*IDC **08** 20:19:36.1±0.4, 31°.41

CO03 El Pedregal 1.59 289 Pn 20 20 04.3 +1.4
CO01 Juntas del Tor 1.70 324 eP Pn 20 20 07.2 +2.7
CO01 i S Sn 20 20 30.8 +3.8
CO01 IAML 20 20 32.1
comp=E,10µm,0.4s
CO01 Juntas del Tor 1.70 324 Pn 20 20 07.3 +2.7
CO01 Sn Sn 20 20 30.4 +3.5
ACAN Cantantal 1.75 122 eP Pn 20 20 06.3 +1.4
ACAN IAML 20 20 46.0
comp=Z,1µm,0.4s
CO02 Combarbal 1.77 275 ⇑ iP Pn 20 20 06.1 +0.9
CO02 i S Sn 20 20 29.8 +1.6
CO02 Combarbal 1.77 275 Pn 20 20 06.2 +0.9
CO02 Sn Sn 20 20 29.8 +1.6
VA03 San Esteban 1.96 224 eP Pn 20 20 08.3 +0.8
VA03 IAML 20 20 34.8
comp=N,6µm,0.3s
VA03 San Esteban 1.96 224 Pn 20 20 08.4 +0.8
GO04 Tololo Observa 1.99 306 ⇑ iP Pn 20 20 09.1 +0.9
GO04 eS Sn 20 20 34.1 +0.7
GO04 Tololo Observa 1.99 306 Pn 20 20 09.2 +1.0
PEL Peldehue 2.31 219 ⇓ iP Pn 20 20 12.1 0.0
PEL i S Sn 20 20 39.7 -0.7
PEL Peldehue 2.31 219 Pn 20 20 11.9 -0.1
ROCH El Roble 2.38 227 ⇑ iP Pn 20 20 13.0 -0.2
ROCH eS Sn 20 20 42.2 0.0
ROC1 El Roble 2.38 227 Pn Pn 20 20 13.1 -0.1
CLCH Cerro Calan 2.44 213 eP Pn 20 20 14.0 +0.3
CLCH eS Sn 20 20 43.1 -0.2
CLCH IAML 20 20 54.0
comp=N,4µm,0.5s
FSR Penalolen 2.50 212 eP Pn 20 20 15.5 +0.9
MT03 Universidad Ad 2.51 212 eP Pn 20 20 15.4 +0.8
MT03 eS Sn 20 20 44.6 -0.3
MT03 IAML 20 20 51.1
comp=N,4µm,0.3s
MT05 Renca 2.53 216 Pn 20 20 15.1 +0.2
MT02 Curacav 2.65 224 eP Pn 20 20 15.8 -0.7
MT02 IAML 20 20 51.7
comp=E,1µm,0.5s
MT02 Curacav 2.65 224 Pn 20 20 15.7 -0.8
AC05 El Transito 2.77 335 ⇑ iP Pn 20 20 20.4 +2.1
AC05 eS Sn 20 20 54.0 +2.7
AC05 El Transito 2.77 335 Pn Pn 20 20 20.1 +1.9
LCO Las Campanas 2.80 326 Pn 20 20 20.3 +1.6
MT01 Popeta 3.17 217 eP Pn 20 20 21.9 -1.4
MT01 Popeta 3.17 217 Pn 20 20 21.7 -1.5
AC04 Llanos de Chal 3.65 329 eP Pn 20 20 30.0 +0.1
AC04 Llanos de Chal 3.65 329 Pn Pn 20 20 29.9 0.0
BO02 Sierra Bellavi 3.75 204 eP Pn 20 20 31.0 -0.2
BO02 Sierra Bellavi 3.75 204 Pn Pn 20 20 30.5 -0.7
GO03 Copiap 3.92 343 eP Pn 20 20 34.5 +1.0
GO03 eS Sn 20 21 18.7 0.0
GO03 Copiap 3.92 343 Pn Pn 20 20 33.9 +0.4
GO05 Huala 4.42 214 Pn Pn 20 20 37.0 -3.0
AC02 Maricunga 4.51 358 Pn Pn 20 20 32.2 +1.3
AC01 Pan de Azucar 5.40 344 Pn 20 20 53.0 -0.4
GO02 Mina Guanaco 6.20 355 Pn Pn 20 21 04.0 -0.6
BI03 Tigo 6.43 211 Pn 20 21 03.1 -4.2
LC01 Cunco 7.89 197 Pn Pn 20 21 26.4 -0.7
PB10 IPOC Station P 7.95 349 Pn Pn 20 21 25.2 -2.8
PB15 IPOC Station P 8.14 357 Pn Pn 20 21 28.4 -2.3
PB06 IPOC Station P 8.64 356 Pn Pn 20 21 34.5 -3.0
LVC Limon Verde 8.72 0 P Pn 20 21 36.8 -1.9
comp=E,13nm,0.3s,baz=151,slow=11,SNR=67
LVC S Sn 20 23 08.4 -7.1
comp=E,4.3nm,0.3s,baz=252,slow=19,SNR=1.3
LVC Limon Verde 8.72 0 Pn Pn 20 21 36.2 -2.6
LVC Limon Verde 8.72 0 eP Pn 20 21 37.1 -1.6
LVC Limon Verde 8.72 0 eP Pn 20 21 37.1 -1.6
PB04 IPOC Station P 9.06 353 Pn Pn 20 21 40.6 -2.6
PLCA Paso Flores 9.44 187 P Pn 20 21 47.0 -1.2
comp=E,0.4nm,0.3s,baz=12,slow=9.3,SNR=12
PB09 IPOC Station P 9.53 358 Pn 20 21 47.1 -2.5
PB07 IPOC Station P 9.63 355 Pn Pn 20 21 46.9 -4.1
PB01 IPOC Station P 10.29 357 Pn Pn 20 21 55.9 -4.0
PATCX Punta Patache 10.56 354 Pn Pn 20 21 59.5 -3.9
PB08 IPOC Station P 11.18 359 Pn Pn 20 22 08.4 -3.7
PB11 IPOC Station P 11.57 357 Pn Pn 20 22 12.6 -4.6
GO01 Chusmiza 11.65 359 Pn Pn 20 22 13.8 -4.6
PSGCX Pisagua 11.77 355 Pn Pn 20 22 14.6 -5.1
MNMC Minye Minye 12.20 357 Pn 20 22 21.0 -4.5
PLTB Pedras Altas 13.09 96 eP Pn 20 22 33.7 -3.2
PLTB Pedras Altas 13.09 96 eP Pn 20 22 33.7 -3.2
COYC Coyhaique 14.40 189 P Pn 20 22 54.4 +0.6
LPAZ La Paz 15.03 3 P Pn 20 23 04.0 +1.5
comp=E,1.2nm,0.3s,baz=177,slow=8.0,SNR=88
LPAZ LR LR 20 30 19.3
comp=E,77nm,18.4s,baz=172,slow=43
LPAZ La Paz 15.03 3 Pn 20 23 01.5 -1.0
LPAZ La Paz 15.03 3 eP P 20 23 04.4 -0.9
LPAZ La Paz 15.03 3 eP P 20 23 04.4 -0.9
ITAB Concordia 15.23 79 eP P 20 23 06.2 -0.6
ITAB Concordia 15.23 79 eP P 20 23 06.2 -0.6
PTLB Pontes e Lacer 18.20 32 eP Pn 20 23 41.4 +0.5
PTLB Pontes e Lacer 18.20 32 eP Pn 20 23 41.4 +0.5
PCMB Pacaembu 18.55 63 eP Pn 20 23 44.8 -0.2
PCMB Pacaembu 18.55 63 eP Pn 20 23 44.8 -0.2
FRTB Fartura 18.96 70 eP P 20 23 48.8 +0.8
FRTB Fartura 18.96 70 eP P 20 23 48.8 +0.8
SALV Santo Antonio 19.57 41 eP P 20 23 55.6 +1.0
SALV Santo Antonio 19.57 41 eP P 20 23 55.6 +1.0
VILB Vilhena 20.01 26 eP P 20 24 00.3 +0.9
VILB Vilhena 20.01 26 eP P 20 24 00.3 +0.9
ITRB Iturama 20.36 60 eP P 20 24 03.9 +0.7
ITRB Iturama 20.36 60 eP P 20 24 03.9 +0.7
PET01 Itanhaem-SP 20.39 75 eP P 20 24 04.1 +0.6
PET01 Itanhaem-SP 20.39 75 eP P 20 24 04.1 +0.6
NNA Nana 20.62 338 P P 20 24 06.6 +0.6
comp=E,10nm,0.7s,baz=209,slow=13,SNR=2.1
NNA Nana 20.62 338 IAmb IAmb 20 24 12.0
comp=Z,39nm,1.1s
VAO Valinhos 21.22 72 eP P 20 24 12.9 +0.5
VAO Valinhos 21.22 72 eP P 20 24 12.9 +0.5
ARAG Araguaiana, MT 22.07 49 eP P 20 24 21.1 -0.4
ARAG Araguaiana, MT 22.07 49 eP P 20 24 21.1 -0.4
PARB Paraibuna 22.17 75 eP P 20 24 22.7 +0.1
PARB eS S 20 28 25.1 +5.3
PARB Paraibuna 22.17 75 eP P 20 24 22.7 +0.1
PARB eS S 20 28 25.1 +5.3
SAML Samuel 22.94 15 P P 20 24 30.3 +0.1
USHA Ushuaia 23.46 179 P P 20 24 35.6 +0.9
comp=Z,50nm,0.8s,baz=14,slow=1.7,SNR=14
CLDB Colider 23.75 34 eP P 20 24 36.5 -1.2
CLDB Colider 23.75 34 eP P 20 24 36.5 -1.2
BSCB Bom Sucesso 23.97 70 eP P 20 24 39.1 -0.7
BSCB Bom Sucesso 23.97 70 eP P 20 24 39.1 -0.7
BDFB Brasilia 24.69 55 P P 20 24 46.3 -0.1
comp=Z,4.1nm,0.4s,baz=222,slow=9.3,SNR=9.8
BDFB pP pP 20 25 11.5 +1.5
comp=Z,7.8nm,0.6s,baz=226,slow=6.1,SNR=5.0
BDFB LR LR 20 35 54.8
comp=Z,85nm,19.4s,baz=136,slow=40
BDFB Brasilia 24.69 55 P P 20 24 44.9 -1.4
ATAH Atahualpa 25.68 338 P P 20 24 58.4 +2.8
comp=Z,3.8nm,0.5s,baz=94,slow=19,SNR=2.4
NPGB Novo Progresso 27.32 31 eP P 20 25 09.8 -0.2
NPGB epP pP 20 25 30.4 -3.6
NPGB Novo Progresso 27.32 31 eP P 20 25 09.8 -0.2
NPGB epP pP 20 25 30.4 -3.6
JANB Januaria 27.75 60 eP P 20 25 13.6 -0.3
JANB Januaria 27.75 60 eP P 20 25 13.6 -0.3
SJMB Sao Joao De Ma 28.04 70 eP P 20 25 16.5 +0.1
SJMB epP pP 20 25 36.2 -4.1
SJMB Sao Joao De Ma 28.04 70 eP P 20 25 16.5 +0.1
SJMB epP pP 20 25 36.2 -4.1
BSFB Barra de Sao F 28.25 70 eP P 20 25 18.0 -0.1
BSFB epP pP 20 25 38.2 -4.0
BSFB Barra de Sao F 28.25 70 eP P 20 25 18.0 -0.1
BSFB epP pP 20 25 38.2 -4.0
SMTB Santa Maria do 29.93 46 eP P 20 25 33.5 +0.3
SMTB Santa Maria do 29.93 46 eP P 20 25 33.5 +0.3
PRPB Parauapebas 30.80 39 eP P 20 25 41.1 +0.3
PRPB epP pP 20 26 02.7 -2.3
PRPB Parauapebas 30.80 39 eP P 20 25 41.1 +0.3
PRPB epP pP 20 26 02.7 -2.3
PTGA Pitinga 31.63 17 P P 20 25 45.9 -2.1
PTGA IAmb IAmb 20 25 48.7
comp=Z,8.2nm,0.7s
PTGA Pitinga 31.63 17 eP P 20 25 47.7 -0.3
PTGA epP pP 20 26 08.8 -3.6
PTGA Pitinga 31.63 17 eP P 20 25 47.7 -0.3
PTGA epP pP 20 26 08.8 -3.6
GDU01 Guandu, BA 32.16 64 eP P 20 25 52.5 -0.2
GDU01 Guandu, BA 32.16 64 eP P 20 25 52.5 -0.2
MALB Monte Alegre 32.46 28 eP P 20 25 55.7 +0.4
MALB Monte Alegre 32.46 28 eP P 20 25 55.7 +0.4
RPN Rapa Nui 35.36 266 LR LR 20 36 48.0
comp=Z,23nm,21.2s,baz=251,slow=29
ORTC Ortega, Tolima 35.59 349 eP P 20 26 24.6 +2.2
ROSB Rosrio 36.73 44 eP P 20 26 32.3 +0.2
ROSB Rosrio 36.73 44 eP P 20 26 32.3 +0.2
GUY2C Guyana, Caldas 36.90 349 eP P 20 26 35.9 +1.9
NORC Norcasia 37.15 350 eP P 20 26 37.6 +1.9
RUSC La Rusia 37.26 353 eP P 20 26 37.4 +0.3
RUSC La Rusia 37.26 353 P P 20 26 36.9 -0.2
CBOC Ciudad Bolivar 37.63 348 eP P 20 26 40.9 +1.1
HELC Santa Helena 37.87 349 eP P 20 26 43.7 +1.6
PTBC PUERTO BERRIO, 38.06 351 eP P 20 26 37.2 -6.1
SMLC San Martn de 40.24 352 eP P 20 26 59.7 -1.7
OBIP Obispado Ponce 49.17 3 P P 20 28 12.3 +0.1
VNA3 Neumayer Olymp 50.84 159 P P 20 28 24.4 0.0
VNA1 Neumayer--Stat 51.10 158 P P 20 28 27.3 +1.1
VNA2 Neumayer--Watz 51.45 158 P P 20 28 29.2 +0.3
baz=291,slow=8.7
SNAA Sanae 53.06 159 P P 20 28 40.5 -0.3
SNAA Sanae 53.06 159 P P 20 28 40.7 -0.1
comp=Z,24nm,0.8s,baz=279,slow=8.6,SNR=110
SNAA Sanae 53.06 159 P P 20 28 40.9 +0.1
QSPA South Pole Qui 58.87 180 P P 20 29 22.5 +0.1
TIGA Tifton 63.99 346 P P 20 29 57.2 +0.3
baz=166
158A Hollywood 64.64 350 P P 20 30 01.7 +0.6
baz=169
NHSC New Hope 65.00 350 P P 20 30 04.5 +1.0
baz=170
Z58A St. Stephen 65.17 350 P P 20 30 05.1 +0.6
baz=170
Z57A Bowman 65.27 349 P P 20 30 05.7 +0.5
baz=169
Y58A Scranton 65.70 350 P P 20 30 08.3 +0.3
baz=170
GOGA Godfrey 65.87 347 P P 20 30 09.2 +0.1
baz=166
Y57A Sumter 65.92 350 P P 20 30 10.3 +0.9
baz=169
833A Chaparral WMA, 66.07 331 P P 20 30 12.3 +1.8
baz=152
Y55A Saluda 66.09 348 P P 20 30 10.6 +0.1
baz=168
X59A McDuffie Farm, 66.21 351 P P 20 30 11.7 +0.4
baz=171
LRAL Lakeview Retre 66.29 343 P P 20 30 12.1 +0.4
baz=163
X58A Rowland 66.30 351 P P 20 30 12.7 +1.0
baz=170
X57A Johnson Farm, 66.32 350 P P 20 30 12.5 +0.6
baz=170
Y52A Lilburn 66.43 346 IAmb IAmb 20 30 13.4
comp=Z,9.1nm,0.6s
X56A White Oak 66.49 349 P P 20 30 13.7 +0.7
baz=169
X55A Gracelyn & Ava 66.57 349 P P 20 30 14.1 +0.6
baz=168
W60A Pink Hill 66.58 352 P P 20 30 14.6 +1.0
baz=172
W58A Raeford 66.74 351 P P 20 30 15.2 +0.6
baz=170,SNR=5.2
X54A Belton 66.77 348 P P 20 30 15.3 +0.4
baz=168
Y49A Blount Mountai 66.93 344 IAmb IAmb 20 30 16.7
comp=Z,11nm,1.1s
W57A Gilead 66.98 350 P P 20 30 16.3 +0.2
baz=170
W57A Gilead 66.98 350 IAmb IAmb 20 30 17.1
comp=Z,9.8nm,0.7s
W56A Indian Trail 67.05 350 P P 20 30 16.8 +0.2
baz=169
KMSC Kings Mountain 67.17 349 P P 20 30 17.8 +0.5
baz=169
VNDA Vanda 67.18 191 P P 20 30 18.2 +1.3
comp=Z,2.3nm,0.7s,baz=120,slow=4.6,SNR=14
VNDA Vanda 67.18 191 P P 20 30 17.9 +1.0
W54A Cherokee Point 67.26 348 P P 20 30 18.1 +0.1
baz=168,SNR=5.2
V59A Middlesex 67.34 352 P P 20 30 19.5 +1.1
baz=171
FPAL Fort Paine 67.41 345 P P 20 30 18.7 -0.2
FPAL IAmb IAmb 20 30 19.7
comp=Z,9.2nm,0.9s
V58A Windy Hill, Pi 67.48 351 P P 20 30 19.3 0.0
baz=171,SNR=6.6
X48A Hartselle 67.65 344 IAmb IAmb 20 30 21.5
comp=Z,13nm,0.8s
V57A Coltrane Farms 67.67 350 P P 20 30 20.8 +0.4
baz=170
V56A Mocksville 67.70 350 P P 20 30 20.9 +0.3
baz=169,SNR=5.7
V55A Taylorsville 67.85 349 P P 20 30 21.8 +0.1
baz=169,SNR=5.1
V55A Taylorsville 67.85 349 IAmb IAmb 20 30 22.7
comp=Z,9.8nm,0.8s
U59A Littleton 67.87 352 P P 20 30 22.3 +0.5
baz=172
V54A Nebo 67.90 349 P P 20 30 22.0 0.0
baz=168,SNR=8.9
V53A Saluda 67.94 348 IAmb IAmb 20 30 23.1
comp=Z,9.8nm,0.7s
U58A Oxford 68.00 352 P P 20 30 23.5 +1.0
baz=171
CPCT Cooper Cave 68.06 346 IAmb IAmb 20 30 23.8
comp=Z,10.0nm,0.6s
TKL Tuckasechee C 68.11 347 IAmb IAmb 20 30 23.7
comp=Z,6.9nm,0.7s
Z41A Richland Creek 68.11 339 P P 20 30 25.1 +1.8
baz=158
JCT Junction City 68.13 331 P P 20 30 24.4 +0.8
baz=152
U57A Blanch 68.14 351 P P 20 30 24.0 +0.6
baz=170
U56A King 68.21 350 P P 20 30 24.3 +0.5
baz=170
V52A Sevierville 68.25 347 IAmb IAmb 20 30 24.7
comp=Z,9.7nm,0.7s
OXF Oxford 68.30 342 P P 20 30 24.2 -0.2
baz=161
OXF Oxford 68.30 342 P P 20 30 24.5 0.0
PLAL Pickwick Lake 68.41 343 IAmb IAmb 20 30 25.8
comp=Z,8.6nm,0.8s
T59A Double "B" Far 68.46 353 P P 20 30 25.7 +0.3
baz=172
U55A TA2, Sparta 68.46 350 P P 20 30 26.1 +0.6
baz=169
T58A Grand View Acr 68.55 352 P P 20 30 26.5 +0.5
baz=171,SNR=5.8
U54A Nelsons Funny 68.60 349 P P 20 30 26.2 -0.1
baz=168,SNR=6.5
U54A Nelsons Funny 68.60 349 IAmb IAmb 20 30 27.2
comp=Z,14nm,0.6s
T57A Hurt 68.69 351 P P 20 30 27.3 +0.5
baz=171
X43A Marvell 68.71 341 P P 20 30 28.0 +1.0
baz=160
TXAR Lajitas Array 68.81 328 P P 20 30 28.8 +0.9
comp=Z,0.8nm,0.6s,baz=156,slow=8.2,SNR=17
TXAR pP pP 20 30 57.6 +1.8
comp=Z,0.6nm,0.6s,baz=156,slow=8.3,SNR=3.9
T56A Rocky Mt 68.83 350 P P 20 30 28.7 +1.0
baz=170
TZTN Tazewell 68.93 347 P P 20 30 28.4 +0.1
baz=167
T55A Pulaski 69.02 350 P P 20 30 29.6 +0.6
baz=169
CLTN Cedars of Leba 69.06 345 IAmb IAmb 20 30 30.0
comp=Z,10nm,0.6s
BLA Blacksburg 69.06 350 P P 20 30 29.3 +0.1
baz=170
S60A Water View 69.09 353 P P 20 30 30.6 +1.4
baz=173
T54A Tazewell 69.09 349 P P 20 30 29.3 -0.1
baz=168,SNR=6.9
S58A Poland Farm, P 69.15 352 P P 20 30 30.7 +1.1
baz=172
S58A Poland Farm, P 69.15 352 IAmb IAmb 20 30 31.3
comp=Z,11nm,0.7s
T53A Wise 69.17 348 P P 20 30 29.5 -0.4
baz=168
S59A Mechanicsville 69.21 353 P P 20 30 30.7 +0.7
baz=172
S56A Natural Bridge 69.40 351 P P 20 30 32.0 +0.8
baz=170
S57A Dark Hollow, R 69.40 352 P P 20 30 31.9 +0.7
baz=171,SNR=6.7
S57A Dark Hollow, R 69.40 352 IAmb IAmb 20 30 32.7
comp=Z,10nm,0.7s
WVT Waverly 69.44 344 P P 20 30 31.4 -0.1
baz=163
WVT Waverly 69.44 344 P P 20 30 31.4 -0.1
R58B Mineral 69.47 352 P P 20 30 32.4 +0.8
baz=172
R58B Mineral 69.47 352 IAmb IAmb 20 30 33.5
comp=Z,23nm,1.4s
MIAR Mount Ida 69.55 338 P P 20 30 32.6 +0.5
baz=158
S55A Lewisburg 69.62 350 P P 20 30 32.8 +0.2
baz=170,SNR=7.2
W41B Gary Mavity, V 69.72 340 P P 20 30 33.4 +0.2
baz=159
S54A Dingess, Beckl 69.77 350 P P 20 30 33.5 0.0
baz=169,SNR=5.8
S54A Dingess, Beckl 69.77 350 IAmb IAmb 20 30 34.2
comp=Z,11nm,0.8s
S53A Williamson 69.78 349 P P 20 30 33.7 +0.1
baz=168
R58A Rapidan 69.82 352 P P 20 30 34.4 +0.6
baz=172,SNR=6.5
R57A Stanardsville 69.88 352 P P 20 30 34.9 +0.8
baz=171,SNR=9.2
ABTX Abilene, Hawle 69.95 333 P P 20 30 35.4 +0.6
baz=152
ABTX Abilene, Hawle 69.95 333 IAmb IAmb 20 30 36.4
comp=Z,11nm,1.1s
S51A Beattyville 70.00 348 IAmb IAmb 20 30 35.6
comp=Z,10nm,0.9s
R55A Marlinton 70.07 351 P P 20 30 36.2 +0.8
baz=170,SNR=8.7
R55A Marlinton 70.07 351 IAmb IAmb 20 30 37.2
comp=Z,17nm,0.8s
T47A Sharon Grove 70.09 345 IAmb IAmb 20 30 36.1
comp=Z,9.8nm,0.8s
R54A Victor 70.09 350 P P 20 30 35.6 +0.1
baz=169,SNR=6.7
W39A Magazine 70.21 339 P P 20 30 37.3 +1.1
baz=158
W39A Magazine 70.21 339 IAmb IAmb 20 30 38.2
comp=Z,18nm,0.9s
W39A PcP PcP 20 30 59.1 +1.7
W39A pP pP 20 31 06.7 +2.4
LCAR Lake Charles 70.24 341 P P 20 30 36.5 +0.1
LCAR pP pP 20 31 05.9 +1.4
R53A Hurricane 70.39 349 P P 20 30 37.4 +0.1
baz=168
Q58A Fox Den Farm, 70.42 353 P P 20 30 38.2 +0.8
baz=172
Q57A Strasburg 70.59 352 P P 20 30 39.8 +1.3
baz=172,SNR=7.6
Q56A Snyder Ridge, 70.69 352 P P 20 30 40.0 +0.9
baz=171
Q56A Snyder Ridge, 70.69 352 P P 20 30 39.8 +0.6
Q56A IAmb IAmb 20 30 41.1
comp=Z,25nm,1.5s
Q55A Buckhannon 70.76 351 P P 20 30 39.9 +0.3
baz=170
Q53A Leroy 70.84 350 P P 20 30 39.9 -0.1
baz=169
Q54A Coxs Mills 70.86 350 P P 20 30 40.0 -0.1
baz=169,SNR=6.2
Q54A Coxs Mills 70.86 350 IAmb IAmb 20 30 40.7
comp=Z,10nm,0.5s
P58A Pank, Wackersv 70.92 353 P P 20 30 41.4 +1.0
baz=172
R49A Shelbyville 70.93 347 IAmb IAmb 20 30 41.0
comp=Z,9.9nm,0.7s
P59A Jarrettsville 70.96 354 P P 20 30 41.9 +1.2
baz=173
P57A Homestead Farm 70.99 353 P P 20 30 41.7 +0.8
baz=172,SNR=6.5
U40A Yellville 71.00 340 P P 20 30 41.4 +0.4
baz=159
U40A Yellville 71.00 340 IAmb IAmb 20 30 42.2
comp=Z,12nm,0.7s
U40A pP pP 20 31 10.8 +1.6
Q52A Bidwell 71.06 349 P P 20 30 41.1 -0.2
baz=168
WCI Wyandotte Cave 71.10 346 P P 20 30 41.1 -0.5
baz=164
WCI Wyandotte Cave 71.10 346 P P 20 30 40.6 -1.0
WCI IAmb IAmb 20 30 41.8
comp=Z,13nm,0.7s
P56A Dayton Farm, R 71.11 352 P P 20 30 42.4 +0.9
baz=171,SNR=5.6
P55A Reedsville 71.23 351 P P 20 30 42.9 +0.5
baz=170
HHAR Hobbs 71.26 339 IAmb IAmb 20 30 43.8
comp=Z,12nm,1.0s
Q51A Peebles 71.30 348 IAmb IAmb 20 30 43.5
comp=Z,9.8nm,0.8s
MCWV Mont Chateau 71.39 351 P P 20 30 44.0 +0.7
baz=170
P54A Burton 71.42 351 P P 20 30 43.8 +0.3
baz=170,SNR=7.5
P53A Whipple 71.43 350 P P 20 30 44.3 +0.7
baz=169
P53A Whipple 71.43 350 IAmb IAmb 20 30 44.5
comp=Z,12nm,1.1s
LIC Lamto 71.44 70 eP P 20 30 44.2 0.0
comp=Z,60nm,0.9s
WMOK Wichita Mounta 71.50 334 P P 20 30 44.1 0.0
baz=153
TUL1 Leonard 71.51 337 P P 20 30 44.3 +0.2
baz=156
TUL1 Leonard 71.51 337 IAmb IAmb 20 30 45.2
comp=Z,7.7nm,0.8s
O60A Telford 71.57 355 P P 20 30 45.4 +1.0
baz=174
MNTX Cornudas Mount 71.59 328 P P 20 30 45.0 +0.3
baz=148
O59A Robesonia 71.63 354 P P 20 30 46.0 +1.3
baz=174
O57A Amberson 71.67 353 P P 20 30 46.3 +1.3
baz=172
P52A Corning 71.69 349 P P 20 30 44.7 -0.4
baz=168
TIC Toumodi 71.70 70 eP P 20 30 46.3 +0.5
P51A Williamsport 71.70 349 P P 20 30 44.7 -0.4
baz=167
KIC Kosan Boka 71.75 70 eP P 20 30 46.2 +0.1
comp=Z,63nm,0.9s
O56A Blue Knob Stat 71.83 352 P P 20 30 46.6 +0.7
baz=171
DBIC Dimbokro 71.84 70 P P 20 30 46.6 0.0
comp=Z,21nm,0.6s,baz=206,slow=6.6,SNR=35
DBIC pP pP 20 31 15.6 +1.6
comp=Z,4.8nm,0.6s,baz=191,slow=8.4,SNR=2.7
DBIC Dimbokro 71.84 70 P P 20 30 46.7 +0.1
O55A Ligonier 71.86 352 P P 20 30 46.5 +0.4
baz=171
O54A Avella 71.97 351 P P 20 30 46.5 -0.3
baz=170
P49A Miami Univ. Ec 72.05 347 P P 20 30 46.8 -0.5
baz=166
N60A Cedar Hill Far 72.10 355 P P 20 30 48.0 +0.6
baz=174
SSPA Standing Stone 72.12 353 P P 20 30 48.0 +0.4
baz=172
O52A Adamsville 72.12 350 P P 20 30 47.9 +0.3
baz=168
CCM Cathedral Cave 72.13 342 P P 20 30 47.6 -0.1
baz=160
CCM Cathedral Cave 72.13 342 P P 20 30 47.5 -0.3
CCM IAmb IAmb 20 30 48.9
comp=Z,15nm,0.6s
N59A State Game Lan 72.20 355 P P 20 30 48.9 +0.7
baz=174
N59A State Game Lan 72.20 355 IAmb IAmb 20 30 50.1
comp=Z,7.2nm,0.7s
N57A Milroy 72.20 353 P P 20 30 48.4 +0.3
baz=172,SNR=5.4
N58A Sunbury 72.20 354 P P 20 30 49.1 +1.0
baz=173
M66A Nantucket 72.27 359 P P 20 30 48.0 -0.4
baz=179
O51A Pataskala 72.27 349 P P 20 30 48.2 -0.3
baz=168
N55A Marion Center 72.38 352 P P 20 30 49.7 +0.5
baz=171,SNR=7.2

MSTX	**Muleshoe** baz=150	72.39	331	P	P	20 30 49.7	+0.1
MSTX	**Muleshoe** comp=Z,9.5nm,0.8s	72.39	331	IAmb	IAmb	20 30 51.0	
ACSO	**Alum Creek Sta** baz=168	72.42	349	P	P	20 30 49.9	+0.5
N56A	**West Decatur** baz=172	72.44	353	P	P	20 30 50.4	+0.8
M60A	**Port Jervis** baz=175	72.52	356	P	P	20 30 50.7	+0.7
M62A	**Hamden** baz=176	72.54	357	P	P	20 30 51.4	+1.4
O49A	**Covington** comp=Z,13nm,0.7s	72.61	348	IAmb	IAmb	20 30 51.2	
N54A	**Moraine State** baz=170	72.69	351	P	P	20 30 52.0	+0.9
N54A	**Moraine State** comp=Z,10.0nm,0.7s	72.69	351	IAmb	IAmb	20 30 52.2	
M58A	**Price's Panora** baz=173	72.71	354	P	P	20 30 51.6	+0.5
M57A	**Sunshine Farm,** baz=173	72.73	354	P	P	20 30 51.9	+0.6
AMTX	**Amarillo** baz=151	72.74	332	P	P	20 30 52.0	+0.4
M59A	**Waymart** baz=174,SNR=5.7	72.79	355	P	P	20 30 52.2	+0.5
O48A	**Farmland** baz=166	72.83	347	P	P	20 30 51.4	-0.5
L63A	**North Scituate** baz=178	72.91	358	P	P	20 30 53.2	+0.9
M56A	**Emporium** baz=172,SNR=5.2	72.99	353	P	P	20 30 53.2	+0.4
M56A	**Emporium** comp=Z,18nm,1.2s	72.99	353	IAmb	IAmb	20 30 54.0	
N51A	**Ashland** baz=168	72.99	349	P	P	20 30 53.0	+0.2
M55A	**Ridgway** baz=171,SNR=8.3	73.04	352	P	P	20 30 53.6	+0.5
M55A	**Ridgway** comp=Z,18nm,0.9s	73.04	352	IAmb	IAmb	20 30 54.3	
L60A	**Shokan** baz=175	73.15	356	P	P	20 30 54.5	+0.8
M54A	**Oil Creek Stat** baz=170	73.18	352	P	P	20 30 54.4	+0.5
L61A	**Hillsdale 1, H** baz=176	73.32	356	P	P	20 30 55.4	+0.7
L58A	**Harry Jones Me** baz=174,SNR=6.4	73.32	355	P	P	20 30 55.3	+0.6
M51A	**Elyria** baz=168	73.36	350	P	P	20 30 55.8	+0.8
L57A	**Andrews Acres** baz=173	73.36	354	P	P	20 30 55.0	0.0
121A	**Cookes Peak, D** baz=146	73.41	326	P	P	20 30 57.0	+1.3
L59A	**Walton** baz=175	73.41	355	P	P	20 30 56.0	+0.7
L59A	**Walton** comp=Z,11nm,0.9s	73.41	355	IAmb	IAmb	20 30 57.1	
BINY	**Binghamton** baz=174	73.49	355	P	P	20 30 56.3	+0.6
L61B	**Northampton** baz=177	73.53	357	P	P	20 30 56.3	+0.3
HRV	**Adam Dziewonsk** baz=178	73.55	358	P	P	20 30 56.9	+0.9
L56A	**Greenwood** baz=172	73.57	353	P	P	20 30 56.9	+0.7
L56A	**Greenwood** comp=Z,9.7nm,0.7s	73.57	353	P IAmb	P IAmb	20 30 56.5 20 30 57.6	+0.3
L53A	**Girard** baz=170	73.70	351	P	P	20 30 57.2	+0.3
L55A	**Hinsdale** baz=172,SNR=5.3	73.70	353	P	P	20 30 57.4	+0.4
K62A	**Royalston** baz=177	73.73	357	P	P	20 30 58.0	+0.9
P40A	**Paris**	73.73	342	P	P	20 30 57.2	+0.1
K61A	**Williamstown** baz=176	73.78	357	P	P	20 30 57.8	+0.4
L54A	**Sinclairville** baz=171,SNR=5.0	73.86	352	P	P	20 30 58.4	+0.5
K59A	**Cooperstown** baz=175	73.98	355	P	P	20 30 59.2	+0.6
HDIL	**Hopedale** baz=162	74.00	344	P	P	20 30 58.4	-0.3
K58A	**Earlville** baz=174,SNR=5.5	74.02	355	P	P	20 30 59.3	+0.5
K58A	**Earlville** comp=Z,8.9nm,0.8s	74.02	355	IAmb	IAmb	20 31 00.2	
K57A	**Scipio Center** baz=173	74.06	354	P	P	20 30 59.3	+0.3
K56A	**Middlesex** baz=173	74.10	354	P	P	20 30 59.6	+0.3
K54A	**Basiliko Farm,** baz=171	74.16	353	P	P	20 31 00.2	+0.6
K55A	**Perry** baz=172	74.20	353	P	P	20 30 59.9	0.0
J62A	**Henniker** baz=178	74.27	358	P	P	20 31 01.8	+1.6
J63A	**Strafford** baz=178	74.31	358	P	P	20 31 01.6	+1.2
J61A	**Chester** baz=177	74.42	357	P	P	20 31 02.9	+1.8
K52A	**Tillsonburg** baz=170	74.57	351	P	P	20 31 02.7	+0.7
J56A	**Wolcott** baz=173	74.63	354	P	P	20 31 02.8	+0.6
J59A	**Piesco** baz=175	74.64	356	P	P	20 31 03.6	+1.2
KSU1	**Kansas State U** baz=156	74.68	338	P	P	20 31 02.7	0.0
TUC	**Tucson** baz=144	74.69	324	P	P	20 31 03.8	+0.8
J57A	**Williamstown** baz=174	74.69	355	P	P	20 31 03.0	+0.3
ANMO	**Albuquerque** baz=148	74.81	329	P	P	20 31 04.9	+1.1
I58A	**Old Forge** baz=175	74.89	355	P	P	20 31 04.8	+1.0
I64A	**Boothbay** baz=179	74.92	359	P	P	20 31 05.3	+1.4
I59A	**Olmsteadville** baz=176	74.93	356	P	P	20 31 04.7	+0.7
MAW	**Mawson** comp=Z,11nm,0.6s,baz=215,slow=7.4,SNR=39	74.94	163	P	P	20 31 03.8	-0.1
MAW	**Mawson**	74.94	163	P	P	20 31 04.1	+0.2
I60A	**Shoreham** baz=176	74.95	357	P	P	20 31 04.9	+0.8
J52A	**Paris** baz=170	74.99	351	P	P	20 31 04.3	-0.1
I63A	**Otisfield** baz=179	75.07	359	P	P	20 31 06.4	+1.6
K48A	**Perry** baz=167	75.11	348	P	P	20 31 04.6	-0.4
K47A	**Vermontville** baz=166	75.14	348	P	P	20 31 04.8	-0.5
I57A	**Carthage** baz=174	75.19	355	P	P	20 31 05.8	+0.3
LBNH	**Lisbon** baz=177	75.29	358	P	P	20 31 07.1	+1.0
214A	**Organ Pipe Nat** baz=142	75.44	323	P	P	20 31 08.6	+1.3
I53A	**Kortright Cn E** baz=171	75.46	352	P	P	20 31 07.4	+0.4
J49A	**Marlette** baz=168	75.49	349	P	P	20 31 07.2	-0.1
J48A	**Bridge Port** baz=167	75.54	349	P	P	20 31 07.2	-0.3
H58A	**Gabriels** baz=175	75.57	356	P	P	20 31 07.9	+0.2
H61A	**Lyndonville** baz=177,SNR=6.6	75.58	358	P	P	20 31 08.6	+0.9
I51A	**Listowel** baz=169	75.62	351	P	P	20 31 08.2	+0.3
H60A	**Morristown** baz=177	75.64	357	P	P	20 31 09.7	+1.7
I55A	**Frankford** baz=172	75.64	354	P	P	20 31 08.7	+0.7
H65A	**Eastbrook** baz=181	75.70	1	P	P	20 31 09.4	+1.1
EMMW	**East Machias** comp=Z,15nm,0.8s	75.72	1	P	P	20 31 09.2	+0.7
EMMW				IAmb	IAmb	20 31 10.5	
I52A	**Shelburne** baz=170	75.77	352	P	P	20 31 09.4	+0.6
H59A	**Cadyville** baz=176	75.77	357	P	P	20 31 09.5	+0.7
LONY	**Lake Ozonia** baz=175	75.80	356	P	P	20 31 09.7	+0.8
T25A	**Trinidad** baz=149	75.80	331	P	P	20 31 10.3	+0.9
H66A	**Whiting** baz=181	75.80	1	P	P	20 31 10.3	+1.4
H56A	**Elgin** baz=174,SNR=5.9	75.89	355	P	P	20 31 09.9	+0.5
H55A	**Tweed** baz=173	75.92	354	P	P	20 31 09.9	+0.2
H53A	**Bobcaygeon** baz=172	76.08	353	P	P	20 31 11.3	+0.8
G63A	**Kingsbury** baz=179	76.12	360	P	P	20 31 11.8	+1.0
G60A	**Masonville** baz=177	76.16	358	P	P	20 31 12.1	+1.1
G65A	**Princeton** baz=181	76.21	1	P	P	20 31 12.6	+1.4
G62A	**West of Eustis** baz=179,SNR=6.0	76.23	359	P	P	20 31 12.4	+1.0
G62A	**West of Eustis** comp=Z,11nm,0.8s	76.23	359	IAmb	IAmb	20 31 13.5	
G64A	**Maxfield** baz=180	76.25	0	P	P	20 31 12.5	+1.0
PKME	**Peaks-Kenny Pk** baz=180	76.27	360	P	P	20 31 12.5	+0.9
SCIA	**State Center** baz=159	76.27	342	P	P	20 31 12.3	+0.7
H52A	**Wyevale** baz=170	76.30	352	P	P	20 31 12.3	+0.5
G57A	**Newington** baz=175	76.30	356	P	P	20 31 12.6	+0.8
G61A	**St-Isidore-de-** baz=178	76.32	358	P	P	20 31 13.0	+1.1
SADO	**Sadowa** comp=Z,9.2nm,0.8s	76.34	353	IAmb	IAmb	20 31 12.8	
I47A	**Gladwin** baz=166	76.36	349	P	P	20 31 11.8	-0.3
I48A	**Sherman Twp** baz=167	76.39	349	P	P	20 31 12.4	+0.1
I46A	**Reed City** baz=166	76.45	348	P	P	20 31 12.4	-0.2
JFWS	**Jewell Farm** baz=161	76.46	344	P	P	20 31 12.9	+0.1
JFWS	**Jewell Farm** comp=Z,11nm,0.7s	76.46	344	IAmb	IAmb	20 31 13.7	
G55A	**Calabogie** baz=173	76.58	354	P	P	20 31 13.3	0.0
G53A	**Haliburton** baz=172	76.63	353	P	P	20 31 14.5	+0.9
F63A	**Nahmakanta, Br** baz=180	76.70	360	P	P	20 31 14.8	+0.8
H48A	**Harrisville** baz=167	76.83	350	P	P	20 31 15.3	+0.5
K38A	**Parkersburg** comp=Z,13nm,0.8s	76.84	342	IAmb	IAmb	20 31 15.5	
G54A	**Lake Saint Pet** baz=172	76.85	353	P	P	20 31 15.6	+0.7
F64A	**Sherman** baz=180,SNR=5.6	76.86	0	P	P	20 31 15.9	+0.9
F64A	**Sherman** comp=Z,12nm,0.8s	76.86	0	P IAmb	P IAmb	20 31 15.6 20 31 17.0	+0.7
F62A	**Pittston Farm,** baz=179	76.90	359	P	P	20 31 16.3	+1.1
H46A	**Fife Lake** baz=166	76.98	348	P	P	20 31 16.0	+0.3
F60A	**Warwick** baz=177	77.02	358	P	P	20 31 16.4	+0.6
S22A	**4UR Ranch, Cre** baz=148	77.32	330	P	P	20 31 17.9	-0.2
F52A	**Sundridge** baz=171	77.37	353	P	P	20 31 18.5	+0.7
G47A	**Hillman** baz=167	77.37	349	P	P	20 31 18.6	+0.8
TSUM	**Tsumeb** comp=Z,9.6nm,0.9s	77.39	105	P IAmb	P IAmb	20 31 17.3 20 31 20.4	-1.5
ALGO	**Algonquin Park** baz=172	77.40	353	P	P	20 31 18.1	+0.2
E60A	**Ste Agathe de** baz=178	77.40	358	P	P	20 31 18.7	+0.8
E63A	**Oxbow** baz=180	77.42	0	P	P	20 31 19.1	+1.0
E64A	**Bridgewater** baz=181	77.42	1	P	P	20 31 19.4	+1.4
E61A	**Lac Etchemin** baz=179	77.44	359	P	P	20 31 19.5	+1.3
E58A	**La Victoria** baz=176	77.47	357	P	P	20 31 19.3	+1.0
WUAZ	**Wupatki** baz=144	77.56	326	P	P	20 31 20.1	+0.8
E57A	**Chemin Saint G** baz=176	77.56	356	P	P	20 31 19.0	+0.2
F51A	**Arnstein** baz=170	77.57	352	P	P	20 31 18.8	-0.1
MVCO	**Mesa Verde** baz=146	77.61	329	P	P	20 31 20.3	+0.6
E62A	**Clayton Lake** baz=180,SNR=5.3	77.62	360	P	P	20 31 20.2	+1.0
E62A	**Clayton Lake** comp=Z,9.3nm,0.8s	77.62	360	IAmb	IAmb	20 31 21.2	
Q24A	**Divide** baz=149	77.66	332	P	P	20 31 21.1	+1.1
F49A	**Sandfield** baz=169	77.68	351	P	P	20 31 19.6	+0.2
Y12C	**Blythe** baz=141	77.74	322	P	P	20 31 21.1	+0.9
E56A	**St. Veronique** baz=175,SNR=5.0	77.74	356	P	P	20 31 20.2	+0.3
E53A	**Dumoine, Ponti** baz=172	77.78	354	P	P	20 31 20.9	+0.8
E52A	**Mattawa** baz=172	77.78	353	P	P	20 31 20.1	+0.1
E54A	**Lac Daplat, Po** baz=173	77.79	354	P	P	20 31 20.3	+0.2
F48A	**Evansville** baz=168	77.83	350	P	P	20 31 20.4	+0.2
D60A	**Saint Jean D'O** baz=178	77.94	359	P	P	20 31 22.0	+1.2
D63A	**Stockholm** baz=181	78.04	1	P	P	20 31 22.3	+0.8
D62A	**Allapoint, All** baz=180,SNR=6.8	78.08	360	P	P	20 31 22.4	+0.7
D62A	**Allapoint, All** comp=Z,10nm,0.9s	78.08	360	IAmb	IAmb	20 31 23.3	
MONP2	**Monument Peak** baz=140	78.08	321	P	P	20 31 23.2	+0.8
E51A	**G1948 Merrick** baz=171	78.12	353	P	P	20 31 22.2	+0.3
D57A	**Chemin Vers le** baz=176,SNR=7.9	78.15	357	P	P	20 31 22.5	+0.4
BC3	**Big Chuckawall** baz=141	78.15	322	P	P	20 31 23.4	+0.9
E50A	**Wahnapitae** baz=170	78.16	352	P	P	20 31 22.2	0.0
D58A	**Chemin du LacG** baz=177,SNR=8.6	78.18	357	P	P	20 31 22.9	+0.6
D56A	**ZEC Mazanza, M** baz=175	78.23	356	P	P	20 31 23.1	+0.6
D55A	**Sainte-Anne-du** baz=174	78.24	355	P	P	20 31 22.8	+0.2
IRM	**Iron Mountain** baz=141	78.38	322	P	P	20 31 24.9	+1.2
E48A	**Lockeyer** baz=168	78.40	351	P	P	20 31 24.2	+0.7
D52A	**ZEK Kipawa Sen** baz=172	78.44	353	P	P	20 31 23.8	0.0
D54A	**Lac Fusel, La** baz=173	78.46	355	P	P	20 31 23.2	-0.6
D53A	**Lac Vacive, Po** baz=172	78.48	354	P	P	20 31 24.2	+0.3
ISCO	**Idaho Springs** baz=149	78.56	332	P	P	20 31 26.3	+1.3
PFO	**Pinyon Flats O** baz=140	78.65	321	P	P	20 31 25.9	+0.6
BELC	**Belle Mtn. Jos** baz=140	78.71	322	P	P	20 31 27.4	+1.7
D50A	**G1974 Best Tow** baz=171	78.78	352	P	P	20 31 25.7	+0.1
ECSD	**EROS Data Cent** baz=156	78.91	340	P	P	20 31 26.3	-0.1
ECSD	**EROS Data Cent** comp=Z,16nm,0.8s	78.91	340	IAmb	IAmb	20 31 27.4	
BOSA	**Boshof** comp=Z,7.7nm,0.8s,baz=256,slow=3.9,SNR=11	78.95	117	P	P	20 31 26.8	-0.5
BOSA	**Boshof** comp=Z,10nm,0.9s	78.95	117	IAmb	IAmb	20 31 28.4	
D48A	**Paudash Townsh** baz=169	79.03	351	P	P	20 31 26.8	-0.1
MURC	**Murrieta** baz=140	79.04	321	P	P	20 31 28.3	+0.9
D49A	**Beulah Townshi** baz=169	79.07	351	P	P	20 31 27.7	+0.6
E43A	**Lone Tree Farm** comp=Z,9.4nm,0.7s	79.08	347	IAmb	IAmb	20 31 28.4	
GMRC	**Granite Mounta** baz=141	79.13	322	P	P	20 31 29.6	+1.6
N23A	**Red Feather La** baz=149	79.62	332	P	P	20 31 31.7	+1.0
TUQ	**Turquoise Moun** baz=141	79.77	323	P	P	20 31 33.4	+2.0
BFSC	**Mount Baldy Ra** baz=139	79.78	321	P	P	20 31 32.6	+1.1
O20A	**White River Ci** baz=147	79.92	330	P	P	20 31 33.7	+1.5
GSC	**Goldstone, Bar** baz=140	80.13	322	P	P	20 31 34.6	+1.3
LSQQ	**Lebel-sur-Quev** baz=173	80.38	355	P	P	20 31 35.0	+0.8
EDW2	**Edwards Air Fo** baz=139	80.44	321	P	P	20 31 35.8	+0.9
SCZ2	**Santa Cruz Isl** baz=138	80.68	319	P	P	20 31 37.7	+1.5
LRMC	**Laurel Mtn Rad** baz=140	80.73	322	P	P	20 31 37.6	+1.0
RWWY	**Rawlins** comp=Z,13nm,0.8s	80.80	332	IAmb	IAmb	20 31 39.0	
TOA0	**Torodi Ar. Sit**	80.83	69	P	P	20 31 38.1	+0.7
TOA0	comp=Z,18nm,0.8s			IAmb	IAmb	20 31 38.4	
TORD	**Torodi Ar. Bea** comp=Z,17nm,0.8s,baz=278,slow=5.9,SNR=106	80.83	69	P	P	20 31 37.2	-0.2
TORD	comp=Z,4.3nm,0.8s,baz=259,slow=4.6,SNR=3.3			pP	pP	20 32 07.2	+1.7
TORD	comp=Z,0.3nm,0.5s,baz=48,slow=2.2,SNR=4.8			PKKPbc	PKKPbc	20 50 15.5	+0.9
LBTB	**Lobatse**	81.00	114	P	P	20 31 38.2	-0.2
LBTB	comp=Z,13nm,0.8s			IAmb	IAmb	20 31 38.9	
CHGQ	**Chibougamau** baz=175	81.06	356	P	P	20 31 38.0	+0.2
MPMC	**Manual Prospec** baz=140	81.06	322	P	P	20 31 39.1	+0.7
TPNV	**Topopah Spring** baz=141	81.10	323	P	P	20 31 39.8	+1.3
MATQ	**Matagami** baz=172	81.13	354	P	P	20 31 38.7	+0.6
ISA	**Isabella, Lake** baz=139	81.29	321	P	P	20 31 41.1	+1.6
K22A	**Casper** baz=148	81.34	333	P	P	20 31 40.4	+0.7
K22A	**Casper** comp=Z,9.1nm,0.8s	81.34	333	IAmb	IAmb	20 31 41.8	
PKM	**Mcpherson Peak** baz=138	81.44	320	P	P	20 31 40.7	+0.3
EYMN	**Ely** baz=161	81.50	345	P	P	20 31 39.4	-0.8
CWC	**Cottonwood Cre** baz=139	81.67	322	P	P	20 31 42.0	+0.5
RSSD	**Black Hills** baz=150	81.68	335	P	P	20 31 42.0	+0.6
RSSD	**Black Hills**	81.68	335	P	P	20 31 42.5	+1.0
VES	**Vestal, Richgr** baz=139	81.75	321	P	P	20 31 42.9	+1.2
R11A	**Troy Canyon, C** baz=141	81.85	325	P	P	20 31 43.5	+1.1
SMMC	**Simmler** baz=138	81.86	320	P	P	20 31 43.6	+1.2
B35A	**Bob, Littlefor** comp=Z,12nm,0.6s	82.41	344	IAmb	IAmb	20 31 45.6	
BW06	**Boulder Array** baz=146	82.66	331	P	P	20 31 47.2	+0.5
PDAR	**Pinedale Array** comp=Z,2.2nm,0.7s,baz=142,slow=5.5,SNR=16	82.66	331	P	P	20 31 47.1	+0.5
PDAR	comp=Z,0.8nm,0.7s,baz=132,slow=2.2,SNR=2.7			pP	pP	20 32 16.4	+0.9
CASY	**Casey**	82.67	180	P	P	20 31 46.8	+0.6
CASY	comp=Z,14nm,0.7s			IAmb	IAmb	20 31 47.5	
NVAR	**Mina Array Bea** comp=Z,2.8nm,0.8s,baz=154,slow=5.7,SNR=16	83.28	323	P	P	20 31 51.3	+1.3
NVAR	comp=Z,1.1nm,0.7s,baz=156,slow=5.8,SNR=4.2			pP	pP	20 32 20.0	+1.3
PNTR	**Pine Nut** comp=Z,8.2nm,0.8s	84.45	323	IAmb	IAmb	20 31 58.6	
RLMT	**Red Lodge** baz=146	84.50	333	P	P	20 31 57.4	+1.5
LAO	**LASA Array** baz=149	84.67	335	P	P	20 31 57.2	+0.6
LAO	**LASA Array** comp=Z,7.2nm,0.8s	84.67	335	IAmb	IAmb	20 31 57.9	
ULM	**Lac du Bonnet** comp=Z,6.5nm,0.5s,baz=174,slow=3.6,SNR=6.2	84.69	343	P	P	20 31 56.5	-0.1
ULM	**Lac du Bonnet** comp=Z,15nm,1.1s	84.69	343	IAmb	IAmb	20 31 57.2	
DGMT	**Dagmar** baz=150	85.51	337	P	P	20 32 01.4	+0.7
SCHQ	**Schefferville** comp=Z,4.0nm,0.6s,baz=218,slow=9.6,SNR=5.0	85.86	1	P	P	20 32 02.0	-0.3
DLMT	**Dillon** comp=Z,7.5nm,1.1s	86.04	331	IAmb	IAmb	20 32 05.5	
MOD	**Modoc Plateau** comp=Z,5.7nm,0.7s	86.90	324	IAmb	IAmb	20 32 09.6	
EGMT	**Eagleton** baz=146	87.09	334	P	P	20 32 08.5	0.0
EGMT	**Eagleton** comp=Z,5.8nm,0.7s	87.09	334	IAmb	IAmb	20 32 09.5	
M04C	**Macdoel** baz=137	87.59	323	P	P	20 32 11.6	+0.5
MSO	**Missoula** baz=143	87.78	331	P	P	20 32 13.0	+1.1
J05D	**Fort Rock, OR** baz=138	88.38	325	P	P	20 32 16.2	+1.3
J04D	**Umpqua Nationa** baz=137	88.79	324	P	P	20 32 17.4	+0.5
I05D	**Terrebonne, OR** baz=137	89.21	325	P	P	20 32 19.7	+1.1
I04A	**Tendick Farm,** baz=137	89.34	324	P	P	20 32 20.0	+0.7
WALA	**Waterton Lakes** comp=Z,9.2nm,1.1s	89.54	332	IAmb	IAmb	20 32 21.6	
I03D	**Drain, OR** baz=136	89.74	324	P	P	20 32 21.0	0.0
G05D	**Wamic, OR** baz=138	89.86	326	P	P	20 32 22.1	+0.5
FCC	**Fort Churchill**	92.20	347	P	P	20 32 31.6	-0.5
ESDC	**Sonseca Array** comp=Z,0.4nm,0.5s,baz=236,slow=4.4,SNR=5.9	92.87	44	P	P	20 32 35.5	-0.2
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.5s,baz=144,slow=4.9,SNR=4.2	100.44	340	P	Pdif	20 33 09.5	+0.2
YKA	comp=Z,0.9nm,0.8s,baz=144,slow=4.7,SNR=3.4			pP	pP	20 33 39.7	+1.2
BRTR	**Keskin Array B** comp=Z,1.0nm,0.7s,baz=177,slow=3.3,SNR=8.5	118.25	59	PKP	PKPdf	20 38 09.4	-0.4
AKASG	**Malin Array Be** comp=Z,1.0nm,0.6s,baz=267,slow=2.3,SNR=4.8	118.49	46	PKP	PKPdf	20 38 08.6	-1.1
FINES	**FINESS Array B** comp=Z,0.8nm,0.6s,baz=241,slow=2.0,SNR=9.0	119.35	33	PKP	PKPdf	20 38 10.3	-0.7
ARCES	**ARCESS Array B** comp=Z,1.4nm,0.8s,baz=282,slow=2.4,SNR=4.0	120.54	24	PKP	PKPdf	20 38 12.4	-0.7
ASAR	**Alice Springs** comp=Z,0.7nm,0.5s,baz=134,slow=1.6,SNR=7.2	121.07	205	PKP	PKPdf	20 38 14.2	-1.5
ASAR	comp=Z,0.7nm,1.0s,baz=114,slow=1.4,SNR=2.4			pPKP	pPKPdf	20 38 47.8	+1.9
ASAR	comp=Z,0.7nm,0.7s,baz=339,slow=3.4,SNR=13			PKKPbc	PKKPbc	20 48 17.9	-0.2
WRA	**Warramunga Arr** comp=Z,1.2nm,0.5s,baz=158,slow=1.8,SNR=14	124.31	207	PKP	PKPdf	20 38 20.4	-1.6
WRA	comp=Z,0.8nm,0.4s,baz=154,slow=1.6,SNR=2.1			pPKP	pPKPdf	20 38 52.9	+0.8
WRA	comp=Z,1.4nm,0.8s,baz=335,slow=4.2,SNR=5.7			PKKPbc	PKKPbc	20 48 05.1	-0.5
KLMR	**Klimovskoe**	125.75	35	*e*PKPdf	PKPdf	20 38 22.3	-1.0
KLMR	comp=Z,10.0nm,0.9s			AMP		20 38 23.9	
KBZ	**Khabaz** comp=Z,2.2nm,0.8s,baz=222,slow=5.5,SNR=4.7	125.97	56	PKP	PKPdf	20 38 23.9	-0.4
GEYT	**Alibeck** comp=Z,1.1nm,0.5s,baz=294,slow=4.6,SNR=3.3	136.44	66	PKhKP	PKPpre	20 38 41.1	
GEYT	comp=Z,1.2nm,0.5s,baz=249,slow=6.2,SNR=4.1			PKP	PKPdf	20 38 44.2	-0.2
GSI	**Gunungsitoli**	147.49	154		PKPbc	20 39 07.7	+0.3
NIL	**Nilore**	148.15	76		PKPbc	20 39 08.7	+0.1
AAK	**Ala-Archa**	148.93	58		PKiKP	20 39 11.6	-0.1
KURK	**Kurchatov**	149.18	42		PKiKP	20 39 11.2	-0.5
KSH	**Kashi**	150.42	64	PKPbc	PKPbc	20 39 14.5	+0.4
KSH				sPKP		20 39 50.3	

ZAA0	**Zalesovo Array**	**150.61**	**32**			**PKPbc**	**20 39 14.2**	**+0.4**
ZALV	**Zalesovo Beam**	**150.61**	**32**	PKP		**PKPdf**	**20 39 08.1**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=276,slow=3.4,SNR=4.8							
ZALV				PKPbc		**PKPbc**	**20 39 14.0**	**+0.1**
	comp=Z,29nm,0.6s,baz=309,slow=3.1,SNR=107							
IPM	**Ipoh**	**151.64**	**159**			**PKPbc**	**20 39 17.1**	**-0.5**
MAKZ	**Makanchi**	**152.86**	**47**			**PKPbc**	**20 39 19.1**	**-0.2**
MKAR	**Makanchi Array**	**153.06**	**47**	PKP		**PKPdf**	**20 39 11.5**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=18,slow=1.3,SNR=4.5							
MKAR				PKPbc		**PKPbc**	**20 39 19.5**	**-0.3**
	comp=Z,8.2nm,0.8s,baz=295,slow=1.7,SNR=48							
MKAR				PKPab		**PKPab**	**20 39 31.9**	**+0.3**
	comp=Z,7.4nm,0.6s,baz=295,slow=4.1,SNR=16							
MJAR	**Matsushiro Arr**	**156.93**	**290**	PKP		**PKPdf**	**20 39 16.9**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=188,slow=3.4,SNR=4.1							
MJAR				PKPab		**PKPab**	**20 39 48.5**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=140,slow=2.5,SNR=8.5							
WMQ	**Urumqi**	**157.78**	**49**	*e*PKP		**PKPdf**	**20 39 18.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**163.11**	**137**	PKP		**PKPdf**	**20 39 25.6**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=259,slow=1.5,SNR=4.8							
CMAR				PKPab		**PKPab**	**20 40 14.6**	**-1.1**
	comp=Z,1.4nm,1.0s,baz=235,slow=2.9,SNR=6.1							
SONM	**Songino Array**	**163.17**	**11**	PKP		**PKPdf**	**20 39 25.2**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=204,slow=1.4,SNR=5.8							
SONM				PKPab		**PKPab**	**20 40 15.4**	**0.0**
	comp=Z,2.5nm,0.7s,baz=328,slow=4.2,SNR=13							
KSRS	**Korea Array**	**164.82**	**298**	PKP		**PKPdf**	**20 39 26.0**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=335,slow=1.1,SNR=4.9							
GTA	**Gaotai**	**167.81**	**46**	PKP		**PKPdf**	**20 39 29.5**	**+0.7**
GTA				pPKP		pPKPdf	20 40 00.2	+1.1
GTA				sPKP			20 40 13.0	
GTA				PKPab		**PKPab**	**20 40 37.2**	**+1.0**
HHC	**Hu-ho-hao-te**	**170.53**	**358**	*e*PKP		**PKPdf**	**20 39 28.2**	**-2.2**
HHC				LR		LR		
	comp=Z,160nm,21.3s							
HHC				LR		LR		
	comp=Z,100nm,23.2s							
HHC				LR		LR		
	comp=Z,57nm,21.1s							
LZH	**Lanzhou**	**172.36**	**50**	*e*PKP		**PKPdf**	**20 39 30.0**	**-1.5**
LZH				pPKP		pPKPdf	20 40 01.5	-0.2
LZH				sPKP			20 40 13.7	
NJ2	**Nanjing**	**173.32**	**278**	*e*PKP		**PKPdf**	**20 39 31.3**	**-0.5**
XAN	**Xi'an**	**176.78**	**33**	PKP		**PKPdf**	**20 39 35.8**	**+3.0**

*JMA **08** 20:21:39.9±0.1,24°.29N×121°.78E,h0km,M2.5*
*TAP **08** 20:21:40.5,24°.30N×121°.77E,h13km,ML3.1,C*
ISC 08 20:21:40.1±0.9,**24°.29N**±0°.02×**121°.82E**±0°.02,**h11**km±6km,
n84,σ0°55/139,6C-7D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.16**	**333**	*e*P	**Pg**	**20 21 44.0**	**+0.3**
	baz=351						
ENA				*e*S	**Sg**	20 21 46.3	+0.1
	baz=351						
NACB	**Ninganchiao**	**0.23**	**241**	⇓*i*P	**Pg**	**20 21 44.9**	**-0.1**
	baz=226						
NACB				*e*S	**Sg**	**20 21 48.1**	**-0.2**
	baz=226						
TWD	**Chiawan**	**0.29**	**225**	P	**Pg**	**20 21 46.1**	**+0.1**
	baz=214						
TWD				*e*S	**Sg**	**20 21 50.4**	**+0.5**
	baz=214						
ETLH	**Xiulin Townshi**	**0.32**	**255**	⇓*i*P	**Pg**	**20 21 46.5**	**-0.1**
	baz=250						
ETLH				S	**Sg**	**20 21 50.4**	**-0.4**
	baz=250						
TWC	**Suao**	**0.32**	**5**	⇓*i*P	**Pb**	**20 21 47.2**	**-0.6**
	baz=10.0						
TWC				*e*S	**Sg**	**20 21 51.7**	**+0.8**
	baz=10.0						
HWA	**Hwalien**	**0.37**	**212**	*e*P	**Pb**	**20 21 48.3**	**-0.2**
	baz=215						
HWA				*e*S	**Sb**	**20 21 55.7**	**+1.4**
	baz=215						
NDT	**Datong Townshi**	**0.42**	**318**	⇑*i*P	**Pb**	**20 21 48.7**	**-0.8**
	baz=322						
NDT				S	**Sg**	**20 21 53.9**	**-0.1**
	baz=322						
NNSB	**Datong**	**0.42**	**289**	⇑*i*P	**Pg**	**20 21 48.5**	**+0.1**
	baz=290						
NNSB				S	**Sg**	**20 21 53.4**	**-0.7**
	baz=290						
NNSH	**Datong**	**0.42**	**289**	⇑*i*P	**Pg**	**20 21 48.5**	**0.0**
	baz=290						
NNSH				S	**Sg**	**20 21 53.4**	**-0.8**
	baz=290						
NNS	**Nan Shan**	**0.43**	**290**	⇑*i*P	**Pg**	**20 21 48.7**	**0.0**
	baz=291						
NNS				S	**Sg**	**20 21 53.9**	**-0.6**
	baz=291						
TWE	**Neicheng**	**0.45**	**342**	⇓*i*P	**Pb**	**20 21 49.5**	**-0.6**
	baz=349						
TWE				S	**Sg**	**20 21 54.7**	**-0.3**
	baz=349						
ILA	**Ilan**	**0.48**	**352**	*e*P	**Pb**	**20 21 50.3**	**-0.3**
	baz=352						
ILA				*e*S	**Sb**	**20 21 57.0**	**-0.7**
	baz=352						
WHF	**Hehuan Shan**	**0.53**	**254**	⇓*i*P	**Pg**	**20 21 50.4**	**-0.1**
	baz=252						
WHF				*e*S	**Sg**	**20 21 56.8**	**-0.7**
	baz=252						
YHNB	**Yeheng**	**0.56**	**313**	⇑*i*P	**Pb**	**20 21 51.1**	**-0.8**
	baz=316						
YHNB				*e*S	**Sg**	**20 21 57.8**	**-0.5**
	baz=316						
EGS		**0.56**	**10**	*e*P	**Pb**	**20 21 51.8**	**-0.2**
	baz=21						
EGS				*e*S	**Sb**	**20 21 59.9**	**-0.1**
	baz=21						
NTC	**Toucheng**	**0.56**	**1**	⇓*i*P	**Pb**	**20 21 51.7**	**-0.3**
	baz=4.0						
NTC				*e*S	**Sg**	**20 21 58.8**	**+0.2**
	baz=4.0						
NWLT	**Wulai**	**0.57**	**329**	*e*P	**Pb**	**20 21 51.4**	**-0.6**
	baz=333						
NWLT				*e*S	**Sg**	**20 21 58.3**	**-0.4**
	baz=333						
NSK	**Sanguang**	**0.57**	**313**	⇑*i*P	**Pg**	**20 21 51.3**	**0.0**
	baz=315						
NSK				*e*S	**Sg**	**20 21 58.3**	**-0.5**
	baz=315						
TWT	**Tachien**	**0.59**	**267**	*e*P	**Pb**	**20 21 52.0**	**-0.5**
	baz=265						
TWT				*e*S	**Sg**	**20 21 59.0**	**-0.4**
	baz=265						
TDCB	**Techi**	**0.60**	**267**	*e*P	**Pb**	**20 21 52.0**	**-0.7**
	baz=265						
TDCB				*e*S	**Sg**	**20 21 59.0**	**-0.9**
	baz=265						
CHGB	**Renai**	**0.63**	**249**	*i* P	**Pb**	**20 21 52.5**	**-0.8**
	baz=239						
CHGB				*e*S	**Sg**	**20 22 00.4**	**-0.4**
	baz=239						
TIPB	**Shuangxi**	**0.68**	**0**	⇓*i*P	**Pb**	**20 21 53.8**	**-0.2**
	baz=4.0						
TIPB				*e*S	**Sg**	**20 22 02.2**	**-0.1**
	baz=4.0						
EGFH	**Guangfu**	**0.71**	**210**	P	**Pb**	**20 21 53.9**	**-0.6**
	baz=214						
EGFH				*e*S	**Sb**	**20 22 03.6**	**-0.7**
	baz=214						
TWA	**Mucha**	**0.72**	**343**	*e*P	**Pb**	**20 21 54.7**	**0.0**
	baz=346						
TWA				*e*S	**Sg**	**20 22 03.2**	**-0.4**
	baz=346						
NHDH	**Xindian Distri**	**0.72**	**338**	*e*P	**Pb**	**20 21 55.4**	**+0.7**
	baz=341						
NHDH				*e*S	**Sg**	**20 22 03.5**	**-0.1**
	baz=341						
TWB1	**Santiao Chiao**	**0.73**	**12**	*e*P	**Pb**	**20 21 54.4**	**-0.5**
	baz=15						
TWB1				*e*S	**Sb**	**20 22 04.3**	**-0.6**
	baz=15						
TATO	**Taipei**	**0.75**	**336**	*e*P	**Pg**	**20 21 54.5**	**-0.1**
	baz=339						
TATO				*e*S	**Sg**	**20 22 03.9**	**-0.4**
	baz=339						
NWF	**Wu-fen Shan**	**0.78**	**357**	*e*P	**Pb**	**20 21 55.9**	**+0.2**
	baz=352						
NWF				*e*S	**Sg**	**20 22 05.7**	**+0.2**
	baz=352						
WFSB	**Wu-fen Shan**	**0.78**	**357**	*e*P	**Pb**	**20 21 55.8**	**+0.1**
	baz=352						
WFSB				*e*S	**Sg**	**20 22 05.5**	**0.0**
	baz=352						
WHP	**Taichung City**	**0.80**	**269**	*e*P	**Pb**	**20 21 55.7**	**-0.3**
	baz=269						
WHP				S	**Sg**	**20 22 05.5**	**-0.5**
	baz=269						
TAP	**Taipei**	**0.80**	**339**	*e*P	**Pg**	**20 21 54.8**	**-0.8**
	baz=342						
TAP				*e*S	**Sg**	**20 22 05.6**	**-0.4**
	baz=342						
LIOB	**Emei**	**0.81**	**296**	P	**Pg**	**20 21 55.5**	**-0.4**
	baz=296						
VWDT	**VWDT**	**0.82**	**230**	P	**Pg**	**20 21 55.6**	**-0.2**
	baz=227						
VWDT				*e*S	**Sb**	**20 22 07.4**	**+0.1**
	baz=227						
NSTT	**Nanjuang**	**0.82**	**295**	*e*P	**Pb**	**20 21 56.0**	**-0.3**
	baz=295						
NSTT				*e*S	**Sg**	**20 22 06.6**	**-0.1**
	baz=295						
DPDB	**Guoxing**	**0.85**	**253**	*e*P	**Pg**	**20 21 56.2**	**-0.4**
	baz=252						
DPDB				*e*S	**Sg**	**20 22 07.1**	**-0.6**
	baz=252						
HGSD	**Ruisui**	**0.87**	**205**	*e*P	**Pb**	**20 21 57.6**	**+0.4**
	baz=217						
HGSD				*e*S	**Sn**	**20 22 11.0**	**0.0**
	baz=217						
YM01	**YM01**	**0.89**	**345**	*e*P	**Pn**	**20 21 58.0**	**-0.5**
	baz=347						
YM01				*e*S	**Sb**	**20 22 09.9**	**+0.6**
	baz=347						
TWS1	**Kuangyinshan**	**0.89**	**336**	*e*P	**Pn**	**20 21 58.8**	**+0.3**
	baz=338						
TWS1				*e*S	**Sb**	**20 22 08.9**	**-0.4**
	baz=338						
NCUH	**Zhongli**	**0.89**	**320**	*e*P	**Pn**	**20 21 58.6**	**+0.1**
	baz=316						
YM10	**YM10**	**0.90**	**345**	*e*P	**Pn**	**20 21 58.2**	**-0.5**
	baz=347						
YM10				*e*S	**Sb**	**20 22 10.5**	**+0.9**
	baz=347						
YM04	**YM04**	**0.90**	**343**	*e*P	**Pn**	**20 21 58.2**	**-0.5**
	baz=345						
YM04				*e*S	**Sg**	**20 22 09.2**	**-0.1**
	baz=345						
EHY	**Hungye**	**0.90**	**210**	*e*P	**Pg**	**20 21 57.1**	**-0.4**
	baz=219						
YM11	**YM11**	**0.90**	**346**	*e*P	**Pn**	**20 21 58.3**	**-0.5**
	baz=348						
YM11				*e*S	**Sb**	**20 22 10.1**	**+0.2**
	baz=348						
YM05	**YM05**	**0.90**	**345**	*e*P	**Pb**	**20 21 57.4**	**-0.4**
	baz=347						
YM05				*e*S	**Sb**	**20 22 09.9**	**+0.1**
	baz=347						
YM08	**YM08**	**0.92**	**347**	*e*P	**Pb**	**20 21 58.4**	**+0.3**
	baz=349						
YM08				*e*S	**Sb**	**20 22 10.7**	**+0.3**
	baz=349						
YM03	**YM03**	**0.92**	**344**	*e*P	**Pg**	**20 21 57.5**	**-0.4**
	baz=346						
YM03				*e*S	**Sb**	**20 22 10.0**	**-0.4**
	baz=346						
SMLT	**Sun Moon Lake**	**0.93**	**245**	*e*P	**Pb**	**20 21 57.9**	**-0.4**
	baz=234						
SMLT				*e*S	**Sg**	**20 22 10.0**	**-0.3**
	baz=234						
ANP	**Anpu**	**0.94**	**343**	*e*P	**Pb**	**20 21 58.1**	**-0.3**
	baz=346						
NTST	**Danshui**	**0.94**	**339**	*e*P	**Pb**	**20 21 58.6**	**+0.3**
	baz=341						
SSLB	**Suanglung**	**0.94**	**238**	*e*P	**Pg**	**20 21 57.7**	**-0.4**
	baz=237						
SSLB				*e*S	**Sb**	**20 22 10.7**	**-0.1**
	baz=237						
PTSB	**Yuanli**	**1.03**	**279**	*e*P	**Pb**	**20 22 00.9**	**+0.5**
	baz=279						
PTSB				*e*S	**Sn**	**20 22 14.9**	**0.0**
	baz=279						
JYNG	**Yonagunijimaku**	**1.04**	**81**	P	**Pn**	**20 22 00.9**	**+0.3**
JYNG				*e*S	**Sn**	**20 22 15.4**	**+0.3**
TWF1	**Yuli**	**1.05**	**207**	*e*P	**Pg**	**20 21 59.9**	**-0.4**
	baz=216						
TWF1				*e*S	**Sb**	**20 22 14.0**	**0.0**
	baz=216						
TCU	**Taichung**	**1.05**	**263**	*e*P	**Pn**	**20 22 02.0**	**+1.2**
	baz=262						
TCU				*e*S	**Sn**	**20 22 16.6**	**+1.1**
	baz=262						
WHYT	**Xinyi Township**	**1.06**	**237**	*e*P	**Pn**	**20 22 01.0**	**+0.1**
	baz=234						
WDJ	**Dajia District**	**1.08**	**273**	*e*P	**Pn**	**20 22 02.4**	**+1.3**
	baz=273						
WDJ				*e*S	**Sn**	**20 22 16.5**	**+0.4**
	baz=273						
YOJ	**Yonaguni jima**	**1.10**	**81**	*e*P	**Pn**	**20 22 01.6**	**+0.2**
	baz=70						
YOJ	**Yonaguni jima**	**1.10**	**81**	P	**Pn**	**20 22 01.6**	**+0.2**
WNT	**Mingjian**	**1.12**	**249**	*e*P	**Pn**	**20 22 02.9**	**+1.3**
	baz=245						
WNT				*e*S	**Sn**	**20 22 18.5**	**+1.5**
	baz=245						
FULB	**Fuli**	**1.19**	**204**	*e*P	**Pb**	**20 22 02.5**	**-0.1**
	baz=216						
ALS	**Alishan**	**1.21**	**230**	*e*P	**Pn**	**20 22 03.5**	**+0.3**
	baz=228						
CHN5	**Tsauling**	**1.25**	**237**	*e*P	**Pg**	**20 22 04.6**	**+0.4**
	baz=236						
WGK	**Gukeng**	**1.30**	**243**	*e*P	**Pg**	**20 22 05.9**	**+0.9**
	baz=242						
WDLH	**Douliu**	**1.32**	**243**	*e*P	**Pg**	**20 22 06.4**	**+1.0**
	baz=228						
ELDTW	**Lidau**	**1.32**	**214**	*e*P	**Pn**	**20 22 04.1**	**-0.4**
	baz=213						
RLNB	**Erlin**	**1.39**	**254**	*e*P	**Pg**	**20 22 07.1**	**+0.3**
	baz=253						
TPUB	**Ta-pu**	**1.47**	**228**	*e*P	**Pb**	**20 22 07.3**	**-0.1**
	baz=215						
WTP	**Ta-pu**	**1.52**	**227**	*e*P	**Pg**	**20 22 08.4**	**-0.8**
	baz=214						
TWK	**Hsinying**	**1.59**	**230**	*e*P	**Pb**	**20 22 08.8**	**-0.6**
	baz=230						
WSF	**Szhu**	**1.60**	**246**	*e*P	**Pb**	**20 22 09.6**	**0.0**
	baz=246						
CHN1	**Nanshi**	**1.61**	**227**	*e*P	**Pg**	**20 22 10.7**	**-0.3**
	baz=228						
SLGT	**Liugui**	**1.68**	**220**	*e*P	**Pb**	**20 22 10.9**	**0.0**
	baz=221						
IRIF	**Iriomote-Funau**	**1.74**	**88**	P	**Pb**	**20 22 12.3**	**+0.2**
SSD	**Sandimen**	**1.88**	**216**	*e*P	**Pb**	**20 22 13.4**	**-1.1**
	baz=216						
MASBT	**Mashibuluo**	**1.99**	**213**	*e*P	**Pb**	**20 22 15.5**	**-0.8**
	baz=216						
JKRS	**Kuro-shima**	**2.00**	**91**	P	**Pb**	**20 22 16.2**	**-0.2**
JKRS				*e*S	**Sb**	**20 22 41.8**	**+0.5**
EAST	**Anshuo**	**2.10**	**205**	*e*P	**Pn**	**20 22 16.4**	**+1.2**
	baz=195						
JIJ	**Ishigaki jima**	**2.12**	**87**	P	**Pb**	**20 22 18.2**	**-0.3**
JISG	**Ishigakijimahi**	**2.29**	**82**	P	**Pb**	**20 22 20.2**	**-1.2**

*IDC **08** 20:31:05.8±1.2,2°.12S×134°.32E,h0km,mb3.7/3,*
mb1 3.9/7,mb1mx3.6/35,mbtmp3.7/7,ML3.5/4,Error
ellipse: s-maj=28.9km s-min=21.7km az=59.0
ISC 08 20:31:10.1±0.9,**2°.2S**±0°.1×**134°.30E**±0°.10,**h30**km,**n7,**
σ0°84/8,mb3.6/3,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.29**	**293**	Pn	**Pn**	**20 31 59.6**	**0.0**
	15nm,0.3s,baz=233,slow=22,SNR=136						
SIJI				Sn	**Sn**	**20 32 38.4**	**+0.5**
	37nm,0.3s,baz=3.9,slow=23,SNR=18						
SIJI				Lg	Lg	20 32 55.1	
	4.6nm,0.3s,baz=137,slow=20,SNR=4.1						
JAY	**Jayapura**	**6.41**	**93**	Pn	**Pn**	**20 32 42.9**	**+0.2**
	0.2nm,0.3s,baz=219,slow=18,SNR=1.1						
WRA	**Warramunga Arr**	**17.66**	**180**	P	**Pn**	**20 35 14.8**	**+0.7**
	0.2nm,0.3s,baz=360,slow=12,SNR=11						
FITZ	**Fitzroy Crossi**	**17.96**	**208**	P	**Pn**	**20 35 16.5**	**-1.2**
	0.2nm,0.3s,baz=32,slow=15,SNR=1.6						
ASAR	**Alice Springs**	**21.37**	**181**	P	**P**	**20 35 55.7**	**+0.4**
	1.3nm,0.7s,baz=7.9,slow=12,SNR=13						
MKAR	**Makanchi Array**	**66.71**	**324**	P	**P**	**20 41 58.9**	**+0.5**
	0.8nm,0.3s,baz=110,slow=8.0,SNR=12						
ILAR	**Eielson Array**	**87.19**	**25**	P	**P**	**20 43 52.3**	**-0.9**
	0.2nm,0.5s,baz=256,slow=5.1,SNR=2.2						

IDC 08 20:41:10.4±4.5,14°.91S×178°.99W,h0km,mb3.7/2,
mb1 3.9/2,mb1mx3.5/21,mbtmp3.7/2,Error ellipse:
s-maj=99.1km s-min=82.1km az=2.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**21.29**	**282**	P	P	20 45 57.2	-1.6
	66nm,0.4s,baz=111,slow=14,SNR=5.1						
WRA	**Warramunga Arr**	**44.71**	**257**	P	P	20 49 27.4	+1.7
	1.1nm,1.0s,baz=95,slow=6.6,SNR=5.5						
ASAR	**Alice Springs**	**45.14**	**251**	P	P	20 49 28.3	-0.8
	0.6nm,0.5s,baz=91,slow=8.4,SNR=14						
AKASG	**Malin Array Be**	**137.65**	**333**	PKP	PKPdf	21 00 35.8	-0.7
	0.5nm,0.5s,baz=44,slow=4.4,SNR=5.9						

MAN 08 20:45:05.5,6°.91N×125°.96E,h191km,mb4.3,ML3.1,
MS2.9,2C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.84**	**197**	*e*P	Pn	20 45 34.0	+0.7
DDMP				*e*S	Sn	20 45 56.1	+1.2
GSPH	**General Santos**	**1.29**	**231**	⇑*i*P	Pn	20 45 35.1	-1.6
GSPH				*i* S	Sn	20 45 57.3	-3.6
SKMP	**Bagumbayan, Su**	**1.46**	**254**	*e*P	Pn	20 45 39.4	+1.4
SKMP				*e*S	Sn	20 46 04.8	+1.6
CGP	**Cagayan de Oro**	**1.98**	**321**	⇑*i*P	Pn	20 45 42.8	-0.3
CGP				*i* S	Sn	20 46 13.1	+0.7

*ATH **08** 20:48:06.9,35°.84N×29°.46E,h57km±5km,ML2.7/5,Error*
ellipse: s-maj=6.4km s-min=1.2km az=27.0
*ISK **08** 20:48:07.3,35°.82N×29°.30E,h17km,ML2.7/11*
*NIC **08** 20:48:08.5±0.0,35°.79N×29°.40E,h35km±7km,Ml2.8/4*
*DDA **08** 20:48:10.2,36°.09N×29°.42E,h46km±1km,ML2.7*
*GII **08** 20:48:11.1±0.0,35°.48N×29°.61E,h20km*
ISC 08 20:48:08.8±2.3,**35°.80N**±0°.03×**29°.40E**±0°.02,**h37**km±2km,
n76,σ1°90/117,4C-1D,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.38**	**23**	P	**Pn**	**20 48 17.4**	**-0.1**
KSL				S	**Sn**	**20 48 25.0**	**+0.7**
KSL				AML	AML	20 48 28.8	
	comp=N,1270μm,0.5s						
KSL				AML	AML	20 48 30.3	
	comp=E,3371μm,0.4s						
KSL	**Kastellorizon**	**0.38**	**23**	⇓P	**Pn**	**20 48 17.4**	**-0.1**
KSL				S	**Sn**	**20 48 24.9**	**+0.7**
KSL				AML	AML	20 48 26.7	
	comp=E,1.2nm,0.2s						
KSL				AML	AML	20 48 26.7	
	comp=E,1.2nm,0.2s						
KSL				AML	AML	20 48 30.6	
	comp=E,3.4nm,0.4s						
KSL				AML	AML	20 48 30.6	
	comp=E,3.4nm,0.4s						
AKAS	**Kas**	**0.46**	**21**	PG	**Pn**	**20 48 19.2**	**+0.3**
AKAS	**Kas**	**0.46**	**21**	*i* P	**Pn**	**20 48 19.0**	**+0.1**
AKAS				*i* S	**Sn**	**20 48 24.5**	**-1.6**
AKAS				IAML		20 48 33.0	
	comp=N,787nm,0.4s						
AKAS				IAML		20 48 33.0	
	comp=E,622nm,0.4s						
DEMR	**Demre-Antalya**	**0.60**	**43**	PG	**Pn**	**20 48 20.2**	**-0.7**
DEMR				SG	**Sn**	**20 48 29.8**	**+0.5**
FETY	**Fethiye**	**0.87**	**343**	PG	**Pn**	**20 48 23.0**	**-0.6**
FETY				SG	**Sn**	**20 48 35.7**	**-0.3**
FETY	**Fethiye**	**0.87**	**343**	*i* P	**Pn**	**20 48 23.9**	**-0.6**
FETY				*i* S	**Sn**	**20 48 33.8**	**-2.2**
AKUM	**Antalya-Kumluc**	**0.93**	**56**	*i* P	**Pn**	**20 48 26.0**	**+0.8**
AKUM				*i* S	**Sn**	**20 48 38.1**	**+0.8**
ELL	**Elmali**	**1.03**	**23**	PG	**Pn**	**20 48 27.5**	**+0.7**
ARG	**Arkhangelos**	**1.11**	**292**	P	**Pn**	**20 48 27.4**	**-0.4**
ARG				S	**Sn**	**20 48 43.5**	**+1.7**
ARG				AML	AML	20 48 46.5	
	comp=E,570μm,0.3s						
ARG				AML	AML	20 48 53.9	
	comp=N,413μm,1.1s						
ARG	**Arkhangelos**	**1.11**	**292**	PG	**Pn**	**20 48 27.5**	**-0.2**
ARG	**Arkhangelos**	**1.11**	**292**	⇑P	**Pn**	**20 48 27.4**	**-0.4**
ARG				S	**Sn**	**20 48 42.8**	**+1.0**
DALY	**Dalyan (Mula)**	**1.18**	**330**	PN	**Pn**	**20 48 28.1**	**-0.6**
DALY	**Dalyan (Mula)**	**1.18**	**330**	*i* P	**Pn**	**20 48 27.9**	**-0.7**
DALY				*i* S	**Sn**	**20 48 41.2**	**-2.2**
TURN	**Turunc**	**1.25**	**329**	PN	**Pn**	**20 48 31.1**	**+1.5**
TURN	**Turunc**	**1.25**	**329**	*i* P	**Pn**	**20 48 32.0**	**+2.4**
TURN				*i* S	**Sn**	**20 48 45.5**	**+0.3**
KORT	**Korkueli**	**1.42**	**32**	PN	**Pn**	**20 48 33.4**	**+1.2**
KORT	**Korkueli**	**1.42**	**32**	*i* P	**Pn**	**20 48 34.7**	**+2.6**
KORT				*i* S	**Sn**	**20 48 53.0**	**+3.3**
GOLH	**Golhisar**	**1.44**	**5**	*i* P	**Pn**	**20 48 34.0**	**+1.6**
GOLH				*i* S	**Sn**	**20 48 47.3**	**-2.7**
GOLH				IAML		20 48 52.0	
	comp=E,1μm,0.8s						
ANTB	**Antalya**	**1.49**	**42**	PN	**Pn**	**20 48 34.8**	**+1.8**
YER	**Yerkesik**	**1.61**	**326**	PN	**Pn**	**20 48 35.0**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.71**	**347**	*i* P	**Pn**	**20 48 37.6**	**+1.6**
TAVA				*i* S	**Sn**	**20 48 54.5**	**-2.2**
DAT	**Datca**	**1.74**	**303**	PN	**Pn**	**20 48 36.6**	**+0.1**
DAT	**Datca**	**1.74**	**303**	*i* P	**Pn**	**20 48 36.6**	**+0.1**
DAT				*i* S	**Sn**	**20 48 54.6**	**-2.8**
KARP	**Karpathos**	**1.84**	**263**	P	**Pn**	**20 48 38.5**	**+0.7**
KARP				S	**Sn**	**20 49 00.3**	**+0.5**
KARP				AML	AML	20 49 01.9	
	comp=E,298μm,0.5s						
KARP				AML	AML	20 49 04.6	
	comp=N,310μm,0.4s						
KARP	**Karpathos**	**1.84**	**263**	⇑P	**Pn**	**20 48 38.5**	**+0.7**
KARP				S	**Sn**	**20 49 00.7**	**+0.9**
KARP				AML	AML	20 49 01.5	
	comp=N,0.3nm,0.5s						
KARP				AML	AML	20 49 01.5	
	comp=N,0.3nm,0.5s						
KARP				AML	AML	20 49 02.3	
	comp=N,0.3nm,0.2s						
KARP				AML	AML	20 49 02.3	
	comp=N,0.3nm,0.2s						
BCK	**Bucak**	**1.91**	**30**	PN	**Pn**	**20 48 40.4**	**+1.5**
BRDR	**BURDUR-Merkez**	**1.96**	**16**	*i* P	**Pn**	**20 48 41.9**	**+2.3**
BRDR				*i* S	**Sn**	**20 49 04.9**	**+1.9**
KEPZ	**Antalya-Kepez**	**2.09**	**58**	*

	comp=N,53nm,0.4s								
ZKR	**Zakros**	**2.69**	**256**		P	**Pn**	**20 48 50.6**	**+1.2**
ZKR					AML	AML	20 49 25.5	
	comp=E,154μm,0.4s								
ZKR					AML	AML	20 49 26.1	
	comp=N,90μm,0.3s								
ALFC	**Alefka**	**2.69**	**103**		P	**Pn**	**20 48 49.6**	**+0.1**
ALFC					S	**Sn**	**20 49 22.1**	**+1.3**
ALFC					AML	AML	20 49 22.3	
	comp=N,0.4nm,0.2s								
ALFC					AML	AML	20 49 22.3	
	comp=N,0.4nm,0.2s								
ALFC					AML	AML	20 49 22.3	
	comp=N,0.3nm,0.3s								
ALFC					AML	AML	20 49 22.3	
	comp=N,0.3nm,0.3s								
OSC1	**CSNet OBS 1**	**2.77**	**145**		P	**Pn**	**20 48 51.2**	**+0.6**
OSC1					S	**Sn**	**20 49 23.6**	**+0.9**
NATA	**Nata**	**2.79**	**111**		P	**Pn**	**20 48 51.6**	**+0.7**
SMG	**Samos**	**2.80**	**314**		P	**Pn**	**20 48 50.7**	**-0.3**
SMG					AML	AML	20 49 23.5	
	comp=N,166μm,0.3s								
SMG					AML	AML	20 49 24.3	
	comp=E,123μm,0.2s								
USAK	**Uak-Merkez**	**2.92**	**354**	*i*	P	Pn	20 48 58.6	+5.9
USAK					S	**Sn**	**20 49 25.6**	**-1.1**
USAK					IAML		20 50 34.0	
	comp=E,38nm,3.5s								
LEF	**Lefka**	**2.93**	**102**	*i*	P	**Pn**	**20 48 52.3**	**-0.5**
LEF					S	**Sn**	**20 49 23.2**	**-3.5**
DOGA	**KONYA_Doganhis**	**2.93**	**38**	*i*	P	**Pn**	**20 48 57.4**	**+4.5**
DOGA					S	**Sn**	**20 49 25.1**	**-1.9**
DOGA					IAML		20 49 35.0	
	comp=N,26nm,0.3s								
DGB	**zmir**	**3.02**	**319**	*i*	P	**Pn**	**20 48 53.4**	**-0.5**
DGB					S	**Sn**	**20 49 24.1**	**-4.8**
SZAC	**Souni**	**3.04**	**109**	⇑	P	**Pn**	**20 48 55.0**	**+0.8**
SZAC					S	**Sn**	**20 49 29.9**	**+0.5**
KMER	**Konya-Meram**	**3.09**	**50**	*i*	P	**Pn**	**20 48 57.8**	**+2.7**
KMER					S	**Sn**	**20 49 31.1**	**+0.3**
NPS	**Neapolis**	**3.13**	**261**		P	**Pn**	**20 48 56.5**	**+1.0**
KONT	**Konya--Tatoy**	**3.20**	**47**	*i*	P	**Pn**	**20 48 59.8**	**+3.4**
KONT					S	Sn	20 49 20.6	-13
LAST	**Lasithi**	**3.26**	**260**		P	**Pn**	**20 48 58.7**	**+1.3**
ASGA	**Asgata**	**3.31**	**107**		P	**Pn**	**20 48 58.6**	**+0.7**
ASGA					S	**Sn**	**20 49 37.3**	**+1.2**
CSS	**Mathiatis**	**3.32**	**103**		Pn	**Pn**	**20 48 58.2**	**+0.1**
CSS	**Mathiatis**	**3.32**	**103**		P	**Pn**	**20 48 58.5**	**+0.4**
CSS					S	**Sn**	**20 49 37.6**	**+1.2**
GULN	**MERSIN_Gulnar**	**3.38**	**82**	*i*	P	**Pn**	**20 48 59.2**	**+0.2**
GULN				*i*	S	**Sn**	**20 49 35.1**	**-2.7**
KDHN	**Kadinhani**	**3.48**	**38**	*i*	P	**Pn**	**20 49 02.7**	**+2.3**
KDHN				*i*	S	**Sn**	**20 49 37.4**	**-2.9**
MVOU	**Mavrovouni**	**3.55**	**102**	⇑	P	**Pn**	**20 49 01.2**	**0.0**
MVOU					S	**Sn**	**20 49 43.4**	**+1.5**
OSC2	**CSNet OBS 4**	**3.61**	**138**		P	**Pn**	**20 49 02.7**	**+0.7**
OSC2					S	**Sn**	**20 49 44.4**	**+1.0**
IDI	**Anoyia**	**3.71**	**263**		P	**Pn**	**20 49 03.8**	**+0.2**
EREN	**Erenkoy**	**3.90**	**93**	*i*	P	**Pn**	**20 49 06.0**	**0.0**
EREN				*i*	S	**Sn**	**20 49 45.1**	**-5.4**
KERG	**Konya-Eregli**	**4.13**	**66**	*i*	P	**Pn**	**20 49 11.3**	**+1.9**
KERG				*i*	S	**Sn**	**20 49 50.2**	**-6.2**
VAM	**Vamos**	**4.25**	**266**		P	**Pn**	**20 49 11.9**	**+1.0**
IMMV	**Iera Moni Meta**	**4.42**	**267**		P	**Pn**	**20 49 14.9**	**+1.6**
GVD	**Gavdhos**	**4.45**	**259**		P	**Pn**	**20 49 14.7**	**+1.1**
ANKY	**Antikythira Is**	**4.95**	**273**		P	**Pn**	**20 49 21.3**	**+0.8**
KTHA	**Kythira Island**	**5.16**	**277**		P	**Pn**	**20 49 23.9**	**+0.6**
VLI	**Veliai**	**5.30**	**282**		P	**Pn**	**20 49 26.2**	**+0.9**
MMA0B	**Mount Meron ar**	**5.69**	**118**		Pn	**Pn**	**20 49 30.7**	**0.0**
GEM	**Giv'at Ha'Em**	**5.78**	**115**		Pn	**Pn**	**20 49 31.6**	**-0.4**
KSDI	**Kefar Szold**	**5.79**	**115**		Pn	**Pn**	**20 49 32.3**	**+0.3**
KSDI	**Kefar Szold**	**5.79**	**115**		P	**Pn**	**20 49 32.6**	**+0.6**
NATI	**Neve Ativ**	**5.81**	**114**		Pn	**Pn**	**20 49 32.6**	**+0.3**
NATI					Sn	**Sn**	**20 50 36.3**	**-1.4**
HMDT	**Nahal Hemdat**	**6.20**	**123**		Pn	**Pn**	**20 49 37.8**	**+0.1**
KZIT	**Kziot**	**6.43**	**138**		Pn	**Pn**	**20 49 40.5**	**-0.3**
YTIR	**Yattir**	**6.51**	**131**		Pn	**Pn**	**20 49 41.6**	**-0.4**
YTIR					Sn	**Sn**	**20 50 52.1**	**-2.9**
PRNI	**Paran**	**7.19**	**138**		Pn	**Pn**	**20 49 50.5**	**-0.8**
PRNI					Sn	**Sn**	**20 51 08.2**	**-3.5**
HRFI	**Mount Harif**	**7.45**	**139**		Pn	**Pn**	**20 49 54.4**	**-0.5**
HRFI					Sn	**Sn**	**20 51 13.9**	**-4.2**

*IDC **08** 21:04:10.9±6.5,68°.15N×163°.81W,h0km,mb3.3/2, mb1 4.1/4,mb1mx3.3/64,mbtmp3.7/4,ML4.0/2,MS3.2/1, Ms1 3.2/1,ms1mx2.2/36,Error ellipse: s-maj=97.0km s-min=77.5km az=128.0*

*AEIC **08** 21:04:16±2.0,67°.69N±0°.07×162°.2W±0°.1,h17km±7km, ML3.2,Error ellipse: s-maj=11.2km s-min=6.1km az=146.0*

ISC 08 21:04:16.7±0.9,**67°.68N**±0°.06×**162°.07W**±0°.06,**h10**km,**n31,** σ1§**16/38,Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.49**	**320**		**Pg**	**21 04 25.5**	**-0.8**
RDOG					**Sg**	**21 04 32.5**	**-0.2**
ANM	**Nome**	**3.41**	**205**		**Pn**	**21 05 09.5**	**-0.3**
ANM					**Sn**	**21 05 49.3**	**-0.9**
IM03		**3.70**	**114**		**Pn**	**21 05 14.8**	**+0.9**
COLD	**Coldfoot**	**4.59**	**90**		**Pn**	**21 05 25.5**	**-0.3**
TOLK	**Toolik Lake Re**	**4.76**	**73**		**Pn**	**21 05 29.5**	**+1.0**
TOLK					**Sn**	**21 06 23.8**	**+0.1**
TTA	**Tatalina**	**5.40**	**149**		**Pn**	**21 05 38.2**	**+0.9**
TTA					**Sn**	**21 06 39.9**	**+0.4**
TT01	**Tatalina**	**5.42**	**149**		**Pn**	**21 05 38.1**	**+0.6**
BPAW	**Bear Paw Mtn.**	**5.79**	**123**		**Pn**	**21 05 43.1**	**+0.6**
KTH	**Kantishna Hill**	**6.20**	**127**		**Pn**	**21 05 47.1**	**-1.0**
KTH				Sn	**Sn**	**21 06 56.4**	**-2.7**
MDM	**Murphy Dome**	**6.20**	**110**		**Pn**	**21 05 46.7**	**-1.6**
COLA	**College**	**6.39**	**109**		**Pn**	**21 05 50.2**	**-0.5**
POKR	**Poker Flat Res**	**6.41**	**107**		**Pn**	**21 05 51.5**	**+0.4**
CCB	**Clear Creek Bu**	**6.53**	**111**		**Pn**	**21 05 52.7**	**+0.1**
CCB				Sn	**Sn**	**21 07 05.4**	**-1.6**
WRH	**Wood River Hil**	**6.53**	**113**		**Pn**	**21 05 51.3**	**-1.3**
FYU	**Fort Yukon**	**6.66**	**92**		**Pn**	**21 05 54.1**	**-0.3**
BM03	**Burnt Mountain**	**6.69**	**84**		**Pn**	**21 05 55.5**	**+0.6**
IL31		**6.79**	**108**		**Pn**	**21 05 57.1**	**+0.9**
ILAR	**Eielson Array**	**6.79**	**108**	Pn	**Pn**	**21 05 57.3**	**+1.1**
	4.8nm,0.3s,baz=303,slow=14,SNR=260						
ILAR				Sn	**Sn**	**21 07 13.5**	**0.0**
	0.7nm,0.3s,baz=336,slow=14,SNR=5.2						
RND	**Reindeer**	**6.96**	**122**		**Pn**	**21 05 57.7**	**-0.9**
HDA	**Harding Lake**	**6.97**	**111**		**Pn**	**21 05 59.1**	**+0.4**
SVW2	**Sparrevohn**	**7.18**	**154**		**Pn**	**21 06 01.1**	**-0.5**
WAT2	**Susitna Watana**	**7.36**	**124**		**Pn**	**21 06 04.5**	**+0.4**
WAT1	**Susitna Watana**	**7.46**	**124**		**Pn**	**21 06 06.5**	**+1.0**
DHY	**Denali Highway**	**7.67**	**120**		**Pn**	**21 06 08.8**	**+0.4**
WAT6	**Susitna Watana**	**7.90**	**124**		**Pn**	**21 06 11.6**	**0.0**
DOT	**Dot Lake**	**8.45**	**110**		**Pn**	**21 06 18.6**	**-0.4**
EPYK	**Eagle Plains**	**9.97**	**86**		**Pn**	**21 06 38.0**	**-1.8**
INK	**Inuvik**	**10.68**	**73**	Pn	**Pn**	**21 06 49.7**	**+0.3**
	0.4nm,0.3s,baz=276,slow=7.1,SNR=9.5						
INK				Sn	**Sn**	**21 08 45.3**	**-3.5**
	0.3nm,0.3s,baz=135,slow=17,SNR=1.9						
YKA	**Yellowknife Ar**	**20.21**	**82**	P	**P**	**21 08 53.1**	**+1.9**
	0.3nm,0.4s,baz=301,slow=10,SNR=3.8						
TXAR	**Lajitas Array**	**51.30**	**108**	P	**P**	**21 13 22.2**	**+1.5**
	0.6nm,0.7s,baz=321,slow=4.0,SNR=5.6						
MKAR	**Makanchi Array**	**56.09**	**312**	LR	LR	21 39 27.3	
	comp=Z,22nm,18.3s,baz=82,slow=38						

*NNC **08** 21:05:13.7±1.4,38°.29N×56°.63E,h0km,mb4.0,Error ellipse: s-maj=16.0km s-min=4.4km az=42.0*

*TEH **08** 21:05:17.7,38°.53N×57°.11E,h16km,ML3.4*

ISC 08 21:05:19.4±1.0,**38°.46N**±0°.06×**57°.03E**±0°.05,**h10**km,**n18,** σ1§**47/22,4C-2D,Iran-Turkmenistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GYA0B	**ALIBECK ARRAY**	**1.01**	**121**	⇓P	**Pg**	**21 05 36.8**	**-2.0**
GYA0B				⇑S	**Sb**	**21 05 53.8**	**+1.5**
ISFR	**Sfrayin**	**1.60**	**151**	*e*Pg	**Pn**	**21 05 48.4**	**+0.4**
ISFR				*e*		21 06 19.5	
IEMG	**Emamgholi**	**1.65**	**128**	*e*Pg	**Pn**	**21 05 48.9**	**+0.1**
IEMG				*e*Sg	**Sb**	**21 06 12.1**	**+1.0**
IEMG				*e*		21 06 21.8	
IMND	**Minoodasht**	**1.75**	**227**	*e*Pn	**Pn**	**21 05 50.3**	**+0.5**
IMND				*e*		21 06 16.1	
IAKL	**Akhelmad**	**2.31**	**143**	*e*Pn	**Pn**	**21 05 59.9**	**+2.2**
IAKL				*e*		21 06 39.1	
IPAY	**Payeh**	**2.54**	**141**	*e*Pn	**Pn**	**21 06 02.8**	**+1.9**
IPAY				*e*		21 06 50.5	
IMYA	**Miami**	**3.23**	**130**	*e*Pn	**Pn**	**21 06 10.4**	**0.0**
ISHM	**Shahmirzad**	**3.99**	**230**	*e*Pn	**Pn**	**21 06 22.0**	**+1.2**
ISHM				*e*		21 07 15.0	
IALA	**Alasht**	**4.11**	**236**	*e*Pn	**Pn**	**21 06 23.2**	**+0.6**
TKDS	**Koohdasht(Taba**	**4.83**	**179**	*e*Pn	**Pn**	**21 06 32.7**	**+0.4**
TPRV	**Parvadeh(Tabas**	**5.42**	**183**	*e*Pn	**Pn**	**21 06 40.9**	**+0.5**
QALM	**Alamut, Qazvin**	**5.46**	**250**	*e*Pn	**Pn**	**21 06 41.5**	**+0.4**
ANAR	**Anarak**	**5.90**	**208**	*e*Pn	**Pn**	**21 06 47.8**	**+0.8**
QSDN	**Sirdan**	**6.54**	**255**	*e*Pn	**Pn**	**21 06 56.7**	**+0.8**
QABG	**Abgarm-Qazvin**	**6.55**	**248**	*e*Pn	**Pn**	**21 06 56.2**	**+0.2**
IBAF	**Bafgh**	**6.95**	**190**	*e*Pn	**Pn**	**21 07 02.5**	**+1.0**
AB31	**Akbulak array**	**11.00**	**10**	⇓Pn	**Pn**	**21 07 54.5**	**-2.2**
	0.8nm,0.3s,baz=200,slow=15,SNR=23						
AB31				⇑Sn	**Sn**	**21 10 02.0**	**+2.3**
	5.2nm,0.8s						
AKTO	**Aktyubinsk**	**12.00**	**3**	⇑Pn	**Pn**	**21 08 08.8**	**-1.6**
	0.8nm,0.3s						
AKTO				⇑Sn	**Sn**	**21 10 27.0**	**+2.8**
	1.5nm,0.5s						

*IDC **08** 21:07:25.1±1.1,38°.87N×27°.19E,h0km,mb3.3/3, mb1 3.4/8,mb1mx3.2/70,mbtmp3.2/8,ML3.1/5,MS2.4/3, Ms1 2.4/3,ms1mx2.1/30,Error ellipse: s-maj=16.3km s-min=13.2km az=101.0*

*ISK **08** 21:07:25.7,38°.85N×27°.16E,h13km,ML3.7/25*

*DDA **08** 21:07:25.7,38°.85N×27°.17E,h10km±1km,ML3.8*

*ATH **08** 21:07:26.4,38°.84N×27°.16E,h38km±2km,ML3.5/8,Error ellipse: s-maj=3.3km s-min=1.5km az=262.0*

*THE **08** 21:07:27.3,38°.80N×27°.12E,h14km±1km,ML3.6/8,Error ellipse: s-maj=1.3km s-min=0.5km az=222.0*

ISC 08 21:07:26.1±0.8,**38°.85N**±0°.02×**27°.18E**±0°.02,**h12**km±6km, **n121,**σ1§**01**/163,**mb3.2**/3,**10C-9D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZEDA	**zmir-Bergama**	**0.15**	**326**	*i* P	**Pg**	**21 07 29.2**	**-0.4**
ZEDA				*i* S	**Sg**	**21 07 31.2**	**-0.9**
ZEDA				IAML		21 07 32.0	
	comp=N,16μm,0.6s						
DKL	**Dikili**	**0.31**	**316**	PG	**Pg**	**21 07 32.5**	**0.0**
DKL				SG	**Sg**	**21 07 37.2**	**+0.5**
BLCB	**Balcova**	**0.47**	**193**	P	**Pg**	**21 07 35.1**	**-0.3**
BLCB				S	**Sg**	**21 07 41.8**	**+0.1**
BLCB	**Balcova**	**0.47**	**193**	PG	**Pg**	**21 07 35.5**	**+0.1**
BLCB				SG	**Sg**	**21 07 42.8**	**-0.5**
AKHS	**Akhisar**	**0.49**	**86**	*i* P	**Pg**	**21 07 36.1**	**+0.3**
AKHS				*i* S	**Sg**	**21 07 42.9**	**+0.5**
AKS	**Akhisar**	**0.49**	**86**	PG	**Pg**	**21 07 36.6**	**+0.8**
AKS				SG	**Sg**	**21 07 43.8**	**+1.4**
KRBN	**Karaburun**	**0.55**	**243**	PG	**Pg**	**21 07 36.8**	**-0.1**
KRBN				SG	**Sb**	**21 07 44.9**	**-0.7**
GOMA	**Golmarmara-Man**	**0.59**	**103**	PG	**Pg**	**21 07 38.1**	**+0.5**
URLA	**Izmir**	**0.67**	**224**	PG	**Pg**	**21 07 39.2**	**+0.1**
URLA	**Izmir**	**0.67**	**224**	*i* P	**Pg**	**21 07 38.5**	**-0.6**
URLA				*i* S	**Sb**	**21 07 49.1**	**+0.1**
URLA				IAML		21 07 53.0	
	comp=E,6μm,0.8s						
URLA				IAML		21 07 54.0	
	comp=N,3μm,0.7s						
STEP	**BALIKESIR_Sava**	**0.68**	**38**	*i* P	**Pg**	**21 07 39.0**	**-0.3**
STEP				*i* S	**Sg**	**21 07 47.9**	**-0.3**
STEP				IAML		21 07 52.0	
	comp=N,3μm,0.4s						
STEP				IAML		21 07 52.0	
	comp=E,3μm,0.4s						
PRK	**Paraskevi**	**0.81**	**300**	P	**Pg**	**21 07 42.5**	**+0.6**
PRK				S	**Sn**	**21 07 54.9**	**-0.6**
	comp=E,6μm,0.7s						
PRK	**Paraskevi**	**0.81**	**300**	P	**Pg**	**21 07 42.5**	**+0.6**
PRK				S	**Sn**	**21 07 54.0**	**-1.4**
PRK				AML	AML	21 07 56.8	
	comp=N,11431μm,0.6s						
PRK				AML	AML	21 07 58.0	
	comp=E,13888μm,0.9s						
CESE	**eme**	**0.86**	**234**	PG	**Pb**	**21 07 42.8**	**-0.2**
BALY	**Balya**	**0.96**	**21**	*i* P	**Pb**	**21 07 43.7**	**-1.0**
BALY				*i* S	**Sb**	**21 07 57.3**	**-0.1**
BALY				IAML		21 08 00.0	
	comp=N,6μm,0.5s						
BALY				IAML		21 08 02.0	
	comp=E,2μm,0.6s						
BALB	**Balikesir**	**0.96**	**34**	PG	**Pb**	**21 07 44.2**	**-0.5**
CHOS	**Chios island**	**0.99**	**243**	P	**Pb**	**21 07 45.0**	**-0.3**
CHOS				S	**Sb**	**21 07 57.3**	**-1.1**
	comp=E,5μm,0.5s						
CHOS	**Chios island**	**0.99**	**243**	P	**Pb**	**21 07 45.1**	**-0.2**
CHOS				S	**Sg**	**21 07 58.2**	**-0.1**
CHOS				AML	AML	21 08 00.4	
	comp=N,6915μm,0.4s						
CHOS				AML	AML	21 08 00.8	
	comp=E,13343μm,0.5s						
CHOS	**Chios island**	**0.99**	**243**	PG	**Pb**	**21 07 45.2**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**1.02**	**331**	*i* P	**Pb**	**21 07 45.6**	**-0.2**
BAYC				*i* S	**Sb**	**21 07 57.1**	**-2.1**
BAYC				IAML		21 08 00.0	
	comp=E,3μm,0.3s						
BAYC				IAML		21 08 02.0	
	comp=N,2μm,0.4s						
AYDB	**Zeytinkoy-Aydi**	**1.06**	**148**	PG	**Pb**	**21 07 46.4**	**0.0**
SIGR	**SIGRI**	**1.10**	**290**	P	**Pb**	**21 07 46.5**	**-0.5**
SIGR				S	**Sg**	**21 08 01.4**	**-0.1**
	comp=N,2μm,0.4s						
SIGR	**SIGRI**	**1.10**	**290**	P	**Pb**	**21 07 46.5**	**-0.5**
SIGR				S	**Sb**	**21 08 01.1**	**-0.2**
SIGR				AML	AML	21 08 04.5	
	comp=E,3196μm,0.8s						
SIGR				AML	AML	21 08 07.4	
	comp=N,3843μm,0.4s						
SIGR	**SIGRI**	**1.10**	**290**	PN	**Pb**	**21 07 46.6**	**-0.5**
MANT	**Manisa**	**1.13**	**108**	*i* P	**Pn**	**21 07 47.7**	**-0.4**
MANT				*i* S	**Sb**	**21 08 01.0**	**-1.6**
GCAM	**G?zelcaml?**	**1.14**	**178**	PN	**Pn**	**21 07 47.6**	**-0.4**
GCAM	**G?zelcaml?**	**1.14**	**178**	*i* P	**Pn**	**21 07 47.4**	**-0.5**
GCAM				*i* S	**Sb**	**21 08 01.4**	**-1.2**
SMG	**Samos**	**1.17**	**194**	P	**Pn**	**21 07 47.2**	**-1.1**
SMG				S	**Sn**	**21 08 03.6**	**-0.6**
	comp=N,2μm,0.6s						
SMG	**Samos**	**1.17**	**194**	P	**Pn**	**21 07 47.1**	**-1.2**
SMG				S	**Sg**	**21 08 04.1**	**+0.4**
SMG				AML	AML	21 08 07.0	
	comp=N,5656μm,0.8s						
SMG				AML	AML	21 08 08.7	
	comp=E,3575μm,0.4s						
EZN	**Ezine**	**1.18**	**326**	P	**Pn**	**21 07 47.9**	**-0.6**
EZN				S	**Sb**	**21 08 03.9**	**+0.1**
	comp=E,3μm,0.4s						
EZN	**Ezine**	**1.18**	**326**	PN	**Pn**	**21 07 48.1**	**-0.4**
KULA	**Kula-Manisa**	**1.20**	**105**	P	**Pn**	**21 07 49.3**	**+0.4**
KULA	**Kula-Manisa**	**1.20**	**105**	PN	**Pn**	**21 07 48.8**	**-0.1**
DEMI	**Demirci**	**1.21**	**80**	*i* P	**Pn**	**21 07 48.7**	**-0.3**
DEMI				*i* S	**Sb**	**21 08 03.1**	**-1.6**
DURS	**Dursunbey**	**1.26**	**53**	*i* P	**Pn**	**21 07 49.0**	**-0.6**
DURS				*i* S	**Sb**	**21 08 04.8**	**-1.2**
DURS				IAML		21 08 08.0	
	comp=N,940nm,0.6s						
DURS				IAML		21 08 12.0	
	comp=E,2μm,0.5s						
GONE	**Gonen-Balikesi**	**1.26**	**18**	PN	**Pn**	**21 07 49.5**	**-0.1**
PSRA	**Psara**	**1.30**	**257**	P	**Pn**	**21 07 50.3**	**-0.2**
PSRA				S	**Sn**	**21 08 07.2**	**-0.2**
PSRA				AML	AML	21 08 09.9	
	comp=N,4154μm,0.9s						
PSRA				AML	AML	21 08 11.2	
	comp=E,5711μm,0.4s						
BOZC	**Bozcaada**	**1.33**	**319**	PN	**Pn**	**21 07 50.1**	**-0.4**
BOZC	**Bozcaada**	**1.33**	**319**	*i* P	**Pn**	**21 07 49.4**	**-1.1**
BOZC				*i* S	**Sn**	**21 08 04.8**	**-3.3**
BOZC				IAML		21 08 10.0	
	comp=N,855nm,0.6s						
BOZC				IAML		21 08 10.0	
	comp=E,1μm,0.7s						
DST	**Dursunbey**	**1.35**	**55**	PN	**Pn**	**21 07 50.5**	**-0.4**
SIMA	**Simav-Kutahya**	**1.42**	**80**	PN	**Pn**	**21 07 52.2**	**+0.3**
SMAA	**Simav-Kutahya**	**1.43**	**79**	PN	**Pn**	**21 07 52.6**	**+0.7**
USAK	**Uak-Merkez**	**1.44**	**95**	*i* P		**21 07 52.0**	**-0.1**
USAK				*i* S	**Sn**	**21 08 09.9**	**-1.2**
KNL	**Balıkesir**	**1.45**	**10**	*i* P	**Pn**	**21 07 52.9**	**+0.7**
KNL				*i* S	**Sn**	**21 08 08.6**	**-2.5**
KNL				IAML		21 08 15.0	
	comp=E,2μm,0.5s						
KRBG	**Karabiga-Canak**	**1.55**	**3**	PN	**Pn**	**21 07 53.6**	**0.0**
LPK	**Lapseki**	**1.56**	**348**	PN	**Pn**	**21 07 54.1**	**+0.4**
EDC	**Edincik**	**1.59**	**19**	PN	**Pn**	**21 07 53.7**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.65**	**341**	PN	**Pn**	**21 07 55.1**	**+0.2**
GOKA	**anakkale-Gk**	**1.67**	**324**	*i* P	**Pn**	**21 07 55.1**	**0.0**
GOKA				*i* S	**Sn**	**21 08 13.8**	**-2.6**
GOKA				IAML		21 08 19.0	
	comp=E,2μm,0.5s						
GOKA				IAML		21 08 20.0	
	comp=N,2μm,0.5s						
GADA	**Gvkgeada**	**1.67**	**324**	P	**Pn**	**21 07 55.1**	**-0.2**
GADA				S	**Sn**	**21 08 15.9**	**-0.7**
	comp=N,2μm,0.5s						
GADA	**Gvkgeada**	**1.67**	**324**	PN	**Pn**	**21 07 55.0**	**-0.2**
KCTX	**Karacabey (Bur**	**1.69**	**32**	PN	**Pn**	**21 07 54.7**	**-0.8**
BODT	**Bodrum**	**1.78**	**177**	P	**Pn**	**21 07 55.9**	**-0.9**
BODT				S	**Sn**	**21 08 18.3**	**-1.1**
RKY	**Sarkoy-Tekirda**	**1.84**	**360**	PN	**Pn**	**21 07 57.9**	**+0.3**
LIA	**Limnos Island**	**1.87**	**305**	P	**Pn**	**21 07 57.9**	**-0.1**
LIA	**Limnos Island**	**1.87**	**305**	P	**Pn**	**21 07 58.0**	**-0.1**
LIA				S	**Sn**	**21 08 19.8**	**-1.8**
LIA				AML	AML	21 08 30.6	
	comp=N,711μm,0.4s						
LIA				AML	AML	21 08 31.1	
	comp=E,988μm,0.4s						
ERIK	**Erikli-Kesan**	**1.90**	**344**	PN	**Pn**	**21 07 58.5**	**+0.2**
YER	**Yerkesik**	**1.92**	**153**	P	**Pn**	**21 07 58.5**	**-0.2**
ULDT	**Uludag**	**1.99**	**49**	*i* P	**Pn**	**21 07 59.3**	**-0.6**
ULDT				*i* S	**Sn**	**21 08 21.9**	**-2.9**
ENEZ	**Enez**	**2.05**	**338**	P	**Pn**	**21 08 00.8**	**+0.4**
ENEZ	**Enez**	**2.05**	**338**	PN	**Pn**	**21 08 00.4**	**0.0**
SMTH	**Samothraki Isl**	**2.06**	**322**	P	**Pn**	**21 08 00.6**	**-0.1**
SMTH				S	**Sn**	**21 08 25.7**	**-0.7**
SMTH	**Samothraki Isl**	**2.06**	**322**	P	**Pn**	**21 08 00.5**	**-0.2**
SMTH				S	**Sn**	**21 08 24.3**	**-2.1**
SMTH				AML	AML	21 08 40.1	
	comp=N,790μm,0.8s						
SMTH				AML	AML	21 08 41.4	
	comp=E,1028μm,0.5s						
IGD	**Bursa**	**2.11**	**47**	*i* P	**Pn**	**21 08 00.9**	**-0.3**
DAT	**Datca**	**2.13**	**171**	P	**Pn**	**21 08 00.7**	**-1.0**
DAT				S	**Sn**	**21 08 26.8**	**-1.4**
APE	**Apeiranthos**	**2.20**	**217**	P	**Pn**	**21 08 01.8**	**-0.8**
APE	**Apeiranthos**	**2.20**	**217**	⇓P	**Pn**	**21 08 02.3**	**-0.3**
APE				⇑S	**Sn**	**21 08 28.6**	**-1.1**
ALN	**Alexandroupoli**	**2.23**	**337**	P	**Pn**	**21 08 03.0**	**+0.1**
ALN				S	**Sn**	**21 08 31.4**	**+1.0**
	comp=E,505nm,0.8s						
ALN	**Alexandroupoli**	**2.23**	**337**	P	**Pn**	**21 08 03.2**	**+0.3**
BUY	**Buyukada**	**2.50**	**36**	*i* P	**Pb**	**21 08 12.1**	**+1.2**
BRDR	**BURDUR-Merkez**	**2.54**	**116**	*i* P	**Pn**	**21 08 07.1**	**-0.2**
THAS	**Thassos island**	**2.59**	**314**	P	**Pn**	**21 08 07.4**	**-0.5**
THAS	**Thassos island**	**2.59**	**314**	P	**Pn**	**21 08 07.4**	**-0.5**
THAS				AML	AML	21 08 37.1	
	comp=E,311μm,0.3s						
THAS				AML	AML	21 08 37.7	
	comp=N,712μm,0.3s						
IOSP	**Ios island**	**2.59**	**216**	P	**Pn**	**21 08 06.7**	**-1.3**
RDO	**Rodhopi**	**2.62**	**332**	P	**Pn**	**21 08 08.4**	**+0.1**
RDO	**Rodhopi**	**2.62**	**332**	P	**Pn**	**21 08 08.5**	**+0.1**
FETY	**Fethiye**	**2.67**	**145**	P	**Pn**	**21 08 09.8**	**+0.8**
FETY	**Fethiye**	**2.67**	**145**	*i* P	**Pn**	**21 08 10.2**	**+1.2**
PAIG	**Paliouri**	**2.92**	**293**	P	**Pn**	**21 08 12.3**	**-0.1**
KAVA	**Kavala**	**2.97**	**317**	P	**Pn**	**21 08 13.1**	**0.0**
KAVA	**Kavala**	**2.97**	**317**	P	**Pn**	**21 08 13.2**	**+0.1**
EDRB	**Edirne**	**3.02**	**354**	P	**Pn**	**21 08 13.7**	**0.0**
KDZ	**Kurdzhali**	**3.11**	**335**	*e*P	**Pn**	**21 08 15.3**	**+0.2**
RZN	**Rozhen**	**3.41**	**327**	*e*P	**Pn**	**21 08 19.7**	**+0.4**
DIM	**Dimitrovgrad**	**3.44**

moment-rate function
IDC **08** *21:10:45.2≈1.4,37°.92N×141°.12E,h98km≈13km,mb4.1/40, mb1 4.2/45,mb1mx4.1/59,mbtmp4.5/45,MS3.3/17, Ms1 3.4/17,ms1mx3.2/33 Error ellipse: s-maj=10.6km s-min=9.4km az=153.0*
ISC 08 21:10:42.4≈0.4,**37.92N**≈0°.04×**141°.33E**≈0°.04,**h82**km≈3km, **h82**km:**pP-P,n312,**σ1≈**56**/294,**mb4.6**/137,**29C-13D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
JMST	**Minamisoumatoc**	**0.40**	**242**	P		**Pn**	**21 10 55.3**	**-0.3**
JMST				S		**Sn**	**21 11 04.4**	**-0.9**
JIKH	**Ishinomakikobu**	**0.41**	**15**	P		**Pn**	**21 10 56.1**	**+0.5**
JIKH				S		**Sn**	**21 11 05.6**	**+0.2**
JMM	**Marumori**	**0.43**	**263**	P		**Pn**	**21 10 55.3**	**-0.5**
JMM				S		**Sn**	**21 11 04.7**	**-1.0**
JIO	**Ouri**	**0.54**	**1**	P		**Pn**	**21 10 57.2**	**+0.5**
JIO				S		**Sn**	**21 11 07.3**	**+0.1**
JFK	**Kawauchi**	**0.66**	**214**	P		**Pn**	**21 10 57.5**	**-0.4**
JFK				S		**Sn**	**21 11 08.3**	**-1.0**
JOU	**Okura**	**0.69**	**311**	P		**Pn**	**21 10 58.0**	**-0.2**
JOU				S		**Sn**	**21 11 09.6**	**-0.3**
JFT	**Otama**	**0.89**	**244**	P		**Pn**	**21 11 00.0**	**-0.3**
JFT				*eS*		**Sn**	**21 11 12.4**	**-1.2**
JMK	**Ichinoseki**	**1.04**	**355**	P		**Pn**	**21 11 02.5**	**+0.5**
JMK				*eS*		**Sn**	**21 11 17.0**	**+0.3**
JYS	**Shirataka**	**1.05**	**287**	P		**Pn**	**21 11 02.0**	**-0.1**
JYS				*eS*		**Sn**	**21 11 16.6**	**-0.3**
JYK	**Kaneyama**	**1.26**	**323**	P		**Pn**	**21 11 05.1**	**+0.3**
JYK				S		**Sn**	**21 11 21.9**	**+0.4**
JFY	**Yanaizu**	**1.39**	**249**	P		**Pn**	**21 11 06.3**	**-0.1**
JFY				*eS*		**Sn**	**21 11 23.4**	**-1.1**
JYA	**Atsumi**	**1.44**	**298**	P		**Pn**	**21 11 07.0**	**-0.1**
JYA				*eS*		**Sn**	**21 11 25.9**	**+0.2**
JOM	**Ohasama**	**1.55**	**359**	P		**Pn**	**21 11 09.5**	**+1.0**
JOM				S		**Sn**	**21 11 29.0**	**+0.7**
JRG	**Rokugo**	**1.58**	**340**	P		**Pn**	**21 11 09.8**	**+1.0**
JRG				*eS*		**Sn**	**21 11 31.1**	**+2.4**
JNS	**Sasagawa**	**1.60**	**267**	P		**Pn**	**21 11 09.0**	**-0.1**
JNS				*eS*		**Sn**	**21 11 28.8**	**-0.5**
JAW	**Awa shima**	**1.73**	**289**	P		**Pn**	**21 11 10.9**	**+0.1**
MJAR	**Matsushiro Arr**	**2.85**	**242**	P		**Pn**	**21 11 26.4**	**+0.7**
	8.6nm,0.3s,baz=66,slow=11,SNR=662							
MJAR				S		**Sn**	**21 11 58.6**	**-0.5**
	7.6nm,0.3s,baz=23,slow=22,SNR=2.9							
MAJO	**Matsushiro**	**2.85**	**242**	*d* iP		**Pn**	**21 11 26.7**	**+0.9**
MAT	**Matsushiro**	**2.85**	**242**	P		**Pn**	**21 11 26.6**	**+0.8**
MAT				S		**Sn**	**21 12 00.2**	**+1.1**
MJB9	**Matsu-Tunnel**	**2.85**	**242**			**Pn**	**21 11 26.8**	**+1.0**
INU	**Inuyama**	**4.32**	**235**			**Pn**	**21 11 46.2**	**+0.5**
ERM	**Erimo**	**4.33**	**18**	*ce* P		**Pn**	**21 11 45.3**	**-0.5**
ERM					pmax	pmax		
	comp=Z,252nm,1.3s							
ERM	**Erimo**	**4.33**	**18**			**Pn**	**21 11 45.5**	**-0.3**
ERM				Sn		**Sn**	**21 12 33.9**	**-1.1**
JHJ	**Hachijo jima 2**	**4.95**	**195**	P		**Pn**	**21 11 53.3**	**-1.0**
	comp=Z,200nm,0.3s,baz=320,slow=13,SNR=63							
JHJ				S		**Sn**	**21 12 45.6**	**-4.7**
	comp=Z,337nm,0.3s,baz=96,slow=22,SNR=13							
JHJ				LR		LR	21 13 22.9	
	comp=Z,198nm,19.6s,baz=44,slow=32							
JHJ2	**Mitsune**	**4.95**	**195**			**Pn**	**21 11 53.1**	**-1.2**
JHJ2				Sn		**Sn**	**21 12 47.8**	**-2.4**
ASAJ	**Asahikawa**	**6.27**	**8**	P		**Pn**	**21 12 11.8**	**-0.4**
	comp=Z,25nm,0.3s,baz=215,slow=12,SNR=132							
ASAJ				S		**Sn**	**21 13 19.6**	**-2.8**
	comp=Z,8.9nm,0.3s,baz=76,slow=19,SNR=1.4							
JKA	**Kamikawa-asahi**	**6.27**	**8**			**Pn**	**21 12 11.8**	**-0.4**
JKA						**Sn**	**21 13 19.6**	**-2.7**
NMR	**Nemuro--Hokkai**	**6.39**	**30**	⇑ *i* P		**Pn**	**21 12 11.8**	**-2.1**
NMR				*i* S		**Sn**	**21 13 19.6**	**-5.7**
GLVR	**Golovnino**	**6.62**	**27**	⇑ *i* P		**Pn**	**21 12 16.0**	**-1.1**
GLVR				*i* S		**Sn**	**21 13 26.4**	**-4.6**
GLVR					pmax	pmax		
	comp=Z,335nm,0.4s							
GLVR					pmax	pmax		
	comp=N,151nm,0.3s							
GLVR					pmax	pmax		
	comp=E,186nm,0.2s							
GRPR	**Tuman**	**6.94**	**28**	⇓ *i* P		**Pn**	**21 12 19.9**	**-1.4**
GRPR				*i* S		**Sn**	**21 13 33.6**	**-5.1**
GRPR					pmax	pmax		
	comp=Z,405nm,0.3s							
GRPR					pmax	pmax		
	comp=N,84nm,0.1s							
GRPR					pmax	pmax		
	comp=E,236nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**7.00**	**28**	⇑ *i* P		**Pn**	**21 12 21.1**	**-1.2**
YUK				*i* S		**Sn**	**21 13 35.0**	**-5.3**
YUK					pmax	pmax		
	comp=Z,447nm,0.2s							
YUK					pmax	pmax		
	comp=N,37nm,0.1s							
YUK					pmax	pmax		
	comp=E,46nm,0.2s							
TEY	**Ternei**	**7.95**	**335**	⇑ *e* P		Pn	21 12 40.1	+5.0
TEY					pmax	pmax		
	comp=Z,30nm,1.1s							
TEY					pmax	pmax		
	comp=E,20nm,1.0s							
KUR	**Kuril'sk**	**8.79**	**32**	⇓ *i* P		**Pn**	**21 12 46.5**	**-0.2**
KUR				*i* S		**Sn**	**21 14 19.5**	**-4.5**
KUR					pmax	pmax		
	comp=Z,89nm,0.5s							
KUR					pmax	pmax		
	comp=N,58nm,0.2s							
KUR					pmax	pmax		
	comp=E,43nm,0.2s							
YSS	**Yuzh-Sakhalins**	**9.09**	**6**	⇑ *e* P		**Pn**	**21 12 50.8**	**+0.1**
YSS				*eS*		**Sn**	**21 14 25.0**	**-6.3**
YSS					pmax	pmax		
	comp=Z,30nm,0.3s							
YSS					MLR	MLR		
	comp=Z,300nm,19.0s							
YSS	**Yuzh-Sakhalins**	**9.09**	**6**			**Pn**	**21 12 50.4**	**-0.3**
USA0B	**Ussuriysk Arra**	**9.44**	**315**	P		**Pn**	**21 12 57.9**	**+2.4**
USA0B	**Ussuriysk Arra**	**9.44**	**315**			**Pn**	**21 12 57.9**	**+2.4**
USRK	**Ussuriysk Ar.**	**9.44**	**315**	P		**Pn**	**21 12 57.2**	**+1.7**
	baz=121,slow=14,SNR=118							
USRK				LR		LR	21 16 18.0	
	comp=Z,82nm,20.2s,baz=119,slow=36							
JNU	**Nakatsue**	**9.77**	**244**	P		**Pn**	**21 13 00.2**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=71,slow=6.7,SNR=10							
JNU				LR		LR	21 17 15.3	
	comp=Z,351nm,21.6s,baz=60,slow=41							
KSRS	**Korea Array**	**10.64**	**272**	P		**Pn**	**21 13 14.5**	**+2.6**
	comp=Z,1.4nm,0.3s,baz=85,slow=14,SNR=77							
KS19	**Wonju Array Si**	**10.68**	**272**			**Pn**	**21 13 15.2**	**+2.7**
MDJ	**Mudanjiang**	**11.08**	**311**			**Pn**	**21 13 17.8**	**0.0**
TJN	**Taejon**	**11.26**	**266**	*d* iP		**Pn**	**21 13 21.2**	**+0.9**
INCN	**Inchon**	**11.66**	**272**	P		**Pn**	**21 13 25.8**	**+0.1**
INCN	**Inchon**	**11.66**	**272**			**Pn**	**21 13 25.8**	**+0.1**
TYV	**Tymovskoe**	**12.98**	**4**	*e* P		**Pn**	**21 13 41.8**	**-1.6**
TYV				*eS*		**Sn**	**21 16 04.3**	**-1.6**
TYV					pmax	pmax		
	comp=Z,25nm,0.8s							
TYV					smax	smax		
	comp=E,8.0nm,0.3s							
GRNR	**Gornyy**	**13.32**	**346**	⇑ *i* P		**Pn**	**21 13 45.9**	**-2.1**
GRNR					pmax	pmax		
	comp=Z,3.0nm,0.6s							
GRNR					MLR	MLR		
	comp=E,70nm,13.0s							
GRNR					MLR	MLR		
	comp=N,50nm,10.0s							
GRNR					MLR	MLR		
	comp=Z,90nm,14.0s							
DL2	**Dalian**	**15.48**	**280**	P		**P**	**21 14 16.8**	**-1.9**
DL2				*es* P		**pP**	**21 14 31.1**	**-3.7**
DL2				S		**Sn**	**21 17 06.5**	**-0.2**
DL2					pmax	pmax		
	comp=Z,59nm,1.0s							
DL2					LR	LR		
	comp=Z,260nm,19.0s							
DL2					LR	LR		
	comp=Z,220nm,16.0s							
SKR	**Severo-Kuril's**	**16.54**	**35**	*e* P		**Pn**	**21 14 28.6**	**-0.5**
SKR				*eS*		**Sn**	**21 17 32.3**	**+0.3**
SKR					MLR	MLR		
	comp=Z,100nm,15.0s							
ZEA	**Zeya**	**18.56**	**333**	*e* P		**Pn**	**21 14 52.8**	**-0.9**
ZEA					pmax	pmax		
	comp=Z,26nm,0.8s							
PEA0B	**Petropavlovsk-**	**18.96**	**32**	P		**Pn**	**21 15 00.6**	**+2.1**
PEA0B	**Petropavlovsk-**	**18.96**	**32**			**Pn**	**21 15 00.6**	**+2.1**
PETK	**Petropavlovsk-**	**18.96**	**32**	P		**Pn**	**21 14 59.3**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=223,slow=5.7,SNR=17							
PETK				LR		LR	21 22 04.0	
	comp=Z,93nm,20.4s,baz=238,slow=36							
PET	**Petropavlovsk**	**19.30**	**33**	*eP*		**P**	**21 14 58.3**	**-2.4**
PET				*eS*		**S**	**21 18 27.8**	**-6.9**
PET					pmax	pmax		
	comp=Z,100nm,9.0s							
PET					MLR	MLR		
	comp=Z,300nm,20.0s							
PET					MLR	MLR		
	comp=Z,200nm,18.0s							
BJI	**Beijing**	**19.66**	**284**	P		**P**	**21 15 02.2**	**-2.4**
BJI					pmax	pmax		
	comp=Z,13nm,1.4s							
BJT	**Baijiatuau**	**19.66**	**284**	P		**P**	**21 15 02.8**	**-1.9**
BJT					pmax	pmax		
	comp=Z,13nm,0.6s							
BJT	**Baijiatuau**	**19.66**	**284**	P		**P**	**21 15 02.8**	**-1.9**
MA2	**Magadan**	**22.51**	**13**	P		**P**	**21 15 36.6**	**+1.5**
	comp=Z,57nm,0.8s,baz=196,slow=8.0,SNR=34							
MA2				LR		LR	21 24 27.6	
	comp=Z,70nm,19.9s,baz=194,slow=36							
MA2	**Magadan**	**22.51**	**13**	*ce* P		**P**	**21 15 35.8**	**+0.8**
MA2					pmax	pmax		
	comp=Z,53nm,0.7s							
MA2	**Magadan**	**22.51**	**13**	P		**P**	**21 15 35.3**	**+0.2**
TIY	**Taiyuan**	**22.80**	**278**	*eP*		**P**	**21 15 37.2**	**-1.2**
TIY					pmax	pmax		
	comp=Z,34nm,0.5s							
TWG	**Pinlang**	**22.99**	**235**	P		**P**	**21 15 38.2**	**-2.2**
BTO	**Baotou**	**24.33**	**286**	*eP*		**P**	**21 15 51.5**	**-1.0**
YAK	**Yakutsk**	**25.20**	**347**	P		**P**	**21 16 00.2**	**+0.2**
	comp=Z,4.5nm,0.4s,baz=143,slow=6.8,SNR=6.0							
YAK				S		**S**	**21 20 18.1**	**-1.0**
	comp=Z,5.5nm,0.5s,baz=244,slow=21,SNR=9.1							
YAK	**Yakutsk**	**25.20**	**347**	P		**P**	**21 15 59.0**	**-1.0**
YAK				IAmb		IAmb	21 16 05.8	
	comp=Z,19nm,0.9s							
YAK						**S**	**21 20 18.7**	**-0.4**
XAN	**Xi'an**	**26.44**	**272**	P		**P**	**21 16 10.6**	**-1.1**
XAN					pmax	pmax		
	comp=Z,18nm,0.7s							
XAN					pmax	pmax		
	comp=Z,120nm,3.5s							
XAN	**Xi'an**	**26.44**	**272**	P		**P**	**21 16 10.6**	**-1.1**
XAN					pmax	pmax		
	comp=Z,32nm,0.7s							
XAN	**Xi'an**	**26.44**	**272**	P		**P**	**21 16 10.6**	**-1.1**
XAN				IAmb		IAmb	21 16 12.0	
	comp=Z,32nm,0.7s							
BOD	**Bodaibo**	**26.75**	**327**	*eP*		**P**	**21 16 13.7**	**-0.5**
BOD					pmax	pmax		
	comp=Z,21nm,0.8s							
ULN	**Ulaanbaatar**	**26.82**	**303**	*ce* P		**P**	**21 16 14.6**	**-0.4**
ULN					pmax	pmax		
	comp=Z,5.0nm,0.6s							
ULN	**Ulaanbaatar**	**26.82**	**303**	P		**P**	**21 16 14.1**	**-0.9**
SONM	**Songino Array**	**27.25**	**303**	P		**P**	**21 16 18.2**	**-0.7**
	comp=Z,6.6nm,0.6s,baz=102,slow=8.3,SNR=37							
ENH	**Enshi**	**27.36**	**263**	P		**P**	**21 16 18.8**	**-1.1**
H11N2	**WAKE ISLAND Hy**	**28.66**	**122**	T		T	21 46 52.0	
	baz=315,slow=75,SNR=1900							
H11N1	**WAKE ISLAND Hy**	**28.67**	**122**	T		T	21 46 55.2	
	baz=315,slow=75,SNR=2862							
H11N3	**WAKE ISLAND Hy**	**28.68**	**122**	T		T	21 46 53.2	
	baz=315,slow=75,SNR=2432							
H11S1	**WAKE ISLAND Hy**	**29.40**	**124**	T		T	21 47 48.9	
	baz=317,slow=76,SNR=1132							
H11S3	**WAKE ISLAND Hy**	**29.40**	**124**	T		T	21 47 49.1	
	baz=317,slow=76,SNR=1445							
H11S2	**WAKE ISLAND Hy**	**29.41**	**124**	T		T	21 47 50.1	
	baz=317,slow=76,SNR=1228							
ZAK	**Zakamensk**	**29.68**	**307**	*eP*		**P**	**21 16 39.5**	**-0.9**
ZAK					pmax	pmax		
	comp=Z,8.0nm,1.0s							
TLY	**Talaya**	**29.71**	**310**	P		**P**	**21 16 40.7**	**+0.1**
	comp=Z,4.8nm,0.9s,baz=49,slow=4.5,SNR=4.7							
TLY	**Talaya**	**29.71**	**310**	*ce* P		**P**	**21 16 41.7**	**+1.1**
TLY					pmax	pmax		
	comp=Z,7.0nm,1.3s							
TLY	**Talaya**	**29.71**	**310**	P		**P**	**21 16 40.4**	**-0.2**
TGY	**Tagaytay City**	**29.84**	**223**	P		**P**	**21 16 42.3**	**+0.2**
	comp=Z,136nm,0.4s,baz=53,slow=5.1,SNR=3.7							
LZH	**Lanzhou**	**29.87**	**278**	*eP*		**P**	**21 16 41.8**	**-0.5**
LZH					pmax	pmax		
	comp=Z,18nm,1.3s							
LZH					pmax	pmax		
	comp=Z,89nm,6.5s							
GYA	**Guiyang**	**31.32**	**259**	P		**P**	**21 16 53.8**	**-1.3**
GYA					pmax	pmax		
	comp=Z,74nm,1.3s							
MOY	**Mondy**	**31.33**	**309**	*eP*		**P**	**21 16 55.1**	**+0.1**
GTA	**Gaotai**	**32.25**	**286**	⇑ P		**P**	**21 17 02.1**	**-1.1**
GTA					pmax	pmax		
	comp=Z,8.0nm,1.0s							
GTA					pmax	pmax		
	comp=Z,72nm,4.9s							
GTA					LR	LR		
	comp=Z,98nm,16.6s							
GTA					LR	LR		
	comp=Z,97nm,15.7s							
GTA					LR	LR		
	comp=Z,130nm,17.9s							
BILL	**Bilibino**	**33.20**	**17**	⇑ *i* P		**P**	**21 17 11.2**	**+0.2**
BILL				*e* *PP		**pP**	**21 17 26.4**	**-3.6**
BILL				*e* *SP		**sP**	**21 17 39.5**	**-0.1**
BILL				*e*			21 18 32.2	
BILL					pmax	pmax		
	comp=Z,10.0nm,1.7s							
BILL					MLR	MLR		
	comp=Z,92nm,19.0s							
TIXI	**Tiksi**	**34.41**	**353**	P		**P**	**21 17 21.4**	**0.0**
	comp=Z,0.7nm,0.3s,baz=171,slow=6.8,SNR=5.1							
TIXI	**Tiksi**	**34.41**	**353**	*ce* P		**P**	**21 17 21.9**	**+0.5**
TIXI					pmax	pmax		
	comp=Z,2.0nm,1.0s							
TIXI	**Tiksi**	**34.41**	**353**	P		**P**	**21 17 21.6**	**+0.2**
KMI	**Kunming**	**35.04**	**260**	P		**P**	**21 17 27.0**	**-0.7**
KMI				pP		pP	21 17 44.9	-2.1
KMI					pmax	pmax		
	comp=Z,42nm,1.2s							
KMI	**Kunming**	**35.04**	**260**	P		**P**	**21 17 27.2**	**-0.5**
KMI					pmax	pmax		
	comp=Z,53nm,1.2s							
KMI	**Kunming**	**35.04**	**260**	P		**P**	**21 17 27.2**	**-0.5**
SLVN	**Son La**	**36.21**	**254**	P		**P**	**21 17 36.5**	**-1.0**
DLV	**T Lat**	**39.10**	**237**	P		**P**	**21 18 02.0**	**0.0**
DLV				IAmb		IAmb	21 18 03.1	
	comp=Z,17nm,1.0s							
DGZ	**Jazzator, Alta**	**39.83**	**305**	*d* iP		**P**	**21 18 08.5**	**+0.7**
DGZ					pmax	pmax		
	comp=Z,56nm,0.7s							
ZAA0	**Zalesovo Array**	**41.28**	**312**	P		**P**	**21 18 19.2**	**-0.3**
ZALV	**Zalesovo Beam**	**41.28**	**312**	P		**P**	**21 18 19.6**	**+0.2**
	comp=Z,18nm,0.7s,baz=89,slow=7.3,SNR=84							
ZALV				PcP		**PcP**	**21 20 16.9**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=94,slow=4.6,SNR=1.8							
ZALV				LR		LR	21 35 22.0	
	comp=Z,22nm,18.4s,baz=66,slow=36							
PBKT	**Sadao Pong**	**41.29**	**250**	P		**P**	**21 18 19.2**	**-0.7**
MRSI	**Marisa**	**41.32**	**210**	P		P	21 18 38.6	+18
	comp=Z,447nmcomp=Z,55nm,1.0s							
CHTO	**Chiang Mai**	**41.45**	**255**	P		**P**	**21 18 21.0**	**-0.3**
CHTO					pmax	pmax		
	comp=Z,4.0nm,0.7s							
CHTO	**Chiang Mai**	**41.45**	**255**	P		**P**	**21 18 21.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**41.67**	**254**	P		**P**	**21 18 23.1**	**0.0**
	comp=Z,1.1nm,0.7s,baz=50,slow=7.6,SNR=10							
CMAR				LR		LR	21 35 21.7	
	comp=Z,70nm,18.3s,baz=179,slow=36							
LSA	**Lhasa**	**42.07**	**274**	P		**P**	**21 18 27.6**	**+0.8**
LSA					pmax	pmax		
	comp=Z,58nm,1.5s							
LSA	**Lhasa**	**42.07**	**274**	P		**P**	**21 18 26.1**	**-0.7**
LSA					pmax	pmax		
	comp=Z,17nm,1.0s							
LSA	**Lhasa**	**42.07**	**274**	P		**P**	**21 18 26.1**	**-0.7**
LSA				IAmb		IAmb	21 18 29.6	
	comp=Z,17nm,1.0s							
SANI	**Sanana**	**42.23**	**203**	P		P	21 18 46.6	+19
	comp=Z,871nmcomp=Z,32nm,1.8s							
NRIK	**Noril'sk**	**42.44**	**335**	P		**P**	**21 18 28.3**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=101,slow=5.9,SNR=3.8							
APSI	**Ampana**	**42.70**	**210**	P		P	21 18 49.9	+19
	comp=Z,31nm,1.0s							
SHL	**Shillong**	**43.36**	**268**	P		**P**	**21 18 36.5**	**-0.4**
SHL					pmax	pmax		
	comp=Z,30nm,0.6s							
SHL	**Shillong**	**43.36**	**268**	P		**P**	**21 18 36.5**	**-0.4**
MK31	**Makanchi Array**	**43.60**	**301**	P		**P**	**21 18 38.5**	**+0.1**
MK31	**Makanchi Array**	**43.60**	**301**	P		**P**	**21 18 38.5**	**+0.1**
MKAR	**Makanchi Array**	**43.60**	**301**	P		**P**	**21 18 38.6**	**+0.2**
	comp=Z,24nm,0.8s,baz=88,slow=8.5,SNR=149							
MAKZ	**Makanchi**	**43.81**	**301**	P		**P**	**21 18 40.2**	**+0.1**
MAKZ					pmax	pmax		
	comp=Z,30nm,0.9s							
MAKZ	**Makanchi**	**43.81**	**301**	P		**P**	**21 18 40.2**	**+0.1**
TTA	**Tatalina**	**44.74**	**35**	P		**P**	**21 18 46.2**	**-1.1**
TTA					pmax	pmax		
	comp=Z,8.0nm,1.2s							
TTA	**Tatalina**	**44.74**	**35**	P		**P**	**21 18 46.2**	**-1.1**
SVW2	**Sparrevohn**	**44.86**	**38**	P		**P**	**21 18 47.9**	**-0.3**
SVW2				IAmb		IAmb	21 18 52.2	
	comp=Z,16nm,1.0s							
KURK	**Kurchatov**	**45.34**	**307**	*ce* P		**P**	**21 18 52.1**	**-0.1**
KURK					pmax	pmax		
	comp=Z,79nm,1.3s							
KURK	**Kurchatov**	**45.34**	**307**	P		**P**	**21 18 51.7**	**-0.5**
KURBB	**Kurchatov Arra**	**45.41**	**307**	P		**P**	**21 18 52.7**	**0.0**
	comp=Z,25nm,0.6s,baz=83,slow=8.3,SNR=116							
TAPN	**Taplejung**	**45.82**	**273**	*eP*		**P**	**21 18 56.5**	**-0.2**
	comp=Z,5.5nm,0.5s							
ODAN	**Odare**	**46.30**	**273**	*eP*		**P**	**21 18 59.7**	**-0.6**
PPLA	**Purkeypile**	**46.48**	**35**	P		**P**	**21 19 01.2**	**0.0**
PPLA				IAmb		IAmb	21 19 09.4	
	comp=Z,12nm,1.0s							
KDAK	**Kodiak Island**	**46.49**	**42**	P		**P**	**21 19 02.6**	**+1.5**
	comp=Z,17nm,0.8s,baz=251,slow=1.8,SNR=15							
KDAK	**Kodiak Island**	**46.49**	**42**	P		**P**	**21 19 01.3**	**+0.2**
JIRN	**Jiri**	**46.88**	**274**	*eP*		**P**	**21 19 05.5**	**+0.5**
	comp=Z,18nm,0.3s							
RAMN	**Ramite**	**46.88**	**273**	*eP*		**P**	**21 19 04.4**	**-0.5**
	comp=Z,23nm,0.5s							
GUN	**Gumba**	**47.01**	**275**	*eP*		**P**	**21 19 06.3**	**+0.3**
	comp=Z,7.1nm,0.6s							
BPAW	**Bear Paw Mtn.**	**47.02**	**34**	P		**P**	**21 19 05.0**	**-0.2**
BPAW				IAmb		IAmb	21 19 08.1	
	comp=Z,7.6nm,1.2s							
PMG	**Port Moresby**	**47.39**	**172**	*ce* P		**P**	**21 19 05.7**	**-2.8**
PMG					pmax	pmax		
	comp=Z,261nm,1.3s							
PKI	**Pulchoki**	**47.54**	**275**	*eP*		**P**	**21 19 09.9**	**-0.2**
	comp=Z,4.5nm,0.3s							
PKIN	**Phulchoki**	**47.55**	**275**	*eP*		**P**	**21 19 09.3**	**-0.8**
	comp=Z,3.7nm,0.3s							
RC01	**Rabbit Creek A**	**47.70**	**38**	P		**P**	**21 19 11.6**	**+1.2**
GKN	**Gorkha**	**47.95**	**276**	*eP*		**P**	**21 19 12.7**	**-0.3**
	comp=Z,16nm,0.3s							
PMR	**Palmer**	**47.96**	**37**	IAmb		IAmb	21 19 14.8	
	comp=Z,10nm,0.7s							
RND	**Reindeer**	**47.99**	**35**	IAmb		IAmb	21 19 15.3	
	comp=Z,12nm,0.9s							
MDM	**Murphy Dome**	**48.20**	**33**	IAmb		IAmb	21 19 17.8	
	comp=Z,9.7nm,0.8s							
DANN	**Dangsing**	**48.48**	**276**	*eP*		**P**	**21 19 17.3**	**0.0**
	comp=Z,124nm,0.6s							
DHY	**Denali Highway**	**48.67**	**35**	IAmb		IAmb	21 19 20.8	
	comp=Z,9.5nm,1.1s							
HDA	**Harding Lake**	**48.78**	**33**	IAmb		IAmb	21 19 21.0	
	comp=Z,12nm,0.8s							
ILAR	**Eielson Array**	**48.78**	**33**	P		**P**	**21 19 20.3**	**+1.5**
	comp=Z,7.3nm,0.6s,baz=270,slow=6.3,SNR=91							
ILAR					LR	LR	21 41 23.4	
	comp=Z,26nm,18.6s,baz=322,slow=38							
KOLN	**Koldanda**	**48.87**	**276**	*eP*		**P**	**21 19 19.6**	**-0.6**
GLI	**Glacier Island**	**49.00**	**38**	IAmb		IAmb	21 19 23.0	
	comp=Z,11nm,0.8s							
TKM2	**Tokmak 2**	**49.16**	**298**	P		**P**	**21 19 22.9**	**+0.6**
	SNR=37							
TKM2	**Tokmak 2**	**49.16**	**298**	*i* P		**P**	**21 19 22.2**	**0.0**
TKM2					pmax	pmax		
	comp=Z,23nm,0.6s							
FYU	**Fort Yukon**	**49.38**	**30**	IAmb		IAmb	21 19 26.8	
	comp=Z,12nm,1.0s							
IPM	**Ipoh**	**49.55**	**238**	P		**P**	**21 19 25.0**	**-0.3**
IPM				IAmb		IAmb	21 19 25.4	
	comp=Z,15nm,1.1s							
KZA	**Kyzart**	**49.66**	**297**	P		**P**	**21 19 27.9**	**+1.6**
	SNR=12							
CHMS	**Chumysh**	**49.73**	**298**	P		**P**	**21 19 26.8**	**+0.5**
	SNR=7.1							
USP	**Ospenovka**	**49.82**	**298**	P		**P**	**21 19 27.1**	**+0.1**
	SNR=13							
BRVK	**Borovoye**	**49.99**	**312**	*i* P		**P**	**21 19 26.7**	**-1.4**
BRVK					pmax	pmax		
	comp=Z,6.0nm,1.0s							
KSH	**Kashi**	**49.99**	**293**	P		P	21 19 32.5	+4.0
KSH				PcP		**PcP**	**21 20 50.3**	**+2.9**
KSH				S		**S**	**21 26 30.5**	**-2.7**
KSH					pmax	pmax		
	comp=Z,17nm,0.8s							
KSH					pmax	pmax

ASAR	**Alice Springs**	**61.65**	**188**	P		**P**	**21 20 52.0**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=16,slow=10,SNR=16							
ASAR				LR		LR	21 47 39.9	
	comp=Z,20nm,18.0s,baz=334,slow=36							
RES	**Resolute Bay**	**61.76**	**15**	P		**P**	**21 20 52.7**	**+0.9**
	comp=Z,6.7nm,0.8s,baz=306,slow=6.5,SNR=12							
RES	**Resolute Bay**	**61.76**	**15**	IAmb		IAmb	21 20 53.5	
	comp=Z,11nm,0.9s							
HRA	**Herat**	**62.11**	**293**	P		**P**	**21 20 55.8**	**+0.8**
HRA				IAmb		IAmb	21 20 56.5	
	comp=Z,8.4nm,0.8s							
YKA	**Yellowknife Ar**	**63.08**	**30**	P		**P**	**21 21 02.0**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=296,slow=6.5,SNR=15							
YKA	**Yellowknife Ar**	**63.08**	**30**	P		**P**	**21 21 02.0**	**+1.3**
ARCES	**ARCESS Array B**	**63.15**	**339**	P		**P**	**21 21 01.6**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=60,slow=8.5,SNR=5.6							
GEYT	**Alibeck**	**63.36**	**299**	P		**P**	**21 21 03.4**	**+0.3**
	comp=Z,6.3nm,0.9s,baz=29,slow=3.4,SNR=15							
GYA0B	**ALIBECK ARRAY**	**63.36**	**299**	P		**P**	**21 21 03.8**	**+0.7**
DAG	**Danmarks Havn**	**64.89**	**355**	*i* P		**P**	**21 21 12.7**	**+0.3**
	comp=Z,4.4nm,0.8s							
DAG				*e*			21 21 17.6	
DAG	**Danmarks Havn**	**64.89**	**355**	*i* P		**P**	**21 21 12.7**	**+0.3**
DAG				pmax		pmax		
	comp=Z,4.0nm,0.8s							
NLWA	**Neilton Lookou**	**66.17**	**48**	IAmb		IAmb	21 21 25.2	
	comp=Z,15nm,1.1s							
OBN	**Obninsk**	**67.35**	**323**⇓	*e*P		**P**	**21 21 29.6**	**+1.1**
OBN				*PP		**pP**	**21 21 52.0**	**+2.4**
OBN				*e*			21 21 54.6	
OBN				*eS		**S**	**21 30 19.0**	**+1.7**
OBN				SS		**SS**	**21 34 39.0**	**+1.3**
OBN				pmax		pmax		
	comp=Z,4.0nm,0.9s							
FINES	**FINESS Array B**	**68.00**	**332**	P		**P**	**21 21 32.6**	**+0.2**
	comp=Z,1.1nm,0.3s,baz=32,slow=8.8,SNR=24							
B08A	**Colville Reser**	**68.26**	**45**	P		**P**	**21 21 36.5**	**+2.2**
AKT	**Akhty**	**68.50**	**306**	*eP*		**P**	**21 21 36.1**	**0.0**
AKT				*e*PP		**pP**	**21 21 57.0**	**-0.3**
AKT				*e*			21 21 59.9	
AKT				*eSP		**sP**	**21 22 06.3**	**0.0**
AKT				pmax		pmax		
	comp=Z,12nm,0.7s							
C09A	**Chrisman Ranch**	**69.16**	**45**	IAmb		IAmb	21 21 42.9	
	comp=Z,7.6nm,0.9s							
GOF	**Gofitskoye**	**69.46**	**311**⇑	*eP*		**P**	**21 21 42.5**	**+0.7**
NEW	**Newport**	**69.54**	**44**	P		**P**	**21 21 44.2**	**+1.9**
	comp=Z,3.8nm,0.8s,baz=264,slow=5.8,SNR=5.9							
NEW	**Newport**	**69.54**	**44**	IAmb		IAmb	21 21 45.3	
	comp=Z,6.4nm,0.9s							
SUMG	**Summit**	**69.80**	**360**	*i* P		**P**	**21 21 45.2**	**+1.2**
	comp=Z,23nm,1.0s							
SUMG				*i*			21 22 12.6	
SUMG	**Summit**	**69.80**	**360**	*i* P		**P**	**21 21 45.2**	**+1.2**
SUMG				*i*			21 22 12.6	
SUMG				pmax		pmax		
	comp=Z,23nm,1.0s							
SUMG	**Summit**	**69.80**	**360**	P		**P**	**21 21 44.1**	**+0.2**
SUMG				IAmb		IAmb	21 21 46.3	
	comp=Z,7.5nm,0.9s							
PINE	**Pine Mountain**	**69.82**	**50**	P		**P**	**21 21 47.0**	**+2.7**
YBH	**Yreka Blue Hor**	**69.86**	**52**	P		**P**	**21 21 46.4**	**+2.0**
	comp=Z,4.5nm,0.9s,baz=250,slow=4.1,SNR=4.7							
YBH	**Yreka Blue Hor**	**69.86**	**52**	IAmb		IAmb	21 21 47.6	
	comp=Z,9.0nm,1.1s							
ZEI	**Tsey**	**70.19**	**309**	*eP*		**P**	**21 21 43.7**	**-2.9**
ZEI				pmax		pmax		
	comp=Z,5.0nm,0.6s							
KBZ	**Khabaz**	**70.28**	**310**	P		**P**	**21 21 47.7**	**+0.9**
	comp=Z,7.7nm,0.9s,baz=68,slow=3.0,SNR=16							
KIV	**Kislovodsk**	**70.28**	**311**⇓	P		**P**	**21 21 47.4**	**+0.4**
KIV	**Kislovodsk**	**70.28**	**311**	*d* P		**P**	**21 21 47.4**	**+0.4**
KIV				*e*			21 22 07.6	
KIV				*eSP		**sP**	**21 22 17.0**	**-0.2**
KIV				S		**S**	**21 30 50.0**	**-2.6**
KIV				pmax		pmax		
	comp=Z,22nm,1.0s							
KIV				MLR		MLR		
	comp=Z,23nm,18.0s							
KIV	**Kislovodsk**	**70.28**	**311**	P		**P**	**21 21 47.5**	**+0.5**
KIV				IAmb		IAmb	21 21 49.4	
	comp=Z,17nm,0.9s							
WALA	**Waterton Lakes**	**70.83**	**42**	IAmb		IAmb	21 21 53.3	
	comp=Z,7.3nm,0.9s							
AKH	**Akhalkalaki**	**71.21**	**308**	⇓P		**P**	**21 21 54.4**	**+1.6**
AKH	**Akhalkalaki**	**71.21**	**308**	P		**P**	**21 21 54.1**	**+1.3**
AKH				pmax		pmax		
	comp=Z,5.0nm,0.8s							
AKH	**Akhalkalaki**	**71.21**	**308**	P		**P**	**21 21 54.1**	**+1.3**
BMO	**Blue Mountains**	**71.38**	**47**	IAmb		IAmb	21 21 56.8	
	comp=Z,6.3nm,0.9s							
JTMT	**Jette**	**71.40**	**44**	IAmb		IAmb	21 21 57.0	
	comp=Z,8.1nm,0.8s							
J08A	**Circle Bar Ran**	**71.54**	**49**	IAmb		IAmb	21 21 58.3	
	comp=Z,8.5nm,0.9s							
WVOR	**Wild Horse Val**	**71.97**	**50**	IAmb		IAmb	21 22 00.7	
	comp=Z,8.3nm,1.1s							
BCA	**Borcka**	**72.35**	**309**	⇑P		**P**	**21 21 59.7**	**+0.3**
FFC	**Flin Flon**	**73.00**	**33**	P		**P**	**21 22 04.4**	**+1.4**
FFC				pmax		pmax		
	comp=Z,9.0nm,0.9s							
FFC	**Flin Flon**	**73.00**	**33**	P		**P**	**21 22 04.4**	**+1.4**
FFC				IAmb		IAmb	21 22 05.2	
	comp=Z,8.8nm,0.9s							
MFID	**Camas Ranch**	**73.08**	**48**	IAmb		IAmb	21 22 06.6	
	comp=Z,8.2nm,1.1s							
HFS	**Hagfors**	**73.26**	**336**	P		**P**	**21 22 04.9**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=66,slow=3.7,SNR=11							
NB2	**NORSAR Subarra**	**73.35**	**337**	P		**P**	**21 22 05.2**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=39,slow=6.5							
NOA	**NORSAR Array B**	**73.35**	**337**	P		**P**	**21 22 05.5**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=38,slow=5.9,SNR=7.9							
NOA				LR		LR	21 57 37.5	
	comp=Z,28nm,19.8s,baz=30,slow=38							
AKASG	**Malin Array Be**	**73.56**	**322**	P		**P**	**21 22 06.5**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=46,slow=8.8,SNR=12							
AKBB	**Malin Array Si**	**73.56**	**322**	*ceP*		**P**	**21 22 07.1**	**+0.7**
YERR	**Yerington**	**73.59**	**53**	IAmb		IAmb	21 22 10.3	
	comp=Z,7.1nm,0.9s							
EGMT	**Eagleton**	**73.65**	**41**	IAmb		IAmb	21 22 09.9	
	comp=Z,16nm,0.9s							
DLMT	**Dillon**	**73.76**	**45**	IAmb		IAmb	21 22 11.0	
	comp=Z,9.5nm,1.0s							
KVN	**Kaiserville**	**74.27**	**53**	IAmb		IAmb	21 22 14.3	
	comp=Z,7.2nm,0.9s							
NVAR	**Mina Array Bea**	**74.51**	**53**	P		**P**	**21 22 14.5**	**+2.1**
	comp=Z,3.8nm,0.8s,baz=287,slow=6.5,SNR=23							
ELK	**Elko**	**75.03**	**50**	P		**P**	**21 22 16.9**	**+1.5**
	comp=Z,1.1nm,0.4s,baz=309,slow=8.3,SNR=5.4							
SORM	**Soroca**	**75.67**	**320**	⇑P		**P**	**21 22 18.3**	**-0.3**
FRB	**Frobisher Bay**	**75.93**	**13**	P		**P**	**21 22 21.1**	**+1.3**
	comp=Z,4.5nm,0.7s,baz=12,slow=4.0,SNR=3.7							
LAO	**LASA Array**	**76.35**	**41**	IAmb		IAmb	21 22 25.7	
	comp=Z,13nm,0.9s							
HWUT	**Hardware Ranch**	**76.68**	**47**	IAmb		IAmb	21 22 28.8	
	comp=Z,10nm,1.1s							
TPNV	**Topopah Spring**	**76.70**	**54**	IAmb		IAmb	21 22 28.0	
	comp=Z,6.0nm,0.8s							
DUG	**Dugway, Tooele**	**76.83**	**49**	IAmb		IAmb	21 22 28.9	
	comp=Z,6.6nm,0.9s							
PDAR	**Pinedale Array**	**77.09**	**46**	P		**P**	**21 22 28.6**	**+1.4**
	comp=Z,1.8nm,0.5s,baz=298,slow=3.2,SNR=18							
PDAR				LR		LR	22 00 11.0	
	comp=Z,9.8nm,18.9s,baz=320,slow=38							
BUR08	**Bucovina Ar. S**	**77.57**	**322**	P		**P**	**21 22 30.3**	**+0.8**
BURAR	**Bucovina Array**	**77.58**	**322**	⇓P		**P**	**21 22 29.4**	**-0.2**
TOPG	**Topolog**	**77.82**	**318**	⇓P		**P**	**21 22 30.8**	**0.0**
VRI	**Vrincioaia**	**78.02**	**320**	⇑P		**P**	**21 22 32.8**	**+0.9**
PLOR	**Plostina**	**78.06**	**320**	⇑P		**P**	**21 22 33.7**	**+1.5**
BRTR	**Keskin Array B**	**78.22**	**311**	P		**P**	**21 22 33.8**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=91,slow=4.9,SNR=11							
BRTR				LR		LR	22 02 17.0	
	comp=Z,11nm,18.0s,baz=360,slow=40							
BRTR	**Keskin Array B**	**78.22**	**311**	*ce*P		**P**	**21 22 34.0**	**+0.7**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
TRPA	**Tarpa**	**78.52**	**323**	⇑P		**P**	**21 22 35.3**	**+0.8**
PFO	**Pinyon Flats O**	**78.60**	**56**	P		**P**	**21 22 36.8**	**+1.3**
	comp=Z,2.7nm,0.9s,baz=268,slow=3.7,SNR=3.3							
PFO	**Pinyon Flats O**	**78.60**	**56**	IAmb		IAmb	21 22 39.6	
	comp=Z,3.1nm,1.1s							
ULM	**Lac du Bonnet**	**78.80**	**33**	P		**P**	**21 22 37.8**	**+1.7**
	comp=Z,3.2nm,0.4s,baz=310,slow=7.5,SNR=3.9							
ULM	**Lac du Bonnet**	**78.80**	**33**	IAmb		IAmb	21 22 38.5	
	comp=Z,6.1nm,0.9s							
RWWY	**Rawlins**	**79.12**	**45**	IAmb		IAmb	21 22 41.0	
	comp=Z,6.9nm,0.9s							
RSSD	**Black Hills**	**79.21**	**42**	P		**P**	**21 22 40.2**	**+1.4**
RSSD				pmax		pmax		
	comp=Z,5.0nm,1.1s							
RSSD	**Black Hills**	**79.21**	**42**	P		**P**	**21 22 40.2**	**+1.4**
DRGR		**79.38**	**322**	⇑P		**P**	**21 22 39.5**	**+0.1**
MORC	**Moravsky Berou**	**79.59**	**327**	⇑P		**P**	**21 22 41.3**	**+0.8**
CLL	**Collm**	**80.30**	**330**	*eP*		**P**	**21 22 46.0**	**+1.8**
CLL				*eSP		**pP**	**21 23 12.0**	**+6.1**
CLL				*ePP		**PP**	**21 25 46.0**	**-1.1**
CLL	**Collm**	**80.30**	**330**	*eP*		**P**	**21 22 46.0**	**+1.8**
CLL				*e*SP		**pP**	**21 23 12.0**	**+6.1**
N23A	**Red Feather La**	**80.36**	**45**	IAmb		IAmb	21 22 48.4	
	comp=Z,14nm,1.1s							
BZS	**Buzias**	**80.75**	**322**	⇑P		**P**	**21 22 46.7**	**0.0**
MDVR	**Moldovita**	**81.30**	**321**	⇓P		**P**	**21 22 49.9**	**+0.1**
CONA	**Conrad Observa**	**81.71**	**326**	*i* P		**P**	**21 22 49.9**	**-2.0**
	comp=Z,3.6nm,1.6s							
KHC	**Kasperske Hory**	**81.76**	**328**	*eP*		**P**	**21 22 52.0**	**-0.1**
KHC				*esP		**sP**	**21 23 21.8**	**-0.9**
KHC	**Kasperske Hory**	**81.76**	**328**	*ceP*		**P**	**21 22 53.6**	**+1.5**
KHC				pmax		pmax		
	comp=Z,7.0nm,2.5s							
F33A	**5 Mile Ranch,**	**81.86**	**37**	IAmb		IAmb	21 22 54.7	
	comp=Z,12nm,0.9s							
GERES	**GERESS Array B**	**81.93**	**328**	P		**P**	**21 22 53.3**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=43,slow=6.0,SNR=8.5							
VTS	**Vitosha**	**82.08**	**319**	⇓P		**P**	**21 22 55.1**	**+1.2**
ELL	**Elmali**	**82.39**	**311**	IAmb		IAmb	21 23 04.3	
	comp=Z,16nm,1.0s							
MOA	**Molln**	**82.46**	**327**	*i* P		**P**	**21 22 53.7**	**-2.1**
	comp=Z,2.5nm,1.4s							
SOKA	**Soboth**	**83.03**	**326**	*i* P		**P**	**21 22 58.1**	**-0.7**
	comp=Z,2.7nm,0.9s							
ECSD	**EROS Data Cent**	**83.26**	**38**	IAmb		IAmb	21 23 02.0	
	comp=Z,7.8nm,0.9s							
OBKA	**Obir**	**83.37**	**326**	*i* P		**P**	**21 22 57.3**	**-3.2**
	comp=Z,3.0nm,0.9s							
E38A	**The Farm, Brul**	**83.44**	**34**	IAmb		IAmb	21 23 02.8	
	comp=Z,11nm,1.0s							
MYKA	**Terra Mystica**	**83.67**	**327**	*i* P		**P**	**21 23 01.4**	**-0.7**
	comp=Z,1.5nm,0.5s							
ANMO	**Albuquerque**	**84.07**	**50**	P		**P**	**21 23 06.4**	**+1.9**
	comp=Z,2.2nm,0.6s,baz=299,slow=6.1,SNR=8.6							
ANMO	**Albuquerque**	**84.07**	**50**	*ce*P		**P**	**21 23 06.2**	**+1.7**
ANMO				pmax		pmax		
	comp=Z,7.0nm,1.3s							
ANMO	**Albuquerque**	**84.07**	**50**	IAmb		IAmb	21 23 08.4	
	comp=Z,5.9nm,1.1s							
ABTA	**Abfaltersbach**	**84.07**	**327**	*i* P		**P**	**21 23 03.7**	**-0.4**
	comp=Z,2.1nm,1.0s							
MOTA	**Moosalm**	**84.19**	**329**	*i* P		**P**	**21 23 01.7**	**-3.1**
	comp=Z,1.0nm,0.6s							
RETA	**Reutte**	**84.21**	**329**	*i* P		**P**	**21 23 05.2**	**+0.4**
	comp=Z,3.2nm,1.1s							
SQTA	**Sankt Quirin**	**84.24**	**328**	*i* P		**P**	**21 23 03.9**	**-1.1**
	comp=Z,0.7nm,0.4s							
SCHQ	**Schefferville**	**84.51**	**16**	LR		LR	22 04 12.9	
	comp=Z,24nm,18.6s,baz=358,slow=38							
FETA	**Feichten**	**84.60**	**329**	*i* PcP		**P**	**21 23 07.3**	**+0.4**
	comp=Z,1.5nm,0.7s							
DAVA	**Damuels**	**84.73**	**329**	*i* P		**P**	**21 23 06.6**	**-0.9**
	comp=Z,3.0nm,1.0s							
G40A	**Rib Lake**	**85.07**	**34**	IAmb		IAmb	21 23 11.1	
	comp=Z,6.6nm,0.8s							
PPT2	**Papeete2**	**85.10**	**117**	*e*LR		LR	21 49 50.9	
	comp=Z,75nm,26.0s							
PPT2	**Papeete2**	**85.10**	**117**	*eT*		T	22 56 22.7	
	comp=Z,6.7nm,0.2s							
FUORN	**Ofenpass-Fuorn**	**85.11**	**329**	P		**P**	**21 23 10.4**	**+0.8**
FUORN				IAmb		IAmb	21 23 10.8	
	comp=Z,3.1nm,0.6s							
TIAR	**Tiarei**	**85.24**	**116**	*eT*		T	22 56 32.6	
	comp=Z,4.1nm,0.2s							
I42A	**Draeger Farm,**	**86.73**	**34**	IAmb		IAmb	21 23 19.4	
	comp=Z,11nm,0.9s							
D53A	**Lac Vacive, Po**	**88.46**	**26**	P		**P**	**21 23 23.5**	**-2.0**
D53A				IAmb		IAmb	21 23 27.6	
	comp=Z,6.8nm,1.1s							
TBI	**Tubuai**	**89.03**	**121**	*eT*		T	23 01 16.0	
	comp=Z,113nm,0.3s							
TXAR	**Lajitas Array**	**89.63**	**52**	P		**P**	**21 23 33.0**	**+1.5**
	comp=Z,1.4nm,0.5s,baz=295,slow=3.3,SNR=26							
TXAR				LR		LR	22 04 33.3	
	comp=Z,9.4nm,18.2s,baz=0.0,slow=36							
TXAR	**Lajitas Array**	**89.63**	**52**	P		**P**	**21 23 33.0**	**+1.5**
CCM	**Cathedral Cave**	**90.22**	**39**	P		**P**	**21 23 32.9**	**-1.0**
CCM				pmax		pmax		
	comp=Z,8.0nm,1.2s							
CCM	**Cathedral Cave**	**90.22**	**39**	P		**P**	**21 23 32.9**	**-1.0**
CCM				IAmb		IAmb	21 23 36.1	
	comp=Z,8.3nm,1.1s							
U40A	**Yellville**	**90.71**	**41**	IAmb		IAmb	21 23 38.1	
	comp=Z,5.4nm,0.9s							
MIAR	**Mount Ida**	**91.71**	**43**	IAmb		IAmb	21 23 43.3	
	comp=Z,7.0nm,1.1s							
ESDC	**Sonseca Array**	**96.47**	**334**	LR		LR	22 11 51.7	
	comp=Z,24nm,18.9s,baz=40,slow=38							
LPAZ	**La Paz**	**146.29**	**58**	PKPbc		**PKPab**	**21 30 15.3**	**-0.4**
	comp=Z,2.2nm,0.5s,baz=333,slow=1.4,SNR=8.0							
H03N2	**Juan Fernandez**	**147.17**	**95**	T		T	00 15 22.0	
	baz=291,slow=76,SNR=7.5							
H03N3	**Juan Fernandez**	**147.18**	**95**	T		T	00 15 12.0	
	baz=291,slow=76,SNR=53							
H03N1	**Juan Fernandez**	**147.18**	**95**	T		T	00 15 15.4	
	baz=291,slow=76,SNR=5.7							

*IDC **08** 21:24:12.7±0.8,20.05S×70.57W,h0km,mb4.0/7, mb1 4.2/10,mb1mx4.0/31,mbtmp4.1/10,ML3.9/3,MS3.3/7, Ms1 3.3/7,ms1mx3.0/22,Error ellipse: s-maj=28.3km s-min=13.9km az=64.0*

*NEIC **08** 21:24:13.9±1.4,20.23S±0.03×70.83W±0.03,h20km±4km, mb4.4/12,Mwr4.1/44,ML4.4(GUC),Error ellipse: s-maj=5.0km s-min=3.4km az=45.0*

*SJA **08** 21:24:14.6±1.2,20.23S×70.79W,h30km±4km, ML4.2, MW4.1*

*GUC **08** 21:24:14.7±0.9,20.22S×70.85W,h40km±2km,ML4.3*

*NEIC **08** 21:24:14.3,20.27S×70.88W,h19km,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr2.06; Mθθ-0.27; Mφφ-1.78; Mrθ-0.43; Mrφ0.58; Mθφ-0.42; Fault plane solution: M0 2.1100×10^15^ NP1:φ328.41000°, δ42.80000°, λ70.33000°. NP2:φ174.38000°, δ50.22000°, λ107.31000°. Principal axes: T 2.1991, Plg76.0000°, Azm146.0000°; N -0.2002, Plg13.0000°, Azm343.0000°; P -1.9989, Plg4.0000°, Azm252.0000°;*

*VAO **08** 21:24:33.8±0.7,19.49S×69.80W,h115km,mb4.1*

ISC 08 21:24:14.6±0.5,20°21'S±0'02×70°89'W±0'05,h21km±3km, n152,σ1s54/160,mb4.3/9,MS3.5/4,13C-4D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.71**	**95**	⇓	*i* P	**Pb**	**21 24 27.8**	**-0.5**
TA02					*i* S	**Sb**	**21 24 36.8**	**-0.8**
TA01	**Diego Aracena**	**0.75**	**118**	⇑	*i* P	**Pb**	**21 24 28.4**	**-0.5**
TA01					*i* S	**Sb**	**21 24 39.2**	**+0.4**
TA01					IAML		21 24 40.4	
	comp=N,27μm,0.3s							
TA01	**Diego Aracena**	**0.75**	**118**			**Pb**	**21 24 28.4**	**-0.5**
TA01					Sn	**Sb**	**21 24 37.3**	**-1.4**
PATCX	**Punta Patache**	**0.92**	**131**	⇓	*i* P	**Pb**	**21 24 31.2**	**-0.7**
PATCX					*i* S	**Sb**	**21 24 43.5**	**-0.1**
PATCX	**Punta Patache**	**0.92**	**131**			**Pb**	**21 24 31.1**	**-0.7**
PATCX					Sn	**Sb**	**21 24 41.6**	**-2.0**
PATCX	**Punta Patache**	**0.92**	**131**	*i*	P	**Pb**	**21 24 31.7**	**-0.2**
PATCX					*e*S	**Sb**	**21 24 43.9**	**+0.3**
PATCX					IAML		21 24 54.0	
	comp=Z,7μm,0.5s							
PSGC	**Pisagua**	**0.94**	**50**	⇓	*i* P	**Pb**	**21 24 31.7**	**-0.6**
PSGC					*i* S	**Sb**	**21 24 45.0**	**+0.6**
PSGCX	**Pisagua**	**0.94**	**50**			**Pb**	**21 24 30.9**	**-1.4**
PSGCX					Sn	**Sb**	**21 24 43.3**	**-1.1**
PSGCX	**Pisagua**	**0.94**	**50**	*i*	P	**Pb**	**21 24 31.8**	**-0.5**
PSGCX					*e*S	**Sb**	**21 24 45.0**	**+0.6**
PSGCX					IAML		21 24 48.0	
	comp=Z,7μm,0.6s							
PB11	**IPOC Station P**	**1.24**	**69**	⇓	*i* P	**Pn**	**21 24 36.4**	**-0.4**
PB11					*i* S	**Sb**	**21 24 52.4**	**-0.7**
PB11					IAML		21 24 57.5	
	comp=N,11μm,0.2s							
PB11	**IPOC Station P**	**1.24**	**69**			**Pn**	**21 24 35.3**	**-1.6**
PB11	**IPOC Station P**	**1.24**	**69**	*i*	P	**Pn**	**21 24 36.5**	**-0.4**
PB11					*e*S	**Sb**	**21 24 52.9**	**-0.1**
PB11					IAML		21 24 57.7	
	comp=Z,4μm,0.3s							
PB02	**IPOC Station P**	**1.44**	**140**	⇑	*i* P	**Pn**	**21 24 39.4**	**-0.1**
PB02					*i* S	**Sn**	**21 24 58.1**	**+0.2**
PB02					IAML		21 25 04.9	
	comp=E,12μm,0.4s							
PB02	**IPOC Station P**	**1.44**	**140**	*i*	P	**Pn**	**21 24 39.5**	**-0.1**
PB02					IAML		21 25 02.8	
	comp=Z,10μm,0.5s							
PB01	**IPOC Station P**	**1.55**	**122**	⇑	*i* P	**Pn**	**21 24 41.3**	**+0.2**
PB01					*i* S	**Sn**	**21 25 00.8**	**+0.2**
PB01					IAML		21 25 05.7	
	comp=N,15μm,0.6s							
PB01	**IPOC Station P**	**1.55**	**122**			**Pn**	**21 24 40.1**	**-0.9**
PB01	**IPOC Station P**	**1.55**	**122**	*i*	P	**Pn**	**21 24 41.3**	**+0.2**
PB01					IAML		21 25 07.3	
	comp=Z,8μm,0.7s							
MNMC	**Minye Minye**	**1.62**	**49**	⇑	*i* P	**Pn**	**21 24 42.6**	**+0.3**
MNMC					*i* S	**Sb**	**21 25 04.2**	**0.0**
MNMC	**Minye Minye**	**1.62**	**49**			**Pn**	**21 24 41.4**	**-0.8**
MNMCX	**Minye Minye**	**1.62**	**49**	*i*	P	**Pb**	**21 24 43.4**	**-0.6**
MNMCX					IAML		21 25 08.2	
	comp=Z,7μm,0.3s							
PB08	**IPOC Station P**	**1.63**	**88**	⇑	*i* P	**Pn**	**21 24 42.6**	**+0.2**
PB08					*i* S	**Sn**	**21 25 03.8**	**+0.8**
PB08					IAML		21 25 08.3	
	comp=N,4μm,0.3s							
PB08	**IPOC Station P**	**1.63**	**88**			**Pn**	**21 24 41.2**	**-1.3**
PB08	**IPOC Station P**	**1.63**	**88**	*i*	P	**Pn**	**21 24 42.9**	**+0.5**
PB08					IAML		21 25 15.5	
	comp=Z,2μm,0.9s							
PB12	**IPOC Station P**	**1.68**	**18**	⇑	*i* P	**Pn**	**21 24 42.8**	**0.0**
PB12					*i* S	**Sn**	**21 25 05.0**	**+1.3**
PB12	**IPOC Station P**	**1.68**	**18**			**Pn**	**21 24 42.9**	**+0.2**
PB12	**IPOC Station P**	**1.68**	**18**	*i*	P	**Pn**	**21 24 44.0**	**+1.2**
PB12					*e*S	**Sb**	**21 25 06.0**	**+0.6**
PB12					IAML		21 25 14.5	
	comp=Z,2μm,0.7s							
GO01	**Chusmiza**	**1.68**	**72**	⇑	*i* P	**Pn**	**21 24 43.4**	**+0.2**
GO01					*i* S	**Sn**	**21 25 05.3**	**+0.9**
GO01	**Chusmiza**	**1.68**	**72**			**Pn**	**21 24 41.7**	**-1.5**
PB07	**IPOC Station P**	**1.77**	**148**	⇑	*i* P	**Pn**	**21 24 43.9**	**-0.3**
PB07					IAML		21 25 26.4	
	comp=E,4μm,0.4s							
PB07	**IPOC Station P**	**1.77**	**148**			**Pn**	**21 24 43.0**	**-1.2**
PB07	**IPOC Station P**	**1.77**	**148**	*i*	P	**Pn**	**21 24 44.0**	**-0.2**
PB07					IAML		21 25 16.6	
	comp=Z,3μm,0.3s							
AP01	**Chacalluta**	**1.90**	**16**	*eP*		**Pn**	**21 24 46.2**	**+0.4**
AP01				*eS*		**Sn**	**21 25 10.9**	**+1.8**
AP01					IAML		21 25 19.7	
	comp=N,7μm,0.4s							
AP01	**Chacalluta**	**1.90**	**16**			**Pn**	**21 24 45.1**	**-0.6**
PB03	**IPOC Station P**	**2.11**	**150**	*eP*		**Pn**	**21 24 48.6**	**-0.3**
PB03					IAML		21 25 33.1	
	comp=N,2μm,0.4s							
PB03	**IPOC Station P**	**2.11**	**150**	*i*	P	**Pn**	**21 24 48.7**	**-0.2**
PB03					IAML		21 25 35.5	
	comp=Z,1μm,0.6s							
PB09	**IPOC Station P**	**2.20**	**136**	⇑	*i* P	**Pn**	**21 24 51.3**	**+1.2**
PB09					*i* S	**Sb**	**21 25 23.4**	**+2.6**
PB09	**IPOC Station P**	**2.20**	**136**			**Pn**	**21 24 48.8**	**-1.3**
PB09	**IPOC Station P**	**2.20**	**136**	*i*	P	**Pn**	**21 24 51.5**	**+1.4**
PB09					*i* Sg	**Sb**	**21 25 24.4**	**+3.7**
PB09					IAML		21 25 38.8	
	comp=Z,2μm,0.6s							
PB04	**IPOC Station P**	**2.22**	**162**	*eP*		**Pn**	**21 24 49.7**	**-0.7**
PB04					IAML		21 25 31.6	
	comp=N,2μm

MACA	**Manacapuru-AM**	**19.65**	**32**	*eP*	**P**	**21 28 40.4**	**-1.8**
MACA	**Manacapuru-AM**	**19.65**	**32**	*eP*	**P**	**21 28 40.4**	**-1.8**
NPGB	**Novo Progresso**	**19.95**	**51**	*eP*	**P**	**21 28 43.0**	**-2.4**
NPGB	**Novo Progresso**	**19.95**	**51**	*eP*	**P**	**21 28 43.0**	**-2.4**
CNLB	**Canela**	**20.30**	**120**	*eP*	Pn	21 28 55.8	+4.5
CNLB	**Canela**	**20.30**	**120**	*eP*	Pn	21 28 55.8	+4.5
PLCA	**Paso Flores**	**20.46**	**179**	P	Pn	21 28 53.0	-0.1
	comp=Z,3.5nm,0.8s,baz=335,slow=10,SNR=4.2						
PLCA	**Paso Flores**	**20.46**	**179**	P	**P**	**21 28 50.9**	**0.0**
IPMB	**Ipameri, GO**	**21.54**	**88**	*eP*	**P**	**21 29 01.8**	**-0.9**
IPMB	**Ipameri, GO**	**21.54**	**88**	*eP*	**P**	**21 29 01.8**	**-0.9**
ITTB	**Itaituba**	**21.58**	**45**	*eP*	**P**	**21 29 00.5**	**-2.6**
ITTB	**Itaituba**	**21.58**	**45**	*eP*	**P**	**21 29 00.5**	**-2.6**
PTGA	**Pitinga**	**22.11**	**30**	P	**P**	**21 29 06.9**	**-1.9**
	comp=Z,4.8nm,0.3s,baz=221,slow=13,SNR=8.0						
PTGA				LR	LR	21 38 39.0	
	comp=Z,107nm,18.3s,baz=224,slow=40						
PTGA	**Pitinga**	**22.11**	**30**	P	**P**	**21 29 07.7**	**-1.1**
PTGA				IAmb	IAmb	21 29 10.8	
	comp=Z,9.3nm,1.1s						
PTGA	**Pitinga**	**22.11**	**30**	*eP*	**P**	**21 29 08.2**	**-0.6**
PTGA	**Pitinga**	**22.11**	**30**	*eP*	**P**	**21 29 08.2**	**-0.6**
BDFB	**Brasília**	**22.23**	**82**	P	**P**	**21 29 07.8**	**-2.4**
	comp=Z,1.9nm,0.4s,baz=245,slow=7.8,SNR=2.3						
BDFB				LR	LR	21 39 14.4	
	comp=Z,147nm,20.7s,baz=285,slow=41						
BDFB	**Brasilia**	**22.23**	**82**	P	**P**	**21 29 07.8**	**-2.4**
PEXB	**Peixe**	**23.12**	**73**	*eP*	**P**	**21 29 18.9**	**-0.7**
PEXB	**Peixe**	**23.12**	**73**	*eP*	**P**	**21 29 18.9**	**-0.7**
PARB	**Paraibuna**	**23.66**	**102**	*eP*	**P**	**21 29 26.9**	**+2.0**
PARB	**Paraibuna**	**23.66**	**102**	*eP*	**P**	**21 29 26.9**	**+2.0**
MALB	**Monte Alegre**	**24.43**	**44**	*eP*	**P**	**21 29 30.6**	**-1.3**
MALB	**Monte Alegre**	**24.43**	**44**	*eP*	**P**	**21 29 30.6**	**-1.3**
BSCB	**Bom Sucesso**	**24.45**	**96**	*eP*	**P**	**21 29 32.2**	**0.0**
BSCB	**Bom Sucesso**	**24.45**	**96**	*eP*	**P**	**21 29 32.2**	**0.0**
PRPB	**Parauapebas**	**24.77**	**59**	*eP*	**P**	**21 29 33.9**	**-1.2**
PRPB	**Parauapebas**	**24.77**	**59**	*eP*	**P**	**21 29 33.9**	**-1.2**
SMTB	**Santa Maria do**	**25.18**	**67**	*eP*	**P**	**21 29 37.9**	**-1.0**
SMTB	**Santa Maria do**	**25.18**	**67**	*eP*	**P**	**21 29 37.9**	**-1.0**
JANB	**Januaria**	**25.82**	**83**	*eP*	**P**	**21 29 44.7**	**-0.1**
JANB	**Januaria**	**25.82**	**83**	*eP*	**P**	**21 29 44.7**	**-0.1**
RUSC	**La Rusia**	**26.03**	**355**	P	**P**	**21 29 47.2**	**+0.2**
PAYG	**Puerto Ayora**	**27.15**	**313**	P	**P**	**21 29 53.4**	**-3.2**
PMSA	**Palmer Station**	**44.77**	**176**	*eP*	P	21 32 41.2	+15
PMSA	**Palmer Station**	**44.77**	**176**	*eP*	P	21 32 41.2	+15
TXAR	**Lajitas Array**	**58.53**	**326**	P	**P**	**21 34 11.2**	**+1.4**
	comp=Z,0.4nm,0.8s,baz=146,slow=9.1,SNR=4.2						
HSIG		**62.37**	**320**	P	**P**	**21 34 33.7**	**-2.2**
CCUT	**Cedar City**	**69.99**	**325**	P	**P**	**21 35 24.2**	**-0.8**
TPNV	**Topopah Spring**	**71.15**	**323**	P	**P**	**21 35 31.2**	**-0.7**
TPNV				IAmb	IAmb	21 35 45.8	
	comp=Z,1.7nm,0.8s						
ISA	**Isabella, Lake**	**71.55**	**321**	P	**P**	**21 35 33.9**	**-0.4**
NVAR	**Mina Array Bea**	**73.35**	**323**	P	**P**	**21 35 47.3**	**+2.2**
	comp=Z,0.4nm,0.6s,baz=104,slow=4.6,SNR=4.0						
YNE	**Yellowstone No**	**74.05**	**332**	P	**P**	**21 35 50.3**	**+1.1**
TOA0	**Torodi Ar. Sit**	**78.68**	**71**	P	**P**	**21 36 15.0**	**-0.8**
TOA0				IAmb	IAmb	21 36 15.4	
	comp=Z,4.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**78.68**	**71**	P	**P**	**21 36 15.0**	**-0.8**
	comp=Z,4.5nm,0.7s,baz=249,slow=5.2,SNR=37						
TORD				LR	LR	22 10 02.5	
	comp=Z,43nm,18.3s,baz=350,slow=35						
TAM	**Tamanrasset**	**85.91**	**64**	P	**P**	**21 36 53.2**	**-0.4**
TAM				IAmb	IAmb	21 36 55.6	
	comp=Z,3.1nm,1.0s						
MAW	**Mawson**	**86.08**	**164**	LR	LR	22 15 46.5	
	comp=Z,20nm,18.3s,baz=62,slow=36						
YKA	**Yellowknife Ar**	**89.37**	**341**	P	**P**	**21 37 10.1**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=142,slow=5.2,SNR=12						
H11N3	**WAKE ISLAND Hyl**	**25.92**	**280**	T	T	00 02 43.9	
	baz=101,slow=74,SNR=40						
H11N2	**WAKE ISLAND Hyl**	**25.94**	**280**	T	T	00 02 41.3	
	baz=101,slow=74,SNR=26						
H11N1	**WAKE ISLAND Hyl**	**25.94**	**280**	T	T	00 02 44.7	
	baz=101,slow=74,SNR=37						
ASAR	**Alice Springs**	**130.14**	**210**	PKP	**PKiKP**	**21 43 24.7**	**0.0**
	comp=Z,0.3nm,0.7s,baz=89,slow=1.6,SNR=1.9						
ZALV	**Zalesovo Beam**	**141.54**	**23**	PKP	**PKiKP**	**21 43 45.4**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=280,slow=3.2,SNR=4.2						
MAKZ	**Makanchi**	**145.46**	**34**		**PKPdf**	**21 43 51.0**	**-0.1**
MK31	**Makanchi Array**	**145.63**	**33**		**PKPdf**	**21 43 51.2**	**-0.2**
MKAR	**Makanchi Array**	**145.63**	**33**	PKPbc	**PKPab**	**21 43 52.5**	**+0.6**
	comp=Z,3.4nm,0.7s,baz=327,slow=3.4,SNR=27						
SONM	**Songino Array**	**152.36**	**4**	PKPbc	**PKiKP**	**21 44 10.6**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=225,slow=1.0,SNR=2.7						
LZH	**Lanzhou**	**163.52**	**15**	*e*PKP	**PKPdf**	**21 44 15.5**	**-0.9**
LZH				pPKP	pPKPdf	21 44 20.9	-1.7
LZH				sPKP		21 44 22.6	

IDC 08 21:33:44.5±1.2, 28°08N×103°58E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.3/34, mbtmp3.5/5, Error ellipse: s-maj=44.5km s-min=23.7km az=55.0, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.45**	**59**	P	P	21 38 44.4	-0.7
	1.1nm,0.6s,baz=246,slow=11,SNR=5.2						
MKAR	**Makanchi Array**	**25.06**	**324**	P	P	21 39 10.9	+0.4
	0.4nm,0.6s,baz=138,slow=11,SNR=5.4						
WRA	**Warramunga Arr**	**56.25**	**145**	P	P	21 43 26.8	-0.1
	0.3nm,0.7s,baz=316,slow=12,SNR=1.6						
ASAR	**Alice Springs**	**59.17**	**147**	P	P	21 43 47.5	+0.1
	0.4nm,0.4s,baz=326,slow=6.9,SNR=8.7						
FINES	**FINESS Array B**	**59.83**	**327**	P	P	21 43 51.1	-0.4
	0.4nm,0.6s,baz=79,slow=8.6,SNR=3.3						

*JMA **08** 21:45:58.3±0.3, 32°.40N×142°.03E, h43km, M3.2*
*IDC **08** 21:46:16.8±6.1, 32°.68N×139°.91E, h51km±99km, mb3.3/3, mb1 3.4/4, mb1mx3.1/28, mbtmp3.4/4, ML2.0/1, Error ellipse: s-maj=217.8km s-min=33.0km az=64.0*

ISC 08 21:46:01.8±2.9, 32°.5N±0°.1×141°.9E±0°.2, h39km, n12, σ1s44/12, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.84**	**271**	P	**Pn**	**21 46 29.2**	**-1.7**
JAOM				*e*S	**Sn**	**21 46 52.9**	**0.0**
JHJ2	**Mitsune**	**1.91**	**291**	P	**Pn**	**21 46 30.9**	**-0.8**
JHCJ	**Hachijojimakas**	**1.91**	**290**	P	**Pn**	**21 46 30.5**	**-1.3**
JHCJ				*e*S	**Sn**	**21 46 54.7**	**+0.1**
JHU	**Hanno**	**4.05**	**328**	*e*S	**Sn**	**21 47 48.0**	**+0.7**
JHO	**Hitachi**	**4.30**	**345**	P	**Pn**	**21 47 04.8**	**+0.1**
JAG	**Ashikaga**	**4.47**	**333**	*e*S	**Sn**	**21 47 58.0**	**+0.3**
JFK	**Kawauchi**	**4.99**	**350**	*e*S	**Sn**	**21 48 08.2**	**-2.3**
MJAR	**Matsushiro Arr**	**5.12**	**324**	P	**Pn**	**21 47 16.5**	**+0.7**
	0.1nm,0.3s,baz=158,slow=11,SNR=2.3						
JMK	**Ichinoseki**	**6.52**	**355**	*e*S	**Sn**	**21 48 45.9**	**-2.2**
MKAR	**Makanchi Array**	**47.04**	**306**	P	**P**	**21 54 31.0**	**+1.6**
	0.5nm,0.7s,baz=84,slow=9.2,SNR=5.1						
WRA	**Warramunga Arr**	**52.60**	**189**	P	P	21 55 25.4	+14
	0.8nm,0.5s,baz=4.9,slow=7.6,SNR=6.7						
ASAR	**Alice Springs**	**56.33**	**189**	P	P	21 55 52.5	+14
	0.4nm,0.8s,baz=2.2,slow=7.7,SNR=1.1						

*JMA **08** 21:52:15.9±0.2, 24°.75N×122°.90E, h140km±3km, M2.0*
*TAP **08** 21:52:15.6, 24°.88N×122°.91E, h135km, ML2.9, D*

ISC 08 21:52:16.4±1.7, 24°.81N±0°.07×122°.89E±0°.03, h132km±10km, n45, σ0s62/86, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.36**	**173**	P	**Pn**	**21 52 35.4**	**+0.3**
JYNG				S	**Sn**	**21 52 49.9**	**+0.7**
YOJ	**Yonaguni jima**	**0.36**	**163**	*e*P	**Pn**	**21 52 35.1**	**0.0**
	baz=164						
YOJ				*e*S	**Sn**	**21 52 49.5**	**+0.4**
	baz=164						
YOJ	**Yonaguni jima**	**0.36**	**163**	P	**Pn**	**21 52 35.5**	**+0.4**
YOJ				S	**Sn**	**21 52 50.1**	**+0.9**
IRIF	**Iriomote-Funau**	**0.90**	**122**	P	**Pn**	**21 52 38.9**	**+0.3**
IRIF				S	**Sn**	**21 52 55.5**	**+0.1**
TIPB	**Shuangxi**	**0.98**	**280**	*e*P	**Pn**	**21 52 39.1**	**-0.3**
	baz=270						
TIPB				*e*S	**Sn**	**21 52 55.9**	**-1.0**
	baz=270						
ENA	**Nanau**	**1.12**	**250**	*e*P	**Pn**	**21 52 40.2**	**-0.4**
	baz=242						
ENA				*e*S	**Sn**	**21 52 59.0**	**0.0**
	baz=242						
TWE	**Neicheng**	**1.12**	**266**	*e*P	**Pn**	**21 52 40.8**	**+0.1**
	baz=256						
TWE				*e*S	**Sn**	**21 52 59.1**	**+0.1**
	baz=256						
HATJ	**Hateruma jima**	**1.12**	**132**	S	**Sn**	**21 52 59.5**	**+0.4**
JKRS	**Kuro-shima**	**1.17**	**119**	P	**Pn**	**21 52 41.7**	**+0.6**
JKRS				S	**Sn**	**21 53 00.3**	**+0.4**
JIJ	**Ishigaki jima**	**1.22**	**111**	P	**Pn**	**21 52 41.8**	**+0.1**
JIJ				S	**Sn**	**21 52 59.8**	**-1.1**
NWLT	**Wulai**	**1.27**	**269**	*e*P	**Pn**	**21 52 42.1**	**-0.1**
	baz=260						
NWLT				*e*S	**Sn**	**21 53 01.6**	**-0.1**
	baz=260						
NDT	**Datong Townshi**	**1.27**	**261**	*e*P	**Pn**	**21 52 42.8**	**+0.6**
	baz=254						
NDT				*e*S	**Sn**	**21 53 02.5**	**+0.6**
	baz=254						
JISG	**Ishigakijimahi**	**1.31**	**100**	P	**Pn**	**21 52 42.4**	**-0.2**
JISG				S	**Sn**	**21 53 01.8**	**-0.7**
NACB	**Ninganchiao**	**1.34**	**242**	*e*P	**Pn**	**21 52 42.4**	**-0.5**
	baz=240						
NACB				S	**Sn**	**21 53 01.9**	**-1.2**
	baz=240						
YHNB	**Yeheng**	**1.39**	**265**	P	**Pn**	**21 52 43.9**	**+0.3**
	baz=262						
YHNB				S	**Sn**	**21 53 03.9**	**-0.2**
	baz=262						
TWD	**Chiawan**	**1.39**	**239**	*e*P	**Pn**	**21 52 43.4**	**0.0**
	baz=233						
TWD				*e*S	**Sn**	**21 53 03.6**	**-0.4**
	baz=233						
NSK	**Sanguang**	**1.40**	**265**	P	**Pn**	**21 52 43.8**	**+0.1**
	baz=262						
NSK				S	**Sn**	**21 53 04.0**	**-0.4**
	baz=262						
ETLH	**Xiulin Townshi**	**1.42**	**245**	*e*P	**Pn**	**21 52 43.5**	**-0.4**
	baz=239						
ETLH				S	**Sn**	**21 53 04.2**	**-0.6**
	baz=239						
NNSB	**Datong**	**1.43**	**255**	*e*P	**Pn**	**21 52 44.2**	**+0.2**
	baz=248						
NNSB				*e*S	**Sn**	**21 53 05.0**	**+0.1**
	baz=248						
NNSH	**Datong**	**1.43**	**255**	*e*P	**Pn**	**21 52 44.2**	**+0.2**
	baz=248						
NNSH				S	**Sn**	**21 53 04.4**	**-0.6**
	baz=248						
NNS	**Nan Shan**	**1.43**	**255**	*e*P	**Pn**	**21 52 44.3**	**+0.2**
	baz=248						
NNS				*e*S	**Sn**	**21 53 04.7**	**-0.4**
	baz=248						
WHF	**Hehuan Shan**	**1.62**	**246**	*e*P	**Pn**	**21 52 46.5**	**0.0**
	baz=245						
WHF				*e*S	**Sn**	**21 53 08.6**	**-0.8**
	baz=245						
JTJ	**Tarama**	**1.65**	**96**	P	**Pn**	**21 52 46.3**	**-0.1**
JTJ				*e*S	**Sn**	**21 53 08.6**	**-0.7**
ESL	**Shilin**	**1.66**	**234**	*e*P	**Pn**	**21 52 45.9**	**-0.6**
	baz=228						
ESL				*e*S	**Sn**	**21 53 08.5**	**-1.0**
	baz=228						
TDCB	**Techi**	**1.68**	**251**	*e*P	**Pn**	**21 52 47.6**	**+0.8**
	baz=243						
TDCB				*e*S	**Sn**	**21 53 10.3**	**+0.3**
	baz=243						
NSTT	**Nanjuang**	**1.73**	**264**	*e*S	**Sn**	**21 53 09.7**	**-1.2**
	baz=262						
CHGB	**Renai**	**1.74**	**245**	*e*P	**Pn**	**21 52 47.7**	**+0.1**
	baz=239						
CHGB				*e*S	**Sn**	**21 53 11.7**	**+0.3**
	baz=239						
EGFH	**Guangfu**	**1.76**	**230**	*e*P	**Pn**	**21 52 47.0**	**-0.6**
	baz=229						
EGFH				*e*S	**Sn**	**21 53 10.7**	**-0.7**
	baz=229						
WHP	**Taichung City**	**1.85**	**254**	*e*P	**Pn**	**21 52 49.5**	**+0.7**
	baz=260						
WHP				*e*S	**Sn**	**21 53 14.2**	**+0.6**
	baz=260						
HGSD	**Ruisui**	**1.88**	**226**	*e*P	**Pn**	**21 52 49.5**	**+0.5**
	baz=230						
HGSD				*e*S	**Sn**	**21 53 13.5**	**-0.5**
	baz=230						
VWDT	**VWDT**	**1.92**	**237**	*e*P	**Pn**	**21 52 49.9**	**+0.4**
	baz=236						
VWDT				S	**Sn**	**21 53 14.3**	**-0.5**
	baz=236						
EHY	**Hungye**	**1.94**	**228**	*e*P	**Pn**	**21 52 48.5**	**-1.3**
	baz=227						
EHY				*e*S	**Sn**	**21 53 13.6**	**-1.7**
	baz=227						
YULB	**Yu-li**	**2.03**	**226**	*e*P	**Pn**	**21 52 50.4**	**-0.5**
	baz=231						
YULB				*e*S	**Sn**	**21 53 16.2**	**-1.1**
	baz=231						
SMLT	**Sun Moon Lake**	**2.04**	**243**	*e*P	**Pn**	**21 52 52.1**	**+0.9**
	baz=238						
SMLT				*e*S	**Sn**	**21 53 18.4**	**+0.7**
	baz=238						
SSLB	**Suanglung**	**2.04**	**240**	*e*P	**Pn**	**21 52 51.5**	**+0.5**
	baz=237						
SSLB				*e*S	**Sn**	**21 53 17.3**	**-0.3**
	baz=237						
TWF1	**Yuli**	**2.06**	**225**	*e*P	**Pn**	**21 52 50.9**	**-0.4**
	baz=231						
TWF1				*e*S	**Sn**	**21 53 17.1**	**-0.9**
	baz=231						
JIRB	**Irabujima**	**2.07**	**89**	P	**Pn**	**21 52 51.6**	**+0.2**
JIRB				S	**Sn**	**21 53 17.8**	**-0.3**
JIKM	**Ikemajima**	**2.14**	**87**	P	**Pn**	**21 52 52.1**	**-0.1**
WHYT	**Xinyi Township**	**2.17**	**240**	*e*P	**Pn**	**21 52 53.4**	**+0.7**
	baz=236						
WHYT				*e*S	**Sn**	**21 53 20.9**	**+0.6**
	baz=236						
FULB	**Fuli**	**2.17**	**223**	*e*P	**Pn**	**21 52 52.7**	**+0.1**
	baz=218						
FULB				*e*S	**Sn**	**21 53 21.1**	**+0.6**
	baz=218						
JMJ2	**Miyako jima3**	**2.21**	**91**	P	**Pn**	**21 52 53.4**	**+0.3**
ALS	**Alishan**	**2.31**	**236**	*e*P	**Pn**	**21 52 54.8**	**+0.2**
	baz=235						
ALS				*e*S	**Sn**	**21 53 24.4**	**+0.6**
	baz=235						
TWH	**Lutao**	**2.46**	**212**	*e*P	**Pn**	**21 52 56.1**	**-0.1**
	baz=212						
TWH				*e*S	**Sn**	**21 53 26.2**	**-0.7**
	baz=212						
WTP	**Ta-pu**	**2.60**	**234**	*e*P	**Pn**	**21 52 58.5**	**+0.4**
	baz=233						
WTP				*e*S	**Sn**	**21 53 30.9**	**+0.8**
	baz=233						
SLGT	**Liugui**	**2.74**	**229**	*e*P	**Pn**	**21 53 00.5**	**+0.7**
	baz=237						
SLGT				*e*S	**Sn**	**21 53 34.5**	**+1.3**
	baz=237						

ISC 08 21:52:31.9±1.0, 44°.77N±0°.03×17°.09E±0°.04, h4km±11km, n12, σ0s49/22, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	**Banja Luka**	**0.07**	**105**	*e*Pg	**Pg**	**21 52 33.4**	**-0.1**
BLY				*e*Sg	**Sg**	**21 52 34.5**	**-0.1**
MOSL	**Moslavina**	**0.88**	**345**	*e*Pg	**Pg**	**21 52 48.8**	**0.0**
MOSL				Sg	**Sg**	**21 53 00.5**	**+0.3**
KIJV	**Kijevo**	**0.91**	**213**	*e*Pg	**Pg**	**21 52 49.1**	**-0.2**
KIJV				Sg	**Sg**	**21 53 01.0**	**0.0**
UDBI	**Udbina**	**0.97**	**256**	*e*Pg	**Pg**	**21 52 49.9**	**-0.7**
MORI	**Morici**	**1.34**	**228**	*e*Pg	**Pb**	**21 52 57.5**	**-0.1**
MORI				Sg	**Sg**	**21 53 15.5**	**+0.6**
PTJ	**Puntijarka**	**1.39**	**326**	*e*Pg	**Pb**	**21 52 58.6**	**+0.1**
PTJ				Sg	**Sg**	**21 53 16.5**	**+0.1**
OZLJ	**Ozalj**	**1.42**	**307**	*e*Pn	**Pb**	**21 52 58.7**	**-0.3**
OZLJ				Sg	**Sg**	**21 53 17.8**	**+0.2**
KALN	**Kalnik**	**1.43**	**342**	*e*Pn	**Pn**	**21 52 58.9**	**+0.1**
KALN				Sg	**Sb**	**21 53 17.7**	**-0.1**
MAKA	**Makarska**	**1.48**	**182**	*e*Pn	**Pn**	**21 52 59.6**	**+0.3**
MAKA				Sg	**Sg**	**21 53 20.2**	**+0.7**
DUGI	**Dugi Otok**	**1.65**	**243**	*e*Pn	**Pb**	**21 53 03.1**	**+0.2**
DUGI				Sn	**Sg**	**21 53 25.7**	**+0.8**
STON	**Ston**	**1.95**	**167**	*e*Pn	**Pn**	**21 53 06.5**	**+0.7**
STON				Sn	**Sb**	**21 53 32.0**	**-0.6**
DBRK	**Dubrovnik**	**2.23**	**159**	Sn	**Sb**	**21 53 39.8**	**-1.1**

*NNC **08** 22:02:07.5±8.9, 36°.64N×69°.69E, h143km±197km, mb3.0, mpv3.7, Error ellipse: s-maj=85.3km s-min=54.1km az=39.0*

ISC 08 22:02:04.2±3.6, 36°.5N±0°.2×69°.4E±0°.1, h48km, n11, σ0s96/14, 2C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.51**	**29**	P	**Pn**	**22 03 38.4**	**+0.6**
	SNR=13						
KK31	**Karatay Array**	**6.63**	**7**	P	**Pn**	**22 03 40.4**	**+1.2**
	1.3nm,0.3s,baz=178,slow=12,SNR=32						
KK31				⇑S	**Sn**	**22 04 53.3**	**-0.1**
	0.4nm,0.2s,baz=209,slow=19,SNR=4.4						
UCH	**Uchtor**	**6.93**	**33**	P	**Pn**	**22 03 44.0**	**+0.4**
	SNR=19						
EKS2	**Erkin-Say**	**7.00**	**27**	P	**Pn**	**22 03 46.4**	**+2.2**
	SNR=7.0						
AAK	**Ala-Archa**	**7.26**	**31**	P	**Pn**	**22 03 49.0**	**+1.2**
	SNR=7.7						
AAK	**Ala-Archa**	**7.26**	**31**	⇓P	**Pn**	**22 03 48.3**	**+0.5**
	1.8nm,0.3s						
AAK				⇑S	**Sn**	**22 05 08.6**	**-0.3**
	2.9nm,0.7s						
CHMS	**Chumysh**	**7.66**	**31**	P	**Pn**	**22 03 53.3**	**+0.1**
	SNR=8.7						
USP	**Ospennovka**	**7.79**	**28**	P	**Pn**	**22 03 55.5**	**+0.5**
	SNR=5.9						
TKM2	**Tokmak 2**	**7.97**	**35**	P	**Pn**	**22 03 57.2**	**-0.4**
	SNR=6.5						
TKM2	**Tokmak 2**	**7.97**	**35**	⇓P	**Pn**	**22 03 57.2**	**-0.4**
	2.9nm,0.6s						
AB31	**Akbulak array**	**14.49**	**334**	P	**Pn**	**22 05 25.8**	**-0.5**
	0.6nm,0.2s,baz=167,slow=12,SNR=22						
AB31				S	**Sn**	**22 08 04.8**	**-0.7**
	0.6nm,0.4s,baz=164,slow=22,SNR=4.0						

IDC 08 22:18:11.0±2.4, 6°.89S×128°.90E, h0km, mb3.2/1, mb1 3.7/4, mb1mx3.5/30, mbtmp3.5/4, ML3.6/3, Error ellipse: s-maj=104.4km s-min=29.8km az=75.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.59**	**196**	Pn	Pn	22 20 57.5	-0.3
	0.3nm,0.3s,baz=23,slow=11,SNR=10						
FITZ				Sn	Sn	22 22 51.0	-17
	0.3nm,0.3s,baz=55,slow=12,SNR=1.7						
WRA	**Warramunga Arr**	**14.01**	**158**	Pn	Pn	22 21 31.1	+0.1
	0.4nm,0.3s,baz=340,slow=14,SNR=11						
WRA				Sn	Sn	22 23 52.9	-15
	0.5nm,0.3s,baz=326,slow=23,SNR=6.3						
ASAR	**Alice Springs**	**17.37**	**164**	P	Pn	22 22 15.1	+0.1
	0.2nm,0.3s,baz=340,slow=11,SNR=14						
ASAR				S	Sn	22 25 13.6	-15
	0.1nm,0.3s,baz=316,slow=20,SNR=2.4						
MKAR	**Makanchi Array**	**67.53**	**327**	P	P	22 29 09.3	+0.1
	0.2nm,0.6s,baz=131,slow=6.5,SNR=2.2						

KRSC 08 22:37:15.6±1.1, 55°.01N×165°.46E, h32km±11km, ML3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.36**	**56**	P	Pn	22 37 24.2	-0.3
BKI				S	Sb	22 37 29.1	-0.5
KBTR	**Krutoberegovo**	**1.92**	**310**	P	Pn	22 37 47.7	+1.7
KBTR				S	Sn	22 38 10.0	+0.9
TUMD	**Tumrok D**	**2.91**	**276**	S	Sb	22 38 39.0	-2.9
KZV	**Kizimen**	**2.97**	**274**	P	Pb	22 38 04.8	-3.1
KZV				S	Sn	22 38 39.2	+4.0
TUMR	**Tumrok**	**3.06**	**277**	P	Pb	22 38 06.7	-2.7
TUMR				S	Sb	22 38 42.0	-4.3
SPN	**Mys Shipunski**	**3.73**	**241**	P	Pn	22 38 14.0	+3.7
SPN				S	Sn	22 38 56.8	+3.1
NLC	**Nalytchevo**	**4.04**	**245**	S	Sn	22 39 05.4	+4.1
SDLR	**Sedlovina**	**4.24**	**249**	P	Pn	22 38 23.0	+5.0
SMAR	**Somma**	**4.29**	**249**	*e*P	Pn	22 38 23.8	+5.1
SMAR				S	Sn	22 39 12.2	+4.5
KRER	**Koryakskii**	**4.30**	**249**	P	Pn	22 38 24.3	+5.4
KRER				S	Sn	22 39 12.3	+4.3
UGLR	**Uglovaya**	**4.30**	**248**	P	Pn	22 38 23.8	+5.0
AVH	**Avacha**	**4.32**	**249**	*e*P	Pn	22 38 24.5	+5.4
AVH				S	Sn	22 39 12.8	+4.5
KRX	**Arik**	**4.33**	**250**	*e*P	Pn	22 38 24.4	+5.2
KRX				S	Sn	22 39 12.4	+3.8
KOK	**Koryaka**	**4.36**	**250**	P	Pn	22 38 25.1	+5.4
KRMR	**Karymshinskiy**	**4.85**	**246**	S	Sn	22 39 26.0	+4.8
MTVR	**Mutnovka**	**5.00**	**243**	P	Pn	22 38 33.2	+4.7
MTVR				S	Sn	22 39 28.9	+3.6

*IDC **08** 22:50:32.4±1.8, 51°.78N×178°.85W, h0km, mb3.6/7, mb1 4.0/8, mb1mx3.6/52, mbtmp3.7/8, ML4.5/1, MS2.4/1, Ms1 2.4/1, ms1mx2.1/34, Error ellipse: s-maj=50.7km s-min=28.1km az=178.0*
*NEIC **08** 22:50:49.1±1.2, 51°.8N±0°.1×177°.49W±0°.07, h95km±3km, Error ellipse: s-maj=19.3km s-min=5.7km az=172.0*
*AEIC **08** 22:50:49±1.8, 51°.8N±0°.1×177°.50W±0°.07, h89km±3km, ML3.4, mb3.9/13(NEIC), Error ellipse: s-maj=19.1km s-min=5.6km az=171.0*

**ISC 08 22:50:48.7±0.8, 51°.8N±0°.1×177°.49W±0°

comp=Z,9.4nm,1.1s
DHY Denali Highway 19.54 43 P **P** **22 55 08.6 +0.1**
DHY IAmb IAmb 22 55 09.4
comp=Z,5.4nm,0.5s
CCB Clear Creek Bu 20.00 39 P **P** **22 55 13.1 -0.1**
ILAR Eielson Array 20.41 39 P **P** **22 55 16.7 -1.0**
comp=Z,0.5nm,0.6s,baz=243,slow=9.1,SNR=8.4
DOT Dot Lake 21.14 43 P **P** **22 55 25.2 -0.4**
INK Inuvik 25.65 35 P **P** **22 56 17.1 -0.8**
comp=Z,0.9nm,0.6s,baz=262,slow=13,SNR=1.3
INK Inuvik 26.65 35 P **P** **22 56 18.1 +0.1**
INK IAmb IAmb 22 56 31.7
comp=Z,3.6nm,1.1s
H11N2 WAKE ISLAND Hy 34.26 207 T T 23 34 06.8
baz=18,slow=76,SNR=35
H11N3 WAKE ISLAND Hy 34.27 207 T T 23 34 07.5
baz=18,slow=76,SNR=34
H11N1 WAKE ISLAND Hy 34.28 207 T T 23 34 07.8
baz=18,slow=76,SNR=32
YKA Yellowknife Ar 34.35 47 P **P** **22 57 25.7 -0.1**
comp=Z,0.3nm,0.4s,baz=272,slow=9.3,SNR=4.1
H11S1 WAKE ISLAND Hy 35.48 206 T T 23 35 38.0
baz=17,slow=76,SNR=4.2
H11S2 WAKE ISLAND Hy 35.49 206 T T 23 35 38.7
baz=17,slow=76,SNR=2.6
H11S3 WAKE ISLAND Hy 35.49 206 T T 23 35 38.3
baz=17,slow=76,SNR=5.9
GDXM Geysers 39.68 87 P **P** **22 58 09.8 -1.4**
NVAR Mina Array Bea 42.69 84 P **P** **22 58 38.1 +2.0**
comp=Z,0.3nm,0.7s,baz=302,slow=5.2,SNR=2.9
PDAR Pinedale Array 45.41 73 P **P** **22 58 58.6 +0.9**
comp=Z,1.8nm,0.8s,baz=298,slow=4.2,SNR=10
PATS Pohnpei 49.06 213 P **P** **22 59 26.0 -0.1**
TXAR Lajitas Array 57.78 82 P **P** **23 00 31.0 +1.1**
comp=Z,0.5nm,0.7s,baz=310,slow=5.9,SNR=4.6
MKAR Makanchi Array 60.41 309 P P 23 00 38.3 -9.4
comp=Z,1.7nm,0.8s,baz=64,slow=6.6,SNR=3.2
TORD Torodi Ar. Bea 115.33 1 PKP **PKiKP** **23 09 16.8 -2.4**
comp=Z,0.2nm,0.4s,baz=7.9,slow=1.9,SNR=5.4
H03N2 Juan Fernandez 120.47 106 T T 01 21 14.0
baz=317,slow=77,SNR=8.8
H03N1 Juan Fernandez 120.49 106 T T 01 21 15.2
baz=317,slow=77,SNR=14
H03N3 Juan Fernandez 120.49 106 T T 01 21 14.9
baz=317,slow=77,SNR=14

NIED ***08*** *22:50:00,41.00N×141.60E,h74km,Mw4.6 Best double couple: M₀1.02000×10¹⁶ NP1:φ₀215.00000°,δ67.00000°, λ143.00000°. NP2:φ₀321.00000°,δ56.00000°,λ28.00000°.*

BJI ***08*** *22:50:56.7±0.0,41.00N×141.60E,h85km,mB4.9/26, mb4.8/40,Ms3.8/8,Ms7 3.6/2*

IDC ***08*** *22:50:60.0±1.1,40.95N×141.54E,h90km±10km,mb4.0/27, mb1 4.2/34,mb1mx4.1/52,mbtmp4.3/34,MS3.3/24, Ms1 3.3/24,ms1mx3.2/38,Error ellipse: s-maj=12.3km s-min=7.5km az=112.0*

NEIC ***08*** *22:50:59.4±1.4,40.96N±0.06×141.64E±0.10,h90km±6km, mb4.6/65,Error ellipse: s-maj=11.9km s-min=7.1km az=125.0*

JMA ***08*** *22:50:59.1±0.1,40.96N×141.61E,h82km±1km,M4.6 Broadband fault plane solution: P waves. NP1: φ₀307.00000°,δ74.00000°,λ1.00000°. NP2:φ₀217.00000°, δ89.00000°,λ164.00000°. Principal axes: T Plg12.0000°, Azm171.0000°; N Plg74.0000°, Azm35.0000°; P Plg11.0000°, Azm263.0000°;*

JMA Felt III J1.

GCMT ***08*** *22:51:02.4±0.5,41.08N±0.03×141.49E±0.04,h91km±5km, MW4.8/85,Moment Tensor Solution. s11,c11; s85,c116; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr0.53±.09; Mθθ1.17±.09; Mφφ-1.70±.08; Mrθ-0.64±.05; Mθφ0.13±.09; Mφr-0.51±.06; Best double couple: M₀1.71000×10¹⁶ NP1:φ₀316.00000°,δ58.00000°,λ16.00000°. NP2: φ₀217.00000°,δ76.00000°,λ147.00000°. Principal axes: T 1.6090, Plg33.0000°, Azm172.0000°; N 0.1980, Plg54.0000°, Azm18.0000°; P -1.8100, Plg12.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 22:50:58.8±0.6,40.93N±0.03×141.61E±0.04,h83km±5km, n191,σ1s31/196,mb4.4/73,18C-4D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JARK	**Aomorirokkasho**	**0.20**	**293**	↑P	**Pn**	**22 51 11.2**	**+0.4**
JARK				S	**Sn**	**22 51 20.1**	**+0.4**
JAHD	**Aomorihigashid**	**0.39**	**329**	↑P	**Pn**	**22 51 12.2**	**+0.3**
JAHD				S	**Sn**	**22 51 21.9**	**+0.3**
JTM	**Tenmabayashi**	**0.43**	**251**	↓P	**Pn**	**22 51 12.4**	**+0.2**
JTM				S	**Sn**	**22 51 22.3**	**+0.2**
JANG	**Nango**	**0.56**	**187**	↑P	**Pn**	**22 51 13.6**	**+0.3**
JANG				S	**Sn**	**22 51 24.0**	**-0.1**
JOT	**Ohata**	**0.62**	**317**	↑P	**Pn**	**22 51 13.8**	**0.0**
JOT				S	**Sn**	**22 51 25.1**	**+0.2**
JAH	**Hinai**	**1.05**	**225**	↓P	**Pn**	**22 51 19.6**	**+1.1**
JAH				S	**Sn**	**22 51 34.8**	**+1.5**
JKB	**Kayabe**	**1.05**	**336**	↑P	**Pn**	**22 51 18.8**	**+0.3**
JKB				S	**Sn**	**22 51 33.9**	**+0.6**
JSR	**Shiriuchi**	**1.08**	**304**	↑P	**Pn**	**22 51 19.0**	**+0.2**
JSR				S	**Sn**	**22 51 33.8**	**-0.1**
JIW	**Iwasaki**	**1.26**	**255**	↓P	**Pn**	**22 51 21.8**	**+0.7**
JIW				S	**Sn**	**22 51 39.1**	**+1.1**
JOMM	**Oshimamatsumae**	**1.34**	**297**	P	**Pn**	**22 51 22.2**	**+0.1**
JOMM				S	**Sn**	**22 51 39.2**	**-0.6**
JOM	**Ohasama**	**1.48**	**189**	↑P	**Pn**	**22 51 24.8**	**+0.9**
JOM				S	**Sn**	**22 51 44.1**	**+1.3**
JYM2	**Yakumo 2**	**1.50**	**322**	↑P	**Pn**	**22 51 25.0**	**+0.8**
JYM2				S	**Sn**	**22 51 44.0**	**+0.5**
ERM	**Erimo**	**1.59**	**47**		**Pn**	**22 51 26.0**	**+0.7**
ERM				Sn	**Sn**	**22 51 44.9**	**-0.5**
JEM	**Erimo**	**1.59**	**47**	↓P	**Pn**	**22 51 26.0**	**+0.7**
JEM				S	**Sn**	**22 51 45.1**	**-0.4**
JNB	**Noboribetsu**	**1.59**	**345**	↑P	**Pn**	**22 51 25.5**	**+0.1**
JNB				S	**Sn**	**22 51 45.6**	**+0.1**
JNBK	**Urakawa-nobuka**	**1.60**	**32**	↑P	**Pn**	**22 51 26.0**	**+0.6**
JNBK				S	**Sn**	**22 51 46.8**	**+1.2**
JIAM	**Iburiatsuma**	**1.71**	**8**	↑P	**Pn**	**22 51 27.8**	**+1.0**
JIAM				eS	**Sn**	**22 51 49.4**	**+1.3**
ASAJ	**Asahikawa**	**3.27**	**13**	P	**Pn**	**22 51 48.3**	**+0.6**
	72nm,0.3s,baz=228,slow=10,SNR=155						
ASAJ				S	**Sn**	**22 52 26.8**	**+1.3**
	27nm,0.3s,baz=107,slow=19,SNR=2.4						
ASAJ				LR	LR	22 53 36.4	
	comp=Z,295nm,19.1s,baz=189,slow=48						
JKA	**Kamikawa-asahi**	**3.27**	**13**		**Pn**	**22 51 48.3**	**+0.6**
JKA					**Sn**	**22 52 26.8**	**+1.3**
MJB9	**Matsu-Tunnel**	**5.12**	**212**		**Pn**	**22 52 15.1**	**+2.1**
MAJO	**Matsushiro**	**5.12**	**212**	Pn	**Pn**	**22 52 15.3**	**+2.2**
MAT	**Matsushiro**	**5.12**	**212**	P	**Pn**	**22 52 15.1**	**+2.1**
MAT				S	**Sn**	**22 53 13.4**	**+2.5**
MJAR	**Matsushiro Arr**	**5.12**	**212**	P	**Pn**	**22 52 15.2**	**+2.2**
	3.2nm,0.3s,baz=22,slow=15,SNR=363						
MJAR				S	**Sn**	**22 53 13.2**	**+2.4**
	baz=8.2,slow=26,SNR=2.2						
YSS	**Yuzh-Sakhalins**	**6.08**	**7**	Pn	**Pn**	**22 52 26.5**	**+0.6**
INU	**Inuyama**	**6.64**	**214**	Pn	**Pn**	**22 52 35.4**	**+1.7**
USA0B	**Ussuriysk Arra**	**7.81**	**298**	Pn	**Pn**	**22 52 51.2**	**+1.6**
USRK	**Ussuriysk Ar.**	**7.81**	**298**	P	**Pn**	**22 52 50.8**	**+1.2**
	baz=105,slow=14,SNR=86						
USRK				LR	LR	22 55 47.7	
	comp=Z,208nm,21.3s,baz=104,slow=37						
JHJ	**Hachijo jima 2**	**7.93**	**191**	P	**Pn**	**22 52 48.0**	**-3.3**
	93nm,0.3s,baz=306,slow=20,SNR=31						
JHJ				S	**Sn**	**22 54 12.3**	**-7.1**
	15nm,0.3s,baz=60,slow=20,SNR=1.4						
JHJ2	**Mitsune**	**7.93**	**191**	Pn	**Pn**	**22 52 51.4**	**+0.1**
MDJ	**Mudanjiang**	**9.57**	**297**	Pn	**Pn**	**22 53 16.1**	**+2.5**
KSRS	**Korea Array**	**11.17**	**256**	P	**Pn**	**22 53 37.6**	**+2.2**
	1.5nm,0.3s,baz=66,slow=13,SNR=41						
KSRS				S	**Sn**	**22 55 40.4**	**+2.0**
	baz=67,slow=23,SNR=2.7						
KSRS				LR	LR	22 57 30.4	
	comp=Z,168nm,21.0s,baz=68,slow=35						
KS19	**Wonju Array Si**	**11.19**	**257**		**Pn**	**22 53 39.4**	**+3.6**
JNU	**Nakatsue**	**11.58**	**231**	P	**Pn**	**22 53 42.2**	**+1.2**
	0.5nm,0.3s,baz=43,slow=6.0,SNR=8.1						
JNU				LR	LR	22 58 14.8	
	comp=Z,74nm,21.9s,baz=37,slow=38						
INCN	**Inchon**	**12.11**	**258**	Pn	**Pn**	**22 53 52.8**	**+4.5**
PETK	**Petropavlovsk-**	**16.35**	**36**	P	**Pn**	**22 54 42.5**	**-0.5**
	0.6nm,0.3s,baz=209,slow=11,SNR=7.1						
PETK				LR	LR	23 01 12.8	
	comp=Z,71nm,21.9s,baz=233,slow=38						
HIA	**Hailar**	**17.50**	**306**	P	**P**	**22 54 54.9**	**-2.4**
MA2	**Magadan**	**19.53**	**14**	P	**P**	**22 55 18.0**	**-1.3**
	1.0nm,0.3s,baz=232,slow=12,SNR=1.5						
MA2				LR	LR	23 03 22.1	
	comp=Z,83nm,19.6s,baz=198,slow=38						
TIA	**Tai'an**	**19.69**	**264**	P	**P**	**22 55 19.9**	**-1.4**
TIA				pmax	pmax		
	comp=Z,9.0nm,0.7s						
ULN	**Ulaanbaatar**	**25.48**	**297**	P	**P**	**22 56 19.0**	**-0.3**
SONM	**Songino Array**	**25.93**	**297**	P	**P**	**22 56 22.8**	**-0.5**
	2.4nm,0.6s,baz=95,slow=8.8,SNR=17						
SONM				LR	LR	23 07 14.6	
	comp=Z,83nm,18.6s,baz=94,slow=38						
XAN	**Xi'an**	**26.72**	**266**	P	**P**		
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XAN	**Xi'an**	**26.72**	**266**	P	**P**	**22 56 29.1**	**-1.3**
XAN				IAmb	IAmb	22 56 32.9	
	comp=Z,10.0nm,0.9s						
TLY	**Talaya**	**28.04**	**305**	LR	LR	23 08 08.8	
	comp=Z,45nm,20.0s,baz=95,slow=37						
ENH	**Enshi**	**28.05**	**258**	P	**P**	**22 56 40.9**	**-1.4**
ENH				IAmb	IAmb	22 56 44.7	
	comp=Z,12nm,0.9s						
HKPS	**Hong Kong Po S**	**29.69**	**240**	P	**P**	**22 56 55.7**	**-1.2**
H11N2	**WAKE ISLAND Hy**	**30.19**	**127**	T	T	23 28 07.5	
	baz=318,slow=75,SNR=105						
H11N1	**WAKE ISLAND Hy**	**30.20**	**127**	T	T	23 28 01.5	
	baz=318,slow=75,SNR=122						
H11N3	**WAKE ISLAND Hy**	**30.21**	**127**	T	T	23 28 08.9	
	baz=318,slow=75,SNR=162						
H11S1	**WAKE ISLAND Hy**	**31.02**	**129**	T	T	23 30 41.5	
	baz=322,slow=74						
H11S3	**WAKE ISLAND Hy**	**31.02**	**129**	T	T	23 29 57.4	
	baz=322,slow=74,SNR=66						
H11S2	**WAKE ISLAND Hy**	**31.03**	**129**	T	T	23 29 57.0	
	baz=322,SNR=72						
GTA	**Gaotai**	**31.75**	**281**	*e*P	**P**	**22 57 13.9**	**-1.2**
GTA				pP	pP	22 57 36.7	+2.5
GTA				sP	sP	22 57 46.2	+2.4
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,32nm,4.8s						
GTA				LR	LR		
	comp=Z,68nm,13.2s						
GTA				LR	LR		
	comp=Z,150nm,16.2s						
GTA				LR	LR		
	comp=Z,140nm,17.0s						
CD2	**Chengdu**	**32.02**	**264**	*e*P	**P**	**22 57 17.0**	**-0.4**
GYA	**Guiyang**	**32.22**	**254**	P	**P**	**22 57 18.2**	**-1.1**
GYA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SLVN	**Son La**	**37.35**	**250**	P	**P**	**22 58 03.6**	**+0.2**
SLVN				IAmb	IAmb	22 58 06.2	
	comp=Z,9.6nm,1.0s						
ZAA0	**Zalesovo Array**	**39.49**	**309**	P	**P**	**22 58 20.1**	**-0.8**
ZAA0				IAmb	IAmb	22 58 22.8	
	comp=Z,1nm,0.8s						
ZALV	**Zalesovo Beam**	**39.49**	**309**	P	**P**	**22 58 20.7**	**-0.2**
	comp=Z,13nm,0.7s,baz=86,slow=7.9,SNR=42						
ZALV				PcP	**PcP**	**23 00 27.3**	**+0.3**
	comp=Z,2.7nm,0.5s,baz=101,slow=2.8,SNR=6.6						
ZALV				ScP	**ScP**	**23 04 07.0**	**-1.1**
	comp=Z,0.6nm,0.5s,baz=72,slow=4.7,SNR=3.8						
ZALV				LR	LR	23 14 10.7	
	comp=Z,48nm,20.6s,baz=81,slow=35						
NRIK	**Noril'sk**	**39.82**	**333**	P	**P**	**22 58 23.3**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=135,slow=4.3,SNR=5.0						
DLV	**T Lat**	**40.96**	**235**	P	**P**	**22 58 33.0**	**-0.6**
DLV				IAmb	IAmb	22 58 38.0	
	comp=Z,16nm,0.8s						
LSA	**Lhasa**	**42.15**	**271**	P	**P**	**22 58 44.9**	**+1.3**
LSA				pmax	pmax		
	comp=Z,65nm,1.2s						
LSA	**Lhasa**	**42.15**	**271**	P	**P**	**22 58 42.2**	**-1.4**
MK31	**Makanchi Array**	**42.28**	**299**	P	**P**	**22 58 43.7**	**-0.3**
MK31				IAmb	IAmb	22 58 45.8	
	comp=Z,13nm,0.8s						
MKAR	**Makanchi Array**	**42.28**	**299**	P	**P**	**22 58 43.7**	**-0.3**
	comp=Z,14nm,0.7s,baz=83,slow=9.4,SNR=90						
MKAR				ScP	**ScP**	**23 04 18.1**	**-1.2**
	comp=Z,0.8nm,1.0s,baz=74,slow=5.1,SNR=3.8						
MKAR				LR	LR	23 16 45.9	
	comp=Z,51nm,19.6s,baz=78,slow=37						
MAKZ	**Makanchi**	**42.48**	**299**	P	**P**	**22 58 45.2**	**-0.4**
CHTO	**Chiang Mai**	**42.53**	**252**	P	**P**	**22 58 46.1**	**-0.1**
CHTO				IAmb	IAmb	22 58 52.4	
	comp=Z,9.6nm,0.7s						
SIJI	**Sorong**	**42.66**	**195**	P	**P**	**22 58 47.6**	**+0.4**
	comp=Z,6.1nm,0.4s,baz=63,slow=8.4,SNR=6.3						
CMAR	**Chiang Mai Arr**	**42.76**	**251**	P	**P**	**22 58 48.6**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=43,slow=8.1,SNR=14						
CMAR				LR	LR	23 16 31.7	
	comp=Z,36nm,21.7s,baz=50,slow=36						
JAY	**Jaipura**	**43.25**	**181**	P	**P**	**22 58 52.1**	**+0.1**
	comp=Z,6.0nm,0.9s,baz=321,slow=6.6,SNR=3.8						
KURK	**Kurchatov**	**43.73**	**305**	P	**P**	**22 58 55.4**	**-0.2**
SHL	**Shillong**	**43.74**	**265**	P	**P**	**22 58 55.4**	**-0.7**
PPLA	**Purkeypile**	**43.93**	**37**		**P**	**22 58 57.4**	**+0.2**
KDAK	**Kodiak Island**	**44.16**	**45**	P	**P**	**22 58 59.4**	**+0.5**
	comp=Z,4.9nm,0.8s,baz=250,slow=0.7,SNR=3.6						
KDAK	**Kodiak Island**	**44.16**	**45**	P	**P**	**22 58 59.2**	**+0.4**
KTH	**Kantishna Hill**	**44.48**	**36**	P	**P**	**22 59 01.5**	**+0.1**
KTH				IAmb	IAmb	22 59 07.2	
	comp=Z,7.1nm,0.8s						
TAPN	**Taplejung**	**45.94**	**270**	*e*P	**P**	**22 59 14.2**	**+0.4**
DHY	**Denali Highway**	**46.11**	**37**	IAmb	IAmb	22 59 19.3	
	comp=Z,3.7nm,0.8s						
ILAR	**Eielson Array**	**46.16**	**34**	P	**P**	**22 59 15.4**	**+0.8**
	comp=Z,2.4nm,0.8s,baz=267,slow=5.8,SNR=26						
ILAR				LR	LR	23 21 27.0	
	comp=Z,16nm,18.1s,baz=300,slow=40						
ODAN	**Odare**	**46.44**	**270**	*e*P	**P**	**22 59 17.9**	**+0.3**
	comp=Z,85nm,1.0s						
FYU	**Fort Yukon**	**46.69**	**32**	P	**P**	**22 59 20.9**	**+2.2**
FYU				IAmb	IAmb	22 59 24.5	
	comp=Z,10nm,0.9s						
TARG	**Taragay, Kyrgy**	**46.91**	**293**	P	**P**	**22 59 21.2**	**-0.1**
JIRN	**Jiri**	**46.93**	**272**	*e*P	**P**	**22 59 21.8**	**+0.2**
RAMN	**Ramite**	**46.99**	**271**	*e*P	**P**	**22 59 21.8**	**-0.2**
	comp=Z,76nm,0.7s						
GUN	**Gumba**	**47.04**	**272**	*e*P	**P**	**22 59 22.6**	**+0.2**
	comp=Z,181nm,0.5s						
PKI	**Pulchoki**	**47.57**	**272**	*e*P	**P**	**22 59 26.2**	**-0.3**
	comp=Z,36nm,0.8s						
PKIN	**Phulchoki**	**47.58**	**272**	*e*P	**P**	**22 59 26.3**	**-0.2**
	comp=Z,32nm,0.7s						
DMN	**Daman**	**47.78**	**272**	*e*P	**P**	**22 59 28.0**	**-0.1**
	comp=Z,51nm,0.8s						
TKM2	**Tokmak 2**	**48.00**	**295**	P	**P**	**22 59 31.5**	**+1.9**
	SNR=16						
BRVK	**Borovoye**	**48.18**	**310**	P	**P**	**22 59 30.2**	**-0.2**
BRVK				IAmb	IAmb	22 59 38.4	
	comp=Z,5.6nm,1.1s						
DANN	**Dangsing**	**48.42**	**274**	*e*P	**P**	**22 59 33.4**	**+0.4**
KZA	**Kyzart**	**48.55**	**295**	P	**P**	**22 59 35.2**	**+1.2**
	SNR=7.0						
USP	**Ospenovka**	**48.62**	**296**	P	**P**	**22 59 35.7**	**+1.6**
	SNR=9.0						
KOLN	**Koldanda**	**48.84**	**273**	*e*P	**P**	**22 59 35.6**	**-0.5**
AAK	**Ala-Archa**	**48.86**	**295**	P	**P**	**22 59 37.5**	**+1.5**
	SNR=7.3						
AAK	**Ala-Archa**	**48.86**	**295**	P	**P**	**22 59 34.6**	**-1.4**
AAK				IAmb	IAmb	22 59 38.4	
	comp=Z,9.9nm,1.0s						
UCH	**Uchtor**	**49.00**	**295**	P	**P**	**22 59 40.2**	**+2.7**
	SNR=7.3						
KSH	**Kashi**	**49.05**	**291**	*e*P	P	22 59 43.0	+5.5
PYUN	**Piuthan**	**49.13**	**274**	*e*P	**P**	**22 59 38.4**	**+0.1**
	comp=Z,91nm,0.4s						
EKS2	**Erkin-Say**	**49.34**	**296**	P	**P**	**22 59 41.2**	**+1.6**
	SNR=8.1						
AML	**Almayashu**	**49.60**	**295**	P	**P**	**22 59 42.6**	**+0.6**
	SNR=8.5						
EPYK	**Eagle Plains**	**50.10**	**31**	IAmb	IAmb	22 59 50.9	
	comp=Z,7.7nm,0.8s						
INK	**Inuvik**	**50.87**	**29**	P	**P**	**22 59 51.8**	**+1.1**
	comp=Z,2.1nm,0.4s,baz=272,slow=8.1,SNR=12						
INK	**Inuvik**	**50.87**	**29**	P	**P**	**22 59 49.9**	**-0.8**
INK				IAmb	IAmb	22 59 56.0	
	comp=Z,3.2nm,0.8s						
KULM	**Kulim**	**50.98**	**237**	P	**P**	**22 59 52.9**	**+0.7**
KULM				IAmb	IAmb	22 59 56.4	
	comp=Z,7.7nm,0.7s						
HYT	**Haines Junctio**	**51.12**	**38**	IAmb	IAmb	22 59 59.8	
	comp=Z,8.0nm,0.8s						
KK31	**Karatay Array**	**51.38**	**298**	P	**P**	**22 59 54.5**	**-0.4**
KK31				IAmb	IAmb	22 59 58.2	
	comp=Z,7.1nm,0.8s						
KKAR	**Karatay Array**	**51.38**	**298**	IAmb	IAmb	22 59 58.2	
	comp=Z,7.1nm,0.8s						
BTK	**Batken**	**52.43**	**294**	IAmb	IAmb	23 00 06.2	
	comp=Z,4.2nm,1.0s						
GAR	**Garm**	**53.24**	**293**	P	**P**	**23 00 08.2**	**-0.7**
GAR				IAmb	IAmb	23 00 11.3	
	comp=Z,6.0nm,0.6s						
ARU	**Arti**	**53.59**	**317**	P	**P**	**23 00 11.1**	**+0.1**
ARU				IAmb	IAmb	23 00 11.6	
	comp=Z,6.6nm,0.8s						
NIL	**Nilore**	**53.62**	**286**	P	**P**	**23 00 12.0**	**+0.3**
GSI	**Gunungsitoli**	**55.99**	**237**	P	**P**	**23 00 29.4**	**+0.6**
KBL	**Kabul**	**56.23**	**289**	P	**P**	**23 00 30.1**	**-0.6**
KBL				IAmb	IAmb	23 00 30.6	
	comp=Z,5.9nm,0.7s						
RES	**Resolute Bay**	**58.80**	**15**	P	**P**	**23 00 46.3**	**-1.5**
RES				IAmb	IAmb	23 00 54.5	
	comp=Z,4.5nm,0.7s						
YKA	**Yellowknife Ar**	**60.38**	**31**	P	**P**	**23 00 59.6**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=303,slow=6.3,SNR=7.5						
YKA				LR	LR	23 30 44.8	
	comp=Z,28nm,18.3s,baz=0.0,slow=40						
ARCES	**ARCESS Array B**	**60.41**	**339**	P	**P**	**23 00 59.7**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=30,slow=5.6,SNR=3.6						
ARCES				LR	LR	23 32 33.6	
	comp=Z,14nm,19.3s,baz=38,slow=41						
KLMR	**Klimovskoe**	**60.57**	**327**	*e*P	**P**	**23 00 56.5**	**-3.6**
KLMR				AMP		23 01 00.2	
	comp=Z,5.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**60.57**	**197**	P	**P**	**23 01 00.7**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=0.0,slow=6.1,SNR=1.9						
FITZ	**Fitzroy Crossi**	**60.57**	**197**	P	**P**	**23 01 00.8**	**+0.3**
FITZ				IAmb	IAmb	23 01 04.3	
	comp=Z,11nm,1.1s						
WB0	**Warramunga Arr**	**60.76**	**188**	P	**P**	**23 01 01.1**	**-0.8**
SANVU	**Saraoutou**	**60.91**	**152**	P	**P**	**23 01 02.8**	**-0.1**
WR0	**Warramunga Arr**	**60.93**	**188**	P	**P**	**23 01 02.4**	**-0.6**
WB2	**Warramunga Arr**	**60.94**	**188**	P	**P**	**23 01 02.4**	**-0.7**
WRA	**Warramunga Arr**	**60.94**	**188**	P	**P**	**23 01 02.3**	**-0.7**
	comp=Z,8.4nm,0.6s,baz=5.6,slow=6.8,SNR=24						
HRA	**Herat**	**61.15**	**292**	P	**P**	**23 01 04.0**	**-0.8**
HRA				IAmb	IAmb	23 01 08.0	
	comp=Z,4.7nm,0.8s						
GEYT	**Alibeck**	**62.13**	**297**	P	**P**	**23 01 10.7**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=46,slow=4.3,SNR=5.8						
GEYT				LR	LR	23 28 15.8	
	comp=Z,27nm,19.2s,baz=340,slow=36						
AS31	**Alice Springs**	**64.66**	**188**	P	**P**	**23 01 27.7**	**-0.1**
ASAR	**Alice Springs**	**64.66**	**188**	P	**P**	**23 01 27.6**	**-0.1**
	comp=Z,6.9nm,0.8s,baz=10,slow=6.7,SNR=38						
FIA1	**FINESS Array S**	**65.45**	**332**	P	**P**	**23 01 31.9**	**-0.6**
FIA1				IAmb	IAmb	23 01 32.9	
	comp=Z,12nm,0.8s						
FINES	**FINESS Array B**	**65.45**	**332**	P	**P**	**23 01 32.4**	**-0.1**
	comp=Z,9.2nm,0.7s,baz=50,slow=8.2,SNR=50						
KBZ	**Khabaz**	**68.51**	**310**	P	**P**	**23 01 52.7**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=44,slow=7.4,SNR=6.7						
KBZ				LR	LR	23 33 50.2	
	comp=Z,34nm,18.4s,baz=44,slow=38						
NC405	**NORSAR Array S**	**70.45**	**337**	P	**P**	**23 02 04.2**	**+0.4**
NC405				IAmb	IAmb	23 02 07.0	
	comp=Z,4.7nm,0.8s						
NB2	**NORSAR Subarra**	**70.66**	**337**	P	**P**	**23 02 04.9**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**70.66**	**337**	P	**P**	**23 02 05.2**	**0.0**
	comp=Z,2.9nm,0.7s,baz=38,slow=6.1,SNR=17						
NOA				LR	LR	23 37 29.6	
	comp=Z,8.5nm,18.3s,baz=45,slow=40						
AKASG	**Malin Array Be**	**71.32**	**322**	P	**P**	**23 02 08.9**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=42,slow=6.1,SNR=10						
DLMT	**Dillon**	**71.49**	**46**	IAmb	IAmb	23 02 13.0	
	comp=Z,5.1nm,1.0s						
SFJD	**Kangerlussuaq**	**72.00**	**5**	LR	LR	23 35 55.2	
	comp=Z,23nm,18.2s,baz=338,slow=37						
KVN	**Kaiserville**	**72.30**	**54**	P	**P**	**23 02 15.5**	**0.0**
STKA	**Stephens Creek**	**72.44**	**180**	P	**P**	**23 02 16.6**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=353,slow=9.5,SNR=5.2						
STKA				LR	LR	23 36 31.2	
	comp=Z,37nm,18.1s,baz=212,slow=38						
STKA	**Stephens Creek**	**72.44**	**180**	P	**P**	**23 02 15.7**	**-0.3**
NVAR	**Mina Array Bea**	**72.56**	**54**	P	**P**	**23 02 18.5**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=278,slow=4.9,SNR=7.5						
SORM	**Soroca**	**73.49**	**320**	↑P	**P**	**23 02 21.8**	**-0.4**
BORG	**Borgarnes**	**73.81**	**352**	LR	LR	23 37 14.5	
	comp=Z,14nm,18.5s,baz=341,slow=38						
TPNV	**Topopah Spring**	**74.76**	**54**	P	**P**	**23 02 30.1**	**+0.1**
PDAR	**Pinedale Array**	**74.85**	**46**	P	**P**	**23 02 31.4**	**+0.9**
	com

ESDC				LR	LR	23 50 16.0			
	comp=Z,23nm,18.2s,baz=190,slow=38								
TORD	**Torodi Ar. Bea**	**114.65**	**316**	PKP	PKPdf	23 09 29.8	-0.2		
	comp=Z,0.8nm,1.1s,baz=75,slow=1.6,SNR=2.7								
SNAA	**Sanae**	**144.50**	**198**	PKPdf	**PKPab**	**23 10 22.5**	**-0.5**		
VNA2	**Neumayer--Watz**	**146.09**	**198**	PKPdf	**PKPbc**	**23 10 28.2**	**+0.2**		
VNA3	**Neumayer Olymp**	**146.35**	**196**	PKPdf	**PKPbc**	**23 10 28.6**	**-0.2**		
VNA1	**Neumayer--Stat**	**146.48**	**198**	PKPdf	**PKPbc**	**23 10 29.4**	**+0.3**		
H03N2	**Juan Fernandez**	**147.08**	**90**	T	T	01 55 35.1			
	baz=300,slow=76,SNR=81								
H03N3	**Juan Fernandez**	**147.09**	**90**	T	T	01 55 32.2			
	baz=300,slow=76,SNR=39								
H03N1	**Juan Fernandez**	**147.10**	**90**	T	T	01 55 35.8			
	baz=300,slow=76,SNR=50								

*IDC **08** 23:41:21.1±1.5,34°.72N×27°.03E,h0km,mb3.6/4, mb1 3.5/5,mb1mx3.3/44,mbtmp3.5/5,ML2.6/1,MS2.5/1, Ms1 2.5/1,ms1mx2.1/29,Error ellipse: s-maj=194.6km s-min=24.1km az=141.0*

*NIC **08** 23:41:23.4±0.0,34°.87N×26°.77E,h7km±2km,Ml3.4/5*

*ATH **08** 23:41:27.0,35°.28N×26°.56E,h32km±1km,ML3.1/13,Error ellipse: s-maj=4.4km s-min=1.0km az=151.0*

*THE **08** 23:41:27.6,35°.34N×26°.54E,h0km±1km,ML2.9/5,Error ellipse: s-maj=1.7km s-min=0.6km az=336.0*

*DDA **08** 23:41:27.3,35°.36N×26°.87E,h23km±3km,ML3.1*

*ISK **08** 23:41:27.3,35°.37N×26°.54E,h15km,ML3.1/9*

ISC 08 23:41:26.1±1.0,35°.15N±0°.04×26°.69E±0°.02,h34km±3km, n93,σ1°80/127,mb3.5/4,7C,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.39**	**265**	P	**Pb**	**23 41 34.6**	**-0.5**
ZKR				S	**Sb**	**23 41 41.4**	**+0.1**
	5μm,0.4s						
ZKR	**Zakros**	**0.39**	**265**	P	**Pb**	**23 41 34.6**	**-0.5**
ZKR				S	**Sb**	**23 41 41.5**	**+0.1**
ZKR				AML	AML	23 41 41.9	
	comp=E,14103μm,0.4s						
ZKR				AML	AML	23 41 42.2	
	comp=N,6455μm,0.4s						
ZKR	**Zakros**	**0.39**	**265**	PG	**Pb**	**23 41 34.6**	**-0.5**
ZKR				SG	**Sb**	**23 41 41.0**	**-0.3**
ZKR	**Zakros**	**0.39**	**265**	⇑P	**Pb**	**23 41 34.5**	**-0.6**
ZKR				S	**Sb**	**23 41 41.5**	**+0.2**
ZKR				AML	AML	23 41 41.5	
	comp=N,14nm,0.4s						
ZKR				AML	AML	23 41 41.5	
	comp=N,14nm,0.4s						
ZKR				AML	AML	23 41 41.8	
	comp=N,6.5nm,0.4s						
ZKR				AML	AML	23 41 41.8	
	comp=N,6.5nm,0.4s						
KARP	**Karpathos**	**0.56**	**44**	P	**Pn**	**23 41 38.4**	**+0.8**
KARP				S	**Sn**	**23 41 47.8**	**+2.2**
	comp=N,5μm,0.3s						
KARP	**Karpathos**	**0.56**	**44**	P	**Pn**	**23 41 38.3**	**+0.8**
KARP				S	**Sn**	**23 41 47.9**	**+2.3**
KARP				AML	AML	23 41 50.9	
	comp=N,11302μm,0.4s						
KARP				AML	AML	23 41 51.0	
	comp=E,8526μm,0.4s						
KARP	**Karpathos**	**0.56**	**44**	PG	**Pn**	**23 41 38.4**	**+0.8**
KARP				SG	**Sn**	**23 41 47.0**	**+1.4**
KARP	**Karpathos**	**0.56**	**44**	⇑P	**Pn**	**23 41 38.3**	**+0.8**
KARP				S	**Sn**	**23 41 49.0**	**+3.4**
KARP				AML	AML	23 41 49.1	
	comp=E,8.1nm,0.2s						
KARP				AML	AML	23 41 49.1	
	comp=E,8.1nm,0.2s						
KARP				AML	AML	23 41 50.4	
	comp=E,11nm,0.4s						
KARP				AML	AML	23 41 50.4	
	comp=E,11nm,0.4s						
NPS	**Neapolis**	**0.89**	**278**	P	**Pn**	**23 41 42.5**	**+0.4**
NPS				S	**Sn**	**23 41 54.2**	**+0.4**
	comp=E,838nm,0.7s						
NPS	**Neapolis**	**0.89**	**278**	P	**Pn**	**23 41 42.5**	**+0.4**
NPS				S	**Sn**	**23 41 54.5**	**+0.8**
NPS				AML	AML	23 42 00.5	
	comp=E,1986μm,0.8s						
NPS				AML	AML	23 42 01.0	
	comp=N,1195μm,1.0s						
LAST	**Lasithi**	**0.99**	**271**	P	**Pn**	**23 41 44.3**	**+0.7**
LAST				S	**Sb**	**23 41 58.1**	**+0.4**
	comp=N,548nm,0.6s						
LAST	**Lasithi**	**0.99**	**271**	P	**Pn**	**23 41 44.0**	**+0.4**
LAST				S	**Sb**	**23 41 57.5**	**-0.1**
LAST				AML	AML	23 42 03.0	
	comp=N,1233μm,0.6s						
LAST				AML	AML	23 42 04.5	
	comp=E,940μm,0.5s						
HRKL	**Herakleio**	**1.31**	**278**	PN	**Pb**	**23 41 49.8**	**-0.3**
HRKL				SN	**Sb**	**23 42 05.9**	**-0.7**
ANAF	**Anafi Island**	**1.42**	**329**	P	**Pn**	**23 41 50.7**	**+1.3**
ANAF				AML	AML	23 42 10.7	
	comp=E,5543μm,0.5s						
ANAF				AML	AML	23 42 11.4	
	comp=N,5254μm,0.4s						
IDI	**Anoyia**	**1.48**	**276**	P	**Pb**	**23 41 52.4**	**-0.6**
IDI				S	**Sb**	**23 42 11.2**	**-0.3**
	comp=N,210nm,0.7s						
IDI	**Anoyia**	**1.48**	**276**	P	**Pb**	**23 41 52.4**	**-0.6**
IDI				AML	AML	23 42 23.1	
	comp=E,416μm,0.6s						
IDI				AML	AML	23 42 30.4	
	comp=N,448μm,0.7s						
IDI	**Anoyia**	**1.48**	**276**	PN	**Pb**	**23 41 52.2**	**-0.8**
IDI				SN	**Sn**	**23 42 10.4**	**+2.0**
NISR	**Nisiros**	**1.50**	**14**	P	**Pn**	**23 41 52.0**	**+1.4**
NISR	**Nisiros**	**1.50**	**14**	P	**Pn**	**23 41 52.0**	**+1.4**
NISR				AML	AML	23 42 18.0	
	comp=E,1429μm,0.7s						
NISR				AML	AML	23 42 23.1	
	comp=N,1132μm,0.6s						
SIVA	**Sivas**	**1.54**	**266**	P	**Pb**	**23 41 54.4**	**+0.3**
SIVA	**Sivas**	**1.54**	**266**	P	**Pb**	**23 41 54.2**	**+0.1**
SIVA				AML	AML	23 42 27.2	
	comp=E,973μm,1.0s						
SIVA				AML	AML	23 42 29.5	
	comp=N,868μm,0.8s						
SANT	**Santorini**	**1.57**	**321**	P	**Pn**	**23 41 52.3**	**+0.7**
SANT				AML	AML	23 42 15.4	
	comp=N,293μm,0.7s						
SANT				AML	AML	23 42 19.9	
	comp=E,899μm,0.8s						
SANT	**Santorini**	**1.57**	**321**	PN	**Pn**	**23 41 51.9**	**+0.3**
SANT				SN	**Sn**	**23 42 10.2**	**-0.6**
ARG	**Arkhangelos**	**1.58**	**47**	P	**Pb**	**23 41 54.5**	**-0.3**
ARG				S	**Sb**	**23 42 16.9**	**+2.5**
ARG	**Arkhangelos**	**1.58**	**47**	P	**Pb**	**23 41 54.7**	**0.0**
ARG				AML	AML	23 42 18.5	
	comp=N,1503μm,0.6s						
ARG				AML	AML	23 42 23.5	
	comp=E,1326μm,0.7s						
ARG	**Arkhangelos**	**1.58**	**47**	PN	**Pb**	**23 41 54.5**	**-0.3**
ARG				SN	**Sb**	**23 42 15.2**	**+0.8**
ARG	**Arkhangelos**	**1.58**	**47**	⇑P	**Pb**	**23 41 54.5**	**-0.3**
ARG				S	**Sb**	**23 42 17.8**	**+3.4**
THR8	**Santorini-Mono**	**1.59**	**322**	P	**Pn**	**23 41 52.4**	**+0.6**
THR8	**Santorini-Mono**	**1.59**	**322**	P	**Pn**	**23 41 52.3**	**+0.5**
THR6	**Thira Island,**	**1.60**	**319**	P	**Pn**	**23 41 52.6**	**+0.7**
THR6	**Thira Island,**	**1.60**	**319**	P	**Pn**	**23 41 52.6**	**+0.7**
KOSK	**Kos Island**	**1.62**	**8**	PN	**Pn**	**23 41 53.2**	**+1.1**
THR9	**Santorini-Faro**	**1.62**	**318**	P	**Pn**	**23 41 53.8**	**+1.6**
THR3	**Thira Island,**	**1.63**	**321**	P	**Pn**	**23 41 53.5**	**+1.1**
THR2	**Thira Island,**	**1.65**	**322**	P	**Pn**	**23 41 53.6**	**+1.0**
THR2	**Thira Island,**	**1.65**	**322**	P	**Pn**	**23 41 53.7**	**+1.2**
THR5	**Thira Island,**	**1.67**	**320**	P	**Pn**	**23 41 53.6**	**+0.7**
THR5	**Thira Island,**	**1.67**	**320**	P	**Pn**	**23 41 53.6**	**+0.7**
DAT	**Datca**	**1.73**	**24**	PN	**Pn**	**23 41 55.3**	**+1.4**
DAT	**Datca**	**1.73**	**24**	*i* P	**Pn**	**23 41 55.4**	**+1.5**
DAT				*i* S	**Sn**	**23 42 14.7**	**-0.2**
AMGA	**Amorgos Island**	**1.80**	**339**	P	**Pn**	**23 41 55.4**	**+0.7**
IOSP	**Ios island**	**1.94**	**325**	P	**Pn**	**23 41 57.3**	**+0.7**
IOSP				AML	AML	23 42 21.0	
	comp=E,936μm,0.7s						
IOSP				AML	AML	23 42 21.0	
	comp=N,966μm,0.6s						
BODT	**Bodrum**	**1.97**	**15**	PN	**Pn**	**23 41 58.7**	**+1.6**
MRSB	**Marmaris-Mugla**	**1.99**	**38**	PN	**Pb**	**23 42 00.5**	**-1.1**
BDRM	**Kayabasi**	**2.01**	**18**	*i* P	**Pn**	**23 41 59.4**	**+1.9**
BDRM				*i* S	**Sn**	**23 42 19.7**	**-1.8**
VAM	**Vamos**	**2.05**	**278**	P	**Pn**	**23 42 00.3**	**+2.2**
APE	**Apeiranthos**	**2.13**	**334**	P	**Pn**	**23 41 59.9**	**+0.7**
APE				AML	AML	23 42 25.7	
	comp=E,446μm,0.7s						
APE				AML	AML	23 42 29.5	
	comp=N,391μm,0.8s						
APE	**Apeiranthos**	**2.13**	**334**	PN	**Pn**	**23 42 00.0**	**+0.7**
GVD	**Gavdhos**	**2.16**	**262**	PN	**Pb**	**23 42 02.9**	**-1.6**
IMMV	**Iera Moni Meta**	**2.23**	**279**	P	**Pn**	**23 42 02.3**	**+1.7**
IMMV	**Iera Moni Meta**	**2.23**	**279**	P	**Pn**	**23 42 02.1**	**+1.4**
IMMV				AML	AML	23 42 43.4	
	comp=N,316μm,0.8s						
IMMV				AML	AML	23 42 52.1	
	comp=E,491μm,1.1s						
IMMV	**Iera Moni Meta**	**2.23**	**279**	PN	**Pn**	**23 42 02.3**	**+1.7**
DALY	**Dalyan (Mula)**	**2.31**	**43**	PN	**Pn**	**23 42 04.1**	**+2.5**
DALY	**Dalyan (Mula)**	**2.31**	**43**	*i* P	**Pn**	**23 42 04.0**	**+2.4**
DALY				*i* S	**Sb**	**23 42 32.3**	**-2.7**
TURN	**Turunc**	**2.32**	**42**	PN	**Pn**	**23 42 01.5**	**-0.3**
TURN	**Turunc**	**2.32**	**42**	*i* P	**Pn**	**23 41 59.7**	**-2.0**
TURN				*i* S	**Sn**	**23 42 24.8**	**-4.3**
YER	**Yerkesik**	**2.37**	**33**	PN	**Pn**	**23 42 04.9**	**+2.4**
RODP	**Rodopos**	**2.43**	**281**	PN	**Pn**	**23 42 05.3**	**+2.0**
FETY	**Fethiye**	**2.45**	**52**	*i* P	**Pn**	**23 42 05.2**	**+1.6**
FETY				*i* S	**Sn**	**23 42 33.6**	**+1.3**
KNDR	**Palaiochora Ch**	**2.46**	**273**	PN	**Pn**	**23 42 07.1**	**+3.4**
SMG	**Samos**	**2.56**	**3**	P	**Pn**	**23 42 06.3**	**+1.2**
SMG	**Samos**	**2.56**	**3**	P	**Pn**	**23 42 06.0**	**+0.9**
KSL	**Kastellorizon**	**2.56**	**66**	⇑P	**Pn**	**23 42 06.7**	**+1.6**
KSL				AML	AML	23 42 44.7	
	comp=E,0.2nm,0.6s						
GCAM	**G?zelcaml?**	**2.58**	**10**	*i* P	**Pn**	**23 42 06.9**	**+1.5**
AKAS	**Kas**	**2.61**	**65**	*i* P	**Pn**	**23 42 07.3**	**+1.4**
AKAS				*i* S	**Sn**	**23 42 34.0**	**-2.5**
DGB	**zmir**	**2.90**	**3**	*i* P	**Pn**	**23 42 11.5**	**+1.7**
DGB				*i* S	**Sn**	**23 42 40.2**	**-3.2**
TAVA	**DENIZLI_Tavas**	**2.93**	**37**	*i* P	**Pn**	**23 42 12.2**	**+1.9**
TAVA				*i* S	**Sn**	**23 42 44.8**	**+0.5**
TAVA				IAML		23 43 03.0	
	comp=E,84nm,0.6s						
ELL	**Elmali**	**3.06**	**58**	P	**Pn**	**23 42 14.5**	**+2.4**
GOLH	**Golhisar**	**3.12**	**47**	*i* P	**Pn**	**23 42 15.4**	**+2.4**
GOLH				IAML		23 42 50.0	
	comp=E,199nm,1.1s						
GOLH				*i* S	**Sn**	**23 42 52.3**	**+3.3**
GOLH				IAML		23 43 10.0	
	comp=N,67nm,0.8s						
AKUM	**Antalya-Kumluc**	**3.20**	**67**	*i* P	**Pn**	**23 42 15.1**	**+1.3**
AKUM				*i* S	**Sn**	**23 42 49.7**	**-1.1**
KORT	**Korkueli**	**3.50**	**57**	*i* P	**Pn**	**23 42 20.9**	**+2.8**
KORT				*i* S	**Sn**	**23 43 00.9**	**+2.6**
MANT	**Manisa**	**3.66**	**24**	*i* P	**Pn**	**23 42 06.4**	**+0.2**
MANT				*i* S	**Sn**	**23 42 56.1**	**-6.3**
BRDR	**BURDUR-Merkez**	**3.72**	**46**	*i* P	**Pn**	**23 42 23.3**	**+2.1**
BRDR				*i* S	**Sn**	**23 43 05.0**	**+1.1**
KHAL	**Karahalli**	**3.92**	**34**	*i* P	**Pn**	**23 42 24.9**	**+0.9**
KHAL				*i* Sn		23 42 57.5	-11
USAK	**Uak-Merkez**	**4.02**	**27**	*i* P	**Pn**	**23 42 26.9**	**+1.7**
USAK				*i* S	Sn	23 43 03.7	-7.4
USAK				IAML		23 43 10.0	
	comp=E,37nm,1.3s						
OSC1	**CSNet OBS 1**	**4.14**	**112**	S	**Sn**	**23 43 14.0**	**0.0**
DEMI	**Demirci**	**4.21**	**22**	*i* P	**Pn**	**23 42 30.1**	**+2.2**
DEMI				*i* S	**Sn**	**23 43 10.1**	**-5.8**
KEPZ	**Antalya-Kepez**	**4.35**	**65**	*i* P	**Pn**	**23 42 31.6**	**+1.8**
KEPZ				*i* S	**Sn**	**23 43 14.3**	**-5.0**
AKMS	**Akamas**	**4.63**	**90**	P	**Pn**	**23 42 33.3**	**-0.4**
AKMS				AML	AML	23 43 29.8	
	comp=E,0.3nm,0.5s						
AKMS				AML	AML	23 43 36.1	
	comp=E,0.3nm,0.4s						
ALFC	**Alefka**	**4.84**	**88**	⇑P	**Pn**	**23 42 36.0**	**-0.5**
ALFC				AML	AML	23 43 30.9	
	comp=E,0.3nm,0.5s						
ALFC				AML	AML	23 43 31.5	
	comp=E,0.3nm,0.4s						
NATA	**Nata**	**4.85**	**93**	P	**Pn**	**23 42 36.4**	**-0.1**
OSC2	**CSNet OBS 4**	**5.07**	**113**	S	**Sn**	**23 43 35.4**	**-0.6**
SZAC	**Souni**	**5.10**	**93**	⇑P	**Pn**	**23 42 39.7**	**-0.5**
ERMK	**Ermenek**	**5.27**	**72**	*i* P	**Pn**	**23 42 44.6**	**+2.0**
ERMK				*i* S	**Sn**	**23 43 36.6**	**-5.5**
ERMK				IAML		23 43 59.0	
	comp=E,18nm,0.5s						
ERMK				IAML		23 43 59.0	
	comp=N,19nm,0.4s						
ASGA	**Asgata**	**5.40**	**92**	P	**Pn**	**23 42 44.0**	**-0.2**
CSS	**Mathiatis**	**5.45**	**90**	P	**Pn**	**23 42 44.5**	**-0.4**
MVOU	**Mavrovouni**	**5.70**	**89**	⇑P	**Pn**	**23 42 48.5**	**+0.3**
BRTR	**Keskin Array B**	**7.17**	**48**	Pn	**Pn**	**23 43 10.7**	**+2.1**
	comp=N,0.1nm,0.3s,baz=224,slow=15,SNR=6.0						
GERES	**GERESS Array B**	**16.71**	**329**	LR	LR	23 52 45.5	
	comp=N,15nm,19.5s,baz=114,slow=40						
TORD	**Torodi Ar. Bea**	**31.45**	**232**	P	**P**	**23 47 44.1**	**-0.4**
	comp=N,0.5nm,0.7s,baz=32,slow=9.4,SNR=5.1						
KURBB	**Kurchatov Arra**	**40.16**	**51**	P	**P**	**23 48 59.1**	**+0.5**
	comp=N,0.3nm,0.4s,baz=276,slow=8.7,SNR=4.3						
MKAR	**Makanchi Array**	**42.74**	**57**	P	**P**	**23 49 20.4**	**+0.5**
	comp=N,0.5nm,0.5s,baz=271,slow=9.2,SNR=6.7						
ZALV	**Zalesovo Beam**	**44.11**	**46**	P	**P**	**23 49 30.7**	**-0.1**
	comp=N,0.5nm,0.4s,baz=260,slow=9.5,SNR=2.8						

*IDC **08** 23:45:12.8±1.1,15°.16N×147°.22E,h0km,mb3.8/9, mb1 4.0/9,mb1mx3.7/43,mbtmp3.8/9,Error ellipse: s-maj=39.5km s-min=22.6km az=97.0*

*NEIC **08** 23:45:17.4±1.6,15°.05N±0°.05×147°.37E±0°.09,h42km±7km, mb4.4/21,Error ellipse: s-maj=14.5km s-min=2.9km az=118.0*

ISC 08 23:45:14.1±0.5,15°.10N±0°.08×147°.39E±0°.10,h18km,n33, σ1°32/33,mb4.2/19,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.87**	**239**	Pn	**Pn**	**23 45 58.6**	**-0.3**
PATS	**Pohnpei**	**13.51**	**126**		**Pn**	**23 48 27.2**	**+2.3**
WRA	**Warramunga Arr**	**37.12**	**201**	P	**P**	**23 52 25.7**	**+1.8**
	1.5nm,0.7s,baz=21,slow=9.5,SNR=5.1						
ASAR	**Alice Springs**	**40.73**	**199**	P	**P**	**23 52 54.9**	**+0.8**
	0.3nm,0.7s,baz=13,slow=13,SNR=2.0						
DZM	**Mont Dzumac**	**41.40**	**153**	P	**P**	**23 52 56.6**	**-3.1**
DZM				IAmb	IAmb	23 52 59.6	
	comp=Z,6.1nm,1.1s						
ARMA	**Armidale**	**45.44**	**175**	P	**P**	**23 53 32.9**	**+0.7**
ARMA				IAmb	IAmb	23 53 47.0	
	comp=Z,6.8nm,1.1s						
CMAR	**Chiang Mai Arr**	**46.40**	**281**	P	**P**	**23 53 40.4**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=72,slow=6.3,SNR=2.0						
ADK	**Adak**	**46.53**	**30**	P	**P**	**23 53 41.4**	**+0.9**
ADK				IAmb	IAmb	23 53 46.3	
	comp=Z,17nm,0.9s						
SONM	**Songino Array**	**46.96**	**323**	P	**P**	**23 53 44.5**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=127,slow=6.1,SNR=3.9						
BBOO	**Buckleboo**	**48.86**	**193**	P	**P**	**23 53 58.5**	**-0.2**
BBOO				IAmb	IAmb	23 54 14.6	
	comp=Z,5.3nm,1.1s						
FORT	**Forrest**	**49.26**	**202**	P	**P**	**23 54 00.6**	**-1.2**
NIUE	**Niue**	**54.03**	**128**	P	**P**	**23 54 37.3**	**-0.4**
NWAO	**Narrogin (SRO)**	**55.78**	**211**	P	**P**	**23 54 50.2**	**0.0**
NWAO				IAmb	IAmb	23 54 56.4	
	comp=Z,4.4nm,1.0s						
NWAO	**Narrogin (SRO)**	**55.78**	**211**	P	**P**	**23 54 49.9**	**-0.3**
NWAO				IAmb	IAmb	23 54 56.4	
	comp=Z,3.4nm,0.9s						
SDPT	**Sand Point**	**56.55**	**33**	P	**P**	**23 54 53.6**	**-1.8**
KDAK	**Kodiak Island**	**61.50**	**32**	P	**P**	**23 55 30.1**	**+0.4**
KDAK				IAmb	IAmb	23 55 33.4	
	comp=Z,2.3nm,0.9s						
TTA	**Tatalina**	**61.74**	**26**	P	**P**	**23 55 32.6**	**+1.3**
TTA				IAmb	IAmb	23 55 49.5	
	comp=Z,1.8nm,0.9s						
ZALV	**Zalesovo Beam**	**61.84**	**323**	P	**P**	**23 55 32.5**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=153,slow=7.6,SNR=2.0						
MK31	**Makanchi Array**	**62.12**	**315**	P	**P**	**23 55 34.5**	**+0.3**
MKAR	**Makanchi Array**	**62.12**	**315**	P	**P**	**23 55 35.0**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=87,slow=8.2,SNR=13						
MAKZ	**Makanchi**	**62.34**	**315**	P	**P**	**23 55 35.4**	**-0.2**
MAKZ				IAmb	IAmb	23 55 44.4	
	comp=Z,1.9nm,1.0s						
RPZ	**Rata Peaks**	**62.41**	**161**	P	**P**	**23 55 35.5**	**-0.4**
PPLA	**Purkeypile**	**63.35**	**26**	P	**P**	**23 55 43.2**	**+1.0**
PPLA				IAmb	IAmb	23 55 43.9	
	comp=Z,6.7nm,1.2s						
KURK	**Kurchatov**	**65.02**	**319**	P	**P**	**23 55 53.0**	**-0.1**
KURK				IAmb	IAmb	23 55 57.3	
	comp=Z,2.8nm,0.9s						
WRH	**Wood River Hil**	**65.58**	**25**	P	**P**	**23 55 57.1**	**+0.6**
ILAR	**Eielson Array**	**66.16**	**25**	P	**P**	**23 56 02.5**	**+2.2**
	comp=Z,0.7nm,0.5s,baz=256,slow=6.1,SNR=12						
PCA	**Pinnacle**	**68.24**	**31**	P	**P**	**23 56 13.8**	**+0.1**
PINE	**Pine Mountain**	**80.90**	**47**	P	**P**	**23 57 24.9**	**-2.8**
B08A	**Colville Reser**	**81.02**	**42**	P	**P**	**23 57 27.2**	**-0.8**
ARCES	**ARCESS Array B**	**86.39**	**343**	P	**P**	**23 57 56.0**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=46,slow=6.4,SNR=3.6						
ARE0	**ARCESS Array S**	**86.39**	**343**	P	**P**	**23 57 52.3**	**-2.8**
FINES	**FINESS Array B**	**90.81**	**336**	P	**P**	**23 58 15.8**	**-0.3**
	comp=Z,0.7nm,0.9s,baz=358,slow=4.4,SNR=4.1						
DBIC	**Dimbokro**	**145.00**	**306**	PKP	**PKPdf**	**00 04 52.2**	**+0.8**
	comp=Z,2.6nm,0.7s,baz=15,slow=3.8,SNR=5.2						

*SJA **09** 00:03:22.4±1.1,28°.80S×69°.36W,h116km±8km,ML3.6, MW3.6*

*GUC **09** 00:03:22.9±0.9,28°.79S×69°.45W,h114km±8km,ML3.8*

*IDC **09** 00:03:24.0±14.0,21°.92S×69°.13W,h0km,mb4.3/2, mb1 4.2/2,mb1mx3.6/23,mbtmp4.3/2,MS3.1/1,Ms1 3.1/1, ms1mx2.6/20,Error ellipse: s-maj=836.0km s-min=93.1km az=7.0*

ISC 09 00:03:23.9±0.9,28°.82S±0°.03×69°.37W±0°.04,h113km±7km, n26,σ0°68/42,7C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC05	**El Transito**	**0.79**	**268**	*i* P	**Pn**	**00 03 43.4**	**-0.2**
AC05				*i* S	**Sn**	**00 03 58.3**	**-0.1**
AC05				IAML		00 03 59.0	
	comp=E,5μm,0.2s						
AGUA	**GUANDACOL**	**1.02**	**131**	*i* P	**Pn**	**00 03 45.2**	**-0.5**
AGUA				*e*S	**Sn**	**00 04 01.4**	**-0.7**
AGUA				IAML		00 04 08.0	
	comp=Z,879nm,0.3s						
VCA	**Vinchina**	**1.02**	**86**	*i* P	**Pn**	**00 03 46.0**	**+0.1**
VCA				*e*S	**Sn**	**00 04 02.6**	**+0.2**
VCA				IAML		00 04 03.0	
	comp=Z,8μm,0.3s						
LCO	**Las Campanas**	**1.18**	**260**	*e*P	**Pn**	**00 03 47.6**	**0.0**
LCO				*i* S	**Sn**	**00 04 05.2**	**-0.3**
CO01	**Juntas del Tor**	**1.32**	**208**	⇑*i*P	**Pn**	**00 03 49.6**	**+0.5**
CO01				*e*S	**Sn**	**00 04 09.2**	**+1.1**
GO03	**Copiap**	**1.44**	**328**	⇑*i*P	**Pn**	**00 03 49.8**	**-0.5**
GO03				*i* S	**Sn**	**00 04 09.7**	**-0.6**
GO03				IAML		00 04 10.8	
	comp=N,906nm,0.4s						
GO03	**Copiap**	**1.44**	**328**	*i* P	**Pn**	**00 03 50.1**	**-0.2**
GO03				*e*S	**Sn**	**00 04 09.5**	**-0.8**
AC04	**Llanos de Chal**	**1.62**	**292**	*e*P	**Pn**	**00 03 51.8**	**-0.6**
AC04				IAML		00 04 13.6	
	comp=E,1μm,0.1s						
GO04	**Tololo Observa**	**1.84**	**222**	⇑*i*P	**Pn**	**00 03 54.9**	**-0.4**
GO04				*i* S	**Sn**	**00 04 19.9**	**+0.7**
GO04	**Tololo Observa**	**1.84**	**222**	*i* P	**Pn**	**00 03 54.9**	**-0.4**
GO04				*e*S	**Sn**	**00 04 19.9**	**+0.7**
AC02	**Maricunga**	**1.98**	**6**	⇑*i*P	**Pn**	**00 03 57.8**	**+0.4**
AC02				*i* S	**Sn**	**00 04 24.3**	**+1.4**
AC02				IAML		00 04 25.3	
	comp=E,634nm,0.2s						
CO03	**El Pedregal**	**2.32**	**209**	⇑*i*P	**Pn**	**00 04 01.1**	**-0.1**
CO03				*i* S	**Sn**	**00 04 30.5**	**+0.7**
RTLL	**Cerro Villicun**	**2.62**	**163**	*i* P	**Pn**	**00 04 05.3**	**+0.2**
RTLL				*e*S	**Sn**	**00 04 36.7**	**-0.1**
RTLL				IAML		00 04 38.0	
	comp=Z,349nm,0.5s						
CO02	**Combarbal**	**2.77**	**210**	⇑*i*P	**Pn**	**00 04 06.2**	**-0.9**
CO02				*e*S	**Sn**	**00 04 38.3**	**-2.0**
ZON	**Zonda**	**2.79**	**168**	*i* P	**Pn**	**00 04 07.6**	**+0.4**
ZON				*e*S	**Sn**	**00 04 39.7**	**-0.9**
ZON				IAML		00 04 44.2	
	comp=Z,102nm,1.1s						
AC01	**Pan de Azucar**	**2.87**	**337**	*e*P	**Pn**	**00 04 07.8**	**-0.6**
AC01				IAML		00 04 46.1	
	comp=E,285nm,0.2s						
CFA	**Coronel Fontan**	**2.95**	**161**	*i* P	**Pn**	**00 04 09.0**	**-0.3**
CFA				*e*S	**Sn**	**00 04 43.6**	**-0.8**
CFA				IAML		00 04 53.4	
	comp=Z,47nm,0.2s						
RTLS	**Leoncito**	**2.97**	**179**	*i* P	**Pn**	**00 04 10.3**	**+0.4**
RTLS				*e*S	**Sn**	**00 04 45.4**	**0.0**
RTLS				IAML		00 04 48.2	
	comp=Z,131nm,1.0s						
RTCV	**Cerro Valdivia**	**3.12**	**167**	*i* P	**Pn**	**00 04 11.7**	**0.0**
RTCV				*e*S	**Sn**	**00 04 48.0**	**-0.5**
RTCV				IAML		00 04 49.4	
	comp=Z,92nm,0.

YHNB	**Yeheng**	**3.35**	**247**			**Pn**	**00 09 50.6**	**+1.2**
YHNB					Sn	**Sn**	**00 10 31.0**	**+0.3**
NACB	**Ninganchiao**	**3.41**	**238**		Pn	**Pn**	**00 09 49.3**	**-0.8**
NACB					Sn	**Sn**	**00 10 30.4**	**-1.6**
JYRO	**Yoronjima**	**3.45**	**72**	P		**Pn**	**00 09 50.7**	**+0.2**
JYRO				S		**Sn**	**00 10 29.8**	**-2.9**
JOKE	**Okinoerabujima**	**3.66**	**68**	P		**Pn**	**00 09 53.2**	**+0.1**
YULB	**Yu-li**	**4.10**	**231**		Pn	**Pn**	**00 09 57.3**	**-1.5**
SSLB	**Suanglung**	**4.11**	**238**			**Pn**	**00 09 58.4**	**-0.6**
JTK	**Tokunoshima**	**4.13**	**64**	P		**Pn**	**00 09 58.8**	**-0.4**
JTK				S		**Sn**	**00 10 45.0**	**-3.2**
JAMN	**Amaminishikomi**	**4.51**	**59**	P		**Pn**	**00 10 02.8**	**-1.2**
TWG	**Pinlang**	**4.63**	**228**		Pn	**Pn**	**00 10 03.4**	**-2.3**
TPUB	**Ta-pu**	**4.63**	**235**			**Pn**	**00 10 06.4**	**+0.7**
KNMB	**Chin-men Tao**	**5.98**	**256**		Pn	**Pn**	**00 10 22.4**	**-0.8**
JNU	**Nakatsue**	**8.86**	**35**	P		**Pn**	**00 11 02.0**	**+0.9**
	0.9nm,0.3s,baz=192,slow=3.4,SNR=8.2							
JNU	**Nakatsue**	**8.86**	**35**			**Pn**	**00 10 59.6**	**-1.4**
KSRS	**Korea Array**	**11.72**	**12**	P		**Pn**	**00 11 39.1**	**+0.9**
	0.6nm,0.3s,baz=190,slow=14,SNR=9.0							
ENH	**Enshi**	**14.14**	**291**		Pn	**Pn**	**00 12 09.5**	**+0.5**
JHJ2	**Mitsune**	**14.87**	**58**			**Pn**	**00 12 18.3**	**+0.3**
MJAR	**Matsushiro Arr**	**15.54**	**44**	P		**P**	**00 12 28.9**	**+2.1**
	0.1nm,0.3s,baz=226,slow=10.0,SNR=2.6							
SONM	**Songino Array**	**26.15**	**331**	P		**P**	**00 14 15.1**	**+0.8**
	0.7nm,0.6s,baz=149,slow=8.7,SNR=5.6							
MK31	**Makanchi Array**	**39.39**	**313**	P		**P**	**00 16 09.6**	**+0.8**
MKAR	**Makanchi Array**	**39.39**	**313**	P		**P**	**00 16 08.8**	**+0.1**
	0.9nm,0.5s,baz=97,slow=10,SNR=13							
MAKZ	**Makanchi**	**39.60**	**313**	P		**P**	**00 16 11.1**	**+0.5**
MAKZ					IAmb	IAmb	00 16 12.8	
	comp=Z,1.7nm,0.6s							
ZAA0	**Zalesovo Array**	**40.58**	**324**	P		**P**	**00 16 18.7**	**+0.3**
ZAA0					IAmb	IAmb	00 16 19.6	
	comp=Z,2.9nm,0.5s							
ZALV	**Zalesovo Beam**	**40.58**	**324**	P		**P**	**00 16 18.5**	**+0.1**
	comp=Z,3.3nm,0.4s,baz=114,slow=9.0,SNR=18							
TARG	**Taragay, Kyrgy**	**41.51**	**304**	P		**P**	**00 16 28.2**	**+1.5**
TARG					IAmb	IAmb	00 16 35.0	
	comp=Z,2.7nm,0.8s							
KDJ	**Kajisay**	**42.02**	**305**	P		**P**	**00 16 31.7**	**+1.1**
KDJ					IAmb	IAmb	00 16 33.1	
	comp=Z,5.1nm,0.6s							
KURK	**Kurchatov**	**42.87**	**318**	P		**P**	**00 16 37.4**	**+0.4**
KURK	**Kurchatov**	**42.87**	**318**	IAmb		IAmb	00 16 38.2	
	comp=Z,1.7nm,0.8s							
KURBB	**Kurchatov Arra**	**42.89**	**317**	P		**P**	**00 16 37.4**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=108,slow=9.1,SNR=7.7							
COEN	**Coen**	**43.58**	**154**	P		**P**	**00 16 43.7**	**+0.6**
COEN					IAmb	IAmb	00 16 49.2	
	comp=Z,12nm,1.1s							
WRA	**Warramunga Arr**	**46.61**	**168**	P		**P**	**00 17 09.2**	**+2.3**
	comp=Z,0.8nm,0.9s,baz=350,slow=8.7,SNR=0.8							
WB2	**Warramunga Arr**	**46.61**	**168**	P		**P**	**00 17 07.9**	**+0.9**
GAR	**Garm**	**47.08**	**300**	P		**P**	**00 17 11.8**	**+1.2**
GAR					IAmb	IAmb	00 17 12.5	
	comp=Z,5.8nm,1.0s							
BRVK	**Borovoye**	**48.45**	**319**	P		**P**	**00 17 20.9**	**+0.1**
AS31	**Alice Springs**	**50.17**	**169**	P		**P**	**00 17 34.8**	**+0.7**
ASAR	**Alice Springs**	**50.17**	**169**	P		**P**	**00 17 36.4**	**+2.3**
	comp=Z,0.7nm,0.6s,baz=354,slow=13,SNR=11							
GEYT	**Alibeck**	**56.71**	**300**	P		**P**	**00 18 22.9**	**+1.3**
	comp=Z,3.0nm,0.6s,baz=36,slow=2.8,SNR=9.6							
GYA0B	**ALIBECK ARRAY**	**56.71**	**300**	P		**P**	**00 18 22.1**	**+0.4**
GYA0B					IAmb	IAmb	00 18 24.3	
	comp=Z,3.6nm,0.7s							
BBOO	**Buckleboo**	**59.47**	**169**	P		**P**	**00 18 40.5**	**-0.2**
BBOO					IAmb	IAmb	00 18 46.5	
	comp=Z,9.6nm,1.1s							
CHGN	**Chignik**	**61.54**	**38**	P		**P**	**00 18 54.2**	**-0.3**
ARMA	**Armidale**	**61.72**	**154**	P		**P**	**00 18 55.1**	**-1.0**
SEW	**Seward**	**65.75**	**33**	P		**P**	**00 19 19.6**	**-2.4**
LHI	**Lord Howe Isla**	**65.92**	**148**	P		**P**	**00 19 22.6**	**-0.8**
SML	**Sawmill**	**65.99**	**31**	P		**P**	**00 19 21.6**	**-2.0**
SML					IAmb	IAmb	00 19 23.1	
	comp=Z,8.9nm,1.1s							
KNK	**Knik Glacier**	**66.00**	**32**	P		**P**	**00 19 20.7**	**-2.9**
KNK					IAmb	IAmb	00 19 23.6	
	comp=Z,4.5nm,0.9s							
HARP	**HAARP**	**67.33**	**30**	P		**P**	**00 19 30.2**	**-1.8**
HARP					IAmb	IAmb	00 19 39.4	
	comp=Z,5.4nm,0.8s							
KEV	**Kevo**	**68.50**	**338**	P		**P**	**00 19 37.8**	**-1.3**
YKU2	**Yakutat**	**70.69**	**33**	P		**P**	**00 19 50.6**	**-2.0**
FINES	**FINESS Array B**	**71.51**	**330**	P		**P**	**00 19 57.9**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=53,slow=5.4,SNR=9.1							
AKASG	**Malin Array Be**	**73.67**	**319**	P		**P**	**00 20 09.3**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=59,slow=5.4,SNR=3.1							
BRTR	**Keskin Array B**	**74.70**	**307**	P		**P**	**00 20 17.8**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=99,slow=4.5,SNR=2.7							

*NEIC **09** 00:24:50.8±0.9, 26°.83S±0°.09×178°.1W±0°.1, h186km±5km, mb4.5/18, Error ellipse: s-maj=15.8km s-min=12.5km az=89.0*

*IDC **09** 00:24:51.0±11.0, 26°.80S×178°.04W, h182km±97km, mb3.9/10, mb1 4.1/10, mb1mx3.8/34, mbtmp4.4/10, Error ellipse: s-maj=33.9km s-min=20.4km az=89.0*

ISC 09 00:24:52.5±0.4**, 26°.90S**±0°.06×**178°.04W**±0°.09**, h202**km**, n77**, σ1°24/75**, mb4.2**/21**, 11C-4D, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.35**	**177**	P	Pn	00 25 42.0	+7.2
	94nm,0.3s,baz=90,slow=20,SNR=2.4						
RAO				S	**S**	**00 26 06.2**	**-1.1**
	311nm,0.3s,baz=80,slow=22,SNR=4.9						
RAO	**Raoul Island**	**2.35**	**177**		**Pn**	**00 25 32.4**	**-2.4**
MSVF	**Nonsavu**	**9.81**	**338**		**Pn**	**00 27 06.6**	**-2.8**
MXZ	**Matakaoa Point**	**11.07**	**195**	Pn	**Pn**	**00 27 24.3**	**-1.1**
AFI	**Afiamalu**	**14.19**	**26**		**Pn**	**00 28 04.3**	**-0.5**
DZM	**Mont Dzumac**	**14.92**	**285**	P	**P**	**00 28 17.2**	**+2.7**
	0.1nm,0.3s,baz=103,slow=23,SNR=1.6						
DZM	**Mont Dzumac**	**14.92**	**285**	P	**Pn**	**00 28 13.6**	**-0.2**
MLZ	**Mavora Lakes**	**21.50**	**207**	P	**P**	**00 29 25.7**	**+0.2**
MLZ					IAmb	IAmb	00 29 25.7	
	comp=Z,7.7nm,1.1s							
ARMA	**Armidale**	**26.81**	**255**	P	**P**	**00 30 13.8**	**-0.5**
ARMA					IAmb	IAmb	00 30 21.9	
	comp=Z,11nm,1.1s							
HNR	**Honiara**	**27.11**	**306**	P	**P**	**00 30 13.5**	**-3.3**
PPTF	**Pamatai, Papee**	**27.88**	**77**	P	**P**	**00 30 23.7**	**-0.1**
PPTF					IAmb	IAmb	00 30 32.8	
	comp=Z,12nm,0.9s							
MCQ	**Macquarie Isla**	**32.33**	**205**	P	**P**	**00 31 01.0**	**-1.3**
STKA	**Stephens Creek**	**35.38**	**252**	PcP	**PcP**	**00 33 56.0**	**+1.6**
	comp=Z,3.0nm,0.8s,baz=347,slow=5.3,SNR=6.5							
BBOO	**Buckleboo**	**40.01**	**250**	P	**P**	**00 32 07.9**	**+0.1**
AS31	**Alice Springs**	**43.37**	**263**	P	**P**	**00 32 34.4**	**-0.9**
ASAR	**Alice Springs**	**43.37**	**263**	P	**P**	**00 32 36.0**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=96,slow=7.0,SNR=18							
ASAR				pP	**pP**	**00 33 18.1**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=94,slow=8.6,SNR=3.2							
ASAR				PcP	**PP**	**00 34 20.8**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=107,slow=3.6,SNR=5.7							
WB2	**Warramunga Arr**	**44.03**	**269**	P	**P**	**00 32 40.1**	**-0.4**
WRA	**Warramunga Arr**	**44.04**	**269**	P	**P**	**00 32 40.1**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=104,slow=7.6,SNR=5.4							
WB0	**Warramunga Arr**	**44.05**	**269**	P	**P**	**00 32 40.2**	**-0.4**
WB0					IAmb	IAmb	00 32 41.6	
	comp=Z,7.1nm,0.9s							
FORT	**Forrest**	**47.01**	**252**	P	**P**	**00 33 02.6**	**-1.0**
FORT					IAmb	IAmb	00 33 20.1	
	comp=Z,22nm,0.9s							
FITZ	**Fitzroy Crossi**	**52.41**	**267**	P	**P**	**00 33 43.7**	**-0.8**
QSPA	**South Pole Qui**	**63.20**	**180**	P	**P**	**00 34 59.3**	**+0.3**
QSPA					IAmb	IAmb	00 35 05.7	
	comp=Z,3.0nm,0.8s							
KKM	**Kota Kinabalu**	**71.47**	**287**	P	**P**	**00 35 49.8**	**-1.8**
KKM					IAmb	IAmb	00 35 59.5	
	comp=Z,10nm,1.1s							
MJAR	**Matsushiro Arr**	**75.36**	**325**	P	**P**	**00 36 13.5**	**-0.1**
	comp=Z,8.4nm,0.8s,baz=164,slow=6.1,SNR=25							
MAW	**Mawson**	**75.57**	**200**	P	**P**	**00 36 15.8**	**+1.4**
	comp=Z,1.8nm,0.5s,baz=109,slow=4.2,SNR=12							
JNU	**Nakatsue**	**76.93**	**318**	P	**P**	**00 36 22.4**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=131,slow=7.0,SNR=4.0							
GSTR	**Great Sitkin T**	**78.67**	**1**	P	**P**	**00 36 31.4**	**-0.4**
ATKA	**Atka Island**	**78.83**	**2**	P	**P**	**00 36 32.2**	**-0.3**
NIKH	**Nikolski High**	**79.93**	**6**	P	**P**	**00 36 38.6**	**+0.1**
NIKH					IAmb	IAmb	00 36 48.6	
	comp=Z,28nm,1.0s							
SNAA	**Sanae**	**81.65**	**178**	P	**P**	**00 36 48.1**	**+0.4**
SNAA	**Sanae**	**81.65**	**178**	P	**P**	**00 36 48.0**	**+0.4**

KSRS	**Korea Array**	**81.67**	**319**	P		**P**	**00 36 49.5**	**+1.5**
	comp=Z,6.0nm,0.3s,baz=134,slow=5.8,SNR=18							
VNA3	**Neumayer Olymp**	**81.79**	**176**	P		**P**	**00 36 48.7**	**+0.3**
VNA2	**Neumayer--Watz**	**82.23**	**177**	P		**P**	**00 36 51.6**	**+1.0**
	baz=177,slow=5.3							
PETK	**Petropavlovsk-**	**82.42**	**346**	P		**P**	**00 36 51.5**	**-0.2**
	comp=Z,3.3nm,0.9s,baz=124,slow=7.2,SNR=3.4							
H03S2	**Juan Fernandez**	**82.43**	**124**	T		T	02 08 15.2	
	baz=242							
H03S1	**Juan Fernandez**	**82.45**	**124**	T		T	02 08 17.5	
	baz=242							
H03S3	**Juan Fernandez**	**82.45**	**124**	T		T	02 08 13.5	
	baz=242							
VNA1	**Neumayer--Stat**	**82.46**	**177**	P		**P**	**00 36 52.7**	**+1.0**
SDPT	**Sand Point**	**83.28**	**10**	P		**P**	**00 36 54.9**	**-1.1**
USRK	**Ussuriysk Ar.**	**84.23**	**326**	P		**P**	**00 37 00.9**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=134,slow=5.5,SNR=6.2							
GSI	**Gunungsitoli**	**85.58**	**274**	P		**P**	**00 37 07.7**	**-0.8**
GSI					IAmb	IAmb	00 37 11.7	
	comp=Z,14nm,0.9s							
NVAR	**Mina Array Bea**	**85.70**	**43**	P		**P**	**00 37 09.5**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=213,slow=7.3,SNR=5.7							
CMAR	**Chiang Mai Arr**	**92.21**	**289**	P		**P**	**00 37 42.8**	**+3.1**
	comp=Z,0.7nm,0.3s,baz=122,slow=2.8,SNR=5.1							
TRF	**Thorofare Moun**	**92.68**	**12**	P		**P**	**00 37 40.9**	**-0.1**
TRF					IAmb	IAmb	00 37 41.6	
	comp=Z,5.5nm,1.1s							
PDAR	**Pinedale Array**	**93.62**	**43**	P		**P**	**00 37 46.2**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=196,slow=2.6,SNR=2.6							
ZALV	**Zalesovo Beam**	**115.38**	**320**	PKP		**PKPdf**	**00 43 09.5**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=299,slow=3.0,SNR=2.1							
MKAR	**Makanchi Array**	**115.47**	**311**	PKP		**PKPdf**	**00 43 09.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=57,slow=4.9,SNR=5.0							
FINES	**FINESS Array B**	**141.84**	**341**	PKhKP		PKPpre	00 43 54.3	
	comp=Z,0.8nm,0.4s,baz=39,slow=6.5,SNR=9.0							
KBZ	**Khabaz**	**143.04**	**308**	PKhKP		PKPpre	00 44 00.6	
	comp=Z,2.2nm,0.8s,baz=49,slow=2.5,SNR=3.0							
BATM	**Batumi**	**144.36**	**305**	⇑P		**PKPdf**	**00 44 05.0**	**+0.5**
BCA	**Borca**	**144.48**	**304**	⇑P		**PKPdf**	**00 44 04.6**	**0.0**
NB2	**NORSAR Subarra**	**145.29**	**352**	PKP		**PKPab**	**00 44 05.8**	**-0.3**
	comp=Z,15nm,1.1s,baz=14,slow=2.5							
NOA	**NORSAR Array B**	**145.29**	**352**	PKPbc		**PKPab**	**00 44 06.0**	**-0.1**
	comp=Z,5.1nm,0.9s,baz=16,slow=2.6,SNR=20							
NOA				pPKPbc		pPKPab	00 44 51.7	-4.5
	comp=Z,3.4nm,0.9s,baz=16,slow=5.0,SNR=7.5							
AKASG	**Malin Array Be**	**148.44**	**326**	PKPbc		**PKPbc**	**00 44 14.8**	**0.0**
	comp=Z,3.2nm,0.7s,baz=40,slow=3.2,SNR=11							
SORM	**Soroca**	**150.46**	**323**	⇑P		**PKPdf**	**00 44 19.9**	**+0.1**
BRTR	**Keskin Array B**	**150.76**	**304**	PKPbc		**PKPbc**	**00 44 21.2**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=147,slow=5.1,SNR=9.8							
VASR	**Vaslui**	**151.64**	**321**	⇓P		**PKPab**	**00 44 33.8**	**+1.7**
TESR	**Tescani**	**152.35**	**322**	⇑P		**PKPab**	**00 44 36.2**	**+1.1**
BIZ	**Bicaz**	**152.39**	**323**	⇑P		**PKiKP**	**00 44 25.5**	**+0.9**
BURAR	**Bucovina Array**	**152.43**	**325**	⇑P		**PKiKP**	**00 44 26.0**	**+1.3**
HARR	**Harsova**	**152.63**	**317**	⇑P		**PKPab**	**00 44 37.6**	**+1.3**
VRI	**Vrincioaia**	**152.69**	**320**	⇓P		**PKPab**	**00 44 38.7**	**+2.1**
PLOR	**Plostina**	**152.74**	**320**	⇓P		**PKPab**	**00 44 38.9**	**+2.1**
DOPR	**Dopca**	**153.38**	**322**	⇑P		**PKPab**	**00 44 40.7**	**+1.2**
TRPA	**Tarpa**	**153.40**	**328**	⇑P		**PKPbc**	**00 44 26.2**	**-0.3**
ARR	**Arges**	**154.16**	**321**	⇑P		**PKPab**	**00 44 45.4**	**+2.5**
CLL	**Colim**	**154.22**	**344**	*i* PKPbc		**PKiKP**	**00 44 29.9**	**+1.8**
	comp=Z,4.0nm,1.0s							
CLL				*i* PKPab		**PKPab**	**00 44 44.1**	**+1.3**
	comp=Z,3.0nm,0.9s							
DRGR		**154.25**	**326**	⇑P		**PKPab**	**00 44 44.1**	**+0.9**
ELND	**Elena**	**154.82**	**316**	⇓P		**PKPab**	**00 44 47.4**	**+1.7**
CONA	**Conrad Observa**	**156.35**	**336**	*i* PKPab		**PKPab**	**00 44 54.6**	**+2.4**
	comp=Z,3.0nm,0.9s							
OBKA	**Obir**	**158.03**	**336**	*i* PKPab		**PKPab**	**00 45 00.0**	**+0.6**
	comp=Z,3.8nm,1.3s							
WATA	**Walderalm**	**158.24**	**342**	*i* PKPab		**PKPab**	**00 44 59.2**	**-1.2**
	comp=Z,2.8nm,1.1s							
WTTA	**Wattenberg**	**158.29**	**342**	*i* PKPab		**PKPab**	**00 45 01.4**	**+0.7**
	comp=Z,5.3nm,1.2s							
MOTA	**Moosalm**	**158.36**	**343**	*i* PKPab		**PKPab**	**00 45 00.5**	**-0.4**
	comp=Z,2.6nm,1.0s							
ABTA	**Abfaltersbach**	**158.50**	**340**	*i* PKPab		**PKPab**	**00 44 59.7**	**-1.8**
	comp=Z,2.4nm,0.7s							
TORD	**Torodi Ar. Bea**	**166.32**	**179**	PKPab		**PKPab**	**00 45 36.7**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=195,slow=3.9,SNR=7.0							

*IDC **09** 00:27:38.4±0.7, 15°.18N×146°.99E, h0km, mb4.1/18, mb1 4.2/18, mb1mx4.0/43, mbtmp4.1/18, Error ellipse: s-maj=23.9km s-min=15.4km az=111.0*

*NEIC **09** 00:27:41.3±2.5, 15°.09N±0°.09×147°.20E±0°.07, h28km±5km, mb4.6/48, Error ellipse: s-maj=12.9km s-min=9.7km az=184.0*

ISC 09 00:27:41.9±0.4**, 15°.07N**±0°.07×**147°.20E**±0°.08**, h32**km**, n76, σ1°14/72, mb4.4/41, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.70**	**237**	Pn	**Pn**	**00 28 22.6**	**-0.5**
PATS	**Pohnpei**	**13.63**	**126**		**Pn**	**00 30 51.6**	**-1.5**
H11S3	**WAKE ISLAND Hy**	**18.97**	**77**	T	T	00 51 42.9	
	baz=276						
H11S1	**WAKE ISLAND Hy**	**18.98**	**77**	T	T	00 51 43.4	
	baz=276						
H11S2	**WAKE ISLAND Hy**	**18.98**	**77**	T	T	00 51 47.2	
	baz=276						
SIJI	**Sorong**	**22.34**	**226**	P	**P**	**00 32 37.3**	**0.0**
	6.4nm,0.6s,baz=233,slow=20,SNR=1.4						
MJAR	**Matsushiro Arr**	**22.84**	**341**	P	**P**	**00 32 41.1**	**-1.3**
	0.4nm,0.3s,baz=153,slow=16,SNR=1.4						
MAJO	**Matsushiro**	**22.84**	**341**	P	**P**	**00 32 42.2**	**-0.2**
MJB9	**Matsu-Tunnel**	**22.84**	**341**	P	**P**	**00 32 41.2**	**-1.3**
FAKI	**Fak Fak**	**23.21**	**221**	P	**P**	**00 32 46.5**	**+0.1**
FAKI					IAmb	IAmb	00 33 00.7	
	comp=Z,31nm,0.9s							
JNU	**Nakatsue**	**23.29**	**323**	P	**P**	**00 32 46.9**	**-0.1**
TWG	**Pinlang**	**25.86**	**291**	P	**P**	**00 33 09.8**	**-1.0**
ERM	**Erimo**	**27.07**	**353**	P	**P**	**00 33 21.4**	**-0.1**
ERM					IAmb	IAmb	00 33 22.8	
	comp=Z,14nm,0.9s							
KSRS	**Korea Array**	**28.10**	**326**	P	**P**	**00 33 29.1**	**-1.7**
	comp=Z,1.1nm,0.6s,baz=151,slow=9.6,SNR=4.7							
COEN	**Coen**	**29.12**	**188**	P	**P**	**00 33 40.8**	**+0.7**
COEN					IAmb	IAmb	00 33 40.9	
	comp=Z,9.7nm,1.1s							
BATI	**Baumata**	**34.27**	**224**	P	**P**	**00 34 25.5**	**+0.1**
	comp=Z,28nm,0.5s,baz=98,slow=7.1,SNR=2.4							
KNRA	**Kununurra**	**35.57**	**212**	P	**P**	**00 34 34.1**	**-2.4**
WB0	**Warramunga Arr**	**36.84**	**200**	P	**P**	**00 34 47.8**	**+0.4**
WB0					IAmb	IAmb	00 34 59.4	
	comp=Z,9.5nm,1.1s							
WB2	**Warramunga Arr**	**37.02**	**200**	P	**P**	**00 34 48.1**	**-0.8**
WB2					IAmb	IAmb	00 35 02.9	
	comp=Z,6.8nm,0.8s							
WRA	**Warramunga Arr**	**37.02**	**200**	P	**P**	**00 34 50.3**	**+1.3**
	comp=Z,2.1nm,0.7s,baz=24,slow=9.5,SNR=4.6							
FITZ	**Fitzroy Crossi**	**39.22**	**214**	P	**P**	**00 35 08.4**	**+1.0**
FITZ					IAmb	IAmb	00 35 19.9	
	comp=Z,10nm,1.1s							
ASAR	**Alice Springs**	**40.63**	**199**	P	**P**	**00 35 20.7**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=13,slow=14,SNR=6.4							
DZM	**Mont Dzumac**	**41.45**	**152**	P	**P**	**00 35 25.9**	**-0.2**
DZM					IAmb	IAmb	00 35 26.0	
	comp=Z,8.2nm,1.1s							
UGM	**Wanagama**	**42.93**	**240**	P	**P**	**00 35 37.0**	**-1.2**
MA2	**Magadan**	**44.51**	**3**	P	**P**	**00 35 52.3**	**+2.1**
	comp=Z,4.2nm,0.4s,baz=180,slow=20,SNR=2.2							
MA2	**Magadan**	**44.51**	**3**	P	**P**	**00 35 50.0**	**-0.2**
MA2					IAmb	IAmb	00 36 04.6	
	comp=Z,6.3nm,0.8s							
MSVF	**Nonsavu**	**44.59**	**136**	P	**P**	**00 35 51.3**	**-0.1**
PSAB2	**Pilbara Seismi**	**45.21**	**217**	P	**P**	**00 35 55.0**	**-1.3**
PSAB2					IAmb	IAmb	00 36 03.1	
	comp=Z,12nm,1.1s							
PSAA3	**Pilbara Seismi**	**45.23**	**217**	P	**P**	**00 35 55.8**	**-0.7**
PSAA3					IAmb	IAmb	00 36 02.4	
	comp=Z,14nm,1.1s							
CMAR	**Chiang Mai Arr**	**46.22**	**281**	P	**P**	**00 36 05.0**	**+0.6**
	comp=Z,1.0nm,0.4s,baz=80,slow=5.9,SNR=2.0							
SONM	**Songino Array**	**46.87**	**323**	P	**P**	**00 36 09.4**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=128,slow=6.0,SNR=4.8							
STKA	**Stephens Creek**	**46.99**	**187**	P	**P**	**00 36 11.2**	**+1.1**
MORW	**Morawa**	**53.22**	**214**	P	**P**	**00 36 58.3**	**+0.9**
KDAK	**Kodiak Island**	**61.62**	**32**	P	**P**	**00 37 57.8**	**+1.5**
	comp=Z,2.7nm,0.6s,baz=266,slow=1.0,SNR=6.0							
KDAK	**Kodiak Island**	**61.62**	**32**	IAmb	IAmb	00 38 11.5	
	comp=Z,5.5nm,1.1s							
ZALV	**Zalesovo Beam**	**61.76**	**324**	P	**P**	**00 37 56.2**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=122,slow=7.0,SNR=4.3							
MK31	**Makanchi Array**	**62.02**	**315**		**P**	**00 37 59.8**	**+0.6**

MKAR	**Makanchi Array**	**62.02**	**315**	P		**P**	**00 37 59.5**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=91,slow=8.1,SNR=14							
MAKZ	**Makanchi**	**62.23**	**315**			**P**	**00 38 01.4**	**+0.7**
MAKZ					IAmb	IAmb	00 38 01.8	
	comp=Z,2.7nm,0.7s							
KURK	**Kurchatov**	**64.93**	**319**	P		**P**	**00 38 18.3**	**0.0**
KURK					IAmb	IAmb	00 38 29.4	
	comp=Z,3.9nm,0.9s							
RAGM	**Ragged Mountai**	**66.23**	**30**	P		**P**	**00 38 25.7**	**-0.9**
RAGM					IAmb	IAmb	00 38 44.7	
	comp=Z,9.1nm,1.1s							
IL31		**66.27**	**25**	P		**P**	**00 38 27.3**	**+0.6**
IL31					IAmb	IAmb	00 38 29.0	
	comp=Z,4.2nm,1.1s							
ILAR	**Eielson Array**	**66.27**	**25**	P		**P**	**00 38 27.5**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=250,slow=5.8,SNR=21							
DOT	**Dot Lake**	**67.20**	**27**	P		**P**	**00 38 34.3**	**+1.6**
DOT					IAmb	IAmb	00 38 35.5	
	comp=Z,3.4nm,0.9s							
FYU	**Fort Yukon**	**67.40**	**24**	P		**P**	**00 38 33.9**	**0.0**
BARN	**Barnard Glacie**	**67.81**	**30**	P		**P**	**00 38 38.6**	**+1.8**
BARN					IAmb	IAmb	00 38 43.4	
	comp=Z,4.1nm,0.8s							
PCA	**Pinnacle**	**68.36**	**31**	P		**P**	**00 38 41.0**	**+0.8**
ARSB	**Arslanbob**	**68.41**	**309**	P		**P**	**00 38 39.8**	**-1.2**
ARSB					IAmb	IAmb	00 38 52.5	
	comp=Z,3.7nm,1.0s							
HYT	**Haines Junctio**	**69.80**	**30**	P		**P**	**00 38 48.8**	**-0.3**
HYT					IAmb	IAmb	00 38 59.7	
	comp=Z,5.4nm,1.1s							
KK31	**Karatay Array**	**70.19**	**311**	P		**P**	**00 38 51.3**	**-0.5**
KKAR	**Karatay Array**	**70.19**	**311**	P		**P**	**00 38 50.9**	**-0.9**
BRVK	**Borovoye**	**70.24**	**321**	P		**P**	**00 38 52.0**	**+0.1**
GAR	**Garm**	**70.56**	**306**	P		**P**	**00 38 53.4**	**-0.9**
GAR					IAmb	IAmb	00 39 03.8	
	comp=Z,6.9nm,1.0s							
EPYK	**Eagle Plains**	**70.72**	**24**	P		**P**	**00 38 55.7**	**+1.1**
EPYK					IAmb	IAmb	00 38 57.7	
	comp=Z,5.7nm,1.1s							
INK	**Inuvik**	**72.14**	**23**	P		**P**	**00 39 04.5**	**+1.4**
	comp=Z,2.5nm,0.8s,baz=315,

JAYA				*e*S		**Sn**	**00 55 41.6**	**+0.6**
JAYA				IAML			00 55 42.2	
	comp=Z,4µm,0.2s							
JAYA	**Jayaque - finc**	**0.44**	**25**	*e*P		**Pn**	**00 55 33.3**	**-0.3**
JAYA				*e*S		**Sn**	**00 55 41.6**	**+0.6**
JAYA				IAML			00 55 42.2	
	comp=Z,4µm,0.2s							
CEVE	**Cerro Verde**	**0.57**	**2**	IAML			00 55 51.7	
	comp=Z,3µm,0.2s							
CEVE	**Cerro Verde**	**0.57**	**2**	IAML			00 55 51.7	
	comp=Z,3µm,0.2s							
SBLS	**San Blas**	**0.59**	**2**	*e*P		**Pn**	**00 55 35.2**	**-0.5**
SBLS	**San Blas**	**0.59**	**2**	*e*P		**Pn**	**00 55 35.2**	**-0.5**
SNET	**Serv Nac Est T**	**0.59**	**43**	*e*S		**Sn**	**00 55 44.5**	**0.0**
SNET				IAML			00 55 46.6	
	comp=Z,4µm,0.2s							
SNET	**Serv Nac Est T**	**0.59**	**43**	*e*S		**Sn**	**00 55 44.5**	**0.0**
SNET				IAML			00 55 46.6	
	comp=Z,4µm,0.2s							
BOQS	**Boqueron**	**0.60**	**36**	*e*P		**Pn**	**00 55 35.3**	**-0.5**
BOQS	**Boqueron**	**0.60**	**36**	*e*P		**Pn**	**00 55 35.3**	**-0.5**
CEDA	**San Andres**	**0.60**	**24**	*e*P		**Pn**	**00 55 35.2**	**-0.4**
CEDA				*e*S		**Sn**	**00 55 45.3**	**+0.6**
CEDA				IAML			00 55 49.5	
	comp=Z,2µm,0.2s							
CEDA	**San Andres**	**0.60**	**24**	*e*P		**Pn**	**00 55 35.2**	**-0.4**
CEDA				*e*S		**Sn**	**00 55 45.3**	**+0.6**
CEDA				IAML			00 55 49.5	
	comp=Z,2µm,0.2s							
UEES	**Universidad Ev**	**0.61**	**40**	IAML			00 55 45.6	
	comp=Z,4µm,0.2s							
UEES	**Universidad Ev**	**0.61**	**40**	IAML			00 55 45.6	
	comp=Z,4µm,0.2s							
SNJE	**San Jose**	**0.61**	**3**	*e*P		**Pn**	**00 55 35.5**	**-0.5**
SNJE	**San Jose**	**0.61**	**3**	*e*P		**Pn**	**00 55 35.5**	**-0.5**
OPAM	**Oficina de Pla**	**0.63**	**43**	*e*P		**Pn**	**00 55 35.7**	**-0.4**
OPAM				*e*S		**Sn**	**00 55 45.6**	**+0.1**
OPAM				IAML			00 55 47.9	
	comp=Z,4µm,0.2s							
OPAM	**Oficina de Pla**	**0.63**	**43**	*e*P		**Pn**	**00 55 35.7**	**-0.4**
OPAM				*e*S		**Sn**	**00 55 45.6**	**+0.1**
OPAM				IAML			00 55 47.9	
	comp=Z,4µm,0.2s							
RTR	**El Retiro**	**0.64**	**360**	*e*P		**Pn**	**00 55 35.9**	**-0.4**
RTR	**El Retiro**	**0.64**	**360**	*e*P		**Pn**	**00 55 35.9**	**-0.4**
NUBE	**Las Nubes**	**0.66**	**348**	⇓*i*P		**Pn**	**00 55 36.0**	**-0.6**
NUBE				*e*S		**Sn**	**00 55 46.0**	**-0.3**
NUBE	**Las Nubes**	**0.66**	**348**	⇓*i*P		**Pn**	**00 55 36.0**	**-0.6**
NUBE				*e*S		**Sn**	**00 55 46.0**	**-0.3**
UDBS	**Universidad Do**	**0.66**	**46**	*e*S		**Sn**	**00 55 46.3**	**+0.1**
UDBS	**Universidad Do**	**0.66**	**46**	*e*S		**Sn**	**00 55 46.3**	**+0.1**
LFRS	**El Faro**	**0.68**	**57**	*e*P		**Pb**	**00 55 36.1**	**+0.3**
LFRS	**El Faro**	**0.68**	**57**	*e*P		**Pb**	**00 55 36.1**	**+0.3**
AEIL	**Aeropuerto Ilo**	**0.68**	**49**	*e*P		**Pn**	**00 55 36.5**	**-0.2**
AEIL				*e*S		**Sn**	**00 55 47.5**	**+0.8**
AEIL				IAML			00 55 50.6	
	comp=Z,2µm,0.2s							
AEIL	**Aeropuerto Ilo**	**0.68**	**49**	*e*P		**Pn**	**00 55 36.5**	**-0.2**
AEIL				*e*S		**Sn**	**00 55 47.5**	**+0.8**
AEIL				IAML			00 55 50.6	
	comp=Z,2µm,0.2s							
LBRS	**Las Brisas**	**0.76**	**50**	*e*P		**Pn**	**00 55 37.4**	**-0.4**
LBRS	**Las Brisas**	**0.76**	**50**	*e*P		**Pn**	**00 55 37.4**	**-0.4**
TACO	**Tacachico**	**0.77**	**21**	*e*S		**Sn**	**00 55 48.9**	**+0.1**
TACO	**Tacachico**	**0.77**	**21**	*e*S		**Sn**	**00 55 48.9**	**+0.1**
PAVA	**Las Pavas**	**0.83**	**56**	*i* P		**Pn**	**00 55 38.4**	**-0.4**
PAVA				*e*S		**Sn**	**00 55 50.8**	**+0.4**
PAVA				IAML			00 55 51.7	
	comp=Z,2µm,0.4s							
PAVA	**Las Pavas**	**0.83**	**56**	*i* P		**Pn**	**00 55 38.4**	**-0.4**
PAVA				*e*S		**Sn**	**00 55 50.8**	**+0.4**
PAVA				*e*S		**Sn**	**00 55 51.1**	**+0.8**
PAVA				IAML			00 55 51.7	
	comp=Z,2µm,0.4s							
MTO3	**Montecristo**	**1.17**	**13**	*i* P		**Pn**	**00 55 42.9**	**-0.8**
MTO3				*e*S		**Sb**	**00 55 58.8**	**-0.3**
MTO3	**Montecristo**	**1.17**	**13**	*i* P		**Pn**	**00 55 42.9**	**-0.8**
MTO3				*e*S		**Sb**	**00 55 58.8**	**-0.3**
IXG	**Ixpaco**	**1.20**	**320**	*e*P		**Pn**	**00 55 44.0**	**-0.1**
JUCU	**Jucuarįn**	**1.36**	**90**	*e*P		**Pn**	**00 55 45.1**	**-1.0**
JUCU	**Jucuarįn**	**1.36**	**90**	*e*P		**Pn**	**00 55 45.1**	**-1.0**
NBG	**Las Nubes**	**1.50**	**333**	*e*P		**Pb**	**00 55 49.5**	**-0.2**
NBG				*e*S		**Sb**	**00 56 10.1**	**+1.6**
FUG	**Fuego 3**	**1.67**	**316**	*e*P		**Pn**	**00 55 50.8**	**+0.4**
FUG				*e*S		**Sb**	**00 56 12.2**	**-1.1**
STG3	**Santiaguito 3,**	**2.37**	**308**	*e*P		**Pn**	**00 56 00.7**	**+0.6**
STG3				*e*S		**Sn**	**00 56 28.4**	**-0.2**

*IDC **09** 01:00:58.8±1.4, 14°.49N×54°.56E, h0km, mb3.6/10, mb1 3.7/10, mb1mx3.5/41, mbtmp3.6/10, MS3.2/12, Ms1 3.2/12, ms1mx3.0/35, Error ellipse: s-maj=31.8km s-min=29.5km az=152.0*

ISC 09 01:01:01.6±1.3, 14°.5N±0°.2×54°.6E±0°.2, h17km, n22, σ1§01/12, mb3.6/11, MS3.2/10, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**9.49**	**23**	LR	LR	01 06 37.2	
	comp=Z,139nm,21.8s,baz=192,slow=36						
ATD	**Arta Tunnel**	**11.81**	**257**	LR	LR	01 07 15.4	
	comp=Z,125nm,20.7s,baz=26,slow=32						
GEYT	**Alibeck**	**23.54**	**7**	P	**P**	**01 06 11.4**	**+0.3**
	1.2nm,0.7s,baz=183,slow=5.8,SNR=3.1						
GEYT				LR	LR	01 16 54.8	
	comp=Z,77nm,21.0s,baz=10.0,slow=41						
EIL	**Elat**	**23.58**	**313**	LR	LR	01 15 32.4	
	comp=Z,48nm,19.9s,baz=127,slow=37						
KBZ	**Khabaz**	**30.79**	**343**	LR	LR	01 21 36.7	
	comp=Z,52nm,19.7s,baz=185,slow=40						
BRTR	**Keskin Array B**	**31.12**	**328**	LR	LR	01 21 14.8	
	comp=Z,21nm,18.3s,baz=123,slow=39						
AKTO	**Aktyubinsk**	**35.94**	**4**	P	**P**	**01 08 01.7**	**+0.6**
	0.8nm,0.7s,baz=218,slow=12,SNR=3.6						
MKAR	**Makanchi Array**	**39.64**	**30**	P	**P**	**01 08 32.4**	**-0.2**
	0.3nm,0.4s,baz=210,slow=9.1,SNR=4.8						
MKAR				LR	LR	01 26 27.2	
	comp=Z,37nm,19.8s,baz=233,slow=38						
BVAR	**Borovoye Array**	**40.42**	**15**	P	**P**	**01 08 38.5**	**-0.3**
	0.4nm,0.6s,baz=205,slow=6.1,SNR=2.5						
CMAR	**Chiang Mai Arr**	**42.64**	**78**	LR	LR	01 28 34.9	
	comp=Z,19nm,18.6s,baz=180,slow=39						
ZALV	**Zalesovo Beam**	**45.94**	**24**	P	**P**	**01 09 24.8**	**+1.3**
	0.4nm,0.3s,baz=191,slow=5.9,SNR=1.7						
ZALV				LR	LR	01 30 28.9	
	comp=Z,31nm,19.5s,baz=77,slow=38						
FINES	**FINESS Array B**	**51.15**	**343**	P	**P**	**01 10 02.6**	**-0.9**
	0.6nm,0.6s,baz=141,slow=12,SNR=8.0						
FINES				LR	LR	01 34 25.3	
	comp=Z,25nm,19.8s,baz=186,slow=39						
TORD	**Torodi Ar. Bea**	**51.28**	**275**	P	**P**	**01 10 06.0**	**+0.8**
	0.5nm,1.0s,baz=74,slow=5.1,SNR=2.2						
NOA	**NORSAR Array B**	**55.93**	**336**	P	**P**	**01 10 39.7**	**+1.0**
	0.2nm,0.6s,baz=131,slow=12,SNR=1.7						
NOA				LR	LR	01 38 00.1	
	comp=Z,18nm,19.8s,baz=100,slow=40						
ESDC	**Sonseca Array**	**56.75**	**308**	P	**P**	**01 10 44.3**	**-0.6**
	0.3nm,0.8s,baz=76,slow=5.4,SNR=4.3						
ARCES	**ARCESS Array B**	**57.94**	**348**	P	**P**	**01 10 51.6**	**-1.1**
	1.1nm,0.7s,baz=141,slow=7.8,SNR=5.3						
NRIK	**Norilʹsk**	**58.59**	**13**	LR	LR	01 38 06.3	
	comp=Z,42nm,19.9s,baz=231,slow=38						
H01W3	**Cape Leeuwin H**	**74.83**	**133**	T	T	02 34 34.8	
	baz=301,slow=75,SNR=30						
H01W2	**Cape Leeuwin H**	**74.83**	**133**	T	T	02 34 35.3	
	baz=301,slow=75,SNR=30						
H01W1	**Cape Leeuwin H**	**74.84**	**133**	T	T	02 34 31.8	
	baz=301,slow=75,SNR=28						
ASAR	**Alice Springs**	**86.26**	**115**	P	**P**	**01 13 43.2**	**+0.2**
	4.4nm,0.4s,baz=286,slow=4.3,SNR=6.2						
NVAR	**Mina Array Bea**	**126.92**	**353**	PKP	**PKPdf**	**01 20 03.7**	**-1.7**
	0.3nm,0.6s,baz=65,slow=3.2,SNR=2.3						

*IDC **09** 01:16:39.8±1.3, 7°.19S×154°.51E, h0km, mb3.8/8, mb1 4.1/9, mb1mx3.9/25, mbtmp3.8/9, ML3.9/1, MS3.2/5, Ms1 3.2/5, ms1mx2.8/33, Error ellipse: s-maj=43.1km s-min=24.7km az=128.0*

ISC 09 01:16:46.0±1.0, 7°.0S±0°.1×154°.3E±0°.2, h35km, n15, σ1§28/11, mb3.8/8, MS3.6/3, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.51**	**320**	Pn	**Pn**	**01 17 39.3**	**+1.1**
	8.4nm,0.3s,baz=58,slow=12,SNR=2.4						
KRVT				Sn	**Sn**	**01 18 16.5**	**-2.0**
	5.3nm,0.3s,baz=0.0,slow=20,SNR=0.6						
HNR	**Honiara**	**6.09**	**113**	LR	LR	01 20 16.3	
	comp=Z,82nm,18.9s,baz=88,slow=37						
PMG	**Port Moresby**	**7.43**	**251**	LR	LR	01 21 20.1	
	comp=Z,107nm,18.4s,baz=84,slow=37						
WRA	**Warramunga Arr**	**23.22**	**234**	P	**P**	**01 21 49.5**	**-0.7**
	2.2nm,0.8s,baz=57,slow=9.5,SNR=5.7						
ASAR	**Alice Springs**	**25.62**	**228**	P	**P**	**01 22 11.9**	**-0.5**
	0.7nm,0.8s,baz=59,slow=8.9,SNR=6.5						
STKA	**Stephens Creek**	**27.41**	**204**	LR	LR	01 31 52.1	
	comp=Z,37nm,20.4s,baz=158,slow=33						
RPZ	**Rata Peaks**	**39.39**	**161**	LR	LR	01 39 32.9	
	comp=Z,101nm,20.2s,baz=17,slow=35						
NWAO	**Nowgin (SRO)**	**42.94**	**228**	LR	LR	01 41 26.3	
	comp=Z,78nm,18.6s,baz=304,slow=35						
SONM	**Songino Array**	**68.98**	**328**	P	**P**	**01 27 49.6**	**+1.6**
	0.8nm,0.9s,baz=142,slow=7.3,SNR=1.9						
MKAR	**Makanchi Array**	**82.96**	**319**	P	**P**	**01 29 08.5**	**+1.0**
	0.3nm,0.7s,baz=74,slow=5.1,SNR=2.8						
ILAR	**Eielson Array**	**83.67**	**22**	P	**P**	**01 29 09.0**	**-1.7**
	0.4nm,0.8s,baz=247,slow=4.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**83.81**	**326**	P	**P**	**01 29 12.2**	**+0.5**
	0.7nm,0.5s,baz=101,slow=7.5,SNR=1.4						
NVAR	**Mina Array Bea**	**92.30**	**52**	P	**P**	**01 29 53.0**	**-0.1**
	0.5nm,0.8s,baz=251,slow=8.9,SNR=4.0						
YKA	**Yellowknife Ar**	**96.70**	**28**	P	**P**	**01 30 12.5**	**+0.1**
	0.3nm,0.7s,baz=265,slow=4.9,SNR=3.2						
TORD	**Torodi Ar. Bea**	**152.35**	**285**	PKPbc	**PKPbc**	**01 36 38.9**	**-0.5**
	0.5nm,0.8s,baz=72,slow=2.8,SNR=2.3						

*IDC **09** 01:28:57.6±0.8, 14°.60N×54°.65E, h0km, mb4.0/23, mb1 4.2/23, mb1mx4.0/46, mbtmp4.0/23, MS3.2/7, Ms1 3.2/7, ms1mx2.9/41, Error ellipse: s-maj=21.4km s-min=15.3km az=24.0*

*NEIC **09** 01:28:58.8±1.7, 14°.63N±0°.05×54°.63E±0°.09, h10km±1km, mb4.2/6, Error ellipse: s-maj=16.7km s-min=3.3km az=116.0*

ISC 09 01:28:59.5±0.6, 14°.52N±0°.08×54°.60E±0°.09, h17km, n66, σ1§20/62, mb4.2/40, MS3.2/5, 6C-1D, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.40**	**194**		**Pn**	**01 29 35.1**	**-3.0**
WSAR	**Wadi Sarin**	**9.47**	**23**	LR	LR	01 34 35.5	
	comp=Z,127nm,21.9s,baz=192,slow=36						
UOSS	**Minazif**	**10.48**	**8**	Pn	**Pn**	**01 31 26.6**	**-2.4**
ATD	**Arta Tunnel**	**11.83**	**257**	LR	LR	01 35 13.2	
	comp=Z,116nm,20.1s,baz=16,slow=32						
ATD	**Arta Tunnel**	**11.83**	**257**	Pn	**Pn**	**01 31 47.9**	**+0.2**
RAYN	**Ar Rayn**	**12.41**	**318**		**Pn**	**01 31 54.1**	**-1.4**
HRA	**Herat**	**20.95**	**18**	P	**P**	**01 33 40.5**	**-1.4**
HRA				IAmb	IAmb	01 33 50.5	
	comp=Z,4.5nm,0.7s						
GEYT	**Alibeck**	**23.52**	**7**	P	**P**	**01 34 09.2**	**+0.4**
	comp=Z,5.1nm,0.8s,baz=166,slow=8.3,SNR=10						
GEYT				LR	LR	01 44 29.5	
	comp=Z,94nm,19.3s,baz=200,slow=40						
EIL	**Elat**	**23.58**	**313**	LR	LR	01 43 04.9	
	comp=Z,76nm,18.4s,baz=97,slow=36						
ASF	**Jabal al Asfar**	**23.87**	**320**	P	**P**	**01 34 12.2**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=146,slow=7.3,SNR=2.3						
MMAI	**Mount Meron Ar**	**25.37**	**320**	P	**P**	**01 34 27.6**	**+1.7**
	comp=Z,2.3nm,0.8s,baz=112,slow=15,SNR=4.4						
GAZ	**Gaziantep**	**27.36**	**329**	P	**P**	**01 34 41.3**	**-2.6**
GAZ				IAmb	IAmb	01 34 54.9	
	comp=Z,8.6nm,1.0s						
KBZ	**Khabaz**	**30.78**	**343**	P	**P**	**01 35 14.1**	**0.0**
	comp=Z,1.0nm,0.6s,baz=166,slow=7.0,SNR=2.2						
KBZ				LR	LR	01 49 25.2	
	comp=Z,59nm,21.9s,baz=164,slow=40						
KVAR	**Kislovodsk Ar**	**31.05**	**343**	P	**P**	**01 35 17.2**	**+0.6**
	comp=Z,3.4nm,0.2s,baz=162,slow=3.2						
BRTR	**Keskin Array B**	**31.12**	**328**	P	**P**	**01 35 18.9**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=137,slow=11,SNR=3.4						
BRTR				PcP	**PcP**	**01 38 12.7**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=92,slow=3.7,SNR=3.7						
BRTR				LR	LR	01 47 17.3	
	comp=Z,23nm,21.3s,baz=152,slow=35						
IDI	**Anoyia**	**33.75**	**313**	LR	LR	01 52 19.0	
	comp=Z,25nm,18.0s,baz=90,slow=42						
VRI	**Vrincioaia**	**39.06**	**329**	⇑P	**P**	**01 36 27.4**	**+1.9**
PLOR	**Plostina**	**39.09**	**329**	⇑P	**P**	**01 36 28.6**	**+2.8**
TESR	**Tescani**	**39.55**	**329**	⇑P	**P**	**01 36 30.8**	**+1.2**
MKAR	**Makanchi Array**	**39.62**	**30**	P	**P**	**01 36 30.6**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=212,slow=9.4,SNR=11						
MKAR				PcP	**PcP**	**01 38 37.9**	**+0.7**
	comp=Z,0.8nm,1.0s,baz=207,slow=1.3,SNR=2.9						
ARR	**Arges**	**39.81**	**327**	⇑P	**P**	**01 36 33.0**	**+1.1**
BVAR	**Borovoye Array**	**40.40**	**15**	P	**P**	**01 36 36.6**	**0.0**
	comp=Z,0.9nm,0.6s,baz=188,slow=6.0,SNR=6.2						
BVAR				PcP	**PcP**	**01 38 40.4**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=204,slow=2.6,SNR=4.2						
KURBB	**Kurchatov Arra**	**40.89**	**23**	P	**P**	**01 36 40.6**	**0.0**
	comp=Z,0.9nm,0.8s,baz=222,slow=8.3,SNR=10.0						
KURK	**Kurchatov**	**41.00**	**23**	P	**P**	**01 36 40.6**	**-0.9**
KURK	**Kurchatov**	**41.00**	**23**	IAmb	IAmb	01 36 50.7	
	comp=Z,1.7nm,0.8s						
BURAR	**Bucovina Array**	**41.02**	**330**	⇑P	**P**	**01 36 44.1**	**+2.2**
BUR08	**Bucovina Ar. S**	**41.05**	**330**	P	**P**	**01 36 40.4**	**-1.8**
AKASG	**Malin Array Be**	**41.52**	**336**	P	**P**	**01 36 45.0**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=135,slow=8.1,SNR=4.9						
BZS	**Buras**	**41.61**	**325**	⇑P	**P**	**01 36 46.9**	**+0.3**
CMAR	**Chiang Mai Arr**	**42.62**	**78**	P	**P**	**01 36 56.4**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=271,slow=8.7,SNR=4.5						
KEST	**Kesra**	**45.61**	**306**	P	**P**	**01 37 20.0**	**+0.9**
	comp=Z,3.8nm,1.1s,baz=289,slow=7.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**45.92**	**24**	P	**P**	**01 37 20.4**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=225,slow=7.5,SNR=6.8						
ARSA	**Arzberg**	**46.01**	**323**	*i* P	**P**	**01 37 21.5**	**-0.5**
	comp=Z,3.1nm,0.9s						
CONA	**Conrad Observa**	**46.18**	**324**	*i* P	**P**	**01 37 24.3**	**+0.9**
	comp=Z,4.3nm,1.0s						
OBKA	**Obir**	**46.20**	**322**	*i* pP	**P**	**01 37 25.4**	**+1.8**
	comp=Z,3.5nm,1.2s						
MORC	**Moravsky Berou**	**46.31**	**327**	⇓P	**P**	**01 37 24.8**	**+0.4**
SUW	**Suwalki**	**46.45**	**335**	P	**P**	**01 37 24.0**	**-1.3**
MYKA	**Terra Mystica**	**46.80**	**322**	*i* P	**P**	**01 37 26.9**	**-1.4**
	comp=Z,1.4nm,0.5s						
MOA	**Molln**	**47.05**	**323**	*i* P	**P**	**01 37 30.0**	**-0.1**
	comp=Z,4.8nm,1.5s						
KBA	**Konbreinsper**	**47.20**	**322**	*i* P	**P**	**01 37 31.2**	**-0.3**
	comp=Z,2.7nm,0.8s						
ABTA	**Abfaltersbach**	**47.54**	**321**	*i* pP	P	01 37 39.6	+5.5
	comp=Z,0.4nm,0.4s						
KLMR	**Klimovskoe**	**47.54**	**350**	*e*P	**P**	**01 37 32.6**	**-1.1**
KLMR				AMP		01 37 44.0	
	comp=Z,12nm,1.5s						
GERES	**GERESS Array B**	**47.88**	**324**	P	**P**	**01 37 36.8**	**0.0**
	comp=Z,0.4nm,0.7s,baz=125,slow=8.3,SNR=5.8						
WTTA	**Wattenberg**	**48.31**	**322**	*i* P	**P**	**01 37 40.6**	**+0.4**
	comp=Z,1.7nm,1.3s						
WATA	**Walderalm**	**48.38**	**322**	*i* P	**P**	**01 37 40.7**	**0.0**
	comp=Z,3.5nm,1.2s						
SQTA	**Sankt Quirin**	**48.55**	**321**	*i* P	**P**	**01 37 41.9**	**-0.1**
	comp=Z,3.1nm,0.6s						
MOTA	**Moosalm**	**48.67**	**321**	*i* P	**P**	**01 37 42.4**	**-0.5**
	comp=Z,3.9nm,1.0s						
FETA	**Feichten**	**48.75**	**321**	*i* P	**P**	**01 37 43.3**	**-0.2**
	comp=Z,1.9nm,1.0s						
RETA	**Rettle**	**48.94**	**321**	*i* P	**P**	**01 37 44.2**	**-0.7**
	comp=Z,1.1nm,0.6s						
DAVA	**Damuels**	**49.38**	**321**	*i* P	**P**	**01 37 47.1**	**-1.3**
	comp=Z,2.1nm,0.8s						
FIA1	**FINESS Array S**	**51.14**	**343**	P	**P**	**01 38 00.0**	**-1.2**
FIA1				IAmb	IAmb	01 38 07.0	
	comp=Z,5.0nm,0.8s						
FINES	**FINESS Array B**	**51.14**	**343**	P	**P**	**01 38 01.3**	**+0.1**
	comp=Z,2.7nm,0.6s,baz=139,slow=8.1,SNR=14						
TORD	**Torodi Ar. Bea**	**51.30**	**275**	P	**P**	**01 38 04.2**	**+1.0**
	comp=Z,1.2nm,0.9s,baz=78,slow=7.2,SNR=5.0						
TORD				PcP	**PcP**	**01 39 19.8**	**+1.7**
	comp=Z,0.6nm,0.7s,baz=70,slow=3.9,SNR=2.9						
SONM	**Songino Array**	**54.01**	**41**	P	**P**	**01 38 23.9**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=238,slow=8.3,SNR=2.0						
SONM				PcP	**PcP**	**01 39 28.5**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=208,slow=2.8,SNR=1.4						
NOA	**NORSAR Array B**	**55.93**	**336**	P	**P**	**01 38 35.0**	**-1.5**
	comp=Z,0.6nm,0.9s,baz=164,slow=6.4,SNR=2.2						
ESDC	**Sonseca Array**	**56.75**	**308**	P	**P**	**01 38 43.1**	**+0.4**
	comp=Z,1.7nm,1.0s,baz=86,slow=6.2,SNR=9.8						
ARCES	**ARCESS Array B**	**57.93**	**348**	P	**P**	**01 38 50.1**	**-0.4**
	comp=Z,3.9nm,0.8s,baz=150,slow=8.0,SNR=14						
KSRS	**Korea Array**	**68.16**	**55**	P	**P**	**01 39 57.8**	**-1.2**
	comp=Z,0.7nm,0.4s,baz=276,slow=7.4,SNR=5.0						
H01W3	**Cape Leeuwin H**	**74.82**	**133**	T	T	03 02 30.2	
	baz=301,slow=75,SNR=20						
H01W2	**Cape Leeuwin H**	**74.83**	**133**	T	T	03 02 27.7	
	baz=301,slow=75,SNR=16						
H01W1	**Cape Leeuwin H**	**74.84**	**133**	T	T	03 02 29.3	
	baz=301,slow=75,SNR=19						
WRA	**Warramunga Arr**	**85.54**	**112**	P	**P**	**01 41 37.6**	**+0.3**
	comp=Z,3.6nm,0.9s,baz=300,slow=4.1,SNR=8.8						
ASAR	**Alice Springs**	**86.25**	**115**	P	**P**	**01 41 41.4**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=291,slow=4.7,SNR=22						
PDAR	**Pinedale Array**	**121.17**	**346**	PKP	**PKiKP**	**01 47 52.7**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=94,slow=1.9,SNR=3.9						
NVAR	**Mina Array Bea**	**126.91**	**353**	PKP	**PKiKP**	**01 48 05.3**	**+1.7**
	comp=Z,1.3nm,0.7s,baz=42,slow=0.7,SNR=13						
TXAR	**Lajitas Array**	**131.61**	**334**	PKP	**PKPdf**	**01 48 12.1**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=54,slow=4.6,SNR=2.8						

*NEIC **09** 01:31:09.6±2.0, 36°.97S±0°.08×177°.27E±0°.07, h1km±2km, Error ellipse: s-maj=12.2km s-min=6.8km az=209.0*

*WEL **09** 01:31:11.8, 37°.S±5°×17°.7E±°, h12km, M4.1/31, ML4.3/31, MLv4.1/31, Error ellipse: s-maj=0.0km s-min=0.0km az=1.0*

*IDC **09** 01:31:13.4±1.5, 37°.11S×176°.94E, h0km, mb4.1/4, mb1 4.3/5, mb1mx4.0/25, mbtmp4.1/5, ML3.6/1, MS3.5/4, Ms1 3.5/4, ms1mx3.1/19, Error ellipse: s-maj=43.0km s-min=28.1km az=71.0*

ISC 09 01:31:10.4±0.8, 36°.89S±0°.05×177°.18E±0°.04, h10km, n104, σ1§50/101, mb4.4/6, MS3.4/3, 1C, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.63**	**180**	P	**Pn**	**01 31 24.4**	**-1.0**
WIZ				S	**Sb**	**01 31 33.8**	**+1.3**
WHRZ	**Whale Island**	**0.98**	**190**	P	**Pn**	**01 31 30.6**	**+0.4**
HAZ	**Te Kaha**	**0.99**	**151**	P	**Pn**	**01 31 29.0**	**-1.3**
OPRZ	**Ohinepanea**	**1.07**	**208**	P	**Pn**	**01 31 30.8**	**-0.8**
TGRZ	**Tauranga**	**1.11**	**221**	P	**Pn**	**01 31 31.8**	**-0.3**
MXZ	**Matakaoa Point**	**1.12**	**127**	P	**Pn**	**01 31 30.6**	**-1.5**
MXZ	**Matakaoa Point**	**1.12**	**127**		**Pn**	**01 31 30.8**	**-1.3**
RUGZ	**Raukumara Rang**	**1.14**	**160**	P	**Pg**	**01 31 32.1**	**-0.3**
RUGZ				S	**Sn**	**01 31 48.9**	**+0.5**
MARZ	**Manawahe**	**1.16**	**200**	P	**Pb**	**01 31 32.5**	**-0.1**
KUZ	**Kuaotunu**	**1.18**	**277**	P	**Pn**	**01 31 32.2**	**-0.8**
WMGZ	**Waiomatatini S**	**1.35**	**134**	P	**Pg**	**01 31 36.0**	**-0.3**
KARZ	**Kaharoa**	**1.35**	**213**	P	**Pb**	**01 31 35.5**	**-0.4**
URZ	**Urewera**	**1.37**	**182**	P	**Pg**	**01 31 35.5**	**-1.1**
KMRZ	**Kaimai**	**1.37**	**226**	P	**Pn**	**01 31 35.7**	**0.0**
OMRZ	**Omania**	**1.37**	**208**	P	**Pb**	**01 31 36.3**	**+0.1**
TWGZ	**Tauwhareparae**	**1.43**	**154**	P	**Pg**	**01 31 38.6**	**+0.7**
TARZ	**Mount Tarawera**	**1.45**	**202**	P	**Pb**	**01 31 37.2**	**-0.3**
PUZ	**Puketiti**	**1.46**	**144**	P	**Pg**	**01 31 38.2**	**-0.1**
MWZ	**Matawai**	**1.47**	**169**	P	**P

BCA	**Borcka**	**145.54**	**292**	⇑P		**PKiKP**	**01 50 57.5**	**+4.9**
FINES	**FINESS Array B**	**149.48**	**333**	PKPbc		**PKPab**	**01 51 02.2**	**-1.7**
	comp=Z,1.7nm,1.0s,baz=90,slow=9.7,SNR=2.3							
BRTR	**Keskin Array B**	**151.38**	**287**	PKPbc		**PKPab**	**01 51 09.4**	**-3.2**
	comp=Z,0.6nm,0.9s,baz=145,slow=5.3,SNR=2.6							
TORD	**Torodi Ar. Bea**	**156.01**	**191**	PKPab		**PKPab**	**01 51 36.6**	**+4.1**
	comp=Z,1.0nm,0.9s,baz=171,slow=3.7,SNR=5.7							

*ISN **09** 01:37:53.8±1.1,32°.71N×46°.74E, h2km±4km, ML3.6*
*IDC **09** 01:37:55.3±1.8,32°.82N×46°.57E, h0km, mb3.8/10, mb1 3.7/14,mb1mx3.5/45,mbtmp3.7/14, ML3.2/4, MS2.9/3, Ms1 2.9/3,ms1mx2.5/35, Error ellipse: s-maj=38.6km s-min=18.4km az=162.0*
*TEH **09** 01:37:56.6,32°.72N×46°.67E, h20km, ML3.7*
ISC 09 01:37:56.2±0.8,32°.64N±0°.06×46°.62E±0°.05,h10km,n69, σ1§05/68,mb3.7/10,MS2.8/3,9C-6D,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.75**	**309**	*e*Pg	**Pg**	**01 38 12.0**	**+1.3**
IBDR				*e*Sg	**Sg**	**01 38 23.0**	**+2.5**
IBDR				AML	AML	01 38 27.4	
	comp=N,1μm,0.4s						
IBDR				AML	AML	01 38 45.3	
	comp=E,2μm,0.7s						
IBDR	**Badra**	**0.75**	**309**	*e*Pg	**Pg**	**01 38 12.0**	**+1.3**
KCHF	**Cheshme Sefid,**	**1.67**	**12**	*e*Pg	**Pn**	**01 38 25.9**	**+0.2**
KCHF				*e*		01 38 54.3	
IGHG	**Ghaleghazi**	**1.69**	**358**	*e*Pg	**Pn**	**01 38 26.8**	**+0.8**
IKOM	**Komasi**	**1.70**	**26**	*e*Pg	**Pn**	**01 38 26.8**	**+0.7**
IKMR	**Kamar-syah**	**1.71**	**59**	*e*Pg	**Pn**	**01 38 27.1**	**+1.0**
IKMR				*e*		01 38 51.9	
IDOB	**Doab**	**1.73**	**48**	*e*Pg	**Pn**	**01 38 27.0**	**+0.4**
IDOB				*e*		01 39 01.0	
KER	**Kermanshah**	**1.79**	**14**	*e*Pg	**Pn**	**01 38 27.9**	**+0.5**
IVIS	**Veis**	**1.89**	**6**	*e*Pn	**Pn**	**01 38 29.0**	**+0.3**
BHD	**Baghdad**	**1.99**	**289**	*e*Pn	**Pn**	**01 38 30.0**	**+0.1**
BHD				*e*Sn	**Sn**	**01 38 56.0**	**+1.1**
BHD	**Baghdad**	**1.99**	**289**	*e*Pn	**Pn**	**01 38 30.0**	**+0.1**
IDHR	**Dehrash**	**2.07**	**355**	*e*Pn	**Pn**	**01 38 31.9**	**+0.7**
IDHR				*e*		01 39 04.2	
AHWZ	**Ahwaz**	**2.16**	**127**	*e*Pn	**Pn**	**01 38 34.0**	**+1.8**
HSAM	**Samen**	**2.28**	**46**	*e*Pn	**Pn**	**01 38 34.6**	**+0.4**
ILIN	**Lien**	**2.29**	**7**	*e*Pn	**Pn**	**01 38 34.8**	**+0.5**
IALM	**Almabolaq**	**2.56**	**30**	*e*Pn	**Pn**	**01 38 38.7**	**+0.6**
HAGD	**Aghdareh**	**3.02**	**43**	*e*Pn	**Pn**	**01 38 44.9**	**+0.5**
HAGD				*e*		01 39 22.5	
IKRK	**Kirkuk**	**3.34**	**326**	*e*Pn	**Pn**	**01 38 48.0**	**-0.6**
IKRK				*e*Sn	**Sn**	**01 39 27.0**	**-1.4**
IKRK				AML	AML	01 39 45.8	
	comp=N,235nm,0.4s						
IKRK				AML	AML	01 39 53.2	
	comp=E,356nm,0.5s						
IKRK	**Kirkuk**	**3.34**	**326**	*e*Pn	**Pn**	**01 38 48.0**	**-0.6**
JHBN	**Jahan bin**	**3.44**	**96**	*e*Pn	**Pn**	**01 38 51.0**	**+0.8**
IPIB	**Pirpir**	**3.60**	**88**	*e*Pn	**Pn**	**01 38 52.9**	**+0.5**
ROKH	**ROKH**	**3.74**	**93**	*e*Pn	**Pn**	**01 38 55.3**	**+1.1**
IRAZ	**Razeghan**	**3.89**	**44**	*e*Pn	**Pn**	**01 38 57.2**	**+0.9**
QABG	**Abgarm-Qazvin**	**3.92**	**38**	*e*Pn	**Pn**	**01 38 56.6**	**-0.1**
MAHB	**Mahabad**	**4.19**	**350**	*e*Pn	**Pn**	**01 39 00.9**	**+0.6**
IKLH	**Kolahrood**	**4.22**	**79**	*e*Pn	**Pn**	**01 39 01.4**	**+0.6**
IQOM	**Qom**	**4.31**	**58**	*e*Pn	**Pn**	**01 39 02.4**	**+0.3**
QSDN	**Sirdan**	**4.39**	**28**	*e*Pn	**Pn**	**01 39 04.1**	**+0.9**
KLNJ	**Kolanjah**	**4.53**	**110**	*e*Pn	**Pn**	**01 39 06.5**	**+1.3**
IZEF	**Zefreh**	**4.81**	**85**	*e*Pn	**Pn**	**01 39 09.3**	**+0.3**
IVRN	**Varamin**	**4.86**	**60**	*e*Pn	**Pn**	**01 39 09.9**	**+0.5**
IRAM	**Ramesheh**	**4.95**	**98**	*e*Pn	**Pn**	**01 39 10.6**	**-0.2**
QALM	**Alamut, Qazvin**	**5.03**	**40**	*e*Pn	**Pn**	**01 39 13.4**	**+1.4**
ISAD	**Sadrabad**	**6.02**	**95**	*e*Pn	**Pn**	**01 39 25.6**	**-0.1**
ASF	**Jabal al Asfar**	**8.24**	**269**	Pn	**Pn**	**01 39 55.7**	**-0.2**
	comp=E,0.1nm,0.3s,baz=339,slow=14,SNR=1.1						
ASF				Sn	**Sn**	**01 41 25.9**	**-3.2**
	comp=E,0.5nm,0.3s,baz=72,slow=20,SNR=2.3						
ASF				Lg	Lg	01 42 19.9	
	comp=E,0.4nm,0.3s,baz=48,slow=23,SNR=4.0						
MMAI	**Mount Meron Ar**	**9.45**	**275**	Lg	Lg	01 42 59.0	
	comp=E,0.7nm,0.3s,baz=99,slow=37,SNR=2.7						
EIL	**Elat**	**10.43**	**257**	Lg	Lg	01 43 41.8	
	comp=E,0.5nm,0.3s,baz=20,slow=17,SNR=4.1						
GEYT	**Alibeck**	**10.77**	**57**	Pn	**Pn**	**01 40 31.0**	**+0.4**
	comp=E,0.2nm,0.3s,baz=235,slow=15,SNR=3.5						
WSAR	**Wadi Sarin**	**14.14**	**128**	Pn	Pn	01 41 13.9	-2.8
	comp=E,0.4nm,0.3s,baz=313,slow=15,SNR=2.1						
WSAR				Sn	Sn	01 43 42.7	-11
	comp=E,0.3nm,0.3s,baz=175,slow=19,SNR=7.5						
IDI	**Anoyia**	**18.22**	**284**	P	**Pn**	**01 42 08.3**	**-1.0**
	comp=E,0.1nm,0.3s,baz=255,slow=16,SNR=1.1						
AKTO	**Aktyubinsk**	**19.68**	**22**	P	**P**	**01 42 23.9**	**-1.4**
	comp=E,0.3nm,0.3s,baz=207,slow=16,SNR=4.1						
VRI	**Vrincioaia**	**20.22**	**317**	⇑P	**P**	**01 42 31.9**	**+0.5**
PLOR	**Plostina**	**20.26**	**316**	⇑P	**P**	**01 42 33.2**	**+1.5**
MLR	**Muntele Rosu**	**20.48**	**315**	P	**P**	**01 42 36.8**	**+2.5**
	comp=E,1.0nm,0.7s,baz=205,slow=6.6,SNR=3.4						
MLR	**Muntele Rosu**	**20.48**	**315**	⇑P	**P**	**01 42 36.3**	**+2.0**
TESR	**Tescani**	**20.64**	**318**	⇑P	**P**	**01 42 36.6**	**+0.8**
SORM	**Soroca**	**20.74**	**324**	⇓P	**P**	**01 42 36.8**	**0.0**
OZUR		**20.90**	**316**	⇓P	**P**	**01 42 39.6**	**+0.9**
VOIR		**21.00**	**314**	⇑P	**P**	**01 42 41.2**	**+1.4**
DOPR	**Dopca**	**21.07**	**315**	⇑P	**P**	**01 42 40.9**	**+0.4**
BIZ	**Bicaz**	**21.19**	**318**	⇓P	**P**	**01 42 42.2**	**+0.4**
ARR	**Arges**	**21.22**	**313**	⇓P	**P**	**01 42 42.8**	**+0.6**
BURAR	**Bucovina Array**	**22.07**	**319**	⇑P	**P**	**01 42 52.0**	**+0.7**
AKASG	**Malin Array Be**	**22.14**	**330**	P	**P**	**01 42 50.1**	**-1.9**
	comp=E,1.1nm,0.5s,baz=139,slow=9.6,SNR=8.5						
GZR	**Gura Zlata**	**22.29**	**312**	⇑P	**P**	**01 42 56.4**	**+1.6**
MDVR	**Moldovita**	**22.81**	**309**	⇓P	**P**	**01 42 59.2**	**0.0**
DRGR		**23.08**	**315**	⇓P	**P**	**01 43 01.7**	**-0.3**
BZS	**Buzias**	**23.22**	**311**	⇑P	**P**	**01 43 03.0**	**-0.3**
OBN	**Obninsk**	**23.56**	**345**	P	**P**	**01 43 05.9**	**-0.8**
	comp=E,2.1nm,0.4s,baz=169,slow=17,SNR=3.2						
OBN				LR	LR	01 53 34.5	
	comp=E,14nm,19.4s,baz=308,slow=40						
ARU	**Arti**	**25.19**	**16**	P	**P**	**01 43 20.7**	**-1.0**
	comp=E,0.5nm,0.3s,baz=196,slow=11,SNR=4.7						
KIRV	**Kirov**	**26.02**	**3**	LR	LR	01 55 40.0	
	comp=E,46nm,19.9s,baz=177,slow=41						
BVAR	**Borovoye Array**	**26.59**	**33**	P	**P**	**01 43 34.0**	**-0.5**
	comp=E,0.5nm,0.5s,baz=226,slow=43,SNR=2.2						
VRAC	**Vranov**	**27.88**	**316**	LR	LR	01 57 21.1	
	comp=E,25nm,18.3s,baz=106,slow=42						
KURBB	**Kurchatov Arra**	**29.54**	**43**	P	**P**	**01 44 00.7**	**-0.1**
	comp=E,0.7nm,0.6s,baz=249,slow=9.0,SNR=6.7						
MKAR	**Makanchi Array**	**30.57**	**52**	P	**P**	**01 44 10.1**	**0.0**
	comp=E,0.5nm,0.5s,baz=251,slow=7.1,SNR=5.9						
FINES	**FINESS Array B**	**31.75**	**341**	P	**P**	**01 44 19.4**	**-0.8**
	comp=E,1.2nm,0.6s,baz=141,slow=11,SNR=9.9						
ZALV	**Zalesovo Beam**	**34.42**	**40**	P	**P**	**01 44 42.4**	**-1.2**
	comp=E,0.6nm,0.3s,baz=253,slow=8.9,SNR=5.2						
ARCES	**ARCESS Array B**	**38.80**	**348**	P	**P**	**01 45 19.8**	**-1.0**
	comp=E,1.2nm,0.8s,baz=158,slow=9.7,SNR=1.9						
TORD	**Torodi Ar. Bea**	**45.32**	**255**	P	**P**	**01 46 15.1**	**+0.5**
	comp=E,0.8nm,0.9s,baz=60,slow=5.7,SNR=4.4						

*IDC **09** 01:43:28.3±0.7, 14°.65N×54°.72E, h0km, mb3.9/26, mb1 4.0/26,mb1mx3.9/49,mbtmp3.9/26,MS3.5/16, Ms1 3.5/16,ms1mx3.4/35,Error ellipse: s-maj=17.1km s-min=15.7km az=118.0*
*NEIC **09** 01:43:29.1±3.0, 14°.71N±0°.06×54°.6E±0°.1, h10km±1km, mb4.3/15, Error ellipse: s-maj=17.1km s-min=9.8km az=95.0*
ISC 09 01:43:29.0±0.6,14°.60N±0°.08×54°.68E±0°.09,h10km,n84, σ1§48/75,mb4.2/47,MS3.5/15,3C-6D,Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**2.49**	**196**		**Pn**	**01 44 06.4**	**-3.3**
SOCY				Sn	Sn	01 44 28.8	-11
DAMY	**Dhamar**	**9.96**	**271**	Pn	**Pn**	**01 45 51.3**	**-1.3**
ATD	**Arta Tunnel**	**11.93**	**257**	LR	LR	01 49 43.7	
	comp=Z,314nm,20.8s,baz=98,slow=31						
ATD	**Arta Tunnel**	**11.93**	**257**	Pn	**Pn**	**01 46 18.1**	**-1.2**
RAYN	**Ar Rayn**	**12.41**	**317**	Pn	**Pn**	**01 46 24.2**	**-1.7**
HRA	**Herat**	**20.86**	**18**	P	**P**	**01 48 09.7**	**-1.7**
HRA				IAmb	IAmb	01 48 22.3	
	comp=Z,16nm,1.4s						
KMBO	**Kilima Mbogo**	**23.27**	**229**	P	**P**	**01 48 39.5**	**+2.2**
	comp=Z,1.9nm,0.7s,baz=42,slow=12,SNR=4.1						
GEYT	**Alibeck**	**23.44**	**7**	P	**P**	**01 48 40.5**	**+1.9**
	comp=Z,5.9nm,1.0s,baz=193,slow=6.1,SNR=12						
GEYT				LR	LR	01 59 23.4	
	comp=Z,208nm,21.0s,baz=210,slow=41						
GYA0B	**ALIBECK ARRAY**	**23.44**	**7**	P	**P**	**01 48 37.1**	**-1.4**
GYA0B				IAmb	IAmb	01 48 49.2	
	comp=Z,9.4nm,0.9s						
KBL	**Kabul**	**23.71**	**31**	P	**P**	**01 48 38.7**	**-2.7**
KBL				IAmb	IAmb	01 48 53.4	
	comp=Z,7.3nm,1.3s						
ASF	**Jabal al Asfar**	**23.86**	**320**	P	**P**	**01 48 43.9**	**+1.1**
	comp=Z,3.2nm,1.0s,baz=123,slow=10.0,SNR=3.2						
MMAI	**Mount Meron Ar**	**25.36**	**320**	P	**P**	**01 48 58.6**	**+2.2**
	comp=Z,1.7nm,0.7s,baz=110,slow=12,SNR=3.8						
GAZ	**Gaziantep**	**27.34**	**329**	P	**P**	**01 49 11.1**	**-3.1**
AKH	**Akhalkalaki**	**28.43**	**342**	P	**P**	**01 49 20.9**	**-3.2**
AKH				IAmb	IAmb	01 49 34.7	
	comp=Z,6.9nm,1.4s						
KBZ	**Khabaz**	**30.73**	**343**	P	**P**	**01 49 44.6**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=180,slow=6.1,SNR=2.1						
KBZ				LR	LR	02 04 05.3	
	comp=Z,175nm,20.1s,baz=166,slow=40						
BRTR	**Keskin Array B**	**31.10**	**328**	LR	LR	02 03 43.7	
	comp=Z,65nm,18.7s,baz=114,slow=39						
AKTO	**Aktyubinsk**	**35.84**	**4**	P	**P**	**01 50 28.9**	**+0.1**
	comp=Z,8.1nm,1.3s,baz=189,slow=6.0,SNR=4.8						
VRI	**Vrincioaia**	**39.04**	**329**	⇑P	**P**	**01 50 57.9**	**+2.0**
PLOR	**Plostina**	**39.07**	**329**	⇓P	**P**	**01 50 58.6**	**+2.4**
MLR	**Muntele Rosu**	**39.18**	**328**	P	**P**	**01 50 57.9**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=101,slow=4.5,SNR=3.2						
MLR	**Muntele Rosu**	**39.18**	**328**	P	**P**	**01 50 54.3**	**-3.0**
MLR				IAmb	IAmb	01 51 10.4	
	comp=Z,9.9nm,1.5s						
MK31	**Makanchi Array**	**39.52**	**30**	P	**P**	**01 50 59.2**	**-0.8**
MKAR	**Makanchi Array**	**39.52**	**30**	P	**P**	**01 51 01.1**	**+1.1**
	comp=Z,0.5nm,0.5s,baz=215,slow=9.5,SNR=8.0						
MKAR				LR	LR	02 09 30.3	
	comp=Z,53nm,18.9s,baz=228,slow=40						
TESR	**Tescani**	**39.53**	**329**	⇓P	**P**	**01 51 01.2**	**+1.1**
VOIR		**39.62**	**327**	⇑P	**P**	**01 51 03.3**	**+2.4**
ARR	**Arges**	**39.79**	**327**	⇓P	**P**	**01 51 03.5**	**+1.2**
DOPR	**Dopca**	**39.79**	**328**	⇓P	**P**	**01 51 01.8**	**-0.4**
BIZ	**Bicaz**	**40.10**	**329**	⇓P	**P**	**01 51 06.1**	**+1.4**
BVAR	**Borovoye Array**	**40.31**	**15**	P	**P**	**01 51 07.1**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=288,slow=37,SNR=3.5						
PRAR	**RASCA**	**40.33**	**330**	⇓P	**P**	**01 51 07.6**	**+0.9**
KURBB	**Kurchatov Arra**	**40.79**	**23**	P	**P**	**01 51 11.1**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=224,slow=7.7,SNR=5.8						
KURK	**Kurchatov**	**40.90**	**23**	P	**P**	**01 51 10.1**	**-1.2**
KURK				IAmb	IAmb	01 51 21.4	
	comp=Z,5.1nm,1.4s						
BURAR	**Bucovina Array**	**41.00**	**330**	⇑P	**P**	**01 51 14.0**	**+1.7**
BUR08	**Bucovina Ar. S**	**41.03**	**330**	P	**P**	**01 51 10.8**	**-1.8**
AKASG	**Malin Array Be**	**41.48**	**336**	P	**P**	**01 51 16.2**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=132,slow=7.8,SNR=7.5						
AKASG				LR	LR	02 11 24.7	
	comp=Z,40nm,18.3s,baz=170,slow=40						
CMAR	**Chiang Mai Arr**	**42.53**	**79**	LR	LR	02 09 18.3	
	comp=Z,14nm,18.4s,baz=280,slow=36						
OBN	**Obninsk**	**42.81**	**345**	P	**P**	**01 51 27.6**	**+0.8**
	comp=Z,1.6nm,0.4s,baz=319,slow=20,SNR=3.8						
MATP	**Matopo**	**43.28**	**217**	P	**P**	**01 51 33.4**	**+2.1**
	comp=Z,1.1nm,0.7s,baz=360,slow=7.9,SNR=4.2						
VYHS	**Vyhne**	**44.85**	**326**	*e*P	**P**	**01 51 41.8**	**-1.6**
KEST	**Kesra**	**45.63**	**306**	P	**P**	**01 51 52.4**	**+2.5**
	comp=Z,3.4nm,1.0s,baz=344,slow=14,SNR=3.8						
KEST	**Kesra**	**45.63**	**306**	P	**P**	**01 51 49.1**	**-0.8**
KEST				IAmb	IAmb	01 51 53.1	
	comp=Z,4.3nm,1.0s						
JAVC	**Velka Javorina**	**45.69**	**326**	*e*P	**P**	**01 51 51.7**	**+1.6**
ZALV	**Zalesovo Beam**	**45.82**	**24**	P	**P**	**01 51 50.7**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=243,slow=9.6,SNR=5.2						
ZALV				LR	LR	02 12 57.6	
	comp=Z,57nm,19.7s,baz=90,slow=39						
SOKA	**Soboth**	**45.98**	**322**	*i* P	**P**	**01 51 51.2**	**-1.3**
	comp=Z,1.4nm,0.4s						
ARSA	**Arzberg**	**45.99**	**323**	*i* P	**P**	**01 51 50.7**	**-1.8**
	comp=Z,4.1nm,1.1s						
CONA	**Conrad Observa**	**46.16**	**324**	*i* pP	**P**	**01 51 54.5**	**+0.6**
	comp=Z,6.2nm,1.2s						
OBKA	**Obir**	**46.19**	**322**	*i* P	**P**	**01 51 51.7**	**-2.5**
	comp=Z,5.1nm,1.7s						
MORC	**Moravsky Berou**	**46.29**	**327**	*e*P	**P**	**01 51 55.1**	**+0.3**
MORC	**Moravsky Berou**	**46.29**	**327**	IAmb	IAmb	01 51 56.4	
	comp=Z,8.5nm,1.4s						
KRUC	**Moravsky**	**46.49**	**326**	*e*P	**P**	**01 51 56.9**	**+0.5**
VRAC	**Vranov**	**46.52**	**326**	P	**P**	**01 51 56.9**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=25,slow=3.0,SNR=3.0						
VRAC	**Vranov**	**46.52**	**326**	*e*P	**P**	**01 51 57.4**	**+0.8**
MYKA	**Terra Mystica**	**46.79**	**322**	*i* pP	**P**	**01 51 59.7**	**+0.9**
	comp=Z,3.8nm,1.1s						
MOA	**Molln**	**47.03**	**323**	*i* P	**P**	**01 52 00.9**	**+0.2**
	comp=Z,4.5nm,1.5s						
KBA	**Koelnbreinsper**	**47.19**	**322**	*i* pP	**P**	**01 52 02.9**	**+0.8**
	comp=Z,1.5nm,0.5s						
ABTA	**Abfaltersbach**	**47.53**	**321**	*i* pP	P	01 52 10.3	+5.7
	comp=Z,5.1nm,1.7s						
GERES	**GERESS Array B**	**47.87**	**324**	P	**P**	**01 52 06.4**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=122,slow=7.1,SNR=3.5						
GERES				LR	LR	02 14 11.9	
	comp=Z,20nm,18.8s,baz=114,slow=38						
WTTA	**Wattenberg**	**48.30**	**321**	*i* P	**P**	**01 52 09.5**	**-1.2**
	comp=Z,5.1nm,1.2s						
WATA	**Walderalm**	**48.37**	**322**	*i* P	**P**	**01 52 10.2**	**-1.0**
	comp=Z,5.4nm,1.1s						
SQTA	**Sankt Quirin**	**48.54**	**321**	*i* P	**P**	**01 52 10.7**	**-1.8**
	comp=Z,3.1nm,0.7s						
MOTA	**Moosalm**	**48.66**	**321**	*i* P	**P**	**01 52 13.0**	**-0.4**
	comp=Z,3.6nm,0.8s						
FETA	**Feichten**	**48.74**	**321**	*i* pP	**P**	**01 52 15.6**	**+1.5**
	comp=Z,1.2nm,0.9s						
RETA	**Reute**	**48.93**	**321**	*i* P	**P**	**01 52 14.9**	**-0.6**
	comp=Z,2.0nm,0.8s						
DAVA	**Damuels**	**49.38**	**321**	*i* P	**P**	**01 52 18.7**	**-0.3**
	comp=Z,3.8nm,1.1s						
FINES	**FINESS Array B**	**51.09**	**343**	P	**P**	**01 52 31.6**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=140,slow=10,SNR=15						
FINES				LR	LR	02 19 14.5	
	comp=Z,41nm,18.2s,baz=152,slow=42						
TORD	**Torodi Ar. Bea**	**51.37**	**275**	P	**P**	**01 52 35.1**	**+0.8**
	comp=Z,1.5nm,0.9s,baz=77,slow=8.0,SNR=5.8						
TORD				PcP	**PcP**	**01 53 50.2**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=77,slow=4.7,SNR=1.8						
TORD				LR	LR	02 13 32.9	
	comp=Z,45nm,20.9s,baz=85,slow=35						
BOSA	**Boshof**	**51.53**	**213**	LR	LR	02 14 19.9	
	comp=Z,52nm,18.0s,baz=44,slow=36						
SSB	**Saint Sauveur**	**52.02**	**317**	P	**P**	**01 52 36.9**	**-1.9**
SSB				IAmb	IAmb	01 52 49.1	
	comp=Z,9.1nm,1.3s						
XAN	**Xi'an**	**52.46**	**58**	P	**P**	**01 52 41.2**	**-1.0**
SONM	**Songino Array**	**53.90**	**41**	P	**P**	**01 52 54.1**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=262,slow=7.3,SNR=3.7						
SONM				LR	LR	02 18 44.5	
	comp=Z,42nm,20.8s,baz=136,slow=39						
NOA	**NORSAR Array B**	**55.89**	**336**	P	**P**	**01 53 05.9**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=123,slow=8.1,SNR=2.4						
NOA				LR	LR	02 20 18.8	
	comp=Z,64nm,19.5s,baz=125,slow=40						
ESDC	**Sonseca Array**	**56.77**	**308**	P	**P**	**01 53 13.2**	**-0.2**
	comp=Z,2.1nm,1.0s,baz=88,slow=6.9,SNR=13						
ARCES	**ARCESS Array B**	**57.88**	**348**	P	**P**	**01 53 20.9**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=151,slow=7.2,SNR=11						
ARCES				LR	LR	02 23 00.8	
	comp=Z,52nm,19.1s,baz=151,slow=41						
NRIK	**Noril'sk**	**58.49**	**13**	LR	LR	02 22 48.8	
	comp=Z,67nm,18.5s,baz=76,slow=40						
KSRS	**Korea Array**	**68.05**	**55**	P	**P**	**01 54 29.1**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=264,slow=7.0,SNR=1.8						
H01W3	**Cape Leeuwin H**	**74.81**	**133**	T	T	03 16 58.5	
	baz=301,slow=75,SNR=19						
H01W2	**Cape Leeuwin H**	**74.82**	**133**	T	T	03 16 59.0	
	baz=301,slow=75,SNR=24						
H01W1	**Cape Leeuwin H**	**74.83**	**133**	T	T	03 16 53.7	
	baz=301,slow=75,SNR=22						
WRA	**Warramunga Arr**	**85.49**	**112**	P	**P**	**01 56 07.9**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=294,slow=4.4,SNR=5.5						
ASAR	**Alice Springs**	**86.21**	**115**	P	**P**	**01 56 11.8**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=291,slow=4.5,SNR=12						
PDAR	**Pinedale Array**	**121.11**	**346**	PKP	**PKiKP**	**02 02 23.2**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=327,slow=6.5,SNR=2.0						
YBH	**Yreka Blue Hor**	**123.90**	**358**	PKP	**PKPdf**	**02 02 27.8**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=149,slow=5.0,SNR=4.1						
NVAR	**Mina Array Bea**	**126.85**	**353**	PKP	**PKiKP**	**02 02 35.8**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=78,slow=1.1,SNR=5.7						
TXAR	**Lajitas Array**	**131.58**	**334**	PKP	**PKPdf**	**02 02 43.7**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=36,slow=6.7,SNR=2.6						

*IDC **09** 01:50:50.1±6.0, 36°.39N×69°.35E, h141km±33km, mb3.4/2, mb1 3.3/8, mb1mx2.9/38, mbtmp3.8/8, Error ellipse: s-maj=82.8km s-min=23.4km az=155.0*
*NNC **09** 01:50:53.9±8.2, 36°.61N×69°.44E, h166km±130km, mb3.0, mpv3.7, Error ellipse: s-maj=74.8km s-min=45.6km az=2.0*
ISC 09 01:50:48.9±1.0,36°.27N±0°.08×69°.43E±0°.08,h150km,n29, σ1§18/33,4C-2D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.72**	**28**	P	**Pn**	**01 52 26.6**	**+1.1**
	SNR=18						
KK31	**Karatay Array**	**6.87**	**7**	P	**Pn**	**01 52 27.7**	**+0.5**
	0.6nm,0.3s,baz=180,slow=12,SNR=28						
KK31				⇑S	**Sn**	**01 53 40.6**	**-3.7**
	3.3nm,0.4s,baz=189,slow=25,SNR=2.5						
UCH	**Uchtor**	**7.13**	**32**	P	**Pn**	**01 52 32.4**	**+1.3**
	SNR=23						
KZA	**Kyzart**	**7.35**	**36**	P	**Pn**	**01 52 35.3**	**+1.4**
	SNR=5.0						
AAK	**Ala-Archa**	**7.46**	**30**	P	**Pn**	**01 52 36.6**	**+1.4**
	3.4nm,0.3s,baz=205,slow=7.3,SNR=23						
AAK				S	**Sn**	**01 53 57.7**	**-1.0**
	1.1nm,0.3s,baz=134,slow=22,SNR=9.5						
AAK	**Ala-Archa**	**7.46**	**30**	P	**Pn**	**01 52 36.5**	**+1.2**
	SNR=11						
AAK	**Ala-Archa**	**7.46**	**30**	⇑P	**Pn**	**01 52 36.6**	**+1.4**
	4.9nm,0.4s						
AAK				⇑S	**Sn**	**01 53 58.7**	**0.0**
	8.1nm,0.8s						
CHMS	**Chumysh**	**7.87**	**30**	P	**Pn**	**01 52 41.2**	**+0.7**
	SNR=6.5						
USP	**Ospenovka**	**8.00**	**28**	P	**Pn**	**01 52 42.8**	**+0.5**
	SNR=5.8						
TKM2	**Tokmak 2**	**8.17**	**34**	P	**Pn**	**01 52 45.7**	**+1.0**
	SNR=9.8						
TKM2	**Tokmak 2**	**8.17**	**34**	⇓P	**Pn**	**01 52 45.5**	**+0.9**
	4.7nm,0.7s						
TKM2				⇓S	**Sn**	**01 54 13.8**	**-1.9**
	2.3nm,0.8s						
GEYT	**Alibeck**	**9.19**	**284**	P	**Pn**	**01 52 57.4**	**-0.8**
	0.4nm,0.3s,baz=128,slow=19,SNR=4.1						
PYUN	**Piuthan**	**14.07**	**122**	*e*P	**Pn**	**01 54 00.3**	**-1.6**
	18nm,0.2s						
MKAR	**Makanchi Array**	**14.24**	**38**	P	**Pn**	**01 54 04.8**	**+1.2**
	0.1nm,0.3s,baz=218,slow=9.1,SNR=3.7						
DANN	**Dangsing**	**14.45**	**119**	*e*P	**Pn**	**

BFZ Birch Farm 17.09 200 P Pn 02 13 17.0 -2.0
BFZ IAmb IAmb 02 14 02.2
comp=Z,72nm,1.3s
MSWZ Moikau Station 18.08 202 Pn Pn 02 13 28.3 -3.0
RPZ Rata Peaks 21.62 206 P P 02 14 11.0 +0.8
comp=Z,12nm,0.8s,baz=345,slow=4.2,SNR=2.7
RPZ LR LR 02 22 44.2
comp=Z,597nm,19.2s,baz=27,slow=37
RPZ Rata Peaks 21.62 206 P P 02 14 08.9 -1.3
RPZ IAmb IAmb 02 14 12.4
comp=Z,131nm,1.7s
TBI Tubuai 24.27 92 *eS* **S 02 18 50.2 -6.1**
comp=Z,387nm,29.5s
TBI *e*LQ LQ 02 19 26.0
comp=Z,623nm,33.8s
TBI *e*LR LR 02 20 23.8
comp=Z,1μm,25.2s,baz=258
TBI Tubuai 24.27 92 *eT* T 02 39 14.8
comp=Z,62nm,0.3s
PPT2 Papeete2 25.64 79 *eS* **S 02 19 13.3 -5.2**
comp=Z,292nm,29.8s
PPT2 *e*LQ LQ 02 20 00.0
comp=Z,864nm,26.2s
PPT2 *e*LR LR 02 21 03.2
comp=Z,1μm,24.2s,baz=250
PPT2 Papeete2 25.64 79 *eT* T 02 40 56.8
comp=Z,26nm,0.4s
PPT Papeete 25.65 79 P **P 02 14 53.6 +3.6**
comp=Z,11nm,0.4s,baz=41,slow=20,SNR=1.7
PPT LR LR 02 22 26.4
comp=Z,403nm,20.9s,baz=245,slow=30
TIAR Tiarei 25.86 79 *eT* T 02 41 11.0
comp=Z,4.2nm,0.3s
TVO Taravao 25.86 80 *eT* T 02 41 12.5
comp=Z,4.8nm,0.4s
MEH Mehetia 26.89 81 *eT* T 02 42 29.9
comp=Z,83nm,0.2s
HNR Honiara 27.53 300 LR LR 02 25 07.9
comp=Z,310nm,18.1s,baz=134,slow=35
TOO Toolangi 35.06 239 P **P 02 16 11.4 -1.8**
TOO IAmb IAmb 02 16 14.5
comp=Z,11nm,0.8s
CTA Charters Tower 35.12 270 P **P 02 16 12.2 -1.6**
comp=Z,8.7nm,0.4s,baz=90,slow=11,SNR=25
CTAO Charters Tower 35.12 270 P **P 02 16 12.0 -1.8**
RKT Rikitea 37.44 96 *e*LR LR 02 26 34.4
comp=Z,773nm,27.2s
RKT Rikitea 37.44 96 *eT* T 02 55 42.4
comp=Z,12nm,0.3s
TAOE Nuku Hiva Isla 37.66 71 *e*LR LR 02 26 37.3
comp=Z,468nm,26.9s
TAOE Nuku Hiva Isla 37.66 71 *eT* T 02 55 56.6
comp=Z,28nm,0.2s
STKA Stephens Creek 37.78 249 P **P 02 16 36.0 -0.5**
comp=Z,2.2nm,0.5s,baz=105,slow=12,SNR=8.7
STKA LR LR 02 30 14.5
comp=Z,433nm,19.5s,baz=69,slow=33
STKA Stephens Creek 37.78 249 P **P 02 16 33.7 -2.8**
PMG Port Moresby 38.24 287 P **P 02 16 39.5 -1.0**
comp=Z,36nm,0.9s,baz=317,slow=3.4,SNR=3.6
PMG Port Moresby 38.24 287 P **P 02 16 36.7 -3.8**
AS31 Alice Springs 45.47 261 P **P 02 17 37.2 -2.5**
ASAR Alice Springs 45.48 261 P **P 02 17 36.8 -2.9**
comp=Z,3.2nm,0.5s,baz=93,slow=7.2,SNR=37
ASAR S S 02 24 11.8 -10
comp=Z,0.6nm,0.8s,baz=94,slow=14,SNR=4.3
ASAR LR LR 02 35 21.4
comp=Z,412nm,19.0s,baz=110,slow=35
WB2 Warramunga Arr 45.96 266 P **P 02 17 40.4 -3.1**
WB2 IAmb IAmb 02 17 54.0
comp=Z,13nm,0.8s
WB0 Warramunga Arr 45.97 266 P **P 02 17 40.5 -3.1**
WB0 IAmb IAmb 02 17 46.9
comp=Z,33nm,1.4s
WRA Warramunga Arr 45.97 266 P **P 02 17 40.8 -2.8**
comp=Z,3.3nm,0.3s,baz=99,slow=7.0,SNR=40
WRA ScP **ScP 02 23 22.3 +8.6**
comp=Z,1.7nm,0.6s,baz=98,slow=3.9,SNR=9.4
WRA LR LR 02 35 32.1
comp=Z,375nm,20.0s,baz=105,slow=34
VNDA Vanda 53.80 186 P **P 02 18 45.5 +3.2**
comp=Z,5.6nm,1.0s,baz=6.6,slow=8.9,SNR=22
VNDA LR LR 02 41 41.9
comp=Z,44nm,18.5s,baz=16,slow=36
VNDA Vanda 53.80 186 P **P 02 18 43.4 +1.1**
FITZ Fitzroy Crossi 54.38 265 P **P 02 18 46.1 -1.3**
comp=Z,7.8nm,0.9s,baz=98,slow=10.0,SNR=13
FITZ Fitzroy Crossi 54.38 265 IAmb IAmb 02 19 18.6
comp=Z,19nm,1.1s
CASY Casey 60.89 206 P **P 02 19 32.9 +0.4**
QSPA South Pole Qui 65.27 180 P **P 02 20 03.9 +2.1**
comp=Z,8.9nm,0.8s,baz=40,slow=2.4,SNR=27
MJAR Matsushiro Arr 74.76 323 LR LR 02 48 52.5
comp=Z,102nm,21.7s,baz=130,slow=32
MAW Mawson 78.13 200 P **P 02 21 20.4 +1.5**
comp=Z,14nm,0.9s,baz=135,slow=5.8,SNR=17
MAW Mawson 78.13 200 P **P 02 21 17.2 -1.7**
PETK Petropavlovsk- 80.90 344 P **P 02 21 33.8 -0.3**
comp=Z,3.8nm,0.7s,baz=138,slow=7.6,SNR=3.9
PETK LR LR 02 52 03.0
comp=Z,114nm,20.6s,baz=229,slow=32
ISA Isabella, Lake 81.09 44 P **P 02 21 34.6 -1.0**
ISA IAmb IAmb 02 21 53.4
comp=Z,14nm,1.5s
KSRS Korea Array 81.32 318 P **P 02 21 40.0 +3.4**
comp=Z,0.5nm,0.4s,baz=116,slow=4.7,SNR=4.2
KSRS LR LR 02 55 57.7
comp=Z,72nm,18.3s,baz=136,slow=35
OMMB Old Mammoth Mi 82.00 42 P **P 02 21 39.3 -1.3**
OMMB IAmb IAmb 02 22 02.0
comp=Z,12nm,1.5s
H03S2 Juan Fernandez 82.06 123 T T 03 52 37.6
baz=243,slow=74,SNR=310
H03S1 Juan Fernandez 82.08 124 T T 03 52 38.7
baz=243,slow=74,SNR=320
H03S3 Juan Fernandez 82.08 123 T T 03 52 29.3
baz=243,slow=74,SNR=304
H03N3 Juan Fernandez 82.22 123 T T 03 52 50.7
baz=250,slow=73,SNR=197
H03N2 Juan Fernandez 82.22 123 T T 03 52 49.4
baz=250,slow=73,SNR=153
H03N1 Juan Fernandez 82.24 123 T T 03 52 50.0
baz=250,slow=73,SNR=178
SYO Syowa Base 82.92 192⇑ *eP* **P 02 21 42.8 -1.8**
NVAR Mina Array Bea 82.94 42 P **P 02 21 47.9 +2.4**
comp=Z,1.4nm,0.7s,baz=223,slow=8.1,SNR=11
NVAR LR LR 02 54 21.5
comp=Z,110nm,18.7s,baz=244,slow=32
NV11 Mina Array Sit 83.03 42 P **P 02 21 43.1 -2.7**
NV11 IAmb IAmb 02 22 09.5
comp=Z,8.3nm,1.3s
KVN Kaiserville 83.46 42 P **P 02 21 45.5 -2.6**
USRK Ussuriysk Ar. 83.55 325 P **P 02 21 48.7 +0.6**
comp=Z,2.3nm,0.9s,baz=134,slow=8.3,SNR=2.7
USRK LR LR 02 58 29.1
comp=Z,60nm,18.2s,baz=163,slow=35
Y14A Wickenburg 83.63 48 P **P 02 21 47.6 -1.3**
SNAA Sanae 83.65 178 P **P 02 21 49.2 +0.7**
SNAA Sanae 83.65 178 P **P 02 21 49.3 +0.9**
comp=Z,18nm,0.8s,baz=201,slow=5.2,SNR=64
SNAA Sanae 83.65 178 P **P 02 21 48.3 -0.2**
SHPR Sheep Range 83.72 45 P **P 02 21 48.5 -0.9**
VNA3 Neumayer Olymp 83.72 176 P **P 02 21 49.5 +0.7**
baz=291,slow=8.7
MOD Modoc Plateau 84.00 38 P **P 02 21 50.5 -0.2**
MOD IAmb IAmb 02 22 14.1
comp=Z,13nm,1.4s
NJ2 Nanjing 84.03 309 *eP* **P 02 21 51.2 +0.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
VNA2 Neumayer--Watz 84.18 176 P **P 02 21 52.3 +1.2**
baz=171,slow=3.0
K05A Summer Lake 84.22 37 P **P 02 21 53.5 +1.6**
TUC Tucson 84.24 51 P **P 02 21 51.9 -0.2**
TUC IAmb IAmb 02 21 55.6
comp=Z,4.6nm,0.9s
VNA1 Neumayer--Stat 84.40 176 P **P 02 21 53.2 +1.0**
PINE Pine Mountain 84.90 37 P **P 02 21 53.4 -1.9**
PINE IAmb IAmb 02 21 58.6
comp=Z,12nm,1.2s
X16A Lo Mia Camp, P 84.97 49 P **P 02 21 55.5 -0.3**
X16A IAmb IAmb 02 22 15.2
comp=Z,21nm,1.8s
PLCA Paso Flores 84.99 133 P **P 02 21 58.1 +2.2**
comp=Z,5.8nm,0.8s,baz=223,slow=2.5,SNR=9.2
PLCA LR LR 02 51 25.7
comp=Z,110nm,19.6s,baz=282,slow=30
PLCA Paso Flores 84.99 133 P **P 02 21 55.6 -0.3**
HPIG 85.14 58 P **P 02 21 56.0 -0.9**
HPIG IAmb IAmb 02 21 59.3
comp=Z,5.3nm,0.9s
CCUT Cedar City 85.50 45 P **P 02 21 57.0 -1.5**
TXAR Lajitas Array 87.87 56 P **P 02 22 12.7 +2.6**
comp=Z,1.9nm,0.9s,baz=216,slow=6.8,SNR=17
TXAR LR LR 02 55 44.5
comp=Z,33nm,19.2s,baz=0.0,slow=32
ANMO Albuquerque 88.70 50 P **P 02 22 13.6 -0.4**
ANMO IAmb IAmb 02 22 17.4
comp=Z,4.5nm,1.0s
MCMT McKenzie Canyo 90.08 39 P **P 02 22 20.0 -0.3**
BJI Beijing 90.23 315 P **P 02 22 22.3 +1.5**
BJI pmax pmax
comp=Z,8.0nm,1.7s
PDAR Pinedale Array 90.86 42 P **P 02 22 25.6 +1.6**
comp=Z,1.5nm,0.8s,baz=224,slow=3.9,SNR=8.9
ILAR Eielson Array 92.12 12 P **P 02 22 29.2 +0.3**
comp=Z,0.3nm,0.6s,baz=221,slow=6.6,SNR=4.1
ILAR PP **PP 02 26 12.1 +2.8**
comp=Z,0.3nm,0.8s,baz=200,slow=7.7,SNR=1.6
ABTX Abilene, Hawle 92.48 55 P **P 02 22 33.5 +2.0**
ABTX IAmb IAmb 02 22 34.1
comp=Z,7.0nm,0.9s
CMAR Chiang Mai Arr 93.26 289 P **P 02 22 35.0 -0.4**
comp=Z,1.0nm,0.3s,baz=128,slow=1.7,SNR=6.4
HHC Hu-ho-hao-te 93.66 314 P **P 02 22 35.8 -1.0**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,43nm,5.2s
RSSD Black Hills 95.00 43 P **P 02 22 41.4 -1.6**
RSSD IAmb IAmb 02 22 45.1
comp=Z,4.0nm,0.8s
LZH Lanzhou 96.83 307 *eP* **P 02 22 51.0 -0.5**
LZH pP pwP 02 23 00.1 +3.1
LZH sP sP 02 23 04.8 +9.3
LZH PP **PP 02 26 48.0 +1.0**
SONM Songino Array 100.19 318 LR LR 03 03 55.7
comp=Z,57nm,21.5s,baz=111,slow=33
WMQ Urumqi 111.11 310 *eP* **PKiKP 02 27 52.3 -1.6**
ZALV Zalesovo Beam 114.98 320 PKP PKPdf 02 27 58.9 -1.9
comp=Z,0.5nm,0.4s,baz=108,slow=4.7,SNR=1.6
MKAR Makanchi Array 115.46 312 PKP **PKPdf 02 28 00.7 -1.4**
comp=Z,0.6nm,0.6s,baz=214,slow=1.6,SNR=6.4
GEYT Alibeck 132.58 300 PKP **PKPdf 02 28 35.5 +0.4**
comp=Z,0.7nm,0.3s,baz=162,slow=33,SNR=1.6
ARCES ARCESS Array B 133.48 350 PKP **PKPdf 02 28 35.3 -0.5**
comp=Z,2.0nm,0.7s,baz=34,slow=2.1,SNR=11
FINES FINESS Array B 140.42 344 PKHKP PKPpre 02 28 40.3
comp=Z,0.5nm,0.7s,baz=85,slow=1.5,SNR=1.5
FINES PKP **PKPdf 02 28 48.9 +0.1**
comp=Z,0.9nm,0.7s,baz=64,slow=4.4,SNR=4.4
NB2 NORSAR Subarra1 43.46 354 PKP PKPab 02 28 50.8 +0.3
comp=Z,0.5nm,0.5s,baz=21,slow=4.1
NOA NORSAR Array B 143.46 354 PKhKP PKPbc 02 28 51.1 -0.5
comp=Z,0.4nm,0.9s,baz=358,slow=2.2,SNR=2.2
MBAR Mbarara 143.81 230 PKP PKPbc 02 28 54.8 +0.7
comp=Z,2.7nm,0.5s,baz=175,slow=9.6
BCA Borcka 144.72 307 ⇓P **PKPab 02 28 55.0 -0.9**
MICGM Minsk 145.45 335 *e* **PKiKP 02 29 01.0 -0.9**
NACGM Naroch 145.55 337 *e* **PKiKP 02 29 02.0 -0.1**
KTUT Trabzon 146.19 307⇑ **PKiKP 02 29 09.5 +5.6**
AKASG Malin Array Be 147.66 330 PKPbc **PKPbc 02 29 03.2 -1.3**
comp=Z,1.0nm,0.3s,baz=42,slow=3.9,SNR=9.5
SORM Soroca 149.82 327 ⇓P **PKPbc 02 29 09.3 -0.8**
BZK Bozkurt 149.88 312 ⇓P **PKPab 02 29 20.7 +4.7**
ASF Jabal al Asfar 150.25 292 PKP **PKPdf 02 29 05.9 -0.8**
comp=Z,0.5nm,0.3s,baz=51,slow=4.5,SNR=2.4
ASF PKPbc **PKPbc 02 29 11.5 -0.3**
comp=Z,2.0nm,0.7s,baz=100,slow=1.4,SNR=5.5
ILGA Ilgaz 150.45 311 **PKPbc 02 29 11.9 -0.3**
BR131 Keskin Array S 151.02 308 **PKPbc 02 29 11.4 -2.0**
BRTR Keskin Array B 151.02 308 PKPbc **PKPbc 02 29 12.6 -0.9**
comp=Z,1.9nm,0.9s,baz=144,slow=3.0,SNR=12
KWP Kalwaria Pacla 151.25 334 *e*PKPbc **PKPbc 02 29 13.1 -0.5**
MMAI Mount Meron Ar 151.40 294 PKPbc **PKPbc 02 29 14.3 -0.2**
comp=Z,5.1nm,0.7s,baz=76,slow=6.1,SNR=9.1
ANTO Ankara 151.57 309 ⇓P **PKPbc 02 29 14.3 -0.3**
ANTO Ankara 151.57 309 PKPdf **PKPdf 02 29 07.0 -1.5**
ANTO PKPbc **PKPbc 02 29 13.7 -1.0**
BUR08 Bucovina Ar. S 151.69 329 PKPdf **PKPdf 02 29 07.4 -1.0**
BUR08 PKPbc **PKPbc 02 29 14.6 -0.2**
BURAR Bucovina Array 151.70 329 ⇓P **PKiKP 02 29 15.6 +0.4**
BIZ Bicaz 151.75 327 ⇓P **PKPbc 02 29 14.8 0.0**
TESR Tescani 151.77 326 ⇓P **PKPbc 02 29 14.2 -0.6**
CFR Carcaliu 151.83 322 ⇓P **PKPbc 02 29 14.5 -0.4**
OJC Ojcow 151.83 338 *e*PKPbc **PKPbc 02 29 14.5 -0.3**
OJC Ojcow 151.83 338 **PKPbc 02 29 13.9 -0.9**
OJC **pPKPab 02 29 26.5 -0.3**
TOPG Topolog 151.88 321⇑P **PKPbc 02 29 15.0 -0.1**
KOLS Kolonicke sedl 151.98 334 *e*PKP **PKiKP 02 29 15.9 +0.3**
KOLS *e* 02 29 29.0
EIL Elat 152.10 287 PKPbc **PKPbc 02 29 16.2 +0.1**
comp=Z,4.0nm,0.8s,baz=352,slow=7.1,SNR=2.4
EIL PKPab **PKPab 02 29 24.9 -0.8**
comp=Z,5.4nm,0.7s,baz=4.9,slow=8.5,SNR=5.6
VRI Vrincioaia 152.16 325 ⇓P **PKPab 02 29 27.8 +2.4**
PLOR Plostina 152.21 325 ⇓P **PKPab 02 29 29.6 +4.0**
HARR Harsova 152.25 322 ⇓P **PKiKP 02 29 16.2 -0.1**
KSP Ksiaz 152.34 343 *e*PKPbc **PKPbc 02 29 16.0 +0.1**
TRPA Tarpa 152.51 333⇑P **PKPab 02 29 28.3 +1.6**
OSTC Ostas 152.62 343⇑ *e*PKP **PKPbc 02 29 16.3 -0.3**
OSTC *ex* x 02 29 22.8
CHVC Chvalec 152.63 343⇑ *e*PKP **PKPab 02 29 23.8 -3.4**
CHVC *ex* x 02 29 31.5
CLL Collm 152.66 348 *i* PKPbc **PKiKP 02 29 17.4 +0.5**
comp=Z,4.0nm,0.7s
CLL *i* sPKPdf **sPKPbc 02 29 23.3 +2.5**
comp=Z,5.0nm,0.8s
CLL *i* sPKPbc **sPKPab 02 29 31.4 +0.1**
CLL Collm 152.66 348 PKPdf **PKPdf 02 29 08.4 -1.1**
CLL **PKiKP 02 29 17.2 +0.3**
CSS Mathiatis 152.72 299 PKPdf **PKPdf 02 29 08.5 -1.8**
CSS **sPKPdf 02 29 14.4 +0.1**
DOPR Dopca 152.78 326 ⇓P **PKiKP 02 29 17.2 -0.1**
DPC Dobruska-Polom 152.78 343⇑ *e*PKP **PKiKP 02 29 17.1 -0.1**
DPC *ex* x 02 29 30.5
MLR Muntele Rosu 152.82 325 ⇓P **PKPab 02 29 30.2 +1.9**
BRG Berggiesshubel 152.88 346 *e*PKP **PKPbc 02 29 17.0 -0.2**
comp=Z,3.4nm,0.6s
BRG *e* 02 29 38.6
comp=Z,6.5nm,0.8s
MORC Moravsky Berou 152.94 340 *e*PKP **PKiKP 02 29 20.6 +3.0**
LEF Lefka 153.03 299 ⇓P **PKPab 02 29 35.2 +5.8**
PVCC Panska Ves 153.06 345⇑ *e*PKP **PKiKP 02 29 17.9 +0.2**
PVCC *ex* x 02 29 31.3
CJR Cluj-Napoca 153.12 329⇑P **PKPbc 02 29 17.1 -0.8**
DRGR 153.46 330⇑P **PKiKP 02 29 21.8 +3.0**
ARR Arges 153.58 326⇑P **PKiKP 02 29 19.5 +0.5**
VYHS Vyhne 153.63 337 *e*PKP **PKPab 02 29 31.0 -0.5**
VRAC Vranov 153.64 341 *e*PKP **PKiKP 02 29 22.4 +3.4**
JAVC Velka Javorina 153.71 339 *e*PKP **PKiKP 02 29 21.8 +2.6**
PSZ Piszkesteto 153.73 335 ⇓P **PKPab 02 29 38.1 +6.1**
KRUC Moravsky 153.92 341 *e*PKP **PKiKP 02 29 22.8 +3.3**
GZR Gura Zlata 154.47 328 ⇓P **PKPab 02 29 29.0 -6.2**
KHC Kasperske Hory 154.60 345⇑ *e*PKP **PKPbc 02 29 20.1 -0.9**
KHC *e*PKPAB **PKPab 02 29 36.8 +1.3**
KHC *ex* x 02 29 49.6
GERES GERESS Array B 154.83 345 PKPbc **PKPbc 02 29 21.5 0.0**
comp=Z,0.5nm,0.9s,baz=41,slow=2.5,SNR=4.2
BZS Buzias 154.85 330⇑P **PKPbc 02 29 18.1 -3.4**
PLVB Pleven 154.92 323 ⇓P **PKiKP 02 29 24.5 +2.7**
HERR Herculane 155.02 328⇑P PKPdf 02 29 21.1 +8.0
CONA Conrad Observa 155.09 341 *i* pPKPdf PKPdf 02 29 23.0 +10
comp=Z,4.1nm,0.8s
MOA Molln 155.62 343 *i* pPKPdf PKPdf 02 29 23.7 +10
comp=Z,0.1nm,0.3s
ARSA Arzberg 155.80 341 *i* PKPab **PKPab 02 29 40.2 -0.5**
comp=Z,3.5nm,1.1s
VTS Vitosha 156.19 323 ⇓P **PKPab 02 29 46.0 +3.2**
VTS Vitosha 156.19 323 PKPdf **PKPdf 02 29 15.4 +0.4**
SOKA Soboth 156.47 341 *i* PKPab **PKPab 02 29 43.9 +0.2**
comp=Z,6.9nm,1.2s
WATA Walderalm 156.73 347 *i* PKPab **PKPab 02 29 43.6 -1.3**
comp=Z,2.7nm,1.0s
RETA Reutte 156.75 348 *i* PKPab **PKPab 02 29 44.4 -0.4**
comp=Z,5.6nm,1.7s
OBKA Obir 156.76 341 *i* PKPdf **PKPdf 02 29 14.9 -0.7**
comp=Z,6.1nm,1.3s
WTTA Wattenberg 156.79 347 *i* PKPab **PKPab 02 29 42.6 -2.5**
comp=Z,7.0nm,1.5s
MOTA Moosalm 156.82 348 *i* PKPab **PKPab 02 29 43.1 -2.1**
comp=Z,3.0nm,1.2s
MYKA Terra Mystica 156.91 343 *i* PKPab **PKPab 02 29 44.9 -0.6**
comp=Z,3.7nm,0.9s
SQTA Sankt Quirin 156.92 347 *i* PKPab **PKPab 02 29 43.6 -2.0**
comp=Z,1.1nm,0.5s
ABTA Abfaltersbach 157.08 345 *i* PKPab **PKPab 02 29 45.5 -0.8**
comp=Z,3.3nm,0.8s
DAVA Damuels 157.09 350 *i* PKPab **PKPab 02 29 46.1 -0.3**
comp=Z,4.6nm,0.9s
PRED Cave del Predi 157.10 343 PKPdf **PKPdf 02 29 16.6 +0.6**
PRED **PKPab 02 29 44.7 -1.7**
FETA Feichten 157.20 348 *i* PKPab **PKPab 02 29 42.4 -4.5**
comp=Z,4.2nm,1.2s
LIC Lamto 159.59 153 *e*PKP1 **PKPab 02 29 59.1 +1.2**
comp=Z,25nm,1.0s
KIC Kosan Boka 159.83 154 *e*PKP1 **PKPab 02 30 00.0 +1.1**
comp=Z,59nm,1.2s
TIC Toumodi 159.97 153 *e*PKP1 **PKPab 02 30 00.5 +0.9**
TOA0 Torodi Ar. Sit 168.19 169 PKPdf **PKPdf 02 29 25.7 -1.9**
TOA0 PKPab **pPKPab 02 30 37.3 -0.9**
TORD Torodi Ar. Bea 168.19 169 PKP **PKPdf 02 29 27.2 -0.5**
comp=Z,0.6nm,0.8s,baz=17,slow=1.9,SNR=3.6
TORD PKPab **pPKPab 02 30 36.8 -1.4**
comp=Z,6.2nm,0.9s,baz=189,slow=3.6,SNR=19
TAM Tamanrasset 177.54 215 PKPdf **PKPdf 02 29 28.9 -2.7**
TAM PKPab 02 31 18.0 +0.8

IDC 09 02:28:28.9±2.0, 14°.56N×54°.54E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.4/34, mbtmp3.7/5, Error ellipse: s-maj=54.9km s-min=37.2km az=34.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.62**	**30**	P	P	P	02 36 02.4	+0.2
	0.3nm,0.5s,baz=212,slow=7.8,SNR=4.3							
FINES	**FINESS Array B**	**51.09**	**343**	P	P	P	02 37 32.8	-0.1
	0.8nm,0.5s,baz=143,slow=11,SNR=11							
ESDC	**Sonseca Array**	**56.68**	**308**	P	P	P	02 38 14.4	+0.1
	0.7nm,0.9s,baz=99,slow=6.0,SNR=6.8							
ARCES	**ARCESS Array B**	**57.88**	**348**	P	P	P	02 38 21.8	-0.5
	2.3nm,0.9s,baz=151,slow=7.8,SNR=6.3							
H01W3	**Cape Leeuwin H**	**74.89**	**133**	T	T		04 01 59.2	
	baz=301,slow=75,SNR=11							
H01W2	**Cape Leeuwin H**	**74.90**	**133**	T	T		04 01 58.7	
	baz=301,slow=75,SNR=13							
H01W1	**Cape Leeuwin H**	**74.91**	**133**	T	T		04 01 59.7	
	baz=301,slow=75,SNR=13							
ASAR	**Alice Springs**	**86.32**	**115**	P	P		02 41 13.3	-0.1
	0.4nm,0.7s,baz=306,slow=6.4,SNR=2.0							

NEIC ***09*** *02:34:55.6±0.9, 63°.01N±0°.03×150°.19W±0°.08, h96km±6km, Error ellipse: s-maj=5.0km s-min=4.7km az=53.0*

AEIC 09 02:34:56.0±0.9, 63°.00N±0°.03×150°.18W±0°.07, h90km±3km, ML2.8/89, Error ellipse: s-maj=5.2km s-min=3.9km az=220.0, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**0.46**	**354**			Pn	02 35 10.9	+0.4
TRF						Sn	02 35 22.4	+1.0
CUT	**Chulitna**	**0.60**	**184**			Pn	02 35 11.7	+0.2
CUT						Sn	02 35 23.9	+0.9
KTH	**Kantishna Hill**	**0.65**	**329**			Pn	02 35 12.1	0.0
KTH						Sn	02 35 24.0	0.0
RND	**Reindeer**	**0.73**	**55**			Pn	02 35 13.1	+0.3
RND						Sn	02 35 25.6	+0.3
WAT2	**Susitna Watana**	**0.73**	**92**			Pn	02 35 12.8	0.0
WAT2						Sn	02 35 25.8	+0.4
WAT1	**Susitna Watana**	**0.76**	**102**			Pn	02 35 13.1	0.0
WAT1						Sn	02 35 26.2	+0.3
MCK	**McKinley**	**0.93**	**37**			Pn	02 35 15.1	+0.3
PPLA	**Purkeypile**	**0.93**	**265**			Pn	02 35 15.2	+0.2
PPLA						Sn	02 35 29.2	+0.1
CAST	**Castle Rocks**	**0.96**	**297**			Sn	02 35 28.7	-0.9
BPAW	**Bear Paw Mtn.**	**1.16**	**342**			Pn	02 35 17.6	0.0
BPAW						Sn	02 35 33.1	-0.7
WAT6	**Susitna Watana**	**1.20**	**109**			Pn	02 35 17.8	-0.3
DHY	**Denali Highway**	**1.28**	**85**			Pn	02 35 19.1	0.0
DHY						Sn	02 35 37.1	+0.7
GHO	**Glory Hole Cre**	**1.36**	**154**			Pn	02 35 20.6	+0.6
SML	**Sawmill**	**1.47**	**143**			Pn	02 35 21.6	+0.3
PMR	**Palmer**	**1.49**	**160**			Pn	02 35 21.6	+0.1
STLK	**Strandline Lak**	**1.69**	**208**			Pn	02 35 24.0	-0.2
WRH	**Wood River Hil**	**1.75**	**31**			Pn	02 35 24.6	-0.1
WRH						Sn	02 35 45.2	-1.5
SCM	**Sheep Creek Mo**	**1.77**	**130**			Pn	02 35 25.2	+0.1
KNK	**Knik Glacier**	**1.78**	**152**			Pn	02 35 25.6	+0.3
CGLM	**Capps Glacier**	**1.90**	**208**			Pn	02 35 26.9	0.0
SPCG	**Spurr Capps Gl**	**1.92**	**208**			Pn	02 35 27.0	-0.2
RC01	**Rabbit Creek A**	**1.93**	**174**			Pn	02 35 28.2	+1.0
CCB	**Clear Creek Bu**	**1.96**	**31**			Pn	02 35 27.2	-0.4
HD	**Harding Lake**	**2.02**	**44**			Pn	02 35 28.3	-0.1
HDA						Sn	02 35 51.7	-1.4
SPNN	**North Nagishla**	**2.02**	**217**			Pn	02 35 28.4	-0.1
SPBG	**Spurr Blockage**	**2.03**	**212**			Pn	02 35 28.8	+0.2
PS10	**TAPS Pump St10**	**2.04**	**76**			Pn	02 35 30.4	+1.7
SPCR	**Spurr Chakacha**	**2.04**	**209**			Pn	02 35 28.8	0.0
COLA	**College**	**2.15**	**28**	Pn		Pn	02 35 29.9	0.0
COLA	**College**	**2.15**	**28**			Sn	02 35 54.1	-1.9
MDM	**Murphy Dome**	**2.15**	**23**			Pn	02 35 30.1	0.0
PAX	**Paxson**	**2.15**	**89**			Pn	02 35 31.1	+1.0
PS08	**TAPS Pump Stn8**	**2.15**	**42**			Pn	02 35 29.9	-0.1
IL31		**2.30**	**38**			Pn	02 35 31.8	-0.2
PWL	**Port Wells**	**2.32**	**157**			Pn	02 35 31.9	-0.4
HARP	**HAARP**	**2.39**	**102**			Pn	02 35 34.6	+1.3
POKR	**Poker Plat Res**	**2.45**	**28**			Pn	02 35 34.1	+0.1
SLKM	**Skilak Lake**	**2.50**	**180**			Pn	02 35 34.7	0.0
GLI	**Glacier Island**	**2.58**	**144**			Pn	02 35 35.0	-0.8
TTA	**Tatalina**	**2.67**	**271**			Pn	02 35 36.3	-0.7
TTO1	**Tatalina**	**2.67**	**271**			Pn	02 35 36.4	-0.7
RDJH	**Redoubt Jeurge**	**2.72**	**208**			Pn	02 35 38.5	+0.7
RDWB	**Redoubt West**	**2.82**	**208**			Pn	02 35 39.3	+0.1
RSO	**Redoubt South**	**2.83**	**207**			Pn	02 35 40.8	+1.5
DOT	**Dot Lake**	**2.83**	**74**			Pn	02 35 39.3	+0.1
FID	**Port Fidalgo**	**2.86**	**141**			Pn	02 35 38.6	-0.9
RED	**Redoubt Volcan**	**2.87**	**207**			Pn	02 35 39.9	+0.1
SEW	**Seward**	**2.92**	**173**			Pn	02 35 40.3	-0.1
MENT	**Mentasta**	**2.95**	**88**			Pn	02 35 41.5	+0.7
HIN	**Hinchinbrook I**	**3.14**	**145**			Pn	02 35 42.7	-0.7
SVW2	**Sparrevohn**	**3.18**	**236**			Pn	02 35 42.9	-0.9
BRLK	**Bradley Lake**	**3.26**	**186**			Pn	02 35 45.0	0.0
BRSE	**Bradley Lake S**	**3.28**	**185**			Pn	02 35 44.7	-0.5
GLB	**Gilahina Butte**	**3.37**	**115**			Pn	02 35 46.1	-0.2
IM03		**3.37**	**334**			Pn	02 35 45.8	-0.6
HOM	**Homer**	**3.42**	**193**	Pn		Pn	02 35 47.8	+0.7
CNPM	**China Poot**	**3.52**	**189**			Pn	02 35 48.4	-0.1
VRDI	**Verde Repeater**	**3.62**	**116**			Pn	02 35 49.2	-0.8
MCARA	**McCarthy VSAT**	**3.72**	**113**			Pn	02 35 51.5	+0.3
BC03		**3.82**	**85**			Pn	02 35 52.2	-0.2
PS05	**TAPS Pump Stn5**	**3.83**	**357**			Pn	02 35 52.8	+0.2
PTPK	**Patty Peak**	**4.05**	**113**			Pn	02 35 55.7	-0.1
KIAG	**Kiagna River**	**4.24**	**116**			Pn	02 35 57.1	-1.1
COLD	**Coldfoot**	**4.25**	**360**			Pn	02 35 58.6	+0.4
WAX	**Waxell Ridge**	**4.32**	**123**			Pn	02 35 58.7	-0.6
BARN	**Barnard Glacie**	**4.46**	**112**	Sn		Sn	02 36 50.8	-1.2
BARN	**Barnard Glacie**	**4.46**	**112**			Pn	02 36 01.2	-0.1
YUK2	**White River**	**4.51**	**101**			Pn	02 36 02.5	+0.5
CTGM	**Chitina Glacie**	**4.64**	**112**	Pn		Pn	02 36 03.8	0.0
CTGM						Sn	02 36 54.1

comp=E,389nm,0.6s
IBDR AML AML 02 36 44.1
comp=N,54nm,0.5s
IDOB Doab 1.79 42 *e*Pg **Pn 02 36 23.7 -0.1**
IDOB *e* 02 36 31.1
IKOM Komasi 1.83 20 *e*Pg **Pn 02 36 23.6 -0.7**
IKOM *e* 02 36 49.0
IGHG Ghaleghazi 1.88 356 *e*Pg **Pn 02 36 24.7 -0.3**
IGHG *e* 02 36 53.0
IVIS Veis 2.07 2 *e*Pn **Pn 02 36 27.0 -0.5**
IVIS *e* 02 36 59.6
BHD Baghdad 2.15 293 *e*Pn **Pb 02 36 32.0 +0.4**
BHD *e*Sn **Sb 02 36 59.0 +0.7**
IDHR Dehrash 2.26 353 *e* **Sb 02 37 03.6 +1.8**
HSAM Samen 2.34 41 *e*Pn **Pn 02 36 31.2 -0.2**
HSAM *e* 02 37 09.8
IKRK Kirkuk 3.55 326 *e*Pn **Pn 02 36 48.0 +0.2**
IKRK *e*Sn **Sn 02 37 29.0 -0.9**

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*IDC **09** 02:46:00.9±4.5,5°14'S×152°7'74E,h46km±39km,mb3.5/4, mb1 3.8/4,mb1mx3.3/32,mbtmp3.8/4,Error ellipse: s-maj=43.9km s-min=20.6km az=108.0*

ISC 09 02:46:01.8±1.5,5°1'S±0°1'×152°7'E±0°2,h55km,n6,σ0s67/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.02**	**322**	P	**Pn**	**02 46 19.4**	**-0.6**
	1μm,0.3s,baz=171,slow=1.7,SNR=572						
KRVT				S	**Sn**	**02 46 34.0**	**+0.6**
	763nm,0.3s,baz=16,slow=22,SNR=20						
WRA	**Warramunga Arr**	**23.13**	**229**	P	**P**	**02 51 04.2**	**+0.7**
	0.3nm,0.3s,baz=53,slow=9.7,SNR=2.4						
ASAR	**Alice Springs**	**25.82**	**223**	P	**P**	**02 51 28.6**	**+0.4**
	0.3nm,0.4s,baz=57,slow=9.4,SNR=11						
FITZ	**Fitzroy Crossi**	**29.38**	**242**	P	**P**	**02 51 59.4**	**-0.6**
	4.1nm,0.9s,baz=65,slow=11,SNR=2.0						
ILAR	**Eielson Array**	**82.51**	**22**	P	**P**	**02 58 18.4**	**+0.1**
	1.4nm,0.7s,baz=246,slow=5.6,SNR=17						
TORD	**Torodi Ar. Bea**	**150.26**	**288**	PKPbc	**PKPbc**	**03 05 48.2**	**+0.2**
	0.4nm,0.4s,baz=89,slow=2.5,SNR=7.4						

IDC 09 02:59:20.7±2.3,28°27S×177°66W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.5/22,mbtmp3.6/2,MS3.0/1,Ms1 3.0/1, ms1mx2.5/17,Error ellipse: s-maj=57.2km s-min=28.7km az=85.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.01**	**193**	Pn	Pn	02 59 42.2	0.0
	260nm,0.3s,baz=223,slow=22,SNR=13						
RAO				Sn	Sg	02 59 53.7	+0.5
	1μm,0.3s,baz=79,slow=23,SNR=18						
KRVT	**Keravat (AS076**	**37.40**	**304**	LR	LR	03 18 56.9	
	comp=Z,19nm,18.6s,baz=334,slow=32						
ASAR	**Alice Springs**	**43.57**	**265**	P	P	03 07 26.1	-0.6
	0.3nm,0.7s,baz=102,slow=6.7,SNR=6.2						
WRA	**Warramunga Arr**	**44.36**	**270**	P	P	03 07 33.3	+0.2
	0.4nm,0.3s,baz=109,slow=8.1,SNR=6.1						
H03S2	**Juan Fernandez**	**81.39**	**124**	T	T	04 41 18.3	
	baz=240,slow=74,SNR=5.6						
H03S1	**Juan Fernandez**	**81.40**	**124**	T	T	04 41 18.3	
	baz=240,slow=74,SNR=6.1						
H03S3	**Juan Fernandez**	**81.41**	**124**	T	T	04 41 17.9	
	baz=240,slow=74,SNR=6.1						
AKASG	**Malin Array Be**	**149.76**	**325**	PKPbc	PKPbc	03 19 11.0	-1.3
	0.2nm,0.3s,baz=54,slow=2.4,SNR=1.6						
BRTR	**Keskin Array B**	**151.79**	**302**	PKPbc	PKiKP	03 19 18.4	+0.3
	0.5nm,0.9s,baz=146,slow=4.7,SNR=2.5						

IDC 09 03:02:42.0±2.5,4°38S×153°16E,h0km,mb3.9/2, mb1 4.2/2,mb1mx3.5/31,mbtmp4.0/2,Error ellipse: s-maj=45.5km s-min=41.2km az=11.0,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.13**	**274**	Pn	Pn	03 03 05.1	0.0
	115nm,0.3s,baz=209,slow=1.9,SNR=103						
KRVT				Sn	Sg	03 03 17.0	-1.2
	482nm,0.3s,baz=120,slow=20,SNR=17						
WRA	**Warramunga Arr**	**23.99**	**228**	P	P	03 07 58.5	0.0
	3.3nm,0.6s,baz=54,slow=9.9,SNR=14						
ASAR	**Alice Springs**	**26.70**	**222**	P	P	03 08 23.4	+0.3
	0.7nm,0.4s,baz=55,slow=9.2,SNR=14						
TORD	**Torodi Ar. Bea**	**150.51**	**289**	PKPbc	PKPbc	03 22 36.2	-0.6
	0.2nm,0.4s,baz=92,slow=2.2,SNR=10.0						

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*MOS **09** 03:12:57.3±1.7,56°05N×113°92E,h19km,mb3.9/1,Error ellipse: s-maj=12.6km s-min=9.0km az=78.7*
*BYKL **09** 03:12:57.0±0.2,56°07N×113°94E*
*IDC **09** 03:12:59.8±1.5,56°47N×113°56E,h0km,mb3.5/10, mb1 3.7/12,mb1mx3.5/37,mbtmp3.5/12,ML3.4/2,MS2.9/2, Ms1 2.9/2,ms1mx2.4/39,Error ellipse: s-maj=35.2km s-min=17.9km az=136.0*

ISC 09 03:12:59.1±1.1,56°35N±0°03×113°62E±0°03,h3km±8km, n71,σ3s16/90,mb3.5/10,8C-8D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SVKR	**Severomuysk**	**0.23**	**189**	⇓*i*Pg	Pg	03 13 01.1	-2.6
SVKR				Pmax		03 13 03.0	
	4μm,0.3s						
SVKR				*e*Sg	**Sg**	**03 13 04.6**	**-2.1**
SVKR				Smax		03 13 05.2	
	47μm,0.7s						
SVKR				*e*		03 13 08.5	
SVKR	**Severomuysk**	**0.23**	**189**	⇑*i*PG	Pg	03 13 01.1	-2.6
SVKR				pmax	pmax		
	comp=Z,4μm,0.3s						
UKT	**Uakit**	**0.86**	**180**	⇑*i*Pg	Pg	03 13 07.6	-8.0
UKT				Pmax		03 13 08.1	
	comp=Z,506nm,0.7s						
UKT				*e*Pb	Pb	03 13 12.3	-4.5
UKT				*e*Sg	Sg	03 13 16.0	-11
UKT				Smax		03 13 16.6	
	comp=Z,3μm,0.6s						
UKT	**Uakit**	**0.86**	**180**	⇑*i*PG	Pg	03 13 07.6	-8.0
UKT				*e*		03 13 15.6	
UKT				pmax	pmax		
	comp=Z,482nm,0.5s						
UKT				smax	smax		
	comp=E,3μm,0.6s						
YOA	**Uoyan**	**1.08**	**259**	⇓*i*Pg	**Pg**	**03 13 19.4**	**-0.5**
YOA				*e*		03 13 24.3	
YOA				max		03 13 30.7	
	comp=E,611nm,0.8s						
YOA				*e*Sg	**Sn**	**03 13 36.5**	**-0.2**
YOA				*e*		03 13 43.0	
YOA				max		03 13 44.2	
	comp=E,8μm,0.6s						
YOA	**Uoyan**	**1.08**	**259**	⇑*i*PG	**Pg**	**03 13 19.4**	**-0.5**
YOA				*e*		03 13 36.5	
YOA				pmax	pmax		
	comp=Z,405nm,0.3s						
YOA				smax	smax		
	comp=N,8μm,0.5s						
KMO	**Kumora**	**1.43**	**252**	⇓*i*Pg	**Pn**	**03 13 24.6**	**-1.4**
KMO				⇓*i*		03 13 27.0	
KMO				max		03 13 27.2	
	comp=N,628nm,0.5s						
KMO				*e*Sg	**Sg**	**03 13 46.3**	**+1.2**
KMO				*e*Sb	**Sb**	**03 13 48.0**	**+2.9**
KMO				max		03 13 51.2	
	comp=N,4μm,0.9s						
KMO				*e*		03 13 55.5	
KMO	**Kumora**	**1.43**	**252**	⇓*i*PN	**Pn**	**03 13 24.6**	**-1.4**
KMO				*e*		03 13 44.6	
KMO				pmax	pmax		
	comp=Z,633nm,0.4s						
KMO				smax	smax		
	comp=N,4μm,0.9s						
BOD	**Bodaibo**	**1.49**	**8**	⇑*i*Pg	**Pg**	**03 13 28.4**	**+0.8**
BOD				Pmax		03 13 29.2	
	comp=N,670nm,0.4s						
BOD				*e*		03 13 30.7	
BOD				*e*Sg	**Sg**	**03 13 52.5**	**+5.6**
BOD				Smax		03 13 53.6	
	comp=N,1μm,0.8s						
BOD				*e*		03 13 56.0	
BOD	**Bodaibo**	**1.49**	**8**	⇑*i*PN	**Pg**	**03 13 28.4**	**+0.8**
BOD				*e*		03 13 51.0	
BOD				pmax	pmax		
	comp=Z,677nm,0.4s						
BOD				smax	smax		
	comp=E,1μm,0.8s						
YLYR	**Ulyunkhan**	**2.03**	**224**	⇓*i*Pn	**Pn**	**03 13 32.0**	**-2.2**
YLYR				*e*Pg	**Pb**	**03 13 33.2**	**-3.5**
YLYR				Pmax		03 13 36.5	
	comp=E,198nm,0.6s						
YLYR				*e*Sg	**Sn**	**03 13 59.4**	**-0.7**
YLYR				Smax		03 14 05.9	
	comp=E,1μm,1.1s						
YLYR	**Ulyunkhan**	**2.03**	**224**	⇓*i*PN	**Pn**	**03 13 32.1**	**-2.2**
YLYR				*e*		03 13 33.4	
YLYR				*e*S	**Sn**	**03 13 56.6**	**-3.5**
YLYR				*e*		03 13 58.0	
YLYR				pmax	pmax		
	comp=Z,199nm,0.4s						
YLYR				smax	smax		
	comp=E,1μm,0.6s						
NIZ	**Nizh Angarsk**	**2.36**	**258**	*e*Pn	**Pn**	**03 13 39.0**	**+0.3**
NIZ				*e*Pg	**Pb**	**03 13 41.9**	**-0.4**
NIZ				*e*		03 13 44.8	
NIZ				max		03 13 46.6	
	comp=E,92nm,0.4s						
NIZ				*e*		03 14 12.6	
NIZ				*e*Sg	**Sg**	**03 14 15.3**	**+0.4**
NIZ				Smax		03 14 19.0	
	comp=E,827nm,0.6s						
NIZ	**Nizh Angarsk**	**2.36**	**258**	*e*PN	**Pn**	**03 13 39.6**	**+0.9**
NIZ				*e*		03 13 43.3	
NIZ				*e*S	**Sb**	**03 14 09.9**	**-1.9**
NIZ				*e*		03 14 15.0	
NIZ				pmax	pmax		
	comp=Z,92nm,0.4s						
NIZ				smax	smax		
	comp=N,824nm,0.8s						
CRS	**Chara**	**2.63**	**76**	*e*Pn	**Pn**	**03 13 39.7**	**-2.7**
CRS				⇑*i*Pg	**Pb**	**03 13 43.7**	**-3.1**
CRS				Pmax		03 13 44.1	
	comp=N,980nm,0.7s						
CRS				*e*Sg	**Sn**	**03 14 16.9**	**+2.1**
CRS				Smax		03 14 25.6	
	comp=N,1μm,1.0s						
CRS	**Chara**	**2.63**	**76**	⇑*e*PN	**Pn**	**03 13 39.3**	**-3.1**
CRS				*i*		03 13 43.7	
CRS				*e*		03 14 16.7	
CRS				pmax	pmax		
	comp=Z,978nm,0.5s						
CRS				smax	smax		
	comp=E,1μm,0.5s						
VTMR	**Vitim**	**3.15**	**350**	*e*Pn	**Pb**	**03 13 51.5**	**-4.2**
VTMR				*e*Pg	**Pg**	**03 13 59.0**	**-0.5**
VTMR				*e*Sg	**Sg**	**03 14 43.3**	**+3.0**
SYVR	**Suvo**	**3.41**	**219**	*e*	**Pn**	**03 13 54.9**	**+1.7**
SYVR				*e*Pg	**Pb**	**03 13 57.0**	**-3.1**
SYVR				Pmax		03 14 05.1	
	comp=E,55nm,1.0s						
SYVR				*e*		03 14 36.5	
SYVR				*e*Sg	**Sb**	**03 14 40.1**	**-1.9**
SYVR				Smax		03 14 51.3	
	comp=E,642nm,1.7s						
SYVR	**Suvo**	**3.41**	**219**	*e*PN	**Pn**	**03 13 50.0**	**-3.2**
SYVR				*e*		03 13 56.8	
SYVR				*e*		03 14 39.8	
SYVR				pmax	pmax		
	comp=Z,57nm,1.0s						
SYVR				smax	smax		
	comp=N,657nm,1.7s						
KHNR	**Khani**	**3.56**	**78**	*e*Pn	**Pn**	**03 13 52.4**	**-2.8**
KHNR				*e*Pg	**Pb**	**03 13 59.4**	**-3.3**
KHNR				*e*		03 14 02.7	
KHNR				*e*Sg	**Sb**	**03 14 43.9**	**-2.3**
TUP	**Tupik**	**4.09**	**115**	⇓*i*Pn	Pn	03 13 56.4	-6.2
TUP				*e*Pg	Pb	03 14 05.5	-6.3
TUP				Pmax		03 14 07.2	
	comp=N,125nm,0.5s						
TUP				*e*Sg	**Sn**	**03 14 56.2**	**+5.3**
TUP				*e*		03 15 00.7	
TUP				max		03 15 01.2	
	comp=N,596nm,0.7s						
TUP	**Tupik**	**4.09**	**115**	*e*PN	Pn	03 13 56.4	-6.2
TUP				*e*		03 14 05.7	
TUP				*e*S	Sn	03 14 41.5	-9.4
TUP				*e*		03 14 56.0	
TUP				pmax	pmax		
	comp=Z,125nm,0.4s						
TUP				smax	smax		
	comp=E,598nm,0.7s						
MXMB	**Maximikha**	**4.19**	**224**	*e*Pg	**Pb**	**03 14 11.5**	**-1.9**
MXMB				*e*Sg	**Sb**	**03 15 05.0**	**+0.7**
CIT	**Chita**	**4.34**	**181**	*e*	Sb	03 14 57.5	-11
CIT				*e*Sg	**Sn**	**03 15 01.9**	**+4.9**
CIT				Smax		03 15 18.9	
	comp=E,521nm,0.8s						
OGRR	**Ongureny**	**4.40**	**235**	*e*Pn	**Pn**	**03 14 05.7**	**-1.1**
OGRR				*e*Pg	**Pb**	**03 14 16.4**	**-0.7**
OGRR				Pmax		03 14 22.3	
	comp=E,49nm,1.0s						
OGRR				*e*		03 14 45.9	
OGRR				*e*Sg	**Sb**	**03 15 12.5**	**+2.0**
OGRR				Smax		03 15 21.8	
	comp=E,261nm,1.6s						
OGRR	**Ongureny**	**4.40**	**235**	*e*PN	**Pn**	**03 14 05.9**	**-0.9**
OGRR				*e*		03 14 16.9	
OGRR				*e*		03 15 11.5	
OGRR				pmax	pmax		
	comp=Z,48nm,1.3s						
OGRR				smax	smax		
	comp=N,261nm,1.6s						
YKLR	**Yuktali**	**4.46**	**84**	*e*Pg	**Pb**	**03 14 14.1**	**-3.9**
YKLR				*e*		03 14 45.5	
YKLR				*e*Sg	**Sb**	**03 15 10.3**	**-1.8**
KELR	**Kotokel**	**4.83**	**224**	*e*	**Pg**	**03 14 30.1**	**-1.5**
KELR				*e*Sg	**Sb**	**03 15 25.2**	**+2.4**
ZRHB	**Zarechye**	**5.36**	**227**	*e*Sg	**Sb**	**03 15 42.5**	**+4.6**
ZRHB				*e*		03 15 51.5	
TRG	**Tyrgan**	**5.55**	**233**	*e*Pn	**Pn**	**03 14 21.9**	**-0.7**
TRG				max		03 14 33.8	
	comp=N,3.0nm,0.1s						
TRG				*e*		03 14 38.2	
TRG				*e*Sg	**Sb**	**03 15 47.3**	**+3.7**
TRG				Smax		03 16 03.7	
	comp=N,81nm,1.3s						
UUDB	**Ulan-Yde**	**5.70**	**220**	*e*Pg	**Pb**	**03 14 38.2**	**-0.9**
UUDB				Pmax		03 14 52.0	
	comp=N,37nm,1.1s						
UUDB				*e*Sg	**Sb**	**03 15 51.3**	**+3.6**
UUDB				Smax		03 15 56.3	
	comp=N,385nm,1.5s						
FFNB	**Fofonovo**	**5.90**	**226**	*e*	Pb	03 14 37.6	-4.9
FFNB				*e*		03 14 42.4	
FFNB				*e*Sg	**Sb**	**03 15 56.4**	**+3.0**
KAB	**Kabansk**	**5.94**	**226**	*e*	Pg	03 14 58.5	+5.7
KAB				Sg	**Sb**	**03 15 59.5**	**+4.9**
KAB				Smax		03 16 26.7	
	comp=N,586nm,0.8s						
STDB	**Stepnoy Dvoret**	**5.97**	**228**	Sg	**Sb**	**03 16 00.2**	**+4.7**
STDB				*e*		03 16 02.9	
HRMR	**Khuramsha**	**6.15**	**223**	*e*Pg	**Pb**	**03 14 45.8**	**-1.0**
HRMR				*e*		03 14 47.4	
HRMR				max		03 15 01.5	
	comp=N,28nm,0.6s						
HRMR				*e*Sg	**Sb**	**03 16 05.0**	**+4.3**
HRMR				Smax		03 16 17.8	
	comp=N,392nm,1.0s						
CLNS	**Chul'man**	**6.25**	**81**	*e*	Sb	03 15 53.7	-10
CLNS				*e*Sg	Sg	03 16 07.1	-12
CLNS				*e*		03 16 13.9	
IENR	**Iengra**	**6.26**	**86**	*e*Pn	**Pn**	**03 14 28.0**	**-4.3**
IENR				*e*Pg	**Pb**	**03 14 46.1**	**-2.6**
IENR				*e*		03 15 43.0	
IENR				*e*Sg	**Sb**	**03 16 06.2**	**+2.3**
BGT	**Bolshoye Golou**	**6.47**	**232**	*e*	**Sb**	**03 16 08.3**	**-1.5**
BGT				Sg	Sg	03 16 16.5	-10
BGT				Smax		03 16 28.3	
	comp=N,78nm,1.2s						
KPC	**Khapcheranga**	**6.70**	**187**	*e*Pn	Pn	03 14 32.0	-6.4
KPC				*e*		03 14 41.9	
KPC				*e*		03 14 53.1	
KPC				max		03 14 54.1	
	comp=N,10.0nm,1.9s						
KPC				*e*		03 16 13.3	
KPC				*e*Sg	**Sb**	**03 16 16.2**	**-0.4**
KPC				*e*		03 16 32.9	
KPC				max		03 16 35.0	
	comp=N,308nm,1.0s						
KPC	**Khapcheranga**	**6.70**	**187**	*e*PN	Pn	03 14 32.0	-6.4
KPC				*e*		03 14 51.8	
KPC				*e*S	Sn	03 15 40.7	-14
KPC				*e*		03 16 13.3	
KPC				pmax	pmax		
	comp=Z,12nm,0.8s						
KPC				smax	smax		
	comp=E,308nm,1.3s						
LSTR	**Listvyanka**	**6.84**	**233**	*e*Sg	**Sb**	**03 16 28.3**	**+7.6**
LSTR				*e*		03 16 31.9	
LSTR				max		03 16 36.5	
	comp=E,87nm,1.7s						
IVK	**Ivanovka**	**7.08**	**234**	Sg	Sb	03 16 37.0	+10
IVK				Smax		03 16 42.3	
	comp=E,97nm,1.5s						
TLY	**Talaya**	**7.51**	**236**	Pg	**Pb**	**03 15 07.0**	**-2.9**
	comp=E,0.0nm,0.3s,baz=353,slow=19,SNR=1.9						
TLY				Lg	Lg	03 16 43.8	
	comp=E,0.0nm,0.3s,baz=252,slow=20,SNR=1.6						
TLY				LR	LR	03 17 53.9	
	comp=E,68nm,19.7s,baz=52,slow=39						
TLY	**Talaya**	**7.51**	**236**	*e*Pg	**Pb**	**03 15 11.5**	**+1.6**
TLY				Pmax		03 15 21.7	
	comp=E,5.0nm,0.8s						
TLY				*e*Sg	**Sb**	**03 16 48.0**	**+8.2**
TLY				Smax		03 16 58.1	
	comp=E,41nm,1.0s						
TLY	**Talaya**	**7.51**	**236**	*e*PG	**Pb**	**03 15 12.9**	**+3.0**
TLY				*e*		03 16 48.1	
TLY				pmax	pmax		
	comp=Z,14nm,0.6s						
TLY				smax	smax		
	comp=N,35nm,0.5s						
ARS	**Arshan**	**7.93**	**241**	*e*		03 16 49.9	
ARS				*e*		03 16 55.3	
ARS				*e*Sg	Sb	03 17 01.4	+9.5
ARS				Smax		03 17 18.0	
	comp=N,208nm,0.8s						
ZEA	**Zeya**	**8.25**	**103**	*e*PG	**Pb**	**03 15 24.4**	**+1.9**
ZEA				*e*		03 17 10.0	
ZEA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ZEA				smax	smax		
	comp=N,73nm,0.8s						
ZEA				smax	smax		
	comp=E,100nm,0.8s						
ZEA				smax	smax		
	comp=Z,41nm,0.8s						
ZEA				smax	smax		
	comp=E,100nm,2.0s						
ZEA				MLR	MLR		
	comp=E,400nm,6.0s						
ZEA				MLR	MLR		
	comp=Z,300nm,6.0s						
ZAK	**Zakamensk**	**8.60**	**230**	*e*	**Sn**	**03 16 40.0**	**-1.8**
ZAK				*e*		03 17 17.8	
ZAK				*e*Sg	Sg	03 17 21.5	-13
ZAK				Smax		03 17 37.2	
	comp=Z,40nm,1.3s						
MOY	**Mondy**	**8.79**	**243**	*e*	Pn	03 15 17.5	+10
MOY				*e*		03 15 32.3	
MOY				max		03 15 36.5	
	comp=Z,12nm,1.1s						
MOY				*e*		03 16 46.4	
MOY				*e*Sg	Sg	03 17 29.9	-11
MOY				Smax		03 17 31.8	
	comp=Z,115nm,1.4s						
MOY				*e*		03 17 40.9	
MOY	**Mondy**	**8.79**	**243**	*e*PN	Pn	03 15 18.5	+11
MOY				*i*		03 17 31.9	
ORL	**Orlik**	**8.90**	**250**	*e*Pn	**Pn**	**03 15 08.4**	**-0.3**
ORL				max		03 15 53.8	
	comp=Z,10.0nm,1.0s						
ORL				*e*		03 17 12.7	
ORL				*e*Sg	Sg	03 17 35.8	-9.0
ORL				Smax		03 17 56.6	
	comp=Z,51nm,1.6s						
ULN	**Ulaanbaatar**	**9.40**	**208**	*e*Sg	Sn	03 17 44.3	+43
ULN				*e*		03 17 53.4	
ULN				*e*		03 18 01.7	
SONM	**Songino Array**	**9.61**	**211**	Pn	**Pn**	**03 15 21.3**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=12,slow=15,SNR=1.9						
SONM				Pg		03 15 55.8	
	comp=Z,0.4nm,0.3s,baz=24,slow=14,SNR=4.8						
SONM				Sn	**Sn**	**03 17 12.6**	**+5.8**
	comp=Z,0.4nm,0.3s,baz=25,slow=20,SNR=1.5						
SONM				Lg	Lg	03 17 54.1	
	comp=Z,1.3nm,0.3s,baz=21,slow=30,SNR=12						
YAK	**Yakutsk**	**10.00**	**49**	Sn	**Sn**	**03 17 07.5**	**-8.4**
	comp=Z,0.2nm,0.3s,baz=328,slow=1.1,SNR=1.7						
YAK				Lg	Lg	03 18 05.0	
	comp=Z,0.2nm,0.3s,baz=308,slow=20,SNR=14						
YAK	**Yakutsk**	**10.00**	**49**	*e*P	Pn	03 15 16.3	-7.1
YAK				*e*SS	**Sn**	**03 17 21.7**	**+5.7**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,4.0nm,0.9s						
YAK				pmax	pmax		
	comp=E,2.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,13nm,0.4s						
YAK				MLR	MLR		
	comp=Z,28nm,14.0s						
YAK				MLR	MLR		
	comp=N,132nm,11.0s						
YAK				MLR	MLR		
	comp=E,26nm,9.0s						
ARDR	**Aradan**	**12.33**	**261**	*e*	Pg	03 16 56.5	
ARDR				*e*		03 18 25.6	
ARDR				*e*		03 18 51.7	
ARDR				*e*Sg		03 19 21.0	
ARDR				*e*		03 19 27.4	
ZALV	**Zalesovo Beam**	**16.58**	**274**	Pn	**P**	**03 16 55.3**	**+0.4**
	comp=E,0.1nm,0.3s,baz=49,slow=9.7,SNR=3.6						
ZALV				Lg	Lg	03 21 37.5	
	comp=E,0.2nm,0.3s,baz=66,slow=35,SNR=1.5						
TIXI	**Tiksi**	**16.65**	**17**	Pn	**Pn**	**03 16 49.3**	**-3.8**
	comp=E,0.7nm,0.3s,baz=209,slow=9.0,SNR=6.5						
TIXI				Sn	Sn	03 19 45.9	-12
	comp=E,0.8nm,0.3s,baz=349,slow=10,SNR=2.6						
TIXI				Lg	Lg	03 21 37.2	
	comp=E,0.1nm,0.3s,baz=326,slow=15,SNR=1.4						
NRIK	**Noril'sk**	**17.43**	**329**	P	**P**	**03 17 02.3**	**-1.8**
	comp=E,0.5nm,0.3s,baz=122,slow=16,SNR=4.2						
NRIK				S	**Sn**	**03 20 07.5**	**-9.5**
	comp=E,0.3nm,0.3s,baz=6.4,slow=20,SNR=7.1						
NRIK				Lg	Lg	03 22 07.3	
	comp=E,0.4nm,0.3s,baz=25,slow=12,SNR=2.2						
KURK	**Kurchatov**	**21.39**	**270**	P	**P**	**03 17 49.1**	**+1.5**
KURBB	**Kurchatov Arra**	**21.48**	**269**	P	**P**	**03 17 49.1**	**+0.6**
	comp=E,1.3nm,0.6s,baz=65,slow=11,SNR=10						
KURBB				Lg	Lg	03 24 18.5	
	comp=E,0.2nm,0.3s,baz=55,slow=33,SNR=5.0						
MKAR	**Makanchi Array**	**21.52**	**257**	P	**P**	**03 17 48.9**	**-0.2**
	comp=E,1.0nm,0.8s,baz=56,slow=9.6,SNR=12						
MKAR				Lg	Lg	03 24 23.1	
	comp=E,0.1nm,0.4s,baz=330,slow=36,SNR=1.0						
MKAR				LR	LR	03 26 20.2	
	comp=E,31nm,19.1s,baz=114,slow=37						
BVAR	**Borovoye Array**	**24.90**	**281**	P	**P**	**03 18 22.8**	**-0.1**
	comp=E,1.7nm,0.8s,baz=59,slow=9.0,SNR=5.1						
FINES	**FINESS Array B**	**42.27**	**314**	P	**P**	**03 20 53.0**	**-0.2**
	comp=E,0.5nm,0.6s,baz=42,slow=23,SNR=1.4						
FINES	**FINESS Array B**	**42.27**	**314**	P	**P**	**03 20 53.0**	**-0.2**
ILAR	**Eielson Array**	**44.67**	**37**	P	**P**	**03 21 12.6**	**+0.1**
	comp=E,0.3nm,0.5s,baz=303,slow=10,SNR=6.9						
NOA	**NORSAR Array B**	**48.13**	**320**	P	**P**	**03 21 39.4**	**-0.4**
	comp=E,0.5nm,0.8s,baz=74,slow=6.4,SNR=2.3						
BRTR	**Keskin Array B**	**52.88**	**288**	P	**P**	**03 22 18.2**	**+2.1**
	comp=E,0.2nm,0.4s,baz=53,slow=7.4,SNR=2.6						
YKA	**Yellowknife Ar**	**55.70**	**25**	P	**P**	**03 22 36.6**	**+0.5**
	comp=E,0.8nm,1.0s,baz=328,slow=6.5,SNR=5.1						
GERES	**GERESS Array B**	**55.92**	**308**	P	**P**	**03

*JMA **09** 03:17:11.8±0.1,23°.23N×121°.56E,h44km±3km,M2.9*
ISC 09 03:17:12.2±1.0,**23°.25N**±0°.02×**121°.59E**±0°.02,**h30**km±9km,
n68,σ0s**62**/102,**1C-2D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.26**	**233**	*eP*		**Pn**	**03 17 19.9**	**0.0**
	baz=237							
CHKT				*i*	S	**Sn**	**03 17 25.3**	**+0.5**
	baz=237							
FULB	**Fuli**	**0.28**	**259**	*i*	P	**Pn**	**03 17 20.1**	**-0.1**
	baz=263							
FULB				*i*	S	**Sn**	**03 17 26.1**	**+0.8**
	baz=263							
HGSD	**Ruisui**	**0.28**	**328**	⇑	*iP*	**Pn**	**03 17 20.1**	**-0.1**
	baz=327							
YULB	**Yu-li**	**0.30**	**298**	⇓	P	**Pn**	**03 17 20.5**	**0.0**
	baz=299							
YULB				*e*	S	**Sn**	**03 17 26.4**	**+0.4**
	baz=299							
EHY	**Hungye**	**0.35**	**316**		P	**Pb**	**03 17 20.8**	**+0.4**
	baz=316							
EGFH	**Guangfu**	**0.44**	**341**	*eP*		**Pn**	**03 17 22.6**	**+0.1**
	baz=339							
EGFH				*e*	S	**Sn**	**03 17 29.4**	**0.0**
	baz=339							
ELDTW	**Lidau**	**0.53**	**263**	⇓	*iP*	**Pb**	**03 17 23.0**	**-0.1**
	baz=265							
ELDTW				*e*	S	**Sb**	**03 17 30.3**	**-0.3**
	baz=265							
TWH	**Lutao**	**0.55**	**191**	*i*	P	**Pb**	**03 17 23.5**	**+0.1**
	baz=191							
TWH				*e*	S	**Sb**	**03 17 31.7**	**+0.6**
	baz=191							
ESL	**Shilin**	**0.58**	**346**		P	**Pb**	**03 17 23.8**	**-0.1**
	baz=345							
ESL				*e*	S	**Sb**	**03 17 31.8**	**0.0**
	baz=345							
TWGBT	**Beinan**	**0.64**	**227**		P	**Pb**	**03 17 24.3**	**-0.5**
	baz=229							
TWGBT				*e*	S	**Sb**	**03 17 32.9**	**-0.6**
	baz=229							
TWG	**Pinlang**	**0.64**	**228**	*i*	P	**Pb**	**03 17 24.3**	**-0.6**
	baz=229							
TWG				*e*	S	**Sb**	**03 17 33.0**	**-0.6**
	baz=229							
VWDT	**VWDT**	**0.65**	**321**		P	**Pn**	**03 17 25.4**	**+0.2**
	baz=320							
VWDT					S	**Sn**	**03 17 34.8**	**+0.3**
	baz=320							
ALS	**Alishan**	**0.76**	**290**	*eP*		**Pn**	**03 17 27.6**	**+0.4**
	baz=290							
STYT	**Tauyuan**	**0.77**	**263**	*eP*		**Pb**	**03 17 26.9**	**-0.1**
	baz=264							
STYT				*e*	S	**Sb**	**03 17 37.2**	**-0.1**
	baz=264							
SSLB	**Suanglung**	**0.79**	**313**		P	**Pb**	**03 17 27.4**	**0.0**
	baz=312							
WHYT	**Xinyi Township**	**0.81**	**303**	*eP*		**Pn**	**03 17 28.1**	**+0.5**
	baz=303							
WHYT				*e*	S	**Sn**	**03 17 38.7**	**+0.2**
	baz=303							
TWD	**Chiawan**	**0.82**	**1**	*i*	P	**Pb**	**03 17 27.4**	**-0.5**
	baz=359							
TWD				*e*	S	**Sn**	**03 17 39.0**	**+0.1**
	baz=359							
ECL	**Taimali**	**0.88**	**222**	*eP*		**Pb**	**03 17 27.6**	**-1.2**
	baz=223							
TPUB	**Ta-pu**	**0.88**	**273**	*eP*		**Pn**	**03 17 29.4**	**+0.8**
	baz=274							
TPUB				*e*	S	**Sn**	**03 17 42.0**	**+1.6**
	baz=274							
CHGB	**Renai**	**0.89**	**335**		P	**Pb**	**03 17 29.0**	**-0.2**
	baz=334							
CHGB				*e*	S	**Sn**	**03 17 41.0**	**+0.2**
	baz=334							
SMLT	**Sun Moon Lake**	**0.89**	**315**	*eP*		**Pn**	**03 17 29.3**	**+0.5**
	baz=315							
SMLT				*e*	S	**Sb**	**03 17 40.6**	**-0.1**
	baz=315							
WTP	**Ta-pu**	**0.90**	**270**	*eP*		**Pb**	**03 17 29.6**	**+0.4**
	baz=270							
CHN5	**Tsauling**	**0.90**	**292**	*eP*		**Pb**	**03 17 29.9**	**+0.5**
	baz=293							
SLGT	**Liugui**	**0.90**	**254**	*eP*		**Pn**	**03 17 29.3**	**+0.5**
	baz=254							
SLGT				*e*	S	**Sb**	**03 17 40.8**	**-0.2**
	baz=254							
NACB	**Ninganchiao**	**0.92**	**0**	*i*	P	**Pn**	**03 17 28.6**	**-0.4**
	baz=359							
NACB					S	**Sb**	**03 17 40.5**	**-0.9**
	baz=359							
WHF	**Hehuan Shan**	**0.94**	**342**		P	**Pb**	**03 17 29.3**	**-0.8**
	baz=341							
WHF				*e*	S	**Sb**	**03 17 41.5**	**-0.8**
	baz=341							
SGST	**Jiashian**	**0.94**	**260**	*i*	P	**Pn**	**03 17 29.0**	**-0.4**
	baz=260							
SGST				*e*	S	**Sb**	**03 17 42.0**	**-0.1**
	baz=260							
ETLH	**Xiulin Townshi**	**0.95**	**354**		P	**Pn**	**03 17 29.0**	**-0.6**
	baz=353							
WJS	**Zhushan**	**0.97**	**306**	*eP*		**Pb**	**03 17 31.0**	**+0.6**
	baz=306							
CHN1	**Nanshi**	**0.98**	**266**	*eP*		**Pb**	**03 17 31.1**	**+0.6**
	baz=267							
SNST	**Tainan City**	**1.00**	**268**	*eP*		**Pb**	**03 17 31.4**	**+0.5**
	baz=269							
SSD	**Sandimen**	**1.01**	**240**	*eP*		**Pb**	**03 17 31.8**	**+0.6**
	baz=241							
WGK	**Gukeng**	**1.03**	**295**	*eP*		**Pb**	**03 17 32.2**	**+0.7**
	baz=295							
WNT	**Mingjian**	**1.04**	**307**	*eP*		**Pb**	**03 17 32.2**	**+0.7**
	baz=307							
WDLH	**Douliu**	**1.06**	**294**	*eP*		**Pb**	**03 17 32.3**	**+0.4**
	baz=294							
TDCB	**Techi**	**1.07**	**339**		S	**Sn**	**03 17 45.3**	**+0.1**
	baz=337							
MASBT	**Mashibuluo**	**1.09**	**234**	*eP*		**Pn**	**03 17 31.4**	**0.0**
	baz=235							
EAST	**Anshuo**	**1.10**	**218**	*eP*		**Pb**	**03 17 33.4**	**+0.7**
	baz=219							
WHP	**Taichung City**	**1.18**	**330**	*eP*		**Pb**	**03 17 33.8**	**-0.2**
	baz=329							
ENA	**Nanau**	**1.18**	**7**	*eP*		**Pn**	**03 17 32.6**	**0.0**
	baz=6.0							
ENA				*e*	S	**Sn**	**03 17 47.7**	**+0.1**
	baz=6.0							
NNSB	**Datong**	**1.19**	**351**	*eP*		**Pb**	**03 17 33.7**	**-0.4**
	baz=350							
NNSB				*e*	S	**Sn**	**03 17 47.8**	**-0.2**
	baz=350							
NNS	**Nan Shan**	**1.20**	**351**	*i*	S	**Sn**	**03 17 48.4**	**+0.1**
	baz=350							
TCU	**Taichung**	**1.22**	**317**	*eP*		**Pn**	**03 17 34.1**	**+0.9**
	baz=317							
SCZT	**Fangliau**	**1.25**	**226**	*eP*		**Pb**	**03 17 34.9**	**-0.2**
	baz=226							
CHN8	**Yiju**	**1.27**	**274**	*eP*		**Pn**	**03 17 34.1**	**+0.2**
	baz=275							
NDT	**Datong Townshi**	**1.34**	**357**	*eP*		**Pn**	**03 17 34.5**	**-0.4**
	baz=356							
TWC	**Suao**	**1.37**	**10**	*eP*		**Pn**	**03 17 36.0**	**+0.7**
	baz=9.0							
YHNB	**Yeheng**	**1.42**	**352**	*eP*		**Pn**	**03 17 36.8**	**+0.7**
	baz=351							
YHNB				*i*	S	**Sn**	**03 17 54.1**	**+0.3**
	baz=351							
NSK	**Sanguang**	**1.43**	**352**	*eP*		**Pn**	**03 17 37.1**	**+0.9**
	baz=351							
NSK					S	**Sn**	**03 17 54.2**	**+0.1**
	baz=351							
TWK1	**Hengchun**	**1.49**	**209**	*eS*		**Sn**	**03 17 54.6**	**-0.8**
	baz=209							
TWKBT	**Hengchun**	**1.49**	**209**	*eS*		**Sn**	**03 17 54.3**	**-1.0**
	baz=209							
NWLT	**Wulai**	**1.52**	**357**	*eP*		**Pb**	**03 17 38.8**	**-0.9**
	baz=356							
JYNG	**Yonagunijimaku**	**1.72**	**46**		P	**Pn**	**03 17 41.0**	**+0.9**
JYNG				*eS*		**Sn**	**03 18 02.1**	**+1.0**
TIPB	**Shuangxi**	**1.73**	**7**	*eP*		**Pn**	**03 17 41.6**	**+1.4**
	baz=6.0							
YOJ	**Yonaguni jima**	**1.77**	**47**	*eP*		**Pn**	**03 17 41.5**	**+0.7**
	baz=46							
YOJ				*e*	S	**Sn**	**03 18 03.0**	**+0.6**
	baz=46							
YOJ	**Yonaguni jima**	**1.77**	**47**		P	**Pn**	**03 17 41.7**	**+0.9**
YOJ					S	**Sn**	**03 18 03.0**	**+0.6**
PHUB	**P'eng-hu**	**1.87**	**278**	*eP*		**Pn**	**03 17 41.9**	**-0.2**
	baz=278							
PHUB				*e*	S	**Sn**	**03 18 03.7**	**-1.0**
	baz=278							
PNG	**Penghu**	**1.89**	**280**		P	**Pn**	**03 17 42.9**	**+0.5**
	baz=279							
PNG					S	**Sn**	**03 18 04.9**	**-0.4**
	baz=279							
HATJ	**Hateruma jima**	**2.19**	**68**	*eS*		**Sn**	**03 18 12.6**	**+0.1**
IRIF	**Iriomote-Funau**	**2.24**	**61**		P	**Pn**	**03 17 48.3**	**+1.1**
IRIF					S	**Sn**	**03 18 14.6**	**+0.8**
JKRS	**Kuro-shima**	**2.43**	**66**	*eS*		**Sn**	**03 18 18.8**	**+0.3**
JIJ	**Ishigaki jima**	**2.59**	**64**		P	**Pn**	**03 17 52.2**	**+0.2**
JIJ					S	**Sn**	**03 18 21.5**	**-1.0**
VWUC	**VWUC**	**2.61**	**312**	*eP*		**Pn**	**03 17 52.8**	**+0.5**
	baz=311							
VWUC				*eS*		**Sn**	**03 18 21.9**	**-1.1**
	baz=311							
PTTC	**Pingtan**	**2.78**	**324**	*eS*		**Sn**	**03 18 27.3**	**+0.1**
	baz=323							
JISG	**Ishigakijimahi**	**2.82**	**61**		P	**Pn**	**03 17 55.4**	**+0.2**
JISG				*eS*		**Sn**	**03 18 27.0**	**-1.3**
PTMZ	**Houxiangcun**	**2.87**	**309**	*eS*		**Sn**	**03 18 27.9**	**-1.5**
	baz=308							
JTJ	**Tarama**	**3.17**	**64**		P	**Pn**	**03 18 00.5**	**+0.5**
JTJ				*eS*		**Sn**	**03 18 36.9**	**+0.2**
MATB	**Ma-tsu**	**3.25**	**333**	*eS*		**Sn**	**03 18 38.0**	**-0.8**
	baz=332							

*GCG **09** 03:17:47.5±1.0,13°.83N×91°.74W,h11km±130km,MD3.7*
*MEX **09** 03:17:50.0±0.4,13°.71N×92°.44W,h16km±999km,MD4.0*
ISC 09 03:17:43.3±3.1,**13°.7N**±0°.1×**91°.88W**±0°.08,**h14**km±13km,**n8,**
σ2s42/14,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
STG3	**Santiaguito 3,**	**1.07**	**16**	*eP*		**Pg**	**03 18 04.5**	**+0.5**
FUG	**Fuego 3**	**1.26**	**53**	*eP*		**Pg**	**03 18 07.8**	**+0.1**
FUG				*eS*		**Sg**	**03 18 22.0**	**-2.2**
THIG		**1.28**	**343**	*i*	P	**Pb**	**03 18 08.3**	**+1.2**
THIG				*i*	S	**Sb**	**03 18 23.0**	**-0.5**
IXG	**Ixpaco**	**1.48**	**70**	*eP*		**Pn**	**03 18 10.9**	**+1.2**
IXG				*eS*		**Sb**	**03 18 28.1**	**-1.4**
NBG	**Las Nubes**	**1.74**	**59**	*eP*		**Pg**	**03 18 17.6**	**+0.8**
NBG				*eS*		**Sg**	**03 18 37.6**	**-1.9**
PCIG		**2.40**	**327**	*eP*		**Pn**	**03 18 21.8**	**-0.3**
PCIG				*i*	S	**Sn**	**03 18 46.2**	**-5.0**
CCIG	**Comitan**	**2.60**	**355**	*eP*		**Pn**	**03 18 28.9**	**+3.8**
CCIG				*i*	S	**Sn**	**03 18 58.2**	**+1.6**
CMIG	**Matias Romero**	**4.46**	**320**	*i*	P	Pn	03 18 48.0	-2.6
CMIG				*i*	S	**Sn**	**03 19 40.9**	**-1.4**

JMA 09 03:18:59.9±0.1,**36°.97N**×**141°.17E,h53**km±1km,**M3.6,**
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.33**	**294**		P	Pn	03 19 09.4	-0.2
ONAJ					S	Sn	03 19 16.2	-0.4
JFK	**Kawauchi**	**0.46**	**329**		P	Pn	03 19 10.7	-0.3
JFK				*eS*		Sn	03 19 18.3	-0.6
JFFD	**Fukushimafurud**	**0.50**	**284**		P	Pn	03 19 11.4	0.0
JFFD				*eS*		Sn	03 19 19.2	-0.5
JHO	**Hitachi**	**0.60**	**234**		P	Pn	03 19 12.3	-0.2
JHO					S	Sn	03 19 21.3	-0.4
JFT	**Otama**	**0.86**	**310**		P	Pn	03 19 16.7	+0.8
JFT				*eS*		Sn	03 19 27.9	+0.3
JMM	**Marumori**	**0.94**	**342**		P	Pn	03 19 16.8	-0.1
JMM					S	Sn	03 19 29.1	-0.4
JFY	**Yanaizu**	**1.25**	**291**		P	Pn	03 19 21.5	+0.4
JOU	**Okura**	**1.45**	**344**		P	Pn	03 19 24.3	+0.5
JAG	**Ashikaga**	**1.48**	**249**		P	Pn	03 19 24.6	+0.4
JAG				*eS*		Sn	03 19 42.1	-0.4
MAT	**Matsushiro**	**2.42**	**261**		P	Pn	03 19 38.2	+1.2
MAT					S	Sn	03 20 08.0	+2.6

*HLW **09** 03:38:32.6,36°.86N×36°.40E,h15km±20km,Md4.4,Ml4.6*
*BGR **09** 03:38:32.4±0.0,36°.75N×36°.99E,h33km,mb4.5*
*NIC **09** 03:38:34.8±0.0,36°.96N×35°.94E,h20km±5km,Ml4.9/4*
*IDC **09** 03:38:34.8±0.4,36°.74N×35°.92E,h0km,mb4.4/32,*
mb1 4.4/43,mb1mx4.4/50,mbtmp4.3/43,ML3.9/11,
MS3.6/27,Ms1 3.6/27,ms1mx3.5/51,Error ellipse:
s-maj=10.6km s-min=8.7km az=115.0
*DDA **09** 03:38:34.1,36°.61N×36°.07E,h21km±1km,MW4.5*
*NEIC **09** 03:38:34.4±4.7,36°.74N±0°.05×35°.97E±0°.05,h7km±4km,*
Error ellipse: s-maj=7.7km s-min=5.6km az=154.0
*NEIC **09** 03:38:34.7,36°.63N×36°.03E,h5km,Moment Tensor*
Solution. Moment tensor: Scale 10^{15}Nm; Mrr-8.06;
Mθθ-0.12; Mϕϕ8.18; Mrθ-1.98; Mϕr 1.21; Mϕr-4.54; Fault
plane solution: M0 9.59000×10^{15} NP1:ϕs179.92000°,
δ30.42000°,λ-104.10000°. NP2:ϕs16.16000°,δ60.59000°,
λ-81.86000°. Principal axes: T 9.6522, Plg15.0000°,
Azm100.0000°; N -0.1316, Plg7.0000°, Azm192.0000°; P
-9.5206, Plg73.0000°, Azm306.0000°;
*MED_RC **09** 03:38:34.0±1.0,36°.39N×36°.18E,h12km±1km,MW4.7/25,*
Moment Tensor Solution. Body waves: s2,c2;Mantle
waves: s25,c42; Duration: 1s0 Moment tensor: Scale
10^{16}Nm; Mrr-1.06±.10; Mθθ0.09±.06; Mϕϕ0.97±.06;
Mrθ-0.76±.16; Mϕϕ0.33±.04; Mϕr-0.43±.11; Best double
couple: M0 1.38000×10^{16} NP1:ϕs180.00000°,δ32.00000°,
λ-127.00000°. NP2:ϕs41.00000°,δ65.00000°,
λ-69.00000°. Principal axes: T 1.2900, Plg17.0000°,
Azm116.0000°; N 0.1800, Plg18.0000°, Azm212.0000°; P
-1.4700, Plg64.0000°, Azm346.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=35s.
*MOS **09** 03:38:35.8±1.1,36°.72N×35°.95E,h21km,mb4.8/37 Error*
ellipse: s-maj=6.1km s-min=3.5km az=101.6
*ISK **09** 03:38:35.6,36°.77N×36°.01E,h22km,ML4.6/14*
*GCMT **09** 03:38:37.9±0.3,36°.29N±0°.03×36°.06E±0°.03,h21km±1km,*
MW4.8/105, Moment Tensor Solution. s19,c20;
s105,c132; Duration: 0 Moment tensor: Scale 10^{16}Nm;
Mrr-1.64±.13; Mθθ-0.19±.08; Mϕϕ1.83±.10; Mrθ-1.29±.15;
Mθϕ0.23±.06; Mϕr-0.76±.14; Best double couple:
M0 2.28800×10^{16} NP1:ϕs164.00000°,δ36.00000°,
λ-135.00000°. NP2:ϕs34.00000°,δ65.00000°,
λ-63.00000°. Principal axes: T 2.1120, Plg16.0000°,
Azm105.0000°; N 0.3520, Plg25.0000°, Azm202.0000°; P
-2.4640, Plg60.0000°, Azm345.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
*GII **09** 03:38:37.2±0.0,36°.75N×36°.05E,h18km*
*GRAL **09** 03:38:44.6±0.3,36°.42N×35°.53E,h36km±7km,MD4.8*
ISC 09 03:38:36.2±0.7,**36°.68N**±0°.02×**36°.01E**±0°.01,**h18**km±4km,
n514,σ1s**89/570,mb4.7/113,MS3.6/32,35C-17D,**
Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
YURE	**YUREGIR**	**0.34**	**296**		PG	**Pg**	**03 38 43.3**	**-0.2**
YURE	**YUREGIR**	**0.34**	**296**	⇑	*iP*	**Pg**	**03 38 43.2**	**-0.2**
YURE					*i* S	**Sb**	**03 38 49.6**	**+0.7**
CEYT	**Ceyhan**	**0.39**	**327**		PG	**Pg**	**03 38 42.9**	**-1.5**
CEYT					SG	**Sg**	**03 38 48.5**	**-1.4**
KRTD	**Karatas-Adana**	**0.49**	**260**		PG	**Pg**	**03 38 46.2**	**+0.2**
KRTS	**Karatas**	**0.52**	**259**		PG	**Pb**	**03 38 47.0**	**+0.1**
KAMA	**Osmaniye**	**0.73**	**46**	⇑	*iP*	**Pb**	**03 38 48.1**	**-2.4**
KAMA					*i* S	**Sb**	**03 38 59.9**	**-0.3**
KAMA					IAML		03 39 01.0	
	comp=E,8μm,0.4s							
KAMA					IAML		03 39 02.0	
	comp=N,10μm,0.4s							
KUZU	**Kuzuini**	**0.86**	**83**	⇑	*iP*	**Pb**	**03 38 51.9**	**-0.8**
KUZU					*i* S	**Sn**	**03 39 05.7**	**0.0**
KUZU					IAML		03 39 06.0	
	comp=E,107μm,0.5s							
AKO	**Adana**	**0.90**	**330**	⇑	*iP*	**Pb**	**03 38 50.8**	**-2.7**
AKO					*i* S	**Sn**	**03 39 07.3**	**+0.6**
AKO					IAML		03 39 08.0	
	comp=N,8μm,0.4s							
AKO					IAML		03 39 11.0	
	comp=E,7μm,0.6s							
ANDN	**Andirin**	**0.94**	**16**	⇑	*iP*	**Pb**	**03 38 51.0**	**-3.1**
ANDN					*i* S	**Sg**	**03 39 07.4**	**+0.5**
ANDN					IAML		03 39 08.0	
	comp=E,32μm,0.8s							
ANDN					IAML		03 39 09.0	
	comp=N,22μm,0.5s							
HCB	**Kahramanmara**	**0.98**	**47**	⇑	*iP*	**Pb**	**03 38 52.7**	**-2.0**
HCB					*i* S	**Sb**	**03 39 06.6**	**-0.7**
HCB					IAML		03 39 09.0	
	comp=E,19μm,0.3s							
HCB					IAML		03 39 10.0	
	comp=N,22μm,0.4s							
DED	**Mersin**	**1.01**	**287**	⇑	*iP*	**Pb**	**03 38 53.4**	**-1.9**
DED					*i* S	**Sg**	**03 39 10.3**	**+1.0**
DED					IAML		03 39 12.0	
	comp=N,5μm,0.6s							
DED					IAML		03 39 19.0	
	comp=E,3μm,0.5s							
GAZ	**Gaziantep**	**1.08**	**63**		PG	**Pb**	**03 38 55.0**	**-1.5**
GAZ					SG	**Sb**	**03 39 09.9**	**-0.4**
GAZ	**Gaziantep**	**1.08**	**63**			**Pb**	**03 38 55.0**	**-1.5**
GAZ					Sg	**Sb**	**03 39 10.2**	**-0.1**
GAZ	**Gaziantep**	**1.08**	**63**		P	**Pb**	**03 38 55.0**	**-1.5**
GAZ					S	**Sb**	**03 39 08.6**	**-1.7**
GAZ					AML	AML	03 39 12.3	
	comp=E,91nm,0.7s							
GAZ					AML	AML	03 39 12.3	
	comp=E,91nm,0.7s							
GAZ					AML	AML	03 39 15.5	
	comp=E,97nm,0.8s							
GAZ					AML	AML	03 39 15.5	
	comp=E,97nm,0.8s							
KMRS	**Kahramanmaras**	**1.09**	**40**		PG	**Pb**	**03 38 55.0**	**-1.6**
KMRS					SG	**Sb**	**03 39 09.3**	**-1.2**
GULE	**Gulek**	**1.16**	**302**	⇑	*iP*	**Pn**	**03 38 56.0**	**-1.8**
GULE					*i* S	**Sg**	**03 39 15.7**	**+1.8**
GULE					IAML		03 39 21.0	
	comp=E,13μm,0.6s							
GULE					IAML		03 39 24.0	
	comp=N,8μm,0.5s							
KHMN	**Narli-Kahraman**	**1.16**	**52**		PN	**Pn**	**03 38 56.8**	**-0.9**
MERS	**Mersin**	**1.21**	**279**		PN	**Pn**	**03 38 57.3**	**-1.1**
CMRD	**Camardi-Nigde**	**1.28**	**321**		PN	**Pn**	**03 38 57.4**	**-2.0**
SAIM	**ADANA**	**1.30**	**2**	⇓	*iP*	**Pn**	**03 38 58.2**	**-1.5**
SAIM					*i* S	**Sg**	**03 39 18.5**	**+0.2**
SAIM					IAML		03 39 22.0	
	comp=N,11μm,0.4s							
SAIM					IAML		03 39 22.0	
	comp=E,11μm,0.4s							
GZT	**Gaziantep**	**1.41**	**61**	⇑	*iP*	**Pn**	**03 39 00.4**	**-0.9**
GZT					*i* S	**Sb**	**03 39 20.9**	**+0.9**
GZT					IAML		03 39 21.0	
	comp=E,16μm,0.6s							
GZT					IAML		03 39 22.0	
	comp=N,11μm,0.5s							
YAHY	**KAYSERI_Yahyal**	**1.50**	**340**	⇑	*iP*	**Pn**	**03 39 00.1**	**-2.4**
YAHY					*i* S	**Sn**	**03 39 22.6**	**+0.9**
YAHY					IAML		03 39 31.0	
	comp=N,3μm,0.6s							
YAHY					IAML		03 39 33.0	
	comp=E,2μm,1.0s							
KIZK	**Mersin**	**1.52**	**263**	⇑	*iP*	**Pn**	**03 39 01.3**	**-1.3**
KIZK					*i* S	**Sg**	**03 39 24.6**	**-0.6**
KIZK					IAML		03 39 32.0	
	comp=E,2μm,0.5s							
KIZK					IAML		03 39 37.0	
	comp=N,2μm,1.4s							
KERG	**Konya-Eregli**	**1.68**	**297**	⇑	*iP*	**Pn**	**03 39 04.4**	**-0.5**
KERG					*i* S	**Sb**	**03 39 29.7**	**+2.1**
KERG					IAML		03 39 34.0	
	comp=E,2μm,0.4s							
KERG					IAML		03 39 40.0	
	comp=N,3μm,0.6s							
SILI	**Silifke-Mersin**	**1.71**	**260**		PN	**Pn**	**03 39 04.5**	**-0.7**
SARI	**SarD1z-Kayseri**	**1.75**	**10**		PN	**Pn**	**03 39 04.6**	**-1.4**
NIG	**Nigde**	**1.81**	**322**		PN	**Pn**	**03 39 05.6**	**-1.3**
KEBE	**Keben-Mersin**	**1.86**	**264**		PN	**Pn**	**03 39 07.4**	**0.0**
ELBS	**KAHRAMANMARAS**	**1.87**	**28**	⇓	*iP*	**Pn**	**03 39 07.4**	**-0.1**
ELBS					*i* S	**Sb**	**03 39 35.1**	**+2.0**
ELBS					IAML		03 39 40.0	
	comp=E,6μm,0.5s							
ELBS					IAML		03 39 46.0	
	comp=N,7μm,0.6s							
KARG	**Kargicak-Mersi**	**1.92**	**256**		PN	**Pn**	**03 39 08.4**	**+0.4**
IKL	**Isikli**	**1.93**	**258**		PN	**Pn**	**03 39 08.0**	**-0.2**
TISA	**Tisan-Mersin**	**1.95**	**255**		PN	**Pn**	**03 39 08.7**	**+0.2**
YESI	**Yesilovacik-Me**	**1.97**	**257**		PN	**Pn**	**03 39 08.9**	**+0.1**
ATAB	**Bozova**	**1.99**	**66**	*i*	P	**Pn**	**03 39 08.1**	**-0.9**
ATAB					*i* S	**Sg**	**03 39 38.8**	**-1.6**
ATAB					IAML		03 39 41.0	
	comp=E,9μm,0.6s							
GULN	**MERSIN_Gulnar**	**2.05**	**257**	*i*	P	**Pn**	**03 39 10.4**	**+0.5**
GULN					*i* S	**Sn**	**03 39 34.3**	**-0.7**
GULN					IAML		03 39 44.0	
	comp=E,1μm,0.8s							
GULN					IAML		03 39 46.0	
	comp=N,994nm,0.6s							
AKKU	**Akkuyu-Mersin**	**2.05**	**256**		PN	**Pn**	**03 39 09.9**	**0.0**
AKK2	**Akkuyu-Mersin**	**2.06**	**256**		PN	**Pn**	**03 39 10.5**	**+0.5**
AKK1	**Akkuyu-Mersin**	**2.06**	**256**		PN	**Pn**	**03 39 10.2**	**+0.2**
TEVE	**Tevekalti-Mers**	**2.08**	**264**		PN	**Pn**	**03 39 10.2**	**-0.2**
SURC	**SANLIURFA_SURC**	**2.10**	**84**	*i*	P	**Pn**	**03 39 09.7**	**-0.8**
SURC					*i* S	**Sg**	**03 39 42.6**	**-1.1**
SURC					IAML		03 39 44.0	
	comp=N,7μm,0.4s							
SURC					IAML		03 39 48.0	
	comp=E,12μm,0.8s							
OREN	**Orenkoy-Mersin**	**2.11**	**258**		PN	**Pn**	**03 39 10.8**	**+0.1**
GUNE	**Kayseri**	**2.24**	**352**	*i*	P	**Pn**	**03 39 14.1**	**+1.5**
GUNE					*i* S	**Sb**	**03 39 44.3**	**+0.6**
GUNE					IAML		03 40 06.0	
	comp=N,6μm,1.0s							
GUNE					IAML		03 40 10.0	
	comp=E,4μm,1.2s							
CUGUR	**Gurin_SVAS**	**2.27**	**26**	⇓	*iP*	**Pn**	**03 39 13.6**	**+0.5**
CUGUR					*i* S	**Sg**	**03 39 49.6**	**+0.2**
CUGUR					IAML		03 39 53.0	
	comp=N,7μm,0.5s							
CUGUR					IAML		03 39 54.0	
	comp=E,10μm,0.5s							
AVNS	**Nevsehir-Avano**	**2.32**	**337**	⇑	*iP*	**Pn**	**03 39 12.8**	**-0.8**
AVNS					*i* S	**Sb**	**03 39 44.6**	**-1.4**
AV

AKSY	**AKSARAY - Alti**	**2.66**	**318**	⇓*i*	P		**Pn**	**03 39 19.2 +0.9**
AKSY				*i*	S		**Sg**	**03 40 04.1 +2.4**
AKSY					IAML			03 40 08.0
	comp=E,790nm,1.1s							
AKSY					IAML			03 40 09.0
	comp=N,768nm,0.8s							
HEKM	**Malatya_Hekimh**	**2.68**	**34**	*i*	P		**Pn**	**03 39 19.3 +0.5**
HEKM				*i*	S		**Sg**	**03 40 00.7 -1.8**
HEKM					IAML			03 40 05.0
	comp=E,6µm,0.6s							
HEKM					IAML			03 40 09.0
	comp=N,3µm,0.5s							
SIRC	**Yozgat**	**2.74**	**346**	*i*	P		**Pn**	**03 39 19.1 -0.4**
SIRC				*i*	S		**Sg**	**03 40 04.9 +0.6**
SIRC					IAML			03 40 16.0
	comp=N,303nm,0.7s							
SIRC					IAML			03 40 17.0
	comp=E,368nm,0.7s							
CUSAR	**Sarkisla-SIVAS**	**2.74**	**4**	*i*	P		**Pn**	**03 39 18.6 -0.9**
CUSAR				*i*	S		**Sb**	**03 40 00.2 +2.0**
CUSAR					IAML			03 40 10.0
	comp=E,1µm,0.7s							
CUSAR					IAML			03 40 17.0
	comp=N,1µm,1.0s							
CSS	**Mathiatis**	**2.77**	**233**		Pn		**Pn**	**03 39 19.8 -0.1**
CSS	**Mathiatis**	**2.77**	**233**		P		**Pn**	**03 39 19.4 -0.4**
BHL	**Bhannes**	**2.78**	**186**	*eP*			**Pn**	**03 39 22.4 +2.3**
BHL				*eS*			**Sn**	**03 39 50.4 -2.8**
BEYL	**Beirut**	**2.83**	**189**	*eP*			**Pn**	**03 39 23.0 +2.4**
CUKAN	**kangal_SIVAS**	**2.87**	**23**	*i*	P		**Pn**	**03 39 21.8 +0.5**
CUKAN				*i*	S		**Sg**	**03 40 12.9 +4.3**
CUKAN					IAML			03 40 19.0
	comp=E,2µm,1.5s							
CUKAN					IAML			03 40 25.0
	comp=N,2µm,0.7s							
KIRS	**Kırehir-Merke**	**2.96**	**327**	*i*	P		**Pn**	**03 39 23.5 +1.1**
KIRS				*i*	S		**Sg**	**03 40 08.6 -2.7**
KIRS					IAML			03 40 14.0
	comp=N,356nm,1.4s							
KIRS					IAML			03 40 23.0
	comp=E,337nm,1.1s							
LEF	**Lefka**	**2.97**	**239**	⇓*i*	P		**Pn**	**03 39 22.4 -0.1**
LEF				⇑*i*	S		**Sn**	**03 39 55.6 -2.2**
LEF	**Lefka**	**2.97**	**239**	*i*	P		**Pn**	**03 39 22.5 -0.1**
LEF				*i*	S		**Sn**	**03 39 56.0 -1.8**
LEF					IAML			03 40 13.0
	comp=N,1µm,1.0s							
LEF					IAML			03 40 45.0
	comp=E,802nm,0.9s							
ELZG	**Elazig**	**2.98**	**52**	*i*	P		**Pn**	**03 39 23.1 +0.3**
ELZG				*i*	S		**Sn**	**03 39 55.8 -2.3**
ELZG					IAML			03 40 20.0
	comp=E,3µm,0.6s							
ELZG					IAML			03 40 31.0
	comp=N,2µm,0.9s							
DQRL	**Deir Qamar**	**2.99**	**187**	*eP*			**Pn**	**03 39 25.2 +2.3**
GAZI	**Gazipasa**	**3.01**	**263**	*i*	P		**Pn**	**03 39 23.3 +0.2**
GAZI				*i*	S		**Sn**	**03 40 01.3 +2.5**
GAZI					IAML			03 40 17.0
	comp=N,2µm,1.0s							
GAZI					IAML			03 40 32.0
	comp=E,1µm,1.1s							
KMER	**Konya-Meram**	**3.10**	**292**	*i*	P		**Pn**	**03 39 26.7 +2.2**
KMER				*i*	S		**Sg**	**03 40 15.0 -1.0**
KMER					IAML			03 40 33.0
	comp=N,716nm,1.4s							
KMER					IAML			03 40 34.0
	comp=E,591nm,0.9s							
QRWL	**Qaraoun**	**3.14**	**185**	*eP*			**Pn**	**03 39 27.4 +2.5**
ALFC	**Alefka**	**3.16**	**242**		P		**Pn**	**03 39 24.0 -1.2**
ALFC					AML	AML		03 40 16.2
	comp=E,8.7nm,0.9s							
KONT	**Konya--Tatoy**	**3.17**	**295**	*i*	P		**Pn**	**03 39 28.2 +2.9**
KONT				*i*	S		**Sg**	**03 40 18.0 -0.2**
KONT					IAML			03 40 30.0
	comp=N,349nm,1.0s							
KONT					IAML			03 40 45.0
	comp=E,412nm,0.9s							
RCY	**Rachaya**	**3.18**	**183**	*eP*			**Pn**	**03 39 28.2 +2.6**
CDAG	**Cicekdag**	**3.21**	**337**	*i*	P		**Pn**	**03 39 27.0 +1.0**
CDAG				*i*	S		**Sb**	**03 40 15.7 +4.0**
CDAG					IAML			03 40 23.0
	comp=N,649nm,1.3s							
CDAG					IAML			03 40 27.0
	comp=E,572nm,0.7s							
KEMA	**Kemaliye**	**3.25**	**36**	*i*	P		**Pn**	**03 39 26.8 +0.4**
KEMA				*i*	S		**Sn**	**03 40 05.6 +1.0**
KEMA					IAML			03 40 24.0
	comp=N,2µm,1.0s							
KEMA					IAML			03 40 26.0
	comp=E,1µm,0.6s							
SCER	**sogukcermik**	**3.30**	**15**	*i*	P		**Pn**	**03 39 28.1 +0.9**
SCER				*i*	S		**Sg**	**03 40 20.3 -1.9**
SCER					IAML			03 40 39.0
	comp=E,1µm,1.0s							
SCER					IAML			03 40 44.0
	comp=N,997nm,1.4s							
SHBL	**Chebaa**	**3.33**	**184**	*eP*			**Pn**	**03 39 30.2 +2.5**
NATI	**Neve Ativ**	**3.42**	**184**		Pn		**Pn**	**03 39 30.9 +2.3**
GEM	**Giv'at Ha'Em**	**3.47**	**185**		Pn		**Pn**	**03 39 31.1 +1.7**
REFA	**Refahiye_ERZN**	**3.48**	**38**	*i*	P		**Pb**	**03 39 36.0 -1.4**
REFA				*i*	S		**Sb**	**03 40 22.6 +3.2**
REFA					IAML			03 40 46.0
	comp=E,306nm,1.6s							
REFA					IAML			03 40 51.0
	comp=N,490nm,1.7s							
CUZAR	**Zara_SIVAS**	**3.49**	**23**	*i*	P		**Pn**	**03 39 31.3 +1.5**
CUZAR				*i*	S		**Sb**	**03 40 18.8 -1.0**
CUZAR					IAML			03 40 40.0
	comp=E,906nm,1.3s							
CUZAR					IAML			03 40 43.0
	comp=N,984nm,0.8s							
KKUL	**Konya-Kulu**	**3.49**	**316**	*i*	P		**Pn**	**03 39 30.2 +0.5**
KKUL				*i*	S		**Sg**	**03 40 27.6 -0.7**
KKUL					IAML			03 40 33.0
	comp=E,693nm,1.9s							
KKUL					IAML			03 40 53.0
	comp=N,535nm,1.1s							
KSDI	**Kefar Szold**	**3.49**	**185**		Pn		**Pn**	**03 39 31.7 +2.0**
KSDI	**Kefar Szold**	**3.49**	**185**		P		**Pn**	**03 39 31.9 +2.2**
KSDI					S		**Sb**	**03 40 17.0 -2.6**
DIYA	**Diyarbakir**	**3.50**	**68**	*i*	P		**Pn**	**03 39 29.4 -0.6**
DIYA				*i*	S		**Sb**	**03 40 16.8 -3.3**
DIYA					IAML			03 40 33.0
	comp=E,5µm,1.1s							
DIYA					IAML			03 40 41.0
	comp=N,4µm,0.8s							
KEPZ	**Antalya-Kepez**	**3.54**	**275**	*i*	P		**Pn**	**03 39 33.9 +3.4**
KEPZ				*i*	S		**Sn**	**03 40 04.7 -7.2**
KEPZ					IAML			03 40 21.0
	comp=E,843nm,1.0s							
KEPZ					IAML			03 40 50.0
	comp=N,1µm,1.3s							
BR131	**Keskin Array S**	**3.57**	**329**	*i*	P		**Pn**	**03 39 31.3 +0.4**
BR131	**Keskin Array S**	**3.57**	**329**		Pn		**Pn**	**03 39 30.8 -0.1**
BRTR	**Keskin Array B**	**3.57**	**329**		Pn		**Pn**	**03 39 32.5 +1.6**
	comp=N,10nm,0.3s,baz=156,slow=12,SNR=274							
BRTR					Lg		Lg	03 40 30.2
	comp=N,7.0nm,0.3s,baz=145,slow=28,SNR=9.0							
BRTR	**Keskin Array B**	**3.57**	**329**	*i*	P		**Pn**	**03 39 31.3 +0.4**
BRTR					pmax		pmax	
	comp=Z,58nm,0.5s							
KDHN	**Kadinhani**	**3.60**	**302**	*i*	P		**Pn**	**03 39 33.1 +1.8**
KDHN				*i*	S		**Sg**	**03 40 32.1 +0.3**
KDHN					IAML			03 40 54.0
	comp=N,157nm,1.4s							
KDHN					IAML			03 41 01.0
	comp=E,159nm,1.4s							
HNTI	**Hanita**	**3.65**	**191**		Pn		**Pn**	**03 39 33.7 +1.8**
TOKA	**Tokat**	**3.66**	**6**	*i*	P		**Pn**	**03 39 32.5 +0.4**
COAL	**Corum-Alaca**	**3.66**	**348**	*i*	P		**Pn**	**03 39 33.9 +1.7**
COAL				*i*	S		**Sb**	**03 40 27.4 +2.8**
COAL					IAML			03 40 55.0
	comp=N,521nm,1.3s							
COAL					IAML			03 41 12.0
	comp=E,332nm,1.3s							
MMA0B	**Mount Meron ar**	**3.69**	**188**		Pn		**Pn**	**03 39 34.1 +1.6**
MMAI	**Mount Meron Ar**	**3.69**	**188**		Pn		**Pn**	**03 39 34.1 +1.7**
	comp=E,15nm,0.3s,baz=357,slow=13,SNR=28							
MMAI					Sn		**Sn**	**03 40 17.9 +2.4**
	comp=E,84nm,0.3s,baz=2.0,slow=26,SNR=8.3							
DELI	**KIRIKKALE**	**3.70**	**334**	*i*	P		**Pn**	**03 39 32.6 0.0**
DELI				*i*	S		**Sg**	**03 40 33.8 -1.3**
DELI					IAML			03 40 41.0
	comp=N,208nm,1.5s							
DELI					IAML			03 40 48.0
	comp=E,319nm,2.1s							
TNCL	**Tunceli-Merkez**	**3.70**	**48**	*i*	P		**Pn**	**03 39 34.5 +1.8**
TNCL				*i*	S		**Sb**	**03 40 28.0 +2.2**
TNCL					IAML			03 40 47.0
	comp=E,765nm,0.9s							
TNCL					IAML			03 40 48.0
	comp=N,961nm,0.7s							
DOGA	**KONYA_Doganhis**	**3.74**	**294**	*i*	P		**Pn**	**03 39 34.4 +1.1**
DOGA					IAML			03 40 29.0
	comp=N,318nm,0.8s							
DOGA					IAML			03 40 59.0
	comp=E,348nm,1.1s							
MARD	**Mardin**	**3.87**	**79**	*i*	P		**Pn**	**03 39 34.2 -0.8**
MARD				*i*	S		**Sb**	**03 40 30.1 -0.5**
MARD					IAML			03 40 45.0
	comp=E,4µm,0.7s							
HANI	**Diyarbakir_Han**	**3.89**	**62**	*i*	P		**Pn**	**03 39 36.5 +1.2**
HANI				*i*	S		**Sb**	**03 40 29.0 -2.2**
HANI					IAML			03 40 47.0
	comp=E,2µm,0.7s							
HANI					IAML			03 40 52.0
	comp=N,2µm,0.6s							
SUSE	**Susehri**	**3.92**	**25**	*i*	P		**Pn**	**03 39 38.2 +2.4**
SUSE					IAML			03 41 02.0
	comp=E,398nm,1.3s							
SUSE					IAML			03 41 16.0
	comp=N,550nm,2.0s							
BLGI	**Bet Lehem HaGe**	**3.99**	**190**		Pn		**Pn**	**03 39 38.4 +1.8**
ERBA	**Erbaa**	**4.04**	**8**	*i*	P		**Pn**	**03 39 37.7 +0.5**
ERBA				*i*	S		**Sb**	**03 40 37.5 +2.1**
ERBA					IAML			03 41 02.0
	comp=N,140nm,1.2s							
BR231	**Keskin MP Arra**	**4.06**	**322**				**Pn**	**03 39 39.3 +1.7**
ANTO	**Ankara**	**4.07**	**322**	⇓	P		**Pn**	**03 39 40.0 +2.3**
ANTO	**Ankara**	**4.07**	**322**		P		**Pn**	**03 39 38.0 +0.3**
ANTO	**Ankara**	**4.07**	**322**		Pn		**Pn**	**03 39 38.0 +0.3**
CTAK	**Corum_Osmancik**	**4.08**	**347**	*i*	P		**Pn**	**03 39 39.6 +1.7**
CTAK				*i*	S		**Sn**	**03 40 23.6 -1.7**
CTAK					IAML			03 40 28.0
	comp=N,68nm,0.8s							
CTAK					IAML			03 40 50.0
	comp=E,371nm,1.6s							
OFRI	**`Ofer**	**4.14**	**192**		Pn		**Pn**	**03 39 40.0 +1.4**
MMLI	**Mount Malkishu**	**4.26**	**187**		Pn		**Pn**	**03 39 42.7 +2.4**
KELT	**Kelkit**	**4.30**	**35**	*i*	P		**Pn**	**03 39 42.0 +1.0**
KELT					IAML			03 40 58.0
	comp=E,324nm,1.0s							
KELT					IAML			03 41 14.0
	comp=N,228nm,1.0s							
ELDT	**Eldivan**	**4.31**	**333**	*i*	P		**Pn**	**03 39 42.6 +1.5**
ELDT					IAML			03 41 03.0
	comp=N,494nm,1.1s							
BAGO	**Egridir - ISPA**	**4.36**	**289**	*i*	P		**Pn**	**03 39 44.1 +2.4**
BAGO					IAML			03 41 08.0
	comp=E,114nm,1.1s							
BAGO					IAML			03 41 33.0
	comp=N,90nm,1.9s							
BTMN	**Batman**	**4.36**	**72**	*i*	P		**Pn**	**03 39 40.0 -1.7**
BTMN				*i*	S		**Sb**	**03 40 42.0 -2.8**
BTMN					IAML			03 41 13.0
	comp=E,2µm,0.8s							
HAVZ	**Havza**	**4.39**	**357**	*i*	P		**Pn**	**03 39 42.9 +0.8**
HAVZ					IAML			03 41 09.0
	comp=E,252nm,1.2s							
HAVZ					IAML			03 41 19.0
	comp=N,171nm,1.6s							
HMDT	**Nahal Hemdat**	**4.43**	**185**		Pn		**Pn**	**03 39 45.2 +2.6**
SLTI	**Sal'it**	**4.50**	**191**		Pn		**Pn**	**03 39 45.6 +2.0**
ISP	**Isparta**	**4.53**	**286**		P		**Pn**	**03 39 45.8 +1.7**
ISP	**Isparta**	**4.53**	**286**		Pn		**Pn**	**03 39 45.7 +1.7**
ISP	**Isparta**	**4.53**	**286**		Pn		**Pn**	**03 39 45.8 +1.7**
ORDU	**Ordu-Boztepe**	**4.54**	**18**	*i*	P		**Pn**	**03 39 44.4 +0.2**
ORDU					IAML			03 41 15.0
	comp=E,427nm,1.0s							
ORDU					IAML			03 41 20.0
	comp=N,331nm,1.2s							
KORT	**Korkueli**	**4.55**	**276**	*i*	P		**Pn**	**03 39 46.3 +1.9**
KORT				*i*	S		**Sn**	**03 40 38.5 +1.5**
KORT					IAML			03 40 53.0
	comp=E,410nm,0.8s							
KORT					IAML			03 40 54.0
	comp=N,297nm,0.7s							
ASF	**Jabal al Asfar**	**4.55**	**171**		Pn		**Pn**	**03 39 47.9 +3.5**
	comp=N,2.1nm,0.3s,baz=344,slow=4.6,SNR=12							
ASF					Lg		Lg	03 41 02.0
	comp=N,25nm,0.3s,baz=129,slow=19,SNR=5.7							
AKUM	**Antalya-Kumluc**	**4.58**	**267**	*i*	P		**Pn**	**03 39 47.3 +2.6**
AKUM				*i*	S		**Sn**	**03 40 39.2 +1.8**
AKUM					IAML			03 40 52.0
	comp=E,610nm,0.8s							
AKUM					IAML			03 40 58.0
	comp=N,348nm,1.1s							
KAGI	**orum-Kargı**	**4.61**	**345**	*i*	P		**Pn**	**03 39 46.7 +1.6**
KAGI					IAML			03 41 11.0
	comp=E,152nm,1.3s							
KAGI					IAML			03 41 20.0
	comp=N,223nm,1.3s							
ILGA	**Ilgaz**	**4.72**	**338**	*i*	P		**Pn**	**03 39 49.1 +2.3**
ILGA					IAML			03 41 29.0
	comp=E,227nm,1.1s							
ILGA					IAML			03 41 41.0
	comp=N,140nm,1.1s							
ILGA	**Ilgaz**	**4.72**	**338**				**Pn**	**03 39 48.9 +2.1**
MUSM	**Mu-Merkez**	**4.81**	**63**	*i*	P		**Pn**	**03 39 49.1 +1.0**
MUSM				*i*	S		**Sb**	**03 40 53.7 -4.1**
MUSM					IAML			03 41 22.0
	comp=E,521nm,1.0s							
MUSM					IAML			03 41 23.0
	comp=N,516nm,0.7s							
ELL	**Elmali**	**4.90**	**273**		P		**Pn**	**03 39 51.3 +2.0**
ELL	**Elmali**	**4.90**	**273**		Pn		**Pn**	**03 39 51.2 +2.0**
KZIL	**AFYON_Kizioren**	**4.93**	**290**	*i*	P		**Pn**	**03 39 51.9 +2.3**
KZIL					IAML			03 41 47.0
	comp=N,92nm,2.0s							
KZIL					IAML			03 41 58.0
	comp=E,111nm,1.6s							
VRTB	**Varto-Mus**	**4.97**	**58**	*i*	P		**Pg**	**03 40 09.1 -2.3**
VRTB				*i*	S		**Sg**	**03 41 13.8 -1.8**
DIKM	**Dikmen**	**5.00**	**353**	⇓	P		**Pn**	**03 39 53.1 +2.7**
PELI	**Kastamonı-Ara**	**5.07**	**336**	*i*	P		**Pn**	**03 39 53.7 +2.2**
PELI					IAML			03 41 37.0
	comp=E,87nm,1.2s							
PELI					IAML			03 42 03.0
	comp=N,84nm,2.4s							
DSI	**Dead Sea**	**5.12**	**186**		Pn		**Pn**	**03 39 53.9 +1.8**
BLIS	**Bitlis-Merkez**	**5.15**	**69**	*i*	P		**Pb**	03 40 01.2 -4.7
BLIS				*i*	S		**Sb**	**03 41 12.1 +4.6**
BLIS					IAML			03 41 35.0
	comp=N,892nm,0.7s							
BLIS					IAML			03 41 36.0
	comp=E,2µm,1.2s							
BCAM	**Yenicaga**	**5.16**	**324**	*i*	P		**Pn**	**03 39 55.2 +2.6**
BCAM					IAML			03 41 38.0
	comp=N,114nm,1.6s							
BCAM					IAML			03 41 46.0
	comp=E,121nm,1.8s							
AKAS	**Kas**	**5.18**	**267**	*i*	P		**Pn**	**03 39 54.4 +1.3**
AKAS				*i*	S		**Sn**	**03 40 50.4 -2.2**
AKAS					IAML			03 41 12.0
	comp=E,126nm,1.4s							
AKAS					IAML			03 41 14.0
	comp=N,278nm,0.9s							
GOLH	**Golhisar**	**5.20**	**278**	*i*	P		**Pn**	**03 39 56.3 +3.1**
GOLH				*i*	S		**Sn**	**03 40 51.4 -1.3**
GOLH					IAML			03 41 09.0
	comp=N,345nm,0.9s							
GOLH					IAML			03 41 11.0
	comp=E,44nm,1.5s							
KTUT	**Trabzon**	**5.21**	**33**	⇓	P		**Pn**	**03 39 53.9 +0.7**
AMAZ	**Amatzia**	**5.21**	**190**		Pn		**Pn**	**03 39 56.2 +2.8**
MDUB	**Mudurnu**	**5.34**	**317**				**Pn**	**03 39 55.7 +0.4**
YTIR	**Yattir**	**5.35**	**188**		Pn		**Pn**	**03 39 57.8 +2.4**
KHAL	**Karahalli**	**5.45**	**290**	*i*	P		**Pn**	**03 39 59.4 +2.7**
KHAL				*i*	S		**Sn**	**03 40 55.6 -3.4**
KHAL					IAML			03 41 08.0
	comp=N,99nm,1.0s							
KHAL					IAML			03 41 58.0
	comp=E,52nm,4.1s							
BZK	**Bozkurt**	**5.50**	**344**	⇑	P		**Pn**	**03 40 00.0 +2.8**
KARJ	**KARJ**	**5.55**	**183**		Pn		**Pn**	03 39 48.3 -10
YIGI	**Dzce**	**5.57**	**322**	*i*	P		**Pn**	**03 39 59.9 +1.7**
YIGI					IAML			03 41 47.0
	comp=N,85nm,2.3s							
YIGI					IAML			03 41 55.0
	comp=E,53nm,1.8s							
FETY	**Fethiye**	**5.57**	**272**	*i*	P		**Pn**	**03 39 59.4 +1.1**
FETY				*i*	S		**Sn**	**03 40 58.4 -3.5**
FETY					IAML			03 41 11.0
	comp=N,103nm,0.6s							
FETY					IAML			03 41 21.0
	comp=E,82nm,0.8s							
TAVA	**DENIZLI_Tavas**	**5.73**	**280**	*i*	P		**Pn**	**03 40 01.7 +1.1**
TAVA				*i*	S		**Sn**	**03 40 57.4 -8.5**
TAVA					IAML			03 41 15.0
	comp=E,142nm,1.1s							
TAVA					IAML			03 41 31.0
	comp=N,118nm,1.3s							
DALY	**Dalyan (Mula)**	**5.91**	**274**	*i*	P		**Pn**	**03 40 05.2 +2.3**
DALY				*i*	S		**Sn**	**03 41 04.6 -5.6**
DALY					IAML			03 41 15.0
	comp=N,122nm,0.5s							
DALY					IAML			03 41 23.0
	comp=E,308nm,0.7s							
CUKT	**Cukurca**	**6.11**	**82**	*i*	P		**Pn**	**03 40 06.1 +0.3**
CUKT				*i*	S		**Sb**	**03 41 41.7 +6.6**
MANT	**Manisa**	**6.19**	**289**		Pn		**Pn**	**03 40 09.3 +2.3**
PRNI	**Paran**	**6.37**	**188**		Pn		**Pn**	**03 40 11.6 +2.4**
DAT	**Datca**	**6.78**	**273**	*i*	P		**Pn**	**03 40 15.4 +0.5**
DAT				*i*	S		**Sn**	**03 41 27.1 -4.6**
DAT					IAML			03 41 37.0
	comp=N,70nm,1.1s							
DAT					IAML			03 41 53.0
	comp=E,55nm,1.0s							
EIL	**Elat**	**7.05**	**188**		Pn		**Pn**	**03 40 21.6 +3.0**
	comp=E,0.5nm,0.3s,baz=31,slow=18,SNR=3.0							
EIL					Sn		**Sn**	**03 41 45.3 +7.0**
	comp=E,1.4nm,0.3s,baz=343,slow=19,SNR=1.0							
EIL					Lg		Lg	03 42 21.8
	comp=E,2.8nm,0.3s,baz=333,slow=18,SNR=1.6							
EIL					LR		LR	03 43 33.1
	comp=E,395nm,22.0s,baz=5.5,slow=42							
EIL	**Elat**	**7.05**	**188**		Pn		**Pn**	**03 40 21.8 +3.2**
KARP	**Karpathos**	**7.25**	**264**		Pn		**Pn**	**03 40 22.1 +0.7**
KARP					Sn		**Sn**	**03 41 43.8 +0.5**
SUZ	**Suez**	**7.32**	**202**		P		**Pn**	**03 40 23.9 +1.6**
	baz=205							
SUZ					S		**Sn**	**03 41 43.9 -1.1**
	baz=205							
SOC	**Sochi**	**7.46**	**21**	*eP*			**Pn**	**03 40 23.0 -1.1**
SOC				*e*				03 41 48.9
SOC					pmax		pmax	
	comp=Z,11nm,0.8s							
SOC					MLR		MLR	
	comp=Z,1µm,11.0s							
HHAG	**Hagoal**	**7.46**	**207**		P		**Pn**	**03 40 25.4 +1.1**
	baz=209							
HHAG					AMP			03 41 00.0
	baz=209							
GLL	**Jalalah**	**7.95**	**208**		P		**Pn**	**03 40 31.6 +0.7**
	baz=210							
SEVA	**Sevastopol**	**8.04**	**348**	⇓	P		**Pn**	**03 40 35.7 +3.6**
ANN	**Anapa**	**8.18**	**7**	*eP*			**Pn**	**03 40 33.2 -0.9**
ANN				*eS*			**Sn**	**03 42 07.2 +1.1**
ANN					pmax		pmax	
	comp=Z,16nm,1.0s							
ANN					MLR		MLR	
	comp=Z,495nm,11.0s							
ANN					MLR		MLR	
	comp=E,51nm,7.0s							
ANN					MLR		MLR	
	comp=N,244nm,12.0s							
NEY	**Neytrino**	**8.34**	**36**	*i*	P		**Pn**	**03 40 37.2 +0.8**
HNAT	**Natroun**	**8.35**	**214**		P		**Pn**	**03 40 38.6 +2.1**
	baz=216							
HNAT					AMP			03 42 00.0
	baz=216							
SIM	**Simferopol'**	**8.39**	**351**	*eP*			Pn	03 40 44.4 +7.5
SIM					pmax		pmax	
	comp=Z,36nm,0.5s							
SIM					MLR		MLR	
	comp=Z,180nm,12.0s							
SANT	**Santorini**	**8.50**	**271**	⇑	P		**Pn**	**03 40 38.9 +0.4**
SANT	**Santorini**	**8.50**	**271**		Pn		**Pn**	**03 40 36.6 -1.9**
ZEI	**Tsey**	**8.61**	**42**	*eP*			**Pn**	**03 40 41.5 +1.4**
ZEI					pmax		pmax	
	comp=Z,5.0nm,0.6s							
KBZ	**Khabaz**	**8.79**	**35**		Pn		**Pn**	**03 40 46.7 +4.3**
	comp=Z,0.2nm,0.3s,baz=146,slow=1.7,SNR=6.1							
KBZ					Lg		Lg	03 43 12.1
	baz=303,slow=9.5,SNR=2.3							
KBZ					LR		LR	03 44 14.1
	comp=Z,507nm,20.4s,baz=222,slow=39							
KBZ	**Khabaz**	**8.79**	**35**	*ceP*			**Pn**	**03 40 43.7 +1.3**
GRB	**Gharib**	**8.81**	**199**		P		**Pn**	**03 40 43.8 +0.9**
	baz=201							
TR1	**Tor 1**	**8.82**	**192**		P		**Pn**	**03 40 43.5 +0.6**
	baz=194							
ALN	**Alexandroupoli**	**8.85**	**301**		P		**Pn**	**03 40 43.4 +0.2**
ALN	**Alexandroupoli**	**8.85**	**301**				**Pn**	**03 40 43.4 +0.2**
KIV	**Kislovodsk**	**8.87**	**33**	*eP*			**Pn**	**03 40 44.9 +1.2**
KIV					pmax		pmax	
	comp=Z,7.0nm,0.8s							
KIV					MLR		MLR	
	comp=Z,363nm,14.0s							
KIV	**Kislovodsk**	**8.87**	**33**		Pn		**Pn**	**03 40 41.3 -2.4**
KVAR	**Kislovodsk Arr**	**8.88**	**33**		Pn		**Pn**	**03 40 47.5 +3.8**
	baz=73,slow=19,SNR=2.1							
KVAR					LR		LR	03 44 20.4
	comp=Z,335nm,18.3s,baz=57,slow=39							
NBNS	**Bani Suef**	**8.96**	**208**		P		**Pn**	**03 40 46.4 +1.6**
	baz=209							
NBNS					AMP			03 42 00.0
	baz=209							
NBNS					S		**Sn**	**03 42 24.3 -1.1**
	baz=209							
MATC	**Matruh**	**9.02**	**236**		P		**Pn**	**03 40 48.2 +2.6**
	baz=237							
IDI	**Anoyia**	**9.12**	**265**		Pn		**Pn**	**03 40 46.7 -0.3**
	comp=Z,5.5nm,0.3s,baz=64,slow=15,SNR=26							
IDI					Sn		**Sn**	**03 42 26.6 -2.7**
	comp=Z,1.6nm,0.3s,baz=179,

VSR pmax pmax
comp=Z,20nm,0.9s
AKASG **Malin Array Be** 14.84 343 Pn **Pn** 03 42 05.1 0.0
comp=Z,1.2nm,0.3s,baz=158,slow=11,SNR=7.8
AKBB **Malin Array Si** 14.84 343 P **Pn** 03 42 04.8 -0.3
AKBB **Malin Array Si** 14.84 343 Pn **Pn** 03 42 04.8 -0.3
VRH **Novokhopyorsk** 15.08 14 *e*P **Pn** 03 42 09.7 +1.4
VRH pmax pmax
comp=Z,30nm,0.9s
TRPA **Tarpa** 15.14 323 ⇑P **Pn** 03 42 11.1 +2.0
TIP **Timpagrande** 15.40 285 ⇑P **Pn** 03 42 12.6 -0.1
TIP **Timpagrande** 15.40 285 **Pn** 03 42 10.5 -2.2
RAYN **Ar Rayn** 15.46 145 P **Pn** 03 42 12.5 -1.0
RAYN pmax pmax
comp=Z,8.0nm,0.9s
RAYN **Ar Rayn** 15.46 145 Pn **Pn** 03 42 12.5 -1.0
UZH **Uzhgorod** 15.61 324 *e*P **Pn** 03 42 14.5 -0.7
UZH *i* S **Sn** 03 45 06.4 -1.2
UZH MLR MLR
comp=Z,50nm,16.0s
LVV **L'vov** 15.74 330 *e*P **P** 03 42 21.9 +1.1
LVV *e*S **Sn** 03 45 16.9 +6.0
LVV MLR MLR
comp=N,200nm,12.0s
LVV MLR MLR
comp=E,100nm,12.0s
LVV MLR MLR
comp=Z,200nm,12.0s
KOLS **Kolonicke sedl** 15.83 325 *e*P **P** 03 42 20.5 -1.4
KOLS **Kolonicke sedl** 15.83 325 *e*P **P** 03 42 20.5 -1.4
LPSR **Galich'ya Gora** 16.05 6 *e*P **P** 03 42 24.2 -0.1
LPSR pmax pmax
comp=Z,40nm,1.1s
KWP **Kalwaria Pacla** 16.15 327 *e*P **P** 03 42 24.5 -0.9
KWP **Kalwaria Pacla** 16.15 327 P **Pn** 03 42 22.4 +0.2
KWP pmax pmax
comp=Z,114nm,1.4s
KWP **Kalwaria Pacla** 16.15 327 P **Pn** 03 42 22.4 +0.2
KWP IAmb IAmb 03 42 37.2
comp=Z,114nm,1.4s
SGRT **San Giovanni R** 16.50 294 P **Pn** 03 42 26.7 -0.1
SGRT IAmb IAmb 03 42 40.4
comp=Z,48nm,1.1s
NIE **Niedzica** 17.10 323 *e*P **P** 03 42 36.4 +0.5
PAOL **Paolisi** 17.25 291 **Pn** 03 42 34.4 -1.9
VAE **Valguarnera** 17.26 279 P **P** 03 42 38.5 +0.7
comp=Z,0.6nm,0.3s,baz=139,slow=11,SNR=1.4
VYHS **Vyhne** 17.26 319 *e*P **Pn** 03 42 36.8 +0.6
VYHS **Vyhne** 17.26 319 *e*P **Pn** 03 42 36.8 +0.6
WDD **Wied Dalam** 17.35 274 **Pn** 03 42 36.8 -0.7
WDD IAmb IAmb 03 42 41.9
comp=Z,42nm,0.5s
GEYT **Alibeck** 17.63 79 P **P** 03 42 45.2 +3.3
comp=Z,0.2nm,0.3s,baz=265,slow=16,SNR=11
GYA0B **ALIBECK ARRAY** 17.63 79 P **Pn** 03 42 40.9 -0.1
OJC **Ojcow** 17.88 324 *e*P **P** 03 42 44.9 +0.3
OJC **Ojcow** 17.88 324 P **Pn** 03 42 43.7 -0.3
OJC pmax pmax
comp=Z,11nm,1.0s
OJC **Ojcow** 17.88 324 **Pn** 03 42 43.7 -0.3
MODS **Modra-Piesok** 18.04 316 *e*P **P** 03 42 46.7 +0.4
MODS **Modra-Piesok** 18.04 316 *e*P **P** 03 42 46.6 +0.3
JAVC **Velka Javorina** 18.09 318 *e*P **Pn** 03 42 45.4 -1.3
CORL **Corleone** 18.11 281 P **Pn** 03 42 44.5 -2.4
CLTB **Caltabellotta** 18.20 280 Pn **Pn** 03 42 45.0 -3.0
AQU **L'Aquila** 18.32 295 P **Pn** 03 42 47.8 -1.7
AQU pmax pmax
comp=Z,33nm,0.9s
AQU **L'Aquila** 18.32 295 P **Pn** 03 42 47.8 -1.7
AQU IAmb IAmb 03 43 03.0
comp=Z,33nm,0.9s
OKC **Ostrava-Krasne** 18.44 321 AMS AMS 03 51 10.0
comp=Z,300nm,11.9s
OBN **Obninsk** 18.44 1 P **Pn** 03 42 52.2 +1.5
comp=Z,2.2nm,0.3s,baz=76,slow=19,SNR=1.9
OBN **Obninsk** 18.44 1 *e*P **Pn** 03 42 52.4 +1.7
OBN pmax pmax
comp=Z,37nm,1.7s
OBN MLR MLR
comp=Z,235nm,12.0s
ARSA **Arzberg** 18.48 311 *i* Pn **Pn** 03 42 52.8 +1.4
comp=Z,3.4nm,0.8s
CONA **Conrad Observa** 18.61 313 *i* Pn **Pn** 03 42 53.8 +0.8
comp=Z,3.0nm,0.8s
NRCA **Norcia** 18.62 296 IAmb IAmb 03 43 03.7
comp=Z,37nm,1.1s
MICGM **Minsk** 18.69 345 *e* **P** 03 42 53.0 -0.3
MNK **Minsk** 18.69 345 *e*P **P** 03 42 53.0 -0.3
MORC **Moravsky Berou** 18.71 320 *e*P **P** 03 42 51.4 -2.3
MORC **Moravsky Berou** 18.71 320 P **P** 03 42 51.0 -2.7
MORC pmax pmax
comp=Z,10.0nm,1.1s
MORC **Moravsky Berou** 18.71 320 **P** 03 42 51.0 -2.7
OBKA **Obir** 18.77 308 *i* pP **P** 03 42 56.0 +1.6
comp=Z,6.7nm,1.0s
KRUC **Moravsky** 18.90 317 *e*P **P** 03 42 54.7 -1.1
VRAC **Vranov** 18.93 318 P **P** 03 42 56.0 -0.1
comp=Z,0.2nm,0.3s,baz=127,slow=13,SNR=6.2
VRAC LR LR 03 51 55.0
comp=Z,100nm,19.0s,baz=128,slow=42
MOS **Moscow** 19.10 3 *e*P **Pn** 03 43 01.6 +2.9
MOS pmax pmax
comp=Z,37nm,0.7s
MURB **Monte Urbino** 19.13 297 P **P** 03 42 57.4 -1.1
MURB IAmb IAmb 03 43 10.1
comp=Z,40nm,1.0s
NACGM **Naroch** 19.30 344 *e* **Pn** 03 43 01.0 -0.1
PRED **Cave del Predi** 19.37 307 P **P** 03 42 59.3 -1.6
MYKA **Terra Mystica** 19.39 308 *i* Pn **P** 03 43 01.8 +0.6
comp=Z,6.8nm,0.6s,SNR=15
SUW **Suwalki** 19.48 337 *e*P **P** 03 43 02.9 +0.8
SUW **Suwalki** 19.48 337 P **P** 03 42 59.8 -2.3
SUW pmax pmax
comp=Z,66nm,0.9s
SUW **Suwalki** 19.48 337 P **P** 03 42 59.8 -2.3
SUW IAmb IAmb 03 43 15.4
comp=Z,66nm,0.9s
MOA **Molln** 19.52 312 *i* pP **Pn** 03 43 04.0 +0.1
comp=Z,8.8nm,0.6s,SNR=23
TREC **Trest** 19.53 317 AMS AMS 03 52 00.0
comp=Z,300nm,11.8s
DPC **Dobruska-Polom** 19.68 320 *e*P **Pn** 03 43 05.5 -0.3
DPC AMS AMS 03 52 00.0
comp=Z,200nm,11.5s
DPC **Dobruska-Polom** 19.68 320 *e*P **Pn** 03 43 05.5 -0.3
DPC MLR MLR
comp=Z,200nm,11.5s
KBA **Koelnbreinsper** 19.75 309 *i* pP **Pn** 03 43 06.6 -0.2
comp=Z,1.4nm,0.2s
ZOU **Zoufplan** 19.79 307 P **P** 03 43 04.6 -1.1
ZOU IAmb IAmb 03 43 16.2
comp=Z,33nm,1.2s
IIGN **Ignalina** 19.84 343 *e*P **Pn** 03 43 07.8 +0.2
IIGN IAmb IAmb 03 43 14.7
comp=Z,23nm,1.1s
OSTC **Ostas** 19.86 321 AMS AMS 03 52 10.0
comp=Z,200nm,9.7s
UPC **Upice** 19.93 320 *e*P **Pn** 03 43 08.4 -0.4
UPC *ep*P **pP** 03 43 12.6 +0.6
UPC AMS AMS 03 52 10.0
comp=Z,300nm,9.2s
UPC **Upice** 19.93 320 *e*P **Pn** 03 43 08.4 -0.4
UPC MLR MLR
comp=Z,300nm,9.2s
CHVC **Chvalec** 19.96 320 *e*P **P** 03 43 08.4 +1.0
CHVC *ex* x 03 43 14.5
CHVC AMS AMS 03 52 00.0
comp=Z,300nm,8.7s
KSP **Ksiaz** 19.99 321 *e*P **P** 03 43 08.7 +1.0
CIMO **Cimolais** 20.04 306 P **P** 03 43 05.6 -2.7
ISAL **Salakas** 20.06 343 *e*P **P** 03 43 08.9 +0.6
OSSC **Osservatorio P** 20.10 298 P **P** 03 43 06.3 -2.6
ABTA **Abfaltersbach** 20.15 307 *i* pP Pn 03 43 11.2 -0.3
comp=Z,6.4nm,0.8s
IZAR **Zarasai** 20.20 344 *e*P **P** 03 43 09.9 0.0
IZAR IAmb IAmb 03 43 23.0
comp=Z,13nm,0.6s
CASP **Castiglione de** 20.24 295 P **P** 03 43 08.7 -1.8
CASP IAmb IAmb 03 43 22.6
comp=Z,29nm,0.9s
GOPC **GO Pecny, Ondr** 20.25 317 *e*P **P** 03 43 11.4 +0.9
GOPC AMS AMS 03 51 50.0
comp=Z,200nm,16.0s
GOPC **GO Pecny, Ondr** 20.25 317 *e*P **P** 03 43 11.4 +0.9
GOPC MLR MLR
comp=Z,200nm,16.0s
GEC2 **GERESS Array S** 20.31 314 IAmb IAmb 03 43 22.3
comp=Z,30nm,1.0s
GEC2 **GERESS Array S** 20.31 314 *e*P **P** 03 43 11.9 +0.6
comp=Z,39nm,1.1s,baz=115,slow=10
GERES **GERESS Array B** 20.31 314 P **P** 03 43 11.9 +0.6
comp=Z,9.2nm,0.5s,baz=116,slow=11,SNR=150
GERES LR LR 03 51 14.6
comp=Z,188nm,20.9s,baz=124,slow=38
PRU **Pruhonice** 20.42 317 *e*P **P** 03 43 13.4 +1.1
PRU *ex* x 03 43 17.7
PRU AMS AMS 03 52 00.0
comp=Z,200nm,18.7s
PRU **Pruhonice** 20.42 317 *e*P **P** 03 43 13.4 +1.1
PRU *e* 03 43 17.7
PRU MLR MLR
comp=Z,200nm,18.7s
ZCCA **Zocca** 20.47 300 IAmb IAmb 03 43 32.6
comp=Z,44nm,1.0s
CTI **Castel Tesino** 20.48 305 P **P** 03 43 12.6 -0.5
CTI pmax pmax
comp=Z,9.0nm,0.9s
CTI **Castel Tesino** 20.48 305 P **P** 03 43 12.6 -0.5
KHC **Kasperske Hory** 20.52 314 *e*P **P** 03 43 14.0 +0.5
KHC *ep*P **pP** 03 43 19.5 +1.0
KHC *ex* x 03 43 22.9
KHC AMS AMS 03 54 20.0
comp=Z,300nm,12.9s
KHC **Kasperske Hory** 20.52 314 *ce*P **P** 03 43 13.3 -0.2
KHC pmax pmax
comp=Z,78nm,1.7s
KHC **Kasperske Hory** 20.52 314 P **P** 03 43 11.8 -1.7
PRA **Prague** 20.52 317 *e*P **P** 03 43 14.5 +1.1
PRA *ep*P **pP** 03 43 18.6 +0.2
PRA *ex* x 03 43 23.9
PRA AMS AMS 03 54 30.0
comp=Z,100nm,12.5s
PRA **Prague** 20.52 317 *e*P **P** 03 43 14.5 +1.1
PRA *e* 03 43 23.9
PRA MLR MLR
comp=Z,100nm,12.5s
PABE **Paberze** 20.54 340 *e*P **P** 03 43 14.3 +0.8
PABE IAmb IAmb 03 43 29.3
comp=Z,76nm,1.0s
PBCC **Pribram** 20.56 316 *e*P **P** 03 43 14.5 +0.6
PVCC **Panska Ves** 20.70 319 *e*P **P** 03 43 15.8 +0.4
PVCC AMS AMS 03 52 50.0
comp=Z,200nm,8.9s
PVCC **Panska Ves** 20.70 319 *e*P **P** 03 43 15.8 +0.4
PVCC MLR MLR
comp=Z,200nm,8.9s
UOSS **Minazif** 20.87 118 P **P** 03 43 17.0 -0.4
WTTA **Wattenberg** 20.90 308 *i* P Pn 03 43 20.0 -0.3
comp=Z,3.7nm,0.6s,SNR=5.9
WET **Wettzell** 20.93 314 *e*P **P** 03 43 17.8 -0.1
comp=Z,29nm,1.1s,baz=115,slow=10
AKTO **Aktyubinsk** 20.95 42 P **P** 03 43 18.5 +0.4
comp=Z,7.8nm,0.8s,baz=237,slow=11,SNR=26
AKTO LR LR 03 53 08.2
comp=Z,97nm,20.9s,baz=226,slow=42
WATA **Walderalm** 20.96 308 *i* P Pn 03 43 20.6 -0.4
comp=Z,5.6nm,0.7s,SNR=7.9
KLNR **Kaliningrad** 20.97 334 *i* P **P** 03 43 18.0 -0.2
KLNR pmax pmax
comp=Z,74nm,1.1s
SALO **Salr** 21.10 303 P **P** 03 43 18.5 -1.2
VSL **Villasalto** 21.13 286 P **P** 03 43 17.8 -2.2
VSL IAmb IAmb 03 43 31.0
comp=Z,18nm,0.8s
SQTA **Sankt Quirin** 21.16 308 *i* Pn **P** 03 43 21.2 +0.7
comp=Z,4.4nm,0.6s
BRG **Berggiesshubel** 21.23 319 *e*P **P** 03 43 21.1 +0.1
comp=Z,22nm,1.8s
BRG *e* 03 43 29.8
comp=Z,25nm,1.3s
BRG S Sn 03 47 21.0 -2.4
comp=N,301nm,10.9s
comp=E,172nm,13.7s
comp=Z,161nm,16.2s
BRG **Berggiesshubel** 21.23 319 *e*P **P** 03 43 21.1 +0.1
BRG *e* 03 43 29.8
BRG S Sn 03 47 21.0 -2.4
BRG pmax pmax
comp=Z,22nm,1.8s
BRG pmax pmax
comp=Z,25nm,1.3s
BRG MLR MLR
comp=N,301nm,10.9s
BRG MLR MLR
comp=E,172nm,13.7s
BRG MLR MLR
comp=Z,161nm,16.2s
MOTA **Moosalm** 21.27 308 *i* Pn **P** 03 43 21.9 +0.2
comp=Z,4.2nm,0.5s,SNR=8.3
FETA **Feichten** 21.39 307 *i* P **P** 03 43 24.3 +1.3
comp=Z,2.5nm,0.6s
AB31 **Akbulak array** 21.45 47 *i* P **P** 03 43 25.0 +1.6
HRA **Herat** 21.45 88 P **P** 03 43 23.1 -0.7
HRA IAmb IAmb 03 43 34.4
comp=Z,17nm,0.9s
KEST **Kesra** 21.52 275 P **P** 03 43 26.2 +1.8
comp=Z,14nm,0.7s,baz=339,slow=1.5,SNR=21
KEST LR LR 03 54 29.2
comp=Z,179nm,19.4s,baz=356,slow=44
KEST **Kesra** 21.52 275 P **P** 03 43 24.3 -0.1
KEST IAmb IAmb 03 43 36.3
comp=Z,33nm,1.1s
RETA **Reutte** 21.54 308 *i* P **P** 03 43 24.0 -0.5
comp=Z,2.1nm,0.5s
PBUR **Paburge** 21.57 338 *e*P **P** 03 43 25.5 +0.9
ROTZ **Rotzenmuhle** 21.61 315 *e*P **P** 03 43 25.2 0.0
comp=Z,35nm,1.2s,baz=115,slow=10
NKC **Novy Kostel** 21.70 316 *e*P **P** 03 43 27.4 +1.2
NKC *ex* x 03 43 35.9
NKC AMS AMS 03 54 40.0
comp=Z,300nm,15.6s
NKC **Novy Kostel** 21.70 316 *e*P **P** 03 43 27.4 +1.2
NKC *e* 03 43 35.9
NKC MLR MLR
comp=Z,300nm,15.6s
WERN **Wernitzgruen** 21.77 316 *e*P **P** 03 43 26.8 -0.1
comp=Z,15nm,1.0s,baz=115,slow=10
MANZ **Manzenberg** 21.77 315 *e*P **P** 03 43 26.7 -0.2
comp=Z,11nm,1.0s,baz=115,slow=10
TANN **Tannenbergstha** 21.79 316 *e*P **P** 03 43 26.7 -0.4
comp=Z,45nm,1.1s,baz=115,slow=10
GUNZ **Gunzen** 21.83 316 *e*P **P** 03 43 27.6 +0.1
comp=Z,26nm,1.3s,baz=115,slow=10
CLL **Collm** 21.96 319 *e*P **P** 03 43 29.0 +0.1
comp=Z,13nm,1.3s
CLL *ep*P **PnPn** 03 43 51.0 +0.4
CLL *e*S **S** 03 47 28.0 -2.5
CLL **Collm** 21.96 319 *e*P **P** 03 43 29.0 +0.1
CLL *e*S **S** 03 47 28.0 -2.5
CLL pmax pmax
comp=Z,13nm,1.3s
UBR **Ueberruh** 22.02 308 *e*P **P** 03 43 30.9 +1.2
comp=Z,15nm,1.2s,baz=115,slow=10
DAVA **Damuels** 22.03 307 *i* P **P** 03 43 29.3 -0.6
comp=Z,4.1nm,0.5s,SNR=6.8
NEUB **Neuenburg** 22.56 318 *e*P **P** 03 43 35.0 -0.3
comp=Z,12nm,0.8s,baz=115,slow=10
VSU **Vasula** 22.63 347 *e*P **P** 03 43 37.8 +1.8
VSU **Vasula** 22.63 347 *i* P **P** 03 43 36.1 +0.1
VSU pmax pmax
comp=Z,56nm,1.0s
SLIT **Slitere, Latvi** 22.86 341 *e*P **P** 03 43 40.3 +2.0
BFO **Black Forest** 23.36 309 P **P** 03 43 41.8 -1.9
BFO pmax pmax
comp=Z,11nm,0.9s
BFO **Black Forest** 23.36 309 P **P** 03 43 41.8 -1.9
BFO **Black Forest** 23.36 309 *e*P **P** 03 43 42.8 -0.9
comp=Z,13nm,1.1s,baz=115,slow=10
BSD **Bornholm Skovb** 23.41 329 *i* P **P** 03 43 44.0 0.0
comp=Z,8.8nm,0.6s
BSD **Bornholm Skovb** 23.41 329 *i* P **P** 03 43 44.0 0.0
BSD pmax pmax
comp=Z,9.0nm,0.6s
KIRV **Kirov** 23.62 18 P **P** 03 43 45.8 -0.2
comp=Z,28nm,0.6s,baz=222,slow=3.6,SNR=22
KIRV LR LR 03 54 13.2
comp=Z,78nm,19.2s,baz=218,slow=40
ASSE **Asse, Remlinge** 23.62 319 *e*P **P** 03 43 45.1 -1.0
comp=Z,18nm,1.3s,baz=115,slow=10
WSAR **Wadi Sarin** 23.66 118 P **P** 03 43 50.6 +3.8
comp=Z,5.0nm,1.0s,baz=309,slow=6.5,SNR=2.3
WSAR LR LR 03 53 47.9
comp=Z,130nm,21.4s,baz=341,slow=38
GTTG **Gottingen** 23.71 317 *e*P **P** 03 43 46.6 -0.5
comp=Z,18nm,1.1s,baz=115,slow=10
TNS **Taunus Mts** 23.99 313 *e*P **P** 03 43 49.0 -0.8
baz=115,slow=10
ECH **Echery** 24.07 308 IAmb IAmb 03 43 59.7
comp=Z,23nm,1.1s
KLMR **Klimovskoe** 24.30 4 *e*P **P** 03 43 52.4 0.0
KLMR pmax pmax
comp=Z,32nm,1.1s
KLMR **Klimovskoe** 24.30 4 *e*P **P** 03 43 52.5 0.0
KLMR AMP 03 43 54.1
comp=Z,32nm,1.1s
ARU **Arti** 24.91 30 P **P** 03 43 58.7 +0.7
comp=Z,1.1nm,0.3s,baz=219,slow=10,SNR=8.9
ARU LR LR 03 55 30.8
comp=Z,68nm,20.9s,baz=230,slow=41
ARU **Arti** 24.91 30 *d i*P **P** 03 43 58.7 +0.7
ARU 03 44 29.2
ARU S **S** 03 48 23.2 +2.9
ARU pmax pmax
comp=Z,12nm,1.0s
ARU **Arti** 24.91 30 P **P** 03 43 56.1 -1.9
ARU IAmb IAmb 03 44 02.6
comp=Z,10nm,0.9s
FINES **FINESS Array B** 25.57 349 P **P** 03 44 04.7 +0.8
comp=Z,14nm,0.7s,baz=153,slow=10.0,SNR=55
FINES **FINESS Array B** 25.57 349 *i* P **P** 03 44 04.6 +0.7
FINES pmax pmax
comp=Z,14nm,0.7s
FIA1 **FINESS Array S** 25.57 349 P **P** 03 44 04.0 +0.1
ATD **Arta Tunnel** 25.79 164 LR LR 03 52 57.8
comp=Z,110nm,19.0s,baz=26,slow=33
SVE **Sverdlovsk** 26.03 31 *e*P **P** 03 44 10.4 +2.2
SVE pmax pmax
comp=Z,29nm,0.8s
MUD **Monsted U'grnd** 26.76 326 *i* P **P** 03 44 17.3 +2.6
MUD **Monsted U'grnd** 26.76 326 *e*P **P** 03 44 17.3 +2.6
KK31 **Karatay Array** 27.10 66 *i* P **P** 03 44 19.7 +1.7
HFS **Hagfors** 27.49 336 P **P** 03 44 22.0 +0.8
comp=Z,5.5nm,0.7s,baz=134,slow=11,SNR=17
HFS LR LR 03 57 17.6
comp=Z,181nm,18.2s,baz=138,slow=41
TMCR **Tamitsa** 27.55 2 *e*P **P** 03 44 21.0 -0.7
TMCR pmax pmax
comp=Z,19nm,0.9s
OSL **Oslo** 28.38 333 *e*P **P** 03 44 27.4 -1.8
KONO **Kongsberg** 28.60 332 *i* P **P** 03 44 30.2 -1.0
KONO pmax pmax
comp=Z,7.0nm,1.0s
KONO **Kongsberg** 28.60 332 *e*P **P** 03 44 29.8 -1.4
NC602 **NORSAR Array S** 28.66 335 *e*P **P** 03 44 30.5 -1.2
SNART **Snartemo** 28.73 328 *e*P **P** 03 44 32.5 +0.1
OTUK **Ortayu** 28.92 55 P **P** 03 44 35.4 +1.2
BRVK **Borovoye** 28.93 45 *ce*P **P** 03 44 35.6 +1.4
BRVK pmax pmax
comp=Z,11nm,1.3s
BRVK **Borovoye** 28.93 45 P **P** 03 44 32.1 -2.1
BRVK IAmb IAmb 03 44 40.8
comp=Z,9.4nm,1.1s
NAO01 **NORSAR Array S** 28.96 335 P **P** 03 44 31.6 -2.8
NAO01 IAmb IAmb 03 44 48.1
comp=Z,24nm,1.1s
BVAR **Borovoye Array** 28.98 45 P **P** 03 44 36.2 +1.5
comp=Z,5.2nm,0.8s,baz=235,slow=5.2,SNR=18
NB2 **NORSAR Subarra** 28.99 335 P **P** 03 44 34.2 -0.5
comp=Z,13nm,1.7s,baz=136,slow=9.3
NB2 **NORSAR Subarra** 28.99 335 P **P** 03 44 34.2 -0.5
baz=136,slow=9.3
NOA **NORSAR Array B** 28.99 335 P **P** 03 44 34.6 -0.1
comp=Z,1.8nm,0.8s,baz=134,slow=8.8,SNR=10
NOA LR LR 03 57 20.2
comp=Z,108nm,20.9s,baz=145,slow=39
BLS5 **Blasjo** 29.70 329 *e*P **P** 03 44 39.8 -1.2
TAM **Tamanrasset** 29.73 251 P **P** 03 44 41.6 -0.2
TAM pmax pmax
comp=Z,10.0nm,1.4s
TAM **Tamanrasset** 29.73 251 P **P** 03 44 41.6 -0.2
SKAR **Skarslia** 29.77 333 *e*P **P** 03 44 40.5 -1.1
AAK **Ala-Archa** 30.03 67 *ce*P **P** 03 44 45.4 +1.1
AAK pmax pmax
comp=Z,9.0nm,1.7s
DOMB **Dombas** 30.43 335 *e*P **P** 03 44 45.5 -1.9
HYA **Hoyanger** 30.88 332 *e*P **P** 03 44 50.3 -0.9
MOL **Molde** 31.30 335 *e*P **P** 03 44 56.6 +1.5
NSS **Namsos** 31.38 340 *e*P **P** 03 44 56.4 +0.7
ESDC **Sonseca Array** 31.39 288 P **P** 03 44 56.7 +0.5
comp=Z,2.1nm,0.9s,baz=76,slow=8.7,SNR=13
ESDC PcP **PcP** 03 47 51.0 +1.5
comp=Z,0.8nm,0.8s,baz=72,slow=2.2,SNR=5.4
ESDC LR LR 03 58 38.1
comp=Z,126nm,18.5s,baz=145,slow=38
MOR8 **Moi Rana** 32.09 344 *e*P **P** 03 45 02.8 +0.8
KONS **Konsvik** 32.67 343 *e*P **P** 03 45 08.0 +1.0
KTK1 **Kautokeino** 33.15 352 *e*P **P** 03 45 11.8 +0.7
KURBB **Kurchatov Arra** 33.29 52 P **P** 03 45 14.6 +2.0
comp=Z,8.0nm,0.9s,baz=267,slow=8.8,SNR=23
KURBB **Kurchatov Arra** 33.29 52 P **P** 03 45 13.9 +1.3
KURK **Kurchatov** 33.36 52 *ce*P **P** 03 45 14.2 +1.0
KURK pmax pmax
comp=Z,24nm,1.7s
KURK **Kurchatov** 33.36 52 P **P** 03 45 11.4 -1.9
KURK IAmb IAmb 03 45 20.3
comp=Z,14nm,1.1s
ARCES **ARCESS Array B** 33.41 353 P **P** 03 45 14.5 +1.0
comp=Z,9.1nm,0.8s,baz=162,slow=8.2,SNR=38
ARCES LR LR 04 00 18.1
comp=Z,78nm,18.4s,baz=218,slow=39
ARE0 **ARCESS Array S** 33.41 353 *e*P **P** 03 45 13.7 +0.2
STEI **Steigen** 33.41 346 *e*P **P** 03 45 15.0 +1.5
LOF **Lofoten** 33.93 345 *e*P **P** 03 45 19.3 +1.4
TRO **Tromso** 34.30 349 *e*P **P** 03 45 20.1 -1.0
MAKZ **Makanchi** 35.31 59 P **P** 03 45 27.1 -3.1
MAKZ IAmb IAmb 03 45 36.6
comp=Z,8.4nm,1.1s
MAKZ PP **PnPn** 03 46 41.9 -6.5
MK31 **Makanchi Array** 35.52 59 P **P** 03 45 33.5 +1.4
MKAR **Makanchi Array** 35.52 59 P **P** 03 45 34.0 +1.9
comp=Z,9.4nm,0.9s,baz=270,slow=7.2,SNR=31
MKAR LR LR 04 01 08.4
comp=Z,55nm,19.0s,baz=272,slow=38
MKAR **Makanchi Array** 35.52 59 *i* P **P** 03 45 34.0 +1.9
MKAR pmax pmax
comp=Z,10.0nm,0.9s
ZALV **Zalesovo Beam** 37.56 47 P **P** 03 45 50.4 +1.1
comp=Z,1.8nm,0.5s,baz=258,slow=9.4,SNR=7.8
ZALV LR LR 04 02 19.4
comp=Z,91nm,20.3s,baz=339,slow=38
ZALV **Zalesovo Beam** 37.56 47 *i* P **P** 03 45 49.9 +0.6
ZALV pmax pmax
comp=Z,2.0nm,0.5s
KMBO **Kilima Mbogo** 37.63 178 LR LR 04 01 12.5
comp=Z,47nm,21.9s,baz=301,slow=36
TOA0 **Torodi Ar. Sit** 38.63 242 P **P** 03 45 57.5 -1.2
TOA0 IAmb IAmb 03 46 07.9
comp=Z,12nm,1.1s
TORD **Torodi Ar. Bea** 38.63 242 P **P** 03 45 58.7 0.0
comp=Z,4.1nm,0.9s,baz=40,slow=7.7,SNR=18
TORD PcP **PcP** 03 48 11.9 +1.1
comp=Z,2.4nm,1.1s,baz=35,slow=4.1,SNR=3.4
TORD LR LR 04 05 22.3
comp=Z,47nm,18.3s,baz=40,slow=42
DGZ **Jazzator, Alta** 38.94 54 *i* P **P** 03 46 02.3 +1.1
DGZ pmax pmax
comp=Z,8.0nm,1.0s
WMQ **Urumqi** 39.54 63 *e*P **P** 03 46 08.4 +2.2
WMQ pP pP 03 46 12.6 +1.0
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ LR LR
comp=N,300nm,18.3s
WMQ LR LR
comp=E,200nm,16.1s
WMQ LR LR
comp=Z,200nm,16.1s
PYUN **Piuthan** 40.25 88 *e*P **P** 03 46 14.8 +2.4
comp=Z,19nm,0.7s
DANN **Dangsing** 40.77 88 *e*P **P** 03 46 19.0 +2.2
comp=Z,36nm,0.6s
KOLN **Koldanda** 40.88 88 *e*P **P** 03 46 19.9 +2.3
comp=Z,29nm,1.0s
PKIN **Phulchoki** 42.40 88 *e*P **P** 03 46 31.4 +1.2
comp=Z,23nm,0.8s
PKI **Pulchoki** 42.42 88 *e*P **P** 03 46 31.6 +1.3
comp=Z,45nm,1.2s

SPA0	**Spitsbergen Ar**	**42.43**	**354**	P	**P**	**03 46 28.2**	**-1.2**
SPA0				IAmb	IAmb	03 46 32.6	
	comp=Z,19nm,1.0s						
SPA0	**Spitsbergen Ar**	**42.43**	**354**	*e*P	**P**	**03 46 30.1**	**+0.6**
GUN	**Gumba**	**42.65**	**87**	*e*P	**P**	**03 46 34.2**	**+1.9**
	comp=Z,80nm,1.2s						
NRIK	**Noril'sk**	**42.82**	**24**	P	**P**	**03 46 35.1**	**+2.4**
	comp=Z,11nm,0.8s,baz=236,slow=6.2,SNR=16						
JIRN	**Jiri**	**43.01**	**87**	*e*P	**P**	**03 46 36.7**	**+1.5**
	comp=Z,35nm,0.9s						
KBS	**Kingsbay**	**43.49**	**353**	*e*P	**P**	**03 46 36.9**	**-1.2**
RAMN	**Ramite**	**43.64**	**88**	*e*P	**P**	**03 46 41.4**	**+1.2**
	comp=Z,44nm,1.0s						
ODAN	**Odare**	**44.31**	**88**	*e*P	**P**	**03 46 46.8**	**+1.2**
	comp=Z,67nm,1.3s						
DAG	**Danmarks Havn**	**46.70**	**345**	*i* P	**P**	**03 47 04.5**	**+1.0**
	comp=Z,10nm,1.2s						
DAG	**Danmarks Havn**	**46.70**	**345**	*i* P	**P**	**03 47 04.5**	**+1.0**
DAG				pmax	pmax		
	comp=Z,10.0nm,1.2s						
DBIC	**Dimbokro**	**47.74**	**241**	P	**P**	**03 47 12.6**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=331,slow=3.5,SNR=4.2						
DBIC	**Dimbokro**	**47.74**	**241**	P	**P**	**03 47 12.0**	**-0.4**
DBIC				pmax	pmax		
	comp=Z,17nm,1.4s						
DBIC	**Dimbokro**	**47.74**	**241**	P	**P**	**03 47 12.0**	**-0.4**
NOR	**Nord**	**48.71**	**351**	⇓*i* P	**P**	**03 47 19.4**	**+0.4**
	comp=Z,11nm,1.2s						
NOR	**Nord**	**48.71**	**351**	⇓*i* P	**P**	**03 47 19.4**	**+0.4**
NOR				pmax	pmax		
	comp=Z,11nm,1.2s						
TLY	**Talaya**	**49.01**	**50**	*i* P	**P**	**03 47 24.4**	**+2.6**
TLY				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ZAK	**Zakamensk**	**49.02**	**51**	*e*P	**P**	**03 47 24.2**	**+2.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA	**Gaotai**	**49.38**	**66**	P	**P**	**03 47 27.1**	**+2.1**
GTA				pP	pP	03 47 30.3	-0.2
GTA				sP	sP	03 47 33.2	+0.6
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,62nm,5.5s						
GTA				LR	LR		
	comp=N,85nm,17.4s						
GTA				LR	LR		
	comp=E,180nm,19.6s						
GTA				LR	LR		
	comp=Z,91nm,17.4s						
SUMG	**Summit**	**50.80**	**338**	*i* P	**P**	**03 47 36.2**	**+0.6**
SUMG	**Summit**	**50.80**	**338**	*i* P	**P**	**03 47 36.2**	**+0.6**
SONM	**Songino Array**	**51.59**	**54**	P	**P**	**03 47 43.6**	**+2.1**
	comp=Z,2.4nm,1.0s,baz=282,slow=5.9,SNR=7.9						
SONM				LR	LR	04 12 29.4	
	comp=Z,237nm,18.8s,baz=298,slow=39						
ULN	**Ulaanbaatar**	**52.01**	**54**	*ce*P	**P**	**03 47 45.9**	**+1.2**
ULN				pmax	pmax		
	comp=Z,15nm,1.7s						
LSZ	**Lusaka**	**52.20**	**190**	P	**P**	**03 47 43.3**	**-3.0**
LSZ				pmax	pmax		
	comp=Z,12nm,1.1s						
LSZ	**Lusaka**	**52.20**	**190**	P	**P**	**03 47 43.2**	**-3.0**
LSZ				IAmb	IAmb	03 47 49.9	
	comp=Z,12nm,1.1s						
LZH	**Lanzhou**	**53.52**	**69**	*e*P	**P**	**03 47 54.9**	**-1.2**
LZH				pP	pP	03 47 58.2	-3.5
LZH				sP	sP	03 48 02.6	-1.2
LZH				pmax	pmax		
	comp=Z,16nm,1.2s						
LZH				pmax	pmax		
	comp=Z,140nm,5.0s						
LZH				LR	LR		
	comp=N,140nm,15.0s						
LZH				LR	LR		
	comp=E,150nm,15.2s						
LZH				LR	LR		
	comp=Z,230nm,17.9s						
TIXI	**Tiksi**	**56.53**	**22**	*ce*P	**P**	**03 48 17.1**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,14nm,1.7s						
TIXI	**Tiksi**	**56.53**	**22**	P	**P**	**03 48 13.5**	**-3.5**
TIXI				IAmb	IAmb	03 48 28.1	
	comp=Z,7.7nm,0.9s						
HHC	**Hu-ho-hao-te**	**57.34**	**61**	P	**P**	**03 48 24.9**	**+1.5**
CMAR	**Chiang Mai Arr**	**57.70**	**90**	P	**P**	**03 48 27.1**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=297,slow=8.0,SNR=1.4						
CMAR				LR	LR	04 18 40.3	
	comp=Z,49nm,19.7s,baz=292,slow=42						
XAN	**Xi'an**	**58.16**	**69**	P	**P**	**03 48 30.7**	**+1.5**
XAN				pP	pP	03 48 34.5	-0.3
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HIA	**Hailar**	**59.54**	**49**	*i* P	**P**	**03 48 39.8**	**+1.3**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
GYA	**Guiyang**	**59.85**	**78**	P	P	03 48 46.8	+5.7
GYA				pP	PcP	03 49 15.8	-12
GYA				PP	PP	03 51 08.3	+15
GYA				S	**S**	**03 56 54.1**	**+2.0**
GYA	**Guiyang**	**59.85**	**78**	SS	SS	04 00 42.4	-5.8
GYA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
GYA				pmax	pmax		
	comp=Z,140nm,4.3s						
GYA				LR	LR		
	comp=N,120nm,3.8s						
GYA				LR	LR		
	comp=E,130nm,4.1s						
GYA				LR	LR		
	comp=Z,70nm,3.9s						
BJI	**Beijing**	**60.89**	**60**	P	**P**	**03 48 48.8**	**+1.0**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FRB	**Frobisher Bay**	**63.72**	**331**	LR	LR	04 20 08.2	
	comp=Z,52nm,18.2s,baz=314,slow=39						
RES	**Resolute Bay**	**64.31**	**347**	P	**P**	**03 49 11.3**	**+1.2**
	baz=58,slow=5.7						
RES	**Resolute Bay**	**64.31**	**347**	P	**P**	**03 49 07.0**	**-3.1**
RES				IAmb	IAmb	03 49 15.8	
	comp=Z,7.2nm,1.1s						
BOSA	**Boshof**	**65.73**	**190**	P	**P**	**03 49 21.8**	**+1.8**
	comp=Z,9.9nm,0.9s,baz=14,slow=9.2,SNR=7.7						
BOSA				LR	LR	04 18 39.8	
	comp=Z,92nm,19.5s,baz=32,slow=37						
BOSA	**Boshof**	**65.73**	**190**	P	**P**	**03 49 16.6**	**-3.4**
NJ2	**Nanjing**	**66.47**	**67**	*e*P	**P**	**03 49 23.4**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,13nm,0.7s						
PSI	**Prapat**	**66.77**	**105**	P	**P**	**03 49 23.8**	**-3.2**
PSI				pmax	pmax		
	comp=Z,15nm,1.1s						
RPSI	**Rantau Prapat**	**66.83**	**105**	P	**P**	**03 49 23.8**	**-3.5**
SCHQ	**Schefferville**	**67.56**	**322**	P	**P**	**03 49 30.9**	**-0.5**
	comp=Z,3.2nm,0.8s,baz=107,slow=4.1,SNR=5.3						
SCHQ				LR	LR	04 19 11.0	
	comp=Z,19nm,18.8s,baz=336,slow=36						
SCHQ	**Schefferville**	**67.56**	**322**	IAmb	IAmb	03 49 39.0	
	comp=Z,6.8nm,0.9s						
BILL	**Bilibino**	**69.17**	**18**	*e*P	**P**	**03 49 42.4**	**+1.2**
BILL				*e*		03 50 06.9	
BILL				*e*		03 52 15.2	
BILL				pmax	pmax		
	comp=Z,12nm,1.3s						
BILL				MLR	MLR		
	comp=Z,60nm,19.0s						
BILL	**Bilibino**	**69.17**	**18**	P	**P**	**03 49 39.5**	**-1.7**
USRK	**Ussuriysk Ar.**	**69.33**	**50**	P	**P**	**03 49 43.1**	**+0.5**
	comp=Z,1.5nm,0.6s,baz=251,slow=4.4,SNR=2.4						
MA2	**Magadan**	**70.08**	**29**	P	**P**	**03 49 48.8**	**+1.8**
	comp=Z,3.6nm,0.3s,baz=324,slow=19,SNR=1.7						
MA2	**Magadan**	**70.08**	**29**	*ce*P	**P**	**03 49 48.2**	**+1.2**
MA2				pmax	pmax		
	comp=Z,22nm,1.7s						
KSRS	**Korea Array**	**70.19**	**58**	P	**P**	**03 49 49.0**	**+1.0**
	comp=Z,3.1nm,0.7s,baz=286,slow=5.6,SNR=11						
D62A	**Allapoint, All**	**73.06**	**316**	P	**P**	**03 50 02.5**	**-2.6**
D62A				IAmb	IAmb	03 50 13.9	
	comp=Z,9.6nm,1.1s						
TOLK	**Toolik Lake Re**	**74.91**	**2**	IAmb	IAmb	03 50 18.9	
	comp=Z,10.0nm,1.0s						
INK	**Inuvik**	**75.04**	**356**	P	**P**	**03 50 17.0**	**+0.7**
	comp=Z,5.5nm,1.0s,baz=49,slow=6.4,SNR=5.0						
INK	**Inuvik**	**75.04**	**356**	P	**P**	**03 50 13.6**	**-2.7**
INK				pmax	pmax		
	comp=Z,7.0nm,1.1s						
INK	**Inuvik**	**75.04**	**356**	P	**P**	**03 50 13.6**	**-2.7**
INK				IAmb	IAmb	03 50 18.6	
	comp=Z,6.5nm,1.1s						
MOQ	**Mont Orford**	**75.90**	**316**	P	**P**	**03 50 17.9**	**-3.9**
FCC	**Fort Churchill**	**76.25**	**336**	P	**P**	**03 50 19.9**	**-3.4**
FCC				pmax	pmax		
	comp=Z,9.0nm,1.0s						
FCC	**Fort Churchill**	**76.25**	**336**	P	**P**	**03 50 19.9**	**-3.4**
FCC				IAmb	IAmb	03 50 25.4	
	comp=Z,9.0nm,1.0s						
COLD	**Coldfoot**	**76.31**	**2**	IAmb	IAmb	03 50 26.6	
	comp=Z,7.2nm,1.0s						
VLDQ	**Val d'Or**	**76.89**	**321**	IAmb	IAmb	03 50 29.0	
	comp=Z,5.6nm,0.9s						
FYU	**Fort Yukon**	**77.08**	**1**	IAmb	IAmb	03 50 30.7	
	comp=Z,12nm,1.1s						
MJAR	**Matsushiro Arr**	**77.54**	**54**	P	**P**	**03 50 32.0**	**+0.9**
	comp=Z,3.0nm,1.0s,baz=296,slow=5.5,SNR=8.4						
D53A	**Lac Vacive, Po**	**77.69**	**320**	IAmb	IAmb	03 50 33.3	
	comp=Z,13nm,1.2s						
YKA	**Yellowknife Ar**	**78.37**	**347**	P	**P**	**03 50 36.3**	**+1.1**
	comp=Z,5.4nm,1.0s,baz=29,slow=5.2,SNR=36						
COLA	**College**	**78.73**	**2**	*i* P	**P**	**03 50 38.0**	**+0.8**
COLA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
EGAK	**Eagle**	**78.85**	**359**	IAmb	IAmb	03 50 40.6	
	comp=Z,5.8nm,1.0s						
ILAR	**Eielson Array**	**78.86**	**1**	P	**P**	**03 50 39.4**	**+1.5**
	comp=Z,1.6nm,1.0s,baz=325,slow=4.2,SNR=11						
CCB	**Clear Creek Bu**	**78.96**	**2**	IAmb	IAmb	03 50 40.6	
	comp=Z,6.1nm,1.0s						
HDA	**Harding Lake**	**79.22**	**1**	IAmb	IAmb	03 50 41.7	
	comp=Z,7.0nm,1.0s						
BPAW	**Bear Paw Mtn.**	**79.40**	**3**	P	**P**	**03 50 37.6**	**-3.3**
BPAW				IAmb	IAmb	03 50 43.0	
	comp=Z,10nm,1.1s						
K58A	**Earlville**	**79.41**	**316**	IAmb	IAmb	03 50 51.5	
	comp=Z,12nm,1.1s						
L59A	**Walton**	**79.44**	**315**	P	**P**	**03 50 38.1**	**-3.5**
L59A				IAmb	IAmb	03 50 43.5	
	comp=Z,13nm,1.0s						
DAWY	**Dawson**	**79.53**	**358**	IAmb	IAmb	03 50 44.3	
	comp=Z,8.4nm,1.2s						
DOT	**Dot Lake**	**80.01**	**0**	P	**P**	**03 50 42.3**	**-1.9**
DOT				IAmb	IAmb	03 50 47.2	
	comp=Z,8.4nm,1.0s						
N59A	**State Game Lan**	**80.68**	**315**	IAmb	IAmb	03 50 50.1	
	comp=Z,14nm,1.2s						
L56A	**Greenwood**	**80.88**	**316**	P	**P**	**03 50 46.8**	**-2.6**
L56A				IAmb	IAmb	03 50 50.8	
	comp=Z,9.7nm,0.9s						
M57A	**Sunshine Farm,**	**81.17**	**316**	IAmb	IAmb	03 51 01.4	
	comp=Z,9.1nm,1.2s						
M56A	**Emporium**	**81.67**	**316**	IAmb	IAmb	03 51 01.8	
	comp=Z,17nm,1.4s						
SCM	**Sheep Creek Mo**	**81.80**	**2**	IAmb	IAmb	03 50 57.0	
	comp=Z,11nm,1.0s						
SSPA	**Standing Stone**	**82.07**	**315**	P	**P**	**03 50 52.4**	**-3.2**
SSPA				IAmb	IAmb	03 50 57.2	
	comp=Z,8.2nm,1.1s						
FFC	**Flin Flon**	**82.07**	**337**	P	**P**	**03 50 53.4**	**-1.9**
FFC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
FFC	**Flin Flon**	**82.07**	**337**	P	**P**	**03 50 53.4**	**-1.9**
FFC				IAmb	IAmb	03 50 57.2	
	comp=Z,5.4nm,0.9s						
HYT	**Haines Junctio**	**82.70**	**357**	IAmb	IAmb	03 51 01.5	
	comp=Z,7.3nm,1.1s						
E43A	**Lone Tree Farm**	**82.77**	**324**	IAmb	IAmb	03 51 09.6	
	comp=Z,4.9nm,0.8s						
ULM	**Lac du Bonnet**	**83.60**	**331**	P	**P**	**03 51 02.9**	**-0.5**
	comp=Z,6.5nm,0.7s,baz=73,slow=3.0,SNR=5.9						
EYMN	**Ely**	**83.61**	**328**	P	**P**	**03 51 00.3**	**-3.2**
EYMN				IAmb	IAmb	03 51 04.4	
	comp=Z,5.9nm,0.9s						
KDAK	**Kodiak Island**	**85.62**	**5**	P	**P**	**03 51 15.2**	**+1.8**
	comp=Z,3.8nm,0.7s,baz=284,slow=8.3,SNR=6.5						
F36A	**Milaca**	**86.11**	**327**	IAmb	IAmb	03 51 17.1	
	comp=Z,4.8nm,0.8s						
SPMN	**Marine on St.**	**86.29**	**327**	IAmb	IAmb	03 51 18.2	
	comp=Z,9.4nm,1.2s						
V53A	**Saluda**	**88.30**	**314**	IAmb	IAmb	03 51 28.5	
	comp=Z,6.0nm,1.1s						
T50A	**Nancy**	**88.47**	**317**	IAmb	IAmb	03 51 28.9	
	comp=Z,6.7nm,1.1s						
RSSD	**Black Hills**	**91.79**	**332**	P	**P**	**03 51 40.7**	**-2.6**
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.9s						
RSSD	**Black Hills**	**91.79**	**332**	P	**P**	**03 51 40.7**	**-2.6**
RSSD				IAmb	IAmb	03 51 45.0	
	comp=Z,3.8nm,0.9s						
BDFB	**Brasilia**	**94.52**	**254**	LR	LR	04 35 55.7	
	comp=Z,26nm,18.1s,baz=124,slow=36						
PDAR	**Pinedale Array**	**94.93**	**335**	P	**P**	**03 51 58.4**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=354,slow=4.5,SNR=3.9						
PDAR				LR	LR	04 35 44.3	
	comp=Z,38nm,18.9s,baz=38,slow=36						
TXAR	**Lajitas Array**	**104.20**	**324**	Pdiff	**Pdif**	**03 52 41.4**	**+1.9**
	comp=Z,0.2nm,0.8s,baz=2.9,slow=1.8,SNR=3.6						
PLCA	**Paso Flores**	**124.11**	**242**	PKP	**PKiKP**	**03 57 34.7**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=66,slow=8.1,SNR=4.0						

*IDC **09** 03:58:03.8±3.6, 1°.38S×136°.02E, h0km, mb3.4/2, mb1 3.7/3, mb1mx3.4/33, mbtmp3.5/3, ML3.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.6/25, Error ellipse: s-maj=156.5km s-min=29.9km az=80.0*

*DJA **09** 03:58:08.0±0.6, 1°.S±10°×13°.5E±°, h10km, M3.6/6, MLv3.6/6*

ISC 09 03:58:08.3±1.0, 1°.6S±0°.1×134°.94E±0°.05, h10km, n9, σ0^{s}56/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RKPI	**Ransiki, Papua**	**0.77**	**277**	P		**Pb**	**03 58 23.3**	**-0.6**
RKPI				S		**Sb**	**03 58 34.9**	**+0.5**
SRPI	**Serui, Papua**	**1.32**	**102**	P		**Pn**	**03 58 32.0**	**-0.9**
SRPI				S		**Sg**	**03 58 51.5**	**+0.6**
FAKI	**Fak Fak**	**2.99**	**244**	P		**Pn**	**03 58 56.0**	**+0.1**
SMPI	**Sarmi**	**3.78**	**96**	P		**Pn**	**03 59 07.2**	**+0.5**
PMG	**Port Moresby**	**14.41**	**123**	LR		LR	04 06 51.3	
	comp=Z,64nm,18.6s,baz=146,slow=39							
KRVT	**Keravat (AS076**	**17.27**	**99**	LR		LR	04 08 15.5	
	comp=Z,52nm,18.8s,baz=192,slow=38							
WRA	**Warramunga Arr**	**18.24**	**182**	P		**Pn**	**04 02 21.7**	**-0.1**
	0.2nm,0.3s,baz=4.0,slow=12,SNR=5.7							
ASAR	**Alice Springs**	**21.96**	**183**	P		**P**	**04 03 02.4**	**0.0**
	0.7nm,0.4s,baz=7.0,slow=12,SNR=16							
MKAR	**Makanchi Array**	**66.64**	**323**	P		**P**	**04 08 59.4**	**+0.2**
	0.1nm,0.5s,baz=106,slow=7.8,SNR=1.5							

*IDC **09** 04:04:34.2±1.0, 2°.19N×126°.49E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.7/39, mbtmp4.0/7, Error ellipse: s-maj=73.5km s-min=17.3km az=79.0*

*DJA **09** 04:04:39.2±4.8, 2°.N±5°×12°.7E±°, h26km±53km, M3.5/6, MLv3.5/6*

ISC 09 04:04:40.5±0.9, 2°.2N±0°.1×126°.7E±0°.1, h47km, n9, σ0^{s}64/9, mb4.0/6, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.58**	**154**	P		**Pn**	**04 05 05.8**	**-0.3**
KMSI	**Cibinong**	**3.14**	**239**	P		**Pn**	**04 05 27.4**	**0.0**
FITZ	**Fitzroy Crossi**	**20.19**	**183**	P		**P**	**04 09 11.3**	**-0.1**
	3.3nm,0.8s,baz=360,slow=14,SNR=7.1							
WRA	**Warramunga Arr**	**23.25**	**161**	P		**P**	**04 09 43.0**	**-1.0**
	1.1nm,0.5s,baz=339,slow=11,SNR=6.4							
ASAR	**Alice Springs**	**26.66**	**165**	P		**P**	**04 10 15.4**	**+0.3**
	0.6nm,0.5s,baz=347,slow=12,SNR=6.4							
KSRS	**Korea Array**	**35.10**	**2**	P		**P**	**04 11 29.5**	**+0.2**
	4.7nm,0.3s,baz=178,slow=9.5,SNR=2.6							
STKA	**Stephens Creek**	**36.73**	**159**	P		**P**	**04 11 44.3**	**+0.9**
	1.6nm,0.7s,baz=330,slow=9.4,SNR=3.6							
USRK	**Ussuriysk Ar.**	**42.09**	**6**	P		**P**	**04 12 28.1**	**+0.3**
	3.0nm,0.7s,baz=124,slow=6.4,SNR=5.6							
MKAR	**Makanchi Array**	**58.78**	**326**	P		**P**	**04 14 33.3**	**-0.6**
	0.3nm,0.3s,baz=119,slow=8.2,SNR=5.6							

IDC 09 04:08:35.0±2.9, 6°.43S×130°.19E, h94km±38km, mb3.5/1, mb1 3.5/5, mb1mx3.2/44, mbtmp3.7/5, Error ellipse: s-maj=73.5km s-min=22.2km az=89.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.62**	**11**	P		Pn	04 09 56.4	+0.2
	1.9nm,0.3s,baz=189,slow=23,SNR=20							
SIJI				S		Sn	04 10 53.4	-6.1
	7.3nm,0.3s,baz=33,slow=24,SNR=14							
FITZ	**Fitzroy Crossi**	**12.42**	**201**	P		Pn	04 11 28.0	-0.5
	0.2nm,0.3s,baz=33,slow=12,SNR=10							
FITZ				S		Sn	04 13 39.6	-5.5
	0.3nm,0.3s,baz=209,slow=3.9,SNR=3.2							
WRA	**Warramunga Arr**	**14.03**	**164**	P		Pn	04 11 48.8	-0.9
	0.1nm,0.3s,baz=348,slow=13,SNR=1.4							
WRA				S		Sn	04 14 12.3	-12
	0.3nm,0.3s,baz=334,slow=22,SNR=2.2							
ASAR	**Alice Springs**	**17.51**	**169**	P		Pn	04 12 34.0	+0.8
	0.2nm,0.3s,baz=348,slow=10,SNR=11							
MKAR	**Makanchi Array**	**67.85**	**327**	P		P	04 19 23.2	-0.1
	0.4nm,0.4s,baz=121,slow=8.0,SNR=6.8							

*NIED **09** 04:33:00, 46°.50N×153°.00E, h5km, Mw4.6 Best double couple: M0 8.35000×10^{15} NP1:φs239.00000°, δ86.00000°, λ135.00000°. NP2:φs333.00000°, δ45.00000°, λ5.00000°.*

*BJI **09** 04:33:14.8±0.0, 46°.30N×153°.15E, h6km, mB5.0/47, mb4.8/63, Ms4.5/48, Ms7 4.3/42*

*IDC **09** 04:33:16.1±0.6, 46°.30N×153°.13E, h0km, mb4.5/25, mb1 4.7/29, mb1mx4.5/49, mbtmp4.5/29, ML3.2/3, MS4.1/31, Ms1 4.1/31, ms1mx3.9/46, Error ellipse: s-maj=16.0km s-min=12.3km az=147.0*

*JMA **09** 04:33:18.3±0.7, 46°.50N×153°.02E, h30km, M4.7*

*MOS **09** 04:33:18.5±1.2, 46°.18N×153°.21E, h34km, mb5.0/54, MS4.5/11, Error ellipse: s-maj=6.4km s-min=4.9km az=103.7*

*UNK **09** 04:33:18.8, 46°.21N×153°.15E, h17km*

*SKHL **09** 04:33:18.1±0.9, 46°.04N×153°.45E, h34km±4km, mb5.0/3, Ms4.5/1*

*NEIC **09** 04:33:18.9±1.6, 46°.23N±0°.10×153°.1E±0°.1, h23km±5km, mb4.9/242, Error ellipse: s-maj=16.2km s-min=9.3km az=141.0*

*GCMT **09** 04:33:22.9±0.2, 46°.30N±0°.02×153°.30E±0°.03, h17km, MW4.9/111, Moment Tensor Solution. s43,c47; s111,c156; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr2.40±.13; Mθθ-1.14±.08; Mφφ-1.26±.08; Mrθ0.08±.22; Mrφ-1.25±.05; Mθφ0.81±.20; Best double couple: M0 2.55800×10^{16} NP1:φs234.00000°, δ39.00000°, λ107.00000°. NP2:φs33.00000°, δ53.00000°, λ77.00000°. Principal axes: T 2.5790, Plg77.0000°, Azm257.0000°; N -0.0430, Plg11.0000°, Azm41.0000°; P -2.5360, Plg8.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 04:33:19.0±0.9, 46°.18N±0°.05×153°.20E±0°.04, h24km±6km, n698, σ1^{s}40/618, mb4.9/226, MS4.4/56, 34C-25D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.85**	**258**	*e*P		**Pn**	**04 34 18.1**	**+1.4**
KUR				AMB		AMB	04 34 19.7	
	600nm,0.5s							
KUR				*e*S		**Sn**	**04 35 02.3**	**+1.1**
KUR				A		A	04 35 21.2	
	4μm,6.0s							
KUR				A		A	04 35 21.2	
	3μm,6.0s							
KUR				A		A	04 35 22.5	
	380nm,0.6s							
KUR				A		A	04 35 22.5	
	570nm,0.6s							
KUR				AMS		AMS	04 35 45.0	
	6μm,15.0s							
KUR				AMS		AMS	04 35 45.0	
	4μm,15.0s							
KUR				AMS		AMS	04 35 45.0	
	3μm,15.0s							
KUR	**Kuril'sk**	**3.85**	**258**	*e*PN		**Pn**	**04 34 17.5**	**+0.8**
KUR				*e*S		**Sn**	**04 35 02.3**	**+1.1**
KUR				pmax	pmax			
	comp=N,130nm,0.4s							
KUR				pmax	pmax			
	comp=Z,698nm,0.4s							
KUR				pmax	pmax			
	comp=E,84nm,0.2s							
KUR				smax	smax			
	comp=N,4μm,6.7s							
KUR				smax	smax			
	comp=E,3μm,5.3s							
KUR				smax	smax			
	comp=E,566nm,0.6s							
KUR				smax	smax			
	comp=N,384nm,0.8s							
SKR	**Severo-Kuril's**	**4.91**	**22**	*e*P		**Pn**	**04 34 31.8**	**+0.6**
SKR				AMB		AMB	04 34 33.0	
	comp=N,170nm,0.6s							
SKR				*e*S		**Sn**	**04 35 26.4**	**-0.8**
SKR				A		A	04 35 44.0	
	comp=N,410nm,0.6s							
SKR				A		A	04 35 44.0	
	comp=N,350nm,0.6s							
SKR				AMS		AMS	04 36 55.0	
	comp=N,2μm,13.0s							
SKR				AMS		AMS	04 36 55.0	
	comp=N,3μm,13.0s							
SKR				AMS		AMS	04 36 55.0	
	comp=N,1μm,13.0s							
SKR	**Severo-Kuril's**	**4.91**	**22**	*ce*PN		**Pn**	**04 34 29.8**	**-1.4**
YUK	**Yuzh-Kuril'sk**	**5.62**	**250**	*i* P		**Pn**	**04 34 41.9**	**+0.9**
YUK				AMB		AMB	04 34 45.0	
	comp=N,160nm,0.3s							
YUK				*e*S		**Sn**	**04 35 45.4**	**+0.7**
YUK				A		A	04 36 07.0	
	comp=N,610nm,0.7s							
YUK				A		A	04 36 07.0	
	comp=N,230nm,0.7s							
YUK				AMS		AMS	04 36 52.5	
	comp=N,4μm,15.0s							
YUK				AMS		AMS	04 36 52.5	
	comp=N,3μm,15.0s							
YUK				AMS		AMS	04 36 52.5	
	comp=N,2μm,15.0s							
YUK	**Yuzh-Kuril'sk**	**5.62**	**250**	⇑*i* PN		**Pn**	**04 34 41.8**	**+0.8**
YUK				*e*S		**Sn**	**04 35 48.5**	**+3.8**
YUK				pmax	pmax			
	comp=Z,155nm,0.2s							
YUK				smax	smax			
	comp=E,226nm,0.5s							
YUK				smax	smax			
	comp=N,605nm,0.7s							
GRPR	**Tuman**	**5.69**	**250**	*e*P		**Pn**	**04 34 42.5**	**+0.5**
GRPR				*e*S		**Sn**	**04 35 46.4**	**-0.2**
GRPR				A		A	04 35 54.0	
	comp=N,350nm,0.5s							
GRPR				A		A	04 35 54.0	
	comp=N,150nm,

comp=E,300nm,6.0s
YSS AMB AMB 04 35 08.4
comp=E,60nm,0.9s
YSS *e*S **Sn** **04 36 27.6 +3.0**
YSS AMS AMS 04 37 37.2
comp=E,2μm,15.0s
YSS AMS AMS 04 37 37.2
comp=E,1μm,15.0s
YSS AMS AMS 04 37 37.2
comp=E,2μm,15.0s
YSS Yuzh-Sakhalins 7.24 280⇑ *e*PN **Pn** **04 35 06.3 +3.1**
YSS 04 36 38.7
YSS pmax pmax
comp=Z,300nm,6.1s
YSS pmax pmax
comp=Z,60nm,0.9s
YSS MLR MLR
comp=E,1μm,17.0s
YSS Yuzh-Sakhalins 7.24 280 Pn **Pn** **04 35 01.9 -1.3**
JMP Maruseppu 7.29 256 P **Pn** **04 35 05.7 +1.7**
JAR Ashorobuto 7.30 250 P **Pn** **04 35 04.2 0.0**
PEA0B Petropavlovsk- 7.53 21 PN **Pn** **04 35 07.1 0.0**
PEA0B Petropavlovsk- 7.53 21 Pn **Pn** **04 35 07.1 0.0**
PETK Petropavlovsk- 7.53 21 Pn **Pn** **04 35 07.3 +0.2**
comp=E,2.8nm,0.3s,baz=184,slow=16,SNR=28
PETK LR LR 04 38 01.3
comp=E,558nm,21.0s,baz=239,slow=38
PET Petropavlovsk 7.71 25 *e*P **Pn** **04 35 10.4 +0.7**
PET AMB AMB 04 35 19.7
comp=E,70nm,1.0s
PET *e*S **Sn** **04 36 35.5 -0.6**
PET A A 04 37 02.7
comp=E,230nm,1.0s
PET A A 04 37 02.7
comp=E,170nm,1.0s
PET AMS AMS 04 37 51.0
comp=E,2μm,15.0s
PET AMS AMS 04 37 51.0
comp=E,1μm,15.0s
PET Petropavlovsk 7.71 25 *e*PN Pn 04 35 18.1 +8.4
PET *e*S Sb 04 36 49.7 -14
PET MLR MLR
comp=Z,1μm,15.0s
PET MLR MLR
comp=Z,1μm,14.0s
JKK2 Kamakawa 2 7.75 256 P **Pn** **04 35 11.8 +1.5**
JKA Kamikawa-asahi 7.77 258 *e*P **Pn** **04 35 12.6 +2.1**
JKA Kamikawa-asahi 7.77 258 **Pn** **04 35 12.6 +2.1**
ASAJ Asahikawa 7.77 258 Pn **Pn** **04 35 12.6 +2.0**
comp=Z,2.4nm,0.3s,baz=107,slow=16,SNR=7.7
ASAJ LR LR 04 38 14.8
comp=Z,890nm,18.8s,baz=56,slow=38
JCH Churui 7.89 247 P **Pn** **04 35 11.0 -1.2**
UGL Uglegorsk 8.06 295 *e*P **Pn** **04 35 18.3 +3.9**
UGL AMB AMB 04 35 23.0
comp=Z,140nm,0.9s
UGL *e*S **Sn** **04 36 47.6 +2.9**
UGL AMS AMS 04 40 19.0
UGL comp=Z,1μm,11.0s AMS AMS 04 40 19.0
UGL comp=Z,1μm,11.0s AMS AMS 04 40 19.0
comp=Z,1μm,11.0s
UGL Uglegorsk 8.06 295 *e*PN Pn 04 35 19.3 +4.9
UGL S **Sn** **04 36 50.9 +6.2**
UGL pmax pmax
comp=Z,144nm,0.9s
UGL MLR MLR
comp=Z,1μm,13.0s
UGL MLR MLR
comp=N,1μm,11.0s
UGL MLR MLR
comp=E,1μm,11.0s
ERM Erimo 8.34 244 *i* PN **Pn** **04 35 18.8 +0.5**
ERM Erimo 8.34 244 Pn **Pn** **04 35 19.0 +0.7**
ERM Sn **Sn** **04 36 51.0 -0.6**
TYV Tymovskoe 8.42 308 *e*P **Pn** **04 35 23.0 +3.6**
TYV AMB AMB 04 35 25.0
comp=E,300nm,4.0s
TYV AMB AMB 04 35 25.0
comp=E,30nm,0.5s
TYV *e*S **Sn** **04 36 57.1 +3.5**
TYV A A 04 37 06.0
comp=E,20nm,0.5s
TYV AMS AMS 04 38 35.2
comp=E,1μm,15.0s
TYV AMS AMS 04 38 35.2
comp=E,3μm,15.0s
TYV AMS AMS 04 38 35.2
comp=E,3μm,15.0s
TYV Tymovskoe 8.42 308 *e*PN **Pn** **04 35 23.5 +4.1**
TYV *e*S Sn 04 37 05.4 +12
TYV pmax pmax
comp=Z,300nm,3.5s
TYV pmax pmax
comp=Z,29nm,0.8s
TYV smax smax
comp=E,22nm,0.9s
JNBK Urakawa-nobuka 8.45 246 P **Pn** **04 35 18.2 -1.7**
JBT2 Biratori 2 8.46 250 P **Pn** **04 35 20.1 +0.1**
JNB Noboribetsu 9.47 251 *e*S **Sn** **04 37 15.7 -3.7**
JKB Kayabe 9.75 248 *e*S **Sn** **04 37 18.8 -7.6**
OKH Okha 9.91 322 *i* P **Pn** **04 35 43.0 +3.2**
OKH AMB AMB 04 35 48.8
comp=E,200nm,8.0s
OKH *e*S **Sn** **04 37 33.0 +2.9**
OKH AMS AMS 04 39 55.7
comp=E,2μm,16.0s
OKH AMS AMS 04 39 55.7
comp=E,2μm,16.0s
OKH Okha 9.91 322 *c i* PN **Pn** **04 35 43.8 +4.0**
OKH pmax pmax
comp=Z,300nm,7.7s
OKH MLR MLR
comp=N,2μm,16.0s
OKH MLR MLR
comp=Z,2μm,15.0s
JTM Tenmabayashi 10.33 243 *e*S Sn 04 37 30.3 -10
NKL Nikolayevsk 10.69 315 *e*P **Pn** **04 35 53.3 +2.9**
NKL AMB AMB 04 35 57.1
comp=Z,20nm,1.0s
NKL AMS AMS 04 40 45.2
comp=Z,1μm,16.0s
NKL AMS AMS 04 40 45.2
comp=Z,710nm,16.0s
NKL AMS AMS 04 40 45.2
comp=Z,2μm,16.0s
NKL Nikolayevsk 10.69 315 *e*PN **Pn** **04 35 54.7 +4.2**
NKL pmax pmax
comp=N,2.0nm,1.0s
NKL pmax pmax
comp=Z,37nm,1.3s
NKL pmax pmax
comp=E,3.0nm,0.9s
OFUJ Ofunato 11.06 234 *e*S Sn 04 37 47.0 -11
JRG Rokugo 11.44 238 *e*S **Sn** **04 37 59.4 -8.5**
GRNR Gornyy 12.04 299 *i* P **Pn** **04 36 12.2 +3.3**
GRNR AMB AMB 04 36 15.4
comp=E,10.0nm,1.0s
GRNR AMS AMS 04 41 00.0
comp=E,300nm,17.0s
GRNR AMS AMS 04 41 00.0
comp=E,700nm,17.0s
GRNR AMS AMS 04 41 00.0
comp=E,1μm,17.0s
GRNR Gornyy 12.04 299⇓ *i* PN Pn 04 36 14.4 +5.5
GRNR *e*S Sn 04 38 36.9 +15
GRNR pmax pmax
comp=E,10.0nm,1.1s
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR smax smax
comp=E,4.0nm,0.7s
GRNR MLR MLR
comp=N,250nm,17.0s
GRNR MLR MLR
comp=E,740nm,17.0s
GRNR MLR MLR
comp=Z,1μm,16.0s
MA2 Magadan 13.50 355 Pn **Pn** **04 36 30.0 +1.2**
comp=Z,1.8nm,0.3s,baz=165,slow=7.9,SNR=6.1
MA2 LR LR 04 41 57.7
comp=Z,722nm,18.5s,baz=176,slow=39
MA2 Magadan 13.50 355 *e*P **Pn** **04 36 27.9 -0.9**
MA2 Magadan 13.50 355 *ce*P **Pn** **04 36 27.9 -0.9**
MA2 pmax pmax
comp=Z,12nm,0.7s
MA2 Magadan 13.50 355 Pn **Pn** **04 36 28.8 0.0**
MAJO Matsushiro 14.79 235 P **Pn** **04 36 43.0 -3.6**
MAJO Matsushiro 14.79 235 Pn **Pn** **04 36 43.0 -3.6**
MAJO **P** **04 36 47.6 -4.7**
MAT Matsushiro 14.79 235 P **Pn** **04 36 47.1 +0.5**
MAT S **Sn** **04 39 32.2 +2.6**
MJAR Matsushiro Arr 14.79 235 Pn **Pn** **04 36 46.9 +0.3**
comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=10
MJB9 Matsu-Tunnel 14.79 235 **Pn** **04 36 43.4 -3.2**
MJB9 P **P** **04 36 47.6 -4.6**
EKMR Ekimchan 14.79 305 *e*P **Pn** **04 36 48.0 +1.5**
EKMR AMB AMB 04 37 12.2
comp=Z,20nm,0.8s
USA0B Ussuriysk Arra 15.08 270 *i* P **Pn** **04 36 49.8 -0.6**
USA0B Ussuriysk Arra 15.08 270 Pn **Pn** **04 36 48.4 -2.1**
USRK Ussuriysk Ar. 15.08 270 Pn **Pn** **04 36 50.5 0.0**
baz=78,slow=12,SNR=14
USRK LR LR 04 42 32.8
comp=Z,440nm,19.5s,baz=67,slow=37
INU Inuyama 16.32 234 Pn **Pn** **04 37 05.2 -1.3**
JHJ Hachijo jima 2 16.61 223 LR LR 04 47 55.5
comp=Z,165nm,18.3s,baz=81,slow=53
MDJ Mudanjiang 16.64 273 P **P** **04 37 11.8 -1.0**
MDJ pmax pmax
comp=Z,33nm,0.9s
MDJ LR LR
comp=Z,200nm,9.9s
MDJ LR LR
comp=Z,770nm,17.7s
MDJ LR LR
comp=Z,1μm,17.3s
MDJ Mudanjiang 16.64 273 Pn **Pn** **04 37 10.0 -0.5**
BMKR Bomnak 17.63 308 *e*P **Pn** **04 37 22.5 -0.3**
BMKR AMB AMB 04 37 34.0
comp=Z,10.0nm,0.5s
ZEA Zeya 18.25 304 *e*P **P** **04 37 31.8 +1.3**
ZEA AMB AMB 04 37 32.4
comp=Z,40nm,2.0s
ZEA AMB AMB 04 37 37.0
comp=Z,400nm,6.0s
ZEA AMB AMB 04 37 37.0
comp=Z,500nm,6.0s
ZEA AMS AMS 04 44 54.0
comp=Z,500nm,17.0s
ZEA AMS AMS 04 44 54.0
comp=Z,700nm,17.0s
ZEA AMS AMS 04 44 54.0
comp=Z,1μm,17.0s
ZEA Zeya 18.25 304 *e*P **P** **04 37 31.2 +0.7**
ZEA pmax pmax
comp=Z,42nm,1.6s
ZEA pmax pmax
comp=E,400nm,6.0s
ZEA pmax pmax
comp=Z,500nm,6.0s
ZEA MLR MLR
comp=Z,1μm,16.0s
ZEA MLR MLR
comp=E,700nm,15.0s
ZEA MLR MLR
comp=N,500nm,17.0s
KROS Kirovskiy 18.59 306 *e*P **Pn** **04 37 36.3 +1.7**
KROS AMB AMB 04 37 38.1
comp=N,8.0nm,0.5s
KSRS Korea Array 20.69 254 P Pn 04 37 58.4 -1.2
comp=N,8.4nm,0.4s,baz=58,slow=11,SNR=23
KSRS LR LR 04 44 56.2
comp=N,314nm,20.8s,baz=66,slow=34
KS19 Wonju Array Si 20.70 254 P **P** **04 37 55.5 -1.8**
YAK Yakutsk 20.84 328 P **P** **04 37 58.8 +0.2**
comp=N,20nm,0.6s,baz=113,slow=2.3,SNR=5.8
YAK LR LR 04 46 16.6
comp=N,455nm,18.0s,baz=136,slow=38
YAK Yakutsk 20.84 328 *e*P **P** **04 37 58.8 +0.2**
YAK *e* 04 38 15.5
YAK *e*PPP PPP 04 38 22.9
YAK *e*S **S** **04 41 46.5 -3.1**
YAK *e*SS **SnSn** **04 42 04.6 -5.5**
YAK *e*SSS SSS 04 42 20.8
YAK pmax pmax
comp=Z,28nm,0.8s
YAK pmax pmax
comp=N,14nm,1.2s
YAK pmax pmax
comp=E,14nm,1.3s
YAK smax smax
comp=E,49nm,2.2s
YAK smax smax
comp=N,12nm,1.3s
YAK MLR MLR
comp=Z,545nm,18.0s
YAK MLR MLR
comp=N,497nm,17.0s
YAK MLR MLR
comp=E,234nm,14.0s
YAK Yakutsk 20.84 328 P **P** **04 37 58.2 -0.3**
YAK IAmb IAmb 04 38 08.8
comp=Z,39nm,0.6s
JNU Nakatsue 21.48 240 P **P** **04 38 07.0 +1.2**
comp=Z,9.2nm,0.8s,baz=56,slow=9.9,SNR=6.8
JNU Nakatsue 21.48 240 P **P** **04 38 04.1 -1.8**
INCN Inchon 21.54 256 P **P** **04 38 04.9 -1.5**
INCN pmax pmax
comp=Z,27nm,1.0s
INCN Inchon 21.54 256 P **P** **04 38 04.9 -1.5**
TJN Taejon 21.66 252 *ce*P **P** **04 38 07.6 -0.1**
BILL Bilibino 22.94 13 *e*P **P** **04 38 20.9 -0.1**
BILL Bilibino 22.94 13 *e*P **P** **04 38 20.9 -0.1**
BILL *e*PPP PPP 04 38 53.7
BILL pmax pmax
comp=Z,45nm,2.5s
BILL Bilibino 22.94 13 P **P** **04 38 20.1 -0.9**
BOD Bodaibo 26.40 310 *e*P **P** **04 38 51.6 -1.7**
BOD pmax pmax
comp=Z,19nm,1.4s
BJI Beijing 27.53 271 P **P** **04 39 04.0 +0.3**
BJI S **S** **04 43 36.9 -6.4**
BJI pmax pmax
comp=Z,4.0nm,1.0s
BJI LR LR
comp=Z,160nm,21.4s
BJI LR LR
comp=Z,480nm,17.9s
BJI LR LR
comp=Z,340nm,26.7s
BJT Baijiatuau 27.55 271 P **P** **04 39 02.4 -1.4**
BJT pmax pmax
comp=Z,13nm,1.0s
BJT Baijiatuau 27.55 271 P **P** **04 39 02.4 -1.4**
TIXI Tiksi 28.03 344 P **P** **04 39 06.3 -1.5**
comp=Z,1.1nm,0.3s,baz=128,slow=9.5,SNR=6.6
TIXI LR LR 04 51 21.6
comp=Z,481nm,18.6s,baz=144,slow=39
TIXI Tiksi 28.03 344 *ce*P **P** **04 39 06.3 -1.5**
TIXI pmax pmax
comp=Z,10.0nm,1.7s
TIXI Tiksi 28.03 344 P **P** **04 39 06.6 -1.2**
TIXI PcP **PcP** **04 42 19.5 -2.3**
H11N2 WAKE ISLAND Hy 28.69 152 T T 05 11 03.0
baz=340,slow=75,SNR=57
H11N1 WAKE ISLAND Hy 28.70 152 T T 05 10 53.1
baz=340,slow=75,SNR=32
H11N3 WAKE ISLAND Hy 28.70 152 T T 05 11 05.9
baz=340,slow=75,SNR=32
H11S1 WAKE ISLAND Hy 29.77 153 T T 05 12 28.4
baz=341,slow=76,SNR=62
H11S3 WAKE ISLAND Hy 29.78 154 T T 05 12 35.0
baz=341,slow=76,SNR=52
H11S2 WAKE ISLAND Hy 29.79 153 T T 05 12 29.6
baz=341,slow=76,SNR=71
NJ2 Nanjing 29.89 254 *e*P **P** **04 39 26.0 +1.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
HHC Hu-ho-hao-te 30.40 275 P **P** **04 39 31.0 +1.7**
HHC pmax pmax
comp=Z,21nm,0.7s
HHC pmax pmax
comp=Z,42nm,4.5s
HHC LR LR
comp=Z,240nm,14.9s
HHC LR LR
comp=Z,240nm,14.9s
ULN Ulaanbaatar 31.14 290 *e*P **P** **04 39 36.0 +0.2**
ULN Ulaanbaatar 31.14 290 *ce*P **P** **04 39 35.1 -0.7**
ULN pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 31.14 290 P **P** **04 39 34.1 -1.7**
TIY Taiyuan 31.19 269 *e*P **P** **04 39 38.9 +2.7**
TIY S **S** **04 44 41.5 +0.6**
TIY pmax pmax
comp=Z,19nm,0.6s
TIY pmax pmax
comp=Z,170nm,3.5s
TIY LR LR
comp=Z,390nm,20.9s
TIY LR LR
comp=Z,190nm,10.6s
TIY LR LR
comp=Z,340nm,21.3s
SONM Songino Array 31.58 290 P **P** **04 39 39.0 -0.7**
comp=Z,2.0nm,0.8s,baz=78,slow=8.7,SNR=9.7
SONM PcP **PcP** **04 42 31.8 +0.2**
comp=Z,1.9nm,0.8s,baz=83,slow=2.1,SNR=6.0
SONM LR LR 04 54 50.4
comp=Z,326nm,19.4s,baz=68,slow=41
SONM Songino Array 31.58 290 P **P** **04 39 39.0 -0.7**
TLY Talaya 32.50 298 LR LR 04 53 53.7
comp=Z,697nm,18.2s,baz=76,slow=38
TLY Talaya 32.50 298 *e*P **P** **04 39 47.6 +0.1**
TLY 04 50 14.0
TLY pmax pmax
comp=Z,9.0nm,0.5s
TLY MLR MLR
comp=Z,2μm,18.0s
TTA Tatalina 32.81 41 P **P** **04 39 48.7 -1.5**
TTA pmax pmax
comp=Z,14nm,1.1s
TTA Tatalina 32.81 41 P **P** **04 39 48.7 -1.5**
TTA IAmb IAmb 04 39 52.5
comp=Z,14nm,1.1s
SVW2 Sparrevohn 32.86 44 P **P** **04 39 50.1 -0.5**
SVW2 IAmb IAmb 04 39 53.4
comp=Z,13nm,1.2s
ZAK Zakamensk 32.98 296 *e*P **P** **04 39 50.9 -0.9**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
WHN Wuhan 33.85 256⇓ P **P** **04 40 00.4 +1.0**
RSO Redoubt South 34.23 45 P **P** **04 40 03.4 +0.7**
BPAW Bear Paw Mtn. 35.16 39 P **P** **04 40 10.4 -0.1**
BPAW IAmb IAmb 04 40 13.0
comp=Z,14nm,1.0s
TRF Thorofare Moun 35.44 40 IAmb IAmb 04 40 16.3
comp=Z,12nm,1.0s
XAN Xi'an 35.53 266 P **P** **04 40 15.1 +1.1**
XAN pP sP 04 40 22.6 0.0
XAN pmax pmax
comp=Z,13nm,0.9s
XAN pmax pmax
comp=Z,100nm,5.2s
XAN LR LR
comp=Z,260nm,15.2s
XAN LR LR
comp=Z,310nm,14.0s
XAN LR LR
comp=Z,360nm,16.3s
XAN Xi'an 35.53 266 IAmb IAmb 04 40 23.1
comp=Z,12nm,0.9s
MCK McKinley 36.05 40 IAmb IAmb 04 40 20.1
comp=Z,18nm,1.0s
RND Reindeer 36.08 40 P **P** **04 40 18.0 -0.5**
RND pmax pmax
comp=Z,24nm,1.1s
RND Reindeer 36.08 40 P **P** **04 40 18.0 -0.5**
RND IAmb IAmb 04 40 20.1
comp=Z,24nm,1.1s
TOLK Toolik Lake Re 36.20 31 P **P** **04 40 20.1 +0.7**
baz=262,SNR=13
TOLK Toolik Lake Re 36.20 31 IAmb IAmb 04 40 21.9
comp=Z,25nm,1.3s
KNK Knik Glacier 36.30 44 IAmb IAmb 04 40 22.1
comp=Z,26nm,1.0s
TCOL CIGO, UAF Yank 36.55 38 P **P** **04 40 23.5 +1.2**
baz=268
COLA College 36.55 38 *i* P **P** **04 40 20.1 -2.2**
COLA pmax pmax
comp=Z,20nm,1.0s
COLA College 36.55 38 P **P** **04 40 23.1 +0.7**
COLA IAmb IAmb 04 40 24.8
comp=Z,24nm,0.9s
POKR Poker Plat Res 36.73 37 P **P** **04 40 25.1 +1.1**
baz=268
DHY Denali Highway 36.75 41 IAmb IAmb 04 40 26.0
comp=Z,15nm,1.0s
SCM Sheep Creek Mo 36.82 43 IAmb IAmb 04 40 46.1
comp=Z,14nm,0.9s
HDA Harding Lake 36.93 39 P **P** **04 40 26.0 +0.4**
baz=270
IL31 36.96 38 IAmb IAmb 04 40 29.0
comp=Z,18nm,1.2s
ILAR Eielson Array 36.96 38 P **P** **04 40 26.1 +0.2**
comp=Z,15nm,1.2s,baz=258,slow=6.8,SNR=47
ILAR LR LR 04 59 12.0
comp=Z,111nm,18.6s,baz=302,slow=42
GLI Glacier Island 36.99 45 IAmb IAmb 04 40 41.8
comp=Z,14nm,0.7s
FID Port Fidalgo 37.30 45 IAmb IAmb 04 40 30.3
comp=Z,27nm,1.3s
ENH Enshi 37.32 260 IAmb IAmb 04 40 30.7
comp=Z,19nm,1.0s
LZH Lanzhou 37.97 273⇓ P **P** **04 40 37.1 +2.2**
LZH pP sP 04 40 42.7 -0.8
LZH sP pwP 04 40 46.2 +0.1
LZH pmax pmax
comp=Z,84nm,1.3s
LZH pmax pmax
comp=Z,170nm,4.3s
LZH LR LR
comp=Z,340nm,13.6s
LZH LR LR
comp=Z,370nm,16.8s
LZH LR LR
comp=Z,350nm,17.3s
WAX Waxell Ridge 39.12 45 IAmb IAmb 04 41 01.4
comp=Z,24nm,0.8s
GTA Gaotai 39.12 280⇓ P **P** **04 40 46.0 +1.5**
GTA pP pP 04 40 51.0 +0.4
GTA sP pwP 04 40 54.4 -1.3
GTA pmax pmax
comp=Z,26nm,1.2s
GTA pmax pmax
comp=Z,84nm,6.0s
GTA LR LR
comp=Z,330nm,18.3s
GTA LR LR
comp=Z,320nm,20.0s
GTA LR LR
comp=Z,210nm,16.6s
NRIK Noril'sk 39.28 329 P **P** **04 40 44.5 -0.9**
comp=Z,3.0nm,0.6s,baz=103,slow=11,SNR=11
NRIK LR LR 04 57 47.4
comp=Z,140nm,20.2s,baz=80,slow=38
EGAK Eagle 39.41 38 IAmb IAmb 04 40 48.2
comp=Z,24nm,1.1s
BARN Barnard Glacie 39.61 44 IAmb IAmb 04 40 51.3
comp=Z,21nm,1.0s
YAH Yahtse 39.67 45 IAmb IAmb 04 40 52.0
comp=Z,20nm,0.9s
CTGM Chitina Glacie 39.78 44 IAmb IAmb 04 40 52.5
comp=Z,21nm,0.9s
DAWY Dawson 40.25 39 P **P** **04 40 53.0 -0.5**
CD2 Chengdu 40.89 266 P **P** **04 40 59.0 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
EPYK Eagle Plains 41.10 35 P **P** **04 41 01.7 +1.2**
baz=276
EPYK Eagle Plains 41.10 35 IAmb IAmb 04 41 03.3
comp=Z,29nm,1.1s
GYA Guiyang 41.65 258⇓ *i* P **P** **04 41 06.6 +1.0**
GYA S **S** **04 47 23.4 +2.6**
GYA pmax pmax
comp=Z,30nm,1.0s
GYA pmax pmax
comp=Z,80nm,3.5s
GYA LR LR
comp=Z,180nm,3.8s
GYA LR LR
comp=Z,100nm,3.8s
GYA LR LR
comp=Z,130nm,3.8s
INK Inuvik 42.10 32 P **P** **04 41 09.8 +1.2**
INK pmax pmax
comp=Z,20nm,1.1s

INK	**Inuvik**	**42.10**	**32**	P	**P**	**04 41 09.8**	**+1.2**
INK				IAmb	IAmb	04 41 11.3	
	comp=Z,20nm,1.1s						
DGZ	**Jazzator, Alta**	**42.93**	**300**	*i* P	**P**	**04 41 15.8**	**0.0**
DGZ				pmax	pmax		
	comp=Z,7.0nm,1.1s						
WHY	**Whitehorse**	**42.94**	**43**	P	**P**	**04 41 16.4**	**+0.8**
ZALV	**Zalesovo Beam**	**42.99**	**306**	P	**P**	**04 41 14.7**	**-1.3**
	comp=Z,4.1nm,0.6s,baz=72,slow=9.5,SNR=4.2						
ZALV				PcP	**PcP**	**04 43 06.4**	**+0.4**
	comp=Z,1.6nm,0.5s,baz=64,slow=3.4,SNR=3.5						
ZALV				LR	LR	05 00 16.1	
	comp=Z,862nm,18.3s,baz=66,slow=38						
A36M	**Sachs Harbour**	**44.34**	**26**	P	**P**	**04 41 27.9**	**+1.3**
	baz=280,SNR=8.4						
QIZ	**Qiongzhong**	**44.68**	**247**	P	**P**	**04 41 30.7**	**+0.7**
QIZ				S	**S**	**04 48 07.2**	**+2.1**
QIZ				LR	LR		
	comp=Z,210nm,14.7s						
QIZ				LR	LR		
	comp=Z,160nm,15.8s						
QIZ				LR	LR		
	comp=Z,140nm,15.4s						
WMQ	**Urumqi**	**45.19**	**292**	*e*P	**P**	**04 41 36.2**	**+2.3**
WMQ				LR	LR		
	comp=Z,350nm,14.7s						
WMQ				LR	LR		
	comp=Z,250nm,14.7s						
WMQ				LR	LR		
	comp=Z,310nm,13.5s						
KMI	**Kunming**	**45.20**	**260**	P	**P**	**04 41 35.5**	**+1.2**
KMI				pP	pP	04 41 38.6	-1.4
KMI				sP	sP	04 41 41.9	-0.4
KMI				PP	**PP**	**04 43 20.3**	**+0.2**
KMI				S	**S**	**04 48 13.8**	**+0.8**
KMI				pmax	pmax		
	comp=Z,16nm,1.4s						
KMI				pmax	pmax		
	comp=Z,150nm,7.0s						
KMI				LR	LR		
	comp=Z,180nm,21.7s						
KMI				LR	LR		
	comp=Z,120nm,15.9s						
KMI				LR	LR		
	comp=Z,160nm,16.7s						
C36M	**Paulatuk**	**45.28**	**30**	P	**P**	**04 41 35.0**	**+0.8**
	baz=284						
C36M	**Paulatuk**	**45.28**	**30**	P	**P**	**04 41 35.3**	**+1.1**
DLBC	**Dease Lake**	**45.95**	**45**	IAmb	IAmb	04 41 43.6	
	comp=Z,16nm,1.1s						
SLVN	**Son La**	**46.95**	**255**	P	**P**	**04 41 48.2**	**+0.2**
MK31	**Makanchi Array**	**47.26**	**298**	*i* P	**P**	**04 41 49.2**	**-0.8**
MK31				pmax	pmax		
	comp=Z,21nm,1.0s						
MK31	**Makanchi Array**	**47.26**	**298**	IAmb	IAmb	04 41 51.0	
	comp=Z,15nm,1.0s						
MKAR	**Makanchi Array**	**47.26**	**298**	P	**P**	**04 41 49.2**	**-0.9**
	comp=Z,12nm,0.8s,baz=69,slow=7.7,SNR=61						
MKAR				LR	LR	05 02 49.5	
	comp=Z,643nm,18.2s,baz=65,slow=38						
MAKZ	**Makanchi**	**47.44**	**298**	P	**P**	**04 41 51.3**	**-0.2**
MAKZ				pmax	pmax		
	comp=Z,15nm,1.1s						
MAKZ	**Makanchi**	**47.44**	**298**	P	**P**	**04 41 51.3**	**-0.2**
MAKZ				IAmb	IAmb	04 41 52.0	
	comp=Z,15nm,1.1s						
KURK	**Kurchatov**	**47.73**	**304**	*ce*P	**P**	**04 41 52.1**	**-1.5**
KURK				pmax	pmax		
	comp=Z,35nm,1.3s						
KURK	**Kurchatov**	**47.73**	**304**	P	**P**	**04 41 53.0**	**-0.6**
KURBB	**Kurchatov Arra**	**47.82**	**304**	P	**P**	**04 41 52.6**	**-1.7**
JAY	**Jayapura**	**49.73**	**196**	LR	LR	05 01 39.5	
	comp=Z,24nm,20.1s,baz=24,slow=34						
BRVK	**Borovoye**	**51.31**	**310**	P	**P**	**04 42 20.0**	**-0.9**
BRVK	**Borovoye**	**51.31**	**310**	P	**P**	**04 42 20.7**	**-0.2**
BRVK				IAmb	IAmb	04 42 21.3	
	comp=Z,19nm,1.1s						
BRVK				PcP	**PcP**	**04 43 36.0**	**+0.5**
YKA	**Yellowknife Ar**	**51.35**	**36**	P	**P**	**04 42 21.7**	**+0.7**
	comp=Z,8.0nm,0.9s,baz=294,slow=7.0,SNR=45						
YKA				PcP	**PcP**	**04 43 36.4**	**+0.9**
	comp=Z,1.6nm,1.0s,baz=292,slow=3.8,SNR=4.3						
CHTO	**Chiang Mai**	**52.05**	**257**	P	**P**	**04 42 26.6**	**-0.2**
CHTO				pmax	pmax		
	comp=Z,15nm,1.1s						
CHTO	**Chiang Mai**	**52.05**	**257**	P	**P**	**04 42 26.6**	**-0.2**
CHTO				IAmb	IAmb	04 42 29.4	
	comp=Z,15nm,1.1s						
CMAR	**Chiang Mai Arr**	**52.29**	**257**	P	**P**	**04 42 30.4**	**+1.8**
	comp=Z,2.0nm,0.4s,baz=37,slow=7.5,SNR=11						
CMAR				LR	LR	05 07 36.5	
	comp=Z,76nm,18.4s,baz=45,slow=39						
NOR	**Nord**	**52.35**	**358**	*i* P	**P**	**04 42 28.0**	**-0.3**
	comp=Z,18nm,1.5s						
NOR	**Nord**	**52.35**	**358**	*i* P	**P**	**04 42 28.0**	**-0.3**
NOR				pmax	pmax		
	comp=Z,18nm,1.5s						
KDJ	**Kajisay**	**52.73**	**295**	IAmb	IAmb	04 42 33.8	
	comp=Z,12nm,0.8s						
ULHL	**Ulahol**	**53.26**	**295**	P	**P**	**04 42 36.6**	**+0.8**
	SNR=6.8						
TKM2	**Tokmak 2**	**53.30**	**297**	P	**P**	**04 42 37.0**	**+1.0**
	SNR=7.4						
TKM2	**Tokmak 2**	**53.30**	**297**	P	**P**	**04 42 36.3**	**+0.2**
BOOM	**Boomskoye usch**	**53.32**	**296**	IAmb	IAmb	04 42 37.9	
	comp=Z,11nm,0.8s						
MSAI	**Masohi**	**53.80**	**211**	P	**P**	**04 42 44.0**	**+4.3**
	comp=Z,19nm,0.7s						
USP	**Ospenovka**	**53.80**	**297**	P	**P**	**04 42 40.3**	**+0.8**
	SNR=22						
KBK	**Karagaybulak**	**53.85**	**297**	P	**P**	**04 42 40.9**	**+0.9**
	SNR=5.8						
KZA	**Kyzart**	**53.97**	**296**	P	**P**	**04 42 42.8**	**+1.6**
	SNR=13						
LUWI	**Luwuk**	**54.12**	**219**	P	**P**	**04 42 46.0**	**+4.0**
	comp=Z,56nm,0.6s						
AAK	**Ala-Archa**	**54.14**	**297**	P	**P**	**04 42 42.9**	**+0.7**
	SNR=7.7						
AAK	**Ala-Archa**	**54.14**	**297**	*e*P	**P**	**04 42 43.0**	**+0.8**
AAK	**Ala-Archa**	**54.14**	**297**	P	**P**	**04 42 41.8**	**-0.4**
AAK	**Ala-Archa**	**54.14**	**297**	P	**P**	**04 42 42.3**	**+0.1**
AAK				IAmb	IAmb	04 42 43.9	
	comp=Z,12nm,0.8s						
EKS2	**Erkin-Say**	**54.57**	**297**	P	**P**	**04 42 46.2**	**+1.0**
	SNR=9.1						
D04E	**Lakebay**	**54.89**	**56**	P	**P**	**04 42 48.0**	**+0.7**
	baz=302						
AML	**Almayashu**	**54.91**	**297**	P	**P**	**04 42 49.1**	**+1.0**
	SNR=5.1						
KSH	**Kashi**	**54.92**	**293**	P	P	04 42 53.1	+5.2
KSH				pmax	pmax		
	comp=Z,34nm,0.5s						
KSH				pmax	pmax		
	comp=Z,150nm,3.9s						
KSH				LR	LR		
	comp=Z,1μm,15.2s						
KSH				LR	LR		
	comp=Z,300nm,11.0s						
KSH				LR	LR		
	comp=Z,870nm,15.6s						
JIRN	**Jiri**	**55.05**	**275**	*e*P	**P**	**04 42 49.9**	**+0.7**
	comp=Z,78nm,0.9s						
GUN	**Gumba**	**55.11**	**275**	*e*P	**P**	**04 42 50.5**	**+0.9**
RAMN	**Ramite**	**55.21**	**274**	*e*P	**P**	**04 42 50.8**	**+0.6**
	comp=Z,61nm,0.9s						
ARU	**Arti**	**55.47**	**318**	*d* iP	**P**	**04 42 50.4**	**-1.0**
ARU						04 44 53.9	
ARU				S	**S**	**04 50 36.8**	**+2.2**
ARU				SS	**SS**	**04 54 18.8**	**0.0**
ARU				pmax	pmax		
	comp=Z,24nm,1.4s						
ARU				MLR	MLR		
	comp=Z,423nm,17.0s						
ARU	**Arti**	**55.47**	**318**	P	**P**	**04 42 50.5**	**-0.9**
ARU				IAmb	IAmb	04 42 54.0	
	comp=Z,15nm,1.0s						
PKI	**Pulchoki**	**55.65**	**275**	*e*P	**P**	**04 42 54.3**	**+0.8**
PKIN	**Phulchoki**	**55.65**	**275**	*e*P	**P**	**04 42 54.3**	**+0.9**
	comp=Z,27nm,0.7s						
ARSB	**Arslanbob**	**55.80**	**296**	IAmb	IAmb	04 43 02.2	
	comp=Z,12nm,0.8s						
DMN	**Daman**	**55.83**	**276**	*e*P	**P**	**04 42 55.8**	**+1.1**
	comp=Z,70nm,1.0s						
GKN	**Gorkha**	**55.91**	**276**	*e*P	**P**	**04 42 56.7**	**+1.6**
B08A	**Colville Reser**	**56.20**	**53**	IAmb	IAmb	04 43 11.3	
	comp=Z,14nm,1.4s						

DANN	**Dangsing**	**56.30**	**277**	*e*P	**P**	**04 42 59.8**	**+1.7**
	comp=Z,74nm,0.6s						
KK31	**Karatay Array**	**56.33**	**299**	IAmb	IAmb	04 42 59.1	
	comp=Z,7.4nm,0.8s						
KKAR	**Karatay Array**	**56.33**	**299**	IAmb	IAmb	04 42 59.1	
	comp=Z,7.4nm,0.8s						
H04A	**Detroit Lake**	**56.60**	**58**	IAmb	IAmb	04 43 14.8	
	comp=Z,22nm,1.3s						
KOLN	**Koldanda**	**56.77**	**277**	*e*P	**P**	**04 43 02.6**	**+1.3**
	comp=Z,76nm,0.9s						
PYUN	**Piuthan**	**56.99**	**278**	*e*P	**P**	**04 43 04.2**	**+1.3**
DAG	**Danmarks Havn**	**57.22**	**358⇑**	*i*P	**P**	**04 43 02.9**	**-0.6**
	comp=Z,27nm,1.3s						
DAG	**Danmarks Havn**	**57.22**	**358⇑**	*i*P	**P**	**04 43 02.9**	**-0.6**
DAG				pmax	pmax		
	comp=Z,27nm,1.3s						
NEW	**Newport**	**57.48**	**52**	P	**P**	**04 43 06.5**	**+0.7**
	baz=305						
NEW	**Newport**	**57.48**	**52**	P	**P**	**04 43 05.7**	**-0.2**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NEW	**Newport**	**57.48**	**52**	P	**P**	**04 43 05.7**	**-0.2**
KULLO	**Kullorsuaq**	**57.81**	**9⇑**	*i*P	**P**	**04 43 07.2**	**-0.5**
	comp=Z,13nm,0.9s						
KULLO	**Kullorsuaq**	**57.81**	**9⇑**	*i*P	**P**	**04 43 07.2**	**-0.5**
KULLO				pmax	pmax		
	comp=Z,13nm,0.9s						
PINE	**Pine Mountain**	**57.84**	**59**	P	**P**	**04 43 08.1**	**-0.5**
PINE				IAmb	IAmb	04 43 24.3	
	comp=Z,13nm,0.9s						
ARCES	**ARCESS Array B**	**58.41**	**341**	P	**P**	**04 43 11.6**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=26,slow=6.7,SNR=4.9						
ARCES				LR	LR	05 11 17.3	
	comp=Z,196nm,20.5s,baz=24,slow=39						
WALA	**Waterton Lakes**	**58.76**	**50**	P	**P**	**04 43 14.9**	**0.0**
WALA				IAmb	IAmb	04 43 29.6	
	comp=Z,12nm,1.1s						
J08A	**Circle Bar Ran**	**59.55**	**58**	IAmb	IAmb	04 43 35.1	
	comp=Z,6.9nm,0.9s						
CHGR	**Chuyangaron**	**59.74**	**296**	P	**P**	**04 43 20.9**	**-0.9**
MSO	**Missoula**	**60.06**	**52**	P	**P**	**04 43 24.8**	**+0.8**
	baz=307						
MSO	**Missoula**	**60.06**	**52**	IAmb	IAmb	04 43 26.2	
	comp=Z,9.8nm,1.0s						
NIL	**Nilore**	**60.14**	**289**	P	**P**	**04 43 23.9**	**-0.7**
NIL				pmax	pmax		
	comp=Z,65nm,1.0s						
NIL	**Nilore**	**60.14**	**289**	P	**P**	**04 43 23.9**	**-0.7**
BEKR	**Beckworth**	**60.51**	**62**	IAmb	IAmb	04 43 41.2	
	comp=Z,7.7nm,1.0s						
KLMR	**Klimovskoe**	**60.63**	**329**	*e*P	**P**	**04 43 26.4**	**-0.9**
KLMR				*e*		04 45 39.7	
KLMR				pmax	pmax		
	comp=Z,22nm,1.2s						
KLMR	**Klimovskoe**	**60.63**	**329**	*e*P	**P**	**04 43 26.5**	**-0.9**
KLMR				AMP		04 43 29.1	
	comp=Z,22nm,1.2s						
KLMR				*e*PP	**PP**	**04 45 39.8**	**-0.8**
KLMR				LQ	LQ	05 06 54.4	
KLMR				LQ	LQ	05 06 54.4	
KLMR				LR	LR	05 09 25.8	
FFC	**Flin Flon**	**61.14**	**40**	P	**P**	**04 43 31.5**	**+0.5**
FFC				pmax	pmax		
	comp=Z,12nm,0.8s						
FFC	**Flin Flon**	**61.14**	**40**	P	**P**	**04 43 31.5**	**+0.5**
PAHR	**Pah Rah Range**	**61.20**	**62**	IAmb	IAmb	04 43 46.7	
	comp=Z,18nm,1.4s						
SUMG	**Summit**	**61.27**	**4⇑**	*i*P	**P**	**04 43 32.7**	**+0.6**
	comp=Z,88nm,0.9s						
SUMG	**Summit**	**61.27**	**4⇑**	*i*P	**P**	**04 43 32.7**	**+0.6**
SUMG				pmax	pmax		
	comp=Z,88nm,0.9s						
SUMG	**Summit**	**61.27**	**4**	P	**P**	**04 43 32.0**	**-0.1**
VCNR	**Virginia City**	**61.29**	**62**	P	**P**	**04 43 33.6**	**+1.1**
VCNR				IAmb	IAmb	04 43 47.0	
	comp=Z,7.9nm,0.9s						
EGMT	**Eagleton**	**61.59**	**49**	P	**P**	**04 43 34.6**	**+0.4**
	baz=308						
EGMT	**Eagleton**	**61.59**	**49**	IAmb	IAmb	04 43 36.4	
	comp=Z,12nm,0.9s						
KBL	**Kabul**	**62.33**	**292**	P	**P**	**04 43 39.3**	**-0.3**
KBL				pmax	pmax		
	comp=Z,24nm,0.9s						
KBL	**Kabul**	**62.33**	**292**	P	**P**	**04 43 39.3**	**-0.3**
KVN	**Kaiserville**	**62.39**	**61**	IAmb	IAmb	04 43 54.9	
	comp=Z,14nm,1.0s						
RYN	**Ryan**	**62.39**	**62**	P	**P**	**04 43 39.8**	**-0.1**
RYN				IAmb	IAmb	04 43 54.8	
	comp=Z,10nm,0.9s						
NVAR	**Mina Array Bea**	**62.65**	**62**	P	**P**	**04 43 43.1**	**+1.4**
	comp=Z,2.7nm,0.7s,baz=292,slow=6.5,SNR=16						
NV11	**Mina Array Sit**	**62.74**	**62**	IAmb	IAmb	04 43 57.1	
	comp=Z,14nm,1.2s						
H17A	**Grant Village**	**63.42**	**53**	P	**P**	**04 43 47.2**	**+0.4**
	baz=310						
H17A	**Grant Village**	**63.42**	**53**	IAmb	IAmb	04 44 02.8	
	comp=Z,6.1nm,0.8s						
IMW	**Indian Meadow**	**63.54**	**53**	IAmb	IAmb	04 44 03.2	
	comp=Z,9.8nm,1.1s						
SCO	**Scoresbysund**	**63.60**	**358**	*i* P	**P**	**04 43 44.0**	**-3.1**
	comp=Z,16nm,1.0s						
SCO	**Scoresbysund**	**63.60**	**358**	*i* P	**P**	**04 43 44.0**	**-3.1**
SCO				pmax	pmax		
	comp=Z,16nm,1.0s						
FXWY	**Fox Creek**	**63.65**	**54**	IAmb	IAmb	04 44 03.9	
	comp=Z,24nm,1.8s						
RLMT	**Red Lodge**	**63.68**	**52**	P	**P**	**04 43 48.3**	**-0.1**
	baz=310						
RLMT	**Red Lodge**	**63.68**	**52**	IAmb	IAmb	04 43 51.3	
	comp=Z,22nm,1.6s						
VES	**Vestal, Richgr**	**63.79**	**65**	P	**P**	**04 43 50.6**	**+1.7**
	baz=310						
SNOW	**Snow King Moun**	**63.92**	**54**	IAmb	IAmb	04 44 06.7	
	comp=Z,7.2nm,0.8s						
CWC	**Cottonwood Cre**	**64.04**	**64**	P	**P**	**04 43 51.6**	**+0.7**
	baz=310						
GRAC	**Grapevine Rang**	**64.13**	**63**	P	**P**	**04 43 52.6**	**+1.3**
	baz=310						
DGMT	**Dagmar**	**64.16**	**46**	P	**P**	**04 43 50.9**	**-0.4**
	baz=311						
LAO	**LASA Array**	**64.29**	**49**	P	**P**	**04 43 53.0**	**+0.7**
	baz=311						
R11A	**Troy Canyon, C**	**64.36**	**61**	P	**P**	**04 43 53.4**	**+0.4**
	baz=310,SNR=5.7						
R11A	**Troy Canyon, C**	**64.36**	**61**	IAmb	IAmb	04 44 07.1	
	comp=Z,7.9nm,0.9s						
FIA1	**FINESS Array S**	**64.58**	**335**	P	**P**	**04 43 53.0**	**-0.7**
FINES	**FINESS Array B**	**64.58**	**335**	P	**P**	**04 43 53.8**	**0.0**
	comp=Z,14nm,0.7s,baz=38,slow=7.7,SNR=57						
FINES				LR	LR	05 15 01.5	
	comp=Z,258nm,19.9s,baz=28,slow=39						
MPMC	**Manual Prospec**	**64.65**	**64**	P	**P**	**04 43 55.5**	**+0.6**
	baz=310,SNR=5.5						
HWUT	**Hardware Ranch**	**64.65**	**56**	IAmb	IAmb	04 44 09.2	
	comp=Z,12nm,1.1s						
FURC	**Furnace Creek,**	**64.77**	**63**	P	**P**	**04 43 56.2**	**+0.8**
	baz=310						
DUG	**Dugway, Tooele**	**64.83**	**58**	P	**P**	**04 43 57.3**	**+1.4**
	baz=310,SNR=6.5						
TPNV	**Topopah Spring**	**64.84**	**62**	P	**P**	**04 43 55.8**	**-0.3**
	baz=310,SNR=6.0						
LRMC	**Laurel Mtn Rad**	**64.90**	**64**	P	**P**	**04 43 56.9**	**+0.5**
	baz=310						
BW06	**Boulder Array**	**65.04**	**54**	P	**P**	**04 43 57.8**	**+0.5**
	baz=311						
BW06	**Boulder Array**	**65.04**	**54**	IAmb	IAmb	04 44 11.9	
	comp=Z,8.9nm,1.0s						
PD31	**Pinedale Array**	**65.04**	**54**	IAmb	IAmb	04 44 11.9	
	comp=Z,7.6nm,0.9s						
PDAR	**Pinedale Array**	**65.04**	**54**	P	**P**	**04 43 58.0**	**+0.6**
	comp=Z,3.4nm,0.8s,baz=318,slow=2.0,SNR=26						
PDAR				LR	LR	05 09 47.0	
	comp=Z,34nm,21.0s,baz=332,slow=34						
EDW2	**Edwards Air Fo**	**65.08**	**65**	P	**P**	**04 43 58.4**	**+0.8**
	baz=310,SNR=6.0						
SHOC	**Shoshone, Teco**	**65.50**	**63**	P	**P**	**04 44 01.8**	**+1.6**
	baz=310						
BFSC	**Mount Baldy Ra**	**65.71**	**65**	P	**P**	**04 44 02.9**	**+1.2**
	baz=310						
SHPR	**Sheep Range**	**65.80**	**62**	IAmb	IAmb	04 44 16.8	
	comp=Z,8.6nm,1.0s						
OBN	**Obninsk**	**65.81**	**326**	*e*P	**P**	**04 44 01.2**	**-0.6**
OBN	**Obninsk**	**65.81**	**326**	*e*P	**P**	**04 44 01.2**	**-0.6**
OBN				*e*		04 44 34.1	
OBN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TUQ	**Turquoise Moun**	**66.02**	**63**	P	**P**	**04 44 03.5**	**-0.2**
	baz=311,SNR=6.3						
HEC	**Hector,Ludlow**	**66.16**	**64**	P	**P**	**04 44 04.7**	**+0.2**
	baz=311,SNR=5.4						
VRH	**Novokhopyorsk**	**66.48**	**320**	*e*P	**P**	**04 44 05.8**	**-0.4**
VRH				pmax	pmax		
	comp=Z,20nm,0.9s						
GMRC	**Granite Mounta**	**66.61**	**64**	P	**P**	**04 44 07.6**	**+0.1**
	baz=311,SNR=5.7						
LPSR	**Galich'ya Gora**	**66.69**	**323**	*e*P	**P**	**04 44 07.9**	**+0.4**
LPSR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HRA	**Herat**	**66.75**	**296**	P	**P**	**04 44 08.1**	**-0.4**
K22A	**Casper**	**66.80**	**52**	P	**P**	**04 44 08.1**	**-0.5**
	baz=312						
K22A	**Casper**	**66.80**	**52**	IAmb	IAmb	04 44 23.1	
	comp=Z,8.3nm,0.8s						
BELC	**Belle Mtn. Jos**	**66.91**	**65**	P	**P**	**04 44 09.4**	**0.0**
	baz=311						
GEYT	**Alibeck**	**66.95**	**301**	P	**P**	**04 44 10.6**	**+1.1**
	comp=Z,7.1nm,0.8s,baz=11,slow=3.2,SNR=11						
GEYT				LR	LR	05 15 29.5	
	comp=Z,249nm,18.5s,baz=75,slow=38						
GYA0B	**ALIBECK ARRAY**	**66.95**	**301**	P	**P**	**04 44 09.4**	**0.0**
GYA0B				IAmb	IAmb	04 44 11.8	
	comp=Z,13nm,0.9s						
RSSD	**Black Hills**	**67.15**	**50**	P	**P**	**04 44 11.3**	**+0.4**
	baz=313						
RSSD	**Black Hills**	**67.15**	**50**	P	**P**	**04 44 11.5**	**+0.6**
RSSD				pmax	pmax		
	comp=Z,19nm,1.3s						
RSSD	**Black Hills**	**67.15**	**50**	P	**P**	**04 44 11.5**	**+0.6**
IRM	**Iron Mountain**	**67.34**	**64**	P	**P**	**04 44 12.7**	**+0.7**
	baz=311,SNR=6.1						
BC3	**Big Chuckawall**	**67.48**	**65**	P	**P**	**04 44 14.2**	**+1.2**
	baz=311						
O20A	**White River Ci**	**67.51**	**55**	P	**P**	**04 44 13.8**	**+0.6**
	baz=312						
O20A	**White River Ci**	**67.51**	**55**	IAmb	IAmb	04 44 30.6	
	comp=Z,11nm,1.1s						
VSR	**Storozhevoye**	**67.59**	**322**	*e*P	**P**	**04 44 12.9**	**-0.4**
VSR				pmax	pmax		
	comp=Z,20nm,1.4s						
U15A	**North Rim**	**67.60**	**60**	IAmb	IAmb	04 44 29.1	
	comp=Z,13nm,1.2s						
VORD	**Divnogorie**	**67.72**	**321**	*e*P	**P**	**04 44 13.5**	**-0.6**
VORD				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PDMCI	**Parker Dam,Lak**	**67.87**	**63**	P	**P**	**04 44 15.5**	**+0.2**
	baz=312,SNR=5.4						
WRA	**Warramunga Arr**	**67.99**	**199**	P	**P**	**04 44 17.5**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=18,slow=6.8,SNR=4.5						
WRA				LR	LR	05 13 15.9	
	comp=Z,46nm,20.9s,baz=15,slow=35						
Y12C	**Blythe**	**68.00**	**64**	P	**P**	**04 44 16.4**	**+0.3**
	baz=312						
MOL	**Molde**	**68.18**	**344**	*e*P	**P**	**04 44 17.3**	**+0.6**
N23A	**Red Feather La**	**68.30**	**53**	P	**P**	**04 44 18.9**	**+0.7**
	baz=313						
N23A	**Red Feather La**	**68.30**	**53**	IAmb	IAmb	04 44 33.2	
	comp=Z,12nm,1.2s						
AGMN	**Agassiz Nation**	**68.31**	**42**	P	**P**	**04 44 18.2**	**+0.3**
	baz=316						
AGMN	**Agassiz Nation**	**68.31**	**42**	P	**P**	**04 44 17.7**	**-0.1**
AGMN				IAmb	IAmb	04 44 19.2	
	comp=Z,11nm,1.1s						
DOMB	**Dombas**	**68.35**	**343**	*e*P	**P**	**04 44 18.3**	**+0.4**
AKN	**Aaknes**	**68.64**	**344**	*e*P	**P**	**04 44 21.1**	**+1.4**
WUAZ	**Wupatki**	**68.76**	**61**	P	**P**	**04 44 21.8**	**+0.7**
	baz=312						
WUAZ	**Wupatki**	**68.76**	**61**	P	**P**	**04 44 21.2**	**+0.1**
WUAZ				IAmb	IAmb	04 44 35.6	
	comp=Z,12nm,1.1s						
NB2	**NORSAR Subarra**	**68.79**	**341**	P	**P**	**04 44 20.6**	**-0.1**
	comp=Z,60nm,1.7s,baz=27,slow=6.2						
NB2	**NORSAR Subarra**	**68.79**	**341**	P	**P**	**04 44 20.6**	**-0.1**
	baz=27,slow=6.2						
NOA	**NORSAR Array B**	**68.79**	**341**	P	**P**	**04 44 20.9**	**+0.2**
	comp=Z,4.3nm,0.7s,baz=27,slow=6.4,SNR=39						
NOA				LR	LR	05 19 12.9	
	comp=Z,226nm,18.4s,baz=30,slow=40						
DZM	**Mont Dzumac**	**68.98**	**167**	*e*LR	LR	05 05 14.4	
	comp=Z,184nm,20.5s						
DZM	**Mont Dzumac**	**68.98**	**167**	LR	LR	05 13 14.0	
	comp=Z,281nm,18.0s,baz=18,slow=35						
NAO01	**NORSAR Array S**	**69.03**	**341**	*e*P	**P**	**04 44 22.5**	**+0.3**
ISCO	**Idaho Springs**	**69.23**	**54**	P	**P**	**04 44 24.4**	**+0.3**
	baz=313,SNR=5.8						
MVCO	**Mesa Verde**	**69.33**	**58**	P	**P**	**04 44 25.4**	**+0.7**
	baz=313						
MVCO	**Mesa Verde**	**69.33**	**58**	P	**P**	**04 44 24.2**	**-0.5**
MVCO				IAmb	IAmb	04 44 38.8	
	comp=Z,6.3nm,0.7s						
X16A	**Lo Mia Camp, P**	**69.45**	**62**	IAmb	IAmb	04 44 40.6	
	comp=Z,12nm,1.1s						
MICGM	**Minsk**	**69.52**	**329**	*e*	**P**	**04 44 26.0**	**+0.8**
MNK	**Minsk**	**69.52**	**329**	*e*P	**P**	**04 44 26.0**	**+0.8**
HYA	**Hoyanger**	**69.73**	**344**	*e*P	**P**	**04 44 27.1**	**+0.7**
SKAR	**Skarslia**	**69.74**	**342**	*e*P	**P**	**04 44 27.0**	**+0.4**
F33A	**5 Mile Ranch,**	**69.88**	**44**	IAmb	IAmb	04 44 28.9	
	comp=Z,8.9nm,0.9s						
OSL	**Oslo**	**69.88**	**341**	*e*P	**P**	**04 44 27.9**	**+0.6**
S22A	**4UR Ranch, Cre**	**69.94**	**56**	P	**P**	**04 44 29.3**	**+0.8**
	baz=313						
S22A	**4UR Ranch, Cre**	**69.94**	**56**	IAmb	IAmb	04 44 43.7	
	comp=Z,14nm,1.3s						
Q24A	**Divide**	**70.06**	**54**	P	**P**	**04 44 29.8**	**+0.6**
	baz=314						
SUE	**Sulen**	**70.10**	**344**	*e*P	**P**	**04 44 30.2**	**+1.6**
GOF	**Gofitskoye**	**70.27**	**315⇑**	*e*P	**P**	**04 44 31.2**	**+1.2**
GOF				pmax	pmax		
	comp=Z,61nm,0.9s						
KONO	**Kongsberg**	**70.39**	**341**	*e

comp=Z,8.2nm,0.9s
AKASG **Malin Array Be** 72.05 326 P P 04 44 40.4 -0.3
comp=Z,18nm,0.5s,baz=34,slow=6.2,SNR=83
AKASG LR LR 05 20 07.1
comp=Z,184nm,18.1s,baz=25,slow=39
ANMO Albuquerque 72.09 58 P P 04 44 41.7 +0.2
baz=314
ANMO Albuquerque 72.09 58 P P 04 44 41.1 -0.4
ANMO pmax pmax
comp=Z,4.0nm,1.0s
ANMO Albuquerque 72.09 58 P P 04 44 41.1 -0.4
SNART Snartemo 72.11 342 *e*P P 04 44 40.7 -0.2
L34A Svendsen Farm, 72.65 47 IAmb IAmb 04 44 45.2
comp=Z,15nm,0.9s
AKH Akhalkalaki 72.68 312 ⇓P P 04 44 47.4 +2.5
SOC Sochi 72.97 316 *e*P P 04 44 43.4 -2.9
SOC *e*PPP PPP 04 49 17.0
SOC *e*S S 04 54 09.7 -1.8
SOC *e* 04 54 51.2
SOC *e*SSS SSS 05 01 58.0
SOC pmax pmax
comp=Z,25nm,0.8s
SOC MLR MLR
comp=Z,303nm,16.0s
BSD Bornholm Skovb 73.10 336 *i* P P 04 44 46.4 -0.4
comp=Z,10nm,1.0s
BSD Bornholm Skovb 73.10 336 *i* P P 04 44 46.4 -0.4
BSD pmax pmax
comp=Z,10.0nm,1.0s
ANN Anapa 73.14 318 *e*P P 04 44 48.1 +0.8
ANN Anapa 73.14 318 *e*P P 04 44 43.2 -4.1
ANN *e*S S 04 54 09.6 -3.7
ANN pmax pmax
comp=Z,10.0nm,0.7s
MUD Monsted U'grnd 73.38 340 *i* P P 04 44 49.6 +1.1
comp=Z,4.0nm,0.8s
MUD Monsted U'grnd 73.38 340 *i* P P 04 44 49.6 +1.1
MUD pmax pmax
comp=Z,4.0nm,0.8s
BATM Batumi 73.46 313 ⇑P P 04 44 50.4 +1.2
BCA Borcka 73.61 313 ⇓P P 04 44 51.4 +1.3
N35A Tabor 73.83 47 IAmb IAmb 04 44 52.8
comp=Z,12nm,0.7s
I40A Norwalk 74.03 42 IAmb IAmb 04 45 06.0
comp=Z,10.0nm,1.1s
BEL Belsk 74.14 332 *e*P P 04 44 53.9 +0.9
SCIA State Center 74.28 45 P P 04 44 54.0 0.0
baz=319
SORM Soroca 74.45 325 ⇑P P 04 44 55.1 +0.3
SIM Simferopol' 74.54 320 *e*P P 04 44 56.9 +1.4
SIM pmax pmax
comp=Z,19nm,0.8s
SIM MLR MLR
comp=Z,200nm,17.7s
D46A Sault St. Mari 74.60 37 P P 04 44 55.1 -0.8
baz=323
KSU1 Kansas State U 74.63 49 P P 04 44 55.5 -0.6
baz=318
MATQ Matagami 74.76 31 P P 04 44 56.9 +0.2
baz=326
I42A Draeger Farm, 74.82 41 IAmb IAmb 04 45 10.5
comp=Z,9.9nm,1.1s
D47A Chapleau 74.86 36 P P 04 44 57.7 +0.4
baz=323
AMTX Amarillo 74.90 55 P P 04 44 58.1 +0.2
baz=316
MSTX Muleshoe 74.93 57 P P 04 44 58.2 +0.1
baz=316
MSTX Muleshoe 74.93 57 IAmb IAmb 04 45 12.3
comp=Z,11nm,1.1s
MNTX Cornudas Mount 75.00 60 P P 04 44 59.0 +0.6
baz=315
MILM Milestii Mici 75.25 324 ⇑P P 04 44 59.6 +0.1
KWP Kalwaria Pacla 75.34 329 *e*P P 04 45 01.1 +1.0
G45A Suttons Bay 75.38 39 P P 04 44 59.9 -0.5
baz=322
LSQQ Lebel-sur-Quev 75.58 31 P P 04 45 01.0 -0.5
baz=327
E48A Lockeyer 75.70 36 P P 04 45 01.4 -0.7
baz=324
CHGQ Chibougamau 75.78 29 P P 04 45 02.1 -0.5
baz=328
P38A Dawn 75.83 47 IAmb IAmb 04 45 04.0
comp=Z,8.4nm,0.8s
OJC Ojcow 75.85 331 *e*P P 04 45 03.6 +0.7
OJC Ojcow 75.85 331 IAmb IAmb 04 45 05.7
comp=Z,7.7nm,0.8s
H46A Fife Lake 75.97 39 P P 04 45 03.7 0.0
baz=323
F48A Evansville 76.04 37 P P 04 45 03.5 -0.6
baz=324
G47A Hillman 76.05 38 P P 04 45 03.8 -0.4
baz=323
BUR08 Bucovina Ar. S 76.08 327 IAmb IAmb 04 45 08.8
comp=Z,12nm,0.9s
KOLS Kolonicke sedl 76.08 329 *e*P P 04 45 05.1 +0.8
KOLS pmax pmax
comp=Z,15nm,1.5s
KOLS Kolonicke sedl 76.08 329 *e*P P 04 45 05.1 +0.8
BURAR Bucovina Array 76.10 327 ⇑P P 04 45 05.2 +0.7
VLDQ Val d'Or 76.20 32 IAmb IAmb 04 45 09.8
comp=Z,10.0nm,1.1s
T35A Sooner Cattle 76.29 51 IAmb IAmb 04 45 19.2
comp=Z,8.9nm,1.0s
BIZ Bicaz 76.31 326 ⇑P P 04 45 06.8 +1.1
D51A Lot 18 Range I 76.32 34 P P 04 45 04.9 -0.8
baz=326
E50A Wahnapitae 76.33 35 P P 04 45 05.0 -0.7
baz=325
UZH Uzhgorod 76.33 329 *e*P P 04 45 03.5 -2.2
UZH *i* 04 45 10.2
F49A Sandfield 76.33 36 P P 04 45 05.4 -0.4
baz=324
N41A Harden Midland 76.34 45 IAmb IAmb 04 45 20.0
comp=Z,15nm,0.9s
NIE Niedzica 76.36 331 *e*P P 04 45 06.9 +1.0
KSP Ksiaz 76.44 334 *e*P P 04 45 06.8 +0.6
TESR Tescani 76.45 325 ⇑P P 04 45 07.0 +0.6
DIKM Dikmen 76.58 317 ⇓P P 04 45 09.5 +2.2
WMOK Wichita Mounta 76.65 54 P P 04 45 07.9 +0.1
baz=317
P40A Paris 76.65 46 IAmb IAmb 04 45 21.3
comp=Z,9.8nm,1.1s
H48A Harrisville 76.66 38 P P 04 45 07.5 -0.1
baz=324
TRPA Tarpa 76.66 329 ⇓P P 04 45 08.9 +1.4
RETH Rethem/Aller, 76.71 338 *e*P P 04 45 08.6 +0.8
comp=Z,10nm,1.1s,baz=26,slow=4.8
OSTC Ostas 76.71 333 *e*P P 04 45 11.0 +3.1
OSTC AMS AMS 05 21 50.0
comp=Z,300nm,25.2s
OKC Ostrava-Krasne 76.72 332 AMS AMS 05 23 40.0
comp=Z,400nm,15.2s
E51A G1948 Merrick 76.73 34 P P 04 45 07.6 -0.4
baz=326
CHVC Chvalec 76.73 334 *e*P P 04 45 09.0 +1.0
CHVC AMS AMS 05 22 00.0
comp=Z,200nm,14.9s
D52A ZEK Kipawa Sen 76.78 33 P P 04 45 07.5 -0.8
baz=326
UPC Upice 76.82 334 AMS AMS 05 25 10.0
comp=Z,200nm,18.3s
DPC Dobruska-Polom 76.86 333 *e*P P 04 45 09.6 +0.9
DPC AMS AMS 05 23 10.0
comp=Z,200nm,17.1s
DPC Dobruska-Polom 76.86 333 *e*P P 04 45 09.6 +0.9
DPC MLR MLR
comp=Z,200nm,17.1s
LANS Liptovska Anna 76.87 331 *e*P P 04 45 10.7 +1.9
LANS pmax pmax
comp=Z,6.0nm,0.8s
LANS Liptovska Anna 76.87 331 *e*P P 04 45 10.7 +1.9
ASSE Asse, Remlinge 76.92 337 *e*P P 04 45 09.5 +0.7
comp=Z,8.2nm,1.1s,baz=26,slow=4.8
BZK Bozkurt 76.92 318 ⇓P P 04 45 11.2 +2.1
ESK Eskdalemuir 76.93 346 P P 04 45 09.1 +0.1
ESK pmax pmax
comp=Z,54nm,1.7s
ESK Eskdalemuir 76.93 346 P P 04 45 09.1 +0.1
CFR Carcaliu 76.93 324 ⇓P P 04 45 10.2 +1.1
VRI Vrincioaia 76.94 325 ⇑P P 04 45 10.4 +1.1
D53A Lac Vacive, Po 76.97 33 P P 04 45 09.6 +0.2
baz=326
MORC Moravsky Berou 76.97 332 ⇓P P 04 45 10.4 +1.0
MORC Moravsky Berou 76.97 332 *e*P P 04 45 09.9 +0.5
UOSS Minazif 77.01 292 P P 04 45 08.3 -1.6

CLL Collm 77.01 336 ⇑*i*P P 04 45 10.2 +0.7
comp=Z,12nm,0.8s
CLL *i* sP PcP 04 45 20.1 -0.3
CLL *i* pPcP 04 45 26.5
CLL Lm MLR 05 22 00.0
comp=N,200nm,19.0s
CLL Lm MLR 05 22 00.0
comp=E,100nm,20.9s
CLL Lm MLR 05 22 00.0
comp=Z,200nm,20.4s
CLL Collm 77.01 336 ⇑*i*P P 04 45 10.2 +0.7
CLL *i* 04 45 20.1
CLL *i* 04 45 26.5
CLL pmax pmax
comp=Z,12nm,0.8s
CLL Collm 77.01 336 IAmb IAmb 04 45 12.6
comp=Z,11nm,0.7s
CLL Collm 77.01 336 *e*P P 04 45 10.4 +0.9
comp=Z,12nm,1.0s,baz=26,slow=4.8
TOPG Topolog 77.08 323 ⇓P P 04 45 11.3 +1.3
BRG Berggiesshubel 77.12 335 *e*P P 04 45 10.7 +0.6
comp=Z,7.3nm,1.3s
comp=N,133nm,14.7s
comp=E,146nm,15.5s
comp=Z,215nm,16.1s
BRG Berggiesshubel 77.12 335 *e*P P 04 45 10.7 +0.6
BRG pmax pmax
comp=Z,7.0nm,1.3s
BRG MLR MLR
comp=N,133nm,14.7s
BRG MLR MLR
comp=E,146nm,15.5s
BRG MLR MLR
comp=Z,215nm,16.1s
OZUR 77.13 325 ⇓P P 04 45 12.0 +1.6
J47A Sunmer 77.18 39 P P 04 45 10.3 -0.2
baz=323
HDIL Hopedale 77.22 44 P P 04 45 10.9 0.0
baz=321
PVCC Panska Ves 77.24 334 AMS AMS 05 23 00.0
comp=Z,300nm,14.9s
FBE Freiberg 77.25 335 *e*P P 04 45 11.3 +0.5
comp=Z,13nm,1.2s,baz=26,slow=4.8
E52A Mattawa 77.26 34 P P 04 45 09.9 -1.1
baz=326
DOPR Dopca 77.39 326 ⇓P P 04 45 13.2 +1.4
F52A Sundridge 77.41 35 P P 04 45 11.1 -0.7
baz=326
TUL1 Leonard 77.42 51 P P 04 45 11.9 -0.2
baz=318
CJR Cluj-Napoca 77.46 327 ⇑P P 04 45 13.5 +1.3
IBBN Ibbenburen 77.51 339 *e*P P 04 45 12.7 +0.4
comp=Z,19nm,1.0s,baz=26,slow=4.8
MLR Muntele Rosu 77.56 325 ⇓P P 04 45 14.6 +1.7
MLR Muntele Rosu 77.56 325 IAmb IAmb 04 45 27.1
comp=Z,11nm,0.9s
GTTG Gottingen 77.63 338 *e*P P 04 45 13.8 +0.9
comp=Z,7.3nm,1.0s,baz=26,slow=4.8
VYHS Vyhne 77.65 331 *e*P P 04 45 14.2 +1.0
VYHS pmax pmax
comp=Z,8.0nm,1.0s
VYHS Vyhne 77.65 331 *e*P P 04 45 14.2 +1.0
VRAC Vranov 77.68 333 ⇓P P 04 45 14.6 +1.3
VRAC Vranov 77.68 333 *e*P P 04 45 14.6 +1.3
PRA Prague 77.69 334 AMS AMS 05 23 00.0
comp=Z,200nm,17.4s
E54A Lac Daplat, Po 77.70 33 P P 04 45 12.7 -0.8
baz=327
GOPC GO Pecny, Ondr 77.72 334 *e*P P 04 45 14.6 +1.1
GOPC *es*P pwP 04 45 25.6 -0.2
GOPC AMS AMS 05 23 00.0
comp=Z,300nm,17.9s
GOPC GO Pecny, Ondr 77.72 334 *e*P P 04 45 14.6 +1.1
GOPC *e* 04 45 25.6
GOPC MLR MLR
comp=Z,300nm,17.9s
TX32 Lajitas Array 77.72 60 IAmb IAmb 04 45 28.0
comp=Z,16nm,1.2s
TXAR Lajitas Array 77.72 60 P P 04 45 14.6 +0.6
comp=Z,3.6nm,0.6s,baz=303,slow=4.1,SNR=64
JAVC Velka Javorina 77.73 332 *e*P P 04 45 15.7 +2.1
PRU Pruhonice 77.73 334 *e*P P 04 45 14.6 +1.1
PRU *ex* x 04 45 25.9
PRU AMS AMS 05 22 50.0
comp=Z,300nm,18.2s
PRU Pruhonice 77.73 334 *e*P P 04 45 14.6 +1.1
PRU *e* 04 45 25.9
PRU MLR MLR
comp=Z,300nm,18.2s
DRGR 77.73 328 ⇑P P 04 45 14.5 +0.8
PSZ Piszkesteto 77.78 330 ⇑P P 04 45 15.7 +1.7
PSZ Piszkesteto 77.78 330 IAmb IAmb 04 45 32.1
comp=Z,11nm,1.0s
J49A Marlette 77.81 38 P P 04 45 14.1 0.0
baz=324
K48A Perry 77.83 39 P P 04 45 13.5 -0.7
baz=323
D55A Sainte-Anne-du 77.85 32 P P 04 45 14.1 -0.1
baz=328
TANN Tannenbergstha 77.96 336 *e*P P 04 45 15.2 +0.3
comp=Z,9.9nm,1.2s,baz=26,slow=4.8
KRUC Moravsky 77.96 333 *e*P P 04 45 16.1 +1.2
VOIR 77.96 326 ⇑P P 04 45 16.3 +1.2
PLN Plauen 77.98 336 *e*P P 04 45 15.6 +0.7
comp=Z,6.6nm,1.0s,baz=26,slow=4.8
MOX Moxa 78.00 336 *e*P P 04 45 15.5 +0.5
comp=Z,11nm,1.1s,baz=26,slow=4.8
MOX *e*L L 05 22 48.7
comp=Z,151nm,19.8s
TREC Trest 78.05 333 *e*P P 04 45 15.8 +0.5
TREC AMS AMS 05 24 40.0
comp=Z,300nm,16.9s
TREC Trest 78.05 333 *e*P P 04 45 15.8 +0.5
TREC MLR MLR
comp=Z,300nm,16.9s
D56A ZEC Mazanza, M 78.08 31 P P 04 45 15.0 -0.6
baz=328
WERN Wernitzgruen 78.10 336 *e*P P 04 45 16.5 +0.8
comp=Z,14nm,1.1s,baz=26,slow=4.8
SMOL Smolenice 78.11 332 *e*P P 04 45 17.0 +1.3
SMOL pmax pmax
comp=Z,4.0nm,0.8s
SMOL Smolenice 78.11 332 *e*P P 04 45 17.0 +1.3
NKC Novy Kostel 78.13 335 *e*P P 04 45 16.7 +0.9
NKC AMS AMS 05 24 30.0
comp=Z,200nm,16.8s
NKC Novy Kostel 78.13 335 *e*P P 04 45 16.7 +0.9
NKC MLR MLR
comp=Z,200nm,16.8s
PBCC Pribram 78.16 334 *e*P P 04 45 16.6 +0.7
CCM Cathedral Cave 78.18 47 P P 04 45 15.7 -0.6
baz=320
CCM Cathedral Cave 78.18 47 P P 04 45 15.5 -0.8
CCM pmax pmax
comp=Z,6.0nm,1.0s
CCM Cathedral Cave 78.18 47 P P 04 45 15.4 -0.8
G54A Lake Saint Pet 78.22 34 P P 04 45 15.6 -0.8
baz=326
G53A Haliburton 78.24 35 P P 04 45 15.8 -0.6
baz=326
MODS Modra-Piesok 78.28 332 *e*P P 04 45 17.2 +0.6
MODS pmax pmax
comp=Z,16nm,1.1s
MODS Modra-Piesok 78.28 332 *e*P P 04 45 17.2 +0.6
UBBA Unterbreizbach 78.28 337 *e*P P 04 45 17.0 +0.5
comp=Z,6.1nm,1.0s,baz=26,slow=4.8
I51A Listowel 78.35 37 P P 04 45 16.6 -0.5
baz=325
E56A St. Veronique 78.41 32 P P 04 45 16.6 -0.8
baz=328
D57A Chemin Vers le 78.42 31 P P 04 45 17.1 -0.3
baz=329
MANZ Manzenberg 78.45 336 *e*P P 04 45 18.0 +0.5
comp=Z,10nm,1.1s,baz=26,slow=4.8
SIRR Siria 78.56 328 ⇓P P 04 45 19.5 +1.3
ROTZ Rotzenmuhle 78.61 335 *e*P P 04 45 19.3 +0.9
comp=Z,9.7nm,1.1s,baz=26,slow=4.8
U40A Yellville 78.65 49 P P 04 45 18.7 -0.2
baz=320
U40A Yellville 78.65 49 IAmb IAmb 04 45 32.8
comp=Z,16nm,1.0s
D58A Chemin du LacG 78.70 30 P P 04 45 18.4 -0.6
baz=329
H53A Bobcaygeon 78.71 35 P P 04 45 18.3 -0.7
baz=326
KHC Kasperske Hory 78.78 334 *e*P P 04 45 20.3 +0.9

KHC *es*P pwP 04 45 31.6 -0.1
KHC AMS AMS 05 23 40.0
comp=Z,400nm,16.4s
KHC Kasperske Hory 78.78 334 *e*P P 04 45 20.3 +0.9
KHC *e* 04 45 31.6
KHC MLR MLR
comp=Z,400nm,16.4s
BR131 Keskin Array S 78.84 317 IAmb IAmb 04 45 22.5
comp=Z,14nm,1.3s
BRTR Keskin Array B 78.84 317 P P 04 45 20.9 +0.8
comp=Z,4.6nm,1.0s,baz=85,slow=2.9,SNR=26
BRTR LR LR 05 26 12.0
comp=Z,170nm,18.3s,baz=10,slow=40
BRTR Keskin Array B 78.84 317 *i* P P 04 45 21.5 +1.4
BRTR pmax pmax
comp=Z,5.0nm,1.0s
GZR Gura Zlata 78.88 327 ⇓P P 04 45 21.0 +1.0
GRF Grafenberg Arr 78.96 336 *e*P P 04 45 21.3 +0.9
comp=Z,23nm,0.9s,baz=26,slow=4.8
GRF *e*L L 05 23 28.2
comp=Z,183nm,19.8s
WET Wettzell 78.97 335 *e*P P 04 45 21.3 +0.8
comp=Z,13nm,1.0s,baz=26,slow=4.8
COPA Copaceanca 78.98 325 ⇑P P 04 45 21.6 +1.1
GERES GERESS Array B 78.99 334 P P 04 45 21.1 +0.5
comp=Z,3.5nm,0.8s,baz=39,slow=5.1,SNR=27
GERES LR LR 05 24 09.0
comp=Z,308nm,18.3s,baz=32,slow=39
K51A Iona Station 79.03 38 P P 04 45 20.5 -0.3
baz=325
BZS Buzias 79.13 328 ⇓P P 04 45 22.1 +0.8
CONA Conrad Observa 79.13 332 *i* P P 04 45 22.8 +1.4
comp=Z,14nm,1.3s,SNR=14
E58A La Victoria 79.19 31 P P 04 45 21.9 +0.2
baz=329
TNS Taunus Mts 79.24 338 *e*P P 04 45 22.7 +0.8
comp=Z,14nm,0.8s,baz=26,slow=4.8
H55A Tweed 79.28 34 P P 04 45 21.8 -0.4
baz=327
O48A Farmland 79.40 42 P P 04 45 22.6 -0.3
baz=323
BEBN Eben Emael 79.41 340 P P 04 45 23.3 +0.5
RAR Rarotonga 79.44 136 LR LR 05 15 20.9
comp=Z,260nm,19.7s,baz=278,slow=32
HERR Herculane 79.45 327 ⇑P P 04 45 23.5 +0.4
MEM Membach 79.50 339 P P 04 45 24.1 +0.9
comp=Z,20nm,1.0s
D61A St Aubert, Com 79.53 28 P P 04 45 23.0 -0.4
baz=331
D60A Saint Jean D'O 79.53 29 P P 04 45 23.0 -0.5
baz=331
BSTI Sart Tilman 79.63 340 P P 04 45 25.1 +1.1
MIAR Mount Ida 79.64 50 P P 04 45 24.2 -0.2
baz=320
MOA Molln 79.70 333 *i* P P 04 45 25.7 +1.2
comp=Z,4.6nm,0.9s,SNR=5.4
BHOU Houvegnez 79.74 339 P P 04 45 25.9 +1.3
comp=Z,17nm,1.4s
WHAR Wooly Hollow 79.76 49 IAmb IAmb 04 45 38.6
comp=Z,16nm,1.3s
MDVR Moldovita 79.80 327 ⇑P P 04 45 25.2 +0.1
F59A Saint Guilaume 79.81 31 P P 04 45 24.9 -0.1
baz=330
ARSA Arzberg 79.83 332 *i* P P 04 45 26.8 +1.6
comp=Z,8.1nm,0.9s,SNR=7.2
PLVB Pleven 79.84 325 ⇓P P 04 45 26.4 +1.1
BCLA Clavier 79.85 340 P P 04 45 25.2 +0.1
comp=Z,12nm,1.3s
W41B Gary Mavity, V 79.87 49 P P 04 45 25.7 +0.2
baz=320
W41B Gary Mavity, V 79.87 49 IAmb IAmb 04 45 59.6
comp=Z,24nm,1.7s
BGES Gesves 79.93 340 P P 04 45 26.0 +0.4
comp=Z,10nm,1.4s
SNF Seneffe 80.00 340 P P 04 45 26.2 +0.2
comp=Z,9.6nm,1.0s
D62A Allapoint, All 80.01 28 P P 04 45 26.3 +0.2
baz=332
BMRD Maredsous 80.08 340 P P 04 45 26.6 +0.2
comp=Z,15nm,1.3s
J55A Hilton 80.11 35 P P 04 45 26.4 -0.2
baz=327
RJOB Jochberg 80.26 334 *e*P P 04 45 28.5 +1.0
comp=Z,10nm,1.1s,baz=26,slow=4.8
E62A Clayton Lake 80.26 28 P P 04 45 27.0 -0.5
baz=332
DOU Dourbes 80.32 340 P P 04 45 27.6 -0.1
F61A St Evariste 80.33 30 P P 04 45 28.0 +0.1
baz=331
WLF Walferdange 80.34 339 P P 04 45 25.0 -2.8
M53A WI Miller and 80.44 38 P P 04 45 28.6 +0.1
baz=326
K55A Perry 80.45 36 P P 04 45 28.9 +0.2
baz=327
SOKA Soboth 80.50 332 *i* P P 04 45 30.1 +1.2
comp=Z,27nm,1.1s,SNR=11
PERS Pernice 80.51 332 *i* P P 04 45 29.5 +0.6
H58A Gabriels 80.53 32 P P 04 45 28.8 -0.2
baz=329
G60A Masonville 80.62 31 P P 04 45 29.1 -0.3
baz=330
O51A Pataskala 80.65 40 P P 04 45 29.8 +0.1
baz=324
TAOE Nuku Hiva Isla 80.67 113 *e*LR LR 05 10 41.9
comp=Z,208nm,28.2s
KBA Koelnbreinsper 80.68 333 *i* PcP P 04 45 31.5 +1.6
comp=Z,26nm,0.8s,SNR=17
F62A Pittston Farm, 80.75 29 P P 04 45 30.0 -0.1
baz=331
G61A St-Isidore-de- 80.75 30 P P 04 45 30.1 0.0
baz=330
K56A Middlesex 80.78 35 P P 04 45 30.0 -0.3
baz=327
OBKA Obir 80.80 332 *i* PcP P 04 45 32.4 +1.9
comp=Z,4.9nm,0.8s
M54A Oil Creek Stat 80.81 37 P P 04 45 30.3 -0.3
baz=326
M54A Oil Creek Stat 80.81 37 IAmb IAmb 04 45 31.8
comp=Z,18nm,1.2s
I58A Old Forge 80.86 33 P P 04 45 30.8 0.0
baz=328
N53A Lisbon 80.89 38 P P 04 45 30.9 0.0
baz=325
MYKA Terra Mystica 80.98 333 *i* P P 04 45 32.1 +0.6
comp=Z,7.5nm,0.9s
WATA Walderalm 80.98 335 *i* P P 04 45 32.6 +1.1
comp=Z,33nm,1.1s,SNR=18
BFO Black Forest 81.00 337 P P 04 45 30.9 -0.6
BFO pmax pmax
comp=Z,15nm,1.0s
BFO Black Forest 81.00 337 P P 04 45 30.9 -0.6
BFO IAmb IAmb 04 45 34.9
comp=Z,15nm,1.0s
O52A Adamsville 81.01 40 P P 04 45 31.6 0.0
baz=325
J58A Remsen 81.02 34 P P 04 45 31.3 -0.3
baz=328
WTTA Wattenberg 81.03 335 *i* PcP P 04 45 33.1 +1.3
comp=Z,23nm,0.6s,SNR=19
VTS Vitosha 81.04 325 ⇑P P 04 45 32.9 +1.0
RETA Reutte 81.08 335 *i* P P 04 45 32.9 +0.9
comp=Z,11nm,0.8s,SNR=7.2
CRES Cresnjev 81.11 332 *i* P P 04 45 32.1 0.0
MOTA Moosalm 81.11 335 *i* P P 04 45 33.4 +1.1
comp=Z,30nm,1.1s,SNR=19
N54A Moraine State 81.12 38 P P 04 45 32.1 -0.1
baz=326
N54A Moraine State 81.12 38 IAmb IAmb 04 45 46.1
comp=Z,22nm,1.2s
G62A West of Eustis 81.15 30 P P 04 45 31.8 -0.5
baz=331
G62A West of Eustis 81.15 30 P P 04 45 31.6 -0.6
G62A IAmb IAmb 04 47 26.1
comp=Z,36nm,1.9s
L56A Greenwood 81.15 36 P P 04 45 31.6 -0.8
baz=327
PRED Cave del Predi 81.17 333 IAmb IAmb 04 45 35.1
comp=Z,12nm,1.0s
O53A New Philadelph 81.18 39 P P 04 45 32.1 -0.4
baz=325
I59A Olmsteadville 81.18 32 P P 04 45 32.0 -0.5
baz=329
SQTA Sankt Quirin 81.19 335 *i* PcP P 04 45 34.0 +1.4
comp=Z,22nm,1.0s,SNR=11
F63A Nahmakanta, Br 81.20 29 P P 04 45 32.1 -0.5
baz=332
M55A Ridgway 81.22 37 P P 04 45 32.5 -0.2

baz=326
M55A Ridgway 81.22 37 IAmb IAmb 04 45 39.0
comp=Z,12nm,1.1s
Q51A Peebles 81.22 41 IAmb IAmb 04 45 46.6
comp=Z,12nm,1.1s
ABTA Abfaltersbach 81.23 334 *i* P P **04 45 33.3 +0.6**
comp=Z,6.9nm,1.0s
H61A Lyndonville 81.25 31 P P **04 45 32.7 -0.1**
baz=330
ZOU Zoufplan 81.26 333 IAmb IAmb 04 45 36.4
comp=Z,18nm,1.7s
P52A Corning 81.28 40 P P **04 45 32.7 -0.3**
baz=325
F64A Sherman 81.31 28 P P **04 45 32.6 -0.5**
baz=332
ALN Alexandroupoli 81.32 322 IAmb IAmb 04 45 36.0
comp=Z,12nm,1.0s
WVT Waverly 81.39 46 P P **04 45 33.7 0.0**
baz=322
WVT Waverly 81.39 46 P P **04 45 33.5 -0.2**
WVT pmax pmax
comp=Z,5.0nm,0.9s
WVT Waverly 81.39 46 P P **04 45 33.5 -0.2**
ECH Echery 81.42 338 IAmb IAmb 04 45 36.6
comp=Z,15nm,0.9s
M56A Emporium 81.44 36 P P **04 45 33.6 -0.3**
baz=327
H62A Milan 81.49 30 P P **04 45 33.6 -0.5**
baz=331
FETA Feichten 81.52 335 *i* PcP P **04 45 35.6 +1.2**
comp=Z,8.1nm,1.0s
DAVA Damuels 81.52 336 *i* PcP P **04 45 35.4 +1.0**
comp=Z,10nm,0.9s,SNR=6.7
G63A Kingsbury 81.55 29 P P **04 45 34.3 -0.1**
baz=332
L57A Andrews Acres 81.56 35 P P **04 45 34.4 -0.1**
baz=328
O54A Avella 81.60 39 P P **04 45 34.5 -0.2**
baz=326
K59A Cooperstown 81.68 34 P P **04 45 35.0 -0.1**
baz=329
N55A Marion Center 81.70 37 P P **04 45 35.2 -0.1**
baz=326
G64A Maxfield 81.72 29 P P **04 45 34.9 -0.3**
baz=332
BINY Binghamton 81.73 35 P P **04 45 35.1 -0.3**
baz=328
PPT Papeete 81.78 126 LR LR 05 19 11.8
comp=Z,79nm,18.0s,baz=350,slow=34
PPT2 Papeete2 81.79 126 *e*LR LR 05 11 07.3
comp=Z,196nm,24.2s
J60A Lant Hill Farm 81.82 32 P P **04 45 35.8 -0.1**
baz=330
OXF Oxford 81.86 48 P P **04 45 36.6 +0.4**
baz=322
N56A West Decatur 81.87 37 P P **04 45 36.1 -0.1**
baz=327
L58A Harry Jones Me 81.92 35 P P **04 45 36.3 -0.1**
baz=328
M57A Sunshine Farm, 82.00 36 P P **04 45 37.0 +0.2**
baz=328
M57A Sunshine Farm, 82.00 36 IAmb IAmb 04 45 38.0
comp=Z,13nm,1.2s
FUORN Ofenpass-Fuorn 82.02 335 IAmb IAmb 04 45 40.7
comp=Z,12nm,0.9s
P54A Burton 82.03 39 P P **04 45 37.3 +0.3**
baz=326
O55A Ligonier 82.04 38 P P **04 45 36.9 -0.2**
baz=326
J61A Chester 82.06 32 P P **04 45 37.3 +0.3**
baz=330
H64A Troy 82.10 29 P P **04 45 37.4 +0.1**
baz=332
L59A Walton 82.11 34 P P **04 45 37.3 -0.1**
baz=329
L59A Walton 82.11 34 P P **04 45 37.0 -0.4**
L59A IAmb IAmb 04 45 38.4
comp=Z,12nm,1.2s
T50A Nancy 82.14 43 IAmb IAmb 04 45 39.1
comp=Z,19nm,1.6s
I63A Otisfield 82.15 30 P P **04 45 37.6 0.0**
baz=331
Q53A Leroy 82.18 40 P P **04 45 38.2 +0.4**
baz=325
M58A Price's Panora 82.24 35 P P **04 45 37.8 -0.3**
baz=328
O56A Blue Knob Stat 82.30 37 P P **04 45 38.7 +0.3**
baz=327
N57A Milroy 82.31 36 P P **04 45 38.8 +0.3**
baz=327
K61A Williamstown 82.38 33 P P **04 45 38.8 0.0**
baz=330
Q54A Coxs Mills 82.38 40 P P **04 45 38.9 0.0**
baz=326
P55A Reedsville 82.39 39 P P **04 45 39.0 +0.1**
baz=326
N58A Sunbury 82.59 36 P P **04 45 39.9 0.0**
baz=328
N58A Sunbury 82.59 36 IAmb IAmb 04 45 44.3
comp=Z,15nm,1.4s
L60A Shokan 82.60 34 P P **04 45 39.5 -0.4**
baz=329
H66A Whiting 82.60 28 P P **04 45 39.8 -0.1**
baz=333
L61A Hillsdale 1, H 82.68 33 P P **04 45 39.9 -0.4**
baz=330
PDG Podgorica 82.73 327 ⇓P P **04 45 41.0 +0.4**
O57A Amberson 82.74 37 P P **04 45 41.0 +0.3**
baz=327
K62A Royalston 82.76 32 P P **04 45 40.7 -0.1**
baz=330
L61B Northampton 82.78 32 P P **04 45 40.8 -0.1**
baz=330
P56A Dayton Farm, R 82.82 38 P P **04 45 40.8 -0.4**
baz=327
N59A State Game Lan 82.90 35 P P **04 45 41.4 -0.2**
baz=328
R54A Victor 82.97 40 P P **04 45 41.9 -0.1**
baz=326
K63A Dunstable 83.00 32 P P **04 45 41.9 -0.1**
baz=331
Q56A Snyder Ridge, 83.06 38 P P **04 45 42.1 -0.2**
baz=326
O58A Lewisberry 83.11 36 P P **04 45 41.8 -0.8**
baz=328
T53A Wise 83.25 42 P P **04 45 42.9 -0.6**
baz=325
R55A Marlinton 83.28 39 P P **04 45 42.8 -0.8**
baz=326
Z47A Carrollton 83.58 48 IAmb IAmb 04 45 48.4
comp=Z,8.8nm,0.9s
T54A Tazewell 83.63 41 P P **04 45 45.5 +0.1**
baz=325
L63A North Scituate 83.69 32 P P **04 45 45.6 +0.1**
baz=331
M63A Gales Ferry 83.93 32 P P **04 45 46.6 -0.1**
baz=330
T55A Pulaski 83.94 41 P P **04 45 47.0 -0.1**
baz=326
R57A Stanardsville 83.96 38 P P **04 45 47.3 +0.2**
baz=327
MSSA Maissana 84.33 335 IAmb IAmb 04 45 59.5
comp=Z,6.8nm,0.9s
U55A TA2, Sparta 84.33 41 P P **04 45 49.0 -0.1**
baz=326
BNI Bardonecchia 84.46 337 IAmb IAmb 04 46 03.4
comp=Z,14nm,1.2s
RAYN Ar Rayn 84.75 299 P P **04 45 51.7 +0.4**
RAYN pmax pmax
comp=Z,10.0nm,1.2s
RAYN Ar Rayn 84.75 299 P P **04 45 51.7 +0.4**
RAYN IAmb IAmb 04 45 53.4
comp=Z,10nm,1.2s
Q61A Milford 84.81 36 P P **04 45 51.6 +0.3**
baz=329
SSB Saint Sauveur 84.82 338 IAmb IAmb 04 45 55.7
comp=Z,12nm,1.0s
V56A Mocksville 85.15 41 P P **04 45 53.3 +0.2**
baz=326
U58A Oxford 85.54 39 P P **04 45 55.0 0.0**
baz=327
Y55A Saluda 86.06 43 P P **04 45 58.4 +0.8**
baz=325
TBI Tubuai 86.49 129 *e*LR LR 05 13 04.5
comp=Z,233nm,35.5s
TIP Timpagrande 86.49 328 ⇓P P **04 46 01.7 +1.9**
TIGA Tifton 87.25 46 P P **04 46 04.3 +0.8**
baz=325

NHSC New Hope 87.53 42 P P **04 46 05.4 +0.6**
baz=326
VSL Villasalto 88.76 333 IAmb IAmb 04 46 14.9
comp=Z,6.4nm,1.0s
ESDC Sonseca Array 92.11 343 P P **04 46 25.6 -0.6**
comp=Z,0.5nm,0.7s,baz=5.0,slow=3.4,SNR=5.2
ESDC LR LR 05 33 32.8
comp=Z,74nm,18.1s,baz=0.0,slow=39
KEST Kesra 92.20 331 LR LR 05 32 03.9
comp=Z,99nm,18.1s,baz=247,slow=38
TORD Torodi Ar. Bea 115.61 329 PKP **PKiKP** **04 51 59.4 0.0**
comp=Z,0.7nm,1.0s,baz=340,slow=0.9,SNR=2.5
H03N2 Juan Fernandez 138.69 91 T T 07 28 27.9
baz=308,slow=77,SNR=5.5
H03N1 Juan Fernandez 138.70 91 T T 07 28 15.7
baz=308,slow=77,SNR=3.8
H03N3 Juan Fernandez 138.70 91 T T 07 28 27.3
baz=308,slow=77,SNR=3.7
BDFB Brasilia 144.76 37 PKP PKPbc 04 52 53.4 +0.3
comp=Z,5.5nm,0.9s,baz=296,slow=1.1,SNR=5.6
SNAA Sanae 152.02 196 PKPdf **PKPbc** **04 53 10.6 -0.1**
VNA2 Neumayer--Watz 153.46 194 PKPdf **PKiKP** **04 53 14.1 +0.1**
VNA3 Neumayer Olymp 153.55 192 PKPdf **PKiKP** **04 53 18.4 +4.2**

*MAN **09** 04:34:54.6,5.˚60N×126.˚28E,h97km,MS3.9*
*NEIC **09** 04:34:55.9±1.6,5.˚8N±0.˚1×126.˚6E±0.˚3,h113km±13km, mb4.0/6,Error ellipse: s-maj=41.9km s-min=6.8km az=68.0*
*IDC **09** 04:34:57.7±1.2,5.˚69N×126.˚14E,h127km±20km,mb3.5/5, mb1 3.7/5,mb1mx3.2/41,mbtmp3.9/5,Error ellipse: s-maj=110.3km s-min=21.8km az=67.0*
ISC 09 04:34:56.1±0.9,5.˚68N±0.˚06×126.˚24E±0.˚09,h108km±9km, n23,σ1°00/30,mb3.9/7,1C-2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.68**	**309**	*e*P	**Pn**	**04 35 13.1**	**-1.0**
DDMP				*e*S	**Sn**	**04 35 27.6**	**0.0**
MATI	**Mati**	**1.26**	**1**	*e*P	**Pn**	**04 35 19.1**	**-0.9**
MATI				*e*S	**Sn**	**04 35 37.7**	**-0.4**
DAV	**Davao City (W)**	**1.53**	**335**	P	**Pn**	**04 35 24.0**	**+0.8**
	45nm,0.3s,baz=91,slow=12,SNR=1.3						
DAV				S	**Sn**	**04 35 46.8**	**+3.0**
	111nm,0.3s,baz=333,slow=23,SNR=7.8						
DAV				LR	LR	04 36 01.5	
	comp=Z,65nm,21.5s,baz=315,slow=43						
DAV	**Davao City (W)**	**1.53**	**335**		**Sn**	**04 35 44.8**	**+1.1**
DMPH	**Davao City--Mi**	**1.57**	**332**	⇑*e*P	**Pn**	**04 35 23.3**	**-0.4**
DMPH				*e*S	**Sn**	**04 35 46.0**	**+1.3**
KCP	**Kidapawan**	**1.75**	**319**	⇓*e*P	**Pn**	**04 35 26.5**	**+0.6**
KCP				*i* S	**Sn**	**04 35 48.0**	**-0.6**
SKMP	**Bagumbayan, Su**	**1.88**	**296**	*e*P	**Pn**	**04 35 26.9**	**-0.6**
SKMP				*e*S	**Sn**	**04 35 51.2**	**-0.3**
BUKP	**Musuan**	**2.48**	**332**	*e*P	**Pn**	**04 35 36.2**	**+1.0**
BUKP				*e*S	**Sn**	**04 36 05.5**	**+0.2**
CTBH	**Cotabato--PC H**	**2.51**	**308**	⇓*i*P	**Pn**	**04 35 35.4**	**-0.1**
PAGZ	**Pagadian**	**3.56**	**307**	*e*P	**Pn**	**04 35 49.3**	**-0.2**
TNTI	**Ternate**	**5.00**	**167**	Pn	**Pn**	**04 36 09.7**	**+0.7**
TNTI					**Sn**	**04 37 04.7**	**-0.9**
LUWI	**Luwuk**	**7.52**	**208**		**Pn**	**04 36 45.4**	**+2.2**
KNRA	**Kununurra**	**21.36**	**173**	P	**P**	**04 39 34.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**23.63**	**181**	P	**P**	**04 39 57.8**	**+0.3**
	6.2nm,1.1s,baz=5.7,slow=10,SNR=2.0						
FITZ	**Fitzroy Crossi**	**23.63**	**181**	P	**P**	**04 39 57.3**	**-0.3**
FITZ				IAmb	IAmb	04 40 03.5	
	comp=Z,6.6nm,1.0s						
WB0	**Warramunga Arr**	**26.53**	**163**	P	**P**	**04 40 23.4**	**-0.4**
WB0				IAmb	IAmb	04 40 33.0	
	comp=Z,5.0nm,0.9s						
WRA	**Warramunga Arr**	**26.68**	**163**	P	**P**	**04 40 24.8**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=342,slow=10,SNR=9.1						
WB2	**Warramunga Arr**	**26.68**	**163**	P	**P**	**04 40 24.9**	**-0.3**
WB2				IAmb	IAmb	04 40 33.7	
	comp=Z,3.7nm,0.9s						
ASAR	**Alice Springs**	**30.11**	**166**	P	**P**	**04 40 55.7**	**0.0**
	comp=Z,0.6nm,0.3s,baz=346,slow=7.1,SNR=15						
BBOO	**Buckleboo**	**39.40**	**167**	P	**P**	**04 42 15.6**	**+0.2**
STKA	**Stephens Creek**	**40.11**	**160**	P	**P**	**04 42 22.1**	**+0.8**
	comp=Z,1.8nm,0.5s,baz=350,slow=8.8,SNR=6.5						
STKA	**Stephens Creek**	**40.11**	**160**	IAmb	IAmb	04 42 23.1	
	comp=Z,0.7nm,0.9s						
MKAR	**Makanchi Array**	**55.69**	**325**	P	**P**	**04 44 20.1**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=123,slow=7.4,SNR=1.3						

*BJI **09** 04:46:02.6±0.0,27.˚21N×88.˚13E,h11km,mB4.8/3, mb4.4/6,ML4.0/1,Ms3.8/5,Ms7 3.7/2*
*IDC **09** 04:46:03.7±0.9,27.˚41N×88.˚05E,h0km,mb4.0/10, mb1 4.1/12,mb1mx3.8/53,mbtmp4.0/12,ML3.8/2,Error ellipse: s-maj=34.4km s-min=16.0km az=55.0*
*NDI **09** 04:46:05.5±2.1,27.˚40N×88.˚16E,h5km,ML3.9*
*DMN **09** 04:46:09.8±0.5,27.˚30N×87.˚84E,h2km,Ml4.7/4,Error ellipse: s-maj=9.2km s-min=5.6km az=60.0*
ISC 09 04:46:06.0±0.5,27.˚36N±0.˚05×88.˚09E±0.˚03,h20km,n39, σ2°27/46,mb4.3/18,1D,Sikkim

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAPN	**Taplejung**	**0.34**	**269**	*e*Pg	**Pb**	**04 46 12.6**	**-0.8**
TAPN				*e*Sg	**Sb**	**04 46 17.6**	**-0.9**
GTK	**Tadong**	**0.46**	**95**	*e*P	**Pb**	**04 46 13.0**	**-2.4**
GTK				*e*S	**Sb**	**04 46 17.8**	**-4.1**
GTK				IAML		04 46 20.6	
	comp=N,9μm,0.6s						
GTK				IAML		04 46 21.5	
	comp=E,8μm,0.6s						
ODAN	**Odare**	**0.80**	**232**	*e*Pg	**Pb**	**04 46 20.9**	**-0.4**
RAMN	**Ramite**	**1.39**	**253**	*e*Pg	**Pb**	**04 46 32.3**	**+1.0**
PKI	**Pulchoki**	**2.39**	**276**	*e*Sg	**Sb**	**04 47 18.4**	**+0.7**
	comp=E,1μm,0.5s						
PKIN	**Phulchoki**	**2.40**	**276**	*e*Sg	**Sb**	**04 47 18.7**	**+0.7**
	comp=E,2μm,0.6s						
DMN	**Daman**	**2.66**	**276**	*e*Sg	**Sb**	**04 47 26.9**	**+1.5**
	comp=E,1μm,0.7s						
LSA	**Lhasa**	**3.56**	**48**	Pg	**Pb**	**04 47 08.2**	**-0.4**
LSA				Sn	**Sb**	**04 47 52.3**	**+0.7**
LSA				smax	smax		
	comp=E,390nm,0.7s						
LSA				smax	smax		
	comp=E,410nm,0.7s						
PYUN	**Piuthan**	**4.58**	**280**	*e*Pn	**Pn**	**04 47 15.6**	**+1.3**
PYUN				*e*Sn	**Sn**	**04 48 04.4**	**-2.6**
	comp=E,656nm,0.5s						
ZIRO	**ZIRO**	**5.12**	**87**	*ex*	**Pb**	**04 47 37.3**	**+2.3**
ZIRO				*e*S	**Sn**	**04 48 19.1**	**-1.3**
KOHI	**KOHIMA**	**5.63**	**105**	*e*P	**Pn**	**04 47 34.2**	**+5.5**
KOHI				*e*S	**Sn**	**04 48 39.5**	**+6.5**
BWNR	**Bhubaneshwar**	**7.33**	**197**	*e*P	**Pn**	**04 47 54.2**	**+2.2**
BWNR				*e*S	**Sn**	**04 49 13.1**	**-1.5**
JBP	**Jabalpur**	**8.44**	**242**	⇓*i*P	**Pn**	**04 48 08.7**	**+1.6**
JBP				*e*S	**Sn**	**04 49 42.0**	**+0.2**
HYB	**Hyderabad**	**13.25**	**224**	*i* P	**Pn**	**04 49 11.0**	**-2.0**
HYB				*e*S	**Sn**	**04 51 35.0**	**-4.8**
THW	**Thamme Wali**	**15.15**	**295**	P	**Pn**	**04 49 32.4**	**-6.4**
CEP	**Cherat**	**15.34**	**299**	P	Pn	04 49 33.9	-7.6
KSH	**Kashi**	**15.77**	**323**	*e*P	**Pn**	**04 49 43.0**	**-4.0**
KSH				pmax	pmax		
	comp=E,21nm,0.9s						
KSH				pmax	pmax		
	comp=E,170nm,4.0s						
KSH				LR	LR		
	comp=E,810nm,9.2s						
KSH				LR	LR		
	comp=E,560nm,8.2s						
GYA	**Guiyang**	**16.60**	**89**	*e*P	**Pn**	**04 49 57.9**	**+0.2**
GYA				pmax	pmax		
	comp=E,10.0nm,0.6s						
AAK	**Ala-Archa**	**18.84**	**328**	P	**Pn**	**04 50 26.2**	**+0.9**
	comp=E,0.2nm,0.3s,baz=166,slow=9.1,SNR=10						
MKAR	**Makanchi Array**	**19.93**	**348**	P	**P**	**04 50 37.2**	**+0.7**
	comp=E,0.4nm,0.3s,baz=172,slow=11,SNR=21						
KURBB	**Kurchatov Arra**	**24.35**	**345**	P	**P**	**04 51 22.8**	**+0.4**
	comp=E,3.5nm,0.9s,baz=164,slow=9.2,SNR=16						
SONM	**Songino Array**	**24.95**	**30**	P	**P**	**04 51 29.0**	**+1.0**
	comp=E,10.0nm,1.0s,baz=215,slow=10.0,SNR=25						
ZALV	**Zalesovo Beam**	**26.67**	**356**	P	**P**	**04 51 43.6**	**+0.2**
	comp=E,3.6nm,0.7s,baz=181,slow=9.3,SNR=11						
BRTR	**Keskin Array B**	**46.38**	**300**	P	**P**	**04 54 32.2**	**+1.0**
	comp=E,0.4nm,0.6s,baz=115,slow=6.8,SNR=4.5						
FINES	**FINESS Array B**	**53.02**	**328**	P	**P**	**04 55 21.3**	**+0.1**
	comp=E,2.3nm,0.6s,baz=101,slow=9.9,SNR=11						
CONA	**Conrad Observa**	**58.61**	**311**	*i* P	**P**	**04 56 02.1**	**+0.5**
	comp=E,5.0nm,1.3s						
SOKA	**Soboth**	**59.34**	**310**	*i* pP	**P**	**04 56 10.8**	**+4.1**
	comp=E,2.2nm,0.6s						
MOA	**Molln**	**59.68**	**311**	*i* pP	**P**	**04 56 11.2**	**+2.2**
	comp=E,2.4nm,0.8s						
GERES	**GERESS Array B**	**59.91**	**313**	P	**P**	**04 56 11.1**	**+0.5**
	comp=E,0.9nm,0.7s,baz=91,slow=6.0,SNR=7.9						
NB2	**NORSAR Subarra**	**60.16**	**327**	P	**P**	**04 56 11.0**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=86,slow=6.9						
NOA	**NORSAR Array B**	**60.16**	**327**	P	**P**	**04 56 11.4**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=86,slow=6.7,SNR=5.4						
SQTA	**Sankt Quirin**	**61.83**	**311**	*i* P	**P**	**04 56 22.9**	**-0.8**
	comp=Z,1.7nm,0.5s						
MOTA	**Moosalm**	**61.88**	**311**	*i* P	**P**	**04 56 23.8**	**-0.3**
	comp=Z,3.3nm,1.0s						
RETA	**Reutte**	**62.08**	**312**	*i* P	**P**	**04 56 24.0**	**-1.4**
	comp=Z,2.4nm,1.0s						
FETA	**Feichten**	**62.19**	**311**	*i* P	**P**	**04 56 24.1**	**-2.1**
	comp=Z,2.2nm,1.0s						
DAVA	**Damuels**	**62.70**	**311**	*i* P	**P**	**04 56 29.4**	**-0.2**
	comp=Z,6.7nm,0.9s						
WRA	**Warramunga Arr**	**64.94**	**131**	P	**P**	**04 56 46.2**	**+1.7**
	comp=Z,1.7nm,0.6s,baz=324,slow=6.7,SNR=12						
ASAR	**Alice Springs**	**67.30**	**135**	P	**P**	**04 57 01.1**	**+1.5**
	comp=Z,1.5nm,0.7s,baz=316,slow=5.6,SNR=18						
YKA	**Yellowknife Ar**	**88.63**	**10**	P	**P**	**04 58 57.0**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=332,slow=4.6,SNR=6.1						

*IDC **09** 05:11:38.2±0.8,11.˚26S×165.˚39E,h0km,mb4.2/10, mb1 4.4/11,mb1mx4.1/31,mbtmp4.2/11,ML4.7/1,MS3.5/9, Ms1 3.5/9,ms1mx3.2/29,Error ellipse: s-maj=30.2km s-min=20.6km az=115.0*
*NEIC **09** 05:11:39.8±1.1,11.˚29S±0.˚06×165.˚31E±0.˚10,h10km±1km, mb4.8/19,Error ellipse: s-maj=16.4km s-min=10.5km az=266.0*
ISC 09 05:11:41.8±0.6,11.˚29S±0.˚09×165.˚3E±0.˚1,h24km,n55, σ0°89/43,mb4.6/20,MS3.6/7,1C-1D,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.53**	**156**		**Pn**	**05 12 47.5**	**-1.4**
HNR	**Honiara**	**5.57**	**289**	LR	LR	05 15 17.3	
	comp=Z,305nm,19.4s,baz=128,slow=39						
HNR	**Honiara**	**5.57**	**289**	Pn	**Pn**	**05 13 00.5**	**-2.7**
DZM	**Mont Dzumac**	**10.77**	**174**	Pn	**Pn**	**05 14 14.6**	**-0.1**
	5.6nm,0.3s,baz=37,slow=7.1,SNR=41						
DZM	**Mont Dzumac**	**10.77**	**174**		**Pn**	**05 14 13.9**	**-0.8**
PMG	**Port Moresby**	**17.93**	**274**	LR	LR	05 22 29.5	
	comp=Z,164nm,18.3s,baz=64,slow=36						
BKZ	**Black Stump Fm**	**29.50**	**162**	P	**P**	**05 17 44.5**	**+0.3**
BKZ				IAmb	IAmb	05 17 45.7	
	comp=Z,11nm,0.6s						
H11S2	**WAKE ISLAND Hy**	**29.63**	**3**	T	T	05 48 18.8	
	baz=181,slow=76,SNR=6.3						
H11S3	**WAKE ISLAND Hy**	**29.63**	**3**	T	T	05 48 18.0	
	baz=181,slow=76,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**29.65**	**3**	T	T	05 48 12.8	
	baz=181,slow=76,SNR=4.5						
STKA	**Stephens Creek**	**29.95**	**223**	P	**P**	**05 17 49.6**	**+1.4**
	comp=Z,2.0nm,0.8s,baz=60,slow=9.1,SNR=3.9						
STKA				LR	LR	05 28 31.5	
	comp=Z,141nm,19.1s,baz=27,slow=34						
STKA	**Stephens Creek**	**29.95**	**223**	P	**P**	**05 17 49.6**	**+1.4**
BFZ	**Birch Farm**	**30.83**	**164**	P	**P**	**05 17 55.8**	**-0.1**
H11N1	**WAKE ISLAND Hy**	**30.85**	**3**	T	T	05 49 55.8	
	baz=186,slow=74,SNR=4.8						
H11N3	**WAKE ISLAND Hy**	**30.86**	**3**	T	T	05 49 44.2	
	baz=186						
H11N2	**WAKE ISLAND Hy**	**30.87**	**3**	T	T	05 49 44.3	
	baz=186,slow=74,SNR=3.2						
WB0	**Warramunga Arr**	**30.89**	**250**	P	**P**	**05 17 57.4**	**+0.7**
WB0				IAmb	IAmb	05 18 09.6	
	comp=Z,15nm,0.8s						
WB2	**Warramunga Arr**	**30.96**	**250**	P	**P**	**05 17 57.8**	**+0.4**
WB2				IAmb	IAmb	05 18 10.6	
	comp=Z,15nm,1.1s						
TUWZ	**Tuamarina**	**30.97**	**167**	P	**P**	**05 17 56.6**	**-0.4**
WRA	**Warramunga Arr**	**30.97**	**250**	P	**P**	**05 17 57.9**	**+0.4**
	comp=Z,5.9nm,0.8s,baz=82,slow=8.9,SNR=12						
SNZO	**South Karori**	**31.03**	**166**	P	**P**	**05 17 56.3**	**-1.3**
THZ	**Tophouse**	**31.08**	**169**	P	**P**	**05 17 59.8**	**+1.6**
MSWZ	**Moikau Station**	**31.26**	**165**	P	**P**	**05 17 58.9**	**-0.7**
PLWZ	**Palliser**	**31.40**	**166**	P	**P**	**05 18 01.6**	**+0.6**
TOO	**Toolangi**	**31.63**	**211**	P	**P**	**05 18 03.1**	**0.0**
LTZ	**Lake Taylor**	**31.95**	**170**	P	**P**	**05 18 05.2**	**-0.6**
ASAR	**Alice Springs**	**32.28**	**243**	P	**P**	**05 18 08.7**	**-0.3**
	comp=Z,1.4nm,1.0s,baz=67,slow=9.9,SNR=5.1						
ASAR				PcP	**PcP**	**05 20 57.4**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=96,slow=3.7,SNR=4.4						
ASAR				LR	LR	05 29 41.5	
	comp=Z,72nm,21.5s,baz=66,slow=34						
PPT	**Papeete**	**44.08**	**104**	LR	LR	05 35 28.0	
	comp=Z,109nm,20.4s,baz=1.5,slow=32						
PSA00	**Pilbara Seismi**	**44.62**	**251**	P	**P**	**05 19 53.3**	**+0.7**
PSA00				IAmb	IAmb	05 20 03.2	
	comp=Z,43nm,1.5s						
PETK	**Petropavlovsk-**	**64.47**	**355**	LR	LR	05 46 01.7	
	comp=Z,20nm,21.4s,baz=70,slow=32						
VNDA	**Vanda**	**66.24**	**181**	P	**P**	**05 22 28.0**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=348,slow=6.4,SNR=5.9						
VNDA	**Vanda**	**66.24**	**181**	P	**P**	**05 22 27.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**71.80**	**294**	P	**P**	**05 23 04.6**	**+1.7**
	comp=Z,1.5nm,0.4s,baz=109,slow=4.4,SNR=5.5						
SONM	**Songino Array**	**78.60**	**324**	P	**P**	**05 23 42.4**	**+0.8**
	comp=Z,2.0nm,1.0s,baz=139,slow=5.9,SNR=4.8						
QSPA	**South Pole Qui**	**78.71**	**180**	P	**P**	**05 23 42.0**	**0.0**
QSPA				IAmb	IAmb	05 23 45.6	
	comp=Z,9.7nm,1.4s						
HDA	**Harding Lake**	**83.62**	**19**	P	**P**	**05 24 08.3**	**+0.4**
HDA				IAmb	IAmb	05 24 20.5	
	comp=Z,3.5nm,0.8s						
ILAR	**Eielson Array**	**83.89**	**19**	P	**P**	**05 24 08.5**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=232,slow=4.9,SNR=9.7						
EGAK	**Eagle**	**85.77**	**20**	P	**P**	**05 24 19.3**	**+0.7**
EGAK				IAmb	IAmb	05 24 19.8	
	comp=Z,5.2nm,1.0s						
NVAR	**Mina Array Bea**	**86.53**	**50**	P	**P**	**05 24 22.9**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=239,slow=8.1,SNR=7.3						
NVAR				LR	LR	06 00 36.4	
	comp=Z,26nm,18.1s,baz=254,slow=34						
U15A	**North Rim**	**90.61**	**53**	P	**P**	**05 24 43.4**	**+0.6**
U15A				IAmb	IAmb	05 24 44.0	
	comp=Z,2.7nm,0.9s						
X16A	**Lo Mia Camp, P**	**90.83**	**55**	P	**P**	**05 24 43.8**	**0.0**
MSU	**Marysvale**	**91.19**	**51**	P	**P**	**05 24 45.7**	**+0.3**
SYO	**Syowa Base**	**91.42**	**197**	⇑*e*P	**P**	**05 24 44.4**	**-1.1**
SYO	**Syowa Base**	**91.42**	**197**	⇓*e*pP	pP	05 24 48.6	-2.8
MK31	**Makanchi Array**	**93.39**	**317**	P	**P**	**05 24 55.7**	**+0.6**
MK31				IAmb	IAmb	05 24 56.6	
	comp=Z,3.5nm,1.0s						
MKAR	**Makanchi Array**	**93.39**	**317**	P	**P**	**05 24 55.7**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=103,slow=5.5,SNR=19						
ZALV	**Zalesovo Beam**	**93.49**	**324**	P	**P**	**05 24 55.1**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=103,slow=4.7,SNR=4.6						
MAKZ	**Makanchi**	**93.61**	**317**	P	**P**	**05 24 56.4**	**+0.3**
MAKZ				IAmb	IAmb	05 24 57.5	
	comp=Z,5.8nm,1.1s						
YKA	**Yellowknife Ar**	**95.40**	**27**	LR	LR	06 05 01.9	
	comp=Z,19nm,18.7s,baz=0.0,slow=34						
NRIK	**Noril'sk**	**96.20**	**340**	LR	LR	06 11 29.4	
	comp=Z,18nm,18.0s,baz=98,slow=37						
SNAA	**Sanae**	**96.84**	**184**	P	**P**	**05 25 10.6**	**+0.1**
VSL	**Villasalto**	**144.70**	**327**		**PKPdf**	**05 31 16.6**	**-0.3**
KEST	**Kesra**	**147.34**	**322**	PKPbc	**PKPab**	**05 31 24.7**	**-1.1**
	comp=Z,4.6nm,0.9s,baz=239,slow=6.7,SNR=5.6						
KEST	**Kesra**	**147.34**	**322**		**PKPab**	**05 31 24.6**	**-1.2**
ESDC	**Sonseca Array**	**150.17**	**343**	PKPbc	**PKiKP**	**05 31 31.7**	**-0.2**
	comp=Z,1.9nm,1.0s,baz=

GRSS				*e*S		Sn	05 13 28.9	+0.2
GCMP	**Grenada, Carri**	**1.53**	**28**	*e*P		Pn	05 13 11.9	-0.5
GCMP				*e*S		Sn	05 13 32.2	-1.5
TOSP	**Speyside**	**1.61**	**84**	*i* P		Pn	05 13 12.8	-0.5
TOSP				*e*S		Sn	05 13 34.2	-1.1
SVB	**Belmont**	**2.31**	**23**	*e*P		Pn	05 13 22.2	+0.2
SVB				*e*S		Sn	05 13 49.4	-1.3
SVCV	**St. Vincent, C**	**2.35**	**25**	*e*P		Pn	05 13 21.7	-0.8
SVCV				*e*S		Sn	05 13 51.1	-0.6
SVV	**Soufriere Volc**	**2.36**	**23**	*e*P		Pn	05 13 22.0	-0.7
SVV				*e*S		Sn	05 13 50.3	-1.7
SSV	**Crater Summit**	**2.38**	**24**	*e*P		Pn	05 13 22.5	-0.4
SSV				*e*S		Sn	05 13 51.1	-1.4
ORIV	**Oritupano**	**2.39**	**211**	*e*P		Pn	05 13 22.0	-0.9
ORIV				*e*S		Sn	05 13 52.0	-0.5
SLB	**Belfond**	**2.90**	**22**	*e*P		Pn	05 13 28.8	-0.8
SLB				*e*S		Sn	05 14 03.3	-1.1
SLAC	**Saint Lucia, A**	**3.02**	**24**	*e*P		Pn	05 13 31.9	+0.8
SLAC				*e*S		Sn	05 14 04.8	-2.3
SLBI	**Saint Lucia, B**	**3.10**	**22**	*e*P		Pn	05 13 32.2	0.0
SLBI				*e*S		Sn	05 14 07.8	-1.3
BBGH	**Gun Hill**	**3.24**	**52**	*e*P		Pn	05 13 35.2	+1.1
BBGH				*e*S		Sn	05 14 10.5	-1.8
BIM	**Bigot**	**3.53**	**18**	*e*P		Pn	05 13 38.5	+0.6
BIM				*e*S		Sn	05 14 17.2	-2.0
MPOM	**Morne Pois Mar**	**3.53**	**21**	*e*S		Sn	05 14 18.5	-0.7
BAUV	**El Baul**	**6.18**	**250**	*e*P		Pn	05 14 12.5	-0.9
BAUV	**El Baul**	**6.18**	**250**	*e*S		Sn	05 15 18.6	-4.3

KRSC 09 05:33:10.0±0.8, 51°21N×158°13E, *h*41km±16km, ML3.9,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.86**	**288**	*e*P	Pn	05 33 27.3	+1.6
PAU				*e*S	Sn	05 33 38.3	+1.2
ASAK	**Asacha**	**1.18**	**353**	*e*P	Pn	05 33 32.0	+1.9
ASAK				*e*S	Sn	05 33 46.5	+1.5
RUS	**Russkaya**	**1.25**	**11**	*i* P	Pn	05 33 32.1	+1.2
RUS				*e*S	Sn	05 33 47.1	+0.7
MTVR	**Mutnovka**	**1.27**	**2**	*e*P	Pn	05 33 33.4	+2.0
MTVR				*e*S	Sn	05 33 48.8	+1.4
GRL	**Gorelyy**	**1.34**	**359**	*e*P	Pn	05 33 34.6	+2.2
GRL				*e*S	Sn	05 33 51.0	+2.0
MIPR	**Malaya Ipel'ka**	**1.36**	**322**	*e*P	Pn	05 33 34.8	+2.2
MIPR				*e*S	Sn	05 33 51.9	+2.5
SKR	**Severo-Kuril's**	**1.38**	**248**	*e*P	Pn	05 33 34.3	+1.6
SKR				*e*S	Sn	05 33 50.8	+1.1
KRMR	**Karymshinskiy**	**1.62**	**0**	*e*P	Pn	05 33 38.1	+2.1
KRMR				*e*S	Sn	05 33 56.8	+1.1
ALID	**Alaid**	**1.66**	**259**	*e*P	Pn	05 33 38.7	+1.9
ALID				*e*S	Sn	05 33 58.6	+1.6
APC	**Apacha**	**1.82**	**341**	*e*S	Sn	05 34 04.1	+3.6
PET	**Petropavlovsk**	**1.84**	**10**	*e*P	Pn	05 33 41.2	+2.1
PET				*e*S	Sn	05 34 02.8	+1.7
DALK	**Dalny**	**1.86**	**12**	*e*P	Pn	05 33 41.3	+2.0
DALK				*e*S	Sn	05 34 03.3	+1.7
UGLR	**Uglovaya**	**2.04**	**12**	*e*P	Pn	05 33 44.6	+2.6
AVH	**Avacha**	**2.09**	**10**	*e*P	Pn	05 33 45.7	+3.1
SMAR	**Somma**	**2.09**	**11**	*i* P	Pn	05 33 45.8	+3.0
NLC	**Nalytchevo**	**2.10**	**20**	*e*S	Sn	05 34 09.9	+2.4
KOK	**Koryaka**	**2.10**	**8**	*i* P	Pn	05 33 46.0	+3.2
SDLR	**Sedlovina**	**2.12**	**12**	*e*P	Pn	05 33 45.0	+2.0
KRER	**Koryakskii**	**2.13**	**10**	*e*P	Pn	05 33 46.1	+2.9
KRER				*e*S	Sn	05 34 10.9	+2.4
KRX	**Arik**	**2.17**	**8**	*i* P	Pn	05 33 46.5	+2.7
SPN	**Mys Shipunski**	**2.22**	**31**	*e*P	Pn	05 33 46.2	+1.9
TUMR	**Tumrok**	**4.25**	**16**	*e*P	Pn	05 34 17.1	+4.8
KBTR	**Krutoberegovo**	**5.73**	**27**	*e*P	Pn	05 34 35.9	+3.5

*GCG **09** 05:46:09.4±0.3, 13°.34N×91°.44W, *h*6km±18km, MD3.8*
*NEIC **09** 05:46:14.2±1.1, 13°.5N±0°.2×91°.34W±0°.10, *h*26km±17km, mb3.8/2, Md4.1/12(MEX), Error ellipse: s-maj=29.0km s-min=7.0km az=203.0*
*SNET **09** 05:46:14.9±1.1, 13°.69N×91°.25W, *h*18km±7km, ML3.4*
*MEX **09** 05:46:15.5±0.3, 13°.48N×91°.44W, *h*10km, MD4.1*
*UCR **09** 05:46:15.1±1.2, 13°.69N×91°.25W, *h*19km±8km, ML3.3, mb3.8(NEIC)*

ISC 09 05:46:13.5±2.3, 13°60N±0°.10×91°32W±0°.05, *h*13km±12km, n36, σ0°73/47, 2D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.97**	**29**	*e*P	**Pg**	**05 46 32.5**	**+0.3**
RTAL	**Retalhuleu**	**0.99**	**339**	*e*P	**Pb**	**05 46 32.2**	**-0.3**
RTAL				*e*S	**Sb**	**05 46 44.5**	**-1.0**
IXG	**Ixpaco**	**1.03**	**56**	*i*/*e*P	**Pb**	**05 46 32.1**	**-1.2**
IXG	**Ixpaco**	**1.03**	**56**	*e*P	**Pb**	**05 46 33.0**	**-0.2**
IXG	**Ixpaco**	**1.03**	**56**	*i*/*e*P	**Pb**	**05 46 32.1**	**-1.2**
PCG	**Pacaya**	**1.05**	**41**	*e*P	**Pg**	**05 46 34.0**	**+0.2**
STG3	**Santiaguito 3,**	**1.13**	**348**	*e*P	**Pn**	**05 46 34.6**	**-0.6**
NBG	**Las Nubes**	**1.37**	**44**	*e*P	**Pb**	**05 46 39.1**	**+0.1**
THIG		**1.59**	**325**		**Pn**	**05 46 40.6**	**-0.7**
THIG					**Sn**	**05 47 00.3**	**-1.4**
THIG		**1.59**	**325**	*i* P	**Pn**	**05 46 40.6**	**-0.7**
THIG				*i* S	**Sn**	**05 47 00.6**	**-1.1**
RTR	**El Retiro**	**1.66**	**79**	*e*P	**Pn**	**05 46 42.2**	**-0.2**
RTR	**El Retiro**	**1.66**	**79**	*e*P	**Pn**	**05 46 42.2**	**-0.2**
SBLS	**San Blas**	**1.67**	**82**	*e*P	**Pn**	**05 46 42.1**	**-0.6**
SBLS	**San Blas**	**1.67**	**82**	*e*P	**Pn**	**05 46 42.1**	**-0.6**
HUEH	**Huehuetenango**	**1.72**	**354**	*e*P	**Pb**	**05 46 44.1**	**-1.0**
HUEH				*e*S	**Sn**	**05 47 05.5**	**+0.2**
SNET	**Serv Nac Est T**	**2.04**	**87**	IAML		05 47 13.6	
	comp=Z,293nm,0.3s						
SNET	**Serv Nac Est T**	**2.04**	**87**	Pn	**Pn**	**05 46 47.5**	**0.0**
SNET	**Serv Nac Est T**	**2.04**	**87**	IAML		05 47 13.6	
	comp=Z,293nm,0.3s						
MTO3	**Montecristo**	**2.06**	**67**	*e*P	**Pn**	**05 46 47.4**	**-0.7**
MTO3				*e*S	**Sn**	**05 47 13.7**	**-0.1**
MTO3	**Montecristo**	**2.06**	**67**	Pn	**Pn**	**05 46 47.8**	**-0.3**
MTO3	**Montecristo**	**2.06**	**67**	*e*P	**Pn**	**05 46 47.4**	**-0.7**
MTO3				*e*S	**Sn**	**05 47 13.7**	**-0.1**
MRL	**Marmol**	**2.17**	**47**	*e*P	**Pn**	**05 46 49.3**	**-0.2**
MRL	**Marmol**	**2.17**	**47**	*e*P	**Pn**	**05 46 49.3**	**-0.2**
LFRS	**El Faro**	**2.20**	**89**	*e*P	**Pn**	**05 46 49.8**	**-0.1**
LFRS	**El Faro**	**2.20**	**89**	*e*P	**Pn**	**05 46 49.8**	**-0.1**
CCIG	**Comitan**	**2.78**	**344**		**Pn**	**05 46 58.1**	**+0.2**
CCIG	**Comitan**	**2.78**	**344**	*e*P	**Pn**	**05 46 58.7**	**+0.8**
CCIG				*e*S	**Sn**	**05 47 32.1**	**+0.7**
PCIG		**2.79**	**319**		**Pn**	**05 46 57.5**	**-0.2**
PCIG					**Sn**	**05 47 30.1**	**-1.1**
PCIG		**2.79**	**319**	*e*P	**Pn**	**05 46 57.5**	**-0.2**
PCIG				*i* S	**Sn**	**05 47 30.1**	**-1.1**
TGIG		**3.61**	**331**		**Pn**	**05 47 09.0**	**-0.2**
TGIG					**Sn**	**05 47 51.7**	**0.0**
TGIG		**3.61**	**331**	*e*P	**Pn**	**05 47 09.0**	**-0.2**
TGIG				*e*S	**Sn**	**05 47 51.7**	**0.0**
TGUH	**Tegucigalpa,Un**	**3.96**	**83**	Pn	**Pn**	**05 47 13.1**	**-0.9**
CMIG	**Matias Romero**	**4.88**	**316**		**Pn**	**05 47 27.4**	**+0.8**
CMIG					**Sn**	**05 48 22.6**	**-0.5**
CMIG	**Matias Romero**	**4.88**	**316**	*e*P	**Pn**	**05 47 27.4**	**+0.8**
CMIG				*e*S	**Sn**	**05 48 22.6**	**-0.5**
MNTX	**Cornudas Mount**	**22.16**	**327**	P	**P**	**05 51 10.0**	**+0.8**
MNTX				IAmb	IAmb	05 51 33.6	
	comp=Z,6.0nm,1.8s						
FCAR	**Ozark Folk Cen**	**22.21**	**358**	P	**P**	**05 51 11.8**	**+2.1**
FCAR				IAmb	IAmb	05 51 15.4	
	comp=Z,5.4nm,1.5s						

*NEIC **09** 05:55:27.1±2.3, 25°.41S±0°.08×174°.4W±0°.1, *h*10km±1km, mb4.9/86, Error ellipse: s-maj=17.2km s-min=11.3km az=123.0*
*BJI **09** 05:55:28.0±0.0, 25°.20S×174°.60W, *h*5km, mB5.5/10, mb5.2/12, Ms5.1/3*
*IDC **09** 05:55:31.0±0.8, 25°.28S×175°.10W, *h*0km, mb4.5/11, mb1 4.7/11, mb1mx4.6/23, mbtmp4.5/11, ML5.7/1, MS3.7/19, Ms1 3.7/19, ms1mx3.6/26, Error ellipse: s-maj=35.4km s-min=16.1km az=139.0*
*GCMT **09** 05:55:36.1±0.3, 25°.04S±0°.04×174°.81W±0°.02, *h*12km, MW4.7/75, Moment Tension Solution. s19,c21; s75,c97; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=1.57±.07; Mθθ=0.09±.07; Mφφ=1.47±.06; Mrθ=0.02±.34; Mrφ=-0.39±.05; Mθφ=0.43±.21; Best double couple: M0=1.62900×10^16^ NP1:ϕs=341.00000°, δ38.00000°, λ-97.00000°. NP2: ϕs=170.00000°, δ52.00000°, λ-84.00000°. Principal axes:*

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T 1.6260, Plg7.0000°, Azm256.0000°; N 0.0000, Plg4.0000°, Azm346.0000°; P -1.6320, Plg82.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 09 05:55:27.5±0.4, 25°.55S±0°.06×174°.28W±0°.07, *h*10km, n211, σ1°95/196, mb4.9/50, MS3.8/20, 1C-2D, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.91**	**220**	Pn	**Pn**	**05 56 45.1**	**+3.8**
	355nm,0.3s,baz=94,slow=19,SNR=7.0						
RAO				Sn	**Sn**	**05 57 39.3**	**+1.1**
	416nm,0.3s,baz=307,slow=23,SNR=6.6						
RAO	**Raoul Island**	**4.91**	**220**	Pn	**Pn**	**05 56 41.5**	**+0.2**
RAO				Sn	**Sn**	**05 57 37.3**	**-0.8**
RIZ	**Raoul Island**	**4.91**	**221**	P	**Pn**	**05 56 45.1**	**+3.7**
RIZ				S	**Sn**	**05 57 39.3**	**+1.2**
GLKZ	**Green Lake**	**4.91**	**220**	P	**Pn**	**05 56 45.3**	**+3.9**
NIUE	**Niue**	**7.60**	**33**	P	**Pn**	**05 57 17.6**	**-0.8**
	baz=7.1,SNR=15						
NIUE	**Niue**	**7.60**	**33**	Pn	**Pn**	**05 57 17.7**	**-0.6**
MSVF	**Nonsavu**	**10.55**	**316**	Pn	Pn	05 57 55.0	-4.0
AFI	**Afiamalu**	**11.82**	**12**	Pn	Pn	05 58 10.6	-5.7
WMGZ	**Waiomatatini S**	**13.71**	**205**	P	**Pn**	**05 58 40.6**	**-1.4**
WMGZ				S	**Sn**	**06 01 11.8**	**-2.6**
PKGZ	**Pakihiroa**	**13.91**	**206**	P	**Pn**	**05 58 40.6**	**-4.1**
HAZ	**Te Kaha**	**13.91**	**207**	P	**Pn**	**05 58 43.8**	**-0.9**
HAZ				S	**Sn**	**06 01 17.9**	**-1.4**
PUZ	**Puketiti**	**13.99**	**205**	P	**Pn**	**05 58 44.3**	**-1.6**
PUZ				S	**Sn**	**06 01 17.4**	**-4.0**
RAR	**Rarotonga**	**14.00**	**75**	Pn	**P**	**05 58 52.1**	**-1.9**
	14nm,0.3s,baz=255,slow=7.1,SNR=32						
RAR				Sn	**Sn**	**06 01 18.1**	**-3.5**
	7.1nm,0.3s,baz=57,slow=18,SNR=5.5						
RAR				LR	LR	06 04 25.5	
	comp=Z,420nm,18.2s,baz=261,slow=36						
RUGZ	**Raukumara Rang**	**14.13**	**207**	P	**Pn**	**05 58 44.9**	**-3.0**
TWGZ	**Tauwhareparae**	**14.19**	**206**	P	**Pn**	**05 58 47.9**	**-0.8**
CNGZ	**Carnagh Station**	**14.38**	**204**	P	**Pn**	**05 58 49.0**	**-2.1**
TKGZ	**Te Karaka**	**14.47**	**205**	P	**Pn**	**05 58 50.4**	**-2.0**
MWZ	**Matawai**	**14.51**	**207**	P	**Pn**	**05 58 51.1**	**-1.9**
URZ	**Urewera**	**14.62**	**208**	P	**P**	**05 59 00.3**	**-0.5**
RAGZ	**Rawiri**	**14.69**	**207**	P	**Pn**	**05 58 53.8**	**-1.8**
RIGZ	**Rimuhau**	**14.74**	**205**	P	**Pn**	**05 58 54.5**	**-1.5**
PRGZ	**Paritu Road**	**14.88**	**204**	P	**Pn**	**05 58 56.7**	**-1.3**
SNGZ	**Shannon Statio**	**14.97**	**206**	P	**Pn**	**05 58 58.2**	**-0.9**
KNZ	**Kokohu**	**15.05**	**205**	P	**Pn**	**05 58 58.4**	**-1.7**
MHGZ	**Mahia Peninsul**	**15.07**	**204**	P	**Pn**	**05 58 58.4**	**-2.1**
RAHZ	**Arahi**	**15.19**	**207**	P	**Pn**	**05 58 59.4**	**-2.6**
MTHZ	**Maungataniwha**	**15.23**	**207**	P	**Pn**	**05 59 00.6**	**-2.1**
TLZ	**Tolley Road**	**15.38**	**212**	P	**P**	**05 59 08.4**	**-0.9**
NMHZ	**Naumai**	**15.45**	**207**	P	**Pn**	**05 59 07.8**	**+2.1**
BKZ	**Black Stump Fm**	**15.64**	**208**	P	**Pn**	**05 59 05.3**	**-2.8**
BKZ	**Black Stump Fm**	**15.64**	**208**	Pn	**Pn**	**05 59 04.0**	**-4.1**
MCHZ	**McNeill Hill**	**15.79**	**207**	P	**Pn**	**05 59 11.4**	**+1.4**
CKHZ	**Cape Kidnapper**	**15.83**	**205**	P	**Pn**	**05 59 09.9**	**-0.6**
HIZ	**Hauiti**	**15.85**	**213**	Pn	**Pn**	**05 59 09.8**	**-1.0**
HIZ				IAmb	IAmb	05 59 23.0	
	comp=Z,142nm,1.5s						
KWHZ	**Kaweka Forest**	**15.89**	**207**	P	**Pn**	**05 59 13.0**	**+1.7**
KAHZ	**Kahuranaki**	**16.02**	**205**	P	**Pn**	**05 59 12.8**	**-0.2**
NGZ	**Ngauruhoe**	**16.04**	**210**	P	**P**	**05 59 20.0**	**+3.3**
KRHZ	**Kereru**	**16.09**	**207**	P	**P**	**05 59 15.8**	**-1.4**
KRHZ				P	**Pn**	**05 59 16.1**	**+2.2**
MOVZ	**Moawhango**	**16.16**	**209**	P	**P**	**05 59 21.1**	**+3.1**
PXZ	**Pawanui**	**16.23**	**205**	P	**P**	**05 59 17.7**	**-1.0**
PKVZ	**Pokaka**	**16.24**	**210**	P	**P**	**05 59 18.6**	**-0.3**
PNHZ	**Pukenui**	**16.39**	**207**	P	**Pn**	**05 59 15.8**	**-1.9**
PRHZ	**Porangahau**	**16.52**	**205**	P	**Pn**	**05 59 18.6**	**-0.8**
DVHZ	**Dannevirke**	**16.73**	**206**	P	**Pn**	**05 59 23.3**	**+1.2**
PREZ	**Palmer Road**	**16.84**	**212**	P	P	05 59 34.6	+9.1
POWZ	**Post Office Ro**	**16.98**	**207**	P	**P**	**05 59 29.6**	**+2.7**
PRWZ	**Pori Road**	**17.03**	**206**	P	**Pn**	**05 59 26.3**	**+0.5**
BFZ	**Birch Farm**	**17.03**	**205**	Pn	**Pn**	**05 59 23.8**	**-2.0**
BFZ				IAmb	IAmb	05 59 37.0	
	comp=Z,98nm,0.9s						
CPWZ	**Castlepoint**	**17.25**	**205**	P	**P**	**05 59 30.2**	**+0.3**
TIWZ	**Tintock**	**17.25**	**206**	P	**P**	**05 59 30.7**	**+0.6**
TMWZ	**Te Maipa**	**17.53**	**205**	P	**Pn**	**05 59 32.1**	**0.0**
TRWZ	**Traveller**	**17.86**	**205**	P	**P**	**05 59 39.4**	**+2.6**
CAW	**Cannon Point**	**17.86**	**207**	P	**P**	**05 59 38.9**	**+2.1**
PAWZ	**Paruwai Farm**	**17.95**	**206**	P	**P**	**05 59 38.5**	**+0.7**
DZM	**Mont Dzumac**	**17.98**	**277**	*e*Pn	**Pn**	**05 59 36.9**	**-0.8**
	comp=Z,98nm,1.2s						
DZM				*e*LR	LR	06 03 41.0	
	comp=Z,857nm,27.7s						
DZM	**Mont Dzumac**	**17.98**	**277**	P	**Pn**	**05 59 36.9**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=91,slow=15,SNR=8.4						
DZM				LR	LR	06 03 43.6	
	comp=Z,114nm,20.5s,baz=76,slow=29						
DZM	**Mont Dzumac**	**17.98**	**277**		**Pn**	**05 59 33.6**	**-4.1**
MSWZ	**Moikau Station**	**18.05**	**206**	P	**Pn**	**05 59 38.5**	**0.0**
MSWZ	**Moikau Station**	**18.05**	**206**	Pn	**Pn**	**05 59 36.2**	**-2.3**
PLWZ	**Palliser**	**18.18**	**206**	P	**P**	**05 59 42.4**	**+2.1**
PLWZ	**Palliser**	**18.18**	**206**		**Pn**	**05 59 39.5**	**-0.8**
SNZO	**South Karori**	**18.18**	**207**		**Pn**	**05 59 36.7**	**-3.3**
SNZO				IAmb	IAmb	05 59 45.0	
	comp=Z,97nm,1.4s						
NNZ	**Nelson**	**18.68**	**210**	P	**P**	**05 59 43.9**	**-1.9**
CMWZ	**Cape Campbell**	**18.75**	**208**	P	**Pn**	**05 59 50.9**	**+3.9**
CMWZ	**Cape Campbell**	**18.75**	**208**	P	**Pn**	**05 59 48.3**	**+1.3**
QRZ	**Quartz Range**	**18.78**	**213**	P	**P**	**05 59 47.1**	**+0.2**
BSWZ	**Blackbirch Sta**	**18.87**	**208**	P	**P**	**05 59 47.5**	**-0.4**
THZ	**Tophouse**	**19.34**	**210**	P	**P**	**05 59 51.4**	**-1.7**
KHZ	**Kahutara**	**19.59**	**208**	P	**P**	**05 59 54.1**	**-1.5**
SANVU	**Saraoutou**	**20.03**	**297**	P	**P**	**05 59 55.3**	**-5.4**
SANVU				IAmb	IAmb	06 00 10.3	
	comp=Z,71nm,0.9s						
LTZ	**Lake Taylor**	**20.43**	**209**	P	**P**	**06 00 03.6**	**-1.4**
LTZ				IAmb	IAmb	06 00 15.1	
	comp=Z,58nm,1.4s						
OXZ	**Oxford**	**20.97**	**209**	P	Pn	06 00 12.5	-0.8
OXZ				IAmb	IAmb	06 00 28.6	
	comp=Z,24nm,0.5s						
MQZ	**McQueen's Vall**	**21.02**	**207**	P	**P**	**06 00 11.3**	**+0.1**
RPZ	**Rata Peaks**	**21.71**	**210**	P	**P**	**06 00 22.4**	**+3.7**
	comp=Z,8.4nm,0.4s,baz=343,slow=1.6,SNR=15						
RPZ	**Rata Peaks**	**21.71**	**210**	P	**P**	**06 00 16.5**	**-2.2**
FOZ	**Fox Glacier**	**22.14**	**212**	P	**P**	**06 00 23.5**	**+0.2**
FOZ				IAmb	IAmb	06 00 41.6	
	comp=Z,41nm,1.1s						
LBZ	**Lake Benmore**	**22.63**	**210**	P	**P**	**06 00 27.0**	**-1.5**
LBZ				IAmb	IAmb	06 00 28.6	
	comp=Z,64nm,1.5s						
TBI	**Tubuai**	**22.69**	**90**	*e*LQ	LQ	06 04 55.5	
	comp=Z,530nm,27.8s						
TBI				*e*LR	LR	06 06 08.6	
	comp=Z,668nm,27.2s,baz=269						
ODZ	**Otahua Downs**	**22.94**	**208**	P	**P**	**06 00 33.2**	**+1.4**
ODZ				IAmb	IAmb	06 00 35.7	
	comp=Z,51nm,1.5s						
WKZ	**Wanaka**	**23.50**	**211**	P	**P**	**06 00 37.5**	**0.0**
WKZ				IAmb	IAmb	06 00 53.8	
	comp=Z,39nm,1.2s						
LHI	**Lord Howe Isla**	**24.13**	**250**	P	**P**	**06 00 43.5**	**-0.2**
PPT2	**Papeete2**	**24.27**	**76**	*e*LR	LR	06 06 44.8	
	comp=Z,980nm,26.0s,baz=246						
PPT	**Papeete**	**24.28**	**76**	LR	LR	06 09 47.0	
	comp=Z,297nm,18.1s,baz=259,slow=34						
MLZ	**Mavora Lakes**	**24.33**	**211**	P	**P**	**06 00 45.3**	**-0.1**
WHZ	**Wether Hill Ro**	**24.80**	**211**	P	**P**	**06 00 49.3**	**-0.3**
DCZ	**Deep Cove**	**24.86**	**212**	P	**Pn**	**06 00 50.5**	**+0.4**
DCZ				IAmb	IAmb	06 01 07.2	
	comp=Z,41nm,1.5s						
HNR	**Honiara**	**29.26**	**299**	LR	LR	06 11 13.7	
	comp=Z,113nm,19.2s,baz=148,slow=33						
EIDS	**Eidsvold**	**31.23**	**263**	P	**P**	**06 01 48.0**	**+0.7**
	baz=31,SNR=4.6						
EIDS	**Eidsvold**	**31.23**	**263**	P	**P**	**06 01 46.9**	**-0.5**
EIDS				IAmb	IAmb	06 01 58.8	
	comp=Z,17nm,0.8s						
RMQ	**Roma**	**33.16**	**260**	P	**P**	**06 02 06.2**	**+1.9**
	baz=33,SNR=5.4						
CMSA	**Cobar Meteorol**	**35.52**	**251**	P	**P**	**06 02 26.1**	**+1.3**
	baz=36,SNR=4.9						
TAU	**Tasmania Unive**	**35.80**	**231**	P	**P**	**06 02 26.9**	**-0.1**
TAU				IAmb	IAmb	06 02 46.2	
	comp=Z,34nm,1.5s						
TOO	**Toolangi**	**36.06**	**241**	P	**P**	**06 02 28.6**	**-0.7**
TOO				IAmb	IAmb	06 02 42.3	
	comp=Z,16nm,1.1s						
CTAO	**Charters Tower**	**36.69**	**270**	P	**P**	**06 02 33.2**	**-1.7**
KRVT	**Keravat (AS076**	**38.61**	**298**	LR	LR	06 16 23.3	
	comp=Z,98nm,21.7s,baz=96,slow=33						
STKA	**Stephens Creek**	**39.01**	**250**	P	**P**	**06 02 56.1**	**+1.8**
	baz=39,SNR=17						
STKA	**Stephens Creek**	**39.01**	**250**	P	**P**	**06 02 54.4**	**0.0**
	comp=Z,3.9nm,0.5s,baz=99,slow=11,SNR=24						
STKA				LR	LR	06 17 07.4	
	comp=Z,177nm,20.9s,baz=37,slow=34						
STKA	**Stephens Creek**	**39.01**	**250**	P	**P**	**06 02 53.8**	**-0.6**
MTSU	**Mount Surprise**	**39.01**	**272**	P	**P**	**06 02 53.6**	**-0.9**
	baz=39,SNR=3.9						
HTT	**Hallett**	**41.21**	**248**	P	**P**	**06 03 14.3**	**+1.7**
	baz=41,SNR=6.1						
COEN	**Coen**	**41.50**	**278**	P	**P**	**06 03 13.5**	**-1.7**
COEN				IAmb	IAmb	06 03 16.6	
	comp=Z,28nm,1.5s						
PATS	**Pohnpei**	**41.79**	**317**	P	**P**	**06 03 14.0**	**-3.5**
BBOO	**Buckleboo**	**43.64**	**248**	P	**P**	**06 03 33.6**	**+1.2**
	baz=44,SNR=4.8						
BBOO	**Buckleboo**	**43.64**	**248**	P	**P**	**06 03 31.3**	**-1.1**
BBOO				IAmb	IAmb	06 03 44.9	
	comp=Z,36nm,1.4s						
AS31	**Alice Springs**	**46.91**	**261**	P	**P**	**06 03 57.3**	**-1.2**
ASAR	**Alice Springs**	**46.91**	**261**	P	**P**	**06 03 57.9**	**-0.7**
	comp=Z,6.2nm,0.9s,baz=92,slow=7.1,SNR=51						
ASAR				LR	LR	06 22 15.5	
	comp=Z,155nm,19.2s,baz=135,slow=35						
WR0	**Warramunga Arr**	**47.30**	**266**	P	**P**	**06 03 59.6**	**-1.9**
WR0				IAmb	IAmb	06 04 06.6	
	comp=Z,13nm,1.4s						
WB2	**Warramunga Arr**	**47.47**	**266**	P	**P**	**06 04 00.6**	**-2.3**
WB2				IAmb	IAmb	06 04 13.6	
	comp=Z,11nm,1.1s						
WRAB	**Tennant Creek**	**47.48**	**266**	P	P	06 03 58.8	-4.2
WRAB				IAmb	IAmb	06 04 04.1	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**47.48**	**266**	P	**P**	**06 04 01.0**	**-2.0**
	comp=Z,2.7nm,0.5s,baz=104,slow=7.8,SNR=19						
WRA				LR	LR	06 22 37.9	
	comp=Z,153nm,20.5s,baz=115,slow=35						
WB0	**Warramunga Arr**	**47.48**	**266**	P	**P**	**06 04 00.7**	**-2.3**
WB0				IAmb	IAmb	06 04 08.7	
	comp=Z,10nm,1.1s						
JAY	**Jayapura**	**48.96**	**290**	LR	LR	06 23 48.8	
	comp=Z,76nm,18.5s,baz=40,slow=35						
FORT	**Forrest**	**50.63**	**250**	P	**P**	**06 04 26.3**	**-0.7**
WRKA	**Warakurna**	**51.56**	**257**	P	**P**	**06 04 33.6**	**-0.5**
	baz=51,SNR=20						
MTN	**Manton Dam**	**52.76**	**273**	P	**P**	**06 04 42.1**	**-0.9**
	baz=52,SNR=5.1						
VNDA	**Vanda**	**53.25**	**186**	P		06 04 55.6	+10
	comp=Z,2.1nm,0.9s,baz=9.9,slow=5.7,SNR=11						
VNDA				LR	LR	06 23 16.4	
	comp=Z,37nm,20.7s,baz=7.0,slow=31						
KNRA	**Kununurra**	**53.87**	**269**	P	**P**	**06 04 50.9**	**-0.3**
	baz=54,SNR=8.1						
KNRA	**Kununurra**	**53.87**	**269**	P	**P**	**06 04 50.7**	**-0.5**
FITZ	**Fitzroy Crossi**	**55.88**	**265**	P	**P**	**06 05 05.3**	**-0.5**
	baz=56,SNR=3.2						
FITZ	**Fitzroy Crossi**	**55.88**	**265**	P	**P**	**06 05 02.8**	**-3.0**
FITZ				IAmb	IAmb	06 05 18.5	
	comp

comp=Z,10.0nm,0.8s
GLI Glacier Island 88.92 13 P **P 06 08 21.0 -0.7**
S22A 4UR Ranch, Cre 89.25 47 P **P 06 08 23.0 -1.2**
S22A IAmb IAmb 06 08 32.8
comp=Z,10nm,1.2s
GHO Glory Hole Cre 89.38 12 P **P 06 08 23.1 -0.8**
SCM Sheep Creek Mo 89.74 12 P **P 06 08 26.6 +1.0**
BALM Baldy 90.09 15 P **P 06 08 25.2 -2.1**
GLB Gilahina Butte 90.12 14 P **P 06 08 27.0 -0.3**
PDAR Pinedale Array 90.33 47 P **P** 06 08 35.2 +6.1
comp=Z,0.5nm,0.8s,baz=199,slow=4.1,SNR=6.3
PDAR LR LR 06 41 57.2
comp=Z,49nm,19.7s,baz=284,slow=31
T25A Trinidad 90.54 49 P **P 06 08 31.2 +1.1**
T25A IAmb IAmb 06 08 38.1
comp=Z,6.1nm,1.2s
TRF Thorofare Moun 90.71 11 P **P 06 08 30.0 -0.2**
YNE Yellowstone No 91.38 40 P **P 06 08 31.9 -2.0**
DOT Dot Lake 92.03 13 P **P 06 08 36.4 +0.3**
DOT IAmb IAmb 06 08 42.2
comp=Z,6.1nm,1.1s
GYA Guiyang 92.09 298 *e*P P 06 08 42.6 +5.2
GYA pmax pmax
comp=Z,10.0nm,0.6s
HDA Harding Lake 92.17 12 P **P 06 08 35.9 -0.9**
HDA IAmb IAmb 06 08 41.6
comp=Z,4.7nm,0.7s
CCB Clear Creek Bu 92.24 11 P **P 06 08 36.3 -0.7**
CCB IAmb IAmb 06 08 41.7
comp=Z,4.1nm,1.0s
ILAR Eielson Array 92.51 11 P **P 06 08 42.0 +3.7**
comp=Z,2.1nm,0.9s,baz=220,slow=5.6,SNR=16
ILAR LR LR 06 44 36.0
comp=Z,28nm,19.2s,baz=142,slow=32
RSSD Black Hills 94.45 43 P **P 06 08 46.2 -1.9**
CMAR Chiang Mai Arr 94.98 288 P **P 06 08 55.5 +4.7**
comp=Z,0.9nm,0.4s,baz=108,slow=2.9,SNR=6.2
CMAR LR LR 06 52 25.8
comp=Z,5.9nm,18.1s,baz=145,slow=36
HHC Hu-ho-hao-te 95.30 313 P **P 06 08 51.3 -0.6**
WLAR White Oak Lake 96.96 56 P **P 06 08 57.9 -1.5**
YKA Yellowknife Ar 99.68 24 P **Pdif 06 09 15.9 +5.0**
comp=Z,0.5nm,0.9s,baz=233,slow=3.8,SNR=6.0
YKA LR LR 06 46 15.7
comp=Z,29nm,22.0s,baz=0.0,slow=30
WMQ Urumqi 112.79 309 *e*PKP **PKiKP 06 14 04.9 +0.3**
WMQ LR LR
comp=Z,250nm,29.0s
WMQ LR LR
comp=Z,300nm,29.2s
MKAR Makanchi Array 117.12 311 PKP **PKiKP 06 14 15.7 +3.0**
comp=Z,0.6nm,0.7s,baz=234,slow=0.8,SNR=5.2
ARCES ARCESS Array B 134.47 350 PKP **PKiKP 06 14 49.4 +2.8**
comp=Z,3.6nm,0.9s,baz=8.1,slow=1.3,SNR=11
NB2 NORSAR Subarra144.33 355 PKP **PKPdf 06 15 05.6 +2.2**
comp=Z,0.1nm,0.3s,baz=10,slow=3.2
NOA NORSAR Array B144.33 355 PKP **PKPdf 06 15 05.1 +1.8**
comp=Z,0.6nm,0.6s,baz=20,slow=2.4,SNR=5.8
MICGM Minsk 146.76 336 *e* **PKiKP 06 15 13.0 +0.9**
AKASG Malin Array Be 149.07 330 PKPbc **PKiKP 06 15 18.9 +2.0**
comp=Z,1.2nm,0.4s,baz=43,slow=3.3,SNR=14
KWP Kalwaria Pacla 152.58 336 PKPdf **PKPdf 06 15 17.3 +0.2**
KWP **PKiKP 06 15 25.5 +1.2**
BR131 Keskin Array S 152.71 308 PKPdf **PKPdf 06 15 17.0 -0.8**
BR131 **PKPbc 06 15 25.7 +0.8**
BR131 **PKPab 06 15 34.4 -1.2**
BRTR Keskin Array B 152.71 308 PKPbc **PKiKP 06 15 28.1 +3.0**
comp=Z,1.6nm,0.8s,baz=130,slow=1.9,SNR=10
OJC Ojcow 153.08 340 PKPdf **PKPdf 06 15 17.8 0.0**
OJC **PKPbc 06 15 24.7 -0.4**
OJC PKPab **PKPab 06 15 36.8 +0.3**
CLL Collm 153.69 350 ↓*i* PKPbc **PKiKP 06 15 31.9 +5.4**
comp=Z,7.0nm,1.1s
CLL *i* PKPab **sPKPab 06 15 42.9 +1.7**
comp=Z,8.0nm,1.0s
CLL *i* 06 15 53.9
BRG Berggiesshubel 153.94 348 *i* PKP **PKiKP 06 15 32.0 +4.9**
comp=Z,4.8nm,0.9s
BRG Berggiesshubel 153.94 348 *i* PKP **PKPab 06 15 42.8 +2.6**
comp=Z,7.1nm,0.9s
BRG Berggiesshubel 153.94 348 *e*PKP PKPab 06 15 59.0 +19
comp=Z,4.0nm,1.0s
KHC Kasperske Hory 155.68 347 *e*PKP PKPdf 06 15 34.5 +13
GERES GERESS Array B 155.92 347 PKPbc PKPdf 06 15 35.8 +14
comp=Z,1.3nm,1.1s,baz=90,slow=2.7,SNR=6.4
ESDC Sonseca Array 163.74 28 PKPab **PKPab 06 16 28.4 +5.4**
comp=Z,0.8nm,0.8s,baz=307,slow=4.0,SNR=5.8

*NIED **09** 06:29:00,40.20N×142.10E,h62km,Mw3.7 Best double couple: M₀4.73000×10¹⁴ NP1:φ₀209.00000°,δ68.00000°, λ111.00000°. NP2:φ₀343.00000°,δ30.00000°,λ48.00000°.*
*JMA **09** 06:29:16.6,40.14N×142.05E,h61km±1km,M3.9*
JMA Felt II J1.
*NEIC **09** 06:29:16.9±1.1,40.13N±0.07×142.2E±0.2,h75km±9km, mb4.4/8,Error ellipse: s-maj=18.1km s-min=9.0km az=112.0*
*IDC **09** 06:29:19.1±3.5,40.09N×141.99E,h92km±31km,mb3.4/5, mb1 3.6/8,mb1mx3.3/38,mbtmp3.8/8,MS3.0/2,Ms1 3.0/2, ms1mx2.3/21,Error ellipse: s-maj=34.2km s-min=20.4km az=80.0*
ISC 09 06:29:16.5±0.9,40.14N±0.04×142.06E±0.07,h62km±6km, n43,σ0s97/44,mb4.0/9,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.25**	**217**	P	**Pn**	**06 29 26.7**	**+0.2**
JTH				S	**Sn**	**06 29 33.8**	**0.0**
JKEN	**Kujiedanarisaw**	**0.28**	**284**	P	**Pn**	**06 29 26.5**	**-0.2**
JKEN				S	**Sn**	**06 29 33.9**	**-0.1**
JANG	**Nango**	**0.48**	**299**	P	**Pn**	**06 29 28.3**	**-0.2**
JANG				S	**Sn**	**06 29 36.9**	**-0.2**
JKZ	**Kuzumaki**	**0.58**	**255**	P	**Pn**	**06 29 29.6**	**0.0**
JKZ				S	**Sn**	**06 29 38.8**	**-0.4**
MIYJ	**Miyakonagasawa**	**0.59**	**198**	P	**Pn**	**06 29 29.6**	**-0.1**
MIYJ				*e*S	**Sn**	**06 29 39.0**	**-0.3**
JOM	**Ohasama**	**0.89**	**222**	P	**Pn**	**06 29 33.2**	**-0.1**
JOM				S	**Sn**	**06 29 45.8**	**+0.2**
JTM	**Tenmabayashi**	**0.99**	**311**	P	**Pn**	**06 29 34.4**	**-0.2**
JTM				S	**Sn**	**06 29 47.8**	**-0.2**
JAH	**Hinai**	**1.09**	**273**	P	**Pn**	**06 29 35.8**	**-0.1**
JAH				S	**Sn**	**06 29 50.5**	**+0.3**
JRG	**Rokugo**	**1.33**	**236**	P	**Pn**	**06 29 39.4**	**+0.4**
JMK	**Ichinoseki**	**1.35**	**209**	P	**Pn**	**06 29 39.5**	**+0.2**
JOT	**Ohata**	**1.46**	**328**	P	**Pn**	**06 29 40.6**	**-0.1**
JIW	**Iwasaki**	**1.63**	**287**	P	**Pn**	**06 29 43.2**	**+0.1**
ERM	**Erimo**	**2.05**	**24**		**Pn**	**06 29 49.3**	**+0.6**
ERM				Sn	**Sn**	**06 30 14.8**	**+1.7**
JKA	**Kamikawa-asahi**	**3.99**	**6**	Pn	**Pn**	**06 30 14.6**	**-0.6**
MJAR	**Matsushiro Arr**	**4.70**	**221**	P	**Pn**	**06 30 26.5**	**+1.6**
	0.3nm,0.3s,baz=30,slow=7.2,SNR=13						
MJB9	**Matsu-Tunnel**	**4.70**	**221**		**Pn**	**06 30 26.0**	**+1.1**
MAJO	**Matsushiro**	**4.70**	**221**		**Pn**	**06 30 26.1**	**+1.2**
MAT	**Matsushiro**	**4.70**	**221**	P	**Pn**	**06 30 26.7**	**+1.8**
JHJ2	**Mitsune**	**7.24**	**195**	Pn	**Pn**	**06 30 59.2**	**-0.5**
USRK	**Ussuriysk Ar.**	**8.51**	**302**	P	**Pn**	**06 31 17.8**	**+0.8**
	baz=111,slow=14,SNR=8.8						
USA0B	**Ussuriysk Arra**	**8.51**	**302**	Pn	**Pn**	**06 31 16.3**	**-0.7**
KSRS	**Korea Array**	**11.36**	**261**	P	**Pn**	**06 31 59.5**	**+3.6**
	0.5nm,0.3s,baz=65,slow=14,SNR=5.7						
JNU	**Nakatsue**	**11.39**	**236**	LR	LR	06 36 44.3	
	comp=Z,38nm,20.3s,baz=57,slow=39						
SONM	**Songino Array**	**26.60**	**299**	P	**P**	**06 34 48.8**	**-0.2**
	0.7nm,0.5s,baz=90,slow=9.9,SNR=3.6						
H11N2	**WAKE ISLAND Hy 29.44**	**126**		T	T	07 05 59.4	
	baz=318,slow=75,SNR=74						
H11N1	**WAKE ISLAND Hy 29.45**	**126**		T	T	07 06 01.8	
	baz=318,slow=75,SNR=92						
H11N3	**WAKE ISLAND Hy 29.46**	**126**		T	T	07 06 03.7	
	baz=318,slow=75,SNR=75						
H11S1	**WAKE ISLAND Hy 30.25**	**128**		T	T	07 07 12.6	
	baz=321,slow=76,SNR=27						
H11S3	**WAKE ISLAND Hy 30.25**	**128**		T	T	07 07 15.4	
	baz=321,slow=76,SNR=18						
H11S2	**WAKE ISLAND Hy 30.27**	**128**		T	T	07 07 13.9	
	baz=321,slow=76,SNR=15						
MK31	**Makanchi Array**	**42.97**	**299**	P	**P**	**06 37 08.6**	**-0.8**
MKAR	**Makanchi Array**	**42.97**	**299**	P	**P**	**06 37 08.5**	**-0.9**
	1.0nm,0.6s,baz=83,slow=11,SNR=8.9						
MAKZ	**Makanchi**	**43.17**	**300**	P	**P**	**06 37 10.3**	**-0.7**
KURK	**Kurchatov**	**44.47**	**306**	P	**P**	**06 37 20.7**	**-0.7**
KURK					IAmb	IAmb	06 37 22.3

comp=Z,2.7nm,0.7s
ILAR Eielson Array 46.62 34 P **P 06 37 38.4 +0.2**
comp=Z,0.4nm,0.7s,baz=246,slow=6.4,SNR=4.2
AAK Ala-Archa 49.52 296 P **P 06 38 00.6 -0.4**
AAK IAmb IAmb 06 38 00.8
comp=Z,2.6nm,1.3s
ARSB Arslanbob 51.05 295 P **P 06 38 13.3 +0.7**
ARSB IAmb IAmb 06 38 15.8
comp=Z,3.7nm,0.7s
WB0 Warramunga Arr 60.02 188 P **P 06 39 15.8 -1.1**
WB0 IAmb IAmb 06 39 31.6
comp=Z,12nm,1.3s
WR0 Warramunga Arr 60.20 188 P **P 06 39 16.7 -1.3**
WB2 Warramunga Arr 60.20 188 P **P 06 39 16.9 -1.2**
WRA Warramunga Arr 60.20 188 P **P 06 39 16.6 -1.5**
comp=Z,0.8nm,0.6s,baz=6.2,slow=7.0,SNR=5.7
ASAR Alice Springs 63.93 188 P **P 06 39 42.1 -0.9**
comp=Z,0.5nm,0.4s,baz=4.0,slow=6.5,SNR=8.0
FINES FINESS Array B 66.31 332 LR LR 07 13 14.1
comp=Z,24nm,20.0s,baz=28,slow=40

*KRAR **09** 07:27:49.8±0.1,54.49N×86.81E,M2.1,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
NNC 09 07:28:00.2±7.4,54.41N×86.11E,h0km,mb3.5,mpv3.1, 7C-1D,Error ellipse: s-maj=56.6km s-min=51.5km az=164.0,Suspected Mining explosion.,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	**Kurchatov**	**5.88**	**234**	↑Pn	Pn	07 29 27.8	-0.7
	3.2nm,1.1s						
KURK				↓Sn	Sn	07 30 37.6	+1.2
	1.1nm,0.7s						
KURK				↑Lg	Lg	07 31 11.9	
	5.9nm,1.1s						
KURBB	**Kurchatov Arra**	**5.98**	**234**	↑Pn	Pn	07 29 29.5	-0.4
	2.2nm,1.1s						
KURBB				↑Sn	Sn	07 30 39.4	+0.3
	4.1nm,0.8s						
MK31	**Makanchi Array**	**8.00**	**199**	↑Pn	Pn	07 30 02.7	+5.0
	0.7nm,0.8s,baz=24,slow=11,SNR=6.8						
MK31				↑Sn	Sn	07 31 29.0	+0.2
	0.2nm,0.5s,baz=13,slow=32						
MK31				↑Lg	Lg	07 32 16.4	
	1.0nm,0.9s						

*NEIC **09** 07:36:55.5±0.7,6.22S±0.09×151.1E±0.1,h48km±8km, mb4.1/7,Error ellipse: s-maj=16.4km s-min=11.0km az=124.0*
*IDC **09** 07:36:55.9±2.5,6.08S×151.07E,h49km±27km,mb3.8/6, mb1 4.0/7,mb1mx3.7/28,mbtmp4.1/7,ML4.3/1,MS3.0/3, Ms1 3.0/3,ms1mx2.7/34,Error ellipse: s-maj=61.8km s-min=18.7km az=120.0*
ISC 09 07:36:55.0±0.8,6.2S±0.1×151.1E±0.2,h43km,n21, σ0s70/19,mb4.1/10,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.09**	**25**	P	**Pn**	**07 37 27.6**	**0.0**
	106nm,0.3s,baz=251,slow=1.2,SNR=29						
RABL	**Rabaul**	**2.25**	**27**	Pn	**Pn**	**07 37 30.4**	**+0.6**
PMG	**Port Moresby**	**5.06**	**231**	S	**Sn**	**07 39 06.3**	**+0.7**
	9.7nm,0.3s,baz=156,slow=14,SNR=8.3						
PMG				LR	LR	07 40 04.0	
	comp=Z,96nm,20.0s,baz=246,slow=37						
PMG	**Port Moresby**	**5.06**	**231**	Pn	**Pn**	**07 38 08.1**	**-0.3**
HNR	**Honiara**	**9.30**	**111**	LR	LR	07 42 27.2	
	comp=Z,59nm,19.3s,baz=272,slow=35						
WB0	**Warramunga Arr**	**21.13**	**229**	P	**P**	**07 41 36.5**	**+0.1**
WB0				IAmb	IAmb	07 41 42.2	
	comp=Z,14nm,1.2s						
WB2	**Warramunga Arr**	**21.27**	**228**	P	**P**	**07 41 37.6**	**-0.2**
WB2				IAmb	IAmb	07 41 53.5	
	comp=Z,7.0nm,0.8s						
WRA	**Warramunga Arr**	**21.27**	**229**	P	**P**	**07 41 37.8**	**-0.1**
	comp=Z,3.9nm,0.7s,baz=53,slow=11,SNR=26						
DZM	**Mont Dzumac**	**21.62**	**138**	LR	LR	07 49 30.1	
	comp=Z,112nm,18.1s,baz=306,slow=35						
AS31	**Alice Springs**	**24.00**	**222**	P	**P**	**07 42 05.7**	**-0.2**
AS31				IAmb	IAmb	07 42 08.1	
	comp=Z,1.9nm,0.6s						
ASAR	**Alice Springs**	**24.00**	**222**	P	**P**	**07 42 06.3**	**+0.4**
	comp=Z,3.9nm,0.6s,baz=56,slow=9.1,SNR=55						
STKA	**Stephens Creek**	**27.05**	**198**	P	**P**	**07 42 35.3**	**+1.8**
	comp=Z,5.0nm,0.9s,baz=32,slow=9.5,SNR=4.7						
STKA	**Stephens Creek**	**27.05**	**198**	P	**P**	**07 42 32.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**27.53**	**242**	P	**P**	**07 42 38.8**	**+0.9**
	comp=Z,2.9nm,0.7s,baz=78,slow=9.6,SNR=1.5						
FITZ	**Fitzroy Crossi**	**27.53**	**242**	P	**P**	**07 42 37.9**	**-0.1**
FITZ				IAmb	IAmb	07 42 55.3	
	comp=Z,18nm,1.4s						
VNDA	**Vanda**	**71.50**	**178**	P	**P**	**07 48 10.3**	**-0.5**
VNDA				IAmb	IAmb	07 48 11.7	
	comp=Z,3.0nm,1.4s						
CNPM	**China Poot**	**79.70**	**26**	P	**P**	**07 48 58.0**	**-0.1**
MKAR	**Makanchi Array**	**80.30**	**319**	P	**P**	**07 49 01.3**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=86,slow=7.8,SNR=3.1						
QSPA	**South Pole Qui**	**83.76**	**180**	P	**P**	**07 49 19.9**	**+0.3**
ILAR	**Eielson Array**	**84.08**	**22**	P	**P**	**07 49 19.9**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=247,slow=5.6,SNR=4.9						
TORD	**Torodi Ar. Bea**	**149.12**	**285**	PKPbc	**PKPbc**	**07 56 39.8**	**0.0**
	comp=Z,0.8nm,0.5s,baz=87,slow=2.7,SNR=7.1						

*NIED **09** 07:37:00,37.40N×142.00E,h26km,Mw3.5 Best double couple: M₀2.30000×10¹⁴ NP1:φ₀210.00000°,δ64.00000°, λ-38.00000°. NP2:φ₀319.00000°,δ56.00000°, λ-148.00000°.*
*IDC **09** 07:37:53.0±3.2,37.32N×142.29E,h0km,mb3.6/2, mb1 3.7/3,mb1mx3.3/40,mbtmp3.5/3,ML2.6/1,MS2.4/1, Ms1 2.4/1,ms1mx2.2/39,Error ellipse: s-maj=73.8km s-min=38.7km az=54.0*
*JMA **09** 07:37:57.1±0.2,37.36N×142.00E,h34km±3km,M3.8*
ISC 09 07:37:55.6±2.2,37.35N±0.05×142.04E±0.08,h15km±12km, n23,σ1s01/29,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.93**	**271**	P	**Pg**	**07 38 13.6**	**0.0**
JFK				S	**Sb**	**07 38 24.8**	**-0.7**
JMST	**Minamisoumatoc**	**0.98**	**293**	P	**Pb**	**07 38 14.4**	**0.0**
JMST				S	**Sb**	**07 38 26.4**	**-0.8**
ONAJ	**Iwakimizuishiy**	**1.02**	**256**	P	**Pb**	**07 38 14.8**	**-0.2**
ONAJ				S	**Sb**	**07 38 27.2**	**-1.0**
JIKH	**Ishinomakikobu**	**1.06**	**335**	P	**Pb**	**07 38 15.5**	**-0.2**
JIKH				S	**Sb**	**07 38 28.5**	**-0.8**
JMM	**Marumori**	**1.11**	**298**	P	**Pb**	**07 38 16.5**	**-0.1**
JMM				S	**Sb**	**07 38 29.9**	**-1.0**
JIO	**Ouri**	**1.23**	**334**	P	**Pn**	**07 38 18.1**	**-0.2**
JIO				S	**Sb**	**07 38 32.7**	**-1.5**
JFT	**Otama**	**1.36**	**278**	P	**Pb**	**07 38 20.9**	**+0.1**
JFT				S	**Sn**	**07 38 37.5**	**-0.4**
JHO	**Hitachi**	**1.39**	**238**	P	**Pn**	**07 38 19.8**	**-0.7**
JHO				*e*S	**Sn**	**07 38 36.6**	**-1.9**
JOU	**Okura**	**1.48**	**313**	P	**Pb**	**07 38 22.8**	**-0.1**
JOU				S	**Sn**	**07 38 41.0**	**0.0**
JMK	**Ichinoseki**	**1.72**	**338**	P	**Pn**	**07 38 25.7**	**+0.6**
JMK				*e*S	**Sn**	**07 38 46.6**	**-0.2**
JYS	**Shirataka**	**1.79**	**300**	P	**Pb**	**07 38 27.6**	**-0.5**
JYS				S	**Sb**	**07 38 49.7**	**-0.6**
JFY	**Yanaizu**	**1.86**	**272**	P	**Pb**	**07 38 28.6**	**-0.7**
JFY				*e*S	**Sn**	**07 38 51.3**	**+1.1**
MJAR	**Matsushiro Arr**	**3.17**	**256**	Pn	**Pn**	**07 38 46.5**	**+1.5**
	0.5nm,0.3s,baz=87,slow=13,SNR=5.3						
MAT	**Matsushiro**	**3.17**	**256**	P	**Pn**	**07 38 48.0**	**+3.0**
MAT				S	**Sn**	**07 39 22.2**	**-0.4**
KSRS	**Korea Array**	**11.23**	**275**	LR	LR	07 44 42.6	
	comp=Z,19nm,19.3s,baz=240,slow=36						
H11N2	**WAKE ISLAND Hy 27.89**	**122**		T	T	08 13 13.4	
	baz=314,slow=75,SNR=40						
H11N1	**WAKE ISLAND Hy 27.90**	**122**		T	T	08 13 14.2	
	baz=314,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy 27.91**	**122**		T	T	08 13 14.8	
	baz=314,slow=75,SNR=20						
H11S1	**WAKE ISLAND Hy 28.62**	**124**		T	T	08 14 11.5	
	baz=316,slow=76,SNR=34						
H11S3	**WAKE ISLAND Hy 28.62**	**124**		T	T	08 14 13.0	
	baz=316,slow=76,SNR=21						
H11S2	**WAKE ISLAND Hy 28.64**	**124**		T	T	08 14 12.7	
	baz=316,slow=76,SNR=21						
MKAR	**Makanchi Array**	**44.37**	**302**	P	**P**	**07 46 06.4**	**+1.0**
	0.5nm,0.6s,baz=87,slow=9.4,SNR=4.3						
WRA	**Warramunga Arr**	**57.45**	**189**	P	**P**	**07 47 43.6**	**-0.3**
	0.7nm,1.0s,baz=6.5,slow=7.3,SNR=5.5						

*IDC **09** 07:54:54.0±8.3,15.10S×172.92W,h0km,mb3.9/3, mb1 4.2/3,mb1mx3.7/30,mbtmp3.9/3,MS3.5/2,Ms1 3.5/2, ms1mx2.8/36,Error ellipse: s-maj=374.0km s-min=32.6km az=139.0*
*NEIC **09** 07:54:55.1±1.2,15.14S±0.08×172.88W±0.07,h10km±1km, mb4.5/17,Error ellipse: s-maj=16.7km s-min=5.2km az=216.0*
ISC 09 07:54:57.2±1.0,15.2S±0.2×172.8W±0.3,h29km,n27, σ0s83/22,mb4.5/12,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.63**	**38**		**Pn**	**07 55 23.3**	**-0.7**
DZM	**Mont Dzumac**	**20.80**	**248**	LR	LR	08 06 15.2	
	comp=Z,149nm,19.2s,baz=72,slow=33						
HNR	**Honiara**	**27.21**	**279**	LR	LR	08 10 20.0	
	comp=Z,80nm,19.5s,baz=76,slow=34						
QRZ	**Quartz Range**	**28.54**	**204**	P	**P**	**08 00 49.6**	**-0.8**
LTZ	**Lake Taylor**	**30.32**	**202**	P	**P**	**08 01 07.1**	**+0.8**
OXZ	**Oxford**	**30.88**	**202**	P	**P**	**08 01 11.7**	**+0.5**
H11S2	**WAKE ISLAND Hy**	**39.09**	**328**	T	T	08 43 19.7	
	baz=147,slow=76,SNR=7.7						
H11S3	**WAKE ISLAND Hy**	**39.11**	**328**	T	T	08 43 19.8	
	baz=147,slow=76,SNR=6.1						
H11S1	**WAKE ISLAND Hy**	**39.11**	**328**	T	T	08 43 20.5	
	baz=147,slow=76,SNR=3.3						
STKA	**Stephens Creek**	**44.63**	**240**	P	**P**	**08 03 06.2**	**-1.1**
BBOO	**Buckleboo**	**49.40**	**240**	P	**P**	**08 03 44.1**	**-0.5**
BBOO				IAmb	IAmb	08 03 53.5	
	comp=Z,5.7nm,1.1s						
WB2	**Warramunga Arr**	**50.43**	**257**	P	**P**	**08 03 52.0**	**-0.7**
WB2				IAmb	IAmb	08 03 55.7	
	comp=Z,4.7nm,1.0s						
WRA	**Warramunga Arr**	**50.44**	**257**	P	**P**	**08 03 53.4**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=91,slow=7.0,SNR=5.2						
AS31	**Alice Springs**	**50.71**	**252**	P	**P**	**08 03 55.2**	**+0.5**
ASAR	**Alice Springs**	**50.71**	**252**	P	**P**	**08 03 55.0**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=89,slow=8.2,SNR=28						
GHO	**Glory Hole Cre**	**79.02**	**11**	P	**P**	**08 06 58.9**	**+0.7**
GHO				IAmb	IAmb	08 07 00.2	
	comp=Z,4.1nm,0.8s						
GLB	**Gilahina Butte**	**79.79**	**14**	P	**P**	**08 07 02.2**	**-0.3**
GLB				IAmb	IAmb	08 07 07.4	
	comp=Z,6.0nm,1.3s						
TRF	**Thorofare Moun**	**80.33**	**10**	P	**P**	**08 07 06.5**	**+1.0**
TRF				IAmb	IAmb	08 07 07.0	
	comp=Z,3.9nm,0.8s						
MCK	**McKinley**	**80.83**	**11**	P	**P**	**08 07 08.8**	**+0.9**
MCK				IAmb	IAmb	08 07 10.2	
	comp=Z,6.0nm,0.8s						
WRH	**Wood River Hil**	**81.66**	**11**	P	**P**	**08 07 13.6**	**+1.3**
WRH				IAmb	IAmb	08 07 14.7	
	comp=Z,6.5nm,0.9s						
HDA	**Harding Lake**	**81.81**	**11**	P	**P**	**08 07 13.3**	**+0.2**
CCB	**Clear Creek Bu**	**81.87**	**11**	P	**P**	**08 07 14.2**	**+0.8**
CCB				IAmb	IAmb	08 07 15.1	
	comp=Z,4.3nm,0.8s						
COLA	**College**	**82.07**	**10**	P	**P**	**08 07 15.4**	**+1.0**
IL31		**82.15**	**11**	P	**P**	**08 07 15.3**	**+0.5**
ILAR	**Eielson Array**	**82.15**	**11**	P	**P**	**08 07 15.7**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=222,slow=6.1,SNR=19						
DAWY	**Dawson**	**83.09**	**14**	P	**P**	**08 07 21.2**	**+1.3**
DAWY				IAmb	IAmb	08 07 21.9	
	comp=Z,3.1nm,0.8s						
BRTR	**Keskin Array B**	**146.36**	**322**	PKPbc	**PKPab**	**08 14 36.7**	**0.0**
	comp=Z,0.7nm,0.7s,baz=128,slow=2.4,SNR=4.0						

*DDA **09** 07:55:04.5,37.06N×34.56E,h7km±1km,ML2.1*
*ISK **09** 07:55:04.3,37.09N×34.52E,h8km,ML2.5/15*
ISC 09 07:55:04.7±0.9,37.08N±0.03×34.55E±0.03,h12km±8km, n25,σ0s52/34,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MERS	**Mersin**	**0.21**	**186**	PG	**Pg**	**07 55 09.4**	**+0.2**
MERS				SG	**Sg**	**07 55 12.9**	**+0.6**
DED	**Mersin**	**0.23**	**120**	*i* P	**Pg**	**07 55 09.1**	**-0.5**
DED				IAML		07 55 12.0	
	comp=N,588nm,0.1s						
DED				IAML		07 55 12.0	
	comp=E,398nm,0.1s						
DED				*i* S	**Sg**	**07 55 12.4**	**-0.5**
GULE	**Gulek**	**0.28**	**41**	*i* P	**Pg**	**07 55 10.5**	**+0.1**
GULE				*i* S	**Sg**	**07 55 14.8**	**+0.5**
GULE				IAML		07 55 15.0	
	comp=E,691nm,0.3s						
GULE				IAML		07 55 15.0	
	comp=N,687nm,0.3s						
KERG	**Konya-Eregli**	**0.48**	**315**	*i* P	**Pg**	**07 55 14.4**	**+0.3**
KERG				*i* S	**Sb**	**07 55 21.6**	**-0.6**
KERG				IAML		07 55 23.0	
	comp=N,295nm,0.2s						
KERG				IAML		07 55 23.0	
	comp=E,224nm,0.1s						
KIZK	**Mersin**	**0.68**	**209**	PG	**Pg**	**07 55 17.6**	**-0.3**
KIZK				SG	**Sb**	**07 55 27.6**	**-0.3**
CMRD	**Camardi-Nigde**	**0.68**	**31**	PG	**Pg**	**07 55 17.5**	**-0.5**
AKO	**Adana**	**0.81**	**62**	*i* P	**Pg**	**07 55 19.7**	**-0.7**
AKO				IAML		07 55 30.0	
	comp=N,46nm,0.7s						
AKO				*i* S	**Sg**	**07 55 30.9**	**-0.1**
AKO				IAML		07 55 31.0	
	comp=E,39nm,0.4s						
SLFK	**Silifke-Mersin**	**0.84**	**215**	PG	**Pg**	**07 55 20.6**	**-0.3**
KRTD	**Karatas-Adana**	**0.85**	**125**	PG	**Pb**	**07 55 21.8**	**+0.4**
SILI	**Silifke-Mersin**	**0.87**	**215**	PG	**Pb**	**07 55 21.5**	**-0.2**
SILI				SG	**Sb**	**07 55 33.9**	**+0.6**
YURE	**YUREGIR**	**0.90**	**106**	PG	**Pn**	**07 55 23.2**	**-0.1**
KEBE	**Keben-Mersin**	**0.92**	**227**	PG	**Pb**	**07 55 22.5**	**-0.1**
CEYT	**Ceyhan**	**0.96**	**94**	PG	**Pb**	**07 55 23.4**	**+0.1**
KRMN	**Karaman**	**1.03**	**276**	PG	**Pb**	**07 55 24.5**	**-0.1**
IKL	**Isikli**	**1.09**	**220**	PN	**Pg**	**07 55 24.7**	**-0.9**
**TE

GEYV				IAML			07 56 16.0	
	comp=N,512nm,0.5s							
BTAS	**Taskesti**	**0.34**	**114**	*i* P		**Pg**	**07 56 11.3**	**-0.2**
BTAS				*i* S		**Sg**	**07 56 16.0**	**-0.3**
BTAS				IAML			07 56 19.0	
	comp=N,436nm,0.4s							
KAND	**Kocaeli-Kandir**	**0.49**	**322**	*i* P		**Pb**	**07 56 14.3**	**-0.7**
KAND				*i* S		**Sg**	**07 56 20.4**	**-0.3**
KAND				IAML			07 56 25.0	
	comp=N,134nm,0.3s							
MDUB	**Mudurnu**	**0.52**	**117**	PG		**Pb**	**07 56 15.1**	**-0.6**
SRCK	**Saricakaya, Es**	**0.67**	**177**	PG		**Pb**	**07 56 17.4**	**-0.8**
SRCK	**Saricakaya, Es**	**0.67**	**177**	*i* P		**Pg**	**07 56 17.2**	**-0.4**
SRCK				*i* S		**Sb**	**07 56 26.9**	**-0.5**
SRCK				IAML			07 56 32.0	
	comp=E,381nm,0.4s							
SRCK				IAML			07 56 33.0	
	comp=N,318nm,0.2s							
YIGI	**Dzce**	**0.70**	**69**	*i* P		**Pg**	**07 56 17.1**	**-1.1**
YIGI				*i* S		**Sg**	**07 56 26.4**	**-1.1**
ADVT	**Abdulvahap**	**0.70**	**247**	PG		**Pg**	**07 56 17.7**	**-0.6**
HRT	**Hereke**	**0.71**	**279**	PG		**Pb**	**07 56 18.1**	**-0.7**
BORA	**Eskisehir**	**0.84**	**187**	PG		**Pb**	**07 56 20.6**	**-0.4**
BORA				SG		**Sb**	**07 56 32.9**	**+0.7**
SILT	**Sile**	**0.84**	**302**	PG		**Pg**	**07 56 20.1**	**-0.8**
YUVA	**Yuva-Kibriscik**	**0.90**	**110**	PG		**Pb**	**07 56 22.1**	**0.0**
AUBOZ	**BOZOYUK**	**0.90**	**208**	PG		**Pb**	**07 56 21.6**	**-0.6**
AUBOZ				SG		**Sb**	**07 56 35.0**	**+0.8**
AUBOZ	**BOZOYUK**	**0.90**	**208**	*i* P		**Pb**	**07 56 21.7**	**-0.6**
AUBOZ				*i* S		**Sb**	**07 56 35.3**	**+1.1**
AUBOZ				IAML			07 56 38.0	
	comp=E,251nm,0.3s							
AUBOZ				IAML			07 56 38.0	
	comp=N,303nm,0.4s							
YLVH	**Yalova**	**0.93**	**269**	PG		**Pb**	**07 56 22.4**	**-0.1**
KIBS	**BOLU**	**1.01**	**106**	*i* P		**Pb**	**07 56 24.4**	**+0.4**
KIBS				*i* S		**Sb**	**07 56 38.0**	**+0.8**
KIBS				IAML			07 56 58.0	
	comp=E,374nm,0.9s							
GEMT	**Gemlik**	**1.10**	**256**	PG		**Pg**	**07 56 25.0**	**-0.8**
BUY	**Buyukada**	**1.12**	**278**	*i* P		**Pb**	**07 56 25.6**	**-0.3**
BUY				*i* S		**Sb**	**07 56 40.8**	**+0.4**
BUY				IAML			07 56 44.0	
	comp=N,212nm,0.3s							
BUY				IAML			07 56 46.0	
	comp=E,257nm,0.4s							
BCAM	**Yenicaga**	**1.13**	**84**	*i* P		**Pg**	**07 56 25.5**	**-0.9**
BCAM				*i* S		**Sg**	**07 56 40.7**	**-0.4**
BCAM				IAML			07 56 44.0	
	comp=N,108nm,0.6s							
BCAM				IAML			07 56 45.0	
	comp=E,83nm,0.5s							
IGD	**Bursa**	**1.15**	**248**	*i* P		**Pb**	**07 56 26.3**	**0.0**
IGD				*i* S		**Sn**	**07 56 43.1**	**+1.2**
IGD				IAML			07 56 44.0	
	comp=E,85nm,0.5s							
IGD				IAML			07 56 44.0	
	comp=N,106nm,0.8s							
KAVV	**Kandilli-Istan**	**1.21**	**287**	PN		**Pn**	**07 56 27.5**	**+0.2**
ISK	**Istanbul-Kandi**	**1.21**	**288**	PN		**Pn**	**07 56 27.8**	**+0.5**
ULDT	**Uludag**	**1.25**	**243**	*i* P		**Pg**	**07 56 27.7**	**-0.9**
ULDT				*i* S		**Sb**	**07 56 44.5**	**+0.4**
ULDT				IAML			07 56 53.0	
	comp=N,71nm,0.5s							
KLYT	**Kilyos**	**1.29**	**295**	PN		**Pb**	**07 56 28.9**	**+0.2**
ARMT	**Armutlu**	**1.32**	**264**	PN		**Pn**	**07 56 28.9**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.34**	**256**	PN		**Pg**	**07 56 29.8**	**-0.6**
CIFT	**Cifteler, Eski**	**1.40**	**165**	PN		**Pg**	**07 56 30.7**	**-0.7**
CIFT	**Cifteler, Eski**	**1.40**	**165**	*i* P		**Pb**	**07 56 30.4**	**-0.2**
CIFT				*i* S		**Sn**	**07 56 49.6**	**+1.3**
CIFT				IAML			07 56 52.0	
	comp=E,131nm,0.6s							
CIFT				IAML			07 57 01.0	
	comp=N,128nm,0.5s							
ORLT	**Orhaneli**	**1.45**	**243**	PN		**Pg**	**07 56 31.8**	**-0.7**
SVRH	**Sivrihisar-ESK**	**1.45**	**150**	PN		**Pg**	**07 56 32.1**	**-0.4**
BGKT	**Bogazkoy**	**1.45**	**289**	PN		**Pg**	**07 56 31.9**	**-0.6**
CMDR	**Camlidere-ANKA**	**1.45**	**98**	*i* P		**Pb**	**07 56 31.8**	**+0.2**
CMDR				*i* S		**Sg**	**07 56 51.9**	**+0.5**
CMDR				IAML			07 56 58.0	
	comp=N,59nm,0.5s							
CMDR				IAML			07 57 01.0	
	comp=E,59nm,0.5s							
AUSIV	**SIVRIHISAR**	**1.47**	**150**	PN		**Pg**	**07 56 32.1**	**-0.6**
TVSB	**Tavsanli**	**1.53**	**215**	PN		**Pb**	**07 56 32.8**	**0.0**
BTIN	**Bartın**	**1.56**	**53**	*i* P		**Pn**	**07 56 31.7**	**-0.4**
BTIN				*i* S		**Sn**	**07 56 52.0**	**-0.2**
BTIN				IAML			07 56 58.0	
	comp=E,81nm,0.5s							
BTIN				IAML			07 56 59.0	
	comp=N,48nm,0.4s							
KBUK	**KARABUK-Merkez**	**1.63**	**71**	*i* P		**Pb**	**07 56 34.5**	**-0.1**
KBUK				*i* S		**Sb**	**07 56 55.7**	**+0.6**
CTKS	**Kestanelik-??a**	**1.66**	**289**	PN		**Pb**	**07 56 34.8**	**-0.3**
KCTX	**Karacabey (Bur**	**1.76**	**256**	PN		**Pb**	**07 56 36.3**	**-0.4**
SLVT	**Silivri**	**1.87**	**287**	PN		**Pb**	**07 56 38.0**	**-0.7**
CTYL	**Yalikoy Yolu**	**1.90**	**294**	PN		**Pb**	**07 56 38.4**	**-0.7**
DURS	**Dursunbey**	**1.96**	**236**	*i* P		**Pg**	**07 56 41.1**	**-1.1**
DURS				*i* S		**Sg**	**07 57 08.8**	**+1.1**
DURS				IAML			07 57 11.0	
	comp=N,44nm,0.3s							
DURS				IAML			07 57 15.0	
	comp=E,38nm,0.4s							
SIMA	**Simav-Kutahya**	**2.04**	**218**	PN		**Pn**	**07 56 40.2**	**+1.4**
KIZT	**Kizilcal**	**2.08**	**151**	PN		**Pb**	**07 56 41.1**	**-1.2**
EDC	**Edincik**	**2.11**	**261**	PN		**Pb**	**07 56 41.5**	**-1.2**
PELI	**Kastamonı-Ara**	**2.14**	**73**	*i* P		**Pb**	**07 56 43.5**	**+0.1**
PELI				IAML			07 57 34.0	
	comp=E,15nm,1.9s							
SHUT	**Suhut-Afyon**	**2.15**	**181**	PN		**Pb**	**07 56 42.1**	**-1.5**
MRMT	**Marmara Adasi**	**2.28**	**268**	PN		**Pb**	**07 56 44.1**	**-1.5**
BALB	**Balikesir**	**2.33**	**244**	PN		**Pn**	**07 56 44.4**	**+1.7**

*SOME **09** 08:03:54.8, 42°.00N × 80°.70E, h20km*
*KRNET **09** 08:03:57.0 ± 0.1, 42°.16N × 80°.70E, mb3.2*
*NNC **09** 08:04:02.7 ± 4.2, 42°.42N × 80°.40E, h0km, mb3.3, mpv2.9,*
Error ellipse: s-maj=46.7km s-min=16.8km az=158.0
ISC 09 08:03:51.8 ± 2.6, 41°.80N ± 0°.09 × 80°.87E ± 0°.10, h22km ± 10km, n26, σ2ˢ 45/47, 13C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KTMS	**Ketmen**	**1.69**	**347**	*e*P	**Pb**	**08 04 21.8**		**-0.4**
	9.2nm,0.1s							
KTMS				*e*S	**Sn**	**08 04 40.2**		**-0.9**
	117nm,0.3s							
SHLS	**Shalkode**	**1.71**	**323**	*e*P	**Pn**	**08 04 19.4**		**-1.0**
	117nm,0.1s							
SHLS				*e*S	**Sn**	**08 04 36.6**		**-5.1**
	249nm,0.3s							
UZB	**Uzynbulak**	**1.92**	**315**	*e*P	**Pb**	**08 04 25.7**		**-0.5**
	22nm,0.1s							
UZB				*e*S	**Sn**	**08 04 47.2**		**+0.4**
	49nm,0.2s							
PRZ	**Przheval'sk**	**1.96**	**291**	⇑*i*P	**Pb**	**08 04 28.7**		**+1.8**
	baz=82							
PRZ				⇑*i*S	**Sb**	**08 04 52.1**		**+1.1**
	baz=82							
SATY	**Saty**	**2.22**	**305**	*e*P	**Pb**	**08 04 31.3**		**+0.1**
	31nm,0.3s							
SATY				*e*S	**Sb**	**08 04 57.4**		**-0.9**
	47nm,0.1s							
TARG	**Taragay, Kyrgy**	**2.30**	**269**	⇑*i*P	**Pb**	**08 04 36.1**		**+3.4**
	baz=60							
TARG				⇑*i*S	**Sb**	**08 05 04.8**		**+4.0**
	baz=60							
ANVS	**Anan'yevo**	**2.57**	**293**	⇓*i*P	**Pb**	**08 04 38.1**		**+0.8**
	baz=87							
ANVS				⇓*i*S	**Sb**	**08 05 07.7**		**-0.9**
	baz=87							
DJR	**Jarkent**	**2.65**	**343**	*e*P	**Pb**	**08 04 38.9**		**+0.3**
	6.2nm,0.1s							
DJR				*e*S	**Sb**	**08 05 09.7**		**-1.0**
	56nm,0.5s							
KDJ	**Kajisay**	**2.77**	**278**	⇓*i*P	**Pb**	**08 04 42.0**		**+1.3**
	baz=70							
KDJ				⇓*i*S	**Sb**	**08 05 14.1**		**-0.2**
	baz=70							
KOTS	**Kotyrbulak**	**3.13**	**298**	*e*P	**Pb**	**08 04 47.7**		**+0.9**
	34nm,0.5s							
KOTS				*e*S	**Sb**	**08 05 24.7**		**+0.2**
	69nm,0.4s							
MDOK	**Medeo**	**3.14**	**297**	*e*P	**Pb**	**08 04 47.6**		**+0.7**
	6.4nm,0.3s							
MDOK				*e*S	**Sb**	**08 05 24.9**		**0.0**
	12nm,0.4s							
MDOK	**Medeo**	**3.14**	**297**	⇓Pg	**Pb**	**08 04 47.5**		**+0.5**
	5.4nm,0.5s							
MDOK				Lg	Lg	08 05 26.8		
	6.0nm,0.4s							
ARXS	**Arharly**	**3.29**	**318**	*e*P	**Pb**	**08 04 50.3**		**+0.9**
	14nm,0.3s							
ARXS				*e*S	**Sb**	**08 05 28.8**		**-0.2**
IZV	**Izvestkoviy**	**3.39**	**293**	*e*P	**Pb**	**08 04 51.9**		**+0.7**
	8.1nm,0.2s							
IZV				*e*S	**Sb**	**08 05 31.9**		**-0.1**
	29nm,0.5s							
ULHL	**Ulahol**	**3.48**	**279**	⇓*i*P	**Pb**	**08 04 51.9**		**-0.9**
	baz=73							
ULHL				⇓*i*S	**Sb**	**08 05 31.3**		**-3.4**
	baz=73							
MTBS	**Maitube**	**3.54**	**293**	*e*P	**Pb**	**08 04 55.4**		**+1.6**
	4.9nm,0.2s							
MTBS				*e*S	**Sb**	**08 05 37.9**		**+1.4**
	8.4nm,0.3s							
KAPS	**Kapalarasan**	**3.65**	**343**	*e*P	**Pb**	**08 04 55.8**		**+0.2**
	2.5nm,0.2s							
KAPS				*e*S	**Sb**	**08 05 38.5**		**-1.0**
	35nm,0.4s							
BOOM	**Boomskoye usch**	**3.73**	**282**	⇑*e*P	**Pb**	**08 04 54.9**		**-2.2**
	baz=77							
BOOM				⇑*i*S	**Sb**	**08 05 36.8**		**-5.1**
	baz=77							
KUU	**Kurty**	**3.93**	**304**	*e*P	**Pb**	**08 05 01.8**		**+1.4**
	4.6nm,0.6s							
KUU				*e*S	**Sb**	**08 05 48.8**		**+1.3**
	12nm,0.3s							
DGS	**Degeres**	**4.04**	**293**	*e*P	**Pb**	**08 05 04.4**		**+2.2**
	4.7nm,0.5s							
DGS				*e*S	**Sb**	**08 05 53.4**		**+2.8**
	17nm,0.4s							
TKM2	**Tokmak 2**	**4.07**	**288**	⇓*i*P	**Pb**	**08 04 59.1**		**-3.7**
	baz=83							
TKM2				⇓*i*S	**Sn**	**08 05 44.3**		**+4.4**
	baz=83							
TKM2	**Tokmak 2**	**4.07**	**288**	⇑Pn	**Pb**	**08 05 01.8**		**-1.0**
	1.3nm,0.3s							
TKM2				⇑Lg	Lg	08 05 57.0		
	6.0nm,0.5s							
KZA	**Kyzart**	**4.20**	**276**	⇑*i*P	**Pb**	**08 05 01.8**		**-3.5**
	baz=71							
KZA				⇑*i*S	**Sb**	**08 05 49.4**		**-6.3**
	baz=71							
KRBS	**Karabastau**	**4.27**	**298**	*e*P	**Pb**	**08 05 08.6**		**+2.4**
	2.1nm,0.2s							
KRBS				*e*S	**Sb**	**08 06 01.0**		**+3.7**
	4.8nm,0.4s							
AAK	**Ala-Archa**	**4.81**	**282**	⇑Pg	Pb	08 05 21.3		+5.8
	3.8nm,0.7s							
AAK				Lg	Lg	08 06 19.2		
	3.6nm,0.6s							
MK31	**Makanchi Array**	**5.09**	**11**	Pn	Pn	08 05 12.9		+6.1
	0.1nm,0.2s,baz=200,slow=13,SNR=13							
MK31				⇑Sn	**Sn**	**08 06 09.4**		**+4.5**
	0.8nm,0.4s,baz=194,slow=26,SNR=3.6							
MK31				⇑Lg	Lg	08 06 27.3		
	1.0nm,0.4s,baz=195,slow=26,SNR=4.9							

*MOS **09** 08:12:52.8 ± 1.4, 47°.14N × 152°.81E, h90km, mb4.3/9, Error ellipse: s-maj=12.6km s-min=6.8km az=60.8*
*SKHL **09** 08:12:52.5 ± 0.7, 47°.02N × 153°.15E, h84km ± 2km, mb5.1/5, msh5.7/6*
*NEIC **09** 08:12:55.9 ± 1.8, 47°.2N ± 0°.1 × 152°.8E ± 0°.2, h98km ± 8km, mb4.2/38, Error ellipse: s-maj=20.8km s-min=12.8km az=140.0*
*IDC **09** 08:12:56.4 ± 2.5, 47°.25N × 152°.76E, h102km ± 22km, mb3.3/14, mb1 3.6/18, mb1mx3.5/51, mbtmp3.8/18, MS2.9/3, Ms1 2.9/3, ms1mx2.5/33, Error ellipse: s-maj=20.6km s-min=12.7km az=144.0*
ISC 09 08:12:55.7 ± 0.5, 47°.21N ± 0°.08 × 152°.86E ± 0°.07, h100km, n115, σ1§41/114, mb4.1/40, 7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KUR	**Kuril'sk**	**3.99**	**242**	*e*P	**Pn**	**08 13 53.2**		**-1.4**
KUR				AMB	AMB	08 13 56.2		
	100nm,0.5s							
KUR				AMB	AMB	08 13 56.2		
	40nm,0.5s							
KUR				AMB	AMB	08 13 56.2		
	190nm,0.5s							
KUR				*e*S	**Sn**	**08 14 38.6**		**-1.7**
KUR				A	A	08 14 41.1		
	800nm,2.0s							
KUR				A	A	08 14 41.1		
	600nm,2.0s							
KUR				A	A	08 14 45.7		
	300nm,0.7s							
KUR				A	A	08 14 45.7		
	380nm,0.7s							
KUR	**Kuril'sk**	**3.99**	**242**	*d* iPN	**Pn**	**08 13 53.0**		**-1.6**
KUR				*i* S	**Sn**	**08 14 39.7**		**-0.6**
KUR				pmax	pmax			
	comp=Z,159nm,0.3s							
KUR				pmax	pmax			
	comp=N,99nm,0.4s							
KUR				pmax	pmax			
	comp=E,38nm,0.3s							
KUR				smax	smax			
	comp=N,363nm,0.4s							
KUR				smax	smax			
	comp=E,144nm,0.3s							
SKR	**Severo-Kuril's**	**4.09**	**30**	*e*P	**Pn**	**08 13 53.8**		**-2.1**
SKR				AMB	AMB	08 13 58.4		
	comp=E,140nm,0.6s							
SKR				*e*S	**Sn**	**08 14 39.8**		**-2.9**
SKR				A	A	08 14 50.9		
	comp=E,120nm,0.5s							
SKR				A	A	08 14 50.9		
	comp=E,170nm,0.5s							
SKR	**Severo-Kuril's**	**4.09**	**30**	*e*PN	**Pn**	**08 13 53.4**		**-2.5**
SKR				*e*S	**Sn**	**08 14 36.3**		**-6.4**
SKR				pmax	pmax			
	comp=Z,142nm,0.6s							
SKR				smax	smax			
	comp=E,171nm,0.8s							
SKR				smax	smax			
	comp=N,155nm,0.8s							
PAU	**Pauzhetka**	**4.98**	**30**	*e*P	**Pn**	**08 14 05.6**		**-2.5**
PAU				AMB	AMB	08 14 07.2		
	comp=N,50nm,0.3s							
PAU				*e*S	**Sn**	**08 15 01.2**		**-3.2**
PAU				A	A	08 15 05.1		
	comp=N,200nm,0.7s							
PAU				A	A	08 15 05.1		
	comp=N,250nm,0.7s							
YUK	**Yuzh-Kuril'sk**	**5.84**	**240**	*e*P	**Pn**	**08 14 18.2**		**-1.6**
YUK				AMB	AMB	08 14 19.6		
	comp=N,90nm,0.3s							
YUK				*e*S	**Sn**	**08 15 23.5**		**-1.8**
YUK				A	A	08 15 46.6		
	comp=N,170nm,0.4s							
YUK				A	A	08 15 46.6		
	comp=N,170nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**5.84**	**240**	*e*PN	**Pn**	**08 14 19.0**		**-0.8**
YUK				*e*S	**Sn**	**08 15 25.5**		**+0.2**
YUK				pmax	pmax			
	comp=Z,136nm,0.2s							
YUK				pmax	pmax			
	comp=N,33nm,0.1s							
YUK				smax	smax			
	comp=E,168nm,0.5s							
YUK				smax	smax			
	comp=N,169nm,0.3s							
GRPR	**Tuman**	**5.92**	**240**	*e*P	**Pn**	**08 14 19.1**		**-1.7**
GRPR				*e*S	**Sn**	**08 15 23.5**		**-3.7**
GRPR				A	A	08 15 41.0		
	comp=N,230nm,0.6s							
GRPR				A	A	08 15 41.0		
	comp=N,70nm,0.6s							
GRPR	**Tuman**	**5.92**	**240**	PN	**Pn**	**08 14 18.7**		**-2.1**
GRPR				*e*S	**Sn**	**08 15 24.5**		**-2.7**
GRPR				smax	smax			
	comp=N,225nm,0.1s							
GRPR				smax	smax			
	comp=E,66nm,0.1s							
NMR	**Nemuro--Hokkai**	**6.33**	**235**	*e*rx	rx	08 14 21.0		
NMR	**Nemuro--Hokkai**	**6.33**	**235**	*e*PN	Pn	08 14 21.1		-5.2

PEA0B	**Petropavlovsk-**	**6.67**	**26**	*d* iPN	**Pn**	**08 14 33.2**		**+2.2**
PEA0B	**Petropavlovsk-**	**6.67**	**26**		**Pn**	**08 14 30.6**		**-0.4**
PETK	**Petropavlovsk-**	**6.67**	**26**	P	**Pn**	**08 14 30.6**		**-0.4**
	comp=E,2.1nm,0.3s,baz=195,slow=11,SNR=19							
YSS	**Yuzh-Sakhalins**	**6.90**	**272**	*e*P	**Pn**	**08 14 34.6**		**+0.5**
YSS	**Yuzh-Sakhalins**	**6.90**	**272**	*e*PN	Pn	08 14 29.0		-5.2
YSS				MLR	MLR			
	comp=Z,100nm,13.0s							
PET	**Petropavlovsk**	**6.91**	**30**	*e*P	**Pn**	**08 14 33.7**		**-0.5**
PET				AMB	AMB	08 14 36.1		
	comp=Z,40nm,0.7s							
PET				*e*S	**Sn**	**08 15 47.8**		**-3.4**
PET				A	A	08 15 53.1		
	comp=Z,30nm,0.5s							
PET				A	A	08 15 53.1		
	comp=Z,30nm,0.5s							
JKA	**Kamikawa-asahi**	**7.82**	**250**	*e*P	**Pn**	**08 14 47.9**		**+1.3**
JKA	**Kamikawa-asahi**	**7.82**	**250**		**Pn**	**08 14 47.9**		**+1.3**
ASAJ	**Asahikawa**	**7.82**	**250**	P	**Pn**	**08 14 47.9**		**+1.3**
	comp=Z,1.0nm,0.3s,baz=102,slow=14,SNR=5.0							
ERM	**Erimo**	**8.65**	**237**	⇓*e*PN	**Pn**	**08 14 56.1**		**-1.8**
ERM	**Erimo**	**8.65**	**237**	Pn	**Pn**	**08 14 56.0**		**-1.8**
MA2	**Magadan**	**12.45**	**355**	P	**Pn**	**08 15 48.7**		**-0.4**
	comp=Z,1.4nm,0.3s,baz=178,slow=8.7,SNR=6.8							
MA2	**Magadan**	**12.45**	**355**	*e*P	**Pn**	**08 15 48.9**		**-0.2**
MA2	**Magadan**	**12.45**	**355**	⇓*e*PN	**Pn**	**08 15 48.9**		**-0.2**
MA2				pmax	pmax			
	comp=Z,7.0nm,0.6s							
MA2	**Magadan**	**12.45**	**355**		**Pn**	**08 15 48.8**		**-0.2**
USRK	**Ussuriysk Ar.**	**14.88**	**266**	P	**Pn**	**08 16 20.6**		**-0.2**
	baz=72,slow=11,SNR=5.8							
KSRS	**Korea Array**	**20.77**	**251**	P	**P**	**08 17 29.5**		**+1.0**
	comp=Z,0.5nm,0.3s,baz=55,slow=11,SNR=1.4							
KSRS				LR	LR	08 25 49.1		
	comp=Z,14nm,18.7s,baz=65,slow=37							
BILL	**Bilibino**	**21.98**	**13**	*e*P	**P**	**08 17 43.5**		**+2.3**
BILL	**Bilibino**	**21.98**	**13**	*e*P	**P**	**08 17 43.5**		**+2.3**
BILL				pmax	pmax			
	comp=Z,1.0nm,1.1s							
H11N2	**WAKE ISLAND Hy**	**29.71**	**153**	T	T	08 50 37.2		
	baz=341,slow=76,SNR=661							
H11N1	**WAKE ISLAND Hy**	**29.72**	**153**	T	T	08 50 50.5		
	baz=341,slow=76,SNR=493							
H11N3	**WAKE ISLAND Hy**	**29.72**	**153**	T	T	08 50 23.7		
	baz=341,slow=76,SNR=484							
H11S1	**WAKE ISLAND Hy**	**30.80**	**154**	T	T	08 51 42.7		
	baz=341,slow=76,SNR=482							
H11S3	**WAKE ISLAND Hy**	**30.80**	**154**	T	T	08 51 45.0		
	baz=341,slow=76,SNR=632							
H11S2	**WAKE ISLAND Hy**	**30.82**	**154**	T	T	08 52 11.3		
	baz=341,slow=76,SNR=752							
TLY	**Talaya**	**31.82**	**297**	LR	LR	08 32 31.8		
	comp=Z,27nm,20.0s,baz=98,slow=37							
PPLA	**Purkeypile**	**33.94**	**42**	P	**P**	**08 19 30.3**		**+1.2**
PPLA				IAmb	IAmb	08 19 31.9		
	comp=Z,4.1nm,1.2s							
KDAK	**Kodiak Island**	**33.95**	**51**	P	**P**	**08 19 28.6**		**-0.4**
KDAK				pmax	pmax			
	comp=Z,20nm,1.4s							
KDAK	**Kodiak Island**	**33.95**	**51**	P	**P**	**08 19 28.6**		**-0.4**
BRLK	**Bradley Lake**	**34.65**	**48**	P	**P**	**08 19 34.6**		**-0.6**
BRLK				IAmb	IAmb	08 19 34.9		
	comp=Z,6.7nm,1.0s							
MLY	**Manley**	**34.66**	**38**	P	**P**	**08 19 36.2**		**+1.0**
TRF	**Thorofare Moun**	**34.81**	**41**	P	**P**	**08 19 37.7**		**+1.1**
TOLK	**Toolik Lake Re**	**35.45**	**32**	P	**P**	**08 19 42.9**		**+1.0**
TOLK				IAmb	IAmb	08 19 43.4		
	comp=Z,2.7nm,1.0s							
COLA	**College**	**35.89**	**39**	*d* iP	**P**	**08 19 46.6**		**+1.0**
COLA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CCB	**Clear Creek Bu**	**35.91**	**39**	P	**P**	**08 19 47.1**		**+1.4**
DHY	**Denali Highway**	**36.13**	**42**	P	**P**	**08 19 48.7**		**+0.7**
DHY				IAmb	IAmb	08 19 51.8		
	comp=Z,4.6nm,1.3s							
HDA	**Harding Lake**	**36.28**	**40**	P	**P**	**08 19 49.3**		**+0.3**
HDA				IAmb	IAmb	08 19 52.0		
	comp=Z,5.0nm,1.3s							
IL31		**36.30**	**39**	P	**P**	**08 19 49.7**		**+0.6**
IL31				IAmb	IAmb	08 19 51.4		
	comp=Z,3.2nm,1.4s							
ILAR	**Eielson Array**	**36.30**	**39**	P	**P**	**08 19 49.1**		**0.0**
	comp=Z,1.3nm,0.9s,baz=253,slow=6.8,SNR=12							
VRDI	**Verde Repeater**	**38.15**	**45**	P	**P**	**08 20 06.3**		**+1.3**
VRDI				IAmb	IAmb	08 20 09.9		
	comp=Z,8.0nm,1.3s							
WAX	**Waxell Ridge**	**38.56**	**46**	P	**P**	**08 20 10.2**		**+1.9**
EGAK	**Eagle**	**38.75**	**39**	P	**P**	**08 20 09.6**		**-0.2**
EGAK				IAmb	IAmb	08 20 10.8		
	comp=Z,2.1nm,0.8s							
BARN	**Barnard Glacie**	**39.03**	**45**	P	**P**	**08 20 14.0**		**+1.6**
BARN				IAmb	IAmb	08 20 14.1		
	comp=Z,3.8nm,0.7s							
CTGM	**Chitina Glacie**	**39.20**	**45**	P	**P**	**08 20 13.9**		**+0.1**
EPYK	**Eagle Plains**	**40.40**	**36**	P	**P**	**08 20 25.4**		**+2.0**
EPYK				IAmb	IAmb	08 20 25.7		
	comp=Z,3.5nm,1.1s							
HYT	**Haines Junctio**	**41.07**	**44**	P	**P**	**08 20 31.1**		**+2.0**
INK	**Inuvik**	**41.36**	**33**	P	**P**	**08 20 32.2**		**+1.0**
	comp=Z,0.8nm,0.4s,baz=285,slow=4.8,SNR=7.4							
INK	**Inuvik**	**41.36**	**33**	P	**P**	**08 20 32.0**		**+0.8**
INK				pmax	pmax			
	comp=Z,3.0nm,1.3s							
INK	**Inuvik**	**41.36**	**33**	P	**P**	**08 20 32.0**		**+0.8**
ZALV	**Zalesovo Beam**	**42.20**	**305**	PcP	**PcP**	**08 22 30.7**		**+0.2**
	comp=Z,0.9nm,0.3s,baz=104,slow=3.6,SNR=4.8							
ZALV				LR	LR	08 41 11.8		
	comp=Z,23nm,18.2s,baz

Q16A	Castle Valley	66.27	58	P		P	08 23 35.1	+1.8
SRU	San Rafael Swe	66.52	57	P		P	08 23 35.4	+0.6
SRU				pmax		pmax		
	comp=Z,4.0nm,1.0s							
SRU	San Rafael Swe	66.52	57	P		P	08 23 35.4	+0.6
RSSD	Black Hills	66.66	50	P		P	08 23 36.1	+0.4
RSSD				pmax		pmax		
	comp=Z,3.0nm,0.8s							
RSSD	Black Hills	66.66	50	P		P	08 23 36.1	+0.4
RSSD				IAmb		IAmb	08 23 37.0	
	comp=Z,2.7nm,0.8s							
NB201	NORSAR Array S	67.71	341	P		P	08 23 42.6	+0.8
NB201				IAmb		IAmb	08 23 42.9	
	comp=Z,2.6nm,0.7s							
NB2	NORSAR Subarra	67.74	341	P		P	08 23 41.7	-0.3
	comp=Z,0.3nm,0.5s,baz=26,slow=6.5							
NOA	NORSAR Array B	67.74	341	P		P	08 23 41.7	-0.3
	comp=Z,0.3nm,0.5s,baz=27,slow=6.2,SNR=4.8							
NOA	NORSAR Array B	67.74	341	*eP*		P	08 23 42.1	+0.1
WRAB	Tennant Creek	68.88	199	⇓ *eP*		P	08 23 48.6	-0.9
WRAB				pmax		pmax		
	comp=Z,420nm,2.0s							
WRA	Warramunga Arr	68.89	199	P		P	08 23 49.0	-0.6
	comp=Z,0.5nm,0.6s,baz=15,slow=6.6,SNR=2.4							
WRA	Warramunga Arr	68.89	199	P		P	08 23 49.0	-0.6
KIV	Kislovodsk	70.35	314	*eP*		P	08 23 58.3	-0.2
KIV	Kislovodsk	70.35	314	*eP*		P	08 23 58.3	-0.2
KIV				pmax		pmax		
	comp=Z,2.0nm,0.4s							
AKASG	Malin Array Be	71.07	326	P		P	08 24 02.0	-0.6
	comp=Z,0.5nm,0.3s,baz=34,slow=6.1,SNR=2.9							
ASAR	Alice Springs	72.59	198	P		P	08 24 12.6	+0.6
	comp=Z,1.1nm,0.8s,baz=16,slow=5.7,SNR=12							
BUR08	Bucovina Ar. S	75.09	326	P		P	08 24 26.9	+0.4
TX31	Lajitas Ar. Si	77.42	60	P		P	08 24 40.8	+0.8
TX32	Lajitas Array	77.42	60	P		P	08 24 40.8	+0.9
TX32				IAmb		IAmb	08 24 41.4	
	comp=Z,3.4nm,0.7s							
TXAR	Lajitas Array	77.42	60	P		P	08 24 40.6	+0.7
	comp=Z,3.6nm,0.6s,baz=301,slow=4.3,SNR=59							
GERES	GERESS Array B	77.97	334	P		P	08 24 42.5	-0.2
	comp=Z,0.2nm,0.3s,baz=35,slow=4.9,SNR=3.5							
GERES	GERESS Array B	77.97	334	*eP*		P	08 24 43.8	+1.1
FCAR	Ozark Folk Cen	78.88	49	P		P	08 24 47.5	-0.3
H03N2	Juan Fernandez	138.93	90	T		T	11 07 05.0	
	baz=309,slow=74,SNR=18							
H03N1	Juan Fernandez	138.94	90	T		T	11 07 06.3	
	baz=309							
H03N3	Juan Fernandez	138.94	90	T		T	11 07 05.9	
	baz=309,slow=74,SNR=22							

IDC ***09*** *08:23:41.5±3.5,8.17S×119.68E,h195km±33km, mb3.0/3, mb1 3.3/7, mb1mx3.1/44, mbtmp3.8/7, MS3.3/1, Ms1 3.3/1, ms1mx2.4/17, Error ellipse: s-maj=100.9km s-min=16.5km az=60.0*

ISC 09 08:23:40.9±1.1, 8.0S±0.1×119.9E±0.2, h200km, n7, σ4$03/10, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	Kappang	3.00	357	P	Pn	08 24 32.8	+2.2
KAPI	2.0nm,0.3s,baz=169,slow=10,SNR=2.8			S	Sn	08 25 03.6	-5.9
	2.8nm,0.3s,baz=65,slow=18,SNR=2.8						
BATI	Baumata	4.28	121	P	Pn	08 24 48.4	+2.3
BATI	19nm,0.3s,baz=309,slow=2.4,SNR=5.4			S	Sn	08 25 35.5	-1.9
	8.4nm,0.3s,baz=237,slow=23,SNR=1.9						
BATI				LR	LR	08 26 23.7	
	comp=Z,334nm,19.6s,baz=179,slow=37						
FITZ	Fitzroy Crossi	11.45	152	P	Pn	08 26 19.2	+0.5
FITZ	0.2nm,0.3s,baz=340,slow=13,SNR=8.8			S	Sn	08 28 19.0	-7.5
	0.5nm,0.3s,baz=198,slow=18,SNR=6.6						
WRA	Warramunga Arr	18.30	132	P	Pn	08 27 41.8	-0.8
	0.4nm,0.3s,baz=306,slow=10,SNR=36						
ASAR	Alice Springs	20.52	141	P	P	08 28 05.3	+1.4
	0.7nm,0.3s,baz=316,slow=9.2,SNR=20						
STKA	Stephens Creek	31.13	143	P	P	08 29 43.2	+2.3
	0.9nm,0.7s,baz=333,slow=8.3,SNR=3.1						
MKAR	Makanchi Array	64.03	332	P	P	08 33 54.1	+0.9
	0.9nm,0.8s,baz=164,slow=6.4,SNR=3.6						

IDC 09 08:40:47.1±2.2, 5.90S×130.53E, h0km, mb4.0/1, mb1 3.9/4, mb1mx3.6/32, mbtmp3.8/4, ML3.7/3, Error ellipse: s-maj=92.0km s-min=27.4km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	Fitzroy Crossi	13.03	201	Pn	Pn	08 43 54.4	+0.8
FITZ	0.4nm,0.3s,baz=27,slow=11,SNR=21			Sn	Sn	08 46 10.0	-9.5
	0.3nm,0.3s,baz=249,slow=21,SNR=2.0						
WRA	Warramunga Arr	14.44	165	Pn	Pn	08 44 11.3	-1.8
	0.3nm,0.3s,baz=348,slow=14,SNR=16						
WRA				Sn	Sn	08 46 38.6	-15
	0.5nm,0.3s,baz=348,slow=20,SNR=4.0						
ASAR	Alice Springs	17.96	170	P	P	08 44 59.0	-0.1
	0.2nm,0.3s,baz=346,slow=9.8,SNR=14						
MKAR	Makanchi Array	67.60	326	P	P	08 51 45.8	0.0
	0.7nm,0.4s,baz=115,slow=8.1,SNR=10						

IDC ***09*** *08:47:59.6±61.0, 22.40S×176.60W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/30, mbtmp3.9/3, Error ellipse: s-maj=1122.0km s-min=172.1km az=86.0*

NEIC ***09*** *08:48:22.6±2.1, 23.82S±0.07×179.5W±0.2, h10km±2km, mb4.4/6, Error ellipse: s-maj=37.1km s-min=7.6km az=74.0*

ISC 09 08:48:13.1±14.0, 23°S±1°×17°W±°, h10km, n13, σ2$01/11, mb4.3/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	6.17	177	Pn	Pn	08 49 44.4	0.0
MSVF	Nonsavu	6.32	326	Pn	Pb	08 49 57.6	-5.8
STKA	Stephens Creek	36.51	247	P	P	08 55 21.6	+2.8
	1.0nm,0.5s,baz=95,slow=11,SNR=3.7						
STKA	Stephens Creek	36.51	247	P	P	08 55 14.7	-4.1
ASAR	Alice Springs	43.74	259	P	P	08 56 20.4	+1.4
	0.9nm,0.9s,baz=103,slow=7.8,SNR=6.2						
ASAR	Alice Springs	43.74	259	P	P	08 56 20.4	+1.4
WR0	Warramunga Arr	43.86	265	P	P	08 56 20.5	+0.5
WR0				IAmb	IAmb	08 56 38.0	
	comp=Z,12nm,1.3s						
WB2	Warramunga Arr	44.04	265	P	P	08 56 21.6	+0.2
WB2				IAmb	IAmb	08 56 28.7	
	comp=Z,8.5nm,1.2s						
WB0	Warramunga Arr	44.04	265	P	P	08 56 21.5	+0.1
WB0				IAmb	IAmb	08 56 22.9	
	comp=Z,9.3nm,1.1s						
WRAB	Tennant Creek	44.04	265	P	P	08 56 19.5	-1.9
WRA	Warramunga Arr	44.05	265	P	P	08 56 21.8	+0.3
	comp=Z,1.1nm,0.5s,baz=103,slow=8.2,SNR=31						
WRA	Warramunga Arr	44.05	265	P	P	08 56 21.8	+0.3
QSPA	South Pole Qui	67.02	180	P	P	08 59 11.7	+5.5
QSPA				IAmb	IAmb	08 59 13.8	
	comp=Z,2.6nm,1.1s						

NIED ***09*** *08:58:00, 34.90N×140.10E, h62km, Mw4.4 Best double couple: M₀4.03000×10¹⁵ NP1:φ₀249.00000°, δ64.00000°, λ137.00000°. NP2:φ₀2.00000°, δ52.00000°, λ34.00000°.*

NEIC ***09*** *08:58:44.1±2.4, 34.98N±0.05×140.19E±0.10, h54km±6km, mb4.8/27, Error ellipse: s-maj=11.9km s-min=7.2km az=85.0*

JMA ***09*** *08:58:44.3±0.2, 34.93N×140.02E, h67km±2km, M4.1 Broadband fault plane solution: P waves. NP1: φ₀5.00000°, δ51.00000°, λ36.00000°. NP2:φ₀250.00000°, δ63.00000°, λ135.00000°. Principal axes: T Plg50.0000°, Azm211.0000°; N Plg39.0000°, Azm46.0000°; P Plg7.0000°, Azm310.0000°;*

JMA Felt II J1.

IDC ***09*** *08:58:46.2±1.4, 34.87N×139.93E, h69km±13km, mb3.8/18, mb1 4.0/20, mb1mx3.8/42, mbtmp4.1/20, MS3.2/11, Ms1 3.2/11, ms1mx3.0/39 Error ellipse: s-maj=19.3km s-min=9.4km az=75.0*

ISC 09 08:58:45.4±0.6, 34°96N±0°04×140°03E±0°04, h63km±5km, n91, σ1$22/91, mb4.5/33, 6C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TATJ	Tateyama 2	0.14	303	⇑P	Pn	08 58 55.0	+0.1
TATJ				*eS*	Sn	08 59 02.9	+1.1
JKUC	kamogawauchiur	0.24	34	⇑P	Pn	08 58 55.0	-0.5
JKUC				S	Sn	08 59 02.5	-0.3
BSO4	Boso 4	0.25	82	⇑P	Pn	08 58 55.6	+0.2
BSO4				X		08 59 04.0	
KTR	Katsuura	0.30	50	⇑P	Pn	08 58 55.5	-0.3
KTR				S	Sn	08 59 03.3	-0.1
BSO3	Boso 3	0.42	111	⇑P	Pn	08 58 56.5	0.0
BSO3				X		08 59 05.2	
JIM2	Oshima 3	0.55	245	P	Pn	08 58 57.3	-0.8
JIM2				S	Sn	08 59 06.3	-1.2
JOD2	Odawara 2	0.83	292	⇓P	Pn	08 59 00.4	-1.1
JOD2				S	Sn	08 59 11.8	-1.5
BSO1	Boso 1	0.83	111	⇓P	Pn	08 59 00.4	-0.5
JIZS	Izushimoda	0.98	256	⇓P	Pn	08 59 02.6	-0.7
JIZS				S	Sn	08 59 15.9	-0.6
JMKN	Mikurajimanish	1.12	199	⇓P	Pn	08 59 04.6	-0.5
JMKN				S	Sn	08 59 19.0	-0.8
JFNN	Fujinakano	1.13	283	⇓P	Pn	08 59 04.7	-0.5
JFNN				S	Sn	08 59 19.8	-0.2
JYN	Shimob	1.33	294	⇓P	Pn	08 59 07.5	-0.5
JYN				S	Sn	08 59 24.6	-0.3
JHJ	Hachijo jima 2	1.84	187	P	Pn	08 59 14.7	-0.1
	178nm,0.3s,baz=344,slow=8.6,SNR=60						
JHJ				S	Sn	08 59 36.3	-0.8
	371nm,0.3s,baz=73,slow=21,SNR=6.4						
JHJ				LR	LR	09 00 06.6	
	comp=Z,501nm,21.0s,baz=5.5,slow=46						
JHJ2	Mitsune	1.85	186	Pn	Pn	08 59 14.3	-0.5
MJAR	Matsushiro Arr	2.17	317	P	Pn	08 59 19.0	-0.2
	30nm,0.3s,baz=152,slow=13,SNR=1382						
MJAR				LR	LR	09 00 16.0	
	comp=Z,383nm,20.8s,baz=125,slow=42						
MAJO	Matsushiro	2.17	317		Pn	08 59 19.6	+0.4
MAT	Matsushiro	2.17	317	P	Pn	08 59 19.5	+0.3
MAT				S	Sn	08 59 45.0	-0.1
MJB9	Matsu-Tunnel	2.17	317		Pn	08 59 19.6	+0.3
INU	Inuyama	2.50	280	Pn	Pn	08 59 24.2	+0.5
ERM	Erima	7.46	18	Pn	Pn	09 00 29.8	-1.7
JNU	Nakatsue	7.82	259	P	Pn	09 00 39.0	+2.6
	0.5nm,0.3s,baz=55,slow=9.1,SNR=7.9						
JNU	Nakatsue	7.82	259	Pn	Pn	09 00 38.7	+2.2
JCJ	Chichijima	8.05	166	Pn	Pn	09 00 37.4	-2.2
ASAJ	Asahikawa	9.36	11	P	Pn	09 00 55.7	-1.7
	1.3nm,0.3s,baz=214,slow=10,SNR=7.3						
ASAJ				S	Sn	09 02 37.0	-4.1
	0.8nm,0.3s,baz=29,slow=27,SNR=2.5						
JKA	Kamikawa-asahi	9.36	11		Pn	09 00 55.7	-1.8
JKA					Sn	09 02 37.0	-4.1
JKA	Kamikawa-asahi	9.36	11	Pn	Pn	09 00 56.2	-1.3
KSRS	Korea Array	10.10	288	P	Pn	09 01 12.1	+4.5
	0.2nm,0.3s,baz=104,slow=14,SNR=18						
KSRS				LR	LR	09 05 04.3	
	comp=Z,81nm,19.5s,baz=79,slow=38						
USRK	Ussuriysk Ar.	11.12	329	P	Pn	09 01 23.0	+1.6
	baz=129,slow=13,SNR=4.5						
USRK				LR	LR	09 05 28.6	
	comp=Z,106nm,21.9s,baz=127,slow=36						
PETK	Petropavlovsk-	22.04	29	LR	LR	09 12 19.6	
	comp=Z,30nm,21.5s,baz=242,slow=37						
MA2	Magadan	25.62	13	LR	LR	09 14 14.3	
	comp=Z,33nm,19.6s,baz=178,slow=36						
SONM	Songino Array	28.09	308	LR	LR	09 16 20.2	
	comp=Z,98nm,18.9s,baz=93,slow=38						
H11N2	WAKE ISLAND Hy	28.16	116	T	T	09 34 07.2	
	baz=309,slow=75,SNR=236						
H11N1	WAKE ISLAND Hy	28.16	116	T	T	09 33 53.6	
	baz=309,slow=75,SNR=134						
H11N3	WAKE ISLAND Hy	28.17	116	T	T	09 34 01.4	
	baz=309,slow=75,SNR=222						
H11S3	WAKE ISLAND Hy	28.78	118	T	T	09 34 44.2	
	baz=311,slow=76,SNR=34						
H11S1	WAKE ISLAND Hy	28.78	118	T	T	09 34 44.2	
	baz=311,slow=76,SNR=39						
H11S2	WAKE ISLAND Hy	28.79	118	T	T	09 34 56.4	
	baz=311,slow=76,SNR=35						
TLY	Talaya	30.91	314	LR	LR	09 17 26.0	
	comp=Z,44nm,19.6s,baz=119,slow=36						
CMAR	Chiang Mai Arr	39.91	257	LR	LR	09 23 31.5	
	comp=Z,26nm,18.6s,baz=70,slow=37						
ZAA0	Zalesovo Array	42.52	314	P	P	09 06 34.2	-0.2
ZAA0				IAmb	IAmb	09 06 35.3	
	comp=Z,4.3nm,0.6s						
ZALV	Zalesovo Beam	42.52	314	P	P	09 06 34.5	+0.2
	comp=Z,2.5nm,0.4s,baz=88,slow=6.2,SNR=10						
ZALV				PcP	PcP	09 08 25.3	-0.6
	comp=Z,1.3nm,0.6s,baz=90,slow=2.9,SNR=3.8						
MK31	Makanchi Array	44.30	304	⇓Lg	Lg	09 08 34.8	
	comp=Z,6.6nm,0.3s,baz=319,slow=25,SNR=5.7						
MK31	Makanchi Array	44.30	304	P	P	09 06 48.9	0.0
MK31	Makanchi Array	44.30	304	⇑Pn	P	09 06 48.8	-0.1
	comp=Z,1.5nm,0.5s,baz=87,slow=11,SNR=22						
MKAR	Makanchi Array	44.30	304	P	P	09 06 49.1	+0.2
	comp=Z,2.2nm,0.6s,baz=84,slow=9.7,SNR=29						
MKAR				LR	LR	09 25 52.3	
	comp=Z,40nm,18.1s,baz=98,slow=37						
MAKZ	Makanchi	44.52	304	P	P	09 06 50.2	-0.4
KURK	Kurchatov	46.36	310	P	P	09 07 05.0	0.0
KURK				IAmb	IAmb	09 07 06.0	
	comp=Z,8.8nm,0.7s						
KURBB	Kurchatov Arra	46.42	309	P	P	09 07 05.5	0.0
	comp=Z,4.7nm,0.7s,baz=87,slow=7.7,SNR=10						
COEN	Coen	48.73	176	P	P	09 07 24.2	+0.4
COEN				IAmb	IAmb	09 07 31.5	
	comp=Z,13nm,1.2s						
AAK	Ala-Archa	50.51	300	P	P	09 07 37.6	+0.2
	comp=Z,0.8nm,0.3s,baz=101,slow=10,SNR=3.8						
AAK	Ala-Archa	50.51	300	P	P	09 07 36.6	-0.7
AAK				IAmb	IAmb	09 07 38.2	
	comp=Z,2.2nm,0.5s						
BRVK	Borovoye	51.22	313	P	P	09 07 41.7	-0.5
KNRA	Kununurra	51.48	194	P	P	09 07 42.1	-2.3
ILAR	Eielson Array	51.85	31	P	P	09 07 47.5	+0.7
	comp=Z,0.7nm,0.8s,baz=268,slow=7.0,SNR=8.1						
KK31	Karatay Array	53.22	301	P	P	09 07 57.5	+0.3
KK31				IAmb	IAmb	09 07 58.6	
	comp=Z,5.0nm,1.1s						
KKAR	Karatay Array	53.22	301	P	P	09 07 57.6	+0.4
KKAR				IAmb	IAmb	09 07 58.6	
	comp=Z,5.0nm,1.1s						
FITZ	Fitzroy Crossi	54.51	197	P	P	09 08 05.3	-1.5
FITZ				IAmb	IAmb	09 08 12.9	
	comp=Z,15nm,1.4s						
WB0	Warramunga Arr	54.68	187	P	P	09 08 06.9	-1.1
WRAB	Tennant Creek	54.85	187	P	P	09 08 08.2	-1.0
WRAB				IAmb	IAmb	09 08 08.9	
	comp=Z,17nm,0.8s						
WR0	Warramunga Arr	54.86	186	P	P	09 08 07.8	-1.5
WB2	Warramunga Arr	54.86	187	P	P	09 08 08.3	-1.1
WRA	Warramunga Arr	54.86	187	P	P	09 08 08.1	-1.2
	comp=Z,19nm,0.7s,baz=2.8,slow=7.6,SNR=81						
CHGR	Chuyangaron	55.56	296	P	P	09 08 14.7	+0.2
CHGR				IAmb	IAmb	09 08 15.0	
	comp=Z,17nm,0.7s						
SANVU	Saraoutou	56.38	148	P	P	09 08 20.8	+0.6
KBL	Kabul	57.13	292	P	P	09 08 25.4	-0.4
KBL				IAmb	IAmb	09 08 28.3	
	comp=Z,3.6nm,0.7s						
AS31	Alice Springs	58.59	187		P	09 08 35.0	-0.7
ASAR	Alice Springs	58.59	187	P	P	09 08 34.6	-1.1
	comp=Z,2.3nm,0.5s,baz=16,slow=11,SNR=47						
ASAR				PcP	PcP	09 09 25.4	0.0
	comp=Z,1.5nm,0.8s,baz=8.3,slow=5.0,SNR=4.7						
AKTO	Aktyubinsk	59.24	313	P	P	09 08 40.0	0.0
	comp=Z,1.5nm,0.6s,baz=68,slow=11,SNR=3.9						
C36M	Paulatuk	59.78	24	P	P	09 08 44.5	+1.1
C36M				IAmb	IAmb	09 08 54.7	
	comp=Z,18nm,1.4s						
DZM	Mont Dzumac	62.01	152	P	P	09 09 00.1	+1.0
DZM				IAmb	IAmb	09 09 01.3	
	comp=Z,20nm,1.2s						
ARCES	ARCESS Array B	65.54	339	P	P	09 09 22.3	+0.5
	comp=Z,2.7nm,1.0s,baz=56,slow=7.4,SNR=3.9						
YKA	Yellowknife Ar	66.16	29	P	P	09 09 26.3	+0.5
	comp=Z,0.5nm,0.7s,baz=293,slow=6.3,SNR=3.5						
FORT	Forrest	66.35	191	P	P	09 09 27.4	+0.1
STKA	Stephens Creek	66.50	179	P	P	09 09 28.3	+0.1
	comp=Z,6.1nm,0.9s,baz=327,slow=8.9,SNR=10						
STKA	Stephens Creek	66.50	179	P	P	09 09 28.4	+0.1
BBOO	Buckleboo	67.51	184	P	P	09 09 32.7	-1.9
BBOO				IAmb	IAmb	09 09 35.2	
	comp=Z,6.4nm,0.8s						
MORW	Morawa	67.59	203	P	P	09 09 33.6	-1.6
MORW				IAmb	IAmb	09 09 35.1	
	comp=Z,9.9nm,1.1s						
FINES	FINESS Array B	70.13	332	P	P	09 09 51.0	+0.3
	comp=Z,1.7nm,0.6s,baz=64,slow=8.7,SNR=6.7						
FINES				LR	LR	09 42 00.3	
	comp=Z,35nm,18.8s,baz=38,slow=37						
KBZ	Khabaz	71.40	311	P	P	09 09 59.4	+0.7
	comp=Z,2.4nm,0.8s,baz=189,slow=7.8,SNR=4.6						
AKASG	Malin Array Be	75.25	322	P	P	09 10 21.0	-0.3
	comp=Z,0.4nm,0.4s,baz=41,slow=6.1,SNR=4.3						
NB2	NORSAR Subarra	75.66	337	P	P	09 10 23.0	-0.5
	comp=Z,2.9nm,1.2s,baz=40,slow=5.9						
NOA	NORSAR Array B	75.66	337	P	P	09 10 23.1	-0.4
	comp=Z,0.5nm,0.7s,baz=41,slow=5.9,SNR=3.6						
NOA				LR	LR	09 46 57.5	
	comp=Z,24nm,19.9s,baz=25,slow=38						
FCC	Fort Churchill	76.36	26	P	P	09 10 27.8	+0.5
NVAR	Mina Array Bea	77.14	52	P	P	09 10 34.0	+1.5
	comp=Z,0.8nm,0.6s,baz=290,slow=4.9,SNR=9.5						
BRTR	Keskin Array B	79.38	311	P	P	09 10 45.5	+0.7
	comp=Z,1.1nm,0.9s,baz=72,slow=4.7,SNR=1.6						
PDAR	Pinedale Array	79.92	45	P	P	09 10 48.6	+0.8
	comp=Z,0.5nm,0.6s,baz=239,slow=0.9,SNR=4.5						
LCMT	Little Creek M	81.22	51	P	P	09 10 56.2	+1.6
TXAR	Lajitas Array	92.28	52	P	P	09 11 49.6	+0.7
	comp=Z,0.3nm,0.5s,baz=297,slow=3.0,SNR=6.6						
H03N2	Juan Fernandez	147.87	99	T	T	12 03 33.8	
	baz=289,slow=76,SNR=5.0						
H03N3	Juan Fernandez	147.88	99	T	T	12 03 24.3	
	baz=289,slow=76,SNR=8.9						
H03N1	Juan Fernandez	147.89	99	T	T	12 03 34.6	
	baz=289,slow=76,SNR=6.1						

NNC 09 09:05:06.4±4.8, 51.91N×75.70E, h0km, mb3.1, mpv2.7, 2C-3D, Error ellipse: s-maj=187.1km s-min=21.0km az=27.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KURK	Kurchatov	2.19	122	⇓Pg	Pb	09 05 45.8	-1.0
	1.0nm,0.6s						
KURK				⇓Lg	Lg	09 06 14.2	
	15nm,0.9s						
KURBB	Kurchatov Arra	2.20	125	⇑Pg	Pb	09 05 47.6	+0.6
	1.2nm,0.3s						
KURBB				⇓Lg	Lg	09 06 15.0	
	19nm,0.7s						
BVA4	Borovoye Array	3.43	291	⇑Lg	Lg	09 06 52.6	
	6.0nm,0.7s						

ATA ***09*** *09:12:16.9±0.7, 37.31N×42.70E, h32km±8km, ML1.9, MW2.6*

DDA ***09*** *09:12:16.9, 37.29N×42.59E, h7km±4km, ML2.3*

ISK ***09*** *09:12:16.5, 37.35N×42.60E, h5km, ML2.4/6*

ISC 09 09:12:18.0±1.4, 37.33N±0.06×42.65E±0.03, h6km±11km, n19, σ1$22/29, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIRT	Sirnak	0.24	316	PG	Pg	09 12 21.3	-1.4
SIRN	Sirnak	0.25	312	*i* P	Pg	09 12 21.4	-1.6
SIRN				IAML		09 12 26.0	
	comp=N,484nm,0.3s						
SIRN				*i* S	Sg	09 12 26.3	0.0
SIRN				IAML		09 12 29.0	
	comp=E,558nm,0.7s						
CUKT	Cukurca	0.77	96	PG	Pg	09 12 33.1	+0.3
CUKT				SG	Sg	09 12 45.2	+2.4
CUKT	Cukurca	0.77	96	*i* P	Pg	09 12 33.2	+0.4
CUKT				*i* S	Sn	09 12 47.6	0.0
CUKT				IAML		09 12 56.0	
	comp=N,55nm,0.5s						
CUKT				IAML		09 12 58.0	
	comp=E,77nm,0.5s						
HAKT	HAKKARI	0.87	74	*i* P	Pb	09 12 34.0	-1.7
HAKT				*i* S	Sb	09 12 47.8	0.0
SRTM	Siirt_Merkez	0.88	319	*i* P	Pb	09 12 33.9	-1.9
SRTM				*i* S	Sb	09 12 48.3	+0.5
AKDM	Akdamar-Van	1.03	15	PG	Pb	09 12 37.2	-1.2
GEVA	Gevas	1.03	18	*eP*	Pb	09 12 36.7	-1.8
GEVA				*eS*	Sb	09 12 53.1	+0.7
GEVA				IAML		09 13 00.1	
	comp=Z,14nm,0.4s						
GEVA	Gevas	1.03	18	*i* P	Pb	09 12 37.1	-1.4
GEVA				*i* S	Sb	09 12 53.1	+0.7
BLIS	Bitlis-Merkez	1.16	339	*eP*	Pn	09 12 40.0	-1.1
BLIS				*eS*	Sb	09 12 57.2	+1.1
BLIS	Bitlis-Merkez	1.16	339	*i* P	Pn	09 12 39.9	-1.2
BLIS				*i* S	Sb	09 12 57.9	+1.8
BTMN	Batman	1.23	298	*i* P	Pn	09 12 41.2	-0.7
BTMN				IAML		09 12 56.0	
	comp=E,77nm,1.6s						
BTMN				*i* S	Sb	09 12 59.4	+1.4
BTMN				IAML		09 13 01.0	
	comp=N,76nm,0.7s						
GURO	Guroymak-BITLI	1.31	338	PN	Pn	09 12 41.9	-1.2
SVAN	Silvan-Diyarba	1.41	306	PN	Pn	09 12 43.8	-0.6
MARD	Mardin	1.49	270	*i* P	Pn	09 12 44.8	-0.7
MARD				*i* S	Sn	09 13 06.3	+0.9
MARD				IAML		09 13 08.0	
	comp=N,129nm,0.7s						
MARD				IAML		09 13 08.0	
	comp=E,105nm,0.3s						
MUSM	Mu-Merkez	1.66	328	*eP*	Pn	09 12 47.6	-0.3
MUSM				*eS*	Sn	09 13 11.3	+1.7
MUSM				IAML		09 13 16.8	
	comp=Z,

AKDM	**Akdamar-Van**	**0.69**	**217**	PG	**Pg**	**09 19 57.0**	**-1.2**
TUTA	**Tutak**	**0.75**	**314**	*e*P	**Pb**	**09 20 00.6**	**+0.5**
TUTA				*e*S	**Sb**	**09 20 10.6**	**+0.1**
TUTA				IAML		09 20 13.7	
	comp=Z,70nm,0.3s						
TUTA	**Tutak**	**0.75**	**314**	*i* P	**Pg**	**09 19 59.5**	**+0.1**
TUTA				*i* S	**Sb**	**09 20 10.6**	**+0.1**
TUTA				IAML		09 20 12.0	
	comp=N,103nm,0.2s						
AGRB	**Hanur-Agry**	**0.80**	**330**	PG	**Pg**	**09 19 59.9**	**-0.5**
AGRB				SG	**Sb**	**09 20 11.5**	**-0.4**
IGDI	**IGDIR**	**1.08**	**24**	*e*P	**Pg**	**09 20 04.9**	**-0.8**
BLIS	**Bitlis-Merkez**	**1.19**	**247**	*e*P	**Pg**	**09 20 06.7**	**-0.9**
BLIS				*e*S	**Sb**	**09 20 23.1**	**+0.2**
BLIS				IAML		09 20 31.5	
	comp=Z,21nm,0.7s						
GURO	**Guroymak-BITLI**	**1.20**	**255**	PN	**Pg**	**09 20 06.1**	**-1.8**
EATA	**Eleskirt**	**1.26**	**322**	*e*P	**Pg**	**09 20 08.4**	**-0.6**
EATA				IAML		09 20 30.0	
	comp=Z,4.9nm,0.3s						

*IDC **09** 09:25:29.2±3.7, 10°.90S×164°.94E, h66^{km}±34^{km}, mb3.5/7, mb1 3.8/8, mb1mx3.6/28, mbtmp3.9/8, ML4.9/2, MS3.4/3, Ms1 3.4/3, ms1mx2.9/18, Error ellipse: s-maj=30.1km s-min=26.4km az=45.0*

ISC 09 09:25:26.5±0.9, 10°.73S±0°.09×165°.0E±0°.1, h35^{km}, n16, σ1§56/12, mb3.9/8, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.16**	**284**	P			**Pn**	**09 26 42.9**	**+1.7**
	27nm,0.3s,baz=144,slow=7.0,SNR=6.9								
HNR				S			**Sn**	**09 27 38.3**	**-1.2**
	76nm,0.3s,baz=173,slow=14,SNR=7.8								
HNR				LR			LR	09 28 48.3	
	comp=Z,365nm,18.5s,baz=110,slow=39								
DZM	**Mont Dzumac**	**11.36**	**173**	P			**Pn**	**09 28 08.1**	**+1.6**
	12nm,0.3s,baz=318,slow=9.5,SNR=172								
DZM				S			**Sn**	**09 30 10.3**	**-2.0**
	baz=347,slow=15,SNR=1.4								
DZM				LR			LR	09 31 54.1	
	comp=Z,161nm,19.8s,baz=24,slow=34								
H11S2	**WAKE ISLAND Hy 29.08**	**3**		T			T	10 01 36.2	
	baz=184,slow=76,SNR=218								
H11S3	**WAKE ISLAND Hy 29.08**	**3**		T			T	10 01 33.5	
	baz=184,slow=76,SNR=154								
H11S1	**WAKE ISLAND Hy 29.10**	**3**		T			T	10 01 37.5	
	baz=184,slow=76,SNR=193								
STKA	**Stephens Creek**	**30.19**	**222**	P			**P**	**09 31 35.4**	**+1.8**
	2.6nm,1.0s,baz=34,slow=12,SNR=4.1								
STKA				LR			LR	09 43 22.6	
	comp=Z,96nm,18.5s,baz=25,slow=36								
H11N1	**WAKE ISLAND Hy 30.30**	**4**		T			T	10 03 07.6	
	baz=183,slow=76,SNR=213								
H11N3	**WAKE ISLAND Hy 30.31**	**4**		T			T	10 03 08.0	
	baz=183,slow=76,SNR=110								
H11N2	**WAKE ISLAND Hy 30.32**	**4**		T			T	10 03 10.6	
	baz=183,slow=76,SNR=116								
WRA	**Warramunga Arr**	**30.92**	**249**	P			**P**	**09 31 38.3**	**-2.0**
	0.5nm,0.7s,baz=46,slow=11,SNR=1.4								
ASAR	**Alice Springs**	**32.30**	**242**	P			**P**	**09 31 50.7**	**-1.7**
	0.3nm,0.8s,baz=64,slow=10,SNR=1.3								
CMAR	**Chiang Mai Arr**	**71.33**	**294**	P			**P**	**09 36 43.2**	**0.0**
	0.8nm,0.5s,baz=117,slow=5.4,SNR=4.2								
SONM	**Songino Array**	**77.99**	**324**	P			**P**	**09 37 21.7**	**+0.3**
	0.7nm,0.7s,baz=141,slow=7.3,SNR=3.6								
ILAR	**Eielson Array**	**83.44**	**19**	P			**P**	**09 37 50.1**	**+0.1**
	0.7nm,0.6s,baz=240,slow=5.5,SNR=11								
NVAR	**Mina Array Bea**	**86.37**	**50**	P			**P**	**09 38 04.8**	**-0.8**
	0.2nm,0.6s,baz=244,slow=5.9,SNR=2.4								
MKAR	**Makanchi Array**	**92.80**	**317**	P			**P**	**09 38 35.0**	**-0.4**
	0.9nm,0.7s,baz=94,slow=6.6,SNR=8.1								

IDC 09 09:34:58.9±1.7, 2°.31S×138°.99E, h0^{km}, mb3.1/2, mb1 3.3/3, mb1mx3.2/19, mbtmp3.2/3, ML3.2/1, Error ellipse: s-maj=32.3km s-min=15.3km az=2.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.72**	**97**	Pg			Pb	09 35 31.0	-0.5
	8.0nm,0.3s,baz=229,slow=10,SNR=27								
JAY				Lg			Lg	09 35 52.9	
	6.5nm,0.3s,baz=125,slow=22,SNR=7.1								
WRA	**Warramunga Arr**	**18.10**	**194**	P			Pn	09 39 11.5	-0.5
	0.1nm,0.3s,baz=18,slow=12,SNR=6.2								
ASAR	**Alice Springs**	**21.79**	**193**	P			P	09 39 52.6	-0.1
	0.3nm,0.7s,baz=24,slow=10,SNR=2.3								
MKAR	**Makanchi Array**	**69.65**	**322**	P			P	09 46 10.3	-0.1
	0.3nm,0.6s,baz=113,slow=7.0,SNR=2.9								

IDC 09 09:46:53.4±3.0, 15°.42S×173°.60W, h0^{km}, mb4.2/3, mb1 4.4/3, mb1mx3.7/35, mbtmp4.2/3, Error ellipse: s-maj=170.6km s-min=34.0km az=177.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.86**	**240**	P			P	09 55 02.0	+0.3
	1.8nm,0.5s,baz=90,slow=9.6,SNR=7.8								
WRA	**Warramunga Arr**	**49.65**	**257**	P			P	09 55 46.9	-0.5
	0.4nm,0.3s,baz=95,slow=7.9,SNR=30								
ASAR	**Alice Springs**	**49.92**	**252**	P			P	09 55 49.2	-0.1
	5.5nm,0.5s,baz=89,slow=7.9,SNR=108								
TORD	**Torodi Ar. Bea**	**174.91**	**116**	PKPab			PKPab	10 08 40.5	-0.5
	2.5nm,0.6s,baz=251,slow=4.4,SNR=20								

IDC 09 10:00:17.8±2.0, 54°.49N×83°.58E, h0^{km}, mb1 2.6/2, mb1mx2.6/34, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=17.2km s-min=9.8km az=161.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**126**	*i*				10 05 10.0	
	baz=307,slow=330,SNR=5.9								
ZALV	**Zalesovo Beam**	**0.91**	**127**	Pg			Pg	10 00 35.2	0.0
	1.0nm,0.3s,baz=312,slow=18,SNR=16								
ZALV				Lg			Lg	10 00 48.1	
	2.2nm,0.3s,baz=306,slow=28,SNR=32								
KURBB	**Kurchatov Arra**	**4.95**	**221**	Pn			Pn	10 01 32.9	-0.5
	0.0nm,0.3s,baz=42,slow=13,SNR=1.5								
KURBB				Sn			Sn	10 02 31.1	-0.2
	0.0nm,0.3s,baz=21,slow=26,SNR=1.4								
KURBB				Lg			Lg	10 02 59.4	
	0.1nm,0.3s,baz=12,slow=25,SNR=5.6								
MKAR	**Makanchi Array**	**7.75**	**187**	Pn			Pn	10 02 12.4	+0.5
	0.1nm,0.3s,baz=12,slow=13,SNR=6.0								

WEL 09 10:11:10.5±0.5, 36°.S±7°.17°.8E±1°.0, h211^{km}±5^{km}, M3.5/26, mB4.4/1, MLv3.5/26, Mw(mB)3.5/1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.60**	**185**	P			Pn	10 11 45.5	-0.5
MXZ				S			S	10 12 12.8	-0.7
WMGZ	**Waiomatatini S**	**1.85**	**182**	P			Pn	10 11 48.7	+0.4
WMGZ				S			S	10 12 18.1	+0.5
HAZ	**Te Kaha**	**1.88**	**198**	P			Pn	10 11 48.5	-0.1
HAZ				S			S	10 12 18.8	+0.7
PKGZ	**Pakihiroa**	**1.95**	**190**	P			Pn	10 11 49.5	+0.1
PKGZ				S			S	10 12 19.3	-0.2
RUGZ	**Raukumara Rang**	**2.10**	**198**	P			Pn	10 11 50.7	-0.2
RUGZ				S			S	10 12 22.1	-0.1
PUZ	**Puketiti**	**2.11**	**185**	P			Pn	10 11 51.2	+0.2
PUZ				S			S	10 12 22.4	+0.1
MWZ	**Matawai**	**2.49**	**198**	P			Pn	10 11 55.5	+0.6
MWZ				S			S	10 12 29.6	+0.2
TKGZ	**Te Karaka**	**2.52**	**192**	P			Pn	10 11 55.9	+0.7
TKGZ				S			S	10 12 32.0	+2.0
URZ	**Urewera**	**2.54**	**205**	P			Pn	10 11 55.8	+0.3
URZ				S			S	10 12 30.8	+0.4
RAGZ	**Rawiri**	**2.67**	**199**	P			Pn	10 11 58.0	+1.0
RAGZ				S			S	10 12 33.9	+0.8
RIGZ	**Rimuhau**	**2.80**	**192**	P			Pn	10 11 58.3	-0.1
RIGZ				S			S	10 12 36.2	+0.6
PRGZ	**Paritu Road**	**2.99**	**189**	P			Pn	10 12 01.0	+0.5
PRGZ				S			S	10 12 40.7	+1.2
KNZ	**Kokohu**	**3.12**	**192**	P			Pn	10 12 02.1	+0.1
RAHZ	**Arahi**	**3.15**	**200**	P			Pn	10 12 03.0	+0.6
RAHZ				S			S	10 12 45.4	+2.6
MTHZ	**Maungataniwha**	**3.17**	**204**	P			Pn	10 12 02.8	+0.2
MHGZ	**Mahia Peninsul**	**3.21**	**188**	P			Pn	10 12 03.8	+0.7
MHGZ				S			S	10 12 43.7	-0.5
WHHZ	**Waihua**	**3.26**	**198**	P			Pn	10 12 04.5	+0.7
NMHZ	**Naumai**	**3.40**	**203**	P			Pn	10 12 06.3	+0.9
NMHZ				S			S	10 12 49.6	+1.3
ARHZ	**Aropaoanui**	**3.50**	**199**	P			Pn	10 12 07.0	+0.5
ARHZ				S			S	10 12 51.7	+1.4
BKZ	**Black Stump Fm**	**3.57**	**206**	P			Pn	10 12 07.8	+0.4
MCHZ	**McNeill Hill**	**3.75**	**202**	P			Pn	10 12 10.1	+0.5
KWHZ	**Kaweka Forest**	**3.82**	**205**	P			Pn	10 12 10.7	+0.2
BHHZ	**Black Hill Sta**	**4.01**	**208**	P			Pn	10 12 13.5	+0.7
KAHZ	**Kahuranaki**	**4.03**	**198**	P			Pn	10 12 13.2	+0.2
KRHZ	**Kereru**	**4.04**	**204**	P			Pn	10 12 12.8	-0.3
PXZ	**Pawanui**	**4.26**	**197**	P			Pn	10 12 15.2	-0.6
PNHZ	**Pukenui**	**4.34**	**204**	P			Pn	10 12 16.3	-0.6
PRHZ	**Porangahau**	**4.54**	**198**	P			Pn	10 12 19.1	-0.2
BFZ	**Birch Farm**	**5.03**	**200**	P			Pn	10 12 24.8	-0.7
MRZ	**Mangatainoka R**	**5.22**	**205**	P			Pn	10 12 27.2	-0.6
TIWZ	**Tintock**	**5.22**	**202**	P			Pn	10 12 26.0	-1.9
KIW	**Kapiti Island**	**5.64**	**209**	P			Pn	10 12 32.5	-0.7
CAW	**Cannon Point**	**5.79**	**207**	P			Pn	10 12 34.1	-1.1
TCW	**Tory Channel**	**6.19**	**211**	P			Pn	10 12 38.7	-1.6
TUWZ	**Tuamarina**	**6.51**	**212**	P			Pn	10 12 43.4	-1.0

*IDC **09** 10:14:13.7±0.8, 44°.36N×83°.51E, h0^{km}, mb3.7/7, mb1 3.8/13, mb1mx3.7/41, mbtmp3.7/13, ML3.4/6, MS2.8/3, Ms1 2.8/3, ms1mx2.3/49, Error ellipse: s-maj=21.9km s-min=8.8km az=63.0*

*BJI **09** 10:14:15.9±0.0, 44°.35N×83°.54E, h8^{km}, mb3.8/2, ML3.7/10*

*NNC **09** 10:14:15.1±3.9, 44°.40N×83°.70E, h0^{km}, mb4.0, mpv3.7, Error ellipse: s-maj=32.0km s-min=18.9km az=148.0*

*SOME **09** 10:14:17.5, 44°.47N×83°.27E, h5^{km}, MS3.1*

ISC 09 10:14:17.4±0.6, 44°.54N±0°.04×83°.53E±0°.04, h10^{km}, n36, σ2§73/57, mb3.7/7, 6C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.41**	**339**	⇑Pn			**Pn**	**10 14 58.8**	**+1.9**
	0.4nm,0.2s,baz=155,slow=12,SNR=1286								
MK31				⇓Pg			**Pb**	**10 15 02.9**	**+2.0**
	17nm,0.3s,baz=155,slow=17,SNR=6.5								
MK31				⇑Lg			Lg	10 15 36.5	
	88nm,0.2s,baz=155,slow=27,SNR=2.5								
MKAR	**Makanchi Array**	**2.41**	**339**	Pn			**Pn**	**10 14 59.1**	**+2.1**
	22nm,0.3s,baz=150,slow=15,SNR=265								
MKAR				Pg			**Pb**	**10 15 02.9**	**+2.0**
	25nm,0.3s,baz=162,slow=14,SNR=276								
MKAR				Sn			**Sb**	**10 15 32.0**	**+1.3**
	140nm,0.3s,baz=154,slow=26,SNR=16								
MKAR				Lg			Lg	10 15 36.0	
	200nm,0.3s,baz=153,slow=27,SNR=25								
MKAR				LR			LR	10 15 40.0	
	comp=Z,103nm,19.6s,baz=10.0,slow=33								
MAKZ	**Makanchi**	**2.51**	**335**	⇑Pg			**Pb**	**10 15 04.5**	**+1.9**
	40nm,0.5s								
MAKZ				⇑Lg			Lg	10 15 39.1	
	250nm,0.5s								
KTMS	**Ketmen**	**2.54**	**246**	*e*P			**Pn**	**10 15 01.0**	**+2.2**
	17nm,0.1s								
KTMS				*e*S			**Sn**	**10 15 32.6**	**+2.8**
	956nm,0.3s								
KAPS	**Kapalarasan**	**3.05**	**286**	*e*P			**Pb**	**10 15 10.6**	**-1.2**
	12nm,0.2s								
KAPS				*e*S			**Sb**	**10 15 49.4**	**+0.2**
	92nm,0.6s								
ZSN	**Zaisan**	**3.06**	**17**	*e*P			**Pg**	**10 15 15.6**	**-0.3**
	94nm,0.2s								
ZSN				*e*S			**Sg**	**10 15 57.0**	**+1.5**
	133nm,0.6s								
WMQ	**Urumqi**	**3.08**	**102**	*e*Pn			**Pn**	**10 15 08.9**	**+2.7**
WMQ				Sn			**Sn**	**10 15 43.9**	**+0.7**
WMQ				smax			smax		
	comp=N,120nm,0.9s								
WMQ				smax			smax		
	comp=E,130nm,0.7s								
SHLS	**Shalkode**	**3.25**	**246**	*e*P			**Pn**	**10 15 07.9**	**-0.6**
	188nm,0.4s								
SHLS				*e*S			**Sn**	**10 15 44.4**	**-2.9**
	1μm,0.5s								
UZB	**Uzynbulak**	**3.54**	**248**	*e*P			**Pb**	**10 15 18.4**	**-1.9**
	66nm,0.4s								
UZB				*e*S			**Sb**	**10 16 01.8**	**-1.6**
	201nm,0.3s								
TDK	**Taldyqorghan**	**3.67**	**279**	*e*P			**Pb**	**10 15 24.4**	**+2.0**
	300nm,0.5s								
TDK				*e*S			**Sb**	**10 16 12.8**	**+5.8**
	452nm,0.5s								
SATY	**Saty**	**3.99**	**250**	*e*P			**Pb**	**10 15 27.3**	**-0.5**
	50nm,0.3s								
SATY				*e*S			**Sb**	**10 16 17.0**	**+0.8**
	318nm,0.4s								
SATY	**Saty**	**3.99**	**250**	*e*S			**Pb**	**10 15 27.4**	**-0.5**
	96nm,0.1s								
ARXS	**Arharly**	**4.10**	**267**	*e*P			**Pb**	**10 15 30.0**	**+0.3**
	99nm,0.4s								
ARXS				*e*S			**Sb**	**10 16 22.1**	**+2.9**
	284nm,0.4s								
KOTS	**Kotyrbulak**	**4.82**	**256**	*e*P			**Pb**	**10 15 43.7**	**+1.8**
	105nm,0.3s								
KOTS				*e*S			**Sb**	**10 16 45.8**	**+5.8**
	529nm,0.6s								
MDOK	**Medeo**	**4.88**	**256**	*e*P			**Pb**	**10 15 45.0**	**+1.9**
	34nm,0.3s								
MDOK				*e*S			**Sb**	**10 16 48.5**	**+6.6**
	157nm,0.5s								
MDOK	**Medeo**	**4.88**	**256**	⇑Pg			**Pn**	**10 15 31.7**	**+0.7**
	24nm,0.5s								
MDOK				⇓Lg			Lg	10 16 48.1	
	133nm,0.6s								
AAA	**Ala-Archa**	**4.96**	**257**	*e*P			**Pb**	**10 15 44.3**	**0.0**
	85nm,0.2s								
AAA				*e*S			**Sb**	**10 16 47.5**	**+3.4**
KUU	**Kurty**	**5.21**	**265**	*e*P			**Pb**	**10 15 48.8**	**+0.2**
	20nm,0.3s								
KUU				*e*S			**Sb**	**10 16 54.2**	**+3.1**
	164nm,0.5s								
IZV	**Izvestkoviy**	**5.22**	**256**	*e*P			**Pb**	**10 15 50.8**	**+1.9**
	25nm,0.2s								
IZV				*e*S			**Sb**	**10 16 58.3**	**+6.6**
	117nm,0.6s								
DGS	**Degeres**	**5.75**	**260**	*e*P			**Pb**	**10 16 00.5**	**+2.7**
	174nm,0.6s								
DGS				*e*S			**Sb**	**10 17 14.9**	**+8.1**
	221nm,0.5s								
SEM	**Semipalatinsk**	**6.27**	**340**	*e*P			**Pg**	**10 16 15.6**	**-1.9**
	11nm,0.1s								
SEM				*e*S			**Sg**	**10 17 38.9**	**+0.2**
	63nm,0.6s								
AAK	**Ala-Archa**	**6.83**	**257**	LR			LR	10 18 38.4	
	comp=Z,32nm,20.4s,baz=70,slow=39								
KURBB	**Kurchatov Arra**	**6.96**	**333**	Pn			**Pn**	**10 15 59.5**	**+0.2**
	0.2nm,0.3s,baz=148,slow=13,SNR=7.9								
KURBB				Sn			**Sn**	**10 17 20.5**	**+2.1**
	1.0nm,0.3s,baz=37,slow=32,SNR=7.6								
KURBB				Lg			Lg	10 17 59.3	
	1.5nm,0.3s,baz=143,slow=29,SNR=11								
OTUK	**Ortayu**	**8.57**	**300**	⇑Pn			**Pn**	**10 16 20.7**	**-0.8**
	1.5nm,0.3s								
ZALV	**Zalesovo Beam**	**9.45**	**5**	Pn			**Pn**	**10 16 33.4**	**-0.1**
	1.8nm,0.3s,baz=187,slow=13,SNR=9.4								
ZALV				Sn			**Sn**	**10 18 16.2**	**-3.6**
	4.8nm,0.3s,baz=186,slow=22,SNR=13								
ZALV				Lg			Lg	10 19 18.6	
	baz=190,slow=28,SNR=1.9								
BVAR	**Borovoye Array**	**12.11**	**319**	Pn			**Pn**	**10 17 09.0**	**-0.9**
	0.2nm,0.3s,baz=129,slow=13,SNR=1.9								
BVAR				Sn			**Sn**	**10 19 20.9**	**-4.1**
	0.4nm,0.3s,baz=225,slow=42,SNR=2.4								
BVAR				Lg			Lg	10 20 45.4	
	0.5nm,0.3s,baz=132,slow=29,SNR=7.4								
GTA	**Gaotai**	**13.15**	**107**	*e*P			**Pn**	**10 17 27.2**	**+2.9**
GTA				pP			P	10 17 30.8	-3.7
GTA				sP				10 17 33.2	
GTA				pmax			pmax		
	comp=Z,3.0nm,0.9s								
SONM	**Songino Array**	**16.16**	**70**	Pn			**Pn**	**10 18 04.3**	**-0.3**
	0.1nm,0.3s,baz=270,slow=12,SNR=1.9								
SONM				Lg			Lg	10 22 48.9	
	0.3nm,0.3s,baz=268,slow=27,SNR=2.6								
AKTO	**Aktyubinsk**	**18.17**	**298**	P			**Pn**	**10 18 28.6**	**-1.0**
	0.3nm,0.3s,baz=92,slow=15,SNR=5.2								
AKTO				Lg			Lg	10 23 52.3	
	0.1nm,0.3s,baz=167,slow=18,SNR=1.2								
AKASG	**Malin Array Be**	**36.41**	**300**	P			**P**	**10 21 21.0**	**-0.8**
	0.9nm,0.5s,baz=65,slow=8.2,SNR=2.4								
AKASG				LR			LR	10 36 58.6	
	comp=Z,51nm,18.4s,baz=160,slow=37								
NOA	**NORSAR Array B**	**44.24**	**318**	P			**P**	**10 22 26.1**	**-0.5**
	0.5nm,0.5s,baz=77,slow=8.0,SNR=3.4								
ILAR	**Eielson Array**	**64.13**	**22**	P			**P**	**10 24 51.1**	**-0.3**
	0.4nm,0.7s,baz=302,slow=5.2,SNR=3.8								
YKA	**Yellowknife Ar**	**72.33**	**9**	P			**P**	**10 25 42.3**	**-0.4**
	0.2nm,0.6s,baz=348,slow=5.1,SNR=2.2								
TORD	**Torodi Ar. Bea**	**75.11**	**274**	P			**P**	**10 25 57.9**	**-2.0**
	0.5nm,0.6s,baz=38,slow=4.7,SNR=4.6								
WRA	**Warramunga Arr**	**79.16**	**132**	P			**P**	**10 26 19.6**	**-2.8**
	1.0nm,0.5s,baz=337,slow=5.5,SNR=19								
ASAR	**Alice Springs**	**82.00**	**135**	P			**P**	**10 26 34.5**	**-3.1**
	0.5nm,0.6s,baz=325,slow=5.0,SNR=10								

*KRNET **09** 10:14:55.4±0.1, 42°.15N×77°.87E, h17^{km}, mb3.5*

*NNC **09** 10:14:56.6±4.8, 41°.98N×77°.68E, h0^{km}, mb3.7, mpv3.3, Error ellipse: s-maj=52.8km s-min=32.4km az=33.0*

*SOME **09** 10:14:56.2, 42°.15N×77°.85E, h10^{km}*

*KNET **09** 10:14:57.3±0.4, 42°.21N×77°.71E, h4^{km}±1^{km}, ml3.0, Error ellipse: s-maj=4.3km s-min=2.3km az=2.0*

ISC 09 10:14:55.8±1.1, 42°.15N±0°.03×77°.84E±0°.02, h3^{km}±10^{km}, n45, σ1§13/85, 24C-22D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.42**	**184**	⇑*i*P			**Pg**	**10 15 03.6**	**-0.5**
	baz=87								
TARG				⇑*i*S			**Sg**	**10 15 09.4**	**-0.3**
	baz=87								
KDJ	**Kajisay**	**0.49**	**268**	⇓*i*P			**Pg**	**10 15 05.4**	**+0.1**
	baz=67								
KDJ				⇓*i*S			**Sg**	**10 15 12.5**	**+0.8**
	baz=67								
PRZ	**Przheval'sk**	**0.53**	**51**	⇑*i*P			**Pg**	**10 15 05.4**	**-0.6**
	baz=51								
PRZ				⇑*i*S			**Sg**	**10 15 12.8**	**-0.1**
	baz=51								
SATY	**Saty**	**1.00**	**25**	*e*P			**Pg**	**10 15 14.3**	**-0.6**
	7.5nm,0.1s								
MDOK	**Medeo**	**1.17**	**330**	*e*P			**Pb**	**10 15 17.7**	**-1.1**
	baz=29								
MDOK				*e*S			**Sg**	**10 15 33.0**	**-0.4**
	baz=29								
MDOK	**Medeo**	**1.17**	**330**	*e*P			**Pb**	**10 15 17.7**	**-1.1**
	12nm,0.2s								
MDOK				*e*S			**Sg**	**10 15 33.0**	**-0.4**
	49nm,0.5s								
ULHL	**Ulahol**	**1.19**	**275**	⇓*i*P			**Pb**	**10 15 18.1**	**-1.1**
	baz=75								
ULHL				⇓*i*S			**Sb**	**10 15 34.5**	**-0.6**
	baz=75								
ULHL	**Ulahol**	**1.19**	**275**	⇑P			**Pb**	**10 15 18.5**	**-0.8**
	14nm,0.1s,SNR=77								
ULHL				⇓S			**Sb**	**10 15 35.0**	**-0.2**
	66nm,0.1s								
KOTS	**Kotyrbulak**	**1.21**	**334**	*e*P			**Pb**	**10 15 18.4**	**-1.1**
	baz=33								
KOTS				*e*S			**Sb**	**10 15 33.9**	**-1.6**
	baz=33								
KOTS	**Kotyrbulak**	**1.21**	**334**	*e*P			**Pb**	**10 15 18.4**	**-1.1**
	28nm,0.1s								
KOTS				*e*S			**Sb**	**10 15 33.9**	**-1.6**
	189nm,0.2s								
AAA	**Alma-Ata**	**1.26**	**327**	*e*P			**Pg**	**10 15 20.2**	**+0.2**
	45nm,0.1s								
AAA				*e*S			**Sn**	**10 15 37.2**	**-0.7**
	111nm,0.2s								
IZV	**Izvestkoviy**	**1.27**	**315**	*e*P			**Pn**	**10 15 19.6**	**-1.0**
	baz=14								
IZV				*e*S			**Sb**	**10 15 36.2**	**-1.0**
	baz=14								
IZV	**Izvestkoviy**	**1.27**	**315**	*e*P			**Pn**	**10 15 19.6**	**-1.0**
	20nm,0.1s								
IZV				*e*S			**Sb**	**10 15 36.2**	**-1.0**
	112nm,0.2s								
UZB	**Uzynbulak**	**1.32**	**41**	*e*P			**Pn**	**10 15 19.9**	**-1.5**
	baz=40								
UZB				*e*S			**Sb**	**10 15 37.0**	**-1.8**
	baz=40								
UZB	**Uzynbulak**	**1.32**	**41**	*e*P			**Pn**	**10 15 19.9**	**-1.5**
	44nm,0.4s								
UZB				*e*S			**Sb**	**10 15 37.0**	**-1.8**
	45nm,0.2s								
KURS	**Kuram**	**1.36**	**10**	*e*P			**Pg**	**10 15 22.4**	**+0.6**
	7.0nm,0.3s								
KURS				*e*S			**Sg**	**10 15 41.5**	**+2.1**
	44nm,0.8s								
BOOM	**Boomskoye usch**	**1.45**	**284**

baz=73
UCH ⇑*i*S **Sb** **10 16 09.9 -2.4**
baz=73
UCH **Uchtor** **2.47 273** ⇑P **Pb** **10 15 40.5 -0.7**
9.0nm,0.4s,SNR=22
UCH ⇓S **Sg** **10 16 14.1 -1.2**
19nm,0.2s
AAK **Ala-Arcba** **2.53 282** ⇑*i*P **Pn** **10 15 38.7 +0.8**
baz=82
AAK ⇑*i*S **Sn** **10 16 10.3 +1.0**
baz=82
AAK **Ala-Arcba** **2.53 282** ⇓P **Pb** **10 15 40.9 -1.0**
9.3nm,0.2s,SNR=12
AAK **Ala-Arcba** **2.53 282** ⇓Pg **Pb** **10 15 40.8 -1.2**
7.8nm,0.4s
AAK ⇓Lg Lg 10 16 15.6
59nm,0.7s
USP **Ospenovka** **2.70 295** ⇑*e*P **Pn** **10 15 41.2 +1.0**
baz=95
USP ⇑*i*S **Sn** **10 16 14.7 +1.2**
baz=95
USP **Ospenovka** **2.70 295** ⇑P **Pb** **10 15 42.5 -2.4**
7.2nm,0.2s,SNR=14
EKS2 **Erkin-Say** **3.05 281** ⇑*i*P **Pn** **10 15 46.2 +1.1**
baz=81
EKS2 ⇑*i*S **Sn** **10 16 23.2 +1.0**
baz=81
AML **Almayashu** **3.08 271** ⇓*i*P **Pn** **10 15 46.6 +0.8**
baz=71
AML ⇓*i*S **Sn** **10 16 24.3 +0.9**
baz=71
KK31 **Karatay Array** **5.49 282** Pg **Pb** **10 16 34.4 +2.1**
1.4nm,0.4s,baz=91,slow=14,SNR=26
KK31 Lg Lg 10 17 47.2
6.2nm,0.7s,baz=101,slow=30,SNR=5.6

BEO ***09*** *10:29:22.5±0.8,39°.32N×25°.31E,h10km,ML4.2/5*
IDC ***09*** *10:29:34.5±0.7,40°.12N×24°.40E,h0km,mb3.7/14,*
mb1 3.9/22,mb1mx3.8/58,mbtmp3.7/22,ML3.6/8,MS3.0/16,
Ms1 3.0/16,ms1mx2.8/47,Error ellipse: s-maj=13.7km
s-min=12.6km az=161.0
ATH ***09*** *10:29:34.8,40°.06N×24°.39E,h28km±1km,ML3.9/24,Error*
ellipse: s-maj=1.1km s-min=0.6km az=51.0
ISK ***09*** *10:29:34.3,40°.06N×24°.40E,h10km,ML3.8/21*
THE ***09*** *10:29:35.7,40°.05N×24°.38E,h16km,ML3.8/15,Error*
ellipse: s-maj=0.9km s-min=0.4km az=309.0
DDA ***09*** *10:29:36.7,39°.89N×24°.57E,h24km±1km,MW3.8*
NEIC ***09*** *10:29:37.3±1.8,40°.07N±0°.05×24°.42E±0°.07,h17km±5km,*
mb4.3/4,ML3.9(ATH),ML3.8(ISK),ML3.8(THE),Error
ellipse: s-maj=7.8km s-min=7.3km az=68.0
SOF ***09*** *10:29:37.2,40°.26N×24°.45E,h18km,MD3.8*
ISC 09 10:29:35.3±1.0, 40°.05N±0°.02×24°.42E±0°.01, h8km±7km, n294, σ1s09/329, mb3.8/17, MS2.9/10, 26C-7D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.58**	**258**	P	**Pg**	**10 29 46.2**	**-0.3**
PAIG				S	**Sg**	**10 29 54.5**	**+0.5**
	18μm,0.6s						
PAIG	**Paliouri**	**0.58**	**258**	P	**Pg**	**10 29 46.4**	**-0.1**
PAIG				S	**Sg**	**10 29 54.2**	**+0.2**
PAIG				AML	AML	10 29 57.7	
	comp=N,38068μm,0.8s						
PAIG				AML	AML	10 29 57.8	
	comp=E,32104μm,0.4s						
THAS	**Thassos island**	**0.60**	**23**	P	**Pb**	**10 29 47.7**	**-0.3**
THAS				S	**Sb**	**10 29 56.5**	**-0.1**
	comp=E,20μm,0.3s						
THAS	**Thassos island**	**0.60**	**23**	P	**Pg**	**10 29 46.6**	**-0.2**
THAS				S	**Sb**	**10 29 56.0**	**-0.5**
THAS				AML	AML	10 29 57.6	
	comp=E,40121μm,0.3s						
THAS				AML	AML	10 29 58.0	
	comp=N,41804μm,0.3s						
LIA	**Limnos Island**	**0.61**	**105**	P	**Pb**	**10 29 47.8**	**-0.4**
LIA				S	**Sb**	**10 29 57.0**	**+0.1**
	comp=N,6μm,0.7s						
LIA	**Limnos Island**	**0.61**	**105**	P	**Pb**	**10 29 47.7**	**-0.4**
LIA				S	**Sb**	**10 29 57.0**	**+0.1**
LIA				AML	AML	10 29 60.0	
	comp=E,12415μm,0.7s						
LIA				AML	AML	10 30 01.3	
	comp=N,9233μm,0.4s						
EFSA	**Agios Efstrati**	**0.68**	**139**	P	**Pb**	**10 29 49.5**	**+0.2**
EFSA				S	**Sb**	**10 29 59.3**	**+0.6**
EFSA				AML	AML	10 30 01.5	
	comp=E,35376μm,0.9s						
EFSA				AML	AML	10 30 02.2	
	comp=N,17541μm,0.9s						
PLG	**Polygyros**	**0.81**	**294**	P	**Pg**	**10 29 50.7**	**-0.1**
PLG				S	**Sg**	**10 30 01.4**	**0.0**
	comp=N,8μm,0.4s						
PLG	**Polygyros**	**0.81**	**294**	P	**Pg**	**10 29 50.8**	**-0.1**
PLG				S	**Sg**	**10 30 01.0**	**-0.4**
PLG				AML	AML	10 30 04.7	
	comp=E,18087μm,0.4s						
PLG				AML	AML	10 30 04.8	
	comp=N,12297μm,0.4s						
KVLA	**Kavala**	**0.88**	**359**	P	**Pg**	**10 29 52.3**	**+0.1**
KVLA				AML	AML	10 30 05.9	
	comp=E,63952μm,0.4s						
KVLA				AML	AML	10 30 06.0	
	comp=N,26176μm,0.5s						
KAVA	**Kavala**	**0.94**	**4**	P	**Pg**	**10 29 53.2**	**-0.2**
KAVA				S	**Sg**	**10 30 06.2**	**+0.5**
	comp=N,10μm,0.3s						
KAVA	**Kavala**	**0.94**	**4**	P	**Pg**	**10 29 53.1**	**-0.2**
KAVA				S	**Sb**	**10 30 06.4**	**-0.1**
KAVA				AML	AML	10 30 07.4	
	comp=E,14793μm,0.2s						
KAVA				AML	AML	10 30 07.5	
	comp=N,26211μm,0.5s						
SMTH	**Samothraki Isl**	**0.95**	**64**	P	**Pg**	**10 29 53.3**	**-0.2**
SMTH				S	**Sb**	**10 30 07.0**	**+0.3**
	comp=N,3μm,0.6s						
SMTH	**Samothraki Isl**	**0.95**	**64**	P	**Pg**	**10 29 53.2**	**-0.3**
SMTH				S	**Sb**	**10 30 06.8**	**+0.1**
SMTH				AML	AML	10 30 07.6	
	comp=E,5739μm,0.7s						
SMTH				AML	AML	10 30 09.5	
	comp=N,6887μm,0.4s						
AOS	**Alonnisos**	**0.97**	**205**	P	**Pg**	**10 29 53.5**	**-0.5**
AOS				S	**Sb**	**10 30 07.6**	**+0.2**
	comp=N,11μm,0.4s						
AOS	**Alonnisos**	**0.97**	**205**	P	**Pg**	**10 29 53.4**	**-0.6**
AOS				S	**Sg**	**10 30 06.9**	**+0.3**
AOS				AML	AML	10 30 10.9	
	comp=N,20940μm,0.4s						
AOS				AML	AML	10 30 11.1	
	comp=E,23991μm,0.5s						
AOS	**Alonnisos**	**0.97**	**205**	PG	**Pg**	**10 29 53.7**	**-0.3**
AOS				SG	**Sb**	**10 30 07.5**	**+0.2**
ALNA	**Alonissos**	**1.00**	**205**	P	**Pg**	**10 29 54.2**	**-0.2**
ALNA				S	**Sb**	**10 30 08.0**	**0.0**
ALNA				AML	AML	10 30 12.0	
	comp=E,28010μm,0.4s						
ALNA				AML	AML	10 30 13.6	
	comp=N,28455μm,0.9s						
HORT	**Hortiatis**	**1.14**	**299**	P	**Pb**	**10 29 56.1**	**-1.2**
HORT				S	**Sb**	**10 30 11.4**	**-0.9**
	comp=N,3μm,0.5s						
HORT	**Hortiatis**	**1.14**	**299**	P	**Pb**	**10 29 56.7**	**-0.6**
HORT				AML	AML	10 30 14.8	
	comp=N,5984μm,0.5s						
HORT				AML	AML	10 30 17.8	
	comp=E,4800μm,0.5s						
HORT	**Hortiatis**	**1.14**	**299**	PN	**Pb**	**10 29 56.5**	**-0.8**
GADA	**Gvkgeada**	**1.15**	**83**	P	**Pb**	**10 29 56.7**	**-0.5**
GADA				S	**Sg**	**10 30 12.4**	**+0.3**
	comp=E,4μm,0.9s						
GADA	**Gvkgeada**	**1.15**	**83**	PN	**Pb**	**10 29 56.8**	**-0.5**
SKIA	**Skiathos**	**1.15**	**220**	P	**Pb**	**10 29 56.0**	**-1.4**
SKIA	**Skiathos**	**1.15**	**220**	P	**Pb**	**10 29 56.0**	**-1.4**
SKIA				S	**Sb**	**10 30 11.7**	**-0.8**
SKIA				AML	AML	10 30 18.2	
	comp=E,23460μm,0.6s						
SKIA				AML	AML	10 30 19.6	
	comp=N,17629μm,0.5s						
GOKA	**anakkale-Gk**	**1.15**	**83**	*i* P	**Pg**	**10 29 57.6**	**+0.2**
GOKA				*i* S	**Sb**	**10 30 12.2**	**-0.2**
GOKA				IAML		10 30 15.0	
	comp=N,5μm,0.5s						
GOKA				IAML		10 30 15.0	
	comp=E,3μm,0.5s						
XOR	**Xorichti**	**1.17**	**234**	P	**Pb**	**10 29 56.3**	**-1.4**
XOR				S	**Sb**	**10 30 11.9**	**-1.1**
	comp=E,5μm,0.5s						
XOR	**Xorichti**	**1.17**	**234**	P	**Pb**	**10 29 56.6**	**-1.0**
XOR				S	**Sb**	**10 30 11.8**	**-1.2**
XOR				AML	AML	10 30 16.6	
	comp=E,10589μm,0.5s						
XOR				AML	AML	10 30 17.1	
	comp=N,10988μm,0.4s						
SKY	**Skiros Island**	**1.18**	**175**	P	**Pb**	**10 29 57.6**	**-0.3**
SKY				AML	AML	10 30 18.3	
	comp=E,11101μm,0.2s						
SKY				AML	AML	10 30 18.6	
	comp=N,14610μm,0.5s						
NEO	**Neokhori**	**1.19**	**231**	P	**Pb**	**10 29 56.7**	**-1.2**
NEO				S	**Sb**	**10 30 12.3**	**-1.2**
	comp=N,7μm,0.5s						
NEO	**Neokhori**	**1.19**	**231**	P	**Pb**	**10 29 56.8**	**-1.2**
NEO				S	**Sb**	**10 30 13.3**	**-0.2**
NEO				AML	AML	10 30 16.4	
	comp=N,9771μm,0.5s						
NEO				AML	AML	10 30 16.9	
	comp=E,16518μm,0.5s						
SRS	**Serrai**	**1.23**	**330**	P	**Pn**	**10 29 57.3**	**-1.5**
SRS	**Serrai**	**1.23**	**330**	P	**Pn**	**10 29 57.8**	**-1.0**
SRS				S	**Sb**	**10 30 13.9**	**-1.0**
SRS				AML	AML	10 30 16.5	
	comp=E,8107μm,0.6s						
SRS				AML	AML	10 30 18.1	
	comp=N,6142μm,0.5s						
THE	**Thessaloniki**	**1.25**	**298**	P	**Pn**	**10 29 57.9**	**-1.1**
THE	**Thessaloniki**	**1.25**	**298**	P	**Pn**	**10 29 58.3**	**-0.7**
BOZC	**Bozcaada**	**1.28**	**99**	PN	**Pn**	**10 29 58.5**	**-0.8**
BOZC	**Bozcaada**	**1.28**	**99**	*i* P	**Pn**	**10 29 58.7**	**-0.6**
BOZC				*i* S	**Sb**	**10 30 14.6**	**-1.4**
BOZC				IAML		10 30 19.0	
	comp=N,1μm,0.8s						
BOZC				IAML		10 30 20.0	
	comp=E,1μm,0.7s						
RDO	**Rodhopi**	**1.39**	**38**	P	**Pn**	**10 29 59.8**	**-1.1**
RDO	**Rodhopi**	**1.39**	**38**	P	**Pn**	**10 29 59.8**	**-1.1**
RDO	**Rodhopi**	**1.39**	**38**	PN	**Pn**	**10 29 59.9**	**-0.9**
SIGR	**SIGRI**	**1.39**	**127**	P	**Pn**	**10 30 00.2**	**-0.8**
SIGR	**SIGRI**	**1.39**	**127**	P	**Pn**	**10 30 00.8**	**-0.2**
SIGR				S	**Sn**	**10 30 19.0**	**-0.5**
SIGR				AML	AML	10 30 23.9	
	comp=N,5177μm,0.7s						
SIGR				AML	AML	10 30 23.9	
	comp=E,3370μm,0.5s						
SIGR	**SIGRI**	**1.39**	**127**	PN	**Pn**	**10 30 00.5**	**-0.5**
LIT	**Litokhoron**	**1.48**	**272**	P	**Pn**	**10 30 00.8**	**-1.4**
LIT				S	**Sn**	**10 30 19.7**	**-2.0**
	comp=E,1μm,0.4s						
LIT	**Litokhoron**	**1.48**	**272**	P	**Pn**	**10 30 01.1**	**-1.1**
LIT				AML	AML	10 30 20.9	
	comp=N,2917μm,0.4s						
LIT				AML	AML	10 30 25.9	
	comp=E,3213μm,0.6s						
EZN	**Ezine**	**1.48**	**98**	P	**Pn**	**10 30 01.4**	**-0.8**
EZN				S	**Sn**	**10 30 21.2**	**-0.6**
	comp=E,2μm,0.7s						
EZN	**Ezine**	**1.48**	**98**	PN	**Pn**	**10 30 02.0**	**-0.2**
EZN				SN	**Sb**	**10 30 21.9**	**-0.2**
ENEZ	**Enez**	**1.49**	**62**	P	**Pn**	**10 30 01.4**	**-0.9**
ENEZ				S	**Sn**	**10 30 21.2**	**-0.7**
	comp=E,4μm,0.6s						
ENEZ	**Enez**	**1.49**	**62**	PN	**Pn**	**10 30 01.7**	**-0.6**
ENEZ				SN	**Sb**	**10 30 22.5**	**+0.3**
MRKA	**Markates**	**1.49**	**206**	P	**Pn**	**10 30 01.1**	**-1.2**
MRKA	**Markates**	**1.49**	**206**	P	**Pn**	**10 30 01.2**	**-1.1**
MRKA				AML	AML	10 30 28.2	
	comp=E,9119μm,0.7s						
MRKA				AML	AML	10 30 30.5	
	comp=N,11848μm,0.7s						
ALN	**Alexandroupoli**	**1.50**	**55**	P	**Pn**	**10 30 01.4**	**-1.1**
ALN				S	**Sn**	**10 30 21.1**	**-1.1**
	comp=N,1μm,0.7s						
ALN	**Alexandroupoli**	**1.50**	**55**	P	**Pn**	**10 30 01.3**	**-1.1**
KNT	**Kendrikon**	**1.60**	**314**	P	**Pn**	**10 30 03.4**	**-0.4**
KNT	**Kendrikon**	**1.60**	**314**	P	**Pn**	**10 30 03.5**	**-0.3**
KNT				AML	AML	10 30 28.9	
	comp=N,4769μm,0.4s						
KNT				AML	AML	10 30 29.7	
	comp=E,5757μm,0.4s						
LRSO	**Larissa Observ**	**1.60**	**257**	P	**Pn**	**10 30 03.5**	**-0.4**
GELI	**Tayfur-Gelibol**	**1.61**	**77**	PN	**Pn**	**10 30 04.0**	**0.0**
MMB	**Musomiste**	**1.62**	**341**	*i* P	**Pn**	**10 30 03.1**	**-1.0**
PRK	**Paraskevi**	**1.64**	**119**	P	**Pn**	**10 30 04.8**	**+0.4**
PRK				AML	AML	10 30 41.4	
	comp=N,4898μm,0.9s						
PRK				AML	AML	10 30 42.2	
	comp=E,6346μm,0.9s						
RZN	**Rozhen**	**1.65**	**8**	*i* P	**Pn**	**10 30 04.5**	**-0.2**
BAYC	**CANAKKALE_Bayr**	**1.67**	**100**	*i* P	**Pn**	**10 30 04.7**	**-0.1**
BAYC				*i* S	**Sn**	**10 30 25.3**	**-1.0**
BAYC				IAML		10 30 32.0	
	comp=E,348nm,0.5s						
BAYC				IAML		10 30 34.0	
	comp=N,288nm,0.6s						
ERIK	**Erikli-Kesan**	**1.72**	**68**	PN	**Pn**	**10 30 04.8**	**-0.6**
PSRA	**Psara**	**1.75**	**149**	P	**Pn**	**10 30 06.4**	**+0.5**
KDZ	**Kurdzhali**	**1.77**	**25**	*i* P	**Pn**	**10 30 04.7**	**-1.4**
KDZ	**Kurdzhali**	**1.77**	**25**	PN	**Pn**	**10 30 04.9**	**-1.2**
LKR	**Lokris**	**1.78**	**219**	P	**Pn**	**10 30 05.4**	**-0.9**
LPK	**Lapseki**	**1.82**	**79**	PN	**Pn**	**10 30 06.6**	**-0.3**
AXAR	**Agios Charalam**	**1.87**	**227**	P	**Pn**	**10 30 07.2**	**-0.4**
KESN	**Edirne-Kesan**	**1.89**	**65**	*i* P	**Pn**	**10 30 07.2**	**-1.0**
KESN				*i* S	**Sg**	**10 30 36.0**	**-0.1**
KESN				IAML		10 30 39.0	
	comp=N,653nm,0.6s						
KESN				IAML		10 30 44.0	
	comp=E,667nm,0.3s						
AGG	**Agios Georgios**	**1.91**	**238**	P	**Pn**	**10 30 07.6**	**-0.6**
THL	**Klokotos Trika**	**1.91**	**256**	P	**Pn**	**10 30 07.5**	**-0.6**
THL				AML	AML	10 30 51.8	
	comp=E,1437μm,0.6s						
THL				AML	AML	10 30 52.0	
	comp=N,2210μm,0.8s						
UKOP	**Uzunkopru-Edir**	**2.00**	**57**	PN	**Pn**	**10 30 09.5**	**+0.2**
DION	**Dionisos Attik**	**2.01**	**191**	P	**Pn**	**10 30 08.5**	**-0.9**
KARY	**Karystos**	**2.02**	**180**	P	**Pn**	**10 30 09.0**	**-0.6**
KARY				AML	AML	10 30 46.4	
	comp=E,1734μm,0.5s						
KARY				AML	AML	10 30 46.7	
	comp=N,1739μm,0.6s						
KZN	**Kozani**	**2.04**	**278**	P	**Pn**	**10 30 09.9**	**-0.1**
VIL2	**Platees**	**2.04**	**206**	P	**Pn**	**10 30 09.5**	**-0.4**
MAKR	**Makrakomi, Fth**	**2.05**	**240**	P	**Pn**	**10 30 10.1**	**+0.1**
PLD	**Plovdiv**	**2.06**	**6**	*e*Pn	**Pn**	**10 30 10.0**	**-0.2**
PLD				*e*Sn	**Sg**	**10 30 41.5**	**0.0**
PLD	**Plovdiv**	**2.06**	**6**	PN	**Pn**	**10 30 09.9**	**-0.2**
KKB	**Krupnik**	**2.07**	**331**	*i* P	**Pn**	**10 30 10.0**	**-0.3**
CHOS	**Chios island**	**2.10**	**142**	P	**Pn**	**10 30 10.6**	**-0.1**
CHOS	**Chios island**	**2.10**	**142**	P	**Pn**	**10 30 10.7**	**0.0**
CHOS	**Chios island**	**2.10**	**142**	PN	**Pn**	**10 30 10.6**	**-0.1**
ATHU	**Athens Univers**	**2.14**	**193**	P	**Pn**	**10 30 10.5**	**-0.8**
DKL	**Dikili**	**2.16**	**116**	PN	**Pn**	**10 30 11.9**	**+0.4**
DIM	**Dimitrovgrad**	**2.17**	**23**	*i* P	**Pn**	**10 30 11.8**	**+0.2**
RKY	**Sarkoy-Tekirda**	**2.20**	**72**	PN	**Pn**	**10 30 12.4**	**+0.3**
KRBG	**Karabiga-Canak**	**2.23**	**80**	PN	**Pn**	**10 30 13.4**	**+0.9**
VLY	**Voula,Athens**	**2.25**	**193**	P	**Pn**	**10 30 12.1**	**-0.7**
VLY				AML	AML	10 30 51.4	
	comp=N,6492μm,0.7s						
VLY				AML	AML	10 30 52.5	
	comp=E,6476μm,0.6s						
EVR	**Evrytania**	**2.32**	**241**	P	**Pn**	**10 30 13.9**	**+0.2**
ZEDA	**zmir-Bergama**	**2.33**	**117**	*i* P	**Pn**	**10 30 15.5**	**+1.7**
ZEDA				*i* S	**Sg**	**10 30 49.5**	**-0.5**
ZEDA				IAML		10 30 55.0	
	comp=N,135nm,0.5s						
ZEDA				IAML		10 31 02.0	
	comp=E,138nm,0.9s						
KPRO	**Kipourio**	**2.35**	**269**	P	**Pn**	**10 30 14.3**	**+0.2**
LOUT	**Loutraki**	**2.35**	**209**	P	**Pn**	**10 30 13.2**	**-0.9**
URLA	**Izmir**	**2.39**	**134**	PN	**Pn**	**10 30 15.1**	**+0.4**
URLA	**Izmir**	**2.39**	**134**	*i* P	**Pn**	**10 30 14.1**	**-0.6**
URLA				*i* S	**Sg**	**10 30 53.1**	**+0.9**
URLA				IAML		10 30 59.0	
	comp=E,95nm,0.7s						
URLA				IAML		10 31 01.0	
	comp=N,119nm,0.7s						
ANX	**Ano Chora**	**2.42**	**234**	P	**Pn**	**10 30 15.0**	**-0.2**
KALE	**Kalithea**	**2.43**	**228**	P	**Pn**	**10 30 14.9**	**-0.3**
SERG	**Sergoula**	**2.46**	**229**	P	**Pn**	**10 30 15.4**	**-0.2**
BALY	**Balya**	**2.48**	**96**	*i* P	**Pn**	**10 30 17.6**	**+1.6**
BALY				*i* S	**Sb**	**10 30 51.6**	**+0.7**
BALY				IAML		10 30 59.0	
	comp=E,276nm,1.0s						
BALY				IAML		10 31 01.0	
	comp=N,495nm,0.7s						
MRMT	**Marmara Adasi**	**2.49**	**76**	PN	**Pn**	**10 30 16.7**	**+0.6**
GONE	**Gonen-Balikesi**	**2.51**	**89**	PN	**Pn**	**10 30 16.3**	**0.0**
EDRB	**Edirne**	**2.51**	**44**	PN	**Pn**	**10 30 15.9**	**-0.5**
BLCB	**Balcova**	**2.63**	**128**	PN	**Pn**	**10 30 18.4**	**+0.4**
STEP	**BALIKESIR_Sava**	**2.63**	**104**	*i* P	**Pn**	**10 30 18.2**	**+0.2**
GUR	**Goura**	**2.66**	**218**	P	**Pn**	**10 30 17.8**	**-0.7**
PVO	**Paravola**	**2.66**	**238**	P	**Pn**	**10 30 18.8**	**+0.4**
KIRK	**Kırklareli**	**2.67**	**49**	*i* P	**Pb**	**10 30 21.1**	**-2.1**
KLV	**Kalavryta, Ach**	**2.67**	**222**	P	**Pn**	**10 30 18.1**	**-0.5**
BALB	**Balikesir**	**2.70**	**98**	PN	**Pn**	**10 30 19.7**	**+0.8**
DID	**Didima**	**2.71**	**200**	P	**Pn**	**10 30 18.1**	**-0.9**
VTS	**Vitosha**	**2.71**	**341**	*e*Pn	**Pn**	**10 30 19.2**	**0.0**
VTS				*e*Sn	**Sb**	**10 30 59.3**	**+1.8**
VTS	**Vitosha**	**2.71**	**341**	⇑P	**Pn**	**10 30 19.9**	**+0.6**
VTS	**Vitosha**	**2.71**	**341**	*i* P	**Pn**	**10 30 19.4**	**+0.2**
VTS	**Vitosha**	**2.71**	**341**		**Pn**	**10 30 19.9**	**+0.6**
DGB	**zmir**	**2.77**	**135**	*i* P	**Pn**	**10 30 19.6**	**-0.2**
BOSS	**Bosilegrad**	**2.84**	**330**	*e*Pn	**Pn**	**10 30 21.2**	**+0.3**
BOSS				*e*Sn	**Sg**	**10 31 05.9**	**-0.7**
AKHS	**Akhisar**	**2.88**	**113**	*i* P	**Pg**	**10 30 31.5**	**+1.1**
JMB	**Yambol**	**2.91**	**33**	*i* P	**Pg**	**10 30 31.4**	**+0.4**
OHR	**Ohrid**	**2.95**	**292**	*i* Pn	**Pn**	**10 30 22.9**	**+0.5**
DRO	**Drossia**	**2.98**	**226**	P	**Pn**	**10 30 23.3**	**+0.6**
SMG	**Samos**	**3.01**	**140**	P	**Pn**	**10 30 23.4**	**+0.2**
KCTX	**Karacabey (Bur**	**3.03**	**85**	PN	**Pn**	**10 30 24.1**	**+0.6**
TRIP	**Tripoli**	**3.03**	**214**	P	**Pn**	**10 30 23.5**	**-0.1**
APE	**Apeiranthos**	**3.11**	**163**	P	**Pn**	**10 30 23.8**	**-0.7**
APE	**Apeiranthos**	**3.11**	**163**	⇑P	**Pn**	**10 30 25.2**	**+0.7**
APE	**Apeiranthos**	**3.11**	**163**	PN	**Pn**	**10 30 23.9**	**-0.7**
APE	**Apeiranthos**	**3.11**	**163**	*i* P	**Pn**	**10 30 23.8**	**-0.7**
APE				*i* S	**Sn**	**10 30 58.0**	**-3.9**
APE	**Apeiranthos**	**3.11**	**163**		**Pn**	**10 30 25.2**	**+0.7**
DURS	**Dursunbey**	**3.16**	**97**	*i* P	**Pb**	**10 30 29.0**	**-2.6**
IGT	**Igoumenitsa**	**3.19**	**262**	*e*Sn	**Sn**	**10 31 06.3**	**+2.4**
PLVB	**Pleven**	**3.33**	**3**	⇑P	**Pn**	**10 30 28.5**	**+0.8**
PLVB	**Pleven**	**3.33**	**3**		**Pn**	**10 30 28.5**	**+0.8**
BARS	**Barje**	**3.38**	**326**	*e*Pn	**Pn**	**10 30 28.6**	**+0.3**
BARS	**Barje**	**3.38**	**326**	*e*Pn	**Pg**	**10 30 41.1**	**+1.1**
BARS				*e*Sn	**Sb**	**10 31 19.7**	**+3.0**
BARS				*e*Sn	Sg	10 31 42.3	+18
SZH	**Strazhica**	**3.41**	**19**	*i* P	**Pn**	**10 30 28.9**	**+0.3**
ITM	**Ithomi**	**3.47**	**215**	PN	**Pn**	**10 30 30.2**	**+0.7**
ITM	**Ithomi**	**3.47**	**215**	Pn	**Pn**	**10 30 30.9**	**+1.3**
ZAPS	**Zavoj**	**3.48**	**338**	*e*Pn	**Pn**	**10 30 30.9**	**+1.2**
MANT	**Manisa**	**3.57**	**115**	Pn	**Pn**	**10 30 32.1**	**+1.0**
TIR	**Tirane**	**3.69**	**292**	⇑P	**Pn**	**10 30 34.2**	**+1.6**
TIR	**Tirane**	**3.69**	**292**		**Pn**	**10 30 34.2**	**+1.6**
PRD	**Provadia**	**3.86**	**34**	*i* P	**Pn**	**10 30 34.8**	**0.0**
SELS	**Selova**	**4.01**	**323**	*e*Pn	**Pn**	**10 30 36.5**	**-0.5**
SELS				*e*Sn	**Sb**	**10 31 34.4**	**-0.5**
ZAGS	**Zajecar**	**4.09**	**337**	*e*Pn	**Pn**	**10 30 37.5**	**-0.6**
BOVS	**Bovan**	**4.11**	**331**	*e*Pn	**Pn**	**10 30 37.7**	**-0.6**
COPA	**Copaceanca**	**4.12**	**8**	⇑P	**Pn**	**10 30 39.9**	**+1.5**
COPA	**Copaceanca**	**4.12**	**8**		**Pn**	**10 30 39.9**	**+1.5**
SGRR	**Singureni**	**4.32**	**15**	⇑P	**Pn**	**10 30 42.4**	**+1.2**
SGRR	**Singureni**	**4.32**	**15**		**Pn**	**10 30 42.4**	**+1.2**
DRME	**Dracevica, Mon**	**4.49**	**300**	*e*Pn	**Pn**	**10 30 45.3**	**+1.8**
HUMR	**Humele**	**4.49**	**5**	⇑P	**Pn**	**10 30 44.3**	**+0.7**
HUMR	**Humele**	**4.49**	**5**		**Pn**	**10 30 44.3**	**+0.7**
PDG	**Podgorica**	**4.56**	**303**	*e*Pn	**Pn**	**10 30 45.6**	**+1.2**
PDG	**Podgorica**	**4.56**	**303**	⇑P	**Pn**	**10 30 45.8**	**+1.4**
PDG	**Podgorica**	**4.56**	**303**		**Pn**	**10 30 45.8**	**+1.4**
PDG	**Podgorica**	**4.56**	**303**	*e*Pn	**Pn**	**10 30 46.4**	**+2.0**
SJES	**Sjenica**	**4.62**	**315**	*e*Pn	**Pn**	**10 30 46.1**	**+0.7**
GRUS	**Gruza**	**4.72**	**325**	*e*Pn	**Pn**	**10 30 46.5**	**-0.2**
IVAS	**Ivanjica**	**4.75**	**319**	*e*Pn	**Pn**	**10 30 46.9**	**-0.2**
IDI	**Anoyia**	**4.77**	**175**	Pn	**Pn**	**10 30 47.0**	**-0.5**
	comp=N,1.6nm,0.3s,baz=349,slow=14,SNR=13						
IDI				Sn	**Sn**	**10 31 38.8**	**-4.2**
	comp=N,1.1nm,0.3s,baz=311,slow=13,SNR=3.9						
IDI	**Anoyia**	**4.77**	**175**	⇑P	**Pn**	**10 30 49.4**	**+1.9**
IDI	**Anoyia**	**4.77**	**175**		**Pn**	**10 30 49.4**	**+1.9**
ICOR	**Ion Corvin**	**4.78**	**31**	⇓P	**Pn**	**10 30 48.2**	**+0.7**
ICOR	**Ion Corvin**	**4.78**	**31**		**Pn**	**10 30 48.2**	**+0.7**
TRUS	**Trudelj**	**5.12**	**326**	*e*Pn	**Pn**	**10 30 51.3**	**-0.9**
DIVS	**Divibare**	**5.21**	**322**	*e*Pn	**Pn**	**10 30 53.1**	**-0.4**
DIVS	**Divibare**	**5.21**	**322**		**Pn**	**10 30 53.0**	**-0.6**
DIVS	**Divibare**	**5.21**	**322**	*e*Pn	**Pn**	**10 30 53.1**	**-0.4**
BRY	**Bratogost**	**5.25**	**305**	*e*Pn	**Pn**	**10 30 55.9**	**+1.8**
TIRR	**Tirgusor**	**5.31**	**33**	⇑P	**Pn**	**10 30 56.4**	**+1.7**
TIRR	**Tirgusor**	**5.31**	**33**	⇑P	**Pn**	**10 30 56.4**	**+1.7**
TIRR	**Tirgusor**	**5.31**

MORH	Mrgy, Hungar	7.46	327	*e*Pn		Pn	10 31 23.3	-1.0
ZIRJ	Zirje	7.47	302	*e*Pn		Pn	10 31 24.8	+0.3
MORI	Morici	7.52	303	*e*Pn		Pn	10 31 25.8	+0.6
BURAR	Bucovina Array	7.58	4	⇓P		Pn	10 31 27.4	+1.3
BURAR	Bucovina Array	7.58	4			Pn	10 31 27.4	+1.3
BUR08	Bucovina Ar. S	7.61	4	Pn		Pn	10 31 27.0	+0.5
KIS	Kishinev	7.64	23	*e*P		Pn	10 31 28.0	+1.2
DUGI	Dugi Otok	8.00	303	*e*Pn		Pn	10 31 31.5	-0.2
VAE	Valguarnera	8.23	255	Pn		Pn	10 31 37.5	+2.5
	comp=N,0.9nm,0.3s,baz=19,slow=16,SNR=1.2							
VAE				Sn		Sn	10 33 11.6	+3.5
	comp=N,4.4nm,0.3s,baz=20,slow=21,SNR=1.9							
NVLJ	Novalja	8.38	306	*e*Pn		Pn	10 31 36.7	-0.3
PTJ	Puntijarka	8.52	316	*e*Pn		Pn	10 31 37.7	-1.2
CRES	Cresnjev	8.74	314	*e*Pn		Pn	10 31 42.2	+0.3
KOLS	Kolonicke sedl	9.01	351	*e*SG		Sn	10 34 24.4	+57
CEY	Cerknica	9.27	311	*e*Pn		Pn	10 31 49.9	+0.7
SOKA	Soboth	9.51	317	*i* Pn		Pn	10 32 12.4	-0.1
	comp=N,1.3nm,0.5s							
ARSA	Arzberg	9.65	321	*i* Pn		Pn	10 31 55.0	+0.6
	comp=N,1.6nm,0.4s							
OBKA	Obir	9.66	315	*i* Pn		Pn	10 31 54.5	0.0
	comp=N,3.1nm,0.5s							
CONA	Conrad Observa	9.99	325	*i* Pn		Pn	10 31 57.6	-1.5
	comp=N,0.9nm,0.6s							
MYKA	Terra Mystica	10.23	313	*i* Pn		Pn	10 32 01.3	-1.1
	comp=N,3.1nm,0.6s							
ZOU	Zoufplan	10.57	312			Pn	10 32 08.1	+1.0
KBA	Koelnbreinsper	10.66	315	*i* P		Pn	10 32 09.3	+1.0
	comp=N,3.1nm,0.6s							
MOA	Molln	10.68	320	*i* Pn		Pn	10 32 06.4	-2.0
	comp=N,3.5nm,1.6s							
VRAC	Vranov	10.79	332	LR		LR	10 36 20.6	
	comp=N,54nm,21.8s,baz=150,slow=38							
ABTA	Abfaltersbach	10.94	312	*i* Pn		Pn	10 32 12.4	+0.4
	comp=N,2.4nm,0.6s							
AKASG	Malin Array Be	11.17	16	Pn		Pn	10 32 13.7	-1.4
	comp=N,1.2nm,0.3s,baz=206,slow=11,SNR=4.9							
GERES	GERESS Array B	11.64	323	Pn		Pn	10 32 23.6	+1.8
	comp=N,0.2nm,0.3s,baz=148,slow=15,SNR=4.9							
GERES				LR		LR	10 37 12.9	
	comp=N,62nm,20.3s,baz=132,slow=40							
WTTA	Wattenberg	11.72	312	*i* P		Pn	10 32 24.6	+1.8
	comp=N,2.6nm,0.5s							
DPC	Dobruska-Polom	11.76	334	AMS		AMS	10 37 10.0	
	comp=N,100nm,11.1s							
WATA	Walderalm	11.79	312	*i* Pn		Pn	10 32 23.3	-0.5
	comp=N,2.4nm,0.8s							
KHC	Kasperske Hory	11.91	323	AMS		AMS	10 37 00.0	
	comp=N,200nm,7.4s							
SQTA	Sankt Quirin	11.94	311	*i* Pn		Pn	10 32 22.6	-3.2
	comp=N,1.6nm,0.7s							
GOPC	GO Pecny, Ondr	11.97	329	AMS		AMS	10 37 30.0	
	comp=N,100nm,11.7s							
OSTC	Ostas	11.97	334	AMS		AMS	10 37 20.0	
	comp=N,100nm,12.0s							
UPC	Upice	12.00	333	AMS		AMS	10 37 20.0	
	comp=N,100nm,13.5s							
MOTA	Moosalm	12.07	312	*i* Pn		Pn	10 32 25.9	-1.6
	comp=N,1.0nm,0.6s							
FETA	Feichten	12.12	310	*i* Pn		Pn	10 32 26.5	-1.8
	comp=N,0.8nm,0.6s							
PRU	Pruhonice	12.13	328	AMS		AMS	10 36 50.0	
	comp=N,100nm,13.8s							
DAVOX	Davos/Dischmat	12.52	307	Pn		Pn	10 32 35.0	+1.3
	comp=N,0.3nm,0.3s,baz=111,slow=24,SNR=2.1							
DAVOX				LR		LR	10 38 22.7	
	comp=N,50nm,21.4s,baz=82,slow=42							
PVCC	Panska Ves	12.55	330	AMS		AMS	10 37 10.0	
	comp=N,100nm,12.8s							
KEST	Kesra	12.66	255	Pn		Pn	10 32 37.5	+1.9
	comp=N,0.4nm,0.3s,baz=180,slow=17,SNR=2.5							
KEST				LR		LR	10 37 21.7	
	comp=N,40nm,21.1s,baz=238,slow=37							
NKC	Novy Kostel	13.21	324	AMS		AMS	10 37 50.0	
	comp=N,200nm,8.1s							
HFS	Hagfors	21.19	345	P		P	10 34 20.2	-0.7
	comp=N,2.0nm,0.8s,baz=193,slow=26,SNR=3.6							
HFS				LR		LR	10 44 11.3	
	comp=N,61nm,19.3s,baz=142,slow=42							
FINES	FINESS Array B	21.44	2	P		P	10 34 23.0	-0.5
	comp=N,2.2nm,0.9s,baz=161,slow=18,SNR=4.9							
FINES				LR		LR	10 43 34.4	
	comp=N,138nm,18.5s,baz=174,slow=39							
ESDC	Sonseca Array	21.75	278	P		P	10 34 25.9	-1.3
	comp=N,1.0nm,0.7s,baz=69,slow=11,SNR=7.7							
NC602	NORSAR Array S	22.19	343	P		P	10 34 30.6	-1.0
NC602				IAmb		IAmb	10 34 31.2	
	comp=Z,15nm,0.9s							
NAO01	NORSAR Array S	22.44	343	P		P	10 34 33.1	-1.1
NAO01				IAmb		IAmb	10 34 36.8	
	comp=Z,24nm,1.1s							
NB2	NORSAR Subarra	22.54	343	P		P	10 34 33.0	-2.4
	comp=Z,5.2nm,1.0s,baz=148,slow=10							
NOA	NORSAR Array B	22.54	343	P		P	10 34 33.9	-1.4
	comp=Z,2.6nm,0.9s,baz=157,slow=11,SNR=8.8							
NOA				LR		LR	10 44 00.0	
	comp=Z,27nm,19.4s,baz=150,slow=38							
NBO00	NORSAR Array S	22.63	343	P		P	10 34 35.4	-0.9
EKA	Eskdalemuir Ar	23.82	319	P		P	10 34 46.8	-1.7
	comp=Z,1.5nm,0.6s,baz=128,slow=11,SNR=4.1							
MDT	Midelt	24.37	262	LR		LR	10 44 44.1	
	comp=Z,25nm,18.0s,baz=126,slow=37							
KIRV	Kirov	24.44	32	LR		LR	10 44 45.2	
	comp=Z,37nm,18.0s,baz=185,slow=37							
AKTO	Aktyubinsk	25.63	55	LR		LR	10 46 21.2	
	comp=Z,27nm,18.3s,baz=288,slow=39							
GEYT	Alibeck	26.19	84	LR		LR	10 47 36.7	
	comp=Z,18nm,18.1s,baz=165,slow=41							
ARU	Arti	27.64	42	LR		LR	10 47 06.8	
	comp=Z,33nm,19.6s,baz=260,slow=38							
ARCES	ARCESS Array B	29.55	1	LR		LR	10 48 16.8	
	comp=Z,104nm,19.8s,baz=126,slow=38							
TORD	Torodi Ar. Bea	33.43	223	P		P	10 36 15.1	+0.5
	comp=Z,1.0nm,0.6s,baz=37,slow=8.9,SNR=5.9							
TORD				PcP		PcP	10 38 55.6	-0.4
	comp=Z,0.4nm,0.9s,baz=338,slow=3.1,SNR=1.4							
MK31	Makanchi Array	41.74	61	P		P	10 37 25.2	+0.5
MK31				IAmb		IAmb	10 37 26.4	
	comp=Z,1.2nm,0.7s							
MKAR	Makanchi Array	41.74	61	P		P	10 37 25.7	+1.0
	comp=Z,1.3nm,0.7s,baz=277,slow=6.0,SNR=12							
MKAR				PcP		PcP	10 39 20.2	-0.8
	comp=Z,0.2nm,0.3s,baz=277,slow=3.8,SNR=2.7							
ZALV	Zalesovo Beam	42.17	50	P		P	10 37 28.9	+0.8
	comp=Z,2.4nm,0.8s,baz=280,slow=8.7,SNR=9.4							
NRIK	Noril'sk	43.75	27	LR		LR	10 59 15.6	
	comp=Z,26nm,18.8s,baz=87,slow=41							
SONM	Songino Array	56.92	53	P		P	10 39 22.2	+1.4
	comp=Z,1.1nm,1.0s,baz=285,slow=7.5,SNR=4.1							
CMAR	Chiang Mai Arr	66.67	85	P		P	10 40 27.9	+1.2
	comp=Z,0.5nm,0.3s,baz=304,slow=6.4,SNR=1.8							
YKA	Yellowknife Ar	72.62	341	P		P	10 41 02.6	-0.2
	comp=Z,0.3nm,0.7s,baz=30,slow=5.2,SNR=2.8							
ILAR	Eielson Array	75.29	356	P		P	10 41 19.1	+0.8
	comp=Z,0.6nm,1.0s,baz=346,slow=5.5,SNR=4.5							
KSRS	Korea Array	75.79	53	P		P	10 41 22.1	+0.4
	comp=Z,0.7nm,0.5s,baz=301,slow=6.9,SNR=3.8							
TXAR	Lajitas Array	95.80	316	P		P	10 43 03.0	+0.6
	comp=Z,0.1nm,0.8s,baz=28,slow=2.1,SNR=1.7							

*IDC **09** 10:40:38.6±1.4, 6.50S×129.45E, h164km±13km, mb3.7/13, mb1 3.9/17, mb1mx3.8/29, mbtmp4.3/17, Error ellipse: s-maj=17.8km s-min=9.5km az=98.0*

*NEIC **09** 10:40:40.1±2.6, 6.51S±0.07×129.43E±0.09, h181km±7km, mb4.1/10, Error ellipse: s-maj=12.5km s-min=9.5km az=82.0*

*DJA **09** 10:40:41.2±0.2, 7.°S±2.°×129.°9E±.°, h201km, 4km, M4.8/13, mb4.6/12, mB5.1/7, MLv5.0/12, MLv5.0/13, Mw(mB)4.5/7*

ISC 09 10:40:41.3±0.4, 6.62S±0.04×129.43E±0.06, h200km, n58, σ2s09/65, mb3.9/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
BNDI	Bandanaira	2.13	13	P	Pn	10 41 21.8		+0.5
BNDI				S	Sn	10 41 53.2		+0.8
SAUI	Saumlaki	2.30	126	P	Pn	10 41 24.2		+1.2
SAUI				S	Sn	10 41 56.1		+0.6
SAUI	Saumlaki	2.30	126	Pn	Pn	10 41 24.3		+1.3
SAUI					Sn	10 41 52.4		-3.2
MSAI	Masohi	3.29	351	P	Pn	10 41 34.8		+0.4
FAKI	Fak Fak	4.62	38	P	Pn	10 41 48.4		-2.6
FAKI	Fak Fak	4.62	38	Pn	Pn	10 41 48.5		-2.6
KMPI	Kaimana, Papua	5.17	56	P	Pn	10 41 57.6		-0.4
SOEI	Soe	5.99	238	P	Pn	10 42 08.7		+0.1
	1.2nm112nm,0.7s							
SOEI	Soe	5.99	238	Pn	Pn	10 42 08.9		+0.3
SIJI	Sorong	5.99	18	P	Pn	10 42 05.6		-3.0
	26nm,0.3s,baz=133,slow=3.7,SNR=107							
SIJI				S	Sn	10 43 09.4		-8.3
	17nm,0.3s,baz=68,slow=23,SNR=8.9							
LBMI	Labuha	6.24	342	P	Pn	10 42 11.8		0.0
	0.3nm1µm100nm,0.6s							
MTN	Manton Dam	6.41	165	Pn	Pn	10 42 14.0		0.0
BATI	Baumata	6.73	238	P	Pn	10 42 18.2		+0.1
	62nm,0.3s,baz=104,slow=8.3,SNR=27							
BATI				S	Sn	10 43 31.8		-3.0
	38nm,0.3s,baz=304,slow=23,SNR=12							
BATI	Baumata	6.73	238	P	Pn	10 42 17.9		-0.2
	0.7nm187nm,0.6s							
RKPI	Ransiki, Papua	6.94	43	P	Pn	10 42 20.2		-0.6
	8.9nm30µm2µm,0.5s							
EDFI	Ende, Flores	7.96	254	P	Pn	10 42 34.5		+0.3
	0.1nm0.1nm7.1nm,0.7s							
KNRA	Kununurra	9.03	184	Pn	Pn	10 42 47.4		-0.7
SPSI	Sidrap Palu	9.97	285	P	Pn	10 43 11.0		+11
MRSI	Marisa	10.27	313	P	Pn	10 43 05.5		+1.3
	1µm40nm,0.9s							
FITZ	Fitzroy Crossi	12.00	198	P	Pn	10 43 25.0		-1.2
	7.2nm,0.3s,baz=31,slow=11,SNR=141							
FITZ				S	Sn	10 45 32.5		-7.5
	5.8nm,0.3s,baz=245,slow=17,SNR=6.0							
WB0	Warramunga Arr	13.94	160	P	P	10 43 52.0		-0.5
WRAB	Tennant Creek	14.07	161	Pn	Pn	10 43 52.3		0.0
WRA	Warramunga Arr	14.08	161	P	Pn	10 43 51.3		-1.1
	1.6nm,0.3s,baz=338,slow=13,SNR=47							
WRA				S	S	10 46 22.1		-7.1
	4.3nm,0.3s,baz=332,slow=23,SNR=10							
WB2	Warramunga Arr	14.08	161	Pn	Pn	10 43 50.7		-1.7
WR0	Warramunga Arr	14.16	160	Pn	Pn	10 43 52.3		-1.1
COEN	Coen	15.36	119		P	10 44 09.9		+1.6
COEN				IAmb	IAmb	10 44 26.3		
	comp=Z,13nm,1.1s							
AS31	Alice Springs	17.49	166	Pn	Pn	10 44 34.4		+0.9
ASAR	Alice Springs	17.49	166	P	Pn	10 44 34.5		+1.0
	comp=Z,9.0nm,0.3s,baz=338,slow=9.4,SNR=448							
ASAR				S	S	10 47 43.4		+0.2
	comp=Z,1.6nm,0.3s,baz=349,slow=23,SNR=6.7							
PSA00	Pilbara Seismi	17.52	211		Pn	10 44 33.9		0.0
PSA00				IAmb	IAmb	10 44 40.1		
	comp=Z,21nm,0.9s							
SBUM	Sibu	19.40	297	P	P	10 44 52.1		-0.3
SBUM				IAmb	IAmb	10 44 55.4		
	comp=Z,3.0nm,0.7s							
STKA	Stephens Creek	27.58	157	P	P	10 46 10.4		+0.5
	comp=Z,1.3nm,0.3s,baz=21,slow=17,SNR=3.4							
STKA	Stephens Creek	27.58	157	IAmb	IAmb	10 46 16.9		
	comp=Z,0.8nm,1.0s							
NWAO	Narrogin (SRO)	28.53	202	P	P	10 46 20.1		+1.7
	comp=Z,11nm,1.1s,baz=23,slow=7.7,SNR=1.6							
NWAO	Narrogin (SRO)	28.53	202	P	P	10 46 19.7		+1.3
CMAR	Chiang Mai Arr	39.05	310	P	P	10 47 49.2		+0.1
	comp=Z,2.4nm,0.7s,baz=142,slow=8.2,SNR=12							
MJAR	Matsushiro Arr	43.71	10	P	P	10 48 25.2		-1.5
	comp=Z,1.1nm,0.6s,baz=188,slow=10,SNR=2.8							
KSRS	Korea Array	43.86	358	P	P	10 48 28.6		+0.8
	comp=Z,0.5nm,0.5s,baz=174,slow=7.6,SNR=4.2							
USRK	Ussuriysk Ar.	50.63	2	P	P	10 49 20.8		+0.8
	comp=Z,1.3nm,0.5s,baz=208,slow=5.8,SNR=2.2							
RAMN	Ramite	53.22	311	*e*P	P	10 49 40.2		+0.4
	comp=Z,37nm,0.6s							
BKZ	Black Stump Fm	53.27	135	P	P	10 49 41.6		+1.9
MSWZ	Moikau Station	53.41	138	P	P	10 49 40.7		+0.1
JIRN	Jiri	53.91	311	*e*P	P	10 49 44.9		0.0
	comp=Z,15nm,0.4s							
GUN	Gumba	54.27	311	*e*P	P	10 49 47.7		+0.2
	comp=Z,29nm,0.7s							
KOLN	Koldanda	55.92	310	*e*P	P	10 49 59.5		+0.4
	comp=Z,10nm,0.4s							
DANN	Dangsing	56.10	311	*e*P	P	10 50 00.5		0.0
	comp=Z,13nm,0.6s							
SONM	Songino Array	57.90	342	P	P	10 50 12.3		-0.3
	comp=Z,0.5nm,0.4s,baz=144,slow=3.4,SNR=2.8							
SONM				PcP	PcP	10 51 03.7		+1.2
	comp=Z,0.4nm,0.6s,baz=151,slow=6.3,SNR=1.5							
MK31	Makanchi Array	67.60	327	P	P	10 51 17.0		+0.5
MK31				IAmb	IAmb	10 51 18.2		
	comp=Z,2.8nm,1.0s							
MKAR	Makanchi Array	67.60	327	P	P	10 51 17.3		+0.8
	comp=Z,1.8nm,0.3s,baz=124,slow=8.2,SNR=27							
MKAR				PcP	PcP	10 51 42.5		+0.4
	comp=Z,0.8nm,0.6s,baz=130,slow=5.2,SNR=3.7							
ZALV	Zalesovo Beam	70.99	334	P	P	10 51 37.1		+0.1
	comp=Z,3.1nm,0.5s,baz=129,slow=5.4,SNR=12							
VNDA	Vanda	72.90	173	P	P	10 51 49.9		+1.8
	comp=Z,0.7nm,0.8s,baz=316,slow=7.2,SNR=6.0							
VNDA	Vanda	72.90	173	P	P	10 51 49.8		+1.8
VNDA				IAmb	IAmb	10 51 51.7		
	comp=Z,5.5nm,1.5s							
MAW	Mawson	75.10	201	P	P	10 52 02.4		+1.5
	comp=Z,1.4nm,0.7s,baz=79,slow=8.1,SNR=2.2							
MAW	Mawson	75.10	201	IAmb	IAmb	10 52 03.5		
	comp=Z,1.4nm,1.4s							
NRIK	Noril'sk	81.05	346	P	P	10 52 34.5		+0.9
	comp=Z,0.8nm,0.3s,baz=149,slow=5.9,SNR=4.0							
ILAR	Eielson Array	93.24	25	P	P	10 53 31.9		-0.9
	comp=Z,0.2nm,0.5s,baz=243,slow=5.1,SNR=2.5							
TXAR	Lajitas Array	125.21	59	PKP	PKiKP	10 59 20.8		+1.5
	comp=Z,0.2nm,0.4s,baz=215,slow=1.1,SNR=5.1							
TORD	Torodi Ar. Bea	128.18	281	PKP	PKiKP	10 59 25.1		-0.3
	comp=Z,0.5nm,0.7s,baz=56,slow=2.3,SNR=2.6							
LPAZ	La Paz	151.37	143	PKPbc	PKPbc	11 00 15.6		+2.5
	comp=Z,0.6nm,0.4s,baz=263,slow=8.4,SNR=3.3							

*IDC **09** 11:16:52.8±1.7, 1.°33N×126.°08E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/48, mbtmp3.9/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/42, Error ellipse: s-maj=174.3km s-min=25.1km az=65.0*

*NEIC **09** 11:16:59.6±1.8, 1.°0N±0.°1×125.°4E±0.°1, h51km±10km, mb4.0/9, Error ellipse: s-maj=22.4km s-min=17.5km az=118.0*

*DJA **09** 11:17:04.5±1.1, 1.°N±5.°×12.°5E±.°, h25km±13km, M4.1/7, MLv4.1/7*

ISC 09 11:17:04.9±0.8, 0.60N±0.08×125.23E±0.05, h87km, n22, σ1s60/26, mb3.9/8, 1C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
KMSI	Cibinong	1.25	269	P	Pn	11 17 25.4		-1.9
KMSI				S	Sn	11 17 42.8		-1.5
LBMI	Labuha	2.58	118	P	Pn	11 17 45.0		+0.2
LBMI				S	Sn	11 18 15.8		+0.4
SANI	Sanana	2.74	164	P	Pn	11 17 45.4		-1.5
SANI				S	Sn	11 18 15.7		-3.5
LUWI	Luwuk	2.95	236	P	Pn	11 17 50.6		+0.9
LUWI	Luwuk	2.95	236	Pn	Pn	11 17 50.1		+0.4
LUWI					Sn	11 18 26.2		+2.0
MRSI	Marisa	3.29	268	P	Pn	11 17 54.3		0.0
APSI	Ampana	3.88	247	P	Pn	11 18 03.8		+1.5
KCP	Kidapawan	6.37	359	⇑*i*P	Pn	11 18 38.5		+2.3
KNRA	Kununurra	16.55	168		P	11 20 53.5		+0.7
FITZ	Fitzroy Crossi	18.59	179	LR	LR	11 29 22.2		
	comp=Z,70nm,18.4s,baz=335,slow=39							
WB0	Warramunga Arr	22.15	157	P	P	11 21 53.8		+0.1
WB0				IAmb	IAmb	11 21 54.4		
	comp=Z,7.5nm,0.6s							
WRA	Warramunga Arr	22.29	157	P	P	11 21 54.9		-0.3
	comp=Z,3.1nm,0.5s,baz=337,slow=11,SNR=15							
WB2	Warramunga Arr	22.29	157	P	P	11 21 55.3		+0.1
WB2				IAmb	IAmb	11 22 14.2		
	comp=Z,11nm,1.4s							
AS31	Alice Springs	25.55	161	P	P	11 22 27.4		+1.5
ASAR	Alice Springs	25.55	161	P	P	11 22 28.2		+2.4
	comp=Z,1.8nm,0.5s,baz=350,slow=15,SNR=33							
ASAR				PcP	PcP	11 25 55.9		+0.7
	comp=Z,0.4nm,0.4s,baz=347,slow=2.2,SNR=5.9							
STKA	Stephens Creek	35.83	156	P	P	11 23 56.9		+0.7
	comp=Z,0.9nm,0.5s,baz=332,slow=16,SNR=3.0							
STKA	Stephens Creek	35.83	156	P	P	11 23 56.3		+0.1
STKA				IAmb	IAmb	11 24 12.0		
	comp=Z,1.2nm,1.2s							
MK31	Makanchi Array	59.30	327	P	P	11 26 55.6		-2.1
MK31				IAmb	IAmb	11 27 11.7		
	comp=Z,1.0nm,1.2s							
MKAR	Makanchi Array	59.30	327	P	P	11 26 55.5		-2.1
	comp=Z,0.2nm,0.3s,baz=114,slow=8.6,SNR=4.1							
KURK	Kurchatov	63.59	329	P	P	11 27 23.8		-2.6
KURK				IAmb	IAmb	11 27 25.4		
	comp=Z,4.2nm,1.4s							
VNDA	Vanda	80.54	172	P	P	11 29 07.9		+0.8
QSPA	South Pole Qui	90.53	180	P	P	11 29 57.2		+0.1

*NEIC **09** 11:19:37.8±2.1, 14.°82S±0.°07×175.°0W±0.°1, h10km±1km, mb4.5/20, Error ellipse: s-maj=18.4km s-min=9.2km az=299.0*

*IDC **09** 11:19:37.5±0.8, 14.°62S×175.°56W, h0km, mb3.9/11, mb1 4.2/12, mb1mx4.1/39, mbtmp4.0/12, ML3.9/1, MS4.1/25, Ms1 4.1/25, ms1mx4.0/35, Error ellipse: s-maj=37.6km s-min=18.3km az=141.0*

*GCMT **09** 11:19:42.8±0.2, 14.°71S±0.°01×175.°20W±0.°01, h15km, MW5.0/120, Moment Tensor Solution. s61,c88; s120,c178; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.69±.09; $M_{\theta\theta}$1.62±.11; $M_{\phi\phi}$-0.93±.09; $M_{r\theta}$0.73±.28; $M_{\theta\phi}$4.12±.08; $M_{\phi r}$-1.19±.28; Best double couple: M_{ϕ}4.57100×10^{16} NP1:ϕ_s277.00000°, δ75.00000°, λ-14.00000°. NP2:ϕ_s10.00000°, δ77.00000°, λ-165.00000°. Principal axes: T 4.6600, Plg1.0000°, Azm143.0000°; N -0.1810, Plg70.0000°, Azm50.0000°; P -4.4820, Plg20.0000°, Azm234.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 11:19:37.9±0.5, 14.81S±0.10×175.07W±0.07, h10km, n88, σ1s52/55, mb4.3/19, MS4.2/27, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h	m s	ISC
AFI	Afiamalu	3.32	75		Pn	11 20 28.6		-1.3
AFI				Sn	Sn	11 21 06.1		-3.4
NIUE	Niue	6.50	131		Pn	11 21 12.5		-1.1
RAO	Raoul Island	14.61	190	LR	LR	11 27 06.2		
	comp=Z,690nm,19.7s,baz=338,slow=30							
RAR	Rarotonga	15.88	116	LR	LR	11 28 43.0		
	comp=Z,331nm,18.1s,baz=296,slow=33							
DZM	Mont Dzumac	18.95	245	*e*Pn	Pn	11 23 59.5		-0.6
DZM	75nm,1.4s							
	comp=Z,2µm,25.9s			*e*LR	LR	11 28 13.7		
DZM	Mont Dzumac	18.95	245	P	P	11 23 58.4		-1.1
	0.3nm,0.3s,baz=65,slow=20,SNR=6.7							
DZM	Mont Dzumac	18.95	245	P	Pn	11 23 59.9		-0.2
DZM				IAmb	IAmb	11 24 14.6		
	comp=Z,22nm,1.0s							
PPT	Papeete	24.63	100	LR	LR	11 32 03.0		
	comp=Z,110nm,19.6s,baz=271,slow=30							
PPT2	Papeete2	24.63	100	*e*S	S	11 29 22.0		+1.5
PPT2	comp=Z,235nm,36.2s							
	comp=Z,3µm,25.8s			*e*LQ	LQ	11 29 59.2		
PPT2				*e*LR	LR	11 30 59.9		
	comp=Z,469nm,25.2s							
PPT2	Papeete2	24.63	100	*e*T	T	11 50 25.0		
	comp=Z,11nm,0.4s							
TIAR	Tiarei	24.85	100	*e*T	T	11 50 44.4		
	comp=Z,4.6nm,0.3s							
TVO	Taravao	24.95	100	*e*T	T	11 50 51.0		
	comp=Z,4.5nm,0.4s							
HNR	Honiara	24.99	280	LR	LR	11 33 17.0		
	comp=Z,674nm,19.5s,baz=116,slow=34							
TBI	Tubuai	25.62	113	*e*LQ	LQ	11 30 23.2		
	comp=Z,2µm,27.0s							
TBI				*e*LR	LR	11 31 26.9		
	comp=Z,459nm,25.8s							
TBI	Tubuai	25.62	113	*e*T	T	11 51 10.0		
	comp=Z,22nm,0.4s							
KRVT	Keravat (AS076	34.03	285	LR	LR	11 37 23.7		
	comp=Z,263nm,21.7s,baz=98,slow=32							
WHZ	Wether Hill Ro	34.12	201	P	P	11 26 22.2		-0.7
ARMA	Armidale	34.28	237	P	P	11 26 25.1		+0.5
TAOE	Nuku Hiva Isla	34.66	84	*e*LR	LR	11 35 51.1		
	comp=Z,838nm,23.8s							
CTAO	Charters Tower	37.21	256	P	P	11 26 50.3		+0.6
H11S2	WAKE ISLAND Hy	37.65	331	T	T	12 06 37.4		
	baz=150,slow=76,SNR=48							
H11S3	WAKE ISLAND Hy	37.66	331	T	T	12 06 37.9		
	baz=150,slow=76,SNR=23							
H11S1	WAKE ISLAND Hy	37.67	331	T	T	12 06 38.3		
	baz=150,slow=76,SNR=56							

comp=Z,3.1nm,1.0s
ILAR Eielson Array 82.19 12 P **P** **11 31 59.9 +1.1**
comp=Z,0.5nm,0.9s,baz=249,slow=5.3,SNR=6.0
PD31 Pinedale Array 82.92 42 P **P** **11 32 02.6 -0.7**
PDAR Pinedale Array 82.92 42 P **P** **11 32 04.6 +1.3**
comp=Z,0.9nm,0.8s,baz=188,slow=3.0,SNR=5.4
PDAR LR LR 12 01 40.9
comp=Z,56nm,20.7s,baz=270,slow=30
H03S2 Juan Fernandez 86.87 124 T T 13 08 46.2
baz=252,slow=75,SNR=6.2
H03S1 Juan Fernandez 86.88 124 T T 13 08 44.8
baz=252,slow=75,SNR=6.6
H03S3 Juan Fernandez 86.89 124 T T 13 08 45.7
baz=252,slow=75,SNR=7.8
MAW Mawson 87.83 199 LR LR 12 11 11.5
comp=Z,166nm,18.2s,baz=72,slow=35
YKA Yellowknife Ar 90.21 24 P **P** **11 32 40.4 +2.1**
comp=Z,0.4nm,0.7s,baz=240,slow=4.9,SNR=2.8
YKA LR LR 12 05 36.5
comp=Z,96nm,21.1s,baz=0.0,slow=31
PLCA Paso Flores 91.10 133 LR LR 12 04 40.3
comp=Z,127nm,20.2s,baz=288,slow=30
SONM Songino Array 93.33 319 LR LR 12 12 58.5
comp=Z,80nm,18.7s,baz=96,slow=34
ULM Lac du Bonnet 94.50 39 LR LR 12 09 24.8
comp=Z,164nm,20.5s,baz=304,slow=32
CFA Coronel Fontan 96.11 125 LR LR 12 08 21.5
comp=Z,110nm,20.7s,baz=254,slow=30
LVC Limon Verde 98.72 116 LR LR 12 07 34.4
comp=Z,89nm,20.8s,baz=218,slow=29
BRTR Keskin Array B 144.68 320 PKP **PKPab** **11 39 14.2 +0.1**
comp=Z,2.3nm,0.9s,baz=112,slow=1.3,SNR=11
GERES GERESS Array B 145.30 350 PKPbc **PKPbc** **11 39 16.0 +0.1**
comp=Z,0.8nm,0.8s,baz=30,slow=3.5,SNR=6.8
CONA Conrad Observa 145.76 347 *i* pPKPdf **PKPab** **11 39 19.0 +1.3**
comp=Z,13nm,1.6s
MOA Molln 146.16 349 *i* pPKPab **PKiKP** **11 39 22.2 +0.5**
comp=Z,4.6nm,1.0s
ARSA Arzberg 146.47 347 *i* pPKPdf **PKPab** **11 39 20.5 +0.2**
comp=Z,1.7nm,0.8s
RETA Reutte 147.06 353 *i* pPKPdf **PKPbc** **11 39 21.1 -0.1**
comp=Z,3.8nm,1.1s
KBA Koelnbreinsper 147.07 349 *i* PKPab **PKPbc** **11 39 21.8 +0.4**
comp=Z,1.8nm,0.5s
WATA Walderalm 147.10 352 *i* pPKPdf **PKPbc** **11 39 21.3 -0.1**
comp=Z,4.7nm,1.0s
SOKA Soboth 147.12 347 *i* pPKPab **PKiKP** **11 39 25.1 +1.3**
comp=Z,1.8nm,1.0s
MOTA Moosalm 147.16 352 *i* PKPbc **PKPbc** **11 39 20.8 -0.8**
comp=Z,4.3nm,1.3s
WTTA Wattenberg 147.16 352 *i* pPKPbc **PKiKP** **11 39 24.3 +0.3**
comp=Z,4.4nm,0.9s
SQTA Sankt Quirin 147.27 352 *i* pPKPab **PKiKP** **11 39 26.1 +1.9**
comp=Z,2.7nm,1.0s
DAVA Damuels 147.36 354 *i* pPKPbc **PKPab** **11 39 24.4 +0.5**
comp=Z,4.2nm,0.7s
OBKA Obir 147.39 348 *i* PKPbc **PKPbc** **11 39 21.4 -0.8**
comp=Z,1.8nm,0.9s
MYKA Terra Mystica 147.45 349 *i* pPKPab **PKiKP** **11 39 25.8 +1.3**
comp=Z,4.9nm,0.9s
FETA Feichten 147.52 353 *i* pPKPbc **PKiKP** **11 39 25.0 +0.2**
comp=Z,2.6nm,0.8s
ABTA Abfaltersbach 147.53 350 *i* pPKiKP **PKiKP** **11 39 28.9 +4.2**
comp=Z,4.1nm,0.8s

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*IDC **09** 11:31:21.3±8.2,2˚45N×128˚65E,h200km±86km,mb3.6/9, mb1 3.6/9,mb1mx3.3/47,mbtmp4.1/9,MS3.5/2,Ms1 3.5/2, ms1mx2.6/37,Error ellipse: s-maj=49.4km s-min=18.1km az=75.0*
*NEIC **09** 11:31:25.3±0.8,2˚.4N±0˚.1×128˚.4E±0˚.2,h237km±9km, mb4.2/16,Error ellipse: s-maj=22.0km s-min=15.6km az=92.0*
ISC 09 11:31:26.2±0.7,2˚29N±0˚08×128˚2E±0˚2,h250km,n29, σ0$81/27,mb3.9/15,Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.73**	**210**	Pn	**Pn**	**11 32 05.9**	**-0.5**
TNTI				S	**S**	**11 32 37.5**	**-0.6**
MTN	**Manton Dam**	**15.31**	**169**	P	**Pn**	**11 34 48.5**	**-1.7**
KNRA	**Kununurra**	**17.86**	**178**	P	**Pn**	**11 35 18.3**	**-1.9**
FITZ	**Fitzroy Crossi**	**20.41**	**187**	P	**P**	**11 35 45.1**	**+0.3**
	5.1nm,1.0s,baz=332,slow=5.4,SNR=7.8						
FITZ	**Fitzroy Crossi**	**20.41**	**187**	P	**P**	**11 35 45.1**	**+0.3**
FITZ				IAmb	IAmb	11 35 49.1	
	comp=Z,12nm,1.2s						
LEM	**Lembang**	**22.47**	**246**	LR	LR	11 46 25.8	
	comp=Z,138nm,18.8s,baz=155,slow=39						
WB0	**Warramunga Arr**	**22.74**	**165**	P	**P**	**11 36 06.6**	**-0.5**
WB0				IAmb	IAmb	11 36 09.1	
	comp=Z,9.0nm,1.1s						
WRA	**Warramunga Arr**	**22.89**	**165**	P	**P**	**11 36 07.9**	**-0.6**
	comp=Z,1.6nm,0.4s,baz=342,slow=9.1,SNR=37						
WB2	**Warramunga Arr**	**22.90**	**165**	P	**P**	**11 36 08.5**	**0.0**
WB2				IAmb	IAmb	11 36 10.7	
	comp=Z,10.0nm,1.2s						
AS31	**Alice Springs**	**26.38**	**168**	P	**P**	**11 36 40.1**	**+0.1**
ASAR	**Alice Springs**	**26.38**	**168**	P	**P**	**11 36 40.2**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=353,slow=7.6,SNR=47						
KSRS	**Korea Array**	**35.00**	**360**	P	**P**	**11 37 54.0**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=173,slow=9.4,SNR=4.1						
BBOO	**Buckleboo**	**35.69**	**169**	P	**P**	**11 38 01.4**	**+0.4**
BBOO				IAmb	IAmb	11 38 08.6	
	comp=Z,21nm,1.5s						
STKA	**Stephens Creek**	**36.27**	**161**	P	**P**	**11 38 06.1**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=344,slow=6.7,SNR=5.7						
STKA	**Stephens Creek**	**36.27**	**161**	P	**P**	**11 38 05.9**	**-0.1**
MK31	**Makanchi Array**	**59.58**	**325**	P	**P**	**11 41 04.6**	**+0.8**
MK31				IAmb	IAmb	11 41 10.8	
	comp=Z,3.6nm,1.5s						
MKAR	**Makanchi Array**	**59.58**	**325**	P	**P**	**11 41 04.9**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=113,slow=7.9,SNR=8.3						
MAKZ	**Makanchi**	**59.77**	**325**	P	**P**	**11 41 06.1**	**+1.0**
MAKZ				IAmb	IAmb	11 41 06.5	
	comp=Z,1.7nm,0.6s						
BKZ	**Black Stump Fm**	**60.52**	**138**	P	**P**	**11 41 11.2**	**+0.9**
KURBB	**Kurchatov Arra**	**63.75**	**327**	P	**P**	**11 41 31.8**	**+0.4**
	comp=Z,2.5nm,0.5s,baz=125,slow=5.9,SNR=10.0						
KURK	**Kurchatov**	**63.75**	**327**	P	**P**	**11 41 32.0**	**+0.6**
KURK				IAmb	IAmb	11 41 32.8	
	comp=Z,2.8nm,0.7s						
WSAR	**Wadi Sarin**	**70.36**	**294**	P	P	11 42 17.9	+4.3
	comp=Z,1.3nm,0.5s,baz=108,slow=6.4,SNR=1.3						
NRIK	**Nord'sk**	**72.18**	**346**	LR	LR	12 17 40.0	
	comp=Z,32nm,21.9s,baz=76,slow=38						
VNDA	**Vanda**	**81.82**	**173**	P	**P**	**11 43 17.9**	**+1.0**
KDAK	**Kodiak Island**	**82.31**	**32**	P	**P**	**11 43 19.5**	**-0.3**
SML	**Sawmill**	**84.89**	**28**	P	**P**	**11 43 32.5**	**-0.4**
SML				IAmb	IAmb	11 43 42.0	
	comp=Z,7.1nm,1.3s						
SCM	**Sheep Creek Mo**	**85.37**	**28**	P	**P**	**11 43 35.2**	**-0.1**
QSPA	**South Pole Qui**	**92.20**	**180**	P	**P**	**11 44 08.6**	**+1.1**
AKASG	**Malin Array Be**	**93.94**	**321**	P	**P**	**11 44 15.0**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=88,slow=5.0,SNR=4.1						

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*IDC **09** 11:32:58.4±0.6,21˚.93N×121˚.13E,h0km,mb4.0/21, mb1 4.1/22,mb1mx4.0/50,mbtmp4.0/22,ML3.6/1,MS3.5/6, Ms1 3.6/6,ms1mx3.2/44,Error ellipse: s-maj=21.7km s-min=13.0km az=71.0*
*TAP **09** 11:33:03.6,22˚.09N×121˚.08E,h31km,ML4.6,C*
*NEIC **09** 11:33:04.6±1.7,22˚.08N±0˚.02×121˚.19E±0˚.09,h41km±6km, mb4.3/33,Error ellipse: s-maj=11.4km s-min=10.8km az=71.0*
*JMA **09** 11:33:07.5,22˚.49N×121˚.14E,h42km±2km,M4.5*
ISC 09 11:33:03.4±0.8,22˚08N±0˚02×121˚15E±0˚02,h30km±5km, n205,σ1$22/298,mb4.2/36,1C-9D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSEB	**Hengchuen, Pin**	**0.29**	**232**	⇓*i*P	**Pn**	**11 33 11.2**	**-0.4**
	baz=231						
TSEB				S	**Sn**	**11 33 16.8**	**-0.1**
	baz=231						
TWKBT	**Hengchun**	**0.34**	**246**	⇓*i*P	**Pb**	**11 33 11.2**	**-0.1**
	baz=237						
TWKBT				S	**Sb**	**11 33 16.5**	**-0.3**
	baz=237						
TWK1	**Hengchun**	**0.34**	**247**	⇓*i*P	**Pb**	**11 33 11.2**	**-0.2**
	baz=237						
TWK1				S	**Sb**	**11 33 16.4**	**-0.4**
	baz=237						
TAW	**Tawu**	**0.36**	**320**	⇓*i*P	**Pb**	**11 33 11.5**	**-0.2**
	baz=338						
TAW				S	**Sb**	**11 33 17.2**	**-0.1**
	baz=338						
LAY	**Lan-yu**	**0.38**	**96**	⇓*i*P	**Pn**	**11 33 13.0**	**+0.2**
	baz=89						
LAY				S	**Sn**	**11 33 19.9**	**+0.8**
	baz=89						
HEN	**Hengchun**	**0.39**	**259**	⇓P	**Pb**	**11 33 12.0**	**0.0**
	baz=254						
HEN				S	**Sb**	**11 33 18.1**	**+0.2**
	baz=254						
EAST	**Anshuo**	**0.41**	**318**	⇓*i*P	**Pb**	**11 33 12.1**	**-0.3**
	baz=333						
EAST				*e*S	**Sb**	**11 33 18.1**	**-0.5**
	baz=333						
ECL	**Taimali**	**0.55**	**341**	⇓*i*P	**Pb**	**11 33 13.7**	**-0.8**
	baz=359						
ECL				*e*S	**Sb**	**11 33 19.7**	**-2.5**
	baz=359						
SCZT	**Fangliau**	**0.57**	**301**	⇓*i*P	**Pb**	**11 33 14.8**	**-0.1**
	baz=310						
SCZT				*e*S	**Sb**	**11 33 22.4**	**-0.3**
	baz=310						
SSPT	**Xinbi**	**0.67**	**307**	*e*P	**Pn**	**11 33 17.1**	**+0.2**
	baz=318						
SSPT				*e*S	**Sb**	**11 33 25.4**	**-0.2**
	baz=318						
TTN	**Taitung**	**0.67**	**0**	*e*P	**Pn**	**11 33 16.9**	**+0.1**
	baz=7.0						
TTN				*e*S	**Sn**	**11 33 27.1**	**+0.7**
	baz=7.0						
MASBT	**Mashibuluo**	**0.71**	**318**	P	**Pb**	**11 33 16.8**	**-0.5**
	baz=327						
MASBT				*e*S	**Sb**	**11 33 25.7**	**-1.1**
	baz=327						
TWGBT	**Beinan**	**0.74**	**355**	⇑*i*P	**Pb**	**11 33 16.5**	**-1.3**
	baz=1.0						
TWGBT				*e*S	**Sb**	**11 33 26.4**	**-1.1**
	baz=1.0						
TWG	**Pinlang**	**0.74**	**355**		**Pb**	**11 33 16.2**	**-1.6**
WLCH	**Liuqiu**	**0.76**	**291**	*e*P	**Pb**	**11 33 19.4**	**+1.3**
	baz=293						
WLCH				*e*S	**Sn**	**11 33 30.8**	**+2.2**
	baz=293						
TWP	**Hsiaoliuchiu**	**0.77**	**290**	*e*P	**Pb**	**11 33 19.1**	**+0.8**
	baz=292						
TWP				*e*S	**Sn**	**11 33 31.7**	**+2.9**
	baz=292						
SSD	**Sandimen**	**0.82**	**324**	*i* P	**Pn**	**11 33 18.4**	**-0.4**
	baz=329						
SSD				*e*S	**Sb**	**11 33 27.8**	**-2.0**
	baz=329						
SGLT	**Jiouru**	**0.88**	**317**	*e*P	**Pb**	**11 33 21.1**	**+1.0**
	baz=333						
SGLT				*e*S	**Sb**	**11 33 31.8**	**+0.1**
	baz=333						
SNJT	**Kaohsiung City**	**1.01**	**312**	*e*P	**Pb**	**11 33 22.2**	**0.0**
	baz=315						
SNJT				*e*S	**Sb**	**11 33 37.0**	**+1.9**
	baz=315						
SLGT	**Liugui**	**1.02**	**333**	*e*P	**Pb**	**11 33 22.1**	**-0.4**
	baz=338						
SLGT				*e*S	**Sb**	**11 33 36.8**	**+1.2**
	baz=338						
CHKT	**Chengkung**	**1.04**	**11**	*e*P	**Pn**	**11 33 21.5**	**-0.4**
	baz=16						
CHKT				*e*S	**Sn**	**11 33 35.0**	**-0.3**
	baz=16						
ELDTW	**Lidau**	**1.11**	**354**	P	**Pn**	**11 33 22.1**	**-0.9**
	baz=9.0						
ELDTW				*e*S	**Sn**	**11 33 36.1**	**-1.3**
	baz=9.0						
FULB	**Fuli**	**1.12**	**7**	P	**Pb**	**11 33 23.9**	**-0.3**
	baz=11						
SGST	**Jiashian**	**1.13**	**333**	P	**Pn**	**11 33 23.2**	**+0.1**
	baz=337						
SGST				*e*S	**Sb**	**11 33 40.2**	**+1.7**
	baz=337						
STYT	**Tauyuan**	**1.14**	**342**	*e*P	**Pb**	**11 33 24.0**	**-0.5**
	baz=346						
STYT				*e*S	**Sn**	**11 33 37.4**	**-0.6**
	baz=346						
CHN3	**Shinhua**	**1.23**	**324**	*e*P	**Pb**	**11 33 26.0**	**0.0**
	baz=328						
CHN3				*e*S	**Sb**	**11 33 43.5**	**+2.1**
	baz=328						
CHN1	**Nanshi**	**1.24**	**333**	*e*P	**Pb**	**11 33 25.7**	**-0.5**
	baz=337						
CHN1				*e*S	**Sb**	**11 33 42.5**	**+0.6**
	baz=337						
WTP	**Ta-pu**	**1.26**	**337**	*e*P	**Pb**	**11 33 26.4**	**-0.2**
	baz=341						
WTP				*e*S	**Sb**	**11 33 44.6**	**+2.1**
	baz=341						
TWF1	**Yuli**	**1.27**	**6**	*e*P	**Pn**	**11 33 23.8**	**-1.4**
	baz=11						
TWF1				*e*S	**Sn**	**11 33 39.6**	**-1.7**
	baz=11						
SNST	**Tainan City**	**1.28**	**332**	*e*P	**Pb**	**11 33 26.3**	**-0.6**
	baz=336						
SNST				*e*S	**Sb**	**11 33 43.2**	**+0.2**
	baz=336						
TPUB	**Ta-pu**	**1.31**	**339**	*e*P	**Pn**	**11 33 26.2**	**+0.6**
	baz=330						
TPUB				*e*S	**Sb**	**11 33 44.0**	**+0.3**
	baz=330						
TPUB	**Ta-pu**	**1.31**	**339**	Pn	**Pn**	**11 33 25.7**	**+0.1**
YULB	**Yu-li**	**1.31**	**6**	*e*P	**Pn**	**11 33 24.4**	**-1.3**
	baz=10.0						
YULB				*e*S	**Sn**	**11 33 40.1**	**-2.2**
	baz=10.0						
YULB	**Yu-li**	**1.31**	**6**		**Pn**	**11 33 24.1**	**-1.6**
TWK	**Hsinying**	**1.33**	**333**	*e*P	**Pb**	**11 33 26.9**	**-0.9**
	baz=337						
TWK				*e*S	**Sb**	**11 33 45.1**	**+0.7**
	baz=337						
SCLT	**Jiali**	**1.40**	**321**	*e*P	**Pn**	**11 33 27.2**	**+0.3**
	baz=325						
SCLT				*e*S	**Sn**	**11 33 44.7**	**+0.3**
	baz=325						
YUS	**Yu-Shan**	**1.42**	**353**	*e*P	**Pn**	**11 33 27.8**	**+0.3**
	baz=6.0						
YUS				*e*S	**Sb**	**11 33 46.4**	**-0.9**
	baz=6.0						
EHY	**Hungye**	**1.43**	**6**	*e*P	**Pn**	**11 33 26.4**	**-0.9**
	baz=10.0						
EHY				*e*S	**Sn**	**11 33 44.4**	**-0.7**
	baz=10.0						
HGSD	**Ruisui**	**1.43**	**10**	*e*P	**Pn**	**11 33 27.3**	**0.0**
	baz=14						
HGSD				*e*S	**Sb**	**11 33 46.7**	**-0.5**
	baz=14						
ALS	**Alishan**	**1.46**	**348**	*e*P	**Pb**	**11 33 29.1**	**-0.9**
	baz=352						
ALS				*e*S	**Sb**	**11 33 48.1**	**-0.2**
	baz=352						
CHN8	**Yiju**	**1.53**	**326**	*e*P	**Pn**	**11 33 28.6**	**-0.1**
	baz=330						
CHN8				*e*S	**Sb**	**11 33 49.2**	**-0.8**
	baz=330						
CHY	**Chiayi**	**1.56**	**335**	*e*P	**Pn**	**11 33 29.6**	**+0.5**
	baz=338						
CHY				*e*S	**Sn**	**11 33 49.5**	**+1.2**
	baz=338						
CHN5	**Tsauling**	**1.57**	**344**	*e*P	**Pb**	**11 33 30.9**	**-0.9**
	baz=333						
CHN5				*e*S	**Sb**	**11 33 50.5**	**-0.8**
	baz=333						
WLGB	**Puzi**	**1.60**	**331**	*e*P	**Pn**	**11 33 30.0**	**+0.5**
	baz=334						
WLGB				*e*S	**Sn**	**11 33 48.8**	**-0.4**
	baz=334						
EGFH	**Guangfu**	**1.60**	**9**	*e*P	**Pn**	**11 33 29.6**	**-0.1**
	baz=12						
EGFH				*e*S	**Sn**	**11 33 48.2**	**-1.2**
	baz=12						
WHYT	**Xinyi Township**	**1.63**	**351**	*e*P	**Pb**	**11 33 32.1**	**-0.7**
	baz=353						
WHYT				*e*S	**Sb**	**11 33 51.8**	**-1.3**
	baz=353						
VWDT	**VWDT**	**1.67**	**360**	*e*P	**Pn**	**11 33 31.4**	**+0.9**
	baz=3.0						
VWDT				*e*S	**Sn**	**11 33 52.4**	**+1.5**
	baz=3.0						
WGK	**Gukeng**	**1.69**	**342**	*e*P	**Pn**	**11 33 31.7**	**+0.9**
	baz=345						
WGK				*e*S	**Sn**	**11 33 52.4**	**+0.9**
	baz=345						
WDLH	**Douliu**	**1.70**	**341**	*e*P	**Pn**	**11 33 31.4**	**+0.4**
	baz=344						
WDLH				*e*S	**Sb**	**11 33 53.7**	**-1.2**
	baz=344						
SSLB	**Suanglung**	**1.71**	**354**	*e*P	**Pn**	**11 33 32.5**	**+1.3**
	baz=10.0						
SSLB				*e*S	**Sb**	**11 33 54.1**	**-1.2**
	baz=10.0						
SSLB	**Suanglung**	**1.71**	**354**		**Pn**	**11 33 32.3**	**+1.1**
ESL	**Shilin**	**1.75**	**9**	*e*P	**Pn**	**11 33 31.4**	**-0.3**
	baz=12						
ESL				*e*S	**Sn**	**11 33 53.3**	**+0.4**
	baz=12						
WSF	**Szhu**	**1.77**	**331**	*e*P	**Pn**	**11 33 32.0**	**0.0**
	baz=335						
WSF				*e*S	**Sn**	**11 33 54.1**	**+0.6**
	baz=335						
WJS	**Zhushan**	**1.78**	**348**	*e*P	**Pn**	**11 33 33.4**	**+1.4**
	baz=336						
WJS				*e*S	**Sb**	**11 33 55.8**	**-1.4**
	baz=336						
WDGT	**Dungji**	**1.81**	**311**	*e*P	**Pn**	**11 33 31.4**	**-1.1**
	baz=314						
WDGT				*e*S	**Sn**	**11 33 52.5**	**-1.9**
	baz=314						
SMLT	**Sun Moon Lake**	**1.81**	**353**	*e*P	**Pb**	**11 33 34.4**	**-1.5**
	baz=10.0						
SMLT				*e*S	**Sb**	**11 33 58.4**	**+0.2**
	baz=10.0						
WNT	**Mingjian**	**1.84**	**347**	*e*P	**Pn**	**11 33 34.4**	**+1.5**
	baz=335						
WNT				*e*S	**Sn**	**11 33 56.0**	**+0.8**
	baz=335						
HWA	**Hwalien**	**1.94**	**13**	*e*P	**Pn**	**11 33 34.6**	**+0.3**
	baz=15						
RLNB	**Erlin**	**1.94**	**338**	*e*P	**Pn**	**11 33 34.4**	**+0.1**
	baz=328						
VCHM	**Qimei**	**1.94**	**306**	*e*P	**Pn**	**11 33 32.5**	**-1.8**
	baz=309						
VCHM				*e*S	**Sn**	**11 33 55.3**	**-2.4**
	baz=309						
WTCT	**Ta-ch'eng**	**1.95**	**336**	*e*P	**Pn**	**11 33 34.4**	**0.0**
	baz=339						
DPDB	**Guoxing**	**1.96**	**354**	*e*P	**Pn**	**11 33 36.0**	**+1.4**
	baz=356						
DPDB				*e*S	**Sn**	**11 33 58.8**	**+0.7**
	baz=356						
CHGB	**Renai**	**1.97**	**1**	*e*P	**Pn**	**11 33 35.9**	**+1.0**
	baz=3.0						
CHGB				*e*S	**Sn**	**11 33 59.2**	**+0.4**
	baz=3.0						
TWD	**Chiawan**	**2.03**	**12**	*e*P	**Pn**	**11 33 35.2**	**-0.4**
	baz=15						
TWD				*e*S	**Sn**	**11 34 00.2**	**+0.2**
	baz=15						
PHUB	**P'eng-hu**	**2.04**	**315**	*e*P	**Pn**	**11 33 34.3**	**-1.3**
	baz=318						
PHUB				*e*S	**Sn**	**11 33 58.4**	**-1.6**
	baz=318						
WHF	**Hehuan Shan**	**2.06**	**3**	*e*P	**Pn**	**11 33 36.9**	**+0.6**
	baz=16						
WHF				*e*S	**Sn**	**11 34 00.6**	**-0.7**
	baz=16						
WCHH	**Zhanghua**	**2.06**	**345**	*e*P	**Pn**	**11 33 36.9**	**+0.9**
	baz=335						
PNG	**Penghu**	**2.08**	**316**	*e*P	**Pn**	**11 33 35.1**	**-1.2**
	baz=319						
PNG				*e*S	**Sn**	**11 33 58.8**	**-2.5**
	baz=319						
TCU	**Taichung**	**2.10**	**348**	*e*P	**Pn**	**11 33 37.9**	**+1.4**
	baz=338						
TCU				*e*S	**Sn**	**11 34 03.6**	**+1.9**
	baz=338						
NACB	**Ninganchiao**	**2.13**	**11**	*e*P	**Pn**	**11 33 36.0**	**-0.8**
	baz=14						
NACB				*e*S	**Sn**	**11 34 00.0**	**-2.2**
	baz=14						
NACB	**Ninganchiao**	**2.13**	**11**		**Pn**	**11 33 37.0**	**+0.2**
ETLH	**Xiulin Townshi**	**2.14**	**8**	*e*P	**Pn**	**11 33 36.6**	**-0.6**
	baz=20						
ETLH				*e*S	**Sn**	**11 34 02.5**	**-0.3**
	baz=20						
TDCB	**Techi**	**2.16**	**0**	*e*P	**Pn**	**11 33 38.2**	**+0.7**
	baz=3.0						
TDCB				*e*S	**Sn**	**11 34 03.2**	**-0.2**
	baz=3.0						
WHP	**Taichung City**	**2.20**	**355**	*e*P	**Pn**	**11 33 39.7**	**+1.8**
	baz=357						
WHP				*e*S	**Sn**	**11 34 06.1**	**+2.0**
	baz=357						
TWQ1	**Liyutan**	**2.29**	**351**	*e*P	**Pn**	**11 33 40.8**	**+1.7**
	baz=341						
TWQ1				*e*S	**Sn**	**11 34 08.4**	**+2.2**
	baz=341						
WDJ	**Dajia District**	**2.31**	**348**	*e*P	**Pn**	**11 33 40.7**	**+1.4**
	baz=338						
NNSB	**Datong**	**2.35**	**5**	*e*P	**Pn**	**11 33 40.7**	**+0.6**
	baz=17						
NNSB				*e*S	**Sn**	**11 34 07.7**	**-0.3**
	baz=17						
NNSH	**Datong**	**2.35**	**5**	*e*P	**Pn**	**11 33 40.6**	**+0.5**
	baz=16						
NNSH				*e*S	**Sn**	**11 34 09.4**	**+1.4**
	baz=16						
NSY	**Sanyi**	**2.35**	**351**	*e*P	**Pn**	**11 33 41.7**	**+1.7**
	baz=342						
NNS	**Nan Shan**	**2.36**	**5**	*e*P	**Pn**	**11 33 40.8**	**+0.6**
	baz=17						
NNS				*e*S	**Sn**	**11 34 10.8**	**+2.5**
	baz=17						
PTSB	**Yuanli**	**2.39**	**350**	*e*P	**Pn**	**11 33 42.1**	**+1.6**
	baz=339						
ENA	**Nanau**	**2.40**	**13**	*e*P	**Pn**	**11 33 41.5**	**+0.8**
	baz=15						
NMLH	**Miaoli**	**2.47**	**352**	*e*P	**Pn**	**11 33 43.4**	**+1.8**
	baz=354						
NMLH				*e*S	**Sb**	**11 34 16.1**	**-1.0**
	baz=354						
NDT	**Datong Townshi**	**2.54**	**8**	*e*P	**Pn**	**11 33 43.5**	**+1.0**
	baz=19						
NDT				*e*S	**Sn**	**11 34 14.5**	**+2.1**
	baz=19						
NSTT	**Nanjuang**	**2.54**	**357**	*e*P	**Pb**	**11 33 45.6**	**-2.7**
	baz=359						
LIOB	**Emei**	**2.56**	**357**	*e*P	**Pn**	**11 33 44.5**	**+1.6**
	baz=358						
LIOB				*e*S	**Sn**	**11 34 14.3**	**+1.3**
	baz=358						
ENTT	**Nioudou**	**2.58**	**9**	*e*P	**Pn**	**11 33 43.5**	**+0.4**
	baz=21						
ENTT				*e*S	**Sn**	**11 34 12.6**	**-0.8**
	baz=21						
YHNB	**Yeheng**	**2.59**	**5**	*e*P	**Pn**	**11 33 44.9**	**+1.6**
	baz=352						
YHNB				*e*S	**Sn**	**11 34 16.2**	**+2.5**
	baz=352						
YHNB	**Yeheng**	**2.59**	**5**		**Pn**	**11 33 44.5**	**+1.3**
NSK	**Sanguang**	**2.59**	**4**	*e*P	**Pn**	**11 33 44.9**	**+1.6**
	baz=352						
NSK				*e*S	**Sn**	**11 34 14.8**	**+0.9**
	baz=352						
TWC	**Suao**	**2.60**	**14**	*e*P	**Pn**	**11 33 44.5**	**+1.1**
	baz=5.0						
TWC				*e*S	**Sn**	**11 34 13.8**	**-0.2**
	baz=5.0						
TWE	**Neicheng**	**2.67**	**10**	*e*P	**Pn**	**11 33 45.5**	**+1.1**
	baz=12						
TWE				*e*S	**Sn**	**11 34 16.5**	**+0.7**
	baz=12						
NWLT	**Wulai**	**2.71**	**7**	*e*P	**Pn**	**11 33 47.0**	**+2.1**
	baz=18						
NWLT				*e*S	**Sn**	**11 34 18.1**	**+1.5**
	baz=18						
WLTB	**Daxi**	**2.76**	**2**	*e*P	**Pn**	**11 33 48.2**	**+2.6**
	baz=351						
WLTB				*e*S	**Sn**	**11 34 19.4**	**+1.4**
	baz=351						
NTC	**Toucheng**	**2.83**	**13**	*e*P	**Pn**	**11 33 48.4**	**+1.8**
	baz=14		

TATO					*eS*		**Sn**	11 34 23.0	+1.6
	baz=17								
TATO	**Taipei**	**2.90**	**6**				**Pn**	11 33 49.1	+1.6
TWA	**Mucha**	**2.92**	**8**	*eP*			**Pn**	11 33 49.4	+1.7
	baz=20								
TWA					*eS*		**Sn**	11 34 22.2	+0.4
	baz=20								
YOJ	**Yonaguni jima**	**2.93**	**36**	*eP*			**Pn**	11 33 49.7	+1.9
	baz=46								
YOJ					*eS*		**Sn**	11 34 23.2	+1.2
	baz=46								
YOJ	**Yonaguni jima**	**2.93**	**36**	P			**Pn**	11 33 49.8	+1.9
YOJ					*eS*		**Sn**	11 34 21.5	-0.5
YOJ	**Yonaguni jima**	**2.93**	**36**	Pn			**Pn**	11 33 49.7	+1.9
TIPB	**Shuangxi**	**2.95**	**12**	*eP*			**Pn**	11 33 49.4	+1.2
	baz=13								
TIPB					*eS*		**Sn**	11 34 21.9	-0.7
	baz=13								
TWB1	**Santiao Chiao**	**3.02**	**15**	*eP*			**Pn**	11 33 51.4	+2.3
	baz=6.0								
TWB1					*eS*		**Sn**	11 34 24.5	+0.3
	baz=6.0								
NWF	**Wu-fen Shan**	**3.04**	**11**	*eP*			**Pn**	11 33 50.6	+1.2
	baz=12								
WFSB	**Wu-fen Shan**	**3.04**	**11**	*eP*			**Pn**	11 33 50.5	+1.1
	baz=12								
WFSB					*eS*		**Sn**	11 34 23.3	-1.4
	baz=12								
YM01	**YM01**	**3.08**	**7**	*eP*			**Pn**	11 33 52.1	+2.1
	baz=354								
YM04	**YM04**	**3.08**	**7**	*eP*			**Pn**	11 33 50.9	+0.9
	baz=355								
NTST	**Danshui**	**3.08**	**5**	*eP*			**Pn**	11 33 53.5	+3.4
	baz=353								
YM10	**YM10**	**3.09**	**7**	*eP*			**Pn**	11 33 52.4	+2.3
	baz=355								
YM05	**YM05**	**3.10**	**7**	*eP*			**Pn**	11 33 53.4	+3.1
	baz=354								
YM05					*eS*		**Sn**	11 34 29.5	+3.2
	baz=354								
YM03	**YM03**	**3.11**	**7**	*eP*			**Pn**	11 33 51.1	+0.7
	baz=355								
ANP	**Anpu**	**3.11**	**6**	*eP*			**Pn**	11 33 52.1	+1.6
	baz=355								
HATJ	**Hateruma jima**	**3.14**	**51**	P			**Pn**	11 33 52.1	+1.3
HATJ				S			**Sn**	11 34 27.1	-0.2
IRIF	**Iriomote-Funau**	**3.27**	**46**	P			**Pn**	11 33 53.8	+1.2
IRIF					*eS*		**Sn**	11 34 31.5	+1.0
VWUC	**VWUC**	**3.29**	**332**	*eP*			**Pn**	11 33 52.2	-0.7
	baz=334								
JKRS	**Kuro-shima**	**3.40**	**50**	P			**Pn**	11 33 56.0	+1.6
JKRS				S			**Sn**	11 34 34.1	+0.4
KNM	**Kinmen**	**3.41**	**314**	*eP*			**Pn**	11 33 55.0	+0.5
	baz=315								
KNMB	**Chin-men Tao**	**3.47**	**314**	*eP*			**Pn**	11 33 54.4	-1.0
	baz=317								
KNMB	**Chin-men Tao**	**3.47**	**314**	Pn			**Pn**	11 33 54.9	-0.5
PTMZ	**Houxiangcun**	**3.48**	**328**	*eP*			**Pn**	11 33 55.1	-0.5
	baz=340								
JIJ	**Ishigaki jima**	**3.57**	**50**	P			**Pn**	11 33 57.7	+0.9
JIJ				*eS*			**Sn**	11 34 37.3	-0.7
PTTC	**Pingtan**	**3.63**	**340**	*eP*			**Pn**	11 33 56.0	-1.5
	baz=343								
ZPLA	**Ao Xicun**	**3.63**	**301**	*eP*			**Pn**	11 33 56.3	-1.3
	baz=304								
PCYT	**Pengchaiyu**	**3.63**	**13**	*eP*			**Pn**	11 33 58.7	+1.1
	baz=14								
JISG	**Ishigakijimahi**	**3.83**	**49**	P			**Pn**	11 34 01.6	+1.3
JISG				S			**Sn**	11 34 44.3	-0.1
AXDP	**Jialang**	**4.05**	**315**	*eP*			**Pn**	11 34 02.6	-0.7
	baz=318								
JTJ	**Tarama**	**4.14**	**51**	S			**Sn**	11 34 53.1	+1.0
MATB	**Ma-tsu**	**4.20**	**345**	*eP*			**Pn**	11 34 04.7	-0.7
	baz=347								
VDOS	**Pratas Island**	**4.34**	**252**	*eP*			**Pn**	11 34 07.4	+0.1
	baz=250								
MHZQ	**Yeshan**	**4.45**	**335**	*eP*			**Pn**	11 34 08.3	-0.4
	baz=337								
JIRB	**Irabujima**	**4.60**	**53**	P			**Pn**	11 34 12.2	+1.3
JIRB				S			**Sn**	11 35 02.9	-0.4
LYJJ	**Jianjiangzhen**	**4.63**	**344**	*eP*			**Pn**	11 34 10.8	-0.5
	baz=347								
JMJ2	**Miyako jima3**	**4.67**	**55**	P			**Pn**	11 34 12.9	+1.1
JMJ2				S			**Sn**	11 35 05.0	0.0
JMJ	**Miyako jima 2**	**4.68**	**54**	*eP*			**Pn**	11 34 12.6	+0.6
	baz=54								
JIKM	**Ikemajima**	**4.71**	**52**	P			**Pn**	11 34 13.9	+1.5
JIKM				*eS*			**Sn**	11 35 05.5	-0.5
JOGS	**Gusukube**	**4.74**	**55**	P			**Pn**	11 34 14.6	+1.8
JOGS				*eS*			**Sn**	11 35 06.4	-0.3
XPSS	**Dashiqiu**	**4.91**	**350**	*eP*			**Pn**	11 34 14.6	-0.6
	baz=2.0								
XPSS					*eS*		**Sn**	11 35 08.6	-2.3
	baz=2.0								
TGY	**Tagaytay City**	**7.94**	**181**		LR		LR	11 38 34.7	
	comp=Z,288nm,20.3s,baz=1.5,slow=43								
DAV	**Davao City (W)**	**15.52**	**163**		LR		LR	11 42 22.3	
	comp=Z,196nm,20.5s,baz=322,slow=37								
KSRS	**Korea Array**	**16.40**	**19**		Pn		**P**	11 36 53.5	-0.4
	0.2nm,0.3s,baz=200,slow=12,SNR=6.6								
KSRS					LR		LR	11 43 52.3	
	comp=Z,76nm,18.2s,baz=183,slow=40								
BJT	**Baijiatuan**	**18.38**	**348**				**Pn**	11 37 17.1	+1.1
INU	**Inuyama**	**19.16**	**43**				**P**	11 37 24.8	+0.4
MJAR	**Matsushiro Arr**	**20.67**	**42**		P		Pn	11 37 42.2	-1.0
	1.7nm,0.8s,baz=231,slow=8.7,SNR=7.4								
CHTO	**Chiang Mai**	**21.05**	**265**		P		**P**	11 37 46.9	+1.8
CMAR	**Chiang Mai Arr**	**21.13**	**264**		P		**P**	11 37 46.2	+0.2
	1.6nm,0.8s,baz=72,slow=9.3,SNR=9.7								
CMAR					PcP		**PcP**	11 41 51.8	+0.2
	1.1nm,0.7s,baz=146,slow=0.9,SNR=6.0								
CMAR					LR		LR	11 47 10.3	
	comp=Z,64nm,20.0s,baz=191,slow=40								
SBUM	**Sibu**	**21.35**	**205**				**P**	11 37 48.5	+0.2
KSM	**Kuching**	**23.04**	**209**				**P**	11 38 05.3	-0.9
MYKOM	**Kota Tinggi**	**26.26**	**222**		P		**P**	11 38 37.0	+0.8
MYKOM					IAmb		IAmb	11 38 39.1	
	comp=Z,14nm,1.0s								
SHL	**Shillong**	**26.97**	**283**		P		**P**	11 38 44.2	+1.5
SHL					IAmb		IAmb	11 38 47.1	
	comp=Z,16nm,1.3s								
LSA	**Lhasa**	**27.98**	**292**		P		**P**	11 38 53.1	+1.0
ULN	**Ulaanbaatar**	**28.11**	**340**		P		**P**	11 38 53.0	+0.4
ULN					IAmb		IAmb	11 38 54.9	
	comp=Z,2.1nm,0.6s								
ASAJ	**Asahikawa**	**28.23**	**34**		P		**P**	11 38 56.0	+2.4
	comp=Z,3.5nm,0.5s,baz=226,slow=10,SNR=7.2								
JKA	**Kamikawa-asahi**	**28.23**	**34**		P		**P**	11 38 56.0	+2.4
SONM	**Songino Array**	**28.30**	**339**		P		**P**	11 38 54.9	+0.6
	comp=Z,1.1nm,0.6s,baz=152,slow=11,SNR=6.7								
SONM					LR		LR	11 51 24.9	
	comp=Z,208nm,20.1s,baz=160,slow=39								
MTN	**Manton Dam**	**36.06**	**163**		P		**P**	11 40 00.5	-1.9
KNRA	**Kununurra**	**38.26**	**168**		P		**P**	11 40 18.9	-2.1
MK31	**Makanchi Array**	**39.84**	**318**		P		**P**	11 40 34.3	+0.1
MKAR	**Makanchi Array**	**39.84**	**318**		P		**P**	11 40 35.1	+0.9
	comp=Z,1.0nm,0.6s,baz=108,slow=10,SNR=8.8								
MKAR					PcP		**PcP**	11 42 39.2	-0.5
	comp=Z,0.9nm,0.6s,baz=101,slow=4.6,SNR=5.2								
MAKZ	**Makanchi**	**40.04**	**318**		P		**P**	11 40 36.3	+0.5
MAKZ					IAmb		IAmb	11 40 38.1	
	comp=Z,6.1nm,1.4s								
FITZ	**Fitzroy Crossi**	**40.17**	**173**		P		**P**	11 40 35.6	-1.4
	comp=Z,3.8nm,1.0s,baz=339,slow=22,SNR=2.0								
FITZ	**Fitzroy Crossi**	**40.17**	**173**		P		**P**	11 40 36.9	-0.1
FITZ					IAmb		IAmb	11 40 38.1	
	comp=Z,8.6nm,1.1s								
YAK	**Yakutsk**	**40.36**	**6**		P		**P**	11 40 38.8	+0.7
COEN	**Coen**	**41.82**	**147**		P		**P**	11 40 49.7	-1.0
COEN					IAmb		IAmb	11 40 54.9	
	comp=Z,9.7nm,1.1s								
ZAA0	**Zalesovo Array**	**42.00**	**328**		P		**P**	11 40 51.7	0.0
ZAA0					IAmb		IAmb	11 40 52.8	
	comp=Z,3.9nm,0.8s								
ZALV	**Zalesovo Beam**	**42.00**	**328**		P		**P**	11 40 51.9	+0.2
	comp=Z,1.5nm,0.4s,baz=120,slow=8.8,SNR=11								
H11N1	**WAKE ISLAND Hy**	**42.68**	**84**		T		T	12 26 35.0	
	baz=282,slow=74,SNR=5.9								
H11N2	**WAKE ISLAND Hy**	**42.68**	**84**		T		T	12 26 36.1	
	baz=282,slow=74,SNR=13								
H11N3	**WAKE ISLAND Hy**	**42.70**	**84**		T		T	12 26 37.6	
	baz=282,slow=74,SNR=5.8								
H11S3	**WAKE ISLAND Hy**	**42.75**	**86**		T		T	12 26 40.0	
	baz=284,slow=74,SNR=9.3								
H11S1	**WAKE ISLAND Hy**	**42.76**	**86**		T		T	12 26 41.2	
	baz=284,slow=74,SNR=8.7								
H11S2	**WAKE ISLAND Hy**	**42.77**	**86**		T		T	12 26 41.4	
	baz=284,slow=74,SNR=3.8								
WB0	**Warramunga Arr**	**43.56**	**162**		P		**P**	11 41 03.1	-1.7
WB0					IAmb		IAmb	11 41 16.7	
	comp=Z,6.5nm,1.1s								
KURK	**Kurchatov**	**43.69**	**322**		P		**P**	11 41 05.7	+0.2
KURK					IAmb		IAmb	11 41 07.0	
	comp=Z,5.7nm,1.2s								
KURBB	**Kurchatov Arra**	**43.71**	**321**		P		**P**	11 41 06.1	+0.5
	comp=Z,1.0nm,0.3s,baz=120,slow=7.8,SNR=14								
WRA	**Warramunga Arr**	**43.71**	**162**		P		**P**	11 41 04.0	-1.9
	comp=Z,1.4nm,0.7s,baz=345,slow=9.1,SNR=9.1								
WB2	**Warramunga Arr**	**43.71**	**162**		P		**P**	11 41 04.1	-1.9
WB2					IAmb		IAmb	11 41 16.6	
	comp=Z,5.5nm,1.1s								
AS31	**Alice Springs**	**47.13**	**164**		P		**P**	11 41 31.9	-1.2
ASAR	**Alice Springs**	**47.13**	**164**		P		**P**	11 41 31.9	-1.1
	comp=Z,0.6nm,0.4s,baz=345,slow=7.4,SNR=28								
ASAR					PcP		**PcP**	11 43 03.2	-1.3
	comp=Z,1.5nm,0.9s,baz=353,slow=3.7,SNR=7.8								
BVAR	**Borovoye Array**	**49.29**	**322**		P		**P**	11 41 50.2	+0.8
	comp=Z,0.7nm,0.5s,baz=102,slow=6.1,SNR=3.0								
BVAR					PcP		**PcP**	11 43 11.6	-0.3
	comp=Z,1.8nm,0.6s,baz=90,slow=5.9,SNR=8.2								
BRVK	**Borovoye**	**49.36**	**322**		P		**P**	11 41 49.6	-0.3
BRVK					IAmb		IAmb	11 41 52.3	
	comp=Z,7.4nm,1.5s								
NRIK	**Noril'sk**	**51.42**	**345**		P		**P**	11 42 07.1	+1.9
	comp=Z,1.5nm,0.3s,baz=156,slow=4.2,SNR=3.9								
BBOO	**Buckleboo**	**56.41**	**165**		P		**P**	11 42 41.1	-1.0
STKA	**Stephens Creek**	**57.11**	**159**		P		**P**	11 42 45.8	-1.3
	comp=Z,1.3nm,0.7s,baz=322,slow=6.2,SNR=4.6								
STKA	**Stephens Creek**	**57.11**	**159**		P		**P**	11 42 45.9	-1.2
TOO	**Toolangi**	**63.61**	**159**		P		**P**	11 43 31.0	-0.5
KBZ	**Khabaz**	**66.77**	**309**		P		**P**	11 43 52.5	+0.5
	comp=Z,1.2nm,0.6s,baz=70,slow=9.2,SNR=3.5								
ILAR	**Eielson Array**	**71.09**	**27**		P		**P**	11 44 17.9	-0.6
	comp=Z,0.3nm,0.5s,baz=280,slow=5.5,SNR=2.9								
ARCES	**ARCESS Array B**	**71.47**	**338**		P		**P**	11 44 20.7	0.0
	comp=Z,1.5nm,0.8s,baz=56,slow=4.5,SNR=2.0								
SCM	**Sheep Creek Mo**	**71.50**	**30**		P		**P**	11 44 20.6	-0.6
SPA0	**Spitsbergen Ar**	**71.52**	**348**		P		**P**	11 44 21.1	+0.2
FIA1	**FINESS Array S**	**73.24**	**330**		P		**P**	11 44 31.3	-0.1
FIA1					IAmb		IAmb	11 44 41.4	
	comp=Z,3.9nm,1.1s								
FINES	**FINESS Array B**	**73.24**	**330**		P		**P**	11 44 30.5	-0.9
	comp=Z,1.3nm,0.8s,baz=3.6,slow=6.1,SNR=3.7								
EGAK	**Eagle**	**73.47**	**26**		P		**P**	11 44 32.4	-0.3
EGAK					IAmb		IAmb	11 44 35.4	
	comp=Z,3.6nm,1.5s								
BARN	**Barnard Glacie**	**74.33**	**30**		P		**P**	11 44 38.0	-0.1
BARN					IAmb		IAmb	11 44 49.6	
	comp=Z,6.7nm,1.3s								
BRTR	**Keskin Array B**	**74.39**	**307**		P		**P**	11 44 39.1	+0.3
	comp=Z,0.5nm,0.7s,baz=11,slow=2.9,SNR=2.4								
DAWY	**Dawson**	**74.42**	**27**		P		**P**	11 44 38.1	-0.3
DAWY					IAmb		IAmb	11 44 44.8	
	comp=Z,3.0nm,1.4s								
CTGM	**Chitina Glacie**	**74.51**	**30**		P		**P**	11 44 39.4	+0.3
CTGM					IAmb		IAmb	11 44 47.6	
	comp=Z,9.6nm,1.4s								
NB2	**NORSAR Subarra**	**80.06**	**332**		P		**P**	11 45 08.9	-1.1
	comp=Z,2.3nm,0.9s,baz=64,slow=5.6								
NOA	**NORSAR Array B**	**80.06**	**332**		P		**P**	11 45 09.2	-0.9
	comp=Z,0.5nm,0.6s,baz=64,slow=4.9,SNR=4.7								
NOA					LR		LR	12 24 19.1	
	comp=Z,66nm,18.9s,baz=45,slow=38								
GERES	**GERESS Array B**	**84.44**	**321**		P		**P**	11 45 33.0	-0.3
	comp=Z,0.7nm,0.7s,baz=53,slow=5.2,SNR=8.6								
YKA	**Yellowknife Ar**	**84.92**	**23**		P		**P**	11 45 34.3	-0.9
	comp=Z,0.3nm,0.5s,baz=306,slow=4.1,SNR=4.1								
FUORN	**Ofenpass-Fuorn**	**87.54**	**320**		P		**P**	11 45 48.9	0.0
FUORN					IAmb		IAmb	11 45 57.5	
	comp=Z,2.0nm,0.8s								

*IDC **09** 11:37:51.2±1.2,3.86S×149.41E,h0km,mb3.8/6, mb1 4.0/7,mb1mx3.7/41,mbtmp3.8/7,ML3.2/1,MS3.8/3, Ms1 3.8/3,ms1mx3.2/29,Error ellipse: s-maj=34.0km s-min=24.1km az=136.0*

*NEIC **09** 11:37:54.4±1.9,3.9S±0.1×149.37E±0.09,h13km±6km, mb4.2/9,Error ellipse: s-maj=17.5km s-min=11.8km az=160.0*

*GCMT **09** 11:38:00.4±0.4,3.38S±0.02×149.18E±0.02,h33km±2km, MW4.9/71,Moment Tensor Solution. s13,c13; s71,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; Mrr-0.19±.28; Mθθ 1.63±.17; Mφφ-1.44±.16; Mrθ-0.39±.18; Mrφ2.06±.11; Mθφ-0.10±.18; Best double couple: Mo2.59700×10^{16} NP1:φs198.00000°,δ83.00000°,λ176.00000°. NP2: φs289.00000°,δ86.00000°,λ7.00000°. Principal axes: T 2.7170, Plg8.0000°, Azm153.0000°; N -0.2430, Plg82.0000°, Azm318.0000°; P -2.4770, Plg2.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 09 11:37:56.8±0.8,3.9S±0.1×149.40E±0.10,h35km,n22, σ1§20/19,mb4.0/9,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.66**	**100**	Pn	**Pn**	**11 38 35.3**	**-1.9**
	3.9nm,0.3s,baz=310,slow=9.8,SNR=3.2						
RABL	**Rabaul**	**2.78**	**97**	Pn	**Pn**	**11 38 40.0**	**+1.1**
PMG	**Port Moresby**	**5.94**	**202**	Pn	**Pn**	**11 39 22.5**	**+0.3**
HNR	**Honiara**	**11.84**	**118**	LR	LR	11 45 36.5	
	comp=Z,219nm,18.2s,baz=340,slow=39						
CTAO	**Charters Tower**	**16.41**	**191**	Pn	**Pn**	**11 41 43.9**	**-0.6**
CTAO				IAmb	IAmb	11 41 45.9	
	comp=Z,31nm,1.5s						
MTN	**Manton Dam**	**20.14**	**243**	P	**P**	**11 42 27.2**	**-0.9**
MTN				IAmb	IAmb	11 42 27.3	
	comp=Z,19nm,1.2s						
EIDS	**Eidsvold**	**21.44**	**176**	P	**P**	**11 42 42.8**	**+0.7**
WB0	**Warramunga Arr**	**21.54**	**222**	P	**P**	**11 42 43.2**	**0.0**
WB0				IAmb	IAmb	11 42 49.2	
	comp=Z,9.2nm,0.9s						
WB2	**Warramunga Arr**	**21.69**	**221**	P	**P**	**11 42 42.9**	**-2.0**
WB2				IAmb	IAmb	11 42 49.4	
	comp=Z,10nm,0.9s						
WRA	**Warramunga Arr**	**21.70**	**221**	P	**P**	**11 42 43.4**	**-1.5**
	comp=Z,5.2nm,0.9s,baz=40,slow=10,SNR=11						
KNRA	**Kununurra**	**23.45**	**239**	P	**P**	**11 43 02.3**	**-0.9**
DZM	**Mont Dzumac**	**24.51**	**139**	LR	LR	11 51 50.2	
	comp=Z,308nm,19.5s,baz=288,slow=34						
AS31	**Alice Springs**	**24.73**	**216**	P	**P**	**11 43 15.0**	**0.0**
ASAR	**Alice Springs**	**24.73**	**216**	P	**P**	**11 43 14.3**	**-0.8**
	comp=Z,6.6nm,1.0s,baz=52,slow=8.6,SNR=9.9						
FITZ	**Fitzroy Crossi**	**27.22**	**237**	P	**P**	**11 43 38.4**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=75,slow=7.9,SNR=11						
FITZ	**Fitzroy Crossi**	**27.22**	**237**	P	**P**	**11 43 38.2**	**+0.6**
JHJ	**Hachijo jima 2**	**37.90**	**347**	LR	LR	11 58 20.5	
	comp=Z,155nm,19.1s,baz=114,slow=32						
CMAR	**Chiang Mai Arr**	**54.42**	**296**	P	**P**	**11 47 22.0**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=24,slow=41,SNR=2.5						
MKAR	**Makanchi Array**	**77.41**	**320**	P	**P**	**11 49 46.5**	**-2.0**
	comp=Z,0.3nm,0.8s,baz=94,slow=4.3,SNR=2.2						
ILAR	**Eielson Array**	**82.60**	**23**	P	**P**	**11 50 17.3**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=228,slow=4.7,SNR=1.6						
QSPA	**South Pole Qui**	**86.09**	**180**	P	**P**	**11 50 35.1**	**+1.1**
QSPA				IAmb	IAmb	11 50 39.4	
	comp=Z,1.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**146.80**	**288**	PKPbc	**PKPdf**	**11 57 34.1**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=74,slow=1.6,SNR=2.1						

IDC 09 11:49:52.3±2.4,3.45S×149.05E,h0km,mb3.6/2, mb1 3.9/3,mb1mx3.4/32,mbtmp3.7/3,ML3.3/1,MS3.3/5, Ms1 3.3/5,ms1mx3.0/30,Error ellipse: s-maj=57.4km s-min=27.5km az=173.0,Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.09**	**106**	Pn	Pn	11 50 42.6	+0.2
	3.9nm,0.3s,baz=283,slow=6.9,SNR=5.6						
KRVT				Sn	Sn	11 51 20.2	+0.2
	baz=264,slow=21,SNR=1.1						
JAY	**Jayapura**	**8.38**	**276**	LR	LR	11 54 56.9	
	comp=Z,121nm,21.6s,baz=20,slow=36						
HNR	**Honiara**	**12.35**	**119**	LR	LR	11 57 29.1	
	comp=Z,139nm,18.5s,baz=234,slow=37						
WRA	**Warramunga Arr**	**21.79**	**220**	P	P	11 54 45.1	-0.9
	2.5nm,0.8s,baz=38,slow=12,SNR=6.3						
ASAR	**Alice Springs**	**24.86**	**215**	P	P	11 55 17.4	+0.6
	1.9nm,1.0s,baz=49,slow=9.0,SNR=6.4						
DZM	**Mont Dzumac**	**25.05**	**139**	LR	LR	12 04 12.1	
	comp=Z,194nm,18.1s,baz=226,slow=34						
FITZ	**Fitzroy Crossi**	**27.16**	**236**	LR	LR	12 07 21.8	
	comp=Z,50nm,18.6s,baz=58,slow=39						
MJAR	**Matsushiro Arr**	**41.05**	**347**	LR	LR	12 13 11.3	
	comp=Z,38nm,18.3s,baz=165,slow=34						
TORD	**Torodi Ar. Bea**	**146.33**	**289**	PKPbc	PKPdf	12 09 35.3	+0.3
	0.3nm,0.4s,baz=88,slow=3.0,SNR=2.0						

MAN 09 12:02:46.1,11.49N×124.41E,h8km,MS3.7,Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OCLP	**Ormoc**	**0.47**	**155**	*eP*	Pb	12 02 56.9	+0.2
OCLP				*eS*	Sb	12 03 05.6	+1.7
MSLP	**Maasin**	**1.42**	**162**	*eP*	Pb	12 03 12.7	0.0
MSLP				*eS*	Sg	12 03 33.9	+2.2
TBP	**Tagbilaran**	**1.86**	**197**	*eP*	Pn	12 03 17.6	-0.8
GUIM	**Jordan**	**1.98**	**245**	*eP*	Pn	12 03 20.1	+0.3
GUIM				*eS*	Sb	12 03 46.8	-0.4
CNOP	**Candoni, Negro**	**2.39**	**227**	*eP*	Pn	12 03 25.5	-0.2
CNOP				*eS*	Sn	12 03 55.3	+0.2
SNPH	**Sibulan**	**2.42**	**208**	*eP*	Pn	12 03 26.9	+0.8
SNPH				*eS*	Sg	12 04 03.5	-0.5
OTRP	**Odiongan**	**2.49**	**291**	*eP*	Pn	12 03 26.9	0.0
OTRP				*eS*	Sn	12 03 59.4	+1.8
SJMP	**San Jose**	**3.36**	**287**	*eP*	Pn	12 03 40.3	+1.4
SJMP				*eS*	Sn	12 04 20.4	+1.4
CUYO	**Cuyo Island**	**3.38**	**260**	*eP*	Pn	12 03 39.0	-0.2
CUYO				*eS*	Sn	12 04 11.4	-8.2
ENPP	**El Nido**	**4.89**	**267**	*eP*	Pn	12 03 59.0	-1.0

*SJA **09** 12:05:13.8±0.7,30.88S×72.02W,h65km±10km,ML4.1, MW4.0*

*GUC **09** 12:05:17.9±0.6,30.88S×71.59W,h42km±4km,ML3.9*

ISC 09 12:05:16.3±1.7,30.97S±0.04×71.94W±0.08,h35km,n24, σ1§73/40,1C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.84**	**107**	*eP*	**Pn**	**12 05 31.1**	**-0.6**
CO02				*i* S	**Sn**	**12 05 40.9**	**-2.0**
CO03	**El Pedregal**	**1.08**	**84**	*eP*	**Pn**	**12 05 33.8**	**-1.2**
CO03				*i* S	**Sn**	**12 05 45.9**	**-2.9**
CO03				IAML		12 05 50.2	
	comp=E,7μm,0.4s						
GO04	**Tololo Observa**	**1.26**	**51**	*iP*	**Pn**	**12 05 37.1**	**-0.5**
GO04				*i* S	**Sn**	**12 05 51.9**	**-1.6**
GO04				IAML		12 05 54.6	
	comp=E,12μm,0.4s						
GO04	**Tololo Observa**	**1.26**	**51**	*i* P	**Pn**	**12 05 37.2**	**-0.5**
GO04				*i* S	**Sn**	**12 05 52.3**	**-1.2**
CO01	**Juntas del Tor**	**1.87**	**59**	*eP*	**Pn**	**12 05 46.3**	**+0.2**
CO01				*i* S	**Sn**	**12 06 07.6**	**-1.0**
CO01				IAML		12 06 08.8	
	comp=N,3μm,0.4s						
VA03	**San Esteban**	**2.15**	**147**	*eP*	**Pn**	**12 05 49.7**	**+0.1**
ROCH	**El Roble**	**2.15**	**159**	*eP*	**Pn**	**12 05 49.8**	**0.0**
ROC1	**El Roble**	**2.15**	**159**	*i* P	**Pn**	**12 05 49.9**	**0.0**
ROC1				*i* S	**Sn**	**12 06 13.8**	**-1.7**
RTLS	**Leoncito**	**2.41**	**111**	*i* P	**Pn**	**12 05 54.9**	**+1.4**
RTLS				*i* S	**Sn**	**12 06 22.8**	**+1.0**
RTLS				IAML		12 06 23.7	
	comp=Z,746nm,0.5s						
PEL	**Peldehue**	**2.42**	**154**	*i* P	**Pn**	**12 05 53.7**	**+0.3**
PEL				*i* S	**Sn**	**12 06 22.3**	**+0.6**
AUSP	**Uspallata**	**2.51**	**121**	*i* P	**Pn**

PMG LR LR 12 30 26.3
comp=Z,1µm,21.4s,baz=46,slow=37
PMG Port Moresby 8.35 249 Pn **Pn 12 27 18.1 -0.3**
PATS Pohnpei 13.55 14 P **Pn 12 28 29.9 +0.5**
baz=14,SNR=15
PATS Pohnpei 13.55 14 Pn **Pn 12 28 29.1 -0.3**
COEN Coen 13.88 236 P **Pn 12 28 36.2 +2.3**
baz=14,SNR=5.6
COEN Coen 13.88 236 Pn **Pn 12 28 32.9 -1.0**
JAY Jayapura 14.79 284 P **P 12 28 50.4 -0.4**
0.8nm,0.3s,baz=114,slow=8.1,SNR=5.1
SANVU Saraoutou 14.95 128 Pn 12 28 48.5 +0.5
CTA Charters Tower 16.06 211 P **P 12 29 05.0 +0.3**
0.6nm,0.3s,baz=22,slow=6.5,SNR=2.2
CTA LR LR 12 34 58.9
comp=Z,507nm,18.2s,baz=75,slow=36
CTA Charters Tower 16.06 211 P **P 12 29 05.0 +0.3**
CTAO Charters Tower 16.06 211 P **Pn 12 29 03.4 +1.2**
CTAO pmax pmax
comp=Z,70nm,1.4s
CTAO Charters Tower 16.06 211 Pn 12 29 03.4 +1.2
SMPI Sarmi 16.86 284 P **P 12 29 13.9 +0.3**
comp=Z,43nm,1.1s
DZM Mont Dzumac 19.09 146 *e*Pn **Pn 12 29 40.3 +0.8**
comp=Z,187nm,0.9s
DZM *e*S **S 12 33 05.2 -6.7**
comp=Z,400nm,26.6s
DZM *e*LQ LQ 12 33 28.5
comp=Z,702nm,34.5s
DZM *e*LR LR 12 34 18.1
comp=Z,936nm,26.9s
DZM Mont Dzumac 19.09 146 P **Pn 12 29 40.8 +1.4**
comp=Z,4.4nm,0.3s,baz=278,slow=8.4,SNR=48
DZM LR LR 12 36 11.8
comp=Z,356nm,21.0s,baz=320,slow=34
DZM Mont Dzumac 19.09 146 P **Pn 12 29 39.3 -0.2**
DZM IAmb IAmb 12 29 42.2
comp=Z,81nm,0.8s
EIDS Eidsvold 19.24 191 P **Pn 12 29 42.5 +1.3**
baz=19,SNR=4.0
EIDS Eidsvold 19.24 191 P **Pn 12 29 40.8 -0.3**
TARA Tarawa 19.45 67 P **Pn 12 29 44.6 +0.9**
KWAJ Kwajalein Atol 19.63 40 P **Pn 12 29 46.1 +0.3**
KWAJ pmax pmax
comp=Z,386nm,0.9s
KWAJ Kwajalein Atol 19.63 40 P **Pn 12 29 46.1 +0.3**
QIS Mount Isa 20.54 225 P Pn 12 29 56.0 -0.7
baz=21,SNR=10.0
RMQ Roma 20.85 196 P Pn 12 30 01.1 +0.8
baz=21,SNR=7.4
GUMO Guam 22.27 333 P **P 12 30 14.0 +1.4**
GUMO pmax pmax
comp=Z,96nm,1.0s
GUMO Guam 22.27 333 P **P 12 30 14.0 +1.4**
GUMO IAmb IAmb 12 30 51.9
comp=Z,96nm,1.0s
QLP Quilpie 22.56 206 P **P 12 30 17.2 +1.7**
baz=23,SNR=9.0
FAKI Fak Fak 22.97 278 P **P 12 30 19.8 -0.1**
KDU Kakadu 23.10 253 P **P 12 30 22.6 +1.4**
baz=23,SNR=12
WR0 Warramunga Arr 24.04 234 P **P 12 30 31.2 +1.2**
WB0 Warramunga Arr 24.06 235 P **P 12 30 31.3 +1.2**
ARMA Armidale 24.11 187 P **P 12 30 32.5 +1.9**
baz=24,SNR=22
ARMA Armidale 24.11 187 P **P 12 30 32.3 +1.7**
ARMA IAmb IAmb 12 30 33.2
comp=Z,80nm,1.4s
WC3 Warramunga Arr 24.17 234 P **P 12 30 32.4 +1.2**
baz=24
WRAB Tennant Creek 24.18 234 *d i*P **P 12 30 31.4 +0.2**
WRAB pmax pmax
comp=Z,139nm,1.7s
WRAB Tennant Creek 24.18 234 P **P 12 30 32.2 +0.9**
WB2 Warramunga Arr 24.18 234 P **P 12 30 32.4 +1.1**
WRA Warramunga Arr 24.19 234 P **P 12 30 31.2 -0.2**
comp=Z,32nm,0.6s,baz=58,slow=9.7,SNR=135
WRA PcP **PcP 12 34 11.5 +0.4**
comp=Z,5.8nm,0.5s,baz=58,slow=2.3,SNR=10
WRA S **S 12 34 45.3 -0.7**
comp=Z,3.8nm,1.0s,baz=71,slow=14,SNR=1.9
WRA LR LR 12 39 48.3
comp=Z,426nm,20.7s,baz=50,slow=36
SIJI Sorong 24.34 282 P **P 12 30 33.1 +0.3**
comp=Z,24nm,0.4s,baz=85,slow=7.8,SNR=28
MTN Manton Dam 24.41 253 P **P 12 30 34.1 +0.7**
baz=24,SNR=8.3
MTN Manton Dam 24.41 253 P **P 12 30 34.0 +0.6**
MTN IAmb IAmb 12 30 35.6
comp=Z,61nm,1.0s
MSVF Nonsavu 25.13 119 P **P 12 30 40.5 +0.5**
MSVF pmax pmax
comp=Z,164nm,2.0s
MSVF Nonsavu 25.13 119 P **P 12 30 40.5 +0.5**
MSVF IAmb IAmb 12 30 46.9
comp=Z,164nm,1.9s
CMSA Cobar Meteorol 26.50 198 P **P 12 30 52.6 +0.5**
baz=27,SNR=12
AS31 Alice Springs 26.60 228 P **P 12 30 53.4 +0.2**
ASAR Alice Springs 26.60 228 P **P 12 30 53.5 +0.2**
comp=Z,5.9nm,0.7s,baz=57,slow=9.1,SNR=68
ASAR PcP **PcP 12 34 15.8 -0.7**
comp=Z,7.0nm,0.6s,baz=64,slow=2.3,SNR=16
ASAR S **S 12 35 22.2 -2.0**
comp=Z,0.6nm,0.9s,baz=294,slow=31,SNR=1.7
ASAR LR LR 12 40 59.8
comp=Z,383nm,20.4s,baz=100,slow=35
KNRA Kununurra 27.35 248 P **P 12 31 00.3 +0.3**
baz=27,SNR=12
KNRA Kununurra 27.35 248 P **P 12 31 00.5 +0.5**
KNRA IAmb IAmb 12 31 36.4
comp=Z,166nm,1.9s
RIV Riverview 27.53 187 P **P 12 31 02.8 +1.4**
baz=28
LBMI Labuha 28.06 281 P **P 12 31 06.8 +0.4**
comp=Z,2µmcomp=Z,216nm,1.1s
STKA Stephens Creek 28.29 205 P **P 12 31 08.5 +0.3**
baz=28,SNR=7.7
STKA Stephens Creek 28.29 205 P **P 12 31 08.1 -0.1**
comp=Z,4.0nm,0.8s,baz=43,slow=12,SNR=9.0
STKA PcP **PcP 12 34 20.4 +0.1**
comp=Z,5.4nm,0.9s,baz=275,slow=1.6,SNR=4.0
STKA LR LR 12 42 26.8
comp=Z,442nm,19.6s,baz=22,slow=36
STKA Stephens Creek 28.29 205 P **P 12 31 08.4 +0.2**
SANI Sanana 29.28 277 P **P 12 31 17.7 +0.5**
comp=Z,1µmcomp=Z,50nm,1.1s
CAN Canberra 29.32 190 P **P 12 31 17.8 +0.4**
CAN pmax pmax
comp=Z,56nm,1.5s
CAN Canberra 29.32 190 P **P 12 31 17.8 +0.4**
CAN IAmb IAmb 12 31 59.4
comp=Z,56nm,1.5s
SOEI Soe 30.64 262 P **P 12 31 29.8 +0.4**
HTT Hallett 30.78 207 P **P 12 31 30.7 +0.4**
baz=31,SNR=3.9
FITZ Fitzroy Crossi 30.93 245 P **P 12 31 31.7 -0.1**
baz=31,SNR=31
FITZ Fitzroy Crossi 30.93 245 P **P 12 31 31.0 -0.8**
comp=Z,21nm,0.7s,baz=72,slow=8.2,SNR=29
FITZ PcP **PcP 12 34 27.6 +0.3**
comp=Z,12nm,0.8s,baz=69,slow=2.7,SNR=6.1
FITZ Fitzroy Crossi 30.93 245 P **P 12 31 31.6 -0.1**
BATI Baumata 31.26 261 P **P 12 31 35.6 +0.8**
comp=Z,36nm,0.6s,baz=313,slow=2.1,SNR=5.1
WRKA Warakurna 31.60 231 P **P 12 31 37.4 -0.2**
baz=32,SNR=48
MATI Mati 31.62 294 *e*P **P 12 31 37.3 -0.6**
BBOO Buckleboo 31.66 211 P **P 12 31 37.9 -0.1**
baz=32,SNR=7.9
BBOO Buckleboo 31.66 211 P **P 12 31 37.9 -0.1**
KMSI Cibinong 31.76 281 P **P 12 31 40.2 +1.1**
comp=Z,2µmcomp=Z,238nm,0.7s
DDMP Don Marcelino, 31.79 292 *e*P **P 12 31 38.7 -0.7**
TOO Toolangi 32.23 194 P **P 12 31 42.9 -0.1**
TOO pmax pmax
comp=Z,56nm,2.0s
TOO Toolangi 32.23 194 P **P 12 31 42.9 -0.1**
TOO IAmb IAmb 12 32 11.0
comp=Z,56nm,1.9s
DAV Davao City (W) 32.29 294 LR LR 12 42 45.0
comp=Z,82nm,20.1s,baz=102,slow=32
ARPS Mount Arapiles 32.55 200 P **P 12 31 46.8 +1.1**
baz=33,SNR=5.4
MMRI Maumere 32.58 264 P **P 12 31 46.9 +0.5**
comp=Z,2µmcomp=Z,146nm,0.7s

MMRI Maumere 32.58 264 P **P 12 31 46.1 -0.2**
LUWI Luwuk 32.62 278 P **P 12 31 47.6 +0.9**
comp=Z,98nm,1.0s
LUWI Luwuk 32.62 278 P **P 12 31 47.6 +0.9**
KCP Kidapawan 32.71 294 *e*P **P 12 31 49.3 +1.8**
SKMP Bagumbayan, Su 33.02 292 *e*P **P 12 31 49.3 -0.9**
BUKP Musuan 33.09 295 *e*P **P 12 31 50.5 -0.2**
EDFI Ende, Flores 33.13 264 P **P 12 31 50.5 -0.7**
comp=Z,703nmcomp=Z,80nm,1.1s
OUZ Omahuta 33.39 152 P **P 12 31 54.4 +1.4**
CTBH Cotabato--PC H 33.56 293 *i*P **P 12 31 54.0 -0.9**
MRSI Marisa 33.73 280 P **P 12 31 56.6 +0.3**
comp=Z,630nmcomp=Z,30nm,0.8s
APSI Ampana 33.75 278 P **P 12 31 56.8 +0.3**
comp=Z,583nmcomp=Z,56nm,0.8s
MSLP Maasin 34.25 298 *e*P **P 12 32 01.2 +0.4**
PAGZ Pagadian 34.59 294 *e*P **P 12 32 03.8 0.0**
FORT Forrest 35.05 223 P **P 12 32 07.9 +0.3**
baz=35,SNR=12
KAPI Kappang 35.13 270 P **P 12 32 08.5 0.0**
comp=Z,8.4nm,0.5s,baz=88,slow=6.7,SNR=7.0
KAPI Kappang 35.13 270 P **P 12 32 08.8 +0.3**
KAPI IAmb IAmb 12 32 39.9
comp=Z,75nm,1.8s
CNP Catarman 35.56 302 *e*P **P 12 32 12.1 +0.1**
MPSI Mapaga 35.70 280 P **P 12 32 12.9 -0.4**
comp=Z,765nmcomp=Z,50nm,0.8s
CNOP Candoni, Negro 36.07 296 *e*P **P 12 32 16.1 -0.4**
GUIM Jordan 36.46 297 *e*P **P 12 32 20.0 +0.2**
MOO Moorlands 36.56 190 P **P 12 32 22.5 +2.2**
baz=37,SNR=3.4
TAU Tasmania Unive 37.00 189 P **P 12 32 25.1 +1.1**
TAU pmax pmax
comp=Z,32nm,0.9s
TAU Tasmania Unive 37.00 189 P **P 12 32 25.1 +1.1**
TAU IAmb IAmb 12 32 27.0
comp=Z,32nm,0.9s
PLAI Plampang 37.00 264 P **P 12 32 23.6 -0.8**
comp=Z,1µmcomp=Z,199nm,0.8s
PSA00 Pilbara Seismi 37.20 243 P **P 12 32 26.4 +0.3**
PSA00 IAmb IAmb 12 32 27.1
comp=Z,35nm,0.9s
OTRP Odiongan 37.74 300 *e*P **P 12 32 30.9 +0.1**
BKZ Black Stump Fm 37.94 152 P **P 12 32 32.9 +0.8**
BKZ IAmb IAmb 12 32 37.9
comp=Z,29nm,0.7s
CUYO Cuyo Island 37.95 297 *e*P **P 12 32 33.5 +1.1**
THZ Tophouse 38.64 158 P **P 12 32 38.4 +0.4**
SNZO South Karori 38.94 156 P **P 12 32 41.7 +1.3**
LQP Lukban 38.99 302 *e*P **P 12 32 41.6 +0.3**
BUSP Coron 39.17 298 *e*P **P 12 32 42.4 -0.3**
MSWZ Moikau Station 39.25 156 P **P 12 32 42.8 -0.3**
ENPP El Nido 39.52 296 *e*P **P 12 32 45.2 -0.4**
OXZ Oxford 39.71 160 P **P 12 32 47.2 +0.3**
OXZ IAmb IAmb 12 32 52.4
comp=Z,60nm,1.0s
RPZ Rata Peaks 39.75 162 P **P 12 32 48.5 +1.3**
comp=Z,34nm,0.6s,baz=325,slow=4.4,SNR=11
RPZ Rata Peaks 39.75 162 P **P 12 32 48.2 +1.1**
RPZ IAmb IAmb 12 32 53.1
comp=Z,44nm,1.1s
BALP Baler 39.77 304 *e*P **P 12 32 48.7 +1.0**
LUBP Lubang 39.91 300 *e*P **P 12 32 46.4 -2.4**
SPMM Sapulut 40.05 285 P **P 12 32 51.0 +0.9**
BATP Bataraza 40.07 292 *e*P **P 12 32 49.9 -0.3**
MEEK Meekatharra 40.08 236 P **P 12 32 50.5 +0.3**
baz=40,SNR=17
CAUP Cauayan 40.20 306 *e*P **P 12 32 51.6 +0.4**
MLZ Mavora Lakes 40.45 166 P **P 12 32 53.5 +0.5**
JAGI Jajag, Banyuwa 40.58 264 P **P 12 32 53.1 -1.4**
JAGI IAmb IAmb 12 32 53.6
comp=Z,67nm,0.9s
KKM Kota Kinabalu 40.67 287 P **P 12 32 54.9 -0.3**
SMPP San Manuel, Pa 40.72 304 *e*P **P 12 32 54.9 -0.6**
GIRL Giralia 42.49 243 P **P 12 33 10.9 +0.9**
KLBR Kellerberrin 42.90 229 P **P 12 33 12.9 -0.3**
baz=43,SNR=22
MORW Morawa 43.14 234 P **P 12 33 15.0 -0.2**
baz=43,SNR=9.9
MORW Morawa 43.14 234 P **P 12 33 14.9 -0.2**
BLDU Balliduj 43.26 231 P **P 12 33 16.0 -0.1**
baz=43,SNR=15
SBUM Sibu 43.64 280 P **P 12 33 20.3 +0.9**
SBUM Sibu 43.64 280 P **P 12 33 21.0 +1.6**
YOJ Yonaguni jima 43.76 316 P **P 12 33 20.7 +0.6**
YOJ pmax pmax
comp=Z,220nm,1.4s
YOJ Yonaguni jima 43.76 316 P **P 12 33 20.7 +0.6**
NWAO Narrogin (SRO) 43.92 228 P **P 12 33 20.5 -0.9**
comp=Z,9.6nm,0.8s,baz=248,slow=6.2,SNR=2.4
NWAO Narrogin (SRO) 43.92 228 P **P 12 33 21.0 -0.3**
NWAO IAmb IAmb 12 34 35.9
comp=Z,93nm,1.6s
UGM Wanagama 44.17 265 P **P 12 33 23.2 -0.5**
MUN Mundaring 44.25 230 P **P 12 33 24.2 +0.1**
baz=44,SNR=6.4
YULB Yu-li 44.30 313 P **P 12 33 24.6 0.0**
YULB IAmb IAmb 12 33 26.4
comp=Z,22nm,0.6s
NACB Ninganchiao 44.57 314 P **P 12 33 27.1 +0.4**
TPUB Ta-pu 44.73 312 P **P 12 33 27.8 -0.2**
SSLB Suanglung 44.79 313 P **P 12 33 28.6 +0.1**
SSLB IAmb IAmb 12 33 30.0
comp=Z,26nm,0.5s
YHNB Yeheng 45.03 315 P **P 12 33 31.2 +0.8**
YHNB IAmb IAmb 12 33 32.4
comp=Z,36nm,0.7s
KSM Kuching 45.33 278 P **P 12 33 33.1 +0.2**
KSM Kuching 45.33 278 P **P 12 33 34.0 +1.1**
JNU Nakatsue 45.51 331 P **P 12 33 33.7 -0.3**
JNU IAmb IAmb 12 33 37.2
comp=Z,22nm,0.8s
MJAR Matsushiro Arr 45.53 341 P **P 12 33 32.7 -1.4**
comp=Z,1.7nm,0.5s,baz=168,slow=7.8,SNR=9.1
MJAR LR LR 12 53 34.6
comp=Z,33nm,18.4s,baz=195,slow=37
MAJO Matsushiro 45.53 341 *e*P **P 12 33 32.5 -1.6**
MAJO pmax pmax
comp=Z,4.0nm,0.6s
MAJO Matsushiro 45.53 341 P P 12 33 33.8 -0.3
MJB9 Matsu-Tunnel 45.54 341 P P 12 33 34.1 -0.1
CISI Cisompet, Garu 46.87 266 P P 12 33 44.4 -0.7
comp=Z,106nm,0.7s
CISI Cisompet, Garu 46.87 266 P P 12 33 44.2 -0.9
CNJI Cibinong 47.55 266 P P 12 33 50.2 -0.1
comp=Z,2µmcomp=Z,262nm,1.0s
DLV T Lat 49.75 291 P P 12 34 07.7 +0.3
DLV IAmb IAmb 12 34 10.3
comp=Z,20nm,0.8s
TJN Taejon 49.84 331 *i*P **P 12 34 06.6 -0.8**
KSRS Korea Array 50.43 332 P **P 12 34 11.8 -0.2**
comp=Z,12nm,0.9s,baz=148,slow=8.0,SNR=48
KSRS LR LR 12 54 23.5
comp=Z,36nm,20.7s,baz=140,slow=35
KS19 Wonju Array Si 50.50 332 P P 12 34 12.0 -0.5
MDSI Maura Dua 50.65 269 P P 12 34 12.9 -1.1
comp=Z,28nm,1.3s
INCN Inchon 51.07 331 P P 12 34 16.8 0.0
INCN pmax pmax
comp=Z,36nm,0.8s
INCN Inchon 51.07 331 P P 12 34 16.8 0.0
INCN IAmb IAmb 12 34 17.8
comp=Z,36nm,0.8s
QIZ Qiongzhong 51.19 301 P P 12 34 18.7 +0.7
QIZ IAmb IAmb 12 34 20.0
comp=Z,26nm,0.8s
NJ2 Nanjing 51.48 320 *e*P **P 12 34 21.6 +1.7**
NJ2 pmax pmax
comp=Z,9.0nm,0.7s
MYKOM Kota Tinggi 51.74 277 P **P 12 32 22.4 +0.2**
MYKOM IAmb IAmb 12 34 23.3
comp=Z,28nm,0.8s
MYKOM Kota Tinggi 51.74 277 P P 12 34 23.0 +0.8
MSHR Mys Shultsa 53.37 338 *ce*P **P 12 34 32.1 -1.6**
WHN Wuhan 53.54 316 ⇑P **P 12 34 35.8 +0.6**
SDSI Sungai Dareh 53.74 274 P **P 12 34 36.6 -0.4**
comp=Z,2µmcomp=Z,101nm,0.8s
YSS Yuzh-Sakhalins 54.23 350 *e*P **P 12 34 40.3 +0.4**
YSS *e*S **S 12 42 11.7 -1.3**
YSS *e*SS **SKiKP 12 45 47.8 +1.5**
YSS *e*SSS SSS 12 47 57.7
YSS pmax pmax
comp=Z,20nm,0.7s
YSS MLR MLR
comp=Z,200nm,14.0s
YSS Yuzh-Sakhalins 54.23 350 P **P 12 34 40.7 +0.9**
YSS IAmb IAmb 12 34 43.4
comp=Z,21nm,0.6s
BKNI Bangkinang 54.30 275 P **P 12 34 41.2 +0.1**
comp=Z,153nm,0.8s
BKNI Bangkinang 54.30 275 P **P 12 34 40.7 -0.3**
USA0B Ussuriysk Arra 54.49 340 P **P 12 34 43.0 +1.2**
USA0B pmax pmax
comp=Z,9.0nm,0.7s
USA0B Ussuriysk Arra 54.49 340 P **P 12 34 43.0 +1.2**
USRK Ussuriysk Ar. 54.49 340 P **P 12 34 42.8 +1.0**
comp=Z,9.9nm,0.8s,baz=162,slow=9.4,SNR=18
USRK LR LR 12 57 59.2
comp=Z,48nm,18.5s,baz=146,slow=36
PDSI Padang 54.70 273 P **P 12 34 42.2 -1.9**
comp=Z,1µmcomp=Z,48nm,0.7s
IPM Ipoh 54.99 280 P **P 12 34 45.8 -0.3**
IPM IAmb IAmb 12 34 46.9
comp=Z,37nm,0.9s
IPM Ipoh 54.99 280 P **P 12 34 46.0 -0.1**
PPT Papeete 55.13 107 LR LR 12 53 27.0
comp=Z,40nm,21.5s,baz=304,slow=30
PPT2 Papeete2 55.13 107 *e*S **S 12 42 23.2 -3.2**
comp=Z,55nm,24.0s
PPT2 *e*LR LR 12 50 58.3
comp=Z,99nm,23.5s
TIA Tai'an 55.32 323 P **P 12 34 47.4 -0.6**
TIA pmax pmax
comp=Z,11nm,0.6s
KULM Kulim 55.51 281 P **P 12 34 49.3 -0.6**
KULM IAmb IAmb 12 34 49.9
comp=Z,18nm,0.9s
KULM Kulim 55.51 281 P **P 12 34 50.0 +0.1**
MNSI Mandailing Nat 55.81 275 P **P 12 34 50.5 -1.5**
comp=Z,2µmcomp=Z,82nm,0.8s
TBI Tubuai 55.88 114 *e*LR LR 12 51 17.9
comp=Z,416nm,29.2s
SISI Saibi 56.02 273 P **P 12 34 53.1 -0.4**
comp=Z,42nm,0.6s
CN2 Changchun 56.67 335 *e*P **P 12 35 01.8 +4.3**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
RPSI Rantau Prapat 56.74 277 P **P 12 34 57.5 -1.2**
PSI Prapat 56.76 278 P **P 12 34 57.5 -1.4**
comp=Z,8.0nm,0.6s,baz=0.0,slow=20,SNR=6.5
ENH Enshi 56.87 312 P **P 12 34 59.0 -0.2**
ENH IAmb IAmb 12 34 60.0
comp=Z,17nm,1.0s
GYA Guiyang 57.12 307 ⇑*i*P **P 12 35 01.9 +0.6**
GYA PP **PP 12 37 13.8 +5.1**
GYA S **S 12 42 47.6 -5.1**
GYA pmax pmax
comp=Z,10.0nm,0.6s
GYA pmax pmax
comp=Z,130nm,3.5s
SLVN Son La 57.22 300 P **P 12 35 02.5 +0.6**
SLVN IAmb IAmb 12 35 04.0
comp=Z,19nm,1.1s
GSI Gunungsitoli 57.86 276 P **P 12 35 05.3 -1.2**
comp=Z,276nm,1.1s
GSI Gunungsitoli 57.86 276 P **P 12 35 05.3 -1.2**
KCSI Kotacane, Aceh 58.01 278 P **P 12 35 05.6 -2.0**
comp=Z,22nm,0.7s
TYV Tymovskoe 58.02 351 *e*P **P 12 35 08.1 +1.2**
TYV *e* 12 43 03.1
TYV pmax pmax
comp=Z,12nm,0.9s
TYV MLR MLR
comp=Z,600nm,26.0s
TYV MLR MLR
comp=E,2µm,23.0s
PBKT Sadao Pong 58.13 294 P **P 12 35 09.4 +1.1**
PBKT IAmb IAmb 12 35 10.4
comp=Z,21nm,0.7s
GRNR Gornyy 59.16 346 ⇓*i*P **P 12 35 15.7 +0.8**
GRNR pmax pmax
comp=Z,3.0nm,0.9s
GRNR MLR MLR
comp=E,70nm,19.0s
GRNR MLR MLR
comp=N,30nm,17.0s
GRNR MLR MLR
comp=Z,50nm,18.0s
PET Petropavlovsk 59.27 3 *e*P **P 12 35 16.8 +1.3**
PET *e*S **S 12 43 23.7 +4.2**
PET 12 49 36.7
XAN Xi'an 59.31 316 P **P 12 35 15.7 -0.6**
XAN pmax pmax
comp=Z,22nm,0.8s
XAN pmax pmax
comp=Z,50nm,3.5s
XAN LR LR
comp=Z,560nm,12.3s
XAN LR LR
comp=Z,620nm,13.3s
XAN LR LR
comp=Z,510nm,12.4s
XAN Xi'an 59.31 316 P **P 12 35 15.3 -1.0**
XAN pmax pmax
comp=Z,16nm,0.6s
XAN Xi'an 59.31 316 P **P 12 35 15.3 -1.0**
XAN IAmb IAmb 12 35 16.6
comp=Z,16nm,0.6s
PEA0B Petropavlovsk- 59.32 2 ⇓*e*P **P 12 35 15.9 0.0**
PEA0B Petropavlovsk- 59.32 2 P **P 12 35 16.7 +0.8**
PETK Petropavlovsk- 59.32 2 P **P 12 35 17.2 +1.3**
comp=Z,26nm,0.6s,baz=166,slow=8.1,SNR=49
PETK LR LR 12 56 44.6
comp=Z,90nm,21.8s,baz=235,slow=32
MLSI Meulaboh, Aceh 59.48 279 P **P 12 35 18.7 +0.9**
comp=Z,92nm,1.1s
KMI Kunming 59.72 304 P **P 12 35 21.8 +2.3**
KMI pP sP 12 35 45.2 +4.4
KMI sP PcP 12 35 53.7 -12
KMI S **S 12 43 25.4 -1.3**
KMI pmax pmax
comp=Z,24nm,1.0s
KMI pmax pmax
comp=Z,57nm,5.6s
KMI LR LR
comp=Z,82nm,4.1s
KMI LR LR
comp=Z,110nm,4.5s
KMI LR LR
comp=Z,82nm,4.9s
KMI Kunming 59.72 304 P **P 12 35 19.9 +0.4**
KMI pmax pmax
comp=Z,35nm,1.2s
KMI Kunming 59.72 304 P **P 12 35 19.9 +0.4**
KMI IAmb IAmb 12 35 22.3
comp=Z,35nm,1.2s
CM31 Chiang Mai Arr 60.56 295 P **P 12 35 25.5 +0.3**
CMAR Chiang Mai Arr 60.56 295 P **P 12 35 26.3 +1.2**
comp=Z,44nm,0.8s,baz=119,slow=5.2,SNR=170
CHTO Chiang Mai 60.68 296 P **P 12 35 26.5 +0.6**
CHTO pmax pmax
comp=Z,50nm,1.1s
CHTO Chiang Mai 60.68 296 P P 12 35 26.5 +0.6
CD2 Chengdu 61.46 310 *e*P **P 12 35 31.0 0.0**
HHC Hu-ho-hao-te 61.64 324 P **P 12 35 32.8 +0.7**
HHC pmax pmax
comp=Z,21nm,0.9s
HHC pmax pmax
comp=Z,34nm,5.2s
HHC LR LR
comp=Z,140nm,21.3s
HHC LR LR
comp=Z,79nm,18.7s
ADK Adak 62.90 19 P **P 12 35 41.2 +1.1**
ADK pmax pmax
comp=Z,43nm,0.7s
ADK Adak 62.90 19 P **P 12 35 41.2 +1.1**
HIA Hailar 63.40 335 P **P 12 35 43.8 +0.2**
HIA pmax pmax
comp=Z,18nm,0.7s
HIA Hailar 63.40 335 P **P 12 35 43.8 +0.2**
HIA IAmb IAmb 12 35 44.6
comp=Z,18nm,0.7s
LZH Lanzhou 63.92 315 ⇑P **P 12 35 49.2 +1.7**
LZH pP sP 12 36 13.1 +4.0
LZH sP PcP 12 36 23.0 +0.3
LZH pmax pmax
comp=Z,30nm,1.0s
LZH pmax pmax
comp=Z,130nm,4.9s

LZH LR LR
comp=Z,310nm,12.5s
LZH LR LR
comp=Z,360nm,14.1s
LZH LR LR
comp=Z,160nm,13.6s
ATKA Atka Island 64.00 21 P **P** **12 35 48.5 +1.1**
ZEA Zeya 64.32 342 *eP* **P** **12 35 49.6 +0.1**
ZEA pmax pmax
comp=N,31nm,0.8s
ZEA pmax pmax
comp=Z,35nm,1.0s
MA2 Magadan 65.85 358 *d iP* **P** **12 35 59.8 +0.5**
MA2 pmax pmax
comp=Z,28nm,0.8s
MA2 Magadan 65.85 358 P **P** **12 35 59.2 -0.1**
NIKH Nikolski High 66.58 23 P **P** **12 36 05.0 +0.9**
CASY Casey 67.17 198 P **P** **12 36 07.8 +0.1**
UNV Unalaska Valle 68.16 23 P **P** **12 36 14.6 +0.5**
UNV IAmb IAmb 12 36 43.4
comp=Z,15nm,0.7s
GTA Gaotai 68.33 317 ⇓P **P** **12 36 16.4 +0.7**
GTA pP PcP 12 36 41.6 +0.7
GTA sP sP 12 36 51.6 +14
GTA pmax pmax
comp=Z,18nm,1.1s
GTA pmax pmax
comp=Z,100nm,5.5s
GTA LR LR
comp=Z,120nm,14.5s
GTA LR LR
comp=Z,610nm,16.2s
GTA LR LR
comp=Z,94nm,15.7s
ULN Ulaanbaatar 68.52 327 *c iP* **P** **12 36 17.3 +0.6**
ULN pmax pmax
comp=Z,15nm,0.7s
ULN Ulaanbaatar 68.52 327 P **P** **12 36 16.9 +0.2**
ULN IAmb IAmb 12 36 18.2
comp=Z,15nm,0.8s
SONM Songino Array 68.86 327 P **P** **12 36 19.1 +0.4**
comp=Z,12nm,0.5s,baz=129,slow=6.1,SNR=72
SONM LR LR 13 05 49.8
comp=Z,47nm,20.6s,baz=124,slow=35
SHL Shillong 69.03 300 P **P** **12 36 20.1 -0.2**
SHL pmax pmax
comp=Z,20nm,0.6s
SHL Shillong 69.03 300 P **P** **12 36 20.1 -0.2**
SHL IAmb IAmb 12 36 21.5
comp=Z,20nm,0.6s
RKT Rikitea 69.13 112 *eS* **S** **12 45 18.3 -4.3**
RKT
comp=Z,278nm,38.0s
eLQ LQ 12 54 30.1
comp=Z,1.8nm,1.4s
RKT *eLR* LR 12 57 21.4
comp=Z,367nm,37.0s
LSA Lhasa 70.97 304 P **P** **12 36 32.5 0.0**
LSA pmax pmax
comp=Z,8.0nm,0.5s
LSA Lhasa 70.97 304 P **P** **12 36 32.5 0.0**
LSA IAmb IAmb 12 36 34.4
comp=Z,8.1nm,0.5s
YAK Yakutsk 70.98 348 *eP* **P** **12 36 31.4 +0.1**
YAK pmax pmax
comp=Z,17nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.8s
YAK Yakutsk 70.98 348 P **P** **12 36 31.7 +0.4**
YAK IAmb IAmb 12 36 34.7
comp=Z,21nm,0.7s
VNDA Vanda 71.17 178 P **P** **12 36 33.3 +1.0**
comp=Z,5.5nm,0.8s,baz=327,slow=6.5,SNR=35
VNDA LR LR 13 02 05.1
comp=Z,95nm,19.4s,baz=314,slow=31
VNDA Vanda 71.17 178 P **P** **12 36 33.1 +0.8**
VNDA pmax pmax
comp=Z,9.0nm,1.1s
VNDA Vanda 71.17 178 P **P** **12 36 33.1 +0.8**
ZAK Zakamensk 72.01 328 *eP* **P** **12 36 37.3 -0.6**
ZAK pmax pmax
comp=Z,20nm,0.8s
TLY Talaya 72.57 329 P **P** **12 36 41.0 -0.1**
TLY pmax pmax
comp=Z,10.0nm,0.9s
TLY Talaya 72.57 329 P **P** **12 36 41.0 -0.1**
TAPN Taplejung 73.13 301 *eP* **P** **12 36 46.0 +0.7**
comp=Z,44nm,0.7s
ODAN Odare 73.27 300 *eP* **P** **12 36 45.9 -0.1**
comp=Z,132nm,0.6s
RAMN Ramite 73.97 300 *eP* **P** **12 36 49.7 -0.5**
comp=Z,23nm,0.6s
JIRN Jiri 74.51 301 *eP* **P** **12 36 53.1 -0.4**
comp=Z,39nm,0.5s
BILL Bilibino 74.69 4 *c iP* **P** **12 36 53.5 +0.3**
BILL *e* 12 37 08.3
BILL *e* 12 37 19.8
BILL *e* 12 39 40.7
BILL pmax pmax
comp=Z,36nm,0.7s
BILL Bilibino 74.69 4 P **P** **12 36 53.6 +0.5**
GUN Gumba 74.84 301 *eP* **P** **12 36 55.3 -0.1**
comp=Z,61nm,0.6s
PKI Pulchoki 75.16 301 *eP* **P** **12 36 56.5 -0.7**
comp=Z,24nm,0.5s
PKIN Phulchoki 75.17 301 *eP* **P** **12 36 56.4 -0.7**
comp=Z,30nm,0.5s
DMN Daman 75.42 301 *eP* **P** **12 36 58.5 -0.1**
comp=Z,55nm,0.6s
GKN Gorkha 75.93 301 *eP* **P** **12 37 01.2 -0.2**
OHAK Old Harbor 75.98 26 IAmb IAmb 12 37 02.7
comp=Z,20nm,0.8s
PVM Polavaram 76.20 289 *eP* **P** **12 37 02.3 -0.5**
KDAK Kodiak Island 76.61 26 P **P** **12 37 05.2 +0.9**
comp=Z,17nm,0.8s,baz=239,slow=3.5,SNR=9.5
KDAK Kodiak Island 76.61 26 P **P** **12 37 05.6 +1.2**
KDAK pmax pmax
comp=Z,26nm,1.1s
KDAK Kodiak Island 76.61 26 P **P** **12 37 05.5 +1.2**
KDAK IAmb IAmb 12 37 07.2
comp=Z,26nm,1.1s
KOLN Koldanda 76.76 300 *eP* **P** **12 37 05.4 -0.7**
comp=Z,35nm,0.8s
DANN Dangsing 76.77 301 *eP* **P** **12 37 05.4 -0.9**
comp=Z,36nm,0.6s
SKHT Srikalahasti 77.38 286 *eP* **P** **12 37 09.2 -0.4**
SVW2 Sparrevohn 77.43 22 IAmb IAmb 12 37 28.3
comp=Z,38nm,1.5s
ADKI Addanki 77.50 288 *eP* **P** **12 37 09.5 -0.6**
NJS Nagarjunasagar 78.25 288 *eP* **P** **12 37 13.2 -1.2**
WMQ Urumqi 78.42 317 *eP* **P** **12 37 16.3 +1.4**
WMQ LR LR
comp=Z,46nm,25.1s
WMQ LR LR
comp=Z,150nm,25.3s
WMQ LR LR
comp=Z,190nm,27.3s
BRLK Bradley Lake 78.49 25 IAmb IAmb 12 37 17.5
comp=Z,20nm,0.8s
SRLM Srisailam 78.56 288 *eP* **P** **12 37 15.3 -0.9**
RPR Rampur 78.68 291 *eP* **P** **12 37 15.8 -0.9**
HYBB Hyderabad (bro 79.11 289 *eP* **P** **12 37 19.3 +0.1**
SEW Seward 79.28 25 IAmb IAmb 12 37 28.3
comp=Z,22nm,0.9s
SRSP Sriramsagar 79.58 291 *eP* **P** **12 37 20.5 -1.2**
PPLA Purkeypile 79.81 22 IAmb IAmb 12 37 23.7
comp=Z,28nm,1.5s
RDOG Red Dog Mine 79.93 15 IAmb IAmb 12 37 25.8
comp=Z,24nm,0.6s
PMR Palmer 80.23 24 IAmb IAmb 12 37 26.3
comp=Z,22nm,0.9s
KNK Knik Glacier 80.40 24 IAmb IAmb 12 37 27.3
comp=Z,13nm,0.6s
GHO Glory Hole Cre 80.41 24 IAmb IAmb 12 37 28.0
comp=Z,23nm,0.8s
HIN Hinchinbrook I 80.68 25 IAmb IAmb 12 37 28.7
comp=Z,23nm,0.8s
GLI Glacier Island 80.68 25 IAmb IAmb 12 37 29.5
comp=Z,31nm,1.0s
DGZ Jazzator, Alta 80.69 323 *d iP* **P** **12 37 27.0 -0.2**
DGZ pmax pmax
comp=Z,16nm,0.9s
TRF Thorofare Moun 80.83 22 IAmb IAmb 12 37 30.8
comp=Z,16nm,0.9s
FID Port Fidalgo 80.87 25 IAmb IAmb 12 37 30.8
comp=Z,18nm,0.8s
KLRI Killari 81.06 289 *eP* **P** **12 37 29.1 -0.6**
SCM Sheep Creek Mo 81.08 24 IAmb IAmb 12 37 31.6
comp=Z,25nm,0.8s
RND Reindeer 81.34 22 IAmb IAmb 12 37 31.9
comp=Z,15nm,0.8s
RAGM Ragged Mountai 81.46 26 P **P** **12 37 32.2 +1.4**
RAGM IAmb IAmb 12 37 55.3
comp=Z,21nm,1.2s
MCK McKinley 81.49 22 IAmb IAmb 12 37 32.6
comp=Z,33nm,1.0s
HARP HAARP 82.25 24 P **P** **12 37 36.3 +1.3**
HARP IAmb IAmb 12 37 38.0
comp=Z,16nm,0.8s
GLB Gilahina Butte 82.34 25 IAmb IAmb 12 37 37.7
comp=Z,26nm,1.0s
VRDI Verde Repeater 82.39 25 IAmb IAmb 12 37 38.0
comp=Z,16nm,0.9s
TCOL CIGO, UAF Yank 82.51 21 P **P** **12 37 35.9 -0.3**
baz=237
COLA College 82.51 21 *c iP* **P** **12 37 35.8 -0.4**
COLA pmax pmax
comp=Z,19nm,0.9s
COLA College 82.51 21 P **P** **12 37 36.3 0.0**
COLA IAmb IAmb 12 37 38.0
comp=Z,19nm,0.7s
HDA Harding Lake 82.59 22 P **P** **12 37 36.8 +0.1**
baz=238
MCARA McCarthy VSAT 82.64 25 IAmb IAmb 12 37 40.8
comp=Z,22nm,0.8s
BALM Baldy 82.77 26 IAmb IAmb 12 37 41.4
comp=Z,14nm,0.7s
POKR Poker Plat Res 82.79 21 P **P** **12 37 37.3 -0.5**
baz=238
IL31 82.81 22 P **P** **12 37 37.4 -0.4**
ILAR Eielson Array 82.81 22 P **P** **12 37 37.1 -0.7**
comp=Z,8.1nm,0.8s,baz=252,slow=5.5,SNR=64
ILAR LR LR 13 11 40.2
comp=Z,150nm,20.0s,baz=264,slow=34
MK31 Makanchi Array 82.98 319 P **P** **12 37 39.0 -0.2**
MK31 pmax pmax
comp=Z,22nm,0.8s
MK31 Makanchi Array 82.98 319 P **P** **12 37 39.0 -0.2**
MK31 IAmb IAmb 12 37 40.2
comp=Z,22nm,0.8s
MKAR Makanchi Array 82.98 319 P **P** **12 37 39.1 -0.1**
comp=Z,25nm,0.7s,baz=102,slow=5.5,SNR=198
BARN Barnard Glacie 83.08 26 P **P** **12 37 40.7 +1.2**
BARN IAmb IAmb 12 37 42.0
comp=Z,25nm,0.8s
MENT Mentasta 83.09 24 IAmb IAmb 12 37 42.8
comp=Z,9.4nm,0.5s
MAKZ Makanchi 83.19 319 P **P** **12 37 39.8 -0.4**
MAKZ pmax pmax
comp=Z,34nm,0.8s
MAKZ Makanchi 83.19 319 P **P** **12 37 39.8 -0.4**
PCA Pinnacle 83.28 27 P **P** **12 37 41.5 +1.1**
DOT Dot Lake 83.30 23 IAmb IAmb 12 39 01.5
comp=Z,23nm,1.1s
QSPA South Pole Qui 83.57 180 P **P** **12 37 42.6 +0.6**
comp=Z,21nm,0.6s,baz=196,slow=0.9,SNR=251
QSPA South Pole Qui 83.57 180 P **P** **12 37 42.2 +0.2**
ZAA0 Zalesovo Array 83.71 326 P **P** **12 37 41.2 -1.5**
ZAA0 IAmb IAmb 12 37 42.2
comp=Z,15nm,0.8s
ZALV Zalesovo Beam 83.71 326 P **P** **12 37 41.5 -1.1**
comp=Z,15nm,0.7s,baz=113,slow=5.2,SNR=69
TOLK Toolik Lake Re 84.04 18 P **P** **12 37 44.8 +0.6**
baz=235
FYU Fort Yukon 84.33 20 IAmb IAmb 12 37 47.4
comp=Z,24nm,1.4s
PRZ Przheval'sk 84.52 314 P **P** **12 37 47.8 +0.5**
PRZ pmax pmax
comp=Z,21nm,0.9s
PRZ Przheval'sk 84.52 314 P **P** **12 37 47.8 +0.5**
PRZ IAmb IAmb 12 37 49.5
comp=Z,21nm,0.8s
TARG Taragay, Kyrgy 84.78 313 P **P** **12 37 49.0 0.0**
HYT Haines Junctio 84.83 27 P **P** **12 37 49.5 +1.1**
EGAK Eagle 84.95 23 P **P** **12 37 49.6 +0.9**
EGAK IAmb IAmb 12 37 52.9
comp=Z,15nm,0.9s
MAW Mawson 84.96 203 P **P** **12 37 49.4 +0.6**
baz=85,SNR=50
MAW Mawson 84.96 203 P **P** **12 37 49.4 +0.6**
comp=Z,17nm,0.6s,baz=97,slow=6.1,SNR=81
MAW LR LR 13 12 03.3
comp=Z,55nm,21.2s,baz=61,slow=33
MAW Mawson 84.96 203 P **P** **12 37 49.3 +0.6**
MAW pmax pmax
comp=Z,4.0nm,0.7s
MAW Mawson 84.96 203 P **P** **12 37 49.3 +0.6**
BESE Bessie Mountai 85.25 30 IAmb IAmb 12 37 52.5
comp=Z,13nm,0.9s
KDJ Kajisay 85.32 313 P **P** **12 37 51.3 -0.1**
KDJ pmax pmax
comp=Z,15nm,0.9s
KDJ Kajisay 85.32 313 P **P** **12 37 51.2 -0.1**
KDJ IAmb IAmb 12 37 52.8
comp=Z,15nm,0.8s
SKAG Skagway 85.33 29 IAmb IAmb 12 37 53.3
comp=Z,20nm,1.4s
DAWY Dawson 85.34 24 IAmb IAmb 12 38 09.1
comp=Z,25nm,1.7s
KSH Kashi 85.66 310 P **P** **12 37 54.9 +1.9**
KSH pmax pmax
comp=Z,33nm,1.0s
KSH pmax pmax
comp=Z,290nm,5.4s
KSH LR LR
comp=Z,1μm,11.2s
KSH LR LR
comp=Z,1μm,12.0s
KSH LR LR
comp=Z,310nm,14.8s
WRAK Wrangell Islan 85.82 32 IAmb IAmb 12 37 55.3
comp=Z,13nm,0.8s
KURK Kurchatov 86.39 322 *ceP* **P** **12 37 54.7 -1.5**
KURK pmax pmax
comp=Z,10.0nm,1.3s
KURK Kurchatov 86.39 322 P **P** **12 37 55.2 -0.9**
KURK IAmb IAmb 12 37 55.8
comp=Z,16nm,1.5s
NIL Nilore 86.71 304 P **P** **12 37 57.6 -0.6**
NIL pmax pmax
comp=Z,59nm,0.5s
NIL Nilore 86.71 304 P **P** **12 37 57.6 -0.6**
BBB Bella Bella 87.02 37 P **P** **12 37 59.9 +0.7**
comp=Z,6.6nm,0.8s,baz=284,slow=7.7,SNR=5.0
BBB Bella Bella 87.02 37 P **P** **12 37 59.8 +0.6**
EPYK Eagle Plains 87.30 22 P **P** **12 38 00.9 +0.6**
baz=248
EPYK Eagle Plains 87.30 22 P **P** **12 38 01.1 +0.8**
AAK Ala-Archa 87.37 313 ⇓*iP* **P** **12 38 00.8 -0.6**
AAK pmax pmax
comp=Z,3.0nm,0.6s
AAK Ala-Archa 87.37 313 P **P** **12 38 01.4 0.0**
AAK IAmb IAmb 12 40 27.2
comp=Z,6.6nm,0.5s
DLBC Dease Lake 87.61 31 P **P** **12 38 03.5 +1.5**
DLBC IAmb IAmb 12 38 04.8
comp=Z,25nm,1.2s
K02D Willamette Mer 87.94 47 P **P** **12 38 05.3 +1.4**
baz=259
NRIK Noril'sk 88.19 341 P **P** **12 38 03.3 -1.2**
comp=Z,3.9nm,0.6s,baz=124,slow=4.5,SNR=9.7
NRIK LR LR 13 20 53.4
comp=Z,46nm,18.1s,baz=54,slow=38
ARSB Arslanbob 88.24 312 P **P** **12 38 05.3 -0.3**
ARSB pmax pmax
comp=Z,17nm,1.6s
ARSB Arslanbob 88.24 312 P **P** **12 38 05.3 -0.3**
ARSB IAmb IAmb 12 38 18.3
comp=Z,17nm,1.6s
M02C Callahan 88.30 48 P **P** **12 38 06.3 +0.6**
baz=260
N02D Trinity Center 88.34 49 P **P** **12 38 07.2 +1.3**
baz=260
L04D Klamath Falls 88.84 47 P **P** **12 38 09.3 +1.0**
baz=260
H04D Lebanon 88.92 45 P **P** **12 38 09.3 +0.8**
baz=260
INK Inuvik 89.15 21 IAmb IAmb 12 38 27.1
comp=Z,15nm,1.4s
J04D Umpqua Nationa 89.15 46 P **P** **12 38 10.8 +0.9**
baz=260
D03D Eldon 89.21 42 P **P** **12 38 10.1 +0.4**
baz=260
AFDM Forest Hills D 89.32 51 P **P** **12 38 11.9 +1.4**
PKM Mcpherson Peak 89.66 55 P **P** **12 38 13.1 +0.7**
baz=262
SNCC San Nicolas Is 89.67 57 P **P** **12 38 13.4 +1.1**
baz=262
A04D Lummi Island 89.67 41 P **P** **12 38 12.3 +0.4**
baz=260
J05D Fort Rock, OR 89.79 47 P **P** **12 38 13.8 +1.0**
baz=261
I05D Terrebonne, OR 89.88 45 P **P** **12 38 13.7 +0.7**
baz=261
B05A Bryant 90.00 42 P **P** **12 38 13.8 +0.4**
baz=260
KK31 Karatay Array 90.34 313 P **P** **12 38 14.3 -0.9**
KK31 pmax pmax
comp=Z,2.0nm,0.7s
KK31 Karatay Array 90.34 313 P **P** **12 38 14.3 -0.9**
PNTR Pine Nut 90.40 51 P **P** **12 38 17.2 +1.3**
PNTR IAmb IAmb 12 38 20.6
comp=Z,9.8nm,0.7s
CIS Catalina Islan 90.61 57 P **P** **12 38 18.0 +1.3**
baz=263
MDPB Devils Postpil 90.61 52 P **P** **12 38 17.4 +0.5**
PAHR Pah Rah Range 90.65 50 IAmb IAmb 12 38 19.2
comp=Z,9.9nm,1.0s
YERR Yerington 90.67 51 IAmb IAmb 12 38 19.3
comp=Z,19nm,1.6s
ISA Isabella, Lake 90.84 54 P **P** **12 38 19.5 +1.8**
baz=263
MWC Mount Wilson 91.00 56 P **P** **12 38 19.7 +1.0**
MWC pmax pmax
comp=Z,54nm,1.7s
MWC Mount Wilson 91.00 56 P **P** **12 38 19.7 +1.0**
EDW2 Edwards Air Fo 91.14 55 P **P** **12 38 19.9 +0.8**
baz=263,SNR=7.6
RYN Ryan 91.18 51 IAmb IAmb 12 38 21.9
comp=Z,11nm,1.1s
CWC Cottonwood Cre 91.26 54 P **P** **12 38 21.2 +1.4**
baz=263
NVAR Mina Array Bea 91.32 52 P **P** **12 38 21.6 +1.5**
comp=Z,6.9nm,0.8s,baz=255,slow=6.2,SNR=46
NVAR PKKPbc **PKKPbc** **12 55 42.9 0.0**
comp=Z,0.5nm,0.6s,baz=131,slow=2.3,SNR=5.1
NVAR LR LR 13 11 52.3
comp=Z,81nm,21.7s,baz=238,slow=30
BFSC Mount Baldy Ra 91.34 56 P **P** **12 38 21.8 +1.6**
baz=263
NV11 Mina Array Sit 91.44 52 P **P** **12 38 21.5 +0.9**
NV11 IAmb IAmb 12 38 23.1
comp=Z,11nm,1.0s
LRMC Laurel Mtn Rad 91.46 55 P **P** **12 38 22.0 +1.3**
baz=263,SNR=10
KVN Kaiserville 91.56 51 IAmb IAmb 12 38 23.5
comp=Z,8.1nm,0.8s
MPMC Manual Prospec 91.69 54 P **P** **12 38 22.8 +1.0**
baz=263,SNR=12
PNT Penticton 91.77 41 P **P** **12 38 17.2 -4.5**
PNT pmax pmax
comp=Z,10.0nm,0.7s
BRVK Borovoye 91.91 323 *d iP* **P** **12 38 20.6 -1.6**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
GSC Goldstone, Bar 92.15 55 P **P** **12 38 25.8 +1.9**
baz=264
MONP2 Monument Peak 92.21 57 P **P** **12 38 25.9 +1.5**
baz=264,SNR=6.5
FURC Furnace Creek, 92.23 54 P **P** **12 38 24.9 +0.8**
baz=264,SNR=15
PFO Pinyon Flats O 92.26 57 P **P** **12 38 25.9 +1.4**
baz=264,SNR=7.7
PFO Pinyon Flats O 92.26 57 ⇑*eP* **P** **12 38 25.9 +1.4**
PFO pmax pmax
comp=Z,8.0nm,0.8s
PFO Pinyon Flats O 92.26 57 P **P** **12 38 25.4 +1.0**
PFO IAmb IAmb 12 38 27.0
comp=Z,26nm,1.8s
XPFO Pion Flat 92.26 57 P **P** **12 38 25.8 +1.4**
XPFO IAmb IAmb 12 38 27.0
comp=Z,26nm,1.8s
IKP In-Ko-Pah, Jac 92.45 58 P **P** **12 38 26.2 +0.9**
baz=264
HEC Hector,Ludlow 92.49 55 P **P** **12 38 26.4 +1.0**
baz=264
SHOC Shoshone, Teco 92.65 54 P **P** **12 38 27.3 +1.3**
baz=264,SNR=6.0
BELC Belle Mtn. Jos 92.68 56 P **P** **12 38 27.8 +1.4**
baz=264,SNR=20
C36M Paulatuk 92.73 21 P **P** **12 38 26.4 +0.8**
baz=259
SWSC Sam W. Stewart 92.74 57 P **P** **12 38 27.5 +1.0**
baz=264
TPNV Topopah Spring 92.78 53 P **P** **12 38 27.8 +1.0**
baz=264,SNR=10
TPNV Topopah Spring 92.78 53 IAmb IAmb 12 38 29.4
comp=Z,11nm,1.1s
BMO Blue Mountains 92.81 45 IAmb IAmb 12 38 28.1
comp=Z,20nm,2.0s
A36M Sachs Harbour 92.87 18 P **P** **12 38 26.8 +0.6**
baz=258
TUQ Turquoise Moun 92.88 55 P **P** **12 38 28.2 +0.9**
baz=264
SYO Syowa Base 92.90 199 ⇑*eX* **P** **12 38 24.0 -2.5**
SYO Syowa Base 92.90 199 ⇓*eX* **P** **12 38 30.2 +3.7**
SYO Syowa Base 92.90 199 ⇑*esP* sP 12 38 44.7 -3.9
GMRC Granite Mounta 93.03 56 P **P** **12 38 29.4 +1.4**
baz=264,SNR=8.6
BC3 Big Chuckawall 93.10 57 P **P** **12 38 29.8 +1.5**
baz=264,SNR=7.5
NEW Newport 93.29 42 P **P** **12 38 28.9 +0.2**
baz=264
NEW Newport 93.29 42 P **P** **12 38 28.3 -0.5**
comp=Z,3.2nm,0.6s,baz=268,slow=9.0,SNR=5.7
IRM Iron Mountain 93.40 56 P **P** **12 38 31.0 +1.4**
baz=265,SNR=9.2
R11A Troy Canyon, C 93.44 52 P **P** **12 38 31.5 +1.6**
baz=265
SHPR Sheep Range 93.60 54 P **P** **12 38 32.1 +1.5**
SHPR IAmb IAmb 12 38 33.6
comp=Z,8.9nm,1.1s
Y12C Blythe 93.88 57 P **P** **12 38 32.7 +1.0**
baz=265
ELK Elko 93.92 50 P **P** **12 38 32.5 +0.5**
comp=Z,2.5nm,1.0s,baz=221,slow=2.5,SNR=7.1
PDMCI Parker Dam,Lak 94.24 56 P **P** **12 38 34.6 +1.3**
baz=265
YKA Yellowknife Ar 95.79 28 P **P** **12 38 40.5 +0.7**
comp=Z,9.1nm,0.8s,baz=262,slow=4.5,SNR=53
YKA PKKPbc **PKKPbc** **12 55 29.2 -2.7**
comp=Z,0.5nm,0.7s,baz=91,slow=2.9,SNR=7.1
YKA LR LR 13 17 58.0
comp=Z,30nm,21.5s,baz=0.0,slow=33
EGMT Eagleton 98.20 42 P Pdif 12 38 52.0 +0.8
baz=270
EGMT Eagleton 98.20 42 IAmb IAmb 12 38 56.4
comp=Z,17nm,1.8s
BW06 Boulder Array 98.27 48 P Pdif 12 38 52.3 +0.4
baz=269
PDAR Pinedale Array 98.27 48 P **P** **12 38 51.0 -0.9**
comp=Z,1.0nm,0.6s,baz=259,slow=2.3,SNR=9.3
PDAR LR LR 13 18 31.5
comp=Z,67nm,19.9s,baz=298,slow=32
RLMT Red Lodge 98.51 45 P Pdif 12 38 53.8 +1.0
baz=270
MVCO Mesa Verde 98.98 53 P Pdif 12 38 55.9 +0.8
baz=269
O20A White River Ci 99.22 50 P **Pdif** **12 38 56.7 +0.6**
baz=269
S22A 4UR Ranch, Cre 100.31 53 P **Pdif** **12 39 01.8 +0.7**
baz=270
LAO LASA Array 100.62 44 P **Pdif** **12 39 02.2 +0.2**
baz=272
SNAA Sanae 100.74 187 P **Pdif** **12 39 01.8 -0.2**
VNA3 Neumayer Olymp 101.85 185 P **Pdif** **12 39 06.5 -0.4**
VNA2 Neumayer--Watz 101.94 186 P **Pdif** **12 39 07.4 +0.1**
RSSD Black Hills 102.27 46 P **Pdif** **12 39 09.7 +0.2**
baz=273
TXAR Lajitas Array 102.94 61 PKKPbc PKKPbc 12 55 09.8 -0.8
comp=Z,1.1nm,0.8s,baz=102,slow=4.1,SNR=13
WMOK Wichita Mounta 106.91 56 P **PKiKP** **12 43 39.0 -0.9**
baz=274
ECSD EROS Data Cent 107.64 46 P **PKiKP** **12 43 40.3 -0.7**
baz=278
ARCES ARCESS Array B 109.03 343 PKKPbc PKKPbc 12 54 49.7 -3.4
comp=Z,1.2nm,0.8s,baz=345,slow=1.4,SNR=4.7
KIV Kislovodsk 110.45 315 *i* PKIKP **PKiKP** **12 43 44.5 -1.9**

KIV e 12 44 21.3
KIV ePPP PPP 12 46 42.3
KIV pmax pmax
comp=Z,1.0nm,0.9s
W39A Magazine 110.95 55 P **PKiKP** 12 43 46.8 -0.6
baz=277
MIAR Mount Ida 111.20 56 P **PKiKP** 12 43 47.5 -0.4
baz=277
OBN Obninsk 111.27 327 *i* PKIKP **PKiKP** 12 43 46.9 -0.5
OBN e 12 44 27.2
OBN ePPP PPP 12 46 48.2
OBN pmax pmax
comp=Z,3.0nm,0.8s
U40A Yellville 111.55 54 P **PKiKP** 12 43 48.2 -0.4
baz=278
W41B Gary Mavity, V 112.20 55 P **PKiKP** 12 43 49.4 -0.4
baz=278
JFWS Jewell Farm 112.36 46 P **PKiKP** 12 43 49.7 -0.2
baz=283
SOC Sochi 112.64 315 eP **Pdif** 12 39 46.7 -8.7
SOC e 12 50 23.0
SOC *i* SS SS 13 00 30.8 +15
SOC MLR MLR
comp=Z,387nm,31.0s
FINES FINESS Array B 113.41 336 PKiKP **PKiKP** 12 43 50.0 -1.3
comp=Z,0.6nm,0.6s,baz=189,slow=35,SNR=2.2
FINES PKKPbc **PKKPbc** 12 54 35.2 -3.2
comp=Z,0.5nm,0.5s,baz=220,slow=4.7,SNR=4.5
FINES FINESS Array B 113.41 336 *i* PKIKP **PKiKP** 12 43 50.0 -1.3
X43A Marvell 113.41 55 P **PKiKP** 12 43 51.9 -0.2
baz=279
F45A CMU Biological 114.93 42 P **PKiKP** 12 43 53.9 -0.8
baz=287
SFIN Lafayette 115.23 48 P **PKiKP** 12 43 54.9 -0.5
baz=284
D46A Sault St. Mari 115.53 41 P **PKiKP** 12 43 54.5 -1.3
baz=289
WVT Waverly 115.59 53 P **PKiKP** 12 43 54.9 -1.4
baz=281
D47A Chapleau 116.07 40 P **PKPdf** 12 43 55.9 -0.9
baz=290,SNR=6.5
K47A Vermontville 116.16 45 P **PKPdf** 12 43 56.9 -0.2
baz=286
E47A Iron Bridge 116.16 41 P **PKPdf** 12 43 56.2 -0.8
baz=290
G47A Hillman 116.20 42 P **PKPdf** 12 43 56.5 -0.6
baz=289
WCI Wyandotte Cave 116.34 50 P **PKPdf** 12 43 57.3 -0.4
baz=283
O48A Farmland 116.70 48 P **PKPdf** 12 43 57.0 -1.3
baz=285
K48A Perry 116.74 45 P **PKPdf** 12 43 58.0 -0.2
baz=287
LRAL Lakeview Retre 116.84 56 P **PKPdf** 12 43 57.8 -1.0
baz=280
D48A Paudash Townsh 116.86 40 P **PKPdf** 12 43 57.0 -1.3
baz=291
E48A Lockeyer 116.88 41 P **PKPdf** 12 43 57.7 -0.7
baz=291,SNR=6.0
AKASG Malin Array Be 117.08 325 PKP **PKPdf** 12 43 56.6 -2.1
comp=Z,2.4nm,0.6s,baz=57,slow=2.3,SNR=7.5
AKASG PKKPbc **PKKPbc** 12 54 23.4 -2.0
comp=Z,0.7nm,0.4s,baz=261,slow=3.8,SNR=5.8
D49A Beulah Townshi 117.11 40 P **PKPdf** 12 43 57.5 -1.3
baz=292
U49A Red Boiling Sp 117.13 52 **PKPdf** 12 43 58.5 -0.7
F49A Sandfield 117.21 41 P **PKPdf** 12 43 58.0 -1.1
baz=290
P49A Miami Univ. Ec 117.22 49 P **PKPdf** 12 43 58.7 -0.6
baz=285
E50A Wahnapitae 117.82 40 P **PKPdf** 12 43 59.8 -0.4
baz=292
BRTR Keskin Array B 118.02 312 PKP **PKPdf** 12 43 59.3 -1.8
comp=Z,0.7nm,0.5s,baz=116,slow=3.0,SNR=4.4
D50A G1974 Best Tow 118.11 39 P **PKPdf** 12 43 59.9 -0.9
baz=293
ACSO Alum Creek Sta 118.31 48 P **PKPdf** 12 44 00.8 -0.6
baz=287
MATQ Matagami 118.37 36 P **PKPdf** 12 44 00.1 -1.0
baz=296
F51A Arnstein 118.53 41 P **PKPdf** 12 44 00.5 -1.1
baz=292
N51A Ashland 118.55 47 P **PKPdf** 12 44 00.5 -1.3
baz=288
M51A Elyria 118.56 46 P **PKPdf** 12 44 01.0 -0.8
baz=288
I51A Listowel 118.56 43 P **PKPdf** 12 44 00.6 -1.2
baz=290
E51A G1948 Merrick 118.57 40 P **PKPdf** 12 44 01.0 -0.7
baz=293
TZTN Tazewell 118.87 52 P **PKPdf** 12 44 01.9 -0.7
baz=284
LSQQ Lebel-sur-Quev 119.06 36 P **PKPdf** 12 44 01.2 -1.3
baz=296
D52A ZEK Kipawa Sen 119.08 39 P **PKPdf** 12 44 01.5 -1.1
baz=294
N52A McGinn's Farm, 119.08 47 P **PKiKP** 12 44 03.2 +0.3
baz=288
M52A Chesterland 119.08 46 P **PKiKP** 12 44 03.2 +0.3
baz=289
Y52A Lilburn 119.09 55 PKPdf **PKPdf** 12 44 03.0 -0.1
P52A Corning 119.11 48 P **PKPdf** 12 44 01.6 -1.3
baz=287
NB2 NORSAR Subarra 119.15 341 PKPdf **PKPdf** 12 44 01.2 -1.2
comp=Z,1.3nm,0.7s,baz=43,slow=1.8
NOA NORSAR Array B 119.15 341 PKP **PKPdf** 12 44 01.6 -0.8
comp=Z,0.9nm,0.7s,baz=45,slow=1.9,SNR=7.1
O52A Adamsville 119.18 47 P **PKPdf** 12 44 02.0 -1.1
baz=288
E52A Mattawa 119.20 40 P **PKPdf** 12 44 02.7 -0.2
baz=294
Q52A Bidwell 119.20 49 P **PKPdf** 12 44 03.0 -0.1
baz=287
D53A Lac Vacive, Po 119.48 39 P **PKPdf** 12 44 02.8 -0.7
baz=295
T53A Wise 119.54 51 P **PKPdf** 12 44 03.9 -0.1
baz=285
O53A New Philadelph 119.60 47 P **PKPdf** 12 44 03.5 -0.4
baz=288
M53A WI Miller and 119.60 46 P **PKPdf** 12 44 03.5 -0.3
baz=289
GOGA Godfrey 119.67 55 P **PKPdf** 12 44 03.9 -0.3
baz=283
G53A Haliburton 119.68 41 P **PKPdf** 12 44 03.4 -0.5
baz=293
N53A Lisbon 119.69 46 P **PKPdf** 12 44 03.3 -0.7
baz=289,SNR=6.3
P53A Whipple 119.70 48 P **PKPdf** 12 44 03.2 -0.9
baz=288
ALGO Algonquin Park 119.72 40 P **PKPdf** 12 44 03.5 -0.4
baz=294
BG3 Lake Jocassee 119.74 53 **PKiKP** 12 44 04.4 +0.1
Q53A Leroy 119.79 49 P **PKPdf** 12 44 03.9 -0.4
baz=287
E53A Dumoine, Ponti 119.79 39 P **PKPdf** 12 44 03.4 -0.7
baz=294
ERPA Erie 119.86 45 P **PKPdf** 12 44 04.2 -0.1
baz=290
G54A Lake Saint Pet 119.92 41 P **PKPdf** 12 44 03.4 -1.0
baz=294
H53A Bobcaygeon 119.92 42 P **PKPdf** 12 44 03.8 -0.5
baz=293
E54A Lac Daplat, Po 120.07 39 P **PKPdf** 12 44 03.9 -0.7
baz=295
D54A Lac Fusel, La 120.09 38 P **PKPdf** 12 44 03.9 -0.7
baz=296
CHGQ Chibougamau 120.17 35 P **PKPdf** 12 44 03.6 -1.0
baz=299,SNR=5.0
U54A Nelsons Funny 120.22 51 P **PKPdf** 12 44 04.2 -1.1
baz=286
O54A Avella 120.22 47 P **PKPdf** 12 44 04.8 -0.3
baz=289,SNR=5.8
N54A Moraine State 120.25 46 P **PKPdf** 12 44 04.3 -0.9
baz=290
S54A Dingess, Beckl 120.25 50 P **PKPdf** 12 44 04.5 -0.7
baz=287
T54A Tazewell 120.26 51 P **PKPdf** 12 44 04.2 -1.1
baz=286,SNR=5.3
Q54A Coxs Mills 120.26 48 P **PKPdf** 12 44 04.2 -1.0
baz=288,SNR=9.8
X54A Belton 120.29 54 P **PKPdf** 12 44 05.3 0.0
baz=284
M54A Oil Creek Stat 120.29 45 P **PKPdf** 12 44 04.2 -1.0
baz=290,SNR=6.4
W54A Cherokee Point 120.31 53 P **PKPdf** 12 44 04.5 -0.9
baz=285,SNR=5.1
V54A Nebo 120.32 52 P **PKPdf** 12 44 04.7 -0.8
baz=285,SNR=7.7
P54A Burton 120.33 48 P **PKPdf** 12 44 05.1 -0.2
baz=288
R54A Victor 120.39 49 P **PKPdf** 12 44 04.8 -0.7
baz=287
BOSA Boshof 120.42 232 PKP **PKiKP** 12 44 06.0 -0.1
comp=Z,5.0nm,0.6s,baz=96,slow=1.7,SNR=14
BOSA Boshof 120.42 232 PKiKP **PKPdf** 12 44 05.6 -0.4
BOSA Boshof 120.42 232 **PKPdf** 12 44 05.6 -0.4
PLVO Plevna 120.72 41 **PKPdf** 12 44 05.6 -0.2
BUR08 Bucovina Ar. S 120.80 323 PKPdf **PKiKP** 12 44 07.0 +0.8
Q55A Buckhannon 120.82 48 P **PKPdf** 12 44 05.5 -0.8
baz=288,SNR=7.1
U55A TA2, Sparta 120.82 51 P **PKPdf** 12 44 05.6 -0.8
baz=286,SNR=5.6
P55A Reedsville 120.84 47 P **PKPdf** 12 44 06.1 -0.2
baz=289
H55A Tweed 120.85 41 P **PKPdf** 12 44 04.9 -1.2
baz=294
T55A Pulaski 120.85 50 P **PKPdf** 12 44 05.7 -0.8
baz=287
Y55A Saluda 120.85 54 P **PKPdf** 12 44 05.7 -0.8
baz=284,SNR=5.7
G55A Calabogie 120.86 40 P **PKPdf** 12 44 05.1 -1.0
baz=295,SNR=5.2
V55A Taylorsville 120.87 52 P **PKPdf** 12 44 05.9 -0.5
baz=286,SNR=6.1
D55A Sainte-Anne-du 120.88 38 P **PKPdf** 12 44 04.7 -1.4
baz=297
S55A Lewisburg 120.88 50 P **PKPdf** 12 44 04.8 -1.7
baz=287
X55A Gracelyn & Ava 120.90 54 P **PKPdf** 12 44 05.9 -0.6
baz=285,SNR=10.0
L55A Hinsdale 120.91 44 P **PKPdf** 12 44 05.6 -0.7
baz=292,SNR=5.1
J55A Hilton 120.93 43 P **PKPdf** 12 44 05.5 -0.8
baz=293
M55A Ridgway 120.94 45 P **PKPdf** 12 44 05.6 -0.9
baz=291,SNR=5.4
K55A Perry 120.96 43 P **PKPdf** 12 44 05.8 -0.6
baz=292
KMSC Kings Mountain 120.97 53 P **PKPdf** 12 44 06.0 -0.6
baz=285,SNR=6.5
O55A Ligonier 120.99 47 P **PKPdf** 12 44 05.9 -0.7
baz=290
R55A Marlinton 121.01 49 P **PKPdf** 12 44 06.1 -0.7
baz=288,SNR=10
N55A Marion Center 121.03 46 P **PKPdf** 12 44 06.0 -0.7
baz=290
BLA Blacksburg 121.10 50 P **PKPdf** 12 44 05.9 -1.0
baz=287,SNR=6.5
JSC Jenkinsville 121.25 54 PKIKP **PKiKP** 12 44 07.5 +0.2
JSC Jenkinsville 121.25 54 **PKiKP** 12 44 07.5 +0.2
D56A ZEC Mazanza, M 121.30 38 P **PKPdf** 12 44 06.0 -0.9
baz=297,SNR=7.4
M56A Emporium 121.34 45 P **PKPdf** 12 44 06.4 -0.9
baz=291,SNR=7.6
E56A St. Veronique 121.36 38 P **PKPdf** 12 44 06.3 -0.7
baz=297
X56A White Oak 121.38 53 P **PKPdf** 12 44 06.9 -0.5
baz=285,SNR=6.6
H56A Elgin 121.43 41 P **PKPdf** 12 44 06.7 -0.5
baz=295
V56A Mocksville 121.44 52 P **PKPdf** 12 44 06.6 -1.0
baz=286
T56A Rocky Mt 121.45 50 P **PKPdf** 12 44 06.6 -1.0
baz=287
Q56A Snyder Ridge, 121.46 48 P **PKPdf** 12 44 07.3 -0.2
baz=289
N56A West Decatur 121.47 45 P **PKPdf** 12 44 07.1 -0.4
baz=291
K56A Middlesex 121.48 43 P **PKPdf** 12 44 06.4 -1.1
baz=293
O56A Blue Knob Stat 121.50 46 P **PKPdf** 12 44 06.8 -0.8
baz=290,SNR=7.9
L56A Greenwood 121.54 44 P **PKPdf** 12 44 06.9 -0.7
baz=292,SNR=7.0
W56A Indian Trail 121.56 53 P **PKPdf** 12 44 07.0 -0.8
baz=286
P56A Dayton Farm, R 121.56 47 P **PKPdf** 12 44 06.7 -1.0
baz=290,SNR=6.1
J56A Wolcott 121.57 42 P **PKPdf** 12 44 06.4 -1.1
baz=293,SNR=5.2
S56A Natural Bridge 121.61 49 P **PKPdf** 12 44 06.6 -1.2
baz=288
D57A Chemin Vers le 121.84 37 P **PKPdf** 12 44 06.8 -1.2
baz=298
SSPA Standing Stone 121.86 46 **PKPdf** 12 44 07.9 -0.3
Z57A Bowman 121.94 55 P **PKPdf** 12 44 08.5 -0.1
baz=285
E57A Chemin Saint G 121.97 38 P **PKPdf** 12 44 07.5 -0.8
baz=298,SNR=5.0
V57A Coltrane Farms 121.98 51 P **PKPdf** 12 44 08.1 -0.5
baz=287
K57A Scipio Center 122.02 43 P **PKPdf** 12 44 07.1 -1.3
baz=293
W57A Gilead 122.02 52 P **PKPdf** 12 44 08.0 -0.6
baz=286,SNR=8.5
G57A Newington 122.03 40 P **PKPdf** 12 44 07.2 -1.2
baz=296
Q57A Strasburg 122.03 48 P **PKPdf** 12 44 08.1 -0.5
baz=290
S57A Dark Hollow, R 122.05 49 P **PKPdf** 12 44 07.7 -1.0
baz=288
N57A Mity 122.05 45 P **PKPdf** 12 44 07.7 -0.9
baz=291
T57A Hurt 122.06 50 P **PKPdf** 12 44 07.9 -0.8
baz=288,SNR=5.1
L57A Andrews Acres 122.08 44 P **PKPdf** 12 44 08.1 -0.5
baz=293,SNR=5.5
J57A Williamstown 122.09 42 P **PKPdf** 12 44 07.8 -0.8
baz=294
I57A Carthage 122.10 41 P **PKPdf** 12 44 07.8 -0.8
baz=295
M57A Sunshine Farm, 122.14 45 P **PKPdf** 12 44 07.8 -1.0
baz=292,SNR=6.9
U57A Blanch 122.17 51 P **PKPdf** 12 44 08.4 -0.5
baz=287
P57A Homestead Farm 122.17 47 P **PKPdf** 12 44 07.9 -0.9
baz=290,SNR=5.1
O57A Amberson 122.19 46 P **PKPdf** 12 44 08.0 -0.9
baz=291,SNR=7.5
R57A Stanardsville 122.20 48 P **PKPdf** 12 44 08.5 -0.5
baz=289
D58A Chemin du LacG 122.41 37 P **PKPdf** 12 44 07.4 -1.7
baz=299
LONY Lake Ozonia 122.50 40 P **PKPdf** 12 44 08.5 -0.8
baz=296
E58A La Victoria 122.52 38 P **PKPdf** 12 44 09.0 -0.3
baz=298
V58A Windy Hill, Pi 122.53 51 P **PKPdf** 12 44 09.1 -0.5
baz=287
R58A Rapidan 122.58 48 P **PKPdf** 12 44 08.5 -1.2
baz=290
J58A Remsen 122.59 42 P **PKPdf** 12 44 08.9 -0.6
baz=295,SNR=5.2
M58A Price's Panora 122.59 44 P **PKPdf** 12 44 08.9 -0.7
baz=293,SNR=5.4
BINY Binghamton 122.59 43 P **PKPdf** 12 44 08.9 -0.6
baz=294
K58A Earlville 122.59 43 P **PKPdf** 12 44 08.7 -0.9
baz=294
Q58A Fox Den Farm, 122.60 47 P **PKPdf** 12 44 09.0 -0.7
baz=290
N58A Sunbury 122.61 45 P **PKPdf** 12 44 08.8 -0.9
baz=292,SNR=8.2
T58A Grand View Acr 122.62 50 P **PKPdf** 12 44 08.9 -0.8
baz=288,SNR=6.4
I58A Old Forge 122.65 41 P **PKPdf** 12 44 09.1 -0.6
baz=295
Z58A St. Stephen 122.66 54 P **PKPdf** 12 44 09.8 -0.1
baz=285
W58A Raeford 122.66 52 P **PKPdf** 12 44 09.0 -0.9
baz=287,SNR=5.8
P58A Pank, Wackersv 122.69 47 P **PKPdf** 12 44 08.9 -0.9
baz=291
O58A Lewisberry 122.73 46 P **PKPdf** 12 44 09.1 -0.8
baz=292,SNR=7.5
L58A Harry Jones Me 122.74 43 P **PKiKP** 12 44 10.0 -0.1
baz=294
S58A Poland Farm, P 122.77 49 P **PKPdf** 12 44 09.3 -0.7
baz=289
U58A Oxford 122.78 51 P **PKPdf** 12 44 09.6 -0.5
baz=288
R58B Mineral 122.79 49 P **PKPdf** 12 44 09.3 -0.7
baz=290
H58A Gabriels 122.85 40 P **PKPdf** 12 44 09.2 -0.8
baz=296,SNR=6.0
J59A Piesco 123.06 41 P **PKPdf** 12 44 09.6 -0.9
baz=296,SNR=7.0
K59A Cooperstown 123.12 42 P **PKPdf** 12 44 09.7 -0.9
baz=295
V59A Middlesex 123.21 51 P **PKPdf** 12 44 10.9 0.0
baz=288
M59A Waymart 123.23 44 P **PKPdf** 12 44 10.3 -0.6
baz=294,SNR=7.0
L59A Walton 123.23 43 P **PKPdf** 12 44 10.9 0.0
baz=294
N59A State Game Lan 123.24 45 P **PKiKP** 12 44 11.1 0.0
baz=293
P59A Jarrettsville 123.27 46 P **PKPdf** 12 44 10.2 -0.7
baz=292
R59A King George, V 123.27 48 P **PKPdf** 12 44 10.5 -0.5
baz=290
I59A Olmsteadville 123.32 41 P **PKPdf** 12 44 10.6 -0.4
baz=296
T59A Double "B" Far 123.36 50 P **PKPdf** 12 44 10.3 -0.8
baz=289,SNR=5.1
F60A Warwick 123.52 38 P **PKPdf** 12 44 10.5 -0.7
baz=299,SNR=5.5
E60A Ste Agathe de 123.62 37 P **PKPdf** 12 44 10.9 -0.5
baz=300
D60A Saint Jean D'O 123.66 36 P **PKPdf** 12 44 10.5 -0.9
baz=301,SNR=5.4
I60A Shoreham 123.68 40 P **PKPdf** 12 44 11.2 -0.3
baz=297,SNR=8.4
H60A Morristown 123.73 40 P **PKPdf** 12 44 11.3 -0.4
baz=298
N60A Cedar Hill Far 123.73 44 P **PKPdf** 12 44 11.0 -0.8
baz=294,SNR=5.2
O60A Telford 123.73 45 P **PKPdf** 12 44 11.1 -0.6
baz=293,SNR=6.8
P60A Greenville 123.76 46 P **PKPdf** 12 44 10.9 -0.9
baz=292
X60A Albert Glenn T 123.78 52 P **PKPdf** 12 44 11.5 -0.5
baz=287
U60A Pendleton 123.82 50 P **PKPdf** 12 44 11.8 -0.3
baz=289
W60A Pink Hill 123.84 52 P **PKPdf** 12 44 11.6 -0.5
baz=288
J60A Lant Hill Farm 123.86 41 P **PKPdf** 12 44 11.4 -0.6
baz=296
L60A Shokan 123.87 43 P **PKPdf** 12 44 11.4 -0.7
baz=295
M60A Port Jervis 123.87 44 P **PKPdf** 12 44 11.4 -0.7
baz=294
T60A Surry 123.92 49 P **PKPdf** 12 44 12.0 -0.2
baz=290
D61A St Aubert, Com 123.94 36 P **PKPdf** 12 44 11.0 -0.9
baz=302,SNR=6.3
VYHS Vyhne 124.04 326 ePKIKP **PKPdf** 12 44 11.5 -0.7
VYHS Vyhne 124.04 326 ePKP **PKPdf** 12 44 11.5 -0.7
F61A St Evariste 124.09 37 P **PKPdf** 12 44 12.3 -0.1
baz=300
G61A St-Isidore-de- 124.11 38 P **PKPdf** 12 44 11.8 -0.6
baz=299
E61A Lac Etchemin 124.16 37 P **PKPdf** 12 44 11.8 -0.7
baz=301,SNR=12
K61A Williamstown 124.22 42 P **PKPdf** 12 44 12.3 -0.4
baz=296,SNR=6.7
H61A Lyndonville 124.23 39 P **PKiKP** 12 44 12.8 -0.2
baz=299
L61A Hillsdale 1, H 124.24 42 P **PKPdf** 12 44 12.3 -0.4
baz=296
LBNH Lisbon 124.37 40 P **PKPdf** 12 44 12.8 -0.1
baz=298
J61A Chester 124.38 41 P **PKPdf** 12 44 12.7 -0.3
baz=297,SNR=5.6
M61A Granite Spring 124.47 43 P **PKPdf** 12 44 12.5 -0.6
baz=295,SNR=5.9
V61A Roper 124.49 51 P **PKPdf** 12 44 13.1 -0.3
baz=289
S61A Accomac 124.52 48 P **PKPdf** 12 44 13.1 -0.3
baz=291
E62A Clayton Lake 124.63 36 P **PKPdf** 12 44 12.6 -0.8
baz=302
D62A Allapoint, All 124.66 35 P **PKPdf** 12 44 12.5 -0.8
baz=303,SNR=7.2
D62A Allapoint, All 124.66 35 PKPdf **PKPdf** 12 44 13.1 -0.2
H62A Milan 124.69 39 P **PKPdf** 12 44 13.2 -0.4
baz=299
L61B Northampton 124.70 42 P **PKPdf** 12 44 13.0 -0.6
baz=297
G62A West of Eustis 124.75 38 P **PKPdf** 12 44 13.3 -0.4
baz=300
K62A Royalston 124.90 41 P **PKPdf** 12 44 13.6 -0.4
baz=297
I62A Tamworth 124.92 40 P **PKPdf** 12 44 13.8 -0.1
baz=299
J62A Henniker 124.92 41 P **PKPdf** 12 44 13.8 -0.2
baz=298
M62A Hamden 125.01 43 P **PKPdf** 12 44 13.8 -0.4
baz=296
BRG Berggiesshubel 125.14 331 *i* PKP **PKPdf** 12 44 14.3 +0.1
comp=Z,3.6nm,0.7s
BRG Berggiesshubel 125.14 331 *i* PKIKP **PKPdf** 12 44 14.3 +0.1
BRG pmax pmax
comp=Z,4.0nm,0.7s
D63A Stockholm 125.22 35 P **PKPdf** 12 44 13.4 -1.0
baz=304
I63A Otisfield 125.31 39 P **PKPdf** 12 44 14.3 -0.4
baz=300
CLL Collm 125.31 332 *i* PKPdf **PKiKP** 12 44 15.0 +0.2
comp=Z,5.0nm,0.8s
CLL Collm 125.31 332 *i* PKIKP **PKiKP** 12 44 15.0 +0.2
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL Collm 125.31 332 PKPdf **PKiKP** 12 44 15.1 +0.2
K63A Dunstable 125.35 41 P **PKPdf** 12 44 14.7 -0.1
baz=298
G63A Kingsbury 125.36 38 P **PKPdf** 12 44 14.4 -0.4
baz=301
J63A Strafford 125.37 40 P **PKPdf** 12 44 14.7 -0.1
baz=299
F63A Nahmakanta, Br 125.37 37 P **PKPdf** 12 44 14.4 -0.4
baz=302
E63A Oxbow 125.38 36 P **PKPdf** 12 44 13.5 -1.3
baz=303
HRV Adam Dziewonsk 125.42 41 P **PKiKP** 12 44 16.0 +0.6
baz=298
PKME Peaks-Kenny Pk 125.48 37 P **PKPdf** 12 44 14.4 -0.6
baz=302
M63A Gales Ferry 125.59 43 P **PKPdf** 12 44 14.7 -0.7
baz=297
L63A North Scituate 125.68 42 P **PKPdf** 12 44 14.8 -0.7
baz=297
E64A Bridgewater 125.72 35 P **PKPdf** 12 44 14.1 -1.3
baz=304
F64A Sherman 125.73 36 P **PKPdf** 12 44 14.6 -0.8
baz=303
F64A Sherman 125.73 36 PKPdf **PKPdf** 12 44 15.3 -0.1
G64A Maxfield 125.81 37 P **PKPdf** 12 44 15.0 -0.6
baz=302
H64A Troy 125.85 38 P **PKPdf** 12 44 14.9 -0.8
baz=301
I64A Boothbay 125.96 39 P **PKPdf** 12 44 15.3 -0.6
baz=300
CONA Conrad Observa 125.99 327 *i* PKPdf **PKPdf** 12 44 14.4 -1.6
comp=Z,1.4nm,0.6s
M64A Tiverton 126.09 42 P **PKPdf** 12 44 15.8 -0.4
baz=297
L64A Middleborough 126.16 42 P **PKPdf** 12 44 16.2 -0.2
baz=298
BATG Bathurst New B 126.23 34 PKPdf **PKPdf** 12 44 16.5 +0.1
H65A Eastbrook 126.41 37 P **PKPdf** 12 44 16.4 -0.4
baz=302
KHC Kasperske Hory 126.44 329 ePKPDF **PKiKP** 12 44 17.0 -0.2
KHC Kasperske Hory 126.44 329 ⇓ *i* PKIKP **PKPdf** 12 44 16.5 -0.3
G65A Princeton 126.55 37 P **PKPdf** 12 44 16.7 -0.3
baz=303
GEC2 GERESS Array S 126.56 329 PKPdf **PKPdf** 12 44 17.2 +0.1
GERES GERESS Array B 126.56 329 PKP **PKPdf** 12 44 17.0 -0.1
comp=Z,2.5nm,0.7s,baz=48,slow=2.0,SNR=21
MOA Molln 126.89 328 *i* PKPdf **PKPdf** 12 44 17.0 -0.7
comp=Z,2.2nm,1.0s
H66A Whiting 126.93 37 P **PKPdf** 12 44 17.6 -0.1
baz=303
SOKA Soboth 127.19 326 *i* PKPdf **PKPdf** 12 44 17.2 -1.2
comp=Z,2.2nm,1.0s
EKA Eskdalemuir Ar 128.18 344 PKP **PKPdf** 12 44 19.3 -0.5
comp=Z,0.7nm,0.5s,baz=12,slow=2.5,SNR=6.5
ABTA Abfaltersbach 128.51 328 *i* PKPdf **PKPdf** 12 44 19.2 -1.7
comp=Z,2.6nm,0.8s
WATA Walderalm 128.63 329 *i* PKPdf **PKPdf** 12 44 20.4 -0.7
comp=Z,2.1nm,0.6s
WTTA Wattenberg 128.64 329 *i* PKPdf **PKPdf** 12 44 20.6 -0.7
comp=Z,5.2nm,0.7s

MOTA	**Moosalm**	**128.86**	**329**	*i* PKPdf	**PKPdf**	**12 44 21.4**	**-0.2**
	comp=Z,4.4nm,0.7s						
SQTA	**Sankt Quirin**	**128.89**	**329**	*i* PKPdf	**PKPdf**	**12 44 21.4**	**-0.2**
	comp=Z,5.2nm,0.9s						
RETA	**Reutte**	**128.94**	**329**	*i* PKPdf	**PKPdf**	**12 44 19.7**	**-2.0**
	comp=Z,0.8nm,0.5s						
CBOC	**Ciudad Bolivar**	**129.26**	**88**	*e*P	**PKPdf**	**12 44 22.2**	**-1.1**
FETA	**Feichten**	**129.27**	**329**	*i* PKPdf	**PKPdf**	**12 44 21.9**	**-0.5**
	comp=Z,5.6nm,1.0s						
DAVA	**Damuels**	**129.52**	**330**	*i* PKPdf	**PKPdf**	**12 44 22.9**	**0.0**
	comp=Z,4.2nm,0.8s						
RREF	**El Recreo**	**129.86**	**89**	*e*P	**PKiKP**	**12 44 25.8**	**-0.1**
TOLC	**Tolima**	**129.86**	**89**	*e*P	**PKPdf**	**12 44 24.0**	**-0.7**
GUY2C	**Guyana, Caldas**	**129.86**	**89**	*e*P	**PKPdf**	**12 44 24.6**	**-0.2**
DAVOX	**Davos/Dischmat**	**129.86**	**329**	PKP	**PKPdf**	**12 44 23.7**	**+0.1**
	comp=Z,2.1nm,0.5s,baz=216,slow=7.8,SNR=5.1						
ORTC	**Ortega, Tolima**	**129.88**	**90**	*e*P	**PKPdf**	**12 44 22.9**	**-1.5**
SJCC	**San Jacinto, C**	**130.21**	**82**	*e*P	**PKPdf**	**12 44 24.2**	**-0.8**
PRAC	**Prado**	**130.22**	**91**	*e*P	**PKPdf**	**12 44 24.0**	**-1.0**
NORC	**Norcasia**	**130.38**	**88**	*e*P	**PKPdf**	**12 44 22.2**	**-3.1**
RUSC	**La Rusia**	**132.17**	**88**	PKPdf	**PKPdf**	**12 44 29.0**	**-0.2**
SDDR	**Presa de Saban**	**133.26**	**70**		**PKPdf**	**12 44 31.1**	**+0.5**
SDV	**Santo Domingo**	**134.69**	**84**	PKPdf	**PKPdf**	**12 44 34.0**	**+0.4**
VSL	**Villasalto**	**134.84**	**322**	PKPdf	**PKPdf**	**12 44 33.5**	**+0.5**
CRPR	**Cabo Rojo, PR**	**137.33**	**70**	PKPdf	**PKPdf**	**12 44 38.0**	**-0.1**
SJG	**San Juan**	**138.21**	**70**	PKiKP	**PKPdf**	**12 44 39.9**	**+0.2**
SJG	**San Juan**	**138.21**	**70**		**PKPdf**	**12 44 39.9**	**+0.2**
HUMP	**Col San Antoni**	**138.48**	**70**		**PKPdf**	**12 44 40.2**	**0.0**
PGAV	**Gavieira, Arco**	**141.60**	**340**	*e*PKP	**PKPdf**	**12 44 46.1**	**+0.7**
ESDC	**Sonseca Array**	**141.86**	**333**	PKhKP	PKPpre	12 44 41.4	
	comp=Z,0.2nm,0.4s,baz=250,slow=39,SNR=2.1						
PMRV	**Marv??o**	**143.50**	**337**	*e*PKP	**PKPdf**	**12 44 48.9**	**+0.1**
PMTG	**Montargil**	**144.13**	**338**	*e*PKP	PKPbc	12 44 48.1	+0.2
PBEJ	**Beja**	**144.89**	**336**	*e*PKP	**PKPab**	**12 44 50.0**	**-0.4**
PNCL	**Nicolau / Gran**	**145.08**	**337**	*e*PKP	**PKPbc**	**12 44 50.8**	**-0.2**
MESJ	**Messejana**	**145.19**	**336**	*e*PKP	**PKPbc**	**12 44 50.5**	**-0.9**
MESJ	**Messejana**	**145.19**	**336**	*e*PKP	**PKPbc**	**12 44 51.3**	**-0.1**
PCVE	**Castro Verde**	**145.30**	**336**	*e*PKP	**PKPab**	**12 44 51.8**	**-0.1**
PVAQ	**Vaqueiros**	**145.37**	**335**	*e*PKP	**PKiKP**	**12 44 54.9**	**-1.1**
PTEO	**Sao Teotonio**	**145.65**	**337**	*e*PKP	**PKPab**	**12 44 53.1**	**0.0**
BDFB	**Brasilia**	**148.37**	**134**	PKPbc	**PKPbc**	**12 45 00.5**	**-0.8**
	comp=Z,11nm,0.8s,baz=198,slow=3.6,SNR=8.8						
BDFB	**Brasilia**	**148.37**	**134**	PKPdf	**PKPdf**	**12 44 57.8**	**0.0**
TOA0	**Torodi Ar. Sit**	**152.90**	**286**	PKPdf	**PKPdf**	**12 45 04.4**	**-0.3**
TOA0				PKPbc	**PKPbc**	**12 45 11.0**	**-1.0**
TORD	**Torodi Ar. Bea**	**152.90**	**286**	PKP	**PKPdf**	**12 45 03.4**	**-1.3**
	comp=Z,2.9nm,1.0s,baz=37,slow=1.3,SNR=9.2						
TORD				PKPbc	**PKPbc**	**12 45 10.9**	**-1.0**
	comp=Z,11nm,0.7s,baz=80,slow=2.2,SNR=44						
KIC	**Kosan Boka**	**159.90**	**271**	*e*PKP1	**PKPab**	**12 45 52.7**	**-0.7**
	comp=Z,75nm,1.1s						
DBIC	**Dimbokro**	**160.02**	**272**	PKPab	**PKPab**	**12 45 53.6**	**-0.3**
	comp=Z,14nm,0.8s,baz=23,slow=4.6,SNR=9.0						
DBIC	**Dimbokro**	**160.02**	**272**	PKP2	**PKPab**	**12 45 54.2**	**+0.3**
DBIC	**Dimbokro**	**160.02**	**272**		**PKPab**	**12 45 54.2**	**+0.3**
TIC	**Toumodi**	**160.18**	**272**	*e*PKP1	**PKPab**	**12 45 53.6**	**-1.0**
LIC	**Lamto**	**160.18**	**271**	*e*PKP1	**PKPab**	**12 45 53.2**	**-1.4**
	comp=Z,87nm,1.1s						

ISC 09 12:25:28.0±1.0, 44°.86N±0°.03×16°.97E±0°.06, h9km±14km, n9, σ0°80/18, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BLY	**Banja Luka**	**0.19**	**125**	*e*Pg	**Pg**	**12 25 31.9**	**0.0**
BLY				*e*Sg	**Sg**	**12 25 35.5**	**+0.9**
MOSL	**Moslavina**	**0.77**	**349**	*e*Pg	**Pg**	**12 25 41.8**	**-1.1**
MOSL				Sg	**Sg**	**12 25 53.0**	**0.0**
KUV	**Kijevo**	**0.94**	**205**	*e*Pg	**Pg**	**12 25 45.5**	**-0.6**
KIJV				Sg	**Sg**	**12 25 57.4**	**-0.9**
PTJ	**Puntijarka**	**1.26**	**327**	*e*Pg	**Pn**	**12 25 51.9**	**-0.2**
PTJ				Sg	**Sg**	**12 26 09.2**	**+0.5**
KALN	**Kalnik**	**1.32**	**344**	*e*Pg	**Pg**	**12 25 53.2**	**-0.2**
KALN				Sg	**Sg**	**12 26 11.3**	**+0.7**
MORI	**Morici**	**1.34**	**223**	*e*Pg	**Pb**	**12 25 53.5**	**+0.1**
MORI				Sg	**Sg**	**12 26 12.0**	**+0.8**
ZIRJ	**Zirje**	**1.53**	**219**	*e*Pn	**Pb**	**12 25 56.5**	**-0.1**
ZIRJ				Sg	**Sg**	**12 26 17.7**	**+0.4**
DUGI	**Dugi Otok**	**1.62**	**238**	*e*Pn	**Pn**	**12 25 57.2**	**+0.4**
DUGI				Sn	**Sb**	**12 26 20.1**	**+1.4**
HVAR	**Hvar**	**1.72**	**193**	*e*Pn	**Pb**	**12 25 58.9**	**-0.9**
HVAR				Sn	**Sg**	**12 26 22.4**	**-0.8**

*PGC **09** 12:27:54.7±0.0, 65°.28N×133°.57W, h1km, ML3.4/9, 243km Sse of Fort McPherson, Nt Northern Yukon Territory, Canada*
*IDC **09** 12:27:54.5±0.8, 65°.37N×133°.70W, h0km, mb2.9/1, mb1 3.6/6, mb1mx3.3/53, mbtmp3.3/6, ML3.4/5, Error ellipse: s-maj=10.9km s-min=9.1km az=34.0*
ISC 09 12:27:54.4±0.7, 65°.33N±0°.04×133°.62W±0°.04, h10km, n24, σ3°00/40, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAWY	**Dawson**	**2.79**	**246**	Pn	**Pn**	**12 28 40.2**	**+1.2**
DAWY				Sg	**Sb**	**12 29 20.0**	**+1.7**
INK	**Inuvik**	**2.99**	**1**	Pn	**Pn**	**12 28 42.8**	**+1.0**
	1.9nm,0.3s,baz=163,slow=15,SNR=60						
INK				Pg	**Pb**	**12 28 48.8**	**+1.1**
	5.2nm,0.3s,baz=171,slow=16,SNR=36						
INK				Sn	**Sn**	**12 29 19.6**	**+2.0**
	6.6nm,0.3s,baz=50,slow=21,SNR=6.2						
INK				Lg	Lg	12 29 27.0	
	14nm,0.3s,baz=283,slow=31,SNR=6.6						
INK	**Inuvik**	**2.99**	**1**	Pn	**Pn**	**12 28 42.9**	**+1.1**
INK				Sn	**Sn**	**12 29 18.8**	**+1.1**
BVCY	**Beaver Creek**	**4.34**	**231**	Pn	**Pn**	**12 29 01.5**	**+1.2**
BVCY				Sg	**Sg**	**12 30 09.2**	**-4.2**
YUK1	**Sand Pete Hill**	**4.42**	**227**	Pn	**Pn**	**12 29 02.4**	**+0.8**
YUK4	**Talbot Arm**	**4.59**	**212**	Pn	**Pn**	**12 29 03.0**	**-1.0**
YUK3	**Moose Creek**	**4.70**	**224**	Pn	**Pn**	**12 29 05.7**	**+0.3**
YUK3				Sg	**Sb**	**12 30 19.0**	**+5.5**
WHY	**Whitehorse**	**4.72**	**188**	Pn	**Pn**	**12 29 05.4**	**-0.3**
WHY				Sg	**Sb**	**12 30 19.2**	**+5.1**
YUK2	**White River**	**4.80**	**226**	Pn	**Pn**	**12 29 07.4**	**+0.6**
YUK2				Sn	**Sn**	**12 30 01.4**	**-1.0**
YUK2				Sg	**Sb**	**12 30 22.1**	**+5.8**
DOT	**Dot Lake**	**4.82**	**254**	Pn	**Pn**	**12 29 07.1**	**+0.2**
DOT				Sg	**Sg**	**12 30 25.5**	**-3.5**
HYT	**Haines Junctio**	**4.85**	**203**	Pn	**Pn**	**12 29 07.7**	**+0.2**
HYT				Sg	**Sb**	**12 30 22.5**	**+4.7**
YUK6	**Outpost Mounta**	**4.90**	**208**	Pn	**Pn**	**12 29 08.1**	**-0.2**
YUK6				Sg	**Sb**	**12 30 24.8**	**+5.5**
YUK7	**Dusty Glacier**	**5.24**	**205**	Pn	**Pn**	**12 29 12.6**	**-0.3**
YUK7				Sg	**Sg**	**12 30 36.5**	**-5.9**
ILAR	**Eielson Array**	**5.64**	**270**	Pn	**Pn**	**12 29 19.1**	**+0.9**
	0.2nm,0.3s,baz=85,slow=11,SNR=6.3						
ILAR				Sn	**Sn**	**12 30 20.3**	**-2.8**
	0.4nm,0.3s,baz=74,slow=29,SNR=5.4						
ILAR				Lg	Lg	12 30 45.5	
	0.6nm,0.3s,baz=278,slow=10,SNR=7.0						
DHRN	**Dharma Camp**	**5.97**	**67**	Pn	**Pn**	**12 29 22.8**	**+0.2**
PLBC	**Pleasant Camp**	**6.03**	**193**	Sg	**Sb**	**12 30 59.6**	**+8.0**
COLD	**Coldfoot**	**6.95**	**293**	Pn	**Pn**	**12 29 36.7**	**+0.6**
COLD				Sn	**Sn**	**12 30 52.9**	**-2.2**
DLBC	**Dease Lake**	**7.12**	**165**	Pn	**Pn**	**12 29 39.1**	**+0.5**
	1.3nm,0.3s,baz=3.2,slow=8.7,SNR=16						
DLBC				Lg	Lg	12 31 32.0	
	0.3nm,0.3s,baz=71,slow=23,SNR=4.5						
DLBC	**Dease Lake**	**7.12**	**165**	Pn	**Pn**	**12 29 37.7**	**-0.8**
DLBC				Sg		12 31 33.5	-9.2
KUKN	**Kugluktuk,NWT**	**7.79**	**63**	Pn	**Pn**	**12 29 46.3**	**-1.3**
YKW3	**Yellowknife Ar**	**8.80**	**100**	Pn	**Pn**	**12 29 59.4**	**-2.0**
YKA	**Yellowknife Ar**	**8.84**	**100**	Pn	**Pn**	**12 30 02.1**	**+0.2**
	0.4nm,0.3s,baz=295,slow=13,SNR=13						
YKA				Sn	**Sn**	**12 31 36.6**	**-4.8**
	0.4nm,0.3s,baz=295,slow=22,SNR=7.1						
RES	**Resolute Bay**	**15.84**	**38**	Pn	**Pn**	**12 31 36.2**	**-0.7**
	0.4nm,0.3s,baz=245,slow=10.0,SNR=9.0						
RES				Sn	Sn	12 34 19.6	-13
	0.1nm,0.3s,baz=148,slow=5.5,SNR=1.4						
TXAR	**Lajitas Array**	**40.54**	**138**	P	**P**	**12 35 34.2**	**+0.6**
	0.1nm,0.6s,baz=354,slow=7.2,SNR=1.9						

*ATH **09** 12:43:21.2, 40°.40N×26°.05E, h24km±6km, ML1.8/4, Error ellipse: s-maj=6.5km s-min=1.1km az=316.0*
*DDA **09** 12:43:21.2, 40°.37N×26°.15E, h7km±3km, ML2.1*
ISK 09 12:43:20.6, 40°.37N×26°.15E, h18km, ML2.0/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GELI	**Tayfur-Gelibol**	**0.25**	**84**	PG	Pb	12 43 27.0	+0.5
GELI				SG	Sb	12 43 30.9	+0.4
GOKA	**anakkale-Gk**	**0.26**	**226**	*i* P	Pb	12 43 27.1	+0.3
GOKA				IAML		12 43 31.0	
	comp=N,286nm,0.4s						
GOKA				*i* S	Sb	12 43 31.5	+0.6
GADA	**Gvkgeada**	**0.27**	**227**	PG	Pb	12 43 27.1	+0.3
GADA				SG	Sb	12 43 31.0	0.0
ENEZ	**Enez**	**0.36**	**0**	PG	Pb	12 43 28.7	+0.1
ERIK	**Erikli-Kesan**	**0.41**	**43**	PG	Pb	12 43 29.7	+0.4
ERIK				SG	Sb	12 43 35.4	+0.2
LPK	**Lapseki**	**0.47**	**90**	PG	Pg	12 43 29.9	-0.1
SMTH	**Samothraki Isl**	**0.48**	**282**	P	Pg	12 43 30.4	0.0
SMTH				S	Sg	12 43 36.6	-0.4
SMTH				AML	AML	12 43 40.5	
	comp=E,286μm,0.1s						
SMTH				AML	AML	12 43 40.6	
	comp=N,368μm,0.1s						
ALN	**Alexandroupoli**	**0.53**	**351**	P	Pb	12 43 31.5	+0.1
ALN				S	Sg	12 43 38.3	0.0
ALN				AML	AML	12 43 39.4	
	comp=E,108μm,0.3s						
ALN				AML	AML	12 43 44.4	
	comp=N,54μm,0.2s						
ALN	**Alexandroupoli**	**0.53**	**351**	PG	Pb	12 43 31.5	+0.1
BOZC	**Bozcaada**	**0.54**	**188**	PG	Pb	12 43 32.1	+0.6
BOZC	**Bozcaada**	**0.54**	**188**	*i* P	Pb	12 43 31.9	+0.5
BOZC				*i* S	Sb	12 43 39.7	+0.9
EZN	**Ezine**	**0.56**	**166**	PG	Pb	12 43 32.1	+0.2
KESN	**Edirne-Kesan**	**0.60**	**41**	*i* P	Pg	12 43 32.4	-0.3
KESN				*i* S	Sb	12 43 42.2	+1.0
KESN				IAML		12 43 48.0	
	comp=N,84nm,0.2s						
BAYC	**CANAKKALE_Bayr**	**0.70**	**154**	*i* P	Pn	12 43 35.1	-0.6
BAYC				*i* S	Sn	12 43 45.9	-0.1
UKOO	**Uzunkopru-Edir**	**0.84**	**26**	PG	Pg	12 43 37.2	+0.2
KRBG	**Karabiga-Canak**	**0.88**	**88**	PG	Pg	12 43 37.8	+0.1
LIA	**Limnos Island**	**0.88**	**238**	P	Pb	12 43 37.5	+0.2
LIA				S	Sb	12 43 48.9	+0.1
RDO	**Rodhopi**	**0.90**	**329**	P	Pg	12 43 38.0	-0.2
RDO				S	Sg	12 43 49.8	-0.3
RDO				AML	AML	12 43 53.3	
	comp=E,119μm,0.2s						
RDO				AML	AML	12 43 53.3	
	comp=N,88μm,0.1s						
RDO	**Rodhopi**	**0.90**	**329**	PG	Pn	12 43 38.9	+0.5
THAS	**Thassos island**	**1.12**	**283**	P	Pn	12 43 40.8	-0.5
THAS				S	Sb	12 43 55.2	-0.4
MRMT	**Marmara Adasi**	**1.12**	**78**	PN	Pn	12 43 41.3	-0.3
PRK	**Paraskevi**	**1.13**	**175**	P	Pg	12 43 43.9	+1.4
PRK				S	Sg	12 43 59.2	+2.0
PRK				AML	AML	12 44 01.1	
	comp=E,178μm,0.4s						
PRK				AML	AML	12 44 01.3	
	comp=N,356μm,0.5s						
SIGR	**SIGRI**	**1.18**	**191**	P	Pg	12 43 43.5	0.0
SIGR				S	Sg	12 43 59.5	+0.6
SIGR	**SIGRI**	**1.18**	**191**	PN	Pb	12 43 42.7	+0.2
GONE	**Gonen-Balikesi**	**1.22**	**105**	PN	Pb	12 43 43.5	+0.4
BALY	**Balya**	**1.29**	**119**	*i* P	Pg	12 43 46.5	+0.9
BALY				*i* S	Sg	12 44 04.2	+1.8
KDZ	**Kurdzhali**	**1.39**	**337**	PN	Pn	12 43 45.5	+0.3

BUC 09 12:45:50.7±0.1, 45°.17N×27°.07E, h12km±1km, ml2.3/33, 78C-44D, Error ellipse: s-maj=1.0km s-min=0.9km az=75.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRER		**0.22**	**342**	↑P	Pg	12 45 55.1	-0.4
GRER				↑S	Sg	12 45 59.2	+0.5
GRER		**0.22**	**342**	↑P	Pg	12 45 55.1	-0.4
GRER				↑S	Sg	12 45 59.2	+0.5
PGOR	**Pogoanele**	**0.27**	**193**	↑P	Pg	12 45 56.1	-0.1
PGOR				↑S	Sg	12 46 00.2	+0.3
PGOR	**Pogoanele**	**0.27**	**193**	↑P	Pg	12 45 56.1	-0.1
PGOR				↑S	Sg	12 46 00.2	+0.3
ISR	**Istrita**	**0.38**	**263**	↑P	Pg	12 45 57.7	-0.6
ISR				↓S	Sg	12 46 03.4	+0.2
ISR	**Istrita**	**0.38**	**263**	↑P	Pg	12 45 57.7	-0.6
ISR				↓S	Sg	12 46 03.4	+0.2
BISRR	**Bisoca**	**0.46**	**326**	↓P	Pg	12 46 00.2	+0.4
BISRR				↑S	Sb	12 46 06.7	-0.8
BISRR	**Bisoca**	**0.46**	**326**	↓P	Pg	12 46 00.2	+0.4
BISRR				↓S	Sb	12 46 06.7	-0.8
PETR	**Petresti**	**0.57**	**11**	↑P	Pg	12 46 02.1	+0.3
PETR				↓S	Sb	12 46 10.0	-0.5
PETR	**Petresti**	**0.57**	**11**	↑P	Pg	12 46 02.1	+0.3
PETR				↓S	Sb	12 46 10.0	-0.5
AMRR	**Amara**	**0.59**	**161**	↑P	Pg	12 46 01.9	-0.2
AMRR				↑S	Sb	12 46 11.4	+0.3
AMRR	**Amara**	**0.59**	**161**	↑P	Pg	12 46 01.9	-0.2
AMRR				↑S	Sb	12 46 11.4	+0.3
ODBI	**Odobesti**	**0.60**	**359**	↓P	Pb	12 46 03.2	+0.1
ODBI	**Odobesti**	**0.60**	**359**	↓P	Pb	12 46 03.2	+0.1
TUDR		**0.60**	**44**	↓P	Sb	12 46 02.8	-0.3
TUDR				↓P	Sb	12 46 12.1	+0.6
TUDR		**0.60**	**44**	↓P	Pb	12 46 02.8	-0.3
TUDR				↓S	Sb	12 46 12.1	+0.6
LEHL	**Lehliu**	**0.72**	**195**	↑P	Pg	12 46 04.5	-0.1
LEHL				↑S	Sg	12 46 14.0	+0.1
LEHL	**Lehliu**	**0.72**	**195**	↑P	Pg	12 46 04.5	-0.1
LEHL				↑S	Sg	12 46 14.0	+0.1
VRI	**Vrincioaia**	**0.74**	**341**	↑P	Pg	12 46 05.1	+0.1
VRI				↑S	Sg	12 46 14.9	+0.2
VRI	**Vrincioaia**	**0.74**	**341**	↑P	Pg	12 46 05.1	+0.1
VRI				↑S	Sg	12 46 14.9	+0.2
PLOR	**Plostina**	**0.74**	**337**	↑S	Sb	12 46 16.1	+0.4
PLOR	**Plostina**	**0.74**	**337**	↑S	Sb	12 46 16.1	+0.4
CFR	**Carcaliu**	**0.75**	**89**	↑P	Pg	12 46 04.7	-0.5
CFR				↑S	Sb	12 46 16.1	+0.2
CFR	**Carcaliu**	**0.75**	**89**	↑P	Pg	12 46 04.7	-0.5
CFR				↑S	Sb	12 46 16.1	+0.2
SULR		**0.76**	**230**	↓P	Pg	12 46 05.3	-0.1
SULR				↓S	Sb	12 46 16.2	+0.2
SULR		**0.76**	**230**	↓P	Pg	12 46 05.3	-0.1
SULR				↓S	Sb	12 46 16.2	+0.2
HARR	**Harsova**	**0.78**	**128**	↑P	Pg	12 46 05.1	-0.6
HARR	**Harsova**	**0.78**	**128**	↑P	Pg	12 46 05.1	-0.6
MLR	**Muntele Rosu**	**0.86**	**293**	↓P	Pg	12 46 07.3	0.0
MLR	**Muntele Rosu**	**0.86**	**293**	↓P	Pg	12 46 07.3	0.0
VARL	**Varlezi**	**0.91**	**36**	↑S	Sb	12 46 21.0	+0.4
VARL	**Varlezi**	**0.91**	**36**	↑S	Sb	12 46 21.0	+0.4
TLBR	**Topalu**	**0.93**	**132**	↓P	Pg	12 46 08.0	-0.7
TLBR				↓S	Sn	12 46 22.0	-0.8
TLBR	**Topalu**	**0.93**	**132**	↓P	Pg	12 46 08.0	-0.7
TLBR				↓S	Sn	12 46 22.0	-0.8
RASA	**Rasa**	**0.95**	**177**	↓P	Pg	12 46 09.0	0.0
RASA				↓S	Sn	12 46 23.2	-0.1
RASA	**Rasa**	**0.95**	**177**	↓P	Pg	12 46 09.0	0.0
RASA				↓S	Sn	12 46 23.2	-0.1
TOPG	**Topolog**	**0.97**	**107**	↓P	Pg	12 46 08.9	-0.5
TOPG				↓S	Sn	12 46 23.1	-0.7
TOPG	**Topolog**	**0.97**	**107**	↓P	Pg	12 46 08.9	-0.5
TOPG				↓S	Sn	12 46 23.1	-0.7
CVDA	**Cernavoda**	**1.08**	**140**	↓P	Pb	12 46 10.7	-0.5
CVDA				↓S	Sn	12 46 26.6	+0.1
CVDA	**Cernavoda**	**1.08**	**140**	↓P	Pb	12 46 10.7	-0.5
CVDA				↓S	Sn	12 46 26.6	+0.1
BUC1	**Bucharest**	**1.11**	**223**	↑P	Pb	12 46 11.4	-0.3
BUC1				↑S	Sn	12 46 27.3	+0.3
BUC1	**Bucharest**	**1.11**	**223**	↑P	Pb	12 46 11.4	-0.3
BUC1				↑S	Sn	12 46 27.3	+0.3
BIR	**Birlad**	**1.17**	**19**	↓P	Pb	12 46 12.7	0.0
BIR				↓S	Sb	12 46 27.9	+0.1
BIR	**Birlad**	**1.17**	**19**	↓P	Pb	12 46 12.7	0.0
BIR				↓S	Sb	12 46 27.9	+0.1
ICOR	**Ion Corvin**	**1.17**	**153**	↓P	Pb	12 46 12.3	-0.5
ICOR				↓S	Sn	12 46 29.6	+0.9
ICOR	**Ion Corvin**	**1.17**	**153**	↓P	Pb	12 46 12.3	-0.5
ICOR				↓S	Sn	12 46 29.6	+0.9
TIRR	**Tirgusor**	**1.19**	**126**	↑P	Pn	12 46 12.1	-1.0
TIRR				↑S	Sn	12 46 29.8	+0.6
TIRR	**Tirgusor**	**1.19**	**126**	↑P	Pn	12 46 12.1	-1.0
TIRR				↑S	Sn	12 46 29.8	+0.6
SGRR	**Singureni**	**1.23**	**220**	↑P	Pn	12 46 13.2	-0.4
SGRR				↑S	Sg	12 46 30.4	+0.3
SGRR	**Singureni**	**1.23**	**220**	↑P	Pn	12 46 13.2	-0.4
SGRR				↓S	Sg	12 46 30.4	+0.3
TLCR		**1.23**	**89**	↓P	Pn	12 46 13.3	-0.4
TLCR				↑S	Sn	12 46 30.3	+0.1
TLCR		**1.23**	**89**	↓P	Pn	12 46 13.3	-0.4
TLCR				↑S	Sn	12 46 30.3	+0.1
TESR	**Tescani**	**1.38**	**348**	↑P	Pn	12 46 14.6	-1.1
TESR				↑S	Sg	12 46 34.5	-0.5
TESR	**Tescani**	**1.38**	**348**	↑P	Pn	12 46 14.6	-1.1
TESR				↑S	Sg	12 46 34.5	-0.5
MFTR	**Murfatlar**	**1.38**	**135**	↑P	Pn	12 46 15.8	+0.1
MFTR				↑S	Sg	12 46 35.0	-0.1
MFTR	**Murfatlar**	**1.38**	**135**	↑P	Pn	12 46 15.8	+0.1
MFTR				↑S	Sg	12 46 35.0	-0.1
MTUR	**Matau**	**1.42**	**273**	↑P	Pn	12 46 16.4	0.0
MTUR	**Matau**	**1.42**	**273**	↑P	Pn	12 46 16.4	0.0
DOPR	**Dopca**	**1.43**	**305**	↑P	Pn	12 46 15.3	-1.1
DOPR	**Dopca**	**1.43**	**305**	↑P	Pn	12 46 15.3	-1.1
VOIR		**1.45**	**281**	↑P	Pn	12 46 16.6	-0.2
VOIR				↓S	Sg	12 46 37.4	0.0
VOIR		**1.45**	**281**	↑P	Pn	12 46 16.6	-0.2
VOIR				↓S	Sg	12 46 37.4	0.0
EFOR	**EFORIE**	**1.56**	**134**	↑S	Sb	12 46 39.3	+0.3
EFOR	**EFORIE**	**1.56**	**134**	↑S	Sb	12 46 39.3	+0.3
RAZG	**Razgrad**	**1.65**	**194**	↑S	Sb	12 46 42.0	+0.2
RAZG	**Razgrad**	**1.65**	**194**	↑S	Sb	12 46 42.0	+0.2
COPA	**Copaceanca**	**1.68**	**233**	↑S	Sb	12 46 42.9	+0.4
COPA	**Copaceanca**	**1.68**	**233**	↑S	Sb	12 46 42.9	+0.4
ARR	**Arges**	**1.73**	**277**	↑P	Pn	12 46 20.7	+0.1
ARR				↑S	Sb	12 46 44.3	+0.2
ARR	**Arges**	**1.73**	**277**	↑P	Pn	12 46 20.7	+0.1
ARR				↑S	Sb	12 46 44.3	+0.2
MANR	**Mangalia**	**1.73**	**141**	↑S	Sn	12 46 43.2	+0.6
MANR	**Mangalia**	**1.73**	**141**	↑S	Sn	12 46 43.2	+0.6

INET 09 12:49:00.8, 12°.36N×86°.46W, h12km, ML3.5, Nicaragua

*IDC **09** 12:51:17.1±1.4, 38°.39N×100°.11E, h0km, mb3.4/5, mb1 3.6/8, mb1mx3.4/47, mbtmp3.5/8, ML3.3/3, Error ellipse: s-maj=30.9km s-min=22.8km az=40.0*
*BJI **09** 12:51:18.0±0.0, 38°.12N×100°.15E, h5km, ML3.8/18*
ISC 09 12:51:20.2±0.9, 38°.43N±0°.10×100°.4E±0°.1, h10km, n13, σ1°81/14, mb3.5/5, 1C, Gansu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**1.08**	**335**	↑Pg	**Pg**	**12 51 40.3**	**-0.6**
GTA				Sg	**Sb**	**12 51 57.1**	**+1.9**
GTA				smax	smax		
	comp=N,540nm,0.5s						
GTA				smax	smax		
	comp=E,810nm,0.6s						
LZH	**Lanzhou**	**3.62**	**129**	*e*Pn	**Pn**	**12 52 17.4**	**+1.0**
LZH				Pg	Pb	12 52 21.6	-2.7
LZH				Sn	**Sn**	**12 53 00.3**	**+1.1**
LZH				Sg	**Sb**	**12 53 08.8**	**+0.5**
LZH				smax	smax		
	comp=N,180nm,0.7s						
LZH				smax	smax		
	comp=E,170nm,1.0s						
SONM	**Songino Array**

Ms1 3.3/3,ms1mx2.9/36,Error ellipse: s-maj=22.9km s-min=12.0km az=91.0
*NEIC **09** 12:59:27.2±1.3,20°.55N±0°.06×99°.96E±0°.06,h10km±1km, mb4.4/25,Error ellipse: s-maj=10.2km s-min=8.4km az=150.0*

ISC 09 12:59:27.6±0.4,**20°.58N**±0°.04×**99°.94E**±0°.05,**h10**km,**n76,** σ1°**03**/73,**mb4.2**/23,**MS3.5**/3,**Myanmar**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRAI	**Chiangrai**	**0.53**	**130**	P	**Pg**	**12 59 38.7**	**+0.7**
CRAI				S	**Sg**	**12 59 46.0**	**+1.0**
PAYA	**Payao**	**1.21**	**183**	P	**Pb**	**12 59 50.3**	**-0.3**
CM34	**Chiang Mai Arr**	**1.87**	**204**	P	**Pn**	**12 59 59.2**	**-0.6**
CM33	**Chiang Mai Arr**	**1.98**	**208**	P	**Pn**	**12 59 59.3**	**-1.9**
CMMT	**Chiang Mai**	**1.99**	**208**	P	**Pn**	**13 00 00.8**	**-0.5**
CHTO	**Chiang Mai**	**1.99**	**208**	Pn	**Pn**	**13 00 00.9**	**-0.5**
CM35	**Chiang Mai Arr**	**2.03**	**202**	P	**Pn**	**13 00 01.4**	**-0.5**
LAMP	**Lampang**	**2.06**	**188**	P	**Pn**	**13 00 02.4**	**0.0**
CM32	**Chiang Mai Arr**	**2.17**	**208**	P	**Pn**	**13 00 03.3**	**-0.5**
CM36	**Chiang Mai Arr**	**2.20**	**201**	P	**Pn**	**13 00 03.6**	**-0.6**
CM09	**Chiang Mai Arr**	**2.30**	**203**	P	**Pn**	**13 00 05.5**	**-0.1**
CM31	**Chiang Mai Arr**	**2.31**	**204**	P	**Pn**	**13 00 05.5**	**-0.2**
CM31	**Chiang Mai Arr**	**2.31**	**204**		**Pn**	**13 00 05.7**	**-0.1**
CMAR	**Chiang Mai Arr** 34nm,0.3s,baz=13,slow=13,SNR=45	**2.31**	**204**	Pn	**Pn**	**13 00 05.3**	**-0.4**
CMAR				Pg	**Pb**	**13 00 11.2**	**+1.8**
	424nm,0.3s,baz=18,slow=17,SNR=293						
CMAR				LR	LR	13 00 37.6	
	comp=Z,238nm,19.6s,baz=15,slow=30						
CMAR				Lg	Lg	13 00 41.6	
	273nm,0.3s,baz=9.4,slow=6.7,SNR=2.1						
CM15	**Chiang Mai Arr**	**2.32**	**205**	P	**Pn**	**13 00 05.4**	**-0.5**
CM02	**Chiang Mai Arr**	**2.33**	**204**	P	**Pn**	**13 00 05.6**	**-0.4**
CM01	**Chiang Mai Arr**	**2.34**	**204**	P	**Pn**	**13 00 05.9**	**-0.2**
CM04	**Chiang Mai Arr**	**2.35**	**203**	P	**Pn**	**13 00 06.0**	**-0.2**
CM13	**Chiang Mai Arr**	**2.35**	**205**	P	**Pn**	**13 00 06.2**	**-0.2**
CM05	**Chiang Mai Arr**	**2.36**	**204**	P	**Pn**	**13 00 06.0**	**-0.4**
UTTA	**Uttaradit**	**2.88**	**168**	P	**Pn**	**13 00 13.8**	**+0.3**
MHMT	**Maesarieng**	**3.05**	**219**	P	**Pn**	**13 00 15.6**	**+0.3**
SLVN	**Son La**	**3.78**	**78**	Pn	**Pn**	**13 00 24.3**	**-1.7**
NONG	**Nongkai**	**3.93**	**129**	P	**Pn**	**13 00 28.8**	**+0.9**
PBKT	**Sadao Pong**	**4.10**	**166**	Pn	**Pn**	**13 00 31.1**	**+0.7**
KMI	**Kunming**	**5.21**	**29**		**Pn**	**13 00 47.4**	**+1.5**
KOHI	**KOHIMA**	**7.42**	**315**	*e*P	Pb	13 01 45.0	+8.5
KOHI				*e*S	Sb	13 03 19.1	+14
SHL	**Shillong**	**8.93**	**305**	Pn	**Pn**	**13 01 36.2**	**-0.6**
LSA	**Lhasa**	**12.07**	**321**	Pn	**Pn**	**13 02 21.9**	**+1.6**
GUN	**Gumba** 67nm,0.7s	**14.75**	**302**	*e*P	**Pn**	**13 02 59.1**	**+2.4**
PKI	**Pulchoki** 20nm,0.5s	**14.98**	**300**	*e*P	**Pn**	**13 03 01.8**	**+2.0**
PKIN	**Phulchoki** 21nm,0.5s	**14.99**	**300**	*e*P	**Pn**	**13 03 01.7**	**+1.8**
KKN	**Kakani** 59nm,0.8s	**15.18**	**301**	*e*P	**Pn**	**13 03 03.5**	**+1.2**
KULM	**Kulim**	**15.21**	**177**	P	**Pn**	**13 03 04.9**	**+2.3**
KULM				IAmb	IAmb	13 03 16.7	
	comp=Z,17nm,1.1s						
KOLN	**Koldanda** comp=Z,74nm,1.0s	**16.53**	**299**	*e*P	**Pn**	**13 03 18.1**	**-1.8**
DANN	**Dangsing** comp=Z,82nm,0.8s	**16.63**	**301**	*e*P	**Pn**	**13 03 18.6**	**-2.6**
KCSI	**Kotacane, Aceh**	**17.08**	**187**	P	**Pn**	**13 03 26.9**	**+0.2**
GSI	**Gunungsitoli**	**19.29**	**187**	P	**P**	**13 03 52.1**	**-0.7**
GSI				IAmb	IAmb	13 04 00.6	
	comp=Z,16nm,1.1s						
KSM	**Kuching**	**21.52**	**151**	P	**P**	**13 04 16.9**	**-0.1**
SBUM	**Sibu**	**21.64**	**145**	P	**P**	**13 04 18.1**	**-0.1**
YOJ	**Yonaguni jima**	**21.65**	**75**	P	**P**	**13 04 18.1**	**-0.2**
JOW	**Kunigami**	**26.65**	**71**	P	**P**	**13 05 04.1**	**-2.6**
JOW				IAmb	IAmb	13 05 09.4	
	comp=Z,13nm,0.7s						
NIL	**Nilore**	**27.00**	**304**	P	**P**	**13 05 09.4**	**-0.5**
SONM	**Songino Array** comp=Z,0.8nm,0.6s,baz=227,slow=14,SNR=2.9	**27.69**	**9**	P	**P**	**13 05 16.4**	**+0.4**
DAV	**Davao City (W)** comp=Z,64nm,21.3s,baz=322,slow=34	**28.23**	**115**	LR	LR	13 15 28.6	
MK31	**Makanchi Array**	**29.85**	**335**	P	**P**	**13 05 34.5**	**-0.6**
MKAR	**Makanchi Array** comp=Z,1.1nm,0.5s,baz=144,slow=9.0,SNR=10	**29.85**	**335**	P	**P**	**13 05 35.2**	**+0.1**
KBL	**Kabul**	**30.58**	**304**	P	**P**	**13 05 41.1**	**-0.8**
KBL				IAmb	IAmb	13 05 45.5	
	comp=Z,3.4nm,0.8s						
AAK	**Ala-Archa** comp=Z,1.5nm,0.4s,baz=155,slow=11,SNR=3.7	**30.67**	**322**	P	**P**	**13 05 44.0**	**+1.5**
GAR	**Garm**	**31.39**	**312**	P	**P**	**13 05 48.7**	**-0.2**
KURBB	**Kurchatov Arra** comp=Z,1.0nm,0.7s,baz=144,slow=8.8,SNR=10	**34.41**	**336**	P	**P**	**13 06 14.6**	**-0.5**
KURK	**Kurchatov**	**34.45**	**336**	P	**P**	**13 06 14.8**	**-0.5**
KURK				IAmb	IAmb	13 06 20.5	
	comp=Z,3.2nm,1.1s						
ZAA0	**Zalesovo Array**	**35.27**	**345**	P	**P**	**13 06 22.1**	**-0.2**
ZAA0				IAmb	IAmb	13 06 26.2	
	comp=Z,3.5nm,0.8s						
ZALV	**Zalesovo Beam** comp=Z,4.3nm,0.7s,baz=151,slow=9.9,SNR=20	**35.27**	**345**	P	**P**	**13 06 21.6**	**-0.8**
BVAR	**Borovoye Array** comp=Z,0.5nm,0.4s,baz=228,slow=44,SNR=3.2	**39.57**	**332**	P	**P**	**13 06 58.0**	**-0.9**
BRVK	**Borovoye**	**39.64**	**332**	P	**P**	**13 06 59.1**	**-0.4**
GYA0B	**ALIBECK ARRAY**	**40.00**	**305**	P	**P**	**13 07 02.2**	**-0.6**
GYA0B				IAmb	IAmb	13 07 18.5	
	comp=Z,3.5nm,0.6s						
ARU	**Arti**	**47.07**	**330**	P	**P**	**13 07 59.2**	**-0.2**
ARU				IAmb	IAmb	13 08 08.6	
	comp=Z,9.7nm,1.5s						
NRIK	**Noril'sk** comp=Z,2.3nm,0.7s,baz=150,slow=7.3,SNR=4.0	**49.35**	**354**	P	**P**	**13 08 15.6**	**-1.2**
RAYN	**Ar Rayn**	**50.29**	**284**	P	**P**	**13 08 24.5**	**-0.3**
RAYN				IAmb	IAmb	13 08 26.9	
	comp=Z,2.7nm,0.9s						
MORW	**Morawa**	**51.74**	**162**	P	**P**	**13 08 35.6**	**+0.3**
MORW				IAmb	IAmb	13 08 52.9	
	comp=Z,8.0nm,1.2s						
WB0	**Warramunga Arr**	**52.40**	**138**	P	**P**	**13 08 39.8**	**-0.6**
WB0				IAmb	IAmb	13 08 51.0	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Array** comp=Z,1.4nm,0.8s,baz=322,slow=8.1,SNR=6.6	**52.49**	**138**	P	P	13 08 38.5	-2.7
KIV	**Kislovodsk**	**52.58**	**310**	P	**P**	**13 08 41.3**	**-0.3**
MA2	**Magadan** comp=Z,1μm,18.1s,baz=173,slow=38	**52.99**	**30**	LR	LR	13 32 50.0	
PETK	**Petropavlovsk-** comp=Z,38nm,19.0s,baz=237,slow=38	**54.54**	**39**	LR	LR	13 33 36.6	
COEN	**Coen**	**54.62**	**125**	P	**P**	**13 08 55.9**	**-0.9**
AS31	**Alice Springs**	**55.04**	**141**	P	**P**	**13 08 58.9**	**-0.8**
ASAR	**Alice Springs** comp=Z,3.6nm,1.1s,baz=321,slow=7.3,SNR=22	**55.04**	**141**	P	**P**	**13 08 59.4**	**-0.4**
NWAO	**Narrogin (SRO)**	**55.71**	**162**	P	**P**	**13 09 04.1**	**-0.2**
BRTR	**Keskin Array B** comp=Z,0.4nm,0.5s,baz=108,slow=6.2,SNR=2.4	**59.15**	**305**	P	**P**	**13 09 29.4**	**+0.5**
AKASG	**Malin Array Be** comp=Z,0.5nm,0.4s,baz=83,slow=5.9,SNR=2.1	**62.20**	**317**	P	**P**	**13 09 50.4**	**+1.1**
FINES	**FINESS Array B** comp=Z,0.4nm,0.5s,baz=64,slow=6.6,SNR=3.5	**64.43**	**329**	P	**P**	**13 10 05.3**	**+1.5**
STKA	**Stephens Creek**	**65.67**	**142**	P	**P**	**13 10 12.0**	**-0.3**
NOA	**NORSAR Array B** comp=Z,1.0nm,0.7s,baz=82,slow=5.9,SNR=5.1	**71.62**	**329**	P	**P**	**13 10 50.6**	**+1.5**
TOLK	**Toolik Lake Re**	**78.17**	**21**	P	**P**	**13 11 26.4**	**-0.6**
TOLK				IAmb	IAmb	13 11 32.7	
	comp=Z,1.8nm,0.7s						

*NEIC **09** 13:05:54.3±1.6,21°.5S±0°.2×179°.5W±0°.1,h605km±11km, mb4.6/19,Error ellipse: s-maj=23.1km s-min=17.5km az=163.0*
*IDC **09** 13:05:55.2±5.3,21°.48S×179°.50W,h613km,66km, mb3.0/8, mb1 3.2/9,mb1mx3.0/39,mbtmp4.0/9,Error ellipse: s-maj=31.2km s-min=29.1km az=7.0*

ISC 09 13:05:54.2±0.7,**21°.5S**±0°.1×**179°.5W**±0°.1,**h604**km,**n32,** σ0°**71**/33,**mb4.3**/16,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.38**	**327**	P	**P**	**13 07 23.6**	**+0.7**
AFI	**Afiamalu**	**10.48**	**46**	P	**P**	**13 08 17.5**	**-0.5**
DZM	**Mont Dzumac** 0.5nm,0.3s,baz=120,slow=17,SNR=6.3	**13.11**	**265**	P	**P**	**13 08 43.5**	**-0.7**
DZM	**Mont Dzumac**	**13.11**	**265**	P	**P**	**13 08 43.1**	**-1.1**
SANVU	**Saraoutou**	**13.98**	**293**	P	**P**	**13 08 51.6**	**-1.3**
LHI	**Lord Howe Isla**	**21.64**	**238**	P	**P**	**13 10 03.6**	**+1.2**
EIDS	**Eidsvold**	**27.28**	**256**	P	**P**	**13 10 52.4**	**+0.1**
ARMA	**Armidale**	**27.42**	**245**	P	**P**	**13 10 54.0**	**+0.4**
CTA	**Charters Tower**	**32.05**	**266**	P	**P**	**13 11 34.2**	**+0.9**
	3.0nm,0.4s,baz=86,slow=10,SNR=15						
CTAO	**Charters Tower**	**32.05**	**266**	P	**P**	**13 11 34.0**	**+0.6**
TOO	**Toolangi**	**34.23**	**234**	P	**P**	**13 11 52.0**	**+0.6**
TOO				IAmb	IAmb	13 12 52.3	
	comp=Z,38nm,1.9s						
STKA	**Stephens Creek**	**36.14**	**245**	P	**P**	**13 12 07.7**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=81,slow=10,SNR=9.3						
STKA	**Stephens Creek**	**36.14**	**245**	P	**P**	**13 12 07.5**	**+0.2**
COEN	**Coen**	**36.29**	**276**	P	**P**	**13 12 10.1**	**+1.3**
COEN				IAmb	IAmb	13 12 58.8	
	comp=Z,18nm,1.2s						
BBOO	**Buckleboo**	**40.90**	**244**	P	**P**	**13 12 45.2**	**-0.4**
BBOO				IAmb	IAmb	13 13 17.8	
	comp=Z,63nm,1.9s						
AS31	**Alice Springs**	**42.97**	**258**	P	**P**	**13 13 01.7**	**-0.3**
ASAR	**Alice Springs** comp=Z,2.1nm,0.6s,baz=94,slow=8.0,SNR=59	**42.97**	**258**	P	**P**	**13 13 02.0**	**0.0**
ASAR				PcP	**PcP**	**13 14 38.4**	**0.0**
	comp=Z,0.3nm,0.5s,baz=97,slow=5.3,SNR=2.4						
WB0	**Warramunga Arr**	**43.10**	**264**	P	**P**	**13 13 02.7**	**-0.3**
WB0				IAmb	IAmb	13 13 38.6	
	comp=Z,31nm,1.6s						
WB2	**Warramunga Arr**	**43.11**	**263**	P	**P**	**13 13 02.6**	**-0.5**
WB2				IAmb	IAmb	13 14 50.1	
	comp=Z,32nm,1.6s						
WRAB	**Tennant Creek**	**43.11**	**263**	P	**P**	**13 13 01.9**	**-1.2**
WRAB				IAmb	IAmb	13 13 44.1	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr** comp=Z,1.2nm,0.3s,baz=96,slow=7.7,SNR=40	**43.12**	**263**	P	**P**	**13 13 02.9**	**-0.3**
FORT	**Forrest**	**47.66**	**247**	P	**P**	**13 13 36.9**	**-0.6**
FORT				IAmb	IAmb	13 15 33.7	
	comp=Z,21nm,0.9s						
MTN	**Manton Dam**	**47.81**	**272**	P	**P**	**13 13 38.8**	**0.0**
KNRA	**Kununurra**	**49.24**	**267**	P	**P**	**13 13 49.6**	**+0.3**
FITZ	**Fitzroy Crossi** comp=Z,1.9nm,0.7s,baz=118,slow=5.3,SNR=9.5	**51.55**	**263**	P	**P**	**13 14 05.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**51.55**	**263**	P	**P**	**13 14 06.8**	**+0.7**
FITZ				IAmb	IAmb	13 16 05.0	
	comp=Z,35nm,1.7s						
SOEI	**Soe**	**55.17**	**273**	P	**P**	**13 14 30.5**	**-1.3**
VNDA	**Vanda** comp=Z,0.4nm,0.7s,baz=11,slow=6.8,SNR=6.1	**56.85**	**185**	P	**P**	**13 14 42.2**	**+0.1**
VNDA	**Vanda**	**56.85**	**185**	P	**P**	**13 14 42.0**	**-0.1**
QSPA	**South Pole Qui**	**68.62**	**180**	P	**P**	**13 15 57.1**	**-0.9**
QSPA				IAmb	IAmb	13 17 44.5	
	comp=Z,23nm,1.9s						
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.7s,baz=228,slow=8.1,SNR=2.8	**82.66**	**44**	P	**P**	**13 17 16.6**	**+0.7**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.8s,baz=214,slow=6.0,SNR=3.6	**88.72**	**58**	P	**P**	**13 17 45.1**	**+0.2**

*IDC **09** 13:13:02.4±0.8,73°.34N×124°.77E,h0km,mb3.6/10, mb1 3.8/12,mb1mx3.6/40,mbtmp3.7/12,ML4.1/2,MS3.2/3, Ms1 3.2/3,ms1mx2.7/46,Error ellipse: s-maj=22.0km s-min=15.8km az=131.0*
*NEIC **09** 13:13:04.8±2.0,73°.33N±0°.04×124°.7E±0°.4,h15km±5km, mb4.5/11,Error ellipse: s-maj=16.8km s-min=5.2km az=95.0*
*YARS **09** 13:13:09.6±0.0,72°.93N×126°.21E,h15km,mb4.9/7*

ISC 09 13:13:05.2±0.7,**73°.19N**±0°.07×**125°.83E**±0°.07,**h10**km,**n34,** σ1°**43**/43,**mb3.7**/14,**MS3.0**/3,**Near coast of northern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DEPR	**Deputatskiy** 2.3nm,0.2s	**5.91**	**123**	*e*P	**Pn**	**13 14 33.2**	**+0.6**
DEPR				*e*S	**Sn**	**13 15 38.5**	**-1.8**
	9.0nm,0.3s						
BTGS	**Batagay**	**6.30**	**148**	*e*P	**Pn**	**13 14 37.1**	**-0.8**
BTGS				*e*S	**Sn**	**13 15 47.7**	**-2.1**
	14nm,0.6s						
BTGS				*e*Lg	Lg	13 16 20.5	
BTGS				*e*Lg	Lg	13 16 20.5	
YBGR	**Belaya Gora** 3.1nm,0.6s	**8.12**	**115**	*e*P	**Pn**	**13 15 04.3**	**+1.4**
YBGR				*e*S	**Sn**	**13 16 34.3**	**-0.3**
	7.7nm,0.2s						
MOMR	**Moma**	**8.99**	**130**	*i* P	**Pn**	**13 15 15.4**	**+0.6**
MOMR	0.9nm,0.3s			*e*S	**Sn**	**13 16 54.7**	**-1.3**
	4.4nm,0.5s						
MOMR				*e*Lg	Lg	13 17 47.1	
MOMR				*e*Lg	Lg	13 17 47.1	
UNR	**Ust'-Nera** 0.9nm,0.4s	**10.63**	**136**	*e*P	**Pn**	**13 15 37.8**	**+0.4**
UNR				*e*S	**Sn**	**13 17 34.6**	**-1.6**
	5.8nm,1.7s						
UNR				*e*Lg	Lg	13 18 38.9	
UNR				*e*Lg	Lg	13 18 38.9	
YAK	**Yakutsk** 0.1nm,0.3s,baz=168,slow=2.2,SNR=4.5	**11.30**	**171**	Pn	**Pn**	**13 15 45.2**	**-1.3**
YAK	**Yakutsk** 3.1nm,0.5s	**11.30**	**171**	*e*P	**Pn**	**13 15 46.8**	**+0.3**
YAK				*e*S	**Sn**	**13 17 50.8**	**-1.9**
	4.6nm,0.7s						
YAK				*e*Lg	Lg	13 18 59.9	
YAK				*e*Lg	Lg	13 18 59.9	
YCRN	**Chernyshevskiy**	**11.32**	**212**	*i* P	**Pn**	**13 15 48.4**	**+1.7**
YCRN				*e*P	**Pn**	**13 15 48.4**	**+1.7**
YCRN				*i* P	**Pn**	**13 15 48.4**	**+1.7**
YCRN				*e*S	**Sn**	**13 17 54.2**	**+1.1**
YCRN				*e*S	**Sn**	**13 17 54.2**	**+1.1**
YCRN				*e*Lg	Lg	13 19 04.1	
YCRN				*e*Lg	Lg	13 19 04.1	
TBGR	**Tabaga** 1.2nm,0.1s	**11.51**	**171**	*e*P	**Pn**	**13 15 49.5**	**+0.2**
TBGR				*e*S	**Sn**	**13 17 56.0**	**-1.8**
TBGR				*e*S	**Sn**	**13 17 56.0**	**-1.8**
TBGR				*e*Lg	Lg	13 19 06.4	
TBGR				*e*Lg	Lg	13 19 06.4	
NRIK	**Noril'sk** 0.5nm,0.3s,baz=55,slow=10,SNR=6.1	**12.70**	**271**	Pn	Pn	13 15 58.7	-6.9
MA2	**Magadan**	**16.70**	**132**	P	**P**	**13 17 04.2**	**+3.0**
MA2				IAmb	IAmb	13 17 59.5	
	comp=Z,31nm,1.3s						
PEA0B	**Petropavlovsk-**	**24.18**	**129**	P	**P**	**13 18 23.1**	**+1.9**
PETK	**Petropavlovsk-** comp=Z,3.7nm,0.7s,baz=22,slow=5.7,SNR=5.7	**24.18**	**129**	P	**P**	**13 18 23.1**	**+1.9**
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.3s,baz=12,slow=9.2,SNR=6.1	**25.65**	**244**	P	**P**	**13 18 32.0**	**-2.5**
ZALV				LR	LR	13 29 16.8	
	comp=Z,91nm,18.1s,baz=62,slow=38						
TOLK	**Toolik Lake Re**	**25.81**	**57**	P	**P**	**13 18 37.5**	**+1.6**
COLD	**Coldfoot**	**26.73**	**59**	P	**P**	**13 18 45.7**	**+1.5**
SONM	**Songino Array** comp=Z,0.5nm,0.4s,baz=353,slow=6.4,SNR=4.4	**26.89**	**210**	P	**P**	**13 18 45.7**	**-0.3**
ILAR	**Eielson Array** comp=Z,0.7nm,0.6s,baz=322,slow=9.1,SNR=12	**29.50**	**60**	P	**P**	**13 19 10.3**	**+1.4**
SVW2	**Sparrevohn**	**30.21**	**71**	P	**P**	**13 19 16.4**	**+1.2**
DOT	**Dot Lake**	**31.14**	**60**	P	**P**	**13 19 25.2**	**+1.7**
DOT				IAmb	IAmb	13 19 26.0	
	comp=Z,7.7nm,0.9s						
RSO	**Redoubt South**	**31.51**	**70**	P	**P**	**13 19 28.1**	**+1.2**
SCM	**Sheep Creek Mo**	**31.81**	**64**	P	**P**	**13 19 29.6**	**+0.1**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.7s,baz=100,slow=41,SNR=2.4	**32.85**	**241**	P	P	13 19 34.7	-4.0
MKAR				PcP	**PcP**	**13 22 21.7**	**-1.3**
	comp=Z,0.2nm,0.4s,baz=35,slow=4.4,SNR=3.6						
KSRS	**Korea Array** comp=Z,0.9nm,0.7s,baz=4.9,slow=7.6,SNR=7.3	**35.83**	**177**	P	**P**	**13 20 03.4**	**-1.1**
YKA	**Yellowknife Ar** comp=Z,0.7nm,0.8s,baz=219,slow=20,SNR=3.2	**38.67**	**40**	P	**P**	**13 20 27.3**	**-1.0**
YKA				LR	LR	13 38 05.9	
	comp=Z,20nm,18.5s,baz=0.0,slow=39						
NOA	**NORSAR Array B** comp=Z,0.2nm,0.5s,baz=31,slow=6.7,SNR=1.9	**39.03**	**315**	P	P	13 20 27.6	-3.9
JNU	**Nakatsue**	**40.22**	**173**	P	**P**	**13 20 42.6**	**+1.0**
JHJ	**Hachijo jima 2** comp=Z,22nm,18.1s,baz=306,slow=40	**40.78**	**162**	LR	LR	13 40 30.9	
PDAR	**Pinedale Array** comp=Z,0.2nm,0.4s,baz=12,slow=4.6,SNR=2.5	**58.29**	**45**	P	**P**	**13 22 58.9**	**-1.0**
S39A	**Bolivar** S39A	**66.20**	**33**	P	**P**	**13 23 51.8**	**-0.8**
				IAmb	IAmb	13 23 52.2	
	comp=Z,2.0nm,0.8s						
WMOK	**Wichita Mounta**	**68.15**	**39**	P	**P**	**13 24 04.3**	**-0.8**
WMOK				IAmb	IAmb	13 26 27.4	
	comp=Z,3.7nm,0.8s						
TX31	**Lajitas Ar. Si**	**72.46**	**44**	P	**P**	**13 24 30.9**	**-0.7**
TX32	**Lajitas Array**	**72.46**	**44**	P	**P**	**13 24 30.9**	**-0.7**
TX32				IAmb	IAmb	13 26 58.4	
	comp=Z,13nm,2.0s						
TXAR	**Lajitas Array** comp=Z,1.1nm,0.9s,baz=1.4,slow=4.4,SNR=11	**72.46**	**44**	P	**P**	**13 24 30.7**	**-0.9**

*AEIC **09** 13:16:53.7±1.0,52°.74N±0°.07×163°.8W±0°.1,h20km±2km, ML3.1,Error ellipse: s-maj=11.8km s-min=9.5km az=143.0*
*NEIC **09** 13:16:54.8±1.1,52°.7N±0°.1×163°.69W±0°.09,h37km±22km, Error ellipse: s-maj=17.9km s-min=3.7km az=154.0*
*IDC **09** 13:16:56.1±1.3,52°.65N×163°.88W,h0km,mb3.8/13, mb1 4.0/13,mb1mx3.7/42,mbtmp3.8/13,Error ellipse: s-maj=35.0km s-min=20.3km az=12.0*

ISC 09 13:16:57.5±0.8,**53°.0N**±0°.1×**163°.91W**±0°.05,**h10**km,**n67,** σ2°**80**/57,**mb3.8**/13,**Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WESE	**West Dahl East**	**1.52**	**345**		**Pn**	**13 17 24.1**	**-0.8**
AKSA	**Akutan Strait**	**1.56**	**317**		**Pn**	**13 17 23.9**	**-1.3**
WESP	**Westdahl Peak**	**1.57**	**342**		**Pn**	**13 17 24.3**	**-1.2**
AKUT	**Akutan**	**1.59**	**316**	Pn	**Pn**	**13 17 24.3**	**-1.3**
WECS	**Westdahl Cape**	**1.61**	**342**		**Pn**	**13 17 25.3**	**-0.7**
AKBBA	**Akutan Broad B**	**1.63**	**313**		**Pn**	**13 17 24.8**	**-1.4**
AKMO	**Akutan Morgan**	**1.66**	**312**		**Pn**	**13 17 25.8**	**-0.9**
AKLV	**Akutan Long Va**	**1.68**	**314**		**Pn**	**13 17 25.7**	**-1.3**
UNV	**Unalaska Valle**	**1.77**	**300**	Pn	**Pn**	**13 17 25.8**	**-2.3**
SSBA	**Shishaldin**	**1.78**	**356**		**Pn**	**13 17 27.0**	**-1.3**
FALS	**False Pass**	**1.88**	**9**	Pn	**Pn**	**13 17 27.9**	**-1.7**
MNAT	**Makushin Natee**	**1.88**	**299**		**Pn**	**13 17 27.8**	**-1.8**
MREP	**Makushin Rep't**	**1.88**	**297**		**Pn**	**13 17 27.6**	**-2.1**
MSW	**Makushin Switc**	**1.94**	**299**		**Pn**	**13 17 28.7**	**-1.8**
OKNC	**Okmok New Cone**	**2.57**	**282**		**Pn**	**13 17 36.8**	**-2.4**
OKNC					**Pb**	**13 17 41.6**	**-2.1**
NIKH	**Nikolski High**	**2.99**	**271**	Pn	**Pn**	**13 17 41.1**	**-3.8**
SDPT	**Sand Point**	**3.10**	**39**	Pn	**Pn**	**13 17 43.2**	**-3.1**
CNBA	**Chernabura Isl**	**3.14**	**53**	Pn	Pn	13 17 42.0	-4.9
CHGN	**Chignik**	**4.59**	**42**	Pn	**Pn**	**13 18 04.0**	**-2.8**
OHAK	**Old Harbor**	**7.41**	**51**	Pn	Pn	13 18 40.2	-5.4
GSTR	**Great Sitkin T**	**7.47**	**268**	Pn	**Pn**	**13 18 42.9**	**-3.5**
ADK	**Adak**	**7.89**	**267**	Pn	**Pn**	**13 18 49.1**	**-3.1**
KDAK	**Kodiak Island** 0.2nm,0.3s,baz=172,slow=5.6,SNR=15	**8.03**	**49**	Pn	**Pn**	**13 18 50.1**	**-3.9**
KDAK				Sn	**Sn**	**13 20 20.5**	**-4.2**
	1.0nm,0.3s,baz=128,slow=22,SNR=7.5						
KDAK	**Kodiak Island**	**8.03**	**49**	Pn	**Pn**	**13 18 50.5**	**-3.5**
KIWB	**Kanaga Island**	**8.18**	**267**	Pn	**Pn**	**13 18 51.9**	**-4.2**
SVW2	**Sparrevohn**	**9.29**	**26**	Pn	**Pn**	**13 19 09.6**	**-1.7**
CNPM	**China Poot**	**9.60**	**42**	Pn	**Pn**	**13 19 12.0**	**-3.6**
SEW	**Seward**	**10.67**	**42**	Pn	**Pn**	**13 19 26.6**	**-3.6**
RC01	**Rabbit Creek A**	**11.17**	**38**	Pn	**Pn**	**13 19 32.7**	**-4.3**
GAMB	**Gambell**	**11.54**	**342**	Pn	**Pn**	**13 19 40.5**	**-1.6**
GHO	**Glory Hole Cre**	**11.91**	**37**	Pn	**Pn**	**13 19 43.8**	**-3.4**
HIN	**Hinchinbrook I**	**12.07**	**45**	Pn	Pn	13 19 44.5	-4.8
GLI	**Glacier Island**	**12.07**	**43**	Pn	**Pn**	**13 19 44.9**	**-4.5**
SML	**Sawmill**	**12.15**	**37**	Pn	**Pn**	**13 19 46.8**	**-3.7**
FID	**Port Fidalgo**	**12.26**	**44**	Pn	Pn	13 19 46.5	-5.4
EYAK	**Cordova Ski Ar**	**12.47**	**46**	Pn	**Pn**	**13 19 50.4**	**-4.4**
SCM	**Sheep Creek Mo**	**12.54**	**39**	Pn	Pn	13 19 50.9	-4.9
TRF	**Thorofare Moun**	**12.66**	**29**	Pn	**Pn**	**13 19 54.4**	**-3.1**
RAGM	**Ragged Mountai**	**12.86**	**47**	Pn	**Pn**	**13 19 56.7**	**-3.5**
DHY	**Denali Highway**	**13.31**	**34**	Pn	**Pn**	**13 20 02.5**	**-4.0**
WAX	**Waxell Ridge**	**13.71**	**49**	Pn	**Pn**	**13 20 08.3**	**-3.5**
GLB	**Gilahina Butte**	**13.73**	**44**	Pn	**Pn**	**13 20 08.3**	**-3.7**
VRDI	**Verde Repeater**	**13.78**	**45**	Pn	**Pn**	**13 20 08.9**	**-3.9**
IL31		**14.65**	**30**	Pn	**Pn**	**13 20 21.9**	**-2.6**
ILAR	**Eielson Array** 0.1nm,0.3s,baz=168,slow=18,SNR=

TRF	**Thorofare Moun**	**12.92**	**28**	Pn	Pn	13 20 00.8	-1.7
RAGM	**Ragged Mountai**	**13.07**	**46**	Pn	Pn	13 20 02.7	-1.6
BPAW	**Bear Paw Mtn.**	**13.24**	**25**	Pn	Pn	13 20 05.8	-0.9
DHY	**Denali Highway**	**13.56**	**34**		Pn	13 20 10.1	-1.1
WAX	**Waxell Ridge**	**13.91**	**48**	Pn	Pn	13 20 14.5	-1.4
HARP	**HAARP**	**13.93**	**38**	Pn	Pn	13 20 15.1	-1.0
GLB	**Gilahina Butte**	**13.95**	**43**	Pn	Pn	13 20 15.9	-0.4
VRDI	**Verde Repeater**	**13.99**	**44**	Pn	Pn	13 20 15.3	-1.8
BALM	**Baldy**	**14.38**	**46**	Pn	Pn	13 20 20.0	-2.4
BARN	**Barnard Glacie**	**14.70**	**47**	Pn	Pn	13 20 26.6	-0.1
MENT	**Mentasta**	**14.78**	**38**		Pn	13 20 25.9	-1.8
CTGM	**Chitina Glacie**	**14.80**	**47**	Pn	Pn	13 20 26.9	-1.2
IL31		**14.91**	**29**	Pn	Pn	13 20 27.9	-1.4
PCA	**Pinnacle**	**14.98**	**51**	Pn	Pn	13 20 29.3	-1.1
HYT	**Haines Junctio**	**16.50**	**50**	P	P	13 20 53.3	+0.6
EGAK	**Eagle**	**16.77**	**35**	Pn	Pn	13 20 53.6	+0.2
EGAK				IAmb	IAmb	13 21 00.8	
	comp=Z,5.8nm,0.7s						
DAWY	**Dawson**	**17.03**	**39**	P	P	13 20 57.7	-0.8
TOLK	**Toolik Lake Re**	**17.38**	**18**	P	P	13 21 01.8	-0.5
WHY	**Whitehorse**	**17.70**	**52**	P	P	13 21 07.3	+1.4
WHY				IAmb	IAmb	13 21 32.4	
	comp=Z,17nm,1.8s						
EPYK	**Eagle Plains**	**19.20**	**34**	P	P	13 21 22.2	-0.1
EPYK				IAmb	IAmb	13 21 24.4	
	comp=Z,9.9nm,0.7s						
INK	**Inuvik**	**21.28**	**31**	IAmb	IAmb	13 21 49.8	
	comp=Z,4.4nm,1.1s						
C36M	**Paulatuk**	**24.81**	**33**	P	P	13 22 19.9	-0.4
B08A	**Colville Reser**	**28.32**	**81**	P	P	13 22 52.4	+0.2
B08A				IAmb	IAmb	13 22 53.2	
	comp=Z,2.4nm,0.8s						
MCMT	**McKenzie Canyo**	**33.94**	**83**	P	P	13 23 41.1	-0.8
BOZ	**Bozeman (W)**	**34.27**	**81**	P	P	13 23 44.1	-0.5
YHB	**Horse Butte**	**34.98**	**82**	P	P	13 23 50.8	-0.1
BW06	**Boulder Array**	**37.06**	**83**	P	P	13 24 07.9	-0.8
BW06				IAmb	IAmb	13 24 08.9	
	comp=Z,2.0nm,0.9s						
PD31	**Pinedale Array**	**37.06**	**83**	P	P	13 24 08.3	-0.5
PD31				IAmb	IAmb	13 24 08.9	
	comp=Z,1.8nm,0.9s						
EYMN	**Ely**	**44.68**	**66**	P	P	13 25 09.8	-1.4
EYMN				IAmb	IAmb	13 25 10.7	
	comp=Z,2.7nm,0.8s						
T35A	**Sooner Cattle**	**48.55**	**81**	P	P	13 25 40.2	-1.4
SUMG	**Summit**	**49.43**	**19**	P	P	13 25 49.3	+1.0
X43A	**Marvell**	**53.54**	**79**	P	P	13 26 19.1	0.0

*NIED **09** 13:34:00, 43.00N×139.40E, h11km, Mw3.9 Best double couple: M0 7.37000×10^14 NP1:φ,δ 28.00000°, 72.00000°, λ 100.00000°. NP2:φ,δ 178.00000°, 21.00000°, λ 61.00000°.*
*IDC **09** 13:34:28.3±0.8, 43.06N×139.31E, h0km, mb3.8/12, mb1 4.0/14, mb1mx3.8/48, mbtmp3.7/14, ML3.2/2, MS2.7/3, Ms1 2.7/3, ms1mx2.4/38, Error ellipse: s-maj=23.3km s-min=20.4km az=159.0*
*JMA **09** 13:34:30.5±0.1, 43.01N×139.39E, h33km±2km, M4.0*
JMA Felt I J1.
*SKHL **09** 13:34:32.7±0.3, 43.10N×139.13E, h95km±4km, mb4.5/3, msh4.8/2*
*NEIC **09** 13:34:34.0±1.9, 43.14N±0.07×139.40E±0.09, h35km±2km, mb4.5/19, Error ellipse: s-maj=10.7km s-min=8.3km az=150.0*

ISC 09 13:34:29.5±1.3, 43.03N±0.03×139.36E±0.04, h8km±8km, n61, σ1 59/69, mb4.2/20, 6D, Eastern Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JSH	**Shimam**	**0.64**	**127**	⇓P		**Pg**	**13 34 42.3**	**+0.5**
JSH				eS		**Sg**	**13 34 50.0**	**-0.1**
JHST	**Hiyamasetana**	**0.72**	**148**	⇓P		**Pg**	**13 34 43.6**	**+0.2**
JHST				eS		**Sg**	**13 34 52.6**	**-0.1**
JSK	**Shakotan**	**0.88**	**68**	⇓P		**Pg**	**13 34 46.1**	**-0.3**
JSK				eS		**Sg**	**13 34 56.5**	**-1.3**
JOSM	**Okushiri--Mats**	**0.95**	**175**	P		**Pg**	**13 34 47.0**	**-0.8**
JOSM				eS		**Sg**	**13 34 58.9**	**-1.3**
JYM2	**Yakumo 2**	**1.18**	**140**	⇓P		**Pb**	**13 34 50.7**	**-1.4**
JYM2				eS		**Sb**	**13 35 05.7**	**-1.9**
JNB	**Noboribetsu**	**1.36**	**114**	⇓P		**Pn**	**13 34 53.3**	**-1.4**
JISS	**Ishikarishitsu**	**1.53**	**80**	⇓P		**Pn**	**13 34 56.8**	**-0.2**
JEW	**Eniwo**	**1.55**	**96**	P		**Pn**	**13 34 56.8**	**-0.5**
JOMM	**Oshimamatsumae**	**1.58**	**162**	P		**Pn**	**13 34 56.3**	**-1.5**
JOMM				eS		**Sn**	**13 35 14.5**	**-3.9**
JKB	**Kayabe**	**1.69**	**132**	P		**Pn**	**13 34 58.0**	**-1.2**
JSR	**Shiriuchi**	**1.70**	**152**	P		**Pn**	**13 34 58.4**	**-0.9**
JSR				eS		**Sn**	**13 35 18.3**	**-2.9**
JHR	**Hokuryu**	**1.87**	**67**	P		**Pn**	**13 35 01.4**	**-0.3**
JIAM	**Iburiatsuma**	**1.93**	**101**	P		**Pn**	**13 35 02.5**	**0.0**
ASAJ	**Asahikawa**	**2.59**	**64**	Pn		**Pn**	**13 35 11.5**	**-0.2**
	5.3nm,0.3s,baz=243,slow=12,SNR=78							
JKA	**Kamikawa-asahi**	**2.59**	**64**	Pn		**Pn**	**13 35 11.4**	**-0.2**
TEY	**Ternei**	**2.82**	**316**	*e*P		**Pn**	**13 35 13.8**	**-1.0**
TEY				AMB		AMB	13 35 15.7	
	40nm,0.6s							
TEY				AMB		AMB	13 35 18.6	
	200nm,4.0s							
TEY				*e*S		**Sn**	**13 35 44.7**	**-4.2**
TEY				A		A	13 35 45.9	
	780nm,0.9s							
TEY				A		A	13 35 45.9	
	690nm,0.9s							
ERM	**Erimo**	**2.99**	**109**	Pn		**Pn**	**13 35 17.8**	**+0.7**
GLVR	**Golovnino**	**4.55**	**79**	*e*rx		rx	13 36 06.0	
YSS	**Yuzh-Sakhalins**	**4.60**	**30**	*e*P		**Pn**	**13 35 40.4**	**+1.2**
YSS				eS		**Sn**	**13 36 31.3**	**-1.5**
YSS	**Yuzh-Sakhalins**	**4.60**	**30**	Pn		**Pn**	**13 35 38.8**	**-0.4**
GRPR	**Tuman**	**4.76**	**76**	*e*rx		rx	13 36 03.0	
YUK	**Yuzh-Kuril'sk**	**4.83**	**76**	*e*P		**Pn**	**13 35 45.7**	**+3.3**
YUK				AMB		AMB	13 35 48.2	
	40nm,1.0s							
USA0B	**Ussuriysk Arra**	**5.47**	**285**			**Pn**	**13 35 51.0**	**-0.3**
USRK	**Ussuriysk Ar.**	**5.47**	**285**	Pn		**Pn**	**13 35 51.2**	**0.0**
	baz=98,slow=14,SNR=34							
USRK				Sn		**Sn**	**13 36 50.2**	**-4.2**
	baz=94,slow=26,SNR=14							
USRK				LR		LR	13 37 46.8	
	comp=Z,126nm,19.6s,baz=136,slow=36							
MJB9	**Matsu-Tunnel**	**6.54**	**188**			**Pn**	**13 36 10.3**	**+4.4**
MAJO	**Matsushiro**	**6.54**	**188**			**Pn**	**13 36 10.3**	**+4.3**
MJAR	**Matsushiro Arr**	**6.54**	**188**	LR		LR	13 38 51.3	
	comp=Z,32nm,18.9s,baz=335,slow=40							
MDJ	**Mudanjiang**	**7.24**	**286**	Pn		**Pn**	**13 36 16.2**	**+0.8**
TYV	**Tymovskoe**	**8.15**	**15**	*e*P		**Pn**	**13 36 28.7**	**+0.8**
KSRS	**Korea Array**	**10.36**	**241**	Pn		**Pn**	**13 37 01.3**	**+3.0**
	1.9nm,0.3s,baz=52,slow=14,SNR=36							
KSRS				Sn		**Sn**	**13 38 55.6**	**+1.0**
	0.5nm,0.3s,baz=51,slow=24,SNR=7.4							
KSRS				LR		LR	13 40 16.6	
	comp=Z,36nm,20.4s,baz=60,slow=34							
KS19	**Wonju Array Si**	**10.37**	**242**			**Pn**	**13 37 01.5**	**+3.1**
RND	**Reindeer**	**44.74**	**37**	P		**P**	**13 42 40.4**	**-2.5**
RND				IAmb		IAmb	13 43 13.1	
	comp=Z,16nm,2.0s							
WRH	**Wood River Hil**	**44.92**	**36**	P		**P**	**13 42 42.8**	**-1.5**
GHO	**Glory Hole Cre**	**44.96**	**40**	P		**P**	**13 42 44.4**	**-0.3**
GHO				IAmb		IAmb	13 43 09.5	
	comp=Z,7.8nm,1.2s							
ILAR	**Eielson Array**	**45.39**	**35**	P		**P**	**13 42 48.0**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=277,slow=10,SNR=7.9							
DHY	**Denali Highway**	**45.45**	**38**	P		**P**	**13 42 48.4**	**-0.3**
DHY				IAmb		IAmb	13 43 55.4	
	comp=Z,8.6nm,1.6s							
VRDI	**Verde Repeater**	**47.64**	**40**	P		**P**	**13 43 06.8**	**+0.8**
EGAK	**Eagle**	**47.80**	**35**	P		**P**	**13 43 06.5**	**-0.4**
EGAK				IAmb		IAmb	13 43 10.0	
	comp=Z,9.8nm,1.6s							
EPYK	**Eagle Plains**	**49.19**	**32**	P		**P**	**13 43 18.4**	**+0.8**
INK	**Inuvik**	**49.84**	**29**	P		**P**	**13 43 22.8**	**+0.4**
INK				IAmb		IAmb	13 43 34.0	
	comp=Z,2.2nm,0.6s							
HYT	**Haines Junctio**	**50.53**	**39**	P		**P**	**13 43 29.4**	**+1.4**
HYT				IAmb		IAmb	13 43 30.9	
	comp=Z,6.0nm,1.0s							
C36M	**Paulatuk**	**52.70**	**26**	P		**P**	**13 43 44.4**	**+0.5**
YKA	**Yellowknife Ar**	**59.46**	**31**	P		**P**	**13 44 32.5**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=306,slow=6.6,SNR=4.3							
FINES	**FINESS Array B**	**62.80**	**330**	P		**P**	**13 44 54.2**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=64,slow=8.7,SNR=6.5							
WRA	**Warramunga Arr**	**62.83**	**185**	P		**P**	**13 44 55.3**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=1.8,slow=6.9,SNR=1.8							
SUMG	**Summit**	**64.68**	**359**	P		**P**	**13 45 08.3**	**+0.5**
SUMG				IAmb		IAmb	13 45 09.5	
	comp=Z,6.1nm,1.0s							
ASAR	**Alice Springs**	**66.56**	**185**	P		**P**	**13 45 20.4**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=10,slow=4.6,SNR=4.8							
NC204	**NORSAR Array S**	**68.01**	**336**	P		**P**	**13 45 28.8**	**0.0**
NB201	**NORSAR Array S**	**68.03**	**336**	P		**P**	**13 45 28.8**	**-0.1**
NOA	**NORSAR Array B**	**68.06**	**336**	P		**P**	**13 45 29.0**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=40,slow=6.3,SNR=3.7							
NB000	**NORSAR Array S**	**68.20**	**336**	P		**P**	**13 45 29.8**	**-0.1**
AKASG	**Malin Array Be**	**68.64**	**320**	P		**P**	**13 45 32.4**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=44,slow=6.1,SNR=7.4							
FFC	**Flin Flon**	**69.52**	**33**	P		**P**	**13 45 38.1**	**-0.1**
FFC				IAmb		IAmb	13 46 58.9	
	comp=Z,4.2nm,0.7s							
BUR08	**Bucovina Ar. S**	**72.66**	**320**	P		**P**	**13 45 57.8**	**+0.2**
NVAR	**Mina Array Bea**	**72.67**	**53**	P		**P**	**13 45 58.8**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=309,slow=5.3,SNR=5.7							
BRTR	**Keskin Array B**	**73.76**	**309**	P		**P**	**13 46 04.7**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=289,slow=27,SNR=2.8							
PD31	**Pinedale Array**	**74.59**	**45**	P		**P**	**13 46 08.5**	**-0.6**
PDAR	**Pinedale Array**	**74.59**	**45**	P		**P**	**13 46 09.1**	**0.0**
	comp=Z,0.6nm,0.5s,baz=333,slow=1.7,SNR=5.6							
GERES	**GERESS Array B**	**76.81**	**327**	P		**P**	**13 46 21.8**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=264,slow=38,SNR=2.5							
KNB	**Kanab**	**76.82**	**52**	P		**P**	**13 46 22.0**	**+0.1**
TXAR	**Lajitas Array**	**87.65**	**51**	P		**P**	**13 47 18.9**	**+0.2**
	comp=Z,0.1nm,0.6s,baz=333,slow=3.1,SNR=1.9							

*IDC **09** 13:34:41.5±0.5, 44.55N×80.76E, h0km, mb4.2/19, mb1 4.3/28, mb1mx4.2/52, mbtmp4.2/28, ML3.7/9, MS3.2/6, Ms1 3.2/6, ms1mx2.9/39, Error ellipse: s-maj=9.4km s-min=7.7km az=140.0*
*NNC **09** 13:34:44.0±0.7, 44.64N×80.63E, h0km, mb5.0, mpv4.7, Error ellipse: s-maj=6.2km s-min=4.1km az=112.0*
*MOS **09** 13:34:43.2±1.6, 44.67N×80.88E, h14km, mb4.6/21, Error ellipse: s-maj=5.5km s-min=4.4km az=63.5*
*SOME **09** 13:34:43.2, 44.55N×80.62E, h5km, MS3.9*
*BJI **09** 13:34:44.0±0.0, 44.66N×80.74E, h25km, mB4.5/22, mb4.5/31, ML4.5/11, Ms4.0/12, Ms7 3.7/9*
*NEIC **09** 13:34:47.4±1.6, 44.68N±0.05×80.74E±0.08, h35km±2km, mb4.8/59, Error ellipse: s-maj=10.7km s-min=8.5km az=121.0*

ISC 09 13:34:42.7±1.0, 44.66N±0.02×80.78E±0.02, h3km±6km, n281, σ1 58/323, mb4.7/80, MS3.3/7, 33C-16D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**1.19**	**302**	⇓*i*P		**Pb**	**13 35 05.2**	**-0.7**
KAPS	532nm,0.2s			⇑*i*S		**Sb**	**13 35 20.5**	**-1.2**
	3μm,0.5s							
KAPS	**Kapalarasan**	**1.19**	**302**	P		**Pb**	**13 35 05.3**	**-0.7**
KAPS	526nm,0.3s			S		**Sb**	**13 35 20.5**	**-1.2**
	5μm,0.3s							
KAPS	**Kapalarasan**	**1.19**	**302**	*i* PG		**Pb**	**13 35 05.2**	**-0.7**
KTMS	**Ketmen**	**1.25**	**195**	*e*P		**Pn**	**13 35 04.5**	**-2.7**
KTMS	82nm,0.3s			*e*S		**Sb**	**13 35 18.9**	**-4.6**
	1μm,0.4s							
KTMS	**Ketmen**	**1.25**	**195**	*e*PG		**Pn**	**13 35 04.5**	**-2.7**
TDK	**Taldyqorghan**	**1.73**	**282**	⇑*i*P		**Pb**	**13 35 14.5**	**-0.5**
TDK	5μm,0.5s			*e*S		**Sb**	**13 35 36.6**	**-0.5**
	9μm,0.4s							
TDK	**Taldyqorghan**	**1.73**	**282**	*i* PN		**Pb**	**13 35 14.5**	**-0.5**
TDK				*e*S		**Sb**	**13 35 36.6**	**-0.5**
SHLS	**Shalkode**	**1.78**	**213**	*e*P		**Pn**	**13 35 12.1**	**-2.3**
SHLS	839nm,0.2s			*e*S		**Sn**	**13 35 32.7**	**-4.9**
	6μm,0.4s							
SHLS	**Shalkode**	**1.78**	**213**	P		**Pn**	**13 35 12.5**	**-1.9**
SHLS	839nm,0.2s			S		**Sn**	**13 35 33.5**	**-4.1**
	6μm,0.6s							
SHLS	**Shalkode**	**1.78**	**213**	*e*PN		**Pn**	**13 35 12.1**	**-2.3**
SHLS				*e*S		**Sn**	**13 35 32.7**	**-4.9**
MNBS	**Baschi**	**1.80**	**252**	⇑*i*P		**Pn**	**13 35 15.3**	**+0.6**
MNBS	701nm,0.3s			⇑*i*S		**Sb**	**13 35 38.3**	**-1.1**
	5μm,0.3s							
MNBS	**Baschi**	**1.80**	**252**	P		**Pn**	**13 35 15.3**	**+0.6**
MNBS	701nm,0.3s			S		**Sb**	**13 35 38.3**	**-1.1**
	5μm,0.3s							
MNBS	**Baschi**	**1.80**	**252**	*i* PN		**Pn**	**13 35 15.3**	**+0.6**
UZB	**Uzynbulak**	**1.98**	**221**	*e*P		**Pn**	**13 35 17.9**	**+0.8**
UZB	599nm,0.4s			*e*S		**Sn**	**13 35 42.4**	**0.0**
	6μm,0.5s							
UZB	**Uzynbulak**	**1.98**	**221**	P		**Pn**	**13 35 17.9**	**+0.8**
UZB	599nm,0.4s			S		**Sn**	**13 35 42.4**	**0.0**
	6μm,0.5s							
UZB	**Uzynbulak**	**1.98**	**221**	*e*PN		**Pn**	**13 35 17.9**	**+0.8**
UZB				*e*S		**Sn**	**13 35 42.4**	**0.0**
ARXS	**Arharly**	**2.16**	**259**	*e*P		**Pb**	**13 35 22.2**	**-0.3**
ARXS	1μm,0.4s			*e*S		**Sb**	**13 35 50.1**	**+0.4**
	4μm,0.3s							
ARXS	**Arharly**	**2.16**	**259**	Pg		**Pb**	**13 35 22.2**	**-0.3**
ARXS	1μm,0.4s			Lg		Lg	13 35 50.1	
	4μm,0.3s							
ARXS	**Arharly**	**2.16**	**259**	*e*PN		**Pb**	**13 35 22.2**	**-0.3**
ARXS				*e*S		**Sb**	**13 35 50.1**	**+0.4**
MAKZ	**Makanchi**	**2.31**	**21**	PN		**Pb**	**13 35 23.9**	**-1.0**
MAKZ	**Makanchi**	**2.31**	**21**	Pn		**Pb**	**13 35 23.9**	**-1.0**
SATY	**Saty**	**2.35**	**228**	*e*P		**Pb**	**13 35 24.5**	**-1.1**
SATY	488nm,0.2s			*e*S		**Sb**	**13 35 54.5**	**-0.6**
	6μm,0.3s							
SATY	**Saty**	**2.35**	**228**	Pg		**Pb**	**13 35 24.5**	**-1.1**
SATY	514nm,0.3s			Lg		Lg	13 35 54.5	
	6μm,0.3s							
SATY	**Saty**	**2.35**	**228**	*e*PN		**Pb**	**13 35 24.5**	**-1.1**
SATY				*e*S		**Sb**	**13 35 54.5**	**-0.6**
MK31	**Makanchi Array**	**2.38**	**26**	⇑Pn		**Pb**	**13 35 25.2**	**-1.1**
MK31	45nm,0.3s,baz=208,slow=13,SNR=311			⇑Lg		Lg	13 35 56.5	
	967nm,0.4s,baz=283,slow=38,SNR=5.0							
MK31	**Makanchi Array**	**2.38**	**26**	PN		**Pb**	**13 35 25.1**	**-1.1**
MK31	**Makanchi Array**	**2.38**	**26**	Pn		**Pb**	**13 35 24.9**	**-1.3**
MKAR	**Makanchi Array**	**2.38**	**26**	Pn		**Pb**	**13 35 25.3**	**-0.9**
	92nm,0.3s,baz=215,slow=16,SNR=94							
MKAR				Sn		**Sb**	**13 35 56.4**	**+0.3**
	946nm,0.3s,baz=203,slow=24,SNR=16							
PRZ	**Przheval'sk**	**2.78**	**219**	PN		**Pn**	**13 35 30.1**	**+1.9**
PRZ	**Przheval'sk**	**2.78**	**219**			**Pn**	**13 35 30.1**	**+1.9**
KOTS	**Kotyrbulak**	**3.01**	**243**	*e*P		**Pb**	**13 35 37.1**	**+0.1**
KOTS	531nm,0.3s			*e*S		**Sb**	**13 36 15.7**	**+1.6**
	3μm,0.5s							
KOTS	**Kotyrbulak**	**3.01**	**243**	Pg		**Pb**	**13 35 37.1**	**+0.1**
KOTS	531nm,0.3s			Lg		Lg	13 36 15.7	
	3μm,0.5s							
KOTS	**Kotyrbulak**	**3.01**	**243**	*e*PN		**Pb**	**13 35 37.1**	**+0.1**
KOTS				*e*S		**Sb**	**13 36 15.7**	**+1.6**
MDOK	**Medeo**	**3.08**	**242**	*e*P		**Pb**	**13 35 38.2**	**0.0**
MDOK	259nm,0.4s			*e*S		**Sb**	**13 36 17.3**	**+1.0**
	1μm,0.5s							
MDOK	**Medeo**	**3.08**	**242**	⇑Pn		**Pn**	**13 35 33.3**	**+0.9**
MDOK	131nm,0.4s			⇑Lg		Lg	13 36 17.0	
	1μm,0.7s							
MDOK	**Medeo**	**3.08**	**242**	Pg		**Pb**	**13 35 38.2**	**0.0**
MDOK	259nm,0.4s			Lg		Lg	13 36 17.3	
	1μm,0.5s							
MDOK	**Medeo**	**3.08**	**242**	*e*PN		**Pb**	**13 35 38.2**	**0.0**
MDOK				*e*S		**Sb**	**13 36 17.3**	**+1.0**
KTBS	**Karatobe**	**3.10**	**254**	*e*P		**Pb**	**13 35 38.5**	**+0.1**
KTBS	242nm,0.4s			*e*S		**Sb**	**13 36 18.1**	**+1.5**
	3μm,0.4s							
KTBS	**Karatobe**	**3.10**	**254**	Pg		**Pb**	**13 35 38.5**	**+0.1**
KTBS	242nm,0.4s			Lg		Lg	13 36 18.1	
	3μm,0.4s							
KTBS	**Karatobe**	**3.10**	**254**	*e*PN		**Pb**	**13 35 38.5**	**+0.1**
KTBS				*e*S		**Sb**	**13 36 18.1**	**+1.5**
KNDC	**Almaty**	**3.11**	**244**	⇓Pn		**Pb**	**13 35 36.9**	**-1.8**
	574nm,0.8s							
KNDC				⇑Lg		Lg	13 36 18.1	
	1μm,0.5s							
KNDC	**Almaty**	**3.11**	**244**	PN		**Pb**	**13 35 36.8**	**-1.8**
AAA	**Alma-Ata**	**3.15**	**244**	*e*P		**Pb**	**13 35 39.1**	**-0.1**
	155nm,0.4s							
AAA				*e*S		**Sb**	**13 36 18.8**	**+0.8**
	765nm,0.5s							
AAA	**Alma-Ata**	**3.15**	**244**	*e*PN		**Pb**	**13 35 37.8**	**-1.4**
AAA				*e*S		**Sb**	**13 36 19.5**	**+1.5**
AAA				pmax		pmax		
	comp=Z,147nm,0.4s							
AAA				smax		smax		
	comp=N,767nm,0.6s							
KUU	**Kurty**	**3.28**	**258**	*e*P		**Pb**	**13 35 41.1**	**-0.4**
	comp=N,189nm,0.6s							
KUU				*e*S		**Sb**	**13 36 22.4**	**+0.6**
	comp=N,2μm,0.4s							
KUU	**Kurty**	**3.28**	**258**	*e*PN		**Pb**	**13 35 41.1**	**-0.4**
KUU				*e*S		**Sb**	**13 36 22.4**	**+0.6**
IZV	**Izvestkoviy**	**3.42**	**243**	*e*P		**Pb**	**13 35 44.3**	**+0.2**
	comp=N,193nm,0.4s							
IZV				*e*S		**Sb**	**13 36 27.7**	**+1.6**
	comp=N,674nm,0.5s							
IZV	**Izvestkoviy**	**3.42**	**243**	Pg		**Pb**	**13 35 44.3**	**+0.2**
	comp=N,193nm,0.4s							
IZV				Lg		Lg	13 36 27.7	
	comp=N,749nm,0.5s							
IZV	**Izvestkoviy**	**3.42**	**243**	*e*PN		**Pb**	**13 35 44.3**	**+0.2**
IZV				*e*S		**Sb**	**13 36 27.7**	**+1.6**
MTBS	**Maitube**	**3.50**	**246**	*e*P		**Pb**	**13 35 45.1**	**-0.1**
	comp=N,214nm,0.4s							
MTBS				*e*S		**Sb**	**13 36 29.5**	**+1.3**
	comp=N,1μm,0.3s							
MTBS	**Maitube**	**3.50**	**246**	*e*PN		**Pb**	**13 35 45.1**	**-0.1**
MTBS				*e*S		**Sb**	**13 36 29.5**	**+1.3**
KDJ	**Kajisay**	**3.64**	**227**	PN		**Pn**	**13 35 41.3**	**+1.2**
KDJ	**Kajisay**	**3.64**	**227**	Pn		**Pn**	**13 35 41.3**	**+1.2**
TARG	**Taragay, Kyrgy**	**3.65**	**218**			**Pn**	**13 35 42.1**	**+1.7**
KRBS	**Karabastau**	**3.80**	**257**	*e*P		**Pb**	**13 35 50.1**	**-0.2**
	comp=N,124nm,0.4s							
KRBS				*e*S		**Sb**	**13 36 38.4**	**+1.6**
	comp=N,211nm,0.7s							
KRBS	**Karabastau**	**3.80**	**257**	*e*PN		**Pb**	**13 35 50.1**	**-0.2**
KRBS				*e*S		**Sb**	**13 36 38.4**	**+1.6**
KST	**Kastek**	**3.84**	**247**	*e*P		**Pb**	**13 35 51.8**	**+0.7**
	comp=N,385nm,0.7s							
KST				*e*S		**Sb**	**13 36 41.0**	**+2.9**
	comp=N,515nm,0.5s							
KST	**Kastek**	**3.84**	**247**	*e*PN		**Pb**	**13 35 51.8**	**+0.7**
KST				*e*S		**Sb**	**13 36 41.0**	**+2.9**
DGS	**Degeres**	**3.88**	**250**	*e*P		**Pb**	**13 35 51.9**	**0.0**
	comp=N,4.9nm,0.3s							
DGS				*e*S		**Sb**	**13 36 40.5**	**+1.2**
	comp=N,1μm,0.6s							
DGS	**Degeres**	**3.88**	**250**	Pg		**Pb**	**13 35 51.9**	**0.0**
	comp=N,4.9nm,0.3s							
DGS				Lg		Lg	13 36 40.5	
	comp=N,1μm,0.6s							
DGS	**Degeres**	**3.88**	**250**	*e*PN		**Pb**	**13 35 51.9**	**0.0**
DGS				*e*S		**Sb**	**13 36 40.5**	**+1.2**
ZSN	**Zaisan**	**3.98**	**44**	*e*P		**Pb**	**13 35 56.0**	**+2.5**
	comp=N,154nm,0.5s							
ZSN				*e*S		**Sg**	**13 36 48.2**	**-2.4**
	comp=N,586nm,0.6s							
ZSN	**Zaisan**	**3.98**	**44**	Pg		**Pb**	**13 35 56.0**	**+2.5**
	comp=N,144nm,0.5s							
ZSN				Lg		Lg	13 36 48.2	
	comp=N,586nm,0.7s							
ZSN	**Zaisan**	**3.98**	**44**	*e*PN		**Pb**	**13 35 56.0**	**+2.5**
ZSN				*e*S		**Sg**	**13 36 48.2**	**-2.4**
ULHL	**Ulahol**	**4.09**	**235**	P		**Pn**	**13 35 49.3**	**+3.0**
	SNR=20							
BOOM	**Boomskoye usch**	**4.13**	**240**	PN		**Pn**	**13 35 48.7**	**+1.9**
BOOM	**Boomskoye usch**	**4.13**	**240**			**Pn**	**13 35 48.7**	**+1.9**
TKM2	**Tokmak 2**	**4.14**	**247**	P		**Pn**	**13 35 48.3**	**+1.4**
	SNR=18							
TKM2	**Tokmak 2**	**4.14**	**247**	⇑Pn		**Pn**	**13 35 47.6**	**+0.7**
	comp=N,12nm,0.5s							
TKM2				⇑Pg		**Pb**	**13 35 58.3**	**+2.1**
	comp=N,141nm,0.6s							
TKM2				⇓Lg		Lg	13 36 54.5	
	comp=N,370nm,0.6s							
TKM2	**Tokmak 2**	**4.14**	**247**	PN		**

KK31	**Karatay Array**	**7.58**	**262**	Pn		**Pn**		**13 36 34.2**	**+0.2**
KKAR	**Karatay Array**	**7.58**	**262**	P		**Pn**		**13 36 34.4**	**+0.4**
KKAR	**Karatay Array**	**7.58**	**262**			**Pn**		**13 36 34.4**	**+0.4**
GAR	**Garm**	**9.64**	**238**	Pn		**Pn**		**13 37 04.5**	**+2.2**
ZAA0	**Zalesovo Array**	**9.66**	**14**	Pn		**Pn**		**13 37 02.3**	**-0.1**
ZALV	**Zalesovo Beam**	**9.66**	**14**	Pn		**Pn**		**13 37 02.8**	**+0.3**
	comp=Z,2.7nm,0.3s,baz=198,slow=14,SNR=32								
ZALV				Sn		**Sn**		**13 38 47.3**	**-4.2**
	comp=Z,25nm,0.3s,baz=192,slow=28,SNR=15								
ZALV				Lg		Lg		13 39 41.4	
	baz=198,slow=22,SNR=2.1								
ZALV	**Zalesovo Beam**	**9.66**	**14**	*i* P		**Pn**		**13 37 03.2**	**+0.7**
ZALV				pmax		pmax			
	comp=Z,12nm,0.4s								
CHGR	**Chuyangaron**	**10.56**	**239**	Pn		**Pn**		**13 37 16.7**	**+1.8**
BVAR	**Borovoye Array**	**10.81**	**324**	Pn		**Pn**		**13 37 18.1**	**-0.1**
	comp=Z,2.4nm,0.3s,baz=144,slow=13,SNR=60								
BVAR				Sn		**Sn**		**13 39 15.7**	**-3.9**
	comp=Z,2.5nm,0.3s,baz=150,slow=21,SNR=3.5								
BVAR				Lg		Lg		13 40 18.7	
	comp=Z,4.4nm,0.3s,baz=124,slow=24,SNR=3.6								
BVB5	**Borovoye Array**	**10.82**	**324**	⇑Pn		**Pn**		**13 37 17.8**	**-0.5**
	comp=Z,7.2nm,0.5s								
BVB5				⇑Lg		Lg		13 40 20.6	
	comp=Z,53nm,0.6s								
BRVK	**Borovoye**	**10.88**	**324***c*	*i* P		**Pn**		**13 37 19.0**	**-0.1**
BRVK				pmax		pmax			
	comp=Z,13nm,0.7s								
BRVK	**Borovoye**	**10.88**	**324**	Pn		**Pn**		**13 37 18.9**	**-0.2**
NIL	**Nilore**	**12.44**	**210**	P		**Pn**		**13 37 42.2**	**+1.6**
NIL	**Nilore**	**12.44**	**210**	Pn		**Pn**		**13 37 42.2**	**+1.6**
GTA	**Gaotai**	**15.07**	**104**	P		**P**		**13 38 22.6**	**+0.6**
GTA				pP		pP		13 38 26.7	+3.0
GTA				sP		sP		13 38 29.7	+5.2
GTA				pmax		pmax			
	comp=Z,27nm,1.0s								
GTA				pmax		pmax			
	comp=Z,45nm,4.1s								
GTA				LR		LR			
	comp=Z,94nm,13.2s								
GTA				LR		LR			
	comp=Z,240nm,14.0s								
GTA				LR		LR			
	comp=Z,130nm,11.5s								
ZAK	**Zakamensk**	**16.21**	**61**	*e*P		**P**		**13 38 35.7**	**+1.1**
ZAK				pmax		pmax			
	comp=Z,7.0nm,1.2s								
AKTO	**Aktyubinsk**	**16.39**	**299**	Pn		**Pn**		**13 38 30.5**	**-3.0**
	comp=Z,1.6nm,0.3s,baz=107,slow=13,SNR=27								
AKTO				Sn		Sn		13 41 24.5	-11
	comp=Z,0.3nm,0.3s,baz=126,slow=15,SNR=1.9								
AKTO				Lg		Lg		13 43 14.6	
	comp=Z,0.1nm,0.3s,baz=192,slow=19,SNR=2.0								
AKTO				LR		LR		13 45 15.1	
	comp=Z,93nm,20.0s,baz=105,slow=39								
DANN	**Dangsing**	**16.45**	**171**	*e*P		**Pn**		**13 38 33.6**	**-1.1**
KOLN	**Koldanda**	**17.00**	**171**	*e*P		**Pn**		**13 38 39.5**	**-2.1**
LSA	**Lhasa**	**17.04**	**148**	P		**P**		**13 38 44.2**	**0.0**
LSA				pmax		pmax			
	comp=Z,8.0nm,0.6s								
LSA	**Lhasa**	**17.04**	**148**			**P**		**13 38 44.2**	**0.0**
GUN	**Gumba**	**17.20**	**165**	*e*P		**Pn**		**13 38 43.7**	**-0.6**
PKIN	**Phulchoki**	**17.44**	**166**	*e*P		**Pn**		**13 38 45.7**	**-1.5**
	comp=Z,21nm,0.6s								
JIRN	**Jiri**	**17.51**	**164**	*e*P		**Pn**		**13 38 47.8**	**-0.3**
SVE	**Sverdlovsk**	**17.55**	**321**	*e*P		**P**		**13 38 53.7**	**+4.5**
SVE				pmax		pmax			
	comp=Z,16nm,1.1s								
HRA	**Herat**	**17.56**	**241**			**P**		**13 38 50.0**	**+0.2**
SONM	**Songino Array**	**17.97**	**71**	P		**Pn**		**13 38 52.9**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=265,slow=13,SNR=17								
SONM				Lg		Lg		13 44 13.2	
	comp=Z,0.2nm,0.3s,baz=116,slow=44,SNR=1.7								
SONM				LR		LR		13 46 08.4	
	comp=Z,78nm,20.0s,baz=266,slow=38								
TAPN	**Taplejung**	**18.14**	**160**	*e*P		**Pn**		**13 38 55.7**	**-0.2**
	comp=Z,38nm,0.6s								
GEYT	**Alibeck**	**18.28**	**256**	P		**P**		**13 38 57.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=76,slow=7.8,SNR=4.2								
GYA0B	**ALIBECK ARRAY**	**18.28**	**256**			**P**		**13 38 57.4**	**0.0**
RAMN	**Ramite**	**18.28**	**163**	*e*P		**Pn**		**13 38 56.5**	**-1.0**
	comp=Z,22nm,0.5s								
ARU	**Arti**	**18.29**	**318**	P		**P**		**13 38 58.0**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=94,slow=4.5,SNR=9.2								
ARU	**Arti**	**18.29**	**318***d*	*i* P		**P**		**13 39 00.2**	**+2.8**
ARU				S		**S**		**13 42 26.7**	**-0.3**
ARU				pmax		pmax			
	comp=Z,10.0nm,0.9s								
ARU	**Arti**	**18.29**	**318**	P		**Pn**		**13 38 56.0**	**-1.2**
ULN	**Ulaanbaatar**	**18.41**	**71**⇓	*e*P		**P**		**13 38 59.1**	**+0.1**
ULN				pmax		pmax			
	comp=Z,6.0nm,1.0s								
ULN	**Ulaanbaatar**	**18.41**	**71**	P		**P**		**13 38 57.4**	**-1.6**
LZH	**Lanzhou**	**19.50**	**108**	*e*P		**Pn**		**13 39 13.2**	**+1.1**
LZH				pP		sP		13 39 24.3	+11
LZH				sP		pP		13 39 27.6	+15
LZH				PP		**PnPn**		**13 39 30.6**	**+5.4**
LZH				pmax		pmax			
	comp=Z,23nm,1.1s								
LZH				pmax		pmax			
	comp=Z,90nm,5.0s								
LZH				LR		LR			
	comp=Z,180nm,10.2s								
LZH				LR		LR			
	comp=Z,170nm,10.8s								
LZH				LR		LR			
	comp=Z,200nm,11.3s								
CD2	**Chengdu**	**22.66**	**119**	*e*P		**P**		**13 39 46.0**	**+1.0**
HHC	**Hu-ho-hao-te**	**22.85**	**89**	P		**P**		**13 39 47.4**	**+0.4**
KIRV	**Kirov**	**23.67**	**317**	P		**P**		**13 39 56.5**	**+1.5**
	comp=Z,33nm,0.9s,baz=127,slow=18,SNR=13								
MAK	**Makhachkala**	**23.98**	**278**	*e*P		**P**		**13 39 52.7**	**-5.5**
MAK				*e*S		**S**		**13 44 05.0**	**-11**
MAK				pmax		pmax			
	comp=Z,102nm,1.0s								
MAK				MLR		MLR			
	comp=Z,105nm,17.0s								
XAN	**Xi'an**	**24.09**	**106**	P		**P**		**13 39 58.9**	**-0.5**
XAN				pP		sP		13 40 05.7	+3.8
XAN				pmax		pmax			
	comp=Z,8.0nm,0.8s								
XAN	**Xi'an**	**24.09**	**106**	P		**P**		**13 39 58.7**	**-0.7**
XAN				pmax		pmax			
	comp=Z,12nm,1.1s								
XAN	**Xi'an**	**24.09**	**106**	P		**P**		**13 39 58.7**	**-0.7**
AKT	**Akhty**	**24.26**	**274**	*e*P		**P**		**13 40 02.9**	**+1.9**
AKT				*e*				13 40 31.1	
AKT				pmax		pmax			
	comp=Z,11nm,0.8s								
BOD	**Bodaibo**	**24.32**	**45**	*e*P		**P**		**13 40 00.9**	**-0.3**
BOD				pmax		pmax			
	comp=Z,7.0nm,1.0s								
NRIK	**Noril'sk**	**24.99**	**6**	P		**P**		**13 40 07.2**	**+0.1**
	comp=Z,5.5nm,0.4s,baz=172,slow=5.7,SNR=11								
ENH	**Enshi**	**26.76**	**113**	P		**P**		**13 40 24.9**	**+1.3**
KBZ	**Khabaz**	**27.02**	**282**	LR		LR		13 53 04.6	
	comp=Z,82nm,19.5s,baz=68,slow=41								
KIV	**Kislovodsk**	**27.11**	**282**	*e*P		**P**		**13 40 30.0**	**+3.3**
KIV				*e*PPP		PPP		13 41 18.3	
KIV				pmax		pmax			
	comp=Z,4.0nm,0.6s								
GYA	**Guiyang**	**27.62**	**122**	*e*P		P		13 40 39.1	+7.6
GYA				pmax		pmax			
	comp=Z,10.0nm,0.6s								
WSAR	**Wadi Sarin**	**28.02**	**228**	LR		LR		13 53 27.2	
	comp=Z,50nm,19.7s,baz=98,slow=40								
KLMR	**Klimovskoe**	**29.14**	**318**	*e*P		**P**		**13 40 45.3**	**+0.8**
KLMR				pmax		pmax			
	comp=Z,21nm,1.0s								
KLMR	**Klimovskoe**	**29.14**	**318**	*e*P		**P**		**13 40 45.4**	**+0.9**
KLMR				AMP				13 40 51.0	
	comp=Z,21nm,1.0s								
OBN	**Obninsk**	**29.86**	**306**	*e*P		**P**		**13 40 53.6**	**+2.6**
OBN				*e*				13 41 46.6	
OBN				pmax		pmax			
	comp=Z,6.0nm,0.4s								
CHTO	**Chiang Mai**	**29.90**	**144**	P		**P**		**13 40 51.3**	**-0.4**
CHTO				pmax		pmax			
	comp=Z,14nm,1.8s								
CHTO	**Chiang Mai**	**29.90**	**144**	P		**P**		**13 40 51.3**	**-0.4**
CHTO				IAmb		IAmb		13 41 33.3	
	comp=Z,14nm,1.8s								
SLVN	**Son La**	**30.09**	**133**	P		**P**		**13 40 52.6**	**-0.7**
SLVN				IAmb		IAmb		13 41 39.1	
	comp=Z,17nm,1.8s								
CM31	**Chiang Mai Arr**	**30.22**	**144**	P		**P**		**13 40 54.2**	**-0.2**
CMAR	**Chiang Mai Arr**	**30.22**	**144**	P		**P**		**13 40 54.0**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=314,slow=8.4,SNR=13								
ANN	**Anapa**	**30.53**	**286**	*e*P		**P**		**13 40 56.6**	**-0.4**
ANN				*e**PP		**pP**		**13 40 57.9**	**-0.8**
ANN				*e*S		**S**		**13 45 57.3**	**-1.7**
ANN				pmax		pmax			
	comp=Z,31nm,1.3s								
CN2	**Changchun**	**31.72**	**76**	*e*P		**P**		**13 41 07.8**	**+0.3**
CN2				pmax		pmax			
	comp=Z,10.0nm,6.0s								
NJ2	**Nanjing**	**32.11**	**100**	*e*P		**P**		**13 41 12.0**	**+1.0**
NJ2				pmax		pmax			
	comp=Z,6.0nm,0.5s								
SIM	**Simferopol'**	**32.76**	**287**	*e*P		**P**		**13 41 16.0**	**-0.6**
SIM				pmax		pmax			
	comp=Z,12nm,0.6s								
SIM				MLR		MLR			
	comp=Z,50nm,17.0s								
YAK	**Yakutsk**	**32.97**	**41**	P		**P**		**13 41 18.4**	**+0.2**
	comp=Z,4.3nm,0.6s,baz=143,slow=1.5,SNR=4.4								
YAK	**Yakutsk**	**32.97**	**41**	IAmb		IAmb		13 41 23.4	
	comp=Z,9.1nm,0.7s								
APA	**Apatity**	**33.66**	**329**⇑	*i* P		**P**		**13 41 26.4**	**+2.2**
APA				pmax		pmax			
	comp=Z,4.0nm,0.6s								
APA				MLR		MLR			
	comp=Z,200nm,13.0s								
AKASG	**Malin Array Be**	**34.64**	**299**	P		**P**		**13 41 33.1**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=69,slow=8.9,SNR=5.8								
AKASG	**Malin Array Be**	**34.64**	**299**	*i* P		**P**		**13 41 37.0**	**+4.1**
AKASG				pmax		pmax			
	comp=Z,3.0nm,0.7s								
AKBB	**Malin Array Si**	**34.64**	**299**	P		**P**		**13 41 32.7**	**-0.2**
AKBB				pmax		pmax			
	comp=Z,5.0nm,0.9s								
AKBB	**Malin Array Si**	**34.64**	**299**	P		**P**		**13 41 32.7**	**-0.2**
AKBB				IAmb		IAmb		13 41 37.3	
	comp=Z,5.1nm,0.9s								
BR131	**Keskin Array S**	**34.89**	**279**	P		**P**		**13 41 36.1**	**+0.7**
BR131				pmax		pmax			
	comp=Z,3.0nm,1.0s								
BR131	**Keskin Array S**	**34.89**	**279**	P		**P**		**13 41 36.1**	**+0.7**
BRTR	**Keskin Array B**	**34.89**	**279**	P		**P**		**13 41 35.9**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=81,slow=7.6,SNR=9.1								
BRTR	**Keskin Array B**	**34.89**	**279**	*i* P		**P**		**13 41 36.5**	**+1.1**
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
INCN	**Inchon**	**34.92**	**86**	P		**P**		**13 41 35.6**	**+0.1**
INCN				pmax		pmax			
	comp=Z,13nm,0.9s								
INCN	**Inchon**	**34.92**	**86**	P		**P**		**13 41 35.6**	**+0.1**
INCN				IAmb		IAmb		13 41 36.8	
	comp=Z,13nm,0.9s								
TIXI	**Tiksi**	**35.37**	**24**	P		**P**		**13 41 38.7**	**-0.3**
TIXI				pmax		pmax			
	comp=Z,8.0nm,1.4s								
TIXI	**Tiksi**	**35.37**	**24**	P		**P**		**13 41 38.7**	**-0.3**
TIXI				IAmb		IAmb		13 41 41.6	
	comp=Z,7.9nm,1.4s								
RAYN	**Ar Rayn**	**35.63**	**245**	P		**P**		**13 41 41.8**	**0.0**
RAYN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
RAYN	**Ar Rayn**	**35.63**	**245**	P		**P**		**13 41 41.8**	**0.0**
RAYN				IAmb		IAmb		13 41 53.8	
	comp=Z,4.6nm,0.9s								
FINES	**FINESS Array B**	**35.66**	**318**	P		**P**		**13 41 42.1**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=110,slow=12,SNR=3.1								
KIS	**Kishinev**	**35.74**	**293**	*e*P		P		13 41 50.0	+7.6
KIS				*e*S		**S**		**13 47 22.0**	**+2.1**
KIS	**Kishinev**	**35.74**	**293**	*e*P		P		13 41 50.3	+7.9
KIS				*e*S		**S**		**13 47 22.0**	**+2.1**
KS19	**Wonju Array Si**	**35.79**	**85**	P		**P**		**13 41 43.6**	**+0.6**
KS19				IAmb		IAmb		13 42 44.6	
	comp=Z,33nm,1.8s								
KSRS	**Korea Array**	**35.86**	**85**	P		**P**		**13 41 42.6**	**-0.9**
	comp=Z,2.2nm,0.9s,baz=283,slow=7.7,SNR=12								
KSRS				LR		LR		13 57 48.1	
	comp=Z,29nm,18.3s,baz=265,slow=39								
USA0B	**Ussuriysk Arra**	**36.07**	**72**	P		**P**		**13 41 46.0**	**+0.7**
USA0B				pmax		pmax			
	comp=Z,26nm,1.5s								
USA0B	**Ussuriysk Arra**	**36.07**	**72**	P		**P**		**13 41 46.0**	**+0.7**
USA0B				IAmb		IAmb		13 42 11.8	
	comp=Z,26nm,1.5s								
USRK	**Ussuriysk Ar.**	**36.07**	**72**	P		**P**		**13 41 46.1**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=270,slow=8.6,SNR=5.3								
VLA	**Vladivostok**	**36.37**	**74**⇓	*e*P		P		13 41 53.0	+5.2
VLA				pmax		pmax			
	comp=Z,63nm,1.3s								
KNMB	**Chin-men Tao**	**36.52**	**111**	P		**P**		**13 41 49.1**	**-0.2**
ARCES	**ARCESS Array B**	**36.99**	**331**	P		**P**		**13 41 53.5**	**+0.7**
	comp=Z,5.5nm,0.7s,baz=70,slow=11,SNR=13								
BIZ	**Bicaz**	**37.54**	**293**	⇑P		**P**		**13 41 58.8**	**+1.0**
BURAR	**Bucovina Array**	**37.92**	**295**	⇑P		**P**		**13 42 01.9**	**+0.7**
BURAR	**Bucovina Array**	**37.92**	**295**	⇑P		**P**		**13 42 01.9**	**+0.7**
BUR08	**Bucovina Ar. S**	**37.92**	**295**	P		**P**		**13 42 01.5**	**+0.3**
MLR	**Muntele Rosu**	**38.09**	**291**	⇑P		**P**		**13 42 04.8**	**+2.2**
MLR	**Muntele Rosu**	**38.09**	**291**	⇑P		**P**		**13 42 04.8**	**+2.2**
DOPR	**Dopca**	**38.31**	**292**	⇓P		**P**		**13 42 06.0**	**+1.7**
KWP	**Kalwaria Pacla**	**38.96**	**299**	P		**P**		**13 42 10.7**	**+0.9**
KWP				pmax		pmax			
	comp=Z,16nm,1.0s								
KWP	**Kalwaria Pacla**	**38.96**	**299**	P		**P**		**13 42 10.7**	**+0.9**
KWP				IAmb		IAmb		13 42 15.5	
	comp=Z,16nm,1.0s								
KLNR	**Kaliningrad**	**39.31**	**307**⇑	*e*P		P		13 42 17.8	+5.3
KLNR				pmax		pmax			
	comp=Z,32nm,0.7s								
DRGR		**39.80**	**294**	⇑P		**P**		**13 42 16.0**	**-0.9**
DRGR		**39.80**	**294**	⇑P		**P**		**13 42 16.0**	**-0.9**
MDVR	**Moldovita**	**41.15**	**292**	⇑P		**P**		**13 42 28.8**	**+0.8**
MORC	**Moravsky Berou**	**42.13**	**300**	⇑P		P		13 42 30.2	-5.8
MORC	**Moravsky Berou**	**42.13**	**300**	P		**P**		**13 42 36.7**	**+0.7**
MORC				pmax		pmax			
	comp=Z,3.0nm,0.7s								
MORC	**Moravsky Berou**	**42.13**	**300**	P		**P**		**13 42 36.6**	**+0.7**
NC405	**NORSAR Array S**	**42.59**	**318**	P		**P**		**13 42 40.4**	**+0.8**
NC405				IAmb		IAmb		13 44 03.4	
	comp=Z,15nm,0.8s								
NC303	**NORSAR Array S**	**42.74**	**318**	P		**P**		**13 42 41.6**	**+0.9**
NC602	**NORSAR Array S**	**42.75**	**317**	P		**P**		**13 42 41.5**	**+0.7**
NB201	**NORSAR Array S**	**42.81**	**318**	P		**P**		**13 42 42.0**	**+0.6**
NB201				IAmb		IAmb		13 44 05.7	
	comp=Z,23nm,1.1s								
NB2	**NORSAR Subarra**	**42.85**	**318**	P		**P**		**13 42 41.8**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=79,slow=8.6								
NOA	**NORSAR Array B**	**42.85**	**318**	P		**P**		**13 42 42.1**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=80,slow=8.1,SNR=8.8								
NOA				LR		LR		14 01 10.6	
	comp=Z,30nm,20.1s,baz=115,slow=37								
NC204	**NORSAR Array S**	**43.02**	**318**	P		**P**		**13 42 43.2**	**+0.1**
NC204				IAmb		IAmb		13 44 03.0	
	comp=Z,13nm,0.7s								
NAO01	**NORSAR Array S**	**43.04**	**318**	P		**P**		**13 42 43.6**	**+0.4**
NAO01				IAmb		IAmb		13 44 13.0	
	comp=Z,47nm,1.4s								
IDI	**Anoyia**	**43.09**	**277**	P		**P**		**13 42 43.8**	**-0.2**
IDI				IAmb		IAmb		13 44 07.8	
	comp=Z,18nm,1.2s								
CONA	**Conrad Observa**	**43.79**	**298**	*i* P		**P**		**13 42 49.9**	**+0.4**
	comp=Z,4.0nm,1.3s								
ARSA	**Arzberg**	**44.25**	**298**	*i* P		**P**		**13 42 55.9**	**+2.8**
CLL	**Collm**	**44.38**	**304**⇓	*i* P		**P**		**13 42 56.0**	**+1.9**
CLL				*i*				13 42 59.0	
	comp=Z,3.0nm,0.9s								
CLL				*i*				13 43 02.0	
	comp=Z,7.0nm,0.9s								
CLL				*e*S		**S**		**13 49 33.0**	**+4.0**
CLL	**Collm**	**44.38**	**304**	⇓*i* P		**P**		**13 42 56.0**	**+1.9**
CLL				*i*				13 42 59.0	
CLL				pmax		pmax			
	comp=Z,3.0nm,0.9s								
CLL	**Collm**	**44.38**	**304**	P		**P**		**13 42 56.0**	**+1.9**
CLL				IAmb		IAmb		13 42 59.8	
	comp=Z,6.0nm,0.9s								
SOKA	**Soboth**	**44.78**	**297**	*i* P		**P**		**13 42 57.9**	**+0.4**
	comp=Z,2.4nm,0.7s								
KHC	**Kasperske Hory**	**44.78**	**301**	⇑*i* P		P		13 43 01.7	+4.3
KHC				pmax		pmax			
	comp=Z,5.0nm,1.0s								
GERES	**GERESS Array B**	**44.81**	**300**	P		**P**		**13 42 57.5**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=74,slow=9.8,SNR=6.5								
MOA	**Molln**	**44.82**	**299**	*i* P		P		13 42 52.9	-4.8
	comp=Z,0.5nm,0.4s								
OBKA	**Obir**	**45.15**	**297**	*i* P		**P**		**13 43 00.5**	**+0.1**
	comp=Z,3.1nm,0.7s								
GSI	**Gunungsitoli**	**45.66**	**156**	P		**P**		**13 43 04.7**	**+0.1**
MYKA	**Terra Mystica**	**45.68**	**297**	*i* P		**P**		**13 43 01.4**	**-3.2**
	comp=Z,0.6nm,0.4s								
KBA	**Koelnbreinsper**	**45.69**	**298**	*i* P		**P**		**13 43 01.5**	**-3.3**
	comp=Z,2.1nm,0.6s								
WTTA	**Wattenberg**	**46.69**	**299**	*i* P		**P**		**13 43 13.3**	**+0.7**
	comp=Z,7.2nm,0.6s								
WATA	**Walderalm**	**46.70**	**299**	*i* P		**P**		**13 43 13.3**	**+0.6**
	comp=Z,6.1nm,0.7s								
SQTA	**Sankt Quirin**	**46.98**	**299**	*i* P		**P**		**13 43 15.4**	**+0.6**
	comp=Z,5.9nm,0.5s								
MOTA	**Moosalm**	**46.99**	**299**	*i* P		**P**		**13 43 15.5**	**+0.6**
	comp=Z,8.0nm,0.7s								
RETA	**Reutte**	**47.15**	**300**	*i* P		**P**		**13 43 17.1**	**+1.0**
	comp=Z,6.2nm,1.0s								
FETA	**Feichten**	**47.36**	**299**	*i* P		**P**		**13 43 17.6**	**-0.2**
	comp=Z,7.2nm,0.8s								
DAVA	**Damuels**	**47.77**	**300**	*i* P		**P**		**13 43 21.1**	**0.0**
	comp=Z,4.6nm,0.6s								
FUORN	**Ofenpass-Fuorn**	**47.81**	**299**	P		**P**		**13 43 22.2**	**+0.7**
FUORN				IAmb		IAmb		13 44 16.8	
	comp=Z,20nm,1.9s								
BILL	**Bilibino**	**47.92**	**30**⇑	*e*P		**P**		**13 43 25.3**	**+3.6**
BILL				pmax		pmax			
	comp=Z,6.0nm,2.5s								
VLC	**Villacollemand**	**48.80**	**296**	P		**P**		**13 43 28.3**	**-0.6**
VLC				IAmb		IAmb		13 43 34.2	
	comp=Z,8.0nm,0.7s								
SBUM	**Sibu**	**50.35**	**137**	P		**P**		**13 43 41.2**	**+0.3**
BNI	**Bardonecchia**	**50.75**	**298**	P		**P**		**13 43 43.7**	**-0.2**
BNI				pmax		pmax			
	comp=Z,7.0nm,0.9s								
BNI	**Bardonecchia**	**50.75**	**298**	P		**P**		**13 43 43.7**	**-0.2**
BNI				IAmb		IAmb		13 43 53.3	
	comp=Z,6.6nm,0.9s								
TULEG	**Thule**	**57.54**	**352**	P		**P**		**13 44 30.1**	**-2.6**
RDOG	**Red Dog Mine**	**57.98**	**23**	P		**P**		**13 44 35.8**	**-0.2**
RDOG				IAmb		IAmb		13 44 43.8	
	comp=Z,8.5nm,0.6s								
ESDC	**Sonseca Array**	**60.27**	**298**	P		**P**		**13 44 51.8**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=52,slow=7.3,SNR=6.6								
BPAW	**Bear Paw Mtn.**	**64.19**	**23**	P		**P**		**13 45 18.1**	**-0.1**
COLA	**College**	**64.40**	**21**⇓	*e*P		P		13 45 23.9	+4.4
COLA				pmax		pmax			
	comp=Z,3.0nm,1.4s								
INK	**Inuvik**	**64.46**	**13**	P		**P**		**13 45 20.2**	**+0.4**
INK				pmax		pmax			
	comp=Z,7.0nm,1.1s								
INK	**Inuvik**	**64.46**	**13**	P		**P**		**13 45 20.2**	**+0.4**
INK				IAmb		IAmb		13 45 25.0	
	comp=Z,7.2nm,1.1s								
KTH	**Kantishna Hill**	**64.64**	**23**	P		**P**		**13 45 21.6**	**+0.4**
KTH				IAmb		IAmb		13 45 22.6	
	comp=Z,21nm,1.6s								
IL31		**64.73**	**21**	P		**P**		**13 45 21.4**	**-0.2**
ILAR	**Eielson Array**	**64.73**	**21**	P		**P**		**13 45 21.0**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=316,slow=5.0,SNR=18								
PPLA	**Purkeypile**	**64.80**	**24**	P		**P**		**13 45 22.5**	**+0.2**
PPLA				IAmb		IAmb		13 46 02.3	
	comp=Z,23nm,1.8s								
C36M	**Paulatuk**	**64.84**	**9**	P		**P**		**13 45 22.1**	**-0.2**
SML	**Sawmill**	**66.76**	**23**	P		**P**		**13 45 34.7**	**-0.2**
SML				IAmb		IAmb		13 45 39.2	
	comp=Z,17nm,1.6s								
SCM	**Sheep Creek Mo**	**67.02**	**23**	P		**P**		**13 45 36.5**	**0.0**
SCM				pmax		pmax			
	comp=Z,15nm,1.3s								
SCM	**Sheep Creek Mo**	**67.02**	**23**	P		**P**		**13 45 36.5**	**0.0**
SCM				IAmb		IAmb		13 48 01.1	
	comp=Z,15nm,1.3s								
CNPM	**China Poot**	**67.74**	**26**	P		**P**		**13 45 41.6**	**+0.5**
CNPM				IAmb		IAmb		13 47 37.3	
	comp=Z,23nm,1.4s								
SEW	**Seward**	**67.82**	**25**	P		**P**		**13 45 42.1**	**+0.7**
SEW				IAmb		IAmb		13 46

JCH				*e*S	Sn	13 52 11.2	-0.6
JKK2	**Kamakawa 2**	**7.75**	**267**	P	Pn	13 50 51.3	+3.6
ASAJ	**Asahikawa**	**7.82**	**269**	P	Pn	13 50 51.8	+3.2
JFR	**Furan**	**8.03**	**262**	P	Pn	13 50 54.7	+3.2
JNBK	**Urakawa-nobuka**	**8.20**	**256**	P	Pn	13 50 55.6	+1.8
JBT2	**Biratori 2**	**8.30**	**260**	P	Pn	13 50 57.1	+1.9
JKB	**Kayabe**	**9.53**	**256**	P	Pn	13 51 13.6	+1.5
JKB				*e*S	Sn	13 52 54.6	-3.2

IDC ***09*** *14:16:29.6±0.7, 12°.99N×143°.58E, h0km, mb4.1/10, mb1 4.3/10, mb1mx3.9/38, mbtmp4.1/10, MS2.9/2, Ms1 2.9/2, ms1mx2.4/43, Error ellipse: s-maj=38.0km s-min=17.0km az=96.0*

NEIC ***09*** *14:16:43.0±1.1, 12°.9N±0°.1×143°.52E±0°.08, h110km±7km, mb4.7/22, Error ellipse: s-maj=14.9km s-min=10.9km az=164.0*

ISC 09 14:16:41.9±0.5, 12°.88N±0°.08×143°.5E±0°.1, h100km, n33, σ0s81/31, mb4.2/17, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.51**	**62**		**Pn**	**14 17 09.4**	**+1.1**
PATS	**Pohnpei**	**15.78**	**111**	Pn	**Pn**	**14 20 17.2**	**-1.4**
PATS				IAmb	IAmb	14 20 32.6	
	comp=Z,123nm,1.7s						
JHJ2	**Mitsune**	**20.42**	**351**	P	**P**	**14 21 09.7**	**-1.4**
TWG	**Pinlang**	**23.50**	**298**	P	**P**	**14 21 43.0**	**0.0**
MJAR	**Matsushiro Arr**	**24.04**	**349**	LR	LR	14 30 20.5	
	comp=Z,16nm,18.4s,baz=225,slow=35						
CTAO	**Charters Tower**	**32.88**	**175**	P	**P**	**14 23 06.8**	**+0.2**
WB0	**Warramunga Arr**	**33.66**	**196**	P	**P**	**14 23 13.6**	**+0.2**
WB0				IAmb	IAmb	14 23 58.2	
	comp=Z,22nm,1.4s						
WR0	**Warramunga Arr**	**33.81**	**195**	P	**P**	**14 23 15.0**	**+0.4**
WR0				IAmb	IAmb	14 23 34.4	
	comp=Z,37nm,1.6s						
WRAB	**Tennant Creek**	**33.83**	**196**	P	**P**	**14 23 14.8**	**0.0**
WB2	**Warramunga Arr**	**33.84**	**196**	P	**P**	**14 23 15.4**	**+0.5**
WRA	**Warramunga Arr**	**33.84**	**196**	P	**P**	**14 23 14.8**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=20,slow=9.5,SNR=26						
AS31	**Alice Springs**	**37.52**	**195**	P	**P**	**14 23 46.8**	**+0.4**
ASAR	**Alice Springs**	**37.52**	**195**	P	**P**	**14 23 46.9**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=18,slow=12,SNR=21						
DZM	**Mont Dzumac**	**41.39**	**147**	P	**P**	**14 24 19.0**	**+0.3**
	comp=Z,6.7nm,0.6s,baz=315,slow=8.6,SNR=4.2						
PET	**Petropavlovsk**	**41.83**	**14**	P	**P**	**14 24 22.1**	**+0.4**
BKNI	**Bangkinang**	**43.89**	**257**	P	**P**	**14 24 38.4**	**-0.6**
STKA	**Stephens Creek**	**44.54**	**182**	P	**P**	**14 24 43.0**	**-0.8**
	comp=Z,2.3nm,0.6s,baz=28,slow=6.5,SNR=7.3						
BBOO	**Buckleboo**	**45.99**	**189**	P	**P**	**14 24 54.6**	**-0.7**
MORW	**Morawa**	**49.43**	**212**	P	**P**	**14 25 23.1**	**+1.2**
NWAO	**Narrogin (SRO)**	**52.00**	**208**	P	**P**	**14 25 40.9**	**-0.2**
MKAR	**Makanchi Array**	**61.08**	**317**	P	**P**	**14 26 46.2**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=96,slow=8.9,SNR=2.7						
ILAR	**Eielson Array**	**69.77**	**25**	P	**P**	**14 27 39.8**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=248,slow=5.7,SNR=11						
WAX	**Waxell Ridge**	**70.82**	**30**	P	**P**	**14 27 46.5**	**-1.2**
WAX				IAmb	IAmb	14 28 02.6	
	comp=Z,12nm,0.6s						
BARN	**Barnard Glacie**	**71.48**	**30**	P	**P**	**14 27 50.1**	**-1.7**
BARN				IAmb	IAmb	14 28 01.0	
	comp=Z,4.7nm,0.8s						
INK	**Inuvik**	**75.52**	**22**	P	**P**	**14 28 14.7**	**-0.4**
C36M	**Paulatuk**	**78.90**	**21**	P	**P**	**14 28 34.8**	**+0.9**
C36M				IAmb	IAmb	14 30 58.7	
	comp=Z,29nm,1.4s						
KIRV	**Kirov**	**81.24**	**328**	LR	LR	15 06 24.0	
	comp=Z,11nm,19.8s,baz=353,slow=37						
YKA	**Yellowknife Ar**	**84.09**	**27**	P	**P**	**14 29 01.6**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=283,slow=4.9,SNR=13						
ARCES	**ARCESS Array B**	**87.34**	**342**	P	**P**	**14 29 18.3**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=75,slow=9.2,SNR=3.9						
BMO	**Blue Mountains**	**87.43**	**45**	P	**P**	**14 29 18.3**	**-0.2**
BMO				IAmb	IAmb	14 29 20.3	
	comp=Z,2.7nm,0.8s						
NVAR	**Mina Array Bea**	**88.40**	**51**	P	**P**	**14 29 24.4**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=264,slow=5.9,SNR=9.7						
MFID	**Camas Ranch**	**88.85**	**46**	P	**P**	**14 29 25.1**	**-0.2**
MFID				IAmb	IAmb	14 29 27.4	
	comp=Z,3.3nm,0.9s						
FINES	**FINESS Array B**	**91.23**	**335**	P	**P**	**14 29 35.5**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=49,slow=5.8,SNR=7.4						

NEIC ***09*** *14:19:14.3±1.6, 19°.06S±0°.03×169°.5E±0°.1, h277km±7km, mb4.7/13, Error ellipse: s-maj=15.1km s-min=4.2km az=91.0*

IDC ***09*** *14:19:14.3±3.0, 19°.31S×169°.69E, h284km±33km, mb3.6/6, mb1 3.8/7, mb1mx3.3/34, mbtmp4.2/7, Error ellipse: s-maj=76.4km s-min=23.1km az=159.0*

ISC 09 14:19:12.6±0.7, 19°.02S±0°.10×169°.52E±0°.10, h250km, n26, σ1s53/26, mb4.6/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.18**	**223**	P	**Pn**	**14 20 20.7**	**+2.0**
	1.0nm,0.3s,baz=100,slow=19,SNR=15						
DZM	**Mont Dzumac**	**4.18**	**223**		**Pn**	**14 20 21.1**	**+2.4**
SANVU	**Saraoutou**	**4.19**	**328**	Pn	**Pn**	**14 20 21.7**	**+3.0**
MSVF	**Nonsavu**	**8.20**	**82**	Pn	**Pn**	**14 21 10.9**	**+2.3**
EIDS	**Eidsvold**	**18.20**	**246**	P	**P**	**14 23 08.9**	**+1.4**
CTA	**Charters Tower**	**21.95**	**263**	P	**P**	**14 23 47.0**	**+0.7**
	7.3nm,1.0s,baz=84,slow=1,SNR=9.0						
CTAO	**Charters Tower**	**21.95**	**263**	P	**P**	**14 23 47.1**	**+0.7**
WR0	**Warramunga Arr**	**32.95**	**262**	P	**P**	**14 25 22.9**	**-1.4**
WR0				IAmb	IAmb	14 26 34.4	
	comp=Z,37nm,1.9s						
WB0	**Warramunga Arr**	**33.11**	**263**	P	**P**	**14 25 24.2**	**-1.4**
WB0				IAmb	IAmb	14 26 41.8	
	comp=Z,51nm,2.0s						
WB2	**Warramunga Arr**	**33.13**	**262**	P	**P**	**14 25 24.5**	**-1.4**
WRA	**Warramunga Arr**	**33.15**	**262**	P	**P**	**14 25 24.9**	**-1.1**
	comp=Z,0.9nm,0.3s,baz=82,slow=6.0,SNR=28						
AS31	**Alice Springs**	**33.44**	**256**	P	**P**	**14 25 28.0**	**-0.5**
ASAR	**Alice Springs**	**33.44**	**256**	P	**P**	**14 25 27.9**	**-0.6**
	comp=Z,9.9nm,0.6s,baz=80,slow=9.0,SNR=225						
MTN	**Manton Dam**	**37.37**	**274**	P	**P**	**14 26 01.2**	**-0.6**
KNRA	**Kununurra**	**38.99**	**268**	P	**P**	**14 26 14.4**	**-0.9**
KNRA				IAmb	IAmb	14 27 39.0	
	comp=Z,39nm,1.4s						
FORT	**Forrest**	**39.18**	**244**	P	**P**	**14 26 16.0**	**-0.7**
FORT				IAmb	IAmb	14 27 08.7	
	comp=Z,25nm,1.1s						
FAKI	**Fak Fak**	**39.80**	**289**	P	**P**	**14 26 22.3**	**+0.2**
FAKI				IAmb	IAmb	14 26 39.4	
	comp=Z,35nm,1.0s						
FITZ	**Fitzroy Crossi**	**41.53**	**264**	P	**P**	**14 26 36.4**	**+0.3**
	comp=Z,5.1nm,0.9s,baz=95,slow=9.0,SNR=2.8						
FITZ	**Fitzroy Crossi**	**41.53**	**264**	P	**P**	**14 26 36.4**	**+0.3**
QSPA	**South Pole Qui**	**71.03**	**180**	P	**P**	**14 30 02.3**	**-1.0**
QSPA				IAmb	IAmb	14 30 09.9	
	comp=Z,33nm,1.9s						
PETK	**Petropavlovsk-**	**72.56**	**353**	P	**P**	**14 30 11.9**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=113,slow=23,SNR=1.9						
NIKH	**Nikolski High**	**74.11**	**13**	P	**P**	**14 30 20.1**	**-1.2**
NVAR	**Mina Array Bea**	**88.46**	**48**	P	**P**	**14 31 35.5**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=222,slow=6.0,SNR=3.8						
ARCES	**ARCESS Array B**	**124.93**	**345**	PKP	**PKPdf**	**14 37 40.2**	**-2.1**
	comp=Z,1.1nm,0.8s,baz=64,slow=2.8,SNR=4.9						
GERES	**GERESS Array B**	**144.43**	**332**	PKP	**PKPab**	**14 38 15.8**	**-2.3**
	comp=Z,0.7nm,0.6s,baz=39,slow=6.8,SNR=6.4						
DAVOX	**Davos/Dischmat**	**147.66**	**333**	PKPbc	**PKPdf**	**14 38 26.5**	**+1.7**
	comp=Z,1.8nm,0.5s,baz=345,slow=15,SNR=2.5						

IDC ***09*** *14:52:27.4±11.0, 35°.26N×81°.39E, h0km, mb3.1/1, mb1 3.2/5, mb1mx3.0/41, mbtmp3.2/5, ML2.9/4, MS2.5/1, Ms1 2.5/1, ms1mx2.0/19, Error ellipse: s-maj=156.4km s-min=46.1km az=23.0*

ISC 09 14:52:30.1±7.4, 35°.4N±0°.6×81°.3E±0°.4, h15km, n7, σ0s95/5, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**8.99**	**326**	Pg	Pn	14 55 11.1	+32
	0.2nm,0.3s,baz=138,slow=16,SNR=1.7						
AAK				Lg	Lg	14 57 07.6	
	0.2nm,0.3s,baz=112,slow=18,SNR=1.4						
MKAR	**Makanchi Array**	**11.44**	**3**	Pn	**Pn**	**14 55 12.8**	**-0.1**
	0.1nm,0.3s,baz=178,slow=15,SNR=3.3						
KURBB	**Kurchatov Array**	**15.38**	**353**	Pn	**Pn**	**14 56 05.9**	**-0.6**
	0.0nm,0.3s,baz=148,slow=10,SNR=2.6						
ZALV	**Zalesovo Beam**	**18.73**	**6**	P	**Pn**	**14 56 49.7**	**+1.1**
	0.1nm,0.3s,baz=194,slow=12,SNR=4.2						
GEYT	**Alibeck**	**18.79**	**285**	LR	LR	15 05 42.8	
	comp=Z,13nm,18.8s,baz=10.0,slow=42						
BVAR	**Borovoye Array**	**19.27**	**340**	P	**P**	**14 56 54.2**	**+0.1**
	0.1nm,0.3s,baz=132,slow=11,SNR=4.2						
SONM	**Songino Array**	**22.39**	**49**	P	**P**	**14 57 27.6**	**-0.4**
	0.5nm,0.7s,baz=251,slow=13,SNR=2.3						

BEO ***09*** *15:03:24.1±1.1, 40°.21N×26°.25E, h0km, ML3.3/3*
DDA ***09*** *15:03:27.6, 40°.42N×26°.10E, h8km, MW3.5*
ISK ***09*** *15:03:27.0, 40°.42N×26°.12E, h9km, ML3.5/23*
ATH ***09*** *15:03:27.0, 40°.44N×26°.05E, h27km±1km, ML3.0/11, Error ellipse: s-maj=2.3km s-min=0.9km az=305.0*
THE ***09*** *15:03:28.0, 40°.44N×26°.05E, h11km, ML3.0/8, Error ellipse: s-maj=0.6km s-min=0.3km az=310.0*

ISC 09 15:03:27.3±1.0, 40°.42N±0°.01×26°.09E±0°.02, h8km±9km, n113, σ1s03/139, 15C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOKA	**anakkale-Gk**	**0.27**	**212**	*i* P	**Pb**	**15 03 33.3**	**-1.0**
GOKA				IAML		15 03 38.0	
	comp=E,4μm,0.3s						
GOKA				*i* S	**Sb**	**15 03 38.2**	**-0.8**
GOKA				IAML		15 03 39.0	
	comp=N,6μm,0.6s						
GADA	**Gvkgeada**	**0.27**	**214**	P	**Pb**	**15 03 33.5**	**-0.8**
GADA				S	**Sb**	**15 03 37.9**	**-1.2**
	comp=N,3μm,0.7s						
GADA	**Gvkgeada**	**0.27**	**214**	PG	**Pb**	**15 03 33.5**	**-0.8**
GADA				SG	**Sb**	**15 03 38.3**	**-0.8**
GELI	**Tayfur-Gelibol**	**0.29**	**93**	PG	**Pg**	**15 03 33.2**	**+0.2**
GELI				SG	**Sg**	**15 03 37.5**	**+0.6**
ENEZ	**Enez**	**0.32**	**8**	P	**Pb**	**15 03 34.2**	**-1.1**
ENEZ				S	**Sb**	**15 03 39.0**	**-1.8**
	comp=N,18μm,0.6s						
ENEZ	**Enez**	**0.32**	**8**	PG	**Pg**	**15 03 34.1**	**+0.4**
ENEZ				SG	**Sb**	**15 03 38.9**	**-1.8**
ERIK	**Erikli-Kesan**	**0.41**	**51**	PG	**Pg**	**15 03 35.3**	**0.0**
ERIK				SG	**Sg**	**15 03 40.9**	**+0.2**
SMTH	**Samothraki Isl**	**0.43**	**278**	P	**Pg**	**15 03 35.8**	**+0.1**
SMTH				S	**Sg**	**15 03 41.8**	**+0.4**
	comp=N,1μm,0.1s						
SMTH	**Samothraki Isl**	**0.43**	**278**	P	**Pg**	**15 03 35.8**	**+0.1**
SMTH				S	**Sg**	**15 03 41.4**	**0.0**
SMTH				AML	AML	15 03 44.4	
	comp=E,2133μm,0.2s						
SMTH				AML	AML	15 03 46.0	
	comp=N,3028μm,0.1s						
ALN	**Alexandroupoli**	**0.48**	**356**	P	**Pg**	**15 03 36.8**	**+0.1**
ALN				S	**Sg**	**15 03 43.1**	**+0.1**
	comp=N,2μm,0.4s						
ALN	**Alexandroupoli**	**0.48**	**356**	P	**Pg**	**15 03 36.7**	**+0.1**
ALN				S	**Sb**	**15 03 43.9**	**-1.4**
ALN				AML	AML	15 03 45.4	
	comp=N,3519μm,0.4s						
ALN				AML	AML	15 03 45.7	
	comp=E,3771μm,0.3s						
ALN	**Alexandroupoli**	**0.48**	**356**	PG	**Pg**	**15 03 36.7**	**+0.1**
LPK	**Lapseki**	**0.51**	**95**	PG	**Pg**	**15 03 37.4**	**+0.2**
BOZC	**Bozcaada**	**0.57**	**183**	PG	**Pg**	**15 03 38.6**	**+0.3**
BOZC				SG	**Sb**	**15 03 46.9**	**-0.9**
BOZC	**Bozcaada**	**0.57**	**183**	*i* P	**Pg**	**15 03 38.4**	**0.0**
BOZC				*i* P	**Pg**	**15 03 38.6**	**+0.3**
BOZC				*i* S	**Sg**	**15 03 46.5**	**+0.7**
BOZC				IAML		15 03 47.0	
	comp=N,1μm,0.6s						
BOZC				IAML		15 03 47.0	
	comp=E,2μm,0.6s						
BOZC				IAML		15 03 47.0	
	comp=N,800nm,0.6s						
BOZC				IAML		15 03 47.0	
	comp=E,2μm,0.5s						
KESN	**Edirne-Kesan**	**0.61**	**47**	*i* P	**Pg**	**15 03 38.3**	**-0.7**
KESN				*i* S	**Sg**	**15 03 46.7**	**-0.4**
KESN				IAML		15 03 47.0	
	comp=N,2μm,0.4s						
KESN				IAML		15 03 53.0	
	comp=E,2μm,0.4s						
EZN	**Ezine**	**0.61**	**163**	P	**Pg**	**15 03 39.1**	**0.0**
EZN	**Ezine**	**0.61**	**163**	PG	**Pg**	**15 03 39.4**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**0.76**	**152**	*i* P	**Pg**	**15 03 41.9**	**0.0**
UKOP	**Uzunkopru-Edir**	**0.82**	**30**	PG	**Pb**	**15 03 43.1**	**-0.7**
RDO	**Rodhopi**	**0.84**	**330**	P	**Pg**	**15 03 43.0**	**-0.5**
RDO				S	**Sb**	**15 03 55.1**	**-0.6**
	comp=E,1μm,0.8s						
RDO	**Rodhopi**	**0.84**	**330**	P	**Pg**	**15 03 42.9**	**-0.5**
RDO				S	**Sb**	**15 03 55.0**	**-0.6**
RDO				AML	AML	15 03 57.6	
	comp=E,3131μm,0.7s						
RDO				AML	AML	15 04 07.8	
	comp=N,2562μm,0.8s						
RDO	**Rodhopi**	**0.84**	**330**	PG	**Pg**	**15 03 43.1**	**-0.5**
LIA	**Limnos Island**	**0.87**	**234**	P	**Pg**	**15 03 44.1**	**+0.2**
LIA				S	**Sb**	**15 03 56.7**	**+0.4**
	comp=N,1μm,0.6s						
LIA	**Limnos Island**	**0.87**	**234**	P	**Pg**	**15 03 43.9**	**-0.1**
LIA				S	**Sb**	**15 03 56.9**	**+0.6**
LIA				AML	AML	15 03 59.0	
	comp=N,2906μm,0.8s						
LIA				AML	AML	15 03 59.4	
	comp=E,2727μm,0.5s						
RKY	**Sarkoy-Tekirda**	**0.87**	**71**	PG	**Pg**	**15 03 43.2**	**-0.8**
KRBG	**Karabiga-Canak**	**0.92**	**91**	PG	**Pg**	**15 03 44.1**	**-0.8**
THAS	**Thassos island**	**1.06**	**281**	P	**Pg**	**15 03 47.1**	**-0.6**
THAS				S	**Sb**	**15 04 01.8**	**-0.2**
	comp=E,522nm,0.5s						
THAS	**Thassos island**	**1.06**	**281**	P	**Pg**	**15 03 47.1**	**-0.6**
THAS				S	**Sg**	**15 04 01.4**	**-0.1**
THAS				AML	AML	15 04 11.7	
	comp=N,1159μm,0.8s						
THAS				AML	AML	15 04 12.7	
	comp=E,828μm,0.5s						
PRK	**Paraskevi**	**1.18**	**173**	P	**Pn**	**15 03 50.3**	**+0.3**
PRK				S	**Sn**	**15 04 06.5**	**+0.3**
	comp=E,5μm,0.8s						
PRK	**Paraskevi**	**1.18**	**173**	P	**Pn**	**15 03 50.4**	**+0.4**
PRK				AML	AML	15 04 08.4	
	comp=E,8302μm,1.0s						
PRK				AML	AML	15 04 09.6	
	comp=N,11170μm,0.7s						
SIGR	**SIGRI**	**1.22**	**189**	P	**Pn**	**15 03 50.1**	**-0.4**
SIGR	**SIGRI**	**1.22**	**189**	P	**Pn**	**15 03 49.8**	**-0.7**
SIGR				AML	AML	15 04 08.3	
	comp=N,3353μm,0.7s						
SIGR				AML	AML	15 04 08.9	
	comp=E,1908μm,0.5s						
SIGR	**SIGRI**	**1.22**	**189**	PN	**Pn**	**15 03 50.1**	**-0.4**
EFSA	**Agios Efstrati**	**1.22**	**225**	P	**Pg**	**15 03 50.5**	**-0.2**
TKR	**Tekirdag**	**1.24**	**62**	PN	**Pn**	**15 03 50.1**	**-0.8**
GONE	**Gonen-Balikesi**	**1.27**	**106**	PN	**Pg**	**15 03 51.5**	**-0.2**
KAVA	**Kavala**	**1.33**	**296**	P	**Pn**	**15 03 51.0**	**-1.2**
KAVA	**Kavala**	**1.33**	**296**	P	**Pn**	**15 03 51.6**	**-0.6**
KAVA				AML	AML	15 04 12.1	
	comp=N,561μm,0.5s						
KAVA				AML	AML	15 04 15.8	
	comp=E,601μm,0.4s						
KDZ	**Kurdzhali**	**1.34**	**338**	*i* P	**Pn**	**15 03 51.9**	**-0.3**
KDZ	**Kurdzhali**	**1.34**	**338**	PN	**Pn**	**15 03 51.9**	**-0.3**
BALY	**Balya**	**1.35**	**119**	*i* P	**Pg**	**15 03 52.7**	**-0.5**
BALY				IAML		15 04 12.0	
	comp=E,445nm,0.4s						
BALY				IAML		15 04 22.0	
	comp=N,688nm,0.5s						
EDC	**Edincik**	**1.35**	**92**	PN	**Pn**	**15 03 51.9**	**-0.6**
KVLA	**Kavala**	**1.40**	**292**	P	**Pn**	**15 03 52.4**	**-0.7**
CRLT	**Corlu**	**1.44**	**60**	PN	**Pb**	**15 03 53.5**	**-0.8**
DKL	**Dikili**	**1.48**	**155**	PN	**Pb**	**15 03 54.9**	**-0.1**
EDRB	**Edirne**	**1.51**	**19**	P	**Pn**	**15 03 53.5**	**-1.2**
EDRB	**Edirne**	**1.51**	**19**	PN	**Pn**	**15 03 54.6**	**-0.1**
BOTS	**Marmara Eregli**	**1.55**	**68**	PN	**Pn**	**15 03 55.0**	**-0.1**
KIRK	**Kırklareli**	**1.56**	**29**	*i* P	**Pn**	**15 03 53.6**	**-1.7**
BALB	**Balikesir**	**1.57**	**119**	PN	**Pn**	**15 03 55.3**	**-0.2**
STEP	**BALIKESIR_Sava**	**1.62**	**129**	*i* P	**Pb**	**15 03 57.4**	**-0.1**
STEP				IAML		15 04 28.0	
	comp=E,566nm,0.8s						
STEP				IAML		15 04 34.0	
	comp=N,854nm,0.8s						
PHSR	**Pinarhisar**	**1.63**	**41**	PN	**Pb**	**15 03 56.7**	**-0.8**
ZEDA	**zmir-Bergama**	**1.63**	**152**	*i* P	**Pg**	**15 03 58.5**	**-0.1**
ZEDA				*i* S	**Sb**	**15 04 17.7**	**-0.7**
RZN	**Rozhen**	**1.64**	**321**	*i* P	**Pn**	**15 03 56.0**	**-0.6**
DIM	**Dimitrovgrad**	**1.69**	**346**	*i* P	**Pb**	**15 03 58.7**	**+0.2**
KCTX	**Karacabey (Bur**	**1.74**	**94**	PN	**Pn**	**15 03 57.3**	**-0.4**
SLVT	**Silivri**	**1.80**	**62**	PN	**Pn**	**15 03 57.9**	**-0.7**
KRBN	**Karaburun**	**1.85**	**169**	PN	**Pn**	**15 03 59.8**	**+0.5**
PAIG	**Paliouri**	**1.91**	**256**	P	**Pn**	**15 03 58.9**	**-1.3**
PSRA	**Psara**	**1.92**	**193**	P	**Pn**	**15 04 00.6**	**+0.4**
PLD	**Plovdiv**	**1.99**	**329**	*e*Pn	**Pn**	**15 04 01.8**	**+0.6**
PLD				*e*Sn	**Sg**	**15 04 30.3**	**-0.8**
DURS	**Dursunbey**	**2.00**	**113**	*i* P	**Pn**	**15 04 00.8**	**-0.6**
DURS				IAML		15 04 31.0	
	comp=E,438nm,0.5s						
DURS				IAML		15 04 33.0	
	comp=N,371nm,0.6s						
PLG	**Polygyros**	**2.02**	**270**	P	**Pn**	**15 04 00.9**	**-0.8**
PLG	**Polygyros**	**2.02**	**270**	P	**Pn**	**15 04 00.7**	**-1.0**
SRS	**Serrai**	**2.02**	**291**	*e*Pn	**Pn**	**15 04 01.2**	**-0.5**
SRS				*e*Sn	**Sb**	**15 04 30.1**	**+0.4**
SRS	**Serrai**	**2.02**	**291**	P	**Pn**	**15 04 00.7**	**-1.0**
SRS	**Serrai**	**2.02**	**291**	P	**Pn**	**15 04 00.6**	**-1.0**
SRS				AML	AML	15 04 41.5	
	comp=N,395μm,0.6s						
SRS				AML	AML	15 04 41.8	
	comp=E,590μm,0.7s						
CHOS	**Chios island**	**2.03**	**181**	P	**Pn**	**15 04 01.5**	**-0.3**
CHOS	**Chios island**	**2.03**	**181**	P	**Pn**	**15 04 01.1**	**-0.7**
CHOS				AML	AML	15 04 38.1	
	comp=N,604μm,0.6s						
CHOS				AML	AML	15 04 38.4	
	comp=E,1135μm,0.7s						
CHOS	**Chios island**	**2.03**	**181**	PN	**Pn**	**15 04 02.1**	**+0.3**
AKS	**Akhisar**	**2.03**	**139**	PN	**Pn**	**15 04 02.0**	**+0.2**
URLA	**Izmir**	**2.09**	**169**	*i* P	**Pn**	**15 04 02.7**	**+0.1**
URLA				*i* S	**Sn**	**15 04 28.6**	**-0.2**
URLA				IAML		15 04 37.0	
	comp=E,172nm,0.6s						
URLA				IAML		15 04 38.0	
	comp=N,182nm,0.8s						
AOS	**Alonnisos**	**2.11**	**235**	P	**Pn**	**15 04 03.1**	**+0.2**
MMB	**Musomiste**	**2.14**	**304**	*i* P	**Pn**	**15 04 02.6**	**-0.7**
HORT	**Hortiatis**	**2.29**	**276**	P	**Pn**	**15 04 05.1**	**-0.3**
ULDT	**Uludag**	**2.34**	**96**	*i* P	**Pn**	**15 04 06.7**	**+0.5**
ULDT				IAML		15 04 43.0	
	comp=N,179nm,0.6s						
ULDT				IAML		15 04 45.0	
	comp=E,167nm,0.8s						
DGB	**zmir**	**2.44**	**165**	*i* P	**Pn**	**15 04 07.0**	**-0.3**
DGB				IAML		15 04 54.0	
	comp=E,80nm,0.7s						
DGB				IAML		15 04 55.0	
	comp=N,65nm,0.6s						
DEMI	**Demirci**	**2.44**	**123**	*i* P	**Pn**	**15 04 07.6**	**+0.1**
DEMI				IAML		15 04 56.0	
	comp=N,122nm,0.5s						
DEMI				IAML		15 05 00.0	
	comp=E,150nm,0.5s						
KNT	**Kendrikon**	**2.54**	**288**	P	**Pn**	**15 04 08.1**	**-0.7**
KNT	**Kendrikon**	**2.54**	**288**	P	**Pn**	**15 04 08.5**	**-0.3**
KNT				AML	AML	15 04 59.9	
	comp=N,245μm,0.5s						
KNT				AML	AML	15 05 00.5	
	comp=E,220μm,0.7s						
KULA	**Kula-Manisa**	**2.75**	**133**	P	**Pn**	**15 04 12.1**	**+0.4**
SMG	**Samos**	**2.76**	**168**	P	**Pn**	**15 04 11.9**	**0.0**
USAK	**Uak-Merkez**	**2.83**	**126**	*i* P	**Pn**	**15 04 13.7**	**+0.9**
USAK				IAML		15 05 12.0	
	comp=E,100nm,0.0s						
USAK				IAML		15 05 12.0	
	comp=N,62nm,0.9s						
VTS	**Vitosha**	**3.07**	**317**	*e*Pn	**Pn**	**15 04 17.1**	**+0.8**
VTS				*e*Sn	**Sn**	**15 04 56.2**	**+2.9**
VTS	**Vitosha**	**3.07**	**317**	⇑P	**Pn**	**15 04 16.6**	**+0.3**
KAND	**Kocaeli-Kandir**	**3.19**	**76**	*i* P	**Pn**	**15 04 15.9**	**-1.7**
KHAL	**Karahalli**	**3.33**	**127**	*i* P	**Pn**	**15 04 20.9**	**+1.1**
BOSS	**Bosilegrad**	**3.42**	**309**	*e*Pn	**Pn**	**15 04 22.5**	**+1.6**
ZAPS	**Zavoj**	**3.85**	**319**	*e*Pn	**Pn**	**15 04 28.8**	**+2.0**
BARS	**Barje**	**4.00**	**308**	*e*Pn	**Pn**	**15 04 29.6**	**+0.7**
TLBR	**Topalu**	**4.37**	**19**	⇑P	Pn	15 04 38.3	+4.3
TIRR	**Tirgusor**	**4.39**	**22**	⇑P	**Pn**	**15 04 38.0**	**+3.8**
ZAGS	**Zajecar**	**4.45**	**321**	*e*Pn	**Pn**	**15 04 34.6**	**-0.4**
HARR	**Harsova**	**4.48**	**17**	⇑P	**Pn**	**15 04 38.9**	**+3.4**
BOVS	**Bovan**	**4.59**	**316**	*e*Pn	**Pn**	**15 04 37.5**	**+0.6**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.24**	**102**	P	Pg	15 30 47.2	+0.4
JISG				*e*S	Sg	15 30 51.3	+1.4
JIJ	**Ishigaki jima**	**0.29**	**163**	P	Pg	15 30 48.0	+0.4
JIJ				S	Sg	15 30 51.9	+0.5
JKRS	**Kuro-shima**	**0.40**	**185**	P	Pg	15 30 50.5	+0.7
JKRS				*e*S	Sg	15 30 56.4	+1.4
IRIF	**Iriomote-Funau**	**0.42**	**224**	P	Pg	15 30 50.6	+0.4
IRIF				*e*S	Sg	15 30 57.1	+1.5
JTJ	**Tarama**	**0.59**	**90**	P	Pb	15 30 54.5	-0.9
JTJ				S	Sb	15 31 03.2	-1.1
HATJ	**Hateruma jima**	**0.62**	**201**	*e*S	Sb	15 31 03.7	-1.4

NIED ***09*** *15:30:00,28˚.30N×140˚.90E,h20km,Mw3.8 Best double couple: M₀6.47000×10¹⁴ NP1:φ₀189.00000°,δ74.00000°, λ-42.00000°. NP2:φ₀293.00000°,δ50.00000°, λ-159.00000°.*

JMA ***09*** *15:30:53.0±0.1,28˚.33N×140˚.90E,h46km,M4.0*

IDC ***09*** *15:30:53.5±2.0,28˚.45N×141˚.89E,h0km,mb3.8/7, mb1 3.8/10,mb1mx3.6/43,mbtmp3.7/10,ML2.9/3,MS2.9/6, Ms1 3.0/6,ms1mx2.6/42,Error ellipse: s-maj=90.7km s-min=18.7km az=75.0*

NEIC ***09*** *15:31:00.2±1.0,28˚.50N±0˚.07×141˚.95E±0˚.09,h51km±7km, mb4.7/10,Error ellipse: s-maj=12.2km s-min=9.6km az=77.0*

ISC 09 15:30:58.6±0.7,28˚.58N±0˚.06×142˚.0E±0˚.2,h36km,n37, σ0⁸96/31,mb4.2/13,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.48**	**174**	P	**Pn**	**15 31 20.4**	**-2.4**
CBIJ				*e*S	**Sn**	15 31 40.6	-0.3
JCJ	**Chichijima**	**1.48**	**174**	Pn	**Pn**	**15 31 22.8**	**+0.1**
JHJ	**Hachijo jima 2**	**4.92**	**338**	Pn	**Pn**	**15 32 11.5**	**+1.5**
	3.1nm,0.3s,baz=63,slow=21,SNR=1.7						
JHJ				Sn	**Sn**	**15 33 03.0**	**-2.6**
	6.2nm,0.3s,baz=86,slow=20,SNR=1.8						
JHJ				LR	LR	15 34 03.6	
	comp=Z,120nm,18.4s,baz=215,slow=38						
BSO1	**Boso 1**	**6.12**	**352**	P	**Pn**	**15 32 25.6**	**-0.4**
JHU	**Hanno**	**7.61**	**343**	P	**Pn**	**15 32 46.6**	**-0.4**
JYT	**Yasato**	**7.78**	**349**	*e*S	**Sn**	**15 34 16.3**	**+0.2**
JHO	**Hitachi**	**8.10**	**352**	P	**Pn**	**15 32 52.0**	**-1.7**
MJAR	**Matsushiro Arr**	**8.57**	**339**	Pn	**Pn**	**15 33 00.2**	**+0.1**
	0.1nm,0.3s,baz=163,slow=11,SNR=8.2						
MJAR				LR	LR	15 36 17.3	
	comp=Z,37nm,21.4s,baz=160,slow=38						
MAJO	**Matsushiro**	**8.57**	**339**	Pn	**Pn**	**15 33 00.8**	**+0.7**
MJB9	**Matsu-Tunnel**	**8.57**	**339**	Pn	**Pn**	**15 33 00.7**	**+0.6**
JNU	**Nakatsue**	**10.59**	**298**	LR	LR	15 37 20.6	
	comp=Z,69nm,19.4s,baz=116,slow=37						
KSRS	**Korea Array**	**14.76**	**310**	Pn	**Pn**	**15 34 23.7**	**-1.0**
	0.0nm,0.3s,baz=134,slow=41,SNR=1.7						
KSRS				LR	LR	15 39 28.5	
	comp=Z,49nm,20.3s,baz=128,slow=35						
H11N2	**WAKE ISLAND Hy**	**24.31**	**106**	T	T	16 01 06.0	
	baz=296,slow=75,SNR=122						
H11N1	**WAKE ISLAND Hy**	**24.31**	**106**	T	T	16 01 06.7	
	baz=296,slow=75,SNR=111						
H11N3	**WAKE ISLAND Hy**	**24.32**	**106**	T	T	16 01 06.5	
	baz=296,slow=75,SNR=158						
H11S3	**WAKE ISLAND Hy**	**24.69**	**109**	T	T	16 01 38.1	
	baz=323,slow=76,SNR=9.6						
H11S1	**WAKE ISLAND Hy**	**24.70**	**109**	T	T	16 01 40.6	
	baz=323,slow=76,SNR=7.1						
H11S2	**WAKE ISLAND Hy**	**24.71**	**109**	T	T	16 01 43.2	
	baz=323,slow=76,SNR=7.3						
SONM	**Songino Array**	**33.56**	**315**	P	**P**	**15 37 35.8**	**+0.6**
	0.3nm,0.5s,baz=106,slow=4.7,SNR=1.2						
SONM				LR	LR	15 51 53.4	
	comp=Z,36nm,18.0s,baz=264,slow=38						
CMAR	**Chiang Mai Arr**	**40.58**	**265**	LR	LR	15 56 49.0	
	comp=Z,18nm,18.2s,baz=200,slow=38						
HNR	**Honiara**	**41.57**	**153**	P	**P**	**15 38 42.7**	**-0.3**
HNR				IAmb	IAmb	15 40 06.2	
	comp=Z,39nm,0.7s						
MTN	**Manton Dam**	**42.51**	**196**	P	**P**	**15 38 50.3**	**-0.3**
ZALV	**Zalesovo Beam**	**48.28**	**318**	P	**P**	**15 39 35.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=79,slow=7.5,SNR=3.5						
WB0	**Warramunga Arr**	**48.62**	**190**	P	**P**	**15 39 38.4**	**-0.5**
WB0				IAmb	IAmb	15 39 44.3	
	comp=Z,11nm,1.2s						
WB2	**Warramunga Arr**	**48.80**	**190**	P	**P**	**15 39 39.8**	**-0.5**
WRA	**Warramunga Arr**	**48.80**	**190**	P	**P**	**15 39 39.5**	**-0.9**
	comp=Z,0.8nm,0.4s,baz=15,slow=8.9,SNR=11						
MKAR	**Makanchi Array**	**49.43**	**309**	P	**P**	**15 39 45.1**	**0.0**
	comp=Z,0.9nm,0.7s,baz=94,slow=8.6,SNR=5.6						
KURK	**Kurchatov**	**51.85**	**314**	P	**P**	**15 40 02.5**	**-0.7**
ASAR	**Alice Springs**	**52.53**	**189**	P	**P**	**15 40 07.7**	**-0.8**
	comp=Z,0.1nm,0.5s,baz=12,slow=5.4,SNR=8.3						
BRVK	**Borovoye**	**56.92**	**317**	P	**P**	**15 40 40.5**	**+0.5**
BRVK				IAmb	IAmb	15 40 42.1	
	comp=Z,4.1nm,1.0s						
PAX	**Paxson**	**57.04**	**31**	P	**P**	**15 40 41.9**	**+1.2**
PAX				IAmb	IAmb	15 41 35.0	
	comp=Z,14nm,1.1s						
KK31	**Karatay Array**	**58.11**	**305**	P	**P**	**15 40 48.9**	**+0.3**
KKAR	**Karatay Array**	**58.11**	**305**	P	**P**	**15 40 48.7**	**+0.2**
KKAR				IAmb	IAmb	15 40 49.6	
	comp=Z,2.3nm,0.7s						
ARU	**Arti**	**63.17**	**322**	P	**P**	**15 41 23.1**	**+0.4**
ARU				IAmb	IAmb	15 41 23.8	
	comp=Z,4.9nm,0.6s						
FINES	**FINESS Array B**	**76.56**	**334**	P	**P**	**15 42 45.4**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=67,slow=5.0,SNR=2.0						
KBZ	**Khabaz**	**76.90**	**313**	P	**P**	**15 42 47.7**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=76,slow=2.9,SNR=6.2						
TORD	**Torodi Ar. Bea**	**123.50**	**312**	PKP	**PKiKP**	**15 49 53.0**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=3.0,slow=0.4,SNR=2.3						

NEIC ***09*** *15:32:56.7±2.7,17˚.04S±0˚.08×172˚.82W±0˚.05,h25km±6km, mb4.4/7,Error ellipse: s-maj=12.5km s-min=6.7km az=158.0*

IDC ***09*** *15:33:00.0±1.1,15˚.92S×174˚.23W,h0km,mb3.8/6, mb1 4.1/6,mb1mx3.8/41,mbtmp3.8/6,MS3.4/5,Ms1 3.4/5, ms1mx3.1/24,Error ellipse: s-maj=44.3km s-min=25.9km az=128.0*

ISC 09 15:32:59.7±0.6,17˚.4S±0˚.2×172˚.9W±0˚.1,h35km,n41, σ1⁹03/28,mb4.0/8,MS3.3/7,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.29**	**120**		**Pn**	**15 33 48.5**	**-0.2**
AFI	**Afiamalu**	**3.67**	**18**	Pn	Pn	15 33 46.2	-7.8
MSVF	**Nonsavu**	**8.62**	**267**	Pn	**Pn**	**15 35 01.6**	**-0.4**
DZM	**Mont Dzumac**	**19.96**	**253**	*e*LR	LR	15 40 27.0	
	comp=Z,191nm,21.5s						
PPT2	**Papeete2**	**22.26**	**94**	*e*LR	LR	15 42 56.3	
	comp=Z,106nm,25.0s						
PPT	**Papeete**	**22.27**	**94**	LR	LR	15 44 28.6	
	comp=Z,41nm,19.7s,baz=340,slow=29						
TBI	**Tubuai**	**22.75**	**109**	*e*LR	LR	15 43 10.0	
	comp=Z,141nm,26.5s						
HNR	**Honiara**	**27.53**	**283**	LR	LR	15 47 47.8	
	comp=Z,138nm,20.0s,baz=123,slow=34						
ARMA	**Armidale**	**34.74**	**242**	P	**P**	**15 39 47.6**	**+0.8**
STKA	**Stephens Creek**	**43.46**	**242**	P	**P**	**15 41 01.5**	**+1.9**
	1.0nm,0.7s,baz=126,slow=19,SNR=1.6						
BBOO	**Buckleboo**	**48.22**	**241**	P	**P**	**15 41 37.8**	**+0.6**
WB0	**Warramunga Arr**	**49.83**	**259**	P	**P**	**15 41 48.8**	**-0.9**
WB2	**Warramunga Arr**	**49.85**	**258**	P	**P**	**15 41 48.9**	**-0.9**
WRA	**Warramunga Arr**	**49.86**	**258**	P	**P**	**15 41 48.2**	**-1.7**
	0.6nm,0.5s,baz=96,slow=6.9,SNR=7.2						
AS31	**Alice Springs**	**49.95**	**253**	P	**P**	**15 41 49.4**	**-1.2**
AS31				IAmb	IAmb	15 42 02.6	
	comp=Z,1.6nm,0.7s						
ASAR	**Alice Springs**	**49.95**	**253**	P	**P**	**15 41 49.9**	**-0.7**
	comp=Z,2.0nm,0.5s,baz=90,slow=8.8,SNR=54						
VNDA	**Vanda**	**61.42**	**186**	P	P	15 43 26.9	+15
	comp=Z,0.4nm,0.2s,baz=19,slow=3.5,SNR=8.8						
MJAR	**Matsushiro Arr**	**70.78**	**320**	LR	LR	16 10 28.5	
	comp=Z,28nm,21.1s,baz=25,slow=33						
QSPA	**South Pole Qui**	**72.63**	**180**	P	**P**	**15 44 22.6**	**-0.9**
QSPA				IAmb	IAmb	15 44 41.7	
	comp=Z,11nm,1.6s						
KSRS	**Korea Array**	**77.92**	**316**	LR	LR	16 16 35.9	
	comp=Z,15nm,19.0s,baz=120,slow=34						
H03N2	**Juan Fernandez**	**83.82**	**123**	T	T	17 21 29.4	
	baz=248,slow=74,SNR=4.9						
H03N3	**Juan Fernandez**	**83.82**	**123**	T	T	17 21 24.1	
H03N1	**Juan Fernandez**	**83.83**	**123**	T	T	17 21 24.7	
	baz=14,slow=74,SNR=6.0						
ILAR	**Eielson Array**	**84.33**	**11**	P	**P**	**15 45 26.8**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=226,slow=7.1,SNR=5.5						
YKA	**Yellowknife Ar**	**91.77**	**23**	P	**P**	**15 46 03.4**	**0.0**
	comp=Z,0.4nm,0.9s,baz=207,slow=5.4,SNR=2.2						
SONM	**Songino Array**	**96.65**	**318**	LR	LR	16 27 31.7	
	comp=Z,34nm,18.5s,baz=267,slow=34						
KMBO	**Kilima Mbogo**	**145.02**	**241**	PKP	**PKiKP**	**15 52 39.5**	**+0.9**
	comp=Z,3.0nm,0.9s,baz=1.0,slow=3.2,SNR=3.8						
CLL	**Collm**	**145.87**	**353**	*e*PKiKP	**PKiKP**	**15 52 38.0**	**-0.8**
BRTR	**Keskin Array B**	**148.00**	**319**	PKPbc	**PKiKP**	**15 52 43.1**	**-0.6**
	comp=Z,1.2nm,0.8s,baz=145,slow=2.5,SNR=8.3						
GERES	**GERESS Array B**	**148.20**	**352**	PKPbc	**PKiKP**	**15 52 44.0**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=4.4,slow=1.7,SNR=5.3						
CONA	**Conrad Observa**	**148.74**	**349**	*i* pPKPdf	**PKiKP**	**15 52 44.9**	**-0.1**
	comp=Z,2.2nm,1.0s						
MOA	**Molln**	**149.09**	**351**	*i* pPKPbc	**PKPab**	**15 52 47.8**	**-0.8**
	comp=Z,2.6nm,1.2s						
ARSA	**Arzberg**	**149.45**	**349**	*i* pPKPbc	**PKPab**	**15 52 51.1**	**+1.1**
	comp=Z,1.2nm,0.7s						
WATA	**Walderalm**	**149.94**	**354**	*i* PKPab	**PKiKP**	**15 52 48.3**	**+0.8**
	comp=Z,3.2nm,1.0s						
MOTA	**Moosalm**	**149.98**	**355**	*i* pPKPdf	**PKPbc**	**15 52 46.7**	**0.0**
	comp=Z,3.6nm,0.8s						
WTTA	**Wattenberg**	**150.01**	**354**	*i* PKPab	**PKiKP**	**15 52 49.3**	**+1.6**
	comp=Z,3.6nm,0.8s						
SOKA	**Soboth**	**150.09**	**349**	*i* PKPab	**PKiKP**	**15 52 48.7**	**+0.9**
	comp=Z,2.1nm,1.1s						
DAVA	**Damuels**	**150.13**	**356**	*i* PKPab	**PKiKP**	**15 52 48.4**	**+0.5**
	comp=Z,2.1nm,0.7s						
FETA	**Feichten**	**150.33**	**355**	*i* PKPab	**PKiKP**	**15 52 50.2**	**+1.8**
	comp=Z,3.3nm,0.8s						
OBKA	**Obir**	**150.34**	**350**	*i* PKPbc	**PKPdf**	**15 52 43.7**	**+1.4**
	comp=Z,0.9nm,0.5s						
ABTA	**Abfaltersbach**	**150.42**	**352**	*i* PKPbc	**PKPdf**	**15 52 43.0**	**+0.6**
	comp=Z,4.1nm,1.3s						

ISK ***09*** *15:46:31.9,39˚.59N×26˚.39E,h5km,ML3.2/26*

ATH ***09*** *15:46:32.9,39˚.53N×26˚.34E,h32km±2km,ML2.7/8,Error ellipse: s-maj=3.1km s-min=0.9km az=257.0*

DDA ***09*** *15:46:33.5,39˚.57N×26˚.41E,h6km,ML3.0*

THE ***09*** *15:46:34.5,39˚.54N×26˚.31E,h18km±1km,ML2.7/8,Error ellipse: s-maj=1.4km s-min=0.6km az=229.0*

ISC 09 15:46:32.5±0.9,39˚.57N±0˚.02×26˚.39E±0˚.02,h15km±7km, n62,σ0⁹66/95,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYC	**CANAKKALE_Bayr**	**0.21**	**36**	*i* P	**Pg**	**15 46 37.3**	**0.0**
BAYC				*i* S	**Sg**	**15 46 40.4**	**-0.1**
BAYC				IAML		15 46 41.0	
	comp=N,2μm,0.2s						
BAYC				IAML		15 46 41.0	
	comp=E,4μm,0.1s						
EZN	**Ezine**	**0.26**	**350**	PG	**Pb**	**15 46 38.6**	**-0.3**
EZN				SG	**Sg**	**15 46 42.5**	**+0.6**
PRK	**Paraskevi**	**0.34**	**195**	P	**Pb**	**15 46 40.7**	**+0.5**
PRK				S	**Sb**	**15 46 46.1**	**+0.7**
	comp=E,1μm,0.4s						
PRK	**Paraskevi**	**0.34**	**195**	P	**Pb**	**15 46 40.7**	**+0.5**
PRK				S	**Sb**	**15 46 46.2**	**+0.8**
PRK				AML	AML	15 46 50.8	
	comp=N,2278μm,0.2s						
PRK				AML	AML	15 46 53.7	
	comp=E,2498μm,0.4s						
BOZC	**Bozcaada**	**0.37**	**316**	PG	**Pb**	**15 46 40.7**	**-0.1**
BOZC				SG	**Sb**	**15 46 46.3**	**-0.1**
BOZC	**Bozcaada**	**0.37**	**316**	*i* P	**Pb**	**15 46 40.8**	**-0.1**
BOZC				*i* P	**Pb**	**15 46 40.8**	**-0.1**
BOZC				*i* S	**Sg**	**15 46 45.2**	**-0.1**
BOZC				*i* S	**Sb**	**15 46 45.9**	**-0.6**
BOZC				IAML		15 46 46.0	
	comp=N,2μm,0.1s						
BOZC				IAML		15 46 46.0	
	comp=N,3μm,0.5s						
SIGR	**SIGRI**	**0.55**	**229**	P	**Pb**	**15 46 43.5**	**-0.3**
SIGR				S	**Sb**	**15 46 51.6**	**+0.2**
	comp=N,898nm,0.4s						
SIGR	**SIGRI**	**0.55**	**229**	P	**Pb**	**15 46 43.6**	**-0.3**
SIGR				S	**Sb**	**15 46 51.5**	**0.0**
SIGR				AML	AML	15 46 53.2	
	comp=E,1494μm,0.4s						
SIGR				AML	AML	15 46 53.6	
	comp=N,2110μm,0.5s						
SIGR	**SIGRI**	**0.55**	**229**	PG	**Pb**	**15 46 43.5**	**-0.3**
DKL	**Dikili**	**0.64**	**141**	PG	**Pb**	**15 46 45.5**	**+0.1**
GOKA	**anakkale-Gk**	**0.72**	**329**	*i* P	**Pb**	**15 46 47.1**	**+0.4**
GOKA				*i* S	**Sb**	**15 46 56.2**	**-0.2**
GOKA				IAML		15 46 58.0	
	comp=E,1μm,0.2s						
GADA	**Gvkgeada**	**0.72**	**329**	PG	**Pb**	**15 46 47.0**	**+0.2**
GADA				SG	**Sb**	**15 46 56.8**	**+0.3**
ZEDA	**zmir-Bergama**	**0.81**	**138**	*i* P	**Pb**	**15 46 48.5**	**+0.3**
ZEDA				*i* S	**Sb**	**15 46 59.4**	**+0.4**
ZEDA				IAML		15 47 01.0	
	comp=E,265nm,0.2s						
GELI	**Tayfur-Gelibol**	**0.83**	**5**	PG	**Pb**	**15 46 48.4**	**-0.2**
LPK	**Lapseki**	**0.85**	**20**	PG	**Pg**	**15 46 49.1**	**+0.1**
BALY	**Balya**	**0.97**	**80**	*i* P	**Pb**	**15 46 51.1**	**+0.1**
BALY				*i* S	**Sb**	**15 47 03.8**	**+0.2**
BALY				IAML		15 47 04.0	
	comp=N,777nm,0.4s						
BALY				IAML		15 47 06.0	
	comp=E,482nm,0.4s						
LIA	**Limnos Island**	**0.98**	**290**	P	**Pn**	**15 46 51.9**	**+0.1**
LIA				S	**Sn**	**15 47 05.0**	**-0.4**
	comp=E,480nm,0.2s						
LIA	**Limnos Island**	**0.98**	**290**	P	**Pn**	**15 46 51.8**	**+0.1**
LIA				S	**Sn**	**15 47 05.1**	**-0.4**
LIA				AML	AML	15 47 06.0	
	comp=E,1167μm,0.3s						
LIA				AML	AML	15 47 06.2	
	comp=N,717μm,0.2s						
STEP	**BALIKESIR_Sava**	**1.05**	**100**	*i* P	**Pg**	**15 46 52.9**	**+0.1**
STEP				*i* S	**Sb**	**15 47 06.0**	**+0.1**
STEP				IAML		15 47 09.0	
	comp=E,341nm,0.3s						
KRBG	**Karabiga-Canak**	**1.08**	**40**	PG	**Pb**	**15 46 52.7**	**-0.2**
ERIK	**Erikli-Kesan**	**1.10**	**5**	PN	**Pn**	**15 46 53.5**	**+0.1**
GONE	**Gonen-Balikesi**	**1.11**	**64**	PN	**Pg**	**15 46 53.9**	**0.0**
SMTH	**Samothraki Isl**	**1.11**	**324**	P	**Pg**	**15 46 53.9**	**-0.1**
SMTH				S	**Sn**	**15 47 08.8**	**+0.2**
	comp=E,795nm,0.2s						
SMTH	**Samothraki Isl**	**1.11**	**324**	P	**Pg**	**15 46 54.2**	**+0.2**
SMTH				S	**Sn**	**15 47 08.9**	**+0.2**
SMTH				AML	AML	15 47 09.8	
	comp=N,1778μm,0.2s						
SMTH				AML	AML	15 47 10.0	
	comp=E,1381μm,0.2s						
BALB	**Balikesir**	**1.16**	**86**	PN	**Pg**	**15 46 54.7**	**-0.1**
ENEZ	**Enez**	**1.18**	**351**	PN	**Pg**	**15 46 55.5**	**+0.3**
CHOS	**Chios island**	**1.21**	**192**	P	**Pn**	**15 46 54.7**	**-0.3**
CHOS				S	**Sn**	**15 47 10.9**	**-0.3**
	comp=E,330nm,0.5s						
CHOS	**Chios island**	**1.21**	**192**	P	**Pn**	**15 46 54.5**	**-0.4**
CHOS				S	**Sn**	**15 47 10.9**	**-0.3**
CHOS				AML	AML	15 47 16.7	
	comp=E,801μm,0.4s						
CHOS				AML	AML	15 47 17.1	
	comp=N,527μm,0.3s						
URLA	**Izmir**	**1.22**	**172**	*i* P	**Pn**	**15 46 54.5**	**-0.5**
URLA				*i* S	**Sb**	**15 47 10.5**	**-0.4**
URLA				IAML		15 47 22.0	
	comp=N,127nm,0.7s						
RKY	**Sarkoy-Tekirda**	**1.27**	**28**	PN	**Pb**	**15 46 56.3**	**+0.2**
SART	**Tekirdag**	**1.27**	**28**	*i* P	**Pn**	**15 46 55.8**	**0.0**
SART				*i* S	**Sg**	**15 47 13.4**	**-0.2**
SART				IAML		15 47 29.0	
	comp=E,188nm,1.0s						
KESN	**Edirne-Kesan**	**1.27**	**10**	*i* P	**Pb**	**15 46 56.6**	**+0.2**
KESN				*i* S	**Sn**	**15 47 13.2**	**+0.1**
KESN				IAML		15 47 18.0	
	comp=E,408nm,0.4s						
BLCB	**Balcova**	**1.29**	**156**	P	**Pb**	**15 46 56.4**	**-0.1**
BLCB				S	**Sg**	**15 47 14.0**	**-0.2**
AKHS	**Akhisar**	**1.31**	**122**	*i* P	**Pn**	**15 46 56.2**	**-0.1**
AKHS				*i* S	**Sn**	**15 47 13.9**	**+0.4**
ALN	**Alexandroupoli**	**1.35**	**349**	P	**Pb**	**15 46 57.2**	**-0.3**
ALN				S	**Sg**	**15 47 15.9**	**-0.1**
	comp=E,635nm,0.6s						
ALN	**Alexandroupoli**	**1.35**	**349**	P	**Pb**	**15 46 57.7**	**+0.2**
ALN				S	**Sg**	**15 47 15.7**	**-0.3**
ALN				AML	AML	15 47 17.2	
	comp=E,918μm,0.4s						
ALN				AML	AML	15 47 17.3	
	comp=N,466μm,0.4s						
ALN	**Alexandroupoli**	**1.35**	**349**	PN	**Pb**	**15 46 57.8**	**+0.3**
EDC	**Edincik**	**1.37**	**55**	PN	**Pg**	**15 46 58.9**	**0.0**
MRMT	**Marmara Adasi**	**1.39**	**42**	PN	**Pn**	**15 46 57.5**	**+0.1**
UKOP	**Uzunkopru-Edir**	**1.56**	**7**	PN	**Pb**	**15 47 01.7**	**+0.5**
DURS	**Dursunbey**	**1.61**	**88**	*i* P	**Pn**	**15 47 00.4**	**-0.1**
THAS	**Thassos island**	**1.64**	**309**	P	**Pn**	**15 47 01.1**	**+0.3**
THAS				S	**Sn**	**15 47 21.2**	**-0.5**
	comp=N,88nm,0.3s						
THAS	**Thassos island**	**1.64**	**309**	P	**Pn**	**15 47 00.8**	**0.0**
THAS				S	**Sn**	**15 47 22.0**	**+0.3**
THAS				AML	AML	15 47 27.2	
	comp=N,219μm,0.3s						
THAS				AML	AML	15 47 27.6	
	comp=E,194μm,0.3s						
KCTX	**Karacabey (Bur**	**1.67**	**65**	PN	**Pb**	**15 47 03.0**	**+0.1**
TKR	**Tekirdag**	**1.67**	**31**	PN	**Pb**	**15 47 03.0**	**+0.1**
RDO	**Rodhopi**	**1.70**	**338**	P	**Pb**	**15 47 03.0**	**-0.5**
RDO				S	**Sb**	**15 47 25.0**	**+0.3**
	comp=E,132nm,0.4s						
RDO	**Rodhopi**	**1.70**	**338**	P	**Pb**	**15 47 02.9**	**-0.6**
RDO				S	**Sb**	**15 47 25.2**	**+0.5**
RDO				AML	AML	15 47 27.8	
	comp=N,277μm,0.4s						
RDO				AML	AML	15 47 31.6	
	comp=E,258μm,0.3s						
RDO	**Rodhopi**	**1.70**	**338**	PN	**Pb**	**15 47 03.5**	**0.0**
SMG	**Samos**	**1.90**	**169**	P	**Pn**	**15 47 04.0**	**-0.3**
KAVA	**Kavala**	**2.02**	**315**	P	**Pn**	**15 47 07.3**	**+1.3**
KAVA				S	**Sn**	**15 47 30.6**	**-0.4**
KULA	**Kula-Manisa**	**2.06**	**120**	P	**Pn**	**15 47 07.4**	**+0.7**
MDNY	**Mudanya-Bursa**	**2.08**	**67**	PN	**Pb**	**15 47 09.2**	**-0.7**
ARMT	**Armutlu**	**2.14**	**62**	PN	**Pb**	**15 47 09.9**	**-1.1**
SLVT	**Silivri**	**2.16**	**39**	PN	**Pb**	**15 47 10.2**	**-1.2**
KDZ	**Kurdzhali**	**2.20**	**341**	PN	**Pb**	**15 47 10.8**	**-1.2**
EDRB	**Edirne**	**2.29**	**7**	PN	**Pb**	**15 47 11.9**	**-1.6**
CTKS	**Kestanelik-??a**	**2.32**	**44**	PN	**Pb**	**15 47 12.5**	**-1.5**
CTYL	**Yalikoy Yolu**	**2.39**	**37**	PN	**Pb**	**15 47 13.5**	**-1.7**
BGKT	**Bogazkoy**	**2.43**	**48**	PN	**Pb**	**15 47 13.9**	**-2.0**
KAVV	**Kandilli-Istan**	**2.53**	**53**	PN	**Pb**	**15 47 15.6**	**-2.0**
ISK	**Istanbul-Kandi**	**2.53**	**53**	PN	**Pn**	**15 47 15.3**	**+2.3**
KLYT	**Kilyos**	**2.63**	**50**	PN	**Pn**	**15 47 16.6**	**+2.2**

NIED ***09*** *15:51:00,44˚.90N×146˚.80E,h200km,Mw3.8 Best double couple: M₀4.75000×10¹⁴ NP1:φ₀353.00000°, δ73.00000°,λ68.00000°. NP2:φ₀226.00000°,δ27.00000°, λ141.00000°.*

SKHL ***09*** *15:51:33.9±0.9,45˚.16N×146˚.78E,h183km±7km,mb4.0/5, msh5.0/4*

MOS ***09*** *15:51:34.2±1.1,45˚.18N×146˚.59E,h211km,mb3.9/6,Error ellipse: s-maj=13.9km s-min=8.5km az=76.7*

JMA ***09*** *15:51:35.9±0.4,44˚.93N×146˚.78E,h201km,M3.8*

IDC ***09*** *15:51:36.1±1.7,45˚.31N×146˚.46E,h206km±18km,mb3.0/8, mb1 3.2/14,mb1mx3.1/35,mbtmp3.7/14,Error ellipse: s-maj=21.3km s-min=15.9km az=140.0*

ISC 09 15:51:35.0±0.6,45˚.02N±0˚.05×146˚.67E±0˚.06,h211km±5km, n63,σ1⁹55/83,mb3.6/13,4C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.87**	**76**	*e*P	**Pn**	**15 52 03.3**	**-1.7**
KUR				AMB	AMB	15 52 06.9	
	10.0nm,0.3s						
KUR				AMB	AMB	15 52 06.9	
	40nm,0.3s						
KUR				*e*S	**S**	**15 52 25.8**	**-2.5**
KUR				A	A	15 52 28.7	
	100nm,0.3s						
KUR				A	A	15 52 28.7	
	120nm,0.3s						
KUR	**Kuril'sk**	**0.87**	**76**	*e*PN	**Pn**	**15 52 05.9**	**+0.9**
YUK	**Yuzh-Kuril'sk**	**1.15**	**211**	*e*P	**Pn**	**15 52 06.7**	**-0.2**
YUK				AMB	AMB	15 52 08.8	
	50nm,0.2s						
YUK				*e*S	**S**	**15 52 31.6**	**+0.1**
YUK				A	A	15 52 35.5	
	350nm,0.4s						
YUK				A	A	15 52 35.5	
	240nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.15**	**211**	*e*PN	**Pn**	**15 52 06.7**	**-0.2**
YUK				*e*S	**S**	**15 52 31.4**	**-0.1**
YUK				pmax	pmax		
	comp=Z,184nm,0.2s						
YUK				pmax	pmax		
	comp=E,31nm,0.1s						
YUK				smax	smax		
	comp=N,354nm,0.2s						
YUK				smax	smax		
	comp=E,241nm,0.2

ERM	**Erimo**	**3.95**	**222**	*ce*PN	**Pn**	15 52 37.7	**+1.2**
JNBK	**Urakawa-nobuka**	**3.95**	**227**	P	**Pn**	15 52 36.1	**-0.5**
JNBK				*e*S	**S**	15 53 21.7	**-2.9**
JRBN	**Rebuntou**	**3.98**	**278**	P	**Pn**	15 52 37.6	**+0.7**
JEW	**Eniwo**	**4.36**	**242**	P	**Pn**	15 52 43.4	**+1.8**
JKB	**Kayabe**	**5.17**	**235**	P	**Pn**	15 52 51.5	**-0.2**
JKB				*e*S	**S**	15 53 48.6	**-3.5**
JOT	**Ohata**	**5.49**	**230**	P	**Pn**	15 52 55.0	**-0.9**
JOT				*e*S	**S**	15 53 55.0	**-4.6**
JOSM	**Okushiri--Mats**	**6.00**	**243**	P	**Pn**	15 53 02.9	**+0.5**
JANG	**Nango**	**6.00**	**221**	P	**Pn**	15 53 01.4	**-1.1**
JANG				*e*S	**S**	15 54 06.6	**-5.0**
TYV	**Tymovskoe**	**6.44**	**337**	*e*P	**Pn**	15 53 06.0	**-1.9**
TYV				AMB	AMB	15 53 06.8	
	comp=Z,5.0nm,0.6s						
TYV	**Tymovskoe**	**6.44**	**337**	*e*PN	**Pn**	15 53 05.7	**-2.2**
TYV				pmax	pmax		
	comp=Z,7.0nm,0.7s						
USRK	**Ussuriysk Ar.**	**10.51**	**271**	P	**Pn**	15 53 59.5	**-1.0**
	baz=85,slow=13,SNR=9.6						
MJA0	**Matsu Arr-Jizo**	**10.60**	**220**	*e*PN	**P**	15 54 07.2	**-1.3**
MJAR	**Matsushiro Arr**	**10.62**	**220**	P	**Pn**	15 54 03.3	**+1.2**
	comp=Z,0.1nm,0.3s,baz=27,slow=12,SNR=3.3						
PEA0B	**Petropavlovsk-**	**10.84**	**38**	*e*PN	P	15 54 04.9	-6.0
PETK	**Petropavlovsk-**	**10.84**	**38**	P	**Pn**	15 54 02.5	**-2.3**
	comp=Z,0.3nm,0.3s,baz=190,slow=15,SNR=7.5						
KSRS	**Korea Array**	**15.98**	**248**	P	**P**	15 55 08.8	**+0.9**
	comp=Z,0.1nm,0.3s,baz=58,slow=12,SNR=7.0						
KSRS	**Korea Array**	**15.98**	**248**	*e*P	**P**	15 55 09.5	**+1.0**
YAK	**Yakutsk**	**19.70**	**336**	P	**P**	15 55 46.2	**-1.8**
	comp=Z,0.1nm,0.3s,baz=138,slow=4.0,SNR=5.8						
BILL	**Bilibino**	**25.24**	**17**	*e*P	**P**	15 56 43.5	**+2.3**
BILL	**Bilibino**	**25.24**	**17**	‖*e*P	**P**	15 56 43.5	**+2.3**
BILL				pmax	pmax		
	comp=Z,7.0nm,2.0s						
ILAR	**Eielson Array**	**40.67**	**37**	P	**P**	15 58 54.7	**+0.4**
	comp=Z,0.4nm,0.7s,baz=274,slow=7.8,SNR=5.4						
MKAR	**Makanchi Array**	**43.70**	**296**	P	**P**	15 59 19.1	**+0.1**
	comp=Z,0.2nm,0.5s,baz=108,slow=14,SNR=3.2						
KURK	**Kurchatov**	**44.54**	**303**	*e*P	**P**	15 59 25.6	**0.0**
KURK	**Kurchatov**	**44.54**	**303**	‖*e*P	**P**	15 59 25.6	**0.0**
KURK				pmax	pmax		
	comp=Z,7.0nm,2.8s						
ARU	**Arti**	**53.19**	**316**	*e*P	**P**	16 00 30.8	**-0.3**
ARU	**Arti**	**53.19**	**316**	*c i*P	**P**	16 00 30.7	**-0.3**
ARU				*PP	**pP**	16 01 17.2	**+0.4**
ARU						16 01 34.3	
ARU						16 02 30.4	
ARU				S	**S**	16 07 46.0	**+1.0**
ARU				SS	**SS**	16 11 27.1	**+0.2**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
FINES	**FINESS Array B**	**63.59**	**332**	P	**P**	16 01 41.4	**-1.4**
	comp=Z,0.7nm,0.5s,baz=32,slow=7.6,SNR=6.3						
NVAR	**Mina Array Bea**	**67.19**	**58**	P	**P**	16 02 08.6	**+2.0**
	comp=Z,0.3nm,0.5s,baz=279,slow=6.8,SNR=3.7						
NOA	**NORSAR Array B**	**68.29**	**338**	P	**P**	16 02 11.8	**-1.0**
	comp=Z,0.4nm,0.7s,baz=32,slow=6.7,SNR=2.9						
KIV	**Kislovodsk**	**68.66**	**311**	*e*P	**P**	16 02 15.9	**+0.4**
KIV	**Kislovodsk**	**68.66**	**311**	*e*P	**P**	16 02 15.9	**+0.4**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ASAR	**Alice Springs**	**69.34**	**193**	P	**P**	16 02 22.7	**+3.0**
	comp=Z,0.2nm,0.7s,baz=306,slow=34,SNR=1.2						
PDAR	**Pinedale Array**	**69.35**	**50**	P	**P**	16 02 21.6	**+1.7**
	comp=Z,0.5nm,0.5s,baz=1.0,slow=1.3,SNR=4.9						
AKASG	**Malin Array Be**	**70.35**	**323**	P	**P**	16 02 25.6	**0.0**
	comp=Z,0.4nm,0.3s,baz=47,slow=5.9,SNR=2.4						
CLL	**Collm**	**76.03**	**332**	*i* P	**P**	16 02 57.4	**-1.3**
	comp=Z,2.0nm,0.6s						
CLL	**Collm**	**76.03**	**332**	*i* P	**P**	16 02 57.4	**-1.3**
CLL				pmax	pmax		
	comp=Z,2.0nm,0.6s						

IDC ***09*** *16:19:26.5±1.8,9.29S×119.71E,h0km,mb3.6/2, mb1 3.9/6,mb1mx3.6/40,mbtmp3.7/6,ML3.7/4,MS3.7/1, Ms1 3.7/1,ms1mx2.6/40,Error ellipse: s-maj=76.2km s-min=25.2km az=50.0*

NEIC ***09*** *16:19:37.1±1.6,9.37S±0.08×120.71E±0.1,h92km±11km, mb4.2/6,Error ellipse: s-maj=15.4km s-min=9.8km az=62.0*

ISC 09 16:19:35.4±0.9,**9.47S**±0.08×**120.14E**±0.07,**h61**km,**n19,**
σ1s**71**/19,**Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**2.23**	**68**				**Pn**	**16 20 11.7**	**+1.6**
BATI	**Baumata**	**3.55**	**102**	Pn			**Pn**	**16 20 30.1**	**+1.9**
	7.9nm,0.3s,baz=283,slow=2.2,SNR=7.4								
BATI				Sn			**Sn**	**16 21 07.9**	**-1.1**
	6.7nm,0.3s,baz=34,slow=20,SNR=2.0								
KAPI	**Kappang**	**4.44**	**355**				**Pn**	**16 20 41.2**	**+0.9**
JAGI	**Jajag, Banyuwa**	**6.00**	**279**	Pn			**Pn**	**16 21 03.8**	**+2.2**
FITZ	**Fitzroy Crossi**	**10.11**	**149**	Pn			**Pn**	**16 21 59.0**	**+1.0**
	0.3nm,0.3s,baz=327,slow=9.4,SNR=13								
FITZ				Sn			**Sn**	**16 23 46.1**	**-3.7**
	0.9nm,0.3s,baz=184,slow=22,SNR=11								
KNRA	**Kununurra**	**10.44**	**127**	Pn			**Pn**	**16 22 03.1**	**+0.7**
MTN	**Manton Dam**	**11.30**	**108**	Pn			**Pn**	**16 22 13.9**	**-0.3**
GIRL	**Giralia**	**14.27**	**203**	P			**P**	**16 22 58.4**	**-1.6**
WB0	**Warramunga Arr**	**17.17**	**128**				**P**	**16 23 32.5**	**+0.3**
WB0				IAmb		IAmb	IAmb	16 24 13.1	
	comp=Z,36nm,1.8s								
WRA	**Warramunga Arr**	**17.22**	**129**	P			**Pn**	**16 23 32.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=307,slow=15,SNR=19								
WRA				S			Sn	16 26 31.1	-12
	comp=Z,0.3nm,0.3s,baz=304,slow=24,SNR=7.7								
WB2	**Warramunga Arr**	**17.23**	**129**				**P**	**16 23 33.3**	**+0.4**
WB2				IAmb		IAmb	IAmb	16 23 33.7	
	comp=Z,28nm,1.6s								
WR0	**Warramunga Arr**	**17.39**	**128**	P			**Pn**	**16 23 33.5**	**-0.6**
WR0				IAmb		IAmb	IAmb	16 24 16.2	
	comp=Z,35nm,1.7s								
AS31	**Alice Springs**	**19.30**	**139**	Pn			**Pn**	**16 23 57.5**	**+0.3**
ASAR	**Alice Springs**	**19.30**	**139**	P			**Pn**	**16 23 58.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=317,slow=11,SNR=18								
ASAR				S			S	16 27 18.7	-12
	comp=Z,0.0nm,0.3s,baz=312,slow=21,SNR=2.0								
BBOO	**Buckleboo**	**27.50**	**150**	P			**P**	**16 25 17.7**	**+1.6**
STKA	**Stephens Creek**	**29.89**	**141**	P			**P**	**16 25 39.0**	**+1.5**
	comp=Z,1.4nm,0.9s,baz=322,slow=11,SNR=4.0								
STKA	**Stephens Creek**	**29.89**	**141**	IAmb			IAmb	16 25 42.0	
	comp=Z,5.0nm,2.0s								
ASAJ	**Asahikawa**	**57.09**	**19**	LR			LR	16 53 20.3	
	comp=Z,74nm,20.7s,baz=7.0,slow=36								
MKAR	**Makanchi Array**	**65.38**	**332**	P			**P**	**16 30 08.6**	**-3.0**
	comp=Z,0.2nm,0.5s,baz=157,slow=7.8,SNR=2.4								

IDC 09 16:26:41.0±6.8,**13.12N**×**147.29E**,**h0**km,**mb3.5**/4, **mb1 3.7**/4,**mb1mx3.4**/50,**mbtmp3.5**/4,**MS2.9**/1,**Ms1 2.9**/1, **ms1mx2.3**/29,**Error ellipse: s-maj=252.4km s-min=27.9km az=84.0**,**South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**21.11**	**230**	LR			LR	16 40 32.3	
	comp=Z,32nm,18.1s,baz=13,slow=39								
WRA	**Warramunga Arr**	**35.24**	**201**	P			P	16 33 38.0	+0.6
	1.7nm,0.9s,baz=25,slow=9.6,SNR=6.7								
ASAR	**Alice Springs**	**38.84**	**200**	P			P	16 34 07.2	-0.9
	0.8nm,0.9s,baz=25,slow=7.6,SNR=3.8								
MKAR	**Makanchi Array**	**63.47**	**316**	P			P	16 37 13.6	+0.7
	0.3nm,0.7s,baz=110,slow=7.8,SNR=2.3								
KURBB	**Kurchatov Arra**	**66.51**	**320**	P			P	16 37 32.0	-0.6
	0.3nm,0.5s,baz=103,slow=7.6,SNR=4.3								

IDC ***09*** *16:30:58.6±1.7,0.45N×126.36E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/40,mbtmp3.6/4,Error ellipse: s-maj=180.1km s-min=20.8km az=66.0*

NEIC ***09*** *16:31:04.8±0.9,0.40N±0.04×126.66E±0.1,h50km±14km, mb4.3/8,Error ellipse: s-maj=15.1km s-min=6.0km az=87.0*

ISC 09 16:31:04.3±1.0,**0.4N**±0.1×**126.6E**±0.1,**h47**km,**n15,**
σ0s**93**/16,**mb4.2**/8,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.85**	**67**				**Pn**	**16 31 20.7**	**+0.7**
TNTI				Sn			**Sn**	**16 31 31.5**	**+0.1**
SAUI	**Saumlaki**	**9.60**	**151**	Pn			**Pn**	**16 33 19.0**	**-1.0**
SOEI	**Soe**	**10.39**	**193**	Pn			**Pn**	**16 33 31.2**	**+0.4**
WB0	**Warramunga Arr**	**21.50**	**160**	P			**P**	**16 35 49.4**	**+0.1**
WB0				IAmb		IAmb	IAmb	16 36 07.6	
	comp=Z,20nm,1.5s								
WRAB	**Tennant Creek**	**21.63**	**160**	P			**P**	**16 35 50.4**	**-0.4**
WRA	**Warramunga Arr**	**21.64**	**160**	P			**P**	**16 35 51.1**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=338,slow=10,SNR=12								
WB2	**Warramunga Arr**	**21.64**	**160**	P			**P**	**16 35 50.9**	**0.0**
WB2				IAmb		IAmb	IAmb	16 36 28.4	
	comp=Z,30nm,1.6s								
WR0	**Warramunga Arr**	**21.72**	**159**	P			**P**	**16 35 51.8**	**+0.1**
WR0				IAmb		IAmb	IAmb	16 35 53.1	
	comp=Z,25nm,1.6s								
ASAR	**Alice Springs**	**25.00**	**164**	P			**P**	**16 36 25.2**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=343,slow=11,SNR=15								
MK31	**Makanchi Array**	**60.17**	**326**	P			**P**	**16 41 07.8**	**+0.4**
MK31				IAmb		IAmb	IAmb	16 42 49.4	
	comp=Z,3.4nm,1.6s								
MKAR	**Makanchi Array**	**60.17**	**326**	P			**P**	**16 41 07.8**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=118,slow=7.2,SNR=16								
MAKZ	**Makanchi**	**60.36**	**326**	P			**P**	**16 41 08.9**	**+0.3**
KURBB	**Kurchatov Arra**	**64.42**	**328**	P			**P**	**16 41 35.2**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=129,slow=6.4,SNR=5.6								
KURK	**Kurchatov**	**64.43**	**328**	P			**P**	**16 41 35.9**	**+0.2**
BRVK	**Borovoye**	**70.06**	**328**	P			**P**	**16 42 08.7**	**-2.6**

IGQ ***09*** *16:41:47.3±1.2,3.3S±8.7×77.1E,h19km,M4.1*

ISC 09 16:41:45.1±2.6,**3.3S**±0.1×**76.5W**±0.1,**h35**km,**n17,**
σ0s**92**/19,**Northern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PKYU	**Pakayacu**	**1.93**	**326**	P			**Pn**	**16 42 16.6**	**+1.0**
PKYU				S			**Sn**	**16 42 39.6**	**+1.0**
BOSC	**San Juan Bosco**	**1.98**	**273**	P			**Pn**	**16 42 16.6**	**+0.4**
BOSC				S			**Sn**	**16 42 39.0**	**-1.0**
SANGA	**Volcan Sangay**	**2.21**	**303**	P			**Pn**	**16 42 20.5**	**+0.8**
SANGA				S			**Sn**	**16 42 45.6**	**-0.4**
BPAT	**Tungurahua Vol**	**2.59**	**312**	P			**Pn**	**16 42 25.7**	**+0.7**
ARRY	**Arrayan**	**2.61**	**312**	P			**Pn**	**16 42 25.6**	**+0.5**
BULB	**Ulba Tungurahu**	**2.62**	**314**	P			**Pn**	**16 42 25.6**	**+0.3**
BULB				S			**Sn**	**16 42 56.1**	**0.0**
BMAS	**Trigal station**	**2.63**	**312**	P			**Pn**	**16 42 26.0**	**+0.6**
BRUN	**Tungurahua Vol**	**2.63**	**314**	P			**Pn**	**16 42 25.8**	**+0.3**
RETU	**Refugio**	**2.64**	**313**	P			**Pn**	**16 42 26.2**	**+0.5**
COHC	**Cochancay**	**2.85**	**286**	P			**Pn**	**16 42 29.2**	**+1.1**
GONZ	**Gonzanam**	**3.03**	**251**	P			**Pn**	**16 42 31.8**	**+0.8**
ANTS	**Antisana-Sarah**	**3.21**	**329**	P			Pn	16 42 27.1	-6.4
PUAC	**Puerto Asis, P**	**3.79**	**359**	*e*P			**Pn**	**16 42 40.6**	**-0.5**
PTLC	**Puerto Leguiza**	**3.82**	**27**	*e*P			Pn	16 42 37.5	-3.9
PPLP	**Puerto Lpez**	**4.59**	**292**	P			**Pn**	**16 42 49.6**	**-2.4**
BBAC	**Balboa, Čauca**	**5.30**	**352**	*e*P			**Pn**	**16 43 01.5**	**-0.5**
GARC	**Garzon, Huila**	**5.51**	**11**	*e*P			**Pn**	**16 43 05.0**	**+0.1**

SKHL ***09*** *16:48:16.8±0.5,44.23N×152.80E,h42km±7km,mb4.1/3*

IDC ***09*** *16:48:22.2±1.0,45.61N×152.05E,h0km,mb3.6/10, mb1 3.7/14,mb1mx3.6/48,mbtmp3.5/14,ML2.9/4,Error ellipse: s-maj=30.5km s-min=17.8km az=154.0*

JMA ***09*** *16:48:24.5±0.6,45.76N×151.97E,h30km,M4.2*

MOS ***09*** *16:48:26.3±1.8,45.35N×151.90E,h46km,mb4.0/4,Error ellipse: s-maj=14.3km s-min=10.4km az=156.7*

ISC 09 16:48:23.6±0.8,**44.72N**±0.09×**152.34E**±0.07,**h35**km,**n60,**
σ2s**00**/64,**mb3.6**/14,**1C-3D**,**East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.22**	**281**	*i* P			**Pn**	**16 49 11.7**	**+0.1**
KUR				AMB		AMB	AMB	16 49 17.0	
	30nm,0.5s								
KUR				*i* S			**Sn**	**16 49 52.5**	**+3.9**
KUR				A		A	A	16 50 00.5	
	120nm,0.4s								
KUR				A		A	A	16 50 00.5	
	30nm,0.4s								
KUR	**Kuril'sk**	**3.22**	**281**	*d i* PN			**Pn**	**16 49 11.7**	**+0.1**
KUR				*i* S			**Sn**	**16 49 46.7**	**-1.9**
KUR				pmax		pmax			
	comp=Z,65nm,0.5s								
KUR				pmax		pmax			
	comp=N,22nm,0.3s								
KUR				pmax		pmax			
	comp=E,14nm,0.3s								
KUR				smax		smax			
	comp=N,303nm,0.5s								
KUR				smax		smax			
	comp=E,169nm,0.5s								
KUR				MLR		MLR			
	comp=Z,576nm,7.0s								
YUK	**Yuzh-Kuril'sk**	**4.70**	**264**	*e*P			**Pn**	**16 49 30.0**	**-1.9**
YUK				AMB		AMB	AMB	16 49 37.0	
	comp=Z,10.0nm,0.3s								
YUK				*e*S			**Sn**	**16 50 25.3**	**+0.2**
YUK				A		A	A	16 50 31.0	
	comp=Z,70nm,0.3s								
YUK				A		A	A	16 50 31.0	
	comp=Z,30nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**4.70**	**264**	*e*PN			**Pn**	**16 49 31.5**	**-0.4**
YUK				*e*S			**Sn**	**16 50 28.2**	**+3.1**
YUK				pmax		pmax			
	comp=Z,62nm,0.2s								
YUK				smax		smax			
	comp=N,67nm,0.3s								
YUK				smax		smax			
	comp=E,32nm,0.3s								
GRPR	**Tuman**	**4.77**	**264**	*e*P			**Pn**	**16 49 31.7**	**-1.2**
GRPR				*e*S			**Sn**	**16 50 28.2**	**+1.3**
GRPR				A		A	A	16 50 32.0	
	comp=E,90nm,0.5s								
GRPR				A		A	A	16 50 32.0	
	comp=E,80nm,0.5s								
GRPR	**Tuman**	**4.77**	**264**	*e*PN			**Pn**	**16 49 31.7**	**-1.2**
GRPR				S			**Sn**	**16 50 28.2**	**+1.3**
GRPR				smax		smax			
	comp=N,92nm,0.4s								
GRPR				smax		smax			
	comp=E,78nm,0.2s								
NEM2	**Nemuro 2**	**4.95**	**256**	P			**Pn**	**16 49 37.4**	**+2.1**
NEM2				*e*S			**Sn**	**16 50 31.2**	**-0.1**
NMR	**Nemuro--Hokkai**	**4.95**	**256**	*e*P			**Pn**	**16 49 33.0**	**-2.5**
NMR				*e*S			**Sn**	**16 50 31.0**	**-0.5**
NMR	**Nemuro--Hokkai**	**4.95**	**256**	*e*PN			**Pn**	**16 49 33.0**	**-2.5**
GLVR	**Golovnino**	**5.00**	**261**	*e*P			**Pn**	**16 49 34.5**	**-1.6**
GLVR				*e*S			**Sn**	**16 50 33.5**	**+0.9**
GLVR				A		A	A	16 50 36.0	
	comp=E,10.0nm,0.3s								
GLVR				A		A	A	16 50 36.0	
	comp=E,60nm,0.3s								
GLVR	**Golovnino**	**5.00**	**261**	*e*PN			**Pn**	**16 49 35.4**	**-0.7**
GLVR				*e*S			**Sn**	**16 50 35.3**	**+2.7**
GLVR				smax		smax			
	comp=N,103nm,0.2s								
GLVR				smax		smax			
	comp=E,59nm,0.3s								
JRA	**Rausu**	**5.24**	**264**	P			**Pn**	**16 49 42.3**	**+3.0**
JNK	**Nakash**	**5.60**	**261**	P			**Pn**	**16 49 46.6**	**+2.3**
JAK	**Akkeshi**	**5.79**	**255**	P			**Pn**	**16 49 48.5**	**+1.6**
JTKR	**Abashiri--Toko**	**6.09**	**266**	P			**Pn**	**16 49 53.6**	**+2.5**
JAR	**Ashorobuto**	**6.34**	**260**	P			**Pn**	**16 49 57.5**	**+3.0**
JAR				*e*S			**Sn**	**16 51 07.6**	**+1.9**
JMP	**Maruseppu**	**6.48**	**267**	P			**Pn**	**16 49 58.8**	**+2.4**
JCH	**Churui**	**6.84**	**255**	P			**Pn**	**16 50 04.2**	**+2.8**
JKK2	**Kamakawa 2**	**6.94**	**266**	P			**Pn**	**16 50 05.4**	**+2.7**
ASAJ	**Asahikawa**	**7.00**	**268**	Pn			**Pn**	**16 50 06.4**	**+2.8**
	comp=E,0.7nm,0.3s,baz=42,slow=14,SNR=9.6								
YSS	**Yuzh-Sakhalins**	**7.06**	**292**	*e*P			**Pn**	**16 50 06.1**	**+1.8**
YSS				AMB		AMB	AMB	16 50 10.2	
	comp=E,5.0nm,0.4s								
YSS	**Yuzh-Sakhalins**	**7.06**	**292**	‖*e*PN			**Pn**	**16 50 03.9**	**-0.4**
YSS				pmax		pmax			
	comp=Z,21nm,1.4s								
JFR	**Furan**	**7.21**	**261**	P			**Pn**	**16 50 10.3**	**+3.9**
ERM	**Erimo**	**7.22**	**251**	‖*e*PN			Pn	16 50 13.3	+6.8
JNBK	**Urakawa-nobuka**	**7.38**	**254**	P			**Pn**	**16 50 10.9**	**+2.1**
JNBK				*e*S			**Sn**	**16 51 30.9**	**-0.5**
JBT2	**Biratori 2**	**7.48**	**258**	P			**Pn**	**16 50 12.3**	**+2.1**
JKB	**Kayabe**	**8.72**	**255**	P			**Pn**	**16 50 28.3**	**+1.2**
JKB				*e*S			**Sn**	**16 52 01.3**	**-2.8**
JANG	**Nango**	**9.09**	**245**	*e*S			**Sn**	**16 52 10.6**	**-2.7**
PETK	**Petropavlovsk-**	**9.10**	**21**	Pn			Pn	16 50 26.1	-6.2
	comp=Z,0.2nm,0.3s,baz=188,slow=15,SNR=2.0								
JTH	**Tanohata**	**9.11**	**242**	*e*S			**Sn**	**16 52 11.1**	**-2.7**
JTM	**Tenmabayashi**	**9.18**	**249**	*e*S			**Sn**	**16 52 13.0**	**-2.3**
JOSM	**Okushiri--Mats**	**9.73**	**259**	P			**Pn**	**16 50 43.2**	**+2.2**
MJAR	**Matsushiro Arr**	**13.47**	**238**	Pn			**P**	**16 51 40.7**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=209,slow=41,SNR=1.8								
KSRS	**Korea Array**	**19.74**	**257**	P			**Pn**	**16 52 55.1**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=234,slow=43,SNR=2.2								
YAK	**Yakutsk**	**21.78**	**331**	*e*P			**P**	**16 53 10.8**	**-1.2**
YAK	**Yakutsk**	**21.78**	**331**	‖*e*P			**P**	**16 53 10.8**	**-1.2**
YAK				pmax		pmax			
	comp=Z,7.0nm,0.8s								
BILL	**Bilibino**	**24.49**	**13**	*e*P			**P**	**16 53 37.8**	**-1.3**
BILL	**Bilibino**	**24.49**	**13**	‖*e*P			**P**	**16 53 37.8**	**-1.3**
BILL				pmax		pmax			
	comp=Z,1.0nm,1.1s								
H11N2	**WAKE ISLAND Hy**	**27.71**	**149**	T		T	T	17 25 07.5	
	baz=324,slow=74,SNR=9.5								
H11N1	**WAKE ISLAND Hy**	**27.72**	**149**	T		T	T	17 24 59.8	
	baz=70,slow=74,SNR=9.7								
H11N3	**WAKE ISLAND Hy**	**27.72**	**149**	T		T	T	17 24 59.8	
	SNR=8.9								
H11S1	**WAKE ISLAND Hy**	**28.76**	**151**	T		T	T	17 26 15.5	
	baz=339,slow=76,SNR=14								
H11S3	**WAKE ISLAND Hy**	**28.77**	**151**	T		T	T	17 26 24.5	
	baz=339,slow=76,SNR=7.6								
H11S2	**WAKE ISLAND Hy**	**28.78**	**151**	T		T	T	17 26 15.8	
	baz=339,slow=76,SNR=7.1								
SONM	**Songino Array**	**31.55**	**292**	P			**P**	**16 54 41.4**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=64,slow=3.4,SNR=3.9								
ILAR	**Eielson Array**	**38.48**	**37**	P			**P**	**16 55 42.2**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=265,slow=9.2,SNR=4.9								
ILAR	**Eielson Array**	**38.48**	**37**	*e*P			**P**	**16 55 44.4**	**+2.5**
MKAR	**Makanchi Array**	**47.42**	**299**	P			**P**	**16 56 52.9**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=57,slow=6.4,SNR=4.8								
MKAR	**Makanchi Array**	**47.42**	**299**	*e*P			**P**	**16 56 53.2**	**-1.2**
YKA	**Yellowknife Ar**	**52.88**	**36**	P			**P**	**16 57 35.5**	**0.0**
	comp=Z,0.5nm,0.4s,baz=292,slow=7.1,SNR=4.3								
NVAR	**Mina Array Bea**	**63.87**	**61**	P			**P**	**16 58 54.4**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=278,slow=10,SNR=3.6								
FINES	**FINESS Array B**	**65.64**	**335**	P			**P**	**16 59 01.4**	**-2.3**
	comp=Z,0.7nm,0.4s,baz=32,slow=6.7,SNR=9.9								
OBN	**Obninsk**	**66.68**	**326**	*e*P			**P**	**16 59 09.6**	**-0.8**
OBN	**Obninsk**	**66.68**	**326**	*e*P			**P**	**16 59 09.6**	**-0.8**
OBN				pmax		pmax			
	comp=Z,4.0nm,0.9s								
NOA	**NORSAR Array B**	**69.97**	**341**	P			**P**	**16 59 28.6**	**-2.4**
	comp=Z,0.1nm,0.4s,baz=29,slow=7.1,SNR=1.6								
ASAR	**Alice Springs**	**70.11**	**198**	P			P	16 59 40.6	+8.4
	comp=Z,0.5nm,0.9s,baz=14,slow=5.8,SNR=2.6								
KIV	**Kislovodsk**	**71.83**	**314**	*e*P			**P**	**16 59 42.9**	**+0.3**
KIV	**Kislovodsk**	**71.83**	**314**	*e*P			**P**	**16 59 42.9**	**+0.3**
KIV				pmax		pmax			
	comp=Z,4.0nm,0.9s								
AKASG	**Malin Array Be**	**72.93**	**326**	P			**P**	**16 59 47.4**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=50,slow=5.0,SNR=2.3								
TXAR	**Lajitas Array**	**78.97**	**60**	P			**P**	**17 00 26.1**	**+2.2**
	comp=Z,0.3nm,0.6s,baz=228,slow=3.0,SNR=4.1								

IDC ***09*** *16:50:06.5±1.7,29.32S×112.41W,h0km,mb3.8/3, mb1 4.3/4,mb1mx3.8/38,mbtmp4.0/4,ML4.6/1,MS4.0/14, Ms1 4.0/14,ms1mx3.8/21,Error ellipse: s-maj=66.4km s-min=41.1km az=136.0*

NEIC ***09*** *16:50:07.5±1.1,29.5S±0.3×112.1W±0.3,h14km±6km, mb4.7/3,Error ellipse: s-maj=52.7km s-min=17.7km az=139.0*

GCMT ***09*** *16:50:14.5±0.3,29.2S±0.02×112.60W±0.02,h18km±1km, MW4.8/88,Moment Tensor Solution. s22,c25; s88,c113; Duration: 0 Moment tensor: Scale 10^16Nm;

*IDC **09** 17:10:57.4±2.2,30°.89N×103°.92E,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.3/30,mbtmp3.5/3,Error ellipse: s-maj=425.3km s-min=28.0km az=53.0*
*NEIC **09** 17:10:59.4±0.5,30°.3N±0°.1×102°.96E±0°.06,h10km±2km, mb4.6/4, Error ellipse: s-maj=25.2km s-min=5.3km az=342.0*
*BJI **09** 17:10:59.1±0.0,30°.42N×102°.72E,h21km,ML3.5/9*

ISC 09 17:10:59.0±1.2,30°.50N±0°.06×102°.86E±0°.09,h10km,n13, σ2§40/17,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.88**	**62**	Pg	**Pn**	**17 11 18.9**	**+1.4**
CD2				Sg	**Sn**	**17 11 32.9**	**+2.6**
CD2				smax	smax		
	comp=N,1μm,0.5s						
CD2				smax	smax		
	comp=E,1μm,0.6s						
GYA	**Guiyang**	**5.23**	**139**	Pg	**Pb**	**17 12 27.2**	**-3.5**
GYA				Sn	**Sn**	**17 13 24.3**	**+6.3**
GYA				Sg	**Sg**	**17 13 47.3**	**+0.2**
GYA				smax	smax		
	comp=N,30nm,0.9s						
GYA				smax	smax		
	comp=E,30nm,0.9s						
ENH	**Enshi**	**5.73**	**91**	Pn	**Pn**	**17 12 24.0**	**-0.2**
XAN	**Xi'an**	**6.23**	**54**	Pg	Pg	17 13 05.4	+7.1
XAN				Sn	**Sn**	**17 13 43.7**	**+1.3**
XAN				Sg	**Sg**	**17 14 17.7**	**-1.3**
XAN				smax	smax		
	comp=N,53nm,0.7s						
XAN				smax	smax		
	comp=E,53nm,0.9s						
XAN	**Xi'an**	**6.23**	**54**	Pn	**Pn**	**17 12 31.4**	**+0.3**
WMQ	**Urumqi**	**17.93**	**322**	*e*P	**P**	**17 15 09.1**	**0.0**
MKAR	**Makanchi Array**	**22.76**	**321**	P	**P**	**17 16 04.1**	**+2.7**
	comp=E,0.6nm,0.8s,baz=122,slow=9.9,SNR=4.6						
WB0	**Warramunga Arr**	**58.46**	**145**	P	**P**	**17 20 53.8**	**-1.6**
WB0				IAmb	IAmb	17 21 12.9	
	comp=Z,6.0nm,1.1s						
WRA	**Warramunga Arr**	**58.58**	**145**	P	**P**	**17 20 54.8**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=336,slow=7.6,SNR=14						
WB2	**Warramunga Arr**	**58.59**	**145**	P	**P**	**17 20 55.3**	**-0.9**
WR0	**Warramunga Arr**	**58.70**	**145**	P	**P**	**17 20 56.0**	**-0.9**
WR0				IAmb	IAmb	17 21 07.0	
	comp=Z,5.7nm,1.1s						
AS31	**Alice Springs**	**61.54**	**147**		**P**	**17 21 15.4**	**-1.1**
ASAR	**Alice Springs**	**61.54**	**147**	P	**P**	**17 21 15.4**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=331,slow=6.9,SNR=12						

*NIED **09** 17:17:00,35°.80N×140°.90E,h8km,Mw3.3 Best double couple: M0 1.06000×10^14 NP1:φs=36.00000°,δ53.00000°, λ-60.00000°. NP2:φs173.00000°,δ46.00000°, λ-123.00000°.*

JMA 09 17:17:43.1±0.1,35°.81N×140°.86E,h13km±1km,M3.6,6C, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.11**	**181**	⇑P	Pg	17 17 46.2	0.0
CHOJ				S	Sg	17 17 48.2	-0.1
JIHU	**Itakohorinouch**	**0.31**	**300**	⇑P	Pg	17 17 50.0	+0.5
JIHU				S	Sb	17 17 55.7	+0.1
JSMT	**Sammumatsuo**	**0.37**	**244**	⇑P	Pg	17 17 51.0	+0.4
JSMT				S	Sb	17 17 57.1	-0.2
JHYU	**Hitachinakayam**	**0.57**	**337**	⇑P	Pb	17 17 54.7	-0.3
JHYU				S	Sg	17 18 02.4	+0.4
JCN	**Nagara**	**0.66**	**234**	P	Pb	17 17 56.8	+0.3
JCN				S	Sb	17 18 06.6	+1.0
JYT	**Yasato**	**0.68**	**308**	⇑P	Pg	17 17 56.0	-0.4
JYT				S	Sg	17 18 05.1	-0.3
JHO	**Hitachi**	**0.83**	**344**	⇑P	Pg	17 17 58.4	-0.8
JHO				S	Sg	17 18 09.9	-0.3
JKUC	**kamogawauchiur**	**0.84**	**220**	P	Pg	17 17 59.4	0.0
JKUC				S	Sb	17 18 11.0	+0.2
BSO4	**Boso 4**	**0.92**	**208**	P	Pg	17 18 01.2	+0.3
BSO4				*e*S	Sn	17 18 15.6	+0.9
MAT	**Matsushiro**	**2.27**	**290**	P	Pn	17 18 19.8	-0.5
MAT				S	Sn	17 18 45.8	-2.3

*IDC **09** 17:20:47.4±1.5,7°.02S×127°.51E,h324km±20km,mb2.6/1, mb1 3.2/6,mb1mx3.0/29,mbtmp3.9/6,Error ellipse: s-maj=25.6km s-min=16.3km az=90.0*
*NEIC **09** 17:20:47.1±1.0,7°.00S±0°.09×127°.63E±0°.09,h323km±13km, mb4.1/4, Error ellipse: s-maj=14.8km s-min=11.4km az=144.0*

ISC 09 17:20:46.5±0.8,6°.96S±0°.07×127°.67E±0°.09,h315km,n19, σ1§47/22,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**4.36**	**230**		**Pn**	**17 21 58.3**	**+0.7**
BATI	**Baumata**	**5.11**	**231**	P	**Pn**	**17 22 07.0**	**+1.1**
	27nm,0.3s,baz=108,slow=2.6,SNR=36						
BATI				S	**S**	**17 23 07.5**	**-2.3**
	2.8nm,0.3s,baz=29,slow=19,SNR=2.1						
MMRI	**Maumere**	**5.63**	**252**	Pn	**Pn**	**17 22 12.3**	**+0.3**
FAKI	**Fak Fak**	**6.08**	**49**	Pn	**Pn**	**17 22 18.7**	**+1.5**
MTN	**Manton Dam**	**6.77**	**150**	Pn	**Pn**	**17 22 22.7**	**-2.6**
SIJI	**Sorong**	**7.04**	**31**	P	**Pn**	**17 22 31.1**	**+2.5**
	0.3nm,0.3s,baz=167,slow=22,SNR=7.7						
SIJI				S	**S**	**17 23 47.9**	**-3.5**
	0.4nm,0.3s,baz=217,slow=19,SNR=1.2						
KNRA	**Kununurra**	**8.73**	**173**	Pn	**Pn**	**17 22 49.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**11.24**	**190**	P	**P**	**17 23 19.8**	**-1.5**
	0.8nm,0.3s,baz=21,slow=12,SNR=36						
FITZ	**Fitzroy Crossi**	**11.24**	**190**	P	**P**	**17 23 21.2**	**-0.1**
WB0	**Warramunga Arr**	**14.30**	**154**	P	**P**	**17 23 55.4**	**+0.2**
WRA	**Warramunga Arr**	**14.44**	**154**	P	**P**	**17 23 56.3**	**-0.4**
	0.7nm,0.3s,baz=331,slow=12,SNR=27						
WB2	**Warramunga Arr**	**14.44**	**154**	P	**P**	**17 23 56.7**	**0.0**
WR0	**Warramunga Arr**	**14.54**	**153**	P	**P**	**17 23 57.8**	**+0.1**
PSA00	**Pilbara Seismi**	**16.38**	**207**	P	**P**	**17 24 16.8**	**-1.1**
COEN	**Coen**	**16.75**	**116**	P	**P**	**17 24 22.9**	**+0.9**
COEN				IAmb	IAmb	17 24 39.0	
	comp=Z,22nm,1.4s						
AS31	**Alice Springs**	**17.66**	**161**	P	**P**	**17 24 32.0**	**+0.4**
ASAR	**Alice Springs**	**17.66**	**161**	P	**P**	**17 24 32.1**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=344,slow=12,SNR=48						
ASAR				S	**S**	**17 27 39.8**	**+1.3**
	comp=Z,0.0nm,0.3s,baz=326,slow=18,SNR=2.8						
MKAR	**Makanchi Array**	**66.95**	**328**	P	**P**	**17 31 05.5**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=145,slow=5.3,SNR=1.9						
TIXI	**Tiksi**	**78.45**	**0**	P	**P**	**17 32 12.3**	**-0.1**
TIXI				IAmb	IAmb	17 32 15.5	
	comp=Z,2.7nm,1.5s						

JMA 09 17:28:44.7±0.2,24°.92N×123°.39E,h26km,M1.6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.57**	**217**	P	Pb	17 28 55.7	-0.5
YOJ				S	Sb	17 29 03.9	0.0
JYNG	**Yonagunijimaku**	**0.62**	**221**	P	Pb	17 28 56.7	-0.2
JYNG				*e*S	Sb	17 29 04.8	-0.4
IRIF	**Iriomote-Funau**	**0.66**	**152**	*e*S	Sb	17 29 06.6	+0.2
JIJ	**Ishigaki jima**	**0.88**	**129**	P	Pb	17 29 01.0	-0.4
JIJ				S	Sb	17 29 11.6	-1.1
JKRS	**Kuro-shima**	**0.88**	**140**	P	Pb	17 29 01.4	0.0
JKRS				S	Sb	17 29 12.6	-0.2
JISG	**Ishigakijimahi**	**0.90**	**111**	P	Pn	17 29 01.3	-0.4
JISG				*e*S	Sb	17 29 12.6	-0.7
HATJ	**Hateruma jima**	**0.94**	**156**	P	Pn	17 29 01.7	-0.5
HATJ				*e*S	Sb	17 29 14.2	-0.2

TAP 09 17:29:05.4,24°.63N×121°.53E,h4km,ML1.0,1C-1D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDT	**Datong Townshi**	**0.03**	**205**	*i* P	Pg	17 29 06.8	+0.4
	baz=205						
NDT				*i* S	Sg	17 29 07.8	+0.8
	baz=205						
ENTT	**Nioudou**	**0.04**	**77**	⇓ *i* P	Pg	17 29 06.9	+0.5
	baz=81						
ENTT				*i* S	Sg	17 29 08.1	+1.0
	baz=81						
YHNB	**Yeheng**	**0.14**	**285**	⇑P	Pg	17 29 09.2	+0.9
	baz=285						
YHNB				S	Sg	17 29 11.7	+1.4
	baz=285						
NWLT	**Wulai**	**0.15**	**351**	*e*P	Pg	17 29 09.0	+0.6
	baz=350						
NWLT				*e*S	Sg	17 29 12.2	+1.9
	baz=350						
TWE	**Neicheng**	**0.15**	**55**	*e*P	Pg	17 29 09.4	+1.0
	baz=58						
TWE				*e*S	Sg	17 29 12.9	+2.4
	baz=58						
NSK	**Sanguang**	**0.16**	**286**	*i* P	Pg	17 29 09.3	+0.7
	baz=285						
NSK				S	Sg	17 29 12.6	+1.9
	baz=285						
NNS	**Nan Shan**	**0.24**	**216**	*e*P	Pg	17 29 11.2	+1.1
	baz=214						
NNS				*e*S	Sg	17 29 15.1	+2.0
	baz=214						
NNSH	**Datong**	**0.24**	**213**	*e*P	Pg	17 29 11.2	+1.0
	baz=213						
NNSH				*e*S	Sg	17 29 15.5	+2.2
	baz=213						
TAP	**Taipei**	**0.41**	**357**	*e*P	Pb	17 29 14.7	-0.5
	baz=358						
EGS		**0.42**	**60**	*e*P	Pb	17 29 15.2	-0.3
	baz=60						
EGS				*e*S	Sb	17 29 22.5	+0.3
	baz=60						
TWS1	**Kuangyinshan**	**0.48**	**348**	*e*S	Sb	17 29 23.5	-0.3
	baz=348						

*IDC **09** 17:40:18.5±0.7,24°.20N×91°.42E,h0km,mb3.7/11, mb1 3.8/12,mb1mx3.5/61,mbtmp3.7/12,ML3.3/1,MS3.1/5, Ms1 3.2/5,ms1mx2.8/47, Error ellipse: s-maj=28.3km s-min=10.3km az=74.0*
*NDI **09** 17:40:21.1±4.0,24°.06N×91°.43E,h18km±29km,ML3.9, mb4.1(NEIC)*
*NEIC **09** 17:40:23.2±1.6,24°.19N±0°.05×91°.5E±0°.1,h32km±5km, mb4.1/11, Error ellipse: s-maj=16.4km s-min=7.0km az=87.0*

ISC 09 17:40:21.9±0.6,24°.07N±0°.05×91°.45E±0°.05,h30km,n48, σ1§74/52,mb3.8/14,MS3.2/4,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRDH	**Bariadhala**	**1.40**	**173**	Pg	**Pb**	**17 40 48.0**	**+0.5**
	22nm,0.3s,baz=47,slow=23,SNR=13						
BRDH				Lg	Lg	17 41 07.1	
	250nm,0.3s,baz=124,slow=23,SNR=32						
SHL	**Shillong**	**1.54**	**15**	*e*P	**Pn**	**17 40 47.0**	**-0.5**
SHL				*e*P	**Pn**	**17 40 47.0**	**-0.5**
SHL				*e*S	**Sb**	**17 41 06.7**	**-2.4**
SHL				*e*S	**Sn**	**17 41 06.8**	**+0.2**
SHL				IAML		17 41 08.1	
	comp=N,2μm,0.2s						
SHL				IAML		17 41 08.8	
	comp=E,3μm,0.3s						
SHL				IAML		17 41 09.9	
	comp=E,3μm,0.2s						
SHL				IAML		17 41 10.4	
	comp=N,3μm,0.3s						
SHL	**Shillong**	**1.54**	**15**		**Pn**	**17 40 46.8**	**-0.8**
KOHI	**KOHIMA**	**2.92**	**55**	*e*P	**Pn**	**17 41 08.7**	**+2.2**
KOHI				IAML		17 42 15.3	
	comp=E,395nm,0.8s						
KOHI				IAML		17 42 21.5	
	comp=N,250nm,0.7s						
GTK	**Tadong**	**4.13**	**322**	*e*P	**Pn**	**17 41 25.1**	**+2.0**
GTK				IAML		17 42 42.0	
	comp=N,257nm,0.2s						
GTK				IAML		17 42 42.1	
	comp=E,384nm,0.8s						
ODAN	**Odare**	**4.60**	**308**	*e*Pn	**Pn**	**17 41 30.2**	**+0.6**
ODAN				*e*Sn	**Sn**	**17 42 25.6**	**+3.4**
	comp=E,231nm,0.3s						
TAPN	**Taplejung**	**4.69**	**315**	*e*Pn	**Pn**	**17 41 32.6**	**+1.6**
BOK	**Bokaro**	**5.10**	**268**	*e*P	**Pn**	**17 41 36.5**	**+0.2**
BOK				*e*P	**Pn**	**17 41 36.8**	**+0.5**
BOK				*e*S	**Sn**	**17 42 30.7**	**-3.5**
LKP	**Lekhapani**	**5.13**	**50**	*e*P	**Pn**	**17 41 38.7**	**+2.0**
LKP				*e*S	**Sn**	**17 42 35.0**	**+0.2**
LKP				IAML		17 42 37.5	
	comp=N,654nm,0.5s						
LKP				IAML		17 42 38.0	
	comp=E,445nm,0.4s						
RAMN	**Ramite**	**5.23**	**304**	*e*Pn	**Pn**	**17 41 38.8**	**+0.4**
LSA	**Lhasa**	**5.61**	**357**	Pn	**Pn**	**17 41 39.2**	**-4.5**
JIRN	**Jiri**	**5.93**	**308**	*e*Pn	**Pn**	**17 41 48.9**	**+0.8**
GUN	**Gumba**	**6.30**	**309**	*e*Pn	**Pn**	**17 41 54.0**	**+0.9**
BWNR	**Bhubaneshwar**	**6.44**	**235**	*e*P	**Pn**	**17 41 54.9**	**+0.2**
BWNR				*e*S	**Sn**	**17 43 01.5**	**-5.8**
PKI	**Pulchoki**	**6.46**	**304**	*e*Pn	**Pn**	**17 41 55.4**	**+0.1**
PKIN	**Phulchoki**	**6.47**	**304**	*e*Pn	**Pn**	**17 41 55.6**	**+0.2**
KKN	**Kakani**	**6.67**	**305**	*e*Pn	**Pn**	**17 41 58.6**	**+0.5**
DMN	**Daman**	**6.71**	**303**	*e*Pn	**Pn**	**17 41 59.0**	**+0.3**
GKN	**Gorkha**	**7.27**	**304**	*e*Pn	**Pn**	**17 42 06.2**	**-0.1**
KOLN	**Koldanda**	**7.96**	**299**	*e*Pn	**Pn**	**17 42 15.0**	**-0.9**
DANN	**Dangsing**	**8.11**	**303**	*e*Pn	**Pn**	**17 42 17.0**	**-0.9**
PYUN	**Piuthan**	**8.59**	**300**	*e*Pn	**Pn**	**17 42 23.7**	**-0.8**
CMAR	**Chiang Mai Arr**	**8.95**	**127**	Pn	**Pn**	**17 42 30.0**	**+0.8**
	comp=E,0.1nm,0.3s,baz=301,slow=13,SNR=9.0						
CMAR				LR	LR	17 47 21.8	
	comp=E,51nm,21.0s,baz=245,slow=47						
BHPL	**Bhopal**	**12.88**	**269**	*e*S	Sn	17 45 34.3	-11
ENH	**Enshi**	**17.19**	**65**	P	**P**	**17 44 21.2**	**-0.1**
ENH				IAmb	IAmb	17 44 23.2	
	comp=Z,12nm,0.8s						
XAN	**Xi'an**	**18.20**	**53**	P	**Pn**	**17 44 29.5**	**-2.9**
XAN				IAmb	IAmb	17 44 44.0	
	comp=Z,6.6nm,0.7s						
NIL	**Nilore**	**18.55**	**305**	P	**Pn**	**17 44 37.8**	**+1.1**
NIL				IAmb	IAmb	17 44 58.2	
	comp=Z,20nm,0.9s						
KBL	**Kabul**	**22.10**	**303**	P	**P**	**17 45 16.3**	**+1.3**
KBL				IAmb	IAmb	17 45 29.4	
	comp=Z,11nm,0.9s						
AAK	**Ala-Archa**	**23.23**	**327**	LR	LR	17 55 57.0	
	comp=Z,49nm,18.4s,baz=66,slow=41						
AAK	**Ala-Archa**	**23.23**	**327**	P	**P**	**17 45 22.2**	**-4.5**
AAK				IAmb	IAmb	17 45 38.9	
	comp=Z,5.0nm,1.1s						
GAR	**Garm**	**23.28**	**315**	P	**P**	**17 45 26.5**	**-0.7**
BTK	**Batken**	**23.57**	**317**	P	**P**	**17 45 31.1**	**+1.1**
BTK				IAmb	IAmb	17 45 40.2	
	comp=Z,15nm,0.8s						
MK31	**Makanchi Array**	**23.83**	**344**	P	**P**	**17 45 32.6**	**+0.3**
MKAR	**Makanchi Array**	**23.83**	**344**	P	**P**	**17 45 33.1**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=172,slow=8.5,SNR=16						
CHGR	**Chuyangaron**	**23.86**	**313**	P	**P**	**17 45 32.1**	**-0.7**
SONM	**Songino Array**	**26.52**	**23**	P	**P**	**17 45 58.1**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=196,slow=10,SNR=6.1						
KURBB	**Kurchatov Arra**	**28.34**	**343**	P	**P**	**17 46 13.1**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=158,slow=7.7,SNR=6.1						
KURK	**Kurchatov**	**28.39**	**343**	P	**P**	**17 46 12.7**	**-0.8**
TLY	**Talaya**	**29.11**	**16**	LR	LR	17 59 44.8	
	comp=Z,65nm,18.7s,baz=99,slow=40						
ZALV	**Zalesovo Beam**	**30.25**	**352**	P	**P**	**17 46 30.9**	**+1.0**
	comp=Z,0.4nm,0.5s,baz=170,slow=8.8,SNR=2.2						
KSRS	**Korea Array**	**33.85**	**58**	LR	LR	18 03 31.7	
	comp=Z,47nm,18.2s,baz=162,slow=41						
MJAR	**Matsushiro Arr**	**41.87**	**62**	P	**P**	**17 48 09.9**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=265,slow=9.6,SNR=2.7						
FINES	**FINESS Array B**	**57.40**	**329**	P	**P**	**17 50 07.1**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=82,slow=10.0,SNR=2.5						
WRA	**Warramunga Arr**	**60.50**	**133**	P	**P**	**17 50 30.8**	**+1.4**
	comp=Z,1.8nm,0.5s,baz=322,slow=7.2,SNR=22						
ASAR	**Alice Springs**	**62.84**	**136**	P	**P**	**17 50 46.6**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=313,slow=6.5,SNR=19						
HFS	**Hagfors**	**63.37**	**327**	P	**P**	**17 50 47.9**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=96,slow=9.1,SNR=5.2						
GERES	**GERESS Array B**	**64.36**	**314**	P	**P**	**17 50 55.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=86,slow=6.0,SNR=2.1						
NOA	**NORSAR Array B**	**64.54**	**329**	P	**P**	**17 50 55.5**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=86,slow=6.6,SNR=2.4						
NOA				LR	LR	18 19 50.2	
	comp=Z,12nm,19.5s,baz=255,slow=37						

*IDC **09** 18:07:31.9±2.0,29°.95S×137°.50E,h0km,mb1 4.4/6, mb1mx3.9/29,mbtmp4.3/6,ML4.2/5,Error ellipse: s-maj=35.4km s-min=16.7km az=40.0*
*NEIC **09** 18:07:33.2±3.7,29°.79S±0°.04×137°.54E±0°.07,h10km±2km, Error ellipse: s-maj=11.9km s-min=5.0km az=115.0*
*AUST **09** 18:07:35.1±0.8,29°.90S×137°.63E,h9km±5km,Error ellipse: s-maj=3.8km s-min=3.2km az=71.0*

ISC 09 18:07:32.6±0.6,29°.82S±0°.04×137°.49E±0°.04,h10km,n39, σ2§34/53,South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCRK	**Leigh Creek**	**0.88**	**135**	P	**Pg**	**18 07 49.1**	**-0.5**
	baz=0.7,SNR=333						
LCRK				S	**Sg**	**18 07 59.8**	**-1.3**
	baz=0.7						
OOD	**Oodnadatta**	**2.57**	**321**	P	Pn	18 08 19.6	+5.3
	baz=2.7,SNR=35						
OOD				S	**Sb**	**18 08 53.2**	**+2.8**
	baz=2.7						
MULG	**Mulgathing**	**3.01**	**260**	P	**Pn**	**18 08 24.6**	**+4.2**
	baz=3.1,SNR=79						
BBOO	**Buckleboo**	**3.22**	**202**	P	**Pn**	**18 08 25.6**	**+2.4**
	baz=3.2,SNR=83						
BBOO				S	**Sn**	**18 09 03.6**	**+2.0**
	baz=3.2						
BBOO	**Buckleboo**	**3.22**	**202**		**Pn**	**18 08 25.7**	**+2.4**
BBOO				Sn	**Sn**	**18 09 03.4**	**+1.7**
AUJCS	**Jamestown Cent**	**3.50**	**164**	P	**Pn**	**18 08 29.7**	**+2.6**
	baz=3.4						
INKA	**Innaminka**	**3.53**	**55**	P	**Pn**	**18 08 29.6**	**+2.2**
	baz=3.5,SNR=27						
INKA				S	**Sn**	**18 09 12.1**	**+2.9**
	baz=3.5						
HTT	**Hallett**	**3.80**	**162**	P	**Pn**	**18 08 33.0**	**+1.8**
	baz=3.7,SNR=16						
HTT				S	**Sn**	**18 09 17.8**	**+1.9**
	baz=3.7						
STKA	**Stephens Creek**	**4.08**	**121**	P	**Pn**	**18 08 35.6**	**+0.6**
	baz=3.9,SNR=117						
STKA				S	**Sn**	**18 09 22.0**	**-0.8**
	baz=3.9						
STKA	**Stephens Creek**	**4.08**	**121**	Pn	**Pn**	**18 08 35.6**	**+0.6**
	5.4nm,0.3s,baz=305,slow=15,SNR=83						
STKA				Sn	**Sn**	**18 09 22.0**	**-0.8**
	25nm,0.3s,baz=223,slow=19,SNR=8.9						
STKA				Lg	Lg	18 09 39.5	
	35nm,0.3s,baz=210,slow=24,SNR=7.0						
STKA	**Stephens Creek**	**4.08**	**121**		**Pn**	**18 08 35.4**	**+0.4**
AUMAR	**Marden Senior**	**5.14**	**169**	P	**Pn**	**18 08 51.5**	**+1.8**
	baz=5.1						
QLP	**Quilpie**	**6.77**	**63**	P	**Pn**	**18 09 15.3**	**+3.3**
	baz=6.7,SNR=5.8						
AS31	**Alice Springs**	**6.92**	**332**		**Pn**	**18 09 17.0**	**+2.8**
ASAR	**Alice Springs**	**6.92**	**332**	Pn	**Pn**	**18 09 17.6**	**+3.5**
	3.9nm,0.3s,baz=153,slow=13,SNR=303						
ASAR				Pg	**Pg**	**18 09 44.7**	**-0.5**
	1.9nm,0.3s,baz=153,slow=16,SNR=12						
ASAR				Sn	**Sn**	**18 10 33.5**	**+0.5**
	5.9nm,0.3s,baz=156,slow=21,SNR=11						
ASAR				Lg	Lg	18 11 22.9	
	1.6nm,0.3s,baz=152,slow=24,SNR=6.0						
CMSA	**Cobar Meteorol**	**7.26**	**106**	P	**Pn**	**18 09 19.0**	**+0.2**
	baz=7.1						
ARPS	**Mount Arapiles**	**7.82**	**153**	P	**Pn**	**18 09 27.0**	**+0.6**
	baz=7.7,SNR=56						
FORT	**Forrest**	**8.21**	**261**	P	**Pn**	**18 09 33.8**	**+2.0**
	baz=8.3,SNR=22						
FORT				S	**Sn**	**18 11 04.8**	**+0.1**
	baz=8.3						
FORT	**Forrest**	**8.21**	**261**		**Pn**	**18 09 34.3**	**+2.5**
QIS	**Mount Isa**	**9.42**	**12**	P	**Pn**	**18 09 50.7**	**+2.2**
	baz=9.5,SNR=8.3						
WRKA	**Warakurna**	**9.46**	**298**	P	**Pn**	**18 09 51.8**	**+2.9**
	baz=9.6,SNR=6.2						
WRKA				S	**Sn**	**18 11 36.9**	**+1.4**
	baz=9.6						
WR0	**Warramunga Arr**	**10.18**	**344**		**Pn**	**18 10 00.9**	**+2.0**
TOO	**Toolangi**	**10.20**	**141**	P	**Pn**	**18 09 59.1**	**+0.1**
	baz=10,SNR=9.8						
TOO	**Toolangi**	**10.20**	**141**	Pn	**Pn**	**18 09 59.1**	**+0.1**
WB2	**Warramunga Arr**	**10.24**	**343**		**Pn**	**18 10 01.9**	**+2.2**
WRA	**Warramunga Arr**	**10.25**	**343**	Pn	**Pn**	**18 10 01.6**	**+1.9**
	2.3nm,0.3s,baz=162,slow=13,SNR=46						
WRA				Sn	**Sn**	**18 11 54.1**	**-0.6**
	1.9nm,0.3s,baz=161,slow=24,SNR=7.9						
WRA				Lg	Lg	18 13 01.8	
	baz=168,slow=24,SNR=2.1						
WB0	**Warramunga Arr**	**10.40**	**344**		**Pn**	**18 10 03.8**	**+1.9**
RMQ	**Roma**	**10.48**	**74**	P	**Pn**	**18 10 03.5**	**+0.5**
	baz=10,SNR=15						
CAN	**Canberra**	**11.14**	**122**	Pn	**Pn**	**18 10 11.4**	**-0.6**
CTA	**Charters Tower**	**12.53**	**41**	Pn	**Pn**	**18 10 31.4**	**+0.4**
	1.7nm,0.3s,baz=209,slow=14,SNR=6.6						
CTA				Sn	Sn	18 12 43.2	-7.4
	0.5nm,0.3s,baz=288,slow=20,SNR=1.6						
CTAO	**Charters Tower**	**12.53**	**41**	Pn	**Pn**	**18 10 30.8**	**-0.2**
MTSU	**Mount Surprise**	**13.20**	**30**	P	**Pn**	**18 10 40.4**	**+0.3**
	baz=13,SNR=5.5						
FITZ	**Fitzroy Crossi**	**15.91**	**315**	Pn	**Pn**	**18 11 16.9**	**+0.3**
	0.4nm,0.3s,baz=149,slow=11,SNR=16						
FITZ				Sn	**Sn**	**18 14 06.2**	**-6.9**
	0.4nm,0.3s,baz=78,slow=20,SNR=2.1						
FITZ	**Fitzroy Crossi**	**15.91**	**315**		**Pn**	**18 11 16.6**	**0.0**
KNRA	**Kununurra**	**16.21**	**328**	Pn	**Pn**	**18 11 16.3**	**-4.2**
KNRA				IAmb	IAmb	18 11 40.5	
	comp=Z,20nm,0.9s						
COEN	**Coen**	**16.64**	**20**	Pn	**Pn**	**18 11 24.8**	**-1.3**
COEN				IAmb	IAmb	18 11 48.6	
	comp=Z,11nm,1.2s						
NWAO	**Narrogin (SRO)**	**17.57**	**255**	P	**Pn**	**18 11 37.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=84,slow=10,SNR=1.4						
NWAO				S	**Sn**	**18 14 46.1**	**-7.3**
	comp=Z,0.8nm,0.3s,baz=1.3,slow=13,SNR=2.3

JWK2	**Keihoku**	**2.47**	**239**	P		**Pn**	**18 44 46.4**	**+1.7**
JWK2				*e*S		**S**	**18 45 33.7**	**+1.2**
JRA	**Rausu**	**2.68**	**177**	P		**Pn**	**18 44 48.4**	**+2.1**
JTKR	**Abashiri--Toko**	**2.74**	**195**	P		**Pn**	**18 44 48.7**	**+1.9**
JTKR				*e*S		**S**	**18 45 38.5**	**+2.3**
JRBN	**Rebuntou**	**2.93**	**247**	P		**Pn**	**18 44 48.6**	**+0.4**
JKA	**Kamikawa-asahi**	**2.98**	**214**			**Pn**	**18 44 50.5**	**+1.8**
JKA	**Kamikawa-asahi**	**2.98**	**214**	Pn		**Pn**	**18 44 50.2**	**+1.5**
ASAJ	**Asahikawa**	**2.99**	**214**	P		**Pn**	**18 44 50.5**	**+1.8**
	4.5nm,0.3s,baz=0.0,slow=9.1,SNR=59							
JKK2	**Kamakawa 2**	**3.14**	**210**	P		**Pn**	**18 44 51.8**	**+1.8**
JYG	**Yagishiri**	**3.29**	**229**	P		**Pn**	**18 44 52.4**	**+1.2**
NEM2	**Nemuro 2**	**3.31**	**169**	P		**Pn**	**18 44 51.4**	**0.0**
NEM2				*e*S		**S**	**18 45 42.6**	**-2.0**
JAR	**Ashorobuto**	**3.42**	**194**	P		**Pn**	**18 44 53.8**	**+1.4**
JAR				*e*S		**S**	**18 45 48.3**	**+1.8**
JAK	**Akkeshi**	**3.62**	**183**	P		**Pn**	**18 44 54.5**	**+0.3**
JAK				*e*S		**S**	**18 45 47.8**	**-2.0**
JFR	**Furan**	**3.83**	**206**	P		**Pn**	**18 44 57.8**	**+1.7**
JCH	**Churui**	**4.15**	**196**	P		**Pn**	**18 44 59.3**	**+0.1**
JEW	**Eniwo**	**4.51**	**214**	P		**Pn**	**18 45 04.2**	**+1.5**
JSK	**Shakotan**	**4.53**	**226**	P		**Pn**	**18 45 03.9**	**+1.0**
JNBK	**Urakawa-nobuka**	**4.60**	**200**	P		**Pn**	**18 45 03.6**	**0.0**
JNBK				*e*S		**S**	**18 46 04.9**	**-2.0**
ERM	**Erimo**	**4.77**	**196**			**Pn**	**18 45 05.8**	**+0.5**
JKB	**Kayabe**	**5.49**	**212**	P		**Pn**	**18 45 12.3**	**-0.4**
JKB				*e*S		**S**	**18 46 20.3**	**-3.3**
JOT	**Ohata**	**5.93**	**209**	P		**Pn**	**18 45 16.7**	**-0.8**
JOMM	**Oshimamatsumae**	**6.20**	**217**	P		**Pn**	**18 45 20.0**	**-0.4**
JANG	**Nango**	**6.71**	**203**	P		**Pn**	**18 45 25.8**	**-0.3**
JOM	**Ohasama**	**7.62**	**202**	P		**P**	**18 45 36.7**	**0.0**
JOM				*e*S		**S**	**18 47 04.5**	**-2.3**
JMK	**Ichinoseki**	**8.13**	**201**	P		**P**	**18 45 42.8**	**+0.4**
JYK	**Kaneyama**	**8.39**	**205**	P		**P**	**18 45 45.7**	**+0.4**
USRK	**Ussuriysk Ar.**	**9.41**	**260**	P		**Pn**	**18 45 57.2**	**+0.6**
	baz=68,slow=13,SNR=6.3							
MDJ	**Mudanjiang**	**10.92**	**265**	P		**Pn**	**18 46 14.4**	**+0.2**
MJB9	**Matsu-Tunnel**	**11.24**	**209**	P		**P**	**18 46 15.8**	**-1.2**
MAJO	**Matsushiro**	**11.24**	**209**	P		**P**	**18 46 15.9**	**-1.1**
MJAR	**Matsushiro Arr**	**11.24**	**209**	P		**Pn**	**18 46 19.5**	**+1.4**
	0.2nm,0.3s,baz=11,slow=11,SNR=11							
MA2	**Magadan**	**13.44**	**13**	P		**Pn**	**18 46 40.6**	**-2.5**
	0.7nm,0.3s,baz=194,slow=9.3,SNR=3.0							
MA2	**Magadan**	**13.44**	**13**	P		**Pn**	**18 46 40.5**	**-2.6**
KSRS	**Korea Array**	**15.57**	**240**	P		**P**	**18 47 05.7**	**+1.5**
	0.2nm,0.3s,baz=39,slow=9.6,SNR=8.4							
SONM	**Songino Array**	**26.01**	**287**	P		**P**	**18 48 45.3**	**+1.2**
	0.8nm,0.3s,baz=81,slow=9.9,SNR=4.6							
HKPS	**Hong Kong Po S**	**34.75**	**236**	P		**P**	**18 50 00.4**	**+0.2**
KDAK	**Kodiak Island**	**38.53**	**50**	P		**P**	**18 50 31.5**	**+0.3**
	4.7nm,0.8s,baz=277,slow=8.1,SNR=1.9							
KDAK	**Kodiak Island**	**38.53**	**50**	P		**P**	**18 50 31.4**	**+0.2**
CNPM	**China Poot**	**38.91**	**47**	P		**P**	**18 50 34.1**	**-0.2**
SML	**Sawmill**	**39.94**	**43**	P		**P**	**18 50 42.8**	**+0.2**
SML				IAmb		IAmb	18 52 01.9	
	comp=Z,12nm,1.4s							
IL31		**40.16**	**38**	P		**P**	**18 50 44.0**	**-0.2**
ILAR	**Eielson Array**	**40.16**	**38**	P		**P**	**18 50 44.5**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=279,slow=8.8,SNR=16							
DHY	**Denali Highway**	**40.18**	**41**	P		**P**	**18 50 44.4**	**-0.3**
HDA	**Harding Lake**	**40.18**	**39**	P		**P**	**18 50 43.8**	**-0.8**
HDA				IAmb		IAmb	18 50 58.4	
	comp=Z,12nm,1.8s							
SCM	**Sheep Creek Mo**	**40.40**	**43**	P		**P**	**18 50 47.5**	**+1.1**
SCM				IAmb		IAmb	18 52 27.1	
	comp=Z,29nm,1.8s							
FYU	**Fort Yukon**	**40.63**	**35**	P		**P**	**18 50 49.1**	**+1.0**
FYU				IAmb		IAmb	18 52 19.1	
	comp=Z,6.1nm,0.8s							
MKAR	**Makanchi Array**	**41.91**	**294**	P		**P**	**18 50 56.9**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=78,slow=8.7,SNR=9.2							
EGAK	**Eagle**	**42.58**	**37**	P		**P**	**18 51 03.1**	**-0.6**
EGAK				IAmb		IAmb	18 52 28.7	
	comp=Z,8.7nm,1.6s							
KURK	**Kurchatov**	**42.66**	**301**	P		**P**	**18 51 02.6**	**-1.9**
INK	**Inuvik**	**44.75**	**31**	P		**P**	**18 51 20.1**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=279,slow=6.5,SNR=8.2							
INK	**Inuvik**	**44.75**	**31**	P		**P**	**18 51 20.0**	**-0.6**
INK				IAmb		IAmb	18 52 33.8	
	comp=Z,11nm,1.7s							
CHTO	**Chiang Mai**	**46.68**	**249**	P		**P**	**18 51 36.8**	**+0.5**
C36M	**Paulatuk**	**47.70**	**29**	P		**P**	**18 51 42.8**	**-0.5**
RES	**Resolute Bay**	**52.68**	**17**	P		**P**	**18 52 19.4**	**-0.6**
RES				IAmb		IAmb	18 52 39.8	
	comp=Z,11nm,1.1s							
YKA	**Yellowknife Ar**	**54.31**	**34**	P		**P**	**18 52 31.9**	**0.0**
	comp=Z,0.4nm,0.5s,baz=304,slow=6.8,SNR=4.0							
FCC	**Fort Churchill**	**64.32**	**30**	P		**P**	**18 53 39.7**	**+0.2**
FCC				IAmb		IAmb	18 53 42.4	
	comp=Z,3.9nm,1.1s							
NVAR	**Mina Array Bea**	**67.39**	**58**	P		**P**	**18 54 02.4**	**+2.9**
	comp=Z,0.3nm,0.6s,baz=278,slow=8.1,SNR=3.3							

*IDC **09** 18:59:35.1±5.1,26.75N×142.92E,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.4/37,mbtmp3.5/4,ML2.8/1,Error ellipse: s-maj=206.7km s-min=27.4km az=75.0*
*NEIC **09** 18:59:41.0±0.8,26.3N±0.1×141.8E±0.1,h10km±2km, mb4.4/3,Error ellipse: s-maj=26.5km s-min=8.6km az=126.0*

ISC 09 18:59:41.2±1.2,26.3N±0.1×141.9E±0.3,h10km,n10, σ0s69/9,mb4.1/5,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**0.80**	**21**	Pn	**Pn**	**18 59 58.8**	**+0.1**
MJAR	**Matsushiro Arr**	**10.64**	**344**	Pn	Pn	19 02 06.2	-7.5
	0.1nm,0.3s,baz=159,slow=11,SNR=4.8						
MAJO	**Matsushiro**	**10.64**	**344**		**Pn**	**19 02 13.8**	**+0.1**
MJB9	**Matsu-Tunnel**	**10.64**	**344**		**Pn**	**19 02 14.1**	**+0.3**
WB0	**Warramunga Arr**	**46.40**	**190**	P	**P**	**19 08 07.2**	**-0.9**
WB0				IAmb	IAmb	19 08 08.7	
	comp=Z,5.9nm,1.1s						
WB2	**Warramunga Arr**	**46.58**	**190**	P	**P**	**19 08 09.4**	**-0.1**
WB2				IAmb	IAmb	19 08 27.3	
	comp=Z,3.8nm,1.1s						
WRA	**Warramunga Arr**	**46.58**	**190**	P	**P**	**19 08 09.2**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=11,slow=8.5,SNR=8.6						
FITZ	**Fitzroy Crossi**	**46.90**	**201**	P	**P**	**19 08 13.0**	**+1.0**
ASAR	**Alice Springs**	**50.31**	**190**	P	**P**	**19 08 37.6**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=4.4,slow=6.4,SNR=5.5						
MKAR	**Makanchi Array**	**50.74**	**310**	P	**P**	**19 08 40.7**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=97,slow=7.0,SNR=3.0						

*DRS **09** 19:05:45.8±0.0,40.76N×46.37E,h6km*
*TIF **09** 19:05:45.1,40.25N×46.23E,h16km±3km*
*TEH **09** 19:05:47.1,40.07N×46.51E,h10km, ML2.7*
*DDA **09** 19:05:47.6,40.35N×46.00E,h7km±5km, ML2.5*

ISC 09 19:05:46.1±1.5,40.30N±0.03×46.32E±0.04,h7km±13km, n26,σ0s94/49,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDFL	**Dedoflistskaro**	**1.15**	**352**	P	**Pn**	**19 06 09.3**	**+0.6**
DDFL				S	**Sn**	**19 06 24.5**	**-0.2**
DDFL	**Dedoflistskaro**	**1.15**	**352**	*i* P	**Pn**	**19 06 09.3**	**+0.6**
DDFL				*i* S	**Sb**	**19 06 23.5**	**0.0**
LGD	**Lagodekhi**	**1.53**	**358**	P	**Pn**	**19 06 13.9**	**+0.1**
LGD				S	**Sg**	**19 06 35.9**	**+0.6**
AKT	**Akhty**	**1.59**	**42**	*e*Pg	**Pn**	**19 06 14.7**	**0.0**
	28nm,0.2s						
AKT				*e*Sg	**Sb**	**19 06 36.4**	**+0.3**
	153nm,0.3s						
IMRD	**Marand**	**1.66**	**197**	*e*Pg	**Pn**	**19 06 15.8**	**+0.1**
IMRD				*e*Sg	**Sn**	**19 06 37.8**	**+0.5**
IMRD				*e*		19 06 43.9	
IGDI	**IGDIR**	**1.77**	**257**	*i* P	**Pn**	**19 06 17.2**	**0.0**
BTNK	**Botanikuri**	**1.80**	**321**	P	**Pn**	**19 06 17.7**	**+0.2**
BTNK				S	**Sb**	**19 06 41.9**	**-0.2**
BTNK	**Botanikuri**	**1.80**	**321**	*i* P	**Pn**	**19 06 17.6**	**+0.1**
BTNK				*i* S	**Sb**	**19 06 41.4**	**-0.7**
BTNK				IAML		19 06 43.0	
	comp=E,47nm,0.6s						
BTNK				IAML		19 06 44.0	
	comp=N,79nm,0.1s						
KZRT	**Kazreti**	**1.82**	**307**	P	**Pn**	**19 06 18.1**	**+0.3**
KZRT				S	**Sn**	**19 06 41.0**	**-0.1**
KZRT	**Kazreti**	**1.82**	**307**	*i* P	**Pn**	**19 06 16.4**	**-1.4**
KZRT				*i* S	**Sn**	**19 06 40.6**	**-0.5**
SEAG	**Tbilisi Sea**	**1.86**	**322**	P	**Pn**	**19 06 18.1**	**-0.2**
SEAG				S	**Sb**	**19 06 43.6**	**-0.2**
TBLG	**Delisi**	**1.86**	**320**	P	**Pn**	**19 06 18.5**	**+0.1**
TBLG				S	**Sb**	**19 06 43.3**	**-0.6**
TBLG	**Delisi**	**1.86**	**320**	*i* P	**Pn**	**19 06 18.1**	**-0.3**
TBLG				*i* S	**Sn**	**19 06 42.2**	**0.0**
KSMR	**Kasumkent**	**1.89**	**46**	*e*Pg	**Pg**	**19 06 22.0**	**-0.3**
KSMR				*e*Sg	**Sg**	**19 06 49.0**	**+2.3**
	comp=N,128nm,0.3s						
AHAR	**Ahar**	**1.90**	**162**	*e*Pg	**Pn**	**19 06 19.0**	**0.0**
AHAR				*e*		19 06 19.5	
KMKR	**Kumukh**	**1.92**	**18**	*e*Pg	**Pb**	**19 06 20.5**	**-1.0**
	comp=N,17nm,0.3s						
KMKR				*e*Sg	**Sg**	**19 06 47.0**	**-0.8**
	comp=N,87nm,0.4s						
IHRS	**Heris**	**2.06**	**164**	*e*Pg	**Pn**	**19 06 21.1**	**-0.2**
IHRS				*e*		19 06 23.0	
IHRS				*e*Sg	**Sn**	**19 06 47.7**	**+0.4**
ITBZ	**Tabriz**	**2.07**	**184**	*e*Pg	**Pn**	**19 06 22.4**	**+1.0**
ITBZ				*e*		19 06 23.9	
ITBZ				*e*Sg	**Sb**	**19 06 49.4**	**-0.7**
EAK	**Akyaka**	**2.10**	**281**	*i* P	**Pb**	**19 06 24.8**	**+0.1**
EAK				*i* S	**Sn**	**19 06 46.4**	**-2.0**
BGD	**Bogdanovka**	**2.28**	**296**	P	**Pn**	**19 06 25.8**	**+1.5**
BGD				S	**Sb**	**19 06 56.5**	**+0.4**
AKH	**Akhalkalaki**	**2.41**	**298**	P	**Pb**	**19 06 30.6**	**+0.6**
AKH				S	**Sb**	**19 07 01.6**	**+1.7**
GUDG	**Gudauri**	**2.57**	**328**	P	**Pn**	**19 06 28.7**	**+0.4**
BKRG	**Bakuriani**	**2.57**	**305**	P	**Pb**	**19 06 31.6**	**-0.9**
BKRG				S	**Sb**	**19 07 04.6**	**+0.2**
PNSH	**Pansheti**	**2.66**	**332**	P	**Pn**	**19 06 30.8**	**+1.3**
PNSH				S	**Sn**	**19 07 03.5**	**+1.4**
ONI	**Oni**	**3.14**	**318**	P	**Pb**	**19 06 40.6**	**-1.7**
ONI				S	**Sb**	**19 07 22.7**	**+1.9**
TKB	**Tkibuli**	**3.23**	**310**	P	**Pb**	**19 06 41.9**	**-2.0**
TKB				S	**Sb**	**19 07 24.5**	**+1.1**

TAP 09 19:08:28.8,24.41N×121.81E,h12km,ML1.3,1C,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.07**	**289**	⇑*i*P	Pg	19 08 31.8	+0.6
	baz=290						
ENA				*i* S	Sg	19 08 33.6	+0.6
	baz=290						
TWC	**Suao**	**0.21**	**9**	*i* P	Pb	19 08 34.0	-0.6
	baz=12						
TWC				*i* S	Sg	19 08 36.9	+0.6
	baz=12						
NACB	**Ninganchiao**	**0.30**	**221**	P	Pg	19 08 35.2	+0.2
	baz=220						
NACB				S	Sg	19 08 39.6	+0.5
	baz=220						
ENTT	**Nioudou**	**0.32**	**316**	*i* P	Pb	19 08 36.5	0.0
	baz=316						
ENTT				*i* S	Sb	19 08 41.0	-0.8
	baz=316						
NDT	**Datong Townshi**	**0.34**	**306**	P	Pb	19 08 36.7	0.0
	baz=305						
NDT				S	Sb	19 08 41.9	-0.3
	baz=305						
TWE	**Neicheng**	**0.34**	**337**	P	Pb	19 08 36.5	-0.4
	baz=339						
TWE				S	Sb	19 08 42.0	-0.3
	baz=339						
ETLH	**Xiulin Townshi**	**0.36**	**237**	*e*P	Pb	19 08 36.6	-0.6
	baz=236						
ETLH				S	Sb	19 08 42.8	-0.1
	baz=236						
NNSB	**Datong**	**0.39**	**273**	*e*P	Pb	19 08 37.5	-0.3
	baz=273						
NNSB				*e*S	Sb	19 08 43.2	-0.7
	baz=273						
NNSH	**Datong**	**0.39**	**273**	*e*P	Pb	19 08 37.6	-0.2
	baz=273						
NNSH				S	Sb	19 08 43.3	-0.6
	baz=273						
NNS	**Nan Shan**	**0.40**	**275**	P	Pb	19 08 38.2	+0.2
	baz=274						
NNS				S	Sb	19 08 44.1	0.0
	baz=274						
EGS		**0.45**	**14**	*e*P	Pb	19 08 38.9	+0.2
	baz=15						
EGS				*e*S	Sb	19 08 45.5	0.0
	baz=15						
YHNB	**Yeheng**	**0.48**	**304**	P	Pb	19 08 39.5	+0.3
	baz=303						
YHNB				S	Sb	19 08 46.2	0.0
	baz=303						
NSK	**Sanguang**	**0.49**	**303**	P	Pb	19 08 39.7	+0.2
	baz=303						
NSK				S	Sb	19 08 47.0	+0.2
	baz=303						
WHF	**Hehuan Shan**	**0.56**	**243**	P	Pb	19 08 40.5	-0.3
	baz=242						
WHF				S	Sb	19 08 48.6	-0.4
	baz=242						
TIPB	**Shuangxi**	**0.56**	**1**	*e*P	Pb	19 08 41.5	+0.8
	baz=1.0						
TIPB				*e*S	Sb	19 08 48.5	-0.3
	baz=1.0						

JMA 09 19:08:54.8±0.1,24.94N×123.39E,h22km,M1.1, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.59**	**216**	P	Pb	19 09 06.1	-0.4
JYNG	**Yonagunijimaku**	**0.63**	**220**	*e*S	Sb	19 09 15.5	-0.2
IRIF	**Iriomote-Funau**	**0.68**	**153**	P	Pb	19 09 07.6	-0.4
IRIF				*e*S	Sb	19 09 16.7	-0.2
JIJ	**Ishigaki jima**	**0.89**	**130**	P	Pb	19 09 11.4	-0.2
JIJ				S	Sb	19 09 22.1	-1.0
JKRS	**Kuro-shima**	**0.90**	**141**	P	Pb	19 09 11.4	-0.3
JKRS				S	Sb	19 09 23.2	0.0
JISG	**Ishigakijimahi**	**0.91**	**113**	P	Pb	19 09 11.4	-0.5
JISG				*e*S	Sb	19 09 23.5	0.0

IDC 09 19:15:28.4±412.0,58.38N×28.95E,h0km,Error ellipse: s-maj=190.8km s-min=31.8km az=161.0,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I37NO	**I37NO**	**11.65**	**341**	*i*		20 26 10.0	
	baz=152,slow=324,SNR=0.6						
I26DE	**FREYUNG INFRAS**	**13.11**	**230**	*i*		20 34 10.0	
	baz=40,slow=312,SNR=1.6						
I48TN	**KESRA INFRASON**	**26.05**	**218**	*i*		21 56 50.0	
	baz=24,slow=323,SNR=0.5						

*NEIC **09** 19:39:29.7±2.5,41.10N±0.03×112.81W±0.03,h0km±2km, Error ellipse: s-maj=5.8km s-min=3.1km az=145.0*
*IDC **09** 19:39:30.1±1.2,41.11N×112.74W,h0km,mb1 2.7/2, mb1mx2.6/29,mbtmp2.2/2,ML2.7/2,Error ellipse: s-maj=62.6km s-min=7.5km az=147.0*

ISC 09 19:39:29.9±0.9,41.05N±0.04×112.80W±0.04,h0km,n19, σ1s18/20,Utah

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BGU	**Big Grassy Mou**	**0.22**	**234**	Pg	**Pg**	**19 39 33.5**	**-0.6**
SPUT	**South Promonto**	**0.37**	**46**		**Pg**	**19 39 36.4**	**-0.5**
HVU	**Hansel Valley**	**0.73**	**1**	Pg	**Pg**	**19 39 41.9**	**-1.9**
DUG	**Dugway, Tooele**	**0.86**	**181**		**Pb**	**19 39 47.0**	**-0.8**
CTU	**Camp Tracy**	**0.87**	**114**		**Pb**	**19 39 47.9**	**-0.1**
HWUT	**Hardware Ranch**	**1.08**	**59**	Pg	**Pg**	**19 39 50.0**	**-0.6**
ELK	**Elko**	**1.88**	**261**		**Pn**	**19 40 01.1**	**-1.7**
TMUT	**Trail Mountain**	**2.14**	**145**	Pn	**Pn**	**19 40 06.7**	**-0.4**
MSU	**Marysvale**	**2.58**	**169**	Pn	**Pn**	**19 40 13.3**	**+0.1**
SRU	**San Rafael Swe**	**2.61**	**137**		**Pn**	**19 40 13.5**	**0.0**
PSUT	**Pine Spring**	**2.65**	**198**	Pn	**Pn**	**19 40 13.4**	**-0.6**
REDW	**Red Top Meadow**	**2.72**	**31**	Pn	**Pn**	**19 40 15.9**	**+0.8**
BW06	**Boulder Array**	**2.96**	**54**		**Pn**	**19 40 18.9**	**+0.5**
PDAR	**Pinedale Array**	**2.96**	**54**	Pn	**Pn**	**19 40 19.0**	**+0.6**
	0.2nm,0.3s,baz=209,slow=11,SNR=2.4						
PDAR				Pg	**Pb**	**19 40 23.4**	**-0.3**
	1.4nm,0.3s,baz=227,slow=14,SNR=13						
PDAR				Lg	Lg	19 41 02.1	
	1.0nm,0.3s,baz=229,slow=26,SNR=4.5						
MFID	**Camas Ranch**	**3.26**	**317**		**Pn**	**19 40 23.2**	**+0.8**
MCMT	**McKenzie Canyo**	**3.77**	**359**		**Pn**	**19 40 30.6**	**+1.0**
NVAR	**Mina Array Bea**	**4.99**	**240**	Pn	**Pn**	**19 40 46.8**	**+0.6**
	0.1nm,0.3s,baz=59,slow=13,SNR=2.2						
NVAR				Sn	**Sn**	**19 41 48.1**	**+3.4**
	0.3nm,0.3s,baz=56,slow=24,SNR=3.7						
NVAR				Lg	Lg	19 42 07.6	
	0.3nm,0.3s,baz=64,slow=35,SNR=2.2						
GSC	**Goldstone, Bar**	**6.55**	**210**	Pn	**Pn**	**19 41 06.9**	**-0.7**
I56US	**NEWPORT INFRAS**	**7.84**	**338**	*i*		20 23 30.0	
	baz=158,slow=318,SNR=3.0						

*SOME **09** 20:03:12.9,39.85N×74.48E,h5km*
*IDC **09** 20:03:13.3±2.9,39.86N×73.75E,h0km,mb3.6/6, mb1 3.7/7,mb1mx3.4/52,mbtmp3.6/7,ML2.8/2,Error ellipse: s-maj=56.0km s-min=19.4km az=142.0*
*KRNET **09** 20:03:13.0±0.1,39.73N×74.55E,mb3.6*
*NNC **09** 20:03:15.6±1.6,39.95N×74.51E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=12.8km s-min=8.1km az=163.0*

ISC 09 20:03:11.8±1.6,39.86N±0.05×74.48E±0.03,h1km±10km, n73,σ1s80/107,mb3.6/6,30C-14D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**1.85**	**323**	⇑*i*P	**Pg**	**20 03 48.9**	**+1.5**
	baz=23						
ARSB				⇑*i*S	**Sg**	**20 04 14.9**	**+3.4**
	baz=23						
KZA	**Kyzart**	**2.29**	**15**	⇑*i*P	**Pb**	**20 03 54.5**	**+0.2**
	baz=12						
KZA				⇑*i*S	**Sb**	**20 04 25.1**	**+1.8**
	baz=12						
KZA	**Kyzart**	**2.29**	**15**	P	**Pb**	**20 03 54.7**	**+0.4**
	SNR=9.7						
AML	**Almayashu**	**2.35**	**346**	⇑*i*P	**Pb**	**20 03 55.8**	**+0.6**
	baz=45						
AML				⇑*i*S	**Sg**	**20 04 27.0**	**-0.3**
	baz=45						
AML	**Almayashu**	**2.35**	**346**	P	**Pb**	**20 03 56.1**	**+1.0**
	SNR=54						
UCH	**Uchtor**	**2.37**	**1**	⇑*i*P	**Pb**	**20 03 56.0**	**+0.4**
	baz=59						
UCH				⇑*i*S	**Sg**	**20 04 27.5**	**-0.4**
	baz=59						
UCH	**Uchtor**	**2.37**	**1**	P	**Pb**	**20 03 56.7**	**+1.2**
	SNR=93						
ARK	**Arkit**	**2.72**	**316**	⇓*i*P	**Pb**	**20 04 00.3**	**-1.1**
	baz=17						
ARK				⇓*i*S	**Sb**	**20 04 35.1**	**-0.2**
	baz=17						
ULHL	**Ulahol**	**2.73**	**29**	⇑*i*P	**Pb**	**20 04 00.6**	**-1.1**
	baz=26						
ULHL				⇑*i*S	**Sb**	**20 04 34.9**	**-0.8**
	baz=26						
ULHL	**Ulahol**	**2.73**	**29**	P	**Pb**	**20 04 00.2**	**-1.4**
	SNR=8.9						
AAK	**Ala-Archa**	**2.78**	**0**	Pn	**Pb**	**20 04 02.7**	**+0.3**
	5.3nm,0.3s,baz=167,slow=9.1,SNR=65						
AAK				Lg	Lg	20 04 40.1	
	5.7nm,0.3s,baz=342,slow=18,SNR=9.9						
AAK	**Ala-Archa**	**2.78**	**0**	⇑*i*P	**Pb**	**20 04 01.5**	**-0.9**
	baz=59						
AAK				⇑*i*S	**Sb**	**20 04 36.8**	**-0.2**
	baz=59						
AAK	**Ala-Archa**	**2.78**	**0**	P	**Pb**	**20 04 02.9**	**+0.5**
	SNR=34						
AAK	**Ala-Archa**	**2.78**	**0**	⇑Pn	**Pb**	**20 04 02.5**	**+0.2**
	18nm,0.6s						
AAK				⇓Lg	Lg	20 04 44.6	
	36nm,0.5s						
KBK	**Karagaybulak**	**2.82**	**7**	⇑*i*P	**Pb**	**20 04 01.9**	**-1.2**
	baz=6.0						
KBK				⇑*i*S	**Sb**	**20 04 37.4**	**-0.8**
	baz=6.0						
KBK	**Karagaybulak**	**2.82**	**7**	P	**Pb**	**20 04 03.4**	**+0.3**
	SNR=9.5						
BTK	**Batken**	**2.82**	**275**	⇑*i*P	**Pb**	**20 04 01.3**	**-1.8**
	baz=78						
BTK				⇑*i*S	**Sb**	**20 04 36.5**	**-1.6**
	baz=78						
EKS2	**Erkin-Say**	**2.85**	**350**	⇓*i*P	**Pb**	**20 04 02.4**	**-1.2**
	baz=49						
EKS2				⇓*i*S	**Sb**	**20 04 38.6**	**-0.4**
	baz=49						
EKS2	**Erkin-Say**	**2.85**	**350**	P	**Pb**	**20 04 03.4**	**-0.2**
	SNR=20						
BOOM	**Boomskoye usch**	**2.85**	**22**	⇓*e*P	**Pb**	**20 04 01.9**	**-1.8**
	baz=20						
BOOM				⇓*i*S	**Sb**	**20 04 38.0**	**-1.1**
	baz=20						
FRU1	**Bishkek**	**2.95**	**2**	⇑*e*P	**Pb**	**20 04 03.8**	**-1.5**
	baz=1.0						
FRU1				⇑*e*S	**Sb**	**20 04 40.4**	**-1.5**
	baz=1.0						
MRKS	**Merke**	**3.03**	**342**	*e*P	**Pb**	**20 04 08.0**	**+1.3**
	19nm,0.4s						
MRKS				*e*S	**Sb**	**20 04 46.9**	**+2.6**
	23nm,0.4s						
MRKS	**Merke**	**3.03**	**342**	Pg	**Pb**	**20 04 07.6**	**+0.9**
	19nm,0.4s						
MRKS				Lg	Lg	20 04 45.8	
	30nm,0.5s						
KDJ	**Kajisay**	**3.06**	**41**	⇑*e*P	**Pn**	**20 04 04.3**	**+2.8**
	baz=39						
KDJ				⇑*i*S	**Sb**	**20 04 42.1**	**-2.9**
	baz=39						
TARG	**Taragay, Kyrgy**	**3.14**	**52**	⇓*i*P	**Pn**	**20 04 05.2**	**+2

TNSS					Lg	Lg	20 05 11.3		
	24nm,0.6s								
AAA	**Alma-Ata**	**3.81**	**28**	*eP*	**Pg**		**20 04 24.0**	**-1.0**	
	20nm,0.3s								
AAA				*eS*	**Sg**		**20 05 14.5**	**+0.1**	
	18nm,0.4s								
MDOK	**Medeo**	**3.83**	**29**	*eP*	**Pg**		**20 04 23.9**	**-1.2**	
	12nm,0.6s								
MDOK				*eS*	**Sg**		**20 05 14.8**	**+0.1**	
	25nm,0.6s								
MDOK	**Medeo**	**3.83**	**29**	‖Pg	**Pb**		**20 04 23.4**	**+3.2**	
	11nm,0.6s								
MDOK				Lg	Lg		20 05 14.4		
	28nm,0.7s								
MDOK	**Medeo**	**3.83**	**29**	Pg	**Pg**		**20 04 23.9**	**-1.2**	
	12nm,0.6s								
MDOK				Lg	Lg		20 05 14.8		
	25nm,0.6s								
KOTS	**Kotyrbulak**	**3.91**	**30**	*eP*	**Pg**		**20 04 26.0**	**-0.8**	
	39nm,0.6s								
KOTS				*eS*	**Sg**		**20 05 18.8**	**+1.4**	
	133nm,0.6s								
KOTS	**Kotyrbulak**	**3.91**	**30**	Pg	**Pg**		**20 04 26.0**	**-0.8**	
	39nm,0.6s								
KOTS				Lg	Lg		20 05 18.8		
	133nm,0.6s								
KRBS	**Karabastau**	**3.94**	**13**	*eP*	**Pg**		**20 04 26.8**	**-0.5**	
	16nm,0.4s								
KRBS				*eS*	**Sg**		**20 05 19.4**	**+1.1**	
	29nm,0.6s								
KRBS	**Karabastau**	**3.94**	**13**	Pg	**Pg**		**20 04 26.8**	**-0.5**	
	16nm,0.4s								
KRBS				Lg	Lg		20 05 19.6		
	29nm,0.6s								
IUG	**Iuzhnay**	**4.07**	**306**	*eP*	**Pb**		**20 04 27.3**	**+3.0**	
	2.3nm,0.3s								
IUG				*eS*	**Sg**		**20 05 20.4**	**-2.1**	
	78nm,0.6s								
IUG	**Iuzhnay**	**4.07**	**306**	Pg	**Pb**		**20 04 27.3**	**+3.0**	
	1.9nm,0.4s								
IUG				Lg	Lg		20 05 20.9		
	79nm,0.5s								
KTBS	**Karatobe**	**4.19**	**22**	*eP*	**Pg**		**20 04 30.9**	**-1.1**	
	7.4nm,0.3s								
KTBS				*eS*	**Sg**		**20 05 27.1**	**+0.7**	
	47nm,0.5s								
KTBS	**Karatobe**	**4.19**	**22**	Pg	**Pg**		**20 04 31.0**	**-1.1**	
	7.4nm,0.3s								
KTBS				Lg	Lg		20 05 27.0		
	47nm,0.5s								
KUU	**Kurty**	**4.26**	**18**	*eP*	**Pg**		**20 04 31.9**	**-1.7**	
	8.1nm,0.4s								
KUU				*eS*	**Sg**		**20 05 28.1**	**-0.7**	
	25nm,0.5s								
KUU	**Kurty**	**4.26**	**18**	Pg	**Pg**		**20 04 31.9**	**-1.7**	
	8.1nm,0.4s								
KUU				Lg	Lg		20 05 28.1		
	25nm,0.5s								
SATY	**Saty**	**4.35**	**41**	*eP*	**Pb**		**20 04 32.6**	**+3.4**	
	6.9nm,0.7s								
SATY				*eS*	**Sg**		**20 05 29.0**	**-2.7**	
	21nm,1.1s								
SATY	**Saty**	**4.35**	**41**	Pg	**Pb**		**20 04 32.6**	**+3.4**	
	6.9nm,0.7s								
SATY				Lg	Lg		20 05 29.0		
	21nm,1.1s								
KK31	**Karatay Array**	**4.40**	**319**	Pn	**Pn**		**20 04 23.0**	**+3.2**	
	1.3nm,0.3s,baz=126,slow=14,SNR=29								
KK31				‖Pg	**Pg**		**20 04 35.0**	**-1.3**	
	1.5nm,0.3s,baz=127,slow=14,SNR=5.3								
KK31				‖Sn	**Sn**		**20 05 16.5**	**+4.7**	
	4.5nm,0.5s,baz=89,slow=13,SNR=4.2								
KK31				‖Lg	Lg		20 05 36.8		
	6.8nm,0.5s,baz=137,slow=27,SNR=6.5								
SHLS	**Shalkode**	**4.99**	**47**	*eP*	**Pg**		**20 04 47.5**	**+0.1**	
	5.9nm,0.5s								
SHLS				*eS*	**Sg**		**20 05 55.2**	**+3.2**	
	17nm,0.8s								
SHLS	**Shalkode**	**4.99**	**47**	Pg	**Pg**		**20 04 47.5**	**+0.1**	
	6.8nm,0.5s								
SHLS				Lg	Lg		20 05 54.4		
	11nm,0.5s								
ARXS	**Arharly**	**5.01**	**29**	*eP*	**Pg**		**20 04 45.5**	**-2.4**	
	13nm,0.5s								
ARXS				*eS*	**Sg**		**20 05 51.3**	**-1.6**	
	17nm,0.8s								
PDGK	**Podgornoye**	**5.11**	**46**	Pg	**Pb**		**20 04 45.1**	**+3.0**	
	2.1nm,0.6s								
PDGK				Lg	Lg		20 05 50.5		
	8.4nm,0.8s								
BTLS	**Baital**	**5.19**	**357**	*eP*	**Pg**		**20 04 49.5**	**-1.7**	
	1.9nm,0.4s								
BTLS				*eS*	**Sg**		**20 05 58.8**	**+0.3**	
	7.9nm,0.6s								
MKAR	**Makanchi Array**	**8.97**	**37**	Pn	Pn		20 05 30.8	+8.4	
	0.0nm,0.3s,baz=251,slow=9.0,SNR=1.9								
MKAR				Lg	Lg		20 08 02.5		
	0.1nm,0.3s,baz=218,slow=28,SNR=3.7								
KURBB	**Kurchatov Arra**	**11.13**	**13**	Lg	Lg		20 09 05.1		
	0.0nm,0.3s,baz=192,slow=29,SNR=4.1								
AKTO	**Aktyubinsk**	**15.67**	**318**	Pn	**Pn**		**20 06 53.4**	**-0.4**	
	0.1nm,0.3s,baz=119,slow=15,SNR=1.6								
FINES	**FINESS Array B**	**36.35**	**323**	P	**P**		**20 10 16.3**	**-0.7**	
	0.4nm,0.3s,baz=116,slow=8.7,SNR=5.1								
ARCES	**ARCESS Array B**	**39.17**	**335**	P	**P**		**20 10 40.3**	**-0.5**	
	0.8nm,0.5s,baz=110,slow=8.8,SNR=10								
HFS	**Hagfors**	**42.21**	**319**	P	**P**		**20 11 04.9**	**-1.1**	
	0.7nm,0.4s,baz=97,slow=12,SNR=5.6								
GERES	**GERESS Array B**	**43.32**	**303**	P	**P**		**20 11 14.4**	**-0.9**	
	0.2nm,0.5s,baz=67,slow=7.6,SNR=3.9								
NB2	**NORSAR Subarra**	**43.43**	**321**	P	**P**		**20 11 14.6**	**-1.4**	
	comp=Z,0.3nm,0.4s,baz=90,slow=7.9								
NOA	**NORSAR Array B**	**43.43**	**321**	P	**P**		**20 11 14.7**	**-1.3**	
	comp=Z,0.2nm,0.4s,baz=90,slow=8.0,SNR=3.4								
TORD	**Torodi Ar. Bea**	**68.52**	**269**	P	**P**		**20 14 12.8**	**-3.5**	
	comp=Z,0.4nm,0.6s,baz=49,slow=5.9,SNR=4.1								

*ISK **09** 20:06:27.0, 34˚.50N×27˚.52E, h12km, ML3.3/29*
*HLW **09** 20:06:30.4, 34˚.63N×27˚.62E, h32km±26km, Md3.7, Ml3.7*
*NIC **09** 20:06:30.6±0.0, 34˚.46N×27˚.41E, h36km±36km, Ml2.9/2*
*THE **09** 20:06:32.8, 34˚.63N×27˚.39E, h72km±11km, ML2.9/1, Error ellipse: s-maj=12.1km s-min=1.6km az=332.0*
*ATH **09** 20:06:32.5, 34˚.84N×27˚.28E, h83km±3km, ML2.8/11, Error ellipse: s-maj=4.1km s-min=1.8km az=136.0*
*IDC **09** 20:06:35.0±2.8, 34˚.86N×27˚.19E, h66km±24km, mb3.5/9, mb1 3.5/12, mb1mx3.2/44, mbtmp3.6/12, MS2.5/1, Ms1 2.6/1, ms1mx1.9/30, Error ellipse: s-maj=31.6km s-min=16.7km az=162.0*
*DDA **09** 20:06:34.2, 35˚.04N×27˚.56E, h9km±2km, MW3.3*
*GII **09** 20:06:35.8±0.0, 34˚.33N×27˚.92E, h20km, MD2.8/2*

ISC 09 20:06:31.1±1.0,**34˚.59N**±0˚.04×**27˚.49E**±0˚.03,**h44**km±13km, **n146,** σ1°**44**/171,**mb3.7**/9,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.99**	**345**	P		**Pn**	**20 06 49.4**	**+0.7**
KARP				S		**Sn**	**20 07 03.0**	**+1.5**
	620nm,0.5s							
KARP	**Karpathos**	**0.99**	**345**	P		**Pn**	**20 06 49.3**	**+0.7**
KARP				AML		AML	20 07 08.8	
	comp=E,1490μm,0.5s							
KARP				AML		AML	20 07 21.9	
	comp=N,1109μm,0.9s							
KARP	**Karpathos**	**0.99**	**345**	PN		**Pn**	**20 06 48.9**	**+0.3**
KARP				SN		**Sn**	**20 07 03.5**	**+2.0**
KARP	**Karpathos**	**0.99**	**345**	P		**Pn**	**20 06 49.3**	**+0.7**
KARP				S		**Sn**	**20 07 04.1**	**+2.6**
KARP				AML		AML	20 07 06.3	
	comp=N,1.1nm,0.4s							
KARP				AML		AML	20 07 06.3	
	comp=N,1.1nm,0.4s							
KARP				AML		AML	20 07 08.4	
	comp=N,1.5nm,0.5s							
KARP				AML		AML	20 07 08.4	
	comp=N,1.5nm,0.5s							
ZKR	**Zakros**	**1.17**	**297**	P		**Pn**	**20 06 50.9**	**-0.1**
ZKR	**Zakros**	**1.17**	**297**	P		**Pn**	**20 06 50.8**	**-0.1**
ZKR				AML		AML	20 07 20.1	
	comp=E,821μm,0.6s							
ZKR				AML		AML	20 07 20.5	
	comp=N,499μm,0.6s							
ZKR	**Zakros**	**1.17**	**297**	PN		**Pn**	**20 06 50.5**	**-0.5**
ZKR	**Zakros**	**1.17**	**297**	P		**Pn**	**20 06 50.7**	**-0.3**
ZKR				S		**Sn**	**20 07 06.2**	**+0.5**
ZKR				AML		AML	20 07 19.7	
	comp=N,0.8nm,0.6s							
ZKR				AML		AML	20 07 19.7	
	comp=N,0.8nm,0.6s							
ZKR				AML		AML	20 07 20.1	
	comp=N,0.5nm,0.6s							
ZKR				AML		AML	20 07 20.1	
	comp=N,0.5nm,0.6s							
STIA	**Sitia Lasithi**	**1.30**	**298**	P		**Pn**	**20 06 53.0**	**+0.2**
NPS	**Neapolis**	**1.68**	**294**	P		**Pn**	**20 06 58.7**	**+0.7**
NPS	**Neapolis**	**1.68**	**294**	P		**Pn**	**20 06 58.6**	**+0.6**
NPS				AML		AML	20 07 35.2	
	comp=E,537μm,0.6s							
NPS				AML		AML	20 07 38.6	
	comp=N,344μm,0.6s							
ARG	**Arkhangelos**	**1.71**	**18**	P		**Pn**	**20 07 00.1**	**+1.8**
ARG	**Arkhangelos**	**1.71**	**18**	P		**Pn**	**20 06 60.0**	**+1.6**
ARG				AML		AML	20 07 41.9	
	comp=N,378μm,1.1s							
ARG				AML		AML	20 07 45.6	
	comp=E,354μm,0.5s							
ARG	**Arkhangelos**	**1.71**	**18**	PN		**Pn**	**20 06 58.7**	**+0.4**
ARG	**Arkhangelos**	**1.71**	**18**	P		**Pn**	**20 06 59.9**	**+1.6**
LAST	**Lasithi**	**1.75**	**290**	P		**Pn**	**20 06 59.3**	**+0.4**
LAST	**Lasithi**	**1.75**	**290**	P		**Pn**	**20 06 59.3**	**+0.4**
LAST				AML		AML	20 07 26.2	
	comp=N,241μm,0.6s							
LAST				AML		AML	20 07 50.4	
	comp=E,293μm,1.1s							
NISR	**Nisiros**	**2.04**	**352**	P		**Pn**	**20 07 01.9**	**-1.0**
DAT	**Datca**	**2.14**	**2**	P		**Pn**	**20 07 04.5**	**+0.1**
DAT	**Datca**	**2.14**	**2**	PN		**Pn**	**20 07 04.7**	**+0.3**
DAT	**Datca**	**2.14**	**2**	*i* P		**Pn**	**20 07 03.3**	**-1.1**
SIVA	**Sivas**	**2.24**	**282**	P		**Pn**	**20 07 05.8**	**+0.1**
SIVA	**Sivas**	**2.24**	**282**	P		**Pn**	**20 07 06.8**	**+1.1**
SIVA				AML		AML	20 08 01.1	
	comp=N,272μm,0.7s							
SIVA				AML		AML	20 08 01.7	
	comp=E,388μm,0.8s							
IDI	**Anoyia**	**2.24**	**289**	P		**Pn**	**20 07 06.5**	**+0.7**
IDI	**Anoyia**	**2.24**	**289**	P		**Pn**	**20 07 06.3**	**+0.5**
	comp=E,3.3nm,0.3s,baz=343,slow=14,SNR=42							
IDI				LR		LR	20 08 19.1	
	comp=E,57nm,21.9s,baz=91,slow=54							
IDI	**Anoyia**	**2.24**	**289**	P		**Pn**	**20 07 06.3**	**+0.5**
IDI				AML		AML	20 07 39.9	
	comp=E,104μm,0.5s							
IDI				AML		AML	20 07 44.2	
	comp=N,107μm,0.6s							
IDI	**Anoyia**	**2.24**	**289**	PN		**Pn**	**20 07 06.5**	**+0.7**
ANAF	**Anafi Island**	**2.25**	**322**	P		**Pn**	**20 07 05.3**	**-0.6**
ANAF	**Anafi Island**	**2.25**	**322**	P		**Pn**	**20 07 05.2**	**-0.6**
ANAF				AML		AML	20 07 30.6	
	comp=N,1069μm,0.4s							
ANAF				AML		AML	20 07 35.4	
	comp=E,738μm,0.4s							
AKAS	**Kas**	**2.38**	**46**	PN		**Pn**	**20 07 07.9**	**+0.1**
AKAS	**Kas**	**2.38**	**46**	*i* P		**Pn**	**20 07 08.9**	**+1.1**
AKAS				*i* S		**Sn**	**20 07 36.0**	**+0.1**
AKAS				IAML			20 07 39.0	
	comp=E,36nm,0.3s							
AKAS				IAML			20 07 41.0	
	comp=N,54nm,0.4s							
DALY	**Dalyan (Mula)**	**2.42**	**23**	PN		**Pn**	**20 07 08.8**	**+0.7**
DALY	**Dalyan (Mula)**	**2.42**	**23**	*i* P		**Pn**	**20 07 09.1**	**+1.0**
FETY	**Fethiye**	**2.42**	**32**	P		**Pn**	**20 07 09.0**	**+0.8**
FETY	**Fethiye**	**2.42**	**32**	PN		**Pn**	**20 07 08.7**	**+0.5**
FETY	**Fethiye**	**2.42**	**32**	*i* P		**Pn**	**20 07 08.8**	**+0.5**
SANT	**Santorini**	**2.43**	**318**	P		**Pn**	**20 07 07.6**	**-0.7**
THR6	**Thira Island,**	**2.45**	**317**	P		**Pn**	**20 07 07.9**	**-0.7**
TURN	**Turunc**	**2.45**	**21**	PN		**Pn**	**20 07 06.6**	**-2.0**
TURN	**Turunc**	**2.45**	**21**	*i* P		**Pn**	**20 07 06.5**	**-2.0**
BODT	**Bodrum**	**2.47**	**357**	PN		**Pn**	**20 07 09.8**	**+0.9**
STAX	**Taxiarchis Har**	**2.48**	**317**	P		**Pn**	**20 07 08.3**	**-0.6**
THR5	**Thira Island,**	**2.52**	**317**	P		**Pn**	**20 07 08.9**	**-0.7**
THR5	**Thira Island,**	**2.52**	**317**	P		**Pn**	**20 07 07.9**	**-1.6**
AMGA	**Amorgos Island**	**2.58**	**330**	P		**Pn**	**20 07 09.5**	**-0.9**
AMGA	**Amorgos Island**	**2.58**	**330**	P		**Pn**	**20 07 09.3**	**-1.1**
YER	**Yerkesik**	**2.62**	**14**	PN		**Pn**	**20 07 11.7**	**+0.7**
IOSP	**Ios island**	**2.78**	**321**	P		**Pn**	**20 07 12.2**	**-0.9**
IOSP				S		**Sn**	**20 07 41.2**	**-4.2**
IOSP				AML		AML	20 07 42.8	
	comp=N,328μm,0.6s							
IOSP				AML		AML	20 07 43.7	
	comp=E,148μm,0.4s							
GVD	**Gavdhos**	**2.81**	**276**	P		**Pn**	**20 07 14.0**	**+0.5**
GVD	**Gavdhos**	**2.81**	**276**	P		**Pn**	**20 07 13.9**	**+0.5**
GVD				S		**Sn**	**20 07 45.1**	**-1.1**
GVD				AML		AML	20 07 50.9	
	comp=E,169μm,0.4s							
GVD				AML		AML	20 07 58.4	
	comp=N,143μm,0.4s							
GVD	**Gavdhos**	**2.81**	**276**	PN		**Pn**	**20 07 14.1**	**+0.5**
VAM	**Vamos**	**2.82**	**288**	P		**Pn**	**20 07 14.7**	**+1.1**
VAM	**Vamos**	**2.82**	**288**	P		**Pn**	**20 07 14.6**	**+1.0**
AKUM	**Antalya-Kumluc**	**2.90**	**53**	*i* P		**Pn**	**20 07 16.0**	**+1.2**
AKUM				*i* S		**Sn**	**20 07 48.1**	**-0.3**
AKUM				IAML			20 07 55.0	
	comp=E,25nm,0.5s							
ELL	**Elmali**	**2.92**	**42**	PN		**Pn**	**20 07 15.6**	**+0.5**
ELL	**Elmali**	**2.92**	**42**	P		**Pn**	**20 07 17.7**	**+2.6**
APE	**Apeiranthos**	**2.94**	**328**	P		**Pn**	**20 07 14.4**	**-0.9**
APE				S		**Sn**	**20 07 46.1**	**-3.4**
APE				AML		AML	20 07 47.2	
	comp=E,215μm,0.6s							
APE				AML		AML	20 07 47.4	
	comp=N,146μm,0.5s							
APE	**Apeiranthos**	**2.94**	**328**	PN		**Pn**	**20 07 15.4**	**+0.1**
IMMV	**Iera Moni Meta**	**3.00**	**288**	P		**Pn**	**20 07 16.9**	**+0.7**
IMMV	**Iera Moni Meta**	**3.00**	**288**	P		**Pn**	**20 07 16.4**	**+0.3**
IMMV	**Iera Moni Meta**	**3.00**	**288**	PN		**Pn**	**20 07 16.5**	**+0.3**
TAVA	**DENIZLI_Tavas**	**3.10**	**22**	*i* P		**Pn**	**20 07 17.7**	**+0.2**
GCAM	**G?zelcaml?**	**3.11**	**356**	PN		**Pn**	**20 07 18.9**	**+1.3**
GCAM	**G?zelcaml?**	**3.11**	**356**	*i* P		**Pn**	**20 07 17.3**	**-0.3**
SMG	**Samos**	**3.16**	**351**	P		**Pn**	**20 07 18.1**	**-0.2**
KNDR	**Palaiochora Ch**	**3.19**	**283**	PN		**Pn**	**20 07 19.8**	**+1.1**
RODP	**Rodopos**	**3.21**	**289**	PN		**Pn**	**20 07 19.5**	**+0.5**
MATC	**Matruh**	**3.24**	**184**	P		**Pn**	**20 07 20.7**	**+1.3**
	baz=186							
MHLO	**Agia Marina, M**	**3.27**	**311**	P		**Pn**	**20 07 19.8**	**0.0**
OSC1	**CSNet OBS 1**	**3.33**	**108**	P		**Pn**	**20 07 20.8**	**+0.2**
OSC1				S		**Sn**	**20 07 40.1**	**+0.9**
KORT	**Korkueli**	**3.35**	**43**	PN		**Pn**	**20 07 21.7**	**+0.7**
KORT	**Korkueli**	**3.35**	**43**	*i* P		**Pn**	**20 07 21.8**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**3.37**	**5**	PN		**Pn**	**20 07 22.7**	**+1.4**
ANTB	**Antalya**	**3.46**	**47**	PN		**Pn**	**20 07 22.8**	**+0.4**
SERI	**Serifos**	**3.54**	**317**	P		**Pn**	**20 07 23.0**	**-0.5**
SLUM	**Salum**	**3.63**	**212**	P		**Pn**	**20 07 25.7**	**+0.9**
	baz=214							
SLUM				AMP			20 08 00.0	
	baz=214							
ANKY	**Antikythira Is**	**3.65**	**292**	P		**Pn**	**20 07 24.8**	**-0.3**
ANKY	**Antikythira Is**	**3.65**	**292**	P		**Pn**	**20 07 24.5**	**-0.6**
BRDR	**BURDUR-Merkez**	**3.74**	**33**	*i* P		**Pn**	**20 07 27.1**	**+0.8**
KTHA	**Kythira Island**	**3.98**	**296**	P		**Pn**	**20 07 28.2**	**-1.3**
MANT	**Manisa**	**3.99**	**12**	*i* P		**Pn**	**20 07 28.7**	**-1.2**
AKMS	**Akmas**	**4.01**	**83**	P		**Pn**	**20 07 30.9**	**+0.9**
KULA	**Kula-Manisa**	**4.03**	**13**	PN		**Pn**	**20 07 31.9**	**+1.6**
KEPZ	**Antalya-Kepez**	**4.07**	**54**	*i* P		**Pn**	**20 07 31.6**	**+0.8**
KEPZ				*i* S		**Sn**	**20 08 16.6**	**-0.6**
KEPZ				IAML			20 08 20.0	
	comp=N,20nm,0.7s							
KHAL	**Karahalli**	**4.11**	**23**	*i* P		**Pn**	**20 07 31.0**	**-0.4**
KHAL				*i* S		**Sn**	**20 08 13.7**	**-4.5**
KHAL				IAML			20 08 17.0	
	comp=N,7.5nm,0.5s							
NATA	**Nata**	**4.19**	**86**	P		**Pn**	**20 07 34.0**	**+1.5**
ALFC	**Alefka**	**4.24**	**81**	P		**Pn**	**20 07 34.4**	**+1.2**
OSC2	**CSNet OBS 4**	**4.26**	**109**	P		**Pn**	**20 07 34.4**	**+1.0**
OSC2				S		**Sn**	**20 08 22.4**	**+0.7**
VLI	**Veliai**	**4.27**	**301**	P		**Pn**	**20 07 32.2**	**-1.3**
VLI	**Veliai**	**4.27**	**301**	P		**Pn**	**20 07 32.3**	**-1.2**
GAZI	**Gazipasa**	**4.27**	**66**	PN		**Pn**	**20 07 34.2**	**+0.6**
GAZI	**Gazipasa**	**4.27**	**66**	*i* P		**Pn**	**20 07 33.5**	**-0.2**
GAZI				*i* S		**Sn**	**20 08 19.5**	**-2.7**
USAK	**Uak-Merkez**	**4.30**	**16**	*i* P		**Pn**	**20 07 33.1**	**-0.9**
SZAC	**Souni**	**4.45**	**86**	P		**Pn**	**20 07 37.4**	**+1.3**
LEF	**Lefka**	**4.48**	**82**	PN		**Pn**	**20 07 36.1**	**-0.3**
KRND	**KRANIDI**	**4.49**	**310**	P		**Pn**	**20 07 35.8**	**-0.7**
DID	**Didima**	**4.51**	**311**	P		**Pn**	**20 07 36.2**	**-0.7**
SEYD	**Seydisehir-KON**	**4.51**	**50**	PN		**Pn**	**20 07 38.0**	**+1.0**
ASGA	**Asgata**	**4.75**	**86**	P		**Pn**	**20 07 42.4**	**+2.2**
CSS	**Mathiatis**	**4.83**	**84**	PN		**Pn**	**20 07 41.2**	**0.0**
CSS	**Mathiatis**	**4.83**	**84**	Pn		**Pn**	**20 07 44.0**	**+2.8**
CSS				Sn		**Sn**	**20 08 34.8**	**-1.0**
CSS	**Mathiatis**	**4.83**	**84**	P		**Pn**	**20 07 43.7**	**+2.5**
TEKE	**Tekeli-Mersin**	**4.85**	**70**	PN		**Pn**	**20 07 42.0**	**+0.4**
ERMK	**Ermenek**	**4.87**	**64**	*i* P		**Pn**	**20 07 44.3**	**+2.3**
BERE	**Bereket-Mersin**	**5.00**	**68**	PN		**Pn**	**20 07 44.5**	**+0.8**
MVOU	**Mavrovouni**	**5.08**	**83**	P		**Pn**	**20 07 46.9**	**+2.3**
TVSB	**Tavsanli**	**5.10**	**17**	PN		**Pn**	**20 07 47.0**	**+1.9**
KONT	**Konya--Tatoy**	**5.17**	**48**	PN		**Pn**	**20 07 47.1**	**+1.2**
ITM	**Ithomi**	**5.20**	**301**	P		**Pn**	**20 07 45.8**	**-0.6**
IKL	**Isikli**	**5.32**	**70**	PN		**Pn**	**20 07 48.9**	**+0.9**
GUR	**Goura**	**5.33**	**310**	P		**Pn**	**20 07 47.6**	**-0.6**
KEBE	**Keben-Mersin**	**5.41**	**68**	PN		**Pn**	**20 07 50.1**	**+0.9**
KLV	**Kalavryta, Ach**	**5.52**	**310**	P		**Pn**	**20 07 50.2**	**-0.5**
SWA2		**5.60**	**198**	P		**Pn**	**20 07 52.3**	**+0.4**
	baz=200							
SWA2				S		**Sn**	**20 08 52.6**	**-2.3**
	baz=200							
KIZK	**Mersin**	**5.75**	**69**	PN		**Pn**	**20 07 55.2**	**+1.4**
ANX	**Ano Chora**	**6.00**	**313**	P		**Pn**	**20 07 55.8**	**-1.6**
AGG	**Agios Georgios**	**6.05**	**318**	P		**Pn**	**20 07 58.1**	**0.0**
MMAI	**Mount Meron Ar**	**6.78**	**101**	P		**Pn**	**20 08 10.0**	**+2.0**
	comp=N,0.7nm,0.3s,baz=289,slow=14,SNR=2.3							
MMAI				S		**Sn**	**20 09 22.8**	**-1.1**
	comp=N,3.1nm,0.3s,baz=310,slow=17,SNR=8.3							
NBNS	**Bani Suef**	**6.78**	**150**	P		**Pn**	**20 08 07.6**	**-0.4**
	baz=151							
KZIT	**Kziot**	**6.88**	**120**	Pn		**Pn**	**20 08 09.1**	**-0.3**
KZIT				Sn		**Sn**	**20 09 22.9**	**-3.6**
AMAZ	**Amatzia**	**6.94**	**114**	Pn		**Pn**	**20 08 10.6**	**+0.3**
AMAZ				Sn		**Sn**	**20 09 25.5**	**-2.4**
BRTR	**Keskin Array B**	**7.10**	**42**	P		**Pn**	**20 08 13.8**	**+1.3**
	comp=N,0.1nm,0.3s,baz=230,slow=12,SNR=2.4							
BRTR				S		**Sn**	**20 09 32.6**	**+0.7**
	comp=N,0.2nm,0.3s,baz=199,slow=26,SNR=6.6							
YTIR	**Yattir**	**7.17**	**115**	Pn		**Pn**	**20 08 14.0**	**+0.5**
YTIR				Sn		**Sn**	**20 09 30.5**	**-3.2**
DSI	**Dead Sea**	**7.28**	**112**	Pn		**Pn**	**20 08 15.7**	**+0.9**
HFRF	**Wahat Farafira**	**7.45**	**174**	P		**Pn**	**20 08 18.0**	**+0.8**
	baz=175							
HFRF				AMP			20 09 00.0	
	baz=175							
GHAJ	**Ghor Haditha**	**7.54**	**114**	Pn		**Pn**	**20 08 19.5**	**+1.1**
GHAJ				Sn		**Sn**	**20 09 39.9**	**-2.7**
PRNI	**Paran**	**7.63**	**122**	Pn		**Pn**	**20 08 20.3**	**+0.6**
PRNI				Sn		**Sn**	**20 09 41.5**	**-3.3**
HRFI	**Mount Harif**	**7.84**	**123**	Pn		**Pn**	**20 08 23.1**	**+0.5**
HRFI				Sn		**Sn**	**20 09 46.5**	**-3.5**
MBRI	**Mt Berech**	**7.90**	**125**	Pn		**Pn**	**20 08 24.5**	**+1.0**
MBRI				Sn		**Sn**	**20 09 48.9**	**-2.8**
EIL	**Elat**	**8.01**	**126**	P		**Pn**	**20 08 25.1**	**+0.3**
	comp=N,0.5nm,0.3s,baz=204,slow=0.2,SNR=6.8							
EIL				S		**Sn**	**20 09 49.4**	**-4.7**
	comp=N,1.2nm,0.3s,baz=62,slow=2.5,SNR=7.7							
EIL	**Elat**	**8.01**	**126**	Pn		**Pn**	**20 08 25.4**	**+0.5**
HHRG	**Al Ghardaqah**	**9.01**	**143**	P		**Pn**	**20 08 40.0**	**+1.3**
	baz=144							
HDK1	**Dakhla**	**9.17**	**169**	P		**Pn**	**20 08 41.5**	**+0.7**
	baz=169							
KBZ	**Khabaz**	**15.02**	**48**	P		**P**	**20 10 08.3**	**+3.4**
	comp=N,0.1nm,0.3s,baz=233,slow=7.3,SNR=6.6							
AKASG	**Malin Array Be**	**16.15**	**4**	P		**Pn**	**20 10 15.7**	**+0.9**
	comp=N,1.0nm,0.3s,baz=193,slow=12,SNR=5.0							
GERES	**GERESS Array B**	**17.53**	**328**	P		**Pn**	**20 10 29.9**	**-2.2**
	comp=N,0.1nm,0.3s,baz=135,slow=11,SNR=2.2							
ESDC	**Sonseca Array**	**25.50**	**291**	P		**P**	**20 11 55.0**	**-0.3**
	comp

3.7nm,0.5s,baz=98,slow=11,SNR=9.5
STKA Stephens Creek 38.60 241 P P 20 52 10.0 0.0
WB2 Warramunga Arr 44.47 259 P P 20 52 55.2 -1.2
WB2 IAmb IAmb 20 53 09.4
comp=Z,9.2nm,1.3s
WRA Warramunga Arr 44.48 259 P P 20 52 55.0 -1.6
comp=Z,2.1nm,0.5s,baz=96,slow=6.8,SNR=14
WRA PcP PcP 20 54 27.8 -0.3
comp=Z,1.2nm,0.8s,baz=93,slow=4.2,SNR=3.9
AS31 Alice Springs 44.67 254 P P 20 52 57.0 -1.0
AS31 IAmb IAmb 20 52 57.9
comp=Z,7.6nm,0.6s
ASAR Alice Springs 44.67 254 P P 20 52 57.3 -0.8
comp=Z,25nm,0.6s,baz=87,slow=8.2,SNR=194
ASAR PcP PcP 20 54 28.6 -0.2
comp=Z,1.0nm,0.5s,baz=108,slow=3.9,SNR=4.6
FORT Forrest 49.95 244 P P 20 53 36.5 -1.0
FORT IAmb IAmb 20 53 37.1
comp=Z,27nm,0.7s
KNRA Kununurra 50.30 264 P P 20 53 39.5 -0.8
KNRA IAmb IAmb 20 53 48.3
comp=Z,38nm,1.4s
FITZ Fitzroy Crossi 52.87 260 P P 20 53 58.5 -0.2
SOEI Soe 55.85 270 P P 20 54 21.0 +1.1
SOEI IAmb IAmb 20 54 22.2
comp=Z,103nm,1.4s
PSA00 Pilbara Seismi 57.78 255 P P 20 54 31.7 -1.2
PSA00 IAmb IAmb 20 54 37.3
comp=Z,19nm,1.1s
MORW Morawa 60.42 246 P P 20 54 49.7 -0.8
GIRL Giralia 62.78 253 P P 20 55 06.1 +0.2
MJAR Matsushiro Arr 67.49 323 P P 20 55 34.5 -0.7
comp=Z,1.1nm,0.6s,baz=2.9,slow=1.9,SNR=4.4
UGM Wanagama 69.44 268 P P 20 55 47.1 -0.3
KSM Kuching 72.42 277 P P 20 56 05.6 +0.6
KSM IAmb IAmb 20 56 06.3
comp=Z,8.8nm,0.9s
NVAR Mina Array Bea 79.33 44 P P 20 56 43.5 +0.6
comp=Z,0.4nm,0.6s,baz=226,slow=8.5,SNR=3.0
TXAR Lajitas Array 86.00 58 P P 20 57 17.9 +1.5
comp=Z,0.6nm,0.8s,baz=216,slow=7.7,SNR=3.8
PDAR Pinedale Array 87.25 44 P P 20 57 22.7 +0.4
comp=Z,0.2nm,0.3s,baz=260,slow=4.5,SNR=2.0
CMAR Chiang Mai Arr 88.56 290 P P 20 57 29.4 +0.8
comp=Z,1.2nm,0.9s,baz=94,slow=2.7,SNR=7.0
BUR08 Bucovina Ar. S 144.19 332 PKPdf 21 04 07.3 +0.1
BR131 Keskin Array S 144.38 315 PKPbc 21 04 06.8 -0.9
BRTR Keskin Array B 144.38 315 PKP PKPab 21 04 07.7 -0.5
comp=Z,1.8nm,0.8s,baz=132,slow=3.1,SNR=13
CLL Collm 145.07 347 *i* PKPbc **PKPab 21 04 10.2 0.0**
GEC2 GERESS Array S 147.22 345 PKPbc 21 04 15.4 -0.1
GERES GERESS Array B 147.22 345 PKPbc PKPbc 21 04 15.3 -0.1
comp=Z,0.9nm,0.5s,baz=28,slow=3.3,SNR=14
CONA Conrad Observa 147.46 342 *i* PKPbc **PKPbc 21 04 15.6 -0.5**
comp=Z,1.4nm,0.6s
SOKA Soboth 148.83 342 *i* PKPdf **PKPdf 21 04 14.7 -0.3**
comp=Z,2.0nm,1.1s
KBA Koelnbreinsper 148.94 344 *i* PKPbc **PKiKP 21 04 19.6 -1.3**
comp=Z,1.0nm,0.5s
OBKA Obir 149.13 342 *i* PKPbc **PKPbc 21 04 18.9 -1.4**
comp=Z,2.6nm,1.1s
WATA Walderalm 149.13 346 *i* PKPbc **PKPbc 21 04 18.6 -1.7**
comp=Z,0.9nm,0.5s
WTTA Wattenberg 149.19 346 *i* PKPbc **PKPbc 21 04 19.8 -0.7**
comp=Z,2.9nm,0.5s
MOTA Moosalm 149.23 347 *i* PKPbc **PKPbc 21 04 19.5 -1.1**
comp=Z,1.2nm,0.5s
SQTA Sankt Quirin 149.32 347 *i* PKPbc **PKiKP 21 04 20.4 -1.2**
comp=Z,2.4nm,0.6s
ABTA Abfaltersbach 149.46 345 *i* PKPbc **PKPbc 21 04 20.2 -0.9**
comp=Z,2.3nm,0.5s
DAVA Damuels 149.53 349 *i* PKPbc **PKPbc 21 04 19.9 -1.4**
comp=Z,3.4nm,1.1s
FETA Feichten 149.62 347 *i* PKPbc **PKPbc 21 04 19.9 -1.6**
comp=Z,2.1nm,0.8s

*IDC **09** 20:50:28.7±6.2, 31.06S×179.84E, h509km±63km, mb3.4/6, mb1 3.5/7, mb1mx3.2/25, mbtmp4.4/7, Error ellipse: s-maj=45.8km s-min=18.9km az=66.0*
*NEIC **09** 20:50:30.7±1.9, 31.2S±0.2×179.7E±0.2, h525km±8km, mb4.3/9, Error ellipse: s-maj=31.9km s-min=13.8km az=207.0*

ISC 09 20:50:25.0±1.2, 30.7S±0.2×179.5W±0.2, h500km, n23, σ1s94/22, mb4.2/10, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**15.22**	**301**	P		**P**	**20 53 40.3**	**+2.7**
	0.7nm,0.3s,baz=111,slow=7.8,SNR=6.4							
DZM	**Mont Dzumac**	**15.22**	**301**	P		**P**	**20 53 40.7**	**+3.0**
CTA	**Charters Tower**	**32.55**	**281**	P		**P**	**20 56 14.2**	**-0.2**
	6.9nm,0.7s,baz=112,slow=10,SNR=9.2							
CTAO	**Charters Tower**	**32.55**	**281**	P		**P**	**20 56 14.5**	**+0.2**
STKA	**Stephens Creek**	**33.12**	**258**	P		**P**	**20 56 18.4**	**-0.7**
	3.5nm,0.8s,baz=98,slow=9.6,SNR=6.4							
STKA	**Stephens Creek**	**33.12**	**258**	P		**P**	**20 56 17.6**	**-1.5**
KRVT	**Keravat (AS076**	**37.53**	**309**	P		**P**	**20 56 56.0**	**0.0**
	25nm,0.6s,baz=153,slow=4.5,SNR=3.5							
ASAR	**Alice Springs**	**41.77**	**268**	P		**P**	**20 57 28.2**	**-2.0**
	0.3nm,0.5s,baz=105,slow=7.1,SNR=2.8							
WR0	**Warramunga Arr**	**42.61**	**273**	P		**P**	**20 57 35.1**	**-1.7**
WR0				IAmb	IAmb		20 57 45.8	
	comp=Z,11nm,1.4s							
WB2	**Warramunga Arr**	**42.78**	**273**	P		**P**	**20 57 36.4**	**-1.7**
WB2				IAmb	IAmb		20 57 39.2	
	comp=Z,15nm,1.5s							
WRA	**Warramunga Arr**	**42.79**	**273**	P		**P**	**20 57 36.2**	**-2.0**
	comp=Z,2.5nm,0.6s,baz=110,slow=8.1,SNR=26							
WB0	**Warramunga Arr**	**42.82**	**274**	P		**P**	**20 57 36.6**	**-1.8**
WB0				IAmb	IAmb		20 57 38.3	
	comp=Z,10nm,1.2s							
MTN	**Manton Dam**	**48.73**	**280**	P		**P**	**20 58 23.1**	**-0.5**
MTN				IAmb	IAmb		20 58 29.6	
	comp=Z,20nm,1.2s							
FITZ	**Fitzroy Crossi**	**51.04**	**271**	P		**P**	**20 58 40.5**	**-0.2**
QSPA	**South Pole Qui**	**59.40**	**180**	P		**P**	**20 59 38.9**	**+0.4**
	comp=Z,6.2nm,1.1s,baz=21,slow=6.6,SNR=19							
QSPA	**South Pole Qui**	**59.40**	**180**	P		**P**	**20 59 39.2**	**+0.7**
HKPS	**Hong Kong Po S**	**82.60**	**301**	P		**P**	**21 01 57.1**	**+1.6**
MTPU	**Mount Pierson**	**92.87**	**47**	P		P	21 02 51.7	+7.4
FINES	**FINESS Array B**	**144.97**	**339**	PKPbc		**PKiKP**	**21 09 07.3**	**-0.8**
	comp=Z,2.8nm,0.6s,baz=63,slow=3.9,SNR=25							
NB2	**NORSAR Subarra**	**148.85**	**350**	PKP		**PKPab**	**21 09 17.4**	**-3.7**
	comp=Z,0.4nm,0.4s,baz=18,slow=2.6							
NOA	**NORSAR Array B**	**148.85**	**350**	PKPbc		**PKPab**	**21 09 18.0**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=20,slow=4.7,SNR=5.6							
BRTR	**Keskin Array B**	**151.58**	**298**	PKPbc		**PKiKP**	**21 09 25.2**	**+2.5**
	comp=Z,0.6nm,0.8s,baz=90,slow=1.7,SNR=3.6							
TORD	**Torodi Ar. Bea**	**162.48**	**184**	PKPab		**PKPab**	**21 10 22.0**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=198,slow=4.2,SNR=1.6							

*IDC **09** 21:11:48.6±3.4, 5.12N×127.66E, h177km±34km, mb3.4/7, mb1 3.5/8, mb1mx3.2/33, mbtmp3.9/8, Error ellipse: s-maj=56.1km s-min=15.4km az=65.0*

ISC 09 21:11:45.1±1.4, 5.3N±0.2×127.7E±0.3, h150km, n9, σ1s07/10, mb3.8/7, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KCP	**Kidapawan**	**3.16**	**304**	⇑ *iP*		**Pn**	**21 12 35.2**	**+0.6**
KCP				*i* S		**Sn**	**21 13 11.4**	**-1.6**
SIJI	**Sorong**	**7.02**	**150**	P		Pn	21 13 28.6	+3.0
	1.7nm,0.3s,baz=329,slow=19,SNR=16							
SIJI				S		**Sn**	**21 14 43.8**	**-0.6**
	1.8nm,0.3s,baz=221,slow=19,SNR=8.4							
FITZ	**Fitzroy Crossi**	**23.29**	**185**	P		**P**	**21 16 39.8**	**+0.1**
	5.2nm,1.0s,baz=0.2,slow=6.2,SNR=15							
WRA	**Warramunga Arr**	**25.86**	**166**	P		**P**	**21 17 01.1**	**-1.9**
	0.8nm,0.5s,baz=350,slow=9.3,SNR=3.1							
ASAR	**Alice Springs**	**29.36**	**168**	P		**P**	**21 17 33.8**	**-0.4**
	0.3nm,0.3s,baz=350,slow=7.3,SNR=8.4							
ASAR				PcP		**PcP**	**21 20 37.3**	**+0.4**
	0.2nm,0.4s,baz=355,slow=2.0,SNR=4.3							
CMAR	**Chiang Mai Arr**	**31.02**	**297**	P		**P**	**21 17 49.5**	**+0.6**
	0.4nm,0.7s,baz=99,slow=8.9,SNR=2.6							
STKA	**Stephens Creek**	**39.21**	**161**	P		**P**	**21 18 59.5**	**+0.7**
	0.8nm,0.3s,baz=347,slow=8.2,SNR=9.6							
MKAR	**Makanchi Array**	**56.90**	**324**	P		P	21 21 15.7	+1.1
	0.6nm,0.4s,baz=116,slow=7.9,SNR=13							
ARCES	**ARCESS Array B**	**89.38**	**340**	P		**P**	**21 24 24.0**	**-0.4**
	0.7nm,0.6s,baz=77,slow=5.7,SNR=1.2							

*IDC **09** 21:38:03.5±4.3, 18.02N×145.67E, h289km±45km, mb3.3/13, mb1 3.5/15, mb1mx3.3/48, mbtmp4.0/15, Error ellipse: s-maj=22.5km s-min=11.1km az=94.0*
*NEIC **09** 21:38:05.8±1.3, 17.95N±0.08×145.5E±0.1, h306km±9km, mb4.0/29, Error ellipse: s-maj=19.3km s-min=10.4km az=102.0*

ISC 09 21:38:05.3±0.7, 18.02N±0.08×145.4E±0.1, h300km, n48, σ0s92/48, mb3.9/26, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**4.44**	**187**	Pn		**Pn**	**21 39 17.1**	**+0.5**
JCJ	**Chichijima**	**9.52**	**342**	Pn		**P**	**21 40 20.3**	**-1.3**
JHJ2	**Mitsune**	**15.86**	**342**			**P**	**21 41 30.1**	**-1.7**
JHJ	**Hachijo jima 2**	**15.87**	**342**	P		**P**	**21 41 30.2**	**-1.7**
	8.6nm,0.3s,baz=87,slow=18,SNR=9.9							
MJAR	**Matsushiro Arr**	**19.52**	**342**	P		**P**	**21 42 08.9**	**-2.4**
	0.1nm,0.3s,baz=167,slow=10,SNR=4.4							
JNU	**Nakatsue**	**19.93**	**322**	P		**P**	**21 42 15.3**	**-0.3**
JNU				IAmb	IAmb		21 42 22.1	
	comp=Z,9.2nm,1.2s							
SSLB	**Suanglung**	**23.57**	**288**	P		**P**	**21 42 50.7**	**+0.9**
SSLB				IAmb	IAmb		21 43 00.4	
	comp=Z,8.1nm,1.0s							
KSRS	**Korea Array**	**24.73**	**325**	P		**P**	**21 43 01.2**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=151,slow=8.8,SNR=8.3							
JKA	**Kamikawa-asahi**	**26.13**	**355**	P		**P**	**21 43 13.5**	**+1.1**
ASAJ	**Asahikawa**	**26.13**	**355**	P		**P**	**21 43 13.5**	**+1.1**
	comp=Z,2.9nm,0.4s,baz=135,slow=2.9,SNR=1.9							
USRK	**Ussuriysk Ar.**	**28.45**	**339**	P		**P**	**21 43 33.2**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=155,slow=7.8,SNR=2.7							
SBUM	**Sibu**	**36.06**	**248**	P		**P**	**21 44 38.7**	**-0.6**
KNRA	**Kununurra**	**37.30**	**207**	P		**P**	**21 44 49.2**	**-0.3**
WB0	**Warramunga Arr**	**39.09**	**197**	P		**P**	**21 45 04.2**	**-0.2**
WB0				IAmb	IAmb		21 45 21.8	
	comp=Z,7.5nm,1.1s							
WB2	**Warramunga Arr**	**39.27**	**197**	P		**P**	**21 45 05.7**	**-0.1**
WB2				IAmb	IAmb		21 45 06.0	
	comp=Z,4.3nm,0.6s							
WRA	**Warramunga Arr**	**39.27**	**197**	P		**P**	**21 45 05.6**	**-0.2**
	comp=Z,2.3nm,0.6s,baz=22,slow=8.9,SNR=16							
FITZ	**Fitzroy Crossi**	**40.84**	**210**	P		**P**	**21 45 18.2**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=30,slow=10							
FITZ	**Fitzroy Crossi**	**40.84**	**210**	P		**P**	**21 45 18.4**	**-0.2**
FITZ				IAmb	IAmb		21 45 20.5	
	comp=Z,6.6nm,1.0s							
PBKT	**Sadao Pong**	**42.41**	**275**	P		**P**	**21 45 31.9**	**+0.5**
ASAR	**Alice Springs**	**42.94**	**196**	P		**P**	**21 45 34.8**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=14,slow=7.7,SNR=5.4							
ULN	**Ulaanbaatar**	**43.15**	**322**	P		**P**	**21 45 37.5**	**+0.4**
SONM	**Songino Array**	**43.52**	**322**	P		**P**	**21 45 41.4**	**+1.3**
	comp=Z,1.7nm,0.6s,baz=127,slow=7.8,SNR=6.7							
CMAR	**Chiang Mai Arr**	**44.07**	**278**	P		**P**	**21 45 45.3**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=72,slow=7.0,SNR=10							
ADK	**Adak**	**45.02**	**33**	P		**P**	**21 45 52.8**	**+1.2**
ADK				IAmb	IAmb		21 46 01.7	
	comp=Z,13nm,1.2s							
KULM	**Kulim**	**45.53**	**259**	P		**P**	**21 45 56.5**	**+0.5**
KULM				IAmb	IAmb		21 45 57.9	
	comp=Z,4.0nm,0.7s							
ATKA	**Atka Island**	**46.48**	**33**	P		**P**	**21 46 03.6**	**+0.7**
PSAD3	**Pilbara Seismi**	**46.75**	**214**	P		**P**	**21 46 04.6**	**-0.8**
GSI	**Gunungsitoli**	**49.83**	**256**	P		**P**	**21 46 28.8**	**-0.1**
GSI				IAmb	IAmb		21 46 29.4	
	comp=Z,9.4nm,0.6s							
AKUT	**Akutan**	**51.86**	**34**	P		**P**	**21 46 43.5**	**+0.2**
SDPT	**Sand Point**	**55.16**	**34**	P		**P**	**21 47 07.3**	**+0.2**
ZAA0	**Zalesovo Array**	**58.41**	**323**	P		**P**	**21 47 29.5**	**-0.3**
ZALV	**Zalesovo Beam**	**58.41**	**323**	P		**P**	**21 47 30.0**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=119,slow=8.0,SNR=6.9							
MK31	**Makanchi Array**	**58.76**	**314**	P		**P**	**21 47 33.4**	**+0.9**
MKAR	**Makanchi Array**	**58.76**	**314**	P		**P**	**21 47 32.0**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=92,slow=7.8,SNR=15							
MAKZ	**Makanchi**	**58.97**	**314**	P		**P**	**21 47 33.7**	**-0.2**
TTA	**Tatalina**	**59.96**	**27**	P		**P**	**21 47 40.6**	**+0.2**
CNPM	**China Poot**	**61.16**	**31**	P		**P**	**21 47 48.4**	**-0.1**
PPLA	**Purkeypile**	**61.61**	**27**	P		**P**	**21 47 52.0**	**+0.5**
KURK	**Kurchatov**	**61.61**	**318**	P		**P**	**21 47 52.2**	**+0.6**
KURK				IAmb	IAmb		21 47 52.9	
	comp=Z,5.0nm,1.3s							
BPAW	**Bear Paw Mtn.**	**62.47**	**26**	P		**P**	**21 47 57.4**	**+0.3**
BPAW				IAmb	IAmb		21 47 58.1	
	comp=Z,3.7nm,1.1s							
DHY	**Denali Highway**	**63.78**	**28**	P		**P**	**21 48 06.0**	**+0.1**
DHY				IAmb	IAmb		21 48 18.4	
	comp=Z,4.6nm,1.5s							
WRH	**Wood River Hil**	**63.78**	**26**	P		**P**	**21 48 05.0**	**-0.6**
WRH				IAmb	IAmb		21 48 05.6	
	comp=Z,1.6nm,0.7s							
ILAR	**Eielson Array**	**64.36**	**26**	P		**P**	**21 48 07.0**	**-2.3**
	comp=Z,1.0nm,0.6s,baz=249,slow=6.2,SNR=11							
DOT	**Dot Lake**	**65.36**	**28**	P		**P**	**21 48 15.7**	**-0.1**
DOT				IAmb	IAmb		21 48 16.2	
	comp=Z,2.6nm,0.7s							
GAR	**Garm**	**67.48**	**305**	P		**P**	**21 48 29.4**	**-0.4**
GAR				IAmb	IAmb		21 48 47.8	
	comp=Z,3.0nm,0.6s							
HYT	**Haines Junctio**	**68.13**	**31**	P		**P**	**21 48 34.1**	**+0.8**
HYT				IAmb	IAmb		21 48 35.6	
	comp=Z,5.4nm,1.1s							
NVAR	**Mina Array Bea**	**83.75**	**52**	P		**P**	**21 50 01.8**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=268,slow=6.3,SNR=7.5							
FINES	**FINESS Array B**	**87.40**	**335**	P		**P**	**21 50 16.5**	**-2.2**
	comp=Z,1.0nm,0.9s,baz=64,slow=4.4,SNR=4.2							

*BJI **09** 21:45:10.1±0.0, 9.77N×122.24E, h10km, mB5.1/73, mb4.7/75, Ms5.3/82, Ms7 5.1/74*
*NEIC **09** 21:45:11, 9.99N×122.21E, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.69; $M_{\theta\theta}$0.18; $M_{\phi\phi}$-0.87; $M_{r\theta}$-0.59; $M_{r\phi}$-0.14; $M_{\theta\phi}$-0.77; Fault plane solution: $M_0$1.26000×10^{17} NP1:ϕ_s210.85000°, δ72.00000°, λ109.18000°. NP2:ϕ_s342.47000°, δ26.07000°, λ44.69000°. Principal axes: T 1.2484, Plg59.0000°, Azm147.0000°; N 0.0319, Plg18.0000°, Azm25.0000°; P -1.2803, Plg25.0000°, Azm286.0000°;*
*MOS **09** 21:45:11.9±1.6, 10.01N×122.26E, h10km, mb5.2/37, MS4.9/26 Error ellipse: s-maj=9.1km s-min=4.7km az=111.5*
*UNK **09** 21:45:12.6, 10.01N×122.24E, h10km*
*MAN **09** 21:45:13.2, 10.14N×121.98E, h5km, MS5.1*
MAN Intensity IV- Anini-y San Jose and Tobias Fornier Antique; Iloilo City; Bago City and La Castellana Negros Occidental; Intensity III - Oton Iloilo; La carlota Negros Occidental; Jagna Bohol; Intensity II - Ajuy Iloilo; Culasi Antique; Basay Negros Occidental.
*NEIC **09** 21:45:13.2±2.8, 10.09N±0.06×122.20E±0.08, h14km±1km, mb5.2/115, Ms_20 5.0/353, Mwb5.3/60, Mww5.4, Mwc5.5(GCMT), Error ellipse: s-maj=12.7km s-min=9.5km az=276.0*
*IDC **09** 21:45:13.7±3.1, 10.07N×122.24E, h12km±19km, mb4.5/41, mb1 4.5/42, mb1mx4.5/47, mbtmp4.6/42, ML5.1/1, MS4.8/36, Ms1 4.8/36, ms1mx4.7/46, Error ellipse: s-maj=16.6km s-min=8.5km az=66.0*
*NEIC **09** 21:45:18, 9.91N×122.24E, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.03; $M_{\theta\theta}$-0.26; $M_{\phi\phi}$-0.77; $M_{r\theta}$-0.87; $M_{r\phi}$-0.19; $M_{\theta\phi}$-0.86; Fault plane solution: $M_0$1.54000×10^{17} NP1:ϕ_s11.00000°, δ20.00000°, λ64.00000°. NP2:ϕ_s219.00000°, δ72.00000°, λ99.00000°. Principal axes: T 1.6683, Plg62.0000°, Azm143.0000°; N -0.2882, Plg9.0000°, Azm36.0000°; P -1.3801, Plg26.0000°, Azm301.0000°;*
*DJA **09** 21:45:18.8±0.4, 10.1N±3.1°×12.2E±1°, h45km±4km, M4.9/58, mb5.0/58, mB5.4/36, MLv4.3/2, Mw(mB)4.8/36, Mwp5.4/16*
*GCMT **09** 21:45:18.2±0.1, 10.22N±0.01×122.05E±0.01, h24km, MW5.5/151, Moment Tensor Solution. s134,c237; s151,c287; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}0.86±.02; $M_{\theta\theta}$0.09±.01; $M_{\phi\phi}$-0.95±.01; $M_{r\theta}$-1.19±.04; $M_{r\phi}$-0.26±.01; $M_{\theta\phi}$-1.73±.05; Best double couple: $M_0$2.30400×10^{17} NP1:ϕ_s352.00000°, δ15.00000°, λ51.00000°. NP2:ϕ_s213.00000°, δ79.00000°, λ99.00000°. Principal axes: T 2.2940, Plg55.0000°, Azm134.0000°; N 0.0200, Plg9.0000°, Azm31.0000°; P -2.3140, Plg33.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **09** 21:45:19, 10.24N×122.09E, h21km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.01; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-1.03; $M_{r\theta}$-0.91; $M_{r\phi}$-0.25; $M_{\theta\phi}$-1.32; Fault plane solution: $M_0$1.92000×10^{17} NP1:ϕ_s356.00000°, δ19.00000°, λ57.00000°. NP2:ϕ_s211.00000°, δ74.00000°, λ101.00000°. Principal axes: T 1.9316, Plg60.0000°, Azm136.0000°; N -0.0316, Plg10.0000°, Azm228.0000°; P -1.9000, Plg28.0000°, Azm292.0000°;*
*KLM **09** 21:45:26.0, 10.05N×122.45E, h126km, mb5.1*

ISC 09 21:45:15.1±0.4, 10.04N±0.02×122.16E±0.03, h22km±2km, h22km:pP-P, n611, σ2s51/488, mb5.0/163, MS5.0/260, 32C-30D, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CNOP	**Candoni, Negro**	**0.52**	**114**	*eP*		**Pn**	**21 45 27.2**	**+0.1**
GUIM	**Jordan**	**0.72**	**36**	*eP*		**Pb**	**21 45 28.2**	**-0.8**
GUIM				*eS*		**Sn**	**21 45 41.0**	**+0.6**
JAP	**San Jose, Anti**	**0.74**	**343**	⇑ *iP*		**Pb**	**21 45 28.2**	**-1.1**
JAP				*i* S		**Sb**	**21 45 35.1**	**-3.9**
SNPH	**Sibulan**	**1.26**	**123**	⇓ *iP*		**Pb**	**21 45 39.6**	**+1.3**
SNPH				*i* S		Sb	21 46 05.8	+12
CUYO	**Cuyo Island**	**1.39**	**306**	*eP*		**Pn**	**21 45 37.1**	**-2.1**
TBP	**Tagbilaran**	**1.71**	**101**	*eP*		**Pb**	**21 45 48.3**	**+2.4**
OTRP	**Odiongan**	**2.32**	**357**	*eP*		**Pn**	**21 45 49.5**	**-2.4**
OTRP				*eS*		**Sn**	**21 46 11.9**	**-7.8**
BUSP	**Coron**	**2.74**	**316**	*eP*		**Pn**	**21 45 55.2**	**-2.6**
BUSP				*eS*		**Sb**	**21 46 38.9**	**+2.1**
ENPP	**El Nido**	**2.93**	**294**	*eP*		**Pn**	**21 45 58.5**	**-1.8**
ENPP				*eS*		**Sn**	**21 46 30.3**	**-4.6**
CGP	**Cagayan de Oro**	**2.95**	**122**	⇑ *iP*		**Pb**	**21 46 03.8**	**-3.3**
CGP				*i* S		**Sb**	**21 46 48.0**	**+5.2**
ZCP	**Zamboanga City**	**3.08**	**182**	⇑ *iP*		**Pn**	**21 46 04.8**	**+2.3**
ZCP				*i* S		**Sn**	**21 46 41.8**	**+3.0**
BOAC	**Boac**	**3.42**	**355**	*eP*		**Pn**	**21 46 06.1**	**-1.0**
BOAC				*eS*		**Sn**	**21 46 44.7**	**-2.2**
CTBH	**Cotabato--PC H**	**3.47**	**143**	⇑ *eP*		**Pn**	**21 46 11.7**	**-4.3**
PGP	**Puerto Galera**	**3.64**	**341**	⇓ *eP*		**Pn**	**21 46 09.4**	**-0.8**
GQP	**Guinayangan**	**3.86**	**4**	⇑ *eP*		**Pn**	**21 46 13.8**	**+0.7**
GQP				*eS*		Sn	21 46 47.1	-11
LQP	**Lukban**	**4.10**	**352**	*eP*		**Pn**	**21 46 16.1**	**-0.6**
KCP	**Kidapawan**	**4.18**	**136**	⇑ *iP*		**Pn**	**21 46 21.9**	**+4.3**
TGY	**Tagaytay City**	**4.22**	**344**	Pn		**Pn**	**21 46 18.1**	**-0.1**
	98nm,0.3s,baz=178,slow=6.7,SNR=5.3							
TGY				Sn		**Sn**	**21 47 04.3**	**-2.5**
	64nm,0.3s,baz=238,slow=9.8,SNR=5.5							
BATP	**Bataraza**	**4.47**	**254**	*eP*		**Pn**	**21 46 20.5**	**-1.1**
BATP				*eS*		**Sn**	**21 47 13.2**	**+0.1**
DAV	**Davao City (W)**	**4.49**	**131**	Pn		**Pn**	**21 46 26.1**	**+4.3**
	1.8nm,0.3s,baz=0.0,slow=4.0,SNR=6.6							
DAV				LR		LR	21 48 26.1	
	comp=Z,30μm,21.1s,baz=232,slow=43							
SCZP	**Santa Cruz**	**6.11**	**339**	*eP*		**Pn**	**21 46 47.1**	**+2.9**
SMPP	**San Manuel, Pa**	**6.25**	**347**	*eP*		**Pn**	**21 46 44.2**	**-1.8**
CAUP	**Cauayan**	**6.88**	**357**	*eP*		**Pn**	**21 46 57.0**	**+2.4**
KKM	**Kota Kinabalu**	**7.10**	**236**			**Pn**	**21 46 59.1**	**+1.3**
KKM				Sn		**Sn**	**21 48 18.0**	**+0.1**
SZP	**Santa**	**7.65**	**348**	Pn		**Pn**	**21 47 04.5**	**-0.8**
SZP						**Sn**	**21 48 38.3**	**+7.0**
SPMM	**Sapulut**	**7.74**	**227**	P		Pn	21 47 15.0	+8.4
APYP	**Conner**	**7.83**	**354**	*eP*		**Pn**	**21 47 09.0**	**+1.3**
MRSI	**Marisa**	**9.50**	**181**	P		**Pn**	**21 47 33.4**	**+2.7**
	5μm984nm95nm,0.9s							
KMSI	**Cibinong**	**9.57**	**169**	P		Pn	21 47 36.7	+5.0
	3μm184nm,0.8s							
MPSI	**Mapaga**	**9.89**	**193**	P		**Pn**	**21 47 38.1**	**+2.0**
	4μm1μm67nm,0.6s							
TNTI	**Ternate**	**10.56**	**150**	P		**Pn**	**21 47 48.3**	**+3.1**
	3μm2μm78nm,0.9s							
TNTI	**Ternate**	**10.56**	**150**	Pn		**Pn**	**21 47 43.5**	**-1.7**
APSI	**Ampana**	**10.89**	**183**	P		Pn	21 47 55.4	+5.7
	3μm2μm138nm,1.1s							
LUWI	**Luwuk**	**11.02**	**177**	P		Pn	21 47 57.1	+5.6
	4μm508nm,1.1s							
LUWI	**Luwuk**	**11.02**	**177**			**Pn**	**21 47 53.1**	**+1.6**
SBUM	**Sibu**	**12.42**	**233**	Pn		**Pn**	**21 48 11.6**	**+0.8**
SBUM	**Sibu**	**12.42**	**233**	P		P	21 48 17.0	-5.5
SANI	**Sanana**	**12.60**	**162**	P		**P**	**21 48 27.4**	**+3.0**
TWG	**Pinlang**	**12.76**	**355**	Pn		**Pn**	**21 48 13.3**	**-1.9**
TTSI	**Tana Toraja**	**13.20**	**190**	P		P	21 48 38.9	+7.7
TPUB	**Ta-pu**	**13.27**	**354**			**Pn**	**21 48 22.3**	**0.0**
YULB	**Yu-li**	**13.31**	**357**			**Pn**	**21 48 21.1**	**-1.7**
**D

SLVN Son La 20.83 305 P **P** **21 49 54.0 -1.4**
SSE Sheshan 20.98 358 P Pn 21 50 03.0 +3.5
SSE S **S** **21 53 52.0 +2.4**
SSE pmax pmax
comp=Z,23nm,1.1s
SSE pmax pmax
comp=Z,520nm,7.4s
SSE LR LR
comp=Z,880nm,18.2s
SSE LR LR
comp=Z,2μm,18.2s
PBKT Sadao Pong 21.61 290 P **P** **21 50 01.2 -2.6**
PBKT IAmb IAmb 21 50 23.3
comp=Z,74nm,1.4s
PBKT IAMs_20 IAMs_20 21 58 10.9
comp=Z,5μm,18.0s
WHN Wuhan 21.66 341 P **P** **21 50 09.6 +5.4**
WHN S **S** **21 54 04.6 +1.4**
WHN pmax pmax
comp=Z,1μm,10.1s
WHN LR LR
comp=Z,6μm,13.5s
WHN LR LR
comp=Z,5μm,14.5s
WHN LR LR
comp=Z,9μm,17.5s
IPM Ipoh 21.67 257 P **P** **21 50 02.2 -2.3**
IPM Ipoh 21.67 257 P **P** **21 50 07.0 +2.5**
KULM Kulim 21.83 259 P **P** **21 50 04.4 -1.8**
KULM IAmb IAmb 21 50 31.9
comp=Z,77nm,1.2s
KULM IAMs_20 IAMs_20 21 59 49.4
comp=Z,5μm,18.0s
KULM Kulim 21.83 259 P **P** **21 50 09.0 +2.8**
GYA Guiyang 21.95 320⇑ *i*P **P** **21 50 09.3 +1.8**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,730nm,4.2s
GYA LR LR
comp=Z,4μm,17.1s
GYA LR LR
comp=Z,4μm,15.6s
GYA LR LR
comp=Z,7μm,16.8s
NJ2 Nanjing 22.12 353 *e*P **P** **21 50 09.8 +0.7**
NJ2 pP **pP** **21 50 15.3 +0.4**
NJ2 sP **pwP** **21 50 17.1 -0.3**
NJ2 PP **PnPn** **21 50 38.8 +7.1**
NJ2 S **S** **21 54 13.9 +1.9**
NJ2 pmax pmax
comp=Z,16nm,0.5s
NJ2 pmax pmax
comp=Z,670nm,3.6s
NJ2 LR LR
comp=Z,4μm,16.6s
NJ2 LR LR
comp=Z,2μm,20.8s
NJ2 LR LR
comp=Z,4μm,22.7s
LEM Lembang 22.14 221 P **P** **21 50 15.5 +5.8**
comp=Z,22nm,0.6s,baz=324,slow=20,SNR=6.4
JAY Jayapura 22.28 123 P **P** **21 50 11.0 -0.1**
comp=Z,18nm,1.0s,baz=270,slow=4.0,SNR=4.6
JAY LR LR 21 57 36.5
comp=Z,2μm,21.3s,baz=287,slow=33
JAY Jayapura 22.28 123 P **P** **21 50 13.1 +2.0**
comp=Z,3μmcomp=Z,534nmcomp=Z,16nm,1.3s
CBJI Citeko 22.36 224 P **P** **21 50 17.4 +5.6**
comp=Z,4μmcomp=Z,192nm,0.9s
CISI Cisompet, Garu 22.57 220 P **P** **21 50 11.7 -2.5**
CISI IAmb IAmb 21 50 41.5
comp=Z,122nm,1.1s
CNJI Cibinong 22.82 222 P **P** **21 50 22.7 +5.9**
comp=Z,2μmcomp=Z,185nm,1.0s
LHSI Lahat 23.11 234 P **P** **21 50 25.5 +5.7**
comp=Z,1μmcomp=Z,33nm,1.0s
ENH Enshi 23.35 331 P **P** **21 50 19.9 -2.2**
ENH IAmb IAmb 21 51 11.1
comp=Z,56nm,1.2s
KASI Kota Agung 23.42 229 P P 21 50 42.6 +20
LWLI Liwa 23.43 231 P P 21 50 35.7 +13
KMI Kunming 23.78 312 P **P** **21 50 27.3 +0.8**
KMI pP pP 21 50 29.9 -2.4
KMI sP sP 21 50 31.7 -3.5
KMI S **S** **21 54 38.9 -2.3**
KMI pmax pmax
comp=Z,22nm,1.9s
KMI pmax pmax
comp=Z,680nm,8.3s
KMI LR LR
comp=Z,2μm,18.3s
KMI LR LR
comp=Z,5μm,19.2s
KMI LR LR
comp=Z,7μm,18.9s
KMI Kunming 23.78 312 IAmb IAmb 21 50 46.7
comp=Z,68nm,1.3s
KRJI Kerinci 23.87 241 P **P** **21 50 33.2 +5.8**
comp=Z,5μmcomp=Z,289nm,1.5s
CM31 Chiang Mai Arr 23.99 293 P **P** **21 50 26.5 -1.9**
CM31 IAmb IAmb 21 50 39.9
comp=Z,92nm,1.4s
CMAR Chiang Mai Arr 23.99 293 P **P** **21 50 28.2 -0.1**
comp=Z,7.9nm,0.9s,baz=105,slow=7.4,SNR=48
CMAR PcP **PcP** **21 54 11.3 +1.0**
comp=Z,1.0nm,0.8s,baz=140,slow=0.8,SNR=3.1
CMAR LR LR 22 00 02.3
comp=Z,6μm,18.1s,baz=156,slow=37
CHTO Chiang Mai 24.09 294 P **P** **21 50 28.0 -1.3**
CHTO pmax pmax
comp=Z,101nm,1.6s
CHTO MLR MLR
comp=Z,5μm,18.0s
CHTO Chiang Mai 24.09 294 P **P** **21 50 28.0 -1.3**
CHTO IAmb IAmb 21 50 40.4
comp=Z,101nm,1.6s
CHTO Chiang Mai 24.09 294 IAMs_20 IAMs_20 21 59 55.3
comp=Z,5μm,18.0s
PSI Prapat 24.17 254 P **P** **21 50 30.9 +0.8**
comp=Z,6.6nm,0.9s,baz=1.4,slow=4.4,SNR=6.9
PSI LR LR 22 01 27.9
comp=Z,3μm,18.0s,baz=90,slow=40
PSI Prapat 24.17 254 P **P** **21 50 28.8 -1.4**
PSI pmax pmax
comp=Z,260nm,1.8s
PDSI Padang 24.18 244 P **P** **21 50 32.2 +2.0**
comp=Z,1μmcomp=Z,58nm,1.1s
RPSI Rantau Prapat 24.20 254 P **P** **21 50 28.8 -1.5**
MNSI Mandailing Nat 24.26 249 P **P** **21 50 36.8 +5.9**
comp=Z,44nm,0.8s
TSI Tuntungan 24.30 256 P P 21 50 44.9 +14
JNU Nakatsue 24.34 18 P **P** **21 50 30.9 -0.5**
comp=Z,4.9nm,0.8s,baz=204,slow=19,SNR=2.7
JNU LR LR 22 01 05.3
comp=Z,2μm,19.3s,baz=194,slow=39
JNU Nakatsue 24.34 18 P **P** **21 50 28.6 -2.9**
MTN Manton Dam 24.41 158 P **P** **21 50 31.1 -1.1**
MTN IAmb IAmb 21 50 53.7
comp=Z,80nm,0.9s
KCSI Kotacane, Aceh 25.05 257 P **P** **21 50 38.6 +0.5**
comp=Z,1μmcomp=Z,44nm,1.1s
GSI Gunungsitoli 25.93 252 P **P** **21 50 44.1 -2.0**
GSI IAmb IAmb 21 51 04.8
comp=Z,38nm,0.8s
KNRA Kununurra 26.37 166 P **P** **21 50 47.6 -2.3**
TIA Tai'an 26.46 351 P **P** **21 50 50.3 -0.3**
TIA S **S** **21 55 22.9 -0.3**
TIA pmax pmax
comp=Z,7.0nm,0.7s
TIA pmax pmax
comp=Z,250nm,7.8s
TIA LR LR
comp=Z,2μm,18.8s
TIA LR LR
comp=Z,2μm,15.9s
TIA LR LR
comp=Z,3μm,19.3s
XAN Xi'an 26.80 335 P **P** **21 50 57.4 +3.6**
XAN pP pwP 21 51 04.4 +1.8
XAN PP **PnPn** **21 51 35.4 -0.3**
XAN S **S** **21 55 25.9 -2.9**
XAN pmax pmax
comp=Z,6.0nm,0.6s
XAN pmax pmax
comp=Z,540nm,12.0s
XAN LR LR
comp=Z,2μm,14.3s
XAN LR LR
comp=Z,3μm,14.1s
XAN LR LR
comp=Z,4μm,14.7s
XAN Xi'an 26.80 335 P **P** **21 50 50.8 -3.0**
XAN pmax pmax
comp=Z,21nm,1.1s
XAN MLR MLR
comp=Z,2μm,20.0s
XAN Xi'an 26.80 335 P **P** **21 50 50.8 -3.0**
CD2 Chengdu 26.91 323 P **P** **21 50 55.0 +0.2**
CD2 sP pP 21 50 59.8 -1.1
CD2 S **S** **21 55 29.7 -0.9**
CD2 sS sS 21 55 40.9 +0.3
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,560nm,6.1s
CD2 LR LR
comp=Z,6μm,16.3s
CD2 LR LR
comp=Z,7μm,16.7s
CD2 LR LR
comp=Z,9μm,19.0s
KSRS Korea Array 27.79 10 P **P** **21 51 02.5 0.0**
comp=Z,1.4nm,0.4s,baz=184,slow=11,SNR=10
KSRS PcP **PcP** **21 54 18.2 -0.5**
comp=Z,0.9nm,0.5s,baz=174,slow=2.8,SNR=2.7
KS19 Wonju Array Si 27.83 10 P **P** **21 51 00.5 -2.4**
JHJ Hachijo jima 2 28.13 33 LR LR 22 02 26.6
comp=Z,1μm,18.1s,baz=244,slow=37
FITZ Fitzroy Crossi 28.16 173 P **P** **21 51 06.4 +0.4**
comp=Z,6.6nm,0.5s,baz=7.4,slow=8.8,SNR=18
FITZ LR LR 22 04 39.5
comp=Z,641nm,19.1s,baz=3.5,slow=41
FITZ Fitzroy Crossi 28.16 173 P **P** **21 51 05.1 -0.9**
INU Inuyama 28.61 26 P **P** **21 51 07.2 -2.6**
DL2 Dalian 28.75 359 P **P** **21 51 15.1 +4.0**
DL2 S **S** **21 56 03.4 +4.1**
DL2 pmax pmax
comp=Z,22nm,1.1s
DL2 pmax pmax
comp=Z,150nm,7.8s
DL2 LR LR
comp=Z,1μm,16.8s
DL2 LR LR
comp=Z,2μm,16.6s
DL2 LR LR
comp=Z,2μm,17.4s
PBA Port Blair 28.93 276 IAMs_20 IAMs_20 22 02 26.4
comp=Z,5μm,20.0s
MAJO Matsushiro 30.13 26⇑ *e*P **P** **21 51 24.4 +1.0**
MJAR Matsushiro Arr 30.13 26 P **P** **21 51 22.9 -0.5**
comp=Z,0.5nm,0.5s,baz=198,slow=5.9,SNR=4.7
MJAR PcP **PcP** **21 54 24.2 -0.4**
comp=Z,0.6nm,0.4s,baz=189,slow=3.3,SNR=4.5
MJAR LR LR 22 03 17.2
comp=Z,1μm,18.6s,baz=210,slow=36
BJI Beijing 30.35 351 P **P** **21 51 27.0 +1.8**
BJI S **S** **21 56 23.2 -1.2**
BJI pmax pmax
comp=Z,9.0nm,0.7s
BJI pmax pmax
comp=Z,320nm,9.1s
BJI LR LR
comp=Z,870nm,22.0s
BJI LR LR
comp=Z,2μm,30.2s
LZH Lanzhou 30.81 330 *e*P **P** **21 51 31.1 +1.5**
LZH pP pP 21 51 36.4 +0.7
LZH sP pwP 21 51 39.9 +1.5
LZH PP **PnPn** **21 52 31.1 +1.0**
LZH S **S** **21 56 32.3 +0.2**
LZH sS sS 21 56 43.7 +1.7
LZH SS **SnSn** **21 58 19.9 +8.3**
LZH pmax pmax
comp=Z,20nm,1.1s
LZH pmax pmax
comp=Z,300nm,4.9s
LZH LR LR
comp=Z,6μm,14.6s
LZH LR LR
comp=Z,7μm,14.6s
LZH LR LR
comp=Z,8μm,14.6s
WB0 Warramunga Arr 31.97 158 IAmb IAmb 21 51 41.5
comp=Z,31nm,1.2s
HHC Hu-ho-hao-te 32.09 345 P **P** **21 51 40.2 -0.5**
HHC PP **PnPn** **21 52 46.7 +0.1**
HHC S **S** **21 56 50.0 -1.9**
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,48nm,5.7s
HHC LR LR
comp=Z,1μm,14.5s
HHC LR LR
comp=Z,940nm,17.0s
WRAB Tennant Creek 32.11 158⇓ *e*P **P** **21 51 41.0 +0.1**
WRAB pmax pmax
comp=Z,19nm,0.8s
WRA Warramunga Arr 32.11 158 P **P** **21 51 40.0 -1.0**
comp=Z,10nm,0.7s,baz=341,slow=9.3,SNR=63
WRA PcP **PcP** **21 54 29.4 -0.7**
comp=Z,8.9nm,1.0s,baz=335,slow=3.4,SNR=7.9
WB2 Warramunga Arr 32.12 158 P **P** **21 51 39.9 -1.1**
WB2 IAmb IAmb 21 52 14.7
comp=Z,36nm,1.2s
WR0 Warramunga Arr 32.20 158 P **P** **21 51 39.2 -2.5**
WR0 IAmb IAmb 21 52 07.9
comp=Z,24nm,1.1s
SHL Shillong 32.59 302 *e*P **P** **21 51 45.0 -0.4**
SHL IAmb IAmb 21 51 47.9
comp=Z,9.5nm,0.7s
SHL Shillong 32.59 302 P **P** **21 51 42.5 -2.9**
SHL pmax pmax
comp=Z,18nm,0.7s
SHL MLR MLR
comp=Z,3μm,18.0s
SHL Shillong 32.59 302 P **P** **21 51 42.5 -2.9**
SHL IAmb IAmb 21 51 60.0
comp=Z,18nm,0.7s
SHL IAMs_20 IAMs_20 22 05 58.1
comp=Z,3μm,18.0s
CN2 Changchun 33.76 4 *e*P **P** **21 51 56.8 +1.7**
CN2 *e*S **S** **21 57 15.3 -2.2**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,2μm,15.0s
CN2 LR LR
comp=Z,2μm,17.0s
LSA Lhasa 34.94 308 P **P** **21 52 06.8 +0.7**
LSA pmax pmax
comp=Z,18nm,0.8s
LSA Lhasa 34.94 308 P **P** **21 52 04.4 -1.7**
LSA pmax pmax
comp=Z,8.0nm,0.8s
LSA MLR MLR
comp=Z,2μm,20.0s
LSA Lhasa 34.94 308 P **P** **21 52 04.4 -1.7**
LSA IAMs_20 IAMs_20 22 06 39.2
comp=Z,2μm,20.0s
MDJ Mudanjiang 35.05 9 P **P** **21 52 07.1 +0.8**
MDJ pP pP 21 52 11.7 -1.0
MDJ sP sP 21 52 14.8 -0.5
MDJ S **S** **21 57 36.5 -0.9**
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MDJ LR LR
comp=Z,2μm,16.7s
MDJ LR LR
comp=Z,1μm,18.3s
MDJ LR LR
comp=Z,2μm,16.5s
MDJ Mudanjiang 35.05 9 IAmb IAmb 21 52 16.1
comp=Z,42nm,1.2s
USA0B Ussuriysk Arra 35.09 12 P **P** **21 52 05.1 -1.5**
USA0B pmax pmax
comp=Z,82nm,1.9s
USA0B MLR MLR
comp=Z,1μm,20.0s
USA0B Ussuriysk Arra 35.09 12 P **P** **21 52 05.1 -1.5**
USA0B IAmb IAmb 21 52 17.6
comp=Z,82nm,1.9s
USRK Ussuriysk Ar. 35.09 12 P **P** **21 52 06.8 +0.2**
comp=Z,5.5nm,0.6s,baz=202,slow=5.9,SNR=15
USRK LR LR 22 08 32.9
comp=Z,1μm,18.2s,baz=182,slow=40
GTA Gaotai 35.40 329 P **P** **21 52 11.0 +1.5**
GTA pP pP 21 52 16.7 +1.0
GTA sP pwP 21 52 19.5 +1.1
GTA S **S** **21 57 44.8 +1.7**
GTA SS **SnSn** **22 00 04.4 +1.6**
GTA pmax pmax
comp=Z,6.0nm,1.4s
GTA pmax pmax
comp=Z,190nm,5.9s
GTA LR LR
comp=Z,5μm,16.6s
GTA LR LR
comp=Z,5μm,16.6s
GTA LR LR
comp=Z,7μm,15.7s
AS31 Alice Springs 35.41 161 P **P** **21 52 09.8 +0.1**
ASAR Alice Springs 35.41 161 P **P** **21 52 09.8 +0.2**
comp=Z,17nm,0.6s,baz=344,slow=7.1,SNR=107
ASAR PcP **PcP** **21 54 39.8 +0.4**
comp=Z,8.6nm,0.9s,baz=347,slow=2.7,SNR=9.6
ASAR ScP **ScP** **21 58 26.0 +1.8**
comp=Z,1.0nm,0.8s,baz=348,slow=4.0,SNR=3.4
GTK Tadong 35.98 303 *e*P **P** **21 52 15.2 +0.5**
GTK IAmb IAmb 21 52 31.4
comp=Z,12nm,0.5s
TAPN Taplejung 36.73 303 *e*P **P** **21 52 21.8 +0.5**
comp=Z,26nm,0.7s
ODAN Odare 36.82 302 *e*P **P** **21 52 22.3 +0.3**
comp=Z,24nm,0.7s
RAMN Ramite 37.51 302 *e*P **P** **21 52 28.4 +0.5**
comp=Z,17nm,0.7s
JIRN Jiri 38.10 302 *e*P **P** **21 52 33.4 +0.4**
comp=Z,66nm,0.8s
CTA Charters Tower 38.19 142 P **P** **21 52 33.7 +0.3**
comp=Z,3.0nm,0.4s,baz=330,slow=9.1,SNR=5.7
GUN Gumba 38.44 303 *e*P **P** **21 52 36.2 +0.3**
comp=Z,56nm,0.7s
PKI Pulchoki 38.72 302 *e*P **P** **21 52 37.8 -0.4**
comp=Z,82nm,1.4s
PKIN Phulchoki 38.73 302 *e*P **P** **21 52 37.9 -0.3**
comp=Z,35nm,0.9s
KKN Kakani 38.90 302 *e*P **P** **21 52 39.5 -0.1**
comp=Z,35nm,0.8s
DMN Daman 38.98 302 *e*P **P** **21 52 40.7 +0.4**
comp=Z,30nm,0.9s
MORW Morawa 39.32 188 P **P** **21 52 40.6 -2.1**
MORW IAmb IAmb 21 53 38.8
comp=Z,86nm,1.6s
MORW IAMs_20 IAMs_20 22 07 08.7
comp=Z,2μm,20.0s
YUK Yuzh-Kuril'sk 39.61 27 *e*P **P** **21 52 42.2 -2.8**
YUK *e* 21 54 14.7
YUK *e*S **S** **21 58 45.3 -1.5**
YUK *e*SS **SS** **22 01 34.7 -7.6**
YUK MLR MLR
comp=Z,809nm,18.0s
YUK MLR MLR
comp=N,702nm,20.0s
YUK MLR MLR
comp=E,352nm,15.0s
ULN Ulaanbaatar 39.80 344⇑ *e*P **P** **21 52 47.8 +1.1**
ULN pmax pmax
comp=Z,38nm,2.1s
ULN Ulaanbaatar 39.80 344 P **P** **21 52 46.3 -0.4**
ULN Ulaanbaatar 39.80 344 IAMs_20 IAMs_20 22 10 06.8
comp=Z,2μm,21.0s
SONM Songino Array 39.96 343 P **P** **21 52 48.6 +0.6**
comp=Z,4.5nm,0.7s,baz=158,slow=8.3,SNR=14
SONM PcP **PcP** **21 54 54.1 +1.0**
comp=Z,1.1nm,0.6s,baz=180,slow=2.1,SNR=2.0
SONM LR LR 22 11 12.3
comp=Z,1μm,18.9s,baz=148,slow=39
KOLN Koldanda 40.30 301 *e*P **P** **21 52 51.3 +0.1**
comp=Z,49nm,0.8s
DANN Dangsing 40.35 302 *e*P **P** **21 52 51.6 -0.1**
comp=Z,38nm,0.8s
YSS Yuzh-Sakhalins 40.74 22 *e*P **P** **21 52 55.1 +0.8**
YSS *e*S **S** **21 58 58.8 -4.7**
YSS *e* 22 02 01.1
YSS *e* 22 03 00.9
YSS pmax pmax
comp=Z,300nm,5.7s
YSS MLR MLR
comp=Z,900nm,17.0s
YSS MLR MLR
comp=N,700nm,18.0s
YSS MLR MLR
comp=E,500nm,17.0s
FORT Forrest 40.97 172 P **P** **21 52 54.5 -1.8**
KUR Kuril'sk 41.45 28 P **P** **21 53 03.2 +3.1**
KUR *e* 21 54 54.1
KUR *e*S **S** **21 59 15.5 +1.4**
KUR *e*SS **SS** **22 02 18.0 -0.8**
KUR MLR MLR
comp=Z,702nm,19.0s
GRNR Gornyy 42.28 13 *e*P **P** **21 53 07.3 +0.4**
GRNR MLR MLR
comp=E,190nm,15.0s
GRNR MLR MLR
comp=N,410nm,17.0s
GRNR MLR MLR
comp=Z,630nm,18.0s
NWAO Narrogin (SRO) 42.98 186 P **P** **21 53 10.8 -1.9**
NWAO pmax pmax
comp=Z,44nm,1.0s
NWAO Narrogin (SRO) 42.98 186 P **P** **21 53 10.8 -1.9**
NWAO IAmb IAmb 21 53 16.4
comp=Z,44nm,0.9s
NWAO Narrogin (SRO) 42.98 186 IAmb IAmb 21 53 16.4
comp=Z,35nm,0.9s
ZAK Zakamensk 43.15 342 *e*P **P** **21 53 15.5 +1.4**
ZAK pmax pmax
comp=Z,7.0nm,1.4s
ZAK pmax pmax
comp=Z,5.0nm,1.4s
ZAK pmax pmax
comp=Z,4.0nm,1.2s
ZEA Zeya 43.78 4 *e*P **P** **21 53 19.6 +0.7**
ZEA *e*S **S** **21 59 46.0 -2.2**
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=Z,50nm,1.2s
ZEA pmax pmax
comp=Z,100nm,6.0s
ZEA smax smax
comp=N,500nm,15.0s
ZEA MLR MLR
comp=N,2μm,17.0s
ZEA MLR MLR
comp=Z,2μm,17.0s
TLY Talaya 44.20 344 P **P** **21 53 25.0 +2.6**
comp=Z,8.4nm,0.8s,baz=183,slow=9.9,SNR=3.4
TLY LR LR 22 15 19.2
comp=Z,1μm,18.5s,baz=145,slow=41
TLY Talaya 44.20 344 *e*P **P** **21 53 24.5 +2.1**
TLY *e*S **S** **21 59 55.4 +0.9**
TLY *e*SS **ScS** **22 03 23.9 +4.3**
TLY pmax pmax
comp=Z,47nm,1.3s
TLY MLR MLR
comp=Z,3μm,19.0s
TLY Talaya 44.20 344 P **P** **21 53 20.6 -1.8**
IRK Irkutsk 44.53 344 *e*P **P** **21 53 26.2 +1.1**
IRK pmax pmax
comp=Z,42nm,1.8s
BBOO Buckleboo 44.62 163 P **P** **21 53 25.2 -0.8**
BBOO IAmb IAmb 21 53 50.3
comp=Z,36nm,0.9s
BHPL Bhopal 44.65 293 *e*P **P** **21 53 27.4 +0.9**
BHPL IAmb IAmb 21 53 37.7
comp=Z,21nm,0.8s
MOY Mondy 44.97 341 *e*P **P** **21 53 32.6 +3.9**
MOY pmax pmax
comp=Z,45nm,2.7s
WMQ Urumqi 44.99 325 *e*P **P** **21 53 31.2 +2.3**
WMQ pP pP 21 53 35.7 +0.5

WMQ sP pwP 21 53 39.7 +1.8
WMQ PcS **PcS** **21 59 04.4 +0.9**
WMQ S **S** **22 00 07.9 +1.6**
WMQ sS sS 22 00 17.6 +1.0
WMQ SS **SS** **22 03 27.5 -1.0**
WMQ pmax pmax
comp=Z,16nm,0.7s
WMQ LR LR
comp=Z,3µm,16.3s
WMQ LR LR
comp=Z,2µm,17.9s
WMQ LR LR
comp=Z,2µm,16.3s
EIDS Eidsvold 45.08 142 IAMs_20 IAMs_20 22 13 56.6
comp=Z,2µm,20.0s
NKL Nikolayevsk 45.52 16 *e*P **P** **21 53 32.2 -0.6**
NKL *e* 21 55 11.9
NKL *e*S **S** **22 00 17.5 +4.1**
NKL pmax pmax
comp=Z,47nm,1.3s
NKL pmax pmax
comp=N,3.0nm,0.8s
NKL pmax pmax
comp=E,2.0nm,1.1s
NKL pmax pmax
comp=Z,35nm,2.1s
STKA Stephens Creek 45.64 157 P **P** **21 53 33.8 -0.2**
comp=Z,4.2nm,0.4s,baz=341,slow=7.8,SNR=25
STKA PcP **PcP** **21 55 13.6 +1.5**
comp=Z,4.1nm,0.5s,baz=316,slow=4.6,SNR=4.1
STKA LR LR 22 16 55.0
comp=Z,178nm,18.3s,baz=334,slow=42
STKA Stephens Creek 45.64 157 P **P** **21 53 33.2 -0.9**
SMLA Simla 46.66 304 *e*P **P** **21 53 42.6 +0.4**
SMLA IAmb IAmb 21 53 53.7
comp=Z,47nm,0.9s
DHRM DHARAMSHALA 47.69 305 *e*P **P** **21 53 50.5 -0.1**
DHRM IAmb IAmb 21 53 59.9
comp=Z,49nm,0.4s
DGZ Jazzator, Alta 48.91 331⇓ *e*P **P** **21 53 59.9 +0.3**
DGZ pmax pmax
comp=Z,19nm,2.8s
MK31 Makanchi Array 49.82 325 P **P** **21 54 07.1 +0.6**
MK31 pmax pmax
comp=Z,8.0nm,0.8s
MK31 Makanchi Array 49.82 325 P **P** **21 54 07.1 +0.6**
MKAR Makanchi Array 49.82 325 P **P** **21 54 07.1 +0.7**
comp=Z,3.9nm,0.8s,baz=130,slow=8.5,SNR=37
MKAR PcP **PcP** **21 55 28.5 +1.6**
comp=Z,1.5nm,0.7s,baz=126,slow=3.5,SNR=1.3
MKAR ScP **ScP** **21 59 21.2 -0.2**
comp=Z,0.9nm,0.9s,baz=130,slow=5.8,SNR=4.0
MKAR LR LR 22 16 26.4
comp=Z,3µm,18.4s,baz=114,slow=38
MAKZ Makanchi 50.01 325 P **P** **21 54 08.5 +0.6**
MAKZ pmax pmax
comp=Z,15nm,1.1s
MAKZ MLR MLR
comp=Z,3µm,18.0s
MAKZ Makanchi 50.01 325 P **P** **21 54 08.5 +0.6**
TARG Taragay, Kyrgy 50.06 317 IAmb IAmb 21 54 27.8
comp=Z,19nm,0.9s
TARG IAMs_20 IAMs_20 22 17 43.2
comp=Z,2µm,21.0s
KSH Kashi 50.42 314 *e*P **P** **21 54 12.9 +1.7**
KSH pmax pmax
comp=Z,120nm,1.6s
KSH pmax pmax
comp=Z,460nm,4.3s
KSH LR LR
comp=Z,4µm,14.5s
KSH LR LR
comp=Z,4µm,17.4s
KSH LR LR
comp=Z,3µm,18.0s
NIL Nilore 50.55 305 P **P** **21 54 13.1 +0.9**
NIL pmax pmax
comp=Z,60nm,0.9s
NIL Nilore 50.55 305 P **P** **21 54 13.1 +0.9**
ULHL Ulahol 51.34 317 P **P** **21 54 20.1 +1.9**
SNR=11
PEA0B Petropavlovsk- 51.59 27*c**e*P **P** **21 54 20.5 +0.9**
PETK Petropavlovsk- 51.59 27 P **P** **21 54 19.3 -0.3**
comp=Z,12nm,0.8s,baz=198,slow=4.9,SNR=13
PETK LR LR 22 16 16.2
comp=Z,752nm,19.6s,baz=222,slow=36
KZA Kyzart 51.94 316 P **P** **21 54 24.8 +1.8**
SNR=38
PET Petropavlovsk 51.96 27 *e*P **P** **21 54 22.0 -0.3**
PET *e*S **S** **22 01 41.9 -2.2**
PET *e* 22 04 05.3
PET *e*SS **SS** **22 05 15.8 -5.4**
PET *e*SSS SSS 22 06 53.7
PET pmax pmax
comp=Z,200nm,15.1s
TKM2 Tokmak 2 52.06 317 P **P** **21 54 25.2 +1.6**
SNR=20
TKM2 Tokmak 2 52.06 317 *i* P **P** **21 54 24.0 +0.4**
TKM2 pmax pmax
comp=Z,28nm,1.1s
YAK Yakutsk 52.19 4 P **P** **21 54 24.4 +0.4**
comp=Z,6.2nm,0.4s,baz=249,slow=1.1,SNR=1.9
YAK LR LR 22 17 10.5
comp=Z,1µm,21.5s,baz=180,slow=37
YAK Yakutsk 52.19 4 *e*P **P** **21 54 24.5 +0.6**
YAK *e**PP **sP** **21 54 32.2 -0.3**
YAK *e* 21 55 39.6
YAK *e* 21 56 31.4
YAK *e*S **S** **22 01 43.7 -3.4**
YAK *e**SS **sS** **22 02 00.9 +2.9**
YAK *e* 22 04 08.8
YAK *e*SSS SSS 22 07 06.4
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK pmax pmax
comp=Z,12nm,0.8s
YAK smax smax
comp=E,160nm,4.3s
YAK smax smax
comp=N,53nm,2.3s
YAK MLR MLR
comp=Z,915nm,16.0s
YAK MLR MLR
comp=N,735nm,15.0s
YAK MLR MLR
comp=E,468nm,15.0s
YAK Yakutsk 52.19 4 P **P** **21 54 23.8 -0.1**
KBK Karagaybulak 52.38 317 P **P** **21 54 27.3 +1.3**
SNR=26
UCH Uchtor 52.50 316 P **P** **21 54 29.0 +1.8**
SNR=69
CHMS Chumysh 52.65 317 P **P** **21 54 28.9 +1.2**
SNR=17
AAK Ala-Archa 52.68 317 P **P** **21 54 29.1 +1.0**
comp=E,12nm,0.8s,baz=136,slow=8.7,SNR=41
AAK LR LR 22 17 42.2
comp=E,1µm,22.0s,baz=98,slow=37
AAK Ala-Archa 52.68 317 P **P** **21 54 30.9 +2.8**
SNR=16
AAK Ala-Archa 52.68 317*d* *i*P **P** **21 54 29.5 +1.4**
AAK pmax pmax
comp=Z,20nm,0.8s
AAK Ala-Archa 52.68 317 P **P** **21 54 27.6 -0.5**
AAK Ala-Archa 52.68 317 IAMs_20 IAMs_20 22 19 04.4
comp=Z,1µm,20.0s
USP Ospenovka 52.93 317 P **P** **21 54 31.0 +1.2**
SNR=29
ZAA0 Zalesovo Array 52.95 333 P **P** **21 54 28.6 -1.1**
ZALV Zalesovo Beam 52.95 333 P **P** **21 54 29.2 -0.5**
comp=Z,1.3nm,0.3s,baz=133,slow=8.3,SNR=3.4
ZALV LR LR 22 17 48.5
comp=Z,484nm,20.3s,baz=138,slow=37
ZALV Zalesovo Beam 52.95 333 *i* P **P** **21 54 33.5 +3.8**
ZALV pmax pmax
comp=Z,2.0nm,0.3s
AML Almayashu 53.02 316 P **P** **21 54 32.6 +1.6**
SNR=34
EKS2 Erkin-Say 53.17 316 P **P** **21 54 33.3 +1.6**
SNR=26
ARSB Arslanbob 53.22 315 IAmb IAmb 21 54 45.0
comp=Z,24nm,0.8s
DZM Mont Dzumac 53.89 127 *e*S **S** **22 02 05.6 -6.0**
comp=Z,489nm,29.6s
DZM *e*LR LR 22 10 11.0
comp=Z,1µm,24.5s
DZM Mont Dzumac 53.89 127 P **P** **21 54 36.7 -0.5**
comp=Z,4.1nm,0.9s,baz=301,slow=19,SNR=1.6
KURBB Kurchatov Arra 54.02 327 P **P** **21 54 37.8 +0.2**
comp=Z,6.0nm,0.7s,baz=127,slow=6.4,SNR=29
KURK Kurchatov 54.02 327*d* *i*P **P** **21 54 37.7 +0.1**
KURK pmax pmax
comp=Z,16nm,1.5s
KURK Kurchatov 54.02 327 P **P** **21 54 38.1 +0.5**
KBL Kabul 54.15 305 P **P** **21 54 39.6 +0.5**
KBL pmax pmax
comp=Z,14nm,0.7s
KBL MLR MLR
comp=Z,900nm,19.0s
KBL Kabul 54.15 305 P **P** **21 54 39.6 +0.5**
KBL IAmb IAmb 21 54 52.3
comp=Z,14nm,0.7s
KK31 Karatay Array 55.57 316 P **P** **21 54 49.5 +0.5**
KK31 pmax pmax
comp=Z,30nm,1.0s
KK31 Karatay Array 55.57 316 P **P** **21 54 49.5 +0.5**
KK31 IAmb IAmb 21 55 00.1
comp=Z,30nm,1.0s
KKAR Karatay Array 55.57 316 IAmb IAmb 21 55 00.1
comp=Z,30nm,1.0s
BVAR Borovoye Array 59.59 327 P **P** **21 55 17.2 0.0**
comp=Z,5.5nm,0.8s,baz=111,slow=8.4,SNR=24
BRVK Borovoye 59.67 327 P **P** **21 55 17.2 -0.5**
BRVK pmax pmax
comp=Z,26nm,1.1s
BRVK MLR MLR
comp=Z,1µm,18.0s
BRVK Borovoye 59.67 327 P **P** **21 55 17.1 -0.5**
BRVK IAmb IAmb 21 55 37.4
comp=Z,26nm,1.1s
BRVK Borovoye 59.67 327 IAMs_20 IAMs_20 22 22 37.9
comp=Z,1µm,18.0s
TIXI Tiksi 61.70 2 P **P** **21 55 30.2 -1.0**
comp=Z,8.6nm,0.7s,baz=160,slow=4.2,SNR=22
TIXI LR LR 22 26 17.8
comp=Z,828nm,18.0s,baz=133,slow=40
TIXI Tiksi 61.70 2*c**e*P **P** **21 55 30.2 -1.0**
TIXI pmax pmax
comp=Z,12nm,1.0s
TIXI Tiksi 61.70 2 P **P** **21 55 30.0 -1.2**
TIXI PcP **PcP** **21 56 11.6 -0.8**
TIXI PP **PP** **21 57 44.6 -2.5**
TIXI IAMs_20 IAMs_20 22 26 06.8
comp=Z,1µm,18.0s
NRIK Noril'sk 63.28 347 P **P** **21 55 41.2 -0.6**
comp=Z,6.6nm,0.8s,baz=138,slow=5.8,SNR=11
NRIK LR LR 22 25 31.0
comp=Z,2µm,18.8s,baz=152,slow=38
GEYT Alibeck 63.46 307 P **P** **21 55 45.5 +1.9**
comp=Z,8.4nm,1.1s,baz=116,slow=3.4,SNR=8.3
GEYT LR LR 22 27 40.6
comp=Z,1µm,18.4s,baz=115,slow=40
GYA0B ALIBECK ARRAY 63.46 307 P **P** **21 55 43.6 0.0**
GYA0B IAmb IAmb 21 56 12.1
comp=Z,24nm,1.1s
BILL Bilibino 64.76 17*c**e*P **P** **21 55 51.0 -0.5**
BILL *e* 21 56 24.4
BILL pmax pmax
comp=Z,10.0nm,1.0s
BILL Bilibino 64.76 17 P **P** **21 55 51.1 -0.4**
BILL IAmb IAmb 21 56 13.2
comp=Z,11nm,0.9s
BILL PP **PP** **21 58 15.1 +1.1**
AKTO Aktyubinsk 65.94 321 P **P** **21 55 59.5 0.0**
comp=Z,6.4nm,0.6s,baz=96,slow=12,SNR=12
AKTO LR LR 22 26 12.8
comp=Z,795nm,18.8s,baz=103,slow=37
SVE Sverdlovsk 66.25 328⇑ *e*P **P** **21 56 03.1 +1.8**
SVE *e*S **S** **22 04 47.9 -1.3**
SVE pmax pmax
comp=Z,37nm,1.2s
SVE MLR MLR
comp=Z,930nm,17.0s
ARU Arti 67.22 327 P **P** **21 56 06.4 -1.2**
comp=Z,2.8nm,0.6s,baz=127,slow=3.4,SNR=18
ARU Arti 67.22 327*d* *i*P **P** **21 56 07.4 -0.1**
ARU 21 56 35.6
ARU 21 58 35.2
ARU PPP PPP 22 00 12.4
ARU S **S** **22 05 03.1 +2.1**
ARU 22 05 56.3
ARU SS **SS** **22 09 21.0 +0.6**
ARU pmax pmax
comp=Z,8.0nm,0.7s
ARU MLR MLR
comp=Z,1µm,17.0s
ARU Arti 67.22 327 P **P** **21 56 05.9 -1.6**
ARU IAmb IAmb 21 56 16.4
comp=Z,16nm,0.7s
ARU IAMs_20 IAMs_20 22 26 59.5
comp=Z,1µm,19.0s
RPZ Rata Peaks 69.49 144 P **P** **21 56 21.4 -0.6**
comp=Z,20nm,0.9s,baz=348,slow=3.3,SNR=6.0
RPZ Rata Peaks 69.49 144 P **P** **21 56 20.4 -1.5**
BKZ Black Stump Fm 70.27 138 P **P** **21 56 24.6 -2.3**
MXZ Matakaoa Point 70.68 136 IAMs_20 IAMs_20 22 24 28.9
comp=Z,945nm,20.0s
UNV Unalaska Valle 70.96 36 P **P** **21 56 28.7 -2.1**
UNV IAmb IAmb 21 56 37.0
comp=Z,9.9nm,0.7s
AKT Akhty 71.77 310 *e*P **P** **21 56 38.6 +2.5**
AKT *e* 21 56 55.4
AKT pmax pmax
comp=Z,28nm,1.1s
MAK Makhachkala 72.01 312 *e*P P 21 56 30.3 -7.0
MAK pmax pmax
comp=Z,64nm,1.4s
MAK MLR MLR
comp=Z,614nm,16.0s
KIRV Kirov 72.51 328 P **P** **21 56 42.1 +2.1**
comp=Z,17nm,0.8s,baz=171,slow=4.9,SNR=8.2
GROC Groznyy 73.27 312 *e*P **P** **21 56 44.6 -0.3**
GROC *e* 21 57 01.0
GROC *e* 21 59 31.3
GROC pmax pmax
comp=Z,15nm,0.6s
RAYN Ar Rayn 73.90 292 P **P** **21 56 47.9 -1.2**
RAYN pmax pmax
comp=Z,13nm,0.9s
RAYN MLR MLR
comp=Z,500nm,20.0s
RAYN Ar Rayn 73.90 292 P **P** **21 56 47.9 -1.2**
RAYN IAmb IAmb 21 57 02.0
comp=Z,13nm,0.8s
ZEI Tsey 74.65 312 *e*P **P** **21 56 55.3 +2.1**
ZEI pmax pmax
comp=Z,24nm,1.1s
AKH Akhalkalaki 74.95 310 P **P** **21 56 52.9 -2.1**
AKH pmax pmax
comp=Z,30nm,1.1s
AKH Akhalkalaki 74.95 310 P **P** **21 56 52.9 -2.1**
AKH IAmb IAmb 21 57 13.1
comp=Z,30nm,1.1s
GOF Gofitskoye 75.29 314⇑ *e*P **P** **21 57 00.9 +4.3**
GOF pmax pmax
comp=Z,21nm,0.8s
KBZ Khabaz 75.39 313 P **P** **21 56 59.3 +2.1**
comp=Z,5.4nm,1.0s,baz=94,slow=8.5,SNR=14
KBZ LR LR 22 34 32.2
comp=Z,1µm,18.1s,baz=80,slow=39
KBZ Khabaz 75.39 313⇓ *e*P **P** **21 56 59.6 +2.4**
NEY Neytrino 75.52 312⇓ *e*P **P** **21 57 02.2 +4.0**
NEY pmax pmax
comp=Z,4.0nm,1.5s
KVAR Kislovodsk Arr 75.53 313 P **P** **21 57 01.9 +3.7**
comp=Z,2.3nm,0.6s,baz=90,slow=20,SNR=3.2
KIV Kislovodsk 75.54 313 *e*P **P** **21 56 59.2 +1.0**
KIV *e* 21 57 10.1
KIV *e* 21 59 48.4
KIV *e*PPP PPP 22 01 32.5
KIV pmax pmax
comp=Z,16nm,1.0s
KIV Kislovodsk 75.54 313 P **P** **21 56 57.3 -1.0**
KIV IAmb IAmb 21 57 11.2
comp=Z,19nm,0.9s
DAMY Dhamar 75.80 283 IAMs_20 IAMs_20 22 28 57.0
comp=Z,688nm,20.0s
VRH Novokhopyorsk 76.26 320 *e*P **P** **21 57 04.9 +2.9**
VRH pmax pmax
comp=Z,20nm,0.8s
CASY Casey 76.59 185 P **P** **21 57 03.0 -0.4**
KLMR Klimovskoe 77.72 330 *i* P **P** **21 57 10.9 +0.9**
KLMR *e*S **S** **22 07 04.3 +3.5**
KLMR *e*SS **SS** **22 12 05.5 +4.9**
KLMR pmax pmax
comp=Z,39nm,1.3s
KLMR MLR MLR
comp=Z,1µm,16.0s
KLMR Klimovskoe 77.72 330 *i* P **P** **21 57 11.0 +0.9**
KLMR AMP 21 57 19.2
comp=Z,39nm,1.3s
KLMR *e*S **S** **22 07 04.3 +3.5**
KLMR *e*S **S** **22 07 04.3 +3.5**
KLMR *e*SS **SS** **22 12 05.5 +4.9**
KLMR *e*SS **SS** **22 12 05.5 +4.9**
KLMR LQ LQ 22 26 22.0
KLMR LQ LQ 22 26 22.0
KLMR LR LR 22 32 29.5
KLMR AMP 22 33 44.2
comp=Z,1µm,15.9s
VORD Divnogorie 77.79 320 *e*P **P** **21 57 10.5 -0.1**
VORD pmax pmax
comp=Z,5.0nm,0.6s
VSR Storozhevoye 77.87 320 *e*P **P** **21 57 11.6 +0.5**
VSR pmax pmax
comp=Z,10.0nm,0.7s
VSR MLR MLR
comp=Z,850nm,19.0s
LPSR Galich'ya Gora 78.00 322 *e*P **P** **21 57 13.8 +2.1**
LPSR pmax pmax
comp=Z,20nm,0.8s
LPSR MLR MLR
comp=Z,700nm,17.0s
MOS Moscow 78.71 325 *e*P **P** **21 57 17.8 +2.2**
MOS *e* 22 00 22.5
KDAK Kodiak Island 79.06 33 IAMs_20 IAMs_20 22 30 37.3
comp=Z,656nm,20.0s
PPLA Purkeypile 79.16 28 IAmb IAmb 21 57 42.9
comp=Z,42nm,1.6s
ANN Anapa 79.28 314 *e*P **P** **21 57 15.9 -3.1**
ANN *e**PP **pP** **21 57 23.2 -2.4**
ANN *e* 22 00 15.3
ANN *e*PPP PPP 22 02 06.3
ANN *e*S **S** **22 07 15.3 -2.9**
ANN pmax pmax
comp=Z,11nm,1.1s
ANN MLR MLR
comp=Z,872nm,20.0s
ANN MLR MLR
comp=E,330nm,18.0s
ANN MLR MLR
comp=N,317nm,20.0s
OBN Obninsk 79.33 324 P **P** **21 57 21.0 +2.0**
comp=N,1.8nm,0.5s,baz=74,slow=3.5,SNR=6.8
OBN Obninsk 79.33 324⇓ *e*P **P** **21 57 20.6 +1.6**
OBN *e* 21 57 26.6
OBN *e* 22 00 20.3
OBN *e*PPP PPP 22 02 14.5
OBN pmax pmax
comp=Z,7.0nm,0.5s
OBN Obninsk 79.33 324 P **P** **21 57 18.1 -0.9**
OBN IAmb IAmb 21 57 29.0
comp=Z,35nm,1.3s
BPAW Bear Paw Mtn. 79.67 26 IAmb IAmb 21 57 51.3
comp=Z,40nm,1.2s
GAZ Gaziantep 80.01 306 IAMs_20 IAMs_20 22 38 24.2
comp=Z,605nm,19.0s
APA Apatity 80.32 337⇓ *i*P **P** **21 57 26.0 +1.8**
APA pmax pmax
comp=Z,9.0nm,0.7s
APA MLR MLR
comp=Z,3µm,14.0s
SEW Seward 80.58 31 IAmb IAmb 21 57 26.8
comp=Z,21nm,0.9s
PMR Palmer 80.64 29 IAmb IAmb 21 57 27.3
comp=Z,13nm,0.7s
RND Reindeer 80.65 27 IAmb IAmb 21 57 30.9
comp=Z,50nm,1.8s
WRH Wood River Hil 80.92 26 IAmb IAmb 21 57 51.5
comp=Z,44nm,1.9s
KNK Knik Glacier 80.97 29 IAmb IAmb 21 57 41.3
comp=Z,18nm,0.8s
COLA College 80.99 26⇓ *e*P **P** **21 57 28.3 +0.5**
COLA pmax pmax
comp=Z,4.0nm,0.6s
SML Sawmill 81.00 29 IAmb IAmb 21 57 45.1
comp=Z,23nm,1.0s
POKR Poker Plat Res 81.15 25 P **P** **21 57 28.4 -0.3**
baz=274
ILAR Eielson Array 81.41 26 P **P** **21 57 27.8 -2.3**
comp=Z,3.2nm,0.8s,baz=283,slow=4.6,SNR=35
ILAR LR LR 22 36 36.1
comp=Z,78nm,18.1s,baz=288,slow=38
HDA Harding Lake 81.42 26 P **P** **21 57 30.1 0.0**
baz=275
SIM Simferopol' 81.62 314 *e*P **P** **21 57 34.6 +3.0**
SIM *e* 21 57 38.0
SIM *e* 22 00 47.0
SIM *e*S **S** **22 07 42.0 -0.7**
SIM *e*PS **PnS** **22 08 36.0 +4.0**
SIM *e*SS **SS** **22 13 00.0 +0.2**
SIM pmax pmax
comp=Z,11nm,0.9s
SIM pmax pmax
comp=Z,60nm,10.0s
SIM pmax pmax
comp=Z,59µm,10.0s
GLI Glacier Island 81.68 30 IAmb IAmb 21 57 41.9
comp=Z,15nm,0.7s
FYU Fort Yukon 81.91 24 IAmb IAmb 21 57 45.8
comp=Z,20nm,1.0s
PAX Paxson 82.22 27 IAmb IAmb 21 57 44.9
comp=Z,53nm,2.0s
BRTR Keskin Array B 82.54 309 P **P** **21 57 36.5 -0.3**
comp=Z,1.9nm,0.9s,baz=110,slow=5.4,SNR=11
BRTR PP **PP** **22 00 49.6 +3.6**
comp=Z,0.5nm,0.8s,baz=69,slow=8.0,SNR=2.9
BRTR LR LR 22 39 45.5
comp=Z,271nm,21.0s,baz=64,slow=40
ARCES ARCESS Array B 83.00 339 P **P** **21 57 38.0 -0.3**
comp=Z,7.5nm,0.8s,baz=76,slow=5.1,SNR=13
ARCES LR LR 22 40 09.2
comp=Z,648nm,19.4s,baz=78,slow=40
ARCES ARCESS Array B 83.00 339 P **P** **21 57 38.0 -0.3**
MENT Mentasta 83.02 27 IAmb IAmb 21 57 53.1
comp=Z,9.6nm,0.6s
GLB Gilahina Butte 83.19 29 IAmb IAmb 21 57 57.2
comp=Z,13nm,0.9s
VRDI Verde Repeater 83.39 29 IAmb IAmb 21 57 47.6
comp=Z,38nm,1.8s
SPA0 Spitsbergen Ar 83.45 348 P **P** **21 57 39.5 -1.0**
SPITS Spitsbergen Ar 83.45 348 P **P** **21 57 40.0 -0.5**
comp=Z,3.5nm,0.6s,baz=91,slow=16,SNR=12
SPITS Spitsbergen Ar 83.45 348 P **P** **21 57 40.0 -0.5**
FIA1 FINESS Array S 84.16 331 P **P** **21 57 43.1 -1.3**
FIA1 IAmb IAmb 21 57 57.7
comp=Z,14nm,1.0s
FINES FINESS Array B 84.16 331 P **P** **21 57 43.7 -0.7**
comp=Z,4.3nm,0.6s,baz=47,slow=5.4,SNR=34
FINES LR LR 22 37 57.1
comp=Z,1µm,18.4s,baz=71,slow=38
AKASG Malin Array Be 84.17 320 P **P** **21 57 45.0 +0.3**
comp=Z,1.6nm,0.6s,baz=71,slow=4.5,SNR=15
AKASG LR LR 22 39 58.8
comp=Z,737nm,18.1s,baz=85,slow=39
AKASG Malin Array Be 84.17 320 *i* P **P** **21 57 45.0 +0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
VSU Vasula 84.36 328 *e*P **P** **21 57 48.2 +2.8**
MICGM Minsk 84.39 324 *e* **P** **21 57 50.0 +4.3**
MNK Minsk 84.39 324 *e*P **P** **21 57 50.0 +4.3**
DAWY Dawson 84.73 26 IAmb IAmb 21 57 58.9
comp=Z,20nm,1.3s
NACGM Naroch 84.95 325 *e*P **P** **21 57 51.0 +2.5**
NACGM *e*S **S** **22 08 13.0 -3.1**
NACGM *e*SS **SS** **22 13 58.0 +9.4**
NACGM *e*SSS SSS 22 17 38.0
NACGM *e*LQ LQ 22 33 15.0
NACGM *e*LR LR 22 36 28.0
NACGM LRM MLR 22 37 54.0
comp=Z,2.7nm,17.0s
IZAR Zarasai 85.10 326 *e*P **P** **21 57 53.0 +3.7**
SORM Soroca 85.14 318 ⇑P **P** **21 57 51.1 +1.5**
SORM Soroca 85.14 318 ⇑P **P** **21 57 51.1 +1.5**

KMBO	**Kilima Mbogo**	**85.18**	**268**	P		**P**	21 57 56.0	+5.2		
	comp=Z,1.4nm,0.7s,baz=91,slow=2.4,SNR=3.6									
KMBO				LR		LR	22 36 13.4			
	comp=Z,691nm,18.3s,baz=92,slow=36									
IIGN	**Ignalina**	**85.19**	**325**	*e*P		**P**	**21 57 53.5**	**+3.8**		
ISAL	**Salakas**	**85.20**	**325**	*e*P		**P**	**21 57 53.5**	**+3.7**		
EPYK	**Eagle Plains**	**85.31**	**23**	P		**P**	**21 57 50.3**	**+0.1**		
	baz=284									
TLCR		**85.31**	**315**	⇓P		**P**	**21 57 52.7**	**+2.2**		
TLCR		**85.31**	**315**	⇓P		**P**	**21 57 52.7**	**+2.2**		
TOPG	**Topolog**	**85.67**	**315**	⇑P		**P**	**21 57 55.9**	**+3.6**		
TIRR	**Tirgusor**	**85.71**	**314**	⇑P		**P**	**21 57 55.2**	**+2.6**		
TIRR	**Tirgusor**	**85.71**	**314**	⇑P		**P**	**21 57 55.2**	**+2.6**		
CFR	**Carcaliu**	**85.78**	**315**	⇑P		**P**	**21 57 53.4**	**+0.5**		
CFR	**Carcaliu**	**85.78**	**315**	⇑P		**P**	**21 57 53.4**	**+0.5**		
TLBR	**Topalu**	**85.96**	**314**	⇓P		**P**	**21 57 57.5**	**+3.7**		
INK	**Inuvik**	**85.98**	**21**	IAmb		IAmb	21 57 55.4			
	comp=Z,16nm,0.8s									
HARR	**Harsova**	**86.01**	**315**	⇓P		**P**	**21 57 56.6**	**+2.6**		
HARR	**Harsova**	**86.01**	**315**	⇓P		**P**	**21 57 56.6**	**+2.6**		
HYT	**Haines Junctio**	**86.31**	**29**	IAmb		IAmb	21 58 29.4			
	comp=Z,10nm,1.0s									
PABE	**Paberze**	**86.42**	**326**	*e*P		**P**	**21 57 57.6**	**+1.8**		
TESR	**Tescani**	**86.57**	**316**	⇑P		**P**	**21 57 57.3**	**+0.6**		
VRI	**Vrincioaia**	**86.64**	**316**	⇓P		**P**	**21 58 00.4**	**+3.3**		
VRI	**Vrincioaia**	**86.64**	**316**	⇓P		**P**	**21 58 00.4**	**+3.3**		
PLOR	**Plostina**	**86.69**	**316**	⇓P		**P**	**21 58 01.0**	**+3.6**		
PLOR	**Plostina**	**86.69**	**316**	⇓P		**P**	**21 58 01.0**	**+3.6**		
BISRR	**Bisoca**	**86.71**	**316**	⇑P		**P**	**21 58 00.7**	**+3.2**		
BIZ	**Bicaz**	**86.85**	**317**	⇓P		**P**	**21 57 55.7**	**-2.5**		
MLR	**Muntele Rosu**	**87.25**	**316**	⇑P		**P**	**21 58 00.9**	**+0.6**		
MLR	**Muntele Rosu**	**87.25**	**316**	⇑P		**P**	**21 58 00.9**	**+0.6**		
MLR	**Muntele Rosu**	**87.25**	**316**	IAmb		IAmb	21 58 26.5			
	comp=Z,20nm,1.1s									
MLR				IAMs_20		IAMs_20	22 41 50.0			
	comp=Z,880nm,22.0s									
BURAR	**Bucovina Array**	**87.31**	**318**	⇓P		**P**	**21 58 01.7**	**+1.2**		
BURAR	**Bucovina Array**	**87.31**	**318**	⇓P		**P**	**21 58 01.7**	**+1.2**		
BUR08	**Bucovina Ar. S**	**87.31**	**318**	IAmb		IAmb	21 58 21.2			
	comp=Z,9.7nm,1.1s									
A36M	**Sachs Harbour**	**87.32**	**17**	P		**P**	**21 57 59.6**	**-0.3**		
	baz=294									
PBUR	**Paburge**	**87.42**	**326**	*e*P		**P**	**21 57 58.1**	**-2.5**		
DOPR	**Dopca**	**87.53**	**316**	⇑P		**P**	**21 58 05.1**	**+3.6**		
LVV	**L'vov**	**87.61**	**320**	*e*P		**P**	**21 58 04.1**	**+2.4**		
LVV				*e*			22 01 26.6			
LVV				*e*PPP		PPP	22 03 29.5			
LVV				*e*			22 08 21.6			
LVV				*e*S		**S**	**22 08 42.7**	**+0.4**		
LVV				*e*PS		**PnS**	**22 09 42.8**	**-1.9**		
VOIR		**87.87**	**316**	⇓P		**P**	**21 58 07.3**	**+4.1**		
VOIR		**87.87**	**316**	⇓P		**P**	**21 58 07.3**	**+4.1**		
HUMR	**Humele**	**88.11**	**315**	⇓P		**P**	**21 58 06.7**	**+2.4**		
MAW	**Mawson**	**88.12**	**199**	P		**P**	**21 58 03.9**	**+0.3**		
	comp=Z,2.0nm,0.7s,baz=18,slow=6.4,SNR=2.8									
MAW	**Mawson**	**88.12**	**199**	P		**P**	**21 58 03.4**	**-0.2**		
MAW	**Mawson**	**88.12**	**199**	P		**P**	**21 58 03.4**	**-0.2**		
ARR	**Arges**	**88.17**	**316**	⇑P		**P**	**21 58 06.6**	**+2.0**		
KWP	**Kalwaria Pacla**	**88.49**	**320**	IAMs_20		IAMs_20	22 41 50.7			
	comp=Z,695nm,19.0s									
LOT	**Lotru**	**88.75**	**316**	⇑P		**P**	**21 58 11.0**	**+3.5**		
C36M	**Paulatuk**	**88.80**	**19**	P		**P**	**21 58 06.9**	**0.0**		
	baz=296									
UZH	**Uzhgorod**	**88.99**	**319**	*e*P		**P**	**21 58 08.6**	**+0.3**		
UZH				*i*			21 58 10.1			
UZH				*i* S		**S**	**22 08 51.6**	**-3.8**		
DRGR		**89.16**	**317**	⇑P		**P**	**21 58 11.9**	**+2.7**		
DRGR		**89.16**	**317**	⇑P		**P**	**21 58 11.9**	**+2.7**		
GZR	**Gura Zlata**	**89.44**	**316**	⇑P		**P**	**21 58 13.2**	**+2.6**		
GZR	**Gura Zlata**	**89.44**	**316**	⇑P		**P**	**21 58 13.2**	**+2.6**		
CRVS	**Cervenica-Dubn**	**89.46**	**320**	*e*P		**P**	**21 58 14.6**	**+4.0**		
CRVS	**Cervenica-Dubn**	**89.46**	**320**	*e*P		**P**	**21 58 14.5**	**+4.0**		
BZS	**Buzias**	**90.18**	**316**	⇓P		P	21 58 03.2	-11		
BZS	**Buzias**	**90.18**	**316**	⇓P		P	21 58 03.2	-11		
VNDA	**Vanda**	**90.24**	**172**	P		**P**	**21 58 13.6**	**+0.1**		
	comp=Z,8.3nm,1.0s,baz=310,slow=5.5,SNR=26									
VNDA				LR		LR	22 38 08.5			
	comp=Z,254nm,21.5s,baz=342,slow=35									
VNDA	**Vanda**	**90.24**	**172**	P		**P**	**21 58 13.8**	**+0.4**		
VNDA				pmax		pmax				
	comp=Z,11nm,1.1s									
VNDA	**Vanda**	**90.24**	**172**	P		**P**	**21 58 13.8**	**+0.4**		
VNDA				IAmb		IAmb	21 58 16.1			
	comp=Z,11nm,1.1s									
HFS	**Hagfors**	**90.36**	**332**	P		**P**	**21 58 13.1**	**-1.4**		
	comp=Z,1.1nm,0.6s,baz=90,slow=5.9,SNR=6.8									
PSZ	**Piszkesteto**	**90.72**	**319**	IAMs_20		IAMs_20	22 45 11.0			
	comp=Z,687nm,18.0s									
NB2	**NORSAR Subarra**	**91.15**	**333**	P		**P**	**21 58 16.3**	**-1.9**		
	comp=Z,3.7nm,1.1s,baz=67,slow=4.6									
NOA	**NORSAR Array B**	**91.15**	**333**	P		**P**	**21 58 17.0**	**-1.2**		
	comp=Z,1.2nm,0.9s,baz=68,slow=4.7,SNR=3.9									
NOA				LR		LR	22 43 23.3			
	comp=Z,784nm,18.4s,baz=65,slow=38									
OKC	**Ostrava-Krasne**	**91.29**	**321**	*e*PP		PP	22 02 07.4	+11		
OKC				*e*SKS		**SKSac**	**22 08 46.1**	**-4.0**		
OKC				AMS		AMS	22 42 10.0			
	comp=Z,700nm,17.5s									
PPT	**Papeete**	**91.34**	**107**	LR		LR	22 31 41.3			
	comp=Z,309nm,21.7s,baz=276,slow=30									
PPT2	**Papeete2**	**91.35**	**108**	*e*S		**S**	**22 09 10.4**	**-8.0**		
	comp=Z,378nm,24.0s									
PPT2	**Papeete2**	**91.35**	**108**	*e*LR		LR	22 27 33.6			
	comp=Z,770nm,24.0s									
MORC	**Moravsky Berou**	**91.68**	**321**	*e*P		**P**	**21 58 21.0**	**+0.1**		
JAVC	**Velka Javorina**	**91.88**	**320**	*e*P		**P**	**21 58 26.3**	**+4.5**		
KRLC	**Kraliky**	**92.06**	**322**	*e*SKS		SKSac	22 08 40.5	-14		
OSTC	**Ostas**	**92.25**	**322**	*e*PP		PP	22 02 05.5	+1.9		
OSTC				*e*SKS		**SKSac**	**22 08 47.9**	**-7.7**		
OSTC				AMS		AMS	22 44 50.0			
	comp=Z,900nm,18.1s									
DPC	**Dobruska-Polom**	**92.25**	**322**	*e*PP		PP	22 01 59.9	-3.8		
DPC				*e*SKS		**SKSac**	**22 08 51.6**	**-4.1**		
DPC				AMS		AMS	22 44 50.0			
	comp=Z,900nm,19.6s									
CHVC	**Chvalec**	**92.34**	**322**	AMS		AMS	22 45 00.0			
	comp=Z,1μm,19.2s									
UPC	**Upice**	**92.39**	**322**	*e*PP		PP	22 02 11.1	+6.4		
UPC				*e*SKS		**SKSac**	**22 08 47.9**	**-8.4**		
UPC				AMS		AMS	22 45 10.0			
	comp=Z,1μm,19.9s									
TBI	**Tubuai**	**92.44**	**113**	*e*S		**S**	**22 09 21.6**	**-6.3**		
	comp=Z,221nm,26.0s									
TBI	**Tubuai**	**92.44**	**113**	*e*LR		LR	22 28 03.1			
	comp=Z,1μm,23.2s									
TIR	**Tirane**	**92.52**	**313**	IAMs_20		IAMs_20	22 46 34.9			
	comp=Z,492nm,20.0s									
KRUC	**Moravsky**	**92.61**	**321**	*e*P		P	21 58 30.0	+4.8		
TREC	**Trest**	**93.10**	**321**	AMS		AMS	22 45 40.0			
	comp=Z,700nm,15.1s									
PVCC	**Panska Ves**	**93.25**	**322**	AMS		AMS	22 45 30.0			
	comp=Z,1μm,17.7s									
CONA	**Conrad Observa**	**93.31**	**320**	*i* sP		**P**	**21 58 32.8**	**+4.2**		
	comp=Z,4.2nm,1.6s									
CONA				*i* PP		**PP**	**22 02 14.7**	**+2.6**		
	comp=Z,3.0nm,1.2s									
GOPC	**GO Pecny, Ondr**	**93.33**	**322**	*e*SKS		**SKSac**	**22 08 55.3**	**-6.3**		
GOPC				AMS		AMS	22 43 00.0			
	comp=Z,900nm,18.4s									
TULEG	**Thule**	**93.34**	**3**	IAMs_20		IAMs_20	22 44 39.0			
	comp=Z,596nm,19.0s									
PRU	**Pruhonice**	**93.45**	**322**	*e*PP		**PP**	**22 02 16.6**	**+3.6**		
PRU				*e*SKS		**SKSac**	**22 09 00.9**	**-1.3**		
PRU				AMS		AMS	22 43 10.0			
	comp=Z,900nm,18.2s									
PRA	**Prague**	**93.49**	**322**	*e*SKS		**SKSac**	**22 09 00.9**	**-1.5**		
PRA				AMS		AMS	22 45 40.0			
	comp=Z,500nm,17.6s									
BRG	**Berggiesshubel**	**93.50**	**323**	*e*P		**P**	**21 58 29.6**	**+0.4**		
	comp=Z,2.2nm,1.0s									
BRG				*e*			21 58 38.2			
	comp=Z,8.7nm,1.3s									
BRG				PP		**PP**	**22 02 15.0**	**+1.6**		
BRG				SKS		**SKSac**	**22 08 57.0**	**-5.5**		
BRG				S		**ScS**	**22 09 41.0**	**+3.0**		
BRG				SS		**SS**	**22 15 50.0**	**-2.9**		
	comp=N,590nm,14.6s									
	comp=E,758nm,17.1s									
	comp=Z,1μm,16.9s									
BRG	**Berggiesshubel**	**93.50**	**323**	*e*P		**P**	**21 58 29.6**	**+0.4**		
BRG				*e*			21 58 38.2			
BRG							22 02 15.0			
BRG							22 08 57.0			
BRG				S		**ScS**	**22 09 41.0**	**+3.0**		
BRG				SS		**SS**	**22 15 50.0**	**-2.9**		
BRG				pmax		pmax				
	comp=Z,2.0nm,1.0s									
BRG				pmax		pmax				
	comp=Z,9.0nm,1.3s									
BRG				MLR		MLR				
	comp=N,590nm,14.6s									
BRG				MLR		MLR				
	comp=E,758nm,17.1s									
BRG				MLR		MLR				
	comp=Z,1μm,16.9s									
ARSA	**Arzberg**	**93.75**	**319**	*i* pP		**pP**	**21 58 34.4**	**-2.7**		
	comp=Z,0.7nm,0.6s									
ARSA				*i* PP		**PP**	**22 02 16.0**	**+0.6**		
	comp=Z,1.3nm,1.1s									
CLL	**Collm**	**93.91**	**324**	*e*(P)		**P**	**21 58 33.0**	**+2.0**		
	comp=Z,8.0nm,1.5s									
CLL				*i*			21 58 40.5			
CLL				*e*PP		**PP**	**22 02 18.0**	**+1.5**		
CLL				*e*SKSac		**SKSac**	**22 09 05.0**	**+0.4**		
CLL				*e*S		**ScS**	**22 09 42.0**	**+0.7**		
CLL				*e*PS		**PS**	**22 10 52.0**	**-4.5**		
CLL				*e*SS		**SS**	**22 16 00.0**	**+1.5**		
CLL				*e*SSS		SSS	22 19 36.0			
CLL				*e*SSSS			22 22 36.0			
CLL				Lm		MLR	22 46 00.0			
	comp=N,600nm,18.5s									
CLL				Lm		MLR	22 46 00.0			
	comp=E,700nm,19.2s									
CLL	**Collm**	**93.91**	**324**	*e*P		**P**	**21 58 33.0**	**+2.0**		
CLL				*i*			21 58 40.5			
CLL				*e*			22 09 05.0			
CLL				pmax		pmax				
	comp=Z,8.0nm,1.5s									
SOKA	**Soboth**	**94.25**	**319**	*i* sP		**sP**	**21 58 37.5**	**-4.3**		
	comp=Z,2.0nm,1.0s									
SOKA				*i* PP		**PP**	**22 02 20.7**	**+1.2**		
	comp=Z,1.1nm,0.6s									
KHC	**Kasperske Hory**	**94.34**	**321**	*e*P		**P**	**21 58 34.5**	**+1.3**		
KHC				*e*PP		**PP**	**22 02 18.5**	**-1.5**		
KHC				*e*SKS		**SKSac**	**22 09 02.7**	**-4.5**		
KHC				AMS		AMS	22 47 50.0			
	comp=Z,600nm,18.3s									
KHC	**Kasperske Hory**	**94.34**	**321**	*e*P		**P**	**21 58 34.5**	**+1.3**		
KHC				*e*			22 02 18.5			
KHC				*e*			22 09 02.7			
KHC				MLR		MLR				
	comp=Z,600nm,18.3s									
MOA	**Molln**	**94.35**	**320**	*i* pP		**P**	**21 58 35.7**	**+2.5**		
	comp=Z,4.4nm,1.2s									
GEC2	**GERESS Array S**	**94.36**	**321**	IAMs_20		IAMs_20	22 43 58.9			
	comp=Z,590nm,19.0s									
GERES	**GERESS Array B**	**94.36**	**321**	P		**P**	**21 58 32.1**	**-1.3**		
	comp=Z,0.7nm,0.9s,baz=64,slow=4.5,SNR=2.3									
GERES				LR		LR	22 44 09.6			
	comp=Z,508nm,19.2s,baz=62,slow=38									
OBKA	**Obir**	**94.62**	**319**	*i* pP		**P**	**21 58 37.3**	**+2.7**		
	comp=Z,2.3nm,0.8s									
OBKA				*i* PP		**PP**	**22 02 24.6**	**+2.2**		
	comp=Z,1.7nm,0.7s									
NKC	**Novy Kostel**	**94.62**	**323**	AMS		AMS	22 43 40.0			
	comp=Z,1μm,17.8s									
TRI	**Trieste**	**95.41**	**318**	IAMs_20		IAMs_20	22 47 07.9			
	comp=Z,524nm,18.0s									
YKA	**Yellowknife Ar**	**95.58**	**23**	P		**P**	**21 58 38.0**	**-0.5**		
	comp=Z,1.9nm,0.7s,baz=296,slow=4.1,SNR=22									
YKA				LR		LR	22 42 57.5			
	comp=Z,220nm,21.5s,baz=0.0,slow=36									
ZOU	**Zoufplan**	**95.63**	**319**	IAMs_20		IAMs_20	22 46 01.6			
	comp=Z,480nm,19.0s									
ABTA	**Abfaltersbach**	**95.86**	**319**	*i* pP		**P**	**21 58 42.1**	**+1.9**		
	comp=Z,2.0nm,1.1s									
CIMO	**Cimolais**	**96.06**	**319**	IAMs_20		IAMs_20	22 49 47.0			
	comp=Z,599nm,18.0s									
WTTA	**Wattenberg**	**96.22**	**320**	*i* sP		**P**	**21 58 46.4**	**+4.4**		
	comp=Z,3.4nm,1.0s									
WATA	**Walderalm**	**96.23**	**320**	*i* sP		P	21 58 47.7	+5.7		
	comp=Z,5.0nm,1.6s									
WATA				*i* PP		**PP**	**22 02 37.5**	**+2.6**		
	comp=Z,7.0nm,1.3s									
SQTA	**Sank Quirin**	**96.51**	**320**	*i* pP		**P**	**21 58 46.8**	**+3.6**		
	comp=Z,1.2nm,0.5s									
MOTA	**Moosalm**	**96.53**	**320**	*i* pP		**P**	**21 58 45.6**	**+2.3**		
	comp=Z,1.0nm,0.5s									
MOTA				*i* PP		**PP**	**22 02 36.9**	**-0.4**		
	comp=Z,1.5nm,0.9s									
INTR	**Introdacqua**	**96.57**	**315**	IAMs_20		IAMs_20	22 51 01.0			
	comp=Z,495nm,18.0s									
SUMG	**Summit**	**96.59**	**354**	IAMs_20		IAMs_20	22 46 48.3			
	comp=Z,674nm,20.0s									
RETA	**Reute**	**96.69**	**321**	*i* pP		**P**	**21 58 45.7**	**+1.7**		
	comp=Z,1.4nm,1.0s									
RETA				*i* PP		**PP**	**22 02 39.3**	**+0.9**		
	comp=Z,2.2nm,1.0s									
AQU	**L'Aquila**	**96.81**	**315**	IAMs_20		IAMs_20	22 48 32.1			
	comp=Z,526nm,21.0s									
FETA	**Feichten**	**96.89**	**320**	*i* PcP		**PcP**	**21 58 45.1**	**0.0**		
	comp=Z,2.2nm,0.8s									
DAVA	**Damuels**	**97.32**	**321**	*i* PP		**PP**	**22 02 39.3**	**-4.0**		
	comp=Z,3.8nm,1.1s									
OSSC	**Osservatorio P**	**97.87**	**317**	IAMs_20		IAMs_20	22 49 49.1			
	comp=Z,622nm,20.0s									
VLC	**Villacollemand**	**98.21**	**318**	IAMs_20		IAMs_20	22 46 47.0			
	comp=Z,603nm,21.0s									
MSSA	**Maissana**	**98.72**	**318**	IAMs_20		IAMs_20	22 49 50.6			
	comp=Z,434nm,21.0s									
TAOE	**Nuku Hiva Isla**	**99.02**	**97**	*e*S		S	22 10 15.4	-10		
	comp=Z,2μm,29.3s									
TAOE	**Nuku Hiva Isla**	**99.02**	**97**	*e*LR		LR	22 31 05.0			
	comp=Z,1μm,24.5s									
ILULI	**Ilulissat**	**100.81**	**358**	IAMs_20		IAMs_20	22 52 45.4			
	comp=Z,435nm,18.0s									
SSB	**Saint Sauveur**	**101.52**	**320**	IAMs_20		IAMs_20	22 51 18.5			
	comp=Z,566nm,19.0s									
SFJD	**Kangerlussuaq**	**102.99**	**357**	IAMs_20		IAMs_20	22 51 21.2			
	comp=Z,432nm,19.0s									
WVOR	**Wild Horse Val**	**103.85**	**42**	IAMs_20		IAMs_20	22 41 14.7			
	comp=Z,384nm,20.0s									
VCNR	**Virginia City**	**104.59**	**45**	IAMs_20		IAMs_20	22 43 37.6			
	comp=Z,444nm,20.0s									
RKT	**Rikitea**	**105.64**	**111**	*e*LR		LR	22 34 05.0			
	comp=Z,808nm,25.5s									
NV11	**Mina Array Sit**	**106.02**	**45**	IAMs_20		IAMs_20	22 39 49.4			
	comp=Z,401nm,20.0s									
CART	**Cartagena**	**108.83**	**315**	IAMs_20		IAMs_20	22 59 43.4			
	comp=Z,368nm,18.0s									
ES18	**SONSECA Array**	**109.73**	**319**	IAMs_20		IAMs_20	22 54 45.8			
	comp=Z,406nm,19.0s									
ESDC	**Sonseca Array**	**109.76**	**319**	PP		**PP**	**22 04 18.5**	**+2.4**		
	comp=Z,1.5nm,1.1s,baz=77,slow=6.5,SNR=4.9									
TAM	**Tamanrasset**	**109.93**	**299**	IAMs_20		IAMs_20	22 52 18.7			
	comp=Z,454nm,20.0s									
VNA2	**Neumayer--Watz**	**111.70**	**196**	P		**PP**	**22 04 29.2**	**-0.3**		
VNA1	**Neumayer--Stat**	**112.09**	**196**	P		**PP**	**22 04 24.7**	**-7.6**		
VNA3	**Neumayer Olymp**	**112.11**	**195**	P		**PP**	**22 04 26.8**	**-5.6**		
PV11	**David Mesa, Pa**	**112.36**	**41**	IAMs_20		IAMs_20	22 57 23.1			
	comp=Z,357nm,20.0s									
PV03	**Cox Valley**	**112.41**	**41**	IAMs_20		IAMs_20	22 35 09.6			
	comp=Z,376nm,18.0s									
X18A	**Snowflake**	**113.69**	**45**	IAMs_20		IAMs_20	22 46 41.5			
	comp=Z,400nm,21.0s									
SCHQ	**Schefferville**	**114.94**	**6**	IAMs_20		IAMs_20	22 52 43.8			
	comp=Z,404nm,21.0s									
TORD	**Torodi Ar. Bea**	**116.57**	**290**	PKP		**PKPdf**	**22 03 58.1**	**-0.3**		
	comp=Z,0.9nm,1.0s,baz=59,slow=2.2,SNR=3.1									
D41A	**Chassel**	**116.90**	**23**	IAMs_20		IAMs_20	22 55 45.5			
	comp=Z,416nm,22.0s									
COWI	**Conover**	**117.47**	**24**	IAMs_20		IAMs_20	22 51 14.5			
	comp=Z,448nm,22.0s									
EPT	**El Paso**	**117.60**	**46**	IAMs_20		IAMs_20	22 48 37.3			
	comp=Z,432nm,20.0s									
F42A	**Maple Grove Fa**	**118.15**	**24**	IAMs_20		IAMs_20	22 57 11.4			
	comp=Z,363nm,21.0s									
MSTX	**Muleshoe**	**118.89**	**42**	IAMs_20		IAMs_20	22 48 28.0			
	comp=Z,460nm,20.0s									
H43A	**Windswept, Lux**	**119.36**	**24**	IAMs_20		IAMs_20	22 56 59.5			
	comp=Z,355nm,21.0s									
I42A	**Draeger Farm,**	**119.36**	**25**	IAMs_20		IAMs_20	22 58 15.6			
	comp=Z,401nm,19.0s									
G45A	**Suttons Bay**	**119.70**	**22**	IAMs_20		IAMs_20	22 58 12.5			
	comp=Z,520nm,22.0s									
GLMI	**Grayling**	**120.27**	**22**	IAMs_20		IAMs_20	23 04 48.5			
	comp=Z,328nm,19.0s									
I45A	**Fountain**	**120.33**	**23**	IAMs_20		IAMs_20	22 58 13.1			
	comp=Z,447nm,22.0s									
D53A	**Lac Vacive, Po**	**120.44**	**16**	IAMs_20		IAMs_20	22 58 22.7			
	comp=Z,409nm,20.0s									
K43A	**Burlington**	**120.57**	**26**	IAMs_20		IAMs_20	22 59 57.7			
	comp=Z,416nm,21.0s									
J45A	**Montague**	**120.77**	**24**	IAMs_20		IAMs_20	22 58 15.9			
	comp=Z,396nm,21.0s									
TXAR	**Lajitas Array**	**120.99**	**47**	PKP		**PKiKP**	**22 04 08.3**	**+1.5**		
	comp=Z,0.7nm,0.7s,baz=207,slow=2.5,SNR=4.8									
L44A	**Lake County Fo**	**121.18**	**26**	IAMs_20		IAMs_20	23 00 14.8			
	comp=Z,383nm,22.0s									
J47A	**Sumner**	**121.55**	**23**	IAMs_20		IAMs_20	22 59 42.4			
	comp=Z,400nm,21.0s									
M44A	**Midewin, Midew**	**121.77**	**26**	IAMs_20		IAMs_20	23 01 14.4			
	comp=Z,376nm,20.0s									
TUL1	**Leonard**	**121.96**	**36**	IAMs_20		IAMs_20	22 53 09.6			
	comp=Z,379nm,20.0s									
L46A	**Eue Claire**	**122.00**	**25**	IAMs_20		IAMs_20	22 59 09.3			
	comp=Z,379nm,20.0s									
S39A	**Bolivar**	**122.06**	**33**	PKPdf		**PKPdf**	**22 04 08.2**	**-0.3**		
SADO	**Sadowa**	**122.15**	**18**	IAMs_20		IAMs_20	22 59 14.9			
	comp=Z,362nm,21.0s									
PLVO	**Plevna**	**122.49**	**16**	IAMs_20		IAMs_20	22 59 24.0			
	comp=Z,343nm,20.0s									
O44A	**Mansfield**	**122.57**	**28**	IAMs_20		IAMs_20	23 08 08.9			
	comp=Z,359nm,19.0s									
K50A	**Casco**	**122.77**	**22**	IAMs_20		IAMs_20	23 01 53.5			
	comp=Z,374nm,20.0s									
AAM	**Ann Arbor**	**122.80**	**23**	IAMs_20		IAMs_20	23 01 05.3			
	comp=Z,311nm,21.0s									
L48A	**N Adams**	**122.80**	**23**	IAMs_20		IAMs_20	23 00 09.6			
	comp=Z,492nm,22.0s									
SFIN	**Lafayette**	**123.00**	**26**	IAMs_20		IAMs_20	23 08 01.1			
	comp=Z,303nm,19.0s									
N47A	**Urbana**	**123.19**	**25**	IAMs_20		IAMs_20	22 59 32.9			
	comp=Z,375nm,22.0s									
Q44A	**Meyer Farm, Va**	**123.31**	**29**	IAMs_20		IAMs_20	22 59 25.6			
	comp=Z,352nm,22.0s									
LONY	**Lake Ozonia**	**123.53**	**14**	IAMs_20		IAMs_20	22 55 06.3			
	comp=Z,324nm,21.0s									
FRNY	**Flat Rock**	**123.56**	**13**	IAMs_20		IAMs_20	23 05 38.1			
	comp=Z,386nm,19.0s									
J54A	**Appleton**	**123.66**	**18**	IAMs_20		IAMs_20	22 59 47.9			
	comp=Z,391nm,22.0s									
M50A	**Fremont**	**123.80**	**23**	IAMs_20		IAMs_20	23 04 59.5			
	comp=Z,355nm,19.0s									
G62A	**West of Eustis**	**123.82**	**11**	IAMs_20		IAMs_20	23 03 55.9			
	comp=Z,429nm,19.0s									
LMN	**Caledonia Moun**	**124.02**	**6**	IAMs_20		IAMs_20	23 04 18.1			
	comp=Z,427nm,20.0s									
J56A	**Wolcott**	**124.18**	**17**	IAMs_20		IAMs_20	23 00 30.6			
	comp

P60A	**Greenville**	**127.73**	**17**	IAMs_20	IAMs_20	23 00 13.6			
	comp=Z,377nm,22.0s								
TZTN	**Tazewell**	**127.73**	**26**	IAMs_20	IAMs_20	23 03 27.3			
	comp=Z,348nm,22.0s								
X48A	**Hartselle**	**127.80**	**31**	IAMs_20	IAMs_20	23 01 43.6			
	comp=Z,350nm,21.0s								
V51A	**Loudon**	**128.00**	**27**	IAMs_20	IAMs_20	22 57 24.4			
	comp=Z,363nm,21.0s								
W50A	**Signal Mountai**	**128.05**	**29**	IAMs_20	IAMs_20	23 10 38.8			
	comp=Z,303nm,21.0s								
P61A	**Hammonton**	**128.10**	**17**	IAMs_20	IAMs_20	23 08 57.3			
	comp=Z,277nm,18.0s								
Q60A	**Greensboro**	**128.41**	**18**	IAMs_20	IAMs_20	23 04 19.7			
	comp=Z,373nm,22.0s								
FPAL	**Fort Paine**	**128.44**	**29**	IAMs_20	IAMs_20	22 57 07.3			
	comp=Z,323nm,22.0s								
BLA	**Blacksburg**	**128.45**	**23**	IAMs_20	IAMs_20	23 07 22.9			
	comp=Z,406nm,19.0s								
U54A	**Nelsons Funny**	**128.49**	**25**	IAMs_20	IAMs_20	22 50 02.1			
	comp=Z,298nm,20.0s								
S57A	**Dark Hollow, R**	**128.51**	**21**	IAMs_20	IAMs_20	23 04 40.5			
	comp=Z,394nm,20.0s								
W52A	**Murphy**	**128.78**	**28**	IAMs_20	IAMs_20	23 05 40.1			
	comp=Z,326nm,19.0s								
X51A	**Calhoun**	**128.78**	**29**	IAMs_20	IAMs_20	23 05 06.2			
	comp=Z,304nm,19.0s								
V53A	**Saluda**	**128.79**	**26**	IAMs_20	IAMs_20	23 07 59.3			
	comp=Z,279nm,20.0s								
LRAL	**Lakeview Retre**	**128.94**	**32**	IAMs_20	IAMs_20	23 06 52.9			
	comp=Z,303nm,21.0s								
S58A	**Poland Farm, P**	**128.96**	**21**	IAMs_20	IAMs_20	23 06 01.3			
	comp=Z,371nm,20.0s								
V55A	**Taylorsville**	**129.31**	**25**	IAMs_20	IAMs_20	23 06 20.9			
	comp=Z,351nm,20.0s								
Z51A	**Franklin**	**129.64**	**30**	IAMs_20	IAMs_20	22 58 59.2			
	comp=Z,411nm,22.0s								
Y52A	**Lilburn**	**129.73**	**29**	IAMs_20	IAMs_20	23 05 08.4			
	comp=Z,344nm,21.0s								
PAULI	**Pauline**	**129.94**	**26**	IAMs_20	IAMs_20	23 04 15.7			
	comp=Z,317nm,21.0s								
250A	**Grady**	**130.15**	**32**	IAMs_20	IAMs_20	23 09 27.0			
	comp=Z,356nm,20.0s								
U59A	**Littleton**	**130.18**	**21**	IAMs_20	IAMs_20	23 08 25.7			
	comp=Z,424nm,20.0s								
V58A	**Windy Hill, Pi**	**130.19**	**23**	IAMs_20	IAMs_20	23 07 48.1			
	comp=Z,382nm,19.0s								
HODGE	**Hodges**	**130.25**	**27**	IAMs_20	IAMs_20	23 03 13.9			
	comp=Z,347nm,21.0s								
GOGA	**Godfrey**	**130.38**	**28**	IAMs_20	IAMs_20	23 06 42.7			
	comp=Z,362nm,19.0s								
152A	**Waverly Hall**	**130.39**	**30**	IAMs_20	IAMs_20	22 59 31.0			
	comp=Z,381nm,21.0s								
W57A	**Gilead**	**130.41**	**24**	IAMs_20	IAMs_20	23 04 35.0			
	comp=Z,426nm,22.0s								
BIRD	**Birdtown, Kers**	**130.66**	**25**	IAMs_20	IAMs_20	23 09 42.7			
	comp=Z,321nm,20.0s								
U61A	**Possum Corner**	**130.66**	**20**	IAMs_20	IAMs_20	23 03 54.4			
	comp=Z,450nm,22.0s								
X58A	**Rowland**	**131.19**	**24**	IAMs_20	IAMs_20	23 05 07.7			
	comp=Z,377nm,20.0s								
Y57A	**Sumter**	**131.23**	**25**	IAMs_20	IAMs_20	23 03 51.9			
	comp=Z,373nm,21.0s								
352A	**Blakely**	**131.24**	**31**	IAMs_20	IAMs_20	23 10 25.7			
	comp=Z,266nm,20.0s								
Z56A	**Williston**	**131.41**	**26**	IAMs_20	IAMs_20	23 11 21.6			
	comp=Z,264nm,20.0s								
255A	**Hazlehurst**	**132.08**	**29**	IAMs_20	IAMs_20	23 07 57.6			
	comp=Z,366nm,20.0s								
NHSC	**New Hope**	**132.11**	**25**	IAMs_20	IAMs_20	23 07 56.0			
	comp=Z,395nm,22.0s								
Y60A	**Bolivia**	**132.12**	**23**	IAMs_20	IAMs_20	23 09 25.0			
	comp=Z,435nm,21.0s								
553A	**Crawfordville**	**132.53**	**32**	IAMs_20	IAMs_20	23 07 23.8			
	comp=Z,428nm,22.0s								
656A	**Willston**	**134.16**	**31**	IAMs_20	IAMs_20	23 14 41.8			
	comp=Z,343nm,20.0s								
CMIG	**Matias Romero**	**134.53**	**54**	PKP	**PKPdf**	**22 04 32.4**	**-0.3**		
	comp=Z,0.7nm,0.3s,baz=207,slow=2.3,SNR=1.6								
ACON	**Acoyapa**	**145.13**	**52**	IAMs_20	IAMs_20	23 04 32.4			
	comp=Z,339nm,22.0s								
PLCA	**Paso Flores**	**147.42**	**162**	PKPbc	**PKPbc**	**22 04 58.5**	**+0.8**		
	comp=Z,17nm,0.9s,baz=189,slow=4.4,SNR=17								
PLCA	**Paso Flores**	**147.42**	**162**		**PKPab**	**22 04 58.8**	**-0.8**		
BI02	**San Fabin de**	**150.83**	**157**		**PKiKP**	**22 05 07.5**	**+0.4**		
STVI	**Saint Thomas**	**150.93**	**14**		**PKiKP**	**22 05 07.6**	**0.0**		
BO02	**Sierra Bellavi**	**152.66**	**156**		**PKiKP**	**22 05 11.8**	**+0.9**		
SDV	**Santo Domingo**	**157.29**	**35**	PKPdf	**PKPdf**	**22 05 09.6**	**-1.1**		
SDV	**Santo Domingo**	**157.29**	**35**	IAMs_20	IAMs_20	23 28 45.4			
	comp=Z,260nm,20.0s								
LPAZ	**La Paz**	**168.21**	**123**	PKIKP	**PKPdf**	**22 05 22.0**	**+0.2**		
LPAZ	**La Paz**	**168.21**	**123**		**PKPdf**	**22 05 22.0**	**+0.2**		

*BJI **09** 21:51:35.7±0.0,9.94N×122.29E,h5km,mB5.2/28, mb4.6/45,Ms4.9/23,Ms7 4.9/21*
*IDC **09** 21:51:38.1±0.4,10.13N×122.25E,h0km,mb4.4/35, mb1 4.4/36,mb1mx4.3/59,mbtmp4.4/36,ML4.9/1,MS4.0/1, Ms1 4.0/1,ms1mx3.6/36,Error ellipse: s-maj=19.4km s-min=9.9km az=65.0*
*NEIC **09** 21:51:39.6±2.9,10.07N±0.06×121.99E±0.09,h13km±3km, mb4.9/75,Error ellipse: s-maj=13.6km s-min=8.7km az=78.0*
*MAN **09** 21:51:41.9,10.22N×122.10E,h29km,MS4.8*
MAN Intensity III - Anini-y and San Jose Antique; Iloilo City.
*DJA **09** 21:51:46.1±0.5,10°N±4°×12°2E±°,h55km±5km,M4.5/43, mb4.8/43,mB5.5/5,MLv3.9/2,Mw(mB)4.9/5,Mwp5.9/3*
*KLM **09** 21:51:48.0,10.00N×122.44E,h79km,mb4.7*
ISC 09 21:51:41.5±0.3,10°18N±0°03×122.07E±0°03,h22km±3km, n185,σ1°90/193,mb4.7/80,6C-4D,Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
JAP	**San Jose, Anti**	**0.57**	**348**	↑*iP*	**Pn**	**21 51 54.2**	**-0.2**
JAP				*i* S	**Sn**	**21 52 04.5**	**+1.3**
CNOP	**Candoni, Negro**	**0.66**	**122**	*eP*	**Pb**	**21 51 53.0**	**-1.4**
CNOP				*e*S	**Sb**	**21 52 03.6**	**+0.4**
GUIM	**Jordan**	**0.67**	**49**	*eP*	**Pb**	**21 51 54.5**	**-0.1**
GUIM				*e*S	**Sb**	**21 52 03.3**	**-0.3**
CUYO	**Cuyo Island**	**1.23**	**303**	*eP*	**Pn**	**21 52 03.2**	**-0.2**
CUYO				*e*S	**Sb**	**21 52 20.0**	**+0.5**
SNPH	**Sibulan**	**1.42**	**126**	↓*iP*	**Pn**	**21 52 06.5**	**+0.4**
SNPH				*i* S	**Sb**	**21 52 27.5**	**+2.5**
SNPH	**Sibulan**	**1.42**	**126**	↓*iP*	**Pn**	**21 52 06.5**	**+0.4**
SNPH				*i* S	**Sb**	**21 52 27.5**	**+2.5**
TBP	**Tagbilaran**	**1.83**	**105**	*eP*	**Pb**	**21 52 15.3**	**+1.0**
TBP				*i* S	Sb	21 52 54.1	+17
OTRP	**Odiongan**	**2.17**	**359**	*eP*	**Pn**	**21 52 16.2**	**-0.1**
OTRP				*e*S	**Sn**	**21 52 41.2**	**-1.3**
SJMP	**San Jose**	**2.45**	**338**	*eP*	**Pn**	**21 52 20.4**	**+0.2**
SJMP				*e*S	**Sn**	**21 52 47.5**	**-1.9**
BUSP	**Coron**	**2.58**	**315**	*eP*	**Pn**	**21 52 21.2**	**-0.8**
BUSP				*e*S	**Sb**	**21 53 01.6**	**+3.3**
OCLP	**Ormoc**	**2.64**	**71**	*eP*	**Pn**	**21 52 24.2**	**+1.3**
OCLP				*e*S	**Sn**	**21 52 52.8**	**-1.5**
PAGZ	**Pagadian**	**2.66**	**151**	*eP*	**Pn**	**21 52 23.8**	**+0.7**
PAGZ				*e*S	**Sn**	**21 52 55.4**	**+0.7**
ENPP	**El Nido**	**2.79**	**292**	*eP*	**Pn**	**21 52 23.6**	**-1.3**
ENPP				*e*S	**Sb**	**21 53 06.5**	**+2.1**
CGP	**Cagayan de Oro**	**3.11**	**123**	↓*eP*	**Pn**	**21 52 31.2**	**+2.0**
CGP				*e*S	**Sb**	**21 53 12.6**	**-0.9**
BOAC	**Boac**	**3.26**	**356**	*eP*	**Pn**	**21 52 32.1**	**+0.7**
BOAC				*e*S	**Sn**	**21 53 10.0**	**+0.4**
CTBH	**Cotabato--PC H**	**3.65**	**144**	↑*eP*	**Pn**	**21 52 38.6**	**+1.9**
GQP	**Guinayangan**	**3.72**	**6**	↑*eP*	**Pn**	**21 52 37.6**	**0.0**
GQP				*e*S	**Sn**	**21 53 17.4**	**-3.4**
LQP	**Lukban**	**3.94**	**352**	*eP*	**Pn**	**21 52 39.8**	**-1.1**
LUBP	**Lubang**	**3.96**	**333**	*eP*	**Pn**	**21 52 40.5**	**-0.4**
LUBP				*e*S	**Sn**	**21 53 24.6**	**-2.0**
PVCP	**Virac**	**3.96**	**31**	*eP*	**Pn**	**21 52 43.1**	**+2.2**
TGY	**Tagaytay City**	**4.05**	**344**	Pn	**Pn**	**21 52 44.3**	**+2.0**
	74nm,0.3s,baz=131,slow=6.7,SNR=4.4						
TGY				Sn	**Sn**	**21 53 30.0**	**+0.9**
	95nm,0.3s,baz=137,slow=18,SNR=2.5						
TGY				LR	LR	21 53 54.3	
	comp=Z,2μm,19.0s,baz=194,slow=33						
KCP	**Kidapawan**	**4.34**	**136**	↑*eP*	**Pb**	**21 52 53.4**	**-3.8**
BATP	**Bataraza**	**4.43**	**252**	*eP*	**Pn**	**21 52 49.2**	**+1.8**
BATP				*e*S	**Sn**	**21 53 36.0**	**-2.4**
POLP	**Polilio Island**	**4.52**	**358**	*eP*	**Pn**	**21 52 50.1**	**+1.4**
POLP				*e*S	**Sn**	**21 53 32.6**	**-7.9**
KKM	**Kota Kinabalu**	**7.11**	**235**	Pn	**Pn**	**21 53 23.0**	**-1.4**
KKM					**Sn**	**21 54 45.6**	**+1.0**
SPMM	**Sapulut**	**7.78**	**226**	P	Pb	21 53 46.0	-10
MRSI	**Marisa**	**9.64**	**181**	P	Pn	21 54 06.1	+7.0
	26nm,1.1s						
KMSI	**Cibinong**	**9.73**	**169**	P	Pn	21 54 06.5	+6.2
	104nm,0.7s						
MPSI	**Mapaga**	**10.02**	**193**	P	**Pn**	**21 54 05.1**	**+0.9**
	27nm,0.7s						
TNTI	**Ternate**	**10.73**	**150**	P	**Pn**	**21 54 16.8**	**+2.8**
	77nm,1.1s						
TNTI	**Ternate**	**10.73**	**150**	Pn	**Pn**	**21 54 12.3**	**-1.7**
APSI	**Ampana**	**11.03**	**182**	P	Pn	21 54 23.5	+5.4
	41nm,1.0s						
LUWI	**Luwuk**	**11.17**	**176**	P	Pn	21 54 25.2	+5.1
	164nm,1.2s						
LUWI	**Luwuk**	**11.17**	**176**		**Pn**	**21 54 19.1**	**-0.9**
TPUB	**Ta-pu**	**13.12**	**354**	Pn	**Pn**	**21 54 49.3**	**+2.7**
TTSI	**Tana Toraja**	**13.33**	**190**	P	**P**	**21 54 59.8**	**+0.8**
	26nm,1.1s						
SPSI	**Sidrap Palu**	**14.24**	**189**	P	**P**	**21 55 09.2**	**0.0**
	24nm,1.2s						
NLAI	**Namlea**	**14.24**	**159**	P	**P**	**21 55 08.1**	**-1.1**
	17μm88nm,1.0s						
YHNB	**Yeheng**	**14.42**	**357**	Pn	**Pn**	**21 55 02.4**	**-2.1**
KSM	**Kuching**	**14.54**	**234**	Pn	Pn	21 55 01.0	-5.2
KSM	**Kuching**	**14.54**	**234**	P	**P**	**21 55 17.0**	**+4.4**
BNSI	**Bone**	**14.62**	**188**	P	**P**	**21 55 14.1**	**+0.7**
	50nm,1.2s						
KBKI	**Kotabaru**	**14.63**	**204**	P	**P**	**21 55 15.0**	**+1.5**
	504nm32nm,0.9s						
QIZ	**Qiongzhong**	**14.73**	**308**	Pn	**Pn**	**21 55 05.9**	**-2.8**
KAPI	**Kappang**	**15.27**	**189**	Pn	**Pn**	**21 55 11.5**	**-4.4**
KAPI				IAmb	IAmb	21 55 25.6	
	comp=Z,80nm,1.4s						
TPI	**Tanjungpandan**	**19.27**	**229**	P	**Pn**	**21 56 08.2**	**+2.2**
	comp=Z,53nm,0.9s						
PLAI	**Plampang**	**19.36**	**193**	P	**Pn**	**21 56 09.5**	**+2.4**
	comp=Z,73nm,1.4s						
SOEI	**Soe**	**19.93**	**174**	P	**Pn**	**21 56 16.5**	**+2.6**
	comp=Z,89nm,0.8s						
SOEI	**Soe**	**19.93**	**174**	P	**P**	**21 56 09.3**	**-2.8**
SOEI				IAmb	IAmb	21 56 48.6	
	comp=Z,90nm,1.0s						
MYKOM	**Kota Tinggi**	**19.93**	**246**	P	**P**	**21 56 10.3**	**-1.8**
BATI	**Baumata**	**20.32**	**175**	P	Pn	21 56 18.6	+0.2
	comp=Z,68nm,0.8s,baz=345,slow=1.9,SNR=6.9						
SMPI	**Sarmi**	**20.51**	**125**	P	Pn	21 56 19.5	-1.1
	comp=Z,34nm,1.2s						
SLVN	**Son La**	**20.68**	**305**	P	**P**	**21 56 16.9**	**-3.4**
PBKT	**Sadao Pong**	**21.48**	**289**	P	**P**	**21 56 25.8**	**-3.0**
WHN	**Wuhan**	**21.50**	**342**	↓*jP*	**P**	**21 56 36.0**	**+7.1**
IPM	**Ipoh**	**21.62**	**256**	P	**P**	**21 56 27.2**	**-3.2**
IPM	**Ipoh**	**21.62**	**256**	P	**P**	**21 56 33.0**	**+2.6**
KULM	**Kulim**	**21.77**	**259**	P	**P**	**21 56 29.3**	**-2.7**
KULM	**Kulim**	**21.77**	**259**	P	**P**	**21 56 35.0**	**+3.0**
GYA	**Guiyang**	**21.78**	**320**	↑*iP*	**P**	**21 56 35.3**	**+3.2**
GYA				pmax	pmax		
	comp=Z,20nm,1.0s						
GYA				pmax	pmax		
	comp=Z,60nm,3.5s						
GYA				LR	LR		
	comp=Z,790nm,11.7s						
GYA				LR	LR		
	comp=Z,1μm,12.5s						
GYA				LR	LR		
	comp=Z,1μm,14.9s						
NJ2	**Nanjing**	**21.96**	**353**	↑*iP*	**P**	**21 56 34.6**	**+0.7**
NJ2				pmax	pmax		
	comp=Z,36nm,0.9s						
GENI	**Genyem**	**22.04**	**124**	P	**P**	**21 56 35.9**	**+1.0**
	comp=Z,103nm,1.3s						
ENH	**Enshi**	**23.18**	**331**	P	**P**	**21 56 44.9**	**-1.9**
ENH				IAmb	IAmb	21 57 27.1	
	comp=Z,26nm,1.2s						
KMI	**Kunming**	**23.62**	**311**	P	**P**	**21 56 53.6**	**+2.2**
KMI				pP	pP	21 56 57.8	+0.2
KMI				pmax	pmax		
	comp=Z,17nm,1.5s						
CM31	**Chiang Mai Arr**	**23.85**	**293**	P	**P**	**21 56 51.5**	**-1.9**
CM31				IAmb	IAmb	21 56 56.3	
	comp=Z,29nm,1.1s						
CMAR	**Chiang Mai Arr**	**23.85**	**293**	P	**P**	**21 56 54.9**	**+1.4**
	comp=Z,12nm,1.1s,baz=114,slow=8.0,SNR=36						
CMAR				PcP	**PcP**	**22 00 38.2**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=119,slow=1.8,SNR=1.1						
CHTO	**Chiang Mai**	**23.95**	**294**	P	**P**	**21 56 52.6**	**-1.9**
PSI	**Prapat**	**24.12**	**254**	P	**P**	**21 56 58.2**	**+2.0**
	comp=Z,3.3nm,0.7s,baz=0.8,slow=3.0,SNR=3.1						
RPSI	**Rantau Prapat**	**24.16**	**254**	P	**P**	**21 56 56.4**	**0.0**
RPSI				IAmb	IAmb	21 57 13.5	
	comp=Z,44nm,1.3s						
RPSI	**Rantau Prapat**	**24.16**	**254**	P	**P**	**21 56 58.2**	**+1.8**
PDSI	**Padang**	**24.16**	**244**	P	**P**	**21 56 57.7**	**+1.2**
	comp=Z,23nm,1.0s						
MNSI	**Mandailing Nat**	**24.23**	**249**	P	**P**	**21 57 02.0**	**+5.0**
	comp=Z,17nm,0.7s						
MTN	**Manton Dam**	**24.58**	**158**	P	**P**	**21 56 57.5**	**-2.7**
KCSI	**Kotacane, Aceh**	**25.00**	**256**	P	**P**	**21 57 06.5**	**+2.4**
	comp=Z,20nm,1.2s						
GSI	**Gunungsitoli**	**25.90**	**252**	P	**P**	**21 57 14.9**	**+2.7**
	comp=Z,92nm,1.1s						
GSI	**Gunungsitoli**	**25.90**	**252**	P	**P**	**21 57 09.4**	**-2.8**
GSI				IAmb	IAmb	21 57 25.3	
	comp=Z,22nm,1.0s						
TIA	**Tai'an**	**26.30**	**351**	P	**P**	**21 57 16.8**	**+1.2**
TIA				pmax	pmax		
	comp=Z,18nm,0.7s						
KNRA	**Kununurra**	**26.54**	**165**	P	**P**	**21 57 15.5**	**-2.4**
INCN	**Inchon**	**27.49**	**8**	P	**P**	**21 57 25.2**	**-1.1**
KSRS	**Korea Array**	**27.66**	**10**	P	**P**	**21 57 29.0**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=184,slow=9.7,SNR=5.5						
FITZ	**Fitzroy Crossi**	**28.32**	**173**	P	**P**	**21 57 34.0**	**+0.1**
	comp=Z,5.1nm,0.7s,baz=7.4,slow=12,SNR=3.2						
FITZ	**Fitzroy Crossi**	**28.32**	**173**	P	**P**	**21 57 30.9**	**-3.0**
FITZ				IAmb	IAmb	21 58 08.6	
	comp=Z,45nm,1.6s						
MJAR	**Matsushiro Arr**	**30.04**	**27**	PcP	**PcP**	**22 00 51.7**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=216,slow=2.1,SNR=4.1						
BJT	**Baijiatuau**	**30.17**	**351**	P	**P**	**21 57 50.1**	**0.0**
BJT				IAmb	IAmb	21 58 01.1	
	comp=Z,44nm,1.6s						
BJI	**Beijing**	**30.19**	**351**	P	**P**	**21 57 51.3**	**+1.0**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LZH	**Lanzhou**	**30.64**	**330**	*eP*	**P**	**21 57 55.4**	**+0.9**
LZH				pP	pP	21 57 59.7	-0.9
LZH				sP	pwP	21 58 02.3	-0.4
LZH				PP	**PnPn**	**21 58 53.9**	**-0.3**
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
LZH				pmax	pmax		
	comp=Z,280nm,5.0s						
LZH				LR	LR		
	comp=Z,4μm,14.6s						
LZH				LR	LR		
	comp=Z,4μm,14.5s						
LZH				LR	LR		
	comp=Z,5μm,14.6s						
PMG	**Port Moresby**	**31.66**	**127**	P	**P**	**21 58 02.4**	**-1.1**
	baz=300,slow=20						
HHC	**Hu-ho-hao-te**	**31.93**	**345**	P	**P**	**21 58 05.1**	**-0.6**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,82nm,5.4s						
WRA	**Warramunga Arr**	**32.28**	**158**	P	**P**	**21 58 06.8**	**-2.1**
	comp=Z,6.4nm,0.7s,baz=333,slow=10,SNR=18						
WRA				PcP	**PcP**	**22 00 56.9**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=339,slow=3.1,SNR=6.0						
WB2	**Warramunga Arr**	**32.29**	**158**	P	**P**	**21 58 07.4**	**-1.6**
WB2				IAmb	IAmb	21 58 08.6	
	comp=Z,10nm,0.8s						
CN2	**Changchun**	**33.62**	**4**	*eP*	**P**	**21 58 20.5**	**+0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
LSA	**Lhasa**	**34.78**	**308**	P	**P**	**21 58 29.6**	**-1.6**
MDJ	**Mudanjiang**	**34.92**	**9**	P	**P**	**21 58 32.0**	**+0.4**
MDJ				IAmb	IAmb	21 58 42.1	
	comp=Z,25nm,1.2s						
USRK	**Ussuriysk Ar.**	**34.96**	**12**	P	**P**	**21 58 33.2**	**+1.3**
	comp=Z,2.3nm,0.7s,baz=208,slow=8.3,SNR=5.4						
GTA	**Gaotai**	**35.22**	**329**	*eP*	**P**	**21 58 35.7**	**+1.2**
GTA				pP	pwP	21 58 43.1	+0.4
GTA				sP	sP	21 58 47.4	+3.7
GTA				S	**S**	**22 04 05.9**	**-1.1**
GTA				pmax	pmax		
	comp=Z,70nm,5.9s						
GTA				LR	LR		
	comp=Z,2μm,14.9s						
GTA				LR	LR		
	comp=Z,2μm,14.9s						
GTA				LR	LR		
	comp=Z,3μm,14.9s						
AS31	**Alice Springs**	**35.58**	**161**	P	**P**	**21 58 36.3**	**-1.3**
AS31				PP	**PnPn**	**21 59 55.6**	**-1.5**
ASAR	**Alice Springs**	**35.58**	**161**	P	**P**	**21 58 36.9**	**-0.7**
	comp=Z,9.9nm,0.6s,baz=342,slow=7.1,SNR=72						
ASAR				PcP	**PcP**	**22 01 06.5**	**+0.1**
	comp=Z,4.2nm,0.9s,baz=337,slow=2.5,SNR=8.3						
CTA	**Charters Tower**	**38.36**	**142**	P	**P**	**21 59 00.7**	**-0.5**
	comp=Z,6.0nm,0.9s,baz=304,slow=3.6,SNR=1.8						
ULN	**Ulaanbaatar**	**39.64**	**344**	P	**P**	**21 59 10.5**	**-1.3**
SONM	**Songino Array**	**39.79**	**343**	P	**P**	**21 59 14.0**	**+0.9**
	comp=Z,3.5nm,0.8s,baz=165,slow=9.5,SNR=10						
FORT	**Forrest**	**41.13**	**172**	P	**P**	**21 59 21.3**	**-2.9**
WMQ	**Urumqi**	**44.82**	**325**	*eP*	**P**	**21 59 55.8**	**+1.8**
WMQ				LR	LR		
	comp=Z,660nm,10.3s						
WMQ				LR	LR		
	comp=Z,980nm,10.5s						
WMQ				LR	LR		
	comp=Z,940nm,9.5s						
STKA	**Stephens Creek**	**45.81**	**157**	P	**P**	**22 00 00.2**	**-1.6**
	comp=Z,3.8nm,0.6s,baz=333,slow=8.3,SNR=7.9						
STKA	**Stephens Creek**	**45.81**	**157**	P	**P**	**22 00 00.1**	**-1.8**
MKAR	**Makanchi Array**	**49.65**	**325**	P	**P**	**22 00 33.3**	**+1.7**
	comp=Z,4.2nm,0.8s,baz=127,slow=6.9,SNR=19						
MKAR				PcP	**PcP**	**22 01 54.0**	**+1.2**
	comp=Z,0.7nm,0.6s,baz=111,slow=4.6,SNR=1.4						
MAKZ	**Makanchi**	**49.84**	**325**	P	**P**	**22 00 32.9**	**-0.2**
MAKZ				IAmb	IAmb	22 00 46.0	
	comp=Z,14nm,1.4s						
TARG	**Taragay, Kyrgy**	**49.90**	**317**	P	**P**	**22 00 32.3**	**-1.7**
TARG				IAmb	IAmb	22 00 51.5	
	comp=Z,12nm,0.8s						
KSH	**Kashi**	**50.26**	**314**	*eP*	**P**	**22 00 40.1**	**+3.7**
KSH				pmax	pmax		
	comp=Z,47nm,1.4s						
NIL	**Nilore**	**50.39**	**305**	P	**P**	**22 00 37.5**	**0.0**
KDJ	**Kajisay**	**50.49**	**317**	P	**P**	**22 00 38.5**	**+0.2**
ULHL	**Ulahol**	**51.17**	**317**	P	**P**	**22 00 46.3**	**+2.9**
	SNR=9.5						
PETK	**Petropavlovsk-**	**51.50**	**27**	P	**P**	**22 00 46.2**	**+0.9**
	comp=Z,4.5nm,0.7s,baz=188,slow=4.2,SNR=5.6						
KZA	**Kyzart**	**51.77**	**316**	P	**P**	**22 00 51.0**	**+2.9**
	SNR=24						
TKM2	**Tokmak 2**	**51.89**	**317**	P	**P**	**22 00 51.0**	**+2.3**
	SNR=12						
KBK	**Karagaybulak**	**52.21**	**317**	P	**P**	**22 00 53.6**	**+2.5**
	SNR=21						
UCH	**Uchtor**	**52.33**	**316**	P	**P**	**22 00 55.3**	**+2.9**
	SNR=50						
CHMS	**Chumysh**	**52.48**	**317**	P	**P**	**22 00 55.3**	**+2.4**
	SNR=13						
AAK	**Ala-Archa**	**52.51**	**317**	P	**P**	**22 00 55.8**	**+2.5**
	comp=Z,12nm,0.9s,baz=111,slow=7.0,SNR=17						
AAK	**Ala-Archa**	**52.51**	**317**	P	**P**	**22 00 55.8**	**+2.5**
	SNR=10						
AAK	**Ala-Archa**	**52.51**	**317**	P	**P**	**22 00 54.3**	**+1.0**
AAK				IAmb	IAmb	22 00 57.6	
	comp=Z,12nm,0.9s						
USP	**Ospenovka**	**52.76**	**317**	P	**P**	**22 00 57.2**	**+2.1**
	SNR=23						
ZALV	**Zalesovo Beam**	**52.78**	**333**	P	**P**	**22 00 55.2**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=118,slow=5.7,SNR=6.3						
AML	**Almayashu**	**52.86**	**316**	P	**P**	**22 00 58.9**	**+2.7**
	SNR=31						
EKS2	**Erkin-Say**	**53.01**	**316**	P	**P**	**22 00 59.5**	**+2.5**
	SNR=24						
ARSB	**Arslanbob**	**53.05**	**315**	P	**P**	**22 00 57.0**	**-0.4**
KURBB	**Kurchatov Arra**	**53.85**	**327**	P	**P**	**22 01 04.0**	**+1.2**
	comp=Z,7.3nm,1.0s,baz=131,slow=6.6,SNR=20						
KURK	**Kurchatov**	**53.85**	**327**	P	**P**	**22 01 03.1**	**+0.3**
KURK				IAmb	IAmb	22 01 06.2	
	comp=Z,21nm,1.1s						
KBL	**Kabul**	**53.99**	**305**	P	**P**	**22 01 04.6**	**+0.1**
KBL				IAmb	IA

comp=Z,1.3nm,0.8s,baz=109,slow=8.3,SNR=4.5
VNDA Vanda 90.39 172 P **P** **22 04 40.0 -0.6**
comp=Z,4.2nm,1.0s,baz=301,slow=5.4,SNR=13
VNDA Vanda 90.39 172 P **P** **22 04 40.2 -0.4**
VNDA IAmb IAmb 22 04 41.7
comp=Z,6.2nm,1.1s
NOA NORSAR Array B 90.98 333 P **P** **22 04 43.7 -0.1**
comp=Z,0.8nm,1.0s,baz=70,slow=4.7,SNR=3.0
GERES GERESS Array B 94.19 321 P **P** **22 04 59.2 +0.1**
comp=Z,0.1nm,0.3s,baz=84,slow=4.3,SNR=2.1
YKA Yellowknife Ar 95.48 23 P **P** **22 05 04.3 -0.2**
comp=Z,0.9nm,0.6s,baz=297,slow=4.4,SNR=7.8
VNA2 Neumayer--Watz 111.81 196 PKiKP **PKiKP** **22 10 14.2 0.0**
TORD Torodi Ar. Bea 116.44 290 PKP **PKiKP** **22 10 25.6 +0.9**
comp=Z,0.6nm,0.9s,baz=80,slow=2.5,SNR=1.7
S39A Bolivar 121.98 33 PKPdf **PKPdf** **22 10 34.3 -0.5**
U40A Yellville 123.22 34 PKPdf **PKPdf** **22 10 36.5 -0.7**
P53A Whipple 125.99 22 **PKPdf** **22 10 42.2 -0.2**
TKL Tuckaleechee C 128.28 27 PKP **PKPdf** **22 10 46.6 -0.3**
comp=Z,2.3nm,0.7s,baz=291,slow=3.1,SNR=3.7
LL01 San Ignacio de 145.51 161 **PKPab** **22 11 19.5 +1.0**
PLCA Paso Flores 147.59 162 PKPbc **PKPbc** **22 11 24.8 +0.2**
comp=Z,8.3nm,0.9s,baz=213,slow=6.6,SNR=9.8
PLCA Paso Flores 147.59 162 **PKPbc** **22 11 25.3 +0.7**
LC01 Cunco 148.80 159 **PKPdf** **22 11 25.8 +1.8**
BI02 San Fabin de 151.00 157 PKPdf **PKPdf** **22 11 25.0 -2.6**
BI02 **PKiKP** **22 11 33.9 0.0**
BO02 Sierra Bellavi 152.84 156 PKPdf **PKPdf** **22 11 28.7 -1.7**
BO02 PKPbc **PKPbc** **22 11 37.9 +0.3**
BO02 PKPab **PKPab** **22 11 48.8 +0.5**

DDA ***09*** *22:02:56.0,39.˚18N×23.˚78E,8km±3km,MW3.9*
IDC ***09*** *22:02:57.6±1.0,39.˚12N×23.˚75E,h0km,mb3.5/8, mb1 3.6/12,mb1mx3.5/57,mbtmp3.5/12,ML3.2/4,Error ellipse: s-maj=19.3km s-min=17.9km az=121.0*
ATH ***09*** *22:02:57.5,39.˚17N×23.˚75E,h24km, ML3.6/44, Error ellipse: s-maj=0.8km s-min=0.7km az=59.0*
PDG ***09*** *22:02:58.5±0.6,39.˚16N×23.˚69E,h14km,ML3.6/13, Error ellipse: s-maj=0.6km s-min=0.6km az=0.0*
THE ***09*** *22:02:58.9,39.˚14N×23.˚69E,h12km, ML3.8/15, Error ellipse: s-maj=0.7km s-min=0.4km az=18.0*
ISK ***09*** *22:02:59.0,39.˚20N×23.˚78E,h15km, ML3.8/17*
ISC 09 22:02:59.0±0.7,39.˚14N±0.˚02×23.˚71E±0.˚02,h12km±4km, n258,σ1$20/311,mb3.6/8,21C-19D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALNA	**Alonissos**	**0.12**	**87**	P	**Pg**	**22 03 01.7**	**-0.5**
ALNA				S	**Sg**	**22 03 04.8**	**+0.4**
ALNA				AML	AML	22 03 04.9	
ALNA				AML	AML	22 03 05.2	
AOS	**Alonnisos**	**0.14**	**78**	P	**Pg**	**22 03 02.2**	**-0.2**
AOS				S	**Sg**	**22 03 04.1**	**-0.7**
	139μm,0.3s						
AOS	**Alonnisos**	**0.14**	**78**	P	**Pg**	**22 03 02.2**	**-0.2**
AOS				S	**Sg**	**22 03 04.7**	**-0.1**
AOS				AML	AML	22 03 05.0	
AOS				AML	AML	22 03 05.5	
AOS	**Alonnisos**	**0.14**	**78**	PG	**Pg**	**22 03 02.2**	**-0.2**
AOS				SG	**Sg**	**22 03 04.5**	**-0.3**
SKIA	**Skiathos**	**0.19**	**278**	P	**Pg**	**22 03 03.1**	**-0.1**
SKIA				S	**Sg**	**22 03 06.5**	**+0.4**
SKIA				AML	AML	22 03 06.9	
SKIA				AML	AML	22 03 07.6	
NEO	**Neokhori**	**0.41**	**294**	P	**Pg**	**22 03 06.9**	**-0.3**
NEO	**Neokhori**	**0.41**	**294**	P	**Pg**	**22 03 06.9**	**-0.3**
NEO				AML	AML	22 03 15.5	
	comp=N,18567μm,0.4s						
NEO				AML	AML	22 03 16.2	
	comp=E,17463μm,0.4s						
MRKA	**Markates**	**0.45**	**192**	P	**Pg**	**22 03 07.4**	**-0.4**
MRKA				S	**Sg**	**22 03 14.6**	**+0.8**
MRKA				AML	AML	22 03 14.9	
	comp=E,30074μm,0.5s						
MRKA				AML	AML	22 03 15.0	
	comp=N,20775μm,0.5s						
XOR	**Xorichti**	**0.46**	**299**	P	**Pg**	**22 03 07.7**	**-0.4**
XOR				S	**Sg**	**22 03 13.8**	**-0.4**
	comp=N,8μm,0.2s						
XOR	**Xorichti**	**0.46**	**299**	P	**Pg**	**22 03 07.7**	**-0.4**
XOR				S	**Sg**	**22 03 14.1**	**-0.2**
XOR				AML	AML	22 03 14.3	
	comp=E,13475μm,0.3s						
XOR				AML	AML	22 03 14.7	
	comp=N,19551μm,0.3s						
SKY	**Skiros Island**	**0.71**	**112**	P	**Pg**	**22 03 12.9**	**+0.1**
SKY				S	**Sb**	**22 03 23.4**	**+0.4**
	comp=N,16μm,0.2s						
LKR	**Lokris**	**0.74**	**229**	P	**Pg**	**22 03 12.8**	**-0.6**
LKR				S	**Sg**	**22 03 23.0**	**0.0**
	comp=N,6μm,0.6s						
LKR	**Lokris**	**0.74**	**229**	P	**Pg**	**22 03 12.7**	**-0.6**
LKR				AML	AML	22 03 23.3	
	comp=E,12000μm,0.8s						
LKR				S	**Sg**	**22 03 23.6**	**+0.6**
LKR				AML	AML	22 03 26.1	
	comp=N,13536μm,0.4s						
PAIG	**Paliouri**	**0.79**	**358**	P	**Pb**	**22 03 14.3**	**-0.3**
PAIG				S	**Sn**	**22 03 25.8**	**-1.8**
	comp=N,6μm,0.5s						
AXAR	**Agios Charalam**	**0.90**	**246**	P	**Pb**	**22 03 15.6**	**-1.0**
AXAR				AML	AML	22 03 31.7	
	comp=E,22098μm,0.8s						
AXAR				AML	AML	22 03 34.7	
	comp=N,23842μm,0.4s						
VIL2	**Platees**	**0.99**	**200**	P	**Pb**	**22 03 17.5**	**-0.7**
DION	**Dionisos Attik**	**1.08**	**170**	P	**Pb**	**22 03 19.2**	**-0.4**
DION				S	**Sb**	**22 03 33.4**	**-0.3**
DION	**Dionisos Attik**	**1.08**	**170**	P	**Pb**	**22 03 19.2**	**-0.4**
DION				S	**Sb**	**22 03 33.4**	**-0.3**
DION				AML	AML	22 03 35.4	
	comp=E,45036μm,0.7s						
DION				AML	AML	22 03 37.0	
	comp=N,41764μm,0.4s						
AGG	**Agios Georgios**	**1.08**	**264**	P	**Pb**	**22 03 18.5**	**-1.2**
AGG				S	**Sb**	**22 03 34.1**	**+0.4**
	comp=N,4μm,0.6s						
AGG	**Agios Georgios**	**1.08**	**264**	P	**Pb**	**22 03 18.6**	**-1.0**
AGG				S	**Sb**	**22 03 34.3**	**+0.5**
AGG				AML	AML	22 03 35.9	
	comp=N,10149μm,0.6s						
AGG				AML	AML	22 03 36.9	
	comp=E,6389μm,0.5s						
AGG	**Agios Georgios**	**1.08**	**264**	*i* P	**Pb**	**22 03 18.2**	**-1.5**
AGG				*i* S	**Sb**	**22 03 33.7**	**-0.1**
PROD	**Prodromos**	**1.08**	**216**	P	**Pb**	**22 03 18.6**	**-1.1**
PROD				AML	AML	22 03 37.0	
	comp=E,6146μm,0.4s						
PROD				AML	AML	22 03 37.8	
	comp=N,4035μm,0.5s						
PTL	**Penteli**	**1.10**	**174**	P	**Pb**	**22 03 19.4**	**-0.6**
PTL				S	**Sb**	**22 03 34.4**	**+0.1**
	comp=N,7μm,0.6s						
PTL	**Penteli**	**1.10**	**174**	P	**Pb**	**22 03 19.3**	**-0.6**
PTL				AML	AML	22 03 35.9	
	comp=E,17878μm,0.7s						
PTL				AML	AML	22 03 36.8	
	comp=N,11190μm,0.5s						
LRSO	**Larissa Observ**	**1.15**	**298**	P	**Pn**	**22 03 20.3**	**-0.6**
DLFA	**Delphi**	**1.16**	**235**	P	**Pn**	**22 03 20.0**	**-1.1**
ATH	**Athens Observa**	**1.17**	**180**	P	**Pn**	**22 03 20.6**	**-0.6**
ATH				S	**Sb**	**22 03 36.0**	**-0.2**
	comp=N,6μm,0.5s						
ATH	**Athens Observa**	**1.17**	**180**	P	**Pn**	**22 03 20.6**	**-0.6**
ATH				AML	AML	22 03 38.0	
	comp=E,10796μm,0.3s						
ATH				AML	AML	22 03 41.1	
	comp=N,11926μm,0.6s						
ATHU	**Athens Univers**	**1.18**	**177**	P	**Pn**	**22 03 20.5**	**-0.8**
ATHU				AML	AML	22 03 38.4	
	comp=N,4728μm,0.4s						
ATHU				AML	AML	22 03 40.8	
	comp=E,3159μm,0.7s						
MAKR	**Makrakomi, Fth**	**1.23**	**265**	P	**Pn**	**22 03 21.6**	**-0.6**
MAKR				AML	AML	22 03 41.0	
	comp=N,15758μm,0.7s						
MAKR				AML	AML	22 03 41.7	
	comp=E,9408μm,0.5s						
KARY	**Karystos**	**1.25**	**152**	P	**Pn**	**22 03 21.9**	**-0.4**
KARY				AML	AML	22 03 40.7	
	comp=E,10616μm,0.4s						
KARY				AML	AML	22 03 41.3	
	comp=N,10573μm,0.4s						
PLG	**Polygyros**	**1.25**	**351**	P	**Pn**	**22 03 21.1**	**-1.3**
PLG	**Polygyros**	**1.25**	**351**	P	**Pn**	**22 03 21.1**	**-1.3**
PLG				AML	AML	22 03 41.2	
	comp=E,3945μm,0.4s						
PLG				AML	AML	22 03 41.4	
	comp=N,3001μm,0.5s						
LOUT	**Loutraki**	**1.29**	**207**	P	**Pn**	**22 03 22.0**	**-0.8**
LOUT				AML	AML	22 03 50.2	
	comp=N,955μm,0.4s						
LOUT				AML	AML	22 03 53.9	
	comp=E,817μm,0.4s						
VLY	**Voula,Athens**	**1.29**	**177**	P	**Pn**	**22 03 22.2**	**-0.7**
VLY				S	**Sb**	**22 03 39.2**	**-0.6**
	comp=E,7μm,0.7s						
VLY	**Voula,Athens**	**1.29**	**177**	P	**Pn**	**22 03 22.1**	**-0.7**
VLY				AML	AML	22 03 41.2	
	comp=E,12816μm,0.8s						
VLY				AML	AML	22 03 42.4	
	comp=N,15285μm,0.5s						
LIT	**Litokhoron**	**1.34**	**316**	P	**Pn**	**22 03 22.3**	**-1.4**
LIA	**Limnos Island**	**1.37**	**56**	P	**Pn**	**22 03 22.9**	**-1.1**
LIA				S	**Sg**	**22 03 42.8**	**-0.3**
	comp=N,3μm,0.4s						
LIA	**Limnos Island**	**1.37**	**56**	P	**Pn**	**22 03 22.5**	**-1.5**
LIA				AML	AML	22 03 46.7	
	comp=E,5373μm,0.3s						
LIA				AML	AML	22 03 46.7	
	comp=N,7221μm,0.6s						
THL	**Klokotos Trika**	**1.38**	**288**	P	**Pn**	**22 03 23.4**	**-0.7**
THL	**Klokotos Trika**	**1.38**	**288**	P	**Pn**	**22 03 23.2**	**-0.9**
THL				AML	AML	22 03 46.3	
	comp=N,1788μm,0.6s						
THL				AML	AML	22 03 50.4	
	comp=E,1822μm,0.8s						
KALE	**Kalithea**	**1.44**	**239**	P	**Pn**	**22 03 24.2**	**-0.7**
KALE				AML	AML	22 03 49.3	
	comp=N,4710μm,0.5s						
KALE				AML	AML	22 03 50.9	
	comp=E,3754μm,0.6s						
SERG	**Sergoula**	**1.48**	**241**	P	**Pn**	**22 03 25.1**	**-0.5**
SERG				AML	AML	22 03 47.1	
	comp=E,3468μm,0.5s						
SERG				AML	AML	22 03 48.6	
	comp=N,6433μm,0.5s						
TRIZ	**Trizonia**	**1.50**	**239**	P	**Pn**	**22 03 25.1**	**-0.6**
EVR	**Evrytania**	**1.50**	**262**	P	**Pn**	**22 03 25.5**	**-0.3**
EVR	**Evrytania**	**1.50**	**262**	P	**Pn**	**22 03 25.8**	**0.0**
EVR				AML	AML	22 03 55.5	
	comp=E,2010μm,1.3s						
EVR				AML	AML	22 04 07.4	
	comp=N,1716μm,1.0s						
ANX	**Ano Chora**	**1.50**	**249**	P	**Pn**	**22 03 25.5**	**-0.3**
ANX				AML	AML	22 03 53.2	
	comp=N,3875μm,0.8s						
ANX				AML	AML	22 03 54.2	
	comp=E,5856μm,0.7s						
HORT	**Hortiatis**	**1.53**	**342**	P	**Pn**	**22 03 25.3**	**-1.0**
HORT				S	**Sn**	**22 03 44.9**	**-1.2**
	comp=E,1μm,0.5s						
HORT	**Hortiatis**	**1.53**	**342**	P	**Pn**	**22 03 25.3**	**-1.0**
HORT				AML	AML	22 03 50.4	
	comp=N,1788μm,0.6s						
HORT				AML	AML	22 03 58.2	
	comp=E,2743μm,0.6s						
HORT	**Hortiatis**	**1.53**	**342**	PN	**Pn**	**22 03 25.9**	**-0.4**
THE	**Thessaloniki**	**1.59**	**339**	P	**Pn**	**22 03 26.4**	**-0.7**
THE	**Thessaloniki**	**1.59**	**339**	P	**Pn**	**22 03 26.5**	**-0.6**
THE				AML	AML	22 03 47.3	
	comp=N,856μm,0.6s						
THE				AML	AML	22 03 51.8	
	comp=E,1747μm,0.7s						
GUR	**Goura**	**1.61**	**222**	P	**Pn**	**22 03 26.8**	**-0.7**
GUR				AML	AML	22 03 55.4	
	comp=N,5154μm,0.4s						
GUR				AML	AML	22 03 56.8	
	comp=E,3823μm,0.8s						
KLV	**Kalavryta, Ach**	**1.64**	**229**	P	**Pn**	**22 03 27.1**	**-0.7**
KLV	**Kalavryta, Ach**	**1.64**	**229**	P	**Pn**	**22 03 27.1**	**-0.7**
KLV				AML	AML	22 03 54.1	
	comp=E,1408μm,0.9s						
KLV				AML	AML	22 04 00.2	
	comp=N,1650μm,0.8s						
THAS	**Thassos island**	**1.66**	**28**	P	**Pn**	**22 03 26.2**	**-1.7**
THAS	**Thassos island**	**1.66**	**28**	P	**Pn**	**22 03 26.0**	**-1.9**
THAS				AML	AML	22 03 57.2	
	comp=E,3778μm,0.3s						
THAS				AML	AML	22 03 58.0	
	comp=N,1946μm,0.3s						
SIGR	**SIGRI**	**1.67**	**87**	P	**Pn**	**22 03 27.5**	**-0.6**
SIGR	**SIGRI**	**1.67**	**87**	P	**Pn**	**22 03 27.1**	**-1.0**
SIGR				AML	AML	22 03 56.3	
	comp=E,2012μm,0.5s						
SIGR				AML	AML	22 03 58.3	
	comp=N,2839μm,0.5s						
SIGR	**SIGRI**	**1.67**	**87**	PN	**Pn**	**22 03 27.7**	**-0.4**
DID	**Didima**	**1.67**	**193**	P	**Pn**	**22 03 27.5**	**-0.7**
DID				AML	AML	22 03 58.3	
	comp=N,2476μm,0.3s						
DID				AML	AML	22 04 00.5	
	comp=E,3137μm,0.5s						
YDRA	**Hydra**	**1.80**	**186**	P	**Pn**	**22 03 29.5**	**-0.4**
KRND	**KRANIDI**	**1.81**	**194**	P	**Pn**	**22 03 29.4**	**-0.6**
KRND	**KRANIDI**	**1.81**	**194**	P	**Pn**	**22 03 29.5**	**-0.6**
KZN	**Kozani**	**1.89**	**309**	P	**Pn**	**22 03 30.8**	**-0.5**
KZN	**Kozani**	**1.89**	**309**	P	**Pn**	**22 03 30.8**	**-0.5**
KZN				AML	AML	22 04 06.0	
	comp=E,1518μm,0.7s						
KZN				AML	AML	22 04 06.7	
	comp=N,1153μm,0.7s						
SMTH	**Samothraki Isl**	**1.93**	**46**	P	**Pn**	**22 03 30.2**	**-1.5**
SMTH	**Samothraki Isl**	**1.93**	**46**	P	**Pn**	**22 03 29.7**	**-2.1**
SMTH				AML	AML	22 04 04.7	
	comp=N,1324μm,0.5s						
SMTH				AML	AML	22 04 06.0	
	comp=E,1486μm,0.5s						
BOZC	**Bozcaada**	**1.94**	**68**	PN	**Pn**	**22 03 31.4**	**-0.5**
BOZC	**Bozcaada**	**1.94**	**68**	*i* P	**Pn**	**22 03 31.6**	**-0.3**
KAVA	**Kavala**	**1.95**	**18**	P	**Pn**	**22 03 30.4**	**-1.6**
KAVA				S	**Sn**	**22 03 56.0**	**-0.5**
	comp=E,1μm,0.6s						
KAVA	**Kavala**	**1.95**	**18**	P	**Pn**	**22 03 30.3**	**-1.6**
KAVA				AML	AML	22 04 06.6	
	comp=E,2213μm,0.7s						
KAVA				AML	AML	22 04 07.2	
	comp=N,1893μm,0.5s						
DRO	**Drossia**	**1.97**	**233**	P	**Pn**	**22 03 32.2**	**0.0**
DRO				AML	AML	22 04 09.7	
	comp=E,658μm,0.6s						
DRO				AML	AML	22 04 12.1	
	comp=N,2132μm,0.5s						
SRS	**Serrai**	**1.98**	**357**	P	**Pn**	**22 03 31.3**	**-1.0**
SRS	**Serrai**	**1.98**	**357**	P	**Pn**	**22 03 31.3**	**-1.0**
CHOS	**Chios island**	**1.98**	**112**	P	**Pn**	**22 03 32.3**	**-0.2**
CHOS	**Chios island**	**1.98**	**112**	P	**Pn**	**22 03 32.0**	**-0.5**
CHOS	**Chios island**	**1.98**	**112**	PN	**Pn**	**22 03 32.5**	**0.0**
KPRO	**Kipourio**	**1.99**	**295**	P	**Pn**	**22 03 32.3**	**-0.2**
KPRO				AML	AML	22 04 12.2	
	comp=E,1660μm,0.9s						
KPRO				AML	AML	22 04 19.5	
	comp=N,1793μm,0.7s						
GADA	**Gvkgeada**	**1.99**	**58**	PN	**Pn**	**22 03 31.9**	**-0.6**
GOKA	**anakkale-Gk**	**2.00**	**58**	*i* P	**Pn**	**22 03 31.6**	**-1.0**
PRK	**Paraskevi**	**2.00**	**86**	P	**Pn**	**22 03 32.9**	**+0.3**
VLX	**Vlachokerasia**	**2.06**	**211**	P	**Pn**	**22 03 33.7**	**+0.1**
RLS	**Riolos of Patr**	**2.06**	**239**	P	**Pn**	**22 03 33.9**	**+0.4**
RLS				AML	AML	22 04 08.3	
	comp=E,759μm,0.6s						
RLS				AML	AML	22 04 08.6	
	comp=N,881μm,0.9s						
SERI	**Serifos**	**2.07**	**163**	P	**Pn**	**22 03 32.9**	**-0.7**
KNT	**Kendrikon**	**2.11**	**343**	P	**Pn**	**22 03 33.9**	**-0.3**
KNT	**Kendrikon**	**2.11**	**343**	P	**Pn**	**22 03 33.9**	**-0.3**
EZN	**Ezine**	**2.14**	**71**	PN	**Pn**	**22 03 34.8**	**+0.3**
AMT	**Artemida-Makis**	**2.25**	**225**	P	**Pn**	**22 03 36.4**	**+0.4**
AMT				AML	AML	22 04 14.0	
	comp=E,1634μm,0.7s						
AMT				AML	AML	22 04 20.8	
	comp=N,1588μm,0.6s						
JAN	**Janina**	**2.27**	**284**	P	**Pn**	**22 03 36.0**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**2.28**	**74**	*i* P	Pn	22 03 31.1	-5.4
KRBN	**Karaburun**	**2.29**	**103**	PN	**Pn**	**22 03 36.9**	**+0.3**
URLA	**Izmir**	**2.39**	**108**	PN	**Pn**	**22 03 38.1**	**+0.1**
URLA	**Izmir**	**2.39**	**108**	*i* P	**Pn**	**22 03 37.8**	**-0.2**
LKD2	**Lefkada island**	**2.40**	**263**	P	**Pn**	**22 03 38.1**	**-0.1**
ITM	**Ithomi**	**2.41**	**216**	P	**Pn**	**22 03 38.2**	**-0.1**
ITM	**Ithomi**	**2.41**	**216**	P	**Pn**	**22 03 39.0**	**+0.7**
ITM				AML	AML	22 04 21.6	
	comp=E,573μm,0.8s						
ITM				AML	AML	22 04 34.5	
	comp=N,576μm,0.7s						
NEST	**Nestorio**	**2.41**	**303**	P	**Pn**	**22 03 38.4**	**0.0**
RDO	**Rodhopi**	**2.44**	**34**	P	**Pn**	**22 03 37.4**	**-1.4**
RDO	**Rodhopi**	**2.44**	**34**	P	**Pn**	**22 03 37.1**	**-1.6**
RDO				AML	AML	22 04 20.6	
	comp=N,694μm,0.7s						
RDO				AML	AML	22 04 29.0	
	comp=E,470μm,0.7s						
MMB	**Musomiste**	**2.44**	**0**	*i* P	**Pn**	**22 03 37.8**	**-1.0**
ENEZ	**Enez**	**2.46**	**49**	PN	**Pn**	**22 03 38.0**	**-1.0**
GELI	**Tayfur-Gelibol**	**2.47**	**59**	PN	**Pn**	**22 03 39.1**	**-0.1**
DKL	**Dikili**	**2.49**	**91**	PN	**Pn**	**22 03 39.3**	**-0.1**
VLI	**Veliai**	**2.50**	**194**	P	**Pn**	**22 03 39.0**	**-0.5**
VLI	**Veliai**	**2.50**	**194**	P	**Pn**	**22 03 38.8**	**-0.7**
VLI				AML	AML	22 04 32.8	
	comp=N,833μm,0.6s						
VLI				AML	AML	22 04 33.5	
	comp=E,804μm,1.1s						
ALN	**Alexandroupoli**	**2.51**	**45**	P	**Pn**	**22 03 38.3**	**-1.4**
ALN				S	**Sn**	**22 04 10.1**	**-0.1**
	comp=E,410nm,0.6s						
ALN	**Alexandroupoli**	**2.51**	**45**	P	**Pn**	**22 03 38.0**	**-1.6**
ALN				AML	AML	22 04 24.4	
	comp=N,886μm,0.8s						
ALN				AML	AML	22 04 25.8	
	comp=E,800μm,0.6s						
ALN	**Alexandroupoli**	**2.51**	**45**	PN	**Pn**	**22 03 38.2**	**-1.4**
ALN	**Alexandroupoli**	**2.51**	**45**	*i* P	**Pn**	**22 03 38.1**	**-1.6**
MHLO	**Agia Marina, M**	**2.51**	**167**	P	**Pn**	**22 03 40.0**	**+0.4**
APE	**Apeiranthos**	**2.52**	**145**	P	**Pn**	**22 03 39.6**	**-0.3**
APE				S	**Sn**	**22 04 11.3**	**+0.8**
	comp=E,975nm,0.5s						
APE	**Apeiranthos**	**2.52**	**145**	P	**Pn**	**22 03 39.5**	**-0.3**
APE				AML	AML	22 04 18.8	
	comp=N,2246μm,0.6s						
APE				AML	AML	22 04 20.8	
	comp=E,1709μm,0.4s						
APE	**Apeiranthos**	**2.52**	**145**	⇓P	**Pn**	**22 03 38.7**	**-1.1**
APE				⇑S	**Sn**	**22 04 08.5**	**-2.0**
APE	**Apeiranthos**	**2.52**	**145**	*i* P	**Pn**	**22 03 38.7**	**-0.5**
ZEDA	**zmir-Bergama**	**2.63**	**93**	*i* P	**Pn**	**22 03 40.1**	**-1.2**
ERIK	**Erikli-Kesan**	**2.64**	**54**	PN	**Pn**	**22 03 41.7**	**+0.2**
LPK	**Lapseki**	**2.66**	**61**	PN	**Pn**	**22 03 41.7**	**0.0**
RZN	**Rozhen**	**2.66**	**17**	*i* P	**Pn**	**22 03 41.3**	**-0.6**
BLCB	**Balcova**	**2.71**	**105**	PN	**Pn**	**22 03 42.7**	**+0.2**
DGB	**zmir**	**2.71**	**113**	*i* P	**Pn**	**22 03 42.3**	**-0.2**
IOSP	**Ios island**	**2.72**	**152**	P	**Pn**	**22 03 42.3**	**-0.3**
IOSP	**Ios island**	**2.72**	**152**	P	**Pn**	**22 03 42.3**	**-0.3**
PYL	**PYLOS**	**2.73**	**215**	P	**Pn**	**22 03 43.5**	**+0.9**
KKB	**Krupnik**	**2.76**	**350**	*i* P	**Pn**	**22 03 42.6**	**-0.6**
KDZ	**Kurdzhali**	**2.83**	**27**	*i* P	**Pn**	**22 03 42.3**	**-1.7**
SMG	**Samos**	**2.84**	**119**	P	**Pn**	**22 03 44.2**	**-0.1**
AMGA	**Amorgos Island**	**2.88**	**142**	P	**Pn**	**22 03 44.9**	**+0.1**
AMGA				S	**Sn**	**22 04 20.6**	**+1.2**
	comp=E,1μm,0.5s						
AMGA	**Amorgos Island**	**2.88**	**142**	P	**Pn**	**22 03 44.5**	**-0.3**
KTHA	**Kythira Island**	**2.92**	**190**	P	**Pn**	**22 03 45.1**	**-0.3**
KTHA	**Kythira Island**	**2.92**	**190**	P	**Pn**	**22 03 45.0**	**-0.3**
OHR	**Ohrid**	**2.97**	**312**	*i* Pn	**Pb**	**22 03 50.9**	**-1.1**
UKOP	**Uzunkopru-Edir**	**2.99**	**48**	PN	**Pn**	**22 03 46.2**	**-0.1**
SAP3	**Santorini-Thir**	**3.00**	**154**	P	**Pn**	**22 03 46.8**	**+0.4**
THR5	**Thira Island,**	**3.01**	**154**	P	**Pn**	**22 03 46.8**	**+0.2**
THR2	**Thira island,**	**3.02**	**153**	P	**Pn**	**22 03 46.8**	**+0.1**
KRBG	**Karabiga-Canak**	**3.04**	**65**	PN	**Pn**	**22 03 47.8**	**+0.9**
THR3	**Thira Island,**	**3.04**	**153**	P	**Pn**	**22 03 47.4**	**+0.5**
PLD	**Plovdiv**	**3.06**	**14**	*i* P	**Pn**	**22 03 47.6**	**+0.4**
PLD	**Plovdiv**	**3.06**	**14**	PN	**Pn**	**22 03 47.9**	**+0.7**
THR9	**Santorini-Faro**	**3.07**	**154**	P	**Pn**	**22 03 47.6**	**+0.2**
BALY	**Balya**	**3.09**	**78**	*i* P	**Pb**	**22 03 50.8**	**-3.2**
THR6	**Thira Island,**	**3.09**	**154**	P	**Pn**	**22 03 47.0**	**-0.6**
SANT	**Santorini**	**3.10**	**153**	P	**Pn**	**22 03 48.0**	**+0.2**
SANT	**Santorini**	**3.10**	**153**	⇑P	**Pn**	**22 03 47.2**	**-0.6**
SANT				⇑S	**Sn**	**22 04 24.3**	**-0.4**
SANT	**Santorini**	**3.10**	**153**	*i* P	**Pg**	**22 03 57.8**	**-0.5**
SANT				*i* S	**Sg**	**22 04 37.2**	**-1.3**
GCAM	**G?zelcaml?**	**3.12**	**116**	*i* P	**Pn**	**22 03 47.8**	**-0.3**
KNL	**Balıkesir**	**3.15**	**68**	*i* P	**Pb**	**22 03 56.3**	**+1.3**
KNL				*i* S	**Sg**	**22 04 38.0**	**-2.3**
ANAF	**Anafi Island**	**3.23**	**149**	P	**Pn**	**22 03 49.7**	**+0.1**
ANAF	**Anafi Island**	**3.23**	**149**	P	**Pn**	**22 03 49.6**	**+0.1**
ANKY	**Antikythira Is**	**3.29**	**186**	P	**Pn**	**22 03 50.0**	**-0.3**
ANKY	**Antikythira Is**	**3.29**	**186**	P	**Pn**	**22 03 49.9**	**-0.5**
PGB	**Panagyurishte**	**3.42**	**6**	*i* P	**Pb**	**22 04 01.8**	**+2.2**
AYDB	**Zeytinkoy-Aydi**	**3.49**	**109**	PN	**Pn**	**22 03 54.3**	**+1.0**
VTS	**Vitosha**	**3.49**	**354**	⇓P	**Pn**	**22 03 53.1**	**-0.2**
VTS	**Vitosha**	**3.49**	**354**	*i* P	**Pn**	**22 03 53.1**	**-0.2**
BDRM	**Kayabasi**	**3.60**	**124**	*i* P	**Pn**	**22 03 54.9**	**+0.1**
IMMV	**Iera Moni Meta**	**3.68**	**177**	P	**Pn**	**22 03 55.9**	**+0.1**
KIRK	**Kırklareli**	**3.69**	**43**	*i* P	**Pn**	**22 03 53.2**	**-2.7**
VAM	**Vamos**	**3.75**	**174**	P	**Pn**	**22 03 56.2**	**-0.5**
IDI	**Anoyia**	**3.96**	**166**	Pn	**Pn**	**22 03 59.6**	**-0.1**
	comp=E,2.3nm,0.3s,baz=350,slow=12,SNR=30						
IDI				Sn	**Sn**	**22 04 42.3**	**-3.8**
	comp=E,3.6nm,0.3s,baz=322,sl

	comp=N,120μm,0.4s							
BBLS	**Lazići**	**5.72**	**327**	*e*Pn		**Pn**	**22 04 25.3**	**+1.5**
PLAC	**Placanica**	**5.72**	**265**	P		**Pn**	**22 04 24.7**	**+0.9**
PLAC				S		**Sn**	**22 05 27.9**	**-1.5**
CRAC	**Craco**	**5.74**	**285**	P		**Pn**	**22 04 25.1**	**+1.1**
CRAC				S		**Sn**	**22 05 29.9**	**+0.1**
SALB	**San Lorenzo Be**	**5.74**	**280**	P		**Pn**	**22 04 25.6**	**+1.4**
SALB	comp=E,55μm,0.6s			AML	AML			
SALB	comp=N,39μm,1.2s			AML	AML			
MIGL	**Miglionico**	**5.78**	**287**	P		**Pn**	**22 04 26.0**	**+1.4**
HERR	**Herculane**	**5.81**	**351**	⇓P		**Pn**	**22 04 23.8**	**-1.3**
MDVR	**Moldovita**	**5.83**	**346**	⇑P		**Pn**	**22 04 24.1**	**-1.2**
STON	**Ston**	**5.88**	**311**	*e*Pn		**Pn**	**22 04 26.2**	**+0.3**
STON				Sn		**Sn**	**22 05 31.3**	**-1.8**
STON	**Ston**	**5.88**	**311**	*e*Pn		**Pn**	**22 04 25.6**	**-0.3**
T0702	**Acquaformosa (**	**5.93**	**278**	P		**Pn**	**22 04 30.0**	**+3.2**
SCHR	**S. Chirico Rap**	**5.98**	**283**	P		**Pn**	**22 04 29.8**	**+2.3**
MMN	**Mormanno**	**6.01**	**280**	P		**Pn**	**22 04 29.8**	**+2.0**
CET2	**Cetraro**	**6.02**	**276**	P		**Pn**	**22 04 29.8**	**+1.8**
JOPP	**Joppolo**	**6.13**	**267**	P		**Pn**	**22 04 30.2**	**+0.8**
JOPP				S		**Sn**	**22 05 35.0**	**-4.4**
SIRI	**Monte Sirino -**	**6.14**	**282**	P		**Pn**	**22 04 31.6**	**+2.0**
SIRI	comp=E,102μm,0.4s			AML	AML			
SIRI	comp=N,98μm,0.5s			AML	AML			
CUC	**Castrocucco**	**6.16**	**280**	P		**Pn**	**22 04 31.9**	**+2.0**
CUC	comp=E,74μm,0.9s			AML	AML			
CUC	comp=N,54μm,1.6s			AML	AML			
CUC	comp=E,78μm,1.0s			AML	AML			
CUC	comp=N,53μm,0.5s			AML	AML			
ARR	**Arges**	**6.26**	**6**	⇓P		**Pn**	**22 04 31.1**	**-0.2**
GZR	**Gura Zlata**	**6.29**	**354**	⇑P		**Pn**	**22 04 30.1**	**-1.5**
TLBR	**Topalu**	**6.29**	**30**	⇓P		**Pn**	**22 04 28.6**	**-3.0**
LOT	**Lotru**	**6.30**	**0**	⇓P		**Pn**	**22 04 31.5**	**-0.3**
TIRR	**Tirgusor**	**6.37**	**32**	⇑P		**Pn**	**22 04 29.4**	**-3.3**
VOIR		**6.37**	**9**	⇑P		**Pn**	**22 04 32.1**	**-0.7**
MAKA	**Makarska**	**6.52**	**312**	Sn		**Sn**	**22 05 46.6**	**-2.5**
MLR	**Muntele Rosu**	**6.56**	**14**	Pn		**Pn**	**22 04 36.2**	**+0.8**
MLR	comp=N,0.1nm,0.3s,baz=221,slow=3.6,SNR=4.5			Sn		**Sn**	**22 05 50.1**	**-0.1**
MLR	comp=N,0.3nm,0.3s,baz=158,slow=19,SNR=1.8			Lg		Lg	22 06 23.4	
MLR	comp=N,0.2nm,0.3s,baz=159,slow=17,SNR=1.5 **Muntele Rosu**	**6.56**	**14**	⇓P		**Pn**	**22 04 31.9**	**-3.5**
BZS	**Buzias**	**6.65**	**347**	⇓P		**Pn**	**22 04 35.6**	**-1.0**
FRGS	**Fruska Gora**	**6.67**	**336**	*e*Pn		**Pn**	**22 04 37.4**	**+0.5**
HVAR	**Hvar**	**6.80**	**309**	*e*Pn		**Pn**	**22 04 37.6**	**-1.0**
CFR	**Carcaliu**	**6.87**	**27**	⇓P		**Pn**	**22 04 38.5**	**-1.1**
DOPR	**Dopca**	**6.93**	**10**	⇑P		**Pn**	**22 04 40.1**	**-0.3**
MDB	**Medias**	**7.01**	**4**	⇑P		**Pn**	**22 04 40.7**	**-0.9**
PLOR	**Plostina**	**7.05**	**17**	⇓P		**Pn**	**22 04 42.0**	**-0.1**
KIJV	**Kijevo**	**7.32**	**314**	*e*Pn		**Pn**	**22 04 46.3**	**+0.6**
BLY	**Banja Luka**	**7.42**	**321**	*e*Pn		**Pn**	**22 04 44.7**	**-2.4**
VAE	**Valguarnera**	**7.50**	**260**	Sn		**Sn**	**22 06 13.9**	**+0.8**
ZIRJ	comp=N,0.4nm,0.3s,baz=180,slow=20,SNR=1.3 **Zirje**	**7.55**	**309**	*e*Pn		**Pn**	**22 04 47.5**	**-1.4**
ZIRJ				Sn		**Sn**	**22 06 10.0**	**-4.4**
MORI	**Morici**	**7.63**	**311**	Sn		**Sn**	**22 06 13.0**	**-3.5**
BRTR	**Keskin Array B**	**7.71**	**83**	Pn		**Pn**	**22 04 52.4**	**+1.2**
BRTR	comp=N,0.2nm,0.3s,baz=259,slow=11,SNR=6.6			Sn		**Sn**	**22 06 18.8**	**+0.2**
BIZ	baz=264,slow=22,SNR=0.9 **Bicaz**	**7.99**	**12**	⇓P		**Pn**	**22 04 52.1**	**-2.8**
MORH	**Mrgy, Hungar**	**7.99**	**334**	*e*Pn		**Pn**	**22 04 54.7**	**-0.2**
DUGI	**Dugi Otok**	**8.09**	**310**	*e*Pn		**Pn**	**22 04 55.2**	**-1.1**
CRES	**Cresnjev**	**9.04**	**320**	*e*Pn		**Pn**	**22 05 09.0**	**-0.3**
CEY	**Cerknica**	**9.51**	**317**	*e*Pn		**Pn**	**22 05 13.1**	**-2.7**
SOKA	**Soboth**	**9.85**	**323**	*i* Pn		**Pn**	**22 05 23.1**	**+2.6**
ARSA	comp=N,1.1nm,0.5s **Arzberg**	**10.06**	**326**	*i* Pn		**Pn**	**22 05 26.4**	**+3.0**
CONA	comp=N,1.0nm,0.3s **Conrad Observa**	**10.46**	**330**	*i* Pn		**Pn**	**22 05 29.7**	**+0.8**
ABTA	comp=N,0.3nm,0.3s **Abfaltersbach**	**11.18**	**316**	*i* Pn		**Pn**	**22 05 40.8**	**+2.1**
MMAI	comp=N,0.6nm,0.3s **Mount Meron Ar**	**11.26**	**119**	Pn		**Pn**	**22 05 39.9**	**0.0**
SQTA	comp=N,0.5nm,0.3s,baz=296,slow=11,SNR=2.3 **Sankt Quirin**	**12.17**	**316**	*i* Pn		**Pn**	**22 05 54.9**	**+2.6**
MOTA	comp=N,0.5nm,0.2s **Moosalm**	**12.30**	**316**	*i* Pn		**Pn**	**22 05 55.3**	**+1.1**
ESDC	**Sonseca Array**	**21.36**	**280**	P		**P**	**22 07 46.8**	**+0.5**
FINES	comp=N,0.8nm,0.6s,baz=79,slow=11,SNR=13 **FINESS Array B**	**22.38**	**3**	P		**P**	**22 07 55.9**	**-0.9**
NOA	comp=N,1.1nm,0.9s,baz=195,slow=10,SNR=1.8 **NORSAR Array B**	**23.26**	**345**	P		**P**	**22 08 06.0**	**-0.1**
EKA	comp=N,0.2nm,0.5s,baz=150,slow=9.6,SNR=2.3 **Eskdalemuir Ar**	**24.17**	**321**	P		**P**	**22 08 15.9**	**+1.0**
TORD	comp=N,1.5nm,0.7s,baz=117,slow=11,SNR=7.4 **Torodi Ar. Bea**	**32.39**	**223**	P		**P**	**22 09 28.4**	**-0.3**
MKAR	comp=N,0.5nm,0.4s,baz=34,slow=9.1,SNR=9.1 **Makanchi Array**	**42.67**	**60**	P		**P**	**22 10 56.0**	**+0.5**
ZALV	comp=N,0.6nm,0.5s,baz=274,slow=7.8,SNR=11 **Zalesovo Beam**	**43.18**	**49**	P		**P**	**22 10 58.9**	**-0.6**
YKA	comp=N,0.4nm,0.3s,baz=266,slow=8.7,SNR=2.2 **Yellowknife Ar**	**73.31**	**341**	P		**P**	**22 14 32.7**	**+2.7**
	comp=N,0.3nm,0.6s,baz=32,slow=5.4,SNR=4.2							

KRNET 09 22:17:14.7±0.1, 41°.33N×76°.23E, h19km, mb1.9, 10C-4D,
Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.91**	**1**	⇑*i*P	Pb	22 17 32.0	-0.1
ULHL	baz=1.0			⇑*i*S	Sb	22 17 44.2	+0.3
KZA	baz=1.0 **Kyzart**	**1.04**	**316**	⇑*i*P	Pb	22 17 33.9	-0.5
KZA	baz=16			⇑*i*S	Sb	22 17 48.3	+0.4
KDJ	baz=16 **Kajisay**	**1.07**	**42**	⇑*i*P	Pb	22 17 34.7	0.0
KDJ	baz=42			⇑*i*S	Sn	22 17 49.3	0.0
BOOM	baz=42 **Boomskoye usch**	**1.18**	**350**	⇑*i*P	Pb	22 17 36.5	0.0
BOOM	baz=50			⇑*i*S	Sn	22 17 52.3	+0.4
TARG	baz=50 **Taragay, Kyrgy**	**1.25**	**71**	⇓*i*P	Pn	22 17 37.4	-0.2
TARG	baz=71			⇓*i*S	Sn	22 17 54.7	+0.6
UCH	baz=71 **Uchtor**	**1.56**	**305**	⇓*i*P	Pb	22 17 43.8	+0.5
UCH	baz=5.0			⇓*i*S	Sg	22 18 04.1	-1.2
ANVS	baz=5.0 **Anan'yevo**	**1.80**	**36**	⇑*i*P	Pb	22 17 47.5	+0.3
ANVS	baz=36			⇑*i*S	Sb	22 18 10.9	+1.4
	baz=36						

*KRNET **09** 23:39:58.6±0.1, 39°.98N×78°.89E, mb2.4*
SOME 09 23:39:54.0, 42.12N×80.82E, h15km, 8C-4D,
Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.44**	**317**	*e*P	Pn	23 40 17.7	-2.0
SHLS	9.0nm,0.1s			*e*S	Sn	23 40 34.9	-3.6
PRZ	17nm,0.3s **Przheval'sk**	**1.83**	**282**	⇑*i*P	Pg	23 40 43.5	+14
PRZ	baz=52			⇑*i*S	Sg	23 41 16.2	+23
SATY	baz=52 **Saty**	**2.01**	**299**	*e*P	Pb	23 40 30.8	+0.4
SATY	0.8nm,0.1s			*e*S	Sg	23 40 57.7	-1.1
TARG	4.2nm,0.1s **Taragay, Kyrgy**	**2.28**	**261**	⇓*i*P	Pb	23 40 34.4	-0.7
TARG	baz=35			⇓*i*S	Sn	23 41 01.2	+1.7
DJR	baz=35 **Jarkent**	**2.34**	**342**	*e*P	Pb	23 40 36.6	+0.7
DJR	1.0nm,0.2s			*e*S	Sg	23 41 07.9	-1.3
	4.2nm,0.4s						

ANVS	**Anan'yevo**	**2.42**	**287**	⇑*i*P		Pg	23 40 49.1	+8.6
ANVS	baz=42			⇑*i*S		Sg	23 41 25.7	+14
MNBS	baz=42 **Baschi**	**2.64**	**319**	*e*P		Pb	23 40 41.3	+0.3
MNBS	1.9nm,0.3s			*e*S		Sb	23 41 15.2	+1.8
KDJ	7.3nm,0.3s **Kajisay**	**2.71**	**271**	⇑*i*P		Pb	23 40 42.9	+0.7
KDJ	baz=30			⇑*i*S		Sb	23 41 15.6	+0.3
ARXS	baz=30 **Arharly**	**3.03**	**315**	*e*P		Pb	23 40 48.3	+0.7
ARXS	1.3nm,0.2s			*e*S		Sb	23 41 27.5	+3.0
KAPS	2.4nm,0.5s **Kapalarasan**	**3.34**	**342**	*e*P		Pb	23 40 54.4	+1.4
KAPS	0.4nm,0.3s			*e*S		Sg	23 41 37.7	-3.5
ULHL	2.9nm,0.3s **Ulahol**	**3.40**	**274**	⇓*e*P		Pb	23 40 50.8	-3.3
ULHL	baz=19			⇓*i*S		Sn	23 41 29.8	+2.9
KTBS	baz=19 **Karatobe**	**3.43**	**299**	*e*P		Pb	23 40 54.8	+0.3
KTBS	1.7nm,0.5s			*e*S		Sb	23 41 37.8	+1.8
BOOM	2.1nm,0.4s **Boomskoye usch**	**3.64**	**278**	⇑*e*P		Pb	23 40 54.5	-3.6
BOOM	baz=20			⇑*i*S		Sn	23 41 35.7	+3.1
	baz=20							

*DDA **09** 23:42:27.8, 35°.05N×34°.65E, h7km±2km, ML2.0*
*ISK **09** 23:42:29.0, 34°.89N×34°.85E, h66km, ML2.4/19*
*NIC **09** 23:42:31.1±0.0, 35°.04N×34°.80E, h40km±9km, Ml2.6/4*
*GRAL **09** 23:42:32.8±0.3, 34°.67N×34°.66E, h0km±4km, MD3.3*
*GII **09** 23:42:33.0±0.0, 34°.87N×34°.73E, h30km, MD1.6/2*
ISC 09 23:42:31.1±1.1, 34°.94N±0°.03×34°.77E±0°.03, h29km±12km,
n56, σ0.897/79, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.60**	**276**	P	**Pn**	**23 42 43.6**	**-0.1**
PARAL	1.5nm,0.3s			AML	AML	23 42 52.3	
PARAL	1.5nm,0.3s			AML	AML	23 42 52.3	
PARAL	1.4nm,0.3s			AML	AML	23 42 52.3	
PARAL	1.4nm,0.3s			AML	AML	23 42 52.3	
PARAL				S	**Sn**	**23 42 52.8**	**+0.2**
EREN	**Erenkoy**	**0.77**	**320**	PG	**Pn**	**23 42 46.2**	**+0.2**
EREN	**Erenkoy**	**0.77**	**320**	*i* P	**Pb**	**23 42 47.4**	**+1.4**
MVOU	**Mavrovouni**	**0.94**	**275**	P	**Pn**	**23 42 47.8**	**-0.5**
MVOU				S	**Sb**	**23 43 00.9**	**0.0**
MVOU	0.4nm,0.2s			AML	AML	23 43 01.6	
MVOU	0.4nm,0.2s			AML	AML	23 43 01.6	
MVOU	0.3nm,0.7s			AML	AML	23 43 08.9	
MVOU	0.3nm,0.7s			AML	AML	23 43 08.9	
LFK	**Lefkose**	**1.07**	**289**	PN	**Pn**	**23 42 50.2**	**0.0**
LFK				SN	**Sb**	**23 43 05.4**	**+0.6**
HWQ	**Hawqa**	**1.17**	**124**	*e*P	**Pb**	**23 42 53.1**	**+0.3**
HWQ				*e*S	**Sb**	**23 43 08.3**	**+0.6**
CSS	**Mathiatis**	**1.18**	**272**	PN	**Pn**	**23 42 51.3**	**-0.4**
CSS				SN	**Sn**	**23 43 06.1**	**-0.8**
CSS	**Mathiatis**	**1.18**	**272**	Pg	**Pn**	**23 42 51.3**	**-0.4**
CSS	**Mathiatis**	**1.18**	**272**	P	**Pn**	**23 42 51.5**	**-0.3**
CSS				S	**Sn**	**23 43 06.5**	**-0.4**
ASGA	**Asgata**	**1.26**	**264**	P	**Pn**	**23 42 52.7**	**-0.1**
ASGA	0.1nm,0.3s			AML	AML	23 43 08.1	
ASGA	0.1nm,0.3s			AML	AML	23 43 08.1	
ASGA				S	**Sb**	**23 43 08.6**	**-1.6**
ASGA	0.3nm,0.6s			AML	AML	23 43 09.2	
ASGA	0.3nm,0.6s			AML	AML	23 43 09.2	
BHL	**Bhannes**	**1.26**	**144**	*e*P	**Pn**	**23 42 53.1**	**+0.2**
BHL				*e*S	**Sn**	**23 43 07.8**	**-1.1**
DQRL	**Deir Qamar**	**1.39**	**151**	*e*P	**Pn**	**23 42 55.0**	**+0.2**
LEF	**Lefka**	**1.55**	**277**	PN	**Pn**	**23 42 57.0**	**+0.2**
LEF	**Lefka**	**1.55**	**277**	*i* P	**Pn**	**23 42 55.9**	**-0.9**
LEF	comp=E,24nm,0.9s			IAML		23 43 21.0	
LEF	comp=N,18nm,0.7s			IAML		23 43 34.0	
SZAC	**Souni**	**1.56**	**264**	P	**Pn**	**23 42 57.6**	**+0.6**
SZAC				S	**Sb**	**23 43 16.6**	**-2.2**
SZAC	comp=N,0.4nm,0.2s			AML	AML	23 43 16.8	
SZAC	comp=N,0.4nm,0.2s			AML	AML	23 43 16.8	
SZAC	comp=N,0.4nm,0.2s			AML	AML	23 43 17.3	
SZAC	comp=N,0.4nm,0.2s			AML	AML	23 43 17.3	
IKL	**Isikli**	**1.57**	**326**	PN	**Pn**	**23 42 57.0**	**-0.1**
IKL				SN	**Sn**	**23 43 17.0**	**+0.6**
AKKU	**Akkuyu-Mersin**	**1.57**	**321**	PN	**Pn**	**23 42 57.4**	**+0.3**
AKKU				SN	**Sn**	**23 43 16.9**	**+0.4**
QRWL	**Qaraoun**	**1.58**	**151**	*e*P	**Pn**	**23 42 57.7**	**+0.5**
GULN	**MERSIN_Gulnar**	**1.60**	**322**	*i* P	**Pn**	**23 42 58.7**	**+1.3**
GULN				*i* S	**Sn**	**23 43 15.8**	**-1.2**
KIZK	**Mersin**	**1.62**	**342**	PN	**Pn**	**23 42 57.9**	**+0.1**
KIZK				SN	**Sn**	**23 43 18.3**	**+0.6**
KIZK	**Mersin**	**1.62**	**342**	*i* P	**Pn**	**23 42 59.0**	**+1.2**
KIZK				*i* S	**Sn**	**23 43 16.4**	**-1.3**
RCY	**Rachaya**	**1.69**	**148**	*e*P	**Pn**	**23 42 59.6**	**+0.8**
KRTS	**Karatas**	**1.71**	**17**	PN	**Pn**	**23 42 58.1**	**-0.8**
KEBE	**Keben-Mersin**	**1.74**	**331**	PN	**Pn**	**23 42 59.3**	**-0.1**
SHBL	**Chebaa**	**1.78**	**153**	*e*P	**Pn**	**23 43 00.8**	**+0.8**
SHBL				*e*S	**Sn**	**23 43 21.6**	**-0.1**
TEKE	**Tekeli-Mersin**	**1.81**	**312**	PN	**Pn**	**23 43 00.1**	**-0.2**
TAHT	**Tahtakopru-Hat**	**1.84**	**38**	PN	**Pn**	**23 42 59.3**	**-1.5**
TEVE	**Tevekalti-Mers**	**1.85**	**325**	PN	**Pn**	**23 43 00.8**	**-0.1**
NATI	**Neve Ativ**	**1.85**	**154**	Pn	**Pn**	**23 43 01.8**	**+0.9**
NATI				Sn	**Sn**	**23 43 23.1**	**-0.2**
GEM	**Giv'at Ha'Em**	**1.87**	**156**	Pn	**Pn**	**23 43 02.3**	**+1.1**
GEM				Sn	**Sn**	**23 43 23.8**	**-0.1**
KSDI	**Kefar Szold**	**1.89**	**157**	Pn	**Pn**	**23 43 02.5**	**+1.1**
KSDI	**Kefar Szold**	**1.89**	**157**	P	**Pb**	**23 43 02.7**	**-2.2**
KSDI				S	**Sn**	**23 43 25.0**	**+0.7**
BERE	**Bereket-Mersin**	**1.89**	**319**	PN	**Pn**	**23 43 01.2**	**-0.4**
MERS	**Mersin**	**1.94**	**354**	PN	**Pn**	**23 43 01.6**	**-0.6**
MMA0B	**Mount Meron ar**	**1.99**	**164**	Pn	**Pn**	**23 43 03.5**	**+0.7**
MMA0B				Sn	**Sn**	**23 43 26.8**	**0.0**
ERMK	**Ermenek**	**2.28**	**319**	*i* P	**Pn**	**23 43 08.9**	**+2.0**
OFRI	**`Ofer**	**2.32**	**176**	Pn	**Pn**	**23 43 07.9**	**+0.6**
GAZI	**Gazipasa**	**2.38**	**304**	PN	**Pn**	**23 43 08.0**	**-0.2**
GAZI	**Gazipasa**	**2.38**	**304**	*i* P	**Pn**	**23 43 08.3**	**+0.1**
GAZI	comp=N,11nm,1.3s			IAML		23 44 00.0	
KERG	**Konya-Eregli**	**2.53**	**348**	*i* P	**Pn**	**23 43 12.5**	**+2.1**
KERG				*i* S	**Sn**	**23 43 41.8**	**+1.5**
KERG	comp=E,7.2nm,0.2s			IAML		23 43 46.0	
KERG	comp=N,6.7nm,0.6s			IAML		23 43 48.0	
KRMN	**Karaman**	**2.54**	**332**	PN	**Pn**	**23 43 10.8**	**+0.2**
MMLI	**Mount Malkishu**	**2.55**	**168**	PN	**Pn**	**23 43 08.5**	**-2.1**
MMLI	**Mount Malkishu**	**2.55**	**168**	Pn	**Pn**	**23 43 11.7**	**+1.1**
MMLI				Sn	**Sn**	**23 43 40.6**	**0.0**
KOZT	**Kozan**	**2.68**	**18**	PN	**Pn**	**23 43 11.5**	**-0.8**
QRNJ	**Al-Qirein**	**2.68**	**165**	Pn	**Pn**	**23 43 13.3**	**+1.0**
SLTI	**Sal'it**	**2.70**	**175**	Pn	**Pn**	**23 43 13.6**	**+1.0**
SLTI				Sn	**Sn**	**23 43 44.6**	**+0.4**
CMRD	**Camardi-Nigde**	**2.73**	**4**	PN	**Pn**	**23 43 12.6**	**-0.5**
HMDT	**Nahal Hemdat**	**2.75**	**167**	Pn	**Pn**	**23 43 14.9**	**+1.6**
HMDT				Sn	**Sn**	**23 43 46.2**	**+0.7**
OSC2	**CSNet OBS 4**	**2.79**	**229**	S	**Sn**	**23 43 48.1**	**+1.7**
DSI	**Dead Sea**	**3.40**	**171**	Pn	**Pn**	**23 43 23.4**	**+1.3**
AMAZ	**Amatzia**	**3.40**	**178**	Pn	**Pn**	**23 43 23.2**	**+1.0**
SEYD	**Seydisehir-KON**	**3.42**	**317**	PN	**Pn**	**23 43 23.2**	**+0.6**
KZIT	**Kziot**	**4.03**	**185**	Pn	**Pn**	**23 43 32.1**	**+1.2**
PRNI	**Paran**	**4.58**	**177**	Pn	**Pn**	**23 43 39.8**	**+1.4**
KRMI	**Paran Flat**	**4.80**	**180**	Pn	**Pn**	**23 43 42.7**	**+1.1**
HRFI	**Mount Harif**	**4.89**	**177**	PN	**Pn**	**23 43 41.5**	**-1.2**

*IDC **09** 23:54:13.0±0.4, 32°.55N×105°.18E, h0km, mb4.7/36, mb1 4.8/39, mb1mx4.7/46, mbtmp4.7/39, ML4.3/3, MS3.8/29, Ms1 3.8/29, ms1mx3.7/51, Error ellipse: s-maj=13.0km s-min=9.3km az=46.0*
*GCMT **09** 23:54:14.0±0.4, 32°.48N±0°.02×105°.17E±0°.03, h24km±1km, MW4.8/70, Moment Tensor Solution. s16,c19; s70,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.39±.18; $M_{\theta\theta}$-1.79±.11; $M_{\phi\phi}$0.40±.11; $M_{r\theta}$0.28±.13; $M_{\theta\phi}$0.73±.06; $M_{\phi r}$0.08±.19; Best double couple: $M_0$1.73400×10^{16} NP1:ϕ_s298.00000°, δ42.00000°, λ106.00000°. NP2: ϕ_s97.00000°, δ50.00000°, λ76.00000°. Principal axes: T 1.4390, Plg78.0000°, Azm307.0000°; N 0.5910, Plg11.0000°, Azm106.0000°; P -2.0300, Plg4.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **09** 23:54:15.0±2.0, 32°.50N±0°.06×105°.18E±0°.07, h17km±3km, mb5.0/156 Error ellipse: s-maj=9.6km s-min=8.0km az=119.0*
*BJI **09** 23:54:15.7±0.0, 32°.58N×105°.17E, h15km, mB4.8/30, mb4.8/45, ML4.9/27, Ms4.8/63, Ms7 4.5/56*
*MOS **09** 23:54:15.1±1.1, 32°.44N×105°.19E, h30km, mb5.2/69, MS4.1/18, Error ellipse: s-maj=6.2km s-min=3.9km az=116.2*
*UNK **09** 23:54:15.7, 32°.47N×105°.09E, h18km*
*BGR **09** 23:54:17.2±0.0, 31°.76N×104°.84E, h33km, mb5.3, Ms4.2*
ISC 09 23:54:15.2±0.5, 32°.47N±0°.03×105°.23E±0°.03, h17km±3km,
h18km:pP-P, n578, σ1.948/576, mb5.0/211, MS4.0/52,
101C-25D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.00**	**219**	⇓*i*Pn	**Pn**	**23 54 49.4**	**+1.3**
CD2				Pg	**Pg**	**23 54 52.0**	**-1.5**
CD2				Sn	**Sb**	**23 55 16.7**	**+1.1**
CD2				Sg	**Sg**	**23 55 19.2**	**-0.2**
CD2	comp=N,57μm,0.7s			smax	smax		
CD2	comp=E,39μm,0.7s			smax	smax		
XAN	**Xi'an**	**3.47**	**62**	Pn	**Pn**	**23 55 09.8**	**+1.4**
XAN				Pg	**Pb**	**23 55 18.1**	**+2.0**
XAN				Sn	**Sb**	**23 55 55.5**	**-2.5**
XAN				Sg	**Sg**	**23 56 01.6**	**-5.0**
XAN	comp=N,5μm,1.0s			smax	smax		
XAN	comp=E,6μm,1.1s			smax	smax		
XAN	comp=N,30μm,5.1s			LR	LR		
XAN	comp=E,13μm,3.9s			LR	LR		
XAN	comp=Z,10μm,10.0s			LR	LR		
XAN	**Xi'an**	**3.47**	**62**	Pn	**Pn**	**23 55 09.5**	**+1.1**
XAN				Sn	**Sn**	**23 55 47.9**	**-1.2**
LZH	**Lanzhou**	**3.79**	**343**	⇑Pn	**Pn**	**23 55 14.8**	**+1.9**
LZH				Pg	**Pb**	**23 55 23.8**	**+2.2**
LZH				Sn	**Sn**	**23 56 01.2**	**+4.1**
LZH				Sg	**Sb**	**23 56 11.2**	**+3.9**
LZH	comp=N,6μm,0.8s			smax	smax		
LZH	comp=E,10μm,0.6s			smax	smax		
LZH	comp=N,15μm,7.1s			LR	LR		
LZH	comp=E,19μm,5.4s			LR	LR		
LZH	comp=Z,20μm,8.7s			LR	LR		
ENH	**Enshi**	**4.25**	**120**	Pn	**Pn**	**23 55 21.8**	**+2.7**
ENH				Sn	**Sn**	**23 56 04.7**	**-3.6**
GYA	**Guiyang**	**6.12**	**168**	Pn	**Pn**	**23 55 46.5**	**+1.6**
GYA				Sn	**Sn**	**23 56 58.0**	**+3.5**
GYA				Sg	**Sg**	**23 57 33.0**	**+1.5**
GYA	comp=N,690nm,1.1s			smax	smax		
GYA	comp=E,1μm,1.0s			smax	smax		
GYA	comp=N,2μm,3.8s			LR	LR		
GYA	comp=E,4μm,6.2s			LR	LR		
GYA	comp=Z,3μm,7.3s			LR	LR		
KMI	**Kunming**	**7.63**	**197**	Pn	**Pn**	**23 56 07.7**	**+1.9**
KMI				Sn	**Sn**	**23 57 34.3**	**+2.3**
KMI	comp=N,220nm,1.1s			smax	smax		
KMI	comp=E,160nm,1.0s			smax	smax		
KMI	comp=N,3μm,10.6s			LR	LR		
KMI	comp=E,3μm,8.6s			LR	LR		
KMI	comp=Z,3μm,11.7s			LR	LR		
KMI	**Kunming**	**7.63**	**197**	P	**Pn**	**23 56 04.8**	**-1.0**
KMI	**Kunming**	**7.63**	**197**	Pn	**Pn**	**23 56 04.8**	**-1.0**
WHN	**Wuhan**	**8.02**	**101**	⇓P	**Pn**	**23 56 12.3**	**+1.4**
WHN				S	**Sn**	**23 57 47.9**	**+6.7**
WHN	comp=N,6μm,5.7s			LR	LR		
WHN	comp=E,6μm,4.8s			LR	LR		
WHN	comp=Z,3μm,7.4s			LR	LR		
GTA	**Gaotai**	**8.20**	**329**	P	**Pn**	**23 56 13.0**	**-0.4**
GTA				S	**Sn**	**23 57 45.8**	**+0.1**
GTA	comp=Z,28nm,0.7s			pmax	pmax		
GTA	comp=Z,120nm,4.5s			pmax	pmax		
GTA	comp=N,3μm,12.3s			LR	LR		
GTA	comp=E,4μm,12.3s			LR	LR		
GTA	comp=Z,5μm,9.8s			LR	LR		
BTO	**Baotou**	**8.99**	**24**	*e*P	**Pn**	**23 56 27.9**	**+3.7**
HHC	**Hu-ho-hao-te**	**9.79**	**30**	P	Pn	23 56 39.9	+4.7
HHC				S	**Sn**	**23 58 31.4**	**+6.7**
HHC	comp=N,1μm,6.8s			LR	LR		
HHC	comp=E,2μm,6.8s			LR	LR		
TIA	**Tai'an**	**10.52**	**66**	P	Pn	23 56 51.5	+6.4
TIA				S	**Sn**	**23 58 45.7**	**+3.2**
TIA	comp=Z,8.0nm,0.5s			pmax	pmax		
TIA	comp=Z,83nm,3.5s			pmax	pmax		
TIA	comp=N,1μm,9.5s			LR	LR		
TIA	comp=E,1μm,8.9s			LR	LR		
TIA	comp=Z,2μm,11.6s			LR	LR		
SLVN	**Son La**	**11.15**	**186**	Pn	**Pn**	**23 56 55.3**	**+1.4**
NJ2	**Nanjing**	**11.54**	**88**	*e*P	**Pn**	**23 57 01.1**	**+2.0**
NJ2	comp=Z,8.0nm,0.5s			pmax	pmax		
NJ2	comp=N,3μm,8.5s			LR	LR		
NJ2	comp=E,2μm,8.1s			LR	LR		
NJ2	comp=Z,2μm,10.4s			LR	LR		
BJT	**Baijiatuau**	**11.60**	**46**	P	**Pn**	**23 57 01.3**	**+1.4**
BJT	**Baijiatuau**	**11.60**	**46**	Pn

GZH S **Sn** **23 59 10.8 -2.7**
GZH LR LR
comp=N,3µm,7.1s
GZH LR LR
comp=E,3µm,10.1s
LSA Lhasa 12.38 261 P **Pn** **23 57 12.4 +1.4**
LSA pmax pmax
comp=Z,87nm,0.9s
LSA LR LR
comp=N,3µm,5.3s
LSA LR LR
comp=E,3µm,5.7s
LSA LR LR
comp=Z,5µm,5.0s
LSA Lhasa 12.38 261 P **Pn** **23 57 12.9 +1.9**
LSA Lhasa 12.38 261 P **Pn** **23 57 09.3 -1.7**
LSA Lhasa 12.38 261 Pn **Pn** **23 57 09.3 -1.7**
SSE Sheshan 13.65 92 P **Pn** **23 57 26.7 -1.2**
SSE S **Sn** **23 59 54.1 -5.0**
SSE pmax pmax
comp=Z,11nm,0.8s
SSE pmax pmax
comp=Z,48nm,3.9s
SSE LR LR
comp=N,990nm,10.2s
SSE LR LR
comp=E,800nm,10.0s
QIZ Qiongzhong 14.01 162 P **Pn** **23 57 33.2 +0.3**
QIZ S **Sn** **00 00 13.1 +5.1**
QIZ pmax pmax
comp=E,8.0nm,1.2s
QIZ LR LR
comp=E,3µm,9.0s
QIZ LR LR
comp=E,4µm,11.4s
QIZ LR LR
comp=E,3µm,10.4s
QIZ Qiongzhong 14.01 162 Pn **Pn** **23 57 33.1 +0.3**
KNMB Chin-men Tao 14.05 121 Pn **Pn** **23 57 34.0 +0.7**
CHTO Chiang Mai 14.72 204 P **Pn** **23 57 43.3 +0.6**
CHTO Chiang Mai 14.72 204 Pn **Pn** **23 57 43.3 +0.6**
CM31 Chiang Mai Arr 15.05 204 P **Pn** **23 57 47.7 +0.6**
CMAR Chiang Mai Arr 15.05 204 Pn **Pn** **23 57 48.2 +1.1**
comp=E,0.4nm,0.3s,baz=14,slow=12,SNR=31
CMAR Lg Lg 00 02 15.8
comp=E,0.2nm,0.3s,baz=9.6,slow=27,SNR=1.4
CMAR LR LR 00 04 25.4
comp=E,133nm,20.6s,baz=5.0,slow=40
CMAR ScP **ScP** **00 06 29.6 +1.5**
comp=E,0.1nm,0.3s,baz=338,slow=2.1,SNR=4.1
SONM Songino Array 15.38 3 Pn **Pn** **23 57 50.8 -0.6**
comp=E,0.7nm,0.3s,baz=186,slow=14,SNR=23
SONM Lg Lg 00 02 14.8
comp=E,0.2nm,0.3s,baz=189,slow=26,SNR=1.3
SONM LR LR 00 04 08.3
comp=E,412nm,20.6s,baz=188,slow=39
ULN Ulaanbaatar 15.44 5‖ *e*P **Pn** **23 57 52.4 +0.2**
ULN pmax pmax
comp=Z,36nm,1.0s
ULN Ulaanbaatar 15.44 5 Pn **Pn** **23 57 52.5 +0.3**
TAPN Taplejung 16.02 256 *e*P **Pn** **23 57 58.9 -1.0**
comp=Z,155nm,1.1s
YHNB Yeheng 16.16 115 **P** **23 58 03.5 -1.2**
PBKT Sadao Pong 16.29 195 **Pn** **23 58 04.5 +1.4**
SSLB Suanglung 16.33 118 P **P** **23 58 06.3 -0.3**
ODAN Odare 16.47 255 *e*P **Pn** **23 58 04.4 -1.3**
comp=Z,114nm,0.7s
NACB Ninganchiao 16.60 116 **Pn** **23 58 06.8 -0.3**
YULB Yu-li 16.82 118 Pn **Pn** **23 58 08.3 -1.5**
TWG Pinlang 16.99 120 Pn **P** **23 58 12.8 -1.1**
TWG IAmb IAmb 23 58 18.9
comp=Z,192nm,1.1s
RAMN Ramite 17.08 256 *e*P **Pn** **23 58 11.7 -1.7**
comp=Z,174nm,1.1s
JIRN Jiri 17.16 259 *e*P **Pn** **23 58 13.6 -0.9**
comp=Z,87nm,0.7s
GUN Gumba 17.33 260 *e*P **Pn** **23 58 15.4 -1.2**
comp=Z,282nm,1.0s
WMQ Urumqi 17.81 315 *e*P **Pn** **23 58 20.9 -1.3**
WMQ sP sP 23 58 32.1 +1.6
WMQ S **Sn** **00 01 35.3 -5.0**
WMQ pmax pmax
comp=Z,34nm,0.7s
WMQ LR LR
comp=Z,640nm,11.7s
WMQ LR LR
comp=Z,410nm,11.7s
WMQ LR LR
comp=Z,500nm,13.7s
PKI Pulchoki 17.84 259 *e*P **Pn** **23 58 21.4 -1.5**
comp=Z,221nm,1.1s
PKIN Phulchoki 17.84 259 *e*P **Pn** **23 58 21.4 -1.5**
comp=Z,243nm,1.1s
KKN Kakani 17.87 260 *e*P **Pn** **23 58 21.8 -1.4**
comp=Z,103nm,0.8s
ZAK Zakamensk 17.96 356 *e*P **P** **23 58 25.8 +1.3**
ZAK pmax pmax
comp=Z,18nm,1.3s
DMN Daman 18.08 260 *e*P **Pn** **23 58 24.3 -1.4**
comp=Z,199nm,1.0s
INCN Inchon 18.23 68 P **Pn** **23 58 25.0 -2.3**
INCN pmax pmax
comp=Z,31nm,1.1s
INCN Inchon 18.23 68 P **Pn** **23 58 25.0 -2.3**
TJN Taejon 18.67 72‖ *e*P **Pn** **23 58 34.4 +1.8**
DANN Dangsing 18.96 263 *e*P **P** **23 58 34.8 -1.0**
comp=Z,201nm,0.8s
KS19 Wonju Array Si 19.20 69 P **P** **23 58 36.0 -2.1**
TLY Talaya 19.23 357 P **Pn** **23 58 41.2 +1.8**
comp=Z,0.0nm,0.3s,baz=175,slow=11,SNR=7.3
TLY Lg Lg 00 04 14.9
comp=Z,0.0nm,0.3s,baz=319,slow=20,SNR=3.6
TLY LR LR 00 07 01.9
comp=Z,124nm,21.1s,baz=165,slow=40
TLY Talaya 19.23 357 *e*P **Pn** **23 58 39.4 0.0**
TLY *e*S **S** **00 02 19.3 +3.7**
TLY pmax pmax
comp=Z,33nm,1.1s
TLY MLR MLR
comp=Z,1µm,8.0s
TLY Talaya 19.23 357 **P** **23 58 34.8 -3.6**
KSRS Korea Array 19.24 69 P **Pn** **23 58 39.9 +0.3**
comp=Z,1.3nm,0.3s,baz=255,slow=11,SNR=27
KSRS LR LR 00 05 44.9
comp=Z,183nm,19.0s,baz=262,slow=36
KOLN Koldanda 19.28 262 *e*P **P** **23 58 38.1 -1.1**
comp=Z,202nm,0.8s
MOY Mondy 19.43 352 *e*P **Pn** **23 58 42.9 +1.0**
MOY pmax pmax
comp=Z,90nm,2.3s
CN2 Changchun 19.47 49 *e*P **Pn** **23 58 43.6 +1.4**
CN2 *es*P sP 23 58 50.5 +1.9
CN2 *e*S **Sn** **00 02 14.1 -6.1**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,500nm,12.0s
CN2 LR LR
comp=Z,600nm,12.0s
CN2 LR LR
comp=Z,700nm,13.0s
HIA Hailar 19.99 29 P **P** **23 58 46.0 -0.7**
HIA pmax pmax
comp=Z,62nm,1.4s
HIA Hailar 19.99 29 P **P** **23 58 46.0 -0.7**
DLV T Lat 20.65 171 P **P** **23 58 54.2 +0.1**
JOW Kunigami 20.79 100 P Pn 23 58 59.0 +1.1
comp=Z,1.8nm,0.4s,baz=231,slow=19,SNR=6.7
JOW Kunigami 20.79 100 P **P** **23 58 55.2 -0.2**
ZSN Zaisan 21.53 320⇑ *i*P **P** **23 59 04.1 +0.7**
comp=Z,9.8nm,0.8s,baz=320
ZSN *e*S **S** **00 03 03.9 +2.6**
baz=320
ZSN LR LR 00 06 15.2
comp=Z,196nm,10.7s,baz=320
ZSN Zaisan 21.53 320*c i*P **P** **23 59 04.0 +0.7**
ZSN *e*S **S** **00 03 03.8 +2.6**
ZSN pmax pmax
comp=Z,10.0nm,0.8s
ZSN MLR MLR
comp=Z,196nm,11.0s
JNU Nakatsue 21.56 81 P **P** **23 59 04.8 +1.0**
comp=Z,2.2nm,0.5s,baz=270,slow=3.0,SNR=2.3
JNU LR LR 00 09 08.1
comp=Z,180nm,18.3s,baz=278,slow=42
JNU Nakatsue 21.56 81 P **P** **23 59 02.7 -1.1**
DGZ Jazzator, Alta 21.73 328*c i*P **P** **23 59 07.0 +1.4**
DGZ pmax pmax
comp=Z,48nm,1.3s
MDJ Mudanjiang 22.50 50 P **P** **23 59 15.9 +2.2**
MDJ pmax pmax
comp=Z,10.0nm,1.3s
MDJ pmax pmax
comp=Z,73nm,2.9s
MK31 Makanchi Array 22.62 316 P **P** **23 59 15.2 +0.1**
MK31 pmax pmax
comp=Z,43nm,1.1s
MK31 Makanchi Array 22.62 316 P **P** **23 59 15.2 +0.1**
MK31 IAmb IAmb 23 59 17.9
comp=Z,43nm,1.1s
MKAR Makanchi Array 22.62 316 P **P** **23 59 14.8 -0.2**
comp=Z,22nm,0.7s,baz=114,slow=12,SNR=108
MKAR PcP **PcP** **00 03 07.3 -0.3**
comp=Z,2.7nm,0.9s,baz=177,slow=2.5,SNR=3.3
MKAR LR LR 00 08 37.4
comp=Z,404nm,18.2s,baz=114,slow=38
MAKZ Makanchi 22.82 316 P **P** **23 59 16.5 -0.6**
MAKZ pmax pmax
comp=Z,76nm,1.5s
MAKZ Makanchi 22.82 316 P **P** **23 59 16.5 -0.6**
MAKZ IAmb IAmb 23 59 22.4
comp=Z,76nm,1.4s
SHLS Shalkode 22.90 305⇑ *i*P **P** **23 59 15.6 -2.5**
comp=Z,51nm,1.4s,baz=305
SHLS LR LR 00 06 57.9
comp=Z,88nm,9.7s,baz=305
SHLS Shalkode 22.90 305*c i*P **P** **23 59 15.6 -2.5**
SHLS pmax pmax
comp=Z,51nm,1.4s
SHLS MLR MLR
comp=Z,88nm,10.0s
UZB Uzynbulak 23.20 305⇑ *i*P **P** **23 59 21.5 +0.2**
comp=Z,57nm,1.5s,baz=305
UZB *e*S **S** **00 03 34.2 +1.8**
baz=305
UZB LR LR 00 08 03.4
comp=Z,65nm,10.0s,baz=305
UZB Uzynbulak 23.20 305*c i*P **P** **23 59 21.4 +0.2**
UZB *e*S **S** **00 03 34.1 +1.8**
UZB pmax pmax
comp=Z,57nm,1.5s
UZB MLR MLR
comp=Z,65nm,10.0s
PRZ Przheval'sk 23.43 303 P **P** **23 59 23.5 -0.2**
PRZ pmax pmax
comp=Z,78nm,1.2s
PRZ Przheval'sk 23.43 303 P **P** **23 59 23.4 -0.2**
PRZ IAmb IAmb 23 59 27.2
comp=Z,78nm,1.2s
SATY Saty 23.60 304⇑ *i*P **P** **23 59 26.1 +0.9**
comp=Z,44nm,0.9s,baz=304
SATY Saty 23.60 304*c i*P **P** **23 59 26.1 +0.9**
SATY pmax pmax
comp=Z,44nm,0.9s
TARG Taragay, Kyrgy 23.66 301 P **P** **23 59 26.7 +0.6**
TARG IAmb IAmb 23 59 29.3
comp=Z,64nm,1.2s
USA0B Ussuriysk Arra 23.93 53 P **P** **23 59 27.3 -0.8**
USA0B pmax pmax
comp=Z,54nm,1.9s
USA0B Ussuriysk Arra 23.93 53 P **P** **23 59 27.3 -0.8**
USRK Ussuriysk Ar. 23.93 53 P **P** **23 59 30.2 +2.1**
comp=Z,4.6nm,0.7s,baz=244,slow=11,SNR=6.9
TDK Taldyqorghan 24.26 309 *i* P **P** **23 59 32.1 +0.9**
comp=Z,51nm,1.0s,baz=309
TDK *e*S **S** **00 03 52.1 +2.9**
baz=309
TDK LR LR 00 09 38.8
comp=Z,194nm,9.4s,baz=309
TDK Taldyqorghan 24.26 309 *i* P **P** **23 59 32.1 +0.9**
TDK *e*S **S** **00 03 52.0 +2.9**
TDK pmax pmax
comp=Z,51nm,1.0s
TDK MLR MLR
comp=Z,194nm,9.0s
NDI New Delhi 24.38 269 *e*P **P** **23 59 31.0 -1.5**
BHK Bhakra 24.44 275 *e*P **P** **23 59 36.0 +2.9**
MDOK Medeo 24.58 304 *i* P **P** **23 59 35.8 +1.4**
comp=Z,592nm,1.4s,baz=304
MDOK *e*S **S** **00 03 57.6 +2.9**
baz=304
MDOK Medeo 24.58 304 *i* P **P** **23 59 35.8 +1.4**
MDOK *e*S **S** **00 03 57.5 +2.9**
MDOK pmax pmax
comp=Z,593nm,1.4s
TNSS Tian-Shan 24.62 303⇑ *i*P **P** **23 59 36.7 +1.6**
comp=Z,594nm,0.7s,baz=303
TNSS Tian-Shan 24.62 303*c i*P **P** **23 59 36.6 +1.6**
TNSS pmax pmax
comp=Z,594nm,0.7s
KSH Kashi 24.62 295 P **P** **23 59 38.7 +4.0**
KSH PcP **PcP** **00 03 14.9 +2.8**
KSH S **S** **00 03 54.5 -0.8**
KSH pmax pmax
comp=Z,140nm,1.0s
KSH pmax pmax
comp=Z,330nm,5.3s
KSH LR LR
comp=Z,650nm,10.1s
KSH LR LR
comp=Z,930nm,10.8s
KSH LR LR
comp=Z,930nm,12.4s
ULHL Ulahol 24.92 301 P **P** **23 59 39.0 +1.5**
SNR=18
KUU Kuyt 25.29 305⇑ *i*P **P** **23 59 41.2 +0.6**
comp=Z,32nm,1.3s,baz=305
KUU LR LR 00 09 33.1
comp=Z,145nm,11.1s,baz=305
KUU Kurty 25.29 305*c i*P **P** **23 59 41.2 +0.6**
KUU pmax pmax
comp=Z,32nm,1.3s
TKM2 Tokmak 2 25.54 303 P **P** **23 59 44.3 +1.2**
SNR=28
KZA Kyzart 25.60 301 P **P** **23 59 45.7 +1.8**
SNR=36
SEM Semipalatinsk 25.73 322⇓ *i*P **P** **23 59 44.9 +0.2**
comp=Z,34nm,1.5s,baz=321
SEM *e*S **S** **00 04 14.5 +1.6**
baz=321
SEM Semipalatinsk 25.73 322*d i*P **P** **23 59 44.9 +0.2**
SEM *e*S **S** **00 04 14.5 +1.6**
SEM pmax pmax
comp=Z,34nm,1.5s
ZAA0 Zalesovo Array 25.94 332 P **P** **23 59 45.2 -1.1**
ZAA0 IAmb IAmb 23 59 47.6
comp=Z,33nm,1.2s
ZALV Zalesovo Beam 25.94 332 P **P** **23 59 46.1 -0.3**
comp=Z,11nm,0.6s,baz=134,slow=9.4,SNR=38
ZALV PcP **PcP** **00 03 13.8 -0.8**
comp=Z,1.6nm,0.6s,baz=172,slow=1.0,SNR=2.6
ZALV LR LR 00 10 17.8
comp=Z,196nm,19.5s,baz=132,slow=37
KBK Karagaybulak 25.95 302 P **P** **23 59 48.4 +1.6**
SNR=34
BOD Bodaibo 26.05 11 *e*P **P** **23 59 48.9 +1.6**
BOD pmax pmax
comp=Z,42nm,1.7s
CHMS Chumysh 26.16 302 P **P** **23 59 49.4 +0.9**
SNR=6.0
UCH Uchtor 26.17 301 P **P** **23 59 50.8 +1.7**
SNR=63
AAK Ala-Archa 26.27 302 P **P** **23 59 50.4 +0.8**
comp=Z,4.7nm,0.5s,baz=90,slow=7.0,SNR=12
AAK LR LR 00 12 18.7
comp=Z,460nm,19.6s,baz=88,slow=41
AAK Ala-Archa 26.27 302 *i* P **P** **23 59 51.0 +1.3**
SNR=10
AAK Ala-Archa 26.27 302*c i*P **P** **23 59 50.7 +1.0**
AAK pmax pmax
comp=Z,19nm,1.3s
AAK Ala-Archa 26.27 302 P **P** **23 59 50.2 +0.5**
AAK IAmb IAmb 23 59 55.5
comp=Z,74nm,1.9s
SGDS Sogindy 26.36 303⇑ *i*P **P** **23 59 51.0 +0.6**
comp=Z,40nm,1.7s,baz=303
SGDS Sogindy 26.36 303*c i*P **P** **23 59 50.9 +0.6**
SGDS pmax pmax
comp=Z,40nm,1.7s
USP Ospenovka 26.41 303 P **P** **23 59 51.8 +1.0**
SNR=38
ZEA Zeya 26.45 30 *e*P **P** **23 59 52.6 +1.6**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=Z,500nm,16.0s
AML Almayashu 26.75 300 P **P** **23 59 56.0 +1.7**
SNR=30
KURBB Kurchatov Arra 26.76 321 P **P** **23 59 53.7 -0.1**
comp=Z,8.1nm,0.5s,baz=129,slow=9.4,SNR=100
KURBB PcP **PcP** **00 03 16.3 -0.3**
comp=Z,4.7nm,0.8s,baz=119,slow=2.0,SNR=6.9
KURBB ScP **ScP** **00 06 56.5 +0.7**
comp=Z,0.2nm,0.3s,baz=132,slow=3.0,SNR=4.5
KURK Kurchatov 26.76 321*c i*P **P** **23 59 53.9 +0.1**
KURK pmax pmax
comp=Z,35nm,1.0s
KURK Kurchatov 26.76 321 P **P** **23 59 54.0 +0.1**
KURK IAmb IAmb 23 59 55.4
comp=Z,31nm,1.0s
KURK Kurchatov 26.76 321 **ScP** **00 06 56.5 +0.6**
NIL Nilore 26.77 281 P **P** **23 59 53.6 -0.6**
NIL pmax pmax
comp=Z,30nm,0.7s
NIL Nilore 26.77 281 P **P** **23 59 53.6 -0.6**
NIL IAmb IAmb 23 59 58.0
comp=Z,30nm,0.7s
EKS2 Erkin-Say 26.79 301 P **P** **23 59 55.5 +1.1**
SNR=13
BTLS Baital 27.19 307⇑ *i*P **P** **23 59 58.1 +0.3**
comp=Z,10nm,1.0s,baz=306
BTLS Baital 27.19 307*c i*P **P** **23 59 58.0 +0.3**
BTLS pmax pmax
comp=Z,10.0nm,1.0s
KULM Kulim 27.38 190 P **P** **00 00 01.0 +1.4**
MJB9 Matsu-Tunnel 27.40 72 P **P** **00 00 00.7 +0.9**
MAJO Matsushiro 27.40 72 P **P** **00 00 00.5 +0.7**
MAJO pmax pmax
comp=Z,10.0nm,1.2s
MAJO Matsushiro 27.40 72 P **P** **00 00 00.5 +0.7**
MJAR Matsushiro Arr 27.41 72 P **P** **00 00 01.6 +1.8**
comp=Z,0.8nm,0.5s,baz=268,slow=9.5,SNR=1.8
MJAR LR LR 00 11 44.0
comp=Z,128nm,19.0s,baz=280,slow=38
DZA Taraz 28.60 301 *e*P **P** **00 00 11.9 +1.4**
comp=Z,7.8nm,1.1s,baz=301
DZA LR LR 00 11 39.8
comp=Z,52nm,11.4s,baz=301
DZA Taraz 28.60 301 *e*P **P** **00 00 11.8 +1.4**
DZA pmax pmax
comp=Z,8.0nm,1.1s
DZA MLR MLR
comp=Z,52nm,11.0s
GAR Garm 28.95 293 P **P** **00 00 12.2 -1.5**
JHJ Hachijo jima 2 28.98 79 LR LR 00 12 08.1
comp=Z,176nm,18.6s,baz=316,slow=37
KK31 Karatay Array 29.23 301 P **P** **00 00 16.5 +0.5**
KK31 00 03 23.0
KK31 pmax pmax
comp=Z,24nm,1.2s
KK31 Karatay Array 29.23 301 P **P** **00 00 16.5 +0.5**
KK31 PcP **PcP** **00 03 23.0 +0.2**
KKAR Karatay Array 29.23 301 P **P** **00 00 16.2 +0.2**
KKAR IAmb IAmb 00 00 17.7
comp=Z,24nm,1.2s
KKAR PcP **PcP** **00 03 22.5 -0.3**
GRNR Gornyy 29.32 42⇑ *i*P **P** **00 00 15.4 -1.3**
GRNR *e* 00 01 16.0
GRNR pmax pmax
comp=Z,5.0nm,0.7s
GRNR MLR MLR
comp=E,170nm,16.0s
GRNR MLR MLR
comp=N,190nm,10.0s
GRNR MLR MLR
comp=Z,330nm,17.0s
IUG Iuzhnay 29.44 299⇑ *i*P **P** **00 00 18.9 +0.9**
comp=Z,2.4nm,1.2s,baz=299
IUG Iuzhnay 29.44 299⇑ *i*P **P** **00 00 18.8 +0.9**
IUG pmax pmax
comp=Z,2.0nm,1.2s
BRZS Berezniki 29.77 316⇑ *i*P **P** **00 00 21.6 +0.8**
comp=Z,28nm,1.2s,baz=316
BRZS LR LR 00 10 18.6
comp=Z,106nm,12.9s,baz=316
BRZS Berezniki 29.77 316*c i*P **P** **00 00 21.5 +0.8**
BRZS pmax pmax
comp=Z,28nm,1.2s
BRZS MLR MLR
comp=Z,106nm,13.0s
KBL Kabul 30.14 284 P **P** **00 00 22.1 -2.3**
KBL IAmb IAmb 00 00 27.3
comp=Z,30nm,1.0s
KBL PcP **PcP** **00 03 25.7 +0.1**
RPSI Rantau Prapat 30.20 193 IAmb IAmb 00 00 29.6
comp=Z,24nm,1.1s
SBUM Sibu 30.57 166 P **P** **00 00 26.8 -1.2**
ASAJ Asahikawa 31.30 57 LR LR 00 12 46.9
comp=Z,171nm,20.3s,baz=278,slow=36
GSI Gunungsitoli 31.82 195 P **P** **00 00 37.4 -1.7**
GSI IAmb IAmb 00 00 43.9
comp=Z,17nm,0.8s
YSS Yuzh-Sakhalins 31.96 52 *e*P **P** **00 00 40.6 +0.6**
YSS *e* 00 00 47.5
YSS *e*S **S** **00 05 55.1 +4.7**
YSS MLR MLR
comp=Z,300nm,15.0s
YSS MLR MLR
comp=N,200nm,14.0s
YSS MLR MLR
comp=E,200nm,16.0s
BVAR Borovoye Array 32.34 320 P **P** **00 00 43.5 +0.2**
comp=E,5.1nm,0.6s,baz=117,slow=9.9,SNR=39
BVAR PcP **PcP** **00 03 30.7 -0.1**
comp=E,3.0nm,0.6s,baz=142,slow=2.6,SNR=7.0
BRVK Borovoye 32.41 320⇑ *e*P **P** **00 00 43.4 -0.5**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 32.41 320 P **P** **00 00 42.8 -1.2**
YAK Yakutsk 33.49 21 P **P** **00 00 53.7 +0.5**
comp=Z,17nm,0.5s,baz=233,slow=1.6,SNR=4.5
YAK Yakutsk 33.49 21 *e*P **P** **00 00 51.9 -1.3**
YAK *e**PP **sP** **00 01 02.2 +0.9**
YAK *e* 00 03 35.0
YAK *e*S **S** **00 06 10.9 -3.1**
YAK *e**SS **sS** **00 06 29.0 +5.6**
YAK *e*SS **SnSn** **00 08 12.6 -3.8**
YAK *e* 00 11 15.8
YAK pmax pmax
comp=Z,20nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.1s
YAK pmax pmax
comp=E,8.0nm,1.5s
YAK smax smax
comp=E,54nm,2.8s
YAK smax smax
comp=N,44nm,2.7s
YAK MLR MLR
comp=Z,221nm,12.0s
YAK MLR MLR
comp=N,215nm,11.0s
YAK MLR MLR
comp=E,220nm,10.0s
YAK Yakutsk 33.49 21 P **P** **00 00 51.0 -2.2**
HRA Herat 35.73 285 IAmb IAmb 00 01 15.1
comp=Z,20nm,1.0s
NRIK Noril'sk 38.25 350 P **P** **00 01 34.1 +0.2**
comp=Z,11nm,0.6s,baz=137,slow=7.7,SNR=31
NRIK LR LR 00 18 11.3
comp=Z,140nm,18.5s,baz=186,slow=38
GEYT Alibeck 38.56 292 P **P** **00 01 38.6 +1.6**
comp=Z,29nm,0.9s,baz=91,slow=5.9,SNR=48
GYA0B ALIBECK ARRAY 38.56 292 P **P** **00 01 35.3 -1.7**
GYA0B IAmb IAmb 00 01 39.7
comp=Z,46nm,1.0s
AKTO Aktyubinsk 38.93 312 P **P** **00 01 40.3 +0.4**
comp=Z,6.4nm,0.6s,baz=94,slow=8.5,SNR=27
AKTO LR LR 00 18 48.8
comp=Z,226nm,20.6s,baz=102,slow=38
SVE Sverdlovsk 38.99 322*de*P **P** **00 01 41.3 +1.0**
SVE pmax pmax
comp=Z,33nm,1.4s
LEM Lembang 39.14 176 P **P** **00 01 44.9 +2.8**
comp=Z,16nm,0.5s,baz=59,slow=18,SNR=3.7
KAPI Kappang 39.75 157 P **P** **00 01 50.0 +3.0**
comp=Z,28nm,0.8s,baz=309,slow=4.4,SNR=15

KAPI Kappang 39.75 157 P **P** **00 01 47.1 +0.1**
KAPI pmax pmax
comp=Z,36nm,0.8s
KAPI Kappang 39.75 157 P **P** **00 01 47.1 +0.1**
KAPI IAmb IAmb 00 01 51.3
comp=Z,36nm,0.8s
ARU Arti 39.96 321 P **P** **00 01 48.6 +0.3**
comp=Z,9.6nm,0.9s,baz=100,slow=6.0,SNR=53
ARU Arti 39.96 321*d* iP **P** **00 01 48.2 -0.2**
ARU pmax pmax
comp=Z,75nm,1.7s
ARU Arti 39.96 321 P **P** **00 01 47.7 -0.7**
ARU IAmb IAmb 00 01 50.0
comp=Z,41nm,1.0s
MA2 Magadan 40.43 34⇑*e*P **P** **00 01 54.2 +2.0**
MA2 pmax pmax
comp=Z,8.0nm,1.0s
TIXI Tiksi 41.23 11 P **P** **00 01 58.1 -0.5**
comp=Z,9.0nm,0.5s,baz=218,slow=4.0,SNR=19
TIXI Tiksi 41.23 11*c iP* **P** **00 01 58.2 -0.5**
TIXI pmax pmax
comp=Z,36nm,1.7s
TIXI Tiksi 41.23 11 P **P** **00 01 58.0 -0.7**
SIJI Sorong 41.29 138 P **P** **00 02 02.2 +2.4**
comp=Z,11nm,0.6s,baz=1.6,slow=8.0,SNR=8.6
WSAR Wadi Sarin 41.94 269 P **P** **00 02 05.7 +0.6**
comp=Z,8.0nm,0.7s,baz=127,slow=6.7,SNR=17
WSAR PcP **PcP** **00 04 01.2 +0.8**
comp=Z,4.9nm,0.6s,baz=77,slow=0.5,SNR=5.0
PETK Petropavlovsk- 42.55 45 P **P** **00 02 11.9 +2.2**
comp=Z,3.4nm,0.8s,baz=224,slow=7.2,SNR=4.2
PETK LR LR 00 21 56.5
comp=Z,215nm,18.7s,baz=245,slow=39
BANOM Banah 42.91 274 P **P** **00 02 13.9 +0.9**
SHME Shamm 43.00 275 P **P** **00 02 13.7 -0.1**
MSFE Esma-Masafi 43.23 274 P **P** **00 02 15.8 +0.2**
HATD Hatta, Dubai 43.45 273 P **P** **00 02 19.1 +1.8**
ASHO Ashiyiah 43.56 273 *i* P **P** **00 02 20.0 +1.7**
SNR=7.8
ALNE Al Ain 44.05 272 *i* P **P** **00 02 24.2 +1.9**
SNR=8.7
KIRV Kirov 45.26 322 LR LR 00 20 20.7
comp=Z,84nm,18.7s,baz=124,slow=35
KIRV Kirov 45.26 322 *i* P **P** **00 02 31.4 +0.1**
MAK Makhachkala 46.04 300 *e*P P 00 02 32.7 -5.1
MAK *e*S **S** **00 09 18.5 -3.7**
MAK pmax pmax
comp=Z,83nm,2.1s
MAK MLR MLR
comp=Z,129nm,16.0s
AKT Akhty 46.07 298 *e*P **P** **00 02 38.2 0.0**
AKT *e* 00 04 13.3
AKT *e* 00 04 29.6
AKT pmax pmax
comp=Z,49nm,1.1s
GROC Groznyy 47.25 301 *e*P **P** **00 02 44.9 -2.4**
GROC *e* 00 04 36.0
GROC pmax pmax
comp=Z,49nm,1.1s
TBLG Delisi 48.24 299 IAmb IAmb 00 03 16.4
comp=Z,14nm,1.1s
ZEI Tsey 48.69 301 *e*P **P** **00 02 56.6 -2.1**
ZEI pmax pmax
comp=Z,10.0nm,0.6s
GOF Gofitskoye 48.97 304⇑*i*P **P** **00 03 01.2 +0.7**
GOF pmax pmax
comp=Z,43nm,0.8s
AKH Akhalkalaki 49.22 299 ⇑P **P** **00 03 04.6 +1.9**
KBZ Khabaz 49.26 302 P **P** **00 03 03.2 +0.4**
comp=Z,8.9nm,0.9s,baz=108,slow=6.3,SNR=16
KBZ LR LR 00 26 30.2
comp=Z,270nm,18.3s,baz=60,slow=39
KBZ Khabaz 49.26 302*c iP* **P** **00 03 02.9 +0.1**
KBZ pmax pmax
comp=Z,9.0nm,0.8s
VRH Novokhopyorsk 49.27 312 *e*P **P** **00 03 02.4 -0.3**
VRH pmax pmax
comp=Z,40nm,0.8s
KIV Kislovodsk 49.38 302 *i* P **P** **00 03 05.3 +1.4**
SNR=11
KIV Kislovodsk 49.38 302 *e*P **P** **00 03 04.2 +0.4**
KIV *e* 00 04 26.7
KIV *e*PPP PPP 00 05 52.0
KIV *e*S **S** **00 10 11.5 +1.6**
KIV pmax pmax
comp=Z,49nm,1.7s
KIV MLR MLR
comp=Z,218nm,17.0s
KIV Kislovodsk 49.38 302 P **P** **00 03 04.0 +0.2**
KIV IAmb IAmb 00 03 05.8
comp=Z,22nm,0.9s
NEY Neytrino 49.47 301⇓*i*P **P** **00 03 06.1 +1.5**
NEY pmax pmax
comp=Z,4.0nm,0.7s
BILL Bilibino 49.54 26⇓*e*P **P** **00 03 05.0 +0.5**
BILL pmax pmax
comp=Z,18nm,1.7s
BILL Bilibino 49.54 26 P **P** **00 03 03.9 -0.6**
KLMR Klimovskoe 50.50 325 *e*P **P** **00 03 09.9 -2.0**
KLMR pmax pmax
comp=Z,44nm,0.8s
KLMR Klimovskoe 50.50 325 *e*P **P** **00 03 09.9 -2.0**
KLMR AMP 00 03 13.6
comp=Z,44nm,0.8s
KLMR LR LR 00 21 48.1
VORD Divnogorie 50.81 312 *e*P **P** **00 03 13.3 -1.1**
VORD pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 50.87 312 *e*P **P** **00 03 14.3 -0.6**
VSR pmax pmax
comp=Z,30nm,0.9s
LPSR Galich'ya Gora 50.90 314 *e*P **P** **00 03 15.1 0.0**
LPSR pmax pmax
comp=Z,40nm,0.8s
TMCR Tamitsa 51.41 329 *e*P **P** **00 03 18.0 -0.7**
TMCR pmax pmax
comp=Z,54nm,1.2s
MOS Moscow 51.48 318 *e*P **P** **00 03 18.1 -1.3**
MOS *e* 00 03 26.7
MOS pmax pmax
comp=Z,114nm,1.3s
MOS pmax pmax
comp=Z,200nm,1.6s
SOC Sochi 51.56 302 *e*P **P** **00 03 20.0 -0.2**
SOC *e* 00 04 40.1
SOC *e*PPP PPP 00 06 21.6
SOC *e*S **S** **00 10 45.3 +5.3**
SOC pmax pmax
comp=Z,26nm,1.5s
OBN Obninsk 52.12 317 *e*P **P** **00 03 24.3 +0.2**
OBN *e* 00 04 35.4
OBN *e* 00 05 22.2
OBN *e*PPP PPP 00 06 22.0
OBN *e*S **S** **00 10 41.0 -6.3**
OBN pmax pmax
comp=Z,67nm,1.7s
OBN MLR MLR
comp=Z,185nm,18.0s
OBN Obninsk 52.12 317 P **P** **00 03 23.7 -0.5**
RAYN Ar Rayn 52.90 276 *i* P **P** **00 03 30.2 -0.3**
SNR=6.3
RAYN Ar Rayn 52.90 276 P **P** **00 03 28.5 -2.0**
RAYN pmax pmax
comp=Z,7.0nm,1.1s
RAYN Ar Rayn 52.90 276 P **P** **00 03 28.5 -2.0**
KNRA Kununurra 52.91 151 P **P** **00 03 30.6 +0.2**
ANN Anapa 52.94 304 *e*P **P** **00 03 27.1 -3.3**
ANN *e*S **S** **00 10 55.1 -3.8**
ANN pmax pmax
comp=Z,28nm,0.7s
LVZ Lovozero 53.06 333*c iP* **P** **00 03 30.7 -0.3**
LVZ pmax pmax
comp=Z,37nm,1.3s
LVZ Lovozero 53.06 333 P **P** **00 03 29.9 -1.1**
LVZ IAmb IAmb 00 03 31.3
comp=Z,21nm,0.7s
APA Apatity 53.52 333⇑*iP* **P** **00 03 34.3 0.0**
APA pmax pmax
comp=Z,9.0nm,0.9s
APA MLR MLR
comp=Z,400nm,14.0s
FITZ Fitzroy Crossi 53.94 156 P **P** **00 03 38.2 +0.3**
FITZ IAmb IAmb 00 03 42.6
comp=Z,23nm,1.2s
GAZ Gaziantep 54.96 295 IAmb IAmb 00 03 47.1
comp=Z,25nm,1.2s
DIKM Dikmen 55.20 301⇓P **P** **00 03 47.6 +0.6**
SIM Simferopol' 55.22 305*ce*P **P** **00 03 46.8 -0.2**
SIM pmax pmax
comp=Z,15nm,0.7s
SIM MLR MLR
comp=Z,100nm,20.0s
KEV Kevo 55.88 336 P **P** **00 03 50.0 -1.4**
KEV pmax pmax
comp=Z,39nm,0.9s
KEV Kevo 55.88 336 P **P** **00 03 50.0 -1.4**
ARCES ARCESS Array B 56.41 335 P **P** **00 03 55.4 +0.1**
comp=Z,10nm,0.5s,baz=80,slow=8.1,SNR=91
ARCES PcP **PcP** **00 04 52.3 +0.2**
comp=Z,4.1nm,0.6s,baz=91,slow=5.0,SNR=4.3
ARCES LR LR 00 30 10.3
comp=Z,131nm,18.1s,baz=122,slow=38
ARE0 ARCESS Array S 56.41 335 *e*P **P** **00 03 55.4 +0.1**
BR131 Keskin Array S 56.91 299 IAmb IAmb 00 04 00.4
comp=Z,14nm,1.1s
BRTR Keskin Array B 56.91 299 P **P** **00 03 59.4 -0.1**
comp=Z,8.2nm,0.9s,baz=100,slow=7.0,SNR=56
BRTR LR LR 00 32 04.8
comp=Z,55nm,19.8s,baz=60,slow=40
HAMF Hammerfest 56.97 337 *e*P **P** **00 03 59.2 +0.1**
FINES FINESS Array B 56.98 326 P **P** **00 03 59.1 -0.2**
comp=Z,13nm,0.8s,baz=92,slow=7.1,SNR=60
VSU Vasula 57.10 322 *e*P **P** **00 04 00.7 +0.5**
AKASG Malin Array Be 57.16 313 P **P** **00 04 00.4 -0.4**
comp=Z,18nm,0.8s,baz=68,slow=6.6,SNR=34
AKASG LR LR 00 28 25.1
comp=Z,138nm,19.2s,baz=50,slow=36
AKBB Malin Array Si 57.16 313*ce*P **P** **00 04 00.2 -0.6**
AKBB pmax pmax
comp=Z,32nm,1.3s
AKBB Malin Array Si 57.16 313 IAmb IAmb 00 04 01.5
comp=Z,31nm,1.2s
BHL Bhannes 57.18 292 *e*P **P** **00 04 01.6 +0.2**
KTK1 Kautokeino 57.26 335 *e*P **P** **00 04 01.5 +0.3**
SHBL Chebaa 57.30 291 *e*P **P** **00 04 03.1 +0.8**
ANTO Ankara 57.49 300⇑P **P** **00 04 03.6 +0.2**
ANTO Ankara 57.49 300 P **P** **00 04 01.9 -1.5**
ANTO pmax pmax
comp=Z,42nm,1.3s
ANTO Ankara 57.49 300 P **P** **00 04 01.9 -1.5**
NACGM Naroch 57.73 318 *e* **P** **00 04 04.0 -0.7**
IZAR Zarasai 57.86 319 *e*P **P** **00 04 06.4 +0.8**
IIGN Ignalina 57.95 319 *e*P **P** **00 04 07.0 +0.7**
ISAL Salakas 57.96 319 *e*P **P** **00 04 07.1 +0.7**
SPA0 Spitsbergen Ar 58.25 346 IAmb IAmb 00 04 12.0
comp=Z,21nm,0.9s
SPA0 Spitsbergen Ar 58.25 346 *e*P **P** **00 04 08.1 0.0**
SORM Soroca 58.31 310⇓P **P** **00 04 08.7 -0.3**
MILM Milestii Mici 58.33 308⇑P **P** **00 04 09.1 0.0**
HSPB Hornsund (broa 58.57 345 *e*P **P** **00 04 10.6 +0.3**
CSS Mathiatis 58.63 294 IAmb IAmb 00 04 22.6
comp=Z,19nm,0.9s
TRO Tromso 58.70 336 *e*P **P** **00 04 10.7 -0.6**
KBS Kingsbay 59.02 347⇑*i*P **P** **00 04 13.1 -0.3**
KBS pmax pmax
comp=Z,11nm,0.8s
KBS Kingsbay 59.02 347 P **P** **00 04 11.8 -1.6**
KBS IAmb IAmb 00 04 16.9
comp=Z,10nm,0.8s
WRAB Tennant Creek 59.09 148*ce*P **P** **00 04 14.9 +0.3**
WRAB pmax pmax
comp=Z,46nm,1.3s
WRA Warramunga Arr 59.09 148 P **P** **00 04 15.1 +0.4**
comp=Z,15nm,0.7s,baz=338,slow=7.5,SNR=7.5
WRA Warramunga Arr 59.09 148 *i* P **P** **00 04 13.6 -1.0**
WRA pmax pmax
comp=Z,15nm,0.7s
PABE Paberze 59.17 319 *e*P **P** **00 04 15.5 +0.7**
TOPG Topolog 59.17 306⇑P **P** **00 04 15.2 +0.2**
WR0 Warramunga Arr 59.20 148 P **P** **00 04 15.1 -0.3**
CFR Carcaliu 59.25 307⇑P **P** **00 04 15.4 -0.2**
BIR Birlad 59.29 308⇑P **P** **00 04 16.8 +1.1**
HARR Harsova 59.53 306⇓P **P** **00 04 18.1 +0.6**
SLIT Slitere, Latvi 59.58 322 *e*P **P** **00 04 17.4 -0.2**
TESR Tescani 59.87 308⇑P **P** **00 04 19.6 -0.2**
PRAR RASCA 59.90 310⇓P **P** **00 04 20.1 +0.1**
SUW Suwalki 59.98 318 *e*P **P** **00 04 20.0 -0.4**
SUW Suwalki 59.98 318 P **P** **00 04 19.6 -0.8**
SUW pmax pmax
comp=Z,47nm,0.9s
SUW Suwalki 59.98 318 P **P** **00 04 19.6 -0.8**
VRI Vrincioaia 60.00 308⇓P **P** **00 04 21.8 +1.0**
PLOR Plostina 60.06 308⇑P **P** **00 04 21.9 +0.7**
N2IH Innhavet 60.09 334 *e*P **P** **00 04 20.5 -0.4**
BIZ Bicaz 60.10 309⇑P **P** **00 04 21.8 +0.4**
BISRR Bisoca 60.11 307⇓P **P** **00 04 22.3 +0.8**
PBUR Paburge 60.17 320 *e*P **P** **00 04 22.4 +0.8**
STEI Steigen 60.35 334 *e*P **P** **00 04 22.1 -0.6**
N2TV Tvervik 60.48 334 *e*P **P** **00 04 23.2 -0.3**
BURAR Bucovina Array 60.49 310⇑P **P** **00 04 24.3 +0.2**
BUR08 Bucovina Ar. S 60.49 310 P **P** **00 04 23.2 -1.0**
BUR08 IAmb IAmb 00 04 25.5
comp=Z,10.0nm,1.1s
OZUR 60.56 308⇑P **P** **00 04 25.1 +0.5**
LVV L'vov 60.60 313⇑*i*P **P** **00 04 25.1 +0.3**
N2VI Vinje 60.64 335 *e*P **P** **00 04 23.9 -0.7**
MLR Muntele Rosu 60.64 308⇑P **P** **00 04 25.7 +0.5**
MLR Muntele Rosu 60.64 308 P **P** **00 04 24.7 -0.6**
MLR pmax pmax
comp=Z,14nm,1.1s
MLR Muntele Rosu 60.64 308 P **P** **00 04 24.7 -0.6**
MLR IAmb IAmb 00 04 27.0
comp=Z,14nm,1.1s
ATD Arta Tunnel 60.65 265 P **P** **00 04 22.9 -2.7**
NBB28 Valnes 60.82 333 *e*P **P** **00 04 25.4 -0.5**
DOPR Dopca 60.87 308⇑P **P** **00 04 27.4 +0.8**
LOF Lofoten 60.92 335 *e*P **P** **00 04 25.4 -1.2**
NBB05 Inndyr 61.02 333 *e*P **P** **00 04 26.4 -0.8**
MOR8 Moi Rana 61.09 332 *e*P **P** **00 04 26.0 -1.8**
NBB17 Glomfjord BÆr 61.11 333 *e*P **P** **00 04 26.7 -1.1**
NBB30 Finnes 61.15 333 *e*P **P** **00 04 27.4 -0.7**
VOIR 61.26 308⇓P **P** **00 04 29.5 +0.2**
N2VA Vr¸y 61.35 334 *e*P **P** **00 04 28.2 -1.3**
KWP Kalwaria Pacla 61.48 313 *e*P **P** **00 04 31.5 +0.8**
ELND Elena 61.49 305⇑P **P** **00 04 31.7 +0.8**
KLNR Kaliningrad 61.49 319*ce*P **P** **00 04 30.2 -0.5**
KLNR pmax pmax
comp=Z,60nm,0.9s
KONS Konsvik 61.51 333 *e*P **P** **00 04 29.6 -1.0**
BMR Baia Mare 61.58 310⇑P **P** **00 04 31.8 +0.3**
HUMR Humele 61.59 307⇓P **P** **00 04 31.7 +0.1**
CJR Cluj-Napoca 61.81 309⇑P **P** **00 04 33.3 +0.2**
BEL Belsk 61.98 316 *e*P **P** **00 04 33.9 -0.1**
UZH Uzhgorod 62.05 312 *e*P **P** **00 04 33.2 -1.3**
UZH *e* 00 04 49.2
TRPA Tarpa 62.05 311⇓P **P** **00 04 35.4 +0.8**
ALN Alexandroupoli 62.05 303 IAmb IAmb 00 04 38.6
comp=Z,22nm,1.2s
LOT Lotru 62.11 308⇑P **P** **00 04 35.5 +0.3**
VLAD Vladila 62.15 306⇓P **P** **00 04 36.0 +0.7**
AS31 Alice Springs 62.18 150 P **P** **00 04 35.3 -0.3**
ASAR Alice Springs 62.18 150 P **P** **00 04 36.0 +0.4**
comp=Z,7.5nm,0.8s,baz=331,slow=5.7,SNR=25
DRGR 62.37 310⇑P **P** **00 04 37.4 +0.6**
NOR Nord 62.44 352 *i* P **P** **00 04 36.7 0.0**
comp=Z,6.9nm,0.8s
NOR Nord 62.44 352 *i* P **P** **00 04 36.7 0.0**
NOR pmax pmax
comp=Z,7.0nm,0.8s
DEV Deva 62.54 309⇑P **P** **00 04 38.5 +0.6**
NSS Namsos 62.55 331 *e*P **P** **00 04 37.1 -0.6**
GZR Gura Zlata 62.78 308⇓P **P** **00 04 40.4 +0.8**
NIE Niedzica 63.04 313 *e*P **P** **00 04 42.1 +0.9**
OJC Ojcow 63.08 314 *e*P **P** **00 04 41.7 +0.3**
HERR Herculane 63.20 308⇑P **P** **00 04 42.9 +0.6**
SIRR Siria 63.23 309⇑P **P** **00 04 43.1 +0.6**
VTS Vitosha 63.43 305⇑P **P** **00 04 44.3 +0.2**
BZS Buzias 63.48 309⇑P **P** **00 04 44.1 0.0**
GKP Gorka Klasztor 63.58 318 *e*P **P** **00 04 44.8 +0.2**
MDVR Moldovita 63.70 308⇑P **P** **00 04 46.1 +0.4**
PSZ Piszkesteto 63.80 312⇑P **P** **00 04 46.2 0.0**
PSZ Piszkesteto 63.80 312 P **P** **00 04 46.1 -0.2**
PSZ pmax pmax
comp=Z,21nm,1.2s
PSZ Piszkesteto 63.80 312 P **P** **00 04 46.1 -0.2**
PSZ IAmb IAmb 00 04 50.8
comp=Z,21nm,1.2s
NC602 NORSAR Array S 63.98 327 IAmb IAmb 00 04 46.9
comp=Z,16nm,0.9s
NC602 NORSAR Array S 63.98 327 *e*P **P** **00 04 46.1 -1.1**
NB2 NORSAR Subarra 64.03 327 P **P** **00 04 46.4 -1.2**
comp=Z,4.2nm,0.6s,baz=70,slow=6.9
NB2 NORSAR Subarra 64.03 327 P **P** **00 04 46.4 -1.2**
baz=70,slow=6.9
NOA NORSAR Array B 64.03 327 P **P** **00 04 46.6 -1.0**
comp=Z,5.3nm,0.6s,baz=70,slow=6.6,SNR=47
NOA LR LR 00 32 30.0
comp=Z,66nm,18.7s,baz=70,slow=36
SANT Santorini 64.11 298⇑P **P** **00 04 47.7 -0.8**
NC204 NORSAR Array S 64.15 328 P **P** **00 04 47.8 -0.5**
OKC Ostrava-Krasne 64.21 314⇑*e*P **P** **00 04 49.2 +0.3**
OKC *ex* x 00 04 52.5
OKC AMS AMS 00 33 40.0
comp=Z,200nm,15.6s
OKC Ostrava-Krasne 64.21 314 *e*P **P** **00 04 49.2 +0.3**
OKC MLR MLR
comp=Z,200nm,15.6s
BSD Bornholm Skovb 64.24 320 *i* P **P** **00 04 48.1 -0.8**
comp=Z,19nm,1.0s
BSD Bornholm Skovb 64.24 320 *i* P **P** **00 04 48.1 -0.8**
BSD pmax pmax
comp=Z,19nm,1.0s
MORC Moravsky Berou 64.60 314⇑P **P** **00 04 52.1 +0.6**
MORC Moravsky Berou 64.60 314⇑*i*P **P** **00 04 51.9 +0.4**
DOMB Dombas 64.63 329 *e*P **P** **00 04 50.7 -0.8**
OSL Oslo 64.65 326 *e*P **P** **00 04 51.3 -0.2**
FRGS Fruska Gora 64.83 309⇑*i*P **P** **00 04 52.8 -0.2**
JAVC Velka Javorina 64.85 313⇑*i*P **P** **00 04 54.8 +1.6**
IDI Anoyia 64.95 297⇓P **P** **00 04 53.3 -0.8**
IDI Anoyia 64.95 297 IAmb IAmb 00 04 54.0
comp=Z,17nm,0.9s
KSP Ksiaz 64.97 316 *e*P **P** **00 04 54.3 +0.5**
MOL Molde 65.09 330 *e*P **P** **00 04 54.4 0.0**
DIVS Divibare 65.10 308 IAmb IAmb 00 04 58.8
comp=Z,11nm,1.1s
DIVS Divibare 65.10 308⇑*i*P **P** **00 04 54.5 -0.4**
OSTC Ostas 65.12 315⇑*e*P **P** **00 04 55.6 +0.8**
OSTC AMS AMS 00 34 20.0
comp=Z,200nm,17.5s
DPC Dobruska-Polom 65.13 315 *e*P **P** **00 04 55.7 +0.8**
DPC *ex* x 00 04 58.9
DPC AMS AMS 00 34 20.0
comp=Z,200nm,17.4s
DPC Dobruska-Polom 65.13 315 *e*P **P** **00 04 55.7 +0.8**
DPC MLR MLR
comp=Z,200nm,17.4s
MORH Mrgy, Hungar 65.20 310⇑*i*P **P** **00 04 55.4 0.0**
CHVC Chvalec 65.20 315 *e*P **P** **00 04 56.0 +0.6**
CHVC *ex* x 00 04 59.2
CHVC AMS AMS 00 34 20.0
comp=Z,200nm,14.9s
UPC Upice 65.26 315⇑*e*P **P** **00 04 56.1 +0.4**
UPC *ex* x 00 05 00.2
UPC AMS AMS 00 34 20.0
comp=Z,300nm,12.7s
UPC Upice 65.26 315 *e*P **P** **00 04 56.1 +0.4**
UPC *e* 00 05 00.2
UPC MLR MLR
comp=Z,300nm,12.7s
KONO Kongsberg 65.28 326*de*P **P** **00 04 54.4 -1.3**
KONO pmax pmax
comp=Z,20nm,1.3s
KONO Kongsberg 65.28 326 P **P** **00 04 53.4 -2.3**
KONO IAmb IAmb 00 04 59.8
comp=Z,12nm,0.9s
KONO Kongsberg 65.28 326 *e*P **P** **00 04 55.0 -0.7**
RGN Rugen 65.30 320 *e*P **P** **00 04 56.9 +1.0**
RGN Rugen 65.30 320 *e*P **P** **00 04 56.6 +0.7**
comp=Z,32nm,1.2s,baz=66,slow=6.2
VRAC Vranov 65.35 314⇑P **P** **00 04 57.1 +0.7**
VRAC Vranov 65.35 314⇑*i*P **P** **00 04 57.0 +0.7**
TTA Tatalina 65.41 30 P **P** **00 04 56.5 -0.1**
TTA pmax pmax
comp=Z,12nm,1.4s
TTA Tatalina 65.41 30 P **P** **00 04 56.5 -0.1**
TTA IAmb IAmb 00 05 00.5
comp=Z,12nm,1.4s
KRUC Moravsky 65.56 314⇑*i*P **P** **00 04 58.3 +0.6**
BBLS Lazići 65.58 308⇑*i*P **P** **00 04 58.0 0.0**
DAG Danmarks Havn 65.71 348 *i* P **P** **00 04 56.9 -1.3**
DAG Danmarks Havn 65.71 348 *i* P **P** **00 04 56.9 -1.3**
RUE Ruedersdorf 65.82 318 *e*P **P** **00 04 59.9 +0.6**
RUE Ruedersdorf 65.82 318 *e*P **P** **00 04 59.6 +0.4**
comp=Z,26nm,0.6s,baz=66,slow=6.2
COLD Coldfoot 65.84 24 P **P** **00 04 59.7 +0.5**
TREC Trest 66.02 314⇑*e*P **P** **00 05 01.3 +0.6**
TREC *ex* x 00 05 04.5
TREC AMS AMS 00 34 50.0
comp=Z,100nm,17.8s
TREC Trest 66.02 314 *e*P **P** **00 05 01.3 +0.6**
TREC MLR MLR
comp=Z,100nm,17.8s
PVCC Panska Ves 66.10 316⇑AMS AMS 00 34 50.0
comp=Z,200nm,16.6s
GOPC GO Pecny, Ondr 66.21 315 *e*P **P** **00 05 02.4 +0.5**
GOPC *ex* x 00 05 05.5
GOPC GO Pecny, Ondr 66.21 315 *e*P **P** **00 05 02.4 +0.5**
PDG Podgorica 66.23 306⇑*i*P **P** **00 05 01.8 -0.3**
CONA Conrad Observa 66.32 313 *i* P **P** **00 05 03.4 +0.7**
comp=Z,16nm,1.3s,SNR=13
PRU Pruhonice 66.33 315⇑*e*P **P** **00 05 03.1 +0.5**
PRU *ex* x 00 05 06.2
PRU AMS AMS 00 35 00.0
comp=Z,300nm,12.2s
PRU Pruhonice 66.33 315 *e*P **P** **00 05 03.1 +0.5**
PRU MLR MLR
comp=Z,300nm,12.2s
BRG Berggiesshubel 66.34 316 *i* P **P** **00 05 02.8 +0.2**
comp=Z,14nm,0.8s
BRG *i* 00 05 06.1
comp=Z,13nm,0.9s
BRG *e*PP **PP** **00 07 25.6 -2.8**
comp=Z,3.1nm,0.9s
comp=N,110nm,15.4s
comp=E,123nm,11.4s
comp=Z,155nm,16.8s
BRG Berggiesshubel 66.34 316 *i* P **P** **00 05 02.8 +0.2**
BRG *e* 00 07 25.6
BRG pmax pmax
comp=Z,14nm,0.8s
BRG pmax pmax
comp=Z,13nm,0.9s
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG MLR MLR
comp=N,110nm,15.4s
BRG MLR MLR
comp=E,123nm,11.4s
BRG MLR MLR
comp=Z,155nm,16.8s
BRG Berggiesshubel 66.34 316 *e*P **P** **00 05 02.9 +0.2**
comp=Z,14nm,0.8s,baz=66,slow=6.2
PRA Prague 66.36 315⇑*e*P **P** **00 05 03.2 +0.4**
PRA *ex* x 00 05 06.6
PRA AMS AMS 00 35 00.0
comp=Z,100nm,12.0s
PRA Prague 66.36 315 *e*P **P** **00 05 03.2 +0.4**
PRA MLR MLR
comp=Z,100nm,12.0s
DRME Dracevica, Mon 66.37 306⇑*i*P **P** **00 05 03.1 +0.1**
ITM Ithomi 66.41 300 IAmb IAmb 00 05 15.0
comp=Z,15nm,1.1s
FBE Freiberg 66.66 316 *e*P **P** **00 05 05.3 +0.6**
comp=Z,11nm,0.9s,baz=66,slow=6.2
BLY Banja Luka 66.71 309⇑*i*P **P** **00 05 05.2 +0.1**
CLL Collm 66.72 317⇑*i*P **P** **00 05 05.9 +0.8**
comp=Z,18nm,1.1s
CLL *e*(PP) 00 07 28.0
CLL Collm 66.72 317⇑*i*P **P** **00 05 05.9 +0.8**
CLL pmax pmax
comp=Z,18nm,1.1s
CLL Collm 66.72 317 IAmb IAmb 00 05 07.1
comp=Z,16nm,1.1s
CLL Collm 66.72 317 *e*P **P** **00 05 06.0 +1.0**
comp=Z,18nm,1.1s,baz=66,slow=6.2
PBCC Pribram 66.77 315⇑*e*P **P** **00 05 05.8 +0.3**
PBCC *ex* x 00 05 08.9
ARSA Arzberg 66.79 312 *i* P **P** **00 05 05.7 +0.1**
comp=Z,10nm,0.8s,SNR=9.1
BPAW Bear Paw Mtn. 66.95 28 IAmb IAmb 00 05 10.4
comp=Z,12nm,1.2s
PPLA Purkeypile 67.01 29 P **P** **00 05 06.3 -0.6**
STON Ston 67.11 307⇑*iP* **P** **00 05 06.0 -1.7**

BSEG Bad Segeberg 67.17 320 eP P 00 05 08.7 +0.8
comp=Z,38nm,1.1s,baz=66,slow=6.2
KTH Kantishna Hill 67.23 28 IAmb IAmb 00 05 12.4
comp=Z,10nm,1.0s
KHC Kasperske Hory 67.24 315 eP P 00 05 08.8 +0.3
KHC ex x 00 05 11.9
KHC AMS AMS 00 35 40.0
comp=Z,200nm,19.6s
KHC Kasperske Hory 67.24 315c iP P 00 05 08.6 +0.1
KHC pmax pmax
comp=Z,26nm,1.3s
GEC2 GERESS Array S 67.28 314 IAmb IAmb 00 05 13.0
comp=Z,16nm,0.9s
GEC2 GERESS Array S 67.28 314 eP P 00 05 09.2 +0.4
comp=Z,19nm,1.2s,baz=66,slow=6.2
GERES GERESS Array B 67.28 314 P P 00 05 09.0 +0.2
comp=Z,12nm,0.9s,baz=70,slow=6.0,SNR=64
GERES LR LR 00 35 30.8
comp=Z,108nm,20.1s,baz=63,slow=37
PERS Pernice 67.29 312 iP P 00 05 08.9 +0.1
SKMB Sankelmark Bun 67.31 321 eP P 00 05 09.9 +1.2
comp=Z,57nm,0.7s,baz=66,slow=6.2
SOKA Soboth 67.33 312 iP P 00 05 09.3 +0.1
comp=Z,14nm,0.9s,SNR=21
MOA Molln 67.34 313 iP P 00 05 09.5 +0.4
comp=Z,12nm,0.9s,SNR=9.6
TANN Tannenbergstha 67.39 316 eP P 00 05 09.7 +0.3
comp=Z,27nm,1.1s,baz=66,slow=6.2
CRES Cresnjevec 67.40 311⇑iP P 00 05 09.7 +0.2
NEUB Neuenburg 67.46 317 eP P 00 05 10.1 +0.3
comp=Z,42nm,1.3s,baz=66,slow=6.2
NKC Novy Kostel 67.47 316⇑eP P 00 05 10.2 +0.3
NKC AMS AMS 00 35 50.0
comp=Z,200nm,19.4s
GUNZ Gunzen 67.48 316 eP P 00 05 10.3 +0.3
comp=Z,21nm,1.1s,baz=66,slow=6.2
WERN Wernitzgruen 67.49 316 eP P 00 05 10.5 +0.5
comp=Z,20nm,1.3s,baz=66,slow=6.2
PLN Plauen 67.50 316 eP P 00 05 10.6 +0.3
comp=Z,14nm,1.2s,baz=66,slow=6.2
WET Wettzell 67.66 315 eP P 00 05 11.7 +0.6
comp=Z,13nm,1.2s,baz=66,slow=6.2
BOJS Bojanci 67.66 311 iP P 00 05 11.6 +0.4
OBKA Obir 67.70 312 iP P 00 05 11.8 +0.3
comp=Z,8.7nm,1.1s,SNR=5.6
ASSE Asse, Remlinge 67.71 318 eP P 00 05 11.5 +0.2
comp=Z,12nm,1.1s,baz=66,slow=6.2
MANZ Manzenberg 67.77 316 eP P 00 05 12.5 +0.7
comp=Z,9.6nm,1.1s,baz=66,slow=6.2
MOX Moxa 67.78 317 eP P 00 05 12.2 +0.3
comp=Z,11nm,1.1s,baz=66,slow=6.2
MOX eL L 00 36 02.1
comp=Z,103nm,20.9s
COLA College 67.79 26⇓eP P 00 05 12.3 +0.7
COLA pmax pmax
comp=Z,13nm,1.0s
ROTZ Rotzenmuhle 67.80 316 eP P 00 05 12.7 +0.7
comp=Z,29nm,1.2s,baz=66,slow=6.2
POKR Poker Plat Res 67.82 26 P P 00 05 10.5 -1.4
baz=300
NRDL Niedersach Rie 67.88 319 eP P 00 05 13.2 +1.0
comp=Z,38nm,1.1s,baz=66,slow=6.2
LJU Ljubljana 67.90 311 iP P 00 05 12.8 +0.1
LJU Ljubljana 67.90 311⇑iP P 00 05 12.6 -0.1
CUT Chulitna 68.03 29 P P 00 05 12.9 -0.2
baz=298
CEY Cerknica 68.09 311⇑iP P 00 05 13.8 -0.1
ILAR Eielson Array 68.20 26 P P 00 05 13.6 -0.6
comp=Z,8nm,1.1s,baz=288,slow=5.9,SNR=16
KBA Koelnbreinsper 68.22 313 iP P 00 05 15.0 +0.1
comp=Z,7.1nm,0.7s,SNR=9.9
MYKA Terra Mystica 68.22 312 iP P 00 05 14.8 0.0
comp=Z,1.8nm,0.5s
PRED Cave del Predi 68.35 312 IAmb IAmb 00 05 18.9
comp=Z,11nm,1.1s
GTTG Gottingen 68.35 318 eP P 00 05 15.9 +0.5
comp=Z,28nm,1.0s,baz=66,slow=6.2
HDA Harding Lake 68.36 26 P P 00 05 14.6 -0.6
baz=300
GRF Grafenberg Arr 68.41 316 eP P 00 05 16.6 +0.7
comp=Z,32nm,1.2s,baz=66,slow=6.2
GRF eL L 00 36 31.9
comp=Z,165nm,19.2s
TRI Trieste 68.53 311 IAmb IAmb 00 05 20.0
comp=Z,17nm,0.9s
UBBA Unterbreizbach 68.64 317 eP P 00 05 17.5 +0.4
comp=Z,12nm,1.4s,baz=66,slow=6.2
ZOU Zoufplan 68.67 312 IAmb IAmb 00 05 20.5
comp=Z,31nm,1.7s
ABTA Abfaltersbach 68.88 313 iP P 00 05 18.1 -0.8
comp=Z,2.3nm,0.6s
FUR Furstenfeldbru 69.03 314 eP P 00 05 20.6 +0.9
comp=Z,58nm,1.1s,baz=66,slow=6.2
CIMO Cimolais 69.11 312 IAmb IAmb 00 05 20.4
comp=Z,22nm,1.5s
SML Sawmill 69.11 29 IAmb IAmb 00 05 23.6
comp=Z,25nm,1.3s
KDAK Kodiak Island 69.17 34 LR LR 00 36 11.6
comp=Z,77nm,18.8s,baz=269,slow=36
WTTA Wattenberg 69.20 313 iP P 00 05 20.8 -0.2
comp=Z,20nm,1.0s,SNR=13
WATA Walderalm 69.20 313 iP P 00 05 20.6 -0.4
comp=Z,16nm,1.0s,SNR=19
TIP Timpagrande 69.29 304⇑P P 00 05 21.3 -0.3
SQTA Sankt Quirin 69.48 313 iP P 00 05 22.2 -0.5
comp=Z,16nm,0.8s,SNR=12
MOTA Moosalm 69.49 314 iP P 00 05 22.7 -0.1
comp=Z,23nm,1.1s,SNR=14
SCM Sheep Creek Mo 69.51 29 IAmb IAmb 00 05 26.5
comp=Z,14nm,0.9s
RETA Reutte 69.64 314 iP P 00 05 23.5 -0.1
comp=Z,13nm,1.3s
CTI Castel Tesino 69.72 312 IAmb IAmb 00 05 26.8
comp=Z,10nm,1.0s
TNS Taunus Mts 69.80 317 eP P 00 05 24.8 +0.3
comp=Z,11nm,1.1s,baz=66,slow=6.2
FETA Feichten 69.86 313 iP P 00 05 24.9 -0.2
comp=Z,27nm,0.9s,SNR=21
BUG Bochum--Univer 69.92 319 eP P 00 05 25.6 +0.5
comp=Z,27nm,1.2s,baz=66,slow=6.2
UBR Ueberruh 69.95 314 eP P 00 05 25.6 +0.1
comp=Z,15nm,0.9s,baz=66,slow=6.2
INTR Introdacqua 70.02 308 IAmb IAmb 00 05 54.8
comp=Z,11nm,1.0s
A36M Sachs Harbour 70.10 15 P P 00 05 26.4 +0.5
baz=316
NRCA Norcia 70.19 309 IAmb IAmb 00 05 33.1
comp=Z,14nm,0.8s
AQU L'Aquila 70.20 308⇑iP P 00 05 27.4 +0.3
DAVA Damuels 70.26 314 iP P 00 05 27.2 -0.3
comp=Z,8.7nm,1.0s
AHRW Bad Neuenahr-A 70.43 318 eP P 00 05 28.9 +0.6
comp=Z,31nm,1.1s,baz=66,slow=6.2
INK Inuvik 70.55 20 IAmb IAmb 00 05 32.3
comp=Z,24nm,1.6s
BFO Black Forest 70.72 315 P P 00 05 30.0 -0.1
BFO pmax pmax
comp=Z,16nm,1.1s
BFO Black Forest 70.72 315 P P 00 05 30.0 -0.1
BFO IAmb IAmb 00 05 34.0
comp=Z,16nm,1.1s
BFO Black Forest 70.72 315 eP P 00 05 30.1 0.0
comp=Z,16nm,1.2s,baz=66,slow=6.2
EPYK Eagle Plains 70.81 22 P P 00 05 29.6 -0.8
baz=308
EPYK Eagle Plains 70.81 22 IAmb IAmb 00 05 33.0
comp=Z,9.5nm,1.1s
ZCCA Zocca 70.90 311 IAmb IAmb 00 05 45.7
comp=Z,21nm,1.0s
MEM Membach 71.01 318 ⇑P P 00 05 32.2 +0.4
OSSC Osservatorio P 71.10 310 IAmb IAmb 00 05 36.3
comp=Z,15nm,1.1s
GLB Gilahina Butte 71.14 28 IAmb IAmb 00 05 36.6
comp=Z,14nm,1.2s
BSTI Sart Tilman 71.27 318 P P 00 05 34.1 +0.7
BSTI pP pP 00 05 36.5 -2.9
VLC Villacollemand 71.36 311 IAmb IAmb 00 05 39.2
comp=Z,13nm,0.9s
WLF Walferdange 71.37 317 P P 00 05 34.7 +0.7
comp=Z,37nm,1.1s
WLF pP pP 00 05 37.4 -2.6
WLF Walferdange 71.37 317 eP P 00 05 35.0 +1.0
comp=Z,59nm,1.1s,baz=66,slow=6.2
VRDI Verde Repeater 71.41 28 IAmb IAmb 00 05 41.9
comp=Z,22nm,1.6s
ECH Echery 71.47 316 IAmb IAmb 00 05 38.4
comp=Z,9.4nm,1.0s

BCLA Clavier 71.49 318 ⇓P P 00 05 34.7 -0.1
BCLA pP pP 00 05 38.1 -2.6
BGES Gesves 71.63 318 P P 00 05 35.7 +0.1
CASP Castiglione de 71.68 309 IAmb IAmb 00 05 39.3
comp=Z,8.1nm,0.8s
UCC Uccle 71.83 319 IAmb IAmb 00 05 40.7
comp=Z,9.2nm,0.9s
BMRD Maredsous 71.85 318 ⇑P P 00 05 37.0 +0.1
BMRD pP pP 00 05 40.1 -2.8
SNF Seneffe 72.02 319 ⇑P P 00 05 38.2 +0.4
SNF pP pP 00 05 41.3 -2.6
DOU Dourbes 72.05 318 ⇑P P 00 05 37.7 -0.3
DOU pP pP 00 05 41.5 -2.6
KMBO Kilima Mbogo 72.15 257 P P 00 05 41.0 +1.4
comp=Z,6.9nm,0.9s,baz=46,slow=9.6,SNR=11
KMBO Kilima Mbogo 72.15 257 P P 00 05 39.7 +0.2
KMBO pmax pmax
comp=Z,8.0nm,1.0s
KMBO Kilima Mbogo 72.15 257 P P 00 05 39.6 +0.2
SENIN Lac Senin/Sane 72.26 314 IAmb IAmb 00 05 44.9
comp=Z,9.3nm,0.8s
SUMG Summit 72.29 349 iP P 00 05 39.1 -0.5
comp=Z,17nm,0.9s
SUMG Summit 72.29 349 iP P 00 05 39.1 -0.5
SUMG pmax pmax
comp=Z,17nm,0.9s
SUMG Summit 72.29 349 IAmb IAmb 00 05 43.6
comp=Z,15nm,1.0s
RES Resolute Bay 72.30 6 IAmb IAmb 00 05 43.2
comp=Z,15nm,1.1s
C36M Paulatuk 72.31 16 P P 00 05 38.5 -0.8
baz=318
C36M Paulatuk 72.31 16 IAmb IAmb 00 05 42.6
comp=Z,27nm,1.3s
KULLO Kullorsuaq 72.59 355 iP P 00 05 41.3 +0.4
comp=Z,8.4nm,0.8s
KULLO Kullorsuaq 72.59 355 iP P 00 05 41.3 +0.4
KULLO pmax pmax
comp=Z,8.0nm,0.8s
STKA Stephens Creek 72.64 148 P P 00 05 41.8 +0.1
comp=Z,4.9nm,0.7s,baz=333,slow=8.1,SNR=8.7
STKA Stephens Creek 72.64 148 P P 00 05 42.3 +0.6
STKA pmax pmax
comp=Z,2.0nm,1.1s
STKA Stephens Creek 72.64 148 P P 00 05 42.2 +0.6
BNI Bardonecchia 73.28 313 IAmb IAmb 00 05 49.6
comp=Z,19nm,0.9s
HYT Haines Junctio 73.98 27 IAmb IAmb 00 05 54.0
comp=Z,14nm,1.0s
KEST Kesra 76.11 304 P P 00 06 02.4 +0.2
comp=Z,8.9nm,0.9s,baz=344,slow=5.3,SNR=13
KEST Kesra 76.11 304 IAmb IAmb 00 06 05.9
comp=Z,10nm,0.9s
MBAR Mbarara 77.26 261ceP P 00 06 10.4 +1.3
MBAR pmax pmax
comp=Z,8.0nm,1.3s
DLBC Dease Lake 78.41 26 LR LR 00 44 39.5
comp=Z,82nm,19.4s,baz=338,slow=39
SFJD Kangerlussuaq 79.16 351 iP P 00 06 18.0 -0.5
SFJD Kangerlussuaq 79.16 351 P P 00 06 18.6 +0.1
SFJD Kangerlussuaq 79.16 351 P P 00 06 18.6 +0.1
SFJD IAmb IAmb 00 06 21.6
comp=Z,12nm,0.9s
YKA Yellowknife Ar 80.11 18 P P 00 06 23.7 0.0
comp=Z,7.0nm,0.9s,baz=324,slow=4.5,SNR=47
ESDC Sonseca Array 82.80 313 P P 00 06 38.7 +0.2
comp=Z,4.5nm,0.8s,baz=41,slow=5.3,SNR=30
ESDC LR LR 00 46 24.3
comp=Z,77nm,19.0s,baz=85,slow=38
PAB San Pablo 83.12 313 P P 00 06 39.6 -0.6
PAB pmax pmax
comp=Z,20nm,1.6s
PAB San Pablo 83.12 313 P P 00 06 39.6 -0.6
PAB IAmb IAmb 00 09 07.3
comp=Z,20nm,1.6s
PBRG Braganca 83.20 316 eP P 00 06 40.1 -0.5
MVO Moncorvo 83.77 315 eP P 00 06 44.3 +0.8
comp=Z,20nm,2.2s
MVO Moncorvo 83.77 315 eLR LR 00 41 14.3
comp=Z,64nm,18.0s
FRB Frobisher Bay 83.98 357 LR LR 00 46 30.6
comp=Z,32nm,20.3s,baz=9.0,slow=37
PCAB Cabril 84.02 316 eP P 00 06 45.9 +1.2
comp=Z,77nm,1.6s
PVRL Vila Real 84.10 316 eP P 00 06 45.9 +0.7
MTE Manteigas 84.55 315 eP P 00 06 48.9 +1.4
comp=Z,47nm,1.7s
MTE Manteigas 84.55 315 eLR LR 00 40 38.9
comp=Z,82nm,16.0s
PVIS Viseu 84.56 315 eP P 00 06 48.6 +1.1
comp=Z,24nm,1.7s
PCBR Castelo Branco 84.85 315 eP P 00 06 50.0 +1.1
PMRV Marv??o 85.06 314 eP P 00 06 50.7 +0.7
PMRV Marv??o 85.06 314 eLR LR 00 41 32.6
comp=Z,58nm,18.0s
PCAS Casmilo, Conde 85.33 315 eP P 00 06 51.4 0.0
PMTG Montargil 85.79 314 eP P 00 06 54.5 +0.9
PSBE So Bento 85.85 315 eP P 00 06 55.3 +1.3
comp=Z,65nm,1.8s
PBEJ Beja 86.22 313 eP P 00 06 56.7 +0.9
PVAQ Vaqueiros 86.52 313 eP P 00 06 57.4 +0.1
MESJ Messejana 86.56 313 eP P 00 06 58.4 +1.0
comp=Z,30nm,1.3s
PCVE Castro Verde 86.58 313 eP P 00 06 58.6 +1.1
comp=Z,31nm,1.7s
PNCL Nicolau / Gran 86.58 314 eP P 00 06 58.3 +0.8
PBDV Barranco-do-Ve 86.75 313 eP P 00 07 01.0 +2.5
FCC Fort Churchill 87.69 10 IAmb IAmb 00 07 06.3
comp=Z,13nm,0.9s
FFC Flin Flon 90.05 15 P P 00 07 13.8 +0.1
FFC pmax pmax
comp=Z,13nm,0.9s
FFC Flin Flon 90.05 15 P P 00 07 13.8 +0.1
FFC IAmb IAmb 00 07 17.5
comp=Z,12nm,0.8s
B08A Colville Reser 90.21 28 IAmb IAmb 00 07 19.4
comp=Z,9.4nm,0.9s
E04D Cinebar 90.30 31 P P 00 07 14.8 -0.2
baz=321
LTY Liberty 90.55 29 IAmb IAmb 00 07 20.9
comp=Z,11nm,1.0s
I04A Tendick Farm, 92.52 32 P P 00 07 26.2 +0.7
baz=322
SCHQ Schefferville 92.79 355 P P 00 07 25.8 -0.7
comp=Z,4.4nm,0.8s,baz=23,slow=6.1,SNR=8.7
SCHQ Schefferville 92.79 355 IAmb IAmb 00 07 30.1
comp=Z,8.9nm,0.9s
F10A Beach Ranch, E 92.98 28 IAmb IAmb 00 07 29.9
comp=Z,6.8nm,1.1s
MSO Missoula 93.53 26 P P 00 07 30.2 0.0
baz=328
TORD Torodi Ar. Bea 94.12 288 P P 00 07 33.1 -0.2
comp=Z,1.3nm,0.8s,baz=50,slow=4.1,SNR=12
TORD LR LR 00 54 49.8
comp=Z,39nm,21.1s,baz=165,slow=39
J08A Circle Bar Ran 94.60 30 IAmb IAmb 00 07 40.3
comp=Z,5.6nm,0.9s
ULM Lac du Bonnet 95.55 13 LR LR 00 54 53.4
comp=Z,30nm,18.2s,baz=350,slow=38
RLMT Red Lodge 96.66 24 P P 00 07 43.8 -0.8
baz=331
PDAR Pinedale Array 98.61 25 LR LR 00 55 15.2
comp=Z,40nm,18.7s,baz=326,slow=37
NVAR Mina Array Bea 98.67 33 LR LR 00 52 46.9
comp=Z,26nm,18.8s,baz=44,slow=36
RSSD Black Hills 99.23 21 P Pdif P 00 07 55.4 -0.8
RSSD pmax pmax
comp=Z,6.0nm,1.0s
RSSD Black Hills 99.23 21 Pdif P 00 07 55.4 -0.8
RSSD IAmb IAmb 00 08 00.7
comp=Z,6.0nm,1.0s
SYO Syowa Base 111.88 201⇑ePdiff Pdif 00 08 54.0 +2.7
VNDA Vanda 114.85 168 PKP PKPdf 00 12 53.3 -0.3
comp=Z,0.6nm,0.7s,baz=317,slow=4.6,SNR=5.2
VNA2 Neumayer--Watz 127.69 203 PKPdf PKiKP 00 13 19.1 +0.1
baz=76,slow=2.5
VNA1 Neumayer--Stat 128.03 203 PKPdf PKiKP 00 13 20.5 +0.8
VNA3 Neumayer Olymp 128.36 202 PKPdf PKPdf 00 13 19.5 -0.3
SDV Santo Domingo 138.69 354 PKPpre 00 13 28.8
SDV PKPdf PKPdf 00 13 39.9 -1.3
RUSC La Rusia 141.82 357 PKPdf PKPdf 00 13 44.8 -2.4
GUY2C Guyana, Caldas 142.51 1 eP PKPdf 00 13 44.9 -3.5
ROSC El Rosal 142.90 359 PKhKP PKPdf 00 13 45.9 -3.1
comp=Z,8.0nm,0.5s,baz=278,slow=14,SNR=1.8
ROSC El Rosal 142.90 359 PKPdf 00 13 46.5 -2.4
TOLC Tolima 143.15 1 eP PKPbc 00 13 46.1 -0.1

YOTC Yotoco, Valle 143.72 3 eP PKPbc 00 13 47.2 -0.3
PCON Cinco Dias 145.36 3 eP PKPdf 00 13 53.9 +0.4
PTGA Pitinga 145.48 333 PKPbc 00 13 52.8 -0.1
SOTA Rioblanco 145.54 3 eP PKPab 00 13 54.1 +0.1
PAC1 Pacto, Paraso 147.22 7 eP PKPbc 00 13 58.2 -0.1
BDFB Brasilia 150.50 298 PKPbc PKPbc 00 14 04.7 -1.8
comp=Z,2.8nm,0.7s,baz=13,slow=8.1,SNR=4.0
SAML Samuel 154.25 333 PKPdf 00 14 05.3 -1.4
SAML PKPbc PKPbc 00 14 14.7 -0.2
SAML PKPab 00 14 27.2 -1.5

PRU 10 00:03:00.2±0.0, 50°26N×12°48E, h2km, 3C, West Bohemia Swarm, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.03**	**217**	*e*PG	Pg	00 03 01.1	+0.2
NKC				*e*SG	Sg	00 03 01.9	+0.5
	comp=Z,8.0nm,0.2s						
MUD	**Monsted U'grnd**	**6.51**	**344**	*i* P	Pg	00 05 05.4	+0.5
	17nm,0.7s						
MGRS	**Mrkonjic Grad**	**6.63**	**150⇑**	*i*P	Pg	00 05 07.9	+0.8
BRY	**Bratogost**	**8.46**	**148⇑**	*i*P	Pn	00 05 04.6	+0.8
TREB	**Trebinje**	**8.56**	**150⇑**	*i*P	Pn	00 05 04.6	-0.5

IDC ***10*** *00:12:02.4±1.9, 41°.79N×81°.17E, h0km, mb3.5/9, mb1 3.6/14, mb1mx3.5/38, mbtmp3.5/14, ML3.2/5, Error ellipse: s-maj=34.1km s-min=19.0km az=130.0*
KRNET ***10*** *00:12:05.7±0.1, 42°.07N×80°.71E, h11km, mb4.7*
SOME ***10*** *00:12:06.6, 42°.18N×80°.57E, h0km, MS3.0*
NEIC ***10*** *00:12:07.0±2.8, 41°.68N±0°.07×81°.0E±0°.1, h33km±13km, mb4.0/1, Error ellipse: s-maj=14.9km s-min=2.8km az=133.0*
BJI ***10*** *00:12:07.3±0.0, 42°.07N×80°.65E, h10km, ML3.8/10*
NNC ***10*** *00:12:09.4±1.0, 42°.17N×80°.58E, h0km, mb4.8, mpv4.5, Error ellipse: s-maj=7.1km s-min=5.6km az=144.0*

ISC 10 00:12:07.7±1.7, 42°.12N±0°.04×80°.68E±0°.04, h8km±10km, n121, σ2°28/168, mb3.6/8, 33C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.37**	**319**	*e*P	**Pn**	**00 12 30.0**	**-3.2**
	baz=31						
SHLS				*e*S	**Sn**	**00 12 47.1**	**-4.5**
	baz=31						
SHLS	**Shalkode**	**1.37**	**319**	*e*P	**Pn**	**00 12 30.0**	**-3.2**
	326nm,0.2s						
SHLS				*e*S	**Sn**	**00 12 47.1**	**-4.5**
	3μm,0.3s						
SHLS	**Shalkode**	**1.37**	**319**	P	**Pn**	**00 12 30.0**	**-3.2**
	980nm,0.2s						
SHLS				S	**Sn**	**00 12 47.2**	**-4.5**
	2μm,0.4s						
PDGK	**Podgornoye**	**1.49**	**324**	P	**Pn**	**00 12 34.8**	**-0.1**
	160nm,0.3s						
PDGK				S	**Sb**	**00 12 56.2**	**+1.4**
	334nm,0.4s						
UZB	**Uzunbulak**	**1.59**	**311**	*e*P	**Pn**	**00 12 36.5**	**+0.2**
	baz=11						
UZB				*e*S	**Sn**	**00 12 58.2**	**+1.0**
	baz=11						
UZB	**Uzunbulak**	**1.59**	**311**	*e*P	**Pn**	**00 12 36.5**	**+0.2**
	483nm,0.1s						
UZB				*e*S	**Sn**	**00 12 58.1**	**+1.0**
	474nm,0.2s						
UZB	**Uzunbulak**	**1.59**	**311**	P	**Pn**	**00 12 36.4**	**+0.1**
	513nm,0.3s						
UZB				S	**Sn**	**00 12 57.9**	**+0.8**
	623nm,0.2s						
PRZ	**Przheval'sk**	**1.73**	**283⇑**	*i*P	**Pn**	**00 12 38.6**	**+0.4**
	baz=84						
PRZ			⇑	*i*S	**Sb**	**00 13 02.7**	**+1.0**
	baz=84						
PRZ	**Przheval'sk**	**1.73**	**283**		**Pn**	**00 12 38.5**	**+0.4**
SATY	**Saty**	**1.92**	**300**	*e*P	**Pb**	**00 12 42.7**	**-0.4**
	242nm,0.2s						
SATY				*e*S	**Sb**	**00 13 08.9**	**+1.7**
	776nm,0.2s						
SATY	**Saty**	**1.92**	**300**	Pg	**Pg**	**00 12 44.9**	**+0.4**
	550nm,0.3s						
SATY				Lg	Lg	00 13 12.5	
	1μm,0.4s						
TARG	**Taragay, Kyrgy**	**2.18**	**261**	Pn	**Pn**	**00 12 45.6**	**+1.0**
TARG					**Sb**	**00 13 15.6**	**+0.7**
KURS	**Kuram**	**2.29**	**307**	*e*P	**Pb**	**00 12 49.0**	**-0.3**
	131nm,0.2s						
KURS				*e*S	**Sb**	**00 13 19.7**	**+1.8**
	485nm,0.3s						
KURS	**Kuram**	**2.29**	**307**	Pg	**Pb**	**00 12 49.4**	**0.0**
	325nm,0.5s						
KURS				Lg	Lg	00 13 20.5	
	279nm,0.5s						
DJR	**Jarkent**	**2.30**	**344**	*e*P	**Pb**	**00 12 49.3**	**-0.2**
	25nm,0.1s						
DJR				*e*S	**Sb**	**00 13 20.4**	**+2.3**
	887nm,0.3s						
DJR	**Jarkent**	**2.30**	**344**	Pg	**Pb**	**00 12 49.5**	**0.0**
	94nm,0.4s						
DJR				Lg	Lg	00 13 20.4	
	955nm,0.5s						
ANVS	**Anan'yevo**	**2.32**	**287⇑**	*e*P	**Pn**	**00 12 48.3**	**+1.9**
	baz=89						
ANVS			⇑	*i*S	**Sb**	**00 13 19.1**	**+0.3**
	baz=89						
MNBS	**Baschi**	**2.57**	**320**	*e*P	**Pb**	**00 12 53.9**	**-0.2**
	123nm,0.2s						
MNBS				*e*S	**Sb**	**00 13 27.9**	**+2.0**
	2μm,0.3s						
MNBS	**Baschi**	**2.57**	**320**	Pg	**Pb**	**00 12 53.7**	**-0.4**
	242nm,0.4s						
MNBS				Lg	Lg	00 13 27.9	
	2μm,0.3s						
KDJ	**Kajisay**	**2.60**	**271⇑**	*i*P	**Pn**	**00 12 51.7**	**+1.5**
	baz=72						
KDJ			⇑	*i*S	**Sn**	**00 13 25.1**	**+3.0**
	baz=72						
KDJ	**Kajisay**	**2.60**	**271**	Pn	**Pb**	**00 12 53.2**	**-1.5**
KOTS	**Kotyrbulak**	**2.85**	**294**	*e*P	**Pb**	**00 12 59.6**	**+0.7**
	349nm,0.2s						
KOTS				*e*S	**Sb**	**00 13 38.0**	**+4.0**
	564nm,0.5s						
KOTS	**Kotyrbulak**	**2.85**	**294**	Pg	**Pb**	**00 12 58.1**	**-0.8**
	723nm,0.3s						
KOTS				Lg	Lg	00 13 36.3	
	571nm,0.5s						
MDOK	**Medeo**	**2.87**	**292**	*e*P	**Pb**	**00 12 58.4**	**-0.9**
	50nm,0.3s						
MDOK				*e*S	**Sb**	**00 13 35.8**	**+1.2**
	310nm,0.4s						
MDOK	**Medeo**	**2.87**	**292**	⇓Pn	**Pn**	**00 12 56.9**	**+3.0**
	102nm,0.6s						
MDOK			⇑	Lg	Lg	00 13 36.8	
	335nm,0.8s						
MDOK	**Medeo**	**2.87**	**292**	Pg	**Pb**	**00 12 59.5**	**+0.2**
	128nm,0.5s						
MDOK				Lg	Lg	00 13 37.5	
	316nm,0.5s						
TNSS	**Tian-Shan**	**2.90**	**290**	*e*P	**Pb**	**00 13 00.2**	**+0.2**
	99nm,0.2s						
TNSS				*e*S	**Sb**	**00 13 38.6**	**+2.9**
	237nm,0.3s						
TNSS	**Tian-Shan**	**2.90**	**290**	Pg	**Pb**	**00 13 00.0**	**+0.1**
	154nm,0.5s						
TNSS				Lg	Lg	00 13 38.4	
	214nm,0.3s						
KNDC	**Almaty**	**2.95**	**293**	⇓Pn	**Pb**	**00 12 59.0**	**-1.5**
	242nm,0.5s						
KNDC			⇑	Lg	Lg	00 13 40.7	
	526nm,0.8s						
ARXS	**Arharly**	**2.95**	**316**	*e*P	**Pb**	**00 13 00.3**	**-0.3**
	105nm,0.2s						
ARXS				*e*S	**Sb**	**00 13 39.0**	**+2.2**
	608nm,0.5s						
ARXS	**Arharly**	**2.95**	**316**	Pg	**Pb**	**00 13 00.4**	**-0.2**
	247nm,0.6s						
ARXS				Lg	Lg	00 13 39.1	
	494nm,0.4s						
AAA	**Alma-Ata**	**2.98**	**293**	*e*P	**Pb**	**00 13 01.3**	**+0.2**
	147nm,0.2s						
AAA				*e*S	**Sb**	**00 13 40.5**	**+2.9**
	286nm,0.3s						
AAA	**Alma-Ata**	**2.98**	**293**	Pg	**Pb**	**00 13 02.4**	**+1.3**
	221nm,0.5s						

AAA				Lg	Lg	00 13 42.5
	311nm,0.5s					
MTBS	**Maitube**	**3.29 289**	*e*P	**Pb**	**00 13 05.7**	**-0.7**
MTBS	19nm,0.1s					
			*e*S	**Sb**	**00 13 48.2**	**+1.5**
	164nm,0.4s					
MTBS	**Maitube**	**3.29 289**	Pg	**Pb**	**00 13 06.6**	**+0.2**
MTBS	74nm,0.3s					
			Lg	Lg	00 13 49.6	
	230nm,0.6s					
ULHL	**Ulahol**	**3.30 274**	⇑*i*P	**Pn**	**00 13 01.3**	**+1.5**
ULHL	baz=75					
			⇑*i*S	**Sn**	**00 13 41.4**	**+2.1**
	baz=75					
ULHL	**Ulahol**	**3.30 274**	P	**Pn**	**00 13 02.0**	**+2.2**
	SNR=67					
KAPS	**Kapalarasan**	**3.30 344**	*e*P	**Pb**	**00 13 06.5**	**0.0**
KAPS	20nm,0.2s					
			*e*S	**Sb**	**00 13 49.7**	**+2.8**
	406nm,0.3s					
KAPS	**Kapalarasan**	**3.30 344**	Pg	**Pb**	**00 13 06.6**	**0.0**
KAPS	35nm,0.5s					
			Lg	Lg	00 13 49.6	
	528nm,0.4s					
TDK	**Taldyqorghan**	**3.32 331**	*e*P	**Pb**	**00 13 07.1**	**+0.3**
TDK	104nm,0.2s					
			*e*S	**Sb**	**00 13 50.6**	**+3.3**
	1µm,0.7s					
TDK	**Taldyqorghan**	**3.32 331**	Pg	**Pb**	**00 13 06.6**	**-0.2**
TDK	316nm,0.6s					
			Lg	Lg	00 13 49.6	
	1µm,0.5s					
KTBS	**Karatobe**	**3.34 300**	*e*P	**Pb**	**00 13 05.9**	**-1.3**
KTBS	60nm,0.4s					
			*e*S	**Sb**	**00 13 48.8**	**+0.9**
	447nm,0.4s					
KTBS	**Karatobe**	**3.34 300**	Pg	**Pb**	**00 13 07.6**	**+0.5**
KTBS	77nm,0.4s					
			Lg	Lg	00 13 51.7	
	444nm,0.4s					
BOOM	**Boomskoye usch**	**3.53 278**	⇓*e*P	**Pn**	**00 13 04.4**	**+1.4**
BOOM	baz=78					
			⇓*i*S	**Sn**	**00 13 47.2**	**+2.2**
	baz=78					
BOOM	**Boomskoye usch**	**3.53 278**	Pn	**Pn**	**00 13 04.9**	**+1.8**
BOOM				**Sb**	**00 13 51.3**	**-2.4**
KST	**Kastek**	**3.60 286**	*e*P	**Pb**	**00 13 11.5**	**-0.1**
KST	66nm,0.2s					
			*e*S	**Sb**	**00 13 58.2**	**+2.7**
	202nm,0.3s					
KST	**Kastek**	**3.60 286**	Pg	**Pb**	**00 13 13.1**	**+1.4**
KST	192nm,0.5s					
			Lg	Lg	00 14 00.4	
	213nm,0.5s					
KUU	**Kurty**	**3.64 301**	Pg	**Pb**	**00 13 12.6**	**+0.3**
KUU	88nm,0.6s					
			Lg	Lg	00 13 59.7	
	198nm,0.4s					
DGS	**Degeres**	**3.79 289**	*e*P	**Pb**	**00 13 14.8**	**0.0**
DGS	1.4nm,0.2s					
			*e*S	**Sb**	**00 14 04.0**	**+3.2**
	243nm,0.2s					
DGS	**Degeres**	**3.79 289**	Pg	**Pb**	**00 13 16.8**	**+2.0**
DGS	2.6nm,0.6s					
			Lg	Lg	00 14 07.2	
	276nm,0.7s					
TKM2	**Tokmak 2**	**3.84 284**	⇓*i*P	**Pn**	**00 13 09.0**	**+1.7**
TKM2	baz=84					
			⇓*i*S	**Sn**	**00 13 54.9**	**+2.3**
	baz=84					
TKM2	**Tokmak 2**	**3.84 284**	P	**Pn**	**00 13 10.6**	**+3.4**
	SNR=124					
TKM2	**Tokmak 2**	**3.84 284**	⇑Pn	**Pn**	**00 13 10.2**	**+2.9**
TKM2	85nm,0.7s					
			⇑Lg	Lg	00 14 07.6	
	87nm,0.4s					
KRBS	**Karabastau**	**4.00 295**	*e*P	**Pb**	**00 13 18.5**	**+0.1**
KRBS	28nm,0.2s					
			*e*S	**Sb**	**00 14 10.2**	**+3.4**
	74nm,0.4s					
KRBS	**Karabastau**	**4.00 295**	Pg	**Pb**	**00 13 18.6**	**+0.2**
KRBS	52nm,0.4s					
			Lg	Lg	00 14 10.3	
	29nm,0.4s					
KZA	**Kyzart**	**4.04 271**	⇑*e*P	**Pn**	**00 13 11.9**	**+1.7**
KZA	baz=72					
			⇑*i*S	**Sn**	**00 14 00.2**	**+2.3**
	baz=72					
KZA	**Kyzart**	**4.04 271**	P	**Pn**	**00 13 14.0**	**+3.9**
	SNR=12					
KBK	**Karagaybulak**	**4.28 279**	⇑*i*P	**Pn**	**00 13 14.7**	**+1.5**
KBK	baz=80					
			⇑*e*S	**Sn**	**00 14 05.5**	**+2.1**
	baz=80					
KBK	**Karagaybulak**	**4.28 279**	P	**Pn**	**00 13 16.1**	**+2.8**
	SNR=47					
CHMS	**Chumysh**	**4.46 283**	⇓*e*P	**Pn**	**00 13 17.5**	**+1.8**
CHMS	baz=84					
			⇓*i*S	**Sn**	**00 14 09.8**	**+2.0**
	baz=84					
CHMS	**Chumysh**	**4.46 283**	P	**Pn**	**00 13 19.7**	**+4.0**
	SNR=9.3					
FRU1	**Bishkek**	**4.53 281**	⇓*e*P	**Pn**	**00 13 18.1**	**+1.5**
FRU1	baz=81					
			⇓*i*S	**Sn**	**00 14 10.9**	**+1.5**
	baz=81					
FRU1	**Bishkek**	**4.53 281**		**Pn**	**00 13 16.3**	**-0.3**
FRU1			Pg	**Pg**	**00 13 32.0**	**-2.4**
UCH	**Uchtor**	**4.58 273**	⇑*e*P	**Pn**	**00 13 19.4**	**+1.7**
UCH	baz=74					
			⇑*i*S	**Sn**	**00 14 12.9**	**+1.6**
	baz=74					
UCH	**Uchtor**	**4.58 273**	P	Pn	00 13 22.5	+4.8
	SNR=30					
AAK	**Ala-Archa**	**4.61 278**	Pn	**Pn**	**00 13 21.0**	**+3.2**
AAK	3.1nm,0.3s,baz=100,slow=10,SNR=19					
			Lg	Lg	00 14 30.0	
	5.6nm,0.3s,baz=221,slow=14,SNR=1.8					
AAK	**Ala-Archa**	**4.61 278**	⇑*i*P	**Pn**	**00 13 19.4**	**+1.6**
AAK	baz=79					
			⇑*i*S	**Sn**	**00 14 12.9**	**+1.3**
	baz=79					
AAK	**Ala-Archa**	**4.61 278**	P	**Pn**	**00 13 20.6**	**+2.8**
	SNR=11					
AAK	**Ala-Archa**	**4.61 278**	⇑Pn	**Pn**	**00 13 20.2**	**+2.4**
AAK	7.9nm,0.7s					
			⇓Pg	**Pb**	**00 13 32.1**	**+3.2**
	87nm,0.8s					
AAK			⇓Lg	Lg	00 14 32.1	
	119nm,0.7s					
AAK	**Ala-Archa**	**4.61 278**	Pn	**Pn**	**00 13 20.1**	**+2.3**
AAK			Pg	**Pb**	**00 13 32.9**	**+4.1**
SGDS	**Sogindy**	**4.64 289**	Pg	**Pg**	**00 13 34.1**	**-2.5**
	68nm,0.6s					
SGDS			Lg	Lg	00 14 36.8	
	64nm,0.7s					
USP	**Ospenovka**	**4.69 286**	⇓*e*P	**Pn**	**00 13 20.9**	**+2.0**
	baz=87					
USP			⇓*e*S	**Sn**	**00 14 15.4**	**+1.9**
	baz=87					
USP	**Ospenovka**	**4.69 286**	P	**Pn**	**00 13 21.6**	**+2.7**
	SNR=11					
ARLS	**Aral**	**4.74 269**	⇑*e*P	**Pn**	**00 13 21.2**	**+1.6**
	baz=70					
ARLS			⇑*i*S	**Sn**	**00 14 16.5**	**+1.6**
	baz=70					
MAKZ	**Makanchi**	**4.78 11**	⇓Pn	**Pn**	**00 13 22.6**	**+2.7**
	18nm,0.5s					
MAKZ			⇑Lg	Lg	00 14 38.4	
	25nm,0.5s					
MAKZ	**Makanchi**	**4.78 11**	Pn	**Pn**	**00 13 22.9**	**+3.0**
MAKZ			Sn	**Sn**	**00 14 16.6**	**+1.1**
MK31	**Makanchi Array**	**4.81 13**	Pn	**Pn**	**00 13 23.1**	**+2.6**
	3.2nm,0.3s,baz=200,slow=14,SNR=175					
MK31			⇑Sn	**Sn**	**00 14 21.6**	**+5.3**
	22nm,0.5s,baz=190,slow=23,SNR=6.8					
MK31			⇓Lg	Lg	00 14 40.1	
	51nm,0.6s,baz=198,slow=27,SNR=6.5					
MK31	**Makanchi Array**	**4.81 13**	Pn	**Pn**	**00 13 23.5**	**+3.1**
MK31			Sn	**Sn**	**00 14 22.1**	**+5.8**
MKAR	**Makanchi Array**	**4.81 13**	Pn	**Pn**	**00 13 22.6**	**+2.1**
	3.4nm,0.3s,baz=194,slow=11,SNR=83					
MKAR			Sn	**Sn**	**00 14 20.6**	**+4.2**
	4.6nm,0.3s,baz=234,slow=12,SNR=3.9					
MKAR			Lg	Lg	00 14 35.7	
	12nm,0.3s,baz=197,slow=27,SNR=13					
EKS2	**Erkin-Say**	**5.14 278**	⇑*e*P	**Pn**	**00 13 26.7**	**+1.7**
	baz=79					
EKS2			⇑*i*S	**Sn**	**00 14 25.7**	**+1.1**
	baz=79					
EKS2	**Erkin-Say**	**5.14 278**	P	**Pn**	**00 13 29.5**	**+4.5**
	SNR=6.4					
AML	**Almayashu**	**5.19 272**	⇓*e*P	**Pn**	**00 13 27.9**	**+1.9**
	baz=73					
AML			⇓*e*S	**Sn**	**00 14 27.6**	**+1.3**
	baz=73					
AML	**Almayashu**	**5.19 272**	P	**Pb**	**00 13 43.0**	**+4.1**
	SNR=20					
WMQ	**Urumqi**	**5.42 69**	*e*Pn	**Pn**	**00 13 31.0**	**+2.1**
WMQ			Sn	**Sn**	**00 14 33.0**	**+1.5**
WMQ			smax	smax		
	comp=N,72nm,0.9s					
WMQ			smax	smax		
	comp=E,92nm,0.9s					
WMQ	**Urumqi**	**5.42 69**	Pn	**Pn**	**00 13 25.9**	**-3.0**
MRKS	**Merke**	**5.55 279**	Pg	**Pb**	**00 13 48.8**	**+3.9**
	41nm,0.4s					
MRKS			Lg	Lg	00 15 02.0	
	48nm,0.6s					
BTLS	**Baital**	**5.63 303**	Pg	**Pb**	**00 13 50.9**	**+4.7**
	36nm,0.7s					
BTLS			Lg	Lg	00 15 05.6	
	24nm,0.5s					
ARSB	**Arslanbob**	**5.81 265**	Pn	**Pn**	**00 13 38.0**	**+3.6**
ZSN	**Zaisan**	**6.10 28**	Pg	**Pb**	**00 13 58.2**	**+4.0**
	17nm,0.7s					
ZSN			Lg	Lg	00 15 18.2	
	36nm,0.6s					
KK31	**Karatay Array**	**7.56 281**	⇑Pg	**Pb**	**00 14 23.7**	**+4.6**
	5.4nm,0.6s,baz=90,slow=15,SNR=21					
KK31			⇑Lg	Lg	00 16 08.4	
	10.0nm,0.6s,baz=87,slow=28,SNR=6.9					
KK31	**Karatay Array**	**7.56 281**	Pn	**Pn**	**00 13 59.7**	**+1.5**
KKAR	**Karatay Array**	**7.56 281**	Pn	**Pn**	**00 13 59.5**	**+1.3**
BTK	**Batken**	**7.73 258**	Pn	**Pn**	**00 13 58.9**	**-1.7**
BTK				**Sn**	**00 15 27.5**	**-0.8**
IUG	**Iuzhnay**	**7.91 274**	Pg	Pg	00 14 33.9	-5.3
	3.9nm,0.7s					
IUG			Lg	Lg	00 16 19.3	
	42nm,0.7s					
BRLS	**Borolday**	**8.05 280**	Pg	**Pg**	**00 14 39.9**	**-1.9**
	3.9nm,0.6s					
BRLS			Lg	Lg	00 16 29.6	
	13nm,0.9s					
GAR	**Garm**	**8.48 252**	Pn	**Pn**	**00 14 08.6**	**-2.3**
OTUK	**Ortayu**	**8.49 319**	⇓Pn	**Pn**	**00 14 12.0**	**+1.1**
	4.6nm,0.7s					
OTUK			⇑Sn	**Sn**	**00 15 53.9**	**+7.0**
	22nm,0.8s					
OTUK			⇑Lg	Lg	00 16 39.1	
	56nm,1.1s					
KURBB	**Kurchatov Arra**	**8.63 351**	Pn	**Pn**	**00 14 13.1**	**+0.3**
	0.1nm,0.3s,baz=174,slow=11,SNR=5.4					
KURBB			Lg	Lg	00 16 37.4	
	0.6nm,0.3s,baz=170,slow=32,SNR=5.8					
KURBB	**Kurchatov Arra**	**8.63 351**	⇑Lg	Lg	00 16 45.7	
	45nm,0.6s					
KURK	**Kurchatov**	**8.71 351**	⇑Lg	Lg	00 16 47.0	
	58nm,0.9s					
KURK	**Kurchatov**	**8.71 351**	Pn	**Pn**	**00 14 16.5**	**+2.6**
CHGR	**Chuyangaron**	**9.45 252**	Pn	**Pn**	**00 14 23.4**	**-0.7**
BRZS	**Berezniki**	**9.62 327**	Pg	Pn	00 15 05.1	+39
	7.4nm,0.5s					
BRZS			Pg	**Sn**	**00 16 15.4**	**+0.8**
	7.7nm,0.4s					
BRZS			Lg	Lg	00 17 09.3	
	24nm,0.5s					
BRZS			Lg	Lg	00 17 12.8	
	18nm,0.8s					
NIL	**Nilore**	**10.29 217**	Pn	Pn	00 14 29.4	-6.3
CEP	**Cherat**	**10.79 223**	P	**Pn**	**00 14 43.4**	**+0.8**
ZAA0	**Zalesovo Array**	**12.15 12**	Pn	**Pn**	**00 15 00.8**	**-0.2**
ZALV	**Zalesovo Beam**	**12.15 12**	Pn	**Pn**	**00 15 00.8**	**-0.2**
	0.1nm,0.3s,baz=197,slow=14,SNR=7.0					
ZALV			Sn	**Sn**	**00 17 14.4**	**-2.1**
	0.5nm,0.3s,baz=214,slow=24,SNR=3.5					
BVAR	**Borovoye Array**	**12.91 331**	Pn	**Pn**	**00 15 12.4**	**+1.0**
	0.2nm,0.3s,baz=299,slow=31,SNR=3.1					
BVAR			Lg	Lg	00 18 53.0	
	0.4nm,0.3s,baz=165,slow=24,SNR=4.6					
GTA	**Gaotai**	**14.75 94**	*e*P	**P**	**00 15 45.8**	**+2.9**
GTA			pP	Pn	00 15 49.0	+12
GTA			sP		00 15 51.9	
GTA			pmax	pmax		
	comp=Z,5.0nm,0.9s					
GTA			smax	smax		
	comp=N,6.0nm,1.1s					
GTA			smax	smax		
	comp=E,5.0nm,1.1s					
AKTO	**Aktyubinsk**	**17.68 306**	P	**Pn**	**00 16 12.2**	**-1.9**
	baz=106,slow=11,SNR=1.5					
AKTO			Lg	Lg	00 21 28.8	
	baz=202,slow=18,SNR=1.6					
ARU	**Arti**	**20.20 323**	P	**P**	**00 16 43.3**	**+0.7**
	comp=E,1.0nm,0.5s,baz=135,slow=8.6,SNR=6.0					
ARU	**Arti**	**20.20 323**	P	**P**	**00 16 43.3**	**+0.7**
ARU			IAmb	IAmb	00 16 47.1	
	comp=Z,9.3nm,1.3s					
BRTR	**Keskin Array B**	**35.27 282**	P	**P**	**00 19 03.9**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=82,slow=10,SNR=4.9					
FINES	**FINESS Array B**	**37.52 320**	P	**P**	**00 19 21.3**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=82,slow=10,SNR=5.1					
ARCES	**ARCESS Array B**	**39.20 333**	P	**P**	**00 19 36.0**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=95,slow=8.2,SNR=4.3					
NB2	**NORSAR Subarra**	**44.70 320**	P	**P**	**00 20 20.5**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=82,slow=7.9					
NOA	**NORSAR Array B**	**44.70 320**	P	**P**	**00 20 21.0**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=83,slow=7.9,SNR=4.3					
ESDC	**Sonseca Array**	**61.41 299**	P	**P**	**00 22 23.4**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=45,slow=6.5,SNR=5.3					
ILAR	**Eielson Array**	**67.13 20**	P	**P**	**00 22 57.1**	**-4.3**
	comp=Z,0.2nm,0.7s,baz=333,slow=3.5,SNR=2.6					
TORD	**Torodi Ar. Bea**	**73.17 273**	P	**P**	**00 23 37.7**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=46,slow=5.1,SNR=5.4					
YKA	**Yellowknife Ar**	**75.01 7**	P	**P**	**00 23 47.2**	**-1.9**
	comp=Z,0.1nm,0.6s,baz=327,slow=4.7,SNR=2.3					

IDC ***10*** *00:23:57.9±13.0, 24.09S×70.32W, h0km, mb4.1/1, mb1 4.1/1, mb1mx3.4/28, mbtmp4.1/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/22, Error ellipse: s-maj=949.0km s-min=104.9km az=1.0*

GUC ***10*** *00:24:03.2±0.6, 24.62S×70.79W, h81km±9km, ML3.2*

ISC 10 00:24:02.5±2.5, 24.7S±0.1×70.9W±0.2, h70km±21km, n19, σ0s74/25, 3C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB10	**IPOC Station P**	**1.24**	**16**	⇑*i*P		**Pn**	**00 24 24.2**	**+0.1**
PB10				*i* S		**Sn**	**00 24 39.7**	**-0.5**
PB10				IAML			00 24 51.0	
	comp=E,314nm,0.4s							
PB05	**IPOC Station P**	**1.96**	**20**	*i* P		**Pn**	**00 24 34.0**	**+0.2**
PB05				*i* S		**Sn**	**00 24 57.5**	**0.0**
PB05				IAML			00 24 59.3	
	comp=E,203nm,0.2s							
PB15	**IPOC Station P**	**2.00**	**42**	*e*P		**Pn**	**00 24 34.4**	**0.0**
PB15				*i* S		**Sn**	**00 24 57.6**	**-1.1**
PB06	**IPOC Station P**	**2.35**	**32**	*i* P		**Pn**	**00 24 39.0**	**0.0**
PB06				*i* S		**Sn**	**00 25 06.5**	**-0.5**
PB06				IAML			00 25 17.7	
	comp=E,309nm,0.2s							
PB04	**IPOC Station P**	**2.47**	**17**	⇑*i*P		**Pn**	**00 24 41.0**	**+0.3**
PB04				*i* S		**Sn**	**00 25 10.2**	**+0.3**
LVC	**Limon Verde**	**2.79**	**42**	*e*P		**Pn**	**00 24 45.6**	**+0.4**
PB03	**IPOC Station P**	**2.86**	**22**	*i* P		**Pn**	**00 24 46.2**	**+0.2**
PB03				*i* S		**Sn**	**00 25 19.2**	**-0.2**
GO03	**Copiap**	**2.94**	**168**	*e*P		Pn	00 24 42.8	-4.1
GO03				IAML			00 25 29.1	
	comp=E,107nm,0.3s							
PB07	**IPOC Station P**	**3.12**	**18**	*e*P		**Pn**	**00 24 49.9**	**+0.4**
PB07				*i* S		**Sn**	**00 25 25.3**	**-0.5**
PB07				IAML			00 25 28.1	
	comp=N,105nm,0.5s							
PB09	**IPOC Station P**	**3.29**	**29**	⇑*i*P		**Pn**	**00 24 52.9**	**+1.1**
PB09				*i* S		**Sn**	**00 25 31.1**	**+1.2**
PB02	**IPOC Station P**	**3.50**	**16**	*e*P		**Pn**	**00 24 54.9**	**+0.2**
PB01	**IPOC Station P**	**3.88**	**20**	*e*P		**Pn**	**00 25 00.3**	**+0.4**
CMIG	**Matias Romero**	**47.66**	**328**	LR		LR	00 49 15.4	
	comp=N,30nm,20.6s,baz=186,slow=32							
VNA3	**Neumayer Olymp**	**57.67**	**160**	P		**P**	**00 33 45.3**	**0.0**
VNA2	**Neumayer--Watz**	**58.28**	**160**	P		**P**	**00 33 49.9**	**+0.4**
	baz=290,slow=8.4							
SNAA	**Sanae**	**59.89**	**160**	P		**P**	**00 34 00.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**80.18**	**71**	P		**P**	**00 36 06.7**	**+1.0**
	comp=N,0.8nm,0.4s,baz=244,slow=3.8,SNR=20							
ZALV	**Zalesovo Beam**	**145.64**	**25**	PKP		**PKiKP**	**00 43 36.1**	**-0.4**
	comp=N,0.5nm,0.4s,baz=304,slow=5.6,SNR=2.4							
MKAR	**Makanchi Array**	**149.31**	**37**	PKPbc		**PKPab**	**00 43 45.9**	**-2.1**
	comp=N,0.3nm,0.5s,baz=311,slow=2.5,SNR=4.6							

TAP ***10*** *01:05:53.6, 23.59N×121.50E, h43km, ML3.3, B*

JMA ***10*** *01:05:53.1±0.1, 23.60N×121.48E, h43km±2km, M3.1*

ISC 10 01:05:54.3±1.0, 23.60N±0.02×121.51E±0.02, h34km±2km, n85, σ0s78/135, 2C-4D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.10**	**311**	P		**Pb**	**01 06 00.6**	**+0.4**
EGFH	baz=319							
				*e*S		**Sb**	**01 06 05.4**	**+1.2**
	baz=319							
HGSD	**Ruisui**	**0.14**	**216**	⇓P		**Pb**	**01 06 01.7**	**+1.3**
HGSD	baz=228							
				*e*S		**Sb**	**01 06 07.5**	**+3.0**
	baz=228							
EHY	**Hungye**	**0.20**	**241**	⇓*i*P		**Pb**	**01 06 01.0**	**0.0**
EHY	baz=242							
				*e*S		**Sb**	**01 06 05.8**	**+0.2**
	baz=242							
ESL	**Shilin**	**0.22**	**342**	⇓*i*P		**Pb**	**01 06 01.3**	**0.0**
ESL	baz=340							
				S		**Sb**	**01 06 06.4**	**+0.4**
	baz=340							
YULB	**Yu-li**	**0.29**	**223**	*e*P		**Pb**	**01 06 01.8**	**-0.2**
YULB	baz=228							
				*e*S		**Sn**	**01 06 07.1**	**+1.0**
	baz=228							
TWF1	**Yuli**	**0.32**	**218**	⇑*i*P		**Pb**	**01 06 02.0**	**-0.3**
TWF1	baz=224							
				*e*S		**Sb**	**01 06 07.7**	**-0.2**
	baz=224							
VWDT	**VWDT**	**0.37**	**294**	⇓P		**Pn**	**01 06 03.6**	**+0.3**
VWDT	baz=296							
				*e*S		**Sn**	**01 06 10.2**	**+1.2**
	baz=296							
HWA	**Hwalien**	**0.38**	**13**	*e*P		**Pn**	**01 06 03.8**	**+0.2**
	baz=6.0							
FULB	**Fuli**	**0.45**	**206**	*e*P		**Pb**	**01 06 03.9**	**-0.2**
FULB	baz=214							
				*e*S		**Sn**	**01 06 11.8**	**+0.6**
	baz=214							
OWD	**Renai**	**0.47**	**319**	P		**Pb**	**01 06 04.6**	**+0.1**
OWD	baz=327							
				*e*S		**Sb**	**01 06 11.6**	**0.0**
	baz=327							
TWD	**Chiawan**	**0.48**	**9**	*i* P		**Pb**	**01 06 04.2**	**-0.4**
	baz=3.0							
TWD				*e*S		**Sb**	**01 06 11.3**	**-0.4**
	baz=3.0							
CHKT	**Chengkung**	**0.52**	**195**	P		**Pb**	**01 06 04.7**	**-0.5**
	baz=183							
CHKT				*e*S		**Sn**	**01 06 13.5**	**+0.6**
	baz=183							
CHGB	**Renai**	**0.55**	**326**	*e*P		**Pb**	**01 06 05.9**	**0.0**
	baz=333							
CHGB				*e*S		**Sb**	**01 06 13.7**	**-0.2**
	baz=333							
NACB	**Ninganchiao**	**0.57**	**8**	P		**Pb**	**01 06 05.0**	**-1.1**
	baz=1.0							
NACB				*e*S		**Sb**	**01 06 12.8**	**-1.4**
	baz=1.0							
WHF	**Hehuan Shan**	**0.58**	**338**	*i* P		**Pb**	**01 06 06.1**	**-0.5**
	baz=344							
WHF				S		**Sb**	**01 06 14.4**	**-0.6**
	baz=344							
ETLH	**Xiulin Townshi**	**0.60**	**358**	P		**Pn**	**01 06 05.6**	**-0.9**
	baz=358							
ETLH				*e*S		**Sb**	**01 06 13.8**	**-1.3**
	baz=358							
WHYT	**Xinyi Township**	**0.61**	**279**	P		**Pn**	**01 06 06.6**	**+0.1**
	baz=278							
WHYT				S		**Sn**	**01 06 15.9**	**+0.7**
	baz=278							
ELDTW	**Lidau**	**0.61**	**228**	*e*P		**Pn**	**01 06 05.7**	**-0.9**
	baz=225							
ELDTW				*e*S		**Sb**	**01 06 13.8**	**-1.5**
	baz=225							
SMLT	**Sun Moon Lake**	**0.62**	**297**	P		**Pn**	**01 06 06.8**	**0.0**
	baz=298							
SMLT				S		**Sn**	**01 06 16.2**	**+0.5**
	baz=298							
TYC	**Yuchr**	**0.67**	**297**	P		**Pn**	**01 06 07.5**	**+0.2**
	baz=299							
TYC				*e*S		**Sn**	**01 06 17.6**	**+1.0**
	baz=299							
DPDB	**Guoxing**	**0.69**	**309**	P		**Pn**	**01 06 07.8**	**+0.2**
	baz=316							
DPDB				*e*S		**Sb**	**01 06 18.0**	**+0.7**
	baz=316							
TWT	**Tachien**	**0.72**	**335**	*e*P		**Pn**	**01 06 07.5**	**-0.7**
	baz=337							
TWT				*e*S		**Sn**	**01 06 17.6**	**-0.5**
	baz=337							
TDCB	**Techi**	**0.72**	**334**	*e*P		**Pn**	**01 06 08.4**	**+0.1**
	baz=337							
TDCB				*e*S		**Sn**	**01 06 17.6**	**-0.6**
	baz=337							
CHN5	**Tsauling**	**0.76**	**270**	P		**Pn**	**01 06 09.1**	**+0.4**
	baz=271							
CHN5				*e*S		**Sb**	**01 06 20.1**	**+0.6**
	baz=271							
WNT	**Mingjian**	**0.81**	**290**	*e*P		**Pb**	**01 06 09.9**	**0.0**
	baz=291							
STYT	**Tauyuan**	**0.82**	**238**	⇑*i*P		**Pn**	**01 06 09.4**	**-0.1**
	baz=235							
STYT				S		**Sn**	**01 06 20.9**	**+0.5**
	baz=235							
NNSB	**Datong**	**0.83**	**352**	*e*P		**Pn**	**01 06 09.6**	**-0.1**
	baz=359							
NNSB				S		**Sn**	**01 06 20.1**	**-0.7**
	baz=359							
NNSH	**Datong**	**0.83**	**352**	P		**Pn**	**01 06 09.5**	**-0.2**
	baz=359							
NNSH				*e*S		**Sn**	**01 06 19.9**	**-0.9**
	baz=359							
NNS	**Nan Shan**	**0.84**	**351**	P		**Pn**	**01 06 09.8**	**-0.1**
	baz=360							
NNS				S		**Sn**	**01 06 20.4**	**-0.7**
	baz=360							
WHP	**Taichung City**	**0.85**	**323**	*e*P		**Pb**	**01 06 10.8**	**+0.1**
	baz=324							
WHP				S		**Sb**	**01 06 22.5**	**+0.7**
	baz=324							
ENA	**Nanau**	**0.85**	**14**	*i* P		**Pn**	**01 06 09.0**	**-0.8**
	baz=7.0							
TPUB	**Ta-pu**	**0.86**	**250**	*e*P		**Pn**	**01 06 10.3**	**+0.3**
	baz=250							
TPUB				*e*S		**Sb**	**01 06 22.8**	**+0.6**
	baz=250							
WGK	**Gukeng**	**0.87**	**276**	*

SGST				*e*S		**Sn**	**01 06 25.5**	**+0.7**
	baz=251							
SLGT	**Liugui**	**1.00**	**233**	P		**Pn**	**01 06 12.5**	**+0.6**
	baz=232							
SLGT				*e*S		**Sb**	**01 06 25.8**	**-0.2**
	baz=232							
CHY	**Chiayi**	**1.00**	**264**	*e*P		**Pn**	**01 06 12.8**	**+0.9**
	baz=265							
CHY				*e*S		**Sn**	**01 06 25.5**	**+0.6**
	baz=265							
SNST	**Tainan City**	**1.00**	**248**	*e*P		**Pb**	**01 06 12.9**	**-0.4**
	baz=248							
ENTT	**Nioudou**	**1.03**	**3**	*i* P		**Pn**	**01 06 12.0**	**-0.4**
	baz=12							
ENTT				*e*S		**Sn**	**01 06 25.2**	**-0.5**
	baz=12							
TWC	**Suao**	**1.05**	**17**	*i* P		**Pn**	**01 06 12.5**	**-0.1**
	baz=10.0							
NSY	**Sanyi**	**1.06**	**320**	*e*P		**Pn**	**01 06 13.4**	**+0.6**
	baz=321							
YHNB	**Yeheng**	**1.07**	**353**	*e*P		**Pn**	**01 06 13.1**	**+0.1**
	baz=354							
YHNB				S		**Sn**	**01 06 26.3**	**-0.4**
	baz=354							
NSK	**Sanguang**	**1.08**	**353**	P		**Pn**	**01 06 13.2**	**+0.1**
	baz=354							
NSK				*e*S		**Sn**	**01 06 26.4**	**-0.5**
	baz=354							
WDJ	**Dajia District**	**1.09**	**313**	*e*S		**Sb**	**01 06 28.5**	**0.0**
	baz=314							
RLNB	**Erlin**	**1.09**	**285**	*e*S		**Sb**	**01 06 28.5**	**-0.1**
	baz=278							
PTSB	**Yuanli**	**1.12**	**319**	*e*S		**Sb**	**01 06 29.3**	**-0.1**
	baz=320							
TWE	**Neicheng**	**1.12**	**7**	P		**Pn**	**01 06 13.2**	**-0.3**
	baz=8.0							
NSTT	**Nanjuang**	**1.12**	**336**	*e*P		**Pb**	**01 06 15.2**	**-0.1**
	baz=324							
LIOB	**Emei**	**1.13**	**337**	*e*P		**Pn**	**01 06 14.6**	**+0.9**
	baz=325							
NMLH	**Miaoli**	**1.14**	**325**	*e*S		**Sn**	**01 06 29.4**	**+1.1**
	baz=326							
NWLT	**Wulai**	**1.17**	**360**	P		**Pn**	**01 06 14.2**	**-0.1**
	baz=6.0							
NWLT				S		**Sn**	**01 06 28.7**	**-0.4**
	baz=6.0							
SSD	**Sandimen**	**1.18**	**224**	P		**Pn**	**01 06 14.5**	**+0.2**
	baz=223							
MASBT	**Mashibuluo**	**1.27**	**219**	*e*P		**Pn**	**01 06 15.7**	**0.0**
	baz=205							
MASBT				*e*S		**Sn**	**01 06 32.5**	**+0.8**
	baz=205							
EAST	**Anshuo**	**1.36**	**207**	*e*P		**Pn**	**01 06 17.4**	**+0.5**
	baz=198							
TIPB	**Shuangxi**	**1.39**	**12**	P		**Pn**	**01 06 17.5**	**+0.2**
	baz=12							
TWB1	**Santiao Chiao**	**1.47**	**17**	*e*P		**Pn**	**01 06 19.5**	**+1.2**
	baz=7.0							
SCZT	**Fangliau**	**1.47**	**214**	P		**Pn**	**01 06 18.9**	**+0.5**
	baz=212							
NWF	**Wu-fen Shan**	**1.48**	**10**	P		**Pn**	**01 06 18.9**	**+0.2**
	baz=10.0							
WFSB	**Wu-fen Shan**	**1.48**	**10**	*e*P		**Pn**	**01 06 18.9**	**+0.3**
	baz=10.0							
YM10	**YM10**	**1.55**	**2**	P		**Pn**	**01 06 19.3**	**-0.2**
	baz=2.0							
LAY	**Lan-yu**	**1.56**	**179**	*e*P		**Pn**	**01 06 18.6**	**-1.0**
	baz=170							
JYNG	**Yonagunijimaku**	**1.56**	**57**	P		**Pn**	**01 06 20.1**	**+0.5**
JYNG				*e*S		**Sn**	**01 06 39.9**	**+1.2**
YM08	**YM08**	**1.58**	**3**	*e*P		**Pn**	**01 06 19.5**	**-0.4**
	baz=3.0							
YOJ	**Yonaguni jima**	**1.62**	**58**	*e*P		**Pn**	**01 06 21.2**	**+0.8**
	baz=58							
YOJ	**Yonaguni jima**	**1.62**	**58**	P		**Pn**	**01 06 20.7**	**+0.3**
YOJ				*e*S		**Sn**	**01 06 41.2**	**+1.1**
WDGT	**Dungji**	**1.73**	**259**	*e*P		**Pn**	**01 06 21.6**	**-0.4**
	baz=259							
PHUB	**P'eng-hu**	**1.78**	**268**	P		**Pn**	**01 06 22.3**	**-0.3**
	baz=268							
PHUB				*e*S		**Sn**	**01 06 42.9**	**-1.2**
	baz=268							
PNG	**Penghu**	**1.79**	**269**	P		**Pn**	**01 06 22.5**	**-0.3**
	baz=270							
PNG				*e*S		**Sn**	**01 06 43.3**	**-1.1**
	baz=270							
HATJ	**Hateruma jima**	**2.15**	**77**	P		**Pn**	**01 06 28.2**	**+0.5**
HATJ				S		**Sn**	**01 06 53.7**	**+0.5**
IRIF	**Iriomote-Funau**	**2.16**	**70**	P		**Pn**	**01 06 28.7**	**+0.9**
IRIF				S		**Sn**	**01 06 54.7**	**+1.3**
VWUC	**VWUC**	**2.33**	**307**	*e*P		**Pn**	**01 06 29.7**	**-0.5**
	baz=307							
JKRS	**Kuro-shima**	**2.37**	**74**	P		**Pn**	**01 06 31.6**	**+0.8**
JKRS				S		**Sn**	**01 07 00.2**	**+1.5**
PTTC	**Pingtan**	**2.46**	**320**	*e*P		**Pn**	**01 06 32.1**	**+0.1**
	baz=321							
JIJ	**Ishigaki jima**	**2.52**	**72**	P		**Pn**	**01 06 33.0**	**+0.1**
JIJ				S		**Sn**	**01 07 02.0**	**-0.5**
PTMZ	**Houxiangcun**	**2.61**	**304**	*e*P		**Pn**	**01 06 34.1**	**+0.1**
	baz=303							
JISG	**Ishigakijimahi**	**2.74**	**68**	P		**Pn**	**01 06 36.0**	**+0.2**
JISG				S		**Sn**	**01 07 07.2**	**-0.6**
JTJ	**Tarama**	**3.09**	**70**	S		**Sn**	**01 07 17.1**	**+0.6**

WEL 10 01:16:02.5,35°S±11″×177°9E±°, h250km±15km, M4.3/31, MLv4.3/31, Error ellipse: s-maj=0.0km s-min=0.0km az=14.7, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.51**	**197**	P	Pn	01 16 49.6	-0.1
MXZ				S	S	01 17 26.9	-0.2
WMGZ	**Waiomatatini S**	**2.73**	**194**	P	Pn	01 16 52.6	+0.6
WMGZ				S	S	01 17 33.0	+1.8
HAZ	**Te Kaha**	**2.84**	**204**	P	Pn	01 16 52.9	-0.2
HAZ				S	S	01 17 33.7	+0.4
PKGZ	**Pakihiroa**	**2.87**	**199**	P	Pn	01 16 53.6	+0.1
PKGZ				S	S	01 17 34.8	+0.7
PUZ	**Puketiti**	**3.00**	**195**	P	Pn	01 16 55.0	+0.1
PUZ				S	S	01 17 37.3	+0.7
RUGZ	**Raukumara Rang**	**3.06**	**204**	P	Pn	01 16 55.4	-0.3
RUGZ				S	S	01 17 38.1	+0.3
TWGZ	**Tauwhareparae**	**3.17**	**198**	P	Pn	01 16 57.3	+0.5
OPRZ	**Ohinepanea**	**3.44**	**218**	P	Pn	01 17 00.2	+0.5
MWZ	**Matawai**	**3.45**	**203**	P	Pn	01 17 00.7	+0.8
MWZ				S	S	01 17 45.9	+0.5
TKGZ	**Te Karaka**	**3.45**	**199**	P	Pn	01 16 59.9	+0.1
MARZ	**Manawahe**	**3.49**	**216**	P	Pn	01 17 01.8	+1.4
URZ	**Urewera**	**3.53**	**209**	P	Pn	01 17 00.3	-0.4
URZ				S	S	01 17 47.9	+1.0
RAGZ	**Rawiri**	**3.63**	**203**	P	Pn	01 17 02.2	+0.2
RIGZ	**Rimuhau**	**3.73**	**198**	P	Pn	01 17 02.4	-0.6
RIGZ				S	S	01 17 51.7	+0.6
RTZ	**Ruatahuna**	**3.89**	**207**	P	Pn	01 17 04.3	-0.7
PRGZ	**Paritu Road**	**3.90**	**196**	P	Pn	01 17 05.0	-0.1
SNGZ	**Shannon Statio**	**3.92**	**202**	P	Pn	01 17 05.2	0.0
TOZ	**Tahuroa Road**	**3.96**	**229**	P	Pn	01 17 06.2	+0.5
PRRZ	**Plateau Road**	**4.04**	**214**	P	Pn	01 17 06.9	+0.3
KNZ	**Kokohu**	**4.05**	**198**	P	Pn	01 17 06.0	-0.7
WCZ	**Waipu Caves**	**4.07**	**258**	P	Pn	01 17 07.0	-0.1
ALRZ	**Allen Road**	**4.11**	**214**	P	Pn	01 17 07.8	+0.3
MHGZ	**Mahia Peninsul**	**4.12**	**195**	P	Pn	01 17 08.5	+0.9
RAHZ	**Arahi**	**4.12**	**204**	P	Pn	01 17 07.6	-0.1
MTHZ	**Maungataniwha**	**4.15**	**207**	P	Pn	01 17 07.9	-0.1
WHHZ	**Waihua**	**4.22**	**202**	P	Pn	01 17 09.6	+0.9
MRHZ	**Matea Rd**	**4.30**	**211**	P	Pn	01 17 09.7	-0.1
TLZ	**Tolley Road**	**4.34**	**222**	P	Pn	01 17 11.0	+0.7
NMHZ	**Naumai**	**4.38**	**206**	P	Pn	01 17 09.6	-1.1
ARHZ	**Aropaoanui**	**4.46**	**203**	P	Pn	01 17 11.5	-0.2
BKZ	**Black Stump Fm**	**4.56**	**208**	P	Pn	01 17 12.6	-0.2
RITZ	**Rihia Road**	**4.67**	**215**	P	Pn	01 17 14.8	+0.6
MCHZ	**McNeill Hill**	**4.73**	**205**	P	Pn	01 17 15.2	+0.3
CKHZ	**Cape Kidnapper**	**4.80**	**200**	P	Pn	01 17 16.4	+0.7
KWHZ	**Kaweka Forest**	**4.81**	**207**	P	Pn	01 17 15.3	-0.6
HIZ	**Hauiti**	**4.85**	**225**	P	Pn	01 17 17.1	+0.8
KAHZ	**Kahuranaki**	**4.99**	**202**	P	Pn	01 17 17.5	-0.6
TUVZ	**Tukino**	**5.00**	**214**	P	Pn	01 17 18.0	-0.3
BHHZ	**Black Hill Sta**	**5.00**	**210**	P	Pn	01 17 17.5	-0.8
KRHZ	**Kereru**	**5.02**	**206**	P	Pn	01 17 17.0	-1.5
FWVZ	**Far West T-bar**	**5.03**	**215**	P	Pn	01 17 18.6	-0.2
WHVZ	**Whangaehu Hut**	**5.04**	**214**	P	Pn	01 17 18.5	-0.4
MOVZ	**Moawhango**	**5.07**	**212**	P	Pn	01 17 17.9	-1.1
PXZ	**Pawanui**	**5.21**	**201**	P	Pn	01 17 20.1	-0.6
PNHZ	**Pukenui**	**5.32**	**206**	P	Pn	01 17 20.6	-1.5
WPHZ	**Waipukurau**	**5.37**	**204**	P	Pn	01 17 22.4	-0.3
PRHZ	**Porangahau**	**5.49**	**201**	P	Pn	01 17 24.0	-0.2
POWZ	**Post Office Ro**	**5.90**	**207**	P	Pn	01 17 28.1	-1.2
PRWZ	**Pori Road**	**5.97**	**205**	P	Pn	01 17 29.6	-0.5
BFZ	**Birch Farm**	**5.99**	**202**	P	Pn	01 17 29.4	-1.0
TIWZ	**Tintock**	**6.20**	**204**	P	Pn	01 17 32.2	-0.7

KRSC 10 01:16:08.3±1.7, 55.32N×166.09E, h34km±12km, ML3.6, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.14**	**210**	*e*P	Pb	01 16 14.5	+0.1
BKI				*e*S	Sb	01 16 19.8	+1.3
BDR	**Baidarnaya**	**3.02**	**296**	*e*P	Pn	01 16 56.3	+2.6
BDR				*e*S	Sb	01 17 33.8	-3.9
ZLN	**Zelenaya**	**3.07**	**285**	P	Pn	01 16 57.7	+3.2
ZLN				S	Sn	01 17 34.6	+4.5
CIRR	**Tsirk**	**3.12**	**287**	*e*S	Sn	01 17 34.0	+2.6
TUMR	**Tumrok**	**3.40**	**272**	*e*P	Pb	01 17 03.6	-4.2
SPN	**Mys Shipunski**	**4.20**	**240**	*e*P	Pn	01 17 13.0	+3.1
SPN				*e*S	Sn	01 18 01.2	+3.5
NLC	**Nalytchevo**	**4.50**	**244**	*e*S	Sn	01 18 10.4	+5.3
SDLR	**Sedlovina**	**4.69**	**247**	*e*P	Pn	01 17 21.5	+4.8
SMAR	**Somma**	**4.74**	**247**	*e*P	Pn	01 17 22.2	+4.7
SMAR				*e*S	Sn	01 18 17.1	+5.8
UGLR	**Uglovaya**	**4.76**	**247**	*e*P	Pn	01 17 22.8	+5.2
UGLR				*e*S	Sn	01 18 18.2	+6.6
AVH	**Avacha**	**4.77**	**247**	*e*P	Pn	01 17 23.0	+5.2
AVH				*e*S	Sn	01 18 18.0	+6.0
KRX	**Arik**	**4.78**	**249**	*e*P	Pn	01 17 22.7	+4.8
KRX				*e*S	Sn	01 18 18.2	+6.1
KOK	**Koryaka**	**4.81**	**248**	*e*P	Pn	01 17 23.3	+4.9
RUS	**Russkaya**	**5.33**	**240**	S	Sn	01 18 29.3	+3.7
MTVR	**Mutnovka**	**5.47**	**242**	*e*S	Sn	01 18 34.3	+5.1

IDC 10 01:28:07.1±0.7, 32.68N×105.20E, h0km, mb3.9/21, mb1 4.0/24, mb1mx3.9/44, mbtmp3.9/24, ML4.1/3, MS3.2/6, Ms1 3.2/6, ms1mx2.9/36, Error ellipse: s-maj=23.1km s-min=14.2km az=55.0

BJI 10 01:28:09.1±0.0, 32.57N×105.17E, h14km, mB4.1/1, mb4.0/5, ML4.1/22, Ms3.6/14, Ms7 3.5/11

ISC 10 01:28:09.1±0.5, 32.58N±0.04×105.17E±0.04, h15km, n32, σ1°33/41, mb3.9/21, MS3.1/4, 2D, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.06**	**216**	⇓*i* Pn	**Pn**	**01 28 42.8**	**-0.4**
CD2				Pg	**Pb**	**01 28 45.3**	**-0.9**
CD2				Sn	**Sn**	**01 29 10.1**	**+1.4**
CD2				Sg	**Sb**	**01 29 13.2**	**+1.5**
CD2				smax	smax		
	comp=N,3μm,0.6s						
CD2				smax	smax		
	comp=E,3μm,0.6s						
XAN	**Xi'an**	**3.46**	**64**	Pn	**Pn**	**01 29 03.5**	**+1.0**
XAN				Pg	**Pb**	**01 29 11.6**	**+1.4**
XAN				Sn	**Sn**	**01 29 41.0**	**-2.3**
XAN				Sg	**Sb**	**01 29 53.6**	**+1.6**
XAN				smax	smax		
	comp=N,1μm,0.7s						
XAN				smax	smax		
	comp=E,850nm,0.6s						
XAN				LR	LR		
	comp=E,1μm,5.5s						
XAN				LR	LR		
	comp=Z,1μm,8.1s						
GYA	**Guiyang**	**6.24**	**168**	Pn	**Pn**	**01 29 42.1**	**+1.3**
GYA				Sn	**Sn**	**01 30 52.6**	**+0.6**
GYA				Sg	**Sg**	**01 31 28.4**	**-1.1**
GYA				smax	smax		
	comp=N,130nm,0.8s						
GYA				smax	smax		
	comp=E,80nm,1.0s						
GYA				LR	LR		
	comp=N,360nm,4.8s						
GYA				LR	LR		
	comp=Z,200nm,5.0s						
GTA	**Gaotai**	**8.07**	**329**	P	**Pn**	**01 30 07.0**	**+1.0**
GTA				pP	Pb	01 30 11.2	-18
GTA				sP		01 30 14.1	
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,54nm,5.3s						
GTA				smax	smax		
	comp=N,33nm,0.8s						
GTA				smax	smax		
	comp=E,32nm,1.0s						
GTA				LR	LR		
	comp=N,310nm,10.6s						
GTA				LR	LR		
	comp=E,260nm,8.5s						
GTA				LR	LR		
	comp=Z,350nm,10.2s						
WHN	**Wuhan**	**8.09**	**102**	⇓P	**Pn**	**01 30 08.6**	**+2.5**
WHN				S	**Sn**	**01 31 32.3**	**-5.0**
CMAR	**Chiang Mai Arr**	**15.14**	**203**	Pn	**Pn**	**01 31 42.2**	**-0.3**
	0.7nm,0.3s,baz=17,slow=12,SNR=6.2						
SONM	**Songino Array**	**15.26**	**3**	Pn	**Pn**	**01 31 43.1**	**-1.0**
	0.2nm,0.3s,baz=186,slow=14,SNR=8.9						
SONM				Lg	Lg	01 36 09.0	
	0.1nm,0.3s,baz=182,slow=30,SNR=1.1						
SONM				LR	LR	01 38 02.3	
	comp=Z,130nm,18.3s,baz=116,slow=39						
WMQ	**Urumqi**	**17.70**	**314**	*e*P	**P**	**01 32 16.1**	**+0.2**
WMQ				pP	pP	01 32 19.0	-1.5
KSRS	**Korea Array**	**19.24**	**69**	P	**P**	**01 32 32.8**	**-0.1**
	0.4nm,0.3s,baz=255,slow=10,SNR=5.8						
KSRS				LR	LR	01 40 50.0	
	comp=Z,36nm,18.1s,baz=248,slow=40						
MKAR	**Makanchi Array**	**22.51**	**316**	P	**P**	**01 33 08.8**	**+0.7**
	2.0nm,0.7s,baz=125,slow=12,SNR=10.0						
MKAR				LR	LR	01 43 05.9	
	comp=Z,51nm,19.5s,baz=145,slow=40						
ZALV	**Zalesovo Beam**	**25.82**	**332**	P	**P**	**01 33 39.3**	**-0.3**
	1.1nm,0.6s,baz=127,slow=9.5,SNR=5.4						
KURBB	**Kurchatov Arra**	**26.64**	**320**	P	**P**	**01 33 47.2**	**+0.1**
	1.2nm,0.7s,baz=133,slow=8.9,SNR=16						
BVAR	**Borovoye Array**	**32.22**	**320**	P	**P**	**01 34 37.0**	**+0.4**
	0.8nm,0.7s,baz=127,slow=11,SNR=4.9						
BVAR				PcP	**PcP**	**01 37 23.0**	**-1.8**
	0.5nm,0.7s,baz=134,slow=4.2,SNR=2.6						
NRIK	**Noril'sk**	**38.13**	**350**	P	**P**	**01 35 26.9**	**-0.4**
	2.6nm,0.5s,baz=148,slow=8.0,SNR=6.0						
NRIK				LR	LR	01 52 14.6	
	comp=Z,41nm,19.6s,baz=223,slow=38						
GEYT	**Alibeck**	**38.47**	**292**	P	**P**	**01 35 32.2**	**+1.6**
	2.6nm,0.7s,baz=78,slow=7.7,SNR=6.2						
GEYT				LR	LR	01 53 11.0	
	comp=Z,29nm,19.4s,baz=355,slow=39						
AKTO	**Aktyubinsk**	**38.81**	**312**	P	**P**	**01 35 33.6**	**+0.3**
	1.2nm,0.8s,baz=93,slow=9.2,SNR=2.3						
ARU	**Arti**	**39.84**	**321**	P	**P**	**01 35 40.9**	**-0.8**
	0.9nm,0.6s,baz=90,slow=6.4,SNR=5.2						
TIXI	**Tiksi**	**41.13**	**11**	P	**P**	**01 35 51.2**	**-1.0**
	0.7nm,0.3s,baz=164,slow=4.2,SNR=1.2						
PETK	**Petropavlovsk-**	**42.50**	**45**	LR	LR	01 55 29.0	
	comp=Z,24nm,19.5s,baz=91,slow=39						
KBZ	**Khabaz**	**49.16**	**302**	P	**P**	**01 36 55.6**	**-0.7**
	1.3nm,0.6s,baz=94,slow=5.5,SNR=2.6						
ARCES	**ARCESS Array B**	**56.29**	**335**	P	**P**	**01 37 48.8**	**+0.1**
	3.1nm,0.8s,baz=84,slow=9.2,SNR=10						
BRTR	**Keskin Array B**	**56.81**	**299**	P	**P**	**01 37 52.9**	**-0.2**
	0.7nm,0.7s,baz=101,slow=6.4,SNR=5.9						
FINES	**FINESS Array B**	**56.85**	**326**	P	**P**	**01 37 52.7**	**-0.1**
	0.7nm,0.6s,baz=97,slow=6.4,SNR=7.7						
AKASG	**Malin Array Be**	**57.04**	**313**	P	**P**	**01 37 54.0**	**-0.3**
	0.8nm,0.4s,baz=66,slow=6.8,SNR=4.0						
WRA	**Warramunga Arr**	**59.22**	**148**	P	**P**	**01 38 10.9**	**+1.0**
	1.5nm,0.6s,baz=341,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**62.30**	**150**	P	**P**	**01 38 32.1**	**+1.3**
	0.9nm,0.6s,baz=344,slow=8.1,SNR=10.0						
NB2	**NORSAR Subarra**	**63.91**	**327**	P	**P**	**01 38 40.3**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=71,slow=6.9						
NOA	**NORSAR Array B**	**63.91**	**327**	P	**P**	**01 38 40.4**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=70,slow=6.6,SNR=7.2						
GERES	**GERESS Array B**	**67.17**	**314**	P	**P**	**01 39 02.9**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=64,slow=6.1,SNR=6.4						
YKA	**Yellowknife Ar**	**80.01**	**18**	P	**P**	**01 40 17.3**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=323,slow=4.3,SNR=11						
ESDC	**Sonseca Array**	**82.69**	**313**	P	**P**	**01 40 32.1**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=36,slow=4.4,SNR=4.0						
TORD	**Torodi Ar. Bea**	**94.04**	**288**	P	**P**	**01 41 26.9**	**-0.4**
	comp=Z,0.6nm,1.1s,baz=23,slow=3.7,SNR=1.9						

ATH 10 01:38:12.8, 35.90N×21.41E, h15km±3km, ML2.8/9, Error ellipse: s-maj=7.9km s-min=1.6km az=62.0

THE 10 01:38:15.2, 35.99N×21.51E, h0km±1km, ML2.7/4, Error ellipse: s-maj=3.0km s-min=0.8km az=246.0

ISC 10 01:38:14.1±2.3, 35.96N±0.08×21.42E±0.09, h11km±12km, n35, σ1°91/41, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.97**	**16**	P	**Pg**	**01 38 32.4**	**-0.5**
PYL				S	**Sb**	**01 38 46.5**	**+0.6**
	575nm,0.5s						
PYL	**PYLOS**	**0.97**	**16**	P	**Pg**	**01 38 32.3**	**-0.5**
PYL				S	**Sb**	**01 38 46.6**	**+0.6**
PYL				AML	AML	01 38 47.4	
	comp=E,1559μm,0.5s						
PYL				AML	AML	01 38 50.0	
	comp=N,672μm,0.4s						
ITM	**Ithomi**	**1.29**	**18**	P	**Pn**	**01 38 37.7**	**-0.4**
ITM				S	**Sn**	**01 38 56.0**	**+0.6**
	comp=N,232nm,0.6s						
ITM	**Ithomi**	**1.29**	**18**	P	**Pn**	**01 38 37.7**	**-0.4**
ITM				S	**Sn**	**01 38 56.5**	**+1.1**
ITM				AML	AML	01 39 01.5	
	comp=E,417μm,0.5s						
ITM				AML	AML	01 39 08.2	
	comp=N,391μm,0.4s						
KTHA	**Kythira Island**	**1.36**	**77**	P	**Pn**	**01 38 39.2**	**+0.1**
KTHA	**Kythira Island**	**1.36**	**77**	P	**Pn**	**01 38 39.1**	**-0.1**
KTHA				AML	AML	01 39 02.3	
	comp=N,468μm,0.6s						
KTHA				AML	AML	01 39 03.0	
	comp=E,805μm,0.7s						
VLI	**Veliai**	**1.44**	**58**	P	**Pn**	**01 38 40.0**	**-0.2**
VLI	**Veliai**	**1.44**	**58**	P	**Pn**	**01 38 40.0**	**-0.2**
VLI				AML	AML	01 39 06.5	
	comp=N,628μm,0.8s						
VLI				AML	AML	01 39 09.0	
	comp=E,988μm,1.1s						
ANKY	**Antikythira Is**	**1.53**	**93**	P	**Pb**	**01 38 42.3**	**-0.2**
ANKY				S	**Sg**	**01 39 02.2**	**-1.2**
	comp=E,270nm,0.9s						
ANKY	**Antikythira Is**	**1.53**	**93**	P	**Pb**	**01 38 42.3**	**-0.2**
ANKY				AML	AML	01 39 09.0	
	comp=E,600μm,0.9s						
ANKY				AML	AML	01 39 13.8	
	comp=N,452μm,0.8s						
AMT	**Artemida-Makis**	**1.59**	**8**	P	**Pn**	**01 38 43.3**	**+1.0**
AMT				S	**Sg**	**01 39 05.5**	**+0.2**
	comp=N,272nm,0.6s						
AMT	**Artemida-Makis**	**1.59**	**8**	P	**Pn**	**01 38 43.2**	**+1.0**
AMT				AML	AML	01 39 15.7	
	comp=E,506μm,0.5s						
AMT				AML	AML	01 39 22.9	
	comp=N,517μm,0.6s						
VLX	**Vlachokerasia**	**1.61**	**28**	P	**Pb**	**01 38 43.5**	**-0.4**
VLX	**Vlachokerasia**	**1.61**	**28**	P	**Pn**	**01 38 43.1**	**+0.5**
VLX				AML	AML	01 39 16.8	
	comp=E,571μm,0.7s						
VLX				AML	AML	01 39 31.2	
	comp=N,540μm,0.6s						
RODP	**Rodopos**	**1.94**	**101**	P	**Pn**	**01 38 48.1**	**+1.0**
KNDR	**Palaiochora Ch**	**1.98**	**111**	P	**Pn**	**01 38 47.8**	**+0.2**
GUR	**Goura**	**2.11**	**20**	P	**Pn**	**01 38 51.0**	**+1.5**
GUR	**Goura**	**2.11**	**20**	P	**Pn**	**01 38 50.9**	**+1.5**
GUR				AML	AML	01 39 31.2	
	comp=E,276μm,0.7s						
GUR				AML	AML	01 39 45.2	
	comp=N,316μm,0.5s						
DID	**Didima**	**2.13**	**43**	P	**Pn**	**01 38 50.9**	**+1.2**
IMMV	**Iera Moni Meta**	**2.14**	**103**	P	**Pn**	**01 38 50.5**	**+0.7**
IMMV	**Iera Moni Meta**	**2.14**	**103**	P	**Pn**	**01 38 50.3**	**+0.4**
KLV	**Kalavryta, Ach**	**2.16**	**19**	P	**Pn**	**01 38 51.7**	**+1.5**
VAM	**Vamos**	**2.33**	**103**	P	**Pn**	**01 38 52.9**	**+0.5**
VAM	**Vamos**	**2.33**	**103**	P	**Pn**	**01 38 52.9**	**+0.5**
VAM				AML	AML	01 39 51.2	
	comp=N,249μm,0.7s						
VAM				AML	AML	01 39 56.9	
	comp=E,190μm,0.7s						
IDI	**Anoyia**	**2.91**	**102**	P	**Pn**	**01 39 00.8**	**+0.4**
IDI	**Anoyia**	**2.91**	**102**	P	**Pn**	**01 39 00.3**	**-0.1**
AGG	**Agios Georgios**	**3.15**	**13**	P	**Pn**	**01 39 06.2**	**+2.5**
DBRK	**Dubrovnik**	**7.17**	**340**	*e*Pn	**Pn**	**01 40 03.0**	**+4.2**
DBRK				Sn	Sn	01 41 12.0	-8.2
STON	**Ston**	**7.48**	**339**	*e*Pn	**Pn**	**01 40 05.2**	**+2.1**
STON				Sn	**Sn**	**01 41 20.4**	**-7.5**
MAKA	**Makarska**	**8.07**	**336**	Sn	Sn	01 41 34.5	-7.9
ZIRJ	**Zirje**	**8.88**	**332**	*e*Pn	**Pn**	**01 40 24.6**	**+2.3**
ZIRJ				Sn	Sn	01 41 53.2	-9.1
KIJV	**Kijevo**	**8.91**	**336**	*e*Pn	**Pn**	**01 40 25.8**	**+3.0**
KIJV				Sn	Sn	01 41 54.7	-8.4
MORI	**Morici**	**9.03**	**333**	*e*Pn	**Pn**	**01 40 27.3**	**+2.9**
MORI				Sn	Sn	01 41 57.7	-8.4
DUGI	**Dugi Otok

TXIG				*e*S		**Sn**	**02 49 11.4**	**-0.3**
CMIG	**Matias Romero**	**2.02**	**47**			**Pn**	**02 48 47.4**	**-0.3**
CMIG						**Sn**	**02 49 10.8**	**-1.4**
CMIG	**Matias Romero**	**2.02**	**47**	*e*P		**Pn**	**02 48 47.4**	**-0.3**
CMIG				*i* S		**Sn**	**02 49 10.8**	**-1.4**
TOIG	**Toxpalan**	**2.44**	**346**	*e*P		**Pn**	**02 48 56.3**	**+2.7**
TOIG				*e*S		**Sn**	**02 49 22.2**	**-0.4**
HLIG	**Huajuapan de L**	**2.48**	**328**	*e*P		**Pn**	**02 48 55.1**	**+0.9**
PCIG		**3.10**	**90**			**Sn**	**02 49 02.5**	**0.0**
PCIG		**3.10**	**90**	*e*P		**Pn**	**02 49 02.5**	**0.0**
CCIG	**Comitan**	**4.17**	**82**	Pn	Pn	**Pn**	**02 49 20.1**	**+2.5**
CCIG				Sn	Sn	**Sn**	**02 50 04.8**	**-0.8**
TEIG	**Tepich**	**8.97**	**59**	Pn	Pn	**Pn**	**02 50 23.7**	**+0.5**

NAO ***10*** *03:07:19.5±2.4, 79°.96N×1°.95E, ML2.7*
BER ***10*** *03:07:21.8±2.1, 80°.05N×2°.57E, h10km, ML2.0, ML2.7(NAO), Confirmed Earthquake*
IEPN ***10*** *03:07:24.0, 79°.73N×2°.07E, h15km*

ISC 10 03:07:19.2±1.3, 79°.91N±0°.08×2°.26E±0°.06, h10km, n20, σ2s13/39, 2C, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**2.04**	**114**	Pn	**Pn**	**03 07 54.9**	**+1.3**
KBS				Sn	**Sn**	**03 08 18.0**	**-1.1**
KBS	**Kingsbay**	**2.04**	**114**	⇑*i*P	**Pn**	**03 07 54.8**	**+1.2**
KBS				*e*S	**Sn**	**03 08 17.6**	**-1.4**
KBS	**Kingsbay**	**2.04**	**114**	*e*P	**Pn**	**03 07 54.8**	**+1.2**
KBS				*e*S	**Sn**	**03 08 17.9**	**-1.1**
BRBB	**Barentsburg B**	**2.93**	**123**	Pn	**Pn**	**03 08 08.1**	**+2.4**
BRBB				Sn	**Sn**	**03 08 40.1**	**-0.7**
BRBB	**Barentsburg B**	**2.93**	**123**	Pn	**Pn**	**03 08 08.1**	**+2.4**
BRBB				Sn	**Sn**	**03 08 40.1**	**-0.7**
BRBA	**Barentsburg A**	**2.95**	**123**	Pn	**Pn**	**03 08 08.3**	**+2.2**
BRBA				Sn	**Sn**	**03 08 40.8**	**-0.6**
BRBA	**Barentsburg A**	**2.95**	**123**	Pn	**Pn**	**03 08 08.3**	**+2.2**
BRBA				Sn	**Sn**	**03 08 40.8**	**-0.6**
BRBA				IAML		03 08 44.9	
	comp=Z,7.4nm,0.3s						
SPA0	**Spitsbergen Ar**	**3.20**	**116**	Pn	**Pn**	**03 08 11.3**	**+1.9**
	baz=318,slow=8.6						
SPA0				Sn	**Sn**	**03 08 46.0**	**-1.6**
	baz=302,slow=12						
SPA0	**Spitsbergen Ar**	**3.20**	**116**	⇑*i*P	**Pn**	**03 08 11.4**	**+1.9**
SPA0				*e*S	**Sn**	**03 08 46.8**	**-0.8**
SPA0	**Spitsbergen Ar**	**3.20**	**116**	Pn	**Pn**	**03 08 11.3**	**+1.9**
	baz=318,slow=8.6						
SPA0				Sn	**Sn**	**03 08 46.0**	**-1.6**
	baz=302,slow=12						
NOR	**Nord**	**3.48**	**308**	Pn	**Pn**	**03 08 13.8**	**+0.6**
NOR				Sn	**Sn**	**03 08 50.8**	**-3.6**
NOR	**Nord**	**3.48**	**308**	*i* P	**Pn**	**03 08 13.3**	**0.0**
NOR				*e*S	**Sn**	**03 08 51.5**	**-2.9**
NOR	**Nord**	**3.48**	**308**	Pn	**Pn**	**03 08 13.8**	**+0.6**
NOR				Sn	**Sn**	**03 08 50.8**	**-3.6**
HSPB	**Hornsund (broa**	**3.95**	**131**	Pn	**Pn**	**03 08 22.5**	**+2.8**
HSPB				Sn	**Sn**	**03 09 04.3**	**-1.6**
HSPB	**Hornsund (broa**	**3.95**	**131**	*e*P	**Pn**	**03 08 22.2**	**+2.5**
HSPB				*e*S	**Sn**	**03 09 04.5**	**-1.4**
HSPB	**Hornsund (broa**	**3.95**	**131**	*e*P	**Pn**	**03 08 22.6**	**+2.8**
HSPB				*e*S	**Sn**	**03 09 04.6**	**-1.4**
HSPB				IAML		03 09 07.3	
	comp=Z,4.8nm,0.3s						
DAG	**Danmarks Havn**	**5.25**	**244**	*i* P	**Pn**	**03 08 36.9**	**-0.7**
DAG				*i* S	Sn	03 09 31.6	-6.4
HOPEN	**Hopen**	**5.74**	**115**	*e*P	**Pn**	**03 08 45.9**	**+1.7**
HOPEN				*e*S	**Sn**	**03 09 46.9**	**-3.0**
HOPEN	**Hopen**	**5.74**	**115**	*e*P	**Pn**	**03 08 45.5**	**+1.3**
HOPEN				*e*S	**Sn**	**03 09 46.0**	**-3.9**
HOPEN				IAML		03 09 50.7	
	comp=Z,8.6nm,0.5s						
ZFI2	**Zemlya Franca-**	**7.50**	**61**	*e*P	**Pn**	**03 09 09.9**	**+1.5**
ZFI2				*e*S	**Sn**	**03 10 29.1**	**-4.3**
	comp=Z,2.5nm,1.1s						

BEO ***10*** *03:13:55.2±0.5, 43°.18N×19°.86E, h2km±3km, ML2.8/15*
PDG ***10*** *03:13:55.2±0.3, 43°.26N×19°.85E, h10km, MD2.8/3, ML2.8/13, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
RHSSO ***10*** *03:13:55.5±0.4, 43°.26N×19°.87E, h7km±2km, ML2.8/11*
TIR ***10*** *03:13:56.0, 43°.16N×19°.85E, h7km, Md3.0/3*

ISC 10 03:13:55.5±1.0, 43°.26N±0°.01×19°.83E±0°.01, h5km±8km, n73, σ1s10/131, 20C-11D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SJES	**Sjenica**	**0.10**	**89**	*e*Pg	**Pg**	**03 13 57.3**	**-0.4**
SJES				*e*Sg	**Sg**	**03 14 00.0**	**+0.9**
PLE	**Pljevlja**	**0.33**	**282**	⇑*i*Pg	**Pg**	**03 14 02.2**	**+0.3**
PLE				*i* Sg	**Sg**	**03 14 07.2**	**+0.9**
IVA	**Berane**	**0.39**	**174**	⇑*i*Pg	**Pg**	**03 14 02.5**	**-0.5**
IVA				*i* Sg	**Sg**	**03 14 08.5**	**+0.4**
IVAS	**Ivanjica**	**0.39**	**36**	*e*Pg	**Pg**	**03 14 02.2**	**-0.9**
IVAS				*e*Sg	**Sg**	**03 14 08.8**	**+0.6**
KOME	**Kolasin**	**0.47**	**210**	⇑*i*Pg	**Pg**	**03 14 04.2**	**-0.3**
KOME				*i* Sg	**Sg**	**03 14 11.2**	**+0.5**
RUDO	**Rudo**	**0.49**	**317**	⇑*i*Pg	**Pg**	**03 14 03.8**	**-1.1**
PVY	**Plav**	**0.67**	**172**	⇑*i*Pg	**Pg**	**03 14 07.8**	**-0.6**
PVY				*i* Sg	**Sb**	**03 14 18.1**	**-1.3**
BBLS	**Lazi?i**	**0.68**	**333**	*e*Pg	**Pg**	**03 14 08.2**	**-0.4**
BBLS				*e*Sg	**Sb**	**03 14 20.4**	**+0.7**
BBLS	**Lazi?i**	**0.68**	**333**	⇑*i*Pg	**Pg**	**03 14 08.1**	**-0.5**
BBLS				*e*Sg	**Sg**	**03 14 18.9**	**+0.9**
UPM	**Unac-Piva**	**0.68**	**266**	⇓*i*Pg	**Pg**	**03 14 07.9**	**-0.6**
UPM				*i* Sg	**Sg**	**03 14 18.9**	**+1.5**
UPM	**Unac-Piva**	**0.68**	**266**	*e*Pg	**Pg**	**03 14 08.0**	**-0.6**
UPM				*e*Sg	**Sg**	**03 14 18.2**	**+0.8**
NKY	**Niksic**	**0.76**	**234**	⇑*i*Pg	**Pg**	**03 14 09.5**	**-0.6**
NKY				*i* Sg	**Sb**	**03 14 21.4**	**-0.6**
NKME	**Niksic**	**0.81**	**233**	⇑*i*Pg	**Pg**	**03 14 10.5**	**-0.5**
NKME				*i* Sg	**Sb**	**03 14 23.4**	**0.0**
DIVS	**Divibare**	**0.84**	**8**	*e*Pg	**Pg**	**03 14 11.3**	**-0.4**
DIVS				*e*Sg	**Sb**	**03 14 24.3**	**-0.1**
DIVS	**Divibare**	**0.84**	**8**	⇓*i*Pg	**Pg**	**03 14 11.0**	**-0.7**
DIVS				*e*Sg	**Sg**	**03 14 22.3**	**-0.4**
GRUS	**Gruza**	**0.90**	**45**	*e*Pg	**Pg**	**03 14 12.2**	**-0.5**
GRUS				*e*Sg	**Sb**	**03 14 26.1**	**+0.3**
BCI	**Bajram Curri**	**0.91**	**169**	*i* PG	**Pg**	**03 14 12.2**	**-0.7**
BCI				*i* SG	**Sg**	**03 14 24.6**	**-0.1**
PDG	**Podgorica**	**0.93**	**207**	⇑P	**Pg**	**03 14 13.0**	**-0.3**
PDG				⇑S	**Sg**	**03 14 26.1**	**+0.7**
PDG	**Podgorica**	**0.93**	**207**	*e*Pg	**Pg**	**03 14 12.2**	**-1.1**
PDG				*e*Sg	**Sg**	**03 14 25.9**	**+0.5**
TTG	**Podgorica**	**0.93**	**207**	⇓*i*Pg	**Pg**	**03 14 12.4**	**-0.9**
TTG				*i* Sg	**Sb**	**03 14 27.1**	**+0.3**
SELS	**Selova**	**0.94**	**92**	*e*Pg	**Pg**	**03 14 12.2**	**-1.3**
SELS				*e*Sg	**Sg**	**03 14 24.7**	**-1.0**
CEME	**Cevo**	**0.98**	**224**	⇓*i*Pg	**Pg**	**03 14 13.2**	**-1.1**
CEME				*i* Sg	**Sb**	**03 14 28.9**	**+0.6**
BRY	**Bratogost**	**1.01**	**250**	⇓*i*Pg	**Pg**	**03 14 13.9**	**-1.0**
BRY				*i* Sg	**Sb**	**03 14 30.3**	**+1.0**
BRY	**Bratogost**	**1.01**	**250**	⇑*i*Pg	**Pg**	**03 14 14.4**	**-0.5**
BRY				*e*Sg	**Sg**	**03 14 28.5**	**+0.4**
TRUS	**Trudelj**	**1.05**	**23**	*e*Pg	**Pg**	**03 14 14.9**	**-0.7**
TRUS				*e*Sg	**Sn**	**03 14 31.6**	**-0.3**
DRME	**Dracevica, Mon**	**1.18**	**204**	⇑*i*Pg	**Pg**	**03 14 17.3**	**-0.7**
DRME				*i* Sg	**Sn**	**03 14 35.7**	**+0.7**
DRME	**Dracevica, Mon**	**1.18**	**204**	*e*Pg	**Pg**	**03 14 17.1**	**-0.9**
DRME				*e*Sg	**Sg**	**03 14 33.4**	**+0.2**
BUM	**Brajici-Budva**	**1.18**	**216**	⇓*i*Pg	**Pg**	**03 14 17.2**	**-0.9**
BUM				*i* Sg	**Sn**	**03 14 36.0**	**+0.7**
TREB	**Trebinje**	**1.22**	**244**	⇑*i*Pg	**Pb**	**03 14 18.1**	**-0.9**
TREB				*e*Sg	**Sb**	**03 14 35.5**	**+0.5**
PUK	**Puka**	**1.22**	**178**	*i* PG	**Pn**	**03 14 18.9**	**-0.4**
PUK				*i* SG	**Sb**	**03 14 34.7**	**-0.4**
HCY	**Herceg Novi**	**1.28**	**231**	⇓*i*Pg	**Pn**	**03 14 19.0**	**-1.0**
HCY				*i* Sg	**Sn**	**03 14 39.4**	**+1.9**
HCY	**Herceg Novi**	**1.28**	**231**	*e*Pg	**Pn**	**03 14 18.5**	**-1.5**
HCY				*e*Sg	**Sn**	**03 14 37.2**	**-0.3**
TEKS	**Tekeris**	**1.31**	**350**	*e*Pg	**Pg**	**03 14 21.1**	**+0.6**
TEKS				*e*Sg	**Sn**	**03 14 39.9**	**+1.6**
TEKS	**Tekeris**	**1.31**	**350**	*e*Pg	**Pn**	**03 14 19.8**	**-0.7**
TEKS				*e*Sg	**Sg**	**03 14 37.7**	**+0.2**
ULC	**Ulcinj**	**1.37**	**199**	⇓*i*Pg	**Pn**	**03 14 20.8**	**-0.5**
ULC				*i* Sg	**Sg**	**03 14 42.3**	**+2.9**
DBRK	**Dubrovnik**	**1.37**	**245**	*e*Pn	**Pn**	**03 14 20.9**	**-0.4**
DBRK				Sg	**Sg**	**03 14 41.3**	**+1.8**
BOVS	**Bovan**	**1.41**	**74**	*e*Pg	**Pn**	**03 14 21.2**	**-0.7**
BOVS				*e*Sg	**Sg**	**03 14 41.1**	**+0.2**
BARS	**Barje**	**1.52**	**106**	*e*Pg	**Pn**	**03 14 23.1**	**-0.2**
BARS	**Barje**	**1.52**	**106**	*e*Pg	**Pg**	**03 14 26.5**	**+1.9**
BARS				*e*Sg	**Sb**	**03 14 42.9**	**-0.8**
BARS				*e*Sg	**Sg**	**03 14 51.3**	**+7.0**
STON	**Ston**	**1.61**	**257**	*e*Pn	**Pb**	**03 14 25.8**	**+0.1**
STON				Sn	**Sg**	**03 14 48.6**	**+1.4**
STON	**Ston**	**1.61**	**257**	*e*Pn	**Pn**	**03 14 24.8**	**+0.2**
STON				*e*Sn	**Sn**	**03 14 46.1**	**+0.4**
PHP	**Peshkopia**	**1.64**	**164**	*i* PN	**Pn**	**03 14 25.1**	**+0.1**
PHP				*i* SN	**Sg**	**03 14 48.1**	**+0.1**
KUBS	**Kucevo**	**1.76**	**49**	*e*Pg	**Pb**	**03 14 27.1**	**-1.2**
KUBS				*e*Sg	**Sg**	**03 14 53.3**	**+1.3**
ZAGS	**Zajecar**	**1.83**	**72**	*e*Pg	**Pb**	**03 14 29.0**	**-0.4**
ZAGS				*e*Sg	**Sg**	**03 14 53.8**	**-0.4**
FRGS	**Fruska Gora**	**1.90**	**359**	*e*Pg	**Pb**	**03 14 31.2**	**+0.6**
FRGS				*e*Sg	**Sg**	**03 14 57.7**	**+1.3**
FRGS	**Fruska Gora**	**1.90**	**359**	*e*Pn	**Pn**	**03 14 27.7**	**-0.9**
FRGS				*e*Sn	**Sn**	**03 14 52.5**	**-0.4**
MDVR	**Moldovita**	**2.04**	**41**	⇑P	**Pn**	**03 14 30.5**	**0.0**
ZAPS	**Zavoj**	**2.04**	**89**	*e*Pg	**Pn**	**03 14 31.0**	**+0.4**
ZAPS				*e*Sg	**Sb**	**03 14 58.6**	**-0.3**
MAKA	**Makarska**	**2.06**	**272**	*e*Pn	**Pb**	**03 14 33.8**	**+0.5**
MAKA				Sn	**Sg**	**03 15 02.3**	**+0.8**
BOSS	**Bosilegrad**	**2.09**	**111**	*e*Pg	**Pn**	**03 14 30.9**	**-0.3**
BOSS				*e*Sg	**Sb**	**03 15 00.0**	**-0.1**
MGRS	**Mrkonjic Grad**	**2.30**	**301**	*e*Pn	**Pn**	**03 14 33.9**	**-0.2**
MGRS				*e*Sn	**Sn**	**03 15 03.1**	**+0.2**
BLY	**Banja Luka**	**2.42**	**309**	*e*Pn	**Pn**	**03 14 36.1**	**+0.3**
BLY				*e*Sn	**Sn**	**03 15 06.6**	**+0.8**
HERR	**Herculane**	**2.47**	**48**	⇑P	**Pn**	**03 14 36.7**	**+0.3**
HVAR	**Hvar**	**2.48**	**269**	*e*Pn	**Pb**	**03 14 39.9**	**-0.5**
HVAR				Sn	**Sb**	**03 15 13.4**	**+2.1**
VTS	**Vitosha**	**2.58**	**103**	⇓P	**Pn**	**03 14 38.1**	**+0.1**
KIJV	**Kijevo**	**2.60**	**288**	*e*Pn	**Pb**	**03 14 40.6**	**-1.9**
KIJV				Sn	**Sb**	**03 15 16.6**	**+1.8**
BZS	**Buzias**	**2.68**	**28**	⇑P	**Pn**	**03 14 38.5**	**-0.8**
GZR	**Gura Zlata**	**3.00**	**44**	⇑P	**Pn**	**03 14 43.1**	**-0.7**
MORH	**Mrgy, Hungar**	**3.07**	**344**	*e*Pn	**Pn**	**03 14 44.2**	**-0.5**
MORH				*e*Sn	**Sn**	**03 15 21.0**	**-0.8**
ZIRJ	**Zirje**	**3.08**	**279**	*e*Pn	**Pb**	**03 14 48.0**	**-2.6**
ZIRJ				Sn	**Sb**	**03 15 26.1**	**-2.4**
MOSL	**Moslavina**	**3.23**	**318**	*e*Pn	**Pn**	**03 14 47.0**	**+0.2**
SIRR	**Siria**	**3.28**	**23**	⇓P	**Pn**	**03 14 47.2**	**-0.3**
LOT	**Lotru**	**3.57**	**51**	⇑P	**Pn**	**03 14 52.1**	**+0.5**
ARR	**Arges**	**4.04**	**57**	⇑P	**Pn**	**03 14 57.9**	**-0.1**
CRES	**Cresnjev**	**4.05**	**311**	*e*Pn	**Pn**	**03 14 57.6**	**-0.5**
DRGR		**4.08**	**29**	⇓P	**Pn**	**03 14 58.3**	**-0.3**
VOIR		**4.33**	**58**	⇑P	**Pn**	**03 15 02.2**	**+0.1**
CEY	**Cerknica**	**4.59**	**305**	*e*Pn	**Pn**	**03 15 04.7**	**-0.9**
SOKA	**Soboth**	**4.83**	**317**	*i* Pn	**Pn**	**03 15 08.2**	**-0.7**
	0.5nm,0.3s						
SOKA				*i* Sn	**Sn**	**03 16 05.2**	**0.0**
OBKA	**Obir**	**4.96**	**313**	*i* Pn	**Pn**	**03 15 12.5**	**+1.7**
	0.4nm,0.3s						
OBKA				*i* Sn	**Sn**	**03 16 08.9**	**+0.3**
	0.2nm,0.2s						
ARSA	**Arzberg**	**5.02**	**324**	*i* Pn	**Pn**	**03 15 12.1**	**+0.6**
	1.6nm,0.3s						
ARSA				*i* Sn	**Sn**	**03 16 10.8**	**+1.0**
	0.5nm,0.2s						
VYHS	**Vyhne**	**5.28**	**353**	*e*SN	**Sn**	**03 16 15.0**	**-1.3**
MOA	**Molln**	**6.03**	**322**	*i* Pn	**Pn**	**03 15 25.9**	**+0.6**
	0.1nm,0.1s						
MOA				*i* Sn	**Sn**	**03 16 35.3**	**+0.6**
	0.1nm,0.1s						

JMA ***10*** *03:16:53.8±0.1, 24°.34N×122°.44E, h56km±2km, M2.1*
TAP ***10*** *03:16:54.3, 24°.31N×122°.44E, h44km, ML2.6, C*

ISC 10 03:16:54.7±1.3, 24°.32N±0°.06×122°.45E±0°.02, h45km±17km, n27, σ0s47/44, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.47**	**73**	P	**Pn**	**03 17 05.2**	**-0.1**
JYNG				*e*S	**Sn**	**03 17 13.3**	**+0.4**
YOJ	**Yonaguni jima**	**0.54**	**74**	*i* P	**Pn**	**03 17 05.9**	**-0.2**
	baz=73						
YOJ				S	**Sn**	**03 17 14.5**	**+0.3**
	baz=73						
YOJ	**Yonaguni jima**	**0.54**	**74**	P	**Pn**	**03 17 05.9**	**-0.2**
YOJ				S	**Sn**	**03 17 14.5**	**+0.3**
TWC	**Suao**	**0.62**	**298**	*i* P	**Pn**	**03 17 06.9**	**-0.3**
	baz=292						
TWC				*i* S	**Sn**	**03 17 16.0**	**-0.1**
	baz=292						
ENA	**Nanau**	**0.65**	**280**	P	**Pn**	**03 17 07.2**	**-0.4**
	baz=285						
ENA				*e*S	**Sn**	**03 17 17.5**	**+0.6**
	baz=285						
NTC	**Toucheng**	**0.78**	**314**	*e*S	**Sn**	**03 17 19.1**	**-0.7**
	baz=324						
NACB	**Ninganchiao**	**0.79**	**260**	P	**Pn**	**03 17 09.0**	**-0.4**
	baz=260						
NACB				S	**Sn**	**03 17 20.3**	**+0.1**
	baz=260						
TWB1	**Santiao Chiao**	**0.81**	**329**	*e*S	**Sn**	**03 17 19.7**	**-0.9**
	baz=340						
TWD	**Chiawan**	**0.81**	**253**	*e*P	**Pn**	**03 17 09.4**	**-0.3**
	baz=253						
TWE	**Neicheng**	**0.82**	**300**	*e*P	**Pn**	**03 17 10.0**	**+0.2**
	baz=309						
ENTT	**Nioudou**	**0.86**	**292**	*i* P	**Pn**	**03 17 10.8**	**+0.4**
	baz=292						
ENTT				*e*S	**Sn**	**03 17 23.0**	**+1.0**
	baz=292						
TIPB	**Shuangxi**	**0.86**	**319**	*e*P	**Pn**	**03 17 10.3**	**-0.2**
	baz=328						
TIPB				*e*S	**Sn**	**03 17 21.4**	**-0.6**
	baz=328						
ETLH	**Xiulin Townshi**	**0.89**	**263**	P	**Pn**	**03 17 10.4**	**-0.5**
	baz=263						
ETLH				*e*S	**Sn**	**03 17 22.6**	**0.0**
	baz=263						
NWLT	**Wulai**	**0.97**	**298**	P	**Pn**	**03 17 12.4**	**+0.4**
	baz=308						
NWLT				*e*S	**Sn**	**03 17 25.0**	**+0.3**
	baz=308						
NNSB	**Datong**	**0.98**	**277**	*e*P	**Pn**	**03 17 12.1**	**0.0**
	baz=277						
NNSH	**Datong**	**0.98**	**277**	*e*P	**Pn**	**03 17 12.0**	**0.0**
	baz=277						
NNS	**Nan Shan**	**0.99**	**277**	*e*P	**Pn**	**03 17 12.3**	**+0.1**
	baz=277						
YHNB	**Yeheng**	**1.04**	**290**	P	**Pn**	**03 17 13.1**	**+0.3**
	baz=277						
YHNB				*i* S	**Sn**	**03 17 27.3**	**+1.0**
	baz=277						
NSK	**Sanguang**	**1.05**	**290**	P	**Pn**	**03 17 13.3**	**+0.2**
	baz=277						
NSK				*e*S	**Sn**	**03 17 27.2**	**+0.5**
	baz=277						
WHF	**Hehuan Shan**	**1.09**	**261**	*e*P	**Pn**	**03 17 13.5**	**-0.4**
	baz=250						
EGFH	**Guangfu**	**1.13**	**236**	*e*S	**Sn**	**03 17 28.2**	**-0.3**
	baz=227						
IRIF	**Iriomote-Funau**	**1.17**	**89**	P	**Pn**	**03 17 14.3**	**-0.3**
IRIF				*e*S	**Sn**	**03 17 29.3**	**-0.1**
HATJ	**Hateruma jima**	**1.27**	**101**	P	**Pn**	**03 17 15.9**	**0.0**
JKRS	**Kuro-shima**	**1.43**	**93**	P	**Pn**	**03 17 18.5**	**+0.4**
JKRS				S	**Sn**	**03 17 36.9**	**+1.2**
JIJ	**Ishigaki jima**	**1.55**	**88**	P	**Pn**	**03 17 19.5**	**-0.3**
JIJ				*e*S	**Sn**	**03 17 38.4**	**-0.3**
JISG	**Ishigakijimahi**	**1.72**	**81**	P	**Pn**	**03 17 21.6**	**-0.5**
JISG				S	**Sn**	**03 17 42.6**	**-0.3**
JTJ	**Tarama**	**2.08**	**81**	P	**Pn**	**03 17 27.3**	**+0.2**
JTJ				S	**Sn**	**03 17 51.7**	**-0.1**

UPA ***10*** *03:31:09.1±1.3, 5°.50N×76°.28W, h1km±10km, MW4.1*
RSNC ***10*** *03:31:10.7±1.1, 5°.39N×76°.09W, h90km±4km, ML3.4, Mw3.7, Fault plane solution: NP1:φ=68.00000°, δ=18.00000°, λ=-180.00000°.*

ISC 10 03:31:08.8±1.2, 5°.38N±0°.02×76°.12W±0°.03, h103km±7km, n41, σ1s55/77, 5C-12D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBOC	**Ciudad Bolivar**	**0.49**	**12**	⇓*i*P	**Pn**	**03 31 25.1**	**+0.1**
CBOC				*e*S	**Sn**	**03 31 36.5**	**-0.6**
CBOC				*i*		03 31 39.2	
	comp=Z,2μm,0.5s						
PLMC	**San Jos del P**	**0.50**	**199**	⇑*i*P	**Pn**	**03 31 24.9**	**-0.1**
PLMC				*e*S	**Sn**	**03 31 37.1**	**0.0**
PLMC				*i*		03 31 39.6	
	comp=Z,21μm,0.2s						
GUY2C	**Guyana, Caldas**	**0.76**	**102**	⇓*i*P	**Pn**	**03 31 27.7**	**+0.1**
GUY2C				*e*S	**Sn**	**03 31 41.1**	**-0.5**
GUY2C				*i*		03 31 42.2	
	comp=Z,626nm,0.8s						
RREF	**El Recreo**	**0.90**	**122**	⇓*i*P	**Pn**	**03 31 29.4**	**+0.3**
RREF				*e*S	**Sn**	**03 31 44.3**	**0.0**
RREF				*i*		03 31 49.4	
	comp=Z,866nm,0.3s						
HELC	**Santa Helena**	**0.99**	**36**	⇓*i*P	**Pn**	**03 31 29.8**	**0.0**
HELC				*e*S	**Sn**	**03 31 45.3**	**-0.2**
HELC				*i*		03 31 47.6	
	comp=Z,486nm,0.3s						
HELC	**Santa Helena**	**0.99**	**36**	⇓*i*P	**Pn**	**03 31 29.7**	**0.0**
HELC				*e*S	**Sn**	**03 31 44.6**	**-0.8**
TOLC	**Tolima**	**1.12**	**135**	⇓*i*P	**Pn**	**03 31 31.8**	**+0.7**
TOLC				*e*S	**Sn**	**03 31 48.0**	**+0.2**
TOLC				*i*		03 31 50.6	
	comp=Z,2μm,0.7s						
ANIL	**Santa Ana**	**1.14**	**141**	⇓*i*P	**Pn**	**03 31 31.5**	**+0.3**
ANIL				*e*S	**Sn**	**03 31 47.7**	**-0.4**
ANIL				*i*		03 31 51.4	
	comp=Z,4μm,0.3s						
NORC	**Norcasia**	**1.25**	**82**	⇓*i*P	**Pn**	**03 31 32.5**	**+0.2**
NORC				*i*		03 31 50.6	
	comp=Z,860nm,0.2s						
PIZC	**Pizarro, Choco**	**1.31**	**252**	⇑*e*P	**Pn**	**03 31 33.8**	**+0.9**
PIZC				*e*S	**Sn**	**03 31 52.7**	**+1.6**
PIZC				*i*		03 31 58.1	
	comp=Z,627nm,0.6s						
YOTC	**Yotoco, Valle**	**1.41**	**189**	*e*P	**Pn**	**03 31 34.0**	**-0.2**
YOTC				*e*S	**Sn**	**03 31 53.3**	**-0.2**
YOTC				*i*		03 31 54.8	
	comp=Z,378nm,0.4s						
DBBC	**Dabeiba**	**1.63**	**357**	*e*P	**Pn**	**03 31 37.8**	**+0.9**
DBBC				*i*		03 32 02.5	
	comp=Z,860nm,0.2s						
ORTC	**Ortega, Tolima**	**1.70**	**149**	⇓*i*P	**Pn**	**03 31 38.5**	**+0.8**
ORTC				*e*S	**Sn**	**03 32 00.4**	**+0.7**
ORTC				*i*		03 32 06.3	
	comp=Z,355nm,0.7s						
MALC	**Bahia Malaga**	**1.82**	**222**	⇑*e*P	**Pn**	**03 31 40.4**	**+1.2**
MALC				*e*S	**Sn**	**03 32 04.0**	**+1.6**
MALC				*i*		03 32 10.9	
	comp=Z,188nm,0.2s						
ROSC	**El Rosal**	**1.87**	**107**	⇓*e*P	**Pn**	**03 31 41.9**	**+1.7**
ROSC				*e*S	**Sn**	**03 32 05.8**	**+1.8**
ROSC				*i*		03 32 07.8	
	comp=Z,223nm,0.4s						
PTBC	**PUERTO BERRIO,**	**2.01**	**55**	⇓*e*P	**Pn**	**03 31 42.1**	**+0.5**
PTBC				*e*S	**Sn**	**03 32 06.3**	**-0.4**
PTBC				*i*		03 32 08.4	
	comp=Z,404nm,0.4s						
SPBC	**San Pablo de B**	**2.05**	**82**	⇓*i*P	**Pn**	**03 31 42.8**	**+0.6**
SPBC				*e*S	**Sn**	**03 32 07.1**	**-0.7**
SPBC				*i*		03 32 08.6	
	comp=Z,223nm,0.6s						
PRAC	**Prado**	**2.06**	**143**	*e*P	**Pn**	**03 31 43.1**	**+0.8**
PRAC				*e*S	**Sn**	**03 32 07.5**	**-0.5**
PRAC				*i*		03 32 15.9	
	comp=Z,201nm,0.8s						
UREC	**San Jos de Ur**	**2.42**	**14**	*e*P	**Pn**	**03 31 48.6**	**+1.5**
UREC				*e*S	**Sn**	**03 32 13.8**	**-2.5**
UREC				*i*		03 32 24.3	
	comp=Z,91nm,0.8s						
CHIC	**Chingaza**	**2.49**	**107**	*e*P	**Pn**	**03 31 50.1**	**+1.8**
CHIC				*e*S	**Sn**	**03 32 19.7**	**+1.3**
CHIC				*i*		03 32 29.9	
	comp=Z,90nm,0.7s						
VILC	**

JCH				*e*S	Sn	03 57 43.0	-3.0	
NEM2	**Nemuro 2**	**6.04**	**10**	P	Pn	03 56 54.9	-2.9	
NEM2				*e*S	Sn	03 57 58.8	-6.8	
JTKR	**Abashiri--Toko**	**6.55**	**357**	P	Pn	03 57 04.6	-0.3	
JTKR				*e*S	Sn	03 58 13.8	-4.5	

ATH ***10*** *03:58:29.5, 38°.32N×22°.06E, h11km±1km, ML3.3/45, Error ellipse: s-maj=1.2km s-min=0.6km az=7.0*
THE ***10*** *03:58:30.0, 38°.33N×22°.05E, h7km, ML3.3/23, Error ellipse: s-maj=0.6km s-min=0.3km az=328.0*
IDC ***10*** *03:58:35.6±2.0, 38°.28N×22°.18E, h52km±23km, mb3.3/10, mb1 3.4/14, mb1mx3.3/58, mbtmp3.5/14, ML3.3/4, MS2.4/3, Ms1 2.4/3, ms1mx2.1/31, Error ellipse: s-maj=17.5km s-min=13.4km az=63.0*

ISC 10 03:58:29.9±0.7, 38°32N±0°01×22°05E±0°01, h8km±4km, n168, σ1s04/217, mb3.5/9, 10C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.05**	**21**	P	**Pg**	**03 58 31.4**	**-0.2**
TRIZ				S	**Sg**	**03 58 32.5**	**-0.4**
TRIZ	**Trizonia**	**0.05**	**21**	P	**Pg**	**03 58 31.3**	**-0.3**
TRIZ				S	**Sg**	**03 58 32.7**	**-0.2**
ALIK	**Aliki, Aigiali**	**0.08**	**143**	P	**Pg**	**03 58 32.4**	**+0.4**
SERG	**Sergoula**	**0.09**	**2**	P	**Pg**	**03 58 32.1**	**-0.2**
SERG				S	**Sg**	**03 58 33.9**	**0.0**
	163μm,0.3s						
SERG	**Sergoula**	**0.09**	**2**	P	**Pg**	**03 58 32.0**	**-0.2**
SERG				S	**Sg**	**03 58 33.6**	**-0.3**
SERG				AML	AML	03 58 34.1	
SERG				AML	AML	03 58 35.6	
KALE	**Kalithea**	**0.10**	**45**	P	**Pg**	**03 58 32.2**	**-0.2**
KALE				S	**Sg**	**03 58 34.2**	**+0.1**
	111μm,0.4s						
KALE	**Kalithea**	**0.10**	**45**	P	**Pg**	**03 58 32.2**	**-0.2**
KALE				S	**Sg**	**03 58 34.1**	**0.0**
KALE				AML	AML	03 58 35.9	
KALE				AML	AML	03 58 36.4	
LAKA	**Lakka**	**0.10**	**215**	P	**Pg**	**03 58 32.7**	**+0.3**
LAKA				S	**Sg**	**03 58 34.3**	**+0.2**
LAKA				AML	AML	03 58 34.9	
	comp=E,37680μm,0.4s						
LAKA				AML	AML	03 58 39.7	
	comp=N,34190μm,0.4s						
ANX	**Ano Chora**	**0.29**	**339**	P	**Pg**	**03 58 35.5**	**-0.2**
ANX				S	**Sg**	**03 58 40.1**	**+0.5**
	comp=N,38μm,0.4s						
ANX	**Ano Chora**	**0.29**	**339**	P	**Pg**	**03 58 35.5**	**-0.2**
ANX				S	**Sg**	**03 58 39.8**	**+0.2**
ANX				AML	AML	03 58 40.5	
ANX				AML	AML	03 58 42.4	
	comp=E,50652μm,0.3s						
KLV	**Kalavryta, Ach**	**0.29**	**164**	P	**Pg**	**03 58 35.6**	**-0.1**
KLV				S	**Sg**	**03 58 40.3**	**+0.8**
KLV	**Kalavryta, Ach**	**0.29**	**164**	P	**Pg**	**03 58 35.5**	**-0.2**
KLV				AML	AML	03 58 47.0	
	comp=N,5366μm,0.4s						
KLV				AML	AML	03 58 47.0	
	comp=E,5358μm,0.7s						
DLFA	**Delphi**	**0.38**	**66**	P	**Pg**	**03 58 37.0**	**-0.4**
DLFA				S	**Sg**	**03 58 42.9**	**+0.4**
DLFA				AML	AML	03 58 45.3	
	comp=N,12260μm,0.5s						
DLFA				AML	AML	03 58 46.0	
	comp=E,12739μm,0.8s						
GUR	**Goura**	**0.45**	**149**	P	**Pg**	**03 58 38.2**	**-0.5**
GUR				S	**Sb**	**03 58 46.0**	**-1.0**
	comp=E,6μm,0.4s						
GUR	**Goura**	**0.45**	**149**	P	**Pg**	**03 58 38.4**	**-0.3**
GUR				AML	AML	03 58 49.8	
	comp=N,11444μm,0.3s						
GUR				AML	AML	03 58 52.0	
	comp=E,11379μm,0.4s						
DRO	**Drossia**	**0.46**	**216**	P	**Pg**	**03 58 38.9**	**+0.1**
DRO				S	**Sb**	**03 58 46.5**	**-0.6**
	comp=E,8μm,0.6s						
DRO	**Drossia**	**0.46**	**216**	P	**Pg**	**03 58 38.9**	**+0.1**
DRO				AML	AML	03 58 50.2	
	comp=E,10724μm,0.3s						
DRO				AML	AML	03 58 51.3	
	comp=N,17681μm,0.3s						
PVO	**Paravola**	**0.51**	**306**	P	**Pg**	**03 58 39.5**	**-0.2**
PVO				S	**Sg**	**03 58 47.0**	**+0.6**
	comp=N,4μm,0.5s						
PVO	**Paravola**	**0.51**	**306**	P	**Pg**	**03 58 39.7**	**-0.1**
PVO				S	**Sg**	**03 58 47.1**	**+0.7**
PVO				AML	AML	03 58 52.4	
	comp=E,11651μm,0.4s						
PVO				AML	AML	03 58 56.1	
	comp=N,4888μm,0.6s						
RLS	**Riolos of Patr**	**0.53**	**240**	P	**Pg**	**03 58 40.3**	**+0.1**
RLS				S	**Sb**	**03 58 48.9**	**-0.3**
	comp=N,3μm,0.4s						
RLS	**Riolos of Patr**	**0.53**	**240**	P	**Pg**	**03 58 40.2**	**0.0**
RLS				S	**Sg**	**03 58 47.3**	**+0.1**
RLS				AML	AML	03 58 50.8	
	comp=N,6262μm,0.4s						
RLS				AML	AML	03 58 52.1	
	comp=E,7463μm,0.4s						
EVR	**Evrytania**	**0.62**	**342**	P	**Pg**	**03 58 41.4**	**-0.6**
EVR				S	**Sb**	**03 58 51.3**	**-0.7**
	comp=E,8μm,0.2s						
EVR	**Evrytania**	**0.62**	**342**	P	**Pg**	**03 58 41.5**	**-0.4**
EVR				S	**Sg**	**03 58 50.7**	**+0.6**
EVR				AML	AML	03 58 53.7	
	comp=N,17354μm,0.2s						
EVR				AML	AML	03 58 54.0	
	comp=E,13519μm,0.2s						
AXAR	**Agios Charalam**	**0.65**	**47**	P	**Pg**	**03 58 41.6**	**-0.8**
AXAR				S	**Sb**	**03 58 52.0**	**-0.7**
AXAR	**Agios Charalam**	**0.65**	**47**	P	**Pg**	**03 58 41.7**	**-0.8**
AXAR				S	**Sg**	**03 58 51.0**	**0.0**
AXAR				AML	AML	03 58 57.7	
	comp=E,26095μm,0.6s						
AXAR				AML	AML	03 58 58.7	
	comp=N,32992μm,0.6s						
PROD	**Prodromos**	**0.67**	**95**	P	**Pg**	**03 58 42.6**	**-0.2**
PROD	**Prodromos**	**0.67**	**95**	P	**Pg**	**03 58 42.7**	**-0.2**
PROD				AML	AML	03 58 58.5	
	comp=E,4506μm,0.4s						
PROD				AML	AML	03 58 59.1	
	comp=N,3589μm,0.4s						
MAKR	**Makrakomi, Fth**	**0.69**	**5**	P	**Pg**	**03 58 42.6**	**-0.7**
MAKR				S	**Sb**	**03 58 53.5**	**-0.5**
	comp=N,7μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.69**	**5**	P	**Pg**	**03 58 42.6**	**-0.7**
MAKR				S	**Sg**	**03 58 52.7**	**+0.3**
MAKR				AML	AML	03 58 55.0	
	comp=E,13754μm,0.2s						
MAKR				AML	AML	03 58 59.7	
	comp=N,11642μm,0.4s						
AGG	**Agios Georgios**	**0.73**	**17**	P	**Pg**	**03 58 42.9**	**-1.1**
AGG				S	**Sb**	**03 58 54.5**	**-0.6**
	comp=N,3μm,0.2s						
AGG	**Agios Georgios**	**0.73**	**17**	P	**Pg**	**03 58 42.8**	**-1.2**
AGG				S	**Sg**	**03 58 53.9**	**+0.3**
AGG				AML	AML	03 58 56.3	
	comp=N,4627μm,0.2s						
AGG				AML	AML	03 58 57.2	
	comp=E,5916μm,0.2s						
AGG	**Agios Georgios**	**0.73**	**17**	P	**Pg**	**03 58 42.8**	**-1.2**
LTK	**Loutraki**	**0.78**	**112**	P	**Pg**	**03 58 43.6**	**-1.4**
AST1	**Astakos**	**0.79**	**286**	P	**Pg**	**03 58 45.2**	**+0.1**
VTN	**Vitineika**	**0.79**	**240**	P	**Pb**	**03 58 46.0**	**+0.1**
LOUT	**Loutraki**	**0.80**	**114**	P	**Pb**	**03 58 45.7**	**-0.3**
LOUT				AML	AML	03 59 04.2	
	comp=N,464μm,0.6s						
LOUT				AML	AML	03 59 16.8	
	comp=E,416μm,0.6s						
TRIP	**Tripoli**	**0.81**	**168**	P	**Pg**	**03 58 45.0**	**-0.6**
TRIP				S	**Sb**	**03 58 57.2**	**-0.2**
	comp=E,2μm,0.6s						
TRIP	**Tripoli**	**0.81**	**168**	P	**Pg**	**03 58 45.0**	**-0.6**
TRIP				S	**Sg**	**03 58 56.6**	**+0.5**
TRIP				AML	AML	03 59 02.4	
	comp=N,5289μm,0.6s						
TRIP				AML	AML	03 59 02.6	
	comp=E,3338μm,0.4s						
LKR	**Lokris**	**0.81**	**66**	P	**Pg**	**03 58 44.4**	**-1.1**
LKR				S	**Sb**	**03 58 57.6**	**+0.2**
	comp=E,3μm,0.3s						
LKR	**Lokris**	**0.81**	**66**	P	**Pg**	**03 58 44.5**	**-1.1**
LKR				S	**Sb**	**03 58 56.7**	**-0.7**
LKR				AML	AML	03 59 00.3	
	comp=E,6543μm,0.2s						
LKR				AML	AML	03 59 01.3	
	comp=N,4540μm,0.5s						
AMT	**Artemida-Makis**	**0.83**	**199**	P	**Pg**	**03 58 45.8**	**-0.2**
AMT				S	**Sn**	**03 58 58.9**	**-1.5**
	comp=N,5μm,0.5s						
AMT	**Artemida-Makis**	**0.83**	**199**	P	**Pg**	**03 58 46.0**	**0.0**
AMT				S	**Sg**	**03 58 57.0**	**+0.2**
AMT				AML	AML	03 59 04.4	
	comp=N,11676μm,0.4s						
AMT				AML	AML	03 59 07.0	
	comp=E,9522μm,0.5s						
VIL2	**Platees**	**0.96**	**96**	P	**Pb**	**03 58 49.0**	**+0.2**
VIL2				AML	AML	03 59 08.5	
	comp=E,4450μm,0.6s						
VIL2				AML	AML	03 59 11.5	
	comp=N,2848μm,0.6s						
VLX	**Vlachokerasia**	**0.99**	**165**	P	**Pg**	**03 58 48.0**	**-0.9**
VLX				S	**Sb**	**03 59 02.7**	**+0.3**
	comp=N,3μm,0.6s						
VLX	**Vlachokerasia**	**0.99**	**165**	P	**Pg**	**03 58 48.0**	**-0.9**
VLX				S	**Sg**	**03 59 01.0**	**-0.6**
VLX				AML	AML	03 59 04.1	
	comp=E,5478μm,0.6s						
VLX				AML	AML	03 59 08.1	
	comp=N,5407μm,0.7s						
VILL	**Villia**	**1.00**	**99**	P	**Pg**	**03 58 49.0**	**-0.2**
VILL				S	**Sb**	**03 59 03.1**	**+0.2**
	comp=N,2μm,0.7s						
KFL	**Anninata**	**1.02**	**258**	P	**Pg**	**03 58 49.1**	**-0.3**
KFL	**Anninata**	**1.02**	**258**	P	**Pg**	**03 58 49.1**	**-0.3**
KFL				AML	AML	03 59 14.5	
	comp=E,3237μm,0.5s						
KFL				AML	AML	03 59 14.7	
	comp=N,3925μm,0.5s						
MGNA	**Meganis**	**1.04**	**289**	P	**Pb**	**03 58 49.5**	**-0.7**
EVGl	**Lefkada island**	**1.14**	**286**	P	**Pb**	**03 58 50.5**	**-1.2**
EVGl	**Lefkada island**	**1.14**	**286**	P	**Pb**	**03 58 50.6**	**-1.2**
ITM	**Ithomi**	**1.15**	**185**	P	**Pb**	**03 58 50.8**	**-1.1**
ITM				S	**Sn**	**03 59 09.2**	**+1.1**
	comp=N,1μm,0.6s						
ITM	**Ithomi**	**1.15**	**185**	P	**Pb**	**03 58 50.9**	**-1.0**
ITM				AML	AML	03 59 12.4	
	comp=N,2250μm,0.8s						
ITM				AML	AML	03 59 14.4	
	comp=E,1552μm,0.4s						
ITM	**Ithomi**	**1.15**	**185**	P	**Pb**	**03 58 50.9**	**-1.0**
VLS	**Valsamata**	**1.16**	**263**	P	**Pb**	**03 58 51.1**	**-1.1**
VLS				S	**Sn**	**03 59 09.0**	**+0.6**
	comp=E,980nm,0.5s						
VLS	**Valsamata**	**1.16**	**263**	P	**Pb**	**03 58 51.0**	**-1.1**
VLS				AML	AML	03 59 10.6	
	comp=E,1662μm,0.2s						
VLS				AML	AML	03 59 16.3	
	comp=N,2052μm,0.6s						
FSK	**Fiskardo**	**1.18**	**277**	P	**Pb**	**03 58 51.3**	**-1.2**
FSK				S	**Sn**	**03 59 10.0**	**+1.2**
FSK	**Fiskardo**	**1.18**	**277**	P	**Pb**	**03 58 51.6**	**-0.9**
FSK				AML	AML	03 59 15.9	
	comp=N,1265μm,0.7s						
FSK				AML	AML	03 59 22.8	
	comp=E,1979μm,0.6s						
VLMS	**Volimes, Zakyn**	**1.18**	**248**	P	**Pb**	**03 58 51.5**	**-1.0**
VLMS				AML	AML	03 59 19.3	
	comp=E,3634μm,0.4s						
VLMS				AML	AML	03 59 20.8	
	comp=N,4257μm,0.4s						
LKD2	**Lefkada island**	**1.19**	**294**	P	**Pb**	**03 58 52.0**	**-0.7**
LKD2	**Lefkada island**	**1.19**	**294**	P	**Pb**	**03 58 52.1**	**-0.6**
LKD2				AML	AML	03 59 19.0	
	comp=E,2655μm,0.6s						
LKD2				AML	AML	03 59 26.3	
	comp=N,2470μm,0.7s						
THL	**Klokotos Trika**	**1.24**	**359**	P	**Pn**	**03 58 52.1**	**-1.4**
THL				S	**Sn**	**03 59 10.7**	**+0.3**
THL	**Klokotos Trika**	**1.24**	**359**	P	**Pn**	**03 58 52.2**	**-1.4**
THL				S	**Sn**	**03 59 10.2**	**-0.2**
THL				AML	AML	03 59 14.6	
	comp=N,1400μm,0.5s						
THL				AML	AML	03 59 18.1	
	comp=E,1563μm,0.8s						
DID	**Didima**	**1.24**	**131**	P	**Pn**	**03 58 52.5**	**-1.1**
DID				S	**Sn**	**03 59 10.3**	**-0.2**
	comp=E,1μm,0.8s						
DID	**Didima**	**1.24**	**131**	P	**Pn**	**03 58 52.7**	**-0.8**
DID				AML	AML	03 59 14.9	
	comp=E,2103μm,0.4s						
DID				AML	AML	03 59 15.4	
	comp=N,1752μm,0.6s						
ARGA	**Argostoli. Kep**	**1.25**	**264**	P	**Pn**	**03 58 52.5**	**-1.1**
MRKA	**Markates**	**1.26**	**72**	P	**Pn**	**03 58 53.1**	**-0.8**
MRKA				S	**Sg**	**03 59 11.4**	**+0.8**
	comp=N,642nm,1.0s						
MRKA	**Markates**	**1.26**	**72**	P	**Pn**	**03 58 53.5**	**-0.4**
MRKA				AML	AML	03 59 15.5	
	comp=E,1226μm,0.5s						
MRKA				AML	AML	03 59 20.6	
	comp=N,1064μm,0.7s						
KRND	**KRANIDI**	**1.28**	**137**	P	**Pn**	**03 58 53.7**	**-0.3**
KRND	**KRANIDI**	**1.28**	**137**	P	**Pn**	**03 58 53.6**	**-0.4**
KRND				AML	AML	03 59 15.6	
	comp=E,2034μm,0.5s						
KRND				AML	AML	03 59 16.6	
	comp=N,2261μm,0.7s						
KEF4	**Livadi, Kephal**	**1.28**	**268**	P	**Pn**	**03 58 52.9**	**-1.2**
NEO	**Neokhori**	**1.34**	**43**	P	**Pn**	**03 58 54.9**	**-0.1**
NEO				S	**Sg**	**03 59 13.6**	**+0.5**
	comp=N,808nm,0.4s						
NEO	**Neokhori**	**1.34**	**43**	P	**Pn**	**03 58 54.8**	**-0.1**
NEO				AML	AML	03 59 17.1	
	comp=N,2054μm,0.3s						
NEO				AML	AML	03 59 21.6	
	comp=E,1172μm,0.6s						
KEF3	**Kipouria, Keph**	**1.35**	**265**	P	**Pn**	**03 58 54.0**	**-1.0**
ATH	**Athens Observa**	**1.36**	**104**	P	**Pb**	**03 58 55.3**	**-0.3**
ATH				S	**Sg**	**03 59 14.5**	**+0.9**
	comp=E,675nm,0.5s						
ATH	**Athens Observa**	**1.36**	**104**	P	**Pb**	**03 58 55.2**	**-0.3**
ATH				AML	AML	03 59 24.0	
	comp=N,1103μm,0.5s						
ATH				AML	AML	03 59 25.3	
	comp=E,1337μm,0.5s						
XOR	**Xorichti**	**1.37**	**40**	P	**Pn**	**03 58 55.2**	**-0.2**
XOR				S	**Sn**	**03 59 13.5**	**-0.2**
	comp=E,788nm,0.7s						
XOR	**Xorichti**	**1.37**	**40**	P	**Pn**	**03 58 55.1**	**-0.2**
XOR				AML	AML	03 59 19.7	
	comp=E,1295μm,0.7s						
XOR				AML	AML	03 59 27.1	
	comp=N,1867μm,0.7s						
SKIA	**Skiathos**	**1.39**	**52**	P	**Pn**	**03 58 55.5**	**-0.1**
SKIA				AML	AML	03 59 20.2	
	comp=N,2306μm,0.8s						
SKIA				AML	AML	03 59 20.3	
	comp=E,1282μm,0.7s						
ATHU	**Athens Univers**	**1.41**	**104**	P	**Pn**	**03 58 55.8**	**-0.1**
ATHU				AML	AML	03 59 20.1	
	comp=N,598μm,0.8s						
ATHU				AML	AML	03 59 23.6	
	comp=E,240μm,0.5s						
PYL	**PYLOS**	**1.45**	**190**	P	**Pn**	**03 58 56.1**	**-0.2**
PYL	**PYLOS**	**1.45**	**190**	P	**Pn**	**03 58 56.2**	**-0.2**
PYL				AML	AML	03 59 23.3	
	comp=N,1417μm,0.5s						
PYL				AML	AML	03 59 25.3	
	comp=E,1776μm,0.8s						
VLY	**Voula,Athens**	**1.45**	**108**	P	**Pn**	**03 58 56.5**	**+0.1**
VLY				S	**Sb**	**03 59 15.6**	**-0.2**
	comp=E,485nm,0.6s						
VLY	**Voula.Athens**	**1.45**	**108**	P	**Pb**	**03 58 56.6**	**-0.5**
PTL	**Penteli**	**1.46**	**100**	P	**Pn**	**03 58 56.5**	**0.0**
PTL	**Penteli**	**1.46**	**100**	P	**Pn**	**03 58 56.3**	**-0.2**
PTL				AML	AML	03 59 23.2	
	comp=E,812μm,0.5s						
PTL				AML	AML	03 59 27.3	
	comp=N,963μm,0.6s						
DION	**Dionisos Attik**	**1.50**	**99**	P	**Pn**	**03 58 57.3**	**+0.2**
DION				S	**Sb**	**03 59 16.8**	**-0.4**
DION	**Dionisos Attik**	**1.50**	**99**	P	**Pb**	**03 58 57.5**	**-0.5**
DION				AML	AML	03 59 23.3	
	comp=E,2669μm,0.4s						
DION				AML	AML	03 59 23.8	
	comp=N,2404μm,0.6s						
JAN	**Janina**	**1.63**	**325**	P	**Pg**	**03 59 01.0**	**-0.2**
JAN				AML	AML	03 59 32.0	
	comp=N,1250μm,0.6s						
JAN				AML	AML	03 59 32.0	
	comp=E,1660μm,1.3s						
AOS	**Alonnisos**	**1.66**	**59**	P	**Pn**	**03 58 58.6**	**-0.7**
AOS	**Alonnisos**	**1.66**	**59**	*e*P	**Pn**	**03 58 59.2**	**-0.1**
KPRO	**Kipourio**	**1.72**	**342**	P	**Pb**	**03 59 01.2**	**-0.5**
KPRO				AML	AML	03 59 34.9	
	comp=N,1463μm,0.6s						
KPRO				AML	AML	03 59 39.2	
	comp=E,1711μm,1.2s						
VLI	**Veliai**	**1.75**	**156**	P	**Pn**	**03 59 00.9**	**+0.4**
VLI	**Veliai**	**1.75**	**156**	P	**Pb**	**03 59 01.1**	**-1.1**
VLI				AML	AML	03 59 36.7	
	comp=E,1448μm,0.8s						
VLI				AML	AML	03 59 38.3	
	comp=N,1062μm,0.8s						
IGT	**Igoumenitsa**	**1.81**	**313**	P	**Pb**	**03 59 03.7**	**+0.5**
KARY	**Karystos**	**1.90**	**98**	P	**Pn**	**03 59 03.0**	**+0.4**
KARY	**Karystos**	**1.90**	**98**	P	**Pn**	**03 59 03.0**	**+0.4**
KARY				AML	AML	03 59 31.7	
	comp=E,346μm,0.6s						
KARY				AML	AML	03 59 35.7	
	comp=N,405μm,0.6s						
KZN	**Kozani**	**1.99**	**354**	P	**Pn**	**03 59 04.3**	**+0.4**
KZN	**Kozani**	**1.99**	**354**	P	**Pn**	**03 59 05.0**	**+1.1**
KZN				AML	AML	03 59 38.4	
	comp=N,669μm,0.4s						
KZN				AML	AML	03 59 40.6	
	comp=E,795μm,0.5s						
PENT	**Pentalofos**	**2.00**	**340**	P	**Pb**	**03 59 06.4**	**-0.1**
PENT				AML	AML	03 59 41.2	
	comp=N,1091μm,0.6s						
PENT				AML	AML	03 59 47.8	
	comp=E,763μm,0.9s						
PAIG	**Paliouri**	**2.04**	**38**	P	**Pn**	**03 59 03.6**	**-0.9**
KTHA	**Kythira Island**	**2.21**	**158**	P	**Pb**	**03 59 08.4**	**-1.8**
KTHA	**Kythira Island**	**2.21**	**158**	*e*P	**Pn**	**03 59 07.3**	**+0.4**
NEST	**Nestorio**	**2.23**	**340**	P	**Pb**	**03 59 09.3**	**-1.1**
KEK	**Kerkira**	**2.24**	**309**	P	**Pb**	**03 59 09.0**	**-1.5**
SERI	**Serifos**	**2.25**	**120**	P	**Pn**	**03 59 07.7**	**+0.3**
HORT	**Hortiatis**	**2.41**	**19**	*e*P	**Pn**	**03 59 09.1**	**-0.6**
ANKY	**Antikythira Is**	**2.65**	**157**	P	**Pn**	**03 59 13.9**	**+1.1**
ANKY	**Antikythira Is**	**2.65**	**157**	P	**Pn**	**03 59 13.8**	**+1.0**
KNT	**Kendrikon**	**2.91**	**13**	P	**Pn**	**03 59 17.0**	**+0.5**
KNT	**Kendrikon**	**2.91**	**13**	*e*P	**Pn**	**03 59 15.8**	**-0.7**
APE	**Apeiranthos**	**3.03**	**113**	⇓P	**Pn**	**03 59 18.2**	**0.0**
APE	**Apeiranthos**	**3.03**	**113**	*e*P	**Pn**	**03 59 19.5**	**+1.3**
RODP	**Rodopos**	**3.08**	**153**	*e*P	**Pn**	**03 59 19.6**	**+0.8**
SIGR	**SIGRI**	**3.10**	**72**	*e*P	**Pn**	**03 59 20.2**	**+1.1**
CHOS	**Chios island**	**3.15**	**88**	*e*P	**Pn**	**03 59 20.9**	**+1.1**
IMMV	**Iera Moni Meta**	**3.25**	**151**	*e*P	**Pn**	**03 59 22.3**	**+1.2**
SANT	**Santorini**	**3.34**	**125**	⇑P	**Pn**	**03 59 20.8**	**-1.7**
SANT	**Santorini**	**3.34**	**125**	*e*P	**Pn**	**03 59 23.9**	**+1.5**
KNDR	**Palaiochora Ch**	**3.35**	**156**	*e*P	**Pn**	**03 59 23.1**	**+0.6**
TIR	**Tirane**	**3.46**	**332**	⇓P	**Pb**	**03 59 27.7**	**-3.6**
MMB	**Musomiste**	**3.51**	**21**	*e*P	**Pn**	**03 59 24.5**	**-0.2**
URLA	**Izmir**	**3.57**	**88**	*e*P	**Pn**	**03 59 27.0**	**+1.4**
KKB	**Krupnik**	**3.63**	**12**	*e*P	**Pn**	**03 59 29.0**	**+2.7**
IDI	**Anoyia**	**3.79**	**142**	P	**Pn**	**03 59 28.9**	**+0.3**
	comp=E,2.2nm,0.3s,baz=322,slow=13,SNR=10						
IDI				S	**Sn**	**04 00 13.3**	**-0.1**
	comp=E,1.8nm,0.3s,baz=115,slow=18,SNR=3.8						
IDI	**Anoyia**	**3.79**	**142**	⇑P	**Pn**	**03 59 28.5**	**-0.1**
IDI	**Anoyia**	**3.79**	**142**	*e*P	**Pn**	**03 59 29.9**	**+1.3**
GVD	**Gavdhos**	**3.84**	**154**	*e*P	**Pn**	**03 59 30.6**	**+1.3**
GELI	**Tayfur-Gelibol**	**4.01**	**57**	*e*P	**Pn**	**03 59 32.8**	**+1.3**
TIP	**Timpagrande**	**4.23**	**283**	⇑P	**Pn**	**03 59 36.6**	**+2.0**
BODT	**Bodrum**	**4.36**	**105**	*e*P	**Pn**	**03 59 38.0**	**+1.6**
VTS	**Vitosha**	**4.38**	**12**	⇑P	**Pn**	**03 59 38.8**	**+1.9**
VTS	**Vitosha**	**4.38**	**12**	*e*P	**Pn**	**03 59 37.9**	**+1.0**
AYDB	**Zeytinkoy-Aydi**	**4.62**	**93**	*e*P	**Pn**	**03 59 41.9**	**+1.8**
PDG	**Podgorica**	**4.62**	**333**	⇑P	**Pn**	**03 59 42.8**	**+2.8**
KARP	**Karpathos**	**4.94**	**123**	*e*P	**Pn**	**03 59 46.7**	**+2.3**
DBRK	**Dubrovnik**	**5.26**	**327**	Sn	**Sn**	**04 00 49.4**	**-0.2**
PLVB	**Pleven**	**5.42**	**20**	⇑P	**Pn**	**03 59 54.0**	**+3.1**
STON	**Ston**	**5.62**	**325**	Sn	**Sn**	**04 00 58.5**	**0.0**
MAKA	**Makarska**	**6.26**	**324**	Sn	**Sn**	**04 01 13.7**	**-0.4**
HVAR	**Hvar**	**6.45**	**321**	Sn	**Sn**	**04 01 17.1**	**-1.7**
MDVR	**Moldovita**	**6.46**	**358**	⇓P	**Pn**	**04 00 07.6**	**+2.4**
HERR	**Herculane**	**6.56**	**2**	⇑P	**Pn**	**04 00 09.5**	**+2.9**
KIJV	**Kijevo**	**7.10**	**325**	*e*Pn	**Pn**	**04 00 13.5**	**-0.4**
KIJV				Sn	**Sn**	**04 01 33.4**	**-1.4**
ZIRJ	**Zirje**	**7.20**	**320**	*e*Pn	**Pn**	**04 00 15.9**	**+0.5**
ZIRJ				Sn	**Sn**	**04 01 35.5**	**-1.8**
BZS	**Buzias**	**7.30**	**358**	⇑P	**Pn**	**04 00 19.6**	**+3.0**
MORI	**Morici**	**7.32**	**321**	*e*Pn	**Pn**	**04 00 17.5**	**+0.5**
MORI				Sn	**Sn**	**04 01 38.6**	**-1.7**
VOIR		**7.45**	**16**	⇓P	**Pn**	**04 00 20.0**	**+1.0**
MLR	**Muntele Rosu**	**7.73**	**21**	P	**Pn**	**04 00 24.3**	**+1.6**
	comp=E,0.2nm,0.3s,baz=177,slow=5.0,SNR=2.1						
MLR	**Muntele Rosu**	**7.73**	**21**	⇑P	**Pn**	**04 00 24.7**	**+1.9**
UDBI	**Udbina**	**7.79**	**325**	*e*Pn	**Pn**	**04 00 24.8**	**+1.2**
UDBI				Sn	**Sn**	**04 01 51.0**	**-1.0**
NVLJ	**Novalja**	**8.24**	**321**	*e*Pn	**Pn**	**04 00 30.2**	**+0.6**
NVLJ				Sn	**Sn**	**04 02 00.4**	**-2.5**
PLOR	**Plostina**	**8.26**	**23**	⇓P	**Pn**	**04 00 32.5**	**+2.5**
VRI	**Vrincioaia**	**8.30**	**23**	⇑P	**Pn**	**04 00 32.7**	**+2.2**
BRTR	**Keskin Array B**	**9.13**	**78**	P	**Pn**	**04 00 44.5**	**+2.5**
	comp=E,0.1nm,0.3s,baz=256,slow=12,SNR=5.4						
BRTR				LR	LR	04 03 57.6	
	comp=E,12nm,21.8s,baz=56,slow=36						
VRAC	**Vranov**	**11.66**	**342**	LR	LR	04 06 23.4	
	comp=E,28nm,20.3s,baz=176,slow=40						
GERES	**GERESS Array B**	**12.13**	**333**	P	Pn	04 01 28.6

*NEIC **10** 04:03:32, 16°.74S×73°.10W, h60km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-0.95; $M_{\theta\theta}$-1.18; $M_{\phi\phi}$2.13; $M_{r\theta}$8.66; $M_{r\phi}$-2.61; $M_{\theta\phi}$-2.19; Fault plane solution: $M_0$9.48000×10^{16} NP1:ϕ_s189.00000°, δ19.00000°, λ-7.00000°. NP2:ϕ_s287.00000°, δ87.00000°, λ-109.00000°. Principal axes: T 9.2178, Plg40.0000°, Azm34.0000°; N 0.5135, Plg19.0000°, Azm287.0000°; P -9.7313, Plg44.0000°, Azm178.0000°:*

ISC 10 04:03:24.7±0.3, 16°.58S±0°.04×72°.90W±0°.05, h57km, n1047, σ1§19/855, mb5.3/270, MS4.3/29, 19C-9D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**3.02**	**127**	*i*P		**Pn**	**Pn**	**04 04 13.1**	**+3.0**
AP01				*e*S		**Sn**	**Sn**	**04 04 47.6**	**+2.5**
AP01				IAML				04 04 51.4	
	comp=N,12μm,0.3s								
AP01	**Chacalluta**	**3.02**	**127**	Pn		**Pn**	**Pn**	**04 04 10.5**	**+0.3**
AP01				Sn		**Sn**	**Sn**	**04 04 45.5**	**+0.3**
PB12	**IPOC Station P**	**3.18**	**130**	*e*P		**Pn**	**Pn**	**04 04 14.9**	**+2.5**
PB12				*e*S		**Sn**	**Sn**	**04 04 50.4**	**+1.2**
PB12				IAML				04 04 53.0	
	comp=E,7μm,0.4s								
PB12	**IPOC Station P**	**3.18**	**130**	Pn		**Pn**	**Pn**	**04 04 13.7**	**+1.3**
PB12				Sn		**Sn**	**Sn**	**04 04 50.4**	**+1.2**
PSGC	**Pisagua**	**4.00**	**139**	*i*P		**Pn**	**Pn**	**04 04 25.5**	**+1.8**
PSGC				*e*S		**Sn**	**Sn**	**04 05 07.6**	**-1.7**
PSGCX	**Pisagua**	**4.00**	**139**			**Pn**	**Pn**	**04 04 25.1**	**+1.5**
PSGCX				Sn		**Sn**	**Sn**	**04 05 09.0**	**-0.3**
MNMC	**Minye Minye**	**4.04**	**129**	*e*P		**Pn**	**Pn**	**04 04 27.1**	**+2.7**
MNMC				*e*S		**Sn**	**Sn**	**04 05 13.0**	**+2.4**
MNMC	**Minye Minye**	**4.04**	**129**			**Pn**	**Pn**	**04 04 26.6**	**+2.2**
MNMC				Sn		**Sn**	**Sn**	**04 05 12.3**	**+1.7**
PB11	**IPOC Station P**	**4.42**	**136**	*i*P		**Pn**	**Pn**	**04 04 31.5**	**+2.1**
PB11				*e*S		**Sn**	**Sn**	**04 05 19.3**	**-0.4**
PB11	**IPOC Station P**	**4.42**	**136**	Pn		**Pn**	**Pn**	**04 04 30.2**	**+0.7**
LPAZ	**La Paz**	**4.58**	**87**	*e*P		Pn		04 04 37.9	+5.8
LPAZ	**La Paz**	**4.58**	**87**			**Pn**	**Pn**	**04 04 35.7**	**+3.6**
GO01	**Chusmiza**	**4.67**	**132**	*e*P		**Pn**	**Pn**	**04 04 36.2**	**+3.0**
GO01				*e*S		**Sn**	**Sn**	**04 05 28.4**	**+1.9**
GO01	**Chusmiza**	**4.67**	**132**			**Pn**	**Pn**	**04 04 35.0**	**+1.7**
TA01	**Diego Aracena**	**4.73**	**147**			**Pn**	**Pn**	**04 04 34.4**	**+0.9**
PATCX	**Punta Patache**	**4.96**	**149**			**Pn**	**Pn**	**04 04 37.2**	**+0.5**
PB08	**IPOC Station P**	**5.02**	**135**	Pn		**Pn**	**Pn**	**04 04 39.6**	**+1.8**
PB01	**IPOC Station P**	**5.49**	**145**			**Pn**	**Pn**	**04 04 44.6**	**+0.5**
PB07	**IPOC Station P**	**5.86**	**151**			**Pn**	**Pn**	**04 04 49.4**	**+0.2**
NNA	**Nana**	**5.95**	**320**	P		**Pn**	**Pn**	**04 04 52.3**	**+1.9**
	comp=E,33nm,0.3s,baz=157,slow=11,SNR=32								
NNA				S		**Sn**	**Sn**	**04 05 57.2**	**-0.1**
	comp=E,222nm,0.3s,baz=196,slow=7.7,SNR=9.0								
NNA				LR		LR	LR	04 07 04.7	
	comp=E,2μm,19.9s,baz=158,slow=37								
NNA	**Nana**	**5.95**	**320**	*e*P		**Pn**	**Pn**	**04 04 52.2**	**+1.8**
NNA	**Nana**	**5.95**	**320**	Pn		**Pn**	**Pn**	**04 04 49.8**	**-0.6**
PB09	**IPOC Station P**	**6.24**	**147**			**Pn**	**Pn**	**04 04 55.2**	**+0.9**
PB04	**IPOC Station P**	**6.29**	**156**			**Pn**	**Pn**	**04 04 55.2**	**+0.1**
PB06	**IPOC Station P**	**6.86**	**153**			**Pn**	**Pn**	**04 05 02.9**	**+0.1**
LVC	**Limon Verde**	**7.08**	**149**	P		**Pn**	**Pn**	**04 05 08.6**	**+2.5**
	comp=E,55nm,0.3s,baz=332,slow=8.8,SNR=228								
LVC				S		**Sn**	**Sn**	**04 06 25.9**	**+0.5**
	comp=E,215nm,0.3s,baz=96,slow=17,SNR=21								
LVC	**Limon Verde**	**7.08**	**149**	P		**Pn**	**Pn**	**04 05 07.3**	**+1.2**
LVC	**Limon Verde**	**7.08**	**149**	Pn		**Pn**	**Pn**	**04 05 07.2**	**+1.2**
LVC				Sn		**Sn**	**Sn**	**04 06 24.0**	**-1.4**
PB10	**IPOC Station P**	**7.24**	**163**	Pn		**Pn**	**Pn**	**04 05 08.1**	**+0.1**
GO02	**Mina Guanaco**	**9.09**	**161**	Pn		**Pn**	**Pn**	**04 05 33.1**	**-0.3**
AC01	**Pan de Azucar**	**9.76**	**168**			**Pn**	**Pn**	**04 05 42.1**	**-0.4**
AC02	**Maricunga**	**10.79**	**162**			**Pn**	**Pn**	**04 05 57.5**	**+0.5**
ATAH	**Atahualpa**	**10.81**	**330**	P		**Pn**	**Pn**	**04 05 58.9**	**+1.6**
	comp=E,0.2nm,0.3s,baz=119,slow=15,SNR=2.5								
ATAH				S		**Sn**	**Sn**	**04 07 60.0**	**+2.9**
	baz=38,slow=5.6,SNR=1.8								
GO03	**Copiap**	**11.24**	**168**	Pn		**Pn**	**Pn**	**04 06 02.9**	**+0.2**
AC04	**Llanos de Chal**	**11.70**	**172**	Pn		**Pn**	**Pn**	**04 06 07.1**	**-1.8**
SAML	**Samuel**	**12.13**	**52**	P		**Pn**	**Pn**	**04 06 13.5**	**-1.4**
SAML	**Samuel**	**12.13**	**52**			**Pn**	**Pn**	**04 06 13.5**	**-1.4**
AC05	**El Transito**	**12.44**	**169**	Pn		**Pn**	**Pn**	**04 06 19.0**	**-0.2**
VILB	**Vilhena**	**12.80**	**75**	*e*P		**Pn**	**Pn**	**04 06 22.9**	**-1.1**
VILB	**Vilhena**	**12.80**	**75**	*e*P		**Pn**	**Pn**	**04 06 22.9**	**-1.1**
PTLB	**Pontes e Lacer**	**13.28**	**87**	*e*P		**Pn**	**Pn**	**04 06 30.7**	**+0.2**
PTLB	**Pontes e Lacer**	**13.28**	**87**	*e*P		**Pn**	**Pn**	**04 06 30.7**	**+0.2**
GO04	**Tololo Observa**	**13.67**	**172**	Pn		**Pn**	**Pn**	**04 06 37.5**	**+1.5**
CFA	**Coronel Fontan**	**15.55**	**165**	P		**P**	**P**	**04 07 02.3**	**-1.5**
	comp=E,4.5nm,0.3s,baz=343,slow=12,SNR=34								
CFA				S		**Sn**	**Sn**	**04 09 46.2**	**-5.6**
	comp=E,0.4nm,0.3s,baz=285,slow=20,SNR=2.0								
SALV	**Santo Antonio**	**16.53**	**90**	*e*P		**Pn**	**Pn**	**04 07 12.7**	**-0.3**
SALV	**Santo Antonio**	**16.53**	**90**	*e*P		**Pn**	**Pn**	**04 07 12.7**	**-0.3**
PTLC	**Puerto Leguiza**	**16.75**	**353**	*e*P		**Pn**	**Pn**	**04 07 12.6**	**-3.0**
MT05	**Renca**	**16.86**	**174**	P		**Pn**	**Pn**	**04 07 15.2**	**-1.7**
MT01	**Popeta**	**17.28**	**175**	P		**Pn**	**Pn**	**04 07 20.8**	**-1.3**
CPUP	**Villa Florida**	**17.43**	**126**	P		**P**	**P**	**04 07 25.4**	**+0.9**
	comp=E,0.2nm,0.3s,baz=283,slow=6.1,SNR=4.5								
CPUP				LR		LR	LR	04 14 51.3	
	comp=E,527nm,21.0s,baz=301,slow=39								
CPUP	**Villa Florida**	**17.43**	**126**	P		**Pn**	**Pn**	**04 07 24.0**	**+0.1**
CLDB	**Colider**	**17.55**	**73**	*e*P		**Pn**	**Pn**	**04 07 24.4**	**-1.2**
CLDB	**Colider**	**17.55**	**73**	*e*P		**Pn**	**Pn**	**04 07 24.4**	**-1.2**
H03N1	**Juan Fernandez**	**17.65**	**197**	T		T	T	04 26 10.1	
	baz=17,slow=74,SNR=5024								
H03N2	**Juan Fernandez**	**17.65**	**197**	T		T	T	04 26 10.3	
	baz=17,slow=74,SNR=2340								
H03N3	**Juan Fernandez**	**17.66**	**197**	T		T	T	04 26 09.5	
	baz=17,slow=74,SNR=2563								
MACA	**Manacapuru-AM**	**17.94**	**43**	*e*P		**P**	**P**	**04 07 27.5**	**-2.8**
MACA				*e*S		**Sn**	**Sn**	**04 10 47.9**	**-1.9**
MACA	**Manacapuru-AM**	**17.94**	**43**	*e*P		**P**	**P**	**04 07 27.5**	**-2.8**
MACA				*e*S		**Sn**	**Sn**	**04 10 47.9**	**-1.9**
GCUF	**Volcan Galeras**	**18.23**	**346**	*e*P		**Pn**	**Pn**	**04 07 35.3**	**+1.0**
MACC	**Macarena, Meta**	**18.63**	**357**	*e*P		**P**	**P**	**04 07 36.1**	**-1.7**
SOTA	**Rioblanco**	**18.95**	**349**	*e*P		**Pn**	**Pn**	**04 07 46.7**	**+3.7**
BBAC	**Balboa, Cauca**	**18.97**	**347**	*e*P		**P**	**P**	**04 07 39.1**	**-2.7**
PCON	**Cinco Dias**	**19.10**	**349**	*e*P		**Pn**	**Pn**	**04 07 46.7**	**+1.8**
C2SB	**Chapadao do Su**	**19.24**	**99**	*e*P		**P**	**P**	**04 07 45.3**	**+0.8**
C2SB	**Chapadao do Su**	**19.24**	**99**	*e*P		**P**	**P**	**04 07 45.3**	**+0.8**
BETC	**Betania**	**19.30**	**352**	*e*P		**Pn**	**Pn**	**04 07 48.2**	**+1.5**
NPGB	**Novo Progresso**	**19.59**	**63**	*e*P		**P**	**P**	**04 07 47.5**	**-0.9**
NPGB				*e*S		**Sn**	**Sn**	**04 11 29.3**	**-0.4**
NPGB	**Novo Progresso**	**19.59**	**63**	*e*P		**P**	**P**	**04 07 47.5**	**-0.9**
NPGB				*e*S		**Sn**	**Sn**	**04 11 29.3**	**-0.4**
ITQB	**Itaqui**	**19.81**	**134**	*e*P		**Pn**	**Pn**	**04 07 52.3**	**-0.3**
ITQB	**Itaqui**	**19.81**	**134**	*e*P		**Pn**	**Pn**	**04 07 52.3**	**-0.3**
TRCB	**Terra Rica**	**20.05**	**111**	*e*P		Pn		04 07 55.5	-0.1
TRCB	**Terra Rica**	**20.05**	**111**	*e*P		Pn		04 07 55.5	-0.1
BI02	**San Fabin de**	**20.06**	**176**	IAmb		IAmb	IAmb	04 08 00.8	
	comp=Z,72nm,0.9s								
BI03	**Tigo**	**20.19**	**180**	IAmb		IAmb	IAmb	04 08 00.4	
	comp=Z,98nm,1.1s								
PTGA	**Pitinga**	**20.25**	**40**	P		**P**	**P**	**04 07 54.8**	**-0.8**
	comp=Z,50nm,0.6s,baz=210,slow=14,SNR=53								
PTGA	**Pitinga**	**20.25**	**40**	P		**P**	**P**	**04 07 55.3**	**-0.3**
PTGA				IAmb		IAmb	IAmb	04 08 00.9	
	comp=Z,52nm,0.6s								
PTGA	**Pitinga**	**20.25**	**40**	*e*P		**P**	**P**	**04 07 55.0**	**-0.6**
PTGA	**Pitinga**	**20.25**	**40**	*e*P		**P**	**P**	**04 07 55.0**	**-0.6**
PRAC	**Prado**	**20.26**	**354**	*e*P		Pn		04 07 59.6	+1.6
ARAG	**Araguaiana, MT**	**20.27**	**91**	*e*P		**P**	**P**	**04 07 56.0**	**+0.2**
ARAG	**Araguaiana, MT**	**20.27**	**91**	*e*P		**P**	**P**	**04 07 56.0**	**+0.2**
ORTC	**Ortega, Tolima**	**20.49**	**353**	*e*P		Pn		04 07 59.6	-1.1
ITTB	**Itaituba**	**20.76**	**56**	*e*P		**P**	**P**	**04 07 59.2**	**-1.8**
ITTB	**Itaituba**	**20.76**	**56**	*e*P		**P**	**P**	**04 07 59.2**	**-1.8**
PCMB	**Pacaembu**	**21.04**	**107**	*e*P		**P**	**P**	**04 08 05.0**	**+0.9**
PCMB	**Pacaembu**	**21.04**	**107**	*e*P		**P**	**P**	**04 08 05.0**	**+0.9**
CHIC	**Chingaza**	**21.09**	**358**	*e*P		**P**	**P**	**04 08 05.7**	**+0.7**
ROSC	**El Rosal**	**21.32**	**356**	P		**P**	**P**	**04 08 08.8**	**+1.2**
	comp=Z,46nm,0.7s,baz=178,slow=4.6,SNR=34								
ROSC				LR		LR	LR	04 17 04.6	
	comp=Z,2μm,21.6s,baz=205,slow=38								
ROSC	**El Rosal**	**21.32**	**356**	*e*P		**P**	**P**	**04 08 08.7**	**+1.2**
ROSC	**El Rosal**	**21.32**	**356**	P		**P**	**P**	**04 08 07.2**	**-0.3**
ROSC				IAmb		IAmb	IAmb	04 08 21.6	
	comp=Z,102nm,1.1s								
RREF	**El Recreo**	**21.48**	**353**	*e*P		**P**	**P**	**04 08 11.7**	**+2.4**
PLMC	**San Jos del P**	**21.61**	**351**	*e*P		**P**	**P**	**04 08 10.2**	**+0.1**
ITRB	**Iturama**	**21.64**	**102**	*e*P		**P**	**P**	**04 08 12.0**	**+1.5**
ITRB	**Iturama**	**21.64**	**102**	*e*P		**P**	**P**	**04 08 12.0**	**+1.5**
GUY2C	**Guyana, Caldas**	**21.80**	**353**	*e*P		**P**	**P**	**04 08 14.0**	**+1.4**
NORC	**Norcasia**	**22.08**	**355**	*e*P		**P**	**P**	**04 08 15.5**	**+0.2**
SPBC	**San Pablo de B**	**22.12**	**357**	*e*P		**P**	**P**	**04 08 15.5**	**-0.1**
LC01	**Cunco**	**22.26**	**178**	P		**P**	**P**	**04 08 17.4**	**+0.4**
LC01				IAmb		IAmb	IAmb	04 08 20.5	
	comp=Z,174nm,1.1s								
RUSC	**La Rusia**	**22.32**	**360**	*e*P		**P**	**P**	**04 08 20.1**	**+1.7**
CPSB	**Cacapava Do Su**	**22.49**	**131**	*e*P		**P**	**P**	**04 08 19.6**	**+0.1**
CPSB	**Cacapava Do Su**	**22.49**	**131**	*e*P		**P**	**P**	**04 08 19.6**	**+0.1**
CBOC	**Ciudad Bolivar**	**22.51**	**352**	*e*P		**P**	**P**	**04 08 20.1**	**+0.1**
HELC	**Santa Helena**	**22.77**	**353**	*e*P		**P**	**P**	**04 08 20.1**	**-2.9**
FRTB	**Fartura**	**22.92**	**111**	*e*P		**P**	**P**	**04 08 24.8**	**+0.7**
FRTB	**Fartura**	**22.92**	**111**	*e*P		**P**	**P**	**04 08 24.8**	**+0.7**
PTBC	**PUERTO BERRIO,**	**23.02**	**356**	*e*P		**P**	**P**	**04 08 23.9**	**-1.3**
PLTB	**Pedras Altas**	**23.15**	**134**	*e*P		**P**	**P**	**04 08 27.9**	**+1.6**
PLTB	**Pedras Altas**	**23.15**	**134**	*e*P		**P**	**P**	**04 08 27.9**	**+1.6**
MALB	**Monte Alegre**	**23.46**	**53**	*e*P		**P**	**P**	**04 08 28.6**	**-0.8**
MALB	**Monte Alegre**	**23.46**	**53**	*e*P		**P**	**P**	**04 08 28.6**	**-0.8**
IPMB	**Ipameri, GO**	**23.61**	**97**	*e*P		**P**	**P**	**04 08 30.6**	**-0.2**
IPMB	**Ipameri, GO**	**23.61**	**97**	*e*P		**P**	**P**	**04 08 30.6**	**-0.2**
CNLB	**Canela**	**23.88**	**126**	*e*P		**P**	**P**	**04 08 34.5**	**+1.3**
CNLB	**Canela**	**23.88**	**126**	*e*P		**P**	**P**	**04 08 34.5**	**+1.3**
BDFB	**Brasilia**	**23.92**	**91**	P		**P**	**P**	**04 08 33.8**	**0.0**
	comp=Z,16nm,0.5s,baz=271,slow=10,SNR=38								
BDFB				LR		LR	LR	04 18 48.0	
	comp=Z,211nm,21.9s,baz=283,slow=39								
BDFB	**Brasilia**	**23.92**	**91**	P		**P**	**P**	**04 08 33.6**	**-0.1**
BDFB				pmax		pmax	pmax		
	comp=Z,23nm,0.6s								
BDFB	**Brasilia**	**23.92**	**91**	P		**P**	**P**	**04 08 33.6**	**-0.1**
ZARC	**Zaragoza, Cauc**	**23.99**	**355**	*e*P		**P**	**P**	**04 08 35.2**	**+1.0**
PLCA	**Paso Flores**	**24.16**	**176**	P		**P**	**P**	**04 08 36.5**	**+0.9**
	comp=Z,54nm,0.9s,baz=348,slow=10,SNR=46								
PLCA	**Paso Flores**	**24.16**	**176**	P		**P**	**P**	**04 08 35.9**	**+0.3**
PLCA				IAmb		IAmb	IAmb	04 08 39.1	
	comp=Z,60nm,0.9s								
PLCA	**Paso Flores**	**24.16**	**176**	*e*P		**P**	**P**	**04 08 36.7**	**+1.0**
PLCA	**Paso Flores**	**24.16**	**176**	*e*P		**P**	**P**	**04 08 36.7**	**+1.0**
PEXB	**Peixe**	**24.23**	**83**	*e*P		**P**	**P**	**04 08 36.6**	**+0.1**
PEXB	**Peixe**	**24.23**	**83**	*e*P		**P**	**P**	**04 08 36.6**	**+0.1**
UREC	**San Jos de Ur**	**24.31**	**354**	*e*P		**P**	**P**	**04 08 36.0**	**-1.2**
PRPB	**Parauapebas**	**24.85**	**68**	*e*P		**P**	**P**	**04 08 41.6**	**-0.5**
PRPB	**Parauapebas**	**24.85**	**68**	*e*P		**P**	**P**	**04 08 41.6**	**-0.5**
SMLC	**San Martin de**	**25.24**	**357**	*e*P		**P**	**P**	**04 08 46.6**	**+1.0**
SDV	**Santo Domingo**	**25.40**	**5**	P		**P**	**P**	**04 08 46.8**	**-0.4**
	comp=Z,25nm,0.5s,baz=187,slow=6.0,SNR=23								
SDV	**Santo Domingo**	**25.40**	**5**	*e*P		**P**	**P**	**04 08 45.1**	**-2.1**
SDV	**Santo Domingo**	**25.40**	**5**	P		**P**	**P**	**04 08 47.5**	**+0.3**
SDV				IAmb		IAmb	IAmb	04 08 52.4	
	comp=Z,91nm,1.1s								
SDV	**Santo Domingo**	**25.40**	**5**	*e*P		**P**	**P**	**04 08 45.9**	**-1.3**
SDV	**Santo Domingo**	**25.40**	**5**	*e*P		**P**	**P**	**04 08 45.9**	**-1.3**
SMTB	**Santa Maria do**	**25.83**	**76**	*e*P		**P**	**P**	**04 08 50.9**	**-0.1**
SMTB	**Santa Maria do**	**25.83**	**76**	*e*P		**P**	**P**	**04 08 50.9**	**-0.1**
BCIP	**Isla Barro Col**	**26.48**	**344**	P		**P**	**P**	**04 08 56.0**	**-0.8**
BCIP				pmax		pmax	pmax		
	comp=Z,66nm,1.1s								
BCIP	**Isla Barro Col**	**26.48**	**344**	P		**P**	**P**	**04 08 56.0**	**-0.8**
BCIP				IAmb		IAmb	IAmb	04 08 59.8	
	comp=Z,66nm,1.1s								
BSCB	**Bom Sucesso**	**26.97**	**104**	*e*P		**P**	**P**	**04 09 01.9**	**+0.6**
BSCB	**Bom Sucesso**	**26.97**	**104**	*e*P		**P**	**P**	**04 09 01.9**	**+0.6**
ESAR	**Angra dos Reis**	**27.50**	**108**	*e*P		**P**	**P**	**04 09 06.8**	**+0.9**
ESAR	**Angra dos Reis**	**27.50**	**108**	*e*P		**P**	**P**	**04 09 06.8**	**+0.9**
JANB	**Januaria**	**27.54**	**91**	*e*P		**P**	**P**	**04 09 06.6**	**+0.1**
JANB	**Januaria**	**27.54**	**91**	*e*P		**P**	**P**	**04 09 06.6**	**+0.1**
MC01	**Montes Claros**	**27.73**	**94**	*e*P		**P**	**P**	**04 09 08.6**	**+0.4**
MC01	**Montes Claros**	**27.73**	**94**	*e*P		**P**	**P**	**04 09 08.6**	**+0.4**
PCRV	**Puerto La Cruz**	**27.81**	**18**	P		**P**	**P**	**04 09 08.3**	**-0.5**
	comp=Z,24nm,1.1s,baz=146,slow=11,SNR=3.4								
COYC	**Coyhaique**	**28.92**	**179**	P		**P**	**P**	**04 09 18.4**	**0.0**
COYC				IAmb		IAmb	IAmb	04 09 20.7	
	comp=Z,68nm,1.1s								
JTS	**Las Juntas de**	**29.24**	**335**	P		**P**	**P**	**04 09 23.1**	**+1.7**
	comp=Z,16nm,1.0s,baz=217,slow=5.9,SNR=5.4								
JTS	**Las Juntas de**	**29.24**	**335**	*c i*P		**P**	**P**	**04 09 23.6**	**+2.1**
JTS				pmax		pmax	pmax		
	comp=Z,29nm,1.1s								
JTS	**Las Juntas de**	**29.24**	**335**	P		**P**	**P**	**04 09 21.2**	**-0.2**
MDP	**Montagnes des**	**29.41**	**45**	P		**P**	**P**	**04 09 22.0**	**-1.0**
	comp=Z,79nm,0.8s,baz=228,slow=9.9,SNR=7.3								
TOSP	**Speyside**	**30.27**	**25**	P		**P**	**P**	**04 09 30.4**	**-0.2**
SJMB	**Sao Joao De Ma**	**30.27**	**99**	*e*P		**P**	**P**	**04 09 31.0**	**+0.3**
SJMB	**Sao Joao De Ma**	**30.27**	**99**	*e*P		**P**	**P**	**04 09 31.0**	**+0.3**
BSFB	**Barra de Sao F**	**30.59**	**99**	*e*P		**P**	**P**	**04 09 32.7**	**-0.8**
BSFB	**Barra de Sao F**	**30.59**	**99**	*e*P		**P**	**P**	**04 09 32.7**	**-0.8**
RIB01	**Linhares ES**	**31.02**	**100**	*e*P		**P**	**P**	**04 09 37.5**	**+0.3**
RIB01	**Linhares ES**	**31.02**	**100**	*e*P		**P**	**P**	**04 09 37.5**	**+0.3**
NAN01	**Guarapari, ES**	**31.31**	**97**	*e*P		**P**	**P**	**04 09 40.2**	**+0.4**
NAN01	**Guarapari, ES**	**31.31**	**97**	*e*P		**P**	**P**	**04 09 40.2**	**+0.4**
ROSB	**Rosrio**	**31.38**	**67**	*e*P		**P**	**P**	**04 09 40.9**	**+0.4**
ROSB	**Rosrio**	**31.38**	**67**	*e*P		**P**	**P**	**04 09 40.9**	**+0.4**
GDU01	**Guandu, BA**	**32.27**	**90**	*e*P		**P**	**P**	**04 09 48.9**	**+0.6**
GDU01	**Guandu, BA**	**32.27**	**90**	*e*P		**P**	**P**	**04 09 48.9**	**+0.6**
TGUH	**Tegucigalpa,Un**	**33.59**	**334**	IAmb		IAmb	IAmb	04 10 02.1	
	comp=Z,57nm,1.1s								
MLPR	**Magueyes Islan**	**34.81**	**10**	P		**P**	**P**	**04 10 09.9**	**-0.2**
MLPR				IAmb		IAmb	IAmb	04 10 11.9	
	comp=Z,38nm,0.9s								
CRPR	**Cabo Rojo, PR**	**34.83**	**10**	IAmb		IAmb	IAmb	04 10 21.2	
	comp=Z,40nm,1.1s								
OBIP	**Obispado Ponce**	**34.95**	**10**	IAmb		IAmb	IAmb	04 10 12.4	
	comp=Z,56nm,1.1s								
PDPR	**Patillas Dam,**	**35.04**	**11**	IAmb		IAmb	IAmb	04 10 11.9	
	comp=Z,43nm,1.1s								
SJG	**San Juan**	**35.10**	**11**	P		**P**	**P**	**04 10 11.1**	**-1.6**
SJG				pmax		pmax	pmax		
	comp=Z,41nm,1.1s								
SJG	**San Juan**	**35.10**	**11**	P		**P**	**P**	**04 10 11.1**	**-1.6**
SJG				IAmb		IAmb	IAmb	04 10 13.6	
	comp=Z,41nm,1.1s								
HUMP	**Col San Antoni**	**35.19**	**12**	IAmb		IAmb	IAmb	04 10 15.2	
	comp=Z,30nm,1.1s								
AOPR	**Arecibo Observ**	**35.23**	**10**	IAmb		IAmb	IAmb	04 10 14.4	
	comp=Z,28nm,0.8s								
GCPR	**Guaynabo City**	**35.31**	**11**	IAmb		IAmb	IAmb	04 10 16.1	
	comp=Z,76nm,1.1s								
CBYP	**Canovanas**	**35.31**	**12**	IAmb		IAmb	IAmb	04 10 14.2	
	comp=Z,48nm,1.0s								
SDDR	**Presa de Saban**	**35.37**	**3**	IAmb		IAmb	IAmb	04 10 18.0	
	comp=Z,28nm,1.1s								
CUPR	**Culebra, Puert**	**35.47**	**13**	IAmb		IAmb	IAmb	04 10 34.0	
	comp=Z,18nm,0.9s								
SMRT	**St. Maarten**	**35.74**	**16**	IAmb		IAmb	IAmb	04 10 16.1	
	comp=Z,63nm,0.9s								
RCBR	**Riachuelo**	**37.76**	**78**	*e*P		**P**	**P**	**04 10 34.5**	**-1.2**
RCBR	**Riachuelo**	**37.76**	**78**	*e*P		**P**	**P**	**04 10 34.5**	**-1.2**
CCIG	**Comitan**	**37.76**	**329**	P		**P**	**P**	**04 10 35.4**	**-0.3**
TEIG	**Tepich**	**39.57**	**337**	P		**P**	**P**	**04 10 49.7**	**-0.8**
TEIG				IAmb		IAmb	IAmb	04 10 56.7	
	comp=Z,26nm,1.0s								
656A	**Willston**	**46.62**	**348**	P		**P**	**P**	**04 11 46.6**	**-0.7**
656A				IAmb		IAmb	IAmb	04 11 51.7	
	comp=Z,16nm,0.9s								
PMSA	**Palmer Station**	**48.53**	**175**	*e*P		**P**	**P**	**04 12 04.2**	**+2.4**
PMSA	**Palmer Station**	**48.53**	**175**	*e*P		**P**	**P**	**04 12 04.2**	**+2.4**
ZAIG	**Zacatecas**	**48.70**	**323**	P		**P**	**P**	**04 12 03.2**	**-0.8**
TIGA	**Tifton**	**48.83**	**348**	P		**P**	**P**	**04 12 03.7**	**-0.8**
	baz=167								
255A	**Hazlehurst**	**49.09**	**349**	P		**P**	**P**	**04 12 06.6**	**+0.2**
255A				IAmb		IAmb	IAmb	04 12 09.6	
	comp=Z,35nm,1.1s								
158A	**Hollywood**	**49.53**	**352**	P		**P**	**P**	**04 12 10.1**	**+0.4**
	baz=171								
157A	**Early Branch**	**49.59**	**351**	P		**P**	**P**	**04 12 10.3**	**+0.1**
	baz=170								
NHSC	**New Hope**	**49.89**	**352**	P		**P**	**P**	**04 12 13.1**	**+0.6**
	baz=171,SNR=14								
250A	**Grady**	**49.95**	**345**	IAmb		IAmb	IAmb	04 12 26.6	
	comp=Z,16nm,0.9s								
Z58A	**St. Stephen**	**50.07**	**352**	P		**P**	**P**	**04 12 14.1**	**+0.3**
	baz=172								
Z57A	**Bowman**	**50.15**	**351**	P		**P**	**P**	**04 12 14.5**	**+0.1**
	baz=170,SNR=12								
Z56A	**Williston**	**50.28**	**351**	P		**P**	**P**	**04 12 15.0**	**-0.5**
	baz=170								
Y59A	**Loris**	**50.60**	**354**	P		**P**	**P**	**04 12 18.1**	**+0.2**
	baz=173								
Y58A	**Scranton**	**50.61**	**353**	P		**P**	**P**	**04 12 18.0**	**0.0**
	baz=172,SNR=6.1								
GOGA	**Godfrey**	**50.72**	**349**	P		**P**	**P**	**04 12 18.0**	**-0.8**
	baz=167,SNR=15								
GOGA	**Godfrey**	**50.72**	**349**	P		**P**	**P**	**04 12 16.8**	**-2.0**
GOGA				pmax		pmax	pmax		
	comp=Z,20nm,1.1s								
GOGA	**Godfrey**	**50.72**	**349**	P		**P**	**P**	**04 12 16.8**	**-2.0**
GOGA				IAmb		IAmb	IAmb	04 12 21.2	
	comp=Z,20nm,1.1s								
Y56A	**Pelion**	**50.72**	**351**	P		**P**	**P**	**04 12 18.4**	**-0.4**
	baz=170								
Y57A	**Sumter**	**50.81**	**352**	P		**P**	**P**	**04 12 19.

T57A **Hurt** 53.62 354 P P 04 12 39.3 -1.0
V48A **Smith Brothers** 53.68 346 IAmb IAmb 04 12 43.5
comp=Z,18nm,1.1s
WHTX **Lake Whitney,** 53.73 334 P P 04 12 41.3 +0.1
baz=151,SNR=23
T56A **Rocky Mt** 53.74 353 P P 04 12 41.4 +0.2
baz=172,SNR=15
TZTN **Tazewell** 53.78 349 P P 04 12 40.7 -0.8
baz=168,SNR=7.8
TZTN **Tazewell** 53.78 349 IAmb IAmb 04 12 42.1
comp=Z,34nm,1.1s
T55A **Pulaski** 53.92 352 P P 04 12 42.6 +0.1
baz=171,SNR=15
SLBS **Sierra La Lagu** 53.96 317 P P 04 12 42.4 -0.7
BLA **Blacksburg** 53.97 353 P P 04 12 42.9 0.0
baz=171,SNR=9.4
BLA **Blacksburg** 53.97 353 IAmb IAmb 04 12 44.4
comp=Z,38nm,1.1s
T54A **Tazewell** 53.97 351 P P 04 12 42.3 -0.6
baz=170,SNR=9.4
S61A **Accomac** 54.03 357 P P 04 12 43.8 +0.6
baz=177
T53A **Wise** 54.04 350 P P 04 12 42.8 -0.7
baz=169,SNR=9.2
S60A **Water View** 54.11 356 P P 04 12 43.9 +0.1
baz=176
S58A **Poland Farm, P** 54.12 355 P P 04 12 43.9 +0.1
baz=174,SNR=17
S58A **Poland Farm, P** 54.12 355 IAmb IAmb 04 12 45.5
comp=Z,43nm,0.8s
S59A **Mechanicsville** 54.20 356 P P 04 12 44.7 +0.3
baz=175,SNR=11
X40A **Basin Creek Fa** 54.21 340 P P 04 12 44.2 -0.4
baz=156,SNR=5.2
WVT **Waverly** 54.29 345 P P 04 12 43.6 -1.6
baz=162
WVT **Waverly** 54.29 345 P P 04 12 43.0 -2.2
WVT pmax pmax
comp=Z,60nm,1.2s
WVT **Waverly** 54.29 345 P P 04 12 43.0 -2.2
WVT IAmb IAmb 04 12 45.0
comp=Z,60nm,1.1s
UALR **University of** 54.31 340 IAmb IAmb 04 12 48.3
comp=Z,20nm,1.0s
S56A **Natural Bridge** 54.33 353 P P 04 12 45.2 -0.2
baz=172
S57A **Dark Hollow, R** 54.34 354 P P 04 12 45.7 +0.2
baz=173,SNR=18
S57A **Dark Hollow, R** 54.34 354 IAmb IAmb 04 12 47.2
comp=Z,53nm,1.0s
R58B **Mineral** 54.45 355 P P 04 12 46.8 +0.5
baz=174,SNR=40
TX31 **Lajitas Ar. Si** 54.46 327 IAmb IAmb 04 12 48.0
comp=Z,58nm,1.1s
TX32 **Lajitas Array** 54.46 327 P P 04 12 45.1 -1.6
TX32 IAmb IAmb 04 12 48.0
comp=Z,20nm,1.1s
TXAR **Lajitas Array** 54.46 327 P P 04 12 46.6 0.0
comp=Z,7.5nm,0.9s,baz=144,slow=8.8,SNR=39
TXAR LR LR 04 36 27.2
comp=Z,55nm,20.6s,baz=0.0,slow=36
T50A **Nancy** 54.48 348 IAmb IAmb 04 12 48.0
comp=Z,15nm,0.9s
MIAR **Mount Ida** 54.51 339 P P 04 12 46.7 -0.1
baz=156,SNR=46
S55A **Lewisburg** 54.53 353 P P 04 12 46.9 -0.1
baz=171,SNR=20
R59A **King George, V** 54.63 356 P P 04 12 48.2 +0.6
baz=175,SNR=11
W41B **Gary Mavity, V** 54.65 341 P P 04 12 47.4 -0.4
baz=157,SNR=37
CBN **Corbin Frederi** 54.65 356 P P 04 12 48.1 +0.4
baz=175,SNR=6.4
S53A **Williamson** 54.66 351 P P 04 12 46.6 -1.3
baz=169
S54A **Dingess, Beckl** 54.66 352 P P 04 12 47.5 -0.4
baz=170
S54A **Dingess, Beckl** 54.66 352 IAmb IAmb 04 12 48.9
comp=Z,58nm,1.1s
R60A **Leonardtown, M** 54.66 356 P P 04 12 48.4 +0.6
baz=176
R61A **Willards** 54.66 358 P P 04 12 48.6 +0.8
baz=177
GNAR **Gosnell** 54.71 343 IAmb IAmb 04 12 53.1
comp=Z,39nm,1.1s
R58A **Rapidan** 54.79 355 P P 04 12 49.1 +0.4
baz=174,SNR=23
Z35A **Perchaven, San** 54.81 335 IAmb IAmb 04 12 57.8
comp=Z,17nm,0.8s
R57A **Stanardsville** 54.84 355 P P 04 12 49.5 +0.5
baz=174,SNR=21
S51A **Beattyville** 54.86 350 P P 04 12 48.0 -1.3
T47A **Sharon Grove** 54.94 346 P P 04 12 48.2 -1.6
T47A IAmb IAmb 04 12 52.2
comp=Z,17nm,1.0s
R55A **Marlinton** 54.99 353 P P 04 12 50.6 +0.3
baz=172,SNR=10.0
R55A **Marlinton** 54.99 353 IAmb IAmb 04 12 52.1
comp=Z,40nm,1.1s
R54A **Victor** 54.99 352 P P 04 12 49.9 -0.3
baz=171,SNR=11
LCAR **Lake Charles** 55.14 342 IAmb IAmb 04 12 51.8
comp=Z,54nm,1.1s
W39A **Magazine** 55.17 339 P P 04 12 51.9 +0.4
baz=156,SNR=49
W39A **Magazine** 55.17 339 IAmb IAmb 04 12 55.2
comp=Z,19nm,1.1s
X37A **Clayton** 55.19 337 IAmb IAmb 04 12 58.2
comp=Z,43nm,1.1s
Q61A **Milford** 55.21 358 P P 04 12 52.1 +0.4
baz=177
ABTX **Abilene, Hawle** 55.21 332 P P 04 12 51.9 -0.1
baz=149,SNR=38
Q59A **Harwood** 55.26 356 P P 04 12 52.5 +0.4
baz=176
FCAR **Ozark Folk Cen** 55.27 341 IAmb IAmb 04 12 52.8
comp=Z,44nm,1.2s
R53A **Hurricane** 55.27 351 P P 04 12 51.4 -0.8
baz=170
Q60A **Greensboro** 55.35 357 P P 04 12 53.1 +0.4
baz=177
Q58A **Fox Den Farm,** 55.41 355 P P 04 12 53.6 +0.4
baz=175,SNR=32
Q57A **Strasburg** 55.56 355 P P 04 12 55.0 +0.7
baz=174,SNR=29
R50A **Paris** 55.61 349 P P 04 12 53.4 -1.3
Q56A **Snyder Ridge,** 55.64 354 P P 04 12 55.4 +0.6
baz=173,SNR=18
Q56A **Snyder Ridge,** 55.64 354 IAmb IAmb 04 12 57.0
comp=Z,53nm,0.9s
Q55A **Buckhannon** 55.69 353 P P 04 12 55.6 +0.4
baz=172,SNR=12
Q53A **Leroy** 55.73 352 P P 04 12 55.1 -0.5
baz=170,SNR=14
Q54A **Coxs Mills** 55.76 353 P P 04 12 55.2 -0.6
baz=171
Q54A **Coxs Mills** 55.76 353 IAmb IAmb 04 12 56.5
comp=Z,27nm,0.8s
R49A **Shelbyville** 55.78 348 IAmb IAmb 04 12 56.2
comp=Z,46nm,1.1s
SDMD **Soldier's Deli** 55.81 356 IAmb IAmb 04 12 57.9
comp=Z,31nm,1.1s
P58A **Pank, Wackersv** 55.92 356 P P 04 12 57.3 +0.4
baz=175,SNR=24
U40A **Yellville** 55.92 341 P P 04 12 56.4 -0.6
baz=157,SNR=42
U40A **Yellville** 55.92 341 IAmb IAmb 04 12 57.9
comp=Z,39nm,0.8s
Q52A **Bidwell** 55.94 351 P P 04 12 56.4 -0.6
baz=169
WCI **Wyandotte Cave** 55.95 347 P P 04 12 56.0 -1.1
baz=165
WCI **Wyandotte Cave** 55.95 347 P P 04 12 55.7 -1.4
WCI pmax pmax
comp=Z,84nm,1.0s
WCI **Wyandotte Cave** 55.95 347 P P 04 12 55.7 -1.4
P57A **Homestead Farm** 55.97 355 P P 04 12 58.1 +0.9
baz=174,SNR=15
P57A **Homestead Farm** 55.97 355 IAmb IAmb 04 13 02.2
comp=Z,29nm,1.1s
P61A **Hammonton** 55.98 358 P P 04 12 57.3 0.0
baz=178
P59A **Jarrettsville** 55.99 357 P P 04 12 57.9 +0.6
baz=176,SNR=16
T42A **Van Buren** 56.01 342 IAmb IAmb 04 12 57.7
comp=Z,19nm,0.9s
P56A **Dayton Farm, R** 56.06 354 P P 04 12 58.5 +0.7
baz=173,SNR=12

P60A **Greenville** 56.15 357 P P 04 12 58.5 0.0
baz=177,SNR=6.6
P60A **Greenville** 56.15 357 IAmb IAmb 04 13 00.1
comp=Z,29nm,1.0s
P55A **Reedsville** 56.16 354 P P 04 12 58.7 0.0
baz=172,SNR=8.5
Q51A **Peebles** 56.17 350 IAmb IAmb 04 12 59.0
comp=Z,36nm,1.1s
PSUB **Penn St. - Bra** 56.26 358 IAmb IAmb 04 13 00.8
comp=Z,27nm,1.0s
MCWV **Mont Chateau** 56.32 354 P P 04 12 59.5 -0.2
baz=172,SNR=8.9
P53A **Whipple** 56.33 352 P P 04 12 59.1 -0.7
baz=170,SNR=17
P53A **Whipple** 56.33 352 P P 04 12 57.3 -2.5
P53A IAmb IAmb 04 13 00.8
comp=Z,56nm,1.1s
P54A **Burton** 56.33 353 P P 04 12 59.5 -0.3
baz=171,SNR=27
O61A **Allentown** 56.40 358 P P 04 13 00.4 +0.2
baz=178
TUL1 **Leonard** 56.52 338 P P 04 13 00.9 -0.3
baz=154,SNR=28
TUL1 **Leonard** 56.52 338 P P 04 13 00.8 -0.4
TUL1 IAmb IAmb 04 13 05.0
comp=Z,31nm,0.9s
O58A **Lewisberry** 56.53 356 P P 04 13 01.9 +0.7
baz=176,SNR=18
P51A **Williamsport** 56.57 351 P P 04 13 00.1 -1.3
baz=168,SNR=6.7
P51A **Williamsport** 56.57 351 IAmb IAmb 04 13 01.7
comp=Z,26nm,0.9s
P52A **Corning** 56.58 351 P P 04 13 00.5 -1.1
baz=170,SNR=13
O60A **Telford** 56.65 358 P P 04 13 02.4 +0.4
baz=177,SNR=8.0
WMOK **Wichita Mounta** 56.65 335 P P 04 13 01.2 -1.0
baz=150,SNR=16
O57A **Amberson** 56.66 356 P P 04 13 02.8 +0.6
baz=175,SNR=28
O59A **Robesonia** 56.68 357 P P 04 13 02.7 +0.5
baz=176,SNR=14
OKCFA **Oklahoma City** 56.71 336 IAmb IAmb 04 13 04.1
comp=Z,42nm,1.1s
O56A **Blue Knob Stat** 56.80 355 P P 04 13 03.7 +0.5
baz=174,SNR=22
O55A **Ligonier** 56.80 354 P P 04 13 03.3 +0.1
baz=173,SNR=13
OLIL **Olney** 56.83 346 IAmb IAmb 04 13 07.6
comp=Z,9.7nm,0.8s
O54A **Avella** 56.89 353 P P 04 13 03.2 -0.6
baz=172
P49A **Miami Univ. Ec** 56.90 349 P P 04 13 02.2 -1.6
baz=167,SNR=17
BLO **Bloomington** 56.90 347 IAmb IAmb 04 13 04.0
comp=Z,36nm,0.9s
P48A **Milroy** 56.96 348 P P 04 13 02.5 -1.7
P48A IAmb IAmb 04 13 04.0
comp=Z,29nm,0.9s
BRNJ **Basking Ridge** 56.98 358 IAmb IAmb 04 13 06.2
comp=Z,27nm,0.8s
CCM **Cathedral Cave** 57.01 343 P P 04 13 03.4 -1.2
baz=159
CCM **Cathedral Cave** 57.01 343 P P 04 13 03.4 -1.2
CCM pmax pmax
comp=Z,30nm,1.1s
CCM **Cathedral Cave** 57.01 343 P P 04 13 03.4 -1.2
CCM IAmb IAmb 04 13 05.8
comp=Z,30nm,1.1s
O52A **Adamsville** 57.01 352 P P 04 13 03.6 -1.0
baz=170,SNR=9.0
O52A **Adamsville** 57.01 352 IAmb IAmb 04 13 05.1
comp=Z,32nm,1.0s
N61A **South Mountain** 57.05 359 P P 04 13 05.0 +0.1
baz=178,SNR=5.4
O53A **New Philadelph** 57.06 352 P P 04 13 04.1 -0.8
baz=171,SNR=6.8
CPNY **Central Park** 57.08 359 IAmb IAmb 04 13 06.4
comp=Z,32nm,1.1s
SSPA **Standing Stone** 57.11 355 P P 04 13 05.6 +0.3
baz=174
SSPA **Standing Stone** 57.11 355 P P 04 13 05.6 +0.3
SSPA IAmb IAmb 04 13 11.3
comp=Z,15nm,0.9s
O51A **Pataskala** 57.15 351 P P 04 13 04.5 -1.1
baz=169,SNR=10
N60A **Cedar Hill Far** 57.19 358 P P 04 13 05.7 -0.2
baz=178,SNR=7.4
N57A **Milroy** 57.20 356 P P 04 13 06.2 +0.2
baz=175,SNR=19
N62A **Caumsett State** 57.22 359 P P 04 13 05.7 -0.3
baz=180
Q44A **Meyer Farm, Va** 57.22 345 P P 04 13 04.5 -1.5
MNTX **Cornudas Mount** 57.23 327 P P 04 13 05.6 -0.8
baz=143,SNR=33
MNTX **Cornudas Mount** 57.23 327 IAmb IAmb 04 13 07.0
comp=Z,37nm,1.1s
N58A **Sunbury** 57.23 357 P P 04 13 06.4 +0.3
baz=176,SNR=24
N59A **State Game Lan** 57.26 357 P P 04 13 06.8 +0.5
baz=177,SNR=9.5
N59A **State Game Lan** 57.26 357 P P 04 13 04.7 -1.7
ACSO **Alum Creek Sta** 57.29 351 P P 04 13 05.5 -1.1
baz=168,SNR=15
PAL **Palisades** 57.29 359 P P 04 13 06.4 -0.1
baz=179,SNR=5.7
PAL **Palisades** 57.29 359 IAmb IAmb 04 13 26.4
comp=Z,13nm,1.0s
N55A **Marion Center** 57.34 355 P P 04 13 07.2 +0.3
baz=173,SNR=30
N56A **West Decatur** 57.42 355 P P 04 13 07.8 +0.3
baz=174,SNR=21
Q49A **Covington** 57.47 350 P P 04 13 06.5 -1.3
Q49A IAmb IAmb 04 13 07.9
comp=Z,39nm,1.0s
P46A **Rosedale** 57.48 347 IAmb IAmb 04 13 08.4
comp=Z,43nm,1.1s
R40A **Maddies Statio** 57.53 342 IAmb IAmb 04 13 08.7
comp=Z,36nm,0.8s
N53A **Lisbon** 57.56 353 P P 04 13 07.9 -0.6
baz=171,SNR=7.3
N53A **Lisbon** 57.56 353 IAmb IAmb 04 13 09.4
comp=Z,42nm,1.1s
YLE **Yale** 57.59 360 P P 04 13 07.3 -1.4
M61A **Granite Spring** 57.60 359 P P 04 13 08.6 -0.1
baz=179
N54A **Moraine State** 57.62 354 P P 04 13 08.7 -0.2
baz=172,SNR=20
M60A **Port Jervis** 57.63 358 P P 04 13 09.0 0.0
baz=178,SNR=7.8
N52A **McGinn's Farm,** 57.67 352 P P 04 13 08.0 -1.2
baz=170,SNR=5.2
O48A **Farmland** 57.68 349 P P 04 13 07.8 -1.5
baz=166,SNR=24
T35A **Sooner Cattle** 57.68 338 IAmb IAmb 04 13 13.6
comp=Z,41nm,1.1s
M63A **Gales Ferry** 57.69 1 P P 04 13 09.4 +0.1
baz=181,SNR=8.0
M62A **Hamden** 57.72 0 P P 04 13 10.0 +0.4
baz=180,SNR=14
M58A **Price's Panora** 57.75 357 P P 04 13 10.4 +0.6
baz=176,SNR=29
M57A **Sunshine Farm,** 57.75 356 P P 04 13 10.5 +0.7
baz=175,SNR=28
MSTX **Muleshoe** 57.77 331 P P 04 13 09.5 -0.7
baz=146
M64A **Tiverton** 57.85 1 P P 04 13 10.3 -0.1
baz=182
M59A **Waymart** 57.87 358 P P 04 13 11.0 +0.3
baz=177,SNR=20
N51A **Ashland** 57.87 352 P P 04 13 09.3 -1.4
baz=169
N51A **Ashland** 57.87 352 IAmb IAmb 04 13 10.9
comp=Z,39nm,1.1s
M65A **Busby, Falmout** 57.88 2 P P 04 13 10.3 -0.4
baz=183
KSPA **Keystone Colle** 57.90 357 IAmb IAmb 04 13 16.8
comp=Z,18nm,1.2s
M56A **Emporium** 57.97 355 P P 04 13 11.4 +0.1
baz=174,SNR=23
M55A **Ridgway** 58.00 355 P P 04 13 11.6 0.0
baz=174,SNR=22
AMTX **Amarillo** 58.03 332 P P 04 13 10.9 -1.1
baz=147
M54A **Oil Creek Stat** 58.13 354 P P 04 13 12.1 -0.3
baz=172,SNR=22
L63A **North Scituate** 58.16 1 P P 04 13 12.7 +0.1
baz=182,SNR=14

U32A **Winter Ranch,** 58.16 335 IAmb IAmb 04 13 26.4
comp=Z,11nm,0.9s
M53A **WI Miller and** 58.17 353 P P 04 13 12.1 -0.6
baz=171,SNR=15
SFIN **Lafayette** 58.18 347 P P 04 13 11.1 -1.7
baz=164
BRYW **Bryant College** 58.21 1 P P 04 13 12.9 -0.2
L64A **Middleborough** 58.25 2 P P 04 13 13.2 -0.1
baz=182,SNR=11
M51A **Elyria** 58.25 352 P P 04 13 12.1 -1.2
baz=170,SNR=6.7
O44A **Mansfield** 58.27 346 IAmb IAmb 04 13 16.9
comp=Z,7.4nm,0.7s
L60A **Shokan** 58.28 359 P P 04 13 13.9 +0.4
baz=179,SNR=12
L62A **Suffield** 58.31 0 P P 04 13 13.3 -0.4
baz=180
M52A **Chesterland** 58.35 353 P P 04 13 13.1 -0.9
baz=171,SNR=6.8
M52A **Chesterland** 58.35 353 IAmb IAmb 04 13 14.6
comp=Z,33nm,0.9s
L65A **Cape Cod Natio** 58.37 2 P P 04 13 14.3 +0.2
baz=183
L58A **Harry Jones Me** 58.39 357 P P 04 13 14.8 +0.5
baz=177,SNR=27
RKT **Rikitea** 58.39 253 *e*LR LR 04 30 34.2
comp=Z,849nm,29.2s
RKT **Rikitea** 58.39 253 *e*T T 05 16 04.9
comp=Z,8.7nm,0.2s
L57A **Andrews Acres** 58.40 357 P P 04 13 14.6 +0.3
baz=176,SNR=22
L61A **Hillsdale 1, H** 58.48 359 P P 04 13 15.1 +0.2
baz=179,SNR=8.0
L59A **Walton** 58.50 358 P P 04 13 15.6 +0.5
baz=178,SNR=37
BINY **Binghamton** 58.55 357 P P 04 13 15.8 +0.4
baz=177,SNR=21
QUA2 **Belchertown** 58.56 0 IAmb IAmb 04 13 16.8
comp=Z,28nm,1.0s
L56A **Greenwood** 58.58 356 P P 04 13 15.8 +0.2
baz=175,SNR=28
P40A **Paris** 58.61 343 P P 04 13 13.9 -2.0
P40A IAmb IAmb 04 13 16.3
comp=Z,44nm,1.0s
L53A **Girard** 58.63 354 P P 04 13 15.5 -0.5
baz=172,SNR=16
WES **Weston** 58.68 1 P P 04 13 14.3 -2.0
WES pmax pmax
comp=Z,42nm,1.1s
WES **Weston** 58.68 1 P P 04 13 14.3 -2.0
WES IAmb IAmb 04 13 16.8
comp=Z,42nm,1.1s
L55A **Hinsdale** 58.69 355 P P 04 13 16.5 +0.1
baz=174,SNR=42
L61B **Northampton** 58.73 0 P P 04 13 16.6 0.0
baz=180,SNR=18
ERPA **Erie** 58.76 354 P P 04 13 16.3 -0.5
baz=172,SNR=13
HRV **Adam Dziewonsk** 58.80 1 P P 04 13 17.3 +0.3
baz=182
HRV **Adam Dziewonsk** 58.80 1 P P 04 13 16.6 -0.5
HRV pmax pmax
comp=Z,74nm,1.1s
HRV **Adam Dziewonsk** 58.80 1 P P 04 13 16.6 -0.5
L54A **Sinclairville** 58.81 354 P P 04 13 17.2 0.0
baz=173,SNR=25
HDIL **Hopedale** 58.85 345 P P 04 13 15.8 -1.7
baz=162,SNR=8.5
K60A **Five Rivers En** 58.90 359 P P 04 13 17.9 +0.2
baz=179
WVNY **West Valley, N** 58.92 355 P P 04 13 17.9 -0.1
K62A **Royalston** 58.95 1 P P 04 13 18.4 +0.3
baz=181,SNR=7.9
K61A **Williamstown** 58.95 360 P P 04 13 18.4 +0.3
baz=180,SNR=14
K63A **Dunstable** 58.98 1 P P 04 13 18.6 +0.3
baz=182,SNR=10
L50A **Kingsville** 59.04 351 P P 04 13 17.3 -1.4
baz=169,SNR=6.0
K59A **Cooperstown** 59.08 358 P P 04 13 19.4 +0.4
baz=178,SNR=37
K58A **Earlville** 59.10 358 P P 04 13 19.4 +0.2
baz=177,SNR=25
K57A **Scipio Center** 59.10 357 P P 04 13 19.2 -0.1
baz=176,SNR=18
319A **Douglas** 59.11 324 P P 04 13 19.1 -0.5
K56A **Middlesex** 59.12 356 P P 04 13 19.2 -0.1
baz=175,SNR=22
K54A **Basiliko Farm,** 59.13 355 P P 04 13 19.5 +0.1
baz=174,SNR=19
P38A **Dawn** 59.13 342 IAmb IAmb 04 13 23.1
comp=Z,11nm,1.0s
121A **Cookes Peak, D** 59.16 326 P P 04 13 20.7 +0.7
baz=141,SNR=31
L48A **Adams** 59.19 350 P P 04 13 18.4 -1.4
K55A **Perry** 59.20 356 P P 04 13 19.8 0.0
baz=174,SNR=26
AAM **Ann Arbor** 59.42 351 P P 04 13 20.1 -1.3
baz=168
AAM **Ann Arbor** 59.42 351 IAmb IAmb 04 13 21.6
comp=Z,24nm,0.9s
K52A **Tillsonburg** 59.50 353 P P 04 13 21.0 -0.9
baz=172,SNR=9.9
J62A **Henniker** 59.51 1 P P 04 13 22.5 +0.4
baz=181,SNR=7.1
J60A **Lant Hill Farm** 59.52 360 P P 04 13 22.6 +0.6
baz=180,SNR=16
K51A **Iona Station** 59.53 353 P P 04 13 21.0 -1.1
baz=171
J63A **Strafford** 59.58 2 P P 04 13 22.6 +0.2
baz=182
J61A **Chester** 59.63 0 P P 04 13 23.5 +0.7
baz=180,SNR=14
KSU1 **Kansas State U** 59.66 339 P P 04 13 22.3 -0.8
baz=154
J56A **Wolcott** 59.67 357 P P 04 13 22.9 -0.2
baz=176,SNR=25
J58A **Remsen** 59.68 358 P P 04 13 23.1 -0.1
baz=178,SNR=9.3
J55A **Hilton** 59.72 356 P P 04 13 23.3 -0.1
baz=175,SNR=26
K50A **Casco** 59.73 352 P P 04 13 22.2 -1.3
baz=169
J57A **Williamstown** 59.76 357 P P 04 13 23.7 0.0
baz=177,SNR=22
J59A **Piesco** 59.76 359 P P 04 13 24.0 +0.2
baz=178,SNR=29
J54A **Appleton** 59.78 355 P P 04 13 23.5 -0.3
baz=174,SNR=6.1
R32A **Long Quarter,** 59.83 337 IAmb IAmb 04 13 27.0
comp=Z,30nm,1.1s
K49A **Clarkson** 59.86 351 P P 04 13 22.9 -1.5
baz=168
Y22D **IRIS PASSCAL I** 59.89 328 P P 04 13 25.8 +0.8
baz=142
J52A **Paris** 59.93 354 P P 04 13 24.0 -0.9
baz=172,SNR=20
K48A **Perry** 59.98 350 P P 04 13 23.8 -1.4
baz=168,SNR=14
HNH **Hanover** 59.99 1 IAmb IAmb 04 13 29.1
comp=Z,19nm,1.1s
K47A **Vermontville** 59.99 350 P P 04 13 23.8 -1.6
baz=167,SNR=10
I58A **Old Forge** 60.00 358 P P 04 13 25.4 0.0
baz=178,SNR=21
L44A **Lake County Fo** 60.08 347 P P 04 13 24.1 -1.9
baz=164
I59A **Olmsteadville** 60.08 359 P P 04 13 26.1 +0.2
baz=179,SNR=21
I60A **Shoreham** 60.12 360 P P 04 13 26.6 +0.5
baz=180,SNR=13
I62A **Tamworth** 60.17 1 P P 04 13 26.9 +0.4
baz=182,SNR=9.0
I57A **Carthage** 60.27 358 P P 04 13 27.2 0.0
baz=177,SNR=13
I64A **Boothbay** 60.27 3 P P 04 13 27.9 +0.7
baz=184,SNR=6.0
L42A **Oliver, Polo** 60.31 346 IAmb IAmb 04 13 27.4
comp=Z,35nm,1.1s
ANMO **Albuquerque** 60.34 328 P P 04 13 28.5 +0.3
baz=143
ANMO **Albuquerque** 60.34 328 *c i* P P 04 13 28.3 +0.1
ANMO pmax pmax
comp=Z,36nm,1.2s
ANMO **Albuquerque** 60.34 328 P P 04 13 27.9 -0.3
ANMO IAmb IAmb 04 13 29.8
comp=Z,29nm,1.1s
I63A **Otisfield** 60.37 2 P P 04 13 28.5 +0.7

baz=183,SNR=9.8
I63A Otisfield 60.37 2 lAmb lAmb 04 13 30.9
comp=Z,20nm,1.0s
J49A Marlette 60.38 351 P **P** **04 13 26.2 -1.7**
baz=169
J48A Bridge Port 60.41 351 P **P** **04 13 26.8 -1.3**
baz=168,SNR=10
I53A Kortright Cn E 60.41 354 P **P** **04 13 27.6 -0.5**
baz=173
J47A Sunmer 60.52 350 P **P** **04 13 27.6 -1.3**
baz=167,SNR=16
LBNH Lisbon 60.52 1 P **P** **04 13 29.4 +0.5**
baz=181,SNR=16
I51A Listowel 60.54 353 P **P** **04 13 28.1 -1.0**
baz=171,SNR=14
CBKS Cedar Bluff 60.56 336 P **P** **04 13 29.1 -0.2**
baz=150
CBKS Cedar Bluff 60.56 336 lAmb lAmb 04 13 32.2
comp=Z,14nm,0.8s
I55A Frankford 60.65 356 P **P** **04 13 29.6 -0.2**
baz=175,SNR=41
TUC Tucson 60.66 323 P **P** **04 13 30.2 0.0**
baz=138
TUC Tucson 60.66 323 P **P** **04 13 29.4 -0.8**
TUC pmax pmax
comp=Z,17nm,1.2s
TUC Tucson 60.66 323 P **P** **04 13 29.4 -0.8**
TUC lAmb lAmb 04 13 31.8
comp=Z,18nm,1.1s
H58A Gabriels 60.71 359 P **P** **04 13 30.1 -0.1**
baz=179,SNR=14
L40A Anamosa 60.75 344 P **P** **04 13 29.0 -1.5**
J46A Howard City 60.77 349 P **P** **04 13 28.9 -1.7**
baz=166
H61A Lyndonville 60.82 1 P **P** **04 13 31.6 +0.6**
baz=181,SNR=23
H60A Morristown 60.84 0 P **P** **04 13 31.5 +0.4**
baz=180,SNR=6.8
H62A Milan 60.87 1 P **P** **04 13 31.8 +0.5**
baz=182,SNR=9.2
I49A Point Hope 60.90 352 P **P** **04 13 30.0 -1.5**
baz=169
WVL Waterville 60.91 3 lAmb lAmb 04 13 33.8
comp=Z,48nm,1.1s
LONY Lake Ozonia 60.92 359 P **P** **04 13 31.7 +0.1**
baz=178,SNR=14
LONY Lake Ozonia 60.92 359 P **P** **04 13 30.9 -0.7**
N35A Tabor 60.92 340 P **P** **04 13 29.9 -1.8**
H59A Cadyville 60.93 359 P **P** **04 13 31.9 +0.2**
baz=179,SNR=17
H56A Elgin 60.95 357 P **P** **04 13 31.8 0.0**
baz=176,SNR=31
H55A Tweed 60.95 356 P **P** **04 13 31.7 -0.1**
baz=175,SNR=36
J45A Montague 60.98 349 P **P** **04 13 29.6 -2.5**
baz=165
H63A New Sharon 61.00 2 P **P** **04 13 33.2 +1.1**
baz=183,SNR=17
H64A Troy 61.01 3 P **P** **04 13 32.9 +0.7**
baz=184,SNR=17
H53A Bobcaygeon 61.07 355 P **P** **04 13 32.4 -0.3**
baz=174,SNR=37
H65A Eastbrook 61.12 4 P **P** **04 13 33.4 +0.4**
baz=185,SNR=13
T25A Trinidad 61.13 332 P **P** **04 13 33.7 +0.3**
baz=145,SNR=43
SCIA State Center 61.14 343 P **P** **04 13 32.2 -1.0**
baz=158
SCIA State Center 61.14 343 lAmb lAmb 04 13 33.6
comp=Z,38nm,0.9s
EMMW East Machias 61.19 4 P **P** **04 13 32.9 -0.5**
I47A Gladwin 61.23 350 P **P** **04 13 32.2 -1.5**
baz=168,SNR=7.7
H52A Wyevale 61.25 354 P **P** **04 13 33.0 -0.9**
baz=172,SNR=12
I48A Sherman Twp 61.27 351 P **P** **04 13 32.7 -1.3**
baz=168,SNR=7.2
H66A Whiting 61.28 5 P **P** **04 13 34.6 +0.6**
baz=186,SNR=13
I46A Reed City 61.31 350 P **P** **04 13 32.4 -1.8**
baz=166,SNR=9.6
JFWS Jewell Farm 61.31 346 P **P** **04 13 33.2 -1.1**
baz=161,SNR=11
JFWS Jewell Farm 61.31 346 lAmb lAmb 04 13 39.8
comp=Z,11nm,0.9s
SADO Sadowa 61.31 355 lAmb lAmb 04 13 35.0
comp=Z,41nm,0.9s
G59A Clarenceville 61.36 360 P **P** **04 13 34.6 +0.1**
baz=180,SNR=8.0
G60A Masonville 61.38 0 P **P** **04 13 35.1 +0.4**
baz=181,SNR=12
G57A Newington 61.41 358 P **P** **04 13 35.0 +0.1**
baz=178,SNR=18
G58A Ormstown 61.44 359 P **P** **04 13 35.3 +0.3**
baz=179
G63A Kingsbury 61.47 3 P **P** **04 13 36.0 +0.7**
baz=184,SNR=20
G62A West of Eustis 61.53 2 P **P** **04 13 36.8 +1.0**
baz=183,SNR=43
I45A Fountain 61.54 349 P **P** **04 13 33.6 -2.1**
baz=166
G61A St-Isidore-de- 61.57 1 P **P** **04 13 36.9 +0.9**
baz=182,SNR=38
214A Organ Pipe Nat 61.58 322 P **P** **04 13 37.0 +0.6**
baz=136,SNR=12
G53A Haliburton 61.62 355 P **P** **04 13 35.9 -0.4**
baz=174,SNR=52
G55A Calabogie 61.63 357 P **P** **04 13 36.2 -0.2**
baz=176,SNR=38
PKME Peaks-Kenny Pk 61.63 3 P **P** **04 13 37.0 +0.7**
baz=184,SNR=15
G64A Maxfield 61.65 3 P **P** **04 13 36.9 +0.5**
baz=185,SNR=14
G65A Princeton 61.67 4 P **P** **04 13 37.4 +0.8**
baz=186,SNR=16
G65A Princeton 61.67 4 P **P** **04 13 34.5 -2.2**
K38A Parkersburg 61.71 343 lAmb lAmb 04 13 37.1
comp=Z,30nm,0.9s
H48A Harrisville 61.72 352 P **P** **04 13 35.6 -1.4**
baz=169,SNR=9.9
H47A Mio 61.75 351 P **P** **04 13 35.8 -1.4**
baz=168
ORIO Orleans, Innes 61.78 358 P **P** **04 13 37.2 -0.2**
baz=177,SNR=10
ORIO Orleans, Innes 61.78 358 lAmb lAmb 04 13 38.7
comp=Z,14nm,1.1s
H46A Fife Lake 61.85 350 P **P** **04 13 36.2 -1.6**
baz=167,SNR=16
G54A Lake Saint Pet 61.86 356 P **P** **04 13 37.6 -0.3**
baz=174,SNR=39
KSCO Kaye Shedlock' 61.90 334 P **P** **04 13 38.5 0.0**
baz=148,SNR=11
KSCO Kaye Shedlock' 61.90 334 lAmb lAmb 04 13 42.6
comp=Z,20nm,1.1s
GLMI Grayling 62.03 351 P **P** **04 13 37.4 -1.7**
baz=167
H45A Beulah 62.07 349 P **P** **04 13 37.7 -1.6**
baz=166,SNR=7.3
F63A Nahmakanta, Br 62.08 3 P **P** **04 13 39.9 +0.5**
baz=184,SNR=9.1
F63A Nahmakanta, Br 62.08 3 P **P** **04 13 38.6 -0.8**
F63A **PcP** **04 14 19.8 +0.5**
F57A Harrington 62.11 359 P **P** **04 13 39.4 -0.2**
baz=178
F59A Saint Guilaume 62.13 0 P **P** **04 13 39.5 -0.2**
baz=180
F58A St-Lin Laurent 62.15 359 P **P** **04 13 39.6 -0.2**
baz=179
W18A Petrified Fore 62.17 326 P **P** **04 13 41.2 +0.7**
baz=140,SNR=28
F55A Otter Lake 62.19 357 P **P** **04 13 39.8 -0.4**
baz=176
F62A Pittston Farm, 62.23 2 P **P** **04 13 40.8 +0.4**
baz=183
F62A Pittston Farm, 62.23 2 lAmb lAmb 04 13 43.3
comp=Z,15nm,0.9s
H43A Windswept, Lux 62.25 348 P **P** **04 13 39.5 -1.0**
BGNE Belgrade 62.25 339 P **P** **04 13 40.0 -0.7**
baz=153,SNR=11
F60A Warwick 62.25 1 P **P** **04 13 40.4 -0.2**
baz=181,SNR=21
G47A Hillman 62.26 351 P **P** **04 13 39.4 -1.2**
baz=168,SNR=7.6
F61A St Evariste 62.28 2 P **P** **04 13 40.7 0.0**
baz=182
F64A Sherman 62.28 4 P **P** **04 13 41.3 +0.6**
baz=185,SNR=22
F52A Sundridge 62.35 355 P **P** **04 13 40.5 -0.7**
baz=173,SNR=19
ALGO Algonquin Park 62.41 356 P **P** **04 13 41.3 -0.3**
baz=175,SNR=39
G45A Suttons Bay 62.41 350 P **P** **04 13 40.1 -1.5**
baz=166,SNR=6.0
G45A Suttons Bay 62.41 350 lAmb lAmb 04 13 41.7
comp=Z,29nm,0.9s
F51A Arnstein 62.53 354 P **P** **04 13 41.4 -1.0**
baz=173,SNR=9.1
G46A Petoskey 62.55 351 P **P** **04 13 41.0 -1.5**
baz=167,SNR=5.7
X16A Lo Mia Camp, P 62.58 325 lAmb lAmb 04 13 45.6
comp=Z,41nm,1.1s
F49A Sandfield 62.59 353 P **P** **04 13 41.3 -1.6**
baz=170,SNR=13
E58A La Victoria 62.65 360 P **P** **04 13 43.3 +0.1**
baz=180,SNR=11
E60A Ste Agathe de 62.66 1 P **P** **04 13 43.2 0.0**
baz=182,SNR=8.5
E57A Chemin Saint G 62.70 359 P **P** **04 13 43.4 -0.2**
baz=179,SNR=16
113A Mohawk Valley, 62.73 322 lAmb lAmb 04 13 46.0
comp=Z,18nm,1.1s
F48A Evansville 62.73 352 P **P** **04 13 42.4 -1.3**
baz=170,SNR=19
E61A Lac Etchemin 62.75 2 P **P** **04 13 44.7 +0.8**
baz=183,SNR=24
S22A 4UR Ranch, Cre 62.75 330 P **P** **04 13 44.6 +0.2**
baz=143,SNR=26
E59A St. Maurice 62.76 0 P **P** **04 13 44.3 +0.4**
baz=180
E52A Mattawa 62.78 356 P **P** **04 13 43.4 -0.6**
baz=174,SNR=15
E55A Montcerf-Lytto 62.80 358 P **P** **04 13 43.9 -0.3**
baz=177
E53A Dumoine, Ponti 62.80 356 P **P** **04 13 44.0 -0.3**
baz=175,SNR=24
E63A Oxbow 62.83 3 P **P** **04 13 45.0 +0.7**
baz=185,SNR=14
E54A Lac Daplat, Po 62.83 357 P **P** **04 13 44.1 -0.3**
baz=176,SNR=34
E56A St. Veronique 62.85 358 P **P** **04 13 44.4 -0.1**
baz=178,SNR=28
E64A Bridgewater 62.86 4 P **P** **04 13 45.2 +0.6**
baz=186,SNR=17
Q24A Divide 62.95 332 P **P** **04 13 45.9 +0.1**
baz=145,SNR=5.8
E62A Clayton Lake 62.97 3 P **P** **04 13 46.3 +0.9**
baz=184,SNR=17
E62A Clayton Lake 62.97 3 lAmb lAmb 04 13 49.9
comp=Z,18nm,1.1s
F45A CMU Biological 63.01 350 P **P** **04 13 44.3 -1.3**
baz=167,SNR=11
E51A G1948 Merrick 63.09 355 P **P** **04 13 45.7 -0.5**
baz=173,SNR=27
E50A Wahnapitae 63.10 354 P **P** **04 13 45.2 -1.0**
baz=172,SNR=9.3
Y14A Wickenburg 63.12 323 lAmb lAmb 04 13 48.7
comp=Z,31nm,1.1s
MVCO Mesa Verde 63.14 329 P **P** **04 13 47.2 +0.2**
baz=142,SNR=22
I37A Lemond, Waseca 63.15 344 lAmb lAmb 04 13 47.2
comp=Z,43nm,0.9s
D60A Saint Jean D'O 63.22 2 P **P** **04 13 47.2 +0.3**
baz=182,SNR=5.9
D59A Saint-Raymond 63.29 1 P **P** **04 13 47.7 +0.2**
baz=181
OGNE Ogallala 63.29 336 P **P** **04 13 47.7 0.0**
baz=149
D57A Chemin Vers le 63.30 359 P **P** **04 13 47.6 +0.1**
baz=179,SNR=22
E48A Lockyer 63.32 353 P **P** **04 13 46.6 -1.0**
baz=170,SNR=18
D55A Sainte-Anne-du 63.34 358 P **P** **04 13 47.5 -0.3**
baz=177,SNR=30
D56A ZEC Mazanza, M 63.35 359 P **P** **04 13 47.6 -0.3**
baz=178,SNR=14
WUAZ Wupatki 63.36 325 P **P** **04 13 49.3 +0.9**
baz=138,SNR=40
WUAZ Wupatki 63.36 325 lAmb lAmb 04 13 52.5
comp=Z,19nm,1.1s
D58A Chmin du LacG 63.38 0 P **P** **04 13 48.3 +0.3**
baz=180,SNR=28
E47A Iron Bridge 63.43 352 P **P** **04 13 47.2 -1.2**
baz=169,SNR=37
D52A ZEK Kipawa Sen 63.45 356 P **P** **04 13 48.5 0.0**
baz=174,SNR=42
D62A Allapoint, All 63.46 3 P **P** **04 13 49.2 +0.7**
baz=184,SNR=35
D63A Stockholm 63.46 4 P **P** **04 13 49.3 +0.8**
baz=185,SNR=24
D53A Lac Vacive, Po 63.51 356 P **P** **04 13 48.7 -0.2**
baz=175,SNR=29
D53A Lac Vacive, Po 63.51 356 lAmb lAmb 04 13 50.2
comp=Z,39nm,0.8s
D54A Lac Fusel, La 63.52 357 P **P** **04 13 48.3 -0.7**
baz=176,SNR=22
D61A St Aubert, Com 63.53 2 P **P** **04 13 49.8 +0.9**
baz=183,SNR=6.1
GLA Glamis 63.56 321 P **P** **04 13 50.3 +0.7**
baz=135
D51A Lot 18 Range I 63.64 355 P **P** **04 13 49.1 -0.6**
baz=173,SNR=8.4
LATQ La Tuque 63.66 0 P **P** **04 13 50.1 +0.2**
baz=180,SNR=11
D50A G1974 Best Tow 63.75 355 P **P** **04 13 49.9 -0.6**
baz=173,SNR=30
ECSD EROS Data Cent 63.83 341 P **P** **04 13 50.5 -0.6**
baz=155,SNR=72
ECSD EROS Data Cent 63.83 341 lAmb lAmb 04 13 53.4
comp=Z,21nm,0.9s
ISCO Idaho Springs 63.84 332 P **P** **04 13 51.9 +0.2**
baz=145,SNR=22
ISCO Idaho Springs 63.84 332 lAmb lAmb 04 13 53.3
comp=Z,18nm,1.1s
BATG Bathurst New B 63.85 5 lAmb lAmb 04 13 53.2
comp=Z,65nm,1.1s
Y12C Bhne 63.87 322 P **P** **04 13 52.2 +0.7**
baz=135,SNR=6.8
PV01 Paradox Valley 63.90 329 lAmb lAmb 04 13 54.0
comp=Z,47nm,1.1s
E43A Lone Tree Farm 63.94 349 lAmb lAmb 04 13 52.0
comp=Z,36nm,1.0s
D48A Paudash Townsh 63.96 353 P **P** **04 13 50.6 -1.2**
baz=171,SNR=13
D46A Sault St. Mari 63.96 352 P **P** **04 13 50.2 -1.7**
baz=168
D47A Chapleau 64.00 352 P **P** **04 13 50.7 -1.5**
baz=169,SNR=20
D49A Beulah Townshi 64.01 354 P **P** **04 13 51.1 -1.1**
baz=171
PDMCI Parker Dam,Lak 64.03 323 P **P** **04 13 53.3 +0.7**
baz=136
PV02 Paradox Valley 64.04 329 lAmb lAmb 04 13 54.8
comp=Z,40nm,1.1s
PV13 Radium Mtn., P 64.04 329 lAmb lAmb 04 13 54.7
comp=Z,42nm,1.0s
IKP In-Ko-Pah, Jac 64.06 320 P **P** **04 13 54.0 +1.0**
baz=133,SNR=7.5
SWSC Sam W. Stewart 64.08 320 P **P** **04 13 54.0 +1.1**
baz=134
COWI Conover 64.09 348 lAmb lAmb 04 13 53.5
comp=Z,34nm,1.0s
SPMN Marine on St. 64.11 344 P **P** **04 13 52.1 -0.8**
baz=159,SNR=37
PV05 Paradox Valley 64.12 329 lAmb lAmb 04 13 54.9
comp=Z,35nm,1.1s
PV18 Skein Mesa, Pa 64.15 329 lAmb lAmb 04 13 55.2
comp=Z,30nm,1.2s
PV12 Saucer Basin, 64.16 329 lAmb lAmb 04 13 56.4
comp=Z,26nm,1.1s
PV17 East Wray Mesa 64.20 329 lAmb lAmb 04 13 55.6
comp=Z,28nm,1.2s
BC3 Big Chuckawall 64.36 321 P **P** **04 13 55.7 +0.8**
baz=134,SNR=13
MONP2 Monument Peak 64.42 320 P **P** **04 13 56.3 +0.8**
baz=133,SNR=11
BAR Barrett 64.43 320 P **P** **04 13 53.3 -2.0**
IRM Iron Mountain 64.52 322 P **P** **04 13 56.8 +0.9**
baz=135,SNR=9.0
VLDQ Val d'Or 64.52 357 P **P** **04 13 54.5 -0.9**
VLDQ lAmb lAmb 04 13 57.0
comp=Z,38nm,1.0s
U15A North Rim 64.53 325 lAmb lAmb 04 13 58.7
comp=Z,38nm,1.1s
NEE2 Needles Airpor 64.64 323 P **P** **04 13 57.0 +0.4**
baz=135
109C Camp Elliot, M 64.84 320 P **P** **04 13 58.1 +0.1**
baz=133
109C Camp Elliot, M 64.84 320 P **P** **04 13 57.0 -1.0**
109C lAmb lAmb 04 14 00.8
comp=Z,18nm,1.0s
N23A Red Feather La 64.88 333 P **P** **04 13 58.5 +0.1**
baz=145,SNR=8.0
N23A Red Feather La 64.88 333 lAmb lAmb 04 14 00.7
comp=Z,20nm,1.1s
BELC Belle Mtn. Jos 64.92 321 P **P** **04 13 59.4 +0.8**
baz=134,SNR=11
XPFO Pion Flat 64.93 321 P **P** **04 13 57.8 -0.9**
XPFO lAmb lAmb 04 14 01.2
comp=Z,36nm,1.1s
PFO Pinyon Flats O 64.93 321 P **P** **04 13 59.8 +1.1**
baz=134,SNR=18
PFO Pinyon Flats O 64.93 321 *ce*P **P** **04 14 00.0 +1.3**
PFO pmax pmax
comp=Z,63nm,1.3s
PFO Pinyon Flats O 64.93 321 P **P** **04 13 57.8 -0.9**
E38A The Farm, Brul 65.10 346 lAmb lAmb 04 13 60.0
comp=Z,65nm,1.1s
SUSD Miller 65.21 340 P **P** **04 13 59.4 -0.8**
baz=153
SUSD Miller 65.21 340 lAmb lAmb 04 14 01.6
comp=Z,34nm,1.1s
GMRC Granite Mounta 65.26 322 P **P** **04 14 01.7 +0.9**
baz=134,SNR=13
O20A White River Ci 65.31 331 P **P** **04 14 01.6 +0.5**
baz=143,SNR=25
O20A White River Ci 65.31 331 lAmb lAmb 04 14 03.0
comp=Z,49nm,1.1s
MURC Murrieta 65.38 320 P **P** **04 14 02.4 +1.0**
baz=133,SNR=6.8
LSQQ Lebel-sur-Quev 65.44 357 P **P** **04 14 01.1 -0.3**
baz=176
F33A 5 Mile Ranch, 65.64 342 lAmb lAmb 04 14 03.7
comp=Z,55nm,0.8s
BBRC Big Bear Solar 65.66 321 P **P** **04 14 04.5 +1.0**
baz=133
HEC Hector,Ludlow 65.69 322 P **P** **04 14 04.7 +1.2**
baz=134,SNR=6.5
SCI2 San Clemente I 65.81 319 P **P** **04 14 04.9 +0.8**
baz=132
TAOE Nuku Hiva Isla 65.81 268 *e*LR LR 04 33 43.3
comp=Z,696nm,28.4s
TAOE Nuku Hiva Isla 65.81 268 *e*T T 05 25 18.8
comp=Z,36nm,0.2s
TUQ Turquoise Moun 65.87 322 P **P** **04 14 05.5 +0.8**
baz=134,SNR=8.4
VNA3 Neumayer Olymp 65.92 162 P **P** **04 14 05.4 +1.0**
CIS Catalina Islan 66.00 319 P **P** **04 14 06.2 +0.7**
baz=132
BFSC Mount Baldy Ra 66.09 320 P **P** **04 14 07.0 +0.8**
baz=133,SNR=7.6
RRX Edison Barstow 66.12 321 P **P** **04 14 07.2 +1.0**
baz=133
VNA1 Neumayer--Stat 66.16 161 P **P** **04 14 07.3 +1.5**
MATQ Matagami 66.17 357 P **P** **04 14 05.6 -0.6**
baz=175,SNR=19
SHPR Sheep Range 66.18 324 lAmb lAmb 04 14 09.2
comp=Z,31nm,1.1s
CHGQ Chibougamau 66.20 359 P **P** **04 14 05.9 -0.4**
baz=179,SNR=16
GSC Goldstone, Bar 66.30 322 P **P** **04 14 08.4 +1.0**
baz=134,SNR=17
EYMN Ely 66.35 346 P **P** **04 14 06.4 -1.0**
baz=161,SNR=34
SHOC Shoshone, Teco 66.40 323 P **P** **04 14 09.0 +1.1**
baz=134
DECC Green Verdugo 66.52 320 P **P** **04 14 09.7 +1.0**
baz=132
VNA2 Neumayer--Watz 66.52 161 P **P** **04 14 09.3 +1.1**
baz=279,slow=7.9
K22A Casper 66.57 334 P **P** **04 14 09.2 +0.1**
baz=145,SNR=13
K22A Casper 66.57 334 lAmb lAmb 04 14 10.7
comp=Z,26nm,1.1s
EDW2 Edwards Air Fo 66.73 321 P **P** **04 14 10.7 +0.6**
baz=133,SNR=15
RSSD Black Hills 66.77 336 P **P** **04 14 10.6 +0.2**
baz=148
RSSD Black Hills 66.77 336 P **P** **04 14 09.7 -0.7**
RSSD pmax pmax
comp=Z,8.0nm,1.1s
RSSD Black Hills 66.77 336 P **P** **04 14 09.7 -0.7**
LRMC Laurel Mtn Rad 66.94 321 P **P** **04 14 12.2 +0.6**
baz=133
DRLN Deer Lake 66.95 11 P **P** **04 14 10.3 -0.8**
OSI Osito Audit: C 67.00 320 P **P** **04 14 12.3 +0.5**
baz=132
TPNV Topopah Spring 67.11 323 P **P** **04 14 13.9 +1.3**
baz=135,SNR=35
TPNV Topopah Spring 67.11 323 lAmb lAmb 04 14 15.4
comp=Z,36nm,1.1s
FURC Furnace Creek, 67.13 323 P **P** **04 14 13.8 +1.3**
baz=134,SNR=20
SCZ2 Santa Cruz Isl 67.16 319 P **P** **04 14 14.2 +1.4**
baz=131
MPMC Manual Prospec 67.22 322 P **P** **04 14 14.0 +0.6**
baz=133,SNR=18
ARVC Arvin 67.40 320 P **P** **04 14 15.3 +1.0**
baz=132
ISA Isabella, Lake 67.54 321 P **P** **04 14 16.3 +1.0**
baz=132,SNR=17
ISA Isabella, Lake 67.54 321 P **P** **04 14 13.6 -1.7**
ISA pmax pmax
comp=Z,32nm,1.2s
ISA Isabella, Lake 67.54 321 P **P** **04 14 13.6 -1.7**
ISA lAmb lAmb 04 14 17.8
comp=Z,32nm,1.1s
DUG Dugway, Tooele 67.60 328 P **P** **04 14 16.6 +1.0**
baz=139,SNR=39
DUG Dugway, Tooele 67.60 328 lAmb lAmb 04 14 18.0
comp=Z,71nm,1.1s
E28A Huff 67.67 340 lAmb lAmb 04 14 33.2
comp=Z,27nm,1.1s
R11A Troy Canyon, C 67.73 325 P **P** **04 14 17.9 +1.3**
baz=136,SNR=42
AGMN Agassiz Nation 67.76 344 P **P** **04 14 15.9 -0.4**
baz=156
AGMN Agassiz Nation 67.76 344 lAmb lAmb 04 14 17.1
comp=Z,48nm,1.0s
GRAC Grapevine Rang 67.79 323 P **P** **04 14 18.2 +1.4**
baz=134
CWC Cottonwood Cre 67.83 322 P **P** **04 14 18.2 +1.1**
baz=133
PKM Mcpherson Peak 67.85 320 P **P** **04 14 18.3 +0.9**
baz=131,SNR=14
BW06 Boulder Array 68.00 332 P **P** **04 14 17.8 -0.4**
baz=142,SNR=12
PDAR Pinedale Array 68.00 332 P **P** **04 14 18.2 +0.1**
comp=Z,7.0nm,1.1s,baz=142,slow=7.5,SNR=35
PDAR LR LR 04 46 56.1
comp=Z,57nm,18.1s,baz=134,slow=38
VES Vestal, Richgr 68.03 321 P **P** **04 14 19.3 +1.0**
baz=132,SNR=12
HWUT Hardware Ranch 68.04 330 lAmb lAmb 04 14 19.9
comp=Z,38nm,1.1s
SNAA Sanae 68.13 161 P **P** **04 14 19.2 +0.7**
SNAA Sanae 68.13 161 *je*P **P** **04 14 19.3 +0.8**
SNAA pmax pmax
comp=Z,15nm,0.9s
SNAA Sanae 68.13 161 P **P** **04 14 18.7 +0.2**
SNAA lAmb lAmb 04 14 20.9
comp=Z,15nm,1.0s
SMMC Simmler 68.24 320 P **P** **04 14 20.8 +1.2**
baz=131,SNR=10.0
TIN Tinemaha, Big 68.33 322 P **P** **04 14 21.4 +1.1**
baz=133,SNR=5.6
MDND Maddock 68.44 341 P **P** **04 14 20.9 +0.3**
baz=153,SNR=8.2
PAGB Antelope Grade 68.67 320 P **P** **04 14 21.0 -1.3**
PAGB lAmb lAmb 04 14 24.8
comp=Z,35nm,1.2s
AHID Auburn Hatcher 68.71 331 lAmb lAmb 04 14 24.0
comp=Z,31nm,1.1s
HVU Hansel Valley 68.76 329 P **P** **04 14 22.4 -0.5**
HVU pmax pmax
comp=Z,32nm,1.0s
HVU Hansel Valley 68.76 329 P **P** **04 14 22.4 -0.5**
MLAC Mammoth, Mammo 69.08 322 P **P** **04 14 25.8 +0.8**
baz=133
OMMB Old Mammoth Mi 69.16 322 lAmb lAmb 04 14 28.0
comp=Z,44nm,1.1s
TPAW Teton Pass 69.20 331 lAmb lAmb 04 14 27.5
comp=Z,19nm,1.1s
MDPB Devils Postpil 69.22 322 lAmb lAmb 04 14 28.2
comp=Z,24nm,1.1s

ELK Elko 69.26 327 IAmb IAmb 04 14 28.0
comp=Z,18nm,1.0s
NVAR Mina Array Bea 69.31 323 P **P** **04 14 27.5 +1.0**
comp=Z,11nm,1.0s,baz=142,slow=6.3,SNR=41
NVAR LR LR 04 44 14.3
comp=Z,74nm,19.1s,baz=111,slow=35
PMPB Monarch Peak 69.32 320 IAmb IAmb 04 14 45.3
comp=Z,21nm,1.1s
FXWY Fox Creek 69.35 331 IAmb IAmb 04 14 28.3
comp=Z,23nm,1.1s
IMW Indian Meadow 69.51 332 IAmb IAmb 04 14 29.5
comp=Z,28nm,1.1s
FLWY Flagg Ranch 69.54 332 IAmb IAmb 04 14 30.0
comp=Z,56nm,1.1s
ULM Lac du Bonnet 69.55 344 P **P** **04 14 26.5 -0.8**
comp=Z,48nm,1.0s,baz=155,slow=5.9,SNR=31
ULM LR LR 04 47 29.1
comp=Z,103nm,20.8s,baz=140,slow=38
ULM Lac du Bonnet 69.55 344 IAmb IAmb 04 14 27.9
comp=Z,65nm,1.0s
RYN Ryan 69.57 323 IAmb IAmb 04 14 30.3
comp=Z,28nm,1.2s
RLMT Red Lodge 69.73 333 P **P** **04 14 29.2 +0.3**
baz=143,SNR=13
H17A Grant Village 69.73 332 P **P** **04 14 31.1 +2.2**
baz=142
LAO LASA Array 69.76 336 P **P** **04 14 28.9 +0.1**
baz=146,SNR=11
WAKR Walker 70.02 323 IAmb IAmb 04 14 33.7
comp=Z,41nm,1.2s
YERR Yerington 70.23 323 IAmb IAmb 04 14 34.7
comp=Z,38nm,1.0s
PNTR Pine Nut 70.50 323 IAmb IAmb 04 14 36.5
comp=Z,55nm,1.2s
DGMT Dagmar 70.51 338 P **P** **04 14 34.1 +0.8**
baz=148,SNR=6.5
DGMT Dagmar 70.51 338 IAmb IAmb 04 14 36.8
comp=Z,19nm,0.9s
VCNR Virginia City 70.67 323 IAmb IAmb 04 14 37.5
comp=Z,33nm,1.1s
PAHR Pah Rah Range 70.80 324 IAmb IAmb 04 14 38.2
comp=Z,70nm,1.1s
LIC Lamto 70.81 77 *e*P **P** **04 14 35.5 -0.4**
comp=Z,130nm,1.1s
TIC Toumodi 70.96 77 *e*P **P** **04 14 36.3 -0.6**
DBIC Dimbokro 71.13 77 P **P** **04 14 37.3 -0.5**
comp=Z,21nm,0.6s,baz=234,slow=5.8,SNR=50
DBIC LR LR 04 44 00.9
comp=Z,156nm,18.9s,baz=231,slow=34
DBIC Dimbokro 71.13 77 IAmb IAmb 04 14 39.2
comp=Z,35nm,0.9s
KIC Kosan Boka 71.13 77 *e*P **P** **04 14 37.0 -0.8**
comp=Z,130nm,1.0s
AFDM Forest Hills D 71.21 322 P **P** **04 14 36.3 -1.5**
SCHQ Schefferville 71.31 4 P **P** **04 14 37.6 -0.4**
comp=Z,19nm,0.9s,baz=183,slow=4.9,SNR=24
SCHQ LR LR 04 45 55.4
comp=Z,144nm,21.9s,baz=72,slow=36
SCHQ Schefferville 71.31 4 IAmb IAmb 04 14 39.3
comp=Z,38nm,1.1s
MEH Mehetia 71.32 256 *e*T T 05 32 13.2
comp=Z,14nm,0.2s
TBI Tubuai 71.55 250 *e*LR LR 04 36 31.0
comp=Z,586nm,35.5s
TBI Tubuai 71.55 250 *e*T T 05 32 32.4
comp=Z,18nm,0.3s
EGMT Eagleton 72.25 335 P **P** **04 14 44.0 +0.1**
baz=143,SNR=13
EGMT Eagleton 72.25 335 IAmb IAmb 04 14 45.4
comp=Z,26nm,1.1s
PMOZ Porto Moniz, M 72.42 47 *e*P **P** **04 14 49.0 +3.7**
TVO Taravao 72.44 256 *e*T T 05 33 37.2
comp=Z,2.7nm,0.2s
O03E Paynes Creek 72.57 323 P **P** **04 14 46.2 +0.1**
baz=131
TIAR Tiarei 72.58 256 *e*T T 05 33 38.0
comp=Z,5.2nm,0.2s
PPT2 Papeete2 72.79 256 *e*LR LR 04 36 54.4
comp=Z,421nm,32.2s
PPT2 Papeete2 72.79 256 *e*T T 05 33 55.9
comp=Z,3.5nm,0.3s
O02D Mt. Diablo Mer 73.07 322 P **P** **04 14 49.2 +0.2**
baz=130
MSO Missoula 73.11 332 P **P** **04 14 50.0 +0.9**
baz=139,SNR=19
BMO Blue Mountains 73.26 329 IAmb IAmb 04 14 51.8
comp=Z,27nm,1.1s
N02D Trinity Center 73.54 323 P **P** **04 14 51.4 -0.3**
baz=130
M04C Macdoel 73.57 324 P **P** **04 14 52.6 +0.7**
baz=131,SNR=5.4
QSPA South Pole Qui 73.59 180 P **P** **04 14 50.6 -1.2**
K05A Summer Lake 73.67 325 IAmb IAmb 04 15 02.3
comp=Z,28nm,1.2s
M02C Callahan 73.89 323 P **P** **04 14 53.7 -0.1**
baz=130
F10A Beach Ranch, E 74.03 330 P **P** **04 14 54.0 -0.4**
F10A IAmb IAmb 04 14 58.8
comp=Z,25nm,1.1s
YBH Yreka Blue Hor 74.03 324 P **P** **04 14 54.0 -0.6**
comp=Z,14nm,1.0s,baz=77,slow=2.7,SNR=9.0
YBH Yreka Blue Hor 74.03 324 P **P** **04 14 53.8 -0.8**
YBH pmax pmax
comp=Z,16nm,1.0s
YBH Yreka Blue Hor 74.03 324 P **P** **04 14 53.8 -0.8**
YBH IAmb IAmb 04 14 55.5
comp=Z,16nm,1.0s
K04D Chiloquin, OR 74.08 325 P **P** **04 14 55.7 +0.8**
baz=132
L04D Klamath Falls 74.12 324 P **P** **04 14 55.6 +0.4**
baz=131
J05D Fort Rock, OR 74.23 325 P **P** **04 14 56.7 +0.9**
baz=132,SNR=16
G08A Pilot Rock 74.40 328 P **P** **04 14 56.3 -0.4**
G08A IAmb IAmb 04 14 59.0
comp=Z,25nm,1.1s
PINE Pine Mountain 74.41 326 IAmb IAmb 04 14 59.6
comp=Z,65nm,1.1s
J04D Umpqua Nationa 74.68 325 P **P** **04 14 59.3 +0.8**
baz=131,SNR=7.7
WALA Waterton Lakes 74.79 333 IAmb IAmb 04 15 00.7
comp=Z,21nm,1.1s
E09A Wood Farm, Sta 74.86 329 IAmb IAmb 04 15 01.6
comp=Z,32nm,1.0s
I05D Terrebonne, OR 74.99 326 P **P** **04 15 01.3 +1.3**
baz=132,SNR=10
K02D Willamette Mer 75.19 324 P **P** **04 15 02.1 +0.8**
baz=130
I04A Tendick Farm, 75.21 325 P **P** **04 15 01.4 +0.1**
baz=131,SNR=6.2
FFC Flin Flon 75.22 343 P **P** **04 15 00.5 -0.5**
FFC pmax pmax
comp=Z,20nm,1.1s
FFC Flin Flon 75.22 343 P **P** **04 15 00.5 -0.5**
FFC IAmb IAmb 04 15 02.0
comp=Z,20nm,1.1s
E08A Dider Farm, El 75.29 329 IAmb IAmb 04 15 03.5
comp=Z,18nm,1.0s
HAWA Hanford 75.46 329 P **P** **04 15 01.0 -1.7**
HAWA IAmb IAmb 04 15 05.2
comp=Z,61nm,1.1s
G05D Wamic, OR 75.58 327 P **P** **04 15 05.0 +1.6**
baz=132,SNR=12
D08A Wollman Farm, 75.62 329 P **P** **04 15 02.5 -1.0**
NEW Newport 75.63 331 P **P** **04 15 03.9 +0.2**
baz=137,SNR=6.3
I03D Drain, OR 75.66 325 P **P** **04 15 04.9 +1.1**
baz=130
H04A Detroit Lake 75.67 326 IAmb IAmb 04 15 05.7
comp=Z,30nm,0.9s
E07A Sunnyside 75.73 329 IAmb IAmb 04 15 07.6
comp=Z,42nm,1.1s
C09A Chrisman Ranch 75.83 330 IAmb IAmb 04 15 06.6
comp=Z,16nm,0.5s
F05D White Salmon 76.09 327 P **P** **04 15 07.5 +1.2**
baz=132
I02D Swisshome 76.20 325 P **P** **04 15 08.4 +1.6**
baz=130
COR Corvallis 76.21 325 P **P** **04 15 05.7 -1.2**
COR pmax pmax
comp=Z,65nm,1.0s
COR Corvallis 76.21 325 P **P** **04 15 05.7 -1.2**
COR IAmb IAmb 04 15 09.8
comp=Z,65nm,1.0s
G03D McMinnville, O 76.59 326 P **P** **04 15 10.3 +1.2**
baz=131
F04D Rainier, OR 77.03 327 P **P** **04 15 13.2 +1.6**
baz=131

FCC Fort Churchill 77.06 349 IAmb IAmb 04 15 12.5
comp=Z,40nm,1.1s
E04D Cinebar 77.11 327 P **P** **04 15 12.7 +0.7**
baz=132,SNR=6.7
E03A Lebam 77.62 327 IAmb IAmb 04 15 17.5
comp=Z,52nm,1.0s
D04E Lakebay 77.63 328 P **P** **04 15 16.4 +1.6**
baz=132
B06A Marblemount 77.88 329 IAmb IAmb 04 15 17.8
comp=Z,30nm,1.0s
B05A Bryant 78.01 329 P **P** **04 15 17.2 +0.3**
baz=132,SNR=6.6
D03D Eldon 78.03 328 P **P** **04 15 18.1 +1.0**
baz=131,SNR=9.8
NLWA Neilton Lookou 78.33 327 IAmb IAmb 04 15 21.7
comp=Z,72nm,1.1s
PGC Sidney 78.94 329 IAmb IAmb 04 15 24.7
comp=Z,60nm,1.1s
TOA0 Torodi Ar. Sit 79.39 73 P **P** **04 15 22.9 -2.4**
TOA0 IAmb IAmb 04 15 26.9
comp=Z,65nm,1.0s
TORD Torodi Ar. Bea 79.39 73 P **P** **04 15 24.8 -0.5**
comp=Z,41nm,0.8s,baz=264,slow=5.0,SNR=249
TORD LR LR 04 48 36.2
comp=Z,206nm,21.5s,baz=235,slow=34
IVI Ivigtut 80.00 12 IAmb IAmb 04 15 29.1
comp=Z,54nm,0.9s
MORF Marmelete 80.73 47 *e*P **P** **04 15 34.6 +2.5**
comp=Z,82nm,1.7s
PTEO Sao Teotonio 80.79 46 *e*P **P** **04 15 34.8 +2.4**
comp=Z,123nm,1.6s
PTEO *i* LQ LQ 04 16 03.3
VNDA Vanda 81.00 190 P **P** **04 15 34.8 +1.9**
comp=Z,4.0nm,1.0s,baz=132,slow=4.4,SNR=13
VNDA LR LR 04 44 28.5
comp=Z,112nm,18.1s,baz=124,slow=30
VNDA Vanda 81.00 190 P **P** **04 15 31.9 -1.0**
PMAFR Mafra 81.10 45 *e*P **P** **04 15 37.1 +3.1**
PNCL Nicolau / Gran 81.20 46 *e*P **P** **04 15 36.9 +2.4**
comp=Z,35nm,1.6s
PNCL *ep*P **sP** **04 15 55.0 -2.2**
PNCL *i* LQ LQ 04 16 04.9
MESJ Messejana 81.28 46 *e*P **P** **04 15 37.1 +2.2**
MESJ AMb AMB 04 15 39.3
comp=Z,33nm,1.5s
MESJ Messejana 81.28 46 *e*P **P** **04 15 37.1 +2.2**
MESJ Messejana 81.28 46 *e*P **P** **04 15 37.4 +2.4**
comp=Z,34nm,1.2s
MESJ *i* LQ LQ 04 16 05.5
PCVE Castro Verde 81.31 47 *e*P **P** **04 15 36.7 +1.6**
comp=Z,40nm,1.4s
PCVE *ep*P **sP** **04 15 56.3 -1.5**
PCVE *i* LQ LQ 04 16 05.2
RAR Rarotonga 81.33 250 LR LR 04 40 35.8
comp=Z,44nm,21.1s,baz=96,slow=27
PVAQ Vaqueiros 81.43 47 *e*P **P** **04 15 38.0 +2.3**
PVAQ Vaqueiros 81.43 47 *e*LR LR 04 42 30.0
comp=Z,235nm,20.0s
PBEJ Beja 81.62 46 *e*P **P** **04 15 39.0 +2.2**
comp=Z,33nm,1.9s
PBEJ Beja 81.62 46 *e*PcP **PcP** **04 15 44.4 +1.9**
PBEJ *ep*P **sP** **04 15 59.3 -0.2**
PBEJ *i* LQ LQ 04 16 06.8
PSBE So Bento 81.70 45 *e*P **P** **04 15 38.4 +1.2**
comp=Z,77nm,1.8s
PSBE *ep*P **pP** **04 15 56.1 +2.6**
PSBE *i* LQ LQ 04 16 07.5
EVO Evora 81.76 46 *e*P **P** **04 15 38.0 +0.5**
comp=Z,25nm,1.8s
EVO *i* LQ LQ 04 16 07.1
PMTG Montargil 81.87 45 *e*P **P** **04 15 39.4 +1.4**
comp=Z,44nm,1.6s
PMTG *ep*P **sP** **04 15 59.2 -1.6**
PMTG *i* LQ LQ 04 16 07.6
PCAS Casmilo, Conde 82.16 44 *e*P **P** **04 15 41.6 +2.0**
PCAS *ep*P **pP** **04 15 57.0 +1.1**
PCAS *i* LQ LQ 04 16 06.9
COI Coimbra 82.30 44 IAmb IAmb 04 15 42.9
comp=Z,43nm,1.1s
SYO Syowa Base 82.40 160⇑ *e*P **P** **04 15 40.9 +0.6**
SYO Syowa Base 82.40 160⇑ *e*X P 04 15 50.0 +10
SYO Syowa Base 82.40 160⇑ *i*sP sP 04 16 02.0 -0.6
PMRV Marv??o 82.61 45 *e*P **P** **04 15 43.3 +1.4**
comp=Z,34nm,1.8s
PMRV *i* LQ LQ 04 16 11.8
PMRV Marv??o 82.61 45 *e*LR LR 04 43 00.7
comp=Z,122nm,22.0s
PCBR Castelo Branco 82.75 45 *e*P **P** **04 15 44.1 +1.5**
comp=Z,35nm,2.0s
PCBR *ep*P **sP** **04 16 04.0 -1.3**
PCBR *i* LQ LQ 04 16 12.0
PVIS Viseu 82.89 44 *e*P **P** **04 15 43.2 -0.2**
comp=Z,76nm,1.6s
MTE Manteigas 82.97 44 *e*P **P** **04 15 45.1 +1.2**
comp=Z,54nm,1.5s
MTE *i* LQ LQ 04 16 13.5
MTE Manteigas 82.97 44 *e*LR LR 04 42 56.8
comp=Z,156nm,22.0s
MTE Manteigas 82.97 44 P **P** **04 15 42.3 -1.6**
MTE IAmb IAmb 04 15 46.8
comp=Z,19nm,1.0s
PGAV Gavieira, Arco 83.25 43 *e*P **P** **04 15 46.5 +1.2**
comp=Z,95nm,1.7s
PGAV Gavieira, Arco 83.25 43 *e*LR LR 04 43 12.9
comp=Z,146nm,22.0s
PVRL Vila Real 83.28 44 *e*P **P** **04 15 46.3 +0.9**
comp=Z,82nm,1.8s
PCAB Cabril 83.28 43 *e*P **P** **04 15 46.4 +1.0**
comp=Z,92nm,1.5s
MVO Moncorvo 83.68 44 *e*P **P** **04 15 48.8 +1.3**
comp=Z,72nm,1.7s
MVO *i* LQ LQ 04 16 17.2
MVO Moncorvo 83.68 44 *e*LR LR 04 43 39.6
comp=Z,125nm,22.0s
PBRG Braganca 84.17 43 *e*P **P** **04 15 50.8 +0.8**
comp=Z,86nm,1.4s
PBRG *i* LQ LQ 04 16 20.1
PAB San Pablo 84.76 46 P **P** **04 15 52.2 -0.8**
PAB pmax pmax
comp=Z,62nm,1.1s
PAB San Pablo 84.76 46 P **P** **04 15 52.2 -0.8**
SFJD Kangerlussuaq 84.95 9 P **P** **04 15 51.8 -1.4**
SFJD pmax pmax
comp=Z,8.0nm,1.0s
SFJD Kangerlussuaq 84.95 9 P **P** **04 15 51.8 -1.4**
ESDC Sonseca Array 85.08 46 P **P** **04 15 55.5 +0.9**
comp=Z,19nm,0.9s,baz=251,slow=5.5,SNR=92
ESDC LR LR 04 49 58.2
comp=Z,173nm,22.0s,baz=240,slow=33
ESBB Sonseca Array 85.08 46 P **P** **04 15 53.9 -0.7**
YKA Yellowknife Ar 85.34 342 P **P** **04 15 54.9 -0.4**
comp=Z,26nm,1.0s,baz=141,slow=5.4,SNR=168
YKA LR LR 04 57 40.5
comp=Z,70nm,19.6s,baz=0.0,slow=38
TAM Tamanrasset 86.08 65 P **P** **04 15 58.9 -1.2**
TAM pmax pmax
comp=Z,4.0nm,1.0s
TAM Tamanrasset 86.08 65 P **P** **04 15 58.9 -1.2**
ILULI Ilulissat 86.96 8 IAmb IAmb 04 16 06.8
comp=Z,18nm,1.0s
WRAK Wrangell Islan 87.99 331 IAmb IAmb 04 16 09.9
comp=Z,37nm,1.1s
BOSA Boshof 89.11 119 LR LR 04 55 49.4
comp=Z,64nm,18.3s,baz=251,slow=35
JIS Juneau Island 89.93 332 IAmb IAmb 04 16 19.3
comp=Z,23nm,1.2s
MAW Mawson 90.08 164 P **P** **04 16 19.0 +1.0**
comp=Z,1.8nm,0.8s,baz=233,slow=7.4,SNR=8.8
MAW LR LR 04 54 58.3
comp=Z,98nm,21.9s,baz=240,slow=34
BESE Bessie Mountai 90.31 332 IAmb IAmb 04 16 21.8
comp=Z,25nm,1.1s
SUMG Summit 91.84 10⇑ *i*P **P** **04 16 27.2 +0.7**
comp=Z,130nm,1.1s
SUMG Summit 91.84 10⇑ *i*P **P** **04 16 27.2 +0.7**
SUMG pmax pmax
comp=Z,130nm,1.1s
CLF Chambon-Foret 92.59 41 IAmb IAmb 04 16 48.8
comp=Z,7.9nm,1.0s
KEST Kesra 93.41 54 P **P** **04 16 34.6 +0.4**
comp=Z,2.6nm,0.9s,baz=241,slow=7.1,SNR=5.4
KEST LR LR 04 58 53.1
comp=Z,93nm,20.4s,baz=246,slow=36
SNF Seneffe 94.72 39 P **P** **04 16 39.8 0.0**
DOU Dourbes 94.77 39 P **P** **04 16 40.1 +0.2**
BMRD Maredsous 94.94 39 P **P** **04 16 41.2 +0.4**

DAWY Dawson 94.96 336 P **P** **04 16 40.2 -0.4**
DAWY IAmb IAmb 04 16 41.1
comp=Z,5.6nm,0.9s
A36M Sachs Harbour 95.00 346 P **P** **04 16 40.0 -0.5**
baz=130
INK Inuvik 95.07 341 IAmb IAmb 04 16 41.7
comp=Z,6.8nm,1.0s
BGES Gesves 95.16 39 P **P** **04 16 41.9 +0.1**
BCLA Clavier 95.31 39 P **P** **04 16 42.7 +0.3**
VRDI Verde Repeater 95.38 333 IAmb IAmb 04 16 43.2
comp=Z,7.9nm,1.1s
BSTI Sart Tilman 95.52 39 P **P** **04 16 43.1 -0.3**
WLF Walferdange 95.58 40 P **P** **04 16 44.3 +0.6**
WLF Walferdange 95.58 40 IAmb IAmb 04 16 53.4
comp=Z,4.9nm,0.7s
EGAK Eagle 95.97 336 IAmb IAmb 04 16 45.6
comp=Z,7.3nm,1.1s
DOT Dot Lake 96.64 335 IAmb IAmb 04 16 48.5
comp=Z,4.8nm,1.1s
PAX Paxson 96.95 334 IAmb IAmb 04 16 49.6
comp=Z,5.1nm,0.9s
DAVA Damuels 97.22 43 *i* PcP Pdif 04 16 52.1 +0.6
comp=Z,14nm,1.1s,SNR=5.9
LATE Laterza 97.23 48 IAmb IAmb 04 17 02.4
comp=Z,5.2nm,0.8s
FUORN Ofenpass-Fuorn 97.28 44 IAmb IAmb 04 17 04.5
comp=Z,6.3nm,1.1s
FETA Feichten 97.70 43 *i* PcP Pdif 04 16 54.2 +0.5
comp=Z,11nm,1.4s
RETA Reutte 97.85 43 *i* PcP Pdif 04 16 54.6 +0.4
comp=Z,10nm,1.2s
MOTA Moosalm 98.03 43 *i* PcP Pdif 04 16 55.6 +0.5
comp=Z,26nm,1.6s,SNR=9.9
CTI Castel Tesino 98.05 44 IAmb IAmb 04 16 56.5
comp=Z,12nm,1.1s
SQTA Sankt Quirin 98.07 43 *i* Pdiff Pdif 04 16 55.9 +0.7
comp=Z,26nm,1.5s,SNR=8.5
HDA Harding Lake 98.10 335 P **P** **04 16 54.0 -0.8**
baz=112
ILAR Eielson Array 98.21 335 P **P** **04 16 54.9 -0.4**
comp=Z,1.0nm,0.8s,baz=135,slow=2.6,SNR=9.4
ILAR PP **PP** **04 20 52.4 -3.2**
comp=Z,1.4nm,1.0s,baz=103,slow=6.2,SNR=7.2
ILAR LR LR 05 04 42.4
comp=Z,49nm,21.3s,baz=104,slow=37
WATA Walderalm 98.34 43 *i* Pdiff Pdif 04 16 57.2 +0.7
comp=Z,16nm,1.1s,SNR=5.6
WTTA Wattenberg 98.36 43 *i* Pdiff Pdif 04 16 57.4 +0.8
comp=Z,26nm,1.3s,SNR=10
CCB Clear Creek Bu 98.53 335 P **P** **04 16 56.0 -0.7**
RND Reindeer 98.54 334 IAmb IAmb 04 16 57.5
comp=Z,8.3nm,1.1s
POKR Poker Plat Res 98.55 336 P **P** **04 16 56.2 -0.6**
baz=111
INTR Introdacqua 98.58 49 IAmb IAmb 04 17 04.1
comp=Z,6.6nm,1.1s
WRH Wood River Hil 98.59 335 **P** **04 16 56.2 -0.7**
COLA College 98.63 335 *ce*P **P** **04 16 56.2 -0.9**
COLA pmax pmax
comp=Z,10.0nm,1.2s
CIMO Cimolais 98.64 44 IAmb IAmb 04 16 59.7
comp=Z,7.2nm,1.1s
ABTA Abfaltersbach 98.81 44 *i* Pdiff Pdif 04 16 59.2 +0.7
comp=Z,14nm,1.3s,SNR=8.6
MDM Murphy Dome 98.81 335 IAmb IAmb 04 16 58.8
comp=Z,6.5nm,1.2s
ZOU Zoufplan 99.06 44 IAmb IAmb 04 17 04.3
comp=Z,4.6nm,1.1s
CADS Cadrg 99.50 45 *i* Pdiff **Pdif** **04 17 01.6 +0.1**
CADS *e*PP **PP** **04 21 01.7 -4.2**
GORS Gorjuse 99.69 45 *i* Pdiff **Pdif** **04 17 01.6 -0.8**
KHC Kasperske Hory 100.08 42⇓ *i*P **Pdif** **04 17 04.6 +0.6**
KHC pmax pmax
comp=Z,20nm,1.8s
GERES GERESS Array B 100.09 42 P **Pdif** **04 17 03.8 -0.3**
comp=Z,0.8nm,0.7s,baz=267,slow=5.3,SNR=9.6
GERES LR LR 04 59 21.9
comp=Z,75nm,20.9s,baz=228,slow=34
OBKA Obir 100.11 44 *i* Pdiff **Pdif** **04 17 05.0 +0.7**
comp=Z,12nm,1.5s
MOA Molln 100.23 43 *i* Pdiff **Pdif** **04 17 05.2 +0.5**
comp=Z,4.9nm,1.2s
CLL Collm 100.23 40 *e*Pdif **Pdif** **04 17 06.0 +1.4**
comp=Z,24nm,1.9s
CLL *e*PP **PP** **04 21 12.0 +0.7**
CLL *e*SKSac **SKSac** **04 27 42.0 +3.6**
CLL *e*SKKSac **SKKSac** **04 28 10.0 -2.4**
CLL *e*SP **SP** **04 30 01.0 -3.4**
CLL *e*PPS PPS 04 30 53.0
CLL *e*SS **SS** **04 35 42.0 +11**
CLL *e* 04 36 24.0
CLL *e*SSS SSS 04 39 18.0
CLL Collm 100.23 40 *e*P **Pdif** **04 17 06.0 +1.4**
CLL *e* 04 21 12.0
CLL *e* 04 27 42.0
CLL pmax pmax
comp=Z,24nm,1.9s
SOKA Soboth 100.47 44 *i* Pdiff **Pdif** **04 17 06.1 +0.2**
comp=Z,1.7nm,1.0s
BRG Berggiesshubel 100.71 40 *e*PDIFF **Pdif** **04 17 08.1 +1.4**
comp=Z,24nm,1.7s
BRG *ep*PDIFF 04 17 27.5
comp=Z,10nm,1.7s
BRG PP PP 04 21 02.0 -13
BRG SKS 04 27 39.0
BRG SS SS 04 35 26.0 -12
comp=N,89nm,23.1s
comp=E,145nm,21.0s
comp=Z,175nm,18.2s
BRG Berggiesshubel 100.71 40 *e*P **Pdif** **04 17 08.1 +1.4**
BRG 04 27 39.0
BRG pmax pmax
comp=Z,24nm,1.7s
BRG pmax pmax
comp=Z,10.0nm,1.7s
BRG MLR MLR
comp=N,89nm,23.1s
BRG MLR MLR
comp=E,145nm,21.0s
BRG MLR MLR
comp=Z,175nm,18.2s
ARSA Arzberg 100.93 44 *i* Pdiff **Pdif** **04 17 08.7 +0.9**
comp=Z,2.1nm,0.6s
CONA Conrad Observa 101.30 43 *i* Pdiff **Pdif** **04 17 09.9 +0.4**
comp=Z,6.8nm,1.5s
KRUC Moravsky 101.88 42 *e*P **Pdif** **04 17 12.5 +0.5**
VRAC Vranov 102.05 42 *e*P **Pdif** **04 17 14.0 +1.2**
JAVC Velka Javorina 102.66 43 *e*P **Pdif** **04 17 17.7 +2.2**
MORC Moravsky Berou 102.75 42 *e*P **Pdif** **04 17 17.1 +1.2**
DZM Mont Dzumac 110.34 238 *e*LR LR 04 54 07.9
comp=Z,516nm,32.4s
OBN Obninsk 114.56 37⇑ *i*PKIKP PKPdf 04 21 58.0 -0.2
OBN *e* 04 22 55.7
OBN pmax pmax
comp=Z,11nm,0.4s
OBN MLR MLR
comp=Z,108nm,18.0s
KIV Kislovodsk 119.68 49⇑ *i*PKIKP **PKiKP** **04 22 09.5 +0.9**
KIV *e* 04 23 31.8
KIV *i* SS SS 04 39 47.8 -4.7
KIV pmax pmax
comp=Z,3.0nm,0.6s
KIV MLR MLR
comp=Z,39nm,20.0s
KBZ Khabaz 119.86 49 PKP **PKiKP** **04 22 09.6 +0.8**
comp=Z,1.9nm,0.8s,baz=182,slow=9.4,SNR=5.9
KBZ Khabaz 119.86 49⇓ *i*PKIKP **PKiKP** **04 22 09.4 +0.6**
H11N3 WAKE ISLAND Hyd 123.33 283 T T 06 37 48.4
baz=98,slow=75,SNR=96
H11N2 WAKE ISLAND Hyd 123.34 283 T T 06 37 39.9
baz=98,slow=75,SNR=119
H11N1 WAKE ISLAND Hyd 123.35 283 T T 06 37 37.2
baz=98,slow=75,SNR=95
H11S2 WAKE ISLAND Hyd 123.36 281 T T 06 38 06.1
baz=99,slow=75,SNR=372
H11S1 WAKE ISLAND Hyd 123.37 281 T T 06 37 38.0
baz=99,slow=75,SNR=162
H11S3 WAKE ISLAND Hyd 123.38 281 T T 06 37 49.6
baz=99,slow=75,SNR=224
TIXI Tiksi 123.44 352 *i* PKIKP **PKPdf** **04 22 14.9 +0.1**
ARU Arti 126.05 31 PKP **PKiKP** **04 22 21.1 +0.4**
comp=Z,1.0nm,0.3s,baz=289,slow=5.5,SNR=4.7
ARU Arti 126.05 31 *i* PKIKP **PKiKP** **04 22 21.3 +0.6**
ARU 04 24 17.8
ARU 04 29 26.1
ARU SS SS 04 41 12.9 +1.0

ARU	**Arti**	**126.05**	**31**			**PKPdf**	**04 22 19.6**	**-0.7**
MA2	**Magadan**	**126.66**	**334**⇓	*e*PKIKP		**PKPdf**	**04 22 21.0**	**-0.3**
AKTO	**Aktyubinsk**	**128.29**	**38**	PKP	**PKiKP**		**04 22 25.1**	**-0.2**
	comp=Z,2.0nm,0.5s,baz=258,slow=0.4,SNR=9.7							
ASAR	**Alice Springs**	**132.19**	**214**	PKP		**PKPdf**	**04 22 32.9**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=143,slow=1.7,SNR=6.8							
BRVK	**Borovoye**	**133.58**	**30**⇑	*i*PKIKP		**PKPdf**	**04 22 35.3**	**+0.6**
BVAR	**Borovoye Array**	**133.65**	**30**	PKP		**PKiKP**	**04 22 35.6**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=256,slow=2.4,SNR=7.5							
WRA	**Warramunga Arr**	**134.91**	**217**	PKP		**PKPdf**	**04 22 37.6**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=135,slow=1.9,SNR=9.0							
YSS	**Yuzh-Sakhalins**	**137.76**	**324**	*e*PKIKP		**PKiKP**	**04 22 51.3**	**+6.7**
ZAA0	**Zalesovo Array**	**138.87**	**20**	PKPdf		**PKPdf**	**04 22 42.5**	**-2.0**
ZALV	**Zalesovo Beam**	**138.87**	**20**	PKhKP	PKPpre		04 22 37.2	
	comp=Z,0.5nm,0.5s,baz=345,slow=5.1,SNR=3.6							
ZALV				PKP		**PKPdf**	**04 22 43.8**	**-0.7**
	comp=Z,17nm,1.1s,baz=287,slow=2.5,SNR=24							
KURK	**Kurchatov**	**139.00**	**28**⇑	*i*PKIKP		**PKiKP**	**04 22 46.6**	**-0.4**
KURK	**Kurchatov**	**139.00**	**28**	PKPdf		**PKPdf**	**04 22 43.4**	**-1.4**
KURBB	**Kurchatov Arra**	**139.03**	**28**	PKP		**PKPdf**	**04 22 45.1**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=307,slow=2.9,SNR=11							
KURBB				PP		**PP**	**04 25 33.7**	**-3.7**
	comp=Z,0.2nm,0.3s,baz=316,slow=5.6,SNR=6.6							
AAK	**Ala-Archa**	**141.95**	**40**⇓	*i*PKIKP		**PKiKP**	**04 22 52.3**	**-1.3**
DGZ	**Jazzator, Alta**	**143.32**	**21**⇑	*e*PKIKP		PKPbc	04 22 50.5	+0.5
MAKZ	**Makanchi**	**143.36**	**29**	PKIKP		PKPbc	04 22 49.8	-0.3
MAKZ	**Makanchi**	**143.36**	**29**	PKPdf		PKPbc	04 22 49.8	-0.3
MKAR	**Makanchi Array**	**143.52**	**29**	PKP		PKPbc	04 22 51.1	+0.6
	comp=Z,2.0nm,0.6s,baz=338,slow=2.6,SNR=15							
IRK	**Irkutsk**	**144.34**	**3**	*e*PKIKP		**PKPab**	**04 22 52.5**	**0.0**
IRK				pmax	pmax			
	comp=Z,61nm,2.1s							
TARG	**Taragay, Kyrgy**	**144.49**	**39**	PKPdf		**PKPdf**	**04 22 55.2**	**-0.2**
KSH	**Kashi**	**144.55**	**44**	PKP		PKPbc	04 22 54.7	+0.7
KSH				PP		**PP**	**04 26 16.0**	**+4.3**
KSH				AMB	AMB			
	comp=Z,340nm,5.7s							
KSH				LR	LR			
	comp=Z,320nm,10.4s							
KSH				LR	LR			
	comp=Z,230nm,12.8s							
MOY	**Mondy**	**144.65**	**7**	*e*PKIKP		**PKPdf**	**04 22 55.3**	**+0.2**
MOY				pmax	pmax			
	comp=Z,108nm,1.8s							
TLY	**Talaya**	**144.87**	**4**	PKP		**PKPdf**	**04 22 55.4**	**+0.1**
	comp=Z,22nm,0.9s,baz=327,slow=2.3,SNR=42							
TLY	**Talaya**	**144.87**	**4**	*e*PKIKP		**PKPdf**	**04 22 55.4**	**+0.1**
TLY							04 23 23.0	
TLY				*e*SS		SS	04 44 51.1	-5.1
TLY				pmax	pmax			
	comp=Z,176nm,1.4s							
NIL	**Nilore**	**145.16**	**54**	PKIKP		**PKPbc**	**04 22 55.3**	**-0.7**
NIL	**Nilore**	**145.16**	**54**			**PKPbc**	**04 22 55.3**	**-0.7**
USA0B	**Ussuriysk Arra**	**145.35**	**328**	PKP2		**PKPbc**	**04 22 54.3**	**-1.9**
USA0B	**Ussuriysk Arra**	**145.35**	**328**			**PKPbc**	**04 22 54.3**	**-1.9**
USRK	**Ussuriysk Ar.**	**145.35**	**328**	PKPbc		**PKPbc**	**04 22 56.2**	**0.0**
	comp=Z,24nm,1.0s,baz=48,slow=3.5,SNR=36							
HIA	**Hailar**	**145.81**	**345**	PKIKP		**PKPdf**	**04 22 55.3**	**-1.7**
HIA	**Hailar**	**145.81**	**345**			**PKPdf**	**04 22 55.2**	**-1.7**
MJAR	**Matsushiro Arr**	**146.03**	**312**	PKPbc		**PKPbc**	**04 22 58.6**	**0.0**
	comp=Z,27nm,1.1s,baz=75,slow=0.7,SNR=53							
MAJO	**Matsushiro**	**146.03**	**312**	*c i*PKP2		**PKPdf**	**04 22 57.8**	**0.0**
MAJO	**Matsushiro**	**146.03**	**312**	PKPdf		**PKPdf**	**04 22 56.5**	**-1.3**
MAT	**Matsushiro**	**146.03**	**312**	PKP		**PKPdf**	**04 22 57.8**	**0.0**
MJB9	**Matsu-Tunnel**	**146.03**	**312**	PKPdf		**PKPdf**	**04 22 56.8**	**-1.0**
ZAK	**Zakamensk**	**146.14**	**4**	*e*PKP2		**PKPbc**	**04 22 58.3**	**-0.3**
ZAK				pmax	pmax			
	comp=Z,37nm,1.4s							
MDJ	**Mudanjiang**	**146.23**	**331**	PKPbc		**PKPdf**	**04 22 57.0**	**-0.8**
MSHR	**Mys Shultsa**	**146.92**	**327**⇓	*e*PKP2		**PKPbc**	**04 23 00.2**	**-0.8**
INU	**Inuyama**	**147.44**	**311**			**PKPdf**	**04 23 01.2**	**+1.1**
WMQ	**Urumqi**	**148.25**	**27**	*e*PKPbc		**PKPdf**	**04 23 02.5**	**+1.2**
WMQ				LR	LR			
	comp=Z,490nm,29.0s							
WMQ				LR	LR			
	comp=Z,280nm,28.8s							
ULN	**Ulaanbaatar**	**148.80**	**0**	PKIKP		**PKPdf**	**04 23 03.3**	**+1.1**
ULN	**Ulaanbaatar**	**148.80**	**0**			**PKPdf**	**04 23 03.3**	**+1.1**
SONM	**Songino Array**	**148.82**	**1**	PKPbc		**PKiKP**	**04 23 07.0**	**-0.5**
	comp=Z,18nm,1.0s,baz=352,slow=6.0,SNR=9.5							
SONM				SKPbc		**SKPbc**	**04 26 36.2**	**-2.8**
	comp=Z,2.8nm,1.0s,baz=4.4,slow=1.5,SNR=4.8							
KSRS	**Korea Array**	**152.25**	**323**	PKP		**PKPdf**	**04 23 08.5**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=46,slow=2.5,SNR=11							
KSRS				PKPbc		**PKiKP**	**04 23 15.2**	**+0.5**
	comp=Z,14nm,1.1s,baz=34,slow=1.6,SNR=28							
HHC	**Hu-ho-hao-te**	**155.51**	**352**	PKP		**PKPdf**	**04 23 15.6**	**+3.3**
GTA	**Gaotai**	**156.38**	**14**	PKP		**PKPdf**	**04 23 13.5**	**-0.1**
GTA				LR	LR			
	comp=Z,83nm,21.7s							
GTA				LR	LR			
	comp=Z,190nm,23.8s							
GTA				LR	LR			
	comp=Z,180nm,23.0s							
NJ2	**Nanjing**	**161.26**	**327**	*e*PKP		**PKPdf**	**04 23 20.5**	**+1.1**
SHL	**Shillong**	**163.23**	**55**	PKP2		**PKPab**	**04 24 10.1**	**-2.2**
SHL	**Shillong**	**163.23**	**55**	PKPab		**PKPab**	**04 24 10.1**	**-2.2**
CD2	**Chengdu**	**165.41**	**11**	PKP		**PKPdf**	**04 23 23.0**	**-0.4**
GYA	**Guiyang**	**170.16**	**2**	*e*PKP		PKPdf	04 23 35.7	+8.7
GYA				PP		PP	04 28 59.9	+29
PBKT	**Sadao Pong**	**174.12**	**89**	PKPab		**PKPab**	**04 24 59.0**	**-1.6**
SLVN	**Son La**	**174.38**	**32**	PKPab		**PKPab**	**04 24 59.9**	**-1.6**

*ASRS **10** 04:09:05.6±0.5,51°N±4°×9°9E±°, h5km, MLh4.3/8,*
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/iasp91 confirmed
*BYKL **10** 04:09:09.3±0.5,51°42′N×99°58′E*
ISC 10 04:09:14.1±0.8, 51°62′N±0′04×99°95E±0′03, h10km, n48, σ2.962/78, 3D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
MOY	**Mondy**	**0.66**	**86**	⇓*i*Pg		**Pg**	**04 09 26.2**	**-0.6**
MOY				Pmax			04 09 26.5	
	528nm,0.3s							
MOY				*e*Sg		**Sn**	**04 09 38.0**	**-2.0**
MOY				Smax			04 09 39.0	
	4μm,0.5s							
MOY	**Mondy**	**0.66**	**86**	Pg		**Pg**	**04 09 26.2**	**-0.6**
MOY				Sg		**Sb**	**04 09 37.1**	**+0.1**
ORL	**Orlik**	**0.92**	**355**	⇓*i*Pg		**Pg**	**04 09 30.4**	**-1.5**
ORL				Pmax			04 09 38.6	
	161nm,0.2s							
ORL				*e*Sg		**Sn**	**04 09 45.2**	**-1.5**
ORL				Smax			04 09 48.1	
	811nm,0.6s							
ORL	**Orlik**	**0.92**	**355**	Pg		**Pg**	**04 09 30.4**	**-1.5**
ORL				Sg		**Sb**	**04 09 44.2**	**-0.5**
ARS	**Arshan**	**1.57**	**78**	⇓*i*Pg		**Pb**	**04 09 42.2**	**-1.1**
ARS				Pmax			04 09 52.4	
	317nm,0.4s							
ARS				*e*Sg		**Sg**	**04 10 06.4**	**+1.9**
ARS				Smax			04 10 07.1	
	2μm,0.6s							
TLY	**Talaya**	**2.31**	**87**	*e*Pn		**Pn**	**04 09 52.1**	**-0.1**
TLY				*e*Pg		**Pb**	**04 09 54.8**	**-1.0**
TLY				Pmax			04 10 05.3	
	61nm,0.4s							
TLY				*e*			04 10 26.9	
TLY				*e*Sg		**Sg**	**04 10 29.1**	**+1.0**
TLY				Smax			04 10 29.3	
	661nm,0.5s							
TLY				*e*			04 10 31.9	
TLY	**Talaya**	**2.31**	**87**	Pg		**Pb**	**04 09 54.6**	**-1.2**
TLY				Sg		**Sg**	**04 10 27.1**	**-1.1**
ZAK	**Zakamensk**	**2.45**	**119**	*e*Pn		**Pn**	**04 09 50.8**	**-3.4**
ZAK				*e*			04 09 52.6	
ZAK				*e*Pg		**Pb**	**04 09 55.1**	**-3.1**
ZAK				Pmax			04 09 57.0	
	154nm,0.3s							
ZAK				*e*Sg		**Sb**	**04 10 29.1**	**+0.6**
ZAK				Smax			04 10 39.4	
	396nm,0.5s							
TDJR	**Todzha**	**2.50**	**290**	*e*Pn		Pn	04 09 50.1	-4.8
TDJR				*e*Pg		Pb	04 09 53.1	-6.0
TDJR				*e*Sg		**Sn**	**04 10 24.4**	**-1.1**
IRK	**Irkutsk**	**2.75**	**75**	*e*Sg		**Sg**	**04 10 41.3**	**-1.1**
IRK				Smax			04 10 44.8	
	2μm,0.6s							
IRK				*e*			04 10 45.6	
IRK	**Irkutsk**	**2.75**	**75**	Sg		**Sg**	**04 10 41.2**	**-1.2**
IVK	**Ivanovka**	**2.79**	**85**	*e*Pn		**Pn**	**04 09 58.8**	**0.0**
IVK				*e*Pg		**Pb**	**04 10 03.1**	**-0.9**
IVK				Pmax			04 10 11.7	
	34nm,0.6s							
IVK				*e*Sg		**Sg**	**04 10 42.2**	**-1.4**
IVK				Smax			04 10 44.0	
	363nm,0.5s							
LSTR	**Listvyanka**	**3.05**	**83**	*e*Pn		**Pn**	**04 10 01.3**	**-1.1**
LSTR				*e*Pg		**Pb**	**04 10 08.0**	**-0.4**
LSTR				*e*PgPg		**PbPb**	**04 10 11.1**	**-0.5**
LSTR				max			04 10 21.5	
	26nm,0.6s							
LSTR				*e*			04 10 47.7	
LSTR				*e*Sg		**Sg**	**04 10 50.6**	**-1.4**
LSTR				Smax			04 10 54.0	
	215nm,0.7s							
KZLR	**Kyzyl**	**3.42**	**274**	*e*Pn		Pn	04 10 00.1	-7.4
KZLR				*e*Sg		**Sn**	**04 10 49.5**	**+1.4**
KZLR	**Kyzyl**	**3.42**	**274**	Pg		**Pn**	**04 10 07.1**	**-0.4**
KZLR				Sg		**Sn**	**04 10 49.6**	**+1.4**
STDB	**Stepnoy Dvoret**	**4.01**	**80**	*e*Pn		**Pn**	**04 10 15.9**	**+0.2**
STDB				*e*Sg		**Sg**	**04 11 23.0**	**0.0**
TRG	**Tyrgan**	**4.10**	**71**	*e*Pn		**Pn**	**04 10 15.6**	**-1.3**
TRG				*e*			04 10 22.1	
TRG				max			04 10 31.3	
	55nm,0.6s							
TRG				*e*			04 11 11.2	
TRG				*e*Sg		**Sg**	**04 11 23.8**	**-1.9**
TRG				Smax			04 11 28.1	
	402nm,0.9s							
TRG	**Tyrgan**	**4.10**	**71**	Pg		**Pg**	**04 10 29.9**	**-2.7**
TRG				Sg		**Sg**	**04 11 22.1**	**-3.7**
ARDR	**Aradan**	**4.13**	**286**	*e*Pg		**Pn**	**04 10 19.2**	**+1.9**
ARDR				*e*Sg		**Sn**	**04 11 10.2**	**+4.5**
ARDR	**Aradan**	**4.13**	**286**	Pg		**Pn**	**04 10 20.1**	**+2.9**
ARDR				Sg		**Sn**	**04 11 10.1**	**+4.5**
KAB	**Kabansk**	**4.18**	**81**	*e*Sg		**Sg**	**04 11 27.1**	**-1.3**
KAB				Smax			04 11 33.7	
	576nm,0.6s							
FFNB	**Fofonovo**	**4.25**	**82**	*e*Pg		**Pb**	**04 10 28.1**	**-0.8**
FFNB				*e*			04 11 22.1	
FFNB				*e*Sg		**Sg**	**04 11 27.2**	**-3.3**
ORY	**Orie**	**4.46**	**321**	Pg		**Pb**	**04 10 29.3**	**-3.2**
ORY				Sg		**Sb**	**04 11 26.9**	**+0.7**
ZRHB	**Zarechye**	**4.54**	**75**	*e*Pn		**Pn**	**04 10 24.1**	**+1.2**
ZRHB				Pg		**Pb**	**04 10 35.8**	**+1.9**
ZRHB				*e*Sn		**Sn**	**04 11 18.0**	**+2.3**
ZRHB				*e*Sg		**Sg**	**04 11 39.8**	**0.0**
MINR	**Mina**	**4.76**	**316**	Pg		**Pb**	**04 10 39.6**	**+2.0**
MINR				Sg		**Sb**	**04 11 40.1**	**+5.2**
UUDB	**Ulan-Yde**	**4.80**	**84**	*e*		Pn	04 10 31.9	+5.4
UUDB				Pg		**Pb**	**04 10 40.6**	**+2.3**
UUDB				*e*			04 10 43.6	
UUDB				max			04 10 47.5	
	29nm,0.7s							
UUDB				*e*			04 11 36.0	
UUDB				*e*Sg		**Sg**	**04 11 45.9**	**-2.3**
UUDB				Smax			04 11 52.6	
	166nm,0.9s							
OGRR	**Ongureny**	**5.08**	**64**	*e*Pn		**Pn**	**04 10 31.7**	**+1.4**
OGRR				*e*			04 10 36.9	
OGRR				Pg		**Pb**	**04 10 45.7**	**+2.7**
OGRR				Pmax			04 10 53.6	
	23nm,0.5s							
OGRR				*e*			04 11 36.7	
OGRR				*e*			04 11 52.2	
OGRR				*e*Sg		**Sg**	**04 11 54.9**	**-2.2**
OGRR				Smax			04 12 00.4	
	263nm,0.5s							
KELR	**Kotokel**	**5.13**	**74**	*e*Sg		**Sg**	**04 11 56.3**	**-2.5**
CERR	**Cheremushki**	**5.38**	**287**	Sg		**Sb**	**04 11 52.6**	**-0.3**
DJOS	**Djoyskaya Sosn**	**5.38**	**286**	Pg		Pb	04 10 44.0	-4.2
DJOS				Sg		**Sb**	**04 11 50.4**	**-2.5**
DJO	**Djoy, Khakassi**	**5.49**	**286**	Pg		Pb	04 10 45.9	-4.2
DJO				Sg		**Sb**	**04 11 57.2**	**+1.3**
ABNR	**Abakan**	**5.59**	**295**	Sg		**Sb**	**04 11 59.5**	**+0.8**
MXMB	**Maximikha**	**5.63**	**70**	*e*		Sn	04 11 50.8	+8.3
MXMB				*e*Sg		**Sg**	**04 12 11.8**	**-2.9**
ULN	**Ulaanbaatar**	**5.95**	**126**	*e*		**Pn**	**04 10 44.0**	**+1.7**
ULN				*e*Pg		**Pb**	**04 10 58.1**	**+0.2**
ULN				*e*Sg		**Sb**	**04 12 15.9**	**+6.7**
ULN				*e*			04 12 21.6	
ULN				*e*			04 12 31.3	
ULN	**Ulaanbaatar**	**5.95**	**126**	Sg		**Sb**	**04 12 17.2**	**+8.0**
VEH	**Verkhnyaya Baz**	**6.11**	**289**	Sg		**Sb**	**04 12 12.8**	**-1.0**
SYVR	**Suvo**	**6.45**	**68**	*e*Pn		Pn	04 10 38.5	-11
SYVR				Pg		**Pb**	**04 11 08.1**	**+1.7**
SYVR				Pmax			04 11 16.8	
	8.0nm,0.8s							
SYVR				*e*			04 11 58.1	
SYVR				*e*			04 12 06.6	
SYVR				Sg		**Sg**	**04 12 35.2**	**-5.8**
SYVR				Smax			04 12 42.8	
	104nm,1.9s							
NIZ	**Nizh Angarsk**	**7.05**	**50**	*e*		**Pn**	**04 11 01.0**	**+3.7**
NIZ				max			04 11 14.0	
	6.0nm,0.4s							
NIZ				*e*			04 11 18.7	
NIZ				*e*Sn		**Sn**	**04 12 17.4**	**-0.1**
NIZ				*e*Sg		**Sg**	**04 12 55.6**	**-4.7**
NIZ				Smax			04 12 58.5	
	417nm,1.2s							
YLYR	**Ulyunkhan**	**7.48**	**60**	*e*		Pn	04 11 08.3	+5.1
YLYR				*e*			04 11 20.0	
YLYR				max			04 11 36.7	
	6.0nm,0.7s							
YLYR				*e*			04 12 33.2	
YLYR				*e*			04 13 04.9	
YLYR				*e*Sg		**Sg**	**04 13 08.9**	**-4.9**
YLYR				Smax			04 13 25.5	
	107nm,1.8s							
KMO	**Kumora**	**7.92**	**53**	*e*Pn		Pn	04 10 59.1	-10
KMO				*e*			04 11 13.5	
KMO				max			04 11 25.4	
	11nm,0.4s							
KMO				*e*			04 12 44.9	
KMO				*e*Sg		**Sg**	**04 13 24.1**	**-3.9**
KMO				*e*			04 13 42.2	
KMO				max			04 13 50.6	
	109nm,1.2s							
KPC	**Khapcheranga**	**8.13**	**99**	*e*		Pn	04 11 19.4	+7.2
KPC				*e*Pg		Pb	04 11 40.1	+5.1
KPC				Pmax			04 11 56.2	
	1.0nm,0.3s							
KPC				*e*			04 12 48.3	
KPC				*e*Sg		**Sg**	**04 13 29.1**	**-5.8**
KPC				Smax			04 13 37.5	
	122nm,1.7s							
KPC				*e*			04 13 46.0	
YOA	**Uoyan**	**8.29**	**52**	*e*Sg		**Sg**	**04 13 38.0**	**-2.0**
YOA				*e*			04 13 48.8	
YOA				max			04 13 54.6	
	447nm,1.1s							
UKT	**Uakit**	**9.02**	**59**	*e*Pn		**Pn**	**04 11 26.3**	**+2.0**
UKT				*e*			04 11 37.9	
UKT				*e*			04 12 03.2	
UKT				max			04 12 03.8	
	2.0nm,0.6s							
UKT				*e*			04 13 10.4	
UKT				*e*			04 13 47.7	
UKT				*e*Sg			04 13 58.1	
UKT				Smax			04 14 14.3	
	37nm,1.5s							
SVKR	**Severomuysk**	**9.21**	**55**	Sg		Sn	04 14 05.5	+55
SVKR				Smax			04 14 24.4	
	145nm,1.0s							
BOD	**Bodaibo**	**10.22**	**47**	*e*Sg			04 14 33.7	
BOD				Smax			04 15 01.7	
	47nm,2.2s							
NLYR	**Nelyaty**	**10.46**	**56**	*e*			04 13 55.5	
NLYR				*e*Sg			04 14 43.4	
NLYR				Smax			04 15 03.7	
	27nm,1.6s							
CRS	**Chara**	**11.93**	**57**	*e*		Pn	04 12 08.4	+4.3
CRS				*e*			04 14 20.3	
CRS				Sg			04 15 27.5	
CRS				Smax			04 14 55.5	
	41nm,1.1s							
TUP	**Tupik**	**12.36**	**69**	max			04 12 13.0	
	3.0nm,0.3s							
TUP				*e*Sg			04 15 41.0	
TUP				Smax			04 16 04.4	
	34nm,1.7s							

*KRNET **10** 04:18:54.4±0.1,42°.19N×81°.01E,h35km, mb3.2*
*SOME **10** 04:18:54.4,42°.15N×80°.67E,h10km*
*NNC **10** 04:18:56.7±1.1,42°.16N×80°.53E,h0km, mb3.6, mpv3.4,*
Error ellipse: s-maj=7.5km s-min=5.2km az=151.0
ISC 10 04:19:00.1±2.6, 42°.35N±0°.08×80°.41E±0°.07, h4km±13km, n45, σ1.969/73, 16C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.07**	**319**	*e*P		**Pb**	**04 19 17.4**	**-3.8**
	baz=20							
SHLS				*e*S		**Sg**	**04 19 34.4**	**0.0**
	baz=20							
SHLS	**Shalkode**	**1.07**	**319**	*e*P		**Pb**	**04 19 17.4**	**-3.8**
	13nm,0.1s							
SHLS				*e*S		**Sg**	**04 19 34.4**	**0.0**
	142nm,0.2s							
SHLS	**Shalkode**	**1.07**	**319**	P		**Pb**	**04 19 17.4**	**-3.8**
	34nm,0.1s							
SHLS				S		**Sg**	**04 19 34.4**	**0.0**
	183nm,0.2s							
UZB	**Uzynbulak**	**1.30**	**308**	*e*P		**Pn**	**04 19 23.9**	**-1.3**
	baz=4.0							
UZB				*e*S		**Sg**	**04 19 45.5**	**+3.7**
	baz=4.0							
UZB	**Uzynbulak**	**1.30**	**308**	*e*P		**Pn**	**04 19 23.9**	**-1.3**
	3.4nm,0.2s							
UZB				*e*S		**Sg**	**04 19 45.5**	**+3.7**
	23nm,0.1s							
UZB	**Uzynbulak**	**1.30**	**308**	P		**Pn**	**04 19 23.8**	**-1.4**
	15nm,0.2s							
UZB				S		**Sg**	**04 19 45.1**	**+3.3**
	23nm,0.2s							
PRZ	**Przheval'sk**	**1.50**	**276**⇑	*i*P		**Pn**	**04 19 26.8**	**-1.1**
	baz=80							
PRZ			⇑	*i*S		**Sg**	**04 19 50.5**	**+2.3**
	baz=80							
SATY	**Saty**	**1.64**	**296**	*e*P		**Pg**	**04 19 31.3**	**-0.2**
	7.5nm,0.1s							
SATY				*e*S		**Sg**	**04 19 58.0**	**+5.2**
	39nm,0.1s							
SATY	**Saty**	**1.64**	**296**	P		**Pn**	**04 19 29.5**	**-0.4**
	20nm,0.2s							
SATY				S		**Sg**	**04 19 54.5**	**+1.7**
	31nm,0.1s							
KURS	**Kuram**	**2.00**	**305**	*e*P		**Pb**	**04 19 36.3**	**-0.8**
	4.4nm,0.2s							
KURS				*e*S		**Sg**	**04 20 06.7**	**+2.3**
	24nm,0.3s							
KURS	**Kuram**	**2.00**	**305**	Pg		**Pb**	**04 19 36.5**	**-0.6**
	8.6nm,0.2s							
KURS				Lg		Lg	04 20 06.6	
	24nm,0.3s							
DJR	**Jarkent**	**2.03**	**347**	*e*P		**Pb**	**04 19 36.9**	**-0.7**
	1.0nm,0.1s							
DJR				*e*S		**Sg**	**04 20 07.6**	**+2.2**
	29nm,0.2s							
DJR	**Jarkent**	**2.03**	**347**	Pg		**Pb**	**04 19 36.9**	**-0.7**
	4.0nm,0.3s							
DJR				Lg		Lg	04 20 07.1	
	37nm,0.4s							
ANVS	**Anan'yevo**	**2.07**	**283**⇑	*e*P		**Pn**	**04 19 35.1**	**-0.8**
	baz=85							
ANVS			⇑	*i*S		**Sb**	**04 20 04.6**	**0.0**
	baz=85							
KDJ	**Kajisay**	**2.41**	**266**⇑	*i*P		**Pn**	**04 19 39.3**	**-1.2**
	baz=70							
KDJ			⇑	*i*S		**Sb**	**04 20 11.9**	**-2.4**
	baz=70							
KOTS	**Kotyrbulak**	**2.58**	**291**	*e*P		**Pb**	**04 19 47.2**	**+0.1**
	11nm,0.1s							
KOTS				*e*S		**Sg**	**04 20 25.5**	**+2.3**
	23nm,0.3s							
KOTS	**Kotyrbulak**	**2.58**	**291**	Pg		**Pb**	**04 19 46.5**	**-0.6**
	23nm,0.3s							
KOTS				Lg		Lg	04 20 24.5	
	82nm,0.5s							
MDOK	**Medeo**	**2.61**	**289**	*e*P		**Pb**	**04 19 45.9**	**-1.6**
	4.1nm,0.1s							
MDOK				*e*S		**Sg**	**04 20 23.2**	**-0.7**
	11nm,0.4s							
MDOK	**Medeo**	**2.61**	**289**	Pg		**Pb**	**04 19 44.9**	**-2.6**
	4.3nm,0.6s							
MDOK				Lg		Lg	04 20 23.8	
	8.6nm,0.5s							
MDOK	**Medeo**	**2.61**	**289**	Pg		**Pb**	**04 19 46.5**	**-1.0**
	4.8nm,0.4s							
MDOK				Lg		Lg	04 20 24.4	
	14nm,0.4s							
TNSS	**Tian-Shan**	**2.65**	**286**	*e*P		**Pb**	**04 19 46.9**	**-1.4**
	3.4nm,0.0s							
TNSS				*e*S		**Sg**	**04 20 24.5**	**-0.6**
	8.6nm,0.3s							
TNSS	**Tian-Shan**	**2.65**	**286**	Pg		**Pb**	**04 19 47.3**	**-1.0**
	7.5nm,0.2s							
TNSS				Lg		Lg	04 20 24.7	
	12nm,0.3s							
ARXS	**Arharly**	**2.65**	**315**	*e*P		**Pb**	**04 19 47.7**	**-0.5**
	3.6nm,0.1s							
ARXS				*e*S		**Sg**	**04 20 26.3**	**+1.0**
	18nm,0.2s							
ARXS	**Arharly**	**2.65**	**315**	Pg		**Pb**	**04 19 47.8**	**-0.4**
	5.2nm,0.2s							
ARXS				Lg		Lg	04 20 27.2	
	27nm,0.5s							
TDK	**Taldyqorghan**	**3.02**	**332**	Pg		**Pg**	**04 19

baz=82
TKM2 ⇑*i*S **Sn** **04 20 41.5 +1.6**
baz=82
TKM2 Tokmak 2 3.60 281 ⇑Pn **Pn** **04 19 58.8 +2.0**
2.5nm,0.7s
TKM2 ⇑Lg Lg 04 20 53.4
3.8nm,0.5s
KZA Kyzart 3.85 268⇑*e*P **Pn** **04 19 59.8 -0.6**
baz=70
KZA ⇑*i*S **Sn** **04 20 47.1 +0.8**
baz=70
AAK Ala-Archa 4.39 276 ⇓Pg **Pb** **04 20 19.7 +1.9**
2.3nm,0.7s
AAK ⇓Lg Lg 04 21 19.0
2.7nm,0.6s
MAKZ Makanchi 4.59 14 ⇓Pn **Pn** **04 20 10.1 -0.3**
0.9nm,0.5s
MAKZ ⇑Lg Lg 04 21 27.4
1.3nm,0.6s
MK31 Makanchi Array 4.64 16 ⇓Pn **Pn** **04 20 10.4 -0.5**
0.2nm,0.3s,baz=199,slow=14,SNR=11
MK31 ⇓Sn **Sn** **04 21 08.1 +2.9**
0.8nm,0.5s,baz=181,slow=24,SNR=4.2
MK31 ⇑Lg Lg 04 21 24.0
2.6nm,0.8s,baz=201,slow=28,SNR=4.3

*NEIC **10** 04:33:44.8±1.8, 14°.52N±0°.07×54°.7E±0°.1, h10km±1km, mb4.3/14, Error ellipse: s-maj=18.4km s-min=10.1km az=107.0*
*IDC **10** 04:33:44.2±1.0, 14°.53N×54°.71E, h0km, mb4.0/18, mb1 4.2/19, mb1mx4.0/40, mbtmp4.0/19, ML3.2/1, Error ellipse: s-maj=24.1km s-min=17.5km az=26.0*
*OMAN **10** 04:33:54.8±10.0, 15°.20N×54°.57E, h20km, ml3.6/6, Error ellipse: s-maj=442.9km s-min=190.8km az=47.0*

ISC 10 04:33:46.5±0.8, 14°.79N±0°.09×54°.69E±0°.08, h10km, n46, σ1§52/46, mb4.1/25, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.68**	**195**	Pn		Pn	04 34 19.8	-10
SOCY						Sn	04 34 45.6	-17
RBK	**Rabkut**	**2.73**	**350**	P		**Pn**	**04 34 31.2**	**+0.6**
RBK				S		Sn	04 34 59.3	-4.4
ABTO	**Aybut**	**2.88**	**333**	P		**Pn**	**04 34 33.5**	**+1.0**
ABTO				S		**Sn**	**04 35 04.3**	**-2.9**
DMTO	**DMTO**	**2.92**	**5**	P		**Pn**	**04 34 35.2**	**+2.2**
DMTO				S		**Sn**	**04 35 05.4**	**-2.8**
WHFO	**Wadi Hawf**	**3.23**	**344**	P		**Pn**	**04 34 38.7**	**+1.4**
WHFO				S		**Sn**	**04 35 13.0**	**-2.9**
SHAO	**Shalim**	**3.34**	**16**	P		**Pn**	**04 34 41.4**	**+2.6**
SHAO				S		**Sn**	**04 35 15.7**	**-2.9**
WSAR	**Wadi Sarin**	**9.19**	**23**	Pn		**Pn**	**04 36 00.6**	**+1.4**
	0.2nm,0.3s,baz=220,slow=18,SNR=2.1							
UOSS	**Minazif**	**10.20**	**8**	Pn		**Pn**	**04 36 15.2**	**+2.1**
RAYN	**Ar Rayn**	**12.27**	**316**			**Pn**	**04 36 40.8**	**-0.6**
HRA	**Herat**	**20.67**	**18**	P		**P**	**04 38 27.9**	**+1.0**
HRA				IAmb		IAmb	04 38 34.1	
	comp=Z,50nm,1.6s							
GEYT	**Alibeck**	**23.25**	**7**	P		**P**	**04 38 55.6**	**+1.5**
	comp=Z,5.5nm,0.8s,baz=187,slow=10,SNR=7.2							
KBL	**Kabul**	**23.55**	**31**	P		**P**	**04 38 56.1**	**-1.3**
KBL				IAmb		IAmb	04 39 07.3	
	comp=Z,6.2nm,1.0s							
ASF	**Jabal al Asfar**	**23.72**	**320**	P		**P**	**04 39 00.3**	**+1.4**
	comp=Z,0.8nm,0.3s,baz=345,slow=2.1,SNR=3.1							
NIL	**Nilore**	**25.20**	**39**	P		**P**	**04 39 10.2**	**-2.3**
MMAI	**Mount Meron Ar**	**25.22**	**319**	P		**P**	**04 39 14.8**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=110,slow=7.8,SNR=1.4							
CHGR	**Chuyangaron**	**26.98**	**26**	P		**P**	**04 39 28.2**	**-0.4**
GAZ	**Gaziantep**	**27.17**	**328**	P		**P**	**04 39 30.8**	**+0.5**
KBZ	**Khabaz**	**30.55**	**343**	P		**P**	**04 40 02.4**	**+2.3**
	comp=Z,2.6nm,0.9s,baz=128,slow=4.4,SNR=5.5							
TARG	**Taragay, Kyrgy**	**33.48**	**32**	P		**P**	**04 40 26.7**	**+0.2**
TARG				IAmb		IAmb	04 40 30.5	
	comp=Z,18nm,1.9s							
MAKZ	**Makanchi**	**39.21**	**30**	P		**P**	**04 41 13.9**	**-1.0**
MK31	**Makanchi Array**	**39.35**	**30**	P		**P**	**04 41 15.9**	**-0.2**
MKAR	**Makanchi Array**	**39.35**	**30**	P		**P**	**04 41 17.6**	**+1.6**
	comp=Z,1.2nm,0.5s,baz=214,slow=8.4,SNR=17							
BVAR	**Borovoye Array**	**40.12**	**15**	P		**P**	**04 41 23.6**	**+1.3**
	comp=Z,1.3nm,0.6s,baz=190,slow=7.2,SNR=7.6							
BRVK	**Borovoye**	**40.13**	**15**	P		**P**	**04 41 21.5**	**-0.9**
BRVK				IAmb		IAmb	04 41 34.6	
	comp=Z,4.3nm,1.1s							
KURK	**Kurchatov**	**40.72**	**23**	P		**P**	**04 41 26.6**	**-0.8**
AKASG	**Malin Array Be**	**41.31**	**336**	P		**P**	**04 41 33.0**	**+0.8**
	comp=Z,1.2nm,0.3s,baz=143,slow=7.9,SNR=4.6							
AKBB	**Malin Array Si**	**41.31**	**336**	P		**P**	**04 41 31.7**	**-0.4**
AKBB				IAmb		IAmb	04 41 34.5	
	comp=Z,5.1nm,1.3s							
CMAR	**Chiang Mai Arr**	**42.49**	**79**	P		**P**	**04 41 41.2**	**-1.1**
	comp=Z,2.0nm,0.3s,baz=289,slow=8.4,SNR=2.1							
ZALV	**Zalesovo Beam**	**45.64**	**25**	P		**P**	**04 42 07.0**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=238,slow=7.2,SNR=8.0							
GERES	**GERESS Array B**	**47.71**	**324**	P		**P**	**04 42 23.8**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=123,slow=9.7,SNR=4.1							
FINES	**FINESS Array B**	**50.91**	**343**	P		**P**	**04 42 48.5**	**+0.9**
	comp=Z,2.2nm,0.6s,baz=140,slow=7.4,SNR=11							
TORD	**Torodi Ar. Bea**	**51.35**	**275**	P		**P**	**04 42 51.5**	**-0.2**
	comp=Z,1.4nm,1.0s,baz=69,slow=5.1,SNR=3.8							
WLF	**Walferdange**	**52.48**	**322**	P		**P**	**04 42 59.5**	**-0.1**
WLF				IAmb		IAmb	04 43 11.2	
	comp=Z,9.9nm,1.2s							
SONM	**Songino Array**	**53.75**	**41**	P		**P**	**04 43 11.2**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=247,slow=8.2,SNR=4.3							
ULN	**Ulaanbaatar**	**54.18**	**41**	P		**P**	**04 43 11.3**	**-1.0**
ULN				IAmb		IAmb	04 43 16.3	
	comp=Z,1.6nm,0.7s							
NB2	**NORSAR Subarra**	**55.72**	**336**	P		**P**	**04 43 21.7**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=124,slow=7.4							
ESDC	**Sonseca Array**	**56.65**	**308**	P		**P**	**04 43 29.8**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=92,slow=5.7,SNR=4.1							
ARCES	**ARCESS Array B**	**57.69**	**348**	P		**P**	**04 43 37.5**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=146,slow=6.7,SNR=13							
KSRS	**Korea Array**	**67.94**	**55**	P		**P**	**04 44 45.1**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=273,slow=6.8,SNR=5.8							
H01W3	**Cape Leeuwin H**	**74.95**	**133**	T		T	06 07 13.2	
	baz=301,slow=75,SNR=34							
H01W2	**Cape Leeuwin H**	**74.95**	**133**	T		T	06 07 12.5	
	baz=301,slow=75,SNR=27							
H01W1	**Cape Leeuwin H**	**74.96**	**133**	T		T	06 07 13.8	
	baz=301,slow=75,SNR=32							
WRA	**Warramunga Arr**	**85.56**	**112**	P		**P**	**04 46 24.6**	**-1.0**
	comp=Z,2.7nm,1.0s,baz=294,slow=4.4,SNR=6.3							
ASAR	**Alice Springs**	**86.30**	**116**	P		**P**	**04 46 27.4**	**-1.8**
	comp=Z,1.5nm,0.8s,baz=280,slow=4.8,SNR=8.9							
PDAR	**Pinedale Array**	**120.92**	**347**	PKP		**PKiKP**	**04 52 39.1**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=38,slow=4.6,SNR=2.5							
NVAR	**Mina Array Bea**	**126.65**	**353**	PKP		**PKiKP**	**04 52 52.0**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=305,slow=1.5,SNR=6.1							

*NEIC **10** 04:38:28.8±2.0, 14°.60N±0°.05×54°.7E±0°.1, h10km±1km, mb4.2/9, Error ellipse: s-maj=20.9km s-min=6.5km az=106.0*
*IDC **10** 04:38:28.1±1.1, 14°.54N×54°.81E, h0km, mb3.8/14, mb1 3.9/15, mb1mx3.8/40, mbtmp3.8/15, ML3.6/1, MS3.6/7, Ms1 3.6/7, ms1mx3.2/43, Error ellipse: s-maj=26.5km s-min=20.8km az=30.0*

ISC 10 04:38:28.5±0.7, 14°.39N±0°.07×54°.8E±0°.1, h14km, n32, σ1§58/27, mb4.1/19, MS3.4/6, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SOCY	**Socotra**	**2.32**	**199**			**Pn**	**04 39 05.4**	**-0.9**
SOCY						**Sn**	**04 39 31.9**	**-2.7**
WSAR	**Wadi Sarin**	**9.53**	**22**	Pn		**Pn**	**04 40 43.9**	**-1.5**
	0.6nm,0.3s,baz=319,slow=20,SNR=10							
WSAR				LR		LR	04 44 08.8	
	comp=Z,362nm,19.6s,baz=210,slow=36							
RAYN	**Ar Rayn**	**12.61**	**317**	Pn		**Pn**	**04 41 25.6**	**-2.0**
HRA	**Herat**	**21.03**	**17**	P		**P**	**04 43 10.9**	**-1.2**
KMBO	**Kilima Mbogo**	**23.20**	**230**	LR		LR	04 53 16.1	
	comp=Z,103nm,19.7s,baz=8.0,slow=38							
GEYT	**Alibeck**	**23.63**	**7**	P		**P**	**04 43 39.5**	**+0.2**
	2.1nm,0.6s,baz=81,slow=29,SNR=3.1							
GEYT				LR		LR	04 54 25.4	
	comp=Z,182nm,20.5s,baz=180,slow=41							
GYA0B	**ALIBECK ARRAY**	**23.63**	**7**	P		**P**	**04 43 37.4**	**-1.9**
GYA0B				IAmb		IAmb	04 43 49.4	
	comp=Z,6.0nm,0.7s							
EIL	**Elat**	**23.79**	**313**	LR		LR	04 52 15.1	
	comp=Z,119nm,19.6s,baz=124,slow=35							

KBL Kabul 23.85 30 P **P** **04 43 40.1 -1.5**
KBL IAmb IAmb 04 43 45.3
comp=Z,5.3nm,0.5s
ASF Jabal al Asfar 24.07 320 P **P** **04 43 45.5 +1.9**
comp=Z,0.7nm,0.3s,baz=56,slow=6.2,SNR=1.4
MMAI Mount Meron Ar 25.57 320 P **P** **04 43 59.6 +2.4**
comp=Z,0.4nm,0.3s,baz=134,slow=8.4,SNR=1.0
MMAI LR LR 04 54 34.3
comp=Z,111nm,18.8s,baz=145,slow=38
TARG Taragay, Kyrgy 33.77 32 P **P** **04 45 08.9 -1.4**
TARG IAmb IAmb 04 45 19.4
comp=Z,5.6nm,1.2s
AGG Agios Georgios 37.63 317 P **P** **04 45 43.2 +0.2**
MK31 Makanchi Array 39.66 30 P **P** **04 45 59.2 -0.8**
MKAR Makanchi Array 39.66 30 P **P** **04 46 01.4 +1.4**
comp=Z,0.7nm,0.6s,baz=210,slow=9.0,SNR=8.5
BVAR Borovoye Array 40.49 15 P **P** **04 46 07.2 +0.5**
comp=Z,0.7nm,0.5s,baz=186,slow=4.5,SNR=5.0
BRVK Borovoye 40.49 14 P **P** **04 46 04.9 -1.9**
BRVK IAmb IAmb 04 46 08.2
comp=Z,6.8nm,1.6s
AKASG Malin Array Be 41.70 336 LR LR 05 06 52.8
comp=Z,47nm,20.2s,baz=295,slow=41
ZAA0 Zalesovo Array 45.98 24 P **P** **04 46 50.1 -0.9**
ZAA0 IAmb IAmb 04 46 51.4
comp=Z,1.9nm,0.8s
ZALV Zalesovo Beam 45.98 24 P **P** **04 46 51.2 +0.1**
comp=Z,1.0nm,0.6s,baz=256,slow=6.0,SNR=3.8
FINES FINESS Array B 51.31 343 P **P** **04 47 32.1 +0.1**
comp=Z,1.7nm,0.7s,baz=145,slow=9.9,SNR=7.4
TOA0 Torodi Ar. Sit 51.47 275 P **P** **04 47 34.2 +0.3**
TORD Torodi Ar. Bea 51.47 275 P **P** **04 47 35.8 +1.9**
comp=Z,0.5nm,0.7s,baz=89,slow=6.3,SNR=2.4
NOA NORSAR Array B 56.11 336 P **P** **04 48 09.1 +1.9**
comp=Z,0.3nm,0.7s,baz=108,slow=9.0,SNR=1.6
NOA LR LR 05 15 20.9
comp=Z,62nm,19.1s,baz=255,slow=40
ESDC Sonseca Array 56.96 308 P **P** **04 48 14.4 +0.8**
comp=Z,0.5nm,0.7s,baz=91,slow=6.8,SNR=6.8
ARCES ARCESS Array B 58.09 348 P **P** **04 48 20.6 -0.5**
comp=Z,2.4nm,0.7s,baz=141,slow=5.9,SNR=9.6
KSRS Korea Array 68.10 55 P **P** **04 49 29.1 +1.0**
comp=Z,0.4nm,0.3s,baz=268,slow=6.1,SNR=1.6
H01W3 Cape Leeuwin H 74.62 133 T T 06 11 59.8
baz=301,slow=75,SNR=26
H01W2 Cape Leeuwin H 74.62 133 T T 06 11 59.9
baz=301,slow=75,SNR=31
H01W1 Cape Leeuwin H 74.64 133 T T 06 11 49.1
baz=301,slow=75,SNR=35
WRA Warramunga Arr 85.34 112 P **P** **04 51 07.3 +1.5**
comp=Z,1.1nm,0.9s,baz=296,slow=4.0,SNR=6.6
ASAR Alice Springs 86.05 115 P **P** **04 51 12.0 +2.7**
comp=Z,0.9nm,0.6s,baz=291,slow=4.6,SNR=11

MAN 10 05:01:06.1, 13°.42N×120°.56E, h32km, mb3.8, ML2.5, MS2.0, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.40**	**78**	⇓*e*P		Pn	05 01 16.3	+0.6
PGP				*e*S		Sn	05 01 23.6	+1.5

*IDC **10** 05:52:00.9±1.3, 5°.64S×149°.15E, h126km±15km, mb3.6/10, mb1 3.7/12, mb1mx3.6/28, mbtmp4.0/12, Error ellipse: s-maj=21.3km s-min=9.3km az=128.0*

ISC 10 05:51:59.4±0.7, 5°.49S±0°.09×149°.00E±0°.09, h100km, n14, σ1§66/16, mb4.0/10, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.24**	**69**	P		**Pn**	**05 52 50.4**	**+2.1**
	3.7nm,0.3s,baz=254,slow=1.4,SNR=4.8							
KRVT				S		**Sn**	**05 53 26.6**	**+0.5**
	27nm,0.3s,baz=257,slow=9.9,SNR=3.8							
PMG	**Port Moresby**	**4.30**	**205**	P		**Pn**	**05 53 05.5**	**+2.9**
	12nm,0.3s,baz=0.9,slow=4.9,SNR=8.3							
PMG				S		**Sn**	**05 53 53.0**	**+1.3**
	7.9nm,0.3s,baz=149,slow=23,SNR=3.7							
WRA	**Warramunga Arr**	**20.24**	**223**	P		**P**	**05 56 26.1**	**-0.8**
	4.1nm,0.4s,baz=49,slow=10,SNR=27							
ASAR	**Alice Springs**	**23.19**	**217**	P		**P**	**05 56 56.5**	**-1.2**
	1.0nm,0.3s,baz=54,slow=8.4,SNR=16							
DZM	**Mont Dzumac**	**23.59**	**136**	P		**P**	**05 56 58.4**	**-3.0**
	3.5nm,0.5s,baz=267,slow=9.4,SNR=8.1							
FITZ	**Fitzroy Crossi**	**26.03**	**239**	P		**P**	**05 57 21.9**	**-1.5**
	16nm,0.5s,baz=57,slow=8.2,SNR=40							
STKA	**Stephens Creek**	**27.15**	**194**	P		**P**	**05 57 32.5**	**-0.8**
	4.8nm,1.2s,baz=352,slow=5.8,SNR=3.4							
KSRS	**Korea Array**	**47.03**	**337**	P		**P**	**06 00 20.0**	**-0.8**
	1.6nm,0.5s,baz=156,slow=8.2,SNR=6.1							
USRK	**Ussuriysk Ar.**	**51.78**	**344**	P		**P**	**06 00 58.2**	**+1.3**
	0.9nm,0.5s,baz=165,slow=10,SNR=3.0							
CMAR	**Chiang Mai Arr**	**54.78**	**297**	P		**P**	**06 01 19.6**	**+0.2**
	0.6nm,0.3s,baz=106,slow=7.2,SNR=4.2							
PETK	**Petropavlovsk-**	**58.84**	**6**	P		**P**	**06 01 48.6**	**+1.2**
	1.7nm,0.5s,baz=166,slow=8.0,SNR=5.0							
SONM	**Songino Array**	**64.95**	**330**	P		**P**	**06 02 29.2**	**+0.6**
	0.4nm,0.5s,baz=142,slow=7.3,SNR=1.5							
MKAR	**Makanchi Array**	**78.38**	**320**	P		**P**	**06 03 47.4**	**-1.7**
	0.1nm,0.4s,baz=123,slow=8.1,SNR=2.5							
TORD	**Torodi Ar. Bea**	**146.88**	**286**	PKPbc		**PKPdf**	**06 11 29.1**	**-0.2**
	0.4nm,0.3s,baz=88,slow=3.0,SNR=14							

*SOME **10** 06:32:31.8, 40°.33N×77°.62E, h0km*
*KRNET **10** 06:32:33.1±0.1, 40°.30N×77°.65E, mb3.1*
*NNC **10** 06:32:33.2±0.7, 40°.30N×77°.58E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=4.8km s-min=3.5km az=169.0*

ISC 10 06:32:29.2±2.4, 40°.21N±0°.09×77°.57E±0°.04, h6km±18km, n51, σ1§37/80, 18C-8D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.53**	**7**	⇑*i*P		**Pg**	**06 33 00.2**	**+1.6**
	baz=4.0							
TARG				⇑*i*S		**Sg**	**06 33 20.1**	**+1.6**
	baz=4.0							
KDJ	**Kajisay**	**1.94**	**352**	⇓*i*P		**Pg**	**06 33 07.6**	**+1.1**
	baz=49							
KDJ				⇓*i*S		**Sg**	**06 33 32.8**	**+1.1**
	baz=49							
ULHL	**Ulahol**	**2.27**	**334**	⇑*i*P		**Pg**	**06 33 13.1**	**+0.4**
	baz=32							
ULHL				⇑*i*S		**Sg**	**06 33 42.4**	**+0.3**
	baz=32							
PRZ	**Przheval'sk**	**2.36**	**15**	⇑*e*P		**Pg**	**06 33 13.8**	**-0.6**
	baz=15							
PRZ				⇑*i*S		**Sg**	**06 33 43.3**	**-1.7**
	baz=15							
KZA	**Kyzart**	**2.56**	**318**	⇑*i*P		**Pb**	**06 33 17.8**	**+2.0**
	baz=15							
KZA				⇑*i*S		**Sg**	**06 33 50.4**	**-1.1**
	baz=15							
ANVS	**Anan'yevo**	**2.58**	**2**	⇑*i*P		**Pb**	**06 33 16.8**	**+0.9**
	baz=0.0							
ANVS				⇑*i*S		**Sg**	**06 33 48.8**	**-3.1**
	baz=0.0							
BOOM	**Boomskoye usch**	**2.59**	**332**	⇓*i*P		**Pb**	**06 33 17.6**	**+1.4**
	baz=30							
BOOM				⇓*i*S		**Sg**	**06 33 50.1**	**-2.3**
	baz=30							
TNSS	**Tian-Shan**	**2.87**	**351**	*e*P		**Pg**	**06 33 24.3**	**+0.2**
	12nm,0.2s							
TNSS				*e*S		**Sg**	**06 34 02.3**	**+1.0**
	23nm,0.3s							
TNSS	**Tian-Shan**	**2.87**	**351**	Pg		**Pg**	**06 33 24.3**	**+0.2**
	12nm,0.2s							
TNSS				Lg		Lg	06 34 02.3	
	23nm,0.3s							
IZV	**Izvestkoviy**	**2.92**	**346**	*e*P		**Pg**	**06 33 25.6**	**+0.6**
	11nm,0.3s							
IZV				*e*S		**Sg**	**06 34 04.6**	**+1.8**
	18nm,0.2s							
IZV	**Izvestkoviy**	**2.92**	**346**	Pg		**Pg**	**06 33 25.6**	**+0.6**
	11nm,0.3s							
IZV				Lg		Lg	06 34 04.6	
	18nm,0.2s							
SATY	**Saty**	**2.92**	**12**	*e*P		**Pg**	**06 33 24.6**	**-0.5**
	5.0nm,0.1s							
SATY				*e*S		**Sg**	**06 34 02.9**	**-0.1**
	30nm,0.3s							
SATY	**Saty**	**2.92**	**12**	Pg		**Pg**	**06 33 24.6**	**-0.5**
	5.0nm,0.1s							
SATY				Lg		Lg	06 34 02.9	
	30nm,0.3s							
ARLS	**Aral**	**2.96**	**305**	⇑*i*P		**Pb**	**06 33 23.5**	**+1.1**
	baz=3.0							
ARLS				⇑*i*S		**Sb**	**06 34 00.0**	**+1.1**
	baz=3.0							
MDOK	**Medeo**	**2.98**	**353**	*e*P		**Pg**	**06 33 25.8**	**-0.5**
	9.4nm,0.1s							
MDOK				*e*S		**Sg**	**06 34 04.9**	**0.0**
	64nm,0.5s							
MDOK	**Medeo**	**2.98**	**353**	Pg		**Pg**	**06 33 26.2**	**-0.1**
	5.4nm,0.4s							
MDOK				Lg		Lg	06 34 04.5	
	57nm,0.6s							
MDOK	**Medeo**	**2.98**	**353**	Pg		**Pg**	**06 33 25.8**	**-0.5**
	9.4nm,0.1s							
MDOK				Lg		Lg	06 34 04.9	
	64nm,0.5s							
MTBS	**Maitube**	**3.04**	**344**	*e*P		**Pg**	**06 33 27.1**	**-0.4**
	5.8nm,0.1s							
MTBS				*e*S		**Sg**	**06 34 07.1**	**+0.2**
	15nm,0.2s							
MTBS	**Maitube**	**3.04**	**344**	Pg		**Pg**	**06 33 27.1**	**-0.4**
	5.8nm,0.1s							
MTBS				Lg		Lg	06 34 07.1	
	15nm,0.2s							
KOTS	**Kotyrbulak**	**3.04**	**354**	*e*P		**Pg**	**06 33 27.5**	**-0.1**
	13nm,0.1s							
KOTS				*e*S		**Sg**	**06 34 07.7**	**+0.7**
	32nm,0.4s							
KOTS	**Kotyrbulak**	**3.04**	**354**	Pg		**Pg**	**06 33 27.5**	**-0.1**
	13nm,0.1s							
KOTS				Lg		Lg	06 34 07.7	
	32nm,0.4s							
KST	**Kastek**	**3.08**	**338**	*e*P		**Pg**	**06 33 28.2**	**0.0**
	5.4nm,0.2s							
KST				*e*S		**Sg**	**06 34 08.9**	**+0.8**
	13nm,0.7s							
KST	**Kastek**	**3.08**	**338**	Pg		**Pg**	**06 33 28.2**	**0.0**
	5.4nm,0.2s							
KST				Lg		Lg	06 34 08.9	
	13nm,0.7s							
TKM2	**Tokmak 2**	**3.09**	**332**	⇑*i*P		**Pb**	**06 33 24.5**	**-0.2**
	baz=30							
TKM2				⇑*e*S		**Sb**	**06 34 02.1**	**-0.6**
	baz=30							
TKM2	**Tokmak 2**	**3.09**	**332**	⇑Pg		**Pg**	**06 33 27.6**	**-0.8**
	3.1nm,0.4s							
TKM2				⇓Lg		Lg	06 34 09.8	
	8.5nm,0.4s							
UZB	**Uzynbulak**	**3.13**	**20**	*e*P		**Pg**	**06 33 29.1**	**-0.2**
	1.6nm,0.1s							
UZB				*e*S		**Sg**	**06 34 10.3**	**+0.4**
	16nm,0.4s							
UZB	**Uzynbulak**	**3.13**	**20**	Pg		**Pg**	**06 33 29.1**	**-0.2**
	1.6nm,0.1s							
UZB				Lg		Lg	06 34 10.3	
	16nm,0.4s							
KBK	**Karagaybulak**	**3.14**	**322**	⇑*e*P		**Pb**	**06 33 25.6**	**0.0**
	baz=20							
KBK				⇑*i*S		**Sb**	**06 34 03.8**	**-0.4**
	baz=20							
SHLS	**Shalkode**	**3.27**	**25**	*e*P		**Pg**	**06 33 34.2**	**+2.3**
	0.9nm,0.1s							
SHLS				*e*S		**Sg**	**06 34 19.0**	**+4.7**
	41nm,0.5s							
SHLS	**Shalkode**	**3.27**	**25**	Pg		**Pg**	**06 33 34.2**	**+2.3**
	0.9nm,0.1s							
SHLS				Lg		Lg	06 34 19.0	
	41nm,0.5s							
KURS	**Kuram**	**3.31**	**8**	*e*P		**Pg**	**06 33 32.0**	**-0.6**
	1.5nm,0.2s							
KURS				*e*S		**Sg**	**06 34 15.4**	**-0.1**
	12nm,0.4s							
KURS	**Kuram**	**3.31**	**8**	Pg		**Pg**	**06 33 32.0**	**-0.6**
	1.5nm,0.2s							
KURS				Lg		Lg	06 34 15.4	
	12nm,0.4s							
DGS	**Degeres**	**3.32**	**337**	*e*P		**Pg**	**06 33 32.8**	**0.0**
	0.4nm,0.3s							
DGS				*e*S		**Sg**	**06 34 16.5**	**+0.8**
	14nm,0.3s							
AAK	**Ala-Archa**	**3.35**	**317**	Pg		**Pb**	**06 33 32.5**	**+3.4**
	1.5nm,0.3s							
AAK				Lg		Lg	06 34 17.3	
	13nm,0.6s							
AML	**Almayashu**	**3.50**	**305**	⇓*i*P		**Pb**	**06 33 31.1**	**-0.7**
	baz=3.0							
AML				⇓*i*S		**Sb**	**06 34 13.6**	**-1.1**
	baz=3.0							
KTBS	**Karatobe**	**3.56**	**350**	*e*P		**Pg**	**06 33 36.5**	**-1.0**
	3.5nm,0.1s							
KTBS				*e*S		**Sg**	**06 34 23.3**	**-0.4**
	23nm,0.5s							
KTBS	**Karatobe**	**3.56**	**350**	Pg		**Pg**	**06 33 36.5**	**-1.0**
	3.5nm,0.1s							
KTBS				Lg		Lg	06 34 23.3	
	23nm,0.5s							
KRBS	**Karabastau**	**3.76**	**339**	*e*P		**Pg**	**06 33 39.5**	**-1.8**
	1.8nm,0.3s							
KRBS				*e*S		**Sg**	**06 34 28.4**	**-1.6**
	5.4nm,0.4s							
KRBS	**Karabastau**	**3.76**	**339**	Pg		**Pg**	**06 33 39.5**	**-1.8**
	1.8nm,0.3s							
KRBS				Lg		Lg	06 34 28.3	
	5.4nm,0.4s							
KUU	**Kurty**	**3.80**	**346**	*e*P		**Pg**	**06 33 40.7**	**-1.2**
	2.3nm,0.1s							
KUU				*e*S		**Sg**	**06 34 30.1**	**-0.9**
	8.6nm,0.2s							
KUU	**Kurty**	**3.80**	**346**	Pg		**Pg**	**06 33 40.7**	**-1.2**
	2.3nm,0.1s							
KUU				Lg		Lg	06 34 30.1	
	8.6nm,0.2s							
KTMS	**Ketmen**	**3.85**	**32**	*e*P		**Pg**	**06 33 41.0**	**-2.0**
	0.2nm,0.1s							
KTMS				*e*S		**Sg**	**06 34 30.6**	**-2.2**
	8.0nm,0.2s							
KTMS	**Ketmen**	**3.85**	**32**	Pg		**Pg**	**06 33 41.0**	**-2.0**
	0.2nm,0.1s							

NAO ***10*** *07:33:09.9±1.8, 77°.43N×7°.38E, ML3.0*
IDC ***10*** *07:33:13.3±1.0, 77°.49N×8°.00E, h0km, mb3.4/5, mb1 3.6/8, mb1mx3.3/55, mbtmp3.5/8, ML3.0/3, MS3.0/17, Ms1 3.0/17, ms1mx2.9/34, Error ellipse: s-maj=15.3km s-min=13.7km az=151.0*
BER ***10*** *07:33:14.2±1.9, 77°.54N×7°.81E, h20km±18km, ML2.3, ML3.0(NAO), Confirmed Earthquake*

ISC 10 07:33:12.5±0.6, 77°.50N±0°.05×7°.79E±0°.05, h10km, n52, σ3$07/59, mb3.4/5, MS3.0/12, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRBA	**Barentsburg A**	**1.48**	**64**	Pn	**Pn**	**07 33 38.0**	**-1.1**
BRBA				Sn	**Sn**	**07 33 55.1**	**-3.4**
BRBA	**Barentsburg A**	**1.48**	**64**	*eP*	**Pn**	**07 33 38.2**	**-0.9**
BRBA				*eS*	**Sn**	**07 33 55.4**	**-3.1**
BRBA				IAML		07 33 57.4	
	comp=Z,116nm,0.5s						
BRBB	**Barentsburg B**	**1.49**	**63**	Pn	**Pn**	**07 33 38.4**	**-0.9**
BRBB				Sn	**Sn**	**07 33 55.5**	**-3.3**
BRBB	**Barentsburg B**	**1.49**	**63**	*eP*	**Pn**	**07 33 38.2**	**-1.1**
BRBB				*eS*	**Sn**	**07 33 55.4**	**-3.4**
KBS	**Kingsbay**	**1.67**	**29**	Pn	**Pn**	**07 33 40.2**	**-1.6**
KBS				Sn	**Sn**	**07 33 59.7**	**-3.5**
KBS	**Kingsbay**	**1.67**	**29**	*eP*	**Pn**	**07 33 40.4**	**-1.4**
KBS				*eS*	**Sn**	**07 33 59.0**	**-4.2**
KBS				IAML		07 34 01.8	
	comp=Z,77nm,0.4s						
HSPB	**Hornsund (broa**	**1.79**	**102**	Pn	**Pn**	**07 33 41.7**	**-1.7**
HSPB				Sn	**Sn**	**07 33 59.9**	**-6.2**
HSPB	**Hornsund (broa**	**1.79**	**102**	⇑*iP*	**Pn**	**07 33 41.9**	**-1.5**
HSPB				*eS*	**Sn**	**07 34 02.5**	**-3.7**
HSPB				IAML		07 34 05.4	
	comp=Z,38nm,0.3s						
SPA0	**Spitsbergen Ar**	**1.94**	**65**	Pn	**Pn**	**07 33 45.6**	**+0.1**
	baz=246,slow=14						
SPA0				Sn	**Sn**	**07 34 06.9**	**-3.1**
	baz=251,slow=28						
SPA0	**Spitsbergen Ar**	**1.94**	**65**	Pn	**Pn**	**07 33 45.6**	**+0.1**
	baz=246,slow=14						
SPA0				Sn	**Sn**	**07 34 06.9**	**-3.1**
	baz=251,slow=28						
SPITS	**Spitsbergen Ar**	**1.94**	**65**	Pn	**Pn**	**07 33 46.0**	**+0.5**
	baz=238,slow=12,SNR=1882						
SPITS				Sn	**Sn**	**07 34 08.2**	**-1.7**
	baz=235,slow=23,SNR=15						
SPITS				LR	LR	07 34 34.2	
	comp=Z,201nm,20.8s,baz=305,slow=42						
HOPEN	**Hopen**	**4.01**	**96**	Pn	**Pn**	**07 34 13.2**	**-0.6**
HOPEN				Sn	**Sn**	**07 34 57.2**	**-3.5**
HOPEN	**Hopen**	**4.01**	**96**	*eP*	**Pn**	**07 34 12.6**	**-1.2**
HOPEN				*eS*	**Sn**	**07 34 56.2**	**-4.5**
HOPEN				IAML		07 34 59.6	
	comp=Z,25nm,0.2s						
BJO1	**Bjornoya**	**4.05**	**132**	Pn	**Pn**	**07 34 14.1**	**-0.4**
BJO1				Sn	**Sn**	**07 34 56.3**	**-5.6**
BJO1	**Bjornoya**	**4.05**	**132**	*eP*	**Pn**	**07 34 13.4**	**-1.1**
BJO1				*eS*	**Sn**	**07 34 56.2**	**-5.6**
BJO1				IAML		07 35 00.1	
	comp=Z,11nm,0.6s						
DAG	**Danmarks Havn**	**5.92**	**276**	*e*	**Pn**	**07 34 36.2**	**-3.8**
	baz=65,slow=18						
DAG				*i* P	**Pn**	**07 34 37.0**	**-3.0**
DAG				*i* S	Sn	07 35 37.8	-10
DAG				IAML		07 35 42.1	
	comp=Z,10nm,0.4s						
NOR	**Nord**	**6.00**	**324**	Pn	**Pn**	**07 34 38.8**	**-2.3**
NOR				Sn	**Sn**	**07 35 43.2**	**-6.5**
NOR	**Nord**	**6.00**	**324**	*i* P	**Pn**	**07 34 37.7**	**-3.4**
NOR				*i* S	**Sn**	**07 35 43.6**	**-6.1**
NOR	**Nord**	**6.00**	**324**	*i* P	**Pn**	**07 34 37.7**	**-3.4**
NOR				*i* S	**Sn**	**07 35 43.6**	**-6.1**
NOR				IAML		07 35 55.2	
	comp=Z,2.6nm,0.4s						
DBG	**Daneborg**	**7.48**	**259**	*i* P	**Pn**	**07 34 58.6**	**-2.8**
DBG				*i* S	Sn	07 36 15.1	-11
DBG				IAML		07 36 20.7	
	comp=Z,5.2nm,0.4s						
JNW	**Jan Mayen West**	**7.81**	**222**	*eP*	**Pn**	**07 35 04.6**	**-1.3**
JNE	**Jan Mayen East**	**7.83**	**222**	*eP*	**Pn**	**07 35 04.3**	**-1.9**
JMIC	**Jan Mayen**	**7.86**	**222**	Pn	**Pn**	**07 35 05.3**	**-1.4**
JMIC	**Jan Mayen**	**7.86**	**222**	*eP*	**Pn**	**07 35 05.0**	**-1.7**
JMI	**Jan Mayen**	**7.94**	**223**	*eP*	**Pn**	**07 35 06.5**	**-1.3**
HAMF	**Hammerfest**	**8.11**	**140**	*eP*	**Pn**	**07 35 08.2**	**-2.0**
TRO	**Tromso**	**8.49**	**153**	*eP*	**Pn**	**07 35 12.8**	**-2.5**
ARA0	**ARCESS Array S**	**9.38**	**139**	Pn	**Pn**	**07 35 24.4**	**-3.2**
	baz=335,slow=12						
ARA0				Sn	Sn	07 36 59.0	-14
	baz=321,slow=28						
ARA0	**ARCESS Array S**	**9.38**	**139**	Pn	**Pn**	**07 35 24.4**	**-3.2**
	baz=335,slow=12						
ARA0				Sn	Sn	07 36 59.0	-14
	baz=321,slow=28						
ARCES	**ARCESS Array B**	**9.38**	**139**	Pn	**Pn**	**07 35 26.6**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=336,slow=12,SNR=12						
ARCES				LR	LR	07 39 00.6	
	comp=Z,62nm,21.0s,baz=310,slow=37						
LOF	**Lofoten**	**9.56**	**167**	*eP*	**Pn**	**07 35 27.3**	**-2.6**
SUMG	**Summit**	**12.57**	**271**	*i* P	**Pn**	**07 36 09.3**	**-2.1**
	comp=Z,64nm,0.7s						
NOA	**NORSAR Array B**	**16.58**	**174**	LR	LR	07 42 37.7	
	comp=Z,19nm,20.1s,baz=0.0,slow=34						
LSH	**Leshukonskoye**	**17.07**	**117**	*eP*	**P**	**07 37 14.5**	**+1.9**
	comp=Z,16nm,0.7s						
FINES	**FINESS Array B**	**17.19**	**149**	Pn	**Pn**	**07 37 12.1**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=341,slow=16,SNR=4.2						
FINES				LR	LR	07 43 44.9	
	comp=Z,47nm,21.3s,baz=10.0,slow=37						
HFS	**Hagfors**	**17.56**	**170**	P	**P**	**07 37 20.5**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=36,slow=12,SNR=2.1						
HFS				LR	LR	07 43 18.7	
	comp=Z,33nm,18.3s,baz=341,slow=34						
SFJD	**Kangerlussuaq**	**19.56**	**270**	LR	LR	07 45 23.9	
	comp=Z,56nm,18.3s,baz=28,slow=37						
RES	**Resolute Bay**	**21.85**	**316**	LR	LR	07 46 24.0	
	comp=Z,53nm,20.8s,baz=196,slow=36						
KIRV	**Kirov**	**22.55**	**119**	LR	LR	07 48 25.1	
	comp=Z,25nm,18.6s,baz=19,slow=39						
FRB	**Frobisher Bay**	**26.23**	**282**	LR	LR	07 48 47.5	
	comp=Z,55nm,19.1s,baz=58,slow=36						
AKASG	**Malin Array Be**	**28.09**	**150**	LR	LR	07 50 27.2	
	comp=Z,30nm,19.7s,baz=5.0,slow=37						
VRAC	**Vranov**	**28.50**	**168**	LR	LR	07 49 50.2	
	comp=Z,16nm,21.5s,baz=331,slow=35						
INK	**Inuvik**	**32.56**	**334**	LR	LR	07 56 31.9	
	comp=Z,16nm,18.4s,baz=174,slow=43						
ZALV	**Zalesovo Beam**	**35.30**	**85**	LR	LR	07 56 43.4	
	comp=Z,25nm,19.4s,baz=8.5,slow=40						
YKA	**Yellowknife Ar**	**35.88**	**318**	P	**P**	**07 40 13.6**	**+1.6**
	comp=Z,0.3nm,0.8s,baz=14,slow=8.2,SNR=3.5						
ILAR	**Eielson Array**	**37.12**	**342**	P	**P**	**07 40 25.2**	**+2.7**
	comp=Z,0.3nm,0.8s,baz=19,slow=8.6,SNR=2.7						
BRTR	**Keskin Array B**	**39.42**	**148**	LR	LR	07 59 02.8	
	comp=Z,12nm,19.3s,baz=28,slow=39						
MKAR	**Makanchi Array**	**41.48**	**92**	P	**P**	**07 41 02.1**	**+2.9**
	comp=Z,0.7nm,0.8s,baz=339,slow=6.5,SNR=6.7						
MKAR				LR	LR	08 02 49.9	
	comp=Z,26nm,18.1s,baz=328,slow=43						
GEYT	**Alibeck**	**44.98**	**121**	LR	LR	08 03 27.2	
	comp=Z,28nm,18.1s,baz=135,slow=40						
PDAR	**Pinedale Array**	**54.08**	**306**	LR	LR	08 06 20.5	
	comp=Z,26nm,19.6s,baz=316,slow=37						
TORD	**Torodi Ar. Bea**	**64.43**	**187**	P	**P**	**07 43 50.2**	**+1.6**
	comp=Z,0.9nm,0.9s,baz=3.1,slow=7.3,SNR=3.1						
TXAR	**Lajitas Array**	**66.04**	**297**	P	**P**	**07 44 02.0**	**+3.0**
	comp=Z,0.2nm,0.8s,baz=14,slow=5.0,SNR=2.0						
TXAR				LR	LR	08 12 42.3	
	comp=Z,28nm,19.6s,baz=0.0,slow=36						

MAN 10 07:49:01.4, 9°.30N×122°.17E, h24km, mb3.9, ML2.6, MS2.2, 1D, Negros

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SNPH	**Sibulan**	**1.05**	**87**	⇓*iP*	Pn	07 49 20.1	-0.5
SNPH				*i* S	Sn	07 49 34.7	+0.1

WEL 10 08:06:53.1±0.5, 33°S±7°×17°9W±1°8, h33km, M4.5/20, mB5.0/10, ML4.8/20, MLv4.7/20, Mw(mB)4.3/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.80**	**12**	P	Pn	08 07 47.6	-1.7
GLKZ				S	Sn	08 08 32.7	-0.2
MXZ	**Matakaoa Point**	**5.12**	**206**	P	Pn	08 08 11.6	+4.1
MXZ				S	Sn	08 09 04.3	-1.1
WMGZ	**Waiomatatini S**	**5.31**	**204**	P	Pn	08 08 13.1	+3.0
WMGZ				S	Sn	08 09 11.4	+1.2
PKGZ	**Pakihiroa**	**5.50**	**206**	P	Pn	08 08 12.6	0.0
PKGZ				S	Sn	08 09 12.5	-2.2
HAZ	**Te Kaha**	**5.50**	**209**	P	Pn	08 08 13.5	+0.9
HAZ				S	Sn	08 09 14.8	+0.2
PUZ	**Puketiti**	**5.59**	**204**	P	Pn	08 08 14.2	+0.2
PUZ				S	Sn	08 09 15.5	-1.6
RUGZ	**Raukumara Rang**	**5.72**	**209**	P	Pn	08 08 16.4	+0.6
TWGZ	**Tauwhareparae**	**5.79**	**206**	P	Pn	08 08 19.4	+2.8
CNGZ	**Carnagh Statio**	**5.98**	**203**	P	Pn	08 08 21.2	+1.9
TKGZ	**Te Karaka**	**6.07**	**205**	P	Pn	08 08 20.2	-0.2
TKGZ				S	Sn	08 09 28.8	+0.2
MWZ	**Matawai**	**6.09**	**208**	P	Pn	08 08 20.2	-0.7
MARZ	**Manawahe**	**6.18**	**215**	P	Pn	08 08 24.6	+2.6
URZ	**Urewera**	**6.20**	**211**	P	Pn	08 08 21.8	-0.5
RAGZ	**Rawiri**	**6.28**	**208**	P	Pn	08 08 24.8	+1.3
RIGZ	**Rimuhau**	**6.33**	**205**	P	Pn	08 08 24.6	+0.4
SNGZ	**Shannon Statio**	**6.56**	**207**	P	Pn	08 08 27.1	-0.1
TOZ	**Tahuroa Road**	**6.61**	**223**	P	Pn	08 08 29.9	+2.0
KNZ	**Kokohu**	**6.65**	**204**	P	Pn	08 08 28.4	0.0
PRRZ	**Plateau Road**	**6.72**	**214**	P	Pn	08 08 30.6	+1.1
RAHZ	**Arahi**	**6.77**	**208**	P	Pn	08 08 28.7	-1.5
ALRZ	**Allen Road**	**6.80**	**214**	P	Pn	08 08 31.4	+0.8
MTHZ	**Maungataniwha**	**6.82**	**210**	P	Pn	08 08 30.5	-0.2
WHHZ	**Waihua**	**6.85**	**207**	P	Pn	08 08 32.0	+0.8
MRHZ	**Matea Rd**	**6.98**	**212**	P	Pn	08 08 33.0	-0.1
NMHZ	**Naumai**	**7.04**	**209**	P	Pn	08 08 31.8	-2.1
ARHZ	**Aropaoanui**	**7.11**	**207**	P	Pn	08 08 33.5	-1.2
BKZ	**Black Stump Fm**	**7.23**	**210**	P	Pn	08 08 34.1	-2.3
HIZ	**Hauiti**	**7.52**	**221**	P	Pn	08 08 42.4	+1.9
KAHZ	**Kahuranaki**	**7.62**	**206**	P	Pn	08 08 41.8	+0.1
BHHZ	**Black Hill Sta**	**7.68**	**211**	P	Pn	08 08 41.3	-1.4
KRHZ	**Kereru**	**7.68**	**209**	P	Pn	08 08 41.2	-1.4
TUVZ	**Tukino**	**7.68**	**214**	P	Pn	08 08 41.8	-1.0
MOVZ	**Moawhango**	**7.75**	**213**	P	Pn	08 08 41.8	-1.8
MTVZ	**Mangateitei**	**7.86**	**214**	P	Pn	08 08 44.2	-0.9
PNHZ	**Pukenui**	**7.98**	**209**	P	Pn	08 08 43.9	-2.8
VRZ	**Vera Road**	**8.02**	**218**	P	Pn	08 08 48.0	+0.8
PRHZ	**Porangahau**	**8.12**	**205**	P	Pn	08 08 46.7	-1.9
TSZ	**Takapari Road**	**8.20**	**209**	P	Pn	08 08 47.2	-2.6
WAZ	**Wanganui**	**8.38**	**215**	P	Pn	08 08 49.7	-2.6
TIWZ	**Tintock**	**8.84**	**207**	P	Pn	08 08 55.0	-2.8
MRZ	**Mangatainoka R**	**8.86**	**209**	P	Pn	08 08 55.0	-3.9
HOWZ	**Holdsworth Sta**	**9.09**	**208**	P	Pn	08 08 57.5	-4.4
OGWZ	**Otaki Gorge**	**9.16**	**210**	P	Pn	08 08 57.5	-5.4
CAW	**Cannon Point**	**9.45**	**209**	P	Pn	08 09 01.5	-5.3

NEIC ***10*** *08:08:33.3±2.4, 24°.9S×175°.5W±0°.1, h10km±1km, mb4.5/12, Error ellipse: s-maj=21.3km s-min=15.9km az=175.0*
IDC ***10*** *08:08:33.8±1.1, 24°.63S×176°.02W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.1/22, mbtmp4.1/10, Error ellipse: s-maj=41.3km s-min=24.3km az=150.0*

ISC 10 08:08:38.5±0.7, 24°.7S±0°.1×175°.9W±0°.1, h30km, n31, σ1$00/30, mb4.3/16, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.92**	**46**	Pn	Pn	08 10 22.5	-9.2
MSVF	**Nonsavu**	**8.93**	**320**	Pn	**Pn**	**08 10 47.8**	**+2.1**
RAR	**Rarotonga**	**15.29**	**80**	Pn	Pn	08 12 04.4	-8.0
BKZ	**Black Stump Fm**	**15.76**	**202**		**Pn**	**08 12 17.9**	**-0.4**
BKZ				IAmb	IAmb	08 12 25.2	
	comp=Z,56nm,1.5s						
TOO	**Toolangi**	**35.16**	**239**		**P**	**08 15 29.6**	**-0.2**
TOO				IAmb	IAmb	08 15 34.1	
	comp=Z,5.9nm,1.3s						
CTAO	**Charters Tower**	**35.18**	**270**	P	**P**	**08 15 30.1**	**0.0**
CTAO				IAmb	IAmb	08 15 43.0	
	comp=Z,15nm,1.2s						
STKA	**Stephens Creek**	**37.88**	**249**	P	**P**	**08 15 52.1**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=109,slow=12,SNR=3.6						
STKA	**Stephens Creek**	**37.88**	**249**	P	**P**	**08 15 52.3**	**-0.6**
AS31	**Alice Springs**	**45.55**	**260**	P	**P**	**08 16 55.3**	**-0.6**
ASAR	**Alice Springs**	**45.55**	**260**	P	**P**	**08 16 55.0**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=91,slow=7.0,SNR=16						
ASAR				PcP	**PcP**	**08 18 34.5**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=108,slow=3.0,SNR=3.0						
WR0	**Warramunga Arr**	**45.85**	**266**	P	**P**	**08 16 57.8**	**-0.5**
WR0				IAmb	IAmb	08 17 02.1	
	comp=Z,6.2nm,1.4s						
WB2	**Warramunga Arr**	**46.03**	**266**	P	**P**	**08 16 58.3**	**-1.4**
WB0	**Warramunga Arr**	**46.04**	**266**	P	**P**	**08 16 58.4**	**-1.4**
WB0				IAmb	IAmb	08 17 04.3	
	comp=Z,8.8nm,1.5s						
WRA	**Warramunga Arr**	**46.04**	**266**	P	**P**	**08 16 58.0**	**-1.8**
	comp=Z,1.8nm,0.7s,baz=99,slow=7.1,SNR=18						
FORT	**Forrest**	**49.50**	**250**	P	**P**	**08 17 26.5**	**0.0**
KNRA	**Kununurra**	**52.38**	**269**	P	**P**	**08 17 47.2**	**-1.1**
QSPA	**South Pole Qui**	**65.36**	**180**	P	**P**	**08 19 19.9**	**+1.9**
QSPA				IAmb	IAmb	08 19 20.7	
	comp=Z,4.8nm,1.0s						
MJAR	**Matsushiro Arr**	**74.72**	**323**	P	**P**	**08 20 14.2**	**-1.3**
	comp=Z,0.9nm,0.6s,baz=172,slow=5.8,SNR=4.5						
PETK	**Petropavlovsk-**	**80.83**	**344**	P	**P**	**08 20 49.1**	**0.0**
	comp=Z,5.0nm,0.9s,baz=141,slow=9.3,SNR=4.2						
KSRS	**Korea Array**	**81.29**	**318**	P	**P**	**08 20 51.7**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=126,slow=5.4,SNR=2.7						
NVAR	**Mina Array Bea**	**82.83**	**42**	P	**P**	**08 20 58.8**	**-1.5**
	comp=Z,0.5nm,0.8s,baz=211,slow=8.0,SNR=4.0						
USRK	**Ussuriysk Ar.**	**83.51**	**325**	P	**P**	**08 21 04.0**	**+0.7**
	comp=Z,4.1nm,0.8s,baz=92,slow=2.8,SNR=8.2						
SNAA	**Sanae**	**83.75**	**178**	P	**P**	**08 21 04.8**	**+0.3**
SNAA	**Sanae**	**83.75**	**178**		**P**	**08 21 04.2**	**-0.2**
SNAA				IAmb	IAmb	08 21 05.7	
	comp=Z,2.3nm,1.0s						
VNA3	**Neumayer Olymp**	**83.81**	**176**	P	**P**	**08 21 05.1**	**+0.4**
VNA2	**Neumayer--Watz**	**84.27**	**176**	P	**P**	**08 21 07.6**	**+0.6**
	baz=173,slow=2.7						
TXAR	**Lajitas Array**	**87.76**	**56**	P	**P**	**08 21 24.9**	**-0.1**
	comp=Z,0.3nm,0.9s,baz=224,slow=5.0,SNR=2.7						
CMAR	**Chiang Mai Arr**	**93.29**	**289**	P	**P**	**08 21 51.4**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=133,slow=3.2,SNR=4.2						
AKASG	**Malin Array Be**	**147.61**	**330**	PKPbc	**PKPbc**	**08 28 19.1**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=43,slow=4.1,SNR=4.1						
BRTR	**Keskin Array B**	**151.01**	**308**	PKPbc	**PKPbc**	**08 28 28.3**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=127,slow=3.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**168.27**	**169**	PKPab	**PKPab**	**08 29 52.5**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=211,slow=4.1,SNR=2.5						

IDC ***10*** *08:29:00.8±1.3, 14°.49N×54°.68E, h0km, mb3.7/9, mb1 3.9/9, mb1mx3.6/54, mbtmp3.7/9, MS3.0/9, Ms1 3.0/9, ms1mx2.7/49, Error ellipse: s-maj=42.4km s-min=25.6km az=61.0*
NEIC ***10*** *08:29:02.3±2.0, 14°.53N±0°.07×54°.59E±0°.08, h10km±1km, mb4.2/6, Error ellipse: s-maj=13.5km s-min=11.0km az=282.0*

ISC 10 08:29:02.0±0.7, 14°.35N±0°.07×54°.5E±0°.1, h17km, n28, σ1$27/20, mb4.0/13, MS2.9/8, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**2.20**	**193**	Pn	**Pn**	**08 29 37.8**	**-0.1**
SOCY				Sn	**Sn**	**08 30 02.6**	**-2.2**
WSAR	**Wadi Sarin**	**9.67**	**23**	LR	LR	08 34 38.0	
	comp=Z,85nm,21.0s,baz=206,slow=36						
UOSS	**Minazif**	**10.67**	**8**	Pn	**Pn**	**08 31 32.0**	**-2.1**
RAYN	**Ar Rayn**	**12.46**	**318**		**Pn**	**08 31 58.4**	**-0.3**
HRA	**Herat**	**21.15**	**18**	P	**P**	**08 33 44.0**	**-2.5**
HRA				IAmb	IAmb	08 33 50.3	
	comp=Z,3.5nm,0.8s						
GEYT	**Alibeck**	**23.71**	**7**	P	**P**	**08 34 11.5**	**-1.6**
	comp=Z,1.4nm,0.5s,baz=202,slow=11,SNR=2.2						
GEYT				LR	LR	08 44 55.5	
	comp=Z,41nm,18.5s,baz=240,slow=40						
GYA0B	**ALIBECK ARRAY**	**23.71**	**7**	P	**P**	**08 34 12.9**	**-0.2**
GYA0B				IAmb	IAmb	08 34 26.1	
	comp=Z,3.9nm,0.6s						
MMAI	**Mount Meron Ar**	**25.43**	**320**	LR	LR	08 44 21.2	
	comp=Z,24nm,20.8s,baz=215,slow=36						
CHGR	**Chuyangaron**	**27.47**	**25**	P	**P**	**08 34 48.0**	**+0.6**
KBZ	**Khabaz**	**30.92**	**344**	LR	LR	08 50 56.3	
	comp=Z,24nm,18.5s,baz=176,slow=43						

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRTR	**Keskin Array B**	**31.21**	**328**	LR	LR	08 48 50.3	
	comp=Z,13nm,19.0s,baz=134,slow=38						
AKTO	**Aktyubinsk**	**36.10**	**4**	P	**P**	**08 36 03.6**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=180,slow=9.6,SNR=1.7						
AKTO				LR	LR	08 52 52.5	
	comp=Z,26nm,18.5s,baz=180,slow=40						
MK31	**Makanchi Array**	**39.83**	**30**	P	**P**	**08 36 34.8**	**+0.4**
MKAR	**Makanchi Array**	**39.83**	**30**	P	**P**	**08 36 34.1**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=206,slow=8.4,SNR=5.0						
KURBB	**Kurchatov Arra**	**41.09**	**23**	P	**P**	**08 36 44.6**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=225,slow=8.1,SNR=1.8						
SENIN	**Lac Senin/Sane**	**50.67**	**319**	P	**P**	**08 38 00.6**	**-0.2**
SENIN				IAmb	IAmb	08 38 03.9	
	comp=Z,6.4nm,1.4s						
FIA1	**FINESS Array S**	**51.28**	**343**	P	**P**	**08 38 05.3**	**+0.5**
FIA1				IAmb	IAmb	08 38 14.1	
	comp=Z,4.3nm,0.9s						
FINES	**FINESS Array B**	**51.28**	**343**	P	**P**	**08 38 05.2**	**+0.5**
	comp=Z,1.5nm,0.7s,baz=119,slow=8.1,SNR=3.7						
FINES				LR	LR	09 05 11.7	
	comp=Z,21nm,18.1s,baz=20,slow=42						
NOA	**NORSAR Array B**	**56.04**	**336**	LR	LR	09 05 43.1	
	comp=Z,10nm,18.7s,baz=95,slow=39						
ESDC	**Sonseca Array**	**56.77**	**308**	P	**P**	**08 38 46.5**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=93,slow=5.1,SNR=3.1						
ARCES	**ARCESS Array B**	**58.08**	**348**	P	**P**	**08 38 55.1**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=150,slow=7.3,SNR=6.8						
SPITS	**Spitsbergen Ar**	**66.53**	**352**	LR	LR	09 13 08.3	
	comp=Z,13nm,18.2s,baz=50,slow=40						
H01W3	**Cape Leeuwin H**	**74.79**	**133**	T	T	10 02 24.6	
	baz=301,slow=75						
H01W2	**Cape Leeuwin H**	**74.79**	**133**	T	T	10 02 10.0	
	baz=301,slow=75						
H01W1	**Cape Leeuwin H**	**74.80**	**133**	T	T	10 02 20.4	
	baz=301,slow=75						
WRA	**Warramunga Arr**	**85.58**	**112**	P	**P**	**08 41 40.5**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=295,slow=3.9,SNR=5.7						
ASAR	**Alice Springs**	**86.28**	**115**	P	**P**	**08 41 44.2**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=291,slow=4.5,SNR=9.3						
NVAR	**Mina Array Bea**	**127.07**	**353**	PKP	**PKiKP**	**08 48 08.5**	**+2.0**
	comp=Z,0.7nm,0.7s,baz=321,slow=1.2,SNR=7.2						

NNC ***10*** *08:47:35.6±2.0, 53°.92N×87°.61E, h3km±17km, mb3.2, mpv2.9, Error ellipse: s-maj=19.6km s-min=7.9km az=45.0, Suspected Mining explosion.*
IDC ***10*** *08:47:36.9±2.9, 53°.78N×87°.55E, h0km, mb1 3.2/2, mb1mx3.0/41, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=23.7km s-min=15.1km az=58.0*
ASRS ***10*** *08:47:39.8, 53°.68N×87°.94E, M1.7, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

ISC 10 08:47:34.4±4.0, 54°.0N±0°.1×87°.7E±0°.2, h0km, n9, σ1$53/15, 8C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.70**	**271**	*i*		08 59 14.3	
	baz=97,slow=311,SNR=2.5						
ZAA0	**Zalesovo Array**	**1.70**	**271**	⇑P	**Pn**	**08 48 04.6**	**-0.7**
	0.3nm,0.3s						
ZAA0				⇑S	**Sn**	**08 48 27.4**	**-0.3**
	2.2nm,0.5s						
ZALV	**Zalesovo Beam**	**1.70**	**271**	Pg	**Pn**	**08 48 04.6**	**-0.7**
	2.6nm,0.3s,baz=93,slow=13,SNR=32						
ZALV				Lg	Lg	08 48 26.9	
	2.9nm,0.3s,baz=90,slow=29,SNR=4.7						
KURK	**Kurchatov**	**6.44**	**243**	⇓Pn	**Pn**	**08 49 11.8**	**+1.4**
	2.2nm,1.3s						
KURK				⇓Sn	**Sn**	**08 50 25.0**	**+0.4**
	2.3nm,0.7s						
KURK				⇑Lg	Lg	08 51 01.0	
	10nm,1.0s						
KURBB	**Kurchatov Arra**	**6.54**	**243**	Pn	**Pn**	**08 49 14.2**	**+2.4**
	0.1

KLM ***10*** *09:16:29.0, 9°.63N×126°.16E, h42km, mb4.9*
ISC 10 09:16:21.3±0.6, **9°.73N**±0°.02×**125°.91E**±0°.04, **h16**km±3km,
n241,σ1**69**/245, **mb4.7**/89, **MS3.8**/39, **5C-5D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.42**	**277**	*iP*	**Pb**	**09 16 30.6**	**+0.1**
SCPH				*i* S	**Sg**	**09 16 36.0**	**+0.4**
MSLP	**Maasin**	**1.11**	**291**	*eP*	**Pb**	**09 16 42.1**	**-0.2**
MSLP				*eS*	**Sn**	**09 16 57.7**	**+0.3**
BIPH	**Bislig**	**1.60**	**164**	*eP*	**Pg**	**09 16 52.1**	**0.0**
BIPH				*eS*	**Sb**	**09 17 11.5**	**+1.0**
CGP	**Cagayan de Oro**	**1.75**	**224**	*iP*	**Pn**	**09 16 51.6**	**+0.5**
CGP				*i* S	**Sn**	**09 17 12.1**	**-1.0**
OCLP	**Ormoc**	**1.84**	**316**	*eP*	**Pb**	**09 16 53.8**	**-0.8**
OCLP				*eS*	**Sg**	**09 17 21.2**	**+0.6**
BUKP	**Musuan**	**2.02**	**205**	*eP*	**Pn**	**09 16 56.3**	**+1.4**
BUKP				*eS*	**Sn**	**09 17 20.8**	**+0.9**
TBP	**Tagbilaran**	**2.02**	**269**	*eP*	**Pb**	**09 16 56.9**	**-0.9**
DMPH	**Davao City--Mi**	**2.66**	**189**	*eP*	**Pg**	**09 17 14.4**	**+2.0**
DMPH				*eS*	**Sb**	**09 17 41.7**	**+0.6**
SNPH	**Sibulan**	**2.67**	**262**	*eP*	**Pn**	**09 17 05.7**	**+1.8**
DCPH	**Dipolog City**	**2.77**	**246**	*eP*	**Pn**	**09 17 05.8**	**+0.5**
MATI	**Mati**	**2.79**	**173**	*eP*	**Pb**	**09 17 09.5**	**-1.3**
MATI				*eS*	**Sg**	**09 17 50.9**	**-0.1**
KCP	**Kidapawan**	**2.82**	**197**	*iP*	**Pb**	**09 17 09.1**	**-2.4**
KCP				*i* S	Sn	09 17 28.1	-12
CTBH	**Cotabato--PC H**	**2.99**	**214**	*eP*	**Pn**	**09 17 10.3**	**+2.2**
CNP	**Catarman**	**3.02**	**336**	*eP*	**Pn**	**09 17 10.4**	**+1.7**
CNP				*eS*	**Sb**	**09 17 49.9**	**-1.8**
PAGZ	**Pagadian**	**3.12**	**233**	*eP*	**Pn**	**09 17 09.9**	**-0.1**
PAGZ				*eS*	**Sn**	**09 17 47.1**	**+0.1**
GUIM	**Jordan**	**3.39**	**286**	*eP*	**Pn**	**09 17 14.7**	**+1.0**
GUIM				*eS*	**Sn**	**09 17 55.1**	**+1.3**
SKMP	**Bagumbayan, Su**	**3.46**	**203**	*eP*	**Pn**	**09 17 14.6**	**-0.1**
SKMP				*eS*	**Sn**	**09 17 54.2**	**-1.3**
DDMP	**Don Marcelino,**	**3.61**	**183**	*eP*	**Pn**	**09 17 17.4**	**+0.7**
DDMP				*eS*	**Sb**	**09 18 05.5**	**-2.9**
GSPH	**General Santos**	**3.74**	**195**	*iP*	**Pb**	**09 17 27.9**	**+0.7**
JAP	**San Jose, Anti**	**4.03**	**285**	*eP*	**Pn**	**09 17 26.5**	**+3.9**
PVCP	**Virac**	**4.21**	**336**	*eP*	**Pn**	**09 17 29.4**	**+4.4**
PVCP				*eS*	**Sb**	**09 18 26.6**	**+0.8**
ZCP	**Zamboanga City**	**4.71**	**234**	*eP*	**Sn**	**09 18 25.3**	**-0.9**
ZCP				*eS*	**Sg**	**09 18 50.8**	**-1.8**
LQP	**Lukban**	**6.11**	**316**	*eP*	Pn	09 17 57.0	+5.7
PGP	**Puerto Galera**	**6.14**	**308**	*eP*	Pn	09 17 59.0	+7.5
TGY	**Tagaytay City**	**6.53**	**312**	P	**Pn**	**09 18 00.3**	**+3.4**
	33nm,0.3s,baz=169,slow=10,SNR=1.3						
TNTI	**Ternate**	**9.01**	**171**	P	**Pn**	**09 18 34.6**	**+3.6**
	2μm177nm,0.9s						
TNTI	**Ternate**	**9.01**	**171**	Pn	**Pn**	**09 18 31.0**	**0.0**
MRSI	**Marisa**	**10.01**	**204**	P	**Pn**	**09 18 47.0**	**+2.4**
	2μm83nm,1.1s						
KKM	**Kota Kinabalu**	**10.28**	**250**	Pn	**Pn**	**09 18 47.8**	**-0.6**
LBMI	**Labuha**	**10.42**	**171**	P	**Pn**	**09 18 53.3**	**+3.0**
	2μm139nm,0.9s						
LUWI	**Luwuk**	**11.15**	**196**	Pn	**Pn**	**09 18 59.3**	**-0.9**
APSI	**Ampana**	**11.39**	**202**	P	Pn	09 19 08.5	+4.9
	826nm75nm,0.7s						
SIJI	**Sorong**	**11.80**	**153**	P	**Pn**	**09 19 10.7**	**+1.5**
	3.3nm,0.3s,baz=336,slow=3.8,SNR=16						
SIJI				S	**Sn**	**09 21 17.2**	**-3.5**
	0.7nm,0.3s,baz=296,slow=23,SNR=3.3						
SIJI				LR	LR	09 23 51.4	
	comp=Z,344nm,20.3s,baz=318,slow=38						
PCI	**Palu**	**12.17**	**210**	P	Pn	09 19 06.9	-7.4
NLAI	**Namlea**	**12.94**	**175**	P	**Pn**	**09 19 27.3**	**+2.6**
	65nm,0.8s						
TWG	**Pinlang**	**13.82**	**341**	Pn	**Pn**	**09 19 32.9**	**-3.9**
FAKI	**Fak Fak**	**14.06**	**153**	P	**Pn**	**09 19 42.8**	**+2.7**
	60nm,0.9s						
FAKI	**Fak Fak**	**14.06**	**153**	Pn	**Pn**	**09 19 41.5**	**+1.4**
TTSI	**Tana Toraja**	**14.07**	**206**	P	**P**	**09 19 45.1**	**-2.8**
	2μm105nm,0.9s						
YULB	**Yu-li**	**14.29**	**343**	Pn	**Pn**	**09 19 41.6**	**-1.6**
TPUB	**Ta-pu**	**14.41**	**340**	Pn	**Pn**	**09 19 43.4**	**-1.6**
SSLB	**Suanglung**	**14.76**	**342**	Pn	**Pn**	**09 19 47.6**	**-2.1**
SPSI	**Sidrap Palu**	**14.92**	**205**	P	**P**	**09 19 56.6**	**-0.8**
	49nm,1.1s						
NACB	**Ninganchiao**	**14.95**	**345**	Pn	**Pn**	**09 19 49.0**	**-3.1**
BNSI	**Bone**	**15.18**	**203**	P	**P**	**09 20 00.0**	**-0.3**
	1μm91nm,1.2s						
SBUM	**Sibu**	**15.41**	**243**	Pn	**Pn**	**09 19 57.9**	**-0.5**
SBUM				IAmb	IAmb	09 20 13.4	
	comp=Z,32nm,0.9s						
SBUM	**Sibu**	**15.41**	**243**	P	**P**	**09 20 07.0**	**+4.1**
YHNB	**Yeheng**	**15.47**	**344**	Pn	**Pn**	**09 19 58.4**	**-0.8**
YHNB				IAmb	IAmb	09 20 08.8	
	comp=Z,48nm,1.1s						
TATO	**Taipei**	**15.74**	**345**	Pn	**Pn**	**09 20 00.8**	**-1.8**
KAPI	**Kappang**	**15.88**	**203**	P	**Pn**	**09 20 05.6**	**+1.2**
	baz=28,slow=11,SNR=3.7						
KAPI				LR	LR	09 27 55.7	
	comp=Z,230nm,18.3s,baz=38,slow=44						
KAPI	**Kappang**	**15.88**	**203**	Pn	**Pn**	**09 20 03.5**	**-1.0**
KAPI				IAmb	IAmb	09 20 22.2	
	comp=Z,63nm,1.4s						
BKSI	**Bulukumba**	**16.03**	**201**	P	**P**	**09 20 09.6**	**-0.1**
	comp=Z,32nm,1.2s						
HKPS	**Hong Kong Po S**	**16.83**	**319**	Pn	**Pn**	**09 20 14.5**	**-2.0**
HKPS				IAmb	IAmb	09 20 18.6	
	comp=Z,57nm,0.9s						
SMPI	**Sarmi**	**17.26**	**132**	P	**P**	**09 20 25.2**	**+1.8**
	comp=Z,812nmcomp=Z,80nm,1.3s						
KSM	**Kuching**	**17.55**	**243**	Pn	**Pn**	**09 20 24.1**	**-1.5**
QIZ	**Qiongzhong**	**18.09**	**303**	P	**Pn**	**09 20 30.6**	**-1.7**
QIZ				S	**Sn**	**09 23 54.0**	**0.0**
QIZ				LR	LR		
	comp=Z,200nm,14.6s						
QIZ				LR	LR		
	comp=Z,270nm,17.3s						
QIZ				LR	LR		
	comp=Z,340nm,14.5s						
GENI	**Genyem**	**18.75**	**130**	P	**Pn**	**09 20 41.1**	**+0.8**
	comp=Z,3μmcomp=Z,92nm,0.8s						
EDFI	**Ende, Flores**	**18.83**	**193**	P	**Pn**	**09 20 42.8**	**+1.4**
	comp=Z,20nm,1.1s						
JAY	**Jayapura**	**19.11**	**129**	P	**Pn**	**09 20 44.9**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=351,slow=11,SNR=1.7						
JAY	**Jayapura**	**19.11**	**129**	P	**Pn**	**09 20 48.7**	**+4.0**
	comp=Z,336nmcomp=Z,34nm,0.9s						
SOEI	**Soe**	**19.43**	**185**	P	**Pn**	**09 20 50.9**	**+2.4**
	comp=Z,125nm,0.9s						
SOEI	**Soe**	**19.43**	**185**		**P**	**09 20 45.8**	**-1.6**
SOEI				IAmb	IAmb	09 20 59.5	
	comp=Z,32nm,0.7s						
BATI	**Baumata**	**19.93**	**187**	P	**P**	**09 20 53.5**	**+0.7**
	comp=Z,5.6nm,0.3s,baz=97,slow=11,SNR=1.8						
BATI	**Baumata**	**19.93**	**187**	P	**Pn**	**09 20 57.6**	**+3.1**
	comp=Z,94nm,0.9s						
PLAI	**Plampang**	**20.14**	**204**	P	Pn	09 21 16.0	+19
JAGI	**Jajag, Banyuwa**	**21.54**	**213**	P	**P**	**09 21 09.4**	**-0.8**
JAGI				IAmb	IAmb	09 21 22.4	
	comp=Z,49nm,1.1s						
WOJI	**Wonogiri, Jawa**	**22.96**	**221**	P	**P**	**09 21 27.3**	**+1.9**
	comp=Z,56nm,2.0s						
MTN	**Manton Dam**	**23.02**	**167**	P	**P**	**09 21 25.7**	**-0.2**
NJ2	**Nanjing**	**23.16**	**345**	*eP*	**P**	**09 21 26.8**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
SLVN	**Son La**	**24.10**	**301**	P	**P**	**09 21 35.7**	**-1.0**
LEM	**Lembang**	**24.55**	**229**	P	**P**	**09 21 41.7**	**+0.8**
	comp=Z,24nm,0.5s,baz=343,slow=19,SNR=1.6						
LEM				LR	LR	09 32 02.0	
	comp=Z,240nm,18.7s,baz=158,slow=38						
GYA	**Guiyang**	**24.67**	**315**	*eP*	**P**	**09 21 43.3**	**+1.4**
GYA				SS	SS	09 26 50.9	
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GYA				pmax	pmax		
	comp=Z,120nm,3.5s						
GYA				LR	LR		
	comp=Z,350nm,15.9s						
GYA				LR	LR		
	comp=Z,220nm,14.2s						
GYA				LR	LR		
	comp=Z,240nm,15.5s						
PBKT	**Sadao Pong**	**25.21**	**288**	P	**P**	**09 21 45.8**	**-0.9**
PBKT				IAmb	IAmb	09 22 02.7	
	comp=Z,13nm,0.9s						
IPM	**Ipoh**	**25.23**	**260**	P	**P**	**09 21 46.2**	**-0.8**
IPM	**Ipoh**	**25.23**	**260**	P	**P**	**09 21 54.0**	**+7.1**
KNRA	**Kununurra**	**25.40**	**174**	P	**P**	**09 21 48.5**	**+0.2**
KULM	**Kulim**	**25.43**	**262**	P	**P**	**09 21 47.5**	**-1.2**
KULM				IAmb	IAmb	09 21 56.6	
	comp=Z,23nm,0.9s						
KULM	**Kulim**	**25.43**	**262**	P	**P**	**09 21 55.0**	**+6.3**
JHJ	**Hachijo jima 2**	**26.56**	**27**	LR	LR	09 31 16.6	
	comp=Z,116nm,20.0s,baz=257,slow=34						
KMI	**Kunming**	**26.82**	**308**	P	**P**	**09 21 58.8**	**-2.7**
KMI				pmax	pmax		
	comp=Z,12nm,0.5s						
CMAR	**Chiang Mai Arr**	**27.53**	**291**	P	**P**	**09 22 07.6**	**-0.1**
	comp=Z,1.3nm,0.2s,baz=96,slow=8.3,SNR=3.0						
CMAR				LR	LR	09 33 17.7	
	comp=Z,239nm,18.4s,baz=144,slow=37						
CHTO	**Chiang Mai**	**27.62**	**292**	P	**P**	**09 22 07.0**	**-1.5**
CHTO				IAmb	IAmb	09 22 18.6	
	comp=Z,13nm,1.0s						
FITZ	**Fitzroy Crossi**	**27.65**	**181**	P	**P**	**09 22 08.5**	**-0.1**
	comp=Z,5.7nm,1.0s,baz=358,slow=4.1,SNR=3.5						
FITZ	**Fitzroy Crossi**	**27.65**	**181**	P	**P**	**09 22 09.1**	**+0.5**
FITZ				IAmb	IAmb	09 22 22.9	
	comp=Z,11nm,0.8s						
KSRS	**Korea Array**	**27.66**	**3**	P	**P**	**09 22 07.9**	**-0.7**
	comp=Z,3.9nm,0.9s,baz=181,slow=10,SNR=14						
PSI	**Prapat**	**27.68**	**257**	P	**P**	**09 22 09.0**	**-0.2**
	comp=Z,3.4nm,0.4s,baz=178,slow=0.2,SNR=1.9						
RPSI	**Rantau Prapat**	**27.71**	**257**	P	**P**	**09 22 09.0**	**-0.3**
RPSI	**Rantau Prapat**	**27.71**	**257**	P	**P**	**09 22 09.0**	**-0.3**
PMG	**Port Moresby**	**28.43**	**131**	P	**P**	**09 22 15.7**	**0.0**
	comp=Z,9.1nm,0.8s,baz=319,slow=11,SNR=1.4						
PMG	**Port Moresby**	**28.43**	**131**	P	**P**	**09 22 15.4**	**-0.3**
PMG				IAmb	IAmb	09 22 27.5	
	comp=Z,22nm,0.8s						
XAN	**Xi'an**	**28.79**	**330**	P	**P**	**09 22 18.1**	**-0.7**
XAN				pP	pP	09 22 22.3	-1.2
XAN				PP	**PnPn**	**09 23 15.7**	**+5.9**
XAN				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XAN				pmax	pmax		
	comp=Z,110nm,3.9s						
XAN				LR	LR		
	comp=Z,250nm,19.5s						
XAN				LR	LR		
	comp=Z,340nm,18.4s						
XAN				LR	LR		
	comp=Z,310nm,16.9s						
XAN	**Xi'an**	**28.79**	**330**	P	**P**	**09 22 17.6**	**-1.1**
XAN				IAmb	IAmb	09 22 23.8	
	comp=Z,13nm,1.0s						
MJAR	**Matsushiro Arr**	**28.93**	**21**	P	**P**	**09 22 19.7**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=192,slow=9.9,SNR=2.7						
MJAR				LR	LR	09 33 01.3	
	comp=Z,214nm,20.0s,baz=200,slow=34						
MAJO	**Matsushiro**	**28.93**	**21**	P	**P**	**09 22 19.0**	**-1.0**
MJB9	**Matsu-Tunnel**	**28.93**	**21**	P	**P**	**09 22 19.5**	**-0.4**
COEN	**Coen**	**29.10**	**144**	P	**P**	**09 22 20.9**	**-0.7**
COEN				IAmb	IAmb	09 22 39.0	
	comp=Z,17nm,0.9s						
GSI	**Gunungsitoli**	**29.40**	**255**	P	P	09 22 30.0	+5.7
	comp=Z,24μmcomp=Z,261nm,0.9s						
GSI	**Gunungsitoli**	**29.40**	**255**	P	**P**	**09 22 23.3**	**-1.1**
CD2	**Chengdu**	**29.48**	**319**	P	**P**	**09 22 24.3**	**-0.6**
CD2				S	**S**	**09 27 19.5**	**+0.6**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,730nm,21.6s						
CD2				LR	LR		
	comp=Z,840nm,19.6s						
CD2				LR	LR		
	comp=Z,430nm,14.2s						
KRVT	**Keravat (AS076**	**29.52**	**117**	LR	LR	09 32 41.2	
	comp=Z,77nm,19.5s,baz=276,slow=33						
WB0	**Warramunga Arr**	**30.48**	**164**	P	**P**	**09 22 34.6**	**+0.8**
WB0				IAmb	IAmb	09 22 40.3	
	comp=Z,12nm,0.9s						
WRAB	**Tennant Creek**	**30.62**	**164**	P	**P**	**09 22 37.1**	**+2.1**
WRAB				IAmb	IAmb	09 22 43.5	
	comp=Z,12nm,0.8s						
WRA	**Warramunga Arr**	**30.63**	**164**	P	**P**	**09 22 34.7**	**-0.4**
	comp=Z,3.9nm,0.8s,baz=322,slow=11,SNR=15						
WRA				PcP	**PcP**	**09 25 33.1**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=350,slow=2.7,SNR=2.0						
WB2	**Warramunga Arr**	**30.63**	**164**	P	**P**	**09 22 35.3**	**+0.1**
WB2				IAmb	IAmb	09 22 43.5	
	comp=Z,14nm,0.8s						
WR0	**Warramunga Arr**	**30.70**	**164**	P	**P**	**09 22 35.9**	**+0.2**
WR0				IAmb	IAmb	09 22 45.9	
	comp=Z,13nm,1.1s						
BJT	**Baijiatuan**	**31.39**	**346**	P	**P**	**09 22 41.4**	**-0.2**
BJT				IAmb	IAmb	09 22 49.2	
	comp=Z,17nm,1.2s						
BJI	**Beijing**	**31.41**	**346**	P	**P**	**09 22 41.7**	**-0.1**
BJI				sP	**sP**	**09 22 47.5**	**-1.0**
BJI				S	**S**	**09 27 46.2**	**-2.6**
BJI				sS	**sS**	**09 27 56.1**	**-0.5**
BJI				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BJI				pmax	pmax		
	comp=Z,120nm,4.0s						
BJI				LR	LR		
	comp=Z,180nm,17.1s						
BJI				LR	LR		
	comp=Z,220nm,34.1s						
HHC	**Hu-ho-hao-te**	**33.50**	**340**	P	**P**	**09 22 59.5**	**-0.8**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,65nm,6.6s						
HHC				LR	LR		
	comp=Z,82nm,17.0s						
HHC				LR	LR		
	comp=Z,86nm,17.9s						
HHC				LR	LR		
	comp=Z,69nm,17.0s						
CN2	**Changchun**	**33.95**	**359**	*eP*	**P**	**09 23 06.6**	**+2.6**
CN2				*eS*	**S**	**09 28 33.6**	**+5.3**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				pmax	pmax		
	comp=Z,100nm,4.0s						
CN2				LR	LR		
	comp=Z,110nm,20.0s						
CN2				LR	LR		
	comp=Z,100nm,20.0s						
CN2				LR	LR		
	comp=Z,170nm,21.0s						
AS31	**Alice Springs**	**34.10**	**167**	P	**P**	**09 23 07.3**	**+1.8**
ASAR	**Alice Springs**	**34.10**	**167**	P	**P**	**09 23 05.5**	**0.0**
	comp=Z,1.0nm,0.4s,baz=351,slow=6.9,SNR=30						
ASAR				PcP	**PcP**	**09 25 43.0**	**0.0**
	comp=Z,0.9nm,0.7s,baz=344,slow=2.8,SNR=2.0						
ASAR				LR	LR	09 38 06.2	
	comp=Z,116nm,18.2s,baz=348,slow=38						
USA0B	**Ussuriysk Arra**	**34.74**	**8**	P	**P**	**09 23 10.5**	**-0.4**
USA0B				IAmb	IAmb	09 23 28.5	
	comp=Z,14nm,0.8s						
USRK	**Ussuriysk Ar.**	**34.74**	**8**	P	**P**	**09 23 11.4**	**+0.5**
	comp=Z,10nm,0.9s,baz=193,slow=8.4,SNR=14						
MDJ	**Mudanjiang**	**34.91**	**5**	P	**P**	**09 23 13.9**	**+1.6**
MDJ				pP	pP	09 23 16.9	-0.2
MDJ				sP	sP	09 23 18.2	-0.8
MDJ				S	**S**	**09 28 45.0**	**+2.0**
MDJ				sS	sS	09 28 49.4	-1.5
MDJ				PcS	**PcS**	**09 29 33.8**	**+2.3**
MDJ				pmax	pmax		
	comp=Z,17nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,60nm,3.7s						
MDJ				LR	LR		
	comp=Z,200nm,21.4s						
MDJ				LR	LR		
	comp=Z,140nm,15.7s						
MDJ				LR	LR		
	comp=Z,220nm,32.7s						
ERM	**Erimo**	**35.55**	**22**	P	**P**	**09 23 16.9**	**-1.0**
ERM				IAmb	IAmb	09 23 25.3	
	comp=Z,36nm,1.3s						
SHL	**Shillong**	**35.91**	**300**	P	**P**	**09 23 20.9**	**-0.5**
COCO	**West Island**	**36.18**	**234**	P	**P**	**09 23 22.9**	**-0.7**
ASAJ	**Asahikawa**	**37.19**	**20**	P	**P**	**09 23 32.3**	**+0.4**
	comp=Z,8.0nm,1.0s,baz=221,slow=22,SNR=5.0						
JKA	**Kamikawa-asahi**	**37.19**	**20**	P	**P**	**09 23 32.3**	**+0.4**
GTA	**Gaotai**	**37.63**	**326**	*eP*	P	09 23 41.8	+6.0
GTA				pP	sP	09 23 45.9	+3.3
GTA				sP	pP	09 23 48.8	+8.2
GTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HNR	**Honiara**	**38.86**	**118**	P	**P**	**09 23 45.9**	**-0.4**
YSS	**Yuzh-Sakhalins**	**39.77**	**18**	P	**P**	**09 23 54.2**	**+0.7**
TAPN	**Taplejung**	**40.03**	**301**	*eP*	P	09 24 02.1	+5.8
	comp=Z,59nm,1.0s						
ODAN	**Odare**	**40.15**	**300**	*eP*	P	09 24 03.3	+6.1
	comp=Z,109nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**40.76**	**71**	T	T	10 07 24.7	
	baz=265,slow=74						
H11N2	**WAKE ISLAND Hy**	**40.77**	**71**	T	T	10 07 19.3	
	baz=265,slow=74						
H11N3	**WAKE ISLAND Hy**	**40.78**	**71**	T	T	10 07 23.1	
	baz=265,slow=74						
RAMN	**Ramite**	**40.84**	**300**	*eP*	P	09 24 08.6	+5.6
	comp=Z,37nm,1.0s						
SONM	**Songino Array**	**41.40**	**340**	P	**P**	**09 24 07.4**	**+0.2**
	comp=Z,1.6nm,1.0s,baz=157,slow=7.8,SNR=2.9						
SONM				LR	LR	09 43 30.4	
	comp=Z,93nm,20.1s,baz=113,slow=39						
JIRN	**Jiri**	**41.41**	**301**	*eP*	P	09 24 12.8	+5.0
	comp=Z,62nm,0.7s						
GUN	**Gumba**	**41.74**	**301**	*eP*	P	09 24 15.8	+5.3
	comp=Z,86nm,1.0s						
PKI	**Pulchoki**	**42.04**	**301**	*eP*	**P**	**09 24 17.7**	**+4.8**
	comp=Z,27nm,0.9s						
PKIN	**Phulchoki**	**42.05**	**301**	*eP*	**P**	**09 24 17.6**	**+4.6**
	comp=Z,16nm,0.6s						
BBOO	**Buckleboo**	**43.39**	**168**	P	**P**	**09 24 24.9**	**+1.6**
KOLN	**Koldanda**	**43.63**	**300**	*eP*	**P**	**09 24 28.9**	**+3.2**
	comp=Z,28nm,0.8s						
DANN	**Dangsing**	**43.66**	**301**	*eP*	**P**	**09 24 29.7**	**+3.7**
	comp=Z,44nm,0.7s						
STKA	**Stephens Creek**	**44.01**	**161**	P	**P**	**09 24 29.0**	**+0.6**
	comp=Z,6.9nm,0.6s,baz=329,slow=9.3,SNR=21						
STKA				LR	LR	09 48 27.9	
	comp=Z,69nm,18.1s,baz=356,slow=44						
STKA	**Stephens Creek**	**44.01**	**161**	P	**P**	**09 24 28.9**	**+0.6**
WMQ	**Urumqi**	**47.43**	**323**	*eP*	**P**	**09 24 56.6**	**+1.2**
WMQ				sP	sP	09 25 02.7	+0.5
WMQ				pmax	pmax		
	comp=Z,25nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,44nm,3.7s						
WMQ				LR	LR		
	comp=Z,380nm,19.5s						
WMQ				LR	LR		
	comp=Z,130nm,25.5s						
WMQ				LR	LR		
	comp=Z,300nm,21.5s						
CAN	**Canberra**	**49.84**	**155**	P	**P**	**09 25 15.9**	**+1.9**
PEA0B	**Petropavlovsk-**	**50.27**	**24**	P	**P**	**09 25 16.1**	**-0.9**
PETK	**Petropavlovsk-**	**50.27**	**24**	P	**P**	**09 25 17.0**	**0.0**
	comp=Z,10nm,1.1s,baz=248,slow=2.3,SNR=2.0						
PETK				LR	LR	09 48 54.1	
	comp=Z,65nm,18.3s,baz=239,slow=39						
TOO	**Toolangi**	**50.50**	**160**	P	**P**	**09 25 19.0**	**+0.1**
DZM	**Mont Dzumac**	**50.78**	**129**	*e*LQ	LQ	09 37 52.2	
	comp=Z,311nm,30.9s						
DZM				*e*LR	LR	09 39 58.1	
	comp=Z,197nm,31.8s						
DZM	**Mont Dzumac**	**50.78**	**129**	P	**P**	**09 25 22.0**	**+0.7**
	comp=Z,9.5nm,0.9s,baz=250,slow=14,SNR=3.4						
DZM	**Mont Dzumac**	**50.78**	**129**	P	**P**	**09 25 21.7**	**+0.4**
DZM				IAmb	IAmb	09 25 37.7	
	comp=Z,22nm,0.9s						
MK31	**Makanchi Array**	**52.25**	**323**	P	**P**	**09 25 31.3**	**-0.6**
MKAR	**Makanchi Array**	**52.25**	**323**	P	**P**	**09 25 31.0**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=126,slow=7.3,SNR=7.7						
MKAR				LR	LR	09 47 13.8	
	comp=Z,158nm,18.8s,baz=110,slow=35						
YAK	**Yakutsk**	**52.28**	**2**	P	**P**	**09 25 31.6**	**-0.3**
	comp=Z,4.2nm,0.3s,baz=272,slow=0.9,SNR=1.0						
YAK	**Yakutsk**	**52.28**	**2**	P	**P**	**09 25 31.8**	**0.0**
MAKZ	**Makanchi**	**52.44**	**323**	P	**P**	**09 25 32.7**	**-0.6**
TARG	**Taragay, Kyrgy**	**52.84**	**316**	P	**P**	**09 25 34.6**	**-2.3**
MA2	**Magadan**	**53.15**	**16**	P	**P**	**09 25 38.5**	**+0.2**
	comp=Z,4.4nm,0.7s,baz=184,slow=15,SNR=2.1						
MA2	**Magadan**	**53.15**	**16**	P	**P**	**09 25 36.6**	**-1.7**
MA2				IAmb	IAmb	09 25 47.8	
	comp=Z,8.0nm,0.7s						
KDJ	**Kajiisay**	**53.43**	**316**	P	**P**	**09 25 37.9**	**-3.0**
NIL	**Nilore**	**53.75**	**305**	P	**P**	**09 25 41.1**	**-2.1**
ZALV	**Zalesovo Beam**	**54.93**	**332**	P	**P**	**09 25 51.8**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=111,slow=6.3,SNR=2.1						
ZALV				LR	LR	09 50 03.6	
	comp=Z,102nm,21.6s,baz=112,slow=37						
AAK	**Ala-Archa**	**55.46**	**316**	P	**P**	**09 25 54.8**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=122,slow=19,SNR=1.2						
AAK	**Ala-Archa**	**55.46**	**316**	P	**P**	**09 25 54.5**	**-1.2**
KURK	**Kurchatov**	**56.31**	**326**	P	**P**	**09 26 00.1**	**-1.3**
KURK				IAmb	IAmb	09 26 10.2	
	comp=Z,15nm,1.1s						
KURBB	**Kurchatov Arra**	**56.32**	**326**	P	**P**	**09 26 00.4**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=125,slow=6.8,SNR=2.4						
KBL	**Kabul**	**57.35**	**305**	P	**P**	**09 26 07.1**	**-2.2**
KBL				IAmb	IAmb	09 26 17.1	
	comp=Z,8.5nm,0.7s						
GAR	**Garm**	**57.37**	**310**	P	**P**	**09 26 07.8**	**-1.5**
GAR				IAmb	IAmb	09 26 16.8	

MCK					IAmb	IAmb	09 28 39.0		
	comp=Z,12nm,1.0s								
RND	**Reindeer**	**79.23**	**27**	P	**P**		**09 28 26.4**	**+0.6**	
RND				IAmb	IAmb		09 28 39.2		
	comp=Z,11nm,1.3s								
SML	**Sawmill**	**79.49**	**29**	P	**P**		**09 28 27.9**	**+0.7**	
SML				IAmb	IAmb		09 28 42.2		
	comp=Z,22nm,1.4s								
WRH	**Wood River Hil**	**79.56**	**26**	P	**P**		**09 28 27.6**	**+0.2**	
CCB	**Clear Creek Bu**	**79.69**	**26**	P	**P**		**09 28 29.0**	**+0.9**	
KLMR	**Klimovskoe**	**79.82**	**330**	*eP*	**P**		**09 28 26.3**	**-2.6**	
KLMR				AMP			09 28 37.2		
	comp=Z,23nm,1.3s								
DHY	**Denali Highway**	**79.91**	**27**	P	**P**		**09 28 30.4**	**+0.9**	
SCM	**Sheep Creek Mo**	**79.97**	**29**	P	**P**		**09 28 30.8**	**+1.0**	
SCM				IAmb	IAmb		09 28 33.3		
	comp=Z,16nm,1.2s								
HDA	**Harding Lake**	**80.06**	**26**	P	**P**		**09 28 31.0**	**+0.9**	
IL31		**80.08**	**26**	P	**P**		**09 28 30.0**	**-0.1**	
ILAR	**Eielson Array**	**80.08**	**26**	P	**P**		**09 28 29.6**	**-0.6**	
	comp=Z,1.8nm,1.0s,baz=250,slow=5.3,SNR=11								
DOT	**Dot Lake**	**81.37**	**27**	P	**P**		**09 28 36.9**	**-0.4**	
GLB	**Gilahina Butte**	**81.67**	**29**	P	**P**		**09 28 38.6**	**-0.2**	
GLB				IAmb	IAmb		09 28 43.2		
	comp=Z,9.3nm,1.1s								
VRDI	**Verde Repeater**	**81.86**	**29**	P	**P**		**09 28 41.3**	**+1.2**	
VRDI				IAmb	IAmb		09 28 44.1		
	comp=Z,6.2nm,1.2s								
BALM	**Baldy**	**82.41**	**29**	P	**P**		**09 28 42.8**	**-0.1**	
BALM				IAmb	IAmb		09 28 55.6		
	comp=Z,5.6nm,1.0s								
EGAK	**Eagle**	**82.52**	**26**	P	**P**		**09 28 43.8**	**+0.6**	
MESA	**MESA**	**82.70**	**30**	P	**P**		**09 28 45.2**	**+0.7**	
MESA				IAmb	IAmb		09 28 58.9		
	comp=Z,12nm,1.1s								
BARN	**Barnard Glacie**	**82.74**	**29**	P	**P**		**09 28 45.0**	**+0.4**	
BARN				IAmb	IAmb		09 28 55.7		
	comp=Z,8.9nm,0.8s								
YAH	**Yahtse**	**82.78**	**30**	P	**P**		**09 28 44.9**	**0.0**	
YAH				IAmb	IAmb		09 28 57.5		
	comp=Z,5.6nm,0.7s								
CTGM	**Chitina Glacie**	**82.91**	**29**	P	**P**		**09 28 45.2**	**-0.3**	
DAWY	**Dawson**	**83.38**	**26**	P	**P**		**09 28 48.4**	**+0.7**	
DAWY				IAmb	IAmb		09 28 52.5		
	comp=Z,13nm,1.2s								
SPITS	**Spitsbergen Ar**	**84.48**	**349**	LR	LR		10 10 14.3		
	comp=Z,34nm,21.2s,baz=40,slow=38								
ARCES	**ARCESS Array B**	**84.58**	**340**	P	**P**		**09 28 53.6**	**-0.1**	
	comp=Z,2.1nm,0.8s,baz=74,slow=9.0,SNR=7.1								
ARCES				LR	LR		10 09 08.9		
	comp=Z,52nm,21.5s,baz=78,slow=37								
HYT	**Haines Junctio**	**84.78**	**29**	P	**P**		**09 28 54.5**	**-0.5**	
HYT				IAmb	IAmb		09 29 07.3		
	comp=Z,11nm,1.0s								
INK	**Inuvik**	**84.91**	**22**	P	**P**		**09 28 55.2**	**-0.2**	
	comp=Z,3.3nm,0.8s,baz=266,slow=5.5,SNR=6.5								
INK	**Inuvik**	**84.91**	**22**	P	**P**		**09 28 55.4**	**0.0**	
INK				IAmb	IAmb		09 28 59.2		
	comp=Z,9.9nm,1.2s								
MMAI	**Mount Meron Ar**	**85.20**	**303**	LR	LR		10 08 49.1		
	comp=Z,29nm,21.6s,baz=110,slow=37								
BRTR	**Keskin Array B**	**85.60**	**309**	P	**P**		**09 28 59.1**	**-0.5**	
	comp=Z,0.6nm,0.8s,baz=100,slow=4.5,SNR=3.6								
BRTR				LR	LR		10 12 42.2		
	comp=Z,20nm,19.2s,baz=49,slow=40								
WHY	**Whitehorse**	**86.08**	**29**	P	**P**		**09 29 00.4**	**-1.1**	
WHY				IAmb	IAmb		09 29 05.6		
	comp=Z,11nm,1.2s								
EIL	**Elat**	**86.09**	**299**	LR	LR		10 14 10.3		
	comp=Z,33nm,18.6s,baz=94,slow=40								
FINES	**FINESS Array B**	**86.20**	**332**	P	**P**		**09 29 00.1**	**-1.8**	
	comp=Z,2.8nm,0.5s,baz=70,slow=5.4,SNR=7.8								
FINES				LR	LR		10 09 48.1		
	comp=Z,57nm,20.4s,baz=117,slow=37								
AKASG	**Malin Array Be**	**86.76**	**321**	P	**P**		**09 29 03.5**	**-1.4**	
	comp=Z,0.2nm,0.3s,baz=62,slow=4.8,SNR=0.9								
AKASG				LR	LR		10 08 25.2		
	comp=Z,63nm,21.9s,baz=210,slow=36								
PPT2	**Papeete2**	**87.73**	**108**	*e*LR	LR		09 57 03.2		
	comp=Z,68nm,23.8s								
KMBO	**Kilima Mbogo**	**88.87**	**269**	LR	LR		10 10 34.3		
	comp=Z,30nm,18.8s,baz=84,slow=37								
TBI	**Tubuai**	**88.93**	**114**	*e*LR	LR		09 57 36.9		
	comp=Z,71nm,28.0s								
VNDA	**Vanda**	**89.44**	**173**	P	**P**		**09 29 17.2**	**+0.2**	
	comp=Z,2.2nm,0.7s,baz=326,slow=5.3,SNR=5.6								
VNDA				LR	LR		10 10 01.0		
	comp=Z,57nm,19.5s,baz=344,slow=36								
VNDA	**Vanda**	**89.44**	**173**	P	**P**		**09 29 17.0**	**0.0**	
VNDA				IAmb	IAmb		09 29 29.3		
	comp=Z,5.9nm,0.8s								
HFS	**Hagfors**	**92.36**	**332**	LR	LR		10 13 30.4		
	comp=Z,50nm,21.4s,baz=68,slow=37								
NB2	**NORSAR Subarra**	**93.09**	**334**	P	**P**		**09 29 37.6**	**+3.1**	
	comp=Z,1.8nm,0.8s,baz=62,slow=4.6								
NOA	**NORSAR Array B**	**93.09**	**334**	P	**P**		**09 29 33.8**	**-0.6**	
	comp=Z,0.3nm,0.6s,baz=108,slow=17,SNR=1.5								
NOA				LR	LR		10 16 08.5		
	comp=Z,51nm,18.2s,baz=65,slow=38								
YKA	**Yellowknife Ar**	**94.39**	**24**	P	**P**		**09 29 39.9**	**-0.5**	
	comp=Z,1.7nm,0.9s,baz=294,slow=4.4,SNR=18								
GERES	**GERESS Array B**	**96.90**	**322**	P	**P**		**09 29 50.5**	**-1.7**	
	comp=Z,0.4nm,0.2s,baz=60,slow=5.8,SNR=1.8								
GERES				LR	LR		10 15 52.9		
	comp=Z,55nm,21.0s,baz=91,slow=37								
TXAR	**Lajitas Array**	**118.44**	**49**	PKP	**PKPdf**		**09 35 08.3**	**-0.9**	
	comp=Z,0.3nm,0.8s,baz=186,slow=6.3,SNR=4.0								
TORD	**Torodi Ar. Bea**	**120.14**	**291**	PKP	**PKPdf**		**09 35 11.0**	**-1.7**	
	comp=Z,0.9nm,0.9s,baz=43,slow=2.1,SNR=2.5								
PLCA	**Paso Flores**	**145.85**	**157**	PKPbc	**PKPdf**		**09 35 59.0**	**-0.9**	
	comp=Z,3.6nm,1.0s,baz=222,slow=2.9,SNR=2.2								
PLCA	**Paso Flores**	**145.85**	**157**	PKPdf	**PKPdf**		**09 35 58.2**	**-1.7**	
LC01	**Cunco**	**146.87**	**154**		**PKPdf**		**09 36 00.9**	**-0.7**	
BO02	**Sierra Bellavi**	**150.75**	**151**	PKPdf	**PKPdf**		**09 36 06.4**	**-1.7**	
BO02					**PKPbc**		**09 36 13.7**	**0.0**	
BO02				PKPab	**pPKPbc**		**09 36 19.6**	**+0.7**	

*ASRS **10** 09:16:41.2,53.77N×91.02E,M2.1,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*NNC **10** 09:16:48.7±3.0,53.76N×90.55E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=22.3km s-min=16.6km az=57.0, Suspected Mining explosion.*
*IDC **10** 09:16:49.6±3.2,53.56N×90.67E,h0km,mb1 3.2/3, mb1mx3.0/55,mbtmp3.2/3,ML2.9/3,Error ellipse: s-maj=27.5km s-min=22.7km az=50.0*
ISC 10 09:16:50.5±3.9,53.6N±0.1×90.5E±0.2,h0km,n10, σ1s62/14,9C-5D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.39**	**278**	*i*			09 38 30.0	
	baz=88,slow=293,SNR=1.7							
ZAA0	**Zalesovo Array**	**3.39**	**278**	⇑Pg		**Pb**	**09 17 49.4**	**-2.0**
	1.0nm,0.7s							
ZAA0				⇓Lg		Lg	09 18 38.1	
	3.8nm,1.1s							
ZALV	**Zalesovo Beam**	**3.39**	**278**	Pn		**Pn**	**09 17 46.9**	**+2.3**
	1.6nm,0.3s,baz=96,slow=18,SNR=8.7							
ZALV				Lg		Lg	09 18 40.0	
	3.8nm,0.3s,baz=92,slow=27,SNR=8.4							
KURK	**Kurchatov**	**7.86**	**253**	⇑Pn		**Pn**	**09 18 46.8**	**+0.8**
	2.4nm,1.0s							
KURK				⇑Sn		**Sn**	**09 20 17.4**	**+1.9**
	3.4nm,1.1s							
KURK				⇓Lg		Lg	09 21 03.3	
	11nm,1.2s							
KURBB	**Kurchatov Arra**	**7.95**	**253**	Pn		**Pn**	**09 18 47.0**	**-0.2**
	0.2nm,0.3s,baz=63,slow=14,SNR=6.2							
KURBB				Sn		**Sn**	**09 20 17.7**	**-0.2**
	0.1nm,0.3s,baz=68,slow=25,SNR=5.9							
KURBB				Lg		Lg	09 21 04.7	
	0.1nm,0.3s,baz=68,slow=34,SNR=11							
KURBB	**Kurchatov Arra**	**7.95**	**253**	⇑Pn		**Pn**	**09 18 45.7**	**-1.6**
	0.9nm,0.3s							
KURBB				⇑Sn		**Sn**	**09 20 18.6**	**+0.7**
	8.4nm,0.7s							
KURBB				⇑Lg		Lg	09 21 07.3	
	15nm,0.8s							
MK31	**Makanchi Array**	**8.62**	**221**	⇑Pn		**Pn**	**09 18 55.9**	**-0.5**
	0.9nm,0.7s,baz=36,slow=12,SNR=13							
MK31				⇑Sn		**Sn**	**09 20 34.9**	**+0.6**
	0.4nm,0.5s							
MK31				⇓Lg		Lg	09 21 28.9	
	4.7nm,1.1s,baz=45,slow=28,SNR=3.7							
MKAR	**Makanchi Array**	**8.62**	**221**	Pn		**Pn**	**09 18 56.6**	**+0.2**
	0.3nm,0.3s,baz=32,slow=12,SNR=12							
MKAR				Sn		**Sn**	**09 20 32.8**	**-1.5**
	0.0nm,0.3s,baz=33,slow=16,SNR=1.7							
MKAR				Lg		Lg	09 21 23.7	
	0.1nm,0.3s,baz=37,slow=22,SNR=4.0							
MAKZ	**Makanchi**	**8.73**	**222**	⇑Pn		**Pn**	**09 19 00.2**	**+2.3**
	0.7nm,0.6s							
MAKZ				⇓Sn		**Sn**	**09 20 39.1**	**+2.1**
	1.3nm,0.6s							
MAKZ				⇓Lg		Lg	09 21 30.3	
	2.9nm,0.8s							
SONM	**Songino Array**	**11.61**	**113**	Lg		Lg	09 22 48.3	
	0.1nm,0.3s,baz=299,slow=28,SNR=3.8							

*UPP **10** 09:56:56.2±2.9,55.57N×20.99E,h1km,ML2.0,Suspected explosion*
*LVSN **10** 09:56:59.3±2.8,55.78N×20.65E,h0km±999km,ML2.7*
ISC 10 09:56:58.7±1.1,55.75N±0.07×20.86E±0.04,h10km,n18, σ0s86/22,Baltic Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
PABE	**Paberze**	**1.78**	**97**	*eP*		**Pb**	**09 57 31.7**	**+0.3**
PABE				IAML			09 57 57.5	
	comp=Z,15nm,0.4s							
PABE	**Paberze**	**1.78**	**97**	*eP*		**Pb**	**09 57 32.0**	**+0.7**
PABE				*eS*		**Sg**	**09 57 55.9**	**0.0**
SLIT	**Slitere, Latvi**	**2.04**	**22**	*eP*		**Pn**	**09 57 33.4**	**+0.4**
SLIT				IAML			09 58 05.4	
	comp=Z,76nm,0.1s							
SLIT	**Slitere, Latvi**	**2.04**	**22**	*eP*		**Pn**	**09 57 34.1**	**+1.1**
SLIT				AML		AML	09 57 35.5	
	comp=Z,115nm,0.4s							
SLIT				*eS*		**Sb**	**09 58 01.9**	**+0.7**
SLIT				AML		AML	09 58 03.3	
	comp=N,101nm,0.5s							
SLIT				AML		AML	09 58 03.8	
	comp=E,117nm,0.4s							
GOTU	**Gotland**	**2.31**	**328**	P		**Pn**	**09 57 38.0**	**+1.2**
GOTU				S		**Sb**	**09 58 08.7**	**-0.4**
BYXU	**Byxelkrok**	**2.63**	**307**	P		**Pn**	**09 57 42.4**	**+1.2**
BLEU	**Blekinge**	**2.89**	**283**	P		**Pn**	**09 57 44.7**	**0.0**
ASPU	**Aespoe**	**2.89**	**307**	P		**Pn**	**09 57 45.8**	**+1.0**
OSKU	**Oskarshamn**	**3.01**	**301**	P		**Pn**	**09 57 47.2**	**+0.8**
VSTU	**Vaestervik**	**3.06**	**311**	P		**Pn**	**09 57 48.1**	**+1.0**
IIGN	**Ignalina**	**3.07**	**95**	*eP*		**Pb**	**09 57 52.6**	**-0.8**
MTSE	**Matsula**	**3.38**	**27**	*eS*		**Sn**	**09 58 30.9**	**-0.5**
BSD	**Bornholm Skovb**	**3.45**	**262**	*i P*		**Pn**	**09 57 51.7**	**-0.7**
BSD				*i S*		**Pb**	**09 57 59.9**	**+0.1**
VXJU	**Vaexsjoe**	**3.50**	**292**	P		**Pn**	**09 57 52.9**	**-0.2**
EKSU	**Eksjoe**	**3.57**	**303**	P		**Pn**	**09 57 54.6**	**+0.6**
LNKU	**Linkoeping**	**3.84**	**312**	P		**Pn**	**09 57 58.1**	**+0.4**
VSU	**Vasula**	**4.20**	**47**	*eP*		**Pb**	**09 58 10.6**	**-2.0**
FKPU	**Falk**	**4.59**	**305**	P		**Pn**	**09 58 08.5**	**+0.4**

*NEIC **10** 10:33:27.4±2.0,6.81N±0.07×73.09W±0.06,h161km±7km, mb4.1/24, Error ellipse: s-maj=12.7km s-min=2.6km az=136.0*
*IDC **10** 10:33:27.2±0.7,6.65N×72.92W,h167km±8km,mb3.4/6, mb1 3.8/9,mb1mx3.4/42,mbtmp4.0/9,MS3.0/2,Ms1 3.1/2, ms1mx2.5/21,Error ellipse: s-maj=25.1km s-min=7.7km az=133.0*
*RSNC **10** 10:33:29.1±1.1,6.83N×73.15W,h146km±4km,ML3.8, Mw3.9*
ISC 10 10:33:27.3±0.6,6.83N±0.03×73.10W±0.04,h161km±5km, n89,σ1s64/129,mb4.0/17,5C-7D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
BARC	**Barichara**	**0.25**	**198**	⇓*iP*		**Pn**	**10 33 49.0**	**-0.4**
BARC				*eS*		**Sn**	**10 34 04.0**	**-2.3**
BARC				*i*			10 34 05.4	
	comp=Z,2μm,0.3s							
PAMC	**Pamplona, Colo**	**0.64**	**38**	⇑*iP*		**Pn**	**10 33 51.8**	**+0.5**
PAMC				*eS*		**Sn**	**10 34 08.8**	**-0.9**
PAMC				*i*			10 34 11.2	
	comp=Z,1μm,0.5s							
RUSC	**La Rusia**	**0.93**	**179**	⇓*iP*		**Pn**	**10 33 52.8**	**-0.5**
RUSC				*eS*		**Sn**	**10 34 11.6**	**-1.6**
RUSC				*i*			10 34 12.8	
	comp=Z,507nm,0.3s							
RUSC	**La Rusia**	**0.93**	**179**	Pn		**Pn**	**10 33 52.8**	**-0.5**
TAMC	**Tame, Arauca**	**1.36**	**107**	⇓*iP*		**Pn**	**10 33 57.2**	**+0.8**
TAMC				*i*			10 34 18.0	
	comp=Z,432nm,0.4s							
TAMC				*eS*		**Sn**	**10 34 18.9**	**+0.1**
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	⇓*eP*		**Pn**	**10 33 55.4**	**-1.1**
	comp=Z,479nm,0.4s							
PTBC				*eS*		**Sn**	**10 34 16.9**	**-2.1**
PTBC				*i*			10 34 24.3	
	comp=Z,479nm,0.4s							
OCAC	**Ocana**	**1.42**	**351**	⇑*iP*		**Pn**	**10 33 57.0**	**-0.1**
OCAC				*eS*		**Sn**	**10 34 18.9**	**-1.1**
OCAC				*i*			10 34 24.1	
	comp=Z,659nm,0.5s							
SPBC	**San Pablo de B**	**1.52**	**219**	⇓*eP*		**Pn**	**10 33 57.8**	**-0.3**
SPBC				*eS*		**Sn**	**10 34 20.1**	**-1.6**
SPBC				*i*			10 34 27.1	
	comp=Z,974nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*eP*		**Pn**	**10 34 01.2**	**-0.4**
ZARC				*eS*		**Sn**	**10 34 27.1**	**-0.9**
CTAU	**Tausa, Cundina**	**1.87**	**210**	⇓*eP*		**Pn**	**10 34 06.6**	**+4.4**
CTAU				*eS*		**Sn**	**10 34 32.3**	**+3.2**
CTAU				*i*			10 34 39.2	
	comp=Z,755nm,0.4s							
CTAB	**Cerro Tablazo,**	**2.11**	**211**	*eP*		**Pn**	**10 34 06.2**	**+1.2**
CTAB				*eS*		**Sn**	**10 34 34.9**	**+0.9**
CTAB				*i*			10 34 37.9	
	comp=Z,786nm,0.6s							
NORC	**Norcasia**	**2.16**	**234**	*eP*		**Pn**	**10 34 04.9**	**-0.2**
NORC				*eS*		**Sn**	**10 34 32.9**	**-1.3**
NORC				*i*			10 34 37.4	
	comp=Z,379nm,0.4s							
SMLC	**San Martn de**	**2.18**	**334**	*eP*		**Pn**	**10 34 05.0**	**-0.2**
SMLC				*eS*		**Sn**	**10 34 35.5**	**+0.9**
SMLC				*i*			10 34 41.4	
	comp=Z,516nm,0.2s							
CHIC	**Chingaza**	**2.27**	**196**	*eP*		**Pn**	**10 34 06.7**	**0.0**
CHIC				*eS*		**Sn**	**10 34 36.0**	**-1.2**
CHIC				*i*			10 34 40.1	
	comp=Z,273nm,0.4s							
ROSC	**El Rosal**	**2.32**	**212**	P		**Pn**	**10 34 08.6**	**+1.3**
	comp=Z,98nm,0.3s,baz=351,slow=2.7,SNR=108							
ROSC				S		**Sn**	**10 34 37.6**	**-0.5**
	comp=Z,124nm,0.3s,baz=131,slow=20,SNR=12							
ROSC	**El Rosal**	**2.32**	**212**	*i P*		**Pn**	**10 34 08.5**	**+1.3**
ROSC				*eS*		**Sn**	**10 34 37.6**	**-0.5**
ROSC				*i*			10 34 45.1	
	comp=Z,871nm,0.6s							
ROSC	**El Rosal**	**2.32**	**212**	Pn		**Pn**	**10 34 07.6**	**+0.3**
ROSC				Sn		**Sn**	**10 34 37.3**	**-0.8**
HELC	**Santa Helena**	**2.49**	**255**	*eP*		**Pn**	**10 34 09.3**	**0.0**
HELC				*eS*		**Sn**	**10 34 40.3**	**-1.4**
HELC				*i*			10 34 47.3	
	comp=Z,209nm,0.3s							
UREC	**San Jos de Ur**	**2.58**	**291**	*eP*		**Pn**	**10 34 06.3**	**-3.6**
UREC				*eS*		**Sn**	**10 34 40.8**	**-2.2**
UREC				*i*			10 34 51.5	
	comp=Z,354nm,0.3s							
GUY2C	**Guyana, Caldas**	**2.76**	**235**	*eP*		**Pn**	**10 34 12.7**	**+0.1**
GUY2C				*eS*		**Sn**	**10 34 49.2**	**+1.5**
GUY2C				*i*			10 34 55.5	
	comp=Z,389nm,0.3s							
VILC	**Villavicencio,**	**2.77**	**192**	*eP*		**Pn**	**10 34 11.9**	**-0.5**
VILC				*eS*		**Sn**	**10 34 46.4**	**-1.0**
VILC				*i*			10 34 57.0	
	comp=Z,500nm,0.4s							
PTGC	**Puerto Gaitan,**	**2.79**	**160**	⇓*iP*		**Pn**	**10 34 11.9**	**-0.7**
PTGC				*eS*		**Sn**	**10 34 45.2**	**-2.5**
PTGC				*i*			10 34 47.7	
	comp=Z,146nm,0.4s							
RREF	**El Recreo**	**2.94**	**229**	*eP*		**Pn**	**10 34 16.0**	**+0.9**
RREF				*eS*		**Sn**	**10 34 51.7**	**-0.3**
RREF				*i*			10 35 01.4	
	comp=Z,488nm,0.4s							
CBOC	**Ciudad Bolivar**	**3.05**	**252**	*eP*		**Pn**	**10 34 16.4**	**+0.5**
CBOC				*eS*		**Sn**	**10 34 52.2**	**-1.4**
CBOC				*i*			10 34 55.3	
	comp=Z,74nm,0.3s							

DBBC	**Dabeiba**	**3.09**	**274**	*eP*		**Pn**	**10 34 16.5**	**+0.1**	
DBBC				*eS*		**Sn**	**10 34 50.6**	**-3.8**	
DBBC				*i*			10 34 54.7		
	comp=Z,468nm,0.3s								
TOLC	**Tolima**	**3.14**	**225**	*eP*		**Pn**	**10 34 17.5**	**+0.3**	
TOLC				*eS*		**Sn**	**10 34 57.1**	**+1.2**	
SDV	**Santo Domingo**	**3.19**	**50**	P		**Pn**	**10 34 18.3**	**+0.6**	
	comp=Z,90nm,0.3s,baz=224,slow=3.6,SNR=40								
SDV				S		**Sn**	**10 34 56.5**	**-0.3**	
	comp=Z,33nm,0.3s,baz=27,slow=22,SNR=9.8								
SDV	**Santo Domingo**	**3.19**	**50**	⇑*eP*		**Pn**	**10 34 18.2**	**+0.6**	
SDV				*eS*		**Sn**	**10 34 56.2**	**-0.5**	
SDV				*i*			10 35 02.9		
	comp=Z,65nm,0.5s								
ARGC	**Ariguani, Magd**	**3.21**	**339**	*eP*		**Pn**	**10 34 19.0**	**+1.2**	
ARGC				*eS*		**Sn**	**10 34 57.8**	**+0.7**	
ARGC				*i*			10 35 11.4		
	comp=Z,163nm,0.3s								
ANIL	**Santa Ana**	**3.26**	**225**	*eP*		**Pn**	**10 34 20.2**	**+1.5**	
ANIL				*eS*		**Sn**	**10 34 59.0**	**+0.4**	
PRAC	**Prado**	**3.57**	**210**	*eP*		**Pn**	**10 34 21.9**	**-0.6**	
PRAC				*eS*		**Sn**	**10 35 05.8**	**+0.5**	
PRAC				*i*			10 35 10.7		
	comp=Z,513nm,0.3s								
ORTC	**Ortega, Tolima**	**3.60**	**216**	⇑*eP*		**Pn**	**10 34 23.0**	**+0.1**	
ORTC				*eS*		**Sn**	**10 35 05.7**	**-0.3**	
ORTC				*i*			10 35 13.5		
	comp=Z,251nm,0.3s								
SJCC	**San Jacinto, C**	**3.67**	**326**	*eP*		**Pn**	**10 34 22.6**	**-1.1**	
SJCC				*eS*		**Sn**	**10 35 04.2**	**-3.5**	
SJCC				*i*			10 35 11.3		
	comp=Z,109nm,0.5s								
PLMC	**San Jos del P**	**3.70**	**239**	*eP*		**Pn**	**10 34 24.4**	**+0.3**	
PLMC				*eS*		**Sn**	**10 35 07.2**	**-1.0**	
PLMC				*i*			10 35 12.8		
	comp=Z,112nm,0.2s								
GUVC	**San Jose del G**	**4.28**	**174**	*eP*		**Pn**	**10 34 31.2**	**-0.4**	
GUVC				*eS*		**Sn**	**10 35 14.2**	**-7.6**	
GUVC				*i*			10 35 19.8		
	comp=Z,205nm,0.1s								
YOTC	**Yotoco, Valle**	**4.29**	**229**	*eP*		**Pn**	**10 34 31.4**	**-0.5**	
YOTC				*eS*		**Sn**	**10 35 18.4**	**-3.7**	
SMRC	**Santa Marta, M**	**4.45**	**346**	*eP*		**Pn**	**10 34 33.4**	**-0.3**	
SMRC				*eS*		**Sn**	**10 35 21.7**	**-3.8**	
SMRC				*i*			10 35 27.4		
	comp=Z,87nm,0.6s								
MACC	**Macarena, Meta**	**4.71**	**189**	*eP*		**Pn**	**10 34 35.7**	**-1.6**	
MACC				*eS*		**Sn**	**10 35 26.5**	**-5.4**	
MACC				*i*			10 36 00.7		
	comp=Z,55nm,0.5s								
BETC	**Betania**	**4.74**	**210**	*eP*		**Pn**	**10 34 36.6**	**-1.0**	
BETC				*eS*		**Sn**	**10 35 30.0**	**-2.4**	
URIC	**Uribia, Colomb**	**4.96**	**13**	Pn		**Pn**	**10 34 39.1**	**-1.4**	
GARC	**Garzon, Huila**	**5.19**	**207**	⇓*eP*		**Pn**	**10 34 42.7**	**-1.0**	
GARC				*eS*		**Sn**	**10 35 38.2**	**-5.3**	
GARC				*i*			10 35 45.3		
	comp=Z,92nm,0.3s								
SOTA	**Rioblanco**	**5.83**	**217**	*eP*		**Pn**	**10 34 53.5**	**+1.1**	
SOTA				*i*			10 36 09.4		
	comp=Z,20nm,0.6s								
BBAC	**Balboa, Cauca**	**6.32**	**221**	*eP*		**Pn**	**10 34 59.6**	**+1.0**	
BBAC				*eS*		**Sn**	**10 36 09.1**	**-1.1**	
BBAC				*i*			10 36 12.6		
	comp=Z,15nm,0.4s								
HATO	**Hato, Curacao**	**6.71**	**37**	Pn		**Pn**	**10 35 02.9**	**-0.6**	
GCUF	**Volcan Galeras**	**6.99**	**217**	*eP*		**Pn**	**10 35 08.3**	**+0.5**	
GCUF				*i*			10 36 36.3		
	comp=Z,7.2nm,0.4s								
BCIP	**Isla Barro Col**	**7.06**	**290**	Pn		**Pn**	**10 35 07.2**	**-1.0**	
PCRV	**Puerto La Cruz**	**9.01**	**68**	P		**Pn**	**10 35 34.3**	**+0.1**	
	comp=Z,1.1nm,0.3s,baz=20,slow=2.8,SNR=6.9								
PLCV	**Puerto La Cruz**	**9.05**	**68**			**Pn**	**10 35 34.3**	**-0.3**	
MTDJ	**Mount Denham**	**12.12**	**340**	Pn		**Pn**	**10 36 16.8**	**+1.8**	
SDDR	**Presa de Saban**	**12.21**	**8**	Pn		**Pn**	**10 36 16.5**	**+0.5**	
AOPR	**Arecibo Observ**	**13.01**	**28**	Pn		**Pn**	**10 36 25.4**	**-1.0**	
PDPR	**Patillas Dam,**	**13.09**	**31**	Pn		**Pn**	**10 36 26.9**	**-0.4**	
CBYP	**Canovanas**	**13.38**	**31**	Pn		**Pn**	**10 36 30.9**	**-0.3**	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.95**	**128**	*ex*	**Pn**	**11 17 27.5**	**+1.1**
THN				*ex*	**Sn**	**11 18 32.5**	**-0.8**
DHRM	**DHARAMSHALA**	**6.44**	**126**	*ex*	**Pn**	**11 17 34.1**	**+0.8**
DHRM				*ex*	**Sn**	**11 18 44.0**	**-1.7**
DHRM				IAML		11 18 45.4	
	comp=N,153nm,0.3s						
DHRM				IAML		11 18 45.6	
	comp=E,169nm,0.3s						
AML	**Almayashu**	**6.49**	**24**	P	**Pn**	**11 17 35.3**	**+1.3**
	SNR=26						
UCH	**Uchtor**	**6.86**	**28**	P	**Pn**	**11 17 40.3**	**+1.2**
	SNR=18						
KK31	**Karatay Array**	**6.86**	**2**	⇑P	**Pn**	**11 17 39.4**	**+0.7**
	comp=E,5.4nm,0.5s,baz=191,slow=14,SNR=38						
KK31				⇑S	**Sn**	**11 18 54.9**	**-0.5**
	comp=E,2.3nm,0.3s,baz=189,slow=23,SNR=6.9						
KZA	**Kyzart**	**7.04**	**32**	P	**Pn**	**11 17 42.5**	**+1.1**
	SNR=8.9						
AAK	**Ala-Archa**	**7.21**	**26**	P	**Pn**	**11 17 44.8**	**+1.2**
	comp=E,2.3nm,0.3s,baz=191,slow=9.5,SNR=14						
AAK				S	**Sn**	**11 19 03.5**	**-0.5**
	comp=E,1.4nm,0.3s,baz=328,slow=22,SNR=6.9						
AAK	**Ala-Archa**	**7.21**	**26**	P	**Pn**	**11 17 45.0**	**+1.4**
	SNR=9.2						
AAK	**Ala-Archa**	**7.21**	**26**	⇑P	**Pn**	**11 17 44.3**	**+0.7**
	comp=E,6.7nm,0.6s						
AAK				⇑S	**Sn**	**11 19 03.7**	**-0.3**
	comp=E,8.9nm,0.7s						
KBK	**Karagaybulak**	**7.39**	**28**	P	**Pn**	**11 17 47.5**	**+1.4**
	SNR=6.3						
SMLA	**Simla**	**7.74**	**129**	*e*P	**Pn**	**11 17 51.5**	**+0.9**
SMLA				*e*S	**Sn**	**11 19 12.3**	**-4.3**
SMLA				IAML		11 19 15.2	
	comp=E,33nm,0.1s						
SMLA				IAML		11 19 15.9	
	comp=N,60nm,0.2s						
USP	**Ospenovka**	**7.77**	**24**	P	**Pn**	**11 17 52.2**	**+1.2**
	SNR=6.0						
TKM2	**Tokmak 2**	**7.87**	**30**	P	**Pn**	**11 17 53.5**	**+1.0**
	SNR=12						
TKM2	**Tokmak 2**	**7.87**	**30**	⇑P	**Pn**	**11 17 52.3**	**-0.2**
	comp=N,7.2nm,0.6s						
TKM2				⇑S	**Sn**	**11 19 18.2**	**-2.0**
	comp=N,17nm,0.8s						
AB31	**Akbulak array**	**15.01**	**333**	⇑P	**Pn**	**11 19 26.0**	**-0.2**
	comp=N,3.5nm,0.5s,baz=157,slow=14,SNR=4.0						
AB31				⇓S	**Sn**	**11 22 09.1**	**-3.0**
	comp=N,2.0nm,0.3s,baz=160,slow=22,SNR=5.2						
KURBB	**Kurchatov Arra**	**15.59**	**20**	P	**P**	**11 19 35.2**	**+0.1**
	comp=N,0.1nm,0.3s,baz=209,slow=10,SNR=4.5						
AKTO	**Aktyubinsk**	**16.69**	**332**	P	**P**	**11 19 49.6**	**+2.4**
	comp=N,0.6nm,0.3s,baz=162,slow=14,SNR=5.5						
AKTO	**Aktyubinsk**	**16.69**	**332**	⇑P	**P**	**11 19 47.3**	**+0.1**
	comp=N,2.3nm,0.6s						
AKTO				⇓S	**Sn**	**11 22 47.3**	**-5.3**
	comp=N,1.5nm,0.5s						
BVAR	**Borovoye Array**	**16.79**	**0**	P	**P**	**11 19 49.2**	**+1.0**
	comp=N,0.4nm,0.3s,baz=172,slow=13,SNR=4.4						
ZALV	**Zalesovo Beam**	**20.43**	**25**	P	**P**	**11 20 29.1**	**+1.2**
	comp=N,3.2nm,0.5s,baz=223,slow=11,SNR=10						
ARCES	**ARCESS Array B**	**41.14**	**338**	P	**P**	**11 23 34.3**	**+2.2**
	comp=N,2.6nm,0.9s,baz=130,slow=6.3,SNR=3.0						
TORD	**Torodi Ar. Bea**	**65.05**	**268**	P	**P**	**11 26 26.8**	**-1.3**
	comp=N,0.9nm,0.9s,baz=50,slow=5.5,SNR=2.8						
YKA	**Yellowknife Ar**	**81.53**	**2**	P	**P**	**11 28 04.6**	**+0.6**
	comp=N,0.2nm,0.6s,baz=352,slow=5.0,SNR=2.9						

*HLW **10** 11:16:41.2,37.˚65N×31.˚97E,h22km±39km, Md4.2, Ml3.9*
*NIC **10** 11:17:00.8±0.0, 36.˚26N×31.˚97E, h90km±5km, Ml3.2/5*
*ISK **10** 11:17:00.5, 36.˚30N×31.˚88E, h91km±1km, ML3.1/32*
*DDA **10** 11:17:01.9, 36.˚32N×31.˚89E, h77km±1km, ML2.4*
*GII **10** 11:17:02.6±0.2, 36.˚47N×32.˚40E, h60km*
ISC 10 11:17:00.3±1.2, 36˚32N±0.˚03×31˚89E±0.˚03, h96km±7km, n79, σ1°24/109, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALAN	**Alanya-ANTALYA**	**0.27**	**25**	PG	**Pn**	**11 17 14.8**	**+0.5**
ALAN				SG	**Sn**	**11 17 25.1**	**+0.3**
GAZI	**Gazipasa**	**0.35**	**103**	PG	**Pn**	**11 17 14.9**	**+0.1**
GAZI				SG	**Sn**	**11 17 24.9**	**-0.7**
GAZI	**Gazipasa**	**0.35**	**103**	*i* P	**Pn**	**11 17 14.8**	**+0.1**
GAZI				*i* S	**Sn**	**11 17 24.4**	**-1.2**
GAZI				IAML		11 17 25.0	
	comp=E,502nm,0.3s						
GAZI				IAML		11 17 26.0	
	comp=N,480nm,0.4s						
ERMK	**Ermenek**	**0.89**	**68**	*i* P	**Pn**	**11 17 20.8**	**+1.3**
ERMK				IAML		11 17 37.0	
	comp=E,170nm,0.2s						
ERMK				IAML		11 17 37.0	
	comp=N,282nm,0.5s						
BOZY	**Bozyazi-Mersin**	**0.90**	**103**	PG	**Pn**	**11 17 19.9**	**+0.5**
BOZY				SG	**Sn**	**11 17 34.3**	**+0.6**
TEKE	**Tekeli-Mersin**	**1.00**	**100**	PG	**Pn**	**11 17 21.3**	**+0.8**
BERE	**Bereket-Mersin**	**1.08**	**88**	PN	**Pn**	**11 17 22.2**	**+0.7**
SEYD	**Seydisehir-KON**	**1.09**	**358**	PN	**Pn**	**11 17 22.4**	**+0.8**
YORU	**Yoruktepe-Mers**	**1.23**	**97**	PN	**Pn**	**11 17 23.9**	**+0.7**
AKUM	**Antalya-Kumluc**	**1.25**	**271**	*i* P	**Pn**	**11 17 24.0**	**+0.7**
AKUM				*i* S	**Sn**	**11 17 42.4**	**+1.7**
AKUM				IAML		11 17 48.0	
	comp=E,61nm,0.5s						
AKUM				IAML		11 17 48.0	
	comp=N,52nm,0.5s						
TEVE	**Tevekalti-Mers**	**1.26**	**84**	PN	**Pn**	**11 17 24.9**	**+1.4**
OREN	**Orenkoy-Mersin**	**1.27**	**94**	PN	**Pn**	**11 17 24.4**	**+0.9**
ALFC	**Alefka**	**1.29**	**153**	P	**Pn**	**11 17 23.5**	**-0.4**
ALFC				S	**Sn**	**11 17 40.1**	**-1.6**
ALFC				AML	AML	11 17 41.2	
	comp=N,1.7nm,0.3s						
ALFC				AML	AML	11 17 41.2	
	comp=N,1.7nm,0.3s						
TEPK	**Tepekoy-MERSIN**	**1.34**	**93**	PN	**Pn**	**11 17 25.4**	**+1.0**
GULN	**MERSIN_Gulnar**	**1.34**	**95**	*i* P	**Pn**	**11 17 25.3**	**+0.9**
GULN				*i* S	**Sn**	**11 17 41.9**	**-0.7**
GULN				IAML		11 17 44.0	
	comp=N,74nm,0.2s						
GULN				IAML		11 17 45.0	
	comp=E,36nm,0.2s						
AKMS	**Akamas**	**1.34**	**164**	P	**Pn**	**11 17 24.8**	**+0.3**
AKMS				S	**Sn**	**11 17 41.8**	**-1.0**
AKMS				AML	AML	11 17 43.8	
	comp=E,1.2nm,0.2s						
AKMS				AML	AML	11 17 43.8	
	comp=E,1.2nm,0.2s						
AKMS				AML	AML	11 17 48.9	
	comp=E,1.6nm,0.3s						
AKMS				AML	AML	11 17 48.9	
	comp=E,1.6nm,0.3s						
AKK1	**Akkuyu-Mersin**	**1.34**	**97**	PN	**Pn**	**11 17 25.5**	**+1.1**
AKKU	**Akkuyu-Mersin**	**1.35**	**96**	PN	**Pn**	**11 17 25.6**	**+1.1**
AKK2	**Akkuyu-Mersin**	**1.35**	**97**	PN	**Pn**	**11 17 25.2**	**+0.7**
KRMN	**Karaman**	**1.40**	**52**	PN	**Pn**	**11 17 26.2**	**+1.0**
KORT	**Korkueli**	**1.42**	**299**	PN	**Pn**	**11 17 26.2**	**+0.8**
KORT	**Korkueli**	**1.42**	**299**	*i* P	**Pn**	**11 17 26.4**	**+0.9**
YESI	**Yesilovacik-Me**	**1.42**	**94**	PN	**Pn**	**11 17 26.4**	**+1.1**
LEF	**Lefka**	**1.44**	**145**	PN	**Pn**	**11 17 26.2**	**+0.5**
LEF	**Lefka**	**1.44**	**145**	*i* P	**Pn**	**11 17 25.3**	**-0.4**
LEF				IAML		11 17 44.0	
	comp=E,126nm,0.4s						
LEF				IAML		11 17 44.0	
	comp=N,106nm,0.2s						
IKL	**Isikli**	**1.45**	**92**	PN	**Pn**	**11 17 26.8**	**+1.1**
TISA	**Tisan-Mersin**	**1.45**	**96**	PN	**Pn**	**11 17 26.7**	**+0.9**
KARG	**Kargicak-Mersi**	**1.47**	**94**	PN	**Pn**	**11 17 27.1**	**+1.1**
KEBE	**Keben-Mersin**	**1.48**	**84**	PN	**Pn**	**11 17 27.9**	**+1.8**
KMER	**Konya-Meram**	**1.50**	**15**	*i* P	**Pn**	**11 17 27.2**	**+0.7**
KMER				*i* S	**Sn**	**11 17 45.5**	**-0.9**
NATA	**Nata**	**1.63**	**160**	P	**Pn**	**11 17 29.1**	**+1.1**
SILI	**Silifke-Mersin**	**1.64**	**88**	PN	**Pn**	**11 17 29.4**	**+1.3**
ELL	**Elmali**	**1.65**	**286**	PN	**Pn**	**11 17 29.3**	**+0.9**
ELL	**Elmali**	**1.65**	**286**	P	**Pn**	**11 17 29.4**	**+1.0**
ELL				S	**Sn**	**11 17 51.9**	**+2.1**
SLFK	**Silifke-Mersin**	**1.66**	**87**	PN	**Pn**	**11 17 29.2**	**+0.8**
KONT	**Konya--Tatoy**	**1.67**	**13**	PN	**Pn**	**11 17 29.6**	**+1.1**
KONT	**Konya--Tatoy**	**1.67**	**13**	*i* P	**Pn**	**11 17 29.4**	**+0.9**
SZAC	**Souni**	**1.75**	**152**	P	**Pn**	**11 17 32.5**	**+2.8**
SZAC				AML	AML	11 18 00.1	
	comp=N,0.7nm,0.3s						
CSS	**Mathiatis**	**1.79**	**139**	PN	**Pn**	**11 17 31.0**	**+1.0**
CSS	**Mathiatis**	**1.79**	**139**	Pn	**Pn**	**11 17 29.8**	**-0.2**
CSS				Sn	**Sn**	**11 17 51.0**	**-1.6**
CSS	**Mathiatis**	**1.79**	**139**	P	**Pn**	**11 17 30.1**	**+0.1**
CSS				S	**Sn**	**11 17 50.7**	**-1.9**
DOGA	**KONYA_Doganhis**	**1.80**	**354**	*i* P	**Pn**	**11 17 30.8**	**+0.5**
DOGA				*i* S	**Sn**	**11 17 53.3**	**+0.3**
DOGA				IAML		11 17 54.0	
	comp=E,20nm,0.7s						
DOGA				IAML		11 17 55.0	
	comp=N,29nm,0.6s						
KIZK	**Mersin**	**1.82**	**84**	PN	**Pn**	**11 17 31.8**	**+1.3**
KIZK	**Mersin**	**1.82**	**84**	*i* P	**Pn**	**11 17 32.1**	**+1.7**
KIZK				*i* S	**Sn**	**11 17 52.7**	**-0.7**
KIZK				IAML		11 18 06.0	
	comp=N,20nm,0.5s						
KIZK				IAML		11 18 07.0	
	comp=E,18nm,0.3s						
ISP	**Isparta**	**1.86**	**324**	Pn	**Pn**	**11 17 33.7**	**+2.7**
ASGA	**Asgata**	**1.89**	**144**	P	**Pn**	**11 17 32.9**	**+1.6**
ASGA				S	**Sn**	**11 17 56.2**	**+1.4**
ASGA				AML	AML	11 18 01.8	
	comp=E,0.4nm,0.6s						
ASGA				AML	AML	11 18 01.8	
	comp=E,0.4nm,0.6s						
ASGA				AML	AML	11 18 02.2	
	comp=E,0.3nm,0.4s						
ASGA				AML	AML	11 18 02.2	
	comp=E,0.3nm,0.4s						
BAGO	**Egridir - ISPA**	**1.89**	**333**	*i* P	**Pn**	**11 17 31.3**	**-0.1**
BAGO				*i* S	**Sn**	**11 17 50.3**	**-4.7**
LADK	**Ladik-KONYA**	**1.92**	**11**	PN	**Pn**	**11 17 32.4**	**+0.6**
MVOU	**Mavrovouni**	**1.92**	**132**	P	**Pn**	**11 17 31.5**	**-0.2**
MVOU				S	**Sn**	**11 17 53.5**	**-2.2**
MVOU				AML	AML	11 17 54.3	
	comp=E,0.7nm,0.3s						
MVOU				AML	AML	11 17 54.3	
	comp=E,0.7nm,0.3s						
EREN	**Erenkoy**	**2.01**	**112**	PN	**Pn**	**11 17 34.1**	**+1.2**
EREN	**Erenkoy**	**2.01**	**112**	*i* P	**Pn**	**11 17 34.0**	**+1.2**
EREN				*i* S	**Sn**	**11 17 57.3**	**-0.4**
EREN				IAML		11 18 00.0	
	comp=E,140nm,0.9s						
EREN				IAML		11 18 01.0	
	comp=N,87nm,0.6s						
BRDR	**BURDUR-Merkez**	**2.01**	**314**	*i* P	**Pn**	**11 17 34.4**	**+1.4**
BRDR				IAML		11 18 00.0	
	comp=N,13nm,0.3s						
BRDR				IAML		11 18 01.0	
	comp=E,24nm,0.4s						
KERG	**Konya-Eregli**	**2.10**	**58**	*i* P	**Pn**	**11 17 35.0**	**+0.8**
KERG				*i* S	**Sn**	**11 17 59.3**	**-0.7**
KERG				IAML		11 18 00.0	
	comp=E,62nm,0.4s						
KERG				IAML		11 18 00.0	
	comp=N,46nm,0.7s						
MERS	**Mersin**	**2.19**	**75**	PN	**Pn**	**11 17 36.6**	**+1.4**
KDHN	**Kadinhani**	**2.21**	**5**	*i* P	**Pn**	**11 17 35.8**	**+0.2**
KDHN				*i* S	**Sn**	**11 18 00.6**	**-1.9**
KZIL	**AFYON_Kiziören**	**2.39**	**325**	*i* P	**Pn**	**11 17 38.0**	**+0.1**
CHBY	**Cihanbeyli**	**2.40**	**19**	PN	**Pn**	**11 17 38.9**	**+0.8**
DALY	**Dalyan (Mula)**	**2.65**	**282**	*i* P	**Pn**	**11 17 41.9**	**+0.6**
DALY				IAML		11 18 07.0	
	comp=E,22nm,0.8s						
DALY				*i* S	**Sn**	**11 18 11.0**	**-1.8**
DALY				IAML		11 18 25.0	
	comp=N,24nm,0.6s						
KHAL	**Karahalli**	**2.80**	**318**	*i* P	**Pn**	**11 17 43.8**	**+0.4**
KHAL				*i* S	**Sn**	**11 18 14.9**	**-1.7**
KHAL				IAML		11 18 36.0	
	comp=N,8.9nm,1.3s						
CMRD	**Camardi-Nigde**	**2.82**	**61**	PN	**Pn**	**11 17 45.8**	**+2.1**
OSC1	**CSNet OBS 1**	**2.85**	**190**	P	**Pn**	**11 17 44.4**	**+0.4**
OSC1				S	**Sn**	**11 18 16.9**	**-0.7**
YURE	**YUREGIR**	**3.06**	**79**	PN	**Pn**	**11 17 48.2**	**+1.5**
OSC2	**CSNet OBS 4**	**3.25**	**174**	P	**Pn**	**11 17 50.7**	**+1.4**
OSC2				S	**Sn**	**11 18 28.3**	**+1.2**
DAT	**Datca**	**3.50**	**278**	*i* P	**Pn**	**11 17 53.0**	**+0.3**
DAT				IAML		11 18 34.0	
	comp=N,7.3nm,0.7s						
DAT				IAML		11 18 34.0	
	comp=E,8.1nm,0.4s						
HNTI	**Hanita**	**4.21**	**139**	Sn	**Sn**	**11 18 48.8**	**-1.5**
MMA0B	**Mount Meron ar**	**4.38**	**138**	Pn	**Pn**	**11 18 05.3**	**+0.6**
MMA0B				Sn	**Sn**	**11 18 53.8**	**-0.9**
GEM	**Giv'at Ha'Em**	**4.39**	**134**	Pn	**Pn**	**11 18 04.5**	**-0.2**
GEM				Sn	**Sn**	**11 18 52.8**	**-1.8**
NATI	**Neve Ativ**	**4.39**	**133**	Pn	**Pn**	**11 18 04.4**	**-0.3**
NATI				Sn	**Sn**	**11 18 52.9**	**-1.8**
KSDI	**Kefar Szold**	**4.40**	**134**	Pn	**Pn**	**11 18 04.8**	**0.0**
KSDI				Sn	**Sn**	**11 18 53.6**	**-1.3**
MMLI	**Mount Malkishu**	**4.85**	**142**	Pn	**Pn**	**11 18 12.2**	**+1.3**
MMLI				Sn	**Sn**	**11 19 05.2**	**-0.7**
HMDT	**Nahal Hemdat**	**5.05**	**142**	Pn	**Pn**	**11 18 15.0**	**+1.4**
HMDT				Sn	**Sn**	**11 19 10.3**	**-0.4**
DSI	**Dead Sea**	**5.55**	**148**	Pn	**Pn**	**11 18 21.8**	**+1.3**
RSH		**5.55**	**164**	P	**Pn**	**11 18 20.7**	**+0.1**
	baz=167						
GHAJ	**Ghor Haditha**	**5.86**	**147**	Pn	**Pn**	**11 18 26.4**	**+1.8**
HBRG	**Burj al `Arab**	**5.98**	**197**	P	**Pn**	**11 18 27.0**	**+0.7**
	baz=195						
HBRG				AMP		11 19 00.0	
	baz=195						
HSAF	**As Saff**	**6.68**	**183**	P	**Pn**	**11 18 36.5**	**+0.6**
	baz=183						
GLL	**Jalalah**	**6.72**	**181**	P	**Pn**	**11 18 36.7**	**+0.3**
	baz=182						
HNAT	**Natroun**	**6.75**	**189**	P	**Pn**	**11 18 38.2**	**+1.5**
	baz=189						
SWA2		**8.89**	**219**	P	**Pn**	**11 19 04.4**	**-1.5**
	baz=215						

*NEIC **10** 11:22:57.5±2.6, 52.˚83S±0.˚05×160.˚1E±0.˚2, h10km±1km, mb4.2/8, Error ellipse: s-maj=22.4km s-min=5.2km az=110.0*
*IDC **10** 11:23:00.2±1.5, 52.˚67S×159.˚51E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.8/25, mbtmp3.7/5, ML4.0/1, MS3.9/12, Ms1 3.9/12, ms1mx3.8/13, Error ellipse: s-maj=48.2km s-min=27.2km az=70.0*
*GCMT **10** 11:23:04.5±0.2, 52.˚80S±0.˚01×159.˚74E±0.˚02, h24km±1km, MW5.0/90, Moment Tensor Solution. s45,c56; s90,c138; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.36±. 17; Mθθ4.28±. 13; Mϕϕ-3.92±. 13; Mrθ-0.44±. 18; Mθϕ1.25±. 10; Mϕr0.67±. 22; Best double couple: M04.36700×10^16 NP1:ϕs217.00000°, δ80.00000°, λ-175.00000°. NP2: ϕs126.00000°, δ85.00000°, λ-10.00000°. Principal axes: T 4.4900, Plg4.0000°, Azm172.0000°; N -0.2500, Plg79.0000°, Azm282.0000°; P -4.2440, Plg11.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 11:23:01.4±0.8, 52˚32S±0.˚10×160˚31E±0.˚09, h10km, n47, σ2°43/29, mb3.7/6, MS3.9/14, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCQ	**Macquarie Isla**	**2.33**	**200**	Pn	Pn	11 23 30.1	-10
MCQ				Sn	Sn	11 23 50.8	-18
PYZ	**Puysegur Point**	**7.44**	**37**	Pn	**Pn**	**11 24 51.8**	**+1.9**
WHZ	**Wether Hill Ro**	**8.15**	**41**	Pn	**Pn**	**11 25 02.0**	**+2.3**
DCZ	**Deep Cove**	**8.21**	**36**	Pn	**Pn**	**11 25 03.4**	**+2.9**
MLZ	**Mavora Lakes**	**8.65**	**40**		**Pn**	**11 25 09.6**	**+3.0**
WKZ	**Wanaka**	**9.46**	**41**	Pn	**Pn**	**11 25 17.3**	**-0.3**
ODZ	**Otahua Downs**	**9.98**	**47**	Pn	**Pn**	**11 25 26.1**	**+1.3**
LBZ	**Lake Benmore**	**10.30**	**43**	Pn	**Pn**	**11 25 32.5**	**+3.4**
FOZ	**Fox Glacier**	**10.85**	**40**	Pn	**Pn**	**11 25 39.3**	**+2.6**
RPZ	**Rata Peaks**	**11.21**	**44**	Pn	Pn	11 25 49.3	+7.7
	0.9nm,0.3s,baz=223,slow=6.8,SNR=1.3						
RPZ				Sn	**Sn**	**11 27 46.1**	**-0.8**
	0.4nm,0.3s,baz=68,slow=8.0,SNR=2.2						
RPZ				LR	LR	11 30 20.8	
	comp=Z,1μm,18.2s,baz=202,slow=37						
RPZ	**Rata Peaks**	**11.21**	**44**		**Pn**	**11 25 42.4**	**+0.8**
MQZ	**McQueen's Vall**	**11.93**	**49**	Pn	**Pn**	**11 25 55.7**	**+4.3**
OXZ	**Oxford**	**11.95**	**46**	Pn	**Pn**	**11 25 55.0**	**+3.3**
TAU	**Tasmania Unive**	**12.84**	**312**	Pn	**Pn**	**11 26 04.9**	**+1.0**
TOO	**Toolangi**	**18.04**	**319**		**P**	**11 27 10.8**	**-1.7**
TOO				IAmb	IAmb	11 27 29.9	
	comp=Z,7.6nm,1.1s						
STKA	**Stephens Creek**	**24.57**	**319**	P	**P**	**11 28 21.3**	**0.0**
	comp=Z,1.3nm,0.9s,baz=158,slow=11,SNR=1.0						
STKA				LR	LR	11 35 58.1	
	comp=Z,448nm,19.1s,baz=169,slow=32						
STKA	**Stephens Creek**	**24.57**	**319**	P	**P**	**11 28 20.8**	**-0.5**
VNDA	**Vanda**	**25.31**	**179**	P	**P**	**11 28 24.6**	**-3.1**
	comp=Z,0.6nm,0.8s,baz=332,slow=10,SNR=4.0						
VNDA				LR	LR	11 35 60.0	
	comp=Z,331nm,21.3s,baz=2.0,slow=31						
VNDA	**Vanda**	**25.31**	**179**	P	P	11 28 18.9	-8.7
VNDA				IAmb	IAmb	11 28 29.6	
	comp=Z,7.7nm,1.4s						
DZM	**Mont Dzumac**	**30.57**	**11**	*e*S	S	11 33 59.8	-17
	comp=Z,148nm,28.4s						
DZM				*e*LQ	LQ	11 36 06.9	
	comp=Z,761nm,25.2s						
DZM				*e*LR	LR	11 37 31.2	
	comp=Z,301nm,25.6s						
ASAR	**Alice Springs**	**35.00**	**315**	P	**P**	**11 29 54.0**	**0.0**
	comp=Z,0.8nm,0.8s,baz=148,slow=8.4,SNR=8.2						
ASAR				LR	LR	11 43 17.6	
	comp=Z,280nm,18.0s,baz=148,slow=35						
AS31	**Alice Springs**	**35.00**	**315**	P	**P**	**11 29 52.5**	**-1.4**
QSPA	**South Pole Qui**	**37.80**	**180**	P	P	11 30 08.7	-8.9
WR0	**Warramunga Arr**	**38.01**	**318**	P	**P**	**11 30 18.3**	**-1.4**
WR0				IAmb	IAmb	11 30 30.5	
	comp=Z,7.3nm,1.3s						
WRA	**Warramunga Arr**	**38.11**	**318**	P	**P**	**11 30 18.9**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=157,slow=7.4,SNR=3.4						
WRA				LR	LR	11 44 35.8	
	comp=Z,172nm,21.8s,baz=45,slow=34						
WRAB	**Tennant Creek**	**38.12**	**318**	P	**P**	**11 30 17.5**	**-3.0**
WRAB				IAmb	IAmb	11 30 19.8	
	comp=Z,11nm,1.3s						
FITZ	**Fitzroy Crossi**	**43.62**	**308**	LR	LR	11 49 20.4	
	comp=Z,174nm,20.2s,baz=156,slow=36						
PMG	**Port Moresby**	**44.11**	**341**	LR	LR	11 45 41.1	
	comp=Z,162nm,21.1s,baz=102,slow=31						
MAW	**Mawson**	**45.67**	**212**	LR	LR	11 47 52.8	
	comp=Z,172nm,19.7s,baz=96,slow=33						
TBI	**Tubuai**	**47.78**	**73**	*e*S	**S**	**11 38 32.8**	**-2.4**
	comp=Z,157nm,28.2s						
TBI				*e*LR	LR	11 45 19.2	
	comp=Z,360nm,32.2s						
PPT2	**Papeete2**	**52.23**	**68**	*e*S	**S**	**11 39 32.6**	**-4.9**
	comp=Z,175nm,29.0s						
PPT2				*e*LR	LR	11 47 43.6	
	comp=Z,220nm,29.0s						
PPT	**Papeete**	**52.24**	**68**	LR	LR	11 52 17.9	
	comp=Z,47nm,18.8s,baz=177,slow=33						
SNAA	**Sanae**	**55.73**	**186**	P	**P**	**11 32 39.8**	**+2.2**
SNAA	**Sanae**	**55.73**	**186**	P	P	11 32 32.3	-5.3
VNA3	**Neumayer Olymp**	**56.53**	**184**	P	**P**	**11 32 45.4**	**+2.1**
VNA2	**Neumayer--Watz**	**56.74**	**185**	P	**P**	**11 32 46.9**	**+2.2**
	baz=150,slow=4.8						
VNA1	**Neumayer--Stat**	**57.06**	**185**	P	**P**	**11 32 48.9**	**+2.0**
PLCA	**Paso Flores**	**77.37**	**143**	LR	LR	12 00 31.6	
	comp=Z,86nm,19.7s,baz=166,slow=29						
H03S2	**Juan Fernandez**	**79.85**	**133**	T	T	13 03 24.7	
	baz=210,slow=74,SNR=608						
H03S1	**Juan Fernandez**	**79.85**	**133**	T	T	13 03 26.0	
	baz=210,slow=74,SNR=549						
H03S3	**Juan Fernandez**	**79.87**	**133**	T	T	13 03 25.3	
	baz=210,slow=74,SNR=508						
H03N3	**Juan Fernandez**	**80.17**	**133**	T	T	13 03 47.6	
	baz=217,slow=76,SNR=188						
H03N2	**Juan Fernandez**	**80.18**	**133**	T	T	13 03 48.1	
	baz=217,slow=76,SNR=207						
H03N1	**Juan Fernandez**	**80.19**	**133**	T	T	13 03 47.7	
	baz=217,slow=76,SNR=218						
CMAR	**Chiang Mai Arr**	**88.24**	**304**	LR	LR	12 15 44.4	
	comp=Z,16nm,20.1s,baz=165,slow=36						
KSRS	**Korea Array**	**93.76**	**335**	LR	LR	12 18 32.2	
	comp=Z,14nm,18.1s,baz=160,slow=36						
KURBB	**Kurchatov Arra**	**123.55**	**311**	PKP	**PKiKP**	**11 41 58.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=132,slow=2.8,SNR=1.2						

*IDC **10** 11:30:39.6±1.4, 10.˚07N×122.˚39E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/46, mbtmp3.6/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/31, Error ellipse: s-maj=69.8km s-min=24.5km az=75.0*
*MAN **10** 11:30:46.4, 10.˚34N×122.˚43E, h33km, MS3.9*
MAN Intensity II - Iloilo City.
ISC 10 11:30:46.6±1.0, 10˚34N±0.˚04×122˚38E±0.˚05, h46km±9km, n17, σ1°58/25, mb3.6/4, 3C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.35**	**36**	*e*P	**Pn**	**11 30 55.0**	**-0.9**
GUIM				*e*S	**Sn**	**11 31 03.1**	**+0.7**
CNOP	**Candoni, Negro**	**0.57**	**153**	*e*P	**Pn**	**11 30 58.4**	**-0.2**
CNOP				*e*S	**Sn**	**11 31 06.8**	**-0.2**
JAP	**San Jose, Anti**	**0.59**	**314⇑**	*e*P	**Pn**	**11 31 00.4**	**+1.7**
SNPH	**Sibulan**	**1.30**	**139⇑**	*i* P	**Pn**	**11 31 09.

*GCG **10** 12:37:12.7±3.2, 16°.72N×95°.26W, h36^{km}±999^{km}, MD4.9*
*NEIC **10** 12:37:17.4±2.5, 16°.21N±0°.05×94°.91W±0°.05, h75^{km}±7^{km}, Error ellipse: s-maj=7.6km s-min=7.4km az=46.0*
*MEX **10** 12:37:18.9±0.8, 16°.22N×94°.93W, h82^{km}±10^{km}, MD4.2*
*IDC **10** 12:37:18.8±1.0, 16°.35N×94°.62W, h70^{km}±6^{km}, mb3.7/11, mb1 3.9/13, mb1mx3.7/36, mbtmp3.9/13, MS3.1/9, Ms1 3.2/9, ms1mx2.9/36, Error ellipse: s-maj=20.5km s-min=12.4km az=45.0*

ISC 10 12:37:18.2±0.6, 16°.27N±0°.04×94°.90W±0°.03, h74^{km}±5^{km}, n139, σ1^{s}70/154, mb4.2/36, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.82**	**1**	P		**Pn**	**12 37 35.1**	**+0.4**
	788nm,0.3s,baz=175,slow=11,SNR=6664							
CMIG				S		**Sn**	**12 37 47.5**	**+0.4**
	3µm,0.3s,baz=67,slow=20,SNR=40							
CMIG	**Matias Romero**	**0.82**	**1**			**Pn**	**12 37 35.4**	**+0.6**
CMIG						**Sn**	**12 37 47.8**	**+0.8**
CMIG	**Matias Romero**	**0.82**	**1**	*i* P		**Pn**	**12 37 35.4**	**+0.6**
CMIG				*i* S		**Sn**	**12 37 47.8**	**+0.8**
HUIG	**Huatulco**	**1.26**	**247**			**Pn**	**12 37 39.1**	**-1.0**
HUIG						**Sn**	**12 37 55.5**	**-1.2**
HUIG	**Huatulco**	**1.26**	**247**	*i* P		**Pn**	**12 37 39.1**	**-1.0**
HUIG				*e*S		**Sn**	**12 37 55.5**	**-1.2**
PCIG		**1.71**	**109**			**Pn**	**12 37 45.9**	**-0.2**
PCIG		**1.71**	**109**	*e*P		**Pn**	**12 37 45.9**	**-0.2**
PCIG				*i* S		**Sn**	**12 38 06.9**	**-0.4**
TGIG		**1.78**	**73**			**Pn**	**12 37 47.0**	**-0.1**
TGIG		**1.78**	**73**	*e*P		**Pn**	**12 37 47.0**	**-0.1**
TGIG				*i* S		**Sn**	**12 38 09.1**	**+0.1**
VHO	**Vista Hermosa**	**1.93**	**295**	*e*P		**Pn**	**12 37 51.6**	**+2.5**
VHO				*e*S		**Sn**	**12 38 14.6**	**+1.9**
PEIG	**Puerto Escondi**	**2.17**	**263**	*e*P		**Pn**	**12 37 51.7**	**-0.6**
PEIG				*e*S		**Sn**	**12 38 17.4**	**-0.9**
YOIG	**Yosondua**	**2.60**	**283**	*e*P		**Pn**	**12 37 59.9**	**+1.6**
YOIG				*e*S		**Sn**	**12 38 29.7**	**+0.6**
CCIG	**Comitan**	**2.66**	**89**	Pn		**Pn**	**12 37 58.8**	**-0.2**
CCIG				Sn		**Sn**	**12 38 32.2**	**+1.9**
CCIG	**Comitan**	**2.66**	**89**	*e*P		**Pn**	**12 37 58.3**	**-0.7**
CCIG				*i* S		**Sn**	**12 38 30.1**	**-0.2**
TOIG	**Toxpalan**	**2.75**	**312**	*e*P		**Pn**	**12 38 02.3**	**+2.1**
TOIG				*e*S		**Sn**	**12 38 33.4**	**+0.9**
THIG		**2.88**	**118**	*i* P		**Pn**	**12 38 02.5**	**+0.7**
THIG				*e*S		**Sn**	**12 38 36.8**	**+1.3**
HLIG	**Huajuapan de L**	**3.18**	**300**	*i* P		**Pn**	**12 38 05.9**	**-0.2**
HLIG				*e*P		**Pn**	**12 38 06.8**	**+0.7**
STG3	**Santiaguito 3,**	**3.57**	**115**	*e*P		**Pn**	**12 38 12.9**	**+1.5**
FUG	**Fuego 3**	**4.32**	**114**	*e*P		**Pn**	**12 38 24.7**	**+3.1**
NBG	**Las Nubes**	**4.70**	**110**	*e*P		**Pn**	**12 38 29.2**	**+2.2**
IXG	**Ixpaco**	**4.79**	**115**	*e*P		**Pn**	**12 38 29.6**	**+1.6**
IXG				*e*S		**Sn**	**12 39 30.5**	**+8.2**
MRL	**Marmol**	**5.16**	**102**	*e*P		**Pn**	**12 38 33.9**	**+0.7**
MTO3	**Montecristo**	**5.66**	**108**	Pn		**Pn**	**12 38 38.4**	**-1.6**
MOIG	**Morelia**	**6.88**	**300**	Pn		**Pn**	**12 38 56.8**	**+0.2**
TEIG	**Tepich**	**7.43**	**57**	P		**Pn**	**12 39 02.5**	**-1.4**
	122nm,0.3s,baz=319,slow=0.8,SNR=280							
TEIG				S		**Sn**	**12 40 20.5**	**-6.1**
	baz=139,slow=19							
TEIG				LR		LR	12 42 55.0	
	comp=Z,20nm,18.3s,baz=48,slow=47							
TEIG	**Tepich**	**7.43**	**57**	Pn		**Pn**	**12 39 02.6**	**-1.2**
TEIG	**Tepich**	**7.43**	**57**	*e*P		**Pn**	**12 39 02.7**	**-1.2**
TGUH	**Tegucigalpa,Un**	**7.69**	**106**	Pn		**Pn**	**12 39 08.5**	**+0.8**
MATN	**Matagalpa**	**9.30**	**110**	Pn		Pn	12 39 24.5	-5.2
ZAIG	**Zacatecas**	**9.70**	**313**	Pn		**Pn**	**12 39 34.7**	**-0.4**
JTS	**Las Juntas de**	**11.36**	**120**	P		**Pn**	**12 39 55.9**	**-1.8**
	0.5nm,0.3s,baz=287,slow=20,SNR=2.3							
JTS	**Las Juntas de**	**11.36**	**120**			**Pn**	**12 39 56.4**	**-1.3**
833A	**Chaparral WMA,**	**12.70**	**342**			**Pn**	**12 40 17.7**	**+2.0**
435B	**Jarrell**	**14.65**	**351**	Pn		**Pn**	**12 40 41.4**	**-0.3**
JCT	**Junction City**	**14.84**	**343**	Pn		**Pn**	**12 40 44.7**	**+0.7**
TXAR	**Lajitas Array**	**15.30**	**330**	P		**P**	**12 40 52.5**	**-0.8**
	baz=149,slow=12,SNR=2.6							
TXAR				pP		**pP**	**12 41 08.7**	**+0.3**
	0.3nm,0.3s,baz=137,slow=12,SNR=32							
TX31	**Lajitas Ar. Si**	**15.30**	**330**			**Pn**	**12 40 49.3**	**-0.7**
TX32	**Lajitas Array**	**15.30**	**330**	Pn		**Pn**	**12 40 49.7**	**-0.3**
WHTX	**Lake Whitney,**	**15.82**	**352**	Pn		**Pn**	**12 40 57.1**	**+0.6**
346A	**Big Creek Wild**	**15.85**	**17**	Pn		**Pn**	**12 40 53.9**	**-3.0**
LPIG	**La Paz**	**16.42**	**301**	LR		LR	12 46 59.5	
	comp=Z,73nm,20.0s,baz=140,slow=35							
ABTX	**Abilene, Hawle**	**16.84**	**346**			**Pn**	**12 41 09.5**	**+0.2**
ABTX					IAmb	IAmb	12 41 28.8	
	comp=Z,15nm,0.8s							
553A	**Crawfordville**	**16.85**	**33**	Pn		**Pn**	**12 41 09.6**	**+0.2**
553A					IAmb	IAmb	12 41 14.9	
	comp=Z,29nm,0.9s							
656A	**Willston**	**17.30**	**39**	Pn		**Pn**	**12 41 12.8**	**-2.1**
LRAL	**Lakeview Retre**	**18.16**	**22**	P		**P**	**12 41 24.4**	**-0.3**
X40A	**Basin Creek Fa**	**18.24**	**5**	P		**P**	**12 41 25.5**	**-0.1**
MIAR	**Mount Ida**	**18.24**	**4**	P		**Pn**	**12 41 26.1**	**-0.2**
MIAR					IAmb	IAmb	12 41 44.3	
	comp=Z,19nm,1.4s							
X37A	**Clayton**	**18.25**	**359**	P		**P**	**12 41 25.3**	**-0.4**
X37A					IAmb	IAmb	12 41 34.9	
	comp=Z,14nm,0.6s							
X34A	**Smith Ranch, M**	**18.45**	**352**	P		**Pn**	**12 41 29.1**	**+0.3**
WMOK	**Wichita Mounta**	**18.72**	**350**	P		**Pn**	**12 41 32.1**	**0.0**
W39A	**Magazine**	**18.88**	**3**	P		**P**	**12 41 32.8**	**+0.2**
W39A					IAmb	IAmb	12 41 45.5	
	comp=Z,14nm,0.6s							
W35A	**Tecumseh**	**18.89**	**355**	P		**Pn**	**12 41 33.7**	**-0.4**
W41B	**Gary Mavity, V**	**18.98**	**7**	P		**P**	**12 41 31.7**	**-2.0**
MSTX	**Muleshoe**	**19.00**	**340**	P		**P**	**12 41 31.8**	**-2.3**
FNO	**Franklin**	**19.04**	**354**	P		**P**	**12 41 35.0**	**+0.6**
WHAR	**Wooly Hollow**	**19.09**	**7**	P		**P**	**12 41 33.8**	**-1.1**
WHAR					IAmb	IAmb	12 41 44.6	
	comp=Z,8.2nm,1.0s							
Y49A	**Blount Mountai**	**19.11**	**22**	P		**P**	**12 41 35.1**	**-0.1**
Y49A					IAmb	IAmb	12 41 35.7	
	comp=Z,5.2nm,0.6s							
GTBY	**Guantanamo Bay**	**19.16**	**76**	P		**P**	**12 41 34.4**	**-1.4**
X48A	**Hartselle**	**19.43**	**20**	P		**P**	**12 41 36.6**	**-2.1**
AMTX	**Amarillo**	**19.51**	**343**	P		**P**	**12 41 38.1**	**-1.5**
AMTX					IAmb	IAmb	12 41 56.7	
	comp=Z,8.4nm,0.5s							
FCAR	**Ozark Folk Cen**	**19.70**	**7**	P		**P**	**12 41 42.0**	**+0.4**
FCAR					IAmb	IAmb	12 41 43.0	
	comp=Z,8.6nm,0.5s							
GOGA	**Godfrey**	**19.95**	**29**	P		**P**	**12 41 44.1**	**-0.2**
GOGA					IAmb	IAmb	12 41 54.3	
	comp=Z,18nm,1.4s							
HHAR	**Hobbs**	**19.95**	**2**	P		**P**	**12 41 43.1**	**-1.2**
HHAR					IAmb	IAmb	12 42 02.1	
	comp=Z,5.8nm,0.7s							
121A	**Cookes Peak, D**	**19.96**	**327**	P		**P**	**12 41 43.4**	**-1.2**
LCAR	**Lake Charles**	**20.00**	**9**	P		**P**	**12 41 44.7**	**-0.1**
LCAR					IAmb	IAmb	12 41 45.2	
	comp=Z,5.4nm,0.6s							
FPAL	**Fort Paine**	**20.02**	**23**	P		**P**	**12 41 44.1**	**-0.9**
Y52A	**Lilburn**	**20.06**	**27**	P		**P**	**12 41 42.0**	**-3.5**
Y52A					IAmb	IAmb	12 42 01.5	
	comp=Z,5.5nm,0.7s							
U40A	**Yellville**	**20.09**	**5**	P		**P**	**12 41 46.2**	**+0.4**
U40A					IAmb	IAmb	12 42 03.2	
	comp=Z,9.8nm,0.8s							
U38A	**Gravette**	**20.10**	**1**	P		**P**	**12 41 45.9**	**0.0**
U38A					IAmb	IAmb	12 41 50.8	
	comp=Z,6.8nm,0.4s							
SWET	**Sewanee**	**20.51**	**21**	P		**P**	**12 41 48.2**	**-2.1**
T35A	**Sooner Cattle**	**20.62**	**356**	P		**P**	**12 41 50.5**	**-1.0**
T35A					IAmb	IAmb	12 42 08.8	
	comp=Z,21nm,0.9s							
V48A	**Smith Brothers**	**20.69**	**19**	P		**P**	**12 41 51.0**	**-1.3**
BNM	**Barren Site**	**20.70**	**332**	P		**P**	**12 41 51.1**	**-1.5**
W50A	**Signal Mountai**	**20.72**	**23**	P		**P**	**12 41 50.0**	**-2.6**
W50A					IAmb	IAmb	12 42 09.0	
	comp=Z,7.5nm,0.9s							
WVT	**Waverly**	**20.76**	**16**	P		**P**	**12 41 51.6**	**-1.4**
T42A	**Van Buren**	**20.95**	**9**	P		**P**	**12 41 52.9**	**-2.2**
ANMO	**Albuquerque**	**21.29**	**333**	P		**P**	**12 42 02.9**	**+4.0**
	comp=Z,1.2nm,0.7s,baz=134,slow=14,SNR=4.7							
ANMO				pP		**pP**	**12 42 16.3**	**+1.9**
	comp=Z,4.0nm,0.7s,baz=151,slow=11,SNR=8.6							
S39A	**Bolivar**	**21.39**	**3**	P		**P**	**12 41 59.1**	**-0.6**
S39A					IAmb	IAmb	12 42 03.5	
	comp=Z,6.6nm,0.6s							
BG3	**Lake Jocassee**	**21.51**	**28**	P		**P**	**12 41 59.7**	**-1.4**
BG3					IAmb	IAmb	12 42 17.3	
	comp=Z,11nm,1.2s							
TUC	**Tucson**	**21.51**	**321**	P		**P**	**12 42 01.9**	**+0.7**
TKL	**Tuckaleechee C**	**21.72**	**25**	P		**P**	**12 42 03.0**	**-0.3**
	comp=Z,2.3nm,0.5s,baz=322,slow=18,SNR=4.8							
TKL					LR	LR	12 52 51.2	
	comp=Z,28nm,19.0s,baz=216,slow=43							
TKL	**Tuckaleechee C**	**21.72**	**25**	P		**P**	**12 42 00.3**	**-2.9**
TKL					IAmb	IAmb	12 42 12.3	
	comp=Z,6.1nm,0.9s							
U49A	**Red Boiling Sp**	**21.73**	**20**	P		**P**	**12 42 01.3**	**-2.2**
U49A					IAmb	IAmb	12 42 03.7	
	comp=Z,6.7nm,0.7s							
T47A	**Sharon Grove**	**21.77**	**17**	P		**P**	**12 42 03.2**	**-0.6**
T47A					IAmb	IAmb	12 42 05.0	
	comp=Z,10nm,0.7s							
S44A	**Carbondale**	**21.92**	**12**	P		**P**	**12 42 02.3**	**-3.1**
CCM	**Cathedral Cave**	**21.94**	**8**	P		**P**	**12 42 05.3**	**-0.3**
CCM					IAmb	IAmb	12 42 24.1	
	comp=Z,6.7nm,0.6s							
V52A	**Sevierville**	**21.95**	**25**	P		**P**	**12 42 04.0**	**-1.7**
V52A					IAmb	IAmb	12 42 15.7	
	comp=Z,8.8nm,1.2s							
R40A	**Maddies Statio**	**22.06**	**6**	P		**P**	**12 42 05.7**	**-1.2**
R40A					IAmb	IAmb	12 42 10.3	
	comp=Z,6.6nm,0.7s							
V53A	**Saluda**	**22.13**	**27**	P		**P**	**12 42 06.6**	**-1.1**
T25A	**Trinidad**	**22.43**	**340**	P		**P**	**12 42 12.9**	**+1.8**
T25A					IAmb	IAmb	12 42 31.9	
	comp=Z,15nm,1.1s							
T50A	**Nancy**	**22.51**	**21**	P		**P**	**12 42 10.1**	**-1.7**
X18A	**Snowflake**	**22.65**	**326**	P		**P**	**12 42 14.4**	**+0.9**
X18A					IAmb	IAmb	12 42 33.0	
	comp=Z,8.3nm,0.8s							
V55A	**Taylorsville**	**23.01**	**29**	P		**P**	**12 42 11.1**	**-5.9**
V55A					IAmb	IAmb	12 42 28.0	
	comp=Z,28nm,1.4s							
WCI	**Wyandotte Cave**	**23.15**	**17**	P		**P**	**12 42 16.4**	**-1.9**
U54A	**Nelsons Funny**	**23.28**	**27**	P		**P**	**12 42 16.0**	**-3.6**
U54A					IAmb	IAmb	12 42 19.3	
	comp=Z,11nm,1.1s							
P38A	**Dawn**	**23.30**	**3**	P		**P**	**12 42 17.6**	**-2.1**
P38A					IAmb	IAmb	12 42 22.3	
	comp=Z,4.3nm,0.5s							
P40A	**Paris**	**23.31**	**6**	P		**P**	**12 42 17.1**	**-2.7**
P40A					IAmb	IAmb	12 42 21.0	
	comp=Z,6.8nm,0.6s							
X16A	**Lo Mia Camp, P**	**23.39**	**324**	P		**P**	**12 42 20.2**	**-0.6**
S22A	**4UR Ranch, Cre**	**23.84**	**336**	P		**P**	**12 42 26.8**	**+1.8**
S22A					IAmb	IAmb	12 42 44.9	
	comp=Z,5.4nm,0.9s							
MVCO	**Mesa Verde**	**24.08**	**333**	P		**P**	**12 42 26.6**	**-0.5**
MVCO					IAmb	IAmb	12 42 46.5	
	comp=Z,6.1nm,1.1s							
WUAZ	**Wupatki**	**24.16**	**326**	P		**P**	**12 42 25.9**	**-1.8**
P46A	**Rosedale**	**24.21**	**15**	P		**P**	**12 42 26.6**	**-1.3**
P46A					IAmb	IAmb	12 42 28.6	
	comp=Z,15nm,0.9s							
P48A	**Milroy**	**24.55**	**18**	P		**P**	**12 42 28.4**	**-2.6**
P48A					IAmb	IAmb	12 42 30.1	
	comp=Z,10nm,0.6s							
N41A	**Harden Midland**	**24.61**	**7**	P		**P**	**12 42 28.9**	**-2.5**
N41A					IAmb	IAmb	12 42 33.1	
	comp=Z,13nm,1.1s							
ISCO	**Idaho Springs**	**25.24**	**340**	P		**P**	**12 42 37.6**	**-0.1**
U15A	**North Rim**	**25.34**	**326**	P		**P**	**12 42 37.5**	**-1.0**
O49A	**Covington**	**25.55**	**19**	P		**P**	**12 42 38.1**	**-2.0**
O49A					IAmb	IAmb	12 42 38.6	
	comp=Z,9.1nm,0.6s							
SCIA	**State Center**	**25.59**	**3**	P		**P**	**12 42 40.5**	**+0.1**
L40A	**Anamosa**	**25.90**	**6**	P		**P**	**12 42 43.0**	**-0.2**
L40A					IAmb	IAmb	12 43 01.7	
	comp=Z,7.7nm,0.9s							
PFO	**Pinyon Flats O**	**25.99**	**316**	LR		LR	12 52 47.4	
	comp=Z,50nm,19.3s,baz=136,slow=36							
O52A	**Adamsville**	**26.34**	**23**	P		**P**	**12 42 44.3**	**-3.0**
K38A	**Parkersburg**	**26.35**	**4**	P		**P**	**12 42 47.3**	**-0.1**
JFWS	**Jewell Farm**	**26.85**	**8**	P		**P**	**12 42 51.5**	**-0.3**
PDAR	**Pinedale Array**	**29.23**	**338**	P		**P**	**12 43 14.7**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=146,slow=8.3,SNR=3.0							
PDAR				pP		**pP**	**12 43 30.9**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=140,slow=12,SNR=1.9							
F36A	**Milaca**	**29.53**	**2**		IAmb	IAmb	12 43 16.3	
	comp=Z,7.1nm,1.1s							
COWI	**Conover**	**30.13**	**8**	P		**P**	**12 43 20.7**	**-0.3**
COWI					IAmb	IAmb	12 43 21.3	
	comp=Z,3.2nm,0.6s							
NVAR	**Mina Array Bea**	**30.16**	**322**	P		**P**	**12 43 23.8**	**+2.3**
	comp=Z,0.7nm,0.7s,baz=133,slow=10.0,SNR=7.8							
NVAR				pP		**pP**	**12 43 40.8**	**+1.7**
	comp=Z,2.3nm,1.1s,baz=126,slow=7.8,SNR=5.2							
E28A	**Huff**	**30.60**	**352**	P		**P**	**12 43 26.6**	**+1.5**
E43A	**Lone Tree Farm**	**30.73**	**11**	P		**P**	**12 43 25.5**	**-0.7**
E43A					IAmb	IAmb	12 43 25.8	
	comp=Z,3.9nm,0.5s							
EYMN	**Ely**	**31.71**	**4**	P		**P**	**12 43 34.4**	**-0.5**
B35A	**Bob, Littlefor**	**32.02**	**1**	P		**P**	**12 43 37.2**	**-0.3**
B35A					IAmb	IAmb	12 43 37.7	
	comp=Z,4.6nm,0.8s							
PTGA	**Pitinga**	**38.39**	**113**	P		**P**	**12 44 32.1**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=295,slow=14,SNR=4.7							
PTGA	**Pitinga**	**38.39**	**113**	IAmb		IAmb	12 44 33.1	
	comp=Z,2.4nm,0.7s							
FFC	**Flin Flon**	**38.77**	**353**	P		**P**	**12 44 36.7**	**+1.4**
LPAZ	**La Paz**	**41.76**	**139**	LR		LR	13 00 42.0	
	comp=Z,182nm,21.9s,baz=226,slow=34							
SCHQ	**Schefferville**	**44.16**	**23**	LR		LR	13 06 11.6	
	comp=Z,27nm,18.9s,baz=3.0,slow=39							
YKA	**Yellowknife Ar**	**48.21**	**348**	P		**P**	**12 45 52.1**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=153,slow=7.7,SNR=7.2							
YKA				pP		**pP**	**12 46 09.0**	**-0.6**
	comp=Z,4.4nm,0.9s,baz=154,slow=7.9,SNR=21							
BDFB	**Brasilia**	**56.10**	**122**	P		**P**	**12 46 50.3**	**0.0**
	comp=Z,3.4nm,0.5s,baz=150,slow=20,SNR=2.9							
ILAR	**Eielson Array**	**59.66**	**337**	P		**P**	**12 47 15.9**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=142,slow=5.2,SNR=4.1							
ILAR				pP		**pP**	**12 47 33.4**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=133,slow=5.3,SNR=3.9							
SUMG	**Summit**	**64.83**	**16**	P		**P**	**12 47 48.4**	**-1.0**
BORG	**Borgarnes**	**68.41**	**26**	LR		LR	13 17 19.2	
	comp=Z,20nm,18.8s,baz=244,slow=35							
ESDC	**Sonseca Array**	**80.51**	**51**	P		**P**	**12 49 21.3**	**-1.2**
	comp=Z,1.9nm,0.8s,baz=293,slow=5.3,SNR=15							
NB2	**NORSAR Subarra**	**83.49**	**28**	P		**P**	**12 49 39.6**	**+1.9**
	comp=Z,1.1nm,0.6s,baz=293,slow=5.3							
NOA	**NORSAR Array B**	**83.49**	**28**	P		**P**	**12 49 38.2**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=293,slow=5.3,SNR=7.2							
NOA				pP		**pP**	**12 49 57.5**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=300,slow=5.3,SNR=3.9							
NOA				LR		LR	13 27 59.1	
	comp=Z,8.4nm,18.1s,baz=315,slow=36							
ARCES	**ARCESS Array B**	**84.86**	**18**	P		**P**	**12 49 45.1**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=296,slow=3.9,SNR=7.2							
DBIC	**Dimbokro**	**88.20**	**84**	LR		LR	13 24 44.5	
	comp=Z,15nm,19.7s,baz=90,slow=32							
TORD	**Torodi Ar. Bea**	**92.56**	**76**	P		**P**	**12 50 21.6**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=306,slow=4.5,SNR=2.0							
WRA	**Warramunga Arr**	**133.18**	**258**	PKP		**PKiKP**	**12 56 27.7**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=89,slow=3.0,SNR=1.9							
ASAR	**Alice Springs**	**133.72**	**253**	PKP		**PKPdf**	**12 56 27.7**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=96,slow=2.2,SNR=4.7							

*DJA **10** 13:10:38.8±0.4, 8°.3S±3°.1×10°.5E±°, h10^{km}, M4.7/15, mb5.0/6, mB5.5/3, MLv4.6/15, MLv4.6/7, Mw(mB)4.9/3*
*NEIC **10** 13:10:38.7±1.6, 8°.00S±0°.06×104°.87E±0°.05, h10^{km}±1^{km}, mb4.7/22, Error ellipse: s-maj=10.2km s-min=7.7km az=327.0*
*BJI **10** 13:10:39.0±0.0, 8°.10S×104°.80E, h20^{km}, mB4.9/31, mb4.8/45, Ms4.2/14, Ms7 4.0/11*
*IDC **10** 13:10:45.9±4.3, 7.69S×105°.19E, h52^{km}±35^{km}, mb4.0/19, mb1 4.1/21, mb1mx3.9/47, mbtmp4.3/21, ML4.4/2, MS3.5/6, Ms1 3.5/6, ms1mx3.0/37, Error ellipse: s-maj=36.1km s-min=13.3km az=54.0*

ISC 10 13:10:42.2±0.5, 8°.04S±0°.05×104°.84E±0°.06, h35^{km}, n93, σ1^{s}45/89, mb4.6/37, MS3.9/11, 2C-1D, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**2.38**	**73**	P		**Pn**	**13 11 17.3**	**-1.5**
DBJI	**Dramaga**	**2.40**	**52**	P		**Pn**	**13 11 18.5**	**-0.6**
DBJI				S		**Sn**	**13 11 47.1**	**-0.2**
KASI	**Kota Agung**	**2.52**	**352**	P		**Pn**	**13 11 19.6**	**-1.0**
KASI				S		**Sn**	**13 11 49.8**	**-0.3**
XMIS	**Christmas Isla**	**2.56**	**162**	Pn		**Pn**	**13 11 18.1**	**-3.1**
CBJI	**Citeko**	**2.56**	**51**	P		**Pn**	**13 11 19.3**	**-1.9**
CBJI				S		**Sn**	**13 11 48.5**	**-2.7**
TNG	**Tangerang**	**2.58**	**44**	P		**Pn**	**13 11 21.8**	**+0.3**
BLSI	**Bandar Lampung**	**2.68**	**9**	P		**Pn**	**13 11 21.8**	**-1.1**
CISI	**Cisompet, Garu**	**2.99**	**81**	P		**Pn**	**13 11 26.0**	**-1.2**
CISI				S		**Sn**	**13 12 03.6**	**+1.7**
CISI	**Cisompet, Garu**	**2.99**	**81**			**Pn**	**13 11 25.5**	**-1.7**
LEM	**Lembang**	**3.01**	**67**	P		**Pn**	**13 11 25.7**	**-1.8**
	32nm,0.3s,baz=69,slow=2.8,SNR=14							
LEM				S		Sn	13 11 51.3	-11
	48nm,0.3s,baz=92,slow=23,SNR=8.1							
LEM				LR		LR	13 12 33.8	
	comp=Z,492nm,19.2s,baz=66,slow=42							
LEM	**Lembang**	**3.01**	**67**	P		**Pn**	**13 11 28.3**	**+0.8**
LWLI	**Liwa**	**3.10**	**345**	P		**Pn**	**13 11 26.8**	**-1.9**
MNAI	**Manna**	**4.10**	**333**			**Pn**	**13 11 41.4**	**-1.1**
LHSI	**Lahat**	**4.38**	**343**	P		**Pn**	**13 11 45.2**	**-1.1**
UGM	**Wanagama**	**5.63**	**89**	P		**Pn**	**13 12 04.4**	**+0.9**
	0.8nm171nm,1.0s							
UGM	**Wanagama**	**5.63**	**89**			**Pn**	**13 12 03.2**	**-0.3**
SMRI	**Semarang**	**5.64**	**80**	P		**Pn**	**13 12 05.2**	**+1.6**
	0.8nm120nm,0.6s							
SMRI	**Semarang**	**5.64**	**80**	Pn		**Pn**	**13 12 03.1**	**-0.5**
TPI	**Tanjungpandan**	**5.95**	**28**	P		**Pn**	**13 12 06.0**	**-1.8**
	43nm,0.6s							
WOJI	**Wonogiri, Jawa**	**6.03**	**89**	P		**Pn**	**13 12 09.3**	**+0.3**
	0.3nm54nm,0.7s							
JAGI	**Jajag, Banyuwa**	**9.23**	**93**	P		**Pn**	**13 12 53.0**	**+0.1**
	2µm122nm,0.7s							
JAGI	**Jajag, Banyuwa**	**9.23**	**93**	Pn		**Pn**	**13 12 52.2**	**-0.7**
KKM	**Kota Kinabalu**	**18.01**	**39**			**P**	**13 14 49.6**	**-0.6**
BATI	**Baumata**	**18.71**	**98**	P		**P**	**13 14 56.1**	**-1.8**
	2.9nm,0.3s,baz=63,slow=21,SNR=1.4							
LUWI	**Luwuk**	**19.17**	**70**	P		**P**	**13 15 02.5**	**-0.4**
LUWI					IAmb	IAmb	13 15 20.9	
	comp=Z,88nm,1.3s							
SOEI	**Soe**	**19.27**	**97**			**P**	**13 15 03.3**	**-0.9**
SOEI					IAmb	IAmb	13 15 49.9	
	comp=Z,57nm,1.1s							
FITZ	**Fitzroy Crossi**	**22.57**	**118**	P		**P**	**13 15 40.5**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=293,slow=13,SNR=1.5							
KNRA	**Kununurra**	**24.60**	**110**	P		**P**	**13 15 58.9**	**-0.4**
KNRA					IAmb	IAmb	13 16 11.8	
	comp=Z,17nm,0.9s							
CMAR	**Chiang Mai Arr**	**26.96**	**348**	P		**P**	**13 16 20.0**	**-0.7**
	comp=Z,5.5nm,0.8s,baz=182,slow=8.5,SNR=6.7							
CMAR					LR	LR	13 28 44.4	
	comp=Z,52nm,18.3s,baz=190,slow=40							
CHTO	**Chiang Mai**	**27.30**	**348**	P		**P**	**13 16 23.0**	**-0.8**
CHTO					IAmb	IAmb	13 16 24.8	
	comp=Z,8.3nm,0.7s							
QIZ	**Qiongzhong**	**27.34**	**10**	P		**P**	**13 16 24.4**	**+0.3**
QIZ				S		**S**	**13 21 04.1**	**+2.4**
QIZ				LR		LR		
	comp=Z,330nm,20.1s							
QIZ				LR		LR		
	comp=Z

	comp=Z,100nm,16.2s								
HHC					LR		LR		
	comp=Z,72nm,17.0s								
HHC					LR		LR		
	comp=Z,75nm,16.2s								
KSRS	**Korea Array**	**50.14**	**24**		P		**P**	**13 19 32.6**	**-1.6**
	comp=Z,1.6nm,0.8s,baz=219,slow=7.1,SNR=2.1								
WMQ	**Urumqi**	**53.90**	**345**		*eP*		**P**	**13 20 04.6**	**+2.4**
WMQ					LR		LR		
	comp=Z,43nm,18.5s								
WMQ					LR		LR		
	comp=Z,150nm,22.7s								
WMQ					LR		LR		
	comp=Z,170nm,26.9s								
MJAR	**Matsushiro Arr**	**54.29**	**33**		P		**P**	**13 20 01.9**	**-3.2**
	comp=Z,1.2nm,0.5s,baz=214,slow=9.1,SNR=5.6								
KSH	**Kashi**	**54.35**	**333**		*eP*		**P**	**13 20 08.0**	**+2.4**
CN2	**Changchun**	**54.88**	**18**		*eP*		**P**	**13 20 09.9**	**+0.7**
CN2					pmax		pmax		
	comp=Z,10.0nm,0.9s								
SONM	**Songino Array**	**55.64**	**1**		P		**P**	**13 20 14.8**	**0.0**
	comp=Z,5.1nm,0.7s,baz=175,slow=8.5,SNR=28								
SONM					LR		LR	13 48 03.0	
	comp=Z,58nm,18.7s,baz=106,slow=40								
ULN	**Ulaanbaatar**	**55.69**	**2**		P		**P**	**13 20 14.9**	**-0.3**
ULN					IAmb		IAmb	13 20 17.7	
	comp=Z,6.2nm,0.7s								
KDJ	**Kajisay**	**55.97**	**335**		IAmb		IAmb	13 20 21.9	
	comp=Z,5.4nm,0.7s								
ARSB	**Arslanbob**	**57.17**	**332**		P		**P**	**13 20 26.7**	**+0.9**
ARSB					IAmb		IAmb	13 20 36.8	
	comp=Z,7.2nm,0.9s								
USRK	**Ussuriysk Ar.**	**57.50**	**23**		P		**P**	**13 20 26.0**	**-1.9**
	comp=Z,1.9nm,0.5s,baz=107,slow=2.0,SNR=4.5								
MK31	**Makanchi Array**	**58.16**	**342**		P		**P**	**13 20 32.8**	**+0.2**
MKAR	**Makanchi Array**	**58.16**	**342**		P		**P**	**13 20 33.0**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=148,slow=7.3,SNR=27								
KURBB	**Kurchatov Arra**	**62.72**	**341**		P		**P**	**13 21 03.8**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=160,slow=6.0,SNR=19								
KURK	**Kurchatov**	**62.77**	**342**		P		**P**	**13 21 03.9**	**0.0**
KURK					IAmb		IAmb	13 21 14.8	
	comp=Z,3.9nm,0.8s								
ZAA0	**Zalesovo Array**	**64.02**	**347**		P		**P**	**13 21 12.2**	**+0.1**
ZALV	**Zalesovo Beam**	**64.02**	**347**		P		**P**	**13 21 12.7**	**+0.6**
	comp=Z,5.9nm,0.5s,baz=145,slow=3.3,SNR=32								
RPZ	**Rata Peaks**	**67.34**	**134**		LR		LR	13 53 46.5	
	comp=Z,38nm,18.4s,baz=304,slow=38								
BVAR	**Borovoye Array**	**67.50**	**338**		P		**P**	**13 21 35.2**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=94,slow=4.6,SNR=14								
SYO	**Syowa Base**	**73.80**	**200**	⇑	*eX*		P	13 22 08.8	-3.9
SYO	**Syowa Base**	**73.80**	**200**	⇑	*eX*		P	13 22 25.0	+12
RAO	**Raoul Island**	**75.01**	**118**		P		**P**	**13 22 21.0**	**+0.4**
	comp=Z,308nm,0.4s,baz=293,slow=18,SNR=2.4								
RAO	**Raoul Island**	**75.01**	**118**		IAmb		IAmb	13 22 22.0	
	comp=Z,593nm,0.9s								
PETK	**Petropavlovsk-**	**75.54**	**30**		P		**P**	**13 22 21.6**	**-1.4**
	comp=Z,2.2nm,0.7s,baz=227,slow=7.9,SNR=4.5								
NRIK	**Noril'sk**	**78.12**	**354**		P		**P**	**13 22 37.1**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=140,slow=2.6,SNR=4.6								
BRTR	**Keskin Array B**	**80.92**	**312**		P		**P**	**13 22 54.6**	**+1.2**
	comp=Z,0.7nm,0.9s,baz=120,slow=7.3,SNR=3.8								
TIXI	**Tiksi**	**81.10**	**8**		P		**P**	**13 22 52.8**	**-0.5**
	comp=Z,2.3nm,0.6s,baz=201,slow=1.7,SNR=3.7								
TIXI	**Tiksi**	**81.10**	**8**		P		**P**	**13 22 52.8**	**-0.5**
KLMR	**Klimovskoe**	**85.33**	**333**		*eP*		**P**	**13 23 14.8**	**-0.6**
KLMR					AMP			13 23 18.4	
	comp=Z,9.0nm,1.4s								
TXAR	**Lajitas Array**	**145.85**	**48**		PKPbc		**PKPab**	**13 30 19.9**	**+0.7**
	comp=Z,3.0nm,0.8s,baz=298,slow=1.9,SNR=14								
TEIG	**Tepich**	**162.45**	**45**		PKP		**PKPdf**	**13 30 40.8**	**-0.4**
	comp=Z,19nm,0.9s,baz=319,slow=5.8,SNR=4.0								

*UNK **10** 13:14:46.7, 43°.22N× 126°.73W, h10km*
*NEIC **10** 13:14:46.5±1.1, 43°.22N±0°.07× 126°.8W±0°.2, h10km±2km, Error ellipse: s-maj=18.8km s-min=12.1km az=256.0*
*ANF **10** 13:14:47.8±1.0, 43°.24N× 126°.45W, ML3.6/17, Error ellipse: s-maj=10.7km s-min=5.9km az=69.0*
*IDC **10** 13:14:47.9±1.9, 43°.44N× 126°.18W, h0km, mb3.2/4, mb1 3.5/11, mb1mx3.5/45, mbtmp3.3/11, ML3.4/7, MS3.2/12, Ms1 3.2/12, ms1mx3.1/16, Error ellipse: s-maj=32.4km s-min=13.5km az=58.0*
ISC 10 13:14:49.3±1.1, 43°.24N±0°.06× 126°.54W±0°.09, h14km, n100, σ1§00/99, MS3.3/5, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J01E	**Myrtle Point**	**1.91**	**91**	P	**Pn**	**13 15 19.4**	**-2.0**
	baz=272,SNR=147						
J01E				S	**Sn**	**13 15 45.2**	**-0.1**
	baz=272						
I02D	**Swisshome**	**2.14**	**65**	P	**Pn**	**13 15 23.1**	**-1.4**
	baz=248,SNR=101						
I02D				S	**Sn**	**13 15 51.3**	**+0.4**
	baz=248						
K02D	**Willamette Mer**	**2.18**	**103**	P	**Pn**	**13 15 23.2**	**-2.0**
	baz=284,SNR=236						
K02D				S	**Sn**	**13 15 51.4**	**-0.6**
	baz=284						
I03D	**Drain, OR**	**2.37**	**78**	P	**Pn**	**13 15 26.5**	**-1.2**
	baz=260,SNR=365						
I03D				S	**Sn**	**13 15 56.7**	**+0.1**
	baz=260						
KRMB	**Red Mountain**	**2.59**	**130**	Pn	**Pn**	**13 15 28.2**	**-2.7**
COR	**Corvallis**	**2.70**	**59**		**Pn**	**13 15 31.6**	**-0.7**
H04D	**Lebanon**	**3.04**	**64**	P	**Pn**	**13 15 36.7**	**-0.2**
	baz=247,SNR=78						
I04A	**Tendick Farm,**	**3.06**	**78**	P	**Pn**	**13 15 37.0**	**-0.2**
	baz=261,SNR=97						
JCC	**Jacoby Creek,**	**3.06**	**141**	Pn	**Pn**	**13 15 37.1**	**-0.1**
G03D	**McMinnville, O**	**3.07**	**49**	P	**Pn**	**13 15 36.8**	**-0.7**
	baz=232,SNR=137						
G03D				S	**Sn**	**13 16 14.8**	**+0.8**
	baz=232						
YBH	**Yreka Blue Hor**	**3.21**	**117**	Pn	**Pn**	**13 15 38.4**	**-1.0**
	2.0nm,0.3s,baz=311,slow=13,SNR=29						
YBH				LR	LR	13 16 12.4	
	comp=Z,26nm,18.8s,baz=301,slow=28						
YBH				Sn	**Sn**	**13 16 18.5**	**+1.1**
	2.0nm,0.3s,baz=112,slow=17,SNR=5.3						
YBH	**Yreka Blue Hor**	**3.21**	**117**	Pn	**Pn**	**13 15 38.8**	**-0.6**
J04D	**Umpqua Nationa**	**3.24**	**88**	P	**Pn**	**13 15 40.3**	**+0.4**
	baz=271,SNR=45						
L04D	**Klamath Falls**	**3.28**	**107**	P	**Pn**	**13 15 40.2**	**-0.3**
	baz=289,SNR=37						
F03A	**Seaside**	**3.43**	**37**		**Pn**	**13 15 41.3**	**-1.1**
H04A	**Detroit Lake**	**3.46**	**64**	Pn	**Pn**	**13 15 42.5**	**-0.4**
KMRM	**Mail Ridge**	**3.68**	**144**	Pn	**Pn**	**13 15 45.9**	**0.0**
F04D	**Rainier, OR**	**3.80**	**40**	P	**Pn**	**13 15 46.9**	**-0.6**
	baz=224						
F04D				S	**Sn**	**13 16 32.7**	**+0.8**
	baz=224						
J05D	**Fort Rock, OR**	**3.88**	**87**	P	**Pn**	**13 15 48.1**	**-0.5**
	baz=271,SNR=87						
I05D	**Terrebonne, OR**	**3.92**	**72**	P	**Pn**	**13 15 49.0**	**-0.2**
	baz=256,SNR=23						
E03A	**Lebam**	**3.93**	**32**	Pn	**Pn**	**13 15 47.4**	**-1.7**
F04A	**Amboy**	**3.99**	**46**	Pn	**Pn**	**13 15 49.9**	**-0.2**
WDC	**Whiskeytown Da**	**3.99**	**130**	Pn	**Pn**	**13 15 51.4**	**+1.3**
K05A	**Summer Lake**	**4.17**	**95**	Pn	**Pn**	**13 15 52.4**	**-0.4**
G05D	**Wamic, OR**	**4.25**	**60**	P	**Pn**	**13 15 54.0**	**+0.3**
	baz=244,SNR=55						
E04D	**Cinebar**	**4.36**	**39**	P	**Pn**	**13 15 54.7**	**-0.4**
	baz=223,SNR=83						
E04D				S	**Sn**	**13 16 47.0**	**+1.3**
	baz=223						
F05D	**White Salmon**	**4.49**	**52**	P	**Pn**	**13 15 57.7**	**+0.7**
	baz=236,SNR=50						
NLWA	**Neilton Lookou**	**4.56**	**23**	Pn	**Pn**	**13 15 56.6**	**-1.4**
G06A	**Carlson Farm,**	**4.69**	**63**		**Pn**	**13 15 59.4**	**-0.3**
D04E	**Lakebay**	**4.76**	**33**	P	**Pn**	**13 16 00.4**	**-0.2**
	baz=217						
LON	**Longmire**	**4.86**	**42**		**Pn**	**13 16 02.3**	**+0.2**
D03D	**Eldon**	**4.94**	**28**	P	**Pn**	**13 16 01.8**	**-1.2**
	baz=212,SNR=5.4						
D03D				S	**Sn**	**13 16 59.5**	**-0.5**
	baz=212						
ORV	**Oroville**	**5.28**	**132**		**Pn**	**13 16 09.6**	**+1.8**
F07A	**Phinny Hill Vi**	**5.42**	**58**		**Pn**	**13 16 09.7**	**0.0**
LTY	**Liberty**	**5.77**	**44**		**Pn**	**13 16 15.0**	**+0.3**
E07A	**Sunnyside**	**5.79**	**53**	Pn	**Pn**	**13 16 15.4**	**+0.6**
G08A	**Pilot Rock**	**5.82**	**67**	Pn	**Pn**	**13 16 15.2**	**-0.1**
PGC	**Sidney**	**5.83**	**21**	Pn	**Pn**	**13 16 13.9**	**-1.4**
WVOR	**Wild Horse Val**	**5.87**	**95**	Pn	**Pn**	**13 16 14.8**	**-1.1**
J08A	**Circle Bar Ran**	**5.89**	**86**		**Pn**	**13 16 16.7**	**+0.5**
HAWA	**Hanford**	**5.90**	**55**		**Pn**	**13 16 16.2**	**-0.1**
B05A	**Bryant**	**5.91**	**30**	P	**Pn**	**13 16 15.9**	**-0.5**
	baz=214						
B05A				S	**Sn**	**13 17 24.9**	**+0.9**
	baz=214						
E08A	**Dider Farm, El**	**6.23**	**56**	Pn	**Pn**	**13 16 20.9**	**0.0**
B06A	**Marblemount**	**6.35**	**32**	Pn	**Pn**	**13 16 22.1**	**-0.4**
D08A	**Wollman Farm,**	**6.60**	**52**	Pn	**Pn**	**13 16 24.9**	**-1.0**
PNTR	**Pine Nut**	**6.68**	**126**		**Pn**	**13 16 28.5**	**+1.3**
E09A	**Wood Farm, Sta**	**6.80**	**58**	Pn	**Pn**	**13 16 27.1**	**-1.6**
BMO	**Bear Mountains**	**6.85**	**73**		**Pn**	**13 16 29.0**	**-0.4**
YERR	**Yerington**	**6.96**	**125**	Pn	**Pn**	**13 16 32.4**	**+1.4**
CMB	**Columbia Colle**	**6.99**	**136**	Pn	**Pn**	**13 16 33.0**	**+1.7**
B08A	**Colville Reser**	**7.18**	**42**	Pn	**Pn**	**13 16 33.7**	**-0.2**
F10A	**Beach Ranch, E**	**7.19**	**64**	Pn	**Pn**	**13 16 33.9**	**-0.1**
C09A	**Chrisman Ranch**	**7.38**	**49**	Pn	**Pn**	**13 16 36.6**	**0.0**
NVAR	**Mina Array Bea**	**7.87**	**125**	Pn	**Pn**	**13 16 43.9**	**+0.3**
	0.1nm,0.3s,baz=297,slow=14,SNR=3.1						
NVAR				LR	LR	13 19 58.2	
	comp=Z,55nm,18.2s,baz=224,slow=40						
LLLB	**Lillooet**	**8.03**	**22**	Pn	**Pn**	**13 16 45.8**	**+0.2**
NEW	**Newport**	**8.28**	**49**	P	**Pn**	**13 16 48.7**	**-0.4**
	baz=237						
NEW	**Newport**	**8.28**	**49**	Pn	**Pn**	**13 16 46.3**	**-2.7**
	0.6nm,0.3s,baz=240,slow=15,SNR=3.2						
NEW				LR	LR	13 20 07.2	
	comp=Z,191nm,20.4s,baz=244,slow=40						
NEW	**Newport**	**8.28**	**49**	Pn	**Pn**	**13 16 49.2**	**+0.2**
PMPB	**Monarch Peak**	**8.29**	**146**	Pn	**Pn**	**13 16 50.9**	**+1.8**
ELK	**Elko**	**8.78**	**103**	Pn	**Pn**	**13 16 56.1**	**+0.1**
	0.0nm,0.3s,baz=297,slow=18,SNR=1.3						
ELK				LR	LR	13 20 48.8	
	comp=Z,72nm,19.3s,baz=284,slow=42						
BBB	**Bella Bella**	**9.02**	**354**	Pn	**Pn**	**13 16 57.9**	**-1.1**
	0.1nm,0.3s,baz=173,slow=8.1,SNR=1.2						
BBB				LR	LR	13 19 47.9	
	comp=Z,78nm,20.2s,baz=216,slow=34						
BBB	**Bella Bella**	**9.02**	**354**	Pn	**Pn**	**13 16 60.0**	**+1.0**
MSO	**Missoula**	**9.62**	**64**	Pn	**Pn**	**13 17 07.0**	**-0.4**
JTMT	**Jette**	**9.71**	**58**	Pn	**Pn**	**13 17 08.4**	**-0.3**
MCMT	**McKenzie Canyo**	**9.99**	**76**		**Pn**	**13 17 12.9**	**+0.3**
DLMT	**Dillon**	**10.22**	**73**		**Pn**	**13 17 16.6**	**+0.9**
LRM	**Limekiln Ridge**	**10.39**	**71**		**Pn**	**13 17 18.4**	**+0.4**
WALA	**Waterton Lakes**	**10.51**	**52**	Pn	**Pn**	**13 17 20.6**	**+0.9**
PSUT	**Pine Spring**	**10.69**	**112**	Pn	**Pn**	**13 17 23.4**	**+1.2**
YHB	**Horse Butte**	**11.16**	**77**	Pn	**Pn**	**13 17 28.9**	**+0.3**
PFO	**Pinyon Flats O**	**12.43**	**137**	LR	LR	13 22 48.6	
	comp=Z,93nm,19.2s,baz=314,slow=39						
BW06	**Boulder Array**	**12.45**	**86**	Pn	**Pn**	**13 17 45.1**	**-1.1**
PDAR	**Pinedale Array**	**12.45**	**86**	Pn	**Pn**	**13 17 46.2**	**0.0**
	0.2nm,0.3s,baz=288,slow=15,SNR=6.2						
PDAR				LR	LR	13 23 02.3	
	comp=Z,173nm,19.4s,baz=293,slow=41						
W18A	**Petrified Fore**	**15.33**	**116**	P	**P**	**13 18 30.2**	**0.0**
DLBC	**Dease Lake**	**15.38**	**353**	Pn	**Pn**	**13 18 27.8**	**+2.0**
	0.1nm,0.3s,baz=87,slow=27,SNR=3.6						
DLBC	**Dease Lake**	**15.38**	**353**	P	**P**	**13 18 31.0**	**+0.6**
X18A	**Snowflake**	**15.55**	**118**	P	**P**	**13 18 33.4**	**+0.7**
ANMO	**Albuquerque**	**17.62**	**111**	P	**Pn**	**13 18 53.5**	**-1.1**
	0.1nm,0.3s,baz=308,slow=17,SNR=1.7						
ANMO				LR	LR	13 26 26.2	
	comp=Z,77nm,18.3s,baz=295,slow=40						
YKA	**Yellowknife Ar**	**20.53**	**16**	P	**P**	**13 19 25.3**	**-1.6**
	1.0nm,0.8s,baz=203,slow=11,SNR=11						
KDAK	**Kodiak Island**	**21.86**	**321**	LR	LR	13 25 54.4	
	comp=Z,55nm,20.9s,baz=123,slow=30						
ULM	**Lac du Bonnet**	**22.04**	**61**	P	**P**	**13 19 40.3**	**-3.1**
	5.9nm,0.7s,baz=285,slow=14,SNR=1.6						
ULM				LR	LR	13 29 03.6	
	comp=Z,89nm,18.1s,baz=360,slow=39						
ULM	**Lac du Bonnet**	**22.04**	**61**	P	**P**	**13 19 43.9**	**+0.5**
SCM	**Sheep Creek Mo**	**22.33**	**334**	P	**P**	**13 19 46.7**	**+0.3**
TXAR	**Lajitas Array**	**22.98**	**120**	P	**P**	**13 19 53.1**	**-0.5**
	0.1nm,0.3s,baz=323,slow=10,SNR=1.1						
WMOK	**Wichita Mounta**	**23.11**	**102**	P	**P**	**13 19 55.1**	**+0.3**
DHY	**Denali Highway**	**23.27**	**336**	P	**P**	**13 19 56.9**	**+0.6**
EPYK	**Eagle Plains**	**23.85**	**350**	P	**P**	**13 20 01.9**	**0.0**
ILAR	**Eielson Array**	**24.44**	**339**	P	**P**	**13 20 06.2**	**-1.1**
	0.7nm,0.9s,baz=148,slow=8.9,SNR=8.5						
PPLA	**Purkeypile**	**24.70**	**332**	P	**P**	**13 20 09.3**	**-0.5**
EYMN	**Ely**	**24.83**	**67**	P	**P**	**13 20 11.3**	**+0.2**
BPAW	**Bear Paw Mtn.**	**25.12**	**335**	P	**P**	**13 20 14.7**	**+1.1**
INK	**Inuvik**	**25.40**	**354**	LR	LR	13 30 02.2	
	comp=Z,82nm,18.2s,baz=272,slow=36						
TKL	**Tuckaleechee C**	**33.59**	**88**	LR	LR	13 36 08.4	
	comp=Z,51nm,18.1s,baz=294,slow=38						
SCHQ	**Schefferville**	**39.65**	**52**	LR	LR	13 38 55.3	
	comp=Z,52nm,18.5s,baz=300,slow=37						
H11N3	**WAKE ISLAND Hy**	**59.81**	**269**	T	T	14 29 19.6	
	baz=50,slow=75,SNR=144						
H11N2	**WAKE ISLAND Hy**	**59.81**	**269**	T	T	14 29 22.4	
	baz=50,slow=75,SNR=124						
H11N1	**WAKE ISLAND Hy**	**59.82**	**269**	T	T	14 29 20.9	
	baz=50,slow=75,SNR=110						
H11S1	**WAKE ISLAND Hy**	**60.72**	**268**	T	T	14 30 32.8	
	baz=50,slow=75,SNR=865						
H11S2	**WAKE ISLAND Hy**	**60.73**	**268**	T	T	14 30 31.4	
	baz=50,slow=75,SNR=478						
H11S3	**WAKE ISLAND Hy**	**60.74**	**268**	T	T	14 30 29.6	
	baz=50,slow=75,SNR=378						

*BJI **10** 13:16:48.9±0.0, 12°.50N× 143°.67E, h92km, mB5.0/30, mb5.0/49*
*DJA **10** 13:16:55.1±1.1, 13°N±7°× 14°3E±1°9, h89km±23km, M4.9/17, mB5.8/4, mb4.8/17, MLv4.7/1, Mw(mB)5.4/4*
*IDC **10** 13:16:55.1±1.8, 12°.83N× 143°.48E, h109km±15km, mb4.1/23, mb1 4.2/24, mb1mx4.0/46, mbtmp4.4/24, MS3.4/7, Ms1 3.4/7, ms1mx3.1/30, Error ellipse: s-maj=15.5km s-min=9.0km az=78.0*
*NEIC **10** 13:16:55.3±1.4, 12°.79N±0°.05× 143°.33E±0°.06, h107km±5km, mb4.7/113, Error ellipse: s-maj=10.1km s-min=4.3km az=48.0*
ISC 10 13:16:54.6±0.9, 12°.72N±0°.05× 143°.36E±0°.06, h103km±8km, n199, σ0§93/204, mb4.7/89, 1C-1D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.70**	**60**	Pn	**Pn**	**13 17 23.5**	**-0.1**
SMPI	**Sarmi**	**15.33**	**198**	P	**P**	**13 20 29.8**	**+1.9**
	25nm,1.5s						
JAY	**Jayapura**	**15.37**	**190**	P	**Pn**	**13 20 24.3**	**-1.7**
	0.4nm,0.3s,baz=36,slow=3.7,SNR=2.2						
JAY				S	**Sn**	**13 23 12.1**	**-3.9**
	0.2nm,0.3s,baz=114,slow=22,SNR=1.2						
JAY				LR	LR	13 25 24.7	
	comp=Z,96nm,18.8s,baz=43,slow=33						
GENI	**Genyem**	**15.54**	**192**	P	**P**	**13 20 29.6**	**-0.7**
	53nm,1.0s						
PATS	**Pohnpei**	**15.85**	**110**	Pn	**Pn**	**13 20 31.3**	**-0.7**
WAMI	**Wamena**	**17.13**	**196**	P	P	13 21 07.8	+20
KRVT	**Keravat (AS076**	**18.99**	**152**	P	**Pn**	**13 21 09.9**	**-0.1**
	0.7nm,0.3s,baz=270,slow=8.1,SNR=2.7						
FAKI	**Fak Fak**	**19.06**	**216**	P	**Pn**	**13 21 13.1**	**+2.2**
	53nm,0.6s						
FAKI	**Fak Fak**	**19.06**	**216**		**Pn**	**13 21 11.7**	**+0.8**
FAKI				IAmb	IAmb	13 21 26.8	
	comp=Z,32nm,0.6s						
TNTI	**Ternate**	**19.81**	**234**	P	**P**	**13 21 17.2**	**+0.1**
JOW	**Kunigami**	**19.93**	**317**	P	**Pn**	**13 21 19.8**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=57,slow=11,SNR=16						
JOW	**Kunigami**	**19.93**	**317**		**Pn**	**13 21 20.3**	**-0.7**
JOW				IAmb	IAmb	13 21 20.9	
	comp=Z,21nm,0.6s						
TGY	**Tagaytay City**	**21.85**	**276**	P	**P**	**13 21 40.4**	**+1.2**
	comp=Z,239nm,0.4s,baz=145,slow=7.7,SNR=4.8						
YOJ	**Yonaguni jima**	**22.51**	**304**	P	**P**	**13 21 45.4**	**-0.4**
KMSI	**Cibinong**	**22.69**	**239**	P	**P**	**13 21 48.7**	**+0.9**
	comp=Z,111nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**23.18**	**73**	T	T	13 45 24.9	
	baz=253,slow=71						
H11S1	**WAKE ISLAND Hy**	**23.19**	**73**	T	T	13 45 20.2	
	baz=253,slow=71						
H11S2	**WAKE ISLAND Hy**	**23.19**	**73**	T	T	13 45 38.2	
	baz=253,slow=71						
INU	**Inuyama**	**23.24**	**347**	P	**P**	**13 21 52.5**	**-0.4**
INU				IAmb	IAmb	13 21 55.5	
	comp=Z,49nm,1.9s						
JNU	**Nakatsue**	**23.29**	**333**	P	**P**	**13 21 53.7**	**+0.3**
	comp=Z,21nm,0.7s,baz=101,slow=4.3,SNR=17						
JNU	**Nakatsue**	**23.29**	**333**	P	**P**	**13 21 53.5**	**+0.1**
TWG	**Pinlang**	**23.45**	**298**	P	**P**	**13 21 55.0**	**0.0**
YULB	**Yu-li**	**23.47**	**300**	P	**P**	**13 21 55.1**	**0.0**
YULB				IAmb	IAmb	13 21 56.6	
	comp=Z,17nm,0.7s						
NACB	**Ninganchiao**	**23.54**	**302**	P	**P**	**13 21 55.4**	**-0.3**
NACB				IAmb	IAmb	13 22 16.8	
	comp=Z,25nm,1.0s						
H11N1	**WAKE ISLAND Hy**	**23.62**	**70**	T	T	13 46 31.1	
	baz=255,slow=75,SNR=15						
H11N2	**WAKE ISLAND Hy**	**23.63**	**70**	T	T	13 46 27.3	
	baz=255,slow=75,SNR=6.7						
H11N3	**WAKE ISLAND Hy**	**23.64**	**70**	T	T	13 46 28.7	
	baz=255,slow=75,SNR=13						
SSLB	**Suanglung**	**23.91**	**301**	P	**P**	**13 21 58.7**	**-0.5**
YHNB	**Yeheng**	**23.93**	**303**	P	**P**	**13 21 58.2**	**-1.2**
YHNB				IAmb	IAmb	13 22 50.9	
	comp=Z,98nm,1.5s						
TPUB	**Ta-pu**	**24.00**	**299**	P	**P**	**13 21 58.6**	**-1.4**
KWAJ	**Kwajalein Atol**	**24.14**	**97**	P	**P**	**13 22 02.2**	**+1.0**
MJAR	**Matsushiro Arr**	**24.16**	**350**	P	**P**	**13 21 59.8**	**-1.4**
	comp=Z,12nm,0.8s,baz=178,slow=11,SNR=30						
MJAR				ScP	**ScP**	**13 29 07.7**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=166,slow=3.3,SNR=6.2						
MJAR				LR	LR	13 30 54.6	
	comp=Z,62nm,19.3s,baz=205,slow=35						
MAJO	**Matsushiro**	**24.16**	**350**	P	**P**	**13 21 60.0**	**-1.3**
MAJO				IAmb	IAmb	13 22 01.0	
	comp=Z,18nm,0.8s						
MAT	**Matsushiro**	**24.16**	**350**	P	**P**	**13 21 59.9**	**-1.4**
MAT				S	**S**	**13 26 15.8**	**+3.8**
MJB9	**Matsu-Tunnel**	**24.17**	**350**	P	**P**	**13 22 00.1**	**-1.2**
MJB9				IAmb	IAmb	13 22 01.0	
	comp=Z,18nm,0.8s						
MRSI	**Marisa**	**24.47**	**242**	P	**P**	**13 22 05.7**	**+1.4**
	comp=Z,4µmcomp=Z,47nm,0.5s						
LUWI	**Luwuk**	**24.59**	**238**	P	**P**	**13 22 06.7**	**+1.4**
	comp=Z,13µmcomp=Z,196nm,1.0s						
APSI	**Ampana**	**25.45**	**239**	P	**P**	**13 22 11.7**	**-1.4**
	comp=Z,2µmcomp=Z,22nm,0.5s						
MPSI	**Mapaga**	**26.32**	**244**	P	**P**	**13 22 21.9**	**+0.9**
	comp=Z,7.0nm,1.4s						
MTN	**Manton Dam**	**28.15**	**206**	P	**P**	**13 22 37.5**	**+0.2**
MTN				IAmb	IAmb	13 23 26.2	
	comp=Z,57nm,1.6s						
KSRS	**Korea Array**	**28.23**	**333**	P	**P**	**13 22 37.1**	**-0.7**
	comp=Z,2.4nm,0.5s,baz=142,slow=9.2,SNR=18						
KSRS				PcP	**PcP**	**13 25 48.9**	**0.0**
	comp=Z,0.4nm,0.5s,baz=151,slow=2.2,SNR=4.5						
KS19	**Wonju Array Si**	**28.30**	**333**	P	**P**	**13 22 38.4**	**0.0**
KS19				IAmb	IAmb	13 22 41.7	
	comp=Z,50nm,1.9s						
ERM	**Erimo**	**29.18**	**360**	P	**P**	**13 22 46.8**	**+0.6**
ERM				IAmb	IAmb	13 22 51.8	
	comp=Z,39nm,1.3s						
KAPI	**Kappang**	**29.34**	**235**	P	**P**	**13 22 47.7**	**-0.2**
KAPI				IAmb	IAmb	13 23 39.9	
	comp=Z,25nm,1.4s						
NJ2	**Nanjing**	**29.59**	**315**	*eP*	**P**	**13 22 50.8**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TARA	**Tarawa**	**31.39**	**109**	P	**P**	**13 23 07.0**	**+1.0**
KNRA	**Kununurra**	**31.70**	**208**	P	**P**	**13 23 09.3**	**+0.7**
SBUM	**Sibu**	**32.47**	**254**	P	**P**	**13 23 15.5**	**0.0**
SBUM	**Sibu**	**32.47**	**254**	P	**P**	**13 23 16.0**	**+0.5**
CTA	**Charters Tower**	**32.73**	**175**	PKiKP	**PKiKP**	**13 33 27.2**	**-0.8**
	comp=Z,6.1nm,0.6s,baz=267,slow=2.7,SNR=14						
USA0B	**Ussuriysk Arra**	**32.85**	**345**	P	**P**	**13 23 19.1**	**+0.7**
USA0B				IAmb	IAmb	13 23 20.0	
	comp=Z,9.6nm,0.9s						
USRK	**Ussuriysk

comp=Z,6.6nm,0.6s,baz=295,slow=5.3,SNR=9.7
DZM Mont Dzumac 41.34 147 P **P** **13 24 32.7 +2.1**
DZM IAmb IAmb 13 24 55.4
comp=Z,25nm,1.3s
IPM Ipoh 42.60 263 P **P** **13 24 41.4 +0.4**
IPM IAmb IAmb 13 24 42.3
comp=Z,12nm,0.7s
IPM **PcP** **13 26 31.8 +0.2**
KULM Kulim 42.77 264 P **P** **13 24 43.3 +1.0**
CM31 Chiang Mai Arr 43.08 283 P **P** **13 24 44.3 -0.5**
CM31 IAmb IAmb 13 24 46.9
comp=Z,24nm,1.1s
CMAR Chiang Mai Arr 43.08 283 P **P** **13 24 45.8 +1.0**
comp=Z,9.5nm,0.8s,baz=84,slow=6.3,SNR=41
CMAR PcP **PcP** **13 26 32.5 -0.6**
comp=Z,3.9nm,0.4s,baz=99,slow=1.9,SNR=15
CMAR LR LR 13 41 33.7
comp=Z,18nm,19.9s,baz=165,slow=34
CHTO Chiang Mai 43.08 284 P **P** **13 24 44.4 -0.5**
MNAI Manna 43.58 250 P **P** **13 24 48.1 -0.8**
XMIS Christmas Isla 43.97 240 P **P** **13 24 51.9 0.0**
STKA Stephens Creek 44.38 182 P **P** **13 24 55.0 +0.1**
comp=Z,5.9nm,1.1s,baz=11,slow=7.9,SNR=9.4
STKA PcP **PcP** **13 26 37.1 0.0**
comp=Z,1.5nm,0.6s,baz=61,slow=5.7,SNR=2.9
STKA Stephens Creek 44.38 182 P **P** **13 24 54.9 0.0**
RPSI Rantau Prapat 45.07 261 P **P** **13 25 00.6 -0.1**
RPSI IAmb IAmb 13 25 01.8
comp=Z,15nm,0.7s
FORT Forrest 45.69 199 P **P** **13 25 05.4 +0.2**
BBOO Buckleboo 45.81 189 P **P** **13 25 06.8 +0.6**
BBOO IAmb IAmb 13 26 43.6
comp=Z,26nm,1.1s
ULN Ulaanbaatar 46.27 327 P **P** **13 25 10.3 +0.4**
ULN IAmb IAmb 13 25 11.5
comp=Z,8.3nm,0.7s
SONM Songino Array 46.61 326 P **P** **13 25 12.9 +0.4**
comp=Z,5.7nm,0.6s,baz=148,slow=7.7,SNR=24
SONM ScP **ScP** **13 30 28.2 -1.0**
comp=Z,0.7nm,0.8s,baz=113,slow=3.3,SNR=2.2
GTA Gaotai 46.66 313 ⇓P **P** **13 25 13.5 +0.4**
GTA pP pP 13 25 34.0 -2.3
GTA sP sP 13 25 45.2 -2.3
GTA PcP **PcP** **13 26 46.1 +0.8**
GTA pmax pmax
comp=Z,18nm,0.9s
GTA pmax pmax
comp=Z,100nm,4.3s
GTA LR LR
comp=Z,92nm,15.3s
GTA LR LR
comp=Z,170nm,16.6s
GTA LR LR
comp=Z,95nm,16.2s
GSI Gunungsitoli 46.74 260 P **P** **13 25 12.7 -1.2**
MORW Morawa 49.22 212 P **P** **13 25 32.9 +0.2**
SHL Shillong 49.99 293 P **P** **13 25 38.4 -0.6**
TOO Toolangi 50.07 178 P **P** **13 25 41.0 +2.0**
TOO IAmb IAmb 13 26 01.2
comp=Z,12nm,1.1s
YAK Yakutsk 50.21 352 P **P** **13 25 39.1 -0.6**
TLY Talaya 50.31 329 P **P** **13 25 41.4 +0.7**
TLY IAmb IAmb 13 25 42.4
comp=Z,9.8nm,0.6s
LSA Lhasa 51.09 298 P **P** **13 25 47.8 +0.3**
TAPN Taplejung 53.86 295 *e*P **P** **13 26 07.8 0.0**
comp=Z,21nm,0.5s
RAMN Ramite 54.82 294 *e*P **P** **13 26 14.6 -0.1**
comp=Z,20nm,0.6s
KEKH Kekaha 54.86 72 P **P** **13 26 15.8 +1.2**
JIRN Jiri 55.23 295 *e*P **P** **13 26 17.9 +0.1**
comp=Z,64nm,0.5s
GUN Gumba 55.52 295 *e*P **P** **13 26 20.0 +0.2**
comp=Z,44nm,0.4s
PKI Pulchoki 55.91 295 *e*P **P** **13 26 22.0 -0.6**
comp=Z,16nm,0.4s
PKIN Phulchoki 55.93 295 *e*P **P** **13 26 22.2 -0.4**
comp=Z,21nm,0.4s
RAO Raoul Island 56.02 139 LR LR 13 46 32.6
comp=Z,326nm,21.3s,baz=342,slow=32
KKN Kakani 56.04 295 *e*P **P** **13 26 22.9 -0.5**
comp=Z,10.0nm,0.4s
DMN Daman 56.19 295 *e*P **P** **13 26 24.2 -0.3**
comp=Z,14nm,0.4s
GKN Gorkha 56.62 295 *e*P **P** **13 26 27.2 -0.2**
comp=Z,39nm,0.3s
WMQ Urumqi 56.67 314 *e*P **P** **13 26 28.9 +1.5**
WMQ sP sP 13 27 03.5 +1.0
WMQ LR LR
comp=Z,490nm,27.7s
WMQ LR LR
comp=Z,960nm,29.3s
WMQ LR LR
comp=Z,140nm,29.2s
DANN Dangsing 57.41 296 *e*P **P** **13 26 33.1 -0.1**
comp=Z,129nm,0.5s
KOLN Koldanda 57.53 295 *e*P **P** **13 26 33.7 -0.2**
HATHI Halema'uma'u T 59.11 75 P **P** **13 26 44.2 -0.7**
MK31 Makanchi Array 61.10 317 P **P** **13 26 58.1 +0.2**
MK31 IAmb IAmb 13 26 59.4
comp=Z,19nm,1.6s
MKAR Makanchi Array 61.10 317 P **P** **13 26 58.1 +0.2**
comp=Z,4.8nm,0.6s,baz=90,slow=8.8,SNR=60
MAKZ Makanchi 61.31 317 P **P** **13 26 59.7 +0.4**
MAKZ IAmb IAmb 13 27 00.8
comp=Z,8.8nm,0.8s
ZAA0 Zalesovo Array 61.47 325 P **P** **13 26 59.8 -0.4**
ZALV Zalesovo Beam 61.47 325 P **P** **13 27 00.0 -0.3**
comp=Z,9.5nm,0.4s,baz=110,slow=7.2,SNR=51
ZALV PcP **PcP** **13 27 40.1 -1.2**
comp=Z,2.6nm,0.4s,baz=130,slow=4.7,SNR=6.3
KDJ Kajisay 63.93 311 P **P** **13 27 17.0 -0.1**
KDJ IAmb IAmb 13 27 18.6
comp=Z,5.5nm,0.8s
KURK Kurchatov 64.30 320 P **P** **13 27 18.9 -0.2**
RAR Rarotonga 65.24 121 LR LR 13 50 35.3
comp=Z,64nm,20.7s,baz=30,slow=31
NRIK Noril'sk 66.47 341 P **P** **13 27 31.4 -1.3**
comp=Z,2.4nm,0.4s,baz=120,slow=7.8,SNR=6.8
NIL Nilore 66.57 301 P **P** **13 27 34.1 0.0**
CNPM China Poot 66.72 30 P **P** **13 27 33.5 -1.0**
ARSB Arslanbob 67.00 310 P **P** **13 27 36.8 0.0**
ARSB IAmb IAmb 13 27 38.2
comp=Z,23nm,1.5s
PPLA Purkeypile 67.21 27 P **P** **13 27 37.6 -0.1**
RC01 Rabbit Creek A 67.83 29 P **P** **13 27 42.0 +0.5**
RC01 IAmb IAmb 13 29 10.2
comp=Z,13nm,1.1s
KTH Kantishna Hill 67.95 26 P **P** **13 27 42.6 +0.3**
BPAW Bear Paw Mtn. 68.08 26 P **P** **13 27 43.9 +0.9**
TRF Thorofare Moun 68.20 26 P **P** **13 27 44.1 +0.1**
TRF IAmb IAmb 13 28 33.0
comp=Z,14nm,1.8s
PMR Palmer 68.24 28 P **P** **13 27 43.9 -0.1**
PMR IAmb IAmb 13 27 45.1
comp=Z,5.4nm,0.7s
GHO Glory Hole Cre 68.38 28 P **P** **13 27 44.9 -0.1**
KNK Knik Glacier 68.51 29 P **P** **13 27 46.5 +0.8**
KNK IAmb IAmb 13 27 47.4
comp=Z,5.4nm,0.5s
SML Sawmill 68.66 28 P **P** **13 27 47.4 +0.7**
SML IAmb IAmb 13 27 48.6
comp=Z,7.3nm,0.9s
RND Reindeer 68.81 27 P **P** **13 27 47.2 -0.4**
MCK McKinley 68.86 26 P **P** **13 27 49.1 +1.3**
MCK IAmb IAmb 13 28 30.0
comp=Z,19nm,1.9s
KK31 Karatay Array 68.91 311 P **P** **13 27 47.7 -0.9**
KKAR Karatay Array 68.91 311 P **P** **13 27 47.7 -0.9**
GAR Garm 68.97 307 P **P** **13 27 49.0 -0.1**
GAR IAmb IAmb 13 27 51.2
comp=Z,23nm,1.3s
SCM Sheep Creek Mo 69.13 28 P **P** **13 27 50.4 +0.7**
SCM IAmb IAmb 13 27 50.8
comp=Z,21nm,1.6s
HIN Hinchinbrook I 69.23 30 P **P** **13 27 51.3 +1.1**
HIN IAmb IAmb 13 28 09.2
comp=Z,14nm,1.0s
FID Port Fidalgo 69.31 30 P **P** **13 27 51.4 +0.7**
FID IAmb IAmb 13 30 24.2
comp=Z,15nm,1.2s
DHY Denali Highway 69.38 27 P **P** **13 27 51.3 +0.1**
WRH Wood River Hil 69.40 26 P **P** **13 27 51.5 +0.4**
CCB Clear Creek Bu 69.56 25 P **P** **13 27 52.2 +0.1**
EYAK Cordova Ski Ar 69.63 30 P **P** **13 27 53.5 +0.9**
EYAK IAmb IAmb 13 29 01.4
comp=Z,15nm,1.4s
BRVK Borovoye 69.76 322 P **P** **13 27 53.4 -0.2**
HDA Harding Lake 69.87 26 P **P** **13 27 53.8 -0.2**
CHGR Chuyangaron 69.87 307 P **P** **13 27 54.3 -0.4**
CHGR IAmb IAmb 13 27 55.1
comp=Z,12nm,0.8s
TOLK Toolik Lake Re 69.95 21 P **P** **13 27 54.2 -0.3**
TOLK IAmb IAmb 13 29 33.1
comp=Z,15nm,1.9s
IL31 69.97 25 P **P** **13 27 54.0 -0.6**
ILAR Eielson Array 69.97 25 P **P** **13 27 52.5 -2.2**
comp=Z,2.7nm,0.6s,baz=255,slow=4.8,SNR=40
ILAR LR LR 13 56 27.3
comp=Z,14nm,19.6s,baz=288,slow=34
PAX Paxson 70.21 27 P **P** **13 27 57.0 +0.8**
VRDI Verde Repeater 70.85 29 P **P** **13 28 00.7 +0.4**
DOT Dot Lake 70.96 27 P **P** **13 28 01.1 +0.4**
DOT IAmb IAmb 13 28 02.7
comp=Z,5.3nm,0.6s
WAX Waxell Ridge 71.03 30 P **P** **13 28 02.4 +1.1**
WAX IAmb IAmb 13 28 07.0
comp=Z,7.2nm,1.0s
FYU Fort Yukon 71.03 24 P **P** **13 28 02.1 +1.1**
FYU IAmb IAmb 13 30 08.0
comp=Z,25nm,2.0s
MESA MESA 71.44 31 P **P** **13 28 04.2 +0.3**
MESA IAmb IAmb 13 30 38.4
comp=Z,17nm,1.1s
YAH Yahtse 71.56 30 P **P** **13 28 04.8 +0.1**
YAH IAmb IAmb 13 30 15.7
comp=Z,5.6nm,0.6s
BARN Barnard Glacie 71.69 30 P **P** **13 28 06.0 +0.7**
CTGM Chitina Glacie 71.83 30 P **P** **13 28 06.7 +0.5**
EGAK Eagle 72.39 26 P **P** **13 28 09.9 +0.7**
DAWY Dawson 73.07 27 P **P** **13 28 14.4 +1.1**
HYT Haines Junctio 73.69 30 P **P** **13 28 17.6 +0.5**
JIS Juneau Island 75.21 33 P **P** **13 28 25.9 +0.1**
JIS IAmb IAmb 13 31 11.4
comp=Z,10nm,0.8s
INK Inuvik 75.72 22 P **P** **13 28 28.1 -0.4**
ARU Arti 76.64 325 P **P** **13 28 33.5 -0.5**
ARU IAmb IAmb 13 28 34.0
comp=Z,8.0nm,0.5s
GEYT Allbeck 78.58 306 P **P** **13 28 44.5 -0.7**
comp=Z,1.9nm,0.5s,baz=132,slow=6.2,SNR=5.4
C36M Paulatuk 79.10 21 P **P** **13 28 47.7 +0.4**
C36M IAmb IAmb 13 28 59.9
comp=Z,11nm,1.1s
UOSS Minazif 82.20 294 P **P** **13 29 04.9 +0.1**
UOSS IAmb IAmb 13 29 06.9
comp=Z,9.1nm,0.8s
YKA Yellowknife Ar 84.30 27 P **P** **13 29 13.9 -0.9**
comp=Z,1.0nm,0.4s,baz=284,slow=5.0,SNR=18
YKA LR LR 14 04 16.0
comp=Z,13nm,21.7s,baz=0.0,slow=34
YBH Yreka Blue Hor 84.55 49 P **P** **13 29 16.3 -0.3**
comp=Z,1.8nm,0.7s,baz=245,slow=2.5,SNR=6.2
YBH Yreka Blue Hor 84.55 49 IAmb IAmb 13 32 06.8
comp=Z,28nm,1.8s
ARCES ARCESS Array B 87.45 342 P **P** **13 29 29.0 -1.2**
comp=Z,1.2nm,0.5s,baz=73,slow=6.9,SNR=12
BMO Blue Mountains 87.64 45 P **P** **13 29 31.9 +0.2**
NVAR Mina Array Bea 88.61 51 P **P** **13 29 36.7 0.0**
comp=Z,1.9nm,0.7s,baz=267,slow=5.4,SNR=16
ELK Elko 90.25 48 P **P** **13 29 43.8 -0.6**
comp=Z,0.5nm,0.6s,baz=309,slow=4.5,SNR=4.4
VNDA Vanda 90.71 176 P **P** **13 29 44.8 -0.4**
comp=Z,1.0nm,0.8s,baz=334,slow=5.4,SNR=6.6
FINES FINESS Array B 91.32 335 P **P** **13 29 46.5 -2.0**
comp=Z,1.9nm,0.4s,baz=62,slow=4.6,SNR=28
TORD Torodi Ar. Bea 134.11 303 PKP **PKPdf** **13 36 00.1 -1.0**
comp=Z,1.9nm,0.8s,baz=59,slow=2.1,SNR=7.4
URIC Uribia, Colomb 137.34 57 **PKPdf** **13 36 07.5 +0.5**
PLCA Paso Flores 139.26 139 PKP **PKPdf** **13 36 09.4 -0.5**
comp=Z,2.2nm,0.7s,baz=274,slow=5.5,SNR=4.7
DBIC Dimbokro 143.00 300 PKhKP **PKPdf** **13 36 13.2 -4.1**
comp=Z,8.3nm,0.6s,baz=17,slow=1.8,SNR=9.7
KIC Kosan Boka 143.06 299 *e*PKP1 PKPbc 13 36 13.9 -0.7
comp=Z,20nm,0.8s
TIC Toumodi 143.15 300 *e*PKP1 PKPab 13 36 14.0 +0.6
LIC Lamto 143.37 299 *e*PKP1 PKPab 13 36 14.8 +0.6
comp=Z,59nm,0.7s
CO01 Juntas del Tor 144.61 124 **PKPdf** **13 36 20.4 +0.4**
AC05 El Transito 144.87 122 **PKPdf** **13 36 21.2 +0.9**
GO02 Mina Guanaco 146.57 117 **PKPbc** **13 36 25.4 +0.1**
PB11 IPOC Station P 147.58 107 PKPbc **PKPbc** **13 36 26.9 -1.2**
MNMC Minye Minye 147.72 106 **PKPbc** **13 36 27.5 -1.1**
LPAZ La Paz 149.33 100 PKPbc **PKPdf** **13 36 30.9 +2.2**
baz=6.2,slow=3.7
LPAZ La Paz 149.33 100 **PKPdf** **13 36 30.3 +1.6**
PTGA Pitinga 153.99 65 PKPbc **PKiKP** **13 36 43.5 +0.3**
comp=Z,1.7nm,0.5s,baz=339,slow=22,SNR=2.5

KRNET 10 13:19:47.8±0.1, 40.76N×75.75E, h35km, mb2.3, 6C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARLS	**Aral**	**1.54**	**316**	⇓*i*P			Pn	13 20 14.0	+1.1
	baz=17								
ARLS				⇓*i*S			Sn	13 20 33.1	+1.4
	baz=17								
BOOM	**Boomskoye usch**	**1.74**	**5**	⇑*e*P			Pn	13 20 16.9	+1.3
	baz=5.0								
BOOM				⇑*i*S			Sn	13 20 37.7	+1.1
	baz=5.0								
KDJ	**Kajisay**	**1.74**	**38**	⇑*i*P			Pn	13 20 16.6	+0.9
	baz=38								
KDJ				⇑*i*S			Sn	13 20 38.1	+1.3
	baz=38								
KDJ	**Kajisay**	**1.74**	**38**	P			Pn	13 20 16.6	+0.9
ARSB	**Arslanbob**	**2.17**	**286**	⇑*i*P			Pn	13 20 22.8	+1.3
	baz=86								
ARSB				⇑*i*S			Sn	13 20 47.7	+0.5
	baz=86								

*IDC **10** 13:25:03.2±2.4, 17.01N×101.30W, h0km, mb3.9/5, mb1 4.2/8, mb1mx3.9/32, mbtmp3.8/8, ML3.8/3, MS3.3/8, Ms1 3.2/8, ms1mx3.0/30, Error ellipse: s-maj=46.5km s-min=21.4km az=20.0*
*NEIC **10** 13:25:04.9±2.4, 17.11N±0.04×101.37W±0.06, h12km±6km, mb4.1/33, Md4.3/65(MEX), Error ellipse: s-maj=7.9km s-min=5.7km az=97.0*
*MEX **10** 13:25:09.6±2.7, 17.43N×101.16W, h32km±47km, MD4.2*
ISC 10 13:25:07.3±1.2, 17.24N±0.04×101.27W±0.03, h23km±9km, n96, σ2502/127, mb4.1/10, MS3.1/4, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.41**	**333**				**Pb**	**13 25 15.8**	**-0.2**
ZIIG							**Sb**	**13 25 21.9**	**-0.1**
ZIIG	**Zihuatanejo**	**0.41**	**333**	⇓*i*P			**Pb**	**13 25 15.8**	**-0.2**
	baz=121,slow=16								
ZIIG				*i* S			**Sb**	**13 25 21.9**	**-0.1**
CAIG	**El Cayaco**	**0.98**	**101**				**Pb**	**13 25 24.7**	**-0.9**
CAIG							**Sn**	**13 25 38.6**	**-0.2**
CAIG	**El Cayaco**	**0.98**	**101**	*i* P			**Pb**	**13 25 24.7**	**-0.9**
CAIG				*i* S			**Sn**	**13 25 38.6**	**-0.2**
ARIG	**Puente Sto Nin**	**1.36**	**40**				**Pb**	**13 25 31.4**	**-0.8**
ARIG							**Sb**	**13 25 49.0**	**-0.1**
ARIG	**Puente Sto Nin**	**1.36**	**40**	*e*P			**Pb**	**13 25 31.4**	**-0.8**
ARIG				*e*S			**Sb**	**13 25 49.0**	**-0.1**
ACP2	**Acapulco**	**1.37**	**105**				**Pn**	**13 25 30.2**	**-0.9**
ACP2							**Sb**	**13 25 50.5**	**+1.0**
ACP2	**Acapulco**	**1.37**	**105**	*e*P			**Pn**	**13 25 30.2**	**-0.9**
ACP2				*e*S			**Sb**	**13 25 50.5**	**+1.0**
MEIG	**Mezcala**	**1.72**	**66**				**Pb**	**13 25 37.3**	**-1.0**
MEIG							**Sb**	**13 26 00.6**	**+1.1**
MEIG	**Mezcala**	**1.72**	**66**	*e*P			**Pb**	**13 25 37.3**	**-1.0**
MEIG				*i* S			**Sb**	**13 26 00.6**	**+1.1**
PLIG	**Platanillo**	**2.04**	**55**				**Pn**	**13 25 41.2**	**+0.8**
PLIG							**Sb**	**13 26 09.1**	**+0.3**
PLIG	**Platanillo**	**2.04**	**55**	*e*P			**Pn**	**13 25 41.2**	**+0.8**
PLIG				*e*S			**Sn**	**13 26 03.1**	**-2.1**
MMIG	**Aquila**	**2.24**	**298**				**Pn**	**13 25 42.5**	**-0.5**
MMIG							Lg	13 26 23.2	
MMIG	**Aquila**	**2.24**	**298**	*e*P			**Pn**	**13 25 42.5**	**-0.5**
MMIG				*i* S			**Sb**	**13 26 13.2**	**-1.1**
MAVM	**Malinalco, Edo**	**2.41**	**44**				**Pb**	**13 25 49.5**	**-0.6**
MAVM							**Sb**	**13 26 21.2**	**+1.7**
MAVM	**Malinalco, Edo**	**2.41**	**44**	*e*P			**Pb**	**13 25 49.5**	**-0.6**
MAVM				*e*S			**Sn**	**13 26 11.2**	**-3.2**
MOIG	**Morelia**	**2.43**	**2**	Pn			**Pn**	**13 25 45.5**	**-0.4**
MOIG	**Morelia**	**2.43**	**2**				**Sb**	**13 26 20.9**	**+0.8**
MOIG	**Morelia**	**2.43**	**2**	*e*P			**Pb**	**13 25 49.2**	**-1.4**
MOIG				*e*S			**Sn**	**13 26 10.9**	**-4.1**
TOVM	**TOLUCA**	**2.54**	**36**				**Pb**	**13 25 51.9**	**-0.5**
TOVM							**Sb**	**13 26 25.3**	**+2.0**
TOVM	**TOLUCA**	**2.54**	**36**	*i* P			**Pb**	**13 25 51.9**	**-0.5**
TOVM				*i* S			**Sn**	**13 26 15.3**	**-2.5**
YAIG	**Yautepec**	**2.65**	**52**				**Pn**	**13 25 49.0**	**+0.2**
YAIG							**Sb**	**13 26 26.7**	**+0.3**
YAIG	**Yautepec**	**2.65**	**52**	*e*P			**Pn**	**13 25 49.0**	**+0.2**
YAIG				*e*S			**Sn**	**13 26 16.7**	**-3.6**
ATVM	**ATLACOMULCO**	**2.85**	**28**				**Pb**	**13 25 57.7**	**-0.1**
ATVM							**Sb**	**13 26 36.2**	**+3.8**
ATVM	**ATLACOMULCO**	**2.85**	**28**	*i* P			**Pb**	**13 25 57.7**	**-0.1**
ATVM				*i* S			**Sn**	**13 26 26.2**	**+0.6**
UNM	**Universidad Na**	**2.88**	**43**	Pn			**Pn**	**13 25 52.1**	**0.0**
UNM	**Universidad Na**	**2.88**	**43**	*e*P			**Pn**	**13 25 53.2**	**+1.1**
UNM				*i* S			**Sn**	**13 26 23.4**	**-2.8**
CVM	**Colonia del Va**	**2.92**	**43**	*i* P			**Pb**	**13 25 58.6**	**-0.1**
CVM				*e*S			**Sn**	**13 26 22.9**	**-3.8**
AZVM	**Cuida Lopez Ma**	**3.00**	**39**				**Pb**	**13 26 00.5**	**+0.2**
AZVM							**Sb**	**13 26 40.9**	**+4.2**
AZVM	**Cuida Lopez Ma**	**3.00**	**39**	*i* P			**Pb**	**13 26 00.5**	**+0.2**
AZVM				*i* S			**Sn**	**13 26 26.9**	**-2.4**
AZVM				*e*S			**Sb**	**13 26 30.1**	**-6.6**
PBVM	**Pinon**	**3.02**	**43**				**Pb**	**13 25 58.8**	**-1.6**
PBVM							**Sb**	**13 26 40.6**	**+3.7**
PBVM	**Pinon**	**3.02**	**43**	*e*P			**Pb**	**13 25 58.8**	**-1.6**
PBVM				*e*S			**Sn**	**13 26 26.6**	**-2.6**
AMVM	**AMECAMECA**	**3.02**	**51**				**Pn**	**13 25 57.0**	**+2.9**
AMVM							**Sb**	**13 26 42.3**	**+5.0**
AMVM	**AMECAMECA**	**3.02**	**51**	*e*P			**Pn**	**13 25 57.0**	**+2.9**
AMVM				*e*S			**Sn**	**13 26 27.5**	**-2.3**
AMVM				*i* S			**Sb**	**13 26 30.3**	**-7.0**
PPM	**Popocatepetl**	**3.10**	**54**	*e*P			**Pn**	**13 25 56.1**	**+0.7**
PPM				*e*P			Pb	13 25 56.2	-6.0
PPM				*i* S			**Sn**	**13 26 26.1**	**-6.0**
PPM				*i* S			**Sb**	**13 26 33.3**	**-6.5**
PTVM	**Pico Tres Padr**	**3.11**	**41**				**Pb**	**13 25 58.5**	**-3.7**
PTVM							**Sb**	**13 26 43.4**	**+3.6**
PTVM	**Pico Tres Padr**	**3.11**	**41**	*e*P			**Pb**	**13 25 58.5**	**-3.7**
PTVM				*e*S			**Sn**	**13 26 30.4**	**-1.6**
HLIG	**Huajuapan de L**	**3.36**	**79**	*i* P			**Pn**	**13 26 00.0**	**+1.4**
HLIG				*e*S			**Sn**	**13 26 36.2**	**-1.8**
VTVM	**Tizayuca**	**3.46**	**43**				**Pb**	**13 26 07.7**	**-0.4**
VTVM							**Sb**	**13 26 52.5**	**+2.6**
VTVM	**Tizayuca**	**3.46**	**43**	*e*P			**Pn**	**13 26 00.7**	**+0.6**
VTVM				*e*S			**Sn**	**13 26 40.5**	**-0.1**
DEIG	**Demacu**	**3.71**	**34**	*i* P			**Pn**	**13 26 03.5**	**0.0**
DEIG				*e*S			**Sn**	**13 26 45.5**	**-1.2**
TPIG	**Tehuac#an**	**3.91**	**72**				**Sb**	**13 27 04.6**	**+2.0**
TPIG	**Tehuac#an**	**3.91**	**72**	*e*S			**Sn**	**13 26 50.6**	**-0.8**
CMIG	**Matias Romero**	**6.11**	**90**	Pn			**Pn**	**13 26 37.0**	**+0.7**
	1.5nm,0.3s,baz=270,slow=12,SNR=13								
CMIG							Sn	**13 27 42.1**	**-3.4**
	3.5nm,0.3s,baz=281,slow=14,SNR=4.4								
CMIG							Lg	13 28 17.8	
	6.5nm,0.3s,baz=354,slow=17,SNR=7.5								
CCIG	**Comitan**	**8.80**	**95**	Pn			**Pn**	**13 27 13.9**	**+0.5**
H06E1	**SOCORRO T-PHAS**	**9.31**	**281**	T			T	13 36 59.5	
	SNR=62								
LPIG	**La Paz**	**10.87**	**310**	LR			LR	13 31 29.2	
	comp=Z,143nm,19.6s,baz=48,slow=35								
TXAR	**Lajitas Array**	**12.24**	**350**	Pn			Pn	13 28 05.8	+5.4
	0.3nm,0.3s,baz=171,slow=13,SNR=3.9								
TXAR							Lg	13 31 39.0	
	0.2nm,0.3s,baz=154,slow=27,SNR=2.3								
TXAR							LR	13 33 27.6	
	comp=Z,127nm,20.2s,baz=0.0,slow=40								
TEIG	**Tepich**	**12.66**	**74**	LR			LR	13 34 26.4	
	comp=Z,86nm,18.6s,baz=48,slow=44								
MNTX	**Cornudas Mount**	**14.87**	**346**				**P**	**13 28 43.3**	**+1.4**
WHTX	**Lake Whitney,**	**15.09**	**13**	P			**P**	**13 28 45.2**	**+0.9**
GDL2	**Guadalupe Moun**	**15.16**	**350**	P			**P**	**13 28 46.7**	**+1.6**
237A	**Washetta, Mont**	**15.51**	**18**				**P**	**13 28 49.1**	**+0.2**
342A	**Flagon Creek P**	**16.25**	**28**	P			**P**	**13 28 59.5**	**+2.4**
MSTX	**Muleshoe**	**16.72**	**356**				**Pn**	**13 29 01.4**	**+1.2**
AMTX	**Amarillo**	**17.58**	**359**				**Pn**	**13 29 11.3**	**+0.3**
LENM	**Lemitar**	**17.62**	**344**				**P**	**13 29 13.3**	**+0.9**
ANMO	**Albuquerque**	**18.23**	**346**	P			**P**	**13 29 20.9**	**+1.6**
	0.1nm,0.3s,baz=160,slow=14,SNR=5.9								
ANMO				LR			LR	13 37 02.7	
	comp=Z,198nm,18.1s,baz=162,slow=39								
ANMO	**Albuquerque**	**18.23**	**346**	P			**P**	**13 29 21.1**	**+1.8**
W39A	**Magazine**	**19.09**	**19**	P			**P**	**13 29 28.6**	**+0.1**
W39A				IAmb			IAmb	13 29 29.7	
	comp=Z,7.1nm,1.0s								
U32A	**Winter Ranch,**	**19.17**	**6**	P			**P**	**13 29 29.9**	**+0.5**
U32A				IAmb			IAmb	13 29 30.9	
	comp=Z,12nm,0.7s								
TUL1	**Leonard**	**19.23**	**14**	P			**P**	**13 29 28.9**	**-1.0**
X43A	**Marvell**	**19.56**	**26**	P			**Pn**	**13 29 34.6**	**-0.4**
W41B	**Gary Mavity, V**	**19.59**	**23**	P			**P**	**13 29 33.5**	**+0.5**
WHAR	**Wooly Hollow**	**19.68**	**22**	P			**P**	**13 29 35.0**	**+0.1**
T25A	**Trinidad**	**20.02**	**353**	P			**P**	**13 29 39.4**	**+0.5**
HHAR	**Hobbs**	**20.05**	**17**	P			**P**	**13 29 38.0**	**-0.9**
HHAR				IAmb			IAmb	13 29 39.5	
	comp=Z,5.2nm,0.8s								
FCAR	**Ozark Folk Cen**	**20.28**	**22**	P			**P**	**13 29 41.0**	**-0.4**
FCAR				IAmb			IAmb	13 29 42.0	
	comp=Z,9.3nm,0.8s								
Y12C	**Blythe**	**20.30**	**327**	P			**P**	**13 29 41.5**	**-0.2**
Y12C				IAmb			IAmb	13 29 45.9	
	comp=Z,6.5nm,0.8s								
U40A	**Yellville**	**20.45**	**20**	P			**P**	**13 29 42.4**	**-0.9**
U40A				IAmb			IAmb	13 30 26.7	
	comp=Z,5.9nm,0.8s								
LCAR	**Lake Charles**	**20.80**	**24**	P			**P**	**13 29 46.9**	**-0.1**
LCAR				IAmb			IAmb	13 30 40.1	
	comp=Z,7.8nm,0.7s								
MVCO	**Mesa Verde**	**20.89**	**344**				**P**	**13 29 49.4**	**+1.0**
MVCO				IAmb			IAmb	13 29 54.0	
	comp=Z,4.7nm,0.8s								
S22A	**4UR Ranch, Cre**	**21.01**	**348**	P			**P**	**13 29 51.4**	**+1.7**
PLAL	**Pickwick Lake**	**21.24**	**31**	P			**P**	**13 29 50.6**	**-1.2**
PLAL				IAmb			IAmb	13 30 00.1	
	comp=Z,6.4nm,0.8s								
S39A	**Bolivar**	**21.54**	**17**	P			**P**	**13 29 54.6**	**-0.5**
S39A				IAmb			IAmb	13 29 55.7	
	comp=Z,4.5nm,0.6s								
KSCO	**Kaye Shedlock'**	**21.73**	**357**	P			**P**	**13 29 57.4**	**+0.2**
KSCO				IAmb			IAmb	13 30 39.5	
	comp=Z,9.5nm,0.9s								
PV04	**Paradox Valley**	**22.11**	**344**	P			**P**	**13 30 03.0**	**+1.6**
PV04				IAmb			IAmb	13 30 04.5	
	comp=Z,19nm,1.9s								
KNB	**Kanab**	**22.19**	**335**	P			**P**	**13 30 02.5**	**+0.3**
LCMT	**Little Creek M**	**22.36**	**334**	P			**P**	**13 30 04.1**	**+0.2**
GOGA	**Godfrey**	**22.71**	**41**	P			**P**	**13 30 06.5**	**-1.1**
GOGA				IAmb			IAmb	13 30 10.7	
	comp=Z,4.2nm,0.9s								
MTPU	**Mount Pierson**	**22.83**	**337**	P			**P**	**13 30 11.1**	**+1.8**
MSU	**Mar

comp=Z,0.4nm,0.9s,baz=128,slow=5.8,SNR=5.9
PPT **Papeete** **58.80 236** LR LR 13 54 49.6
comp=Z,17nm,21.7s,baz=344,slow=30

IDC 10 13:32:06.8±2.4, 6°27'S×129°07'E, h0km, mb3.8/1, mb1 3.7/4, mb1mx3.5/29, mbtmp3.6/4, ML3.2/3, Error ellipse: s-maj=92.4km s-min=30.2km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.49**	**199**	Pn	Pn	13 35 06.2	+0.2
	0.1nm,0.3s,baz=24,slow=10.0,SNR=2.8						
FITZ				Sn	Sn	13 37 12.6	-13
	0.2nm,0.3s,baz=278,slow=23,SNR=6.6						
WRA	**Warramunga Arr**	**14.24**	**163**	Pn	Pn	13 35 29.8	-0.1
	0.1nm,0.3s,baz=346,slow=14,SNR=1.7						
WRA				Sn	Sn	13 37 56.7	-12
	0.3nm,0.3s,baz=334,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**17.71**	**168**	P	P	13 36 14.8	-0.2
	0.1nm,0.3s,baz=347,slow=10,SNR=17						
ASAR				S	Sn	13 39 18.6	-14
	0.1nm,0.3s,baz=344,slow=25,SNR=6.3						
MKAR	**Makanchi Array**	**67.60**	**327**	P	P	13 43 05.5	+0.1
	0.3nm,0.3s,baz=133,slow=6.1,SNR=3.3						

ATH 10 13:52:29.4, 40°06N×24°34E, h30km±2km, ML1.7/4, Error ellipse: s-maj=2.6km s-min=1.3km az=213.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	**Paliouri**	**0.52**	**256**	P	Pn	13 52 40.6	-0.3
PAIG				S	Sb	13 52 48.1	+0.5
THAS	**Thassos island**	**0.62**	**28**	P	Pb	13 52 41.2	-0.5
THAS				S	Sn	13 52 52.2	+1.1
LIA	**Limnos Island**	**0.67**	**104**	P	Pn	13 52 43.7	+0.8
LIA				S	Sn	13 52 52.7	+0.4
PLG	**Polygyros**	**0.75**	**295**	P	Pn	13 52 44.9	+0.8
PLG				S	Sn	13 52 54.8	+0.3
PLG				AML	AML	13 52 57.8	
	comp=E,88μm,0.5s						
PLG				AML	AML	13 52 58.6	
	comp=N,132μm,0.4s						
KAVA	**Kavala**	**0.94**	**8**	P	Pb	13 52 48.3	+1.1
KAVA				S	Sb	13 53 00.7	+1.3
KAVA				AML	AML	13 53 01.6	
	comp=E,165μm,0.5s						
KAVA				AML	AML	13 53 02.0	
	comp=N,244μm,0.3s						
SMTH	**Samothraki Isl**	**1.00**	**65**	P	Pb	13 52 48.5	+0.4
SMTH				S	Sb	13 53 01.9	+1.0
HORT	**Hortiatis**	**1.09**	**300**	P	Pb	13 52 50.7	+1.0
HORT				AML	AML	13 53 08.5	
	comp=N,73μm,0.5s						
HORT				AML	AML	13 53 10.8	
	comp=E,26μm,0.2s						
KNT	**Kendrikon**	**1.55**	**316**	P	Pb	13 52 57.7	+0.2
KNT				AML	AML	13 53 24.4	
	comp=E,36μm,0.4s						
KNT				AML	AML	13 53 26.2	
	comp=N,43μm,0.4s						

BUC 10 13:54:20.6±0.3, 46°83N×25°80E, h6km±4km, ml1.1/5, 10C-10D, Error ellipse: s-maj=3.3km s-min=2.8km az=146.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIZ	**Bicaz**	**0.23**	**62**	⇑P	Pg	13 54 24.5	-0.7
BIZ				⇑S	Sg	13 54 28.8	+0.4
BIZ	**Bicaz**	**0.23**	**62**	⇑P	Pg	13 54 24.5	-0.7
BIZ				⇑S	Sg	13 54 28.8	+0.4
JOSR	**Joseni**	**0.23**	**238**	⇓P	Pg	13 54 25.0	-0.2
JOSR				⇓S	Sg	13 54 28.8	+0.4
JOSR	**Joseni**	**0.23**	**238**	⇓P	Pg	13 54 25.0	-0.2
JOSR				⇓S	Sg	13 54 28.8	+0.4
BURAR	**Bucovina Array**	**0.88**	**333**	⇓P	Pg	13 54 37.3	-0.3
BURAR				⇓S	Sn	13 54 52.2	-0.6
BURAR	**Bucovina Array**	**0.88**	**333**	⇓P	Pg	13 54 37.3	-0.3
BURAR				⇓S	Sn	13 54 52.2	-0.6
PLOR	**Plostina**	**1.14**	**149**	⇑P	Pn	13 54 43.4	+0.1
PLOR	**Plostina**	**1.14**	**149**	⇑P	Pn	13 54 43.4	+0.1
MLR	**Muntele Rosu**	**1.34**	**176**	⇓P	Pg	13 54 46.5	+0.1
MLR	**Muntele Rosu**	**1.34**	**176**	⇓P	Pg	13 54 46.5	+0.1
VOIR		**1.49**	**201**	⇑P	Pn	13 54 48.0	0.0
VOIR		**1.49**	**201**	⇑P	Pn	13 54 48.0	0.0
DRGR		**2.12**	**270**	⇑P	Pn	13 54 56.2	-0.5
DRGR		**2.12**	**270**	⇑P	Pn	13 54 56.2	-0.5

IDC 10 14:00:46.8±2.5, 7°27S×128°07E, h0km, mb3.6/1, mb1 3.4/3, mb1mx3.3/21, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=278.8km s-min=31.9km az=65.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.99**	**155**	Pn	Pn	14 04 05.3	-1.2
	0.1nm,0.3s,baz=332,slow=14,SNR=13						
WRA				Sn	Sn	14 06 27.7	-15
	0.5nm,0.3s,baz=337,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**17.24**	**162**	P	P	14 04 50.2	-0.7
	0.1nm,0.3s,baz=339,slow=11,SNR=12						
ASAR				S	Sn	14 07 48.4	-13
	0.1nm,0.3s,baz=353,slow=28,SNR=1.9						
MKAR	**Makanchi Array**	**67.41**	**328**	P	P	14 11 44.2	0.0
	0.3nm,0.5s,baz=117,slow=8.0,SNR=5.3						

*IDC **10** 14:11:13.2±8.6, 16°90N×100°96W, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.6/28, mbtmp3.3/4, ML2.7/1, MS3.0/3, Ms1 3.0/3, ms1mx2.8/15, Error ellipse: s-maj=184.7km s-min=114.3km az=102.0*
*NEIC **10** 14:11:20.9±1.6, 17°46N±0°04×101°32W±0°07, h17km±6km, Md4.1/18(MEX), Error ellipse: s-maj=9.6km s-min=4.9km az=64.0*
*MEX **10** 14:11:22.3±0.9, 17°42N×101°41W, h10km±7km, MD4.1*

ISC 10 14:11:20.6±1.2, 17°44N±0°06×101°26W±0°04, h10km±9km, n22, σ1°19/33, mb3.5/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.25**	**311**		**Pg**	**14 11 25.6**	**-0.1**
ZIIG					**Sg**	**14 11 29.4**	**+0.1**
ZIIG	**Zihuatanejo**	**0.25**	**311**	*e*P	**Pg**	**14 11 25.6**	**-0.1**
ZIIG				*i* S	**Sg**	**14 11 29.4**	**+0.1**
CAIG	**El Cayaco**	**1.03**	**112**		**Pn**	**14 11 40.8**	**-0.2**
CAIG					**Sn**	**14 11 55.2**	**-0.3**
CAIG	**El Cayaco**	**1.03**	**112**	*e*P	**Pn**	**14 11 40.8**	**-0.2**
CAIG				*e*S	**Sn**	**14 11 55.2**	**-0.3**
ARIG	**Puente Sto Nin**	**1.21**	**46**		**Pg**	**14 11 42.8**	**-1.0**
ARIG					**Sg**	**14 11 59.3**	**-0.2**
ARIG	**Puente Sto Nin**	**1.21**	**46**	*e*P	**Pg**	**14 11 42.8**	**-1.0**
ARIG				*e*S	**Sg**	**14 11 59.3**	**-0.2**
ACP2	**Acapulco**	**1.43**	**113**		**Pn**	**14 11 46.8**	**+0.2**
ACP2					**Sb**	**14 12 05.5**	**-0.2**
ACP2	**Acapulco**	**1.43**	**113**	*e*P	**Pn**	**14 11 46.8**	**+0.2**
ACP2				*e*S	**Sb**	**14 12 05.5**	**-0.2**
PLIG	**Platanillo**	**1.93**	**60**		**Pb**	**14 11 55.4**	**-0.5**
PLIG					**Sn**	**14 12 16.2**	**-1.6**
PLIG	**Platanillo**	**1.93**	**60**	*e*P	**Pn**	**14 11 54.4**	**+0.9**
PLIG				*i* S	**Sn**	**14 12 17.9**	**+0.1**
MONG	**Morelia**	**2.23**	**2**		**Pn**	**14 11 10.1**	**-2.7**
YAIG	**Yautepec**	**2.52**	**56**		**Pn**	**14 12 02.1**	**+0.3**
YAIG					**Sn**	**14 12 33.4**	**+0.7**
YAIG	**Yautepec**	**2.52**	**56**	*e*P	**Pn**	**14 12 02.1**	**+0.3**
YAIG				*i* S	**Sn**	**14 12 33.4**	**+0.7**
TXIG	**Tlaxiaco**	**3.34**	**93**	*e*P	**Pn**	**14 12 14.8**	**+1.6**
TXIG				*i* S	**Sn**	**14 12 53.8**	**+0.6**
CCIG	**Comitan**	**8.81**	**96**	Pn	**Pn**	**14 13 30.4**	**+2.1**
H06E1	**SOCORRO T-PHAS**	**9.28**	**280**	T	T	14 23 09.4	
	SNR=9.6						
TXAR	**Lajitas Array**	**12.04**	**350**	Pn	**Pn**	**14 14 16.5**	**+4.0**
	0.0nm,0.3s,baz=164,slow=10,SNR=1.5						
TXAR				LR	LR	14 19 52.7	
	comp=Z,46nm,21.6s,baz=0.0,slow=41						
SRIG	**Santa Rosalia**	**14.12**	**316**	Pn	**Pn**	**14 14 40.4**	**-0.4**
NVAR	**Mina Array Bea**	**25.68**	**328**	P	**P**	**14 16 50.6**	**-0.4**
	1.0nm,0.7s,baz=143,slow=11,SNR=9.2						
PDAR	**Pinedale Array**	**26.21**	**346**	P	**P**	**14 16 55.2**	**-0.6**
	0.2nm,0.4s,baz=163,slow=9.4,SNR=2.2						
PDAR				LR	LR	14 27 42.8	
	comp=Z,28nm,20.3s,baz=139,slow=37						
SCHQ	**Schefferville**	**45.69**	**27**	LR	LR	14 39 27.6	
	comp=Z,34nm,18.1s,baz=315,slow=37						
ILAR	**Eielson Array**	**56.27**	**338**	P	**P**	**14 20 59.7**	**-1.3**
	0.4nm,0.9s,baz=146,slow=5.5,SNR=3.2						

IDC 10 14:14:26.2±3.5, 10°60S×119°28E, h0km, mb3.3/1, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, ML3.5/2, Error ellipse: s-maj=265.5km s-min=31.1km az=49.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.23**	**124**	Pn	Pn	14 18 28.9	+0.5
	0.1nm,0.3s,baz=303,slow=14,SNR=9.0						
WRA				Sn	Sn	14 21 31.8	-9.0
	0.1nm,0.3s,baz=332,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**19.05**	**135**	P	P	14 18 50.0	-0.3
	0.2nm,0.3s,baz=307,slow=10,SNR=16						
ASAR				S	Sn	14 22 13.7	-11
	0.1nm,0.3s,baz=315,slow=26,SNR=4.7						
MKAR	**Makanchi Array**	**66.00**	**333**	P	P	14 25 14.6	0.0
	0.1nm,0.4s,baz=156,slow=7.4,SNR=2.0						

*TIF **10** 14:43:14.0, 42°63N×45°25E, h11km±4km*
*NORS **10** 14:43:14.8±0.0, 42°51N×45°18E, h8km, MPVA3.7*
*DRS **10** 14:43:17.7±0.0, 42°59N×45°24E, h16km*

ISC 10 14:43:15.4±1.1, 42°59N±0°04×45°18E±0°02, h6km±10km, n18, σ0°976/34, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNSH	**Pansheti**	**0.41**	**277**	P	**Pg**	**14 43 23.8**	**+0.3**
PNSH				S	**Sg**	**14 43 29.2**	**+0.3**
KMGR	**Komgaron**	**0.52**	**334**	*e*Pg	**Pb**	**14 43 26.4**	**-0.6**
KMGR				*e*Sg	**Sb**	**14 43 35.6**	**+0.8**
GUDG	**Gudauri**	**0.53**	**257**	P	**Pg**	**14 43 25.4**	**-0.2**
GUDG				S	**Sg**	**14 43 32.3**	**-0.3**
GUDG	**Gudauri**	**0.53**	**257**	*i* Pg	**Pg**	**14 43 25.5**	**-0.2**
GUDG				*e*Sg	**Sg**	**14 43 32.9**	**+0.4**
LACR	**Lac**	**0.69**	**290**	*i* Pg	**Pg**	**14 43 28.3**	**-0.4**
LACR				*e*Sg	**Sg**	**14 43 37.5**	**-0.1**
BTLR	**Botlikh**	**0.78**	**84**	*e*Pg	**Pb**	**14 43 30.5**	**-0.9**
	20nm,0.3s						
BTLR				*e*Sg	**Sg**	**14 43 40.5**	**+0.1**
	134nm,0.4s						
BTNK	**Botanikuri**	**0.95**	**197**	P	**Pn**	**14 43 35.4**	**+0.2**
BTNK				S	**Sn**	**14 43 49.8**	**+0.6**
KORR	**Kora**	**0.95**	**302**	*e*Pg	**Pn**	**14 43 35.3**	**0.0**
KORR				*e*Sg	**Sn**	**14 43 50.1**	**+0.7**
LGD	**Lagodekhi**	**1.09**	**133**	P	**Pb**	**14 43 35.9**	**-0.8**
LGD				S	**Sb**	**14 43 50.2**	**-1.1**
UNCR	**Uncukul**	**1.20**	**83**	*e*Pg	**Pg**	**14 43 39.0**	**+0.6**
	21nm,0.3s						
UNCR				*e*Sg	**Sb**	**14 43 53.5**	**-0.9**
	157nm,0.5s						
LSNR	**Lesken**	**1.21**	**305**	*e*Pg	**Pg**	**14 43 39.6**	**+1.1**
LSNR				*e*Sg	**Sn**	**14 43 57.1**	**+1.5**
DIGR	**Digorskoe uzhe**	**1.22**	**285**	*e*Pg	**Pn**	**14 43 38.1**	**-1.0**
DIGR				*e*Sg	**Sb**	**14 43 53.8**	**-1.1**
ONI	**Oni**	**1.27**	**271**	P	**Pg**	**14 43 39.8**	**0.0**
ONI	**Oni**	**1.27**	**271**	*e*Pg	**Pg**	**14 43 39.8**	**0.0**
ONI				*e*Sg	**Sg**	**14 43 57.7**	**+1.5**
DBC	**Dubki**	**1.29**	**70**	*e*Pg	**Pg**	**14 43 40.2**	**0.0**
DBC				*e*Sg	**Sg**	**14 43 57.2**	**+0.3**
GNBR	**Gunib**	**1.34**	**98**	*e*Pg	**Pb**	**14 43 40.6**	**-0.3**
	11nm,0.3s						
GNBR				*e*Sg	**Sg**	**14 43 58.1**	**-0.3**
	70nm,0.5s						
DDFL	**Dedoflistskaro**	**1.34**	**148**	P	**Pg**	**14 43 42.7**	**+1.6**
KMKR	**Kumukh**	**1.50**	**107**	*e*Pg	**Pb**	**14 43 43.5**	**-0.2**
	17nm,0.3s						
KMKR				*e*Sg	**Sg**	**14 44 03.5**	**0.0**
	60nm,0.3s						

AEIC 10 14:56:01±1.6, 62°05N±0°02×148°26W±0°03, h26km±7km, ML3.1, Error ellipse: s-maj=2.7km s-min=1.9km az=217.0, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SML	**Sawmill**	**0.24**	**188**		Pn	14 56 08.3	-0.7
SML					Sb	14 56 14.3	+2.6
GHO	**Glory Hole Cre**	**0.42**	**229**		Pn	14 56 09.9	0.0
GHO					Sn	14 56 17.6	-0.6
SCM	**Sheep Creek Mo**	**0.49**	**115**		Pb	14 56 11.0	-0.2
SCM					Sn	14 56 19.2	-0.9
WAT6	**Susitna Watana**	**0.59**	**24**		Pb	14 56 12.2	-0.6
WAT6					Sb	14 56 21.3	+0.4
PMR	**Palmer**	**0.61**	**222**		Pb	14 56 12.3	-0.8
PMR					Sb	14 56 22.1	+0.8
KNK	**Knik Glacier**	**0.64**	**188**		Pb	14 56 13.0	-0.7
KNK					Sb	14 56 22.5	+0.2
WAT1	**Susitna Watana**	**0.80**	**350**		Pb	14 56 15.2	-1.1
WAT2	**Susitna Watana**	**0.93**	**351**		Pn	14 56 17.1	-1.4
WAT2					Sb	14 56 30.0	-0.6
CUT	**Chulitna**	**1.01**	**292**		Pn	14 56 18.5	-0.9
CUT					Sb	14 56 32.3	-0.2
DHY	**Denali Highway**	**1.11**	**21**		Pn	14 56 19.9	-1.1
PWL	**Port Wells**	**1.19**	**182**		Pn	14 56 20.9	-1.1
RC01	**Rabbit Creek A**	**1.19**	**217**		Pn	14 56 21.3	-0.6
RC01					Sn	14 56 37.4	+0.1
JPK	**Jack Peak**	**1.27**	**141**		Pn	14 56 21.5	-1.6
GLI	**Glacier Island**	**1.30**	**154**		Pn	14 56 22.1	-1.4
GLI					Sn	14 56 40.1	+0.2
FIS	**Fire Island**	**1.30**	**227**		Pn	14 56 23.6	+0.1
PS11	**TAPS Pump St11**	**1.31**	**87**		Pn	14 56 23.5	-0.1
VMT	**TAPS Tl Valdez**	**1.33**	**136**		Pn	14 56 22.0	-1.8
VMT					Sn	14 56 40.2	-0.3
RND	**Reindeer**	**1.39**	**349**		Pn	14 56 24.0	-0.8
RND					Sn	14 56 41.6	-0.7
HARP	**HAARP**	**1.50**	**75**		Pn	14 56 26.0	-0.2
FID	**Port Fidalgo**	**1.56**	**146**		Pn	14 56 25.6	-1.3
FID					Sn	14 56 45.1	-1.2
PS12	**TAPS Pump St12**	**1.59**	**110**		Pn	14 56 26.2	-1.2
PS12					Sn	14 56 47.3	+0.2
PAX	**Paxson**	**1.59**	**53**		Pn	14 56 27.2	-0.3
PAX					Sn	14 56 48.1	+0.8
TRF	**Thorofare Moun**	**1.69**	**327**		Pn	14 56 28.3	-0.6
MCK	**McKinley**	**1.72**	**350**		Pn	14 56 29.0	-0.3
STLK	**Strandline Lak**	**1.78**	**254**		Pn	14 56 30.2	0.0
PS10	**TAPS Pump St10**	**1.80**	**39**		Pn	14 56 30.8	+0.5
SLKM	**Skilak Lake**	**1.81**	**212**		Pn	14 56 30.1	-0.4
HIN	**Hinchinbrook I**	**1.86**	**152**		Pn	14 56 30.4	-0.8
CAPN	**Captain Cook N**	**1.89**	**229**		Pb	14 56 33.2	-1.6
EYAK	**Cordova Ski Ar**	**1.93**	**140**		Pn	14 56 31.6	-0.5
KTH	**Kantishna Hill**	**1.94**	**322**		Pn	14 56 32.0	-0.3
SPCG	**Spurr Capps Gl**	**1.95**	**249**		Pn	14 56 32.7	+0.3
PPLA	**Purkeypile**	**2.01**	**297**		Pn	14 56 33.2	-0.2
SEW	**Seward**	**2.03**	**197**		Pn	14 56 33.3	-0.2
SPCR	**Spurr Chakacha**	**2.07**	**247**		Pn	14 56 34.1	0.0
SPBG	**Spurr Blockage**	**2.11**	**250**		Pn	14 56 35.1	+0.4
GLB	**Gilahina Butte**	**2.20**	**104**		Pn	14 56 35.2	-0.7
SPNN	**North Nagishla**	**2.22**	**254**		Pn	14 56 36.3	+0.1
CAST	**Castle Rocks**	**2.23**	**310**		Pn	14 56 36.5	+0.2
GOAT	**Goat Mountain**	**2.25**	**129**		Pn	14 56 35.7	-0.9
MENT	**Mentasta**	**2.29**	**65**		Pn	14 56 36.6	-0.5
BPAW	**Bear Paw Mtn.**	**2.41**	**330**		Pn	14 56 37.9	-0.8
RAGM	**Ragged Mountai**	**2.41**	**132**		Pn	14 56 37.9	-0.7
WRH	**Wood River Hil**	**2.44**	**2**		Pn	14 56 38.5	-0.5
VRDI	**Verde Repeater**	**2.44**	**108**		Pn	14 56 38.0	-1.2
HDA	**Harding Lake**	**2.45**	**14**		Pn	14 56 38.9	-0.3
DOT	**Dot Lake**	**2.51**	**48**		Pn	14 56 39.8	-0.3
MCARA	**McCarthy VSAT**	**2.58**	**103**		Pn	14 56 40.5	-0.5
DFR	**Drift River**	**2.58**	**238**		Pn	14 56 41.6	+0.5
PS08	**TAPS Pump Stn8**	**2.59**	**14**		Pn	14 56 41.5	+0.3
BRSE	**Bradley Lake S**	**2.61**	**209**		Pn	14 56 41.5	+0.1
CHUM	**Lake Minchumin**	**2.61**	**317**		Pn	14 56 41.0	-0.4
CCB	**Clear Creek Bu**	**2.62**	**4**		Pn	14 56 41.1	-0.4
BRLK	**Bradley Lake**	**2.62**	**210**		Pn	14 56 41.8	+0.1
RDJH	**Redoubt Jeurge**	**2.63**	**238**		Pn	14 56 41.9	+0.1
RSO	**Redoubt South**	**2.69**	**236**	Pn	Pn	14 56 42.7	0.0
RDWB	**Redoubt West**	**2.71**	**237**		Pn	14 56 43.3	+0.3
RED	**Redoubt Volcan**	**2.72**	**235**		Pn	14 56 43.2	+0.1
BERG	**Berg Lake**	**2.76**	**125**		Pn	14 56 44.7	+1.2
MID	**Middleton Isla**	**2.79**	**159**		Pn	14 56 44.2	+0.3
IL31		**2.81**	**12**		Pn	14 56 43.8	-0.3
TCOL	**CIGO, UAF Yank**	**2.84**	**3**		Pn	14 56 44.3	-0.3
COLA	**College**	**2.84**	**4**		Pn	14 56 44.0	-0.6
PTPK	**Patty Peak**	**2.90**	**105**		Pn	14 56 44.9	-0.7
KHIT	**Khitrov Hills**	**2.91**	**121**		Pn	14 56 45.4	-0.2
CNPM	**China Poot**	**2.92**	**211**		Pn	14 56 45.7	0.0
MDM	**Murphy Dome**	**2.92**	**0**		Pn	14 56 45.2	-0.5
GRIN	**Grindle Hills**	**2.98**	**124**		Pn	14 56 45.6	-0.9
BALM	**Baldy**	**3.01**	**107**		Pn	14 56 45.5	-1.5
KIAG	**Kiagna River**	**3.05**	**109**		Pn	14 56 46.4	-1.2
WAX	**Waxell Ridge**	**3.07**	**119**		Pn	14 56 46.7	-1.0
IVE	**Iliamna Volcan**	**3.08**	**231**		Pn	14 56 47.7	-0.3
POKR	**Poker Plat Res**	**3.10**	**6**		Pn	14 56 48.1	-0.2
BC03		**3.17**	**68**		Pn	14 56 48.5	-0.5
MLY	**Manley**	**3.19**	**341**		Pn	14 56 49.2	-0.3
PS07	**TAPS Pump Stn7**	**3.28**	**360**		Pn	14 56 50.5	-0.1
BARN	**Barnard Glacie**	**3.31**	**104**		Pn	14 56 50.3	-0.9
CTGM	**Chitina Glacie**	**3.49**	**105**		Pn	14 56 52.9	-0.8
YAH	**Yahtse**	**3.58**	**115**		Pn	14 56 53.3	-1.6
MESA	**MESA**	**3.59**	**119**		Pn	14 56 53.8	-1.2
SVW2	**Sparrevohn**	**3.63**	**258**		Pn	14 56 54.2	-1.2
PRP	**Porcupine Dome**	**3.69**	**18**		Pn	14 56 54.4	-2.0
YUK3	**Moose Creek**	**3.70**	**91**		Pn	14 56 56.1	-0.5
TT01	**Tatalina**	**3.70**	**287**		Pn	14 56 55.2	-1.2
AUH	**Augustine H**	**3.70**	**226**		Pn	14 56 56.3	-0.2
TTA	**Tatalina**	**3.70**	**287**		Pn	14 56 54.2	-2.3
RKAV	**Rock Avalanche**	**3.78**	**115**		Pn	14 56 57.3	-0.4
CHX	**Chaix Hills**	**4.00**	**117**		Pn	14 57 00.5	-0.2
EGAK	**Eagle**	**4.21**	**46**	Pn	Pn	14 57 02.3	-1.0
PCA	**Pinnacle**	**4.35**	**113**		Pn	14 57 04.2	-1.2
DAWY	**Dawson**	**4.52**	**59**		Pn	14 57 06.9	-0.7
IM03		**4.63**	**331**		Pn	14 57 08.7	-0.4
FYU	**Fort Yukon**	**4.73**	**15**	Pn	Pn	14 57 10.1	-0.4
KDAK	**Kodiak Island**	**4.80**	**209**	Pn	Pn	14 57 09.7	-1.7
PNL	**Peninsula**	**4.95**	**115**		Pn	14 57 12.7	-0.9
KABU	**Katmai Buttres**	**5.16**	**226**		Pn	14 57 16.2	-0.4
COLD	**Coldfoot**	**5.27**	**352**	Pn	Pn	14 57 16.9	-1.0
HYT	**Haines Junctio**	**5.31**	**99**	Pn	Pn	14 57 17.8	-0.7
OHAK	**Old Harbor**	**5.47**	**210**		Pn	14 57 18.8	-1.8
BM03	**Burnt Mountain**	**5.62**	**15**		Pn	14 57 22.5	-0.2
DHAK	**Deception Hill**	**5.77**	**116**		Pn	14 57 24.2	-0.7
WHY	**Whitehorse**	**6.58**	**96**		Pn	14 57 34.9	-1.1
EPYK	**Eagle Plains**	**6.64**	**44**	Pn	Pn	14 57 35.2	-1.5
TOLK	**Toolik Lake Re**	**6.65**	**356**		Pn	14 57 37.0	+0.1
BESE	**Bessie Mountai**	**7.51**	**112**	Pn	Pn	14 57 47.2	-1.5
SIT	**Sitka**	**8.25**	**122**	Pn	Pn	14 57 57.0	-1.8

*MDD **10** 14:59:27.3±0.8, 36°65N×13°04W, h30km, mb4.8/25, Error ellipse: s-maj=10.4km s-min=6.9km az=139.0, PRXIMO*
*IGIL **10** 14:59:28.4, 36°54N×13°00W, h31km, ML3.2*
*CNRM **10** 14:59:28.5±1.3, 36°24N×12°79W, h85km±88km, Error ellipse: s-maj=12.8km s-min=5.6km az=154.0*
*INMG **10** 14:59:30.4±1.4, 36°58N×13°02W, h10km, MD3.0, ML3.1, Error ellipse: s-maj=4.5km s-min=2.8km az=122.0*

ISC 10 14:59:25.5±2.4, 36°71N±0°05×12°7W±0°1, h10km, n111, σ2s67/184, 6C-4D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.10**	**81**	P	**Pn**	**15 00 17.6**	**+3.2**
	22nm,0.1s,SNR=26						
PFVI				S	**Sn**	**15 00 52.5**	**+1.0**
	118nm,0.2s,SNR=6.0						
PFVI	**Vila Bisbo**	**3.10**	**81**	P	**Pn**	**15 00 18.1**	**+3.7**
PFVI				S	**Sb**	**15 00 56.1**	**-2.4**
PFVI	**Vila Bisbo**	**3.10**	**81**	⇑*e*Pn	**Pn**	**15 00 17.6**	**+3.2**
PFVI				*e*Sn	**Sn**	**15 00 52.5**	**+1.0**
PFVI				A	A	15 00 54.5	
	38nm,0.4s						
PTEO	**Sao Teotonio**	**3.25**	**74**	P	**Pn**	**15 00 19.8**	**+3.2**
PTEO				S	**Sn**	**15 00 56.2**	**+0.9**
	9.5nm,0.3s						
PTEO	**Sao Teotonio**	**3.25**	**74**	*e*Pn	**Pn**	**15 00 19.8**	**+3.2**
PTEO				*e*Sn	**Sn**	**15 00 56.2**	**+0.9**
PTEO				A	A	15 00 59.5	
	19nm,0.3s						
MORF	**Marmelete**	**3.26**	**78**	*e*P	**Pn**	**15 00 19.9**	**+3.1**
MORF				*e*S	**Sn**	**15 00 57.0**	**+1.3**
MORF				AML	AML	15 00 59.2	
	comp=N,68nm,0.2s						
MORF	**Marmelete**	**3.26**	**78**	P	**Pn**	**15 00 19.9**	**+3.1**
MORF				S	**Sn**	**15 00 57.0**	**+1.3**
	comp=N,68nm,0.2s						
MORF	**Marmelete**	**3.26**	**78**	*e*Pn	**Pn**	**15 00 19.9**	**+3.1**
MORF				*e*Sn	**Sn**	**15 00 56.9**	**+1.3**
MORF				A	A	15 01 00.9	
	comp=N,38nm,0.2s						
LIS	**Lisbon**	**3.43**	**53**	*e*S	**Sn**	**15 01 01.0**	**

EVO A A 15 01 21.4
comp=N,18nm,0.1s
PSBE So Bento 4.14 46 *e*Pn **Pn 15 00 32.2 +3.4**
PSBE *e*Sn **Sn 15 01 18.6 +1.4**
PSBE A A 15 01 34.3
comp=N,24nm,0.4s
EGRO El Granado 4.21 77 P **Pn 15 00 33.0 +3.2**
comp=N,4.8nm,0.1s,SNR=28
EGRO S **Sn 15 01 18.8 -0.3**
comp=N,5.2nm,0.2s,SNR=4.7
PMTG Montargil 4.22 55 P **Pn 15 00 32.8 +2.9**
PMTG S **Sn 15 01 20.0 +0.7**
comp=N,10nm,0.3s
PMTG Montargil 4.22 55† *e*Pn **Pn 15 00 32.8 +2.9**
PMTG *e*Sn **Sn 15 01 20.0 +0.7**
PMTG A A 15 01 31.6
comp=N,10nm,0.3s
PESTR Estremoz 4.55 60 *e*Pn **Pn 15 00 37.1 +2.6**
PESTR *e*Sn **Sn 15 01 27.5 0.0**
PCAS Casmilo, Conde 4.67 43 P **Pn 15 00 35.3 -0.8**
PCAS S **Sn 15 01 26.4 -4.0**
comp=N,12nm,0.3s
PCAS Casmilo, Conde 4.67 43 *e*Pn **Pn 15 00 35.3 -0.8**
PCAS *e*Sn **Sn 15 01 26.4 -4.0**
PCAS A A 15 01 32.1
comp=N,12nm,0.3s
PBAR Barrancos 4.70 70 P **Pn 15 00 40.1 +3.6**
PBAR S **Sn 15 01 31.9 +0.8**
comp=N,21nm,0.7s
PBAR Barrancos 4.70 70 *e*Pn **Pn 15 00 40.1 +3.6**
PBAR *e*Sn **Sn 15 01 31.9 +0.8**
PBAR A A 15 01 35.9
comp=N,21nm,0.7s
PMPST Porto Santo, M 4.72 221 *e*Pn Pn 15 00 31.3 -5.5
PMPST *e*Sn Sn 15 01 14.2 -17
PMPST A A 15 01 19.9
comp=N,33nm,0.3s
PMPS Porto Santo 4.73 221 P Pn 15 00 31.3 -5.7
PMPS S Sn 15 01 14.2 -18
comp=N,16nm,0.3s
PMPS Porto Santo 4.73 221‖ *e*Pn Pn 15 00 31.4 -5.6
PMPS *e*Sn Sn 15 01 14.6 -17
PMPS A A 15 01 19.2
comp=N,31nm,0.6s
COI Coimbra 4.83 42 S **Sn 15 01 34.8 +0.6**
COI Coimbra 4.83 42 *e*Sn **Sn 15 01 34.8 +0.6**
EMIN Mina Concepcio 4.89 76 P **Pn 15 00 42.2 +3.1**
comp=N,3.5nm,0.1s,SNR=30
EMIN S **Sn 15 01 35.2 -0.6**
comp=N,11nm,0.3s,SNR=7.9
EBAD Badajoz 4.92 64 P **Pn 15 00 42.2 +2.7**
comp=N,11nm,0.1s,SNR=49
EBAD S **Sn 15 01 35.9 -0.5**
comp=N,12nm,0.2s,SNR=7.9
PMRV Marv??o 4.96 55 P **Pn 15 00 42.9 +2.8**
PMRV S **Sn 15 01 37.1 -0.5**
comp=N,12nm,0.3s
PMRV Marv??o 4.96 55 *e*Pn **Pn 15 00 42.9 +2.8**
PMRV *e*Sn **Sn 15 01 37.1 -0.5**
PMRV A A 15 01 46.9
comp=N,12nm,0.3s
PCBR Castelo Branco 5.13 51 P **Pn 15 00 45.5 +3.0**
PCBR S **Sn 15 01 41.1 -0.7**
comp=N,2.8nm,0.4s
PCBR Castelo Branco 5.13 51 *e*Pn **Pn 15 00 45.5 +3.0**
PCBR *e*Sn **Sn 15 01 41.1 -0.7**
PCBR A A 15 01 56.8
comp=N,5.7nm,0.4s
PMAR Madeira 5.30 223 P Pn 15 00 39.5 -5.5
PMAR S Sn 15 01 30.4 -16
comp=N,27nm,0.3s
PMAR Madeira 5.30 223 P Pn 15 00 40.4 -4.6
PMAR S Sn 15 01 36.1 -10
PMAR Madeira 5.30 223 *e*Pn Pn 15 00 39.5 -5.5
PMAR *e*Sn Sn 15 01 30.4 -16
PMAR A A 15 01 37.4
comp=N,53nm,0.3s
PMOZ Porto Moniz, M 5.38 225 P Pn 15 00 40.3 -5.8
comp=N,40nm,0.3s,SNR=7.9
PMOZ S Sn 15 01 32.6 -16
comp=N,18nm,0.2s,SNR=7.9
PMOZ Porto Moniz, M 5.38 225 P Pn 15 00 40.4 -5.6
PMOZ S Sn 15 01 36.1 -12
PMOZ Porto Moniz, M 5.38 225 *e*Pn Pn 15 00 40.3 -5.7
PMOZ *e*Sn Sn 15 01 31.8 -16
PMOZ A A 15 01 39.9
comp=N,52nm,0.4s
PTO Porto 5.44 34 P **Pn 15 00 50.4 +3.8**
PTO S **Sn 15 01 48.3 -0.9**
PTO Porto 5.44 34 *e*Pn **Pn 15 00 50.4 +3.8**
PTO *e*Sn **Sn 15 01 48.3 -0.9**
MTE Manteigas 5.44 46 P **Pn 15 00 49.9 +3.1**
MTE S **Sn 15 01 48.8 -0.7**
comp=N,9.4nm,0.5s
MTE Manteigas 5.44 46 *e*Pn **Pn 15 00 49.9 +3.1**
MTE *e*Sn **Sn 15 01 48.8 -0.7**
MTE A A 15 01 52.1
comp=N,19nm,0.5s
ESPR Espera 5.46 86 P **Pn 15 00 50.5 +3.5**
comp=N,11nm,0.2s,SNR=17
ESPR S **Sn 15 01 50.2 +0.4**
comp=N,55nm,0.2s,SNR=7.9
PVIS Viseu 5.46 41 P **Pn 15 00 49.9 +2.8**
PVIS S **Sn 15 01 48.8 -1.2**
comp=N,13nm,0.1s
PVIS Viseu 5.46 41 *e*Pn **Pn 15 00 49.9 +2.8**
PVIS *e*Sn **Sn 15 01 48.8 -1.2**
PVIS A A 15 01 51.8
comp=N,26nm,0.1s
AVE Averroes 5.48 127 *e*S **Sn 15 01 46.9 -3.6**
SRHM Skhour des Reh 5.76 136 P **Pn 15 00 50.9 -0.4**
SRHM S **Sn 15 01 52.4 -5.1**
EJIF Jimena Fronter 5.79 90 P **Pn 15 00 55.3 +3.8**
comp=N,249nm,0.3s,SNR=7.9
EJIF S **Sn 15 02 00.6 +2.7**
comp=N,110nm,0.3s,SNR=7.9
ZHG ZHG 5.91 122 P **Pn 15 00 53.5 +0.3**
ZHG S **Sn 15 01 55.0 -5.9**
ECAB El Cabril 5.92 75 P **Pn 15 00 56.6 +3.3**
comp=N,7.8nm,0.2s,SNR=16
ECAB S **Sn 15 02 00.6 -0.6**
comp=N,9.5nm,0.3s,SNR=7.9
CEU Ceuta 5.94 96 S **Sn 15 02 04.9 +3.4**
CEU Ceuta 5.94 96 *e*S **Sn 15 02 04.9 +3.4**
PVRL Vila Real 5.96 39 P **Pn 15 00 56.6 +2.7**
PVRL S **Sn 15 02 00.5 -1.8**
comp=N,7.7nm,0.1s
PVRL Vila Real 5.96 39 *e*Pn **Pn 15 00 56.6 +2.7**
PVRL *e*Sn **Sn 15 02 00.5 -1.8**
PVRL A A 15 02 04.5
comp=N,15nm,0.1s
HORN Hornachuelos 6.01 77 P **Pn 15 00 57.4 +2.9**
HORN S **Sn 15 02 05.9 +2.6**
CHEFC Chefchaouen 6.15 103 P **Pn 15 00 57.1 +0.7**
CHEFC S **Sn 15 02 08.3 +1.4**
PCAB Cabril 6.15 34 P **Pn 15 00 59.6 +3.1**
PCAB S **Sn 15 02 05.0 -1.9**
comp=N,5.4nm,0.2s
PCAB Cabril 6.15 34 *e*Pn **Pn 15 00 59.6 +3.1**
PCAB *e*Sn **Sn 15 02 05.0 -1.9**
PCAB A A 15 02 07.1
comp=N,11nm,0.2s
EPLA Plasencia 6.16 55 P **Pn 15 00 59.5 +3.0**
comp=N,7.9nm,0.2s,SNR=22
EPLA S **Sn 15 02 05.3 -1.7**
comp=N,1.5nm,0.2s,SNR=7.9
EZAM Zamans 6.24 28 P **Pn 15 00 59.6 +1.9**
comp=N,2.1nm,0.1s,SNR=7.9
EZAM S **Sn 15 02 04.9 -4.1**
comp=N,3.5nm,0.1s,SNR=7.9
MVO Moncorvo 6.25 43 P **Pn 15 01 00.4 +2.6**
comp=N,6.0nm,0.2s,SNR=19
MVO S **Sn 15 02 06.9 -2.4**
comp=N,8.3nm,0.1s,SNR=7.9
MVO Moncorvo 6.25 43‖ *e*Pn **Pn 15 01 00.4 +2.6**
MVO *e*Sn **Sn 15 02 07.1 -2.2**
MVO A A 15 02 10.2
comp=N,22nm,0.3s
PGAV Gavieira, Arco 6.25 32 P **Pn 15 01 00.6 +2.7**
PGAV S **Sn 15 02 06.9 -2.6**
comp=N,13nm,0.1s
PGAV Gavieira, Arco 6.25 32 *e*Pn **Pn 15 01 00.6 +2.7**
PGAV *e*Sn **Sn 15 02 06.9 -2.6**
PGAV A A 15 02 10.2
comp=N,13nm,0.1s

ELOB Lobios 6.26 33 P **Pn 15 01 01.0 +3.0**
comp=N,2.5nm,0.1s,SNR=19
ELOB S **Sn 15 02 06.6 -3.1**
comp=N,8.8nm,0.1s,SNR=7.9
EMIJ Mijas 6.34 89 S **Sn 15 02 11.7 +0.2**
comp=N,3.6nm,0.2s,SNR=7.9
EADA Adamuz 6.59 75 P **Pn 15 01 05.6 +3.1**
comp=N,4.1nm,0.2s,SNR=31
EADA S **Sn 15 02 17.5 -0.2**
comp=N,3.1nm,0.2s,SNR=7.9
OUK Oukaimeden 6.78 143 P **Pn 15 01 05.5 +0.2**
OUK S Sn 15 02 16.7 -6.0
EMAZ Mazaricos 6.84 23 P **Pn 15 01 06.7 +0.8**
comp=N,1.9nm,0.1s,SNR=7.9
EMAZ S **Sn 15 02 17.9 -6.1**
comp=N,6.3nm,0.1s,SNR=7.9
PBRG Braganca 6.85 40 P **Pn 15 01 08.7 +2.6**
PBRG S **Sn 15 02 22.0 -2.1**
comp=N,3.8nm,0.1s
PBRG Braganca 6.85 40 *e*Pn **Pn 15 01 08.7 +2.6**
PBRG *e*Sn **Sn 15 02 22.0 -2.1**
PBRG A A 15 02 25.2
comp=N,7.5nm,0.1s
IFR Ifrane 6.94 115 *e*S Sn 15 02 19.4 -7.2
ECAL Calabor 6.95 39 P **Pn 15 01 10.4 +2.9**
comp=N,6.5nm,0.2s,SNR=10
ECAL S **Sn 15 02 24.2 -2.5**
comp=N,6.2nm,0.2s,SNR=7.9
EAGO Agolada(Pontev 7.03 29 P **Pn 15 01 10.4 +1.9**
comp=N,1.9nm,0.1s,SNR=7.9
EAGO S **Sn 15 02 23.8 -4.7**
comp=N,4.5nm,0.2s,SNR=7.9
TTIG Tnine Tigouga, 7.08 149 P Pn 15 01 06.6 -2.7
TTIG S Sn 15 02 17.7 -12
PAB San Pablo 7.13 64 P **Pn 15 01 12.4 +2.4**
comp=N,4.1nm,0.2s,SNR=7.9
PAB S **Sn 15 02 30.8 -0.4**
comp=N,0.0nm,0.3s,SNR=7.9
ELGU Los Guajares, 7.25 86 S **Sn 15 02 34.7 +0.7**
comp=N,0.1nm,0.4s,SNR=7.9
CZD Col de Zad 7.25 118 P **Pn 15 01 09.0 -2.9**
CZD S **Sn 15 02 28.4 -5.9**
EQUE Quentar 7.39 83 P **Pn 15 01 17.4 +3.8**
comp=N,1.4nm,0.3s,SNR=7.9
EQUE S **Sn 15 02 38.2 +0.6**
comp=N,1.9nm,0.2s,SNR=7.9
ESDC Sonseca Array 7.46 64 P **Pn 15 01 16.8 +2.4**
comp=N,4.9nm,0.1s,baz=251,slow=13,SNR=29
AKLM AKL 7.49 104 P **Pn 15 01 12.1 -2.8**
AKLM S **Sn 15 02 38.3 -1.6**
MD31 MD31 7.54 118 P **Pn 15 01 13.6 -2.0**
MD31 S **Sn 15 02 37.6 -3.6**
OUZM OUZ 7.58 138 P Pn 15 01 13.6 -2.6
OUZM S **Sn 15 02 36.3 -6.0**
MDT Midelt 7.68 118 P Pn 15 01 14.6 -2.9
MDT S **Sn 15 02 40.4 -4.2**
EQES Quesada 7.72 79 P **Pn 15 01 20.7 +2.6**
comp=N,1.3nm,0.2s,SNR=7.9
EQES S **Sn 15 02 45.6 0.0**
comp=N,3.1nm,0.3s,SNR=7.9
GUD Guadarrama 7.72 57 P **Pn 15 01 20.9 +2.8**
comp=N,2.2nm,0.2s,SNR=7.6
GUD S **Sn 15 02 44.4 -1.4**
comp=N,0.6nm,0.3s,SNR=7.9
EPON Pontenova 7.84 31 S **Sn 15 02 45.0 -3.5**
comp=N,2.6nm,0.2s,SNR=7.9
SESP Santiago Espad 8.17 77 P **Pn 15 01 26.8 +2.6**
comp=N,1.2nm,0.2s,SNR=7.9
SESP S **Sn 15 02 55.6 -1.1**
comp=N,0.0nm,0.2s,SNR=7.9
EARI Arriondas 8.71 39 P **Pn 15 01 34.4 +2.8**
comp=N,0.8nm,0.2s,SNR=7.9
EARI S **Sn 15 03 07.8 -2.2**
comp=N,3.4nm,0.4s,SNR=7.9
ETOB Tobarra 9.02 74 P **Pn 15 01 38.2 +2.4**
comp=N,1.2nm,0.2s,SNR=7.9
ETOB S **Sn 15 03 16.0 -1.4**
comp=N,0.1nm,0.3s,SNR=7.9
ETOR Torete 9.24 60 P **Pn 15 01 41.9 +3.0**
comp=N,44nm,0.2s,SNR=23

IDC ***10*** *15:01:50.4±0.7,2˚.13N×99˚.12W, h0km, mb4.5/19, mb1 4.6/21,mb1mx4.5/33,mbtmp4.5/21,ML3.7/2,MS4.5/31, Ms1 4.5/31,ms1mx4.4/35,Error ellipse: s-maj=23.1km s-min=11.7km az=52.0*
UNK ***10*** *15:01:52.4,2˚.21N×98˚.96W,h16km*
NEIC ***10*** *15:01:52.4±1.2,2˚.2N±0˚.1×99˚.0W±0˚.1,h15km±4km, mb4.9/203,Error ellipse: s-maj=19.9km s-min=11.0km az=51.0*
GCMT ***10*** *15:01:56.4±0.2,2˚.30N±0˚.01×98˚.78W±0˚.01,h13km, MW5.2/128,Moment Tensor Solution. s77,c116; s128,c190; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.59±.11; Mθθ4.47±.12; Mϕϕ-2.87±.11; Mrθ3.49±.38; Mθϕ4.70±.11; Mϕr-0.27±.24; Best double couple: M₀6.88700×10¹⁶ NP1:ϕs19.00000°,δ58.00000°, λ-175.00000°. NP2:ϕs286.00000°,δ85.00000°, λ-32.00000°. Principal axes: T 7.7630, Plg18.0000°, Azm337.0000°; N -1.7420, Plg58.0000°, Azm98.0000°; P -6.0110, Plg25.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 10 15:01:52.1±0.5,2˚.25N±0˚.07×99˚.07W±0˚.07,h10km,n529, σ1§**40**/476,**mb4.9**/99,**MS4.5**/37,**West of Galapagos Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAYG	**Puerto Ayora**	**9.25**	**108**	Pn	**Pn**	**15 04 04.4**	**-1.4**
CMIG	**Matias Romero**	**15.31**	**15**	Pn	**Pn**	**15 05 30.6**	**+2.1**
	0.2nm,0.3s,baz=169,slow=19,SNR=2.1						
CMIG				LR	LR	15 09 59.1	
	comp=Z,2μm,18.9s,baz=194,slow=32						
CCIG	**Comitan**	**15.53**	**26**	P	**P**	**15 05 36.0**	**+0.1**
CCIG				IAmb	IAmb	15 05 43.1	
	comp=Z,124nm,1.5s						
JTS	**Las Juntas de**	**16.14**	**60**	Pn	**Pn**	**15 05 39.8**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=306,slow=13,SNR=11						
JTS				LR	LR	15 09 57.5	
	comp=Z,3μm,20.4s,baz=301,slow=30						
JTS	**Las Juntas de**	**16.14**	**60**	Pn	**Pn**	**15 05 39.2**	**-0.1**
JTS				IAmb	IAmb	15 05 42.5	
	comp=Z,195nm,1.9s						
TGUH	**Tegucigalpa,Un**	**16.54**	**44**	Pn	**Pn**	**15 05 43.1**	**-1.4**
HDC	**Heredia**	**16.74**	**62**		**Pn**	**15 05 47.5**	**+0.4**
HDC				IAmb	IAmb	15 05 51.7	
	comp=Z,126nm,1.0s						
MATN	**Matagalpa**	**16.79**	**50**		**Pn**	**15 05 48.3**	**+0.6**
MATN				IAmb	IAmb	15 05 56.9	
	comp=Z,200nm,1.9s						
ACON	**Acoyapa**	**16.82**	**54**	P	**Pn**	**15 05 48.0**	**+0.1**
ACON				IAmb	IAmb	15 05 57.0	
	comp=Z,236nm,1.8s						
BCIP	**Isla Barro Col**	**20.33**	**69**	*e*P	**P**	**15 06 26.3**	**-2.4**
BCIP	**Isla Barro Col**	**20.33**	**69**	P	**P**	**15 06 27.4**	**-1.2**
BCIP				IAmb	IAmb	15 06 35.6	
	comp=Z,71nm,1.4s						
ZAIG	**Zacatecas**	**20.68**	**351**	Pn	Pn	15 06 35.4	+0.4
ZAIG				IAmb	IAmb	15 06 38.6	
	comp=Z,114nm,1.6s						
TEIG	**Tepich**	**20.75**	**30**	LR	LR	15 13 37.9	
	comp=Z,453nm,18.4s,baz=48,slow=34						
BBAC	**Balboa, Cauca**	**21.81**	**90**	*e*P	**P**	**15 06 43.0**	**-2.0**
SOTA	**Rioblanco**	**22.45**	**90**	*e*P	**P**	**15 06 55.9**	**+3.8**
ATAH	**Atahualpa**	**22.64**	**114**	P	**P**	**15 06 54.6**	**+0.5**
	comp=Z,16nm,1.1s,baz=303,slow=10,SNR=8.8						
ATAH				LR	LR	15 13 35.7	
	comp=Z,1μm,18.3s,baz=286,slow=31						
PCON	**Cinco Dias**	**22.66**	**89**	*e*P	**P**	**15 06 55.5**	**+1.1**
CBOC	**Ciudad Bolivar**	**23.28**	**80**	*e*P	**P**	**15 07 00.8**	**+0.3**
GARC	**Garzon, Huila**	**23.56**	**90**	*e*P	P	15 07 12.5	+9.1
SLBS	**Sierra La Lagu**	**23.77**	**335**	P	**P**	**15 07 05.9**	**+0.8**
SLBS				IAmb	IAmb	15 07 17.1	
	comp=Z,88nm,1.6s						
TOLC	**Tolima**	**23.82**	**84**	*e*P	**P**	**15 07 09.2**	**+3.1**
RREF	**El Recreo**	**23.82**	**83**	*e*P	P	15 07 14.1	+7.7
GUY2C	**Guyana, Caldas**	**23.84**	**82**	*e*P	**P**	**15 07 02.6**	**-3.7**
ORTC	**Ortega, Tolima**	**23.85**	**85**	*e*P	**P**	**15 07 05.2**	**-0.7**
PRAC	**Prado**	**24.20**	**86**	*e*P	**P**	**15 07 04.0**	**-5.3**
LPIG	**La Paz**	**24.29**	**334**	P	**P**	**15 07 11.2**	**+1.4**
	comp=Z,16nm,0.4s,baz=76,slow=4.1,SNR=4.4						
LPIG				LR	LR	15 14 43.3	
	comp=Z,5μm,18.4s,baz=160,slow=32						

PTLC Puerto Leguiza 24.36 95 *e*P **P 15 07 10.9 +0.2**
NORC Norcasia 24.37 82 *e*P **P 15 07 10.3 -0.5**
ROSC El Rosal 24.84 83 P **P 15 07 16.2 +0.8**
comp=Z,19nm,0.9s,baz=174,slow=18,SNR=4.7
ROSC LR LR 15 13 58.3
comp=Z,382nm,19.8s,baz=276,slow=29
ROSC El Rosal 24.84 83 *e*P **P 15 07 09.0 -6.4**
ROSC El Rosal 24.84 83 P **P 15 07 13.1 -2.3**
ROSC IAmb IAmb 15 07 53.2
comp=Z,39nm,1.1s
PTBC PUERTO BERRIO, 24.91 79 *e*P **P 15 07 14.9 -0.7**
SJCC San Jacinto, C 24.93 71 *e*P **P 15 07 13.3 -2.6**
CHIC Chingaza 25.40 84 *e*P **P** 15 07 27.9 +7.3
VILC Villavicencio, 25.41 85 *e*P **P 15 07 16.2 -4.1**
833A Chaparral WMA, 25.93 359 P **P 15 07 26.5 +1.8**
baz=179
833A Chaparral WMA, 25.93 359 P **P 15 07 25.4 +0.7**
BARC Barichara 26.17 80 *e*P **P 15 07 27.2 -0.1**
RUSC La Rusia 26.17 81 *e*P **P 15 07 29.3 +1.6**
RUSC La Rusia 26.17 81 P **P 15 07 25.3 -2.4**
NNA Nana 26.23 123 LR LR 15 15 14.3
comp=Z,1μm,19.4s,baz=290,slow=31
TX32 Lajitas Array 27.29 351 P **P 15 07 37.1 0.0**
TXAR Lajitas Array 27.29 351 P **P 15 07 39.2 +2.2**
comp=Z,4.8nm,1.1s,baz=170,slow=7.6,SNR=22
TXAR LR LR 15 17 35.4
comp=Z,2μm,18.1s,baz=0.0,slow=34
TX31 Lajitas Ar. Si 27.29 351 P **P 15 07 37.2 +0.1**
JCT Junction City 28.09 359 P **P 15 07 45.3 +1.1**
baz=178
JCT Junction City 28.09 359 P **P 15 07 44.8 +0.7**
JCT IAmb IAmb 15 07 54.8
comp=Z,18nm,1.0s
SDV Santo Domingo 29.05 76 P **P 15 07 54.8 +1.7**
comp=Z,4.6nm,0.3s,baz=261,slow=8.0,SNR=3.3
SDV LR LR 15 17 17.8
comp=Z,2μm,21.1s,baz=292,slow=32
WHTX Lake Whitney, 29.62 3 P **P 15 07 58.5 +0.8**
baz=183
WHTX Lake Whitney, 29.62 3 P **P 15 07 59.1 +1.4**
WHTX IAmb IAmb 15 08 00.9
comp=Z,30nm,1.1s
237A Washetta, Mont 29.75 6 P **P 15 07 57.8 -1.1**
MNTX Cornudas Mount 29.89 349 P **P 15 08 01.2 +1.1**
baz=167,SNR=8.0
MNTX Cornudas Mount 29.89 349 P **P 15 07 59.7 -0.5**
MNTX IAmb IAmb 15 08 02.8
comp=Z,31nm,1.8s
GDL2 Guadalupe Moun 30.21 351 P **P 15 08 04.0 +1.0**
ABTX Abilene, Hawle 30.22 359 P **P 15 08 04.6 +1.5**
baz=179
ABTX Abilene, Hawle 30.22 359 P **P 15 08 02.8 -0.3**
319A Douglas 30.53 343 P **P 15 08 05.7 -0.3**
Z35A Perchaven, San 30.97 3 P **P 15 08 10.0 +0.4**
121A Cookes Peak, D 31.22 346 P **P 15 08 13.8 +1.8**
baz=163
121A Cookes Peak, D 31.22 346 P **P 15 08 12.4 +0.3**
121A IAmb IAmb 15 08 14.7
comp=Z,21nm,1.4s
MSTX Muleshoe 31.75 354 P **P 15 08 17.8 +1.2**
baz=173,SNR=6.4
MSTX Muleshoe 31.75 354 P **P 15 08 17.1 +0.5**
TUC Tucson 31.87 341 P **P 15 08 19.3 +1.6**
baz=157
TUC Tucson 31.87 341 P **P 15 08 19.4 +1.7**
TUC IAmb IAmb 15 08 21.0
comp=Z,40nm,2.0s
214A Organ Pipe Nat 32.26 338 P **P 15 08 22.6 +1.6**
baz=154
214A Organ Pipe Nat 32.26 338 P **P 15 08 21.1 0.0**
214A IAmb IAmb 15 08 24.2
comp=Z,26nm,1.8s
WMOK Wichita Mounta 32.33 0 P **P 15 08 21.6 +0.1**
X37A Clayton 32.36 6 P **P 15 08 22.3 +0.4**
BNM Barren Site 32.51 348 P **P 15 08 23.9 +0.4**
MIAR Mount Ida 32.54 8 P **P 15 08 24.0 +0.6**
baz=190
MIAR Mount Ida 32.54 8 P **P 15 08 22.5 -0.9**
AMTX Amarillo 32.56 356 P **P 15 08 25.1 +1.4**
baz=175
AMTX Amarillo 32.56 356 P **P 15 08 24.3 +0.6**
AMTX IAmb IAmb 15 08 35.5
comp=Z,11nm,0.8s
X40A Basin Creek Fa 32.60 10 P **P 15 08 24.1 +0.2**
LENM Lemitar 32.60 348 P **P 15 08 24.7 +0.5**
W35A Tecumseh 32.80 3 P **P 15 08 25.3 -0.4**
W39A Magazine 33.15 8 P **P 15 08 29.9 +1.2**
baz=189
W39A Magazine 33.15 8 P **P 15 08 28.8 0.0**
W39A IAmb IAmb 15 08 40.2
comp=Z,16nm,1.3s
ANMO Albuquerque 33.25 349 P **P 15 08 31.3 +1.4**
baz=166
ANMO Albuquerque 33.25 349 LR LR 15 21 09.5
comp=Z,3μm,18.1s,baz=172,slow=35
ANMO Albuquerque 33.25 349 P **P 15 08 30.0 +0.1**
ANMO IAmb IAmb 15 08 33.2
comp=Z,24nm,1.9s
113A Mohawk Valley, 33.35 337 P **P 15 08 31.5 +1.0**
W41B Gary Mavity, V 33.37 10 P **P 15 08 31.7 +1.0**
baz=192
W41B Gary Mavity, V 33.37 10 P **P 15 08 31.5 +0.8**
W41B IAmb IAmb 15 08 39.3
comp=Z,31nm,1.8s
WHAR Wooly Hollow 33.47 10 P **P 15 08 32.0 +0.4**
WHAR IAmb IAmb 15 08 41.0
comp=Z,22nm,1.3s
TUL1 Leonard 33.63 5 P **P 15 08 33.5 +0.5**
baz=186
TUL1 Leonard 33.63 5 P **P 15 08 33.0 0.0**
X18A Snowflake 33.68 344 P **P 15 08 34.0 +0.3**
GLA Glamis 34.02 336 P **P 15 08 38.3 +1.9**
baz=151
GLA Glamis 34.02 336 P **P 15 08 37.8 +1.3**
X16A Lo Mia Camp, P 34.02 342 P **P 15 08 37.4 +0.8**
Y14A Wickenburg 34.11 339 P **P 15 08 38.1 +0.9**
PLAL Pickwick Lake 34.14 16 P **P 15 08 37.9 +0.6**
PLAL IAmb IAmb 15 08 56.0
comp=Z,26nm,1.5s
W18A Petrified Fore 34.17 344 P **P 15 08 38.4 +0.4**
HHAR Hobbs 34.20 7 P **P 15 08 37.6 -0.3**
IKP In-Ko-Pah, Jac 34.22 334 P **P 15 08 39.6 +1.4**
baz=149
GOGA Godfrey 34.27 24 P **P 15 08 38.6 +0.1**
baz=208
GOGA Godfrey 34.27 24 P **P 15 08 38.1 -0.5**
U38A Gravette 34.30 7 P **P 15 08 38.6 -0.1**
U38A IAmb IAmb 15 08 46.9
comp=Z,30nm,1.7s
SWSC Sam W. Stewart 34.33 335 P **P 15 08 40.6 +1.4**
baz=149
U40A Yellville 34.42 9 P **P 15 08 40.7 +0.9**
baz=191
U40A Yellville 34.42 9 P **P 15 08 40.0 +0.2**
Y52A Lilburn 34.44 22 P **P 15 08 39.8 -0.3**
Y52A IAmb IAmb 15 08 48.8
comp=Z,13nm,0.9s
LCAR Lake Charles 34.44 11 P **P 15 08 39.6 -0.3**
FPAL Fort Paine 34.49 20 P **P 15 08 39.4 -1.2**
FPAL IAmb IAmb 15 08 50.7
comp=Z,20nm,1.4s
MONP2 Monument Peak 34.56 334 P **P 15 08 42.8 +1.5**
baz=148
T35A Sooner Cattle 34.58 4 P **P 15 08 40.1 -1.1**
T35A IAmb IAmb 15 09 10.0
comp=Z,23nm,1.4s
BC3 Big Chuckawall 34.80 336 P **P 15 08 45.2 +1.9**
baz=150,SNR=8.4
PDMCI Parker Dam,Lak 34.85 338 P **P 15 08 45.7 +2.1**
baz=153,SNR=5.7
WUAZ Wupatki 35.02 342 P **P 15 08 46.7 +1.5**
baz=158
WUAZ Wupatki 35.02 342 P **P 15 08 46.2 +1.1**
WUAZ IAmb IAmb 15 08 49.0
comp=Z,46nm,1.9s
T25A Trinidad 35.07 353 P **P 15 08 47.5 +1.8**
baz=170,SNR=5.8
T25A Trinidad 35.07 353 P **P 15 08 46.5 +0.8**
T25A IAmb IAmb 15 08 56.2
comp=Z,36nm,1.5s
PB12 IPOC Station P 35.07 127 P **P 15 08 44.3 -1.5**
PCRV Puerto La Cruz 35.10 76 LR LR 15 22 39.8
comp=Z,572nm,21.3s,slow=36
IRM Iron Mountain 35.11 336 P **P 15 08 48.2 +2.3**
baz=151,SNR=8.0

XPFO **Pion Flat** 35.19 334 P P 15 08 47.4 +0.7
XPFO IAmb IAmb 15 08 50.4
comp=Z,18nm,1.3s
PFO **Pinyon Flats O** 35.19 334 P P 15 08 48.6 +2.0
baz=149,SNR=5.6
WVT **Waverly** 35.28 16 P P 15 08 48.1 +0.8
baz=199
WVT **Waverly** 35.28 16 P P 15 08 46.2 -1.1
WVT IAmb IAmb 15 09 05.7
comp=Z,17nm,1.0s
BELC **Belle Mtn. Jos** 35.33 335 P P 15 08 49.9 +2.0
baz=150,SNR=6.2
Z57A **Bowman** 35.36 27 P P 15 08 48.4 +0.5
baz=213
T42A **Van Buren** 35.38 11 P P 15 08 48.0 -0.1
Y55A **Saluda** 35.39 25 P P 15 08 48.8 +0.5
baz=210,SNR=6.0
W13A **Hualapai Mount** 35.47 339 P P 15 08 49.5 +0.3
HODGE **Hodges** 35.48 24 P P 15 08 48.4 -0.6
HODGE IAmb IAmb 15 08 57.8
comp=Z,16nm,0.9s
S39A **Bolivar** 35.66 8 P P 15 08 50.0 -0.6
LPAZ **La Paz** 35.69 122 LR LR 15 21 58.0
comp=Z,679nm,19.0s,baz=223,slow=34
LPAZ **La Paz** 35.69 122 P P 15 08 50.7 -1.0
CPCT **Cooper Cave** 35.69 21 P P 15 08 50.4 -0.4
X54A **Belton** 35.71 24 P P 15 08 52.3 +1.3
baz=209
PSGCX **Pisagua** 35.77 129 P P 15 08 51.2 -0.7
MVCO **Mesa Verde** 35.86 347 P P 15 08 54.0 +1.5
baz=164,SNR=5.2
MVCO **Mesa Verde** 35.86 347 P P 15 08 52.5 -0.1
GMRC **Granite Mounta** 35.87 336 P P 15 08 54.6 +2.1
baz=151,SNR=6.5
BG3 **Lake Jocassee** 35.87 23 P P 15 08 51.9 -0.5
SJG **San Juan** 35.93 62 P P 15 08 54.3 +1.3
comp=Z,10nm,0.3s,baz=24,slow=20,SNR=2.8
SJG **San Juan** 35.93 62 IAmb IAmb 15 08 59.2
comp=Z,15nm,0.8s
MNMC **Minye Minye** 35.93 128 P P 15 08 52.7 -0.7
MNMC IAmb IAmb 15 09 01.5
comp=Z,14nm,0.9s
X55A **Gracelyn & Ava** 35.95 25 P P 15 08 53.5 +0.6
baz=210
R32A **Long Quarter,** 36.00 0 P P 15 08 53.6 +0.2
R32A IAmb IAmb 15 08 55.1
comp=Z,17nm,1.1s
S22A **4UR Ranch, Cre** 36.04 350 P P 15 08 56.1 +2.0
baz=167,SNR=7.7
V51A **Loudon** 36.07 21 P P 15 08 52.9 -1.1
V51A IAmb IAmb 15 09 04.8
comp=Z,18nm,1.2s
U15A **North Rim** 36.14 342 P P 15 08 54.5 -0.4
U15A IAmb IAmb 15 08 58.8
comp=Z,38nm,1.9s
TKL **Tuckaleechee C** 36.15 21 LR LR 15 24 29.4
comp=Z,245nm,19.2s,baz=209,slow=38
TKL **Tuckaleechee C** 36.15 21 P P 15 08 55.0 +0.3
TKL IAmb IAmb 15 08 59.4
comp=Z,24nm,1.2s
PAULI **Pauline** 36.17 24 P P 15 08 54.9 0.0
HEC **Hector,Ludlow** 36.18 336 P P 15 08 57.4 +2.3
baz=150,SNR=5.7
X56A **White Oak** 36.22 26 P P 15 08 55.9 +0.6
baz=211,SNR=6.2
PB11 **IPOC Station P** 36.23 128 P P 15 08 55.1 -0.7
BFSC **Mount Baldy Ra** 36.25 333 P P 15 08 57.7 +1.9
baz=147
W54A **Cherokee Point** 36.25 24 P P 15 08 56.5 +0.9
baz=209,SNR=11
T47A **Sharon Grove** 36.29 16 P P 15 08 55.6 -0.2
SNCC **San Nicolas Is** 36.31 330 P P 15 08 58.3 +2.1
baz=144
CCM **Cathedral Cave** 36.35 10 P P 15 08 57.9 +1.5
baz=193
CCM **Cathedral Cave** 36.35 10 P P 15 08 56.0 -0.4
CBKS **Cedar Bluff** 36.40 359 P P 15 08 56.2 -0.6
R40A **Maddies Statio** 36.41 9 P P 15 08 56.9 0.0
R40A IAmb IAmb 15 09 06.1
comp=Z,25nm,1.1s
S44A **Carbondale** 36.41 13 P P 15 08 57.4 +0.5
MWC **Mount Wilson** 36.41 333 P P 15 08 58.0 +0.8
MWC IAmb IAmb 15 09 00.8
comp=Z,38nm,1.6s
V53A **Saluda** 36.51 23 P P 15 08 57.4 -0.5
V53A IAmb IAmb 15 09 18.4
comp=Z,14nm,0.9s
GO01 **Chusmiza** 36.54 128 P P 15 08 57.9 -1.0
GO01 IAmb IAmb 15 09 06.1
comp=Z,27nm,1.1s
TUQ **Turquoise Moun** 36.54 337 P P 15 09 00.4 +2.2
baz=151
BIRD **Birdtown, Kers** 36.60 26 P P 15 08 57.6 -1.0
KMSC **Kings Mountain** 36.65 25 P P 15 08 59.4 +0.4
baz=210
KMSC **Kings Mountain** 36.65 25 P P 15 08 58.2 -0.8
KMSC IAmb IAmb 15 09 07.5
comp=Z,25nm,1.0s
KSCO **Kaye Shedlock'** 36.73 355 P P 15 09 01.4 +1.5
baz=174
KSCO **Kaye Shedlock'** 36.73 355 P P 15 08 59.7 -0.2
KSCO IAmb IAmb 15 09 10.5
comp=Z,20nm,0.9s
GSC **Goldstone, Bar** 36.78 335 P P 15 09 02.6 +2.3
baz=149,SNR=6.6
PV05 **Paradox Valley** 36.82 347 P P 15 09 00.9 +0.2
PV05 IAmb IAmb 15 09 11.1
comp=Z,35nm,1.6s
PB08 **IPOC Station P** 36.83 129 P P 15 08 59.9 -1.3
PB08 IAmb IAmb 15 09 08.8
comp=Z,26nm,1.0s
PV13 **Radium Mtn., P** 36.84 347 P P 15 09 00.6 -0.2
KNB **Kanab** 36.85 342 P P 15 09 00.7 -0.2
PV02 **Paradox Valley** 36.87 347 P P 15 09 00.8 -0.3
PV02 IAmb IAmb 15 09 04.2
comp=Z,34nm,1.8s
EDW2 **Edwards Air Fo** 36.94 334 P P 15 09 03.3 +1.7
baz=147,SNR=7.0
PV03 **Paradox Valley** 36.94 347 P P 15 09 01.1 -0.6
V54A **Nebo** 36.95 23 P P 15 09 02.3 +0.7
baz=209,SNR=6.1
W56A **Indian Trail** 36.96 26 P P 15 09 02.1 +0.5
baz=212,SNR=6.1
PV11 **David Mesa, Pa** 36.98 347 P P 15 09 01.5 -0.6
PV11 IAmb IAmb 15 09 05.0
comp=Z,37nm,1.7s
PV17 **East Wray Mesa** 36.99 347 P P 15 09 02.4 +0.3
PV17 IAmb IAmb 15 09 11.4
comp=Z,30nm,1.8s
T50A **Nancy** 37.01 19 P P 15 09 02.4 +0.3
TZTN **Tazewell** 37.02 21 P P 15 09 02.9 +0.7
baz=206,SNR=7.8
PV19 **Morning Glory** 37.02 347 P P 15 09 02.2 -0.1
PV19 IAmb IAmb 15 09 05.4
comp=Z,29nm,1.7s
PV20 **West Nyswonger** 37.05 347 P P 15 09 03.2 +0.6
PKCU **Pink Cliffs** 37.08 342 P P 15 09 03.1 0.0
PV04 **Paradox Valley** 37.08 347 P P 15 09 01.6 -1.3
PV04 IAmb IAmb 15 09 06.0
comp=Z,37nm,1.6s
PV14 **Lion Creek, Pa** 37.09 347 P P 15 09 02.4 -0.6
PV14 IAmb IAmb 15 09 05.9
comp=Z,31nm,1.7s
PV23 **Carpenter Ridg** 37.16 347 P P 15 09 03.2 -0.4
PB07 **IPOC Station P** 37.17 131 P P 15 09 02.5 -1.4
SHPR **Sheep Range** 37.19 338 P P 15 09 04.6 +0.8
PV09 **Paradox Valley** 37.23 347 P P 15 09 04.7 +0.4
W57A **Gilead** 37.23 26 P P 15 09 04.4 +0.4
baz=212
W57A **Gilead** 37.23 26 P P 15 09 03.8 -0.2
W57A IAmb IAmb 15 10 15.3
comp=Z,12nm,0.8s
LRMC **Laurel Mtn Rad** 37.30 335 P P 15 09 05.9 +1.2
baz=148
V55A **Taylorsville** 37.31 24 P P 15 09 05.2 +0.6
baz=210,SNR=6.3
SZCU **Shurtz Canyon** 37.46 342 P P 15 09 06.7 +0.5
W58A **Raeford** 37.47 27 P P 15 09 06.1 +0.1
baz=214
P38A **Dawn** 37.54 7 P P 15 09 06.2 -0.3
P38A IAmb IAmb 15 09 15.6
comp=Z,22nm,1.1s
V56A **Mocksville** 37.57 25 P P 15 09 07.6 +0.7
baz=211,SNR=6.0
Q44A **Meyer Farm, Va** 37.62 13 P P 15 09 06.5 -0.6

U54A **Nelsons Funny** 37.65 23 P P 15 09 08.1 +0.5
baz=209
U54A **Nelsons Funny** 37.65 23 P P 15 09 07.4 -0.1
P40A **Paris** 37.66 9 P P 15 09 06.7 -0.8
P40A IAmb IAmb 15 09 16.4
comp=Z,30nm,1.2s
PB09 **IPOC Station P** 37.70 131 P P 15 09 07.5 -0.9
MPMC **Manual Prospec** 37.72 335 P P 15 09 09.9 +1.6
baz=149,SNR=12
PKM **Mcpherson Peak** 37.78 332 P P 15 09 10.6 +1.8
baz=145
T53A **Wise** 37.78 22 P P 15 09 09.0 +0.4
baz=207
ISA **Isabella, Lake** 37.80 334 P P 15 09 10.5 +1.6
baz=147
FURC **Furnace Creek,** 37.81 336 P P 15 09 10.3 +1.5
baz=150
ISCO **Idaho Springs** 37.85 352 P P 15 09 10.9 +1.5
baz=169
ISCO **Idaho Springs** 37.85 352 P P 15 09 09.2 -0.3
U55A **TA2, Sparta** 37.94 24 P P 15 09 10.7 +0.6
baz=210,SNR=7.1
V57A **Coltrane Farms** 37.95 26 P P 15 09 10.5 +0.5
baz=212,SNR=8.1
TPNV **Topopah Spring** 37.99 337 P P 15 09 12.9 +2.4
baz=151
MSU **Marysvale** 38.03 343 P P 15 09 11.1 +0.2
R49A **Shelbyville** 38.06 18 P P 15 09 10.7 -0.3
R49A IAmb IAmb 15 09 19.8
comp=Z,29nm,1.0s
U56A **King** 38.08 25 P P 15 09 11.4 +0.3
baz=211
U56A **King** 38.08 25 P P 15 09 11.2 +0.1
SRU **San Rafael Swe** 38.15 346 P P 15 09 11.7 -0.2
V58A **Windy Hill, Pi** 38.16 27 P P 15 09 12.4 +0.6
baz=213
T54A **Tazewell** 38.21 23 P P 15 09 13.2 +0.9
baz=209
CWC **Cottonwood Cre** 38.29 335 P P 15 09 14.4 +1.3
baz=148
R50A **Paris** 38.32 19 P P 15 09 12.7 -0.4
R50A IAmb IAmb 15 09 22.7
comp=Z,19nm,1.0s
LVC **Limon Verde** 38.42 132 P P 15 09 13.7 -0.9
comp=Z,10nm,0.8s,baz=300,slow=5.1,SNR=8.7
LVC **Limon Verde** 38.42 132 P P 15 09 13.2 -1.4
LVC IAmb IAmb 15 09 22.4
comp=Z,25nm,1.1s
LVC **Limon Verde** 38.42 132 eP P 15 09 14.2 -0.4
LVC **Limon Verde** 38.42 132 eP P 15 09 14.2 -0.4
TMUT **Trail Mountain** 38.50 345 P P 15 09 15.2 +0.3
V59A **Middlesex** 38.54 28 P P 15 09 15.3 +0.3
baz=214,SNR=6.3
PSUT **Pine Spring** 38.56 341 P P 15 09 15.8 +0.3
T55A **Pulaski** 38.57 24 P P 15 09 15.8 +0.4
baz=210,SNR=6.7
U57A **Blanch** 38.60 26 P P 15 09 15.9 +0.5
baz=212,SNR=9.4
O20A **White River Ci** 38.62 349 P P 15 09 17.8 +1.9
baz=165
O20A **White River Ci** 38.62 349 P P 15 09 15.8 -0.1
O20A IAmb IAmb 15 09 26.2
comp=Z,34nm,1.4s
P46A **Rosedale** 38.73 15 P P 15 09 16.1 -0.5
P46A IAmb IAmb 15 09 20.6
comp=Z,28nm,1.0s
N23A **Red Feather La** 38.97 352 P P 15 09 20.7 +1.8
baz=169
R11A **Troy Canyon, C** 38.98 339 P P 15 09 20.4 +1.5
baz=153
P48A **Milroy** 39.07 17 P P 15 09 18.5 -0.9
P48A IAmb IAmb 15 09 27.7
comp=Z,30nm,1.1s
HDIL **Hopedale** 39.15 12 P P 15 09 19.5 -0.5
HDIL IAmb IAmb 15 09 39.0
comp=Z,32nm,0.8s
PTGA **Pitinga** 39.21 94 P P 15 09 20.5 -0.5
comp=Z,10nm,0.6s,baz=284,slow=8.3,SNR=22
PTGA **Pitinga** 39.21 94 P P 15 09 19.5 -1.5
PTGA **Pitinga** 39.21 94 eP P 15 09 20.5 -0.5
PTGA **Pitinga** 39.21 94 eP P 15 09 20.5 -0.5
U59A **Littleton** 39.23 28 P P 15 09 21.1 +0.3
baz=215
MPU **Maple Canyon** 39.28 345 P P 15 09 19.4 -2.0
RDMU **Red Mountain** 39.31 347 P P 15 09 20.9 -0.8
Q51A **Peebles** 39.32 19 P P 15 09 21.1 -0.5
SFIN **Lafayette** 39.48 14 P P 15 09 24.0 +1.2
baz=199
GO02 **Mina Guanaco** 39.49 135 P P 15 09 22.7 -0.8
Q52A **Bidwell** 39.63 21 P P 15 09 25.3 +1.2
baz=207
P51A **Williamsport** 39.83 19 P P 15 09 26.9 +1.2
baz=205
O49A **Covington** 40.06 18 P P 15 09 26.7 -1.0
NVAR **Mina Array Bea** 40.08 336 P P 15 09 28.6 +0.4
comp=Z,2.2nm,1.0s,baz=157,slow=7.1,SNR=16
NVAR LR LR 15 23 22.1
comp=Z,1µm,22.0s,baz=161,slow=32
Q54A **Coxs Mills** 40.17 22 P P 15 09 29.6 +1.0
baz=209
L40A **Anamosa** 40.26 9 P P 15 09 27.0 -2.3
H03N2 **Juan Fernandez** 40.27 154 T T 15 52 15.2
baz=330,slow=77,SNR=188
H03N1 **Juan Fernandez** 40.28 154 T T 15 52 21.4
baz=330,slow=77,SNR=445
P52A **Corning** 40.28 20 P P 15 09 30.2 +0.7
baz=206
H03N3 **Juan Fernandez** 40.28 154 T T 15 52 20.5
baz=330,slow=77,SNR=230
N47A **Urbana** 40.31 16 P P 15 09 27.5 -2.2
N47A IAmb IAmb 15 09 37.4
comp=Z,25nm,1.1s
RYN **Ryan** 40.34 336 P P 15 09 30.2 0.0
T60A **Surry** 40.36 28 P P 15 09 30.9 +0.8
baz=216
L42A **Oliver, Polo** 40.47 11 P P 15 09 30.2 -0.8
L42A IAmb IAmb 15 09 39.9
comp=Z,25nm,1.0s
BGU **Big Grassy Mou** 40.51 344 P P 15 09 32.4 +0.8
KVN **Kaiserville** 40.53 337 P P 15 09 31.4 -0.5
SPUT **South Promonto** 40.71 345 P P 15 09 32.7 -0.6
R58A **Rapidan** 40.74 26 P P 15 09 33.8 +0.5
baz=213
HWUT **Hardware Ranch** 40.76 346 P P 15 09 33.4 -0.3
HWUT IAmb IAmb 15 09 36.9
comp=Z,61nm,1.8s
K22A **Casper** 40.77 352 P P 15 09 35.1 +1.4
baz=168
K22A **Casper** 40.77 352 P P 15 09 33.1 -0.6
N49A **Columbus Grove** 40.78 17 P P 15 09 33.1 -0.5
O52A **Adamsville** 40.81 20 P P 15 09 34.7 +0.8
baz=207
O52A **Adamsville** 40.81 20 P P 15 09 34.6 +0.8
O52A IAmb IAmb 15 09 43.5
comp=Z,32nm,1.0s
AC02 **Maricunga** 40.87 137 P P 15 09 34.2 -1.0
YERR **Yerington** 40.94 336 P P 15 09 33.9 -1.3
PNTR **Pine Nut** 41.17 336 P P 15 09 37.1 0.0
PNTR IAmb IAmb 15 09 41.2
comp=Z,48nm,1.6s
ECSD **EROS Data Cent** 41.37 3 P P 15 09 38.8 +0.4
baz=184
ECSD **EROS Data Cent** 41.37 3 P P 15 09 37.8 -0.6
ECSD IAmb IAmb 15 09 47.0
comp=Z,26nm,1.2s
BW06 **Boulder Array** 41.42 348 P P 15 09 40.0 +0.9
baz=164,SNR=6.2
BW06 **Boulder Array** 41.42 348 P P 15 09 39.3 +0.2
BW06 IAmb IAmb 15 09 48.8
comp=Z,42nm,1.8s
PD31 **Pinedale Array** 41.42 348 P P 15 09 39.3 +0.1
PD31 IAmb IAmb 15 09 48.8
comp=Z,37nm,1.7s
PDAR **Pinedale Array** 41.42 348 P P 15 09 40.1 +1.0
comp=Z,2.5nm,0.7s,baz=152,slow=8.0,SNR=19
PDAR LR LR 15 25 34.0
comp=Z,509nm,20.5s,baz=181,slow=34
M50A **Fremont** 41.57 18 P P 15 09 39.8 -0.3
PAHR **Pah Rah Range** 41.61 336 P P 15 09 40.6 0.0
AFDM **Forest Hills D** 41.64 334 P P 15 09 40.6 -0.1
SIV **San Ignacio** 41.70 117 P P 15 09 40.3 -1.3
comp=Z,5.8nm,1.3s,baz=317,slow=9.2,SNR=6.3
P57A **Homestead Farm** 41.73 25 P P 15 09 42.1 +0.7
baz=212
N53A **Lisbon** 41.77 21 P P 15 09 42.9 +1.1
baz=208

N53A **Lisbon** 41.77 21 P P 15 09 40.8 -1.0
O55A **Ligonier** 41.82 23 P P 15 09 43.0 +0.8
baz=210
RSSD **Black Hills** 41.93 355 P P 15 09 44.5 +1.3
baz=172
RSSD **Black Hills** 41.93 355 P P 15 09 43.5 +0.2
P58A **Pank, Wackersv** 42.03 25 P P 15 09 44.4 +0.5
baz=213
K47A **Vermontville** 42.17 15 P P 15 09 46.7 +1.7
baz=201
SNOW **Snow King Moun** 42.34 347 P P 15 09 46.5 -0.2
M53A **WI Miller and** 42.39 21 P P 15 09 48.5 +1.7
baz=208
TAOE **Nuku Hiva Isla** 42.40 254 eLR LR 15 21 30.3
comp=Z,1µm,25.4s
TPAW **Teton Pass** 42.40 347 P P 15 09 46.8 -0.4
TPAW IAmb IAmb 15 10 05.1
comp=Z,31nm,1.6s
N55A **Marion Center** 42.44 23 P P 15 09 48.7 +1.5
baz=210
SSPA **Standing Stone** 42.75 24 P P 15 09 50.5 +0.8
baz=212
IMW **Indian Meadow** 42.79 347 P P 15 09 50.0 -0.4
IMW IAmb IAmb 15 09 59.9
comp=Z,42nm,1.8s
N56A **West Decatur** 42.83 23 P P 15 09 51.0 +0.7
baz=211
FLWY **Flagg Ranch** 42.91 348 P P 15 09 50.5 -0.8
N57A **Milroy** 42.99 24 P P 15 09 52.8 +1.1
baz=212
P60A **Greenville** 43.03 27 P P 15 09 52.6 +0.6
baz=215
M55A **Ridgway** 43.12 22 P P 15 09 54.3 +1.6
baz=210
RKT **Rikitea** 43.12 232 eT T 15 55 47.3
comp=Z,7.5nm,0.3s
YPP **Pitchstone Pla** 43.12 348 P P 15 09 52.7 -0.4
PTLB **Pontes e Lacer** 43.24 115 eP P 15 09 54.2 +0.1
PTLB **Pontes e Lacer** 43.24 115 eP P 15 09 54.2 +0.1
O02D **Mt. Diablo Mer** 43.45 333 P P 15 09 57.4 +1.9
baz=144
MFID **Camas Ranch** 43.62 342 P P 15 09 57.0 +0.2
MFID IAmb IAmb 15 09 59.8
comp=Z,30nm,1.9s
M57A **Sunshine Farm,** 43.65 24 P P 15 09 58.0 +1.0
baz=212
WVOR **Wild Horse Val** 43.68 339 P P 15 09 58.1 +0.8
WVOR IAmb IAmb 15 10 00.3
comp=Z,30nm,1.6s
MOD **Modoc Plateau** 43.84 337 P P 15 09 58.8 0.0
MOD IAmb IAmb 15 10 02.3
comp=Z,36nm,1.6s
I48A **Sherman Twp** 43.93 16 P P 15 10 01.1 +1.9
baz=202
M58A **Price's Panora** 43.95 25 P P 15 10 00.4 +0.9
baz=213
WVNY **West Valley, N** 43.98 22 P P 15 09 58.1 -1.6
MCMT **McKenzie Canyo** 44.11 346 P P 15 10 00.1 -0.9
E28A **Huff** 44.17 358 P P 15 10 01.1 0.0
E28A IAmb IAmb 15 10 13.6
comp=Z,24nm,1.1s
GCMT **Greycliff** 44.35 349 P P 15 10 03.1 +0.3
M04C **Macdoel** 44.36 336 P P 15 10 04.6 +1.7
baz=146
I51A **Listowel** 44.38 19 P P 15 10 04.2 +1.4
baz=206
K55A **Perry** 44.46 22 P P 15 10 04.2 +0.7
baz=210
COWI **Conover** 44.53 10 P P 15 10 02.7 -1.3
NPGB **Novo Progresso** 44.59 102 eP P 15 10 08.4 +3.4
NPGB **Novo Progresso** 44.59 102 eP P 15 10 08.4 +3.4
CFA **Coronel Fontan** 44.62 141 P P 15 10 03.7 -1.3
comp=Z,2.9nm,0.6s,baz=292,slow=8.6,SNR=5.5
YBH **Yreka Blue Hor** 44.68 335 LR LR 15 26 12.8
comp=Z,618nm,20.9s,baz=149,slow=33
L58A **Harry Jones Me** 44.77 25 P P 15 10 06.4 +0.4
baz=214
F45A **CMU Biological** 44.87 13 P P 15 10 06.9 +0.3
baz=199
L04D **Klamath Falls** 44.91 335 P P 15 10 08.2 +0.9
baz=146
LRM **Limekiln Ridge** 44.95 347 P P 15 10 07.2 -0.5
CLDB **Colider** 44.98 108 eP P 15 10 11.7 +3.6
CLDB **Colider** 44.98 108 eP P 15 10 11.7 +3.6
M61A **Granite Spring** 45.08 27 P P 15 10 09.1 +0.6
baz=217
J05D **Fort Rock, OR** 45.38 337 P P 15 10 12.3 +1.3
baz=148,SNR=7.7
D41A **Chassel** 45.56 10 P P 15 10 11.2 -0.9
D41A IAmb IAmb 15 10 20.4
comp=Z,21nm,1.1s
F48A **Evansville** 45.74 16 P P 15 10 14.0 +0.4
baz=203
F49A **Sandfield** 45.84 17 P P 15 10 14.8 +0.4
baz=204
SADO **Sadowa** 45.85 20 LR LR 15 30 11.4
comp=Z,215nm,18.8s,baz=199,slow=37
H53A **Bobcaygeon** 45.87 20 P P 15 10 15.0 +0.3
baz=209
K02D **Willamette Mer** 45.88 335 P P 15 10 16.8 +1.9
baz=145
I55A **Frankford** 45.88 21 P P 15 10 15.1 +0.3
baz=210
PECO **Prince Edward** 45.90 22 P P 15 10 14.4 -0.5
PECO IAmb IAmb 15 10 23.1
comp=Z,13nm,0.8s
M63A **Gales Ferry** 45.95 28 P P 15 10 15.5 +0.1
baz=219
EYMN **Ely** 45.99 7 P P 15 10 14.8 -0.8
baz=190,SNR=9.1
EYMN **Ely** 45.99 7 P P 15 10 14.5 -1.1
EYMN IAmb IAmb 15 10 23.6
comp=Z,15nm,1.1s
J58A **Remsen** 46.09 24 P P 15 10 16.0 -0.4
baz=214
J58A **Remsen** 46.09 24 P P 15 10 16.0 -0.4
E47A **Iron Bridge** 46.14 15 P P 15 10 16.1 -0.7
baz=202
B35A **Bob, Littlefor** 46.17 5 P P 15 10 16.1 -0.9
MSO **Missoula** 46.25 346 P P 15 10 18.2 +0.4
baz=159
TRY **Troy** 46.26 26 P P 15 10 17.2 -0.6
G53A **Haliburton** 46.34 20 P P 15 10 19.4 +1.0
baz=209
D46A **Sault St. Mari** 46.35 14 P P 15 10 19.5 +1.0
baz=201
H55A **Tweed** 46.36 22 P P 15 10 18.4 0.0
baz=211
F10A **Beach Ranch, E** 46.36 343 P P 15 10 18.1 -0.5
F10A IAmb IAmb 15 10 20.7
comp=Z,19nm,1.8s
J01E **Myrtle Point** 46.37 335 P P 15 10 19.7 +1.1
baz=144
K61A **Williamstown** 46.38 26 P P 15 10 19.0 +0.2
baz=217
I57A **Carthage** 46.42 23 P P 15 10 19.2 +0.2
baz=213
E48A **Lockeyer** 46.46 16 P P 15 10 19.7 +0.4
baz=203
M64A **Tiverton** 46.46 29 P P 15 10 19.7 +0.4
baz=220
SALV **Santo Antonio** 46.51 114 eP P 15 10 19.1 -1.0
SALV **Santo Antonio** 46.51 114 eP P 15 10 19.1 -1.0
EGMT **Eagleton** 46.52 350 P P 15 10 19.6 -0.2
EGMT IAmb IAmb 15 10 47.3
comp=Z,19nm,1.3s
F51A **Arnstein** 46.63 18 P P 15 10 21.3 +0.7
baz=207
F52A **Sundridge** 46.70 19 P P 15 10 22.4 +1.2
baz=207
H56A **Elgin** 46.74 22 P P 15 10 22.6 +1.1
baz=212
D47A **Chapleau** 46.74 15 P P 15 10 22.6 +1.1
baz=202
G54A **Lake Saint Pet** 46.76 20 P P 15 10 21.7 0.0
baz=209
J60A **Lant Hill Farm** 46.78 26 P P 15 10 22.2 +0.3
baz=216
PLVO **Plevna** 46.81 21 P P 15 10 22.1 +0.1
PLVO IAmb IAmb 15 11 02.7
comp=Z,8.9nm,0.8s
H04A **Detroit Lake** 46.93 337 P P 15 10 23.7 +0.7
H04A IAmb IAmb 15 10 33.1
comp=Z,10.0nm,0.9s
E09A **Wood Farm, Sta** 47.12 342 P P 15 10 24.4 -0.1
E09A IAmb IAmb 15 10 34.3

comp=Z,20nm,1.3s
G55A Calabogie 47.13 22 P **P** **15 10 24.7 +0.2**
baz=211
JTMT Jette 47.19 346 P **P** **15 10 25.1 -0.1**
JTMT IAmb IAmb 15 10 27.2
comp=Z,19nm,1.7s
D48A Paudash Townsh 47.20 16 P **P** **15 10 25.5 +0.5**
baz=204
ALGO Algonquin Park 47.26 20 P **P** **15 10 26.8 +1.3**
baz=209
E51A G1948 Merrick 47.30 18 P **P** **15 10 26.2 +0.3**
baz=207
I60A Shoreham 47.32 25 P **P** **15 10 27.0 +1.0**
baz=216
E52A Mattawa 47.35 19 P **P** **15 10 26.1 -0.2**
baz=208
H58A Gabriels 47.41 24 P **P** **15 10 26.7 -0.1**
baz=215
LONY Lake Ozonia 47.41 24 P **P** **15 10 26.6 -0.2**
baz=214
HAWA Hanford 47.46 341 P **P** **15 10 27.4 +0.3**
HAWA IAmb IAmb 15 10 37.5
comp=Z,14nm,1.3s
J62A Henniker 47.48 27 P **P** **15 10 27.4 +0.1**
baz=218
G57A Newington 47.66 23 P **P** **15 10 28.7 0.0**
baz=213
D50A G1974 Best Tow 47.76 18 P **P** **15 10 30.0 +0.5**
baz=206
E53A Dumoine, Ponti 47.76 20 P **P** **15 10 29.7 +0.2**
baz=209
H59A Cadyville 47.80 24 P **P** **15 10 29.9 +0.2**
baz=215
J63A Strafford 47.86 28 P **P** **15 10 30.5 +0.3**
baz=219
ULM Lac du Bonnet 47.90 3 P **P** **15 10 30.2 -0.3**
comp=Z,6.5nm,0.6s,baz=194,slow=7.6,SNR=6.2
ULM LR LR 15 30 31.7
comp=Z,331nm,19.3s,baz=158,slow=36
ULM Lac du Bonnet 47.90 3 P **P** **15 10 29.5 -1.0**
E54A Lac Daplat, Po 47.98 20 P **P** **15 10 30.7 -0.4**
baz=210,SNR=10
FRNY Flat Rock 48.00 24 P **P** **15 10 30.1 -1.2**
FRNY IAmb IAmb 15 11 35.4
comp=Z,10nm,0.8s
D52A ZEK Kipawa Sen 48.04 19 P **P** **15 10 32.1 +0.5**
baz=208
AQDB Aquidauana 48.13 120 *e*P **P** **15 10 33.4 +0.7**
AQDB Aquidauana 48.13 120 *e*P **P** **15 10 33.4 +0.7**
WALA Waterton Lakes 48.34 347 P **P** **15 10 33.7 -0.3**
D53A Lac Vacive, Po 48.36 19 P **P** **15 10 34.5 +0.4**
baz=209,SNR=15
D53A Lac Vacive, Po 48.36 19 P **P** **15 10 33.6 -0.5**
NEW Newport 48.41 344 LR LR 15 30 02.8
comp=Z,204nm,18.3s,baz=161,slow=35
NEW Newport 48.41 344 P **P** **15 10 33.3 -1.2**
I63A Otisfield 48.68 27 P **P** **15 10 37.1 +0.5**
baz=219
E56A St. Veronique 48.84 22 P **P** **15 10 38.4 +0.6**
baz=212
I64A Boothbay 49.02 28 P **P** **15 10 39.5 +0.4**
baz=220
D55A Sainte-Anne-du 49.09 21 P **P** **15 10 39.4 -0.3**
baz=212,SNR=6.7
G61A St-Isidore-de- 49.23 26 P **P** **15 10 41.5 +0.8**
baz=217
CPUP Villa Florida 49.32 128 P **P** **15 10 41.6 -0.2**
comp=Z,6.8nm,1.0s,baz=284,slow=4.9,SNR=3.3
CPUP LR LR 15 30 08.0
comp=Z,412nm,21.1s,baz=312,slow=34
CPUP Villa Florida 49.32 128 *e*P **P** **15 10 42.8 +1.0**
CPUP Villa Florida 49.32 128 *e*P **P** **15 10 42.8 +1.0**
VLDQ Val d'Or 49.35 19 P **P** **15 10 40.4 -1.2**
VLDQ IAmb IAmb 15 10 44.3
comp=Z,14nm,1.3s
D56A ZEC Mazanza, M 49.37 22 P **P** **15 10 42.8 +0.9**
baz=213
E58A La Victoria 49.38 23 P **P** **15 10 42.2 +0.3**
baz=215
F60A Warwick 49.59 25 P **P** **15 10 44.6 +1.1**
baz=216
G62A West of Eustis 49.61 26 P **P** **15 10 44.1 +0.4**
baz=219
D57A Chemin Vers le 49.67 22 P **P** **15 10 44.5 +0.3**
baz=214,SNR=5.4
H64A Troy 49.76 28 P **P** **15 10 45.4 +0.6**
baz=220
PRPB Parauapebas 49.89 100 *e*P P 15 10 51.3 +4.9
PRPB Parauapebas 49.89 100 *e*P P 15 10 51.3 +4.9
G63A Kingsbury 49.94 27 P **P** **15 10 46.9 +0.7**
baz=220
F61A St Evariste 50.00 25 P **P** **15 10 47.1 +0.4**
baz=218
ARAG Araguaiana, MT 50.01 113 *e*P **P** **15 10 51.6 +4.3**
ARAG Araguaiana, MT 50.01 113 *e*P **P** **15 10 51.6 +4.3**
PLCA Paso Flores 50.07 152 P **P** **15 10 45.8 -1.6**
comp=Z,4.7nm,1.0s,baz=343,slow=6.9,SNR=3.9
PLCA LR LR 15 27 13.6
comp=Z,1μm,18.9s,baz=331,slow=30
PLCA Paso Flores 50.07 152 IAmb IAmb 15 10 55.5
comp=Z,22nm,1.4s
PLCA Paso Flores 50.07 152 *e*P P 15 10 54.0 +6.7
PLCA Paso Flores 50.07 152 *e*P P 15 10 54.0 +6.7
D58A Chemin du LacG 50.13 23 P **P** **15 10 48.8 +1.2**
baz=215
PKME Peaks-Kenny Pk 50.20 27 P **P** **15 10 49.3 +1.1**
baz=220
H65A Eastbrook 50.26 28 P **P** **15 10 49.4 +0.8**
baz=222
LSQQ Lebel-sur-Quev 50.33 19 P **P** **15 10 50.0 +0.9**
baz=209
F62A Pittston Farm, 50.39 26 P **P** **15 10 50.8 +1.2**
baz=219
G64A Maxfield 50.44 28 P **P** **15 10 50.5 +0.5**
baz=221
E61A Lac Etchemin 50.58 25 P **P** **15 10 51.6 +0.5**
baz=218
F63A Nahmakanta, Br 50.62 27 P **P** **15 10 51.6 +0.2**
baz=220
F63A Nahmakanta, Br 50.62 27 P **P** **15 10 50.4 -1.0**
H66A Whiting 50.77 29 P **P** **15 10 52.9 +0.4**
baz=222
G65A Princeton 50.96 28 P **P** **15 10 54.3 +0.5**
baz=222
F64A Sherman 51.09 27 P **P** **15 10 55.1 +0.3**
baz=221
E62A Clayton Lake 51.14 26 P **P** **15 10 55.4 +0.1**
baz=219,SNR=9.0
E62A Clayton Lake 51.14 26 P **P** **15 10 54.4 -0.9**
E62A IAmb IAmb 15 10 59.4
comp=Z,18nm,1.1s
D61A St Aubert, Com 51.31 25 P **P** **15 10 56.6 +0.1**
baz=218
E63A Oxbow 51.48 27 P **P** **15 10 57.9 +0.2**
baz=220
E63A Oxbow 51.48 27 P **P** **15 10 57.0 -0.8**
E63A IAmb IAmb 15 11 35.5
comp=Z,23nm,1.5s
ITQB Itaqui 51.50 131 *e*P **P** **15 11 02.4 +4.1**
ITQB Itaqui 51.50 131 *e*P **P** **15 11 02.4 +4.1**
TRCB Terra Rica 51.65 121 *e*P **P** **15 11 04.3 +4.8**
TRCB Terra Rica 51.65 121 *e*P **P** **15 11 04.3 +4.8**
D62A Allapoint, All 51.70 26 P **P** **15 10 59.3 -0.1**
baz=219
D62A Allapoint, All 51.70 26 P **P** **15 10 57.5 -1.9**
E64A Bridgewater 51.74 27 P **P** **15 10 59.9 +0.1**
baz=221
CHGQ Chibougamau 51.93 20 P **P** **15 11 00.9 -0.2**
baz=212
D63A Stockholm 52.09 26 P **P** **15 11 02.7 +0.4**
baz=220
PCMB Pacaembu 52.40 120 *e*P **P** **15 11 09.6 +4.5**
PCMB Pacaembu 52.40 120 *e*P **P** **15 11 09.6 +4.5**
PEXB Peixe 52.42 107 *e*P **P** **15 11 04.3 -1.0**
PEXB Peixe 52.42 107 *e*P **P** **15 11 04.3 -1.0**
SMTB Santa Maria do 52.49 103 *e*P P 15 11 11.0 +5.1
SMTB Santa Maria do 52.49 103 *e*P P 15 11 11.0 +5.1
ITRB Iturama 52.55 117 *e*P P 15 11 11.4 +5.2
ITRB Iturama 52.55 117 *e*P P 15 11 11.4 +5.2
BATG Bathurst New B 53.20 28 P **P** **15 11 09.8 -0.8**
BATG IAmb IAmb 15 11 18.7
comp=Z,12nm,0.9s
BDFB Brasilia 53.51 111 P **P** **15 11 13.9 +0.3**
comp=Z,3.6nm,0.7s,baz=289,slow=9.7,SNR=3.2
BDFB LR LR 15 32 33.6
comp=Z,732nm,21.2s,baz=287,slow=34
BDFB Brasilia 53.51 111 IAmb IAmb 15 11 58.3
comp=Z,28nm,1.6s
PPT Papeete 53.52 246 LR LR 15 28 02.6
comp=Z,359nm,18.4s,baz=94,slow=29
PPT2 Papeete2 53.52 246 *e*S **S** **15 18 46.9 0.0**
comp=Z,215nm,26.5s
PPT2 *e*LR LR 15 26 40.8
comp=Z,1μm,24.8s,baz=58
FRTB Fartura 54.48 121 *e*P **P** **15 11 25.0 +4.6**
FRTB Fartura 54.48 121 *e*P **P** **15 11 25.0 +4.6**
BB19B Bebedouro 54.61 118 *e*P **P** **15 11 26.2 +4.8**
BB19B Bebedouro 54.61 118 *e*P **P** **15 11 26.2 +4.8**
PLTB Pedras Altas 54.80 132 *e*P P 15 11 28.3 +5.7
PLTB Pedras Altas 54.80 132 *e*P P 15 11 28.3 +5.7
ROSB Rosrio 55.17 95 *e*P **P** **15 11 29.9 +4.4**
ROSB Rosrio 55.17 95 *e*P **P** **15 11 29.9 +4.4**
TBI Tubuai 55.24 240 *e*S **S** **15 19 13.0 +3.3**
comp=Z,180nm,28.0s
TBI *e*LR LR 15 27 29.4
comp=Z,648nm,27.5s,baz=70
BBB Bella Bella 55.35 339 LR LR 15 32 46.5
comp=Z,378nm,21.0s,baz=166,slow=34
VAO Valinhos 56.61 119 *e*P P 15 11 41.4 +5.6
VAO Valinhos 56.61 119 *e*P P 15 11 41.4 +5.6
PET01 Itanhaem-SP 56.77 121 *e*P P 15 11 42.2 +5.4
PET01 Itanhaem-SP 56.77 121 *e*P P 15 11 42.2 +5.4
PARB Paraibuna 57.89 119 *e*P P 15 11 50.5 +5.7
PARB Paraibuna 57.89 119 *e*P P 15 11 50.5 +5.7
BSCB Bom Sucesso 57.93 116 *e*P P 15 11 50.7 +5.5
BSCB Bom Sucesso 57.93 116 *e*P P 15 11 50.7 +5.5
SCHQ Schefferville 58.62 21 P **P** **15 11 48.9 -0.4**
comp=Z,11nm,1.2s,baz=227,slow=9.8,SNR=5.9
SCHQ LR LR 15 36 40.7
comp=Z,287nm,20.1s,baz=218,slow=36
SCHQ Schefferville 58.62 21 P **P** **15 11 47.9 -1.4**
SCHQ IAmb IAmb 15 11 52.2
comp=Z,16nm,1.2s
GDU01 Guandu, BA 61.07 107 *e*P P 15 12 12.2 +5.4
GDU01 Guandu, BA 61.07 107 *e*P P 15 12 12.2 +5.4
YKA Yellowknife Ar 61.22 352 P **P** **15 12 06.0 -1.0**
comp=Z,4.3nm,1.1s,baz=159,slow=6.8,SNR=21
YKA LR LR 15 38 31.0
comp=Z,1μm,19.3s,baz=0.0,slow=36
GLB Gilahina Butte 67.96 339 P **P** **15 12 50.5 -0.6**
EYAK Cordova Ski Ar 68.12 337 P **P** **15 12 51.7 -0.4**
DAWY Dawson 68.28 342 P **P** **15 12 52.5 -0.6**
DAWY IAmb IAmb 15 13 13.9
comp=Z,9.1nm,1.1s
EPYK Eagle Plains 69.23 345 P **P** **15 12 59.7 +0.7**
baz=139,SNR=5.4
EGAK Eagle 69.33 342 P **P** **15 12 59.2 -0.3**
KNK Knik Glacier 69.69 337 P **P** **15 13 01.1 -0.9**
SML Sawmill 69.88 337 P **P** **15 13 02.7 -0.4**
INK Inuvik 69.97 347 P **P** **15 13 02.8 -0.6**
HDA Harding Lake 70.96 340 P **P** **15 13 09.8 +0.2**
baz=128
RND Reindeer 71.02 339 P **P** **15 13 09.6 -0.5**
IL31 71.17 340 P **P** **15 13 10.6 -0.2**
ILAR Eielson Array 71.17 340 P **P** **15 13 11.2 +0.3**
comp=Z,2.1nm,0.9s,baz=151,slow=4.2,SNR=16
ILAR LR LR 15 45 15.4
comp=Z,463nm,18.8s,baz=131,slow=37
PRP Porcupine Dome 71.20 341 P **P** **15 13 11.1 -0.1**
PRP IAmb IAmb 15 13 31.8
comp=Z,8.2nm,0.9s
A36M Sachs Harbour 71.58 352 P **P** **15 13 13.8 +0.6**
baz=152
TOLK Toolik Lake Re 74.39 343 P **P** **15 13 30.7 +0.7**
baz=127
ESDC Sonseca Array 92.52 50 LR LR 15 52 13.7
comp=Z,60nm,18.9s,baz=270,slow=33
H11N3 WAKE ISLAND Hy 93.03 290 T T 16 58 23.8
baz=87,slow=75,SNR=9.9
H11N2 WAKE ISLAND Hy 93.04 290 T T 16 58 25.1
baz=87,slow=75,SNR=11
H11N1 WAKE ISLAND Hy 93.05 290 T T 16 58 24.8
baz=87,slow=75,SNR=17
H11S2 WAKE ISLAND Hy 93.30 289 T T 16 58 52.9
baz=85,slow=74,SNR=20
H11S1 WAKE ISLAND Hy 93.30 289 T T 16 58 52.2
baz=85,slow=74,SNR=9.8
H11S3 WAKE ISLAND Hy 93.31 289 T T 16 58 45.2
baz=85,slow=74,SNR=7.6
VNDA Vanda 94.15 192 LR LR 15 48 35.9
comp=Z,149nm,20.7s,baz=110,slow=30
DZM Mont Dzumac 94.99 248 *e*LR LR 15 45 50.0
comp=Z,295nm,28.2s
PETK Petropavlovsk- 96.13 324 LR LR 15 51 27.1
comp=Z,69nm,21.2s,baz=62,slow=31
NOA NORSAR Array B 97.73 27 LR LR 15 56 53.9
comp=Z,31nm,19.7s,baz=300,slow=34
CLL Collm 101.85 36 *e*SS SS 15 34 28.0 -2.7
CLL Lm MLR 16 01 00.0
comp=Z,100nm,21.5s
KLMR Klimovskoe 109.44 20 *e*PP **PP** **15 20 47.4 -4.7**
KLMR AMP 15 20 53.3
comp=Z,9.0nm,1.3s
ZALV Zalesovo Beam 123.91 357 PKP **PKPdf** **15 20 50.2 -0.4**
comp=Z,1.0nm,0.7s,baz=330,slow=2.4,SNR=4.5
ASAR Alice Springs 124.56 243 PKP **PKPdf** **15 20 52.9 +0.1**
comp=Z,0.9nm,0.8s,baz=92,slow=2.1,SNR=9.3
WRA Warramunga Arr 125.00 247 PKP **PKPdf** **15 20 53.7 0.0**
comp=Z,2.4nm,0.9s,baz=97,slow=2.0,SNR=12
HHC Hu-ho-hao-te 128.81 330 PKP **PKPdf** **15 20 57.2 -3.3**
HHC LR LR
comp=Z,82nm,17.0s
HHC LR LR
comp=Z,85nm,17.9s
HHC LR LR
comp=Z,130nm,17.0s
NJ2 Nanjing 130.44 317 *e*PKP **PKPdf** **15 21 03.0 -0.7**
MKAR Makanchi Array 131.15 359 PKP **PKPdf** **15 21 04.2 -0.5**
comp=Z,1.2nm,1.0s,baz=347,slow=3.7,SNR=7.6
MKAR PP **PP** **15 23 20.7 +0.1**
comp=Z,0.5nm,0.8s,baz=23,slow=6.6,SNR=3.5
WMQ Urumqi 133.74 353 *e*PKP **PKPdf** **15 21 08.6 -1.1**
WMQ LR LR
comp=Z,980nm,29.2s
WMQ LR LR
comp=Z,190nm,29.2s
GTA Gaotai 135.06 339 *e*PKP **PKPdf** **15 21 07.6 -4.8**
GTA LR LR
comp=Z,100nm,20.0s
GTA LR LR
comp=Z,150nm,23.0s
CD2 Chengdu 140.50 328 PKP **PKPdf** **15 21 20.0 -2.6**
GYA Guiyang 142.15 321 *e*PKP **PKPdf** **15 21 25.9 +0.1**
KMI Kunming 145.54 323 PKPbc **PKPdf** **15 21 29.8 -2.0**
CMAR Chiang Mai Arr 152.84 320 PKP **PKPdf** **15 21 43.1 -0.3**
comp=Z,2.3nm,1.0s,baz=300,slow=1.1,SNR=9.5
CMAR PKPbc **PKiKP** **15 21 51.5 +0.7**
comp=Z,1.8nm,0.8s,baz=306,slow=1.8,SNR=9.5

AEIC 10 15:20:17±1.2,59°13N±0°02×153°15W±0°08,h78km±5km, ML2.7, Error ellipse: s-maj=5.8km s-min=2.2km az=105.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUJK	**Augustine Jueg**	**0.26**	**329**		Pn	15 20 28.3	-0.4
AU22	**Augustine Moun**	**0.26**	**336**		Pn	15 20 28.3	-0.5
AU22					Sn	15 20 37.5	+0.1
AU2	**Augustine Isla**	**0.27**	**334**		Pn	15 20 28.4	-0.4
AUP	**Augustine Pinn**	**0.27**	**329**		Pn	15 20 28.5	-0.4
AUH	**Augustine H**	**0.28**	**327**		Pn	15 20 28.6	-0.4
AUW	**Augustine West**	**0.29**	**326**		Pn	15 20 28.6	-0.4
ILS	**Iliamna Low So**	**0.83**	**3**		Pn	15 20 33.1	-0.9
IVE	**Iliamna Volcan**	**0.89**	**4**		Pn	15 20 33.7	-1.0
IVE					Sn	15 20 46.8	-1.1
ILW	**Iliamna West**	**0.93**	**0**		Pn	15 20 34.4	-0.9
HOM	**Homer**	**0.94**	**55**		Pn	15 20 35.0	-0.1
HOM					Sn	15 20 49.5	+0.9
KAHG	**Katmai Hook Gl**	**0.97**	**229**		Pn	15 20 34.9	-0.7
KARR	**Katmai Rainbow**	**1.03**	**232**		Pn	15 20 35.7	-0.5
CNPM	**China Poot**	**1.06**	**67**		Pn	15 20 36.0	-0.6
CNPM					Sn	15 20 51.2	-0.1
KAHC	**Katmai Hardscr**	**1.08**	**244**		Pn	15 20 35.9	-1.1
RED	**Redoubt Volcan**	**1.31**	**8**		Pn	15 20 38.9	-0.9
RED					Sn	15 20 56.6	-0.3
KCG	**Knife Ck. Glac**	**1.31**	**232**		Pn	15 20 39.0	-0.8
BRLK	**Bradley Lake**	**1.32**	**60**		Pn	15 20 38.7	-1.2
RSO	**Redoubt South**	**1.35**	**8**		Pn	15 20 39.7	-0.7
RDWB	**Redoubt West**	**1.37**	**6**		Pn	15 20 39.8	-0.8
RDWB					Sn	15 20 58.2	-0.2
BRSE	**Bradley Lake S**	**1.38**	**63**		Pn	15 20 39.6	-1.0
BRSE					Sn	15 20 57.7	-0.7
KDAK	**Kodiak Island**	**1.39**	**167**		Pn	15 20 39.7	-1.0
KDAK					Sn	15 20 56.4	-2.1
KABU	**Katmai Buttres**	**1.41**	**233**		Pn	15 20 40.5	-0.6
KABU					Sn	15 20 59.3	+0.1
RDJH	**Redoubt Jeurge**	**1.48**	**7**		Pn	15 20 41.3	-0.7
RDJH					Sn	15 21 00.6	-0.2
DFR	**Drift River**	**1.48**	**9**		Pn	15 20 41.5	-0.6
DFR					Sn	15 21 01.0	0.0
CAHL	**Cahill**	**1.56**	**227**		Pn	15 20 42.5	-0.5
OHAK	**Old Harbor**	**1.92**	**182**		Pn	15 20 46.4	-1.3
OHAK					Sn	15 21 08.3	-2.7
CAPN	**Captain Cook N**	**1.93**	**31**		Pn	15 20 48.3	+0.5
SLKM	**Skilak Lake**	**2.02**	**46**		Pn	15 20 48.1	-1.0
SEW	**Seward**	**2.12**	**61**		Pn	15 20 48.8	-1.5
SPCR	**Spurr Chakacha**	**2.13**	**12**		Pn	15 20 50.1	-0.4
CKT	**Bend**	**2.13**	**12**		Pn	15 20 50.2	-0.3
SPBG	**Spurr Blockage**	**2.17**	**10**		Pn	15 20 51.0	-0.1
PLK3	**Peulik 3**	**2.19**	**230**		Pn	15 20 51.2	-0.1
SPCG	**Spurr Capps Gl**	**2.24**	**14**		Pn	15 20 51.9	-0.2
PLK1	**Peulik 1**	**2.25**	**235**		Pn	15 20 51.9	-0.2
SPNN	**North Nagishla**	**2.25**	**6**		Pn	15 20 52.2	-0.2
PLK5	**Peulik 5**	**2.26**	**241**		Pn	15 20 52.1	-0.1
SVW2	**Sparrevohn**	**2.32**	**329**		Pn	15 20 52.2	-0.8
STLK	**Strandline Lak**	**2.46**	**15**		Pn	15 20 54.9	-0.2
FIS	**Fire Island**	**2.50**	**35**		Pn	15 20 55.3	0.0
RC01	**Rabbit Creek A**	**2.60**	**40**		Pn	15 20 56.2	-0.6
PWL	**Port Wells**	**2.98**	**52**		Pn	15 21 00.6	-1.3
PMR	**Palmer**	**3.17**	**37**		Pn	15 21 03.6	-1.0
KNK	**Knik Glacier**	**3.27**	**44**		Pn	15 21 04.6	-1.3
GHO	**Glory Hole Cre**	**3.38**	**37**		Pn	15 21 06.4	-1.0
MID	**Middleton Isla**	**3.51**	**82**		Pn	15 21 07.8	-1.3
GLI	**Glacier Island**	**3.51**	**57**		Pn	15 21 06.8	-2.3
CUT	**Chulitna**	**3.58**	**22**		Pn	15 21 09.5	-0.5
SML	**Sawmill**	**3.59**	**40**		Pn	15 21 08.9	-1.4
HIN	**Hinchinbrook I**	**3.59**	**66**		Pn	15 21 08.6	-1.7
FID	**Port Fidalgo**	**3.73**	**61**		Pn	15 21 09.5	-2.6
JPK	**Jack Peak**	**3.81**	**57**		Pn	15 21 11.5	-1.7
PPLA	**Purkeypile**	**3.81**	**7**		Pn	15 21 13.6	+0.3
SCM	**Sheep Creek Mo**	**3.96**	**44**		Pn	15 21 14.1	-1.2
EYAK	**Cordova Ski Ar**	**4.00**	**66**		Pn	15 21 13.8	-1.9
CHGN	**Chignik**	**4.00**	**227**	Pn	Pn	15 21 15.1	-0.8
TT01	**Tatalina**	**4.04**	**341**		Pn	15 21 15.8	-0.4
TTA	**Tatalina**	**4.06**	**341**		Pn	15 21 16.2	-0.5
WAT1	**Susitna Watana**	**4.33**	**29**		Pn	15 21 19.7	-0.6
WAT6	**Susitna Watana**	**4.36**	**35**		Pn	15 21 19.7	-1.1
WAT2	**Susitna Watana**	**4.44**	**28**		Pn	15 21 21.0	-0.9
RAGM	**Ragged Mountai**	**4.47**	**70**		Pn	15 21 20.9	-1.3
TRF	**Thorofare Moun**	**4.55**	**16**		Pn	15 21 23.0	-0.4
KTH	**Kantishna Hill**	**4.56**	**13**		Pn	15 21 23.2	-0.3
RND	**Reindeer**	**4.76**	**24**		Pn	15 21 25.5	-0.8
DHY	**Denali Highway**	**4.85**	**33**		Pn	15 21 26.6	-0.9
BERG	**Berg Lake**	**4.94**	**71**		Pn	15 21 27.3	-1.4
MCK	**McKinley**	**5.04**	**22**		Pn	15 21 29.4	-0.6
BPAW	**Bear Paw Mtn.**	**5.09**	**11**		Pn	15 21 30.1	-0.6
HARP	**HAARP**	**5.11**	**47**	Pn	Pn	15 21 30.8	-0.1
GRIN	**Grindle Hills**	**5.11**	**73**		Pn	15 21 29.9	-1.0
KHIT	**Khitrov Hills**	**5.17**	**71**		Pn	15 21 30.4	-1.5
GLB	**Gilahina Butte**	**5.19**	**60**		Pn	15 21 30.5	-1.6
VRDI	**Verde Repeater**	**5.28**	**62**		Pn	15 21 31.7	-1.7
PAX	**Paxson**	**5.36**	**41**		Pn	15 21 33.2	-1.2
WAX	**Waxell Ridge**	**5.37**	**71**		Pn	15 21 33.0	-1.5
SDPT	**Sand Point**	**5.49**	**230**		Pn	15 21 35.5	-0.6
MCARA	**McCarthy VSAT**	**5.53**	**62**		Pn	15 21 35.6	-1.0
CNBA	**Chernabura Isl**	**5.57**	**222**		Pn	15 21 35.1	-2.2
KIAG	**Kiagna River**	**5.70**	**67**		Pn	15 21 37.5	-1.7
BALM	**Baldy**	**5.74**	**66**		Pn	15 21 37.5	-2.0
MESA	**MESA**	**5.78**	**75**		Pn	15 21 39.3	-0.9
WRH	**Wood River Hil**	**5.87**	**22**		Pn	15 21 40.2	-1.0
YAH	**Yahtse**	**5.90**	**73**	Pn	Pn	15 21 41.2	-0.7
MENT	**Mentasta**	**5.96**	**46**	Pn	Pn	15 21 42.3	-0.3
HDA	**Harding Lake**	**6.06**	**26**		Pn	15 21 42.2	-1.6
BARN	**Barnard Glacie**	**6.07**	**67**		Pn	15 21 42.9	-1.3
CCB	**Clear Creek Bu**	**6.08**	**22**		Pn	15 21 42.8	-1.3
RKAV	**Rock Avalanche**	**6.09**	**74**		Pn	15 21 43.2	-1.2
CTGM	**Chitina Glacie**	**6.20**	**68**		Pn	15 21 45.2	-0.7
PS08	**TAPS Pump Stn8**	**6.20**	**26**		Pn	15 21 44.9	-0.9
IL31		**6.38**	**25**		Pn	15 21 46.9	-1.3
PCA	**Pinnacle**	**6.62**	**76**		Pn	15 21 50.1	-1.4
YUK2	**White River**	**6.64**	**61**		Pn	15 21 51.2	-0.7
BC03		**6.77**	**50**		Pn	15 21 52.8	-0.8
IM03		**6.88**	**358**		Pn	15 21 54.4	-0.6
PNL	**Peninsula**	**7.04**	**80**		Pn	15 21 56.0	-1.4
YUK6	**Outpost Mounta**	**7.62**	**70**		Pn	15 22 04.0	-1.4
DHAK	**Deception Hill**	**7.69**	**84**		Pn	15 22 05.0	-1.1
YUK7	**Dusty Glacier**	**7.69**	**73**		Pn	15 22 05.3	-1.0
EGAK	**Eagle**	**7.99**	**40**	Pn	Pn	15 22 09.7	-0.5
HYT	**Haines Junctio**	**8.03**	**71**	Pn	Pn	15 22 10.3	-0.6
DAWY	**Dawson**	**8.21**	**47**	Pn	Pn	15 22 13.3	+0.1
BM03	**Burnt Mountain**	**9.15**	**21**		Pn	15 22 24.2	-1.8
WHY	**Whitehorse**	**9.31**	**73**	Pn	Pn	15 22 28.5	+0.2
TOLK	**Toolik Lake Re**	**9.68**	**8**	Pn	Pn	15 22 32.0	-1.1

*NEIC **10** 16:01:26.6±1.1, 18°67S±0°10×174°63W±0°10, h74km±5km, mb4.7/47, Error ellipse: s-maj=14.9km s-min=12.6km az=221.0*

*IDC **10** 16:01:28.8±5.6, 18°72S×174°59W, h93km±50km, mb4.0/9, mb1 4.3/10, mb1mx3.9/30, mbtmp4.3/10, MS3.1/2, Ms1 3.1/2, ms1mx2.7/27, Error ellipse: s-maj=32.9km s-min=15.8km az=156.0*

ISC 10 16:01:29.2±0.4, 18.70S±0.09×174.49W±0.08, h100km, n91, σ0.91/90, mb4.5/29, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.34**	**96**		**Pn**	**16 02 31.3**	**-1.7**
AFI	**Afiamalu**	**5.43**	**29**	Pn	**Pn**	**16 02 45.4**	**-2.5**
RAR	**Rarotonga**	**14.06**	**103**	P	**Pn**	**16 04 44.3**	**+0.3**
	1.9nm,0.3s,baz=253,slow=8.4,SNR=16						
RAR	**Rarotonga**	**14.06**	**103**		**Pn**	**16 04 44.0**	**0.0**
DZM	**Mont Dzumac**	**18.18**	**256**	P	**Pn**	**16 05 37.3**	**+2.1**
	0.4nm,0.3s,baz=71,slow=15,SNR=4.1						
BFZ	**Birch Farm**	**23.30**	**198**	P	**P**	**16 06 27.6**	**-0.7**
PPT	**Papeete**	**23.70**	**91**	LR	LR	16 13 59.6	
	comp=Z,35nm,18.7s,baz=326,slow=32						
TUWZ	**Tuamarina**	**24.71**	**201**	P	**P**	**16 06 41.1**	**+0.1**
NNZ	**Nelson**	**24.73**	**202**	P	**P**	**16 06 41.0**	**-0.2**
CTA	**Charters Tower**	**36.99**	**261**	P	**P**	**16 08 29.5**	**+0.2**
	7.8nm,0.4s,baz=87,slow=10,SNR=40						
CTAO	**Charters Tower**	**36.99**	**261**	P	**P**	**16 08 29.0**	**-0.3**
COEN	**Coen**	**40.83**	**270**	P	**P**	**16 09 01.9**	**+0.5**
BBOO	**Buckleboo**	**46.30**	**242**	P	**P**	**16 09 44.0**	**-1.1**
WR0	**Warramunga Arr**	**47.96**	**260**	P	**P**	**16 09 57.0**	**-1.1**
WB0	**Warramunga Arr**	**48.12**	**260**	P	**P**	**16 09 58.1**	**-1.3**
WB0					IAmb	IAmb	16 10 01.6
	comp=Z,29nm,1.8s						
WB2	**Warramunga Arr**	**48.14**	**260**	P	**P**	**16 09 58.2**	**-1.3**
WRAB	**Tennant Creek**	**48.14**	**260**	P	**P**	**16 09 57.8**	**-1.8**
WRA	**Warramunga Arr**	**48.15**	**260**	P	**P**	**16 09 58.7**	**-0.9**
	comp=Z,2.9nm,0.3s,baz=97,slow=7.8,SNR=51						
AS31	**Alice Springs**	**48.16**	**255**	P	**P**	**16 09 58.6**	**-1.1**
ASAR	**Alice Springs**	**48.16**	**255**	P	**P**	**16 09 59.1**	**-0.6**
	comp=Z,2.1nm,0.4s,baz=88,slow=8.4,SNR=36						
ASAR				PcP	**PcP**	**16 11 25.6**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=101,slow=4.3,SNR=4.9						
MTN	**Manton Dam**	**52.49**	**268**	P	**P**	**16 10 31.4**	**-1.0**
KNRA	**Kununurra**	**54.11**	**264**	P	**P**	**16 10 43.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**56.56**	**260**	P	**P**	**16 11 01.5**	**-0.3**
VNDA	**Vanda**	**60.00**	**186**	P	**P**	**16 11 24.8**	**0.0**
	comp=Z,1.3nm,0.7s,baz=347,slow=9.9,SNR=8.0						
VNDA	**Vanda**	**60.00**	**186**	P	**P**	**16 11 24.7**	**-0.1**
VNDA					IAmb	IAmb	16 12 34.5
	comp=Z,6.6nm,1.5s						
CASY	**Casey**	**66.99**	**205**	P	**P**	**16 12 11.2**	**+0.3**
CASY					IAmb	IAmb	16 12 47.4
	comp=Z,17nm,1.8s		

	comp=Z,3.8nm,0.6s								
SHPR	**Sheep Range**	**78.42**	**45**	P		**P**	**16 13 20.1**	**+0.8**	
K05A	**Summer Lake**	**78.52**	**37**	P		**P**	**16 13 20.8**	**+1.0**	
K05A				IAmb		IAmb	16 13 32.3		
	comp=Z,24nm,1.5s								
W13A	**Hualapai Mount**	**78.52**	**47**	P		**P**	**16 13 21.1**	**+1.2**	
PINE	**Pine Mountain**	**79.17**	**36**	P		**P**	**16 13 24.5**	**+1.2**	
PINE				IAmb		IAmb	16 13 25.3		
	comp=Z,5.8nm,0.8s								
R11A	**Troy Canyon, C**	**79.17**	**43**	P		**P**	**16 13 24.1**	**+0.8**	
TUC	**Tucson**	**79.28**	**51**	P		**P**	**16 13 24.8**	**+0.8**	
USA0B	**Ussuriysk Arra**	**79.40**	**324**	P		**P**	**16 13 24.5**	**+0.3**	
USA0B				IAmb		IAmb	16 14 04.2		
	comp=Z,4.3nm,0.7s								
X16A	**Lo Mia Camp, P**	**79.88**	**48**	P		**P**	**16 13 28.8**	**+1.5**	
U15A	**North Rim**	**80.33**	**46**	P		**P**	**16 13 30.7**	**+0.9**	
G08A	**Pilot Rock**	**81.21**	**36**	P		**P**	**16 13 35.0**	**+0.9**	
SRU	**San Rafael Swe**	**82.91**	**45**	P		**P**	**16 13 44.3**	**+1.1**	
MNTX	**Cornudas Mount**	**83.03**	**53**			**P**	**16 13 44.9**	**+1.1**	
TXAR	**Lajitas Array**	**83.31**	**56**	P		**P**	**16 13 47.0**	**+1.6**	
	comp=Z,1.0nm,0.7s,baz=220,slow=7.6,SNR=7.4								
TCUT	**Toone Canyon**	**83.38**	**43**	P		**P**	**16 13 46.6**	**+1.0**	
PV23	**Carpenter Ridg**	**83.60**	**46**	P		**P**	**16 13 47.9**	**+1.0**	
PV23				IAmb		IAmb	16 13 48.9		
	comp=Z,6.9nm,0.8s								
PV21	**Cone Mtn., Par**	**83.68**	**46**	P		**P**	**16 13 48.4**	**+1.1**	
PV21				IAmb		IAmb	16 13 49.2		
	comp=Z,5.2nm,0.7s								
ANMO	**Albuquerque**	**83.72**	**50**			**P**	**16 13 47.9**	**+0.5**	
ANMO				IAmb		IAmb	16 13 49.9		
	comp=Z,5.0nm,1.1s								
RND	**Reindeer**	**84.26**	**11**	P		**P**	**16 13 49.7**	**+0.3**	
RND				IAmb		IAmb	16 13 50.6		
	comp=Z,4.6nm,0.8s								
MAW	**Mawson**	**84.34**	**199**	LR		LR	16 50 19.0		
	comp=Z,13nm,18.9s,baz=56,slow=35								
MCMT	**McKenzie Canyo**	**84.47**	**39**	P		**P**	**16 13 51.9**	**+0.8**	
MCK	**McKinley**	**84.55**	**11**	P		**P**	**16 13 51.0**	**+0.2**	
MCK				IAmb		IAmb	16 13 51.7		
	comp=Z,4.8nm,0.7s								
WRH	**Wood River Hil**	**85.38**	**11**	P		**P**	**16 13 54.5**	**-0.3**	
WRH				IAmb		IAmb	16 13 55.9		
	comp=Z,8.8nm,0.9s								
PDAR	**Pinedale Array**	**85.41**	**42**	P		**P**	**16 13 56.6**	**+0.7**	
	comp=Z,1.1nm,0.5s,baz=204,slow=3.6,SNR=11								
DOT	**Dot Lake**	**85.44**	**13**	P		**P**	**16 13 54.7**	**-0.5**	
DOT				IAmb		IAmb	16 13 56.5		
	comp=Z,4.5nm,0.9s								
HDA	**Harding Lake**	**85.53**	**12**	P		**P**	**16 13 55.5**	**-0.1**	
HDA				IAmb		IAmb	16 13 56.2		
	comp=Z,6.0nm,0.6s								
CCB	**Clear Creek Bu**	**85.59**	**11**	P		**P**	**16 13 55.6**	**-0.3**	
CCB				IAmb		IAmb	16 13 56.6		
	comp=Z,7.7nm,0.6s								
IL31		**85.87**	**11**	P		**P**	**16 13 56.9**	**-0.3**	
ILAR	**Eielson Array**	**85.87**	**11**	P		**P**	**16 13 57.1**	**-0.2**	
	comp=Z,1.5nm,0.5s,baz=227,slow=6.2,SNR=30								
MSTX	**Muleshoe**	**86.00**	**52**	P		**P**	**16 13 59.7**	**+0.9**	
MSTX				IAmb		IAmb	16 14 00.8		
	comp=Z,8.1nm,0.8s								
DAWY	**Dawson**	**86.86**	**15**	P		**P**	**16 14 02.9**	**+0.6**	
DAWY				IAmb		IAmb	16 14 03.5		
	comp=Z,3.1nm,0.8s								
EGAK	**Eagle**	**87.06**	**14**	P		**P**	**16 14 03.7**	**+0.6**	
SYO	**Syowa Base**	**89.17**	**192**	*e*P		**P**	**16 14 11.6**	**-1.6**	
SNAA	**Sanae**	**89.67**	**177**	P		**P**	**16 14 15.3**	**-0.4**	
VNA3	**Neumayer Olymp**	**89.67**	**175**	P		**P**	**16 14 15.4**	**-0.2**	
VNA2	**Neumayer--Watz**	**90.16**	**176**	P		**P**	**16 14 18.1**	**+0.2**	
	baz=190,slow=3.8								
VNA1	**Neumayer--Stat**	**90.36**	**175**	P		**P**	**16 14 18.6**	**-0.2**	
YKA	**Yellowknife Ar**	**93.53**	**24**	P		**P**	**16 14 33.4**	**+0.1**	
	comp=Z,0.2nm,0.5s,baz=232,slow=4.4,SNR=6.3								
MKAR	**Makanchi Array**	**112.36**	**314**	PKiKP		**PKiKP**	**16 19 52.3**	**-1.1**	
	comp=Z,0.4nm,0.6s,baz=56,slow=0.5,SNR=5.3								
ARCES	**ARCESS Array B**	**127.71**	**351**	PKP		**PKPdf**	**16 20 21.8**	**-0.5**	
	comp=Z,0.7nm,0.4s,baz=14,slow=1.5,SNR=9.9								
FINES	**FINESS Array B**	**134.31**	**346**	PKP		**PKPdf**	**16 20 37.0**	**+1.0**	
	comp=Z,0.7nm,0.5s,baz=64,slow=4.4,SNR=3.8								
CLL	**Collm**	**146.93**	**351**	*i* PKPbc		**PKPbc**	**16 21 01.3**	**+1.4**	
	comp=Z,6.0nm,1.0s								
BRG	**Berggiesshubel**	**147.21**	**350**	*e*PKP		**PKPbc**	**16 21 00.9**	**+0.1**	
	comp=Z,3.1nm,0.8s								
BRTR	**Keskin Array B**	**147.95**	**317**	PKPbc		**PKPbc**	**16 21 03.5**	**+0.2**	
	comp=Z,2.3nm,0.8s,baz=112,slow=1.6,SNR=11								
VRAC	**Vranov**	**148.19**	**346**	PKPbc		**PKPbc**	**16 21 03.5**	**+0.1**	
	comp=Z,2.1nm,0.6s,baz=197,slow=6.9,SNR=3.0								
KHC	**Kasperske Hory**	**148.96**	**350**	*e*PKP		**PKPdf**	**16 21 04.0**	**+2.6**	
GERES	**GERESS Array B**	**149.21**	**349**	PKPbc		**PKPbc**	**16 21 06.0**	**-0.2**	
	comp=Z,1.1nm,0.5s,baz=29,slow=3.0,SNR=11								
CONA	**Conrad Observa**	**149.65**	**346**	*i* PKiKP		**PKPbc**	**16 21 07.8**	**+0.5**	
	comp=Z,6.1nm,1.3s								
MMAI	**Mount Meron Ar**	**149.68**	**304**	PKPbc		**PKPbc**	**16 21 06.7**	**-1.1**	
	comp=Z,0.6nm,0.4s,baz=76,slow=3.5,SNR=4.4								
MOA	**Molln**	**150.06**	**348**	*i* PKiKP		**PKPbc**	**16 21 08.7**	**+0.5**	
	comp=Z,2.0nm,0.6s								
RETA	**Reutte**	**150.97**	**353**	*i* PKPbc		**PKPbc**	**16 21 10.5**	**0.0**	
	comp=Z,1.5nm,0.6s								
WATA	**Walderalm**	**151.01**	**351**	*i* PKPbc		**PKPbc**	**16 21 10.3**	**-0.3**	
	comp=Z,3.3nm,0.5s								
SOKA	**Soboth**	**151.02**	**346**	*i* PKPbc		**PKPbc**	**16 21 10.3**	**-0.3**	
	comp=Z,5.0nm,1.1s								
MOTA	**Moosalm**	**151.07**	**352**	*i* PKPbc		**PKPbc**	**16 21 10.5**	**-0.3**	
	comp=Z,4.1nm,0.8s								
WTTA	**Wattenberg**	**151.07**	**351**	*i* PKPbc		**PKPbc**	**16 21 11.0**	**+0.1**	
	comp=Z,7.8nm,0.4s								
EIL	**Elat**	**151.09**	**298**	PKPbc		**PKPbc**	**16 21 11.2**	**+0.1**	
	comp=Z,6.4nm,1.0s,baz=109,slow=3.9,SNR=4.3								
SQTA	**Sankt Quirin**	**151.18**	**352**	*i* PKPbc		**PKPbc**	**16 21 10.7**	**-0.3**	
	comp=Z,3.5nm,0.7s								
DAVA	**Damuels**	**151.27**	**354**	*i* PKiKP		**PKPbc**	**16 21 11.5**	**+0.3**	
	comp=Z,9.0nm,1.1s								
FETA	**Feichten**	**151.43**	**353**	*i* PKiKP		**PKPbc**	**16 21 12.0**	**+0.4**	
	comp=Z,4.7nm,0.9s								
ABTA	**Abfaltersbach**	**151.44**	**350**	*i* PKPbc		**PKPbc**	**16 21 11.2**	**-0.3**	
	comp=Z,3.8nm,0.4s								
DAVOX	**Davos/Dischmat**	**151.77**	**354**	PKPbc		**PKPbc**	**16 21 13.2**	**+0.8**	
	comp=Z,4.1nm,0.4s,baz=250,slow=7.1,SNR=6.2								

*NEIC **10** 16:03:24.5±1.4,6.°87S±0.°10×154.°33E±0.°09,h56km±3km, mb4.5/13,Error ellipse: s-maj=15.2km s-min=11.6km az=214.0*
*IDC **10** 16:03:25.3±2.3,6.°81S×154.°34E,h62km±21km,mb3.8/8, mb1 4.0/12,mb1mx3.8/32,mbtmp4.1/12,MS3.6/13, Ms1 3.6/13,ms1mx3.4/27,Error ellipse: s-maj=21.0km s-min=18.7km az=80.0*

ISC 10 16:03:22.8±0.6,6.°81S±0.°07×154.°48E±0.°08,h39km,n36, σ1$50/30,mb4.3/13,MS3.6/10,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.48**	**318**	Pn	**Pn**	**16 04 15.8**	**+1.4**
KRVT	**Keravat (AS076**	**3.49**	**315**	P	**Pn**	**16 04 15.9**	**+1.3**
	17nm,0.3s,baz=206,slow=2.3,SNR=59						
KRVT				S	**Sn**	**16 04 56.8**	**+2.2**
	36nm,0.3s,baz=214,slow=13,SNR=4.4						
HNR	**Honiara**	**6.01**	**116**	P	Pn	16 04 54.0	+4.8
	3.5nm,0.3s,baz=177,slow=13,SNR=1.6						
HNR				LR	LR	16 07 07.7	
	comp=Z,620nm,18.6s,baz=246,slow=36						
HNR	**Honiara**	**6.01**	**116**		**Pn**	**16 04 52.1**	**+2.9**
PMG	**Port Moresby**	**7.69**	**250**	P	**Pn**	**16 05 13.6**	**+1.3**
	1.8nm,0.3s,baz=44,slow=11,SNR=7.6						
PMG				S	**Sn**	**16 06 42.7**	**+4.5**
	3.9nm,0.3s,baz=75,slow=21,SNR=9.9						
PMG				LR	LR	16 07 56.5	
	comp=Z,397nm,20.6s,baz=47,slow=36						
PMG	**Port Moresby**	**7.69**	**250**		**Pn**	**16 05 11.6**	**-0.8**
CTAO	**Charters Tower**	**15.42**	**210**	P	**P**	**16 07 01.4**	**-0.4**
CTAO				IAmb	IAmb	16 07 33.3	
	comp=Z,70nm,1.6s						
DZM	**Mont Dzumac**	**19.07**	**144**	P	**Pn**	**16 07 42.5**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=182,slow=18,SNR=6.7						
DZM				LR	LR	16 14 48.8	
	comp=Z,333nm,18.5s,baz=317,slow=36						
DZM	**Mont Dzumac**	**19.07**	**144**	IAmb	IAmb	16 07 56.5	
	comp=Z,49nm,1.5s						
WR0	**Warramunga Arr**	**23.35**	**234**		**P**	**16 08 27.0**	**-0.9**
WR0				IAmb	IAmb	16 08 51.6	
	comp=Z,40nm,1.6s						
WB0	**Warramunga Arr**	**23.37**	**235**	P	**P**	**16 08 27.3**	**-0.8**
WB2	**Warramunga Ar**	**23.49**	**234**	P	**P**	**16 08 28.3**	**-1.0**
WB2				IAmb	IAmb	16 09 00.6	
	comp=Z,30nm,1.6s						
WRA	**Warramunga Arr**	**23.50**	**234**	P	**P**	**16 08 28.2**	**-1.2**
	comp=Z,5.2nm,1.0s,baz=58,slow=9.6,SNR=7.5						
MTN	**Manton Dam**	**23.76**	**254**	P	**P**	**16 08 29.5**	**-2.4**
AS31	**Alice Springs**	**25.91**	**228**	P	**P**	**16 08 50.3**	**-1.2**
ASAR	**Alice Springs**	**25.91**	**228**	P	**P**	**16 08 51.2**	**-0.2**
	comp=Z,1.7nm,0.7s,baz=59,slow=10.0,SNR=24						
ASAR				LR	LR	16 18 07.3	
	comp=Z,147nm,21.6s,baz=62,slow=34						
STKA	**Stephens Creek**	**27.68**	**204**	P	**P**	**16 09 06.8**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=27,slow=14,SNR=1.3						
STKA				LR	LR	16 21 04.4	
	comp=Z,176nm,18.3s,baz=25,slow=38						
STKA	**Stephens Creek**	**27.68**	**204**	P	**P**	**16 09 06.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**30.26**	**246**	P	**P**	**16 09 30.6**	**+0.3**
FITZ				IAmb	IAmb	16 10 18.3	
	comp=Z,24nm,1.7s						
RAO	**Raoul Island**	**34.28**	**134**	LR	LR	16 20 14.9	
	comp=Z,136nm,19.8s,baz=158,slow=29						
KSRS	**Korea Array**	**50.54**	**333**	P	**P**	**16 12 16.1**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=151,slow=10,SNR=5.4						
KSRS				LR	LR	16 31 16.0	
	comp=Z,12nm,21.6s,baz=25,slow=33						
PPT	**Papeete**	**55.54**	**107**	LR	LR	16 34 32.2	
	comp=Z,24nm,18.6s,baz=250,slow=34						
PETK	**Petropavlovsk-**	**59.76**	**2**	LR	LR	16 39 07.5	
	comp=Z,30nm,19.2s,baz=239,slow=36						
CM31	**Chiang Mai Arr**	**60.24**	**296**	P	**P**	**16 13 25.7**	**-2.0**
SONM	**Songino Array**	**68.91**	**327**	P	**P**	**16 14 23.0**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=138,slow=4.3,SNR=4.4						
VNDA	**Vanda**	**70.78**	**178**	LR	LR	16 42 49.4	
	comp=Z,19nm,18.0s,baz=300,slow=33						
MK31	**Makanchi Array**	**82.93**	**319**		**P**	**16 15 44.2**	**+0.4**
MK31				IAmb	IAmb	16 15 45.8	
	comp=Z,3.7nm,1.0s						
MKAR	**Makanchi Array**	**82.93**	**319**	P	**P**	**16 15 43.1**	**-0.6**
	comp=Z,2.5nm,0.8s,baz=100,slow=5.4,SNR=27						
MAKZ	**Makanchi**	**83.14**	**319**		**P**	**16 15 45.3**	**+0.5**
MAKZ				IAmb	IAmb	16 15 46.8	
	comp=Z,5.6nm,0.9s						
QSPA	**South Pole Qui**	**83.16**	**180**	P	**P**	**16 15 44.9**	**+0.2**
ILAR	**Eielson Array**	**83.40**	**22**	LR	LR	16 51 22.5	
	comp=Z,97nm,19.3s,baz=262,slow=34						
NVAR	**Mina Array Bea**	**92.01**	**52**	P	**P**	**16 16 28.9**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=247,slow=6.7,SNR=9.9						
NVAR				LR	LR	16 53 38.6	
	comp=Z,48nm,18.7s,baz=308,slow=33						
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**16 16 47.1**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=270,slow=4.1,SNR=5.7						
PDAR	**Pinedale Array**	**98.96**	**48**	LR	LR	16 58 05.8	
	comp=Z,56nm,19.0s,baz=296,slow=33						
GERES	**GERESS Array B**	**126.63**	**329**	PKP	**PKPdf**	**16 22 21.5**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=64,slow=3.1,SNR=5.9						
TORD	**Torodi Ar. Bea**	**152.48**	**285**	PKPbc	**PKPbc**	**16 23 15.8**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=48,slow=2.2,SNR=5.3						

*LDG **10** 16:12:24.7±0.3,51.°59N×16.°15E,h1km,Ml3.6/5,Error ellipse: s-maj=7.6km s-min=2.9km az=11.0,Suspected Mining induced.*
*BGR **10** 16:12:27.3±0.4,51.°44N×16.°12E,h1km,ML3.3/15,Error ellipse: s-maj=6.7km s-min=3.3km az=19.0*
*IDC **10** 16:12:27.2±0.6,51.°48N×16.°01E,h0km,mb3.3/1, mb1 3.5/9,mb1mx3.3/42,mbtmp3.4/9,ML3.2/8,Error ellipse: s-maj=12.9km s-min=6.6km az=104.0*
*UPP **10** 16:12:30.6±3.1,51.°81N×15.°39E,h0km,ML2.0,Suspected explosion*

ISC 10 16:12:24.2±0.6,51.°57N±0.°03×16.°15E±0.°02,h0km,n91, σ1$95/160,3C-2D,Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.73**	**173**	*e*Pg	**Pb**	**16 12 39.2**	**-0.5**
KSP				*e*Sg	**Sg**	**16 12 47.1**	**-0.4**
KSP	**Ksiaz**	**0.73**	**173**	*e*Pg	**Pb**	**16 12 39.1**	**-0.7**
KSP				*e*Sg	**Sg**	**16 12 47.9**	**+0.3**
CHVC	**Chvalec**	**0.98**	**183**	*e*PG	**Pb**	**16 12 43.9**	**-0.1**
CHVC				*e*SG	**Sg**	**16 12 56.3**	**+0.6**
	comp=Z,164nm,0.5s						
OSTC	**Ostas**	**1.01**	**178**	*e*PG	**Pb**	**16 12 44.7**	**+0.1**
OSTC				*e*SG	**Sg**	**16 12 57.2**	**+0.6**
	comp=Z,152nm,0.5s						
UPC	**Upice**	**1.06**	**185**	*e*PG	**Pb**	**16 12 45.4**	**0.0**
UPC				*e*SG	**Sg**	**16 12 58.2**	**-0.1**
	comp=Z,208nm,0.5s						
DPC	**Dobruska-Polom**	**1.22**	**175**	*e*PG	**Pg**	**16 12 47.7**	**+0.1**
DPC				*e*SG	**Sg**	**16 13 03.5**	**+0.1**
	comp=Z,101nm,0.4s						
DPC	**Dobruska-Polom**	**1.22**	**175**	*e*Pg	**Pb**	**16 12 47.9**	**-0.2**
DPC				*e*Sg	**Sg**	**16 13 03.8**	**+0.4**
PVCC	**Panska Ves**	**1.44**	**224**	*e*PG	**Pb**	**16 12 52.4**	**+0.6**
PVCC				*e*SG	**Sn**	**16 13 12.1**	**+1.0**
	comp=Z,312nm,0.3s						
BRG	**Berggiesshubel**	**1.55**	**244**	PG	**Pg**	**16 12 55.0**	**+1.1**
BRG				SG	**Sg**	**16 13 15.3**	**+1.3**
	458nm,0.6s						
BRG	**Berggiesshubel**	**1.55**	**244**	*e*Pg	**Pg**	**16 12 54.8**	**+1.0**
BRG				*e*Sg	**Sg**	**16 13 15.2**	**+1.3**
PRA	**Prague**	**1.85**	**217**	*e*SG	**Sg**	**16 13 23.4**	**-0.2**
	comp=Z,68nm,0.8s						
GOPC	**GO Pecny, Ondr**	**1.87**	**208**	*e*PG	**Pb**	**16 12 59.2**	**+0.1**
GOPC				*e*SG	**Sg**	**16 13 24.0**	**-0.1**
	comp=Z,63nm,0.7s						
FBE	**Freiberg**	**1.87**	**251**	*e*Pg	**Pg**	**16 13 00.9**	**+0.9**
FBE				*e*Sg	**Sg**	**16 13 24.9**	**+0.7**
PRU	**Pruhonice**	**1.88**	**213**	*e*PG	**Pg**	**16 12 59.8**	**-0.4**
PRU				*e*SG	**Sg**	**16 13 25.1**	**+0.6**
	comp=Z,127nm,0.8s						
CLL	**Collm**	**1.98**	**264**	*e*Pg	**Pg**	**16 13 03.2**	**+1.0**
CLL	**Collm**	**1.98**	**264**	*e*Pg	**Pg**	**16 13 03.0**	**+0.8**
CLL				*e*Sg	**Sg**	**16 13 29.0**	**+1.1**
	comp=Z,105nm,0.5s						
MORC	**Moravsky Berou**	**2.00**	**153**	*e*Pg	**Pn**	**16 13 00.0**	**+0.8**
MORC				*e*Sg	**Sb**	**16 13 27.4**	**+0.5**
MORC	**Moravsky Berou**	**2.00**	**153**	⇑P	**Pn**	**16 12 60.0**	**+0.8**
MORC				⇑S	**Sn**	**16 13 25.4**	**+0.4**
MORC	**Moravsky Berou**	**2.00**	**153**	*e*PN	**Pn**	**16 12 59.7**	**+0.5**
MORC				*e*SG	**Sn**	**16 13 25.4**	**+0.4**
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*PG	**Pg**	**16 13 05.1**	**-0.2**
OKC				*e*SG	**Sb**	**16 13 32.1**	**+1.0**
	comp=Z,121nm,0.7s						
OKC	**Ostrava-Krasne**	**2.15**	**143**	*e*Pg	**Pg**	**16 13 05.5**	**+0.2**
OKC				*e*Sg	**Sb**	**16 13 31.4**	**+0.4**
VRAC	**Vranov**	**2.28**	**173**	Pn	**Pb**	**16 13 05.0**	**-1.2**
	comp=Z,7.8nm,0.3s,baz=343,slow=15,SNR=19						
VRAC				Lg	Lg	16 13 37.1	
	comp=Z,10nm,0.3s,baz=258,slow=20,SNR=5.6						
VRAC	**Vranov**	**2.28**	**173**	⇑P	**Pn**	**16 13 04.1**	**+1.1**
VRAC				⇓S	**Sb**	**16 13 35.2**	**+0.3**
VRAC	**Vranov**	**2.28**	**173**	*e*PN	**Pn**	**16 13 04.2**	**+1.1**
VRAC				*e*SG	**Sb**	**16 13 35.2**	**+0.3**
TREC	**Trest**	**2.31**	**191**	*e*PN	**Pb**	**16 13 05.4**	**-1.3**
TREC				*e*Pg	**Pg**	**16 13 07.7**	**-0.8**
TREC				*e*SG	**Sb**	**16 13 37.1**	**+1.2**
	comp=Z,107nm,1.0s						
PBCC	**Pribram**	**2.33**	**217**	*e*PG	**Pb**	**16 13 07.2**	**+0.2**
PBCC				*e*SG	**Sg**	**16 13 38.6**	**-0.3**
KRUC	**Moravsky**	**2.51**	**176**	*e*PN	**Pn**	**16 13 07.9**	**+1.7**
KRUC	**Moravsky**	**2.51**	**176**	*e*PG	**Pb**	**16 13 11.1**	**+1.0**
KRUC				*e*SG	**Sb**	**16 13 42.4**	**+0.8**
TANN	**Tannenbergstha**	**2.60**	**245**	*e*Sg	**Sg**	**16 13 47.1**	**-0.4**
OJC	**Ojcow**	**2.68**	**119**	*e*Sg	**Sg**	**16 13 52.7**	**+2.6**
OJC	**Ojcow**	**2.68**	**119**	*e*Pn	**Pn**	**16 13 06.8**	**-1.7**
OJC				*e*Pg	**Pg**	**16 13 17.0**	**+1.5**
OJC				*e*Sn	**Sn**	**16 13 39.8**	**-1.8**
OJC				*e*Sg	**Sg**	**16 13 51.9**	**+1.8**
NKC	**Novy Kostel**	**2.70**	**242**	*e*PG	**Pg**	**16 13 16.0**	**+0.2**
NKC				*e*SG	**Sg**	**16 13 52.1**	**+1.4**
	comp=Z,107nm,0.7s						
JAVC	**Velka Javorina**	**2.88**	**160**	*e*PG	**Pg**	**16 13 19.0**	**-0.4**
KHC	**Kasperske Hory**	**2.94**	**215**	*e*PN	**Pn**	**16 13 13.8**	**+1.6**
KHC				*e*PG	**Pb**	**16 13 19.0**	**+1.5**
KHC				*e*SN	**Sn**	**16 13 47.5**	**-0.7**
KHC				*e*SG	**Sg**	**16 13 58.0**	**-0.6**
	comp=Z,55nm,0.6s						
MOX	**Moxa**	**3.00**	**254**	*e*Pg	**Pg**	**16 13 22.3**	**+0.6**
MOX				*e*Sg	**Sg**	**16 14 01.9**	**+1.4**
MANZ	**Manzenberg**	**3.01**	**240**	*e*Pn	**Pn**	**16 13 14.9**	**+1.7**
MANZ				*e*Pg	**Pg**	**16 13 23.3**	**+1.4**
MANZ				*e*Sg	**Sg**	**16 14 01.9**	**+1.1**
ROTZ	**Rotzenmuhle**	**3.09**	**236**	*e*Pn	**Pn**	**16 13 15.4**	**+1.3**
ROTZ				*e*Sg	**Sg**	**16 14 01.4**	**-1.9**
GEC2	**GERESS Array S**	**3.15**	**211**	*e*Pn	**Pn**	**16 13 17.1**	**+2.1**
GEC2				*e*Pg	**Pg**	**16 13 24.0**	**-0.4**
GEC2				*e*Sg	**Sg**	**16 14 03.8**	**-1.3**
GERES	**GERESS Array B**	**3.15**	**211**	Pn	**Pn**	**16 13 16.6**	**+1.5**
	comp=Z,3.1nm,0.3s,baz=33,slow=13,SNR=27						
GERES				Pg	**Pb**	**16 13 22.4**	**+1.4**
	comp=Z,8.2nm,0.3s,baz=34,slow=14,SNR=26						
GERES				Lg	Lg	16 14 00.7	
	comp=Z,7.5nm,0.3s,baz=36,slow=25,SNR=9.1						
SMOL	**Smolenice**	**3.17**	**164**	*e*PG	**Pg**	**16 13 25.3**	**+0.5**
SMOL				*e*SG	**Sg**	**16 14 05.0**	**-0.8**
SMOL				eLG	Lg	16 14 19.9	
WET	**Wettzell**	**3.20**	**222**	*e*Pn	**Pn**	**16 13 16.7**	**+1.0**
WET				*e*Sg	**Sb**	**16 14 04.0**	**+2.5**
LANS	**Liptovska Anna**	**3.22**	**137**	*e*PN	**Pn**	**16 13 17.6**	**+1.6**
LANS				*e*SG	**Sg**	**16 14 07.4**	**-0.2**
LANS				eLG	Lg	16 14 17.0	
MODS	**Modra-Piesok**	**3.28**	**167**	*e*PN	**Pn**	**16 13 18.0**	**+1.2**
MODS				*e*PG	**Pg**	**16 13 26.4**	**-0.6**
MODS				eLG	Lg	16 14 13.0	
NIE	**Niedzica**	**3.42**	**127**	*e*Pg	**Pg**	**16 13 30.3**	**+0.7**
NIE				*e*Sg	**Sg**	**16 14 14.9**	**+1.1**
VYHS	**Vyhne**	**3.53**	**150**	*e*PN	**Pn**	**16 13 20.3**	**+0.1**
VYHS				*e*PG	**Pg**	**16 13 32.7**	**+0.9**
CLZ	**Clausthal**	**3.60**	**277**	*e*Pn	**Pn**	**16 13 23.4**	**+2.1**
CLZ				*e*Sg	**Sg**	**16 14 20.5**	**+0.7**
BSD	**Bornholm Skovb**	**3.63**	**349**	*i* P	**Pn**	**16 13 23.2**	**+1.7**
BSD				*e*S	**Sn**	**16 14 04.2**	**-0.8**
CONA	**Conrad Observa**	**3.65**	**183**	*i* Pn	**Pn**	**16 13 23.1**	**+1.2**
	comp=Z,0.7nm,0.3s,SNR=6.4						
CONA				*i* Sg	**Sb**	**16 14 16.5**	**+2.2**
	comp=Z,24nm,0.4s						
MOA	**Molln**	**3.92**	**199**	*i* Pn	**Pn**	**16 13 26.7**	**+1.1**
	comp=Z,3.1nm,0.3s,SNR=7.0						
MOA				*i* Sg	**Sb**	**16 14 25.8**	**+3.9**
	comp=Z,37nm,0.5s						
CRVS	**Cervenica-Dubn**	**4.33**	**126**	*e*PG	**Pg**	**16 13 50.4**	**+3.3**
ARSA	**Arzberg**	**4.34**	**186**	*i* Pn	**Pn**	**16 13 33.1**	**+1.7**
	comp=Z,1.6nm,0.2s						
ARSA				*i* Sg	**Sb**	**16 14 38.3**	**+4.1**
	comp=Z,17nm,0.5s						
LUNU	**Lund**	**4.38**	**340**	P	**Pn**	**16 13 32.6**	**+0.7**
KOLS	**Kolonicke sedl**	**4.73**	**121**	*e*PN	**Pn**	**16 13 38.0**	**+1.3**
BLEU	**Blekinge**	**4.75**	**358**	P	**Pn**	**16 13 39.0**	**+2.1**
SOKA	**Soboth**	**4.95**	**189**	*i* Pn	**Pn**	**16 13 42.4**	**+2.6**
	comp=Z,0.2nm,0.1s						
SOKA				*i* Sg	**Sg**	**16 14 59.2**	**-3.8**
	comp=Z,9.4nm,0.7s						
OBKA	**Obir**	**5.17**	**192**	*i* Pn	**Pn**	**16 13 45.3**	**+2.5**
	comp=Z,0.8nm,0.2s						
OBKA				*i* Sg	**Sb**	**16 14 59.1**	**+1.0**
	comp=Z,7.9nm,0.5s						

	305nm,0.6s							
LAST	**Lasithi**	**1.18**	**11**	P	**Pb**	**16 13 40.9**	**-0.6**
LAST				S	**Sn**	**16 13 58.0**	**+2.2**
	628nm,0.7s							
LAST	**Lasithi**	**1.18**	**11**	P	**Pb**	**16 13 40.8**	**-0.6**
LAST				AML	AML	16 14 02.1		
	comp=E,1170μm,0.7s							
LAST				AML	AML	16 14 03.7		
	comp=N,1012μm,0.6s							
GVD	**Gavdhos**	**1.26**	**312**	P	**Pb**	**16 13 41.9**	**-0.8**
GVD	**Gavdhos**	**1.26**	**312**	P	**Pb**	**16 13 41.8**	**-0.8**
GVD				AML	AML	16 14 14.7		
	comp=E,2129μm,0.6s							
GVD				AML	AML	16 14 17.0		
	comp=N,2086μm,0.7s							
GVD	**Gavdhos**	**1.26**	**312**	PN	**Pb**	**16 13 41.8**	**-0.8**
GVD				SN	**Sb**	**16 13 58.6**	**+0.2**
NPS	**Neapolis**	**1.31**	**14**	P	**Pb**	**16 13 43.4**	**-0.2**
NPS	**Neapolis**	**1.31**	**14**	P	**Pb**	**16 13 43.2**	**-0.4**
NPS				AML	AML	16 14 10.2		
	comp=E,1526μm,0.7s							
NPS				AML	AML	16 14 11.8		
	comp=N,970μm,0.5s							
HRKL	**Herakleio**	**1.32**	**356**	PN	**Pb**	**16 13 42.9**	**-0.8**
HRKL				SN	**Sb**	**16 14 00.1**	**-0.1**
IDI	**Anoyia**	**1.32**	**348**	Pn	**Pn**	**16 13 41.6**	**-0.7**
	comp=N,16nm,0.3s,baz=171,slow=17,SNR=79							
IDI				Sn	**Sb**	**16 13 59.2**	**-1.1**
	comp=N,24nm,0.3s,baz=141,slow=23,SNR=9.7							
IDI	**Anoyia**	**1.32**	**348**	PN	**Pb**	**16 13 42.3**	**-1.5**
IDI				SN	**Sb**	**16 13 59.8**	**-0.5**
ZKR	**Zakros**	**1.39**	**36**	P	**Pb**	**16 13 45.3**	**+0.3**
ZKR				S	**Sb**	**16 14 04.9**	**+2.6**
	comp=N,395nm,0.5s							
ZKR	**Zakros**	**1.39**	**36**	P	**Pb**	**16 13 44.9**	**-0.1**
ZKR				AML	AML	16 14 11.9		
	comp=E,1014μm,0.6s							
ZKR				AML	AML	16 14 14.3		
	comp=N,557μm,0.4s							
ZKR	**Zakros**	**1.39**	**36**	PN	**Pb**	**16 13 44.8**	**-0.1**
ZKR				SN	**Sb**	**16 14 02.8**	**+0.5**
STIA	**Sitia Lasithi**	**1.41**	**31**	P	**Pb**	**16 13 44.4**	**-0.8**
STIA				S	**Sb**	**16 14 04.4**	**+1.7**
VAM	**Vamos**	**1.64**	**330**	P	**Pb**	**16 13 47.4**	**-1.7**
VAM	**Vamos**	**1.64**	**330**	P	**Pb**	**16 13 47.4**	**-1.7**
VAM				AML	AML	16 14 18.7		
	comp=N,1084μm,0.8s							
VAM				AML	AML	16 14 23.6		
	comp=E,1399μm,0.7s							
KNDR	**Palaiochora Ch**	**1.77**	**315**	PN	**Pn**	**16 13 49.1**	**+0.7**
IMMV	**Iera Moni Meta**	**1.78**	**326**	P	**Pn**	**16 13 49.1**	**+0.5**
IMMV	**Iera Moni Meta**	**1.78**	**326**	P	**Pn**	**16 13 49.3**	**+0.7**
IMMV	**Iera Moni Meta**	**1.78**	**326**	PN	**Pn**	**16 13 48.8**	**+0.2**
IMMV				SN	**Sn**	**16 14 09.9**	**-0.5**
KARP	**Karpathos**	**2.23**	**45**	P	**Pb**	**16 13 57.6**	**-1.7**
KARP	**Karpathos**	**2.23**	**45**	P	**Pb**	**16 13 57.5**	**-1.7**
KARP	**Karpathos**	**2.23**	**45**	PN	**Pb**	**16 13 55.6**	**+0.8**
KARP				SN	**Sn**	**16 14 22.4**	**+0.9**
SANT	**Santorini**	**2.38**	**5**	PN	**Pn**	**16 13 56.9**	**0.0**
ANAF	**Anafi Island**	**2.40**	**11**	P	**Pn**	**16 13 58.2**	**+1.1**
ANAF	**Anafi Island**	**2.40**	**11**	P	**Pn**	**16 13 58.3**	**+1.1**
ANAF				AML	AML	16 14 25.4		
	comp=N,1097μm,0.4s							
ANAF				AML	AML	16 14 25.6		
	comp=E,704μm,0.4s							
THR3	**Thira Island,**	**2.41**	**4**	P	**Pn**	**16 13 57.7**	**+0.4**
THR5	**Thira Island,**	**2.42**	**3**	P	**Pn**	**16 13 57.1**	**-0.3**
ANKY	**Antikythira Is**	**2.44**	**320**	P	**Pn**	**16 13 57.7**	**0.0**
THT2	**Imeroviqli**	**2.44**	**4**	PN	**Pn**	**16 13 58.1**	**+0.4**
IOSP	**Ios island**	**2.72**	**1**	P	**Pn**	**16 14 01.1**	**-0.5**
IOSP	**Ios island**	**2.72**	**1**	P	**Pn**	**16 14 00.8**	**-0.3**
MHLO	**Agia Marina, M**	**2.77**	**346**	P	**Pn**	**16 14 02.3**	**0.0**
KTHA	**Kythira Island**	**2.86**	**323**	P	**Pn**	**16 14 04.2**	**+0.7**
KTHA	**Kythira Island**	**2.86**	**323**	PN	**Pn**	**16 14 03.1**	**-0.4**
KTHA				SN	**Sn**	**16 14 34.8**	**-2.3**
APE	**Apeiranthos**	**3.08**	**5**	PN	**Pn**	**16 14 06.2**	**-0.3**
KOSK	**Kos Island**	**3.11**	**27**	PN	**Pn**	**16 14 07.2**	**+0.4**
SERI	**Serifos**	**3.21**	**350**	P	**Pn**	**16 14 08.5**	**+0.1**
ARG	**Arkhangelos**	**3.26**	**46**	P	**Pn**	**16 14 11.5**	**+2.6**
ARG	**Arkhangelos**	**3.26**	**46**	PN	**Pn**	**16 14 09.7**	**+0.8**
ARG				SN	**Sn**	**16 14 46.8**	**0.0**
VLI	**Veliai**	**3.29**	**326**	P	**Pn**	**16 14 09.7**	**+0.3**
DAT	**Datca**	**3.34**	**35**	PN	**Pn**	**16 14 10.7**	**+0.5**
DAT				SN	**Sn**	**16 14 48.0**	**-1.1**
BODT	**Bodrum**	**3.51**	**29**	PN	**Pn**	**16 14 12.8**	**+0.4**
DALY	**Dalyan (Mula)**	**3.98**	**44**	PN	**Pn**	**16 14 19.3**	**+0.5**
TURN	**Turunc**	**3.99**	**43**	PN	**Pn**	**16 14 16.1**	**-2.9**
YER	**Yerkesik**	**4.01**	**38**	PN	**Pn**	**16 14 19.5**	**+0.2**
FETY	**Fethiye**	**4.12**	**49**	PN	**Pn**	**16 14 21.3**	**+0.5**
ITM	**Ithoni**	**4.16**	**321**	PN	**Pn**	**16 14 20.0**	**-1.3**
AKAS	**Kas**	**4.24**	**57**	PN	**Pn**	**16 14 23.2**	**+0.7**
ELL	**Elmali**	**4.72**	**53**	PN	**Pn**	**16 14 29.3**	**+0.2**
SWA2		**4.74**	**177**	P	**Pn**	**16 14 32.6**	**+3.3**
	baz=177							
SWA2				AMP		16 15 00.0		
	baz=177							
SWA2				S	**Sn**	**16 15 24.3**	**+0.9**
	baz=177							
KORT	**Korkueli**	**5.15**	**53**	PN	**Pn**	**16 14 35.4**	**+0.3**
GAZI	**Gazipasa**	**6.24**	**67**	PN	**Pn**	**16 14 50.0**	**+0.1**
HNAT	**Natroun**	**6.33**	**132**	P	**Pn**	**16 14 54.2**	**+3.1**
	baz=133							
SEYD	**Seydisehir-KON**	**6.37**	**56**	PN	**Pn**	**16 14 51.5**	**-0.4**
CSS	**Mathiatis**	**6.77**	**80**	PN	**Pn**	**16 14 57.8**	**+0.5**
TEKE	**Tekeli-Mersin**	**6.82**	**69**	PN	**Pn**	**16 14 58.0**	**+0.1**
HSAF	**As Saff**	**6.94**	**127**	P	**Pn**	**16 15 01.7**	**+2.2**
	baz=128							
BERE	**Bereket-Mersin**	**6.97**	**68**	PN	**Pn**	**16 14 59.8**	**-0.2**
GLL	**Jalalah**	**7.07**	**127**	P	**Pn**	**16 15 02.9**	**+1.5**
	baz=128							
AKKU	**Akkuyu-Mersin**	**7.17**	**70**	PN	**Pn**	**16 15 02.6**	**-0.1**
IKL	**Isikli**	**7.29**	**70**	PN	**Pn**	**16 15 04.2**	**-0.2**
HFRF	**Wahat Farafira**	**7.33**	**158**	P	**Pn**	**16 15 07.1**	**+2.2**
	baz=158							
HFRF				AMP		16 16 00.0		
	baz=158							
KEBE	**Keben-Mersin**	**7.37**	**68**	PN	**Pn**	**16 15 05.3**	**-0.3**
NBNS	**Bani Suef**	**7.46**	**134**	P	**Pn**	**16 15 09.1**	**+2.3**
	baz=135							
NBNS				S	**Sn**	**16 16 29.0**	**-1.5**
	baz=135							
SUZ	**Suez**	**7.69**	**121**	P	**Pn**	**16 15 11.3**	**+1.5**
	baz=122							
RSH		**7.80**	**110**	P	**Pn**	**16 15 11.2**	**-0.1**
	baz=112							
KZIT	**Kziot**	**8.35**	**109**	PN	**Pn**	**16 15 19.5**	**+0.6**
KZIT	**Kziot**	**8.35**	**109**	Pn	**Pn**	**16 15 19.7**	**+0.8**
KZIT				Sn	**Sn**	**16 16 49.1**	**-3.2**
SLTI	**Sal'it**	**8.43**	**99**	Pn	**Pn**	**16 15 21.2**	**+1.2**
MMAI	**Mount Meron Ar**	**8.57**	**94**	Pn	**Pn**	**16 15 21.6**	**-0.3**
	comp=E,2.7nm,0.3s,baz=274,slow=12,SNR=7.4							
MMAI				Sn	**Sn**	**16 16 51.4**	**-6.3**
	comp=E,3.3nm,0.3s,baz=287,slow=21,SNR=5.2							
MMLI	**Mount Malkishu**	**8.69**	**97**	PN	**Pn**	**16 15 23.7**	**+0.1**
MMLI	**Mount Malkishu**	**8.69**	**97**	Pn	**Pn**	**16 15 24.8**	**+1.2**
YTIR	**Yattir**	**8.75**	**105**	Sn	**Sn**	**16 16 59.1**	**-3.2**
GEM	**Giv'at Ha'Em**	**8.75**	**92**	Pn	**Pn**	**16 15 26.7**	**+2.3**
GEM				Sn	**Sn**	**16 17 00.6**	**-1.6**
HMDT	**Nahal Hemdat**	**8.82**	**99**	Pn	**Pn**	**16 15 26.7**	**+1.3**
BRTR	**Keskin Array B**	**8.85**	**47**	Pn	**Pn**	**16 15 24.9**	**-0.9**
	comp=E,0.1nm,0.3s,baz=8.9,slow=20,SNR=1.2							
DSI	**Dead Sea**	**8.89**	**103**	Pn	**Pn**	**16 15 27.8**	**+1.4**
PRNI	**Paran**	**9.06**	**111**	Pn	**Pn**	**16 15 29.1**	**+0.5**
GHAJ	**Ghor Haditha**	**9.13**	**104**	Pn	**Pn**	**16 15 31.4**	**+1.8**
HRFI	**Mount Harif**	**9.22**	**113**	PN	**Pn**	**16 15 30.9**	**0.0**
HRFI	**Mount Harif**	**9.22**	**113**	Pn	**Pn**	**16 15 32.8**	**+1.9**
HRFI				Sn	**Sn**	**16 17 10.9**	**-3.0**
EIL	**Elat**	**9.34**	**115**	Pn	**Pn**	**16 15 33.1**	**+0.7**
	comp=E,2.2nm,0.3s,baz=348,slow=3.6,SNR=17							
EIL				Sn	**Sn**	**16 17 11.1**	**-5.4**
	comp=E,1.2nm,0.3s,baz=292,slow=9.5,SNR=5.6							
EIL	**Elat**	**9.34**	**115**	Pn	**Pn**	**16 15 34.1**	**+1.7**
AKASG	**Malin Array Be**	**16.95**	**9**	Pn	**Pn**	**16 17 15.0**	**+0.2**
	comp=E,0.7nm,0.3s,baz=200,slow=10,SNR=2.6							
GERES	**GERESS Array B**	**17.14**	**333**	P	**P**	**16 17 18.1**	**-0.5**
	baz=153,slow=12,SNR=3.5							
HFS	**Hagfors**	**27.22**	**347**	P	**P**	**16 18 59.8**	**-1.2**
	comp=E,0.9nm,0.7s,baz=183,slow=17,SNR=1.7							
FINES	**FINESS Array B**	**27.47**	**1**	P	**P**	**16 19 01.2**	**-2.0**
	comp=E,2.5nm,0.9s,baz=176,slow=12,SNR=1.8							
TORD	**Torodi Ar. Bea**	**29.79**	**231**	P	**P**	**16 19 26.1**	**+1.8**
	comp=E,0.5nm,0.5s,baz=37,slow=9.0,SNR=2.5							
MKAR	**Makanchi Array**	**44.39**	**56**	P	**P**	**16 21 28.8**	**+1.1**
	comp=E,0.6nm,0.5s,baz=269,slow=8.2,SNR=11							
ZALV	**Zalesovo Beam**	**45.78**	**45**	P	**P**	**16 21 38.5**	**-0.2**
	comp=E,0.7nm,0.5s,baz=267,slow=10.0,SNR=3.6							
SONM	**Songino Array**	**60.19**	**50**	P	**P**	**16 23 26.7**	**+1.5**
	comp=E,0.5nm,0.5s,baz=288,slow=7.4,SNR=2.6							

*IDC **10** 16:25:59.5±0.9, 6.°95S×154.°52E, h0km, mb3.9/8, mb1 4.1/11, mb1mx3.9/27, mbtmp4.0/11, ML1.3/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/28, Error ellipse: s-maj=24.9km s-min=19.6km az=111.0*

ISC 10 16:26:05.1±0.8, 6.°88S±0.°09×154.°61E±0.°09, h39km, n14, σ1°58/15, mb3.7/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.62**	**315**	Pn	**Pn**	**16 26 58.2**	**-0.5**
	12nm,0.3s,baz=211,slow=2.1,SNR=58						
KRVT				Sn	**Sn**	**16 27 39.2**	**-1.0**
	11nm,0.3s,baz=244,slow=8.4,SNR=4.8						
HNR	**Honiara**	**5.87**	**116**	LR	LR	16 29 59.4	
	comp=Z,236nm,19.4s,baz=252,slow=41						
PMG	**Port Moresby**	**7.79**	**251**	Pn	**Pn**	**16 27 54.5**	**-1.4**
	0.3nm,0.3s,baz=284,slow=4.2,SNR=2.3						
PMG				Sn	**Sn**	**16 29 26.6**	**+3.8**
	0.5nm,0.3s,baz=80,slow=20,SNR=3.3						
PMG				LR	LR	16 30 38.7	
	comp=Z,81nm,20.5s,baz=34,slow=36						
DZM	**Mont Dzumac**	**18.94**	**144**	P	**Pn**	**16 30 23.8**	**-0.1**
	0.3nm,0.3s,baz=91,slow=17,SNR=2.4						
WRA	**Warramunga Arr**	**23.57**	**235**	P	**P**	**16 31 10.4**	**-1.9**
	2.2nm,0.8s,baz=56,slow=9.5,SNR=8.7						
ASAR	**Alice Springs**	**25.96**	**228**	P	**P**	**16 31 32.4**	**-1.9**
	0.9nm,0.7s,baz=59,slow=9.8,SNR=14						
ASAR				LR	LR	16 41 12.2	
	comp=Z,98nm,19.2s,baz=110,slow=35						
STKA	**Stephens Creek**	**27.68**	**204**	P	**P**	**16 31 48.4**	**-1.1**
	1.4nm,0.7s,baz=23,slow=15,SNR=3.7						
STKA				LR	LR	16 41 19.8	
	comp=Z,48nm,20.0s,baz=20,slow=33						
SONM	**Songino Array**	**59.03**	**327**	P	**P**	**16 37 07.0**	**+0.1**
	0.3nm,0.5s,baz=156,slow=11,SNR=1.5						
MKAR	**Makanchi Array**	**83.06**	**319**	P	**P**	**16 38 28.1**	**+1.4**
	1.7nm,0.8s,baz=99,slow=4.9,SNR=16						
ILAR	**Eielson Array**	**83.41**	**22**	P	**P**	**16 38 28.0**	**0.0**
	0.4nm,0.7s,baz=267,slow=4.8,SNR=4.5						
NVAR	**Mina Array Bea**	**91.95**	**52**	P	**P**	**16 39 11.7**	**+1.5**
	1.0nm,0.8s,baz=252,slow=5.0,SNR=5.8						
YKA	**Yellowknife Ar**	**96.41**	**28**	P	**P**	**16 39 29.6**	**-0.1**
	0.2nm,0.4s,baz=263,slow=4.9,SNR=4.1						
GERES	**GERESS Array B**	**126.75**	**329**	PKP	**PKiKP**	**16 45 05.5**	**+0.3**
	0.5nm,0.6s,baz=64,slow=3.1,SNR=5.4						
TORD	**Torodi Ar. Bea**	**152.62**	**285**	PKPbc	**PKPbc**	**16 45 58.1**	**-0.4**
	1.0nm,0.8s,baz=36,slow=2.4,SNR=3.7						

WEL 10 16:27:40.9, 37.°5S±15.°7E±.°, h33km, M3.7/16, ML3.8/16, MLv3.7/16, Error ellipse: s-maj=0.0km s-min=0.0km az=178.9, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WIZ	**White Island**	**0.80**	**186**	P	Pn	16 27 56.0	+0.2
HAZ	**Te Kaha**	**1.09**	**159**	P	Pn	16 27 59.6	-0.3
HAZ				S	Sn	16 28 11.9	-2.0
MXZ	**Matakaoa Point**	**1.16**	**136**	S	Sn	16 28 15.9	+0.3
KUZ	**Kuaotunu**	**1.26**	**269**	P	Pn	16 28 02.0	-0.1
KUZ				S	Sn	16 28 18.6	+0.6
RUGZ	**Raukumara Rang**	**1.27**	**166**	P	Pn	16 28 03.1	+0.7
TGRZ	**Tauranga**	**1.29**	**219**	P	Pb	16 28 03.8	-0.8
PKGZ	**Pakihiroa**	**1.31**	**152**	P	Pn	16 28 03.7	+0.7
WMGZ	**Waiomatatini S**	**1.41**	**141**	P	Pb	16 28 06.8	+0.2
URZ	**Urewera**	**1.53**	**185**	P	Pn	16 28 06.2	+0.3
GRZ	**Great Barrier**	**1.55**	**288**	P	Pb	16 28 08.6	-0.5
GRZ				S	Sn	16 28 25.6	+0.4
WIAZ	**Waiheke Island**	**1.73**	**267**	P	Pb	16 28 11.1	-1.0
WIAZ				S	Sb	16 28 33.6	+0.1
TOZ	**Tahuroa Road**	**1.74**	**235**	P	Pn	16 28 09.5	+0.7
MKAZ	**Moumakai**	**1.75**	**257**	P	Pn	16 28 09.5	+0.7
MKAZ				S	Sb	16 28 32.9	-0.9
RAGZ	**Rawiri**	**1.76**	**177**	P	Pn	16 28 10.1	+1.0
ETAZ	**East Tamaki Re**	**1.91**	**263**	P	Pn	16 28 12.3	+1.2
ETAZ				S	Sb	16 28 38.2	-0.3
KBAZ	**Karaka Road Bo**	**1.96**	**259**	P	Pb	16 28 15.7	-0.2
ALRZ	**Allen Road**	**1.97**	**202**	P	Pb	16 28 20.9	+4.7
ABAZ	**Army Bay**	**1.98**	**273**	P	Pn	16 28 13.5	+1.4
RIGZ	**Rimuhau**	**2.00**	**169**	P	Pb	16 28 15.3	-1.4
SNGZ	**Shannon Statio**	**2.04**	**179**	P	Pb	16 28 17.7	+0.3
EPAZ	**Eden Park BICE**	**2.05**	**265**	P	Pn	16 28 16.7	-0.8
TLZ	**Tolley Road**	**2.12**	**221**	P	Pn	16 28 14.8	+0.8
MTHZ	**Maungatawha**	**2.15**	**189**	P	Pb	16 28 18.4	-0.7
AWAZ	**Awhitu Peninsu**	**2.15**	**260**	P	Pn	16 28 16.2	+1.9
RVAZ	**Riverhead Bore**	**2.18**	**268**	P	Pn	16 28 16.2	+1.4
RAHZ	**Arahi**	**2.19**	**184**	P	Pb	16 28 23.3	+3.4
WTAZ	**Waiatarua**	**2.19**	**264**	P	Pn	16 28 16.4	+1.5
WHHZ	**Waihua**	**2.34**	**181**	P	Pb	16 28 25.8	+3.4
NMHZ	**Naumai**	**2.39**	**189**	P	Pb	16 28 22.0	-1.4
WCZ	**Waipu Caves**	**2.50**	**288**	P	Pn	16 28 20.8	+1.5
BKZ	**Black Stump Fm**	**2.51**	**194**	P	Pn	16 28 21.4	+2.0
RITZ	**Rihia Road**	**2.51**	**206**	P	Pb	16 28 28.2	+2.9
HIZ	**Hauiti**	**2.62**	**227**	P	Pn	16 28 22.1	+1.2
BHHZ	**Black Hill Sta**	**2.92**	**199**	P	Pb	16 28 29.1	-3.2
MOVZ	**Moawhango**	**2.93**	**204**	P	Pb	16 28 29.6	-2.9
VRZ	**Vera Road**	**3.12**	**219**	P	Pn	16 28 29.4	+1.7
OUZ	**Omahuta**	**3.35**	**296**	P	Pn	16 28 32.9	+2.0
WAZ	**Wanganui**	**3.52**	**210**	P	Pb	16 28 38.8	-3.7
HOWZ	**Holdsworth Sta**	**4.38**	**198**	P	Pn	16 28 46.5	+1.4
THZ	**Tophouse**	**6.07**	**213**	P	Pn	16 29 12.2	+3.9
LTZ	**Lake Taylor**	**7.17**	**211**	P	Pn	16 29 30.6	+7.2

*SOME **10** 16:48:05.9, 38.°63N×72.°38E, h0km*
*NNC **10** 16:48:11.9±4.5, 38.°08N×72.°32E, h216km±46km, mb2.7, mpv3.4, Error ellipse: s-maj=41.7km s-min=26.0km az=10.0*
*IDC **10** 16:48:16.7±5.1, 38.°51N×72.°31E, h218km±33km, mb3.0/3, mb1 2.8/8, mb1mx2.7/58, mbtmp3.5/8, Error ellipse: s-maj=59.7km s-min=33.0km az=156.0*

ISC 10 16:48:07.1±0.9, 37.°74N±0.°08×72.°37E±0.°09, h200km, n28, σ1°61/36, 6C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.50**	**13**	P	**Pn**	**16 49 16.5**	**+1.1**
	SNR=28						
IUG	**Iuzhnay**	**4.75**	**339**	*eP*	**Pn**	**16 49 19.6**	**+1.2**
	9.1nm,0.1s						
IUG				*eS*	**Sn**	**16 50 12.7**	**-1.9**
	225nm,0.6s						
UCH	**Uchtor**	**4.77**	**20**	P	**Pn**	**16 49 20.0**	**+1.0**
	SNR=16						
KZA	**Kyzart**	**4.86**	**26**	P	**Pn**	**16 49 20.8**	**+0.7**
	SNR=5.8						
EKS2	**Erkin-Say**	**5.03**	**12**	P	**Pn**	**16 49 23.9**	**+2.0**
	SNR=7.8						
MRKS	**Merke**	**5.04**	**7**	*eP*	**Pn**	**16 49 23.9**	**+1.9**
	13nm,0.1s						
MRKS				*eS*	**Sn**	**16 50 20.1**	**-1.1**
	25nm,0.3s						
AAK	**Ala-Archa**	**5.15**	**18**	P	**Pn**	**16 49 24.5**	**+1.0**
	3.1nm,0.3s,baz=179,slow=5.9,SNR=21						
AAK				S	**Sn**	**16 50 19.3**	**-4.6**
	1.0nm,0.3s,baz=238,slow=9.8,SNR=4.9						
AAK	**Ala-Archa**	**5.15**	**18**	P	**Pn**	**16 49 25.1**	**+1.6**
	SNR=10						
AAK	**Ala-Archa**	**5.15**	**18**	⇑P	**Pn**	**16 49 24.5**	**+1.0**
	5.0nm,0.4s						
AAK				⇓S	**Sn**	**16 50 23.8**	**-0.1**
	11nm,0.8s						
DZA	**Taraz**	**5.20**	**352**	*eP*	**Pn**	**16 49 26.5**	**+2.5**
	39nm,0.1s						
DZA				*eS*	**Sn**	**16 50 24.4**	**-0.4**
	97nm,0.2s						
KK31	**Karatay Array**	**5.54**	**346**	⇓P	**Pn**	**16 49 28.9**	**+0.6**
	1.5nm,0.3s,baz=161,slow=12,SNR=28						
KK31				⇑S	**Sn**	**16 50 29.8**	**-2.7**
	9.7nm,0.3s,baz=158,slow=21,SNR=19						
TKM2	**Tokmak 2**	**5.73**	**24**	⇓P	**Pn**	**16 49 31.6**	**+0.7**
	1.0nm,0.4s						
TKM2				⇑S	**Sn**	**16 50 38.3**	**+1.0**
	3.8nm,1.1s						
MKAR	**Makanchi Array**	**11.65**	**36**	P	**Pn**	**16 50 48.6**	**+1.3**
	0.0nm,0.3s,baz=206,slow=9.9,SNR=1.9						
DANN	**Dangsing**	**13.37**	**131**	*eP*	**Pn**	**16 51 08.1**	**-1.4**
	6.7nm,0.3s						
KURBB	**Kurchatov Arra**	**13.61**	**17**	P	**Pn**	**16 51 12.8**	**+0.8**
	0.1nm,0.3s,baz=208,slow=10,SNR=12						
KOLN	**Koldanda**	**13.71**	**133**	*eP*	**Pn**	**16 51 12.2**	**-1.4**
	3.8nm,0.3s						
GKN	**Gorkha**	**14.15**	**130**	*eP*	**Pn**	**16 51 18.4**	**-0.7**
	21nm,0.4s						
AB31	**Akbulak array**	**14.60**	**326**	⇑P	**P**	**16 51 25.2**	**0.0**
	13nm,0.4s,baz=137,slow=12,SNR=8.2						
AB31				⇑S	**S**	**16 54 03.1**	**-3.0**
	1.4nm,0.3s,baz=136,slow=24,SNR=7.6						
PKIN	**Phulchoki**	**14.92**	**129**	*eP*	**P**	**16 51 28.6**	**-0.8**
	4.3nm,0.2s						
PKI	**Pulchoki**	**14.94**	**129**	*eP*	**P**	**16 51 28.7**	**-0.9**
	3.0nm,0.2s						
BVAR	**Borovoye Array**	**15.35**	**355**	P	**P**	**16 51 33.5**	**-0.1**
	0.2nm,0.3s,baz=181,slow=10.0,SNR=4.9						
JIRN	**Jiri**	**15.36**	**127**	*eP*	**P**	**16 51 34.9**	**+0.5**
	23nm,0.5s						
RAMN	**Ramite**	**16.12**	**128**	*eP*	**Pn**	**16 51 43.1**	**0.0**
	20nm,0.6s						
AKTO	**Aktyubinsk**	**16.31**	**326**	⇑P	**Pn**	**16 51 46.1**	**+1.2**
	3.0nm,0.9s						
AKTO				⇓S	**S**	**16 54 42.9**	**-1.8**
	1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**18.34**	**24**	P	**P**	**16 52 07.4**	**+1.2**
	0.4nm,0.3s,baz=225,slow=10,SNR=13						
ARU	**Arti**	**20.85**	**338**	P	**P**	**16 52 33.1**	**-0.1**
	0.4nm,0.3s,baz=173,slow=17,SNR=2.1						
BRTR	**Keskin Array B**	**30.12**	**286**	P	P	16 54 04.4	+6.2
	0.3nm,0.4s,baz=94,slow=13,SNR=2.8						
ARCES	**ARCESS Array B**	**40.43**	**337**	P	**P**	**16 55 27.4**	**+2.0**
	1.5nm,0.8s,baz=114,slow=8.1,SNR=7.3						

*IDC **10** 16:51:14.6±0.9, 11.°89S×166.°60E, h107km±7km, mb3.9/10, mb1 4.0/12, mb1mx3.7/34, mbtmp4.3/12, MS2.7/1, Ms1 2.7/1, ms1mx2.4/25, Error ellipse: s-maj=20.2km s-min=17.3km az=91.0*
*NEIC **10** 16:51:15.4±1.2, 11.°84S±0.°10×166.°6E±0.°1, h116km±5km, mb4.8/29, Error ellipse: s-maj=19.3km s-min=12.7km az=66.0*

ISC 10 16:51:12.8±0.8, 11.°75S±0.°09×166.°8E±0.°1, h100km, n46, σ1°39/48, mb4.7/19, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**3.70**	**173**		**Pn**	**16 52 10.3**	**+2.3**
HNR	**Honiara**	**7.08**	**288**	P	**Pn**	**16 52 52.6**	**-1.2**
	6.6nm,0.3s,baz=196,slow=14,SNR=2.1						
HNR				S	**Sn**	**16 54 15.7**	**+2.9**
	11nm,0.3s,baz=334,slow=19,SNR=3.6						
HNR	**Honiara**	**7.08**	**288**		**Pn**	**16 52 53.8**	**-0.1**
DZM	**Mont Dzumac**	**10.27**	**182**	P	**Pn**	**16 53 38.0**	**+0.7**
	4.9nm,0.3s,baz=313,slow=20,SNR=72						
DZM				LR	LR	16 57 07.6	
	comp=Z,51nm,21.6s,baz=28,slow=35						
DZM	**Mont Dzumac**	**10.27**	**182**		**Pn**	**16 53 38.7**	**+1.4**
EIDS	**Eidsvold**	**20.08**	**225**		Pn	16 55 40.0	-1.1
EIDS				IAmb	IAmb	16 55 41.0	
	comp=Z,22nm,0.8s						
CTA	**Charters Tower**	**21.38**	**245**	P	**P**	**16 55 52.6**	**+0.2**
	comp=Z,3.6nm,0.7s,baz=62,slow=14,SNR=1.5						
CTAO	**Charters Tower**	**21.38**	**245**	P	**P**	**16 55 50.5**	**-1.9**
CTAO				IAmb	IAmb	16 56 48.9	
	comp=Z,42nm,1.4s						
ARMA	**Arm

ABNR				Sg	Sg	16 55 27.9	+4.4		
VEH	**Verkhnyaya Baz**	**4.97**	**301**	Pg	Pg	16 54 33.9	+4.0		
VEH				Sg	Sg	16 55 36.6	+2.3		
CUR	**Chagan-Uzun**	**5.83**	**266**	Pg	Pg	16 54 42.0	-4.3		
CUR				Sg	Sg	16 56 04.7	+3.0		
TRG	**Tyrgan**	**5.86**	**68**	Pg	Pb	16 54 39.3	+1.9		
TRG				Sg	Sb	16 55 48.9	+1.0		
GZL	**Zheleznogorsk**	**5.87**	**338**	Sg	Sg	16 56 05.2	+2.3		
LUZB	**Luzhba, Kemero**	**5.92**	**301**	Pg	Pg	16 54 45.8	-2.1		
LUZB				Sg	Sg	16 56 08.7	+4.2		
TASR	**Tashtagol**	**6.20**	**291**	Sg	Sg	16 56 20.3	+6.8		
AKAR	**Aktash**	**6.25**	**269**	Sg	Sg	16 56 20.1	+4.8		
CHBI	**Chibit, Altay**	**6.33**	**269**	Sg	Sg	16 56 22.9	+5.2		
DGZ	**Jazzator, Alta**	**6.50**	**263**	Sg	Sg	16 56 30.8	+7.7		

*IDC **10** 16:54:14.2±5.0, 6°.84S×155°.41E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.7/30, mbtmp3.9/5, ML3.6/1, MS2.8/2, Ms1 2.8/2, ms1mx2.4/26, Error ellipse: s-maj=93.4km s-min=36.4km az=87.0*

*NEIC **10** 16:54:51.6±0.4, 5°.9S±0°.2×150°.7E±0°.2, h35km±2km, mb4.4/6, Error ellipse: s-maj=44.5km s-min=7.8km az=123.0*

ISC 10 16:54:50.6±1.9, 6°.0S±0°.3×151°.0E±0°.3, h43km, n15, σ1§11/13, mb4.3/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.96**	**32**	Pn	**Pn**	**16 55 18.9**	**-2.6**
	3.3nm,0.3s,baz=221,slow=1.8,SNR=10						
KRVT				Sn	Sn	16 56 00.6	+16
	6.9nm,0.3s,baz=200,slow=22,SNR=4.1						
KRVT				LR	LR	16 57 09.5	
	comp=Z,76nm,21.5s,baz=250,slow=42						
RABL	**Rabaul**	**2.13**	**34**		**Pn**	**16 55 26.1**	**+2.2**
WB0	**Warramunga Arr**	**21.16**	**228**	P	**P**	**16 59 32.6**	**+0.3**
WR0	**Warramunga Arr**	**21.17**	**227**	P	**P**	**16 59 32.5**	**0.0**
WR0				IAmb	IAmb	17 00 17.9	
	comp=Z,31nm,1.9s						
WB2	**Warramunga Arr**	**21.30**	**228**	P	**P**	**16 59 33.9**	**+0.1**
WRA	**Warramunga Arr**	**21.31**	**228**	P	**P**	**16 59 33.4**	**-0.6**
	comp=Z,1.2nm,0.4s,baz=64,slow=9.3,SNR=12						
WRA	**Warramunga Arr**	**21.31**	**228**	P	**P**	**16 59 33.4**	**-0.6**
ASAR	**Alice Springs**	**24.06**	**221**	P	P	16 59 55.0	-7.2
	comp=Z,1.1nm,0.6s,baz=60,slow=8.8,SNR=12						
ASAR				LR	LR	17 09 18.6	
	comp=Z,43nm,21.7s,baz=336,slow=34						
FITZ	**Fitzroy Crossi**	**27.50**	**242**	P	**P**	**17 00 33.2**	**0.0**
	comp=Z,4.5nm,0.9s,baz=84,slow=13,SNR=3.2						
FITZ	**Fitzroy Crossi**	**27.50**	**242**	P	**P**	**17 00 33.2**	**0.0**
FITZ	**Fitzroy Crossi**	**27.50**	**242**	IAmb	IAmb	17 00 37.5	
	comp=Z,14nm,1.4s						
MAJO	**Matsushiro**	**43.95**	**345**	P	**P**	**17 02 53.8**	**+0.3**
MAJO				IAmb	IAmb	17 03 47.8	
	comp=Z,8.6nm,1.4s						
MJB9	**Matsu-Tunnel**	**43.96**	**345**	P	**P**	**17 02 53.8**	**+0.2**
MJB9				IAmb	IAmb	17 03 47.8	
	comp=Z,8.5nm,1.3s						
CMAR	**Chiang Mai Arr**	**56.74**	**297**	P	**P**	**17 04 30.8**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=115,slow=5.1,SNR=4.8						
CMAR	**Chiang Mai Arr**	**56.74**	**297**	P	**P**	**17 04 30.8**	**+0.1**

*NEIC **10** 17:02:34.9±1.2, 6°.65S±0°.06×155°.04E±0°.07, h36km±6km, mb4.7/44, Error ellipse: s-maj=12.3km s-min=3.2km az=130.0*

*IDC **10** 17:02:34.9±3.0, 6°.63S×155°.09E, h38km±23km, mb3.9/13, mb1 4.1/16, mb1mx4.0/30, mbtmp4.1/16, ML3.4/3, MS3.2/4, Ms1 3.2/4, ms1mx2.8/25, Error ellipse: s-maj=23.3km s-min=16.6km az=106.0*

ISC 10 17:02:36.7±0.5, 6°.63S±0°.07×155°.02E±0°.07, h56km, n78, σ1§03/79, mb4.6/34, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.74**	**310**		Pn	17 03 37.9	+5.9
KRVT	**Keravat (AS076**	**3.77**	**308**	Pn	**Pn**	**17 03 32.5**	**+0.1**
	16nm,0.3s,baz=183,slow=1.6,SNR=35						
KRVT				Sn	Sn	17 04 25.1	+10
	67nm,0.3s,baz=95,slow=23,SNR=5.9						
HNR	**Honiara**	**5.62**	**120**	LR	LR	17 06 08.2	
	comp=Z,251nm,20.5s,baz=325,slow=38						
HNR	**Honiara**	**5.62**	**120**	Pn	Pn	17 03 49.9	-7.8
PMG	**Port Moresby**	**8.26**	**250**	Pn	**Pn**	**17 04 33.7**	**-0.2**
	4.1nm,0.3s,baz=68,slow=8.2,SNR=14						
PMG				Sn	**Sn**	**17 06 09.4**	**+3.6**
	4.4nm,0.3s,baz=87,slow=22,SNR=4.0						
PMG				LR	LR	17 07 26.4	
	comp=Z,150nm,18.5s,baz=70,slow=35						
PMG	**Port Moresby**	**8.26**	**250**		**Pn**	**17 04 30.9**	**-2.9**
COEN	**Coen**	**13.73**	**237**	Pn	**Pn**	**17 05 48.0**	**-0.8**
PATS	**Pohnpei**	**13.78**	**14**	Pn	**Pn**	**17 05 48.2**	**-1.2**
DZM	**Mont Dzumac**	**18.90**	**145**	P	**P**	**17 06 52.5**	**-0.4**
	0.3nm,0.3s,baz=308,slow=19,SNR=1.8						
DZM				LR	LR	17 12 37.1	
	comp=Z,98nm,20.3s,baz=312,slow=32						
DZM	**Mont Dzumac**	**18.90**	**145**	P	**Pn**	**17 06 55.0**	**+0.9**
EIDS	**Eidsvold**	**19.01**	**191**	P	**Pn**	**17 06 55.4**	**+0.3**
FAKI	**Fak Fak**	**22.99**	**278**	P	**P**	**17 07 37.9**	**+0.9**
FAKI				IAmb	IAmb	17 07 38.7	
	comp=Z,49nm,1.2s						
SAUI	**Saumlaki**	**23.57**	**265**	P	**P**	**17 07 42.6**	**+0.1**
ARMA	**Armidale**	**23.88**	**187**	P	**P**	**17 07 43.0**	**-2.2**
ARMA				IAmb	IAmb	17 08 17.9	
	comp=Z,50nm,1.4s						
WR0	**Warramunga Arr**	**23.89**	**234**	P	**P**	**17 07 45.7**	**+0.3**
WB0	**Warramunga Arr**	**23.91**	**235**	P	**P**	**17 07 46.1**	**+0.5**
WRAB	**Tennant Creek**	**24.03**	**235**	P	**P**	**17 07 47.4**	**+0.7**
WB2	**Warramunga Arr**	**24.03**	**235**	P	**P**	**17 07 47.2**	**+0.5**
WRA	**Warramunga Arr**	**24.04**	**235**	P	**P**	**17 07 46.5**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=62,slow=9.5,SNR=19						
WRA				PcP	**PcP**	**17 11 28.2**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=59,slow=2.2,SNR=13						
MTN	**Manton Dam**	**24.33**	**253**	P	**P**	**17 07 50.5**	**+1.1**
MTN				IAmb	IAmb	17 08 09.1	
	comp=Z,49nm,1.4s						
AS31	**Alice Springs**	**26.43**	**228**	P	**P**	**17 08 08.7**	**+0.2**
ASAR	**Alice Springs**	**26.43**	**228**	P	**P**	**17 08 08.4**	**0.0**
	comp=Z,1.1nm,0.5s,baz=58,slow=9.3,SNR=38						
ASAR				PcP	**PcP**	**17 11 33.5**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=53,slow=4.3,SNR=4.3						
ASAR				ScP	**ScP**	**17 15 11.0**	**+2.8**
	comp=Z,0.3nm,0.7s,baz=73,slow=2.4,SNR=4.4						
KNRA	**Kununurra**	**27.25**	**249**	P	**P**	**17 08 16.2**	**+0.3**
STKA	**Stephens Creek**	**28.07**	**205**	P	**P**	**17 08 23.0**	**0.0**
SOEI	**Soe**	**30.59**	**262**	P	**P**	**17 08 43.7**	**-2.0**
FITZ	**Fitzroy Crossi**	**30.82**	**246**	P	**P**	**17 08 47.2**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=53,slow=6.7,SNR=5.9						
FITZ	**Fitzroy Crossi**	**30.82**	**246**	P	**P**	**17 08 47.3**	**-0.3**
FITZ				IAmb	IAmb	17 09 46.1	
	comp=Z,23nm,1.6s						
BBOO	**Buckleboo**	**31.45**	**212**	P	**P**	**17 08 51.0**	**-2.0**
FORT	**Forrest**	**34.87**	**223**	P	**P**	**17 09 22.6**	**-0.2**
BKZ	**Black Stump Fm**	**37.74**	**152**	P	**P**	**17 09 47.2**	**0.0**
JAGI	**Jajag, Banyuwa**	**40.54**	**265**	P	**P**	**17 10 09.8**	**-1.2**
KKM	**Kota Kinabalu**	**40.72**	**287**	P	**P**	**17 10 11.5**	**-1.0**
KKM				IAmb	IAmb	17 11 26.2	
	comp=Z,11nm,1.0s						
KSRS	**Korea Array**	**50.63**	**332**	P	**P**	**17 11 30.2**	**0.0**
	comp=Z,0.8nm,0.8s,baz=134,slow=8.8,SNR=4.6						
KSRS				LR	LR	17 31 38.6	
	comp=Z,15nm,18.5s,baz=157,slow=34						
IPM	**Ipoh**	**55.02**	**280**	P	**P**	**17 12 02.3**	**-0.8**
IPM				IAmb	IAmb	17 12 03.9	
	comp=Z,5.7nm,0.8s						
PBKT	**Sadao Pong**	**58.21**	**294**	P	**P**	**17 12 27.0**	**+1.4**
PBKT				IAmb	IAmb	17 12 42.0	
	comp=Z,17nm,1.7s						
PET	**Petropavlovsk**	**59.51**	**3**	P	**P**	**17 12 35.1**	**+1.1**
PETK	**Petropavlovsk-**	**59.56**	**2**	P	**P**	**17 12 35.0**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=162,slow=7.9,SNR=8.2						
KMI	**Kunming**	**59.84**	**304**	P	**P**	**17 12 37.8**	**+0.7**
CM31	**Chiang Mai Arr**	**60.65**	**295**	P	**P**	**17 12 43.8**	**+1.3**
CMAR	**Chiang Mai Arr**	**60.65**	**295**	P	**P**	**17 12 44.4**	**+1.8**
	comp=Z,6.9nm,0.7s,baz=122,slow=5.3,SNR=47						
CHTO	**Chiang Mai**	**60.77**	**296**	P	**P**	**17 12 43.5**	**+0.2**
CHTO				IAmb	IAmb	17 12 45.3	
	comp=Z,5.0nm,0.8s						
SONM	**Songino Array**	**69.05**	**327**	P	**P**	**17 13 36.8**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=115,slow=5.6,SNR=5.6						
SHL	**Shillong**	**69.14**	**300**	P	**P**	**17 13 38.1**	**+0.3**
SHL				IAmb	IAmb	17 13 48.4	
	comp=Z,6.0nm,0.8s						
VNDA	**Vanda**	**70.94**	**178**	P	**P**	**17 13 48.0**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=313,slow=5.4,SNR=4.6						
ODAN	**Odare**	**73.37**	**300**	*eP*	**P**	**17 14 02.5**	**-0.9**
	comp=Z,19nm,0.6s						
RAMN	**Ramite**	**74.07**	**300**	*eP*	**P**	**17 14 07.0**	**-0.6**
	comp=Z,4.8nm,0.5s						
JIRN	**Jiri**	**74.62**	**301**	*eP*	**P**	**17 14 11.0**	**+0.1**
	comp=Z,8.4nm,0.5s						
GUN	**Gumba**	**74.95**	**301**	*eP*	**P**	**17 14 13.6**	**+0.8**
	comp=Z,19nm,0.7s						
PKI	**Pulchoki**	**75.26**	**301**	*eP*	**P**	**17 14 15.1**	**+0.5**
	comp=Z,4.4nm,0.5s						
PKIN	**Phulchoki**	**75.28**	**301**	*eP*	**P**	**17 14 15.0**	**+0.4**
	comp=Z,3.7nm,0.4s						
KKN	**Kakani**	**75.43**	**301**	*eP*	**P**	**17 14 16.1**	**+0.7**
	comp=Z,6.7nm,0.6s						
DMN	**Daman**	**75.53**	**301**	*eP*	**P**	**17 14 16.6**	**+0.6**
	comp=Z,11nm,0.7s						
KOLN	**Koldanda**	**76.86**	**300**	*eP*	**P**	**17 14 23.7**	**+0.2**
	comp=Z,9.6nm,0.7s						
RSO	**Redoubt South**	**78.36**	**24**	P	**P**	**17 14 30.2**	**-0.8**
CNPM	**China Poot**	**78.42**	**25**	P	**P**	**17 14 32.1**	**+0.9**
RC01	**Rabbit Creek A**	**79.93**	**24**	P	**P**	**17 14 40.0**	**+0.6**
RC01				IAmb	IAmb	17 17 22.0	
	comp=Z,11nm,1.2s						
GHO	**Glory Hole Cre**	**80.63**	**24**	P	**P**	**17 14 44.2**	**+0.9**
GHO				IAmb	IAmb	17 14 44.4	
	comp=Z,4.8nm,0.8s						
SML	**Sawmill**	**80.89**	**24**	P	**P**	**17 14 45.5**	**+0.8**
SML				IAmb	IAmb	17 14 46.0	
	comp=Z,6.4nm,0.7s						
GLI	**Glacier Island**	**80.89**	**25**	P	**P**	**17 14 45.4**	**+0.8**
GLI				IAmb	IAmb	17 15 20.7	
	comp=Z,14nm,1.0s						
TRF	**Thorofare Moun**	**81.05**	**22**	P	**P**	**17 14 44.8**	**-0.9**
TRF				IAmb	IAmb	17 17 42.0	
	comp=Z,14nm,1.6s						
FID	**Port Fidalgo**	**81.09**	**25**	P	**P**	**17 14 46.2**	**+0.6**
FID				IAmb	IAmb	17 14 54.6	
	comp=Z,10nm,1.0s						
WRH	**Wood River Hil**	**82.43**	**21**	P	**P**	**17 14 52.3**	**-0.4**
GLB	**Gilahina Butte**	**82.56**	**25**	P	**P**	**17 14 53.6**	**+0.2**
GLB				IAmb	IAmb	17 14 55.0	
	comp=Z,3.5nm,0.7s						
VRDI	**Verde Repeater**	**82.61**	**25**	P	**P**	**17 14 53.4**	**-0.5**
VRDI				IAmb	IAmb	17 14 55.7	
	comp=Z,9.9nm,1.6s						
CCB	**Clear Creek Bu**	**82.63**	**21**	P	**P**	**17 14 52.6**	**-1.1**
ILAR	**Eielson Array**	**83.03**	**22**	P	**P**	**17 14 54.0**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=256,slow=5.8,SNR=4.7						
MK31	**Makanchi Array**	**83.15**	**319**	P	**P**	**17 14 56.7**	**-0.1**
MKAR	**Makanchi Array**	**83.15**	**319**	P	**P**	**17 14 56.2**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=101,slow=5.1,SNR=10						
QSPA	**South Pole Qui**	**83.34**	**180**	P	**P**	**17 14 58.1**	**+0.5**
QSPA				IAmb	IAmb	17 15 23.3	
	comp=Z,8.0nm,1.3s						
CTGM	**Chitina Glacie**	**83.40**	**26**	P	**P**	**17 14 58.3**	**+0.4**
CTGM				IAmb	IAmb	17 14 59.7	
	comp=Z,4.3nm,0.6s						
DOT	**Dot Lake**	**83.52**	**23**	P	**P**	**17 14 58.9**	**+0.5**
DOT				IAmb	IAmb	17 14 59.6	
	comp=Z,2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**83.90**	**326**	P	**P**	**17 14 59.1**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=126,slow=7.3,SNR=2.4						
HYT	**Haines Junctio**	**85.04**	**27**	P	**P**	**17 15 07.2**	**+1.0**
HYT				IAmb	IAmb	17 15 08.4	
	comp=Z,4.8nm,0.7s						
EPYK	**Eagle Plains**	**87.52**	**22**	P	**P**	**17 15 18.9**	**+0.7**
EPYK				IAmb	IAmb	17 15 19.9	
	comp=Z,5.2nm,0.6s						
NVAR	**Mina Array Bea**	**91.48**	**52**	P	**P**	**17 15 38.3**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=259,slow=5.7,SNR=4.5						
YKA	**Yellowknife Ar**	**96.01**	**28**	P	**P**	**17 15 58.2**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=261,slow=4.8,SNR=16						
GERES	**GERESS Array B**	**126.76**	**329**	PKP	**PKiKP**	**17 21 34.7**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=329,slow=2.3,SNR=4.9						
TORD	**Torodi Ar. Bea**	**152.95**	**286**	PKPbc	**PKPbc**	**17 22 28.4**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=66,slow=1.8,SNR=9.3						

*VAO **10** 17:11:02.0±1.1, 15°.71S×75°.60W, h10km, mb4.6*

*IDC **10** 17:11:06.6±0.6, 15°.78S×74°.81W, h0km, mb4.1/10, mb1 4.3/15, mb1mx4.2/34, mbtmp4.2/15, ML4.0/5, MS3.6/16, Ms1 3.5/16, ms1mx3.5/28, Error ellipse: s-maj=22.9km s-min=13.0km az=57.0*

*NEIC **10** 17:11:09.3±1.6, 16°.03S±0°.08×75°.1W±0°.1, h33km±1km, mb4.7/71, ML4.6(ARE), Error ellipse: s-maj=16.4km s-min=9.7km az=59.0*

*BJI **10** 17:11:12.0±0.0, 16°.00S×75°.10W, h30km, mB5.6/1, Ms5.2/1, Ms7 5.1/1*

ISC 10 17:11:09.7±0.4, 15°.86S±0°.06×75°.06W±0°.08, h30km, n181, σ1§46/172, mb4.7/44, MS3.7/12, 1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.22**	**336**	Pn	**Pn**	**17 12 14.8**	**+2.8**
	10nm,0.3s,baz=153,slow=18,SNR=7.4						
NNA				Lg	Lg	17 13 17.7	
	86nm,0.3s,baz=223,slow=17,SNR=7.8						
NNA				LR	LR	17 13 18.7	
	comp=Z,117nm,19.2s,baz=160,slow=31						
NNA	**Nana**	**4.22**	**336**		**Pn**	**17 12 14.0**	**+2.0**
AP01	**Chacalluta**	**5.16**	**120**	Pn	**Pn**	**17 12 24.0**	**-0.8**
PB12	**IPOC Station P**	**5.29**	**122**		**Pn**	**17 12 26.4**	**-0.3**
PSGCX	**Pisagua**	**6.00**	**129**		**Pn**	**17 12 35.9**	**-0.6**
MNMC	**Minye Minye**	**6.15**	**123**		**Pn**	**17 12 38.1**	**-0.6**
PB11	**IPOC Station P**	**6.45**	**128**		**Pn**	**17 12 41.9**	**-0.9**
TA01	**Diego Aracena**	**6.59**	**136**		**Pn**	**17 12 42.3**	**-2.3**
LPAZ	**La Paz**	**6.68**	**95**	Pn	**Pn**	**17 12 48.2**	**+1.9**
GO01	**Chusmiza**	**6.75**	**125**		**Pn**	**17 12 47.0**	**-0.2**
PATCX	**Punta Patache**	**6.79**	**137**		**Pn**	**17 12 45.4**	**-2.0**
PB08	**IPOC Station P**	**7.05**	**128**		**Pn**	**17 12 51.1**	**-0.2**
PB01	**IPOC Station P**	**7.39**	**135**		**Pn**	**17 12 54.2**	**-1.4**
PB07	**IPOC Station P**	**7.62**	**141**		**Pn**	**17 12 57.1**	**-1.8**
PB04	**IPOC Station P**	**7.94**	**145**		**Pn**	**17 13 01.6**	**-1.6**
PB09	**IPOC Station P**	**8.08**	**138**		**Pn**	**17 13 04.8**	**-0.3**
PB06	**IPOC Station P**	**8.56**	**144**		**Pn**	**17 13 10.1**	**-1.7**
PB10	**IPOC Station P**	**8.72**	**152**		**Pn**	**17 13 12.0**	**-1.8**
LVC	**Limon Verde**	**8.88**	**140**	Pn	**Pn**	**17 13 15.1**	**-1.3**
	4.0nm,0.3s,baz=8.2,slow=7.3,SNR=42						
LVC				Lg	Lg	17 15 50.3	
	0.7nm,0.3s,baz=136,slow=14,SNR=3.7						
LVC				LR	LR	17 16 28.1	
	comp=Z,388nm,20.5s,baz=301,slow=37						
LVC	**Limon Verde**	**8.88**	**140**	Pn	**Pn**	**17 13 15.3**	**-1.0**
LVC	**Limon Verde**	**8.88**	**140**	*eP*	**Pn**	**17 13 16.4**	**+0.1**
LVC				*eS*	**Sn**	**17 15 02.5**	**+6.9**
LVC	**Limon Verde**	**8.88**	**140**	*eP*	**Pn**	**17 13 16.4**	**+0.1**
LVC				*eS*	**Sn**	**17 15 02.5**	**+6.9**
PB15	**IPOC Station P**	**9.01**	**145**		**Pn**	**17 13 15.6**	**-2.4**
GO02	**Mina Guanaco**	**10.58**	**152**	Pn	**Pn**	**17 13 38.0**	**-1.6**
AC01	**Pan de Azucar**	**11.05**	**159**	Pn	**Pn**	**17 13 41.6**	**-4.2**
AC02	**Maricunga**	**12.24**	**154**	Pn	**Pn**	**17 13 59.4**	**-3.1**
AC04	**Llanos de Chal**	**12.83**	**164**	Pn	**Pn**	**17 14 07.1**	**-3.0**
SIV	**San Ignacio**	**13.46**	**92**	Pn	**Pn**	**17 14 15.2**	**-3.5**
	0.3nm,0.3s,baz=276,slow=11,SNR=10.0						
SIV				LR	LR	17 19 51.2	
	comp=Z,352nm,18.7s,baz=278,slow=40						
SAML	**Samuel**	**13.47**	**61**		**Pn**	**17 14 19.5**	**+0.6**
AC05	**El Transito**	**13.65**	**162**	Pn	**Pn**	**17 14 19.7**	**-1.8**
VILB	**Vilhena**	**14.68**	**81**	*eP*	**Pn**	**17 14 35.8**	**+0.4**
VILB	**Vilhena**	**14.68**	**81**	*eP*	**Pn**	**17 14 35.8**	**+0.4**
GO04	**Tololo Observa**	**14.78**	**165**		**P**	**17 14 43.3**	**+0.8**
CO01	**Juntas del Tor**	**14.78**	**163**	P	**Pn**	**17 14 38.7**	**+1.8**
PTLB	**Pontes e Lacer**	**15.34**	**91**	*eP*	**P**	**17 14 46.6**	**-2.0**
PTLB	**Pontes e Lacer**	**15.34**	**91**	*eP*	**P**	**17 14 46.6**	**-2.0**
CO03	**El Pedregal**	**15.44**	**166**	P	**P**	**17 14 47.3**	**-2.4**
CO03				IAmb	IAmb	17 14 52.7	
	comp=Z,41nm,0.9s						
CO02	**Combarbal**	**15.72**	**167**	P	**Pn**	**17 14 48.3**	**-0.9**
ZON	**Zonda**	**16.67**	**161**	P	**Pn**	**17 14 58.3**	**-2.8**
CFA	**Coronel Fontan**	**16.87**	**160**	Pn	**Pn**	**17 15 04.1**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=339,slow=12,SNR=21						
CFA				LR	LR	17 20 36.8	
	comp=Z,135nm,20.4s,baz=316,slow=34						
VA03	**San Esteban**	**17.32**	**167**	P	**P**	**17 15 10.2**	**-0.4**
ROC1	**El Roble**	**17.43**	**169**	P	**Pn**	**17 15 08.8**	**-2.1**
PEL	**Peldehue**	**17.66**	**168**	P	**Pn**	**17 15 10.8**	**-2.7**
MT02	**Curacav**	**17.69**	**169**	P	**Pn**	**17 15 12.3**	**-1.5**
H03N1	**Juan Fernandez**	**17.85**	**191**	T	T	17 34 04.2	
	baz=13,slow=74,SNR=1086						
H03N2	**Juan Fernandez**	**17.85**	**191**	T	T	17 33 35.5	
	baz=13,slow=74,SNR=964						
H03N3	**Juan Fernandez**	**17.87**	**191**	T	T	17 34 03.0	
	baz=13,slow=74,SNR=894						
SALV	**Santo Antonio**	**18.63**	**93**	*eP*	**Pn**	**17 15 26.2**	**+0.7**
SALV	**Santo Antonio**	**18.63**	**93**	*eP*	**Pn**	**17 15 26.2**	**+0.7**
BO02	**Sierra Bellavi**	**19.25**	**169**	P	**P**	**17 15 29.2**	**-2.5**
CLDB	**Colider**	**19.38**	**78**	*eP*	**P**	**17 15 33.0**	**-0.3**
CLDB	**Colider**	**19.38**	**78**	*eP*	**P**	**17 15 33.0**	**-0.3**
CPUP	**Villa Florida**	**19.53**	**125**	P	**P**	**17 15 33.5**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=323,slow=5.1,SNR=4.2						
CPUP				LR	LR	17 24 35.0	
	comp=Z,126nm,19.0s,baz=274,slow=42						
CPUP	**Villa Florida**	**19.53**	**125**	P	**P**	**17 15 33.0**	**-1.8**
PTGA	**Pitinga**	**21.16**	**46**	P	**P**	**17 15 50.8**	**-1.7**
	comp=Z,1.1nm,0.3s,baz=215,slow=13,SNR=4.1						
PTGA				LR	LR	17 25 13.3	
	comp=Z,121nm,20.4s,baz=230,slow=40						
PTGA	**Pitinga**	**21.16**	**46**	P	**P**	**17 15 51.2**	**-1.3**
PTGA	**Pitinga**	**21.16**	**46**	*eP*	**P**	**17 15 50.7**	**-1.8**
PTGA	**Pitinga**	**21.16**	**46**	*eP*	**P**	**17 15 50.7**	**-1.8**
NPGB	**Novo Progresso**	**21.18**	**68**	*eP*	**P**	**17 15 51.6**	**-1.3**
NPGB	**Novo Progresso**	**21.18**	**68**	*eP*	**P**	**17 15 51.6**	**-1.3**
RUSC	**La Rusia**	**21.70**	**5**	P	**P**	**17 15 59.0**	**+0.2**
ARAG	**Araguaiana, MT**	**22.37**	**93**	*eP*	**P**	**17 16 07.0**	**+1.4**
ARAG	**Araguaiana, MT**	**22.37**	**93**	*eP*	**P**	**17 16 07.0**	**+1.4**
LC01	**Cunco**	**23.12**	**174**	P	**P**	**17 16 11.6**	**-1.7**
PCMB	**Pacaembu**	**23.24**	**108**	*eP*	**P**	**17 16 14.3**	**-0.3**
PCMB	**Pacaembu**	**23.24**	**108**	*eP*	**P**	**17 16 14.3**	**-0.3**
PTGB	**Pitanga**	**23.27**	**116**	*eP*	**P**	**17 16 16.1**	**+1.0**
PTGB	**Pitanga**	**23.27**	**116**	*eP*	**P**	**17 16 16.1**	**+1.0**
ITRB	**Iturama**	**23.82**	**103**	*eP*	**P**	**17 16 20.0**	**-0.3**
ITRB	**Iturama**	**23.82**	**103**	*eP*	**P**	**17 16 20.0**	**-0.3**
PLCA	**Paso Flores**	**25.09**	**172**	P	**P**	**17 16 32.7**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=346,slow=14,SNR=4.2						
PLCA				LR	LR	17 24 24.8	
	comp=Z,96nm,18.5s,baz=341,slow=32						
PLCA	**Paso Flores**	**25.09**	**172**	P	**P**	**17 16 29.5**	**-2.3**
FRTB	**Fartura**	**25.12**	**111**	*eP*	**P**	**17 16 32.2**	**0.0**
FRTB	**Fartura**	**25.12**	**111**	*eP*	**P**	**17 16 32.2**	**0.0**
PLTB	**Pedras Altas**	**25.15**	**133**	*eP*	**P**	**17 16 31.8**	**-0.5**
PLTB	**Pedras Altas**	**25.15**	**133**	*eP*	**P**	**17 16 31.8**	**-0.5**
IPMB	**Ipameri, GO**	**25.77**	**99**	*eP*	**P**	**17 16 37.6**	**-0.5**
IPMB	**Ipameri, GO**	**25.77**	**99**	*eP*	**P**	**17 16 37.6**	**-0.5**
BDFB	**Brasilia**	**26.03**	**93**	P	**P**	**17 16 38.9**	**-1.7**
	comp=Z,5.8nm,0.8s,baz=245,slow=7.3,SNR=6.8						
BDFB				LR	LR	17 27 49.4	
	comp=Z,79nm,18.7s,baz=191,slow=39						
BDFB	**Brasilia**	**26.03**	**93**	P	**P**	**17 16 39.6**	**-1.0**
PEXB	**Peixe**	**26.23**	**85**	*eP*	**P**	**17 16 41.7**	**-0.5**
PEXB	**Peixe**	**26.23**	**85**	*eP*	**P**	**17 16 41.7**	**-0.5**
RCLB	**Rio Claro- Sao**	**26.79**	**108**	*eP*	**P**	**17 16 47.8**	**+0.5**
RCLB	**Rio Claro- Sao**	**26.79**	**108**	*eP*	**P**	**17 16 47.8**	**+0.5**
JTS	**Las Juntas de**	**27.76**	**339**	LR	LR	17 27 36.0	
	comp=Z,199nm,18.6s,baz=226,slow=36						
JANB	**

comp=Z,6.7nm,0.8s
J59A Piesco 59.03 0 P **P** **17 21 08.3 +1.6**
J59A IAmb IAmb 17 21 09.5
comp=Z,7.0nm,1.1s
L40A Anamosa 59.53 346 P **P** **17 21 10.2 +0.1**
L40A IAmb IAmb 17 21 11.5
comp=Z,7.6nm,0.9s
E62A Clayton Lake 62.38 4 P **P** **17 21 28.4 -1.0**
ECSD EROS Data Cent 62.50 343 P **P** **17 21 30.6 +0.3**
ECSD IAmb IAmb 17 21 32.4
comp=Z,6.7nm,0.8s
F36A Milaca 63.66 346 P **P** **17 21 38.7 +0.7**
F33A 5 Mile Ranch, 64.34 344 P **P** **17 21 41.9 -0.5**
PDAR Pinedale Array 66.40 333 P **P** **17 21 58.5 +2.4**
comp=Z,0.2nm,0.3s,baz=140,slow=11,SNR=2.6
VNA1 Neumayer--Stat 67.52 161 P **P** **17 22 03.7 +1.1**
VNA2 Neumayer--Watz 67.87 161 P **P** **17 22 04.8 -0.1**
FLWY Flagg Ranch 67.95 333 P **P** **17 22 06.0 0.0**
FLWY IAmb IAmb 17 22 09.8
comp=Z,5.2nm,0.8s
ULM Lac du Bonnet 68.32 346 LR LR 17 55 19.1
comp=Z,38nm,18.1s,baz=285,slow=39
YNE Yellowstone No 68.39 334 P **P** **17 22 09.7 +1.0**
YHB Horse Butte 68.69 333 P **P** **17 22 12.2 +1.5**
SNAA Sanae 69.48 161 P **P** **17 22 16.2 +1.3**
SCHQ Schefferville 70.75 5 P **P** **17 22 24.1 +1.3**
comp=Z,4.4nm,0.9s,baz=219,slow=5.4,SNR=6.1
SCHQ LR LR 17 54 59.8
comp=Z,35nm,19.1s,baz=104,slow=37
SCHQ Schefferville 70.75 5 P **P** **17 22 23.6 +0.8**
SCHQ IAmb IAmb 17 22 24.9
comp=Z,5.4nm,0.9s
DBIC Dimbokro 73.00 78 P **P** **17 22 37.4 +0.3**
comp=Z,9.0nm,0.8s,baz=208,slow=8.2,SNR=5.2
DBIC LR LR 17 53 32.1
comp=Z,91nm,19.0s,baz=216,slow=35
DBIC Dimbokro 73.00 78 P **P** **17 22 37.0 -0.1**
TOA0 Torodi Ar. Sit 81.17 74 P **P** **17 23 23.3 +0.2**
TORD Torodi Ar. Bea 81.17 74 P **P** **17 23 23.9 +0.9**
comp=Z,20nm,0.8s,baz=260,slow=5.2,SNR=50
TORD LR LR 17 58 37.7
comp=Z,91nm,18.7s,baz=275,slow=35
VNDA Vanda 81.33 191 P **P** **17 23 25.0 +2.2**
comp=Z,1.1nm,0.8s,baz=113,slow=6.5,SNR=7.5
VNDA LR LR 17 53 01.4
comp=Z,38nm,21.9s,baz=80,slow=31
SYO Syowa Base 83.76 161 ǁ *e*PcP **P** **17 23 36.2 +0.6**
YKA Yellowknife Ar 84.03 343 P **P** **17 23 37.8 +0.9**
comp=Z,1.0nm,0.8s,baz=140,slow=5.4,SNR=11
YKA LR LR 18 02 28.2
comp=Z,25nm,21.1s,baz=0.0,slow=37
ESDC Sonseca Array 86.10 47 P **P** **17 23 48.4 +0.4**
comp=Z,0.6nm,0.7s,baz=249,slow=4.3,SNR=5.1
MAW Mawson 91.32 165 LR LR 18 03 42.1
comp=Z,32nm,19.9s,baz=239,slow=34
H11N3 WAKE ISLAND Hy 121.14 284 T T 19 42 50.3
baz=97,slow=74,SNR=8.7
H11N2 WAKE ISLAND Hy 121.15 284 T T 19 42 51.5
baz=97,slow=74,SNR=11
H11N1 WAKE ISLAND Hy 121.16 284 T T 19 42 52.7
baz=97,slow=74,SNR=5.1
H11S2 WAKE ISLAND Hy 121.18 282 T T 19 43 02.5
baz=99,slow=75,SNR=61
H11S1 WAKE ISLAND Hy 121.18 282 T T 19 42 54.5
baz=99,slow=75,SNR=24
H11S3 WAKE ISLAND Hy 121.19 282 T T 19 42 56.3
baz=99,slow=75,SNR=28
ASAR Alice Springs 131.58 216 PKP **PKiKP** **17 30 21.9 +0.6**
comp=Z,1.1nm,0.6s,baz=126,slow=1.8,SNR=17
WRA Warramunga Arr 134.17 220 PKP **PKiKP** **17 30 27.4 +0.7**
comp=Z,2.0nm,0.7s,baz=140,slow=1.8,SNR=15
ZALV Zalesovo Beam 138.87 18 PKP **PKiKP** **17 30 35.2 +0.1**
comp=Z,3.0nm,0.7s,baz=318,slow=2.0,SNR=12
KURK Kurchatov 139.29 26 **PKPdf** **17 30 33.4 -0.4**
MKAR Makanchi Array 143.86 27 PKP **PKPdf** **17 30 41.4 -0.7**
comp=Z,0.4nm,0.7s,baz=330,slow=4.3,SNR=5.3
MJAR Matsushiro Arr 144.00 311 PKP **PKPdf** **17 30 42.2 -0.5**
comp=Z,2.3nm,0.8s,baz=168,slow=2.2,SNR=5.6
KSH Kashi 145.43 41 PKPbc **PKiKP** **17 30 48.0 -1.2**
ULN Ulaanbaatar 148.03 357 **PKPbc** **17 30 50.8 -1.7**
SONM Songino Array 148.09 358 PKP **PKPbc** **17 30 51.1 -1.5**
comp=Z,4.1nm,0.7s,baz=180,slow=2.5,SNR=10
SONM PKPbc **PKPab** **17 30 54.8 -0.6**
comp=Z,4.2nm,0.7s,baz=330,slow=1.2,SNR=15
WMQ Urumqi 148.50 24 *e*PKPbc **PKPdf** **17 30 48.9 -1.3**
WMQ LR LR
comp=Z,170nm,17.7s
WMQ LR LR
comp=Z,150nm,25.9s
WMQ LR LR
comp=Z,360nm,25.9s
KSRS Korea Array 150.40 321 PKPbc **PKiKP** **17 31 00.8 +1.5**
comp=Z,3.5nm,1.0s,baz=35,slow=1.2,SNR=12
HHC Hu-ho-hao-te 154.44 348 PKPbc **PKPdf** **17 30 57.4 -1.9**
NJ2 Nanjing 159.50 324 *e*PKP **PKPdf** **17 31 04.4 -1.5**

*IDC **10** 17:14:12.5±1.1,7.°03S×154.°69E, h0km, mb3.9/8, mb1 4.1/10,mb1mx3.9/24,mbtmp3.9/10,ML1.6/1,MS3.2/7, Ms1 3.3/7,ms1mx2.9/26,Error ellipse: s-maj=35.8km s-min=21.4km az=120.0*

ISC 10 17:14:18.5±1.0,7.°0S±0.°1×154.°5E±0.°2, h39km, n15, σ0s96/12, mb3.9/8, MS3.3/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.65**	**316**	Pn	**Pn**	**17 15 11.6**	**-0.9**
	7.3nm,0.3s,baz=154,slow=1.7,SNR=45						
HNR	**Honiara**	**5.88**	**115**	LR	LR	17 18 04.8	
	comp=Z,227nm,20.1s,baz=256,slow=41						
PMG	**Port Moresby**	**7.70**	**251**	Pn	**Pn**	**17 16 07.8**	**-0.3**
	0.5nm,0.3s,baz=102,slow=19,SNR=1.8						
PMG				LR	LR	17 18 51.9	
	comp=Z,174nm,19.7s,baz=46,slow=36						
WRA	**Warramunga Arr**	**23.46**	**235**	P	**P**	**17 19 24.2**	**-0.5**
	2.4nm,0.8s,baz=57,slow=9.5,SNR=7.9						
ASAR	**Alice Springs**	**25.86**	**228**	P	**P**	**17 19 46.8**	**+0.1**
	0.7nm,0.6s,baz=61,slow=9.4,SNR=6.4						
ASAR				LR	LR	17 27 58.0	
	comp=Z,91nm,19.9s,baz=48,slow=32						
STKA	**Stephens Creek**	**27.57**	**204**	P	**P**	**17 20 01.4**	**-0.5**
	3.4nm,1.0s,baz=4.4,slow=13,SNR=3.0						
STKA				LR	LR	17 31 43.6	
	comp=Z,69nm,18.1s,baz=25,slow=38						
KSRS	**Korea Array**	**50.71**	**333**	LR	LR	17 41 59.3	
	comp=Z,10.0nm,21.1s,baz=220,slow=33						
PETK	**Petropavlovsk-**	**59.91**	**2**	LR	LR	17 50 02.3	
	comp=Z,13nm,19.2s,baz=242,slow=36						
SONM	**Songino Array**	**69.08**	**328**	P	**P**	**17 25 20.8**	**+0.3**
	0.4nm,0.4s,baz=143,slow=13,SNR=2.1						
MKAR	**Makanchi Array**	**83.09**	**319**	P	**P**	**17 26 41.1**	**+0.9**
	1.7nm,0.9s,baz=102,slow=5.1,SNR=14						
ILAR	**Eielson Array**	**83.52**	**22**	P	**P**	**17 26 41.1**	**-0.8**
	0.4nm,0.9s,baz=275,slow=4.4,SNR=2.9						
ILAR				LR	LR	18 02 18.5	
	comp=Z,35nm,18.8s,baz=240,slow=35						
ZALV	**Zalesovo Beam**	**83.91**	**326**	P	**P**	**17 26 46.3**	**+2.1**
	0.4nm,0.3s,baz=140,slow=7.0,SNR=2.5						
NVAR	**Mina Array Bea**	**92.06**	**52**	P	**P**	**17 27 23.5**	**-0.6**
	1.5nm,0.9s,baz=245,slow=5.1,SNR=6.4						
GERES	**GERESS Array B**	**126.80**	**329**	PKP	**PKiKP**	**17 33 19.4**	**+0.8**
	0.3nm,0.7s,baz=174,slow=2.7,SNR=3.5						
TORD	**Torodi Ar. Bea**	**152.59**	**285**	PKPbc	**PKiKP**	**17 34 12.1**	**0.0**
	0.8nm,0.8s,baz=83,slow=2.5,SNR=3.5						

*IDC **10** 17:31:53.3±1.4,5.°74S×147.°46E, h126km±12km, mb3.8/5, mb1 4.1/10,mb1mx3.7/28,mbtmp4.4/10,MS2.3/1, Ms1 2.3/1,ms1mx2.1/24,Error ellipse: s-maj=19.8km s-min=11.1km az=111.0*

*NEIC **10** 17:31:54.8±1.9,5.°74S±0.°08×147.°44E±0.°05, h141km±7km, mb4.6/15,Error ellipse: s-maj=12.3km s-min=7.0km az=167.0*

ISC 10 17:31:54.6±0.7,5.°80S±0.°08×147.°54E±0.°08, h150km, n30, σ1s97/32, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.60**	**186**	P	**Pn**	**17 32 49.4**	**-0.3**
	5.7nm,0.3s,baz=291,slow=15,SNR=22						
PMG				S	**Sn**	**17 33 30.1**	**-2.4**
	22nm,0.3s,baz=20,slow=24,SNR=15						
PMG				LR	LR	17 34 00.8	
	comp=Z,47nm,20.6s,baz=14,slow=35						
KRVT	**Keravat (AS076**	**4.71**	**72**	P	**Pn**	**17 33 04.5**	**+0.3**
	8.1nm,0.3s,baz=239,slow=1.5,SNR=14						
RABL	**Rabaul**	**4.88**	**71**		Pn	17 33 08.1	+1.7
JAY	**Jayapura**	**7.56**	**295**	P	**Pn**	**17 33 40.0**	**-2.3**
	3.7nm,0.3s,baz=141,slow=4.5,SNR=24						
COEN	**Coen**	**9.17**	**208**	Pn	**Pn**	**17 34 04.4**	**+0.7**
COEN					**Sn**	**17 35 40.5**	**-5.0**
HNR	**Honiara**	**12.81**	**107**	P	**P**	**17 34 52.5**	**-4.1**
	2.7nm,0.3s,baz=220,slow=4.4,SNR=5.5						
HNR	**Honiara**	**12.81**	**107**		**P**	**17 34 53.6**	**-3.0**
MTN	**Manton Dam**	**17.63**	**245**	P	**Pn**	**17 35 50.6**	**-0.6**
MTN				IAmb	IAmb	17 35 55.0	
	comp=Z,56nm,1.6s						
WB0	**Warramunga Arr**	**18.87**	**221**	P	**Pn**	**17 36 04.5**	**-1.3**
WB0				IAmb	IAmb	17 36 06.4	
	comp=Z,16nm,0.9s						
WR0	**Warramunga Arr**	**18.91**	**221**	P	**Pn**	**17 36 05.1**	**-1.2**
WR0				IAmb	IAmb	17 36 06.2	
	comp=Z,20nm,0.9s						
WRAB	**Tennant Creek**	**19.02**	**221**	P	**P**	**17 36 05.0**	**-0.1**
WRAB				IAmb	IAmb	17 36 07.8	
	comp=Z,22nm,1.1s						
WB2	**Warramunga Arr**	**19.03**	**221**	P	**Pn**	**17 36 06.7**	**-0.8**
WB2				IAmb	IAmb	17 36 07.5	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**19.03**	**221**	P	**Pn**	**17 36 06.3**	**-1.4**
	comp=Z,2.5nm,0.3s,baz=49,slow=10,SNR=128						
KNRA	**Kununurra**	**20.88**	**240**	P	**P**	**17 36 24.3**	**-0.7**
AS31	**Alice Springs**	**22.08**	**215**	P	**P**	**17 36 39.1**	**+1.3**
ASAR	**Alice Springs**	**22.09**	**215**	P	**P**	**17 36 39.2**	**+1.4**
	comp=Z,5.7nm,0.6s,baz=28,slow=12,SNR=150						
ASAR				S	**S**	**17 40 34.2**	**+3.3**
	comp=Z,4.3nm,0.9s,baz=34,slow=23,SNR=14						
SOEI	**Soe**	**23.39**	**259**	P	**P**	**17 36 49.6**	**-0.7**
SOEI				IAmb	IAmb	17 37 20.2	
	comp=Z,41nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.63**	**238**	P	**P**	**17 37 02.6**	**+1.2**
	comp=Z,11nm,0.4s,baz=62,slow=9.1,SNR=90						
FITZ	**Fitzroy Crossi**	**24.63**	**238**	P	**P**	**17 37 02.7**	**+1.4**
FITZ				IAmb	IAmb	17 37 04.4	
	comp=Z,16nm,0.6s						
ARMA	**Armidale**	**24.79**	**172**	P	**P**	**17 37 05.5**	**+2.8**
ARMA				IAmb	IAmb	17 37 28.9	
	comp=Z,53nm,1.5s						
PSA00	**Pilbara Seismi**	**31.05**	**237**	P	**P**	**17 37 59.0**	**+0.4**
BFZ	**Birch Farm**	**43.21**	**148**	P	**P**	**17 39 40.5**	**-0.3**
LBZ	**Lake Benmore**	**43.25**	**156**	P	**P**	**17 39 42.4**	**+1.3**
LBZ				IAmb	IAmb	17 40 04.2	
	comp=Z,27nm,1.3s						
VNDA	**Vanda**	**72.08**	**177**	P	**P**	**17 43 04.7**	**+2.8**
	comp=Z,0.8nm,0.6s,baz=334,slow=6.5,SNR=11						
VNDA	**Vanda**	**72.08**	**177**	P	**P**	**17 43 04.1**	**+2.2**
MKAR	**Makanchi Array**	**77.69**	**320**	P	**P**	**17 43 35.3**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=123,slow=5.3,SNR=2.2						
ZALV	**Zalesovo Beam**	**79.13**	**328**	P	**P**	**17 43 42.3**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=111,slow=3.2,SNR=1.7						
QSPA	**South Pole Qui**	**84.16**	**180**	P	**P**	**17 44 10.3**	**+1.4**
ILAR	**Eielson Array**	**85.09**	**23**	P	**P**	**17 44 13.8**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=248,slow=4.8,SNR=11						
TORD	**Torodi Ar. Bea**	**145.56**	**285**	PKPbc	**PKPab**	**17 51 16.8**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=68,slow=4.0,SNR=5.9						

*IDC **10** 17:41:31.7±0.8,6.°83S×154.°55E, h0km, mb4.0/11, mb1 4.2/14,mb1mx4.1/26,mbtmp4.0/14,ML4.2/2,MS3.3/7, Ms1 3.2/7,ms1mx2.9/33,Error ellipse: s-maj=24.1km s-min=18.3km az=108.0*

*NEIC **10** 17:41:33.7±2.5,6.°70S±0.°08×154.°62E±0.°10, h11km±4km, mb4.5/20,Error ellipse: s-maj=15.3km s-min=10.1km az=127.0*

ISC 10 17:41:37.5±0.6,6.°77S±0.°07×154.°61E±0.°08, h39km, n42, σ1s54/42, mb4.3/20, MS3.3/5, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.53**	**316**		**Pn**	**17 42 27.4**	**-2.6**
KRVT	**Keravat (AS076**	**3.55**	**314**	Pn	**Pn**	**17 42 29.7**	**-0.4**
	23nm,0.3s,baz=188,slow=1.9,SNR=67						
KRVT				Sn	**Sn**	**17 43 12.2**	**+1.4**
	28nm,0.3s,baz=240,slow=16,SNR=7.4						
HNR	**Honiara**	**5.91**	**117**	LR	LR	17 45 23.6	
	comp=Z,153nm,20.1s,baz=238,slow=39						
PMG	**Port Moresby**	**7.82**	**250**	Pn	**Pn**	**17 43 27.9**	**-0.9**
	1.2nm,0.3s,baz=29,slow=16,SNR=5.7						
PMG				Sn	**Sn**	**17 44 58.3**	**+2.1**
	1.3nm,0.3s,baz=91,slow=19,SNR=4.3						
PMG				LR	LR	17 46 12.2	
	comp=Z,101nm,20.3s,baz=36,slow=36						
PMG	**Port Moresby**	**7.82**	**250**		**Pn**	**17 43 28.2**	**-0.6**
PMG					**Sn**	**17 44 58.1**	**+2.0**
DZM	**Mont Dzumac**	**19.02**	**144**	P	**P**	**17 45 57.1**	**+0.8**
	0.8nm,0.3s,baz=202,slow=18,SNR=9.9						
DZM	**Mont Dzumac**	**19.02**	**144**	P	**Pn**	**17 45 57.7**	**+0.4**
DZM				IAmb	IAmb	17 45 58.7	
	comp=Z,43nm,1.6s						
FAKI	**Fak Fak**	**22.60**	**279**	P	**P**	**17 46 35.2**	**+0.2**
SAUI	**Saumlaki**	**23.14**	**266**	P	**P**	**17 46 40.7**	**+0.1**
WR0	**Warramunga Arr**	**23.47**	**234**	P	**P**	**17 46 41.9**	**-1.9**
WR0				IAmb	IAmb	17 46 42.9	
	comp=Z,14nm,1.2s						
WB0	**Warramunga Arr**	**23.49**	**235**	P	**P**	**17 46 42.1**	**-1.9**
WB0				IAmb	IAmb	17 46 55.0	
	comp=Z,17nm,1.4s						
WRAB	**Tennant Creek**	**23.61**	**234**	P	**P**	**17 46 43.7**	**-1.5**
WB2	**Warramunga Arr**	**23.62**	**234**	P	**P**	**17 46 43.7**	**-1.5**
WB2				IAmb	IAmb	17 46 45.2	
	comp=Z,20nm,1.4s						
WRA	**Warramunga Arr**	**23.63**	**234**	P	**P**	**17 46 43.0**	**-2.3**
	comp=Z,2.7nm,0.6s,baz=55,slow=9.4,SNR=9.2						
MTN	**Manton Dam**	**23.89**	**254**	P	**P**	**17 46 48.3**	**+0.5**
AS31	**Alice Springs**	**26.03**	**228**	P	**P**	**17 47 05.5**	**-1.7**
ASAR	**Alice Springs**	**26.03**	**228**	P	**P**	**17 47 05.7**	**-1.6**
	comp=Z,2.0nm,0.8s,baz=58,slow=10.0,SNR=26						
ASAR				ScP	**ScP**	**17 54 16.7**	**+5.1**
	comp=Z,0.6nm,1.0s,baz=69,slow=2.6,SNR=4.3						
ASAR				LR	LR	17 57 33.2	
	comp=Z,61nm,18.1s,baz=93,slow=37						
KNRA	**Kununurra**	**26.82**	**249**	P	**P**	**17 47 13.0**	**-1.4**
KNRA				IAmb	IAmb	17 47 17.6	
	comp=Z,24nm,1.3s						
STKA	**Stephens Creek**	**27.77**	**204**	P	**P**	**17 47 21.4**	**-1.4**
	comp=Z,2.1nm,0.7s,baz=29,slow=7.6,SNR=5.8						
STKA				LR	LR	17 59 09.4	
	comp=Z,84nm,18.0s,baz=27,slow=38						
STKA	**Stephens Creek**	**27.77**	**204**	P	**P**	**17 47 20.8**	**-1.9**
FITZ	**Fitzroy Crossi**	**30.39**	**246**	LR	LR	18 01 13.7	
	comp=Z,68nm,18.3s,baz=63,slow=39						
FITZ	**Fitzroy Crossi**	**30.39**	**246**	P	**P**	**17 47 44.7**	**-1.4**
FITZ				IAmb	IAmb	17 48 03.7	
	comp=Z,19nm,1.5s						
BATI	**Baumata**	**30.78**	**261**	LR	LR	18 01 02.2	
	comp=Z,88nm,18.6s,baz=146,slow=38						
FORT	**Forrest**	**34.48**	**223**	P	**P**	**17 48 20.3**	**-1.6**
MAJO	**Matsushiro**	**45.75**	**341**	P	**P**	**17 49 54.9**	**-0.3**
MJB9	**Matsu-Tunnel**	**45.76**	**341**	P	**P**	**17 49 54.7**	**-0.4**
MJB9				IAmb	IAmb	17 49 56.5	
	comp=Z,5.0nm,1.2s						
KSRS	**Korea Array**	**50.56**	**332**	P	**P**	**17 50 31.8**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=146,slow=9.1,SNR=4.5						
ASAJ	**Asahikawa**	**51.80**	**349**	LR	LR	18 09 38.8	
	comp=Z,16nm,20.1s,baz=150,slow=32						
CMAR	**Chiang Mai Arr**	**60.34**	**296**	P	**P**	**17 51 44.0**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=133,slow=5.8,SNR=4.1						
SONM	**Songino Array**	**68.94**	**327**	P	**P**	**17 52 39.4**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=149,slow=5.0,SNR=4.2						
MK31	**Makanchi Array**	**82.98**	**319**	P	**P**	**17 53 59.6**	**+0.9**
MKAR	**Makanchi Array**	**82.98**	**319**	P	**P**	**17 53 59.6**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=101,slow=5.5,SNR=28						
MAKZ	**Makanchi**	**83.19**	**319**	P	**P**	**17 54 00.4**	**+0.6**
MAKZ				IAmb	IAmb	17 54 01.4	
	comp=Z,3.9nm,0.9s						
QSPA	**South Pole Qui**	**83.20**	**180**	P	**P**	**17 53 59.6**	**+0.1**
QSPA				IAmb	IAmb	17 54 12.6	
	comp=Z,6.0nm,1.3s						
ILAR	**Eielson Array**	**83.31**	**22**	P	**P**	**17 53 59.4**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=268,slow=4.1,SNR=5.9						
MENT	**Mentasta**	**83.61**	**24**	P	**P**	**17 53 59.9**	**-1.7**
ZALV	**Zalesovo Beam**	**83.78**	**326**	P	**P**	**17 54 01.4**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=129,slow=4.0,SNR=3.6						
KDJ	**Kajisay**	**85.27**	**313**	P	**P**	**17 54 11.4**	**+0.8**
KDJ				IAmb	IAmb	17 54 12.7	
	comp=Z,3.2nm,0.8s						
NVAR	**Mina Array Bea**	**91.89**	**52**	P	**P**	**17 54 43.9**	**+1.6**
	comp=Z,1.3nm,0.8s,baz=256,slow=6.6,SNR=6.8						
YKA	**Yellowknife Ar**	**96.32**	**28**	P	**P**	**17 55 02.0**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=262,slow=4.8,SNR=5.2						
GERES	**GERESS Array B**	**126.66**	**329**	PKP	**PKPdf**	**18 00 37.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=112,slow=0.7,SNR=5.9						
TORD	**Torodi Ar. Bea**	**152.59**	**285**	PKPbc	**PKPbc**	**18 01 30.6**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=44,slow=2.6,SNR=5.8						

*JMA **10** 17:53:08.9±0.2,21.°78N×121.°35E, h24km*
*TAP **10** 17:53:09.3,21.°75N×121.°40E, h24km, ML3.0, D*

ISC 10 17:53:09.7±1.7,21.°81N±0.°06×121.°33E±0.°03, h16km±9km, n58, σ0s91/103, 1C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.30**	**41**	P	**Pb**	**17 53 17.3**	**+0.5**
	baz=36						
LAY				S	**Sb**	**17 53 21.6**	**+0.1**
	baz=36						
TSEB	**Hengchuen, Pin**	**0.41**	**283**	*i* P	**Pn**	**17 53 20.6**	**-0.3**
	baz=287						
TSEB				*i* S	**Sn**	**17 53 28.9**	**+0.7**
	baz=287						
TWKBT	**Hengchun**	**0.50**	**285**	P	**Pn**	**17 53 21.1**	**-1.0**
	baz=301						
TWKBT				S	**Sn**	**17 53 30.0**	**-0.4**
	baz=301						
TWK1	**Hengchun**	**0.51**	**285**	*i* P	**Pn**	**17 53 21.1**	**-1.2**
	baz=301						
TWK1				*i* S	**Sn**	**17 53 30.0**	**-0.6**
	baz=301						
HEN	**Hengchun**	**0.59**	**290**	*e*P	**Pn**	**17 53 22.9**	**-0.4**
	baz=302						
HEN				*i* S	**Sn**	**17 53 32.6**	**+0.1**
	baz=302						
TAW	**Tawu**	**0.68**	**323**	*i* P	**Pb**	**17 53 23.4**	**+0.3**
	baz=323						
TAW				*i* S	**Sn**	**17 53 34.0**	**-0.8**
	baz=323						
EAST	**Anshuo**	**0.73**	**322**	ǁ *i*P	**Pb**	**17 53 24.2**	**+0.2**
	baz=332						
EAST				S	**Sn**	**17 53 35.7**	**-0.4**
	baz=332						
ECL	**Taimali**	**0.86**	**336**	*i* P	**Pb**	**17 53 25.7**	**-0.5**
	baz=334						
ECL				*i* S	**Sg**	**17 53 37.9**	**+0.1**
	baz=334						
SCZT	**Fangliau**	**0.87**	**310**	⇑ *i*P	**Pn**	**17 53 27.1**	**-0.1**
	baz=319						
SCZT				S	**Sn**	**17 53 39.4**	**-0.1**
	baz=319						
TTN	**Taitung**	**0.96**	**350**	S	**Sn**	**17 53 43.1**	**+1.4**
	baz=347						
SSPT	**Xinbi**	**0.98**	**314**	P	**Pn**	**17 53 29.6**	**+0.9**
	baz=325						
MASBT	**Mashibuluo**	**1.03**	**321**	P	**Pg**	**17 53 30.9**	**+1.3**
	baz=321						
MASBT				S	**Sn**	**17 53 44.9**	**+1.4**
	baz=321						
TWGBT	**Beinan**	**1.03**	**347**	P	**Pb**	**17 53 28.4**	**-0.8**
	baz=344						
TWGBT				S	**Sb**	**17 53 42.6**	**+0.1**
	baz=344						
TWG	**Pinlang**	**1.04**	**347**	*i* P	**Pb**	**17 53 28.3**	**-0.9**
	baz=344						
TWG				S	**Sb**	**17 53 41.9**	**-0.7**
	baz=344						
SSD	**Sandimen**	**1.14**	**325**	*i* P	**Pb**	**17 53 30.8**	**-0.2**
	baz=330						
SSD				S	**Sb**	**17 53 45.6**	**+0.1**
	baz=330						
CHKT	**Chengkung**	**1.28**	**1**	S	**Sn**	**17 53 49.8**	**0.0**
	baz=7.0						
TWM1	**Shoushan**	**1.32**	**320**	P	**Pg**	**17 53 36.0**	**+0.9**
	baz=320						
TWM1				S	**Sg**	**17 53 53.9**	**+1.6**
	baz=320						
SLGT	**Liugui**	**1.34**	**332**	*e*P	**Pg**	**17 53 35.2**	**-0.4**
	baz=334						
SLGT				S	**Sb**	**17 53 51.7**	**+0.4**
	baz=334						
FULB	**Fuli**	**1.38**	**358**	*e*P	**Pn**	**17 53 34.1**	**-0.2**
	baz=342						
FULB				S	**Sb**	**17 53 53.0**	**+0.4**
	baz=342						
ELDTW	**Lidau**	**1.41**	**348**	*i* P	**Pn**	**17 53 33.6**	**-1.1**
	baz=346						
ELDTW				*i* S	**Sn**	**17 53 52.8**	**-0.1**
	baz=346						
SGST	**Jiashian**	**1.45**	**331**	*i* P	**Pg**	**17 53 36.9**	**-0.6**
	baz=331						
SGST				*i* S	**Sg**	**17 53 57.3**	**+0.9**
	baz=331						
STYT	**Tauyuan**	**1.45**	**339**	P	**Pb**	**17 53 35.7**	**-0.6**
	baz=349						
STYT				S	**Sg**	**17 53 55.7**	**-0.9**
	baz=349						
TWF1	**Yuli**	**1.54**	**359**	P	**Pb**	**17 53 36.8**	**-1.0**
	baz=345						
TWF1				S	**Sb**	**17 53 57.1**	**+0.1**
	baz=345						
CHN1	**Nanshi**	**1.56**	**332**	P	**Pg**	**17 53 39.0**	**-0.7**
	baz=331						
YULB	**Yu-li**	**1.58**	**359**	*e*P	**Pn**	**17 53 36.2**	**-0.8**
	baz=346						
YULB				*e*S	**Sn**	**17 53 55.3**	**-1.8**
	baz=346						
WTP	**Ta-pu**	**1.58**	**335**	*i* P	**Pb**	**17 53 38.8**	**+0.3**
	baz=334						
WTP				S	**Sg**	**17 54 00.6**	**-0.1**
	baz=334						
SNST	**Tainan City**	**1.60**	**331**	P	**Pg**	**17 53 40.6**	**+0.1**
	baz=331						
SNST				S	**Sg**	**17 54 01.0**	**-0.5**
	baz=331						
TPUB	**Ta-pu**	**1.62**	**336**	P	**Pb**	**17 53 39.4**	**+0.2**
	baz=335						
TPUB				S	**Sg**	**17 54 01.6**	**-0.4**
	baz=335						
TWK	**Hsinying**	**1.65**	**332**	P	**Pb**	**17 53 39.8**	**+0.1**
	baz=331						
TWK				S	**Sg**	**17 54 02.4**	**-0.5**
	baz=331						
**HG

	baz=347								
WNT	**Mingjian**	**2.15**	**344**	*e*S		**Sb**	**17 54 14.4**	**-0.1**
	baz=343								
CHGB	**Renai**	**2.25**	**356**	*e*P		**Pn**	**17 53 47.8**	**+1.4**
	baz=5.0								
CHGB				S		**Sn**	**17 54 14.0**	**+0.1**
	baz=5.0								
DPDB	**Guoxing**	**2.25**	**350**	*e*P		**Pb**	**17 53 48.0**	**-1.9**
	baz=349								
DPDB				S		**Sb**	**17 54 17.2**	**-0.3**
	baz=349								
WHF	**Hehuan Shan**	**2.33**	**358**	*e*P		**Pb**	**17 53 49.4**	**-2.1**
	baz=357								
WHF				S		**Sn**	**17 54 17.2**	**+1.1**
	baz=357								
PHUB	**P'eng-hu**	**2.35**	**317**	*e*S		**Sn**	**17 54 17.0**	**+0.9**
	baz=317								
WHP	**Taichung City**	**2.48**	**352**	*e*P		**Pn**	**17 53 51.4**	**+1.9**
	baz=350								
WHP				S		**Sb**	**17 54 23.5**	**-0.8**
	baz=350								
NNSB	**Datong**	**2.61**	**1**	P		**Pb**	**17 53 54.1**	**-2.1**
	baz=359								
NNSB				S		**Sn**	**17 54 22.3**	**-0.3**
	baz=359								
NNSH	**Datong**	**2.61**	**1**	P		**Pn**	**17 53 52.5**	**+1.2**
	baz=11								
NNS	**Nan Shan**	**2.62**	**1**	*e*P		**Pn**	**17 53 52.8**	**+1.4**
	baz=11								
ENA	**Nanau**	**2.63**	**8**	*e*P		**Pn**	**17 53 53.5**	**+2.0**
	baz=354								
ENA				S		**Sn**	**17 54 24.6**	**+1.4**
	baz=354								
YHNB	**Yeheng**	**2.85**	**1**	*e*P		**Pn**	**17 53 55.5**	**+1.0**
	baz=9.0								
YHNB				S		**Sn**	**17 54 29.6**	**+1.1**
	baz=9.0								
IRIF	**Iriomote-Funau**	**3.34**	**41**	P		**Pn**	**17 54 02.1**	**+0.8**
IRIF				S		**Sn**	**17 54 41.0**	**+0.4**
JKRS	**Kuro-shima**	**3.45**	**45**	P		**Pn**	**17 54 03.7**	**+1.0**
JIJ	**Ishigaki jima**	**3.63**	**45**	P		**Pn**	**17 54 05.3**	**+0.2**
JIJ				*e*S		**Sn**	**17 54 46.9**	**-0.7**
JISG	**Ishigakijimahi**	**3.89**	**44**	P		**Pn**	**17 54 09.4**	**+0.6**
JISG				*e*S		**Sn**	**17 54 54.4**	**+0.3**
JTJ	**Tarama**	**4.19**	**47**	*e*S		**Sn**	**17 55 01.5**	**0.0**

IDC 10 17:57:10.1±2.0, 0°.16N×126°.94E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/36, mbtmp3.5/3, Error ellipse: s-maj=177.0km s-min=25.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.25**	**160**	P		P	18 01 58.3	+0.3
	0.6nm,0.4s,baz=339,slow=11,SNR=30							
ASAR	**Alice Springs**	**24.63**	**165**	P		P	18 02 32.2	-0.2
	0.7nm,0.5s,baz=344,slow=10.0,SNR=28							
MKAR	**Makanchi Array**			P		P	18 07 22.7	0.0
	0.3nm,0.4s,baz=116,slow=7.5,SNR=7.7							

*IDC **10** 18:05:06.2±5.0,21°.33S×178°.54W,h586km±38km, mb3.4/6, mb1 3.5/7, mb1mx3.1/31, mbtmp4.4/7, Error ellipse: s-maj=84.1km s-min=40.8km az=144.0*
*NEIC **10** 18:05:08.7±2.4,21°.45S±0°.2×178°.7W±0°.1,h605km±9km, mb4.5/21, Error ellipse: s-maj=27.0km s-min=12.3km az=159.0*

ISC 10 18:05:04.8±1.2, 21°.2S±0°.1×178°.2W±0°.2, h600km, n36, σ1§42/35, mb4.5/17, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**5.00**	**314**			**P**	**18 06 40.5**	**+2.6**
RAO	**Raoul Island**	**7.98**	**179**	P		P	**18 07 03.6**	**-0.2**
NIUE	**Niue**	**8.02**	**76**	P		P	18 07 16.1	+12
DZM	**Mont Dzumac**	**14.35**	**264**	P		**P**	**18 08 06.9**	**-0.2**
	0.3nm,0.3s,baz=115,slow=7.2,SNR=6.8							
DZM	**Mont Dzumac**	**14.35**	**264**	P		**P**	**18 08 07.5**	**+0.4**
ARMA	**Armidale**	**28.62**	**245**	P		**P**	**18 10 16.1**	**+1.3**
ARMA				IAmb		IAmb	18 10 45.2	
	comp=Z,33nm,1.4s							
CTA	**Charters Tower**	**33.28**	**265**	P		**P**	**18 10 53.1**	**-1.4**
	comp=Z,5.7nm,0.4s,baz=92,slow=10,SNR=25							
CTAO	**Charters Tower**	**33.28**	**265**	P		**P**	**18 10 53.8**	**-0.8**
TOO	**Toolangi**	**35.35**	**234**	P		**P**	**18 11 13.0**	**+1.5**
TOO				IAmb		IAmb	18 11 16.2	
	comp=Z,23nm,1.6s							
PMG	**Port Moresby**	**35.38**	**284**	P		**P**	**18 11 10.2**	**-1.8**
PMG				IAmb		IAmb	18 11 27.0	
	comp=Z,20nm,0.9s							
STKA	**Stephens Creek**	**37.35**	**245**	P		**P**	**18 11 27.1**	**-0.9**
	comp=Z,1.9nm,0.5s,baz=108,slow=9.9,SNR=9.5							
STKA	**Stephens Creek**	**37.35**	**245**	P		**P**	**18 11 28.7**	**+0.8**
COEN	**Coen**	**37.49**	**275**	P		**P**	**18 11 28.1**	**-1.2**
COEN				IAmb		IAmb	18 11 54.8	
	comp=Z,7.7nm,1.1s							
BBOO	**Buckleboo**	**42.10**	**244**	P		**P**	**18 12 06.4**	**+0.5**
BBOO				IAmb		IAmb	18 12 23.4	
	comp=Z,19nm,1.3s							
WR0	**Warramunga Arr**	**44.17**	**263**	P		**P**	**18 12 20.8**	**-1.3**
WR0				IAmb		IAmb	18 12 22.0	
	comp=Z,19nm,1.6s							
AS31	**Alice Springs**	**44.22**	**257**	P		**P**	**18 12 21.7**	**-0.8**
ASAR	**Alice Springs**	**44.22**	**257**	P		**P**	**18 12 22.0**	**-0.4**
	comp=Z,5.6nm,0.6s,baz=91,slow=7.7,SNR=170							
ASAR				PcP		**PcP**	**18 13 55.2**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=106,slow=4.0,SNR=4.7							
ASAR				ScP		**ScP**	**18 16 51.0**	**+1.9**
	comp=Z,0.2nm,0.7s,baz=99,slow=4.6,SNR=5.6							
WB0	**Warramunga Arr**	**44.35**	**263**	P		**P**	**18 12 22.1**	**-1.4**
WB0				IAmb		IAmb	18 12 22.7	
	comp=Z,8.8nm,0.5s							
WB2	**Warramunga Arr**	**44.35**	**263**	P		**P**	**18 12 22.3**	**-1.2**
WRA	**Warramunga Arr**	**44.36**	**263**	P		**P**	**18 12 22.4**	**-1.2**
	comp=Z,3.1nm,0.3s,baz=97,slow=7.6,SNR=145							
FORT	**Forrest**	**48.88**	**247**	P		**P**	**18 12 57.3**	**0.0**
MTN	**Manton Dam**	**49.03**	**271**	P		**P**	**18 12 57.5**	**-1.2**
KNRA	**Kununurra**	**50.47**	**267**	P		**P**	**18 13 08.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**52.79**	**263**	P		**P**	**18 13 25.4**	**-0.5**
	comp=Z,1.3nm,0.4s,baz=53,slow=3.3,SNR=16							
FITZ	**Fitzroy Crossi**	**52.79**	**263**	P		**P**	**18 13 25.3**	**-0.5**
SOEI	**Soe**	**56.38**	**272**	P		**P**	**18 13 51.7**	**+0.6**
SOEI				IAmb		IAmb	18 13 55.5	
	comp=Z,68nm,1.5s							
PSA00	**Pilbara Seismi**	**57.37**	**257**	P		**P**	**18 13 56.6**	**-0.9**
MORW	**Morawa**	**59.42**	**248**	P		**P**	**18 14 11.4**	**+0.2**
MORW				IAmb		IAmb	18 14 26.1	
	comp=Z,49nm,1.4s							
KS19	**Wonju Array Si**	**77.41**	**319**	P		**P**	**18 15 58.6**	**-0.6**
KS19				IAmb		IAmb	18 16 00.2	
	comp=Z,9.1nm,0.8s							
CMAR	**Chiang Mai Arr**	**90.23**	**290**	P		**P**	**18 17 05.0**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=133,slow=3.1,SNR=4.7							
WALA	**Waterton Lakes**	**90.26**	**36**	P		P	18 17 10.6	+8.0
WALA				IAmb		IAmb	18 17 25.7	
	comp=Z,9.2nm,1.1s							
T25A	**Trinidad**	**90.44**	**50**	P		P	18 17 11.4	+7.5
ARCES	**ARCESS Array B**	**129.62**	**349**	PKP		**PKiKP**	**18 23 08.9**	**+2.2**
	comp=Z,0.7nm,0.7s,baz=358,slow=4.1,SNR=3.8							
AKASG	**Malin Array Be**	**143.59**	**330**	PKP		**PKiKP**	**18 23 32.3**	**-3.4**
	comp=Z,1.7nm,0.4s,baz=44,slow=4.2,SNR=9.0							
BRTR	**Keskin Array B**	**147.22**	**311**	PKPbc		**PKPab**	**18 23 43.9**	**-2.1**
	comp=Z,0.6nm,0.6s,baz=139,slow=3.5,SNR=4.2							
CLL	**Collm**	**148.74**	**346**	*e*PKPbc		**PKPab**	**18 23 50.0**	**-1.5**

KRSC 10 18:14:00.2±1.4, 50°.85N×157°.73E, h40km±22km, ML4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PAU	**Pauzhetka**	**0.85**	**317**	*e*P		Pn	18 14 17.4	+1.7
PAU				*e*S		Sn	18 14 28.6	+1.7
SKR	**Severo-Kuril's**	**1.04**	**262**	*e*P		Pn	18 14 19.2	+1.0
SKR				*e*S		Sn	18 14 31.7	+0.2
ALID	**Alaid**	**1.38**	**272**	*e*P		Pn	18 14 24.6	+1.5
ALID				*e*S		Sn	18 14 41.1	+0.9
ASAK	**Asacha**	**1.54**	**4**	*e*P		Pn	18 14 27.2	+1.9
ASAK				*e*S		Sn	18 14 45.5	+1.4
MIPR	**Malaya Ipel'ka**	**1.56**	**337**	*e*P		Pn	18 14 27.6	+2.2
MIPR				*e*S		Sn	18 14 46.2	+1.9
RUS	**Russkaya**	**1.66**	**17**	*e*P		Pn	18 14 28.4	+1.6
RUS				*e*S		Sn	18 14 48.4	+1.5
MTVR	**Mutnovka**	**1.66**	**10**	*e*P		Pn	18 14 29.1	+2.1
MTVR				*e*S		Sn	18 14 49.0	+1.9
GRL	**Gorelyy**	**1.72**	**7**	*e*P		Pn	18 14 30.3	+2.5
GRL				*e*S		Sn	18 14 51.1	+2.5
KRMR	**Karymshinskiy**	**2.00**	**7**	*e*P		Pn	18 14 35.0	+3.5
KRMR				*e*S		Sn	18 15 00.4	+5.1
APC	**Apacha**	**2.11**	**351**	*e*P		Pn	18 14 35.6	+2.6
PET	**Petropavlovsk**	**2.25**	**14**	*e*P		Pn	18 14 37.4	+2.5
PET				*e*S		Sn	18 15 03.8	+2.3
DALK	**Dalny**	**2.28**	**16**	*e*P		Pn	18 14 37.7	+2.5
DALK				*e*S		Sn	18 15 04.3	+2.3
UGLR	**Uglovaya**	**2.46**	**16**	*i* P		Pn	18 14 41.1	+3.2
AVH	**Avacha**	**2.50**	**14**	*e*P		Pn	18 14 42.1	+3.7
SMAR	**Somma**	**2.51**	**15**	*e*P		Pn	18 14 41.6	+3.0
KOK	**Koryaka**	**2.51**	**13**	*e*P		Pn	18 14 42.5	+3.9
KOK				*e*S		Sn	18 15 12.4	+4.4
NLC	**Nalytchevo**	**2.53**	**23**	*e*P		Pn	18 14 40.1	+1.4
NLC				*e*S		Sn	18 15 07.8	-0.5
SDLR	**Sedlovina**	**2.54**	**16**	*e*P		Pn	18 14 41.4	+2.5
KRER	**Koryakskii**	**2.54**	**14**	*i* P		Pn	18 14 42.4	+3.3
KRER				*e*S		Sn	18 15 12.1	+3.3
KRX	**Arik**	**2.58**	**12**	*e*P		Pn	18 14 43.0	+3.5
KRX				*e*S		Sn	18 15 13.8	+4.1
SPN	**Mys Shipunski**	**2.66**	**31**	*e*P		Pn	18 14 43.1	+2.5
SPN				*e*S		Sn	18 15 14.0	+2.4
KII	**Karymskiy**	**3.36**	**18**	*e*P		Pn	18 14 54.1	+3.9
TUMD	**Tumrok D**	**4.65**	**19**	*e*P		Pn	18 15 10.9	+3.0
TUMR	**Tumrok**	**4.68**	**17**	*e*P		Pn	18 15 13.4	+5.1
KMNR	**Kamenistaya**	**5.14**	**16**	*e*P		Pn	18 15 20.0	+5.3
KPT	**Kopyto**	**5.34**	**15**	*e*P		Pn	18 15 22.4	+5.0
KIRR	**Kirishev**	**5.35**	**16**	*e*P		Pn	18 15 23.5	+5.9
ZLN	**Zelenaya**	**5.50**	**18**	*e*P		Pn	18 15 25.0	+5.5
SRDR	**Sredinnyy**	**5.61**	**11**	*e*P		Pn	18 15 27.2	+6.2
KBTR	**Krutoberegovo**	**6.17**	**27**	*e*P		Pn	18 15 31.8	+3.2

*BJI **10** 18:26:13.1±0.0, 6°.33S×154°.97E, h5km, mB5.4/69, mb5.3/78, Ms5.2/84, Ms7 4.9/77*
*IDC **10** 18:26:13.5±0.4, 6°.75S×154°.61E, h0km, mb4.9/28, mb1 5.0/34, mb1mx4.9/39, mbtmp4.9/34, ML4.4/5, MS4.8/29, Ms1 4.8/29, ms1mx4.7/35, Error ellipse: s-maj=15.2km s-min=11.0km az=91.0*
*NEIC **10** 18:26:14.2, 6°.77S×154°.64E, h10km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.91; $M_{\theta\theta}$-0.37; $M_{\phi\phi}$-0.54; $M_{r\theta}$0.55; $M_{\theta\phi}$0.31; $M_{\phi r}$-0.46; Fault plane solution: $M_0$1.11000×10^{17} NP1:ϕ_s134.66000°, δ65.14000°, λ84.50000°. NP2:ϕ_s327.56000°, δ25.43000°, λ101.68000°. Principal axes: T 1.1828, Plg69.0000°, Azm34.0000°; N -0.1511, Plg5.0000°, Azm137.0000°; P -1.0317, Plg20.0000°, Azm229.0000°;*
*UNK **10** 18:26:14.9, 6°.79S×154°.65E, h15km*
*NEIC **10** 18:26:15.2±1.8, 6°.80S±0°.07×154°.66E±0°.06, h16km±1km, mb5.4/260, Mwb5.3/61, Mwc5.5(GCMT), Error ellipse: s-maj=9.8km s-min=8.0km az=188.0*
*MOS **10** 18:26:16.7±1.3, 6°.70S×154°.62E, h29km, mb5.3/29, MS4.8/17, Error ellipse: s-maj=6.3km s-min=5.2km az=108.0*
*NEIC **10** 18:26:20, 6°.98S×154°.61E, h13km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.42; $M_{\theta\theta}$-0.72; $M_{\phi\phi}$-0.70; $M_{r\theta}$1.05; $M_{\theta\phi}$0.82; $M_{\phi r}$-0.70; Fault plane solution: $M_0$1.94000×10^{17} NP1:ϕ_s323.00000°, δ25.00000°, λ104.00000°. NP2:ϕ_s127.00000°, δ65.00000°, λ83.00000°. Principal axes: T 1.8990, Plg69.0000°, Azm24.0000°; N 0.0814, Plg6.0000°, Azm130.0000°; P -1.9804, Plg20.0000°, Azm222.0000°;*
*DJA **10** 18:26:21.3±0.4, 7°.5S±2°×15°.5E±°, h44km±4km, M5.2/48, mB5.6/30, mb5.1/48, MLv5.4/2, Mw(mB)5.2/30, Mwp5.5/10*
*GCMT **10** 18:26:21.2±0.1, 6°.97S±0°.01×154°.56E±0°.01, h13km, MW5.5/156, Moment Tensor Solution. s150,c261; s156,c295; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.34±.02; $M_{\theta\theta}$-0.69±.01; $M_{\phi\phi}$-0.64±.01; $M_{r\theta}$1.05±.04; $M_{\theta\phi}$0.74±.01; $M_{\phi r}$-0.90±.04; Best double couple: $M_0$1.94800×10^{17} NP1:ϕ_s317.00000°, δ23.00000°, λ95.00000°. NP2:ϕ_s131.00000°, δ68.00000°, λ88.00000°. Principal axes: T 1.9150, Plg67.0000°, Azm38.0000°; N 0.0660, Plg2.0000°, Azm132.0000°; P -1.9800, Plg23.0000°, Azm223.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 18:26:16.6±0.6, 6°.77S±0°.04×154°.68E±0°.04, h23km±3km, n1067, σ1§35/1120, mb5.3/234, MS4.8/75, 59C-30D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**3.58**	**316**	Pn		**Pn**	**18 27 12.2**	**+1.3**
KRVT	**Keravat (AS076**	**3.60**	**313**	Pn		**Pn**	**18 27 11.2**	**0.0**
	71nm,0.3s,baz=181,slow=1.7,SNR=142							
KRVT				Sn		**Sn**	**18 27 49.9**	**-3.1**
	148nm,0.3s,baz=164,slow=20,SNR=6.5							
HNR	**Honiara**	**5.85**	**117**	Pn		**Pn**	**18 27 43.6**	**+1.6**
	9.3nm,0.3s,baz=254,slow=3.5,SNR=6.7							
HNR				LR		LR	18 30 23.3	
	comp=Z,24μm,18.9s,baz=270,slow=42							
HNR	**Honiara**	**5.85**	**117**	P		**Pn**	**18 27 43.2**	**+1.2**
HNR	**Honiara**	**5.85**	**117**	Pn		**Pn**	**18 27 43.2**	**+1.2**
PMG	**Port Moresby**	**7.89**	**250**	Pn		**Pn**	**18 28 10.5**	**+0.4**
	2.9nm,0.3s,baz=75,slow=5.3,SNR=23							
PMG				Sn		**Sn**	**18 29 38.4**	**-0.4**
	8.3nm,0.3s,baz=80,slow=21,SNR=13							
PMG				LR		LR	18 30 55.6	
	comp=Z,6μm,20.4s,baz=44,slow=36							
PMG	**Port Moresby**	**7.89**	**250**	Pn		**Pn**	**18 28 10.3**	**+0.2**
COEN	**Coen**	**13.38**	**237**	P		**Pn**	**18 29 26.5**	**+1.3**
	baz=13,SNR=4.7							
COEN	**Coen**	**13.38**	**237**	Pn		**Pn**	**18 29 25.2**	**0.0**
PATS	**Pohnpei**	**14.00**	**15**	Pn		**Pn**	**18 29 34.5**	**+0.8**
JAY	**Jayapura**	**14.55**	**286**	Pn		**Pn**	**18 29 41.8**	**+0.4**
	0.4nm,0.3s,baz=41,slow=1.5,SNR=3.9							
JAY				LR		LR	18 35 51.8	
	comp=Z,5μm,18.5s,baz=108,slow=40							
SANVU	**Saraoutou**	**15.00**	**126**			**Pn**	**18 29 49.8**	**+2.4**
SANVU				IAmb		IAmb	18 30 17.6	
	comp=Z,165nm,1.2s							
GENI	**Genyem**	**15.04**	**285**	P		**P**	**18 29 52.1**	**-1.0**
	comp=Z,3μmcomp=Z,2μmcomp=Z,51nm,1.5s							
MTSU	**Mount Surprise**	**15.15**	**221**	P		**Pn**	**18 29 49.5**	**+0.1**
	baz=15,SNR=9.5							
CTA	**Charters Tower**	**15.56**	**211**	Pn		**Pn**	**18 29 56.3**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=29,slow=12,SNR=31							
CTA				LR		LR	18 35 57.9	
	comp=Z,7μm,18.3s,baz=25,slow=38							
CTAO	**Charters Tower**	**15.56**	**211**	P		**Pn**	**18 29 55.4**	**+0.7**
CTAO				pmax		pmax		
	comp=Z,67nm,0.9s							
CTAO	**Charters Tower**	**15.56**	**211**	Pn		**Pn**	**18 29 55.4**	**+0.7**
SMPI	**Sarmi**	**16.61**	**286**	P		**P**	**18 30 16.3**	**+5.8**
EIDS	**Eidsvold**	**18.81**	**190**	P		**P**	**18 30 33.8**	**-0.9**
DZM	**Mont Dzumac**	**18.98**	**144**	*e*Pn		**Pn**	**18 30 39.9**	**+2.3**
	comp=Z,254nm,1.3s							
DZM				*e*S		**Sn**	**18 34 06.8**	**-2.9**
	comp=Z,2μm,23.2s							
DZM				*e*LQ		LQ	18 34 17.8	
	comp=Z,7μm,31.2s							
DZM				*e*LR		LR	18 35 08.0	
	comp=Z,5μm,22.4s							
DZM	**Mont Dzumac**	**18.98**	**144**	P		**Pn**	**18 30 39.0**	**+1.4**
	comp=Z,3.3nm,0.3s,baz=301,slow=10,SNR=38							
DZM	**Mont Dzumac**	**18.98**	**144**	P		**Pn**	**18 30 38.4**	**+0.8**
TARA	**Tarawa**	**19.92**	**67**	P		**P**	**18 30 46.5**	**-0.5**
TARA				IAmb		IAmb	18 30 51.3	
	comp=Z,299nm,1.4s							
QIS	**Mount Isa**	**20.03**	**225**	P		**P**	**18 30 48.6**	**+0.4**
	baz=20,SNR=31							
KWAJ	**Kwajalein Atol**	**20.14**	**40**	P		**P**	**18 30 50.0**	**+0.6**
KWAJ				pmax		pmax		
	comp=Z,2μm,1.9s							
KWAJ	**Kwajalein Atol**	**20.14**	**40**	P		**P**	**18 30 50.0**	**+0.6**
RMQ	**Roma**	**20.40**	**195**	P		Pn	18 30 53.5	-0.8
	baz=20,SNR=11							
QLP	**Quilpie**	**22.07**	**206**	P		**P**	**18 31 10.8**	**+0.7**
	baz=22,SNR=14							
GUMO	**Guam**	**22.45**	**334**	P		**P**	**18 31 14.1**	**-0.2**
GUMO				pmax		pmax		
	comp=Z,440nm,1.6s							
GUMO	**Guam**	**22.45**	**334**	P		**P**	**18 31 14.1**	**-0.2**
KDU	**Kakadu**	**22.65**	**253**	P		**P**	**18 31 15.4**	**-1.1**
	baz=22,SNR=9.4							
FAKI	**Fak Fak**	**22.67**	**279**	P		**P**	**18 31 17.1**	**+0.4**
WR0	**Warramunga Arr**	**23.53**	**234**	P		**P**	**18 31 23.7**	**-1.8**
WR0				IAmb		IAmb	18 31 39.7	
	comp=Z,68nm,0.8s							
WB0	**Warramunga Arr**	**23.55**	**235**	P		**P**	**18 31 24.4**	**-1.2**
WB0				IAmb		IAmb	18 31 47.2	
	comp=Z,210nm,1.6s							
WRAB	**Tennant Creek**	**23.67**	**234**	*ce*P		**P**	**18 31 25.5**	**-1.3**
WRAB				pmax		pmax		
	comp=Z,85nm,1.6s							
WRAB	**Tennant Creek**	**23.67**	**234**	P		**P**	**18 31 24.9**	**-1.9**
WRAB				IAmb		IAmb	18 31 47.4	
	comp=Z,134nm,1.4s							
WB2	**Warramunga Arr**	**23.68**	**234**	P		**P**	**18 31 25.0**	**-1.8**
WB2				IAmb		IAmb	18 31 48.5	
	comp=Z,225nm,1.6s							
WRA	**Warramunga Arr**	**23.69**	**234**	P		**P**	**18 31 25.6**	**-1.4**
	comp=Z,33nm,0.9s,baz=56,slow=9.0,SNR=67							
WRA				PcP		**PcP**	**18 35 12.9**	**+1.8**
	comp=Z,3.6nm,0.6s,baz=61,slow=2.3,SNR=5.4							
WRA				ScP		**ScP**	**18 38 50.9**	**+2.7**
	comp=Z,3.8nm,0.8s,baz=61,slow=3.2,SNR=8.4							
WRA				LR		LR	18 40 39.0	
	comp=Z,1μm,21.7s,baz=65,slow=37							
WRA				PKiKP		**PKiKP**	**18 42 54.2**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=320,slow=1.1,SNR=7.8							
WRA	**Warramunga Arr**	**23.69**	**234**	*i* P		**P**	**18 31 25.6**	**-1.4**
WRA				pmax		pmax		
	comp=Z,32nm,0.9s							
ARMA	**Armidale**	**23.70**	**187**	P		**P**	**18 31 27.6**	**+0.6**
	baz=24,SNR=5.1							
ARMA	**Armidale**	**23.70**	**187**	P		**P**	**18 31 26.3**	**-0.7**
ARMA				IAmb		IAmb	18 32 16.7	
	comp=Z,116nm,1.4s							
MTN	**Manton Dam**	**23.96**	**254**	P		**P**	**18 31 29.1**	**-0.4**
	baz=24,SNR=11							
MTN	**Manton Dam**	**23.96**	**254**	P		**P**	**18 31 29.2**	**-0.4**
MTN				IAmb		IAmb	18 31 33.7	
	comp=Z,72nm,0.9s							
LHI	**Lord Howe Isla**	**24.96**	**171**	P		**P**	**18 31 38.8**	**+0.3**
LHI				IAmb		IAmb	18 32 36.8	
	comp=Z,194nm,1.5s							
MSVF	**Nonsavu**	**25.27**	**118**	P		**P**	**18 31 42.8**	**+1.3**
MSVF				pmax		pmax		
	comp=Z,106nm,1.1s							
MSVF	**Nonsavu**	**25.27**	**118**	P		**P**	**18 31 42.8**	**+1.3**
MSVF				IAmb		IAmb	18 31 46.2	
	comp=Z,106nm,1.1s							
CMSA	**Cobar Meteorol**	**26.03**	**198**	P		**P**	**18 31 47.2**	**-1.0**
	baz=26,SNR=5.4							
AS31	**Alice Springs**	**26.09**	**228**	P		**P**	**18 31 47.3**	**-1.5**
ASAR	**Alice Springs**	**26.09**	**228**	P		**P**	**18 31 48.2**	**-0.7**
	comp=Z,9.6nm,0.8s,baz=63,slow=8.7,SNR=53							
ASAR				ScP		**ScP**	**18 38 57.9**	**+2.9**
	comp=Z,4.3nm,0.9s,baz=49,slow=3.5,SNR=13							
ASAR				LR		LR	18 42 09.2	
	comp=Z,4μm,18.2s,baz=82,slow=37							
ASAR				PKiKP		**PKiKP**	**18 42 55.3**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=106,slow=1.5,SNR=5.9							
KNRA	**Kununurra**	**26.89**	**249**	P		**P**	**18 31 56.3**	**+0.2**
	baz=27,SNR=12							
KNRA	**Kununurra**	**26.89**	**249**	P		**P**	**18 31 55.0**	**-1.2**
KNRA				IAmb		IAmb	18 32 12.5	
	comp=Z,50nm,0.8s							
LBMI	**Labuha**	**27.78**	**282**	P		**P**	**18 32 06.1**	**+1.9**
	comp=Z,4μmcomp=Z,215nm,1.7s							
STKA	**Stephens Creek**	**27.80**	**204**	P		**P**	**18 32 03.4**	**-0.9**
	baz=28,SNR=6.8							
STKA	**Stephens Creek**	**27.80**	**204**	P		**P**	**18 32 03.0**	**-1.2**
	comp=Z,9.6nm,0.8s,baz=4.2,slow=8.2,SNR=11							
STKA				LR		LR	18 43 52.9	
	comp=Z,5μm,18.0s,baz=17,slow=38							
STKA	**Stephens Creek**	**27.80**	**204**	P		**P**	**18 32 03.3**	**-0.9**
STKA				pmax		pmax		
	comp=Z,6.0nm,1.1s							
STKA	**Stephens Creek**	**27.80**	**204**	P		**P**	**18 32 03.2**	**-0.9**
TNTI	**Ternate**	**28.27**	**284**	P		**P**	**18 32 11.0**	**+2.5**
	comp=Z,718nmcomp=Z,39nm,1.7s							
TNTI	**Ternate**	**28.27**	**284**	P		**P**	**18 32 06.3**	**-2.2**
TNTI				IAmb		IAmb	18 32 30.7	
	comp=Z,198nm,2.0s							
CAN	**Canberra**	**28.89**	**190**	P		**P**	**18 32 15.4**	**+1.5**
CAN				pmax		pmax		
	comp=Z,73nm,1.7s							
CAN	**Canberra**	**28.89**	**190**	P		**P**	**18 32 15.3**	**+1.5**
SOEI	**Soe**	**30.23**	**262**	P		**P**	**18 32 28.6**	**+2.5**
	comp=Z,45nm,1.9s					

baz=42,SNR=3.2
SBUM Sibu 43.36 281 P **P** **18 34 16.6 -1.1**
SBUM Sibu 43.36 281 P **P** **18 34 19.0 +1.4**
NWAO Narrogin (SRO) 43.41 228 P **P** **18 34 17.2 -0.6**
NWAO pmax pmax
comp=Z,74nm,1.5s
NWAO Narrogin (SRO) 43.41 228 P **P** **18 34 17.1 -0.6**
NWAO lAmb lAmb 18 34 40.2
comp=Z,74nm,1.4s
NWAO Narrogin (SRO) 43.41 228 P **P** **18 34 16.5 -1.3**
NWAO lAmb lAmb 18 34 16.8
comp=Z,174nm,1.9s
YOJ Yonaguni jima 43.78 316 P **P** **18 34 21.5 +0.7**
YOJ pmax pmax
comp=Z,261nm,1.1s
YOJ Yonaguni jima 43.78 316 P **P** **18 34 21.5 +0.7**
YULB Yu-li 44.30 314 P **P** **18 34 25.9 +0.8**
YULB lAmb lAmb 18 34 28.2
comp=Z,55nm,0.9s
NACB Ninganchiao 44.58 315 P **P** **18 34 26.9 -0.3**
TPUB Ta-pu 44.73 313 P **P** **18 34 28.5 0.0**
SSLB Suanglung 44.79 314 P **P** **18 34 28.3 -0.7**
SSLB lAmb lAmb 18 34 43.8
comp=Z,46nm,0.9s
KSM Kuching 45.03 279 P **P** **18 34 29.6 -1.5**
KSM Kuching 45.03 279 P **P** **18 34 31.0 -0.1**
YHNB Yeheng 45.05 315 P **P** **18 34 31.5 +0.4**
JNU Nakatsue 45.67 332 P **P** **18 34 35.3 -0.5**
JNU lAmb lAmb 18 34 36.6
comp=Z,42nm,0.8s
JNU PcP **PcP** **18 36 09.1 -4.7**
MJAR Matsushiro Arr 45.77 341 P **P** **18 34 35.1 -1.4**
comp=Z,1.7nm,0.6s,baz=170,slow=9.0,SNR=6.0
MJAR LR LR 18 53 17.5
comp=Z,268nm,18.8s,baz=210,slow=36
MAJO Matsushiro 45.77 341 P **P** **18 34 33.8 -2.8**
MAJO 18 36 08.9
MAJO pmax pmax
comp=Z,14nm,1.4s
MAJO Matsushiro 45.77 341 P **P** **18 34 33.8 -2.8**
MAJO PcP **PcP** **18 36 08.9 -5.1**
MAT Matsushiro 45.77 341 P **P** **18 34 34.2 -2.3**
MAT S **S** **18 41 18.4 -0.6**
MJB9 Matsu-Tunnel 45.78 341 P **P** **18 34 33.6 -3.0**
MJB9 PcP **PcP** **18 36 08.9 -5.1**
RAR Rarotonga 46.28 113 LR LR 18 51 24.9
comp=Z,499nm,19.9s,baz=278,slow=33
CISI Cisompet, Garu 46.49 266 P P 18 34 55.6 +13
CISI Cisompet, Garu 46.49 266 P **P** **18 34 40.2 -2.5**
TPI Tanjungpandan 47.02 273 P **P** **18 34 49.4 +2.7**
comp=Z,532nmcomp=Z,36nm,1.9s
CNJI Cibinong 47.18 266 P P 18 35 01.3 +13
QZH Quanzhou 47.20 313⇑ *i*P **P** **18 34 48.3 +0.4**
QZH S **S** **18 41 42.9 +3.2**
QZH pmax pmax
comp=Z,85nm,1.0s
QZH LR LR
comp=Z,680nm,16.6s
QZH LR LR
comp=Z,1μm,18.0s
CBJI Citeko 47.50 268 P P 18 35 06.0 +16
DBJI Dramaga 47.59 267 P P 18 35 05.4 +14
XMAS Kiritimati 48.58 81 P **P** **18 34 58.1 -0.7**
HKPS Hong Kong Po S 49.09 307 P **P** **18 35 01.6 -1.0**
HKPS lAmb lAmb 18 35 27.5
comp=Z,52nm,0.9s
SSE Sheshan 49.44 321 P **P** **18 35 05.6 +0.5**
SSE S **S** **18 42 10.4 -0.8**
SSE pmax pmax
comp=Z,11nm,0.7s
SSE pmax pmax
comp=Z,200nm,3.5s
SSE LR LR
comp=Z,260nm,19.6s
DLV T Lat 49.56 292 P **P** **18 35 06.4 -0.1**
KASI Kota Agung 49.89 268 P P 18 35 21.0 +12
TJN Taejon 49.99 331 *ce*P **P** **18 35 09.0 -0.2**
LWLI Liwa 50.37 269 P P 18 35 26.5 +14
KSRS Korea Array 50.60 332 P **P** **18 35 13.2 -0.5**
comp=Z,11nm,0.8s,baz=149,slow=8.1,SNR=50
KSRS LR LR 18 53 49.7
comp=Z,440nm,21.6s,baz=155,slow=33
KS19 Wonju Array Si 50.66 332 P **P** **18 35 13.2 -1.1**
QIZ Qiongzhong 51.08 301 P **P** **18 35 16.7 -1.0**
QIZ sP **sP** **18 35 25.4 0.0**
QIZ S **S** **18 42 36.9 +2.5**
QIZ SS **SS** **18 46 13.3 +3.3**
QIZ LR LR
comp=Z,420nm,18.4s
QIZ LR LR
comp=Z,820nm,17.8s
QIZ LR LR
comp=Z,950nm,19.0s
YUK Yuzh-Kuril'sk 51.19 352 *d i*P **P** **18 35 16.4 -1.7**
YUK *e* 18 37 10.3
YUK *e*S **S** **18 42 34.4 -0.8**
YUK MLR MLR
comp=Z,725nm,18.0s
INCN Inchon 51.22 331 P **P** **18 35 18.4 -0.2**
INCN pmax pmax
comp=Z,49nm,0.9s
INCN Inchon 51.22 331 P **P** **18 35 18.4 -0.2**
INCN lAmb lAmb 18 35 20.0
comp=Z,49nm,0.8s
MYKOM Kota Tinggi 51.44 278 P **P** **18 35 20.9 +0.3**
MYKOM lAmb lAmb 18 35 35.1
comp=Z,51nm,1.6s
MYKOM Kota Tinggi 51.44 278 P **P** **18 35 20.0 -0.6**
NJ2 Nanjing 51.54 321 *e*P **P** **18 35 22.5 +1.5**
NJ2 pP **pP** **18 35 25.5 -1.0**
NJ2 S **S** **18 42 43.9 +3.5**
NJ2 sS **pS** **18 42 46.6 -0.2**
NJ2 pmax pmax
comp=Z,23nm,1.1s
NJ2 pmax pmax
comp=Z,710nm,4.2s
NJ2 LR LR
comp=Z,1μm,21.8s
NJ2 LR LR
comp=Z,530nm,16.4s
NJ2 LR LR
comp=Z,1μm,18.1s
KUR Kuril'sk 52.13 354 *e*P **P** **18 35 24.8 -0.3**
KUR *e*PPP PPP 18 38 27.5
KUR S **S** **18 42 44.8 -3.2**
KUR MLR MLR
comp=Z,619nm,14.0s
KRJI Kerinci 53.24 272 P **P** **18 35 35.5 +1.5**
comp=Z,68nm,0.7s
SDSI Sungai Dareh 53.41 274 P **P** **18 35 37.5 +2.3**
comp=Z,1μmcomp=Z,42nm,1.5s
WHN Wuhan 53.56 316⇓ P **P** **18 35 38.1 +2.1**
WHN S **S** **18 43 12.0 +3.9**
WHN pmax pmax
comp=Z,160nm,0.9s
WHN LR LR
comp=Z,780nm,11.6s
WHN LR LR
comp=Z,2μm,18.5s
WHN LR LR
comp=Z,3μm,21.4s
HON Honolulu 54.17 58 P **P** **18 35 40.3 -0.3**
HON pmax pmax
comp=Z,204nm,1.1s
HON Honolulu 54.17 58 P **P** **18 35 40.3 -0.3**
PDSI Padang 54.38 274 P **P** **18 35 43.1 +0.8**
comp=Z,14nm,1.4s
YSS Yuzh-Sakhalins 54.53 350 *ce*P **P** **18 35 42.3 -0.4**
YSS *e* 18 37 40.3
YSS *e*S **S** **18 43 22.2 +1.6**
YSS *e* 18 45 34.6
YSS pmax pmax
comp=Z,200nm,6.3s
YSS MLR MLR
comp=Z,500nm,15.0s
YSS Yuzh-Sakhalins 54.53 350 P **P** **18 35 42.4 -0.3**
IPM Ipoh 54.71 280 P **P** **18 35 44.5 -0.2**
IPM lAmb lAmb 18 35 58.7
comp=Z,22nm,0.9s
IPM PcP **PcP** **18 36 50.2 +2.9**
IPM Ipoh 54.71 280 P **P** **18 35 44.0 -0.7**
USA0B Ussuriysk Arra 54.72 340 *c i*P **P** **18 35 43.7 -0.4**
USA0B Ussuriysk Arra 54.72 340 P **P** **18 35 44.0 -0.1**
USA0B lAmb lAmb 18 35 48.5
comp=Z,40nm,1.6s
USRK Ussuriysk Ar. 54.72 340 P **P** **18 35 44.6 +0.5**
comp=Z,5.8nm,0.8s,baz=172,slow=9.0,SNR=19
USRK LR LR 18 55 19.2
comp=Z,265nm,21.9s,baz=148,slow=32
DL2 Dalian 54.82 329 P **P** **18 35 43.9 -1.1**
DL2 S **S** **18 43 23.4 -1.3**
DL2 pmax pmax
comp=Z,24nm,0.7s
DL2 pmax pmax
comp=Z,190nm,7.6s
DL2 LR LR
comp=Z,550nm,15.7s
DL2 LR LR
comp=Z,600nm,16.8s
DL2 LR LR
comp=Z,810nm,17.2s
KULM Kulim 55.24 281 P **P** **18 35 47.4 -1.1**
KULM lAmb lAmb 18 36 02.4
comp=Z,49nm,1.5s
KULM PcP **PcP** **18 36 51.5 +2.1**
KULM Kulim 55.24 281 P **P** **18 35 48.0 -0.5**
KHLU Kahalu`u 55.25 61 P **P** **18 35 48.2 -0.4**
HUH Hualalai 55.34 61 **P** **18 35 48.3 -1.1**
KHU Kahuku 55.36 61 P **P** **18 35 47.5 -2.0**
KHU pmax pmax
comp=Z,161nm,1.0s
KHU Kahuku 55.36 61 P **P** **18 35 47.5 -2.0**
PPT Papeete 55.36 107 LR LR 18 56 16.3
comp=Z,346nm,19.8s,baz=276,slow=32
PPT2 Papeete2 55.36 107 *e*S **S** **18 43 33.7 +0.7**
comp=Z,376nm,27.5s
PPT2 *e*LQ LQ 18 49 41.5
comp=Z,2μm,25.8s
PPT2 *e*LR LR 18 51 56.0
comp=Z,453nm,21.0s,baz=278
PPTF Pamatai, Papee 55.37 107 P **P** **18 35 47.9 -1.6**
TIA Tai'an 55.40 323 P **P** **18 35 49.9 +0.6**
TIA S **S** **18 43 33.5 +0.8**
TIA pmax pmax
comp=Z,13nm,0.9s
TIA pmax pmax
comp=Z,320nm,3.9s
TIA LR LR
comp=Z,450nm,17.6s
TIA LR LR
comp=Z,480nm,14.1s
TIA LR LR
comp=Z,590nm,16.7s
MNSI Mandailing Nat 55.49 276 P **P** **18 35 50.3 0.0**
comp=Z,1μmcomp=Z,30nm,1.2s
MLOA Mauna Loa Obse 55.51 61 P **P** **18 35 51.8 +1.0**
AIN Ainahou 55.55 61 P **P** **18 35 52.4 +1.6**
HPAH Hawaii Prepara 55.60 60 P **P** **18 35 48.3 -2.7**
HMH Humu'ula Sheep 55.61 61 P **P** **18 35 52.0 +0.6**
POHA Pohakuloa 55.63 61 P **P** **18 35 52.5 +1.0**
SDHHI Sand Hill 55.69 61 P **P** **18 35 52.3 +0.5**
MDJ Mudanjiang 55.92 339 P **P** **18 35 53.0 +0.2**
MDJ pP pP 18 35 56.2 -2.1
MDJ sP sP 18 35 57.5 -2.9
MDJ PP **PP** **18 37 57.8 0.0**
MDJ S **S** **18 43 43.1 +3.8**
MDJ ScS **ScS** **18 45 42.3 +1.6**
MDJ pmax pmax
comp=Z,18nm,1.0s
MDJ pmax pmax
comp=Z,280nm,5.9s
MDJ LR LR
comp=Z,440nm,21.4s
MDJ LR LR
comp=Z,380nm,15.7s
MDJ LR LR
comp=Z,530nm,14.5s
MDJ Mudanjiang 55.92 339 P **P** **18 35 52.0 -0.8**
TBI Tubuai 56.05 114 *e*S **S** **18 43 43.5 +1.6**
comp=Z,233nm,38.5s
TBI *e*LQ LQ 18 49 58.9
comp=Z,3μm,29.0s
TBI *e*LR LR 18 52 16.3
comp=Z,1μm,33.0s
SNY Shenyang 56.10 332⇑ P **P** **18 35 51.3 -2.9**
SNY S **S** **18 43 42.5 +0.7**
SNY pmax pmax
comp=Z,180nm,7.5s
SNY LR LR
comp=Z,540nm,14.2s
SNY LR LR
comp=Z,370nm,18.0s
SNY LR LR
comp=Z,700nm,17.7s
RPSI Rantau Prapat 56.44 278 P **P** **18 35 55.6 -1.6**
RPSI lAmb lAmb 18 36 13.5
comp=Z,70nm,2.0s
PSI Prapat 56.46 278 P **P** **18 35 55.6 -1.8**
PSI pmax pmax
comp=Z,70nm,2.0s
ENH Enshi 56.86 313 P **P** **18 35 59.9 +0.1**
CN2 Changchun 56.86 335 *e*P **P** **18 35 59.9 +0.4**
CN2 *e*S **S** **18 43 52.6 +0.8**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,210nm,7.0s
CN2 LR LR
comp=Z,450nm,18.0s
CN2 LR LR
comp=Z,310nm,18.0s
CN2 LR LR
comp=Z,480nm,16.0s
GYA Guiyang 57.07 307⇓ *i*P **P** **18 36 03.7 +2.2**
GYA S **S** **18 43 59.6 +4.1**
GYA ScS **ScS** **18 45 52.2 +2.1**
GYA SS **SS** **18 47 40.9 -3.7**
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,340nm,6.3s
GYA LR LR
comp=Z,570nm,18.0s
GYA LR LR
comp=Z,600nm,18.5s
GYA LR LR
comp=Z,1μm,19.6s
SLVN Son La 57.10 301 P **P** **18 36 00.8 -1.0**
GSI Gunungsitoli 57.55 276 P **P** **18 36 05.7 +0.7**
comp=Z,215nm,1.1s
GSI Gunungsitoli 57.55 276 P **P** **18 36 03.8 -1.2**
GSI lAmb lAmb 18 36 31.6
comp=Z,62nm,1.1s
KCSI Kotacane, Aceh 57.72 278 P P 18 36 17.4 +11
PBKT Sadao Pong 57.96 294 P **P** **18 36 07.6 -0.2**
PBKT lAmb lAmb 18 36 13.1
comp=Z,38nm,1.4s
BJI Beijing 58.56 326 P **P** **18 36 11.9 +0.3**
BJI PP **PP** **18 38 25.8 +4.4**
BJI S **S** **18 44 13.4 -0.8**
BJI ScS **ScS** **18 46 00.3 +0.2**
BJI pmax pmax
comp=Z,7.0nm,0.6s
BJI pmax pmax
comp=Z,280nm,4.5s
BJI LR LR
comp=Z,490nm,14.7s
BJI LR LR
comp=Z,510nm,18.6s
TIY Taiyuan 59.22 322 *e*P **P** **18 36 18.3 +2.0**
TIY S **S** **18 44 23.1 0.0**
TIY ScS **ScS** **18 46 01.9 -3.5**
TIY pmax pmax
comp=Z,330nm,6.6s
TIY LR LR
comp=Z,180nm,10.8s
TIY LR LR
comp=Z,850nm,18.8s
TIY LR LR
comp=Z,700nm,22.2s
XAN Xi'an 59.33 316 P **P** **18 36 17.7 +0.6**
XAN pP pwP 18 36 29.1 -0.5
XAN S **S** **18 44 25.4 +0.8**
XAN pmax pmax
comp=Z,7.0nm,0.5s
XAN pmax pmax
comp=Z,630nm,4.1s
XAN LR LR
comp=Z,660nm,20.1s
XAN LR LR
comp=Z,890nm,19.7s
XAN LR LR
comp=Z,1μm,20.7s
XAN Xi'an 59.33 316 P **P** **18 36 17.5 +0.4**
XAN pmax pmax
comp=Z,66nm,0.7s
XAN Xi'an 59.33 316 P **P** **18 36 17.5 +0.4**
GRNR Gornyy 59.44 347⇑ *i*P **P** **18 36 17.5 0.0**
GRNR pmax pmax
comp=Z,4.0nm,1.1s
KMI Kunming 59.63 304 P **P** **18 36 22.0 +2.4**
KMI pP pP 18 36 25.5 +0.2
KMI S **S** **18 44 26.7 -2.5**
KMI SS **SS** **18 48 21.0 -4.2**
KMI pmax pmax
comp=Z,34nm,1.3s
KMI pmax pmax
comp=Z,380nm,4.7s
KMI LR LR
comp=Z,360nm,22.6s
KMI LR LR
comp=Z,600nm,23.5s
KMI LR LR
comp=Z,820nm,20.8s
PET Petropavlovsk 59.66 3 *c i*P **P** **18 36 19.3 +0.4**
PET *e* 18 38 39.5
PET *e*S **S** **18 44 26.5 -1.5**
PET *e*SS **SS** **18 48 19.5 -4.7**
PET pmax pmax
comp=Z,16μm,0.8s
PET pmax pmax
comp=Z,300nm,10.2s
PET pmax pmax
comp=Z,200nm,10.6s
PET MLR MLR
comp=Z,700nm,20.0s
PET Petropavlovsk 59.66 3 P **P** **18 36 18.2 -0.7**
PET lAmb lAmb 18 36 29.4
comp=Z,70nm,1.8s
PEA0B Petropavlovsk- 59.70 2 P **P** **18 36 19.4 +0.1**
PEA0B pmax pmax
comp=Z,93nm,1.5s
PEA0B Petropavlovsk- 59.70 2 P **P** **18 36 19.4 +0.1**
PETK Petropavlovsk- 59.70 2 P **P** **18 36 19.9 +0.7**
comp=Z,6.6nm,0.7s,baz=173,slow=8.6,SNR=16
PETK LR LR 19 00 15.7
comp=Z,484nm,20.6s,baz=203,slow=34
CM31 Chiang Mai Arr 60.41 296 P **P** **18 36 25.4 +0.7**
CMAR Chiang Mai Arr 60.41 296 P **P** **18 36 25.9 +1.1**
comp=Z,14nm,0.8s,baz=121,slow=4.4,SNR=68
CMAR LR LR 19 02 43.8
comp=Z,284nm,18.9s,baz=144,slow=36
CMAR PKPPKP **P'P'df** **19 05 48.6 +0.7**
comp=Z,0.9nm,0.9s,baz=254,slow=6.5,SNR=5.1
CMAR Chiang Mai Arr 60.41 296 *i*P **P** **18 36 26.7 +1.9**
CMAR pmax pmax
comp=Z,14nm,0.8s
CHTO Chiang Mai 60.52 296 P **P** **18 36 25.7 +0.2**
CHTO pmax pmax
comp=Z,94nm,1.7s
CHTO Chiang Mai 60.52 296 P **P** **18 36 25.7 +0.2**
NKL Nikolayevsk 60.86 350 P **P** **18 36 24.2 -2.9**
NKL *e*S **S** **18 44 46.6 +3.2**
NKL pmax pmax
comp=Z,9.0nm,1.5s
NKL pmax pmax
comp=N,3.0nm,1.2s
NKL pmax pmax
comp=E,1.0nm,0.8s
NKL pmax pmax
comp=Z,43nm,4.0s
CD2 Chengdu 61.43 311⇑ P **P** **18 36 32.7 +1.1**
CD2 pP pP 18 36 36.9 -0.3
CD2 sP sP 18 36 39.7 +0.4
CD2 S **S** **18 44 51.9 +0.2**
CD2 sS sS 18 45 01.1 +0.1
CD2 pmax pmax
comp=Z,230nm,0.8s
CD2 pmax pmax
comp=Z,510nm,4.1s
CD2 LR LR
comp=Z,1μm,17.6s
CD2 LR LR
comp=Z,910nm,18.1s
CD2 LR LR
comp=Z,1μm,17.6s
HHC Hu-ho-hao-te 61.73 324 P **P** **18 36 34.4 +0.9**
HHC S **S** **18 44 58.3 +3.1**
HHC ScS **SKKSac** **18 46 20.3 -3.7**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,230nm,6.0s
HHC LR LR
comp=Z,270nm,16.2s
HHC LR LR
comp=Z,370nm,17.9s
HHC LR LR
comp=Z,380nm,17.0s
BTO Baotou 62.49 323 *e*P **P** **18 36 40.8 +2.2**
HIA Hailar 63.59 335 P **P** **18 36 44.3 -1.3**
HIA pmax pmax
comp=Z,25nm,1.1s
HIA Hailar 63.59 335 P **P** **18 36 44.3 -1.3**
HIA lAmb lAmb 18 36 47.1
comp=Z,25nm,1.1s
TAOE Nuku Hiva Isla 64.53 97 P **P** **18 36 52.7 +0.2**
ZEA Zeya 64.57 342 *e*P **P** **18 36 52.8 +0.9**
ZEA *e*S **S** **18 45 31.0 +1.0**
ZEA pmax pmax
comp=N,37nm,1.4s
ZEA pmax pmax
comp=Z,73nm,1.6s
ZEA pmax pmax
comp=Z,200nm,10.0s
ZEA smax smax
comp=E,200nm,11.0s
MA2 Magadan 66.21 358 P **P** **18 37 02.2 -0.1**
comp=E,8.4nm,0.7s,baz=156,slow=12,SNR=6.1
MA2 Magadan 66.21 358 *ce*P **P** **18 37 02.6 +0.2**
MA2 pmax pmax
comp=Z,13nm,1.3s
MA2 Magadan 66.21 358 P **P** **18 37 02.4 0.0**
CASY Casey 66.71 198 P **P** **18 37 05.1 -0.4**
CASY lAmb lAmb 18 37 21.0
comp=Z,27nm,1.5s
NIKH Nikolski High 67.06 23 P **P** **18 37 07.2 -0.7**
CIT Chita 68.27 334 *e*P **P** **18 37 16.3 +0.6**
CIT *e* 18 37 23.7
CIT *e* 18 37 44.4
CIT pmax pmax
comp=Z,39nm,1.6s
GTA Gaotai 68.36 317⇑ P **P** **18 37 18.0 +1.3**
GTA pP pP 18 37 23.3 +1.0
GTA sP sP 18 37 26.2 +1.8
GTA S **S** **18 46 19.3 +2.4**
GTA SS **SS** **18 50 44.0 +3.2**
GTA pmax pmax
comp=Z,54nm,1.7s
GTA pmax pmax
comp=Z,600nm,5.5s
GTA LR LR
comp=Z,350nm,17.4s
GTA LR LR
comp=Z,350nm,17.9s
GTA LR LR
comp=Z,370nm,18.7s
UNV Unalaska Valle 68.64 24 P **P** **18 37 17.4 -0.5**
UNV lAmb lAmb 18 37 35.0
comp=Z,13nm,0.7s
ULN Ulaanbaatar 68.65 328 *ce*P **P** **18 37 19.4 +1.1**
ULN pmax pmax
comp=Z,26nm,1.7s
ULN Ulaanbaatar 68.65 328 P **P** **18 37 19.0 +0.8**
SHL Shillong 68.91 301 P **P** **18 37 20.7 +0.3**
SHL pmax pmax
comp=Z,62nm,0.8s
SHL Shillong 68.91 301 P **P** **18 37 20.6 +0.3**
SONM Songino Array 68.98 327 P **P** **18 37 21.5 +1.2**
comp=Z,14nm,1.0s,baz=131,slow=5.6,SNR=45
SONM LR LR 19 09 49.8
comp=Z,616nm,18.0s,baz=108,slow=38
AKUT Akutan 69.15 24 P **P** **18 37 19.7 -1.3**
RKT Rikitea 69.32 112 *e*LQ LQ 18 55 32.4
comp=Z,1μm,30.0s

RKT eLR LR 18 58 27.0
comp=Z,1µm,23.0s
SPIA Saint Paul Isl 69.85 19 P **P** **18 37 25.4 +0.1**
FALS False Pass 70.62 24 P **P** **18 37 30.4 +0.3**
FALS IAmb IAmb 18 37 47.3
comp=Z,42nm,1.0s
VNDA Vanda 70.81 178 P **P** **18 37 32.4 +1.4**
comp=Z,5.6nm,1.1s,baz=341,slow=7.2,SNR=10
VNDA Vanda 70.81 178 P **P** **18 37 31.0 +0.1**
VNDA pmax pmax
comp=Z,17nm,1.3s
VNDA Vanda 70.81 178 P **P** **18 37 31.0 +0.1**
LSA Lhasa 70.89 304 P **P** **18 37 34.8 +1.9**
LSA pmax pmax
comp=Z,69nm,0.7s
LSA Lhasa 70.89 304 P **P** **18 37 32.2 -0.7**
LSA pmax pmax
comp=Z,38nm,0.8s
LSA Lhasa 70.89 304 P **P** **18 37 32.2 -0.7**
LSA IAmb IAmb 18 37 36.3
comp=Z,38nm,0.8s
YAK Yakutsk 71.27 348 P **P** **18 37 33.6 -0.3**
YAK pmax pmax
comp=Z,42nm,1.1s
YAK Yakutsk 71.27 348 P **P** **18 37 33.6 -0.3**
YAK IAmb IAmb 18 37 35.4
comp=Z,42nm,1.1s
ZAK Zakamensk 72.14 328 *e*P **P** **18 37 39.9 +0.4**
ZAK pmax pmax
comp=Z,17nm,0.9s
SDPT Sand Point 72.18 25 P **P** **18 37 38.8 -0.7**
SDPT IAmb IAmb 18 37 51.4
comp=Z,56nm,1.3s
CNBA Chernabura Isl 72.20 26 P **P** **18 37 38.9 -0.7**
CNBA IAmb IAmb 18 37 58.5
comp=Z,52nm,1.6s
TLY Talaya 72.71 330 *i* P **P** **18 37 43.0 +0.2**
TLY pmax pmax
comp=Z,12nm,1.4s
IRK Irkutsk 72.73 330 *e*P **P** **18 37 41.0 -1.9**
IRK pmax pmax
comp=Z,28nm,1.8s
TAPN Taplejung 73.02 301 *e*P **P** **18 37 46.7 +1.2**
comp=Z,71nm,0.8s
ODAN Odare 73.15 301 *e*P **P** **18 37 47.4 +1.2**
comp=Z,202nm,0.7s
CHGN Chignik 73.68 25 P **P** **18 37 47.9 -0.5**
CHGN IAmb IAmb 18 38 11.9
comp=Z,37nm,1.3s
RAMN Ramite 73.85 300 *e*P **P** **18 37 51.3 +1.0**
comp=Z,37nm,0.6s
JIRN Jiri 74.40 301 *e*P **P** **18 37 54.8 +1.1**
comp=Z,119nm,0.7s
GUN Gumba 74.73 301 *e*P **P** **18 37 56.8 +1.2**
comp=Z,179nm,0.7s
PKI Pulchoki 75.04 301 *e*P **P** **18 37 58.1 +0.7**
comp=Z,30nm,0.5s
PKIN Phulchoki 75.05 301 *e*P **P** **18 37 58.0 +0.7**
comp=Z,36nm,0.6s
BILL Bilibino 75.08 4 *ce*P **P** **18 37 57.2 +0.9**
BILL pmax pmax
comp=Z,36nm,1.7s
BILL Bilibino 75.08 4 P **P** **18 37 56.4 +0.1**
KKN Kakani 75.21 301 *e*P **P** **18 37 59.3 +1.1**
comp=Z,110nm,0.7s
DMN Daman 75.31 301 *e*P **P** **18 38 00.0 +1.2**
comp=Z,141nm,0.7s
AIS Amsterdam Isla 75.70 233 P **P** **18 37 59.4 -1.1**
PVM Polavaram 75.99 290 *e*P **P** **18 38 03.2 +0.7**
OHAK Old Harbor 76.47 26 P **P** **18 38 03.9 -0.5**
OHAK IAmb IAmb 18 38 32.0
comp=Z,32nm,1.2s
KOLN Koldanda 76.64 301 *e*P **P** **18 38 07.2 +0.9**
comp=Z,156nm,0.8s
DANN Dangsing 76.66 301 *e*P **P** **18 38 07.6 +1.1**
comp=Z,138nm,0.7s
KDAK Kodiak Island 77.10 26 P **P** **18 38 07.2 -0.8**
comp=Z,5.7nm,0.8s,baz=3.2,slow=18,SNR=2.5
KDAK Kodiak Island 77.10 26 P **P** **18 38 06.7 -1.3**
KDAK pmax pmax
comp=Z,80nm,1.7s
KDAK Kodiak Island 77.10 26 P **P** **18 38 06.7 -1.3**
KDAK IAmb IAmb 18 39 41.0
comp=Z,80nm,1.6s
ANM Nome 77.11 17 P **P** **18 38 08.3 +0.4**
ANM pmax pmax
comp=Z,25nm,1.1s
ANM Nome 77.11 17 P **P** **18 38 08.3 +0.4**
ANM IAmb IAmb 18 38 11.0
comp=Z,25nm,1.1s
SKHT Srikalahasti 77.14 286 *e*P **P** **18 38 09.2 +0.2**
PYUN Piuthan 77.25 301 *e*P **P** **18 38 10.8 +1.0**
comp=Z,155nm,0.9s
ADKI Addanki 77.28 288 *e*P **P** **18 38 10.8 +1.0**
SVW2 Sparrevohn 77.91 22 P **P** **18 38 11.1 -1.4**
SVW2 IAmb IAmb 18 38 32.4
comp=Z,55nm,1.5s
NJS Nagarjunasagar 78.03 288 *e*P **P** **18 38 16.1 +2.1**
SRLM Srisailam 78.34 288 *e*P **P** **18 38 15.7 -0.2**
WMQ Urumqi 78.45 317 *e*P **P** **18 38 17.0 +1.1**
WMQ pP pP 18 38 21.5 -0.1
WMQ S **S** **18 48 12.2 +1.4**
WMQ sS pS 18 48 18.1 +0.4
WMQ ScS **ScS** **18 48 38.9 +3.4**
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ pmax pmax
comp=Z,450nm,3.7s
WMQ LR LR
comp=Z,660nm,26.3s
WMQ LR LR
comp=Z,700nm,29.1s
WMQ LR LR
comp=Z,200nm,28.9s
RPR Rampur 78.48 291 *e*P **P** **18 38 18.2 +1.6**
CNPM China Poot 78.69 25 P **P** **18 38 16.2 -0.7**
HYBB Hyderabad (bro 78.90 289 *e*P **P** **18 38 20.7 +1.8**
TTA Tatalina 78.93 21 P **P** **18 38 18.3 +0.1**
TTA pmax pmax
comp=Z,15nm,1.1s
TTA Tatalina 78.93 21 P **P** **18 38 18.2 +0.1**
BRLK Bradley Lake 78.97 25 P **P** **18 38 17.8 -0.6**
BRLK IAmb IAmb 18 38 42.7
comp=Z,30nm,1.2s
SRSP Sriramsagar 79.38 291 *e*P **P** **18 38 22.8 +1.4**
URV Uravakonda 79.69 286 *e*P **P** **18 38 23.3 +0.1**
SEW Seward 79.76 25 P **P** **18 38 21.9 -0.7**
SEW IAmb IAmb 18 38 59.2
comp=Z,50nm,1.4s
TIXI Tiksi 80.09 352 P **P** **18 38 24.1 -0.1**
comp=Z,3.6nm,0.5s,baz=113,slow=4.4,SNR=22
TIXI Tiksi 80.09 352 *ce*P **P** **18 38 24.5 +0.3**
TIXI pmax pmax
comp=Z,21nm,1.7s
TIXI Tiksi 80.09 352 P **P** **18 38 23.3 -0.9**
RC01 Rabbit Creek A 80.19 24 P **P** **18 38 24.9 -0.1**
RC01 IAmb IAmb 18 38 26.9
comp=Z,46nm,1.4s
PPLA Purkeypile 80.28 22 P **P** **18 38 25.4 -0.2**
PPLA IAmb IAmb 18 38 44.8
comp=Z,41nm,1.4s
RDOG Red Dog Mine 80.38 15 P **P** **18 38 26.2 +0.3**
PMR Palmer 80.71 24 P **P** **18 38 28.0 +0.3**
PMR pmax pmax
comp=Z,40nm,1.4s
PMR Palmer 80.71 24 P **P** **18 38 28.0 +0.3**
PMR IAmb IAmb 18 38 46.3
comp=Z,40nm,1.4s
DGZ Jazzator, Alta 80.78 323 *c* *i* P **P** **18 38 28.4 -0.2**
DGZ pmax pmax
comp=Z,15nm,0.7s
KNK Knik Glacier 80.89 24 P **P** **18 38 28.0 -0.8**
KNK IAmb IAmb 18 38 51.9
comp=Z,38nm,1.2s
GHO Glory Hole Cre 80.89 24 P **P** **18 38 28.5 -0.3**
GHO IAmb IAmb 18 38 51.7
comp=Z,46nm,1.3s
KTH Kantishna Hill 81.13 22 P **P** **18 38 29.4 -0.7**
SML Sawmill 81.15 24 P **P** **18 38 30.3 +0.2**
GLI Glacier Island 81.16 25 P **P** **18 38 30.0 -0.2**
GLI IAmb IAmb 18 38 42.8
comp=Z,29nm,1.2s
HIN Hinchinbrook I 81.16 25 P **P** **18 38 29.7 -0.5**
HIN IAmb IAmb 18 38 56.7
comp=Z,30nm,1.1s

PAF Port-aux-Franc 81.30 221 P **P** **18 38 29.7 -1.5**
PAF pmax pmax
comp=Z,871nm,1.8s
PAF Port-aux-Franc 81.30 221 P **P** **18 38 29.7 -1.5**
TRF Thorofare Moun 81.31 22 P **P** **18 38 30.3 -0.8**
FID Port Fidalgo 81.35 25 P **P** **18 38 31.4 +0.2**
FID IAmb IAmb 18 38 49.9
comp=Z,31nm,1.3s
BPAW Bear Paw Mtn. 81.43 21 P **P** **18 38 31.2 -0.3**
DGAR Diego Garcia 81.48 264 P **P** **18 38 31.9 -0.9**
DGAR pmax pmax
comp=Z,525nm,1.5s
DGAR Diego Garcia 81.48 264 P **P** **18 38 31.9 -0.9**
EYAK Cordova Ski Ar 81.56 26 P **P** **18 38 32.0 -0.3**
SCM Sheep Creek Mo 81.57 24 P **P** **18 38 32.3 -0.1**
SCM pmax pmax
comp=Z,40nm,1.2s
SCM Sheep Creek Mo 81.57 24 P **P** **18 38 32.2 -0.1**
SCM IAmb IAmb 18 38 51.6
comp=Z,40nm,1.2s
ZSN Zaisan 81.57 320 *i* P **P** **18 38 33.3 +0.6**
comp=Z,7.6nm,0.9s,baz=320
ZSN *e*S **S** **18 48 45.7 +2.1**
baz=320
ZSN Zaisan 81.57 320 *i* P **P** **18 38 33.3 +0.6**
ZSN *e*S **S** **18 48 45.6 +2.1**
ZSN pmax pmax
comp=Z,8.0nm,0.9s
RND Reindeer 81.82 22 P **P** **18 38 33.6 -0.1**
RND pmax pmax
comp=Z,19nm,1.0s
RND Reindeer 81.82 22 P **P** **18 38 33.6 -0.1**
MCK McKinley 81.97 22 P **P** **18 38 33.5 -0.9**
MCK pmax pmax
comp=Z,34nm,1.1s
MCK McKinley 81.97 22 P **P** **18 38 33.5 -0.9**
MCK IAmb IAmb 18 38 52.5
comp=Z,34nm,1.1s
MLY Manley 82.05 20 P **P** **18 38 34.2 -0.6**
MLY IAmb IAmb 18 38 48.8
comp=Z,15nm,0.6s
DHY Denali Highway 82.20 23 P **P** **18 38 35.3 -0.5**
WRH Wood River Hil 82.68 22 P **P** **18 38 37.3 -0.8**
HARP HAARP 82.73 24 P **P** **18 38 37.3 -1.2**
HARP IAmb IAmb 18 38 56.9
comp=Z,55nm,1.5s
WAX Waxell Ridge 82.77 26 P **P** **18 38 37.5 -1.3**
WAX IAmb IAmb 18 38 52.9
comp=Z,72nm,1.6s
GLB Gilahina Butte 82.83 25 P **P** **18 38 38.6 -0.4**
GLB IAmb IAmb 18 39 03.6
comp=Z,32nm,1.2s
VRDI Verde Repeater 82.88 25 P **P** **18 38 39.2 -0.2**
VRDI IAmb IAmb 18 38 53.1
comp=Z,30nm,1.2s
CCB Clear Creek Bu 82.88 21 P **P** **18 38 38.0 -1.1**
PAX Paxson 82.89 23 P **P** **18 38 39.3 0.0**
PAX pmax pmax
comp=Z,10.0nm,0.7s
PAX Paxson 82.89 23 P **P** **18 38 39.3 0.0**
MDM Murphy Dome 82.90 21 P **P** **18 38 38.2 -1.0**
COLA College 82.99 21 *i* P **P** **18 38 38.8 -0.9**
COLA pmax pmax
comp=Z,18nm,1.2s
COLA College 82.99 21 P **P** **18 38 38.7 -0.9**
MK31 Makanchi Array 83.03 319 P **P** **18 38 40.6 +0.2**
MK31 pmax pmax
comp=Z,31nm,0.8s
MK31 Makanchi Array 83.03 319 P **P** **18 38 40.6 +0.2**
MK31 IAmb IAmb 18 38 42.7
comp=Z,31nm,0.8s
MKAR Makanchi Array 83.03 319 P **P** **18 38 41.0 +0.7**
comp=Z,31nm,0.7s,baz=102,slow=5.0,SNR=269
MKAR PKKPbc **PKKPbc** **18 57 03.7 -0.7**
comp=Z,0.5nm,0.8s,baz=267,slow=4.9,SNR=3.8
MKAR LR LR 19 15 30.3
comp=Z,488nm,20.0s,baz=95,slow=36
HDA Harding Lake 83.07 22 P **P** **18 38 39.9 -0.3**
baz=236
HDA Harding Lake 83.07 22 P **P** **18 38 39.8 -0.3**
HDA IAmb IAmb 18 39 02.5
comp=Z,26nm,1.4s
MCARA McCarthy VSAT 83.13 25 P **P** **18 38 39.3 -1.1**
MCARA IAmb IAmb 18 39 27.1
comp=Z,47nm,1.4s
QSPA South Pole Qui 83.20 180 P **P** **18 38 41.2 +0.2**
comp=Z,32nm,1.1s,baz=319,slow=0.8,SNR=48
QSPA South Pole Qui 83.20 180 P **P** **18 38 39.8 -1.2**
YAH Yahtse 83.22 27 P **P** **18 38 40.6 -0.7**
MAKZ Makanchi 83.24 319 P **P** **18 38 40.7 -0.7**
MAKZ pmax pmax
comp=Z,52nm,0.9s
MAKZ Makanchi 83.24 319 P **P** **18 38 40.7 -0.7**
BALM Baldy 83.26 26 P **P** **18 38 41.0 -0.3**
BALM IAmb IAmb 18 39 05.4
comp=Z,38nm,1.6s
POKR Poker Plat Res 83.27 21 P **P** **18 38 41.2 +0.1**
baz=238
IL31 83.28 22 P **P** **18 38 39.8 -1.3**
ILAR Eielson Array 83.28 22 P **P** **18 38 40.8 -0.5**
comp=Z,8.2nm,0.9s,baz=254,slow=4.8,SNR=50
ILAR LR LR 19 12 58.9
comp=Z,1µm,20.3s,baz=250,slow=34
BARN Barnard Glacie 83.57 26 P **P** **18 38 43.0 0.0**
BARN IAmb IAmb 18 39 19.0
comp=Z,17nm,1.0s
MENT Mentasta 83.58 24 P **P** **18 38 43.0 +0.2**
CTGM Chitina Glacie 83.67 26 P **P** **18 38 42.7 -0.8**
CTGM IAmb IAmb 18 39 21.7
comp=Z,25nm,1.2s
PCA Pinnacle 83.78 27 P **P** **18 38 43.8 -0.2**
PCA IAmb IAmb 18 39 26.4
comp=Z,24nm,1.0s
DOT Dot Lake 83.78 23 P **P** **18 38 44.0 +0.2**
DOT IAmb IAmb 18 38 56.6
comp=Z,28nm,1.3s
ZAA0 Zalesovo Array 83.82 326 P **P** **18 38 43.2 -1.0**
ZALV Zalesovo Beam 83.82 326 P **P** **18 38 43.8 -0.4**
comp=Z,8.9nm,0.6s,baz=119,slow=5.3,SNR=49
ZALV LR LR 19 16 39.0
comp=Z,269nm,20.1s,baz=112,slow=36
SHLS Shalkode 83.94 315 *i* P **P** **18 38 44.4 -0.9**
comp=Z,29nm,1.0s,baz=315
SHLS *e*S **S** **18 49 06.3 -1.7**
baz=315
SHLS Shalkode 83.94 315 *c* *i* P **P** **18 38 44.3 -0.9**
SHLS *e*S **S** **18 49 06.3 -1.7**
SHLS pmax pmax
comp=Z,29nm,1.0s
UZB Uzunbulak 84.25 315 *i* P **P** **18 38 47.3 +0.5**
comp=Z,52nm,1.7s,baz=314
UZB *e*S **S** **18 49 09.7 -1.5**
baz=314
UZB Uzunbulak 84.25 315 *i* P **P** **18 38 47.3 +0.5**
UZB *e*S **S** **18 49 09.7 -1.5**
UZB pmax pmax
comp=Z,52nm,1.7s
MAW Mawson 84.48 203 P **P** **18 38 47.7 +0.4**
baz=84,SNR=10
MAW Mawson 84.48 203 P **P** **18 38 47.4 +0.1**
comp=Z,9.6nm,0.8s,baz=90,slow=7.3,SNR=11
MAW LR LR 19 14 03.6
comp=Z,326nm,19.9s,baz=69,slow=34
MAW Mawson 84.48 203 P **P** **18 38 48.0 +0.7**
MAW pmax pmax
comp=Z,9.0nm,1.3s
MAW Mawson 84.48 203 P **P** **18 38 48.0 +0.7**
TOLK Toolik Lake Re 84.50 18 P **P** **18 38 47.2 -0.3**
PRZ Przheval'sk 84.52 314 P **P** **18 38 49.3 +1.0**
PRZ pmax pmax
comp=Z,87nm,1.0s
PRZ Przheval'sk 84.52 314 P **P** **18 38 49.3 +1.0**
SATY Saty 84.66 314 *i* P **P** **18 38 49.5 +0.6**
comp=Z,11nm,0.7s,baz=314
SATY *e*S **S** **18 49 12.1 -3.2**
baz=314
SATY LR LR 19 19 46.0
comp=Z,83nm,14.7s,baz=314
SATY Saty 84.66 314 *i* P **P** **18 38 49.5 +0.6**
SATY *e*S **S** **18 49 12.0 -3.2**
SATY pmax pmax
comp=Z,11nm,0.7s
SATY MLR MLR
comp=Z,83nm,15.0s
TARG Taragay, Kyrgy 84.77 313 P **P** **18 38 50.1 +0.3**
TARG IAmb IAmb 18 38 52.9
comp=Z,32nm,1.0s
FYU Fort Yukon 84.80 20 P **P** **18 38 48.9 +0.1**
SIT Sitka 84.98 31 P **P** **18 38 48.7 -1.2**
SIT pmax pmax
comp=Z,41nm,1.4s
SIT Sitka 84.98 31 P **P** **18 38 48.7 -1.2**
SIT IAmb IAmb 18 39 10.8
comp=Z,41nm,1.4s
TDK Taldyqorghan 85.14 316 *e*P **P** **18 38 51.8 +0.6**
comp=Z,40nm,1.3s,baz=316
TDK *e*S **S** **18 49 15.1 -4.7**
baz=316
TDK LR LR 19 18 39.8
comp=Z,280nm,16.9s,baz=316
TDK Taldyqorghan 85.14 316 *e*P **P** **18 38 51.7 +0.6**
TDK *e*S **S** **18 49 15.1 -4.7**
TDK pmax pmax
comp=Z,40nm,1.3s
TDK MLR MLR
comp=Z,280nm,17.0s
DIB Dawson Inlet, 85.26 35 P **P** **18 38 52.4 +1.0**
DIB IAmb IAmb 18 39 07.4
comp=Z,44nm,1.3s
KDJ Kajisay 85.32 313 P **P** **18 38 51.9 -0.4**
KDJ pmax pmax
comp=Z,67nm,0.9s
KDJ Kajisay 85.32 313 P **P** **18 38 51.9 -0.4**
HYT Haines Junctio 85.32 27 P **P** **18 38 52.4 +0.6**
SEM Semipalatinsk 85.38 322 *e*P **P** **18 38 51.3 -1.1**
comp=Z,4.2nm,1.0s,baz=322
SEM *e*S **S** **18 49 15.1 -7.2**
baz=322
SEM Semipalatinsk 85.38 322 *e*P **P** **18 38 51.3 -1.1**
SEM *e*S **S** **18 49 15.1 -7.2**
SEM pmax pmax
comp=Z,4.0nm,1.0s
EGAK Eagle 85.43 23 P **P** **18 38 52.8 +0.8**
MOBC Moresby Island 85.53 35 P **P** **18 38 52.3 -0.6**
MOBC IAmb IAmb 18 39 03.4
comp=Z,26nm,1.0s
CRAG Craig 85.61 33 P **P** **18 38 51.4 -1.7**
KSH Kashi 85.63 310 P **P** **18 38 57.0 +3.2**
KSH PP **PP** **18 42 16.7 +3.8**
KSH S **S** **18 49 24.5 -0.5**
KSH pmax pmax
comp=Z,120nm,1.1s
KSH LR LR
comp=Z,180nm,10.3s
KSH LR LR
comp=Z,320nm,9.9s
KSH LR LR
comp=Z,710nm,16.3s
MDOK Medeo 85.65 314 *i* P **P** **18 38 54.6 +0.6**
comp=Z,753nm,4.2s,baz=314
MDOK *e*S **S** **18 49 18.9 -6.2**
baz=314
MDOK LR LR 19 16 11.0
comp=Z,113nm,19.1s,baz=314
MDOK Medeo 85.65 314 *i* P **P** **18 38 54.5 +0.6**
MDOK *e*S **S** **18 49 18.9 -6.2**
MDOK pmax pmax
comp=Z,753nm,4.2s
MDOK MLR MLR
comp=Z,113nm,19.0s
TNSS Tian-Shan 85.69 314 *i* P **P** **18 38 56.0 +1.6**
baz=314
TNSS Tian-Shan 85.69 314 *i* P **P** **18 38 56.0 +1.6**
BESE Bessie Mountai 85.75 30 P **P** **18 38 52.8 -1.1**
AAA Alma-Ata 85.76 314 *e*P **P** **18 38 55.3 +1.0**
comp=Z,19nm,1.0s,baz=314
AAA LR LR 19 16 13.4
comp=Z,173nm,20.2s,baz=314
AAA Alma-Ata 85.76 314 *e*P **P** **18 38 54.2 -0.1**
AAA *e*S **S** **18 49 20.2 -5.8**
AAA pmax pmax
comp=Z,300nm,3.0s
AAA smax smax
comp=N,400nm,11.9s
AAA MLR MLR
comp=Z,200nm,13.0s
DAWY Dawson 85.82 24 P **P** **18 38 53.4 -0.7**
DAWY IAmb IAmb 18 39 33.8
comp=Z,32nm,1.6s
SKAG Skagway 85.82 29 P **P** **18 38 52.1 -2.0**
SKAG IAmb IAmb 18 39 07.9
comp=Z,26nm,1.2s
JIS Juneau Island 85.88 30 P **P** **18 38 53.6 -0.8**
JIS IAmb IAmb 18 39 18.1
comp=Z,46nm,1.7s
ULHL Ulahol 86.02 313 P **P** **18 38 56.9 +1.0**
SNR=16
WRAK Wrangell Islan 86.32 32 P **P** **18 38 55.0 -1.6**
WRAK IAmb IAmb 18 38 59.6
comp=Z,45nm,1.1s
KUU Kurty 86.32 315 *i* P **P** **18 38 57.5 +0.5**
comp=Z,113nm,1.5s,baz=315
KUU *e*S **SKSac** **18 49 23.0 +0.9**
baz=315
KUU Kurty 86.32 315 *i* P **P** **18 38 57.5 +0.5**
KUU *e*S **SKSac** **18 49 23.0 +0.9**
KUU pmax pmax
comp=Z,113nm,1.5s
WHY Whitehorse 86.46 28 P **P** **18 38 57.5 +0.1**
WHY IAmb IAmb 18 39 10.9
comp=Z,57nm,1.9s
KURK Kurchatov 86.46 322 *ce*P **P** **18 38 57.6 +0.1**
KURK pmax pmax
comp=Z,34nm,1.7s
KURK Kurchatov 86.46 322 P **P** **18 38 56.2 -1.2**
KURK IAmb IAmb 18 38 58.8
comp=Z,62nm,1.8s
NIL Nilore 86.62 304 P **P** **18 38 57.6 -1.2**
NIL pmax pmax
comp=Z,184nm,2.0s
NIL Nilore 86.62 304 P **P** **18 38 57.6 -1.2**
TKM2 Tokmak 2 86.64 314 P **P** **18 38 59.6 +0.8**
SNR=17
KZA Kyzart 86.71 313 P **P** **18 39 01.9 +2.4**
SNR=44
KBK Karagaybulak 87.05 313 P **P** **18 39 02.0 +1.2**
SNR=5.4
CHMS Chumysh 87.26 314 P **P** **18 39 02.4 +0.8**
SNR=12
UCH Uchtor 87.27 313 P **P** **18 39 03.6 +1.3**
SNR=20
FRU1 Bishkek 87.31 313 P **P** **18 39 00.6 -1.3**
FRU1 pmax pmax
comp=Z,26nm,1.2s
FRU1 Bishkek 87.31 313 P **P** **18 39 00.6 -1.3**
FRU1 IAmb IAmb 18 40 00.5
comp=Z,26nm,1.2s
AAK Ala-Archa 87.37 313 P **P** **18 39 03.3 +0.9**
SNR=8.6
AAK Ala-Archa 87.37 313 *ce*P **P** **18 39 03.4 +1.1**
AAK pmax pmax
comp=Z,28nm,1.7s
AAK Ala-Archa 87.37 313 P **P** **18 39 02.1 -0.2**
SGDS Sogindy 87.44 314 *i* P **P** **18 39 02.9 +0.3**
comp=Z,124nm,3.8s,baz=314
SGDS Sogindy 87.44 314 *i* P **P** **18 39 02.8 +0.3**
SGDS pmax pmax
comp=Z,124nm,3.8s
USP Ospenovka 87.49 314 P **P** **18 39 03.5 +0.7**
SNR=19
BBB Bella Bella 87.53 37 P **P** **18 39 04.0 +1.3**
comp=Z,8.5nm,1.0s,baz=246,slow=2.8,SNR=3.8
BBB LR LR 19 17 14.5
comp=Z,809nm,18.1s,baz=228,slow=35
BBB Bella Bella 87.53 37 P **P** **18 39 02.9 +0.2**
BBB IAmb IAmb 18 41 17.5
comp=Z,58nm,1.7s
EPYK Eagle Plains 87.77 22 P **P** **18 39 04.2 +0.7**
baz=248
EPYK Eagle Plains 87.77 22 P **P** **18 39 04.5 +1.0**
JCC Jacoby Creek, 87.83 49 P **P** **18 39 05.0 +0.6**
AML Almayashu 87.85 313 P **P** **18 39 05.9 +0.9**
SNR=34
EKS2 Erkin-Say 87.89 313 P **P** **18 39 05.8 +1.0**
SNR=19
DLBC Dease Lake 88.11 31 P **P** **18 39 06.2 +0.8**
comp=Z,19nm,1.1s,baz=244,slow=4.0,SNR=22
DLBC Dease Lake 88.11 31 P **P** **18 39 05.4 0.0**
ARSB Arslanbob 88.23 312 P **P** **18 39 05.7 -0.7**
ARSB pmax pmax
comp=Z,166nm,1.7s

ARSB **Arslanbob** 88.23 312 P **P** 18 39 05.7 -0.7
J01E **Myrtle Point** 88.34 46 P **P** 18 39 07.2 +0.5
baz=259
NRIK **Noril'sk** 88.42 341 P **P** 18 39 05.9 -0.6
comp=Z,14nm,0.8s,baz=117,slow=5.3,SNR=20
NRIK LR LR 19 18 12.4
comp=Z,314nm,20.6s,baz=102,slow=35
K02D **Willamette Mer** 88.45 47 P **P** 18 39 07.9 +0.5
baz=259
O02D **Mt. Diablo Mer** 88.65 49 P **P** 18 39 08.8 +0.5
baz=260
M02C **Callahan** 88.81 48 P **P** 18 39 09.4 +0.3
baz=260
N02D **Trinity Center** 88.85 49 P **P** 18 39 09.9 +0.6
baz=260
WDC **Whiskeytown Da** 88.90 49 P **P** 18 39 09.6 +0.2
WDC pmax pmax
comp=Z,29nm,1.7s
WDC **Whiskeytown Da** 88.90 49 P **P** 18 39 09.6 +0.2
WDC IAmb IAmb 18 42 21.5
comp=Z,29nm,1.7s
YBH **Yreka Blue Hor** 88.97 48 P **P** 18 39 10.5 +0.6
comp=Z,2.7nm,0.7s,baz=268,slow=3.1,SNR=5.8
YBH **Yreka Blue Hor** 88.97 48 P **P** 18 39 09.8 -0.1
YBH pmax pmax
comp=Z,27nm,1.8s
YBH **Yreka Blue Hor** 88.97 48 P **P** 18 39 09.8 -0.1
YBH IAmb IAmb 18 40 54.8
comp=Z,27nm,1.8s
E03A **Lebam** 89.23 43 P **P** 18 39 09.3 -1.5
O03E **Paynes Creek** 89.41 49 P **P** 18 39 12.4 +0.4
baz=261
ORV **Oroville** 89.52 50 P **P** 18 39 10.4 -2.0
ORV pmax pmax
comp=Z,8.0nm,0.8s
ORV **Oroville** 89.52 50 P **P** 18 39 10.4 -2.0
INK **Inuvik** 89.62 21 P **P** 18 39 12.9 +0.8
comp=Z,3.4nm,0.6s,baz=246,slow=4.4,SNR=10.0
INK LR LR 19 17 17.3
comp=Z,944nm,20.4s,baz=234,slow=34
INK **Inuvik** 89.62 21 P **P** 18 39 10.8 -1.3
INK pmax pmax
comp=Z,7.0nm,1.0s
INK **Inuvik** 89.62 21 P **P** 18 39 10.8 -1.3
J04D **Umpqua Nationa** 89.67 47 P **P** 18 39 14.2 +0.9
baz=260
PGC **Sidney** 89.69 41 P **P** 18 39 12.6 -0.3
PGC IAmb IAmb 18 41 13.9
comp=Z,44nm,1.4s
DZA **Taraz** 89.71 313 *e*P **P** 18 39 14.3 +1.0
comp=Z,8.3nm,0.8s,baz=313
DZA LR LR 19 21 58.2
comp=Z,215nm,19.3s,baz=313
DZA **Taraz** 89.71 313 *e*P **P** 18 39 14.2 +1.0
DZA pmax pmax
comp=Z,8.0nm,0.8s
D03D **Eldon** 89.72 42 P **P** 18 39 14.5 +1.3
baz=260
AFDM **Forest Hills D** 89.83 51 P **P** 18 39 14.1 +0.2
AFDM IAmb IAmb 18 39 17.9
comp=Z,14nm,0.9s
GAR **Garm** 89.85 309 P **P** 18 39 12.8 -1.4
H04A **Detroit Lake** 89.85 45 P **P** 18 39 12.4 -1.5
D04E **Lakebay** 89.87 43 P **P** 18 39 15.0 +1.2
baz=260
F04A **Amboy** 89.90 44 P **P** 18 39 11.5 -2.5
F04A IAmb IAmb 18 39 16.2
comp=Z,20nm,1.0s
PAGB **Antelope Grade** 89.92 54 P **P** 18 39 12.4 -2.0
PAGB IAmb IAmb 18 39 18.7
comp=Z,20nm,0.9s
BRZS **Berezniki** 90.01 320 *e*P **P** 18 39 13.3 -1.1
comp=Z,4.4nm,1.3s,baz=320
BRZS **Berezniki** 90.01 320 *e*P **P** 18 39 13.3 -1.1
BRZS pmax pmax
comp=Z,4.0nm,1.3s
SMMC **Simmler** 90.07 55 P **P** 18 39 16.8 +1.7
baz=262
CMB **Columbia Colle** 90.15 52 P **P** 18 39 16.8 +1.4
CMB pmax pmax
comp=Z,8.0nm,1.1s
CMB **Columbia Colle** 90.15 52 P **P** 18 39 16.8 +1.4
PKM **Mcpherson Peak** 90.16 55 P **P** 18 39 16.9 +1.2
baz=262
SNCC **San Nicolas Is** 90.17 57 P **P** 18 39 17.1 +1.6
baz=262
SNCC **San Nicolas Is** 90.17 57 P **P** 18 39 13.2 -2.3
SCZ2 **Santa Cruz Isl** 90.18 56 P **P** 18 39 17.2 +1.6
baz=262
KBL **Kabul** 90.21 305 P **P** 18 39 15.3 -0.7
KBL pmax pmax
comp=Z,13nm,1.1s
KBL **Kabul** 90.21 305 P **P** 18 39 15.3 -0.7
J05D **Fort Rock, OR** 90.30 47 P **P** 18 39 17.4 +1.2
baz=261,SNR=7.6
KK31 **Karatay Array** 90.33 313 P **P** 18 39 14.6 -1.5
KK31 pmax pmax
comp=Z,9.0nm,1.0s
KK31 **Karatay Array** 90.33 313 P **P** 18 39 14.6 -1.5
KKAR **Karatay Array** 90.33 313 P **P** 18 39 14.6 -1.5
KKAR pmax pmax
comp=Z,9.0nm,1.0s
KKAR **Karatay Array** 90.33 313 P **P** 18 39 14.6 -1.5
LON **Longmire** 90.45 43 P **P** 18 39 15.9 -0.8
LON pmax pmax
comp=Z,10.0nm,1.4s
LON **Longmire** 90.45 43 P **P** 18 39 15.9 -0.8
K05A **Summer Lake** 90.47 47 P **P** 18 39 17.5 +0.5
K05A IAmb IAmb 18 39 30.4
comp=Z,42nm,1.5s
B05A **Bryant** 90.51 42 P **P** 18 39 17.6 +0.9
baz=260
IUG **luzhnay** 90.54 312 *e*P **P** 18 39 18.2 +0.9
comp=Z,1.7nm,1.4s,baz=312
IUG **luzhnay** 90.54 312 *e*P **P** 18 39 18.1 +0.9
IUG pmax pmax
comp=Z,2.0nm,1.4s
G05D **Wamic, OR** 90.55 45 P **P** 18 39 17.8 +0.7
baz=261
F05D **White Salmon** 90.55 44 P **P** 18 39 18.2 +1.1
baz=261
CHGR **Chuyangaron** 90.70 309 P **P** 18 39 17.4 -0.6
MOD **Modoc Plateau** 90.78 48 P **P** 18 39 17.9 -0.5
MOD IAmb IAmb 18 39 20.9
comp=Z,31nm,1.6s
VCNR **Virginia City** 90.90 51 P **P** 18 39 20.4 +1.3
VCNR IAmb IAmb 18 39 22.2
comp=Z,14nm,0.8s
PNTR **Pine Nut** 90.91 51 P **P** 18 39 19.3 +0.1
PNTR IAmb IAmb 18 39 22.4
comp=Z,23nm,0.8s
SCI2 **San Clemente I** 90.94 57 P **P** 18 39 20.8 +1.6
baz=263
B06A **Marblemount** 90.95 41 P **P** 18 39 18.9 +0.1
WAKR **Walker** 90.96 52 P **P** 18 39 20.0 +0.7
WAKR IAmb IAmb 18 39 33.4
comp=Z,18nm,1.1s
TAS **Tashkent** 90.97 311 P **P** 18 39 19.9 +0.8
TAS pmax pmax
comp=Z,53nm,0.9s
TAS **Tashkent** 90.97 311 P **P** 18 39 19.9 +0.8
OSI **Osito Audit: C** 91.01 55 P **P** 18 39 20.8 +1.3
LLLB **Lillooet** 91.03 39 P **P** 18 39 19.2 0.0
CIS **Catalina Islan** 91.11 57 P **P** 18 39 21.7 +1.8
baz=263
MDPB **Devils Postpil** 91.12 52 P **P** 18 39 20.8 +0.6
MDPB IAmb IAmb 18 39 23.2
comp=Z,12nm,0.9s
PAHR **Pah Rah Range** 91.16 50 P **P** 18 39 19.6 -0.6
PAHR IAmb IAmb 18 39 33.9
comp=Z,22nm,1.0s
YERR **Yerington** 91.17 51 P **P** 18 39 20.0 -0.4
YERR IAmb IAmb 18 39 22.8
comp=Z,13nm,0.8s
OMMB **Old Mammoth Mi** 91.18 52 P **P** 18 39 19.8 -0.7
LTY **Liberty** 91.30 43 P **P** 18 39 20.5 -0.1
LTY IAmb IAmb 18 39 22.4
comp=Z,43nm,1.8s
ISA **Isabella, Lake** 91.35 54 P **P** 18 39 22.4 +1.3
baz=263,SNR=6.9
ISA **Isabella, Lake** 91.35 54 P **P** 18 39 21.7 +0.6
ISA pmax pmax
comp=Z,26nm,1.4s
ISA **Isabella, Lake** 91.35 54 P **P** 18 39 21.7 +0.6
ISA IAmb IAmb 18 39 24.2
comp=Z,26nm,1.4s

PASC **Pasadena Art C** 91.39 56 P **P** 18 39 22.6 +1.4
MWC **Mount Wilson** 91.51 56 P **P** 18 39 22.3 +0.3
MWC pmax pmax
comp=Z,65nm,1.2s
MWC **Mount Wilson** 91.51 56 P **P** 18 39 22.3 +0.3
F07A **Phinny Hill Vi** 91.61 44 P **P** 18 39 22.8 +0.8
F07A IAmb IAmb 18 42 53.3
comp=Z,12nm,0.6s
EDW2 **Edwards Air Fo** 91.64 55 P **P** 18 39 24.2 +1.7
baz=263,SNR=22
I07A **Izee** 91.66 46 P **P** 18 39 23.3 +0.9
I07A IAmb IAmb 18 39 24.9
comp=Z,18nm,1.4s
RYN **Ryan** 91.68 51 P **P** 18 39 23.7 +1.0
RYN IAmb IAmb 18 39 25.8
comp=Z,23nm,1.0s
E07A **Sunnyside** 91.75 43 P **P** 18 39 22.9 +0.2
E07A IAmb IAmb 18 39 24.9
comp=Z,12nm,0.8s
CWC **Cottonwood Cre** 91.76 54 P **P** 18 39 25.1 +2.0
baz=263
NVAR **Mina Array Bea** 91.83 52 P **P** 18 39 24.8 +1.3
comp=Z,17nm,0.8s,baz=253,slow=6.6,SNR=68
NVAR LR LR 19 13 01.5
comp=Z,558nm,21.4s,baz=270,slow=30
BFSC **Mount Baldy Ra** 91.84 56 P **P** 18 39 24.8 +1.3
baz=263,SNR=7.6
NV11 **Mina Array Sit** 91.94 52 P **P** 18 39 24.6 +0.7
HAWA **Hanford** 91.95 44 P **P** 18 39 21.7 -1.8
HAWA IAmb IAmb 18 39 25.8
comp=Z,14nm,0.9s
LRMC **Laurel Mtn Rad** 91.97 55 P **P** 18 39 25.8 +1.8
baz=263,SNR=12
BRVK **Borovoye** 92.00 323 *ce*P **P** 18 39 23.0 -0.6
BRVK pmax pmax
comp=Z,9.0nm,1.1s
BRVK **Borovoye** 92.00 323 P **P** 18 39 21.6 -2.0
KVN **Kaiserville** 92.06 51 P **P** 18 39 25.6 +1.1
KVN pmax pmax
comp=Z,22nm,0.9s
KVN **Kaiserville** 92.06 51 P **P** 18 39 25.6 +1.1
KVN IAmb IAmb 18 39 27.4
comp=Z,22nm,0.9s
WVOR **Wild Horse Val** 92.08 48 P **P** 18 39 24.8 +0.4
WVOR pmax pmax
comp=Z,7.0nm,0.9s
WVOR **Wild Horse Val** 92.08 48 P **P** 18 39 24.8 +0.4
109C **Camp Elliot, M** 92.14 57 P **P** 18 39 26.7 +2.0
baz=263
109C **Camp Elliot, M** 92.14 57 P **P** 18 39 25.9 +1.2
109C IAmb IAmb 18 39 27.6
comp=Z,34nm,1.3s
MURC **Murrieta** 92.14 57 P **P** 18 39 26.5 +1.7
baz=263
MPMC **Manual Prospec** 92.19 54 P **P** 18 39 26.7 +1.6
baz=263,SNR=18
G08A **Pilot Rock** 92.20 45 P **P** 18 39 25.1 +0.2
G08A IAmb IAmb 18 39 27.1
comp=Z,14nm,1.2s
RPN **Rapa Nui** 92.25 117 P **P** 18 39 25.4 0.0
RPN pmax pmax
comp=Z,345nm,1.8s
RPN **Rapa Nui** 92.25 117 P **P** 18 39 25.4 0.0
PNT **Penticton** 92.29 41 P P 18 39 19.3 -5.7
PNT pmax pmax
comp=Z,23nm,0.8s
E08A **Dider Farm, El** 92.29 44 P **P** 18 39 24.9 -0.1
J08A **Circle Bar Ran** 92.31 47 P **P** 18 39 23.9 -1.5
B08A **Colville Reser** 92.35 42 P **P** 18 39 24.0 -1.4
B08A IAmb IAmb 18 39 27.1
comp=Z,29nm,1.5s
GRAC **Grapevine Rang** 92.40 53 P **P** 18 39 27.8 +1.9
baz=263
SYO **Syowa Base** 92.43 199⇑ *e*P **P** 18 39 24.8 -0.5
SYO **Syowa Base** 92.43 199⇑ *i*PcP **PcP** 18 39 27.0 +1.0
SYO **Syowa Base** 92.43 199⇓ *es*P sP 18 39 32.6 -0.8
D08A **Wollman Farm,** 92.46 43 P **P** 18 39 25.7 -0.2
BAR **Barrett** 92.48 58 P **P** 18 39 26.5 +0.2
BAR IAmb IAmb 18 39 29.1
comp=Z,11nm,1.1s
GSC **Goldstone, Bar** 92.66 55 P **P** 18 39 29.1 +1.9
baz=264,SNR=8.8
GSC **Goldstone, Bar** 92.66 55 P **P** 18 39 27.2 0.0
GSC pmax pmax
comp=Z,12nm,0.9s
GSC **Goldstone, Bar** 92.66 55 P **P** 18 39 27.2 0.0
GSC IAmb IAmb 18 39 30.4
comp=Z,12nm,0.9s
MONP2 **Monument Peak** 92.71 57 P **P** 18 39 29.7 +2.0
baz=264,SNR=7.8
FURC **Furnace Creek,** 92.74 54 P **P** 18 39 29.0 +1.7
baz=264,SNR=23
PFO **Pinyon Flats O** 92.76 57 P **P** 18 39 29.4 +1.7
baz=264,SNR=6.4
PFO **Pinyon Flats O** 92.76 57 P **P** 18 39 27.4 -0.3
PFO pmax pmax
comp=Z,14nm,1.1s
PFO **Pinyon Flats O** 92.76 57 P **P** 18 39 27.4 -0.3
PFO IAmb IAmb 18 39 31.0
comp=Z,14nm,1.1s
XPFO **Pion Flat** 92.76 57 P **P** 18 39 28.4 +0.6
XPFO IAmb IAmb 18 39 31.0
comp=Z,14nm,1.1s
E09A **Wood Farm, Sta** 92.92 44 P **P** 18 39 27.6 -0.4
E09A IAmb IAmb 18 39 30.2
comp=Z,20nm,1.0s
IKP **In-Ko-Pah, Jac** 92.94 58 P **P** 18 39 30.4 +1.9
baz=264
C09A **Chrisman Ranch** 92.98 42 P **P** 18 39 28.1 -0.1
C09A IAmb IAmb 18 39 30.0
comp=Z,41nm,1.8s
HEC **Hector,Ludlow** 92.99 55 P **P** 18 39 30.2 +1.5
baz=264,SNR=8.2
SHOC **Shoshone, Teco** 93.15 54 P **P** 18 39 31.1 +1.8
baz=264
BELC **Belle Mtn. Jos** 93.18 56 P **P** 18 39 31.4 +1.7
baz=264,SNR=5.9
SWSC **Sam W. Stewart** 93.23 57 P **P** 18 39 31.4 +1.6
baz=264
TPNV **Topopah Spring** 93.28 53 P **P** 18 39 31.9 +1.7
baz=264,SNR=12
TPNV **Topopah Spring** 93.28 53 P **P** 18 39 30.8 +0.7
TPNV pmax pmax
comp=Z,23nm,1.1s
TPNV **Topopah Spring** 93.28 53 P **P** 18 39 30.8 +0.7
TPNV IAmb IAmb 18 39 33.4
comp=Z,23nm,1.1s
BMO **Blue Mountains** 93.32 45 P **P** 18 39 29.6 -0.4
BMO pmax pmax
comp=Z,33nm,1.7s
BMO **Blue Mountains** 93.32 45 P **P** 18 39 29.6 -0.4
BMO IAmb IAmb 18 39 32.0
comp=Z,33nm,1.7s
TUQ **Turquoise Moun** 93.39 55 P **P** 18 39 32.0 +1.4
baz=264,SNR=6.2
F10A **Beach Ranch, E** 93.49 44 P **P** 18 39 30.6 -0.2
F10A IAmb IAmb 18 39 32.6
comp=Z,11nm,0.9s
GMRC **Granite Mounta** 93.54 56 P **P** 18 39 33.4 +2.1
baz=264,SNR=20
BC3 **Big Chuckawall** 93.59 57 P **P** 18 39 33.4 +1.8
baz=264
NEW **Newport** 93.80 42 P **P** 18 39 32.2 +0.1
baz=264,SNR=5.5
NEW **Newport** 93.80 42 P **P** 18 39 32.8 +0.7
comp=Z,6.4nm,0.7s,baz=266,slow=4.3,SNR=9.7
NEW LR LR 19 16 27.4
comp=Z,1µm,19.5s,baz=278,slow=32
NEW **Newport** 93.80 42 P **P** 18 39 31.9 -0.2
NEW pmax pmax
comp=Z,14nm,1.1s
NEW **Newport** 93.80 42 P **P** 18 39 31.9 -0.2
NEW IAmb IAmb 18 39 33.8
comp=Z,14nm,1.1s
IRM **Iron Mountain** 93.90 56 P **P** 18 39 34.4 +1.6
baz=264,SNR=10
R11A **Troy Canyon, C** 93.94 52 P **P** 18 39 34.4 +1.3
baz=264,SNR=22
R11A **Troy Canyon, C** 93.94 52 P **P** 18 39 33.5 +0.4
R11A IAmb IAmb 18 39 36.3
comp=Z,18nm,1.1s
GLA **Glamis** 94.06 57 P **P** 18 39 35.7 +2.1
baz=265
SHPR **Sheep Range** 94.11 54 P **P** 18 39 34.9 +0.9
SHPR IAmb IAmb 18 39 37.5
comp=Z,17nm,0.8s

Y12C **Blythe** 94.38 57 P **P** 18 39 37.2 +2.2
baz=265
NEE2 **Needles Airpor** 94.39 56 P **P** 18 39 36.6 +1.5
baz=265
ELK **Elko** 94.43 50 LR LR 19 16 37.9
comp=Z,868nm,20.2s,baz=300,slow=32
ELK **Elko** 94.43 50 P **P** 18 39 35.5 +0.1
ELK pmax pmax
comp=Z,10.0nm,1.2s
ELK **Elko** 94.43 50 P **P** 18 39 35.5 +0.1
PDMCI **Parker Dam,Lak** 94.74 56 P **P** 18 39 39.1 +2.4
baz=265
W13A **Hualapai Mount** 95.02 55 P **P** 18 39 39.0 +0.8
W13A IAmb IAmb 18 39 41.7
comp=Z,11nm,0.9s
PSUT **Pine Spring** 95.31 52 P **P** 18 39 40.8 +1.3
CCUT **Cedar City** 95.63 53 P **P** 18 39 41.1 +0.2
214A **Organ Pipe Nat** 95.66 59 P **P** 18 39 43.0 +2.0
baz=266
LCMT **Little Creek M** 95.68 54 P **P** 18 39 41.5 +0.4
HRA **Herat** 95.78 304 P **P** 18 39 41.0 -0.7
HRA IAmb IAmb 18 39 42.7
comp=Z,14nm,1.1s
MSO **Missoula** 95.83 44 P **P** 18 39 43.9 +2.4
baz=266
WALA **Waterton Lakes** 95.99 41 P **P** 18 39 43.1 +1.0
WALA IAmb IAmb 18 39 44.6
comp=Z,13nm,1.1s
KNB **Kanab** 96.02 54 P **P** 18 39 43.2 +0.5
KNB pmax pmax
comp=Z,18nm,1.3s
KNB **Kanab** 96.02 54 P **P** 18 39 43.2 +0.5
DUG **Dugway, Tooele** 96.23 50 P **P** 18 39 44.7 +1.1
baz=266
YKA **Yellowknife Ar** 96.29 28 P **P** 18 39 43.2 +0.2
comp=Z,4.9nm,0.9s,baz=262,slow=4.8,SNR=45
YKA LR LR 19 19 31.7
comp=Z,335nm,19.9s,baz=0.0,slow=33
U15A **North Rim** 96.41 54 P **P** 18 39 45.9 +1.3
U15A IAmb IAmb 18 39 48.3
comp=Z,12nm,1.0s
MSU **Marysvale** 96.62 52 P **P** 18 39 47.2 +1.7
MSU **Marysvale** 96.62 52 P **P** 18 39 47.2 +1.7
WUAZ **Wupatki** 97.09 55 P Pdif 18 39 49.5 +1.8
baz=267
WUAZ **Wupatki** 97.09 55 P Pdif 18 39 48.9 +1.2
EGMT **Eagleton** 98.71 43 P Pdif 18 39 54.7 +0.2
baz=270
NVL **N'lazarevskaya** 98.73 192 *e*P Pdif 18 39 59.9 +5.9
NVL pmax pmax
comp=Z,7.0nm,0.8s
NVL MLR MLR
comp=Z,2µm,16.0s
PDAR **Pinedale Array** 98.78 48 LR LR 19 20 40.8
comp=Z,535nm,18.9s,baz=286,slow=33
ARU **Arti** 98.99 326 *i* P Pdif 18 39 55.8 +0.4
ARU pmax pmax
comp=Z,1.0nm,0.9s
GEYT **Alibeck** 99.29 307 P **Pdif** 18 39 57.1 -0.1
comp=Z,1.9nm,0.8s,baz=99,slow=9.2,SNR=5.1
GEYT LR LR 19 27 06.9
comp=Z,251nm,19.8s,baz=355,slow=37
SNAA **Sanae** 100.32 187 *i* P **Pdif** 18 40 00.7 -0.5
SNAA pmax pmax
comp=Z,5.0nm,1.5s
LAO **LASA Array** 101.13 44 P **Pdif** 18 40 05.6 +0.4
baz=272
N23A **Red Feather La** 101.48 50 P **Pdif** 18 40 07.9 +0.7
baz=271
ISCO **Idaho Springs** 101.75 51 P **Pdif** 18 40 08.9 +0.4
baz=271
DGMT **Dagmar** 102.41 42 P **Pdif** 18 40 11.8 +0.9
baz=274
RSSD **Black Hills** 102.78 46 P **Pdif** 18 40 12.9 +0.1
baz=273
MAK **Makhachkala** 107.15 313 *e*P **Pdif** 18 40 23.8 -8.1
MAK pmax pmax
comp=Z,36nm,0.4s
APA **Apatity** 107.82 340⇑ *i*P **Pdif** 18 40 32.8 -1.6
APA pmax pmax
comp=Z,5.0nm,1.0s
APA MLR MLR
comp=Z,300nm,21.0s
ARCES **ARCESS Array B** 109.29 343 PKiKP **PKiKP** 18 44 45.5 +1.1
comp=Z,3.5nm,0.8s,baz=107,slow=1.3,SNR=7.9
KIV **Kislovodsk** 110.46 314⇑ *i*PKIKP **PKiKP** 18 44 47.3 -0.2
KIV *e* 18 45 23.9
KIV *i* SS SS 19 00 47.2 -3.0
KIV pmax pmax
comp=Z,2.0nm,0.8s
KIV MLR MLR
comp=Z,175nm,19.0s
EYMN **Ely** 110.88 41 P **PKiKP** 18 44 47.9 -0.2
baz=284
OBN **Obninsk** 111.39 327 *c i*PKIKP **PKiKP** 18 44 50.3 +1.5
OBN *e* 18 45 29.6
OBN *e*PPP PPP 18 47 50.1
OBN *e*SS SS 19 01 02.6 +1.2
OBN pmax pmax
comp=Z,7.0nm,1.3s
OBN MLR MLR
comp=Z,455nm,20.0s
BCA **Borcka** 111.69 312 ⇑P **PKiKP** 18 44 50.0 +0.1
SOC **Sochi** 112.65 314 *i* PKIKP **PKiKP** 18 44 58.2 +6.7
SOC *e* 18 45 37.6
SOC *e*PPP PPP 18 47 59.4
SOC *e*SSS SSS 19 05 28.7
SOC MLR MLR
comp=Z,284nm,20.0s
CCM **Cathedral Cave** 113.06 52 P **PKiKP** 18 44 52.1 -0.4
baz=280
FINES **FINESS Array B** 113.61 336 PKiKP **PKiKP** 18 44 52.9 +0.1
comp=Z,1.1nm,0.4s,baz=51,slow=1.3,SNR=8.8
ANN **Anapa** 113.95 316 *i* PKIKP **PKiKP** 18 44 51.7 -2.3
ANN *e* 18 45 47.9
ANN pmax pmax
comp=Z,21nm,0.8s
ANN MLR MLR
comp=Z,310nm,21.0s
VBMS **Vicksburg** 114.54 58 P PKPdf 18 44 54.5 -1.0
baz=278
F45A **CMU Biological** 115.44 42 P **PKiKP** 18 44 56.5 -0.3
baz=288
G45A **Suttons Bay** 115.54 43 P **PKiKP** 18 44 56.7 -0.4
baz=287
D46A **Sault St. Mari** 116.04 41 P **PKiKP** 18 44 57.4 -0.6
baz=289
WVT **Waverly** 116.10 53 P **PKPdf** 18 44 57.9 -0.5
baz=281
T47A **Sharon Grove** 116.50 52 PKPdf **PKPdf** 18 44 58.8 -0.3
D47A **Chapleau** 116.58 40 P **PKPdf** 18 44 58.3 -0.7
baz=290
E47A **Iron Bridge** 116.67 41 P **PKPdf** 18 44 58.7 -0.5
baz=290
G47A **Hillman** 116.71 42 P **PKPdf** 18 44 58.7 -0.6
baz=289
PLCA **Paso Flores** 117.09 143 PKP **PKiKP** 18 45 00.6 +0.3
comp=Z,1.2nm,0.7s,baz=2.7,slow=9.1,SNR=3.4
AKASG **Malin Array Be** 117.18 324 PKP **PKiKP** 18 45 00.1 0.0
comp=Z,11nm,0.7s,baz=61,slow=2.1,SNR=39
AKASG PKKPbc **PKKPbc** 18 55 26.4 +0.3
comp=Z,0.2nm,0.3s,baz=259,slow=4.2,SNR=5.7
AKBB **Malin Array Si** 117.18 324 *c i*PKIKP **PKiKP** 18 45 00.7 +0.7
AKBB **Malin Array Si** 117.18 324 PKPdf **PKPdf** 18 44 59.7 -0.4
O48A **Farmland** 117.21 48 P **PKPdf** 18 45 00.1 -0.3
baz=285
K48A **Perry** 117.25 45 P **PKiKP** 18 45 00.8 +0.3
baz=287
L48A **N Adams** 117.28 46 **PKiKP** 18 45 00.6 +0.1
CLTN **Cedars of Leba** 117.29 53 **PKPdf** 18 45 00.4 -0.3
F48A **Evansville** 117.32 41 P **PKiKP** 18 45 00.7 +0.3
baz=290
J48A **Bridge Port** 117.34 44 P **PKPdf** 18 45 00.5 -0.1
baz=288
D48A **Paudash Townsh** 117.37 40 P **PKPdf** 18 45 00.4 -0.2
baz=291
E48A **Lockeyer** 117.39 41 P **PKPdf** 18 45 00.4 -0.2
baz=291
D49A **Beulah Townshi** 117.62 40 P **PKiKP** 18 45 01.2 +0.2
baz=292
F49A **Sandfield** 117.72 41 P **PKPdf** 18 45 01.2 -0.1
baz=290
BR131 **Keskin Array S** 118.00 312 *i* PKIKP **PKPdf** 18 45 01.7 -0.5
BR131 **Keskin Array S** 118.00 312 PKPdf **PKPdf** 18 45 01.9 -0.3
BRTR **Keskin Array B** 118.00 312 PKP **PKiKP** 18 45 02.4 +0.2
comp=Z,3.1nm,0.6s,baz=111,slow=1.9,SNR=20

BRTR PP PP 18 46 17.4 +0.8
comp=Z,1.2nm,0.9s,baz=114,slow=6.0,SNR=3.6
BRTR PKKPbc PKKPab 18 55 24.6 -0.4
comp=Z,1.0nm,0.8s,baz=225,slow=2.9,SNR=7.9
W50A Signal Mountai 118.29 54 PKPdf 18 45 02.3 -0.4
E50A Wahnapitae 118.33 40 P PKPdf 18 45 02.1 -0.3
baz=292
L50A Kingsville 118.41 46 P PKPdf 18 45 02.5 -0.2
baz=288
ANTO Ankara 118.59 312 ⇑P PKiKP 18 45 04.4 +1.2
ANTO Ankara 118.59 312 ⇑PKiKP PKiKP 18 45 04.4 +1.2
ANTO Ankara 118.59 312 PKPdf PKiKP 18 45 03.7 +0.5
D50A G1974 Best Tow 118.62 39 P PKPdf 18 45 02.6 -0.3
baz=293
SORM Soroca 118.75 322 ⇑P PKiKP 18 45 03.3 +0.2
SORM Soroca 118.75 322 ⇑PKiKP PKiKP 18 45 03.3 +0.2
ACSO Alum Creek Sta 118.82 48 P PKPdf 18 45 03.5 0.0
baz=287
MATQ Matagami 118.87 36 P PKPdf 18 45 03.2 -0.1
baz=296
D51A Lot 18 Range I 118.94 39 P PKiKP 18 45 03.8 +0.2
baz=293
MILM Milestii Mici 118.96 321 ⇓P PKiKP 18 45 03.8 +0.2
P51A Williamsport 118.97 48 P PKiKP 18 45 03.9 0.0
baz=286
F51A Arnstein 119.04 41 P PKiKP 18 45 03.9 +0.1
baz=292
N51A Ashland 119.06 47 P PKPdf 18 45 04.0 0.0
baz=288
I51A Listowel 119.08 43 P PKiKP 18 45 04.0 0.0
baz=290
E51A G1948 Merrick 119.08 40 P PKPdf 18 45 03.9 0.0
baz=293
O51A Pataskala 119.12 48 P PKPdf 18 45 03.8 -0.4
baz=287
TZTN Tazewell 119.38 52 P PKPdf 18 45 04.0 -0.7
baz=284
NB2 NORSAR Subarra1 119.39 341 PKPdf PKiKP 18 45 04.2 +0.1
comp=Z,5.4nm,0.8s,baz=43,slow=1.9
NB2 NORSAR Subarra1 119.39 341 PKPdf PKiKP 18 45 04.2 +0.1
baz=43,slow=1.9
NOA NORSAR Array B 119.39 341 PKP PKiKP 18 45 04.2 +0.1
comp=Z,2.6nm,0.7s,baz=45,slow=1.9,SNR=19
TKL Tuckaleechee C 119.41 53 PKP PKiKP 18 45 05.0 +0.1
comp=Z,5.0nm,0.8s,baz=194,slow=2.4,SNR=7.9
F52A Sundridge 119.48 41 P PKiKP 18 45 04.7 +0.1
baz=293
NC602 NORSAR Array S 119.50 340 PKPdf 18 45 03.5 -0.7
NBO00 NORSAR Array S 119.54 341 PKiKP 18 45 04.5 +0.1
LSQQ Lebel-sur-Quev 119.57 36 P PKPdf 18 45 04.6 -0.1
baz=296
MDUB Mudurnu 119.58 313 PKPdf PKPdf 18 45 04.8 -0.3
D52A ZEK Kipawa Sen 119.59 39 P PKPdf 18 45 04.5 -0.3
baz=294
P52A Corning 119.62 48 P PKPdf 18 45 04.6 -0.5
baz=287
TLCR 119.62 319 ⇓P PKiKP 18 45 05.6 +0.6
TLCR 119.62 319 ⇓PKiKP PKiKP 18 45 05.6 +0.6
J52A Paris 119.64 44 P PKPdf 18 45 04.6 -0.4
baz=290
O52A Adamsville 119.69 47 P PKiKP 18 45 05.5 +0.2
baz=288
E52A Mattawa 119.71 40 P PKPdf 18 45 05.0 -0.1
baz=294
BOSA Boshof 119.91 232 PKP PKiKP 18 45 06.8 +0.5
comp=Z,1.6nm,0.6s,baz=96,slow=2.7,SNR=4.9
D53A Lac Vacive, Po 119.99 39 P PKiKP 18 45 06.1 +0.4
baz=295
T53A Wise 120.05 51 P PKPdf 18 45 05.9 -0.2
baz=285
CFR Carcaliu 120.07 319 ⇑P PKiKP 18 45 06.8 +1.0
CFR Carcaliu 120.07 319 ⇑PKiKP PKiKP 18 45 06.8 +1.0
O53A New Philadelph 120.11 47 P PKPdf 18 45 05.4 -0.6
baz=288
M53A WI Miller and 120.11 46 P PKPdf 18 45 05.5 -0.5
baz=289
G53A Haliburton 120.19 41 P PKiKP 18 45 06.5 +0.3
baz=293
N53A Lisbon 120.20 46 P PKiKP 18 45 06.6 +0.3
baz=289
N53A Lisbon 120.20 46 PKPdf 18 45 05.8 -0.4
P53A Whipple 120.21 48 P PKPdf 18 45 06.1 -0.2
baz=288
P53A Whipple 120.21 48 PKiKP 18 45 06.5 +0.2
ALGO Algonquin Park 120.23 40 P PKiKP 18 45 06.4 +0.3
baz=294
MFTR Murfatlar 120.26 318 ⇑P PKiKP 18 45 07.2 +1.0
ORH Orhaniye 120.28 314 P PKiKP 18 45 13.6 +7.2
MANR Mangalia 120.28 317 ⇑P PKiKP 18 45 07.1 +0.8
E53A Dumoine, Ponti 120.30 39 P PKPdf 18 45 06.2 0.0
baz=294
ERPA Erie 120.37 45 P PKiKP 18 45 06.6 0.0
baz=290
TLBR Topalu 120.37 318 ⇓P PKiKP 18 45 07.7 +1.3
HARR Harsova 120.39 319 ⇑P PKiKP 18 45 07.4 +0.9
HARR Harsova 120.39 319 ⇑PKiKP PKiKP 18 45 07.4 +0.9
G54A Lake Saint Pet 120.43 41 P PKPdf 18 45 06.0 -0.5
baz=294
H53A Bobcaygeon 120.43 42 P PKPdf 18 45 06.3 -0.2
baz=293
TESR Tescani 120.48 321 ⇓P PKiKP 18 45 07.2 +0.5
E54A Lac Daplat, Po 120.58 39 P PKiKP 18 45 07.0 +0.1
baz=295
D54A Lac Fusel, La 120.60 38 P PKPdf 18 45 06.8 0.0
baz=296
BIZ Bicaz 120.64 321 ⇓P PKiKP 18 45 08.0 +1.0
CHGQ Chibougamau 120.67 35 P PKiKP 18 45 06.9 0.0
baz=299
VRI Vrincioaia 120.70 320 ⇑P PKiKP 18 45 08.1 +1.0
VRI Vrincioaia 120.70 320 ⇑PKiKP PKiKP 18 45 08.1 +1.0
O54A Avella 120.73 47 P PKPdf 18 45 07.1 -0.2
baz=289
PLOR Plostina 120.76 320 ⇓P PKiKP 18 45 07.4 +0.2
PLOR Plostina 120.76 320 ⇓PKiKP PKiKP 18 45 07.4 +0.2
N54A Moraine State 120.76 46 P PKPdf 18 45 06.9 -0.4
baz=290
S54A Dingess, Beckl 120.77 50 P PKPdf 18 45 06.8 -0.6
baz=287
T54A Tazewell 120.77 51 P PKPdf 18 45 07.3 -0.2
baz=286
Q54A Coxs Mills 120.77 48 P PKPdf 18 45 07.4 0.0
baz=288
Q54A Coxs Mills 120.77 48 PKPdf PKPdf 18 45 07.2 -0.1
X54A Belton 120.79 54 P PKPdf 18 45 07.4 -0.1
baz=284
L54A Sinclairville 120.80 44 P PKPdf 18 45 06.9 -0.4
baz=291
M54A Oil Creek Stat 120.81 45 P PKPdf 18 45 07.3 -0.1
baz=290
M54A Oil Creek Stat 120.81 45 PKPdf 18 45 07.3 -0.1
W54A Cherokee Point 120.81 53 P PKPdf 18 45 07.6 0.0
baz=284
V54A Nebo 120.82 52 P PKPdf 18 45 07.6 0.0
baz=285
P54A Burton 120.84 48 P PKiKP 18 45 07.7 +0.1
baz=288
BURAR Bucovina Array 120.88 323 ⇓P PKiKP 18 45 08.9 +1.4
BURAR Bucovina Array 120.88 323 ⇓PKiKP PKiKP 18 45 08.9 +1.4
K54A Basiliko Farm, 121.09 44 P PKiKP 18 45 08.1 +0.1
baz=292
OZUR 121.20 321 ⇑P PKiKP 18 45 09.3 +1.1
MCWV Mont Chateau 121.29 47 P PKPdf 18 45 08.2 -0.1
baz=289
PRD Provadia 121.32 317 eP PKiKP 18 45 08.5 +0.2
Q55A Buckhannon 121.33 48 P PKPdf 18 45 08.2 -0.3
baz=288
U55A TA2, Sparta 121.33 51 P PKPdf 18 45 08.2 -0.4
baz=286
P55A Reedsville 121.35 48 P PKPdf 18 45 08.0 -0.5
baz=289
MLR Muntele Rosu 121.36 320 ⇓P PKiKP 18 45 09.3 +0.7
MLR Muntele Rosu 121.36 320 ⇓PKiKP PKiKP 18 45 09.3 +0.7
MLR Muntele Rosu 121.36 320 PKPdf PKPdf 18 45 07.6 -0.9
Y55A Saluda 121.36 54 P PKPdf 18 45 08.5 -0.1
baz=284
H55A Tweed 121.36 41 P PKPdf 18 45 08.2 0.0
baz=294
T55A Pulaski 121.36 50 P PKPdf 18 45 07.8 -0.8
baz=287
G55A Calabogie 121.37 40 P PKPdf 18 45 07.8 -0.5
baz=295
NEF NEVSHA 121.38 317 eP PKiKP 18 45 09.3 +0.8
V55A Taylorsville 121.38 52 P PKPdf 18 45 08.5 -0.1
baz=286
D55A Sainte-Anne-du 121.39 38 P PKPdf 18 45 07.6 -0.7
baz=297

X55A Gracelyn & Ava 121.41 54 P PKPdf 18 45 08.7 0.0
baz=285
L55A Hinsdale 121.43 44 P PKPdf 18 45 08.2 -0.3
baz=292
J55A Hilton 121.44 43 P PKPdf 18 45 08.3 -0.2
baz=293
M55A Ridgway 121.45 45 P PKPdf 18 45 08.4 -0.2
baz=291
M55A Ridgway 121.45 45 PKiKP 18 45 08.9 +0.2
SECR 121.47 319 ⇓P PKiKP 18 45 09.9 +1.3
KMSC Kings Mountain 121.47 53 P PKPdf 18 45 08.5 -0.3
baz=285
K55A Perry 121.48 43 P PKPdf 18 45 08.3 -0.3
baz=292
O55A Ligonier 121.50 47 P PKPdf 18 45 08.5 -0.2
baz=290
DOPR Dopca 121.50 321 ⇑P PKiKP 18 45 09.7 +1.0
R55A Marlinton 121.52 49 P PKPdf 18 45 08.7 -0.2
baz=288
R55A Marlinton 121.52 49 PKPdf PKPdf 18 45 08.8 -0.2
N55A Marion Center 121.54 46 P PKPdf 18 45 08.6 -0.2
baz=290
PLAR PLOIESTI 121.54 319 ⇑P PKiKP 18 45 13.9 +5.1
BLA Blacksburg 121.61 50 P PKPdf 18 45 08.6 -0.4
baz=287
SCHQ Schefferville 121.72 27 PKP PKiKP 18 45 10.0 +1.2
comp=Z,1.3nm,0.4s,baz=180,slow=2.0,SNR=2.3
RAZG Razgrad 121.77 318 ⇓P PKiKP 18 45 10.2 +0.9
D56A ZEC Mazanza, M 121.81 38 P PKiKP 18 45 09.3 0.0
baz=298
M56A Emporium 121.86 45 P PKPdf 18 45 09.3 -0.1
baz=291
M56A Emporium 121.86 45 PKiKP 18 45 09.6 0.0
E56A St. Veronique 121.87 38 P PKPdf 18 45 08.7 -0.5
baz=297
X56A White Oak 121.88 53 P PKiKP 18 45 09.7 0.0
baz=285
H56A Elgin 121.94 41 P PKiKP 18 45 10.0 +0.5
baz=295
VOIR 121.95 320 ⇑P PKiKP 18 45 10.1 +0.4
VOIR 121.95 320 ⇑PKiKP PKiKP 18 45 10.1 +0.4
V56A Mocksville 121.95 52 P PKiKP 18 45 10.0 +0.1
baz=286
T56A Rocky Mt 121.96 50 P PKPdf 18 45 09.6 -0.1
baz=287
Q56A Snyder Ridge, 121.97 48 P PKiKP 18 45 09.8 -0.1
baz=289
N56A West Decatur 121.98 46 P PKPdf 18 45 09.5 -0.1
baz=291
KOLS Kolonicke sedl 121.99 325 ePKiKP PKiKP 18 45 11.3 +1.8
KOLS Kolonicke sedl 121.99 325 ePKP PKiKP 18 45 11.3 +1.8
O56A Blue Knob Stat 122.01 46 P PKPdf 18 45 09.6 -0.1
baz=290
O56A Blue Knob Stat 122.01 46 PKPdf PKPdf 18 45 09.6 -0.1
L56A Greenwood 122.05 44 P PKPdf 18 45 09.3 -0.4
baz=292
L56A Greenwood 122.05 44 PKPdf 18 45 09.4 -0.4
W56A Indian Trail 122.07 53 P PKPdf 18 45 09.3 -0.6
baz=286
P56A Dayton Farm, R 122.08 47 P PKPdf 18 45 09.5 -0.3
baz=290
J56A Wolcott 122.08 42 P PKPdf 18 45 09.3 -0.4
baz=294
TRPA Tarpa 122.23 324 ⇓P PKiKP 18 45 11.1 +1.1
ARR Arges 122.24 320 ⇓P PKiKP 18 45 12.8 +2.6
SZH Strazhica 122.28 318 eP PKiKP 18 45 10.7 +0.4
D57A Chemin Vers le 122.35 37 P PKiKP 18 45 10.3 0.0
baz=298
SSPA Standing Stone 122.37 46 P PKiKP 18 45 10.5 0.0
baz=291
SSPA Standing Stone 122.37 46 PKPdf 18 45 10.3 -0.1
HUMR Humele 122.38 319 ⇑P PKiKP 18 45 10.9 +0.4
V57A Coltrane Farms 122.49 52 P PKPdf 18 45 10.4 -0.3
baz=287
W57A Gilead 122.53 52 P PKPdf 18 45 10.5 -0.3
baz=286
K57A Scipio Center 122.53 43 P PKPdf 18 45 10.2 -0.4
baz=294
G57A Newington 122.54 40 P PKiKP 18 45 10.7 0.0
baz=296
Q57A Strasburg 122.55 48 P PKPdf 18 45 10.6 -0.1
baz=290
S57A Dark Hollow, R 122.56 49 P PKPdf 18 45 10.7 -0.1
baz=288
N57A Milroy 122.56 45 P PKPdf 18 45 10.5 -0.2
baz=291
T57A Hurt 122.57 50 P PKPdf 18 45 10.9 +0.1
baz=288
L57A Andrews Acres 122.59 44 P PKPdf 18 45 10.7 -0.1
baz=293
J57A Williamstown 122.61 42 P PKPdf 18 45 10.6 -0.1
baz=294
I57A Carthage 122.61 41 P PKPdf 18 45 10.7 0.0
baz=295
M57A Sunshine Farm, 122.65 45 P PKPdf 18 45 10.6 -0.3
baz=292
U57A Blanch 122.67 51 P PKPdf 18 45 10.7 -0.4
baz=287
OJC Ojcow 122.68 327 ePKP PKiKP 18 45 11.6 +0.8
OJC Ojcow 122.68 327 PKiKP PKPdf 18 45 09.3 -1.4
OJC Ojcow 122.68 327 PKPdf PKPdf 18 45 09.3 -1.4
P57A Homestead Farm 122.69 47 P PKPdf 18 45 10.5 -0.4
baz=290
O57A Amberson 122.70 46 P PKPdf 18 45 10.8 -0.2
baz=291
R57A Stanardsville 122.71 48 P PKPdf 18 45 11.1 0.0
baz=289
DRGR 122.78 323 ⇑P PKiKP 18 45 11.8 +0.5
DRGR 122.78 323 ⇑PKiKP PKiKP 18 45 11.8 +0.5
NIE Niedzica 122.84 326 ePKP PKiKP 18 45 12.8 +1.5
D58A Chemin du LacG 122.92 37 P PKiKP 18 45 11.5 +0.1
baz=298
158A Hollywood 123.00 55 P PKPdf 18 45 11.4 -0.3
baz=284
LONY Lake Ozonia 123.01 40 P PKiKP 18 45 11.7 0.0
baz=296
LONY Lake Ozonia 123.01 40 PKPdf 18 45 11.1 -0.4
E58A La Victoria 123.03 38 P PKPdf 18 45 11.2 -0.3
baz=298
V58A Windy Hill, Pi 123.03 51 P PKiKP 18 45 11.9 -0.1
baz=287
R58A Rapidan 123.09 48 P PKPdf 18 45 11.7 -0.1
baz=290
J58A Remsen 123.10 42 P PKPdf 18 45 11.6 0.0
baz=295
M58A Price's Panora 123.10 44 P PKPdf 18 45 11.6 -0.2
baz=293
BINY Binghamton 123.10 43 P PKPdf 18 45 11.8 0.0
baz=294
PLVB Pleven 123.10 318 ⇑P PKiKP 18 45 12.5 +0.7
K58A Earlville 123.10 43 P PKPdf 18 45 11.7 -0.1
baz=294
G58A Ormstown 123.11 39 P PKiKP 18 45 11.8 0.0
baz=297
Q58A Fox Den Farm, 123.11 48 P PKPdf 18 45 11.8 0.0
baz=290
ALN Alexandroupoli 123.12 315 PKiKP PKPdf 18 45 11.1 -0.7
ALN Alexandroupoli 123.12 315 PKPdf PKPdf 18 45 11.1 -0.7
N58A Sunbury 123.12 45 P PKiKP 18 45 12.1 +0.1
baz=292
N58A Sunbury 123.12 45 PKPdf 18 45 11.4 -0.3
T58A Grand View Acr 123.13 50 P PKPdf 18 45 11.9 0.0
baz=288
I58A Old Forge 123.16 41 P PKiKP 18 45 12.0 -0.1
baz=295
W58A Raeford 123.16 52 P PKPdf 18 45 11.6 -0.4
baz=287
P58A Pank, Wackersv 123.20 47 P PKPdf 18 45 11.4 -0.5
baz=291
O58A Lewisberry 123.24 46 P PKPdf 18 45 12.2 +0.1
baz=292
L58A Harry Jones Me 123.26 43 P PKPdf 18 45 12.1 0.0
baz=294
S58A Poland Farm, P 123.28 49 P PKPdf 18 45 12.0 -0.1
baz=289
U58A Oxford 123.29 51 P PKiKP 18 45 12.6 +0.2
baz=288
R58B Mineral 123.30 49 P PKiKP 18 45 12.6 +0.2
baz=290
H58A Gabriels 123.36 40 P PKPdf 18 45 12.1 0.0
baz=296
GZR Gura Zlata 123.40 321 ⇑P PKiKP 18 45 13.0 +0.5
GZR Gura Zlata 123.40 321 ⇑PKiKP PKiKP 18 45 13.0 +0.5
LANS Liptovska Anna 123.44 326 ePKiKP PKiKP 18 45 14.5 +2.0
LANS Liptovska Anna 123.44 326 ePKP PKiKP 18 45 14.5 +2.0
J59A Piesco 123.57 41 P PKiKP 18 45 12.8 -0.1
baz=296

J59A Piesco 123.57 41 PKPdf 18 45 09.7 -2.9
Z59A Georgetown, SC 123.61 54 P PKPdf 18 45 12.9 0.0
baz=285
K59A Cooperstown 123.63 42 P PKiKP 18 45 12.9 -0.1
baz=295
V59A Middlesex 123.72 51 P PKPdf 18 45 13.0 -0.1
baz=288
M59A Waymart 123.74 44 P PKPdf 18 45 13.1 +0.1
baz=294
L59A Walton 123.75 43 P PKPdf 18 45 13.1 +0.1
baz=294
N59A State Game Lan 123.76 45 P PKPdf 18 45 13.1 +0.1
baz=293
N59A State Game Lan 123.76 45 PKPdf PKPdf 18 45 10.6 -2.4
OKC Ostrava-Krasne 123.78 328 ePKPDF PKiKP 18 45 14.2 +1.2
OKC eSS SS 19 03 48.8 +6.5
OKC AMS AMS 19 44 30.0
comp=Z,300nm,20.2s
OKC Ostrava-Krasne 123.78 328 ePKiKP PKiKP 18 45 14.2 +1.2
OKC eSS SS 19 03 48.8 +6.5
OKC MLR MLR
comp=Z,300nm,20.2s
I59A Olmsteadville 123.83 41 P PKiKP 18 45 13.5 +0.2
baz=296
HERR Herculane 123.86 321 ⇑P PKiKP 18 45 13.7 +0.3
PSZ Piszkesteto 123.87 325 ⇑P PKiKP 18 45 14.3 +0.9
PSZ Piszkesteto 123.87 325 ⇑PKiKP PKiKP 18 45 14.3 +0.9
PSZ Piszkesteto 123.87 325 PKPdf PKPdf 18 45 11.6 -1.5
T59A Double "B" Far 123.87 50 P PKPdf 18 45 13.4 +0.1
baz=289
U59A Littleton 123.88 50 P PKPdf 18 45 13.4 +0.1
baz=288
BZS Buzias 124.01 322 ⇑P PKiKP 18 45 14.2 +0.6
BZS Buzias 124.01 322 ⇑PKiKP PKiKP 18 45 14.2 +0.6
F60A Warwick 124.03 38 P PKiKP 18 45 13.6 0.0
baz=300
KARP Karpathos 124.13 309 PKPdf PKPdf 18 45 12.0 -1.9
MORC Moravsky Berou 124.13 328 ⇓P PKiKP 18 45 15.2 +1.4
MORC Moravsky Berou 124.13 328 ePKP PKiKP 18 45 14.8 +1.0
MORC Moravsky Berou 124.13 328 ⇓PKiKP PKiKP 18 45 15.2 +1.4
MORC Moravsky Berou 124.13 328 PKPdf PKPdf 18 45 13.4 -0.1
E60A Ste Agathe de 124.13 37 P PKiKP 18 45 13.9 +0.1
baz=300
KSP Ksiaz 124.15 329 ePKP PKiKP 18 45 14.2 +0.5
VYHS Vyhne 124.15 326 ePKiKP PKiKP 18 45 14.8 +1.0
VYHS Vyhne 124.15 326 ePKP PKiKP 18 45 14.8 +1.0
I60A Shoreham 124.19 41 P PKiKP 18 45 14.2 +0.2
baz=297
G60A Masonville 124.22 39 P PKiKP 18 45 14.1 0.0
baz=299
N60A Cedar Hill Far 124.24 44 P PKiKP 18 45 14.3 +0.1
baz=294
O60A Telford 124.25 45 P PKPdf 18 45 14.0 0.0
baz=293
P60A Greenville 124.28 46 P PKPdf 18 45 14.1 +0.1
baz=292
VTS Vitosha 124.35 318 ⇓P PKiKP 18 45 15.2 +0.6
VTS Vitosha 124.35 318 ePKP PKiKP 18 45 14.7 +0.1
VTS Vitosha 124.35 318 ⇓PKiKP PKiKP 18 45 15.2 +0.6
VTS Vitosha 124.35 318 PKPdf PKPdf 18 45 14.1 -0.2
MDVR Moldovita 124.35 321 ⇓P PKiKP 18 45 14.4 0.0
OSTC Ostas 124.36 329 ePKPDF PKiKP 18 45 15.3 +1.1
OSTC eSS SS 19 03 58.5 +8.8
OSTC AMS AMS 19 45 20.0
comp=Z,400nm,19.6s
L60A Shokan 124.39 43 P PKiKP 18 45 14.4 -0.1
baz=295
CHVC Chvalec 124.42 329 ePKPDF PKiKP 18 45 15.4 +1.1
CHVC AMS AMS 19 45 00.0
comp=Z,400nm,19.1s
DPC Dobruska-Polom 124.43 329 ePKPDF PKiKP 18 45 15.0 +0.6
DPC AMS AMS 19 44 00.0
comp=Z,400nm,17.2s
DPC Dobruska-Polom 124.43 329 ePKiKP PKiKP 18 45 15.0 +0.6
DPC MLR MLR
comp=Z,400nm,17.2s
UPC Upice 124.49 329 AMS AMS 19 45 00.0
comp=Z,400nm,20.8s
JAVC Velka Javorina 124.59 327 ePKP PKiKP 18 45 15.8 +1.0
F61A St Evariste 124.61 37 P PKPdf 18 45 14.5 0.0
baz=300
G61A St-Isidore-de- 124.62 38 P PKiKP 18 45 14.9 0.0
baz=300
E61A Lac Etchemin 124.67 37 P PKiKP 18 45 15.0 0.0
baz=301
K61A Williamstown 124.73 42 P PKPdf 18 45 15.0 +0.1
baz=296
H61A Lyndonville 124.74 39 P PKiKP 18 45 15.4 +0.3
baz=299
BSEG Bad Segeberg 124.87 335 ePKPdf PKiKP 18 45 16.4 +1.4
baz=48,slow=1.9
LBNH Lisbon 124.88 40 P PKiKP 18 45 15.4 0.0
baz=298
J61A Chester 124.89 41 P PKiKP 18 45 15.9 +0.4
baz=297
VRAC Vranov 124.91 328 ePKP PKiKP 18 45 16.5 +1.2
M61A Granite Spring 124.98 43 P PKiKP 18 45 15.8 +0.1
baz=295
PAL Palisades 125.01 44 P PKPdf 18 45 15.2 -0.2
baz=295
MODS Modra-Piesok 125.08 327 ePKiKP PKiKP 18 45 16.1 +0.4
MODS Modra-Piesok 125.08 327 ePKP PKiKP 18 45 16.0 +0.4
E62A Clayton Lake 125.14 36 P PKiKP 18 45 16.0 +0.1
baz=302
KRUC Moravsky 125.16 328 ePKP PKiKP 18 45 16.8 +1.0
D62A Allapoint, All 125.17 35 P PKiKP 18 45 15.9 0.0
baz=303
SANT Santorini 125.17 310 ⇓P PKiKP 18 45 16.1 -0.1
SANT Santorini 125.17 310 PKPdf PKPdf 18 45 15.3 -0.6
H62A Milan 125.20 39 P PKiKP 18 45 16.2 +0.2
baz=299
PVCC Panska Ves 125.21 330 ePKPDF PKiKP 18 45 17.2 +1.4
PVCC AMS AMS 19 39 10.0
comp=Z,300nm,21.2s
PVCC Panska Ves 125.21 330 ePKiKP PKiKP 18 45 17.2 +1.4
PVCC MLR MLR
comp=Z,300nm,21.2s
L61B Northampton 125.22 42 P PKiKP 18 45 16.2 +0.1
baz=297
F62A Pittston Farm, 125.26 37 P PKiKP 18 45 16.0 -0.1
baz=301
G62A West of Eustis 125.27 38 P PKPdf 18 45 15.9 +0.1
baz=300
BRG Berggiesshubel 125.30 331 ePKiKP PKiKP 18 45 16.8 +0.8
BRG e 18 45 28.3
BRG pmax pmax
comp=Z,17nm,1.1s
BRG pmax pmax
comp=Z,31nm,1.7s
BRG Berggiesshubel 125.30 331 ePKPdf PKiKP 18 45 17.1 +1.1
baz=48,slow=1.9
VAY Valandovo 125.36 317 ⇓iP PKPdf 18 45 16.1 +0.1
K62A Royalston 125.41 41 P PKiKP 18 45 16.6 +0.1
baz=297
I62A Tamworth 125.43 40 P PKiKP 18 45 16.9 +0.4
baz=299
J62A Henniker 125.43 41 P PKiKP 18 45 16.9 +0.4
baz=298
CLL Collm 125.47 331 ⇓iPKPdf PKiKP 18 45 18.0 +1.7
comp=Z,15nm,0.9s
CLL i 18 45 29.7
CLL ePP PP 18 47 06.0 -0.4
CLL eSKPdf SKPdf 18 48 42.0 -8.2
CLL eSKSac SKSac 18 52 18.0 -1.0
CLL eSdif Sdif 18 55 12.0 +6.1
CLL ePPS PPS 18 58 31.0
CLL eSS SS 19 04 04.0 +0.6
CLL e 19 05 18.0
CLL eSSS SSS 19 08 48.0
CLL LmH 19 44 00.0
comp=N,200nm,19.8s
CLL LmH 19 44 00.0
comp=E,200nm,19.5s
CLL LV 19 44 00.0
comp=Z,300nm,20.0s
CLL Collm 125.47 331 ⇓iPKiKP PKiKP 18 45 18.0 +1.7
CLL i 18 45 29.7
CLL pmax pmax
comp=Z,15nm,0.9s
CLL MLR MLR
comp=Z,300nm,20.0s
CLL Collm 125.47 331 ePKPdf PKiKP 18 45 18.2 +1.9
baz=48,slow=1.9
GOPC GO Pecny, Ondr 125.48 329 ePKPDF PKiKP 18 45 17.6 +1.2
GOPC ex x 18 45 27.4

GOPC				*e*SS	SS	19 04 09.0	+5.3		
GOPC				AMS	AMS	19 44 30.0			
	comp=Z,300nm,17.8s								
GOPC	**GO Pecny, Ondr**	**125.48**	**329**	*e*PKIKP	**PKiKP**	**18 45 17.6**	**+1.2**		
GOPC				*e*		18 45 27.4			
GOPC				*e*SS	SS	19 04 09.0	+5.3		
GOPC				MLR	MLR				
	comp=Z,300nm,17.8s								
TREC	**Trest**	**125.50**	**328**	*e*PKPDF	**PKiKP**	**18 45 17.8**	**+1.3**		
TREC				AMS	AMS	19 41 10.0			
	comp=Z,300nm,22.1s								
TREC	**Trest**	**125.50**	**328**	*e*PKIKP	**PKiKP**	**18 45 17.8**	**+1.3**		
TREC				MLR	MLR				
	comp=Z,300nm,22.1s								
FBE	**Freiberg**	**125.55**	**331**	*e*PKPdf	**PKiKP**	**18 45 17.8**	**+1.3**		
	baz=48,slow=1.9								
PRU	**Pruhonice**	**125.56**	**329**	*e*PKPDF	**PKiKP**	**18 45 17.6**	**+1.1**		
PRU				*e*SS	SS	19 03 59.9	-4.8		
PRU				AMS	AMS	19 39 20.0			
	comp=Z,300nm,21.0s								
PRU	**Pruhonice**	**125.56**	**329**	*e*PKIKP	**PKiKP**	**18 45 17.6**	**+1.1**		
PRU				*e*SS	SS	19 03 59.9	-4.8		
PRU				MLR	MLR				
	comp=Z,300nm,21.0s								
PRA	**Prague**	**125.56**	**330**	AMS	AMS	19 39 20.0			
	comp=Z,200nm,23.0s								
PRA	**Prague**	**125.56**	**330**	PKIKP	PKiKP	18 45 26.9	+10		
DIVS	**Divibare**	**125.76**	**321**	PKPdf	**PKiKP**	**18 45 17.2**	**0.0**		
SKO	**Skopje**	**125.83**	**318**	*i* P	**PKiKP**	**18 45 18.0**	**+0.7**		
K63A	**Dunstable**	**125.86**	**41**	P	**PKiKP**	**18 45 17.4**	**0.0**		
	baz=298								
G63A	**Kingsbury**	**125.87**	**38**	P	**PKiKP**	**18 45 17.2**	**-0.1**		
	baz=301								
F63A	**Nahmakanta, Br**	**125.88**	**37**	P	**PKiKP**	**18 45 17.6**	**+0.2**		
	baz=302								
J63A	**Strafford**	**125.88**	**40**	P	**PKPdf**	**18 45 17.1**	**+0.2**		
	baz=299								
E63A	**Oxbow**	**125.89**	**36**	P	**PKiKP**	**18 45 17.1**	**-0.2**		
	baz=303								
HRV	**Adam Dziewonsk**	**125.93**	**41**	P	**PKiKP**	**18 45 17.4**	**-0.1**		
	baz=298								
IDI	**Anoyia**	**125.97**	**309**	⇑P	**PKiKP**	**18 45 18.6**	**+0.7**		
IDI	**Anoyia**	**125.97**	**309**	PKPdf	**PKPdf**	**18 45 17.1**	**-0.4**		
N63A	**Mattituck**	**125.97**	**43**	P	**PKPdf**	**18 45 17.1**	**-0.1**		
	baz=296								
NRDL	**Niedersach Rie**	**125.98**	**334**	*e*PKPdf	**PKiKP**	**18 45 18.7**	**+1.5**		
	baz=48,slow=1.9								
ASSE	**Asse, Remlinge**	**125.98**	**333**	*e*PKPdf	**PKiKP**	**18 45 18.4**	**+1.2**		
	baz=48,slow=1.9								
M63A	**Gales Ferry**	**126.11**	**43**	P	**PKPdf**	**18 45 17.6**	**+0.1**		
	baz=297								
NEUB	**Neuenburg**	**126.11**	**332**	*e*PKPdf	**PKiKP**	**18 45 18.6**	**+1.0**		
	baz=48,slow=1.9								
CONA	**Conrad Observa**	**126.11**	**327**	*i* PKiKP	**PKiKP**	**18 45 18.7**	**+0.9**		
	comp=Z,6.1nm,0.7s,SNR=10								
L63A	**North Scituate**	**126.19**	**42**	P	**PKiKP**	**18 45 17.9**	**-0.2**		
	baz=297								
F64A	**Sherman**	**126.23**	**36**	P	**PKiKP**	**18 45 18.1**	**+0.1**		
	baz=303								
TANN	**Tannenbergstha**	**126.31**	**331**	*e*PKPdf	**PKiKP**	**18 45 19.0**	**+0.9**		
	baz=48,slow=1.9								
CLZ	**Clausthal**	**126.32**	**333**	*e*PKPdf	**PKiKP**	**18 45 19.4**	**+1.3**		
	baz=48,slow=1.9								
GUNZ	**Gunzen**	**126.41**	**331**	*e*PKPdf	**PKiKP**	**18 45 19.1**	**+0.8**		
	baz=48,slow=1.9								
PLN	**Plauen**	**126.41**	**331**	*e*PKPdf	**PKiKP**	**18 45 19.1**	**+0.9**		
	baz=48,slow=1.9								
WERN	**Wernitzgruen**	**126.44**	**331**	*e*PKPdf	**PKiKP**	**18 45 19.5**	**+1.1**		
	baz=48,slow=1.9								
NKC	**Novy Kostel**	**126.44**	**331**	*e*PKPDF	**PKiKP**	**18 45 19.3**	**+1.0**		
NKC				AMS	AMS	19 45 20.0			
	comp=Z,300nm,18.4s								
MOX	**Moxa**	**126.56**	**332**	*e*PKPdf	**PKiKP**	**18 45 19.3**	**+0.8**		
	baz=48,slow=1.9								
MOX				*e*L	L	19 45 19.6			
	comp=Z,469nm,19.6s								
KHC	**Kasperske Hory**	**126.58**	**329**	*e*PKPDF	**PKPdf**	**18 45 17.6**	**-0.6**		
KHC	**Kasperske Hory**	**126.58**	**329**	*e*PKP	**PKiKP**	**18 45 19.5**	**+0.8**		
KHC				*ep*PKP	**pPKPdf**	**18 45 22.8**	**-1.5**		
KHC				*ex*	x	18 45 28.1			
KHC				*e*SS	SS	19 04 06.7	-11		
KHC				AMS	AMS	19 43 50.0			
	comp=Z,300nm,19.9s								
KHC	**Kasperske Hory**	**126.58**	**329***c*	*i* PKIKP	**PKiKP**	**18 45 18.9**	**+0.2**		
KHC				pmax	pmax				
	comp=Z,65nm,1.7s								
KHC	**Kasperske Hory**	**126.58**	**329**	PKPdf	**PKPdf**	**18 45 17.6**	**-0.6**		
M64A	**Tiverton**	**126.60**	**42**	P	**PKiKP**	**18 45 18.9**	**0.0**		
	baz=297								
OHR	**Ohrid**	**126.65**	**317**	*i* P	**PKiKP**	**18 45 19.5**	**+0.5**		
L64A	**Middleborough**	**126.67**	**42**	P	**PKPdf**	**18 45 18.5**	**0.0**		
	baz=298								
ARSA	**Arzberg**	**126.69**	**326**	*i* PKiKP	**PKiKP**	**18 45 19.4**	**+0.4**		
	comp=Z,5.0nm,1.0s								
GEC2	**GERESS Array S**	**126.70**	**329**	PKPdf	**PKPdf**	**18 45 18.8**	**+0.2**		
GEC2	**GERESS Array S**	**126.70**	**329**	*e*PKPdf	**PKiKP**	**18 45 19.9**	**+0.9**		
	baz=48,slow=1.9								
GERES	**GERESS Array B**	**126.70**	**329**	PKP	**PKiKP**	**18 45 19.4**	**+0.4**		
	comp=Z,8.9nm,0.7s,baz=66,slow=1.6,SNR=82								
GTTG	**Gottingen**	**126.71**	**333**	*e*PKPdf	**PKiKP**	**18 45 20.1**	**+1.4**		
	baz=48,slow=1.9								
BATG	**Bathurst New B**	**126.74**	**34**	PKPdf	**PKiKP**	**18 45 19.0**	**0.0**		
ROTZ	**Rotzenmuhle**	**126.86**	**330**	*e*PKPdf	**PKiKP**	**18 45 20.0**	**+0.8**		
	baz=48,slow=1.9								
H65A	**Eastbrook**	**126.92**	**37**	P	**PKPdf**	**18 45 19.0**	**+0.1**		
	baz=302								
WET	**Wettzell**	**126.93**	**329**	*e*PKPdf	**PKiKP**	**18 45 20.1**	**+0.7**		
	baz=48,slow=1.9								
MOA	**Molln**	**127.02**	**327**	*i* PKiKP	**PKiKP**	**18 45 19.9**	**+0.3**		
	comp=Z,4.1nm,0.8s								
PDG	**Podgorica**	**127.05**	**319**	⇑P	**PKiKP**	**18 45 20.4**	**+0.7**		
PDG	**Podgorica**	**127.05**	**319**	PKPdf	**PKPdf**	**18 45 18.6**	**-0.6**		
G65A	**Princeton**	**127.06**	**37**	P	**PKPdf**	**18 45 19.2**	**+0.1**		
	baz=303								
UBBA	**Unterbreizbach**	**127.20**	**333**	*e*PKPdf	**PKiKP**	**18 45 20.7**	**+1.1**		
	baz=48,slow=1.9								
SOKA	**Soboth**	**127.30**	**326**	*i* PKiKP	**PKiKP**	**18 45 20.4**	**+0.2**		
	comp=Z,11nm,1.1s,SNR=11								
GRF	**Grafenberg Arr**	**127.39**	**331**	*e*L	L	19 45 50.2			
	comp=Z,288nm,18.9s								
H66A	**Whiting**	**127.44**	**37**	P	**PKiKP**	**18 45 20.3**	**-0.1**		
	baz=303								
ITM	**Ithomi**	**127.51**	**312**	PKPdf	**PKPdf**	**18 45 19.8**	**-0.6**		
OBKA	**Obir**	**127.67**	**326**	*i* PKiKP	**PKiKP**	**18 45 21.2**	**+0.2**		
	comp=Z,7.3nm,1.0s								
BOJS	**Bojanci**	**127.86**	**325**	*i* PKPdf	**PKiKP**	**18 45 21.4**	**+0.1**		
RJOB	**Jochberg**	**127.87**	**328**	*e*PKPdf	**PKiKP**	**18 45 21.6**	**+0.3**		
	baz=48,slow=1.9								
LJU	**Ljubljana**	**127.96**	**326**	*i* PKPdf	**PKiKP**	**18 45 21.3**	**-0.2**		
MYKA	**Terra Mystica**	**128.10**	**327**	*i* PKiKP	**PKiKP**	**18 45 21.8**	**0.0**		
	comp=Z,4.6nm,0.9s								
PRED	**Cave del Predi**	**128.26**	**326**		**PKPdf**	**18 45 21.3**	**-0.2**		
ABTA	**Abfaltersbach**	**128.64**	**327**	*i* PKiKP	**PKiKP**	**18 45 22.8**	**-0.2**		
	comp=Z,11nm,0.9s,SNR=7.3								
AHRW	**Bad Neuenahr-A**	**128.70**	**334**	*e*PKPdf	**PKiKP**	**18 45 23.8**	**+1.0**		
	baz=48,slow=1.9								
SCTE	**Santa Cesarea**	**128.70**	**317**	PKPdf	**PKPdf**	**18 45 19.7**	**-2.8**		
WATA	**Walderalm**	**128.76**	**328**	*i* PKiKP	**PKiKP**	**18 45 23.6**	**+0.3**		
	comp=Z,16nm,1.2s,SNR=6.6								
WTTA	**Wattenberg**	**128.78**	**328**	*i* PKiKP	**PKiKP**	**18 45 23.8**	**+0.5**		
	comp=Z,24nm,1.1s,SNR=12								
STAL	**STALIGIAL**	**128.84**	**327**		**PKPdf**	**18 45 21.3**	**-1.3**		
CIMO	**Cimolais**	**128.95**	**327**	PKPdf	**PKPdf**	**18 45 22.4**	**-0.5**		
MOTA	**Moosalm**	**129.00**	**329**	*i* PKiKP	**PKiKP**	**18 45 23.9**	**+0.1**		
	comp=Z,14nm,0.7s,SNR=9.9								
SQTA	**Sankt Quirin**	**129.03**	**329**	*i* PKiKP	**PKiKP**	**18 45 24.1**	**+0.4**		
	comp=Z,14nm,0.9s,SNR=7.4								
RETA	**Reutte**	**129.08**	**329**	*i* PKiKP	**PKiKP**	**18 45 24.5**	**+0.7**		
	comp=Z,1.8nm,0.4s								
PB08	**IPOC Station P**	**129.27**	**123**	PKPdf	**PKPdf**	**18 45 24.2**	**-0.4**		
MNMC	**Minye Minye**	**129.35**	**121**		**PKPdf**	**18 45 23.3**	**-1.4**		
FETA	**Feichten**	**129.40**	**329**	*i* PKiKP	**PKiKP**	**18 45 25.0**	**+0.5**		
	comp=Z,14nm,1.0s,SNR=7.7								
CTI	**Castel Tesino**	**129.54**	**327**	PKIKP	**PKPdf**	**18 45 24.0**	**-0.1**		
CTI	**Castel Tesino**	**129.54**	**327**		**PKPdf**	**18 45 24.0**	**-0.1**		
MATE	**Matera**	**129.59**	**319**	⇓P	**PKiKP**	**18 45 24.9**	**0.0**		
SGRT	**San Giovanni R**	**129.64**	**320**	PKPdf	**PKPdf**	**18 45 24.4**	**+0.1**		
DAVA	**Damuels**	**129.66**	**329**	*i* PKiKP	**PKiKP**	**18 45 25.3**	**+0.2**		
	comp=Z,9.0nm,0.8s								
WLF	**Walferdange**	**129.75**	**334**	PKIKP	**PKiKP**	**18 45 25.5**	**+0.5**		
WLF	**Walferdange**	**129.75**	**334**	PKPdf	**PKiKP**	**18 45 25.5**	**+0.5**		
WLF	**Walferdange**	**129.75**	**334**	*e*PKPdf	**PKiKP**	**18 45 26.1**	**+1.1**		
	baz=48,slow=1.9								
RREF	**El Recreo**	**130.22**	**89**	*e*P	**PKPdf**	**18 45 27.0**	**+0.1**		
TOLC	**Tolima**	**130.22**	**90**	*e*P	**PKiKP**	**18 45 27.9**	**+0.5**		
GUY2C	**Guyana, Caldas**	**130.22**	**89**	*e*P	**PKPdf**	**18 45 26.1**	**-0.6**		

TIP	**Timpagrande**	**130.29**	**317**	⇑P	**PKiKP**	**18 45 26.7**	**+0.2**		
TIP	**Timpagrande**	**130.29**	**317**		**PKPdf**	**18 45 25.9**	**+0.3**		
TUE	**Stuetta**	**130.48**	**329**	PKPdf	**PKPdf**	**18 45 25.4**	**-0.6**		
PRAC	**Prado**	**130.57**	**91**	*e*P	**PKPdf**	**18 45 26.6**	**-0.3**		
INTR	**Introdacqua**	**130.65**	**322**	PKPdf	**PKPdf**	**18 45 24.9**	**-1.4**		
NRCA	**Norcia**	**130.66**	**323**		**PKPdf**	**18 45 24.9**	**-1.4**		
MURB	**Monte Urbino**	**130.76**	**324**		**PKPdf**	**18 45 26.0**	**-0.4**		
AQU	**L'Aquila**	**130.76**	**322**	PKIKP	**PKPdf**	**18 45 26.7**	**+0.3**		
AQU	**L'Aquila**	**130.76**	**322**	PKPdf	**PKPdf**	**18 45 26.7**	**+0.3**		
ZARC	**Zaragoza, Cauc**	**130.86**	**86**	*e*P	**PKiKP**	**18 45 28.5**	**+0.3**		
OSSC	**Osservatorio P**	**131.34**	**325**		**PKPdf**	**18 45 27.1**	**-0.3**		
SENIN	**Lac Senin/Sane**	**131.59**	**330**	PKPdf	**PKPdf**	**18 45 27.6**	**-0.5**		
LPAZ	**La Paz**	**131.84**	**119**	PKIKP	**PKPdf**	**18 45 29.2**	**-0.7**		
LPAZ	**La Paz**	**131.84**	**119**	PKPdf	**PKPdf**	**18 45 29.2**	**-0.7**		
CASP	**Castiglione de**	**132.01**	**324**	PKPdf	**PKPdf**	**18 45 28.4**	**-0.3**		
RUSC	**La Rusia**	**132.54**	**88**	*e*P	**PKiKP**	**18 45 35.3**	**+3.1**		
BNI	**Bardonecchia**	**132.81**	**329**	PKIKP	**PKPdf**	**18 45 29.6**	**-0.7**		
BNI	**Bardonecchia**	**132.81**	**329**	PKPdf	**PKPdf**	**18 45 29.6**	**-0.7**		
SSB	**Saint Sauveur**	**133.71**	**331**	PKIKP	**PKPdf**	**18 45 32.2**	**+0.3**		
SSB	**Saint Sauveur**	**133.71**	**331**	PKPdf	**PKPdf**	**18 45 32.1**	**+0.3**		
CPUP	**Villa Florida**	**134.75**	**138**	PKP	**PKiKP**	**18 45 35.2**	**-0.6**		
	comp=Z,4.6nm,0.7s,baz=300,slow=2.0,SNR=5.0								
SDV	**Santo Domingo**	**135.08**	**84**	PKPdf	**PKPdf**	**18 45 35.7**	**+0.2**		
KEST	**Kesra**	**137.11**	**317**	PKP	**PKiKP**	**18 45 39.6**	**-0.8**		
	comp=Z,8.1nm,0.9s,baz=238,slow=3.4,SNR=6.6								
KEST	**Kesra**	**137.11**	**317**	PKPdf	**PKPdf**	**18 45 39.4**	**+0.9**		
PBRG	**Braganca**	**141.41**	**338**	*e*PKPdf	**PKPdf**	**18 45 43.1**	**-3.1**		
PGAV	**Gavieira, Arco**	**141.82**	**339**	*e*PKPdf	**PKiKP**	**18 45 40.0**	**-0.9**		
PCAB	**Cabril**	**141.96**	**339**	*e*PKPdf	**PKiKP**	**18 45 49.0**	**-1.1**		
ESDC	**Sonseca Array**	**142.03**	**333**	PKP	**PKPdf**	**18 45 45.1**	**-2.2**		
	comp=Z,1.5nm,0.9s,baz=39,slow=3.3,SNR=5.8								
ESDC				PP	**PP**	**18 48 53.9**	**+1.9**		
	comp=Z,0.4nm,0.7s,baz=14,slow=7.9,SNR=4.4								
MVO	**Moncorvo**	**142.07**	**337**	*e*PKPdf	**PKiKP**	**18 45 49.2**	**-1.2**		
PVRL	**Vila Real**	**142.23**	**338**	*e*PKPdf	**PKPdf**	**18 45 49.1**	**+1.4**		
PVIS	**Viseu**	**142.78**	**338**	*e*PKPdf	**PKPdf**	**18 45 49.6**	**+0.9**		
MTE	**Manteigas**	**142.92**	**337**	*e*PKPdf	**PKPdf**	**18 45 50.5**	**+1.5**		
MTE	**Manteigas**	**142.92**	**337**	PKPdf	**PKPdf**	**18 45 49.3**	**+0.3**		
PCBR	**Castelo Branco**	**143.38**	**337**	*e*PKPdf	**PKPdf**	**18 45 50.6**	**+0.9**		
PCAS	**Casmilo, Conde**	**143.59**	**338**	*e*PKPdf	PKPbc	18 45 47.3	-0.1		
PMRV	**Marv??o**	**143.70**	**336**	*e*PKPdf	**PKPdf**	**18 45 50.6**	**+0.3**		
PMTG	**Montargil**	**144.34**	**337**	*e*PKPdf	**PKiKP**	**18 45 50.7**	**-1.8**		
PTGA	**Pitinga**	**144.63**	**101**	PKPdf	**PKPab**	**18 45 51.2**	**0.0**		
EVO	**Evora**	**144.72**	**336**	*e*PKPdf	**PKPdf**	**18 45 52.1**	**+0.1**		
PBEJ	**Beja**	**145.09**	**336**	*e*PKPdf	**PKPdf**	**18 45 53.6**	**+0.9**		
PNCL	**Nicolau / Gran**	**145.28**	**336**	*e*PKPdf	**PKPdf**	**18 45 54.2**	**+1.2**		
MESJ	**Messejana**	**145.39**	**336**	*e*PKP	**PKPbc**	**18 45 52.0**	**-1.1**		
MESJ	**Messejana**	**145.39**	**336**	*e*PKPdf	**PKPab**	**18 45 55.0**	**+1.8**		
PCVE	**Castro Verde**	**145.50**	**335**	*e*PKPdf	**PKPab**	**18 45 55.2**	**+1.5**		
PVAQ	**Vaqueiros**	**145.56**	**335**	*e*PKPdf	**PKPab**	**18 45 55.0**	**+1.1**		
PVAQ	**Vaqueiros**	**145.56**	**335**		**PKPab**	**18 45 54.2**	**+0.3**		
PBDV	**Barranco-do-Ve**	**145.78**	**335**	*e*PKPdf	**PKPab**	**18 45 55.3**	**+0.5**		
PTEO	**Sao Teotonio**	**145.85**	**336**	*e*PKPdf	**PKPab**	**18 45 56.3**	**+1.4**		
MORF	**Marmelete**	**146.03**	**336**	*e*PKP	**PKPdf**	**18 45 53.0**	**-1.4**		
PFVI	**Vila Bisbo**	**146.25**	**336**	*e*PKPdf	**PKiKP**	**18 45 58.2**	**-0.8**		
CZD	**Col de Zad**	**147.79**	**327**	P	**PKPab**	**18 46 03.0**	**0.0**		
	SNR=9.6								
ZHG	**ZHG**	**148.31**	**329**	P	**PKiKP**	**18 46 04.1**	**+0.6**		
	SNR=6.5								
BDFB	**Brasilia**	**148.36**	**135**	PKP	**PKPdf**	**18 46 00.7**	**+1.7**		
	comp=Z,13nm,0.8s,baz=117,slow=0.7,SNR=11								
BDFB				PKPbc	**PKiKP**	**18 46 03.6**	**-0.4**		
	comp=Z,26nm,0.8s,baz=211,slow=3.5,SNR=18								
BDFB	**Brasilia**	**148.36**	**135**	PKIKP	**PKPdf**	**18 46 00.1**	**+1.1**		
BDFB	**Brasilia**	**148.36**	**135**	PKPdf	**PKPdf**	**18 46 00.1**	**+1.1**		
TZRR	**Tazzarine**	**149.77**	**325**	P	**PKiKP**	**18 46 07.1**	**+0.5**		
	SNR=8.6								
ZGR	**Zagora**	**150.29**	**324**	P	**PKiKP**	**18 46 09.0**	**+1.3**		
	SNR=10.0								
OUZM	**OUZ**	**150.35**	**326**	P	**PKiKP**	**18 46 09.0**	**+1.2**		
	SNR=7.9								
TOA0	**Torodi Ar. Sit**	**152.66**	**286**	PKPdf	**PKPdf**	**18 46 05.7**	**+0.1**		
TORD	**Torodi Ar. Bea**	**152.66**	**286**	PKP	**PKPdf**	**18 46 06.8**	**+1.3**		
	comp=Z,4.6nm,0.9s,baz=9.5,slow=1.3,SNR=12								
TORD				PKPbc	**PKPbc**	**18 46 12.5**	**-0.1**		
	comp=Z,20nm,0.7s,baz=59,slow=2.6,SNR=43								
TORD				PP	PP	18 50 07.5	+11		
	comp=Z,2.4nm,1.1s,baz=51,slow=5.3,SNR=3.8								

NEIC ***10*** *18:48:55.0± 1.6, 6.°82S± 0.°02 × 154.°58E± 0.°06, h8km± 3km, mb5.2/219, Error ellipse: s-maj=9.4km s-min=2.0km az=79.0*

IDC ***10*** *18:48:55.0± 0.4, 6.°72S × 154.°43E, h0km, mb4.7/22, mb1 4.8/26, mb1mx4.7/36, mbtmp4.7/26, ML2.6/2, MS4.4/23, Ms1 4.4/23, ms1mx4.3/41, Error ellipse: s-maj=17.2km s-min=12.2km az=95.0*

MOS ***10*** *18:48:57.8± 1.3, 6.°79S × 154.°58E, h30km, mb5.2/22, MS4.6/6, Error ellipse: s-maj=7.3km s-min=5.8km az=108.9*

UNK ***10*** *18:48:59.6, 6.°87S × 154.°55E, h42km*

BJI ***10*** *18:49:00.9± 0.0, 6.°17S × 154.°96E, h44km, mB5.4/39, mb5.0/70, Ms4.9/37, Ms7 4.6/35*

GCMT ***10*** *18:49:01.0± 0.1, 7.°02S± 0.°01 × 154.°48E± 0.°01, h14km, MW5.2/136, Moment Tensor Solution. s79,c109; s136,c229; Duration: 1!0 Moment tensor: Scale 10^16 Nm; Mrr6.02±.20; Mθθ-3.33±.12; Mφφ-2.69±.12; Mrθ4.36±.32; Mrφ2.97±.08; Mθr-3.75±.31; Best double couple: Mw8.31700 × 10^16 NP1:φ313.00000°, δ23.00000°, λ92.00000°. NP2:φ131.00000°, δ67.00000°, λ89.00000°. Principal axes: T 8.3290, Plg68.0000°, Azm40.0000°; N -0.0240, Plg1.0000°, Azm131.0000°; P -8.3050, Plg22.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***10*** *18:49:05.4± 0.5, 7.°S± 4.°3 × 15.°4E± .°, h63km± 6km, M5.0/22, mb4.9/22, mB5.5/9, MLv5.1/2, Mw(mB)4.9/9*

ISC 10 18:48:59.9± 0.2, 6.°82S± 0.°04 × 154.°59E± 0.°04, h39km, n647, σ 1°37/659, mb5.2/183, MS4.5/35, 40C-24D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.55**	**317**	Pn	**Pn**	**18 49 51.6**	**-1.0**
KRVT	**Keravat (AS076**	**3.57**	**314**	Pn	**Pn**	**18 49 52.5**	**-0.3**
	29nm,0.3s,baz=191,slow=2.2,SNR=115						
KRVT				Sn	**Sn**	**18 50 35.1**	**+1.4**
	76nm,0.3s,baz=181,slow=21,SNR=1.9						
HNR	**Honiara**	**5.91**	**116**	Pn	**Pn**	**18 50 27.7**	**+2.8**
	4.2nm,0.3s,baz=271,slow=10,SNR=6.8						
HNR				LR	LR	18 52 55.6	
	comp=Z,7μm,18.5s,baz=276,slow=40						
HNR	**Honiara**	**5.91**	**116**	P	**Pn**	**18 50 25.2**	**+0.2**
HNR	**Honiara**	**5.91**	**116**	Pn	**Pn**	**18 50 25.1**	**+0.2**
PMG	**Port Moresby**	**7.79**	**250**	Pn	**Pn**	**18 50 49.5**	**-1.3**
	1.0nm,0.3s,baz=32,slow=13,SNR=4.2						
PMG				Sn	**Sn**	**18 52 20.8**	**+3.0**
	4.5nm,0.3s,baz=79,slow=22,SNR=13						
PMG				LR	LR	18 53 33.8	
	comp=Z,3μm,20.0s,baz=32,slow=36						
PMG	**Port Moresby**	**7.79**	**250**	P	**Pn**	**18 50 50.1**	**-0.7**
PMG						18 52 20.8	
PMG	**Port Moresby**	**7.79**	**250**	Pn	**Pn**	**18 50 50.1**	**-0.7**
COEN	**Coen**	**13.27**	**237**	Pn	**Pn**	**18 52 06.5**	**+0.5**
PATS	**Pohnpei**	**14.06**	**15**	Pn	**Pn**	**18 52 16.3**	**-0.4**
JAY	**Jayapura**	**14.48**	**287**	LR	LR	18 57 39.5	
	comp=Z,2μm,19.7s,baz=102,slow=37						
SANVU	**Saraoutou**	**15.05**	**126**	Pn	**Pn**	**18 52 30.9**	**+0.9**
SANVU				IAmb	IAmb	18 52 47.0	
	comp=Z,158nm,1.2s						
CTA	**Charters Tower**	**15.47**	**211**	Pn	**Pn**	**18 52 35.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=43,slow=19,SNR=1.8						
CTA				LR	LR	18 58 21.5	
	comp=Z,2μm,18.6s,baz=28,slow=37						
CTAO	**Charters Tower**	**15.47**	**211**	P	**Pn**	**18 52 34.1**	**-1.4**
CTAO				pmax	pmax		
	comp=Z,72nm,1.0s						
CTAO	**Charters Tower**	**15.47**	**211**		**Pn**	**18 52 34.1**	**-1.4**
SMPI	**Sarmi**	**16.54**	**286**	P	P	18 53 08.8	+18
EIDS	**Eidsvold**	**18.75**	**190**	P	**P**	**18 53 13.3**	**-2.3**
DZM	**Mont Dzumac**	**19.00**	**144**	*e*Pn	**Pn**	**18 53 20.7**	**+1.2**
	comp=Z,203nm,1.1s						
DZM				*e*LQ	LQ	18 56 59.3	
	comp=Z,3μm,31.6s						
DZM				*e*LR	LR	18 57 49.3	
	comp=Z,2μm,21.5s						
DZM	**Mont Dzumac**	**19.00**	**144**	P	**Pn**	**18 53 21.2**	**+1.7**
	comp=Z,1.3nm,0.3s,baz=304,slow=8.7,SNR=12						
DZM				LR	LR	19 00 18.8	
	comp=Z,2μm,18.5s,baz=316,slow=36						

DZM	**Mont Dzumac**	**19.00**	**144**		P	**18 53 18.4**	**-0.1**		
TARA	**Tarawa**	**20.02**	**67**	P	**P**	**18 53 28.0**	**-1.6**		
TARA				IAmb	IAmb	18 54 09.9			
	comp=Z,130nm,1.0s								
GUMO	**Guam**	**22.45**	**335**	P	**P**	**18 53 55.5**	**-0.3**		
GUMO				pmax	pmax				
	comp=Z,136nm,1.1s								
GUMO	**Guam**	**22.45**	**335**	P	**P**	**18 53 55.5**	**-0.3**		
GUMO				IAmb	IAmb	18 54 11.6			
	comp=Z,136nm,1.1s								
FAKI	**Fak Fak**	**22.59**	**279**	P	**P**	**18 53 56.3**	**-1.0**		
WR0	**Warramunga Arr**	**23.43**	**234**	P	**P**	**18 54 04.9**	**-0.9**		
WR0				IAmb	IAmb	18 54 18.3			
	comp=Z,72nm,1.1s								
WB0	**Warramunga Arr**	**23.45**	**235**	P	**P**	**18 54 04.7**	**-1.3**		
WB0				IAmb	IAmb	18 54 18.5			
	comp=Z,87nm,1.1s								
WRAB	**Tennant Creek**	**23.57**	**234**	P	**P**	**18 54 05.5**	**-1.7**		
WRAB				pmax	pmax				
	comp=Z,68nm,1.2s								
WRAB	**Tennant Creek**	**23.57**	**234**	P	**P**	**18 54 05.5**	**-1.7**		
WRAB				IAmb	IAmb	18 54 38.6			
	comp=Z,68nm,1.1s								
WB2	**Warramunga Arr**	**23.58**	**234**	P	**P**	**18 54 05.6**	**-1.7**		
WB2				IAmb	IAmb	18 54 38.6			
	comp=Z,106nm,1.3s								
WRA	**Warramunga Arr**	**23.59**	**234**	P	**P**	**18 54 06.4**	**-0.9**		
	comp=Z,22nm,0.9s,baz=59,slow=9.7,SNR=30								
WRA				S	**S**	**18 58 21.0**	**+1.9**		
	comp=Z,6.0nm,1.3s,baz=55,slow=19,SNR=4.8								
WRA				ScP	**ScP**	**19 01 32.4**

NJ2 pmax pmax
comp=Z,24nm,1.0s
NJ2 LR LR
comp=Z,1µm,3.5s
NJ2 LR LR
comp=Z,510nm,22.5s
NJ2 LR LR
comp=Z,390nm,11.5s
NJ2 LR LR
comp=Z,650nm,21.8s
ASAJ Asahikawa 51.84 349 LR LR 19 20 37.8
comp=Z,390nm,18.1s,baz=182,slow=37
WHN Wuhan 53.53 316 ⇓P **P 18 58 19.2 +2.3**
WHN pmax pmax
comp=Z,130nm,1.2s
OPA Opana 54.42 57 P **P 18 58 23.4 -0.2**
OPA pmax pmax
comp=Z,108nm,1.0s
OPA Opana 54.42 57 P **P 18 58 23.4 -0.2**
YSS Yuzh-Sakhalins 54.56 350 P **P 18 58 24.1 0.0**
YSS pmax pmax
comp=Z,14nm,1.3s
YSS Yuzh-Sakhalins 54.56 350 P **P 18 58 24.1 0.0**
IPM Ipoh 54.63 280 P **P 18 58 24.0 -1.3**
USRK Ussuriysk Ar. 54.73 340 P **P 18 58 24.7 -0.7**
comp=Z,12nm,1.2s,baz=145,slow=7.0,SNR=16
USA0B Ussuriysk Arra 54.73 340 P **P 18 58 24.8 -0.6**
USA0B pmax pmax
comp=Z,19nm,1.3s
USA0B Ussuriysk Arra 54.73 340 P **P 18 58 24.8 -0.6**
KULM Kulim 55.16 281 P **P 18 58 29.0 -0.1**
KULM IAmb IAmb 18 58 35.3
comp=Z,27nm,1.6s
TIA Tai'an 55.38 323 P **P 18 58 30.6 +0.3**
TIA pmax pmax
comp=Z,9.0nm,0.6s
PPT Papeete 55.44 107 LR LR 19 18 48.8
comp=Z,141nm,20.2s,baz=266,slow=32
PPT2 Papeete2 55.44 107 *e*LQ LQ 19 12 23.3
comp=Z,641nm,24.8s
PPT2 *e*LR LR 19 14 40.2
comp=Z,398nm,31.2s
MDJ Mudanjiang 55.93 339 P **P 18 58 34.2 +0.2**
MDJ pmax pmax
comp=Z,14nm,1.1s
MDJ pmax pmax
comp=Z,280nm,4.8s
TBI Tubuai 56.12 113 *e*S **S 19 06 25.3 +2.8**
comp=Z,112nm,31.0s
TBI *e*LQ LQ 19 12 40.5
comp=Z,1µm,28.5s
TBI *e*LR LR 19 15 02.2
comp=Z,435nm,36.0s
ENH Enshi 56.82 313 P **P 18 58 40.5 -0.2**
CN2 Changchun 56.86 335 *e*P **P 18 58 40.8 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
GYA Guiyang 57.02 308 ⇓*i*P **P 18 58 45.4 +3.0**
GYA PP **PP 19 00 47.2 -2.3**
GYA S **S 19 06 40.0 +5.4**
GYA pmax pmax
comp=Z,10.0nm,1.0s
GYA LR LR
comp=Z,410nm,19.6s
SLVN Son La 57.05 301 P **P 18 58 42.1 -0.4**
COCO West Island 57.12 260 P **P 18 58 40.9 -2.2**
COCO pmax pmax
comp=Z,703nm,1.8s
COCO West Island 57.12 260 P **P 18 58 40.9 -2.2**
GSI Gunungsitoli 57.46 276 P **P 18 58 45.2 -0.3**
PBKT Sadao Pong 57.90 294 P **P 18 58 48.7 +0.2**
BJI Beijing 58.55 326 P **P 18 58 52.7 +0.1**
BJI pmax pmax
comp=Z,4.0nm,0.9s
XAN Xi'an 59.30 316 P **P 18 58 59.1 +1.0**
XAN pP sP 18 59 10.3 -1.2
XAN S **S 19 07 07.8 +3.9**
XAN pmax pmax
comp=Z,37nm,0.9s
XAN pmax pmax
comp=Z,1µm,12.0s
XAN LR LR
comp=Z,420nm,17.0s
XAN LR LR
comp=Z,380nm,16.8s
XAN LR LR
comp=Z,590nm,17.6s
XAN Xi'an 59.30 316 P **P 18 58 57.8 -0.3**
XAN pmax pmax
comp=Z,128nm,1.7s
XAN Xi'an 59.30 316 P **P 18 58 57.8 -0.3**
GRNR Gornyy 59.47 347 ⇓*i*P **P 18 58 59.2 +0.4**
GRNR pmax pmax
comp=Z,3.0nm,1.1s
GRNR MLR MLR
comp=E,100nm,20.0s
GRNR MLR MLR
comp=N,80nm,14.0s
GRNR MLR MLR
comp=Z,210nm,16.0s
KMI Kunming 59.58 304 P **P 18 59 03.5 +3.1**
KMI pP sP 18 59 15.5 +2.1
KMI sP pwP 18 59 21.4 +3.0
KMI pmax pmax
comp=Z,27nm,1.4s
KMI LR LR
comp=Z,130nm,14.1s
KMI LR LR
comp=Z,210nm,18.2s
KMI LR LR
comp=Z,310nm,20.3s
PEA0B Petropavlovsk- 59.76 2 P **P 18 59 00.7 0.0**
PEA0B pmax pmax
comp=Z,45nm,1.3s
PEA0B Petropavlovsk- 59.76 2 P **P 18 59 00.7 0.0**
PETK Petropavlovsk- 59.76 2 P **P 18 59 01.1 +0.3**
comp=Z,3.1nm,0.9s,baz=157,slow=8.0,SNR=4.9
PETK LR LR 19 25 51.3
comp=Z,196nm,18.6s,baz=227,slow=37
CM31 Chiang Mai Arr 60.34 296 P **P 18 59 03.2 -2.2**
CM31 IAmb IAmb 18 59 20.1
comp=Z,22nm,1.2s
CMAR Chiang Mai Arr 60.34 296 P **P 18 59 06.5 +1.0**
comp=Z,3.3nm,0.8s,baz=116,slow=5.4,SNR=23
CMAR Chiang Mai Arr 60.34 296 *i*P **P 18 59 07.9 +2.4**
CMAR pmax pmax
comp=Z,4.0nm,0.8s
CHTO Chiang Mai 60.46 296 P **P 18 59 04.3 -1.9**
CHTO pmax pmax
comp=Z,32nm,1.5s
CHTO Chiang Mai 60.46 296 P **P 18 59 04.3 -1.9**
CHTO IAmb IAmb 18 59 21.3
comp=Z,32nm,1.5s
CD2 Chengdu 61.39 311 P **P 18 59 13.0 +0.6**
HHC Hu-ho-hao-te 61.71 324 P **P 18 59 15.9 +1.4**
HHC pmax pmax
comp=Z,16nm,0.7s
HHC pmax pmax
comp=Z,190nm,6.3s
HIA Hailar 63.59 335 P **P 18 59 26.0 -0.7**
HIA pmax pmax
comp=Z,19nm,1.0s
HIA Hailar 63.59 335 P **P 18 59 26.0 -0.7**
HIA IAmb IAmb 18 59 28.9
comp=Z,20nm,1.0s
ZEA Zeya 64.59 342 *e*P **P 18 59 33.4 +0.3**
ZEA pmax pmax
comp=Z,36nm,1.2s
CASY Casey 66.63 198 P **P 18 59 45.4 -0.8**
GTA Gaotai 68.33 317 ⇑P **P 18 59 59.6 +2.0**
GTA pP pwP 19 00 15.1 -0.9
GTA sP PcP 19 00 22.0 -1.0
GTA pmax pmax
comp=Z,32nm,1.2s
GTA pmax pmax
comp=Z,240nm,4.6s
GTA LR LR
comp=Z,170nm,17.4s
GTA LR LR
comp=Z,200nm,21.3s
GTA LR LR
comp=Z,270nm,17.4s
ULN Ulaanbaatar 68.64 328 *ce*P **P 18 59 59.5 +0.2**
ULN pmax pmax
comp=Z,18nm,1.7s
ULN Ulaanbaatar 68.64 328 P **P 18 59 58.7 -0.6**
ULN IAmb IAmb 19 00 14.7
comp=Z,15nm,1.1s
UNV Unalaska Valle 68.72 24 P **P 18 59 58.8 -0.7**
SHL Shillong 68.86 301 P **P 19 00 00.7 -0.5**
SHL pmax pmax
comp=Z,32nm,0.9s
SHL Shillong 68.86 301 P **P 19 00 00.7 -0.5**
SONM Songino Array 68.97 327 P **P 19 00 02.5 +1.1**
comp=Z,7.0nm,0.9s,baz=130,slow=6.1,SNR=20
SONM LR LR 19 32 04.1
comp=Z,360nm,18.0s,baz=99,slow=38
RKT Rikitea 69.38 112 *e*LR LR 19 21 11.3
comp=Z,398nm,23.2s
VNDA Vanda 70.77 178 P **P 19 00 13.2 +1.4**
comp=Z,3.3nm,1.0s,baz=334,slow=6.3,SNR=7.1
VNDA Vanda 70.77 178 P **P 19 00 11.0 -0.8**
VNDA pmax pmax
comp=Z,7.0nm,1.2s
VNDA Vanda 70.77 178 P **P 19 00 11.0 -0.8**
LSA Lhasa 70.84 305 P **P 19 00 15.7 +2.1**
LSA pmax pmax
comp=Z,19nm,0.9s
LSA Lhasa 70.84 305 P **P 19 00 13.8 +0.2**
LSA pmax pmax
comp=Z,16nm,0.9s
LSA Lhasa 70.84 305 P **P 19 00 13.8 +0.2**
LSA IAmb IAmb 19 00 28.5
comp=Z,16nm,0.9s
YAK Yakutsk 71.30 348 *e*P **P 19 00 14.7 -0.4**
YAK *e*'PP **pP 19 00 25.5 +0.6**
YAK *e* 19 00 33.1
YAK *e*PPP PPP 19 04 32.3
YAK *e*S **S 19 09 24.9 -4.8**
YAK *e* 19 10 15.1
YAK pmax pmax
comp=Z,25nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=Z,52nm,3.2s
YAK pmax pmax
comp=N,25nm,2.4s
YAK pmax pmax
comp=E,26nm,3.5s
YAK smax smax
comp=N,68nm,4.4s
YAK MLR MLR
comp=Z,225nm,20.0s
YAK MLR MLR
comp=N,199nm,19.0s
YAK MLR MLR
comp=E,79nm,19.0s
YAK Yakutsk 71.30 348 P **P 19 00 14.5 -0.6**
YAK IAmb IAmb 19 00 16.7
comp=Z,25nm,1.0s
ZAK Zakamensk 72.13 328 *e*P **P 19 00 21.0 +0.5**
ZAK pmax pmax
comp=Z,14nm,1.2s
SDPT Sand Point 72.26 25 **P 19 00 19.9 -1.1**
CNBA Chernabura Isl 72.28 26 P **P 19 00 18.6 -2.6**
CNBA IAmb IAmb 19 00 38.8
comp=Z,39nm,1.3s
TLY Talaya 72.71 330 *e*P **P 19 00 24.8 +1.0**
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY MLR MLR
comp=Z,569nm,19.0s
TLY Talaya 72.71 330 P **P 19 00 22.8 -1.1**
TAPN Taplejung 72.96 301 *e*P **P 19 00 27.6 +1.4**
comp=Z,92nm,1.1s
ODAN Odare 73.09 301 *e*P **P 19 00 28.3 +1.4**
comp=Z,96nm,0.8s
RAMN Ramite 73.80 300 *e*P **P 19 00 32.2 +1.1**
comp=Z,15nm,0.7s
MOY Mondy 74.05 329 *e*P **P 19 00 33.0 +1.1**
JIRN Jiri 74.35 301 *e*P **P 19 00 35.7 +1.3**
comp=Z,44nm,0.8s
GUN Gumba 74.68 301 *e*P **P 19 00 37.6 +1.2**
comp=Z,75nm,0.9s
PKI Pulchoki 74.99 301 *e*P **P 19 00 39.1 +1.0**
comp=Z,52nm,1.0s
PKIN Phulchoki 75.00 301 *e*P **P 19 00 39.0 +0.9**
comp=Z,32nm,0.8s
BILL Bilibino 75.14 5 *c i*P **P 19 00 37.9 +0.2**
BILL *e* 19 00 52.5
BILL *e* 19 03 24.6
BILL *e*S **S 19 10 06.3 -6.8**
BILL pmax pmax
comp=Z,14nm,1.3s
BILL MLR MLR
comp=Z,280nm,18.0s
BILL Bilibino 75.14 5 P **P 19 00 37.5 -0.2**
BILL IAmb IAmb 19 00 48.1
comp=Z,21nm,1.1s
KKN Kakani 75.16 301 *e*P **P 19 00 40.1 +1.2**
comp=Z,37nm,0.8s
DMN Daman 75.25 301 *e*P **P 19 00 40.9 +1.3**
comp=Z,107nm,1.0s
GKN Gorkha 75.76 301 *e*P **P 19 00 43.8 +1.5**
comp=Z,103nm,1.0s
KOLN Koldanda 76.58 301 *e*P **P 19 00 47.8 +0.7**
comp=Z,68nm,1.0s
DANN Dangsing 76.60 301 *e*P **P 19 00 47.8 +0.5**
comp=Z,54nm,0.8s
PYUN Piuthan 77.19 301 *e*P **P 19 00 51.6 +1.1**
comp=Z,75nm,0.9s
SVW2 Sparrevohn 77.99 22 P **P 19 00 54.5 +0.5**
SVW2 IAmb IAmb 19 01 13.3
comp=Z,28nm,1.4s
WMQ Urumqi 78.42 317 *e*P **P 19 00 58.9 +2.1**
WMQ pP sP 19 01 10.4 +0.2
WMQ S **S 19 10 55.4 +5.3**
WMQ SKS **SKSac 19 11 03.5 -5.3**
WMQ sS SKKSac 19 11 11.6 +1.8
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ pmax pmax
comp=Z,93nm,3.7s
WMQ LR LR
comp=Z,660nm,26.1s
WMQ LR LR
comp=Z,1µm,27.1s
WMQ LR LR
comp=Z,480nm,29.9s
WMQ Urumqi 78.42 317 P **P 19 00 56.8 -0.1**
WMQ pmax pmax
comp=Z,154nm,1.9s
WMQ Urumqi 78.42 317 P **P 19 00 56.8 -0.1**
CNPM China Poot 78.77 25 P **P 19 00 57.8 -0.6**
TTA Tatalina 79.00 21 P **P 19 00 59.8 +0.2**
TTA pmax pmax
comp=Z,13nm,1.2s
TTA Tatalina 79.00 21 P **P 19 00 59.8 +0.2**
BRLK Bradley Lake 79.05 25 P **P 19 00 59.7 -0.2**
BRLK IAmb IAmb 19 01 20.7
comp=Z,35nm,1.3s
SEW Seward 79.84 25 P **P 19 01 03.4 -0.7**
TIXI Tiksi 80.12 352 P **P 19 01 05.1 -0.3**
comp=Z,3.1nm,0.9s,baz=91,slow=5.2,SNR=8.5
TIXI Tiksi 80.12 352 *ce*P **P 19 01 05.8 +0.4**
TIXI pmax pmax
comp=Z,8.0nm,1.3s
TIXI Tiksi 80.12 352 P **P 19 01 04.9 -0.5**
RC01 Rabbit Creek A 80.27 24 P **P 19 01 06.2 -0.3**
RC01 IAmb IAmb 19 01 08.2
comp=Z,25nm,1.2s
PPLA Purkeypile 80.36 22 P **P 19 01 06.4 -0.7**
RDOG Red Dog Mine 80.45 15 P **P 19 01 07.2 -0.1**
DGZ Jazzator, Alta 80.76 323 *c i*P **P 19 01 10.1 +0.6**
DGZ pmax pmax
comp=Z,21nm,1.1s
PMR Palmer 80.79 24 P **P 19 01 08.5 -0.7**
PMR pmax pmax
comp=Z,13nm,1.1s
PMR Palmer 80.79 24 P **P 19 01 08.5 -0.7**
KNK Knik Glacier 80.97 24 P **P 19 01 09.3 -0.3**
KNK IAmb IAmb 19 01 12.3
comp=Z,20nm,1.2s
GHO Glory Hole Cre 80.97 24 P **P 19 01 09.4 -0.9**
KTH Kantishna Hill 81.21 22 P **P 19 01 10.7 -0.9**
SML Sawmill 81.23 24 P **P 19 01 11.2 -0.4**
SML IAmb IAmb 19 01 13.6
comp=Z,20nm,1.0s
HIN Hinchinbrook I 81.25 25 P **P 19 01 10.8 -0.9**
HIN IAmb IAmb 19 01 25.8
comp=Z,25nm,1.2s
TRF Thorofare Moun 81.39 22 P **P 19 01 11.6 -1.0**
FID Port Fidalgo 81.44 25 P **P 19 01 11.7 -0.9**
FID IAmb IAmb 19 01 31.0
comp=Z,27nm,1.4s
ZSN Zaisan 81.55 320 *e*P **P 19 01 15.2 +1.6**
comp=Z,26nm,2.2s,baz=320
ZSN *e*S **S 19 11 27.0 +4.2**
baz=320
ZSN Zaisan 81.55 320 *e*P **P 19 01 15.2 +1.6**
ZSN *e*S **S 19 11 26.9 +4.2**
ZSN pmax pmax
comp=Z,26nm,2.2s
EYAK Cordova Ski Ar 81.64 26 P **P 19 01 12.9 -0.8**
SCM Sheep Creek Mo 81.65 24 P **P 19 01 13.8 -0.1**
SCM pmax pmax
comp=Z,55nm,1.7s
SCM Sheep Creek Mo 81.65 24 P **P 19 01 13.8 -0.1**
SCM IAmb IAmb 19 01 43.8
comp=Z,55nm,1.7s
RND Reindeer 81.90 22 P **P 19 01 14.5 -0.6**
RND pmax pmax
comp=Z,13nm,1.1s
RND Reindeer 81.90 22 P **P 19 01 14.5 -0.6**
RAGM Ragged Mountai 82.03 26 P **P 19 01 14.9 -0.9**
RAGM IAmb IAmb 19 01 29.4
comp=Z,37nm,1.4s
MCK McKinley 82.05 22 P **P 19 01 15.0 -0.8**
MCK pmax pmax
comp=Z,22nm,1.0s
MCK McKinley 82.05 22 P **P 19 01 15.0 -0.8**
MCK IAmb IAmb 19 01 17.4
comp=Z,22nm,1.0s
DHY Denali Highway 82.28 23 P **P 19 01 16.8 -0.4**
DHY IAmb IAmb 19 01 30.2
comp=Z,24nm,1.5s
WRH Wood River Hil 82.76 22 P **P 19 01 19.0 -0.5**
HARP HAARP 82.81 24 P **P 19 01 18.6 -1.3**
HARP IAmb IAmb 19 02 17.3
comp=Z,23nm,1.2s
WAX Waxell Ridge 82.86 26 P **P 19 01 18.9 -1.3**
GLB Gilahina Butte 82.91 25 P **P 19 01 20.6 +0.2**
GLB IAmb IAmb 19 01 22.6
comp=Z,21nm,1.2s
VRDI Verde Repeater 82.96 25 P **P 19 01 21.0 +0.2**
VRDI IAmb IAmb 19 02 11.8
comp=Z,20nm,1.3s
CCB Clear Creek Bu 82.96 21 P **P 19 01 19.5 -1.0**
MDM Murphy Dome 82.97 21 P **P 19 01 20.2 -0.4**
MK31 Makanchi Array 83.00 319 P **P 19 01 21.9 +0.7**
MK31 pmax pmax
comp=Z,22nm,0.9s
MK31 Makanchi Array 83.00 319 P **P 19 01 21.9 +0.7**
MK31 IAmb IAmb 19 01 23.8
comp=Z,22nm,0.9s
MKAR Makanchi Array 83.00 319 P **P 19 01 21.8 +0.5**
comp=Z,22nm,0.9s,baz=104,slow=5.3,SNR=140
MKAR Makanchi Array 83.00 319 *i*P **P 19 01 22.7 +1.5**
MKAR pmax pmax
comp=Z,22nm,0.9s
COLA College 83.06 21 *i*P **P 19 01 20.6 -0.5**
COLA pmax pmax
comp=Z,16nm,1.1s
HDA Harding Lake 83.15 22 P **P 19 01 22.3 +0.8**
baz=238
HDA Harding Lake 83.15 22 P **P 19 01 20.8 -0.8**
QSPA South Pole Qui 83.16 180 P **P 19 01 23.6 +1.8**
comp=Z,25nm,1.1s,baz=350,slow=2.1,SNR=18
QSPA South Pole Qui 83.16 180 P **P 19 01 22.4 +0.6**
MCARA McCarthy VSAT 83.21 25 P **P 19 01 21.1 -0.9**
MCARA IAmb IAmb 19 01 58.1
comp=Z,19nm,1.2s
MAKZ Makanchi 83.22 319 P **P 19 01 22.5 +0.2**
MAKZ pmax pmax
comp=Z,43nm,1.0s
MAKZ Makanchi 83.22 319 P **P 19 01 22.4 +0.2**
YAH Yahtse 83.31 27 P **P 19 01 20.9 -1.9**
YAH IAmb IAmb 19 01 36.6
comp=Z,34nm,1.7s
BALM Baldy 83.34 26 P **P 19 01 22.8 +0.1**
IL31 83.36 22 P **P 19 01 21.3 -1.2**
ILAR Eielson Array 83.36 22 P **P 19 01 22.2 -0.4**
comp=Z,6.1nm,0.9s,baz=256,slow=5.3,SNR=39
ILAR LR LR 19 36 20.9
comp=Z,644nm,19.5s,baz=256,slow=34
BARN Barnard Glacie 83.65 26 P **P 19 01 23.9 -0.5**
BARN IAmb IAmb 19 01 56.4
comp=Z,12nm,0.9s
MENT Mentasta 83.66 24 P **P 19 01 23.4 -0.9**
CTGM Chitina Glacie 83.75 26 P **P 19 01 24.4 -0.5**
CTGM IAmb IAmb 19 01 27.4
comp=Z,12nm,1.0s
ZAA0 Zalesovo Array 83.81 326 P **P 19 01 24.6 -0.5**
ZAA0 IAmb IAmb 19 01 26.3
comp=Z,10nm,0.9s
ZALV Zalesovo Beam 83.81 326 P **P 19 01 25.1 -0.1**
comp=Z,4.9nm,0.7s,baz=115,slow=5.3,SNR=28
ZALV LR LR 19 38 08.5
comp=Z,68nm,22.0s,baz=114,slow=35
PCA Pinnacle 83.86 27 P **P 19 01 25.6 +0.2**
PCA IAmb IAmb 19 01 47.2
comp=Z,17nm,1.0s
DOT Dot Lake 83.86 23 P **P 19 01 25.2 0.0**
DOT IAmb IAmb 19 01 27.7
comp=Z,15nm,1.0s
SHLS Shalkode 83.91 315 ⇑*i*P **P 19 01 25.9 -0.2**
comp=Z,18nm,1.2s,baz=315
SHLS *e*S **S 19 11 47.7 +0.5**
baz=315
SHLS Shalkode 83.91 315 *c i*P **P 19 01 25.8 -0.2**
SHLS *e*S **S 19 11 47.7 +0.5**
SHLS pmax pmax
comp=Z,18nm,1.2s
UZB Uzynbulak 84.21 315 *i*P **P 19 01 29.2 +1.5**
comp=Z,29nm,1.7s,baz=314
UZB Uzynbulak 84.21 315 *i*P **P 19 01 29.2 +1.5**
UZB pmax pmax
comp=Z,29nm,1.7s
MAW Mawson 84.40 203 P **P 19 01 29.2 +1.3**
comp=Z,3.9nm,0.8s,baz=91,slow=12,SNR=7.2
MAW LR LR 19 37 14.6
comp=Z,151nm,19.0s,baz=62,slow=34
MAW Mawson 84.40 203 P **P 19 01 28.7 +0.8**
MAW pmax pmax
comp=Z,7.0nm,1.4s
MAW Mawson 84.40 203 P **P 19 01 28.7 +0.8**
PRZ Przheval'sk 84.49 314 P **P 19 01 29.2 0.0**
PRZ pmax pmax
comp=Z,74nm,1.1s
PRZ Przheval'sk 84.49 314 P **P 19 01 29.2 0.0**
TOLK Toolik Lake Re 84.58 18 P **P 19 01 29.8 +0.9**
baz=236
SATY Saty 84.63 314 ⇑*i*P **P 19 01 31.3 +1.5**
comp=Z,11nm,1.1s,baz=314
SATY Saty 84.63 314 *c i*P **P 19 01 31.2 +1.5**
SATY pmax pmax
comp=Z,11nm,1.1s
TARG Taragay, Kyrgy 84.74 313 P **P 19 01 30.6 -0.1**
TARG IAmb IAmb 19 01 56.0
comp=Z,22nm,1.1s
TDK Taldyqorghan 85.11 316 *i*P **P 19 01 33.3 +1.2**
comp=Z,26nm,1.2s,baz=316
TDK *e*S **S 19 11 57.1 -1.9**
baz=316
TDK LR LR 19 40 39.8
comp=Z,163nm,16.7s,baz=316
TDK Taldyqorghan 85.11 316 *i*P **P 19 01 33.2 +1.2**
TDK *e*S **S 19 11 57.1 -1.9**
TDK pmax pmax
comp=Z,26nm,1.2s
KDJ Kajisay 85.28 313 P **P 19 01 34.0 +0.8**
KDJ pmax pmax
comp=Z,52nm,1.2s
KDJ Kajisay 85.28 313 P **P 19 01 34.0 +0.8**
DIB Dawson Inlet, 85.35 35 P **P 19 01 33.9 +1.0**
SEM Semipalatinsk 85.36 322 ⇑*i*P **P 19 01 32.8 -0.6**
comp=Z,6.4nm,1.3s,baz=322
SEM *e*S **S 19 11 56.5 -5.2**
baz=322
SEM Semipalatinsk 85.36 322 *c i*P **P 19 01 32.7 -0.6**
SEM *e*S **S 19 11 56.4 -5.2**
SEM pmax pmax
comp=Z,6.0nm,1.3s
HYT Haines Junctio 85.40 27 P **P 19 01 33.3 0.0**

HYT IAmb IAmb 19 01 57.5
comp=Z,32nm,1.4s
EGAK Eagle 85.51 23 P P 19 01 33.9 +0.4
EGAK IAmb IAmb 19 01 36.8
comp=Z,14nm,0.9s
KSH Kashi 85.59 310 *e*P **P 19 01 37.7 +3.0**
KSH S **S 19 12 07.3 +3.2**
KSH pmax pmax
comp=Z,83nm,1.2s
KSH pmax pmax
comp=Z,740nm,3.9s
MDOK Medeo 85.62 314 *i* P **P 19 01 36.2 +1.4**
comp=Z,264nm,1.3s,baz=314
MDOK *e*S **S 19 12 01.1 -3.2**
baz=314
MDOK LR LR 19 41 28.1
comp=Z,76nm,17.1s,baz=314
MDOK Medeo 85.62 314 *i* P **P 19 01 36.1 +1.4**
MDOK *e*S **S 19 12 01.1 -3.2**
MDOK pmax pmax
comp=Z,264nm,1.3s
TNSS Tian-Shan 85.66 314 *i* P **P 19 01 36.9 +1.6**
baz=314
TNSS Tian-Shan 85.66 314 *i* P **P 19 01 36.8 +1.6**
AAA Alma-Ata 85.72 314 *e*P **P 19 01 36.4 +1.2**
comp=Z,8.8nm,0.9s,baz=314
AAA Alma-Ata 85.72 314 *e*P **P 19 01 36.3 +1.2**
AAA pmax pmax
comp=Z,9.0nm,0.9s
BESE Bessie Mountai 85.83 30 P P 19 01 36.2 +0.9
BESE IAmb IAmb 19 01 38.3
comp=Z,23nm,1.3s
DAWY Dawson 85.90 24 P P 19 01 35.9 +0.3
SKAG Skagway 85.91 29 P P 19 01 35.8 +0.2
SKAG IAmb IAmb 19 02 19.3
comp=Z,13nm,0.8s
JIS Juneau Island 85.96 30 P P 19 01 35.9 +0.1
KUU Kurty 86.29 315 *i* P **P 19 01 39.1 +1.2**
comp=Z,67nm,1.5s,baz=315
KUU *e*S **SKSac 19 12 04.5 +3.2**
baz=315
KUU Kurty 86.29 315 *i* P **P 19 01 39.1 +1.2**
KUU *e*S **SKSac 19 12 04.4 +3.2**
KUU pmax pmax
comp=Z,67nm,1.5s
WRAK Wrangell Islan 86.41 32 P **P 19 01 39.0 +1.0**
KURK Kurchatov 86.44 322 *ce*P **P 19 01 36.9 -1.5**
KURK pmax pmax
comp=Z,19nm,1.3s
KURK Kurchatov 86.44 322 P **P 19 01 37.8 -0.6**
KURBB Kurchatov Arra 86.47 322 P **P 19 01 38.4 -0.2**
comp=Z,2.0nm,0.6s,baz=100,slow=4.7,SNR=38
WHY Whitehorse 86.54 28 P **P 19 01 38.1 -0.8**
NIL Nilore 86.58 304 P **P 19 01 39.3 -0.2**
NIL Nilore 86.58 304 P **P 19 01 39.3 -0.2**
NIL IAmb IAmb 19 01 52.9
comp=Z,23nm,1.0s
FRU1 Bishkek 87.27 313 P **P 19 01 42.3 -0.5**
FRU1 pmax pmax
comp=Z,74nm,2.0s
FRU1 Bishkek 87.27 313 P **P 19 01 42.2 -0.5**
AAK Ala-Archa 87.34 313 LR LR 19 44 08.3
comp=Z,153nm,18.1s,baz=100,slow=38
AAK Ala-Archa 87.34 313 *ce*P **P 19 01 43.3 +0.1**
AAK pmax pmax
comp=Z,18nm,2.5s
AAK Ala-Archa 87.34 313 P **P 19 01 43.5 +0.3**
AAK IAmb IAmb 19 01 58.4
comp=Z,17nm,1.4s
SGDS Sogindy 87.40 314 *e*P **P 19 01 44.3 +0.9**
comp=Z,20nm,2.5s,baz=314
SGDS *e*S **SKSac 19 12 11.7 +3.4**
baz=314
SGDS Sogindy 87.40 314 *e*P **P 19 01 44.2 +0.9**
SGDS *e*S **SKSac 19 12 11.6 +3.4**
SGDS pmax pmax
comp=Z,20nm,2.5s
EPYK Eagle Plains 87.85 22 P **P 19 01 45.9 +0.9**
baz=248
EPYK Eagle Plains 87.85 22 P **P 19 01 45.0 +0.1**
KMRM Mail Ridge 88.06 49 P **P 19 01 46.2 -0.4**
ARSB Arslanbob 88.19 312 P **P 19 01 47.7 +0.4**
ARSB pmax pmax
comp=Z,178nm,1.9s
ARSB Arslanbob 88.19 312 P **P 19 01 47.7 +0.4**
DLBC Dease Lake 88.20 31 P **P 19 01 48.0 +1.2**
NRIK Noril'sk 88.44 341 P **P 19 01 47.2 -0.4**
comp=Z,12nm,1.0s,baz=115,slow=5.1,SNR=16
J01E Myrtle Point 88.44 46 P **P 19 01 49.2 +1.0**
baz=259
K02D Willamette Mer 88.55 47 P **P 19 01 49.1 +0.3**
baz=259
O02D Mt. Diablo Mer 88.75 49 P **P 19 01 50.6 +0.7**
baz=260
M02C Callahan 88.91 48 P **P 19 01 51.6 +1.0**
baz=260
WDC Whiskeytown Da 89.00 49 P **P 19 01 48.1 -2.8**
WDC pmax pmax
comp=Z,23nm,1.6s
WDC Whiskeytown Da 89.00 49 P **P 19 01 48.1 -2.8**
WDC IAmb IAmb 19 02 11.3
comp=Z,23nm,1.6s
YBH Yreka Blue Hor 89.07 48 P **P 19 01 48.6 -2.8**
YBH pmax pmax
comp=Z,29nm,1.8s
YBH Yreka Blue Hor 89.07 48 P **P 19 01 48.6 -2.8**
YBH IAmb IAmb 19 03 51.0
comp=Z,29nm,1.8s
NLWA Neilton Lookou 89.27 42 P **P 19 01 51.2 -0.9**
NLWA IAmb IAmb 19 02 29.4
comp=Z,26nm,1.4s
E03A Lebam 89.32 43 P **P 19 01 52.4 +0.1**
L04D Klamath Falls 89.45 48 P **P 19 01 54.1 +0.9**
baz=260
O03E Paynes Creek 89.51 49 P **P 19 01 55.2 +1.8**
baz=261
ORV Oroville 89.62 50 P **P 19 01 54.6 +0.7**
ORV pmax pmax
comp=Z,6.0nm,1.1s
ORV Oroville 89.62 50 P **P 19 01 54.6 +0.7**
I04A Tendick Farm, 89.64 46 P **P 19 01 54.9 +1.0**
baz=260
INK Inuvik 89.70 21 P **P 19 01 53.0 -0.5**
INK pmax pmax
comp=Z,5.0nm,1.0s
INK Inuvik 89.70 21 P **P 19 01 53.0 -0.5**
J04D Umpqua Nationa 89.77 47 P **P 19 01 55.5 +0.8**
baz=260
PGC Sidney 89.78 41 P **P 19 01 54.9 +0.6**
PGC IAmb IAmb 19 04 37.4
comp=Z,17nm,1.0s
GAR Garm 89.81 309 P **P 19 01 54.5 -0.5**
GAR IAmb IAmb 19 01 57.1
comp=Z,25nm,1.4s
D03D Eldon 89.82 42 P **P 19 01 55.6 +1.1**
baz=260
AFDM Forest Hills D 89.93 51 P **P 19 01 55.8 +0.4**
AFDM IAmb IAmb 19 01 58.1
comp=Z,11nm,1.0s
H04A Detroit Lake 89.95 45 P **P 19 01 55.3 -0.1**
F04A Amboy 90.00 44 P **P 19 01 54.7 -0.8**
F04A IAmb IAmb 19 01 57.6
comp=Z,20nm,1.1s
PAGB Antelope Grade 90.03 54 P **P 19 01 54.5 -1.3**
PAGB IAmb IAmb 19 02 00.7
comp=Z,16nm,1.0s
KBL Kabul 90.16 305 P **P 19 01 55.6 -1.2**
KBL pmax pmax
comp=Z,10.0nm,1.2s
KBL Kabul 90.16 305 P **P 19 01 55.5 -1.2**
CMB Columbia Colle 90.25 52 P **P 19 01 56.1 -0.8**
CMB pmax pmax
comp=Z,9.0nm,1.3s
CMB Columbia Colle 90.25 52 P **P 19 01 56.1 -0.8**
PKM Mcpherson Peak 90.26 55 P **P 19 01 58.0 +0.8**
baz=262
SNCC San Nicolas Is 90.27 57 P **P 19 01 56.5 -0.6**
KK31 Karatay Array 90.30 313 P **P 19 01 56.4 -0.6**
KK31 pmax pmax
comp=Z,24nm,1.7s
KK31 Karatay Array 90.30 313 P **P 19 01 56.4 -0.6**
KK31 IAmb IAmb 19 02 11.1
comp=Z,24nm,1.7s
KKAR Karatay Array 90.30 313 P **P 19 01 55.8 -1.2**
KKAR pmax pmax
comp=Z,24nm,1.7s
KKAR Karatay Array 90.30 313 P **P 19 01 55.8 -1.2**
KKAR IAmb IAmb 19 02 11.1
comp=Z,24nm,1.7s
J05D Fort Rock, OR 90.40 47 P **P 19 01 58.7 +1.0**
baz=261
IUG luzhnay 90.50 312 *i* P **P 19 01 59.4 +1.3**
comp=Z,1.1nm,1.3s,baz=312
IUG *e*S **SKSac 19 12 30.0 +3.2**
baz=312
IUG luzhnay 90.50 312 *i* P **P 19 01 59.3 +1.3**
IUG *e*S **SKSac 19 12 29.9 +3.2**
IUG pmax pmax
comp=Z,1.0nm,1.3s
LON Longmire 90.55 43 P **P 19 01 57.9 -0.2**
LON pmax pmax
comp=Z,15nm,1.8s
LON Longmire 90.55 43 P **P 19 01 57.9 -0.2**
K05A Summer Lake 90.56 47 P **P 19 01 55.3 -3.2**
K05A IAmb IAmb 19 02 01.1
comp=Z,16nm,1.1s
F05D White Salmon 90.65 44 P **P 19 01 59.6 +1.1**
baz=261
CHGR Chuyangaron 90.65 309 P **P 19 01 57.6 -1.3**
MOD Modoc Plateau 90.88 48 P **P 19 01 57.5 -2.3**
VCNR Virginia City 91.00 51 P **P 19 01 59.6 -1.0**
VCNR IAmb IAmb 19 02 03.6
comp=Z,17nm,1.2s
PNTR Pine Nut 91.01 51 P **P 19 02 00.2 -0.4**
SCI2 San Clemente I 91.05 57 P **P 19 02 02.6 +2.0**
baz=263
WAKR Walker 91.06 52 P **P 19 02 01.4 +0.5**
WAKR IAmb IAmb 19 02 13.2
comp=Z,21nm,1.5s
G06A Carlson Farm, 91.12 45 P **P 19 01 57.1 -3.8**
LLLB Lillooet 91.12 39 P **P 19 01 59.3 -1.4**
CIS Catalina Islan 91.21 57 P **P 19 02 02.9 +1.5**
baz=263
MDPB Devils Postpil 91.22 52 P **P 19 02 02.0 +0.3**
MDPB IAmb IAmb 19 02 04.7
comp=Z,8.4nm,1.0s
PAHR Pah Rah Range 91.26 50 P **P 19 02 02.3 +0.6**
PAHR IAmb IAmb 19 02 04.6
comp=Z,18nm,1.1s
YERR Yerington 91.28 51 P **P 19 02 01.4 -0.4**
YERR IAmb IAmb 19 02 04.7
comp=Z,23nm,1.4s
OMMB Old Mammoth Mi 91.28 52 P **P 19 02 01.9 -0.2**
LTY Liberty 91.40 43 P **P 19 02 01.3 -0.7**
LTY IAmb IAmb 19 02 39.5
comp=Z,31nm,1.8s
ISA Isabella, Lake 91.45 54 P **P 19 02 04.5 +1.9**
baz=263
ISA Isabella, Lake 91.45 54 P **P 19 02 01.4 -1.2**
ISA pmax pmax
comp=Z,13nm,1.3s
ISA Isabella, Lake 91.45 54 P **P 19 02 01.4 -1.2**
ISA IAmb IAmb 19 02 05.7
comp=Z,13nm,1.2s
PASC Pasadena Art C 91.50 56 P **P 19 02 02.6 -0.1**
MWC Mount Wilson 91.61 56 P **P 19 02 03.4 -0.1**
MWC pmax pmax
comp=Z,48nm,1.1s
MWC Mount Wilson 91.61 56 P **P 19 02 03.4 -0.1**
EDW2 Edwds Air Fo 91.74 55 P **P 19 02 06.1 +2.1**
baz=263
I07A Izee 91.76 46 P **P 19 02 03.4 -0.4**
I07A IAmb IAmb 19 02 06.3
comp=Z,12nm,1.2s
RYN Ryan 91.78 51 P **P 19 02 03.7 -0.5**
TIN Tinemaha, Big 91.82 53 P **P 19 02 06.7 +2.3**
baz=263
E07A Sunnyside 91.85 43 P **P 19 02 04.2 +0.1**
E07A IAmb IAmb 19 02 06.3
comp=Z,20nm,1.3s
CWC Cottonwood Cre 91.86 54 P **P 19 02 06.7 +2.1**
baz=263
BVAR Borovoye Array 91.91 323 P **P 19 02 03.6 -0.6**
comp=Z,4.8nm,0.8s,baz=104,slow=5.0,SNR=33
NVAR Mina Array Bea 91.93 52 P **P 19 02 06.9 +2.0**
comp=Z,16nm,0.9s,baz=252,slow=6.6,SNR=72
NVAR LR LR 19 38 27.8
comp=Z,222nm,19.8s,baz=272,slow=32
BFSC Mount Baldy Ra 91.94 56 P **P 19 02 06.9 +1.9**
baz=263
BRVK Borovoye 91.98 323 *ce*P **P 19 02 04.5 0.0**
BRVK pmax pmax
comp=Z,11nm,1.3s
BRVK Borovoye 91.98 323 P **P 19 02 03.9 -0.6**
BRVK IAmb IAmb 19 02 05.3
comp=Z,9.0nm,1.1s
NV11 Mina Array Sit 92.05 52 P **P 19 02 06.5 +1.1**
HAWA Hanford 92.05 44 P **P 19 02 05.7 +0.7**
HAWA IAmb IAmb 19 02 07.2
comp=Z,12nm,1.1s
LRMC Laurel Mtn Rad 92.07 55 P **P 19 02 07.6 +2.0**
baz=263
KVN Kaiserville 92.16 51 P **P 19 02 06.8 +0.8**
KVN pmax pmax
comp=Z,20nm,1.1s
KVN Kaiserville 92.16 51 P **P 19 02 06.8 +0.8**
WVOR Wild Horse Val 92.17 48 P **P 19 02 05.6 -0.2**
WVOR pmax pmax
comp=Z,10.0nm,0.6s
WVOR Wild Horse Val 92.17 48 P **P 19 02 05.6 -0.2**
WVOR IAmb IAmb 19 03 16.4
comp=Z,9.7nm,0.6s
109C Camp Elliot, M 92.24 57 P **P 19 02 05.4 -0.8**
MURC Murrieta 92.25 57 P **P 19 02 08.6 +2.3**
baz=263
MPMC Manual Prospec 92.29 54 P **P 19 02 08.9 +2.3**
baz=263
G08A Pilot Rock 92.30 45 P **P 19 02 07.0 +0.7**
G08A IAmb IAmb 19 02 08.5
comp=Z,8.8nm,1.0s
SYO Syowa Base 92.36 199 ⇑*e*P **P 19 02 07.0 +1.0**
PNT Penticton 92.38 41 P P 19 02 00.2 -6.3
PNT pmax pmax
comp=Z,20nm,0.9s
E08A Dider Farm, El 92.39 44 P **P 19 02 07.4 +0.9**
E08A IAmb IAmb 19 02 08.8
comp=Z,14nm,1.1s
J08A Circle Bar Ran 92.41 47 P **P 19 02 06.8 -0.1**
J08A IAmb IAmb 19 02 09.2
comp=Z,12nm,1.2s
B08A Colville Reser 92.44 42 P **P 19 02 06.0 -0.8**
B08A IAmb IAmb 19 02 08.5
comp=Z,14nm,1.4s
GRAC Grapevine Rang 92.50 53 P **P 19 02 09.7 +2.3**
baz=263
D08A Wollman Farm, 92.55 43 P **P 19 02 05.8 -1.5**
D08A IAmb IAmb 19 02 09.4
comp=Z,8.4nm,1.0s
BAR Barrett 92.58 58 P **P 19 02 07.3 -0.5**
GSC Goldstone, Bar 92.76 55 P **P 19 02 09.1 +0.4**
GSC pmax pmax
comp=Z,10.0nm,1.0s
GSC Goldstone, Bar 92.76 55 P **P 19 02 09.1 +0.4**
GSC IAmb IAmb 19 02 11.3
comp=Z,10nm,1.0s
MONP2 Monument Peak 92.81 57 P **P 19 02 11.1 +2.0**
baz=264
FURC Furnace Creek, 92.84 54 P **P 19 02 09.6 +0.8**
baz=264,SNR=14
PFO Pinyon Flats O 92.86 57 P **P 19 02 11.0 +1.8**
baz=264
PFO Pinyon Flats O 92.86 57 P **P 19 02 08.0 -1.2**
PFO pmax pmax
comp=Z,10.0nm,1.0s
PFO Pinyon Flats O 92.86 57 P **P 19 02 08.0 -1.2**
PFO IAmb IAmb 19 02 12.4
comp=Z,9.8nm,0.9s
XPFO Pion Flat 92.86 57 P **P 19 02 08.0 -1.3**
XPFO IAmb IAmb 19 02 12.4
comp=Z,9.8nm,0.9s
TPFO Pinon Flats 92.86 57 P **P 19 02 10.9 +1.6**
baz=264
E09A Wood Farm, Sta 93.02 44 P **P 19 02 08.1 -1.3**
E09A IAmb IAmb 19 02 11.5
comp=Z,13nm,1.0s
IKP In-Ko-Pah, Jac 93.05 58 P **P 19 02 11.7 +1.7**
baz=264
C09A Chrisman Ranch 93.08 42 P **P 19 02 08.7 -1.1**
C09A IAmb IAmb 19 02 11.4
comp=Z,17nm,1.2s
HEC Hector,Ludlow 93.09 55 P **P 19 02 11.6 +1.4**
baz=264,SNR=12
SHOC Shoshone, Teco 93.25 54 P **P 19 02 12.7 +1.8**
baz=264
BELC Belle Mtn. Jos 93.28 56 P **P 19 02 13.0 +1.8**
baz=264,SNR=15
C36M Paulatuk 93.28 21 P **P 19 02 09.3 -0.8**
C36M IAmb IAmb 19 04 10.3
comp=Z,24nm,1.6s
TPNV Topopah Spring 93.38 53 P **P 19 02 13.3 +1.7**
baz=264,SNR=11
TPNV Topopah Spring 93.38 53 P **P 19 02 11.7 +0.1**
TPNV pmax pmax
comp=Z,23nm,1.2s
TPNV Topopah Spring 93.38 53 P **P 19 02 11.7 +0.1**
BMO Blue Mountains 93.42 45 P **P 19 02 10.8 -0.7**
BMO pmax pmax
comp=Z,14nm,1.5s
BMO Blue Mountains 93.42 45 P **P 19 02 10.8 -0.7**
BMO IAmb IAmb 19 02 13.5
comp=Z,14nm,1.4s
TUQ Turquoise Moun 93.49 55 P **P 19 02 13.9 +1.8**
baz=264,SNR=10.0
F10A Beach Ranch, E 93.59 44 P **P 19 02 11.1 -1.2**
F10A IAmb IAmb 19 02 14.0
comp=Z,10nm,1.0s
GMRC Granite Mounta 93.64 56 P **P 19 02 14.7 +1.9**
baz=264,SNR=13
BC3 Big Chuckawall 93.70 57 P **P 19 02 15.0 +2.0**
baz=264
NEW Newport 93.90 42 P **P 19 02 14.5 +1.0**
baz=264
NEW Newport 93.90 42 P **P 19 02 12.8 -0.8**
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 93.90 42 P **P 19 02 12.8 -0.8**
NEW IAmb IAmb 19 02 15.2
comp=Z,8.6nm,0.9s
IRM Iron Mountain 94.00 56 P **P 19 02 16.5 +2.2**
baz=264
R11A Troy Canyon, C 94.05 52 P **P 19 02 16.3 +1.6**
baz=264,SNR=23
R11A Troy Canyon, C 94.05 52 P **P 19 02 14.5 -0.1**
R11A IAmb IAmb 19 02 17.7
comp=Z,16nm,1.1s
GLA Glamis 94.16 57 P **P 19 02 14.8 -0.3**
GLA pmax pmax
comp=Z,7.0nm,0.8s
GLA Glamis 94.16 57 P **P 19 02 14.8 -0.3**
GLA IAmb IAmb 19 05 12.8
comp=Z,6.9nm,0.8s
SHPR Sheep Range 94.21 54 P **P 19 02 16.4 +0.9**
SHPR IAmb IAmb 19 02 18.9
comp=Z,14nm,1.0s
MFID Camas Ranch 94.33 47 P **P 19 02 15.6 -0.2**
Y12C Blythe 94.48 57 P **P 19 02 18.2 +1.8**
baz=265
Y12C Blythe 94.48 57 P **P 19 02 16.3 -0.1**
Y12C IAmb IAmb 19 02 20.1
comp=Z,8.4nm,1.0s
NEE2 Needles Airpor 94.49 56 P **P 19 02 18.4 +1.9**
baz=265
ELK Elko 94.53 50 P **P 19 02 16.5 -0.4**
ELK pmax pmax
comp=Z,7.0nm,1.1s
ELK Elko 94.53 50 P **P 19 02 16.4 -0.4**
PDMCI Parker Dam,Lak 94.84 56 P **P 19 02 20.4 +2.2**
baz=265
W13A Hualapai Mount 95.12 55 P **P 19 02 20.0 +0.3**
W13A IAmb IAmb 19 02 23.1
comp=Z,8.1nm,0.9s
PSUT Pine Spring 95.42 52 P **P 19 02 20.5 -0.5**
CCUT Cedar City 95.73 53 P **P 19 02 21.7 -0.8**
LCMT Little Creek M 95.78 54 P **P 19 02 21.4 -1.2**
WALA Waterton Lakes 96.08 41 P **P 19 02 24.2 +0.6**
WALA IAmb IAmb 19 02 26.0
comp=Z,10nm,1.0s
KNB Kanab 96.12 54 P **P 19 02 24.9 +0.7**
KNB pmax pmax
comp=Z,14nm,1.1s
KNB Kanab 96.12 54 P **P 19 02 24.9 +0.7**
YKA Yellowknife Ar 96.37 28 P **P 19 02 25.1 +0.7**
comp=Z,4.5nm,0.9s,baz=261,slow=4.7,SNR=32
U15A North Rim 96.51 54 P **P 19 02 24.9 -1.2**
U15A IAmb IAmb 19 02 29.7
comp=Z,9.7nm,1.0s
MCMT McKenzie Canyo 96.57 46 P **P 19 02 27.0 +0.9**
MTPU Mount Pierson 96.69 53 P **P 19 02 28.5 +1.5**
WUAZ Wupatki 97.20 55 P Pdif 19 02 31.0 +1.8
baz=267
NVL N'lazarevskaya 98.67 192 *e*P P 19 02 28.5 -6.2
NVL pmax pmax
comp=Z,4.0nm,0.5s
NVL MLR MLR
comp=Z,1µm,16.0s
EGMT Eagleton 98.81 43 P Pdif 19 02 36.5 +0.6
baz=270
RDMU Red Mountain 98.83 50 P Pdif 19 02 36.5 +0.1
BW06 Boulder Array 98.88 48 P Pdif 19 02 37.2 +0.6
baz=269
BW06 Boulder Array 98.88 48 P **P 19 02 35.3 -1.2**
BW06 IAmb IAmb 19 02 37.9
comp=Z,4.0nm,1.1s
PD31 Pinedale Array 98.88 48 P **P 19 02 35.3 -1.2**
PDAR Pinedale Array 98.88 48 P Pdif 19 02 37.1 +0.6
comp=Z,1.8nm,0.8s,baz=253,slow=1.5,SNR=12
PDAR LR LR 19 43 43.7
comp=Z,305nm,19.2s,baz=292,slow=33
O20A White River Ci 99.83 51 P **Pdif 19 02 41.7 +0.9**
baz=269
S22A 4UR Ranch, Cre 100.92 53 P **Pdif 19 02 47.5 +1.6**
baz=270
LAO LASA Array 101.23 44 P **Pdif 19 02 47.6 +0.9**
baz=272
N23A Red Feather La 101.58 50 P **Pdif 19 02 49.6 +0.9**
baz=271
ARCES ARCESS Array B 109.30 343 PKiKP **PKiKP 19 07 26.8 +1.3**
comp=Z,2.2nm,0.9s,baz=72,slow=2.9,SNR=5.1
KIV Kislovodsk 110.43 314 ⇑*i*PKiKP **PKiKP 19 07 27.4 -1.0**
KIV *e* 19 08 07.6
KIV *e*PPP PPP 19 10 23.2
KIV *e*SS SS 19 23 48.5 +19
KIV pmax pmax
comp=Z,2.0nm,0.9s
OBN Obninsk 111.38 327 *di*PKiKP **PKiKP 19 07 29.4 -0.3**
OBN *e* 19 08 12.6
OBN *e*PPP PPP 19 10 32.5
OBN pmax pmax
comp=Z,12nm,0.5s
OBN MLR MLR
comp=Z,205nm,18.0s
DIKM Dikmen 116.27 313 ⇑P PKiKP 19 07 56.1 +17
AKASG Malin Array Be 117.16 324 PKP **PKiKP 19 07 41.7 +0.8**
comp=Z,3.9nm,0.6s,baz=58,slow=2.2,SNR=15
AKBB Malin Array Si 117.16 324 *c i*PKiKP **PKiKP 19 07 41.3 +0.4**
BR131 Keskin Array S 117.96 312 *i*PKiKP **PKPdf 19 07 41.8 -1.2**
BRTR Keskin Array B 117.96 312 PKP **PKiKP 19 07 43.6 +0.6**
comp=Z,1.9nm,1.0s,baz=90,slow=1.6,SNR=10.0
BRTR PP **PP 19 09 00.8 +3.3**
comp=Z,1.2nm,1.0s,baz=106,slow=5.1,SNR=4.3
BRTR PKKPbc **PKKPab 19 18 06.1 0.0**
comp=Z,0.4nm,0.6s,baz=242,slow=2.7,SNR=4.1
SORM Soroca 118.73 322 ⇑P **PKiKP 19 07 44.6 +0.5**
SORM Soroca 118.73 322 ⇑PKiKP **PKiKP 19 07 44.6 +0.5**
HFS Hagfors 119.19 339 PKP **PKiKP 19 07 44.8 +0.2**
comp=Z,1.5nm,0.6s,baz=142,slow=5.1,SNR=4.5
NB2 NORSAR Subarra 119.40 341 PKPdf **PKiKP 19 07 45.6 +0.6**
comp=Z,1.4nm,0.7s,baz=45,slow=1.9
NOA NORSAR Array B 119.40 341 PKP **PKiKP 19 07 45.7 +0.6**
comp=Z,1.9nm,0.7s,baz=46,slow=1.9,SNR=10.0
CFR Carcaliu 120.04 319 ⇑P **PKiKP 19 07 47.7 +1.0**
CFR Carcaliu 120.04 319 ⇑PKiKP **PKiKP 19 07 47.7 +1.0**
HARR Harsova 120.37 318 ⇓P **PKiKP 19 07 48.8 +1.4**
HARR Harsova 120.37 318 ⇓PKiKP **PKiKP 19 07 48.8 +1.4**
BIZ Bicaz 120.62 321 ⇑P **PKiKP 19 07 49.4 +1.5**
D54A Lac Fusel, La 120.70 38 P **PKiKP 19 07 47.9 0.0**
baz=296
BURAR Bucovina Array 120.86 322 ⇑P **PKiKP 19 07 50.1 +1.7**
BURAR Bucovina Array 120.86 322 ⇑PKiKP **PKiKP 19 07 50.1 +1.7**
P54A Burton 120.94 48 P **PKPdf 19 07 48.1 -0.5**
baz=288
MLR Muntele Rosu 121.33 320 PKP **PKiKP 19 07 50.4 +1.0**
comp=Z,24nm,1.4s,baz=282,slow=3.3,SNR=5.8
MLR Muntele Rosu 121.33 320 ⇓P **PKiKP 19 07 50.3 +0.8**
MLR Muntele Rosu 121.33 320 ⇓PKiKP **PKiKP 19 07 50.3 +0.8**
MLR Muntele Rosu 121.33 320 PKPdf **PKiKP 19 07 49.7 +0.3**

H55A	Tweed	121.45	41	P		PKPdf	19 07 48.7	-0.7
	baz=294							
D55A	Sainte-Anne-du	121.48	38	P		PKiKP	19 07 49.4	-0.1
	baz=297							
DOPR	Dopca	121.48	321	⇓P		PKiKP	19 07 51.3	+1.8
J55A	Hilton	121.54	43	P		PKiKP	19 07 49.9	+0.2
	baz=293							
M55A	Ridgway	121.55	45	P		PKiKP	19 07 50.0	+0.1
	baz=291							
R55A	Marlinton	121.62	49	P		PKPdf	19 07 49.8	-0.3
	baz=288							
VOIR		121.93	320	⇑P		PKiKP	19 07 53.3	+2.7
VOIR		121.93	320	⇑PKiKP		PKiKP	19 07 53.3	+2.7
M56A	Emporium	121.95	45	P		PKiKP	19 07 51.2	+0.5
	baz=291							
KOLS	Kolonicke sedl	121.97	325	*e*PKiKP		PKiKP	19 07 52.1	+1.6
KOLS	Kolonicke sedl	121.97	325	*e*PKP		PKiKP	19 07 52.0	+1.6
MTUR	Matau	122.01	320	⇓P		PKiKP	19 07 53.6	+2.9
MTUR	Matau	122.01	320	⇓PKiKP		PKiKP	19 07 53.6	+2.9
L56A	Greenwood	122.15	44	P		PKPdf	19 07 50.9	0.0
	baz=292							
P56A	Dayton Farm, R	122.18	47	P		PKiKP	19 07 51.3	+0.2
	baz=290							
J56A	Wolcott	122.18	42	P		PKiKP	19 07 51.3	+0.3
	baz=294							
TRPA	Tarpa	122.22	324	⇓P		PKiKP	19 07 52.2	+1.3
ARR	Arges	122.22	320	⇓P		PKiKP	19 07 53.3	+2.2
HUMR	Humele	122.36	319	⇓P		PKiKP	19 07 52.2	+0.9
D57A	Chemin Vers le	122.44	37	P		PKiKP	19 07 51.6	+0.2
	baz=298							
SSPA	Standing Stone	122.47	46	P		PKiKP	19 07 51.7	0.0
	baz=291							
SSPA	Standing Stone	122.47	46			PKPdf	19 07 51.4	0.0
ZIMR		122.47	318	⇑P		PKiKP	19 07 53.7	+2.2
ZIMR		122.47	318	⇑PKiKP		PKiKP	19 07 53.7	+2.2
N57A	Milroy	122.66	45	P		PKiKP	19 07 52.4	+0.4
	baz=291							
T57A	Hurt	122.67	50	P		PKiKP	19 07 52.3	+0.2
	baz=288							
OJC	Ojcow	122.67	327	PKiKP		PKPdf	19 07 51.6	0.0
OJC	Ojcow	122.67	327			PKPdf	19 07 51.6	0.0
J57A	Williamstown	122.70	42	P		PKiKP	19 07 52.4	+0.3
	baz=294							
I57A	Carthage	122.70	41	P		PKiKP	19 07 52.4	+0.3
	baz=295							
M57A	Sunshine Farm,	122.75	45	P		PKiKP	19 07 52.1	-0.1
	baz=292							
DRGR		122.76	323	⇑P		PKiKP	19 07 53.0	+0.8
DRGR		122.76	323	⇑PKiKP		PKiKP	19 07 53.0	+0.8
PLVB	Pleven	123.08	318	⇓P		PKiKP	19 07 54.3	+1.5
LONY	Lake Ozonia	123.11	40	P		PKiKP	19 07 53.0	+0.2
	baz=296							
E58A	La Victoria	123.12	38	P		PKiKP	19 07 52.7	-0.1
	baz=298							
G58A	Ormstown	123.21	39	P		PKiKP	19 07 53.1	+0.1
	baz=297							
Q58A	Fox Den Farm,	123.21	47	P		PKiKP	19 07 53.4	+0.2
	baz=290							
T58A	Grand View Acr	123.23	50	P		PKiKP	19 07 53.3	0.0
	baz=288							
I58A	Old Forge	123.26	41	P		PKiKP	19 07 53.1	-0.1
	baz=295							
O58A	Lewisberry	123.34	46	P		PKiKP	19 07 53.7	+0.3
	baz=292							
GZR	Gura Zlata	123.38	321	⇓P		PKiKP	19 07 54.5	+1.1
GZR	Gura Zlata	123.38	321	⇓PKiKP		PKiKP	19 07 54.5	+1.1
U58A	Oxford	123.39	51	P		PKiKP	19 07 53.7	+0.1
	baz=288							
R58B	Mineral	123.40	49	P		PKiKP	19 07 53.5	-0.1
	baz=290							
LANS	Liptovska Anna	123.43	326	*e*PKiKP		PKiKP	19 07 55.8	+2.4
LANS	Liptovska Anna	123.43	326	*e*PKP		PKiKP	19 07 55.8	+2.4
H58A	Gabriels	123.46	40	P		PKiKP	19 07 53.4	-0.1
	baz=297							
J59A	Piesco	123.67	41	P		PKiKP	19 07 54.4	+0.4
	baz=296							
K59A	Cooperstown	123.73	42	P		PKPdf	19 07 53.9	0.0
	baz=295							
HERR	Herculane	123.84	321	⇓P		PKiKP	19 07 54.9	+0.7
PSZ	Piszkesteto	123.85	325	⇓P		PKiKP	19 07 55.5	+1.2
PSZ	Piszkesteto	123.85	325	⇓PKiKP		PKiKP	19 07 55.5	+1.2
PSZ	Piszkesteto	123.85	325	PKPdf		PKPdf	19 07 52.8	-1.2
T59A	Double "B" Far	123.97	50	P		PKiKP	19 07 54.9	+0.2
	baz=289							
BZS	Buzias	123.99	322	⇑P		PKiKP	19 07 55.9	+1.4
BZS	Buzias	123.99	322	⇑PKiKP		PKiKP	19 07 55.9	+1.4
MORC	Moravsky Berou	124.12	328	⇑P		PKiKP	19 07 55.6	+0.9
MORC	Moravsky Berou	124.12	328	*e*PKP		PKiKP	19 07 55.6	+0.9
MORC	Moravsky Berou	124.12	328	⇑PKiKP		PKiKP	19 07 55.6	+0.9
MORC	Moravsky Berou	124.12	328	PKPdf		PKPdf	19 07 53.0	-1.4
VYHS	Vyhne	124.14	326	*e*PKiKP		PKiKP	19 07 55.9	+1.2
VYHS	Vyhne	124.14	326	*e*PKP		PKiKP	19 07 55.9	+1.2
I60A	Shoreham	124.29	41	P		PKiKP	19 07 55.9	+0.8
	baz=297							
VTS	Vitosha	124.32	318	⇑P		PKiKP	19 07 56.5	+1.0
VTS	Vitosha	124.32	318	⇑PKiKP		PKiKP	19 07 56.5	+1.0
VTS	Vitosha	124.32	318	PKPdf		PKPdf	19 07 54.2	-1.0
MDVR	Moldovita	124.33	321	⇓P		PKPdf	19 07 54.8	-0.2
OSTC	Ostas	124.35	329	*e*PKPDF		PKiKP	19 07 56.7	+1.6
JAVC	Velka Javorina	124.58	327	*e*PKP		PKiKP	19 07 57.0	+1.3
F61A	St Evariste	124.70	37	P		PKiKP	19 07 56.6	+0.7
	baz=300							
E61A	Lac Etchemin	124.76	37	P		PKiKP	19 07 56.4	+0.3
	baz=301							
VRAC	Vranov	124.90	328	PKP		PKiKP	19 07 57.4	+1.1
	comp=Z,2.3nm,0.4s,baz=103,slow=2.0,SNR=7.5							
VRAC	Vranov	124.90	328	*e*PKP		PKiKP	19 07 57.3	+1.1
J61A	Chester	124.99	41	P		PKPdf	19 07 56.4	+0.1
	baz=297							
MODS	Modra-Piesok	125.07	326	*e*PKiKP		PKiKP	19 07 57.1	+0.5
MODS	Modra-Piesok	125.07	326	*e*PKP		PKiKP	19 07 57.0	+0.5
SANT	Santorini	125.13	310	⇓P		PKiKP	19 07 57.1	0.0
SANT	Santorini	125.13	310			PKPdf	19 07 55.9	-0.9
R61A	Willards	125.14	47	P		PKPdf	19 07 56.5	-0.2
	baz=292							
KRUC	Moravsky	125.15	328	*e*PKP		PKiKP	19 07 57.5	+0.8
E62A	Clayton Lake	125.23	36	P		PKiKP	19 07 56.9	-0.1
	baz=302							
D62A	Allapoint, All	125.26	35	P		PKPdf	19 07 56.2	-0.4
	baz=303							
BRG	Berggiesshubel	125.29	331	*e*PKiKP		PKiKP	19 07 57.9	+1.0
BRG				*e*			19 08 09.9	
BRG				pmax	pmax			
	comp=Z,15nm,1.2s							
BRG				pmax	pmax			
	comp=Z,14nm,1.4s							
BRG				MLR	MLR			
	comp=N,153nm,16.2s							
BRG				MLR	MLR			
	comp=Z,272nm,20.4s							
BRG	Berggiesshubel	125.29	331	*e*PKPdf		PKiKP	19 07 58.0	+1.1
	baz=48,slow=2.0							
CLL	Collm	125.46	331	*i* PKPdf		PKiKP	19 07 59.2	+2.0
	comp=Z,13nm,1.1s							
CLL				*i*			19 08 10.7	
CLL	Collm	125.46	331	*i* PKiKP		PKiKP	19 07 59.2	+2.0
CLL				*i*			19 08 10.7	
CLL				pmax	pmax			
	comp=Z,13nm,1.1s							
TREC	Trest	125.49	328	*e*PKPDF		PKiKP	19 07 58.2	+0.8
TREC	Trest	125.49	328	*e*PKiKP		PKiKP	19 07 58.2	+0.8
FBE	Freiberg	125.55	331	*e*PKPdf		PKiKP	19 07 58.7	+1.2
	baz=48,slow=2.0							
PRU	Pruhonice	125.55	329	*e*PKPDF		PKiKP	19 07 58.8	+1.3
PRU	Pruhonice	125.55	329	*e*PKiKP		PKiKP	19 07 58.8	+1.3
DIVS	Divibare	125.74	321	PKPdf		PKPdf	19 07 57.9	+0.1
IDI	Anoyia	125.92	309	⇑P		PKPdf	19 07 57.7	-0.6
G63A	Kingsbury	125.97	38	P		PKiKP	19 07 58.8	+0.3
	baz=301							
NRDL	Niedersach Rie	125.98	334	*e*PKPdf		PKiKP	19 07 59.4	+1.3
	baz=48,slow=2.0							
E63A	Oxbow	125.98	36	P		PKiKP	19 07 58.4	0.0
	baz=303							
CONA	Conrad Observa	126.10	327	*i* pPKPdf		PKiKP	19 07 59.6	+0.8
	comp=Z,11nm,1.6s,SNR=6.8							
CLZ	Clausthal	126.32	333	*e*PKPdf		PKiKP	19 08 00.2	+1.2
	baz=48,slow=2.0							
MOX	Moxa	126.56	331	*e*PKPdf		PKiKP	19 08 00.2	+0.7
	baz=48,slow=2.0							
KHC	Kasperske Hory	126.58	329	*e*PKPDF		PKiKP	19 08 00.3	+0.7
KHC				*e*pPKP		sPKPdf	19 08 12.5	-0.8
KHC	Kasperske Hory	126.58	329	*c i* PKiKP		PKiKP	19 08 00.4	+0.8
KHC				pmax	pmax			
	comp=Z,34nm,1.3s							
KHC	Kasperske Hory	126.58	329	PKPdf		PKiKP	19 07 59.4	-0.2
GEC2	GERESS Array S	126.69	329	*e*PKPdf		PKiKP	19 08 00.6	+0.6
	baz=48,slow=2.0							
GERES	GERESS Array B	126.69	329	PKP		PKiKP	19 08 00.9	+1.0
	comp=Z,6.4nm,0.8s,baz=48,slow=2.0,SNR=47							
PDG	Podgorica	127.02	319	⇓P		PKiKP	19 08 01.3	+0.7
PDG	Podgorica	127.02	319	PKPdf		PKPdf	19 07 59.6	-0.5
SOKA	Soboth	127.29	326	*i* pPKPdf		PKiKP	19 08 01.5	+0.4
	comp=Z,8.1nm,1.1s,SNR=7.4							
OBKA	Obir	127.66	326	*i* PKiKP		PKPdf	19 08 01.4	0.0
	comp=Z,3.5nm,1.1s							
BOJS	Bojanci	127.85	325	*i* PKPdf		PKiKP	19 08 03.0	+0.9
RJOB	Jochberg	127.86	328	*e*PKPdf		PKiKP	19 08 02.3	+0.1
	baz=48,slow=2.0							
VISS	Visnje	127.91	325	*i* PKPdf		PKiKP	19 08 02.9	+0.5
VISS				*i*			19 08 14.3	
MYKA	Terra Mystica	128.09	327	*i* PKiKP		PKiKP	19 08 02.9	+0.1
	comp=Z,2.1nm,0.6s							
PRED	Cave del Predi	128.24	326			PKPdf	19 08 01.7	-0.7
EKA	Eskdalemuir Ar	128.46	344	PKP		PKiKP	19 08 03.6	+0.5
	comp=Z,2.2nm,0.9s,baz=45,slow=4.8,SNR=4.7							
ZOU	Zoufplan	128.50	327			PKPdf	19 08 02.9	-0.2
ABTA	Abfaltersbach	128.63	327	*i* PKiKP		PKiKP	19 08 03.6	-0.2
	comp=Z,12nm,1.1s,SNR=5.8							
WATA	Walderalm	128.75	328	*i* pPKPdf		PKiKP	19 08 04.8	+0.7
	comp=Z,15nm,1.5s							
WTTA	Wattenberg	128.77	328	*i* pPKPdf		PKiKP	19 08 05.2	+1.0
	comp=Z,18nm,1.1s,SNR=7.5							
STAL	STALIGIAL	128.82	327			PKPdf	19 08 02.7	-0.8
CIMO	Cimolais	128.94	327	PKPdf		PKPdf	19 08 03.9	+0.1
MOTA	Moosalm	128.99	329	*i* pPKPdf		PKiKP	19 08 05.1	+0.5
	comp=Z,10.0nm,0.8s,SNR=7.9							
SQTA	Sankt Quirin	129.02	328	*i* pPKPdf		PKiKP	19 08 05.4	+0.7
	comp=Z,13nm,1.1s							
RETA	Reutte	129.07	329	*i* pPKPdf		PKiKP	19 08 05.6	+0.8
	comp=Z,6.3nm,1.0s							
MEM	Membach	129.11	335	x	x		19 08 05.4	
UBR	Ueberruh	129.28	330	*e*PKPdf		PKiKP	19 08 05.1	0.0
	baz=48,slow=2.0							
FETA	Feichten	129.40	329	*i* pPKPdf		PKiKP	19 08 06.1	+0.6
	comp=Z,12nm,1.1s,SNR=6.7							
BCLA	Clavier	129.55	335	x	x		19 08 06.8	
DAVA	Damuels	129.66	329	*i* PKiKP		PKiKP	19 08 05.9	-0.1
	comp=Z,9.6nm,1.3s							
WLF	Walferdange	129.75	334	x		PKPdf	19 08 07.5	+2.4
WLF	Walferdange	129.75	334	PKiKP		PKiKP	19 08 06.0	+0.1
WLF	Walferdange	129.75	334	PKPdf		PKiKP	19 08 06.0	+0.1
WLF	Walferdange	129.75	334	*e*PKPdf		PKPdf	19 08 07.5	+2.4
	baz=48,slow=2.0							
BMRD	Maredsous	129.86	335	x		PKPdf	19 08 07.4	+2.1
FUORN	Ofenpass-Fuorn	129.90	328	PKPdf		PKiKP	19 08 06.5	-0.1
DAVOX	Davos/Dischmat	129.99	329	PKPdf		PKiKP	19 08 07.4	+0.6
	comp=Z,3.5nm,0.6s,baz=235,slow=2.8,SNR=9.5							
DOU	Dourbes	130.09	335	PKPdf		PKPdf	19 08 04.1	-1.6
DOU				x		PKPdf	19 08 07.4	+1.7
TIP	Timpagrande	130.26	317	⇓P		PKiKP	19 08 07.8	+0.5
TUE	Stuetta	130.47	329	PKPdf		PKPdf	19 08 06.9	0.0
INTR	Introdacqua	130.63	322	PKPdf		PKiKP	19 08 07.6	-0.4
BNI	Bardonecchia	132.81	329	PKiKP		PKPdf	19 08 11.6	+0.4
BNI	Bardonecchia	132.81	329	PKPdf		PKPdf	19 08 11.6	+0.4
CPUP	Villa Florida	134.78	138	PKP		PKiKP	19 08 16.2	-0.5
	comp=Z,2.2nm,0.7s,baz=252,slow=3.9,SNR=3.6							
CPUP	Villa Florida	134.78	138	PKiKP		PKPdf	19 08 14.2	-1.1
CPUP	Villa Florida	134.78	138			PKPdf	19 08 14.2	-1.1
VSL	Villasalto	134.89	321	PKPdf		PKPdf	19 08 15.1	-0.1
SDV	Santo Domingo	135.18	84	PKPdf		PKPdf	19 08 16.5	-0.1
PGAV	Gavieira, Arco	141.84	339	*e*LR	LR		19 50 25.9	
	comp=Z,333nm,20.0s							
ESDC	Sonseca Array	142.03	333	PKP		PKiKP	19 08 30.1	-1.2
	comp=Z,1.4nm,1.0s,baz=2.7,slow=3.3,SNR=6.6							
ESDC				PP		PP	19 11 37.7	+4.7
	comp=Z,1.3nm,1.1s,baz=28,slow=5.3,SNR=4.3							
MVO	Moncorvo	142.07	337	*e*PKP		PKiKP	19 08 30.7	-0.6
MVO	Moncorvo	142.07	337	*e*LR	LR		19 50 00.2	
	comp=Z,339nm,18.0s							
MTE	Manteigas	142.93	337	*e*PKP		PKiKP	19 08 32.1	-1.0
MTE	Manteigas	142.93	337	*e*LR	LR		19 50 22.9	
	comp=Z,256nm,18.0s							
PMRV	Marv??o	143.71	336	*e*PKP		PKPdf	19 08 32.9	+1.7
PMTG	Montargil	144.34	337	*e*PKP		PKiKP	19 08 34.4	-1.5
PTGA	Pitinga	144.72	101	PKPdf		PKPab	19 08 31.4	-1.1
EVO	Evora	144.72	336	*e*PKP		PKPdf	19 08 33.3	+0.3
PBEJ	Beja	145.09	335	*e*PKP		PKiKP	19 08 36.7	-0.8
PNCL	Nicolau / Gran	145.29	336	*e*PKP		PKPdf	19 08 35.4	+1.4
MESJ	Messejana	145.40	336	*e*PKP		PKPbc	19 08 32.8	-1.3
PCVE	Castro Verde	145.50	335	*e*PKP		PKiKP	19 08 37.3	-1.1
PVAQ	Vaqueiros	145.56	335	*e*LR	LR		19 48 31.9	
	comp=Z,367nm,20.0s							
PFVI	Vila Bisbo	146.25	336	*e*PKP		PKiKP	19 08 38.8	-1.1
CZD	Col de Zad	147.78	327	P		PKPab	19 08 45.0	+1.0
	SNR=7.6							
ZHG	ZHG	148.30	329	P		PKPab	19 08 46.0	+0.2
	SNR=6.3							
BDFB	Brasilia	148.39	135	PKP		PKPdf	19 08 41.2	+1.3
	comp=Z,15nm,0.9s,baz=177,slow=3.9,SNR=8.7							
BDFB				PKPbc		PKiKP	19 08 44.9	-0.1
	comp=Z,15nm,0.9s,baz=164,slow=4.2,SNR=7.2							
BDFB	Brasilia	148.39	135	PKiKP		PKPdf	19 08 39.4	-0.6
BDFB	Brasilia	148.39	135			PKPdf	19 08 39.4	-0.6
TZRR	Tazzarine	149.76	325	P		PKiKP	19 08 49.0	+1.5
	SNR=7.4							
ZGR	Zagora	150.28	324	P		PKiKP	19 08 50.0	+1.4
	SNR=12							
OUZM	OUZ	150.34	326	P		PKiKP	19 08 50.1	+1.4
	SNR=7.0							
TOA0	Torodi Ar. Sit	152.59	285			PKPbc	19 08 53.0	-0.4
TORD	Torodi Ar. Bea	152.59	285	PKPbc		PKiKP	19 08 53.7	+0.1
	comp=Z,5.6nm,0.8s,baz=8.3,slow=1.9,SNR=4.3							

IDC ***10*** *19:01:30.3±0.9, 9.°95N×126.°15E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.6/53, mbtmp3.8/9, Error ellipse: s-maj=84.7km s-min=17.4km az=73.0*

NEIC ***10*** *19:01:31.8±0.9, 9.°9N±0.°1×126.°1E±0.°2, h10km±1km, mb4.6/11, Error ellipse: s-maj=31.8km s-min=20.8km az=257.0*

MAN ***10*** *19:01:36.0, 9.°67N×125.°74E, h13km, MS3.7*

ISC 10 19:01:32.2±1.3, 9.°84N±0.°03×125.°95E±0.°04, h13km±8km, n40, σ1ş54/53, mb4.2/14, 5C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.45	263	*i*	P		Pb	19 01 42.4	+0.3
SCPH				*i*	S		Sg	19 01 48.1	+0.8
MSLP	Maasin	1.11	286	*e*	P		Pg	19 01 53.9	+0.3
MSLP				*e*	S		Sg	19 02 09.0	+0.8
BIPH	Bislig	1.69	166	⇓ *i*	P		Pg	19 02 04.6	-0.1
BIPH				*i*	S		Sg	19 02 27.7	+1.0
OCLP	Ormoc	1.79	313	*e*	P		Pb	19 02 05.0	+0.2
OCLP				*e*	S		Sg	19 02 29.4	-0.3
CGP	Cagayan de Oro	1.85	222	⇑ *e*	P		Pn	19 02 00.5	-3.0
CGP				*e*	S		Sn	19 02 21.8	-5.0
TBP	Tagbilaran	2.06	266	*i*	P		Pb	19 02 09.2	-0.3
TBP				*i*	S		Sn	19 02 32.8	+0.7
BUKP	Musuan	2.13	204	*e*	P		Pn	19 02 07.7	+0.1
BUKP				*e*	S		Sn	19 02 33.5	-0.4
SNPH	Sibulan	2.72	260	*e*	P		Pn	19 02 17.9	+2.3
SNPH				*e*	S		Sb	19 02 52.3	-1.7
DCPH	Dipolog City	2.85	244	⇑ *e*	P		Pn	19 02 17.7	+0.3
DCPH				*i*	S		Sn	19 02 51.1	-0.4
MATI	Mati	2.89	174	*e*	P		Pn	19 02 19.3	+1.4
MATI				*e*	S		Sb	19 02 57.9	-0.9
KCP	Kidapawan	2.93	197	⇑ *e*	P		Pb	19 02 22.1	-2.3
KCP				*i*	S		Sn	19 02 56.7	+3.0
CNP	Catarman	2.94	335	*e*	P		Pb	19 02 22.6	-1.9
CNP				*e*	S		Sb	19 03 01.0	+0.6
CTBH	Cotabato--PC H	3.09	213	⇑ *i*	P		Pn	19 02 20.7	-0.1
PAGZ	Pagadian	3.21	232	*e*	P		Pn	19 02 23.4	+1.0
PAGZ				*e*	S		Sn	19 02 59.0	-1.6
CNOP	Candoni, Negro	3.26	270	*e*	P		Pn	19 02 23.6	+0.6
CNOP				*e*	S		Sn	19 03 02.4	+0.7
DDMP	Don Marcelino,	3.71	184	*e*	P		Pn	19 02 28.9	-0.4
DDMP				*e*	S		Sn	19 03 16.6	+3.6
PVCP	Virac	4.13	335	*e*	P		Pb	19 02 42.1	-2.7
LQP	Lukban	6.05	315	*e*	P		Pn	19 03 08.8	+7.2
KNRA	Kununurra	25.50	174	P		P		19 07 03.3	+2.8
KNRA				IAmb		IAmb		19 07 31.2	
	comp=Z,64nm,1.8s								
FITZ	Fitzroy Crossi	27.76	181	P		P		19 07 22.8	+2.0
	comp=Z,3.0nm,1.0s,baz=358,slow=14,SNR=2.3								
FITZ	Fitzroy Crossi	27.76	181	P		P		19 07 22.4	+1.6
FITZ				IAmb		IAmb		19 07 45.3	
	comp=Z,15nm,1.5s								
WB0	Warramunga Arr	30.57	164	P		P		19 07 46.2	+0.4
WB0				IAmb		IAmb		19 08 06.0	
	comp=Z,14nm,1.5s								
WRA	Warramunga Arr	30.72	164	P		P		19 07 47.3	+0.2
	comp=Z,0.6nm,0.8s,baz=345,slow=9.4,SNR=2.2								
WB2	Warramunga Arr	30.73	164	P		P		19 07 47.6	+0.5
WB2				IAmb		IAmb		19 07 50.8	
	comp=Z,18nm,1.6s								
WR0	Warramunga Arr	30.79	164	P		P		19 07 47.5	-0.3
WR0				IAmb		IAmb		19 08 26.3	
	comp=Z,19nm,1.6s								
PBA	Port Blair	32.66	276	P		P		19 08 06.4	+2.1
AS31	Alice Springs	34.19	167	P		P		19 08 17.5	-0.1
ASAR	Alice Springs	34.19	167	P		P		19 08 17.4	-0.1
	comp=Z,0.4nm,0.5s,baz=351,slow=6.8,SNR=13								
BBOO	Buckleboo	43.49	168	P		P		19 09 35.3	-0.1
STKA	Stephens Creek	44.10	161	P		P		19 09 41.4	+1.1
	comp=Z,3.0nm,0.9s,baz=326,slow=11,SNR=1.8								
STKA	Stephens Creek	44.10	161	P		P		19 09 40.2	-0.1
MKAR	Makanchi Array	52.18	323	P		P		19 10 43.2	+0.6
	comp=Z,0.3nm,0.6s,baz=117,slow=7.7,SNR=3.5								
KURK	Kurchatov	56.24	326	P		P		19 11 12.5	+0.3
KURK				IAmb		IAmb		19 11 25.1	
	comp=Z,1.9nm,1.0s								
KURBB	Kurchatov Arra	56.25	326	P		P		19 11 13.1	+0.9
	comp=Z,0.4nm,0.6s,baz=124,slow=6.9,SNR=4.2								
TIXI	Tiksi	61.79	1	P		P		19 11 50.6	+0.3
	comp=Z,0.6nm,0.3s,baz=192,slow=2.1,SNR=4.0								
TIXI	Tiksi	61.79	1	P		P		19 11 49.7	-0.6
TIXI				IAmb		IAmb		19 12 27.1	
	comp=Z,5.8nm,1.5s								
GSTR	Great Sitkin T	62.88	36	P		P		19 11 57.6	-0.4
ARCES	ARCESS Array B	84.49	340	P		P		19 14 03.1	-1.4
	comp=Z,1.3nm,0.9s,baz=79,slow=9.6,SNR=1.7								
FINES	FINESS Array B	86.12	332	P		P		19 14 11.6	-1.2
	comp=Z,2.4nm,0.9s,baz=69,slow=7.6,SNR=3.9								
TORD	Torodi Ar. Bea	120.13	291	PKP		PKiKP		19 20 25.7	+1.7
	comp=Z,0.4nm,0.6s,baz=119,slow=1.8,SNR=1.9								

MOS ***10*** *19:25:59.2±0.8, 2.°00S×128.°17E, h31km, mb5.0/25, MS4.1/5, Error ellipse: s-maj=10.1km s-min=5.1km az=115.0*

DJA ***10*** *19:26:00.8±0.2, 2.°5±2.°×12.°8E±.°, h10km, M4.7/32, mb4.7/32, mB5.2/12, MLv4.7/17, Mw(mB)4.6/12, Mwp5.0/3*

GCMT ***10*** *19:26:01.5±0.3, 1.°86S±0.°03×128.°26E±0.°02, h20km±1km, MW4.9/82, Moment Tensor Solution. s36,c38; s82,c107; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.78±.20; $M_{\theta\theta}$-0.06±.11; $M_{\phi\phi}$-2.72±.13; $M_{r\theta}$-0.08±.24; $M_{r\phi}$0.66±.06; $M_{\theta\phi}$-1.07±.19; Best double couple: M_o3.02500×10^{16} NP1:φ340.00000°, δ35.00000°, λ80.00000°. NP2: φ173.00000°, δ55.00000°, λ97.00000°. Principal axes: T 2.9940, Plg78.0000°, Azm109.0000°; N 0.0650, Plg6.0000°, Azm349.0000°; P -3.0560, Plg10.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***10*** *19:26:01.5±1.8, 1.°95S±0.°06×128.°29E±0.°06, h37km±4km, mb5.0/96 Error ellipse: s-maj=9.4km s-min=7.4km az=219.0*

IDC ***10*** *19:26:03.1±2.2, 1.°97S×128.°24E, h44km±22km, mb4.2/20, mb1 4.3/25, mb1mx4.2/40, mbtmp4.4/25, ML4.3/5, MS3.8/9, Ms1 3.8/9, ms1mx3.

LEM	**Lembang**	**21.17**	**256**	P	**P**	**19 30 43.6**	**-0.7**				
	comp=Z,6.7nm,0.4s,baz=127,slow=20,SNR=1.4										
AS31	**Alice Springs**	**22.20**	**166**	P	**P**	**19 30 55.2**	**+0.1**				
ASAR	**Alice Springs**	**22.20**	**166**	P	**P**	**19 30 55.1**	**0.0**				
	comp=Z,32nm,0.5s,baz=346,slow=12,SNR=326										
ASAR				S	**S**	**19 34 52.9**	**-4.9**				
	comp=Z,3.3nm,0.7s,baz=348,slow=16,SNR=8.1										
KRVT	**Keravat (AS076**	**23.79**	**96**	P	**P**	**19 31 13.9**	**+2.6**				
	comp=Z,161nm,1.2s,baz=25,slow=9,SNR=6.0										
RABL	**Rabaul**	**23.92**	**96**	P	**P**	**19 31 12.4**	**-0.2**				
KASI	**Kota Agung**	**24.01**	**261**	P	P	19 31 26.7	+13				
XMIS	**Christmas Isla**	**24.02**	**249**	P	**P**	**19 31 13.2**	**-0.4**				
DLV	**T Lat**	**24.09**	**306**	P	**P**	**19 31 13.9**	**-0.4**				
DLV				IAmb	IAmb	19 31 21.5					
	comp=Z,40nm,1.2s										
LWLI	**Liwa**	**24.39**	**262**	P	P	19 31 32.3	+15				
MYKOM	**Kota Tinggi**	**24.75**	**279**	P	**P**	**19 31 20.5**	**+0.3**				
MYKOM				IAmb	IAmb	19 31 30.0					
	comp=Z,34nm,1.1s										
LHSI	**Lahat**	**24.82**	**265**	P	P	19 31 32.7	+12				
CTAO	**Charters Tower**	**25.10**	**137**	P	**P**	**19 31 23.3**	**-0.1**				
CTAO				pmax	pmax						
	comp=Z,72nm,1.7s										
CTAO	**Charters Tower**	**25.10**	**137**	P	**P**	**19 31 23.2**	**-0.1**				
CTAO				IAmb	IAmb	19 31 26.8					
	comp=Z,72nm,1.7s										
MNAI	**Manna**	**25.42**	**264**	P	**P**	**19 31 26.3**	**0.0**				
TWG	**Pinlang**	**25.67**	**344**	P	**P**	**19 31 26.5**	**-1.9**				
YULB	**Yu-li**	**26.16**	**345**	P	**P**	**19 31 32.0**	**-0.9**				
YULB				IAmb	IAmb	19 31 47.1					
	comp=Z,44nm,1.6s										
KRJI	**Kerinci**	**26.83**	**269**	P	P	19 31 50.2	+11				
PDSI	**Padang**	**27.86**	**272**	P	**P**	**19 31 49.5**	**+1.2**				
	comp=Z,7.6nm,0.8s										
IPM	**Ipoh**	**28.02**	**283**	P	**P**	**19 31 49.3**	**-0.4**				
KULM	**Kulim**	**28.57**	**285**	P	**P**	**19 31 54.6**	**0.0**				
FORT	**Forrest**	**28.61**	**180**	P	**P**	**19 31 54.5**	**-0.3**				
MNSI	**Mandailing Nat**	**28.86**	**275**	P	**P**	**19 31 59.3**	**+2.1**				
	comp=Z,11nm,0.8s										
MORW	**Morawa**	**29.34**	**202**	P	**P**	**19 32 01.7**	**+0.4**				
RPSI	**Rantau Prapat**	**29.75**	**279**	P	**P**	**19 32 03.1**	**-2.0**				
PSI	**Prapat**	**29.76**	**279**	P	**P**	**19 32 04.8**	**-0.6**				
	comp=Z,7.0nm,0.3s,baz=3.7,slow=1.7,SNR=5.5										
PSI	**Prapat**	**29.76**	**279**	P	**P**	**19 32 03.1**	**-2.3**				
PSI				pmax	pmax						
	comp=Z,8.0nm,0.8s										
GSI	**Gunungsitoli**	**30.91**	**276**	P	**P**	**19 32 14.3**	**-1.1**				
GSI				IAmb	IAmb	19 32 28.8					
	comp=Z,58nm,1.8s										
BBOO	**Buckleboo**	**31.49**	**167**	P	**P**	**19 32 20.2**	**-0.1**				
BBOO				IAmb	IAmb	19 33 03.0					
	comp=Z,52nm,1.6s										
STKA	**Stephens Creek**	**32.24**	**158**	P	**P**	**19 32 27.6**	**+0.7**				
	comp=Z,2.0nm,0.3s,baz=337,slow=7.6,SNR=20										
STKA	**Stephens Creek**	**32.24**	**158**	P	**P**	**19 32 27.1**	**+0.2**				
STKA				pmax	pmax						
	comp=Z,4.0nm,1.4s										
STKA	**Stephens Creek**	**32.24**	**158**	P	**P**	**19 32 27.1**	**+0.2**				
WHN	**Wuhan**	**35.01**	**339**	⇑P	**P**	**19 32 52.3**	**+1.4**				
JNU	**Nakatsue**	**35.03**	**4**	LR	LR	19 48 05.9					
	comp=Z,122nm,19.7s,baz=186,slow=38										
JNU	**Nakatsue**	**35.03**	**4**	P	**P**	**19 32 50.6**	**-0.5**				
JNU				IAmb	IAmb	19 33 10.4					
	comp=Z,29nm,1.2s										
NJ2	**Nanjing**	**35.05**	**346**	*e*P	**P**	**19 32 51.9**	**+0.7**				
NJ2				pmax	pmax						
	comp=Z,4.0nm,0.5s										
GYA	**Guiyang**	**35.19**	**325**	⇓*i*P	**P**	**19 32 53.7**	**+1.0**				
GYA				SS	SS	19 40 33.7	-24				
GYA				pmax	pmax						
	comp=Z,10.0nm,1.0s										
GYA				pmax	pmax						
	comp=Z,60nm,4.3s										
GYA				LR	LR						
	comp=Z,170nm,14.0s										
GYA				LR	LR						
	comp=Z,100nm,11.5s										
GYA				LR	LR						
	comp=Z,130nm,4.6s										
CM31	**Chiang Mai Arr**	**35.34**	**306**	P	**P**	**19 32 54.2**	**+0.2**				
CMAR	**Chiang Mai Arr**	**35.34**	**306**	P	**P**	**19 32 54.8**	**+0.8**				
	comp=Z,2.3nm,1.1s,baz=122,slow=6.4,SNR=9.9										
CMAR				LR	LR	19 48 35.8					
	comp=Z,126nm,19.4s,baz=152,slow=38										
CHTO	**Chiang Mai**	**35.53**	**307**	P	**P**	**19 32 55.8**	**+0.2**				
CHTO				pmax	pmax						
	comp=Z,7.0nm,1.0s										
CHTO	**Chiang Mai**	**35.53**	**307**	P	**P**	**19 32 55.8**	**+0.2**				
JHJ	**Hachijo jima 2**	**36.59**	**16**	LR	LR	19 45 34.0					
	comp=Z,137nm,19.7s,baz=294,slow=32										
KMI	**Kunming**	**36.63**	**319**	P	**P**	**19 33 06.6**	**+1.4**				
KMI				pP	sP	19 33 17.9	-0.1				
KMI				sP	pP	19 33 24.3	+10				
KMI				pmax	pmax						
	comp=Z,16nm,1.5s										
KMI	**Kunming**	**36.63**	**319**	P	**P**	**19 33 04.5**	**-0.7**				
KMI				pmax	pmax						
	comp=Z,19nm,1.1s										
KMI	**Kunming**	**36.63**	**319**	P	**P**	**19 33 04.5**	**-0.7**				
KMI				IAmb	IAmb	19 33 08.8					
	comp=Z,19nm,1.1s										
ENH	**Enshi**	**36.79**	**332**	P	**P**	**19 33 04.3**	**-1.9**				
ENH				IAmb	IAmb	19 33 08.1					
	comp=Z,22nm,1.1s										
INU	**Inuyama**	**38.05**	**12**	P	**P**	**19 33 16.6**	**-0.3**				
INU				IAmb	IAmb	19 33 25.6					
	comp=Z,18nm,1.2s										
CAN	**Canberra**	**38.31**	**152**	P	**P**	**19 33 21.3**	**+2.1**				
CAN				pmax	pmax						
	comp=Z,45nm,1.4s										
CAN	**Canberra**	**38.31**	**152**	P	**P**	**19 33 21.3**	**+2.1**				
CAN				IAmb	IAmb	19 34 17.6					
	comp=Z,45nm,1.4s										
TOO	**Toolangi**	**38.76**	**158**	P	**P**	**19 33 23.0**	**+0.2**				
TOO				pmax	pmax						
	comp=Z,18nm,1.5s										
TOO	**Toolangi**	**38.76**	**158**	P	**P**	**19 33 23.0**	**+0.2**				
KSRS	**Korea Array**	**39.27**	**360**	P	**P**	**19 33 27.4**	**+0.5**				
	comp=Z,3.4nm,1.0s,baz=178,slow=11,SNR=12										
KSRS				LR	LR	19 48 57.1					
	comp=Z,102nm,18.7s,baz=180,slow=35										
MJAR	**Matsushiro Arr**	**39.45**	**13**	P	**P**	**19 33 27.9**	**-0.7**				
	comp=Z,6.1nm,0.9s,baz=191,slow=10,SNR=18										
MAJO	**Matsushiro**	**39.45**	**13**	*i* P	**P**	**19 33 27.7**	**-0.9**				
MAJO				pmax	pmax						
	comp=Z,9.0nm,1.0s										
MAJO	**Matsushiro**	**39.45**	**13**	P	**P**	**19 33 27.3**	**-1.2**				
MAJO				IAmb	IAmb	19 33 30.5					
	comp=Z,27nm,1.4s										
MAT	**Matsushiro**	**39.45**	**13**	P	**P**	**19 33 27.7**	**-0.9**				
MJB9	**Matsu-Tunnel**	**39.45**	**13**	P	**P**	**19 33 27.6**	**-1.0**				
MJB9				IAmb	IAmb	19 33 30.5					
	comp=Z,26nm,1.3s										
CD2	**Chengdu**	**40.23**	**326**	*e*P	**P**	**19 33 35.0**	**-0.2**				
XAN	**Xi'an**	**40.24**	**335**	P	**P**	**19 33 34.7**	**-0.5**				
XAN				pmax	pmax						
	comp=Z,23nm,1.3s										
XAN	**Xi'an**	**40.24**	**335**	P	**P**	**19 33 34.5**	**-0.7**				
XAN				pmax	pmax						
	comp=Z,16nm,0.9s										
XAN	**Xi'an**	**40.24**	**335**	P	**P**	**19 33 34.5**	**-0.7**				
XAN				IAmb	IAmb	19 33 36.3					
	comp=Z,16nm,0.9s										
BJT	**Baijiatuau**	**43.28**	**346**	P	**P**	**19 33 58.9**	**-1.1**				
BJT				pmax	pmax						
	comp=Z,6.0nm,0.7s										
BJT	**Baijiatuau**	**43.28**	**346**	P	**P**	**19 33 58.9**	**-1.1**				
BJI	**Beijing**	**43.30**	**346**	P	**P**	**19 33 59.2**	**-0.9**				
BJI				pmax	pmax						
	comp=Z,8.0nm,0.9s										
BJI				LR	LR						
	comp=Z,170nm,15.2s										
BJI				LR	LR						
	comp=Z,190nm,17.1s										
BJI				LR	LR						
	comp=Z,180nm,24.6s										
MSHR	**Mys Shultsa**	**44.46**	**3**	*ce*P	**P**	**19 34 09.7**	**+0.3**				
MSHR				pmax	pmax						
	comp=Z,9.0nm,1.1s										
SHL	**Shillong**	**44.66**	**310**	P	**P**	**19 34 11.2**	**-0.3**				
SHL				pmax	pmax						
	comp=Z,17nm,0.8s										
SHL	**Shillong**	**44.66**	**310**	P	**P**	**19 34 11.2**	**-0.3**				
SHL				IAmb	IAmb	19 34 13.2					
	comp=Z,17nm,0.8s										

HHC	**Hu-ho-hao-te**	**45.31**	**342**	P	**P**	**19 34 15.1**	**-1.2**				
HHC				pmax	pmax						
	comp=Z,7.0nm,0.6s										
HHC				pmax	pmax						
	comp=Z,60nm,6.0s										
USA0B	**Ussuriysk Arra**	**46.12**	**4**	*i* P	**P**	**19 34 23.1**	**+0.6**				
USA0B	**Ussuriysk Arra**	**46.12**	**4**	P	**P**	**19 34 21.7**	**-0.8**				
USA0B				IAmb	IAmb	19 34 24.6					
	comp=Z,16nm,1.1s										
USRK	**Ussuriysk Ar.**	**46.12**	**4**	P	**P**	**19 34 23.3**	**+0.7**				
	comp=Z,5.8nm,0.7s,baz=186,slow=5.7,SNR=20										
MDJ	**Mudanjiang**	**46.44**	**1**	P	**P**	**19 34 25.6**	**+0.6**				
MDJ				pmax	pmax						
	comp=Z,23nm,1.1s										
MDJ				pmax	pmax						
	comp=Z,260nm,3.9s										
MDJ	**Mudanjiang**	**46.44**	**1**	P	**P**	**19 34 24.7**	**-0.3**				
MDJ				IAmb	IAmb	19 34 27.8					
	comp=Z,31nm,1.2s										
TEY	**Ternei**	**47.42**	**8**	⇑*e*P	**P**	**19 34 33.4**	**+0.8**				
TEY				pmax	pmax						
	comp=N,10.0nm,1.2s										
TEY				pmax	pmax						
	comp=Z,20nm,1.2s										
LSA	**Lhasa**	**47.48**	**315**	P	**P**	**19 34 34.8**	**+0.8**				
LSA				pmax	pmax						
	comp=Z,11nm,0.6s										
LSA	**Lhasa**	**47.48**	**315**	P	**P**	**19 34 33.8**	**-0.2**				
LSA				pmax	pmax						
	comp=Z,10.0nm,0.8s										
LSA	**Lhasa**	**47.48**	**315**	P	**P**	**19 34 33.8**	**-0.2**				
LSA				IAmb	IAmb	19 34 36.5					
	comp=Z,10nm,0.8s										
ASAJ	**Asahikawa**	**47.67**	**14**	LR	LR	19 53 34.0					
	comp=Z,111nm,19.6s,baz=205,slow=35										
TAPN	**Taplejung**	**48.78**	**310**	*e*P	**P**	**19 34 43.9**	**0.0**				
ODAN	**Odare**	**48.78**	**309**	*e*P	**P**	**19 34 43.8**	**0.0**				
	comp=Z,36nm,0.9s										
GTA	**Gaotai**	**48.82**	**331**	*e*P	**P**	**19 34 44.1**	**+0.3**				
GTA				pP	sP	19 34 58.2	+1.7				
GTA				sP	pP	19 35 05.2	+12				
GTA				pmax	pmax						
	comp=Z,15nm,1.4s										
GTA				LR	LR						
	comp=Z,130nm,20.8s										
GTA				LR	LR						
	comp=Z,170nm,21.3s										
GTA				LR	LR						
	comp=Z,150nm,20.4s										
RAMN	**Ramite**	**49.44**	**309**	*e*P	**P**	**19 34 49.3**	**+0.4**				
	comp=Z,41nm,0.7s										
JIRN	**Jiri**	**50.10**	**309**	*e*P	**P**	**19 34 53.9**	**-0.2**				
	comp=Z,19nm,0.6s										
YSS	**Yuzh-Sakhalins**	**50.39**	**13**	*e*P	**P**	**19 34 56.5**	**+1.1**				
YSS	**Yuzh-Sakhalins**	**50.39**	**13**	P	**P**	**19 34 53.9**	**-1.5**				
YSS				IAmb	IAmb	19 34 57.5					
	comp=Z,23nm,1.5s										
GUN	**Gumba**	**50.46**	**309**	*e*P	**P**	**19 34 56.7**	**-0.1**				
	comp=Z,30nm,0.7s										
PKI	**Pulchoki**	**50.67**	**309**	*e*P	**P**	**19 34 57.7**	**-0.6**				
PKIN	**Phulchoki**	**50.68**	**309**	*e*P	**P**	**19 34 57.7**	**-0.6**				
	comp=Z,13nm,0.7s										
KKN	**Kakani**	**50.87**	**309**	*e*P	**P**	**19 34 59.4**	**-0.3**				
	comp=Z,21nm,0.8s										
DMN	**Daman**	**50.92**	**309**	*e*P	**P**	**19 34 59.9**	**-0.2**				
	comp=Z,25nm,0.9s										
MSVF	**Nonsavu**	**51.24**	**111**	P	**P**	**19 35 01.6**	**-0.8**				
MSVF				pmax	pmax						
	comp=Z,32nm,1.4s										
MSVF	**Nonsavu**	**51.24**	**111**	P	**P**	**19 35 01.6**	**-0.8**				
MSVF				IAmb	IAmb	19 35 16.5					
	comp=Z,32nm,1.4s										
GKN	**Gorkha**	**51.47**	**309**	*e*P	**P**	**19 35 03.7**	**-0.4**				
KOLN	**Koldanda**	**52.18**	**308**	*e*P	**P**	**19 35 09.5**	**0.0**				
	comp=Z,56nm,0.8s										
DANN	**Dangsing**	**52.32**	**309**	*e*P	**P**	**19 35 10.4**	**-0.2**				
	comp=Z,65nm,0.7s										
ULN	**Ulaanbaatar**	**53.03**	**342**	*ce*P	**P**	**19 35 14.8**	**-0.5**				
ULN				pmax	pmax						
	comp=Z,29nm,1.7s										
ULN	**Ulaanbaatar**	**53.03**	**342**	P	**P**	**19 35 15.3**	**-0.1**				
ULN				IAmb	IAmb	19 35 16.8					
	comp=Z,21nm,1.2s										
GRNR	**Gornyy**	**53.04**	**6**	⇓*i*P	**P**	**19 35 16.7**	**+1.6**				
GRNR				pmax	pmax						
	comp=N,6.0nm,1.0s										
GRNR				pmax	pmax						
	comp=Z,7.0nm,1.1s										
GRNR				MLR	MLR						
	comp=N,40nm,15.0s										
GRNR				MLR	MLR						
	comp=E,80nm,15.0s										
GRNR				MLR	MLR						
	comp=Z,120nm,16.0s										
SONM	**Songino Array**	**53.21**	**342**	P	**P**	**19 35 16.4**	**-0.3**				
	comp=Z,7.6nm,1.1s,baz=164,slow=8.6,SNR=18										
DCZ	**Deep Cove**	**55.07**	**147**	P	**P**	**19 35 30.4**	**+0.3**				
MLZ	**Mavora Lakes**	**55.53**	**147**	P	**P**	**19 35 34.4**	**+1.0**				
ZEA	**Zeya**	**55.56**	**359**	*e*P	**P**	**19 35 33.0**	**-0.4**				
ZEA				pmax	pmax						
	comp=Z,29nm,1.0s										
WKZ	**Wanaka**	**55.70**	**146**	P	**P**	**19 35 36.8**	**+2.2**				
WHZ	**Whether Hill Ro**	**55.77**	**147**	P	**P**	**19 35 37.5**	**+2.4**				
LBZ	**Lake Benmore**	**56.09**	**145**	P	**P**	**19 35 38.6**	**+1.1**				
RPZ	**Rata Peaks**	**56.21**	**144**	P	**P**	**19 35 38.4**	**+0.1**				
ZAK	**Zakamensk**	**56.43**	**341**	*e*P	**P**	**19 35 39.3**	**-0.6**				
ZAK				pmax	pmax						
	comp=Z,5.0nm,1.5s										
TLY	**Talaya**	**57.44**	**342**	*i* P	**P**	**19 35 48.2**	**+1.3**				
TLY				pmax	pmax						
	comp=Z,10.0nm,1.0s										
IRK	**Irkutsk**	**57.74**	**343**	*e*P	**P**	**19 35 48.6**	**-0.4**				
IRK				pmax	pmax						
	comp=Z,25nm,2.2s										
WMQ	**Urumqi**	**58.33**	**326**	*e*P	**P**	**19 35 54.8**	**+1.5**				
WMQ				pP	sP	19 36 05.8	-0.2				
WMQ				pmax	pmax						
	comp=Z,14nm,1.1s										
WMQ				LR	LR						
	comp=Z,110nm,18.7s										
WMQ				LR	LR						
	comp=Z,190nm,22.1s										
WMQ				LR	LR						
	comp=Z,120nm,23.9s										
WMQ	**Urumqi**	**58.33**	**326**	P	**P**	**19 35 52.0**	**-1.3**				
WMQ				pmax	pmax						
	comp=Z,24nm,0.7s										
WMQ	**Urumqi**	**58.33**	**326**	P	**P**	**19 35 52.0**	**-1.3**				
KNTN	**Kanton**	**59.92**	**92**	P	**P**	**19 36 03.6**	**-1.2**				
PEA0B	**Petropavlovsk-**	**60.19**	**20**	P	**P**	**19 36 06.7**	**+0.8**				
PEA0B				pmax	pmax						
	comp=Z,42nm,1.6s										
PEA0B	**Petropavlovsk-**	**60.19**	**20**	P	**P**	**19 36 06.7**	**+0.8**				
PETK	**Petropavlovsk-**	**60.19**	**20**	P	**P**	**19 36 06.8**	**+0.8**				
	comp=Z,3.3nm,0.7s,baz=190,slow=6.5,SNR=6.5										
PETK				LR	LR	20 03 42.6					
	comp=Z,37nm,19.2s,baz=244,slow=38										
PET	**Petropavlovsk**	**60.45**	**21**	P	**P**	**19 36 08.6**	**+0.9**				
PET				pmax	pmax						
	comp=Z,28nm,1.2s										
PET	**Petropavlovsk**	**60.45**	**21**	P	**P**	**19 36 08.6**	**+0.9**				
ZSN	**Zaisan**	**62.17**	**328**	*e*P	**P**	**19 36 18.9**	**-0.6**				
	comp=Z,10.0nm,1.9s,baz=328										
ZSN	**Zaisan**	**62.17**	**328**	*e*P	**P**	**19 36 18.9**	**-0.6**				
ZSN				pmax	pmax						
	comp=Z,10.0nm,1.9s										
DGZ	**Jazzator, Alta**	**62.35**	**331**	*d i*P	**P**	**19 36 20.9**	**+0.1**				
DGZ				pmax	pmax						
	comp=Z,18nm,1.2s										
NIL	**Nilore**	**62.73**	**310**	P	**P**	**19 36 23.8**	**+0.3**				
NIL				pmax	pmax						
	comp=Z,15nm,1.3s										
NIL	**Nilore**	**62.73**	**310**	P	**P**	**19 36 23.8**	**+0.3**				
NIL				IAmb	IAmb	19 36 35.9					
	comp=Z,15nm,1.3s										
SHLS	**Shalkode**	**62.77**	**322**	*e*P	**P**	**19 36 21.9**	**-1.9**				
	comp=Z,24nm,1.8s,baz=322										
SHLS	**Shalkode**	**62.77**	**322**	*e*P	**P**	**19 36 21.8**	**-1.9**				
SHLS				pmax	pmax						
	comp=Z,24nm,1.8s										
UZB	**Uzynbulak**	**63.04**	**322**	*e*P	**P**	**19 36 25.4**	**-0.3**				
	comp=Z,13nm,1.5s,baz=321										
UZB	**Uzynbulak**	**63.04**	**322**	*e*P	**P**	**19 36 25.3**	**-0.3**				
UZB				pmax	pmax						
	comp=Z,13nm,1.5s										
TARG	**Taragay, Kyrgy**	**63.09**	**320**	P	**P**	**19 36 25.3**	**-0.9**				

PRZ	**Przheval'sk**	**63.09**	**321**	P	**P**	**19 36 26.0**	**0.0**				
PRZ				pmax	pmax						
	comp=Z,30nm,1.4s										
PRZ	**Przheval'sk**	**63.09**	**321**	P	**P**	**19 36 26.0**	**0.0**				
MK31	**Makanchi Array**	**63.16**	**326**	P	**P**	**19 36 24.9**	**-1.2**				
MK31				pmax	pmax						
	comp=Z,14nm,1.2s										
MK31	**Makanchi Array**	**63.16**	**326**	P	**P**	**19 36 24.9**	**-1.2**				
MK31				IAmb	IAmb	19 36 27.7					
	comp=Z,14nm,1.1s										
MKAR	**Makanchi Array**	**63.16**	**326**	P	**P**	**19 36 25.7**	**-0.5**				
	comp=Z,5.8nm,0.7s,baz=125,slow=7.8,SNR=50										
KSH	**Kashi**	**63.24**	**317**	*e*P	**P**	**19 36 27.7**	**+0.7**				
KSH				pmax	pmax						
	comp=Z,21nm,1.2s										
KSH				pmax	pmax						
	comp=Z,250nm,5.2s										
MAKZ	**Makanchi**	**63.34**	**326**	P	**P**	**19 36 26.2**	**-1.2**				
MAKZ				pmax	pmax						
	comp=Z,24nm,1.3s										
MAKZ	**Makanchi**	**63.34**	**326**	P	**P**	**19 36 26.2**	**-1.2**				
MAKZ				IAmb	IAmb	19 36 28.9					
	comp=Z,24nm,1.3s										
SATY	**Saty**	**63.38**	**321**	*e*P	**P**	**19 36 27.7**	**-0.2**				
	comp=Z,7.4nm,0.8s,baz=321										
SATY	**Saty**	**63.38**	**321**	*e*P	**P**	**19 36 27.6**	**-0.2**				
SATY				pmax	pmax						
	comp=Z,7.0nm,0.8s										
KDJ	**Kajisay**	**63.69**	**320**	P	**P**	**19 36 27.7**	**-2.3**				
KDJ				pmax	pmax						
	comp=Z,9.0nm,1.0s										
KDJ	**Kajisay**	**63.69**	**320**	P	**P**	**19 36 27.7**	**-2.3**				
KDJ				IAmb	IAmb	19 36 31.5					
	comp=Z,8.6nm,1.0s										
YAK	**Yakutsk**	**63.88**	**1**	*c i*P	**P**	**19 36 30.9**	**+0.4**				
YAK				*e**PP	**pwP**	**19 36 41.8**	**-1.1**				
YAK				*e*		19 37 05.7					
YAK				*e*S	**S**	**19 45 02.7**	**-0.7**				
YAK				*e**SS	**sS**	**19 45 21.3**	**+2.1**				
YAK				*e*		19 46 19.4					
YAK				*e*SSS	SSS	19 52 05.1					
YAK				pmax	pmax						
	comp=Z,36nm,1.1s										
YAK				pmax	pmax						
	comp=E,4.0nm,1.3s										
YAK				pmax	pmax						
	comp=N,23nm,1.3s										
YAK				smax	smax						
	comp=E,47nm,3.5s										
YAK				smax	smax						
	comp=N,37nm,3.1s										
YAK				MLR	MLR						
	comp=Z,141nm,17.0s										
YAK				MLR	MLR						
	comp=N,97nm,22.0s										
YAK				MLR	MLR						
	comp=E,79nm,18.0s										
YAK	**Yakutsk**	**63.88**	**1**	P	**P**	**19 36 29.4**	**-1.1**				
MA2	**Magadan**	**63.90**	**13**	P	**P**	**19 36 30.6**	**-0.1**				
MA2				pmax	pmax						
	comp=Z,11nm,1.0s										
MA2	**Magadan**	**63.90**	**13**	P	**P**	**19 36 30.6**	**-0.1**				
MA2				IAmb	IAmb	19 36 45.2					
	comp=Z,11nm,1.0s										
JOHN	**Johnston Islan**	**64.07**	**70**	P	**P**	**19 36 32.1**	**-0.6**				
MDOK	**Medeo**	**64.29**	**321**	*e*P	**P**	**19 36 33.9**	**+0.1**				
	comp=Z,78nm,1.5s,baz=320										
MDOK				*e*S	**S**	**19 45 10.0**	**+0.4**				
	baz=320										
MDOK				LR	LR	20 05 29.1					
	comp=Z,71nm,13.8s										
MDOK	**Medeo**	**64.29**	**321**	*e*P	**P**	**19 36 33.9**	**+0.1**				
MDOK				*e*S	**S**	**19 45 10.0**	**+0.4**				
MDOK				pmax	pmax						
	comp=Z,79nm,1.5s										
MDOK				MLR	MLR						
	comp=Z,71nm,14.0s										
TNSS	**Tian-Shan**	**64.29**	**321**	*i* P	**P**	**19 36 34.1**	**-0.1**				
	baz=320										
TNSS	**Tian-Shan**	**64.29**	**321**	*i* P	**P**	**19 36 34.0**	**-0.1**				

PAF pmax pmax
comp=Z,678nm,1.7s
PAF Port-aux-Franc 68.17 217 P **P** **19 36 58.0 -0.4**
IUG luzhnay 68.44 317 *e*P **P** **19 36 59.9 -0.6**
comp=Z,2.5nm,1.6s,baz=317
IUG luzhnay 68.44 317 *e*P **P** **19 36 59.8 -0.6**
IUG pmax pmax
comp=Z,2.0nm,1.6s
KK31 Karatay Array 68.51 318 P **P** **19 36 59.5 -1.2**
KK31 pmax pmax
comp=Z,12nm,1.3s
KK31 Karatay Array 68.51 318 P **P** **19 36 59.5 -1.2**
KK31 IAmb IAmb 19 37 02.1
comp=Z,12nm,1.2s
KKAR Karatay Array 68.51 318 P **P** **19 37 00.0 -0.7**
KKAR pmax pmax
comp=Z,12nm,1.3s
KKAR Karatay Array 68.51 318 P **P** **19 37 00.0 -0.7**
KKAR IAmb IAmb 19 37 02.1
comp=Z,12nm,1.2s
BRZS Berezniki 70.27 326 *e*P **P** **19 37 10.9 -0.6**
comp=Z,42nm,2.2s,baz=325
BRZS Berezniki 70.27 326 *e*P **P** **19 37 10.8 -0.6**
BRZS pmax pmax
comp=Z,42nm,2.2s
BRVK Borovoye 73.05 328*c*e**P** **P** **19 37 27.6 -0.4**
BRVK pmax pmax
comp=Z,19nm,1.3s
BRVK Borovoye 73.05 328 P **P** **19 37 26.8 -1.3**
BRVK IAmb IAmb 19 37 29.5
comp=Z,24nm,1.4s
TIXI Tiksi 73.53 0*c*e**P** **P** **19 37 30.9 +0.4**
TIXI pmax pmax
comp=Z,16nm,1.7s
TIXI Tiksi 73.53 0 P **P** **19 37 30.1 -0.5**
TIXI IAmb IAmb 19 37 31.4
comp=Z,28nm,1.7s
BILL Bilibino 74.69 14 *i* P **P** **19 37 38.4 +1.1**
BILL pmax pmax
comp=Z,1.0nm,1.1s
GEYT Alibeck 75.73 310 P **P** **19 37 43.0 -1.0**
comp=Z,1.4nm,0.8s,baz=181,slow=5.8,SNR=1.9
NRIK Noril'sk 76.34 346 P **P** **19 37 47.0 +0.2**
comp=Z,3.8nm,0.7s,baz=136,slow=6.0,SNR=18
NRIK LR LR 20 13 45.8
comp=Z,57nm,18.6s,baz=58,slow=38
VNDA Vanda 77.57 173 P **P** **19 37 54.3 +0.7**
comp=Z,1.7nm,0.7s,baz=301,slow=4.2,SNR=7.6
VNDA Vanda 77.57 173 P **P** **19 37 54.8 +1.2**
VNDA pmax pmax
comp=Z,6.0nm,1.4s
VNDA Vanda 77.57 173 P **P** **19 37 54.8 +1.2**
POHA Pohakuloa 77.67 69 P **P** **19 37 54.5 -1.1**
MAW Mawson 78.97 201 P **P** **19 38 01.9 +0.4**
comp=Z,2.6nm,1.0s,baz=79,slow=10,SNR=2.3
MAW Mawson 78.97 201 P **P** **19 38 01.3 -0.2**
MAW Mawson 78.97 201 P **P** **19 38 01.3 -0.2**
SVE Sverdlovsk 79.65 329 *e*P **P** **19 38 05.2 -0.2**
SVE pmax pmax
comp=Z,13nm,1.5s
ARU Arti 80.61 328 *i* P **P** **19 38 09.5 -1.1**
ARU pmax pmax
comp=Z,5.0nm,1.0s
ARU Arti 80.61 328 P **P** **19 38 09.4 -1.1**
OPO Ambohidratompo 80.95 252 P **P** **19 38 14.9 +1.5**
comp=Z,3.1nm,0.6s,baz=357,slow=3.1,SNR=5.2
SDPT Sand Point 81.07 33 P **P** **19 38 11.8 -1.2**
SDPT IAmb IAmb 19 38 16.8
comp=Z,30nm,1.2s
ANM Nome 81.84 24 P **P** **19 38 15.4 -1.6**
ANM pmax pmax
comp=Z,30nm,1.4s
ANM Nome 81.84 24 P **P** **19 38 15.4 -1.6**
ANM IAmb IAmb 19 40 14.3
comp=Z,30nm,1.4s
PPT Papeete 81.88 107 LR LR 20 12 01.9
comp=Z,49nm,20.4s,baz=358,slow=34
TTA Tatalina 85.29 26 P **P** **19 38 35.2 +0.4**
TTA pmax pmax
comp=Z,11nm,1.5s
TTA Tatalina 85.29 26 P **P** **19 38 35.2 +0.4**
TTA IAmb IAmb 19 38 38.3
comp=Z,11nm,1.5s
SYO Syowa Base 87.67 201⇑*e*P P 19 38 38.4 -7.9
SYO Syowa Base 87.67 201⇑*e*P **P** **19 38 44.5 -1.8**
SYO Syowa Base 87.67 201⇑*e*PcP **PcP** **19 38 47.6 -0.5**
QSPA South Pole Qui 87.93 180 P **P** **19 38 48.8 +1.1**
comp=Z,4.9nm,0.8s,baz=291,slow=1.2,SNR=15
QSPA South Pole Qui 87.93 180 P **P** **19 38 47.8 +0.1**
KIV Kislovodsk 88.23 314⇓*e*P **P** **19 38 47.8 -1.8**
KIV *e* 19 42 12.3
KIV pmax pmax
comp=Z,1.0nm,1.0s
KIV MLR MLR
comp=Z,90nm,17.0s
KIV Kislovodsk 88.23 314 P **P** **19 38 48.7 -0.9**
KIV IAmb IAmb 19 39 25.1
comp=Z,7.5nm,1.4s
KNK Knik Glacier 88.51 29 P **P** **19 38 48.5 -1.9**
KNK IAmb IAmb 19 38 56.5
comp=Z,13nm,1.4s
COLD Coldfoot 88.54 23 P **P** **19 38 48.5 -1.9**
RND Reindeer 88.57 27 P **P** **19 38 50.0 -0.7**
RND pmax pmax
comp=Z,8.0nm,1.2s
RND Reindeer 88.57 27 P **P** **19 38 50.0 -0.7**
RND IAmb IAmb 19 38 58.4
comp=Z,8.1nm,1.2s
CCB Clear Creek Bu 89.18 25 P **P** **19 38 52.9 -0.6**
CCB IAmb IAmb 19 39 05.8
comp=Z,7.1nm,1.3s
DHY Denali Highway 89.20 27 P **P** **19 38 53.3 -0.5**
DHY IAmb IAmb 19 38 58.7
comp=Z,11nm,1.7s
ILAR Eielson Array 89.58 25 P **P** **19 38 56.4 +1.0**
comp=Z,1.0nm,1.0s,baz=240,slow=5.2,SNR=5.6
KLMR Klimovskoe 91.15 331 *e*P P 19 38 56.7 -6.0
KLMR pmax pmax
comp=Z,6.0nm,1.3s
KLMR Klimovskoe 91.15 331 *e*P P 19 38 56.7 -6.0
KLMR AMP 19 39 05.4
comp=Z,6.0nm,1.3s
BARN Barnard Glacie 91.76 29 P **P** **19 39 05.6 -0.2**
BARN IAmb IAmb 19 39 20.9
comp=Z,8.8nm,1.3s
DAWY Dawson 92.81 26 P **P** **19 39 10.3 -0.1**
DAWY IAmb IAmb 19 39 12.6
comp=Z,7.7nm,1.5s
SNAA Sanae 100.08 194 *i* P **Pdif** **19 39 43.0 -0.3**
SNAA pmax pmax
comp=Z,1.0nm,1.2s
CLL Collm 107.18 324 *e*PP **PP** **19 44 45.0 +3.0**
TORD Torodi Ar. Bea 126.05 285 PKP **PKiKP** **19 45 01.5 -0.2**
comp=Z,0.6nm,0.7s,baz=96,slow=2.5,SNR=3.1
AC05 El Transito 144.53 151 **PKPdf** **19 45 35.4 0.0**
CPUP Villa Florida 151.30 169 PKPbc **PKiKP** **19 45 53.6 +0.7**
comp=Z,5.1nm,0.8s,baz=98,slow=2.9,SNR=4.5
CPUP Villa Florida 151.30 169 PKIKP **PKiKP** **19 45 53.1 +0.2**
CPUP Villa Florida 151.30 169 **PKiKP** **19 45 53.1 +0.2**

*IDC **10** 19:44:26.9±2.4, 19°.42N×146°.54E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.5/44, mbtmp3.9/5, Error ellipse: s-maj=76.0km s-min=28.7km az=85.0*
*NEIC **10** 19:44:31.3±2.5, 19°.3N±0°.1×146°.3E±0°.3, h23km±10km, mb4.8/9, Error ellipse: s-maj=44.0km s-min=19.1km az=88.0*
ISC 10 19:44:32.6±1.9**, 19°.2N**±0°.2×**146°.3E**±0°.3**, h35**km**, n15, σ1$27/15, mb4.4/9, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.79**	**194**	Pn	**Pn**	**19 45 55.6**	**-0.4**
LUWI	**Luwuk**	**30.68**	**232**	P	**P**	**19 50 43.0**	**-1.3**
SOEI	**Soe**	**36.10**	**219**	P	**P**	**19 51 30.1**	**-1.4**
KNRA	**Kununurra**	**38.76**	**208**	P	**P**	**19 51 54.8**	**+0.9**
KNRA				IAmb	IAmb	19 52 01.3	
comp=Z,56nm,1.6s							
CTAO	**Charters Tower**	**39.08**	**180**	P	**P**	**19 51 56.2**	**-0.3**
CTAO				IAmb	IAmb	19 52 16.7	
comp=Z,45nm,1.4s							
WB0	**Warramunga Arr**	**40.49**	**197**	P	**P**	**19 52 10.2**	**+1.8**
WB0				IAmb	IAmb	19 52 35.0	
comp=Z,21nm,1.6s							
WR0	**Warramunga Arr**	**40.63**	**197**	P	**P**	**19 52 11.2**	**+1.7**
WR0				IAmb	IAmb	19 52 12.4	
comp=Z,24nm,1.8s							
WB2	**Warramunga Arr**	**40.67**	**197**	P	**P**	**19 52 11.4**	**+1.6**
WRA	**Warramunga Arr**	**40.67**	**197**	P	**P**	**19 52 11.2**	**+1.3**
comp=Z,0.6nm,0.3s,baz=19,slow=8.5,SNR=22							
FITZ	**Fitzroy Crossi**	**42.30**	**210**	P	**P**	**19 52 24.0**	**+0.8**
comp=Z,1.4nm,0.3s,baz=19,slow=6.0,SNR=23							
FITZ	**Fitzroy Crossi**	**42.30**	**210**	P	**P**	**19 52 23.8**	**+0.6**
FITZ				IAmb	IAmb	19 52 36.8	
comp=Z,21nm,1.6s							
AS31	**Alice Springs**	**44.33**	**196**	P	**P**	**19 52 40.2**	**+0.7**
ASAR	**Alice Springs**	**44.33**	**196**	P	**P**	**19 52 40.8**	**+1.2**
comp=Z,0.6nm,0.7s,baz=15,slow=6.1,SNR=12							
CMAR	**Chiang Mai Arr**	**44.74**	**277**	P	**P**	**19 52 44.0**	**+1.0**
comp=Z,0.5nm,0.8s,baz=75,slow=5.7,SNR=3.2							
FINES	**FINESS Array B**	**86.64**	**335**	P	**P**	**19 57 11.7**	**-0.7**
comp=Z,0.5nm,0.4s,baz=66,slow=5.3,SNR=7.4							

*IDC **10** 19:45:40.2±1.9, 10°.73N×91°.47E, h0km, mb3.8/4, mb1 3.8/5, mb1mx3.5/45, mbtmp3.7/5, ML3.8/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/49, Error ellipse: s-maj=68.2km s-min=21.5km az=63.0*
*NEIC **10** 19:45:45.8±0.8, 10°.90N±0°.07×91°.8E±0°.1, h28km±7km, mb4.0/8, Error ellipse: s-maj=16.0km s-min=9.8km az=95.0*
ISC 10 19:45:45.5±1.5**, 10°.9N**±0°.2×**91°.8E**±0°.2**, h27**km**, n24, σ0$95/17, mb4.0/8, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.20**	**51**	*e*P	Pb	19 46 06.4	-1.1
PBA				*e*S	Sn	19 46 21.5	-0.4
PBA				IAML		19 46 25.0	
comp=E,5μm,0.3s							
PBA				IAML		19 46 25.2	
comp=N,4μm,0.5s							
PBA	**Port Blair**	**1.20**	**51**		Pb	19 46 06.4	-1.2
PBA				Sn	Sn	19 46 21.4	-0.4
CMAR	**Chiang Mai Arr**	**10.21**	**42**	Pn	**Pn**	**19 48 11.1**	**+0.7**
comp=N,0.2nm,0.3s,baz=238,slow=15,SNR=6.1							
PBKT	**Sadao Pong**	**10.54**	**57**	Pn	Pn	19 48 18.8	+3.8
RAMN	**Ramite**	**16.71**	**344**	*e*P	**Pn**	**19 49 36.4**	**-1.7**
comp=N,5.9nm,0.3s							
PKI	**Pulchoki**	**17.65**	**341**	*e*P	**Pn**	**19 49 48.9**	**-1.0**
comp=N,7.2nm,0.4s							
PKIN	**Phulchoki**	**17.66**	**341**	*e*P	**Pn**	**19 49 49.1**	**-0.8**
comp=N,8.4nm,0.3s							
GKN	**Gorkha**	**18.30**	**339**	*e*P	**Pn**	**19 49 57.4**	**-0.3**
comp=N,5.2nm,0.2s							
KOLN	**Koldanda**	**18.47**	**336**	*e*P	**Pn**	**19 50 02.3**	**+2.4**
comp=N,3.1nm,0.3s							
LSA	**Lhasa**	**18.72**	**358**	P	**Pn**	**19 50 02.2**	**-0.9**
H08S3	**Diego Garcia H**	**26.61**	**227**	T	T	20 19 09.2	
baz=46,slow=76,SNR=116							
H08S2	**Diego Garcia H**	**26.61**	**227**	T	T	20 19 03.5	
baz=46,slow=76,SNR=145							
H08S1	**Diego Garcia H**	**26.63**	**227**	T	T	20 19 09.5	
baz=46,slow=76,SNR=113							
ARSB	**Arslanbob**	**34.54**	**335**	P	**P**	**19 52 32.1**	**+0.2**
MK31	**Makanchi Array**	**36.68**	**349**	P	**P**	**19 52 49.9**	**-0.1**
MKAR	**Makanchi Array**	**36.68**	**349**	P	**P**	**19 52 50.1**	**+0.1**
comp=N,2.0nm,0.7s,baz=168,slow=8.3,SNR=18							
MAKZ	**Makanchi**	**36.75**	**349**	P	**P**	**19 52 50.3**	**-0.4**
MAKZ				IAmb	IAmb	19 52 51.4	
comp=Z,1.3nm,0.6s							
KK31	**Karatay Array**	**37.05**	**334**	P	**P**	**19 52 53.8**	**+0.5**
KK31				IAmb	IAmb	19 52 54.8	
comp=Z,3.2nm,1.3s							
KKAR	**Karatay Array**	**37.05**	**334**	P	**P**	**19 52 53.8**	**+0.5**
KKAR				IAmb	IAmb	19 52 54.8	
comp=Z,3.2nm,1.3s							
KURK	**Kurchatov**	**41.16**	**347**	P	**P**	**19 53 27.3**	**-0.1**
KURK				IAmb	IAmb	19 53 29.8	
comp=Z,3.7nm,1.2s							
ZALV	**Zalesovo Beam**	**43.30**	**354**	P	**P**	**19 53 44.6**	**-0.2**
comp=Z,1.2nm,0.3s,baz=176,slow=8.8,SNR=8.2							
WRA	**Warramunga Arr**	**51.89**	**126**	P	**P**	**19 54 51.8**	**-0.3**
comp=Z,0.3nm,0.3s,baz=300,slow=10.0,SNR=14							
ASAR	**Alice Springs**	**53.62**	**130**	P	**P**	**19 55 04.8**	**0.0**
comp=Z,0.3nm,0.5s,baz=305,slow=7.1,SNR=6.9							
BRTR	**Keskin Array B**	**58.73**	**310**	LR	LR	20 22 32.1	
comp=Z,59nm,18.2s,baz=294,slow=38							

NNC 10 19:47:51.7±7.1**, 36°.57N**×**69°.21E, h0**km**, mb4.1, mpv3.8, 5C-1D, Error ellipse: s-maj=65.9km s-min=53.7km az=114.0, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.60**	**8**	⇑P	Pn	19 49 32.4	+2.4
2.4nm,0.5s,baz=196,slow=14,SNR=30							
KK31				⇑S	Sn	19 50 46.0	+0.1
0.7nm,0.3s,baz=194,slow=21,SNR=6.8							
AAK	**Ala-Archa**	**7.30**	**32**	⇓P	Pn	19 49 38.8	-0.9
2.2nm,0.5s							
AAK				⇑S	Sn	19 51 04.0	+0.6
1.3nm,0.5s							
TKM2	**Tokmak 2**	**8.02**	**36**	⇑P	Pn	19 49 47.8	-1.9
3.2nm,0.5s							
TKM2				⇑S	Sn	19 51 24.8	+3.6
1.7nm,0.7s							

*MOS **10** 19:53:24.8±0.0, 42°.49N×45°.35E, h9km, MPVA4.0*
*DDA **10** 19:53:26.9, 42°.58N×45°.08E, h6km±3km, ML2.2*
*NORS **10** 19:53:26.4±0.0, 42°.46N×45°.34E, h19km, MPVA4.1*
*ISK **10** 19:53:27.2, 42°.46N×45°.31E, h22km, ML2.7/6*
*TIF **10** 19:53:27.3, 42°.52N×45°.21E, h11km±1km*
*DRS **10** 19:53:30.3±0.0, 42°.53N×45°.66E, h12km*
ISC 10 19:53:26.8±1.0**, 42°.52N**±0°.01×**45°.32E**±0°.01**, h5**km±9km**, n109, σ1$30/196, 4C-7D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNSH	**Pansheti**	**0.53**	**282**	P	**Pg**	**19 53 36.7**	**-0.3**
PNSH				S	**Sg**	**19 53 43.6**	**-0.3**
PNSH	**Pansheti**	**0.53**	**282**	PG	**Pg**	**19 53 36.7**	**-0.3**
PNSH				S	**Sg**	**19 53 43.6**	**-0.3**
GUDG	**Gudauri**	**0.62**	**265**	P	**Pg**	**19 53 37.5**	**-1.3**
GUDG				S	**Sg**	**19 53 45.5**	**-1.4**
GUDG	**Gudauri**	**0.62**	**265**	⇑PG	**Pg**	**19 53 37.5**	**-1.3**
GUDG				S	**Sg**	**19 53 45.5**	**-1.4**
KMGR	**Komgaron**	**0.63**	**328**	*e*Pg	**Pg**	**19 53 39.5**	**+0.6**
KMGR				*e*Sg	**Sb**	**19 53 49.7**	**+0.2**
KMGR	**Komgaron**	**0.63**	**328**	*e*PG	**Pg**	**19 53 39.5**	**+0.6**
KMGR				*e*S	**Sb**	**19 53 49.4**	**-0.1**
BTLR	**Botlikh**	**0.68**	**78**	*e*Pg	**Pg**	**19 53 39.3**	**-0.7**
BTLR				*e*Sg	**Sg**	**19 53 48.6**	**-0.2**
BTLR	**Botlikh**	**0.68**	**78**	*c i*PG	**Pg**	**19 53 39.2**	**-0.7**
BTLR				pmax	pmax		
comp=Z,139nm,0.2s							
VLKR	**Vladikavkaz**	**0.70**	**318**	*e*Pg	**Pg**	**19 53 40.9**	**+0.6**
VLKR				*e*Sg	**Sb**	**19 53 52.7**	**+1.1**
VLKR	**Vladikavkaz**	**0.70**	**318**	*e*PG	**Pg**	**19 53 41.1**	**+0.8**
VLKR				*e*S	**Sb**	**19 53 51.8**	**+0.2**
GROC	**Groznyy**	**0.77**	**27**	*e*Pg	**Pg**	**19 53 42.1**	**+0.6**
GROC				*e*Sg	**Sn**	**19 53 53.9**	**-2.3**
GROC	**Groznyy**	**0.77**	**27**	*d i*PG	**Pg**	**19 53 42.0**	**+0.6**
GROC				pmax	pmax		
comp=Z,54nm,0.1s							
LACR	**Lac**	**0.81**	**292**	*e*PG	**Pg**	**19 53 41.0**	**-1.4**
LACR				pmax	pmax		
comp=Z,115nm,0.1s							
SEAG	**Tbilisi Sea**	**0.85**	**207**	P	**Pb**	**19 53 43.9**	**-0.2**
SEAG	**Tbilisi Sea**	**0.85**	**207**	*e*Pg	**Pb**	**19 53 43.9**	**-0.2**
SEAG	**Tbilisi Sea**	**0.85**	**207**	PG	**Pb**	**19 53 43.9**	**-0.2**
TBLG	**Delisi**	**0.90**	**209**	P	**Pg**	**19 53 44.0**	**0.0**
TBLG				S	**Sb**	**19 53 57.1**	**-0.1**
TBLG	**Delisi**	**0.90**	**209**	PG	**Pg**	**19 53 44.1**	**0.0**
TBLG	**Delisi**	**0.90**	**209**	*e*Pg	**Pg**	**19 53 44.0**	**0.0**
TBLG				*e*Sg	**Sb**	**19 53 57.1**	**-0.1**
TBLG	**Delisi**	**0.90**	**209**	*i* P	**Pg**	**19 53 44.5**	**+0.4**
TBLG				*i* S	**Sb**	**19 53 57.1**	**-0.1**
TBLG	**Delisi**	**0.90**	**209**	PG	**Pg**	**19 53 44.0**	**0.0**
TBLG				S	**Sb**	**19 53 57.2**	**-0.1**
BTNK	**Botanikuri**	**0.92**	**205**	P	**Pg**	**19 53 44.7**	**+0.2**
BTNK				S	**Sb**	**19 53 58.2**	**+0.3**
BTNK	**Botanikuri**	**0.92**	**205**	*e*Pg	**Pg**	**19 53 44.7**	**+0.2**
BTNK				*e*Sg	**Sb**	**19 53 58.2**	**+0.3**
BTNK	**Botanikuri**	**0.92**	**205**	*i* P	**Pg**	**19 53 44.8**	**+0.2**
BTNK				*i* S	**Sb**	**19 53 58.4**	**+0.5**
BTNK				IAML		19 54 01.0	
comp=N,107nm,0.1s							
BTNK				IAML		19 54 01.0	
comp=E,80nm,0.1s							
BTNK	**Botanikuri**	**0.92**	**205**	PG	**Pg**	**19 53 44.7**	**+0.2**
BTNK				S	**Sb**	**19 53 58.2**	**+0.3**
ARNR	**Ardon**	**1.00**	**311**	*i* Pg	**Pb**	**19 53 45.5**	**-1.2**
ARNR				*e*Sg	**Sb**	**19 54 00.7**	**+0.5**
ARNR	**Ardon**	**1.00**	**311**	*i* PG	**Pb**	**19 53 45.5**	**-1.2**
ARNR				*e*S	**Sb**	**19 54 00.7**	**+0.5**
BTKR	**Batakoyurt**	**1.02**	**326**	*e*Pg	**Pn**	**19 53 47.4**	**-0.5**
BTKR				*e*Sg	**Sn**	**19 54 03.2**	**+0.6**
BTKR	**Batakoyurt**	**1.02**	**326**	*e*PG	**Pn**	**19 53 48.2**	**+0.3**
BTKR				*e*S	**Sn**	**19 54 03.8**	**+1.2**
XNZR	**Khunzakh**	**1.03**	**89**	*e*Pg	**Pg**	**19 53 45.6**	**-0.9**
XNZR				*e*Sg	**Sg**	**19 53 59.4**	**-0.4**
XNZR	**Khunzakh**	**1.03**	**89**	⇓*e*PG	**Pg**	**19 53 45.9**	**-0.6**
XNZR				*e*S	**Sg**	**19 53 59.4**	**-0.4**
KORR	**Kora**	**1.08**	**302**	*e*Pg	**Pb**	**19 53 48.1**	**+0.1**
KORR				*e*Sg	**Sn**	**19 54 04.2**	**+0.2**
KORR	**Kora**	**1.08**	**302**	⇓*e*PG	**Pb**	**19 53 48.1**	**+0.1**
KORR				*e*S	**Sn**	**19 54 04.2**	**+0.2**
ZEI	**Tsey**	**1.08**	**285**	*e*Pg	**Pb**	**19 53 46.8**	**-1.3**
ZEI	**Tsey**	**1.08**	**285**	*e*PG	**Pb**	**19 53 47.2**	**-0.9**
ZEI				*e*S	**Sb**	**19 54 00.7**	**-1.8**
UNCR	**Uncukul**	**1.11**	**80**	*e*Pg	**Pb**	**19 53 47.0**	**-1.5**
UNCR				*e*Sg	**Sb**	**19 54 01.3**	**-1.9**
UNCR	**Uncukul**	**1.11**	**80**	*e*PG	**Pb**	**19 53 47.0**	**-1.5**
UNCR				*e*S	**Sb**	**19 54 01.3**	**-1.9**
UNCR				pmax	pmax		
comp=Z,103nm,0.3s							
DLMR	**Dylym**	**1.11**	**60**	*e*Pg	**Pn**	**19 53 49.0**	**0.0**
DLMR				*i* Sg	**Sb**	**19 54 02.5**	**-0.8**
DLMR	**Dylym**	**1.11**	**60**	PG	**Pn**	**19 53 49.0**	**0.0**
DLMR				*i* S	**Sb**	**19 54 02.5**	**-0.8**
DBC	**Dubki**	**1.22**	**65**	*e*Pg	**Pn**	**19 53 49.2**	**-1.4**
DBC				*e*Sg	**Sn**	**19 54 06.5**	**-1.1**
DBC	**Dubki**	**1.22**	**65**	⇓*e*PG	**Pn**	**19 53 49.2**	**-1.4**
DBC				*e*S	**Sb**	**19 54 05.8**	**-0.7**
DDFL	**Dedoflistskaro**	**1.23**	**151**	P	**Pg**	**19 53 52.4**	**+2.0**
DDFL				S	**Sn**	**19 54 13.6**	**+5.7**
DDFL	**Dedoflistskaro**	**1.23**	**151**	*i* P	**Pg**	**19 53 52.5**	**+2.1**
DDFL				*i* S	**Sn**	**19 54 13.5**	**+5.7**
DDFL	**Dedoflistskaro**	**1.23**	**151**	PG	**Pg**	**19 53 52.4**	**+2.0**
DDFL				S	**Sn**	**19 54 13.6**	**+5.7**
ARKR	**Arakani**	**1.24**	**86**	*e*Pg	**Pb**	**19 53 50.5**	**-0.3**
ARKR				*e*Sg	**Sb**	**19 54 06.0**	**-1.1**
ARKR	**Arakani**	**1.24**	**86**	*e*PG	**Pb**	**19 53 50.5**	**-0.3**
ARKR				*e*S	**Sb**	**19 54 06.0**	**-1.1**
ARKR				pmax	pmax		
comp=Z,23nm,0.1s							
STDR	**Stavd-Durt**	**1.25**	**313**	*i* Pg	**Pg**	**19 53 51.4**	**+0.7**
STDR				*e*Sg	**Sg**	**19 54 10.0**	**+3.1**
STDR	**Stavd-Durt**	**1.25**	**313**	⇓*i* PG	**Pg**	**19 53 51.4**	**+0.7**
STDR				*e*S	**Sg**	**19 54 10.0**	**+3.1**
TRKR	**Terskaya**	**1.27**	**341**	*e*Pg	**Pb**	**19 53 51.5**	**+0.2**
TRKR				*e*Sg	**Sg**	**19 54 10.2**	**+2.5**
TRKR	**Terskaya**	**1.27**	**341**	*e*PG	**Pb**	**19 53 51.5**	**+0.2**
TRKR				*e*S	**Sg**	**19 54 10.2**	**+2.5**
KZRT	**Kazreti**	**1.33**	**211**	P	**Pn**	**19 53 51.2**	**-0.8**
KZRT				S	**Sn**	**19 54 09.4**	**-0.7**
KZRT	**Kazreti**	**1.33**	**211**	*e*Pg	**Pn**	**19 53 51.2**	**-0.8**
KZRT				*e*Sg	**Sn**	**19 54 09.4**	**-0.7**
KZRT	**Kazreti**	**1.33**	**211**	*i* P	**Pn**	**19 53 51.3**	**-0.8**
KZRT				*i* S	**Sn**	**19 54 09.5**	**-0.6**
KZRT	**Kazreti**	**1.33**	**211**	PG	**Pn**	**19 53 51.2**	**-0.8**
KZRT				S	**Sn**	**19 54 09.4**	**-0.7**
LSNR	**Lesken**	**1.33**	**305**	*e*Pg	**Pn**	**19 53 51.8**	**-0.3**
LSNR				*e*Sg	**Sg**	**19 54 11.6**	**+2.1**
LSNR	**Lesken**	**1.33**	**305**	*e*PG	**Pb**	**19 53 52.3**	**0.0**
LSNR				*e*S	**Sg**	**19 54 11.6**	**+2.1**
DIGR	**Digorskoe uzhe**	**1.33**	**287**	*e*Pg	**Pn**	**19 53 51.1**	**-1.2**
DIGR	**Digorskoe uzhe**	**1.33**	**287**	*e*PG	**Pn**	**19 53 51.2**	**-1.1**
DIGR				*e*S	**Sn**	**19 54 10.1**	**-0.4**
BUJR	**Buynaksk**	**1.35**	**77**	*e*Pg	**Pb**	**19 53 52.2**	**-0.5**
BUJR				*e*Sg	**Sg**	**19 54 10.3**	**0.0**
BUJR	**Buynaksk**	**1.35**	**77**	⇓*e*PG	**Pn**	**19 53 52.0**	**-0.4**
BUJR				*e*		19 54 10.8	
BUJR				pmax	pmax		
comp=Z,62nm,0.6s							
BUJR				smax	smax		
comp=N,468nm,0.4s							
KMKR	**Kumukh**	**1.38**	**106**	*e*Pg	**Pn**	**19 53 52.5**	**-0.4**
KMKR				*e*Sg	**Sg**	**19 54 12.0**	**+0.9**
KMKR	**Kumukh**	**1.38**	**106**	*e*PG	**Pn**	**19 53 52.5**	**-0.4**
KMKR				*e*S	**Sg**	**19 54 12.0**	**+0.9**
KMKR				pmax	pmax		
comp=Z,33nm,0.3s							
ONI	**Oni**	**1.38**	**273**	P	**Pn**	**19 53 52.5**	**-0.3**
ONI				S	**Sn**	**19 54 10.2**	**-1.3**
ONI	**Oni**	**1.38**	**273**	PN	**Pn**	**19 53 51.7**	**-1.1**
ONI				SN	**Sn**	**19 54 09.5**	**-2.0**
ONI	**Oni**	**1.38**	**273**	*e*Pg	**Pn**	**19 53 52.0**	**-0.8**
ONI	**Oni**	**1.38**	**273**	PG	**Pn**	**19 53 52.5**	**-0.3**
ONI				S	**Sn**	**19 54 10.2**	**-1.3**
PRTR	**Priterechnaya**	**1.44**	**329**	*e*Pg	**Pb**	**19 53 54.1**	**-0.1**
PRTR				*e*Sg	**Sg**	**19 54 14.8**	**+1.7**
PRTR	**Priterechnaya**	**1.44**	**329**	*e*PG	**Pb**	**19 53 54.1**	**-0.1**
PRTR				*e*S	**Sg**	**19 54 14.8**	**+1.7**
BKRG	**Bakuriani**	**1.54**	**241**	P	**Pn**	**19 53 55.2**	**+0.1**
BKRG				S	**Sb**	**19 54 16.1**	**+0.5**
BKRG	**Bakuriani**	**1.54**	**241**	PG	**Pn**	**19 53 55.2**	**+0.1**
BKRG				S	**Sb**	**19 54 16.2**	**+0.5**
MAK	**Makhachkala**	**1.67**	**74**	*e*Pg	**Pn**	**19 53 55.7**	**-0.9**
MAK				*e*Sg	**Sg**	**19 54 22.1**	**+1.6**
MAK	**Makhachkala**	**1.67**	**74**	*e*PN	**Pn**	**19 53 55.8**	**-0.9**
MAK				*e*		19 54 21.1	
MAK				pmax	pmax		
comp=Z,70nm,0.3s							
MAK				smax	smax		
comp=N,270nm,0.4s							
MAK				smax	smax		
comp=N,318nm,0.5s							
TKB	**Tkibuli**	**1.73**	**265**	P	**Pb**	**19 53 58.3**	**-0.7**
TKB				S	**Sb**	**19 54 20.9**	**-0.2**
TKB	**Tkibuli**	**1.73**	**265**	PN	**Pb**	**19 53 58.3**	**-0.7**
TKB				S	**Sb**	**19 54 20.9**	**-0.2**
KANR	**Karaman**	**1.73**	**66**	*e*Pg	**Pg**	**19 54 00.3**	**+0.3**
KANR				*e*Sg	**Sg**	**19 54 23.9**	**+1.5**
URKR	**Urkarakh**	**1.75**	**101**	*e*Pg	**Pn**	**19 53 57.8**	**-0.2**
UR

EPOS IAML 19 54 36.0
comp=N,21nm,0.9s
EPOS IAML 19 54 37.0
comp=E,13nm,0.6s
EAK Akyaka 2.24 215 *i* P **Pb 19 54 07.5 -0.3**
EAK *i* S **Sb 19 54 37.2 +1.3**
EAK IAML 19 54 39.0
comp=E,30nm,0.5s
EAK IAML 19 54 43.0
comp=N,28nm,0.7s
KSMR Kasumkent 2.29 113 PN **Pg 19 54 10.0 -0.6**
KSMR *e*S **Sg 19 54 46.0 +5.8**
DRN Derbent 2.29 101 *e*PN **Pg 19 54 09.6 -1.1**
DRN *e*S **Sb 19 54 37.4 +0.2**
BEYR Belyy Ugol+ 2.35 310 *e*Pn **Pn 19 54 05.4 -0.8**
BEYR *e*Sn **Sb 19 54 39.0 -0.2**
BEYR Belyy Ugol+ 2.35 310 *e*PN **Pn 19 54 05.4 -0.8**
BEYR *e*S **Sb 19 54 39.0 -0.2**
KIV0 Kislovodsk Arr 2.39 308 *e*Pn **Pn 19 54 06.4 -0.3**
KIV0 *e*Sn **Sb 19 54 40.4 +0.1**
KIV Kislovodsk 2.40 308 PN **Pn 19 54 06.6 -0.2**
KIV Kislovodsk 2.40 308 *de*PN **Pn 19 54 06.3 -0.5**
KIV *i* 19 54 12.1
KIV *e*S **Sb 19 54 39.9 -0.5**
KIV pmax pmax
comp=Z,3.0nm,2.1s
KIV MLR MLR
comp=Z,116nm,18.0s
KARS Kars 2.53 222 PN **Pn 19 54 07.1 -1.6**
TASB TASBURUN-IGDIR 2.67 198 PN **Pn 19 54 09.1 -1.4**
BATM Batumi 2.85 252 PN **Pn 19 54 12.3 -0.6**
DAGI Agillar 2.92 242 *i* P **Pb 19 54 17.7 -1.8**
DAGI *i* S **Sg 19 54 59.9 -0.9**
DAGI IAML 19 55 03.0
comp=E,7.1nm,0.5s
BCA Borcka 2.96 250 PN **Pn 19 54 13.7 -0.7**
SENK Senkaya-Erzuru 2.97 230 PN **Pn 19 54 13.8 -0.9**
DBOC Borcka 2.97 248 *i* P **Pb 19 54 19.3 -0.9**
DBOC *i* S **Sb 19 54 59.3 +2.5**
DBOC IAML 19 55 00.0
comp=E,7.4nm,0.5s
GOF Gofitskoye 3.02 328 *e*Pn **Pn 19 54 16.9 +1.6**
GOF Gofitskoye 3.02 328ñ *e*PN **Pn 19 54 17.1 +1.8**
GOF *e*S **Sg 19 55 04.1 +0.3**
GOF pmax pmax
comp=Z,24nm,0.7s
GOF smax smax
comp=E,49nm,0.6s
ARU Arti 16.32 27 *i* P **Pn 19 57 15.6 -0.9**
ARU pmax pmax
comp=Z,1.0nm,0.6s

*IDC **10** 19:54:55.5±2.1,2.17N×125.58E,h0km,mb3.3/3,*
mb1 3.5/3,mb1mx3.3/37,mbtmp3.3/3,Error ellipse:
s-maj=187.9km s-min=26.9km az=65.0
*DJA **10** 19:55:13.7±0.5,0.7N±4.4×12.2E±°,h111km±8km,M3.5/9,*
mb3.5/1,MLv3.5/9
ISC 10 19:55:13.0±1.1,0.32N±0.08×122.28E±0.06,h114km,n10,
σ1ş93/12,mb3.1/3,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.37**	**295**	P	**Pn**	**19 55 30.4**	**+0.8**
APSI	**Ampana**	**1.37**	**207**	P	**Pn**	**19 55 40.2**	**+1.6**
LUWI	**Luwuk**	**1.44**	**160**	P	**Pn**	**19 55 40.5**	**+1.1**
LUWI				S	**Sn**	**19 56 00.6**	**+1.2**
KMSI	**Cibinong**	**1.72**	**82**	P	**Pn**	**19 55 45.2**	**+2.5**
KMSI				S	**Sn**	**19 56 07.4**	**+2.0**
MPSI	**Mapaga**	**2.38**	**270**	P	**Pn**	**19 55 52.5**	**+1.5**
TTSI	**Tana Toraja**	**4.15**	**216**	P	**Pn**	**19 56 16.1**	**+1.6**
LBMI	**Labuha**	**5.31**	**100**	P	**Pn**	**19 56 29.9**	**-0.2**
	0.1nm14nm,2.4s						
WRA	**Warramunga Arr**	**23.35**	**150**	P	**P**	**20 00 08.7**	**-2.8**
	0.3nm,0.3s,baz=340,slow=9.9,SNR=8.0						
ASAR	**Alice Springs**	**26.38**	**155**	P	**P**	**20 00 37.0**	**-1.9**
	0.4nm,0.9s,baz=344,slow=14,SNR=4.7						
MKAR	**Makanchi Array**	**57.96**	**329**	P	**P**	**20 04 52.6**	**-1.0**
	0.4nm,0.6s,baz=119,slow=8.7,SNR=2.8						

*ISN **10** 20:01:50.0±0.3,36.88N×43.06E,h0km,ML2.4*
*DDA **10** 20:01:54.9,36.73N×42.93E,h26km±1km,ML2.1*
*ISK **10** 20:01:57.1,36.89N×42.96E,h12km,ML2.5/7*
ISC 10 20:01:57.6±1.3,36.87N±0.04×43.00E±0.03,h16km±11km,
n15,σ0ş74/27,Iraq

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUKT	**Cukurca**	**0.62**	**52**	PG	**Pb**	**20 02 09.8**	**-0.3**
CUKT				SG	**Sb**	**20 02 18.9**	**+0.3**
SIRT	**Sirnak**	**0.77**	**325**	PG	**Pg**	**20 02 11.8**	**-0.9**
SIRT				SG	**Sb**	**20 02 22.5**	**-0.6**
HAKT	**HAKKARI**	**0.89**	**39**	*i* P	**Pb**	**20 02 14.6**	**-0.3**
HAKT				*i* S	**Sn**	**20 02 27.6**	**-0.8**
HAKT				IAML		20 02 31.0	
	comp=E,23nm,0.4s						
YOVA	**Hakkari_Yksek**	**1.25**	**55**	*i* P	**Pb**	**20 02 21.0**	**0.0**
YOVA				*i* S	**Sg**	**20 02 39.4**	**+1.2**
YOVA				IAML		20 02 40.0	
	comp=E,30nm,0.4s						
YOVA				IAML		20 02 43.0	
	comp=N,21nm,0.5s						
SRTM	**Siirt_Merkez**	**1.41**	**323**	*i* P	**Pn**	**20 02 22.0**	**-0.8**
SRTM				*i* S	**Sg**	**20 02 43.0**	**-0.1**
SRTM				IAML		20 02 44.0	
	comp=E,92nm,0.5s						
AKDM	**Akdamar-Van**	**1.46**	**359**	PN	**Pn**	**20 02 23.5**	**0.0**
AKDM				SN	**Sb**	**20 02 42.8**	**-0.1**
BTMN	**Batman**	**1.71**	**307**	*i* P	**Pn**	**20 02 26.7**	**-0.2**
BTMN				*i* S	**Sb**	**20 02 50.4**	**+0.2**
BTMN				IAML		20 02 53.0	
	comp=N,40nm,0.3s						
BTMN				IAML		20 02 57.0	
	comp=E,50nm,0.4s						
IKRK	**Kirkuk**	**1.82**	**143**	*e*Pg	**Pb**	**20 02 30.0**	**-0.6**
	baz=325						
IKRK				AML	AML	20 02 56.5	
	comp=E,47nm,0.4s						
IKRK				*e*Sg	**Sg**	**20 02 58.0**	**+1.7**
IKRK				AML	AML	20 03 04.0	
	comp=N,47nm,0.5s						
MARD	**Mardin**	**1.83**	**285**	*i* P	**Pn**	**20 02 27.2**	**-1.4**
MARD				*i* S	**Sn**	**20 02 52.0**	**+0.4**
MARD				IAML		20 02 54.0	
	comp=E,56nm,0.4s						
MARD				IAML		20 02 57.0	
	comp=N,60nm,0.5s						
GURO	**Guroymak-BITLI**	**1.85**	**336**	PN	**Pn**	**20 02 29.1**	**+0.3**
GURO				SN	**Sn**	**20 02 52.1**	**+0.2**
SVAN	**Silvan-Diyarba**	**1.92**	**312**	PN	**Pn**	**20 02 29.8**	**+0.1**
SVAN				SN	**Sn**	**20 02 53.9**	**+0.3**
MAZI	**Mazidag**	**2.12**	**287**	PN	**Pn**	**20 02 32.7**	**+0.1**
MUSM	**Mu-Merkez**	**2.19**	**328**	*i* P	**Pn**	**20 02 34.7**	**+1.1**
MUSM				*i* S	**Sb**	**20 03 04.2**	**+0.1**
MUSM				IAML		20 03 05.0	
	comp=N,8.1nm,0.4s						
MUSM				IAML		20 03 06.0	
	comp=E,6.5nm,0.2s						
HANI	**Diyarbakir_Han**	**2.58**	**308**	*i* P	**Pb**	**20 02 44.6**	**+1.0**
BNGB	**Bingl**	**2.80**	**320**	PN	**Pn**	**20 02 42.6**	**+0.7**

*MAN **10** 20:02:07.7,9.36N×127.24E,h185km,MS4.2*
*IDC **10** 20:02:11.5±3.9,9.43N×126.90E,h0km,mb3.2/3,*
mb1 3.4/3,mb1mx3.2/44,mbtmp3.2/3,Error ellipse:
s-maj=304.9km s-min=28.8km az=66.0
ISC 10 20:02:16.8±1.2,9.33N±0.05×126.9E±0.1,h41km,n11,
σ2ş67/16,mb3.1/3,3D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**2.28**	**231**	*e*P	**Pn**	**20 02 51.9**	**-0.2**
BUKP				*e*S	**Sn**	**20 03 20.9**	**+1.9**
CGP	**Cagayan de Oro**	**2.30**	**248**ǁ	*e*P	**Pn**	**20 02 48.1**	**-4.1**
CGP				*e*S	**Sn**	**20 03 16.8**	**-2.6**
MATI	**Mati**	**2.44**	**194**	*e*P	**Pn**	**20 02 52.5**	**-1.7**
MATI				*e*S	**Sn**	**20 03 27.5**	**+4.6**
KCP	**Kidapawan**	**2.89**	**217**ǁ	*e*P	**Pn**	**20 03 01.6**	**+1.2**
TBP	**Tagbilaran**	**2.97**	**277**	*e*P	**Pn**	**20 03 03.3**	**+1.8**
CTBH	**Cotabato--PC H**	**3.32**	**231** ǁ	*i*P	**Pn**	**20 03 06.2**	**-0.2**
DDMP	**Don Marcelino,**	**3.40**	**199**	*e*P	**Pn**	**20 03 03.9**	**-3.5**
DDMP				*e*S	**Sn**	**20 03 43.5**	**-3.1**
CNP	**Catarman**	**3.82**	**326**	*e*P	**Pn**	**20 03 10.7**	**-2.4**
CNP				*e*S	**Sn**	**20 03 58.1**	**+1.3**
WRA	**Warramunga Arr**	**30.01**	**166**	P	**P**	**20 08 24.3**	**+2.4**
	0.2nm,0.6s,baz=347,slow=9.0,SNR=1.2						
ASAR	**Alice Springs**	**33.52**	**168**	P	**P**	**20 08 52.4**	**-0.4**
	0.1nm,0.4s,baz=352,slow=6.9,SNR=4.1						
MKAR	**Makanchi Array**	**53.11**	**323**	P	**P**	**20 11 30.6**	**+0.2**
	0.2nm,0.5s,baz=124,slow=6.5,SNR=5.1						

*IDC **10** 20:08:28.9±1.1,7.13S×154.72E,h0km,mb3.9/10,*
mb1 4.1/11,mb1mx3.9/28,mbtmp3.9/11,ML3.9/1,MS3.3/5,
Ms1 3.3/5,ms1mx2.9/33,Error ellipse: s-maj=36.8km
s-min=23.4km az=131.0
*NEIC **10** 20:08:31.7±1.3,7.25S±0.1×154.8E±0.1,h20km±6km,*
mb4.5/5,Error ellipse: s-maj=24.2km s-min=2.8km
az=217.0
ISC 10 20:08:34.3±0.7,7.07S±0.10×154.73E±0.08,h39km,n23,
σ1ş50/22,mb4.1/13,MS3.3/3,Bougainville-Solomon
Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.83**	**318**	Pn	**Pn**	**20 09 31.3**	**+0.4**
KRVT	**Keravat (AS076**	**3.84**	**316**	Pn	**Pn**	**20 09 28.4**	**-2.5**
	8.6nm,0.3s,baz=170,slow=2.0,SNR=18						
KRVT				Sn	**Sn**	**20 10 11.8**	**-3.2**
	7.4nm,0.3s,baz=234,slow=11,SNR=5.0						
HNR	**Honiara**	**5.67**	**115**	LR	LR	20 11 49.6	
	comp=Z,65nm,21.4s,baz=240,slow=36						
HNR	**Honiara**	**5.67**	**115**	Pn	**Pn**	**20 09 53.4**	**-2.7**
PMG	**Port Moresby**	**7.84**	**252**	Sn	**Sn**	**20 11 53.5**	**+0.1**
	0.7nm,0.3s,baz=268,slow=19,SNR=2.6						
PMG				LR	LR	20 12 54.8	
	comp=Z,140nm,18.9s,baz=40,slow=34						
WB2	**Warramunga Arr**	**23.54**	**235**	P	**P**	**20 13 40.9**	**-0.4**
WRA	**Warramunga Arr**	**23.55**	**235**	P	**P**	**20 13 41.8**	**+0.4**
	1.9nm,0.9s,baz=54,slow=9.4,SNR=3.6						
ASAR	**Alice Springs**	**25.92**	**228**	P	**P**	**20 14 02.0**	**-1.1**
	0.7nm,0.8s,baz=62,slow=9.6,SNR=7.0						
ASAR				LR	LR	20 23 28.5	
	comp=Z,73nm,19.6s,baz=94,slow=35						
FITZ	**Fitzroy Crossi**	**30.38**	**246**	LR	LR	20 28 11.8	
	comp=Z,71nm,18.8s,baz=133,slow=39						
FITZ	**Fitzroy Crossi**	**30.38**	**246**	P	**P**	**20 14 42.9**	**0.0**
FITZ				IAmb	IAmb	20 15 03.9	
	comp=Z,8.4nm,1.2s						
PETK	**Petropavlovsk-**	**60.00**	**2**	P	**P**	**20 18 39.4**	**+2.5**
	comp=Z,2.5nm,0.9s,baz=182,slow=8.7,SNR=1.4						
CMAR	**Chiang Mai Arr**	**60.58**	**296**	P	**P**	**20 18 43.1**	**+1.7**
	comp=Z,0.4nm,0.4s,baz=106,slow=4.6,SNR=4.9						
SONM	**Songino Array**	**69.26**	**327**	P	**P**	**20 19 38.2**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=123,slow=5.3,SNR=3.3						
MK31	**Makanchi Array**	**83.29**	**319**	P	**P**	**20 20 57.4**	**+0.3**
MK31				IAmb	IAmb	20 21 10.3	
	comp=Z,1.9nm,0.8s						
MKAR	**Makanchi Array**	**83.29**	**319**	P	**P**	**20 20 57.6**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=103,slow=5.5,SNR=15						
MAKZ	**Makanchi**	**83.50**	**319**	P	**P**	**20 20 58.2**	**+0.1**
MAKZ				IAmb	IAmb	20 20 59.5	
	comp=Z,4.0nm,1.0s						
ILAR	**Eielson Array**	**83.54**	**22**	P	**P**	**20 20 57.0**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=271,slow=4.6,SNR=4.9						
ILAR				LR	LR	20 56 43.1	
	comp=Z,48nm,18.3s,baz=93,slow=35						
ZALV	**Zalesovo Beam**	**84.10**	**326**	P	**P**	**20 21 00.6**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=191,slow=2.9,SNR=1.8						
KDJ	**Kajisay**	**85.56**	**313**	P	**P**	**20 21 07.5**	**-1.4**
NVAR	**Mina Array Bea**	**91.98**	**52**	P	**P**	**20 21 41.4**	**+1.8**
	comp=Z,1.0nm,0.9s,baz=251,slow=5.3,SNR=4.9						
YKA	**Yellowknife Ar**	**96.53**	**28**	P	**P**	**20 21 60.0**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=258,slow=4.5,SNR=4.1						
GERES	**GERESS Array B**	**126.98**	**329**	PKP	**PKiKP**	**20 27 35.6**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=111,slow=3.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**152.79**	**285**	PKPbc	**PKPbc**	**20 28 27.9**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=60,slow=1.7,SNR=4.0						

IDC 10 20:23:37.1±2.6,6.22S×156.25E,h0km,mb3.6/3,
mb1 3.9/4,mb1mx3.5/30,mbtmp3.7/4,ML3.9/1,MS2.9/1,
Ms1 2.9/1,ms1mx2.4/30,Error ellipse: s-maj=64.4km
s-min=41.1km az=105.0,Bougainville-Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.62**	**294**	Pn	Pn	20 24 48.4	+0.2
	5.1nm,0.3s,baz=199,slow=13,SNR=5.4						
PMG	**Port Moresby**	**9.55**	**250**	LR	LR	20 28 53.5	
	comp=Z,71nm,18.4s,baz=5.5,slow=33						
WRA	**Warramunga Arr**	**25.28**	**235**	P	P	20 29 05.4	-0.1
	1.0nm,0.9s,baz=60,slow=9.2,SNR=2.4						
ASAR	**Alice Springs**	**27.62**	**229**	P	P	20 29 26.8	+0.2
	0.4nm,0.8s,baz=53,slow=9.7,SNR=2.2						
MKAR	**Makanchi Array**	**83.65**	**318**	P	P	20 36 08.4	+0.6
	0.8nm,0.8s,baz=103,slow=4.6,SNR=6.5						
TORD	**Torodi Ar. Bea**	**154.01**	**287**	PKPbc	PKPbc	20 43 38.7	-1.2
	0.5nm,0.8s,baz=85,slow=1.7,SNR=2.2						

*DJA **10** 20:40:23.8±2.1,3.7N±6.2×12.9E±°,h27km±16km,M4.7/14,*
mB5.4/6,mb4.8/14,MLv4.6/13,Mw(mB)4.9/6
*NEIC **10** 20:40:26.0±1.4,2.73N±0.08×128.51E±0.07,h67km±8km,*
mb4.4/42,Error ellipse: s-maj=14.0km s-min=5.4km
az=217.0
*IDC **10** 20:40:25.1±2.6,2.79N×128.62E,h59km±23km,mb3.7/15,*
mb1 3.9/16,mb1mx3.6/44,mbtmp4.0/16,ML4.3/1,MS3.2/6,
Ms1 3.2/6,ms1mx2.8/36,Error ellipse: s-maj=29.7km
s-min=12.0km az=77.0
ISC 10 20:40:22.7±0.5,2.78N±0.05×128.67E±0.08,h35km,n103,
σ1ş75/100,mb4.3/35,MS3.2/6,1C-1D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.38**	**213**	P	**Pn**	**20 41 01.0**	**+1.8**
TNTI	**Ternate**	**2.38**	**213**	Pn	**Pn**	**20 41 00.9**	**+1.7**
DDMP	**Don Marcelino,**	**4.43**	**318**	*e*P	**Pn**	**20 41 30.9**	**+3.4**
DDMP				*e*S	**Sn**	**20 42 18.8**	**+1.0**
MATI	**Mati**	**4.79**	**330**	*e*P	Pn	20 41 37.5	+5.1
MATI				*e*S	**Sn**	**20 42 23.8**	**-2.8**
KMSI	**Cibinong**	**5.17**	**245**	P	**Pn**	**20 41 39.9**	**+2.3**
	0.9nm3µm194nm,0.5s						
SANI	**Sanana**	**5.49**	**209**	P	**Pn**	**20 41 45.4**	**+3.4**
	0.2nm32nm,1.2s						
KCP	**Kidapawan**	**5.51**	**320**ǁ	*e*P	Pn	20 41 47.9	+5.5
KCP				*i* S	**Sn**	**20 42 52.4**	**+7.8**
SKMP	**Bagumbayan, Su**	**5.54**	**312**	*e*P	**Pn**	**20 41 44.5**	**+1.8**
SKMP				*e*S	**Sn**	**20 42 45.7**	**+0.4**
BUKP	**Musuan**	**6.21**	**325**	*e*P	**Pn**	**20 41 55.5**	**+3.5**
BUKP				*e*S	**Sn**	**20 43 03.3**	**+1.5**
CTBH	**Cotabato--PC H**	**6.24**	**315**ǁ	*i*P	**Pn**	**20 41 55.6**	**+3.4**
FAKI	**Fak Fak**	**6.70**	**148**	P	**Pn**	**20 42 03.2**	**+4.6**
FAKI	**Fak Fak**	**6.70**	**148**		**Pn**	**20 42 02.4**	**+3.8**
LUWI	**Luwuk**	**7.01**	**237**	P	**Pn**	**20 42 05.4**	**+2.5**
LUWI	**Luwuk**	**7.01**	**237**		**Pn**	**20 42 04.5**	**+1.7**
MRSI	**Marisa**	**7.10**	**251**	P	**Pn**	**20 42 06.7**	**+2.6**
	1.3nm3µm412nm,0.6s						
APSI	**Ampana**	**7.92**	**243**	P	**Pn**	**20 42 17.4**	**+2.1**
	0.2nm596nm41nm,0.5s						
MPSI	**Mapaga**	**9.10**	**255**	P	**Pn**	**20 42 33.0**	**+1.5**
	38nm,0.8s						
TTSI	**Tana Toraja**	**10.57**	**237**	P	**Pn**	**20 42 51.4**	**-0.3**
	25nm,0.8s						
SAUI	**Saumlaki**	**11.01**	**166**	Pn	**Pn**	**20 42 58.7**	**+1.0**
SPSI	**Sidrap Palu**	**11.13**	**233**	P	**Pn**	**20 43 00.7**	**+1.2**
	16nm,0.5s						
BNSI	**Bone**	**11.14**	**230**	P	**Pn**	**20 43 00.4**	**+0.9**
	12nm,0.8s						
KAPI	**Kappang**	**11.80**	**229**	P	**Pn**	**20 43 09.3**	**+0.7**
	1.9nm,0.3s,baz=14,slow=1.5,SNR=4.4						
BKB	**Balikpapan**	**12.43**	**251**	Pn	**Pn**	**20 43 16.1**	**-1.2**
KKM	**Kota Kinabalu**	**12.83**	**285**	Pn	**Pn**	**20 43 23.9**	**+1.1**
JAY	**Jayapura**	**13.13**	**113**	LR	LR	20 47 45.2	
	comp=Z,63nm,19.8s,baz=15,slow=33						
SOEI	**Soe**	**13.20**	**199**	Pn	**Pn**	**20 43 30.0**	**+2.1**
MTN	**Manton Dam**	**15.71**	**171**	Pn	**P**	**20 44 04.0**	**-1.2**
MTN				IAmb	IAmb	20 44 55.1	
	comp=Z,54nm,1.4s						
SBUM	**Sibu**	**16.43**	**269**		**Pn**	**20 44 10.5**	**-0.2**
JAGI	**Jajag, Banyuwa**	**18.29**	**232**	P	**P**	**20 44 32.5**	**-1.2**
KNRA	**Kununurra**	**18.34**	**180**	P	**P**	**20 44 33.2**	**-0.9**
KNRA				IAmb	IAmb	20 44 36.6	
	comp=Z,18nm,0.8s						
KSM	**Kuching**	**18.39**	**266**		**P**	**20 44 34.2**	**-0.7**
FITZ	**Fitzroy Crossi**	**20.96**	**188**	P	**P**	**20 45 02.4**	**-0.4**
	comp=Z,3.4nm,1.0s,baz=180,slow=13,SNR=2.3						
FITZ	**Fitzroy Crossi**	**20.96**	**188**	P	**P**	**20 45 02.1**	**-0.7**
UGM	**Wanagama**	**20.98**	**239**	P	**P**	**20 45 01.4**	**-1.8**
YULB	**Yu-li**	**21.70**	**341**	P	**P**	**20 45 10.5**	**-0.2**
YULB				IAmb	IAmb	20 45 58.3	
	comp=Z,16nm,1.2s						
COEN	**Coen**	**21.99**	**139**	P	**P**	**20 45 15.6**	**+1.7**
COEN				IAmb	IAmb	20 45 19.8	
	comp=Z,13nm,1.1s						
PMG	**Port Moresby**	**22.05**	**124**	LR	LR	20 53 43.7	
	comp=Z,86nm,19.0s,baz=254,slow=36						
WB0	**Warramunga Arr**	**23.10**	**166**	P	**P**	**20 45 26.4**	**+0.8**
WB0				IAmb	IAmb	20 45 27.4	
	comp=Z,13nm,1.1s						
WRA	**Warramunga Arr**	**23.25**	**166**	P	**P**	**20 45 28.2**	**+1.0**
	comp=Z,3.9nm,0.7s,baz=344,slow=11,SNR=35						
WB2	**Warramunga Arr**	**23.26**	**166**	P	**P**	**20 45 28.1**	**+0.9**
WB2				IAmb	IAmb	20 45 36.8	
	comp=Z,32nm,1.6s						
WR0	**Warramunga Arr**	**23.32**	**166**	P	**P**	**20 45 28.5**	**+0.7**
MYKOM	**Kota Tinggi**	**24.82**	**268**	P	**P**	**20 45 40.9**	**-0.9**
MYKOM				IAmb	IAmb	20 45 43.1	
	comp=Z,13nm,0.8s						
PSAC2	**Pilbara Seismi**	**25.67**	**199**	P	**P**	**20 45 48.3**	**-1.1**
PSAC2				IAmb	IAmb	20 45 52.2	
	comp=Z,27nm,1.2s						
PSAC1	**Pilbara Seismi**	**25.67**	**199**	P	**P**	**20 45 48.9**	**-0.5**
PSAC1				IAmb	IAmb	20 46 43.4	
	comp=Z,31nm,1.3s						
PSAB2	**Pilbara Seismi**	**25.67**	**199**	P	**P**	**20 45 49.4**	**-0.1**
PSAA3	**Pilbara Seismi**	**25.70**	**199**	P	**P**	**20 45 49.4**	**-0.4**
PSAA3				IAmb	IAmb	20 45 57.1	
	comp=Z,26nm,1.2s						
PSAC3	**Pilbara Seismi**	**25.75**	**199**	P	**P**	**20 45 47.7**	**-2.5**
PSAC3				IAmb	IAmb	20 46 35.3	
	comp=Z,30nm,1.3s						
PSAD3	**Pilbara Seismi**	**25.78**	**199**	P	**P**	**20 45 48.6**	**-1.8**
ASAR	**Alice Springs**	**26.77**	**169**	P	**P**	**20 46 00.2**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=352,slow=7.7,SNR=17						
ASAR				PcP	**PcP**	**20 49 21.4**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=356,slow=2.3,SNR=7.5						
ASAR				ScP	**ScP**	**20 52 56.1**	**-3.7**
	comp=Z,1.4nm,0.8s,baz=349,slow=2.5,SNR=11						
ASAR				LR	LR	20 56 28.4	
	comp=Z,59nm,20.6s,baz=302,slow=36						
KRJI	**Kerinci**	**27.62**	**260**	P	**P**	**20 46 11.2**	**+3.9**
	comp=Z,95nm,0.6s						
IPM	**Ipoh**	**27.64**	**274**	P	**P**	**20 46 04.4**	**-2.9**
KULM	**Kulim**	**28.06**	**276**	P	**P**	**20 46 10.2**	**-0.9**
KULM				IAmb	IAmb	20 46 12.0	
	comp=Z,12nm,1.3s						
GSI	**Gunungsitoli**	**31.11**	**268**	P	**P**	**20 46 36.5**	**-1.7**
GSI				IAmb	IAmb	20 47 17.0	
	comp=Z,13nm,1.2s						
CMAR	**Chiang Mai Arr**	**33.02**	**300**	P	**P**	**20 46 55.4**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=124,slow=7.8,SNR=12						
CMAR				LR	LR	21 00 39.2	
	comp=Z,16nm,19.5s,baz=260,slow=37						
CHTO	**Chiang Mai**	**33.17**	**301**	P	**P**	**20 46 55.1**	**-1.1**
CHTO				IAmb	IAmb	20 46 58.0	
	comp=Z,9.0nm,1.4s						
FORT	**Forrest**	**33.37**	**181**	P	**P**	**20 46 57.6**	**-0.2**
MORW	**Morawa**	**33.90**	**200**	P	**P**	**20 47 00.7**	**-1.7**
KSRS	**Korea Array**	**34.52**	**359**	P	**P**	**20 47 09.0**	**+1.4**
	comp=Z,1.1nm,0.6s,baz=175,slow=10,SNR=6.0						
KSRS				LR	LR	21 03 38.6	
	comp=Z,16nm,18.1s,baz=63,slow=40						
MJAR	**Matsushiro Arr**	**34.73**	**14**	P	**P**	**20 47 08.6**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=181,slow=9.9,SNR=5.3						
MAJO	**Matsushiro**	**34.73**	**14**	P	**P**	**20 47 10.2**	**+0.6**
MAJO				IAmb	IAmb	20 47 11.6	
	comp=Z,4.4nm,1.1s						
MJB9	**Matsu-Tunnel**	**34.74**	**14**	P	**P**	**20 47 10.2**	**+0.6**
MJB9				IAmb	IAmb	20 47 11.6	
	comp=Z,4.3nm,1.0s						
BBOO	**Buckleboo**	**36.08**	**169**	P	**P**	**20 47 21.4**	**+0.3**
STKA	**Stephens Creek**	**36.59**	**161**	P	**P**	**20 47 25.6**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=10,slow=7.7,SNR=9.1						
STKA	**Stephens Creek**	**36.59**	**161**	P	**P**	**20 47 26.1**	**+0.6**
H11S3	**WAKE ISLAND Hy**	**40.37**	**64**	T	T	21 31 18.4	
	baz=256,slow=79,SNR=26						
H11S2	**WAKE ISLAND Hy**	**40.38**	**65**	T	T	21 31 26.0	
	baz=256,slow=79,SNR=9.3						
H11S1	**WAKE ISLAND Hy**	**40.38**	**64**	T	T	21 31 17.1	
	baz=256,slow=79,SNR=14						
HHC	**Hu-ho-hao-te**	**40.92**	**340**	P	**P**	**20 48 02.1**	**+0.2**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,45nm,5.3s						
H11N1	**WAKE ISLAND Hy**	**40.94**	**63**	T	T	21 31 56.9	
	baz=250,slow=75,SNR=26						
H11N2	**WAKE ISLAND Hy**	**40.95**	**63**	T	T	21 31 59.0	
	baz=250,slow=75,SNR=15						
H11N3	**WAKE ISLAND Hy**	**40.96**	**63**	T	T	21 31 57.5	
	baz=250,slow=75,SNR=26						
SHL	**Shillong**	**42.00**	**306**	P	**P**	**20 48 10.7**	**-0.3**
ASAJ	**Asahikawa**	**42.98**	**15**	P	**P**	**20 48 18.4**	**0.0**
	comp=Z,2.0nm,0.6s,baz=214,slow=18,SNR=4.1						
JKA	**Kamikawa-asahi**	**42.98**	**15**	P	**P**	**20 48 18.4**	**0.0**
LSA	**Lh

MAN ***10*** *20:44:20.1,9.59N×127.09E,h28km,MS4.3*
IDC ***10*** *20:44:20.3±0.9,9.50N×126.69E,h0km,mb3.8/8, mb1 4.0/9,mb1mx3.7/41,mbtmp3.9/9,ML4.8/1,MS3.0/1, Ms1 3.0/1,ms1mx2.4/35,Error ellipse: s-maj=57.6km s-min=18.9km az=81.0*
NEIC ***10*** *20:44:22.1±1.7,9.5N±0.1×126.7E±0.2,h10km±1km, mb5.0/24,Error ellipse: s-maj=40.6km s-min=18.1km az=254.0*

ISC 10 20:44:21.8±0.6,**9.51N**±0.05×**126.92E**±0.06,**h10**km,**n46,** σ1§**48**/51,**2C-2D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.43**	**281**	⇑*eP*		**Pn**		**20 44 46.1**	**-1.8**
MSLP	**Maasin**	**2.12**	**287**	*eP*		**Pn**		**20 44 55.6**	**-1.8**
MSLP				*eS*		**Sn**		**20 45 24.4**	**+0.6**
CGP	**Cagayan de Oro**	**2.43**	**245**	⇓*eP*		**Pn**		**20 44 58.6**	**-3.1**
CGP				*eS*		**Sn**		**20 45 28.0**	**-3.5**
BUKP	**Musuan**	**2.45**	**229**	*eP*		**Pn**		**20 45 00.9**	**-1.0**
BUKP				*eS*		**Sn**		**20 45 32.7**	**+0.7**
MATI	**Mati**	**2.63**	**194**	*eP*		**Pn**		**20 45 01.2**	**-3.2**
MATI				*eS*		**Sn**		**20 45 37.7**	**+1.3**
TBP	**Tagbilaran**	**3.02**	**274**	*eP*		**Pn**		**20 45 11.2**	**+1.5**
KCP	**Kidapawan**	**3.07**	**216**	⇓*eP*		**Pb**		**20 45 17.1**	**+0.4**
KCP				*i S*		**Sb**		**20 45 52.3**	**-2.0**
CTBH	**Cotabato--PC H**	**3.49**	**229**	⇑*iP*		**Pn**		**20 45 16.8**	**+0.6**
DDMP	**Don Marcelino,**	**3.59**	**199**	*eP*		**Pn**		**20 45 16.6**	**-1.0**
SNPH	**Sibulan**	**3.63**	**268**	*eP*		**Pn**		**20 45 19.2**	**+0.9**
SKMP	**Bagumbayan, Su**	**3.79**	**218**	*eP*		**Pn**		**20 45 20.9**	**+0.5**
SKMP				*eS*		**Sb**		**20 46 19.4**	**+4.5**
FAKI	**Fak Fak**	**13.44**	**156**			**P**		**20 47 42.8**	**+0.6**
HKPS	**Hong Kong Po S**	**17.65**	**318**			**Pn**		**20 48 27.8**	**-0.1**
HKPS					IAmb	IAmb		20 48 59.6	
	comp=Z,84nm,1.0s								
JAY	**Jayapura**	**18.21**	**130**		LR	LR		20 56 37.8	
	comp=Z,41nm,18.1s,baz=42,slow=40								
KSM	**Kuching**	**18.35**	**245**		P	**P**		**20 48 37.7**	**+1.1**
BATI	**Baumata**	**19.86**	**189**		P	**P**		**20 48 53.5**	**+0.3**
	comp=Z,2.6nm,0.3s,baz=154,slow=4.7,SNR=5.0								
KNRA	**Kununurra**	**25.09**	**176**		P	**P**		**20 49 44.6**	**-2.3**
FITZ	**Fitzroy Crossi**	**27.46**	**183**		P	**P**		**20 50 08.2**	**0.0**
	comp=Z,1.1nm,0.3s,baz=335,slow=5.0,SNR=8.0								
FITZ	**Fitzroy Crossi**	**27.46**	**183**		P	**P**		**20 50 07.8**	**-0.4**
FITZ					IAmb	IAmb		20 50 09.0	
	comp=Z,31nm,1.6s								
WRA	**Warramunga Arr**	**30.17**	**166**		P	**P**		**20 50 33.8**	**+1.4**
	comp=Z,0.9nm,0.9s,baz=349,slow=9.9,SNR=2.7								
PSAD1	**Pilbara Seismi**	**31.55**	**193**		P	**P**		**20 50 44.0**	**-0.5**
PSAD1					IAmb	IAmb		20 51 04.0	
	comp=Z,29nm,1.4s								
PSAC1	**Pilbara Seismi**	**31.63**	**193**		P	**P**		**20 50 45.0**	**-0.2**
PSAC1					IAmb	IAmb		20 51 03.0	
	comp=Z,18nm,1.1s								
PSAC2	**Pilbara Seismi**	**31.64**	**193**		P	**P**		**20 50 45.3**	**0.0**
PSAC2					IAmb	IAmb		20 51 22.8	
	comp=Z,31nm,1.5s								
PSAB2	**Pilbara Seismi**	**31.64**	**193**		P	**P**		**20 50 44.3**	**-1.1**
PSAB2					IAmb	IAmb		20 50 53.0	
	comp=Z,19nm,1.2s								
PSAA2	**Pilbara Seismi**	**31.65**	**193**		P	**P**		**20 50 45.1**	**-0.4**
PSAA2					IAmb	IAmb		20 50 58.5	
	comp=Z,58nm,1.7s								
PSA00	**Pilbara Seismi**	**31.66**	**193**		P	**P**		**20 50 44.6**	**-0.9**
PSAB1	**Pilbara Seismi**	**31.66**	**193**		P	**P**		**20 50 43.7**	**-1.9**
PSAA3	**Pilbara Seismi**	**31.66**	**193**		P	**P**		**20 50 45.5**	**0.0**
PSAA3					IAmb	IAmb		20 51 10.3	
	comp=Z,48nm,1.5s								
PSAA1	**Pilbara Seismi**	**31.67**	**193**		P	**P**		**20 50 43.8**	**-1.8**
PSAB3	**Pilbara Seismi**	**31.68**	**193**		P	**P**		**20 50 44.6**	**-1.1**
PSAC3	**Pilbara Seismi**	**31.71**	**193**		P	**P**		**20 50 45.6**	**-0.4**
ASAR	**Alice Springs**	**33.68**	**168**		P	**P**		**20 51 02.5**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=351,slow=6.9,SNR=2.4								
FORT	**Forrest**	**40.08**	**178**		P	**P**		**20 51 58.0**	**+0.5**
FORT					IAmb	IAmb		20 52 06.7	
	comp=Z,23nm,1.0s								
BBOO	**Buckleboo**	**42.98**	**169**		P	**P**		**20 52 21.9**	**+0.5**
BBOO					IAmb	IAmb		20 52 26.1	
	comp=Z,48nm,1.6s								
NWAO	**Narrogin (SRO)**	**43.20**	**192**		P	**P**		**20 52 23.7**	**+0.5**
NWAO	**Narrogin (SRO)**	**43.20**	**192**		P	**P**		**20 52 23.6**	**+0.5**
NWAO					IAmb	IAmb		20 52 59.1	
	comp=Z,139nm,1.8s								
STKA	**Stephens Creek**	**43.49**	**162**		P	**P**		**20 52 25.0**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=325,slow=16,SNR=3.8								
STKA	**Stephens Creek**	**43.49**	**162**		P	**P**		**20 52 25.2**	**-0.3**
MK31	**Makanchi Array**	**53.01**	**323**		P	**P**		**20 53 38.3**	**-0.6**
MKAR	**Makanchi Array**	**53.01**	**323**		P	**P**		**20 53 38.0**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=125,slow=8.6,SNR=4.4								
MAKZ	**Makanchi**	**53.21**	**323**		P	**P**		**20 53 38.1**	**-2.3**
RPZ	**Rata Peaks**	**66.41**	**147**		P	**P**		**20 55 11.6**	**+0.4**
BKZ	**Black Stump Fm**	**66.80**	**140**		P	**P**		**20 55 15.7**	**+1.8**
ILAR	**Eielson Array**	**79.84**	**26**		P	**P**		**20 56 31.4**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=238,slow=5.2,SNR=2.9								
FINES	**FINESS Array B**	**86.86**	**332**		P	**P**		**20 57 06.0**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=93,slow=3.8,SNR=5.6								
YKA	**Yellowknife Ar**	**94.19**	**24**		P	**P**		**20 57 41.8**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=292,slow=4.7,SNR=3.7								

DDA ***10*** *21:08:19.0,35.49N×28.77E,h17km±2km,ML1.9*
ATH ***10*** *21:08:19.1,35.36N×28.76E,h20km±4km,ML2.6/3,Error ellipse: s-maj=5.3km s-min=1.7km az=349.0*
ISK ***10*** *21:08:20.5,35.53N×28.78E,h0km,ML2.7/22*
NIC ***10*** *21:08:22.4±0.0,35.36N×28.88E,h32km±18km,Ml3.2/4*
THE ***10*** *21:08:23.4,35.54N×28.74E,h35km±8km,ML2.3/4,Error ellipse: s-maj=8.7km s-min=0.5km az=60.0*
HLW ***10*** *21:08:24.9,35.14N×28.68E,h22km±24km,Ml3.4*
GII ***10*** *21:08:27.7±0.0,34.83N×29.21E,h20km*

ISC 10 21:08:19.5±1.2,**35.40N**±0.03×**28.83E**±0.02,**h21**km±4km, **n73,** σ1§**39**/97,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.97**	**39**		P		**Pn**	**21 08 39.0**	**+1.2**
KSL					S		**Sn**	**21 08 51.2**	**+0.2**
	112nm,1.1s								
KSL	**Kastellorizon**	**0.97**	**39**		P		**Pn**	**21 08 38.8**	**+1.0**
ARG	**Arkhangelos**	**1.00**	**325**		P		**Pb**	**21 08 37.9**	**-0.2**
ARG	**Arkhangelos**	**1.00**	**325**		P		**Pb**	**21 08 37.9**	**-0.2**
ARG					S		**Sn**	**21 08 52.8**	**+1.0**
ARG	**Arkhangelos**	**1.00**	**325**		PG		**Pn**	**21 08 38.8**	**+0.5**
AKAS	**Kas**	**1.04**	**37**		PG		**Pn**	**21 08 39.9**	**+0.9**
AKAS					SG		**Sn**	**21 08 53.9**	**+0.8**
AKAS	**Kas**	**1.04**	**37**	*iP*			**Pn**	**21 08 40.2**	**+1.1**
AKAS				*iS*			**Sb**	**21 08 52.4**	**+0.2**
AKAS					IAML			21 08 56.0	
	comp=E,66nm,0.3s								
AKAS					IAML			21 08 56.0	
	comp=N,47nm,0.3s								
FETY	**Fethiye**	**1.25**	**9**		PN		**Pn**	**21 08 41.6**	**-0.2**
FETY					SN		**Sb**	**21 08 57.2**	**-0.9**
FETY	**Fethiye**	**1.25**	**9**	*iP*			**Pn**	**21 08 41.5**	**-0.3**
FETY					IAML			21 08 57.0	
	comp=N,12nm,0.5s								
FETY				*iS*			**Sb**	**21 08 57.2**	**-0.9**
FETY					IAML			21 08 59.0	
	comp=E,18nm,0.6s								
KARP	**Karpathos**	**1.37**	**277**		P		**Pn**	**21 08 44.0**	**+0.5**
KARP					S		**Sn**	**21 09 00.4**	**-0.7**
KARP	**Karpathos**	**1.37**	**277**		P		**Pb**	**21 08 44.3**	**-0.2**
KARP					S		**Sb**	**21 09 01.7**	**+0.1**
KARP	**Karpathos**	**1.37**	**277**		PN		**Pb**	**21 08 44.3**	**-0.2**
KARP	**Karpathos**	**1.37**	**277**		P		**Pb**	**21 08 44.5**	**0.0**
KARP					S		**Sb**	**21 09 03.2**	**+1.6**
DALY	**Dalyan (Mula)**	**1.43**	**354**		PN		**Pn**	**21 08 43.9**	**-0.2**
DALY	**Dalyan (Mula)**	**1.43**	**354**	*iP*			**Pn**	**21 08 44.0**	**-0.2**
TURN	**Turunc**	**1.49**	**353**		PN		**Pn**	**21 08 44.6**	**-0.4**
TURN	**Turunc**	**1.49**	**353**	*iP*			**Pn**	**21 08 44.9**	**0.0**
AKUM	**Antalya-Kumluc**	**1.54**	**53**	*iP*			**Pn**	**21 08 46.5**	**+0.9**
AKUM					IAML			21 09 06.0	
	comp=E,14nm,0.6s								
ELL	**Elmali**	**1.61**	**32**		PN		**Pn**	**21 08 47.5**	**+0.8**
ELL	**Elmali**	**1.61**	**32**		P		**Pb**	**21 08 48.7**	**+0.2**
ELL					S		**Sb**	**21 09 08.4**	**0.0**
DAT	**Datca**	**1.68**	**323**		PN		**Pn**	**21 08 47.6**	**-0.1**
DAT	**Datca**	**1.68**	**323**	*iP*			**Pn**	**21 08 47.8**	**+0.1**
YER	**Yerkesik**	**1.79**	**346**		PN		**Pn**	**21 08 49.8**	**+0.6**
GOLH	**Golhisar**	**1.93**	**17**	*iP*			**Pb**	**21 08 53.2**	**-0.8**
GOLH					IAML			21 09 17.0	
	comp=N,11nm,0.5s								
KORT	**Korkueli**	**2.02**	**37**		PN		**Pn**	**21 08 53.6**	**+1.2**
KORT	**Korkueli**	**2.02**	**37**	*iP*			**Pb**	**21 08 55.6**	**+0.1**
KORT				*iS*			**Sb**	**21 09 21.4**	**+1.2**
KORT					IAML			21 09 23.0	
	comp=N,14nm,0.3s								
TAVA	**DENIZLI_Tavas**	**2.07**	**2**	*iP*			**Pn**	**21 08 53.8**	**+0.8**
TAVA					IAML			21 09 18.0	
	comp=N,12nm,0.4s								
TAVA				*iS*			**Sn**	**21 09 18.3**	**0.0**
TAVA					IAML			21 09 20.0	
	comp=E,12nm,0.3s								
BODT	**Bodrum**	**2.07**	**324**		P		**Pn**	**21 08 52.6**	**-0.5**
BODT					S		**Sn**	**21 09 15.5**	**-2.7**
BODT	**Bodrum**	**2.07**	**324**		PN		**Pn**	**21 08 52.5**	**-0.5**
ZKR	**Zakros**	**2.16**	**263**		P		**Pn**	**21 08 55.6**	**+1.3**
ZKR					S		**Sn**	**21 09 20.3**	**-0.1**
	comp=E,35nm,0.3s								
ZKR	**Zakros**	**2.16**	**263**		P		**Pn**	**21 08 55.6**	**+1.3**
ZKR					AML	AML		21 09 21.0	
	comp=E,106μm,0.3s								
ZKR					AML	AML		21 09 23.9	
	comp=N,33μm,0.3s								
ZKR	**Zakros**	**2.16**	**263**		PN		**Pn**	**21 08 55.5**	**+1.3**
GCAM	**G?zelcaml?**	**2.64**	**331**		PN		**Pn**	**21 09 00.9**	**+0.1**
NPS	**Neapolis**	**2.64**	**268**		P		**Pn**	**21 09 02.5**	**+1.7**
NPS					S		**Sn**	**21 09 30.8**	**-1.4**
	comp=N,42nm,0.7s								
NPS	**Neapolis**	**2.64**	**268**		P		**Pn**	**21 09 02.6**	**+1.7**
NPS					AML	AML		21 09 32.4	
	comp=E,95μm,0.3s								
NPS					AML	AML		21 09 34.7	
	comp=N,57μm,0.4s								
AYDB	**Zeytinkoy-Aydi**	**2.66**	**344**		PN		**Pn**	**21 09 01.0**	**-0.2**
ANAF	**Anafi Island**	**2.67**	**292**		P		**Pn**	**21 09 01.5**	**+0.3**
ANAF					AML	AML		21 09 31.1	
	comp=E,310μm,0.4s								
ANAF					AML	AML		21 09 32.2	
	comp=N,253μm,0.2s								
KEPZ	**Antalya-Kepez**	**2.70**	**55**	*iP*			**Pn**	**21 09 03.5**	**+1.9**
LAST	**Lasithi**	**2.76**	**266**		P		**Pn**	**21 09 04.2**	**+1.7**
LAST					S		**Sn**	**21 09 34.8**	**-0.4**
	comp=N,25nm,0.6s								
LAST	**Lasithi**	**2.76**	**266**		P		**Pn**	**21 09 04.3**	**+1.8**
OSC1	**CSNet OBS 1**	**2.77**	**132**		P		**Pn**	**21 09 03.9**	**+1.3**
OSC1					S		**Sn**	**21 09 35.3**	**0.0**
AKMS	**Akamas**	**2.89**	**96**		P		**Pn**	**21 09 05.7**	**+1.4**
AKMS					S		**Sn**	**21 09 37.5**	**-1.0**
AKMS					AML	AML		21 09 38.7	
	comp=N,0.2nm,0.3s								
AKMS					AML	AML		21 09 38.7	
	comp=N,0.2nm,0.3s								
AKMS					AML	AML		21 09 42.8	
	comp=N,0.2nm,0.3s								
AKMS					AML	AML		21 09 42.8	
	comp=N,0.2nm,0.3s								
SANT	**Santorini**	**2.91**	**291**		PN		**Pn**	**21 09 05.1**	**+0.5**
STAX	**Taxiarchis Har**	**2.96**	**291**		P		**Pn**	**21 09 06.0**	**+0.8**
THR3	**Thira Island,**	**2.96**	**291**		P		**Pn**	**21 09 05.1**	**-0.2**
ALFC	**Alefka**	**3.09**	**93**		P		**Pn**	**21 09 09.2**	**+2.2**
NATA	**Nata**	**3.12**	**100**		P		**Pn**	**21 09 09.1**	**+1.6**
NATA					AML	AML		21 09 43.8	
	comp=N,0.3nm,0.4s								
NATA					AML	AML		21 09 43.8	
	comp=N,0.3nm,0.4s								
NATA					S		**Sn**	**21 09 43.9**	**-0.3**
NATA					AML	AML		21 09 47.1	
	comp=N,0.4nm,0.3s								
NATA					AML	AML		21 09 47.1	
	comp=N,0.4nm,0.3s								
SEYD	**Seydisehir-KON**	**3.15**	**49**		PN		**Pn**	**21 09 09.5**	**+1.6**
APE	**Apeiranthos**	**3.15**	**303**		PN		**Pn**	**21 09 08.1**	**+0.2**
IDI	**Anoyia**	**3.23**	**269**		PN		**Pn**	**21 09 10.1**	**+1.1**
SZAC	**Souni**	**3.38**	**100**		P		**Pn**	**21 09 12.6**	**+1.5**
SZAC					S		**Sn**	**21 09 50.2**	**-0.3**
SZAC					AML	AML		21 09 51.7	
	comp=N,0.2nm,0.4s								
SZAC					AML	AML		21 09 51.7	
	comp=N,0.2nm,0.4s								
TEKE	**Tekeli-Mersin**	**3.56**	**77**		PN		**Pn**	**21 09 15.0**	**+1.5**
ASGA	**Asgata**	**3.67**	**98**		P		**Pn**	**21 09 16.8**	**+1.8**
ASGA					AML	AML		21 10 03.1	
	comp=N,0.1nm,0.3s								
BERE	**Bereket-Mersin**	**3.69**	**74**		PN		**Pn**	**21 09 16.7**	**+1.3**
CSS	**Mathiatis**	**3.71**	**95**		PN		**Pn**	**21 09 18.3**	**+2.8**
IMMV	**Iera Moni Meta**	**3.96**	**272**		P		**Pn**	**21 09 21.4**	**+2.4**
IMMV	**Iera Moni Meta**	**3.96**	**272**		PN		**Pn**	**21 09 20.6**	**+1.6**
IKL	**Isikli**	**4.03**	**77**		PN		**Pn**	**21 09 21.5**	**+1.6**
TVSB	**Tavsanli**	**4.08**	**7**		PN		**Pn**	**21 09 20.3**	**-0.4**
SLUM	**Salum**	**4.93**	**219**		P		**Pn**	**21 09 32.1**	**-0.2**
	baz=220								
SLUM					AMP			21 10 00.0	
	baz=220								
SLUM					S		Sn	21 10 20.3	-8.5
	baz=220								
MMA0B	**Mount Meron ar**	**5.94**	**112**		Pn		**Pn**	**21 09 48.0**	**+1.8**
HNAT	**Natroun**	**5.94**	**165**		P		**Pn**	**21 09 47.3**	**+1.1**
	baz=162								
KSDI	**Kefar Szold**	**6.06**	**109**		Pn		**Pn**	**21 09 50.3**	**+2.4**
KSDI					Sn		**Sn**	**21 10 54.6**	**-2.0**
HHAG	**Hagoal**	**6.08**	**152**		P		**Pn**	**21 09 48.9**	**+0.7**
	baz=149								
NATI	**Neve Ativ**	**6.09**	**108**		Pn		**Pn**	**21 09 50.9**	**+2.6**
NATI					Sn		**Sn**	**21 10 55.3**	**-2.1**
GLL	**Jalalah**	**6.29**	**157**		P		**Pn**	**21 09 52.0**	**+0.9**
	baz=154								
KZIT	**Kziot**	**6.46**	**132**		Pn		**Pn**	**21 09 54.5**	**+1.1**
KZIT					Sn		**Sn**	**21 11 02.6**	**-4.0**
SUZ	**Suez**	**6.48**	**148**		P		**Pn**	**21 09 55.9**	**+2.2**
	baz=145								
DSI	**Dead Sea**	**6.67**	**123**		Pn		**Pn**	**21 09 57.1**	**+0.9**
PRNI	**Paran**	**7.23**	**132**		Pn		**Pn**	**21 10 04.6**	**+0.7**
PRNI					Sn		**Sn**	**21 11 19.4**	**-6.0**
HRFI	**Mount Harif**	**7.47**	**134**		Pn		**Pn**	**21 10 07.4**	**+0.1**
HBST	**Basata**	**7.93**	**139**		P		**Pn**	**21 10 14.6**	**+1.1**
	baz=137								
HFRF	**Wahat Farafira**	**8.23**	**183**		P		**Pn**	**21 10 17.8**	**+0.1**
	baz=183								
HFRF					AMP			21 11 00.0	
	baz=183								
HFRF					S		Sn	21 11 41.0	-9.1
	baz=183								

IPEC ***10*** *21:16:35.9±0.4,51.53N×16.19E,h0km±2km,ML2.2/3, Error ellipse: s-maj=3.9km s-min=1.8km az=60.0*
VIE ***10*** *21:16:36.4±0.5,51.47N×16.03E,h0km,mb1.9/4,ml2.7/5, Error ellipse: s-maj=3.5km s-min=2.4km az=13.0 80 km WNW of Wroclaw Suspected Mining induced.*
PRU ***10*** *21:16:37.1±0.0,51.49N×16.12E,h0km*

ISC 10 21:16:34.7±0.9,**51.59N**±0.04×**16.17E**±0.03,**h0**km,**n29,** σ0§**72**/53,**Poland**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**174**	*e*Pg			**Pg**	**21 16 49.4**	**+0.4**
KSP				*e*Sg			**Sg**	**21 16 58.7**	**0.0**
CHVC	**Chvalec**	**1.00**	**184**	*e*PG			**Pg**	**21 16 54.4**	**+0.5**
CHVC				*e*SG			**Sg**	**21 17 07.0**	**+0.1**
	comp=Z,22nm,0.3s								
OSTC	**Ostas**	**1.03**	**178**	*e*PG			**Pg**	**21 16 54.8**	**+0.3**
OSTC				*e*SG			**Sg**	**21 17 07.8**	**0.0**
	comp=Z,28nm,0.3s								
UPC	**Upice**	**1.09**	**185**	*e*PG			**Pg**	**21 16 55.6**	**+0.1**
UPC				*e*SG			**Sg**	**21 17 08.8**	**-0.7**
	comp=Z,63nm,0.2s								
DPC	**Dobruska-Polom**	**1.24**	**175**	*e*PG			**Pg**	**21 16 58.3**	**-0.2**
DPC				*e*SG			**Sg**	**21 17 14.7**	**+0.1**
	comp=Z,18nm,0.3s								
PVCC	**Panska Ves**	**1.46**	**224**	*e*PG			**Pn**	**21 17 02.8**	**+0.5**
PVCC				*e*SG			**Sg**	**21 17 21.4**	**-0.2**
	comp=Z,84nm,0.2s								
BRG	**Berggiesshubel**	**1.57**	**244**	PG			**Pb**	**21 17 04.7**	**+0.1**
BRG				SG			**Sn**	**21 17 24.7**	**-0.1**
	52nm,0.4s								
PRA	**Prague**	**1.88**	**217**	*e*SG			**Sg**	**21 17 34.6**	**-0.3**
	comp=Z,6.0nm,0.4s								
GOPC	**GO Pecny, Ondr**	**1.89**	**208**	*e*PG			**Pn**	**21 17 09.2**	**+1.0**
GOPC				*e*SG			**Sb**	**21 17 34.4**	**+0.2**
	comp=Z,14nm,0.6s								
PRU	**Pruhonice**	**1.91**	**213**	*e*PN			**Pb**	**21 17 09.8**	**-0.5**
PRU				*e*PG			**Pg**	**21 17 10.9**	**-0.3**
PRU				*e*SG			**Sb**	**21 17 34.1**	**-0.5**
	comp=Z,12nm,0.3s								
CLL	**Collm**	**2.00**	**263**	*e*Pg			**Pg**	**21 17 14.0**	**+1.0**
CLL				*e*				21 17 18.0	
CLL						*i* Sg	**Sg**	**21 17 38.9**	**0.0**
	comp=Z,15nm,0.8s								
MORC	**Moravsky Berou**	**2.01**	**154**	*e*PN			**Pn**	**21 17 10.0**	**+0.1**
MORC				*e*SG			**Sb**	**21 17 37.5**	**-0.3**
MORC	**Moravsky Berou**	**2.01**	**154**	*e*PN			**Pn**	**21 17 10.0**	**+0.1**
	baz=334								
MORC				*e*Sg			**Sb**	**21 17 37.5**	**-0.3**
	comp=Z,28nm,0.5s,baz=334								
OKC	**Ostrava-Krasne**	**2.16**	**144**	*e*PG			**Pb**	**21 17 14.2**	**-0.4**
OKC				*e*SG			**Sg**	**21 17 43.4**	**-0.6**
	comp=Z,13nm,0.6s								
VRAC	**Vranov**	**2.30**	**173**	*e*PN			**Pn**	**21 17 14.4**	**+0.6**
VRAC				*e*SG			**Sb**	**21 17 45.9**	**-0.1**
VRAC	**Vranov**	**2.30**	**173**	*e*Pn			**Pn**	**21 17 14.4**	**+0.6**
	baz=354								
VRAC				*e*Sg			**Sb**	**21 17 45.9**	**-0.1**
	comp=Z,8.8nm,0.2s,baz=354								
TREC	**Trest**	**2.34**	**191**	*e*SG			**Sb**	**21 17 47.5**	**+0.5**
	comp=Z,13nm,0.2s								
PBCC	**Pribram**	**2.35**	**217**	*e*SG			**Sb**	**21 17 48.5**	**+1.0**
	comp=Z,3.6nm,0.4s								
KRUC	**Moravsky**	**2.53**	**177**	*e*PN			**Pn**	**21 17 17.6**	**+0.6**
KRUC				*e*SG			**Sb**	**21 17 53.5**	**+0.8**
KRUC	**Moravsky**	**2.53**	**177**	*e*Pn			**Pn**	**21 17 17.6**	**+0.6**
	baz=357								
KRUC				*e*Sg			**Sb**	**21 17 53.5**	**+0.8**
	comp=Z,11nm,0.4s,baz=357								
OJC	**Ojcow**	**2.68**	**119**	*e*Pg			**Pg**	**21 17 27.1**	**+1.2**
OJC				*e*Sg			**Sg**	**21 18 01.6**	**+1.0**
NKC	**Novy Kostel**	**2.72**	**241**	*e*SG			**Sg**	**21 18 01.8**	**-0.1**
	comp=Z,22nm,0.3s								
KHC	**Kasperske Hory**	**2.97**	**215**	*e*PN			**Pn**	**21 17 23.6**	**+0.6**
KHC				*e*PG			**Pb**	**21 17 29.0**	**+0.6**
KHC				*e*SG			**Sg**	**21 18 07.7**	**-2.2**
	comp=Z,4.7nm,0.3s								
SMOL	**Smolenice**	**3.18**	**165**	*e*SG			**Sg**	**21 18 16.7**	**-0.2**
MODS	**Modra-Piesok**	**3.30**	**167**	*e*SG			**Sg**	**21 18 19.0**	**-1.5**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i*P			**Pn**	**21 17 31.9**	**+0.1**
BSD				*i*S			**Sn**	**21 18 12.9**	**-2.2**
CONA	**Conrad Observa**	**3.67**	**183**	*i*Pn			**Pn**	**21 17 32.3**	**-0.4**
MOA	**Molln**	**3.94**	**199**	*i*Pn			**Pn**	**21 17 36.7**	**+0.3**
	comp=Z,0.6nm,0.3s								
MOA				*i*Sn			**Sn**	**21 18 22.1**	**-1.2**
	comp=Z,2.6nm,0.2s								
ARSA	**Arzberg**	**4.36**	**186**	*i*Pn			**Pn**	**21 17 42.7**	**+0.5**
	comp=Z,0.2nm,0.0s								
ARSA				*i*Sg			**Sg**	**21 18 55.4**	**+0.6**
	comp=Z,1.2nm,0.3s								

THE ***10*** *21:17:51.7,38.36N×20.44E,h8km±1km,ML2.3/7,Error ellipse: s-maj=2.1km s-min=0.3km az=91.0*
ATH ***10*** *21:17:51.5,38.37N×20.46E,h13km±2km,ML2.5/5, Error ellipse: s-maj=2.8km s-min=0.7km az=235.0*

ISC 10 21:17:51.5±1.3,**38.37N**±0.02×**20.46E**±0.05,**h12**km±7km, **n18,** σ0§**45**/36,**Greece**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VSK1	**VASILIKIADES**	**0.09**	**63**		P		**Pg**	**21 17 54.1**	**-0.2**
VSK1					S		**Sg**	**21 17 56.0**	**-0.3**
	5μm,0.1s								
KEF4	**Livadi, Kephal**	**0.12**	**196**		P		**Pg**	**21 17 54.4**	**-0.1**
KEF4					S		**Sg**	**21 17 56.9**	**+0.2**
FSK	**Fiskardo**	**0.12**	**41**		P		**Pg**	**21 17 54.5**	**-0.1**
FSK					S		**Sg**	**21 17 56.8**	**-0.1**
	2μm,0.2s								
FSK	**Fiskardo**	**0.12**	**41**		P		**

MATI				*e*S		**Sn**	**21 26 22.0**	**-0.8**
SKMP	**Bagumbayan, Su**	**1.02**	**272**	*e*P		**Pn**	**21 26 03.6**	**+0.3**
SKMP				*e*S		**Sn**	**21 26 26.4**	**+1.3**
BUKP	**Musuan**	**1.48**	**340**	*e*P		**Pn**	**21 26 06.2**	**-1.0**
CTBH	**Cotabato--PC H**	**1.51**	**299**	⇓*i*P		**Pn**	**21 26 07.0**	**-0.4**
PAGZ	**Pagadian**	**2.56**	**302**	*e*P		**Pn**	**21 26 17.4**	**-1.3**
PAGZ				*e*S		**Sn**	**21 26 51.1**	**-1.6**
TNTI	**Ternate**	**5.94**	**162**	P		**Pn**	**21 26 59.4**	**-2.1**
	0.5nm0.5nm2µm173nm,1.0s							
TNTI				S		**Sn**	**21 28 07.6**	**-2.0**
	0.5nm0.5nm2µm173nm,1.0s							
MRSI	**Marisa**	**6.97**	**211**	P		**Pn**	**21 27 17.7**	**+2.8**
	0.1nm26nm,0.6s							
SANI	**Sanana**	**8.48**	**177**	P		**Pn**	**21 27 33.9**	**-0.8**
	2µm87nm,0.7s							
NLAI	**Namlea**	**9.77**	**171**	P		**Pn**	**21 27 52.5**	**+0.8**
BNDI	**Bandanaira**	**11.75**	**158**	P		Pn	21 28 12.7	-4.6
BATI	**Baumata**	**16.68**	**187**	P		**Pn**	**21 29 21.6**	**+3.1**
	8.7nm,0.3s,baz=26,slow=2.3,SNR=10							
FITZ	**Fitzroy Crossi**	**24.42**	**180**	P		**P**	**21 30 37.7**	**+0.8**
	6.0nm,0.6s,baz=0.2,slow=7.2,SNR=28							
WRA	**Warramunga Arr**	**27.64**	**162**	P		**P**	**21 31 05.8**	**0.0**
	1.8nm,0.5s,baz=342,slow=9.2,SNR=35							
ASAR	**Alice Springs**	**31.05**	**165**	P		**P**	**21 31 36.5**	**+0.6**
	4.1nm,0.5s,baz=344,slow=7.3,SNR=72							
STKA	**Stephens Creek**	**41.09**	**159**	P		**P**	**21 33 02.1**	**+1.1**
	5.1nm,0.5s,baz=335,slow=7.5,SNR=18							
MKAR	**Makanchi Array**	**54.66**	**325**	P		**P**	**21 34 42.4**	**-2.6**
	0.2nm,0.4s,baz=117,slow=7.1,SNR=6.5							

TEH ***10*** *21:28:09.3,35°.82N×52°.90E,h8km,ML3.5*
THR ***10*** *21:28:09.1±0.4,35°.93N×52°.82E,h14km±4km, ML3.6*
NNC ***10*** *21:28:11.7±10.0,35°.96N×53°.80E,h0km,mb4.2, Error ellipse: s-maj=88.6km s-min=50.7km az=16.0*

ISC 10 21:28:09.6±1.3,**35°.91N**±0°.03×**52°.82E**±0°.03,**h16**km±12km, **n49,**σ1°**68/49,3C-3D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IALA	**Alasht**	**0.17**	**357**	*e*Pg		**Pb**	**21 28 14.8**	**+0.2**
IALA				*e*			21 28 20.8	
IPRN	**Peran**	**0.51**	**310**	*e*Pg		**Pn**	**21 28 21.2**	**-1.2**
IPRN				*e*			21 28 36.7	
ILAS	**Lasjerd**	**0.54**	**168**	*e*Pg		**Pg**	**21 28 18.8**	**-1.7**
ILAS				*e*			21 28 26.1	
IDMV	**Damavand**	**0.72**	**243**	*e*Pg		**Pb**	**21 28 23.6**	**-0.4**
IDMV				*e*			21 28 40.1	
IANJ	**Anjilo**	**1.00**	**116**	*e*Pg		**Pb**	**21 28 26.0**	**-2.7**
IANJ				*e*			21 28 28.9	
IGLO	**Ghaloghah**	**1.01**	**54**	*e*Pg		**Pn**	**21 28 28.9**	**-0.4**
IGLO				*e*			21 28 54.7	
TEH	**Tehran**	**1.18**	**262**	*e*Pg		**Pg**	**21 28 33.2**	**+0.7**
TEH				*e*			21 28 53.8	
IVRN	**Varamin**	**1.28**	**225**	*e*Pg		**Pb**	**21 28 33.4**	**0.0**
IVRN				*e*			21 28 54.7	
IHSB	**Hasanabad**	**1.34**	**250**	*e*Pg		**Pg**	**21 28 35.2**	**-0.3**
IHSB				*e*			21 29 01.7	
CHTH	**Charan**	**1.38**	**270**	*e*Pg		**Pb**	**21 28 34.4**	**-0.7**
CHTH	**Charan**	**1.38**	**270**	*e*Pg		**Pb**	**21 28 34.4**	**-0.7**
THKV	**Tehran--Karaj**	**1.57**	**271**	IAML			21 28 57.0	
	comp=E,531nm,0.5s							
THKV				IAML			21 28 60.0	
	comp=N,669nm,0.4s							
IMHD	**Mahdasht**	**1.76**	**263**	*e*Pn		**Pg**	**21 28 42.7**	**-0.8**
IMHD				*e*			21 29 13.7	
IQOM	**Qom**	**1.78**	**234**	*e*Pg		**Pb**	**21 28 42.3**	**+0.2**
IQOM				*e*			21 29 10.0	
QALM	**Alamut, Qazvin**	**1.83**	**287**	*e*Pn		**Pg**	**21 28 44.5**	**-0.4**
QALM				*e*			21 29 19.6	
GHVR	**GHOM**	**1.90**	**222**	*e*Pn		**Pb**	**21 28 43.5**	**-0.4**
GHVR				*e*Sg		**Sg**	**21 29 10.2**	**-0.6**
GHVR				IAML			21 29 19.2	
	comp=E,614nm,0.7s							
GHVR	**GHOM**	**1.90**	**222**	*e*Pn		**Pb**	**21 28 43.5**	**-0.4**
IRAZ	**Razeghan**	**2.41**	**259**	*e*Pn		**Pb**	**21 28 52.8**	**+0.1**
IRAZ				*e*			21 29 41.1	
IMND	**Minoodasht**	**2.48**	**56**	*e*Pn		**Pb**	**21 28 52.2**	**-1.6**
IMND				*e*			21 29 41.0	
SHRO	**Shahrood**	**2.59**	**87**	*e*Pn		**Pn**	**21 28 52.7**	**+1.7**
SHRO	**Shahrood**	**2.59**	**87**	*e*Pn		**Pn**	**21 28 52.7**	**+1.7**
QABG	**Abgarm-Qazvin**	**2.64**	**267**	*e*Pn		**Pb**	**21 28 55.5**	**-1.2**
QABG				*e*			21 29 37.9	
ASAO	**Ashtian**	**2.66**	**240**	*e*Pn		**Pn**	**21 28 54.1**	**+2.0**
ASAO	**Ashtian**	**2.66**	**240**	*e*Pn		**Pn**	**21 28 54.1**	**+2.0**
IKLH	**Kolahrood**	**2.78**	**202**	*e*Pn		**Pn**	**21 28 55.2**	**+1.4**
ANAR	**Anarak**	**2.82**	**164**	*e*Pn		**Pn**	**21 28 55.1**	**+0.9**
QSDN	**Sirdan**	**3.01**	**282**	*e*Pn		**Pb**	**21 29 01.7**	**-1.2**
IZEF	**Zefreh**	**3.04**	**188**	*e*Pn		**Pn**	**21 28 58.6**	**+1.3**
IZEF				*e*			21 29 07.7	
HAGD	**Aghdareh**	**3.20**	**251**	*e*Pn		**Pb**	**21 29 03.3**	**-2.9**
KHMZ	**Khomeyn**	**3.20**	**228**	*e*Pn		**Pn**	**21 29 01.4**	**+1.9**
KHMZ	**Khomeyn**	**3.20**	**228**	*e*Pn		**Pn**	**21 29 01.4**	**+1.9**
IGAR	**Gharneh**	**3.56**	**191**	*e*Pn		**Pn**	**21 29 06.0**	**+1.6**
YZKH	**Yazd**	**3.81**	**157**	*e*Pn		**Pn**	**21 29 09.7**	**+2.0**
YZKH				IAML			21 30 19.1	
	comp=E,74nm,0.4s							
YZKH	**Yazd**	**3.81**	**157**	*e*Pn		**Pn**	**21 29 09.7**	**+2.0**
HSAM	**Samen**	**3.85**	**245**	*e*Pn		**Pn**	**21 29 11.6**	**+3.1**
ISAD	**Sadrabad**	**4.05**	**170**	*e*Pn		**Pn**	**21 29 12.2**	**+0.9**
IRAM	**Ramesheh**	**4.11**	**185**	*e*Pn		**Pn**	**21 29 13.8**	**+1.8**
TPRV	**Parvadeh(Tabas**	**4.30**	**131**	*e*Pn		**Pn**	**21 29 15.8**	**+1.3**
ISFR	**Sfrayin**	**4.33**	**73**	*e*Pn		**Pn**	**21 29 17.1**	**+2.1**
IKRD	**Kardeh**	**4.68**	**78**	*e*Pn		**Pb**	**21 29 32.9**	**+1.5**
GYA0B	**ALIBECK ARRAY**	**4.70**	**63**	⇓Pg		**Pn**	**21 29 23.0**	**+3.2**
GYA0B				⇓Lg		Lg	21 30 20.2	
IMEH	**Mehriz**	**4.75**	**161**	*e*Pn		**Pn**	**21 29 22.0**	**+1.1**
IHRS	**Heris**	**5.20**	**299**	*e*Pn		Pn	21 29 31.8	+4.8
IGHG	**Ghaleghazi**	**5.36**	**255**	*e*Pn		Pn	21 29 33.8	+4.6
ITEG	**Tejag**	**5.75**	**125**	*e*Pn		**Pn**	**21 29 36.0**	**+1.5**
IMYA	**Miami**	**5.91**	**84**	*e*Pn		**Pn**	**21 29 38.9**	**+2.2**
IMON	**Monand**	**6.27**	**114**	*e*Pn		**Pn**	**21 29 43.4**	**+1.7**
AB31	**Akbulak array**	**14.32**	**19**	⇑Pn		**Pn**	**21 31 33.7**	**+2.1**
	comp=E,3.6nm,0.3s,baz=207,slow=14,SNR=6.4							
AB31				⇑Sn		**Sn**	**21 34 06.8**	**-3.1**
	comp=E,4.2nm,0.5s,baz=199,slow=21,SNR=5.1							
AKTO	**Aktyubinsk**	**14.99**	**13**	⇑Pn		**Pn**	**21 31 42.6**	**+1.8**
	comp=E,1.9nm,1.0s							
AKTO				⇓Sn		**Sn**	**21 34 27.7**	**+1.3**
	comp=E,1.6nm,0.9s							

DJA ***10*** *21:28:33.7±0.2,7°.S±3°×12°.9E±°,h196km±7km,M4.7/13, mb4.7/13,mB5.2/10,MLv5.0/10,Mw(mB)4.6/10*
IDC ***10*** *21:28:33.6±2.1,7°.1S×129°.37E,h137km±22km, mb3.7/15, mb1 3.9/19,mb1mx3.7/37,mbtmp4.3/19,MS2.9/1, Ms1 2.9/1,ms1mx2.4/24,Error ellipse: s-maj=14.6km s-min=12.0km az=33.0*
NEIC ***10*** *21:28:34.2±2.6,7°.16S±0°.05×129°.41E±0°.06,h149km±8km, mb4.3/12,Error ellipse: s-maj=11.4km s-min=3.6km az=129.0*

ISC 10 21:28:33.6±0.5,**7°.36S**±0°.04×**129°.40E**±0°.05,**h150**km,**n58,** σ**2°32/64,mb3.9/18,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SAUI	**Saumlaki**	**1.98**	**108**	P		**Pn**	**21 29 10.7**	**+2.1**
SAUI	**Saumlaki**	**1.98**	**108**	P		**Pn**	**21 29 11.0**	**+2.4**
SAUI	**Saumlaki**	**1.98**	**108**			**Pn**	**21 29 10.9**	**+2.4**
SAUI						**Sn**	**21 29 34.8**	**-0.6**
BNDI	**Bandanaira**	**2.86**	**10**	P		**Pn**	**21 29 19.9**	**+0.6**
BNDI				S		**Sn**	**21 29 56.8**	**+2.2**
NLAI	**Namlea**	**4.69**	**331**	P		Pn	21 29 35.3	-7.7
FAKI	**Fak Fak**	**5.24**	**33**	P		**Pn**	**21 29 47.6**	**-2.8**
	1.6nm7µm135nm,0.6s							
FAKI	**Fak Fak**	**5.24**	**33**	Pn		**Pn**	**21 29 48.0**	**-2.4**
SOEI	**Soe**	**5.61**	**244**	P		**Pn**	**21 29 57.6**	**+2.3**
	6.7nm4µm365nm,0.8s							
SOEI	**Soe**	**5.61**	**244**	P		**Pn**	**21 29 57.9**	**+2.6**
SOEI	**Soe**	**5.61**	**244**			**Pn**	**21 29 57.4**	**+2.1**
MTN	**Manton Dam**	**5.71**	**163**			**Pn**	**21 29 59.0**	**+2.5**
MTN						**Sn**	**21 31 00.7**	**-0.7**
BATI	**Baumata**	**6.33**	**243**	P		**Pn**	**21 30 07.2**	**+2.3**
	53nm,0.3s,baz=227,slow=0.7,SNR=107							
BATI				S		**Sn**	**21 31 16.1**	**-0.2**
	48nm,0.3s,baz=47,slow=12,SNR=18							
BATI	**Baumata**	**6.33**	**243**	P		**Pn**	**21 30 07.1**	**+2.2**
	2.1nm3µm157nm,0.7s							
KNRA	**Kununurra**	**8.29**	**184**			**Pn**	**21 30 32.0**	**+1.0**
KNRA						**Sn**	**21 32 00.2**	**-3.1**
BASI	**Baing, Sumba**	**9.17**	**251**	P		**Pn**	**21 30 43.5**	**+0.8**
	2µm142nm,0.6s							
WSI	**Waingapu**	**9.29**	**255**	P		**Pn**	**21 30 44.8**	**+0.5**
	4µm351nm,0.6s							
WBSI	**Waikabubak, Su**	**10.15**	**256**	P		**Pn**	**21 30 55.7**	**-0.1**
	6µm187nm,0.7s							
SMPI	**Sarmi**	**10.70**	**61**	P		**Pn**	**21 31 02.0**	**-1.0**
	17nm,1.1s							
FITZ	**Fitzroy Crossi**	**11.29**	**199**	P		**Pn**	**21 31 10.6**	**-0.1**
	3.0nm,0.3s,baz=18,slow=9.2,SNR=56							
FITZ				S		**Sn**	**21 33 07.2**	**-8.3**
	6.8nm,0.3s,baz=98,slow=22,SNR=8.9							
PLAI	**Plampang**	**11.60**	**262**	P		**Pn**	**21 31 13.0**	**-1.8**
	2µm90nm,0.8s							
JAY	**Jayapura**	**12.25**	**67**	P		**Pn**	**21 31 24.8**	**+1.5**
	0.7nm,0.3s,baz=216,slow=13,SNR=4.6							
JAY				S		**Sn**	**21 33 35.8**	**-3.0**
	0.8nm,0.3s,baz=142,slow=23,SNR=2.8							
WB0	**Warramunga Arr**	**13.25**	**159**			**Pn**	**21 31 35.8**	**-0.4**
WRAB	**Tennant Creek**	**13.39**	**159**			**Pn**	**21 31 38.3**	**+0.4**
WRA	**Warramunga Arr**	**13.40**	**160**	P		**Pn**	**21 31 37.3**	**-0.7**
	1.0nm,0.3s,baz=336,slow=14,SNR=8.6							
WRA				S		**Sn**	**21 33 59.2**	**-7.1**
	4.9nm,0.3s,baz=319,slow=28,SNR=7.8							
WR0	**Warramunga Arr**	**13.48**	**159**	Pn		**Pn**	**21 31 39.4**	**+0.3**
COEN	**Coen**	**15.04**	**117**	Pn		**Pn**	**21 31 58.3**	**-0.3**
JAGI	**Jajag, Banyuwa**	**15.14**	**265**	P		**Pn**	**21 31 56.1**	**-3.9**
AS31	**Alice Springs**	**16.78**	**166**			**Pn**	**21 32 20.7**	**+0.7**
AS31					IAmb	IAmb	21 32 23.9	
	comp=Z,3.8nm,0.4s							
ASAR	**Alice Springs**	**16.78**	**166**	P		**Pn**	**21 32 22.3**	**+2.3**
	comp=Z,1.6nm,0.3s,baz=340,slow=9.2,SNR=30							
ASAR				S		**S**	**21 35 22.6**	**-4.1**
	comp=Z,1.9nm,0.3s,baz=318,slow=16,SNR=7.6							
PMG	**Port Moresby**	**17.69**	**98**	P		**Pn**	**21 32 30.5**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=290,slow=8.9,SNR=7.1							
CTA	**Charters Tower**	**20.66**	**129**	P		Pn	21 33 05.2	-0.8
	comp=Z,8.0nm,0.7s,baz=294,slow=10.0,SNR=4.0							
LEM	**Lembang**	**21.62**	**270**	LR		LR	21 42 00.6	
	comp=Z,35nm,20.1s,baz=164,slow=37							
KRVT	**Keravat (AS076**	**22.71**	**84**	P		**P**	**21 33 24.3**	**+1.4**
	comp=Z,16nm,0.5s,baz=97,slow=11,SNR=1.8							
FORT	**Forrest**	**23.33**	**183**	P		**P**	**21 33 29.9**	**+1.4**
MORW	**Morawa**	**25.00**	**209**	P		**P**	**21 33 45.9**	**+2.2**
BBOO	**Buckleboo**	**26.07**	**167**	P		**P**	**21 33 56.2**	**+2.9**
BBOO					IAmb	IAmb	21 34 04.6	
	comp=Z,4.4nm,0.8s							
STKA	**Stephens Creek**	**26.91**	**157**	P		**P**	**21 34 03.4**	**+2.5**
	comp=Z,3.9nm,0.5s,baz=320,slow=9.7,SNR=8.9							
STKA	**Stephens Creek**	**26.91**	**157**	P		**P**	**21 34 03.4**	**+2.5**
RPSI	**Rantau Prapat**	**32.01**	**287**	P		**P**	**21 34 45.8**	**-0.3**
RPSI					IAmb	IAmb	21 34 48.3	
	comp=Z,6.6nm,0.8s							
RPSI	**Rantau Prapat**	**32.01**	**287**	P		**P**	**21 34 47.1**	**+1.0**
PSI	**Prapat**	**32.04**	**287**	P		**P**	**21 34 47.1**	**+0.6**
	comp=Z,4.6nm,0.6s,baz=180,slow=6.0,SNR=7.2							
CMAR	**Chiang Mai Arr**	**39.51**	**311**	P		**P**	**21 35 50.8**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=146,slow=6.6,SNR=2.1							
MJAR	**Matsushiro Arr**	**44.44**	**10**	P		**P**	**21 36 27.4**	**-2.4**
	comp=Z,1.7nm,0.7s,baz=185,slow=10,SNR=6.4							
SHL	**Shillong**	**49.01**	**313**	P		**P**	**21 37 03.7**	**-1.9**
RPZ	**Rata Peaks**	**51.32**	**142**	P		**P**	**21 37 26.1**	**+3.5**
	comp=Z,6.4nm,0.6s,baz=249,slow=3.3,SNR=7.1							
RPZ	**Rata Peaks**	**51.32**	**142**	P		**P**	**21 37 25.2**	**+2.6**
RPZ					IAmb	IAmb	21 37 26.1	
	comp=Z,7.0nm,0.6s							
USRK	**Ussuriysk Ar.**	**51.37**	**2**	P		**P**	**21 37 22.4**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=163,slow=8.7,SNR=5.2							
ASAJ	**Asahikawa**	**52.61**	**12**	P		**P**	**21 37 32.0**	**0.0**
	comp=Z,3.8nm,1.0s,baz=352,slow=29,SNR=2.5							
JKA	**Kamikawa-asahi**	**52.61**	**12**	P		**P**	**21 37 32.0**	**0.0**
BKZ	**Black Stump Fm**	**52.77**	**134**	P		**P**	**21 37 35.0**	**+1.5**
BKZ					IAmb	IAmb	21 37 44.0	
	comp=Z,7.2nm,1.0s							
SONM	**Songino Array**	**58.59**	**342**	P		**P**	**21 38 16.0**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=156,slow=7.9,SNR=2.1							
PETK	**Petropavlovsk-**	**64.85**	**18**	P		**P**	**21 38 57.0**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=197,slow=8.4,SNR=2.7							
MK31	**Makanchi Array**	**68.20**	**327**	P		**P**	**21 39 16.9**	**-1.0**
MKAR	**Makanchi Array**	**68.20**	**327**	P		**P**	**21 39 18.4**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=118,slow=8.1,SNR=14							
ZALV	**Zalesovo Beam**	**71.64**	**334**	P		**P**	**21 39 38.3**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=116,slow=3.4,SNR=5.5							
VNDA	**Vanda**	**72.17**	**173**	P		**P**	**21 39 44.2**	**+2.7**
	comp=Z,0.4nm,0.8s,baz=321,slow=7.0,SNR=2.1							
KURK	**Kurchatov**	**72.51**	**329**	P		**P**	**21 39 43.8**	**-0.1**
KURK					IAmb	IAmb	21 39 51.7	
	comp=Z,1.5nm,0.8s							
ILAR	**Eielson Array**	**93.92**	**25**	P		**P**	**21 41 32.6**	**-1.3**
	comp=Z,0.8nm,0.9s,baz=250,slow=4.9,SNR=5.9							

SJA ***10*** *21:35:29.0±0.7,33°.95S×73°.06W,h5km,ML3.6,MW3.5*
GUC ***10*** *21:35:36.2±0.7,34°.09S×72°.46W,h22km±5km, ML3.6*

ISC 10 21:35:37.5±1.8,**34°.13S**±0°.03×**72°.42W**±0°.09,**h21**km±4km, **n29,**σ**2°15/54,5C-1D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GO05	**Huala**	**0.96**	**155**	*e*P		**Pb**	**21 35 53.4**	**-2.1**
GO05				*e*S		**Sb**	**21 36 07.1**	**-0.7**
GO05				IAML			21 36 10.4	
	comp=E,3µm,0.4s							
GO05	**Huala**	**0.96**	**155**	*i*P		**Pb**	**21 35 54.5**	**-1.0**
GO05				*i*S		**Sb**	**21 36 07.3**	**-0.5**
MT01	**Popeta**	**1.01**	**75**	⇓*i*P		**Pb**	**21 35 53.9**	**-2.3**
MT01				*i*S		**Sb**	**21 36 06.8**	**-2.3**
BO02	**Sierra Bellavi**	**1.50**	**116**	*e*P		**Pn**	**21 36 01.9**	**-1.5**
BO02				*i*S		**Sn**	**21 36 22.1**	**-0.2**
BO02				IAML			21 36 30.0	
	comp=E,2µm,0.2s							
ROC1	**El Roble**	**1.65**	**46**	*i*P		**Pn**	**21 36 04.3**	**-1.2**
ROC1				*i*S		**Sb**	**21 36 25.4**	**-2.3**
ROCH	**El Roble**	**1.65**	**46**	*e*P		**Pn**	**21 36 03.9**	**-1.6**
ROCH				*i*S		**Sn**	**21 36 25.2**	**-0.9**
ROCH				IAML			21 36 32.4	
	comp=N,1µm,0.4s							
MT03	**Universidad Ad**	**1.71**	**69**	⇑*i*P		**Pn**	**21 36 04.8**	**-1.4**
MT03				*e*S		**Sn**	**21 36 27.2**	**-0.4**
MT03				IAML			21 36 33.6	
	comp=E,985nm,0.4s							
CLCH	**Cerro Calan**	**1.73**	**65**	⇑*i*P		**Pn**	**21 36 05.3**	**-1.2**
CLCH				*i*S		**Sn**	**21 36 27.0**	**-1.0**
CLCH				IAML			21 36 36.1	
	comp=E,1µm,0.4s							
PEL	**Peldehue**	**1.75**	**56**	⇑*i*P		**Pn**	**21 36 05.7**	**-1.0**
PEL				*i*S		**Sn**	**21 36 27.7**	**-0.7**
PEL				IAML			21 36 35.5	
	comp=N,1µm,0.5s							
PEL	**Peldehue**	**1.75**	**56**	*i*P		**Pn**	**21 36 06.0**	**-0.7**
PEL				*i*S		**Sb**	**21 36 28.9**	**-1.6**
LMEL	**Las Melosas**	**1.86**	**82**	⇑*i*P		**Pn**	**21 36 07.3**	**-1.0**
LMEL				*i*S		**Sn**	**21 36 31.6**	**+0.3**
LMEL				IAML			21 36 35.8	
	comp=N,2µm,0.3s							
VA03	**San Esteban**	**2.08**	**49**	⇑*i*P		**Pn**	**21 36 10.3**	**-0.9**
VA03				*e*S		**Sn**	**21 36 36.0**	**-0.5**
VA03				IAML			21 36 44.4	
	comp=E,1µm,0.6s							
BI02	**San Fabin de**	**2.69**	**160**	*e*P		**Pn**	**21 36 19.7**	**0.0**
BI02				*e*S		**Sn**	**21 36 52.9**	**+1.2**
BI02				IAML			21 37 07.1	
	comp=N,134nm,0.6s							
LAMA	**Las Malvinas**	**2.77**	**108**	*i*P		**Pn**	**21 36 22.4**	**+1.7**
PUMA	**Malargue**	**2.80**	**120**	*i*P		**Pb**	**21 36 26.1**	**-0.6**
PUMA				*i*S		**Sb**	**21 37 04.1**	**+3.5**
EDS3	**Malargue**	**2.97**	**124**	*i*P		**Pb**	**21 36 29.2**	**-0.7**
EDS3				*i*S		**Sb**	**21 37 08.7**	**+3.0**
MORA	**Malargue**	**3.04**	**113**	*i*P		**Pb**	**21 36 28.6**	**-2.2**
AUSP	**Uspallata**	**3.18**	**54**	*i*P		**Pn**	**21 36 27.6**	**+1.1**
AUSP				*i*S		**Sb**	**21 37 13.1**	**+1.3**
RTLS	**Leoncito**	**3.51**	**49**	*i*P		**Pn**	**21 36 33.0**	**+1.9**
RTLS				*i*S		**Sb**	**21 37 22.2**	**+0.9**
RTLS				IAML			21 37 26.6	
	comp=Z,121nm,0.5s							
RTCV	**Cerro Valdivia**	**3.97**	**56**	*i*P		**Pn**	**21 36 37.9**	**+0.6**
RTCV				*i*S		**Sb**	**21 37 40.1**	**+5.7**
RTCV				IAML			21 37 41.8	
	comp=Z,50nm,1.3s							
ZON	**Zonda**	**4.07**	**52**	*i*P		**Pn**	**21 36 39.6**	**+1.0**
ZON				*i*S		**Sb**	**21 37 40.3**	**+3.0**
ZON				IAML			21 37 53.9	
	comp=Z,51nm,0.8s							
CFA	**Coronel Fontan**	**4.33**	**56**	*i*P		**Pn**	**21 36 42.0**	**-0.2**
CFA				*i*S		**Sb**	**21 37 45.6**	**+0.9**
CFA				IAML			21 37 48.2	
	comp=Z,26nm,0.7s							
RTLL	**Cerro Villicun**	**4.34**	**51**	*i*P		**Pn**	**21 36 43.1**	**+0.7**
RTLL				*i*S		**Sb**	**21 37 42.6**	**-2.6**
RTLL				IAML			21 37 50.3	
	comp=Z,64nm,0.5s							
ACCO	**Cerro Coronel**	**4.53**	**40**	*i*P		**Pn**	**21 36 46.0**	**+0.8**
ACCO				*i*S		**Sb**	**21 37 55.9**	**+5.0**
ACCO				IAML			21 38 04.8	
	comp=Z,61nm,0.5s							
ACDV	**Cuesta del Vie**	**4.84**	**36**	*i*P		**Pn**	**21 36 50.3**	**+1.0**
ACDV				*i*S		**Sb**	**21 38 05.3**	**+5.7**
ACDV				IAML			21 38 10.1	
	comp=Z,28nm,0.6s							
AGUA	**GUANDACOL**	**5.71**	**37**	*i*P		**Pn**	**21 37 01.2**	**0.0**
AGUA				*i*S		**Sb**	**21 38 25.4**	**+0.7**
AGUA				IAML			21 38 49.7	
	comp=Z,38nm,2.3s							
MRA	**San Martin**	**5.87**	**75**	*i*P		**Pn**	**21 37 04.2**	**+0.8**
MRA				IAML			21 39 11.6	
	comp=Z,8.8nm,0.6s							
TCA	**Tanti**	**7.16**	**69**	*i*P		**Pn**	**21 37 20.0**	**-1.1**
TCA				*i*S		**Sn**	**21 38 47.3**	**+5.5**
TCA				IAML			21 39 37.6	
	comp=Z,12nm,0.7s							
CYA	**Choya**	**8.01**	**47**	*i*P		**Pn**	**21 37 29.6**	**-3.2**

MDD ***10*** *21:40:40.0±0.8,39°.16N×10°.79W,h40km, mbLg3.5/65, Error ellipse: s-maj=7.9km s-min=3.8km az=81.0,PRXIMO*
IGIL ***10*** *21:40:40.4,39°.17N×10°.76W,h64km,ML3.5*
INMG ***10*** *21:40:41.0±2.2,39°.13N×10°.76W,h31km±13km,MD3.1, ML3.2,Error ellipse: s-maj=5.7km s-min=2.8km az=84.0*
LDG ***10*** *21:40:41.4±0.2,39°.21N×10°.73W,h25km,Ml3.4/24,Error ellipse: s-maj=3.5km s-min=2.0km az=76.0*
CNRM ***10*** *21:40:45.3±1.8,38°.68N×10°.50W,h50km,Error ellipse: s-maj=14.7km s-min=9.5km az=122.0*

ISC 10 21:40:33.8±1.1,**39°.14N**±0°.04×**10°.81W**±0°.06,**h10**km,**n166,** σ**3°40/311,9C-7D,North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMAFR	**Mafra**	**1.20**	**98**	⇓P		**Pn**	**21 41 00.2**	**+3.5**
	33nm,0.2s,SNR=18							
PMAFR				S		**Sn**	**21 41 14.5**	**+1.5**
	1µm,0.2s,SNR=46							
PMAFR	**Mafra**	**1.20**	**98**	*e*P		**Pn**	**21 41 00.2**	**+3.5**
PMAFR				*e*S		**Sn**	**21 41 14.7**	**+1.7**
PMAFR				A		A	21 41 18.6	
	858nm,0.2s							
INMG	**Instituto de M**	**1.36**	**105**	S		**Sn**	**21 41 19.6**	**+2.7**
INMG	**Instituto de M**	**1.36**	**105**	*e*S		**Sn**	**21 41 19.6**	**+2.7**
LIS	**Lisbon**	**1.36**	**108**	*e*P		**Pg**	**21 41 02.4**	**+2.5**
LIS				*e*S		**Sb**	**21 41 17.8**	**+1.0**
LIS				AML		AML	21 41 21.1

PMRV eS Sn 21 41 48.3 -0.9
PMRV A A 21 41 50.7
comp=N,86nm,0.3s
PCBR Castelo Branco 2.67 74 P Pn 21 41 19.8 +2.9
PCBR S Sn 21 41 48.0 -1.2
comp=N,27nm,0.2s
PCBR Castelo Branco 2.67 74⇑ eP Pn 21 41 19.8 +2.9
PCBR eS Sn 21 41 48.0 -1.2
PCBR A A 21 41 49.7
comp=N,54nm,0.2s
PVIS Viseu 2.73 54 P Pn 21 41 20.8 +2.9
PVIS S Sn 21 41 49.9 -1.1
comp=N,26nm,0.1s
PVIS Viseu 2.73 54 eP Pn 21 41 20.8 +2.9
PVIS eS Sn 21 41 49.9 -1.1
PVIS A A 21 41 54.9
comp=N,51nm,0.1s
MTE Manteigas 2.81 62 P Pn 21 41 21.6 +2.7
MTE S Sn 21 41 51.5 -1.4
comp=N,38nm,0.3s
MTE Manteigas 2.81 62⇓ eP Pn 21 41 21.6 +2.7
MTE eS Sn 21 41 51.5 -1.4
MTE A A 21 41 54.6
comp=N,77nm,0.3s
PBDV Barranco-do-Ve 2.95 129 P Pn 21 41 24.1 +3.3
PBDV S Sn 21 41 55.4 -0.9
comp=N,30nm,0.3s
PBDV Barranco-do-Ve 2.95 129 eP Pn 21 41 24.1 +3.3
PBDV eS Sn 21 41 55.4 -0.9
PBDV A A 21 41 58.5
comp=N,30nm,0.3s
EBAD Badajoz 2.98 96 P Pn 21 41 23.9 +2.8
comp=N,3.3nm,0.2s,SNR=31
EBAD S Sn 21 41 56.4 -0.6
comp=N,82nm,0.1s,SNR=22
PVAQ Vaqueiros 2.98 125 P Pn 21 41 24.2 +3.0
PVAQ S Sn 21 41 55.5 -1.6
comp=N,44nm,0.2s
PVAQ Vaqueiros 2.98 125 P Pn 21 41 24.4 +3.2
PVAQ S Sn 21 41 57.1 0.0
PVAQ Vaqueiros 2.98 125 eP Pn 21 41 24.2 +3.0
PVAQ eS Sn 21 41 55.5 -1.6
PVAQ A A 21 41 57.8
comp=N,44nm,0.2s
EGRO El Granado 3.06 121 P Pn 21 41 25.2 +2.9
comp=N,48nm,0.3s,SNR=106
EGRO S Sn 21 41 58.0 -1.0
comp=N,48nm,0.2s,SNR=8.1
PBAR Barrancos 3.10 107 P Pn 21 41 26.0 +3.2
PBAR S Sn 21 41 59.1 -0.9
comp=N,57nm,0.4s
PBAR Barrancos 3.10 107 eP Pn 21 41 26.0 +3.2
PBAR eS Sn 21 41 59.1 -0.9
PBAR A A 21 42 00.4
comp=N,57nm,0.4s
PVRL Vila Real 3.18 47 P Pn 21 41 26.8 +2.8
PVRL S Sn 21 42 00.2 -1.9
comp=N,34nm,0.1s
PVRL Vila Real 3.18 47 eP Pn 21 41 26.8 +2.8
PVRL eS Sn 21 42 00.2 -1.9
PVRL A A 21 42 02.8
comp=N,68nm,0.1s
PCAB Cabril 3.33 39 P Pn 21 41 29.0 +3.0
PCAB S Sn 21 42 03.7 -1.9
comp=N,30nm,0.2s
PCAB Cabril 3.33 39 eP Pn 21 41 29.0 +3.0
PCAB eS Sn 21 42 03.7 -1.9
PCAB A A 21 42 06.1
comp=N,60nm,0.2s
EZAM Zamans 3.41 27 P Pn 21 41 29.6 +2.5
comp=N,4.0nm,0.1s,SNR=7.9
EZAM S Sn 21 42 05.2 -2.3
comp=N,252nm,0.2s,SNR=7.9
PGAV Gavieira, Arco 3.42 34 P Pn 21 41 30.3 +3.0
PGAV S Sn 21 42 06.2 -1.7
comp=N,53nm,0.1s
PGAV Gavieira, Arco 3.42 34 eP Pn 21 41 30.3 +3.0
PGAV eS Sn 21 42 06.2 -1.7
PGAV A A 21 42 10.0
comp=N,53nm,0.1s
ELOB Lobios 3.43 37 P Pn 21 41 30.4 +2.9
comp=N,2.0nm,0.3s,SNR=57
ELOB S Sn 21 42 06.7 -1.6
comp=N,99nm,0.2s,SNR=19
EMIN Mina Concepcio 3.52 112 P Pn 21 41 31.6 +3.0
comp=N,11nm,0.3s,SNR=380
EMIN S Sn 21 42 08.6 -1.7
comp=N,20nm,0.1s,SNR=16
MVO Moncorvo 3.53 54 ⇑P Pn 21 41 31.3 +2.5
comp=N,15nm,0.3s,SNR=18
MVO S Sn 21 42 08.2 -2.4
comp=N,60nm,0.1s,SNR=14
MVO Moncorvo 3.53 54⇑ eP Pn 21 41 31.3 +2.5
MVO eS Sn 21 42 07.9 -2.7
MVO A A 21 42 12.5
comp=N,36nm,0.4s
EPLA Plasencia 3.76 74 P Pn 21 41 35.3 +3.3
comp=N,5.6nm,0.3s,SNR=76
EPLA S Sn 21 42 14.2 -2.2
comp=N,35nm,0.2s,SNR=10
EMAZ Mazaricos 4.05 19 P Pn 21 41 37.6 +1.8
comp=N,3.0nm,0.1s,SNR=7.9
EMAZ S Sn 21 42 19.6 -3.7
comp=N,65nm,0.1s,SNR=7.9
PBRG Braganca 4.08 48 P Pn 21 41 39.2 +2.8
PBRG S Sn 21 42 21.5 -2.8
comp=N,12nm,0.1s
PBRG Braganca 4.08 48 eP Pn 21 41 39.2 +2.8
PBRG eS Sn 21 42 21.5 -2.8
PBRG A A 21 42 24.4
comp=N,25nm,0.1s
ECAL Calabor 4.17 47 P Pn 21 41 40.7 +3.0
comp=N,32nm,0.4s,SNR=107
ECAL S Sn 21 42 24.3 -2.3
comp=N,34nm,0.1s,SNR=13
EAGO Agolada(Pontev 4.20 28 P Pn 21 41 40.2 +2.3
comp=N,3.4nm,0.1s,SNR=7.9
EAGO S Sn 21 42 23.6 -3.4
comp=N,36nm,0.1s,SNR=7.9
ECAB El Cabril 4.35 102 P Pn 21 41 42.8 +2.7
comp=N,4.4nm,0.3s,SNR=92
ECAB S Sn 21 42 28.8 -2.0
comp=N,28nm,0.2s,SNR=10
ESPR Espera 4.52 119 P Pn 21 41 45.8 +3.5
comp=N,8.5nm,0.2s,SNR=74
ESPR S Sn 21 42 33.2 -1.7
comp=N,44nm,0.2s,SNR=10
HORN Hornachuelos 4.54 105 P Pn 21 41 45.7 +3.1
HORN S Sn 21 42 34.3 -1.2
EADA Adamuz 4.97 99 P Pn 21 41 51.2 +2.6
comp=N,4.4nm,0.2s,SNR=71
EADA S Sn 21 42 42.6 -3.5
comp=N,24nm,0.1s,SNR=6.7
EJIF Jimena Fronter 5.01 121 P Pn 21 41 53.0 +3.9
comp=N,120nm,0.2s,SNR=7.9
EJIF S Sn 21 42 43.2 -3.7
comp=N,175nm,0.2s,SNR=7.9
EPON Pontenova 5.01 32 P Pn 21 41 51.6 +2.5
comp=N,3.2nm,0.4s,SNR=33
EPON S Sn 21 42 43.3 -3.7
comp=N,14nm,0.2s,SNR=8.9
PAB San Pablo 5.02 83 P Pn 21 41 52.2 +2.9
comp=N,2.8nm,0.1s,SNR=7.9
PAB S Sn 21 42 44.1 -3.3
comp=N,8.6nm,0.1s,SNR=7.9
ESDC Sonseca Array 5.33 82 P Pn 21 41 56.5 +3.0
comp=N,4.4nm,0.1s,SNR=7.9
ESDC S Sn 21 42 51.8 -3.1
comp=N,4.2nm,0.6s,baz=263,slow=31,SNR=4.1
GUD Guadarrama 5.33 72 P Pn 21 41 55.9 +2.3
comp=N,2.2nm,0.3s,SNR=16
GUD S Sn 21 42 52.1 -3.0
comp=N,11nm,0.2s,SNR=9.4
CEU Ceuta 5.39 125 P Pn 21 41 58.9 +4.6
CEU S Sn 21 42 53.5 -3.0
CEU Ceuta 5.39 125 eP Pn 21 41 58.9 +4.6
CEU eS Sn 21 42 53.5 -3.0
EMIJ Mijas 5.42 116 P Pn 21 41 58.3 +3.5
comp=N,1.3nm,0.1s,SNR=20
EMIJ S Sn 21 42 54.6 -2.7
comp=N,14nm,0.3s,SNR=5.6
SMIR Smir Dam 5.53 127 P Pn 21 42 00.8 +4.6
SMIR S Sn 21 42 57.5 -2.2
EMAL Malaga-Limoner 5.57 113 eP Pn 21 42 01.6 +4.8
EMAL eS Sn 21 42 58.2 -2.6
EGOR Sierra Gorda, 5.65 109 P Pn 21 42 01.7 +3.7
comp=N,1.2nm,0.2s,SNR=7.9
EGOR S Sn 21 43 01.4 -1.7
comp=N,16nm,0.3s,SNR=7.9
EARI Arriondas 5.92 44 P Pn 21 42 05.0 +3.4
comp=N,7.2nm,1.0s,SNR=30
EARI S Sn 21 43 06.9 -2.7
comp=N,5.2nm,0.2s,SNR=5.3
CHEFC Chefchaouen 5.94 131 P Pn 21 42 06.9 +5.0
CHEFC S Sn 21 43 04.5 -5.6
ELGU Los Guajares, 6.11 110 P Pn 21 42 08.2 +4.0
comp=N,1.4nm,0.2s,SNR=7.9
ELGU S Sn 21 43 12.2 -2.0
comp=N,18nm,0.3s,SNR=7.9
EQUE Quentar 6.12 106 P Pn 21 42 08.0 +3.6
comp=N,2.9nm,0.4s,SNR=17
EQUE S Sn 21 43 12.2 -2.3
comp=N,9.4nm,0.4s,SNR=6.2
EQES Quesada 6.21 100 P Pn 21 42 08.3 +2.6
comp=N,2.6nm,0.6s,SNR=16
EQES S Sn 21 43 14.0 -2.9
comp=N,5.9nm,0.2s,SNR=9.3
AVE Averroes 6.44 154 eP Pn 21 42 09.1 +0.3
AVE eS Sn 21 43 16.8 -5.5
SESP Santiago Espad 6.55 96 P Pn 21 42 12.7 +2.3
comp=N,2.2nm,0.2s,SNR=7.9
SESP S Sn 21 43 21.2 -3.9
comp=N,23nm,0.1s,SNR=7.9
SESP Santiago Espad 6.55 96 P Pn 21 42 12.2 +1.9
SESP S Sn 21 43 24.1 -1.1
ZHG ZHG 6.60 148 P Pn 21 42 14.3 +3.2
ZHG S Sn 21 43 24.1 -2.3
EBER Berja 6.64 107 P Pn 21 42 15.2 +3.6
comp=N,3.6nm,0.3s,SNR=15
EBER S Sn 21 43 25.3 -2.1
comp=N,19nm,0.5s,SNR=5.7
ELAN Lanestosa 6.90 51 P Pn 21 42 17.9 +2.8
comp=N,4.5nm,0.8s,SNR=25
ELAN S Sn 21 43 29.8 -3.8
comp=N,9.6nm,0.4s,SNR=6.6
ETOR Torete 6.93 73 P Pn 21 42 18.8 +3.3
comp=N,14nm,0.3s,SNR=33
ETOR S Sn 21 43 29.7 -4.6
comp=N,20nm,0.3s
SRHM Skhour des Reh 7.06 160 P Pn 21 42 20.8 +3.5
SRHM S Sn 21 43 35.5 -2.2
ENIJ Nijar 7.12 105 P Pn 21 42 21.9 +3.8
comp=N,1.0nm,0.2s,SNR=7.9
ENIJ S Sn 21 43 35.8 -3.2
comp=N,11nm,0.4s,SNR=7.9
AKLM AKL 7.23 128 P Pn 21 42 23.2 +3.5
AKLM S Sn 21 43 32.2 -10
ETOB Tobarra 7.24 91 P Pn 21 42 22.3 +2.6
comp=N,1.2nm,0.3s,SNR=14
ETOB S Sn 21 43 38.2 -3.8
comp=N,9.3nm,0.5s,SNR=6.5
IFR Ifrane 7.24 139 eP Pn 21 42 22.7 +2.7
IFR eS Sn 21 43 35.9 -6.5
EMUR La Murta 7.61 97 P Pn 21 42 27.1 +2.3
comp=N,2.1nm,0.3s,SNR=7.3
EMUR S Sn 21 43 46.5 -4.7
comp=N,12nm,1.0s,SNR=7.9
ECHE Chera 7.63 84 P Pn 21 42 28.2 +3.1
comp=N,0.5nm,0.1s,SNR=7.9
MD31 MD31 7.95 140 P Pn 21 42 32.6 +3.1
MD31 S Sn 21 43 56.7 -2.8
AFON Font Roja 8.02 90 S Sn 21 43 56.8 -4.5
comp=N,15nm,0.7s,SNR=4.0
EMOS Mosqueruela 8.05 78 P Pn 21 42 33.1 +2.1
comp=N,0.4nm,0.1s,SNR=6.8
EMOS S Sn 21 43 57.4 -4.9
comp=N,16nm,0.8s,SNR=5.5
MDT Midelt 8.07 140 P Pn 21 42 33.9 +2.7
MDT S Sn 21 43 59.6 -2.9
EORO Oroz-Betelu 8.10 59 P Pn 21 42 33.7 +2.2
comp=N,0.7nm,0.2s,SNR=7.9
EORO S Sn 21 43 58.1 -5.0
comp=N,4.1nm,0.4s,SNR=7.9
EALK Alkurruntz 8.11 57 P Pn 21 42 34.9 +3.3
comp=N,12nm,1.1s,SNR=5.6
EALK S Sn 21 43 59.2 -4.2
comp=N,11nm,0.5s,SNR=6.0
SJPF Ste Jean 8.25 58 ePn Pn 21 42 36.3 +2.8
SJPF eSn Sn 21 44 01.6 -5.1
comp=N,3.2nm,0.3s
SJPF Ste Jean 8.25 58 P Pn 21 42 36.3 +2.8
SJPF S Sn 21 44 01.6 -5.1
comp=N,1.6nm,0.3s
OUK Oukaimeden 8.27 162 P Pn 21 42 38.3 +4.1
OUK S Sn 21 44 04.5 -3.4
ESAC San Caprasio 8.29 69 P Pn 21 42 37.5 +3.3
comp=N,12nm,0.3s,SNR=4.7
ESAC S Sn 21 44 02.4 -5.5
comp=N,25nm,0.4s,SNR=7.7
ATE Arette 8.58 59 P Pn 21 42 41.9 +3.8
comp=N,0.7nm,0.1s,SNR=7.9
ATE S Sn 21 44 09.8 -5.3
comp=N,2.4nm,0.3s,SNR=7.9
ETSF Etsaut 8.61 61 ePn Pn 21 42 42.7 +4.2
ETSF eSn Sn 21 44 10.3 -5.3
comp=N,1.2nm,0.2s
ETSF Etsaut 8.61 61 P Pn 21 42 42.7 +4.2
ETSF S Sn 21 44 10.3 -5.3
comp=N,0.6nm,0.2s
ERTA Horta de San J 8.73 74 P Pn 21 42 42.6 +2.4
comp=N,0.2nm,0.1s,SNR=7.9
ERTA S Sn 21 44 13.7 -5.1
comp=N,4.3nm,0.3s,SNR=7.9
TTIG Tnine Tigouga, 8.79 167 P Pn 21 42 41.6 +0.5
TTIG S Sn 21 44 14.7 -5.6
OUZM OUZ 8.86 157 P Pn 21 42 44.5 +2.5
OUZM S Sn 21 44 17.6 -4.4
ECHI Chisagues Biel 9.04 64 P Pn 21 42 48.0 +3.4
comp=N,1.2nm,0.2s,SNR=7.9
ECHI S Sn 21 44 21.4 -5.1
comp=N,2.3nm,0.3s,SNR=7.9
EPF Esparros 9.27 62 ePn Pn 21 42 50.6 +3.1
EPF eSn Sn 21 44 26.3 -5.6
comp=N,1.1nm,0.2s
EPF Esparros 9.27 62 P Pn 21 42 50.6 +3.1
EPF S Sn 21 44 26.3 -5.6
comp=N,0.6nm,0.2s
EPOB Poblet 9.35 73 P Pn 21 42 51.0 +2.3
comp=N,0.2nm,0.1s,SNR=7.9
EPOB S Sn 21 44 27.3 -6.7
comp=N,2.8nm,0.5s,SNR=7.9
TZRR Tazzarine 9.38 151 P Pn 21 42 50.2 +1.1
TZRR S Sn 21 44 30.6 -4.0
CSOR Sort 9.62 67 P Pn 21 42 55.2 +2.8
comp=N,0.3nm,0.2s,SNR=7.9
CSOR S Sn 21 44 34.9 -5.6
comp=N,2.9nm,0.4s,SNR=7.9
ZGR Zagora 9.96 153 P Pn 21 42 60.0 +2.9
ZGR S Sn 21 44 41.6 -7.4
CLLI Llivia 10.24 67 P Pn 21 43 04.1 +3.1
comp=N,0.2nm,0.2s,SNR=7.9
CLLI S Sn 21 44 50.0 -6.0
comp=N,2.8nm,0.6s,SNR=7.9
LFF La Frestale 10.35 52 ePn Pn 21 43 04.0 +1.6
LFF eSn Sn 21 44 52.0 -6.4
comp=N,1.1nm,0.2s
LFF La Frestale 10.35 52 P Pn 21 43 04.0 +1.6
LFF S Sn 21 44 52.0 -6.4
comp=N,0.6nm,0.2s
QUIF Quistinic 10.37 30 ePn Pn 21 43 05.0 +2.4
QUIF eSn Sn 21 44 52.3 -6.5
comp=N,2.7nm,0.2s
QUIF Quistinic 10.37 30 P Pn 21 43 05.0 +2.4
QUIF S Sn 21 44 52.3 -6.5
comp=N,1.4nm,0.2s
CFON Fontmartina 10.43 71 P Pn 21 43 06.3 +2.9
comp=N,1.0nm,0.2s,SNR=7.7
CFON S Sn 21 44 54.2 -6.1
comp=N,4.0nm,0.3s,SNR=7.9
MTLF Montolieu 10.66 63 ePn Pn 21 43 09.1 +2.5
MTLF eSn Sn 21 44 59.5 -6.6
comp=N,0.1nm,0.1s
MTLF Montolieu 10.66 63 P Pn 21 43 09.1 +2.5
MTLF S Sn 21 44 59.5 -6.6
comp=N,0.1nm,0.1s
ROSF Rostrenen 10.68 28 ePn Pn 21 43 08.7 +1.9
ROSF eSn Sn 21 44 59.7 -6.6
comp=N,0.7nm,0.1s
ROSF Rostrenen 10.68 28 P Pn 21 43 08.7 +1.9
ROSF S Sn 21 44 59.7 -6.6
comp=N,0.3nm,0.1s
MFF Saint Martin d 10.80 43 ePn Pn 21 43 10.3 +1.9
MFF eSn Sn 21 45 02.4 -6.9
comp=N,0.6nm,0.2s
MFF Saint Martin d 10.80 43 P Pn 21 43 10.3 +1.9
MFF S Sn 21 45 02.4 -6.9
comp=N,0.3nm,0.2s
SGMF Saint Gilles 10.88 31 ePn Pn 21 43 11.6 +2.0
SGMF eSn Sn 21 45 04.6 -6.8
comp=N,0.7nm,0.1s
SGMF Saint Gilles 10.88 31 P Pn 21 43 11.6 +2.0
SGMF S Sn 21 45 04.6 -6.8
comp=N,0.3nm,0.1s
RJF Les Rejaudoux 11.01 52 ePn Pn 21 43 13.2 +1.8
RJF eSn Sn 21 45 07.7 -6.9
comp=N,1.6nm,0.2s
RJF Les Rejaudoux 11.01 52 P Pn 21 43 13.2 +1.8
RJF S Sn 21 45 07.7 -6.9
comp=N,0.8nm,0.2s
CAF Calviac 11.18 55 ePn Pn 21 43 15.5 +1.9
CAF eSn Sn 21 45 11.7 -6.9
comp=N,0.5nm,0.2s
CAF Calviac 11.18 55 P Pn 21 43 15.5 +1.9
CAF S Sn 21 45 11.7 -6.9
comp=N,0.2nm,0.2s
GRR Gorron 11.70 35 ePn Pn 21 43 22.5 +1.7
GRR eSn Sn 21 45 24.1 -7.3
comp=N,0.7nm,0.2s
GRR Gorron 11.70 35 P Pn 21 43 22.5 +1.7
GRR S Sn 21 45 24.1 -7.3
comp=N,0.3nm,0.2s
TCF Toulx Ste Croi 11.93 49 ePn Pn 21 43 25.4 +1.4
TCF eSn Sn 21 45 29.7 -7.5
comp=N,1.0nm,0.2s
TCF Toulx Ste Croi 11.93 49 P Pn 21 43 25.4 +1.4
TCF S Sn 21 45 29.7 -7.5
comp=N,0.0nm,0.2s
LASF Ste Croix 12.03 61 ePn Pn 21 43 27.8 +2.5
LASF eSn Sn 21 45 32.1 -7.4
comp=N,0.4nm,0.2s
LASF Ste Croix 12.03 61 P Pn 21 43 27.8 +2.5
LASF S Sn 21 45 32.1 -7.4
comp=N,0.2nm,0.2s
FLN La Foliniere 12.15 34 ePn Pn 21 43 28.8 +1.9
baz=218
FLN eSn Sn 21 45 34.8 -7.5
comp=N,0.7nm,0.2s
FLN La Foliniere 12.15 34 P Pn 21 43 28.8 +1.9
FLN S Sn 21 45 34.8 -7.5
comp=N,0.3nm,0.2s
LDF La Druitiere 12.18 36 ePn Pn 21 43 29.5 +2.2
LDF eSn Sn 21 45 34.3 -8.9
comp=N,0.5nm,0.2s
BGF Bois d'Agland 12.45 49 ePn Pn 21 43 31.9 +0.9
BGF eSn Sn 21 45 42.1 -7.7
comp=N,0.7nm,0.2s
BGF Bois d'Agland 12.45 49 P Pn 21 43 31.9 +0.9
BGF S Sn 21 45 42.1 -7.7
comp=N,0.3nm,0.2s
HYF Humbligny 12.72 46 ePn Pn 21 43 36.5 +1.8
HYF eSn Sn 21 45 48.5 -7.9
HYF Humbligny 12.72 46 P Pn 21 43 36.5 +1.8
HYF S Sn 21 45 48.5 -7.9
AVF Avril sur Loir 12.87 49 ePn Pn 21 43 38.4 +1.7
AVF eSn Sn 21 45 52.0 -8.0
comp=N,0.5nm,0.2s
AVF Avril sur Loir 12.87 49 P Pn 21 43 38.4 +1.7
AVF S Sn 21 45 52.0 -8.0
comp=N,0.2nm,0.2s
SMF Signal de Mont 13.09 50 ePn Pn 21 43 41.6 +1.9
SMF eSn Sn 21 45 57.2 -8.1
comp=N,0.3nm,0.2s
SMF Signal de Mont 13.09 50 P Pn 21 43 41.6 +1.9
SMF S Sn 21 45 57.2 -8.1
comp=N,0.2nm,0.2s
SSF Saint Saulge 13.10 48 ePn Pn 21 43 40.9 +1.0
SSF eSn Sn 21 45 57.6 -8.0
comp=N,0.3nm,0.2s
SSF Saint Saulge 13.10 48 P Pn 21 43 40.9 +1.0
SSF S Sn 21 45 57.6 -8.0
comp=N,0.2nm,0.2s
LOR Lormes 13.41 48 ePn Pn 21 43 46.7 +2.5
baz=227
LOR eSn Sn 21 46 05.1 -8.2
comp=N,0.4nm,0.2s
LOR Lormes 13.41 48 P Pn 21 43 46.7 +2.5
LOR S Sn 21 46 05.1 -8.2
comp=N,0.2nm,0.2s

ZUR 10 21:42:42.8, 46°53N×8°17E, h6km±3km, MLh0.6/5, 2C-2D, Error ellipse: s-maj=5.8km s-min=1.0km az=163.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIESA	**Fiescheralp** 0.1nm,SNR=3.4	**0.11**	**203**	⇑Pg	Pg	21 42 45.6	+0.3
FIESA				⇑Pg	Pg	21 42 45.6	+0.3
FIESA				Sg	Sg	21 42 47.3	+0.3
GRIMS	**Grimsel Gerste** 0.1nm,SNR=3.6	**0.11**	**66**	⇓Pg	Pg	21 42 45.6	+0.3
GRIMS				⇓Pg	Pg	21 42 45.6	+0.3
GRIMS				Sg	Sg	21 42 47.3	+0.1
HASLI	**Hasliberg/Brie**	**0.22**	**356**	Sg	Sg	21 42 50.6	+0.3
SIMPL	**Simplonpass**	**0.31**	**200**	Pg	Pg	21 42 49.4	+0.5
SIMPL	SNR=1.0			Pg	Pg	21 42 49.4	+0.5
EMBD	**Embd, Matterta**	**0.39**	**217**	Sg	Sg	21 42 55.9	+0.3

*PRU **10** 21:43:58.6±0.0,50°26N×12°48E, h2km, West Bohemia Swarm*

WBNET 10 21:43:58.3, 50°23N×12°46E, h7km, Ml0.1, 4C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**298**	ePG	Pg	21 43 59.6	0.0
NKC				eSG	Sg	21 44 00.3	-0.2
	comp=Z,6.6nm,0.2s						
NKC	**Novy Kostel**	**0.01**	**298**	⇓P	Pg	21 43 59.7	+0.1
NKC				S	Sg	21 44 00.7	+0.2
KVC	**Kvetna**	**0.04**	**123**	S	Sg	21 44 00.9	0.0
LBCW	**Luby**	**0.05**	**320**	⇓P	Pg	21 43 59.9	0.0
LBCW				S	Sg	21 44 01.1	+0.1
STCW	**Studenec**	**0.05**	**52**	⇑P	Pg	21 43 60.0	+0.1
STCW				S	Sg	21 44 01.1	+0.1
VAC	**Vackov**	**0.05**	**277**	⇓P	Pg	21 43 59.9	0.0
VAC				S	Sg	21 44 01.0	-0.1
SKC	**Skalna**	**0.09**	**227**	⇑P	Pg	21 44 00.4	+0.1
SKC				S	Sg	21 44 01.9	+0.1
POCW	**Potky**	**0.09**	**347**	⇓P	Pg	21 44 00.5	0.0
POCW				S	Sg	21 44 02.0	-0.1
KRCW	**Kraslice**	**0.11**	**24**	⇑P	Pg	21 44 00.8	0.0
KRCW				S	Sg	21 44 02.5	-0.1
ZHC	**Zelena Hora**	**0.19**	**212**	⇑P	Pg	21 44 02.2	+0.1
ZHC				S	Sg	21 44 04.8	+0.2

*BEO **10** 22:04:39.8±1.3, 40°01N×25°68E, h10km, ML2.8/4*
*ISK **10** 22:04:39.5, 40°40N×26°14E, h14km, ML2.9/35*
*ATH **10** 22:04:39.8, 40°42N×26°04E, h29km±1km, ML2.6/6, Error ellipse: s-maj=2.1km s-min=1.1km az=301.0*
*THE **10** 22:04:40.6, 40°40N×26°06E, h11km±1km, ML2.5/9, Error ellipse: s-maj=1.7km s-min=0.9km az=80.0*
*DDA **10** 22:04:40.0, 40°38N×26°17E, h7km±1km, ML2.8*

ISC 10 22:04:40.1±0.8, 40°39N±0°01×26°09E±0°02, h17km±6km, n94, σ1s11/130, 11C-6D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOKA	**anakkale-Gk**	**0.25**	**215**	*i* P	**Pb**	**22 04 46.0**	**-0.2**
GOKA				*i* S	**Sg**	**22 04 50.6**	**+1.2**
GOKA				IAML		22 04 51.0	
	comp=N,5μm,0.6s						
GOKA				IAML		22 04 51.0	
	comp=E,3μm,0.2s						
GADA	**Gvkgeada**	**0.25**	**216**	P	**Pb**	**22 04 45.9**	**-0.4**
GADA				S	**Sg**	**22 04 49.9**	**+0.4**
	comp=E,1μm,0.5s						
GADA	**Gvkgeada**	**0.25**	**216**	PG	**Pb**	**22 04 45.9**	**-0.4**
GADA				SG	**Sg**	**22 04 50.5**	**+1.0**
GELI	**Tayfur-Gelibol**	**0.29**	**89**	PG	**Pg**	**22 04 45.7**	**-0.7**
GELI				SG	**Sg**	**22 04 49.8**	**-0.9**
ENEZ	**Enez**	**0.34**	**8**	P	**Pb**	**22 04 47.8**	**-0.1**

ENEZ	**Enez**	**0.34**	**8**	PG	**Pg**	**22 04 47.3**	**-0.1**
ERIK	**Erikli-Kesan**	**0.42**	**49**	PG	**Pg**	**22 04 48.2**	**-0.6**
ERIK				SG	**Sg**	**22 04 53.9**	**-0.7**
SMTH	**Samothraki Isl**	**0.43**	**280**	P	**Pb**	**22 04 48.8**	**-0.6**
SMTH				S	**Sb**	**22 04 54.8**	**-0.9**
	comp=E,902nm,0.2s						
SMTH	**Samothraki Isl**	**0.43**	**280**	P	**Pb**	**22 04 48.9**	**-0.6**
SMTH				S	**Sb**	**22 04 55.4**	**-0.3**
SMTH				AML	AML	22 04 55.9	
	comp=N,1531µm,0.3s						
SMTH				AML	AML	22 04 56.2	
	comp=E,2068µm,0.3s						
ALN	**Alexandroupoli**	**0.50**	**356**	P	**Pg**	**22 04 49.9**	**-0.3**
ALN				S	**Sg**	**22 04 56.5**	**-0.5**
	comp=E,558nm,0.5s						
ALN	**Alexandroupoli**	**0.50**	**356**	P	**Pg**	**22 04 49.9**	**-0.3**
ALN				S	**Sg**	**22 04 56.8**	**-0.2**
ALN				AML	AML	22 04 58.4	
	comp=E,1253µm,0.4s						
ALN				AML	AML	22 05 02.7	
	comp=N,967µm,0.7s						
ALN	**Alexandroupoli**	**0.50**	**356**	PG	**Pb**	**22 04 50.4**	**-0.2**
LPK	**Lapseki**	**0.51**	**92**	PG	**Pg**	**22 04 49.8**	**-0.6**
BOZC	**Bozcaada**	**0.55**	**183**	PG	**Pg**	**22 04 50.6**	**-0.5**
BOZC	**Bozcaada**	**0.55**	**183**	*i* P	**Pg**	**22 04 50.7**	**-0.5**
BOZC				IAML		22 04 59.0	
	comp=N,345nm,0.2s						
BOZC				IAML		22 04 59.0	
	comp=E,283nm,0.2s						
BOZC				*i* S	**Sb**	**22 04 59.4**	**+0.3**
EZN	**Ezine**	**0.60**	**162**	P	**Pg**	**22 04 51.3**	**-0.6**
EZN				S	**Sb**	**22 05 00.7**	**+0.4**
	comp=E,260nm,0.2s						
EZN	**Ezine**	**0.60**	**162**	P	**Pg**	**22 04 51.3**	**-0.6**
KESN	**Edirne-Kesan**	**0.62**	**46**	*i* P	**Pg**	**22 04 51.3**	**-1.2**
KESN				*i* S	**Sg**	**22 04 60.0**	**-1.0**
KESN				IAML		22 05 01.0	
	comp=N,441nm,0.3s						
KESN				IAML		22 05 04.0	
	comp=E,671nm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.74**	**152**	*i* P	**Pg**	**22 04 54.0**	**-0.6**
BAYC				*i* S	**Sb**	**22 05 05.0**	**+0.5**
UKOP	**Uzunkopru-Edir**	**0.84**	**29**	PG	**Pg**	**22 04 55.6**	**-0.9**
LIA	**Limnos Island**	**0.85**	**235**	P	**Pb**	**22 04 56.4**	**-0.1**
LIA				S	**Sn**	**22 05 08.6**	**-0.9**
	comp=E,462nm,0.4s						
LIA	**Limnos Island**	**0.85**	**235**	P	**Pb**	**22 04 56.3**	**-0.3**
LIA				S	**Sb**	**22 05 08.0**	**+0.2**
LIA				AML	AML	22 05 09.7	
	comp=N,827µm,0.5s						
LIA				AML	AML	22 05 10.8	
	comp=E,1009µm,0.4s						
RDO	**Rodhopi**	**0.86**	**331**	P	**Pg**	**22 04 56.2**	**-0.7**
RDO				S	**Sn**	**22 05 09.2**	**-0.5**
	comp=E,255nm,0.3s						
RDO	**Rodhopi**	**0.86**	**331**	P	**Pg**	**22 04 56.3**	**-0.6**
RDO				S	**Sg**	**22 05 07.5**	**-0.7**
RDO				AML	AML	22 05 12.6	
	comp=N,469µm,0.3s						
RDO				AML	AML	22 05 13.2	
	comp=E,549µm,0.3s						
RDO	**Rodhopi**	**0.86**	**331**	PG	**Pb**	**22 04 56.5**	**-0.2**
RKY	**Sarkoy-Tekirda**	**0.88**	**70**	PG	**Pg**	**22 04 55.7**	**-1.6**
SART	**Tekirdag**	**0.88**	**70**	*i* P	**Pg**	**22 04 56.0**	**-1.3**
SART				*i* S	**Sb**	**22 05 09.4**	**+0.8**
KRBG	**Karabiga-Canak**	**0.92**	**90**	PG	**Pg**	**22 04 56.6**	**-1.4**
THAS	**Thassos island**	**1.07**	**282**	P	**Pb**	**22 04 59.4**	**-0.8**
THAS				S	**Sn**	**22 05 15.4**	**+0.6**
	comp=E,552nm,0.5s						
THAS	**Thassos island**	**1.07**	**282**	P	**Pb**	**22 04 59.6**	**-0.6**
THAS				S	**Sb**	**22 05 13.6**	**-0.2**
THAS				AML	AML	22 05 16.8	
	comp=N,1452µm,0.5s						
THAS				AML	AML	22 05 17.1	
	comp=E,794µm,0.5s						
KNL	**Balıkesir**	**1.10**	**96**	*i* P	**Pb**	**22 04 59.8**	**-1.1**
KNL				*i* S	**Sb**	**22 05 15.1**	**+0.2**
KNL				IAML		22 05 17.0	
	comp=E,416nm,0.4s						
KNL				IAML		22 05 18.0	
	comp=N,214nm,0.7s						
PRK	**Paraskevi**	**1.16**	**173**	P	**Pg**	**22 05 02.6**	**+0.1**
PRK	**Paraskevi**	**1.16**	**173**	P	**Pg**	**22 05 02.9**	**+0.5**
PRK				S	**Sn**	**22 05 18.3**	**+1.3**
PRK				AML	AML	22 05 19.9	
	comp=E,1601µm,1.0s						
PRK				AML	AML	22 05 20.2	
	comp=N,1509µm,0.5s						
AYVA	**Ayvalik**	**1.18**	**157**	*i* P	**Pn**	**22 05 02.2**	**+0.3**
AYVA				*i* S	**Sb**	**22 05 17.7**	**+0.6**
AYVA				IAML		22 05 19.0	
	comp=E,240nm,0.8s						
AYVA				IAML		22 05 20.0	
	comp=N,386nm,0.5s						
SIGR	**SIGRI**	**1.20**	**189**	P	**Pn**	**22 05 02.0**	**-0.1**
SIGR				S	**Sn**	**22 05 18.4**	**+0.4**
	comp=N,382nm,0.6s						
SIGR	**SIGRI**	**1.20**	**189**	P	**Pn**	**22 05 02.1**	**-0.1**
SIGR	**SIGRI**	**1.20**	**189**	PN	**Pn**	**22 05 02.0**	**-0.1**
TKR	**Tekirdag**	**1.25**	**61**	PN	**Pn**	**22 05 02.7**	**-0.2**
GONE	**Gonen-Balikesi**	**1.27**	**105**	PN	**Pn**	**22 05 02.5**	**-0.7**
KAVA	**Kavala**	**1.34**	**297**	P	**Pn**	**22 05 04.0**	**-0.1**
KAVA				S	**Sb**	**22 05 21.2**	**-0.6**
	comp=N,182nm,0.4s						
KAVA	**Kavala**	**1.34**	**297**	P	**Pn**	**22 05 04.0**	**-0.1**
BALY	**Balya**	**1.34**	**119**	*i* P	**Pn**	**22 05 04.5**	**+0.3**
BALY				*i* S	**Sb**	**22 05 22.0**	**+0.1**
BALY				IAML		22 05 24.0	
	comp=E,156nm,0.3s						
BALY				IAML		22 05 25.0	
	comp=N,125nm,0.5s						
KDZ	**Kurdzhali**	**1.35**	**338**	PN	**Pn**	**22 05 04.5**	**+0.1**
EDC	**Edincik**	**1.35**	**91**	PN	**Pn**	**22 05 03.9**	**-0.4**
CRLT	**Corlu**	**1.45**	**59**	PN	**Pn**	**22 05 05.8**	**+0.2**
DKL	**Dikili**	**1.46**	**154**	PN	**Pn**	**22 05 06.2**	**+0.4**
EDRB	**Edirne**	**1.53**	**19**	P	**Pg**	**22 05 09.1**	**-0.6**
EDRB	**Edirne**	**1.53**	**19**	PN	**Pn**	**22 05 06.0**	**-0.8**
BOTS	**Marmara Eregli**	**1.56**	**67**	PN	**Pn**	**22 05 06.9**	**-0.2**
BALB	**Balikesir**	**1.57**	**118**	PN	**Pn**	**22 05 07.0**	**-0.2**
KIRK	**Kirklareli**	**1.58**	**28**	*i* P	**Pn**	**22 05 06.7**	**-0.7**
STEP	**BALIKESIR_Sava**	**1.61**	**129**	*i* P	**Pn**	**22 05 08.9**	**+1.0**
STEP				*i* S	**Sb**	**22 05 30.4**	**+0.8**
STEP				IAML		22 05 33.0	
	comp=E,72nm,0.3s						
ZEDA	**zmir-Bergama**	**1.62**	**152**	*i* P	**Pn**	**22 05 08.8**	**+0.9**
ZEDA				*i* S	**Sg**	**22 05 31.8**	**-0.4**
PHSR	**Pinarhisar**	**1.64**	**41**	PN	**Pn**	**22 05 08.5**	**+0.2**
KCTX	**Karacabey (Bur**	**1.74**	**94**	PN	**Pn**	**22 05 08.9**	**-0.7**
SLVT	**Silivri**	**1.81**	**62**	PN	**Pn**	**22 05 10.5**	**-0.1**
CTYL	**Yalikoy Yolu**	**1.98**	**56**	PN	**Pn**	**22 05 12.5**	**-0.5**
PLD	**Plovdiv**	**2.00**	**329**	*e*Pn	**Pg**	**22 05 17.7**	**-0.9**
PLD				*e*Sn	**Sg**	**22 05 43.7**	**-0.9**
PLD	**Plovdiv**	**2.00**	**329**	PN	**Pn**	**22 05 13.8**	**+0.5**
CTKS	**Kestanelik-??a**	**2.02**	**65**	PN	**Pn**	**22 05 13.3**	**-0.1**
SRS	**Serrai**	**2.03**	**292**	*e*Sn	**Sn**	**22 05 37.4**	**-1.2**
URLA	**Izmir**	**2.07**	**169**	PN	**Pn**	**22 05 14.3**	**+0.1**
DST	**Dursunbey**	**2.10**	**111**	PN	**Pn**	**22 05 14.6**	**0.0**
ARMT	**Armutlu**	**2.12**	**84**	PN	**Pn**	**22 05 14.7**	**-0.2**
MDNY	**Mudanya-Bursa**	**2.13**	**90**	PN	**Pn**	**22 05 15.2**	**+0.2**
BLCB	**Balcova**	**2.14**	**160**	PN	**Pn**	**22 05 15.7**	**+0.6**
BGKT	**Bogazkoy**	**2.18**	**68**	PN	**Pn**	**22 05 15.7**	**0.0**
ISK	**Istanbul-Kandi**	**2.35**	**72**	PN	**Pn**	**22 05 17.8**	**-0.3**
KAVV	**Kandilli-Istan**	**2.35**	**73**	PN	**Pn**	**22 05 17.9**	**-0.2**
KLYT	**Kilyos**	**2.40**	**68**	PN	**Pn**	**22 05 18.9**	**+0.2**
ELND	**Elena**	**2.54**	**356**	⇓P	**Pn**	**22 05 21.4**	**+0.8**
ELND				⇓S	**Sg**	**22 06 02.8**	**+1.1**
SIMA	**Simav-Kutahya**	**2.59**	**119**	PN	**Pn**	**22 05 21.2**	**-0.2**
HRT	**Hereke**	**2.76**	**80**	PN	**Pn**	**22 05 23.9**	**+0.2**
TVSB	**Tavsanli**	**2.76**	**109**	PN	**Pn**	**22 05 24.4**	**+0.7**
SILT	**Sile**	**2.80**	**73**	PN	**Pn**	**22 05 24.6**	**+0.4**
VAY	**Valandovo**	**2.83**	**290**	*e*Pn	**Pn**	**22 05 23.2**	**-1.4**
VAY	**Valandovo**	**2.83**	**290**	*i* Pn	**Pn**	**22 05 16.9**	**-7.7**
VAY				*e*Sn	**Sg**	**22 06 09.2**	**-1.7**
VTS	**Vitosha**	**3.09**	**317**	*e*Pn	**Pn**	**22 05 29.3**	**+1.0**
VTS	**Vitosha**	**3.09**	**317**	⇓P	**Pg**	**22 05 37.0**	**-2.4**
VTS				⇑S	**Sg**	**22 06 20.9**	**+1.6**
PLVB	**Pleven**	**3.19**	**340**	⇑P	**Pg**	**22 05 38.5**	**-2.6**
PLVB				⇓S	**Sg**	**22 06 27.5**	**+5.0**
RAZG	**Razgrad**	**3.19**	**5**	⇑P	**Pb**	**22 05 37.2**	**+0.9**
RAZG				⇑S	**Sg**	**22 06 20.8**	**-1.6**
STIP	**Stip**	**3.23**	**295**	*i* Pn	**Pn**	**22 05 28.7**	**-1.3**
STIP				*e*Sn	**Sb**	**22 06 19.0**	**+3.0**
BOSS	**Bosilegrad**	**3.43**	**309**	*e*Pn	**Pn**	**22 05 34.0**	**+1.1**
SGRR	**Singureni**	**3.83**	**359**	⇑P	**Pb**	**22 05 47.5**	**+0.3**
SGRR				⇓S	**Sg**	**22 06 43.1**	**+0.1**
ZAPS	**Zavoj**	**3.87**	**319**	*e*Pn	**Pn**	**22 05 40.9**	**+2.0**
BARS	**Barje**	**4.02**	**308**	*e*Pn	**Pn**	**22 05 42.1**	**+1.2**
BLKB	**Belogradchik**	**4.11**	**323**	⇑S	**Sg**	**22 06 50.2**	**-1.9**
TIRR	**Tirgusor**	**4.41**	**22**	⇑P	**Pn**	**22 05 50.3**	**+4.0**
BOVS	**Bovan**	**4.60**	**316**	*e*Pn	**Pn**	**22 05 50.1**	**+1.2**
SELS	**Selova**	**4.67**	**309**	*e*Pn	**Pn**	**22 05 50.3**	**+0.4**
CFR	**Carcaliu**	**5.01**	**17**	⇑S	**Sb**	**22 07 07.8**	**+0.4**
MLR	**Muntele Rosu**	**5.09**	**359**	⇓P	Pb	22 06 04.1	-4.8
MLR				⇑S	**Sb**	**22 07 15.1**	**+5.2**
GRUS	**Gruza**	**5.31**	**313**	*e*Pn	**Pn**	**22 05 58.9**	**+0.3**
BZS	**Buzias**	**6.16**	**329**	⇑P	**Pn**	**22 06 10.3**	**-0.1**
BZS				⇑S	**Sb**	**22 07 41.3**	**+0.8**

*NNC **10** 22:38:04.3±16.0, 44°.92N×76°.32E, h0km, mb2.8, mpv2.3,*
Error ellipse: s-maj=197.6km s-min=117.0km az=100.0
*KRNET **10** 22:38:06.0±0.1, 42°.06N×78°.01E, h12km, mb2.7*
*SOME **10** 22:38:06.2, 42°.02N×78°.02E, h20km*

ISC 10 22:38:06.7±1.1, 42°.07N±0°.03×77°.94E±0°.02, h6km±11km, n41, σ1§43/79, 15C-6D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.35**	**196**	⇑*i*	P		**Pg**	**22 38 13.2**	**-0.5**
	baz=6.0								
TARG				⇑*i*	S		**Sg**	**22 38 18.0**	**-0.4**
	baz=6.0								
PRZ	**Przheval'sk**	**0.54**	**39**	⇑*i*	P		**Pg**	**22 38 16.0**	**-1.2**
	baz=35								
PRZ				⇑*i*	S		**Sg**	**22 38 23.6**	**-0.7**
	baz=35								
KDJ	**Kajisay**	**0.57**	**277**	⇓*i*	P		**Pg**	**22 38 17.4**	**-0.3**
	baz=77								
KDJ				⇓*i*	S		**Sg**	**22 38 26.4**	**+1.3**
	baz=77								
ANVS	**Anan'yevo**	**0.74**	**345**	⇓*i*	P		**Pg**	**22 38 20.7**	**-0.3**
	baz=41								
ANVS				⇓*i*	S		**Sg**	**22 38 31.3**	**+0.6**
	baz=41								
SATY	**Saty**	**1.05**	**19**	*e*	P		**Pb**	**22 38 25.5**	**-1.9**
	0.5nm,0.1s								
SATY				*e*	S		**Sg**	**22 38 39.4**	**-1.1**
	15nm,0.1s								
TNSS	**Tian-Shan**	**1.22**	**323**	*e*	P		**Pg**	**22 38 30.1**	**0.0**
	baz=22								
TNSS				*e*	S		**Sn**	**22 38 47.4**	**-0.3**
	baz=22								
TNSS	**Tian-Shan**	**1.22**	**323**	*e*	P		**Pg**	**22 38 30.1**	**0.0**
	4.9nm,0.1s								
TNSS				*e*	S		**Sn**	**22 38 47.4**	**-0.3**
	4.4nm,0.1s								
ULHL	**Ulahol**	**1.27**	**279**	⇑*i*	P		**Pb**	**22 38 30.8**	**-0.5**
	baz=79								
ULHL				⇑*i*	S		**Sg**	**22 38 49.0**	**+1.3**
	baz=79								
MDOK	**Medeo**	**1.28**	**329**	*e*	P		**Pg**	**22 38 31.1**	**-0.1**
	baz=28								
MDOK				*e*	S		**Sg**	**22 38 49.0**	**+1.2**
	baz=28								
MDOK	**Medeo**	**1.28**	**329**	*e*	P		**Pg**	**22 38 31.1**	**-0.1**
	2.8nm,0.1s								
MDOK				*e*	S		**Sg**	**22 38 49.0**	**+1.2**
	2.1nm,0.1s								
KOTS	**Kotyrbulak**	**1.32**	**333**	*e*	P		**Pb**	**22 38 31.5**	**-0.5**
	baz=31								
KOTS				*e*	S		**Sg**	**22 38 49.6**	**+0.5**
	baz=31								
KOTS	**Kotyrbulak**	**1.32**	**333**	*e*	P		**Pb**	**22 38 31.5**	**-0.5**
	4.8nm,0.1s								
KOTS				*e*	S		**Sg**	**22 38 49.6**	**+0.5**
	4.6nm,0.2s								
UZB	**Uzynbulak**	**1.34**	**36**	*e*	P		**Pb**	**22 38 30.9**	**-1.6**
	baz=34								
UZB				*e*	S		**Sg**	**22 38 48.6**	**-1.4**
	baz=34								
UZB	**Uzynbulak**	**1.34**	**36**	*e*	P		**Pb**	**22 38 30.9**	**-1.6**
	1.0nm,0.1s								
UZB				*e*	S		**Sg**	**22 38 48.6**	**-1.4**
	4.2nm,0.1s								
IZV	**Izvestkoviy**	**1.38**	**315**	*e*	P		**Pb**	**22 38 32.9**	**-0.1**
	baz=14								
IZV				*e*	S		**Sg**	**22 38 52.1**	**+1.1**
	baz=14								
IZV	**Izvestkoviy**	**1.38**	**315**	*e*	P		**Pb**	**22 38 32.9**	**-0.1**
	1.7nm,0.1s								
IZV				*e*	S		**Sg**	**22 38 52.1**	**+1.1**
	6.1nm,0.1s								
KURS	**Kuram**	**1.43**	**7**	*e*	P		**Pb**	**22 38 32.7**	**-1.2**
	baz=5.0								
KURS				*e*	S		**Sg**	**22 38 51.7**	**-1.0**
	baz=5.0								
KURS	**Kuram**	**1.43**	**7**	*e*	P		**Pb**	**22 38 32.7**	**-1.2**
	1.4nm,0.1s								
KURS				*e*	S		**Sg**	**22 38 51.7**	**-1.0**
	5.8nm,0.3s								
KPKS	**Kokpek**	**1.50**	**21**	*e*	P		**Pb**	**22 38 33.8**	**-1.3**
	baz=19								
KPKS				*e*	S		**Sg**	**22 38 53.6**	**-1.5**
	baz=19								
KPKS	**Kokpek**	**1.50**	**21**	*e*	P		**Pb**	**22 38 33.8**	**-1.3**
	2.3nm,0.1s								
KPKS				*e*	S		**Sg**	**22 38 53.6**	**-1.5**
	14nm,0.2s								
MTBS	**Maitube**	**1.54**	**314**	*e*	P		**Pb**	**22 38 35.8**	**+0.1**
	baz=13								
MTBS				*e*	S		**Sg**	**22 38 56.9**	**+0.7**
	baz=13								
MTBS	**Maitube**	**1.54**	**314**	*e*	P		**Pb**	**22 38 35.8**	**+0.1**
	3.6nm,0.1s								
MTBS				*e*	S		**Sg**	**22 38 56.9**	**+0.7**
	6.1nm,0.2s								
BOOM	**Boomskoye usch**	**1.54**	**287**	⇓*i*	P		**Pb**	**22 38 35.6**	**-0.2**
	baz=87								
BOOM				⇓*i*	S		**Sg**	**22 38 57.2**	**+0.9**
	baz=87								
SHLS	**Shalkode**	**1.57**	**45**	*e*	P		**Pg**	**22 38 39.5**	**+2.7**
	baz=51								
SHLS				*e*	S		**Sg**	**22 39 03.4**	**+6.3**
	baz=51								
SHLS	**Shalkode**	**1.57**	**45**	*e*	P		**Pg**	**22 38 39.5**	**+2.7**
	2.8nm,0.1s								
SHLS				*e*	S		**Sg**	**22 39 03.4**	**+6.3**
	4.6nm,0.1s								
KST	**Kastek**	**1.75**	**304**	*e*	P		**Pb**	**22 38 39.6**	**+0.2**
	baz=4.0								
KST				*e*	S		**Sg**	**22 39 03.5**	**+0.4**
	baz=4.0								
KST	**Kastek**	**1.75**	**304**	*e*	P		**Pb**	**22 38 39.6**	**+0.2**
	1.5nm,0.1s								
KST				*e*	S		**Sg**	**22 39 03.5**	**+0.4**
	9.4nm,0.3s								
KTBS	**Karatobe**	**1.89**	**331**	*e*	P		**Pb**	**22 38 41.7**	**+0.1**
	1.6nm,0.1s								
KTBS				*e*	S		**Sg**	**22 39 07.1**	**-0.2**
	5.4nm,0.2s								
TKM2	**Tokmak 2**	**1.93**	**297**	⇑Pn			**Pn**	**22 38 39.8**	**-0.5**
	0.8nm,0.3s								
TKM2				⇑Sn			**Sb**	**22 39 08.3**	**+1.4**
	4.9nm,0.4s								
DGS	**Degeres**	**1.98**	**307**	*e*	P		**Pb**	**22 38 43.5**	**+0.2**
	baz=7.0								
DGS				*e*	S		**Sg**	**22 39 10.2**	**-0.2**
	baz=7.0								
DGS	**Degeres**	**1.98**	**307**	*e*	P		**Pb**	**22 38 43.5**	**+0.2**
	0.2nm,0.2s								
DGS				*e*	S		**Sg**	**22 39 10.2**	**-0.2**
	3.1nm,0.2s								
KZA	**Kyzart**	**2.00**	**271**	⇑*i*	P		**Pb**	**22 38 43.3**	**-0.5**
	baz=72								
KZA				⇑*i*	S		**Sg**	**22 39 11.0**	**0.0**
	baz=72								
ARXS	**Arharly**	**2.15**	**358**	*e*	P		**Pb**	**22 38 45.8**	**-0.3**
	2.4nm,0.1s								
ARXS				*e*	S		**Sg**	**22 39 14.2**	**-1.5**
	5.2nm,0.2s								
KUU	**Kurty**	**2.17**	**328**	*e*	P		**Pb**	**22 38 46.3**	**-0.2**
	1.2nm,0.1s								
KUU				*e*	S		**Sb**	**22 39 15.0**	**+1.4**
	2.4nm,0.2s								
KBK	**Karagaybulak**	**2.29**	**286**	⇑*i*	P		**Pb**	**22 38 47.2**	**-1.4**
	baz=86								
KBK				⇑*i*	S		**Sb**	**22 39 17.7**	**+0.4**
	baz=86								
KRBS	**Karabastau**	**2.33**	**315**	*e*	P		**Pb**	**22 38 49.2**	**+0.1**
	1.9nm,0.2s								
KRBS				*e*	S		**Sg**	**22 39 20.2**	**-1.3**
	2.5nm,0.3s								
AAK	**Ala-Archa**	**2.61**	**284**	⇑Pn			**Pn**	**22 38 48.8**	**-0.9**
	0.9nm,0.5s								
AAK				⇑Lg			Lg	22 39 28.6	
	7.8nm,0.8s								
DJR	**Jarkent**	**2.64**	**30**	*e*	P		**Pb**	**22 38 53.0**	**-1.5**
	1.6nm,0.1s								
DJR				*e*	S		**Sb**	**22 39 26.5**	**-0.7**
	6.6nm,0.2s								
TDK	**Taldyqorghan**	**2.95**	**6**	*e*	P		**Pb**	**22 38 59.5**	**-0.3**
	6.4nm,0.1s								
TDK				*e*	S		**Sb**	**22 39 37.7**	**+1.5**
	9.8nm,0.1s								
KAPS	**Kapalarasan**	**3.38**	**17**	*e*	P		**Pb**	**22 39 06.4**	**-0.7**
	0.2nm,0.1s								
KAPS				*e*	S		**Sb**	**22 39 49.6**	**+1.2**
	1.2nm,0.1s								
KK31	**Karatay Array**	**5.58**	**283**	⇑Lg			Lg	22 40 25.9	
	0.3nm,0.3s,baz=121,slow=25,SNR=4.1								

*THE **10** 22:52:42.6, 38°.34N×22°.07E, h8km, ML3.6/14, Error*
ellipse: s-maj=0.9km s-min=0.4km az=31.0
*ATH **10** 22:52:42.4, 38°.34N×22°.10E, h10km±1km, ML3.3/32, Error*
ellipse: s-maj=1.4km s-min=0.5km az=337.0
*IDC **10** 22:52:46.8±7.2, 38°.38N×22°.18E, h34km±65km, mb3.4/5,*
mb1 3.5/6, mb1mx3.3/45, mbtmp3.6/6, ML3.1/1, MS2.3/2,
Ms1 2.4/2, ms1mx2.2/20, Error ellipse: s-maj=39.4km
s-min=20.8km az=152.0
*BEO **10** 22:52:48.1±1.0, 38°.63N×22°.25E, h10km, ML2.9/8*

ISC 10 22:52:42.5±0.7, 38°.33N±0°.01×22°.09E±0°.01, h8km±3km, n136, σ1§49/202, mb3.8/4, 12C-7D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.04**	**334**	P			**Pg**	**22 52 43.9**	**-0.2**
TRIZ				S			**Sg**	**22 52 45.0**	**-0.3**
	276µm,0.4s								
TRIZ	**Trizonia**	**0.04**	**334**	P			**Pg**	**22 52 43.9**	**-0.2**
TRIZ				S			**Sg**	**22 52 45.3**	**+0.1**
KALE	**Kalithea**	**0.07**	**31**	P			**Pg**	**22 52 44.7**	**+0.2**
KALE				S			**Sg**	**22 52 46.6**	**+0.6**
	63µm,0.4s								
KALE	**Kalithea**	**0.07**	**31**	P			**Pg**	**22 52 44.7**	**+0.2**
KALE				S			**Sg**	**22 52 46.6**	**+0.6**
KALE				AML		AML	AML	22 52 47.2	
KALE				AML		AML	AML	22 52 48.8	
ALIK	**Aliki, Aigiali**	**0.07**	**169**	P			**Pg**	**22 52 44.9**	**+0.5**
ALIK				S			**Sg**	**22 52 47.1**	**+1.3**
SERG	**Sergoula**	**0.09**	**340**	P			**Pg**	**22 52 44.6**	**-0.1**
SERG				S			**Sg**	**22 52 46.3**	**0.0**
	135µm,0.2s								
SERG	**Sergoula**	**0.09**	**340**	P			**Pg**	**22 52 44.6**	**-0.1**
SERG				S			**Sg**	**22 52 46.5**	**+0.2**
SERG				AML		AML	AML	22 52 46.9	
SERG				AML		AML	AML	22 52 46.9	
LAKA	**Lakka**	**0.13**	**225**	P			**Pg**	**22 52 45.3**	**0.0**
LAKA				S			**Sg**	**22 52 47.3**	**0.0**
	15µm,0.6s								
LAKA	**Lakka**	**0.13**	**225**	P			**Pg**	**22 52 45.3**	**0.0**
LAKA				S			**Sg**	**22 52 47.6**	**+0.3**
LAKA				AML		AML	AML	22 52 47.6	
	comp=E,26428µm,0.3s								
LAKA				AML		AML	AML	22 52 47.8	
	comp=N,26006µm,0.3s								
KLV	**Kalavryta, Ach**	**0.29**	**171**	P			**Pg**	**22 52 47.9**	**-0.4**
KLV				S			**Sg**	**22 52 53.0**	**+0.8**
ANX	**Ano Chora**	**0.30**	**333**	P			**Pg**	**22 52 48.1**	**-0.3**
ANX				S			**Sg**	**22 52 52.7**	**+0.3**
	comp=N,32µm,0.3s								
ANX	**Ano Chora**	**0.30**	**333**	P			**Pg**	**22 52 48.2**	**-0.2**
ANX				S			**Sg**	**22 52 52.3**	**0.0**
ANX				AML		AML	AML	22 52 53.2	
	comp=N,69361µm,0.4s								
ANX				AML		AML	AML	22 52 53.5	
	comp=E,57179µm,0.3s								
DLFA	**Delphi**	**0.35**	**65**	P			**Pg**	**22 52 49.3**	**0.0**
DLFA				S			**Sg**	**22 52 54.8**	**+0.8**
DLFA				AML		AML	AML	22 52 58.3	
	comp=N,9505µm,0.6s								
DLFA				AML		AML	AML	22 53 00.7	
	comp=E,9013µm,0.6s								
GUR	**Goura**	**0.44**	**154**	P			**Pg**	**22 52 50.7**	**-0.4**
GUR				S			**Sg**	**22 52 57.8**	**+1.0**
	comp=E,5µm,0.5s								
GUR	**Goura**	**0.44**	**154**	P			**Pg**	**22 52 51.1**	**0.0**
GUR				S			**Sg**	**22 52 57.8**	**+1.0**
DRO	**Drossia**	**0.48**	**219**	P			**Pg**	**22 52 51.5**	**-0.4**
DRO				S			**Sg**	**22 52 59.4**	**+1.2**
	comp=E,10µm,0.4s								

comp=E,5µm,0.4s
AMT Artemida-Makis 0.85 201 P **Pb** **22 52 58.8 -0.7**
AMT S **Sb** **22 53 10.1 -1.0**
AMT AML AML 22 53 16.4
comp=E,7050µm,0.3s
AMT AML AML 22 53 19.8
comp=N,11117µm,0.4s
VIL2 Platees 0.93 97 P **Pb** **22 51 01.6 +0.8**
VIL2 S **Sn** **22 53 15.1 -0.3**
VIL2 AML AML 22 53 20.6
comp=N,2913µm,0.5s
VIL2 AML AML 22 53 20.8
comp=E,5364µm,0.9s
VILL Villia 0.97 99 P **Pb** **22 53 01.9 +0.3**
VILL S **Sn** **22 53 15.9 -0.6**
comp=E,272nm,0.7s
VLX Vlachokerasia 0.98 167 P **Pb** **22 53 00.5 -1.3**
VLX S **Sg** **22 53 15.9 +1.7**
comp=E,4µm,0.8s
VLX Vlachokerasia 0.98 167 P **Pb** **22 53 00.8 -1.0**
VLX S **Sb** **22 53 15.1 +0.1**
VLX AML AML 22 53 18.9
comp=E,5862µm,1.1s
VLX AML AML 22 53 19.6
comp=N,7647µm,0.6s
KFL Anninata 1.05 258 P **Pb** **22 53 01.9 -1.0**
KFL Anninata 1.05 258 P **Pb** **22 53 01.9 -1.0**
KFL S **Sb** **22 53 16.9 0.0**
MGNA Meganis 1.07 288 P **Pb** **22 53 02.2 -1.0**
ITM Ithomi 1.16 187 P **Pn** **22 53 03.4 -1.6**
ITM S **Sn** **22 53 21.2 +0.3**
EVGI Lefkada island 1.17 285 P **Pn** **22 53 03.8 -1.3**
EVGI Lefkada island 1.17 285 P **Pn** **22 53 04.1 -1.0**
VLS Valsamata 1.20 263 P **Pn** **22 53 04.0 -1.5**
VLS S **Sb** **22 53 22.0 +1.0**
VLS AML AML 22 53 27.7
comp=N,2131µm,0.6s
VLS AML AML 22 53 29.1
comp=E,1414µm,0.5s
FSK Fiskardo 1.21 277 P **Pn** **22 53 04.3 -1.4**
FSK Fiskardo 1.21 277 P **Pn** **22 53 04.3 -1.4**
LKD2 Lefkada island 1.22 293 P **Pn** **22 53 05.0 -0.8**
VLMS Volimes, Zakyn 1.22 249 P **Pn** **22 53 04.5 -1.3**
DID Didima 1.22 132 P **Pn** **22 53 06.2 +0.3**
DID Didima 1.22 132 P **Pn** **22 53 06.5 +0.6**
DID S **Sb** **22 53 21.7 0.0**
MRKA Markates 1.23 72 P **Pn** **22 53 05.7 -0.3**
MRKA Markates 1.23 72 P **Pn** **22 53 05.7 -0.3**
MRKA S **Sb** **22 53 22.0 0.0**
MRKA AML AML 22 53 28.0
comp=E,1091µm,0.6s
MRKA AML AML 22 53 28.8
comp=N,1012µm,0.6s
THL Klokotos Trika 1.23 357 P **Pn** **22 53 06.2 +0.2**
THL S **Sb** **22 53 22.6 +0.5**
THL AML AML 22 53 27.1
comp=N,834µm,0.6s
THL AML AML 22 53 28.2
comp=E,1300µm,1.2s
KRND KRANIDI 1.26 138 P **Pn** **22 53 06.5 +0.2**
KRND S **Sg** **22 53 24.3 +1.2**
KRND AML AML 22 53 27.6
comp=E,3089µm,0.5s
KRND AML AML 22 53 28.6
comp=N,1999µm,0.4s
ARGA Argostoli. Kep 1.28 264 P **Pn** **22 53 05.4 -1.3**
ARGA S **Sg** **22 53 25.5 +1.8**
ARGA AML AML 22 53 30.4
comp=E,2553µm,0.3s
ARGA AML AML 22 53 34.3
comp=N,1837µm,0.3s
LXRA Lixouri, Kepha 1.31 265 P **Pn** **22 53 06.2 -0.9**
NEO Neokhori 1.31 42 P **Pn** **22 53 07.0 -0.2**
NEO S **Sg** **22 53 26.3 +1.5**
NEO AML AML 22 53 28.1
comp=E,1466µm,0.5s
NEO AML AML 22 53 34.7
comp=N,1670µm,0.5s
KEF4 Livadi, Kephal 1.32 267 P **Pn** **22 53 06.2 -0.9**
ATH Athens Observa 1.33 105 P **Pn** **22 53 07.5 +0.3**
ATH S **Sb** **22 53 25.4 +0.6**
ATH AML AML 22 53 36.4
comp=E,1170µm,0.8s
ATH AML AML 22 53 36.8
comp=N,1076µm,0.5s
XOR Xorichti 1.34 39 P **Pn** **22 53 07.4 -0.2**
XOR S **Sb** **22 53 25.9 +0.6**
XOR AML AML 22 53 34.5
comp=N,1321µm,0.4s
XOR AML AML 22 53 35.8
comp=E,971µm,1.0s
LRSO Larissa Observ 1.36 10 P **Pn** **22 53 08.3 +0.6**
SKIA Skiathos 1.36 52 P **Pn** **22 53 08.0 +0.2**
SKIA S **Sn** **22 53 25.7 -0.3**
SKIA AML AML 22 53 32.6
comp=N,1661µm,0.9s
SKIA AML AML 22 53 32.6
comp=E,832µm,0.6s
KEF3 Kipouria, Keph 1.38 265 P **Pn** **22 53 07.8 -0.2**
ATHU Athens Univers 1.38 105 P **Pn** **22 53 08.1 0.0**
ATHU S **Sb** **22 53 26.9 +0.6**
ATHU AML AML 22 53 36.1
comp=N,480µm,0.5s
ATHU AML AML 22 53 36.9
comp=E,211µm,0.6s
PTL Penteli 1.42 101 P **Pn** **22 53 08.9 +0.3**
PTL S **Sb** **22 53 27.8 +0.2**
PTL AML AML 22 53 35.5
comp=N,946µm,0.7s
PTL AML AML 22 53 38.1
comp=E,853µm,0.5s
VLY Voula,Athens 1.42 109 P **Pn** **22 53 09.1 +0.5**
PYL PYLOS 1.46 191 P **Pn** **22 53 09.0 -0.1**
PYL PYLOS 1.46 191 P **Pn** **22 53 08.9 -0.1**
DION Dionisos Attik 1.47 99 P **Pn** **22 53 09.9 +0.6**
DION S **Sb** **22 53 29.4 +0.5**
DION AML AML 22 53 32.5
comp=N,1929µm,0.5s
DION AML AML 22 53 37.0
comp=E,2464µm,0.8s
KYMI Kymi, Euboea I 1.60 79 P **Pn** **22 53 11.1 0.0**
JAN Janina 1.64 324 P **Pb** **22 53 13.5 +0.5**
JAN AML AML 22 53 44.7
comp=N,784µm,0.7s
JAN AML AML 22 53 44.9
comp=E,1562µm,0.9s
VLI Veliai 1.74 157 P **Pb** **22 53 15.2 +0.5**
VLI S **Sg** **22 53 38.9 +0.4**
VLI AML AML 22 53 47.5
comp=N,1020µm,0.5s
VLI AML AML 22 53 49.3
comp=E,1189µm,0.8s
IGT Igoumenitsa 1.82 312 *e*Pn **Pg** **22 53 18.4 +0.9**
IGT *e*Sn **Sb** **22 53 40.3 +1.2**
IGT Igoumenitsa 1.82 312 P **Pb** **22 53 17.0 +0.9**
KZN Kozani 1.99 353 P **Pn** **22 53 17.8 +1.3**
OHR Ohrid 2.95 341 *i* Pn Pn 22 53 22.4 -7.3
APE Apeiranthos 3.00 114 ⇓P **Pn** **22 53 31.7 +1.4**
APE ⇑S **Sn** **22 54 09.6 +3.1**
VAY Valandovo 3.01 7 *e*Pn **Pn** **22 53 31.7 +1.3**
VAY *e*Sn **Sn** **22 54 04.6 -2.0**
VAY Valandovo 3.01 7 *i* Pn Pn 22 53 24.8 -5.6
SRS Serrai 3.01 22 *e*Pn **Pn** **22 53 30.5 0.0**
SRS *e*Sn **Sn** **22 54 03.7 -3.1**
SANT Santorini 3.32 125 ⇑P **Pn** **22 53 37.1 +2.4**
STIP Stip 3.36 1 *i* Pn Pn 22 53 28.0 -7.3
PRK Paraskevi 3.39 73 P **Pn** **22 53 36.8 +1.2**
TIR Tirane 3.47 331 *e*Pn **Pn** **22 53 40.0 +3.3**
MMB Musomiste 3.49 21 *e*P **Pn** **22 53 37.4 +0.4**
MMB *e*S **Sn** **22 54 17.4 -1.1**
KKB Krupnik 3.61 12 *e*P **Pn** **22 53 39.6 +0.9**
IDI Anoyia 3.77 143 ⇓P **Pn** **22 53 45.0 +4.0**
IDI ⇑S **Sb** **22 54 33.2 -2.1**
RZN Rozhen 3.91 30 *e*P **Pn** **22 53 39.5 -3.5**
BOSS Bosilegrad 4.17 4 *e*Pn **Pn** **22 53 47.6 +1.2**
BOSS *e*Sn **Sn** **22 54 32.1 -3.2**
TIP Timpagrande 4.26 283 ⇑P **Pn** **22 53 48.3 +1.3**
TIP ⇓S **Sn** **22 54 39.3 +1.8**
VTS Vitosha 4.37 11 *e*Pn **Pn** **22 53 49.2 -0.1**
VTS Vitosha 4.37 11 ⇑P **Pn** **22 53 45.7 -3.5**
VTS ⇓S **Sn** **22 54 34.5 -5.9**
VTS Vitosha 4.37 11 *e*P **Pn** **22 53 49.8 +0.5**
BARS Barje 4.49 357 *e*Pn **Pn** **22 53 52.3 +1.6**

PDG Podgorica 4.63 333 *e*Pn **Pn** **22 53 54.6 +1.9**
PDG Podgorica 4.63 333 ⇑P **Pn** **22 53 49.9 -2.8**
PDG ⇑S **Sn** **22 54 43.1 -3.5**
MATE Matera 4.77 301 ⇑P **Pn** **22 53 54.0 -0.6**
MATE ⇓S **Sn** **22 54 49.2 -0.8**
SELS Selova 4.94 352 *e*Pn **Pn** **22 53 58.3 +1.3**
ZAPS Zavoj 4.96 5 *e*Pn **Pn** **22 53 58.9 +1.7**
SJES Sjenica 5.18 343 *e*Pn **Pn** **22 54 01.7 +1.3**
DBRK Dubrovnik 5.28 326 *e*Pn **Pn** **22 54 02.5 +0.9**
DBRK *e*Sn **Sn** **22 55 02.1 -0.4**
BLKB Belogradchik 5.30 5 ⇑S **Sn** **22 54 57.2 -6.1**
ELND Elena 5.42 31 ⇓P **Pn** **22 54 00.5 -3.0**
ELND ⇑S **Sn** **22 55 00.1 -6.0**
IVAS Ivanjica 5.44 345 *e*Pn **Pn** **22 54 05.4 +1.5**
ZAGS Zajecar 5.48 1 *e*Pn **Pn** **22 54 05.1 +0.8**
STON Ston 5.63 325 *e*Pn **Pn** **22 54 06.7 +0.2**
STON *e*Sn **Sn** **22 55 09.7 -1.6**
GRUS Gruza 5.65 350 *e*Pn **Pn** **22 54 08.4 +1.7**
BBLS Lazići 5.89 341 *e*Pn **Pn** **22 54 12.2 +2.1**
DIVS Divibare 5.98 345 *e*Pn **Pn** **22 54 12.3 +1.0**
TRUS Trudelj 6.02 348 *e*Pn **Pn** **22 54 13.4 +1.6**
MAKA Makarska 6.27 324 *e*Pn **Pn** **22 54 16.1 +0.9**
MAKA *e*Sn **Sn** **22 55 27.0 0.0**
HVAR Hvar 6.46 320 *e*Pn **Pn** **22 54 18.8 +0.9**
HVAR *e*Sn **Sn** **22 55 29.6 -2.2**
ZIRJ Zirje 7.21 320 *e*Pn **Pn** **22 54 28.5 +0.3**
ZIRJ *e*Sn **Sn** **22 55 48.4 -1.9**
MORI Morici 7.34 321 *e*Pn **Pn** **22 54 30.6 +0.8**
MORI *e*Sn **Sn** **22 55 52.2 -1.0**
MLR Muntele Rosu 7.71 21 ⇑P **Pn** **22 54 31.3 -3.8**
DUGI Dugi Otok 7.75 319 *e*Pn **Pn** **22 54 36.8 +1.2**
DUGI *e*Sn **Sn** **22 56 01.0 -2.6**
UDBI Udbina 7.80 324 *e*Pn **Pn** **22 54 38.2 +1.8**
UDBI *e*Sn **Sn** **22 56 05.5 +0.7**
PLOR Plostina 8.24 23 ⇓P **Pn** **22 54 38.6 -3.7**
NVLJ Novalja 8.26 321 *e*Pn **Pn** **22 54 43.3 +0.9**
NVLJ *e*Sn **Sn** **22 56 13.8 -2.1**
VRI Vrincioaia 8.28 23 ⇑P **Pn** **22 54 38.9 -3.9**
MOSL Moslavina 8.29 333 *e*Pn **Pn** **22 54 43.9 +0.9**
MOSL *e*Sn **Sn** **22 56 14.9 -1.9**
KALN Kalnik 8.84 334 *e*Pn **Pn** **22 54 52.3 +1.8**
BRJN Brijuni 9.06 319 *e*Pn **Pn** **22 54 53.9 +0.4**
BRJN *e*Sn **Sn** **22 56 33.4 -2.3**
BRTR Keskin Array B 9.09 78 Pn Pn 22 54 57.0 +3.0
comp=E,0.2nm,0.3s,baz=264,slow=7.2,SNR=9.6
BRTR LR LR 22 58 33.9
comp=E,20nm,20.2s,baz=222,slow=38
WATA Walderalm 11.85 323 *i* Pn Pn 22 55 35.1 +3.4
comp=E,1.6nm,0.2s
MOTA Moosalm 12.08 322 *i* Pn Pn 22 55 39.4 +4.5
comp=E,1.3nm,0.4s
ESDC Sonseca Array 20.28 282 P **P** **22 57 20.0 +1.5**
comp=E,0.9nm,0.7s,baz=76,slow=11,SNR=10
FINES FINESS Array B 23.27 5 P **P** **22 57 50.5 +0.4**
comp=E,1.1nm,0.9s,baz=215,slow=12,SNR=1.9
NOA NORSAR Array B 23.73 347 LR LR 23 09 25.4
comp=E,8.6nm,20.9s,baz=290,slow=42
TORD Torodi Ar. Bea 30.95 221 P **P** **22 59 01.3 +1.3**
comp=E,1.1nm,0.7s,baz=31,slow=9.2,SNR=5.8
MKAR Makanchi Array 44.16 59 P **P** **23 00 51.2 -0.3**
comp=E,0.7nm,0.5s,baz=276,slow=7.0,SNR=10
ZALV Zalesovo Beam 44.66 48 P **P** **23 00 55.1 -0.3**
comp=E,0.6nm,0.5s,baz=269,slow=8.6,SNR=2.4

*NIED **10** 23:09:00, 39˚.40N×143˚.50E, h14km, Mw3.6 Best double couple: M₀2.78000×10¹⁴ NP1:φ₈48.00000°, δ63.00000°, λ109.00000°. NP2:φ₈192.00000°, δ33.00000°, λ58.00000°.*
*IDC **10** 23:09:22.7±2.0, 39˚.54N×143˚.37E, h0km, mb3.7/8, mb1 3.9/10,mb1mx3.6/35,mbtmp3.7/10,ML3.0/2, MS2.4/2, Ms1 2.4/2,ms1mx2.1/32,Error ellipse: s-maj=43.4km s-min=26.3km az=142.0*
*JMA **10** 23:09:23.1±0.2, 39˚.40N×143˚.47E, h22km±4km, M3.7*
ISC 10 23:09:24.0±1.0, 39˚.45N±0˚.07×143˚.37E±0˚.07, h11km, n29, σ0°96/31, mb3.7/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.21**	**277**	P	**Pn**	**23 09 45.7**	**-1.1**
JTH	**Tanohata**	**1.26**	**293**	P	**Pn**	**23 09 47.1**	**-0.5**
JTH				*e*S	**Sb**	**23 10 04.0**	**0.0**
OFUJ	**Ofunato**	**1.37**	**255**	P	**Pn**	**23 09 48.4**	**-0.7**
OFUJ				*e*S	**Sb**	**23 10 05.6**	**-1.6**
JOM	**Ohasama**	**1.61**	**271**	P	**Pn**	**23 09 52.0**	**-0.3**
JOM				*e*S	**Sn**	**23 10 13.3**	**+0.2**
JANG	**Nango**	**1.70**	**303**	P	**Pn**	**23 09 53.0**	**-0.6**
JMK	**Ichinoseki**	**1.75**	**254**	P	**Pn**	**23 09 53.9**	**-0.3**
JMK				*e*S	**Sn**	**23 10 15.6**	**-0.8**
JIO	**Ouri**	**1.86**	**238**	P	**Pn**	**23 09 54.9**	**-0.9**
JRG	**Rokugo**	**2.12**	**269**	P	**Pn**	**23 09 58.8**	**+0.4**
JTM	**Tenuhabayashi**	**2.21**	**308**	P	**Pn**	**23 10 00.9**	**+0.3**
JYK	**Kaneyama**	**2.40**	**258**	P	**Pn**	**23 10 03.6**	**+0.4**
JNBK	**Urakawa-nobuka**	**2.87**	**351**	P	**Pn**	**23 10 09.7**	**+0.1**
JKB	**Kayabe**	**3.02**	**325**	P	**Pn**	**23 10 12.8**	**+1.2**
JFT	**Otama**	**3.06**	**232**	P	**Pn**	**23 10 11.9**	**-0.4**
ASAJ	**Asahikawa**	**4.70**	**353**	Pn	**Pn**	**23 10 34.7**	**-0.1**
	0.7nm,0.3s,baz=292,slow=9.8,SNR=4.7						
ASAJ					Sn	**Sn**	**23 11 28.6**	**-0.6**
	0.6nm,0.3s,baz=228,slow=18,SNR=1.7						
MAT	**Matsushiro**	**5.01**	**236**	P	**Pn**	**23 10 39.6**	**+0.6**
MAT				*e*S	**Sn**	**23 11 39.7**	**+2.8**
MJAR	**Matsushiro Arr**	**5.01**	**236**	Pn	**Pn**	**23 10 40.1**	**+1.1**
	0.4nm,0.3s,baz=44,slow=11,SNR=37						
MJAR				LR	LR	23 12 48.4	
	comp=Z,38nm,20.1s,baz=45,slow=41						
USRK	**Ussuriysk Ar.**	**9.73**	**303**	Pn	**Pn**	**23 11 46.4**	**+2.6**
	baz=101,slow=13,SNR=6.3						
KSRS	**Korea Array**	**12.28**	**266**	LR	LR	23 16 44.4	
	comp=Z,17nm,18.6s,baz=80,slow=36						
H11N2	**WAKE ISLAND Hy**	**28.22**	**127**	T	T	23 46 12.0	
	baz=316,slow=74						
H11N1	**WAKE ISLAND Hy**	**28.23**	**127**	T	T	23 46 17.5	
	baz=316,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.24**	**127**	T	T	23 46 15.6	
	baz=316,slow=74						
ZALV	**Zalesovo Beam**	**41.48**	**310**	P	**P**	**23 17 10.4**	**-0.2**
	1.2nm,0.5s,baz=100,slow=6.8,SNR=5.9						
MKAR	**Makanchi Array**	**44.19**	**300**	P	**P**	**23 17 32.4**	**-0.4**
	0.5nm,0.7s,baz=94,slow=9.4,SNR=6.6						
ILAR	**Eielson Array**	**46.63**	**34**	P	**P**	**23 17 51.3**	**-0.6**
	0.3nm,0.6s,baz=278,slow=6.3,SNR=2.7						
BVAR	**Borovoye Array**	**50.12**	**311**	P	**P**	**23 18 19.0**	**0.0**
	0.8nm,0.5s,baz=56,slow=9.1,SNR=4.7						
YKA	**Yellowknife Ar**	**60.95**	**31**	P	**P**	**23 19 36.8**	**+0.2**
	0.2nm,0.5s,baz=297,slow=6.9,SNR=2.5						
FINES	**FINESS Array B**	**67.39**	**332**	P	**P**	**23 20 18.6**	**-0.4**
	1.6nm,1.0s,baz=76,slow=7.7,SNR=3.4						
KBZ	**Khabaz**	**70.50**	**311**	P	**P**	**23 20 38.9**	**+0.4**
	0.7nm,0.4s,baz=18,slow=6.4,SNR=2.3						
GERES	**GERESS Array B**	**81.45**	**329**	P	**P**	**23 21 41.4**	**+0.3**
	0.1nm,0.3s,baz=35,slow=3.6,SNR=1.5						

ATH 10 23:09:28.0, 38˚.32N×22˚.06E, h6km±2km, ML1.8/5, Error ellipse: s-maj=2.7km s-min=0.8km az=39.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.05**	**14**	P	Pg	23 09 29.4	0.0
TRIZ				S	Sg	23 09 30.4	0.0
SERG	**Sergoula**	**0.09**	**359**	P	Pg	23 09 30.0	-0.1
SERG				S	Sg	23 09 31.7	+0.1
SERG				AML	AML	23 09 32.2	
	comp=E,2701µm,0.2s						
SERG				AML	AML	23 09 32.3	
	comp=N,2735µm,0.2s						
KALE	**Kalithea**	**0.10**	**42**	P	Pg	23 09 30.3	+0.1
KALE				S	Sg	23 09 32.1	+0.4
KALE				AML	AML	23 09 32.8	
	comp=E,2913µm,0.2s						
KALE				AML	AML	23 09 32.9	
	comp=N,4971µm,0.2s						
KLV	**Kalavryta, Ach**	**0.28**	**165**	P	Pg	23 09 33.4	-0.2
KLV				S	Sg	23 09 37.9	+0.6
ANX	**Ano Chora**	**0.29**	**339**	P	Pg	23 09 33.7	-0.1
ANX				S	Sg	23 09 38.1	+0.4
ANX				AML	AML	23 09 39.1	
	comp=N,776µm,0.2s						
ANX				AML	AML	23 09 39.2	
	comp=E,857µm,0.2s						
GUR	**Goura**	**0.44**	**150**	P	Pg	23 09 36.3	-0.3
DRO	**Drossia**	**0.46**	**217**	P	Pg	23 09 36.5	-0.3
DRO				S	Sg	23 09 43.1	+0.3
DRO				AML	AML	23 09 46.1	
	comp=N,350µm,0.2s						
DRO				AML	AML	23 09 49.0	
	comp=E,120µm,0.3s						
PVO	**Paravola**	**0.51**	**306**	P	Pg	23 09 37.8	0.0
PVO				S	Sg	23 09 44.8	+0.2
PVO				AML	AML	23 09 50.0	
	comp=E,145µm,0.3s						
PVO				AML	AML	23 09 51.0	
	comp=N,119µm,0.3s						
RLS	**Riolos of Patr**	**0.53**	**241**	P	Pg	23 09 38.3	0.0
RLS				S	Sb	23 09 46.7	-0.9
EVR	**Evrytania**	**0.63**	**342**	P	Pg	23 09 39.7	-0.4
AXAR	**Agios Charalam**	**0.65**	**46**	P	Pg	23 09 40.4	0.0
AXAR				S	Sg	23 09 49.8	+0.9
LKR	**Lokris**	**0.81**	**66**	P	Pg	23 09 43.6	+0.1

*THE **10** 23:09:53.6, 38˚.34N×22˚.07E, h8km±1km, ML2.2/5, Error ellipse: s-maj=2.0km s-min=0.5km az=74.0*
ATH 10 23:09:53.7, 38˚.34N×22˚.07E, h7km±2km, ML2.2/3, Error ellipse: s-maj=3.2km s-min=1.3km az=71.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.03**	**6**	P	Pg	23 09 54.9	-0.1
TRIZ				S	Sg	23 09 56.0	+0.1
	4µm,0.2s						
TRIZ	**Trizonia**	**0.03**	**6**	P	Pg	23 09 54.9	-0.1
TRIZ				S	Sg	23 09 55.9	-0.1
KALE	**Kalithea**	**0.08**	**45**	P	Pg	23 09 55.7	0.0
KALE				S	Sg	23 09 57.2	+0.1
	2µm,0.2s						
KALE	**Kalithea**	**0.08**	**45**	P	Pg	23 09 55.6	0.0
KALE				S	Sg	23 09 57.4	+0.3
KALE				AML	AML	23 09 57.8	
	comp=N,3895µm,0.3s						
KALE				AML	AML	23 09 57.8	
	comp=E,2891µm,0.2s						
SERG	**Sergoula**	**0.08**	**353**	P	Pg	23 09 55.6	0.0
SERG				S	Sg	23 09 57.2	+0.2
	comp=E,4µm,0.1s						
SERG	**Sergoula**	**0.08**	**353**	P	Pg	23 09 55.5	-0.1
SERG				S	Sg	23 09 57.3	+0.3
SERG				AML	AML	23 09 57.4	
	comp=E,7145µm,0.2s						
SERG				AML	AML	23 09 57.5	
	comp=N,6987µm,0.2s						
ALIK	**Aliki, Aigiali**	**0.08**	**156**	P	Pg	23 09 55.9	+0.3
ALIK				S	Sg	23 09 58.0	+1.0
ANX	**Ano Chora**	**0.28**	**336**	P	Pg	23 09 59.2	-0.1
ANX				S	Sg	23 10 03.7	+0.7
	comp=N,632nm,0.3s						
ANX	**Ano Chora**	**0.28**	**336**	P	Pg	23 09 59.1	-0.1
ANX				S	Sg	23 10 03.5	+0.5
ANX				AML	AML	23 10 04.0	
	comp=N,1321µm,0.4s						
ANX				AML	AML	23 10 04.4	
	comp=E,1201µm,0.1s						
KLV	**Kalavryta, Ach**	**0.30**	**168**	P	Pg	23 09 59.4	-0.1
KLV				S	Sg	23 10 03.5	0.0
	comp=E,38nm,0.2s						
KLV	**Kalavryta, Ach**	**0.30**	**168**	P	Pg	23 09 59.4	-0.1
DRO	**Drossia**	**0.48**	**217**	P	Pg	23 10 03.2	+0.4
EVR	**Evrytania**	**0.61**	**341**	P	Pg	23 10 05.3	-0.2

ATH 10 23:26:54.3, 40˚.04N×24˚.32E, h25km±8km, ML1.8/1, Error ellipse: s-maj=8.1km s-min=1.1km az=202.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAIG	**Paliouri**	**0.51**	**257**	P	Pb	23 27 05.1	+0.5
PAIG				S	Sb	23 27 12.0	+0.4
THAS	**Thassos island**	**0.64**	**28**	P	Pb	23 27 07.2	+0.4
THAS				S	Sb	23 27 16.0	+0.5
THAS				AML	AML	23 27 16.7	
	comp=E,244µm,0.2s						
THAS				AML	AML	23 27 16.8	
	comp=N,181µm,0.2s						
LIA	**Limnos Island**	**0.68**	**102**	P	Pb	23 27 07.9	+0.4
LIA				S	Sb	23 27 17.0	+0.5
PLG	**Polygyros**	**0.75**	**296**	P	Pn	23 27 09.2	-0.2
PLG				S	Sb	23 27 18.9	+0.4
KAVA	**Kavala**	**0.96**	**9**	P	Pb	23 27 12.8	+0.5
KAVA				S	Sn	23 27 26.0	+0.8
SRS	**Serrai**	**1.21**	**333**	P	Pb	23 27 16.8	+0.3

DDA 10 23:27:29.9, 40˚.39N×26˚.09E, h7km±1km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOKA	**anakkale-Gk**	**0.24**	**216**	*i* P	Pg	23 27 35.2	+0.5
GOKA				IAML		23 27 39.0	
	comp=E,42nm,0.3s						
GOKA				*i* S	Sg	23 27 39.6	+1.6
GOKA				IAML		23 27 41.0	
	comp=N,47nm,0.2s						
BAYC	**CANAKKALE_Bayr**	**0.73**	**152**	*i* P	Pg	23 27 44.1	+0.1
BAYC				IAML		23 27 55.0	
	comp=E,10nm,0.3s						
BAYC				IAML		23 27 55.0	
	comp=N,5.9nm,0.2s						
BAYC				*i* S	Sb	23 27 55.1	-0.1

*NEIC **10** 23:46:02.7±1.6, 31˚.0S±0˚.1×178˚.0W±0˚.1, h46km±8km, mb4.1/1, Error ellipse: s-maj=20.1km s-min=11.1km az=137.0*
*IDC **10** 23:46:03.9±6.5, 30˚.90S×177˚.84W, h62km±43km, mb4.0/4, mb1 4.2/4, mb1mx3.6/43, mbtmp4.3/4, MS3.4/6, Ms1 3.4/6, ms1mx3.1/26, Error ellipse: s-maj=68.1km s-min=24.8km az=132.0*
ISC 10 23:46:03.4±1.1, 30˚.9S±0˚.1×178˚.0W±0˚.2, h46km, n24, σ1°99/17, mb4.3/4, MS3.4/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.69**	**4**	P	**Pn**	**23 46 29.7**	**-0.7**
	156nm,0.3s,baz=84,slow=9.6,SNR=10						
RAO				S	**Sn**	**23 46 50.9**	**+0.2**
	167nm,0.3s,baz=96,slow=21,SNR=2.4						
OUZ	**Omahuta**	**8.21**	**236**	Pn	**Pn**	**23 47 59.9**	**-0.1**
DZM	**Mont Dzumac**	**16.45**	**299**	LR	LR	23 55 19.4	
	comp=Z,255nm,18.9s,baz=172,slow=34						
TBI	**Tubuai**	**26.48**	**80**	*e*LR	LR	23 58 34.4	
	comp=Z,144nm,25.5s						
PPT2	**Papeete2**	**29.05**	**69**	*e*LR	LR	23 59 26.0	
	comp=Z,82nm,25.0s						
PPT	**Papeete**	**29.07**	**69**	LR	LR	00 03 21.9	
	comp=Z,31nm,18.3s,baz=192,slow=36						
STKA	**Stephens Creek**	**34.33**	**258**	P	**P**	**23 52 47.0**	**+1.3**
	1.8nm,0.8s,baz=114,slow=12,SNR=3.5						
STKA				LR	LR	00 05 31.5	
	comp=Z,72nm,18.1s,baz=25,slow=34						
ASAR	**Alice Springs**	**43.05**	**268**	P	**P**	**23 53 59.3**	**+0.4**
	2.9nm,0.6s,baz=108,slow=7.3,SNR=5.0						
WRA	**Warramunga Arr**	**44.09**	**273**	P	**P**	**23 54 06.9**	**-0.3**
	2.7nm,0.3s,baz=111,slow=7.9,SNR=4.9						
VNDA	**Vanda**	**47.56**	**186**	LR	LR	00 10 47.3	
	comp=Z,21nm,21.2s,baz=332,slow=31						
H03S2	**Juan Fernandez**	**80.19**	**123**	T	T	01 27 07.5	
	baz=237,slow=74,SNR=4.5						
H03S1	**Juan Fernandez**	**80.21**	**124**	T	T	01 27 13.4	
	baz=237,slow=74,SNR=4.7						
H03S3	**Juan Fernandez**	**80.21**	**123**	T	T	01 27 06.4	
	baz=237,slow=74,SNR=3.5						
PETK	**Petropavlovsk-**	**86.33**	**346**	P	**P**	**23 58 38.9**	**-1.1**
	1.9nm,0.7s,baz=129,slow=8.8,SNR=4.6						
NVAR	**Mina Array Bea**	**88.66**	**43**	LR	LR	00 39 38.2	
	comp=Z,29nm,18.1s,baz=264,slow=36						
PDAR	**Pinedale Array**	**96.55**	**44**	LR	LR	00 40 13.1	
	comp=Z,24nm,18.3s,baz=284,slow=34						
J58A	**Remsen**	**119.23**	**55**		**PKPdf**	**00 04 47.0**	**-0.3**
FIA1	**FINESS Array S**	**145.64**	**340**		**PKPdf**	**00 05 35.4**	**-0.5**
FINES	**FINESS Array B**	**145.64**	**340**	PKPbc	**PKPdf**	**00 05 35.2**	**-0.6**
	7.4nm,0.7s,baz=54,slow=3.3,SNR=31						
NB2	**NORSAR Subarra1**	**149.28**	**351**	PKP	**PKPab**	**00 05 55.2**	**+4.2**
	comp=Z,0.3nm,0.5s,baz=7.1,slow=4.1						
NOA	**NORSAR Array B**	**149.28**	**351**	PKPbc	**PKPbc**	**00 05 44.5**	**-1.9**
	comp=Z,0.1nm,0.4s,baz=350,slow=3.7,SNR=1.7						
AKASG

AKASG PKPab **pPKPdf 00 05 57.8 -1.3**
comp=Z,0.4nm,0.3s,baz=42,slow=3.0,SNR=1.8
BRTR Keskin Array B 152.82 298 PKPbc **PKPbc 00 05 54.0 -1.5**
comp=Z,0.3nm,0.4s,baz=64,slow=3.4,SNR=2.8
BRTR PKPab **sPKPdf 00 06 03.8 -2.1**
comp=Z,0.2nm,0.4s,baz=114,slow=4.4,SNR=1.7
ESDC Sonseca Array 170.03 27 PKPab **PKPab 00 07 25.8 +4.5**
comp=Z,0.2nm,0.6s,baz=298,slow=2.6,SNR=2.6

*IDC **10** 23:47:24.4±0.7, 2°.94S×129°.81E, h0km, mb4.3/13, mb1 4.4/16, mb1mx4.2/40, mbtmp4.3/16, ML4.0/3, MS3.3/8, Ms1 3.3/8, ms1mx2.9/36, Error ellipse: s-maj=28.2km s-min=13.8km az=67.0*
*DJA **10** 23:47:29.6±0.9, 3°.5S×13°.0E±°, h72km±37km, M4.2/9, MLv4.2/9*
*NEIC **10** 23:47:29.7±1.3, 2°.87S±0°.06×129°.95E±0°.08, h41km±8km, mb4.2/13, Error ellipse: s-maj=12.8km s-min=7.2km az=57.0*
ISC 10 23:47:28.3±0.5, 2°.91S±0°.06×129°.91E±0°.06, h25km, n51, σ1ᵍ36/45, mb4.2/14, MS3.1/4, 1D, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**1.07**	**246**	P	**Pb**	**23 47 49.6**	**+1.4**
BNDI	**Bandanaira**	**1.60**	**180**	P	**Pb**	**23 47 58.9**	**+1.7**
FAKI	**Fak Fak**	**2.33**	**90**	P	**Pn**	**23 48 05.6**	**+0.5**
FAKI	**Fak Fak**	**2.33**	**90**		**Pn**	**23 48 04.4**	**-0.7**
NLAI	**Namlea**	**2.83**	**263**	P	**Pn**	**23 48 12.9**	**+1.0**
LBMI	**Labuha**	**3.30**	**313**	P	**Pn**	**23 48 18.0**	**-0.5**
SANI	**Sanana**	**4.01**	**282**	P	**Pn**	**23 48 27.5**	**-0.7**
TNTI	**Ternate**	**4.46**	**325**	Pn	**Pn**	**23 48 34.2**	**-0.1**
LUWI	**Luwuk**	**7.38**	**284**	Pn	**Pn**	**23 49 14.6**	**+0.1**
BATI	**Baumata**	**9.54**	**220**	LR	LR	23 53 51.6	
	comp=Z,316nm,18.0s,baz=52,slow=41						
MTN	**Manton Dam**	**9.94**	**173**	Pn	**Pn**	**23 49 50.8**	**+1.1**
KAPI	**Kapang**	**10.35**	**258**	Pn	**Pn**	**23 49 57.6**	**+2.3**
	1.2nm,0.3s,baz=93,slow=12,SNR=8.8						
JAY	**Jayapura**	**10.79**	**88**	Pn	**Pn**	**23 50 00.7**	**-0.6**
	0.5nm,0.3s,baz=172,slow=24,SNR=2.7						
DAV	**Davao City (W)**	**10.82**	**336**	LR	LR	23 55 20.8	
	comp=Z,124nm,19.5s,baz=100,slow=44						
KCP	**Kidapawan**	**10.97**	**334**	∥P	**Pn**	**23 50 06.4**	**+2.6**
FITZ	**Fitzroy Crossi**	**15.66**	**195**	Pn	**Pn**	**23 51 04.9**	**-2.6**
	0.3nm,0.3s,baz=324,slow=7.1,SNR=1.5						
FITZ				LR	LR	23 58 48.9	
	comp=Z,57nm,19.6s,baz=24,slow=44						
FITZ	**Fitzroy Crossi**	**15.66**	**195**	Pn	**P**	**23 51 09.8**	**-1.6**
FITZ				IAmb	IAmb	23 51 19.8	
	comp=Z,10nm,0.8s						
WRAB	**Tennant Creek**	**17.46**	**166**		**Pn**	**23 51 30.4**	**+0.1**
WRAB				IAmb	IAmb	23 51 49.0	
	comp=Z,14nm,0.6s						
WRA	**Warramunga Arr**	**17.47**	**166**	P	**Pn**	**23 51 27.8**	**-2.6**
	comp=Z,1.4nm,0.3s,baz=349,slow=12,SNR=30						
WRA				S	**Sn**	**23 54 47.1**	**+2.8**
	baz=339,slow=21,SNR=5.3						
PMG	**Port Moresby**	**18.31**	**111**	LR	LR	00 00 12.2	
	comp=Z,169nm,18.4s,baz=144,slow=42						
SBUM	**Sibu**	**18.47**	**287**	P	**Pn**	**23 51 42.4**	**-0.4**
KSM	**Kuching**	**20.08**	**282**	P	**P**	**23 52 00.4**	**+0.3**
KSM				IAmb	IAmb	23 52 11.4	
	comp=Z,13nm,1.0s						
AS31	**Alice Springs**	**20.99**	**170**	P	**P**	**23 52 10.2**	**+0.2**
AS31				IAmb	IAmb	23 52 18.2	
	comp=Z,13nm,0.8s						
ASAR	**Alice Springs**	**20.99**	**170**	P	**P**	**23 52 09.9**	**-0.1**
	comp=Z,34nm,0.7s,baz=350,slow=11,SNR=219						
ASAR				S	**S**	**23 55 58.6**	**-4.2**
	comp=Z,1.7nm,0.8s,baz=350,slow=21,SNR=4.0						
LEM	**Lembang**	**22.55**	**259**	LR	LR	00 01 56.3	
	comp=Z,61nm,18.2s,baz=136,slow=39						
CTA	**Charters Tower**	**23.36**	**138**	P	**P**	**23 52 35.7**	**+0.6**
	comp=Z,5.8nm,0.7s,baz=309,slow=9.8,SNR=2.0						
STKA	**Stephens Creek**	**30.84**	**160**	P	**P**	**23 53 42.6**	**+0.1**
	comp=Z,3.5nm,0.5s,baz=354,slow=7.3,SNR=18						
STKA	**Stephens Creek**	**30.84**	**160**	IAmb	IAmb	23 53 58.8	
	comp=Z,3.1nm,1.2s						
RPSI	**Rantau Prapat**	**31.47**	**280**	P	**P**	**23 53 47.7**	**-0.6**
PSI	**Prapat**	**31.49**	**280**	P	**P**	**23 53 47.7**	**-0.9**
	comp=Z,2.5nm,0.5s,baz=180,slow=11,SNR=4.4						
CMAR	**Chiang Mai Arr**	**37.16**	**306**	P	**P**	**23 54 37.1**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=129,slow=7.1,SNR=5.1						
MJAR	**Matsushiro Arr**	**40.01**	**10**	LR	LR	00 11 26.4	
	comp=Z,22nm,20.1s,baz=270,slow=36						
KSRS	**Korea Array**	**40.20**	**358**	LR	LR	00 10 36.9	
	comp=Z,31nm,19.7s,baz=166,slow=35						
HHC	**Hu-ho-hao-te**	**46.67**	**341**	P	**P**	**23 55 55.7**	**+0.7**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,47nm,7.6s						
GTA	**Gaotai**	**50.40**	**330**	eP	P	23 56 32.5	+8.7
GTA				pP	sP	23 56 35.5	+1.2
GTA				sP	pP	23 56 38.4	+7.1
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ULN	**Ulaanbaatar**	**54.38**	**341**	P	**P**	**23 56 53.3**	**0.0**
SONM	**Songino Array**	**54.57**	**341**	P	**P**	**23 56 54.3**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=141,slow=9.6,SNR=3.6						
PETK	**Petropavlovsk-**	**60.50**	**19**	P	**P**	**23 57 36.8**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=181,slow=5.9,SNR=4.6						
MK31	**Makanchi Array**	**64.80**	**326**	P	**P**	**23 58 03.7**	**-1.3**
MK31				IAmb	IAmb	23 58 04.9	
	comp=Z,1.1nm,0.6s						
MKAR	**Makanchi Array**	**64.80**	**326**	P	**P**	**23 58 04.5**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=116,slow=8.3,SNR=18						
ZAA0	**Zalesovo Array**	**67.91**	**333**	P	**P**	**23 58 23.6**	**-1.1**
ZALV	**Zalesovo Beam**	**67.91**	**333**	P	**P**	**23 58 23.8**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=102,slow=6.1,SNR=8.8						
ZALV				LR	LR	00 29 16.0	
	comp=Z,19nm,18.2s,baz=187,slow=37						
GAR	**Garm**	**68.76**	**314**		**PcP**	**23 58 54.8**	**-0.4**
KURK	**Kurchatov**	**69.02**	**328**	P	**P**	**23 59 30.7**	**-1.0**
KURK					**P**	**23 58 31.4**	**-0.3**
BRVK	**Borovoye**	**74.66**	**327**	P	**P**	**23 59 04.7**	**-0.8**
VNDA	**Vanda**	**76.49**	**173**	P	**P**	**23 59 15.5**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=323,slow=6.7,SNR=11						
NRIK	**Norilʹsk**	**77.60**	**346**	P	**P**	**23 59 23.8**	**+1.9**
	comp=Z,1.4nm,0.5s,baz=148,slow=7.4,SNR=4.1						
MAW	**Mawson**	**78.70**	**201**	P	**P**	**23 59 28.3**	**+0.2**
	comp=Z,1.9nm,0.7s,baz=60,slow=7.2,SNR=2.6						
MAW	**Mawson**	**78.70**	**201**	IAmb	IAmb	23 59 46.3	
	comp=Z,2.1nm,1.3s						
RAYN	**Ar Rayn**	**86.03**	**294**	P	**P**	**00 00 06.8**	**-0.7**
FINES	**FINESS Array B**	**99.15**	**332**	P	**Pdif**	**00 01 05.8**	**-1.5**
	comp=Z,0.8nm,0.8s,baz=97,slow=6.0,SNR=2.1						

MAN 11 00:22:29.9, 9°.75N×125°.76E, h8km, mb4.9, ML3.8, MS3.8, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.27**	**278**	∥iP	Pb	00 22 36.2	-0.8
SCPH				*i* S	Sb	00 22 41.9	+0.2
MSLP	**Maasin**	**0.97**	**294**	*e*P	Pg	00 22 48.2	-0.4
MSLP				*e*S	Sb	00 23 02.8	+0.9
CGP	**Cagayan de Oro**	**1.66**	**219**	∥*e*P	Pn	00 22 58.5	-0.8
CGP				*e*S	Sn	00 23 17.8	-3.1
BIPH	**Bislig**	**1.66**	**159**	∩*e*P	Pn	00 22 58.8	-0.6
BIPH				*e*S	Sg	00 23 23.4	0.0
TBP	**Tagbilaran**	**1.87**	**268**	*e*P	Pn	00 23 02.8	+0.5
TBP				*i* S	Sb	00 23 27.5	-0.4
BUKP	**Musuan**	**1.98**	**200**	*e*P	Pn	00 23 02.0	-1.8
BUKP				*e*S	Sn	00 23 28.8	-0.1
KCP	**Kidapawan**	**2.80**	**194**	∥*i*P	Pn	00 23 16.2	+1.1
KCP				*i* S	Sn	00 23 50.8	+1.7
CNP	**Catarman**	**2.95**	**339**	*e*P	Pn	00 23 16.4	-0.7
CNP				*e*S	Sn	00 23 55.0	+2.2
PAGZ	**Pagadian**	**3.01**	**231**	*e*P	Pn	00 23 18.2	+0.2
DDMP	**Don Marcelino,**	**3.62**	**181**	*e*P	Pn	00 23 22.6	-3.7

*IDC **11** 00:48:24.2±0.9, 31°.31N×86°.48E, h0km, mb3.7/10, mb1 3.9/12, mb1mx3.7/37, mbtmp3.7/12, ML3.3/1, MS3.2/16, Ms1 3.2/16, ms1mx3.1/40, Error ellipse: s-maj=31.1km s-min=17.4km az=57.0*
*NEIC **11** 00:48:25.2±2.7, 31°.38N±0°.08×86°.31E±0°.10, h10km±1km, mb4.0/13, Error ellipse: s-maj=14.9km s-min=11.9km az=240.0*
*BJI **11** 00:48:25.7±0.0, 31°.39N×86°.59E, h7km, mb3.7/2, Ms3.5/5, Ms7 3.4/4*

*NDI **11** 00:48:28.0±1.7, 31°.41N×86°.77E, h10km, ML3.5, mb4.0(NEIC)*
ISC 11 00:48:26.1±0.5, 31°.39N±0°.06×86°.38E±0°.05, h10km, n49, σ2ᵍ72/41, mb3.8/11, MS3.1/13, 1D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.44**	**111**	Pn	**Pn**	**00 49 35.5**	**+1.5**
SHL	**Shillong**	**7.55**	**139**	Pn	**Pn**	**00 50 15.2**	**-1.3**
BOK	**Bokaro**	**7.58**	**183**	*e*P	**Pn**	**00 50 19.1**	**+2.5**
BOK				*e*S	**Sn**	**00 51 40.3**	**-2.3**
BOK				IAML		00 51 44.6	
	comp=N,30nm,0.9s						
BOK				IAML		00 51 45.2	
	comp=E,14nm,0.8s						
SMLA	**Simla**	**7.89**	**271**	*e*P	Pn	00 50 25.9	+5.0
SMLA				*e*S	**Sn**	**00 51 54.2**	**+3.9**
SMLA				IAML		00 52 00.4	
	comp=N,33nm,0.4s						
SMLA				IAML		00 52 01.1	
	comp=E,48nm,0.4s						
DHRM	**DHARAMSHALA**	**8.62**	**278**	*e*P	Pn	00 50 37.0	+5.8
DHRM				*e*S	**Sn**	**00 52 11.7**	**+3.0**
DHRM				IAML		00 52 19.0	
	comp=E,38nm,0.9s						
CHCP	**Chirah Chowk**	**11.30**	**285**	P	**Pn**	**00 51 08.2**	**+0.5**
NIL	**Nilore**	**11.31**	**285**	Pn	**Pn**	**00 51 06.8**	**-1.0**
BHPL	**Bhopal**	**11.36**	**227**	*e*P	**Pn**	**00 51 11.9**	**+3.3**
BHPL				*e*S	**Sn**	**00 53 12.6**	**-3.1**
TARG	**Taragay, Kyrgy**	**12.40**	**329**	Pn	Pn	00 51 21.0	-2.1
CEP	**Cherat**	**12.44**	**285**	P	**Pn**	**00 51 22.4**	**-1.0**
THW	**Thamme Wali**	**12.49**	**280**	∥P	**Pn**	**00 51 23.7**	**-0.3**
AAK	**Ala-Archa**	**14.69**	**323**	LR	LR	00 58 25.4	
	comp=E,74nm,19.5s,baz=133,slow=41						
KBL	**Kabul**	**14.89**	**287**	Pn	Pn	00 51 54.2	-2.7
GAR	**Garm**	**15.16**	**304**	Pn	**Pn**	**00 51 57.6**	**-2.8**
BTK	**Batken**	**15.30**	**309**	Pn	**Pn**	**00 52 01.1**	**-1.2**
KMI	**Kunming**	**15.70**	**109**	P	**P**	**00 52 14.0**	**+2.3**
KMI				pP	pP	00 52 16.6	+0.5
KMI				sP	sP	00 52 20.5	+2.4
KMI				pmax	pmax		
	comp=Z,13nm,0.7s						
KMI				pmax	pmax		
	comp=Z,59nm,3.6s						
MK31	**Makanchi Array**	**15.71**	**350**	Pn	**Pn**	**00 52 06.5**	**-1.0**
MKAR	**Makanchi Array**	**15.71**	**350**	Pn	**Pn**	**00 52 06.6**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=173,slow=13,SNR=6.5						
MKAR				LR	LR	00 59 36.6	
	comp=Z,54nm,20.3s,baz=158,slow=43						
MAKZ	**Makanchi**	**15.77**	**349**	Pn	**Pn**	**00 52 07.2**	**-1.1**
CHGR	**Chuyangaron**	**15.85**	**302**	Pn	**Pn**	**00 52 06.3**	**-3.1**
CHGR				IAmb	IAmb	00 52 18.0	
	comp=Z,26nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.17**	**136**	P	**Pn**	**00 52 22.9**	**-3.3**
	baz=324,slow=11,SNR=7.0						
CMAR				LR	LR	00 59 55.0	
	comp=Z,54nm,18.2s,baz=305,slow=40						
KK31	**Karatay Array**	**17.18**	**317**	Pn	Pn	00 52 21.9	-4.4
KKAR	**Karatay Array**	**17.18**	**317**	Pn	**Pn**	**00 52 23.5**	**-2.8**
GYA	**Guiyang**	**18.41**	**100**	*e*P	**P**	**00 52 42.2**	**+0.5**
GYA				PP	**PnPn**	**00 53 03.7**	**+11**
GYA				S	**S**	**00 56 17.0**	**+4.9**
GYA				SS	SnSn	00 56 44.2	+23
GYA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
GYA				pmax	pmax		
	comp=Z,170nm,4.0s						
GYA				LR	LR		
	comp=N,140nm,4.1s						
GYA				LR	LR		
	comp=E,140nm,4.0s						
GYA				LR	LR		
	comp=Z,90nm,4.9s						
XAN	**Xi'an**	**19.15**	**76**	P	**P**	**00 52 48.0**	**-1.6**
XAN				IAmb	IAmb	00 53 03.2	
	comp=Z,7.2nm,1.0s						
PBKT	**Sadao Pong**	**19.85**	**135**	P	**P**	**00 52 54.0**	**-3.3**
PBKT				IAmb	IAmb	00 53 22.7	
	comp=Z,11nm,1.2s						
KURBB	**Kurchatov Arra**	**20.09**	**345**	P	**P**	**00 52 59.5**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=161,slow=10,SNR=15						
KURK	**Kurchatov**	**20.16**	**346**	P	**P**	**00 52 59.8**	**-0.6**
KURK				IAmb	IAmb	00 53 06.0	
	comp=Z,5.4nm,1.1s						
SONM	**Songino Array**	**22.43**	**37**	P	**P**	**00 53 24.5**	**-0.5**
	comp=Z,1.6nm,0.7s,baz=232,slow=11,SNR=8.4						
SONM				LR	LR	01 02 53.4	
	comp=Z,60nm,21.7s,baz=274,slow=39						
ZAA0	**Zalesovo Array**	**22.58**	**358**	P	**P**	**00 53 25.8**	**-0.6**
ZAA0				IAmb	IAmb	00 53 27.8	
	comp=Z,3.7nm,1.1s						
ZALV	**Zalesovo Beam**	**22.58**	**358**	P	**P**	**00 53 26.4**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=185,slow=10,SNR=9.9						
ZALV				LR	LR	01 03 52.0	
	comp=Z,56nm,18.0s,baz=227,slow=41						
ULN	**Ulaanbaatar**	**22.79**	**38**	P	**P**	**00 53 27.1**	**-1.8**
ULN				IAmb	IAmb	00 53 30.5	
	comp=Z,4.3nm,0.8s						
TLY	**Talaya**	**23.93**	**27**	LR	LR	01 03 40.6	
	comp=Z,61nm,20.3s,baz=229,slow=38						
WHN	**Wuhan**	**23.98**	**85**	P	**P**	**00 53 37.1**	**-3.7**
GEYT	**Alibeck**	**24.09**	**293**	LR	LR	01 04 59.3	
	comp=Z,58nm,18.6s,baz=125,slow=41						
BVAR	**Borovoye Array**	**24.55**	**336**	P	**P**	**00 53 47.1**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=160,slow=9.2,SNR=2.0						
WSAR	**Wadi Sarin**	**25.91**	**259**	LR	LR	01 04 47.7	
	comp=Z,39nm,18.1s,baz=134,slow=38						
AKTO	**Aktyubinsk**	**28.40**	**320**	LR	LR	01 06 23.6	
	comp=Z,37nm,21.9s,baz=119,slow=38						
KBZ	**Khabaz**	**36.21**	**302**	LR	LR	01 12 38.4	
	comp=Z,56nm,19.9s,baz=64,slow=40						
USRK	**Ussuriysk Ar.**	**37.78**	**57**	LR	LR	01 11 44.9	
	comp=Z,51nm,18.6s,baz=324,slow=37						
NRIK	**Norilʹsk**	**38.00**	**1**	LR	LR	01 13 04.7	
	comp=Z,49nm,21.0s,baz=203,slow=39						
BRTR	**Keskin Array B**	**43.18**	**296**	LR	LR	01 16 08.6	
	comp=Z,24nm,19.2s,baz=76,slow=38						
FINES	**FINESS Array B**	**48.85**	**326**	P	**P**	**00 57 11.7**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=91,slow=7.6,SNR=5.3						
FINES				LR	LR	01 18 57.9	
	comp=Z,31nm,20.1s,baz=82,slow=38						
NOA	**NORSAR Array B**	**55.99**	**325**	P	**P**	**00 58 04.3**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=86,slow=7.0,SNR=2.7						
NOA				LR	LR	01 23 08.3	
	comp=Z,26nm,18.7s,baz=90,slow=37						
GEC2	**GERESS Array S**	**56.13**	**311**	P	**P**	**00 58 05.7**	**-0.1**
GEC2				IAmb	IAmb	00 59 36.7	
	comp=Z,3.1nm,1.1s						
GERES	**GERESS Array B**	**56.13**	**311**	P	**P**	**00 58 07.9**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=90,slow=5.3,SNR=7.5						
GERES				LR	LR	01 24 41.7	
	comp=Z,34nm,21.8s,baz=100,slow=39						
WRA	**Warramunga Arr**	**68.71**	**131**	P	**P**	**00 59 29.1**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=326,slow=6.6,SNR=6.9						
ASAR	**Alice Springs**	**71.17**	**134**	P	**P**	**00 59 45.3**	**0.0**
	comp=Z,0.8nm,0.6s,baz=316,slow=6.0,SNR=4.8						
TORD	**Torodi Ar. Bea**	**78.80**	**279**	P	**P**	**01 00 28.8**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=53,slow=4.6,SNR=7.7						

*IDC **11** 00:59:53.7±6.8, 19°.54S×175°.30W, h99km±62km, mb3.8/8, mb1 4.1/9, mb1mx3.8/24, mbtmp4.2/9, ML3.3/1, Error ellipse: s-maj=43.2km s-min=20.0km az=158.0*
*NEIC **11** 00:59:53.2±1.5, 19°.7S±0°.1×175°.02W±0°.10, h105km±8km, mb4.2/5, Error ellipse: s-maj=20.1km s-min=13.1km az=186.0*
ISC 11 00:59:56.2±0.7, 19°.7S±0°.1×174°.80W±0°.06, h137km, n26, σ1ᵍ84/24, mb3.8/9, 1C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.64**	**83**		**Pn**	**01 01 04.1**	**-0.6**
NIUE				Sn	**Sn**	**01 01 54.7**	**-3.2**
AFI	**Afiamalu**	**6.44**	**27**	Pn	**Pn**	**01 01 27.1**	**-1.7**
RAR	**Rarotonga**	**14.16**	**99**	P	**P**	**01 03 15.8**	**+1.7**
	1.4nm,0.3s,baz=259,slow=22,SNR=1.7						
RAR				S	**Sn**	**01 05 45.1**	**-2.5**
	1.0nm,0.3s,baz=18,slow=20,SNR=1.3						
DZM	**Mont Dzumac**	**17.69**	**259**	P	**Pn**	**01 03 54.6**	**+0.4**
	1.9nm,0.3s,baz=84,slow=18,SNR=23						
DZM	**Mont Dzumac**	**17.69**	**259**	P	**P**	**01 03 52.2**	**-1.0**
AS31	**Alice Springs**	**47.63**	**256**	P	**P**	**01 08 17.6**	**-1.3**
AS31				IAmb	IAmb	01 08 19.7	
	comp=Z,2.5nm,0.6s						
ASAR	**Alice Springs**	**47.63**	**256**	P	**P**	**01 08 17.3**	**-1.6**
	comp=Z,7.2nm,0.6s,baz=92,slow=8.5,SNR=72						
ASAR				PcP	**PcP**	**01 09 46.5**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=96,slow=3.9,SNR=6.8						
WRAB	**Tennant Creek**	**47.69**	**261**	P	**P**	**01 08 17.8**	**-1.5**
WRA	**Warramunga Arr**	**47.70**	**261**	P	**P**	**01 08 16.9**	**-2.5**
	comp=Z,1.8nm,0.4s,baz=96,slow=6.2,SNR=32						
WRA				PcP	**PcP**	**01 09 46.0**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=98,slow=4.7,SNR=2.8						
MJAR	**Matsushiro Arr**	**71.40**	**322**	P	**P**	**01 11 00.4**	**-1.2**
	comp=Z,3.3nm,0.7s,baz=165,slow=6.3,SNR=10.0						
MAJO	**Matsushiro**	**71.40**	**322**	P	**P**	**01 11 00.6**	**-0.9**
MJB9	**Matsu-Tunnel**	**71.41**	**322**	P	**P**	**01 10 59.8**	**-1.8**
PETK	**Petropavlovsk-**	**76.32**	**343**	P	**P**	**01 11 29.9**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=127,slow=9.3,SNR=3.8						
KSRS	**Korea Array**	**78.32**	**317**	P	**P**	**01 11 41.8**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=133,slow=5.2,SNR=4.4						
NVAR	**Mina Array Bea**	**78.40**	**42**	P	**P**	**01 11 45.1**	**+3.1**
	comp=Z,0.8nm,0.8s,baz=220,slow=7.7,SNR=4.4						
H03S2	**Juan Fernandez**	**83.95**	**124**	T	T	02 44 45.6	
	baz=249,slow=75,SNR=14						
H03S1	**Juan Fernandez**	**83.96**	**124**	T	T	02 44 46.5	
	baz=249,slow=75,SNR=14						
H03S3	**Juan Fernandez**	**83.96**	**124**	T	T	02 44 59.9	
	baz=249,slow=75,SNR=14						
H03N2	**Juan Fernandez**	**84.07**	**123**	T	T	02 44 52.3	
	baz=248,slow=72,SNR=6.1						
H03N3	**Juan Fernandez**	**84.08**	**123**	T	T	02 44 54.4	
	baz=248,slow=72,SNR=6.1						
H03N1	**Juan Fernandez**	**84.09**	**123**	T	T	02 44 52.6	
	baz=248,slow=72,SNR=7.1						
TXAR	**Lajitas Array**	**84.10**	**56**	P	**P**	**01 12 16.4**	**+4.2**
	comp=Z,0.3nm,0.9s,baz=202,slow=9.5,SNR=3.9						
ILAR	**Eielson Array**	**86.90**	**12**	P	**P**	**01 12 25.6**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=221,slow=5.6,SNR=5.1						
CLL	**Collm**	**147.86**	**351**	∥iPKPbc	**PKPab**	**01 19 27.2**	**-0.6**
	comp=Z,4.0nm,0.8s						
BRTR	**Keskin Array B**	**148.46**	**315**	PKPbc	**PKiKP**	**01 19 27.9**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=125,slow=4.2,SNR=7.9						
GERES	**GERESS Array B**	**150.12**	**349**	PKPbc	**PKiKP**	**01 19 31.7**	**0.0**
	comp=Z,1.3nm,0.9s,baz=48,slow=2.2,SNR=9.4						

WEL 11 01:09:09.1±0.7, 35°.5S±4°.×17°.9E±1°.0, h33km, M4.0/11, ML4.2/11, MLv4.0/11, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**2.71**	**189**	P	Pn	01 09 51.4	+1.0
WMGZ				S	Sn	01 10 23.5	+1.5
HAZ	**Te Kaha**	**2.78**	**200**	P	Pn	01 09 52.2	+0.9
HAZ				S	Sn	01 10 26.3	+2.6
PKGZ	**Pakihiroa**	**2.83**	**194**	P	Pn	01 09 52.8	+0.6
PKGZ				S	Sn	01 10 26.9	+1.7
PUZ	**Puketiti**	**2.98**	**191**	P	Pn	01 09 54.1	-0.1
PUZ				S	Sn	01 10 28.1	-0.7
RUGZ	**Raukumara Rang**	**3.00**	**200**	P	Pn	01 09 54.9	+0.3
RUGZ				S	Sn	01 10 30.0	+0.5
KUZ	**Kuaotunu**	**3.08**	**238**	P	Pn	01 09 56.6	+1.2
TWGZ	**Tauwhareparae**	**3.13**	**194**	P	Pn	01 09 56.8	+0.6
TWGZ				S	Sn	01 10 33.7	+1.2
MWZ	**Matawai**	**3.39**	**199**	P	Pn	01 09 59.6	-0.2
MWZ				S	Sn	01 10 39.6	+0.7
TKGZ	**Te Karaka**	**3.41**	**195**	P	Pn	01 09 59.5	-0.6
TKGZ				S	Sn	01 10 39.6	+0.3
URZ	**Urewera**	**3.45**	**205**	P	Pn	01 09 60.0	-0.6
URZ				S	Sn	01 10 40.9	+0.7
RTZ	**Ruatahuna**	**3.82**	**204**	P	Pn	01 10 04.4	-1.3
SNGZ	**Shannon Statio**	**3.86**	**199**	P	Pn	01 10 05.5	-0.8
SNGZ				S	Sn	01 10 50.1	-0.3
RAHZ	**Arahi**	**4.06**	**201**	P	Pn	01 10 07.6	-1.3
RAHZ				S	Sn	01 10 54.5	-0.8
BKZ	**Black Stump Fm**	**4.48**	**205**	P	Pn	01 10 13.0	-1.7
BKZ				S	Sn	01 11 03.6	-2.0
PNHZ	**Pukenui**	**5.25**	**204**	P	Pn	01 10 21.4	-3.8
PNHZ				S	Sn	01 11 19.8	-4.9
MRZ	**Mangatainoka R**	**6.13**	**205**	P	Pn	01 10 31.9	-5.4
MRZ				S	Sn	01 11 37.5	-8.8
HOWZ	**Holdsworth Sta**	**6.36**	**204**	P	Pn	01 10 34.3	-6.2
HOWZ				S	Sn	01 11 42.6	-9.4

*IDC **11** 01:11:14.0±2.3, 37°.77N×142°.71E, h0km, mb3.6/3, mb1 3.8/4, mb1

ISC 11 01:42:58.4±0.8, 23°6S±0°1×179°8W±0°1, h532km, n29, σ0°92/29, mb4.2/12, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.19**	**341**	P	**P**	**01 44 37.6**	**-0.5**
OUZ	**Omahuta**	**12.90**	**205**	P	**P**	**01 45 45.6**	**-0.5**
BFZ	**Birch Farm**	**17.33**	**190**	P	**P**	**01 46 29.8**	**-1.0**
QRZ	**Quartz Range**	**18.32**	**199**	P	**P**	**01 46 37.8**	**-2.1**
THZ	**Tophouse**	**19.09**	**197**	P	**P**	**01 46 45.5**	**-1.4**
THZ				IAmb	IAmb	01 47 02.5	
	comp=Z,25nm,1.2s						
LTZ	**Lake Taylor**	**20.21**	**197**	P	**P**	**01 46 55.1**	**-2.0**
LTZ				IAmb	IAmb	01 47 05.2	
	comp=Z,16nm,1.1s						
KNTN	**Kanton**	**22.15**	**22**	P	**P**	**01 47 13.3**	**-1.6**
MLZ	**Mavora Lakes**	**23.81**	**201**	P	**P**	**01 47 30.0**	**+0.7**
MLZ				IAmb	IAmb	01 47 31.9	
	comp=Z,9.6nm,0.8s						
WHZ	**Wether Hill Ro**	**24.33**	**201**	P	**P**	**01 47 33.4**	**-0.6**
WHZ				IAmb	IAmb	01 47 36.6	
	comp=Z,17nm,1.1s						
ARMA	**Armidale**	**26.28**	**249**	P	**P**	**01 47 51.5**	**0.0**
ARMA				IAmb	IAmb	01 47 58.6	
	comp=Z,6.7nm,1.1s						
EIDS	**Eidsvold**	**26.52**	**260**	P	**P**	**01 47 53.9**	**+0.3**
EIDS				IAmb	IAmb	01 47 57.6	
	comp=Z,9.8nm,1.1s						
CTAO	**Charters Tower**	**31.64**	**270**	P	**P**	**01 48 38.9**	**+0.8**
TOO	**Toolangi**	**32.74**	**237**	P	**P**	**01 48 47.4**	**+0.1**
TOO				IAmb	IAmb	01 48 48.7	
	comp=Z,4.4nm,0.8s						
STKA	**Stephens Creek**	**34.98**	**248**	P	**P**	**01 49 06.7**	**+0.5**
	comp=Z,2.2nm,0.5s,baz=90,slow=8.1,SNR=6.0						
STKA	**Stephens Creek**	**34.98**	**248**	P	**P**	**01 49 06.2**	**0.0**
BBOO	**Buckleboo**	**39.71**	**247**	P	**P**	**01 49 43.7**	**-1.1**
BBOO				IAmb	IAmb	01 49 58.4	
	comp=Z,8.8nm,1.1s						
AS31	**Alice Springs**	**42.25**	**260**	P	**P**	**01 50 05.0**	**-0.2**
ASAR	**Alice Springs**	**42.25**	**260**	P	**P**	**01 50 05.5**	**+0.3**
	comp=Z,2.6nm,0.4s,baz=102,slow=7.2,SNR=28						
WB2	**Warramunga Arr**	**42.58**	**266**	P	**P**	**01 50 07.3**	**-0.5**
WRA	**Warramunga Arr**	**42.59**	**266**	P	**P**	**01 50 07.7**	**-0.3**
	comp=Z,4.1nm,0.5s,baz=103,slow=8.4,SNR=44						
FORT	**Forrest**	**46.57**	**249**	P	**P**	**01 50 37.9**	**-0.5**
FORT				IAmb	IAmb	01 50 56.9	
	comp=Z,27nm,1.1s						
KNRA	**Kununurra**	**48.86**	**269**	P	**P**	**01 50 55.7**	**+0.1**
PEA0B	**Petropavlovsk-**	**78.87**	**346**	P	**P**	**01 54 06.0**	**0.0**
PETK	**Petropavlovsk-**	**78.87**	**346**	P	**P**	**01 54 06.2**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=147,slow=8.2,SNR=3.0						
VNA3	**Neumayer Olymp**	**85.15**	**177**	P	**P**	**01 54 37.5**	**-0.4**
VNA2	**Neumayer--Watz**	**85.57**	**178**	P	**P**	**01 54 40.2**	**+0.3**
	baz=198,slow=3.6						
TXAR	**Lajitas Array**	**90.14**	**58**	P	**P**	**01 55 03.7**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=206,slow=5.4,SNR=5.6						
CLL	**Collm**	**150.63**	**344**	*i* PKPbc	**PKiKP**	**02 01 51.6**	**+1.2**
TORD	**Torodi Ar. Bea**	**169.49**	**188**	PKPab	**PKPab**	**02 03 22.1**	**0.0**
	comp=Z,0.5nm,0.9s,baz=151,slow=5.8,SNR=2.1						

*IDC **11** 02:05:18.6±4.0, 20°.94S×70°.41W, h0km, mb4.0/1, mb1 3.8/2, mb1mx3.4/20, mbtmp3.7/2, ML3.1/1, MS3.0/1, Ms1 2.9/1, ms1mx2.5/17, Error ellipse: s-maj=135.4km s-min=64.1km az=101.0*
*GUC **11** 02:05:22.5±0.6, 19°.99S×71°.03W, h34km±2km, ML3.7*
ISC 11 02:05:17.5±1.8, 20°.05S±0°.03×71°.04W±0°.07, h6km±10km, n31, σ1°19/37, 12C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.88**	**104**	*i* P	**Pn**	**02 05 37.5**	**+1.1**
TA02				*e*S	**Sn**	**02 05 49.5**	**-0.1**
TA02				IAML		02 05 50.2	
	comp=N,3μm,0.1s						
TA01	**Diego Aracena**	**0.96**	**122**	*e*P	**Pn**	**02 05 39.1**	**+1.7**
TA01				*e*S	**Sn**	**02 05 51.7**	**+0.3**
PSGC	**Pisagua**	**0.98**	**63**	*i* P	**Pn**	**02 05 38.2**	**+0.4**
PSGC				*i* S	**Sb**	**02 05 50.3**	**+0.2**
PB11	**IPOC Station P**	**1.34**	**78**	*i* P	**Pg**	**02 05 44.4**	**+1.3**
PB11				*e*S	**Sg**	**02 06 01.4**	**+0.8**
PB11				IAML		02 06 03.6	
	comp=N,3μm,0.3s						
PB12	**IPOC Station P**	**1.58**	**25**	*i* P	**Pb**	**02 05 47.7**	**+0.5**
PB12				*e*S	**Sb**	**02 06 08.0**	**+0.5**
PB12				IAML		02 06 16.0	
	comp=N,986nm,0.3s						
MNMC	**Minye Minye**	**1.64**	**56**	*i* P	**Pg**	**02 05 49.1**	**+0.1**
MNMC				*i* S	**Sb**	**02 06 09.6**	**+0.2**
MNMC				IAML		02 06 17.4	
	comp=E,2μm,0.4s						
PB02	**IPOC Station P**	**1.66**	**140**	*i* P	**Pg**	**02 05 49.8**	**+0.5**
PB02				*e*S	**Sg**	**02 06 11.3**	**+0.5**
PB02				IAML		02 06 19.2	
	comp=N,1μm,0.5s						
PB01	**IPOC Station P**	**1.76**	**124**	*i* P	**Pg**	**02 05 51.3**	**0.0**
PB01				*i* S	**Sg**	**02 06 13.3**	**-0.8**
PB01				IAML		02 06 19.4	
	comp=E,713nm,0.3s						
PB08	**IPOC Station P**	**1.78**	**93**	*i* P	**Pg**	**02 05 51.2**	**-0.4**
PB08				*e*S	**Sg**	**02 06 14.5**	**-0.2**
PB08				IAML		02 06 16.6	
	comp=N,648nm,0.3s						
GO01	**Chusmiza**	**1.78**	**78**	*e*P	**Pg**	**02 05 51.3**	**-0.4**
GO01				*e*S	**Sb**	**02 06 13.8**	**+0.2**
GO01				IAML		02 06 16.4	
	comp=N,3μm,0.2s						
AP01	**Chacalluta**	**1.80**	**22**	*e*P	**Pb**	**02 05 50.9**	**+0.1**
AP01				*e*S	**Sn**	**02 06 10.8**	**-1.4**
AP01				IAML		02 06 22.2	
	comp=N,2μm,0.4s						
PB07	**IPOC Station P**	**1.99**	**147**	*i* P	**Pb**	**02 05 54.4**	**+0.2**
PB03	**IPOC Station P**	**2.32**	**149**	*e*P	**Pb**	**02 05 59.1**	**-0.8**
PB03				*e*S	**Sn**	**02 06 25.9**	**+0.6**
PB09	**IPOC Station P**	**2.42**	**136**	*i* P	**Pb**	**02 06 01.5**	**0.0**
PB09				*e*S	**Sb**	**02 06 30.9**	**-0.7**
PB09				IAML		02 06 45.0	
	comp=E,563nm,0.4s						
PB04	**IPOC Station P**	**2.42**	**160**	*e*P	**Pb**	**02 06 00.1**	**-1.4**
PB04				*i* S	**Sn**	**02 06 27.6**	**-0.2**
PB04				IAML		02 06 28.2	
	comp=E,257nm,0.2s						
PB05	**IPOC Station P**	**2.89**	**164**	*e*P	**Pn**	**02 06 06.3**	**+2.0**
PB05				*e*S	**Sn**	**02 06 38.2**	**-1.2**
PB06	**IPOC Station P**	**2.97**	**153**	*e*P	**Pb**	**02 06 07.8**	**-3.2**
PB06				*i* S	**Sn**	**02 06 42.3**	**+0.8**
LVC	**Limon Verde**	**3.23**	**142**	*e*P	**Pb**	**02 06 13.2**	**-2.3**
LPAZ	**La Paz**	**4.66**	**37**	Pn	**Pb**	**02 06 37.1**	**-2.9**
	comp=E,0.4nm,0.3s,baz=197,slow=5.5,SNR=11						
H03N1	**Juan Fernandez**	**15.06**	**206**	T	T	02 24 36.0	
	baz=33,slow=73,SNR=14						
H03N2	**Juan Fernandez**	**15.07**	**206**	T	T	02 24 40.1	
	baz=33,slow=73,SNR=15						
H03N3	**Juan Fernandez**	**15.08**	**206**	T	T	02 24 34.2	
	baz=33,slow=73,SNR=10						
BDFB	**Brasilia**	**22.35**	**82**	LR	LR	02 20 57.0	
	comp=E,39nm,19.1s,baz=217,slow=43						
TORD	**Torodi Ar. Bea**	**78.77**	**72**	P	**P**	**02 17 22.3**	**+0.7**
	comp=E,0.8nm,0.6s,baz=244,slow=5.0,SNR=7.0						
H11S2	**WAKE ISLAND Hyl**	**25.70**	**279**	T	T	04 43 44.1	
	baz=101,SNR=3.4						
H11S1	**WAKE ISLAND Hyl**	**25.71**	**279**	T	T	04 43 46.7	
	baz=101						
H11S3	**WAKE ISLAND Hyl**	**25.72**	**279**	T	T	04 43 50.8	
	baz=101						
H11N3	**WAKE ISLAND Hyl**	**25.75**	**280**	T	T	04 43 50.4	
	baz=101						
H11N2	**WAKE ISLAND Hyl**	**25.77**	**280**	T	T	04 43 45.3	
	baz=101						
H11N1	**WAKE ISLAND Hyl**	**25.77**	**280**	T	T	04 43 44.1	
	baz=101						
MKAR	**Makanchi Array**	**145.58**	**33**	PKPbc	**PKiKP**	**02 24 59.5**	**-1.3**
	comp=E,0.4nm,0.6s,baz=318,slow=4.6,SNR=4.8						

*IDC **11** 02:07:17.9±2.3, 8°.60S×122°.96E, h0km, mb4.0/2, mb1 3.8/4, mb1mx3.6/27, mbtmp3.7/4, ML3.3/2, Error ellipse: s-maj=339.5km s-min=29.6km az=56.0*
*DJA **11** 02:07:26.1±0.9, 9°.5±6°×12°.2E±°, h12km±8km, M3.8/8, MLv3.8/8*
ISC 11 02:07:24.2±1.0, 9°.54S±0°.08×122°.01E±0°.07, h44km, n14, σ2°35/12, Savu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**0.85**	**338**	P	**Pn**	**02 07 40.4**	**+0.6**
MMRI	**Maumere**	**0.93**	**14**	P	**Pn**	**02 07 42.8**	**+2.0**
BASI	**Baing, Sumba**	**1.56**	**244**	P	**Pn**	**02 07 51.7**	**+2.2**
WSI	**Waingapu**	**1.69**	**266**	P	**Sn**	**02 08 10.8**	**-0.9**
BATI	**Baumata**	**1.76**	**112**	P	Pn	02 08 00.1	+7.8
SOEI	**Soe**	**2.24**	**96**	P	Pn	02 08 05.7	+6.8
WBSI	**Waikabubak, Su**	**2.58**	**268**	P	**Pn**	**02 08 05.5**	**+1.9**
PLAI	**Plampang**	**4.24**	**279**	P	**Pn**	**02 08 28.1**	**+1.8**
BKSI	**Bulukumba**	**4.59**	**336**	P	**Pn**	**02 08 34.0**	**+2.9**
WRA	**Warramunga Arr**	**15.77**	**132**	Pn	**Pn**	**02 11 01.3**	**-2.1**
	0.1nm,0.3s,baz=303,slow=14,SNR=1.7						
WRA				Sn	Sn	02 13 46.4	-11
	0.4nm,0.3s,baz=302,slow=24,SNR=8.6						
ASAR	**Alice Springs**	**18.07**	**142**	P	**P**	**02 11 33.3**	**+1.2**
	0.1nm,0.3s,baz=322,slow=13,SNR=3.4						
ASAR				S	Sn	02 14 47.4	-5.6
	0.2nm,0.3s,baz=308,slow=21,SNR=3.5						
GENI	**Genyem**	**19.32**	**70**	P	**P**	**02 11 48.0**	**+2.1**
MKAR	**Makanchi Array**	**66.32**	**331**	P	**P**	**02 18 06.1**	**-2.1**
	0.8nm,0.5s,baz=143,slow=7.3,SNR=13						
ZALV	**Zalesovo Beam**	**70.63**	**338**	P	**P**	**02 18 31.8**	**-3.1**
	0.8nm,0.5s,baz=155,slow=8.3,SNR=2.0						

*INET **11** 02:40:40.5, 11°.77N×86°.42W, h196km, ML3.5*
*SNET **11** 02:40:46.8±0.7, 11°.82N×86°.48W, h157km±44km, ML3.5*
*UCR **11** 02:40:46.3±2.8, 11°.81N×86°.44W, h0km±4km, MD4.0, ML3.2*
ISC 11 02:40:46.5±2.4, 11°.85N±0°.08×86°.26W±0°.08, h143km±24km, n25, σ0°52/42, 2C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACON	**Acoyapa**	**1.07**	**84**	*e*P	**Pn**	**02 41 11.0**	**-0.2**
BUAI	**Buenos Aires**	**1.33**	**137**	*i* P	**Pn**	**02 41 13.8**	**0.0**
BUAI				*i* S	**Sn**	**02 41 34.8**	**+0.2**
GB1A	**Boringuen Arri**	**1.33**	**140**	*i* P	**Pn**	**02 41 13.7**	**-0.2**
BUEV	**Buena Vista**	**1.34**	**141**	*i* P	**Pn**	**02 41 14.0**	**0.0**
BUEV				*i* S	**Sn**	**02 41 34.5**	**-0.5**
BUEV				*e*S	**Sn**	**02 41 35.4**	**+0.5**
LAPC	**Finca la Perla**	**1.35**	**143**	*i* P	**Pn**	**02 41 13.5**	**-0.5**
LAPC				*i* S	**Sn**	**02 41 34.0**	**-1.0**
GPS1	**Guardaparques**	**1.40**	**140**	*i* P	**Pn**	**02 41 14.8**	**+0.2**
GPS2	**Hotel Rincn d**	**1.41**	**141**	*e*P	**Pn**	**02 41 15.0**	**+0.3**
GPS2				*e*S	**Sn**	**02 41 36.7**	**+0.5**
LIM1	**Limonal**	**1.52**	**139**	*i* P	**Pn**	**02 41 16.7**	**+0.9**
LIM1				*i* S	**Sn**	**02 41 38.5**	**+0.4**
HORNC	**Hornillas**	**1.55**	**137**	*i* P	**Pn**	**02 41 16.7**	**+0.5**
CUI	**Cuipilapa**	**1.60**	**138**	*e*P	**Pn**	**02 41 16.7**	**0.0**
CUI				*e*S	**Sn**	**02 41 41.1**	**+1.3**
PTEN	**Parque Tenorio**	**1.69**	**132**	*i* P	**Pn**	**02 41 17.7**	**0.0**
ACAL	**Aguas Claras**	**1.71**	**135**	*i* P	**Pn**	**02 41 17.8**	**-0.1**
ACAL				*i* S	**Sn**	**02 41 42.8**	**+0.9**
GUAI	**GUAI**	**1.74**	**155**	*i* P	**Pn**	**02 41 18.5**	**+0.4**
GUAI				*i* S	**Sn**	**02 41 41.1**	**-1.3**
PLVR	**Palo Verde**	**1.74**	**149**	*e*P	**Pn**	**02 41 18.7**	**+0.3**
PLVR				*e*S	**Sn**	**02 41 42.4**	**-0.4**
ESPN	**Las Esperanzas**	**1.95**	**80**	*i* P	**Pn**	**02 41 20.4**	**-0.2**
JTS	**Las Juntas de**	**2.02**	**140**	*e*P	**Pn**	**02 41 21.3**	**-0.1**
JTS				*e*S	**Sn**	**02 41 47.3**	**-0.9**
ARE1	**Arenal 1**	**2.05**	**132**	*e*P	**Pn**	**02 41 21.8**	**0.0**
LCND	**La Caada**	**2.15**	**313**	*e*P	**Pn**	**02 41 22.8**	**-0.2**
LCND				*e*S	**Sn**	**02 41 51.4**	**+0.3**
LCND				IAML		02 41 56.5	
	comp=Z,209nm,0.3s						
LCND	**La Caada**	**2.15**	**313**	*e*P	**Pn**	**02 41 22.8**	**-0.2**
LCND				*e*S	**Sn**	**02 41 51.4**	**+0.3**
LCND				IAML		02 41 56.5	
	comp=Z,209nm,0.3s						
JUCU	**Jucuarįn**	**2.39**	**306**	*e*P	**Pn**	**02 41 25.6**	**-0.3**
JUCU				*e*S	**Sn**	**02 41 56.5**	**+0.2**
JUCU				IAML		02 42 02.7	
	comp=Z,229nm,0.4s						
JUCU	**Jucuarįn**	**2.39**	**306**	*e*P	**Pn**	**02 41 25.6**	**-0.3**
JUCU				*e*S	**Sn**	**02 41 56.5**	**+0.2**
JUCU				IAML		02 42 02.7	
	comp=Z,229nm,0.4s						
PACA	**Pacayal**	**2.57**	**309**	*e*P	**Pn**	**02 41 28.4**	**+0.1**
PACA	**Pacayal**	**2.57**	**309**	*e*P	**Pn**	**02 41 28.4**	**+0.1**
LFRS	**El Faro**	**3.25**	**303**	*e*P	**Pn**	**02 41 37.2**	**+0.4**
LFRS				*e*S	**Sn**	**02 42 15.4**	**-0.5**
LFRS	**El Faro**	**3.25**	**303**	*e*P	**Pn**	**02 41 37.2**	**+0.4**
LFRS				*e*S	**Sn**	**02 42 15.4**	**-0.5**

*ISK **11** 02:42:36.5, 40°.19N×25°.07E, h19km, ML1.8/9*
*THE **11** 02:42:36.8, 40°.20N±25°.11E, h8km±1km, ML1.8/4, Error ellipse: s-maj=1.9km s-min=0.6km az=89.0*
ATH 11 02:42:36.0, 40°.16N×25°.04E, h22km±7km, ML1.7/4, Error ellipse: s-maj=7.1km s-min=1.3km az=144.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.29**	**158**	P	Pb	02 42 42.9	+0.3
LIA				S	Sb	02 42 47.4	+0.3
	268nm,0.2s						
LIA	**Limnos Island**	**0.29**	**158**	P	Pb	02 42 43.0	+0.4
LIA				S	Sb	02 42 46.9	-0.2
LIA				AML	AML	02 42 47.4	
	comp=E,695μm,0.3s						
LIA				AML	AML	02 42 47.6	
	comp=N,377μm,0.1s						
SMTH	**Samothraki Isl**	**0.48**	**50**	P	Pb	02 42 45.5	-0.3
SMTH				S	Sb	02 42 51.4	-1.1
SMTH	**Samothraki Isl**	**0.48**	**50**	P	Pb	02 42 46.0	+0.1
SMTH				S	Sb	02 42 53.1	+0.6
SMTH				AML	AML	02 42 53.5	
	comp=E,82μm,0.2s						
SMTH				AML	AML	02 42 54.1	
	comp=N,92μm,0.2s						
THAS	**Thassos island**	**0.51**	**331**	P	Pb	02 42 46.5	+0.3
THAS				S	Sb	02 42 54.1	+0.9
	comp=N,88nm,0.2s						
THAS	**Thassos island**	**0.51**	**331**	P	Pb	02 42 46.5	+0.3
THAS				S	Sb	02 42 53.0	-0.2
THAS				AML	AML	02 42 56.6	
	comp=E,173μm,0.2s						
THAS				AML	AML	02 42 56.9	
	comp=N,171μm,0.2s						
GADA	**Gvkgeada**	**0.66**	**87**	P	Pb	02 42 47.8	-1.0
GADA				S	Sb	02 42 56.4	-1.1
GADA	**Gvkgeada**	**0.66**	**87**	PG	Pn	02 42 49.9	0.0
GADA				SG	Sn	02 42 58.7	-0.9
BOZC	**Bozcaada**	**0.84**	**112**	PG	Pn	02 42 53.2	+0.7
BOZC				SG	Sn	02 43 05.2	+1.1
KAVA	**Kavala**	**0.92**	**334**	P	Pn	02 42 54.1	+0.5
KAVA				S	Sn	02 43 06.8	+0.6
	comp=N,70nm,0.1s						
KAVA	**Kavala**	**0.92**	**334**	P	Pn	02 42 54.6	+1.0
KAVA				S	Sn	02 43 06.4	+0.2
KAVA				AML	AML	02 43 08.1	
	comp=E,165μm,0.1s						
KAVA				AML	AML	02 43 08.9	
	comp=N,112μm,0.1s						
ENEZ	**Enez**	**1.02**	**56**	P	Pn	02 42 54.8	-0.2
ENEZ				S	Sn	02 43 09.2	+0.6
	comp=N,70nm,0.2s						
ENEZ	**Enez**	**1.02**	**56**	PG	Pb	02 42 55.9	+0.9
RDO	**Rodhopi**	**1.05**	**21**	P	Pn	02 42 55.4	0.0
RDO				S	Sn	02 43 09.7	+0.4
RDO	**Rodhopi**	**1.05**	**21**	P	Pb	02 42 56.0	+0.5
RDO	**Rodhopi**	**1.05**	**21**	PG	Pb	02 42 56.0	+0.5
ALN	**Alexandroupoli**	**1.06**	**46**	P	Pb	02 42 56.2	+0.6
ALN				S	Sn	02 43 10.5	+1.0
ALN	**Alexandroupoli**	**1.06**	**46**	PG	Pb	02 42 56.3	+0.7
PAIG	**Paliouri**	**1.07**	**258**	P	Pb	02 42 56.2	+0.3
SIGR	**SIGRI**	**1.14**	**146**	PN	Pb	02 42 57.8	+0.8
PLG	**Polygyros**	**1.24**	**280**	P	Pb	02 42 59.1	+0.4
SRS	**Serrai**	**1.46**	**311**	P	Pb	02 43 01.9	-0.5
SRS				S	Sb	02 43 22.7	+2.2
KDZ	**Kurdzhali**	**1.51**	**11**	PN	Pb	02 43 02.7	-0.6
HORT	**Hortiatis**	**1.55**	**287**	PN	Pb	02 43 03.5	-0.5
UKOP	**Uzunkopru-Edir**	**1.55**	**51**	PN	Pn	02 43 02.7	+0.5
KRBG	**Karabiga-Canak**	**1.74**	**82**	PN	Pn	02 43 05.4	+0.6
KNT	**Kendrikon**	**1.91**	**302**	PN	Pb	02 43 08.7	-1.5
EDRB	**Edirne**	**2.12**	**37**	PN	Pn	02 43 11.5	+1.5

ATH 11 02:43:04.2, 38°.57N×23°.97E, h14km±4km, ML1.7/8, Error ellipse: s-maj=4.6km s-min=1.0km az=85.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYMI	**Kymi, Euboea I**	**0.12**	**60**	P	Pg	02 43 07.6	-0.1
KYMI	**Kymi, Euboea I**	**0.12**	**60**	P	Pg	02 43 07.6	-0.1
KYMI				S	Sg	02 43 09.7	-0.3
KYMI				AML	AML	02 43 09.9	
	comp=E,1012μm,0.2s						
KYMI				AML	AML	02 43 10.5	
	comp=N,820μm,0.1s						
DION	**Dionisos Attik**	**0.49**	**183**	P	Pb	02 43 14.4	-0.3
DION				S	Sb	02 43 21.6	-0.2
DION				AML	AML	02 43 22.5	
	comp=N,684μm,0.3s						
DION				AML	AML	02 43 22.7	
	comp=E,430μm,0.1s						
PTL	**Penteli**	**0.53**	**189**	P	Pg	02 43 15.0	+0.3
PTL				S	Sg	02 43 21.8	+0.1
PTL				AML	AML	02 43 22.9	
	comp=E,98μm,0.4s						
PTL				AML	AML	02 43 23.1	
	comp=N,134μm,0.2s						
SKY	**Skiros Island**	**0.55**	**56**	P	Pg	02 43 15.1	0.0
ATHU	**Athens Univers**	**0.62**	**193**	P	Pg	02 43 16.4	0.0
ATHU				S	Sg	02 43 24.9	+0.2
ATHU				AML	AML	02 43 26.1	
	comp=E,41μm,0.3s						
ATHU				AML	AML	02 43 27.8	
	comp=N,90μm,0.2s						
ATH	**Athens Observa**	**0.63**	**198**	P	Pg	02 43 16.4	-0.2
KARY	**Karystos**	**0.65**	**145**	P	Pg	02 43 16.7	-0.3
KARY				S	Sg	02 43 25.3	-0.4
VILL	**Villia**	**0.66**	**232**	P	Pg	02 43 16.8	-0.3
VIL2	**Platees**	**0.66**	**237**	P	Pg	02 43 16.7	-0.4
VIL2				S	Sb	02 43 26.2	-0.2
VIL2				AML	AML	02 43 30.1	
	comp=N,202μm,0.3s						
VIL2				AML	AML	02 43 30.9	
	comp=E,191μm,0.3s						
SKIA	**Skiathos**	**0.71**	**327**	P	Pb	02 43 18.8	+0.4
VLY	**Voula,Athens**	**0.73**	**191**	P	Pg	02 43 18.4	-0.1
VLY	**Voula,Athens**	**0.73**	**191**	P	Pg	02 43 18.4	-0.1
VLY				S	Sg	02 43 28.3	+0.2
VLY				AML	AML	02 43 30.3	
	comp=N,167μm,0.6s						
VLY				AML	AML	02 43 30.5	
	comp=E,259μm,0.4s						
LKR	**Lokris**	**0.76**	**276**	P	Pg	02 43 19.0	-0.1
PROD	**Prodromos**	**0.89**	**250**	P	Pb	02 43 20.9	-0.6
PROD				S	Sn	02 43 34.4	-0.7
PROD				AML	AML	02 43 37.0	
	comp=N,174μm,0.2s						
PROD				AML	AML	02 43 38.1	
	comp=E,222μm,0.2s						
NEO	**Neokhori**	**0.94**	**322**	P	Pb	02 43 22.0	-0.2
LOUT	**Loutraki**	**0.97**	**234**	P	Pg	02 43 23.2	+0.1
LOUT				S	Sg	02 43 36.4	+0.5
LOUT				AML	AML	02 43 40.0	
	comp=E,31μm,0.2s						
LOUT				AML	AML	02 43 40.7	
	comp=N,40μm,0.4s						
XOR	**Xorichti**	**1.00**	**323**	P	Pb	02 43 23.0	-0.3
DID	**Didima**	**1.21**	**209**	P	Pn	02 43 26.0	-0.8
GUR	**Goura**	**1.43**	**244**	P	Pb	02 43 30.7	+0.1

*NEIC **11** 02:55:44.4±1.1, 16°.1N±0°.1×99°.14W±0°.06, h17km±14km, Error ellipse: s-maj=21.8km s-min=6.9km az=166.0*
*MEX **11** 02:55:45.9±0.6, 16°.04N×99°.15W, h5km, MD4.1*
ISC 11 02:55:45.1±1.8, 16°.06N±0°.08×99°.15W±0°.04, h25km±16km, n16, σ0°53/32, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACP2	**Acapulco**	**1.08**	**319**		**Pb**	**02 56 05.5**	**+0.4**
ACP2					**Sb**	**02 56 18.0**	**-0.8**
ACP2	**Acapulco**	**1.08**	**319**	*i* P	**Pb**	**02 56 05.5**	**+0.4**
ACP2				*e*S	**Sn**	**02 56 19.2**	**+0.4**
CAIG	**El Cayaco**	**1.46**	**313**		**Pn**	**02 56 09.0**	**-0.9**
CAIG					**Sn**	**02 56 28.0**	**-0.2**
CAIG	**El Cayaco**	**1.46**	**313**	*e*P	**Pn**	**02 56 09.0**	**-0.9**
CAIG				*i* S	**Sn**	**02 56 27.9**	**-0.3**
TLIG	**Tlapa**	**1.60**	**20**		**Pn**	**02 56 11.9**	**0.0**
TLIG				Sn	**Sn**	**02 56 31.4**	**-0.4**
TLIG	**Tlapa**	**1.60**	**20**	*i* P	**Pn**	**02 56 11.6**	**-0.3**
TLIG				*i* S	**Sn**	**02 56 31.4**	**-0.4**
YOIG	**Yosondua**	**1.73**	**62**	*e*P	**Pn**	**02 56 13.3**	**-0.6**
YOIG				*e*S	**Sn**	**02 56 35.7**	**+0.4**
TXIG	**Tlaxiaco**	**1.78**	**48**	*e*P	**Pn**	**02 56 14.9**	**+0.3**
TXIG				*e*S	**Sn**	**02 56 36.6**	**+0.1**
MEIG	**Mezcala**	**1.91**	**346**		**Pn**	**02 56 15.7**	**-0.5**
MEIG					**Sn**	**02 56 40.8**	**+1.3**
MEIG	**Mezcala**	**1.91**	**346**	*e*P	**Pn**	**02 56 15.7**	**-0.5**
MEIG				*i* S	**Sn**	**02 56 39.3**	**-0.2**
PEIG	**Puerto Escondi**	**1.93**	**92**	*e*P	**Pn**	**02 56 16.8**	**+0.5**
PEIG				*e*S	**Sn**	**02 56 38.8**	**-0.9**
FTIG	**Fresnillo de T**	**2.08**	**28**	*e*P	**Pn**	**02 56 18.6**	**0.0**
FTIG				*i* S	**Sn**	**02 56 43.7**	**0.0**
ARIG	**Puente Sto Nin**	**2.49**	**333**

KSRS					LR	LR	03 17 24.7		
	comp=Z,37nm,21.4s,baz=138,slow=34								
ASAJ	**Asahikawa**	**20.58**	**359**		P	Pn	03 11 18.8	+0.8	
	comp=Z,8.4nm,0.8s,baz=207,slow=11,SNR=9.2								
ASAJ					LR	LR	03 19 20.7		
	comp=Z,21nm,20.5s,baz=173,slow=37								
JKA	**Kamikawa-asahi**	**20.58**	**359**			Pn	03 11 18.8	+0.8	
USRK	**Ussuriysk Ar.**	**22.54**	**339**		P	P	**03 11 36.8**	**+0.1**	
	comp=Z,4.8nm,0.6s,baz=155,slow=9.5,SNR=10								
H11N1	**WAKE ISLAND Hy**	**22.56**	**95**		T	T	03 35 40.6		
	baz=282,slow=74,SNR=56								
H11N2	**WAKE ISLAND Hy**	**22.56**	**95**		T	T	03 35 32.0		
	baz=282,slow=74,SNR=71								
H11N3	**WAKE ISLAND Hy**	**22.57**	**95**		T	T	03 35 35.8		
	baz=282,slow=74,SNR=84								
H11S3	**WAKE ISLAND Hy**	**22.69**	**98**		T	T	03 35 12.8		
	baz=284,slow=75,SNR=15								
H11S1	**WAKE ISLAND Hy**	**22.70**	**98**		T	T	03 35 15.5		
	baz=284,slow=75,SNR=12								
H11S2	**WAKE ISLAND Hy**	**22.71**	**98**		T	T	03 35 28.4		
	baz=284,slow=75,SNR=14								
SONM	**Songino Array**	**37.85**	**319**		P	P	**03 13 53.9**	**+0.7**	
	comp=Z,1.4nm,0.6s,baz=126,slow=7.3,SNR=2.4								
CMAR	**Chiang Mai Arr**	**41.29**	**272**		P	P	**03 14 23.2**	**+1.1**	
	comp=Z,1.0nm,0.3s,baz=64,slow=7.1,SNR=1.7								
CMAR					LR	LR	03 30 16.3		
	comp=Z,17nm,21.7s,baz=176,slow=34								
KNRA	**Kununurra**	**41.32**	**201**		P	P	**03 14 21.7**	**-0.5**	
KNRA					IAmb	IAmb	03 14 30.1		
	comp=Z,8.1nm,1.1s								
WB0	**Warramunga Arr**	**43.79**	**192**		P	P	**03 14 41.1**	**-1.2**	
WR0	**Warramunga Arr**	**43.95**	**191**		P	P	**03 14 42.3**	**-1.2**	
WRAB	**Tennant Creek**	**43.96**	**192**		P	P	**03 14 43.1**	**-0.5**	
WRAB					IAmb	IAmb	03 14 55.8		
	comp=Z,5.3nm,0.8s								
WB2	**Warramunga Arr**	**43.97**	**192**		P	P	**03 14 42.6**	**-1.1**	
WB2					IAmb	IAmb	03 14 44.0		
	comp=Z,3.8nm,0.5s								
WRA	**Warramunga Arr**	**43.97**	**192**		P	P	**03 14 43.1**	**-0.6**	
	comp=Z,2.9nm,0.5s,baz=9.5,slow=7.9,SNR=32								
WRA					PcP	**PcP**	**03 16 29.0**	**-0.1**	
	comp=Z,0.6nm,0.6s,baz=7.4,slow=3.6,SNR=1.7								
FITZ	**Fitzroy Crossi**	**44.66**	**204**		P	P	**03 14 48.7**	**-0.4**	
SHL	**Shillong**	**46.28**	**284**		P	P	**03 15 00.9**	**-1.4**	
SHL					IAmb	IAmb	03 15 04.9		
	comp=Z,4.4nm,0.5s								
ASAR	**Alice Springs**	**47.69**	**191**		P	P	**03 15 12.2**	**-0.8**	
	comp=Z,0.6nm,0.5s,baz=15,slow=8.1,SNR=13								
ZALV	**Zalesovo Beam**	**52.69**	**321**		P	P	**03 15 49.6**	**-0.9**	
	comp=Z,0.7nm,0.3s,baz=108,slow=9.5,SNR=2.2								
ZALV					LR	LR	03 39 37.7		
	comp=Z,18nm,18.9s,baz=208,slow=38								
MK31	**Makanchi Array**	**53.35**	**312**		P	P	**03 15 55.3**	**-0.3**	
MK31					IAmb	IAmb	03 15 56.9		
	comp=Z,2.4nm,0.7s								
MKAR	**Makanchi Array**	**53.35**	**312**		P	P	**03 15 55.9**	**+0.3**	
	comp=Z,3.3nm,0.6s,baz=91,slow=8.9,SNR=41								
STKA	**Stephens Creek**	**55.06**	**181**		P	P	**03 16 07.5**	**-0.5**	
	comp=Z,3.9nm,0.6s,baz=354,slow=8.5,SNR=12								
STKA	**Stephens Creek**	**55.06**	**181**		P	P	**03 16 06.5**	**-1.5**	
KURK	**Kurchatov**	**56.04**	**316**		P	P	**03 16 14.6**	**-0.4**	
KURK					IAmb	IAmb	03 16 15.9		
	comp=Z,2.4nm,0.6s								
NRIK	**Noril'sk**	**56.26**	**339**		P	P	**03 16 15.9**	**-0.3**	
	comp=Z,4.8nm,0.7s,baz=107,slow=7.9,SNR=7.3								
NRIK					LR	LR	03 40 27.3		
	comp=Z,36nm,18.4s,baz=76,slow=36								
IL31		**60.55**	**28**		P	P	**03 16 46.6**	**+0.4**	
ILAR	**Eielson Array**	**60.55**	**28**		P	P	**03 16 47.1**	**+0.8**	
	comp=Z,0.6nm,0.7s,baz=259,slow=5.2,SNR=9.9								
BRVK	**Borovoye**	**61.25**	**319**		P	P	**03 16 51.3**	**+0.1**	
BRVK					IAmb	IAmb	03 17 09.7		
	comp=Z,2.7nm,0.7s								
SCRK	**Sand Creek**	**61.73**	**29**		P	P	**03 16 53.2**	**-1.2**	
SCRK					IAmb	IAmb	03 17 01.3		
	comp=Z,2.8nm,0.7s								
KK31	**Karatay Array**	**61.80**	**308**		P	P	**03 16 55.0**	**-0.1**	
KKAR	**Karatay Array**	**61.80**	**308**		P	P	**03 16 54.9**	**-0.2**	
CHGR	**Chuyangaron**	**63.45**	**303**		P	P	**03 17 05.8**	**-0.4**	
INK	**Inuvik**	**66.02**	**24**		P	P	**03 17 23.2**	**+0.9**	
	comp=Z,0.9nm,0.5s,baz=293,slow=2.8,SNR=4.4								
INK	**Inuvik**	**66.02**	**24**		P	P	**03 17 22.8**	**+0.4**	
INK					IAmb	IAmb	03 17 30.2		
	comp=Z,3.2nm,1.1s								
ARU	**Arti**	**67.71**	**323**		P	P	**03 17 33.9**	**+0.5**	
	comp=Z,2.7nm,0.3s,baz=126,slow=3.3,SNR=8.5								
ARU	**Arti**	**67.71**	**323**		P	P	**03 17 31.9**	**-1.4**	
AKTO	**Aktyubinsk**	**69.12**	**317**		P	P	**03 17 42.8**	**+0.5**	
	comp=Z,2.1nm,0.6s,baz=86,slow=9.9,SNR=5.7								
GEYT	**Alibeck**	**72.07**	**304**		P	P	**03 18 01.5**	**+0.9**	
	comp=Z,1.0nm,0.5s,baz=88,slow=7.5,SNR=1.6								
SPITS	**Spitsbergen Ar**	**74.05**	**350**		P	P	**03 18 13.3**	**+1.8**	
	comp=Z,1.9nm,0.8s,baz=60,slow=8.5,SNR=0.9								
YKA	**Yellowknife Ar**	**74.98**	**28**		P	P	**03 18 18.2**	**+1.1**	
	comp=Z,0.3nm,0.4s,baz=288,slow=5.2,SNR=3.2								
KBZ	**Khabaz**	**80.99**	**314**		P	P	**03 18 51.8**	**+1.0**	
	comp=Z,3.2nm,0.8s,baz=79,slow=5.1,SNR=8.7								
FINES	**FINESS Array B**	**81.49**	**334**		P	P	**03 18 53.2**	**+0.1**	
	comp=Z,1.0nm,0.4s,baz=69,slow=4.3,SNR=8.6								
NVAR	**Mina Array Bea**	**82.20**	**52**		P	P	**03 18 58.6**	**+1.0**	
	comp=Z,0.4nm,0.6s,baz=272,slow=7.0,SNR=3.9								
AKASG	**Malin Array Be**	**85.94**	**324**		P	P	**03 19 16.9**	**+0.8**	
	comp=Z,0.3nm,0.3s,baz=53,slow=5.1,SNR=1.8								
HFS	**Hagfors**	**87.01**	**337**		P	P	**03 19 21.6**	**+0.4**	
	comp=Z,0.9nm,0.6s,baz=87,slow=5.9,SNR=1.4								
NOA	**NORSAR Array B**	**87.21**	**339**		P	P	**03 19 23.1**	**+0.8**	
	comp=Z,0.6nm,0.8s,baz=47,slow=4.6,SNR=3.4								
BRTR	**Keskin Array B**	**88.97**	**313**		P	P	**03 19 30.6**	**-0.6**	
	comp=Z,0.5nm,0.7s,baz=58,slow=5.5,SNR=4.1								
LPAZ	**La Paz**	**149.95**	**82**		PKPbc	**PKiKP**	**03 26 28.4**	**-0.3**	
	comp=Z,1.3nm,0.6s,baz=281,slow=3.6,SNR=7.9								
LPAZ	**La Paz**	**149.95**	**82**		PKPdf	**PKPdf**	**03 26 21.4**	**-1.5**	

*SNET **11** 03:19:25.2±1.2, 13.°32N×89.°79W, h34km±2km, ML3.5*
*GCG **11** 03:19:27.2±0.7, 13.°36N×90.°02W, h19km±7km, MD3.8*

ISC 11 03:19:24.6±1.5, **13.°26N**±0.°07×**89.°82W**±0.°04, **h30**km±11km, **n25**, σ**0.°71/46**, **1C**, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.54**	**65**	*eP*	**Pb**	**03 19 36.0**	**+0.4**
LALI				*eS*	**Sb**	**03 19 43.5**	**+0.4**
CEVE	**Cerro Verde**	**0.59**	**19**	*eP*	**Pb**	**03 19 36.0**	**-0.7**
CEVE				*eS*	**Sn**	**03 19 45.8**	**-0.2**
CEVE				IAML		03 19 51.0	
	comp=Z,4μm,0.2s						
SBLS	**San Blas**	**0.60**	**19**	*eP*	**Pn**	**03 19 37.4**	**+0.1**
SBLS				*eS*	**Sn**	**03 19 45.7**	**-0.5**
SNJE	**San Jose**	**0.64**	**19**	*eP*	**Pn**	**03 19 37.8**	**0.0**
SNJE				*eS*	**Sb**	**03 19 46.1**	**-0.1**
RTR	**El Retiro**	**0.65**	**15**	*eP*	**Pn**	**03 19 38.2**	**+0.2**
RTR				*eS*	**Sn**	**03 19 47.2**	**-0.1**
CEDA	**San Andres**	**0.68**	**38**	*eP*	**Pb**	**03 19 37.9**	**-0.1**
CEDA				*eS*	**Sn**	**03 19 47.5**	**-0.2**
CEDA				IAML		03 19 53.1	
	comp=Z,2μm,0.2s						
BOQS	**Boqueron**	**0.70**	**48**	*eP*	**Pb**	**03 19 38.8**	**+0.2**
BOQS				*eS*	**Sn**	**03 19 49.6**	**+0.9**
SNET	**Serv Nac Est T**	**0.71**	**54**	*eP*	**Pb**	**03 19 38.2**	**-0.4**
UEES	**Universidad Ev**	**0.72**	**51**	*eP*	**Pb**	**03 19 38.5**	**-0.2**
OPAM	**Oficina de Pla**	**0.75**	**54**	*eP*	**Pb**	**03 19 39.1**	**-0.2**
OPAM				*eS*	**Sn**	**03 19 49.7**	**0.0**
LFRS	**El Faro**	**0.82**	**64**	*eP*	**Pn**	**03 19 39.8**	**-0.4**
LFRS				*eS*	**Sb**	**03 19 50.9**	**-0.3**
LBRS	**Las Brisas**	**0.89**	**58**	*eP*	**Pn**	**03 19 40.9**	**-0.3**
LBRS				*eS*	**Sb**	**03 19 53.1**	**-0.1**
PAVA	**Las Pavas**	**0.97**	**62**	*eP*	**Pn**	**03 19 42.3**	**+0.1**
PAVA				*eS*	**Sb**	**03 19 55.6**	**+0.2**
IXG	**Ixpaco**	**1.09**	**326**⇑	*eP*	**Pb**	**03 19 44.6**	**-0.3**
MTO3	**Montecristo**	**1.22**	**22**	*eP*	**Pn**	**03 19 45.6**	**-0.1**
COEB	**Comit de Eme**	**1.28**	**79**	*eP*	**Pn**	**03 19 46.1**	**-0.4**
COEB				*eS*	**Sn**	**03 20 02.4**	**-0.2**
TECA	**Tecapa**	**1.30**	**80**	*eP*	**Pn**	**03 19 46.7**	**-0.2**
TECA				*eS*	**Sn**	**03 20 03.7**	**+0.3**
PCG	**Pacaya**	**1.36**	**326**	*eP*	**Pb**	**03 19 48.9**	**-0.7**
PCG				*eS*	**Sb**	**03 20 05.5**	**-1.1**
ESQI	**Esquipulas**	**1.37**	**20**	*eP*	**Pn**	**03 19 48.1**	**+0.3**
ESQI				*eS*	**Sn**	**03 20 04.5**	**-0.5**
NBG	**Las Nubes**	**1.41**	**339**	*eP*	**Pb**	**03 19 50.4**	**-0.1**
NBG				*eS*	**Sb**	**03 20 11.2**	**+2.9**
PACA	**Pacayal**	**1.47**	**82**	*eP*	**Pn**	**03 19 49.1**	**0.0**
PACA				*eS*	**Sn**	**03 20 08.5**	**+1.0**
JUCU	**Jucuar¡n**	**1.53**	**90**	*eP*	**Pn**	**03 19 49.1**	**-0.8**
JUCU				*eS*	**Sn**	**03 20 09.1**	**+0.3**
FUG	**Fuego 3**	**1.54**	**320**	*eP*	**Pn**	**03 19 51.2**	**+1.1**
FUG				*eS*	**Sb**	**03 20 10.6**	**-1.2**
LCND	**La Caada**	**1.88**	**88**	*eP*	**Pn**	**03 19 54.6**	**-0.1**
LCND				*eS*	**Sn**	**03 20 17.7**	**+0.3**
LCND				IAML		03 20 23.3	
	comp=Z,435nm,0.4s						
STG3	**Santiaguito 3,**	**2.23**	**310**	*eP*	**Pn**	**03 20 00.7**	**+1.1**
STG3				*eS*	**Sn**	**03 20 25.1**	**-1.1**

IDC 11 03:49:05.7±1.9, **2.°39N**×**93.°00E**, **h0**km, **mb4.0**/4, **mb1 4.1**/5, **mb1mx3.7**/52, **mbtmp4.0**/5, **ML3.8**/1, **MS2.6**/1, **Ms1 2.8**/1, **ms1mx2.4**/32, **Error ellipse: s-maj=56.8km s-min=22.6km az=47.0, Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**5.93**	**86**	Pn	Pn	03 50 35.8	+0.8
	2.7nm,0.3s,baz=180,slow=9.1,SNR=6.9						
PSI				Sn	Sn	03 51 43.2	-0.5
	2.0nm,0.3s,baz=0.0,slow=11,SNR=2.4						
CMAR	**Chiang Mai Arr**	**16.99**	**20**	LR	LR	03 59 06.8	
	comp=Z,24nm,20.6s,baz=210,slow=35						
MKAR	**Makanchi Array**	**45.20**	**350**	P	P	03 57 24.7	+0.1
	1.7nm,0.6s,baz=171,slow=9.3,SNR=18						
WRA	**Warramunga Arr**	**46.23**	**121**	P	P	03 57 33.5	+0.4
	0.5nm,0.5s,baz=298,slow=8.6,SNR=6.3						
ASAR	**Alice Springs**	**47.48**	**125**	P	P	03 57 42.0	-0.8
	0.5nm,0.7s,baz=282,slow=6.3,SNR=4.3						
ZALV	**Zalesovo Beam**	**51.83**	**354**	P	P	03 58 15.0	-0.5
	1.6nm,0.4s,baz=173,slow=6.8,SNR=6.1						

*UNK **11** 03:53:33.3, 34.°62N×28.°36E, h10km*
*BJI **11** 03:53:35.9±0.0, 34.°44N×27.°98E, h77km, mB5.0/42, mb5.2/65, Ms4.7/9, Ms7 4.4/10*
*NIC **11** 03:53:38.9±0.0, 34.°64N×28.°50E, h90km±8km, Ml5.7/6*
*ISK **11** 03:53:38.7, 34.°65N×28.°42E, h98km±3km, ML5.2/29*
*ATH **11** 03:53:39.8, 34.°84N×28.°36E, h32km±4km, ML5.1/12, Error ellipse: s-maj=5.2km s-min=1.6km az=147.0*
*GRAL **11** 03:53:39.5±0.7, 34.°72N×28.°75E, h0km±999km, MD4.2*
*MED_RC **11** 03:53:40.0±0.4, 34.°68N×28.°44E, h69km±2km, MW4.8/21, Moment Tensor Solution. Body waves: s5,c5;Mantle waves: s21,c37; Duration: 1ŝ4 Moment tensor: Scale 10^{16}Nm; M_{rr}1.75±.09; $M_{\theta\theta}$-0.53±.08; $M_{\phi\phi}$-1.22±.06; $M_{r\theta}$-0.52±.07; $M_{\theta\phi}$-1.11±.07; $M_{\phi r}$0.15±.06; Best double couple: $M_0$1.98000×10^{16} NP1:ϕ_s20.00000°, δ45.00000°, λ65.00000°. NP2:ϕ_s233.00000°, δ50.00000°, λ113.00000°. Principal axes: T 1.9200, Plg72.0000°, Azm208.0000°; N 0.1300, Plg17.0000°, Azm38.0000°; P -2.0500, Plg3.0000°, Azm307.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*HLW **11** 03:53:40.0, 34.°52N×28.°47E, h4km±18km, Ml5.5*
*NEIC **11** 03:53:40.6±1.7, 34.°72N±0.°05×28.°50E±0.°05, h75km±4km, mb5.0/295, ML5.2(ISK), ML5.1(THE), ML5.1(ATH), Error ellipse: s-maj=7.8km s-min=6.1km az=161.0*
*MOS **11** 03:53:40.1±0.9, 34.°76N×28.°32E, h82km, mb5.0/59, Error ellipse: s-maj=4.4km s-min=2.2km az=100.8*
*GII **11** 03:53:41.9±0.0, 34.°58N×28.°82E, h30km, Mm4.5/18*
*DDA **11** 03:53:42.0, 34.°90N×28.°37E, h50km±7km, MW5.2*
*IDC **11** 03:53:42.6±1.1, 34.°86N×28.°34E, h84km±9km, mb4.7/34, mb1 4.8/43, mb1mx4.8/49, mbtmp5.0/43, MS3.5/21, Ms1 3.5/21, ms1mx3.4/31, Error ellipse: s-maj=8.5km s-min=7.0km az=149.0*
*THE **11** 03:53:42.2, 34.°73N×28.°47E, h57km±5km, ML5.1/11, Error ellipse: s-maj=5.4km s-min=0.6km az=13.0*
*PDG **11** 03:53:47.0±0.2, 34.°59N×26.°21E, h15km±11km, ML5.2/11, Error ellipse: s-maj=48.1km s-min=31.0km az=90.0*

ISC 11 03:53:40.5±0.4, **34.°74N**±0.°02×**28.°45E**±0.°02, **h71**km±3km, **h71**km:**pP-P, n1533,** σ**1ŝ70**/1618, **mb5.0**/275, **91C-69D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.33**	**308**	P	**Pn**	**03 54 04.1**	**+0.7**
KARP				S	**Sn**	**03 54 21.4**	**+0.9**
	60μm,0.5s						
KARP	**Karpathos**	**1.33**	**308**	P	**Pn**	**03 54 03.1**	**-0.3**
KARP				S	**Sn**	**03 54 19.4**	**-1.1**
KARP				AML	AML	03 54 23.5	
KARP				AML	AML	03 54 24.3	
	comp=E,87134μm,0.4s						
KARP	**Karpathos**	**1.33**	**308**	PN	**Pn**	**03 54 04.4**	**+1.0**
KARP				SN	**Sn**	**03 54 22.4**	**+1.9**
KARP	**Karpathos**	**1.33**	**308**		**Pn**	**03 54 04.6**	**+1.2**
KARP					**Sn**	**03 54 22.4**	**+1.9**
KARP	**Karpathos**	**1.33**	**308**	P	**Pn**	**03 54 04.8**	**+1.4**
KARP				S	**Sn**	**03 54 22.5**	**+1.9**
ARG	**Arkhangelos**	**1.50**	**350**	P	**Pn**	**03 54 06.6**	**+1.1**
ARG				S	**Sn**	**03 54 24.2**	**-0.2**
	comp=E,39μm,0.9s						
ARG	**Arkhangelos**	**1.50**	**350**	P	**Pn**	**03 54 05.6**	**+0.1**
ARG				S	**Sn**	**03 54 23.1**	**-1.3**
ARG				AML	AML	03 54 29.6	
	comp=N,61187μm,1.1s						
ARG				AML	AML	03 54 33.0	
	comp=E,89526μm,0.6s						
ARG	**Arkhangelos**	**1.50**	**350**	PN	**Pn**	**03 54 06.8**	**+1.3**
ARG	**Arkhangelos**	**1.50**	**350**	P	**Pn**	**03 54 05.6**	**+0.1**
ARG				S	**Sn**	**03 54 23.8**	**-0.6**
ARG	**Arkhangelos**	**1.50**	**350**	P	**Pn**	**03 54 06.8**	**+1.3**
ARG				S	**Sn**	**03 54 25.5**	**+1.1**
KSL	**Kastellorizon**	**1.69**	**33**	P	**Pn**	**03 54 08.8**	**+0.9**
KSL				S	**Sn**	**03 54 28.3**	**-0.5**
KSL	**Kastellorizon**	**1.69**	**33**	P	**Pn**	**03 54 08.9**	**+0.9**
KSL				S	**Sn**	**03 54 28.9**	**+0.1**
KSL				AML	AML	03 54 31.8	
	comp=E,46488μm,0.4s						
KSL				AML	AML	03 54 33.0	
	comp=N,24370μm,0.5s						
KSL	**Kastellorizon**	**1.69**	**33**	P	**Pn**	**03 54 09.0**	**+1.1**
KSL				S	**Sn**	**03 54 30.4**	**+1.6**
AKAS	**Kas**	**1.77**	**32**	PN	**Pn**	**03 54 10.3**	**+1.1**
AKAS	**Kas**	**1.77**	**32**⇑	*iP*	**Pn**	**03 54 10.2**	**+1.1**
AKAS				*i* S	**Sn**	**03 54 32.1**	**+1.2**
AKAS				IAML		03 54 35.0	
	comp=N,20μm,0.5s						
AKAS				IAML		03 54 35.0	
	comp=E,18μm,0.4s						
ZKR	**Zakros**	**1.88**	**282**	P	**Pn**	**03 54 11.0**	**+0.5**
ZKR				S	**Sn**	**03 54 34.4**	**+1.1**
	comp=E,21μm,0.6s						
ZKR	**Zakros**	**1.88**	**282**	P	**Pn**	**03 54 10.7**	**+0.2**
ZKR				S	**Sn**	**03 54 33.3**	**0.0**
ZKR				AML	AML	03 54 37.3	
	comp=E,55681μm,0.6s						
ZKR				AML	AML	03 54 37.5	
	comp=N,26950μm,0.5s						
ZKR	**Zakros**	**1.88**	**282**	PN	**Pn**	**03 54 10.9**	**+0.5**
ZKR	**Zakros**	**1.88**	**282**	P	**Pn**	**03 54 11.0**	**+0.5**
ZKR				S	**Sn**	**03 54 33.9**	**+0.6**
DEMR	**Demre-Antalya**	**1.91**	**38**	PN	**Pn**	**03 54 11.4**	**+0.4**
FETY	**Fethiye**	**1.96**	**15**	P	**Pn**	**03 54 12.5**	**+0.8**
FETY				S	**Sn**	**03 54 36.0**	**+0.5**
FETY	**Fethiye**	**1.96**	**15**	PN	**Pn**	**03 54 12.5**	**+0.8**
FETY	**Fethiye**	**1.96**	**15**⇑	*iP*	**Pn**	**03 54 12.5**	**+0.8**
FETY				IAML		03 54 36.0	
	comp=N,13μm,0.5s						
FETY				*i* S	**Sn**	**03 54 36.0**	**+0.5**
FETY				IAML		03 54 37.0	
	comp=E,8μm,0.6s						
MRSB	**Marmaris-Mugla**	**1.99**	**354**	PN	**Pn**	**03 54 13.5**	**+1.5**
STIA	**Sitia Lasithi**	**2.00**	**284**	P	**Pn**	**03 54 12.9**	**+0.8**
STIA				S	**Sn**	**03 54 37.0**	**+0.8**
DALY	**Dalyan (Mula)**	**2.08**	**4**	PN	**Pn**	**03 54 14.5**	**+1.2**
DALY	**Dalyan (Mula)**	**2.08**	**4**⇓	*iP*	**Pn**	**03 54 14.4**	**+1.2**
DALY				*i* S	**Sn**	**03 54 38.8**	**+0.5**
DALY				IAML		03 54 41.0	
	comp=N,10μm,0.4s						
DALY				IAML		03 54 42.0	
	comp=E,7μm,0.4s						
DAT	**Datca**	**2.11**	**341**	P	**Pn**	**03 54 14.8**	**+1.0**
DAT				S	**Sn**	**03 54 39.3**	**+0.1**
DAT	**Datca**	**2.11**	**341**	PN	**Pn**	**03 54 14.4**	**+0.6**
DAT	**Datca**	**2.11**	**341**⇓	*iP*	**Pn**	**03 54 14.8**	**+1.0**
DAT				*i* S	**Sn**	**03 54 39.0**	**-0.2**
DAT				IAML		03 54 40.0	
	comp=N,10μm,0.4s						
DAT				IAML		03 54 40.0	
	comp=E,11μm,0.8s						
DATC	**Datca-Mugla**	**2.12**	**343**	PN	**Pn**	**03 54 14.7**	**+0.9**
TURN	**Turunc**	**2.14**	**3**	PN	**Pn**	**03 54 14.0**	**0.0**
TURN	**Turunc**	**2.14**	**3**⇓	*iP*	**Pn**	**03 54 14.1**	**0.0**
TURN				*i* S	**Sn**	**03 54 38.9**	**-0.6**
TURN				IAML		03 54 42.0	
	comp=E,19μm,0.3s						
TURN				IAML		03 54 43.0	
	comp=N,17μm,0.7s						
NISR	**Nisiros**	**2.16**	**330**	P	**Pn**	**03 54 14.9**	**+0.6**
NISR	**Nisiros**	**2.16**	**330**	P	**Pn**	**03 54 14.5**	**+0.1**
NISR				S	**Sn**	**03 54 38.5**	**-1.7**
AKUM	**Antalya-Kumluc**	**2.21**	**44**⇑	*iP*	**Pn**	**03 54 15.7**	**+0.7**
AKUM				*i* S	**Sn**	**03 54 42.1**	**+0.8**
AKUM				IAML		03 54 43.0	
	comp=E,4μm,0.5s						
AKUM				IAML		03 54 48.0	
	comp=N,2μm,0.5s						
ELL	**Elmali**	**2.33**	**30**	PN	**Pn**	**03 54 18.4**	**+1.6**
ELL	**Elmali**	**2.33**	**30**	P	**Pn**	**03 54 17.8**	**+1.0**
ELL	**Elmali**	**2.33**	**30**	Pn	**Pn**	**03 54 18.1**	**+1.3**
ELL					**Sn**	**03 54 47.2**	**+2.7**
KOSK	**Kos Island**	**2.34**	**330**	P	**Pn**	**03 54 17.5**	**+0.7**
KOSK				S	**Sn**	**03 54 45.4**	**+0.9**
	comp=N,14μm,0.5s						
KOSK	**Kos Island**	**2.34**	**330**	PN	**Pn**	**03 54 17.3**	**+0.5**
NPS	**Neapolis**	**2.39**	**284**	P	**Pn**	**03 54 18.4**	**+0.9**
NPS				S	**Sn**	**03 54 46.2**	**+0.4**
	comp=N,19μm,0.5s						
NPS	**Neapolis**	**2.39**	**284**	P	**Pn**	**03 54 18.0**	**+0.5**
NPS				S	**Sn**	**03 54 45.3**	**-0.4**
NPS				AML	AML	03 54 50.5	
	comp=E,40773μm,0.4s						
NPS				AML	AML	03 54 51.4	
	comp=N,23432μm,0.5s						
NPS	**Neapolis**	**2.39**	**284**	P	**Pn**	**03 54 18.0**	**+0.5**
NPS				S	**Sn**	**03 54 46.5**	**+0.7**
YER	**Yerkesik**	**2.40**	**357**	P	**Pn**	**03 54 19.0**	**+1.3**
YER				S	**Sn**	**03 54 47.1**	**+1.1**
YER	**Yerkesik**	**2.40**	**357**	PN	**Pn**	**03 54 18.9**	**+1.3**
YER	**Yerkesik**	**2.40**	**357**	P	**Pn**	**03 54 18.5**	**+0.9**
BDRM	**Kayabasi**	**2.46**	**341**⇓	*iP*	**Pn**	**03 54 19.1**	**+0.6**
BDRM				*i* P	**Pn**	**03 54 19.1**	**+0.6**
BDRM				*i* S	**Sn**	**03 54 46.5**	**-1.1**
BDRM				IAML		03 54 47.0	
	comp=E,19μm,0.3s						
BDRM				IAML		03 54 47.0	
	comp=E,20μm,0.3s						
BDRM				IAML		03 54 48.0	
	comp=N,18μm,0.4s						
LAST	**Lasithi**	**2.48**	**281**	P	**Pn**	**03 54 19.5**	**+0.8**
LAST				S	**Sn**	**03 54 49.1**	**+1.1**
	comp=N,14μm,0.5s						
LAST	**Lasithi**	**2.48**	**281**	P	**Pn**	**03 54 19.2**	**+0.4**
LAST				S	**Sn**	**03 54 48.2**	**+0.1**
LAST				AML	AML	03 54 50.6	
	comp=E,33753μm,0.4s						
LAST				AML	AML	03 54 56.6	
	comp=N,23496μm,0.7s						
BODT	**Bodrum**	**2.50**	**339**	P	**Pn**	**03 54 19.5**	**+0.6**
BODT	**Bodrum**	**2.50**	**339**	PN	**Pn**	**03 54 19.6**	**+0.6**
KEMT	**Kemer-ANTALYA**	**2.53**	**42**	PN	**Pn**	**03 54 20.5**	**+1.2**
YKAV	**Yalikavak-Bodr**	**2.57**	**339**	PN	**Pn**	**03 54 19.9**	**+0.1**
OSC1	**CSNet OBS 1**	**2.65**	**117**	P	**Pn**	**03 54 19.1**	**-1.8**
OSC1				S	**Sn**	**03 54 50.0**	**-1.9**
GOLH	**Golhisar**	**2.65**	**19**⇑	*iP*	**Pn**	**03 54 23.4**	**+2.2**
GOLH				*i* S	**Sn**	**03 54 54.9**	**+2.6**
GOLH				IAML		03 54 57.0	
	comp=N,8μm,0.4s						
GOLH				IAML		03 54 58.0	
	comp=E,1μm,0.5s						
ANAF	**Anafi Island**	**2.72**	**307**	P	**Pn**	**03 54 21.8**	**-0.1**
ANAF				S	**Sn**	**03 54 52.2**	**-1.5**
ANAF				AML	AML	03 54 52.8	
	comp=N,74124μm,0.4s				

IOSP S Sn 03 55 04.6 -2.0
IOSP AML AML 03 55 06.7
comp=E,13824µm,0.6s
IOSP AML AML 03 55 09.7
comp=N,27268µm,0.4s
PRNS Prines Rethymn 3.30 282 P Pn 03 54 31.5 +1.7
PRNS S Sn 03 55 09.5 +1.6
APE Apeiranthos 3.32 315 P Pn 03 54 30.1 -0.1
APE S Sn 03 55 07.2 -1.3
APE Apeiranthos 3.32 315 ⇑P Pn 03 54 30.3 +0.2
APE ⇑S Sn 03 55 07.0 -1.6
APE Apeiranthos 3.32 315 PN Pn 03 54 29.9 -0.3
APE Apeiranthos 3.32 315 *d* *i*P Pn 03 54 29.7 -0.5
KEPZ Antalya-Kepez 3.35 49 ⇑*i*P Pn 03 54 31.6 +1.0
KEPZ *i*S Sn 03 55 09.1 -0.1
KEPZ IAML 03 55 12.0
comp=E,2µm,0.5s
KEPZ IAML 03 55 12.0
comp=N,2µm,0.5s
NATA Nata 3.39 88 P Pn 03 54 30.1 -0.9
NATA S Sn 03 55 07.7 -2.4
NATA AML AML 03 55 09.4
comp=N,123nm,0.5s
NATA AML AML 03 55 09.4
comp=N,123nm,0.5s
NATA AML AML 03 55 10.2
comp=N,92nm,0.6s
NATA AML AML 03 55 10.2
comp=N,92nm,0.6s
BASM Basmaki-Afyon 3.43 22 PN Pn 03 54 32.9 +1.3
ALFC Alefka 3.43 82 P Pn 03 54 30.5 -1.2
ALFC AML AML 03 55 07.8
comp=N,46nm,0.5s
ALFC AML AML 03 55 11.4
comp=N,43nm,0.6s
ALAN Alanya-ANTALYA 3.44 57 PN Pn 03 54 31.8 +0.1
GAZI Gazipasa 3.49 64 ⇓*i*P Pn 03 54 31.7 -0.7
GAZI *i*S Sn 03 55 08.9 -3.6
GAZI IAML 03 55 10.0
comp=E,6µm,0.6s
GAZI IAML 03 55 12.0
comp=N,5µm,0.6s
ISP Isparta 3.50 28 PN Pn 03 54 34.5 +1.8
ISP Isparta 3.50 28 P Pn 03 54 34.5 +1.8
MATC Matruh 3.53 197 P Pn 03 54 32.9 -0.1
baz=199
MATC S Sn 03 55 09.1 -4.4
baz=199
DGB zmir 3.54 340 ⇓*i*P Pn 03 54 33.6 +0.5
DGB *i*S Sn 03 55 11.6 -2.2
DGB IAML 03 55 12.0
comp=N,1µm,0.5s
DGB IAML 03 55 12.0
comp=E,2µm,0.6s
VAM Vamos 3.55 282 P Pn 03 54 33.4 +0.2
VAM Vamos 3.55 282 P Pn 03 54 32.7 -0.5
VAM Vamos 3.55 282 P Pn 03 54 32.7 -0.5
OSC2 CSNet OBS 4 3.58 116 P Pn 03 54 31.5 -2.1
OSC2 S Sn 03 55 12.7 -1.9
GVD Gavdhos 3.59 273 P Pn 03 54 33.8 -0.1
GVD S Sn 03 55 14.9 -0.2
comp=E,18µm,0.5s
GVD Gavdhos 3.59 273 P Pn 03 54 33.6 -0.3
GVD AML AML 03 55 17.4
comp=N,40851µm,0.4s
GVD AML AML 03 55 18.7
comp=E,32851µm,0.5s
GVD Gavdhos 3.59 273 PN Pn 03 54 33.7 -0.1
SZAC Souni 3.65 88 P Pn 03 54 33.5 -1.1
SZAC AML AML 03 55 14.6
comp=E,35nm,0.5s
SZAC AML AML 03 55 16.1
comp=E,31nm,0.5s
LEF Lefka 3.67 83 *i*P Pn 03 54 33.0 -1.8
LEF IAML 03 55 20.0
comp=N,4µm,0.6s
LEF IAML 03 55 22.0
comp=E,5µm,0.5s
CHAN Chania 3.70 283 P Pn 03 54 35.3 +0.1
CHAN S Sn 03 55 17.6 0.0
comp=E,5µm,0.5s
KHAL Karahalli 3.72 13 ⇓*i*P Pn 03 54 36.5 +0.8
KHAL *i*S Sn 03 55 17.5 -0.9
KHAL IAML 03 55 19.0
comp=E,3µm,0.4s
KHAL IAML 03 55 19.0
comp=N,5µm,0.4s
IMMV Iera Moni Meta 3.74 282 P Pn 03 54 35.8 0.0
IMMV Iera Moni Meta 3.74 282 P Pn 03 54 35.3 -0.5
IMMV AML AML 03 55 20.3
comp=N,31577µm,0.5s
IMMV AML AML 03 55 20.9
comp=E,34055µm,0.5s
IMMV Iera Moni Meta 3.74 282 PN Pn 03 54 35.9 +0.1
AKDN Akdeniz- Kıbrı 3.75 80 PN Pn 03 54 36.1 +0.2
MANT Manisa 3.75 1 ⇓*i*P Pn 03 54 36.7 +0.5
MANT *i*S Sn 03 55 16.9 -2.3
MANT IAML 03 55 19.0
comp=N,5µm,0.6s
MANT IAML 03 55 20.0
comp=E,3µm,0.5s
MANT Manisa 3.75 1 Sn 03 55 16.7 -2.5
BAGO Egridir - ISPA 3.76 29 ⇑*i*P Pn 03 54 37.3 +1.2
BAGO *i*S Sn 03 55 19.9 +0.8
KULA Kula-Manisa 3.78 2 PN Pn 03 54 37.1 +0.7
BLCB Balcova 3.82 343 PN Pn 03 54 37.4 +0.6
SEYD Seydisehir-KON 3.82 45 PN Pn 03 54 38.5 +1.4
MHLO Agia Marina, M 3.83 302 P Pn 03 54 36.7 -0.4
MHLA Plaka, Milos I 3.84 303 P Pn 03 54 36.7 -0.6
TNSA Tinos 3.86 317 P Pn 03 54 37.5 0.0
URLA Izmir 3.92 338 PN Pn 03 54 38.4 +0.2
URLA Izmir 3.92 338 ⇓*i*P Pn 03 54 38.7 +0.5
URLA *i*S Sn 03 55 20.3 -2.7
URLA IAML 03 55 25.0
comp=E,890nm,0.4s
URLA IAML 03 55 30.0
comp=N,844nm,0.6s
RODP Rodopos 3.94 283 PN Pn 03 54 38.4 -0.1
BOZY Bozyazi-Mersin 3.94 68 PN Pn 03 54 38.1 -0.4
KNDR Palaiochora Ch 3.95 279 PN Pn 03 54 38.8 +0.2
GOMA Golmarmara-Man 3.99 354 PN Pn 03 54 39.6 +0.4
USAK Uak-Merkez 4.00 6 ⇓*i*P Pn 03 54 40.3 +0.9
USAK *i*S Sn 03 55 23.1 -1.9
USAK IAML 03 55 25.0
comp=E,1µm,0.4s
USAK IAML 03 55 25.0
comp=N,1µm,0.7s
CSS Mathiatis 4.02 85 PN Pn 03 54 38.3 -1.4
CSS Mathiatis 4.02 85 Pn Pn 03 54 38.2 -1.4
CSS Mathiatis 4.02 85 Pn Pn 03 54 38.6 -1.1
TEKE Tekeli-Mersin 4.06 68 PN Pn 03 54 40.3 +0.2
ERMK Ermenek 4.10 61 *i*P Pn 03 54 42.1 +1.2
ERMK IAML 03 55 29.0
comp=N,5µm,0.5s
ERMK IAML 03 55 34.0
comp=E,4µm,0.4s
AKHS Akhisar 4.17 353 ⇓*i*P Pn 03 54 41.9 +0.3
AKHS *i*S Sn 03 55 27.3 -1.8
AKHS IAML 03 55 30.0
comp=E,964nm,0.4s
SHUT Suhut-Afyon 4.17 23 PN Pn 03 54 42.8 +1.1
AKS Akhisar 4.17 353 PN Pn 03 54 42.0 +0.3
LFK Lefkose 4.20 81 PN Pn 03 54 41.8 -0.4
BERE Bereket-Mersin 4.21 66 PN Pn 03 54 42.7 +0.4
DOGA KONYA_Doganhis 4.25 37 *i*P Pn 03 54 45.6 +2.7
DOGA *i*S Sn 03 55 33.6 +2.3
DOGA IAML 03 55 37.0
comp=N,4µm,0.7s
DOGA IAML 03 55 38.0
comp=E,2µm,0.6s
YORU Yoruktepe-Mers 4.28 69 PN Pn 03 54 43.1 -0.1
DEMI Demirci 4.30 3 ⇓*i*P Pn 03 54 44.4 +0.8
DEMI *i*S Sn 03 55 31.0 -1.5
DEMI IAML 03 55 32.0
comp=E,3µm,0.4s
DEMI IAML 03 55 39.0
comp=N,2µm,0.6s
AFYO Afyonkarahisar 4.31 20 *i*P Pn 03 54 45.4 +1.7
AFYO *i*S Sn 03 55 32.5 -0.2
AFYO IAML 03 55 37.0
comp=N,4µm,0.6s
AFYO IAML 03 56 03.0
comp=E,3µm,0.8s
HBRG Burj al `Arab 4.31 164 P Pn 03 54 43.2 -0.5
baz=163
HBRG S Sn 03 55 25.9 -6.8
baz=163
SHAP Saphane-Kutahy 4.32 8 PN Pn 03 54 44.9 +1.0
OREN Orenkoy-Mersin 4.34 69 PN Pn 03 54 44.3 +0.3
SIMA Simav-Kutahya 4.36 5 PN Pn 03 54 45.5 +1.1
ZEDA zmir-Bergama 4.37 346 ⇓*i*P Pn 03 54 44.9 +0.6
ZEDA *i*S Sn 03 55 30.6 -3.3
ZEDA IAML 03 55 35.0
comp=N,618nm,0.5s
ZEDA IAML 03 55 37.0
comp=E,818nm,0.5s
GEDZ Gediz 4.37 10 PN Pn 03 54 45.6 +1.1
KMER Konya-Meram 4.38 45 *i*P Pn 03 54 46.5 +1.9
KMER *i*S Sn 03 55 34.7 +0.3
KMER IAML 03 55 37.0
comp=N,2µm,0.7s
KMER IAML 03 55 48.0
comp=E,1µm,0.6s
SMAA Simav-Kutahya 4.38 5 PN Pn 03 54 45.7 +1.1
AKK1 Akkuyu-Mersin 4.38 70 PN Pn 03 54 44.9 +0.3
AKK2 Akkuyu-Mersin 4.39 70 PN Pn 03 54 44.9 +0.3
AKKU Akkuyu-Mersin 4.40 70 PN Pn 03 54 44.9 +0.1
GULN MERSIN_Gulnar 4.40 69 *i*P Pn 03 54 44.7 -0.1
GULN IAML 03 55 35.0
comp=E,2µm,0.7s
GULN IAML 03 55 39.0
comp=N,2µm,0.6s
TEVE Tevekalti-Mers 4.41 66 PN Pn 03 54 45.4 +0.4
TEPK Tepekoy-MERSIN 4.41 69 PN Pn 03 54 45.4 +0.4
GDZ Gediz 4.42 10 ⇓*i*P Pn 03 54 46.0 +0.8
GDZ *i*S Sn 03 55 32.9 -2.6
GDZ IAML 03 55 36.0
comp=E,504nm,0.5s
GDZ IAML 03 55 37.0
comp=N,451nm,1.0s
BOLV Bolvadin 4.45 26 ⇑*i*P Pn 03 54 47.3 +1.6
BOLV *i*S Sn 03 55 36.0 -0.2
BOLV IAML 03 55 37.0
comp=E,2µm,1.0s
BOLV IAML 03 55 38.0
comp=N,2µm,0.9s
YESI Yesilovacik-Me 4.48 70 PN Pn 03 54 46.2 +0.3
KONT Konya--Tatoy 4.50 43 PN Pn 03 54 47.3 +1.1
KONT Konya--Tatoy 4.50 43 *i*P Pn 03 54 47.9 +1.8
KONT *i*S Sn 03 55 36.8 -0.4
KONT IAML 03 55 41.0
comp=E,728nm,1.0s
KONT IAML 03 55 43.0
comp=N,614nm,0.8s
TISA Tisan-Mersin 4.50 70 PN Pn 03 54 46.3 +0.2
DKL Dikili 4.50 344 PN Pn 03 54 46.6 +0.4
IKL Isikli 4.53 69 PN Pn 03 54 46.5 0.0
KARG Kargicak-Mersi 4.53 70 PN Pn 03 54 46.9 +0.3
KRMN Karaman 4.60 57 PN Pn 03 54 48.3 +0.7
KEBE Keben-Mersin 4.61 67 PN Pn 03 54 48.6 +0.8
KTHA Kythira Island 4.65 291 PN Pn 03 54 47.6 -0.7
STEP BALIKESIR_Sava 4.67 353 ⇓*i*P Pn 03 54 49.0 +0.4
STEP *i*S Sn 03 55 39.1 -2.3
STEP IAML 03 55 43.0
comp=N,2µm,0.8s
STEP IAML 03 55 44.0
comp=E,1µm,1.0s
LADK Ladik-KONYA 4.68 41 PN Pn 03 54 49.8 +1.1
SILI Silifke-Mersin 4.75 68 PN Pn 03 54 49.9 +0.3
EREN Erenkoy 4.75 79 PN Pn 03 54 49.6 0.0
EREN Erenkoy 4.75 79 *i*P Pn 03 54 49.7 +0.1
EREN IAML 03 55 44.0
comp=E,3µm,0.5s
EREN IAML 03 55 49.0
comp=N,3µm,0.5s
SLFK Silifke-Mersin 4.77 68 PN Pn 03 54 49.7 -0.2
TVSB Tavsanli 4.77 9 PN Pn 03 54 50.8 +0.8
AYVA Ayvalik 4.78 343 ⇓*i*P Pn 03 54 50.5 +0.5
AYVA *i*S Sn 03 55 41.6 -2.4
AYVA IAML 03 55 45.0
comp=E,737nm,1.1s
AYVA IAML 03 55 49.0
comp=N,735nm,0.6s
KDHN Kadinhani 4.79 37 *i*P Pn 03 54 51.6 +1.4
KDHN *i*S Sn 03 55 45.1 +0.6
KDHN IAML 03 55 47.0
comp=N,504nm,0.3s
KDHN IAML 03 55 48.0
comp=E,1µm,0.5s
AUKIR Kırka- Seyitga 4.83 20 *i*P Pn 03 54 52.7 +1.9
AUKIR *i*S Sn 03 55 44.3 -1.1
AUKIR IAML 03 55 48.0
comp=N,969nm,0.5s
AUKIR IAML 03 55 53.0
comp=E,1µm,1.0s
PRK Paraskevi 4.83 339 P Pn 03 54 52.3 +1.7
DURS Dursunbey 4.86 0 ⇓*i*P Pn 03 54 51.8 +0.7
DURS *i*S Sn 03 55 42.7 -3.3
DURS IAML 03 55 46.0
comp=N,846nm,0.4s
DURS IAML 03 55 46.0
comp=E,936nm,0.6s
DST Dursunbey 4.86 2 PN Pn 03 54 51.9 +0.7
DST Dursunbey 4.86 2 P Pn 03 54 51.5 +0.3
BALB Balikesir 4.92 355 PN Pn 03 54 52.5 +0.6
SIGR SIGRI 4.93 336 PN Pn 03 54 52.6 +0.6
DION Dionisos Attik 4.94 314 P Pn 03 54 52.8 +0.6
KIZK Mersin 4.95 68 PN Pn 03 54 52.6 +0.3
KIZK Mersin 4.95 68 *i*P Pn 03 54 53.0 +0.7
KIZK IAML 03 55 49.0
comp=E,1µm,0.6s
KIZK IAML 03 55 51.0
comp=N,960nm,0.4s
ATH Athens Observa 5.00 312 P Pn 03 54 54.1 +1.0
ATH Athens Observa 5.00 312 P Pn 03 54 53.2 +0.2
BALY Balya 5.04 353 ⇓*i*P Pn 03 54 54.2 +0.6
BALY *i*S Sn 03 55 48.5 -2.0
BALY IAML 03 55 49.0
comp=E,951nm,0.7s
BALY IAML 03 55 51.0
comp=N,1µm,0.6s
KRND KRANIDI 5.04 303 P Pn 03 54 52.8 -0.8
DID Didima 5.05 305 P Pn 03 54 53.8 +0.1
CIFT Cifteler, Eski 5.07 24 *i*P Pn 03 54 55.0 +1.0
CIFT *i*S Sn 03 55 48.6 -2.6
CIFT IAML 03 55 51.0
comp=E,2µm,0.5s
CIFT IAML 03 55 55.0
comp=N,2µm,0.5s
BAYC CANAKKALE_Bayr 5.22 344 ⇓*i*P Pn 03 54 56.7 +0.7
BAYC *i*S Sn 03 55 51.7 -3.2
BAYC IAML 03 55 54.0
comp=N,778nm,0.4s
BAYC IAML 03 55 55.0
comp=E,1µm,0.8s
CHBY Cihanbeyli 5.24 42 PN Pn 03 54 57.3 +0.9
AUSIV SIVRIHISAR 5.30 27 *i*P Pn 03 54 58.6 +1.4
HMYD Mayadein 5.31 157 P Pn 03 54 56.6 -0.7
baz=156
KERG Konya-Eregli 5.32 58 *i*P Pn 03 54 58.2 +0.8
KERG IAML 03 55 55.0
comp=E,978nm,1.0s
KERG IAML 03 56 09.0
comp=N,1µm,0.5s
AUBOZ BOZOYUK 5.32 13 *i*P Pn 03 54 58.7 +1.3
AUBOZ *i*S Sn 03 55 54.7 -2.7
AUBOZ IAML 03 55 57.0
comp=E,620nm,0.5s
AUBOZ IAML 03 55 59.0
comp=N,546nm,0.7s
SULT Sultanhani-AKS 5.35 48 PN Pn 03 54 58.5 +0.7
EZN Ezine 5.36 342 PN Pn 03 54 57.3 -0.6
EZN Ezine 5.36 342 P Pn 03 54 58.1 +0.2
MERS Mersin 5.37 65 PN Pn 03 54 58.9 +0.7
BORA Eskisehir 5.38 17 *i*P Pn 03 54 59.5 +1.3
BORA *i*S Sn 03 55 56.1 -2.7
BORA IAML 03 55 58.0
comp=E,297nm,0.5s
HNAT Natroun 5.41 160 P Pn 03 54 57.8 -0.9
baz=158
ULDT Uludag 5.42 6 *i*P Pn 03 54 59.8 +0.8
ULDT *i*S Sn 03 55 57.3 -2.8
ULDT IAML 03 55 59.0
comp=E,384nm,0.5s
ULDT IAML 03 56 00.0
comp=N,462nm,0.6s
BOZC Bozcaada 5.45 340 PN Pn 03 54 59.4 +0.3
BOZC Bozcaada 5.45 340 *i*P Pn 03 54 59.7 +0.6
BOZC *i*S Sn 03 55 57.6 -2.7
BOZC IAML 03 56 00.0
comp=E,437nm,0.4s
BOZC IAML 03 56 01.0
comp=N,325nm,1.0s
IGD Bursa 5.55 6 *i*P Pn 03 55 01.6 +1.1
SRCK Saricakaya, Es 5.57 17 *i*P Pn 03 55 02.0 +1.2
SRCK IAML 03 56 04.0
comp=N,1µm,0.5s
SRCK IAML 03 56 04.0
comp=E,1µm,0.6s
KNL Balıkesir 5.58 353 *i*P Pn 03 55 00.9 +0.1
KNL *i*S Sn 03 56 01.3 -2.2
KNL IAML 03 56 05.0
comp=E,670nm,0.4s
KNL IAML 03 56 05.0
comp=N,548nm,0.7s
EDC Edincik 5.62 355 P Pn 03 55 01.3 -0.2
HHAG Hagoal 5.68 146 P Pn 03 55 00.8 -1.6
baz=144
GULE Gulek 5.72 62 *i*P Pn 03 55 04.7 +1.7
GULE IAML 03 56 15.0
comp=N,1µm,0.5s
HSAF As Saff 5.74 152 P Pn 03 55 01.3 -1.9
baz=150
AKSY AKSARAY - Alti 5.78 46 *i*P Pn 03 55 05.0 +1.2
GOKA anakkale-Gk 5.81 340 *i*P Pn 03 55 05.2 +1.2
GOKA IAML 03 56 11.0
comp=E,1µm,0.6s
GOKA IAML 03 56 16.0
comp=N,2µm,0.5s
HNTI Hanita 5.83 105 Pn Pn 03 55 01.5 -2.8
HNTI Sn Sn 03 56 04.6 -5.2
GLL Jalalah 5.84 151 P Pn 03 55 02.2 -2.3
baz=149
OFRI `Ofer 5.84 109 Pn Pn 03 55 01.6 -2.9
OFRI Sn Sn 03 56 04.6 -5.5
BEYL Beirut 5.89 96 *e*P Pn 03 55 02.9 -2.3
GEYV SAKARYA_Geyve 5.92 14 *i*P Pn 03 55 07.3 +1.7
GEYV IAML 03 56 22.0
comp=E,232nm,0.9s
GEYV IAML 03 56 46.0
comp=N,259nm,1.1s
KRTS Karatas 5.93 70 PN Pn 03 55 05.8 +0.2
BLGI Bet Lehem HaGe 5.96 108 Pn Pn 03 55 03.6 -2.5
BLGI Sn Sn 03 56 06.7 -6.3
DQRL Deir Qamar 5.99 98 *e*P Pn 03 55 04.3 -2.3
BHL Bhannes 6.02 96 *e*P Pn 03 55 04.1 -2.9
BHL *e*S Sn 03 56 07.3 -7.2
SART Tekirdag 6.03 351 *i*P Pn 03 55 07.6 +0.5
SART IAML 03 56 16.0
comp=E,309nm,0.4s
MMA0B Mount Meron ar 6.03 105 Pn Pn 03 55 04.7 -2.5
MMAI Mount Meron Ar 6.03 105 P Pn 03 55 05.0 -2.2
comp=E,208nm,0.3s,baz=288,slow=12,SNR=203
MMAI S Sn 03 56 10.7 -4.2
comp=E,213nm,0.3s,baz=312,slow=28,SNR=11
SWA2 6.04 206 P Pn 03 55 06.3 -0.9
baz=207
SWA2 AMP 03 56 00.0
baz=207
CMRD Camardi-Nigde 6.04 59 PN Pn 03 55 07.5 +0.2
SLTI Sal'it 6.04 112 Pn Pn 03 55 04.6 -2.6
QRWL Qaraoun 6.11 99 *e*P Pn 03 55 06.0 -2.3
MDUB Mudurnu 6.13 20 Pn Pn 03 55 10.3 +1.8
SUZ Suez 6.13 142 P Pn 03 55 07.6 -0.9
baz=140
BUY Buyukada 6.13 5 *i*P Pn 03 55 09.1 +0.7
BUY IAML 03 56 17.0
comp=N,546nm,0.5s
BUY IAML 03 56 17.0
comp=E,445nm,0.8s
BR231 Keskin MP Arra 6.15 33 Pn 03 55 10.4 +1.6
GEM Giv'at Ha'Em 6.18 102 Pn Pn 03 55 07.0 -2.2
GEM Sn Sn 03 56 12.4 -6.0
ANTO Ankara 6.18 33 ⇑P Pn 03 55 10.8 +1.6
ANTO Ankara 6.18 33 P Pn 03 55 10.3 +1.0
ANTO Ankara 6.18 33 P Pn 03 55 11.1 +1.9
ANTO Ankara 6.18 33 Pn Pn 03 55 11.1 +1.9
KSDI Kefar Szold 6.18 102 Pn Pn 03 55 07.0 -2.2
KSDI Sn Sn 03 56 13.3 -5.1
KIRS Kırehir-Merke 6.20 43 *i*P Pn 03 55 10.9 +1.4
KIRS IAML 03 56 23.0
comp=N,177nm,0.5s
YURE YUREGIR 6.20 68 PN Pn 03 55 09.1 -0.3
YURE YUREGIR 6.20 68 *i*P Pn 03 55 09.0 -0.3
HWQ Hawqa 6.20 92 *e*P Pn 03 55 07.2 -2.4
HWQ *e*S Sn 03 56 12.2 -6.9
SHBL Chebaa 6.21 101 *e*P Pn 03 55 07.3 -2.3
NATI Neve Ativ 6.22 102 Pn Pn 03 55 07.5 -2.2
NATI Sn Sn 03 56 14.8 -4.7
KESN Edirne-Kesan 6.24 348 *i*P Pn 03 55 11.0 +0.7
KESN IAML 03 56 23.0
comp=N,261nm,0.3s
KESN IAML 03 56 24.0
comp=E,351nm,0.4s
RCY Rachaya 6.25 99 *e*P Pn 03 55 08.0 -2.2
MMLI Mount Malkishu 6.25 110 PN Pn 03 55 07.9 -2.3
MMLI Mount Malkishu 6.25 110 Pn Pn 03 55 07.4 -2.8
MMLI Sn Sn 03 56 14.1 -6.1
AKO Adana 6.28 62 *i*P Pn 03 55 11.6 +1.0
AKO IAML 03 56 21.0
comp=N,546nm,0.9s
AKO IAML 03 56 24.0
comp=E,487nm,1.0s
KIBS BOLU 6.28 24 *i*P Pn 03 55 12.1 +1.4
KIBS IAML 03 56 23.0
comp=E,231nm,0.6s
KIBS IAML 03 56 23.0
comp=N,212nm,0.7s
AMAZ Amatzia 6.29 119 Pn Pn 03 55 08.6 -2.1
AMAZ Sn Sn 03 56 16.2 -5.0
KZIT Kziot 6.29 126 PN Pn 03 55 08.5 -2.2
ISK Istanbul-Kandi 6.34 4 P Pn 03 55 11.5 +0.2
CEYT Ceyhan 6.34 67 PN Pn 03 55 10.2 -1.1
SAHE Sakarya_HENDEK 6.39 17 *i*P Pn 03 55 13.6 +1.5
SAHE IAML 03 56 25.0
comp=E,140nm,0.5s
SAHE IAML 03 56 39.0
comp=N,168nm,0.9s
ELBA Catalca 6.40 360 *i*P Pn 03 55 12.2 +0.1
HMDT Nahal Hemdat 6.41 111 Pn Pn 03 55 10.0 -2.2
HMDT Sn Sn 03 56 18.9 -5.0
QRNJ Al-Qirein 6.41 110 Pn Pn 03 55 10.2 -2.1
PAIG Paliouri 6.43 325 P Pn 03 55 13.7 +1.2
PAIG pmax pmax
comp=Z,187nm,0.8s
ALN Alexandroupoli 6.44 344 P Pn 03 55 13.4 +0.7
ALN Alexandroupoli 6.44 344 Pn Pn 03 55 13.3 +0.7
BR131 Keskin Array S 6.47 38 P Pn 03 55 14.6 +1.3
SNR=59
BR131 Keskin Array S 6.47 38 *c* *i*P Pn 03 55 14.2 +1.0
BRTR Keskin Array B 6.47 38 P Pn 03 55 14.4 +1.1
comp=Z,16nm,0.3s,baz=215,slow=16,SNR=277
BRTR S Sn 03 56 25.8 +0.1
comp=Z,34nm,0.3s,baz=210,slow=27,SNR=22
BRTR Keskin Array B 6.47 38 *i*P Pn 03 55 14.3 +1.0
BRTR pmax pmax
comp=Z,36nm,0.3s
KAND Kocaeli-Kandir 6.50 12 *i*P Pn 03 55 15.0 +1.6
KAND IAML 03 56 26.0
comp=N,216nm,0.7s
YAHY KAYSERI_Yahyal 6.50 57 *i*P Pn 03 55 14.4 +0.8
YAHY IAML 03 56 57.0
comp=E,160nm,0.9s
YAHY IAML 03 57 03.0
comp=N,199nm,0.8s
TAHT Tahtakopru-Hat 6.51 73 PN Pn 03 55 13.4 -0.3
YTIR Yattir 6.53 119 Pn Pn 03 55 11.6 -2.4
ZNM Zenema 6.53 144 P Pn 03 55 12.9 -1.0
baz=142
ZNM AMP 03 56 00.0
baz=142
AVNS Nevsehir-Avano 6.54 50 *i*P Pn 03 55 16.8 +2.6
AVNS IAML 03 56 52.0
comp=E,275nm,0.6s
AVNS IAML 03 56 53.0
comp=N,194nm,1.0s
NBNS Bani Suef 6.56 158 P Pn 03 55 12.7 -1.6
baz=156
NBNS AMP 03 56 00.0
baz=156
KOZT Kozan 6.57 63 PN Pn 03 55 13.8 -0.6
CMDR Camlidere-ANKA 6.58 28 *i*P Pn 03 55 16.4 +1.7

CMDR IAML 03 56 37.0
comp=N,193nm,0.7s
DSI Dead Sea 6.61 117 Pn **Pn** **03 55 13.0 -2.1**
DSI Sn **Sn** **03 56 23.8 -5.2**
YIGI Dzce 6.65 20 *i* P **Pn** **03 55 17.7 +2.1**
BCAM Yenicaga 6.71 24 *i* P **Pn** **03 55 18.0 +1.5**
BCAM IAML 03 56 34.0
comp=N,193nm,0.7s
BCAM IAML 03 56 34.0
comp=E,197nm,0.6s
CDAG Cicekdag 6.79 42 *i* P **Pn** **03 55 19.0 +1.5**
CDAG IAML 03 56 35.0
comp=N,227nm,0.6s
CDAG IAML 03 56 38.0
comp=E,213nm,0.6s
DELI KIRIKKALE 6.82 38 *i* P **Pn** **03 55 18.6 +0.6**
DELI IAML 03 56 37.0
comp=N,108nm,0.4s
DELI IAML 03 56 38.0
comp=E,220nm,0.5s
GHAJ Ghor Haditha 6.88 118 Pn **Pn** **03 55 17.2 -1.6**
KRMI Paran Flat 7.02 129 Pn **Pn** **03 55 18.0 -2.7**
ZFRI Zfri 7.04 124 Pn **Pn** **03 55 17.8 -3.1**
KARJ KARJ 7.04 119 Pn Pn 03 55 12.2 -8.8
PRNI Paran 7.05 127 Pn **Pn** **03 55 18.2 -2.9**
HRFI Mount Harif 7.28 128 PN **Pn** **03 55 22.1 -2.1**
HRFI Mount Harif 7.28 128 Pn **Pn** **03 55 21.9 -2.3**
KDZ Kurdzhali 7.30 342 *i* P **Pn** **03 55 25.8 +1.3**
THE Thessaloniki 7.32 325 P **Pn** **03 55 26.8 +2.1**
THE pmax pmax
comp=Z,1μm,1.0s
MBRI Mt Berech 7.36 130 Pn **Pn** **03 55 23.4 -2.0**
KMRS Kahramanmaras 7.37 66 PN **Pn** **03 55 24.9 -0.6**
SRS Serrai 7.44 330 P **Pn** **03 55 27.4 +1.1**
SRS pmax pmax
comp=Z,344nm,1.2s
EIL Elat 7.47 131 P **Pn** **03 55 25.1 -1.7**
comp=Z,178nm,0.3s,baz=290,slow=3.8,SNR=592
EIL S **Sn** **03 56 42.4 -7.7**
comp=Z,80nm,0.3s,baz=291,slow=12,SNR=3.6
EIL LR LR 03 59 41.2
comp=Z,111nm,18.1s,baz=286,slow=47
EIL Elat 7.47 131 Pn **Pn** **03 55 24.4 -2.4**
AQBJ Aqaba 7.49 130 Pn **Pn** **03 55 25.2 -1.9**
ASF Jabal al Asfar 7.50 108 P **Pn** **03 55 26.4 -1.0**
comp=Z,66nm,0.3s,baz=239,slow=7.3,SNR=527
ASF S **Sn** **03 56 46.7 -4.3**
comp=Z,20nm,0.3s,baz=147,slow=23,SNR=6.9
GAZ Gaziantep 7.51 69 PN **Pn** **03 55 26.4 -0.9**
GAZ Gaziantep 7.51 69 Pn **Pn** **03 55 26.1 -1.2**
RZN Rozhen 7.54 338 *i* P **Pn** **03 55 29.6 +1.7**
HFRF Wahat Farafira 7.56 181 S **Sn** **03 56 43.8 -8.6**
baz=182
HFRF AMP 03 56 00.0
baz=182
DIM Dimitrovgrad 7.65 343 *i* P **Pn** **03 55 30.4 +1.2**
KNT Kendrikon 7.77 327 P **Pn** **03 55 32.9 +2.0**
KNT pmax pmax
comp=Z,229nm,0.8s
MMB Musomiste 7.79 333 *i* P **Pn** **03 55 32.7 +1.6**
PLD Plovdiv 7.92 339 *i* P **Pn** **03 55 34.9 +2.0**
PLD Plovdiv 7.92 339 P **Pn** **03 55 34.8 +1.9**
PLD pmax pmax
comp=Z,1μm,0.9s
VAY Valandovo 8.05 327 *i* Pn **Pn** **03 55 36.3 +1.7**
VAY Valandovo 8.05 327 P **Pn** **03 55 36.7 +2.1**
VAY pmax pmax
comp=Z,198nm,0.9s
IGT Igoumenitsa 8.06 309 P **Pn** **03 55 32.1 -2.7**
IGT pmax pmax
comp=Z,320nm,0.6s
KKB Krupnik 8.28 331 *i* P **Pn** **03 55 38.9 +1.1**
ELND Elena 8.43 347 ⇑P **Pn** **03 55 41.1 +1.3**
PGB Panagyurishte 8.49 338 *i* P **Pn** **03 55 41.9 +1.1**
PRD Provadia 8.49 355 *i* P **Pn** **03 55 40.9 +0.2**
STIP Stip 8.52 326 ⇓*i* Pn **Pn** **03 55 41.5 +0.4**
NEF NEVSHA 8.57 354 *i* P **Pn** **03 55 42.5 +0.8**
HHRG Al Ghardaqah 8.68 148 AMP 03 57 00.0
baz=148
DIKM Dikmen 8.73 36 ⇓P **Pn** **03 55 45.8 +1.8**
SZH Strazhica 8.74 348 *i* P **Pn** **03 55 44.9 +0.8**
OHR Ohrid 8.78 319 *e*Pn **Pn** **03 55 44.7 0.0**
OHR *i* Sn **Sn** **03 57 19.7 -2.3**
OHR *e*Lg Lg 03 57 25.4
comp=N,106nm,0.5s
OHR *e*Lg Lg 03 57 28.9
comp=E,163nm,0.6s
OHR Ohrid 8.78 319 P **Pn** **03 55 44.6 0.0**
OHR pmax pmax
comp=Z,187nm,0.9s
PVL Pavlikeni 8.81 345 *i* P **Pn** **03 55 46.0 +1.0**
VTS Vitosha 8.86 334 ⇓P **Pn** **03 55 47.0 +1.1**
VTS Vitosha 8.86 334 *i* P **Pn** **03 55 47.1 +1.2**
VTS Vitosha 8.86 334 P **Pn** **03 55 46.8 +0.9**
VTS Vitosha 8.86 334 Pn **Pn** **03 55 46.8 +0.9**
RAZG Razgrad 8.95 351 ⇑P **Pn** **03 55 48.1 +1.1**
MANR Mangalia 9.07 1 ⇑P **Pn** **03 55 49.8 +1.2**
SKO Skopje 9.08 325 ⇓*i* Pn **Pn** **03 55 49.9 +1.1**
PLVB Pleven 9.14 342 ⇑P **Pn** **03 55 51.3 +1.8**
TIR Tirane 9.45 317 ⇓P **Pn** **03 55 52.6 -1.2**
TIR Tirane 9.45 317 P **Pn** **03 55 52.6 -1.2**
TIR pmax pmax
comp=Z,342nm,0.6s
RASA Rasa 9.52 354 ⇓P **Pn** **03 55 56.3 +1.6**
TIRR Tirgusor 9.71 360 ⇑P **Pn** **03 55 58.5 +1.2**
TIRR Tirgusor 9.71 360 ⇑P **Pn** **03 55 58.5 +1.2**
TIRR Tirgusor 9.71 360 *i* P **Pn** **03 55 57.9 +0.6**
TIRR Tirgusor 9.71 360 P **Pn** **03 55 58.2 +0.9**
TIRR Tirgusor 9.71 360 Pn **Pn** **03 55 58.2 +0.9**
COPA Copaceanca 9.71 346 ⇑P **Pn** **03 55 58.1 +0.8**
VLAD Vladila 9.77 343 ⇑P **Pn** **03 55 59.4 +1.3**
LEHL Lehliu 9.81 353 ⇑P **Pn** **03 56 00.1 +1.4**
HARR Harsova 9.95 358 ⇑P **Pn** **03 56 00.9 +0.3**
SULR 10.07 351 ⇑P **Pn** **03 56 04.0 +1.7**
TOPG Topolog 10.13 360 ⇑P **Pn** **03 56 04.0 +1.0**
ULC Ulcinj 10.21 318 ⇓*i* Pn **Pn** **03 56 01.0 -3.2**
ULC *i* Sn Sn 03 57 41.3 -16
PVY Plav 10.28 322 ⇑*i* Pn **Pn** **03 56 03.8 -1.4**
PVY *i* Sn Sn 03 57 45.6 -13
TIP Timpagrande 10.35 299 **Pn** **03 56 03.0 -3.2**
DRME Dracevica, Mon 10.39 318 ⇓*i* Pn **Pn** **03 56 03.7 -3.0**
CFR Carcaliu 10.43 359 ⇑P **Pn** **03 56 07.8 +0.6**
TLCR 10.44 1 ⇑P **Pn** **03 56 09.1 +1.8**
TLCR 10.44 1 P **Pn** **03 56 09.1 +1.8**
SECR 10.45 351 ⇑P **Pn** **03 56 08.9 +1.4**
ISR Istrita 10.47 353 ⇑P **Pn** **03 56 09.5 +1.7**
ISR Istrita 10.47 353 P **Pn** **03 56 09.5 +1.7**
ISR pmax pmax
comp=Z,158nm,1.1s
IVA Berane 10.51 323 ⇓*i* Pn **Pn** **03 56 07.5 -0.8**
IVA *i* Sn Sn 03 57 51.8 -13
PDG Podgorica 10.52 320 ⇑P **Pn** **03 56 06.4 -2.0**
PDG Podgorica 10.52 320 Pn **Pn** **03 56 06.5 -1.9**
PDG Podgorica 10.52 320 ⇓*i* Pn **Pn** **03 56 06.0 -2.4**
TTG Podgorica 10.52 320 ⇑*i* Pn **Pn** **03 56 05.8 -2.6**
TTG *i* Sn Sn 03 57 50.0 -15
TAR1 Taranto 10.57 306 ⇓*i* P **Pn** **03 56 04.7 -4.4**
BUM Brajici-Budva 10.63 318 *e*Pn **Pn** **03 56 07.3 -2.7**
BUM *i* Sn Sn 03 57 51.1 -16
KOME Kolasin 10.69 322 ⇓*i* Pn **Pn** **03 56 09.4 -1.3**
KOME *i* Sn Sn 03 57 55.3 -13
CEL Celeste 10.70 293 Pn **Pn** **03 56 07.5 -3.5**
SRE Strehaia 10.70 339 ⇑P **Pn** **03 56 11.4 +0.6**
SRE Strehaia 10.70 339 P **Pn** **03 56 11.4 +0.6**
CEME Cevo 10.78 319 ⇓*i* Pn **Pn** **03 56 09.4 -2.6**
CEME *i* Sn Sn 03 57 55.7 -15
MTUR Matau 10.79 347 ⇑P **Pn** **03 56 13.8 +1.6**
MLR Muntele Rosu 10.91 351 P **Pn** **03 56 15.6 +1.7**
comp=Z,1.9nm,0.3s,baz=258,slow=1.6,SNR=74
MLR Muntele Rosu 10.91 351 ⇑P **Pn** **03 56 15.6 +1.7**
MLR Muntele Rosu 10.91 351 Pn **Pn** **03 56 14.9 +1.1**
NKME Niksic 10.92 320 ⇓*i* Pn **Pn** **03 56 11.6 -2.2**
NKME *i* Sn Sn 03 57 59.1 -15
HCY Herceg Novi 10.95 318 ⇑*i* Pn **Pn** **03 56 10.5 -3.8**
HCY *i* Sn Sn 03 57 58.3 -17
HCY Herceg Novi 10.95 318 *e*Pn **Pn** **03 56 10.4 -3.8**
VOIR 11.00 347 ⇓P **Pn** **03 56 16.0 +1.0**
VOIR 11.00 347 P **Pn** **03 56 16.0 +1.0**
VOIR pmax pmax
comp=Z,130nm,1.0s
ARR Arges 11.01 346 ⇑P **Pn** **03 56 15.7 +0.6**
SIM Simferopol' 11.09 21 *e*P **Pn** **03 56 19.0 +2.9**
SIM *i* S **Sn** **03 58 13.7 -4.6**
SIM pmax pmax
comp=Z,19nm,0.7s
SIM MLR MLR
comp=Z,370nm,8.7s
PLE Pljevlja 11.10 323 ⇓*i* Pn **Pn** **03 56 15.6 -0.8**
PLE *i* Sn Sn 03 58 05.5 -13
SG1 Sgolgore (BA) 11.13 307 *e*P **Pn** **03 56 12.2 -4.5**
BAI Bari 11.13 308 *e*P **Pn** **03 56 12.0 -4.7**
HERR Herculane 11.14 337 ⇑P **Pn** **03 56 16.3 -0.5**
PLOR Plostina 11.19 353 ⇑P **Pn** **03 56 19.4 +1.8**
PLOR Plostina 11.19 353 P **Pn** **03 56 19.3 +1.8**
VRI Vrincioaia 11.20 354 ⇑P **Pn** **03 56 18.5 +0.9**
VRI Vrincioaia 11.20 354 P **Pn** **03 56 18.1 +0.5**
VRI pmax pmax
comp=Z,82nm,1.0s
TREB Trebinje 11.21 318 ⇓*i* Pn **Pn** **03 56 14.2 -3.6**
BRY Bratogost 11.23 319 ⇑*i* Pn **Pn** **03 56 15.6 -2.6**
BRY *i* Sn Sn 03 58 06.2 -16
BRY Bratogost 11.23 319 *e*Pn **Pn** **03 56 15.0 -3.2**
UPM Unac-Piva 11.25 322 ⇑*i* Pn **Pn** **03 56 17.0 -1.5**
UPM *i* Sn Sn 03 58 08.2 -14
LOT Lotru 11.28 343 ⇑P **Pn** **03 56 19.3 +0.4**
DBRK Dubrovnik 11.29 318 *i* Pn Pn 03 56 13.7 -5.1
DBRK Sn Sn 03 58 11.9 -11
MDVR Moldovita 11.29 335 ⇑P **Pn** **03 56 19.0 +0.1**
RUDO Rudo 11.32 324 *e*Pn **Pn** **03 56 17.7 -1.6**
DIVS Divibare 11.40 328 Pn **Pn** **03 56 21.2 +0.7**
DIVS Divibare 11.40 328 ⇓*i* Pn **Pn** **03 56 20.2 -0.3**
WDD Wied Dalam 11.44 280 Pn **Pn** **03 56 16.9 -4.0**
DOPR Dopca 11.46 349 ⇑P **Pn** **03 56 22.5 +1.3**
BBLS Lazići 11.49 325 ⇓*i* Pn **Pn** **03 56 20.9 -0.8**
GZR Gura Zlata 11.49 340 ⇑P **Pn** **03 56 21.6 -0.1**
STON Ston 11.67 317 *i* Pn Pn 03 56 18.9 -5.2
STON Sn Sn 03 58 20.0 -12
STON Ston 11.67 317 ⇓*i* Pn Pn 03 56 18.7 -5.3
VAE Valguarnera 11.68 288 P **Pn** **03 56 22.9 -1.4**
comp=Z,17nm,0.3s,baz=163,slow=13,SNR=12
VAE S Sn 03 58 23.4 -10
comp=Z,65nm,0.3s,baz=164,slow=6.0,SNR=8.3
BEO Beograd 11.78 331 P **Pn** **03 56 26.4 +0.9**
TESR Tescani 11.84 354 ⇑P **Pn** **03 56 27.0 +0.6**
DEV Deva 11.91 341 P **Pn** **03 56 28.5 +1.2**
TEKS Tekeris 11.96 328 ⇓*i* Pn **Pn** **03 56 27.3 -0.8**
BZS Buzias 12.05 336 ⇑P **Pn** **03 56 28.9 -0.4**
MILM Milestii Mici 12.17 1 ⇑P **Pn** **03 56 32.5 +1.6**
ANN Anapa 12.19 32 *e*P **P** **03 56 38.4 -2.5**
ANN pmax pmax
comp=Z,26nm,1.1s
SGRT San Giovanni R 12.20 309 Pn **Pn** **03 56 26.7 -4.6**
KIS Kishinev 12.25 1 ⇑*i* P **Pn** **03 56 33.0 +1.0**
comp=Z,140nm,0.5s
MAKA Makarska 12.32 317 *i* Pn Pn 03 56 27.3 -5.5
MAKA Sn Sn 03 58 37.2 -11
BIZ Bicaz 12.32 352 ⇑P **Pn** **03 56 33.3 +0.4**
FRGS Fruska Gora 12.33 330 ⇓*i* Pn **Pn** **03 56 32.3 -0.8**
BCA Borcka 12.34 53 ⇓P **Pn** **03 56 35.6 +2.3**
SOC Sochi 12.42 41 *e*P P 03 56 48.6 +5.1
SOC *e* 03 58 50.4
SOC pmax pmax
comp=Z,12nm,0.7s
SOC MLR MLR
comp=Z,102nm,15.0s
CJR Cluj-Napoca 12.52 344 ⇑P **Pn** **03 56 36.2 +0.5**
HVAR Hvar 12.57 316 *i* Pn Pn 03 56 30.2 -6.1
HVAR Sn Sn 03 58 41.5 -13
CORL Corleone 12.62 289 Pn **Pn** **03 56 34.8 -2.3**
SIRR Siria 12.62 338 ⇑P **Pn** **03 56 36.6 -0.4**
PAOL Paolisi 12.64 304 **Pn** **03 56 33.2 -4.1**
CLTB Caltabellotta 12.64 287 Pn **Pn** **03 56 34.8 -2.6**
DRGR 12.80 342 ⇑P **Pn** **03 56 39.8 +0.3**
MGRS Mrkonjic Grad 13.04 321 ⇑*i* Pn **Pn** **03 56 40.5 -2.2**
BURAR Bucovina Array 13.10 350 ⇑P **Pn** **03 56 45.2 +1.7**
BURAR Bucovina Array 13.10 350 P **Pn** **03 56 45.2 +1.7**
BLY Banja Luka 13.22 322 ⇓*i* Pn **Pn** **03 56 41.8 -3.3**
ZIRJ Zirje 13.33 316 *i* Pn Pn 03 56 40.6 -5.9
ZIRJ Sn Sn 03 58 59.9 -13
SORM Soroca 13.39 360 ⇑P **Pn** **03 56 48.0 +0.7**
SORM Soroca 13.39 360 P **Pn** **03 56 47.9 +0.7**
MORI Morici 13.42 317 *i* Pn Pn 03 56 42.2 -5.6
MORI Sn Sn 03 59 03.8 -11
INTR Introdacqua 13.52 307 Pn **Pn** **03 56 46.5 -2.7**
AKH Akhalkalaki 13.59 56 P **Pn** **03 56 50.1 0.0**
AKH Akhalkalaki 13.59 56 **Pn** **03 56 50.1 0.0**
MORH Mrgy, Hungar 13.67 330 *e*Pn **Pn** **03 56 47.6 -3.4**
UDBI Udbina 13.81 319 *i* Pn **Pn** **03 56 48.8 -4.2**
UDBI Sn Sn 03 59 14.4 -10
DUGI Dugi Otok 13.87 316 *i* Pn Pn 03 56 48.5 -5.2
DUGI Sn Sn 03 59 13.3 -13
AQU L'Aquila 14.01 307 ⇓*i* Pn Pn 03 56 50.8 -4.8
MOSL Moslavina 14.05 324 *i* Pn **Pn** **03 56 52.3 -3.8**
MOSL Sn **Sn** **03 59 23.0 -7.5**
TRPA Tarpa 14.09 344 ⇑P **Pn** **03 56 57.3 +0.7**
NVLJ Novalja 14.33 317 *i* Pn Pn 03 56 54.5 -5.2
NVLJ Sn Sn 03 59 25.1 -12
KBZ Khabaz 14.33 47 P **P** **03 57 03.0 -1.8**
comp=Z,0.2nm,0.3s,baz=244,slow=8.5,SNR=7.8
KBZ Khabaz 14.33 47 *ce*P **P** **03 57 02.8 -2.0**
KBZ pmax pmax
comp=Z,3.0nm,1.2s
KIV Kislovodsk 14.34 46 P **P** **03 57 02.4 -2.5**
KIV Kislovodsk 14.34 46 *c* P **P** **03 57 05.9 +0.9**
KIV *i* S **Sn** **03 59 34.8 -2.7**
KIV pmax pmax
comp=Z,35nm,0.8s
KIV MLR MLR
comp=Z,84nm,20.0s
KIV Kislovodsk 14.34 46 **Pn** **03 56 59.9 0.0**
KVAR Kislovodsk Arr 14.34 46 P **P** **03 57 07.0 +2.0**
baz=95,slow=22,SNR=20
ZEI Tsey 14.47 52 *e*P **Pn** **03 57 02.0 +0.2**
ZEI pmax pmax
comp=Z,26nm,0.6s
BUD Budapest 14.57 334 P **Pn** **03 57 04.6 +1.8**
BUD pmax pmax
comp=Z,62nm,0.6s
KALN Kalnik 14.58 325 *i* Pn **Pn** **03 56 59.5 -3.4**
ZAG Zagreb 14.58 323 *e*Pn **Pn** **03 56 59.7 -3.3**
ZAG Zagreb 14.58 323 ⇓*i* Pn **Pn** **03 56 59.7 -3.3**
UZH Uzhgorod 14.62 344 *e*P **Pn** **03 57 02.8 -0.6**
UZH *e*S **Sn** **03 59 44.0 -0.1**
UZH MLR MLR
comp=N,170nm,16.0s
UZH MLR MLR
comp=E,100nm,16.0s
UZH MLR MLR
comp=Z,40nm,16.0s
PSZ Piszkesteto 14.64 337 ⇑P **Pn** **03 57 05.0 +1.1**
PSZ Piszkesteto 14.64 337 P **Pn** **03 57 04.9 +1.1**
PSZ Piszkesteto 14.64 337 **Pn** **03 57 04.9 +1.1**
PTJ Puntijarka 14.65 323 *i* Pn **Pn** **03 57 00.1 -3.8**
BEHE Becsehely 14.68 326 *e*Pn **Pn** **03 57 06.0 +1.8**
OZLJ Ozalj 14.70 322 *i* Pn **Pn** **03 57 00.4 -4.0**
BOJS Bojanci 14.73 321 *i* Pn **Pn** **03 57 01.0 -3.9**
BOJS *i* Sn Sn 03 59 36.8 -10
comp=Z,26nm,0.6s
MORS Morshin 14.78 348 P **P** **03 57 07.6 -2.1**
CRES Cresnjev 14.85 322 ⇓*i* Pn **Pn** **03 57 02.6 -3.8**
KOLS Kolonicke sedl 14.91 344 *e*P **Pn** **03 57 07.7 +0.5**
KOLS pmax pmax
comp=Z,57nm,0.6s
KOLS Kolonicke sedl 14.91 344 *e*P **Pn** **03 57 07.7 +0.5**
KOLS *e* 03 57 12.3
KECS Kecovo 14.96 339 *e*P **P** **03 57 12.2 +0.5**
KECS pmax pmax
comp=Z,27nm,1.4s
KECS Kecovo 14.96 339 *e*P **P** **03 57 12.2 +0.5**
MURB Monte Urbino 15.01 309 **Pn** **03 57 04.7 -3.9**
MURB IAmb IAmb 03 57 14.7
comp=Z,97nm,0.8s
RIY Rijeka 15.02 319 *i* Pn **Pn** **03 57 04.1 -4.6**
RIY Rijeka 15.02 319 ⇓*i* Pn **Pn** **03 57 04.2 -4.5**
SRO2 Moca 15.04 333 *e*P **Pn** **03 57 09.7 +0.9**
SRO2 pmax pmax
comp=Z,63nm,0.5s
SRO2 Moca 15.04 333 *e*P **Pn** **03 57 09.7 +0.9**
CRVS Cervenica-Dubn 15.07 342 *e*P **Pn** **03 57 09.8 +0.5**
CRVS pmax pmax
comp=Z,43nm,0.8s
CRVS Cervenica-Dubn 15.07 342 *e*P **Pn** **03 57 09.8 +0.5**
CRVS *e* 03 57 14.2
BRJN Brijuni 15.17 316 *i* Pn **Pn** **03 57 05.6 -4.9**
BRJN Sn Sn 03 59 45.5 -12
LATE Laterza 15.18 306 Pn **Pn** **03 57 07.9 -2.9**
GOF Gofitskoye 15.20 43 ⇑*e*P **P** **03 57 13.4 -1.0**
GOF pmax pmax
comp=Z,25nm,0.4s
CEY Cerknica 15.32 320 ⇓*i* Pn **Pn** **03 57 08.6 -3.9**
LVV L'vov 15.42 349 *c* P **Pn** **03 57 14.1 +0.4**
LVV *e*S **Sn** **04 00 05.9 +2.4**
LVV pmax pmax
comp=Z,150nm,1.2s
GBAS Gorenja Brezov 15.44 321 *i* Pn **Pn** **03 57 10.2 -3.9**
LJU Ljubljana 15.47 321 ⇓*i* Pn **Pn** **03 57 10.6 -3.8**
KWP Kalwaria Pacla 15.47 346 *e*P **Pn** **03 57 15.2 +0.7**
KWP Kalwaria Pacla 15.47 346 P **Pn** **03 57 15.3 +0.9**
KWP pmax pmax
comp=Z,50nm,1.0s
VYHS Vyhne 15.49 335 *e*P **Pn** **03 57 14.0 -0.7**
VYHS pmax pmax
comp=Z,155nm,1.5s
VYHS Vyhne 15.49 335 *e*P **Pn** **03 57 14.0 -0.7**
KEST Kesra 15.65 279 P **Pn** **03 57 15.1 -1.7**
comp=Z,1.1nm,0.3s,baz=45,slow=11,SNR=40
KEST S Sn 03 59 56.6 -13
comp=Z,1.6nm,0.3s,baz=72,slow=20,SNR=1.8
KEST Kesra 15.65 279 **Pn** **03 57 15.5 -1.3**
SOKA Soboth 15.65 324 *e*Pn **Pn** **03 57 13.7 -3.1**
comp=Z,13nm,0.4s,SNR=28
TRI Trieste 15.66 319 P **Pn** **03 57 12.9 -3.9**
TRI pmax pmax
comp=Z,142nm,0.7s
TRI Trieste 15.66 319 Pn **Pn** **03 57 12.9 -3.9**
SOP Sopron 15.71 329 P **Pn** **03 57 17.0 -0.3**
SOP pmax pmax
comp=Z,33nm,0.8s
KOLL Kolacno 15.72 335 *e*P **Pn** **03 57 17.7 +0.2**
OBKA Obir 15.78 322 *e*Pn **Pn** **03 57 15.0 -3.3**
comp=Z,26nm,0.7s,SNR=23
ARSA Arzberg 15.83 326 *e*Pn **Pn** **03 57 16.7 -2.3**
comp=Z,13nm,0.5s,SNR=24
NIE Niedzica 15.86 340 *e*P **Pn** **03 57 19.5 +0.2**
NIE *e*S **Sn** **04 00 16.9 +2.8**
NIE Niedzica 15.86 340 P **Pn** **03 57 20.0 +0.7**
NIE pmax pmax
comp=Z,54nm,1.3s
LANS Liptovska Anna 15.86 338 *e*P **P** **03 57 21.3 -0.5**
LANS pmax pmax
comp=Z,30nm,1.1s
LANS Liptovska Anna 15.86 338 *e*P **P** **03 57 21.3 -0.5**
ZST Bratislava 15.89 331 *e*P **Pn** **03 57 19.3 -0.4**
ZST Bratislava 15.89 331 *e*P **Pn** **03 57 19.3 -0.4**
KIEV Kiev 15.96 2 *e*P **Pn** **03 57 20.0 -0.5**
MODS Modra-Piesok 15.96 332 *e*P **Pn** **03 57 19.5 -1.1**
MODS pmax pmax
comp=Z,44nm,1.1s
MODS Modra-Piesok 15.96 332 *e*P **Pn** **03 57 19.5 -1.1**
AKASG Malin Array Be 15.97 2 P **Pn** **03 57 20.8 +0.2**
comp=Z,8.6nm,0.3s,baz=189,slow=11,SNR=33
AKASG S **Sn** **04 00 17.4 +0.7**
baz=205,slow=22,SNR=0.9
AKASG PcP **PcP** **04 02 13.8 0.0**
comp=Z,1.1nm,0.3s,baz=121,slow=0.6,SNR=4.4
AKASG ScP **ScP** **04 05 41.0 -0.9**
comp=Z,0.1nm,0.3s,baz=202,slow=0.5,SNR=6.5
AKASG Malin Array Be 15.97 2 *i* P **Pn** **03 57 19.1 -1.5**
AKASG pmax pmax
comp=Z,39nm,0.8s
AKASG Malin Array Be 15.97 2 **ScP** **04 05 41.4 -0.5**
AKBB Malin Array Si 15.97 2 *ce*P **Pn** **03 57 20.2 -0.4**
AKBB Malin Array Si 15.97 2 **Pn** **03 57 21.1 +0.5**
SMOL Smolenice 16.02 333 *e*P **Pn** **03 57 21.4 +0.1**
SMOL pmax pmax
comp=Z,45nm,1.6s
SMOL Smolenice 16.02 333 *e*P **Pn** **03 57 21.4 +0.1**
CONA Conrad Observa 16.19 328 *e*Pn **Pn** **03 57 21.7 -1.8**
comp=Z,20nm,1.0s,SNR=18
JAVC Velka Javorina 16.22 334 *e*PN **Pn** **03 57 22.9 -0.9**
PRED Cave del Predi 16.24 321 P **Pn** **03 57 21.0 -3.2**
MYKA Terra Mystica 16.32 321 *e*Pn **Pn** **03 57 22.0 -3.2**
comp=Z,26nm,0.6s,SNR=8.0
ZCCA Zocca 16.52 311 IAmb IAmb 03 57 34.9
comp=Z,73nm,0.8s
ZOU Zoufplan 16.62 320 IAmb IAmb 03 57 28.8
comp=Z,71nm,0.7s
OJC Ojcow 16.72 340 *e*P **Pn** **03 57 28.9 -1.1**
OJC *e*S **Sn** **04 00 37.2 +2.2**
OJC Ojcow 16.72 340 P **P** **03 57 30.9 -0.3**
OJC pmax pmax
comp=Z,73nm,0.6s
OJC Ojcow 16.72 340 **P** **03 57 30.9 -0.3**
OJC IAmb IAmb 03 57 32.8
comp=Z,73nm,0.6s
CIMO Cimolais 16.75 318 **Pn** **03 57 27.4 -3.1**
MOA Molln 16.85 325 *e*Pn **Pn** **03 57 30.6 -1.1**
comp=Z,9.4nm,0.4s,SNR=24
KRUC Moravsky 16.86 332 *e*PN **Pn** **03 57 29.9 -1.9**
KRUC Moravsky 16.86 332 *e*SN **Sn** **04 00 38.4 -0.1**
KRUC Moravsky 16.86 332 P **Pn** **03 57 30.8 -1.0**
KRUC pmax pmax
comp=Z,75nm,0.8s
OKC Ostrava-Krasne 16.88 336 *e*P **Pn** **03 57 32.3 +0.3**
OKC *ex* x 03 57 38.8
OKC *e*S **Sn** **04 00 35.2 -3.7**
OKC Ostrava-Krasne 16.88 336 *e*P **Pn** **03 57 32.3 +0.3**
OKC *e*S **Sn** **04 00 35.2 -3.7**
ABTA Abfaltersbach 16.99 320 *e*Pn **Pn** **03 57 30.6 -2.9**
comp=Z,66nm,0.6s,SNR=65
ABTA *e*Sn **Sn** **04 00 32.9 -8.7**
comp=Z,14nm,0.8s
VRAC Vranov 16.99 333 P **Pn** **03 57 33.1 -0.3**
comp=Z,3.2nm,0.3s,baz=148,slow=10,SNR=43
VRAC Vranov 16.99 333 ⇑P **Pn** **03 57 33.5 +0.1**
VRAC Vranov 16.99 333 *e*PN **Pn** **03 57 32.1 -1.3**
VRAC Vranov 16.99 333 *e*SN **Sn** **04 00 41.6 +0.1**
MORC Moravsky Berou 17.03 335 ⇑P **Pn** **03 57 34.2 +0.2**
MORC Moravsky Berou 17.03 335 *e*PN **Pn** **03 57 33.4 -0.6**
MORC Moravsky Berou 17.03 335 *e*SN **Sn** **04 00 44.2 +1.6**
MORC Moravsky Berou 17.03 335 P **Pn** **03 57 33.9 -0.1**
MORC pmax pmax
comp=Z,68nm,0.9s
MORC Moravsky Berou 17.03 335 **Pn** **03 57 33.9 -0.1**
MORC IAmb IAmb 03 57 36.2
comp=Z,68nm,0.9s
CMAH Djebel Manchou 17.19 282 P **Pn** **03 57 35.6 -0.5**
TREC Trest 17.41 331 *e*P **Pn** **03 57 37.5 -1.1**
TREC *ex* x 03 57 45.1
TREC AMS AMS 04 03 10.0
comp=Z,300nm,31.5s
TREC Trest 17.41 331 P **Pn** **03 57 37.4 -1.1**
TREC pmax pmax
comp=Z,14nm,0.8s
SALO Salr 17.45 314 IAmb IAmb 03 57 41.2
comp=Z,140nm,0.9s
CAEH 'Ain El Ouahch 17.65 283 P **P** **03 57 42.2 +0.6**
CKFL Kef-Lekhel 17.76 282 P **P** **03 57 42.9 0.0**
WTTA Wattenberg 17.78 320 *i* P **P** **03 57 41.8 -1.4**
comp=Z,34nm,0.6s,SNR=39
WTTA *e*Sn **Sn** **04 00 52.9 -7.9**
comp=Z,16nm,0.7s
GEC2 GERESS Array S 17.84 327 *e*P **P** **03 57 42.7 -1.0**
comp=Z,55nm,1.0s,baz=132,slow=10
GERES GERESS Array B 17.84 327 P **P** **03 57 43.0 -0.7**
comp=Z,3.5nm,0.3s,baz=139,slow=9.7,SNR=86
GERES PcP **PcP** **04 02 17.1 +0.1**
comp=Z,0.3nm,0.3s,baz=140,slow=1.5,SNR=5.0
GERES GERESS Array B 17.84 327 P **P** **03 57 43.0 -0.7**
WATA Walderalm 17.86 320 *e*P **P** **03 57 43.0 -0.9**
comp=Z,45nm,0.5s,SNR=44
WTTA S 04 01 17.4 +13
comp=Z,39nm,1.1s
DPC Dobruska-Polom 17.95 334 *e*P **P** **03 57 44.9 +0.1**
DPC *e*S Sn 04 00 52.1 -12
DPC AMS AMS 04 03 10.0
comp=Z,400nm,34.0s
DPC Dobruska-Polom 17.95 334 *e*P **P** **03 57 44.9 +0.1**
DPC *e*S Sn 04 00 52.1 -12
DPC MLR MLR
comp=Z,400nm,34.0s
CASM Ain Smara 17.95 281 P **Pn** **03 57 45.7 +0.4**
BEL Belsk 17.96 344 *e*P **Pn** **03 57 45.1 -0.1**
BEL Belsk 17.96 344 P **Pn** **03 57 45.6 +0.4**
BEL pmax pmax
comp=Z,125nm,0.6s
SQTA Sankt Quirin 17.98 319 *i* P **P** **03 57 44.5 -0.8**
comp=Z,65nm,0.5s,SNR=77

SQTA eS S 04 01 21.1 +14
comp=Z,24nm,0.5s
CTEI Djebel Teioual 18.02 281 P **Pn** **03 57 46.4 +0.2**
VORD Divnogorie 18.03 23 eP **Pn** **03 57 46.1 +0.1**
VORD pmax pmax
comp=Z,10.0nm,0.5s
KHC Kasperske Hory 18.10 327 eP **P** **03 57 45.7 -0.8**
KHC ex x 03 57 49.6
KHC eS **Sn** **04 01 06.0 -2.3**
KHC AMS AMS 04 05 10.0
comp=Z,300nm,23.0s
KHC Kasperske Hory 18.10 327 deP **P** **03 57 45.4 -1.1**
KHC pmax pmax
comp=Z,193nm,1.7s
KHC Kasperske Hory 18.10 327 P **P** **03 57 46.1 -0.4**
MOTA Moosalm 18.11 319 eP **P** **03 57 45.9 -0.9**
comp=Z,26nm,0.3s,SNR=85
MOTA Sn **Sn** **04 01 01.0 -7.8**
comp=Z,7.9nm,0.6s
FETA Feichten 18.12 318 ePn **P** **03 57 46.7 -0.2**
comp=Z,83nm,0.6s,SNR=97
FUORN Ofenpass-Fuorn 18.15 316 IAmb IAmb 03 57 60.0
comp=Z,45nm,0.8s
OSTC Ostas 18.15 334 eP **P** **03 57 46.8 -0.3**
OSTC eS **Sn** **04 01 04.5 -5.1**
OSTC AMS AMS 04 03 10.0
comp=Z,300nm,23.7s
GOPC GO Pecny, Ondr 18.18 331 eP **P** **03 57 46.2 -1.1**
GOPC eS **Sn** **04 01 04.5 -5.7**
GOPC AMS AMS 04 03 10.0
comp=Z,300nm,27.0s
GOPC GO Pecny, Ondr 18.18 331 eP **P** **03 57 46.2 -1.1**
GOPC eS **Sn** **04 01 04.5 -5.7**
GOPC MLR MLR
comp=Z,300nm,27.0s
UPC Upice 18.19 334 eP **P** **03 57 46.8 -0.6**
UPC eS **Sn** **04 01 04.5 -5.9**
UPC AMS AMS 04 03 20.0
comp=Z,400nm,35.4s
UPC Upice 18.19 334 eP **P** **03 57 46.8 -0.6**
UPC eS **Sn** **04 01 04.5 -5.9**
UPC MLR MLR
comp=Z,400nm,35.4s
VSR Storozhevoye 18.21 22 eP **Pn** **03 57 48.4 +0.2**
VSR pmax pmax
comp=Z,20nm,0.8s
CHVC Chvalec 18.24 334 eP **P** **03 57 47.7 -0.3**
CHVC eS **Sn** **04 01 06.0 -5.6**
CHVC AMS AMS 04 03 20.0
comp=Z,300nm,25.0s
PBCC Pribram 18.33 329 eP **P** **03 57 47.8 -1.2**
PRU Pruhonice 18.34 330 eP **P** **03 57 48.0 -1.0**
PRU ex x 03 57 52.9
PRU epP **pwP** **03 58 05.5 +0.3**
PRU eS **Sn** **04 01 07.6 -6.3**
PRU AMS AMS 04 03 10.0
comp=Z,200nm,22.7s
PRU Pruhonice 18.34 330 eP **P** **03 57 48.0 -1.0**
PRU eS **Sn** **04 01 07.6 -6.3**
PRU MLR MLR
comp=Z,200nm,22.7s
KSP Ksiaz 18.36 335 eP **P** **03 57 49.2 -0.1**
KSP eS **Sn** **04 01 14.1 -0.5**
KSP Ksiaz 18.36 335 P **P** **03 57 49.4 +0.1**
KSP pmax pmax
comp=Z,134nm,1.4s
RETA Reutte 18.38 319 eP **P** **03 57 48.8 -0.9**
comp=Z,87nm,0.3s,SNR=136
WET Wettzell 18.43 326 P **P** **03 57 49.1 -1.0**
WET pmax pmax
comp=Z,56nm,0.7s
WET Wettzell 18.43 326 eP **P** **03 57 48.8 -1.2**
comp=Z,41nm,0.7s,baz=132,slow=10
DFRA Djebel Bou Aff 18.44 282 P **Pn** **03 57 51.6 +0.4**
PRA Prague 18.45 330 eP **P** **03 57 49.4 -0.8**
PRA ex x 03 57 54.7
PRA eS **S** **04 01 09.1 -7.2**
PRA AMS AMS 04 04 40.0
comp=Z,100nm,23.3s
PRA Prague 18.45 330 eP **P** **03 57 49.4 -0.8**
PRA eS **S** **04 01 09.1 -7.2**
PRA MLR MLR
comp=Z,100nm,23.3s
DAVOX Davos/Dischmat 18.46 316 P **Pn** **03 57 51.2 -0.3**
comp=Z,14nm,0.3s,baz=145,slow=8.0,SNR=70
DAVOX S **S** **04 01 12.6 -4.5**
comp=Z,1.0nm,0.3s,baz=306,slow=19,SNR=2.0
FUR Furstenfeldbru 18.54 322 P **P** **03 57 50.8 -0.5**
FUR pmax pmax
comp=Z,136nm,0.6s
FUR Furstenfeldbru 18.54 322 eP **P** **03 57 49.9 -1.4**
comp=Z,99nm,0.5s,baz=132,slow=10
RAYN Ar Rayn 18.59 122 *i* P **Pn** **03 57 53.2 +0.1**
SNR=7.4
RAYN Ar Rayn 18.59 122 P **Pn** **03 57 52.8 -0.3**
RAYN Ar Rayn 18.59 122 P **Pn** **03 57 52.8 -0.3**
TUE Stuetta 18.60 315 **P** **03 57 51.7 -0.5**
TUE IAmb IAmb 03 57 58.1
comp=Z,65nm,0.5s
DAVA Damuels 18.75 318 *i* P **P** **03 57 52.8 -0.9**
comp=Z,191nm,0.6s,SNR=132
DAVA S **S** **04 01 21.6 -1.5**
comp=Z,24nm,0.6s
PVCC Panska Ves 18.75 332 eP **P** **03 57 52.9 -0.7**
PVCC ex x 03 57 57.2
PVCC eS **S** **04 01 12.2 -11**
PVCC AMS AMS 04 03 40.0
comp=Z,200nm,25.4s
PVCC Panska Ves 18.75 332 eP **P** **03 57 52.9 -0.7**
PVCC eS **S** **04 01 12.2 -11**
PVCC MLR MLR
comp=Z,200nm,25.4s
SET Setif 18.83 281 P **Pn** **03 57 57.0 +1.1**
UBR Ueberruh 18.85 319 eP **P** **03 57 53.9 -0.9**
comp=Z,172nm,0.6s,baz=132,slow=10
FRF La Foret Royal 19.03 304 eP **P** **03 57 54.3 -2.4**
FRF pmax pmax
comp=Z,57nm,0.5s
VRH Novokhopyorsk 19.06 26 eP **Pn** **03 57 57.7 -0.7**
VRH pmax pmax
comp=Z,40nm,0.6s
ROTZ Rotzenmuhle 19.18 326 eP **P** **03 57 57.6 -0.7**
comp=Z,49nm,0.8s,baz=132,slow=10
BRG Berggiesshubel 19.27 331 *i* P **P** **03 57 58.2 -1.0**
comp=Z,40nm,1.4s
BRG S **Sn** **04 01 36.0 -0.3**
comp=N,162nm,26.9s
comp=E,143nm,15.7s
comp=Z,253nm,35.1s
BRG Berggiesshubel 19.27 331 *i* P **P** **03 57 58.2 -1.0**
BRG S **Sn** **04 01 36.0 -0.3**
BRG pmax pmax
comp=Z,40nm,1.4s
BRG MLR MLR
comp=N,162nm,26.9s
BRG MLR MLR
comp=E,143nm,15.7s
BRG MLR MLR
comp=Z,253nm,35.1s
BRG Berggiesshubel 19.27 331 eP **P** **03 57 58.3 -0.9**
comp=Z,40nm,1.4s,baz=132,slow=10
LPSR Galich'ya Gora 19.36 20 eP **P** **03 58 01.0 +0.8**
LPSR pmax pmax
comp=Z,20nm,0.7s
NKC Novy Kostel 19.41 328 eP **P** **03 58 00.0 -0.8**
NKC eS **S** **04 01 29.2 -7.2**
NKC AMS AMS 04 03 50.0
comp=Z,500nm,41.2s
NKC Novy Kostel 19.41 328 eP **P** **03 58 00.0 -0.8**
NKC eS **S** **04 01 29.2 -7.2**
NKC MLR MLR
comp=Z,500nm,41.2s
WERN Wernitzgruen 19.48 328 eP **P** **03 58 00.8 -0.8**
comp=Z,105nm,1.2s,baz=132,slow=10
TANN Tannenbergstha 19.53 328 eP **P** **03 58 01.2 -1.0**
comp=Z,163nm,0.8s,baz=132,slow=10
FBE Freiberg 19.54 330 eP **P** **03 58 01.4 -0.7**
comp=Z,53nm,0.9s,baz=132,slow=10
GUNZ Gunzen 19.55 328 eP **P** **03 58 01.6 -0.8**
comp=Z,86nm,0.9s,baz=132,slow=10
BNI Bardonecchia 19.57 308 P **P** **03 58 02.4 -0.4**
BNI pmax pmax
comp=Z,130nm,0.9s
BNI Bardonecchia 19.57 308 IAmb IAmb 03 58 08.3
comp=Z,94nm,0.8s

GRA1 Grafenberg Arr 19.58 325 IAmb IAmb 03 58 05.4
comp=Z,54nm,0.7s
GRF Grafenberg Arr 19.58 325 P **P** **03 58 01.7 -1.0**
GRF pmax pmax
comp=Z,77nm,0.8s
GRF Grafenberg Arr 19.58 325 eP **P** **03 58 01.2 -1.5**
comp=Z,82nm,1.2s,baz=132,slow=10
SUW Suwalki 19.63 351 eP **P** **03 58 02.8 -0.3**
LPG La Plagne 19.71 310 eP **P** **03 58 03.8 -0.6**
LPG pmax pmax
comp=Z,203nm,0.6s
PLN Plauen 19.72 328 eP **P** **03 58 03.2 -1.0**
comp=Z,67nm,1.1s,baz=132,slow=10
LPL La Plagne 19.73 310 eP **P** **03 58 03.9 -0.7**
LPL pmax pmax
comp=Z,87nm,0.3s
MNK Minsk 19.77 359‖ eP **P** **03 58 03.0 -1.6**
MNK eS **S** **04 01 37.0 -6.4**
SLE Schleitheim 19.79 317 P **P** **03 58 04.0 -1.0**
SLE pmax pmax
comp=Z,350nm,0.6s
CLL Collm 19.98 331 ⇓ *i* P **P** **03 58 06.7 -0.2**
comp=Z,41nm,0.8s
CLL *i* 03 58 11.5
CLL es PP 03 58 48.0
CLL eS **S** **04 01 48.0 +0.4**
CLL Collm 19.98 331 ⇓ *i* P **P** **03 58 06.7 -0.2**
CLL eS **S** **04 01 48.0 +0.4**
CLL pmax pmax
comp=Z,41nm,0.8s
CLL Collm 19.98 331 P **P** **03 58 06.9 0.0**
CLL IAmb IAmb 03 58 07.7
comp=Z,41nm,0.8s
CLL Collm 19.98 331 eP **P** **03 58 06.7 -0.2**
comp=Z,41nm,0.8s,baz=132,slow=10
STU Stuttgart 20.00 320 P **P** **03 58 07.1 -0.1**
MOX Moxa 20.07 327 P **P** **03 58 07.0 -1.0**
MOX pmax pmax
comp=Z,29nm,0.6s
MOX Moxa 20.07 327 eP **P** **03 58 07.0 -1.0**
comp=Z,43nm,1.4s,baz=132,slow=10
GKP Gorka Klasztor 20.16 340 eP **P** **03 58 08.5 -0.4**
GKP eS **S** **04 01 47.4 -3.8**
NACGM **Naroch 20.20 357** eP **P** **03 58 08.0 -1.3**
NACGM eS **S** **04 01 45.0 -6.9**
BFO Black Forest 20.20 318 P **P** **03 58 10.0 +0.6**
BFO pmax pmax
comp=Z,94nm,0.5s
BFO Black Forest 20.20 318 P **P** **03 58 10.0 +0.6**
BFO Black Forest 20.20 318 eP **P** **03 58 09.7 +0.3**
comp=Z,86nm,0.6s,baz=132,slow=10
NEUB Neuenburg 20.41 329 eP **P** **03 58 10.2 -1.4**
comp=Z,55nm,1.0s,baz=132,slow=10
RUE Ruedersdorf 20.61 334 eP **P** **03 58 12.5 -1.2**
RUE IAmb IAmb 03 58 17.8
comp=Z,107nm,0.8s
IIGN Ignalina 20.67 356 eP **P** **03 58 13.6 -0.8**
IIGN IAmb IAmb 03 58 14.7
comp=Z,33nm,0.6s
IIGN eS **S** **04 02 01.9 +0.7**
KLNR Kaliningrad 20.69 346 *i* P **P** **03 58 13.0 -1.5**
KLNR pmax pmax
comp=Z,350nm,0.8s
VIVF Saint-Julien-l 20.81 306 eP **P** **03 58 13.7 -2.4**
VIVF pmax pmax
comp=Z,183nm,0.7s
ISAL Salakas 20.90 356 eP **P** **03 58 14.8 -1.9**
ISAL IAmb IAmb 03 58 17.0
comp=Z,25nm,0.5s
ISAL eS **S** **04 02 05.5 -0.1**
PABE Paberze 21.00 353 eP **P** **03 58 16.7 -1.1**
PABE eS **S** **04 02 09.6 +2.0**
SSB Saint Sauveur 21.05 307 IAmb IAmb 03 58 19.1
comp=Z,37nm,0.8s
IZAR Zarasai 21.07 357 eP **P** **03 58 16.2 -2.4**
IZAR IAmb IAmb 03 58 18.9
comp=Z,29nm,0.5s
IZAR eS **S** **04 02 09.4 +0.3**
OBN Obninsk 21.14 13 P **P** **03 58 21.3 +1.9**
comp=Z,8.0nm,0.4s,baz=108,slow=23,SNR=6.2
OBN Obninsk 21.14 13 ⇓ *i* P **P** **03 58 21.4 +2.0**
OBN *i* S **S** **04 02 12.8 +2.3**
OBN pmax pmax
comp=Z,28nm,0.7s
OBN MLR MLR
comp=Z,85nm,23.0s
OBN Obninsk 21.14 13 P **P** **03 58 19.0 -0.4**
TNS Taunus Mts 21.28 323 eP **P** **03 58 19.7 -1.4**
comp=Z,49nm,1.2s,baz=132,slow=10
GTTG Gottingen 21.45 327 eP **P** **03 58 21.3 -1.4**
comp=Z,139nm,1.6s,baz=132,slow=10
CLZ Clausthal 21.48 328 eP **P** **03 58 21.1 -2.0**
comp=Z,32nm,1.1s,baz=132,slow=10
ASSE Asse, Remlinge 21.56 329 eP **P** **03 58 21.5 -2.3**
comp=Z,25nm,0.9s,baz=132,slow=10
PBUR Paburge 21.76 350 eP **P** **03 58 24.8 -1.2**
PBUR IAmb IAmb 03 58 28.0
comp=Z,214nm,0.5s
MOS Moscow 21.94 14 eP **P** **03 58 27.8 -0.1**
MOS eS **S** **04 02 24.5 -1.4**
MOS pmax pmax
comp=Z,35nm,0.8s
NRDL Niedersach Rie 22.06 329 eP **P** **03 58 27.0 -2.2**
comp=Z,25nm,0.8s,baz=132,slow=10
WLF Walferdange 22.14 319 P **P** **03 58 29.1 -1.1**
WLF Walferdange 22.14 319 P **P** **03 58 29.4 -0.8**
WLF pmax pmax
comp=Z,68nm,0.8s
WLF Walferdange 22.14 319 P **P** **03 58 29.4 -0.8**
WLF IAmb IAmb 03 58 32.8
comp=Z,68nm,0.8s
WLF Walferdange 22.14 319 eP **P** **03 58 29.3 -0.9**
comp=Z,125nm,1.1s,baz=132,slow=10
AHRW Bad Neuenahr-A 22.17 322 eP **P** **03 58 29.1 -1.4**
comp=Z,44nm,1.3s,baz=132,slow=10
LOR Lormes 22.28 312 eP **P** **03 58 29.5 -2.3**
LOR pmax pmax
comp=Z,61nm,0.5s
AVF Avril sur Loir 22.40 310 eP **P** **03 58 30.6 -2.4**
AVF pmax pmax
comp=Z,107nm,0.8s
BSD Bornholm Skovb 22.44 339 ⇓ *i* P **P** **03 58 29.8 -3.5**
comp=Z,39nm,0.6s
BSD Bornholm Skovb 22.44 339 ⇓ *i* P **P** **03 58 29.8 -3.5**
BSD pmax pmax
comp=Z,39nm,0.6s
RGN Rugen 22.45 337 eP **P** **03 58 30.0 -3.5**
CAF Calviac 22.59 305 eP **P** **03 58 33.1 -2.0**
CAF pmax pmax
comp=Z,149nm,1.0s
BHOU Houvegnez 22.61 320 P **P** **03 58 34.1 -1.1**
comp=Z,80nm,0.0s
BUG Bochum--Univer 22.63 324 P **P** **03 58 33.6 -1.8**
BUG pmax pmax
comp=Z,61nm,1.1s
BUG Bochum--Univer 22.63 324 eP **P** **03 58 33.3 -2.1**
comp=Z,66nm,1.1s,baz=132,slow=10
MEM Membach 22.76 321 ⇓ P **P** **03 58 35.8 -1.0**
comp=Z,84nm,0.9s
MEM pP **pP** **03 58 53.4 +2.1**
MEM Membach 22.76 321 P **P** **03 58 36.0 -0.7**
MEM pmax pmax
comp=Z,145nm,0.9s
BSTI Sart Tilman 22.97 321 P **P** **03 58 37.9 -1.0**
BCLA Clavier 23.02 320 ⇓ P **P** **03 58 38.5 -0.8**
BEBN Eben Emael 23.04 321 ⇓ P **P** **03 58 38.5 -1.1**
comp=Z,73nm,0.8s
BGES Gesves 23.11 320 ⇓ P **P** **03 58 39.4 -1.0**
comp=Z,100nm,1.2s
BGES pP **pP** **03 58 55.1 -0.1**
DOU Dourbes 23.22 319 ⇓ P **P** **03 58 40.1 -1.3**
comp=Z,145nm,0.7s
BMRD Maredsous 23.24 319 ⇓ P **P** **03 58 39.7 -1.8**
BMRD pP **pP** **03 58 58.3 +1.8**
SLIT Slitere, Latvi 23.27 352 eP **P** **03 58 39.6 -2.1**
TAM Tamanrasset 23.30 245 P **P** **03 58 42.4 -0.1**
TAM pmax pmax
comp=Z,48nm,0.8s
TAM Tamanrasset 23.30 245 P **P** **03 58 42.4 -0.1**
TAM IAmb IAmb 03 58 45.0
comp=Z,48nm,0.8s
SNF Seneffe 23.61 319 ⇓ P **P** **03 58 44.4 -0.5**
comp=Z,114nm,0.9s
UCC Uccle 23.73 320 P **P** **03 58 45.2 -0.8**
UCC pP **pP** **03 59 01.0 -0.8**

UCC Uccle 23.73 320 IAmb IAmb 03 58 46.5
comp=Z,84nm,0.9s
VSU Vasula 23.76 358 eP **P** **03 58 45.3 -0.9**
CART Cartagena 23.91 285 eP **P** **03 58 47.7 0.0**
CART Cartagena 23.91 285 P **P** **03 58 47.2 -0.5**
GEYT Alibeck 24.06 74 P **P** **03 58 50.0 +0.9**
comp=Z,10.0nm,0.4s,baz=266,slow=10.0,SNR=21
GEYT LR LR 04 10 03.2
comp=Z,23nm,20.1s,baz=200,slow=41
GYA0 ALIBECK ARRAY 24.06 74 P **P** **03 58 48.9 -0.3**
DAMY Dhamar 24.69 140 P **P** **03 58 55.9 +0.6**
SESP Santiago Espad 25.11 287 P **P** **03 58 59.4 +0.6**
SNR=30
AJN Ajban 25.12 107 P **P** **03 59 01.1 +2.3**
SHME Shamm 25.34 102 P **P** **03 59 02.8 +1.9**
MUD Monsted U'grnd 25.40 335 *i* P **P** **03 59 00.5 -0.5**
MUD Monsted U'grnd 25.40 335 *i* P **P** **03 59 00.5 -0.5**
NAZ Nazwa, Dubai 25.45 105 *i* P **P** **03 59 04.8 +3.0**
SNR=51
NAZ Nazwa, Dubai 25.45 105 P **P** **03 59 05.2 +3.3**
SNR=13
NAZ P **P** **03 59 05.2 +3.3**
SNR=13
FAQ Al Faqa, Dubai 25.51 106 P **P** **03 59 05.2 +2.8**
BANOM Banah 25.53 103 P **P** **03 59 03.2 +0.6**
BANOM Banah 25.53 103 P **P** **03 59 05.0 +2.5**
FLN La Foliniere 25.55 312 eP **P** **03 59 00.6 -1.9**
FLN pmax pmax
comp=Z,164nm,0.4s
GRR Gorron 25.64 311 eP **P** **03 59 01.5 -1.9**
GRR pmax pmax
comp=Z,183nm,0.5s
ELSH Elham, Standar 25.65 318 eP **P** **03 59 03.1 -0.3**
ELSH IAmb IAmb 03 59 06.4
comp=Z,296nm,0.7s
UCM Universidad Co 25.66 292 eP **P** **03 59 04.0 +0.3**
MSFE Esma-Masafi 25.67 104 *i* P **P** **03 59 06.5 +2.6**
SNR=7.7
GOG Mont Gurugu 25.72 280 P **P** **03 59 08.0 +3.7**
SNR=8.4
MDH Madha 25.81 104 P **P** **03 59 07.8 +2.7**
HATD Hatta, Dubai 25.90 105 *i* P **P** **03 59 08.4 +2.5**
SNR=44
HATD Hatta, Dubai 25.90 105 P **P** **03 59 09.1 +3.1**
SNR=11
UOSS Minazif 25.90 105 *i* P **P** **03 59 08.6 +2.6**
SNR=16
UOSS Minazif 25.90 105 P **P** **03 59 08.7 +2.8**
UOSS P **P** **03 59 08.7 +2.8**
UOSS Minazif 25.90 105 P **P** **03 59 05.7 -0.2**
UOSS IAmb IAmb 03 59 10.4
comp=Z,31nm,0.7s
ASHO Ashiyiah 25.91 105 *i* P **P** **03 59 08.8 +2.7**
SNR=35
ASHO Ashiyiah 25.91 105 P **P** **03 59 08.6 +2.5**
ASHO P **P** **03 59 08.8 +2.7**
SNR=9.3
ALNE Al Ain 25.98 107 *i* P **P** **03 59 09.4 +2.7**
SNR=7.5
ESBB Sonseca Array 26.20 290 IAmb IAmb 03 59 11.2
comp=Z,42nm,0.6s
ESDC Sonseca Array 26.20 290 P **P** **03 59 08.7 +0.1**
comp=Z,35nm,0.6s,baz=81,slow=9.8,SNR=254
ESDC PcP **PcP** **04 02 34.2 +0.4**
comp=Z,4.5nm,0.8s,baz=54,slow=2.5,SNR=8.9
GUD Guadarrama 26.37 293 P **P** **03 59 10.3 +0.1**
PALE Palemas 26.49 280 P **P** **03 59 15.1 +3.9**
SNR=6.8
PAB San Pablo 26.50 290 P **P** **03 59 10.6 -0.7**
PAB pmax pmax
comp=Z,48nm,0.9s
PAB San Pablo 26.50 290 P **P** **03 59 10.6 -0.7**
PAB IAmb IAmb 03 59 14.4
comp=Z,48nm,0.8s
SOHO SOHO 26.56 106 P **P** **03 59 16.0 +4.1**
SNR=12
AKTO Aktyubinsk 26.60 45 P **P** **03 59 12.3 +0.3**
comp=Z,14nm,0.5s,baz=247,slow=8.3,SNR=40
JQE Queens East 26.67 312 eP **P** **03 59 11.4 -1.2**
EMAL Malaga-Limoner 26.69 284 eP **P** **03 59 13.3 +0.3**
WACR West Acre 26.72 321 eP **P** **03 59 12.3 -0.7**
WACR IAmb IAmb 03 59 15.1
comp=Z,98nm,0.7s
JLP Les Platons 26.72 312 eP **P** **03 59 12.0 -1.1**
JSA Saint Aubin 26.74 312 eP **P** **03 59 12.0 -1.2**
FINES FINESS Array B 26.77 357 P **P** **03 59 13.2 -0.2**
comp=Z,19nm,0.5s,baz=160,slow=12,SNR=158
FINES PcP **PcP** **04 02 34.6 +0.1**
comp=Z,3.6nm,0.5s,baz=175,slow=1.3,SNR=3.5
FINES S **S** **04 03 42.3 -1.6**
comp=Z,3.9nm,0.8s,baz=185,slow=15,SNR=2.9
FINES PKiKP **PKiKP** **04 10 11.7 -0.7**
comp=Z,0.5nm,0.5s,baz=170,slow=2.5,SNR=3.8
FINES LR LR 04 11 52.2
comp=Z,46nm,20.1s,baz=191,slow=41
FIA1 FINESS Array S 26.77 357 IAmb IAmb 03 59 14.1
comp=Z,26nm,0.7s
JVM Valle D.L. Mar 26.77 312 eP **P** **03 59 11.8 -1.7**
PVLZ Peæn de 26.79 280 eP **P** **03 59 14.8 +1.0**
QUIF Quistinic 26.94 309 eP **P** **03 59 13.2 -1.9**
QUIF pmax pmax
comp=Z,60nm,0.5s
ARQ Araqi 26.95 107 P **P** **03 59 18.4 +3.0**
WOL Wolverton 27.04 317 eP **P** **03 59 14.6 -1.3**
HOMB Homborsund 27.05 337 eP **P** **03 59 13.9 -1.9**
KLMR Klimovskoe 27.09 12 eP **P** **03 59 14.8 -1.5**
KLMR pmax pmax
comp=Z,32nm,0.9s
KLMR Klimovskoe 27.09 12 eP **P** **03 59 14.9 -1.4**
KLMR AMP 03 59 31.2
comp=Z,32nm,0.9s
HFS Hagfors 27.17 344 P **P** **03 59 16.3 -0.6**
comp=Z,71nm,0.7s,baz=154,slow=8.2,SNR=178
HFS S **S** **04 03 44.0 -6.3**
comp=Z,2.5nm,0.8s,baz=183,slow=17,SNR=2.3
HORN Hornachuelos 27.27 286 P **P** **03 59 18.3 +0.2**
SNR=17
HOQ Hoqain 27.45 106 P **P** **03 59 23.1 +3.2**
SWN1 Swindon 27.45 317 eP **P** **03 59 18.7 -0.9**
SWN1 IAmb IAmb 03 59 23.0
comp=Z,278nm,0.8s
MDT Midelt 27.48 275 P **P** **03 59 21.3 +1.1**
comp=Z,6.5nm,0.9s,baz=92,slow=15,SNR=13
SNART Snartemo 27.53 336 eP **P** **03 59 19.2 -1.0**
KIRV Kirov 27.63 24 P **P** **03 59 21.3 +0.3**
comp=Z,16nm,0.4s,baz=230,slow=5.5,SNR=12
KIRV Kirov 27.63 24‖ eP **P** **03 59 20.9 -0.1**
BATH Bath 27.72 316 eP **P** **03 59 21.8 -0.2**
CWF Charnwood Fore 27.75 320 eP **P** **03 59 20.6 -1.5**
CWF IAmb IAmb 03 59 21.4
comp=Z,23nm,0.6s
OSL Oslo 27.75 341 eP **P** **03 59 20.6 -1.4**
IFR Ifrane 27.75 277 eP **P** **03 59 25.2 +2.4**
IFR es ScS ScS 04 09 53.2 -11
STRD Stroud 27.77 317 eP **P** **03 59 21.5 -1.0**
STRD IAmb IAmb 03 59 25.8
comp=Z,238nm,0.7s
BSY Bisya 27.79 108 P **P** **03 59 26.5 +3.5**
KONO Kongsberg 27.82 339 ce P **P** **03 59 22.3 -0.5**
KONO pmax pmax
comp=Z,29nm,1.3s
KONO Kongsberg 27.82 339 eP **P** **03 59 21.2 -1.5**
OLDB Oldbury-Upon-S 27.94 317 eP **P** **03 59 22.7 -1.2**
MONM Monmouth 28.16 317 eP **P** **03 59 24.7 -1.2**
MONM IAmb IAmb 03 59 29.4
comp=Z,74nm,0.8s
NC602 NORSAR Array S 28.22 342 IAmb IAmb 03 59 27.0
comp=Z,43nm,0.7s
NORES NORESS Array B 28.22 342 P **P** **03 59 25.2 -1.1**
NORES pmax pmax
comp=Z,6.0nm,0.3s
DYA Yadsworthy 28.26 314 eP **P** **03 59 25.6 -1.2**
LBWR Ladybower, Pea 28.29 321 eP **P** **03 59 25.6 -1.5**
LBWR IAmb IAmb 03 59 27.9
comp=Z,20nm,0.8s
SMDO Samad 28.30 106 P **P** **03 59 30.9 +3.3**
MCH1 Michaelchurch 28.34 317 eP **P** **03 59 26.4 -1.0**
MCH1 IAmb IAmb 03 59 31.1
comp=Z,38nm,0.8s
GDLE Glaisdale, N Y 28.34 323 eP **P** **03 59 26.1 -1.4**
GDLE IAmb IAmb 03 59 30.3
comp=Z,40nm,0.5s
PBRG Braganca 28.37 295 eP **P** **03 59 28.0 0.0**
comp=Z,72nm,0.8s
STNC Stoke 28.39 320 eP **P** **03 59 27.4 -0.5**

NAO01 **NORSAR Array S** 28.48 342 P P 03 59 27.9 -0.7
NC405 **NORSAR Array S** 28.50 343 IAmb IAmb 03 59 29.3
comp=Z,50nm,1.0s
HPK **Haverah Park** 28.51 322 *e*P P 03 59 28.1 -0.9
NB201 **NORSAR Array S** 28.55 343 IAmb IAmb 03 59 30.0
comp=Z,50nm,0.9s
NB2 **NORSAR Subarra** 28.56 342 P P 03 59 27.8 -1.6
comp=Z,28nm,0.9s,baz=147,slow=9.3
NB2 **NORSAR Subarra** 28.56 342 P P 03 59 27.8 -1.6
baz=147,slow=9.3
NOA **NORSAR Array B** 28.56 342 P P 03 59 28.3 -1.1
comp=Z,22nm,0.9s,baz=147,slow=8.9,SNR=79
NOA PcP **PcP** 04 02 39.5 +0.5
comp=Z,2.4nm,0.8s,baz=124,slow=3.5,SNR=4.3
NOA LR LR 04 14 05.4
comp=Z,47nm,19.0s,baz=160,slow=43
MVO **Moncorvo** 28.57 294 *e*P P 03 59 29.9 +0.2
comp=Z,56nm,0.7s
BLS5 **Blasjo** 28.61 336 *e*P P 03 59 28.5 -1.3
NBO00 **NORSAR Array S** 28.66 342 IAmb IAmb 03 59 33.8
comp=Z,35nm,0.7s
WSAR **Wadi Sarin** 28.67 105 P P 03 59 32.7 +1.9
comp=Z,2.0nm,0.5s,baz=297,slow=10,SNR=2.0
NC303 **NORSAR Array S** 28.68 343 IAmb IAmb 03 59 30.1
comp=Z,31nm,0.9s
JMDO **Jabal Madar** 28.70 108 P P 03 59 34.5 +3.5
HTL **Hartland** 28.79 314 *e*P P 03 59 30.7 -0.8
FOEL **Foel Wylfa** 28.84 319 *e*P P 03 59 31.1 -0.8
FOEL IAmb IAmb 03 59 31.7
comp=Z,67nm,0.5s
PMRV **Marv??o** 28.85 290 *e*P P 03 59 31.9 -0.4
comp=Z,27nm,1.0s
NC204 **NORSAR Array S** 28.88 342 P P 03 59 31.6 -0.6
NC204 IAmb IAmb 03 59 32.9
comp=Z,62nm,0.9s
NC204 **NORSAR Array S** 28.88 342 *e*P P 03 59 31.3 -0.9
PCBR **Castelo Branco** 28.91 291 *e*P P 03 59 32.5 -0.2
comp=Z,31nm,1.3s
ODD1 **Odda** 28.94 337 *e*P P 03 59 32.0 -0.8
MTE **Manteigas** 28.95 292 *e*P P 03 59 32.4 -0.8
comp=Z,31nm,1.7s
SKAR **Skarslia** 29.04 340 *e*P P 03 59 32.8 -0.8
DMTO **DMTO** 29.06 119 P P 03 59 36.6 +2.4
LLW **Llanuwchllyn** 29.07 318 *e*P P 03 59 33.1 -0.9
LLW IAmb IAmb 03 59 34.8
comp=Z,14nm,0.7s
PVRL **Vila Real** 29.09 294 *e*P P 03 59 34.6 +0.3
comp=Z,38nm,1.7s
PVIS **Viseu** 29.22 293 *e*P P 03 59 36.0 +0.5
comp=Z,34nm,1.4s
PVAQ **Vaqueiros** 29.25 286 P P 03 59 35.6 -0.1
SNR=11
PVAQ **Vaqueiros** 29.25 286 *e*P P 03 59 35.2 -0.5
comp=Z,50nm,1.2s
PVAQ **Vaqueiros** 29.25 286 IAmb IAmb 03 59 37.0
comp=Z,37nm,1.1s
WBK **Wadi Bani Khal** 29.26 106 P P 03 59 39.3 +3.3
RSBS **Rosebush, Pemb** 29.30 316 *e*P P 03 59 35.5 -0.5
RSBS IAmb IAmb 03 59 40.5
comp=Z,39nm,0.9s
PBEJ **Beja** 29.31 287 *e*P P 03 59 36.1 -0.2
comp=Z,23nm,1.4s
PCAB **Cabril** 29.33 295 *e*P P 03 59 36.7 +0.2
comp=Z,39nm,1.1s
MHTO **MHTO** 29.34 110 P P 03 59 39.7 +3.0
EVO **Evora** 29.39 288 *e*P P 03 59 37.1 +0.2
EVO **Evora** 29.39 288 *e*P P 03 59 37.1 +0.2
comp=Z,32nm,1.5s
PBDV **Barranco-do-Ve** 29.43 286 *e*P P 03 59 37.8 +0.4
comp=Z,69nm,1.5s
PMTG **Montargil** 29.52 289 *e*P P 03 59 38.1 0.0
comp=Z,27nm,1.7s
PGAV **Gavieira, Arco** 29.52 295 *e*P P 03 59 39.1 +0.9
comp=Z,44nm,1.9s
KESW **Keswick, Cumbr** 29.58 322 *e*P P 03 59 37.2 -1.2
KESW IAmb IAmb 03 59 39.2
comp=Z,23nm,0.5s
MESJ **Messejana** 29.60 287 *e*P P 03 59 38.1 -0.7
MESJ AMb AMB 03 59 40.7
comp=Z,28nm,0.6s
MESJ **Messejana** 29.60 287 *e*P P 03 59 38.1 -0.7
MESJ **Messejana** 29.60 287 *e*P P 03 59 38.9 0.0
comp=Z,28nm,1.0s
COI **Coimbra** 29.62 292 IAmb IAmb 03 59 40.0
comp=Z,37nm,1.0s
WME **Myndd Eilian** 29.66 319 *e*P P 03 59 38.0 -1.1
WLF1 **Llynfaes** 29.66 319 *e*P P 03 59 37.9 -1.3
PCAS **Casmilo, Conde** 29.69 291 *e*P P 03 59 35.4 -4.2
BER **Bergen** 29.71 337 *e*P P 03 59 38.3 -1.3
YRC **Rhoscolyn** 29.74 319 *e*P P 03 59 38.8 -1.0
PTO **Porto** 29.75 293 *e*P P 03 59 41.1 +0.9
WPS **Cemaes, Angles** 29.76 319 *e*P P 03 59 39.0 -1.0
WPS IAmb IAmb 03 59 39.6
comp=Z,21nm,0.6s
PNCL **Nicolau / Gran** 29.82 287 *e*P P 03 59 41.0 +0.2
comp=Z,37nm,1.7s
ARU **Arti** 29.84 34 P P 03 59 41.0 +0.3
comp=Z,2.4nm,0.3s,baz=202,slow=11,SNR=6.7
ARU **Arti** 29.84 34 *d* /P P 03 59 41.4 +0.7
ARU *PP **pP** 03 59 56.7 0.0
ARU 04 00 39.7
ARU S S 04 04 35.2 +2.9
ARU SS **SnSn** 04 06 10.3 +1.0
ARU pmax pmax
comp=Z,18nm,1.3s
ARU **Arti** 29.84 34 P P 03 59 40.4 -0.4
PSBE **So Bento** 29.94 290 *e*P P 03 59 42.0 +0.2
comp=Z,48nm,2.0s
DOMB **Dombas** 29.96 342 *e*P P 03 59 41.8 0.0
EKA **Eskdalemuir Ar** 29.98 323 P P 03 59 40.6 -1.3
comp=Z,4.5nm,0.3s,baz=121,slow=10.0,SNR=68
EKA PcP **PcP** 04 02 42.4 -0.2
comp=Z,3.0nm,0.6s,baz=108,slow=2.5,SNR=4.8
ESK **Eskdalemuir** 29.99 323 *e*P P 03 59 40.6 -1.4
ESK **Eskdalemuir** 29.99 323 P P 03 59 41.2 -0.9
PTEO **Sao Teotonio** 30.03 286 *e*P P 03 59 42.7 +0.1
HYA **Hoyanger** 30.05 338 *e*P P 03 59 41.5 -1.0
EBA **Broad Law** 30.14 324 *e*P P 03 59 42.1 -1.4
PFVI **Vila Bisbo** 30.16 286 *e*P P 03 59 45.6 +1.8
IOMK **Kirk Michael** 30.18 321 *e*P P 03 59 42.9 -0.8
IOMK IAmb IAmb 03 59 43.6
comp=Z,66nm,0.6s
WIM **Isle of Man** 30.18 320 *e*P P 03 59 43.0 -0.8
EDI **Edinburgh** 30.29 324 *e*P P 03 59 43.3 -1.4
EDI IAmb IAmb 03 59 44.8
comp=Z,59nm,0.5s
SUE **Sulen** 30.41 337 *e*P P 03 59 45.5 -0.2
GAL1 **Galloway** 30.53 322 *e*P P 03 59 45.6 -1.2
GAL1 IAmb IAmb 03 59 47.6
comp=Z,18nm,0.6s
AKN **Aaknes** 30.62 340 *e*P P 03 59 46.5 -1.2
FOO **Floro** 30.74 338 *e*P P 03 59 46.9 -1.6
MOL **Molde** 30.80 341 *e*P P 03 59 48.9 -0.1
INVG **Invergeldie, C** 30.96 325 *e*P P 03 59 48.8 -1.9
EAB **Aberfoyle** 30.98 324 *e*P P 03 59 49.5 -1.3
SVE **Sverdlovsk** 31.02 35 *e*P P 03 59 52.3 +1.2
SVE pmax pmax
comp=Z,20nm,0.9s
CLGH **Cloghs, Cushen** 31.35 321 *e*P P 03 59 53.2 -0.8
CLGH IAmb IAmb 03 59 54.6
comp=Z,52nm,1.3s
NSS **Namsos** 31.47 346 *e*P P 03 59 54.7 -0.2
LAWE **Loch Awe, Argy** 31.53 324 *e*P P 03 59 54.3 -1.4
LAWE IAmb IAmb 03 59 56.0
comp=Z,13nm,0.8s
LODK **Lodwar** 31.81 167 P P 03 59 59.9 +1.3
KPL **Plockton** 32.18 325 *e*P P 03 59 59.3 -2.1
TOA0 **Torodi Ar. Sit** 32.38 235 P P 04 00 03.3 -0.2
TORD **Torodi Ar. Bea** 32.38 235 P P 04 00 03.2 -0.2
comp=Z,36nm,0.7s,baz=31,slow=7.3,SNR=480
TORD PcP **PcP** 04 02 49.6 -0.1
comp=Z,3.9nm,0.6s,baz=29,slow=2.3,SNR=5.7
TORD PKiKP **PKiKP** 04 10 16.4 -0.8
comp=Z,0.9nm,0.9s,baz=9.5,slow=2.4,SNR=5.1
TORD LR LR 04 15 28.4
comp=Z,128nm,19.4s,baz=35,slow=40
MOR8 **Moi Rana** 32.55 349 *e*P P 04 00 04.3 -0.2
CHGR **Chuyangaron** 32.68 71 IAmb IAmb 04 00 07.5
comp=Z,19nm,0.6s
STOK **Stokkvaagen** 32.92 349 *e*P P 04 00 07.6 0.0
APA **Apatity** 33.00 3 ||*i* /P P 04 00 09.4 +1.0
APA pmax pmax
comp=Z,8.0nm,0.7s
APA MLR MLR
comp=Z,200nm,15.0s

KONS **Konsvik** 33.06 349 *e*P P 04 00 08.7 -0.2
IUG **luzhnay** 33.14 65 *e*P P 04 00 10.4 +0.3
comp=Z,0.9nm,0.8s,baz=65
IUG *e*sP **sP** 04 00 37.8 +3.6
baz=65
IUG **luzhnay** 33.14 65 *e*P P 04 00 10.3 +0.3
IUG *e**SP **sP** 04 00 37.8 +3.6
NBB17 **Glomfjord B¥r** 33.22 350 *e*P P 04 00 10.4 +0.1
LVZ **Lovozero** 33.40 4 *i* P P 04 00 13.0 +1.1
LVZ pmax pmax
comp=Z,23nm,1.0s
NBB30 **Finnes** 33.40 350 *e*P P 04 00 12.1 +0.2
NBB05 **Inndyr** 33.42 350 *e*P P 04 00 11.9 0.0
KK31 **Karatay Array** 33.48 63 *i* P P 04 00 14.0 +1.1
N2ST **Straumen** 33.50 351 *e*P P 04 00 13.0 +0.3
NBB28 **Valnes** 33.50 350 *e*P P 04 00 12.5 -0.2
GAR **Garm** 33.55 70 IAmb IAmb 04 00 16.1
comp=Z,16nm,0.7s
N2TV **T¥rnvik** 33.76 351 *e*P P 04 00 15.8 +0.8
N2IH **Innhavet** 34.04 352 *e*P P 04 00 17.8 +0.4
DZA **Taraz** 34.09 63 *e*P P 04 00 19.0 +0.8
comp=Z,8.2nm,0.7s,baz=63
DZA **Taraz** 34.09 63 *e*P P 04 00 19.0 +0.8
DZA pmax pmax
comp=Z,8.0nm,0.7s
STEI **Steigen** 34.09 351 *e*P P 04 00 17.7 -0.1
N2RO **R¸st** 34.15 349 *e*P P 04 00 18.0 -0.4
KTK1 **Kautokeino** 34.45 357 *e*P P 04 00 20.6 -0.4
LOF **Lofoten** 34.51 350 *e*P P 04 00 20.6 -0.8
N2VI **Vinje** 34.60 351 *e*P P 04 00 21.7 -0.5
BRVK **Borovoye** 34.65 45 *ce*P P 04 00 23.7 +0.8
BRVK pmax pmax
comp=Z,7.0nm,1.7s
BRVK **Borovoye** 34.65 45 P P 04 00 23.2 +0.4
ARCES **ARCESS Array B** 34.89 358 P P 04 00 24.0 -0.8
comp=Z,9.4nm,0.6s,baz=174,slow=7.8,SNR=119
ARCES PcP **PcP** 04 02 56.0 +0.1
comp=Z,3.9nm,0.6s,baz=190,slow=3.9,SNR=2.7
ARCES S S 04 05 44.8 -5.8
comp=Z,4.9nm,0.9s,baz=195,slow=14,SNR=5.2
ARCES LR LR 04 15 39.8
comp=Z,69nm,20.5s,baz=160,slow=38
ARCES **ARCESS Array B** 34.89 358 P P 04 00 24.0 -0.8
ARE0 **ARCESS Array S** 34.89 358 *e*P P 04 00 25.0 +0.2
OTUK **Ortayu** 35.05 54 P P 04 00 26.9 +0.5
MBAR **Mbarara** 35.22 176 *i* P P 04 00 29.9 +1.6
MBAR pmax pmax
comp=Z,18nm,1.0s
MBAR **Mbarara** 35.22 176 P P 04 00 28.3 0.0
MBAR IAmb IAmb 04 00 30.5
comp=Z,26nm,1.1s
TRO **Tromso** 35.35 354 *e*P P 04 00 28.6 0.0
ARSB **Arslanbob** 35.38 66 P P 04 00 29.2 -0.3
ARSB pmax pmax
comp=Z,21nm,0.7s
ARSB **Arslanbob** 35.38 66 P P 04 00 29.2 -0.3
ARSB IAmb IAmb 04 00 31.8
comp=Z,21nm,0.7s
BRZS **Berezniki** 35.49 51 *e*P P 04 00 31.3 +1.0
comp=Z,7.5nm,0.6s,baz=51
BRZS **Berezniki** 35.49 51 *e*P P 04 00 31.2 +1.0
BRZS pmax pmax
comp=Z,8.0nm,0.6s
AML **Almayashu** 35.86 64 P P 04 00 35.0 +1.1
SNR=8.4
EKS2 **Erkin-Say** 35.89 63 P P 04 00 35.5 +1.6
SNR=6.5
HAMF **Hammerfest** 36.06 357 *e*P P 04 00 34.3 -0.4
USP **Ospenovka** 36.40 62 P P 04 00 38.9 +0.8
SNR=5.8
AAK **Ala-Archa** 36.42 63 P P 04 00 39.7 +1.3
SNR=21
AAK **Ala-Archa** 36.42 63 *i* P P 04 00 39.8 +1.3
SNR=26
AAK **Ala-Archa** 36.42 63 P P 04 00 40.0 +1.6
AAK **Ala-Archa** 36.42 63 *ce*P P 04 00 40.0 +1.6
AAK pmax pmax
comp=Z,52nm,1.7s
AAK **Ala-Archa** 36.42 63 P P 04 00 38.5 +0.1
UCH **Uchtor** 36.46 64 P P 04 00 40.4 +1.3
SNR=18
SGDS **Sogindy** 36.48 62 *e*P P 04 00 39.0 +0.2
comp=Z,4.0nm,0.9s,baz=62
SGDS **Sogindy** 36.48 62 *e*P P 04 00 39.0 +0.2
SGDS pmax pmax
comp=Z,4.0nm,0.9s
CHMS **Chumysh** 36.59 63 P P 04 00 41.3 +1.6
SNR=8.5
KMBO **Kilima Mbogo** 36.62 165 P P 04 00 43.2 +2.9
comp=Z,2.4nm,0.6s,baz=360,slow=11,SNR=7.8
KMBO PcP **PcP** 04 03 04.8 +2.6
comp=Z,5.2nm,0.8s,baz=360,slow=5.6,SNR=9.6
KMBO LR LR 04 15 41.5
comp=Z,83nm,21.3s,baz=304,slow=36
KMBO **Kilima Mbogo** 36.62 165 P P 04 00 42.1 +1.8
KMBO **Kilima Mbogo** 36.62 165 *i* P P 04 00 43.7 +3.4
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO **Kilima Mbogo** 36.62 165 P P 04 00 40.7 +0.4
KMBO PcP **PcP** 04 03 02.2 0.0
KBK **Karagaybulak** 36.76 63 P P 04 00 43.0 +1.7
SNR=16
NIL **Nilore** 36.84 79 P P 04 00 43.6 +1.7
NIL **Nilore** 36.84 79 P P 04 00 42.1 +0.2
NIL pmax pmax
comp=Z,26nm,0.7s
NIL **Nilore** 36.84 79 P P 04 00 42.1 +0.2
KZA **Kyzart** 37.02 64 P P 04 00 45.6 +1.9
SNR=24
TKM2 **Tokmak 2** 37.22 63 P P 04 00 46.2 +1.0
SNR=17
TKM2 **Tokmak 2** 37.22 63 P P 04 00 46.2 +1.0
BOOM **Boomskoye usch** 37.50 64 IAmb IAmb 04 00 50.5
comp=Z,17nm,1.1s
ULHL **Ulahol** 37.74 64 P P 04 00 51.5 +1.8
SNR=58
MTBS **Maitube** 37.81 63 *e*P P 04 00 51.2 +1.1
baz=63
MTBS **Maitube** 37.81 63 *e*P P 04 00 51.2 +1.1
KSH **Kashi** 37.84 68 P P 04 00 49.7 -0.7
KSH pP pP 04 01 08.1 +1.2
KSH S S 04 06 34.5 -2.0
KSH pmax pmax
comp=Z,33nm,0.5s
KSH LR LR
comp=Z,210nm,9.0s
TNSS **Tian-Shan** 38.20 63 *e*P P 04 00 54.6 +0.9
baz=63
TNSS **Tian-Shan** 38.20 63 *e*P P 04 00 54.6 +0.9
MDOK **Medeo** 38.26 62 *e*P P 04 00 55.1 +1.2
comp=Z,164nm,1.2s,baz=63
MDOK **Medeo** 38.26 62 *e*P P 04 00 55.1 +1.2
MDOK pmax pmax
comp=Z,164nm,1.2s
KDJ **Kajisay** 38.45 64 IAmb IAmb 04 00 58.1
comp=Z,19nm,0.8s
TARG **Taragay, Kyrgy** 38.95 65 IAmb IAmb 04 01 03.0
comp=Z,15nm,1.0s
TDK **Taldyqorghan** 39.13 59 *e*P P 04 01 01.9 +0.9
comp=Z,15nm,0.6s,baz=60
TDK **Taldyqorghan** 39.13 59 *e*P P 04 01 01.9 +0.9
TDK pmax pmax
comp=Z,15nm,0.6s
SATY **Saty** 39.26 62 ||*e*P P 04 01 03.9 +1.5
comp=Z,13nm,0.7s,baz=63
SATY *e*S **S** 04 07 00.1 +2.3
baz=63
SATY **Saty** 39.26 62 *ce*P P 04 01 03.8 +1.5
SATY *e*S **S** 04 07 00.1 +2.3
SATY pmax pmax
comp=Z,13nm,0.7s
KURBB **Kurchatov Arra** 39.29 50 P P 04 01 01.6 -0.7
KURK **Kurchatov** 39.36 50 P P 04 01 04.2 +1.4
KURK **Kurchatov** 39.36 50 *ce*P P 04 01 04.0 +1.2
KURK pmax pmax
comp=Z,35nm,0.8s
KURK **Kurchatov** 39.36 50 P P 04 01 03.0 +0.2
UZB **Uzynbulak** 39.70 62 ||*e*P P 04 01 06.7 +0.6
comp=Z,5.8nm,0.8s,baz=62
UZB *e*S **S** 04 07 05.9 +1.3
baz=62
UZB **Uzynbulak** 39.70 62 *ce*P P 04 01 06.6 +0.6
UZB *e*S **S** 04 07 05.8 +1.3
UZB pmax pmax
comp=Z,6.0nm,0.8s

SHLS **Shalkode** 40.02 62 *e*P P 04 01 11.8 +3.1
comp=Z,6.7nm,0.7s,baz=62
SHLS **Shalkode** 40.02 62 *e*P P 04 01 11.7 +3.1
SHLS pmax pmax
comp=Z,7.0nm,0.7s
BJO1 **Bjornoya** 40.12 356 *e*P P 04 01 08.5 -0.3
SEM **Semipalatinsk** 40.38 51 *e*P P 04 01 12.3 +0.7
comp=Z,6.0nm,0.7s,baz=51
SEM *e*S **S** 04 07 15.8 +1.3
baz=51
SEM **Semipalatinsk** 40.38 51 *e*P P 04 01 12.2 +0.7
SEM *e*S **S** 04 07 15.8 +1.3
SEM pmax pmax
comp=Z,6.0nm,0.7s
JMIC **Jan Mayen** 41.27 343 *e*P P 04 01 18.2 -0.1
DBIC **Dimbokro** 41.48 235 P P 04 01 20.1 -0.5
comp=Z,35nm,0.7s,baz=24,slow=9.0,SNR=61
DBIC PcP **PcP** 04 03 17.6 +0.3
comp=Z,25nm,0.5s,baz=22,slow=4.2,SNR=10
DBIC LR LR 04 20 00.8
comp=Z,103nm,21.7s,baz=347,slow=38
DBIC **Dimbokro** 41.48 235 P P 04 01 20.2 -0.5
DBIC 04 03 16.5
DBIC pmax pmax
comp=Z,47nm,0.8s
DBIC **Dimbokro** 41.48 235 P P 04 01 20.2 -0.5
DBIC PcP **PcP** 04 03 16.5 -0.8
MAKZ **Makanchi** 41.54 56 P P 04 01 21.7 +0.8
MAKZ **Makanchi** 41.54 56 P P 04 01 20.8 0.0
MAKZ IAmb IAmb 04 01 22.7
comp=Z,28nm,0.8s
MAKZ PcP **PcP** 04 03 17.1 +0.1
TIC **Toumodi** 41.62 236 *e*PKP1 PcP 04 03 17.6 -0.1
TIC **Toumodi** 41.62 236 *e*P P 04 01 20.7 -1.1
KIC **Kosan Boka** 41.63 235 *e*PKP1 PcP 04 03 17.8 0.0
comp=Z,46nm,0.8s
KIC **Kosan Boka** 41.63 235 *e*P P 04 01 21.2 -0.8
comp=Z,149nm,0.6s
MK31 **Makanchi Array** 41.75 56 *i* P P 04 01 23.6 +0.9
MK31 **Makanchi Array** 41.75 56 P P 04 01 23.0 +0.4
MKAR **Makanchi Array** 41.75 56 P P 04 01 23.7 +1.0
comp=Z,48nm,0.6s,baz=277,slow=6.4,SNR=413
MKAR PcP **PcP** 04 03 18.2 +0.4
comp=Z,4.3nm,0.6s,baz=277,slow=4.8,SNR=2.2
MKAR LR LR 04 21 13.9
comp=Z,70nm,19.1s,baz=273,slow=40
HOPEN **Hopen** 41.90 359 *e*P P 04 01 23.6 +0.2
LIC **Lamto** 41.92 235 *e*PKP1 PcP 04 03 18.6 -0.1
comp=Z,62nm,0.6s
LIC **Lamto** 41.92 235 *e*P P 04 01 22.7 -1.6
comp=Z,184nm,0.8s
HSPB **Hornsund (broa** 42.76 356 *e*P P 04 01 30.9 +0.5
ZAA0 **Zalesovo Array** 43.35 46 IAmb IAmb 04 01 36.5
comp=Z,24nm,0.7s
ZALV **Zalesovo Beam** 43.35 46 P P 04 01 35.9 +0.4
comp=Z,26nm,0.4s,baz=264,slow=9.1,SNR=42
ZALV S **S** 04 07 57.7 -0.1
comp=Z,0.7nm,0.4s,baz=262,slow=10.0,SNR=2.2
ZALV LR LR 04 22 44.9
comp=Z,42nm,20.3s,baz=260,slow=40
ZALV **Zalesovo Beam** 43.35 46 *i* P P 04 01 35.7 +0.3
ZALV pmax pmax
comp=Z,26nm,0.4s
ZSN **Zaisan** 43.47 55 *e*P P 04 01 37.3 +0.8
comp=Z,10nm,1.1s,baz=55
ZSN **Zaisan** 43.47 55 *e*P P 04 01 37.3 +0.8
ZSN pmax pmax
comp=Z,10.0nm,1.1s
SPA0 **Spitsbergen Ar** 43.86 356 IAmb IAmb 04 01 56.6
comp=Z,27nm,1.0s
SPA0 **Spitsbergen Ar** 43.86 356 *e*P P 04 01 40.2 +1.0
SPITS **Spitsbergen Ar** 43.86 356 P P 04 01 39.6 +0.4
SPITS pmax pmax
comp=Z,10.0nm,0.3s
SCO **Scoresbysund** 44.71 338 *i* P P 04 01 47.0 +0.9
comp=Z,6.0nm,0.6s
SCO **Scoresbysund** 44.71 338 *i* P P 04 01 47.0 +0.9
SCO pmax pmax
comp=Z,6.0nm,0.6s
KBS **Kingsbay** 44.83 356 *ce*P P 04 01 48.1 +1.1
KBS pmax pmax
comp=Z,23nm,1.3s
KBS **Kingsbay** 44.83 356 P P 04 01 47.4 +0.4
KBS IAmb IAmb 04 02 03.4
comp=Z,24nm,1.0s
KBS **Kingsbay** 44.83 356 *e*P P 04 01 47.5 +0.6
DGZ **Jazzator, Alta** 45.01 52 *c* /P P 04 01 50.0 +1.0
DGZ pmax pmax
comp=Z,19nm,0.8s
KLRI **Killari** 45.76 99 *e*P P 04 01 55.2 +0.1
WMQ **Urumqi** 45.88 60 *e*P P 04 01 57.7 +1.9
WMQ pP sP 04 02 19.2 -1.2
WMQ pmax pmax
comp=Z,29nm,0.7s
WMQ pmax pmax
comp=Z,110nm,3.8s
WMQ LR LR
comp=Z,160nm,15.7s
WMQ LR LR
comp=Z,200nm,21.7s
WMQ LR LR
comp=Z,210nm,25.9s
PYUN **Piuthan** 46.54 82 *e*P P 04 02 02.3 +0.9
comp=Z,162nm,0.6s
SRSP **Sriramsagar** 46.75 96 *e*P P 04 02 02.4 -0.5
DANN **Dangsing** 47.07 82 *e*P P 04 02 06.7 +1.1
comp=Z,349nm,0.7s
DAG **Danmarks Havn** 47.08 347 *i* P P 04 02 05.0 +0.4
comp=Z,2.8nm,0.6s
DAG **Danmarks Havn** 47.08 347 *e*P P 04 02 05.0 +0.4
DAG pmax pmax
comp=Z,3.0nm,0.6s
NRIK **Noril'sk** 47.13 25 P P 04 02 06.8 +1.7
comp=Z,17nm,0.5s,baz=237,slow=4.9,SNR=30
NRIK LR LR 04 26 06.1
comp=Z,37nm,18.8s,baz=220,slow=41
NRIK **Noril'sk** 47.13 25 ||*e*P P 04 02 06.8 +1.7
NRIK pmax pmax
comp=Z,16nm,0.6s
KOLN **Koldanda** 47.16 83 *e*P P 04 02 06.8 +0.6
comp=Z,45nm,0.5s
HYBB **Hyderabad (bro** 47.69 98 *e*P P 04 02 09.5 -0.7
HYB **Hyderabad** 47.69 98 *i* P P 04 02 10.5 +0.3
GKN **Gorkha** 47.92 82 *e*P P 04 02 12.2 +0.2
comp=Z,66nm,0.6s
URV **Uravakonda** 47.96 102 *e*P P 04 02 12.4 +0.1
DMN **Daman** 48.45 82 *e*P P 04 02 16.8 +0.5
comp=Z,57nm,0.6s
KKN **Kakani** 48.52 82 *e*P P 04 02 17.0 +0.2
comp=Z,65nm,0.6s
PKIN **Phulchoki** 48.70 82 *e*P P 04 02 18.4 +0.2
comp=Z,58nm,0.7s
PKI **Pulchoki** 48.72 82 *e*P P 04 02 18.4 0.0
comp=Z,66nm,0.8s
NJS **Nagarjunasagar** 48.76 98 *e*P P 04 02 17.9 -0.5
GUN **Gumba** 48.97 81 *e*P P 04 02 20.6 +0.3
comp=Z,51nm,0.5s
RCLA **Racherla** 49.05 100 *e*P P 04 02 20.1 -0.5
JIRN **Jiri** 49.32 82 *e*P P 04 02 23.2 +0.2
comp=Z,96nm,0.8s
ADKI **Addanki** 49.67 99 *e*P P 04 02 25.3 0.0
NOR **Nord** 49.73 352 ||*i* /P P 04 02 24.7 -0.2
comp=Z,11nm,0.6s
NOR **Nord** 49.73 352 ||*i* /P P 04 02 24.7 -0.2
NOR pmax pmax
comp=Z,11nm,0.6s
LSZ **Lusaka** 49.73 180 P P 04 02 26.0 +0.1
LSZ **Lusaka** 49.73 180 P P 04 02 26.2 +0.4
LSZ pmax pmax
comp=Z,10.0nm,0.8s
LSZ **Lusaka** 49.73 180 P P 04 02 26.2 +0.4
LSZ IAmb IAmb 04 02 27.2
comp=Z,10nm,0.8s
RAMN **Ramite** 49.94 82 *e*P P 04 02 27.0 -0.6
comp=Z,17nm,0.5s
PVM **Polavaram** 50.29 96 *e*P P 04 02 27.8 -2.2
SUMG **Summit** 50.34 339 *i* P P 04 02 30.5 +0.3
comp=Z,23nm,0.5s
SUMG **Summit** 50.34 339 *i* P P 04 02 30.5 +0.3
SUMG pmax pmax
comp=Z,23nm,0.5s
SUMG **Summit** 50.34 339 P P 04 02 30.1 -0.1
SUMG IAmb IAmb 04 02 46.3
comp=Z,9.4nm,0.6s
SUMG PcP **PcP** 04 03 48.3 +0.4
SKHT **Srikalahasti** 50.60 101 *e*P P 04 02 32.1 -0.2

ODAN Odare 50.62 82 *e*P P 04 02 32.0 -0.7
comp=Z,13nm,0.4s
TAPN Taplejung 50.68 81 *e*P P 04 02 33.1 -0.2
comp=Z,19nm,0.4s
ILULI Ilulissat 54.33 334 P P 04 02 58.7 -0.5
ILULI IAmb IAmb 04 03 12.6
comp=Z,8.6nm,0.8s
ILULI PcP 04 04 02.5 +0.2
SFJD Kangerlussuaq 54.34 332 ⇑*i*P P 04 02 59.2 -0.2
SFJD Kangerlussuaq 54.34 332 ⇑*i*P P 04 02 59.2 -0.2
SFJD Kangerlussuaq 54.34 332 P P 04 02 59.1 -0.3
SFJD IAmb IAmb 04 03 00.4
comp=Z,11nm,0.4s
SHL Shillong 54.82 81 P P 04 03 03.0 -0.7
SHL pmax pmax
comp=Z,12nm,0.8s
SHL Shillong 54.82 81 P P 04 03 03.0 -0.7
SHL IAmb IAmb 04 03 03.3
comp=Z,12nm,0.8s
TLY Talaya 54.91 47 *i*P P 04 03 05.2 +1.5
TLY pmax pmax
comp=Z,25nm,1.2s
TLY Talaya 54.91 47 P P 04 03 04.7 +1.0
TLY IAmb IAmb 04 03 07.4
comp=Z,17nm,1.1s
ZAK Zakamensk 54.99 49 *e*P P 04 03 05.6 +1.1
ZAK pmax pmax
comp=Z,22nm,1.1s
GTA Gaotai 55.77 63 *e*P P 04 03 10.8 +0.6
GTA pP pwP 04 03 29.8 -1.3
GTA sP sP 04 03 37.9 +2.6
GTA pmax pmax
comp=Z,14nm,0.7s
OPO Ambohidratompo 55.92 158 P P 04 03 13.5 +2.0
baz=333,slow=6.8
SONM Songino Array 57.65 51 P P 04 03 24.7 +1.2
comp=Z,15nm,0.5s,baz=281,slow=7.5,SNR=17
SONM LR LR 04 32 22.4
comp=Z,66nm,21.7s,baz=264,slow=40
ULN Ulaanbaatar 58.06 51 P P 04 03 27.5 +1.1
ULN Ulaanbaatar 58.06 51 *ce*P P 04 03 27.6 +1.2
ULN pmax pmax
comp=Z,41nm,1.7s
ULN Ulaanbaatar 58.06 51 P P 04 03 26.2 -0.2
BOD Bodaibo 59.11 38 *e*P P 04 03 33.4 +0.1
BOD pmax pmax
comp=Z,20nm,0.8s
LBTB Lobatse 59.48 183 P P 04 03 36.4 +0.1
LBTB PcP PcP 04 04 22.8 -0.4
LZH Lanzhou 59.94 65 ⇓P P 04 03 40.7 +1.1
LZH pP pwP 04 04 01.4 +0.7
LZH sP sP 04 04 07.9 +3.1
LZH pmax pmax
comp=Z,33nm,1.0s
LZH pmax pmax
comp=Z,140nm,5.4s
LZH LR LR
comp=Z,140nm,15.0s
LZH LR LR
comp=Z,150nm,15.2s
LZH LR LR
comp=Z,230nm,17.9s
TIXI Tiksi 60.60 21 *i*P P 04 03 43.9 +0.6
TIXI pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 60.60 21 P P 04 03 43.5 +0.2
CD2 Chengdu 62.00 70 *e*P P 04 03 53.5 0.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
DRLN Deer Lake 62.19 312 P P 04 03 54.1 -0.3
DRLN IAmb IAmb 04 04 11.0
comp=Z,11nm,0.7s
BOSA Boshof 63.08 183 P P 04 04 01.4 +0.9
comp=Z,30nm,0.8s,baz=2.6,slow=7.3,SNR=39
BOSA LR LR 04 34 31.8
comp=Z,63nm,18.0s,baz=18,slow=39
BOSA Boshof 63.08 183 P P 04 04 00.6 0.0
HHC Hu-ho-hao-te 63.61 57 *e*P P 04 04 05.3 +1.2
HHC PP PP 04 06 23.6 -0.8
HHC S S 04 12 32.4 -0.2
HHC pmax pmax
comp=Z,39nm,0.7s
HHC pmax pmax
comp=Z,49nm,5.3s
KMI Kunming 63.79 77 P P 04 04 05.7 +0.1
KMI pP pP 04 04 22.8 -0.6
KMI pmax pmax
comp=Z,14nm,0.7s
KMI pmax pmax
comp=Z,130nm,4.2s
CMAR Chiang Mai Arr 63.92 85 P P 04 04 06.2 0.0
comp=Z,4.5nm,0.5s,baz=298,slow=8.4,SNR=23
CMAR LR LR 04 37 30.3
comp=Z,17nm,18.0s,baz=356,slow=41
CMAR Chiang Mai Arr 63.92 85 *i*P P 04 04 06.3 0.0
CMAR pmax pmax
comp=Z,7.0nm,0.7s
XAN Xi'an 64.58 65 P P 04 04 10.7 +0.2
XAN pmax pmax
comp=Z,43nm,0.7s
XAN pmax pmax
comp=Z,58nm,2.7s
RES Resolute Bay 64.76 346 P P 04 04 10.7 -0.1
comp=Z,2.0nm,0.7s,baz=44,slow=9.4,SNR=7.6
RES LR LR 04 33 46.0
comp=Z,35nm,18.9s,baz=112,slow=37
YAK Yakutsk 64.87 31 *e*P P 04 04 12.1 +0.3
YAK *e* 04 06 38.6
YAK *e*S S 04 12 47.6 +0.3
YAK *e**SS sS 04 13 16.2 -1.1
YAK *e* 04 14 00.8
YAK *e*SS SS 04 16 59.5 +0.4
YAK *e*SSS SSS 04 19 55.4
YAK pmax pmax
comp=Z,22nm,0.8s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,12nm,1.2s
YAK pmax pmax
comp=Z,55nm,2.6s
YAK pmax pmax
comp=N,27nm,2.4s
YAK pmax pmax
comp=E,25nm,2.4s
YAK smax smax
comp=E,21nm,2.0s
YAK smax smax
comp=N,33nm,2.5s
SCHQ Schefferville 65.25 321 P P 04 04 14.0 -0.4
comp=N,7.6nm,0.5s,baz=64,slow=4.1,SNR=36
SCHQ Schefferville 65.25 321 IAmb IAmb 04 04 33.9
comp=Z,16nm,0.6s
GYA Guiyang 66.28 73 ⇑*i*P P 04 04 21.2 -0.5
GYA sP PcP 04 04 56.1 +4.9
GYA PP PP 04 06 48.8 +0.6
GYA S S 04 13 04.1 -1.8
GYA sS sS 04 13 42.5 +6.2
GYA SS SS 04 17 29.8 +6.9
GYA pmax pmax
comp=Z,10.0nm,1.1s
GYA pmax pmax
comp=Z,150nm,4.1s
GYA LR LR
comp=Z,190nm,3.9s
GYA LR LR
comp=Z,140nm,4.4s
GYA LR LR
comp=Z,110nm,7.3s
BJI Beijing 67.13 56 P P 04 04 27.6 +0.9
BJI pmax pmax
comp=Z,29nm,0.8s
BJT Baijiatuau 67.14 56 IAmb IAmb 04 04 28.0
comp=Z,21nm,0.6s
SUR Sutherland 67.15 187 P P 04 04 27.9 +1.0
SUR Sutherland 67.15 187 P P 04 04 27.0 +0.1
ZEA Zeya 67.58 39 *e*P P 04 04 31.2 +1.9
BATG Bathurst New B 68.21 313 IAmb IAmb 04 04 50.5
comp=Z,14nm,1.0s
D63A Stockholm 69.55 314 P P 04 04 42.0 +0.3
baz=61
E64A Bridgewater 69.68 313 P P 04 04 43.1 +0.7
baz=61
E63A Oxbow 70.04 313 P P 04 04 45.9 +1.2
baz=60
E63A Oxbow 70.04 313 IAmb IAmb 04 05 02.5
comp=Z,11nm,0.8s
D62A Allapoint, All 70.09 314 P P 04 04 45.7 +0.7
baz=60,SNR=8.2
D62A Allapoint, All 70.09 314 IAmb IAmb 04 05 03.4
comp=Z,24nm,0.8s
H66A Whiting 70.17 311 P P 04 04 46.6 +1.1
baz=61
WHN Wuhan 70.27 66 P P 04 04 46.8 +0.5
WHN pmax pmax
comp=Z,44nm,0.8s
F64A Sherman 70.27 313 P P 04 04 47.1 +1.0
baz=60
E62A Clayton Lake 70.60 314 P P 04 04 49.0 +0.9
baz=60
E62A Clayton Lake 70.60 314 IAmb IAmb 04 05 06.0
comp=Z,14nm,1.1s
D61A St Aubert, Com 70.70 314 P P 04 04 49.2 +0.6
baz=60,SNR=5.4
H65A Eastbrook 70.79 311 P P 04 04 50.5 +1.2
baz=60
F63A Nahmakanta, Br 70.81 313 P P 04 04 50.3 +0.9
baz=60
F62A Pittston Farm, 71.23 313 P P 04 04 53.3 +1.3
baz=59
D60A Saint Jean D'O 71.28 314 P P 04 04 52.9 +0.7
baz=59
CN2 Changchun 71.42 49 *e*P P 04 04 53.5 +0.4
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CHGQ Chibougamau 71.67 318 P P 04 04 55.5 +0.9
baz=58
F61A St Evariste 71.81 314 P P 04 04 56.2 +0.8
baz=59
E60A Ste Agathe de 71.87 314 P P 04 04 56.2 +0.5
baz=59
A36M Sachs Harbour 71.98 352 P P 04 04 56.9 +0.9
baz=23
LATQ La Tuque 72.12 316 P P 04 04 57.9 +0.7
baz=58
LATQ La Tuque 72.12 316 P P 04 04 56.4 -0.8
LATQ PcP 04 05 13.6 -1.7
F60A Warwick 72.38 314 P P 04 04 59.3 +0.5
baz=58
KULM Kulim 72.38 96 P P 04 04 58.5 -0.8
KULM IAmb IAmb 04 04 59.9
comp=Z,23nm,0.9s
PSI Prapat 72.39 99 P P 04 04 59.3 -0.2
RPSI Rantau Prapat 72.45 99 IAmb IAmb 04 05 00.3
comp=Z,22nm,0.8s
G61A St-Isidore-de- 72.49 313 P P 04 05 00.3 +0.8
baz=58
I63A Otisfield 72.56 312 P P 04 05 01.2 +1.2
baz=58
H62A Milan 72.63 312 P P 04 05 00.6 +0.2
baz=58
BILL Bilibino 72.78 15 *e*P P 04 05 01.4 +0.6
BILL *e* 04 07 45.4
BILL pmax pmax
comp=Z,7.0nm,1.3s
BILL MLR MLR
comp=Z,31nm,16.0s
NJ2 Nanjing 72.86 63 *e*P P 04 05 01.9 0.0
NJ2 pmax pmax
comp=Z,19nm,0.6s
F59A Saint Guilaume 72.93 314 P P 04 05 02.7 +0.6
baz=58
E58A La Victoria 72.94 315 P P 04 05 02.9 +0.7
baz=58
D57A Chemin Vers le 72.95 316 P P 04 05 03.0 +0.8
baz=57
G60A Masonville 73.07 313 P P 04 05 03.7 +0.8
baz=58
I62A Tamworth 73.11 312 P P 04 05 04.1 +0.9
baz=58
H61A Lyndonville 73.12 313 P P 04 05 04.6 +1.3
baz=58
LBNH Lisbon 73.28 312 P P 04 05 05.3 +1.1
baz=58
LBNH Lisbon 73.28 312 IAmb IAmb 04 05 23.1
comp=Z,14nm,0.9s
D56A ZEC Mazanza, M 73.43 316 P P 04 05 05.5 +0.5
baz=57,SNR=5.5
MATQ Matagami 73.52 319 P P 04 05 05.7 +0.2
baz=56
LSQQ Lebel-sur-Quev 73.56 319 P P 04 05 06.0 +0.3
baz=56
H60A Morristown 73.58 313 P P 04 05 06.8 +0.9
baz=58
G59A Clarenceville 73.58 314 P P 04 05 06.8 +0.8
baz=57
HNH Hanover 73.78 312 P P 04 05 06.9 -0.3
HNH IAmb IAmb 04 05 26.1
comp=Z,12nm,0.8s
D55A Sainte-Anne-du 73.86 316 P P 04 05 08.5 +0.9
baz=56,SNR=6.5
E56A St. Veronique 73.87 316 P P 04 05 08.1 +0.5
baz=56
GRNR Gornyy 73.93 39 ⇑*i*P P 04 05 06.7 -1.2
GRNR pmax pmax
comp=Z,9.0nm,1.1s
GRNR MLR MLR
comp=E,390nm,15.0s
C36M Paulatuk 74.27 350 P P 04 05 09.4 -0.1
baz=23
C36M Paulatuk 74.27 350 IAmb IAmb 04 05 09.9
comp=Z,17nm,0.6s
D54A Lac Fusel, La 74.45 317 P P 04 05 11.3 +0.3
baz=56
E55A Montcerf-Lytto 74.51 316 P P 04 05 12.4 +1.1
baz=56
H58A Gabriels 74.54 313 P P 04 05 11.9 +0.3
baz=56
G57A Newington 74.64 314 P P 04 05 13.1 +1.0
baz=56
LONY Lake Ozonia 74.67 314 P P 04 05 13.3 +1.0
baz=56
MA2 Magadan 74.68 26 *i*P P 04 05 12.7 +0.6
MA2 pmax pmax
comp=Z,24nm,0.6s
MA2 Magadan 74.68 26 P P 04 05 12.4 +0.3
I59A Olmsteadville 74.70 313 P P 04 05 13.1 +0.6
baz=57
J60A Lant Hill Farm 74.73 312 P P 04 05 13.7 +1.0
baz=57
ORIO Orleans, Innes 74.75 315 P P 04 05 13.6 +0.9
baz=56
SISI Saibi 74.93 102 P P 04 05 15.7 +1.5
F55A Otter Lake 75.02 316 P P 04 05 14.7 +0.4
baz=56
D53A Lac Vacive, Po 75.08 317 P P 04 05 15.0 +0.4
baz=55,SNR=8.8
E54A Lac Daplat, Po 75.16 316 P P 04 05 15.3 +0.2
baz=55,SNR=7.9
USRK Yasuriysk Ar. 75.20 46 P P 04 05 15.6 +0.2
comp=Z,16nm,0.6s,baz=293,slow=4.8,SNR=37
J59A Piesco 75.27 313 P P 04 05 16.5 +0.7
baz=56
I58A Old Forge 75.42 313 P P 04 05 17.4 +0.7
baz=56
E53A Dumoine, Ponti 75.46 317 P P 04 05 17.5 +0.7
baz=55,SNR=8.6
D52A ZEK Kipawa Sen 75.54 317 P P 04 05 17.7 +0.4
baz=54
G55A Calabogie 75.57 315 P P 04 05 18.1 +0.6
baz=55
MSHR Mys Shultsa 75.61 48 *ce*P P 04 05 17.6 -0.1
MSHR pmax pmax
comp=Z,13nm,1.9s
I57A Carthage 75.69 314 P P 04 05 19.2 +1.1
baz=56
VLA Vladivostok 75.75 47 *i*P P 04 05 18.8 +0.3
VLA pmax pmax
comp=Z,18nm,0.7s
J58A Remsen 75.80 313 P P 04 05 19.7 +0.9
baz=56
PDSI Padang 75.80 101 P P 04 05 18.9 -0.3
K59A Cooperstown 75.86 312 P P 04 05 20.3 +1.1
baz=56
ALGO Algonquin Park 75.93 316 P P 04 05 20.1 +0.6
baz=54
E52A Mattawa 76.08 317 P P 04 05 20.9 +0.5
baz=54,SNR=6.4
J57A Williamstown 76.19 313 P P 04 05 21.7 +0.6
baz=55
D50A G1974 Best Tow 76.22 318 P P 04 05 21.5 +0.4
baz=54
H55A Tweed 76.24 315 P P 04 05 21.2 0.0
baz=55
G54A Lake Saint Pet 76.27 316 P P 04 05 22.1 +0.6
baz=54,SNR=8.3
KS19 Wonju Array Si 76.31 54 P P 04 05 20.9 -0.9
KS19 IAmb IAmb 04 05 23.4
comp=Z,19nm,0.9s
KS19 PcP 04 05 32.7 -0.8
L59A Walton 76.31 312 P P 04 05 22.3 +0.5
baz=56
L59A Walton 76.31 312 IAmb IAmb 04 05 40.6
comp=Z,14nm,0.8s
K58A Earlville 76.35 313 P P 04 05 22.6 +0.6
baz=55
K58A Earlville 76.35 313 P P 04 05 21.5 -0.5
KSRS Korea Array 76.37 54 P P 04 05 22.5 +0.4
comp=Z,14nm,0.8s,baz=302,slow=4.9,SNR=42
KSRS LR LR 04 42 45.8
comp=Z,44nm,20.8s,baz=130,slow=38
E51A G1948 Merrick 76.40 317 P P 04 05 22.7 +0.5
baz=54
M60A Port Jervis 76.54 311 P P 04 05 23.5 +0.5
baz=56
ODNJ Ogdensburg 76.67 311 P P 04 05 22.8 -1.0
I55A Frankford 76.73 315 P P 04 05 24.4 +0.4
baz=54
F52A Sundridge 76.74 317 P P 04 05 24.6 +0.5
baz=54,SNR=5.2
G53A Haliburton 76.74 316 P P 04 05 25.2 +1.1
baz=54
J56A Wolcott 76.78 314 P P 04 05 24.9 +0.5
baz=55
J56A Wolcott 76.78 314 IAmb IAmb 04 05 42.9
comp=Z,12nm,0.8s
BINY Binghamton 76.88 312 P P 04 05 25.7 +0.7
baz=55
L58A Harry Jones Me 76.89 312 P P 04 05 25.8 +0.8
baz=55
K57A Scipio Center 76.89 313 P P 04 05 25.6 +0.6
baz=55
M59A Waymart 76.92 312 P P 04 05 25.9 +0.7
baz=55
TOLK Toolik Lake Re 76.92 359 P P 04 05 25.7 +0.9
baz=1.8,SNR=5.5
D49A Beulah Townshi 76.98 319 P P 04 05 25.7 +0.3
baz=53
F51A Arnstein 76.99 317 P P 04 05 26.3 +0.8
baz=53
H53A Bobcaygeon 77.04 315 P P 04 05 26.1 +0.3
baz=54
N60A Cedar Hill Far 77.09 311 P P 04 05 26.7 +0.5
baz=55
E50A Wahnapitae 77.16 318 P P 04 05 27.0 +0.6
baz=53
D48A Paudash Townsh 77.28 319 P P 04 05 27.7 +0.5
baz=52
K56A Middlesex 77.40 313 P P 04 05 28.8 +0.9
baz=54
N59A State Game Lan 77.48 311 P P 04 05 29.3 +0.9
baz=55
L57A Andrews Acres 77.52 313 P P 04 05 29.6 +1.0
baz=54
O60A Telford 77.60 311 P P 04 05 29.6 +0.6
baz=55
M58A Price's Panora 77.65 312 P P 04 05 30.1 +0.8
baz=55
K55A Perry 77.83 314 P P 04 05 30.6 +0.4
baz=54
L56A Greenwood 77.87 313 P P 04 05 31.3 +0.8
baz=54
L56A Greenwood 77.87 313 IAmb IAmb 04 05 32.3
comp=Z,10nm,0.8s
E48A Lockeyer 77.90 319 P P 04 05 31.0 +0.5
baz=52,SNR=5.5
D47A Chapleau 78.05 319 P P 04 05 31.8 +0.4
baz=52,SNR=10.0
M57A Sunshine Farm, 78.08 312 P P 04 05 32.2 +0.6
baz=54
M57A Sunshine Farm, 78.08 312 IAmb IAmb 04 05 50.2
comp=Z,7.2nm,0.6s
O59A Robesonia 78.09 311 P P 04 05 32.1 +0.4
baz=55
N58A Sunbury 78.11 312 P P 04 05 32.1 +0.3
baz=54
K54A Basiliko Farm, 78.27 314 P P 04 05 33.3 +0.6
baz=54
F49A Sandfield 78.28 318 P P 04 05 33.2 +0.6
baz=52,SNR=9.1
L55A Hinsdale 78.37 313 P P 04 05 33.6 +0.3
baz=54
MVL Millersville 78.38 311 IAmb IAmb 04 05 51.8
comp=Z,11nm,0.9s
E47A Iron Bridge 78.52 319 P P 04 05 34.5 +0.5
baz=51,SNR=7.5
F48A Evansville 78.55 318 P P 04 05 34.6 +0.4
baz=52,SNR=8.7
EPYK Eagle Plains 78.57 354 P P 04 05 34.3 +0.4
baz=12
M56A Emporium 78.63 313 P P 04 05 35.5 +0.8
baz=54
M56A Emporium 78.63 313 IAmb IAmb 04 05 36.5
comp=Z,11nm,0.9s
Q60A Greensboro 78.64 310 P P 04 05 35.4 +0.6
baz=54
D46A Sault St. Mari 78.65 320 P P 04 05 35.3 +0.6
baz=51
P59A Jarrettsville 78.65 310 P P 04 05 35.8 +1.0
baz=54
YKA Yellowknife Ar 78.65 343 P P 04 05 34.2 -0.2
comp=Z,6.2nm,0.8s,baz=32,slow=5.2,SNR=40
YKA LR LR 04 42 32.3
comp=Z,30nm,18.3s,baz=0.0,slow=37
O58A Lewisberry 78.66 311 P P 04 05 35.5 +0.6
baz=54
N57A Milroy 78.68 312 P P 04 05 35.8 +0.8
baz=54
L54A Sinclairville 78.86 314 P P 04 05 36.0 0.0
baz=53
FYU Fort Yukon 78.90 357 IAmb IAmb 04 05 38.9
comp=Z,14nm,1.2s
I51A Listowel 78.91 316 P P 04 05 36.7 +0.5
baz=52
J52A Paris 78.93 315 P P 04 05 36.7 +0.4
baz=53
SSPA Standing Stone 78.95 312 P P 04 05 37.0 +0.5
baz=54
SSPA Standing Stone 78.95 312 P P 04 05 36.0 -0.4
M55A Ridgway 78.99 313 P P 04 05 37.2 +0.5
baz=53
M55A Ridgway 78.99 313 IAmb IAmb 04 05 38.4
comp=Z,10.0nm,0.8s
O57A Amberson 79.05 311 P P 04 05 37.6 +0.6
baz=54
E46A Sault Ste Mari 79.13 319 IAmb IAmb 04 05 38.8
comp=Z,11nm,0.8s
P58A Pank, Wackersv 79.27 311 P P 04 05 38.6 +0.4
baz=54
ERPA Erie 79.33 314 P P 04 05 38.9 +0.4
baz=53
M54A Oil Creek Stat 79.51 313 P P 04 05 40.1 +0.6
baz=53
M54A Oil Creek Stat 79.51 313 P P 04 05 39.1 -0.4
M54A IAmb IAmb 04 05 41.3
comp=Z,15nm,1.1s
N55A Marion Center 79.54 313 P P 04 05 40.2 +0.5
baz=53
YSS Yuzh-Sakhalins 79.57 39 *e*P P 04 05 40.2 +0.5
YSS *e* 04 06 12.0
YSS pmax pmax
comp=Z,20nm,1.0s
O56A Blue Knob Stat 79.59 312 P P 04 05 40.4 +0.4
baz=53
L53A Girard 79.59 314 P P 04 05 40.1 +0.2
baz=52
G47A Hillman 79.64 318 P P 04 05 40.8 +0.7
baz=51,SNR=7.0
H48A Harrisville 79.65 318 P P 04 05 40.5 +0.3
baz=51
P57A Homestead Farm 79.71 311 P P 04 05 41.1 +0.5
baz=53
P57A Homestead Farm 79.71 311 P P 04 05 40.2 -0.4
Q58A Fox Den Farm, 79.83 310 P P 04 05 41.4 +0.2
baz=54
I49A Point Hope 79.84 317 P P 04 05 41.4 +0.1
baz=51
N54A Moraine State 80.03 313 P P 04 05 42.9 +0.5
baz=52
O55A Ligonier 80.08 312 P P 04 05 43.3 +0.7

baz=53
G46A **Petoskey** 80.10 319 P P 04 05 43.1 +0.5
baz=50
M53A **WI Miller and** 80.15 314 P P 04 05 43.1 +0.2
baz=52
I48A **Sherman Twp** 80.18 317 P P 04 05 43.7 +0.7
baz=51
H47A **Mio** 80.20 318 P P 04 05 43.6 +0.4
baz=50
P56A **Dayton Farm, R** 80.21 311 P P 04 05 44.2 +0.8
baz=53
F45A **CMU Biological** 80.22 319 P P 04 05 43.8 +0.6
baz=50
Q57A **Strasburg** 80.23 311 P P 04 05 43.8 +0.4
baz=53
GLMI **Grayling** 80.28 318 P P 04 05 44.4 +0.8
baz=50
S59A **Mechanicsville** 80.29 309 P P 04 05 44.1 +0.4
baz=54
T60A **Surry** 80.30 309 P P 04 05 44.3 +0.5
baz=54
J49A **Marlette** 80.39 317 P P 04 05 44.6 +0.4
baz=51
POKR **Poker Plat Res** 80.42 358 P P 04 05 44.9 +0.9
baz=3.5,SNR=5.8
GDU01 **Guandu, BA** 80.46 246 eP P 04 05 45.6 +0.7
GDU01 **Guandu, BA** 80.46 246 eP P 04 05 45.6 +0.7
K50A **Casco** 80.46 316 P P 04 05 45.0 +0.4
baz=51
M52A **Chesterland** 80.49 314 P P 04 05 45.2 +0.4
baz=52
R58B **Mineral** 80.54 310 P P 04 05 45.6 +0.5
baz=53
U61A **Possum Corner** 80.58 308 P P 04 05 46.0 +0.6
baz=54
N53A **Lisbon** 80.64 313 P P 04 05 46.1 +0.5
baz=52
G45A **Suttons Bay** 80.71 319 P P 04 05 46.3 +0.4
baz=50,SNR=5.9
G45A **Suttons Bay** 80.71 319 IAmb IAmb 04 05 47.2
comp=Z,21nm,0.7s
Q56A **Snyder Ridge,** 80.71 311 P P 04 05 46.6 +0.6
baz=53
Q56A **Snyder Ridge,** 80.71 311 IAmb IAmb 04 05 47.7
comp=Z,16nm,0.8s
I47A **Gladwin** 80.74 318 P P 04 05 46.3 +0.2
baz=50
I47A **Gladwin** 80.74 318 IAmb IAmb 04 06 04.3
comp=Z,15nm,0.8s
MCWV **Mont Chateau** 80.74 312 P P 04 05 46.8 +0.6
baz=52
O54A **Avella** 80.74 313 P P 04 05 46.6 +0.4
baz=52
R57A **Stanardsville** 80.74 310 P P 04 05 46.6 +0.4
baz=53
ILAR **Eielson Array** 80.75 358 P P 04 05 45.8 0.0
comp=Z,7.1nm,0.8s,baz=341,slow=3.8,SNR=56
ILAR PKKPbc **PKKPbc** 04 24 23.2 -1.3
comp=Z,1.2nm,0.8s,baz=210,slow=3.5,SNR=8.4
H46A **Fife Lake** 80.78 318 P P 04 05 46.8 +0.4
baz=50
P55A **Reedsville** 80.82 312 P P 04 05 47.2 +0.6
baz=52
S58A **Poland Farm, P** 80.86 310 P P 04 05 46.7 0.0
baz=53
S58A **Poland Farm, P** 80.86 310 IAmb IAmb 04 05 48.2
comp=Z,9.1nm,0.8s
CCB **Clear Creek Bu** 80.90 358 IAmb IAmb 04 05 47.7
comp=Z,19nm,0.9s
T59A **Double "B" Far** 80.92 309 P P 04 05 47.3 +0.2
baz=53
K49A **Clarkson** 80.93 316 P P 04 05 47.3 +0.2
baz=51
L50A **Kingsville** 81.03 315 P P 04 05 48.1 +0.4
baz=51
DAWY **Dawson** 81.06 355 P P 04 05 47.7 +0.3
DAWY IAmb IAmb 04 05 49.0
comp=Z,13nm,0.7s
HDA **Harding Lake** 81.12 358 P P 04 05 47.8 +0.1
baz=3.9,SNR=30
N52A **McGinn's Farm,** 81.14 314 P P 04 05 48.9 +0.6
baz=52
P54A **Burton** 81.16 312 P P 04 05 49.1 +0.7
baz=52
H45A **Beulah** 81.19 319 P P 04 05 48.8 +0.4
baz=49
O53A **New Philadelph** 81.20 313 P P 04 05 49.1 +0.5
baz=52
FFC **Flin Flon** 81.25 333 P P 04 05 48.2 -0.4
FFC pmax pmax
comp=Z,12nm,0.8s
FFC **Flin Flon** 81.25 333 P P 04 05 48.2 -0.4
FFC IAmb IAmb 04 05 49.5
comp=Z,12nm,0.8s
Q55A **Buckhannon** 81.29 312 P P 04 05 49.8 +0.7
baz=52
K48A **Perry** 81.30 317 P P 04 05 49.1 +0.1
baz=50
I46A **Reed City** 81.31 318 P P 04 05 49.5 +0.4
baz=50,SNR=5.7
S57A **Dark Hollow, R** 81.34 310 P P 04 05 49.9 +0.5
baz=53
J47A **Sunmer** 81.41 317 P P 04 05 50.1 +0.5
baz=50
SCRK **Sand Creek** 81.44 357 P P 04 05 49.3 -0.3
SCRK IAmb IAmb 04 05 51.5
comp=Z,17nm,1.0s
U59A **Littleton** 81.45 308 P P 04 05 50.5 +0.5
baz=53
V60A **Jim Taylor Roa** 81.45 308 P P 04 05 50.5 +0.5
baz=53
N51A **Ashland** 81.48 314 P P 04 05 50.1 +0.1
baz=51
BPAW **Bear Paw Mtn.** 81.50 360 P P 04 05 50.0 +0.3
BPAW IAmb IAmb 04 05 50.7
comp=Z,23nm,0.7s
T58A **Grand View Acr** 81.56 309 P P 04 05 50.7 +0.2
baz=53
O52A **Adamsville** 81.66 313 P P 04 05 51.4 +0.4
baz=51
O52A **Adamsville** 81.66 313 IAmb IAmb 04 05 52.4
comp=Z,15nm,0.8s
I45A **Fountain** 81.67 319 P P 04 05 51.3 +0.2
baz=49
R55A **Marlinton** 81.75 311 P P 04 05 52.5 +0.9
baz=52
EYMN **Ely** 81.75 324 P P 04 05 51.3 -0.1
baz=46
Q54A **Coxs Mills** 81.76 312 P P 04 05 51.9 +0.3
baz=52
DOT **Dot Lake** 81.77 357 IAmb IAmb 04 05 53.1
comp=Z,19nm,0.9s
S56A **Natural Bridge** 81.77 310 P P 04 05 52.3 +0.6
baz=52
P53A **Whipple** 81.78 313 P P 04 05 52.0 +0.3
baz=52
P53A **Whipple** 81.78 313 IAmb IAmb 04 05 53.5
comp=Z,19nm,0.8s
COWI **Conover** 81.84 321 IAmb IAmb 04 05 52.9
comp=Z,10nm,0.8s
K47A **Vermontville** 81.88 317 P P 04 05 52.6 +0.4
baz=50
U58A **Oxford** 81.91 309 P P 04 05 52.9 +0.5
baz=53
T57A **Hurt** 81.99 310 P P 04 05 53.4 +0.6
baz=52
KTH **Kantishna Hill** 82.04 360 IAmb IAmb 04 05 54.4
comp=Z,20nm,0.6s
PEA0B **Petropavlovsk-** 82.05 28 IAmb IAmb 04 05 53.2
comp=Z,14nm,0.9s
PETK **Petropavlovsk-** 82.05 28 P P 04 05 52.4 -0.4
comp=Z,8.8nm,0.8s,baz=318,slow=2.0,SNR=16
PETK LR LR 04 47 59.1
comp=Z,29nm,19.4s,baz=240,slow=40
V59A **Middlesex** 82.09 308 P P 04 05 53.7 +0.4
baz=53
O51A **Pataskala** 82.10 314 P P 04 05 53.8 +0.4
baz=51
P52A **Corning** 82.14 313 P P 04 05 53.7 +0.2
baz=51
P52A **Corning** 82.14 313 IAmb IAmb 04 05 54.7
comp=Z,16nm,1.0s
ULM **Lac du Bonnet** 82.14 328 P P 04 05 52.9 -0.5
comp=Z,6.7nm,0.5s,baz=48,slow=5.8,SNR=8.8
ULM LR LR 04 44 20.7
comp=Z,23nm,19.4s,baz=107,slow=37
ULM **Lac du Bonnet** 82.14 328 IAmb IAmb 04 05 53.2
comp=Z,7.5nm,0.6s
J45A **Montague** 82.15 318 P P 04 05 53.9 +0.4
baz=49
RND **Reindeer** 82.17 359 IAmb IAmb 04 05 53.7
comp=Z,10nm,0.8s
Q53A **Leroy** 82.26 312 P P 04 05 54.8 +0.6
baz=51
ACSO **Alum Creek Sta** 82.27 314 P P 04 05 54.9 +0.6
baz=51
S55A **Lewisburg** 82.30 311 P P 04 05 55.2 +0.7
baz=52
R54A **Victor** 82.35 311 P P 04 05 54.9 +0.2
baz=52
U57A **Blanch** 82.39 309 P P 04 05 55.4 +0.5
baz=52
MENT **Mentasta** 82.46 356 IAmb IAmb 04 05 56.8
comp=Z,15nm,0.6s
T56A **Rocky Mt** 82.46 310 P P 04 05 55.8 +0.5
baz=52
W59A **Clinton** 82.58 308 P P 04 05 55.9 0.0
baz=53
BLA **Blacksburg** 82.60 310 P P 04 05 56.0 0.0
baz=52
V58A **Windy Hill, Pi** 82.64 309 P P 04 05 56.7 +0.5
baz=52
Q52A **Bidwell** 82.64 313 P P 04 05 56.3 +0.1
baz=51
S54A **Dingess, Beckl** 82.79 311 P P 04 05 56.9 -0.1
baz=51
P51A **Williamsport** 82.79 313 P P 04 05 57.0 +0.1
baz=51
R53A **Hurricane** 82.85 312 P P 04 05 57.7 +0.4
baz=51
R53A **Hurricane** 82.85 312 IAmb IAmb 04 05 58.8
comp=Z,17nm,0.8s
T55A **Pulaski** 82.88 310 P P 04 05 58.1 +0.6
baz=52
V57A **Coltrane Farms** 83.00 309 P P 04 05 58.7 +0.6
baz=52
X59A **McDuffie Farm,** 83.05 307 P P 04 05 59.0 +0.7
baz=52
O49A **Covington** 83.10 315 IAmb IAmb 04 05 59.0
comp=Z,11nm,0.7s
W58A **Raeford** 83.18 308 P P 04 05 59.7 +0.6
baz=52
I42A **Draeger Farm,** 83.22 320 IAmb IAmb 04 06 00.0
comp=Z,7.0nm,0.6s
Q51A **Peebles** 83.25 313 IAmb IAmb 04 06 01.1
comp=Z,14nm,0.8s
T54A **Tazewell** 83.41 311 P P 04 06 00.4 +0.1
baz=51
U55A **TA2, Sparta** 83.43 310 P P 04 06 00.9 +0.5
baz=51
N47A **Urbana** 83.44 316 IAmb IAmb 04 06 01.0
comp=Z,22nm,0.9s
NAN01 **Guarapari, ES** 83.47 243 eP P 04 06 01.1 +0.5
NAN01 **Guarapari, ES** 83.47 243 eP P 04 06 01.1 +0.5
SBUM **Sibu** 83.49 92 P P 04 06 00.6 -0.3
SBUM IAmb IAmb 04 06 03.4
comp=Z,11nm,0.9s
V56A **Mocksville** 83.51 309 P P 04 06 01.1 +0.4
baz=52
O48A **Farmland** 83.53 315 P P 04 06 00.8 +0.1
baz=49
AGMN **Agassiz Nation** 83.56 326 P P 04 06 00.7 0.0
baz=43
MAJO **Matsushiro** 83.56 50 P P 04 06 00.6 -0.4
MAJO pmax pmax
comp=Z,9.0nm,0.9s
MAJO **Matsushiro** 83.56 50 P P 04 06 00.6 -0.4
MAT **Matsushiro** 83.56 50 P P 04 06 01.2 +0.2
MJAR **Matsushiro Arr** 83.57 50 P P 04 06 01.5 +0.4
comp=Z,9.1nm,0.8s,baz=301,slow=4.8,SNR=16
Y59A **Loris** 83.58 307 P P 04 06 01.5 +0.4
baz=52
W57A **Gilead** 83.59 309 P P 04 06 01.2 +0.1
baz=52
W57A **Gilead** 83.59 309 IAmb IAmb 04 06 02.4
comp=Z,9.5nm,0.8s
SMTB **Santa Maria do** 83.71 255 eP P 04 06 02.7 +0.7
SMTB **Santa Maria do** 83.71 255 eP P 04 06 02.7 +0.7
P49A **Miami Univ. Ec** 83.74 314 P P 04 06 02.0 +0.2
baz=50
GHO **Glory Hole Cre** 83.81 359 IAmb IAmb 04 06 03.4
comp=Z,21nm,1.0s
U54A **Nelsons Funny** 83.90 311 P P 04 06 03.1 +0.3
baz=51
PRPB **Parauapebas** 83.92 258 eP P 04 06 03.7 +0.6
PRPB **Parauapebas** 83.92 258 eP P 04 06 03.7 +0.6
V55A **Taylorsville** 83.94 310 P P 04 06 03.4 +0.5
baz=51
W56A **Indian Trail** 83.98 309 P P 04 06 03.4 +0.3
baz=52
T53A **Wise** 84.06 311 P P 04 06 03.9 +0.3
baz=51
X57A **Johnson Farm,** 84.08 308 P P 04 06 04.3 +0.6
baz=52
HYT **Haines Junctio** 84.09 353 IAmb IAmb 04 06 05.4
comp=Z,18nm,1.0s
I40A **Norwalk** 84.11 321 IAmb IAmb 04 06 04.7
comp=Z,11nm,0.7s
Y58A **Scranton** 84.15 307 P P 04 06 04.7 +0.7
baz=52
KNK **Knik Glacier** 84.16 359 IAmb IAmb 04 06 05.3
comp=Z,19nm,0.7s
F36A **Milaca** 84.21 323 IAmb IAmb 04 06 04.6
comp=Z,13nm,0.7s
P48A **Milroy** 84.21 315 IAmb IAmb 04 06 05.0
comp=Z,14nm,1.1s
BALM **Baldy** 84.28 356 IAmb IAmb 04 06 06.0
comp=Z,18nm,0.7s
SPMN **Marine on St.** 84.30 323 P P 04 06 04.4 -0.2
baz=45,SNR=5.4
SPMN **Marine on St.** 84.30 323 IAmb IAmb 04 06 05.5
comp=Z,12nm,0.8s
V54A **Nebo** 84.45 310 P P 04 06 06.3 +0.7
baz=51
SVW2 **Sparrevohn** 84.45 2 IAmb IAmb 04 06 07.0
comp=Z,9.6nm,0.8s
KMSC **Kings Mountain** 84.46 309 P P 04 06 06.1 +0.5
baz=51
KMSC **Kings Mountain** 84.46 309 IAmb IAmb 04 06 07.1
comp=Z,8.5nm,0.7s
Y57A **Sumter** 84.56 308 P P 04 06 06.7 +0.7
baz=52
SFIN **Lafayette** 84.57 316 P P 04 06 05.8 -0.2
baz=48
JFWS **Jewell Farm** 84.59 320 P P 04 06 05.8 -0.3
baz=46,SNR=8.7
JFWS **Jewell Farm** 84.59 320 IAmb IAmb 04 06 07.7
comp=Z,15nm,0.7s
RIB01 **Linhares ES** 84.59 242 eP P 04 06 06.9 +0.6
RIB01 **Linhares ES** 84.59 242 eP P 04 06 06.9 +0.6
Z58A **St. Stephen** 84.60 307 P P 04 06 07.2 +0.9
baz=52
BSFB **Barra de Sao F** 84.62 243 eP P 04 06 06.7 +0.2
BSFB **Barra de Sao F** 84.62 243 eP P 04 06 06.7 +0.2
X56A **White Oak** 84.67 309 P P 04 06 07.0 +0.3
baz=51
SJMB **Sao Joao De Ma** 84.79 243 eP P 04 06 07.8 +0.5
SJMB **Sao Joao De Ma** 84.79 243 eP P 04 06 07.8 +0.5
R49A **Shelbyville** 84.82 314 IAmb IAmb 04 06 08.8
comp=Z,23nm,1.1s
JANB **Januaria** 84.88 248 eP P 04 06 08.8 +1.0
JANB **Januaria** 84.88 248 eP P 04 06 08.8 +1.0
WAX **Waxell Ridge** 84.89 356 IAmb IAmb 04 06 12.2
comp=Z,10nm,0.6s
L42A **Oliver, Polo** 84.90 319 IAmb IAmb 04 06 09.3
comp=Z,17nm,0.8s
EYAK **Cordova Ski Ar** 84.94 357 P P 04 06 07.8 +0.4
EYAK IAmb IAmb 04 06 09.6
comp=Z,19nm,0.9s
TZTN **Tazewell** 84.96 311 P P 04 06 08.5 +0.4
baz=50
PAULI **Pauline** 84.97 309 IAmb IAmb 04 06 09.3
comp=Z,8.8nm,0.7s
W54A **Cherokee Point** 85.04 310 P P 04 06 09.5 +1.0
baz=51
MALB **Monte Alegre** 85.06 264 eP P 04 06 09.9 +1.0
MALB **Monte Alegre** 85.06 264 eP P 04 06 09.9 +1.0
X55A **Gracelyn & Ava** 85.07 309 P P 04 06 09.6 +1.0
baz=51
Z57A **Bowman** 85.21 307 P P 04 06 10.6 +1.2
baz=51
Y56A **Pelion** 85.29 308 P P 04 06 10.6 +0.9
baz=51
V52A **Sevierville** 85.44 311 IAmb IAmb 04 06 12.6
comp=Z,12nm,0.6s
SEW **Seward** 85.49 359 IAmb IAmb 04 06 11.7
comp=Z,19nm,0.9s
O44A **Mansfield** 85.50 317 IAmb IAmb 04 06 11.9
comp=Z,16nm,0.7s
X54A **Belton** 85.50 309 P P 04 06 11.7 +0.9
baz=51
WCI **Wyandotte Cave** 85.53 314 P P 04 06 11.2 +0.3
baz=49
WCI **Wyandotte Cave** 85.53 314 P P 04 06 10.3 -0.5
WCI pmax pmax
comp=Z,20nm,0.8s
WCI **Wyandotte Cave** 85.53 314 P P 04 06 10.3 -0.5
WCI IAmb IAmb 04 06 12.2
comp=Z,20nm,0.8s
Y55A **Saluda** 85.55 309 P P 04 06 11.6 +0.5
baz=51
MDND **Maddock** 85.57 328 P P 04 06 11.3 +0.4
baz=41
MDND **Maddock** 85.57 328 IAmb IAmb 04 06 11.6
comp=Z,16nm,1.0s
TKL **Tuckaleechee C** 85.67 311 IAmb IAmb 04 06 13.6
comp=Z,15nm,0.6s
HDIL **Hopedale** 85.69 317 P P 04 06 11.6 0.0
baz=47
157A **Early Branch** 85.78 307 P P 04 06 13.0 +0.8
baz=51
K38A **Parkersburg** 86.11 321 IAmb IAmb 04 06 13.4
comp=Z,11nm,0.7s
PEXB **Peixe** 86.19 253 eP P 04 06 15.4 +1.0
PEXB **Peixe** 86.19 253 eP P 04 06 15.4 +1.0
CPCT **Cooper Cave** 86.27 311 P P 04 06 14.4 -0.2
P43A **Skaggs, Pawnee** 86.44 317 P P 04 06 14.1 -1.3
T47A **Sharon Grove** 86.83 314 IAmb IAmb 04 06 18.2
comp=Z,18nm,1.1s
SCIA **State Center** 86.87 320 P P 04 06 17.5 +0.1
baz=45
GOGA **Godfrey** 86.92 309 P P 04 06 18.7 +0.9
baz=50
CLTN **Cedars of Leba** 86.96 313 IAmb IAmb 04 06 19.1
comp=Z,12nm,1.0s
ECSD **EROS Data Cent** 87.26 324 P P 04 06 19.0 -0.3
baz=42,SNR=14
ECSD **EROS Data Cent** 87.26 324 IAmb IAmb 04 06 20.6
comp=Z,6.7nm,0.4s
FPAL **Fort Paine** 87.54 311 IAmb IAmb 04 06 22.9
comp=Z,6.8nm,0.8s
S44A **Carbondale** 87.62 315 IAmb IAmb 04 06 22.1
comp=Z,16nm,0.8s
ITTB **Itaituba** 87.69 263 eP P 04 06 22.9 +1.1
ITTB **Itaituba** 87.69 263 eP P 04 06 22.9 +1.1
WRAK **Wrangell Islan** 87.74 349 IAmb IAmb 04 06 23.4
comp=Z,14nm,0.8s
KDAK **Kodiak Island** 87.83 1 P P 04 06 22.1 +0.5
comp=Z,19nm,0.7s,baz=6.6,slow=4.0,SNR=5.2
KDAK **Kodiak Island** 87.83 1 P P 04 06 21.5 -0.2
WVT **Waverly** 87.84 313 P P 04 06 21.9 -0.2
baz=48
WVT **Waverly** 87.84 313 P P 04 06 21.5 -0.6
WVT pmax pmax
comp=Z,5.0nm,0.7s
WVT **Waverly** 87.84 313 P P 04 06 21.5 -0.6
SUSD **Miller** 87.86 325 P P 04 06 22.6 +0.5
baz=41
P40A **Paris** 87.92 318 IAmb IAmb 04 06 23.5
comp=Z,17nm,0.9s
BDFB **Brasilia** 88.07 250 P P 04 06 24.8 +1.2
comp=Z,34nm,0.7s,baz=68,slow=5.4,SNR=46
BDFB LR LR 04 48 25.6
comp=Z,19nm,18.1s,baz=180,slow=37
BDFB **Brasilia** 88.07 250 P P 04 06 23.0 -0.6
BDFB pmax pmax
comp=Z,35nm,0.8s
BDFB **Brasilia** 88.07 250 P P 04 06 23.0 -0.6
Z51A **Franklin** 88.07 310 IAmb IAmb 04 06 25.0
comp=Z,16nm,0.9s
X48A **Hartselle** 88.49 312 IAmb IAmb 04 06 26.3
comp=Z,5.9nm,0.6s
Y49A **Mount Mountai** 88.49 311 IAmb IAmb 04 06 26.3
comp=Z,4.4nm,0.7s
CCM **Cathedral Cave** 88.50 317 P P 04 06 25.4 +0.1
baz=46
VAS01 **Vassouras-RJ** 88.67 242 eP P 04 06 27.0 +0.8
VAS01 **Vassouras-RJ** 88.67 242 eP P 04 06 27.0 +0.8
BSCB **Bom Sucesso** 88.85 243 eP P 04 06 27.8 +0.7
BSCB **Bom Sucesso** 88.85 243 eP P 04 06 27.8 +0.7
NPGB **Novo Progresso** 88.91 261 eP P 04 06 27.9 +0.4
NPGB **Novo Progresso** 88.91 261 eP P 04 06 27.9 +0.4
PTGA **Pitinga** 89.11 269 P P 04 06 27.4 -1.0
PTGA **Pitinga** 89.11 269 eP P 04 06 29.6 +1.1
PTGA **Pitinga** 89.11 269 eP P 04 06 29.6 +1.1
LAO **LASA Array** 89.27 331 P P 04 06 29.5 +0.7
baz=36,SNR=5.1
LAO **LASA Array** 89.27 331 IAmb IAmb 04 06 31.5
comp=Z,8.9nm,0.8s
LRAL **Lakeview Retre** 89.40 311 P P 04 06 29.8 +0.2
baz=48
LRAL **Lakeview Retre** 89.40 311 IAmb IAmb 04 06 30.2
comp=Z,9.0nm,0.6s
EGMT **Eagleton** 89.53 333 P P 04 06 30.3 +0.3
baz=33,SNR=12
EGMT **Eagleton** 89.53 333 IAmb IAmb 04 06 48.5
comp=Z,7.9nm,0.8s
IPMB **Ipameri, GO** 89.61 248 eP P 04 06 31.4 +0.7
IPMB **Ipameri, GO** 89.61 248 eP P 04 06 31.4 +0.7
BGNE **Belgrade** 89.75 323 P P 04 06 31.2 +0.1
baz=41
OXF **Oxford** 89.88 313 P P 04 06 32.4 +0.6
baz=47
S39A **Bolivar** 89.93 318 IAmb IAmb 04 06 32.4
comp=Z,4.9nm,0.8s
RSSD **Black Hills** 90.41 328 P P 04 06 34.9 +0.6
baz=37
RSSD **Black Hills** 90.41 328 P P 04 06 32.6 -1.8
RSSD pmax pmax
comp=Z,9.0nm,1.1s
RSSD **Black Hills** 90.41 328 P P 04 06 32.6 -1.8
RSSD IAmb IAmb 04 06 35.6
comp=Z,8.5nm,1.1s
FCAR **Ozark Folk Cen** 90.53 316 IAmb IAmb 04 06 35.0
comp=Z,4.6nm,0.7s
U40A **Yellville** 90.61 316 P P 04 06 35.5 +0.3
baz=45
U40A **Yellville** 90.61 316 IAmb IAmb 04 06 35.9
comp=Z,5.2nm,0.8s
WHAR **Wooly Hollow** 91.04 315 IAmb IAmb 04 06 37.4
comp=Z,5.1nm,0.8s
ARAG **Araguaiana, MT** 91.06 252 eP P 04 06 39.1 +1.7
ARAG **Araguaiana, MT** 91.06 252 eP P 04 06 39.1 +1.7
MACA **Manacapuru-AM** 91.07 267 eP P 04 06 38.4 +0.8
MACA **Manacapuru-AM** 91.07 267 eP P 04 06 38.4 +0.8
W41B **Gary Mavity, V** 91.10 315 P P 04 06 37.2 -0.2
baz=45
W41B **Gary Mavity, V** 91.10 315 IAmb IAmb 04 06 37.7
comp=Z,4.1nm,0.7s
HHAR **Hobbs** 91.28 317 IAmb IAmb 04 06 38.8
comp=Z,4.6nm,0.7s
U38A **Gravette** 91.42 317 IAmb IAmb 04 06 39.5
comp=Z,8.0nm,0.8s
CLDB **Colider** 91.45 258 eP P 04 06 38.8 -0.5
CLDB **Colider** 91.45 258 eP P 04 06 38.8 -0.5
VAO **Valinhos** 91.68 243 eP P 04 06 40.2 0.0
VAO **Valinhos** 91.68 243 eP P 04 06 40.2 0.0
BB19B **Bebedouro** 91.69 246 eP P 04 06 41.8 +1.5
BB19B **Bebedouro** 91.69 246 eP P 04 06 41.8 +1.5
RLMT **Red Lodge** 91.77 332 P P 04 06 40.7 +0.1
baz=34
NEW **Newport** 91.83 338 P P 04 06 40.9 +0.3
baz=28
NEW **Newport** 91.83 338 P P 04 06 41.1 +0.4
comp=Z,3.3nm,0.6s,baz=32,slow=4.2,SNR=5.9
X40A **Basin Creek Fa** 91.93 315 P P 04 06 41.4 +0.1
baz=45
W39A **Magazine** 91.97 316 P P 04 06 41.6 +0.1
baz=44
MSO **Missoula** 92.04 335 P P 04 06 41.5 -0.2
baz=30
ITRB **Iturama** 92.27 248 eP P 04 06 44.1 +1.1
ITRB **Iturama** 92.27 248 eP P 04 06 44.1 +1.1
MIAR **Mount Ida** 92.31 316 P P 04 06 43.5 +0.4
baz=44
SDV **Santo Domingo** 92.38 282 P P 04 06 41.9 -2.1
SDV **Santo Domingo** 92.38 282 eP P 04 06 44.3 +0.3
SDV **Santo Domingo** 92.38 282 eP P 04 06 44.3 +0.3
SPB **Sao Paulo** 92.38 243 eP P 04 06 44.4 +1.0
SPB **Sao Paulo** 92.38 243 eP P 04 06 44.4 +1.0
CBKS **Cedar Bluff** 92.51 322 P P 04 06 43.5 -0.4

	baz=40						
TUL1	**Leonard**	**92.58**	**318**	P	**P**	04 06 43.9	**-0.4**
	baz=43						
C09A	**Chrisman Ranch**	**92.60**	**338**	IAmb	IAmb	04 06 45.1	
	comp=Z,7.0nm,0.7s						
K22A	**Casper**	**92.67**	**329**	P	**P**	04 06 43.9	**-0.9**
	baz=36						
PET01	**Itanhaem-SP**	**92.68**	**242**	*e*P	**P**	04 06 46.1	**+1.4**
PET01	**Itanhaem-SP**	**92.68**	**242**	*e*P	**P**	04 06 46.1	**+1.4**
Z41A	**Richland Creek**	**92.78**	**314**	P	**P**	04 06 45.5	**+0.3**
	baz=45						
B05A	**Bryant**	**93.28**	**341**	P	**P**	04 06 47.0	**-0.2**
	baz=24						
KSCO	**Kaye Shedlock'**	**93.79**	**324**	P	**P**	04 06 50.2	**+0.2**
	baz=38						
FRTB	**Fartura**	**93.80**	**244**	*e*P	**P**	04 06 51.1	**+1.1**
FRTB	**Fartura**	**93.80**	**244**	*e*P	**P**	04 06 51.1	**+1.1**
N23A	**Red Feather La**	**93.84**	**327**	P	**P**	04 06 50.4	**+0.1**
	baz=36						
BW06	**Boulder Array**	**93.84**	**330**	P	**P**	04 06 49.6	**-0.7**
	baz=34						
PDAR	**Pinedale Array**	**93.84**	**330**	P	**P**	04 06 49.6	**-0.7**
	comp=Z,1.5nm,0.6s,baz=63,slow=4.9,SNR=10						
PDAR				LR	LR	04 50 48.9	
	comp=Z,39nm,20.4s,baz=69,slow=37						
PCMB	**Pacaembu**	**94.06**	**247**	*e*P	**P**	04 06 52.2	**+1.0**
PCMB	**Pacaembu**	**94.06**	**247**	*e*P	**P**	04 06 52.2	**+1.0**
D03D	**Eldon**	**94.22**	**341**	P	**P**	04 06 52.1	**+0.5**
	baz=23						
SALV	**Santo Antonio**	**94.22**	**254**	*e*P	**P**	04 06 53.0	**+1.0**
SALV	**Santo Antonio**	**94.22**	**254**	*e*P	**P**	04 06 53.0	**+1.0**
ISCO	**Idaho Springs**	**94.57**	**326**	P	**P**	04 06 53.4	**-0.3**
	baz=36						
BMO	**Blue Mountains**	**94.91**	**336**	IAmb	IAmb	04 06 54.9	
	comp=Z,2.9nm,0.7s						
WMOK	**Wichita Mounta**	**95.09**	**319**	P	**P**	04 06 55.8	**0.0**
	baz=41						
WMOK	**Wichita Mounta**	**95.09**	**319**	IAmb	IAmb	04 06 56.7	
	comp=Z,4.8nm,0.7s						
O20A	**White River Ci**	**95.47**	**328**	P	**P**	04 06 57.3	**-0.5**
	baz=35						
HWUT	**Hardware Ranch**	**95.63**	**331**	IAmb	IAmb	04 06 59.0	
	comp=Z,5.3nm,0.8s						
MFID	**Camas Ranch**	**95.67**	**335**	IAmb	IAmb	04 06 59.7	
	comp=Z,3.6nm,0.8s						
T25A	**Trinidad**	**96.13**	**324**	P	**P**	04 07 00.6	**-0.2**
	baz=37						
T25A	**Trinidad**	**96.13**	**324**	IAmb	IAmb	04 07 01.4	
	comp=Z,4.4nm,0.8s						
VILB	**Vilhena**	**96.17**	**259**	*e*P	**P**	04 07 02.2	**+1.2**
VILB	**Vilhena**	**96.17**	**259**	*e*P	**P**	04 07 02.2	**+1.2**
G03D	**McMinnville, O**	**96.40**	**340**	P	**P**	04 07 01.9	**+0.3**
	baz=23						
I05D	**Terrebonne, OR**	**96.64**	**339**	P	**P**	04 07 03.2	**+0.4**
	baz=25						
PTLB	**Pontes e Lacer**	**96.70**	**256**	*e*P	**P**	04 07 04.7	**+1.3**
PTLB	**Pontes e Lacer**	**96.70**	**256**	*e*P	**P**	04 07 04.7	**+1.3**
S22A	**4UR Ranch, Cre**	**96.79**	**326**	P	**P**	04 07 03.8	**-0.1**
	baz=36						
ABTX	**Abilene, Hawle**	**97.15**	**318**	P	Pdif	04 07 05.8	+0.4
	baz=41						
DUG	**Dugway, Tooele**	**97.32**	**331**	P	Pdif	04 07 06.5	+0.4
	baz=31						
I04A	**Tendick Farm,**	**97.46**	**339**	P	Pdif	04 07 07.1	+0.6
	baz=24						
J05D	**Fort Rock, OR**	**97.57**	**338**	P	Pdif	04 07 07.8	+0.7
	baz=25						
ANMO	**Albuquerque**	**98.87**	**324**	P	Pdif	04 07 13.3	+0.1
	baz=36						
M04C	**Macdoel**	**99.12**	**338**	P	**Pdif**	04 07 14.2	**+0.1**
	baz=24						
R11A	**Troy Canyon, C**	**100.00**	**332**	P	**Pdif**	04 07 18.1	**0.0**
	baz=29						
MNTX	**Cornudas Mount**	**100.93**	**321**	P	**Pdif**	04 07 21.8	**-0.4**
	baz=37						
NVAR	**Mina Array Bea**	**100.95**	**334**	P	**Pdif**	04 07 22.4	**0.0**
	comp=Z,0.7nm,0.7s,baz=47,slow=4.1,SNR=6.0						
NVAR				PKKPbc	**PKKPbc**	04 23 33.3	**-0.4**
	comp=Z,0.7nm,0.6s,baz=204,slow=3.9,SNR=6.8						
TXAR	**Lajitas Array**	**101.88**	**319**	P	**Pdif**	04 07 26.6	**+0.1**
	comp=Z,0.6nm,0.8s,baz=64,slow=4.6,SNR=9.4						
TXAR				PKKPbc	**PKKPbc**	04 23 31.4	**+0.8**
	comp=Z,0.1nm,0.7s,baz=187,slow=5.0,SNR=3.9						
SYO	**Syowa Base**	**103.76**	**176**⇑	*e*pPdiff	pPdif	04 07 53.0	+0.6
214A	**Organ Pipe Nat**	**104.32**	**327**	P	**Pdif**	04 07 37.2	**0.0**
	baz=32						
WRA	**Warramunga Arr**	**113.85**	**98**	PKiKP	**PKiKP**	04 12 11.1	**-0.5**
	comp=Z,1.8nm,0.6s,baz=310,slow=2.0,SNR=12						
WRA				PKKPbc	**PKKPbc**	04 22 54.4	**+1.6**
	comp=Z,0.6nm,0.6s,baz=115,slow=2.9,SNR=5.7						
ASAR	**Alice Springs**	**115.31**	**102**	PKP	**PKPdf**	04 12 13.7	**-0.6**
	comp=Z,3.0nm,0.6s,baz=314,slow=1.3,SNR=27						
ASAR				PKKPbc	**PKKPbc**	04 22 48.0	**0.0**
	comp=Z,0.9nm,0.4s,baz=114,slow=3.7,SNR=9.1						
ASAR	**Alice Springs**	**115.31**	**102**	PKIKP	**PKPdf**	04 12 13.0	**-1.3**
ASAR	**Alice Springs**	**115.31**	**102**		**PKPdf**	04 12 13.0	**-1.3**
PLCA	**Paso Flores**	**117.82**	**238**		**PKiKP**	04 12 18.9	**+0.3**
	comp=Z,1.3nm,0.7s,baz=8.9,slow=3.1,SNR=4.3						
PLCA	**Paso Flores**	**117.82**	**238**	PKIKP	**PKiKP**	04 12 19.0	**+0.3**
QSPA	**South Pole Qui**	**124.59**	**180**	PKPdf	**PKPdf**	04 12 30.7	**-0.1**
STKA	**Stephens Creek**	**124.99**	**107**	PKP	**PKPdf**	04 12 32.5	**-0.1**
	comp=Z,7.2nm,0.8s,baz=335,slow=3.8,SNR=12						
VNDA	**Vanda**	**132.59**	**168**	PKP	**PKiKP**	04 12 46.4	**-0.5**
	comp=Z,0.6nm,0.6s,baz=304,slow=4.3,SNR=7.7						
PYZ	**Puysegur Point**	**146.59**	**123**		**PKPbc**	04 13 14.0	**+0.5**
DCZ	**Deep Cove**	**146.97**	**122**		**PKPbc**	04 13 15.2	**+0.5**
MSVF	**Nonsavu**	**148.07**	**66**	PKIKP	**PKPdf**	04 13 15.0	**-0.3**
MSVF						04 13 20.1	
MSVF	**Nonsavu**	**148.07**	**66**	PKPdf	**PKPdf**	04 13 15.0	**-0.3**
MSVF				PKPab	**PKiKP**	04 13 20.1	**-0.2**
FOZ	**Fox Glacier**	**149.00**	**118**		**PKPbc**	04 13 20.6	**+0.5**
RPZ	**Rata Peaks**	**149.88**	**119**		**PKPbc**	04 13 22.7	**+0.4**
LTZ	**Lake Taylor**	**150.84**	**117**		**PKPbc**	04 13 24.2	**-0.4**

UPA 11 03:54:10.5±1.4, 7°58.58N×82°24.45W, h5km±6km, MW4.3, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PEDE3	**Pedregal, Chir**	**0.80**	**2**	*e*P	Pg	03 54 26.3	+0.3
PEDE3				*e*S	Sb	03 54 38.7	+0.5
CHIR3	**Chiriqui UPA,**	**0.82**	**8**	*e*P	Pg	03 54 26.7	+0.4
CHIR3				*e*S	Sb	03 54 38.9	+0.1
LOCO3	**Loma Colorada,**	**0.83**	**2**	*e*P	Pb	03 54 27.0	-0.4
LOCO3				*e*S	Sb	03 54 39.6	+0.7
LOMA3	**Las Lomas, Chi**	**0.85**	**4**	*e*P	Pg	03 54 27.3	+0.4
LOMA3				*e*S	Sb	03 54 39.9	+0.4
SBAR3	**San Bartolo, C**	**0.85**	**330**	*e*P	Pb	03 54 27.6	-0.2
SBAR3				*e*S	Sb	03 54 40.1	+0.5
DVD	**David**	**0.85**	**0**	*e*P	Pg	03 54 26.6	-0.4
DVD				*e*S	Sb	03 54 39.6	0.0
PVID3	**Puerto Vidal,**	**0.96**	**61**	*e*P	Pg	03 54 29.0	+0.1
NANC3	**Nancito, Chiri**	**0.97**	**47**	*e*P	Pb	03 54 30.1	+0.2
NANC3				*e*S	Sb	03 54 43.5	+0.5
PSOM3	**Paja de Sombre**	**1.11**	**7**	*e*P	Pg	03 54 30.5	-1.3
PSOM3				*e*S	Sb	03 54 47.8	+0.7
BCO2	**Palmira**	**1.14**	**356**	*e*P	Pb	03 54 32.9	+0.1
BCO2				*e*S	Sn	03 54 48.7	-0.7
GMAL	**Guarumal, Vera**	**1.22**	**81**	*e*P	Pg	03 54 32.1	-1.8
GMAL				*e*S	Sg	03 54 48.9	-0.9
BRU2	**Volcan**	**1.23**	**349**	*e*P	Pg	03 54 33.2	-1.0
BRU2				*e*S	Sg	03 54 50.2	0.0
BC3P	**Paso Ancho**	**1.24**	**353**	*i* P	Pg	03 54 33.2	-1.2
BC3P				*e*S	Sn	03 54 54.3	+2.3
MLIR3	**Monte Lirio, C**	**1.26**	**343**	*e*P	Pg	03 54 34.2	-0.6
MLIR3				*e*S	Sn	03 54 53.8	+1.4
RSUS3	**Rio de Jesus,**	**1.34**	**72**	*e*P	Pn	03 54 34.9	-1.1
RSUS3				*e*S	Sb	03 54 53.3	-0.4
CHGR2	**Aguacate**	**1.39**	**13**	*e*P	Pn	03 54 34.5	-2.1
CHGR2				*e*S	Sb	03 54 52.8	-2.2
CACAO	**El Cacao, Vera**	**1.59**	**98**	*e*P	Pn	03 54 37.1	-2.3
CACAO				*e*S	Sn	03 54 56.9	-3.5
OCU3	**Ocu, Herrera**	**1.70**	**77**	*e*P	Pn	03 54 39.6	-1.2
OCU3				*e*S	Sn	03 55 03.1	0.0
CALO3	**Calobre, Verag**	**1.76**	**65**	*e*P	Pn	03 54 40.7	-0.9
CALO3				*e*S	Sb	03 55 05.3	-0.4
DRK0	**Durika**	**1.85**	**335**	*e*P	Pn	03 54 42.5	-0.6
DRK0				*e*S	Sn	03 55 07.2	+0.2
RGM0	**Gandoca**	**2.01**	**356**	*e*S	Sg	03 55 16.6	+1.5
AZU	**Azuero**	**2.17**	**84**	*e*P	Pn	03 54 46.0	-1.3
AZU				*e*S	Sn	03 55 14.8	+0.2
PNME	**Penonome**	**2.29**	**67**	*e*P	Pb	03 54 51.6	-0.8
VTON	**El Valle, Cocl**	**2.53**	**66**	*e*P	Pn	03 54 53.9	+1.5
ZANG	**Zanguenga, Cho**	**2.90**	**62**	*e*P	Pn	03 54 59.2	+1.8
ZANG				*e*S	Sb	03 55 38.0	-0.6
HDC	**Heredia**	**2.92**	**326**	*e*P	Pn	03 54 59.3	+1.6
HDC				*e*S	Sb	03 55 40.7	+1.5
CHOR3	**La Chorrera**	**2.97**	**64**	*e*P	Pb	03 55 01.8	-2.1
CHOR3				*e*S	Sb	03 55 41.3	+0.8
BCIP	**Isla Barro Col**	**3.03**	**58**	*e*P	Pn	03 55 01.0	+1.8
BCIP				*e*S	Sb	03 55 41.8	-0.6
UPA	**Univ. de Panam**	**3.21**	**64**	*e*P	Pb	03 55 07.2	-0.8
UPA				*e*S	Sn	03 55 39.9	-0.3
JTS	**Las Juntas de**	**3.66**	**318**	*e*P	Pn	03 55 08.8	+1.0
JTS				*e*S	Sb	03 55 57.0	-3.4
CHPO	**Chepo, Panama**	**3.66**	**64**	*e*P	Pn	03 55 08.1	+0.3
CHPO				*e*S	Sb	03 55 56.5	-3.9
CAP2	**Capurgana**	**5.15**	**78**	*e*P	Pn	03 55 30.6	+2.2
CAP2				*e*S	Sn	03 56 29.1	+0.8

GCG 11 04:01:52.9±1.0, 14°.67N×92°.89W, h28km±999km, MD4.1
MEX 11 04:01:53.8±0.7, 15°.19N×92°.50W, h108km±6km, MD3.9
ISC 11 04:01:53.5±1.4, 15°.66N±0°.06×92°.24W±0°.06, h12km±12km, n7, σ1§22/12, 1C, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.75**	**182**	*i* P	**Pg**	**04 02 08.2**	**+0.1**
THIG				*i* S	**Sb**	**04 02 19.9**	**+1.3**
PCIG		**0.95**	**273**	*i* P	**Pg**	**04 02 12.0**	**+0.1**
PCIG				*i* S	**Sn**	**04 02 26.4**	**+0.2**
STG3	**Santiaguito 3,**	**1.14**	**146**⇑	*e*P	**Pn**	**04 02 15.5**	**0.0**
STG3				*e*S	**Sn**	**04 02 32.7**	**+1.5**
TGIG		**1.40**	**323**	*i* P	**Pg**	**04 02 21.9**	**+1.4**
FUG	**Fuego 3**	**1.81**	**132**	*e*P	**Pb**	**04 02 26.5**	**-0.2**
FUG				*e*S	**Sg**	**04 02 51.2**	**-0.6**
IXG	**Ixpaco**	**2.28**	**130**	*e*P	**Pn**	**04 02 31.1**	**-0.1**
IXG				*e*S	**Sb**	**04 03 01.1**	**-1.9**
CMIG	**Matias Romero**	**2.91**	**300**	*i* P	**Pn**	**04 02 38.3**	**-1.4**

SFS 11 04:04:45.0, 37°.94N×0°.72W, ML1.3, TORREVIEJA (ALICANTE)
MDD 11 04:04:46.1±0.5, 37°.97N×0°.76W, h0km, mbLg1.3/4, 1D, Error ellipse: s-maj=6.4km s-min=2.2km az=120.0, PRXIMO, Spain

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ETRV	**Los Montesinos**	**0.05**	**356**	⇓P	Pg	04 04 46.9	-0.1
	344nm,0.1s,SNR=18						
ETRV				Lg	Lg	04 04 48.1	
	1µm,0.1s,SNR=7.9						
EMUR	**La Murta**	**0.40**	**251**	Pg	Pg	04 04 53.2	-0.6
	0.8nm,0.1s,SNR=17						
EMUR				Lg	Lg	04 04 59.1	
	9.9nm,0.2s,SNR=21						
CART	**Cartagena**	**0.43**	**207**	Pg	Pg	04 04 55.1	+0.7
CART				Lg	Lg	04 04 59.5	
CART	**Cartagena**	**0.43**	**207**	*e*P	Pg	04 04 55.1	+0.7
CART				*e*S	Sg	04 04 59.5	-0.5
AFON	**Font Roja**	**0.71**	**14**	Pg	Pg	04 04 59.1	-0.6
	0.1nm,0.0s,SNR=4.0						
AFON				Lg	Lg	04 05 08.4	
	3.4nm,0.3s,SNR=7.9						
EBEN2	**Beniarda presa**	**0.83**	**32**	Pg	Pg	04 05 01.5	-0.5
	0.2nm,0.0s,SNR=7.9						
EBEN2				Lg	Lg	04 05 12.6	
	2.8nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**0.91**	**317**	Pg	Pg	04 05 03.7	+0.1
	0.0nm,0.1s,SNR=30						
ETOB				Lg	Lg	04 05 16.8	
	3.0nm,0.1s,SNR=11						
SESP	**Santiago Espad**	**1.42**	**276**	Pn	Pg	04 05 11.8	-1.4
	0.1nm,0.1s,SNR=7.9						
SESP				Lg	Lg	04 05 30.2	
	0.8nm,0.2s,SNR=7.9						
EQES	**Quesada**	**1.84**	**265**	Pn	Pn	04 05 18.1	-0.9
	0.0nm,0.1s,SNR=7.9						
EQES				Lg	Lg	04 05 43.2	
	0.5nm,0.3s,SNR=7.9						

SOME 11 04:24:06.6, 44°.68N×82°.15E, h15km
NNC 11 04:24:08.6±1.7, 44°.65N×82°.02E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=18.7km s-min=5.6km az=122.0
ISC 11 04:24:05.1±1.6, 44°.57N±0°.06×82°.35E±0°.07, h7km±13km, n19, σ0§74/32, 1C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.83**	**233**	*e*P	**Pg**	**04 24 40.1**	**-0.1**
	1.0nm,0.1s						
KTMS				*e*S	**Sg**	**04 25 04.5**	**+0.6**
	22nm,0.4s						
KTMS	**Ketmen**	**1.83**	**233**	P	**Pg**	**04 24 40.1**	**-0.1**
	1.0nm,0.1s						
KTMS				S	**Sg**	**04 25 04.5**	**+0.6**
	22nm,0.4s						
DJR	**Jarkent**	**1.85**	**263**	*e*P	**Pb**	**04 24 39.1**	**-0.2**
	8.6nm,0.2s						
DJR				*e*S	**Sb**	**04 25 02.8**	**+0.1**
	9.0nm,0.3s						
DJR	**Jarkent**	**1.85**	**263**	P	**Pb**	**04 24 39.1**	**-0.2**
	7.9nm,0.3s						
DJR				S	**Sb**	**04 25 03.2**	**+0.5**
	9.0nm,0.3s						
MK31	**Makanchi Array**	**2.22**	**359**	Pn	**Pb**	**04 24 45.7**	**+0.1**
	2.5nm,0.2s,baz=182,slow=14,SNR=126						
MK31				⇑Sn	**Sb**	**04 25 14.2**	**+0.9**
	2.1nm,0.2s,baz=188,slow=21,SNR=24						
KAPS	**Kapalarasan**	**2.24**	**290**	*e*P	**Pb**	**04 24 44.6**	**-1.4**
	2.6nm,0.2s						
KAPS				*e*S	**Sn**	**04 25 11.5**	**+0.8**
	9.5nm,0.2s						
KAPS	**Kapalarasan**	**2.24**	**290**	Pg	**Pb**	**04 24 44.4**	**-1.6**
	2.6nm,0.2s						
KAPS				Lg	Lg	04 25 11.5	
	9.5nm,0.2s						
MAKZ	**Makanchi**	**2.25**	**353**	⇓Pn	**Pb**	**04 24 45.6**	**-0.5**
	4.3nm,0.5s						
MAKZ				⇓Sn	**Sb**	**04 25 14.3**	**+0.2**
	19nm,0.9s						
SHLS	**Shalkode**	**2.52**	**237**	*e*P	**Pn**	**04 24 47.2**	**+0.5**
	13nm,0.4s						
SHLS				*e*S	**Sn**	**04 25 16.6**	**-1.1**
	52nm,0.2s						
SHLS	**Shalkode**	**2.52**	**237**	Pg	**Pn**	**04 24 47.2**	**+0.5**
	13nm,0.4s						
SHLS				Lg	Lg	04 25 16.6	
	52nm,0.2s						
UZB	**Uzunbulak**	**2.80**	**241**	*e*P	**Pb**	**04 24 55.5**	**0.0**
	6.1nm,0.4s						
UZB				*e*S	**Sb**	**04 25 30.5**	**+0.4**
	6.9nm,0.4s						
UZB	**Uzunbulak**	**2.80**	**241**	Pg	**Pb**	**04 24 54.7**	**-0.8**
	6.1nm,0.5s						
UZB				Lg	Lg	04 25 29.4	
	5.8nm,0.4s						
SATY	**Saty**	**3.23**	**243**	*e*P	**Pb**	**04 25 02.8**	**-0.1**
	3.5nm,0.3s						
SATY				*e*S	**Sb**	**04 25 42.8**	**+0.3**
	7.5nm,0.3s						
SATY	**Saty**	**3.23**	**243**	Pg	**Pb**	**04 25 01.6**	**-1.3**
	3.8nm,0.3s						
SATY				Lg	Lg	04 25 41.2	
	7.5nm,0.3s						
ARXS	**Arharly**	**3.26**	**265**	*e*P	**Pb**	**04 25 02.7**	**-0.7**
	4.4nm,0.3s						
ARXS				*e*S	**Sb**	**04 25 43.4**	**+0.1**
	6.8nm,0.5s						
ARXS	**Arharly**	**3.26**	**265**	Pg	**Pb**	**04 25 02.7**	**-0.7**
	4.4nm,0.3s						
ARXS				Lg	Lg	04 25 43.4	
	6.8nm,0.5s						
ZSN	**Zaisan**	**3.37**	**30**	*e*P	**Pb**	**04 25 04.4**	**-0.8**
	4.1nm,0.3s						
ZSN				*e*S	**Sb**	**04 25 45.9**	**-0.4**
	4.2nm,0.3s						
KTBS	**Karatobe**	**4.17**	**260**	*e*P	**Pb**	**04 25 17.9**	**-0.9**
	1.3nm,0.5s						
KTBS				*e*S	**Sb**	**04 26 09.3**	**-0.1**
	4.4nm,0.5s						
KTBS	**Karatobe**	**4.17**	**260**	Pg	**Pb**	**04 25 17.9**	**-0.9**
	1.3nm,0.5s						
KTBS				Lg	Lg	04 26 09.7	
	4.4nm,0.7s						

AEIC 11 04:29:17±1.5, 59°.85N×0°.02×139°.25W±0°.03, h12km±3km, Error ellipse: s-maj=3.5km s-min=2.2km az=207.0
PGC 11 04:29:17.9, 59°.85N×139°.26W, h5km, ML3.0/12, 63km Nne of Yakutat, Ak Southeastern Alaska
ISC 11 04:29:17.5±0.9, 59°.86N±0°.02×139°.27W±0°.02, h9km±8km, n71, σ0§94/105, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PNL	**Peninsula**	**0.20**	**199**	P	**Pg**	**04 29 21.7**	**0.0**
PNL				S	**Sg**	**04 29 24.8**	**+0.2**
PNL	**Peninsula**	**0.20**	**199**		**Pg**	**04 29 21.7**	**0.0**
PNL					**Sg**	**04 29 24.7**	**+0.2**
YKU2	**Yakutat**	**0.40**	**211**		**Pb**	**04 29 26.3**	**-0.5**
PCA	**Pinnacle**	**0.55**	**296**	P	**Pg**	**04 29 28.1**	**-0.1**
PCA				S	**Sg**	**04 29 36.3**	**+0.8**
PCA	**Pinnacle**	**0.55**	**296**		**Pg**	**04 29 28.1**	**-0.1**
PCA					**Sg**	**04 29 36.6**	**+1.2**
YUK7	**Dusty Glacier**	**0.88**	**39**	P	**Pg**	**04 29 33.8**	**-0.6**
YUK7				S	**Sg**	**04 29 45.8**	**0.0**
YUK7	**Dusty Glacier**	**0.88**	**39**		**Pg**	**04 29 33.8**	**-0.6**
YUK7					**Sg**	**04 29 45.8**	**0.0**
CHX	**Chaix Hills**	**0.95**	**283**		**Pg**	**04 29 35.5**	**-0.3**
RKAV	**Rock Avalanche**	**1.13**	**294**	P	**Pb**	**04 29 38.2**	**-1.1**
RKAV				S	**Sg**	**04 29 53.5**	**-0.4**
RKAV	**Rock Avalanche**	**1.13**	**294**		**Pb**	**04 29 38.2**	**-1.1**
RKAV					**Sg**	**04 29 53.5**	**-0.4**
YUK6	**Outpost Mounta**	**1.18**	**22**	P	**Pb**	**04 29 39.4**	**-0.8**
YUK6				S	**Sb**	**04 29 55.2**	**-0.4**
YUK6	**Outpost Mounta**	**1.18**	**22**		**Pb**	**04 29 39.4**	**-0.8**
YUK6					**Sb**	**04 29 55.2**	**-0.4**
HYT	**Haines Junctio**	**1.31**	**41**	P	**Pn**	**04 29 41.1**	**-0.9**
HYT				S	**Sb**	**04 29 58.6**	**-0.5**
HYT	**Haines Junctio**	**1.31**	**41**		**Pn**	**04 29 41.1**	**-0.9**
HYT					**Sb**	**04 29 58.6**	**-0.5**
YAH	**Yahtse**	**1.34**	**293**		**Pn**	**04 29 41.6**	**-0.9**
MESA	**MESA**	**1.39**	**285**	Pn	**Pn**	**04 29 42.3**	**-0.8**
MESA				Sg	**Sb**	**04 30 01.6**	**+0.1**
MESA	**MESA**	**1.39**	**285**	Pn	**Pn**	**04 29 42.3**	**-0.8**
MESA				Sg	**Sb**	**04 30 01.6**	**+0.1**
YUK5	**Granite Creek**	**1.46**	**28**	Pn	**Pn**	**04 29 44.3**	**+0.2**
YUK5				Sg	**Sn**	**04 30 03.6**	**+0.3**
YUK5	**Granite Creek**	**1.46**	**28**	Pn	**Pn**	**04 29 44.3**	**+0.2**
YUK5				Sg	**Sn**	**04 30 03.6**	**+0.3**
CTGM	**Chitina Glacie**	**1.51**	**318**	Pn	**Pn**	**04 29 44.3**	**-0.5**
CTGM				Sg	**Sg**	**04 30 06.3**	**+0.2**
CTGM	**Chitina Glacie**	**1.51**	**318**		**Pn**	**04 29 44.3**	**-0.5**
CTGM	**Chitina Glacie**	**1.51**	**318**		**Sg**	**04 30 06.3**	**+0.2**
YUK4	**Talbot Arm**	**1.52**	**11**	Pn	**Pg**	**04 29 47.5**	**+0.8**
YUK4	**Talbot Arm**	**1.52**	**11**		**Pg**	**04 29 47.4**	**+0.8**
PLBC	**Pleasant Camp**	**1.53**	**104**	Pn	**Pn**	**04 29 43.8**	**-1.1**
PLBC				Sn	**Sn**	**04 30 03.7**	**-1.2**
PLBC	**Pleasant Camp**	**1.53**	**104**	Pn	**Pn**	**04 29 43.8**	**-1.1**
PLBC				Sn	**Sn**	**04 30 03.7**	**-1.2**
CYK	**Cape Yakataga**	**1.63**	**279**		**Pn**	**04 29 46.0**	**-0.4**
CYK					**Sn**	**04 30 07.9**	**+0.5**
BARN	**Barnard Glacie**	**1.69**	**317**		**Pn**	**04 29 47.2**	**-0.2**
KIAG	**Kiagna River**	**1.87**	**306**	Pn	**Pn**	**04 29 49.4**	**-0.4**
KIAG				Sn	**Sn**	**04 30 14.9**	**+1.4**
KIAG	**Kiagna River**	**1.87**	**306**		**Pn**	**04 29 49.5**	**-0.4**
WAX	**Waxell Ridge**	**1.89**	**290**		**Pn**	**04 29 50.0**	**0.0**
BALM	**Baldy**	**1.93**	**309**	Pn	**Pn**	**04 29 50.3**	**-0.2**
BALM				Sn	**Sb**	**04 30 16.8**	**-0.3**
BALM	**Baldy**	**1.93**	**309**		**Pn**	**04 29 50.5**	**0.0**
YUK3	**Moose Creek**	**2.01**	**344**	Pn	**Pn**	**04 29 51.9**	**+0.2**
YUK3				Sg	**Sb**	**04 30 19.8**	**+0.3**
YUK3	**Moose Creek**	**2.01**	**344**	Pn	**Pn**	**04 29 51.9**	**+0.2**
YUK3				Sg	**Sb**	**04 30 19.8**	**+0.3**
SKAG	**Skagway**	**2.04**	**100**	Pn	**Pn**	**04 29 52.6**	**+0.7**
PTPK	**Patty Peak**	**2.07**	**312**	Pn	**Pn**	**04 29 52.9**	**+0.4**
PTPK				Sg	**Sb**	**04 30 21.2**	**+0.1**
PTPK	**Patty Peak**	**2.07**	**312**		**Pn**	**04 29 52.8**	**+0.2**
GRIN	**Grindle Hills**	**2.08**	**284**		**Pn**	**04 29 52.4**	**-0.1**
KHIT	**Khitrov Hills**	**2.08**	**288**		**Pn**	**04 29 51.8**	**-0.8**
YUK2	**White River**	**2.08**	**339**	Pn	**Pn**	**04 29 53.0**	**+0.4**
YUK2				Sg	**Sb**	**04 30 22.7**	**+1.3**
YUK2	**White River**	**2.08**	**339**	Pn	**Pn**	**04 29 53.0**	**+

comp=Z,194nm,18.8s,baz=115,slow=37
KSRS Korea Array 15.94 311 Pn **P** **04 55 30.1 -0.9**
0.5nm,0.3s,baz=123,slow=12,SNR=12
KSRS LR LR 05 01 21.9
comp=Z,125nm,18.1s,baz=122,slow=36
ASAJ Asahikawa 16.30 359 LR LR 05 02 10.1
comp=Z,53nm,21.5s,baz=174,slow=38
USRK Ussuriysk Ar. 18.62 334 P **P** **04 56 00.8 +0.1**
baz=152,slow=11,SNR=25
MDJ Mudanjiang 19.94 331 P **P** **04 56 15.2 +0.1**
H11N2 WAKE ISLAND Hy 23.26 105 T T 05 21 02.1
baz=297,slow=74,SNR=5.2
H11N1 WAKE ISLAND Hy 23.26 105 T T 05 21 01.5
baz=297
H11N3 WAKE ISLAND Hy 23.27 105 T T 05 20 59.5
baz=297,slow=74,SNR=4.4
H11S3 WAKE ISLAND Hy 23.62 108 T T 05 21 59.1
baz=296
H11S1 WAKE ISLAND Hy 23.62 108 T T 05 22 08.9
baz=296
H11S2 WAKE ISLAND Hy 23.64 108 T T 05 22 02.7
baz=296
DAV Davao City (W) 26.41 222 LR LR 05 05 54.4
comp=Z,98nm,20.8s,baz=360,slow=32
PETK Petropavlovsk- 27.54 19 LR LR 05 08 45.2
comp=Z,21nm,21.6s,baz=239,slow=37
ENH Enshi 29.36 283 P **P** **04 57 45.1 -1.1**
ENH IAmb IAmb 04 57 46.2
comp=Z,9.6nm,0.8s
XAN Xi'an 29.81 291 P **P** **04 57 49.4 -0.9**
XAN IAmb IAmb 04 57 50.3
comp=Z,7.0nm,0.7s
KWAJ Kwajalein Atol 29.92 124 P **P** **04 57 50.0 -1.3**
ULN Ulaanbaatar 34.34 315 P **P** **04 58 29.4 -0.6**
ULN IAmb IAmb 04 58 32.9
comp=Z,11nm,1.1s
SONM Songino Array 34.73 315 P **P** **04 58 33.8 +0.4**
comp=Z,2.8nm,0.6s,baz=126,slow=7.5,SNR=7.0
SONM LR LR 05 13 34.6
comp=Z,106nm,18.9s,baz=114,slow=38
SONM Songino Array 34.73 315 P **P** **04 58 33.7 +0.4**
CMAR Chiang Mai Arr 41.39 267 P **P** **04 59 30.8 +1.1**
comp=Z,1.1nm,0.3s,baz=49,slow=9.7,SNR=5.0
CMAR PcP **PcP** **05 01 28.6 +1.0**
comp=Z,1.1nm,0.4s,baz=117,slow=0.4,SNR=4.8
CMAR LR LR 05 15 39.5
comp=Z,37nm,18.6s,baz=170,slow=35
CMAR Chiang Mai Arr 41.39 267 P **P** **04 59 29.0 -0.7**
TIXI Tiksi 44.60 354 P **P** **04 59 55.9 +0.9**
comp=Z,1.8nm,0.5s,baz=149,slow=5.9,SNR=4.0
TIXI Tiksi 44.60 354 P **P** **04 59 55.7 +0.7**
JOHN Johnston Islan 45.04 94 P **P** **04 59 58.6 -0.5**
SHL Shillong 45.47 279 P **P** **05 00 02.0 -0.7**
SHL IAmb IAmb 05 00 03.2
comp=Z,9.7nm,1.0s
WB0 Warramunga Arr 48.00 191 P **P** **05 00 21.7 -0.6**
WB0 IAmb IAmb 05 00 25.4
comp=Z,14nm,0.8s
WR0 Warramunga Arr 48.17 191 P **P** **05 00 23.6 +0.1**
WR0 IAmb IAmb 05 00 26.3
comp=Z,13nm,1.0s
WRAB Tennant Creek 48.17 191 P **P** **05 00 23.7 +0.1**
WRAB IAmb IAmb 05 00 26.7
comp=Z,18nm,0.8s
WB2 Warramunga Arr 48.18 191 P **P** **05 00 23.9 +0.3**
WRA Warramunga Arr 48.18 191 P **P** **05 00 23.6 0.0**
comp=Z,14nm,0.8s,baz=12,slow=8.3,SNR=52
WRA Warramunga Ar 48.18 191 P **P** **05 00 22.6 -1.0**
ODAN Odare 49.06 283 *eP* **P** **05 00 31.2 +0.5**
comp=Z,13nm,0.6s
ZALV Zalesovo Beam 49.45 319 PcP **PcP** **05 01 55.6 +0.7**
comp=Z,2.0nm,0.6s,baz=78,slow=2.0,SNR=2.6
ZALV LR LR 05 22 22.3
comp=Z,69nm,18.0s,baz=253,slow=37
RAMN Ramite 49.72 283 *eP* **P** **05 00 36.1 +0.3**
comp=Z,24nm,0.9s
JIRN Jiri 49.89 284 *eP* **P** **05 00 38.2 +0.9**
comp=Z,52nm,0.9s
GUN Gumba 50.10 284 *eP* **P** **05 00 39.6 +0.8**
comp=Z,37nm,0.8s
PKI Pulchoki 50.59 284 *eP* **P** **05 00 43.5 +1.0**
comp=Z,6.0nm,0.5s
PKIN Phulchoki 50.60 284 *eP* **P** **05 00 43.5 +1.0**
MK31 Makanchi Array 50.61 309 P **P** **05 00 42.2 +0.2**
MK31 IAmb IAmb 05 00 43.6
comp=Z,5.9nm,1.1s
MKAR Makanchi Array 50.61 309 P **P** **05 00 42.6 +0.7**
comp=Z,3.7nm,0.8s,baz=87,slow=8.9,SNR=26
MKAR LR LR 05 23 02.2
comp=Z,96nm,18.1s,baz=90,slow=37
MKAR Makanchi Array 50.61 309 P **P** **05 00 42.4 +0.4**
KKN Kakani 50.64 284 *eP* **P** **05 00 44.1 +1.3**
MAKZ Makanchi 50.82 309 P **P** **05 00 44.1 +0.5**
MAKZ IAmb IAmb 05 00 45.5
comp=Z,8.1nm,1.1s
DMN Daman 50.84 284 *eP* **P** **05 00 45.5 +1.2**
GKN Gorkha 51.14 285 *eP* **P** **05 00 47.4 +0.9**
DANN Dangsing 51.81 285 *eP* **P** **05 00 52.8 +1.2**
comp=Z,36nm,0.8s
AS31 Alice Springs 51.90 191 P **P** **05 00 52.1 +0.2**
AS31 IAmb IAmb 05 00 53.5
comp=Z,1.7nm,0.3s
ASAR Alice Springs 51.90 191 P **P** **05 00 51.7 -0.1**
comp=Z,1.6nm,0.5s,baz=9.0,slow=6.6,SNR=13
ASAR LR LR 05 21 19.1
comp=Z,51nm,21.1s,baz=358,slow=34
KOLN Koldanda 52.09 285 *eP* **P** **05 00 54.0 +0.4**
comp=Z,19nm,0.9s
NRIK Noril'sk 52.28 338 P **P** **05 00 55.0 +0.9**
comp=Z,1.1nm,0.5s,baz=112,slow=7.5,SNR=4.3
KURK Kurchatov 53.03 314 P **P** **05 00 59.6 -0.3**
KURBB Kurchatov Arra 53.09 314 P **P** **05 01 01.3 +0.9**
comp=Z,23nm,0.9s,baz=91,slow=7.4,SNR=144
TARG Taragay, Kyrgy 54.15 303 P **P** **05 01 08.3 -0.6**
TARG IAmb IAmb 05 01 11.7
comp=Z,7.8nm,0.9s
KDJ Kajisay 54.57 304 P **P** **05 01 10.1 -1.5**
AAK Ala-Archa 56.47 305 P **P** **05 01 26.2 +1.0**
comp=Z,0.8nm,0.3s,baz=104,slow=8.0,SNR=5.0
AAK Ala-Archa 56.47 305 P **P** **05 01 23.4 -1.8**
ILAR Eielson Array 56.76 29 P **P** **05 01 27.4 +0.7**
comp=Z,0.9nm,0.9s,baz=253,slow=6.3,SNR=7.3
ILAR LR LR 05 24 39.0
comp=Z,16nm,20.0s,baz=269,slow=35
ILAR Eielson Array 56.76 29 P **P** **05 01 27.6 +0.9**
BVAR Borovoye Array 58.03 317 P **P** **05 01 37.0 +1.1**
comp=Z,7.8nm,0.6s,baz=93,slow=7.9,SNR=29
BRVK Borovoye 58.10 317 P **P** **05 01 36.5 +0.2**
BRVK IAmb IAmb 05 01 39.9
comp=Z,7.6nm,0.8s
KK31 Karatay Array 59.28 306 P **P** **05 01 44.9 +0.1**
KK31 IAmb IAmb 05 01 47.5
comp=Z,16nm,1.1s
KKAR Karatay Array 59.28 306 P **P** **05 01 44.9 +0.1**
KKAR IAmb IAmb 05 01 47.5
comp=Z,16nm,1.1s
KKAR Karatay Array 59.28 306 P **P** **05 01 45.3 +0.5**
STKA Stephens Creek 59.35 181 P **P** **05 01 45.3 +0.2**
comp=Z,2.7nm,0.7s,baz=350,slow=12,SNR=4.2
GAR Garm 60.26 301 P **P** **05 01 51.0 -0.8**
GAR IAmb IAmb 05 01 53.4
comp=Z,10nm,0.9s
CHGR Chuyangaron 61.22 301 P **P** **05 01 57.8 -0.4**
ARU Arti 64.33 322 P **P** **05 02 19.4 +0.9**
comp=Z,3.2nm,0.4s,baz=108,slow=4.2,SNR=15
ARU Arti 64.33 322 P **P** **05 02 18.9 +0.4**
ABKAR Akbulak array 65.14 314 P **P** **05 02 24.6 +0.7**
AKTO Aktyubinsk 66.05 316 P **P** **05 02 31.1 +1.3**
comp=Z,10nm,0.8s,baz=72,slow=14,SNR=22
GEYT Alibeck 69.74 303 LR LR 05 36 06.0
comp=Z,35nm,18.8s,baz=150,slow=38
YKA Yellowknife Ar 71.19 29 P **P** **05 03 01.4 -0.2**
comp=Z,0.6nm,0.7s,baz=288,slow=6.7,SNR=4.7
KLMR Klimovskoe 72.35 330 *eP* **P** **05 03 08.5 -0.1**
KLMR AMP 05 03 10.5
comp=Z,7.0nm,1.0s
ARCES ARCESS Array B 73.13 341 P **P** **05 03 14.0 +0.9**
comp=Z,1.3nm,0.8s,baz=65,slow=9.0,SNR=4.2
NNZ Nelson 74.20 157 P **P** **05 03 18.0 -1.6**
BMO Blue Mountains 77.29 46 P **P** **05 03 35.5 -2.2**
FINES FINESS Array B 77.65 334 P **P** **05 03 40.0 +0.8**
comp=Z,1.2nm,0.5s,baz=71,slow=5.5,SNR=11
FINES LR LR 05 42 08.4
comp=Z,25nm,18.5s,baz=27,slow=39
FINES FINESS Array B 77.65 334 P **P** **05 03 40.1 +0.9**
KBZ Khabaz 78.08 313 P **P** **05 03 43.5 +1.6**
comp=Z,5.1nm,0.9s,baz=163,slow=3.5,SNR=9.5
KBZ LR LR 05 39 19.3
comp=Z,31nm,21.2s,baz=48,slow=37
MFID Camas Ranch 78.90 47 P **P** **05 03 46.2 -0.4**
NVAR Mina Array Bea 79.52 52 P **P** **05 03 52.1 +1.8**
comp=Z,0.5nm,0.6s,baz=290,slow=4.6,SNR=5.7
NVAR Mina Array Bea 79.52 52 P **P** **05 03 49.3 -1.0**
AKASG Malin Array Be 82.49 324 P **P** **05 04 05.7 +0.2**
comp=Z,1.0nm,0.5s,baz=48,slow=5.7,SNR=5.7
AKASG Malin Array Be 82.49 324 P **P** **05 04 06.1 +0.5**
AKBB Malin Array Si 82.49 324 P **P** **05 04 05.4 -0.2**
AKBB IAmb IAmb 05 04 06.4
comp=Z,2.9nm,0.8s
PDAR Pinedale Array 83.21 45 P **P** **05 04 10.3 +0.5**
comp=Z,0.5nm,0.8s,baz=270,slow=4.5,SNR=2.4
PDAR LR LR 05 37 31.0
comp=Z,33nm,21.5s,baz=312,slow=33
PDAR Pinedale Array 83.21 45 P **P** **05 04 09.5 -0.2**
NB2 NORSAR Subarra 83.24 339 P **P** **05 04 09.4 +0.1**
comp=Z,2.5nm,0.9s,baz=42,slow=5.3
NOA NORSAR Array B 83.24 339 P **P** **05 04 09.3 0.0**
comp=Z,1.5nm,0.8s,baz=41,slow=5.0,SNR=3.8
SRU San Rafael Swe 84.49 49 P **P** **05 04 15.9 -0.4**
RAYN Ar Rayn 85.54 294 P **P** **05 04 21.4 -0.3**
BR131 Keskin Array S 86.07 313 P **P** **05 04 24.2 0.0**
BR131 IAmb IAmb 05 04 28.3
comp=Z,1.8nm,0.7s
BRTR Keskin Array B 86.07 313 P **P** **05 04 24.8 +0.6**
comp=Z,2.0nm,0.7s,baz=80,slow=3.5,SNR=10
BRTR LR LR 05 44 35.7
comp=Z,14nm,21.6s,baz=4.0,slow=37
BRTR Keskin Array B 86.07 313 P **P** **05 04 23.9 -0.2**
ULM Lac du Bonnet 86.47 33 LR LR 05 43 43.0
comp=Z,11nm,19.4s,baz=317,slow=36
GERES GERESS Array B 91.30 329 P **P** **05 04 48.9 +0.2**
comp=Z,0.7nm,0.6s,baz=52,slow=6.4,SNR=5.9
GERES LR LR 05 50 54.2
comp=Z,23nm,18.0s,baz=78,slow=39
GERES GERESS Array B 91.30 329 P **P** **05 04 47.6 -1.1**
TXAR Lajitas Array 94.60 54 P **P** **05 05 07.0 +2.6**
comp=Z,0.4nm,0.8s,baz=338,slow=3.0,SNR=5.5
TXAR Lajitas Array 94.60 54 P **P** **05 05 03.5 -0.9**
TORD Torodi Ar. Bea 124.67 312 PKP **PKPdf** **05 10 43.9 +0.5**
comp=Z,0.3nm,0.7s,baz=17,slow=2.2,SNR=12
TORD Torodi Ar. Bea 124.67 312 **PKPdf** **05 10 43.0 -0.4**
LPAZ La Paz 149.04 75 PKPbc **PKPbc** **05 11 33.1 +0.5**
comp=Z,2.5nm,0.9s,baz=266,slow=2.8,SNR=7.2
LPAZ La Paz 149.04 75 **PKPbc** **05 11 31.6 -1.0**

WEL 11 05:18:48.3,36°S±17°×17°9E±1°5,h12km,M3.7/12, ML4.0/12,MLv3.7/12,Error ellipse: s-maj=0.0km s-min=0.0km az=35.7,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**1.77**	**191**	P	Pn	05 19 14.7	-4.1
MXZ				S	Sn	05 19 35.7	-5.6
WMGZ	**Waiomatatini S**	**2.01**	**187**	P	Pn	05 19 21.7	-0.4
HAZ	**Te Kaha**	**2.08**	**202**	P	Pn	05 19 21.5	-1.6
PKGZ	**Pakihiroa**	**2.13**	**194**	P	Pn	05 19 22.6	-1.3
PUZ	**Puketiti**	**2.28**	**190**	P	Pn	05 19 26.5	+0.6
PUZ				S	Sn	05 19 54.4	+0.5
RUGZ	**Raukumara Rang**	**2.31**	**201**	P	Pn	05 19 25.4	-0.9
TWGZ	**Tauwhareparae**	**2.43**	**194**	P	Pn	05 19 29.8	+1.8
TWGZ				S	Sn	05 19 59.1	+1.5
OPRZ	**Ohinepanea**	**2.68**	**220**	P	Pn	05 19 32.4	+1.2
MWZ	**Matawai**	**2.69**	**201**	P	Pn	05 19 32.6	+1.1
CNGZ	**Carnagh Statio**	**2.69**	**189**	P	Pn	05 19 32.8	+1.3
TKGZ	**Te Karaka**	**2.71**	**195**	P	Pn	05 19 32.9	+1.1
TKGZ				S	Sn	05 20 04.8	+0.4
URZ	**Urewera**	**2.76**	**208**	P	Pn	05 19 32.8	+0.4
RAGZ	**Rawiri**	**2.88**	**201**	P	Pn	05 19 36.3	+2.3
KARZ	**Kaharoa**	**2.97**	**222**	P	Pn	05 19 37.4	+2.0
SNGZ	**Shannon Statio**	**3.16**	**200**	P	Pn	05 19 39.6	+1.6
SNGZ				S	Sn	05 20 17.5	+1.9
PRRZ	**Plateau Road**	**3.27**	**214**	P	Pn	05 19 40.5	+1.1
ALRZ	**Allen Road**	**3.34**	**214**	P	Pn	05 19 41.7	+1.3
RAHZ	**Arahi**	**3.36**	**203**	P	Pn	05 19 42.8	+2.1
RAHZ				S	Sn	05 20 22.4	+1.9
MTHZ	**Maungataniwha**	**3.39**	**206**	P	Pn	05 19 43.1	+2.0
NMHZ	**Naumai**	**3.62**	**205**	P	Pn	05 19 44.8	+0.6
NMHZ				S	Sn	05 20 29.9	+3.0
BKZ	**Black Stump Fm**	**3.79**	**208**	P	Pn	05 19 48.4	+1.8
HIZ	**Hauiti**	**4.11**	**228**	P	Pn	05 19 54.3	+3.3
TUVZ	**Tukino**	**4.23**	**215**	P	Pn	05 19 56.1	+3.4
FWVZ	**Far West T-bar**	**4.26**	**216**	P	Pn	05 19 56.8	+3.4
MOVZ	**Moawhango**	**4.30**	**213**	P	Pn	05 19 54.9	+1.3
MRZ	**Mangatainoka R**	**5.44**	**206**	P	Pn	05 20 09.0	-0.2
KIW	**Kapiti Island**	**5.87**	**210**	P	Pn	05 20 13.9	-1.2
JCZ	**Jackson Bay**	**11.23**	**220**	P	Pn	05 21 29.6	+0.8

NEIC 11 05:22:57.4±1.4, 17.0N±0.1×99.90W±0.01, h24km±14km, Md4.0/42(MEX), Error ellipse: s-maj=16.8km s-min=1.9km az=178.0
MEX 11 05:22:58.7±1.2, 17.09N×99.89W, h4km±10km, MD4.0
ISC 11 05:22:57.4±1.0, 17.07N±0.03×99.88W±0.03, h20km±4km, n39,σ1s05/59,1C,Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACP2	**Acapulco**	**0.19**	**183**		**Pg**	**05 23 02.4**	**0.0**
ACP2					**Sg**	**05 23 05.5**	**-0.3**
ACP2	**Acapulco**	**0.19**	**183**	*eP*	**Pg**	**05 23 02.4**	**0.0**
ACP2				*eS*	**Sg**	**05 23 05.5**	**-0.3**
CAIG	**El Cayaco**	**0.37**	**267**		**Pg**	**05 23 05.0**	**-0.3**
CAIG					**Sb**	**05 23 10.9**	**0.0**
CAIG	**El Cayaco** baz=81,slow=14	**0.37**	**267**	*iP*	**Pg**	**05 23 05.0**	**-0.3**
CAIG				*i* S	**Sb**	**05 23 10.9**	**0.0**
MEIG	**Mezcala**	**0.89**	**16**		**Pg**	**05 23 14.1**	**-0.7**
MEIG					**Sg**	**05 23 26.4**	**-0.3**
MEIG	**Mezcala**	**0.89**	**16**	*eP*	**Pg**	**05 23 14.1**	**-0.7**
MEIG				*i* S	**Sg**	**05 23 26.4**	**-0.3**
ARIG	**Puente Sto Nin**	**1.29**	**340**		**Pn**	**05 23 19.9**	**-0.5**
ARIG					**Sb**	**05 23 36.6**	**-0.6**
ARIG	**Puente Sto Nin**	**1.29**	**340**	*eP*	**Pn**	**05 23 19.9**	**-0.5**
ARIG				*i* S	**Sb**	**05 23 35.9**	**-1.3**
TLIG	**Tlapa**	**1.35**	**68**		**Pn**	**05 23 20.6**	**-0.6**
TLIG					**Sn**	**05 23 38.5**	**-0.2**
TLIG	**Tlapa**	**1.35**	**68**	*i* P	**Pn**	**05 23 20.6**	**-0.6**
TLIG				*i* S	**Sn**	**05 23 38.5**	**-0.2**
PLIG	**Platanillo**	**1.37**	**15**		**Pn**	**05 23 21.6**	**+0.1**
PLIG	**Platanillo**	**1.37**	**15**	*eP*	**Pn**	**05 23 21.6**	**+0.1**
HMTT	**Tlapaneco**	**1.45**	**60**		**Pn**	**05 23 22.5**	**-0.2**
HMTT					**Sn**	**05 23 41.8**	**+0.5**
HMTT	**Tlapaneco**	**1.45**	**60**	*eP*	**Pn**	**05 23 22.5**	**-0.2**
HMTT				*i* S	**Sn**	**05 23 41.8**	**+0.5**
ZIIG	**Zihuatanejo**	**1.61**	**290**		**Pn**	**05 23 24.1**	**-0.7**
ZIIG					**Sn**	**05 23 44.0**	**-0.9**
ZIIG	**Zihuatanejo**	**1.61**	**290**	*eP*	**Pn**	**05 23 24.1**	**-0.7**
ZIIG				*eS*	**Sn**	**05 23 44.0**	**-0.9**
FTIG	**Fresnillo de T**	**1.86**	**63**	*iP*	**Pn**	**05 23 28.0**	**-0.4**
FTIG				*i* S	**Sn**	**05 23 51.3**	**-0.1**
MAVM	**Malinalco, Edo**	**1.92**	**11**		**Pn**	**05 23 31.1**	**+1.9**
MAVM	**Malinalco, Edo**	**1.92**	**11**	*eP*	**Pn**	**05 23 29.7**	**+0.5**
YAIG	**Yautepec**	**1.95**	**23**		**Pn**	**05 23 29.2**	**-0.3**
YAIG					**Sn**	**05 23 54.4**	**+0.9**
YAIG	**Yautepec**	**1.95**	**23**	*eP*	**Pn**	**05 23 29.2**	**-0.3**
YAIG				*eS*	**Sn**	**05 23 52.4**	**-1.1**
TXIG	**Tlaxiaco**	**2.03**	**84**	*iP*	**Pn**	**05 23 30.1**	**-0.6**
TXIG				*eS*	**Sn**	**05 23 56.0**	**+0.4**
HLIG	**Huajuapan de L**	**2.12**	**69**	*eP*	**Pn**	**05 23 31.5**	**-0.5**
HLIG				*i* S	**Sn**	**05 23 57.3**	**-0.6**
TOVM	**TOLUCA**	**2.21**	**5**		**Pn**	**05 23 34.9**	**+1.5**
TOVM	**TOLUCA**	**2.21**	**5**	*eP*	**Pn**	**05 23 32.9**	**-0.5**
AMVM	**AMECAMECA**	**2.30**	**27**		**Pn**	**05 23 35.8**	**+1.2**
AMVM	**AMECAMECA**	**2.30**	**27**	*eP*	**Pn**	**05 23 34.4**	**-0.2**
PPM	**Popocatepetl**	**2.32**	**31**	*iP*	**Pn**	**05 23 35.3**	**+0.3**
PPM				*i* S	**Sn**	**05 24 02.1**	**-1.1**
UNM	**Universidad Na**	**2.35**	**16**	Pn	**Pn**	**05 23 38.0**	**+2.8**
PBVM	**Pinon**	**2.48**	**18**		**Pn**	**05 23 40.0**	**+3.3**
PBVM	**Pinon**	**2.48**	**18**	*iP*	**Pn**	**05 23 36.6**	**-0.2**
AZVM	**Cuida Lopez Ma**	**2.57**	**13**		**Pn**	**05 23 40.0**	**+1.8**
AZVM	**Cuida Lopez Ma**	**2.57**	**13**	*eP*	**Pn**	**05 23 37.7**	**-0.5**
PTVM	**Pico Tres Padr**	**2.62**	**16**		**Pn**	**05 23 39.1**	**+0.2**
PTVM	**Pico Tres Padr**	**2.62**	**16**	*eP*	**Pn**	**05 23 36.2**	**-2.6**
TPIG	**Tehuac#an**	**2.75**	**60**		**Pn**	**05 23 40.1**	**-0.5**
TPIG	**Tehuac#an**	**2.75**	**60**	*iP*	**Pn**	**05 23 40.1**	**-0.5**
MOIG	**Morelia**	**2.88**	**335**		**Pn**	**05 23 45.4**	**+3.0**
HPIG		**11.19**	**332**		**Pn**	**05 25 37.8**	**+1.2**

IDC 11 05:39:39.0±1.2, 1.93N×89.72E, h0km, mb3.8/9, mb1 3.9/11, mb1mx3.7/39, mbtmp3.8/11, ML3.9/1, MS3.3/6, Ms1 3.3/6, ms1mx2.8/36, Error ellipse: s-maj=40.5km s-min=20.1km az=45.0
ISC 11 05:39:40.6±1.2, 2.0N±0.2×89.7E±0.1, h10km, n23, σ0s92/12, mb3.9/9, MS3.3/6, North Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**9.23**	**85**	Pn	**Pn**	**05 41 54.5**	**+0.5**
	1.2nm,0.3s,baz=0.0,slow=13,SNR=2.4						
PSI				Sn	Sn	05 43 28.6	-9.4
	2.2nm,0.3s,baz=358,slow=1.7,SNR=3.8						
CMAR	**Chiang Mai Arr**	**18.72**	**28**	P	**P**	**05 43 58.4**	**-1.1**
	baz=220,slow=10,SNR=1.2						
H08S2	**Diego Garcia H**	**19.66**	**241**	T	T	06 04 46.0	
	baz=60,slow=75,SNR=226						
H08S3	**Diego Garcia H**	**19.66**	**241**	T	T	06 04 46.9	
	baz=60,slow=75,SNR=180						
H08S1	**Diego Garcia H**	**19.68**	**241**	T	T	06 04 50.0	
	baz=60,slow=75,SNR=134						
H01W3	**Cape Leeuwin H**	**43.22**	**150**	T	T	06 33 21.9	
	baz=324,slow=76,SNR=15						
H01W2	**Cape Leeuwin H**	**43.22**	**150**	T	T	06 33 31.0	
	baz=324,slow=76,SNR=17						
H01W1	**Cape Leeuwin H**	**43.23**	**150**	T	T	06 33 43.6	
	baz=324,slow=76,SNR=22						
MKAR	**Makanchi Array**	**45.12**	**353**	P	**P**	**05 47 57.1**	**-0.1**
	0.4nm,0.7s,baz=170,slow=8.8,SNR=2.3						
SONM	**Songino Array**	**47.92**	**15**	P	**P**	**05 48 19.4**	**+0.2**
	2.9nm,0.7s,baz=201,slow=9.3,SNR=6.7						
SONM				LR	LR	06 09 52.3	
	comp=Z,37nm,21.4s,baz=176,slow=38						
WRA	**Warramunga Arr**	**48.87**	**119**	P	**P**	**05 48 26.6**	**-0.4**
	1.1nm,0.6s,baz=296,slow=8.5,SNR=10						
KSRS	**Korea Array**	**49.79**	**40**	LR	LR	06 10 50.9	
	comp=Z,19nm,18.2s,baz=220,slow=38						
ASAR	**Alice Springs**	**49.94**	**123**	P	**P**	**05 48 34.8**	**-0.2**
	0.8nm,0.6s,baz=300,slow=8.2,SNR=7.6						
ZALV	**Zalesovo Beam**	**51.97**	**356**	P	**P**	**05 48 50.1**	**+0.4**
	0.8nm,0.5s,baz=176,slow=8.1,SNR=2.0						
EIL	**Elat**	**58.77**	**304**	LR	LR	06 14 58.7	
	comp=Z,32nm,19.2s,baz=146,slow=36						
MMAI	**Mount Meron Ar**	**59.46**	**308**	LR	LR	06 15 39.1	
	comp=Z,21nm,21.3s,baz=340,slow=36						
ARU	**Arti**	**59.77**	**341**	LR	LR	06 15 26.5	
	comp=Z,30nm,21.9s,baz=80,slow=36						
BRTR	**Keskin Array B**	**63.15**	**314**	P	**P**	**05 50 08.0**	**-1.0**
	0.5nm,0.5s,baz=116,slow=6.6,SNR=3.0						
MA2	**Magadan**	**74.01**	**28**	LR	LR	06 27 24.4	
	comp=Z,13nm,18.1s,baz=148,slow=39						
FINES	**FINESS Array B**	**75.94**	**334**	P	**P**	**05 51 29.5**	**+2.1**
	0.4nm,0.6s,baz=78,slow=8.7,SNR=1.3						
GERES	**GERESS Array B**	**79.34**	**319**	P	**P**	**05 51 46.9**	**+0.1**
	0.2nm,0.3s,baz=106,slow=9.4,SNR=1.4						
ARCES	**ARCESS Array B**	**79.36**	**341**	P	**P**	**05 51 46.6**	**+0.2**
	0.6nm,0.7s,baz=86,slow=6.4,SNR=2.5						
TXAR	**Lajitas Array**	**146.34**	**21**	PKPbc	**PKPbc**	**05 59 22.0**	**-0.5**
	0.7nm,1.1s,baz=222,slow=1.7,SNR=4.5						

IDC 11 05:53:56.4±1.2, 4.20N×32.51W, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/43, mbtmp3.9/11, ML3.7/1, MS3.4/7, Ms1 3.4/7, ms1mx3.0/29, Error ellipse: s-maj=28.9km s-min=28.2km az=99.0
ISC 11 05:53:59.3±0.8, 4.2N±0.1×32.5W±0.2, h19km, n17, σ0s39/11, mb4.0/10, MS3.3/6, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**10.49**	**199**	Pn	**Pn**	**05 56 28.6**	**-0.2**
	0.5nm,0.3s,baz=14,slow=17,SNR=2.4						
RCBR				LR	LR	05 59 33.6	
	comp=Z,182nm,22.0s,baz=346,slow=32						
H10N3	**ASCENSION HYDR**	**21.57**	**124**	T	T	06 21 26.9	
	baz=302,slow=75,SNR=76						
H10N2	**ASCENSION HYDR**	**21.57**	**124**	T	T	06 21 21.1	
	baz=302,slow=75,SNR=76						
H10N1	**ASCENSION HYDR**	**21.59**	**124**	T	T	06 21 24.3	
	baz=302,slow=75,SNR=63						
BDFB	**Brasilia**	**24.96**	**218**	LR	LR	06 07 56.8	
	comp=Z,73nm,21.6s,baz=103,slow=34						
DBIC	**Dimbokro**	**27.64**	**84**	LR	LR	06 08 44.1	
	comp=Z,78nm,18.2s,baz=262,slow=32						
TORD	**Torodi Ar. Bea**	**34.93**	**73**	P	**P**	**06 00 50.1**	**-0.2**
	2.2nm,0.8s,baz=265,slow=8.5,SNR=8.8						
TORD				LR	LR	06 13 10.3	
	comp=Z,101nm,19.2s,baz=0.0,slow=33						
ESDC	**Sonseca Array**	**43.77**	**32**	P	**P**	**06 02 03.6**	**-0.2**
	0.8nm,0.9s,baz=203,slow=7.2,SNR=4.1						
ESDC				LR	LR	06 17 26.1	
	comp=Z,32nm,19.3s,baz=170,slow=32						
KEST	**Kesra**	**49.73**	**45**	LR	LR	06 23 34.5	
	comp=Z,91nm,20.0s,baz=278,slow=36						
SCHQ	**Schefferville**	**57.62**	**337**	P	**P**	**06 03 48.1**	**+0.1**
	1.0nm,0.6s,baz=154,slow=9.9,SNR=3.9						
GERES	**GERESS Array B**	**59.33**	**34**	P	**P**	**06 04 00.2**	**+0.1**
	0.7nm,0.7s,baz=225,slow=5.5,SNR=8.2						
BOSA	**Boshof**	**64.33**	**124**	P	**P**	**06 04 34.5**	**+0.3**
	4.4nm,1.0s,baz=333,slow=5.5,SNR=3.6						
NOA	**NORSAR Array B**	**65.55**	**22**	P	**P**	**06 04 40.6**	**-0.9**
	1.0nm,0.9s,baz=232,slow=6.5,SNR=3.6						
NOA				LR	LR	06 32 10.6	
	comp=Z,15nm,18.1s,baz=245,slow=35						
BRTR	**Keskin Array B**	**69.09**	**49**	P	**P**	**06 05 04.7**	**+0.2**
	0.6nm,0.6s,baz=218,slow=7.8,SNR=3.9						
AKASG	**Malin Array Be**	**69.14**	**37**	P	**P**	**06 05 04.5**	**+0.1**
	0.2nm,0.3s,baz=240,slow=8.5,SNR=7.2						
TXAR	**Lajitas Array**	**71.55**	**299**	P	**P**	**06 05 19.8**	**+0.2**
	0.2nm,0.7s,baz=115,slow=6.4,SNR=2.6						
FINES	**FINESS Array B**	**71.75**	**26**	P	**P**	**06 05 20.5**	**+0.4**
	1.6nm,0.9s,baz=249,slow=10.0,SNR=4.4						

THR 11 06:06:33.0±0.9, 28.26N×56.94E, h14km±7km, ML3.9
TEH 11 06:06:34.8, 28.40N×57.02E, h18km, ML4.1
*NEIC 11 06:06:37.7±2.4, 28.24N±0.07×56.8E±0.1, h47km±10km, Error ellipse: s-ma

UMQ	Umm Al-Quwin SNR=14	3.02	204	*e*P	Pn	06 07 24.7	+2.3
UMQ	Umm Al-Quwin SNR=14	3.02	204	P	Pn	06 07 25.2	+2.9
UMQ	Umm Al-Quwin	3.02	204	*e*Pn	Pn	06 07 25.3	+3.0
MSFE	Esma-Masafi SNR=20	3.02	195	*e*P	Pn	06 07 24.7	+2.2
MSFE	Esma-Masafi	3.02	195	*e*Pn	Pn	06 07 25.5	+3.0
MDH	Madha	3.06	193	P	Pn	06 07 25.9	+3.0
MDH	Madha	3.06	193	*e*Pn	Pn	06 07 26.5	+3.6
UOSS	Minazif	3.42	193	P	Pn	06 07 29.8	+1.9
UOSS	Minazif	3.42	193	P	Pn	06 07 31.0	+3.2
UOSS	Minazif	3.42	193	*e*Pn	Pn	06 07 30.0	+2.1
NAZ	Nazwa, Dubai SNR=25	3.51	201	*i* P	Pn	06 07 31.2	+2.0
NAZ				S	Sn	06 08 13.1	+3.4
NAZ	Nazwa, Dubai SNR=18	3.51	201	P	Pn	06 07 31.5	+2.3
NAZ				S	Sn	06 08 11.9	+2.2
NAZ	Nazwa, Dubai	3.51	201	*e*Pn	Pn	06 07 31.0	+1.8
ZHSF	Zahedan	3.53	67	*e*Pn	Pn	06 07 30.7	+1.2
HATD	Hatta, Dubai	3.55	193	P	Pn	06 07 32.3	+2.6
HATD	Hatta, Dubai	3.55	193	P	Pn	06 07 32.9	+3.2
HATD	Hatta, Dubai	3.55	193	*e*Pn	Pn	06 07 33.0	+3.3
SZD1	Zahaedan-tmp	3.56	70	*e*Pn	Pn	06 07 31.6	+1.6
ASHO	Ashiyiah SNR=10	3.70	194	*i* P	Pn	06 07 33.5	+1.7
ASHO	Ashiyiah SNR=10	3.70	194	P	Pn	06 07 34.4	+2.6
ASHO	Ashiyiah	3.70	194	*e*Pn	Pn	06 07 34.2	+2.4
IMEH	Mehriz	3.73	326	*e*Pn	Pn	06 07 32.6	+0.1
FAQ	Al Faqa, Dubai SNR=20	3.76	200	*i* P	Pn	06 07 35.0	+2.4
FAQ	SNR=5.8			*i* P	Pn	06 07 35.0	+2.4
FAQ	Al Faqa, Dubai SNR=20	3.76	200	P	Pn	06 07 34.7	+2.1
FAQ				S	Sn	06 08 17.7	+1.8
FAQ				S	Sn	06 08 17.9	+2.1
FAQ	Al Faqa, Dubai	3.76	200	*e*Pn	Pn	06 07 34.9	+2.4
BSRN	Basiran	4.08	26	*e*Pn	Pn	06 07 38.8	+1.7
BSRN				*e*Sg	Sb	06 08 41.1	+4.2
CHBR	Chabahar	4.08	130	*e*Pn	Pn	06 07 37.7	+0.6
AJN	Ajban SNR=21	4.14	207	*i* P	Pn	06 07 39.9	+2.0
AJN	SNR=15			*i* P	Pn	06 07 39.9	+2.0
AJN	Ajban SNR=21	4.14	207	P	Pn	06 07 39.9	+2.0
AJN	SNR=15			P	Pn	06 07 39.9	+2.0
AJN				S	Sn	06 08 27.3	+2.0
AJN	Ajban	4.14	207	*e*Pn	Pn	06 07 39.9	+2.0
SOHO	SOHO	4.17	186	P	Pn	06 07 41.0	+2.9
SOHO	SOHO	4.17	186	*e*Pn	Pn	06 07 38.8	+0.6
ALNE	Al Ain	4.38	196	*e*Pn	Pn	06 07 45.7	+4.6
IKOO	Kooshah	4.46	22	*e*Pn	Pn	06 07 45.3	+2.9
ICHK	Chekchek	4.55	331	*e*Pn	Pn	06 07 45.1	+1.5
YZKH	Yazd	4.60	333	*e*Pn	Pn	06 07 44.4	+0.2
ISAD	Sadrabad	4.63	322	*e*Pn	Pn	06 07 46.8	+2.0
HOQ	Hoqain SNR=29	4.70	177	P	Pn	06 07 45.6	+0.1
ITEG	Tejag	4.82	17	*e*Pn	Pn	06 07 49.4	+2.1
BIDO	Bidbid SNR=12	4.85	168	P	Pn	06 07 47.7	+0.1
ARQ	Araqi SNR=29	4.96	185	P	Pn	06 07 51.0	+1.9
IDAH	Dahanechah	5.06	28	*e*Pn	Pn	06 07 54.6	+3.9
WSAR	Wadi Sarin comp=E,23nm,0.3s,baz=12,slow=14,SNR=204	5.24	164	P	Pn	06 07 53.8	+1.0
WSAR	comp=E,32nm,0.3s,baz=160,slow=4.0,SNR=15			S	Sn	06 08 51.5	-0.7
WSAR	Wadi Sarin SNR=241	5.24	164	P	Pn	06 07 53.9	+1.0
WSAR				S	Sn	06 08 52.1	-0.1
SMDO	Samad SNR=9.1	5.29	170	P	Pn	06 07 54.6	+0.9
SMDO				S	Sn	06 08 53.8	0.0
IRAM	Ramesheh	5.34	312	*e*Pn	Pn	06 07 55.0	+0.5
IMON	Monand	5.38	24	*e*Pn	Pn	06 08 00.0	+4.9
AFRZ	Afriz	5.39	18	*e*Pn	Pn	06 07 57.5	+2.4
KLNJ	Kolanjah	5.46	301	*e*Pn	Pn	06 07 56.7	+0.5
BSY	Bisya SNR=12	5.53	178	P	Pn	06 07 59.1	+2.2
BSY				S	Sn	06 09 03.8	+4.4
ANAR	Anarak	5.65	331	*e*Pn	Pn	06 08 00.0	+1.3
UMZA	Um Al Zommool	5.81	197	*e*Pn	Pn	06 08 01.9	+1.2
WBK	Wadi Bani Khal SNR=47	5.92	162	P	Pn	06 08 03.0	+0.6
WBK				S	Sn	06 09 08.3	-0.9
IGAR	Gharneh	5.95	315	*e*Pn	Pn	06 08 03.3	+0.4
JMDO	Jabal Madar SNR=8.6	5.98	170	P	Pn	06 08 04.5	+1.4
JMDO				S	Sn	06 09 11.5	+1.0
IZEF	Zefreh	6.12	320	*e*Pn	Pn	06 08 05.6	+0.3
SLWR	Sila	6.38	230	*e*Pn	Pn	06 08 09.0	+0.4
JHBN	Jahan bin	6.76	307	*e*Pn	Pn	06 08 14.9	+0.8
IKLH	Kolahrood	6.86	318	*e*Pn	Pn	06 08 16.7	+1.3
IPIR	Pirpir	6.87	311	*e*Pn	Pn	06 08 16.1	+0.5
MHTO	MHTO SNR=31	7.32	173	P	Pn	06 08 23.0	+1.4
MHTO				S	Sn	06 09 42.6	-1.0
KHMZ	Khomeyn	8.14	314	*e*Pn	Pn	06 08 32.6	-0.3
GEYT	Alibeck comp=E,0.7nm,0.3s,baz=171,slow=10,SNR=4.1	9.65	5	P	Pn	06 08 57.2	+3.7
GEYT				LR	LR	06 13 03.8	
DMTO	comp=E,158nm,18.3s,baz=195,slow=40 DMTO SNR=7.2	10.70	191	P	Pn	06 09 07.2	-0.7
WHFO	Wadi Hawf SNR=29	10.75	197	P	Pn	06 09 08.0	-0.6
RAYN	Ar Rayn	11.41	248	Pn	Pn	06 09 14.2	-3.4
ABTO	Aybut SNR=20	11.42	198	P	Pn	06 09 17.0	-0.8
ABKAR	Akbulak array	21.05	5	P	P	06 11 17.3	-0.7
KDJ	Kajisay comp=Z,4.8nm,0.9s	21.41	45	P	P	06 11 23.4	+1.3
KDJ				IAmb	IAmb	06 11 33.4	
AKTO	Aktyubinsk comp=Z,3.9nm,0.4s,baz=180,slow=13,SNR=8.7	22.12	2	P	P	06 11 28.9	-0.6
BR131	Keskin Array S	22.43	307	P	P	06 11 32.9	-0.1
BR131	comp=Z,4.0nm,0.8s			IAmb	IAmb	06 11 35.2	
BRTR	Keskin Array B comp=Z,3.6nm,0.8s,baz=128,slow=12,SNR=16	22.43	307	P	P	06 11 33.0	-0.1
BRTR	Keskin Array B	22.43	307	P	P	06 11 32.6	-0.4
BVAR	Borovoye Array comp=Z,1.8nm,0.7s,baz=198,slow=8.9,SNR=11	26.61	18	P	P	06 12 12.1	-0.1
MKAR	Makanchi Array	27.05	40	P	P	06 12 16.1	-0.2
KURBB	Kurchatov Arra comp=Z,0.5nm,0.5s,baz=219,slow=8.8,SNR=6.3	27.61	30	P	P	06 12 20.6	-0.5
MKAR	Makanchi Array comp=Z,0.4nm,0.3s,baz=226,slow=9.6,SNR=2.5	27.05	40	P	P	06 12 16.5	+0.3
ZALV	Zalesovo Beam comp=Z,1.4nm,0.6s,baz=240,slow=8.7,SNR=5.4	32.70	31	P	P	06 13 05.4	-0.7
ZALV	comp=Z,38nm,18.2s,baz=99,slow=39			LR	LR	06 28 04.1	
FINES	FINESS Array B comp=Z,3.7nm,0.4s,baz=136,slow=9.1,SNR=45	39.02	337	P	P	06 13 59.0	-1.1
CMAR	Chiang Mai Arr comp=Z,13nm,18.3s,baz=175,slow=42	39.53	95	LR	LR	06 34 39.7	
NB2	NORSAR Subarra comp=Z,1.3nm,0.7s,baz=114,slow=7.9	44.68	330	P	P	06 14 44.1	-2.4
NOA	NORSAR Array B comp=Z,1.0nm,0.7s,baz=116,slow=7.9,SNR=4.9	44.68	330	P	P	06 14 43.9	-2.6
ARCES	ARCESS Array B comp=Z,0.6nm,0.5s,baz=140,slow=8.9,SNR=6.6	45.11	345	P	P	06 14 48.9	-0.8
TORD	Torodi Ar. Bea comp=Z,1.2nm,0.4s,baz=63,slow=7.5,SNR=24	53.48	266	P	P	06 15 52.8	-1.6
BMAR	Burnt Mountain	83.19	8	P	P	06 18 59.4	-0.2
ILAR	Eielson Array comp=Z,0.3nm,0.6s,baz=331,slow=5.4,SNR=3.1	85.38	10	P	P	06 19 08.6	-2.0
WRA	Warramunga Arr comp=Z,0.6nm,0.7s,baz=320,slow=4.1,SNR=3.0	88.71	113	P	P	06 19 28.1	+0.6
YKA	Yellowknife Ar comp=Z,0.5nm,0.7s,baz=348,slow=4.1,SNR=6.2	89.28	356	P	P	06 19 29.3	-0.2
ASAR	Alice Springs comp=Z,0.2nm,0.5s,baz=313,slow=4.8,SNR=5.0	90.26	117	P	P	06 19 35.2	+0.5

*IDC **11** 06:19:40.7±1.1,66°.16N×119°.43W,h0km,mb3.3/3, mb1 3.9/8,mb1mx3.5/44,mbtmp3.7/8,ML3.9/5,MS3.0/1, Ms1 3.0/1,ms1mx2.1/27,Error ellipse: s-maj=15.3km s-min=10.2km az=39.0*

*PGC **11** 06:19:44.4,65°.95N×119°.64W,h30km,ML2.8/1,289km Wsw of Coppermine, Nt Nw Territories - Nunavut, Canada*

ISC 11 06:19:39.7±0.6,**65°.88N**±0°.04×**120°.03W**±0°.05,**h10**km,**n39**, σ3.9**07**/54,**mb3.1**/3,**Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DHRN	**Dharma Camp**	**1.18**	**10**	P	**Pb**		**06 20 03.4**	**+1.3**
DHRN				S	**Sb**		**06 20 17.0**	**-0.4**
KUKN	**Kugluktuk,NWT**	**2.76**	**43**	Pn	**Pn**		**06 20 25.0**	**+1.0**
KUKN				Sn	**Sn**		**06 20 53.4**	**-3.9**
YKW3	**Yellowknife Ar**	**4.09**	**142**	Pn	**Pn**		**06 20 43.7**	**+1.5**
YKW3				Sn	**Sn**		**06 21 26.9**	**-3.0**
YKA	**Yellowknife Ar** 3.3nm,0.3s,baz=327,slow=13,SNR=188	**4.15**	**143**	Pn	**Pn**		**06 20 45.2**	**+2.3**
YKA	6.0nm,0.3s,baz=326,slow=23,SNR=11			Sn	**Sn**		**06 21 29.2**	**-2.2**
YKA	10nm,0.3s,baz=327,slow=27,SNR=10.0			Lg	Lg		06 21 52.0	
INK	**Inuvik** 6.0nm,0.3s,baz=97,slow=14,SNR=46	**5.80**	**301**	Pn	**Pn**		**06 21 07.6**	**+1.9**
INK	9.1nm,0.3s,baz=200,slow=31,SNR=13			Sn	**Sn**		**06 22 09.2**	**-3.0**
INK	1.6nm,0.3s,baz=6.9,slow=26,SNR=3.2			Lg	Lg		06 22 42.8	
INK	**Inuvik**	**5.80**	**301**	Pn	**Pn**		**06 21 08.2**	**+2.6**
INK				Sn	**Sn**		**06 22 10.1**	**-2.1**
NBC2	**NorthernBC 2**	**6.23**	**192**	Sn	**Sn**		**06 22 20.6**	**-2.1**
NBC1	**NorthernBC 1**	**6.49**	**197**	Sn	**Sn**		**06 22 28.1**	**-1.0**
FNBB	**Fort Nelson**	**7.15**	**193**	Pn	**Pn**		**06 21 27.1**	**+2.8**
FNBB				Sn	**Sn**		**06 22 43.2**	**-2.3**
NBC6	**NorthernBC 6**	**7.35**	**185**	Pn	**Pn**		**06 21 27.9**	**+1.0**
NBC6				Sn	**Sn**		**06 22 46.0**	**-4.4**
HILA	**High Level**	**7.49**	**168**	Sn	**Sn**		**06 22 48.5**	**-5.1**
DAWY	**Dawson**	**8.40**	**266**	Pn	**Pn**		**06 21 45.4**	**+4.0**
DAWY				Sn	**Sn**		**06 23 14.3**	**-1.9**
NBC5	**NorthernBC 5**	**8.48**	**190**	Pn	**Pn**		**06 21 44.1**	**+1.5**
NBC5				Sn	**Sn**		**06 23 14.3**	**-4.0**
WHY	**Whitehorse**	**8.48**	**239**	Pn	**Pn**		**06 21 46.5**	**+3.9**
WHY				Sn	**Sn**		**06 23 16.6**	**-1.7**
DLBC	**Dease Lake** 1.1nm,0.3s,baz=54,slow=7.4,SNR=8.5	**8.80**	**217**	Pn	Pn		06 21 51.8	+4.9
DLBC	0.5nm,0.3s,baz=256,slow=7.2,SNR=5.1			Sn	**Sn**		**06 23 28.6**	**+2.5**
DLBC	0.1nm,0.3s,baz=140,slow=20,SNR=1.3			Lg	Lg		06 24 29.4	
DLBC	**Dease Lake**	**8.80**	**217**	Pn	**Pn**		**06 21 49.9**	**+3.0**
YUK5	**Granite Creek**	**9.26**	**247**	Pn	**Pn**		**06 21 56.6**	**+3.3**
HYT	**Haines Junctio**	**9.32**	**245**	Pn	**Pn**		**06 21 58.3**	**+4.2**
HYT				Sn	**Sn**		**06 23 36.1**	**-2.8**
YUK4	**Talbot Arm**	**9.43**	**250**	P	**Pn**		**06 21 58.0**	**+2.3**
YUK6	**Outpost Mounta**	**9.57**	**247**	P	**Pn**		**06 22 00.6**	**+3.0**
YUK6				S	**Sn**		**06 23 43.7**	**-1.5**
BVCY	**Beaver Creek**	**9.72**	**259**	P	**Pn**		**06 22 03.2**	**+3.8**
BVCY				S	**Sn**		**06 23 45.2**	**-3.2**
YUK7	**Dusty Glacier**	**9.76**	**245**	S	**Sn**		**06 23 46.4**	**-3.3**
PLBC	**Pleasant Camp**	**9.87**	**237**	P	**Pn**		**06 22 05.8**	**+4.4**
PLBC				S	**Sn**		**06 23 50.8**	**-1.3**
YUK3	**Moose Creek**	**9.89**	**255**	S	**Sn**		**06 23 51.1**	**-1.9**
BMBC	**Bull Mountain**	**9.92**	**187**	P	**Pn**		**06 22 02.9**	**+0.6**
BMBC				S	**Sn**		**06 23 48.2**	**-5.4**
YUK2	**White River**	**10.04**	**256**	S	**Sn**		**06 23 51.8**	**-4.7**
NBC4	**NorthernBC 4**	**10.23**	**182**	P	**Pn**		**06 22 07.5**	**+0.9**
NBC4				S	**Sn**		**06 23 55.0**	**-6.2**
DOT	**Dot Lake**	**10.47**	**269**	P	**Pn**		**06 22 12.4**	**+2.7**
PNL	**Peninsula**	**10.80**	**244**	P	Pn		06 22 19.5	+5.2
ILAR	**Eielson Array** 0.4nm,0.3s,baz=75,slow=12,SNR=20	**11.24**	**277**	Pn	**Pn**		**06 22 22.5**	**+2.3**
ILAR	0.2nm,0.3s,baz=85,slow=23,SNR=6.4			Sn	**Sn**		**06 24 20.6**	**-5.1**
COLD	**Coldfoot**	**12.03**	**290**	P	**Pn**		**06 22 33.6**	**+2.7**
RES	**Resolute Bay** 0.9nm,0.3s,baz=242,slow=14,SNR=30	**12.11**	**33**	Pn	**Pn**		**06 22 29.4**	**-2.6**
RES	1.4nm,0.3s,baz=264,slow=5.1,SNR=9.1			Sn	Sn		06 24 30.3	-16
RES	0.2nm,0.3s,baz=114,slow=7.9,SNR=1.4			Lg	Lg		06 25 55.0	
RES	**Resolute Bay**	**12.11**	**33**	P	**Pn**		**06 22 29.7**	**-2.2**
RES				S	Sn		06 24 31.8	-15
EDM	**Edmonton**	**13.13**	**162**	P	**Pn**		**06 22 45.6**	**-0.5**
EDM				S	Sn		06 24 59.8	-12
ILON	**Igloolik, Nuna**	**14.78**	**59**	P	Pn		06 23 02.7	-5.6
ULM	**Lac du Bonnet** 0.5nm,0.3s,baz=65,slow=7.3,SNR=2.4	**20.00**	**130**	Lg	Lg		06 30 01.0	
FRB	**Frobisher Bay** 0.9nm,0.4s,baz=296,slow=11,SNR=5.1	**21.51**	**72**	P	**P**		**06 24 27.4**	**-0.8**
PDAR	**Pinedale Array** 0.3nm,0.5s,baz=13,slow=7.7,SNR=3.8	**23.89**	**161**	P	**P**		**06 24 57.1**	**+3.6**
PDAR	comp=Z,36nm,21.6s,baz=126,slow=36			LR	LR		06 34 00.4	
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=10,slow=7.3,SNR=5.2	**37.94**	**156**	P	**P**		**06 26 59.9**	**+2.6**

*LVSN **11** 06:20:08.0±1.1,55°.21N×20°.46E,h0km,s365km,ML2.6*
*UPP **11** 06:20:09.4±2.6,55°.31N×20°.72E,h0km,ML1.6,Suspected explosion*

ISC 11 06:20:10.2±1.6,**55°.48N**±0°.09×**20°.87E**±0°.05,**h10**km,**n12**, σ0.**98**/16,**Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PABE	**Paberze**	**1.76**	**88**	*e*P	**Pn**		**06 20 41.0**	**+0.3**
PABE				*e*S	**Sn**		**06 21 04.3**	**+1.1**
SLIT	**Slitere, Latvi**	**2.29**	**19**	*e*P	**Pn**		**06 20 48.7**	**+0.6**
SLIT	comp=Z,64nm,0.4s			AML	AML		06 20 50.4	
SLIT				*e*S	**Sb**		**06 21 19.4**	**-0.6**
SLIT				AML	AML		06 21 20.1	
SLIT	comp=E,62nm,0.3s			AML	AML		06 21 25.4	
GOTU	**Gotland** comp=N,61nm,0.4s	**2.55**	**331**	P	**Pb**		**06 20 54.2**	**-1.8**
GOTU				S	**Sb**		**06 21 27.8**	**+0.3**
BYXU	**Byxelkrok**	**2.81**	**312**	P	**Pn**		**06 20 56.0**	**+0.8**
BLEU	**Blekinge**	**2.97**	**288**	P	**Pn**		**06 20 57.7**	**+0.4**
BLEU				S	**Sn**		**06 21 34.2**	**+1.3**
ASPU	**Aespoe**	**3.07**	**311**	P	**Pn**		**06 20 59.8**	**+1.1**
OSKU	**Oskarshamn**	**3.16**	**305**	P	**Pn**		**06 21 00.9**	**+0.8**
VSTU	**Vaestervik**	**3.25**	**314**	P	**Pn**		**06 21 02.3**	**+1.1**
VXJU	**Vaexsjoe**	**3.62**	**296**	P	**Pn**		**06 21 06.2**	**-0.1**
MTSE	**Matsula**	**3.62**	**25**	*e*P	**Pn**		**06 21 06.9**	**+0.6**
VIKU	**Vikbolandet**	**3.79**	**325**	P	**Pn**		**06 21 09.5**	**+0.8**
DEL	**Delary**	**4.06**	**287**	P	**Pn**		**06 21 12.1**	**-0.3**

*SOME **11** 06:37:08.4,40°.27N×77°.62E,h5km*
*NNC **11** 06:37:10.4±0.8,40°.30N×77°.57E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=5.2km s-min=4.0km az=167.0*
*KRNET **11** 06:37:10.3±0.1,40°.29N×77°.57E,mb3.0*

ISC 11 06:37:05.0±2.5,**40°.14N**±0°.09×**77°.50E**±0°.04,**h0**km±18**km**, **n54**,σ1.**960**/85,**23C-9D**,**Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy** baz=7.0	**1.60**	**8**	⇑*i*P	**Pg**		**06 37 37.8**	**+2.1**
TARG	baz=7.0			⇑*i*S	**Sg**		**06 37 58.0**	**+1.5**
KDJ	**Kajisay** baz=51	**2.00**	**353**	⇑*i*P	**Pg**		**06 37 44.9**	**+1.5**
KDJ	baz=51			⇑*i*S	**Sg**		**06 38 10.3**	**+1.0**
ULHL	**Ulahol** baz=33	**2.31**	**336**	⇑*i*P	**Pg**		**06 37 50.3**	**+1.0**
ULHL	baz=33			⇑*i*S	**Sg**		**06 38 19.6**	**+0.4**
PRZ	**Przheval'sk** baz=16	**2.44**	**16**	⇓*i*P	**Pg**		**06 37 51.4**	**-0.3**
PRZ	baz=16			⇓*i*S	**Sg**		**06 38 21.6**	**-1.7**
KZA	**Kyzart** baz=16	**2.58**	**319**	⇑*i*P	**Pb**		**06 37 54.7**	**+2.4**
KZA	baz=16			⇑*i*S	**Sb**		**06 38 27.0**	**+2.3**
BOOM	**Boomskoye usch** baz=31	**2.62**	**334**	⇑*i*P	**Pb**		**06 37 54.8**	**+1.8**
BOOM	baz=31			⇑*i*S	**Sb**		**06 38 27.3**	**+1.4**
TNSS	**Tian-Shan** 22nm,0.5s	**2.92**	**352**	*e*P	**Pg**		**06 38 01.9**	**+0.8**
TNSS	17nm,0.5s			*e*S	**Sg**		**06 38 40.1**	**+1.2**
TNSS	**Tian-Shan** 21nm,0.5s	**2.92**	**352**	Pg	**Pg**		**06 38 01.7**	**+0.6**
TNSS	15nm,0.6s			Lg	Lg		06 38 40.4	
ARLS	**Aral** baz=4.0	**2.96**	**307**	⇑*i*P	**Pb**		**06 38 00.2**	**+1.5**
ARLS	baz=4.0			⇑*i*S	**Sb**		**06 38 36.6**	**+1.2**
IZV	**Izvestkoviy** 7.4nm,0.3s	**2.97**	**347**	*e*P	**Pg**		**06 38 02.4**	**+0.4**
IZV	23nm,0.6s			*e*S	**Sg**		**06 38 41.2**	**+0.9**
IZV	**Izvestkoviy** 6.8nm,0.3s	**2.97**	**347**	Pg	**Pg**		**06 38 02.4**	**+0.4**
IZV	23nm,0.6s			Lg	Lg		06 38 41.2	
SATY	**Saty** 4.4nm,0.4s	**2.99**	**13**	*e*P	**Pg**		**06 38 02.3**	**-0.1**
SATY	23nm,0.5s			*e*S	**Sg**		**06 38 40.8**	**-0.3**
SATY	**Saty** 4.4nm,0.4s	**2.99**	**13**	Pg	**Pg**		**06 38 02.3**	**-0.1**
SATY	23nm,0.5s			Lg	Lg		06 38 40.8	
MDOK	**Medeo** 5.9nm,0.4s	**3.04**	**354**	*e*P	**Pg**		**06 38 03.0**	**-0.2**
MDOK	68nm,0.6s			*e*S	**Sg**		**06 38 42.5**	**-0.1**
MDOK	**Medeo** 4.3nm,0.6s	**3.04**	**354**	Pg	**Pg**		**06 38 03.4**	**+0.1**
MDOK	60nm,0.6s			Lg	Lg		06 38 42.3	
MDOK	**Medeo** 5.7nm,0.4s	**3.04**	**354**	Pg	**Pg**		**06 38 03.1**	**-0.2**
MDOK	45nm,0.7s			Lg	Lg		06 38 42.5	
UCH	**Uchtor** baz=11	**3.07**	**314**	⇓*i*P	**Pb**		**06 38 01.7**	**+0.9**
UCH	baz=11			⇓*i*S	**Sb**		**06 38 39.2**	**+0.2**
MTBS	**Maitube** 5.5nm,0.3s	**3.09**	**345**	*e*P	**Pg**		**06 38 04.3**	**0.0**
MTBS	15nm,0.3s			*e*S	**Sg**		**06 38 44.2**	**-0.1**
MTBS	**Maitube** 5.5nm,0.3s	**3.09**	**345**	Pg	**Pg**		**06 38 04.3**	**0.0**
MTBS	15nm,0.3s			Lg	Lg		06 38 44.2	
KOTS	**Kotyrbulak** 26nm,0.3s	**3.10**	**355**	*e*P	**Pg**		**06 38 04.8**	**+0.2**
KOTS	30nm,0.4s			*e*S	**Sg**		**06 38 45.1**	**+0.3**
KOTS	**Kotyrbulak** 26nm,0.3s	**3.10**	**355**	Pg	**Pg**		**06 38 04.8**	**+0.2**
KOTS	30nm,0.4s			Lg	Lg		06 38 45.1	
KST	**Kastek** 4.2nm,0.3s	**3.12**	**339**	*e*P	**Pg**		**06 38 04.8**	**0.0**
KST	8.2nm,0.6s			*e*S	**Sg**		**06 38 45.5**	**+0.2**
KST	**Kastek** 3.4nm,0.5s	**3.12**	**339**	Pg	**Pg**		**06 38 05.0**	**+0.2**
KST	8.2nm,0.6s			Lg	Lg		06 38 45.5	
TKM2	**Tokmak 2** 3.4nm,0.5s	**3.12**	**333**	⇑Pn	**Pb**		**06 38 00.0**	**-1.5**
TKM2	8.3nm,0.7s			⇑Lg	Lg		06 38 45.8	
KBK	**Karagaybulak** baz=21	**3.16**	**323**	⇓*i*P	**Pb**		**06 38 02.3**	**+0.1**
KBK	baz=21			⇓*i*S	**Sb**		**06 38 40.5**	**-0.9**
UZB	**Uzynbulak** 3.1nm,0.3s	**3.21**	**20**	*e*P	**Pg**		**06 38 05.8**	**-0.7**
UZB	10nm,0.4s			*e*S	**Sg**		**06 38 47.2**	**-1.0**
UZB	**Uzynbulak** 3.1nm,0.3s	**3.21**	**20**	Pg	**Pg**		**06 38 05.8**	**-0.7**
UZB	10nm,0.4s			Lg	Lg		06 38 47.2	
SHLS	**Shalkode** 6.1nm,0.5s	**3.35**	**25**	*e*P	**Pg**		**06 38 10.6**	**+1.4**
SHLS	20nm,0.3s			*e*S	**Sg**		**06 38 55.2**	**+2.5**
SHLS	**Shalkode** 7.1nm,0.6s	**3.35**	**25**	Pg	**Pg**		**06 38 11.9**	**+2.7**
SHLS	20nm,0.3s			Lg	Lg		06 38 57.4	
DGS	**Degeres** 7.5nm,0.6s	**3.36**	**338**	*e*P	**Pg**		**06 38 09.2**	**-0.2**
DGS	10nm,0.6s			*e*S	**Sg**		**06 38 52.7**	**-0.2**
DGS	**Degeres** 7.1nm,0.6s	**3.36**	**338**	Pg	**Pg**		**06 38 09.2**	**-0.2**
DGS	10nm,0.6s			Lg	Lg		06 38 53.6	
AAK	**Ala-Archa** baz=16	**3.37**	**319**	⇑*i*P	**Pb**		**06 38 05.5**	**-0.2**
AAK	baz=16			⇑*i*S	**Sb**		**06 38 45.5**	**-1.7**
AAK	**Ala-Archa** 2.4nm,0.5s	**3.37**	**319**	⇑Pg	**Pb**		**06 38 09.5**	**+3.9**
AAK	9.6nm,0.7s			⇓Lg	Lg		06 38 54.5	
KURS	**Kuram** 7.3nm,0.7s	**3.38**	**8**	*e*P	**Pg**		**06 38 08.7**	**-1.1**
KURS	8.2nm,0.5s			*e*S	**Sg**		**06 38 51.9**	**-1.7**
KURS	**Kuram** 7.3nm,0.7s	**3.38**	**8**	Pg	**Pg**		**06 38 08.7**	**-1.1**
KURS	8.2nm,0.5s			Lg	Lg		06 38 51.9	
KPKS	**Kokpek** 3.9nm,0.1s	**3.44**	**14**	*e*P	**Pg**		**06 38 09.4**	**-1.5**
KPKS	26nm,0.4s			*e*S	**Sg**		**06 38 52.9**	**-2.6**
AML	**Almayashu** baz=3.0	**3.50**	**306**	⇓*i*P	**Pb**		**06 38 08.0**	**0.0**
AML	baz=3.0			⇓*i*S	**Sb**		**06 38 50.2**	**-1.0**
CHMS	**Chumysh** baz=23	**3.52**	**325**	⇑*i*P	**Pb**		**06 38 07.5**	**-0.7**
CHMS	baz=23			⇑*i*S	**Sb**		**06 38 48.9**	**-2.7**
KTBS	**Karatobe** 2.4nm,0.5s	**3.62**	**351**	*e*P	**Pg**		**06 38 13.5**	**-0.9**
KTBS	15nm,0.6s			*e*S	**Sg**		**06 39 00.4**	**-0.9**
KTBS	**Karatobe** 2.4nm,0.5s	**3.62**	**351**	Pg	**Pg**		**06 38 13.5**	**-0.9**
KTBS	15nm,0.6s			Lg	Lg		06 39 00.4	
ARSB	**Arslanbob** baz=88	**3.63**	**290**	⇑*i*P	**Pb**		**06 38 10.4**	**+0.2**
ARSB	baz=88			⇑*i*S	**Sb**		**06 38 53.8**	**-1.0**
EKS2	**Erkin-Say** baz=11	**3.77**	**313**	⇑*i*P	**Pb**		**06 38 11.0**	**-1.5**

MRKS	**Merke**	**4.13**	**310**	Pg	Pb	06 38 24.2	+5.5
	1.0nm,0.2s							
MRKS				Lg	Lg	06 39 18.7		
	4.1nm,0.4s							
DJR	**Jarkent**	**4.52**	**21**	*eP*	**Pg**	**06 38 29.3**	**-2.3**
	0.6nm,0.2s							
DJR				*eS*	**Sg**	**06 39 27.2**	**-3.0**
	6.4nm,0.4s							
DJR	**Jarkent**	**4.52**	**21**	Pg	**Pg**	**06 38 29.3**	**-2.3**
	0.6nm,0.2s							
DJR				Lg	Lg	06 39 27.2		
	6.4nm,0.4s							
KAPS	**Kapalarasan**	**5.32**	**14**	*eP*	**Pg**	**06 38 45.0**	**-2.0**
	0.8nm,0.5s							
KAPS				*eS*	**Sg**	**06 39 54.0**	**-1.8**
	3.3nm,0.6s							
KAPS	**Kapalarasan**	**5.32**	**14**	Pg	**Pg**	**06 38 45.0**	**-2.0**
	0.8nm,0.5s							
KAPS				Lg	Lg	06 39 54.0		
	3.3nm,0.6s							

JMA ***11*** *06:45:54.9±0.1,24.˚42N×121.˚92E,h0km,M2.5*
TAP ***11*** *06:45:55.8,24.˚46N×121.˚89E,h13km,ML3.0,C*

ISC 11 06:45:55.3±0.9,24.˚44N±0.˚02×121.˚93E±0.˚02,h14km±6km, n70,σ0ˢ49/119,5C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.18**	**268**	P	**Pg**	**06 45 59.4**	**0.0**
	baz=258						
ENA				*eS*	**Sg**	**06 46 01.8**	**-0.4**
	baz=258						
TWC	**Suao**	**0.19**	**336**⇑	*iP*	**Pg**	**06 45 59.7**	**+0.1**
	baz=356						
TWC				S	**Sg**	**06 46 02.1**	**-0.5**
	baz=356						
ILA	**Ilan**	**0.37**	**333**	*eP*	**Pg**	**06 46 03.0**	**+0.2**
	baz=338						
ILA				*eS*	**Sb**	**06 46 09.8**	**+0.5**
	baz=338						
TWE	**Neicheng**	**0.37**	**320**⇑	*iP*	**Pg**	**06 46 03.0**	**+0.2**
	baz=324						
TWE				*eS*	**Sg**	**06 46 07.9**	**-0.1**
	baz=324						
ENTT	**Nioudou**	**0.39**	**301**⇑	*iP*	**Pg**	**06 46 03.4**	**+0.2**
	baz=302						
ENTT				*eS*	**Sg**	**06 46 08.2**	**-0.3**
	baz=302						
NACB	**Ninganchiao**	**0.40**	**230**⇓	*iP*	**Pg**	**06 46 03.3**	**0.0**
	baz=224						
NACB				S	**Sg**	**06 46 09.1**	**+0.3**
	baz=224						
EGS		**0.41**	**360**	*eP*	**Pb**	**06 46 04.2**	**-0.1**
	baz=7.0						
EGS				*eS*	**Sg**	**06 46 08.9**	**-0.1**
	baz=7.0						
NDT	**Datong Townshi**	**0.42**	**294**	P	**Pg**	**06 46 03.7**	**+0.1**
	baz=293						
NDT				S	**Sg**	**06 46 09.0**	**-0.3**
	baz=293						
NTC	**Toucheng**	**0.43**	**347**	P	**Pg**	**06 46 04.1**	**+0.3**
	baz=352						
NTC				*eS*	**Sg**	**06 46 10.1**	**+0.5**
	baz=352						
TWD	**Chiawan**	**0.47**	**221**	P	**Pg**	**06 46 04.6**	**+0.1**
	baz=215						
TWD				*eS*	**Sg**	**06 46 11.3**	**+0.4**
	baz=215						
ETLH	**Xiulin Townshi**	**0.47**	**241**⇓	*iP*	**Pg**	**06 46 04.5**	**-0.1**
	baz=237						
ETLH				*eS*	**Sg**	**06 46 11.1**	**+0.1**
	baz=237						
NNSB	**Datong**	**0.50**	**269**⇓	*iP*	**Pg**	**06 46 05.3**	**+0.1**
	baz=267						
NNSB				*eS*	**Sg**	**06 46 11.4**	**-0.6**
	baz=267						
NNSH	**Datong**	**0.50**	**269**⇓	*iP*	**Pg**	**06 46 05.3**	**+0.1**
	baz=267						
NNSH				*eS*	**Sg**	**06 46 11.6**	**-0.4**
	baz=267						
NNS	**Nan Shan**	**0.51**	**271**⇓	*iP*	**Pg**	**06 46 05.4**	**0.0**
	baz=268						
NNS				*eS*	**Sg**	**06 46 11.8**	**-0.5**
	baz=268						
NWLT	**Wulai**	**0.52**	**311**	P	**Pg**	**06 46 05.5**	**0.0**
	baz=307						
NWLT				*eS*	**Sg**	**06 46 11.8**	**-0.7**
	baz=307						
TIPB	**Shuangxi**	**0.54**	**350**	*iP*	**Pg**	**06 46 06.4**	**+0.4**
	baz=354						
TIPB				*eS*	**Sg**	**06 46 13.0**	**-0.2**
	baz=354						
HWA	**Hwalien**	**0.55**	**213**	*eP*	**Pb**	**06 46 07.2**	**+0.6**
	baz=216						
HWA				*eS*	**Sn**	**06 46 16.7**	**-1.0**
	baz=216						
YHNB	**Yeheng**	**0.56**	**295**⇑	*iP*	**Pb**	**06 46 06.7**	**-0.3**
	baz=300						
YHNB				*eS*	**Sg**	**06 46 13.2**	**-0.5**
	baz=300						
TWB1	**Santiao Chiao**	**0.57**	**5**	*eP*	**Pb**	**06 46 07.2**	**+0.1**
	baz=10.0						
TWB1				*eS*	**Sg**	**06 46 14.2**	**0.0**
	baz=10.0						
NSK	**Sanguang**	**0.58**	**295**⇑	*iP*	**Pg**	**06 46 06.8**	**+0.2**
	baz=300						
NSK				*eS*	**Sg**	**06 46 13.5**	**-0.8**
	baz=300						
TWA	**Mucha**	**0.63**	**330**	*eP*	**Pb**	**06 46 08.3**	**+0.2**
	baz=332						
TWA				*eS*	**Sb**	**06 46 16.5**	**-0.3**
	baz=332						
NHDH	**Xindian Distri**	**0.64**	**325**	*eP*	**Pb**	**06 46 08.5**	**+0.2**
	baz=317						
NHDH				*eS*	**Sg**	**06 46 16.7**	**+0.3**
	baz=317						
NWF	**Wu-fen Shan**	**0.65**	**348**	*eP*	**Pb**	**06 46 08.5**	**0.0**
	baz=341						
NWF				*eS*	**Sg**	**06 46 16.7**	**+0.1**
	baz=341						
WFSB	**Wu-fen Shan**	**0.65**	**348**	P	**Pb**	**06 46 08.7**	**+0.2**
	baz=341						
WFSB				*eS*	**Sg**	**06 46 16.9**	**+0.3**
	baz=341						
TATO	**Taipei**	**0.67**	**323**	*eP*	**Pg**	**06 46 08.7**	**+0.3**
	baz=315						
TATO				*eS*	**Sb**	**06 46 19.2**	**+1.1**
	baz=315						
WHF	**Hehuan Shan**	**0.68**	**245**	*i* P	**Pg**	**06 46 08.4**	**-0.1**
	baz=242						
WHF				*eS*	**Sb**	**06 46 18.2**	**-0.3**
	baz=242						
TAP1	**Taipei**	**0.71**	**328**	*eP*	**Pg**	**06 46 08.1**	**-1.0**
	baz=321						
TAP1				*eS*	**Sg**	**06 46 17.8**	**-0.6**
	baz=321						
TWT	**Tachien**	**0.71**	**255**	P	**Pb**	**06 46 09.8**	**+0.1**
	baz=253						
TWT				*eS*	**Sg**	**06 46 18.5**	**-0.2**
	baz=253						
TDCB	**Techi**	**0.73**	**256**	P	**Pg**	**06 46 09.7**	**+0.2**
	baz=247						
TDCB				*eS*	**Sg**	**06 46 18.9**	**-0.2**
	baz=247						
ESL	**Shilin**	**0.77**	**217**	*eP*	**Pg**	**06 46 09.9**	**-0.3**
	baz=220						
YM01	**YM01**	**0.78**	**335**	P	**Pb**	**06 46 11.5**	**+0.7**
	baz=337						
YM01				*eS*	**Sn**	**06 46 22.8**	**-0.7**
	baz=337						
CHGB	**Renai**	**0.79**	**242**	*eP*	**Pg**	**06 46 10.8**	**+0.1**
	baz=239						
CHGB				*eS*	**Sb**	**06 46 22.2**	**+0.6**
	baz=239						
YM10	**YM10**	**0.79**	**335**	*eP*	**Pb**	**06 46 11.6**	**+0.6**
	baz=337						
YM10				*eS*	**Sn**	**06 46 23.8**	**-0.1**
	baz=337						
YM11	**YM11**	**0.80**	**336**	*eP*	**Pb**	**06 46 11.7**	**+0.7**
	baz=338						
YM11				*eS*	**Sn**	**06 46 23.6**	**-0.5**
	baz=338						
TWS1	**Kuangyinshan**	**0.81**	**325**	*eP*	**Pn**	**06 46 12.3**	**-0.1**
	baz=319						
TWS1				*eS*	**Sn**	**06 46 24.2**	**-0.1**
	baz=319						
ANP	**Anpu**	**0.84**	**333**	*eP*	**Pb**	**06 46 12.1**	**+0.4**
	baz=336						
ANP				*eS*	**Sg**	**06 46 22.5**	**-0.1**
	baz=336						
NTST	**Danshui**	**0.85**	**329**	*eP*	**Pn**	**06 46 13.0**	**+0.2**
	baz=331						
NTST				*eS*	**Sn**	**06 46 25.6**	**+0.4**
	baz=331						
LIOB	**Emei**	**0.86**	**284**	*eP*	**Pg**	**06 46 11.7**	**-0.3**
	baz=283						
NCUH	**Zhongli**	**0.86**	**308**	*eP*	**Pn**	**06 46 13.3**	**+0.3**
	baz=299						
NSTT	**Nanjuang**	**0.87**	**283**	*eP*	**Pn**	**06 46 13.9**	**+0.7**
	baz=283						
NSTT				*eS*	**Sb**	**06 46 23.8**	**0.0**
	baz=283						
TWY	**Chenhua**	**0.89**	**340**	*eP*	**Pn**	**06 46 13.3**	**-0.1**
	baz=343						
TWY				*eS*	**Sg**	**06 46 24.3**	**+0.1**
	baz=343						
EGFH	**Guangfu**	**0.89**	**211**	*eP*	**Pg**	**06 46 12.6**	**+0.1**
	baz=222						
WHP	**Taichung City**	**0.92**	**260**	P	**Pb**	**06 46 13.4**	**+0.4**
	baz=259						
WHP				*eS*	**Sg**	**06 46 25.0**	**0.0**
	baz=259						
JYNG	**Yonagunijimaku**	**0.92**	**89**	P	**Pg**	**06 46 13.7**	**+0.6**
JYNG				S	**Sg**	**06 46 25.4**	**+0.2**
SBCB	**Hsinchu**	**0.93**	**293**	*eP*	**Pb**	**06 46 13.4**	**+0.1**
	baz=286						
SBCB				*eS*	**Sn**	**06 46 26.8**	**-0.4**
	baz=286						
HSN	**Hsinchu**	**0.95**	**293**	*eS*	**Sn**	**06 46 27.5**	**-0.2**
	baz=295						
YOJ	**Yonaguni jima**	**0.98**	**88**	*eP*	**Pb**	**06 46 14.3**	**+0.2**
	baz=89						
YOJ				*eS*	**Sn**	**06 46 28.1**	**-0.3**
	baz=89						
YOJ	**Yonaguni jima**	**0.98**	**88**	P	**Pb**	**06 46 14.4**	**+0.3**
YOJ				*eS*	**Sb**	**06 46 26.9**	**0.0**
VWDT	**VWDT**	**0.99**	**227**	P	**Pb**	**06 46 14.3**	**0.0**
	baz=225						
VWDT				*eS*	**Sg**	**06 46 28.0**	**+0.6**
	baz=225						
DPDB	**Guoxing**	**1.00**	**247**	P	**Pn**	**06 46 15.2**	**+0.2**
	baz=245						
DPDB				*eS*	**Sg**	**06 46 28.0**	**+0.2**
	baz=245						
HGSD	**Ruisui**	**1.05**	**207**	*eP*	**Pn**	**06 46 16.9**	**+1.3**
	baz=220						
SMLT	**Sun Moon Lake**	**1.09**	**240**	*eP*	**Pg**	**06 46 16.8**	**+0.4**
	baz=237						
SSLB	**Suanglung**	**1.10**	**234**	P	**Pb**	**06 46 16.2**	**0.0**
	baz=232						
SSLB				*eS*	**Sb**	**06 46 29.9**	**-0.6**
	baz=232						
TYC	**Yuchr**	**1.12**	**242**	*eP*	**Pg**	**06 46 17.0**	**+0.2**
	baz=239						
YULB	**Yu-li**	**1.19**	**209**	*eP*	**Pn**	**06 46 17.6**	**0.0**
	baz=217						
TWF1	**Yuli**	**1.23**	**209**	*eP*	**Pb**	**06 46 18.4**	**+0.1**
	baz=216						
WHYT	**Xinyi Township**	**1.23**	**234**	*eP*	**Pn**	**06 46 17.9**	**-0.2**
	baz=230						
FULB	**Fuli**	**1.36**	**206**	*eP*	**Pn**	**06 46 18.9**	**-1.0**
	baz=217						
CHN5	**Tsauling**	**1.42**	**234**	*eP*	**Pg**	**06 46 22.9**	**+0.3**
	baz=231						
CHN4	**Tsaushan**	**1.63**	**229**	*eP*	**Pg**	**06 46 27.0**	**+0.3**
	baz=226						
IRIF	**Iriomote-Funau**	**1.64**	**93**	P	**Pn**	**06 46 24.2**	**+0.5**
TPUB	**Ta-pu**	**1.64**	**227**	*eP*	**Pg**	**06 46 26.8**	**-0.1**
	baz=209						
WTP	**Ta-pu**	**1.69**	**226**	*eP*	**Pb**	**06 46 26.6**	**+0.4**
	baz=222						
HATJ	**Hateruma jima**	**1.75**	**102**	S	**Sg**	**06 46 51.0**	**-0.6**
TWK	**Hsinying**	**1.76**	**229**	*eP*	**Pg**	**06 46 29.6**	**+0.5**
	baz=226						
CHN1	**Nanshi**	**1.79**	**226**	*eP*	**Pg**	**06 46 29.9**	**+0.2**
	baz=223						
SLGT	**Liugui**	**1.86**	**220**	*eP*	**Pb**	**06 46 30.0**	**+0.9**
	baz=217						
JKRS	**Kuro-shima**	**1.90**	**96**	P	**Pn**	**06 46 27.6**	**+0.2**
JKRS				S	**Sn**	**06 46 50.7**	**-0.4**
JIJ	**Ishigaki jima**	**2.02**	**92**	P	**Pn**	**06 46 29.2**	**+0.3**
JIJ				S	**Sn**	**06 46 53.1**	**-0.8**
JISG	**Ishigakijimahi**	**2.17**	**86**	P	**Pn**	**06 46 30.7**	**-0.3**
JISG				S	**Sn**	**06 46 55.2**	**-2.5**

IDC 11 07:09:37.1±2.5,54.˚06N×86.˚14E,h0km,mb1 2.6/2, mb1mx2.6/44,mbtmp2.6/2,ML2.4/2,Error ellipse: s-maj=18.7km s-min=11.8km az=61.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.79**	**262**	*i*		07 13 00.0	
	baz=84,slow=314,SNR=3.9						
ZALV	**Zalesovo Beam**	**0.79**	**262**	Pg	Pg	07 09 50.6	-1.5
	0.6nm,0.3s,baz=71,slow=17,SNR=10						
ZALV				Lg	Lg	07 10 04.2	
	3.1nm,0.3s,baz=80,slow=28,SNR=21						
ZALV				Rg	Rg	07 10 11.4	
	9.6nm,0.9s,baz=70,slow=25,SNR=5.7						
KURBB	**Kurchatov Arra**	**5.79**	**237**	Pn	Pn	07 11 04.9	+0.7
	0.1nm,0.3s,baz=54,slow=13,SNR=5.4						
MKAR	**Makanchi Array**	**7.68**	**200**	Pn	Pn	07 11 31.7	+1.6
	0.1nm,0.3s,baz=23,slow=14,SNR=4.2						

IDC 11 07:13:05.8±7.6,27.˚43N×142.˚23E,h0km,mb3.6/5, mb1 3.7/5,mb1mx3.5/42,mbtmp3.6/5,Error ellipse: s-maj=308.0km s-min=25.2km az=72.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.71**	**190**	P	P	07 21 44.8	+0.3
	1.1nm,0.7s,baz=12,slow=8.6,SNR=6.9						
MKAR	**Makanchi Array**	**50.29**	**309**	P	P	07 22 03.8	-0.3
	0.1nm,0.3s,baz=88,slow=9.4,SNR=2.5						
ASAR	**Alice Springs**	**51.43**	**190**	P	P	07 22 12.2	-0.7
	0.1nm,0.4s,baz=3.4,slow=7.7,SNR=1.7						
KURBB	**Kurchatov Arra**	**52.83**	**314**	P	P	07 22 22.7	-0.3
	1.1nm,0.7s,baz=90,slow=7.8,SNR=8.4						
BVAR	**Borovoye Array**	**57.82**	**317**	P	P	07 22 59.3	+0.3
	0.5nm,0.4s,baz=102,slow=7.9,SNR=3.0						

NIED ***11*** *07:15:00,43.˚20N×146.˚90E,h65km,Mw3.9 Best double couple: M0 7.63000×10¹⁴ NP1:φs300.00000°,δ52.00000°, λ105.00000°. NP2:φs97.00000°,δ41.00000°,λ72.00000°.*
NEIC ***11*** *07:15:42.7±3.0,43.˚0N±0.˚1×147.˚2E±0.˚1,h56km±6km, mb4.1/9,Error ellipse: s-maj=14.9km s-min=12.5km az=167.0*
MOS ***11*** *07:15:42.2±1.1,43.˚15N×147.˚01E,h64km,mb4.2/17,Error ellipse: s-maj=9.5km s-min=7.4km az=95.8*
JMA ***11*** *07:15:44.9±0.2,43.˚16N×146.˚86E,h65km±2km,M3.9*
SKHL ***11*** *07:15:45.0±0.3,43.˚24N×146.˚91E,h77km±3km,mb4.9/6*
IDC ***11*** *07:15:45.6±1.3,43.˚28N×146.˚90E,h68km±7km,mb3.7/15, mb1 3.9/17,mb1mx3.6/45,mbtmp4.0/17,MS2.4/3, Ms1 2.4/3,ms1mx2.2/48,Error ellipse: s-maj=36.8km s-min=13.7km az=176.0*

ISC 11 07:15:44.1±0.8,43.˚17N±0.˚06×147.˚00E±0.˚05,h60km±6km, n102,σ1ˢ34/116,mb4.0/24,8C-7D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.94**	**283**	P	**Pn**	**07 16 01.3**	**0.0**
NEM2				*eS*	**Sn**	**07 16 13.3**	**-0.7**
NMR	**Nemuro--Hokkai**	**0.95**	**283**	*i* P	**Pn**	**07 16 01.0**	**-0.4**
NMR				*i* S	**Sn**	**07 16 13.0**	**-1.2**
NMR	**Nemuro--Hokkai**	**0.95**	**283**⇑	*i* PN	**Pn**	**07 16 01.3**	**-0.1**
NMR				*i* S	**Sn**	**07 16 13.5**	**-0.7**
YUK	**Yuzh-Kuril'sk**	**1.20**	**317**	*i* P	**Pn**	**07 16 04.5**	**-0.2**
YUK				AMB	AMB	07 16 05.3	
	990nm,0.4s						
YUK				*i* S	**Sn**	**07 16 19.3**	**-0.7**
YUK				A	A	07 16 20.0	
	3μm,0.5s						
YUK				A	A	07 16 20.0	
	4μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.20**	**317**	*d i* PN	**Pn**	**07 16 04.4**	**-0.2**
YUK				*i* S	**Sn**	**07 16 19.3**	**-0.7**
YUK				pmax	pmax		
	comp=N,252μm,0.2s						
YUK				pmax	pmax		
	comp=E,255μm,0.2s						
YUK				pmax	pmax		
	comp=Z,987μm,0.2s						
YUK				smax	smax		
	comp=N,3μm,0.5s						
YUK				smax	smax		
	comp=E,4μm,0.5s						
GRPR	**Tuman**	**1.21**	**313**	*i* P	**Pn**	**07 16 04.6**	**-0.3**
GRPR				AMB	AMB	07 16 06.0	
	comp=E,530nm,0.4s						
GRPR				*i* S	**Sn**	**07 16 18.9**	**-1.6**
GRPR				A	A	07 16 20.9	
	comp=E,3μm,0.3s						
GRPR				A	A	07 16 20.9	
	comp=E,710nm,0.3s						
GRPR	**Tuman**	**1.21**	**313**	*d i* PN	**Pn**	**07 16 04.6**	**-0.3**
GRPR				*i* S	**Sn**	**07 16 18.9**	**-1.6**
GRPR				pmax	pmax		
	comp=Z,526nm,0.4s						
GRPR				pmax	pmax		
	comp=E,353nm,0.2s						
GRPR				pmax	pmax		
	comp=N,370nm,0.1s						
GRPR				smax	smax		
	comp=E,707μm,0.1s						
GRPR				smax	smax		
	comp=N,2841μm,0.3s						
LAGR	**Lagunnoye**	**1.25**	**316**	*i* P	**Pn**	**07 16 04.6**	**-0.8**
LAGR				AMB	AMB	07 16 06.0	
	comp=N,590nm,0.3s						
LAGR				*i* S	**Sn**	**07 16 19.6**	**-1.7**
LAGR				A	A	07 16 24.3	
	comp=N,4μm,0.5s						
LAGR				A	A	07 16 24.3	
	comp=N,2μm,0.5s						
LAGR	**Lagunnoye**	**1.25**	**316**	*d i* PN	**Pn**	**07 16 04.6**	**-0.8**
LAGR				*i* S	**Sn**	**07 16 19.6**	**-1.7**
LAGR				pmax	pmax		
	comp=Z,587nm,0.1s						
LAGR				smax	smax		
	comp=N,3576μm,0.5s						
LAGR				smax	smax		
	comp=E,2363μm,0.4s						
JKHN	**Kushirohamanak**	**1.35**	**267**	P	**Pn**	**07 16 07.0**	**+0.3**
JKHN				*eS*	**Sn**	**07 16 23.6**	**0.0**
JRA	**Rausu**	**1.57**	**300**	P	**Pn**	**07 16 09.8**	**+0.2**
JRA				*eS*	**Sn**	**07 16 28.5**	**-0.4**
JNSB	**Nemuroshibetsu**	**1.57**	**293**	P	**Pn**	**07 16 09.8**	**+0.1**
JAK	**Akkeshi**	**1.69**	**265**	P	**Pn**	**07 16 11.3**	**0.0**
JAK				*eS*	**Sn**	**07 16 30.9**	**-1.1**
JNK	**Nakash**	**1.71**	**285**	P	**Pn**	**07 16 11.3**	**-0.3**
JNK				*eS*	**Sn**	**07 16 31.1**	**-1.4**
KUR	**Kuril'sk**	**2.16**	**17**	*i* P	**Pn**	**07 16 17.7**	**+0.1**
KUR				AMB	AMB	07 16 19.4	
	comp=E,150nm,0.3s						
KUR				*i* S	**Sn**	**07 16 42.2**	**-1.0**
KUR				A	A	07 16 44.0	
	comp=E,440nm,0.3s						
KUR				A	A	07 16 44.0	
	comp=E,360nm,0.3s						
KUR	**Kuril'sk**	**2.16**	**17**	*ce* PN	**Pn**	**07 16 18.0**	**+0.4**
KUR				*i* S	**Sn**	**07 16 43.3**	**+0.1**
KUR				pmax	pmax		
	comp=E,112nm,0.4s						
KUR				pmax	pmax		
	comp=Z,302nm,0.4s						
KUR				pmax	pmax		
	comp=N,107nm,0.2s						
KUR				smax	smax		
	comp=N,435nm,0.2s						
KUR				smax	smax		
	comp=E,278nm,0.2s						
JOB	**Onbets**	**2.33**	**265**	P	**Pn**	**07 16 20.1**	**+0.1**
JOB				*eS*	**Sn**	**07 16 46.2**	**-1.4**
JAR	**Ashorobuto**	**2.36**	**274**	P	**Pn**	**07 16 20.7**	**+0.3**
JAR				*eS*	**Sn**	**07 16 47.4**	**-0.9**
JTKR	**Abashiri--Toko**	**2.38**	**291**	P	**Pn**	**07 16 21.6**	**+0.9**
JCH	**Churui**	**2.73**	**260**	P	**Pn**	**07 16 25.2**	**-0.2**
JMP	**Maruseppu**	**2.77**	**289**	P	**Pn**	**07 16 27.1**	**+1.0**
JEM	**Erimo**	**3.06**	**249**	P	**Pn**	**07 16 30.4**	**+0.5**
ERM	**Erimo**	**3.06**	**249**	*c* PN	**Pn**	**07 16 31.7**	**+1.8**
ERM	**Erimo**	**3.06**	**249**		**Pn**	**07 16 30.6**	**+0.7**
JKK2	**Kamakawa 2**	**3.17**	**284**	P	**Pn**	**07 16 32.5**	**+1.0**
JFR	**Furan**	**3.22**	**271**	P	**Pn**	**07 16 32.9**	**+0.7**
JNBK	**Urakawa-nobuka**	**3.25**	**256**	P	**Pn**	**07 16 32.5**	**-0.1**
JNBK				*eS*	**Sn**	**07 17 08.5**	**-1.5**
JKA	**Kamikawa-asahi**	**3.33**	**288**	*eP*	**Pn**	**07 16 35.5**	**+1.8**
JKA	**Kamikawa-asahi**	**3.33**	**288**		**Pn**	**07 16 35.5**	**+1.8**
JKA					**Sn**	**07 17 18.0**	**+6.0**
JKA	**Kamikawa-asahi**	**3.33**	**288**	Pn	**Pn**	**07 16 35.3**	**+1.7**
ASAJ	**Asahikawa**	**3.33**	**288**	P	**Pn**	**07 16 35.5**	**+1.8**
	comp=E,4.1nm,0.3s,baz=103,slow=11,SNR=20						
ASAJ				S	**Sn**	**07 17 18.0**	**+6.0**
	comp=E,4.6nm,0.3s,baz=90,slow=32,SNR=3.8						
ASAJ	**Asahikawa**	**3.33**	**288**	P	**Pn**	**07 16 35.1**	**+1.4**
JBT2	**Biratori 2**	**3.42**	**265**	P	**Pn**	**07 16 35.2**	**+0.3**
YSS	**Yuzh-Sakhalins**	**4.83**	**323**	*i* P	**Pn**	**07 16 55.6**	**+1.4**
YSS				AMB	AMB	07 16 56.3	
	comp=E,40nm,0.6s						
YSS				*eS*	**Sn**	**07 17 46.1**	**-2.7**
YSS				A	A	07 17 58.9	
	comp=E,10.0nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.83**	**323**⇑	*i* PN	**Pn**	**07 16 55.6**	**+1.4**
YSS				*eS*	**Sn**	**07 17 50.7**	**+1.9**
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS				smax	smax		
	comp=E,20nm,1.1s						
YSS	**Yuzh-Sakhalins**	**4.83**	**323**		**Pn**	**07 16 55.1**	**+0.9**
MJAR	**Matsushiro Arr**	**9.45**	**229**	P	**Pn**	**07 17 57.2**	**-0.3**
	comp=E,0.1nm,0.3s,baz=30,slow=13,SNR=4.9						
MJAR				LR	LR	07 21 28.4	
	comp=E,26nm,20.3s,baz=40,slow=36						
MAJO	**Matsushiro**	**9.46**	**229**	*i* PN	**Pn**	**07 17 55.3**	**-2.2**
SKR	**Severo-Kuril's**	**9.76**	**36**	*eP*	**Pn**	**07 18 01.1**	**-0.5**
SKR	**Severo-Kuril's**	**9.76**	**36**	*e* PN	**Pn**	**07 18 01.2**	**-0.4**
USA0B	**Ussuriysk Arra**	**10.92**	**281**	*e* PN	**Pn**	**07 18 16.7**	**-0.8**
PEA0B	**Petropavlovsk-**	**12.23**	**32**	*e* PN	**Pn**	**07 18 34.2**	**-1.1**
PEA0B	**Petropavlovsk-**	**12.23**	**32**	Pn	**Pn**	**07 18 32.7**	**-2.6**
PETK	**Petropavlovsk-**	**12.23**	**32**	P	**Pn**	**07 18 32.5**	**-2.8**
	comp=E,0.3nm,0.3s,baz=191,slow=13,SNR=7.3						
PETK	**Petropavlovsk-**	**12.23**	**32**	PN	**Pn**	**07 18 33.6**	**-1.7**
PETK	**Petropavlovsk-**	**12.23**	**32**		**Pn**	**07 18 33.6**	**-1.7**
KSRS	**Korea Array**	**15.62**	**255**	LR	LR	07 24 42.9	
	comp=E,15nm,21.5s,baz=30,slow=34						
MA2	**Magadan**	**16.59**	**7**	LR	LR	07 26 20.9	
	comp=E,9.4nm,19.0s,baz=63,slow=38						
YAK	**Yakutsk**	**21.49**	**337**	*eP*	**P**	**07 20 26.5**	**-0.9**
YAK	**Yakutsk**	**21.49**	**337**⇑	*eP*	**P**	**07 20 26.5**	**-0.9**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
BILL	**Bilibino**	**26.95**	**16**	*eP*	**P**	**07 21 20.1**	**+0.7**
BILL	**Bilibino**	**26.95**	**16**⇑	*eP*	**P**	**07 21 20.1**	**+0.7**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ULN	**Ulaanbaatar**	**28.15**	**294**	*eP*	**P**	**07 21 30.9**	**+0.3**
ULN	**Ulaanbaatar**	**28.15**	**294**⇓	*eP*	**P**	**07 21 30.9**	**+0.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM	**Songino Array**

```
MKAR Makanchi Array    44.76 298   P          P      07 23 51.5 +0.1
     comp=Z,1.4nm,0.6s,baz=82,slow=7.9,SNR=15
MKAR Makanchi Array    44.76 298   P          P      07 23 51.0 -0.4
KURK Kurchatov         45.77 304  eP          P      07 23 58.2 -1.0
KURK Kurchatov         45.77 304⇓eP          P      07 23 58.2 -1.0
KURK                                pmax  pmax
     comp=Z,2.0nm,1.0s
KURK Kurchatov         45.77 304   P          P      07 23 59.3  0.0
KURBB Kurchatov Arra   45.85 304   P          P      07 23 59.7 -0.2
     comp=Z,1.5nm,0.4s,baz=75,slow=7.8,SNR=16
INK  Inuvik            46.96  30   P          P      07 24 09.1 +0.7
     comp=Z,1.8nm,0.7s,baz=272,slow=5.8,SNR=3.9
INK  Inuvik            46.96  30   IAmb       IAmb   07 24 09.9
     comp=Z,1.9nm,0.7s
CMAR Chiang Mai Arr    47.26 254  i P          P      07 24 12.6 +1.3
CMAR                                pmax  pmax
     comp=Z,1.0nm,0.3s
BVAR Borovoye Array    49.79 310   P          P      07 24 30.4 +0.1
     comp=Z,0.6nm,0.5s,baz=75,slow=6.1,SNR=3.0
AAK  Ala-Archa         51.51 296⇑eP          P      07 24 40.3 -3.4
AAK                                 pmax  pmax
     comp=Z,1.0nm,0.9s
KK31 Karatay Array     53.89 298   P          P      07 25 00.4 -0.7
KK31                                pmax  pmax
     comp=Z,1.0nm,0.8s
KK31 Karatay Array     53.89 298   P          P      07 25 00.4 -0.7
KK31                                IAmb  IAmb   07 25 01.3
     comp=Z,1.1nm,0.8s
KKAR Karatay Array     53.89 298   P          P      07 25 01.0 -0.1
KKAR Karatay Array     53.89 298   P          P      07 25 01.0 -0.1
KAPI Kappang           53.93 214   P          P      07 24 56.7 -4.8
YKA  Yellowknife Ar    56.35  33   P          P      07 25 18.5 +0.1
     comp=Z,0.2nm,0.5s,baz=296,slow=6.6,SNR=3.6
YKA                                 pP         pP     07 25 34.4 +0.7
     comp=Z,0.1nm,0.3s,baz=301,slow=6.4,SNR=2.6
ABKAR Akbulak array    57.34 309   P          P      07 25 25.6 -0.1
FINES FINESS Array B   65.34 333   P          P      07 26 18.4 -1.0
     comp=Z,1.3nm,0.5s,baz=56,slow=7.1,SNR=8.1
FINES FINESS Array B   65.34 333  i P          P      07 26 18.7 -0.7
FINES                               pmax  pmax
     comp=Z,1.0nm,0.5s
KVN  Kaiserville       67.72  57   P          P      07 26 35.9 +0.6
KVN                                 pmax  pmax
     comp=Z,2.0nm,0.8s
KVN  Kaiserville       67.72  57   P          P      07 26 35.9 +0.6
KVN                                 IAmb  IAmb   07 26 37.0
     comp=Z,2.3nm,0.8s
NVAR Mina Array Bea    67.98  58   P          P      07 26 38.1 +1.2
     comp=Z,1.3nm,0.6s,baz=293,slow=7.0,SNR=9.8
NVAR                                pP         pwP    07 26 57.3 +1.4
     comp=Z,0.7nm,0.7s,baz=308,slow=7.3,SNR=2.5
KIV  Kislovodsk        70.07 312  eP          P      07 26 48.3 -1.3
KIV  Kislovodsk        70.07 312  i P          P      07 26 48.3 -1.3
KIV                                 pmax  pmax
     comp=Z,3.0nm,0.8s
KBZ  Khabaz            70.10 312   P          P      07 26 50.4 +0.7
     comp=Z,1.0nm,0.5s,baz=68,slow=18,SNR=3.5
NB2  NORSAR Subarra    70.11 339   P          P      07 26 49.0 -0.5
     comp=Z,0.8nm,0.5s,baz=31,slow=6.5
NOA  NORSAR Array B    70.11 339   P          P      07 26 48.7 -0.8
     comp=Z,1.6nm,0.7s,baz=32,slow=6.3,SNR=7.4
NOA                                 pP         pP     07 27 07.4 +1.9
     comp=Z,0.4nm,0.7s,baz=39,slow=6.6,SNR=2.2
NOA  NORSAR Array B    70.11 339  eP          P      07 26 48.7 -0.8
NOA                                 pmax  pmax
     comp=Z,1.0nm,0.4s
PDAR Pinedale Array    70.37  50   P          P      07 26 52.0 +0.3
     comp=Z,0.6nm,0.6s,baz=90,slow=3.0,SNR=5.5
AKASG Malin Array Be   71.98 324   P          P      07 27 00.4 -0.6
     comp=Z,1.3nm,0.4s,baz=41,slow=5.9,SNR=3.9
ANMO Albuquerque       77.43  54   P          P      07 27 33.6 +0.6
     comp=Z,0.8nm,0.7s,baz=302,slow=9.5,SNR=4.6
ANMO Albuquerque       77.43  54   IAmb       IAmb   07 27 34.4
     comp=Z,0.7nm,0.8s
TXAR Lajitas Array     83.06  56   P          P      07 28 04.0 +0.7
     comp=Z,1.3nm,0.8s,baz=291,slow=3.6,SNR=12
TXAR Lajitas Array     83.06  56   P          P      07 28 04.0 +0.7
TXAR Lajitas Array     83.06  56   P          P      07 28 03.0 -0.3
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BJI ***11*** *07:30:55.3±0.0,27.°10N×129.°71E,h42km,mB4.8/55, mb4.6/61,Ms4.8/68,Ms7 4.7/65*

IDC ***11*** *07:30:55.3±0.4,27.°51N×129.°31E,h0km,mb4.6/29, mb1 4.7/30,mb1mx4.6/47,mbtmp4.6/30,ML2.4/1,MS4.2/35, Ms1 4.2/35,ms1mx4.2/41,Error ellipse: s-maj=13.7km s-min=10.3km az=82.0*

MOS ***11*** *07:30:58.4±1.1,27.°48N×129.°26E,h30km,mb5.1/59, MS4.1/16,Error ellipse: s-maj=7.1km s-min=4.2km az=108.6*

BGR ***11*** *07:30:59.4±0.0,27.°68N×130.°32E,h33km,mb5.2,Ms5.1*

NEIC ***11*** *07:30:59.8±2.0,27.°43N±0.°07×129.°29E±0.°09,h31km±5km, mb5.0/133,Error ellipse: s-maj=13.2km s-min=6.8km az=129.0*

JMA ***11*** *07:31:00.2±0.1,27.°49N×129.°28E,h34km±3km,M4.9*

JMA Felt II J1.

NIED ***11*** *07:31:00,27.°40N×129.°50E,h23km,Mw4.9 Best double couple: M₀2.17000×10¹⁶ NP1:φs26.00000°,δ50.00000°, λ93.00000°. NP2:φs201.00000°,δ40.00000°,λ86.00000°.*

UNK ***11*** *07:31:00.3,27.°48N×129.°19E,h33km*

GCMT ***11*** *07:31:04.8±0.3,27.°34N±0.°02×129.°47E±0.°02,h29km±1km, MW5.0/84,Moment Tensor Solution. s41,c50; s84,c135; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.44±.17; Mθθ-0.76±.11; Mφφ-1.67±.12; Mrθ2.08±.18; Mrφ-1.49±.06; Mθφ1.88±.16; Best double couple: M₀3.83200×10¹⁶ NP1:φs206.00000°,δ22.00000°,λ72.00000°. NP2: φs45.00000°,δ69.00000°,λ97.00000°. Principal axes: T 3.6980, Plg66.0000°, Azm328.0000°; N 0.2750, Plg7.0000°, Azm223.0000°; P -3.9670, Plg23.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 07:30:59.8±0.4,**27.°43N**±0.°02×**129.°34E**±0.°03,**h28**km,2km, **h28**km;**pP-P,n490,**σ1s**67**/483,**mb5.0**/182,**MS4.5**/80, **51C-17D,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.49**	**315**	P		**Pb**	**07 31 09.4**	**-0.7**
JTK				S		**Sb**	**07 31 15.6**	**-1.4**
JOKE	**Okinoerabujima**	**0.69**	**264**	P		**Pb**	**07 31 12.7**	**-0.6**
JOKE				S		**Sb**	**07 31 21.7**	**-0.8**
JAMN	**Amaminishikomi**	**0.82**	**350**	P		**Pb**	**07 31 14.5**	**-1.0**
JAMN				*e*S		**Sb**	**07 31 25.0**	**-1.2**
JYRO	**Yoronjima**	**0.89**	**243**	P		**Pn**	**07 31 16.2**	**-0.3**
JYRO				*e*S		**Sb**	**07 31 27.6**	**-0.6**
JAM	**Amami Oshima**	**1.00**	**13**	P		**Pn**	**07 31 17.4**	**-0.6**
JAM				*e*S		**Sn**	**07 31 30.3**	**-0.9**
JZK	**Kikaishima**	**1.04**	**32**	P		**Pn**	**07 31 18.6**	**0.0**
JZK				*e*S		**Sb**	**07 31 33.5**	**+1.0**
JOW	**Kunigami**	**1.12**	**238**	Pn		**Pn**	**07 31 19.9**	**+0.1**
	89nm,0.3s,baz=93,slow=15,SNR=638							
JOW				Sn		**Sb**	**07 31 34.4**	**-0.5**
	226nm,0.3s,baz=78,slow=18,SNR=14							
JOW	**Kunigami**	**1.12**	**238**	P		**Pn**	**07 31 19.4**	**-0.3**
JOW				*e*S		**Sb**	**07 31 34.6**	**-0.2**
JOW	**Kunigami**	**1.12**	**238**			**Pb**	**07 31 20.1**	**-0.5**
JIH	**Iheya**	**1.29**	**252**	P		**Pn**	**07 31 22.0**	**+0.1**
JIH				*e*S		**Sb**	**07 31 39.3**	**-0.2**
JNTH	**Nagotoyohara**	**1.49**	**233**	P		**Pn**	**07 31 24.4**	**-0.3**
JNTH				*e*S		**Sn**	**07 31 42.3**	**-0.9**
JTAJ	**Takarajima**	**1.72**	**356**	P		**Pn**	**07 31 27.3**	**-0.6**
JAGN	**Aguni-jima**	**2.05**	**246**	P		**Pn**	**07 31 32.2**	**-0.3**
JAGN				*e*S		**Sn**	**07 31 56.1**	**-1.1**
JKDJ	**Kitadaitoujima**	**2.29**	**130**	P		**Pn**	**07 31 33.4**	**-2.3**
JKDJ				*e*S		**Sn**	**07 31 59.3**	**-3.7**
JMZ	**Minamidaito 2**	**2.33**	**133**	P		**Pn**	**07 31 33.9**	**-2.4**
JMZ				*e*S		**Sn**	**07 31 59.4**	**-4.5**
JNN	**Nakanoshima**	**2.44**	**11**	P		**Pn**	**07 31 37.4**	**-0.5**
JKE	**Kume jima 2**	**2.54**	**245**	P		**Pn**	**07 31 38.3**	**-0.8**
JKE				*e*S		**Sn**	**07 32 08.1**	**-1.0**
JYAK	**Yakushimahirau**	**2.98**	**20**	P		**Pn**	**07 31 44.4**	**-0.8**
JYAK				*e*S		**Sn**	**07 32 19.2**	**-0.8**
JKC	**Kuchinoerabu**	**3.11**	**14**	P		**Pn**	**07 31 48.0**	**+1.0**
JKC				S		**Sn**	**07 32 23.8**	**+0.6**
JMTN	**Minamitane**	**3.25**	**24**	P		**Pn**	**07 31 48.4**	**-0.6**
JMTN				*e*S		**Sn**	**07 32 26.7**	**-0.1**
JTN	**Tanegashima 3**	**3.52**	**24**	P		**Pn**	**07 31 52.3**	**-0.3**
JTN				*e*S		**Sn**	**07 32 32.6**	**-0.7**
JNU	**Nakatsue**	**5.82**	**13**	Pn		**Pn**	**07 32 25.6**	**+1.2**
	19nm,0.3s,baz=272,slow=1.6,SNR=103							

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JNU                                 LR         LR     07 35 03.4
     comp=Z,1μm,19.8s,baz=177,slow=43
JNU  Nakatsue          5.82  13   Pn         Pn     07 32 26.0 +1.6
YOJ  Yonaguni jima     6.42 244   Pn         Pn     07 32 28.2 -4.4
TATO Taipei            7.47 253   Pn         Pn     07 32 46.3 -0.6
YHNB Yeheng            7.67 251              Pn     07 32 49.8  0.0
NACB Ninganchiao       7.70 247              Pn     07 32 48.3 -1.8
SSE  Sheshan           8.00 299   P          Pn     07 32 52.8 -1.4
SSE                                 S          Sn     07 34 22.3 -1.5
SSE                                 LR         LR
     comp=N,690nm,13.6s
SSE                                 LR         LR
     comp=E,2μm,14.0s
SSE                                 LR         LR
     comp=Z,2μm,17.5s
YULB Yu-li             8.31 243              Pn     07 32 54.8 -3.7
SSLB Suanglung         8.39 246              Pn     07 32 56.7 -3.0
TPUB Ta-pu             8.89 244              Pn     07 33 04.5 -2.0
QZH  Quanzhou          9.97 258  eP          Pn     07 33 24.9 +3.7
QZH                                 LR         LR
     comp=Z,2μm,12.4s
QZH                                 LR         LR
     comp=Z,2μm,15.3s
QZH                                 LR         LR
     comp=Z,2μm,15.1s
KSRS Korea Array      10.06 354   Pn         Pn     07 33 22.8 +0.3
     comp=Z,0.2nm,0.3s,baz=172,slow=14,SNR=8.0
KSRS                                LR         LR     07 37 32.0
     comp=Z,2μm,20.1s,baz=168,slow=40
NJ2  Nanjing           10.21 299  eP          Pn     07 33 23.3 -1.2
NJ2                                 sP         07 33 34.5
NJ2                                 pmax  pmax
     comp=Z,24nm,0.6s
NJ2                                 LR         LR
     comp=N,2μm,13.3s
NJ2                                 LR         LR
     comp=E,4μm,14.2s
NJ2                                 LR         LR
     comp=Z,5μm,16.1s
INU  Inuyama           10.26  38   Pn         Pn     07 33 26.5 +1.4
JHJ  Hachijo jima 2    10.65  55   LR         LR     07 37 32.9
     comp=Z,1μm,18.8s,baz=277,slow=37
MAJO Matsushiro        11.79  37⇑eP          Pn     07 33 47.2 +1.1
MAT  Matsushiro        11.79  37   P          Pn     07 33 46.9 +0.8
MAT                                 S          Sn     07 35 58.8 +2.0
MJAR Matsushiro Arr    11.79  37   Pn         Pn     07 33 45.5 -0.6
     comp=Z,0.0nm,0.3s,baz=237,slow=13,SNR=1.5
DL2  Dalian            13.13 333   P          Pn     07 34 06.1 +1.7
DL2                                 eS         Sn     07 36 32.2 +2.7
DL2                                 pmax  pmax
     comp=Z,26nm,1.3s
DL2                                 pmax  pmax
     comp=Z,340nm,8.5s
DL2                                 LR         LR
     comp=Z,2μm,15.5s
DL2                                 LR         LR
     comp=Z,1μm,14.1s
DL2                                 LR         LR
     comp=Z,3μm,15.3s
WHN  Wuhan             13.48 287   P          P      07 34 17.5 -0.7
WHN                                 S          Sn     07 36 41.6 +3.4
WHN                                 LR         LR
     comp=N,4μm,10.2s
WHN                                 LR         LR
     comp=E,4μm,12.2s
WHN                                 LR         LR
     comp=Z,7μm,15.9s
SNY  Shenyang          15.12 343  ⇓P          P      07 34 33.8 -2.5
SNY                                 pmax  pmax
     comp=Z,13nm,0.9s
SNY                                 pmax  pmax
     comp=Z,340nm,9.6s
SNY                                 LR         LR
     comp=Z,3μm,13.7s
SNY                                 LR         LR
     comp=Z,2μm,14.9s
SNY                                 LR         LR
     comp=Z,4μm,14.7s
MSHR Mys Shultsa       15.18   5⇓eP          Pn     07 34 31.8 -0.5
VLA  Vladivostok       15.79   7⇑eP          Pn     07 34 40.1  0.0
CN2  Changchun         16.63 350  eP          P      07 34 52.9 -0.2
CN2                                 eS         Sn     07 37 54.8 +0.1
CN2                                 pmax  pmax
     comp=Z,10.0nm,0.7s
CN2                                 pmax  pmax
     comp=Z,200nm,7.3s
CN2                                 LR         LR
     comp=Z,2μm,18.0s
CN2                                 LR         LR
     comp=Z,2μm,18.0s
CN2                                 LR         LR
     comp=Z,3μm,17.0s
BJT  Baijiatuau        16.64 322   P          P      07 34 54.8 +1.6
BJT                                 pmax  pmax
     comp=Z,69nm,1.3s
BJT  Baijiatuau        16.64 322   P          P      07 34 54.8 +1.6
BJI  Beijing           16.65 322   P          P      07 34 52.5 -0.8
BJI                                 pP         pP     07 34 59.9 -0.7
BJI                                 sP         sP     07 35 03.5 -0.5
BJI                                 S          Sn     07 37 53.6 -1.5
BJI                                 pmax  pmax
     comp=Z,9.0nm,0.7s
BJI                                 pmax  pmax
     comp=Z,400nm,4.0s
BJI                                 LR         LR
     comp=Z,1μm,13.5s
BJI                                 LR         LR
     comp=Z,1μm,13.9s
BJI                                 LR         LR
     comp=Z,960nm,18.1s
USA0B Ussuriysk Arra   16.87   7⇓eP          P      07 34 54.6 -1.1
USRK Ussuriysk Ar.     16.87   7   Pn         P      07 34 55.5 -0.2
     baz=188,slow=8.6,SNR=11
USRK                                LR         LR     07 41 43.1
     comp=Z,733nm,19.0s,baz=173,slow=39
USRK Ussuriysk Ar.     16.87   7   P          P      07 34 57.5 +1.8
USRK Ussuriysk Ar.     16.87   7   P          P      07 34 57.5 +1.8
MDJ  Mudanjiang        17.15   1   P          P      07 35 00.8 +2.0
MDJ                                 sP         sP     07 35 13.6 +4.2
MDJ                                 S          Sn     07 38 09.8 +2.6
MDJ                                 SS         SS     07 38 31.8
MDJ                                 pmax  pmax
     comp=Z,10.0nm,0.7s
MDJ                                 LR         LR
     comp=Z,1μm,15.0s
MDJ                                 LR         LR
     comp=Z,830nm,14.9s
MDJ                                 LR         LR
     comp=Z,2μm,15.5s
TIY  Taiyuan           17.53 310  eP          P      07 35 05.3 +2.1
TIY                                 S          Sn     07 38 15.8 -0.8
TIY                                 pmax  pmax
     comp=Z,320nm,5.7s
TIY                                 LR         LR
     comp=Z,2μm,17.7s
TIY                                 LR         LR
     comp=Z,3μm,17.2s
TIY                                 LR         LR
     comp=Z,3μm,16.1s
ENH  Enshi             17.62 284   P          P      07 35 05.5 +1.2
ERM  Erimo             18.42  34⇑eP          P      07 35 12.3 -0.5
ERM  Erimo             18.42  34   P          P      07 35 12.0 -0.8
XAN  Xi'an             18.73 296   P          P      07 35 15.7 -0.8
XAN                                 pP         sP     07 35 25.6 -1.7
XAN                                 PP         PnPn   07 35 36.5 +7.2
XAN                                 S          S      07 38 55.9 +7.8
XAN                                 pmax  pmax
     comp=Z,36nm,1.0s
XAN                                 pmax  pmax
     comp=Z,350nm,6.7s
XAN                                 LR         LR
     comp=Z,1μm,16.2s
XAN                                 LR         LR
     comp=Z,3μm,15.2s
XAN                                 LR         LR
     comp=Z,5μm,15.2s
XAN  Xi'an             18.73 296   P          Pn     07 35 17.2 +0.2
XAN                                 pmax  pmax
     comp=Z,55nm,0.9s
XAN  Xi'an             18.73 296              Pn     07 35 17.2 +0.2
QIZ  Qiongzhong        19.76 249   P          P      07 35 25.1 -2.6
QIZ                                 sP         sP     07 35 38.9 +0.5
QIZ                                 S          S      07 39 07.8 -1.2
QIZ                                 sS         sS     07 39 22.6 +1.8
QIZ                                 LR         LR
     comp=Z,960nm,17.7s
QIZ                                 LR         LR
     comp=Z,630nm,16.3s
QIZ                                 LR         LR
     comp=Z,1μm,17.9s
ASAJ Asahikawa        19.77  29   P          Pn     07 35 28.6 -0.7
     comp=Z,1.8nm,0.3s,baz=244,slow=16,SNR=6.1
ASAJ                                LR         LR     07 44 15.3
     comp=Z,547nm,19.4s,baz=244,slow=41
HHC  Hu-ho-hao-te      19.84 317  eP          Pn     07 35 30.6 +0.3
HHC                                 sP         sP     07 35 47.0 +7.7
HHC                                 S          S      07 39 10.0 -0.6
HHC                                 pmax  pmax
     comp=Z,10.0nm,0.6s
HHC                                 pmax  pmax
     comp=Z,150nm,6.6s
HHC                                 LR         LR
     comp=Z,1μm,14.0s
HHC                                 LR         LR
     comp=Z,1μm,14.9s
HHC                                 LR         LR
     comp=Z,2μm,13.2s
GYA  Guiyang           20.24 272⇑ iP          Pn     07 35 35.2 +0.1
GYA                                 PP         PnPn   07 35 57.6 +7.6
GYA                                 S          S      07 39 08.8 -10
GYA                                 SS         SnSn   07 39 43.8 +6.9
GYA                                 pmax  pmax
     comp=Z,10.0nm,0.6s
GYA                                 pmax  pmax
     comp=Z,210nm,3.6s
GYA                                 LR         LR
     comp=Z,950nm,12.8s
GYA                                 LR         LR
     comp=Z,1μm,13.8s
GYA                                 LR         LR
     comp=Z,2μm,14.5s
DAV  Davao City (W)    20.57 191   LR         LR     07 45 32.5
     comp=Z,339nm,18.2s,baz=348,slow=42
BTO  Baotou            20.66 314  eP          Pn     07 35 47.3 +7.4
KCP  Kidapawan         20.71 192⇑ iP          P      07 35 38.9 +0.7
YUK  Yuzh-Kuril'sk     21.25  34  eP          P      07 35 43.6  0.0
YUK                                 e          07 36 10.0
YUK                                 iS         S      07 39 39.5 +1.2
YUK                                 eSS        SnSn   07 40 04.0 +2.7
YUK                                 pmax  pmax
     comp=Z,379nm,1.4s
YUK                                 pmax  pmax
     comp=Z,294nm,1.1s
YUK                                 MLR   MLR
     comp=Z,515nm,23.0s
YSS  Yuzh-Sakhalins    22.16  25α iP          P      07 35 53.3 -0.1
YSS                                 e          07 36 03.4
YSS                                 eS         S      07 39 51.3 -4.7
YSS                                 pmax  pmax
     comp=Z,60nm,1.1s
YSS                                 MLR   MLR
     comp=Z,400nm,10.0s
YSS                                 MLR   MLR
     comp=N,500nm,15.0s
YSS  Yuzh-Sakhalins    22.16  25   P          P      07 35 53.8 +0.4
YSS                                 IAmb  IAmb   07 36 00.4
     comp=Z,72nm,1.1s
CD2  Chengdu           22.59 285   P          P      07 35 56.7 -1.6
CD2                                 pmax  pmax
     comp=Z,70nm,0.8s
CD2                                 LR         LR
     comp=Z,3μm,15.9s
CD2                                 LR         LR
     comp=Z,4μm,16.3s
CD2                                 LR         LR
     comp=Z,4μm,15.7s
KUR  Kuril'sk          23.11  35  eP          P      07 36 05.0 +1.6
KUR                                 eS         S      07 40 15.7 +2.9
KUR                                 pmax  pmax
     comp=Z,201nm,1.4s
KUR                                 MLR   MLR
     comp=Z,558nm,17.0s
LZH  Lanzhou           23.28 298  eP          P      07 36 03.7 -1.8
LZH                                 pP         pP     07 36 13.3 +0.2
LZH                                 sP         sP     07 36 17.4 +0.8
LZH                                 S          S      07 40 16.7 +0.4
LZH                                 pmax  pmax
     comp=Z,32nm,1.1s
LZH                                 pmax  pmax
     comp=Z,280nm,5.0s
LZH                                 LR         LR
     comp=Z,1μm,14.6s
LZH                                 LR         LR
     comp=Z,3μm,14.1s
LZH                                 LR         LR
     comp=Z,3μm,13.6s
GRNR Gornyy            23.92  11⇓iP          P      07 36 08.6 -2.7
GRNR                                e          07 36 48.1
GRNR                                eS         S      07 40 23.4 -2.5
GRNR                                pmax  pmax
     comp=N,3.0nm,0.8s
GRNR                                pmax  pmax
     comp=Z,6.0nm,0.7s
GRNR                                smax  smax
     comp=N,5.0nm,0.6s
SLVN Son La            23.93 261   P          P      07 36 10.9 -0.8
KMI  Kunming           23.95 271   P          P      07 36 06.2 -5.9
KMI                                 pP         pP     07 36 11.8 -8.2
KMI                                 sP         sP     07 36 26.3 +2.9
KMI                                 PP         PnPn   07 36 50.8 +10
KMI                                 S          S      07 40 03.5 -24
KMI                                 sS         sS     07 40 40.8 +0.4
KMI                                 pmax  pmax
     comp=Z,52nm,0.9s
KMI                                 pmax  pmax
     comp=Z,240nm,4.0s
KMI                                 LR         LR
     comp=N,1μm,17.9s
KMI                                 LR         LR
     comp=E,960nm,14.3s
KMI                                 LR         LR
     comp=Z,1μm,14.6s
KMI  Kunming           23.95 271   IAmb  IAmb   07 36 12.8
     comp=Z,36nm,0.7s
TYV  Tymovskoe         25.49  20  eP          P      07 36 22.4 -3.2
TYV                                 eS         S      07 40 47.2 -3.9
TYV                                 pmax  pmax
     comp=Z,10.0nm,1.0s
TYV                                 smax  smax
     comp=E,12nm,0.2s
ZEA  Zeya              26.32 357  eP          P      07 36 44.6 +12
ZEA                                 pmax  pmax
     comp=Z,23nm,1.0s
ZEA                                 MLR   MLR
     comp=Z,600nm,14.0s
ZEA                                 MLR   MLR
     comp=E,300nm,16.0s
ZEA                                 MLR   MLR
     comp=N,400nm,14.0s
ULN  Ulaanbaatar       26.80 326⇓eP          P      07 36 37.5 -0.2
ULN                                 pmax  pmax
     comp=Z,3.0nm,0.9s
NKL  Nikolayevsk       27.04  15  eP          P      07 36 41.5 +2.0
NKL                                 pmax  pmax
     comp=Z,26nm,1.3s
NKL                                 pmax  pmax
     comp=N,4.0nm,0.8s
NKL                                 pmax  pmax
     comp=E,1.0nm,0.7s
SONM Songino Array     27.11 325   P          P      07 36 40.6 +0.2
     comp=E,3.4nm,0.8s,baz=129,slow=8.6,SNR=7.3
SONM                                LR         LR     07 48 33.1
     comp=E,616nm,20.2s,baz=106,slow=39
SONM Songino Array     27.11 325   P          P      07 36 41.5 +1.0
SONM                                pmax  pmax
     comp=Z,12nm,1.4s
SONM Songino Array     27.11 325   P          P      07 36 41.5 +1.0
GTA  Gaotai            27.26 304  eP          P      07 36 40.2 -1.7
GTA                                 pP         pP     07 36 49.7 -0.1
GTA                                 sP         sP     07 36 53.4 +0.4
GTA                                 S          S      07 41 25.1 +5.5
GTA                                 sS         sS     07 41 40.5 +7.7
GTA                                 pmax  pmax
     comp=Z,18nm,0.9s
GTA                                 pmax  pmax
     comp=Z,73nm,7.2s
GTA                                 LR         LR
     comp=Z,1μm,14.8s
GTA                                 LR         LR
     comp=Z,2μm,16.1s
GTA                                 LR         LR
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comp=Z,2µm,16.5s
GTOI Gorontalo 27.33 194 P **P** **07 36 45.0 +2.5**
comp=Z,0.1nm,0.9s
MRSI Marisa 27.73 196 P **P** **07 36 50.3 +4.3**
comp=Z,1µmcomp=Z,20nm,0.7s
LBMI Labuha 27.97 184 P **P** **07 36 50.3 +2.1**
comp=Z,57nm,1.1s
SIJI Sorong 28.20 176 LR LR 07 47 17.3
comp=Z,445nm,19.1s,baz=30,slow=35
CHTO Chiang Mai 29.18 259 P **P** **07 36 58.3 -0.8**
CHTO pmax pmax
comp=Z,16nm,0.8s
CHTO Chiang Mai 29.18 259 P **P** **07 36 58.3 -0.8**
CHTO IAmb IAmb 07 37 15.2
comp=Z,16nm,0.8s
CMAR Chiang Mai Arr 29.32 259 P **P** **07 37 00.3 +0.1**
comp=Z,4.2nm,0.7s,baz=54,slow=7.5,SNR=16
CMAR PcP **PcP** **07 40 06.7 +0.2**
comp=Z,0.7nm,0.4s,baz=48,slow=1.3,SNR=1.8
CMAR LR LR 07 50 15.7
comp=Z,616nm,18.7s,baz=97,slow=40
CMAR Chiang Mai Arr 29.32 259 P **P** **07 37 00.2 -0.1**
FAKI Fak Fak 30.31 174 P **P** **07 37 08.5 -0.5**
SKR Severo-Kuril's 30.86 34 *e*P P 07 37 19.8 +6.3
SKR *e* 07 38 16.7
SKR *e*S **S** **07 42 22.7 +7.1**
SKR *e*SS **ScP** **07 43 52.1 +1.3**
SKR pmax pmax
comp=Z,15nm,1.2s
SKR pmax pmax
comp=Z,100nm,3.7s
SKR MLR MLR
comp=Z,200nm,16.0s
SKR MLR MLR
comp=Z,200nm,14.0s
TLY Talaya 30.99 328⇓ *e*P **P** **07 37 12.5 -2.2**
TLY pmax pmax
comp=Z,1.0nm,0.7s
GENI Genyem 31.62 159 P **P** **07 37 25.3 +4.7**
comp=Z,4µmcomp=Z,116nm,0.6s
JAY Jayapura 31.73 158 LR LR 07 47 35.5
comp=Z,324nm,20.0s,baz=342,slow=31
PEA0B Petropavlovsk- 33.16 32⇑ *e*P **P** **07 37 32.9 -0.8**
PETK Petropavlovsk- 33.16 32 P **P** **07 37 32.6 -1.1**
comp=Z,2.1nm,0.5s,baz=222,slow=4.0,SNR=5.6
PETK LR LR 07 52 39.4
comp=Z,320nm,19.1s,baz=232,slow=39
PETK Petropavlovsk- 33.16 32 P **P** **07 37 32.9 -0.8**
PETK Petropavlovsk- 33.16 32 P **P** **07 37 32.9 -0.8**
SHL Shillong 33.49 276 P **P** **07 37 35.7 -1.5**
SHL pmax pmax
comp=Z,53nm,1.3s
SHL Shillong 33.49 276 P **P** **07 37 35.7 -1.5**
PET Petropavlovsk 33.55 32 *e*P **P** **07 37 37.0 -0.1**
PET *e*S **S** **07 42 55.9 -1.5**
PET pmax pmax
comp=Z,100nm,12.9s
PET MLR MLR
comp=Z,400nm,20.0s
KAPI Kappang 33.56 197 LR LR 07 50 20.3
comp=Z,92nm,21.0s,baz=17,slow=35
YAK Yakutsk 34.60 0 *e*P **P** **07 37 44.7 -1.3**
YAK *e**PP **sP** **07 37 57.2 +0.1**
YAK *e*S **S** **07 43 10.9 -2.4**
YAK *e**SS **sS** **07 43 29.2 +3.0**
YAK *e*SS **SnSn** **07 45 23.0 -3.3**
YAK *e* 07 48 00.2
YAK pmax pmax
comp=Z,19nm,0.8s
YAK pmax pmax
comp=N,4.0nm,0.6s
YAK smax smax
comp=E,19nm,1.4s
YAK smax smax
comp=N,18nm,1.3s
YAK MLR MLR
comp=Z,247nm,14.0s
YAK MLR MLR
comp=N,232nm,14.0s
H11N2 WAKE ISLAND Hy 35.16 94 T T 08 15 31.6
baz=290,slow=75,SNR=220
H11N1 WAKE ISLAND Hy 35.16 94 T T 08 15 46.6
baz=290,slow=75,SNR=81
H11N3 WAKE ISLAND Hy 35.18 94 T T 08 15 47.0
baz=290,slow=75,SNR=147
MA2 Magadan 35.36 19*de*P **P** **07 37 51.7 -0.9**
MA2 pmax pmax
comp=Z,16nm,1.0s
H11S3 WAKE ISLAND Hy 35.41 96 T T 08 15 52.9
baz=292,slow=75,SNR=14
H11S1 WAKE ISLAND Hy 35.41 96 T T 08 15 55.6
baz=292,slow=75,SNR=6.5
H11S2 WAKE ISLAND Hy 35.43 96 T T 08 16 03.0
baz=292,slow=75,SNR=6.7
TAPN Taplejung 36.84 280 *e*P **P** **07 38 05.3 -0.8**
comp=Z,57nm,0.9s
WMQ Urumqi 37.16 307 *e*P **P** **07 38 08.2 -0.2**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,59nm,4.7s
WMQ LR LR
comp=Z,410nm,18.9s
WMQ LR LR
comp=Z,330nm,21.5s
WMQ LR LR
comp=Z,480nm,21.5s
ODAN Odare 37.21 279 *e*P **P** **07 38 08.5 -0.7**
comp=Z,133nm,0.7s
RAMN Ramite 37.88 279 *e*P **P** **07 38 13.9 -1.0**
comp=Z,33nm,0.7s
JIRN Jiri 38.11 281 *e*P **P** **07 38 16.2 -0.8**
comp=Z,25nm,0.6s
GUN Gumba 38.34 281 *e*P **P** **07 38 18.1 -0.8**
comp=Z,83nm,0.8s
KRVT Keravat (AS076 38.41 142 P **P** **07 38 19.9 +0.8**
comp=Z,56nm,0.8s,baz=128,slow=5.7,SNR=4.9
KRVT LR LR 07 50 57.7
comp=Z,121nm,21.6s,baz=327,slow=31
PKI Pulchoki 38.81 281 *e*P **P** **07 38 21.9 -0.9**
comp=Z,79nm,0.7s
PKIN Phulchoki 38.82 281 *e*P **P** **07 38 21.9 -0.9**
comp=Z,67nm,0.6s
KKN Kakani 38.89 281 *e*P **P** **07 38 22.8 -0.5**
comp=Z,50nm,0.6s
DGZ Jazzator, Alta 38.92 316⇑ *e*P **P** **07 38 21.7 -1.5**
DGZ pmax pmax
comp=Z,2.0nm,1.3s
MNSI Mandailing Nat 38.94 232 P **P** **07 38 23.5 -0.1**
comp=Z,21nm,0.5s
DMN Daman 39.07 281 *e*P **P** **07 38 24.0 -0.9**
comp=Z,104nm,1.0s
GKN Gorkha 39.41 282 *e*P **P** **07 38 26.9 -0.7**
comp=Z,150nm,0.7s
MTN Manton Dam 40.08 177 P **P** **07 38 32.1 -0.9**
MTN IAmb IAmb 07 38 41.4
comp=Z,28nm,0.7s
DANN Dangsing 40.11 282 *e*P **P** **07 38 33.3 -0.3**
comp=Z,171nm,0.7s
KOLN Koldanda 40.35 281 *e*P **P** **07 38 34.8 -0.7**
comp=Z,119nm,1.0s
PMG Port Moresby 40.49 152 P **P** **07 38 35.9 -0.5**
comp=Z,25nm,0.8s,baz=359,slow=4.6,SNR=4.9
PMG Port Moresby 40.49 152*ce*P **P** **07 38 36.3 -0.1**
PMG pmax pmax
comp=Z,27nm,0.9s
PMG Port Moresby 40.49 152 IAmb IAmb 07 38 37.0
comp=Z,28nm,0.8s
MK31 Makanchi Array 41.49 311 P **P** **07 38 43.1 -1.3**
MK31 pmax pmax
comp=Z,4.0nm,0.7s
MK31 Makanchi Array 41.49 311 P **P** **07 38 43.1 -1.3**
MKAR Makanchi Array 41.49 311 P **P** **07 38 42.8 -1.6**
comp=Z,3.8nm,0.5s,baz=96,slow=10.0,SNR=32
MKAR ScP **ScP** **07 44 32.8 +2.9**
comp=Z,0.3nm,0.8s,baz=90,slow=4.8,SNR=1.5
MKAR LR LR 07 57 39.9
comp=Z,494nm,18.6s,baz=92,slow=39
MKAR Makanchi Array 41.49 311 P **P** **07 38 42.2 -2.2**
MAKZ Makanchi 41.70 311 P **P** **07 38 45.0 -1.2**
MAKZ pmax pmax
comp=Z,6.0nm,0.7s
MAKZ Makanchi 41.70 311 P **P** **07 38 45.0 -1.2**
ZALV Zalesovo Beam 41.91 322 P **P** **07 38 45.3 -2.4**
comp=Z,2.8nm,0.6s,baz=115,slow=8.4,SNR=11
ZALV LR LR 07 58 06.6
comp=Z,504nm,18.9s,baz=96,slow=39

KNRA Kununurra 42.86 181 P **P** **07 38 55.6 -0.1**
SHLS Shalkode 42.99 305 *e*P **P** **07 38 52.8 -4.1**
comp=Z,3.2nm,1.1s,baz=304
SHLS LR LR 07 57 14.4
comp=Z,125nm,13.3s,baz=304
SHLS Shalkode 42.99 305 *e*P **P** **07 38 52.7 -4.1**
SHLS pmax pmax
comp=Z,3.0nm,1.1s
SHLS MLR MLR
comp=Z,125nm,13.0s
COEN Coen 43.28 160 P **P** **07 38 59.7 +0.5**
UZB Uzynbulak 43.31 305 *e*P **P** **07 38 58.1 -1.4**
comp=Z,5.0nm,1.1s,baz=304
UZB LR LR 08 00 19.3
comp=Z,113nm,12.4s,baz=304
UZB Uzynbulak 43.31 305 *e*P **P** **07 38 58.0 -1.4**
UZB pmax pmax
comp=Z,5.0nm,1.1s
UZB MLR MLR
comp=Z,113nm,12.0s
SEM Semipalatinsk 43.56 315 *e*P **P** **07 38 59.4 -2.0**
comp=Z,1.8nm,0.6s,baz=315
SEM Semipalatinsk 43.56 315 *e*P **P** **07 38 59.4 -2.0**
SEM pmax pmax
comp=Z,2.0nm,0.6s
SATY Saty 43.76 305 *e*P **P** **07 39 02.0 -1.1**
comp=Z,3.8nm,1.0s,baz=304
SATY LR LR 08 00 18.3
comp=Z,167nm,15.1s,baz=304
SATY Saty 43.76 305 *e*P **P** **07 39 01.9 -1.1**
SATY pmax pmax
comp=Z,4.0nm,1.0s
SATY MLR MLR
comp=Z,167nm,15.0s
TARG Taragay, Kyrgy 44.13 303 IAmb IAmb 07 39 16.1
comp=Z,21nm,1.0s
TIXI Tiksi 44.26 360⇓ *e*P **P** **07 39 04.7 -1.7**
TIXI pmax pmax
comp=Z,11nm,1.7s
TIXI Tiksi 44.26 360 P **P** **07 39 04.5 -2.0**
KDJ Kajisay 44.61 303 IAmb IAmb 07 39 19.4
comp=Z,17nm,0.9s
KURK Kurchatov 44.65 316*c i*P **P** **07 39 07.9 -1.9**
KURK pmax pmax
comp=Z,11nm,1.7s
KURK Kurchatov 44.65 316 P **P** **07 39 07.6 -2.2**
MDOK Medeo 44.75 305 *e*P **P** **07 39 10.7 -0.3**
comp=Z,57nm,1.3s,baz=304
MDOK *e*S **S** **07 45 45.2 -1.2**
baz=304
MDOK LR LR 08 00 37.3
comp=Z,440nm,14.7s,baz=304
MDOK Medeo 44.75 305 *e*P **P** **07 39 10.7 -0.3**
MDOK *e*S **S** **07 45 45.2 -1.2**
MDOK pmax pmax
comp=Z,57nm,1.3s
MDOK MLR MLR
comp=Z,440nm,15.0s
TNSS Tian-Shan 44.82 305 *e*P **P** **07 39 11.3 -0.6**
baz=304
TNSS Tian-Shan 44.82 305 *e*P **P** **07 39 11.3 -0.6**
AAA Alma-Ata 44.85 305 LR LR 08 00 43.9
comp=Z,460nm,14.7s,baz=304
ULHL Ulahol 45.31 303 P **P** **07 39 15.0 -0.6**
SNR=5.9
FITZ Fitzroy Crossi 45.40 185 P **P** **07 39 15.9 -0.2**
comp=Z,3.9nm,0.7s,baz=20,slow=6.0,SNR=9.9
KSH Kashi 45.52 300 *e*P **P** **07 39 19.9 +2.8**
KSH pP *s*P 07 39 28.8 +0.3
KSH S **S** **07 45 59.9 +2.4**
KSH pmax pmax
comp=Z,32nm,0.9s
KSH LR LR
comp=Z,810nm,14.4s
KSH LR LR
comp=Z,1µm,15.3s
KSH LR LR
comp=Z,920nm,13.7s
TKM2 Tokmak 2 45.81 304 P **P** **07 39 18.9 -0.6**
SNR=14
KZA Kyzart 46.05 303 P **P** **07 39 21.9 +0.2**
SNR=8.4
BILL Bilibino 46.22 18*ce*P **P** **07 39 21.8 -0.3**
BILL *i* 07 39 33.4
BILL *e* 07 41 06.6
BILL *e*S **S** **07 46 06.3 -0.3**
BILL *e*SS **SS** **07 49 30.6 -1.2**
BILL pmax pmax
comp=Z,16nm,1.7s
BILL MLR MLR
comp=Z,302nm,18.0s
BILL Bilibino 46.22 18 P **P** **07 39 21.9 -0.2**
BILL IAmb IAmb 07 39 34.3
comp=Z,13nm,0.9s
KBK Karagaybulak 46.28 304 P **P** **07 39 23.1 0.0**
SNR=5.8
SGDS Sogindy 46.53 305 *e*P **P** **07 39 23.7 -1.3**
comp=Z,2.8nm,1.0s,baz=304
SGDS LR LR 08 01 23.7
comp=Z,203nm,13.3s,baz=304
SGDS Sogindy 46.53 305 *e*P **P** **07 39 23.6 -1.3**
SGDS pmax pmax
comp=Z,3.0nm,1.0s
SGDS MLR MLR
comp=Z,203nm,13.0s
UCH Uchtor 46.60 303 P **P** **07 39 25.8 -0.2**
SNR=26
AAK Ala-Archa 46.61 304 P **P** **07 39 24.5 -1.3**
AAK pmax pmax
comp=Z,5.0nm,1.0s
AAK Ala-Archa 46.61 304 P **P** **07 39 24.5 -1.3**
USP Ospenovka 46.62 305 P **P** **07 39 24.9 -0.8**
SNR=6.1
WB0 Warramunga Arr 47.18 174 IAmb IAmb 07 39 45.6
comp=Z,17nm,0.8s
WRAB Tennant Creek 47.34 174*c i*P **P** **07 39 31.2 -0.1**
WRAB pmax pmax
comp=Z,7.0nm,0.8s
WRAB Tennant Creek 47.34 174 P **P** **07 39 30.6 -0.7**
WRAB IAmb IAmb 07 39 46.9
comp=Z,16nm,0.8s
WRA Warramunga Arr 47.34 174 P **P** **07 39 31.0 -0.4**
comp=Z,8.7nm,0.6s,baz=353,slow=8.4,SNR=26
WRA LR LR 07 58 21.3
comp=Z,89nm,20.6s,baz=10.0,slow=35
WRA Warramunga Arr 47.34 174 P **P** **07 39 31.0 -0.4**
WRA Warramunga Arr 47.34 174 P **P** **07 39 30.4 -1.0**
WB2 Warramunga Arr 47.34 174 P **P** **07 39 30.4 -1.0**
ARSB Arslanbob 47.75 302 IAmb IAmb 07 39 45.3
comp=Z,12nm,0.9s
NIL Nilore 48.21 292 P **P** **07 39 38.0 -0.1**
NIL pmax pmax
comp=Z,42nm,0.8s
NIL Nilore 48.21 292 P **P** **07 39 38.0 -0.1**
BRZS Berezniki 48.29 314 *e*P **P** **07 39 37.7 -0.8**
baz=313
BRZS LR LR 08 01 12.4
comp=Z,89nm,11.8s,baz=313
BRZS Berezniki 48.29 314 *e*P **P** **07 39 37.7 -0.8**
BRZS MLR MLR
comp=Z,89nm,12.0s
NRIK Noril'sk 48.42 342 P **P** **07 39 37.6 -1.5**
comp=Z,9.3nm,0.7s,baz=122,slow=8.7,SNR=29
NRIK LR LR 08 01 59.6
comp=Z,1µm,18.1s,baz=130,slow=39
NRIK Noril'sk 48.42 342 *i* P **P** **07 39 37.5 -1.7**
BTK Batken 49.46 301 IAmb IAmb 07 40 00.2
comp=Z,14nm,1.0s
KK31 Karatay Array 49.54 305 P **P** **07 39 47.2 -1.0**
KK31 pmax pmax
comp=Z,10.0nm,0.9s
KK31 Karatay Array 49.54 305 P **P** **07 39 47.2 -1.0**
KK31 IAmb IAmb 07 39 58.4
comp=Z,10nm,0.8s
KKAR Karatay Array 49.54 305 P **P** **07 39 47.1 -1.1**
KKAR pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 49.54 305 P **P** **07 39 47.0 -1.1**
KKAR Karatay Array 49.54 305 P **P** **07 39 47.0 -1.2**
KKAR IAmb IAmb 07 39 58.4
comp=Z,10nm,0.8s
IUG luznay 49.93 303 *e*P **P** **07 39 50.6 -0.7**
comp=Z,46nm,16.4s,baz=303
IUG LR LR 08 02 28.2
comp=Z,48nm,16.7s,baz=303
IUG luznay 49.93 303 *e*P **P** **07 39 50.5 -0.7**
IUG MLR MLR
comp=Z,48nm,17.0s
CTA Charters Tower 50.00 159 P **P** **07 39 52.1 +0.3**
comp=Z,18nm,0.7s,baz=329,slow=9.7,SNR=21
CTAO Charters Tower 50.00 159 P **P** **07 39 52.7 +0.9**
CTAO pmax pmax
comp=Z,31nm,0.7s
CTAO Charters Tower 50.00 159 P **P** **07 39 52.7 +0.9**
BRVK Borovoye 50.12 318*de*P **P** **07 39 51.1 -1.3**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 50.12 318 P **P** **07 39 50.5 -1.9**
BRVK IAmb IAmb 07 40 07.6
comp=Z,9.8nm,0.9s
AS31 Alice Springs 50.99 175 P **P** **07 39 58.0 -1.3**
ASAR Alice Springs 50.99 175 P **P** **07 39 59.1 -0.1**
comp=Z,6.6nm,0.5s,baz=6.7,slow=13,SNR=99
ASAR LR LR 08 02 37.6
comp=Z,59nm,18.4s,baz=356,slow=37
KBL Kabul 51.52 294 P **P** **07 40 02.7 -0.8**
KBL pmax pmax
comp=Z,55nm,1.1s
KBL Kabul 51.52 294 P **P** **07 40 02.7 -0.8**
ABKAR Akbulak array 56.56 313 P **P** **07 40 38.0 -1.8**
HRA Herat 57.06 295 P **P** **07 40 41.6 -2.3**
HRA IAmb IAmb 07 40 53.1
comp=Z,12nm,0.8s
ARU Arti 57.07 321*c i*P **P** **07 40 43.0 -0.3**
ARU 07 42 45.1
ARU S **S** **07 48 37.9 +1.7**
ARU SS **SS** **07 52 22.3 -2.4**
ARU pmax pmax
comp=Z,11nm,1.0s
ARU MLR MLR
comp=Z,955nm,16.0s
ARU Arti 57.07 321 P **P** **07 40 41.0 -2.3**
ARU IAmb IAmb 07 40 44.0
comp=Z,7.7nm,0.6s
AKTO Aktyubinsk 57.70 314 LR LR 08 07 25.8
comp=Z,322nm,19.4s,baz=89,slow=38
GEYT Alibeck 59.55 300 P **P** **07 41 00.8 -0.3**
comp=Z,4.8nm,0.5s,baz=46,slow=4.3,SNR=12
GEYT LR LR 08 11 24.4
comp=Z,689nm,18.2s,baz=45,slow=41
GEYT Alibeck 59.55 300 P **P** **07 41 01.5 +0.5**
GYA0B ALIBECK ARRAY 59.55 300 IAmb IAmb 07 41 06.3
comp=Z,9.5nm,0.8s
IMAR Indian Mountai 59.97 27 P **P** **07 41 03.5 +0.2**
STKA Stephens Creek 60.13 168 P **P** **07 41 04.7 0.0**
comp=Z,2.4nm,0.6s,baz=348,slow=8.6,SNR=7.7
STKA LR LR 08 06 45.3
comp=Z,94nm,20.7s,baz=15,slow=36
STKA Stephens Creek 60.13 168 P **P** **07 41 04.7 0.0**
STKA pmax pmax
comp=Z,3.0nm,1.3s
DZM Mont Dzumac 60.90 140 *e*S **S** **07 49 29.8 +3.0**
comp=Z,164nm,25.4s
DZM *e*LR LR 07 59 21.0
comp=Z,209nm,22.1s
TOLK Toolik Lake Re 61.52 24 P **P** **07 41 15.1 +1.2**
baz=273
TOLK Toolik Lake Re 61.52 24 IAmb IAmb 07 41 33.0
comp=Z,14nm,0.9s
KIRV Kirov 61.85 324⇑ *e*P **P** **07 41 16.6 +0.4**
MCK McKinley 62.14 30 IAmb IAmb 07 41 38.3
comp=Z,12nm,0.8s
MDM Murphy Dome 62.32 28 IAmb IAmb 07 41 38.4
comp=Z,11nm,1.0s
WRH Wood River Hil 62.43 29 P **P** **07 41 19.8 -0.2**
COLA College 62.49 29*de*P **P** **07 41 20.2 -0.2**
COLA pmax pmax
comp=Z,1.0nm,0.9s
CCB Clear Creek Bu 62.53 29 P **P** **07 41 20.6 -0.1**
POKR Poker Plat Res 62.64 28 P **P** **07 41 22.1 +0.6**
baz=277
IL31 62.91 29 P **P** **07 41 23.1 -0.1**
ILAR Eielson Array 62.91 29 P **P** **07 41 22.4 -0.9**
comp=Z,1.3nm,0.8s,baz=268,slow=6.2,SNR=13
ILAR LR LR 08 09 54.8
comp=Z,84nm,20.5s,baz=298,slow=37
ILAR Eielson Array 62.91 29 P **P** **07 41 25.5 +2.3**
ILAR Eielson Array 62.91 29 P **P** **07 41 25.5 +2.3**
HDA Harding Lake 62.93 29 P **P** **07 41 23.2 -0.2**
baz=277
HDA Harding Lake 62.93 29 P **P** **07 41 21.5 -1.9**
HDA IAmb IAmb 07 41 39.1
comp=Z,9.0nm,0.8s
PRP Porcupine Dome 63.38 28 IAmb IAmb 07 41 43.3
comp=Z,7.7nm,0.8s
BMAR Burnt Mountain 63.50 25 P **P** **07 41 28.5 +1.4**
SCRK Sand Creek 64.28 29 IAmb IAmb 07 41 43.3
comp=Z,9.5nm,1.0s
DOT Dot Lake 64.30 30 P **P** **07 41 31.7 -0.8**
DOT IAmb IAmb 07 41 51.1
comp=Z,9.1nm,0.8s
MENT Mentasta 64.58 30 IAmb IAmb 07 41 54.4
comp=Z,12nm,0.8s
RAGM Ragged Mountai 64.62 33 IAmb IAmb 07 41 54.9
comp=Z,17nm,1.1s
GLB Gilahina Butte 64.83 32 IAmb IAmb 07 41 54.4
comp=Z,6.2nm,0.7s
VRDI Verde Repeater 65.04 32 IAmb IAmb 07 41 53.9
comp=Z,9.4nm,0.7s
MSVF Nonsavu 65.15 128⇓ *e*P **P** **07 41 40.0 +1.3**
MSVF pmax pmax
comp=Z,12nm,1.1s
MCARA McCarthy VSAT 65.21 32 IAmb IAmb 07 41 56.5
comp=Z,9.4nm,0.8s
BCAR Beaver Creek A 65.42 30 P **P** **07 41 39.7 -0.1**
WAX Waxell Ridge 65.49 33 IAmb IAmb 07 41 57.9
comp=Z,10nm,0.9s
TMCR Tamitsa 66.23 331 *e*P **P** **07 41 43.8 -1.1**
TMCR pmax pmax
comp=Z,34nm,0.7s
KLMR Klimovskoe 66.36 328 *e*P **P** **07 41 42.3 -3.5**
KLMR pmax pmax
comp=Z,29nm,1.5s
KLMR Klimovskoe 66.36 328 *e*P **P** **07 41 42.3 -3.5**
KLMR AMP 07 41 46.6
comp=Z,29nm,1.5s
KLMR LQ LQ 08 06 18.4
KLMR LQ LQ 08 06 18.4
KLMR LR LR 08 10 59.5
LVZ Lovozero 66.63 336⇓ *e*P **P** **07 41 46.4 -1.1**
LVZ pmax pmax
comp=Z,38nm,1.1s
EPYK Eagle Plains 66.75 26 P **P** **07 41 48.5 +0.3**
baz=285
EPYK Eagle Plains 66.75 26 IAmb IAmb 07 42 04.9
comp=Z,13nm,0.8s
PCA Pinnacle 66.83 33 P **P** **07 41 49.5 +0.5**
PCA IAmb IAmb 07 42 08.4
comp=Z,16nm,0.9s
APA Apatity 67.17 336⇓ *i*P **P** **07 41 49.5 -1.4**
APA pmax pmax
comp=Z,29nm,0.7s
INK Inuvik 67.39 24 P **P** **07 41 51.7 -0.5**
INK pmax pmax
comp=Z,18nm,1.3s
INK Inuvik 67.39 24 P **P** **07 41 51.7 -0.5**
INK IAmb IAmb 07 42 08.1
comp=Z,18nm,1.3s
VRH Novokhopyorsk 67.70 317 *e*P **P** **07 41 52.9 -1.6**
VRH pmax pmax
comp=Z,7.0nm,0.6s
VRH MLR MLR
comp=Z,900nm,15.0s
KBS Kingsbay 68.25 349*ce*P **P** **07 41 58.7 +1.2**
KBS pmax pmax
comp=Z,12nm,1.7s
ZEI Tsey 68.77 308 *e*P P 07 41 54.7 -6.9
ZEI pmax pmax
comp=Z,23nm,0.8s
A36M Sachs Harbour 68.77 19 P **P** **07 42 01.3 +0.4**
baz=293
LPSR Galich'ya Gora 68.94 319 *e*P **P** **07 42 00.8 -1.4**
LPSR pmax pmax
comp=Z,7.0nm,0.6s
LPSR MLR MLR
comp=Z,1µm,16.0s
KBZ Khabaz 69.17 309 P **P** **07 42 04.1 +0.3**
comp=Z,26nm,0.8s,baz=71,slow=5.1,SNR=54
KBZ LR LR 08 15 25.3
comp=Z,300nm,20.3s,baz=86,slow=39
KBZ Khabaz 69.17 309*d i*P **P** **07 42 04.1 +0.3**
KBZ pmax pmax

comp=Z,32nm,0.9s
VSR Storozhevoye 69.23 318 *e*P **P 07 42 03.0 -1.0**
VSR pmax pmax
comp=Z,5.0nm,0.5s
VSR MLR MLR
comp=Z,990nm,16.0s
VORD Divnogorie 69.23 317 *e*P **P 07 42 03.4 -0.6**
VORD pmax pmax
comp=Z,5.0nm,0.6s
KIV Kislovodsk 69.24 310*c i*P **P 07 42 04.2 -0.2**
KIV *i* 07 42 19.8
KIV *i* 07 42 27.3
KIV pmax pmax
comp=Z,33nm,1.1s
KIV MLR MLR
comp=Z,294nm,18.0s
KIV Kislovodsk 69.24 310 P **P 07 42 04.6 +0.2**
ARCES ARCESS Array B 69.25 339 P **P 07 42 03.0 -0.9**
comp=Z,6.5nm,0.9s,baz=67,slow=6.7,SNR=21
ARCES LR LR 08 17 49.4
comp=Z,295nm,19.7s,baz=46,slow=41
ARCES ARCESS Array B 69.25 339 P **P 07 42 03.2 -0.7**
ARCES ARCESS Array B 69.25 339 P **P 07 42 03.1 -0.7**
OBN Obninsk 69.49 322 *e*P **P 07 42 04.7 -0.8**
OBN *e* 07 44 39.4
OBN pmax pmax
comp=Z,8.0nm,1.2s
OBN MLR MLR
comp=Z,978nm,16.0s
AKH Akhalkalaki 69.49 307 ⇓P **P 07 42 07.5 +1.4**
AKH Akhalkalaki 69.49 307 P **P 07 42 05.4 -0.7**
AKH pmax pmax
comp=Z,14nm,0.8s
AKH Akhalkalaki 69.49 307 P **P 07 42 05.4 -0.7**
AKH IAmb IAmb 07 42 08.0
comp=Z,14nm,0.8s
C36M Paulatuk 70.22 21 P **P 07 42 10.1 +0.3**
baz=295
BCA Borcka 70.81 307 ⇑P **P 07 42 14.2 +0.3**
SOC Sochi 71.39 310 *e*P **P 07 42 16.4 -1.0**
SOC *e**PP **pP 07 42 24.0 -1.9**
SOC *e* 07 42 35.1
SOC *e* 07 44 52.5
SOC *e*PPP PPP 07 46 40.7
SOC *e*S **S 07 51 36.9 +3.0**
SOC *e*SS **SS 07 56 04.7 -3.4**
SOC pmax pmax
comp=Z,28nm,0.6s
SOC MLR MLR
comp=Z,484nm,16.0s
FIA1 FINESS Array S 72.31 331 P **P 07 42 21.1 -1.5**
FINES FINESS Array B 72.31 331 P **P 07 42 21.8 -0.8**
comp=Z,18nm,0.6s,baz=70,slow=6.3,SNR=71
FINES LR LR 08 17 46.8
comp=Z,810nm,18.5s,baz=54,slow=39
FINES FINESS Array B 72.31 331 P **P 07 42 21.4 -1.2**
ANN Anapa 72.50 312 *e*P **P 07 42 23.1 -0.9**
ANN *e* 07 42 40.4
ANN *e*S **S 07 51 48.7 +2.3**
ANN pmax pmax
comp=Z,71nm,0.9s
ANN MLR MLR
comp=Z,547nm,21.0s
ANN MLR MLR
comp=E,359nm,21.0s
ANN MLR MLR
comp=N,309nm,18.0s
VSU Vasula 73.27 328*ce*P **P 07 42 27.6 -0.7**
VSU pmax pmax
comp=Z,80nm,0.7s
RES Resolute Bay 74.18 11 IAmb IAmb 07 42 43.9
comp=Z,9.9nm,0.8s
RAYN Ar Rayn 74.37 289 P **P 07 42 35.0 -0.5**
RAYN pmax pmax
comp=Z,13nm,1.1s
RAYN Ar Rayn 74.37 289 P **P 07 42 35.0 -0.5**
RAYN IAmb IAmb 07 42 45.8
comp=Z,13nm,1.1s
SIM Simferopol' 74.62 313 *e*P **P 07 42 36.9 +0.4**
SIM pmax pmax
comp=Z,22nm,0.8s
SIM MLR MLR
comp=Z,108nm,16.7s
NACGM Naroch 74.78 324 *e* **P 07 42 36.0 -1.2**
NACGM *e*LQ LQ 08 16 11.0
NACGM *e*LR LR 08 18 19.0
AKASG Malin Array Be 75.26 320 P **P 07 42 39.1 -1.0**
comp=Z,9.4nm,0.7s,baz=54,slow=6.2,SNR=32
AKASG LR LR 08 18 27.3
comp=Z,1μm,18.3s,baz=65,slow=38
AKASG Malin Array Be 75.26 320 P **P 07 42 39.2 -0.9**
AKBB Malin Array Si 75.26 320*c i*P **P 07 42 38.9 -1.2**
AKBB Malin Array Si 75.26 320 IAmb IAmb 07 42 40.0
comp=Z,9.8nm,0.7s
KIEV Kiev 75.27 320 P **P 07 42 39.0 -1.1**
YKA Yellowknife Ar 77.02 25 P **P 07 42 49.5 -0.3**
comp=Z,0.8nm,0.6s,baz=298,slow=5.3,SNR=9.4
YKA LR LR 08 20 54.6
comp=Z,65nm,18.9s,baz=0.0,slow=39
BR131 Keskin Array S 77.08 308*c i*P **P 07 42 50.1 -0.7**
BR131 Keskin Array S 77.08 308 P **P 07 42 50.2 -0.7**
BR131 IAmb IAmb 07 43 00.7
comp=Z,21nm,0.9s
BRTR Keskin Array B 77.08 308 P **P 07 42 50.4 -0.4**
comp=Z,9.9nm,0.7s,baz=101,slow=4.7,SNR=40
BRTR LR LR 08 22 00.3
comp=Z,227nm,20.0s,baz=5.5,slow=40
BRTR Keskin Array B 77.08 308 P **P 07 42 50.2 -0.6**
KIS Kishinev 77.11 316 *i*P P 07 42 41.0 -10
comp=Z,230nm,0.5s
KULLO Kullorsuaq 78.15 2⇑*i*P **P 07 42 55.0 -1.0**
comp=Z,6.0nm,0.9s
KULLO Kullorsuaq 78.15 2⇑*i*P **P 07 42 55.0 -1.0**
KULLO pmax pmax
comp=Z,6.0nm,0.9s
TOPG Topolog 78.34 315 ⇑P **P 07 42 57.2 -0.3**
CFR Carcaliu 78.36 315 ⇑P **P 07 42 57.0 -0.6**
CFR Carcaliu 78.36 315 ⇑P **P 07 42 57.0 -0.6**
TIRR Tirgusor 78.51 314 ⇑P **P 07 42 58.3 -0.2**
TIRR Tirgusor 78.51 314 ⇑P **P 07 42 58.3 -0.2**
TESR Tescani 78.66 317 ⇑P **P 07 42 59.1 -0.2**
NB2 NORSAR Subarra 78.67 334 P **P 07 42 58.0 -1.2**
comp=Z,13nm,0.6s,baz=52,slow=5.9
NB2 NORSAR Subarra 78.67 334 P **P 07 42 58.0 -1.2**
baz=52,slow=5.9
NOA NORSAR Array B 78.67 334 P **P 07 42 57.9 -1.3**
comp=Z,14nm,0.7s,baz=51,slow=5.6,SNR=52
NOA LR LR 08 21 17.7
comp=Z,290nm,18.4s,baz=65,slow=38
NORES NORESS Array B 78.73 334 P **P 07 42 57.2 -2.2**
NORES pmax pmax
comp=Z,4.0nm,0.8s
NBO00 NORSAR Array S 78.85 334 IAmb IAmb 07 43 17.3
comp=Z,12nm,0.9s
VRI Vrincioaia 78.92 316 ⇑P **P 07 43 02.1 +1.3**
VRI Vrincioaia 78.92 316 ⇑P **P 07 43 02.1 +1.3**
PLOR Plostina 78.97 316 ⇑P **P 07 43 01.8 +0.7**
PLOR Plostina 78.97 316 ⇑P **P 07 43 01.8 +0.7**
BUR08 Bucovina Ar. S 79.00 318 P **P 07 43 00.1 -1.2**
BURAR Bucovina Array 79.00 318 ⇑P **P 07 43 01.2 -0.1**
BURAR Bucovina Array 79.00 318 ⇑P **P 07 43 01.2 -0.1**
BURAR Bucovina Array 79.00 318 P **P 07 43 00.9 -0.4**
ICOR Ion Corvin 79.06 314 ⇑P **P 07 43 02.3 +0.8**
BISRR Bisoca 79.08 316 ⇑P **P 07 43 03.3 +1.5**
KWP Kalwaria Pacla 79.47 321 *e*P **P 07 43 04.0 +0.3**
KWP *e*L L 08 21 06.8
comp=Z,1μm,18.1s
KWP Kalwaria Pacla 79.47 321 P **P 07 43 03.2 -0.5**
KWP pmax pmax
comp=Z,29nm,0.6s
KWP Kalwaria Pacla 79.47 321 P **P 07 43 03.2 -0.5**
MLR Muntele Rosu 79.58 316 ⇑P **P 07 43 06.2 +1.7**
MLR Muntele Rosu 79.58 316 ⇑P **P 07 43 06.2 +1.7**
MLR Muntele Rosu 79.58 316 IAmb IAmb 07 43 14.8
comp=Z,21nm,1.3s
DOPR Dopca 79.69 317 ⇓P **P 07 43 05.4 +0.4**
SUMG Summit 79.91 356 *i*P **P 07 43 06.5 +0.4**
comp=Z,46nm,1.0s
SUMG Summit 79.91 356 *i*P **P 07 43 06.5 +0.4**
SUMG pmax pmax
comp=Z,47nm,1.0s
SUMG Summit 79.91 356 P **P 07 43 05.7 -0.4**
SUMG IAmb IAmb 07 43 07.1
comp=Z,16nm,0.9s
VOIR 80.16 316 ⇑P **P 07 43 07.9 +0.3**
VOIR 80.16 316⇑P **P 07 43 07.9 +0.3**
KONO Kongsberg 80.16 333⇑*e*P **P 07 43 06.7 -0.5**
KONO pmax pmax
comp=Z,12nm,1.0s
CRVS Cervenica-Dubn 80.54 320 *e*P **P 07 43 12.0 +2.5**
CRVS pmax pmax
comp=Z,48nm,1.6s
CRVS Cervenica-Dubn 80.54 320 *e*P **P 07 43 12.0 +2.5**
BSD Bornholm Skovb 80.56 328 *i*P **P 07 43 09.9 +0.4**
comp=Z,28nm,0.8s
BSD Bornholm Skovb 80.56 328 *i*P **P 07 43 09.9 +0.4**
BSD pmax pmax
comp=Z,28nm,0.8s
A04D Lummi Island 80.68 40 P **P 07 43 11.3 +1.1**
baz=301
OJC Ojcow 80.78 322 *e*P **P 07 43 10.8 +0.1**
OJC *e*L L 08 22 18.9
comp=Z,1μm,16.3s
OJC Ojcow 80.78 322 IAmb IAmb 07 43 21.4
comp=Z,19nm,0.8s
DRGR 80.90 318 ⇑P **P 07 43 10.8 -0.8**
DRGR 80.90 318 ⇑P **P 07 43 10.8 -0.8**
NIE Niedzica 80.93 321 *e*P **P 07 43 12.1 +0.5**
NIE *e*L L 08 22 17.9
comp=Z,575nm,17.7s
D03D Eldon 81.07 41 P **P 07 43 13.5 +1.2**
baz=301
B05A Bryant 81.26 40 P **P 07 43 14.3 +0.9**
baz=302
GZR Gura Zlata 81.57 317 ⇑P **P 07 43 14.8 -0.3**
GZR Gura Zlata 81.57 317 ⇑P **P 07 43 14.8 -0.3**
ALN Alexandroupoli 81.72 312 IAmb IAmb 07 43 17.1
comp=Z,9.5nm,0.9s
OKC Ostrava-Krasne 81.88 322 AMS AMS 08 22 40.0
comp=Z,800nm,14.8s
GOET G??ttrup 81.96 331 *i*P **P 07 43 17.5 +0.7**
comp=Z,114nm,0.8s
HERR Herculane 82.05 317 ⇑P P 07 43 12.4 -5.2
RZN Rozhen 82.21 313 *e*P **P 07 43 18.2 -0.5**
VYHS Vyhne 82.24 321 *e*P **P 07 43 18.9 +0.4**
VYHS pmax pmax
comp=Z,21nm,1.2s
VYHS Vyhne 82.24 321 *e*P **P 07 43 18.9 +0.4**
MORC Moravsky Berou 82.24 323 *e*P **P 07 43 17.6 -1.0**
MORC Moravsky Berou 82.24 323 P **P 07 43 18.7 +0.1**
MORC Moravsky Berou 82.24 323 IAmb IAmb 07 43 23.7
comp=Z,9.3nm,0.9s
KSP Ksiaz 82.31 324 *e*P **P 07 43 19.1 +0.3**
KSP *e*L L 08 23 44.8
comp=Z,902nm,17.1s
KSP Ksiaz 82.31 324 P **P 07 43 19.4 +0.6**
MUD Monsted U'grnd 82.34 331 *i*P **P 07 43 19.1 +0.3**
comp=Z,26nm,0.9s
MUD Monsted U'grnd 82.34 331 *i*P **P 07 43 19.1 +0.3**
MUD pmax pmax
comp=Z,26nm,0.9s
OSTC Ostas 82.51 324 AMS AMS 08 23 30.0
comp=Z,800nm,16.1s
MDVR Moldovita 82.53 317 ⇑P **P 07 43 19.8 -0.4**
DPC Dobruska-Polom 82.58 324 *e*P **P 07 43 20.5 +0.2**
DPC AMS AMS 08 23 30.0
comp=Z,700nm,16.0s
DPC Dobruska-Polom 82.58 324 *e*P **P 07 43 20.5 +0.2**
DPC MLR MLR
comp=Z,700nm,16.0s
CHVC Chvalec 82.58 324 AMS AMS 08 23 30.0
comp=Z,900nm,14.9s
UPC Upice 82.65 324 AMS AMS 08 23 30.0
comp=Z,800nm,15.3s
JAVC Velka Javorina 82.68 322 *e*P **P 07 43 21.6 +0.7**
VTS Vitosha 82.69 314 *e*P **P 07 43 20.9 -0.3**
VTS Vitosha 82.69 314 P **P 07 43 21.3 +0.1**
VTS pmax pmax
comp=Z,13nm,0.9s
VTS Vitosha 82.69 314 P **P 07 43 21.3 +0.1**
VTS IAmb IAmb 07 43 24.5
comp=Z,13nm,0.9s
B08A Colville Reser 82.77 39 P **P 07 43 21.6 +0.2**
VRAC Vranov 83.02 323 *e*P **P 07 43 22.6 0.0**
MODS Modra-Piesok 83.17 322 *e*P **P 07 43 23.0 -0.4**
MODS pmax pmax
comp=Z,21nm,1.1s
MODS Modra-Piesok 83.17 322 *e*P **P 07 43 23.0 -0.4**
KKB Krupnik 83.17 314 *e*P **P 07 43 23.4 -0.1**
KRUC Moravsky 83.27 322 *e*P **P 07 43 24.3 +0.5**
PVCC Panska Ves 83.39 324 AMS AMS 08 24 10.0
comp=Z,900nm,15.9s
BSEG Basl Segeberg 83.42 329 *e*P **P 07 43 24.5 +0.1**
comp=Z,19nm,0.9s,baz=51,slow=5.0
BRG Berggiesshubel 83.51 325 *e*P **P 07 43 25.0 0.0**
comp=Z,6.1nm,0.8s
BRG Berggiesshubel 83.51 325 *e*P **P 07 43 25.0 0.0**
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG Berggiesshubel 83.51 325 *e*P **P 07 43 25.1 0.0**
comp=Z,6.1nm,0.8s,baz=51,slow=5.0
TREC Trest 83.62 323 AMS AMS 08 24 00.0
comp=Z,700nm,16.2s
GOPC GO Pecny, Ondr 83.63 324 *e*P **P 07 43 26.3 +0.6**
GOPC AMS AMS 08 24 10.0
comp=Z,800nm,13.9s
GOPC GO Pecny, Ondr 83.63 324 *e*P **P 07 43 26.3 +0.6**
GOPC MLR MLR
comp=Z,800nm,13.9s
PRU Pruhonice 83.72 324 *e*P **P 07 43 26.5 +0.4**
PRU AMS AMS 08 24 20.0
comp=Z,800nm,14.7s
PRU Pruhonice 83.72 324 *e*P **P 07 43 26.5 +0.4**
PRU MLR MLR
comp=Z,800nm,14.7s
CLL Collm 83.73 326 *i*P **P 07 43 26.9 +0.8**
comp=Z,13nm,0.8s
CLL *e* 07 43 38.0
CLL Collm 83.73 326 *i*P **P 07 43 26.9 +0.8**
CLL *e* 07 43 38.0
CLL pmax pmax
comp=Z,13nm,0.8s
CLL Collm 83.73 326 IAmb IAmb 07 43 38.2
comp=Z,11nm,0.8s
CLL Collm 83.73 326 *e*P **P 07 43 27.0 +0.8**
comp=Z,13nm,0.8s,baz=51,slow=5.0
PRA Prague 83.73 324 AMS AMS 08 24 20.0
comp=Z,400nm,15.9s
FBE Freiberg 83.78 325 *e*P **P 07 43 26.8 +0.4**
comp=Z,11nm,0.9s,baz=51,slow=5.0
I05D Terrebonne, OR 83.79 43 P **P 07 43 27.6 +0.9**
baz=303
J04D Umpqua Nationa 83.90 44 P **P 07 43 28.1 +0.6**
baz=302
DIVS Divibare 83.94 317 IAmb IAmb 07 43 28.0
comp=Z,9.2nm,0.9s
NEW Newport 84.04 38 P **P 07 43 28.3 +0.4**
comp=Z,1.4nm,0.7s,baz=337,slow=0.2,SNR=2.9
NEW Newport 84.04 38 P **P 07 43 28.3 +0.4**
NEW pmax pmax
comp=Z,5.0nm,0.9s
CONA Conrad Observa 84.20 322 *i*PcP **P 07 43 29.5 +0.8**
comp=Z,20nm,0.8s,SNR=17
PINE Pine Mountain 84.33 43 P **P 07 43 30.6 +1.0**
PINE IAmb IAmb 07 43 47.4
comp=Z,9.3nm,0.8s
J05D Fort Rock, OR 84.42 44 P **P 07 43 30.8 +0.8**
baz=303
TANN Tannenbergstha 84.54 325 *e*P **P 07 43 30.1 -0.3**
comp=Z,18nm,1.0s,baz=51,slow=5.0
GUNZ Gunzen 84.64 325 *e*P **P 07 43 30.9 0.0**
comp=Z,15nm,0.8s,baz=51,slow=5.0
PLN Plauen 84.65 325 *e*P **P 07 43 30.8 -0.1**
comp=Z,12nm,1.1s,baz=51,slow=5.0
NKC Novy Kostel 84.66 325 AMS AMS 08 25 30.0
comp=Z,1μm,16.0s
WERN Wernitzgruen 84.66 325 *e*P **P 07 43 31.1 +0.1**
comp=Z,18nm,0.9s,baz=51,slow=5.0
CLZ Clausthal 84.70 327 *e*P **P 07 43 31.4 +0.2**
comp=Z,49nm,0.9s,baz=51,slow=5.0
KHC Kasperske Hory 84.73 324 *e*P **P 07 43 31.9 +0.5**
KHC *e*pP **sP 07 43 42.6 -0.6**
KHC AMS AMS 08 24 50.0
comp=Z,1μm,14.8s
KHC Kasperske Hory 84.73 324*de*P **P 07 43 31.8 +0.4**
KHC pmax pmax
comp=Z,26nm,1.7s
ARSA Arzberg 84.78 321 *i*PcP **P 07 43 32.1 +0.4**
comp=Z,9.3nm,1.0s
MOX Moxa 84.83 326 *e*L L 08 25 44.0
comp=Z,637nm,18.6s
GEC2 GERESS Array S 84.84 323 *e*P **P 07 43 31.7 -0.3**
comp=Z,8.5nm,1.0s,baz=51,slow=5.0
GERES GERESS Array B 84.84 323 P **P 07 43 32.1 +0.2**
comp=Z,3.6nm,0.8s,baz=56,slow=5.0,SNR=26
GERES LR LR 08 24 30.8
comp=Z,339nm,19.9s,baz=58,slow=38
GERES GERESS Array B 84.84 323 P **P 07 43 31.7 -0.3**
K05A Summer Lake 84.93 44 P **P 07 43 32.1 -0.6**
K05A IAmb IAmb 07 43 36.4
comp=Z,8.5nm,1.2s
ROTZ Rotzenmuhle 85.06 325 *e*P **P 07 43 33.2 +0.2**
comp=Z,21nm,0.9s,baz=51,slow=5.0
WET Wettzell 85.09 324 *e*P **P 07 43 33.1 -0.1**
comp=Z,7.7nm,1.4s,baz=51,slow=5.0
MOA Molln 85.12 322 *i*PcP **P 07 43 34.3 +1.0**
comp=Z,8.7nm,0.8s,SNR=7.7
IDI Anoyia 85.29 307 ⇑P **P 07 43 33.6 -0.9**
IDI Anoyia 85.29 307 P **P 07 43 32.9 -1.6**
PDG Podgorica 85.29 316 ⇑P **P 07 43 34.6 +0.4**
SOKA Soboth 85.39 321 *i*PcP **P 07 43 34.8 0.0**
comp=Z,6.3nm,0.9s,SNR=7.8
UBBA Unterbreizbach 85.53 326 *e*P **P 07 43 34.9 -0.1**
baz=51,slow=5.0
GRF Grafenberg Arr 85.62 325 *e*L L 08 26 09.0
comp=Z,952nm,18.1s
MOD Modoc Plateau 85.75 45 P **P 07 43 37.8 +1.1**
MOD IAmb IAmb 07 43 53.4
comp=Z,8.1nm,1.0s
OBKA Obir 85.76 321 *i*PcP **P 07 43 36.9 +0.3**
comp=Z,5.0nm,0.8s
SFJD Kangerlussuaq 85.87 360 P **P 07 43 36.4 -0.2**
SFJD pmax pmax
comp=Z,19nm,0.9s
SFJD Kangerlussuaq 85.87 360 P **P 07 43 36.4 -0.2**
BOJS Bojanci 85.95 320 *i*P **P 07 43 37.3 -0.1**
RJOB Jochberg 85.99 323 *e*P **P 07 43 38.1 +0.4**
comp=Z,30nm,0.9s,baz=51,slow=5.0
J08A Circle Bar Ran 86.06 43 IAmb IAmb 07 43 55.7
comp=Z,6.9nm,0.8s
IGT Igoumenitsa 86.18 313 P **P 07 43 38.6 -0.1**
IGT pmax pmax
comp=Z,29nm,0.8s
MYKA Terra Mystica 86.19 322 *i*PcP **P 07 43 38.4 -0.4**
comp=Z,8.8nm,0.7s
PRED Cave del Predi 86.34 321 IAmb IAmb 07 43 51.3
comp=Z,12nm,1.4s
JAVS Javornik 86.39 321 *i*P **P 07 43 38.8 -0.9**
MSO Missoula 86.63 38 P **P 07 43 40.8 -0.1**
baz=308
ABTA Abfaltersbach 86.74 322 *i*PcP **P 07 43 40.9 -0.6**
comp=Z,14nm,0.9s,SNR=7.3
WATA Walderalm 86.89 323 *i*PcP **P 07 43 43.9 +1.6**
comp=Z,11nm,0.7s
WTTA Wattenberg 86.90 323 *i*PcP **P 07 43 42.8 +0.5**
comp=Z,18nm,1.0s,SNR=6.0
WTTA Wattenberg 86.90 323 P **P 07 43 42.8 +0.5**
CIMO Cimolais 87.05 322 P **P 07 43 42.4 -0.4**
CIMO IAmb IAmb 07 43 56.5
comp=Z,7.9nm,0.8s
FFC Flin Flon 87.07 27 P **P 07 43 43.4 +0.6**
FFC pmax pmax
comp=Z,12nm,1.0s
FFC Flin Flon 87.07 27 P **P 07 43 43.4 +0.6**
FFC IAmb IAmb 07 43 56.5
comp=Z,12nm,0.9s
MOTA Moosalm 87.13 323 *i*PcP **P 07 43 44.1 +0.7**
comp=Z,13nm,0.7s,SNR=9.8
SQTA Sankt Quirin 87.15 323 *i*PcP **P 07 43 44.9 +1.4**
comp=Z,14nm,0.8s,SNR=5.8
RETA Reutte 87.22 323 *i*PcP **P 07 43 44.0 +0.2**
comp=Z,5.1nm,0.7s
FETA Feichten 87.53 323 *i*PcP **P 07 43 44.7 -0.7**
comp=Z,8.6nm,0.9s
PAHR Pah Rah Range 87.55 46 IAmb IAmb 07 44 02.1
comp=Z,7.5nm,1.0s
DAVA Damuels 87.82 324 *i*PcP **P 07 43 48.2 +1.5**
comp=Z,20nm,0.9s,SNR=7.2
FRB Frobisher Bay 88.03 8 P **P 07 43 46.3 -0.9**
comp=Z,5.9nm,1.0s,baz=339,slow=4.6,SNR=11
EGMT Eagleton 88.10 35 P **P 07 43 47.5 -0.4**
baz=310
EGMT Eagleton 88.10 35 IAmb IAmb 07 44 04.9
comp=Z,9.7nm,0.9s
EKA Eskdalemuir Ar 88.11 335 P **P 07 43 47.5 -0.2**
EKA pmax pmax
comp=Z,1.0nm,0.6s
DLMT Dillon 88.27 38 IAmb IAmb 07 44 06.2
comp=Z,12nm,1.1s
ECH Echery 88.62 326 IAmb IAmb 07 43 51.8
comp=Z,5.8nm,1.0s
NVAR Mina Array Bea 88.96 47 P **P 07 43 54.0 +1.6**
comp=Z,0.4nm,0.6s,baz=336,slow=3.3,SNR=4.3
NVAR Mina Array Bea 88.96 47 P **P 07 43 52.8 +0.4**
ELK Elko 89.54 43 P **P 07 43 56.0 +0.9**
ELK pmax pmax
comp=Z,2.0nm,1.0s
ELK Elko 89.54 43 P **P 07 43 56.0 +0.9**
SENIN Lac Senin/Sane 89.77 324 IAmb IAmb 07 44 05.6
comp=Z,6.0nm,0.9s
H17A Grant Village 89.99 38 P **P 07 43 57.0 -0.2**
baz=310
PPT Papeete 90.35 110 LR LR 08 20 58.7
comp=Z,112nm,19.7s,baz=316,slow=33
PPT2 Papeete2 90.36 110 *e*S **S 07 54 53.6 +1.5**
comp=Z,50nm,25.5s
PPT2 Papeete2 90.36 110 *e*LR LR 08 12 56.6
comp=Z,136nm,21.8s
R11A Troy Canyon, C 90.74 45 P **P 07 44 01.2 +0.5**
baz=307
FURC Furnace Creek, 91.02 48 P **P 07 44 01.8 +0.1**
baz=306
TPNV Topopah Spring 91.14 47 P **P 07 44 02.3 -0.2**
baz=306
HWUT Hardware Ranch 91.20 41 IAmb IAmb 07 44 20.1
comp=Z,5.9nm,0.9s
DUG Dugway, Tooele 91.34 43 P **P 07 44 04.2 +0.9**
baz=308
BW06 Boulder Array 91.61 39 P **P 07 44 05.0 +0.3**
baz=311
PDAR Pinedale Array 91.61 39 P **P 07 44 04.5 -0.2**
comp=Z,0.6nm,0.8s,baz=260,slow=5.4,SNR=5.1
PDAR Pinedale Array 91.61 39 P **P 07 44 04.1 -0.6**
GSC Goldstone, Bar 91.74 48 P **P 07 44 05.6 +0.4**
baz=306
KMBO Kilima Mbogo 92.37 270 LR LR 08 27 09.2
comp=Z,54nm,21.3s,baz=100,slow=36
ULM Lac du Bonnet 92.90 27 LR LR 08 30 20.9
comp=Z,55nm,18.9s,baz=343,slow=38
PFO Pinyon Flats O 92.95 50 P **P 07 44 11.4 +0.5**
baz=306
PFO Pinyon Flats O 92.95 50 P **P 07 44 11.1 +0.2**
comp=Z,2.9nm,1.1s,baz=284,slow=7.7,SNR=2.1
PFO Pinyon Flats O 92.95 50 P **P 07 44 11.1 +0.2**
PFO pmax pmax
comp=Z,9.0nm,1.2s
PFO Pinyon Flats O 92.95 50 IAmb IAmb 07 44 27.7
comp=Z,8.9nm,1.2s
TBI Tubuai 93.19 115 *e*S **S 07 55 19.3 +2.0**
comp=Z,58nm,31.2s
TBI Tubuai 93.19 115 *e*LR LR 08 14 01.3
comp=Z,80nm,24.0s
KNB Kanab 93.29 45 P **P 07 44 13.6 +1.1**
KNB pmax pmax
comp=Z,10.0nm,1.0s
KNB Kanab 93.29 45 P **P 07 44 13.6 +1.1**
KEST Kesra 95.45 315 P **P 07 44 22.6 +0.3**
comp=Z,3.6nm,0.8s,baz=360,slow=4.3,SNR=4.1
KEST LR LR 08 31 45.0
comp=Z,103nm,18.5s,baz=288,slow=38
KEST Kesra 95.45 315 P **P 07 44 22.5 +0.1**
KEST IAmb IAmb 07 44 33.5
comp=Z,5.8nm,0.9s
SCHQ Schefferville 96.90 9 LR LR 08 31 02.7
comp=Z,130nm,20.1s,baz=67,slow=37
ESDC Sonseca Array 100.32 325 P **Pdif 07 44 42.7 -1.4**
comp=Z,1.2nm,0.8s,baz=16,slow=5.0,SNR=8.1
SYO Syowa Base 115.22 203⇑*e*Pdiff **Pdif 07 45 48.2 -1.1**
VNA2 Neumayer--Watz 130.21 197 PKPdf **PKPdf 07 50 06.4 -0.1**

JMA **11** *07:56:20.7*±*0.1,24°.68N*×*122°.52E,h122*km±*2*km*,M3.1*
TAP **11** *07:56:20.6,24°.81N*×*122°.56E,h121*km*,ML3.6,C*
ISC 11 07:56:21.4±**1.4,24.77N**±**0°.05**×**122.55E**±**0°.02,h116**km±**8**km**,**
n79,σ**0.959/130,2C,Taiwan region**

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

JYNG	**Yonagunijimaku**	**0.47**	**131**	P	**Pn**	07 56 38.8	+0.1
JYNG				S	**Sn**	07 56 52.2	+0.5
YOJ	**Yonaguni jima**	**0.52**	**126**	*i* P	**Pn**	07 56 39.0	+0.1
	baz=136						
YOJ				*i* S	**Sn**	07 56 52.6	+0.3
	baz=136						
YOJ	**Yonaguni jima**	**0.52**	**126**	P	**Pn**	07 56 39.1	+0.1
YOJ				S	**Sn**	07 56 52.5	+0.3
TWB1	**Santiao Chiao**	**0.57**	**295**	*e*P	**Pn**	07 56 39.3	0.0
	baz=283						
TWB1				*e*S	**Sn**	07 56 53.0	+0.2
	baz=283						
TWC	**Suao**	**0.66**	**256**	*i* P	**Pn**	07 56 39.6	-0.4
	baz=248						
TWC				*i* S	**Sn**	07 56 53.4	-0.6
	baz=248						
NTC	**Toucheng**	**0.66**	**278**	*e*P	**Pn**	07 56 39.7	-0.3
	baz=272						
NTC				*e*S	**Sn**	07 56 53.4	-0.6
	baz=272						
TIPB	**Shuangxi**	**0.69**	**287**	*i* P	**Pn**	07 56 40.4	+0.1
	baz=280						
TIPB				*i* S	**Sn**	07 56 54.4	-0.1
	baz=280						
NWF	**Wu-fen Shan**	**0.76**	**294**	*i* P	**Pn**	07 56 41.0	+0.1
	baz=283						
NWF				*e*S	**Sn**	07 56 55.8	+0.1
	baz=283						
WFSB	**Wu-fen Shan**	**0.76**	**294**	*e*P	**Pn**	07 56 41.0	+0.1
	baz=294						
WFSB				*i* S	**Sn**	07 56 55.8	+0.3
	baz=294						
TWE	**Neicheng**	**0.81**	**267**	P	**Pn**	07 56 41.2	0.0
	baz=260						
TWE				*e*S	**Sn**	07 56 56.1	0.0
	baz=260						
ENA	**Nanau**	**0.81**	**246**	*i* P	**Pn**	07 56 41.3	0.0
	baz=241						
ENA				*e*S	**Sn**	07 56 56.6	+0.3
	baz=241						
ENTT	**Nioudou**	**0.91**	**262**	P	**Pn**	07 56 42.7	+0.5
	baz=262						
ENTT				*e*S	**Sn**	07 56 58.8	+0.9
	baz=262						
TWA	**Mucha**	**0.91**	**284**	*i* S	**Sn**	07 56 57.5	-0.4
	baz=273						
NWLT	**Wulai**	**0.95**	**271**	*e*P	**Pn**	07 56 42.7	0.0
	baz=268						
NWLT				*e*S	**Sn**	07 56 58.8	+0.1
	baz=268						
NDT	**Datong Townshi**	**0.96**	**260**	*i* P	**Pn**	07 56 43.1	+0.5
	baz=258						
NDT				*i* S	**Sn**	07 56 59.5	+0.8
	baz=258						
YM01	**YM01**	**0.97**	**293**	*e*P	**Pn**	07 56 42.8	0.0
	baz=283						
YM01				*e*S	**Sn**	07 56 58.9	-0.1
	baz=283						
YM05	**YM05**	**0.98**	**294**	*e*S	**Sn**	07 56 59.0	-0.2
	baz=284						
YM10	**YM10**	**0.98**	**294**	*i* P	**Pn**	07 56 42.8	-0.1
	baz=283						
YM10				*e*S	**Sn**	07 56 59.2	-0.1
	baz=283						
TATO	**Taipei**	**0.99**	**282**	*e*P	**Pn**	07 56 42.7	-0.2
	baz=280						
YM04	**YM04**	**1.00**	**293**	*e*P	**Pn**	07 56 42.6	-0.4
	baz=283						
YM04				*e*S	**Sn**	07 56 59.2	-0.3
	baz=283						
NACB	**Ninganchiao**	**1.05**	**236**	P	**Pn**	07 56 43.1	-0.5
	baz=230						
NACB				S	**Sn**	07 56 59.7	-0.7
	baz=230						
YHNB	**Yeheng**	**1.07**	**265**	P	**Pn**	07 56 44.0	+0.1
	baz=268						
YHNB				*e*S	**Sn**	07 56 01.4	+0.4
	baz=268						
NSK	**Sanguang**	**1.09**	**266**	⇑*i*P	**Pn**	07 56 44.1	0.0
	baz=268						
NSK				*i* S	**Sn**	07 57 01.0	-0.2
	baz=268						
TWD	**Chiawan**	**1.11**	**232**	*e*P	**Pn**	07 56 43.6	-0.6
	baz=230						
TWD				*e*S	**Sn**	07 57 01.1	-0.3
	baz=230						
NNSB	**Datong**	**1.12**	**253**	*e*P	**Pn**	07 56 44.5	+0.1
	baz=247						
NNSB				*e*S	**Sn**	07 57 01.9	+0.2
	baz=247						
NNSH	**Datong**	**1.12**	**253**	*i* P	**Pn**	07 56 44.4	0.0
	baz=247						
NNSH				*i* S	**Sn**	07 57 01.9	+0.1
	baz=247						
NNS	**Nan Shan**	**1.12**	**253**	⇑*i*P	**Pn**	07 56 44.5	+0.1
	baz=246						
NNS				*i* S	**Sn**	07 57 02.1	+0.2
	baz=246						
ETLH	**Xiulin Townshi**	**1.12**	**241**	P	**Pn**	07 56 44.0	-0.5
	baz=234						
ETLH				*e*S	**Sn**	07 57 01.1	-0.8
	baz=234						
IRIF	**Iriomote-Funau**	**1.16**	**112**	P	**Pn**	07 56 44.7	0.0
IRIF				S	**Sn**	07 57 02.4	+0.1
HWA	**Hwalien**	**1.17**	**228**	*i* P	**Pn**	07 56 44.7	-0.1
	baz=219						
HWA				*e*S	**Sn**	07 57 03.1	+0.6
	baz=219						
WLTB	**Daxi**	**1.19**	**274**	*e*S	**Sn**	07 57 03.6	+0.8
	baz=272						
WHF	**Hehuan Shan**	**1.33**	**243**	*i* P	**Pn**	07 56 46.7	-0.3
	baz=240						
WHF				*e*S	**Sn**	07 57 06.0	-0.4
	baz=240						
HATJ	**Hateruma jima**	**1.34**	**121**	P	**Pn**	07 56 47.0	+0.3
HATJ				S	**Sn**	07 57 05.9	0.0
TDCB	**Techi**	**1.37**	**248**	*e*P	**Pn**	07 56 47.7	+0.5
	baz=241						
TDCB				*i* S	**Sn**	07 57 06.7	0.0
	baz=241						
ESL	**Shilin**	**1.39**	**227**	*e*P	**Pn**	07 56 46.4	-0.9
	baz=233						
LIOB	**Emei**	**1.40**	**265**	*e*P	**Pn**	07 56 47.4	0.0
	baz=263						
NSTT	**Nanjuang**	**1.42**	**265**	*e*P	**Pn**	07 56 47.6	+0.1
	baz=263						
NSTT				*e*S	**Sn**	07 57 07.1	-0.4
	baz=263						
JKRS	**Kuro-shima**	**1.43**	**111**	P	**Pn**	07 56 47.6	-0.1
JKRS				S	**Sn**	07 57 08.0	+0.3
CHGB	**Renai**	**1.44**	**241**	*i* P	**Pn**	07 56 48.2	+0.1
	baz=234						
CHGB				*e*S	**Sn**	07 57 08.3	0.0
	baz=234						
EGFH	**Guangfu**	**1.50**	**223**	*e*P	**Pn**	07 56 47.7	-0.8
	baz=218						
JIJ	**Ishigaki jima**	**1.50**	**105**	P	**Pn**	07 56 48.5	-0.1
JIJ				S	**Sn**	07 57 08.3	-0.9
WHP	**Taichung City**	**1.54**	**252**	*e*P	**Pn**	07 56 49.9	+0.8
	baz=258						
WHP				*e*S	**Sn**	07 57 10.3	0.0
	baz=258						
JISG	**Ishigakijimahi**	**1.61**	**96**	P	**Pn**	07 56 49.9	+0.1
JISG				S	**Sn**	07 57 11.0	-0.5
HGSD	**Ruisui**	**1.63**	**219**	*e*P	**Pn**	07 56 49.6	-0.6
	baz=214						
HGSD				*e*S	**Sn**	07 57 11.6	-0.4
	baz=214						
VWDT	**VWDT**	**1.64**	**232**	P	**Pn**	07 56 50.1	0.0
	baz=227						
VWDT				*e*S	**Sn**	07 57 12.2	+0.2
	baz=227						
DPDB	**Guoxing**	**1.65**	**244**	*e*P	**Pn**	07 56 51.5	+1.0
	baz=242						
NSY	**Sanyi**	**1.67**	**258**	*e*S	**Sn**	07 57 12.9	+0.1
	baz=256						
TWQ1	**Liyutan**	**1.67**	**256**	*e*S	**Sn**	07 57 13.0	+0.1
	baz=254						
SMLT	**Sun Moon Lake**	**1.75**	**240**	*e*P	**Pn**	07 56 52.4	+0.8
	baz=234						
SSLB	**Suanglung**	**1.75**	**237**	*e*P	**Pn**	07 56 52.4	+0.8
	baz=232						
SSLB				*e*S	**Sn**	07 57 15.1	+0.3
	baz=232						
TYC	**Yuchr**	**1.77**	**241**	*e*P	**Pn**	07 56 52.6	+0.9
	baz=240						
TYC				*e*S	**Sn**	07 57 15.1	+0.2
	baz=240						
YULB	**Yu-li**	**1.78**	**220**	*e*P	**Pn**	07 56 50.7	-1.3
	baz=226						
WDJ	**Dajia District**	**1.79**	**257**	*e*S	**Sn**	07 57 15.3	-0.2
	baz=255						
TWF1	**Yuli**	**1.82**	**219**	*e*P	**Pn**	07 56 51.5	-0.9
	baz=225						
WHYT	**Xinyi Township**	**1.88**	**236**	*e*P	**Pn**	07 56 54.0	+0.8
	baz=230						
WHYT				*e*S	**Sn**	07 57 18.6	+1.1
	baz=230						
WJS	**Zhushan**	**1.91**	**241**	*e*S	**Sn**	07 57 18.9	+0.8
	baz=249						
WNT	**Mingjian**	**1.92**	**243**	*e*S	**Sn**	07 57 18.4	+0.1
	baz=241						
FULB	**Fuli**	**1.94**	**217**	*e*P	**Pn**	07 56 53.3	-0.6
	baz=212						
FULB				*e*S	**Sn**	07 57 18.4	-0.4
	baz=212						
CHN5	**Tsauling**	**2.07**	**236**	*e*P	**Pn**	07 56 56.6	+1.0
	baz=244						
CHN5				*e*S	**Sn**	07 57 22.7	+0.9
	baz=244						
ELDTW	**Lidau**	**2.11**	**222**	*e*P	**Pn**	07 56 54.9	-1.3
	baz=219						
RLNB	**Erlin**	**2.18**	**247**	*e*S	**Sn**	07 57 23.8	-0.4
	baz=245						
CHN4	**Tsaushan**	**2.28**	**232**	P	**Pn**	07 56 58.5	+0.3
	baz=240						
CHN4				*e*S	**Sn**	07 57 26.8	+0.4
	baz=240						
TPUB	**Ta-pu**	**2.28**	**231**	*e*P	**Pn**	07 56 58.7	+0.4
	baz=229						
TPUB				*e*S	**Sn**	07 57 26.8	+0.2
	baz=229						
CHY	**Chiayi**	**2.32**	**237**	*e*S	**Sn**	07 57 27.5	+0.2
	baz=244						
WTP	**Ta-pu**	**2.33**	**230**	*e*P	**Pn**	07 56 59.5	+0.6
	baz=229						
TWGBT	**Beinan**	**2.36**	**215**	*e*P	**Pn**	07 56 58.4	-0.9
	baz=214						
TWG	**Pinlang**	**2.36**	**215**	*e*P	**Pn**	07 56 58.2	-1.1
	baz=214						
JIRB	**Irabujima**	**2.38**	**88**	P	**Pn**	07 56 59.7	+0.2
JIRB				S	**Sn**	07 57 28.7	0.0
TWK	**Hsinying**	**2.41**	**232**	*e*P	**Pn**	07 57 00.8	+0.9
	baz=230						
TWK				*e*S	**Sn**	07 57 29.3	-0.1
	baz=230						
CHN1	**Nanshi**	**2.43**	**230**	*e*P	**Pn**	07 57 01.0	+0.8
	baz=229						
CHN1				*e*S	**Sn**	07 57 30.6	+0.7
	baz=229						
JIKM	**Ikemajima**	**2.45**	**86**	*e*S	**Sn**	07 57 29.8	-0.6
SGST	**Jiashian**	**2.46**	**227**	*e*S	**Sn**	07 57 30.4	-0.2
	baz=226						
SLGT	**Liugui**	**2.48**	**225**	*e*P	**Pn**	07 57 01.6	+0.8
	baz=224						
SLGT				*e*S	**Sn**	07 57 31.8	+0.7
	baz=224						
JMJ	**Miyako jima 2**	**2.49**	**88**	*e*P	**Pn**	07 57 01.5	+0.6
	baz=90						
JMJ2	**Miyako jima3**	**2.52**	**90**	P	**Pn**	07 57 01.7	+0.4
JMJ2				S	**Sn**	07 57 31.9	-0.1
MASBT	**Mashibuluo**	**2.77**	**220**	*e*P	**Pn**	07 57 05.2	+0.6
	baz=218						
MASBT				*e*S	**Sn**	07 57 39.8	+2.0
	baz=218						
VWUC	**VWUC**	**2.83**	**275**	*e*P	**Pn**	07 57 04.2	-1.1
	baz=281						
EAST	**Anshuo**	**2.84**	**214**	*e*P	**Pn**	07 57 04.8	-0.7
	baz=210						
PHUB	**P'eng-hu**	**2.99**	**246**	*e*S	**Sn**	07 57 40.4	-2.6
	baz=244						

ATH ***11*** *08:01:17.4, 35.°02N×22.°74E, h37km±4km, ML3.5/6, Error ellipse: s-maj=4.7km s-min=1.7km az=32.0*
THE ***11*** *08:01:18.1, 35.°04N×22.°72E, h12km±1km, ML3.4/11, Error ellipse: s-maj=1.2km s-min=0.6km az=217.0*
IDC ***11*** *08:01:22.6±2.3, 35.°23N×22.°85E, h74km±22km, mb3.5/11, mb1 3.6/15, mb1mx3.5/42, mbtmp3.8/15, MS2.6/1, Ms1 2.6/1, ms1mx2.3/28, Error ellipse: s-maj=23.0km s-min=19.9km az=12.0*

ISC 11 08:01:13.6±1.6, 34.°85N±0.°06×22.°67E±0.°05, h17km±9km, n60, σ1s50/78, mb3.8/11, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.92**	**65**	P	**Pn**	**08 01 32.4**	**+0.7**
KNDR				S	**Sg**	**08 01 44.1**	**+0.5**
	2µm,1.1s						
ANKY	**Antikythira Is**	**1.14**	**27**	P	**Pn**	**08 01 35.4**	**+0.6**
ANKY				S	**Sb**	**08 01 50.4**	**+1.0**
	3µm,0.6s						
ANKY	**Antikythira Is**	**1.14**	**27**	P	**Pn**	**08 01 35.6**	**+0.8**
ANKY				S	**Sb**	**08 01 49.2**	**-0.2**
ANKY				AML	AML	08 01 51.4	
	comp=N,4460µm,0.8s						
ANKY				AML	AML	08 02 00.6	
	comp=E,6023µm,0.5s						
RODP	**Rodopos**	**1.14**	**51**	P	**Pg**	**08 01 36.8**	**+1.1**
GVD	**Gavdhos**	**1.17**	**90**	P	**Pg**	**08 01 38.6**	**+2.4**
GVD				S	**Sn**	**08 01 55.2**	**+4.5**
	comp=E,1µm,0.6s						
GVD	**Gavdhos**	**1.17**	**90**	P	**Pg**	**08 01 38.7**	**+2.4**
GVD				S	**Sn**	**08 01 53.5**	**+2.8**
IMMV	**Iera Moni Meta**	**1.24**	**60**	P	**Pg**	**08 01 38.2**	**+0.7**
IMMV				S	**Sb**	**08 01 53.9**	**+1.7**
	comp=E,2µm,1.2s						
IMMV	**Iera Moni Meta**	**1.24**	**60**	P	**Pg**	**08 01 38.1**	**+0.5**
IMMV				S	**Sb**	**08 01 53.7**	**+1.5**
IMMV				AML	AML	08 02 04.6	
	comp=E,4340µm,0.8s						
IMMV				AML	AML	08 02 06.0	
	comp=N,4923µm,1.4s						
CHAN	**Chania**	**1.31**	**59**	P	**Pg**	**08 01 39.5**	**+0.6**
KTHA	**Kythira Island**	**1.44**	**13**	P	**Pb**	**08 01 41.0**	**+1.0**
KTHA				S	**Sn**	**08 01 57.3**	**-0.2**
	comp=N,3µm,0.8s						
KTHA	**Kythira Island**	**1.44**	**13**	P	**Pn**	**08 01 40.5**	**+1.5**
KTHA				S	**Sn**	**08 01 57.7**	**+0.2**
KTHA				AML	AML	08 02 03.5	
	comp=E,8347µm,0.7s						
KTHA				AML	AML	08 02 14.0	
	comp=N,2742µm,0.9s						
PRNS	**Prines Rethymn**	**1.59**	**70**	P	**Pg**	**08 01 43.0**	**-1.2**
PRNS				S	**Sn**	**08 02 02.3**	**+1.2**
SIVA	**Sivas**	**1.77**	**84**	P	**Pg**	**08 01 47.0**	**-0.6**
SIVA				S	**Sg**	**08 02 09.9**	**-0.7**
	comp=N,1µm,0.8s						
SIVA	**Sivas**	**1.77**	**84**	P	**Pg**	**08 01 46.8**	**-0.8**
SIVA				AML	AML	08 02 30.1	
	comp=N,1505µm,0.8s						
SIVA				AML	AML	08 02 38.0	
	comp=E,2746µm,0.9s						
IDI	**Anoyia**	**1.88**	**76**	P	**Pg**	**08 01 47.9**	**-1.7**
	comp=E,18nm,0.3s,baz=245,slow=9.8,SNR=167						
IDI				S	**Sb**	**08 02 11.5**	**+0.9**
	comp=E,17nm,0.3s,baz=73,slow=24,SNR=5.2						
IDI				LR	LR	08 02 19.9	
	comp=E,85nm,21.2s,baz=264,slow=34						
VLI	**Velíai**	**1.88**	**7**	P	**Pn**	**08 01 46.5**	**+1.6**
VLI				S	**Sn**	**08 02 08.2**	**-0.1**
	comp=E,1µm,0.7s						
VLI	**Velíai**	**1.88**	**7**	P	**Pn**	**08 01 47.0**	**+2.0**
VLI				S	**Sn**	**08 02 07.3**	**-1.0**
VLI				AML	AML	08 02 19.6	
	comp=N,3813µm,0.6s						
VLI				AML	AML	08 02 21.6	
	comp=E,4938µm,0.8s						
PYL	**PYLOS**	**2.18**	**340**	P	**Pn**	**08 01 51.3**	**+2.3**
PYL				S	**Sn**	**08 02 16.8**	**+1.2**
	comp=E,495nm,0.9s						
PYL	**PYLOS**	**2.18**	**340**	P	**Pn**	**08 01 50.6**	**+1.5**
MHLO	**Agia Marina, M**	**2.32**	**37**	P	**Pn**	**08 01 52.6**	**+1.6**
LAST	**Lasithi**	**2.33**	**81**	P	**Pb**	**08 01 54.7**	**-0.4**
LAST				S	**Sb**	**08 02 22.6**	**-1.1**
	comp=E,352nm,0.9s						
LAST	**Lasithi**	**2.33**	**81**	P	**Pb**	**08 01 54.7**	**-0.4**
LAST				S	**Sn**	**08 02 19.7**	**+0.3**
LAST				AML	AML	08 02 43.3	
	comp=N,581µm,0.9s						
LAST				AML	AML	08 02 52.5	
	comp=E,668µm,0.9s						
ITM	**Ithomi**	**2.40**	**346**	P	**Pn**	**08 01 54.3**	**+2.1**
ITM				S	**Sn**	**08 02 22.4**	**+1.2**
	comp=E,400nm,1.6s						
ITM	**Ithomi**	**2.40**	**346**	P	**Pn**	**08 01 54.9**	**+2.7**
NPS	**Neapolis**	**2.45**	**79**	P	**Pb**	**08 01 56.7**	**-0.5**
VLX	**Vlachokerasia**	**2.53**	**355**	P	**Pn**	**08 01 55.9**	**+1.9**
VLX	**Vlachokerasia**	**2.53**	**355**	P	**Pn**	**08 01 55.6**	**+1.6**
DID	**Didima**	**2.69**	**10**	P	**Pn**	**08 01 57.4**	**+1.2**
DID	**Didima**	**2.69**	**10**	P	**Pn**	**08 01 57.3**	**+1.2**
ZKR	**Zakros**	**2.93**	**84**	P	**Pb**	**08 02 03.0**	**-2.3**
ZKR				S	**Sb**	**08 02 38.3**	**-2.5**
	comp=E,200nm,1.3s						
ZKR	**Zakros**	**2.93**	**84**	P	**Pb**	**08 02 02.2**	**-3.1**
DION	**Dionisos Attik**	**3.38**	**17**	P	**Pn**	**08 02 07.1**	**+1.5**
VAE	**Valguarnera**	**7.17**	**294**	S	**Sn**	**08 04 20.6**	**+1.7**
	comp=E,3.3nm,0.3s,baz=197,slow=6.7,SNR=4.8						
DBRK	**Dubrovnik**	**8.57**	**337**	*e*Pn	**Pn**	**08 03 16.0**	**-0.9**
STON	**Ston**	**8.90**	**336**	*e*Pn	**Pn**	**08 03 19.8**	**-1.5**
STON				Sn	Sn	08 04 49.3	-12
MAKA	**Makarska**	**9.50**	**334**	*e*Pn	**Pn**	**08 03 28.8**	**-0.8**
MAKA				Sn	Sn	08 05 03.9	-12
HVAR	**Hvar**	**9.62**	**332**	*e*Pn	**Pn**	**08 03 30.6**	**-0.6**
HVAR				Sn	Sn	08 05 06.8	-12
BRTR	**Keskin Array B**	**10.00**	**58**	P	**Pn**	**08 03 38.4**	**+1.8**
	comp=E,0.1nm,0.3s,baz=232,slow=14,SNR=11						
BRTR				LR	LR	08 08 40.6	
	comp=E,35nm,20.2s,baz=229,slow=45						
ZIRJ	**Zirje**	**10.34**	**330**	*e*Pn	**Pn**	**08 03 39.7**	**-1.3**
ZIRJ				Sn	Sn	08 05 23.2	-13
MORI	**Morici**	**10.49**	**331**	*e*Pn	**Pn**	**08 03 42.2**	**-0.9**
MORI				Sn	Sn	08 05 27.6	-13
DUGI	**Dugi Otok**	**10.86**	**330**	*e*Pn	**Pn**	**08 03 47.6**	**-0.6**
DUGI				Sn	Sn	08 05 35.9	-13
NVLJ	**Novalja**	**11.40**	**331**	*e*Pn	**Pn**	**08 03 55.0**	**-0.6**
NVLJ				Sn	Sn	08 05 50.0	-13
MOSL	**Moslavina**	**11.66**	**339**	*e*Pn	**Pn**	**08 03 58.7**	**-0.4**
MOSL				Sn	Sn	08 05 58.3	-11
BRJN	**Brijuni**	**12.15**	**328**	*e*Pn	**Pn**	**08 04 04.9**	**-0.8**
BRJN				Sn	Sn	08 06 07.3	-13
GERES	**GERESS Array B**	**15.48**	**337**	P	**P**	**08 04 54.6**	**-0.9**
	comp=E,0.3nm,0.3s,baz=138,slow=14,SNR=5.3						
AKASG	**Malin Array Be**	**16.55**	**15**	P	**Pn**	**08 05 02.7**	**-2.0**
	comp=E,0.9nm,0.3s,baz=206,slow=11,SNR=1.4						
KBZ	**Khabaz**	**17.96**	**54**	P	**Pn**	**08 05 21.2**	**-1.2**
	comp=E,0.1nm,0.3s,baz=274,slow=8.3,SNR=3.8						
HFS	**Hagfors**	**25.97**	**350**	P	**P**	**08 06 44.4**	**-0.6**
	comp=E,2.8nm,0.5s,baz=142,slow=12,SNR=17						
FINES	**FINESS Array B**	**26.70**	**4**	P	**P**	**08 06 50.6**	**-1.0**
	comp=E,0.6nm,0.3s,baz=169,slow=10.0,SNR=6.6						
EKA	**Eskdalemuir Ar**	**27.15**	**327**	P	**P**	**08 06 57.4**	**+1.7**
	comp=E,1.0nm,0.5s,baz=127,slow=9.5,SNR=3.2						
NB2	**NORSAR Subarra**	**27.23**	**348**	P	**P**	**08 06 59.6**	**+3.2**
	comp=Z,3.2nm,0.5s,baz=159,slow=9.3						
NB2	**NORSAR Subarra**	**27.23**	**348**	P	**P**	**08 06 56.5**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=159,slow=9.3						
NOA	**NORSAR Array B**	**27.23**	**348**	P	**P**	**08 06 57.0**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=159,slow=9.7,SNR=3.9						
GEYT	**Alibeck**	**28.60**	**73**	P	**P**	**08 07 09.6**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=260,slow=5.7,SNR=3.8						
TORD	**Torodi Ar. Bea**	**28.76**	**226**	P	P	08 07 16.8	+6.4
	comp=Z,0.7nm,0.6s,baz=34,slow=9.5,SNR=4.3						
ARCES	**ARCESS Array B**	**34.78**	**2**	P	**P**	**08 08 01.7**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=182,slow=8.3,SNR=10						
SPITS	**Spitsbergen Ar**	**43.52**	**358**	P	**P**	**08 09 16.3**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=146,slow=13,SNR=5.9						
MKAR	**Makanchi Array**	**45.65**	**56**	P	**P**	**08 09 33.1**	**0.0**
	comp=Z,1.4nm,0.6s,baz=268,slow=7.9,SNR=24						
YKA	**Yellowknife Ar**	**77.10**	**341**	P	**P**	**08 13 05.2**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=35,slow=5.3,SNR=3.5						
ILAR	**Eielson Array**	**80.37**	**355**	P	**P**	**08 13 22.7**	**-0.9**
	comp=Z,0.2nm,0.7s,baz=4.6,slow=4.5,SNR=3.1						

MEX ***11*** *08:19:53.3±0.5, 14.°20N×91.°88W, h46km±78km, MD3.6*
GCG ***11*** *08:19:54.7±0.6, 14.°43N×91.°84W, h66km±9km, MD3.2*

ISC 11 08:19:53.8±2.3, 14.°3N±0.°3×92.°0W±0.°1, h61km±23km, n6, σ0s58/11, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERG	**Entre ros, C**	**0.41**	**76**	*e*P	**Pn**	**08 20 05.3**	**+0.3**
STG3	**Santiaguito 3,**	**0.54**	**47**	⇓*e*P	**Pn**	**08 20 06.5**	**0.0**
STG3				*e*S	**Sn**	**08 20 16.2**	**+0.5**
THIG		**0.63**	**334**	*i* P	**Pn**	**08 20 06.3**	**-1.1**
THIG				*e*S	**Sn**	**08 20 17.3**	**+0.1**
FUG	**Fuego 3**	**1.10**	**84**	*e*P	**Pn**	**08 20 13.3**	**-0.2**
FUG				*e*S	**Sn**	**08 20 27.8**	**-0.3**
IXG	**Ixpaco**	**1.50**	**96**	*e*P	**Pn**	**08 20 18.8**	**+0.1**
IXG				*e*S	**Sn**	**08 20 36.9**	**-0.4**
PCIG		**1.81**	**319**	*e*P	**Pn**	**08 20 22.9**	**+0.2**
PCIG				*i* S	**Sn**	**08 20 45.4**	**+0.7**

TAP ***11*** *08:20:42.0, 22.°09N×120.°40E, h41km, ML4.1, D*
JMA ***11*** *08:20:42.1±0.3, 22.°01N×120.°45E, h53km±4km, M3.9*
NEIC ***11*** *08:20:43.6±2.6, 22.°13N±0.°08×120.°29E±0.°08, h35km±7km, mb4.4/8, ML4.1(TAP), Error ellipse: s-maj=12.1km s-min=10.1km az=207.0*
IDC ***11*** *08:20:43.4±0.9, 22.°07N×120.°64E, h32km±7km, mb3.7/7, mb1 3.9/7, mb1mx3.5/36, mbtmp3.9/7, MS3.3/5, Ms1 3.3/5, ms1mx2.9/45, Error ellipse: s-maj=65.0km s-min=15.0km az=64.0*

ISC 11 08:20:43.0±0.7, 22.°08N±0.°03×120.°38E±0.°03, h32km±4km, n134, σ1s09/175, mb4.0/10, MS3.4/4, 2C-1D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWP	**Hsiaoliuchiu**	**0.26**	**357**	*i* P	**Pn**	**08 20 50.8**	**+0.1**
	baz=346						
TWP				*e*S	**Sb**	**08 20 58.4**	**+3.3**
	baz=346						
WLCH	**Liuqiu**	**0.27**	**0**	*i* P	**Pn**	**08 20 50.8**	**+0.1**
	baz=348						
WLCH				*e*S	**Sb**	**08 20 58.4**	**+3.2**
	baz=348						
HEN	**Hengchun**	**0.34**	**103**	*i* P	**Pn**	**08 20 51.0**	**-0.7**
	baz=95						
HEN				S	**Sn**	**08 20 58.6**	**+1.1**
	baz=95						
SCZT	**Fangliau**	**0.36**	**38**	⇑*i*P	**Pn**	**08 20 51.2**	**-0.8**
	baz=37						
SCZT				*e*S	**Sn**	**08 20 57.6**	**-0.4**
	baz=37				

baz=28
TWM1 Shoushan 0.74 3 eP Pn 08 20 57.5 +0.2
baz=3.0
TWM1 S Sn 08 21 08.4 +1.1
baz=3.0
ECL Taimali 0.74 46 P Pn 08 20 56.5 -0.6
baz=46
ECL eS Sn 08 21 07.1 -0.2
baz=46
SLGT Liugui 0.94 15 eP Pb 08 21 00.0 -0.8
baz=26
SLGT eS Sn 08 21 10.6 -1.7
baz=26
TWG Pinlang 0.97 41 eP Pb 08 21 00.6 -0.8
baz=52
TWG eS Sb 08 21 12.9 -1.1
baz=52
TWG Pinlang 0.97 41 Pn Pb 08 21 00.7 -0.8
TTN Taitung 0.97 47 eP Pb 08 21 02.3 +0.9
baz=34
TWGBT Beinan 0.98 42 P Pb 08 21 00.6 -0.9
baz=52
TWGBT eS Sb 08 21 12.6 -1.5
baz=52
CHN3 Shinhua 0.99 359 eP Pb 08 21 01.3 -0.3
baz=359
CHN3 eS Sb 08 21 15.1 +0.7
baz=359
SGST Jiashian 1.01 11 eP Pn 08 20 59.7 -1.3
baz=10.0
LAY Lan-yu 1.09 92 eP Pn 08 21 00.6 -1.4
baz=92
CHN1 Nanshi 1.10 7 eP Pn 08 21 01.9 -0.3
baz=7.0
STYT Tauyuan 1.13 18 eP Pn 08 21 02.3 -0.3
baz=18
STYT eS Sb 08 21 17.4 -1.1
baz=18
SNST Tainan City 1.14 6 eS Sn 08 21 16.8 -0.4
baz=5.0
WTP Ta-pu 1.18 11 eP Pn 08 21 03.2 -0.1
baz=10.0
TWK Hsinying 1.18 5 eP Pn 08 21 03.2 -0.2
baz=5.0
TWK eS Sb 08 21 19.4 -0.5
baz=5.0
TPUB Ta-pu 1.23 11 eP Pn 08 21 03.3 -0.7
baz=10.0
TPUB Ta-pu 1.23 11 Pn 08 21 03.5 -0.6
ELDTW Lidau 1.25 28 eP Pn 08 21 04.2 -0.1
baz=18
CHN8 Yiju 1.27 353 eP Pn 08 21 05.5 -0.8
baz=353
WDGT Dungji 1.34 331 eP Pn 08 21 04.2 -1.4
baz=331
WDGT eS Sn 08 21 20.6 -1.7
baz=331
CHKT Chengkung 1.36 42 eP Pn 08 21 05.6 -0.2
baz=41
FULB Fuli 1.40 37 eP Pb 08 21 07.1 -1.4
baz=29
FULB eS Sb 08 21 24.8 -1.2
baz=29
CHY Chiayi 1.41 2 eP Pn 08 21 06.8 +0.4
baz=2.0
VCHM Qimei 1.42 322 eP Pn 08 21 05.0 -1.6
baz=335
ALS Alishan 1.47 15 eP Pn 08 21 07.7 +0.1
baz=3.0
YUS Yu-Shan 1.50 21 eP Pn 08 21 08.0 0.0
baz=7.0
TWF1 Yuli 1.52 34 P Pn 08 21 08.5 +0.5
baz=22
TWF1 eS Sb 08 21 27.2 -2.4
baz=22
CHN5 Tsauling 1.53 10 P Pn 08 21 07.7 -0.5
baz=10.0
CHN5 eS Sn 08 21 26.6 -0.4
baz=10.0
WSF Szhu 1.55 355 eP Pn 08 21 07.5 -0.9
baz=355
YULB Yu-li 1.55 33 eP Pn 08 21 08.8 +0.4
baz=22
YULB eS Sn 08 21 27.3 -0.2
baz=22
YULB Yu-li 1.55 33 Pn Pb 08 21 09.2 -2.1
WGK Gukeng 1.60 6 eP Pn 08 21 08.6 -0.5
baz=6.0
WGK eS Sb 08 21 29.8 -2.1
baz=6.0
WDLH Douliu 1.60 5 eP Pn 08 21 08.7 -0.4
baz=5.0
WDLH eS Sn 08 21 28.5 -0.2
baz=5.0
PHUB P'eng-hu 1.60 333 eP Pn 08 21 07.6 -1.5
baz=333
PHUB eS Sn 08 21 26.2 -2.5
baz=333
PNG Penghu 1.66 333 eP Pn 08 21 08.7 -1.1
baz=333
WHYT Xinyi Township 1.66 15 eP Pn 08 21 09.8 -0.2
baz=15
HGSD Ruisui 1.70 34 eP Pb 08 21 11.4 -2.2
baz=22
HGSD eS Sn 08 21 31.4 +0.3
baz=22
WTCT Ta-ch'eng 1.77 357 eS Sn 08 21 34.1 +1.2
baz=357
SSLB Suanglung 1.78 17 eP Pn 08 21 11.2 -0.3
baz=6.0
SSLB Suanglung 1.78 17 Pn 08 21 11.3 -0.2
RLNB Erlin 1.80 359 eP Pn 08 21 10.9 -0.8
baz=360
RLNB eS Sn 08 21 32.4 -1.1
baz=360
VWDT VWDT 1.80 23 eP Pn 08 21 12.2 +0.3
baz=12
VWDT eS Sn 08 21 33.0 -0.6
baz=12
WNT Mingjian 1.81 9 eP Pn 08 21 10.4 -1.5
baz=9.0
EGFH Guangfu 1.85 31 eP Pn 08 21 13.0 +0.5
baz=31
SMLT Sun Moon Lake 1.85 15 eP Pn 08 21 12.9 +0.2
baz=4.0
SMLT eS Sn 08 21 33.5 -1.5
baz=4.0
TYC Yuchr 1.86 14 eP Pn 08 21 12.6 0.0
baz=14
ESL Shilin 1.98 29 eP Pn 08 21 15.5 +1.3
baz=29
WCHH Zhanghua 1.99 5 eP Pn 08 21 14.7 +0.3
baz=16
WCHH eS Sn 08 21 38.1 -0.2
baz=16
DPDB Guoxing 2.00 14 eP Pn 08 21 14.5 -0.2
baz=14
TCU Taichung 2.07 8 eP Pn 08 21 14.4 -1.1
baz=8.0
CHGB Renai 2.10 20 eP Pn 08 21 14.6 -1.5
baz=8.0
WHF Hehuan Shan 2.21 22 eP Pn 08 21 18.2 +0.4
baz=10.0
WHF eS Sn 08 21 43.0 -1.3
baz=10.0
WHP Taichung City 2.25 13 eP Pn 08 21 18.4 +0.4
baz=14
WHP eS Sn 08 21 44.6 -0.1
baz=14
TDCB Techi 2.27 18 eP Pn 08 21 18.1 -0.4
baz=9.0
TWT Tachien 2.28 19 eP Pn 08 21 19.4 +0.8
baz=9.0
TWD Chiawan 2.28 29 eP Pn 08 21 19.0 +0.6
baz=40
ETLH Xiulin Townshi 2.34 25 eP Pn 08 21 20.7 +1.3
baz=15
NACB Ninganchiao 2.36 28 eP Pn 08 21 19.5 0.0
baz=28
NACB eS Sn 08 21 46.2 -1.2
baz=28
NACB Ninganchiao 2.36 28 Pn Pn 08 21 20.4 +0.9
NNSB Datong 2.51 21 P Pn 08 21 22.5 +0.8
baz=11
NNSB eS Sn 08 21 51.0 -0.2
baz=11
NNSH Datong 2.51 21 P Pn 08 21 22.4 +0.7
baz=11
NNSH eS Sn 08 21 51.8 +0.6
baz=11
NNS Nan Shan 2.52 21 P Pn 08 21 22.7 +1.0
baz=11
NNS eS Sn 08 21 51.9 +0.4
baz=11
NSTT Nanjuang 2.60 13 eP Pn 08 21 23.3 +0.5
baz=3.0
ENA Nanau 2.65 28 eP Pn 08 21 23.5 0.0
baz=28
NDT Datong Townshi 2.71 22 eP Pn 08 21 25.7 +1.3
baz=11
NSK Sanguang 2.73 19 eP Pn 08 21 25.7 +1.0
baz=10.0
YHNB Yeheng 2.73 19 eP Pn 08 21 25.2 +0.5
baz=11
YHNB Yeheng 2.73 19 Pn Pn 08 21 25.8 +1.1
ENTT Nioudou 2.77 23 eP Pn 08 21 27.1 +1.9
baz=13
NWLT Wulai 2.87 21 eP Pn 08 21 28.4 +1.8
baz=12
TWE Neicheng 2.88 24 eP Pn 08 21 28.7 +2.1
baz=38
KNM Kinmen 2.93 323 eP Pn 08 21 27.8 +0.5
baz=321
KNMB Chin-men Tao 2.99 323 eP Pn 08 21 27.5 -0.7
baz=333
KNMB Chin-men Tao 2.99 323 Pn Pn 08 21 27.3 -0.9
VWUC VWUC 3.02 344 eP Pn 08 21 27.5 -1.0
baz=344
ZPLA Ao Xicun 3.04 308 eP Pn 08 21 27.1 -1.8
baz=308
PTMZ Houxiangcun 3.16 339 eP Pn 08 21 29.3 -1.2
baz=339
TIPB Shuangxi 3.17 25 eP Pn 08 21 30.4 -0.2
baz=33
YM04 YM04 3.23 19 eP Pn 08 21 31.9 +0.3
baz=7.0
NWF Wu-fen Shan 3.24 23 eP Pn 08 21 32.3 +0.6
baz=10.0
WFSB Wu-fen Shan 3.24 23 eP Pn 08 21 33.7 +2.1
baz=10.0
YM10 YM10 3.24 19 eP Pn 08 21 32.4 +0.7
baz=9.0
JYNG Yonaguni jima 3.33 45 P Pn 08 21 34.5 +1.6
JYNG S Sn 08 22 13.2 +1.8
YOJ Yonaguni jima 3.38 45 eP Pn 08 21 35.2 +1.6
baz=35
YOJ Yonaguni jima 3.38 45 P Pn 08 21 35.1 +1.5
YOJ eS Sn 08 22 14.1 +1.4
ZZJH Jiuhuzhen 3.47 314 eP Pn 08 21 34.1 -0.6
baz=315
HATJ Hateruma jima 3.72 57 P Pn 08 21 37.8 -0.3
HATJ eS Sn 08 22 19.4 -1.4
IRIF Iriomote-Funau 3.81 53 P Pn 08 21 39.5 +0.1
IRIF eS Sn 08 22 22.8 -0.4
JKRS Kuro-shima 3.97 57 P Pn 08 21 40.1 -1.5
JKRS S Sn 08 22 25.0 -2.1
MATB Ma-tsu 4.07 355 eP Pn 08 21 41.6 -1.4
baz=354
JIJ Ishigaki jima 4.14 56 P Pn 08 21 44.2 +0.2
JIJ eS Sn 08 22 29.7 -1.6
MHZQ Yeshan 4.18 343 eP Pn 08 21 44.1 -0.5
baz=343
JISG Ishigakijimahi 4.39 55 P Pn 08 21 47.4 0.0
JISG S Sn 08 22 35.5 -1.9
LYJJ Jianjiangzhen 4.48 353 eP Pn 08 21 47.5 -1.1
baz=352
KSRS Korea Array 16.65 21 LR LR 08 32 00.7
comp=Z,85nm,19.9s,baz=212,slow=41
CMAR Chiang Mai Arr 20.43 264 LR LR 08 34 16.6
comp=Z,46nm,20.2s,baz=166,slow=39
SONM Songino Array 28.04 340 P P 08 26 32.2 +0.9
1.3nm,0.7s,baz=159,slow=17,SNR=3.7
SONM LR LR 08 38 58.2
comp=Z,82nm,18.6s,baz=110,slow=39
SONM Songino Array 28.04 340 IAmb IAmb 08 26 37.5
comp=Z,1.7nm,1.1s
MK31 Makanchi Array 39.36 318 P P 08 28 11.3 +1.9
MKAR Makanchi Array 39.36 318 P P 08 28 11.2 +1.8
comp=Z,2.1nm,0.7s,baz=114,slow=9.9,SNR=20
MKAR pP sP 08 28 21.5 -1.1
comp=Z,1.0nm,0.7s,baz=112,slow=10,SNR=6.2
MKAR Makanchi Array 39.36 318 P P 08 28 10.8 +1.4
ZAA0 Zalesovo Array 41.62 329 P P 08 28 29.3 +1.3
ZALV Zalesovo Beam 41.62 329 P P 08 28 29.1 +1.1
comp=Z,1.6nm,0.6s,baz=113,slow=6.9,SNR=7.1
PETK Petropavlovsk- 42.02 33 LR LR 08 47 21.5
comp=Z,41nm,18.2s,baz=241,slow=38
H11N1 WAKE ISLAND Hy 43.39 84 T T 09 14 34.2
baz=282,slow=75,SNR=5.3
H11N2 WAKE ISLAND Hy 43.39 84 T T 09 14 36.6
baz=282,slow=75,SNR=5.7
H11N3 WAKE ISLAND Hy 43.41 84 T T 09 14 36.6
baz=282,slow=75,SNR=5.0
H11S3 WAKE ISLAND Hy 43.46 86 T T 09 14 38.9
baz=283,slow=74,SNR=13
H11S1 WAKE ISLAND Hy 43.47 86 T T 09 14 39.5
baz=283,slow=74,SNR=12
H11S2 WAKE ISLAND Hy 43.48 86 T T 09 14 40.2
baz=283,slow=74,SNR=14
WB0 Warramunga Arr 43.79 161 P P 08 28 45.9 0.0
WB0 IAmb IAmb 08 28 46.1
comp=Z,18nm,1.4s
WRAB Tennant Creek 43.94 161 P P 08 28 47.1 0.0
WRAB IAmb IAmb 08 28 57.7
comp=Z,5.6nm,1.1s
WRA Warramunga Arr 43.94 161 P P 08 28 46.8 -0.3
comp=Z,1.0nm,1.0s,baz=342,slow=9.0,SNR=7.9
WRA pP pP 08 28 56.3 -0.2
comp=Z,1.4nm,0.5s,baz=344,slow=9.0,SNR=8.8
WB2 Warramunga Arr 43.95 161 P P 08 28 46.0 -1.1
WR0 Warramunga Arr 44.02 161 P P 08 28 47.5 -0.3
WR0 IAmb IAmb 08 28 57.4
comp=Z,7.9nm,1.1s
ASAR Alice Springs 47.34 163 P P 08 29 14.2 +0.2
comp=Z,0.4nm,0.3s,baz=344,slow=7.2,SNR=9.6
ASAR pP pP 08 29 22.3 -1.2
comp=Z,1.5nm,0.9s,baz=343,slow=6.9,SNR=5.5
GERES GERESS Array B 83.98 320 P P 08 33 11.4 +1.2
comp=Z,0.4nm,0.4s,baz=77,slow=5.8,SNR=4.2
YKA Yellowknife Ar 85.18 22 P P 08 33 16.3 +0.5
comp=Z,0.3nm,0.5s,baz=312,slow=5.0,SNR=6.2
BORG Borgarnes 88.54 345 LR LR 09 16 38.7
comp=Z,15nm,21.5s,baz=314,slow=38

LJU 11 08:38:33.0, 45.53N×13.85E, h0km, ML0.8, 1C Artificial, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
SKDS	**Skadanscina**	**0.12**	**81**	i	Pg		Pg	08 38 35.4	+0.1
SKDS				*i*	Sg		Sg	08 38 37.3	+0.4
	comp=Z,55nm,0.1s								
KNDS	**Knezji Dol**	**0.38**	**90**	*i*	Pg		Pg	08 38 40.2	0.0
KNDS				*e*	Sg		Sg	08 38 46.0	+1.0
	comp=Z,2.0nm,0.1s								
JAVS	**Javornik**	**0.40**	**23**	*i*	Pg		Pg	08 38 40.2	-0.4
JAVS				*i*	Sg		Sg	08 38 46.2	+0.4
	comp=Z,1.0nm,0.1s								

RSNC 11 08:38:35.8±1.1, 4.95N×74.55W, h14km±8km, ML1.1, Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
NORC	**Norcasia**	**0.69**	**333**	*e*	P		Pg	08 38 48.6	-0.7
NORC				*e*	S		Sg	08 38 58.1	-0.4
NORC				*i*				08 38 59.3	
	comp=Z,4.4nm,0.1s								
NORC	**Norcasia**	**0.69**	**333**	*e*	P		Pg	08 38 48.6	-0.7
NORC				*e*	S		Sg	08 38 57.2	-1.2
NORC				*i*				08 38 59.3	
	comp=Z,7.4nm,0.1s								
TOLC	**Tolima**	**0.85**	**245**	*e*	P		Pg	08 38 51.0	-1.3
TOLC				*e*	S		Sg	08 39 02.0	-1.4
TOLC				*i*				08 39 03.4	
	comp=Z,12nm,0.1s								
SPBC	**San Pablo de B**	**0.85**	**34**	*e*	P		Pg	08 38 50.4	-1.9
SPBC				*e*	S		Sg	08 39 02.4	-1.1
SPBC				*i*				08 39 04.4	
	comp=Z,4.4nm,0.2s								
GUY2C	**Guyana, Caldas**	**0.86**	**289**	*e*	P		Pg	08 38 52.4	-0.1
GUY2C				*e*	S		Sg	08 39 03.3	-0.6
GUY2C				*i*				08 39 04.7	
	comp=Z,2.9nm,0.2s								
GUY2C	**Guyana, Caldas**	**0.86**	**289**	*e*	P		Pg	08 38 52.2	-0.3
GUY2C				*e*	S		Sg	08 39 03.3	-0.5
GUY2C				*i*				08 39 04.6	
ORTC	**Ortega, Tolima**	**1.24**	**214**	*e*	P		Pn	08 38 57.8	-1.0
ORTC				*e*	S		Sb	08 39 13.7	-1.3
ORTC				*i*				08 39 17.6	
	comp=Z,5.8nm,0.0s								
ORTC	**Ortega, Tolima**	**1.24**	**214**	*e*	P		Pn	08 38 57.9	-1.0
ORTC				*e*	S		Sb	08 39 13.7	-1.3
ORTC				*i*				08 39 17.6	
	comp=Z,5.7nm,0.4s								
PRAC	**Prado**	**1.27**	**195**	*e*	P		Pn	08 38 58.4	-0.8
PRAC				*e*	S		Sb	08 39 15.1	-0.7
PRAC	**Prado**	**1.27**	**195**	*e*	P		Pn	08 38 58.3	-0.9
PRAC				*e*	S		Sb	08 39 15.4	-0.4
PRAC				*i*				08 39 18.4	
	comp=Z,3.7nm,0.2s								
PTBC	**PUERTO BERRIO,**	**1.59**	**3**	*e*	P		Pn	08 39 01.9	-1.6
PTBC				*e*	S		Sn	08 39 23.1	-0.8
PTBC				*i*				08 39 24.1	

VIE 11 08:39:10.3±0.7, 46.74N×13.78E, h0km, ml1.3/2, Error ellipse: s-maj=6.5km s-min=1.1km az=165.0 2 km NW of Áfritz Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
MYKA	**Terra Mystica**	**0.15**	**220**	*i*	Pg		Pg	08 39 13.4	+0.3
	1.1nm,0.1s								
MYKA				*i*	Sg		Sg	08 39 15.2	+0.2
	6.7nm,0.1s								
OBKA	**Obir**	**0.58**	**113**	*i*	Pg		Pg	08 39 21.2	-0.2
	0.6nm,0.1s								
OBKA				*i*	Sg		Sg	08 39 30.0	+1.1
	1.9nm,0.1s								

IDC 11 08:48:09.2±2.8, 7.05S×154.70E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/26, mbtmp3.6/4, ML3.9/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/21, Error ellipse: s-maj=69.1km s-min=34.4km az=102.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
KRVT	**Keravat (AS076**	**3.81**	**316**	Pn	Pn		Pn	08 49 09.9	+0.7
	9.9nm,0.3s,baz=232,slow=3.4,SNR=6.5								
KRVT				Sn	Sn		Sn	08 49 51.5	-3.3
	4.1nm,0.3s,baz=322,slow=21,SNR=1.4								
PMG	**Port Moresby**	**7.82**	**252**	LR	LR			08 52 33.0	
	comp=Z,49nm,19.8s,baz=96,slow=34								
WRA	**Warramunga Arr**	**23.54**	**235**	P	P			08 53 20.9	-0.4
	1.1nm,0.9s,baz=57,slow=9.3,SNR=8.6								
ASAR	**Alice Springs**	**25.91**	**228**	P	P			08 53 43.1	-0.1
	0.3nm,0.6s,baz=59,slow=8.9,SNR=4.1								
MKAR	**Makanchi Array**	**83.25**	**319**	P	P			09 00 38.2	+0.5
	0.4nm,0.7s,baz=103,slow=3.3,SNR=3.6								
TORD	**Torodi Ar. Bea**	**152.75**	**285**	PKPbc	PKPbc			09 08 08.9	-0.3
	0.5nm,0.8s,baz=116,slow=3.4,SNR=2.7								

*HEL **11** 08:58:21.7±0.4, 67.60N×34.12E, h0km, ML2.4, Explosion*
*KOLA **11** 08:58:22.4, 67.62N×34.04E, M2.0, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*NAO **11** 08:58:23.3±1.4, 67.70N×33.83E, ML2.7*
*IDC **11** 08:58:26.4±3.0, 67.69N×33.47E, h0km, mb1 3.2/3, mb1mx2.9/54, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=34.3km s-min=11.2km az=84.0*
ISC 11 08:58:22.3±2.0, 67.66N±0.04×33.92E±0.09, h0km, n30, σ1§29/53, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
APA	**Apatity**	**0.22**	**244**	P	**Pg**		**Pg**	**08 58 26.9**	**+0.5**
APA				S	**Sg**		**Sg**	**08 58 30.1**	**+0.9**
APZ9	**Apatity**	**0.22**	**244**	Pg	**Pg**		**Pg**	**08 58 26.6**	**+0.2**
APZ9				Lg	Lg			08 58 30.0	
APZ9				Rg	Rg			08 58 31.6	
APZ9	**Apatity**	**0.22**	**244**	Pg	**Pg**		**Pg**	**08 58 26.6**	**+0.2**
APZ9				Sg	**Sg**		**Sg**	**08 58 30.0**	**+0.8**
APA0	**Apatity Array**	**0.36**	**261**	Pg	**Pg**		**Pg**	**08 58 29.3**	**+0.2**
	baz=99,slow=18								
APA0				Lg	Lg			08 58 34.8	
APA0				Rg	Rg			08 58 36.7	
APA0	**Apatity Array**	**0.36**	**261**	P	**Pg**		**Pg**	**08 58 29.6**	**+0.5**
APA0				S	**Sg**		**Sg**	**08 58 34.8**	**+1.1**
APA0	**Apatity Array**	**0.36**	**261**	Pg	**Pg**		**Pg**	**08 58 29.3**	**+0.2**
	baz=99,slow=18								
APA0				Sg	**Sg**		**Sg**	**08 58 34.8**	**+1.1**
VRF	**Varrio**	**1.65**	**275**	PG	**Pn**		**Pn**	**08 58 52.5**	**+0.1**
VRF				MSG				08 59 13.3	
	comp=Z,34nm,0.2s								
VRF				SG	**Sn**		**Sn**	**08 59 14.2**	**0.0**
KU6	**Riekki**	**2.29**	**226**	PG	**Pn**		**Pn**	**08 59 02.5**	**+1.3**
	baz=48								
KU6				MSG				08 59 29.9	
	comp=Z,20nm,0.2s								
KU6				SG	**Sb**		**Sb**	**08 59 32.5**	**-0.7**
MSF	**Maaselka**	**2.61**	**230**	PG	**Pb**		**Pb**	**08 59 08.3**	**-1.6**
	baz=48								
MSF				SG	**Sb**		**Sb**	**08 59 42.6**	**+0.1**
SGF	**Sodankyl**	**2.84**	**269**	PN	**Pn**		**Pn**	**08 59 09.5**	**+0.6**
	baz=82								
SGF				SB	**Sb**		**Sb**	**08 59 49.4**	**+0.3**
RNF	**Rovaniemi**	**3.26**	**255**	PN	**Pn**		**Pn**	**08 59 15.3**	**+0.7**
	baz=72								
RNF				SN	**Sn**		**Sn**	**08 59 55.2**	**+1.2**
ARA0	**ARCESS Array S**	**3.61**	**305**	Pn	**Pn**		**Pn**	**08 59 20.4**	**+1.0**
	baz=122,slow=16								
ARA0				Sn	**Sn**		**Sn**	**09 00 02.3**	**-0.3**
	baz=122,slow=28								
ARA0				Lg	Lg			09 00 13.4	
	baz=122,slow=37								
ARA0	**ARCESS Array S**	**3.61**	**305**	Pn	**Pn**		**Pn**	**08 59 20.4**	**+1.0**
	baz=122,slow=16								
ARA0				Sn	**Sn**		**Sn**	**09 00 02.3**	**-0.3**
	baz=122,slow=28								
ARA0				Sg	**Sb**		**Sb**	**09 00 13.4**	**+2.2**
	baz=122,slow=37								
ARCES	**ARCESS Array B**	**3.61**	**305**	Pn	**Pn**		**Pn**	**08 59 19.9**	**+0.6**
	comp=Z,3.6nm,0.3s,baz=122,slow=15,SNR=177								
ARCES				Pg	**Pb**		**Pb**	**08 59 26.9**	**0.0**
	comp=Z,1.4nm,0.3s,baz=118,slow=15,SNR=8.1								
ARCES				Sn	**Sn**		**Sn**	**09 00 03.1**	**+0.4**
	comp=Z,2.2nm,0.3s,baz=119,slow=25,SNR=17								
ARCES				Lg	Lg			09 00 12.8	
	comp=Z,4.4nm,0.3s,baz=122,slow=33,SNR=15								
ARE0	**ARCESS Array S**	**3.61**	**305**	PN	**Pn**		**Pn**	**08 59 19.8**	**+0.4**
	baz=122								
ARE0				SN	**Sn**		**Sn**	**09 00 02.3**	**-0.3**
ARE0	**ARCESS Array S**	**3.61**	**305**	*e*	**P**		**Pn**	**08 59 20.0**	**+0.6**
ARE0				IAML				09 00 18.0	
	comp=Z,11nm,0.3s								
HEF	**Hetta**	**3.92**	**286**	Pn	**Pn**		**Pn**	**08 59 24.5**	**+0.8**
HEF				Pg	**Pb**		**Pb**	**08 59 33.9**	**+1.7**
HEF				Sn	**Sn**		**Sn**	**09 00 10.3**	**-0.1**
HEF				Lg	Lg			09 00 24.5	
HEF	**Hetta**	**3.92**	**286**	PN	**Pn**		**Pn**	**08 59 24.8**	**+1.1**
	baz=94								
HEF				SN	**Sn**		**Sn**	**09 00 10.4**	**0.0**
HEF	**Hetta**	**3.92**	**286**	Pn	**Pn**		**Pn**	**08 59 24.5**	**+0.8**
HEF				Pg	**Pb**		**Pb**	**08 59 33.9**	**+1.7**
HEF				Sg	**Sg**		**Sg**	**09 00 24.5**	**-3.7**
TOF	**Tornio**	**4.10**	**252**	PN	**Pn**		**Pn**	**08 59 27.4**	**+1.2**
	baz=62								
TOF				SG	**Sb**		**Sb**	**09 00 26.2**	**+0.9**
OUL	**Oulu**	**4.14**	**235**	PG	**Pb**		**Pb**	**08 59 33.7**	**-2.1**
	baz=46								
KTK1	**Kautokeino**	**4.18**	**294**	*e*	**P**		**Pn**	**08 59 27.6**	**+0.3**
KTK1				IAML				09 00 32.7	
	comp=Z,10nm,0.4s								
LANU	**Lannavaara**	**4.53**	**280**	PN	**Pn**		**Pn**	**08 59 31.8**	**-0.2**
KIF	**Kilpisjarvi**	**5.04**	**291**	Pn	**Pn**		**Pn**	**08 59 39.4**	**+0.4**
KIF				Sn	**Sn**		**Sn**	**09 00 37.0**	**-0.8**
KIF				Lg	Lg			09 00 58.2	
KIF	**Kilpisjarvi**	**5.04**	**291**	Pn	**Pn**		**Pn**	**08 59 39.4**	**+0.4**
KIF				Sg	**Sg**		**Sg**	**09 00 58.2**	**-5.8**
I37NO	**I37NO**	**5.83**	**291**	*i*				09 31 45.0	
	baz=99,slow=318,SNR=7.2								
FIA0	**FINESS Array S**	**7.09**	**212**	Pn	**Pn**		**Pn**	**09 00 07.5**	**+0.4**
	baz=30,slow=12								

FIA0	**FINESS Array S**	**7.09 212**	Pn		**Pn**	**09 00 07.5**	**+0.4**
	baz=30,slow=12						
FINES	**FINESS Array B**	**7.09 212**	Pn		**Pn**	**09 00 07.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=1.4						
FINES			Sn		**Sn**	**09 01 28.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=25,slow=24,SNR=2.8						
FINES			Lg		Lg	09 01 59.4	
	comp=Z,0.5nm,0.3s,baz=27,slow=27,SNR=5.3						
HFS	**Hagfors**	**11.62 239**	Pn		**Pn**	**09 01 08.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=34,slow=10,SNR=1.3						

HEL ***11*** *09:00:26.5±0.2,64.˚73N×30.˚66E, h0km, ML1.8, Explosion*
UPP ***11*** *09:00:26.3±2.9,64.˚60N×30.˚87E, h0km, ML2.0, Suspected explosion*

KOLA ***11*** *09:00:28.1,64.˚69N×30.˚90E, h0km*

ISC 11 09:00:23.7±1.0,**64.73N**±0.04×**30.94E**±0.06,**h0**km,**n19**, σ1§**68**/**28**,**Finland-Karelia border region**

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
KU6	**Riekki**	**1.38 342**	*e*P	**Pb**	**09 00 50.5**	**+0.2**
KU6			*e*S	**Sn**	**09 01 08.2**	**-0.8**
MSF	**Maaselka**	**1.43 327**	*e*P	**Pb**	**09 00 51.1**	**-0.1**
MSF			*e*S	**Sg**	**09 01 08.2**	**-1.4**
JOF	**Joensuu**	**1.82 175**	*e*P	**Pg**	**09 00 58.3**	**-0.4**
JOF			*e*S	**Sg**	**09 01 22.8**	**+0.6**
JOF			MSG		09 01 27.0	
	comp=Z,4.4nm,0.1s					
OUL	**Oulu**	**2.18 282**	*e*P	**Pb**	**09 01 02.5**	**-1.5**
OUL			*e*S	**Sn**	**09 01 27.9**	**-0.9**
OUL			MSG		09 01 33.5	
	comp=Z,7.5nm,0.1s					
OBF4	**Vikkela, Lumij**	**2.50 275**	*e*P	**Pn**	**09 01 07.0**	**+1.4**
OBF4			*e*S	**Sn**	**09 01 35.7**	**-1.1**
OUF	**Merijarvi**	**2.71 265**	*e*P	**Pn**	**09 01 10.0**	**+1.6**
OUF			*e*S	**Sn**	**09 01 41.2**	**-0.5**
OUF			MSG		09 01 48.7	
	comp=Z,5.1nm,0.1s					
OBF0	**Syolatti, Pyha**	**2.90 268**	*e*S	**Sn**	**09 01 45.2**	**-1.2**
SUF	**Sumiainen**	**2.93 229**	*e*P	**Pn**	**09 01 13.1**	**+1.5**
SUF			*e*S	**Sn**	**09 01 47.2**	**-0.2**
APA0	**Apatity Array**	**3.01 15**	P	**Pb**	**09 01 17.0**	**-1.1**
APA0			S	**Sb**	**09 01 53.6**	**-1.7**
PAJU	**Pajala**	**3.95 309**	P	**Pn**	**09 01 28.2**	**+2.7**
SJUU	**Sjulsmark**	**4.02 285**	P	**Pn**	**09 01 28.6**	**+2.2**
SJUU			S	**Sn**	**09 02 16.1**	**+1.9**
ERTU	**Ertsjaerv**	**4.06 301**	P	**Pn**	**09 01 30.1**	**+3.1**
BURU	**Burvik**	**4.11 272**	P	**Pn**	**09 01 28.8**	**+1.1**
HARU	**Harads**	**4.40 294**	P	**Pn**	**09 01 34.4**	**+2.7**
ODEU	**Stanfors**	**4.42 270**	P	**Pn**	**09 01 33.0**	**+1.1**
LILU	**Lilltraesk**	**4.74 282**	P	**Pn**	**09 01 38.8**	**+2.5**
SVAU	**Svanoeiden**	**4.90 272**	P	**Pn**	**09 01 40.3**	**+1.8**
HUSU	**Husum**	**5.34 260**	P	**Pn**	**09 01 46.8**	**+2.3**
HEMU	**Hemsoen**	**6.09 256**	P	**Pn**	**09 01 54.4**	**-0.5**

MAN ***11*** *09:08:20.9,9.˚71N×125.˚79E, h20km, mb5.6, ML4.6, MS5.0*
MAN Intensity V - Del Crmen Socorro Gigaquit Surigao del Norte; Intensity IV - Surigao City; Mabua Surigao City; Intensity III - Loreto Dinagat Island; Burgos Surigao del Norte; Butuan City; san Ricardo Pintuyan Southern Leyte; Intensity II - Mainit Surigao del Norte.

GCMT ***11*** *09:08:20.5±0.1,9.˚72N±0.˚01×125.˚79E±0.˚01, h20km, MW5.1/138, Moment Tensor Solution. s79,c116; s138,c232; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.08±.14; Mθθ5.59±.11; Mϕϕ-3.51±.11; Mrθ0.40±.20; Mθϕ2.86±.09; Mϕr2.41±.25; Best double couple: M₀6.12900×10¹⁶ NP1:ϕs115.00000°, δ62.00000°, λ-19.00000°. NP2:ϕs214.00000°, δ74.00000°, λ-151.00000°. Principal axes: T 6.5500, Plg7.0000°, Azm342.0000°; N -0.8420, Plg57.0000°, Azm241.0000°; P -5.7080, Plg32.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***11*** *09:08:21.8±0.2,10.˚N±2.˚×12.˚6E±.˚, h10km, M4.9/75, mb5.1/75, mB5.5/33, MLv4.5/2, Mw(mB)4.9/33, Mwp5.1/4*

IDC ***11*** *09:08:21.6±3.3,9.˚73N×125.˚69E, h32km±25km, mb4.3/35, mb1 4.5/39, mb1mx4.4/48, mbtmp4.6/39, ML4.4/4, MS4.1/28, Ms1 4.2/28, ms1mx4.0/45, Error ellipse: s-maj=16.9km s-min=8.9km az=76.0*

MOS ***11*** *09:08:21.1±1.0,9.˚68N×125.˚62E, h38km, mb5.2/61, MS4.3/11, Error ellipse: s-maj=8.0km s-min=4.3km az=107.6*

BJI ***11*** *09:08:21.4±0.0,9.˚76N×126.˚24E, h42km, mB5.1/52, mb4.8/62, Ms4.7/63, Ms7 4.4/60*

UNK ***11*** *09:08:23.7,9.˚72N×125.˚70E, h44km*

NEIC ***11*** *09:08:24.5±2.1,9.˚69N±0.˚06×125.˚66E±0.˚08, h55km±5km, mb5.0/153, Error ellipse: s-maj=11.3km s-min=8.5km az=69.0*

KLM ***11*** *09:08:26.0,9.˚75N×125.˚99E, h59km, mb5.2*

ISC 11 09:08:23.9±0.4,**9.69N**±0.03×**125.78E**±0.04,**h44**km±3km, **h44**km:**pP-P,n534,**σ1§**86**/554,**mb5.0**/172,**MS4.3**/52, **24C-15D,Mindanao**

Code	Station Name	Δ° AZ°	Phase	ID	Time	Res
			Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.30 287**	*i*P	**Pn**	**09 08 27.9**	**-4.6**
SCPH			*i* S	**Sn**	**09 08 33.3**	**-5.2**
MSLP	**Maasin**	**1.01 296**	*e*P	**Pn**	**09 08 39.7**	**-1.9**
MSLP			*e*S	**Sn**	**09 08 53.9**	**-0.8**
BIPH	**Bislig**	**1.60 159**	*i*P	**Pn**	**09 08 47.1**	**-2.7**
BIPH			*i* S	**Sn**	**09 09 08.5**	**-0.9**
CGP	**Cagayan de Oro**	**1.63 221**	*e*P	**Pn**	**09 08 48.7**	**-1.5**
CGP			*e*S	**Sn**	**09 09 09.7**	**-0.2**
OCLP	**Ormoc**	**1.77 320**	*e*P	**Pn**	**09 08 51.2**	**-0.9**
LLP	**Lapu-Lapu**	**1.89 289**	*e*P	**Pn**	**09 08 52.3**	**-1.4**
LLP			*e*S	**Sn**	**09 09 18.8**	**+2.4**
TBP	**Tagbilaran**	**1.89 270**	*e*P	**Pn**	**09 08 52.4**	**-1.3**
TBP			*i* S	**Sn**	**09 09 16.4**	**0.0**
BUKP	**Musuan**	**1.94 202**	*e*P	**Pn**	**09 08 53.7**	**-0.7**
SNPH	**Sibulan**	**2.53 262**	*e*P	**Pn**	**09 09 02.8**	**+0.2**
DMPH	**Davao City--Mi**	**2.61 186**	*e*P	Pn	09 09 08.2	+4.7
DMPH			*i* S	**Sn**	**09 09 41.0**	**+7.0**
DCPH	**Dipolog City**	**2.64 246**	*e*P	**Pn**	**09 09 03.8**	**-0.2**
KCP	**Kidapawan**	**2.75 194**	*e*P	**Pn**	**09 09 06.1**	**+0.5**
MATI	**Mati**	**2.77 170**	*e*P	**Pn**	**09 09 05.2**	**-0.6**
MATI			*e*S	**Sn**	**09 09 39.2**	**+1.2**
CTBH	**Cotabato--PC H**	**2.89 212**	*e*P	**Pn**	**09 09 07.3**	**-0.1**
PAGZ	**Pagadian**	**3.00 232**	*e*P	**Pn**	**09 09 08.0**	**-0.9**
CNP	**Catarman**	**3.01 339**	*e*P	**Pn**	**09 09 07.9**	**-1.2**
CNP			*e*S	**Sn**	**09 09 48.3**	**+4.5**
CNOP	**Candoni, Negro**	**3.10 273**	*e*P	**Pn**	**09 09 09.6**	**-0.7**
CNOP			*e*S	**Sn**	**09 09 47.4**	**+1.3**
GUIM	**Jordan**	**3.27 287**	*e*P	**Pn**	**09 09 12.0**	**-0.7**
GUIM			*e*S	**Sn**	**09 09 49.8**	**-0.7**
SKMP	**Bagumbayan, Su**	**3.38 201**	*e*P	**Pn**	**09 09 11.5**	**-2.7**
DDMP	**Don Marcelino,**	**3.56 181**	*e*P	**Pn**	**09 09 15.7**	**-1.0**
GSPH	**General Santos**	**3.67 193**	*i*P	**Pn**	**09 09 19.2**	**+0.8**
JAP	**San Jose, Anti**	**3.92 286**	*e*P	Pn	09 09 13.8	-7.7
PVCP	**Virac**	**4.19 338**	*e*P	**Pn**	**09 09 24.1**	**-1.3**
PVCP			*e*S	Sn	09 10 23.2	+10
OTRP	**Odiongan**	**4.54 306**	*e*P	**Pn**	**09 09 29.9**	**-0.3**
SJMP	**San Jose**	**5.34 301**	*e*P	**Pn**	**09 09 40.4**	**-0.7**
LQP	**Lukban**	**6.04 317**	*e*P	**Pn**	**09 09 51.6**	**+0.6**
PGP	**Puerto Galera**	**6.06 309**	*e*P	**Pn**	**09 09 55.2**	**+4.2**
TGY	**Tagaytay City**	**6.46 313**	Pn	**Pn**	**09 09 55.5**	**-1.0**
	42nm,0.3s,baz=178,slow=14,SNR=1.7					
BALP	**Baler**	**7.28 326**	*e*P	**Pn**	**09 10 09.1**	**+1.4**
SMPP	**San Manuel, Pa**	**8.12 323**	*e*P	**Pn**	**09 10 18.3**	**-0.9**
CAUP	**Cauayan**	**8.17 332**	*e*P	**Pn**	**09 10 19.7**	**-0.2**
MNI	**Manado**	**8.25 187**	P	**Pn**	**09 10 20.6**	**-0.5**
MNI			pmax	pmax		
	comp=Z,313nm,0.8s					
TNTI	**Ternate**	**9.00 170**	P	**Pn**	**09 10 30.0**	**-1.4**
	comp=Z,3μmcomp=Z,5μmcomp=Z,371nm,1.4s					
TNTI	**Ternate**	**9.00 170**	Pn	**Pn**	**09 10 31.2**	**-0.2**
KMSI	**Cibinong**	**9.23 191**	P	**Pn**	**09 10 34.2**	**-0.3**
	comp=Z,211nm,0.8s					
MRSI	**Marisa**	**9.92 203**	P	**Pn**	**09 10 45.9**	**+2.0**
	comp=Z,1μmcomp=Z,121nm,1.0s					
KKM	**Kota Kinabalu**	**10.14 250**	Pn	**Pn**	**09 10 47.2**	**+0.1**
LBMI	**Labuha**	**10.40 170**	P	**Pn**	**09 10 52.1**	**+1.5**
	comp=Z,4μmcomp=Z,254nm,1.3s					
LUWI	**Luwuk**	**11.07 196**	P	**Pn**	**09 10 58.2**	**-1.6**
	comp=Z,7μmcomp=Z,451nm,1.1s					
LUWI	**Luwuk**	**11.07 196**		**Pn**	**09 10 57.4**	**-2.3**
APSI	**Ampana**	**11.31 202**	P	**Pn**	**09 11 01.7**	**-1.3**
	comp=Z,1μmcomp=Z,101nm,1.1s					
SANI	**Sanana**	**11.67 179**	P	**Pn**	**09 11 04.1**	**-3.8**
	comp=Z,1μmcomp=Z,141nm,1.0s					
SIJI	**Sorong**	**11.83 152**	Pn	**Pn**	**09 11 07.6**	**-2.5**
	comp=Z,3.0nm,0.3s,baz=354,slow=4.1,SNR=11					
SIJI			LR	LR	09 15 48.4	
	comp=Z,1μm,20.1s,baz=324,slow=38					
NLAI	**Namlea**	**12.91 174**	P	Pn	09 11 19.8	-5.1
	comp=Z,101nm,0.8s					
MSAI	**Masohi**	**13.33 166**	P	P	09 11 47.4	+8.2
TWG	**Pinlang**	**13.81 342**	Pn	**Pn**	**09 11 38.7**	**+1.5**
TTSI	**Tana Toraja**	**13.98 205**	P	**Pn**	**09 11 41.1**	**+1.7**
	comp=Z,2μmcomp=Z,102nm,0.9s					
FAKI	**Fak Fak**	**14.09 152**	P	**Pn**	**09 11 40.1**	**-0.9**
	comp=Z,2μmcomp=Z,95nm,1.0s					
FAKI	**Fak Fak**	**14.09 152**	Pn	**Pn**	**09 11 41.5**	**+0.5**
YULB	**Yu-li**	**14.28 343**		**Pn**	**09 11 45.0**	**+1.4**
TPUB	**Ta-pu**	**14.40 341**	Pn	**Pn**	**09 11 45.6**	**+0.4**
SSLB	**Suanglung**	**14.76 342**	Pn	**Pn**	**09 11 51.6**	**+1.7**
SPSI	**Sidrap Palu**	**14.83 204**	P	**Pn**	**09 11 52.9**	**+2.1**
	comp=Z,2μmcomp=Z,79nm,0.9s					
YOJ	**Yonaguni jima**	**14.92 350**	P	**Pn**	**09 11 51.5**	**-0.5**
YOJ	**Yonaguni jima**	**14.92 350**	Pn	**Pn**	**09 11 51.5**	**-0.5**
NACB	**Ninganchiao**	**14.95 345**	Pn	**Pn**	**09 11 51.6**	**-0.7**
BNSI	**Bone**	**15.10 202**	P	**Pn**	**09 11 55.0**	**+0.6**
	comp=Z,3μmcomp=Z,210nm,1.2s					
SBUM	**Sibu**	**15.28 243**		**Pn**	**09 11 58.0**	**+1.4**
SBUM				IAmb	IAmb	09 12 14.6
	comp=Z,93nm,1.1s					
SBUM	**Sibu**	**15.28 243**	P	**P**	**09 11 59.0**	**-1.9**
YHNB	**Yeheng**	**15.47 345**	Pn	**Pn**	**09 12 00.1**	**+0.8**
YHNB					**P**	**09 12 03.0**	**-0.1**
KAPI	**Kappang**	**15.79 203**	Pn	**Pn**	**09 12 03.5**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=26,slow=11,SNR=11					
KAPI			Sn	**Sn**	**09 14 54.6**	**-2.9**
	comp=Z,3.6nm,0.3s,baz=177,slow=7.5,SNR=4.9					
KAPI			LR	LR	09 19 26.5	
	comp=Z,507nm,18.1s,baz=36,slow=42					
KAPI	**Kappang**	**15.79 203**	Pn	**Pn**	**09 12 04.2**	**+0.8**
KAPI					**P**	**09 12 05.4**	**-1.3**
KAPI				IAmb	IAmb	09 12 21.3	
	comp=Z,178nm,1.1s					
BKSI	**Bulukumba**	**15.94 201**	P	**P**	**09 12 06.9**	**-1.4**
	comp=Z,1μmcomp=Z,56nm,1.0s					
KBKI	**Kotabaru**	**16.07 217**	P	**P**	**09 12 09.2**	**-0.5**
	comp=Z,82nm,0.8s					
QZH	**Quanzhou**	**16.64 337**	P	**P**	**09 12 15.4**	**-0.5**
QZH			S	**Sn**	**09 15 22.3**	**+4.5**
QZH			LR	LR		
	comp=Z,860nm,17.6s					
QZH			LR	LR		
	comp=Z,990nm,14.6s					
QZH			LR	LR		
	comp=Z,940nm,19.2s					
HKPS	**Hong Kong Po S**	**16.77 320**	Pn	**Pn**	**09 12 13.5**	**-2.2**
HKPS				IAmb	IAmb	09 12 24.1	
	comp=Z,116nm,0.9s					
DLV	**T Lat**	**17.13 279**		**Pn**	**09 12 18.8**	**-1.7**
JOW	**Kunigami**	**17.21 8**	P	**P**	**09 12 21.7**	**-0.5**
SMPI	**Sarmi**	**17.34 131**	P	**Pn**	**09 12 22.7**	**-0.1**
	comp=Z,1μmcomp=Z,6μmcomp=Z,190nm,1.1s					
KSM	**Kuching**	**17.42 243**	P	**P**	**09 12 24.5**	**-0.1**
KSM	**Kuching**	**17.42 243**	P	**P**	**09 12 25.0**	**+0.4**
MMRI	**Maumere**	**18.55 191**	P	Pn	09 12 50.4	+13
MMRI	**Maumere**	**18.55 191**	P	**Pn**	**09 12 37.7**	**+0.1**
EDFI	**Ende, Flores**	**18.77 193**	P	**P**	**09 12 39.4**	**-0.2**
	comp=Z,23nm,1.0s					
GENI	**Genyem**	**18.82 130**	P	**Pn**	**09 12 42.1**	**+1.1**
	comp=Z,2μmcomp=Z,4μmcomp=Z,193nm,1.6s					
GUMO	**Guam**	**19.09 76**	P	**P**	**09 12 43.1**	**0.0**
GUMO			pmax	pmax		
	comp=Z,128nm,1.3s					
GUMO	**Guam**	**19.09 76**	P	**P**	**09 12 43.1**	**0.0**
GUMO				IAmb	IAmb	09 12 46.2	
	comp=Z,128nm,1.2s					
JAY	**Jayapura**	**19.19 128**	P	**P**	**09 12 42.0**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=310,slow=7.5,SNR=6.5					
JAY			S	**S**	**09 16 17.9**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=320,slow=23,SNR=1.3					
JAY	**Jayapura**	**19.19 128**	P	**P**	**09 12 42.1**	**-2.1**
	comp=Z,442nmcomp=Z,38nm,0.9s					
SOEI	**Soe**	**19.38 184**	P	**Pn**	**09 12 48.0**	**+0.3**
	comp=Z,3μmcomp=Z,204nm,1.5s					
SOEI	**Soe**	**19.38 184**		**P**	**09 12 46.6**	**+0.3**
SOEI				IAmb	IAmb	09 13 03.9	
	comp=Z,145nm,1.1s					
BATI	**Baumata**	**19.88 186**	P	**P**	**09 12 49.9**	**-1.8**
	comp=Z,3.7nm,0.3s,baz=341,slow=21,SNR=5.2					
BATI	**Baumata**	**19.88 186**	P	**P**	**09 12 51.5**	**-0.2**
	comp=Z,1μmcomp=Z,165nm,1.0s					
PLAI	**Plampang**	**20.05 204**	P	Pn	09 12 56.0	+0.5
	comp=Z,1μmcomp=Z,106nm,1.4s					
WBSI	**Waikabubak, Su**	**20.23 198**	P	Pn	09 12 59.1	+1.4
	comp=Z,80nm,1.2s					
KMMI	**Kalianget**	**20.37 216**	P	Pn	09 13 01.5	+2.1
	comp=Z,88nm,1.0s					
JAGI	**Jajag, Banyuwa**	**21.44 213**	P	P	09 13 20.4	+12
JAGI	**Jajag, Banyuwa**	**21.44 213**	P	**P**	**09 13 06.9**	**-1.6**
JAGI				IAmb	IAmb	09 13 21.9	
	comp=Z,52nm,0.9s					
SSE	**Sheshan**	**21.72 349**	P	**P**	**09 13 11.1**	**-0.3**
SSE			S	**S**	**09 17 08.8**	**-0.6**
SSE			pmax	pmax		
	comp=Z,21nm,1.0s					
SSE			pmax	pmax		
	comp=Z,89nm,3.5s					
SSE	**Sheshan**	**21.72 349**	P	**P**	**09 13 11.3**	**-0.1**
SSE				IAmb	IAmb	09 13 20.9	
	comp=Z,94nm,0.9s					
TPI	**Tanjungpandan**	**21.89 236**	P	P	09 13 27.3	+14
SMRI	**Semarang**	**22.58 223**	P	**P**	**09 13 23.4**	**+2.6**
	comp=Z,243nm,1.6s					
SMRI	**Semarang**	**22.58 223**	P	**P**	**09 13 20.1**	**-0.7**
WOJI	**Wonogiri, Jawa**	**22.85 221**	P	**P**	**09 13 25.8**	**+2.2**
	comp=Z,42nm,1.4s					
MTN	**Manton Dam**	**23.01 167**	P	**P**	**09 13 26.4**	**+1.2**
	baz=23,SNR=5.6					
MTN	**Manton Dam**	**23.01 167**	P	**P**	**09 13 25.8**	**+0.6**
MTN				IAmb	IAmb	09 13 38.0	
	comp=Z,71nm,0.9s					
NJ2	**Nanjing**	**23.16 345**	*e*P	**P**	**09 13 26.2**	**-0.3**
NJ2			sP	**sP**	**09 13 46.3**	**+3.3**
NJ2			S	**S**	**09 17 37.5**	**+2.6**
NJ2			pmax	pmax		
	comp=Z,28nm,0.7s					
NJ2			pmax	pmax		
	comp=Z,380nm,3.5s					
NJ2			LR	LR		
	comp=Z,780nm,17.1s					
NJ2			LR	LR		
	comp=Z,480nm,10.4s					
NJ2			LR	LR		
	comp=Z,990nm,16.1s					
UGM	**Wanagama**	**23.17 221**	P	**P**	**09 13 29.2**	**+2.4**
	comp=Z,232nm,1.8s					
UGM	**Wanagama**	**23.17 221**	P	**P**	**09 13 31.0**	**+4.1**
MYKOM	**Kota Tinggi**	**23.17 252**	P	**P**	**09 13 27.2**	**+0.4**
MYKOM				IAmb	IAmb	09 13 34.7	
	comp=Z,54nm,1.1s					
KDU	**Kakadu**	**23.21 163**	P	**P**	**09 13 26.1**	**-1.0**
	baz=23,SNR=49					
WHN	**Wuhan**	**23.32 334**	P	**P**	**09 13 28.1**	**-0.1**
WHN			S	**S**	**09 17 42.5**	**+4.8**
WHN			LR	LR		
	comp=Z,2μm,13.4s					
WHN			LR	LR		
	comp=Z,1μm,11.4s					
WHN			LR	LR		
	comp=Z,2μm,15.3s					
KGM	**Kluang**	**23.59 253**	P	**P**	**09 13 38.0**	**+7.1**
JNU	**Nakatsue**	**23.79 11**	P	**P**	**09 13 31.0**	**-1.6**
	comp=Z,19nm,1.0s,baz=137,slow=4.6,SNR=4.8					
JNU	**Nakatsue**	**23.79 11**	P	**P**	**09 13 29.0**	**-3.6**
JNU				IAmb	IAmb	09 13 41.2	
	comp=Z,50nm,1.1s					
SLVN	**Son La**	**24.01 301**	P	**P**	**09 13 33.4**	**-1.4**
SLVN				IAmb	IAmb	09 13 47.1	
	comp=Z,47nm,1.1s					
LEM	**Lembang**	**24.43 228**	LR	LR	09 24 19.4	
	comp=Z,841nm,18.8s,baz=64,slow=39					
GYA	**Guiyang**	**24.60 315**	*i*P	**P**	**09 13 46.6**	**+6.3**
GYA			PP	**PnPn**	**09 14 22.3**	**+9.0**
GYA			S	**S**	**09 18 00.5**	**+1.8**
GYA			pmax	pmax		
	comp=Z,10.0nm,0.5s					
GYA			pmax	pmax		
	comp=Z,140nm,3.5s					
GYA			LR	LR		
	comp=Z,790nm,16.0s					
GYA			LR	LR		
	comp=Z,590nm,14.8s					
GYA			LR	LR		
	comp=Z,530nm,15.0s					
CISI	**Cisompet, Garu**	**24.77 227**	P	**P**	**09 13 44.5**	**+2.7**
	comp=Z,63nm,1.1s					
CISI	**Cisompet, Garu**	**24.77 227**	P	**P**	**09 13 42.4**	**+0.5**
CISI			IAmb	IAmb	09 13 56.3	
	comp=Z,42nm,0.7s					
IPM	**Ipoh**	**25.09 260**	P	**P**	**09 13 44.0**	**-0.8**
IPM			IAmb	IAmb	09 13 51.2	
	comp=Z,46nm,0.8s					
IPM	**Ipoh**	**25.09 260**	P	**P**	**09 13 45.0**	**+0.3**
KULM	**Kulim**	**25.29 262**	P	**P**	**09 13 45.2**	**-1.3**
KULM			IAmb	IAmb	09 13 55.0	
	comp=Z,59nm,1.1s					
KULM	**Kulim**	**25.29 262**	P	**P**	**09 13 48.0**	**+1.5**
KNRA	**Kununurra**	**25.38 173**	P	**P**	**09 13 47.7**	**+0.6**
	baz=25,SNR=10					
KNRA	**Kununurra**	**25.38 173**	P	**P**	**09 13 48.7**	**+1.5**
ENH	**Enshi**	**25.50 326**	P	**P**	**09 13 47.2**	**-1.0**
ENH			IAmb	IAmb	09 14 02.4	
	comp=Z,50nm,1.2s					
BKNI	**Bangkinang**	**26.32 251**	P	**P**	**09 13 56.8**	**+1.0**
TJN	**Taejon**	**26.60 3**	*e*P	**P**	**09 13 58.8**	**+0.7**
MNAI	**Manna**	**26.68 239**	P	**P**	**09 13 57.1**	**-2.0**
KMI	**Kunming**	**26.74 308**	P	P	09 14 07.5	+7.7
KMI			pP	pP	09 14 12.4	+0.9
KMI			PP	**PnPn**	**09 14 49.1**	**+6.6**
KMI			S	**S**	**09 18 35.7**	**+2.9**
KMI			sS	sS	09 19 16.2	+24
KMI			SS	SnSn	09 20 16.9	+37
KMI			pmax	pmax		
	comp=Z,20nm,0.5s					
KMI			pmax	pmax		
	comp=Z,130nm,4.2s					
KMI			LR	LR		
	comp=N,850nm,20.1s					
KMI			LR	LR		
	comp=E,680nm,17.9s					
KMI			LR	LR		
	comp=Z,450nm,18.9s					
PDSI	**Padang**	**27.32 249**	P	P	09 14 14.1	+9.2
CMAR	**Chiang Mai Arr**	**27.42 291**	P	**P**	**09 14 02.8**	**-2.9**
	comp=Z,0.8nm,0.3s,baz=113,slow=6.4,SNR=2.2					
CMAR			PcP	**PcP**	**09 17 23.5**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=95,slow=2.0,SNR=1.4					
CMAR			LR	LR	09 25 14.6	
	comp=Z,628nm,18.5s,baz=142,slow=37					
CMAR	**Chiang Mai Arr**	**27.42 291**	*i* P	**P**	**09 14 08.0**	**+2.3**
CMAR			pmax	pmax		
	comp=Z,2.0nm,0.6s					
CHTO	**Chiang Mai**	**27.51 292**	P	**P**	**09 14 05.3**	**-1.2**
CHTO			pmax	pmax		
	comp=Z,31nm,1.5s					
CHTO	**Chiang Mai**	**27.51 292**	P	**P**	**09 14 05.3**	**-1.2**
MNSI	**Mandailing Nat**	**27.52 253**	P	**P**	**09 14 08.3**	**+1.7**
	comp=Z,83nm,0.8s					
INU	**Inuyama**	**27.52 20**	P	**P**	**09 14 06.7**	**+0.3**
PSI	**Prapat**	**27.54 257**	P	**P**	**09 14 06.4**	**-0.6**
	comp=Z,26nm,1.1s,baz=360,slow=2.5,SNR=4.1					
PSI			LR	LR	09 27 33.9	
	comp=Z,640nm,19.1s,baz=89,slow=42					
PSI	**Prapat**	**27.54 257**	P	**P**	**09 14 06.4**	**-0.6**
PSI			pmax	pmax		
	comp=Z,55nm,1.0s					
RPSI	**Rantau Prapat**	**27.57 257**	P	**P**	**09 14 06.3**	**-0.8**
RPSI			IAmb	IAmb	09 14 15.0	
	comp=Z,56nm,1.0s					
RPSI	**Rantau Prapat**	**27.57 257**	P	**P**	**09 14 06.4**	**-0.7**
FITZ	**Fitzroy Crossi**	**27.61 180**	P	**P**	**09 14 07.8**	**+0.5**
	baz=28,SNR=5.8					
FITZ	**Fitzroy Crossi**	**27.61 180**	P	**P**	**09 14 07.1**	**-0.2**
	comp=Z,8.7nm,0.8s,baz=6.3,slow=4.1,SNR=7.6					
FITZ	**Fitzroy Crossi**	**27.61 180**	P	**P**	**09 14 07.3**	**0.0**
KSAR	**Wonju Array Be**	**27.69 4**	P	**P**	**09 14 06.9**	**-1.0**
KSAR	**Wonju Array Be**	**27.69 4**	P	**P**	**09 14 06.9**	**-1.0**
KSRS	**Korea Array**	**27.71 4**	P	**P**	**09 14 07.0**	**-0.9**
	comp=Z,8.8nm,1.0s,baz=185,slow=9.4,SNR=22					
KSRS			LR	LR	09 25 15.3	
	comp=Z,253nm,21.6s,baz=190,slow=37					
KCSI	**Kotacane, Aceh**	**28.47 259**	P	**P**	**09 14 16.5**	**+1.3**
	comp=Z,35nm,0.9s					
PMG	**Port Moresby**	**28.51 131**	P	**P**	**09 14 16.5**	**+1.1**
	comp=Z,31nm,0.9s,baz=335,slow=14,SNR=3.3					
PMG	**Port Moresby**	**28.51 131**	*ce*P	**P**	**09 14 17.6**	**+2.2**
PMG			pmax	pmax		
	comp=Z,29nm,1.1s					
PMG	**Port Moresby**	**28.51 131**	P	**P**	**09 14 11.6**	**-3.8**
PMG			IAmb	IAmb	09 14 23.3	
	comp=Z,57nm,1.1s					
XAN	**Xi'an**	**28.75 330**	P	**P**	**09 14 15.4**	**-2.1**
XAN			pP	pP	09 14 27.0	-2.3
XAN			S	**S**	**09 19 10.7**	**+6.7**
XAN			pmax	pmax		
	comp=Z,9.0nm,0.7s					
XAN			pmax	pmax		
	comp=Z,260nm,3.9s					
XAN			LR	LR		
	comp=Z,670nm,19.6s					
XAN			LR	LR		
	comp=Z,860nm,20.0s					
XAN			LR	LR		
	comp=Z,810nm,17.7s					
XAN	**Xi'an**	**28.75 330**	P	**P**

BJT Baijiatuau 31.39 346 P **P** **09 14 39.6 -1.0**
BJI Beijing 31.41 346 P **P** **09 14 39.6 -1.2**
BJI sP **sP** **09 14 57.4 -0.5**
BJI S **S** **09 19 48.2 +2.8**
BJI sS **sS** **09 20 07.5 +2.3**
BJI pmax pmax
comp=Z,17nm,1.0s
BJI LR LR
comp=Z,480nm,16.0s
BJI LR LR
comp=Z,190nm,16.2s
BJI LR LR
comp=Z,340nm,17.7s
PSA00 Pilbara Seismi 31.61 191 P **P** **09 14 42.9 +0.1**
PSA00 IAmb IAmb 09 14 50.6
comp=Z,38nm,1.0s
SNY Shenyang 32.07 357 ⇓P **P** **09 14 45.8 -0.7**
SNY pmax pmax
comp=Z,21nm,1.3s
SNY pmax pmax
comp=Z,120nm,2.7s
SNY LR LR
comp=Z,350nm,19.1s
SNY LR LR
comp=Z,400nm,21.1s
SNY LR LR
comp=Z,570nm,16.7s
PATS Pohnpei 32.31 93 P **P** **09 14 49.3 +0.2**
LZH Lanzhou 32.98 326 *e*P **P** **09 14 53.8 -1.1**
LZH pP pP 09 15 08.0 +1.3
LZH sP sP 09 15 16.0 +4.0
LZH pmax pmax
comp=Z,26nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.4s
LZH LR LR
comp=Z,1μm,13.9s
LZH LR LR
comp=Z,950nm,13.5s
LZH LR LR
comp=Z,990nm,14.6s
QIS Mount Isa 32.99 156 P **P** **09 14 53.2 -1.7**
baz=33,SNR=49
MSHR Mys Shultsa 33.10 7⇑*e*P **P** **09 14 57.8 +2.2**
MTSU Mount Surprise 33.16 146 P **P** **09 14 59.3 +2.9**
baz=33,SNR=12
HHC Hu-ho-hao-te 33.49 340 *e*P **P** **09 15 01.8 +2.6**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,64nm,4.5s
HHC LR LR
comp=Z,190nm,15.3s
HHC LR LR
comp=Z,180nm,16.2s
BTO Baotou 33.81 338 *e*P P 09 15 13.2 +11
CN2 Changchun 33.98 360 *e*P **P** **09 15 05.1 +1.8**
CN2 *e*S **S** **09 20 26.7 +1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,70nm,3.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,300nm,18.0s
CN2 LR LR
comp=Z,400nm,18.0s
AS31 Alice Springs 34.09 167 P **P** **09 15 03.4 -1.1**
AS31 IAmb IAmb 09 15 12.4
comp=Z,7.6nm,0.4s
ASAR Alice Springs 34.09 167 P **P** **09 15 03.0 -1.4**
comp=Z,2.0nm,0.3s,baz=351,slow=6.8,SNR=45
ASAR PP **PnPn** **09 16 20.5 +1.3**
comp=Z,4.2nm,0.9s,baz=357,slow=18,SNR=4.2
ASAR PcP **PcP** **09 17 41.6 +0.3**
comp=Z,1.2nm,0.7s,baz=1.7,slow=3.2,SNR=1.6
ASAR S **S** **09 20 28.4 +1.0**
comp=Z,2.0nm,1.0s,baz=353,slow=13,SNR=3.0
ASAR LR LR 09 30 13.5
comp=Z,253nm,19.5s,baz=5.5,slow=38
ASAR Alice Springs 34.09 167 P **P** **09 15 03.3 -1.2**
ASAR Alice Springs 34.09 167 P **P** **09 15 03.3 -1.2**
WRKA Warakurna 34.60 176 P **P** **09 15 10.0 +1.1**
baz=35,SNR=19
USA0B Ussuriysk Arra 34.80 8*ce*P **P** **09 15 09.3 -1.0**
USA0B Ussuriysk Arra 34.80 8 P **P** **09 15 09.6 -0.7**
USA0B IAmb IAmb 09 15 20.3
comp=Z,25nm,0.9s
USRK Ussuriysk Ar. 34.80 8 P **P** **09 15 09.6 -0.8**
comp=Z,23nm,0.9s,baz=191,slow=8.2,SNR=22
USRK Ussuriysk Ar. 34.80 8 P **P** **09 15 09.4 -0.9**
USRK Ussuriysk Ar. 34.80 8 P **P** **09 15 09.4 -0.9**
MDJ Mudanjiang 34.95 5 P **P** **09 15 11.4 -0.2**
MDJ pP pP 09 15 23.3 -0.3
MDJ sP sP 09 15 28.1 -0.7
MDJ S **S** **09 20 41.0 +0.7**
MDJ sS sS 09 21 01.0 +0.8
MDJ pmax pmax
comp=Z,19nm,1.3s
MDJ pmax pmax
comp=Z,190nm,4.1s
MDJ Mudanjiang 34.95 5 P **P** **09 15 10.8 -0.9**
MDJ IAmb IAmb 09 15 15.5
comp=Z,38nm,1.1s
CTA Charters Tower 35.80 146 P **P** **09 15 19.8 +0.6**
comp=Z,21nm,0.9s,baz=340,slow=12,SNR=4.1
CTA PP **PP** **09 16 42.8 +1.5**
comp=Z,14nm,1.1s,baz=315,slow=11,SNR=3.1
CTAO Charters Tower 35.80 146 P **P** **09 15 20.2 +0.9**
CTAO pmax pmax
comp=Z,35nm,1.0s
CTAO Charters Tower 35.80 146 P **P** **09 15 20.2 +0.9**
SHL Shillong 35.81 301 P **P** **09 15 18.3 -1.2**
SHL pmax pmax
comp=Z,38nm,0.9s
SHL Shillong 35.81 301 P **P** **09 15 18.3 -1.2**
TEY Ternei 36.43 13⇑*e*P **P** **09 15 23.6 -0.7**
TEY pmax pmax
comp=Z,10.0nm,1.3s
MEEK Meekatharra 36.78 191 P **P** **09 15 30.2 +2.7**
baz=37,SNR=5.8
GTA Gaotai 37.58 326 *e*P **P** **09 15 34.5 +0.1**
GTA pP pP 09 15 46.6 +0.2
GTA sP sP 09 15 51.6 0.0
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA pmax pmax
comp=Z,93nm,7.9s
GTA LR LR
comp=Z,640nm,21.0s
GTA LR LR
comp=Z,550nm,18.9s
GTA LR LR
comp=Z,690nm,21.0s
LSA Lhasa 37.97 307 P **P** **09 15 42.0 +3.8**
LSA pmax pmax
comp=Z,25nm,1.4s
LSA Lhasa 37.97 307 P **P** **09 15 36.9 -1.3**
LSA pmax pmax
comp=Z,23nm,1.1s
LSA Lhasa 37.97 307 P **P** **09 15 36.9 -1.3**
LSA IAmb IAmb 09 15 47.3
comp=Z,23nm,1.1s
YUK Yuzh-Kuril'sk 38.40 23 *e*P **P** **09 15 40.1 -0.9**
YUK *e* 09 17 12.0
YUK *e*S **S** **09 21 27.5 -5.3**
YUK *e*SSS SSS 09 24 42.0
YUK MLR MLR
comp=Z,144nm,16.0s
HNR Honiara 38.96 118 LR LR 09 32 03.4
comp=Z,78nm,19.4s,baz=298,slow=36
MORW Morawa 39.66 193 P **P** **09 15 54.5 +2.8**
baz=40,SNR=4.0
HIA Hailar 39.77 354⇑*e*P **P** **09 15 53.0 +0.6**
HIA pmax pmax
comp=Z,6.0nm,1.2s
HIA Hailar 39.77 354 P **P** **09 15 51.4 -1.1**
YSS Yuzh-Sakhalins 39.84 18⇑*e*P **P** **09 15 54.1 +1.1**
YSS *e* 09 16 05.2
YSS pmax pmax
comp=Z,20nm,1.4s
YSS MLR MLR
comp=Z,300nm,14.0s
TAPN Taplejung 39.93 301 *e*P **P** **09 15 54.3 -0.1**
comp=Z,108nm,1.0s

ODAN Odare 40.05 300 *e*P **P** **09 15 54.8 -0.5**
comp=Z,117nm,1.0s
KUR Kuril'sk 40.19 24⇓*e*P **P** **09 15 57.8 +1.9**
FORT Forrest 40.30 177 P **P** **09 15 57.2 +0.3**
FORT **P** **09 15 57.6 +0.6**
H11S3 WAKE ISLAND Hy 40.55 73 T T 09 58 57.3
baz=265,slow=73,SNR=476
H11S1 WAKE ISLAND Hy 40.56 73 T T 09 59 03.0
baz=265,slow=73,SNR=223
H11S2 WAKE ISLAND Hy 40.57 73 T T 09 59 05.1
baz=265,slow=73,SNR=300
RAMN Ramite 40.75 300 *e*P **P** **09 16 00.6 -0.5**
comp=Z,35nm,0.8s
H11N1 WAKE ISLAND Hy 40.90 71 T T 09 59 18.9
baz=264,slow=74,SNR=575
H11N2 WAKE ISLAND Hy 40.91 71 T T 09 59 19.5
baz=264,slow=74,SNR=379
H11N3 WAKE ISLAND Hy 40.91 71 T T 09 59 20.4
baz=264,slow=74,SNR=677
KMBL Kambalda 40.99 185 P **P** **09 16 04.3 +1.6**
baz=41,SNR=7.3
ULN Ulaanbaatar 41.20 341⇓*e*P **P** **09 16 03.8 -0.7**
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 41.20 341 P **P** **09 16 03.1 -1.4**
JIRN Jiri 41.31 301 *e*P **P** **09 16 05.3 -0.6**
comp=Z,41nm,0.5s
SONM Songino Array 41.39 340 P **P** **09 16 06.0 0.0**
comp=Z,2.4nm,0.7s,baz=159,slow=9.5,SNR=9.5
SONM ScP **ScP** **09 21 48.4 -1.7**
comp=Z,0.4nm,0.3s,baz=180,slow=2.9,SNR=2.5
SONM LR LR 09 35 17.7
comp=Z,249nm,19.6s,baz=116,slow=39
SONM Songino Array 41.39 340 P **P** **09 16 05.2 -0.8**
SONM pmax pmax
comp=Z,14nm,1.4s
SONM Songino Array 41.39 340 P **P** **09 16 05.2 -0.8**
GUN Gumba 41.65 301 *e*P **P** **09 16 07.8 -0.8**
comp=Z,47nm,0.9s
KLBR Kellerberrin 41.76 190 P **P** **09 16 11.8 +2.8**
baz=42,SNR=4.9
GRNR Gornyy 41.88 10⇑*i*P **P** **09 16 10.0 +0.2**
GRNR *e*S **S** **09 22 25.2 +0.4**
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR smax smax
comp=E,9.0nm,1.0s
GRNR MLR MLR
comp=N,120nm,14.0s
GRNR MLR MLR
comp=Z,210nm,16.0s
PKI Pulchoki 41.94 301 *e*P **P** **09 16 10.2 -0.8**
comp=Z,54nm,1.0s
PKIN Phulchoki 41.96 301 *e*P **P** **09 16 10.2 -0.9**
comp=Z,27nm,0.7s
DMN Daman 42.21 301 *e*P **P** **09 16 12.5 -0.6**
comp=Z,33nm,0.9s
MUN Mundaring 42.43 192 P **P** **09 16 16.0 +1.5**
baz=42,SNR=4.0
EIDS Eidsvold 42.69 145 P **P** **09 16 20.0 +3.3**
baz=43,SNR=4.4
EIDS Eidsvold 42.69 145 P **P** **09 16 16.3 -0.4**
EIDS IAmb IAmb 09 16 21.6
comp=Z,21nm,0.9s
NWAO Narrogin (SRO) 43.16 191 P **P** **09 16 23.4 +3.0**
baz=43,SNR=4.7
NWAO Narrogin (SRO) 43.16 191 P **P** **09 16 20.6 +0.3**
comp=Z,35nm,1.0s,baz=28,slow=11,SNR=3.9
NWAO Narrogin (SRO) 43.16 191 P **P** **09 16 20.8 +0.5**
NWAO pmax pmax
comp=Z,36nm,0.9s
NWAO Narrogin (SRO) 43.16 191 P **P** **09 16 20.6 +0.3**
NWAO Narrogin (SRO) 43.16 191 P **P** **09 16 20.8 +0.5**
NWAO IAmb IAmb 09 16 30.1
comp=Z,36nm,0.8s
TYV Tymovskoe 43.34 16 *e*P **P** **09 16 21.9 +0.3**
TYV *e*S **S** **09 22 46.6 +0.4**
TYV pmax pmax
comp=Z,9.0nm,1.8s
TYV smax smax
comp=E,4.0nm,0.8s
BBOO Buckleboo 43.39 167 P **P** **09 16 21.8 -0.4**
baz=43,SNR=48
BBOO Buckleboo 43.39 167 P **P** **09 16 22.1 -0.1**
KOLN Koldanda 43.54 300 *e*P **P** **09 16 22.7 -1.1**
comp=E,103nm,1.2s
DANN Dangsing 43.56 301 *e*P **P** **09 16 23.3 -0.8**
comp=E,47nm,0.7s
ZEA Zeya 43.94 1 *e*P **P** **09 16 25.4 -1.0**
ZEA pmax pmax
comp=Z,28nm,1.2s
ZEA MLR MLR
comp=E,400nm,14.0s
STKA Stephens Creek 44.02 161 P **P** **09 16 26.6 -0.8**
baz=44,SNR=12
STKA Stephens Creek 44.02 161 P **P** **09 16 26.1 -1.2**
comp=E,18nm,0.7s,baz=343,slow=7.6,SNR=19
STKA PP **PP** **09 18 17.8 +7.3**
comp=E,15nm,0.8s,baz=330,slow=11,SNR=3.5
STKA LR LR 09 38 09.3
comp=E,174nm,18.3s,baz=334,slow=41
STKA Stephens Creek 44.02 161 P **P** **09 16 26.5 -0.8**
STKA pmax pmax
comp=Z,15nm,0.8s
STKA Stephens Creek 44.02 161 P **P** **09 16 26.5 -0.8**
ZAK Zakamensk 44.63 340 *e*P **P** **09 16 34.2 +2.1**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
HTT Hallett 44.67 164 P **P** **09 16 33.6 +1.1**
baz=45,SNR=9.3
CMSA Cobar Meteorol 45.22 156 P **P** **09 16 36.3 -0.6**
baz=45,SNR=18
TLY Talaya 45.62 341 *e*P **P** **09 16 40.0 +0.2**
TLY *e* 09 18 26.9
TLY *e*S **S** **09 23 28.0 +8.8**
TLY pmax pmax
comp=Z,14nm,0.6s
TLY MLR MLR
comp=Z,397nm,13.0s
TLY Talaya 45.62 341 P **P** **09 16 39.6 -0.1**
TLY IAmb IAmb 09 16 48.4
comp=Z,16nm,1.0s
HYB Hyderabad 46.45 285 *i*P P 09 16 55.0 +8.1
ARMA Armidale 46.99 149 P **P** **09 16 52.9 +2.0**
baz=47,SNR=3.8
WMQ Urumqi 47.38 323 *e*P **P** **09 16 55.0 +1.2**
WMQ pP pP 09 17 07.7 +1.5
WMQ pmax pmax
comp=Z,19nm,0.6s
WMQ pmax pmax
comp=Z,65nm,3.9s
WMQ LR LR
comp=Z,800nm,18.3s
WMQ LR LR
comp=Z,290nm,18.5s
WMQ LR LR
comp=Z,650nm,22.3s
SANVU Saraoutou 48.04 121 P **P** **09 16 58.9 -0.3**
ARPS Mount Arapiles 48.62 163 P **P** **09 17 03.9 +0.6**
baz=49,SNR=16
YNG Young 48.73 155 P **P** **09 17 05.7 +1.4**
baz=49,SNR=13
CAN Canberra 49.86 155 P **P** **09 17 12.8 -0.1**
CAN pmax pmax
comp=Z,80nm,1.0s
CAN Canberra 49.86 155 P **P** **09 17 12.8 -0.1**
CNB Canberra Magne 50.01 155 P **P** **09 17 14.5 +0.4**
baz=50,SNR=32
PEA0B Petropavlovsk- 50.36 24⇑*e*P **P** **09 17 17.1 +0.7**
PEA0B Petropavlovsk- 50.36 24 P **P** **09 17 17.0 +0.5**
PETK Petropavlovsk- 50.36 24 P **P** **09 17 16.7 +0.2**
comp=Z,18nm,0.9s,baz=197,slow=4.6,SNR=20
PETK LR LR 09 40 51.8
comp=Z,222nm,18.3s,baz=228,slow=39
PETK Petropavlovsk- 50.36 24 P **P** **09 17 16.5 0.0**
PETK Petropavlovsk- 50.36 24 P **P** **09 17 16.4 0.0**
TOO Toolangi 50.51 160 P **P** **09 17 18.8 +1.1**
baz=50,SNR=18
TOO Toolangi 50.51 160 P **P** **09 17 17.9 +0.1**
TOO pmax pmax
comp=Z,67nm,1.0s
TOO Toolangi 50.51 160 P **P** **09 17 17.9 +0.1**
PET Petropavlovsk 50.69 25 *e*P **P** **09 17 20.6 +1.7**
PET *e*S **S** **09 24 32.3 +1.4**
PET pmax pmax
comp=Z,40nm,1.1s

PET Petropavlovsk 50.69 25 P **P** **09 17 19.9 +1.0**
DZM Mont Dzumac 50.86 129 *e*P P 09 17 26.2 +5.4
comp=Z,47nm,1.3s
DZM *e*S **S** **09 24 35.7 +1.4**
comp=Z,109nm,30.6s
DZM *e*LQ LQ 09 29 48.1
comp=Z,1μm,35.5s
DZM *e*LR LR 09 31 56.0
comp=Z,579nm,31.2s
DGZ Jazzator, Alta 51.01 329⇓*e*P **P** **09 17 21.5 0.0**
DGZ pmax pmax
comp=Z,2.0nm,1.1s
MK31 Makanchi Array 52.20 323 *i*P **P** **09 17 28.8 -1.5**
MK31 Makanchi Array 52.20 323 P **P** **09 17 28.4 -1.9**
MKAR Makanchi Array 52.20 323 P **P** **09 17 28.9 -1.5**
comp=Z,2.7nm,0.7s,baz=116,slow=7.9,SNR=16
MKAR LR LR 09 39 02.1
comp=Z,488nm,20.0s,baz=112,slow=35
MKAR Makanchi Array 52.20 323 P **P** **09 17 28.4 -1.9**
SHLS Shalkode 52.24 318 *e*P **P** **09 17 28.5 -2.4**
comp=Z,2.5nm,1.3s,baz=318
SHLS Shalkode 52.24 318 *e*P **P** **09 17 28.5 -2.4**
SHLS pmax pmax
comp=Z,3.0nm,1.3s
YAK Yakutsk 52.32 2 *e*P **P** **09 17 31.1 +0.2**
YAK *e**PP **sP** **09 17 46.9 -1.6**
YAK *e* 09 19 32.9
YAK *e*S **S** **09 24 51.3 -1.7**
YAK *e* 09 27 11.4
YAK *e*SS **SS** **09 28 27.9 -3.2**
YAK pmax pmax
comp=Z,26nm,1.0s
YAK pmax pmax
comp=N,20nm,1.1s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,61nm,2.8s
YAK pmax pmax
comp=N,46nm,2.3s
YAK pmax pmax
comp=E,18nm,2.4s
YAK smax smax
comp=E,36nm,1.8s
YAK smax smax
comp=N,51nm,1.9s
YAK MLR MLR
comp=Z,205nm,19.0s
YAK MLR MLR
comp=N,226nm,19.0s
YAK Yakutsk 52.32 2 P **P** **09 17 29.9 -1.1**
MAKZ Makanchi 52.39 323 P **P** **09 17 33.0 +1.2**
MAKZ Makanchi 52.39 323 P **P** **09 17 30.1 -1.7**
UZB Uzynbulak 52.53 318 *e*P **P** **09 17 32.7 -0.4**
comp=N,1.1nm,0.9s,baz=318
UZB *e*S **S** **09 24 55.0 -2.0**
baz=318
UZB Uzynbulak 52.53 318 *e*P **P** **09 17 32.6 -0.4**
UZB *e*S **S** **09 24 54.9 -2.0**
UZB pmax pmax
comp=Z,1.0nm,0.9s
TARG Taragay, Kyrgy 52.77 316 P **P** **09 17 34.6 -0.6**
MA2 Magadan 53.22 16*de*P **P** **09 17 37.0 -0.6**
MA2 pmax pmax
comp=Z,11nm,1.0s
MA2 Magadan 53.22 16 P **P** **09 17 37.4 -0.2**
MA2 IAmb IAmb 09 17 44.9
comp=Z,13nm,0.8s
KSH Kashi 53.26 312 *e*P P 09 17 43.9 +5.4
KSH pmax pmax
comp=Z,330nm,5.5s
KSH LR LR
comp=Z,620nm,10.6s
KSH LR LR
comp=Z,670nm,12.8s
KSH LR LR
comp=Z,750nm,12.9s
NIL Nilore 53.66 305 P **P** **09 17 40.4 -1.0**
NIL pmax pmax
comp=Z,36nm,0.8s
NIL Nilore 53.66 305 P **P** **09 17 40.4 -1.0**
MDOK Medeo 53.85 317 LR LR 09 41 43.7
comp=Z,168nm,17.7s,baz=317
TNSS Tian-Shan 53.87 317 *e*P **P** **09 17 43.1 -0.2**
baz=317
TNSS Tian-Shan 53.87 317 *e*P **P** **09 17 43.0 -0.2**
AAA Alma-Ata 53.96 317 LR LR 09 41 58.2
comp=Z,180nm,15.8s,baz=317
BOOM Boomskoye usch 54.35 316 P **P** **09 17 46.4 0.0**
BOOM pmax pmax
comp=Z,4.0nm,0.6s
BOOM Boomskoye usch 54.35 316 P **P** **09 17 46.4 0.0**
TKM2 Tokmak 2 54.74 316 P **P** **09 17 53.8 +4.5**
ZAA0 Zalesovo Array 54.90 332 P **P** **09 17 50.1 +0.1**
ZALV Zalesovo Beam 54.90 332 P **P** **09 17 47.4 -2.6**
comp=Z,0.7nm,0.3s,baz=70,slow=18,SNR=3.8
ZALV LR LR 09 42 34.0
comp=Z,268nm,18.6s,baz=100,slow=37
ZALV Zalesovo Beam 54.90 332 *i*P **P** **09 17 52.7 +2.7**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
AAK Ala-Archa 55.40 316⇑*e*P **P** **09 17 54.5 +0.5**
AAK pmax pmax
comp=Z,10.0nm,1.9s
AAK Ala-Archa 55.40 316 P **P** **09 17 53.3 -0.7**
KURK Kurchatov 56.27 326⇓*e*P **P** **09 17 58.2 -1.7**
KURK pmax pmax
comp=Z,7.0nm,0.9s
KURK Kurchatov 56.27 326 P **P** **09 17 57.7 -2.2**
KURK Kurchatov 56.27 326 IAmb IAmb 09 18 11.6
comp=Z,18nm,0.9s
KURBB Kurchatov Arra 56.27 326 P **P** **09 17 57.7 -2.2**
baz=122,slow=7.3
KURBB Kurchatov Arra 56.27 326 P **P** **09 17 59.0 -0.9**
BTK Batken 57.20 312 P **P** **09 18 06.0 -0.8**
BTK pmax pmax
comp=Z,12nm,1.1s
BTK Batken 57.20 312 P **P** **09 18 06.0 -0.8**
BTK IAmb IAmb 09 18 23.0
comp=Z,12nm,1.1s
KBL Kabul 57.26 305 P **P** **09 18 06.7 -0.8**
KBL pmax pmax
comp=Z,14nm,0.8s
KBL Kabul 57.26 305 P **P** **09 18 06.7 -0.8**
KBL IAmb IAmb 09 18 15.4
comp=Z,14nm,0.8s
CHGR Chuyangaron 58.08 310 P **P** **09 18 13.9 +0.8**
KK31 Karatay Array 58.31 315 *i*P P 09 18 19.8 +5.3
KK31 Karatay Array 58.31 315 P **P** **09 18 13.3 -1.2**
KK31 IAmb IAmb 09 18 32.3
comp=Z,12nm,1.1s
KKAR Karatay Array 58.31 315 P **P** **09 18 13.2 -1.3**
KKAR Karatay Array 58.31 315 P **P** **09 18 13.1 -1.3**
KKAR IAmb IAmb 09 18 32.3
comp=Z,12nm,1.1s
KKAR Karatay Array 58.31 315 P **P** **09 18 13.2 -1.3**
IUG Iuzhnay 58.37 314 *e*P **P** **09 18 15.1 0.0**
comp=Z,0.5nm,0.8s,baz=314
IUG Iuzhnay 58.37 314 *e*P **P** **09 18 15.0 0.0**
MSVF Nonsavu 58.38 118 P **P** **09 18 18.6 +3.3**
MSVF pmax pmax
comp=Z,35nm,1.2s
MSVF Nonsavu 58.38 118 P **P** **09 18 18.6 +3.3**
OTUK Ortayu 58.87 321 P **P** **09 18 17.6 -0.7**
BRZS Berezniki 59.34 323 *e*P **P** **09 18 21.2 -0.3**
comp=Z,3.0nm,1.4s,baz=323
BRZS Berezniki 59.34 323 *e*P **P** **09 18 21.2 -0.3**
BRZS pmax pmax
comp=Z,3.0nm,1.4s
BVAR Borovoye Array 61.87 326 P **P** **09 18 37.7 -0.9**
comp=Z,3.5nm,0.8s,baz=116,slow=6.9,SNR=14
TIXI Tiksi 61.94 1*ce*P **P** **09 18 39.3 +0.6**
TIXI pmax pmax
comp=Z,18nm,1.0s
TIXI Tiksi 61.94 1 P **P** **09 18 37.2 -1.5**
BRVK Borovoye 61.94 326 P **P** **09 18 39.7 +0.6**
BRVK Borovoye 61.94 326 P **P** **09 18 37.4 -1.7**
BRVK IAmb IAmb 09 18 51.1
comp=Z,13nm,1.1s
HRA Herat 62.78 304 P **P** **09 18 42.9 -2.5**
HRA IAmb IAmb 09 18 54.5
comp=Z,12nm,0.8s
BILL Bilibino 64.09 16*de*P **P** **09 18 52.6 -0.5**
BILL *i* 09 19 05.9
BILL *i* 09 19 26.0

BILL e 09 21 14.5
BILL eS S 09 27 24.3 -2.1
BILL pmax pmax
comp=Z,17nm,1.3s
BILL MLR MLR
comp=Z,138nm,18.0s
BILL Bilibino 64.09 16 P P 09 18 52.7 -0.5
ATKA Atka Island 64.22 36 P P 09 18 55.3 +1.1
NRIK Noril'sk 64.45 346 P P 09 18 52.6 -2.9
comp=Z,3.3nm,0.9s,baz=122,slow=5.8,SNR=6.5
NRIK LR LR 09 49 37.1
comp=Z,194nm,18.0s,baz=154,slow=38
NRIK Noril'sk 64.45 346‖ eP P 09 18 53.7 -1.7
GEYT Alibeck 66.50 307 P P 09 19 09.2 -0.2
comp=Z,4.5nm,0.9s,baz=114,slow=5.5,SNR=5.5
GEYT LR LR 09 51 46.1
comp=Z,222nm,19.8s,baz=60,slow=39
GEYT Alibeck 66.50 307 P P 09 19 09.2 -0.2
GYA0B ALIBECK ARRAY 66.50 307 P P 09 19 07.4 -1.9
GYA0B IAmb IAmb 09 19 19.3
comp=Z,19nm,1.1s
ABKAR Akbulak array 67.00 320 P P 09 19 09.4 -2.8
AKTO Aktyubinsk 68.46 320 P P 09 19 19.3 -2.1
comp=Z,0.7nm,0.3s,baz=116,slow=9.8,SNR=5.3
AKTO LR LR 09 50 10.3
comp=Z,308nm,19.5s,baz=106,slow=37
UNV Unalaska Valle 69.13 36 P P 09 19 25.5 0.0
ARU Arti 69.44 327 P P 09 19 27.1 -0.3
comp=Z,3.1nm,0.5s,baz=282,slow=18,SNR=1.7
ARU Arti 69.44 327 *c* iP P 09 19 31.2 +3.8
ARU *PP PcP 09 19 50.6 +0.1
ARU 09 22 07.1
ARU S S 09 28 39.0 +7.6
ARU SS SS 09 33 02.2 +3.1
ARU pmax pmax
comp=Z,11nm,0.7s
ARU Arti 69.44 327 IAmb IAmb 09 19 38.6
comp=Z,13nm,0.6s
CNBA Chernabura Isl 73.28 36 P P 09 19 51.2 +0.6
RDOG Red Dog Mine 74.11 22 P P 09 19 57.8 +2.6
RDOG IAmb IAmb 09 19 58.6
comp=Z,16nm,1.1s
CHGN Chignik 74.12 34 P P 09 19 55.2 -0.2
CHGN IAmb IAmb 09 20 04.1
comp=Z,25nm,0.8s
KIRV Kirov 74.68 328‖ eP P 09 19 58.2 -0.4
TTA Tatalina 76.06 27 P P 09 20 07.2 +0.5
TTA pmax pmax
comp=Z,9.0nm,1.2s
TTA Tatalina 76.06 27 P P 09 20 07.2 +0.5
SVW2 Sparrevohn 76.08 29 P P 09 20 07.9 +1.2
SVW2 IAmb IAmb 09 20 10.3
comp=Z,24nm,1.3s
CASY Casey 76.59 186 P P 09 20 10.4 +1.1
CASY IAmb IAmb 09 20 27.2
comp=Z,26nm,1.2s
TBLG Delisi 76.95 311 P P 09 20 11.2 -0.9
TBLG pmax pmax
comp=Z,12nm,0.6s
TBLG Delisi 76.95 311 P P 09 20 11.2 -0.9
TBLG IAmb IAmb 09 20 28.4
comp=Z,12nm,0.6s
OHAK Old Harbor 77.01 33 P P 09 20 13.0 +1.0
OHAK IAmb IAmb 09 20 14.6
comp=Z,22nm,0.9s
OHAK PcP 09 20 20.4 -2.4
IMAR Indian Mountai 77.33 24 P P 09 20 13.2 -0.5
RAYN Ar Rayn 77.34 292 P P 09 20 14.2 -0.4
RAYN pmax pmax
comp=Z,60nm,1.5s
RAYN Ar Rayn 77.34 292 P P 09 20 14.2 -0.4
KDAK Kodiak Island 77.41 33 P P 09 20 15.4 +1.2
KDAK pmax pmax
comp=Z,35nm,1.2s
KDAK Kodiak Island 77.41 33 P P 09 20 15.4 +1.2
KDAK IAmb IAmb 09 20 16.5
comp=Z,35nm,1.2s
ZEI Tsey 77.54 312 eP P 09 20 13.7 -1.9
ZEI pmax pmax
comp=Z,15nm,0.8s
ONI Oni 77.88 312 P P 09 20 20.4 +3.1
AKH Akhalkalaki 77.89 310 P P 09 20 17.5 0.0
AKH pmax pmax
comp=Z,13nm,1.1s
AKH Akhalkalaki 77.89 310 P P 09 20 17.5 0.0
KBZ Khabaz 78.24 313 P P 09 20 17.2 -1.9
comp=Z,3.7nm,1.0s,baz=354,slow=2.5,SNR=5.4
KBZ LR LR 10 00 09.0
comp=Z,157nm,18.2s,baz=84,slow=40
KBZ Khabaz 78.24 313‖ iP P 09 20 17.6 -1.6
KBZ pmax pmax
comp=Z,9.0nm,0.9s
KIV Kislovodsk 78.39 313 *i* P P 09 20 19.5 -0.6
KIV *i* 09 20 26.3
KIV pmax pmax
comp=Z,9.0nm,1.0s
KIV MLR MLR
comp=Z,196nm,20.0s
KIV Kislovodsk 78.39 313 P P 09 20 19.8 -0.4
KIV IAmb IAmb 09 20 27.9
comp=Z,13nm,0.8s
BPAW Bear Paw Mtn. 78.39 26 P P 09 20 19.7 +0.1
BPAW IAmb IAmb 09 20 22.5
comp=Z,28nm,1.1s
TRF Thorofare Moun 78.68 27 P P 09 20 22.1 +0.6
TRF IAmb IAmb 09 20 28.1
comp=Z,17nm,1.1s
VRH Novokhopyorsk 78.80 320 eP P 09 20 17.1 -5.0
VRH pmax pmax
comp=Z,10.0nm,0.8s
COLD Coldfoot 78.81 23 P P 09 20 22.0 +0.1
TOLK Toolik Lake Re 79.09 22 P P 09 20 23.3 -0.1
baz=269
TOLK Toolik Lake Re 79.09 22 P P 09 20 23.7 +0.3
PMR Palmer 79.21 29 P P 09 20 24.2 +0.1
PMR pmax pmax
comp=Z,28nm,1.3s
PMR Palmer 79.21 29 P P 09 20 24.1 +0.1
PMR IAmb IAmb 09 20 40.4
comp=Z,28nm,1.3s
MCK McKinley 79.29 27 P P 09 20 24.9 +0.3
MCK pmax pmax
comp=Z,23nm,0.8s
MCK McKinley 79.29 27 P P 09 20 24.9 +0.3
MCK IAmb IAmb 09 20 41.6
comp=Z,23nm,0.8s
RND Reindeer 79.33 27 P P 09 20 24.4 -0.5
RND pmax pmax
comp=Z,25nm,1.2s
RND Reindeer 79.33 27 P P 09 20 24.4 -0.5
RND IAmb IAmb 09 20 41.1
comp=Z,25nm,1.2s
KNK Knik Glacier 79.53 29 P P 09 20 27.2 +1.2
KNK IAmb IAmb 09 20 27.9
comp=Z,29nm,1.2s
KNK pP 09 20 40.9 +1.9
SML Sawmill 79.59 29 P P 09 20 26.8 +0.5
SML Sawmill 79.59 29 P P 09 20 26.8 +0.5
SML IAmb IAmb 09 20 43.6
comp=Z,28nm,1.0s
WRH Wood River Hil 79.66 26 P P 09 20 26.3 -0.2
COLA College 79.75 26‖ eP P 09 20 26.8 -0.2
COLA pmax pmax
comp=Z,5.0nm,0.9s
CCB Clear Creek Bu 79.78 26 P P 09 20 27.5 +0.4
KLMR Klimovskoe 79.79 330 eP P 09 20 24.3 -3.0
KLMR pmax pmax
comp=Z,46nm,1.2s
KLMR Klimovskoe 79.79 330 eP P 09 20 24.4 -2.9
KLMR AMP 09 20 35.6
comp=Z,46nm,1.2s
DHY Denali Highway 80.00 27 P P 09 20 29.2 +0.6
SCM Sheep Creek Mo 80.06 29 P P 09 20 29.4 +0.5
SCM pmax pmax
comp=Z,31nm,1.0s
SCM Sheep Creek Mo 80.06 29 P P 09 20 29.4 +0.5
SCM IAmb IAmb 09 20 46.5
comp=Z,31nm,1.0s
HDA Harding Lake 80.15 26 P P 09 20 29.0 -0.2
baz=272
HDA Harding Lake 80.15 26 P P 09 20 28.1 -1.1
IL31 80.17 26 P P 09 20 28.8 -0.4
ILAR Eielson Array 80.17 26 P P 09 20 28.6 -0.7
comp=Z,1.9nm,0.9s,baz=257,slow=4.3,SNR=13
ILAR LR LR 09 55 40.1
comp=Z,42nm,21.0s,baz=270,slow=35
TMCR Tamitsa 80.37 334 eP P 09 20 31.0 +0.7
TMCR pmax pmax
comp=Z,23nm,0.9s
VSR Storozhevoye 80.41 320 eP P 09 20 29.8 -1.0
VSR pmax pmax
comp=Z,20nm,1.2s
LPSR Galich'ya Gora 80.47 322 eP P 09 20 28.2 -2.9
LPSR pmax pmax
comp=Z,20nm,0.8s
PRP Porcupine Dome 80.71 25 P P 09 20 32.3 -0.1
FYU Fort Yukon 80.78 24 P P 09 20 33.7 +1.2
FYU IAmb IAmb 09 20 52.1
comp=Z,27nm,1.3s
PAX Paxson 80.88 28 P P 09 20 33.2 0.0
PAX pmax pmax
comp=Z,28nm,1.5s
PAX Paxson 80.88 28 P P 09 20 33.2 0.0
PAX IAmb IAmb 09 20 40.6
comp=Z,28nm,1.5s
BMAR Burnt Mountain 80.99 23 P P 09 20 34.0 +0.3
MOS Moscow 81.03 325 eP P 09 20 38.3 +4.3
RIDG Independent Ri 81.11 27 P P 09 20 33.5 -0.9
RIDG IAmb IAmb 09 20 41.9
comp=Z,41nm,1.3s
RAGM Ragged Mountai 81.43 30 P P 09 20 35.6 -0.5
RAGM IAmb IAmb 09 20 55.0
comp=Z,17nm,1.1s
DOT Dot Lake 81.46 27 P P 09 20 35.5 -0.8
DOT IAmb IAmb 09 20 49.3
comp=Z,10nm,0.7s
SCRK Sand Creek 81.47 26 P P 09 20 37.5 +1.1
SCRK IAmb IAmb 09 20 53.3
comp=Z,20nm,1.4s
MENT Mentasta 81.67 28 P P 09 20 38.3 +0.9
MENT IAmb IAmb 09 20 46.0
comp=Z,13nm,0.8s
OBN Obninsk 81.68 325 LR LR 10 01 01.2
comp=Z,42nm,18.2s,baz=6.5,slow=39
OBN Obninsk 81.68 325 eP P 09 20 35.1 -2.4
OBN *i* 09 20 41.4
OBN *e* 09 23 44.4
OBN pmax pmax
comp=Z,22nm,1.5s
OBN MLR MLR
comp=Z,186nm,17.0s
GLB Gilahina Butte 81.76 29 P P 09 20 38.9 +1.0
GLB IAmb IAmb 09 20 55.9
comp=Z,18nm,1.0s
VRDI Verde Repeater 81.95 29 P P 09 20 39.3 +0.2
MCARA McCarthy VSAT 82.14 29 P P 09 20 38.3 -1.6
MCARA IAmb IAmb 09 20 57.4
comp=Z,12nm,0.9s
WAX Waxell Ridge 82.32 30 P P 09 20 39.2 -1.7
WAX IAmb IAmb 09 20 43.5
comp=Z,20nm,1.1s
BALM Baldy 82.51 29 P P 09 20 42.6 +0.7
BALM IAmb IAmb 09 20 59.9
comp=Z,12nm,1.0s
BCAR Beaver Creek A 82.54 27 P P 09 20 42.3 +0.3
EGAK Eagle 82.61 26 P P 09 20 43.3 +1.1
BARN Barnard Glacie 82.84 29 P P 09 20 43.4 -0.3
BARN IAmb IAmb 09 20 48.5
comp=Z,15nm,0.8s
YAH Yahtse 82.88 30 P P 09 20 43.0 -0.9
CTGM Chitina Glacie 83.01 29 P P 09 20 44.2 -0.3
CTGM IAmb IAmb 09 21 02.5
comp=Z,26nm,1.0s
DAWY Dawson 83.47 26 P P 09 20 47.1 +0.4
DAWY IAmb IAmb 09 20 50.2
comp=Z,28nm,1.3s
JOF Joensuu 83.48 333 P P 09 20 48.8 +2.1
JOF pmax pmax
comp=Z,7.0nm,0.8s
MSF Maaselka 83.97 336 P P 09 20 47.7 -1.5
MSF pmax pmax
comp=Z,38nm,1.2s
EPYK Eagle Plains 84.19 24 P P 09 20 50.0 -0.4
baz=281
EPYK Eagle Plains 84.19 24 P P 09 20 49.0 -1.4
EPYK IAmb IAmb 09 20 58.4
comp=Z,32nm,1.3s
SPA0 Spitsbergen Ar 84.48 349 P P 09 20 50.1 -1.5
SPITS Spitsbergen Ar 84.48 349 P P 09 20 50.7 -0.9
comp=Z,6.4nm,0.8s,baz=83,slow=8.5,SNR=13
ARCES ARCESS Array B 84.56 340 P P 09 20 50.6 -1.6
comp=Z,1.5nm,0.4s,baz=65,slow=5.8,SNR=22
ARCES LR LR 10 01 06.5
comp=Z,148nm,20.0s,baz=86,slow=38
ARCES ARCESS Array B 84.56 340 P P 09 20 50.9 -1.3
ARCES ARCESS Array B 84.56 340 P P 09 20 50.9 -1.3
HYT Haines Junctio 84.88 29 P P 09 20 53.4 -0.6
HYT IAmb IAmb 09 20 57.0
comp=Z,23nm,1.2s
INK Inuvik 85.00 22 P P 09 20 53.7 -0.6
INK pmax pmax
comp=Z,15nm,1.2s
INK Inuvik 85.00 22 P P 09 20 53.7 -0.6
INK IAmb IAmb 09 20 56.2
comp=Z,15nm,1.1s
OUL Oulu 85.42 335 P P 09 20 55.6 -0.9
OUL pmax pmax
comp=Z,14nm,1.1s
BR131 Keskin Array S 85.52 309‖ eP P 09 20 55.7 -2.1
BRTR Keskin Array B 85.52 309 P P 09 20 56.0 -1.8
comp=Z,1.2nm,0.9s,baz=128,slow=3.6,SNR=4.1
BRTR LR LR 10 04 30.8
comp=Z,66nm,19.8s,baz=60,slow=39
BRTR Keskin Array B 85.52 309 *i* P P 09 20 56.7 -1.1
BRTR pmax pmax
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 85.52 309 P P 09 20 55.5 -2.2
SUF Sumiainen 85.84 333 P P 09 20 56.8 -1.8
SUF pmax pmax
comp=Z,46nm,1.0s
FIA1 FINESS Array S 86.17 332 P P 09 20 58.5 -1.7
FINES FINESS Array B 86.17 332 P P 09 20 58.2 -2.0
comp=Z,3.3nm,0.6s,baz=85,slow=5.0,SNR=16
FINES LR LR 10 01 46.7
comp=Z,180nm,20.5s,baz=88,slow=37
FINES FINESS Array B 86.17 332 P P 09 20 58.4 -1.9
WHY Whitehorse 86.17 29 P P 09 21 00.1 -0.4
SKAG Skagway 86.22 30 P P 09 21 01.4 +0.9
CSS Mathiatis 86.51 305 P P 09 21 01.5 -1.1
VSU Vasula 86.51 329‖ eP P 09 21 01.7 -0.3
VSU pmax pmax
comp=Z,11nm,0.5s
A36M Sachs Harbour 86.61 17 P P 09 21 02.1 -0.1
baz=291
AKASG Malin Array Be 86.70 321 P P 09 21 00.8 -2.3
comp=Z,0.5nm,0.3s,baz=64,slow=5.6,SNR=1.4
AKASG LR LR 10 00 23.3
comp=Z,181nm,21.7s,baz=105,slow=36
AKBB Malin Array Si 86.70 321‖ eP P 09 21 00.8 -2.3
AKBB Malin Array Si 86.70 321 P P 09 21 01.3 -1.9
KIEV Kiev 86.71 321 P P 09 21 00.0 -3.2
NOR Nord 87.11 355 P P 09 21 06.8 +2.2
NOR pmax pmax
comp=Z,9.0nm,1.4s
VAF Ylistaro 87.31 334 P P 09 21 06.9 +1.1
VAF pmax pmax
comp=Z,22nm,1.1s
PPT Papeete 87.85 108 LR LR 09 54 09.0
comp=Z,57nm,20.2s,baz=302,slow=31
PPT2 Papeete2 87.85 108 eS S 09 31 48.0 -1.5
comp=Z,69nm,27.2s
PPT2 Papeete2 87.85 108 eLR LR 09 49 04.7
comp=Z,217nm,24.2s
C36M Paulatuk 87.94 19 P P 09 21 08.2 -0.5
baz=292
ISP Isparta 88.25 308 P P 09 21 07.5 -3.5
ISP pmax pmax
comp=Z,61nm,0.6s
ISP Isparta 88.25 308 P P 09 21 07.5 -3.5
WRAK Wrangell Islan 88.49 33 P P 09 21 09.1 -2.4
WRAK IAmb IAmb 09 21 13.8
comp=Z,12nm,1.4s
KMBO Kilima Mbogo 88.73 269 P P 09 21 13.8 -0.2
comp=Z,0.7nm,0.3s,baz=76,slow=12,SNR=1.1
KMBO Kilima Mbogo 88.73 269 P P 09 21 11.6 -2.3
KMBO pmax pmax
comp=Z,15nm,1.5s
KMBO Kilima Mbogo 88.73 269 P P 09 21 11.6 -2.3
KMBO IAmb IAmb 09 21 23.3
comp=Z,15nm,1.5s
MAW Mawson 88.99 200 P P 09 21 14.0 +0.5
comp=Z,2.2nm,0.9s,baz=46,slow=12,SNR=2.7
MAW LR LR 09 58 47.2
comp=Z,45nm,20.4s,baz=60,slow=34
MAW Mawson 88.99 200 P P 09 21 12.2 -1.3
MAW pmax pmax
comp=Z,2.0nm,1.2s
MAW Mawson 88.99 200 P P 09 21 12.2 -1.3
TBI Tubuai 89.03 114 eS S 09 32 02.1 +1.7
comp=Z,94nm,26.5s
TBI Tubuai 89.03 114 eLQ LQ 09 45 43.2
comp=Z,366nm,36.5s
TBI eLR LR 09 49 36.7
comp=Z,216nm,27.5s
VNDA Vanda 89.42 173 P P 09 21 14.4 -1.0
comp=Z,4.3nm,1.0s,baz=306,slow=5.2,SNR=12
VNDA PP PP 09 24 50.9 +3.9
comp=Z,4.2nm,1.1s,baz=321,slow=7.5,SNR=3.8
VNDA LR LR 10 01 37.0
comp=Z,104nm,18.9s,baz=343,slow=36
VNDA Vanda 89.42 173 P P 09 21 16.1 +0.7
VNDA pmax pmax
comp=Z,10.0nm,0.9s
VNDA Vanda 89.42 173 P P 09 21 16.1 +0.7
VNDA IAmb IAmb 09 21 35.5
comp=Z,10nm,0.9s
MANT Manisa 89.63 309 P P 09 21 14.9 -2.8
BURAR Bucovina Array 89.95 318 P P 09 21 17.2 -1.6
BUR08 Bucovina Ar. S 89.95 318 P P 09 21 16.5 -2.3
DAG Danmarks Havn 91.26 352 *i* P P 09 21 21.9 -2.2
DAG Danmarks Havn 91.26 352 *i* P P 09 21 21.9 -2.2
UZH Uzhgorod 91.57 320 eP P 09 21 27.8 +1.7
UZH *e* 09 21 39.6
UZH *e* 09 21 46.0
CRVS Cervenica-Dubn 92.02 320 eP P 09 21 28.8 +0.6
CRVS Cervenica-Dubn 92.02 320 eP P 09 21 28.8 +0.6
NIE Niedzica 92.59 321 P P 09 21 32.3 +1.4
NIE pmax pmax
comp=Z,5.0nm,1.2s
NB2 NORSAR Subarra 93.06 334 P P 09 21 29.9 -2.9
comp=Z,8.5nm,1.1s,baz=66,slow=4.6
NB2 NORSAR Subarra 93.06 334 P P 09 21 29.9 -2.9
baz=66,slow=4.6
NOA NORSAR Array B 93.06 334 P P 09 21 30.1 -2.8
comp=Z,1.1nm,0.9s,baz=66,slow=4.6,SNR=4.2
NOA LR LR 10 06 12.3
comp=Z,158nm,20.9s,baz=65,slow=37
YKA Yellowknife Ar 94.48 24 P P 09 21 39.1 -0.2
comp=Z,2.8nm,0.9s,baz=294,slow=4.4,SNR=19
CONA Conrad Observa 95.86 321 *i* PcP P 09 21 44.7 -1.3
comp=Z,6.7nm,1.5s
KULLO Kullorsuaq 95.87 1 *i* P P 09 21 44.2 -1.2
comp=Z,2.2nm,1.1s
KULLO Kullorsuaq 95.87 1 *i* P P 09 21 44.2 -1.2
KULLO pmax pmax
comp=Z,22nm,1.1s
BRG Berggiesshubel 95.91 324 eP P 09 21 47.0 +0.9
comp=Z,1.5nm,0.5s
BRG *e* 09 21 53.6
comp=Z,14nm,1.6s
comp=N,178nm,17.7s
comp=E,94nm,16.5s
comp=Z,199nm,16.0s
BRG Berggiesshubel 95.91 324 eP P 09 21 47.0 +0.9
BRG pmax pmax
comp=Z,2.0nm,0.5s
BRG MLR MLR
comp=N,178nm,17.7s
BRG MLR MLR
comp=E,94nm,16.5s
BRG MLR MLR
comp=Z,199nm,16.0s
D03D Eldon 96.77 40 P P 09 21 49.1 -0.9
baz=292
KHC Kasperske Hory 96.81 322‖ eP P 09 21 50.6 +0.4
KHC pmax pmax
comp=Z,4.0nm,1.3s
SOKA Soboth 96.84 320 *i* PcP P 09 21 48.4 -2.1
comp=Z,4.6nm,1.4s
GERES GERESS Array B 96.85 322 P P 09 21 48.7 -1.8
comp=Z,0.4nm,0.4s,baz=54,slow=5.4,SNR=6.0
MOA Molln 96.89 321 *i* P P 09 21 47.0 -3.6
comp=Z,8.7nm,1.2s
KBA Koelnbreinsper 97.76 320 *i* P P 09 21 51.4 -3.4
comp=Z,3.5nm,1.0s
WTTA Wattenberg 98.75 321 *i* Pdiff P 09 21 57.8 -1.4
comp=Z,4.8nm,0.6s
SQTA Sankt Quirin 99.04 321 *i* Pdiff Pdif 09 21 59.5 -0.9
comp=Z,4.0nm,0.7s
MOTA Moosalm 99.05 321 *i* Pdiff Pdif 09 21 57.8 -2.7
comp=Z,7.1nm,1.4s
FETA Feichten 99.42 321 *i* Pdiff Pdif 09 22 01.2 -0.9
comp=Z,4.4nm,0.9s
NVAR Mina Array Bea 103.59 47 Pdiff Pdif 09 22 21.9 +0.9
comp=Z,0.2nm,0.5s,baz=266,slow=2.6,SNR=2.0
TXAR Lajitas Array 118.57 49 PKP PKPdf 09 27 07.3 -0.5
comp=Z,0.6nm,0.6s,baz=345,slow=0.5,SNR=4.9
TXAR Lajitas Array 118.57 49 PKIKP PKPdf 09 27 06.7 -1.1
TXAR Lajitas Array 118.57 49 PKPdf 09 27 06.7 -1.1
TORD Torodi Ar. Bea 120.03 291 PKP PKPdf 09 27 08.3 -2.5
comp=Z,1.4nm,0.8s,baz=29,slow=3.3,SNR=5.3
TORD Torodi Ar. Bea 120.03 291 PKPdf 09 27 08.1 -2.7
S39A Bolivar 120.34 35 PKPdf PKPdf 09 27 09.5 -1.3
JCT Junction City 120.75 46 PKIKP PKPdf 09 27 10.9 -1.0
JCT Junction City 120.75 46 PKPdf PKPdf 09 27 10.9 -1.0
PLCA Paso Flores 145.87 158 PKPbc PKPab 09 27 59.8 +0.5
comp=Z,14nm,0.8s,baz=252,slow=4.0,SNR=12
PLCA Paso Flores 145.87 158 PKP2 PKPdf 09 27 57.2 -1.1
PLCA Paso Flores 145.87 158 PKPdf 09 27 57.2 -1.1
LC01 Cunco 146.90 154 PKPdf 09 27 59.1 -0.9
SMLC San Martn de 153.02 48 eP PKPbc 09 28 16.0 -1.6
CBOC Ciudad Bolivar 153.35 55 eP PKPbc 09 28 17.8 -1.8
OCAC Ocana 153.94 47 eP PKiKP 09 28 21.5 +1.5
YOTC Yotoco, Valle 154.11 59 eP PKPdf 09 28 15.0 +2.9
PTBC PUERTO BERRIO 154.19 52 eP PKPdf 09 28 12.4 +0.4
GUY2C Guyana, Caldas 154.24 56 eP PKPbc 09 28 19.7 -1.3
BBAC Balboa, Cauca 154.28 64 eP PKPbc 09 28 19.7 -1.0
RREF El Recreo 154.44 56 eP PKPbc 09 28 19.7 -1.9
TOLC Tolima 154.64 57 eP PKPdf 09 28 12.4 -0.7
SPBC San Pablo de B 155.03 53 eP PKPdf 09 28 17.8 +4.5
ORTC Ortega, Tolima 155.07 58 eP PKPdf 09 28 25.1 +12
SDV Santo Domingo 155.35 42 PKPdf 09 28 19.4 +5.5
RUSC La Rusia 155.65 51 PKPdf PKPdf 09 28 12.1 -2.6
RUSC PKPab pPKPbc 09 28 38.7 +1.0
MACC Macarena, Meta 157.19 60 eP PKPab 09 28 43.3 -3.6
LVC Limon Verde 160.94 134 PKP2 PKPab 09 29 02.8 -0.5
LVC Limon Verde 160.94 134 PKPab PKPab 09 29 02.8 -0.5
PTGA Pitinga 169.42 33 PKPab PKPab 09 29 39.8 -0.5

IDC **11** *09:14:54.1±37.0, 7°.73N×126°.59E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/41, mbtmp3.9/4, Error ellipse: s-maj=637.7km s-min=134.4km az=161.0*
MAN **11** *09:15:01.6, 6°.49N×126°.79E, h47km, mb4.8, ML3.7, MS3.6*
ISC 11 09:15:09.6±1.2, 6°.36N±0°.07×126°.22E±0°.10, h35km, n18, σ1§89/14, **mb3.7/4, 2C-2D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.57**	**244**	*eP*		**Pn**	**09 15 21.3**	**+0.1**
DDMP				*eS*		**Sn**	**09 15 31.5**	**+2.1**
MATI	**Mati**	**0.59**	**3**	*eP*		Pn	09 15 16.6	-4.9
MATI				*eS*		Sn	09 15 24.9	-5.0
DMPH	**Davao City--Mi**	**1.01**	**316**	↓ *iP*		**Pn**	**09 15 28.5**	**+1.1**
DMPH				*iS*		**Sn**	**09 15 43.0**	**+2.6**
GSPH	**General Santos**	**1.29**	**258**	‖ *iP*		**Pn**	**09 15 29.0**	**-2.3**
KCP	**Kidapawan**	**1.30**	**300**	↑ *iP*		**Pn**	**09 15 30.4**	**-0.9**
SKMP	**Bagumbayan, Su**	**1.68**	**276**	*eP*		**Pn**	**09 15 34.7**	**-1.8**
SKMP				*eS*		**Sn**	**09 15 55.5**	**-1.3**
BUKP	**Musuan**	**1.90**	**323**	*eP*		**Pn**	**09 15 36.6**	**-3.0**
CTBH	**Cotabato--PC H**	**2.14**	**294**	↑ *iP*		**Pn**	**09 15 42.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**24.31**	**181**	P		**P**	**09 20 26.3**	**+2.3**
	1.8nm,0.5s,baz=28,slow=9.6,SNR=1.7							
WRA	**Warramunga Arr**	**27.33**	**163**	P		**P**	**09 20 52.2**	**+0.8**
	1.0nm,0.8s,baz=344,slow=9.6,SNR=1.8							
ASAR	**Alice Springs**	**30.77**	**166**	P		**P**	**09 21 22.1**	**+0.1**
	0.7nm,0.6s,baz=347,slow=7.7,SNR=5.7							
STKA	**Stephens Creek**	**40.75**	**160**	P		**P**	**09 22 46.2**	**-1.2**
	2.5nm,0.7s,baz=329,slow=10,SNR=4.6							
H11S3	**WAKE ISLAND Hy**	**41.21**	**69**	T		T	10 06 45.7	
	baz=247,slow=76,SNR=6.5							
H11S1	**WAKE ISLAND Hy**	**41.23**	**69**	T		T	10 06 42.0	
	baz=247,slow=76,SNR=7.5							
H11S2	**WAKE ISLAND Hy**	**41.23**	**69**	T		T	10 06 50.1	
	baz=247,slow=76,SNR=6.8							

H11N1	**WAKE ISLAND Hy**	**41.66**	**67**	T	T	10 07 32.8	
	baz=257,slow=75,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**41.67**	**67**	T	T	10 07 33.5	
	baz=257,slow=75,SNR=2.8						
H11N3	**WAKE ISLAND Hy**	**41.68**	**67**	T	T	10 07 31.6	
	baz=257,slow=75,SNR=3.4						

IDC ***11*** *09:19:44.9±1.0,54.˚29S×146.˚78W,h0km,mb4.4/4, mb1 4.5/4,mb1mx4.1/30,mbtmp4.4/4,Error ellipse: s-maj=40.4km s-min=28.9km az=16.0*

NEIC ***11*** *09:19:47.0±1.5,54.˚36S±0.˚09×146.˚9W±0.˚2,h10km±1km, mb4.7/7,Error ellipse: s-maj=22.5km s-min=14.4km az=109.0*

ISC 11 09:19:46.8±0.7,54.˚3S±0.˚2×146.˚9W±0.˚1,h10km,n30, σ1§34/24,mb4.4/8,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSWZ	**Moikau Station**	**28.09**	**282**	P	**P**	**09 25 39.3**	**+0.9**
VNDA	**Vanda**	**29.47**	**200**	P	**P**	**09 25 49.9**	**-0.4**
	2.1nm,0.5s,baz=100,slow=13,SNR=11						
VNDA	**Vanda**	**29.47**	**200**	P	**P**	**09 25 49.9**	**-0.4**
USHA	**Ushuaia**	**43.25**	**124**	P	**P**	**09 27 47.7**	**-0.2**
	9.9nm,0.4s,baz=296,slow=14,SNR=2.3						
H03S2	**Juan Fernandez**	**50.83**	**95**	T	T	10 23 29.3	
	baz=222,slow=74,SNR=5.2						
H03S1	**Juan Fernandez**	**50.83**	**95**	T	T	10 23 30.2	
	baz=222,slow=74,SNR=5.2						
H03S3	**Juan Fernandez**	**50.84**	**95**	T	T	10 23 28.9	
	baz=222,slow=74,SNR=4.2						
H03N3	**Juan Fernandez**	**51.10**	**95**	T	T	10 23 48.0	
	baz=226,slow=72,SNR=12						
H03N2	**Juan Fernandez**	**51.10**	**95**	T	T	10 23 46.1	
	baz=226,slow=72,SNR=8.0						
H03N1	**Juan Fernandez**	**51.12**	**95**	T	T	10 23 46.2	
	baz=226,slow=72,SNR=8.1						
SNAA	**Sanae**	**51.81**	**166**	P	**P**	**09 28 55.0**	**+0.8**
SNAA				IAmb	IAmb	09 28 56.5	
	comp=Z,5.0nm,1.2s						
CO02	**Combarbal**	**57.34**	**99**	P	**P**	**09 29 35.2**	**+0.2**
PB06	**IPOC Station P**	**64.58**	**94**	P	**P**	**09 30 23.0**	**-1.3**
PB06				IAmb	IAmb	09 30 42.2	
	comp=Z,12nm,0.8s						
ASAR	**Alice Springs**	**64.88**	**264**	P	**P**	**09 30 27.2**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=149,slow=6.6,SNR=12						
ASAR	**Alice Springs**	**64.88**	**264**	P	**P**	**09 30 25.4**	**-0.7**
WB2	**Warramunga Arr**	**67.50**	**267**	P	**P**	**09 30 41.0**	**-2.0**
WB2				IAmb	IAmb	09 30 55.9	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**67.51**	**267**	P	**P**	**09 30 43.5**	**+0.5**
	comp=Z,1.4nm,1.0s,baz=149,slow=5.4,SNR=5.6						
WRA	**Warramunga Arr**	**67.51**	**267**	P	**P**	**09 30 41.6**	**-1.4**
WRAB	**Tennant Creek**	**67.51**	**267**	P	**P**	**09 30 39.9**	**-3.1**
WRAB				IAmb	IAmb	09 30 53.4	
	comp=Z,3.8nm,1.1s						
ILAR	**Eielson Array**	**118.73**	**0**	PKP	**PKiKP**	**09 38 34.2**	**+0.6**
	comp=Z,1.3nm,1.0s,baz=248,slow=2.6,SNR=9.0						
IMAR	**Indian Mountai**	**120.06**	**357**		**PKiKP**	**09 38 36.3**	**+0.2**
BMAR	**Burnt Mountain**	**121.41**	**1**		**PKiKP**	**09 38 39.5**	**+0.7**
SUMG	**Summit**	**145.94**	**31**		**PKPdf**	**09 39 24.7**	**+0.1**
MKAR	**Makanchi Array**	**148.39**	**277**	PKPbc	**PKPbc**	**09 39 32.0**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=123,slow=4.5,SNR=8.1						
MKAR	**Makanchi Array**	**148.39**	**277**		**PKPbc**	**09 39 31.9**	**-0.6**
ESDC	**Sonseca Array**	**151.21**	**105**	PKPbc	**PKPbc**	**09 39 38.5**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=267,slow=2.3,SNR=5.4						
ESDC	**Sonseca Array**	**151.21**	**105**	PKPbc	**PKiKP**	**09 39 40.9**	**+0.7**
KURBB	**Kurchatov Arra**	**152.42**	**281**	PKPbc	**PKPbc**	**09 39 39.7**	**-2.3**
	comp=Z,1.0nm,0.8s,baz=111,slow=1.9,SNR=5.6						
BVAR	**Borovoye Array**	**158.00**	**282**	PKPab	**PKPab**	**09 40 16.2**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=100,slow=6.8,SNR=4.3						
CIMO	**Cimolais**	**164.64**	**113**		**PKPdf**	**09 39 52.7**	**+2.9**

IDC ***11*** *09:30:27.1±4.3,27.˚60N×142.˚80E,h0km,mb3.9/6, mb1 3.9/8,mb1mx3.6/49,mbtmp3.8/8,ML2.7/2,Error ellipse: s-maj=181.5km s-min=20.2km az=76.0*

NEIC ***11*** *09:30:30.7±1.6,27.˚64N±0.˚06×142.˚6E±0.˚1,h24km±4km, mb4.6/5,Error ellipse: s-maj=17.1km s-min=9.3km az=91.0*

ISC 11 09:30:31.5±1.0,27.˚60N±0.˚09×142.˚6E±0.˚2,h30km,n19, σ0§80/19,mb4.2/7,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**0.65**	**219**	Pn	**Pb**	**09 30 43.9**	**-0.4**
MJAR	**Matsushiro Arr**	**9.67**	**338**	Pn	**Pn**	**09 32 48.0**	**-0.6**
	0.1nm,0.3s,baz=150,slow=9.9,SNR=7.1						
MJAR	**Matsushiro Arr**	**9.67**	**338**		**Pn**	**09 32 47.1**	**-1.5**
MAJO	**Matsushiro**	**9.67**	**338**	Pn	**Pn**	**09 32 48.0**	**-0.7**
USRK	**Ussuriysk Ar.**	**18.65**	**335**	P	**Pn**	**09 34 48.2**	**+1.0**
	baz=146,slow=12,SNR=5.3						
NACB	**Ninganchiao**	**19.24**	**265**	P	**P**	**09 34 53.5**	**0.0**
NACB				IAmb	IAmb	09 34 54.2	
	comp=Z,67nm,1.5s						
WRA	**Warramunga Arr**	**47.94**	**191**	P	**P**	**09 39 07.3**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=12,slow=8.3,SNR=13						
WRA	**Warramunga Arr**	**47.94**	**191**	P	**P**	**09 39 07.0**	**-0.4**
MKAR	**Makanchi Array**	**50.47**	**309**	P	**P**	**09 39 27.4**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=87,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**50.47**	**309**	P	**P**	**09 39 25.5**	**-1.1**
ASAR	**Alice Springs**	**51.66**	**190**	P	**P**	**09 39 36.5**	**+0.8**
	comp=Z,0.4nm,0.8s,baz=12,slow=7.1,SNR=4.4						
ASAR	**Alice Springs**	**51.66**	**190**	P	**P**	**09 39 36.1**	**+0.4**
KURK	**Kurchatov**	**52.92**	**314**	P	**P**	**09 39 45.2**	**+0.5**
KURBB	**Kurchatov Arra**	**52.98**	**314**	P	**P**	**09 39 45.8**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=91,slow=7.8,SNR=5.1						
SCM	**Sheep Creek Mo**	**56.67**	**32**	P	**P**	**09 40 11.7**	**-0.2**
SCM				IAmb	IAmb	09 40 21.4	
	comp=Z,6.1nm,1.0s						
BVAR	**Borovoye Array**	**57.95**	**317**	P	**P**	**09 40 22.2**	**+1.3**
	comp=Z,1.2nm,0.5s,baz=80,slow=9.3,SNR=6.2						
ABKAR	**Akbulak array**	**65.03**	**314**	P	**P**	**09 41 09.4**	**+0.6**
AKTO	**Aktyubinsk**	**65.95**	**316**	P	**P**	**09 41 14.5**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=101,slow=5.2,SNR=1.9						
MFID	**Camas Ranch**	**79.26**	**47**		**P**	**09 42 34.0**	**-0.3**

ANF ***11*** *09:38:04.9±0.1,35.˚00N×116.˚91W,h9km±1km,ML4.0/42, Error ellipse: s-maj=1.2km s-min=1.1km az=173.0*

NEIC ***11*** *09:38:05.6±1.4,35.˚01N±0.˚01×116.˚91W±0.˚01,h6km±5km, Error ellipse: s-maj=1.8km s-min=1.6km az=187.0*

IDC ***11*** *09:38:05.2±0.8,34.˚96N×116.˚75W,h0km,mb1 3.5/4, mb1mx3.3/41,mbtmp3.1/4,ML3.4/4,Error ellipse: s-maj=15.9km s-min=6.7km az=72.0*

SCEDC ***11*** *09:38:05.7,35.˚00N×116.˚92W,h2km,ML4.0,ML4.0,ML4.0, ML4.0,ML4.0,ML4.0,MWR3.6*

PAS ***11*** *09:38:05.7±1.6,35.˚00N±0.˚01×116.˚92W±0.˚01,h2km±6km, ML4.0/255,Error ellipse: s-maj=1.9km s-min=1.5km az=218.0*

ISC 11 09:38:05.6±0.8,35.˚00N±0.˚01×116.˚92W±0.˚01,h10km±6km, n153,σ0§90/198,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FLSC	**Flash Two Peak**	**0.10**	**251**		**Pg**	**09 38 08.1**	**-0.3**
RRX	**Edison Barstow**	**0.14**	**206**	P	**Pg**	**09 38 08.4**	**-0.5**
	baz=28,SNR=1000						
RRX				S	**Sg**	**09 38 11.1**	**-0.1**
	baz=28						
RRX	**Edison Barstow**	**0.14**	**206**		**Pg**	**09 38 08.8**	**-0.1**
RRX					**Sg**	**09 38 11.2**	**-0.1**
ALV	**Alvord Mountai**	**0.25**	**76**		**Pg**	**09 38 10.5**	**-0.2**
GSC	**Goldstone, Bar**	**0.31**	**18**	P	**Pg**	**09 38 11.6**	**-0.4**
	baz=197,SNR=1000						
GSC				S	**Sg**	**09 38 16.2**	**-0.1**
	baz=197						
GSC	**Goldstone, Bar**	**0.31**	**18**		**Pg**	**09 38 11.9**	**-0.1**
GSC				Sg	**Sg**	**09 38 16.2**	**-0.1**
HEC	**Hector,Ludlow**	**0.51**	**110**	P	**Pg**	**09 38 15.3**	**-0.3**
	baz=290,SNR=874						
HEC				S	**Sg**	**09 38 22.3**	**-0.2**
	baz=290						
HEC	**Hector,Ludlow**	**0.51**	**110**		**Pg**	**09 38 15.3**	**-0.3**
HEC					**Sg**	**09 38 22.6**	**+0.2**
HYS	**Haystack Butte**	**0.55**	**256**		**Pg**	**09 38 16.2**	**-0.2**
HYS					**Sg**	**09 38 23.3**	**-0.3**
VTV	**Victorville**	**0.55**	**217**		**Pg**	**09 38 16.2**	**-0.2**
VTV					**Sg**	**09 38 23.9**	**+0.1**
ADO	**Adelanto Recei**	**0.62**	**223**		**Pg**	**09 38 17.6**	**0.0**
ADO					**Sg**	**09 38 26.6**	**+0.8**
CCCA	**Chr Cany lake**	**0.64**	**325**		**Pg**	**09 38 17.9**	**-0.1**
CCCA					**Sg**	**09 38 26.2**	**-0.2**
DSCC	**Desert Studies**	**0.69**	**78**		**Pg**	**09 38 18.5**	**-0.4**
DSCC					**Sg**	**09 38 27.8**	**-0.1**
BBRC	**Big Bear Solar**	**0.74**	**180**	P	**Pg**	**09 38 19.6**	**-0.4**
	baz=0.3,SNR=242						
BBRC				S	**Sg**	**09 38 29.6**	**0.0**
	baz=0.3						
BBRC	**Big Bear Solar**	**0.74**	**180**		**Pg**	**09 38 19.6**	**-0.4**
BBRC					**Sg**	**09 38 29.8**	**+0.1**
BTL	**Butler Peak**	**0.75**	**185**		**Pg**	**09 38 19.9**	**-0.2**
LRMC	**Laurel Mtn Rad**	**0.78**	**308**	P	**Pg**	**09 38 20.4**	**-0.4**
	baz=127,SNR=1000						
LRMC	**Laurel Mtn Rad**	**0.78**	**308**		**Pg**	**09 38 20.4**	**-0.4**
DTP	**Desert Tortois**	**0.80**	**290**		**Pg**	**09 38 20.7**	**-0.4**
SBB	**Saddle Back Bu**	**0.81**	**247**		**Pg**	**09 38 20.6**	**-0.6**
SBB					**Sg**	**09 38 31.2**	**-0.5**
EDW2	**Edwards Air Fo**	**0.89**	**262**	P	**Pg**	**09 38 22.2**	**-0.6**
	baz=82,SNR=452						
EDW2				S	**Sg**	**09 38 33.7**	**-0.7**
	baz=82						
EDW2	**Edwards Air Fo**	**0.89**	**262**		**Pg**	**09 38 22.2**	**-0.6**
EDW2					**Sg**	**09 38 34.2**	**-0.2**
SVD	**Seven Oaks Dam**	**0.91**	**189**		**Sg**	**09 38 34.7**	**-0.2**
CCAC	**Calif City Air**	**0.91**	**280**		**Pg**	**09 38 22.8**	**-0.4**
HLNC	**Highland**	**0.91**	**196**		**Pg**	**09 38 22.8**	**-0.5**
HLNC					**Sg**	**09 38 35.4**	**+0.3**
TUQ	**Turquoise Moun**	**0.92**	**62**	P	**Pg**	**09 38 22.7**	**-0.7**
	baz=242,SNR=420						
TUQ				S	**Sg**	**09 38 35.3**	**-0.2**
	baz=242						
TUQ	**Turquoise Moun**	**0.92**	**62**		**Pg**	**09 38 22.8**	**-0.7**
CFSC	**Central Fire S**	**0.94**	**199**		**Pg**	**09 38 23.5**	**-0.3**
CFSC					**Sg**	**09 38 36.6**	**+0.5**
CLTC	**Calectric**	**0.96**	**200**		**Pg**	**09 38 24.1**	**-0.1**
CLTC					**Sb**	**09 38 37.4**	**+0.1**
BFSC	**Mount Baldy Ra**	**0.97**	**219**	P	**Pg**	**09 38 23.7**	**-0.7**
	baz=38,SNR=1000						
BFSC				S	**Sg**	**09 38 36.5**	**-0.6**
	baz=38						
BFSC	**Mount Baldy Ra**	**0.97**	**219**		**Sg**	**09 38 36.8**	**-0.4**
CFT	**Crafton Hills**	**0.98**	**189**		**Sg**	**09 38 37.4**	**+0.2**
CLC	**China Lake**	**0.98**	**326**		**Pg**	**09 38 23.8**	**-0.8**
FON	**Fontana**	**1.00**	**205**		**Sg**	**09 38 24.3**	**-0.5**
FON					**Sg**	**09 38 37.8**	**0.0**
BLAC	**Blackrock camp**	**1.03**	**155**		**Sg**	**09 38 25.0**	**-0.4**
BLAC					**Sg**	**09 38 38.5**	**-0.4**
SHOC	**Shoshone, Teco**	**1.04**	**30**	P	**Pg**	**09 38 25.0**	**-0.6**
	baz=210,SNR=1000						
SHOC	**Shoshone, Teco**	**1.04**	**30**		**Pg**	**09 38 25.0**	**-0.6**
GMRC	**Granite Mounta**	**1.06**	**101**	P	**Pg**	**09 38 24.9**	**-1.2**
	baz=282,SNR=1000						
GMRC				S	**Sg**	**09 38 39.2**	**-0.6**
	baz=282						
GMRC	**Granite Mounta**	**1.06**	**101**		**Pg**	**09 38 24.9**	**-1.2**
GMRC					**Sg**	**09 38 39.0**	**-0.8**
RVR	**Riverside**	**1.07**	**201**		**Sg**	**09 38 39.7**	**-0.5**
BBSC	**Beaumont Base**	**1.08**	**183**		**Sg**	**09 38 40.2**	**-0.3**
RSBC	**Riverside Bore**	**1.08**	**198**		**Pg**	**09 38 25.5**	**-0.9**
RSBC	**Riverside Bore**	**1.08**	**198**		**Pg**	**09 38 25.5**	**-0.9**
RSBC					**Sg**	**09 38 39.7**	**-0.7**
TPO	**Tropico Hills**	**1.08**	**264**		**Sg**	**09 38 40.4**	**-0.1**
DEVC	**Devers**	**1.10**	**165**		**Pg**	**09 38 26.6**	**-0.3**
DEVC					**Sg**	**09 38 41.3**	**+0.2**
FOXC	**Fox Airport**	**1.11**	**257**		**Pg**	**09 38 26.4**	**-0.5**
CJV	**Casa Juvan**	**1.11**	**245**		**Pg**	**09 38 26.3**	**-0.8**
CJV					**Sg**	**09 38 41.2**	**-0.3**
PEC	**Perris**	**1.13**	**190**		**Sg**	**09 38 41.7**	**-0.2**
MLSC	**Mira Loma**	**1.13**	**208**		**Pg**	**09 38 26.4**	**-0.9**
MLSC					**Sg**	**09 38 41.3**	**-0.7**
CHFC	**Chilao Flat St**	**1.13**	**234**		**Sg**	**09 38 41.2**	**-0.8**
WBSM	**Bird Springs**	**1.13**	**299**		**Pg**	**09 38 26.9**	**-0.5**
EW2	**E Wide Canyon**	**1.14**	**158**		**Pg**	**09 38 27.0**	**-0.6**
MPMC	**Manual Prospec**	**1.15**	**336**	P	**Pg**	**09 38 26.8**	**-0.9**
	baz=156,SNR=853						
MPMC				S	**Sg**	**09 38 42.5**	**-0.3**
	baz=156						
ALPC	**Antelope**	**1.18**	**255**		**Pb**	**09 38 27.5**	**-0.6**
CHNC	**Chino**	**1.18**	**212**		**Pb**	**09 38 27.4**	**-0.7**
LEOC	**Leona Valley**	**1.20**	**252**		**Pb**	**09 38 27.6**	**-0.8**
JRC2	**Joshua Ridge**	**1.22**	**324**		**Pb**	**09 38 28.1**	**-0.7**
MWC	**Mount Wilson**	**1.22**	**231**		**Pb**	**09 38 28.1**	**-0.7**
MWC				Sg	**Sb**	**09 38 44.6**	**-0.1**
MTPC	**Mountain Pass**	**1.22**	**66**		**Pb**	**09 38 27.7**	**-1.1**
BELC	**Belle Mtn. Jos**	**1.26**	**142**	P	**Pn**	**09 38 28.5**	**-0.9**
	baz=323,SNR=940						
BELC				S	**Sb**	**09 38 45.5**	**-0.3**
	baz=323						
BELC	**Belle Mtn. Jos**	**1.26**	**142**		**Pn**	**09 38 28.4**	**-0.9**
RVCM	**Rose Valley Ce**	**1.28**	**322**		**Pn**	**09 38 29.1**	**-0.5**
WCHM	**Chimney Peak**	**1.29**	**313**		**Pn**	**09 38 29.3**	**-0.6**
CACC	**Caltech Cellar**	**1.31**	**229**		**Pn**	**09 38 29.9**	**-0.1**
DANC	**Danby, Needles**	**1.32**	**106**		**Pn**	**09 38 28.9**	**-1.2**
PASC	**Pasadena Art C**	**1.33**	**232**		**Pn**	**09 38 30.0**	**-0.3**
PASC				Sn	**Sb**	**09 38 47.7**	**-0.1**
DECC	**Green Verdugo**	**1.38**	**238**	P	**Pn**	**09 38 31.0**	**0.0**
	baz=57,SNR=81						
BACC	**Bachelor Mtn.**	**1.39**	**184**		**Pn**	**09 38 30.8**	**-0.3**
MURC	**Murrieta**	**1.42**	**189**	P	**Pn**	**09 38 31.3**	**-0.2**
	baz=9.3,SNR=316						
MURC				S	**Sn**	**09 38 49.8**	**-0.4**
	baz=9.3						
MURC	**Murrieta**	**1.42**	**189**		**Pn**	**09 38 31.3**	**-0.2**
ISA	**Isabella, Lake**	**1.43**	**298**	P	**Pn**	**09 38 31.3**	**-0.4**
	baz=117,SNR=586						
ISA	**Isabella, Lake**	**1.43**	**298**	Pn	**Pn**	**09 38 31.4**	**-0.3**
ISA				Sn	**Sb**	**09 38 51.4**	**+0.7**
PFO	**Pinyon Flats O**	**1.44**	**164**	P	**Pn**	**09 38 31.2**	**-0.7**
	baz=345,SNR=256						
PFO	**Pinyon Flats O**	**1.44**	**164**	Pg	**Pn**	**09 38 31.2**	**-0.7**
	56nm,0.3s,baz=355,slow=14,SNR=236						
PFO				Lg	Lg	09 38 49.9	
	254nm,0.3s,baz=159,slow=20,SNR=26						
PFO	**Pinyon Flats O**	**1.44**	**164**	Pn	**Pn**	**09 38 31.6**	**-0.3**
PFO				Sn	**Sn**	**09 38 51.1**	**+0.2**
XPFO	**Pion Flat**	**1.44**	**164**	Pn	**Pn**	**09 38 31.2**	**-0.7**
XPFO				Sn	**Sn**	**09 38 50.0**	**-1.0**
FURC	**Furnace Creek,**	**1.46**	**2**	P	**Pn**	**09 38 31.2**	**-0.8**
	baz=182,SNR=307						
OSI	**Osito Audit: C**	**1.53**	**256**	P	**Pn**	**09 38 32.3**	**-0.8**
	baz=75,SNR=26						
OSI	**Osito Audit: C**	**1.53**	**256**		**Pn**	**09 38 33.8**	**+0.7**
OSI				Sn	**Sn**	**09 38 53.1**	**+0.1**
ARVC	**Arvin**	**1.57**	**275**	P	**Pn**	**09 38 33.0**	**-0.5**
	baz=94,SNR=220						
BLCC	**Black Canyon**	**1.63**	**243**		**Pn**	**09 38 34.8**	**+0.4**
IRM	**Iron Mountain**	**1.69**	**119**	P	**Pn**	**09 38 33.7**	**-1.6**
	baz=301,SNR=510						
IRM				Sb	**Sb**	**09 38 58.7**	**+0.6**
	baz=301						
CWC	**Cottonwood Cre**	**1.72**	**327**	P	**Pn**	**09 38 35.4**	**-0.3**
	baz=146						
FMP	**Fort Macarthur**	**1.72**	**222**	P	**Pn**	**09 38 34.5**	**-1.0**
	baz=41						
BC3	**Big Chuckawall**	**1.81**	**137**	P	**Pn**	**09 38 35.4**	**-1.6**
	baz=319,SNR=427						
NEE2	**Needles Airpor**	**1.91**	**96**	P	**Pn**	**09 38 36.8**	**-1.4**
	baz=278,SNR=51						
NEE2	**Needles Airpor**	**1.91**	**96**		**Pn**	**09 38 37.1**	**-1.1**
VES	**Vestal, Richgr**	**1.95**	**296**	P	**Pn**	**09 38 38.9**	**+0.1**
	baz=115,SNR=315						
TPNV	**Topopah Spring**	**2.02**	**15**	P	**Pn**	**09 38 39.7**	**-0.2**
	baz=196,SNR=496						
TPNV	**Topopah Spring**	**2.02**	**15**		**Pn**	**09 38 40.1**	**+0.3**
CIS	**Catalina Islan**	**2.02**	**218**	P	**Pn**	**09 38 39.3**	**-0.5**
	baz=37,SNR=64						
SHPR	**Sheep Range**	**2.07**	**43**		**Pn**	**09 38 40.4**	**-0.3**
109C	**Camp Elliot, M**	**2.11**	**184**	Pb	**Pb**	**09 38 43.3**	**-0.8**
	baz=4.2						
109C	**Camp Elliot, M**	**2.11**	**184**		**Pb**	**09 38 43.1**	**-0.9**
109C				Sn	**Sb**	**09 39 10.3**	**0.0**
MONP2	**Monument Peak**	**2.15**	**169**	P	**Pn**	**09 38 41.4**	**-0.3**
	baz=349						
MONP2				Sb	**Sb**	**09 39 12.5**	**+1.1**
	baz=349						
BAR	**Barrett**	**2.33**	**175**		**Pn**	**09 38 44.0**	**0.0**
BAR				Sn	**Sb**	**09 39 16.7**	**+0.2**
Y12C	**Blythe**	**2.34**	**122**	P	**Pn**	**09 38 43.0**	**-1.2**
	baz=303,SNR=59						
Y12C	**Blythe**	**2.34**	**122**	Pn	**Pn**	**09 38 43.0**	**-1.2**
PKM	**Mcpherson Peak**	**2.38**	**268**	P	**Pn**	**09 38 44.8**	**-0.1**
	baz=86,SNR=79						
PDMCI	**Parker Dam,Lak**	**2.40**	**106**	P	**Pn**	**09 38 44.8**	**-0.1**
	baz=288,SNR=36						
PDMCI				Sb	**Sb**	**09 39 20.2**	**+1.7**
	baz=288						
VOG	**Valley Oaks Go**	**2.40**	**304**	P	**Pn**	**09 38 45.4**	**+0.5**
	baz=123,SNR=18						
SCI2	**San Clemente I**	**2.43**	**214**	P	**Pn**	**09 38 45.3**	**0.0**
	baz=33,SNR=23						
IKP	**In-Ko-Pah, Jac**	**2.44**	**164**	P	**Pn**	**09 38 45.1**	**-0.5**
	baz=344,SNR=62						
IKP				Sb	**Sb**	**09 39 21.8**	**+2.0**
	baz=344						
SCZ2	**Santa Cruz Isl**	**2.46**	**247**	P	**Pn**	**09 38 45.6**	**-0.1**
	baz=65						
W13A	**Hualapai Mount**	**2.49**	**87**	Pn	**Pn**	**09 38 45.3**	**-1.1**
SMMC	**Simmler**	**2.54**	**278**	P	**Pn**	**09 38 46.5**	**-0.4**
	baz=96,SNR=18						
GLA	**Glamis**	**2.61**	**138**	P	**Pn**	**09 38 46.3**	**-1.6**
	baz=319,SNR=53						
GLA	**Glamis**	**2.61**	**138**		**Pb**	**09 38 53.7**	**+1.1**
SNCC	**San Nicolas Is**	**2.78**	**232**	P	**Pn**	**09 38 50.0**	**-0.2**
	baz=50						
SNCC	**San Nicolas Is**	**2.78**	**232**		**Pn**	**09 38 51.6**	**+1.4**
PAGB	**Antelope Grade**	**2.81**	**286**		**Pn**	**09 38 51.4**	**+0.7**
MLAC	**Mammoth, Mammo**	**3.04**	**330**	P	**Pn**	**09 38 54.0**	**0.0**
	baz=149						
PMPB	**Monarch Peak**	**3.38**	**292**		**Pn**	**09 38 58.3**	**-0.3**
Y14A	**Wickenburg**	**3.41**	**107**		**Pn**	**09 38 57.8**	**-1.1**
113A	**Mohawk Valley,**	**3.44**	**129**	Pn	**Pn**	**09 39 00.6**	**+1.3**
NV11	**Mina Array Sit**	**3.56**	**344**		**Pn**	**09 39 02.1**	**+1.0**
LCMT	**Little Creek M**	**3.59**	**55**		**Pn**	**09 39 02.1**	**+0.6**
NVAR	**Mina Array Bea**	**3.60**	**342**	Pn	**Pn**	**09 39 02.6**	**+1.0**
	1.1nm,0.3s,baz=165,slow=16,SNR=25						
NVAR				Pg	**Pg**	**09 39 12.5**	**-2.0**
	7.6nm,0.3s,baz=167,slow=20,SNR=27						
NVAR				Lg	Lg	09 40 00.5	
	4.3nm,0.3s,baz=153,slow=24,SNR=1.8						
NVAR	**Mina Array Bea**	**3.60**	**342**		**Pn**	**09 39 03.0**	**+1.3**
CCUT	**Cedar City**	**3.84**	**47**	Pn	**Pn**	**09 39 06.0**	**+1.0**
RYN	**Ryan**	**3.84**	**341**		**Pn**	**09 39 05.8**	**+0.9**
KNB	**Kanab**	**3.88**	**58**		**Pn**	**09 39 06.2**	**+0.6**
WAKR	**Walker**	**4.04**	**331**		**Pb**	**09 39 16.9**	**0.0**
SAO	**San Andreas Ge**	**4.07**	**297**		**Pn**	**09 39 08.4**	**+0.4**
CMB	**Columbia Colle**	**4.12**	**318**		**Pn**	**09 39 09.8**	**+1.1**
KVN	**Kaiserville**	**4.15**	**347**		**Pn**	**09 39 10.4**	**+1.2**
PSUT	**Pine Spring**	**4.30**	**34**	Pn	**Pn**	**09 39 11.7**	**+0.4**
YERR	**Yerington**	**4.39**	**336**		**Pn**	**09 39 13.1**	**+0.6**
PKCU	**Pink Cliffs**	**4.45**	**55**		**Pn**	**09 39 15.2**	**+1.7**
X16A	**Lo Mia Camp, P**	**4.55**	**96**		**Pn**	**09 39 15.0**	**+0.3**
WUAZ	**Wupatki**	**4.57**	**82**	S	**Sn**	**09 40 09.2**	**+1.0**
	baz=265						
WUAZ	**Wupatki**	**4.57**	**82**	Pn	**Pn**	**09 39 16.5**	**+1.5**
214A	**Organ Pipe Nat**	**4.59**	**130**	P	**Pn**	**09 39 13.3**	**-1.8**
	baz=313						
214A	**Organ Pipe Nat**	**4.59**	**130**		**Pn**	**09 39 13.6**	**-1.5**
PNTR	**Pine Nut**	**4.61**	**333**		**Pn**	**09 39 17.6**	**+2.1**
VCNR	**Virginia City**	**4.81**	**334**	Pn	**Pn**	**09 39 19.6**	**+1.3**
MTPU	**Mount Pierson**	**4.87**	**50**		**Pn**	**09 39 20.4**	**+1.1**
MSU	**Marysvale**	**5.17**	**46**	Pn	**Pn**	**09 39 25.2**	**+1.9**
X18A	**Snowflake**	**5.76**	**93**	Pn	**Pn**	**09 39 33.0**	**+1.6**
TUC	**Tucson**	**5.78**	**116**	P	**Pn**	**09 39 30.4**	**-1.1**
	baz=300						
TUC	**Tucson**	**5.78**	**116**	Pn	**Pn**	**09 39 30.6**	**-0.9**
ELK	**Elko**	**5.88**	**13**	Pn	**Pn**	**09 39 34.3**	**+1.2**
	0.4nm,0.3s,baz=191,slow=10.0,SNR=8.1						
ELK				Pg	**Pg**	**09 39 55.3**	**-3.0**
	1.0nm,0.3s,baz=209,slow=11,SNR=4.6						
ELK				Lg	Lg	09 41 11

MAKZ				⇑Sn		Sn	10 00 28.8	-0.2	
	4.8nm,0.8s								
MAKZ				⇓Lg		Lg	10 01 14.6		
	12nm,0.9s								
BVAR	**Borovoye Array**	**9.80**	**270**	Sn		**Sn**	**10 01 11.8**	**-2.4**	
	0.2nm,0.3s,baz=74,slow=23,SNR=11								
TLY	**Talaya**	**10.50**	**97**	Lg		Lg	10 02 22.9		
	0.0nm,0.3s,baz=34,slow=13,SNR=3.4								

SSNC ***11*** *10:02:20.1±1.1, 19°.81N×76°.92W, h12km±12km, MD2.8, ML2.4, MW3.2*

JSN ***11*** *10:02:27.0±0.7, 19°.06N×76°.33W, h112km±36km, MD3.4*

ISC 11 10:02:19.2±1.0, 19°.94N±0°.05×76°.89W±0°.05, h31km±8km, n11, σ0°.80/16, 3D, Cuba region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
LMGC	**Las Mercedes**	**0.16**	**319**	*eP*		**Pb**	**10 02 25.5**	**+0.3**
LMGC				*eS*		**Sb**	**10 02 28.9**	**-0.3**
RCC	**Rio Carpintero**	**1.12**	**87**	*eP*		**Pn**	**10 02 38.8**	**-0.1**
RCC				*eS*		**Sn**	**10 02 53.0**	**-0.2**
CCCC	**Cccc**	**1.50**	**327**	*eP*		**Pn**	**10 02 43.4**	**-0.6**
CCCC				*eS*		**Sn**	**10 03 03.1**	**+0.6**
CCCC				IAML			10 03 07.4	
	comp=N,18nm,0.2s							
CCCC				IAML			10 03 08.0	
	comp=E,29nm,0.4s							
BBJ	**Bamboo Saint A**	**1.59**	**193**	*i* P		**Pb**	**10 02 49.2**	**+1.1**
GTMO	**Guantanamo**	**1.65**	**85**	*eP*		**Pb**	**10 02 47.9**	**-1.2**
GTMO				*eS*		**Sn**	**10 03 07.4**	**+1.2**
GTMO				IAML			10 03 10.6	
	comp=N,47nm,0.2s							
STH	**Stony Hill**	**1.86**	**178**	⇓P		**Pn**	**10 02 48.3**	**-0.7**
GWJ	**Greenwich**	**1.86**	**175**	⇓P		**Pn**	**10 02 48.5**	**-0.7**
HOJ	**Hope**	**1.93**	**176**	⇓P		**Pn**	**10 02 49.5**	**-0.4**
MCJ	**Malvern**	**2.14**	**201**	*i* S		**Sn**	**10 03 17.7**	**-0.8**
PCJ	**Portland Cotta**	**2.20**	**187**	*i* P		**Pn**	**10 02 53.6**	**-0.1**
MASC	**Masc**	**2.51**	**84**	*eP*		**Pn**	**10 02 58.9**	**+1.0**
MASC				*eS*		**Sn**	**10 03 27.9**	**+0.4**
MASC				IAML			10 03 38.3	
	comp=E,7.9nm,0.3s							
MASC				IAML			10 03 38.5	
	comp=N,10nm,0.3s							

KRAR ***11*** *10:08:14.8±0.1, 54°.23N×86°.93E, M1.9, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

IDC ***11*** *10:08:15.1±3.6, 54°.36N×86°.90E, h0km, mb1 2.8/1, mb1mx2.7/51, mbtmp2.8/1, ML2.6/1, Error ellipse: s-maj=30.4km s-min=18.2km az=53.0*

NNC 11 10:08:37.6±1.1, 52°.18N×75°.86E, h0km, mb3.2, mpv2.8, 5C-4D, Error ellipse: s-maj=24.9km s-min=4.5km az=31.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.29**	**132**	Lg		Lg	10 11 36.5	
	0.0nm,0.3s,baz=55,slow=31,SNR=1.8							
KURBB	**Kurchatov Arra**	**2.29**	**132**	⇑Pg		Pb	10 09 19.5	-0.3
	1.6nm,0.2s							
KURBB				⇑Lg		Lg	10 09 51.2	
	16nm,0.5s							
BRVK	**Borovoye**	**3.51**	**287**	⇑Pg		Pb	10 09 41.9	+1.4
	2.1nm,0.6s							
BRVK				⇓Lg		Lg	10 10 28.3	
	5.1nm,0.9s							
I46RU	**ZALESOVO INFRA**	**5.69**	**68**	*i*			10 16 30.0	
	baz=71,slow=311,SNR=2.5							
ZALV	**Zalesovo Beam**	**5.69**	**68**	Lg		Lg	10 08 57.0	
	2.1nm,0.3s,baz=73,slow=29,SNR=11							
MAKZ	**Makanchi**	**6.69**	**141**	⇓Sn		Sn	10 11 34.3	+0.3
	1.2nm,0.6s							
MAKZ				⇓Lg		Lg	10 12 09.0	
	3.3nm,0.8s							
MK31	**Makanchi Array**	**6.83**	**140**	⇓Pn		Pn	10 10 18.8	-0.2
	0.3nm,0.5s,baz=23,slow=12,SNR=5.3							
MK31				⇑Sn		Sn	10 11 38.8	+1.4
	0.3nm,0.5s,baz=357,slow=22,SNR=4.8							
MK31				⇑Lg		Lg	10 12 12.6	
	1.2nm,0.6s,baz=325,slow=27,SNR=4.0							
MKAR	**Makanchi Array**	**6.83**	**140**	Pn		Pn	10 10 15.8	-3.2
	0.1nm,0.3s,baz=28,slow=13,SNR=4.3							

IDC ***11*** *10:22:31.8±3.0, 41°.48N×142°.41E, h58km±26km, mb3.3/9, mb1 3.5/11, mb1mx3.3/62, mbtmp3.5/11, ML3.7/1, Error ellipse: s-maj=25.4km s-min=18.2km az=119.0*

JMA ***11*** *10:22:35.3±0.1, 41°.70N×141°.95E, h104km±2km, M3.3*

JMA Felt I J1.

ISC 11 10:22:36.5±0.8, 41°.69N±0°.04×142°.03E±0°.04, h95km±6km, n37, σ1°.25/49, mb3.5/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
JAHD	**Aomorihigashid**	**0.67**	**231**	P		**Pn**	**10 22 53.0**	**-0.2**
JAHD				*eS*		**Sn**	**10 23 05.9**	**+0.2**
JKB	**Kayabe**	**0.77**	**285**	P		**Pn**	**10 22 53.0**	**-1.1**
JSHD	**Hidakashinhida**	**0.79**	**24**	P		**Pn**	**10 22 54.4**	**+0.1**
JSHD				*eS*		**Sn**	**10 23 09.2**	**+1.6**
JNBK	**Urakawa-nobuka**	**0.80**	**42**	P		**Pn**	**10 22 54.0**	**-0.4**
JNBK				*eS*		**Sn**	**10 23 08.2**	**+0.4**
JOT	**Ohata**	**0.80**	**247**	P		**Pn**	**10 22 53.7**	**-0.7**
JOT				*eS*		**Sn**	**10 23 07.4**	**-0.4**
JARK	**Aomorirokkasho**	**0.85**	**216**	P		**Pn**	**10 22 54.4**	**-0.5**
JARK				*eS*		**Sn**	**10 23 08.4**	**-0.3**
JEM	**Erimo**	**0.90**	**69**	P		**Pn**	**10 22 55.3**	**-0.2**
JEM				*eS*		**Sn**	**10 23 09.7**	**0.0**
JIAM	**Iburiatsuma**	**0.93**	**355**	P		**Pn**	**10 22 55.7**	**-0.1**
JIAM				*eS*		**Sn**	**10 23 11.0**	**+0.7**
JNB	**Noboribetsu**	**1.07**	**317**	P		**Pn**	**10 22 56.2**	**-1.1**
JNB				*eS*		**Sn**	**10 23 11.3**	**-1.7**
JEW	**Eniwo**	**1.22**	**340**	P		**Pn**	**10 22 58.3**	**-0.8**
JEW				*eS*		**Sn**	**10 23 15.0**	**-1.2**
JCH	**Churui**	**1.35**	**47**	P		**Pn**	**10 23 00.3**	**-0.4**
JCH				*eS*		**Sn**	**10 23 18.5**	**-0.5**
JANG	**Nango**	**1.37**	**197**	P		**Pn**	**10 23 00.3**	**-0.7**
JANG				*eS*		**Sn**	**10 23 18.4**	**-1.0**
JOMM	**Oshimamatsumae**	**1.52**	**264**	P		**Pn**	**10 23 02.3**	**-0.5**
JOMM				*eS*		**Sn**	**10 23 21.8**	**-0.9**
JFR	**Furan**	**1.53**	**16**	P		**Pn**	**10 23 02.0**	**-0.9**
JFR				*eS*		**Sn**	**10 23 22.1**	**-0.7**
JOSM	**Okushiri--Mats**	**1.94**	**282**	P		**Pn**	**10 23 07.1**	**-1.0**
JOSM				*eS*		**Sn**	**10 23 30.6**	**-1.7**
JSK	**Shakotan**	**2.02**	**326**	P		**Pn**	**10 23 08.3**	**-0.7**
JAR	**Ashorobuto**	**2.06**	**38**	P		**Pn**	**10 23 08.4**	**-1.2**
JAR				*eS*		**Sn**	**10 23 31.9**	**-3.0**
JHR	**Hokuryu**	**2.06**	**354**	P		**Pn**	**10 23 09.2**	**-0.5**
JHR				*eS*		**Sn**	**10 23 34.8**	**-0.2**
JKK2	**Kamakawa 2**	**2.24**	**13**	P		**Pn**	**10 23 11.3**	**-0.7**
JKK2				*eS*		**Sn**	**10 23 38.0**	**-1.2**
JOM	**Ohasama**	**2.29**	**194**	P		**Pn**	**10 23 12.1**	**-0.6**
ASAJ	**Asahikawa**	**2.46**	**10**	P		**Pn**	**10 23 14.0**	**-0.8**
	9.1nm,0.3s,baz=219,slow=10,SNR=81							
ASAJ				S		**Sn**	**10 23 43.1**	**-1.2**
	7.5nm,0.3s,baz=282,slow=31,SNR=9.3							
USRK	**Ussuriysk Ar.**	**7.78**	**292**	P		**Pn**	**10 24 26.6**	**-0.2**
	baz=91,slow=14,SNR=4.9							
H11N2	**WAKE ISLAND Hy**	**30.41**	**128**	T		T	11 00 09.1	
	baz=318,slow=75,SNR=6.8							
H11N1	**WAKE ISLAND Hy**	**30.42**	**129**	T		T	11 00 08.1	
	baz=318,slow=75,SNR=5.5							
H11N3	**WAKE ISLAND Hy**	**30.42**	**128**	T		T	11 00 07.2	
	baz=318,slow=75,SNR=4.8							
H11S1	**WAKE ISLAND Hy**	**31.25**	**130**	T		T	11 01 36.2	
	baz=320,slow=74,SNR=4.4							
H11S3	**WAKE ISLAND Hy**	**31.26**	**130**	T		T	11 01 32.4	
	baz=320,slow=74,SNR=3.8							
H11S2	**WAKE ISLAND Hy**	**31.27**	**130**	T		T	11 02 12.6	
	baz=320,SNR=3.4							
ZALV	**Zalesovo Beam**	**39.26**	**308**	P		**P**	**10 29 55.6**	**+0.1**
	0.6nm,0.5s,baz=95,slow=9.1,SNR=2.0							
MKAR	**Makanchi Array**	**42.20**	**298**	P		**P**	**10 30 20.6**	**+0.9**
	0.3nm,0.5s,baz=84,slow=10,SNR=4.5							
ILAR	**Eielson Array**	**45.35**	**35**	P		**P**	**10 30 43.6**	**-1.1**
	0.4nm,0.7s,baz=263,slow=7.4,SNR=6.4							
BVAR	**Borovoye Array**	**47.89**	**309**	P		**P**	**10 31 08.2**	**+3.6**
	0.5nm,0.4s,baz=76,slow=9.3,SNR=4.9							
YKA	**Yellowknife Ar**	**59.57**	**32**	P		**P**	**10 32 29.9**	**+0.3**
	0.3nm,0.7s,baz=306,slow=6.8,SNR=2.9							
WRA	**Warramunga Arr**	**61.73**	**188**	P		**P**	**10 32 42.6**	**-2.2**
	0.6nm,0.7s,baz=6.1,slow=6.8,SNR=5.0							
FINES	**FINESS Array B**	**64.93**	**332**	P		**P**	**10 33 08.5**	**+3.1**
	0.7nm,0.6s,baz=58,slow=10,SNR=1.9							
ASAR	**Alice Springs**	**65.46**	**188**	P		**P**	**10 33 07.9**	**-1.4**
	0.3nm,0.7s,baz=358,slow=7.1,SNR=4.2							
PDAR	**Pinedale Array**	**74.09**	**47**	P		**P**	**10 34 00.6**	**-1.9**
	0.2nm,0.4s,baz=322,slow=8.0,SNR=2.3							

IDC ***11*** *10:27:09.7±2.6, 53°.68N×86°.96E, h0km, mb1 2.8/2, mb1mx2.8/57, mbtmp2.8/2, ML2.6/1, Error ellipse: s-maj=24.6km s-min=14.9km az=65.0*

NNC ***11*** *10:27:10.3±3.5, 53°.66N×86°.89E, h0km, mb2.4, mpv2.3, Error ellipse: s-maj=22.0km s-min=16.4km az=84.0, Suspected Mining explosion.*

ISC 11 10:27:07.2±4.9, 53°.9N±0°.3×87°.2E±0°.3, h0km, n7, σ0s64/7, 4C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**271**	*i*			10 35 47.6	
	baz=100,slow=314,SNR=1.2							
ZAA0	**Zalesovo Array**	**1.38**	**271**	⇑P		**Pg**	**10 27 33.4**	**-0.2**
	0.2nm,0.2s,baz=99,slow=16							
ZAA0				⇑S		**Sb**	**10 27 51.5**	**-0.4**
	2.3nm,0.9s,baz=105,slow=28							
ZALV	**Zalesovo Beam**	**1.38**	**271**	Pg		**Pn**	**10 27 33.7**	**0.0**
	0.9nm,0.3s,baz=96,slow=16,SNR=18							
ZALV				Lg		Lg	10 27 51.5	
	1.0nm,0.3s,baz=105,slow=21,SNR=16							
ZALV				Rg		Rg	10 28 00.3	
	1.8nm,0.4s,baz=114,slow=24,SNR=2.8							
KURBB	**Kurchatov Arra**	**6.25**	**241**	Pn		**Pn**	**10 28 40.9**	**+0.3**
	baz=61,slow=14,SNR=2.3							
KURBB				Lg		Lg	10 30 19.7	
	0.0nm,0.3s,baz=58,slow=30,SNR=1.9							
KURBB	**Kurchatov Arra**	**6.25**	**241**	⇑Pn		**Pn**	**10 28 41.7**	**+1.1**
	0.3nm,0.2s							
KURBB				⇓Lg		Lg	10 30 18.6	
	5.0nm,0.7s							
MK31	**Makanchi Array**	**7.80**	**205**	⇑Pn		**Pn**	**10 29 01.9**	**0.0**
	baz=26,slow=13,SNR=14							
MKAR	**Makanchi Array**	**7.80**	**205**	Pn		**Pn**	**10 29 01.8**	**-0.2**
	0.1nm,0.3s,baz=25,slow=13,SNR=9.3							
MKAR				Lg		Lg	10 31 05.8	
	0.0nm,0.3s,baz=32,slow=30,SNR=5.8							

BJI ***11*** *10:29:41.9±0.0, 3°.85N×127°.88E, h30km, mB5.0/16, mb4.5/25, Ms4.2/1, Ms7 4.1/1*

NEIC ***11*** *10:29:42.5±1.7, 3°.78N±0°.09×127°.99E±0°.09, h35km±2km, mb4.7/35, Error ellipse: s-maj=17.1km s-min=12.7km az=52.0*

MAN ***11*** *10:29:46.9, 3°.25N×127°.27E, h219km, mb5.2, ML4.2, MS4.3*

IDC ***11*** *10:29:47.4±2.3, 3°.51N×127°.85E, h69km±22km, mb3.9/17, mb1 4.1/20, mb1mx3.9/52, mbtmp4.3/20, MS3.2/16, Ms1 3.3/16, ms1mx3.1/40, Error ellipse: s-maj=18.5km s-min=11.0km az=75.0*

DJA ***11*** *10:29:48.0±0.4, 4°N±3°×12°8E±°, h64km±4km, M4.9/26, mb4.7/26, mB5.4/10, MLv5.0/14, Mw(mB)4.9/10*

ISC 11 10:29:48.3±0.4, 3°.59N±0°.04×127°.86E±0°.05, h84km, n138, σ2s10/131, mb4.6/38, 4C-4D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**2.85**	**190**	P		**Pn**	**10 30 31.8**	**+0.1**
TNTI	**Ternate**	**2.85**	**190**			**Pn**	**10 30 32.4**	**+0.7**
TNTI				Sn		**Sn**	**10 31 07.5**	**+2.5**
DDMP	**Don Marcelino,**	**3.29**	**319**	*eP*		**Pn**	**10 30 37.1**	**-0.6**
DDMP				*eS*		**Sn**	**10 31 18.8**	**+3.0**
GSPH	**General Santos**	**3.82**	**311**	⇓*i*P		**Pn**	**10 30 43.5**	**-1.5**
GSPH				*i* S		**Sn**	**10 31 27.2**	**-1.7**
DMPH	**Davao City--Mi**	**4.19**	**326**	⇑*eP*		Pn	10 30 59.3	+9.4
DMPH				*eS*		**Sn**	**10 31 45.6**	**+8.0**
LBMI	**Labuha**	**4.22**	**185**	P		**Pn**	**10 30 51.5**	**+1.2**
KCP	**Kidapawan**	**4.38**	**321**	⇑*i*P		**Pn**	**10 30 54.4**	**+1.9**
KCP				*i* S		**Sn**	**10 31 46.1**	**+3.8**
SKMP	**Bagumbayan, Su**	**4.40**	**311**	*eP*		**Pn**	**10 30 52.3**	**-0.5**
SKMP				*eS*		**Sn**	**10 31 43.9**	**+0.9**
KMSI	**Cibinong**	**4.90**	**232**	P		**Pn**	**10 30 59.5**	**-0.1**
BUKP	**Musuan**	**5.09**	**327**	*eP*		**Pn**	**10 31 04.3**	**+2.1**
BUKP				*eS*		**Sn**	**10 32 08.3**	**+8.6**
CTBH	**Cotabato--PC H**	**5.09**	**315**	⇓*i*P		**Pn**	**10 31 02.5**	**+0.3**
SIJI	**Sorong**	**5.59**	**142**	P		**Pn**	**10 31 08.7**	**-0.3**
	7.4nm,0.3s,baz=194,slow=22,SNR=25							
SIJI				S		**Sn**	**10 32 09.3**	**-2.5**
	7.9nm,0.3s,baz=226,slow=23,SNR=7.3							
SIJI				LR		LR	10 33 13.0	
	comp=Z,194nm,21.8s,baz=360,slow=37							
GTOI	**Gorontalo**	**5.67**	**239**	P		**Pn**	**10 31 11.1**	**+1.0**
	0.0nm0.1nm,0.9s							
CGP	**Cagayan de Oro**	**5.77**	**327**	⇓*eP*		Pn	10 31 17.8	+6.3
CGP				*eS*		Sn	10 31 59.9	-16
SANI	**Sanana**	**5.91**	**199**	P		**Pn**	**10 31 11.7**	**-1.7**
	0.6nm3μm138nm,0.7s							
PAGZ	**Pagadian**	**6.14**	**314**	*eP*		**Pn**	**10 31 15.2**	**-1.4**
SCPH	**Surigao**	**6.59**	**339**	⇓*iP*		**Pn**	**10 31 19.4**	**-3.2**
SCPH				*i* S		**Pn**	**10 31 25.0**	**+2.4**
MRSI	**Marisa**	**6.68**	**243**	P		**Pn**	**10 31 25.0**	**+1.1**
	3.1nm9μm844nm,0.6s							
NLAI	**Namlea**	**6.83**	**186**	P		**Pn**	**10 31 26.1**	**+0.2**
	0.6nm163nm,1.2s							
LUWI	**Luwuk**	**6.86**	**228**	P		**Pn**	**10 31 27.6**	**+1.2**
	1.7nm4μm231nm,1.1s							
LUWI	**Luwuk**	**6.86**	**228**	Pn		**Pn**	**10 31 23.7**	**-2.6**
LUWI						**Sn**	**10 32 47.7**	**+4.7**
MSAI	**Masohi**	**6.97**	**171**	P		Pn	10 31 34.7	+6.8
MSLP	**Maasin**	**7.15**	**336**	*eP*		**Pn**	**10 31 30.5**	**+0.2**
AAI	**Ambon**	**7.24**	**177**	P		Pn	10 31 43.8	+12
TBP	**Tagbilaran**	**7.25**	**327**	*eP*		Pn	10 31 43.9	+12
APSI	**Ampana**	**7.66**	**234**	P		**Pn**	**10 31 38.0**	**+0.8**
	0.6nm2μm168nm,1.2s							
LLP	**Lapu-Lapu**	**7.72**	**330**	*eP*		**Pn**	**10 31 41.1**	**+3.0**
FAKI	**Fak Fak**	**7.81**	**146**	Pn		**Pn**	**10 31 35.0**	**-4.3**
MPSI	**Mapaga**	**8.59**	**248**	P		**Pn**	**10 31 50.8**	**+0.8**
	797nm69nm,0.8s							
CNP	**Catarman**	**9.41**	**341**	*eP*		**Pn**	**10 32 00.4**	**-0.7**
TTSI	**Tana Toraja**	**10.40**	**231**	P		**Pn**	**10 32 14.2**	**-0.4**
	45nm,0.9s							
SPSI	**Sidrap Palu**	**11.04**	**227**	P		**Pn**	**10 32 23.5**	**+0.2**
	2μm40nm,0.8s							
BNSI	**Bone**	**11.10**	**224**	P		**Pn**	**10 32 23.4**	**-0.7**
	26nm,1.2s							
BKSI	**Bulukumba**	**11.76**	**221**	P		**Pn**	**10 32 32.8**	**-0.3**
	27nm,0.6s							
KAPI	**Kappang**	**11.78**	**224**	P		**Pn**	**10 32 33.1**	**-0.3**
	1.9nm,0.3s,baz=39,slow=8.4,SNR=8.0							
KAPI				S		**Sn**	**10 34 39.7**	**-3.4**
	1.8nm,0.3s,baz=69,slow=22,SNR=1.5							
KAPI				LR		LR	10 36 30.7	
	comp=Z,66nm,19.1s,baz=50,slow=34							
KAPI	**Kappang**	**11.78**	**224**	Pn		**Pn**	**10 32 32.4**	**-1.0**
SMPI	**Sarmi**	**12.18**	**117**	P		**Pn**	**10 32 39.1**	**+0.3**
	30nm,1.2s							
EDFI	**Ende, Flores**	**13.72**	**207**	P		**Pn**	**10 32 57.5**	**-1.9**
	26nm,1.1s							
SOEI	**Soe**	**13.74**	**195**	P		P	10 33 16.1	+11
GENI	**Genyem**	**13.75**	**116**	P		**P**	**10 33 08.1**	**+2.7**
JAY	**Jayapura**	**14.20**	**115**	P		**Pn**	**10 33 05.9**	**+0.3**
	0.1nm,0.3s,baz=270,slow=24,SNR=8.2							
JAY	**Jayapura**	**14.20**	**115**	P		**P**	**10 33 12.9**	**+2.4**
SBUM	**Sibu**	**15.66**	**266**	Pn		**Pn**	**10 33 21.5**	**-2.8**
PLAI	**Plampang**	**15.92**	**219**	P		**Pn**	**10 33 27.9**	**+0.4**
	103nm,1.1s							
MTN	**Manton Dam**	**16.65**	**169**			**Pn**	**10 33 35.2**	**-1.4**
SRBI	**Singaraja**	**17.14**	**227**	P		**P**	**10 33 47.5**	**+4.4**
KSM	**Kuching**	**17.66**	**264**			**P**	**10 33 47.9**	**-1.0**
KNRA	**Kununurra**	**19.17**	**177**			**P**	**10 34 05.3**	**0.0**
KNRA				IAmb		IAmb	10 34 08.6	
	comp=Z,17nm,0.8s							
SMRI	**Semarang**	**20.35**	**239**	P		**P**	**10 34 18.6**	**+0.4**
SMRI				IAmb		IAmb	10 34 26.0	
	comp=Z,46nm,1.0s							
FITZ	**Fitzroy Crossi**	**21.66**	**186**	P		**P**	**10 34 30.6**	**-1.6**
	comp=Z,5.7nm,0.9s,baz=17,slow=8.1,SNR=13							
FITZ	**Fitzroy Crossi**	**21.66**	**186**	P		**P**	**10 34 32.0**	**-0.2**
HKPS	**Hong Kong Po S**	**22.85**	**326**	P		**P**	**10 34 38.4**	**-6.4**
CISI	**Cisompet, Garu**	**22.87**	**241**	P		**P**	**10 34 46.1**	**+1.0**
WB0	**Warramunga Arr**	**24.08**	**165**	P		**P**	**10 34 55.3**	**-0.9**
WRAB	**Tennant Creek**	**24.23**	**165**	P		**P**	**10 34 56.8**	**-0.7**
WRA	**Warramunga Arr**	**24.24**	**165**	P		**P**	**10 34 56.7**	**-0.8**
	comp=Z,42nm,0.9s,baz=344,slow=10.0,SNR=61							
WRA	**Warramunga Arr**	**24.24**	**165**	P		**P**	**10 34 57.7**	**+0.2**
WB2	**Warramunga Arr**	**24.24**	**165**	P		**P**	**10 34 57.2**	**-0.4**
WR0	**Warramunga Arr**	**24.31**	**165**	P		**P**	**10 34 57.7**	**-0.5**
WR0				IAmb		IAmb	10 35 00.3	
	comp=Z,30nm,0.9s							
MDSI	**Maura Dua**	**24.99**	**251**	P		**P**	**10 35 08.9**	**+4.4**
PSAC1	**Pilbara Seismi**	**26.19**	**197**	P		**P**	**10 35 15.8**	**+0.6**
PSAC2	**Pilbara Seismi**	**26.19**	**197**	P		**P**	**10 35 15.2**	**0.0**
PSAC2				IAmb		IAmb	10 35 18.3	
	comp=Z,25nm,1.1s							
AS31	**Alice Springs**	**27.73**	**168**	P		**P**	**10 35 28.9**	**-0.2**
ASAR	**Alice Springs**	**27.73**	**168**	P		**P**	**10 35 28.4**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=356,slow=6.1,SNR=20							
ASAR				PcP		**PcP**	**10 38 45.0**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=352,slow=2.3,SNR=8.0							
ASAR				LR		LR	10 47 36.3	
	comp=Z,49nm,18.5s,baz=354,slow=39							
ASAR	**Alice Springs**	**27.73**	**168**	P		**P**	**10 35 28.8**	**-0.2**
NJ2	**Nanjing**	**29.55**	**344**	*eP*		**P**	**10 35 42.5**	**-2.6**
NJ2				pmax		pmax		
	comp=Z,11nm,0.6s							
WHN	**Wuhan**	**29.69**	**336**	P		**P**	**10 35 49.9**	**+3.5**
GYA	**Guiyang**	**30.49**	**320**	*eP*		P	10 35 59.0	+5.4
GYA				pmax		pmax		
	comp=Z,10.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**31.92**	**300**	P		**P**	**10 36 05.4**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=123,slow=6.8,SNR=9.6							
CMAR				LR		LR	10 50 12.4	
	comp=Z,22nm,19.3s,baz=105,slow=38							
CMAR	**Chiang Mai Arr**	**31.92**	**300**	P		**P**	**10 36 06.5**	**+0.3**
KSAR	**Wonju Array Be**	**33.69**	**0**	P		**P**	**10 36 20.1**	**-1.2**
KSRS	**Korea Array**	**33.70**	**0**	P		**P**	**10 36 22.2**	**+0.7**
	comp=Z,3.6nm,0.9s,baz=180,slow=10,SNR=15							
KSRS				LR		LR	10 50 17.0	
	comp=Z,30nm,21.9s,baz=183,slow=36							
MJAR	**Matsushiro Arr**	**34.15**	**15**	P		**P**	**10 36 26.2**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=188,slow=11,SNR=4.5							
MJAR				LR		LR	10 48 11.4	
	comp=Z,70nm,21.8s,baz=205,slow=32							
MJAR	**Matsushiro Arr**	**34.15**	**15**	P		**P**	**10 36 23.0**	**-2.4**
XAN	**Xi'an**	**35.06**	**332**	P		**P**	**10 36 34.2**	**+0.9**
XAN				sP		pP	10 36 50.6	-2.1
XAN				pmax		pmax		
	comp=Z,12nm,1.2s							
XAN				pmax		pmax		
	comp=Z,97nm,4.4s							
STKA	**Stephens Creek**	**37.61**	**161**	P		**P**	**10 36 55.1**	**0.0**
	comp=Z,14nm,0.8s,baz=337,slow=8.4,SNR=30							
STKA				LR		LR	10 56 24.0	
	comp=Z,54nm,19.5s,baz=256,slow=42							
STKA	**Stephens Creek**	**37.61**	**161**	P		**P**	**10 36 54.5**	**-0.6**
BJT	**Baijiatuau**	**37.77**	**345**	P		**P**	**10 36 52.8**	**-3.5**
BJT				IAmb		IAmb	10 36 59.8	
	comp=Z,6.1nm,0.6s							
BJI	**Beijing**	**37.79**	**345**	P		**P**	**10 36 54.6**	**-1.8**
BJI				pmax		pmax		
	comp=Z,5.0nm,0.6s							
LZH	**Lanzhou**	**39.20**	**329**	*eP*		**P**	**10 37 05.7**	**-2.9**
LZH				pP		pP	10 37 17.1	-11
LZH				sP		sP	10 37 21.6	-16
LZH				PP		**PnPn**	**10 38 44.2**	**+0.7**
LZH				pmax		pmax		
	comp=Z,29nm,1.0s							
LZH				pmax		pmax		
	comp=Z,110nm,4.3s							
LZH				LR		LR		
	comp=Z,140nm,14.0s							
LZH				LR		LR		
	comp=Z,150nm,15.2s							
LZH				LR		LR		
	comp=Z,230nm,16.9s							
HHC	**Hu-ho-hao-te**	**39.89**	**341**	*eP*		**P**	**10 37 11.4**	**-2.7**
HHC				pmax		pmax		
	comp=Z,8.0nm,0.7s							
HHC				pmax		pmax		
	comp=Z,40nm,5.6s							
USRK	**Ussuriysk Ar.**	**40.60**	**5**	P		**P**	**10 37 20.8**	**+1.0**

comp=Z,37nm,21.4s,baz=254,slow=30
VNDA Vanda 83.15 173 P **P** **10 42 05.6 +1.0**
comp=Z,2.7nm,0.8s,baz=317,slow=5.7,SNR=13
VNDA Vanda 83.15 173 P **P** **10 42 06.0 +1.4**
VNDA IAmb IAmb 10 42 07.1
comp=Z,3.0nm,0.8s
ILAR Eielson Array 84.74 25 P **P** **10 42 13.4 +0.4**
comp=Z,0.5nm,0.9s,baz=258,slow=7.4,SNR=6.3
ILAR Eielson Array 84.74 25 P **P** **10 42 11.6 -1.3**
ARCES ARCESS Array B 90.97 340 P **P** **10 42 42.2 -0.5**
comp=Z,1.9nm,1.0s,baz=87,slow=5.2,SNR=5.5
ARCES ARCESS Array B 90.97 340 P **P** **10 42 42.4 -0.3**
FINES FINESS Array B 92.49 332 LR LR 11 29 06.8
comp=Z,23nm,18.1s,baz=42,slow=38
SYO Syowa Base 92.71 201⇑*e*PcP **PcP** **10 42 53.2 +1.9**
SYO Syowa Base 92.71 201⇑*e*pP pP 10 43 05.0 -7.5
QSPA South Pole Qui 93.50 180 P **P** **10 42 55.8 +1.3**
QSPA IAmb IAmb 10 42 58.4
comp=Z,5.9nm,1.1s
NOA NORSAR Array B 99.41 334 LR LR 11 33 53.1
comp=Z,17nm,18.2s,baz=70,slow=39
TXAR Lajitas Array 120.78 53 PKP **PKiKP** **10 48 32.4 +0.7**
comp=Z,0.1nm,0.6s,baz=112,slow=1.0,SNR=2.7
TORD Torodi Ar. Bea 124.04 288 PKP **PKiKP** **10 48 39.0 +0.7**
comp=Z,1.1nm,0.8s,baz=54,slow=2.4,SNR=4.9
TORD Torodi Ar. Bea 124.04 288 **PKPdf** **10 48 36.8 -1.2**

*MEX **11** 10:40:32.3±0.7, 14.4°N×92.9°W, h72km±38km, MD3.9*
*GCG **11** 10:40:35.4±0.3, 15.6°N×92.3°W, h49km±218km, MD3.7*
ISC 11 10:40:32.1±2.5, 14.5°N±0.1°×92.96°W±0.08, h27km±17km, n8, σ0.84 s/16, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.79**	**59**	*i* P	**Pb**	**10 40 47.4**	**+0.2**
THIG				*i* S	**Sn**	**10 40 58.8**	**+0.4**
PCIG		**1.22**	**348**	*e*P	**Pn**	**10 40 53.9**	**+0.5**
PCIG				*i* S	**Sn**	**10 41 09.5**	**+0.4**
STG3	**Santiaguito 3,**	**1.37**	**81**	*e*P	**Pn**	**10 40 56.1**	**+0.5**
STG3				*e*S	**Sn**	**10 41 12.4**	**-0.5**
CCIG	**Comitan**	**1.94**	**24**	*e*P	**Pb**	**10 41 06.1**	**-0.8**
CCIG				*e*S	**Sn**	**10 41 27.5**	**+0.3**
FUG	**Fuego 3**	**2.06**	**91**	*e*P	**Pn**	**10 41 05.6**	**+0.5**
FUG				*e*S	**Sn**	**10 41 29.0**	**-1.0**
TGIG		**2.27**	**356**	*e*P	**Pn**	**10 41 07.7**	**-0.2**
TGIG				*i* S	**Sn**	**10 41 35.3**	**+0.2**
IXG	**Ixpaco**	**2.47**	**97**	*e*P	**Pn**	**10 41 12.1**	**+1.4**
IXG				*e*S	**Sn**	**10 41 38.5**	**-1.6**
CMIG	**Matias Romero**	**3.17**	**325**	*e*P	**Pn**	**10 41 20.8**	**+0.5**
CMIG				*i* S	**Sn**	**10 41 56.5**	**-0.7**

KRSC 11 10:44:18.1±1.7, 50.58°N×157.40°E, h45km±23km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.82**	**278**	*e*P	Pn	10 44 33.9	+0.7
SKR				*e*S	Sn	10 44 44.8	+0.6
PAU	**Pauzhetka**	**0.97**	**338**	*e*P	Pn	10 44 37.1	+1.9
PAU				*e*S	Sn	10 44 50.1	+2.3
ALID	**Alaid**	**1.21**	**285**	*e*P	Pn	10 44 40.0	+1.4
ALID				*e*S	Sn	10 44 55.2	+1.3
MIPR	**Malaya Ipel'ka**	**1.75**	**347**	*e*P	Pn	10 44 48.6	+2.7
MIPR				*e*S	Sn	10 45 10.3	+3.3
ASAK	**Asacha**	**1.84**	**10**	*e*P	Pn	10 44 49.3	+2.1
MTVR	**Mutnovka**	**1.97**	**14**	*e*P	Pn	10 44 51.2	+2.1
MTVR				*e*S	Sn	10 45 14.9	+2.2
RUS	**Russkaya**	**1.99**	**20**	*e*P	Pn	10 44 51.2	+2.1
RUS				*e*S	Sn	10 45 14.0	+1.2
GRL	**Gorelyy**	**2.02**	**12**	*e*P	Pn	10 44 52.3	+2.5
GRL				*e*S	Sn	10 45 16.9	+3.0
KRMR	**Karymshinskiy**	**2.30**	**11**	*e*P	Pn	10 44 57.1	+3.6
KRMR				*e*S	Sn	10 45 24.7	+4.1
APC	**Apacha**	**2.36**	**357**	*e*P	Pn	10 44 57.2	+3.0
PET	**Petropavlovsk**	**2.57**	**17**	*e*P	Pn	10 45 00.9	+3.7
PET				*e*S	Sn	10 45 30.4	+3.2
DALK	**Dalny**	**2.60**	**18**	*e*P	Pn	10 45 00.1	+2.6
DALK				*e*S	Sn	10 45 30.3	+2.5
UGLR	**Uglovaya**	**2.78**	**18**	*e*P	Pn	10 45 03.9	+3.7
AVH	**Avacha**	**2.82**	**17**	*e*P	Pn	10 45 04.7	+4.1
AVH				*e*S	Sn	10 45 38.7	+5.3
KOK	**Koryaka**	**2.83**	**15**	*e*P	Pn	10 45 04.7	+3.9
SMAR	**Somma**	**2.83**	**17**	*e*P	Pn	10 45 05.6	+4.7
KRER	**Koryakskii**	**2.86**	**17**	*e*P	Pn	10 45 05.4	+4.1
SDLR	**Sedlovina**	**2.86**	**18**	*e*P	Pn	10 45 04.6	+3.4
NLC	**Nalytchevo**	**2.87**	**24**	*e*S	Sn	10 45 34.4	0.0
KRX	**Arik**	**2.89**	**15**	*e*P	Pn	10 45 05.6	+3.9
KRX				*e*S	Sn	10 45 39.7	+4.4
SPN	**Mys Shipunski**	**3.01**	**32**	*e*P	Pn	10 45 05.4	+2.3
SPN				*e*S	Sn	10 45 39.3	+1.4
TUMR	**Tumrok**	**5.00**	**18**	*e*P	Pn	10 45 35.0	+4.4
KBTR	**Krutoberegovo**	**6.51**	**28**	*e*P	Pn	10 45 53.8	+2.7

*NIED **11** 10:52:00, 35.10°N×135.70°E, h11km, Mw3.8 Best double couple: M0:5.16000×10^14 NP1:φ=229.00000°, δ=87.00000°, λ=161.00000° NP2:φ=320.00000°, δ=71.00000°, λ=3.00000°.*
*NEIC **11** 10:52:28.1±3.0, 35.01°N±0.06°×135.7°E±0.1, h10km±2km, mb4.4/5, Error ellipse: s-maj=17.2km s-min=5.8km az=304.0*
*JMA **11** 10:52:28.7, 35.09°N×135.69°E, h10km, M4.0 Broadband fault plane solution: P waves. NP1:φ=322.00000°, δ=69.00000°, λ=21.00000°. NP2:φ=225.00000°, δ=71.00000°, λ=158.00000°. Principal axes: T Plg=29.0000°, Azm=183.0000°; N Plg=61.0000°, Azm=6.0000°; P Plg=1.0000°, Azm=274.0000°;*
JMA Felt III J1.
*IDC **11** 10:52:30.1±1.2, 35.32°N×135.57°E, h0km, mb3.4/4, mb1 3.6/7, mb1mx3.4/67, mbtmp3.5/7, ML3.3/3, MS2.6/1, Ms1 2.8/1, ms1mx2.2/36 Error ellipse: s-maj=29.1km s-min=16.8km az=157.0*
ISC 11 10:52:27.7±1.1, 35.04N±0.04°×135.69E±0.02, h6km±9km, n32, σ1.9 s/20/46, mb3.6/5, 4C-6D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWT	**Wachi**	**0.34**	**315**	⇓P	**Pg**	**10 52 34.8**	**+0.5**
JWT				S	**Sg**	**10 52 38.8**	**+0.1**
JHE	**Heguri**	**0.39**	**181**	⇑P	**Pb**	**10 52 37.1**	**+0.1**
JHE				S	**Sb**	**10 52 42.9**	**-0.3**
TSUJ	**Tsu 2**	**0.69**	**119**	⇓P	**Pb**	**10 52 41.9**	**-0.1**
TSUJ				S	**Sb**	**10 52 51.3**	**-0.4**
JKS	**Kasai**	**0.70**	**265**	⇓P	**Pb**	**10 52 41.9**	**-0.3**
JKS				S	**Sg**	**10 52 51.0**	**+0.8**
JKY	**Yasaka**	**0.76**	**321**	⇓P	**Pg**	**10 52 42.3**	**+0.1**
JKY				S	**Sg**	**10 52 51.9**	**-0.2**
JWY	**Kouya**	**0.83**	**186**	⇑P	**Pb**	**10 52 44.9**	**+0.4**
JWY				S	**Sb**	**10 52 56.1**	**+0.2**
JAWN	**Awajishima-nag**	**0.86**	**230**	⇑P	**Pb**	**10 52 45.2**	**+0.3**
JAWN				S	**Sb**	**10 52 56.7**	**+0.1**
JKN2	**Miekihoku**	**0.94**	**149**	⇑P	**Pb**	**10 52 46.4**	**+0.1**
JKN2				S	**Sb**	**10 52 59.1**	**+0.2**
JKSM	**Kasumi**	**1.00**	**303**	⇓P	**Pg**	**10 52 46.8**	**-0.1**
JKSM				S	**Sg**	**10 52 59.4**	**-0.5**
JYTA	**Yamagatataniai**	**1.01**	**57**	⇓P	**Pg**	**10 52 47.3**	**+0.1**
JYTA				*e*S	**Sg**	**10 53 00.1**	**-0.2**
INU	**Inuyama**	**1.13**	**74**		**Pn**	**10 52 49.8**	**-0.2**
INU				Sn	**Sg**	**10 53 04.0**	**+0.1**
MAJO	**Matsushiro**	**2.53**	**53**		**Pn**	**10 53 10.5**	**+1.1**
MAJO					**Pb**	**10 53 14.4**	**+0.8**
MAT	**Matsushiro**	**2.53**	**53**	P	**Pn**	**10 53 10.3**	**+0.9**
MAT				S	**Sg**	**10 53 47.1**	**-2.0**
MJAR	**Matsushiro Arr**	**2.53**	**53**	Pn	**Pn**	**10 53 10.6**	**+1.3**
	1.2nm,0.3s,baz=246,slow=14,SNR=36						
MJAR				Pg	**Pg**	**10 53 16.1**	**-0.2**
	3.9nm,0.3s,baz=232,slow=18,SNR=25						
MJAR				Lg	Lg	10 53 46.4	
	6.5nm,0.3s,baz=265,slow=6.7,SNR=11						
MJAR	**Matsushiro Arr**	**2.53**	**53**		**Pn**	**10 53 10.3**	**+0.9**
MJB9	**Matsu-Tunnel**	**2.53**	**53**	Pn	**Pn**	**10 53 09.0**	**-0.4**
JHJ2	**Mitsune**	**3.93**	**118**	Pn	**Pn**	**10 53 31.8**	**+3.3**
JNU	**Nakatsue**	**4.43**	**246**	Pn	**Pn**	**10 53 37.2**	**+1.8**
	4.5nm,0.3s,baz=46,slow=5.1,SNR=79						
JNU				Pg	**Pg**	**10 53 50.6**	**-2.0**
	3.9nm,0.3s,baz=70,slow=0.5,SNR=7.8						
JNU				Lg	Lg	10 54 47.6	
	4.9nm,0.3s,baz=219,slow=14,SNR=4.5						
JNU	**Nakatsue**	**4.43**	**246**	Pn	**Pn**	**10 53 37.0**	**+1.5**
JNU					**Pn**	**10 53 37.1**	**+1.6**
KSRS	**Korea Array**	**6.72**	**293**	Pn	**Pn**	**10 53 08.6**	**+1.7**
	0.6nm,0.3s,baz=109,slow=14,SNR=7.1						
KS19	**Wonju Array Si**	**6.78**	**293**	Pn	**Pn**	**10 54 08.1**	**+0.4**
YSS	**Yuzh-Sakhalins**	**13.03**	**22**	Pn	**Pn**	**10 55 33.5**	**+0.3**
YOJ	**Yonaguni jima**	**15.23**	**230**		**Pn**	**10 56 04.2**	**+0.9**
TWG	**Pinlang**	**17.64**	**230**		**Pn**	**10 56 33.1**	**-1.0**
HIA	**Hailar**	**18.43**	**325**	P	**P**	**10 56 42.6**	**-1.2**
HIA				IAmb	IAmb	10 56 43.1	
	comp=Z,8.1nm,0.4s						
XAN	**Xi'an**	**22.06**	**275**	P	**P**	**10 57 21.0**	**-2.2**
SONM	**Songino Array**	**25.24**	**309**	P	**P**	**10 57 56.3**	**+1.8**
	comp=Z,1.6nm,0.9s,baz=113,slow=11,SNR=4.3						
TLY	**Talaya**	**28.32**	**316**	P	**P**	**10 58 19.1**	**-2.9**
TLY				IAmb	IAmb	10 58 19.3	
	comp=Z,6.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**36.49**	**253**	LR	LR	11 14 52.4	
	comp=Z,8.7nm,18.5s,baz=190,slow=37						
KURBB	**Kurchatov Arra**	**43.61**	**309**	P	**P**	**11 00 33.7**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=91,slow=9.4,SNR=4.3						
ILAR	**Eielson Array**	**53.63**	**31**	P	**P**	**11 01 50.9**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=268,slow=6.1,SNR=2.4						
WRA	**Warramunga Arr**	**54.70**	**182**	P	P	11 02 03.8	+6.1
	comp=Z,0.5nm,0.7s,baz=357,slow=7.9,SNR=1.8						

MAN 11 10:52:52.7, 9.82°N×125.95°E, h10km, mb4.1, ML2.9, MS2.5, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.45**	**266**	⇓*i*P	Pb	10 53 02.2	-0.6
SCPH				*i* S	Sg	10 53 07.9	+0.4
MSLP	**Maasin**	**1.11**	**286**	*e*P	Pb	10 53 13.6	-0.5
MSLP				*e*S	Sn	10 53 29.7	-0.2
LLP	**Lapu-Lapu**	**2.01**	**284**	*e*P	Pn	10 53 26.7	0.0
LLP				*e*S	Sn	10 53 52.8	+0.9
TBP	**Tagbilaran**	**2.06**	**267**	*e*P	Pn	10 53 26.7	-0.6
TBP				*i* S	Sn	10 53 51.0	-2.1
KCP	**Kidapawan**	**2.92**	**197**⇑	*e*P	Pn	10 53 39.6	+0.3
KCP				*e*S	Sn	10 54 16.1	+1.6
CNP	**Catarman**	**2.96**	**335**	*e*P	Pn	10 53 40.6	+0.8
CNP				*e*S	Sb	10 54 20.4	-1.3
DDMP	**Don Marcelino,**	**3.70**	**184**	*e*P	Pn	10 53 49.0	-0.9

*DJA **11** 11:10:32.0±0.4, 4°S±3°×12°7E±°, h10km, M3.7/11, mb3.9/2, MLv3.6/11*
*IDC **11** 11:10:36.7±2.7, 3.55S×127.42E, h64km±28km, mb3.5/2, mb1 3.7/5, mb1mx3.3/44, mbtmp3.8/5, ML3.6/3, MS3.4/2, Ms1 3.4/2, ms1mx2.5/29, Error ellipse: s-maj=30.7km s-min=23.9km az=68.0*
ISC 11 11:10:34.8±0.9, 3.53S±0.07°×127.30E±0.05, h42km, n15, σ2.9 s/01/19, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.35**	**325**	P	**Pn**	**11 10 39.8**	**-4.0**
NLAI				S	**Sn**	**11 10 45.9**	**-4.3**
AAI	**Ambon**	**0.90**	**100**	P	**Pn**	**11 10 49.2**	**-1.9**
MSAI	**Masohi**	**1.63**	**84**	P	**Pn**	**11 11 01.2**	**+0.1**
MSAI				S	**Sn**	**11 11 22.8**	**+1.9**
SANI	**Sanana**	**1.97**	**318**	P	**Pn**	**11 11 06.0**	**+0.2**
SANI				S	**Sn**	**11 11 31.3**	**+2.0**
BNDI	**Bandanaira**	**2.77**	**111**	P	**Pn**	**11 11 17.1**	**+0.3**
LBMI	**Labuha**	**2.88**	**4**	P	**Pn**	**11 11 20.2**	**+1.9**
SIJI	**Sorong**	**4.76**	**56**	P	**Pn**	**11 11 44.5**	**+0.3**
	6.0nm,0.3s,baz=220,slow=13,SNR=7.6						
SIJI				S	**Sn**	**11 12 36.7**	**-1.4**
	2.7nm,0.3s,baz=59,slow=22,SNR=7.4						
FAKI	**Fak Fak**	**4.98**	**83**	P	**Pn**	**11 11 47.3**	**+0.3**
	0.1nm28nm,1.4s						
BBSI	**Bau Bau**	**5.10**	**247**	P	**Pn**	**11 11 48.4**	**-0.4**
KAPI	**Kappang**	**7.67**	**259**	P	**Pn**	**11 12 26.0**	**+1.9**
	1.3nm,0.3s,baz=102,slow=9.3,SNR=4.9						
KAPI				S	**Sn**	**11 13 52.3**	**+2.5**
	0.4nm,0.3s,baz=131,slow=20,SNR=1.3						
FITZ	**Fitzroy Crossi**	**14.57**	**186**	LR	LR	11 19 35.5	
	comp=Z,29nm,20.0s,baz=10,slow=37						
WRA	**Warramunga Arr**	**17.70**	**158**	P	**Pn**	**11 14 38.1**	**-0.2**
	0.2nm,0.3s,baz=340,slow=12,SNR=4.0						
ASAR	**Alice Springs**	**21.01**	**163**	P	**P**	**11 15 14.8**	**-0.2**
	4.5nm,0.9s,baz=344,slow=12,SNR=27						
ASAR				PcP	**PcP**	**11 19 19.6**	**-1.5**
	0.1nm,0.4s,baz=359,slow=1.9,SNR=4.4						
JNU	**Nakatsue**	**36.61**	**5**	LR	LR	11 31 53.7	
	comp=Z,330nm,21.6s,baz=260,slow=35						
MKAR	**Makanchi Array**	**63.88**	**327**	P	**P**	**11 21 03.7**	**+0.5**
	0.6nm,0.6s,baz=134,slow=7.6,SNR=7.5						

*TEH **11** 11:22:33.2, 31.54N×59.41E, h10km, ML4.1*
*IDC **11** 11:22:34.1±1.0, 31.39N×59.17E, h0km, mb3.7/7, mb1 3.8/9, mb1mx3.5/55, mbtmp3.7/9, ML3.4/2, Error ellipse: s-maj=26.3km s-min=22.6km az=81.0*
ISC 11 11:22:35.6±0.8, 31.52N±0.05°×59.42E±0.05, h10km, n38, σ1.9 s/28/39, mb3.6/7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NHDN	**Nehbandan**	**0.56**	**103**	*e*Pg	**Pg**	**11 22 44.6**	**-1.9**
IKOO	**Kooshah**	**0.96**	**339**	*e*Pg	**Pg**	**11 22 51.7**	**-2.5**
IKOO				*e*		11 23 06.0	
IDAH	**Dahanechah**	**1.27**	**17**	*e*Pg	**Pn**	**11 22 58.6**	**-1.1**
IDAH				*e*		11 23 03.9	
ITEG	**Tejag**	**1.48**	**338**	*e*Pn	**Pn**	**11 23 01.2**	**-1.3**
ITEG				*e*		11 23 25.4	
IMON	**Monand**	**1.68**	**7**	*e*		11 23 11.9	
IMON				*e*Pg	**Pn**	**11 23 04.6**	**-0.7**
AFRZ	**Afriz**	**1.93**	**350**	*e*Pn	**Pn**	**11 23 07.8**	**-0.8**
CHMN	**Cheshme madani**	**2.31**	**225**	*e*Pn	**Pn**	**11 23 14.9**	**+0.8**
SZD1	**Zahaedan-tmp**	**2.38**	**148**	*e*Pn	**Pn**	**11 23 14.5**	**-0.4**
TVBK	**TV Kerman**	**2.75**	**237**	*e*Pn	**Pn**	**11 23 21.0**	**+0.9**
TPRV	**Parvadeh(Tabas**	**2.76**	**304**	*e*Pn	**Pn**	**11 23 19.4**	**-0.6**
KHGB	**Koh Gabri**	**2.77**	**246**	*e*Pn	**Pn**	**11 23 20.5**	**+0.2**
TKDS	**Koohdasht(Taba**	**2.85**	**318**	*e*Pn	**Pn**	**11 23 20.9**	**-0.3**
NGRK	**Negar Kerman**	**2.98**	**232**	*e*Pn	**Pn**	**11 23 24.0**	**+0.8**
IBAF	**Bafgh**	**3.29**	**272**	*e*Pn	**Pn**	**11 23 27.2**	**-0.1**
TNSJ	**Nastanj**	**3.39**	**317**	*e*Pn	**Pn**	**11 23 28.5**	**-0.2**
KHNJ	**Kahnooj**	**3.86**	**203**	*e*Pn	**Pn**	**11 23 34.9**	**-0.2**
IMEH	**Mehriz**	**4.11**	**269**	*e*Pn	**Pn**	**11 23 38.9**	**+0.2**
ICHK	**Chekchek**	**4.32**	**281**	*e*Pn	**Pn**	**11 23 41.7**	**+0.1**
JRKH	**Jarkhoshk**	**4.44**	**10**	*e*Pn	**Pn**	**11 23 43.6**	**+0.4**
ISAD	**Sadrabad**	**4.90**	**276**	*e*Pn	**Pn**	**11 23 49.1**	**-0.5**
GENO	**Geno**	**4.99**	**215**	*e*Pn	**Pn**	**11 23 51.6**	**+0.9**
SBZV	**Sabzevar**	**5.08**	**343**	*e*Pn	**Pn**	**11 23 51.9**	**-0.1**
ANAR	**Anarak**	**5.09**	**291**	*e*Pn	**Pn**	**11 23 51.5**	**-0.6**
IAKL	**Akhelmad**	**5.10**	**354**	*e*Pn	**Pn**	**11 23 53.4**	**+1.1**
ISFR	**Sfrayin**	**5.64**	**348**	*e*Pn	**Pn**	**11 24 00.3**	**+0.5**
IANJ	**Anjilo**	**6.05**	**312**	*e*Pn	**Pn**	**11 24 05.8**	**+0.5**
IZEF	**Zefreh**	**6.16**	**285**	*e*Pn	**Pn**	**11 24 07.2**	**+0.3**
GEYT	**Alibeck**	**6.48**	**351**	Pn	**Pn**	**11 24 12.4**	**+1.3**
	0.5nm,0.3s,baz=168,slow=14,SNR=1.4						
GEYT				Sn	**Sn**	**11 25 29.2**	**+4.0**
	baz=200,slow=21,SNR=1.6						
GEYT				Lg	Lg	11 26 04.5	
	baz=177,slow=32,SNR=1.6						
IALA	**Alasht**	**7.13**	**311**	*e*Pn	**Pn**	**11 24 20.7**	**+0.4**
IPRN	**Peran**	**7.54**	**311**	*e*Pn	**Pn**	**11 24 26.6**	**+0.9**
WSAR	**Wadi Sarin**	**8.28**	**185**	Pn	**Pn**	**11 24 34.5**	**-1.3**
	0.7nm,0.3s,baz=21,slow=9.9,SNR=5.9						
BRTR	**Keskin Array B**	**22.44**	**299**	P	**P**	**11 27 34.6**	**-0.2**
	1.1nm,0.8s,baz=110,slow=14,SNR=5.5						
BVAR	**Borovoye Array**	**22.92**	**17**	P	**P**	**11 27 41.7**	**+2.1**
	1.7nm,0.8s,baz=177,slow=7.2,SNR=6.0						
KURBB	**Kurchatov Arra**	**23.79**	**31**	P	**P**	**11 27 51.1**	**+2.8**
	0.7nm,1.0s,baz=229,slow=9.0,SNR=1.3						
FINES	**FINESS Array B**	**36.96**	**334**	P	**P**	**11 29 43.9**	**-0.8**
	1.2nm,0.7s,baz=132,slow=8.3,SNR=3.4						
TORD	**Torodi Ar. Bea**	**55.81**	**265**	P	**P**	**11 32 11.4**	**-2.0**
	1.3nm,0.7s,baz=56,slow=6.2,SNR=7.3						
WRA	**Warramunga Arr**	**88.13**	**115**	P	**P**	**11 35 27.7**	**+0.7**
	0.9nm,0.9s,baz=319,slow=4.1,SNR=4.6						
ASAR	**Alice Springs**	**89.90**	**118**	P	**P**	**11 35 35.7**	**+0.5**
	0.3nm,0.7s,baz=310,slow=5.0,SNR=6.0						

IDC 11 11:35:17.7±4.4, 18.24N×145.07E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.4/39, mbtmp3.6/4, ML2.8/1, Error ellipse: s-maj=192.0km s-min=32.1km az=88.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**19.21**	**343**	P	P	11 39 43.1	-0.2
	0.0nm,0.3s,baz=168,slow=12,SNR=2.2						
WRA	**Warramunga Arr**	**39.38**	**196**	P	P	11 42 49.5	+0.1
	0.4nm,0.3s,baz=17,slow=8.9,SNR=14						
FITZ	**Fitzroy Crossi**	**40.85**	**209**	P	P	11 43 01.7	+0.2
	0.7nm,0.4s,baz=34,slow=9.4,SNR=8.9						
ASAR	**Alice Springs**	**43.06**	**195**	P	P	11 43 18.9	-0.7
	0.4nm,0.6s,baz=16,slow=8.1,SNR=10						

*GUC **11** 11:57:52.3±0.5, 20.98°S×68.78°W, h107km±2km, ML4.0*
*NEIC **11** 11:57:52.5±0.8, 20.97°S±0.04°×68.97°W±0.07°, h111km±5km, mb4.4/22, Error ellipse: s-maj=9.4km s-min=6.3km az=96.0*
*IDC **11** 11:57:54.6±8.5, 20.90°S×68.51°W, h125km±59km, mb3.7/3, mb1 3.9/4, mb1mx3.5/20, mbtmp4.0/4, Error ellipse: s-maj=74.8km s-min=50.3km az=32.0*
ISC 11 11:57:52.1±0.7, 20.98°S±0.03°×68.91°W±0.07, h112km±5km, n71, σ0.71/92, mb4.3/13, 7C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	**IPOC Station P**	**0.55**	**263**	⇓*i*P	**Pn**	**11 58 09.3**	**-0.3**
PB01				*e*S	**Sn**	**11 58 22.9**	**+0.1**
PB01				IAML		11 58 25.2	
	comp=E,6μm,0.3s						
PB01	**IPOC Station P**	**0.55**	**263**		**Pn**	**11 58 09.6**	**0.0**
PB01					**Sn**	**11 58 22.8**	**+0.1**
PB08	**IPOC Station P**	**0.86**	**344**	⇓*e*P	**Pn**	**11 58 12.6**	**0.0**
PB08				*e*S	**Sn**	**11 58 28.0**	**+0.1**
PB08	**IPOC Station P**	**0.86**	**344**	Pn	**Pn**	**11 58 12.4**	**-0.1**
PB08				Sn	**Sn**	**11 58 27.3**	**-0.7**
PB09	**IPOC Station P**	**0.87**	**201**	⇓*i*P	**Pn**	**11 58 12.7**	**+0.2**
PB09				*e*S	**Sn**	**11 58 28.3**	**+0.5**
PB09	**IPOC Station P**	**0.87**	**201**		**Pn**	**11 58 12.3**	**-0.2**
PATCX	**Punta Patache**	**1.18**	**277**		**Pn**	**11 58 15.3**	**-0.1**
PB07	**IPOC Station P**	**1.18**	**231**	⇑*i*P	**Pn**	**11 58 15.8**	**+0.2**
PB07				*e*S	**Sn**	**11 58 34.4**	**+1.1**
PB07				IAML		11 58 35.9	
	comp=E,4μm,0.3s						
PB07	**IPOC Station P**	**1.18**	**231**		**Pn**	**11 58 15.5**	**0.0**
TA01	**Diego Aracena**	**1.26**	**289**	⇑*i*P	**Pn**	**11 58 16.5**	**+0.2**
TA01				*e*S	**Sn**	**11 58 35.4**	**+0.8**
TA01				IAML		11 58 39.1	
	comp=N,2μm,0.4s						
TA01	**Diego Aracena**	**1.26**	**289**		**Pn**	**11 58 16.4**	**+0.2**
PB03	**IPOC Station P**	**1.33**	**216**	⇑*i*P	**Pn**	**11 58 17.4**	**+0.2**
PB03				*e*S	**Sn**	**11 58 36.9**	**+0.7**
PB03				IAML		11 58 39.1	
	comp=E,3μm,0.6s						
GO01	**Chusmiza**	**1.33**	**348**	*e*P	**Pn**	**11 58 17.5**	**-0.1**
GO01				*e*S	**Sn**	**11 58 37.0**	**+0.2**
GO01				IAML		11 58 40.1	
	comp=N,2μm,0.1s						
GO01	**Chusmiza**	**1.33**	**348**		**Pn**	**11 58 17.6**	**0.0**
TA02	**Huaiquique**	**1.35**	**301**	⇑*i*P	**Pn**	**11 58 17.5**	**+0.3**
TA02				*e*S	**Sn**	**11 58 37.3**	**+1.1**
TA02				IAML		11 58 43.7	
	comp=E,3μm,0.1s						
PB11	**IPOC Station P**	**1.40**	**330**	*e*P	**Pn**	**11 58 18.0**	**-0.1**
PB11				*e*S	**Sn**	**11 58 37.9**	**+0.2**
PB11	**IPOC Station P**	**1.40**	**330**	Pn	**Pn**	**11 58 17.9**	**-0.1**
LVC	**Limon Verde**	**1.63**	**180**	*e*P	**Pn**	**11 58 21.6**	**+0.7**
LVC				*e*S	**Sn**	**11 58 43.8**	**+1.0**
LVC	**Limon Verde**	**1.63**	**180**	Pn	**Pn**	**11 58 21.5**	**+0.5**
PB04	**IPOC Station P**	**1.78**	**220**	*e*P	**Pn**	**11 58 22.6**	**0.0**
PB04				*e*S	**Sn**	**11 58 46.6**	**+0.7**
PB04				IAML		11 58 52.9	
	comp=N,2μm,0.4s						
PB04	**IPOC Station P**	**1.78**	**220**		**Pn**	**11 58 23.3**	**+0.7**
PSGC	**Pisagua**	**1.79**	**320**	⇑*i*P	**Pn**	**11 58 22.5**	**-0.1**
PSGC				*e*S	**Sn**	**11 58 45.9**	**0.0**
PSGC				IAML		11 58 52.9	
	comp=E,1μm,0.2s						
PSGCX	**Pisagua**	**1.79**	**320**		**Pn**	**11 58 22.7**	**+0.1**
PB06	**IPOC Station P**	**

ESDC	**Sonseca Array**	**85.46**	**45**	P		**P**	**12 10 17.5**	**0.0**
	comp=Z,0.8nm,1.0s,baz=256,slow=5.2,SNR=4.4							
YKA	**Yellowknife Ar**	**90.70**	**341**	P		**P**	**12 10 42.3**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=140,slow=5.0,SNR=5.6							
YKA				pP		**pP**	**12 11 11.4**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=136,slow=4.9,SNR=4.7							
ZALV	**Zalesovo Beam**	**141.48**	**25**	PKP		**PKiKP**	**12 17 11.3**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=325,slow=1.8,SNR=2.5							
MKAR	**Makanchi Array**	**145.21**	**35**	PKP		**PKPab**	**12 17 17.1**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=325,slow=2.3,SNR=16							
LZH	**Lanzhou**	**163.66**	**21**	*e*PKP		**PKPdf**	**12 17 42.0**	**-0.4**
LZH				pPKP		pPKPdf	12 18 05.1	-9.3
LZH				sPKP			12 18 17.4	

IDC ***11*** *12:15:28.0±0.5, 12°.01N×43°.75W, h0km, mb4.2/24, mb1 4.4/25, mb1mx4.3/39, mbtmp4.2/25, ML4.5/1, MS3.7/23, Ms1 3.7/23, ms1mx3.6/36, Error ellipse: s-maj=15.7km s-min=12.3km az=142.0*

NEIC ***11*** *12:15:29.2±1.5, 11°.95N±0°.09×43°.70W±0°.09, h10km±1km, mb4.7/124, Error ellipse: s-maj=15.9km s-min=14.5km az=153.0*

GCMT ***11*** *12:15:33.2±0.4, 11°.99N±0°.04×43°.63W±0°.02, h22km±1km, MW4.8/70, Moment Tensor Solution. s17,c18; s70,c86; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=1.53±.22; $M_{\theta\theta}$=0.55±.14; $M_{\phi\phi}$2.08±.14; $M_{r\theta}$=-1.01±.28; $M_{\theta\phi}$=0.69±.09; $M_{\phi r}$=0.77±.17; Best double couple: M=2.35800×10^{16} NP1:ϕ_s136.00000°, δ47.00000°, λ=-140.00000°. NP2: ϕ_s16.00000°, δ62.00000°, λ=-51.00000°. Principal axes: T 2.3230, Plg8.0000°, Azm79.0000°; N 0.0680, Plg34.0000°, Azm175.0000°; P -2.3940, Plg55.0000°, Azm337.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 12:15:29.2±0.3, 11°.96N±0°.07×43°.69W±0°.06, h10km, n180, σ0s96/166, mb4.6/77, MS3.7/21, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**11.17**	**233**	Pn	**Pn**	**12 18 08.0**	**-1.1**
	3.2nm,0.3s,baz=42,slow=14,SNR=21						
MDP				Sn	Sn	12 20 00.1	-14
	0.7nm,0.3s,baz=130,slow=17,SNR=2.3						
MDP				LR	LR	12 21 46.9	
	comp=Z,716nm,20.6s,baz=20,slow=34						
TOSP	**Speyside**	**16.52**	**269**	Pn	**Pn**	**12 19 21.2**	**0.0**
H05S1	**Guadeloupe/Mar**	**16.88**	**280**	T	T	12 36 29.7	
	SNR=44						
SVB	**Belmont**	**17.19**	**276**	P	**Pn**	**12 19 29.6**	**-0.1**
FDF	**Fort de France**	**17.21**	**281**	P	**P**	**12 19 30.8**	**-0.8**
FDF				IAmb	IAmb	12 19 39.6	
	comp=Z,81nm,1.2s						
H05N1	**Guadeloupe/Mar**	**17.39**	**286**	T	T	12 37 02.4	
	SNR=7.9						
RCBR	**Riachuelo**	**19.30**	**156**	LR	LR	12 25 32.6	
	comp=Z,111nm,18.5s,baz=334,slow=31						
RCBR	**Riachuelo**	**19.30**	**156**	P	**P**	**12 19 54.2**	**-0.3**
PTGA	**Pitinga**	**20.51**	**233**	P	**P**	**12 20 06.3**	**-1.4**
	comp=Z,3.4nm,0.6s,baz=42,slow=14,SNR=4.4						
PTGA				LR	LR	12 27 11.9	
	comp=Z,373nm,20.8s,baz=49,slow=34						
PTGA	**Pitinga**	**20.51**	**233**	P	**P**	**12 20 08.8**	**+1.1**
STVI	**Saint Thomas**	**21.48**	**290**	P	**P**	**12 20 18.3**	**+0.1**
STVI				IAmb	IAmb	12 20 24.4	
	comp=Z,23nm,0.9s						
CUPR	**Culebra, Puert**	**21.77**	**289**	P	**P**	**12 20 21.6**	**+0.3**
CUPR				IAmb	IAmb	12 20 23.9	
	comp=Z,32nm,1.1s						
MTP	**Monte Pirata**	**21.97**	**289**	P	**P**	**12 20 24.0**	**+0.5**
MTP				IAmb	IAmb	12 20 28.3	
	comp=Z,33nm,1.1s						
HUMP	**Col San Antoni**	**22.26**	**289**	P	**P**	**12 20 27.2**	**+0.6**
HUMP				IAmb	IAmb	12 20 32.8	
	comp=Z,23nm,1.0s						
PDPR	**Patillas Dam,**	**22.39**	**288**	P	**P**	**12 20 27.7**	**-0.3**
PDPR				IAmb	IAmb	12 20 34.7	
	comp=Z,31nm,1.1s						
SJG	**San Juan**	**22.53**	**288**	LR	LR	12 27 43.3	
	comp=Z,304nm,21.6s,baz=92,slow=33						
BDFB	**Brasilia**	**27.76**	**189**	LR	LR	12 31 43.6	
	comp=Z,111nm,19.4s,baz=320,slow=35						
SAML	**Samuel**	**28.41**	**224**	P	**P**	**12 21 26.1**	**+1.9**
SAML				IAmb	IAmb	12 21 36.6	
	comp=Z,12nm,1.4s						
RUSC	**La Rusia**	**29.64**	**261**	P	**P**	**12 21 36.5**	**+0.7**
CMLA	**Cha da Macela**	**30.40**	**29**	P	**P**	**12 21 41.2**	**-0.5**
ROSC	**El Rosal**	**31.10**	**259**	LR	LR	12 35 30.0	
	comp=Z,313nm,18.0s,baz=92,slow=39						
SIV	**San Ignacio**	**32.67**	**212**	P	**P**	**12 22 02.4**	**+0.5**
	comp=Z,2.5nm,1.0s,baz=56,slow=7.8,SNR=6.7						
H10N3	**ASCENSION HYDR**	**35.06**	**123**	T	T	12 59 42.8	
	baz=303,slow=74,SNR=186						
H10N2	**ASCENSION HYDR**	**35.06**	**123**	T	T	12 59 43.1	
	baz=303,slow=74,SNR=181						
H10N1	**ASCENSION HYDR**	**35.08**	**123**	T	T	12 59 44.3	
	baz=303,slow=74,SNR=179						
LPAZ	**La Paz**	**37.05**	**221**	P	**P**	**12 22 41.3**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=21,slow=5.5,SNR=6.4						
LPAZ				LR	LR	12 38 02.7	
	comp=Z,193nm,19.7s,baz=80,slow=37						
DBIC	**Dimbokro**	**38.65**	**94**	P	**P**	**12 22 54.0**	**+0.7**
	comp=Z,7.9nm,0.8s,baz=265,slow=9.6,SNR=5.3						
DBIC				LR	LR	12 36 46.2	
	comp=Z,156nm,18.9s,baz=248,slow=33						
DBIC	**Dimbokro**	**38.65**	**94**	IAmb	IAmb	12 22 56.9	
	comp=Z,39nm,1.4s						
U59A	**Littleton**	**39.14**	**314**	P	**P**	**12 22 57.6**	**+0.5**
ATAH	**Atahualpa**	**39.39**	**243**	P	**P**	**12 23 00.2**	**+0.2**
	comp=Z,13nm,0.9s,baz=74,slow=8.1,SNR=6.7						
ESPN	**Las Esperanzas**	**39.69**	**275**	P	**P**	**12 23 02.2**	**+0.3**
ESPN				IAmb	IAmb	12 23 05.7	
	comp=Z,25nm,1.0s						
V58A	**Windy Hill, Pi**	**39.81**	**313**	P	**P**	**12 23 03.1**	**+0.4**
S58A	**Poland Farm, P**	**39.95**	**316**	P	**P**	**12 23 04.2**	**+0.4**
BIRD	**Birdtown, Kers**	**40.29**	**310**	P	**P**	**12 23 05.2**	**-1.6**
CPUP	**Villa Florida**	**40.31**	**199**	P	**P**	**12 23 07.3**	**+0.4**
ACON	**Acoyapa**	**40.56**	**274**	P	**P**	**12 23 10.0**	**+0.8**
ACON				IAmb	IAmb	12 23 12.3	
	comp=Z,10nm,0.8s						
U56A	**King**	**40.98**	**313**	P	**P**	**12 23 13.0**	**+0.6**
BLA	**Blacksburg**	**41.40**	**314**	P	**P**	**12 23 16.6**	**+0.7**
SSPA	**Standing Stone**	**41.45**	**320**	P	**P**	**12 23 17.2**	**+0.9**
PATCX	**Punta Patache**	**41.69**	**219**	P	**P**	**12 23 18.9**	**+0.4**
PATCX				IAmb	IAmb	12 23 24.5	
	comp=Z,22nm,1.0s						
BG3	**Lake Jocassee**	**42.29**	**309**	P	**P**	**12 23 23.1**	**-0.1**
TGUH	**Tegucigalpa,Un**	**42.48**	**278**	P	**P**	**12 23 25.9**	**+0.8**
TKL	**Tuckaleechee C**	**43.18**	**310**	P	**P**	**12 23 30.1**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=129,slow=6.9,SNR=6.6						
TKL	**Tuckaleechee C**	**43.18**	**310**	IAmb	IAmb	12 23 32.9	
	comp=Z,5.5nm,0.8s						
S51A	**Beattyville**	**43.85**	**313**	P	**P**	**12 23 36.1**	**+0.3**
S51A				IAmb	IAmb	12 23 43.9	
	comp=Z,9.1nm,0.9s						
W50A	**Signal Mountai**	**44.17**	**309**	P	**P**	**12 23 38.2**	**-0.2**
W50A				IAmb	IAmb	12 23 42.5	
	comp=Z,8.1nm,1.0s						
TOA0	**Torodi Ar. Sit**	**44.27**	**83**	P	**P**	**12 23 40.1**	**+0.7**
TOA0				IAmb	IAmb	12 23 48.4	
	comp=Z,17nm,1.1s						
TORD	**Torodi Ar. Bea**	**44.27**	**83**	P	**P**	**12 23 40.2**	**+0.8**
	comp=Z,8.4nm,0.8s,baz=284,slow=8.3,SNR=35						
TORD				LR	LR	12 40 05.3	
	comp=Z,343nm,20.1s,baz=250,slow=33						
TORD	**Torodi Ar. Bea**	**44.27**	**83**	P	**P**	**12 23 40.2**	**+0.8**
Q51A	**Peebles**	**44.28**	**315**	P	**P**	**12 23 39.4**	**+0.1**
Q51A				IAmb	IAmb	12 23 41.9	
	comp=Z,8.9nm,0.7s						
MTO3	**Montecristo**	**44.48**	**278**	P	**P**	**12 23 41.2**	**-0.2**
T50A	**Nancy**	**44.51**	**311**	P	**P**	**12 23 41.0**	**0.0**
ESDC	**Sonseca Array**	**44.61**	**45**	P	**P**	**12 23 42.6**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=243,slow=8.4,SNR=15						
ESDC				LR	LR	12 38 06.8	
	comp=Z,120nm,21.7s,baz=240,slow=30						
ESDC	**Sonseca Array**	**44.61**	**45**	IAmb	IAmb	12 23 50.0	
	comp=Z,8.4nm,1.4s						
SWET	**Sewanee**	**44.65**	**308**	P	**P**	**12 23 43.2**	**+0.9**
SWET				IAmb	IAmb	12 23 45.2	
	comp=Z,6.9nm,0.9s						
U49A	**Red Boiling Sp**	**45.01**	**310**	P	**P**	**12 23 45.9**	**+0.8**
U49A				IAmb	IAmb	12 23 48.3	
	comp=Z,6.9nm,1.1s						
D53A	**Lac Vacive, Po**	**45.20**	**327**	P	**P**	**12 23 47.0**	**+0.6**
D53A				IAmb	IAmb	12 23 54.7	
	comp=Z,18nm,1.3s						
R49A	**Shelbyville**	**45.26**	**313**	P	**P**	**12 23 46.9**	**-0.1**
R49A				IAmb	IAmb	12 23 50.4	
	comp=Z,10nm,1.0s						
V48A	**Smith Brothers**	**45.52**	**309**	P	**P**	**12 23 50.1**	**+1.0**
AC02	**Maricunga**	**45.81**	**212**	P	**P**	**12 23 52.4**	**+0.4**
AC02				IAmb	IAmb	12 24 01.3	
	comp=Z,9.3nm,1.2s						
P48A	**Milroy**	**45.92**	**314**	P	**P**	**12 23 52.7**	**+0.4**
P48A				IAmb	IAmb	12 23 54.7	
	comp=Z,10nm,0.8s						
WVT	**Waverly**	**46.42**	**309**	P	**P**	**12 23 55.9**	**-0.3**
WVT				IAmb	IAmb	12 23 58.7	
	comp=Z,8.0nm,0.8s						
SCHQ	**Schefferville**	**46.48**	**342**	P	**P**	**12 23 56.6**	**+0.2**
	comp=Z,6.2nm,0.8s,baz=134,slow=7.0,SNR=12						
SCHQ				LR	LR	12 41 03.2	
	comp=Z,44nm,18.3s,baz=107,slow=33						
SCHQ	**Schefferville**	**46.48**	**342**	P	**P**	**12 23 57.6**	**+1.1**
SCHQ				IAmb	IAmb	12 24 04.3	
	comp=Z,12nm,1.1s						
SHEL	**Horse Pasture**	**46.68**	**126**	P	**P**	**12 23 57.3**	**-1.2**
OXF	**Oxford**	**47.13**	**306**	P	**P**	**12 24 01.7**	**-0.1**
P46A	**Rosedale**	**47.24**	**314**	P	**P**	**12 24 03.1**	**+0.5**
OLIL	**Olney**	**47.54**	**312**	P	**P**	**12 24 04.0**	**-1.0**
AC05	**El Transito**	**48.02**	**212**	P	**P**	**12 24 08.3**	**-0.6**
AC05				IAmb	IAmb	12 24 20.6	
	comp=Z,8.9nm,0.9s						
S44A	**Carbondale**	**48.02**	**310**	P	**P**	**12 24 09.9**	**+1.1**
Q44A	**Meyer Farm, Va**	**48.27**	**312**	P	**P**	**12 24 12.6**	**+2.0**
W41B	**Gary Mavity, V**	**49.56**	**306**	P	**P**	**12 24 20.7**	**+0.1**
W41B				IAmb	IAmb	12 24 23.6	
	comp=Z,6.6nm,0.9s						
WHAR	**Wooly Hollow**	**49.62**	**306**	P	**P**	**12 24 21.1**	**0.0**
WHAR				IAmb	IAmb	12 24 23.4	
	comp=Z,5.7nm,0.9s						
CCM	**Cathedral Cave**	**49.63**	**310**	P	**P**	**12 24 21.0**	**-0.1**
FCAR	**Ozark Folk Cen**	**49.66**	**307**	P	**P**	**12 24 20.6**	**-0.7**
WLAR	**White Oak Lake**	**49.88**	**304**	P	**P**	**12 24 24.4**	**+1.3**
WLAR				IAmb	IAmb	12 24 24.5	
	comp=Z,12nm,1.1s						
U40A	**Yellville**	**50.35**	**308**	P	**P**	**12 24 25.9**	**-0.7**
P40A	**Paris**	**50.70**	**312**	P	**P**	**12 24 28.4**	**-0.8**
P40A				IAmb	IAmb	12 24 30.9	
	comp=Z,6.0nm,0.8s						
W39A	**Magazine**	**50.78**	**306**	P	**P**	**12 24 30.0**	**+0.1**
W39A				IAmb	IAmb	12 24 32.5	
	comp=Z,7.2nm,0.8s						
S39A	**Bolivar**	**51.09**	**309**	P	**P**	**12 24 31.4**	**-0.7**
G40A	**Rib Lake**	**51.58**	**319**	P	**P**	**12 24 35.8**	**0.0**
TUL1	**Leonard**	**52.54**	**306**	P	**P**	**12 24 42.3**	**-0.7**
TUL1				IAmb	IAmb	12 24 49.6	
	comp=Z,10nm,1.0s						
BO02	**Sierra Bellavi**	**53.13**	**208**	P	**P**	**12 24 46.7**	**-0.7**
Z35A	**Perchaven, San**	**53.19**	**303**	P	**P**	**12 24 47.8**	**-0.1**
KEST	**Kesra**	**53.23**	**54**	LR	LR	12 47 37.9	
	comp=Z,101nm,18.4s,baz=250,slow=36						
T35A	**Sooner Cattle**	**53.34**	**307**	P	**P**	**12 24 48.1**	**-0.9**
T35A				IAmb	IAmb	12 24 50.5	
	comp=Z,7.8nm,1.2s						
F36A	**Milaca**	**53.96**	**319**	P	**P**	**12 24 52.9**	**-0.4**
F36A				IAmb	IAmb	12 25 01.1	
	comp=Z,12nm,1.2s						
BNI	**Bardonecchia**	**54.00**	**42**	P	**P**	**12 24 54.1**	**+0.3**
BNI				IAmb	IAmb	12 25 12.2	
	comp=Z,8.6nm,1.5s						
WMOK	**Wichita Mounta**	**54.69**	**304**	P	**P**	**12 24 57.4**	**-1.5**
JCT	**Junction City**	**54.91**	**299**	P	**P**	**12 25 00.3**	**-0.2**
JCT				IAmb	IAmb	12 25 02.3	
	comp=Z,6.2nm,0.8s						
B35A	**Bob, Littlefor**	**55.07**	**321**	P	**P**	**12 25 01.0**	**-0.3**
ECSD	**EROS Data Cent**	**55.29**	**315**	P	**P**	**12 25 03.9**	**+0.9**
BGNE	**Belgrade**	**55.70**	**312**	P	**P**	**12 25 05.1**	**-0.9**
F33A	**5 Mile Ranch,**	**55.76**	**318**	P	**P**	**12 25 05.9**	**-0.4**
F33A				IAmb	IAmb	12 25 14.0	
	comp=Z,7.6nm,1.2s						
CBKS	**Cedar Bluff**	**56.26**	**309**	P	**P**	**12 25 09.7**	**-0.3**
BFO	**Black Forest**	**56.27**	**39**	P	**P**	**12 25 10.8**	**+0.8**
BFO				IAmb	IAmb	12 25 22.9	
	comp=Z,9.1nm,1.3s						
AGMN	**Agassiz Nation**	**56.36**	**321**	P	**P**	**12 25 10.1**	**-0.5**
AGMN				IAmb	IAmb	12 25 18.0	
	comp=Z,11nm,1.4s						
ZCCA	**Zocca**	**56.66**	**44**	P	**P**	**12 25 12.5**	**-0.4**
H09W1	**TRISTAN DA CUN**	**57.01**	**150**	T	T	13 27 07.2	
	SNR=6.5						
ULM	**Lac du Bonnet**	**57.11**	**323**	P	**P**	**12 25 14.3**	**-1.6**
	comp=Z,6.5nm,0.8s,baz=115,slow=5.6,SNR=5.9						
ULM	**Lac du Bonnet**	**57.11**	**323**	P	**P**	**12 25 14.5**	**-1.4**
ULM				IAmb	IAmb	12 25 21.9	
	comp=Z,8.1nm,1.0s						
CTI	**Castel Tesino**	**57.63**	**43**	P	**P**	**12 25 18.2**	**-1.6**
CTI				IAmb	IAmb	12 25 28.0	
	comp=Z,7.8nm,1.0s						
MSTX	**Muleshoe**	**57.84**	**303**	P	**P**	**12 25 20.8**	**-0.7**
MSTX				IAmb	IAmb	12 25 23.2	
	comp=Z,7.7nm,0.9s						
PLCA	**Paso Flores**	**58.03**	**204**	P	**P**	**12 25 23.5**	**+1.0**
	comp=Z,6.3nm,0.9s,baz=34,slow=7.9,SNR=4.4						
PLCA	**Paso Flores**	**58.03**	**204**	P	**P**	**12 25 22.3**	**-0.2**
TXAR	**Lajitas Array**	**58.14**	**297**	P	**P**	**12 25 23.3**	**-0.3**
	comp=Z,1.3nm,0.8s,baz=115,slow=5.9,SNR=6.4						
TXAR				LR	LR	12 48 51.3	
	comp=Z,47nm,22.0s,baz=0.0,slow=34						
CIMO	**Cimolais**	**58.23**	**43**	P	**P**	**12 25 23.8**	**-0.1**
MDND	**Maddock**	**58.56**	**319**	P	**P**	**12 25 25.8**	**-0.4**
E28A	**Huff**	**58.89**	**317**	P	**P**	**12 25 28.1**	**-0.4**
GDL2	**Guadalupe Moun**	**58.97**	**300**	P	**P**	**12 25 29.8**	**+0.4**
PRED	**Cave del Predi**	**59.01**	**43**	P	**P**	**12 25 29.9**	**+0.5**
PRED				IAmb	IAmb	12 25 40.9	
	comp=Z,5.9nm,1.1s						
MNTX	**Cornudas Mount**	**59.79**	**300**	P	**P**	**12 25 34.3**	**-0.6**
GERES	**GERESS Array B**	**59.80**	**40**	P	**P**	**12 25 35.2**	**+0.4**
	comp=Z,0.3nm,0.2s,baz=260,slow=4.9,SNR=3.6						
GERES				LR	LR	12 48 43.7	
	comp=Z,51nm,20.2s,baz=278,slow=33						
GERES	**GERESS Array B**	**59.80**	**40**	P	**P**	**12 25 34.5**	**-0.3**
SDCO	**Great Sand Dun**	**60.53**	**307**	P	**P**	**12 25 40.3**	**0.0**
SUMG	**Summit**	**60.66**	**2**	*i* P	**P**	**12 25 40.8**	**+0.1**
	comp=Z,18nm,1.0s						
SUMG	**Summit**	**60.66**	**2**	P	**P**	**12 25 41.2**	**+0.6**
SUMG				IAmb	IAmb	12 25 43.3	
	comp=Z,7.3nm,1.0s						
ISCO	**Idaho Springs**	**60.92**	**309**	P	**P**	**12 25 43.7**	**+0.8**
ISCO				IAmb	IAmb	12 25 50.9	
	comp=Z,7.0nm,1.1s						
ANMO	**Albuquerque**	**60.97**	**303**	P	**P**	**12 25 43.7**	**+0.5**
S22A	**4UR Ranch, Cre**	**61.58**	**306**	P	**P**	**12 25 47.8**	**+0.4**
S22A				IAmb	IAmb	12 25 51.1	
	comp=Z,6.4nm,1.1s						
DGMT	**Dagmar**	**61.69**	**319**	P	**P**	**12 25 47.6**	**0.0**
PDG	**Podgorica**	**62.09**	**48**	P	**P**	**12 25 50.4**	**0.0**
FFC	**Flin Flon**	**62.22**	**326**	P	**P**	**12 25 51.1**	**+0.1**
LAO	**LASA Array**	**62.61**	**317**	P	**P**	**12 25 54.5**	**+0.6**
LAO				IAmb	IAmb	12 26 01.6	
	comp=Z,6.5nm,0.9s						
DIVS	**Divibare**	**62.91**	**46**	P	**P**	**12 25 56.9**	**+1.0**
DIVS				IAmb	IAmb	12 26 05.7	
	comp=Z,3.4nm,0.9s						
PV01	**Paradox Valley**	**62.99**	**307**	P	**P**	**12 25 58.1**	**+1.3**
PV01				IAmb	IAmb	12 26 05.3	
	comp=Z,5.7nm,1.2s						
NOA	**NORSAR Array B**	**63.02**	**27**	P	**P**	**12 25 56.7**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=245,slow=6.4,SNR=3.3						
NOA				LR	LR	12 48 10.2	
	comp=Z,35nm,21.3s,baz=235,slow=31						
PV13	**Radium Mtn., P**	**63.19**	**307**	P	**P**	**12 25 59.6**	**+1.5**
PV13				IAmb	IAmb	12 26 06.0	
	comp=Z,7.1nm,1.0s						
X18A	**Snowflake**	**63.81**	**303**	P	**P**	**12 26 02.4**	**+0.2**
X18A				IAmb	IAmb	12 26 05.6	
	comp=Z,7.3nm,1.4s						
PDAR	**Pinedale Array**	**64.28**	**312**	P	**P**	**12 26 05.6**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=102,slow=6.4,SNR=5.2						
PDAR				LR	LR	12 50 59.9	
	comp=Z,92nm,21.7s,baz=134,slow=33						
PDAR	**Pinedale Array**	**64.28**	**312**	P	**P**	**12 26 04.9**	**-0.4**
TUC	**Tucson**	**64.41**	**300**	P	**P**	**12 26 06.7**	**+0.7**
TUC				IAmb	IAmb	12 26 08.6	
	comp=Z,3.8nm,1.1s						
IMW	**Indian Meadow**	**65.43**	**313**	P	**P**	**12 26 10.7**	**-2.1**
IMW				IAmb	IAmb	12 26 22.8	
	comp=Z,8.1nm,1.4s						
YHB	**Horse Butte**	**65.72**	**314**	P	**P**	**12 26 15.4**	**+0.9**
U15A	**North Rim**	**65.82**	**305**	P	**P**	**12 26 16.3**	**+0.9**
U15A				IAmb	IAmb	12 26 19.4	
	comp=Z,5.0nm,1.1s						
MTPU	**Mount Pierson**	**65.82**	**306**	P	**P**	**12 26 15.3**	**-0.2**
BOZ	**Bozeman (W)**	**66.13**	**315**	P	**P**	**12 26 16.9**	**-0.2**
BURAR	**Bucovina Array**	**67.05**	**43**	P	**P**	**12 26 20.4**	**+1.2**
W13A	**Hualapai Mount**	**67.06**	**303**	P	**P**	**12 26 26.5**	**+3.1**
PSUT	**Pine Spring**	**67.16**	**307**	P	**P**	**12 26 24.1**	**+0.2**
MLR	**Muntele Rosu**	**67.30**	**46**	P	**P**	**12 26 25.6**	**+1.1**
ELK	**Elko**	**68.34**	**309**	P	**P**	**12 26 30.8**	**-0.5**
ELK				IAmb	IAmb	12 26 40.1	
	comp=Z,4.9nm,1.4s						
FINES	**FINESS Array B**	**69.92**	**29**	P	**P**	**12 26 40.0**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=242,slow=4.1,SNR=7.4						
FINES				LR	LR	12 53 14.3	
	comp=Z,26nm,20.4s,baz=214,slow=32						
FINES	**FINESS Array B**	**69.92**	**29**	P	**P**	**12 26 39.8**	**-0.6**
AKASG	**Malin Array Be**	**70.01**	**40**	P	**P**	**12 26 41.2**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=270,slow=5.7,SNR=7.6						
AKASG				LR	LR	12 54 26.3	
	comp=Z,40nm,21.6s,baz=235,slow=33						
AKASG	**Malin Array Be**	**70.01**	**40**	P	**P**	**12 26 40.9**	**-0.3**
NVAR	**Mina Array Bea**	**70.65**	**307**	P	**P**	**12 26 46.7**	**+1.1**
	comp=Z,0.4nm,0.9s,baz=100,slow=6.2,SNR=4.3						
NVAR				LR	LR	12 54 23.3	
	comp=Z,47nm,21.6s,baz=181,slow=33						
NVAR	**Mina Array Bea**	**70.65**	**307**	P	**P**	**12 26 45.5**	**-0.1**
YKA	**Yellowknife Ar**	**70.67**	**332**	P	**P**	**12 26 44.0**	**-1.0**
	comp=Z,1.4nm,0.8s,baz=106,slow=6.9,SNR=10						
ARCES	**ARCESS Array B**	**71.64**	**20**	P	**P**	**12 26 50.5**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=269,slow=5.4,SNR=8.2						
BR131	**Keskin Array S**	**72.74**	**52**	P	**P**	**12 26 58.3**	**+0.2**
BR131				IAmb	IAmb	12 27 10.3	
	comp=Z,5.8nm,1.2s						
BRTR	**Keskin Array B**	**72.74**	**52**	P	**P**	**12 26 59.0**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=262,slow=5.7,SNR=10						
BRTR				LR	LR	12 58 59.8	
	comp=Z,21nm,19.6s,baz=170,slow=36						
BRTR	**Keskin Array B**	**72.74**	**52**	P	**P**	**12 26 57.9**	**-0.2**
KLMR	**Klimovskoe**	**76.33**	**30**	*e*P	**P**	**12 27 17.9**	**-0.4**
KLMR				AMP		12 27 26.1	
	comp=Z,22nm,1.2s						
BOSA	**Boshof**	**77.82**	**123**	P	**P**	**12 27 27.8**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=349,slow=5.2,SNR=3.9						
BOSA				LR	LR	12 53 47.0	
	comp=Z,169nm,20.0s,baz=265,slow=30						
BOSA	**Boshof**	**77.82**	**123**	P	**P**	**12 27 27.3**	**-0.1**
DLBC	**Dease Lake**	**77.99**	**328**	P	**P**	**12 27 26.6**	**-1.2**
DLBC				IAmb	IAmb	12 27 30.9	
	comp=Z,4.8nm,0.9s						
KBZ	**Khabaz**	**79.39**	**47**	P	**P**	**12 27 37.5**	**+1.9**
	comp=Z,2.0nm,0.8s,baz=307,slow=5.1,SNR=2.9						
KBZ				LR	LR	13 04 15.0	
	comp=Z,16nm,18.7s,baz=268,slow=37						
KMBO	**Kilima Mbogo**	**81.37**	**93**	LR	LR	13 04 45.4	
	comp=Z,50nm,18.2s,baz=100,slow=36						
DAWY	**Dawson**	**81.83**	**334**	P	**P**	**12 27 48.2**	**-0.3**
BCAR	**Beaver Creek A**	**83.08**	**333**	P	**P**	**12 27 53.7**	**-1.3**
BMAR	**Burnt Mountain**	**83.19**	**338**	P	**P**	**12 27 56.4**	**+1.0**
IL31		**84.82**	**335**	P	**P**	**12 28 03.5**	**-0.3**
IL31				IAmb	IAmb	12 28 11.9	
	comp=Z,5.4nm,1.1s						
ILAR	**Eielson Array**	**84.82**	**335**	P	**P**	**12 28 04.3**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=67,slow=4.4,SNR=12						
ILAR	**Eielson Array**	**84.82**	**335**	P	**P**	**12 28 04.2**	**+0.4**
COLA	**College**	**85.18**	**335**	P	**P**	**12 28 05.5**	**-0.1**
COLA				IAmb	IAmb	12 28 08.2	
	comp=Z,5.1nm,0.8s						
CCB	**Clear Creek Bu**	**85.23**	**335**	P	**P**	**12 28 06.3**	**+0.5**
VNA3	**Neumayer Olymp**	**86.13**	**170**	P	**P**	**12 28 11.3**	**+1.3**
VNA2	**Neumayer--Watz**	**86.28**	**169**	P	**P**	**12 28 12.0**	**+1.2**
	baz=347,slow=4.6

USRK	**Ussuriysk Ar.**	**47.84**	**4**	P		**P**	**12 27 17.7**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=207,slow=9.2,SNR=2.7							
MK31	**Makanchi Array**	**64.02**	**327**	P		**P**	**12 29 14.0**	**-0.3**
MK31				IAmb		IAmb	12 29 17.5	
	comp=Z,1.7nm,1.1s							
MKAR	**Makanchi Array**	**64.02**	**327**	P		**P**	**12 29 14.7**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=129,slow=7.8,SNR=10							
MKAR	**Makanchi Array**	**64.02**	**327**	P		**P**	**12 29 13.2**	**-1.1**
ZAA0	**Zalesovo Array**	**67.46**	**334**	P		**P**	**12 29 35.8**	**-0.4**
ZALV	**Zalesovo Beam**	**67.46**	**334**	P		**P**	**12 29 35.5**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=122,slow=5.4,SNR=5.4							
KURK	**Kurchatov**	**68.32**	**329**	P		**P**	**12 29 41.2**	**-0.6**
KKAR	**Karatay Array**	**69.11**	**319**	P		**P**	**12 29 47.1**	**+0.3**
KKAR				IAmb		IAmb	12 29 47.8	
	comp=Z,3.9nm,1.4s							
VNDA	**Vanda**	**76.05**	**173**	P		**P**	**12 30 26.9**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=346,slow=4.2,SNR=4.8							
QSPA	**South Pole Qui**	**86.28**	**180**	P		**P**	**12 31 23.0**	**+0.8**
QSPA				IAmb		IAmb	12 31 33.0	
	comp=Z,1.9nm,1.1s							

IDC 11 12:23:50.4±1.5, 10°42S×123°78E, h0km, mb3.6/1, mb1 3.5/4, mb1mx3.4/32, mbtmp3.4/4, ML3.1/3, Error ellipse: s-maj=26.8km s-min=16.5km az=62.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.24**	**331**	Pn	Pg	12 24 01.1	+6.1
	128nm,0.3s,baz=152,slow=6.0,SNR=24						
BATI				Sn	Sg	12 24 06.7	+8.6
	196nm,0.3s,baz=169,slow=19,SNR=13						
FITZ	**Fitzroy Crossi**	**7.85**	**167**	Pn	Pn	12 25 47.2	+1.3
	0.2nm,0.3s,baz=343,slow=11,SNR=7.1						
FITZ				Sn	Sn	12 27 09.9	-5.5
	0.4nm,0.3s,baz=141,slow=10,SNR=7.3						
WRA	**Warramunga Arr**	**13.90**	**134**	Pn	Pn	12 27 06.8	-2.1
	0.1nm,0.3s,baz=310,slow=15,SNR=1.7						
WRA				Sn	Sn	12 29 32.4	-12
	0.1nm,0.3s,baz=302,slow=24,SNR=2.3						
ASAR	**Alice Springs**	**16.34**	**145**	Pn	Pn	12 27 39.5	-1.8
	0.1nm,0.3s,baz=318,slow=12,SNR=5.9						
MKAR	**Makanchi Array**	**67.93**	**331**	P	P	12 34 52.2	+1.2
	0.3nm,0.5s,baz=127,slow=7.3,SNR=4.7						

IDC 11 12:39:22.4±30.0, 35°50N×70°69E, h254km±239km, mb3.0/2, mb1 2.9/3, mb1mx2.6/33, mbtmp3.6/3, ML3.4/1, Error ellipse: s-maj=454.8km s-min=127.6km az=163.0

ISC 11 12:39:17.5±2.9, 36°4N±0°2×69°5E±0°2, h100km, n10, σ1§23/11, 1C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.55**	**29**	P		**Pn**	**12 40 51.7**	**+0.1**
	SNR=14							
KK31	**Karatay Array**	**6.70**	**6**	⇑P		**Pn**	**12 40 55.0**	**+1.7**
	6.0nm,0.4s,baz=192,slow=15,SNR=30							
KK31				⇓S		**Sn**	**12 42 07.7**	**-0.3**
	1.9nm,0.5s,baz=197,slow=24,SNR=4.0							
UCH	**Uchtor.**	**6.96**	**32**	P		**Pn**	**12 40 57.8**	**+0.6**
	SNR=5.7							
EKS2	**Erkin-Say**	**7.04**	**27**	P		**Pn**	**12 40 59.4**	**+1.4**
	SNR=6.2							
AAK	**Ala-Archa**	**7.29**	**30**	P		**Pn**	**12 41 02.0**	**+0.6**
	SNR=5.0							
CHMS	**Chumysh**	**7.70**	**30**	P		**Pn**	**12 41 06.4**	**-0.4**
	SNR=7.6							
TKM2	**Tokmak 2**	**8.00**	**34**	P		**Pn**	**12 41 11.1**	**0.0**
	SNR=6.5							
MKAR	**Makanchi Array**	**14.07**	**39**	P		**Pn**	**12 42 34.0**	**+1.8**
	0.2nm,0.3s,baz=216,slow=12,SNR=8.4							
ZALV	**Zalesovo Beam**	**20.49**	**27**	P		**P**	**12 43 45.5**	**-1.6**
	1.3nm,0.4s,baz=214,slow=11,SNR=5.5							
ARCES	**ARCESS Array B**	**40.74**	**338**	P		**P**	**12 46 48.2**	**+0.2**
	1.5nm,1.1s,baz=115,slow=8.1,SNR=1.3							

IDC 11 12:39:24.8±4.3, 9°31N×125°87E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/35, mbtmp3.4/3, MS3.7/1, Ms1 3.7/1, ms1mx2.6/22, Error ellipse: s-maj=372.7km s-min=29.4km az=65.0

MAN 11 12:39:29.2, 9°61N×126°61E, h36km, mb4.7, ML3.6, MS3.4

ISC 11 12:39:29.9±1.3, 9°60N±0°05×126°6E±0°1, h43km, n11, σ1§01/15, mb3.4/3, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.14**	**279**	⇓eP		**Pn**	**12 39 48.3**	**-1.1**
MSLP	**Maasin**	**1.82**	**287**	eP		**Pn**	**12 39 59.0**	**+0.2**
CGP	**Cagayan de Oro**	**2.22**	**239**	⇑eP		**Pn**	**12 40 04.4**	**+0.1**
CGP				eS		**Sn**	**12 40 29.6**	**-1.0**
BUKP	**Musuan**	**2.31**	**222**	eP		**Pn**	**12 40 05.6**	**+0.1**
BUKP				eS		**Sn**	**12 40 34.5**	**+1.8**
TBP	**Tagbilaran**	**2.73**	**272**	eP		**Pn**	**12 40 11.9**	**+0.7**
KCP	**Kidapawan**	**2.99**	**211**	⇓eP		Pn	12 40 21.6	+6.6
KCP				⇓S		**Sn**	**12 40 51.0**	**+1.4**
CNP	**Catarman**	**3.47**	**326**	eP		**Pn**	**12 40 22.1**	**+0.6**
CNP				eS		**Sn**	**12 41 02.4**	**+1.0**
DDMP	**Don Marcelino,**	**3.59**	**195**	eP		**Pn**	**12 40 23.4**	**+0.3**
DDMP				eS		**Sn**	**12 41 04.0**	**-0.3**
WRA	**Warramunga Arr**	**30.32**	**166**	P		**P**	**12 45 38.4**	**+0.8**
	0.5nm,0.7s,baz=344,slow=9.0,SNR=1.7							
ASAR	**Alice Springs**	**33.82**	**168**	P		**P**	**12 46 07.0**	**-1.2**
	0.2nm,0.4s,baz=352,slow=6.9,SNR=1.7							
MKAR	**Makanchi Array**	**52.77**	**323**	P		**P**	**12 48 40.0**	**-0.7**
	0.5nm,0.7s,baz=116,slow=8.8,SNR=4.6							
MKAR				LR		LR	13 13 31.5	
	comp=Z,68nm,18.4s,baz=295,slow=39							

DJA 11 12:56:25.2±0.2, 1°S±2°×10°0E±°, h10km, M3.8/14, mb4.0/2, MLv3.7/14

NEIC 11 12:56:26.9±1.5, 0°70S±0°09×100°16E±0°07, h51km±7km, mb4.4/12, Error ellipse: s-maj=12.8km s-min=9.2km az=197.0

IDC 11 12:56:29.4±5.5, 0°48S×100°36E, h66km±37km, mb3.6/6, mb1 3.6/7, mb1mx3.4/44, mbtmp3.8/7, ML3.3/1, Error ellipse: s-maj=168.5km s-min=17.0km az=52.0

ISC 11 12:56:25.7±0.7, 0°67S±0°04×100°12E±0°04, h35km, n46, σ1§64/45, mb4.2/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PDSI	**Padang**	**0.41**	**125**	P		**Pn**	**12 56 34.3**	**-0.9**
SISI	**Saibi**	**1.22**	**238**	P		**Pn**	**12 56 46.9**	**+0.6**
SISI				S		**Sn**	**12 57 04.9**	**+3.3**
SDSI	**Sungai Dareh**	**1.33**	**101**	P		**Pn**	**12 56 49.7**	**+1.9**
BKNI	**Bangkinang**	**1.35**	**43**	P		**Pn**	**12 56 49.1**	**+1.0**
BKNI				S		**Sn**	**12 57 08.7**	**+3.9**
BKNI	**Bangkinang**	**1.35**	**43**			**Pn**	**12 56 48.0**	**-0.1**
BKNI					Sn	**Sn**	**12 57 07.9**	**+3.0**
MNSI	**Mandailing Nat**	**1.56**	**340**	P		**Pn**	**12 56 49.6**	**-1.3**
PBSI	**Pulau Batu**	**1.94**	**288**	P		**Pn**	**12 56 56.4**	**+0.2**
KRJI	**Kerinci**	**1.94**	**136**	P		Pn	12 57 01.5	+5.2
PPSI	**Pulau Pagai**	**2.08**	**183**	P		**Pn**	**12 57 01.3**	**+3.2**
GSI	**Gunungsitoli**	**3.22**	**308**	P		**Pn**	**12 57 14.2**	**+0.4**
GSI	**Gunungsitoli**	**3.22**	**308**			**Pn**	**12 57 14.4**	**+0.6**
RPSI	**Rantau Prapat**	**3.55**	**340**			**Pn**	**12 57 21.0**	**+2.6**
RPSI						**Sn**	**12 58 04.0**	**+4.7**
RPSI	**Rantau Prapat**	**3.55**	**340**	Pn		**Pn**	**12 57 20.6**	**+2.2**
PSI	**Prapat**	**3.65**	**341**	P		**Pn**	**12 57 21.0**	**+1.1**
	2.5nm,0.3s,baz=0.9,slow=0.7,SNR=6.6							
PSI				S		**Sn**	**12 58 04.0**	**+2.1**
	0.8nm,0.3s,baz=180,slow=19,SNR=1.4							
MYKOM	**Kota Tinggi**	**4.46**	**57**			**Pn**	**12 57 31.8**	**+1.0**
KCSI	**Kotacane, Aceh**	**4.78**	**331**	P		**Pn**	**12 57 36.1**	**+0.7**
MDSI	**Maura Dua**	**5.55**	**133**	P		Pn	12 57 56.6	+11
KULM	**Kulim**	**5.95**	**5**	Pn		**Pn**	**12 57 52.5**	**+1.2**
H08S2	**Diego Garcia H**	**28.40**	**255**	T		T	13 30 28.2	
	baz=77,slow=75,SNR=5.2							
H08S3	**Diego Garcia H**	**28.40**	**255**	T		T	13 30 34.2	
	baz=77,slow=75,SNR=7.5							
H08S1	**Diego Carcia H**	**28.41**	**255**	T		T	13 30 26.6	
	baz=77,slow=75,SNR=3.8							
KNRA	**Kununurra**	**31.95**	**119**	P		P	13 02 43.5	-5.1
WB0	**Warramunga Arr**	**38.54**	**122**	P		**P**	**13 03 45.0**	**-0.3**
WB0				IAmb		IAmb	13 03 50.2	
	comp=Z,11nm,1.5s							
WRA	**Warramunga Arr**	**38.57**	**122**	P		**P**	**13 03 45.2**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=305,slow=9.0,SNR=22							
WRA	**Warramunga Arr**	**38.57**	**122**	P		**P**	**13 03 45.3**	**-0.3**
WRAB	**Tennant Creek**	**38.58**	**122**	P		**P**	**13 03 46.0**	**+0.4**
WB2	**Warramunga Arr**	**38.58**	**122**	P		**P**	**13 03 45.5**	**-0.1**
WB2				IAmb		IAmb	13 03 58.5	
	comp=Z,7.0nm,1.3s							
WR0	**Warramunga Arr**	**38.75**	**122**	P		**P**	**13 03 46.4**	**-0.7**
ASAR	**Alice Springs**	**39.94**	**127**	P		**P**	**13 03 56.8**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=303,slow=7.9,SNR=12							
ASAR	**Alice Springs**	**39.94**	**127**	P		**P**	**13 03 55.5**	**-1.6**
MK31	**Makanchi Array**	**49.79**	**344**	P		**P**	**13 05 14.7**	**-0.4**
MK31				IAmb		IAmb	13 05 15.5	
	comp=Z,1.6nm,0.8s							
MKAR	**Makanchi Array**	**49.79**	**344**	P		**P**	**13 05 14.7**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=155,slow=8.8,SNR=18							
MAKZ	**Makanchi**	**49.89**	**344**	P		**P**	**13 05 15.7**	**-0.1**
KURK	**Kurchatov**	**54.38**	**343**	P		**P**	**13 05 48.7**	**-0.3**
KURK				IAmb		IAmb	13 05 50.0	
	comp=Z,3.0nm,0.8s							
ZAA0	**Zalesovo Array**	**55.90**	**349**	P		**P**	**13 05 58.6**	**-1.3**
ZAA0				IAmb		IAmb	13 06 00.5	
	comp=Z,3.0nm,1.1s							
ZALV	**Zalesovo Beam**	**55.90**	**349**	P		**P**	**13 05 59.0**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=176,slow=6.8,SNR=6.8							
ZALV	**Zalesovo Beam**	**55.90**	**349**	P		**P**	**13 05 58.4**	**-1.5**
BRVK	**Borovoye**	**59.05**	**340**	P		**P**	**13 06 21.7**	**-0.5**
BRVK				IAmb		IAmb	13 06 21.8	
	comp=Z,3.2nm,0.7s							
ABKAR	**Akbulak array**	**60.55**	**331**	P		**P**	**13 06 32.0**	**-0.5**
SANVU	**Saraoutou**	**67.75**	**106**	P		**P**	**13 07 19.4**	**-1.1**
FINES	**FINESS Array B**	**83.00**	**332**	P		**P**	**13 08 47.1**	**0.0**
	comp=Z,0.7nm,0.6s,baz=100,slow=4.2,SNR=3.8							
FINES	**FINESS Array B**	**83.00**	**332**	P		**P**	**13 08 47.5**	**+0.4**
ARCES	**ARCESS Array B**	**85.28**	**340**	P		**P**	**13 08 57.9**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=121,slow=4.3,SNR=2.0							
ARCES	**ARCESS Array B**	**85.28**	**340**	P		**P**	**13 08 57.1**	**-1.4**
NRCA	**Norcia**	**88.25**	**313**	P		**P**	**13 09 12.7**	**-1.0**
NRCA				IAmb		IAmb	13 09 24.5	
	comp=Z,2.4nm,0.9s							
TXAR	**Lajitas Array**	**143.57**	**36**	PKP		**PKPdf**	**13 15 55.9**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=311,slow=1.6,SNR=2.5							

NEIC 11 12:57:45.1±0.8, 27°30S±0°06×176°3W±0°1, h35km±2km, mb4.5/13, Error ellipse: s-maj=21.3km s-min=3.7km az=117.0

IDC 11 12:57:48.9±4.6, 27°54S×176°60W, h55km±39km, mb3.7/8, mb1 3.9/9, mb1mx3.7/28, mbtmp4.0/9, ML4.5/1, MS3.2/4, Ms1 3.2/4, ms1mx2.9/21, Error ellipse: s-maj=32.3km s-min=23.3km az=70.0

ISC 11 12:57:45.7±0.6, 27°43S±0°08×176°4W±0°1, h34km, n49, σ1§07/39, mb4.3/12, MS3.3/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.25**	**216**	P		**Pn**	**12 58 21.4**	**+0.9**
	179nm,0.3s,baz=70,slow=17,SNR=2.6							
RAO				S		**Sn**	**12 58 47.0**	**0.0**
	339nm,0.3s,baz=42,slow=23,SNR=6.4							
NIUE	**Niue**	**10.23**	**37**	Pn	Pn	13 00 04.6	-5.5
MSVF	**Nonsavu**	**10.91**	**331**	Pn		**Pn**	**13 00 18.7**	**-0.9**
OUZ	**Omahuta**	**11.54**	**225**	Pn		**Pn**	**13 00 27.9**	**0.0**
DZM	**Mont Dzumac**	**16.45**	**285**	LR	LR	13 07 00.6		
	comp=Z,121nm,19.1s,baz=102,slow=34							
RPZ	**Rata Peaks**	**19.15**	**209**	P		**P**	**13 02 03.1**	**-2.8**
	0.5nm,0.3s,baz=10.0,slow=17,SNR=1.4							
HNR	**Honiara**	**28.59**	**304**	LR	LR	13 13 34.3		
	comp=Z,70nm,18.9s,baz=126,slow=33							
RABL	**Rabaul**	**37.83**	**302**	P		**P**	**13 04 58.8**	**-0.5**
AS31	**Alice Springs**	**44.74**	**263**	P		**P**	**13 05 56.0**	**0.0**
ASAR	**Alice Springs**	**44.74**	**263**	P		**P**	**13 05 55.3**	**-0.8**
	0.3nm,0.4s,baz=101,slow=7.4,SNR=11							
WR0	**Warramunga Arr**	**45.29**	**268**	P		**P**	**13 06 00.2**	**-0.2**
WR0				IAmb		IAmb	13 06 03.7	
	comp=Z,11nm,1.4s							
WB2	**Warramunga Arr**	**45.46**	**268**	P		**P**	**13 06 01.5**	**-0.2**
WRAB	**Tennant Creek**	**45.46**	**268**	P		**P**	**13 06 01.6**	**-0.1**
WRAB				IAmb		IAmb	13 06 01.7	
	comp=Z,6.0nm,1.1s							
WRA	**Warramunga Arr**	**45.47**	**268**	P		**P**	**13 06 00.9**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=106,slow=8.0,SNR=4.4							
WRA	**Warramunga Arr**	**45.47**	**268**	P		**P**	**13 06 02.2**	**+0.3**
WB0	**Warramunga Arr**	**45.48**	**269**	P		**P**	**13 06 01.7**	**-0.2**
CASY	**Casey**	**58.41**	**207**	P		**P**	**13 07 38.0**	**+0.6**
CASY				IAmb		IAmb	13 07 38.2	
	comp=Z,5.1nm,0.8s							
QSPA	**South Pole Qui**	**62.67**	**180**	P		**P**	**13 08 07.5**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=25,slow=0.9,SNR=13							
QSPA	**South Pole Qui**	**62.67**	**180**	P		**P**	**13 08 08.0**	**+1.2**
QSPA				IAmb		IAmb	13 08 08.4	
	comp=Z,4.1nm,0.9s							
H03S2	**Juan Fernandez**	**80.94**	**123**	T	T	14 37 48.2		
	baz=242,slow=74							
H03S1	**Juan Fernandez**	**80.95**	**123**	T	T	14 37 50.5		
	baz=242,slow=74							
H03S3	**Juan Fernandez**	**80.96**	**123**	T	T	14 37 48.7		
	baz=242,slow=74							
SNAA	**Sanae**	**81.07**	**178**	P		**P**	**13 09 56.6**	**-0.3**
SNAA	**Sanae**	**81.07**	**178**	P		**P**	**13 09 56.6**	**-0.3**
	comp=Z,2.9nm,1.0s,baz=180,slow=6.3,SNR=7.8							
SNAA	**Sanae**	**81.07**	**178**	P		**P**	**13 09 57.0**	**+0.1**
SNAA				IAmb		IAmb	13 10 11.3	
	comp=Z,12nm,1.5s							
VNA3	**Neumayer Olymp**	**81.16**	**176**	P		**P**	**13 09 57.0**	**-0.4**
VNA2	**Neumayer--Watz**	**81.61**	**176**	P		**P**	**13 10 00.1**	**+0.3**
	baz=171,slow=4.5							
VNA1	**Neumayer--Stat**	**81.84**	**176**	P		**P**	**13 10 00.9**	**0.0**
KSRS	**Korea Array**	**83.02**	**319**	P		**P**	**13 10 08.3**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=144,slow=6.2,SNR=4.4							
KSRS				LR	LR	13 46 57.1		
	comp=Z,6.1nm,18.1s,baz=225,slow=36							
PETK	**Petropavlovsk-**	**83.31**	**345**	P		**P**	**13 10 10.3**	**+1.8**
	comp=Z,1.2nm,0.7s,baz=112,slow=9.5,SNR=2.8							
NVAR	**Mina Array Bea**	**85.11**	**42**	P		**P**	**13 10 20.0**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=225,slow=5.6,SNR=6.3							
NVAR	**Mina Array Bea**	**85.11**	**42**	P		**P**	**13 10 19.9**	**+1.4**
TXAR	**Lajitas Array**	**89.61**	**57**	LR	LR	13 46 30.1		
	comp=Z,11nm,18.0s,baz=0.0,slow=32							
MFID	**Camas Ranch**	**89.75**	**39**	P		**P**	**13 10 40.9**	**+0.4**
MFID				IAmb		IAmb	13 10 54.8	
	comp=Z,3.2nm,1.4s							
DOT	**Dot Lake**	**94.30**	**14**	P		**P**	**13 10 59.5**	**-1.5**
ILAR	**Eielson Array**	**94.73**	**12**	P		**P**	**13 11 03.2**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=195,slow=6.5,SNR=2.3							
ILAR	**Eielson Array**	**94.73**	**12**	P		**P**	**13 11 03.9**	**+1.0**
Z35A	**Perchaven, San**	**96.36**	**56**	P		**P**	**13 11 08.2**	**-2.8**
H10N3	**ASCENSION HYDR**	**140.81**	**151**	T	T	15 53 59.2		
	baz=204,slow=74							
H10N1	**ASCENSION HYDR**	**140.82**	**151**	T	T	15 54 01.0		
	baz=204,slow=74							
H10N2	**ASCENSION HYDR**	**140.83**	**151**	T	T	15 54 00.9		
	baz=204							
FINES	**FINESS Array B**	**142.79**	**342**	PKhKP	PKPpre	13 17 11.7		
	comp=Z,0.7nm,0.8s,baz=354,slow=5.6,SNR=1.3							
NB2	**NORSAR Subarra**	**146.00**	**353**	PKP	**PKPab**	**13 17 22.2**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=5.4,slow=3.5							
NOA	**NORSAR Array B**	**146.00**	**353**	PKPbc	**PKPbc**	**13 17 21.8**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=5.5,slow=2.3,SNR=4.6							
AKASG	**Malin Array Be**	**149.67**	**327**	PKPbc	**PKPbc**	**13 17 30.6**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=45,slow=3.7,SNR=1.0							
AKASG	**Malin Array Be**	**149.67**	**327**	PKPdf	**PKPdf**	**13 17 25.6**	**-1.2**
BRTR	**Keskin Array B**	**152.25**	**304**	PKPab	**PKPab**	**13 17 50.1**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=22,slow=5.4,SNR=3.6							
TORD	**Torodi Ar. Bea**	**165.68**	**173**	PKPab	**PKPab**	**13 18 46.1**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=192,slow=4.2,SNR=6.8							
TORD	**Torodi Ar. Bea**	**165.68**	**173**		**PKPab**	**13 18 46.0**	**-0.4**

IDC 11 13:04:12.2±1.9, 45°98N×152°90E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/40, mbtmp3.5/3, ML2.8/1, Error ellipse: s-maj=354.6km s-min=34.7km az=111.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**7.79**	**22**	Pn	Pn	13 06 06.7	-0.1
	0.6nm,0.3s,baz=208,slow=15,SNR=10						
WRA	**Warramunga Arr**	**67.73**	**199**	P	P	13 15 11.7	+0.3
	0.1nm,0.3s,baz=21,slow=7.2,SNR=4.8						
ASAR	**Alice Springs**	**71.43**	**198**	P	P	13 15 33.9	-0.3
	0.2nm,0.7s,baz=3.8,slow=5.7,SNR=4.2						

SFS 11 13:12:12.0, 33°39N×4°80W, ML3.7, AZROU (MARRUECOS)

MDD 11 13:12:13.7±2.1, 33°45N×4°83W, h0km, mb3.9/8, Error ellipse: s-maj=18.6km s-min=14.3km az=167.0, PRXIMO

INMG 11 13:12:14.9±1.5, 33°34N×4°90W, h36km±19km, ML2.5, Error ellipse: s-maj=7.6km s-min=3.7km az=73.0

CNRM 11 13:12:15.9±0.5, 33°51N×4°70W, h8km, Error ellipse: s-maj=5.6km s-min=3.8km az=110.0

ISC 11 13:12:14.9±1.0, 33°48N±0°02×4°83W±0°02, h19km±2km, n57, σ1§54/108, 1C, Morocco

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IFR	**Ifrane**	**0.25**	**279**	⇑iP		**Pg**	**13 12 20.5**	**-0.3**
IFR				eS		**Sb**	**13 12 25.7**	**+0.9**
CZD	**Col de Zad**	**0.48**	**202**	P		**Pg**	**13 12 24.8**	**0.0**
CZD				S		**Sn**	**13 12 34.4**	**-0.7**
MD31	**MD31**	**0.61**	**175**	P		**Pg**	**13 12 26.0**	**-1.2**
MD31				S		**Sg**	**13 12 34.2**	**-1.1**
MDT	**Midelt**	**0.69**	**164**	S		**Sg**	**13 12 39.0**	**+1.2**
SICH	**Sidi Chahed**	**0.74**	**327**	P		**Pn**	**13 12 30.9**	**+0.5**
SICH				S		**Sn**	**13 12 42.4**	**+1.1**
AKLM	**AKL**	**1.30**	**38**	P		**Pn**	**13 12 37.9**	**-0.4**
AKLM				S		**Sb**	**13 12 56.1**	**+0.8**
ZHG	**ZHG**	**1.52**	**269**	P		**Pb**	**13 12 42.8**	**+0.3**
ZHG				S		**Sg**	**13 13 06.2**	**+2.3**
RSA	**Sarsar**	**1.62**	**330**	P		**Pb**	**13 12 45.4**	**+1.1**
RSA				S		**Sg**	**13 13 08.1**	**+0.7**
CHEFC	**Chefchaouen**	**1.68**	**346**	P		**Pg**	**13 12 46.8**	**-0.4**
CHEFC				S		**Sg**	**13 13 08.9**	**-0.1**
PVLZ	**Peæn de**	**1.75**	**14**	P		**Pb**	**13 12 47.7**	**+1.4**
PVLZ				S		**Sg**	**13 13 11.9**	**+0.7**
PVLZ	**Peæn de**	**1.75**	**14**	eP		**Pb**	**13 12 47.7**	**+1.4**
PVLZ				eS		**Sg**	**13 13 11.9**	**+0.7**
GOLM	**Goulmima**	**1.77**	**183**	P		**Pg**	**13 12 48.3**	**-0.7**
GOLM				S		**Sg**	**13 13 16.1**	**+4.0**
PALE	**Palemas**	**1.88**	**23**	P		**Pb**	**13 12 49.2**	**+0.5**
PALE				S		**Sb**	**13 13 12.0**	**+0.1**
JBK	**JBK**	**2.06**	**65**	P		**Pn**	**13 12 47.7**	**-1.1**
JBK				S		**Sn**	**13 13 12.4**	**-1.7**
ARF	**Arif**	**2.10**	**166**	P		**Pb**	**13 12 52.1**	**-0.4**
ARF				S		**Sb**	**13 13 19.9**	**+1.6**
AVE	**Averroes**	**2.17**	**266**	P		**Pg**	**13 12 58.4**	**+1.8**
AVE				S		**Sg**	**13 13 24.7**	**0.0**
AVE	**Averroes**	**2.17**	**266**	eP		**Pn**	**13 12 48.6**	**-1.4**
AVE				eS		**Sn**	**13 13 14.5**	**-1.9**
GOG	**Mont Gurugu**	**2.31**	**41**	P		**Pb**	**13 12 54.6**	**-1.4**
GOG				S		**Sn**	**13 13 22.3**	**+2.3**
TDRA	**Tendrara**	**2.39**	**100**	P		**Pn**	**13 12 53.8**	**+0.5**
TDRA				S		**Sn**	**13 13 21.1**	**-1.0**
TAF	**Taforalt**	**2.41**	**56**	P		**Pn**	**13 12 52.6**	**-0.7**
TAF				S		**Sn**	**13 13 24.6**	**+2.3**
TZRR	**Tazzarine**	**2.76**	**193**	P		**Pn**	**13 12 60.0**	**+1.7**
TZRR				S		**Sb**	**13 13 37.4**	**+0.2**
SRHM	**Skhour des Reh**	**2.77**	**250**	P		**Pb**	**13 13 05.6**	**+1.7**
SRHM				S		**Sg**	**13 13 42.4**	**-1.5**
OUZM	**OUZ**	**3.04**	**213**	P		**Pn**	**13 13 04.4**	**+2.2**
OUZM				S		**Sg**	**13 13 49.8**	**-2.8**
EMIJ	**Mijas**	**3.08**	**1**	S		**Sn**	**13 13 40.0**	**+1.1**
	2.5nm,0.2s,SNR=7.9							
ZGR	**Zagora**	**3.42**	**192**	P		**Pb**	**13 13 14.7**	**-0.2**
ZGR				S		**Sb**	**13 13 54.8**	**-1.4**
OUK	**Oukaimeden**	**3.43**	**229**	P		**Pn**	**13 13 08.9**	**+1.3**
OUK				S		**Sb**	**13 13 56.1**	**-0.5**
ESPR	**Espera**	**3.48**	**346**	P		**Pn**	**13 13 08.1**	**0.0**
	1.6nm,0.4s,SNR=4.0							
ESPR				S		**Sn**	**13 13 47.9**	**-1.0**
	1.5nm,0.2s,SNR=7.9							
ELGU	**Los Guajares,**	**3.52**	**16**	P		**Pn**	**13 13 08.7**	**0.0**

*NEIC **11** 13:32:16.1±1.0,20°.7S±0°.2×178°.3W±0°.2,h591km±12km, mb4.6/20, Error ellipse: s-maj=24.6km s-min=22.2km az=60.0*
*IDC **11** 13:32:18.6±7.0,20°.71S×178°.35W,h615km±76km,mb3.2/6, mb1 3.3/7,mb1mx3.0/29,mbtmp4.2/7, Error ellipse: s-maj=47.9km s-min=31.4km az=75.0*

ISC 11 13:32:16.3±1.1,20°.7S±0°.1×178°.3W±0°.1,h587km,n31, σ0^{s}77/32,mb4.4/14,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.52**	**310**	P	**P**	**13 33 44.6**	**-0.2**
DZM	**Mont Dzumac**	**14.27**	**262**	P	**P**	**13 35 19.9**	**+1.8**
	0.5nm,0.3s,baz=122,slow=23,SNR=6.3						
BKZ	**Black Stump Fm**	**18.95**	**193**	P	**P**	**13 36 00.4**	**-0.7**
BFZ	**Birch Farm**	**20.46**	**192**	P	**P**	**13 36 13.9**	**-0.7**
THZ	**Tophouse**	**22.29**	**198**	P	**P**	**13 36 30.3**	**-0.7**
LTZ	**Lake Taylor**	**23.41**	**198**	P	**P**	**13 36 41.2**	**+0.2**
WHZ	**Wether Hill Ro**	**27.56**	**201**	P	**P**	**13 37 18.3**	**+0.9**
ARMA	**Armidale**	**28.72**	**244**	P	**P**	**13 37 28.6**	**+0.7**
ARMA				IAmb	IAmb	13 38 40.4	
	comp=Z,40nm,1.4s						
CTAO	**Charters Tower**	**33.18**	**265**	P	**P**	**13 38 05.6**	**-0.4**
STKA	**Stephens Creek**	**37.44**	**244**	P	**P**	**13 38 41.5**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=114,slow=14,SNR=3.2						
STKA	**Stephens Creek**	**37.44**	**244**	P	**P**	**13 38 41.2**	**+0.2**
BBOO	**Buckleboo**	**42.20**	**244**	P	**P**	**13 39 18.9**	**-0.1**
JAY	**Jayapura**	**43.83**	**289**	P	**P**	**13 39 32.6**	**+0.7**
	comp=Z,4.9nm,0.4s,baz=177,slow=4.8,SNR=6.0						
WR0	**Warramunga Arr**	**44.10**	**262**	P	**P**	**13 39 33.2**	**-0.7**
WR0				IAmb	IAmb	13 39 57.9	
	comp=Z,42nm,2.0s						
AS31	**Alice Springs**	**44.19**	**257**	P	**P**	**13 39 34.3**	**-0.4**
ASAR	**Alice Springs**	**44.19**	**257**	P	**P**	**13 39 34.5**	**-0.1**
	comp=Z,3.9nm,0.6s,baz=96,slow=7.6,SNR=75						
ASAR				PcP	**PcP**	**13 41 06.8**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=107,slow=3.9,SNR=2.0						
ASAR				S	**S**	**13 45 23.9**	**-2.4**
	comp=Z,1.3nm,1.1s,baz=92,slow=14,SNR=4.3						
ASAR	**Alice Springs**	**44.19**	**257**	P	**P**	**13 39 34.2**	**-0.5**
WB0	**Warramunga Arr**	**44.27**	**263**	P	**P**	**13 39 34.6**	**-0.6**
WB0				IAmb	IAmb	13 39 35.2	
	comp=Z,5.3nm,0.4s						
WB2	**Warramunga Arr**	**44.27**	**262**	P	**P**	**13 39 34.6**	**-0.7**
WB2				IAmb	IAmb	13 41 02.6	
	comp=Z,17nm,1.6s						
WRAB	**Tennant Creek**	**44.28**	**262**	P	**P**	**13 39 34.5**	**-0.8**
WRAB				IAmb	IAmb	13 41 20.6	
	comp=Z,34nm,2.0s						
WRA	**Warramunga Arr**	**44.29**	**262**	P	**P**	**13 39 34.7**	**-0.7**
	comp=Z,2.3nm,0.4s,baz=97,slow=7.6,SNR=83						
WRA	**Warramunga Arr**	**44.29**	**262**	P	**P**	**13 39 34.5**	**-0.9**
MTN	**Manton Dam**	**48.87**	**271**	P	**P**	**13 40 09.6**	**-0.4**
MTN				IAmb	IAmb	13 40 16.5	
	comp=Z,31nm,1.6s						
FORT	**Forrest**	**48.95**	**247**	P	**P**	**13 40 10.1**	**-0.3**
KNRA	**Kununurra**	**50.36**	**266**	P	**P**	**13 40 20.5**	**-0.3**
KNRA				IAmb	IAmb	13 41 51.3	
	comp=Z,73nm,2.0s						
FITZ	**Fitzroy Crossi**	**52.71**	**263**	P	**P**	**13 40 37.8**	**+0.1**
FITZ				IAmb	IAmb	13 42 08.5	
	comp=Z,38nm,2.0s						
QSPA	**South Pole Qui**	**69.38**	**180**	P	**P**	**13 42 26.1**	**+0.1**
	σ0.9nm,0.9s,baz=45,slow=4.3,SNR=3.7						
ILAR	**Eielson Array**	**88.56**	**13**	P	**P**	**13 44 06.7**	**-0.2**
	comp=Z,0.1nm,0.6s,baz=203,slow=5.7,SNR=4.3						
AKASG	**Malin Array Be**	**143.03**	**331**	PKP	PKPab	13 50 41.1	-0.5
	comp=Z,2.1nm,0.5s,baz=42,slow=4.2,SNR=8.2						
BRTR	**Keskin Array B**	**146.75**	**312**	PKPbc	**PKPbc**	**13 50 53.0**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=126,slow=2.0,SNR=2.2						
CLL	**Collm**	**148.18**	**346**	*e*PKPbc	**PKiKP**	**13 50 58.0**	**+0.1**

*HLW **11** 13:42:12.5,35°.81N×28°.27E,h5km±16km,Ml3.4*
*ISK **11** 13:42:14.0,35°.86N×28°.36E,h25km,ML3.5/26*
*NIC **11** 13:42:14.5±0.0,35°.76N×28°.38E,h16km±2km,Ml3.7/4*
*DDA **11** 13:42:14.7,35°.93N×28°.31E,h50km±3km,MW3.4*
*ATH **11** 13:42:15.1,35°.91N×28°.31E,h41km±3km,ML3.1/4, Error ellipse: s-maj=5.1km s-min=1.1km az=347.0*
*THE **11** 13:42:17.1,35°.94N×28°.29E,h34km±1km,ML3.0/5, Error ellipse: s-maj=1.6km s-min=0.4km az=346.0*
*GII **11** 13:42:19.8±0.4,35°.51N×28°.68E,h40km,Mm3.4/2*

ISC 11 13:42:13.8±1.1,35°.83N±0°.02×28°.35E±0°.02,h29km±11km, n98,σ1^{s}90/142,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.43**	**335**	P	**Pn**	**13 42 24.4**	**+0.3**
ARG				S	**Sn**	**13 42 30.4**	**-0.5**
	3μm,0.3s						
ARG	**Arkhangelos**	**0.43**	**335**	P	**Pn**	**13 42 24.4**	**+0.3**
ARG				S	**Sn**	**13 42 30.6**	**-0.3**
ARG				AML	AML	13 42 31.3	
	comp=N,6391μm,0.4s						
ARG				AML	AML	13 42 32.5	
	comp=E,5272μm,0.3s						
ARG	**Arkhangelos**	**0.43**	**335**	PG	**Pn**	**13 42 24.4**	**+0.3**
ARG				SG	**Sn**	**13 42 30.1**	**-0.8**
ARG	**Arkhangelos**	**0.43**	**335**	P	**Pn**	**13 42 24.4**	**+0.3**
ARG				S	**Sn**	**13 42 30.8**	**-0.1**
MRSB	**Marmaris-Mugla**	**0.89**	**352**	PG	**Pn**	**13 42 31.0**	**+0.5**
MRSB				SG	**Sn**	**13 42 43.1**	**+0.6**
FETY	**Fethiye**	**1.00**	**36**	P	**Pb**	**13 42 33.0**	**+0.4**
FETY				S	**Sn**	**13 42 45.6**	**+0.4**
FETY	**Fethiye**	**1.00**	**36**	PG	**Pb**	**13 42 32.4**	**-0.2**
FETY	**Fethiye**	**1.00**	**36**	*i* P	**Pb**	**13 42 32.8**	**+0.2**
FETY				*i* S	**Sn**	**13 42 48.7**	**+3.5**
FETY				IAML		13 42 54.0	
	comp=N,156nm,0.3s						
KARP	**Karpathos**	**1.01**	**254**	P	**Pb**	**13 42 34.0**	**+1.3**
KARP				S	**Sn**	**13 42 47.0**	**+1.7**
	comp=N,1μm,0.4s						
KARP	**Karpathos**	**1.01**	**254**	P	**Pb**	**13 42 34.0**	**+1.3**
KARP				S	**Sn**	**13 42 47.7**	**+2.4**
KARP				AML	AML	13 42 53.3	
	comp=N,3359μm,0.3s						
KARP				AML	AML	13 42 54.2	
	comp=E,2561μm,0.5s						
KARP	**Karpathos**	**1.01**	**254**	PG	**Pb**	**13 42 33.5**	**+0.8**
KARP	**Karpathos**	**1.01**	**254**	P	**Pb**	**13 42 34.1**	**+1.3**
KARP				S	**Sn**	**13 42 48.1**	**+2.8**
DALY	**Dalyan (Mula)**	**1.02**	**14**	PG	**Pb**	**13 42 32.7**	**-0.2**
DALY				SG	**Sn**	**13 42 45.9**	**+0.4**
DALY	**Dalyan (Mula)**	**1.02**	**14**	*i* P	**Pb**	**13 42 32.9**	**0.0**
DALY				*i* S	**Sn**	**13 42 45.7**	**+0.3**
DALY				IAML		13 42 54.0	
	comp=N,308nm,0.6s						
KSL	**Kastellorizon**	**1.05**	**72**	P	**Pb**	**13 42 34.8**	**+1.4**
KSL				S	**Sn**	**13 42 49.0**	**+2.7**
	comp=N,352nm,0.4s						
KSL	**Kastellorizon**	**1.05**	**72**	P	**Pb**	**13 42 34.8**	**+1.4**
KSL	**Kastellorizon**	**1.05**	**72**	P	**Pb**	**13 42 34.9**	**+1.5**
KSL				S	**Sn**	**13 42 49.4**	**+3.1**
TURN	**Turunc**	**1.06**	**11**	PG	**Pn**	**13 42 31.8**	**-1.0**
TURN				SG	**Sb**	**13 42 44.5**	**-2.7**
TURN	**Turunc**	**1.06**	**11**	*i* P	**Pn**	**13 42 31.9**	**-0.9**
TURN				*i* S	**Sb**	**13 42 44.4**	**-2.7**
TURN				IAML		13 42 45.0	
	comp=N,743nm,0.6s						
DATC	**Datca-Mugla**	**1.08**	**329**	PG	**Pn**	**13 42 33.5**	**+0.4**
DAT	**Datca**	**1.09**	**326**	P	**Pn**	**13 42 33.7**	**+0.3**
DAT				S	**Sb**	**13 42 46.6**	**-1.6**
DAT	**Datca**	**1.09**	**326**	PN	**Pb**	**13 42 33.9**	**-0.3**
DAT	**Datca**	**1.09**	**326**	*i* P	**Pn**	**13 42 33.6**	**+0.3**
DAT				*i* S	**Sb**	**13 42 47.2**	**-0.9**
DAT				IAML		13 42 50.0	
	comp=N,610nm,0.6s						
AKAS	**Kas**	**1.10**	**68**	*i* P	**Pb**	**13 42 35.2**	**+0.9**
AKAS				*i* S	**Sn**	**13 42 49.7**	**+2.0**
AKAS				IAML		13 42 54.0	
	comp=N,143nm,0.7s						
NISR	**Nisiros**	**1.26**	**309**	P	**Pb**	**13 42 37.2**	**+0.2**
YER	**Yerkesik**	**1.30**	**358**	PN	**Pb**	**13 42 37.6**	**-0.2**
BDRM	**Kayabasi**	**1.43**	**330**	*i* P	**Pn**	**13 42 38.0**	**+0.1**
BDRM				*i* S	**Sn**	**13 42 56.0**	**+0.2**
BDRM				IAML		13 42 59.0	
	comp=N,688nm,0.4s						
BODT	**Bodrum**	**1.49**	**326**	P	**Pn**	**13 42 38.8**	**+0.1**
BODT				S	**Sn**	**13 42 56.2**	**-1.0**
BODT	**Bodrum**	**1.49**	**326**	PN	**Pn**	**13 42 39.0**	**+0.3**
ELL	**Elmali**	**1.56**	**53**	PN	**Pb**	**13 42 40.9**	**-1.2**
AKUM	**Antalya-Kumluc**	**1.69**	**72**	*i* P	**Pb**	**13 42 43.6**	**-0.7**
AKUM				*i* S	**Sb**	**13 43 04.0**	**-1.1**
AKUM				IAML		13 43 19.0	
	comp=N,60nm,1.2s						
TAVA	**DENIZLI_Tavas**	**1.70**	**15**	*i* P	**Pb**	**13 42 42.9**	**-1.5**
TAVA				*i* S	**Sn**	**13 43 02.6**	**+0.2**
TAVA				IAML		13 43 13.0	
	comp=N,109nm,0.5s						
ZKR	**Zakros**	**1.88**	**248**	P	**Pb**	**13 42 46.8**	**-0.7**
ZKR				AML	AML	13 43 27.1	
	comp=E,417μm,0.6s						
ZKR				AML	AML	13 43 29.7	
	comp=N,226μm,0.6s						
ZKR	**Zakros**	**1.88**	**248**	PN	**Pn**	**13 42 46.1**	**+2.1**
KORT	**Korkueli**	**2.00**	**53**	*i* P	**Pb**	**13 42 48.2**	**-1.3**
KORT				*i* S	**Sb**	**13 43 15.1**	**+1.1**
KORT				IAML		13 43 19.0	
	comp=E,114nm,0.7s						
GCAM	**G?zelcaml?**	**2.07**	**335**	*i* P	**Pn**	**13 42 47.2**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**2.15**	**350**	PN	**Pn**	**13 42 48.6**	**+0.8**
SMG	**Samos**	**2.23**	**328**	P	**Pn**	**13 42 49.2**	**+0.3**
SMG				S	**Sn**	**13 43 14.2**	**-1.4**
	comp=E,255nm,0.6s						
SMG	**Samos**	**2.23**	**328**	P	**Pn**	**13 42 49.2**	**+0.3**
SMG				AML	AML	13 43 26.0	
	comp=N,453μm,0.3s						
SMG				AML	AML	13 43 29.9	
	comp=E,544μm,0.6s						
NPS	**Neapolis**	**2.30**	**257**	P	**Pn**	**13 42 51.8**	**+2.0**
BRDR	**BURDUR-Merkez**	**2.32**	**36**	*i* P	**Pn**	**13 42 52.0**	**+1.9**
BRDR				*i* S	**Sn**	**13 43 19.3**	**+1.6**
BRDR				IAML		13 43 21.0	
	comp=E,55nm,0.3s						
SANT	**Santorini**	**2.40**	**284**	PN	**Pn**	**13 42 52.4**	**+1.2**
LAST	**Lasithi**	**2.43**	**255**	P	**Pn**	**13 42 53.6**	**+1.9**
LAST				S	**Sn**	**13 43 22.0**	**+1.4**
	comp=E,100nm,0.8s						
LAST	**Lasithi**	**2.43**	**255**	P	**Pn**	**13 42 54.6**	**+2.9**
THR6	**Thira Island,**	**2.45**	**283**	P	**Pn**	**13 42 53.5**	**+1.6**
STAX	**Taxiarchis Har**	**2.45**	**284**	P	**Pn**	**13 42 53.5**	**+1.7**
THR3	**Thira Island,**	**2.46**	**285**	P	**Pn**	**13 42 53.1**	**+1.2**
THR3	**Thira Island,**	**2.46**	**285**	P	**Pn**	**13 42 52.7**	**+0.7**
MANT	**Manisa**	**2.66**	**4**	*i* P	**Pn**	**13 42 55.0**	**0.0**
MANT				*i* S	**Sn**	**13 43 23.2**	**-3.2**
MANT				IAML		13 43 26.0	
	comp=N,17nm,0.2s						
KHAL	**Karahalli**	**2.70**	**19**	*i* P	**Pn**	**13 42 55.7**	**+0.3**
KHAL				*i* S	**Sn**	**13 43 25.5**	**-1.6**
KHAL				IAML		13 43 42.0	
	comp=E,30nm,0.5s						
KEPZ	**Antalya-Kepez**	**2.84**	**67**	*i* P	**Pn**	**13 43 00.3**	**+3.1**
KEPZ				*i* S	**Sn**	**13 43 33.6**	**+3.1**
KEPZ				IAML		13 43 37.0	
	comp=N,25nm,0.4s						
URLA	**Izmir**	**2.89**	**332**	PN	**Pn**	**13 42 58.7**	**+0.7**
USAK	**Uak-Merkez**	**2.93**	**10**	*i* P	**Pn**	**13 42 58.4**	**-0.2**
ALAN	**Alanya-ANTALYA**	**3.07**	**75**	PN	**Pn**	**13 43 02.3**	**+1.9**
SEYD	**Seydisehir-KON**	**3.22**	**60**	PN	**Pn**	**13 43 04.4**	**+1.8**
DEMI	**Demirci**	**3.22**	**5**	*i* P	**Pn**	**13 43 03.0**	**+0.4**
SHUT	**Suhut-Afyon**	**3.24**	**32**	PN	**Pn**	**13 43 04.6**	**+1.8**
GAZI	**Gazipasa**	**3.24**	**82**	PN	**Pn**	**13 43 04.5**	**+1.7**
OSC1	**CSNet OBS 1**	**3.35**	**133**	P	**Pn**	**13 43 05.5**	**+1.2**
OSC1				S	**Sn**	**13 43 43.0**	**0.0**
AKMS	**Akamas**	**3.35**	**103**	P	**Pn**	**13 43 05.9**	**+1.6**
AKMS				S	**Sn**	**13 43 44.2**	**+1.0**
AKMS				AML	AML	13 43 45.0	
	comp=N,0.4nm,0.2s						
AKMS				AML	AML	13 43 45.0	
	comp=N,0.4nm,0.2s						
AKMS				AML	AML	13 43 46.3	
	comp=N,0.5nm,0.2s						
AKMS				AML	AML	13 43 46.3	
	comp=N,0.5nm,0.2s						
ALFC	**Alefka**	**3.53**	**100**	P	**Pn**	**13 43 08.5**	**+1.7**
ALFC				S	**Sn**	**13 43 49.4**	**+1.8**
ALFC				AML	AML	13 43 50.0	
	comp=N,0.3nm,0.1s						
ALFC				AML	AML	13 43 50.0	
	comp=N,0.3nm,0.1s						
ALFC				AML	AML	13 43 50.3	
	comp=N,0.3nm,0.3s						
ALFC				AML	AML	13 43 50.3	
	comp=N,0.3nm,0.3s						
NATA	**Nata**	**3.61**	**106**	P	**Pn**	**13 43 09.4**	**+1.6**
NATA				S	**Sn**	**13 43 51.2**	**+1.7**
TVSB	**Tavsanli**	**3.72**	**13**	PN	**Pn**	**13 43 09.9**	**+0.4**
LEF	**Lefka**	**3.77**	**99**	PN	**Pn**	**13 43 11.2**	**+1.1**
TEKE	**Tekeli-Mersin**	**3.88**	**84**	PN	**Pn**	**13 43 13.8**	**+2.3**
BERE	**Bereket-Mersin**	**3.98**	**81**	PN	**Pn**	**13 43 15.4**	**+2.3**
ASGA	**Asgata**	**4.14**	**103**	P	**Pn**	**13 43 17.1**	**+1.9**
ASGA				AML	AML	13 44 07.2	
	comp=N,0.4nm,0.5s						
ASGA				AML	AML	13 44 07.3	
	comp=N,0.3nm,0.6s						
KIZT	**Kizilcal**	**4.15**	**42**	PN	**Pn**	**13 43 17.1**	**+1.8**
CSS	**Mathiatis**	**4.16**	**101**	PN	**Pn**	**13 43 17.3**	**+1.9**
CSS	**Mathiatis**	**4.16**	**101**	Pn	**Pn**	**13 43 16.5**	**+1.1**
AKKU	**Akkuyu-Mersin**	**4.23**	**84**	PN	**Pn**	**13 43 19.1**	**+2.7**
LFK	**Lefkose**	**4.26**	**96**	PN	**Pn**	**13 43 18.7**	**+1.8**
KTHA	**Kythira Island**	**4.30**	**277**	P	**Pn**	**13 43 19.0**	**+1.6**
TISA	**Tisan-Mersin**	**4.34**	**84**	PN	**Pn**	**13 43 20.4**	**+2.6**
IKL	**Isikli**	**4.34**	**83**	PN	**Pn**	**13 43 20.1**	**+2.2**
KEBE	**Keben-Mersin**	**4.39**	**80**	PN	**Pn**	**13 43 21.1**	**+2.5**
SLUM	**Salum**	**5.05**	**212**	S	**Sn**	**13 44 19.9**	**-5.2**
	baz=212						
SLUM				AMP		13 44 00.0	
	baz=212						
MMA0B	**Mount Meron ar**	**6.47**	**114**	Pn	**Pn**	**13 43 47.9**	**+0.7**
NATI	**Neve Ativ**	**6.61**	**111**	Pn	**Pn**	**13 43 50.1**	**+1.0**
RSH		**6.62**	**136**	P	**Pn**	**13 43 49.9**	**+0.8**
	baz=135						
HHAG	**Hagoal**	**6.65**	**151**	P	**Pn**	**13 43 51.2**	**+1.5**
	baz=150						
HHAG				S	**Sn**	**13 45 01.3**	**-3.3**
	baz=150						
MMLI	**Mount Malkishu**	**6.77**	**118**	Pn	**Pn**	**13 43 51.1**	**-0.2**
GLL	**Jalalah**	**6.85**	**155**	P	**Pn**	**13 43 53.4**	**+1.0**
	baz=154						
HMDT	**Nahal Hemdat**	**6.94**	**119**	Pn	**Pn**	**13 43 54.7**	**+1.1**
HMDT				Sn	**Sn**	**13 45 08.6**	**-3.0**
KZIT	**Kziot**	**7.05**	**132**	Pn	**Pn**	**13 43 56.0**	**+0.9**
KZIT				Sn	**Sn**	**13 45 10.1**	**-4.2**
SUZ	**Suez**	**7.06**	**146**	P	**Pn**	**13 43 56.3**	**+1.0**
	baz=145						
YTIR	**Yattir**	**7.19**	**126**	Pn	**Pn**	**13 43 57.8**	**+0.7**
YTIR				Sn	**Sn**	**13 45 14.9**	**-3.0**
DSI	**Dead Sea**	**7.24**	**124**	Pn	**Pn**	**13 43 57.5**	**-0.2**
DSI				Sn	**Sn**	**13 45 14.8**	**-4.1**
GHAJ	**Ghor Haditha**	**7.53**	**125**	Pn	**Pn**	**13 44 01.6**	**0.0**
NBNS	**Bani Suef**	**7.61**	**160**	S	**Sn**	**13 45 22.6**	**-5.4**
	baz=159						
NBNS				AMP		13 45 00.0	
	baz=159						
PRNI	**Paran**	**7.81**	**132**	Pn	**Pn**	**13 44 05.9**	**+0.3**
PRNI				Sn	**Sn**	**13 45 28.0**	**-5.0**
KRMI	**Paran Flat**	**7.82**	**135**	Pn	**Pn**	**13 44 06.0**	**+0.3**
KRMI				Sn	**Sn**	**13 45 28.8**	**-4.4**
HRFI	**Mount Harif**	**8.06**	**134**	Pn	**Pn**	**13 44 09.2**	**+0.2**
HRFI				Sn	**Sn**	**13 45 34.2**	**-4.9**
MBRI	**Mt Berech**	**8.17**	**136**	Pn	**Pn**	**13 44 10.6**	**+0.1**
MBRI				Sn	**Sn**	**13 45 37.5**	**-4.4**
EIL	**Elat**	**8.28**	**136**	Pn	**Pn**	**13 44 12.2**	**+0.2**
EIL				Sn	**Sn**	**13 45 40.3**	**-4.3**
HDHB	**Dhahab**	**8.85**	**141**	P	**Pn**	**13 44 20.8**	**+1.0**
	baz=141						
HHRG	**Al Ghardaqah**	**9.67**	**151**	P	**Pn**	**13 44 33.5**	**+2.4**
	baz=151						
VYHS	**Vyhne**	**14.47**	**334**	*e*PN	**P**	**13 45 44.0**	**+1.0**

IDC 11 13:54:56.8±1.5,27°.94N×103°.51E,h0km,mb3.4/4, mb1 3.6/4,mb1mx3.3/36,mbtmp3.4/4,Error ellipse: s-maj=45.4km s-min=28.1km az=62.0,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**22.58**	**59**	P	P	13 59 58.4	-0.3
	0.7nm,0.5s,baz=251,slow=9.1,SNR=5.4						
MKAR	**Makanchi Array**	**25.13**	**324**	P	P	14 00 23.4	0.0
	0.3nm,0.5s,baz=123,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**56.17**	**145**	P	P	14 04 38.2	-0.4
	0.7nm,1.0s,baz=333,slow=8.5,SNR=5.9						
ASAR	**Alice Springs**	**59.09**	**147**	P	P	14 04 59.4	+0.3
	0.2nm,0.4s,baz=325,slow=6.8,SNR=6.1						

*NSSP **11** 13:57:37.7,38°.42N×46°.60E,h13km,Ms3.5*
*TEH **11** 13:57:38.2,38°.43N×46°.63E,h6km,ML3.5*
*THR **11** 13:57:38.3±0.3,38°.47N×46°.63E,h14km±5km,ML3.3*
*DDA **11** 13:57:42.8,38°.45N×46°.28E,h6km±3km,MW3.8*

ISC 11 13:57:37.5±1.2,38°.44N±0°.03×46°.62E±0°.02,h1km±13km, n40,σ0^{s}89/46,2D,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHAR	**Ahar**	**0.34**	**81**	*e*Pg	**Pg**	**13 57 45.0**	**+0.9**
AHAR				*e*		13 57 51.2	
IHRS	**Heris**	**0.35**	**109**	*e*Pg	**Pg**	**13 57 44.7**	**+0.5**
ITBZ	**Tabriz**	**0.42**	**242**	*e*Pg	**Pg**	**13 57 46.5**	**+0.9**
IHSH	**Hashtrud**	**0.52**	**104**	*e*		13 58 03.4	
IHSH				*e*Pg	Pn	13 58 01.7	+9.3
IHSH				*e*Sg	Sn	13 58 19.4	+17
IMRD	**Marand**	**0.77**	**291**	*e*Pg	**Pg**	**13 57 52.6**	**+0.3**
IAZR	**Azarshahr**	**0.91**	**214**	*e*Pg	**Pg**	**13 57 55.5**	**+0.6**
ISRB	**Sarab**	**1.03**	**126**	*e*Pg	**Pb**	**13 57 57.0**	**-1.2**
GRMI	**Germi**	**1.06**	**69**	*e*Pg	**Pb**	**13 57 57.7**	**-1.1**
GRMI				*e*Sg	**Sg**	**13 58 12.3**	**+0.5**
GRMI				IAML		13 58 16.3	
	comp=E,778nm,0.1s						
GRMI				IAML		13 58 16.9	
	comp=N,804nm,0.2s						
GRMI	**Germi**	**1.06**	**69**	*e*Pg	**Pb**	**13 57 57.7**	**-1.1**
GRS	**Goris**	**1.09**	**348**	*i*P	**Pn**	**13 58 00.0**	**0.0**
GRS				⇓*i*S	**Sn**	**13 58 15.0**	**-0.7**
NAX	**Nakhchivan**	**1.15**	**310**	*e*Pg	**Pg**	**13 57 59.9**	**+0.4**
SBZ	**Shahbuz**	**1.27**	**319**	*e*Pg	**Pg**	**13 58 02.0**	**+0.2**
YRD	**Yardimli**	**1.36**	**69**	*e*Pg	**Pb**	**13 58 03.1**	**-0.7**
LRK	**Lerik**	**1.36**	**81**	*e*Pg	**Pb**	**13 58 03.1**	**-0.8**
BLQ	**Beylaqan**	**1.48**	**29**	*e*Pg	**Pg**	**13 58 05.9**	**+0.1**
GLBA	**Clilabad**	**1.60**	**59**	*e*Pn	**Pg**	**13 58 08.5**	**+0.3**
ASTR	**Astara**	**1.71**	**85**	*e*Pn	**Pb**	**13 58 09.4**	**-0.3**
LKRN	**Lenkeran, Azer**	**1.71**	**80**	*e*Pn	**Pg**	**13 58 10.0**	**-0.3**
MAKU	**Maku**	**1.77**	**302**	*e*Pn	**Pb**	**13 58 10.3**	**-0.5**
MAKU				*e*Sg	**Sg**	**13 58 34.0**	**-0.3**
MAKU	**Maku**	**1.77**	**302**	*e*Pn	**Pb**	**13 58 10.3**	**-0.5**
MAHB	**Mahabad**	**1.82**	**204**	*e*Pn	**Pb**	**13 58 11.3**	**-0.3**
MAHB				*e*		13 58 39.2	
BRDA	**Brd**	**1.88**	**13**	*e*Pn	**Pg**	**13 58 12.9**	**-0.5**
HYR	**Heyderabad**	**1.88**	**314**	*e*Pn	**Pb**	**13 58 12.5**	**-0.2**
ZRD	**Zardab**	**2.02**	**24**	*e*Pn	**Pg**	**13 58 15.9**	**-0.3**
YOVA	**Hakkari_Yksek**	**2.03**	**246**	*i* P	**Pg**	**13 58 15.9**	**-0.4**
YOVA				IAML		13 59 03.0	
	comp=N,139nm,0.2s						
YOVA				IAML		13 59 03.0	
	comp=E,190nm,0.1s						
YOVA	**Hakkari_Yksek**	**2.03**	**246**	*e*Pn	**Pg**	**13 58 15.9**	**-0.4**
GANJ	**Ganja**	**2.22**	**354**	*e*Pn	**Pb**	**13 58 17.8**	**-0.6**
KAPZ	**Kaputan**	**2.40**	**322**	*i* P	**Pb**	**13 58 21.6**	**0.0**
KAPZ				*i* S	**Sg**	**13 58 53.9**	**-0.8**
ZNJK	**Zanjan**	**2.41**	**136**	*e*Pn	**Pb**	**13 58 19.8**	**-2.0**
ZNJK	**Zanjan**	**2.41**	**136**	*e*Pn	**Pb**	**13 58 19.8**	**-2.0**
IGDR	**IGDIR**	**2.44**	**307**	*i* S	**Sb**	**13 58 53.1**	**+0.4**
HAKT	**HAKKARI**	**2.46**	**250**	*i* P	**Pg**	**13 58 24.0**	**-0.7**
HAKT				IAML		13 59 11.0	
	comp=E,25nm,0.8s						
HAKT				IAML		13 59 12.0	
	comp=N,18nm,1.1s						
METS	**Metsamor**	**2.61**	**312**	*e*P	**Pb**	**13 58 23.8**	**-1.3**
METS				*e*S	**Sb**	**13 58 57.4**	**-0.3**
ARUZ	**Aruch**	**2.69**	**314**	*i* P	**Pb**	**13 58 27.4**	**+0.9**
ARUZ				*i* S	**Sg**	**13 59 03.9**	**-0.1**
VNNZ	**Vanand**	**2.74**	**308**	*e*P	**Pb**	**13 58 27.7**	**+0.5**
VNNZ				*e*S	**Sg**	**13 59 04.1**	**-1.3**
QSDN	**Sirdan**	**2.80**	**133**	*e*Pn	**Pn**	**13 58 25.0**	**+1.4**
DDFL	**Dedoflistskaro**	**3.03**	**353**	*i* P	**Pb**	**13 58 33.4**	**+1.2**
EAK	**Akyaka**	**3.24**	**315**	*i* P	**Pb**	**13 58 35.5**	**-0.4**
EAK				IAML		13 59 33.0	
	comp=E,30nm,0.6s						
EAK				IAML		13 59 37.0	

az=156.0
*IDC **11** 14:22:32.7±1.4,6˚66N×72˚89W,h173km±14km,mb3.2/5, mb1 3.6/7,mb1mx3.3/35,mbtmp3.8/7,Error ellipse: s-maj=27.0km s-min=20.3km az=132.0*
*RSNC **11** 14:22:33.6±1.1,6˚81N×73˚15W,h148km±4km,ML3.7, Mw3.9*

ISC 11 14:22:32.2±0.6,6˚83N±0˚03×73˚11W±0˚03,h157km±5km, n67,σ1ᵎ36/106,mb4.0/9,4C-1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**197**	⇑*i*P	**Pn**	**14 22 53.5**	**-0.2**
BARC				*e*S	**Sn**	**14 23 08.9**	**-1.2**
BARC				*i*		14 23 10.2	
	comp=Z,2μm,0.3s						
PAMC	**Pamplona, Colo**	**0.65**	**39**	*i* P	**Pn**	**14 22 56.3**	**+0.6**
PAMC				*e*S	**Sn**	**14 23 13.6**	**0.0**
PAMC				*i*		14 23 15.2	
	comp=Z,382nm,0.6s						
BRRC	**Barranca, Sant**	**0.66**	**295**	⇑*i*P	**Pn**	**14 22 55.4**	**+0.2**
BRRC				*e*S	**Sn**	**14 23 11.7**	**-1.0**
BRRC				*i*		14 23 17.6	
	comp=Z,657nm,0.2s						
BRRC				*i*		14 23 19.0	
	comp=Z,580nm,0.3s						
RUSC	**La Rusia**	**0.93**	**178**	*i* P	**Pn**	**14 22 57.3**	**-0.3**
RUSC				*e*S	**Sn**	**14 23 16.1**	**-1.0**
RUSC				*i*		14 23 17.3	
	comp=Z,637nm,0.7s						
RUSC	**La Rusia**	**0.93**	**178**	Pn	**Pn**	**14 22 57.3**	**-0.3**
RUSC				Sn	**Sn**	**14 23 15.0**	**-2.0**
PTBC	**PUERTO BERRIO,**	**1.37**	**258**	⇑*i*P	**Pn**	**14 22 60.0**	**-1.0**
PTBC				*e*S	**Sn**	**14 23 21.2**	**-1.8**
PTBC				*i*		14 23 28.5	
	comp=Z,568nm,0.9s						
TAMC	**Tame, Arauca**	**1.37**	**107**	*i* P	**Pn**	**14 23 01.6**	**+0.7**
TAMC				*e*S	**Sn**	**14 23 22.8**	**-0.2**
OCAC	**Ocana**	**1.42**	**352**	*e*P	**Pn**	**14 23 01.7**	**+0.1**
OCAC				*e*S	**Sn**	**14 23 24.6**	**+0.3**
OCAC				*i*		14 23 29.3	
	comp=Z,572nm,0.3s						
SPBC	**San Pablo de B**	**1.51**	**219**	⇑*i*P	**Pn**	**14 23 02.2**	**-0.2**
SPBC				*e*S	**Sn**	**14 23 24.7**	**-1.0**
SPBC				*i*		14 23 31.5	
	comp=Z,924nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*i* P	**Pn**	**14 23 06.0**	**0.0**
ZARC				*e*S	**Sn**	**14 23 31.0**	**-1.1**
ZARC				*i*		14 23 37.7	
	comp=Z,707nm,0.2s						
CTAB	**Cerro Tablazo,**	**2.11**	**211**	*e*P	**Pn**	**14 23 10.9**	**+1.4**
CTAB				*i*		14 23 43.1	
	comp=Z,641nm,0.7s						
NORC	**Norcasia**	**2.15**	**234**	*e*P	**Pn**	**14 23 09.1**	**-0.5**
NORC				*e*S	**Sn**	**14 23 36.9**	**-1.5**
NORC				*i*		14 23 44.5	
	comp=Z,441nm,0.2s						
SMLC	**San Martn de**	**2.18**	**334**	*i* P	**Pn**	**14 23 09.7**	**-0.1**
SMLC				*e*S	**Sn**	**14 23 39.8**	**+0.9**
SMLC				*i*		14 23 41.4	
	comp=Z,517nm,0.1s						
CHIC	**Chingaza**	**2.27**	**196**	*e*P	**Pn**	**14 23 11.3**	**0.0**
CHIC				*e*S	**Sn**	**14 23 40.7**	**-0.8**
CHIC				*i*		14 23 46.4	
	comp=Z,286nm,0.4s						
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**14 23 13.0**	**+1.2**
	comp=Z,65nm,0.3s,baz=104,slow=19,SNR=45						
ROSC				S	**Sn**	**14 23 40.6**	**-1.7**
	comp=Z,68nm,0.3s,baz=112,slow=16,SNR=11						
ROSC	**El Rosal**	**2.31**	**211**	*i* P	**Pn**	**14 23 12.9**	**+1.2**
ROSC				*e*S	**Sn**	**14 23 42.8**	**+0.5**
ROSC				*i*		14 23 47.8	
	comp=Z,658nm,0.4s						
ROSC	**El Rosal**	**2.31**	**211**	Pn	**Pn**	**14 23 12.7**	**+0.9**
HELC	**Santa Helena**	**2.48**	**255**	*e*P	**Pn**	**14 23 13.6**	**-0.2**
HELC				*e*S	**Sn**	**14 23 46.0**	**+0.1**
HELC				*i*		14 23 52.2	
	comp=Z,225nm,0.4s						
UREC	**San Jos de Ur**	**2.57**	**291**	*e*P	**Pn**	**14 23 14.0**	**-0.6**
UREC				*e*S	**Sn**	**14 23 43.3**	**-3.9**
UREC				*i*		14 23 58.4	
	comp=Z,383nm,0.3s						
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*e*P	**Pn**	**14 23 17.4**	**+0.2**
GUY2C				*e*S	**Sn**	**14 23 51.3**	**-0.6**
GUY2C				*i*		14 24 02.0	
	comp=Z,270nm,0.5s						
VILC	**Villavicencio,**	**2.76**	**192**	*e*P	**Pn**	**14 23 16.5**	**-0.5**
VILC				*e*S	**Sn**	**14 23 51.5**	**-0.2**
VILC				*i*		14 23 57.3	
	comp=Z,271nm,0.5s						
PTGC	**Puerto Gaitan,**	**2.79**	**160**	*i* P	**Pn**	**14 23 16.3**	**-0.9**
PTGC				*e*S	**Sn**	**14 23 49.6**	**-2.5**
PTGC				*i*		14 23 52.1	
	comp=Z,140nm,0.3s						
RREF	**El Recreo**	**2.94**	**229**	*e*P	**Pn**	**14 23 20.4**	**+0.8**
RREF				*e*S	**Sn**	**14 23 58.7**	**+2.5**
RREF				*i*		14 24 02.1	
	comp=Z,331nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.04**	**252**	*e*P	**Pn**	**14 23 21.1**	**+0.7**
CBOC				*e*S	**Sn**	**14 23 56.5**	**-1.3**
CBOC				*i*		14 24 08.7	
	comp=Z,95nm,0.4s						
DBBC	**Dabeiba**	**3.08**	**274**	⇓*i*P	**Pn**	**14 23 21.1**	**+0.1**
DBBC				*e*S	**Sn**	**14 23 56.3**	**-2.4**
TOLC	**Tolima**	**3.13**	**225**	*i* P	**Pn**	**14 23 22.2**	**+0.4**
TOLC				*e*S	**Sn**	**14 24 00.4**	**+0.2**
TOLC				*i*		14 24 05.9	
	comp=Z,505nm,0.8s						
SDV	**Santo Domingo**	**3.19**	**50**	P	**Pn**	**14 23 23.2**	**+0.7**
	comp=Z,41nm,0.3s,baz=227,slow=8.7,SNR=4.6						
SDV				S	**Sn**	**14 24 00.4**	**-1.1**
	comp=Z,35nm,0.3s,baz=240,slow=20,SNR=10						
SDV	**Santo Domingo**	**3.19**	**50**	Pn	**Pn**	**14 23 22.9**	**+0.5**
ARGC	**Ariguani, Magd**	**3.21**	**340**	*e*P	**Pn**	**14 23 23.4**	**+0.9**
ARGC				*e*S	**Sn**	**14 24 02.4**	**+0.8**
ARGC				*i*		14 24 12.9	
	comp=Z,109nm,0.4s						
ANIL	**Santa Ana**	**3.25**	**225**	*e*P	**Pn**	**14 23 23.5**	**+0.2**
ANIL				*e*S	**Sn**	**14 24 04.2**	**+1.2**
PRAC	**Prado**	**3.56**	**210**	*e*P	**Pn**	**14 23 26.3**	**-0.8**
PRAC				*e*S	**Sn**	**14 24 09.3**	**-0.4**
PRAC				*i*		14 24 12.7	
	comp=Z,340nm,0.3s						
ORTC	**Ortega, Tolima**	**3.60**	**216**	*e*P	**Pn**	**14 23 27.4**	**-0.1**
ORTC				*e*S	**Sn**	**14 24 10.4**	**0.0**
ORTC				*i*		14 24 15.1	
	comp=Z,158nm,0.4s						
SJCC	**San Jacinto, C**	**3.67**	**326**	*i* P	**Pn**	**14 23 27.2**	**-1.3**
SJCC				*e*S	**Sn**	**14 24 08.8**	**-3.4**
SJCC				*i*		14 24 13.9	
	comp=Z,71nm,0.4s						
PLMC	**San Jos del P**	**3.69**	**239**	*e*P	**Pn**	**14 23 28.9**	**+0.2**
PLMC				*e*S	**Sn**	**14 24 13.0**	**+0.4**
PLMC				*i*		14 24 19.0	
	comp=Z,258nm,0.2s						
LCBC	**Los crdobas,**	**3.81**	**302**	*e*P	**Pn**	**14 23 29.0**	**-1.1**
LCBC				*e*S	**Sn**	**14 24 12.5**	**-2.6**
LCBC				*i*		14 24 17.6	
	comp=Z,147nm,0.5s						
GUVC	**San Jose del G**	**4.28**	**174**	*e*P	**Pn**	**14 23 34.9**	**-1.4**
GUVC				*e*S	**Sn**	**14 24 24.3**	**-2.1**
GUVC				*i*		14 24 30.3	
	comp=Z,172nm,0.2s						
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*P	**Pn**	**14 23 35.9**	**-0.6**
YOTC				*e*S	**Sn**	**14 24 29.1**	**+2.5**
SMRC	**Santa Marta, M**	**4.45**	**346**	*e*P	**Pn**	**14 23 38.6**	**+0.1**
SMRC				*e*S	**Sn**	**14 24 26.6**	**-3.6**
SMRC				*i*		14 24 32.3	
	comp=Z,82nm,0.4s						
CAPC	**Capurgana**	**4.57**	**293**	*e*P	**Pn**	**14 23 39.2**	**-0.9**
CAPC				*e*S	**Sn**	**14 24 29.2**	**-3.8**
CAPC				*i*		14 24 39.5	
	comp=Z,50nm,0.7s						
PIZC	**Pizarro, Choco**	**4.62**	**247**	*e*P	**Pn**	**14 23 41.7**	**+1.0**
PIZC				*i*		14 24 53.8	
	comp=Z,83nm,1.1s						
URIC	**Uribia, Colomb**	**4.97**	**13**	Pn	**Pn**	**14 23 43.8**	**-1.5**
MALC	**Bahia Malaga**	**5.05**	**237**	*e*P	**Pn**	**14 23 45.8**	**-0.6**
MALC				*e*S	**Sn**	**14 24 45.2**	**+0.8**
MALC				*i*		14 25 04.1	
	comp=Z,32nm,0.6s						
GARC	**Garzon, Huila**	**5.19**	**207**	*e*P	**Pn**	**14 23 47.4**	**-1.1**
GARC				*e*S	**Sn**	**14 24 44.2**	**-3.8**
GARC				*i*		14 24 50.3	
	comp=Z,65nm,0.2s						
HATO	**Hato, Curacao**	**6.71**	**37**	Pn	**Pn**	**14 24 08.2**	**-0.2**
MTDJ	**Mount Denham**	**12.12**	**340**	Pn	**Pn**	**14 25 22.5**	**+2.5**
JTS	**Las Juntas de**	**12.21**	**287**	P	**P**	**14 25 29.1**	**+2.1**
SDDR	**Presa de Saban**	**12.21**	**8**	P	**P**	**14 25 27.5**	**+0.5**
TEIG	**Tepich**	**19.84**	**314**	P	**P**	**14 26 53.2**	**+2.2**
TEIG				IAmb	IAmb	14 27 32.6	
	comp=Z,22nm,1.1s						
146A	**Union**	**29.66**	**332**	P	**P**	**14 28 22.9**	**-0.2**
LCAR	**Lake Charles**	**33.47**	**333**	P	**P**	**14 28 56.6**	**+0.2**
LCAR				IAmb	IAmb	14 29 21.3	
	comp=Z,14nm,1.9s						
O54A	**Avella**	**33.84**	**350**	P	**P**	**14 29 00.6**	**+0.9**
W39A	**Magazine**	**34.04**	**329**	P	**P**	**14 29 02.5**	**+1.1**
T42A	**Van Buren**	**34.24**	**334**	P	**P**	**14 29 03.4**	**+0.3**
U40A	**Yellville**	**34.49**	**331**	P	**P**	**14 29 06.0**	**+0.6**
U40A				IAmb	IAmb	14 29 26.2	
	comp=Z,5.3nm,0.8s						
CCM	**Cathedral Cave**	**35.17**	**335**	P	**P**	**14 29 11.7**	**+0.6**
CCM				IAmb	IAmb	14 29 12.2	
	comp=Z,3.6nm,0.6s						
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**	**14 29 23.1**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=138,slow=5.7,SNR=2.7						
MNTX	**Cornudas Mount**	**38.97**	**314**	P	**P**	**14 29 43.6**	**+0.2**
LCMT	**Little Creek M**	**47.27**	**315**	P	**P**	**14 30 50.4**	**+0.3**
ULM	**Lac du Bonnet**	**47.28**	**340**	P	**P**	**14 30 49.4**	**-0.3**
ULM				IAmb	IAmb	14 31 59.4	
	comp=Z,4.0nm,0.6s						
SCHQ	**Schefferville**	**48.13**	**5**	P	**P**	**14 30 56.8**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=190,slow=12,SNR=4.2						
YMP	**Mirror Lake Pl**	**49.63**	**326**	P	**P**	**14 31 08.4**	**+0.3**
NVAR	**Mina Array Bea**	**51.48**	**315**	P	**P**	**14 31 23.1**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=152,slow=6.1,SNR=3.2						
YKA	**Yellowknife Ar**	**63.26**	**340**	P	**P**	**14 32 43.7**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=126,slow=6.2,SNR=2.9						
TORD	**Torodi Ar. Bea**	**73.73**	**78**	P	**P**	**14 33 47.0**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=288,slow=6.7,SNR=4.7						
MKAR	**Makanchi Array**	**122.31**	**20**	PKP	**PKiKP**	**14 41 07.2**	**-1.8**
	comp=Z,0.2nm,0.4s,baz=308,slow=1.2,SNR=2.0						
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKPbc**	**14 42 01.7**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=111,slow=3.7,SNR=6.3						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKPbc**	**14 42 04.5**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=105,slow=2.7,SNR=7.4						
WRA				pPKPbc	**pPKPbc**	**14 42 47.0**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=104,slow=2.9,SNR=1.7						

MAN 11 14:36:59.1,13˚75N×120˚44E,h94km,mb4.2,ML3.0, MS2.6,3D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.19**	**266**	*e*P	Pn	14 37 13.8	+1.3
LUBP				*e*S	Sn	14 37 23.4	+0.9
PGP	**Puerto Galera**	**0.55**	**116**	⇓*e*P	Pn	14 37 15.1	+0.4
PGP				*e*S	Sn	14 37 26.3	-0.1
TGY	**Tagaytay City**	**0.59**	**54**	⇓*i*P	Pn	14 37 16.3	+1.2
TGY				*i* S	Sn	14 37 31.2	+4.2
LQP	**Lukban**	**1.12**	**71**	⇓*i*P	Pn	14 37 21.2	+0.6
BOAC	**Boac**	**1.39**	**102**	*e*P	Pn	14 37 22.4	-1.3
SJMP	**San Jose**	**1.44**	**153**	*e*P	Pn	14 37 25.2	+0.9
SJMP				*e*S	Sn	14 37 43.8	+0.4
BUSP	**Coron**	**1.75**	**188**	*e*P	Pn	14 37 28.7	+0.4
BUSP				*e*S	Sn	14 37 50.8	+0.4
BALP	**Baler**	**2.26**	**29**	*e*P	Pn	14 37 35.1	+0.2
BALP				*e*S	Sn	14 38 01.7	-0.6
ENPP	**El Nido**	**2.72**	**202**	*e*P	Pn	14 37 40.8	-0.1

*IDC **11** 14:46:42.9±1.0,31˚18N×103˚62E,h0km,mb3.6/7, mb1 3.8/8,mb1mx3.5/40,mbtmp3.6/8,Error ellipse: s-maj=40.9km s-min=18.4km az=60.0*
*NEIC **11** 14:46:46.0±0.9,31˚18N±0˚10×103˚6E±0˚1,h22km±5km, mb4.7/15,Error ellipse: s-maj=14.3km s-min=13.8km az=201.0*
*BJI **11** 14:46:46.8±0.0,31˚25N×103˚59E,h18km,ML3.5/20*

ISC 11 14:46:45.4±0.6,31˚23N±0˚04×103˚54E±0˚06,h16km,n36, σ1ᵎ76/43,mb3.8/11,1D,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CD2	**Chengdu**	**0.38**	**150**	⇓*i*Pg	**Pg**	**14 46 51.7**	**-1.4**
CD2				Sg	**Sg**	**14 46 56.6**	**-1.8**
CD2				smax	smax		
	comp=N,6μm,0.6s						
CD2				smax	smax		
	comp=E,11μm,0.6s						
ENH	**Enshi**	**5.21**	**99**		**Pn**	**14 48 02.0**	**-0.7**
XAN	**Xi'an**	**5.33**	**57**	Pn	**Pn**	**14 48 03.1**	**-1.3**
XAN				Pg	**Pb**	**14 48 20.6**	**+2.3**
XAN				Sn	**Sn**	**14 49 02.5**	**-3.1**
XAN				Sg	**Sb**	**14 49 24.3**	**+2.2**
XAN				smax	smax		
	comp=N,86nm,0.6s						
XAN				smax	smax		
	comp=E,73nm,0.9s						
XAN	**Xi'an**	**5.33**	**57**	Pn	**Pn**	**14 48 02.6**	**-1.9**
GYA	**Guiyang**	**5.49**	**149**	*e*Pg	**Pb**	**14 48 19.1**	**-1.9**
GYA				Sg	**Sg**	**14 49 47.6**	**+5.8**
GYA				smax	smax		
	comp=N,40nm,1.1s						
GYA				smax	smax		
	comp=E,70nm,1.0s						
KMI	**Kunming**	**6.13**	**187**	Pn	**Pn**	**14 48 19.6**	**+4.1**
KMI				Sg	**Sg**	**14 50 05.6**	**+3.4**
KMI				smax	smax		
	comp=N,16nm,0.5s						
KMI				smax	smax		
	comp=E,17nm,0.6s						
WHN	**Wuhan**	**9.32**	**91**	P	**Pn**	**14 48 59.8**	**+0.7**
SHL	**Shillong**	**11.71**	**244**	Pn	**Pn**	**14 49 30.3**	**-1.7**
SSE	**Sheshan**	**15.11**	**86**	Pn	**Pn**	**14 50 17.7**	**-0.6**
SONM	**Songino Array**	**16.72**	**7**	Pn	**Pn**	**14 50 39.4**	**+0.3**
	baz=185,slow=8.1,SNR=1.3						
SONM	**Songino Array**	**16.72**	**7**	Pn	**Pn**	**14 50 39.1**	**+0.1**
KSRS	**Korea Array**	**21.04**	**66**	P	**P**	**14 51 28.4**	**-0.2**
	1.1nm,0.7s,baz=268,slow=10,SNR=6.3						
MKAR	**Makanchi Array**	**22.56**	**320**	P	**P**	**14 51 46.6**	**+1.7**
	1.0nm,0.8s,baz=128,slow=11,SNR=7.8						
MKAR	**Makanchi Array**	**22.56**	**320**	P	**P**	**14 51 47.7**	**+2.8**
ZALV	**Zalesovo Beam**	**26.39**	**335**	P	**P**	**14 52 22.2**	**+1.2**
	0.7nm,0.6s,baz=125,slow=7.6,SNR=2.4						
TIXI	**Tiksi**	**42.72**	**12**	P	**P**	**14 54 41.3**	**0.0**
MTN	**Manton Dam**	**51.21**	**145**	P	**P**	**14 55 46.8**	**-1.5**
KNRA	**Kununurra**	**52.56**	**149**	P	**P**	**14 55 57.5**	**-0.9**
KNRA				IAmb	IAmb	14 56 27.2	
	comp=Z,13nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.45**	**154**	P	**P**	**14 56 03.9**	**-0.9**
FITZ				IAmb	IAmb	14 56 29.5	
	comp=Z,27nm,1.9s						
ARCES	**ARCESS Array B**	**56.94**	**336**	P	**P**	**14 56 29.3**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=90,slow=8.1,SNR=1.9						
ARCES				PcP	**PcP**	**14 57 24.5**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=92,slow=4.8,SNR=6.5						
ARE0	**ARCESS Array S**	**56.94**	**336**	P	**P**	**14 56 29.6**	**+0.1**
WB0	**Warramunga Arr**	**58.73**	**146**	P	**P**	**14 56 41.9**	**-0.7**
WRAB	**Tennant Creek**	**58.85**	**146**	P	**P**	**14 56 42.8**	**-0.7**
WRA	**Warramunga Arr**	**58.85**	**146**	P	**P**	**14 56 42.8**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=339,slow=7.8,SNR=16						
WRA	**Warramunga Arr**	**58.85**	**146**	P	**P**	**14 56 42.3**	**-1.1**
WB2	**Warramunga Arr**	**58.86**	**146**	P	**P**	**14 56 43.0**	**-0.5**
WR0	**Warramunga Arr**	**58.97**	**146**	P	**P**	**14 56 43.7**	**-0.6**
ASAR	**Alice Springs**	**61.86**	**148**	P	**P**	**14 57 03.9**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=341,slow=6.5,SNR=14						
ASAR	**Alice Springs**	**61.86**	**148**	P	**P**	**14 57 02.9**	**-1.1**
PPLA	**Purkeypile**	**68.78**	**28**	P	**P**	**14 57 49.3**	**+0.7**
BMAR	**Burnt Mountain**	**69.34**	**23**	P	**P**	**14 57 52.3**	**+0.4**
ILAR	**Eielson Array**	**69.93**	**25**	P	**P**	**14 57 54.7**	**-0.8**
RIDG	**Independent Ri**	**71.23**	**26**	P	**P**	**14 58 02.7**	**-0.8**
RIDG				IAmb	IAmb	14 59 38.5	
	comp=Z,12nm,1.7s						
SCRK	**Sand Creek**	**71.42**	**25**	P	**P**	**14 58 04.5**	**-0.2**
SCRK				IAmb	IAmb	14 59 47.8	
	comp=Z,8.9nm,1.8s						
BCAR	**Beaver Creek A**	**72.75**	**26**	P	**P**	**14 58 12.9**	**+0.3**
YKA	**Yellowknife Ar**	**81.71**	**17**	P	**P**	**14 59 02.0**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=316,slow=4.4,SNR=2.6						

KRSC 11 14:50:19.4±2.2,49˚55N×156˚74E,h10km±35km,ML4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.21**	**341**	*e*P	Pb	14 50 40.9	-1.4
SKR				*e*S	Sb	14 50 57.2	-0.8
ALID	**Alaid**	**1.53**	**330**	*e*P	Pn	14 50 45.5	-1.5
ALID				*e*S	Sn	14 51 05.4	-1.6
PAU	**Pauzhetka**	**1.92**	**1**	*e*P	Pb	14 50 53.4	-1.2
PAU				*e*S	Sb	14 51 18.4	-0.2
MIPR	**Malaya Ipel'ka**	**2.73**	**0**	*e*P	Pn	14 51 04.1	+0.7
ASAK	**Asacha**	**2.93**	**14**	*e*P	Pb	14 51 09.1	-2.7
MTVR	**Mutnovka**	**3.08**	**17**	*e*P	Pn	14 51 11.3	+3.1
MTVR				*e*S	Sb	14 51 49.2	-2.8
RUS	**Russkaya**	**3.10**	**21**	*e*P	Pn	14 51 10.9	+2.5
RUS				*e*S	Sn	14 51 48.0	+2.5
GRL	**Gorelyy**	**3.12**	**15**	*e*P	Pn	14 51 10.0	+1.1
GRL				*e*S	Sn	14 51 47.4	+1.1
PET	**Petropavlovsk**	**3.68**	**18**	*e*P	Pn	14 51 19.2	+2.8
PET				*e*S	Sn	14 52 03.7	+3.9
DALK	**Dalny**	**3.71**	**19**	*e*P	Pn	14 51 19.9	+3.1
DALK				*e*S	Sn	14 52 04.4	+3.9
UGLR	**Uglovaya**	**3.89**	**19**	*e*P	Pn	14 51 22.9	+3.5
AVH	**Avacha**	**3.93**	**18**	*e*P	Pn	14 51 24.1	+4.2
AVH				*e*S	Sb	14 52 12.3	-4.1
KOK	**Koryaka**	**3.93**	**17**	*e*P	Pb	14 51 24.5	-4.4
SMAR	**Somma**	**3.94**	**18**	*e*P	Pb	14 51 24.7	-4.4
KRER	**Koryakskii**	**3.97**	**18**	*e*P	Pb	14 51 26.5	-3.0
SDLR	**Sedlovina**	**3.97**	**19**	*e*P	Pn	14 51 23.4	+2.9
NLC	**Nalytchevo**	**3.98**	**23**	*e*S	Sn	14 52 10.3	+3.2
KRX	**Arik**	**4.00**	**17**	*e*P	Pn	14 51 24.7	+3.8
KRX				*e*S	Sn	14 52 13.2	+5.3
SPN	**Mys Shipunski**	**4.11**	**29**	*e*P	Pn	14 51 25.3	+3.0
SPN				*e*S	Sn	14 52 14.0	+3.6
KZV	**Kizimen**	**5.99**	**20**	*e*P	Pn	14 51 54.4	+6.2
TUMR	**Tumrok**	**6.11**	**19**	*e*P	Pn	14 51 55.3	+5.4
KBTR	**Krutoberegovo**	**7.62**	**27**	*e*P	Pn	14 52 14.9	+4.5

*NEIC **11** 14:51:10.3±1.0,15˚1S±0˚1×174˚9W±0˚1,h190km±3km, mb4.4/76,Error ellipse: s-maj=17.6km s-min=12.8km az=128.0*
*IDC **11** 14:51:12.5±0.9,15˚11S×174˚74W,h208km±7km,mb3.8/14, mb1 4.0/15,mb1mx3.8/32,mbtmp4.3/15,Error ellipse: s-maj=19.7km s-min=11.0km az=138.0*
*GCMT **11** 14:51:17.3±0.2,14˚99S±0˚02×174˚55W±0˚01, h225km±1km,MW5.1/111,Moment Tensor Solution. s74,c95; s111,c153; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.15±.12; $M_{\theta\theta}$-0.65±.14; $M_{\phi\phi}$4.80±.13; $M_{r\theta}$3.10±.13; $M_{\theta\phi}$-0.36±.13; $M_{\phi r}$~1.66±.13; Best double couple: $M_0$5.68300×10^{16} NP1:ϕ_s200.00000°,δ39.00000°, λ-46.00000°. NP2:ϕ_s328.00000°,δ63.00000°, λ-120.00000°. Principal axes: T 5.2600, Plg13.0000°, Azm80.0000°; N 0.8480, Plg26.0000°, Azm343.0000°; P -6.1060, Plg60.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 14:51:12.4±0.6,15˚13S±0˚08×174˚76W±0˚09, h210km±5km,h212km:pP-P,n152,σ0ᵎ91/152,mb4.4/48, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.13**	**68**	Pn	**Pn**	**14 52 02.4**	**-1.7**
NIUE	**Niue**	**6.06**	**131**	Pn	**Pn**	**14 52 39.1**	**-1.4**
RAO	**Raoul Island**	**14.36**	**191**	P	**Pn**	**14 54 26.4**	**+0.2**
DZM	**Mont Dzumac**	**19.10**	**246**	P	**P**	**14 55 21.4**	**+1.8**
	0.2nm,0.3s,baz=72,slow=18,SNR=1.7						
DZM	**Mont Dzumac**	**19.10**	**246**	*e*LR	LR	14 58 49.7	
	comp=Z,426nm,23.3s						
PAE	**Paea**	**24.28**	**99**	*e*T	T	15 20 44.6	
	6.1nm,0.4s						
PPT2	**Papeete2**	**24.28**	**99**	*e*LR	LR	15 01 29.9	
	comp=Z,123nm,24.0s						
PPT2	**Papeete2**	**24.28**	**99**	*e*T	T	15 20 46.0	
	4.5nm,0.3s						
TVO	**Taravao**	**24.59**	**100**	*e*T	T	15 21 00.5	
	6.5nm,0.4s						
TBI	**Tubuai**	**25.21**	**113**	*e*LR	LR	15 01 52.4	
	comp=Z,230nm,33.2s						
HNR	**Honiara**	**25.35**	**280**	P	**P**	**14 56 18.7**	**-1.7**
STKA	**Stephens Creek**	**43.04**	**239**	P	**P**	**14 58 52.9**	**+1.3**
	1.5nm,0.6s,baz=72,slow=10,SNR=3.8						
STKA	**Stephens Creek**	**43.04**	**239**	P	**P**	**14 58 51.4**	**-0.2**
JAY	**Jayapura**	**45.65**	**282**	P	**P**	**14 59 14.6**	**+2.0**
	3.8nm,0.6s,baz=42,slow=2.2,SNR=6.1						
BBOO	**Buckleboo**	**47.82**	**239**	P	**P**	**14 59 28.2**	**-0.9**
WR0	**Warramunga Arr**	**48.44**	**257**	P	**P**	**14 59 33.1**	**-1.0**
WR0				IAmb	IAmb	15 00 36.5	
	comp=Z,38nm,1.9s						
WB0	**Warramunga Arr**	**48.59**	**257**	P	**P**	**14 59 33.9**	**-1.2**
WB0				IAmb	IAmb

SHPR					IAmb	IAmb	15 02 41.2	
	comp=Z,14nm,1.8s							
W13A	**Hualapai Mount**	**76.29**	**47**	P	**P**	**15 02 39.4**	**+0.9**	
W13A				IAmb	IAmb	15 02 40.4		
	comp=Z,14nm,1.7s							
Y14A	**Wickenburg**	**76.36**	**49**	P	**P**	**15 02 39.0**	**+0.4**	
PINE	**Pine Mountain**	**76.46**	**37**	P	**P**	**15 02 40.0**	**+0.8**	
I07A	**Izee**	**77.47**	**37**	P	**P**	**15 02 45.4**	**+0.6**	
I07A				IAmb	IAmb	15 02 46.2		
	comp=Z,18nm,1.8s							
LCMT	**Little Creek M**	**77.69**	**46**	P	**P**	**15 02 47.1**	**+1.0**	
X16A	**Lo Mia Camp, P**	**77.72**	**49**	P	**P**	**15 02 47.1**	**+0.6**	
X16A				IAmb	IAmb	15 02 49.2		
	comp=Z,7.0nm,0.9s							
U15A	**North Rim**	**78.07**	**47**	P	**P**	**15 02 48.8**	**+0.4**	
U15A				IAmb	IAmb	15 02 51.2		
	comp=Z,7.7nm,0.9s							
SZCU	**Shurtz Canyon**	**78.08**	**46**	P	**P**	**15 02 49.0**	**+0.6**	
ELK	**Elko**	**78.25**	**42**	P	**P**	**15 02 50.0**	**+0.7**	
WUAZ	**Wupatki**	**78.29**	**48**	P	**P**	**15 02 50.0**	**+0.5**	
WUAZ				IAmb	IAmb	15 02 52.2		
	comp=Z,11nm,1.3s							
HAWA	**Hanford**	**78.81**	**35**	P	**P**	**15 02 52.5**	**+0.7**	
MTPU	**Mount Pierson**	**78.92**	**46**	P	**P**	**15 02 55.1**	**+1.9**	
RAGM	**Ragged Mountai**	**79.05**	**15**	P	**P**	**15 02 53.7**	**+0.8**	
MSU	**Marysvale**	**79.16**	**45**	P	**P**	**15 02 55.7**	**+1.5**	
TTA	**Tatalina**	**79.18**	**9**		**P**	**15 02 54.6**	**+1.0**	
TTA				IAmb	IAmb	15 03 46.2		
	comp=Z,10nm,1.2s							
BMO	**Blue Mountains**	**79.20**	**38**	P	**P**	**15 02 54.9**	**+0.7**	
MFID	**Camas Ranch**	**79.30**	**39**	P	**P**	**15 02 55.5**	**+0.8**	
GHO	**Glory Hole Cre**	**79.33**	**12**	P	**P**	**15 02 54.6**	**+0.1**	
SCM	**Sheep Creek Mo**	**79.72**	**13**	P	**P**	**15 02 56.7**	**+0.1**	
SCM				IAmb	IAmb	15 02 57.9		
	comp=Z,14nm,1.2s							
GLB	**Gilahina Butte**	**80.18**	**15**	P	**P**	**15 02 58.4**	**-0.6**	
GLB				IAmb	IAmb	15 03 50.8		
	comp=Z,14nm,1.4s							
BARN	**Barnard Glacie**	**80.39**	**16**	P	**P**	**15 03 00.4**	**+0.1**	
BARN				IAmb	IAmb	15 03 52.4		
	comp=Z,18nm,1.5s							
TRF	**Thorofare Moun**	**80.60**	**11**	P	**P**	**15 03 00.6**	**-0.7**	
TRF				IAmb	IAmb	15 03 56.4		
	comp=Z,8.1nm,1.1s							
RND	**Reindeer**	**80.83**	**11**		**P**	**15 03 02.1**	**-0.3**	
RND				IAmb	IAmb	15 03 54.4		
	comp=Z,18nm,1.4s							
TCUT	**Toone Canyon**	**80.94**	**43**	P	**P**	**15 03 03.6**	**-0.2**	
MNTX	**Cornudas Mount**	**81.12**	**54**	P	**P**	**15 03 04.8**	**+0.2**	
BNM	**Barren Site**	**81.17**	**51**	P	**P**	**15 03 05.2**	**0.0**	
PV01	**Paradox Valley**	**81.49**	**47**	P	**P**	**15 03 07.1**	**+0.4**	
TXAR	**Lajitas Array**	**81.55**	**57**	P	**P**	**15 03 07.4**	**+0.3**	
	comp=Z,1.0nm,0.7s,baz=197,slow=1.3,SNR=9.3							
TXAR	**Lajitas Array**	**81.55**	**57**	P	**P**	**15 03 07.2**	**+0.2**	
ANMO	**Albuquerque**	**81.63**	**50**	P	**P**	**15 03 07.0**	**-0.5**	
ANMO				IAmb	IAmb	15 03 09.9		
	comp=Z,11nm,1.2s							
MCMT	**McKenzie Canyo**	**81.87**	**39**	P	**P**	**15 03 09.0**	**+0.5**	
WRH	**Wood River Hil**	**81.94**	**11**		**P**	**15 03 08.2**	**+0.1**	
BCAR	**Beaver Creek A**	**82.06**	**14**	P	**P**	**15 03 09.4**	**+0.5**	
HDA	**Harding Lake**	**82.10**	**12**	P	**P**	**15 03 09.6**	**+0.6**	
CCB	**Clear Creek Bu**	**82.15**	**11**	P	**P**	**15 03 09.4**	**+0.2**	
CCB				IAmb	IAmb	15 04 01.0		
	comp=Z,8.8nm,1.2s							
DLMT	**Dillon**	**82.30**	**39**	P	**P**	**15 03 11.2**	**+0.6**	
DLMT				IAmb	IAmb	15 03 12.8		
	comp=Z,7.4nm,1.1s							
SCRK	**Sand Creek**	**82.34**	**13**		**P**	**15 03 10.7**	**+0.3**	
FXWY	**Fox Creek**	**82.41**	**41**	P	**P**	**15 03 12.4**	**+1.0**	
FXWY				IAmb	IAmb	15 03 13.7		
	comp=Z,17nm,1.7s							
IL31		**82.44**	**12**		**P**	**15 03 10.4**	**-0.2**	
IL31				IAmb	IAmb	15 03 12.0		
	comp=Z,18nm,1.7s							
ILAR	**Eielson Array**	**82.44**	**12**	P	**P**	**15 03 10.6**	**-0.2**	
	comp=Z,1.0nm,0.6s,baz=225,slow=5.8,SNR=26							
ILAR				pP	**pP**	**15 04 00.8**	**+0.4**	
	comp=Z,5.2nm,1.3s,baz=216,slow=5.5,SNR=6.6							
ILAR	**Eielson Array**	**82.44**	**12**	P	**P**	**15 03 10.3**	**-0.5**	
S22A	**4UR Ranch, Cre**	**82.55**	**48**	P	**P**	**15 03 13.4**	**+1.1**	
S22A				IAmb	IAmb	15 03 14.9		
	comp=Z,8.4nm,1.0s							
IMW	**Indian Meadow**	**82.60**	**41**	P	**P**	**15 03 12.8**	**+0.4**	
IMW				IAmb	IAmb	15 03 14.7		
	comp=Z,6.1nm,0.9s							
O20A	**White River Ci**	**82.61**	**45**	P	**P**	**15 03 13.1**	**+0.7**	
O20A				IAmb	IAmb	15 03 14.0		
	comp=Z,19nm,1.6s							
FLWY	**Flagg Ranch**	**82.84**	**41**	P	**P**	**15 03 14.4**	**+0.9**	
FLWY				IAmb	IAmb	15 03 16.1		
	comp=Z,10nm,1.0s							
YHB	**Horse Butte**	**82.85**	**40**	P	**P**	**15 03 15.1**	**+1.5**	
PD31	**Pinedale Array**	**82.94**	**42**	P	**P**	**15 03 12.6**	**-1.6**	
PDAR	**Pinedale Array**	**82.94**	**42**	P	**P**	**15 03 14.2**	**+0.1**	
	comp=Z,2.7nm,0.7s,baz=200,slow=3.0,SNR=14							
PDAR	**Pinedale Array**	**82.94**	**42**	P	**P**	**15 03 12.8**	**-1.3**	
DAWY	**Dawson**	**83.49**	**15**		**P**	**15 03 16.5**	**+0.3**	
DAWY				IAmb	IAmb	15 03 18.1		
	comp=Z,7.5nm,1.1s							
EGAK	**Eagle**	**83.67**	**14**		**P**	**15 03 17.5**	**+0.5**	
BMAR	**Burnt Mountain**	**85.24**	**11**	P	**P**	**15 03 26.1**	**+1.2**	
TOLK	**Toolik Lake Re**	**85.48**	**9**		**P**	**15 03 26.1**	**+0.1**	
TOLK				IAmb	IAmb	15 04 19.4		
	comp=Z,16nm,1.6s							
MAW	**Mawson**	**87.63**	**199**	P	**P**	**15 03 37.0**	**+0.4**	
	comp=Z,8.0nm,0.7s,baz=136,slow=6.6,SNR=9.2							
MAW	**Mawson**	**87.63**	**199**	P	**P**	**15 03 36.7**	**+0.1**	
HHC	**Hu-ho-hao-te**	**87.89**	**313**	*e*P	**P**	**15 03 37.0**	**-1.4**	
HHC				pmax	pmax			
	comp=Z,17nm,0.8s							
HHC				pmax	pmax			
	comp=Z,87nm,7.1s							
YKA	**Yellowknife Ar**	**90.37**	**24**	P	**P**	**15 03 50.5**	**+1.2**	
	comp=Z,0.6nm,0.7s,baz=236,slow=4.5,SNR=5.9							
YKA				pP	**pP**	**15 04 40.8**	**+0.4**	
	comp=Z,0.3nm,0.7s,baz=226,slow=5.9,SNR=2.0							
CMAR	**Chiang Mai Arr**	**91.29**	**289**	P	**P**	**15 03 55.9**	**+1.2**	
	comp=Z,0.6nm,0.7s,baz=115,slow=4.1,SNR=3.0							
LZH	**Lanzhou**	**92.01**	**307**	*e*P	**P**	**15 03 56.6**	**-1.2**	
LZH				pP	pP	15 04 43.4	-5.5	
LZH				sP	sP	15 05 04.6	-5.9	
LZH				PP	**PP**	**15 07 41.8**	**+1.0**	
LZH				pmax	pmax			
	comp=Z,25nm,1.1s							
LZH				pmax	pmax			
	comp=Z,100nm,5.4s							
VNA2	**Neumayer--Watz**	**93.72**	**176**	P	**P**	**15 04 05.3**	**+0.4**	
	baz=180,slow=3.5							
MKAR	**Makanchi Array**	**109.71**	**315**	PKiKP	**PKiKP**	**15 09 17.2**	**-1.1**	
	comp=Z,0.7nm,0.6s,baz=134,slow=0.3,SNR=8.5							
ARCES	**ARCESS Array B**	**124.16**	**352**	PKP	**PKPdf**	**15 09 44.8**	**-0.6**	
	comp=Z,1.5nm,0.7s,baz=341,slow=3.0,SNR=6.7							
FINES	**FINESS Array B**	**131.39**	**347**	PKP	**PKPdf**	**15 09 59.8**	**+0.5**	
	comp=Z,0.8nm,0.7s,baz=114,slow=6.2,SNR=2.0							
CLL	**Collm**	**143.38**	**352**	*e*PKPdf	**PKPdf**	**15 10 23.0**	**+1.4**	
MORC	**Moravsky Berou**	**144.02**	**346**	*e*PKP	**PKPdf**	**15 10 22.2**	**-0.7**	
PRU	**Pruhonice**	**144.42**	**350**	*e*PKP	PKPbc	15 10 23.0	+0.5	
KMBO	**Kilima Mbogo**	**144.46**	**246**	PKP	**PKPdf**	**15 10 25.7**	**+0.7**	
	comp=Z,0.8nm,0.3s,baz=66,slow=8.2,SNR=5.4							
VRAC	**Vranov**	**144.67**	**347**	*e*PKP	**PKPdf**	**15 10 24.6**	**+0.6**	
JAVC	**Velka Javorina**	**144.85**	**346**	*e*PKP	**PKPdf**	**15 10 26.3**	**+1.9**	
VYHS	**Vyhne**	**144.90**	**344**	*e*PKP	**PKPdf**	**15 10 24.4**	**0.0**	
KRUC	**Moravsky**	**144.95**	**347**	*e*PKP	**PKPdf**	**15 10 25.1**	**+0.7**	
BRTR	**Keskin Array B**	**145.12**	**320**	PKPbc	**PKPbc**	**15 10 24.8**	**-0.4**	
	comp=Z,2.8nm,0.9s,baz=4.4,slow=0.8,SNR=8.7							
BRTR				pPKPbc	**pPKPdf**	**15 11 20.6**	**+1.7**	
	comp=Z,1.1nm,0.9s,baz=67,slow=4.2,SNR=2.3							
BRTR	**Keskin Array B**	**145.12**	**320**	PKPbc	**PKPbc**	**15 10 25.1**	**-0.1**	
KHC	**Kasperske Hory**	**145.41**	**350**	*e*PKP	**PKPdf**	**15 10 24.5**	**-0.8**	
GERES	**GERESS Array B**	**145.67**	**350**	PKPbc	**PKPdf**	**15 10 26.2**	**+0.3**	
	comp=Z,1.6nm,0.7s,baz=28,slow=3.2,SNR=13							
GERES	**GERESS Array B**	**145.67**	**350**		**PKPdf**	**15 10 25.4**	**-0.5**	
CONA	**Conrad Observa**	**146.13**	**347**	*i* PKPab	**PKPab**	**15 10 28.6**	**-0.4**	
	comp=Z,8.5nm,1.1s							
MOA	**Molln**	**146.53**	**349**	*i* PKPab	**PKPbc**	**15 10 29.1**	**+0.1**	
	comp=Z,6.3nm,1.2s							
ARSA	**Arzberg**	**146.85**	**347**	*e*PKPab	**PKPab**	**15 10 30.9**	**-0.8**	
	comp=Z,2.5nm,0.6s							
RETA	**Reutte**	**147.41**	**353**	*i* PKPab	**PKiKP**	**15 10 32.9**	**-0.7**	
	comp=Z,3.7nm,0.6s							
WATA	**Walderalm**	**147.46**	**352**	*i* PKPab	**PKiKP**	**15 10 32.9**	**-0.9**	
	comp=Z,4.1nm,0.6s							
SOKA	**Soboth**	**147.50**	**347**	*i* PKPbc	**PKPbc**	**15 10 30.9**	**-0.9**	
	comp=Z,5.6nm,1.3s							
MOTA	**Moosalm**	**147.51**	**353**	*i* PKPab	**PKiKP**	**15 10 33.0**	**-0.9**	
	comp=Z,7.3nm,1.1s							
WTTA	**Wattenberg**	**147.52**	**352**	*i* PKPbc	**PKPdf**	**15 10 30.5**	**+1.4**	
	comp=Z,6.2nm,0.6s							
SQTA	**Sankt Quirin**	**147.62**	**352**	*i* PKiKP	**PKiKP**	**15 10 33.3**	**-0.8**	
	comp=Z,3.5nm,0.7s							
DAVA	**Damuels**	**147.71**	**354**	*i* PKiKP	**PKiKP**	**15 10 33.6**	**-0.7**	
	comp=Z,3.1nm,0.5s							
FETA	**Feichten**	**147.88**	**353**	*i* PKiKP	**PKiKP**	**15 10 34.2**	**-0.4**	
	comp=Z,5.8nm,1.3s							
ABTA	**Abfaltersbach**	**147.90**	**351**	*i* PKPbc	**PKPbc**	**15 10 32.3**	**-0.6**	
	comp=Z,5.8nm,0.7s							
PDKS	**Podkum**	**148.09**	**347**	*e*PKPbc	**PKPbc**	**15 10 33.9**	**+0.5**	
BOJS	**Bojanci**	**148.57**	**346**	*e*PKPbc	**PKiKP**	**15 10 35.5**	**-0.3**	
BOJS				*i* pPKPbc	**pPKPab**	**15 11 28.2**	**-2.2**	
ESDC	**Sonseca Array**	**154.25**	**17**	PKPab	**PKPab**	**15 11 02.5**	**0.0**	
	comp=Z,0.7nm,0.7s,baz=329,slow=3.3,SNR=5.2							
TORD	**Torodi Ar. Bea**	**176.03**	**119**	PKP	**PKPdf**	**15 10 57.9**	**-0.4**	
	comp=Z,1.5nm,1.1s,baz=187,slow=2.3,SNR=3.4							

IDC ***11*** *14:56:17.3±1.6, 11°.45S×161°.74E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.6/28, mbtmp3.8/5, ML3.2/2, Error ellipse: s-maj=37.6km s-min=30.9km az=93.0*

NEIC ***11*** *14:56:21.3±0.8, 11°.5S±0°.1×161°.75E±0°.10, h28km±8km, mb4.6/5, Error ellipse: s-maj=22.3km s-min=6.8km az=214.0*

ISC 11 14:56:22.3±1.0, 11°.4S±0°.1×161°.8E±0°.1, h39km, n13, σ0s74/14, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.67**	**318**	Pn		**Pn**	**Pn**	**14 57 02.4**	**-0.4**
	3.0nm,0.3s,baz=172,slow=14,SNR=1.4								
HNR				Sn			**Sn**	**14 57 32.7**	**-1.2**
	36nm,0.3s,baz=126,slow=12,SNR=6.0								
HNR	**Honiara**	**2.67**	**318**			**Pn**	**Pn**	**14 57 02.6**	**-0.2**
SANVU	**Saraoutou**	**6.63**	**128**	Pn		Pn	**Pn**	**14 57 56.3**	**-1.0**
DZM	**Mont Dzumac**	**11.49**	**158**	Pn		Pn	**Pn**	**14 59 03.4**	**-0.5**
	0.2nm,0.3s,baz=282,slow=19,SNR=7.4								
WR0	**Warramunga Arr**	**27.51**	**249**	P		**P**	**P**	**15 02 05.3**	**-0.1**
WR0				IAmb		IAmb	IAmb	15 03 04.9	
	comp=Z,20nm,1.7s								
WB0	**Warramunga Arr**	**27.60**	**249**	P		**P**	**P**	**15 02 07.0**	**+0.8**
WB0				IAmb		IAmb	IAmb	15 02 12.0	
	comp=Z,27nm,1.8s								
WB2	**Warramunga Arr**	**27.68**	**249**	P		**P**	**P**	**15 02 07.2**	**+0.3**
WB2				IAmb		IAmb	IAmb	15 02 12.5	
	comp=Z,27nm,1.8s								
WRA	**Warramunga Arr**	**27.69**	**249**	P		**P**	**P**	**15 02 07.3**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=79,slow=9.6,SNR=4.2								
WRA	**Warramunga Arr**	**27.69**	**249**	P		**P**	**P**	**15 02 07.0**	**-0.1**
ASAR	**Alice Springs**	**29.15**	**242**	P		**P**	**P**	**15 02 20.0**	**0.0**
	comp=Z,0.7nm,0.8s,baz=68,slow=9.7,SNR=2.8								
KNRA	**Kununurra**	**32.34**	**259**	P		**P**	**P**	**15 02 49.0**	**+0.9**
ILAR	**Eielson Array**	**85.15**	**20**	P		**P**	**P**	**15 08 55.1**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=231,slow=5.7,SNR=4.4								
MKAR	**Makanchi Array**	**91.14**	**317**	P		**P**	**P**	**15 09 23.7**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=92,slow=5.7,SNR=3.9								

BJI ***11*** *15:07:30.0±0.0, 23°.33N×94°.24E, h43km, mB4.5/17, mb4.3/22, ML3.8/5, Ms3.7/7, Ms7 3.4/8*

NEIC ***11*** *15:07:31.7±1.2, 23°.30N±0°.03×94°.31E±0°.09, h46km±10km, mb4.2/11, Error ellipse: s-maj=12.2km s-min=3.8km az=94.0*

NDI ***11*** *15:07:32.9±1.0, 23°.28N×94°.15E, h35km±37km, ML3.7, mb4.2(NEIC)*

IDC ***11*** *15:07:32.7±2.2, 23°.27N×94°.34E, h53km±24km, mb3.4/12, mb1 3.6/14, mb1mx3.4/44, mbtmp3.7/14, ML3.7/2, MS3.2/2, Ms1 3.2/2, ms1mx2.6/28, Error ellipse: s-maj=20.9km s-min=10.8km az=31.0*

ISC 11 15:07:31.2±0.5, 23°.33N±0°.06×94°.15E±0°.05, h35km, n67, σ2s34/73, mb3.9/19, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**2.40**	**255**	P		P	**Pn**	**15 08 10.8**	**+2.9**
	17nm,0.3s,baz=106,slow=23,SNR=1.4								
BRDH				S			**Sn**	**15 08 42.4**	**+6.3**
	56nm,0.3s,baz=111,slow=24,SNR=5.9								
SHL	**Shillong**	**3.04**	**318**	*e*P		**P**	**Pn**	**15 08 19.3**	**+2.4**
SHL				*e*S			**Sn**	**15 08 54.2**	**+2.1**
SHL	**Shillong**	**3.04**	**318**	Pn		Pn	**Pn**	**15 08 18.6**	**+1.7**
ZIRO	**ZIRO**	**4.19**	**356**	*e*P		**P**	**Pn**	**15 08 34.9**	**+2.1**
ZIRO				*e*S			**Sn**	**15 09 14.5**	**-6.1**
ZIRO				IAML				15 09 33.6	
	comp=E,519nm,0.6s								
LKP	**Lekhapani**	**4.27**	**21**	*e*P		**P**	**Pn**	**15 08 36.0**	**+2.2**
LKP				*e*P		**P**	**Pn**	**15 08 38.1**	**+4.3**
LKP				IAML				15 09 31.5	
	comp=E,145nm,0.1s								
LKP				IAML				15 09 46.0	
	comp=N,162nm,1.1s								
MHMT	**Maesarieng**	**6.23**	**145**	P		**P**	**Pn**	**15 09 04.0**	**+3.3**
CHTO	**Chiang Mai**	**6.34**	**134**	Pn		Pn	Pn	15 08 60.0	-2.3
CMMT	**Chiang Mai**	**6.35**	**134**	P		**P**	**Pn**	**15 09 01.3**	**-1.0**
GTK	**Tadong**	**6.40**	**310**	*e*P		**P**	**Pn**	**15 09 05.1**	**+2.0**
GTK				*e*S			**Sn**	**15 10 11.4**	**-3.6**
CM34	**Chiang Mai Arr**	**6.46**	**133**	P		**P**	**Pn**	**15 09 07.2**	**+3.4**
CM34				S			Sn	15 10 40.2	+24
CRAI	**Chiangrai**	**6.56**	**117**	P		**P**	**Pn**	**15 09 06.2**	**+1.0**
CM31	**Chiang Mai Arr**	**6.60**	**136**	P		Pn	Pn	15 09 03.2	-2.6
CM31	**Chiang Mai Arr**	**6.60**	**136**				Pn	15 09 03.4	-2.4
CMAR	**Chiang Mai Arr**	**6.60**	**136**	P		**P**	**Pn**	**15 09 04.4**	**-1.4**
	comp=N,0.4nm,0.3s,baz=312,slow=13,SNR=9.0								
CMAR				S			**Sn**	**15 10 17.8**	**-2.1**
	baz=359,slow=17,SNR=2.4								
PAYA	**Payao**	**6.64**	**125**	P		P	Pn	15 09 22.6	+16
PAYA				S			Sn	15 10 56.1	+35
LSA	**Lhasa**	**6.89**	**338**	P		**P**	**Pn**	**15 09 12.6**	**+2.5**
LSA				LR		LR			
	comp=N,360nm,6.4s								
LSA				LR		LR			
	comp=N,450nm,5.7s								
LSA				LR		LR			
	comp=N,440nm,7.1s								
LSA	**Lhasa**	**6.89**	**338**	Pn		**Pn**	**Pn**	**15 09 12.1**	**+2.0**
LAMP	**Lampang**	**7.01**	**132**	P		Pn	**Pn**	15 09 21.9	+10
ODAN	**Odare**	**7.06**	**301**	*e*Pn		**Pn**	**Pn**	**15 09 13.0**	**+0.7**
ODAN				*e*Sn			**Sn**	**15 10 30.6**	**-0.9**
	comp=N,225nm,0.3s								
TAPN	**Taplejung**	**7.07**	**306**	*e*Pn		**Pn**	**Pn**	**15 09 13.8**	**+1.4**
TAPN				*e*Sn			**Sn**	**15 10 32.4**	**+0.8**
	comp=N,131nm,0.5s								
BOK	**Bokaro**	**7.59**	**275**	*e*P		**P**	**Pn**	**15 09 20.7**	**+1.4**
BOK				*e*P		**P**	**Pn**	**15 09 20.8**	**+1.4**
BOK				IAmb		IAmb	IAmb	15 09 21.6	
	comp=Z,121nm,0.2s								
NANT	**Nan**	**7.60**	**125**	P		**P**	**Pn**	**15 09 18.6**	**-0.9**
RAMN	**Ramite**	**7.73**	**299**	*e*Pn		**Pn**	**Pn**	**15 09 22.2**	**+0.7**
RAMN				*e*Sn			**Sn**	**15 10 45.8**	**-2.1**
	comp=Z,68nm,0.3s								
KMI	**Kunming**	**8.05**	**75**	P		Pn	Pn	15 09 37.4	+12
KMI				sP				15 10 00.7	
KMI				pmax		pmax			
	comp=Z,9.0nm,0.5s								
KMI				pmax		pmax			
	comp=Z,94nm,4.0s								
KMI				LR		LR			
	comp=N,310nm,9.6s								
KMI				LR		LR			
	comp=E,190nm,7.7s								
KMI				LR		LR			
	comp=Z,210nm,9.2s								
UMPA	**Umpang Tak**	**8.36**	**147**	P		**P**	**Pn**	**15 09 29.7**	**-0.3**
JIRN	**Jiri**	**8.38**	**303**	*e*Pn		**Pn**	**Pn**	**15 09 31.4**	**+0.9**
JIRN				*e*Sn			**Sn**	**15 11 02.2**	**-1.9**
	comp=Z,248nm,0.3s								
GUN	**Gumba**	**8.74**	**303**	*e*Pn		**Pn**	**Pn**	**15 09 36.5**	**+1.0**
GUN				*e*Sn			**Sn**	**15 11 10.6**	**-2.4**
	comp=Z,102nm,0.4s								
PKI	**Pulchoki**	**8.95**	**300**	*e*Pn		**Pn**	**Pn**	**15 09 38.6**	**+0.3**
PKI				*e*Sn			**Sn**	**15 11 15.3**	**-2.8**
	comp=Z,23nm,0.3s								
PKIN	**Phulchoki**	**8.97**	**300**	*e*Pn		**Pn**	**Pn**	**15 09 38.6**	**+0.2**
PKIN				*e*Sn			**Sn**	**15 11 15.2**	**-3.2**
	comp=Z,74nm,0.4s								
KKN	**Kakani**	**9.15**	**301**	*e*Pn		**Pn**	**Pn**	**15 09 41.8**	**+0.8**
DMN	**Daman**	**9.21**	**299**	*e*Pn		**Pn**	**Pn**	**15 09 42.2**	**+0.4**
DMN				*e*Sn			**Sn**	**15 11 20.4**	**-4.0**
	comp=Z,53nm,0.5s								
SLVN	**Son La**	**9.25**	**101**	Pn		Pn	Pn	15 09 40.5	-1.7
GKN	**Gorkha**	**9.76**	**300**	*e*Pn		**Pn**	**Pn**	**15 09 48.8**	**-0.4**
NONG	**Nongkai**	**9.92**	**120**	P		Pn	Pn	15 09 42.8	-8.5
KOLN	**Koldanda**	**10.50**	**297**	*e*Pn		**Pn**	**Pn**	**15 09 58.6**	**-0.8**
KOLN				*e*Sn			**Sn**	**15 11 50.2**	**-5.7**
	comp=Z,67nm,0.3s								
DANN	**Dangsing**	**10.60**	**300**	*e*Pn		**Pn**	**Pn**	**15 10 00.6**	**-0.3**
DANN				*e*Sn			**Sn**	**15 11 53.6**	**-5.0**
	comp=Z,73nm,0.5s								
PBA	**Port Blair**	**11.69**	**187**	Pn		Pn	Pn	15 10 16.2	+0.7
LZH	**Lanzhou**	**15.24**	**31**	*e*P		**Pn**	**Pn**	**15 11 04.1**	**+0.2**
LZH				pP		P	P	15 11 11.4	+3.0
LZH				sP		pP	P	15 11 19.4	+1.7
LZH				pmax		pmax			
	comp=Z,23nm,1.1s								
LZH				pmax		pmax			
	comp=Z,83nm,4.3s								
ENH	**Enshi**	**15.34**	**60**				**Pn**	**15 11 07.5**	**+2.4**
ENH				IAmb		IAmb	IAmb	15 11 24.5	
	comp=Z,14nm,0.9s								
XAN	**Xi'an**	**16.77**	**47**	P		Pn	**Pn**	**15 11 22.5**	**-0.9**
RPSI	**Rantau Prapat**	**21.03**	**167**	P		P	**P**	**15 12 12.8**	**+0.8**
RPSI				IAmb		IAmb	IAmb	15 12 14.7	
	comp=Z,7.4nm,0.9s								
WMQ	**Urumqi**	**21.12**	**347**	*e*P		**P**	**P**	**15 12 15.2**	**+2.3**
HHC	**Hu-ho-hao-te**	**22.80**	**36**	*e*P		**P**	**P**	**15 12 34.8**	**+3.9**
HHC				pmax		pmax			
	comp=Z,13nm,0.8s								
HHC				pmax		pmax			
	comp=Z,26nm,8.7s								
NJ2	**Nanjing**	**23.50**	**63**	*e*P		**P**	**P**	**15 12 35.4**	**-2.5**
NJ2				pmax		pmax			
	comp=Z,15nm,0.5s								
AAK	**Ala-Archa**	**25.24**	**324**	P		**P**	**P**	**15 12 56.0**	**+1.9**
	comp=Z,1.1nm,0.5s,baz=153,slow=6.8,SNR=1.7								
MK31	**Makanchi Array**	**25.29**	**341**	P		**P**	**P**	**15 12 54.9**	**+0.7**
MK31				IAmb		IAmb	IAmb	15 13 15.6	
	comp=Z,2.9nm,1.0s								
MKAR	**Makanchi Array**	**25.29**	**341**	P		**P**	**P**	**15 12 55.4**	**+1.2**
	comp=Z,2.2nm,0.6s,baz=150,slow=9.7,SNR=18								
GAR	**Garm**	**25.58**	**313**	P		**P**	**P**	**15 12 58.0**	**+0.9**
GAR				IAmb		IAmb	IAmb	15 13 17.0	
	comp=Z,19nm,1.0s								
SONM	**Songino Array**	**26.34**	**19**	P		**P**	**P**	**15 13 05.1**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=195,slow=10,SNR=2.5								
YOJ	**Yonaguni jima**	**26.40**	**82**	P		**P**	**P**	**15 13 03.5**	**-1.0**
ZALV	**Zalesovo Beam**	**31.38**	**349**	P		**P**	**P**	**15 13 48.6**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=165,slow=7.0,SNR=2.8								
KSRS	**Korea Array**	**32.17**	**56**	P		**P**	**P**	**15 13 53.4**	**-2.2**
	comp=Z,0.5nm,0.8s,baz=258,slow=9.8,SNR=2.0								
MJAR	**Matsushiro Arr**	**40.06**	**60**	LR		LR	LR	15 34 06.8	
	comp=Z,21nm,18.1s,baz=220,slow=40								
KIRV	**Kirov**	**47.35**	**330**	LR		LR	LR	15 38 20.3	
	comp=Z,34nm,18.8s,baz=332,slow=39

	comp=N,1350μm,0.3s								
PIEI					AML	AML			
	comp=E,1290μm,0.3s								
FRON	**Frontone**	**0.24**	**33**		P	Pg	15 14 19.0	+0.6	
FRON					AML	AML			
	comp=E,1405μm,0.3s								
FRON					AML	AML			
	comp=N,1985μm,1.1s								
APEC	**Apecchio**	**0.26**	**340**		P	Pb	15 14 19.8	-0.5	
APEC					AML	AML			
	comp=N,1380μm,0.4s								
APEC					AML	AML			
	comp=E,1590μm,0.8s								
ASSB	**Assisi San Ben**	**0.28**	**162**		P	Pg	15 14 19.6	+0.5	
ASSB					S	Sb	15 14 24.6	-1.0	
ASSB					AML	AML			
	comp=E,1510μm,0.3s								
ASSB					AML	AML			
	comp=N,1875μm,0.4s								
BADI	**Badiali**	**0.29**	**312**		P	Pg	15 14 20.0	+0.7	
BADI					AML	AML			
	comp=N,2435μm,0.4s								
BADI					AML	AML			
	comp=E,2845μm,0.3s								
BADI					AML	AML			
	comp=N,2440μm,0.4s								
NARO	**Abbazia di Nar**	**0.30**	**6**		P	Pg	15 14 20.0	+0.7	
NARO					AML	AML			
	comp=E,406μm,1.5s								
NARO					AML	AML			
	comp=N,437μm,0.7s								
NARO					AML	AML			
	comp=N,438μm,0.7s								
NARO					AML	AML			
	comp=E,407μm,1.5s								
SNTG	**Esanatoglia**	**0.30**	**101**		P	Pg	15 14 20.0	+0.7	
SNTG					AML	AML			
	comp=E,1465μm,0.5s								
SNTG					AML	AML			
	comp=N,2135μm,0.5s								
ARVD	**Arcevia**	**0.34**	**58**		P	Pb	15 14 21.0	-0.7	
ARVD					AML	AML			
	comp=E,906μm,0.7s								
ARVD					AML	AML			
	comp=N,586μm,1.1s								
MPAG	**Monte Paganucc**	**0.35**	**27**		P	Pg	15 14 21.1	+0.6	
MPAG					AML	AML			
	comp=E,402μm,0.9s								
MPAG					AML	AML			
	comp=E,402μm,0.9s								
MPAG					AML	AML			
	comp=N,643μm,0.8s								
MPAG	**Monte Paganucc**	**0.35**	**27**		P	Pb	15 14 21.3	-0.6	
MPAG					AML	AML			
	comp=E,468μm,1.5s								
MPAG					AML	AML			
	comp=N,632μm,0.8s								
MPAG					AML	AML			
	comp=E,402μm,0.9s								
MPAG					AML	AML			
	comp=N,642μm,0.8s								
MPAG					AML	AML			
	comp=E,402μm,0.9s								
MPAG					AML	AML			
	comp=N,643μm,0.8s								
MPAG					AML	AML			
	comp=N,643μm,0.8s								
MPAG					AML	AML			
	comp=E,402μm,0.9s								
MPAG					AML	AML			
	comp=N,643μm,0.8s								
MPAG					AML	AML			
	comp=E,402μm,0.9s								
PE3	**Peglio**	**0.38**	**355**		P	Pb	15 14 22.6	+0.2	
PE3					AML	AML			
	comp=E,1240μm,0.5s								
PE3					AML	AML			
	comp=N,972μm,0.3s								
PE3					AML	AML			
	comp=N,972μm,0.3s								
PARC	**Parchiule**	**0.40**	**327**		P	Pb	15 14 22.1	-0.6	
PARC					AML	AML			
	comp=E,674μm,0.5s								
PARC					AML	AML			
	comp=N,1330μm,0.3s								
CESI	**CESI - Serrava**	**0.41**	**139**		P	Pg	15 14 21.8	+0.4	
CESI					AML	AML			
	comp=N,374μm,1.2s								
CESI					AML	AML			
	comp=E,186μm,0.3s								
EL6	**Elcito**	**0.41**	**88**		P	Pg	15 14 22.1	+0.6	
CAFI	**Castiglion Fio**	**0.42**	**272**		P	Pb	15 14 22.3	-0.7	
CAFI					AML	AML			
	comp=E,336μm,0.2s								
CAFI					AML	AML			
	comp=N,394μm,1.1s								
MGAB	**Montegabbione**	**0.51**	**218**		P	Pb	15 14 23.9	-0.6	
MGAB					AML	AML			
	comp=E,1865μm,0.4s								
MGAB					AML	AML			
	comp=E,1675μm,0.4s								
MGAB					AML	AML			
	comp=N,2080μm,0.6s								
MGAB					AML	AML			
	comp=N,2115μm,0.2s								
MOMA	**Monte Martano**	**0.51**	**178**		P	Pg	15 14 23.8	+0.4	
MOMA					AML	AML			
	comp=E,703μm,0.3s								
MOMA					AML	AML			
	comp=N,666μm,0.3s								
MOMA					AML	AML			
	comp=E,702μm,0.3s								
CRE	**Caprese Michel**	**0.53**	**306**		P	Pg	15 14 24.1	+0.4	
CRE					AML	AML			
	comp=N,514μm,0.2s								
CRE					AML	AML			
	comp=E,496μm,0.4s								
CRE	**Caprese Michel**	**0.53**	**306**		P	Pg	15 14 24.1	+0.4	
CRE					AML	AML			
	comp=E,496μm,0.4s								
CRE					AML	AML			
	comp=N,514μm,0.2s								
CRE					AML	AML			
	comp=E,496μm,0.4s								
CRE					AML	AML			
	comp=N,514μm,0.2s								
CRE					AML	AML			
	comp=N,514μm,0.2s								
CRE					AML	AML			
	comp=E,496μm,0.4s								
CRE					AML	AML			
	comp=N,514μm,0.2s								
CRE					AML	AML			
	comp=E,496μm,0.4s								
CSP1	**Cessapalombo**	**0.53**	**114**		P	Pg	15 14 24.3	+0.5	
CSP1					AML	AML			
	comp=E,426μm,1.1s								
CSP1					AML	AML			
	comp=N,745μm,1.0s								
SACS	**San Casciano d**	**0.66**	**225**		P	Pg	15 14 26.4	+0.3	
SACS					AML	AML			
	comp=N,588μm,0.6s								
SACS					AML	AML			
	comp=E,346μm,1.1s								
SACS					AML	AML			
	comp=N,618μm,0.6s								
SACS					AML	AML			
	comp=N,588μm,0.6s								
SACS					AML	AML			
	comp=E,346μm,1.1s								
LNSS	**Leonessa**	**0.80**	**153**		P	Pg	15 14 28.9	+0.1	
LNSS					AML	AML			
	comp=E,341μm,0.3s								
LNSS					AML	AML			
	comp=E,340μm,0.3s								
LNSS					AML	AML			
	comp=N,558μm,0.3s								
GUMA	**Gualdo di Mace**	**1.05**	**103**		P	Pg	15 14 26.5	-7.1	
GUMA					AML	AML			
	comp=E,1123μm,0.5s								
GUMA					AML	AML			
	comp=N,809μm,0.5s								
GUMA					AML	AML			
	comp=E,1120μm,0.5s								
GUMA					AML	AML			
	comp=N,810μm,0.5s								
GUMA					AML	AML			
	comp=E,1145μm,0.4s								
GUMA					AML	AML			
	comp=N,770μm,0.4s								
IMOL	**Imola, Italy**	**1.19**	**331**		S	Sg	15 14 52.0	+0.1	
LPEL	**Lama dei Pelig**	**1.75**	**136**		P	Pb	15 14 45.3	-0.4	

*LDG **11** 15:14:14.9±0.2, 43°.28N×12°.60E, h10km, MI1.9/2, Error ellipse: s-maj=4.5km s-min=3.4km az=6.0*
ROM 11 15:14:16.1±0.1, 43°.319N±0°.003×12°.546E±0°.004, h9km, ML2.6/24, Error ellipse: s-maj=0.3km s-min=0.2km az=57.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATFO	**Monte Foce - G**	**0.05**	**21**	P	Pg	15 14 18.4	+0.3
ATFO				S	Sg	15 14 19.8	+0.2
ATFO				AML	AML		
	comp=E,22300μm,0.2s						
ATFO				AML	AML		
	comp=N,14400μm,0.5s						
MURB	**Monte Urbino**	**0.06**	**196**	P	Pg	15 14 18.2	+0.1
MURB				S	Sg	15 14 19.7	+0.1
MURB				AML	AML		
	comp=E,26600μm,1.5s						
MURB				AML	AML		
	comp=N,41950μm,0.2s						
MURB				AML	AML		
	comp=E,26650μm,1.5s						
MURB				AML	AML		
	comp=N,42000μm,0.3s						
MURB				AML	AML		
	comp=E,26600μm,1.5s						
MURB				AML	AML		
	comp=E,30600μm,0.3s						
MURB				AML	AML		
	comp=N,47050μm,0.3s						
MURB				AML	AML		
	comp=N,42000μm,0.2s						
MURB				AML	AML		
	comp=E,30600μm,0.3s						
MURB				AML	AML		
	comp=E,26600μm,1.5s						
MURB				AML	AML		
	comp=N,47050μm,0.3s						
ATVO	**AVT- Monte Val**	**0.12**	**302**	P	Pg	15 14 18.9	-0.1
ATVO				S	Sg	15 14 21.7	+0.8
ATVO				AML	AML		
	comp=N,15100μm,0.3s						
ATVO				AML	AML		
	comp=E,10900μm,0.4s						
ATVO	**AVT- Monte Val**	**0.12**	**302**	S	Pg	15 14 19.0	0.0
ATCC	**AVT- Casa Cast**	**0.15**	**153**	P	Pg	15 14 20.1	+0.7
ATCC				S	Sg	15 14 23.2	+1.5
ATCC				AML	AML		
	comp=E,7185μm,0.6s						
ATCC				AML	AML		
	comp=N,8590μm,0.2s						
ATCC				AML	AML		
	comp=N,8605μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.15**	**153**	S	Pg	15 14 20.5	+1.1
FOSV	**Fossato di Vic**	**0.16**	**99**	P	Pg	15 14 19.7	+0.2
FOSV				S	Sg	15 14 23.2	+1.3
FOSV				AML	AML		
	comp=N,2440μm,0.5s						
FOSV				AML	AML		
	comp=E,2800μm,0.3s						
FOSV				AML	AML		
	comp=N,2435μm,0.5s						
ATPI	**Pietralunga -**	**0.17**	**321**	P	Pg	15 14 20.2	+0.5
ATPI				S	Sg	15 14 23.5	+1.2
ATPI				AML	AML		
	comp=N,3130μm,0.3s						
ATPI				AML	AML		
	comp=E,3160μm,0.3s						
ATPI				AML	AML		
	comp=N,3135μm,0.3s						
ATTE	**AVT- Monte Tez**	**0.19**	**229**	P	Pg	15 14 20.4	+0.4
ATTE				S	Sg	15 14 24.5	+1.8
ATTE				AML	AML		
	comp=N,2145μm,1.5s						
ATTE				AML	AML		
	comp=E,2325μm,0.8s						
ATMI	**Monte Miggiano**	**0.20**	**274**	AML	AML		
	comp=E,3530μm,0.6s						
ATMI				AML	AML		
	comp=N,3795μm,1.0s						
SSFR	**Montelago di S**	**0.21**	**56**	P	Pg	15 14 21.1	+0.7
SSFR				S	Sg	15 14 25.0	+1.6
SSFR				AML	AML		
	comp=E,8395μm,0.2s						
SSFR				AML	AML		
	comp=N,5015μm,0.2s						
SSFR				AML	AML		
	comp=E,8400μm,0.2s						
SSFR				AML	AML		
	comp=N,5050μm,0.8s						
SSFR				AML	AML		
	comp=E,9215μm,0.2s						
PIEI	**Pieia**	**0.22**	**358**	AML	AML		
	comp=E,1290μm,0.3s						
PIEI				AML	AML		
	comp=N,1350μm,0.3s						
FRON	**Frontone**	**0.24**	**33**	P	Pg	15 14 21.3	+0.3
FRON				S	Sg	15 14 26.0	+1.7
FRON				AML	AML		
	comp=E,1405μm,0.3s						
FRON				AML	AML		
	comp=N,1980μm,1.1s						
FRON				AML	AML		
	comp=N,1985μm,1.1s						
APEC	**Apecchio**	**0.26**	**339**	P	Pg	15 14 22.0	+0.7
APEC				AML	AML		
	comp=E,1590μm,0.8s						
APEC				AML	AML		
	comp=N,1380μm,0.4s						
ASSB	**Assisi San Ben**	**0.29**	**163**	P	Pg	15 14 22.4	+0.5
ASSB				S	Sb	15 14 27.3	-1.2
ASSB				AML	AML		
	comp=E,1510μm,0.3s						
ASSB				AML	AML		
	comp=N,1875μm,0.4s						
BADI	**Badiali**	**0.29**	**311**	AML	AML		
	comp=N,2435μm,0.4s						
BADI				AML	AML		
	comp=E,2845μm,0.3s						
BADI				AML	AML		
	comp=N,2440μm,0.4s						
NARO	**Abbazia di Nar**	**0.29**	**5**	P	Pb	15 14 23.0	-0.6
NARO				AML	AML		
	comp=E,406μm,1.5s						
NARO				AML	AML		
	comp=N,438μm,0.7s						
NARO				AML	AML		
	comp=E,407μm,1.5s						
SNTG	**Esanatoglia**	**0.29**	**102**	P	Pg	15 14 22.8	+0.8
SNTG				S	Sb	15 14 27.8	-0.8
SNTG				AML	AML		
	comp=E,1465μm,0.5s						
SNTG				AML	AML		
	comp=N,2135μm,0.5s						
ARVD	**Arcevia**	**0.34**	**58**	AML	AML		
	comp=E,906μm,0.7s						
ARVD				AML	AML		
	comp=N,586μm,1.1s						
PE3	**Peglio**	**0.38**	**354**	P	Pb	15 14 24.7	-0.4
PE3				AML	AML		
	comp=N,974μm,0.3s						
PE3				AML	AML		
	comp=E,1240μm,0.5s						
PE3				AML	AML		
	comp=N,972μm,0.3s						
PARC	**Parchiule**	**0.40**	**326**	P	Pb	15 14 24.9	-0.5
PARC				AML	AML		
	comp=E,674μm,0.5s						
PARC				AML	AML		
	comp=N,1330μm,0.3s						
EL6	**Elcito**	**0.41**	**88**	AML	AML		
	comp=E,1578μm,0.5s						
EL6				AML	AML		
	comp=N,2475μm,0.5s						
CESI	**CESI - Serrava**	**0.41**	**140**	AML	AML		
	comp=E,186μm,0.3s						
CESI				AML	AML		
	comp=N,374μm,1.2s						
CAFI	**Castiglion Fio**	**0.42**	**272**	P	Pg	15 14 25.0	+0.6
CAFI				AML	AML		
	comp=E,336μm,0.2s						
CAFI				AML	AML		
	comp=E,336μm,0.2s						
CAFI				AML	AML		
	comp=N,394μm,1.1s						
MOMA	**Monte Martano**	**0.52**	**178**	AML	AML		
	comp=E,703μm,0.3s						
MOMA				AML	AML		
	comp=N,666μm,0.3s						
MOMA				AML	AML		
	comp=E,702μm,0.3s						
MGAB	**Montegabbione**	**0.52**	**218**	P	Pg	15 14 26.6	+0.5
MGAB				AML	AML		
	comp=N,2080μm,0.6s						
MGAB				AML	AML		
	comp=E,1865μm,0.4s						
MGAB				AML	AML		
	comp=E,1675μm,0.4s						
MGAB				AML	AML		
	comp=N,2115μm,0.2s						
CSP1	**Cessapalombo**	**0.53**	**115**	P	Pg	15 14 27.1	+0.6
SACS	**San Casciano d**	**0.66**	**225**	P	Pb	15 14 29.5	-0.5
SACS				AML	AML		
	comp=E,346μm,1.1s						
SACS				AML	AML		
	comp=N,588μm,0.6s						
SACS				AML	AML		
	comp=E,346μm,1.1s						
SACS				AML	AML		
	comp=E,346μm,1.1s						
SACS				AML	AML		
	comp=N,588μm,0.6s						
SACS				AML	AML		
	comp=N,618μm,0.6s						
LNSS	**Leonessa**	**0.80**	**153**	AML	AML		
	comp=E,340μm,0.3s						
LNSS				AML	AML		
	comp=N,558μm,0.3s						
LNSS				AML	AML		
	comp=N,558μm,0.3s						
GUMA	**Gualdo di Mace**	**1.05**	**104**	AML	AML		
	comp=E,1120μm,0.5s						
GUMA				AML	AML		
	comp=E,1123μm,0.5s						
GUMA				AML	AML		
	comp=N,809μm,0.5s						
GUMA				AML	AML		
	comp=N,810μm,0.5s						
GUMA				AML	AML		
	comp=N,770μm,0.4s						
GUMA				AML	AML		
	comp=E,1145μm,0.4s						
BRJN	**Brijuni**	**1.81**	**28**	*e*Pn	Pn	15 14 46.8	-0.7
BRJN					Sn	15 15 14.0	-0.3
DUGI	**Dugi Otok**	**1.94**	**69**	*e*Pn	Pn	15 14 49.7	+0.4
DUGI					Sn	15 15 15.6	-0.5
NVLJ	**Novalja**	**2.09**	**53**	*e*Pn	Pn	15 14 52.6	+1.3
NVLJ					Sn	15 15 20.4	+0.1
ZIRJ	**Zirje**	**2.28**	**80**	*e*Pn	Pn	15 14 52.7	-1.2
ZIRJ					Sn	15 15 22.8	+0.7
MORI	**Morici**	**2.36**	**76**	*e*Pn	Pn	15 14 54.8	-0.3
MORI					Sn	15 15 26.7	-1.3
RIY	**Rijeka**	**2.44**	**34**	Sn	Sb	15 15 30.2	-0.1
UDBI	**Udbina**	**2.62**	**61**	*e*Pn	Pn	15 14 58.5	-0.2
UDBI					Sn	15 15 33.9	-1.7
PGF	**Pioggiola**	**2.72**	**255**	*e*Pn	Pn	15 14 57.8	-2.3
PGF	**Pioggiola**	**2.72**	**255**	*e*P	Pn	15 15 00.5	+0.4
PGF				*e*Sn	Sn	15 15 29.0	-4.1
	comp=E,0.9nm,0.3s						
HVAR	**Hvar**	**2.85**	**92**	*e*Pn	Pn	15 15 01.0	-0.8
SBF	**Sospel**	**3.75**	**280**	*e*Pn	Pn	15 15 12.0	-2.3
SBF	**Sospel**	**3.75**	**280**	*e*P	Pn	15 15 15.4	+1.1
STON	**Ston**	**3.80**	**95**	*e*Pn	Pn	15 15 14.8	-0.1
STON					Sn	15 15 59.0	-0.7
DBRK	**Dubrovnik**	**4.16**	**97**	*e*Pn	Pn	15 15 18.8	-1.0
MBDF	**Montbardon**	**4.40**	**291**	*e*Pn	Pn	15 15 21.3	-1.9

IDC 11 15:40:35.2±3.8, 0°.45N×99°.51E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.4/32, mbtmp3.5/5, Error ellipse: s-maj=167.7km s-min=23.5km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**39.68**	**123**	P	P	15 48 09.4	-0.1
	0.4nm,0.9s,baz=304,slow=9.0,SNR=1.5						
ASAR	**Alice Springs**	**41.11**	**128**	P	P	15 48 21.1	-0.1
	0.3nm,0.8s,baz=296,slow=8.1,SNR=5.1						
SONM	**Songino Array**	**47.58**	**6**	P	P	15 49 13.1	+0.3
	0.5nm,0.5s,baz=195,slow=10,SNR=2.3						
MKAR	**Makanchi Array**	**48.56**	**344**	P	P	15 49 20.4	+0.1
	0.5nm,0.4s,baz=161,slow=8.2,SNR=9.1						
ZALV	**Zalesovo Beam**	**54.69**	**349**	P	P	15 50 05.4	-0.6
	0.4nm,0.3s,baz=152,slow=6.8,SNR=4.0						

WEL 11 15:46:38.5, 40°.S±1°×17°.4E±°, h93km±3km, M3.0/22, ML3.5/6, MLv3.0/22, Error ellipse: s-maj=0.0km s-min=0.0km az=63.2, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.64**	**202**	P	Pn	15 46 55.4	+0.6
DUWZ				S	Sn	15 47 07.4	+0.4
WAZ	**Wanganui**	**0.73**	**52**	P	Pn	15 46 55.9	+0.4
WAZ				S	Sn	15 47 09.0	+0.7
LREZ	**Lake Rotokare**	**0.76**	**10**	P	Pn	15 46 56.2	+0.4
LREZ				S	Sn	15 47 09.9	+1.1
OHWZ	**Ohakea**	**0.82**	**90**	P	Pn	15 46 57.3	+0.8
KIW	**Kapiti Island**	**0.83**	**142**	P	Pn	15 46 57.1	+0.5
KIW				S	Sn	15 47 09.3	-0.9
NMEZ	**Namu Road**	**0.84**	**341**	P	Pn	15 46 56.7	0.0
NMEZ				S	Sn	15 47 10.2	0.0
PREZ	**Palmer Road**	**0.86**	**356**	P	Pn	15 46 57.0	0.0
PREZ				S	Sn	15 47 09.6	-1.2
NEZ	**North Egmont**	**0.94**	**353**	P	Pn	15 46 58.2	+0.4
NEZ				S	Sn	15 47 11.0	-1.3
DREZ	**Durham Road**	**1.02**	**358**	P	Pn	15 46 58.8	+0.2
DREZ				S	Sn	15 47 13.6	-0.1
CAW	**Cannon Point**	**1.10**	**145**	P	Pn	15 46 59.7	+0.2
CAW				S	Sn	15 47 15.4	0.0
MHEZ	**Mangahewa**	**1.13**	**3**	P	Pn	15 47 00.2	+0.3
MHEZ				S	Sn	15 47 16.4	+0.4
VRZ	**Vera Road**	**1.15**	**21**	P	Pn	15 47 00.2	0.0
VRZ				S	Sn	15 47 16.1	-0.4
NNZ	**Nelson**	**1.20**	**213**	P	Pn	15 47 01.7	+1.0
NNZ				S	Sn	15 47 18.7	+1.2
TUWZ	**Tuamarina**	**1.24**	**190**	P	Pn	15 47 01.8	+0.6
TUWZ				S	Sn	15 47 19.0	+0.7
PKVZ	**Pokaka**	**1.25**	**43**	P	Pn	15 47 01.7	+0.3
PKVZ				S	Sn	15 47 18.7	0.0
MTVZ	**Mangateitei**	**1.25**	**50**	P	Pn	15 47 02.0	+0.6
MTVZ				S	Sn	15 47 19.0	+0.3
TRVZ	**Turoa**	**1.36**	**49**	P	Pn	15 47 03.1	+0.2
TRVZ				S	Sn	15 47 20.7	-0.5
FWVZ	**Far West T-bar**	**1.39**	**47**	P	Pn	15 47 03.5	+0.3
MOVZ	**Moawhango**	**1.41**	**56**	P	Pn	15 47 03.7	+0.3
MSWZ	**Moikau Station**	**1.43**	**148**	P	Pn	15 47 04.0	+0.5
TUVZ	**Tukino**	**1.44**	**50**	P	Pn	15 47 04.7	+0.9
QRZ	**Quartz Range**	**1.44**	**244**	P	Pn	15 47 03.8	+0.2
TWVZ	**Taurewa**	**1.46**	**40**	P	Pn	15 47 04.2	+0.1
PAWZ	**Paruwai Farm**	**1.48**	**143**	P	Pn	15 47 04.6	+0.4
BSWZ	**Blackbirch Sta**	**1.53**	**190**	P	Pn	15 47 06.0	+1.2
PLWZ	**Palliser**	**1.56**	**151**	P	Pn	15 47 05.5	+0.2
TRWZ	**Traveller**	**1.62**	**138**	P	Pn	15 47 05.4	-0.5
HIZ	**Hauiti**	**1.76**	**16**	P	Pn	15 47 07.3	-0.4
THZ	**Tophouse**	**1.85**	**213**	P	Pn	15 47 10.0	+1.1
TLZ	**Tolley Road**	**2.13**	**29**	P	Pn	15 47 12.5	-0.1
KHZ	**Kahutara**	**2.27**	**193**	P	Pn	15 47 15.1	+0.8
DSZ	**Denniston Nort**	**2.40**	**229**	P	Pn	15 47 16.7	+0.6
TOZ	**Tahuroa Road**	**2.66**	**22**	P	Pn	15 47 19.3	-0.3
GVZ	**Greta Valley S**	**2.90**	**198**	P	Pn	15 47 22.9	+0.1
KBAZ	**Karaka Road Bo**	**3.15**	**10**	P	Pn	15 47 26.3	+0.2
AWAZ	**Awhitu Peninsu**	**3.15**	**6**	P	Pn	15 47 26.1	0.0
MKAZ	**Moumakai**	**3.18**	**13**	P	Pn	15 47 26.3	-0.2
INZ	**Inchbonnie**	**3.28**	**219**	P	Pn	15 47 28.7	+0.9
WTAZ	**Waiatarua**	**3.28**	**5**	P	Pn	15 47 28.0	+0.2
ETAZ	**East Tamaki Re**	**3.29**	**10**	P	Pn	15 47 28.0	0.0
RVAZ	**Riverhead Bore**	**3.44**	**5**	P	Pn	15 47 29.8	-0.2
MBAZ	**Motutapu North**	**3.47**	**9**	P	Pn	15 47 30.5	+0.1
WIAZ	**Waiheke Island**	**3.48**	**12**	P	Pn	15 47 30.7	+0.1

OKCZ	**Okains Bay**	**3.62**	**194**	P	Pn	15 47 31.8	-0.6
KUZ	**Kuaotunu**	**3.65**	**19**	P	Pn	15 47 32.2	-0.6
MQZ	**McQueen's Vall**	**3.69**	**198**	P	Pn	15 47 31.7	-1.6
AKCZ	**Akaroa Harbour**	**3.79**	**195**	P	Pn	15 47 33.7	-1.1
FOZ	**Fox Glacier**	**4.68**	**223**	P	Pn	15 47 47.3	+0.6
ODZ	**Otahua Downs**	**5.51**	**208**	P	Pn	15 47 57.6	-0.4
JCZ	**Jackson Bay**	**5.60**	**225**	P	Pn	15 47 59.7	+0.4

NEIC ***11*** *15:53:59.2±0.8,20.7°S±0.1°×178.8°W±0.2,h617km±11km, mb4.3/15,Error ellipse: s-maj=24.1km s-min=16.5km az=76.0*

IDC ***11*** *15:54:05.5±8.9,20.69°S×179.02°W,h691km±112km, mb2.8/8,mb1 3.0/8,mb1mx2.8/32,mbtmp3.9/8,Error ellipse: s-maj=49.5km s-min=21.9km az=77.0*

ISC 11 15:54:01.5±0.8**,20.6S**±0.1°×**178.9W**±0.2**,h645**km**,n30,** σ1**8**1**0/29,mb3.6/12,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.08**	**315**	P	**P**	**15 55 27.7**	**-3.3**
OUZ	**Omahuta**	**15.95**	**203**	P	**P**	**15 57 16.9**	**+0.5**
HIZ	**Hauiti**	**18.61**	**195**	P	**P**	**15 57 39.3**	**-1.3**
BKZ	**Black Stump Fm**	**18.88**	**191**	P	**P**	**15 57 41.2**	**-1.9**
MLZ	**Mavora Lakes**	**26.88**	**200**	P	**P**	**15 58 52.5**	**-1.4**
WHZ	**Wether Hill Ro**	**27.40**	**200**	P	**P**	**15 58 57.2**	**-1.1**
TOO	**Toolangi**	**35.13**	**234**	P	**P**	**16 00 04.2**	**+0.3**
STKA	**Stephens Creek**	**36.96**	**244**	P	**P**	**16 00 19.6**	**+0.7**
	1.1nm,0.5s,baz=102,slow=14,SNR=4.2						
STKA	**Stephens Creek**	**36.96**	**244**	IAmb	IAmb	16 01 41.7	
	comp=Z,4.8nm,1.8s						
BBOO	**Buckleboo**	**41.72**	**244**	P	**P**	**16 00 57.1**	**+0.2**
JAY	**Jayapura**	**43.28**	**289**	P	**P**	**16 01 10.3**	**+1.1**
	comp=Z,2.9nm,0.5s,baz=90,slow=6.1,SNR=6.4						
WR0	**Warramunga Arr**	**43.55**	**262**	P	**P**	**16 01 11.9**	**+0.7**
WR0				IAmb	IAmb	16 01 26.4	
	comp=Z,31nm,1.9s						
AS31	**Alice Springs**	**43.66**	**257**	P	**P**	**16 01 12.8**	**+0.7**
ASAR	**Alice Springs**	**43.66**	**257**	P	**P**	**16 01 12.7**	**+0.7**
	comp=Z,0.6nm,0.4s,baz=92,slow=7.8,SNR=27						
ASAR	**Alice Springs**	**43.66**	**257**	P	**P**	**16 01 12.2**	**+0.2**
WB0	**Warramunga Arr**	**43.72**	**263**	P	**P**	**16 01 12.7**	**+0.2**
WB0				IAmb	IAmb	16 01 45.4	
	comp=Z,29nm,1.9s						
WB2	**Warramunga Arr**	**43.73**	**262**	P	**P**	**16 01 12.9**	**+0.4**
WB2				IAmb	IAmb	16 01 19.7	
	comp=Z,14nm,1.4s						
WRAB	**Tennant Creek**	**43.73**	**262**	P	**P**	**16 01 12.8**	**+0.2**
WRAB				IAmb	IAmb	16 03 05.0	
	comp=Z,26nm,1.8s						
WRA	**Warramunga Arr**	**43.74**	**262**	P	**P**	**16 01 13.0**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=97,slow=7.9,SNR=23						
WRA	**Warramunga Arr**	**43.74**	**262**	P	**P**	**16 01 12.8**	**+0.2**
VNDA	**Vanda**	**57.70**	**185**	P	**P**	**16 02 52.6**	**+0.4**
	comp=Z,0.8nm,1.0s,baz=351,slow=7.2,SNR=6.8						
VNDA	**Vanda**	**57.70**	**185**	P	**P**	**16 02 52.8**	**+0.7**
PETK	**Petropavlovsk-**	**76.19**	**346**	P	**P**	**16 04 45.6**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=126,slow=7.7,SNR=4.8						
ILAR	**Eielson Array**	**88.64**	**13**	P	**P**	**16 05 48.2**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=251,slow=5.6,SNR=4.7						
ILAR	**Eielson Array**	**88.64**	**13**	P	**P**	**16 05 47.8**	**+0.4**
PDAR	**Pinedale Array**	**89.65**	**44**	P	**P**	**16 05 53.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=212,slow=4.3,SNR=2.6						
PDAR	**Pinedale Array**	**89.65**	**44**	P	**P**	**16 05 52.7**	**-0.1**
AKASG	**Malin Array Be**	**142.72**	**330**	PKP	**PKPdf**	**16 12 21.4**	**-1.5**
	comp=Z,0.7nm,0.3s,baz=44,slow=4.2,SNR=5.5						
CLL	**Collm**	**148.00**	**346**	*e*PKPbc	**PKiKP**	**16 12 39.0**	**+1.9**
TORD	**Torodi Ar. Bea**	**172.53**	**185**	PKPab	**PKPab**	**16 14 28.8**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=213,slow=3.0,SNR=1.7						

BJI ***11*** *16:03:26.8±0.0,6.47S×147.04E,h53km,mB4.9/5, mb4.7/13*

NEIC ***11*** *16:03:28.8±1.7,5.97S±0.06×147.65E±0.08,h58km±3km, mb4.7/28,Error ellipse: s-maj=11.4km s-min=8.8km az=95.0*

DJA ***11*** *16:03:29.5±0.5,6°S±4°×14°8E±°,h63km±5km,M4.6/19, mb4.6/19,mB4.9/3,MLv4.7/3,Mw(mB)4.2/3*

IDC ***11*** *16:03:29.0±1.6,6°00S×147°67E,h55km±16km,mb3.8/13, mb1 4.1/20,mb1mx4.0/32,mbtmp4.2/20,ML4.1/5,MS3.4/12, Ms1 3.4/12,ms1mx3.2/29,Error ellipse: s-maj=17.3km s-min=9.8km az=104.0*

ISC 11 16:03:30.8±0.5**,6.05S**±0.05×**147.68E**±0.07**,h77**km**,n68,** σ1**8**2**8/65,mb4.5/28,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.38**	**189**	P	**Pn**	**16 04 19.4**	**-1.9**
	11nm,0.3s,baz=16,slow=4.7,SNR=42						
PMG				S	**Sn**	**16 05 00.1**	**-0.2**
	34nm,0.3s,baz=359,slow=20,SNR=7.4						
PMG				LR	LR	16 05 58.0	
	comp=Z,635nm,18.7s,baz=299,slow=44						
PMG	**Port Moresby**	**3.38**	**189**	Pn	**Pn**	**16 04 18.8**	**-2.5**
KRVT	**Keravat (AS076**	**4.66**	**68**	P	**Pn**	**16 04 35.8**	**-3.0**
	11nm,0.3s,baz=27,slow=1.4,SNR=14						
KRVT				LR	LR	16 06 25.2	
	comp=Z,490nm,18.2s,baz=257,slow=38						
RABL	**Rabaul**	**4.83**	**68**		**Pn**	**16 04 37.9**	**-3.3**
JAY	**Jayapura**	**7.79**	**296**	P	**Pn**	**16 05 19.4**	**-2.1**
	0.9nm,0.3s,baz=183,slow=24,SNR=12						
JAY				LR	LR	16 08 46.1	
	comp=Z,364nm,18.5s,baz=62,slow=41						
JAY	**Jayapura**	**7.79**	**296**	P	**Pn**	**16 05 20.4**	**-1.2**
	0.0nm11nm,0.9s						
GENI	**Genyem**	**8.23**	**294**	P	**Pn**	**16 05 27.7**	**+0.1**
	54nm,1.1s						
COEN	**Coen**	**9.02**	**209**	Pn	**Pn**	**16 05 36.2**	**-2.2**
SMPI	**Sarmi**	**9.81**	**294**	P	**Pn**	**16 05 47.5**	**-1.6**
	2um20nm,1.4s						
HNR	**Honiara**	**12.61**	**106**	P	**Pn**	**16 06 26.2**	**-1.2**
	baz=28,slow=15,SNR=0.7						
HNR				LR	LR	16 10 17.1	
	comp=Z,87nm,19.4s,baz=185,slow=32						
CTA	**Charters Tower**	**14.03**	**186**	P	**Pn**	**16 06 45.5**	**-0.6**
	0.2nm,0.3s,baz=331,slow=16,SNR=3.6						
CTAO	**Charters Tower**	**14.03**	**186**	Pn	**Pn**	**16 06 46.8**	**+0.7**
SIJI	**Sorong**	**17.16**	**287**	P	**Pn**	**16 07 24.4**	**-1.5**
	0.7nm,0.3s,baz=75,slow=11,SNR=6.1						
SIJI				LR	LR	16 16 21.7	
	comp=Z,146nm,18.7s,baz=297,slow=45						
MTN	**Manton Dam**	**17.65**	**246**		**P**	**16 07 30.5**	**-1.2**
WB0	**Warramunga Arr**	**18.78**	**222**	P	**P**	**16 07 43.3**	**-0.8**
WR0	**Warramunga Arr**	**18.82**	**222**	P	**P**	**16 07 43.7**	**-0.9**
WRAB	**Tennant Creek**	**18.93**	**222**	P	**P**	**16 07 45.0**	**-0.8**
WB2	**Warramunga Arr**	**18.93**	**222**	P	**P**	**16 07 45.0**	**-0.8**
WRA	**Warramunga Arr**	**18.94**	**222**	P	**P**	**16 07 45.4**	**-0.5**
	1.3nm,0.3s,baz=50,slow=11,SNR=59						
WRA	**Warramunga Arr**	**18.94**	**222**	P	**P**	**16 07 44.2**	**-1.7**
EIDS	**Eidsvold**	**19.49**	**171**	P	**P**	**16 07 52.1**	**+0.4**
EIDS				IAmb	IAmb	16 08 38.9	
	comp=Z,28nm,1.3s						
KNRA	**Kununurra**	**20.88**	**241**	P	**P**	**16 08 06.0**	**-0.9**
KNRA				IAmb	IAmb	16 08 41.0	
	comp=Z,20nm,0.8s						
AS31	**Alice Springs**	**21.96**	**216**	P	**P**	**16 08 18.4**	**-0.1**
AS31				IAmb	IAmb	16 08 23.7	
	comp=Z,5.8nm,0.5s						
ASAR	**Alice Springs**	**21.97**	**216**	P	**P**	**16 08 18.6**	**+0.1**
	comp=Z,13nm,0.6s,baz=54,slow=8.5,SNR=317						
ASAR				S	**S**	**16 12 18.7**	**+1.9**
	comp=Z,2.0nm,1.0s,baz=35,slow=18,SNR=5.8						
ASAR				LR	LR	16 17 12.1	
	comp=Z,143nm,21.8s,baz=28,slow=37						
ASAR	**Alice Springs**	**21.97**	**216**	P	**P**	**16 08 17.5**	**-1.0**
SOEI	**Soe**	**23.47**	**259**	P	**P**	**16 08 32.9**	**-1.2**
	comp=Z,48nm,0.9s						
SOEI	**Soe**	**23.47**	**259**	P	**P**	**16 08 33.3**	**-0.8**
SOEI				IAmb	IAmb	16 08 52.9	
	comp=Z,37nm,0.9s						
BATI	**Baumata**	**24.12**	**259**	P	**P**	**16 08 41.4**	**+1.6**
	comp=Z,36nm,0.8s,baz=138,slow=4.3,SNR=6.5						
BATI				LR	LR	16 20 08.1	
	comp=Z,222nm,19.1s,baz=73,slow=41						
DZM	**Mont Dzumac**	**24.14**	**133**	P	**P**	**16 08 41.1**	**+1.1**
	comp=Z,5.0nm,0.8s,baz=48,slow=16,SNR=2.8						
DZM	**Mont Dzumac**	**24.14**	**133**	IAmb	IAmb	16 08 51.4	
	comp=Z,23nm,1.1s						
ARMA	**Armidale**	**24.53**	**172**	P	**P**	**16 08 44.7**	**+1.3**
ARMA				IAmb	IAmb	16 08 48.2	
	comp=Z,15nm,0.9s						
FITZ	**Fitzroy Crossi**	**24.61**	**239**	P	**P**	**16 08 44.8**	**+0.6**
	comp=Z,75nm,0.7s,baz=59,slow=7.9,SNR=226						
FITZ				LR	LR	16 20 18.0	
	comp=Z,140nm,19.5s,baz=58,slow=41						
FITZ	**Fitzroy Crossi**	**24.61**	**239**	P	**P**	**16 08 44.8**	**+0.6**
LUWI	**Luwuk**	**25.34**	**280**	P	P	16 08 40.9	-10
LUWI				IAmb	IAmb	16 09 19.8	
	comp=Z,48nm,0.9s						
MMRI	**Maumere**	**25.36**	**263**	P	**P**	**16 08 50.8**	**-0.3**
MMRI				IAmb	IAmb	16 08 54.7	
	comp=Z,28nm,0.9s						
EDFI	**Ende, Flores**	**25.91**	**262**	P	**P**	**16 08 54.7**	**-1.4**
	comp=Z,10nm,0.9s						
STKA	**Stephens Creek**	**26.32**	**192**	P	**P**	**16 09 00.1**	**+0.6**
	comp=Z,10nm,0.7s,baz=15,slow=12,SNR=25						
STKA				LR	LR	16 20 01.2	
	comp=Z,119nm,19.4s,baz=18,slow=38						
STKA	**Stephens Creek**	**26.32**	**192**	P	**P**	**16 08 59.6**	**+0.1**
KAPI	**Kappang**	**27.81**	**271**	LR	LR	16 21 59.0	
	comp=Z,34nm,18.7s,baz=94,slow=40						
CAN	**Canberra**	**29.16**	**178**	P	**P**	**16 09 26.6**	**+1.8**
CAN				IAmb	IAmb	16 10 26.6	
	comp=Z,30nm,1.5s						
FORT	**Forrest**	**30.74**	**214**	P	**P**	**16 09 39.0**	**+0.2**
PSA00	**Pilbara Seismi**	**31.03**	**237**	P	**P**	**16 09 42.0**	**+0.5**
PSA00				IAmb	IAmb	16 09 43.2	
	comp=Z,18nm,0.8s						
UGM	**Wanagama**	**36.92**	**265**	P	**P**	**16 10 31.9**	**-0.8**
MORW	**Morawa**	**37.64**	**229**	P	**P**	**16 10 38.7**	**+0.1**
NWAO	**Narrogin (SRO)**	**38.95**	**223**	P	**P**	**16 10 50.0**	**+0.4**
	comp=Z,13nm,1.0s,baz=80,slow=5.1,SNR=7.1						
NWAO	**Narrogin (SRO)**	**38.95**	**223**	P	**P**	**16 10 49.9**	**+0.4**
LEM	**Lembang**	**39.81**	**267**	LR	LR	16 29 08.2	
	comp=Z,39nm,20.9s,baz=56,slow=39						
MJAR	**Matsushiro Arr**	**43.28**	**349**	P	**P**	**16 11 24.8**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=167,slow=9.2,SNR=3.0						
MDSI	**Maura Dua**	**43.33**	**270**	P	**P**	**16 11 26.9**	**+1.1**
NJ2	**Nanjing**	**46.80**	**326**	*e*P	**P**	**16 11 53.5**	**+0.6**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
KSRS	**Korea Array**	**47.04**	**338**	P	**P**	**16 11 55.0**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=138,slow=9.8,SNR=2.5						
USRK	**Ussuriysk Ar.**	**51.98**	**346**	P	**P**	**16 12 33.6**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=187,slow=5.8,SNR=1.8						
CD2	**Chengdu**	**55.79**	**314**	*e*P	**P**	**16 12 59.0**	**-1.3**
HHC	**Hu-ho-hao-te**	**57.23**	**328**	*e*P	**P**	**16 13 11.9**	**+1.5**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,51nm,6.7s						
LZH	**Lanzhou**	**58.69**	**319**	*e*P	**P**	**16 13 21.0**	**+0.2**
LZH				pP	pP	16 13 33.0	-7.0
LZH				sP	sP	16 13 40.4	-8.1
LZH				pmax	pmax		
	comp=Z,29nm,1.1s						
LZH				pmax	pmax		
	comp=Z,90nm,4.9s						
PETK	**Petropavlovsk-**	**59.54**	**7**	P	**P**	**16 13 29.3**	**+3.2**
	comp=Z,1.4nm,0.8s,baz=193,slow=12,SNR=4.0						
PETK				LR	LR	16 34 43.7	
	comp=Z,28nm,21.8s,baz=237,slow=32						
SONM	**Songino Array**	**64.77**	**331**	P	**P**	**16 14 01.7**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=148,slow=8.5,SNR=3.6						
SONM	**Songino Array**	**64.77**	**331**	IAmb	IAmb	16 14 02.7	
	comp=Z,1.9nm,1.2s						
CASY	**Casey**	**65.39**	**196**	P	**P**	**16 14 05.9**	**+1.0**
CASY				IAmb	IAmb	16 14 33.6	
	comp=Z,24nm,1.9s						
VNDA	**Vanda**	**71.83**	**177**	P	**P**	**16 14 45.8**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=351,slow=5.2,SNR=7.4						
VNDA	**Vanda**	**71.83**	**177**	P	**P**	**16 14 45.4**	**+0.5**
VNDA				IAmb	IAmb	16 16 53.7	
	comp=Z,11nm,1.9s						
MKAR	**Makanchi Array**	**77.96**	**320**	P	**P**	**16 15 20.7**	**0.0**
	comp=Z,0.5nm,0.7s,baz=103,slow=5.4,SNR=6.2						
ZALV	**Zalesovo Beam**	**79.41**	**328**	P	**P**	**16 15 27.4**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=142,slow=7.5,SNR=4.1						
QSPA	**South Pole Qui**	**83.92**	**180**	P	**P**	**16 15 53.0**	**+0.7**
QSPA				IAmb	IAmb	16 16 04.9	
	comp=Z,27nm,1.9s						
ILAR	**Eielson Array**	**85.26**	**23**	P	**P**	**16 15 59.3**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=254,slow=6.5,SNR=1.1						
V58A	**Windy Hill, Pi**	**127.92**	**49**		**PKPdf**	**16 22 26.6**	**-1.6**
TORD	**Torodi Ar. Bea**	**145.75**	**284**	PKPbc	**PKPab**	**16 23 02.9**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=67,slow=4.0,SNR=5.7						
TORD	**Torodi Ar. Bea**	**145.75**	**284**		**PKPab**	**16 23 02.3**	**-0.3**

DRS ***11*** *16:16:56.9±0.0,43.08N×47.18E,h12km*

NORS ***11*** *16:16:57.0±0.0,42.92N×47.05E,h4km,MPVA3.9*

ISC 11 16:16:58.1±1.4**,43.03N**±0.06×**47.08E**±0.05**,h15**km±7km**, n16,**σ0**97/32,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.18**	**267**	*e*Pg	**Pg**	**16 17 02.1**	**-0.5**
	663nm,0.4s						
DBC				*e*Sg	**Sg**	**16 17 05.9**	**+0.3**
	731nm,0.5s						
BUJR	**Buynaksk**	**0.21**	**174**	*e*Pg	**Pb**	**16 17 02.9**	**-0.7**
	85nm,0.4s						
BUJR				*e*Sg	**Sg**	**16 17 07.1**	**+1.0**
	763nm,0.3s						
DLMR	**Dylym**	**0.33**	**277**	*i* Pg	**Pb**	**16 17 05.5**	**-0.2**
	64nm,0.2s						
DLMR				*i* Sg	**Sb**	**16 17 12.0**	**+1.2**
	1um,0.1s						
UNCR	**Uncukul**	**0.38**	**214**	*e*Pg	**Pg**	**16 17 06.0**	**+0.2**
	71nm,0.2s						
UNCR				*e*Sg	**Sg**	**16 17 12.0**	**+0.9**
	190nm,0.4s						
ARKR	**Arakani**	**0.43**	**188**	*e*Pg	**Pb**	**16 17 07.0**	**-0.4**
	48nm,0.3s						
ARKR				*e*Sg	**Sb**	**16 17 14.2**	**+0.5**
	111nm,0.3s						
XNZR	**Khunzakh**	**0.56**	**210**	*e*Pg	**Pg**	**16 17 07.8**	**-1.4**
XNZR				*e*Sg	**Sg**	**16 17 16.6**	**-0.1**
BTLR	**Botlikh**	**0.73**	**240**	*e*Pg	**Pn**	**16 17 13.4**	**-0.5**
	15nm,0.4s						
BTLR				*e*Sg	**Sn**	**16 17 25.4**	**+0.7**
	58nm,0.4s						
KMKR	**Kumukh**	**0.90**	**179**	*e*Pg	**Pn**	**16 17 16.5**	**+0.2**
	31nm,0.0s						
KMKR				*e*Sg	**Sn**	**16 17 29.3**	**+0.2**
	130nm,0.2s						
DRN	**Derbent**	**1.36**	**137**	*e*Pg	**Pg**	**16 17 23.9**	**-0.4**
	18nm,0.3s						
DRN				*e*Sg	**Sg**	**16 17 43.5**	**+1.5**
	36nm,0.4s						
AKT	**Akhty**	**1.62**	**162**	*e*Pg	**Pg**	**16 17 28.3**	**-1.0**
	14nm,0.5s						
AKT				*e*Sg	**Sg**	**16 17 50.0**	**-0.4**
	44nm,0.3s						
GUDG	**Gudauri**	**2.00**	**254**	P	**Pb**	**16 17 33.4**	**-0.8**
GUDG				S	**Sg**	**16 18 03.2**	**+0.8**
ARNR	**Ardon**	**2.05**	**275**	*e*Pg	**Pg**	**16 17 36.0**	**-1.4**
ARNR				*e*Sg	**Sg**	**16 18 04.8**	**+0.7**
LACR	**Lac**	**2.05**	**265**	*e*Pg	**Pb**	**16 17 35.1**	**0.0**
LACR				*e*Sg	**Sb**	**16 18 02.4**	**+2.0**
ZEI	**Tsey**	**2.35**	**265**	*e*Pn	**Pb**	**16 17 39.6**	**-0.6**
ZEI				*e*Sn	**Sb**	**16 18 10.0**	**+1.0**
LSNR	**Lesken**	**2.39**	**277**	*e*Pn	**Pb**	**16 17 40.6**	**-0.2**
LSNR				*e*Sn	**Sb**	**16 18 11.6**	**+1.4**
DIGR	**Digorskoe uzhe**	**2.57**	**268**	*e*Pn	**Pb**	**16 17 41.8**	**-2.1**
DIGR				*e*Sn	**Sb**	**16 18 15.3**	**-0.1**

IDC ***11*** *16:22:26.4±1.8,5.64S×130.72E,h0km,mb3.9/1, mb1 3.8/5,mb1mx3.5/27,mbtmp3.7/5,ML3.7/4,Error ellipse: s-maj=80.0km s-min=24.0km az=84.0*

DJA ***11*** *16:22:33.1±0.9,5°S±2°×13°1E±°,h28km±9km,M4.0/14, mb3.9/6,MLv4.1/14*

ISC 11 16:22:28.2±0.8**,5.58S**±0.05×**131.21E**±0.06**,h10**km**,n14,** σ2**8**0**4/21,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.67**	**309**	P	**Pn**	**16 22 59.4**	**+1.9**
BNDI				S	**Sn**	**16 23 20.9**	**+1.9**
SAUI	**Saumlaki**	**2.39**	**178**	P	**Pb**	**16 23 12.3**	**+0.9**
SAUI				S	**Sb**	**16 23 42.3**	**+1.3**
FAKI	**Fak Fak**	**2.84**	**22**	P	**Pn**	**16 23 16.6**	**+3.0**
FAKI				S	**Sn**	**16 23 49.2**	**+1.3**
MSAI	**Masohi**	**3.17**	**314**	P	**Pn**	**16 23 20.3**	**+2.1**
MSAI				S	**Sn**	**16 23 56.1**	**-0.1**
AAI	**Ambon**	**3.54**	**302**	P	**Pn**	**16 23 25.1**	**+1.8**
AAI				S	**Sn**	**16 24 05.3**	**0.0**
SIJI	**Sorong**	**4.68**	**1**	Pn	**Pn**	**16 23 40.9**	**+2.0**
	10nm,0.3s,baz=273,slow=23,SNR=30						
SIJI				Sn	**Sn**	**16 24 28.9**	**-4.5**
	9.3nm,0.3s,baz=266,slow=23,SNR=17						
NLAI	**Namlea**	**4.71**	**299**	P	**Pn**	**16 23 41.2**	**+1.9**
NLAI				S	**Sn**	**16 24 33.8**	**-0.2**
RKPI	**Ransiki, Papua**	**5.01**	**36**	P	**Pn**	**16 23 45.2**	**+1.7**
LBMI	**Labuha**	**6.14**	**323**	P	**Pn**	**16 24 00.1**	**+1.0**
	0.1nm24nm,1.1s						
TNTI	**Ternate**	**7.38**	**329**	P	**Pn**	**16 24 17.4**	**+1.3**
	0.1nm11nm,1.3s						
FITZ	**Fitzroy Crossi**	**13.58**	**203**	Pn	**Pn**	**16 25 38.3**	**-2.8**
	0.1nm,0.3s,baz=26,slow=9.5,SNR=12						
FITZ				Sn	Sn	16 28 00.2	-12
	0.2nm,0.3s,baz=180,slow=20,SNR=1.3						
WRA	**Warramunga Arr**	**14.60**	**168**	Pn	**Pn**	**16 25 53.4**	**-1.7**
	0.3nm,0.3s,baz=351,slow=14,SNR=30						
WRA				Sn	Sn	16 28 26.9	-10
	0.7nm,0.3s,baz=271,slow=31,SNR=4.9						
ASAR	**Alice Springs**	**18.17**	**172**	P	**Pn**	**16 26 41.2**	**+0.4**
	0.3nm,0.3s,baz=349,slow=9.0,SNR=19						
ASAR				S	Sn	16 29 51.5	-12
	0.0nm,0.3s,baz=356,slow=26,SNR=1.9						
MKAR	**Makanchi Array**	**67.71**	**326**	P	**P**	**16 33 24.0**	**-1.9**
	0.7nm,0.5s,baz=122,slow=7.9,SNR=12						

IDC 11 16:28:59.4±7.5**,7.57S**×**128.42E**,**h149**km±80km**,mb2.9/1, mb1 3.1/5,mb1mx2.9/37,mbtmp3.6/5,Error ellipse: s-maj=73.6km s-min=26.9km az=36.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.38**	**240**	P	Pn	16 30 18.8	+0.8
	13nm,0.3s,baz=123,slow=4.3,SNR=7.7						
BATI				S	Sn	16 31 19.4	+0.1
	3.4nm,0.3s,baz=82,slow=21,SNR=1.6						
FITZ	**Fitzroy Crossi**	**10.81**	**194**	P	Pn	16 31 28.4	-1.8
	0.1nm,0.3s,baz=7.2,slow=13,SNR=2.0						
FITZ				S	Sn	16 33 23.4	-6.4
	0.3nm,0.3s,baz=77,slow=20,SNR=2.2						
WRA	**Warramunga Arr**	**13.58**	**156**	P	Pn	16 32 05.8	-0.3
	0.2nm,0.3s,baz=336,slow=12,SNR=2.0						
WRA				S	Sn	16 34 28.4	-8.1
	0.3nm,0.3s,baz=282,slow=33,SNR=5.1						
ASAR	**Alice Springs**	**16.85**	**162**	P	Pn	16 32 48.2	+1.5
	0.1nm,0.3s,baz=342,slow=13,SNR=1.9						
ASAR				S	S	16 35 47.6	-6.7
	0.1nm,0.3s,baz=333,slow=20,SNR=1.3						
MKAR	**Makanchi Array**	**67.85**	**328**	P	P	16 39 41.6	0.0
	0.1nm,0.4s,baz=127,slow=7.0,SNR=4.2						

IDC 11 16:37:00.3±6.6**,7.07S**×**154.58E,h62**km±55km**,mb3.4/3, mb1 3.6/4,mb1mx3.2/28,mbtmp3.6/4,ML3.3/1,MS3.2/1, Ms1 3.1/1,ms1mx2.3/16,Error ellipse: s-maj=60.2km s-min=29.5km az=89.0,Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.74**	**317**	P	Pn	16 37 55.0	-0.7
	2.2nm,0.3s,baz=142,slow=2.8,SNR=7.1						
KRVT				S	Sn	16 38 39.5	+1.0
	4.4nm,0.3s,baz=52,slow=17,SNR=2.0						
WRA	**Warramunga Arr**	**23.43**	**235**	P	P	16 42 03.7	-0.6
	1.3nm,0.9s,baz=60,slow=9.5,SNR=7.5						
ASAR	**Alice Springs**	**25.81**	**228**	P	P	16 42 26.0	0.0
	0.6nm,0.8s,baz=60,slow=8.7,SNR=6.4						
STKA	**Stephens Creek**	**27.49**	**204**	P	P	16 42 41.9	+1.0
	1.8nm,0.8s,baz=8.1,slow=14,SNR=3.8						
STKA				LR	LR	16 53 20.7	
	comp=Z,44nm,18.8s,baz=27,slow=36						
TORD	**Torodi Ar. Bea**	**152.65**	**285**	PKPbc	PKPbc	16 56 50.5	-0.6
	0.9nm,0.9s,baz=83,slow=4.5,SNR=3.4						

IDC ***11*** *16:42:08.6±0.6,38.44N×43.14E,h0km,mb4.2/26, mb1 4.3/33,mb1mx4.2/43,mbtmp4.2/33,ML3.9/5,MS3.6/21, Ms1 3.7/21,ms1mx3.5/35,Error ellipse: s-maj=12.5km s-min=8.8km az=4.0*

MOS ***11*** *16:42:08.4±1.2,38.41N×43.17E,h9km,mb4.6/21,Error ellipse: s-maj=4.8km s-min=3.4km az=99.7*

ISK ***11*** *16:42:08.9,38.60N×43.15E,h3km,ML4.3/27*

TEH ***11*** *16:42:09.6,38.60N×43.16E,h9km,ML4.3*

NSSP ***11*** *16:42:09.3,38.62N×43.12E,h10km,Ms4.3*

DDA ***11*** *16:42

DYDN Diyadin 1.03 23 ePg Pg 16 42 30.0 -0.7
HAKT HAKKARI 1.11 157 ⇓iP Pb 16 42 30.1 -1.9
HAKT iS Sn 16 42 50.9 +3.2
HAKT IAML 16 42 56.0
comp=N,2µm,1.2s
HAKT HAKKARI 1.11 157 ePg Pb 16 42 30.2 -1.9
SRTM Siirt_Merkez 1.15 239 ⇓iP Pb 16 42 31.6 -1.0
SRTM iS Sn 16 42 48.9 +0.5
SRTM Siirt_Merkez 1.15 239 ePg Pn 16 42 32.7 0.0
SIRT Sirnak 1.23 208 PN Pn 16 42 33.4 -0.4
SIRT Sirnak 1.23 208 ePg Pg 16 42 34.2 -0.2
SIRN Sirnak 1.25 209 ⇓iP Pn 16 42 32.8 -1.1
SIRN iS Sn 16 42 52.9 +2.1
SIRN Sirnak 1.25 209 ePg Pg 16 42 32.9 -1.1
MUSM Mu-Merkez 1.30 276 ⇑iP Pn 16 42 33.0 -1.9
MUSM iS Sg 16 42 52.5 -0.2
MUSM IAML 16 42 55.0
comp=N,1µm,1.0s
MUSM IAML 16 42 58.0
comp=E,2µm,1.1s
MUSM Mu-Merkez 1.30 276 ePn Pn 16 42 33.5 -1.4
YOVA Hakkari_Yksek 1.34 138 ⇓iP Pn 16 42 34.2 -1.2
YOVA iS Sg 16 42 55.5 +1.7
YOVA Hakkari_Yksek 1.34 138 ePn Pn 16 42 34.1 -1.2
EATA Eleskirt 1.37 338 ⇓iP Pn 16 42 35.0 -1.0
EATA iS Sg 16 42 56.5 +1.5
EATA IAML 16 43 00.0
comp=N,5µm,0.5s
EATA IAML 16 43 03.0
comp=E,6µm,0.7s
EATA Eleskirt 1.37 338 ePn Pn 16 42 35.0 -1.0
CUKT Cukurca 1.39 165 PN Pn 16 42 35.3 -0.7
CUKT Cukurca 1.39 165 ⇓iP Pn 16 42 35.2 -0.7
CUKT iS Sg 16 43 03.3 +8.0
CUKT IAML 16 43 05.0
comp=N,6µm,0.9s
CUKT IAML 16 43 06.0
comp=E,4µm,1.0s
CUKT Cukurca 1.39 165 ePn Pn 16 42 35.5 -0.5
VRTB Varto-Mus 1.45 294 PN Pn 16 42 36.4 -0.5
VRTB Varto-Mus 1.45 294 ⇓iP Pn 16 42 36.3 -0.6
IGDI IGDIR 1.46 29 ⇓iP Pn 16 42 36.4 -0.5
IGDI iS Sg 16 42 59.2 +1.6
IGDI IAML 16 43 02.0
comp=N,2µm,0.7s
IGDI IAML 16 43 03.0
comp=E,3µm,0.8s
IGDI IGDIR 1.46 29 ePn Pn 16 42 37.0 +0.1
VNNZ Vanand 1.59 18 ⇑iP Pb 16 42 39.7 -0.5
VNNZ ⇑iS Sg 16 43 01.7 -0.3
SVAN Silvan-Diyarba 1.61 255 PN Pb 16 42 39.8 -0.6
SVAN Silvan-Diyarba 1.61 255 ⇑iP Pb 16 42 39.6 -0.7
SVAN iS Sg 16 43 03.3 +0.8
TASB TASBURUN-IGDIR 1.62 30 PN Pn 16 42 39.6 +0.5
BTMN Batman 1.65 246 ⇑iP Pb 16 42 40.6 -0.5
BTMN iS Sg 16 43 05.8 +2.0
BTMN IAML 16 43 07.0
comp=E,9µm,1.3s
BTMN IAML 16 43 07.0
comp=N,6µm,1.0s
METS Metsamor 1.71 24 ⇑iP Pb 16 42 41.7 -0.4
METS ⇑iS Sg 16 43 05.5 -0.2
KOPR Koprukoy-ERZUR 1.73 324 PN Pn 16 42 41.4 +0.6
HOMI Horasan 1.75 326 ⇓iP Pb 16 42 41.9 -1.0
HOMI IAML 16 43 15.0
comp=N,3µm,0.6s
HOMI iS Sg 16 43 17.6 +10
HOMI IAML 16 43 24.0
comp=E,3µm,0.9s
DIGO Kars 1.83 5 iP Pb 16 42 43.3 -0.9
DIGO iS Sg 16 43 17.3 +7.7
DIGO IAML 16 43 22.0
comp=E,2µm,0.7s
DIGO IAML 16 43 22.0
comp=N,2µm,0.9s
ARUZ Aruch 1.83 23 ⇑iP Pb 16 42 43.4 -0.9
ARUZ ⇑iS Sb 16 43 08.2 +1.0
NAX Nakhchivan 1.91 71 P Pn 16 42 43.9 +0.8
ECAT Cat-ERZURUM 1.99 301 ⇓iP Pn 16 42 45.2 +1.0
ECAT iS Sb 16 43 12.6 +0.9
ECAT IAML 16 43 18.0
comp=E,666nm,1.5s
BNGB Bingl 1.99 282 PN Pn 16 42 44.8 +0.6
IMRD Marand 1.99 86 ePn Pn 16 42 45.2 +0.9
IMRD e 16 42 54.5
KARS Kars 2.04 358 PN Pn 16 42 45.8 +0.9
KARS Kars 2.04 358 P Pn 16 42 46.1 +1.2
AKDA Akdag 2.06 318 ⇓iP Pn 16 42 46.3 +1.0
AKDA iS Sg 16 43 20.0 +3.1
SENK Senkaya-Erzuru 2.07 342 PN Pn 16 42 46.0 +1.0
KAPZ Kaputan 2.10 34 ⇑iP Pb 16 42 46.7 +0.3
KAPZ ⇑iS Sn 16 43 13.0 +1.1
BINT Bingol 2.12 279 P Pn 16 42 44.6 -1.4
EAK Akyaka 2.12 9 iP Pb 16 42 48.1 -1.0
EAK iS Sg 16 43 22.5 +3.6
EAK IAML 16 43 29.0
comp=E,1µm,1.0s
EAK IAML 16 43 35.0
comp=N,2µm,1.2s
HANI Diyarbakir_Han 2.18 266 ⇓iP Pb 16 42 49.0 -1.1
HANI iS Sg 16 43 20.5 -0.3
HANI IAML 16 43 31.0
comp=E,1µm,1.6s
HANI IAML 16 43 34.0
comp=N,939nm,0.8s
EMRE Erzurum,Aziziy 2.23 311 ⇓iP Pb 16 42 50.7 -0.3
EMRE iS Sg 16 43 23.3 +1.0
EMRE IAML 16 43 32.0
comp=N,2µm,0.7s
EMRE IAML 16 43 37.0
comp=E,2µm,1.6s
MARD Mardin 2.28 237 iP Pn 16 42 49.3 +1.0
MARD iS Sb 16 43 20.5 +0.5
MARD IAML 16 43 29.0
comp=N,3µm,0.8s
MARD IAML 16 43 30.0
comp=E,3µm,0.7s
ITBZ Tabriz 2.37 98 ePn Pn 16 42 50.6 +1.1
IAZR Azarshahr 2.40 111 ePn Pb 16 42 52.3 -1.6
IAZR e 16 43 03.6
MAZI Mazidag 2.43 243 PN Pn 16 42 50.2 -0.1
DYBB Diyarbakir 2.47 256 PN Pn 16 42 51.1 +0.3
DIYA Diyarbakir 2.49 255 iP Pn 16 42 52.5 +1.4
DIYA iS Sg 16 43 28.2 -2.6
DIYA IAML 16 43 50.0
comp=E,987nm,0.8s
DIYA IAML 16 43 53.0
comp=N,1µm,1.2s
KOPT Kop Dagi 2.52 305 iP Pb 16 42 56.0 +0.1
KOPT iS Sg 16 43 34.2 +2.7
KOPT IAML 16 43 36.0
comp=N,644nm,1.3s
KOPT IAML 16 43 49.0
comp=E,629nm,1.4s
DDEM Demirkent 2.54 335 iP Pn 16 42 53.4 +1.5
DDEM iS Sg 16 43 35.9 +3.4
DDEM IAML 16 43 38.0
comp=N,729nm,0.6s
DDEM IAML 16 43 39.0
comp=E,782nm,1.5s
DAGI Agillar 2.67 339 iP Pn 16 42 54.9 +1.4
DAGI iS Sg 16 43 37.1 +0.8
DBAD Bademkaya 2.68 335 iP Pn 16 42 55.2 +1.5
DBAD iS Sg 16 43 37.0 +0.3
DBAD IAML 16 43 49.0
comp=E,324nm,1.1s
BGD Bogdanovka 2.69 7 P Pn 16 42 54.6 +0.6
MAHB Mahabad 2.71 131 ePn Pb 16 42 56.8 -2.4
MAHB e 16 42 42.3
BAYB BAYBURT 2.80 307 iP Pn 16 42 57.5 +1.9
BAYB iS Sg 16 43 38.4 -2.4
BAYB IAML 16 43 46.0
comp=E,360nm,1.1s
BAYB IAML 16 43 54.0
comp=N,370nm,1.0s
AKH Akhalkalaki 2.83 5 PN Pn 16 42 55.8 0.0
AKH Akhalkalaki 2.83 5 P Pn 16 42 57.4 +1.6
AKH Akhalkalaki 2.83 5 Pn Pn 16 42 57.4 +1.6
ERZN Erzincan 2.86 291 PN Pn 16 42 56.4 +0.1
TNCL Tunceli-Merkez 2.88 282 iP Pb 16 42 60.0 -2.1
TNCL iS Sg 16 43 41.9 -1.4
EUZM Uzumlu 2.92 294 iP Pb 16 43 03.1 +0.3
EUZM iS Sg 16 43 48.4 +3.9

KZRT Kazreti 2.95 18 iP Pn 16 43 00.1 +2.7
BAYT Aydıntepe-Bayb 2.96 308 PN Pn 16 42 58.2 +0.6
DBOC Borcka 2.98 338 iP Pb 16 43 02.6 -1.2
DBOC iS Sb 16 43 38.2 -2.0
SVRC Sivrice-ELAZID 3.04 267 PN Pn 16 42 59.5 +0.8
AHAR Ahar 3.04 91 ePn Pn 16 43 00.2 +1.4
IHRS Heris 3.05 94 ePn Pn 16 43 00.5 +1.5
IHRS e 16 43 10.9
BCA Borcka 3.09 338 PN Pn 16 42 59.7 +0.4
CHOM Cayeli-Rize 3.12 324 PN Pn 16 43 00.7 +1.1
GANJ Ganja 3.18 49 P Pn 16 43 02.7 +2.1
BATM Batumi 3.21 340 iP Pb 16 43 06.7 -1.0
BATM Batumi 3.21 340 P Pn 16 43 02.5 +1.5
ELZG Elazig 3.28 270 iP Pn 16 43 02.4 +0.3
ELZG IAML 16 44 06.0
comp=E,545nm,0.9s
ELZG IAML 16 44 18.0
comp=N,353nm,0.9s
TBLG Delisi 3.36 20 PN Pn 16 43 03.8 +0.8
TBLG Delisi 3.36 20 P Pn 16 43 05.0 +2.0
TBLG Delisi 3.36 20 Pn Pn 16 43 05.0 +2.0
KTUT Trabzon 3.55 313 PN Pn 16 43 06.6 +1.0
SANL SANLIURFA_Merk 3.60 248 iP Pn 16 43 08.6 +2.3
SANL iS Sb 16 44 01.3 +3.4
ISRB Sarab 3.62 101 ePn Pn 16 43 08.6 +1.8
DDFL Dedoflistskaro 3.64 38 iP Pb 16 43 11.4 -3.6
KEMA Kemaliye 3.71 282 iP Pn 16 43 09.3 +1.4
MNGR Mingechevir, A 3.73 53 P Pn 16 43 10.1 +2.1
MALT Malatya 3.73 267 PN Pn 16 43 09.4 +1.2
MALT Malatya 3.73 267 P Pn 16 43 09.6 +1.4
ARPR Arapgir-MALATY 3.81 279 PN Pn 16 43 10.1 +0.8
GUDG Gudauri 4.00 14 P Pn 16 43 14.5 +2.6
SURC SANLIURFA_SURC 4.00 246 iP Pn 16 43 14.0 +2.2
ONI Oni 4.00 3 PN Pn 16 43 13.1 +1.2
ONI Oni 4.00 3 P Pn 16 43 15.8 +3.9
SEKA Sheki 4.05 49 P Pn 16 43 15.4 +2.8
ZEI Tsey 4.23 7 eP Pn 16 43 17.3 +2.2
ZEI pmax pmax
comp=Z,11nm,0.6s
LKRN Lenkeran, Azer 4.39 87 P Pn 16 43 16.5 -0.7
AKT Akhty 4.54 49⇑ eP Pn 16 43 22.4 +3.1
IDHR Dehrash 4.67 145 ePn Pn 16 43 24.9 +3.8
ILIN Lien 4.76 139 ePn Pn 16 43 23.6 +1.1
GAZ Gaziantep 4.92 255 Pn Pn 16 43 26.2 +1.6
GROC Groznyy 5.02 23⇑ eP Pn 16 43 30.4 +4.6
KBZ Khabaz 5.14 358 Pn Pn 16 43 32.2 +4.9
comp=Z,0.2nm,0.3s,baz=151,slow=10,SNR=5.5
KBZ Pg Pb 16 43 44.4 +3.9
comp=Z,0.8nm,0.3s,baz=188,slow=11,SNR=8.9
KBZ LR LR 16 45 49.8
comp=Z,2µm,18.1s,baz=200,slow=42
KBZ Khabaz 5.14 358⇓ eP Pn 16 43 33.3 +5.9
ARXR Arkhyz 5.17 345 ceP Pn 16 43 33.1 +5.1
QSDN Sirdan 5.21 112 ePn Pn 16 43 32.6 +4.0
KAMA Osmaniye 5.33 257 iP Pg 16 43 49.3 -3.5
KIV Kislovodsk 5.37 356 iP Pg 16 43 51.6 -2.0
SNR=7.7
KIV Kislovodsk 5.37 356 iP Pn 16 43 36.0 +5.3
KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,1µm,18.0s
KIV Kislovodsk 5.37 356 Pn Pn 16 43 33.7 +3.0
KVAR Kislovodsk Arr 5.37 356 Pn Pb 16 43 37.8 -6.7
baz=259,slow=22,SNR=2.1
KVAR Pg Pg 16 43 49.2 -4.4
baz=270,slow=20,SNR=3.5
KVAR LR LR 16 46 03.1
comp=Z,1µm,20.6s,baz=64,slow=42
CUSAR Sarkisla-SIVAS 5.46 281 iP Pb 16 43 47.2 +1.2
MAK Makhachkala 5.47 36 eP Pn 16 43 29.1 -2.8
MAK eS Sn 16 44 32.6 -2.1
MAK pmax pmax
comp=Z,131nm,1.1s
MAK MLR MLR
comp=Z,983nm,14.0s
IKOM Komasi 5.63 140 ePn Pn 16 43 37.3 +3.0
SOC Sochi 5.63 333 eP Pb 16 43 41.9 -6.9
SOC e 16 44 45.4
SOC pmax pmax
comp=Z,35nm,0.8s
QABG Abgarm-Qazvin 5.87 117 ePn Pn 16 43 40.1 +2.3
HAGD Aghdareh 6.09 126 ePn Pn 16 43 43.7 +2.9
HSAM Samen 6.19 133 ePn Pn 16 43 45.3 +3.2
QALM Alamut, Qazvin 6.32 108 ePn Pn 16 43 47.8 +3.9
GOF Gofitskoye 6.46 359⇑ eP Pn 16 43 51.2 +5.6
GOF pmax pmax
comp=Z,24nm,0.6s
IKMR Kamar-syah 6.59 139 ePn Pn 16 43 48.9 +1.6
BR131 Keskin Array S 7.49 282 iP Pn 16 44 02.1 +2.2
BR131 Keskin Array S 7.49 282 Pn Pn 16 44 01.3 +1.4
BRTR Keskin Array B 7.49 282 Pn Pn 16 44 02.5 +2.6
comp=Z,0.1nm,0.3s,baz=102,slow=13,SNR=8.0
BRTR Pg Pb 16 44 26.8 +6.1
comp=Z,0.1nm,0.3s,baz=98,slow=14,SNR=4.3
BRTR Lg Lg 16 46 07.0
comp=Z,0.0nm,0.3s,baz=79,slow=18,SNR=1.4
BRTR LR LR 16 46 27.2
comp=Z,15nm,19.7s,baz=104,slow=34
BRTR Keskin Array B 7.49 282 iP Pn 16 44 04.5 +4.6
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 7.49 282 Pn Pn 16 44 01.4 +1.6
ANN Anapa 7.54 327 eP Pb 16 44 15.0 -6.4
ANN eS Sb 16 45 40.1 -11
ANN MLR MLR
comp=Z,172nm,13.0s
NATI Neve Ativ 8.04 231 Pn Pn 16 44 11.0 +3.8
GEM Giv'at Ha'Em 8.12 231 Pn Pn 16 44 11.1 +2.8
ASF Jabal al Asfar 8.20 221 Pn Pn 16 44 13.0 +3.5
comp=Z,0.3nm,0.3s,baz=350,slow=13,SNR=5.2
ASF Lg Lg 16 46 22.9
comp=Z,0.4nm,0.3s,baz=38,slow=19,SNR=3.6
MMAI Mount Meron Ar 8.41 231 Pn Pn 16 44 14.1 +1.6
comp=Z,0.6nm,0.3s,baz=45,slow=14,SNR=1.5
MMAI Lg Lg 16 46 32.6
comp=Z,0.5nm,0.3s,baz=165,slow=22,SNR=2.4
MMAI LR LR 16 47 54.1
comp=Z,340nm,20.8s,baz=40,slow=42
MMLI Mount Malkishu 8.80 228 Pn Pn 16 44 20.5 +2.7
HMDT Nahal Hemdat 8.88 227 Pn Pn 16 44 21.3 +2.5
SLTI Sal'it 9.17 229 Pn Pn 16 44 25.5 +2.7
MDUB Mudurnu 9.44 285 Pn Pn 16 44 25.7 -0.8
EIL Elat 11.20 220 Lg Lg 16 48 00.5
comp=Z,0.4nm,0.3s,baz=318,slow=19,SNR=1.8
GEYT Alibeck 11.77 89 Pn Pn 16 44 59.0 +0.6
comp=Z,0.2nm,0.3s,baz=266,slow=17,SNR=7.4
GEYT LR LR 16 50 04.8
comp=Z,103nm,18.3s,baz=240,slow=40
GEYT Alibeck 11.77 89 Pn 16 44 56.3 -2.1
ISFR Sfrayin 11.83 93 ePn Pn 16 45 01.6 +2.1
VRH Novokhopyorsk 12.65 356 eP Pn 16 45 12.9 +2.6
VRH pmax pmax
comp=Z,10.0nm,0.6s
VRH MLR MLR
comp=Z,810nm,15.0s
VORD Divnogorie 12.67 349 eP Pn 16 45 14.5 +3.9
VORD pmax pmax
comp=Z,20nm,1.4s
HARR Harsova 12.92 303 ⇑iP P 16 45 26.9 +2.2
HARR Harsova 12.92 303 ⇑iP P 16 45 26.9 +2.2
VSR Storozhevoye 12.94 349 eP Pn 16 45 14.9 +0.7
VSR pmax pmax
comp=Z,10.0nm,1.1s
VSR MLR MLR
comp=Z,580nm,15.0s
CFR Carcaliu 12.98 305 ⇑iP P 16 45 27.3 +1.9
CFR Carcaliu 12.98 305 ⇑iP P 16 45 27.3 +1.9
KARP Karpathos 13.14 262 Pn Pn 16 45 18.6 +1.4
VRI Vrincioaia 14.17 306 ⇓iP P 16 45 40.4 +1.7
VRI Vrincioaia 14.17 306 ⇓iP P 16 45 40.4 +1.7
PLOR Plostina 14.21 306 ⇓iP P 16 45 41.6 +2.4
PLOR Plostina 14.21 306 ⇓iP P 16 45 41.6 +2.4
LPSR Galich'ya Gora 14.32 349 eP Pn 16 45 34.5 +1.4
LPSR pmax pmax
comp=Z,10.0nm,0.9s
LPSR MLR MLR
comp=Z,510nm,15.0s
TESR Tescani 14.51 308 ⇑iP P 16 45 43.5 +1.1
MLR Muntele Rosu 14.52 304 Pn Pn 16 45 38.6 +2.5
comp=Z,0.1nm,0.3s,baz=140,slow=6.5,SNR=4.9
MLR Muntele Rosu 14.52 304 ⇑iP P 16 45 46.4 +3.7
MLR Muntele Rosu 14.52 304 Pn Pn 16 45 38.2 +2.2

IDI Anoyia 14.98 263 Pn Pn 16 45 42.9 +0.6
comp=Z,0.0nm,0.3s,baz=43,slow=8.2,SNR=2.7
IDI Anoyia 14.98 263 Pn Pn 16 45 42.5 +0.2
DOPR Dopca 15.07 305 ⇓iP P 16 45 51.5 +2.9
VOIR 15.09 303 ⇓iP P 16 45 53.1 +4.1
VOIR 15.09 303 P P 16 45 52.8 +3.8
VOIR pmax pmax
comp=Z,41nm,1.1s
RAYN Ar Rayn 15.15 172 iP Pn 16 45 41.4 -3.2
SNR=8.4
RAYN Ar Rayn 15.15 172 P Pn 16 45 41.9 -2.7
RAYN pmax pmax
comp=Z,10.0nm,0.8s
RAYN Ar Rayn 15.15 172 Pn Pn 16 45 41.9 -2.7
AKASG Malin Array Be 15.62 325 Pn Pn 16 45 51.4 +0.8
comp=Z,0.8nm,0.3s,baz=134,slow=12,SNR=7.9
AKASG LR LR 16 52 52.7
comp=Z,175nm,19.0s,baz=110,slow=41
AKASG Malin Array Be 15.62 325 Pn Pn 16 45 49.6 -0.9
AKBB Malin Array Si 15.62 325⇑ eP Pn 16 45 51.2 +0.7
AKBB Malin Array Si 15.62 325 Pn Pn 16 45 48.9 -1.6
VTS Vitosha 15.66 291 P Pn 16 45 52.1 +0.8
VTS pmax pmax
comp=Z,19nm,1.3s
VTS Vitosha 15.66 291 Pn Pn 16 45 52.0 +0.8
AKTO Aktyubinsk 15.85 37 Pn Pn 16 45 51.8 -1.7
comp=Z,0.3nm,0.3s,baz=233,slow=12,SNR=24
AKTO Aktyubinsk 15.85 37 P Pn 16 45 52.2 -1.3
BURAR Bucovina Array 15.88 310 ⇑iP P 16 45 56.6 -1.2
BURAR Bucovina Array 15.88 310 ⇑iP P 16 45 56.6 -1.2
BURAR Bucovina Array 15.88 310 Pn Pn 16 45 55.2 +1.1
HRA Herat 15.90 99 Pn Pn 16 45 53.1 -1.4
BUR08 Bucovina Ar. S 15.91 310 Pn Pn 16 45 53.8 -0.6
LOT Lotru 15.94 302 ⇓iP P 16 46 01.3 +2.9
GZR Gara Zlata 16.59 301 ⇑iP P 16 46 10.0 +4.4
SHME Shamm 16.61 135 P Pn 16 46 02.3 -1.1
BANOM Banah 16.79 135 iP Pn 16 46 03.3 -2.4
SNR=6.7
ITM Ithomi 16.83 272 P P 16 46 08.9 +0.7
DRGR 17.09 305 ⇑iP P 16 46 12.8 +1.7
DRGR 17.09 305 ⇑iP P 16 46 12.8 +1.7
OBN Obninsk 17.12 347 P P 16 46 10.8 -0.4
comp=Z,1.0nm,0.3s,baz=149,slow=17,SNR=3.3
OBN Obninsk 17.12 347⇑ eP P 16 46 12.0 +0.8
OBN pmax pmax
comp=Z,21nm,0.6s
OBN MLR MLR
comp=Z,344nm,17.0s
OBN Obninsk 17.12 347 P 16 46 11.8 +0.5
OBN IAmb IAmb 16 46 18.3
comp=Z,23nm,0.7s
MDVR Moldovita 17.16 298 ⇓iP P 16 46 14.2 +2.3
MSFE Esma-Masafi 17.16 136 P Pn 16 46 09.3 -1.1
BZS Buzias 17.44 301 ⇓iP P 16 46 17.9 +3.0
BZS Buzias 17.44 301 ⇓iP P 16 46 17.9 +3.0
UOSS Minazif 17.52 137 P Pn 16 46 12.5 -2.3
UOSS Minazif 17.52 137 Pn Pn 16 46 12.2 -2.6
MOS Moscow 17.55 350 eP Pn 16 46 14.4 -0.6
MOS pmax pmax
comp=Z,44nm,1.2s
HATD Hatta, Dubai 17.58 138 P Pn 16 46 14.8 -0.7
ASHO Ashiyiah 17.66 138 iP Pn 16 46 14.7 -1.8
SNR=10
UZH Uzhgorod 18.09 310 eP P 16 46 24.4 +2.4
DIVS Divibare 18.23 295 P P 16 46 24.9 +1.2
KOLS Kolonicke sedl 18.24 311 eP P 16 46 25.0 +1.3
KOLS pmax pmax
comp=Z,15nm,1.3s
KOLS Kolonicke sedl 18.24 311 eP P 16 46 25.0 +1.3
KWP Kalwaria Pacla 18.31 314 eP P 16 46 25.8 +1.3
KWP Kalwaria Pacla 18.31 314 P P 16 46 25.2 +0.7
KWP pmax pmax
comp=Z,85nm,1.6s
KWP Kalwaria Pacla 18.31 314 P P 16 46 25.2 +0.7
KWP IAmb IAmb 16 46 34.2
comp=Z,85nm,1.6s
CRVS Cervenica-Dubn 18.70 310 eP Pn 16 46 30.1 +0.9
CRVS pmax pmax
comp=Z,44nm,1.5s
CRVS Cervenica-Dubn 18.70 310 eP Pn 16 46 30.1 +0.9
PSZ Piszkesteto 19.29 306 ⇓iP P 16 46 35.4 +0.1
PSZ Piszkesteto 19.29 306 P Pn 16 46 37.2 +0.9
PSZ pmax pmax
comp=Z,65nm,1.8s
PSZ Piszkesteto 19.29 306 Pn 16 46 37.2 +0.9
PSZ IAmb IAmb 16 46 45.5
comp=Z,65nm,1.8s
NIE Niedzica 19.61 311 eP Pn 16 46 41.5 +1.4
NIE Niedzica 19.61 311 P Pn 16 46 41.6 +1.4
NIE pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 20.15 307 eP Pn 16 46 46.9 +0.4
VYHS pmax pmax
comp=Z,19nm,0.9s
VYHS Vyhne 20.15 307 eP Pn 16 46 46.9 +0.4
WSAR Wadi Sarin 20.21 135 P P 16 46 45.1 -0.3
comp=Z,8.4nm,1.0s,baz=341,slow=7.4,SNR=5.2
OJC Ojcow 20.25 313 eP Pn 16 46 47.3 -0.4
OJC eS S 16 50 33.3 +0.8
OJC Ojcow 20.25 313 P Pn 16 46 47.3 -0.4
OJC pmax pmax
comp=Z,7.0nm,1.0s
OJC Ojcow 20.25 313 P Pn 16 46 47.3 -0.4
IIGN Ignalina 20.27 331 eP P 16 46 45.8 -0.1
CHGR Chuyangaron 20.29 82 P 16 46 46.7 +0.4
CHGR IAmb IAmb 16 46 50.3
comp=Z,38nm,1.1s
KIRV Kirov 20.41 9 P P 16 46 47.1 -0.3
comp=Z,5.0nm,0.6s,baz=258,slow=14,SNR=1.7
ISAL Salakas 20.48 332 eP P 16 46 47.7 -0.4
TIP Timpagrande 20.55 280 P P 16 46 50.0 +0.9
IZAR Zarasai 20.57 332 eP P 16 46 48.8 -0.3
ARU Arti 20.57 25 P P 16 46 50.0 +0.9
comp=Z,7.2nm,0.7s,baz=205,slow=5.4,SNR=32
ARU Arti 20.57 25 d iP P 16 46 50.1 +1.0
ARU 16 47 07.6
ARU S Sn 16 50 43.6 +0.7
ARU SS SnSn 16 51 01.6 +4.0
ARU pmax pmax
comp=Z,30nm,1.0s
ARU MLR MLR
comp=Z,222nm,18.0s
ARU Arti 20.57 25 P P 16 46 49.1 +0.1
ARU IAmb IAmb 16 46 52.9
comp=Z,22nm,0.8s
SUW Suwalki 20.59 325 eP Pn 16 46 50.7 -0.9
SUW Suwalki 20.59 325 P P 16 46 49.2 -0.1
SUW pmax pmax
comp=Z,91nm,1.2s
SUW Suwalki 20.59 325 P P 16 46 49.2 -0.1
JAVC Velka Javorina 21.00 308 eP Pn 16 46 56.0 -0.5
SMOL Smolenice 21.04 306 eP P 16 46 56.9 +2.6
SMOL pmax pmax
comp=Z,10.0nm,1.2s
SMOL Smolenice 21.04 306 eP P 16 46 56.9 +2.6
OKC Ostrava-Krasne 21.06 310 eS Sn 16 50 55.0 0.0
OKC AMS AMS 16 59 10.0
comp=Z,200nm,14.5s
KK31 Karatay Array 21.13 69 iP P 16 46 56.6 +1.3
KK31 Karatay Array 21.13 69 P P 16 46 56.3 +1.0
KKAR Karatay Array 21.13 69 P P 16 46 56.5 +1.2
KKAR pmax pmax
comp=Z,94nm,0.9s
KKAR Karatay Array 21.13 69 P P 16 46 56.5 +1.2
GAR Garm 21.14 80 P P 16 46 56.6 +1.1
KBL Kabul 21.15 93 P P 16 46 56.3 +0.5
KBL pmax pmax
comp=Z,32nm,1.2s
KBL Kabul 21.15 93 P P 16 46 56.3 +0.5
KBL IAmb IAmb 16 47 00.6
comp=Z,32nm,1.1s
PABE Paberze 21.27 329 eP P 16 46 56.2 -0.4
MORC Moravsky Berou 21.40 310 eP P 16 46 59.9 +1.7
MORC Moravsky Berou 21.40 310 P P 16 46 59.5 +1.3
MORC pmax pmax
comp=Z,7.0nm,1.2s
MORC Moravsky Berou 21.40 310 P P 16 46 59.5 +1.3
SVE Sverdlovsk 21.59 27 eP P 16 47 01.3 +1.2
SVE pmax pmax
comp=Z,34nm,1.2s
VRAC Vranov 21.82 308 P P 16 47 04.4 +1.8
comp=Z,2.9nm,0.6s,baz=115,slow=12,SNR=7.1
VRAC Vranov 21.82 308 eP P 16 47 06.4 +3.8
KRUC Moravsky 21.86 307 eP P 16 47 03.8 +0.7

KRUC **Moravsky** 21.86 307 P **P** 16 47 04.5 +1.4
KRUC pmax pmax
comp=Z,12nm,1.3s
CONA **Conrad Observa** 21.87 304 *i* P **P** 16 47 05.4 +2.1
comp=Z,17nm,1.2s
ARSA **Arzberg** 21.93 302 *e*P **P** 16 47 05.9 +2.1
comp=Z,9.6nm,1.0s
PAOL **Paolisi** 22.07 285 P **P** 16 47 06.8 +1.3
PAOL IAmb IAmb 16 47 11.5
comp=Z,42nm,1.9s
SOKA **Soboth** 22.14 300 *i* P **P** 16 47 08.4 +2.2
comp=Z,3.8nm,0.9s
DPC **Dobruska-Polom** 22.35 310 AMS AMS 16 58 00.0
comp=Z,200nm,13.7s
KLMR **Klimovskoe** 22.40 355 *e*P **P** 16 47 06.9 -1.8
KLMR pmax pmax
comp=Z,35nm,1.0s
KLMR **Klimovskoe** 22.40 355 *e*P **P** 16 47 07.0 -1.8
KLMR AMP 16 47 15.7
comp=Z,35nm,1.0s
KLMR LQ LQ 16 54 32.1
KLMR LQ LQ 16 54 32.1
KLMR LR LR 16 55 22.5
OBKA **Obir** 22.43 300 *i* P **P** 16 47 10.3 +0.9
comp=Z,2.8nm,0.5s
PBUR **Paburge** 22.46 328 *e*P **P** 16 47 08.9 -0.6
OSTC **Ostas** 22.48 311 AMS AMS 16 58 10.0
comp=Z,200nm,15.6s
INTR **Introdacqua** 22.53 288 P **P** 16 47 11.3 +0.9
KSP **Ksiaz** 22.55 312 *e*P **P** 16 47 11.8 +1.4
KSP **Ksiaz** 22.55 312 P **P** 16 47 13.5 +3.1
KSP pmax pmax
comp=Z,8.0nm,1.2s
VSU **Vasula** 22.55 337 *e*P **P** 16 47 10.1 -0.2
UPC **Upice** 22.59 311 *e*P **P** 16 47 13.8 +2.9
UPC *e*S Sn 16 51 27.8 -3.8
UPC AMS AMS 16 58 10.0
comp=Z,200nm,12.4s
UPC **Upice** 22.59 311 *e*P **P** 16 47 13.8 +2.9
UPC MLR MLR
comp=Z,200nm,12.4s
CHVC **Chvalec** 22.59 311 *e*P **P** 16 47 13.0 +2.1
CHVC AMS AMS 16 58 40.0
comp=Z,200nm,12.7s
VAE **Valguarnera** 22.64 276 P **P** 16 47 12.2 +0.6
comp=Z,6.8nm,0.4s,baz=328,slow=9.5,SNR=4.1
MOA **Molln** 22.89 303 *i* P **P** 16 47 15.0 +0.8
comp=Z,5.9nm,0.8s
AQU **L'Aquila** 22.90 289 P **P** 16 47 15.3 +1.1
AQU pmax pmax
comp=Z,16nm,0.7s
AQU **L'Aquila** 22.90 289 P **P** 16 47 15.3 +1.1
AQU IAmb IAmb 16 47 25.2
comp=Z,16nm,0.7s
PRED **Cave del Predi** 23.09 299 P **P** 16 47 15.4 -0.8
NRCA **Norcia** 23.11 290 P **P** 16 47 16.6 +0.1
GOPC **GO Pecny, Ondr** 23.13 309 *e*S **S** 16 51 33.4 +5.8
GOPC AMS AMS 16 58 20.0
comp=Z,200nm,12.0s
OTUK **Ortayu** 23.16 56 P **P** 16 47 17.7 +0.8
PRU **Pruhonice** 23.30 309 *e*S **S** 16 51 31.1 +0.7
PRU AMS AMS 16 58 30.0
comp=Z,100nm,13.6s
KBA **Koelnbreinsper** 23.35 301 *i* pP **P** 16 47 20.7 +1.7
comp=Z,12nm,1.1s
PRA **Prague** 23.39 309 AMS AMS 16 59 10.0
comp=Z,100nm,17.3s
CORL **Corleone** 23.42 278 P **P** 16 47 20.6 +0.9
CORL IAmb IAmb 16 47 45.7
comp=Z,18nm,1.2s
SLIT **Slitere, Latvi** 23.43 331 *e*P **P** 16 47 17.9 -1.5
AML **Almayashu** 23.46 72 P **P** 16 47 23.3 +2.9
SNR=11
GEC2 **GERESS Array S** 23.50 305 P **P** 16 47 20.7 +0.3
GERES **GERESS Array B** 23.50 305 P **P** 16 47 21.0 +0.6
comp=Z,1.5nm,0.7s,baz=107,slow=8.9,SNR=14
GERES LR LR 16 57 40.1
comp=Z,92nm,20.8s,baz=112,slow=40
GERES **GERESS Array B** 23.50 305 P **P** 16 47 20.4 0.0
ZOU **Zoufplan** 23.51 300 P **P** 16 47 20.6 -0.1
EKS2 **Erkin-Say** 23.52 70 P **P** 16 47 22.3 +1.7
SNR=37
MURB **Monte Urbino** 23.55 291 P **P** 16 47 21.5 +0.6
MURB IAmb IAmb 16 47 26.5
comp=Z,30nm,1.1s
BRVK **Borovoye** 23.61 43 *ce*P **P** 16 47 21.7 +0.4
BRVK pmax pmax
comp=Z,23nm,1.2s
BRVK **Borovoye** 23.61 43 P **P** 16 47 21.8 +0.6
BRVK IAmb IAmb 16 47 24.6
comp=Z,23nm,1.1s
BVAR **Borovoye Array** 23.65 44 P **P** 16 47 22.5 +0.8
comp=Z,10.0nm,1.0s,baz=232,slow=7.3,SNR=26
KHC **Kasperske Hory** 23.65 306 *e*P **P** 16 47 22.4 +0.6
KHC *e*S **S** 16 51 39.1 +2.9
KHC AMS AMS 16 57 20.0
comp=Z,100nm,18.9s
KHC **Kasperske Hory** 23.65 306 ǁ *e*P **P** 16 47 22.6 +0.8
KHC pmax pmax
comp=Z,32nm,1.7s
KHC **Kasperske Hory** 23.65 306 P **P** 16 47 22.1 +0.3
ABTA **Abfaltersbach** 23.85 300 *i* pP pP 16 47 26.9 -1.0
comp=Z,5.7nm,0.7s
BRG **Berggiesshubel** 23.95 310 *e*P **P** 16 47 25.3 +0.7
comp=Z,4.1nm,1.0s
BRG **Berggiesshubel** 23.95 310 *e*P **P** 16 47 25.3 +0.7
BRG pmax pmax
comp=Z,4.0nm,1.0s
AAK **Ala-Archa** 24.05 70 P **P** 16 47 27.8 +2.1
comp=Z,9.1nm,0.9s,baz=240,slow=8.2,SNR=18
AAK PcP **PcP** 16 51 07.6 +0.4
comp=Z,0.7nm,0.3s,baz=117,slow=2.3,SNR=3.8
AAK **Ala-Archa** 24.05 70 P **P** 16 47 27.4 +1.6
SNR=9.2
AAK **Ala-Archa** 24.05 70 P **P** 16 47 27.6 +1.8
AAK **Ala-Archa** 24.05 70 *c* *i* P **P** 16 47 27.3 +1.6
AAK pmax pmax
comp=Z,17nm,1.0s
AAK **Ala-Archa** 24.05 70 P **P** 16 47 26.6 +0.8
AAK IAmb IAmb 16 47 29.5
comp=Z,15nm,1.0s
USP **Ospenovka** 24.05 69 P **P** 16 47 27.8 +2.1
SNR=8.6
UCH **Uchtor** 24.07 71 P **P** 16 47 28.2 +1.8
SNR=10
WET **Wettzell** 24.10 306 P **P** 16 47 27.4 +1.4
FRU1 **Bishkek** 24.14 70 P **P** 16 47 28.2 +1.6
FRU1 pmax pmax
comp=Z,31nm,0.9s
FRU1 **Bishkek** 24.14 70 P **P** 16 47 28.2 +1.6
CHMS **Chumysh** 24.23 69 P **P** 16 47 29.6 +2.2
SNR=16
CTI **Castel Tesino** 24.35 298 P **P** 16 47 29.3 +0.8
CTI pmax pmax
comp=Z,8.0nm,0.9s
CTI **Castel Tesino** 24.35 298 P **P** 16 47 29.3 +0.8
KBK **Karagaybulak** 24.38 70 P **P** 16 47 31.2 +2.3
SNR=28
OSSC **Osservatorio P** 24.48 292 P **P** 16 47 30.3 +0.7
OSSC IAmb IAmb 16 47 33.3
comp=Z,11nm,1.1s
WTTA **Wattenberg** 24.53 301 *i* P **P** 16 47 31.1 +0.9
comp=Z,14nm,1.1s
WATA **Walderalm** 24.58 301 *i* P **P** 16 47 31.9 +1.3
comp=Z,9.9nm,0.9s
KZA **Kyzart** 24.62 72 P **P** 16 47 33.7 +2.4
SNR=18
CLL **Collm** 24.65 311 *i* P **P** 16 47 32.5 +1.5
comp=Z,5.0nm,0.8s
CLL *e* 16 47 43.0
CLL *e*S **S** 16 51 54.0 +1.9
CLL *e*SSS SSS 16 52 48.0
CLL **Collm** 24.65 311 *i* P **P** 16 47 32.5 +1.5
CLL *e*S **S** 16 51 54.0 +1.9
CLL pmax pmax
comp=Z,5.0nm,0.8s
CLL **Collm** 24.65 311 P **P** 16 47 32.2 +1.2
NKC **Novy Kostel** 24.66 308 *e*P **P** 16 47 32.2 +1.1
NKC *ex* x 16 47 39.5
NKC AMS AMS 16 59 30.0
comp=Z,200nm,13.0s
NKC **Novy Kostel** 24.66 308 *e*P **P** 16 47 32.2 +1.1
NKC *e* 16 47 39.5
NKC MLR MLR
comp=Z,200nm,13.0s

ZCCA **Zocca** 24.70 294 P **P** 16 47 33.0 +1.5
ZCCA IAmb IAmb 16 47 57.5
comp=Z,20nm,1.2s
NIL **Nilore** 24.73 92 P **P** 16 47 32.7 +0.7
NIL pmax pmax
comp=Z,18nm,1.1s
NIL **Nilore** 24.73 92 P **P** 16 47 32.7 +0.7
NIL IAmb IAmb 16 47 37.5
comp=Z,18nm,1.1s
CASP **Castiglione de** 24.77 290 P **P** 16 47 33.5 +1.4
CASP IAmb IAmb 16 47 35.6
comp=Z,16nm,1.0s
SQTA **Sankt Quirin** 24.81 301 *i* P **P** 16 47 33.7 +1.1
comp=Z,10nm,0.8s
TKM2 **Tokmak 2** 24.85 70 P **P** 16 47 34.9 +1.7
SNR=20
TKM2 **Tokmak 2** 24.85 70 P **P** 16 47 35.0 +1.8
MOTA **Moosalm** 24.90 301 *i* P **P** 16 47 34.6 +1.1
comp=Z,6.5nm,0.7s
FETA **Feichten** 25.10 300 *i* pP pP 16 47 37.8 -1.7
comp=Z,3.5nm,0.6s
BOOM **Boomskoye usch** 25.12 71 P **P** 16 47 37.6 +2.1
BOOM pmax pmax
comp=Z,27nm,0.9s
BOOM **Boomskoye usch** 25.12 71 P **P** 16 47 37.6 +2.1
RETA **Reutte** 25.15 301 *i* P **P** 16 47 37.5 +1.9
comp=Z,4.0nm,0.9s
FIA1 **FINESS Array S** 25.22 341 P **P** 16 47 36.5 +0.5
FIA1 IAmb IAmb 16 47 39.6
comp=Z,26nm,1.5s
FINES **FINESS Array B** 25.22 341 P **P** 16 47 36.6 +0.6
comp=Z,4.1nm,0.7s,baz=134,slow=11,SNR=15
FINES LR LR 16 58 44.9
comp=Z,215nm,19.4s,baz=153,slow=39
FINES **FINESS Array B** 25.22 341 P **P** 16 47 35.6 -0.4
GRA1 **Grafenberg Arr** 25.28 306 P **P** 16 47 37.8 +1.1
GRF **Grafenberg Arr** 25.28 306 P **P** 16 47 37.8 +1.1
GRF pmax pmax
comp=Z,38nm,1.1s
ULHL **Ulahol** 25.35 71 P **P** 16 47 40.3 +2.6
SNR=34
FUORN **Ofenpass-Fuorn** 25.37 299 P **P** 16 47 38.2 +0.3
KSH **Kashi** 25.42 78 *e*P **P** 16 47 38.0 -0.2
KSH sP sP 16 47 43.9 -0.3
KSH pmax pmax
comp=Z,39nm,0.9s
KSH pmax pmax
comp=Z,170nm,5.0s
DAVOX **Davos/Dischmat** 25.65 299 P **P** 16 47 39.0 -1.4
comp=Z,2.3nm,0.5s
DAVOX **Davos/Dischmat** 25.65 299 P **P** 16 47 39.0 -1.4
DAVA **Damuels** 25.71 301 *i* P **P** 16 47 41.8 +0.9
comp=Z,12nm,1.5s
MSSA **Maissana** 25.74 294 P **P** 16 47 40.5 -0.5
MSSA IAmb IAmb 16 47 44.9
comp=Z,9.9nm,0.9s
TMCR **Tamitsa** 25.79 355 *e*P **P** 16 47 40.9 -0.2
TMCR pmax pmax
comp=Z,18nm,0.8s
KDJ **Kajisay** 26.05 71 P **P** 16 47 45.7 +1.6
KDJ pmax pmax
comp=Z,25nm,0.9s
KDJ **Kajisay** 26.05 71 P **P** 16 47 45.7 +1.6
VSL **Villasalto** 26.18 283 P **P** 16 47 45.2 +0.3
VSL IAmb IAmb 16 47 48.2
comp=Z,8.0nm,1.0s
TARG **Taragay, Kyrgy** 26.55 72 P **P** 16 47 49.0 +0.2
TARG IAmb IAmb 16 47 53.7
comp=Z,8.9nm,0.9s
KEST **Kesra** 27.02 275 P **P** 16 47 53.7 +1.0
KEST IAmb IAmb 16 48 21.6
comp=Z,10nm,1.4s
SENIN **Lac Senin/Sane** 27.39 298 P **P** 16 47 56.1 0.0
SENIN IAmb IAmb 16 48 16.1
comp=Z,22nm,1.8s
KURBB **Kurchatov Arra** 27.63 53 P **P** 16 47 59.4 +1.5
comp=Z,9.6nm,0.8s,baz=264,slow=9.0,SNR=86
KURBB PcP **PcP** 16 51 15.2 +0.2
comp=Z,1.9nm,0.9s,baz=261,slow=3.7,SNR=9.4
KURBB **Kurchatov Arra** 27.63 53 P **P** 16 47 59.0 +1.1
ECH **Echery** 27.65 302 P **P** 16 47 58.6 +0.4
ECH pmax pmax
comp=Z,12nm,1.9s
ECH **Echery** 27.65 302 P **P** 16 47 58.5 +0.4
KURK **Kurchatov** 27.71 52 *c* *i* P **P** 16 47 59.9 +1.3
KURK pmax pmax
comp=Z,21nm,1.3s
KURK **Kurchatov** 27.71 52 P **P** 16 47 59.3 +0.7
KURK IAmb IAmb 16 48 01.1
comp=Z,14nm,0.9s
KURK **Kurchatov** 27.71 52 **PcP** 16 51 15.2 +0.1
BNI **Bardonecchia** 27.78 295 P **P** 16 47 59.8 +0.3
BNI pmax pmax
comp=Z,11nm,1.2s
BNI **Bardonecchia** 27.78 295 P **P** 16 47 59.8 +0.3
BNI IAmb IAmb 16 48 15.4
comp=Z,11nm,1.2s
HFS **Hagfors** 28.45 329 P **P** 16 48 05.4 +0.3
comp=Z,5.5nm,0.8s,baz=134,slow=11,SNR=10
SSB **Saint Sauveur** 29.29 296 P **P** 16 48 13.2 +0.4
SSB pmax pmax
comp=Z,10.0nm,1.5s
SSB **Saint Sauveur** 29.29 296 P **P** 16 48 13.2 +0.4
SSB IAmb IAmb 16 48 14.5
comp=Z,10nm,1.5s
MAKZ **Makanchi** 29.43 61 P **P** 16 48 14.9 +0.8
MAKZ pmax pmax
comp=Z,5.0nm,1.0s
MAKZ **Makanchi** 29.43 61 P **P** 16 48 14.9 +0.8
MK31 **Makanchi Array** 29.65 61 *i* P **P** 16 48 17.0 +1.1
MK31 **Makanchi Array** 29.65 61 P **P** 16 48 17.1 +1.1
MKAR **Makanchi Array** 29.65 61 P **P** 16 48 17.6 +1.7
comp=Z,4.5nm,0.7s,baz=269,slow=6.9,SNR=52
MKAR **Makanchi Array** 29.65 61 P **P** 16 48 16.7 +0.8
LVZ **Lovozero** 29.74 354 ǁ *e*P **P** 16 48 16.3 -0.2
LVZ pmax pmax
comp=Z,14nm,0.7s
NB2 **NORSAR Subarra** 29.97 329 P **P** 16 48 18.1 -0.6
comp=Z,3.5nm,0.9s,baz=125,slow=9.3
NOA **NORSAR Array B** 29.97 329 P **P** 16 48 18.2 -0.5
comp=Z,1.5nm,0.8s,baz=126,slow=8.9,SNR=4.8
NOA LR LR 17 01 20.7
comp=Z,77nm,19.6s,baz=120,slow=38
ZALV **Zalesovo Beam** 32.09 48 P **P** 16 48 38.0 +0.6
comp=Z,1.9nm,0.6s,baz=257,slow=8.8,SNR=7.6
ZALV LR LR 17 04 05.7
comp=Z,53nm,20.4s,baz=239,slow=41
ZALV **Zalesovo Beam** 32.09 48 P **P** 16 48 37.0 -0.4
ARCES **ARCESS Array B** 32.42 349 P **P** 16 48 40.4 +0.2
comp=Z,2.6nm,0.8s,baz=152,slow=7.9,SNR=11
ARCES LR LR 17 02 22.3
comp=Z,272nm,18.6s,baz=152,slow=37
DGZ **Jazzator, Alta** 33.19 56 *ce*P **P** 16 48 48.9 +1.6
DGZ pmax pmax
comp=Z,9.0nm,1.0s
ESK **Eskdalemuir** 35.04 314 P **P** 16 49 02.7 -0.3
ESK pmax pmax
comp=Z,10.0nm,0.9s
ESK **Eskdalemuir** 35.04 314 P **P** 16 49 02.6 -0.3
ESK IAmb IAmb 16 49 04.5
comp=Z,10nm,0.8s
ESBB **Sonseca Array** 36.25 287 P **P** 16 49 13.7 0.0
ESDC **Sonseca Array** 36.25 287 P **P** 16 49 13.3 -0.4
comp=Z,2.2nm,0.9s,baz=64,slow=8.4,SNR=12
ESDC LR LR 17 04 16.2
comp=Z,52nm,20.9s,baz=0.0,slow=37
ESDC **Sonseca Array** 36.25 287 IAmb IAmb 16 49 14.4
comp=Z,8.7nm,1.2s
MTE **Manteigas** 38.74 289 P **P** 16 49 34.8 0.0
KMBO **Kilima Mbogo** 39.90 189 LR LR 17 05 07.3
comp=Z,200nm,19.0s,baz=54,slow=35
LSA **Lhasa** 40.30 88 P **P** 16 49 48.8 +0.4
LSA pmax pmax
comp=Z,9.0nm,0.8s
LSA **Lhasa** 40.30 88 P **P** 16 49 48.8 +0.4
LSA IAmb IAmb 16 49 50.8
comp=Z,8.6nm,0.8s
SHL **Shillong** 42.81 93 P **P** 16 50 08.1 -0.5
SHL pmax pmax
comp=Z,6.0nm,0.7s
SHL **Shillong** 42.81 93 P **P** 16 50 08.1 -0.5
SHL IAmb IAmb 16 50 09.0
comp=Z,6.2nm,0.7s
GTA **Gaotai** 43.40 70 *e*P **P** 16 50 14.6 +1.4
GTA pP sP 16 50 19.5 +0.2

GTA sP pP 16 50 22.6 +5.0
GTA pmax pmax
comp=Z,12nm,1.0s
TORD **Torodi Ar. Bea** 44.57 247 P **P** 16 50 21.5 -1.2
comp=Z,1.9nm,0.8s,baz=57,slow=9.1,SNR=7.3
TORD PcP **PcP** 16 52 05.5 -0.2
comp=Z,0.7nm,1.0s,baz=23,slow=1.4,SNR=4.7
TORD **Torodi Ar. Bea** 44.57 247 P **P** 16 50 20.6 -2.2
SONM **Songino Array** 45.82 57 LR LR 17 12 28.2
comp=Z,104nm,18.6s,baz=266,slow=40
ULN **Ulaanbaatar** 46.25 57 *ce*P **P** 16 50 37.2 +1.4
ULN pmax pmax
comp=Z,17nm,1.7s
ULN **Ulaanbaatar** 46.25 57 P **P** 16 50 36.7 +0.8
ULN IAmb IAmb 16 50 38.4
comp=Z,9.8nm,1.1s
LZH **Lanzhou** 47.53 73 *e*P **P** 16 50 47.2 +1.1
LZH pP pP 16 50 50.8 +0.4
LZH sP sP 16 50 52.7 +0.6
LZH PP **PP** 16 52 29.7 -7.7
LZH pmax pmax
comp=Z,32nm,1.1s
LZH pmax pmax
comp=Z,130nm,4.9s
SUMG **Summit** 51.19 338 P **P** 16 51 14.4 +0.6
SUMG pmax pmax
comp=Z,8.0nm,1.1s
SUMG **Summit** 51.19 338 P **P** 16 51 14.4 +0.6
SUMG IAmb IAmb 16 52 43.3
comp=Z,7.5nm,1.1s
HHC **Hu-ho-hao-te** 51.42 64 *e*P **P** 16 51 15.0 -0.6
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,48nm,7.7s
KMI **Kunming** 51.53 87 P **P** 16 51 18.1 +1.3
KMI pP sP 16 51 26.3 +3.4
KMI pmax pmax
comp=Z,11nm,1.1s
KMI pmax pmax
comp=Z,99nm,4.7s
CHTO **Chiang Mai** 51.93 96 P **P** 16 51 19.3 -0.2
CHTO **Chiang Mai** 51.93 96 P **P** 16 51 19.3 -0.2
CHTO IAmb IAmb 16 51 20.5
comp=Z,7.9nm,0.7s
CM31 **Chiang Mai Arr** 52.13 96 P **P** 16 51 20.9 -0.2
CM31 IAmb IAmb 16 51 22.1
comp=Z,10.0nm,0.9s
CMAR **Chiang Mai Arr** 52.13 96 P **P** 16 51 21.4 +0.4
comp=Z,5.4nm,0.8s,baz=299,slow=8.4,SNR=29
CMAR PcP **PcP** 16 52 33.2 +0.3
comp=Z,1.1nm,0.9s,baz=317,slow=6.1,SNR=2.3
CMAR LR LR 17 18 33.2
comp=Z,43nm,21.4s,baz=352,slow=42
XAN **Xi'an** 52.17 73 P **P** 16 51 21.2 0.0
XAN pP sP 16 51 43.2 +16
XAN pmax pmax
comp=Z,16nm,1.1s
XAN pmax pmax
comp=Z,74nm,6.5s
XAN **Xi'an** 52.17 73 P **P** 16 51 21.2 0.0
XAN pmax pmax
comp=Z,13nm,1.0s
XAN **Xi'an** 52.17 73 P **P** 16 51 21.2 0.0
TIXI **Tiksi** 52.57 23 ǁ *e*P **P** 16 51 24.2 +0.7
TIXI pmax pmax
comp=Z,3.0nm,1.2s
TIXI **Tiksi** 52.57 23 P **P** 16 51 24.4 +0.9
TIXI IAmb IAmb 16 51 30.3
comp=Z,15nm,1.9s
GYA **Guiyang** 53.93 83 ǁ *i*P **P** 16 51 35.0 +0.6
GYA pP sP 16 51 52.4 +12
GYA PP PP 16 53 50.5 +15
GYA S **S** 16 59 09.8 0.0
GYA **Guiyang** 53.93 83 SS **SKiKP** 17 02 39.8 -7.7
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,220nm,3.8s
GYA LR LR
comp=N,300nm,3.9s
GYA LR LR
comp=E,210nm,4.5s
GYA LR LR
comp=Z,120nm,4.6s
ENH **Enshi** 54.27 77 P **P** 16 51 37.5 +0.8
SLVN **Son La** 54.42 90 P **P** 16 51 38.1 +0.2
SLVN IAmb IAmb 16 51 39.6
comp=Z,5.5nm,0.9s
YAK **Yakutsk** 55.23 35 *e*P **P** 16 51 43.2 +0.1
YAK pmax pmax
comp=Z,6.0nm,0.7s
YAK **Yakutsk** 55.23 35 P **P** 16 51 42.6 -0.4
YAK IAmb IAmb 16 51 43.9
comp=Z,8.5nm,0.9s
NJ2 **Nanjing** 60.49 71 *e*P **P** 16 52 18.4 -2.1
NJ2 pmax pmax
comp=Z,18nm,0.5s
IPM **Ipoh** 62.36 108 P **P** 16 52 31.9 -1.5
INCN **Inchon** 63.42 62 P **P** 16 52 39.3 -0.9
INCN pmax pmax
comp=Z,16nm,0.7s
INCN **Inchon** 63.42 62 P **P** 16 52 39.3 -0.9
USA0B **Ussuriysk Arra** 63.69 53 ǁ *e*P **P** 16 52 41.8 0.0
USA0B **Ussuriysk Arra** 63.69 53 P **P** 16 52 41.6 -0.2
USRK **Ussuriysk Ar.** 63.69 53 P **P** 16 52 41.0 -0.8
comp=Z,4.8nm,0.9s,baz=296,slow=6.1,SNR=8.0
USRK **Ussuriysk Ar.** 63.69 53 P **P** 16 52 41.4 -0.4
USRK **Ussuriysk Ar.** 63.69 53 P **P** 16 52 41.4 -0.4
MSHR **Mys Shultsa** 63.95 55 *de*P **P** 16 52 43.4 -0.2
MSHR pmax pmax
comp=Z,3.0nm,1.3s
KS19 **Wonju Array Si** 64.27 62 P **P** 16 52 46.0 +0.2
KSRS **Korea Array** 64.33 62 P **P** 16 52 46.4 +0.2
comp=Z,13nm,0.8s,baz=289,slow=6.3,SNR=48
KSRS LR LR 17 24 19.4
comp=Z,44nm,18.2s,baz=0.0,slow=39
BILL **Bilibino** 65.51 20 *d* *i* P **P** 16 52 54.4 +1.1
BILL pmax pmax
comp=Z,4.0nm,1.0s
BILL **Bilibino** 65.51 20 P **P** 16 52 53.9 +0.6
JNU **Nakatsue** 68.65 64 P **P** 16 53 13.5 -0.4
BOSA **Boshof** 68.92 197 P **P** 16 53 13.8 -1.6
comp=Z,2.3nm,0.8s,baz=43,slow=11,SNR=2.4
BOSA **Boshof** 68.92 197 P **P** 16 53 13.9 -1.6
BOSA pmax pmax
comp=Z,39nm,1.7s
MJB9 **Matsu-Tunnel** 71.77 58 P **P** 16 53 32.8 -0.2
MAJO **Matsushiro** 71.77 58 P **P** 16 53 32.8 -0.2
MAJO pmax pmax
comp=Z,15nm,1.2s
MAJO **Matsushiro** 71.77 58 P **P** 16 53 32.8 -0.2
MJAR **Matsushiro Arr** 71.77 58 P **P** 16 53 33.2 +0.2
comp=Z,5.6nm,1.0s,baz=305,slow=5.6,SNR=7.2
MJAR LR LR 17 28 17.9
comp=Z,40nm,18.3s,baz=275,slow=38
MJAR **Matsushiro Arr** 71.77 58 P **P** 16 53 33.7 +0.7
MJAR pmax pmax
comp=Z,3.0nm,1.0s
MJAR **Matsushiro Arr** 71.77 58 P **P** 16 53 33.7 +0.7
RDOG **Red Dog Mine** 71.88 10 P **P** 16 53 34.1 +1.1
C36M **Paulatuk** 71.96 355 P **P** 16 53 34.1 +0.7
SBUM **Sibu** 72.16 101 P **P** 16 53 35.5 -0.1
SBUM IAmb IAmb 16 53 37.2
comp=Z,3.3nm,1.0s
PETK **Petropavlovsk-** 72.57 35 P **P** 16 53 37.2 -0.3
comp=Z,3.6nm,1.0s,baz=323,slow=2.2,SNR=6.1
PETK LR LR 17 32 28.7
comp=Z,38nm,18.2s,baz=242,slow=42
PETK **Petropavlovsk-** 72.57 35 P **P** 16 53 36.6 -0.9
TOLK **Toolik Lake Re** 72.66 5 P **P** 16 53 38.8 +1.0
INK **Inuvik** 73.39 359 P **P** 16 53 42.2 +0.2
INK pmax pmax
comp=Z,7.0nm,1.5s
INK **Inuvik** 73.39 359 P **P** 16 53 42.2 +0.2
INK IAmb IAmb 16 53 43.1
comp=Z,7.1nm,1.4s
COLD **Coldfoot** 74.02 5 P **P** 16 53 46.4 +0.7
BMAR **Burnt Mountain** 74.14 3 P **P** 16 53 47.6 +1.1
IMAR **Indian Mountai** 74.93 7 P **P** 16 53 51.4 +0.3
ILAR **Eielson Array** 76.67 4 P **P** 16 54 01.8 +0.8
comp=Z,0.5nm,0.7s,baz=330,slow=3.0,SNR=5.2
ILAR LR LR 17 33 20.4
comp=Z,24nm,18.2s,baz=62,slow=40
ILAR **Eielson Array** 76.67 4 P **P** 16 54 00.9 -0.1

CCB	**Clear Creek Bu**	**76.74**	**5**	P	**P**	**16 54 01.1**	**-0.2**
CCB				IAmb	IAmb	16 54 02.6	
	comp=Z,10nm,1.5s						
EGAK	**Eagle**	**76.91**	**2**	P	**P**	**16 54 02.5**	**+0.1**
EGAK				IAmb	IAmb	16 54 04.2	
	comp=Z,3.8nm,0.8s						
HDA	**Harding Lake**	**77.03**	**4**	P	**P**	**16 54 02.9**	**-0.1**
HDA				IAmb	IAmb	16 54 04.0	
	comp=Z,3.8nm,0.7s						
BPAW	**Bear Paw Mtn.**	**77.03**	**6**	P	**P**	**16 54 03.4**	**+0.2**
BPAW				IAmb	IAmb	16 54 05.5	
	comp=Z,9.0nm,1.3s						
SCRK	**Sand Creek**	**77.61**	**3**	P	**P**	**16 54 07.0**	**+0.5**
SCRK				IAmb	IAmb	16 54 08.6	
	comp=Z,7.4nm,1.2s						
TTA	**Tatalina**	**77.66**	**9**	P	**P**	**16 54 06.8**	**+0.1**
TTA				pmax	pmax		
	comp=Z,12nm,1.7s						
TTA	**Tatalina**	**77.66**	**9**	P	**P**	**16 54 06.8**	**+0.1**
TTA				IAmb	IAmb	16 54 08.9	
	comp=Z,12nm,1.7s						
DAWY	**Dawson**	**77.66**	**1**	P	**P**	**16 54 07.0**	**+0.3**
DAWY				IAmb	IAmb	16 54 08.4	
	comp=Z,7.9nm,1.2s						
YKA	**Yellowknife Ar**	**77.68**	**350**	P	**P**	**16 54 07.3**	**+0.6**
	comp=Z,1.2nm,0.8s,baz=20,slow=5.4,SNR=9.2						
YKA				LR	LR	17 28 40.3	
	comp=Z,44nm,20.5s,baz=0.0,slow=36						
RIDG	**Independent Ri**	**77.81**	**4**	P	**P**	**16 54 07.7**	**+0.2**
RIDG				IAmb	IAmb	16 54 09.2	
	comp=Z,5.1nm,0.9s						
RND	**Reindeer**	**77.89**	**6**	P	**P**	**16 54 07.3**	**-0.7**
RND				pmax	pmax		
	comp=Z,10.0nm,1.4s						
RND	**Reindeer**	**77.89**	**6**	P	**P**	**16 54 07.3**	**-0.7**
RND				IAmb	IAmb	16 54 08.6	
	comp=Z,10nm,1.4s						
DOT	**Dot Lake**	**77.94**	**3**	P	**P**	**16 54 09.0**	**+0.8**
PPLA	**Purkeypile**	**78.11**	**7**	P	**P**	**16 54 10.0**	**+0.7**
DHY	**Denali Highway**	**78.33**	**5**	P	**P**	**16 54 11.0**	**+0.5**
BCAR	**Beaver Creek A**	**78.61**	**2**	P	**P**	**16 54 12.8**	**+0.8**
SML	**Sawmill**	**79.52**	**6**	P	**P**	**16 54 16.9**	**0.0**
SML	**Sawmill**	**79.52**	**6**	P	**P**	**16 54 16.9**	**0.0**
SCM	**Sheep Creek Mo**	**79.56**	**5**	P	**P**	**16 54 18.0**	**+0.8**
SCM				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SCM	**Sheep Creek Mo**	**79.56**	**5**	P	**P**	**16 54 18.0**	**+0.8**
SCM				IAmb	IAmb	16 54 19.0	
	comp=Z,7.8nm,0.8s						
BALM	**Baldy**	**80.62**	**3**	P	**P**	**16 54 23.8**	**+0.8**
BALM				IAmb	IAmb	16 54 25.0	
	comp=Z,9.1nm,1.2s						
HYT	**Haines Junctio**	**80.93**	**0**	P	**P**	**16 54 25.4**	**+0.7**
HYT				IAmb	IAmb	16 54 26.9	
	comp=Z,6.8nm,1.0s						
FFC	**Flin Flon**	**82.36**	**340**	P	**P**	**16 54 32.3**	**+0.2**
FFC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FFC	**Flin Flon**	**82.36**	**340**	P	**P**	**16 54 32.3**	**+0.2**
FFC				IAmb	IAmb	16 54 35.4	
	comp=Z,2.9nm,0.8s						
ULM	**Lac du Bonnet**	**84.47**	**335**	LR	LR	17 35 02.2	
	comp=Z,33nm,18.5s,baz=217,slow=38						
F36A	**Milaca**	**87.37**	**331**	P	**P**	**16 54 57.4**	**-0.2**
F36A				IAmb	IAmb	16 55 00.2	
	comp=Z,3.0nm,0.8s						
PDAR	**Pinedale Array**	**95.32**	**340**	LR	LR	17 40 14.8	
	comp=Z,38nm,18.4s,baz=62,slow=36						

***ATH* 11 16:43:59.7, 39°.14N×23°.69E, h11km±3km, ML1.8/7, Error ellipse: s-maj=3.2km s-min=0.8km az=24.0, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALNA	**Alonissos**	**0.14**	**86**	P	Pg	16 44 02.9	-0.1
ALNA				S	Sg	16 44 05.4	0.0
ALNA				AML	AML	16 44 05.5	
	comp=N,2116μm,0.2s						
ALNA				AML	AML	16 44 05.9	
	comp=E,2122μm,0.3s						
SKIA	**Skiathos**	**0.17**	**280**	P	Pg	16 44 03.8	+0.2
SKIA				S	Sg	16 44 06.6	+0.3
SKIA				AML	AML	16 44 07.2	
	comp=E,1966μm,0.2s						
SKIA				AML	AML	16 44 07.4	
	comp=N,1899μm,0.1s						
MRKA	**Markates**	**0.44**	**190**	P	Pg	16 44 08.3	-0.1
MRKA				S	Sg	16 44 14.5	+0.3
MRKA				AML	AML	16 44 15.6	
	comp=N,221μm,0.3s						
MRKA				AML	AML	16 44 15.9	
	comp=E,215μm,0.2s						
XOR	**Xorichti**	**0.45**	**301**	P	Pg	16 44 08.4	-0.1
XOR				S	Sg	16 44 14.5	0.0
XOR				AML	AML	16 44 15.5	
	comp=E,105μm,0.2s						
XOR				AML	AML	16 44 15.8	
	comp=N,241μm,0.2s						
KYMI	**Kymi, Euboea I**	**0.60**	**147**	P	Pg	16 44 11.5	+0.1
KYMI				S	Sg	16 44 19.6	+0.3
KYMI				AML	AML	16 44 20.5	
	comp=N,104μm,0.2s						
KYMI				AML	AML	16 44 22.3	
	comp=E,184μm,0.3s						
SKY	**Skiros Island**	**0.72**	**111**	P	Pg	16 44 13.8	+0.1
LKR	**Lokris**	**0.72**	**228**	P	Pg	16 44 13.6	-0.1
LKR				AML	AML	16 44 26.5	
	comp=E,143μm,0.2s						
LKR				AML	AML	16 44 26.5	
	comp=N,96μm,0.2s						
PAIG	**Paliouri**	**0.79**	**360**	P	Pg	16 44 15.0	0.0
VIL2	**Platees**	**0.98**	**200**	P	Pg	16 44 18.6	0.0
DION	**Dionisos Attik**	**1.07**	**170**	P	Pb	16 44 20.2	-0.1
DION				S	Sg	16 44 34.4	0.0
DION				AML	AML	16 44 36.0	
	comp=E,339μm,0.3s						
DION				AML	AML	16 44 36.5	
	comp=N,219μm,0.4s						
KARY	**Karystos**	**1.25**	**152**	P	Pn	16 44 23.1	+0.1
VLY	**Voula,Athens**	**1.29**	**176**	P	Pg	16 44 24.2	-0.2

***PRU* 11 16:45:53.9±0.0, 50°.26N×19°.31E, h0km, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.86**	**241**	*e*SG	Sg	16 46 22.0	+0.5
	comp=Z,3.3nm,0.4s						
MORC	**Moravsky Berou**	**1.24**	**248**	*e*PG	Pg	16 46 16.1	-1.5
MORC				*e*SG	Sg	16 46 32.6	-1.1
DPC	**Dobruska-Polom**	**1.92**	**274**	*e*PG	Pb	16 46 29.8	0.0
DPC				*e*SG	Sg	16 46 55.2	-0.3
	comp=Z,1.7nm,0.5s						

***TRN* 11 16:59:18.6, 16°.94N×60°.45W, h4km, MD3.7, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABD	**La Joyeuse, An**	**1.10**	**245**	*e*	Pg	16 59 34.5	-5.2
ABD	**La Joyeuse, An**	**1.10**	**245**	*e*P	Pn	16 59 43.0	+2.2
ABD				*e*S	Sn	17 00 00.1	+3.7
MAGL	**Barre de l'ile**	**1.27**	**219**	*e*P	Pn	16 59 45.4	+2.2
MAGL				*e*S	Sn	17 00 03.4	+2.7
CBE	**Ff, Capester**	**1.41**	**232**	*e*P	Pg	16 59 47.3	+1.5
CBE				*e*S	Sn	17 00 08.3	+4.1
ANWB	**Willy Bob**	**1.47**	**300**	*e*P	Pn	16 59 44.4	-1.5
ANWB				*e*S	Sb	17 00 02.6	-3.0
ANWB				*e*S	Sn	17 00 03.6	-1.9
TDBA	**Terre de Bas,**	**1.58**	**227**	*e*P	Pg	16 59 50.5	+1.6
MDPV	**Dominica, Penn**	**1.61**	**216**	*e*S	Sg	17 00 13.4	+3.0
MLYT	**Lee's Yard**	**1.69**	**263**	*e*P	Pg	16 59 51.5	+0.5
DLPL	**La Plaine**	**1.78**	**206**	*e*	Pn	16 59 48.8	-1.4
MDN	**Morne-Daniel**	**1.85**	**210**	*e*S	Sg	17 00 19.9	+1.6
ILAM	**Ilet Lapin Mar**	**2.19**	**191**	*e*P	Pb	16 59 57.5	-1.4
SVN	**Savane Anatole**	**2.20**	**198**	*e*P	Pb	16 59 58.7	-0.4
BAMF	**Morne Balai**	**2.22**	**198**	*e*P	Pb	16 59 59.0	-0.3
SKI	**Saint Kitts**	**2.23**	**280**	*e*P	Pn	16 59 57.5	+1.1
SKI				*e*S	Sn	17 00 23.7	-0.6
CXM	**Morne La Croix**	**2.23**	**198**	*e*P	Pb	16 59 58.6	-1.0
PCM	**Pelee Case Pet**	**2.24**	**199**	*e*P	Pb	16 59 58.3	-1.4
GBMF	**Grand Be**	**2.24**	**198**	*e*P	Pb	16 59 59.3	-0.5
PML	**Morne Lenard**	**2.26**	**198**	*e*P	Pb	16 59 58.8	-1.3
FDF	**Fort de France**	**2.30**	**197**	*e*P	Pb	16 59 59.1	-1.6
FDF	**Fort de France**	**2.30**	**197**	*e*P	Pb	17 00 00.5	-0.2
FDF				*e*S	Sb	17 00 28.0	-1.5
LPMF	**Morne Lapointe**	**2.41**	**192**	*e*P	Pn	16 59 59.4	+0.6
ZAM	**Aeronautique**	**2.42**	**193**	*e*P	Pn	16 59 59.8	+0.8
BIM	**Bigot**	**2.48**	**194**	*e*P	Pn	17 00 01.7	+1.8
BIM				*e*S	Sb	17 00 33.6	-1.2
MPOM	**Morne Pois Mar**	**2.52**	**189**	*e*P	Pn	17 00 01.9	+1.6
MPOM				*e*S	Sn	17 00 33.0	+1.7

SOME **11** *17:24:22.6, 40°.90N×77°.95E, h5km*
KRNET **11** *17:24:24.1±0.1, 40°.95N×77°.95E, h15km, mb3.3*
NNC **11** *17:24:24.6±0.6, 40°.95N×77°.95E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=4.0km s-min=2.9km az=171.0*
ISC 11 17:24:27.4±1.9, 41°.09N±0°.07×77°.93E±0°.03, h2km±11km, n74, σ1s31/104, 17C-25D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.64**	**352**	⇓*i*P	Pg	**17 24 39.3**	**-0.4**
	baz=52						
TARG				⇓*i*S	Sg	**17 24 50.0**	**+1.9**
	baz=52						
KDJ	**Kajisay**	**1.18**	**332**	⇓*i*P	Pn	**17 24 48.6**	**-2.5**
	baz=35						
KDJ				⇓*i*S	Sn	**17 25 06.9**	**-0.9**
	baz=35						
PRZ	**Przheval'sk**	**1.43**	**14**	⇓*i*P	Pn	**17 24 53.4**	**-1.2**
	baz=13						
PRZ				⇓*e*S	Sg	**17 25 14.9**	**+1.5**
	baz=13						
ANVS	**Anan'yevo**	**1.70**	**353**	⇓*i*P	Pb	**17 24 58.3**	**-1.2**
	baz=54						
ANVS				⇓*i*S	Sg	**17 25 23.3**	**+1.3**
	baz=54						
ULHL	**Ulahol**	**1.71**	**313**	⇓*i*P	Pn	**17 24 57.7**	**-0.7**
	baz=16						
ULHL				⇓*e*S	Sb	**17 25 22.3**	**+0.6**
	baz=16						
ULHL	**Ulahol**	**1.71**	**313**	P	Pb	**17 24 58.5**	**-1.2**
	SNR=8.4						
SATY	**Saty**	**2.00**	**10**	*e*P	Pb	**17 25 03.8**	**-0.7**
	44nm,0.3s						
SATY				*e*S	Sg	**17 25 33.7**	**+2.2**
	68nm,0.4s						
SATY	**Saty**	**2.00**	**10**	Pg	Pb	**17 25 03.8**	**-0.7**
	44nm,0.3s						
SATY				Lg	Lg	17 25 33.7	
	68nm,0.4s						
TNSS	**Tian-Shan**	**2.08**	**340**	⇓*i*P	Pb	**17 25 05.2**	**-0.8**
	32nm,0.2s						
TNSS				*e*S	Sg	**17 25 36.1**	**+2.0**
	93nm,0.4s						
TNSS	**Tian-Shan**	**2.08**	**340**	Pg	Pb	**17 25 05.2**	**-0.8**
	32nm,0.2s						
TNSS				Lg	Lg	17 25 36.1	
	93nm,0.4s						
MDOK	**Medeo**	**2.17**	**343**	*e*P	Pb	**17 25 06.7**	**-0.8**
	26nm,0.4s						
MDOK				*e*S	Sg	**17 25 38.7**	**+1.6**
	99nm,0.6s						
MDOK	**Medeo**	**2.17**	**343**	⇓Pn	Pn	**17 25 05.5**	**+0.8**
	23nm,0.7s						
MDOK				⇑Lg	Lg	17 25 38.3	
	88nm,0.6s						
MDOK	**Medeo**	**2.17**	**343**	Pg	Pb	**17 25 06.6**	**-0.8**
	26nm,0.4s						
MDOK				Lg	Lg	17 25 38.7	
	99nm,0.6s						
IZV	**Izvestkoviy**	**2.17**	**334**	*e*P	Pb	**17 25 06.9**	**-0.7**
	30nm,0.5s						
IZV				*e*S	Sg	**17 25 39.0**	**+1.8**
	102nm,0.5s						
IZV	**Izvestkoviy**	**2.17**	**334**	Pg	Pb	**17 25 06.9**	**-0.7**
	30nm,0.5s						
IZV				Lg	Lg	17 25 39.0	
	102nm,0.5s						
UZB	**Uzynbulak**	**2.21**	**21**	*e*P	Pb	**17 25 07.0**	**-1.1**
	20nm,0.4s						
UZB				*e*S	Sg	**17 25 39.1**	**+0.8**
	36nm,0.3s						
UZB	**Uzynbulak**	**2.21**	**21**	Pg	Pb	**17 25 07.0**	**-1.1**
	20nm,0.4s						
UZB				Lg	Lg	17 25 39.1	
	36nm,0.3s						
KOTS	**Kotyrbulak**	**2.22**	**344**	*e*P	Pb	**17 25 07.8**	**-0.6**
	86nm,0.3s						
KOTS				*e*S	Sg	**17 25 40.4**	**+1.5**
	318nm,0.5s						
KOTS	**Kotyrbulak**	**2.22**	**344**	Pg	Pb	**17 25 07.8**	**-0.6**
	86nm,0.3s						
KOTS				Lg	Lg	17 25 40.4	
	318nm,0.5s						
KZA	**Kyzart**	**2.24**	**297**	⇓*i*P	Pn	**17 25 06.0**	**+0.1**
	baz=0.0						
KZA				⇓*i*S	Sb	**17 25 36.0**	**-1.1**
	baz=0.0						
KZA	**Kyzart**	**2.24**	**297**	P	Pb	**17 25 06.7**	**-2.1**
	SNR=72						
KNDC	**Almaty**	**2.24**	**342**	⇓Lg	Lg	17 25 39.8	
	262nm,0.8s						
AAA	**Alma-Ata**	**2.25**	**341**	*e*P	Pb	**17 25 08.8**	**+0.1**
	33nm,0.2s						
AAA				*e*S	Sg	**17 25 41.6**	**+2.2**
	71nm,0.4s						
AAA	**Alma-Ata**	**2.25**	**341**	Pg	Pb	**17 25 08.8**	**+0.1**
	33nm,0.2s						
AAA				Lg	Lg	17 25 41.6	
	71nm,0.4s						
MTBS	**Maitube**	**2.32**	**332**	*e*P	Pb	**17 25 09.1**	**-0.9**
	11nm,0.2s						
MTBS				*e*S	Sg	**17 25 42.6**	**+0.6**
	62nm,0.3s						
MTBS	**Maitube**	**2.32**	**332**	Pg	Pb	**17 25 09.1**	**-0.9**
	11nm,0.2s						
MTBS				Lg	Lg	17 25 42.6	
	62nm,0.3s						
SHLS	**Shalkode**	**2.36**	**28**	*e*P	Pg	**17 25 12.5**	**0.0**
	58nm,0.6s						
SHLS				*e*S	Sg	**17 25 48.3**	**+5.3**
	89nm,0.5s						
SHLS	**Shalkode**	**2.36**	**28**	Pg	Pg	**17 25 12.5**	**0.0**
	58nm,0.6s						
SHLS				Lg	Lg	17 25 48.3	
	89nm,0.5s						
KURS	**Kuram**	**2.40**	**4**	*e*P	Pb	**17 25 11.1**	**-0.2**
	69nm,0.6s						
KURS				*e*S	Sg	**17 25 45.8**	**+1.4**
	70nm,0.7s						
KURS	**Kuram**	**2.40**	**4**	Pg	Pb	**17 25 11.1**	**-0.2**
	69nm,0.6s						
KURS				Lg	Lg	17 25 45.8	
	70nm,0.7s						
KPKS	**Kokpek**	**2.44**	**13**	*e*P	Pb	**17 25 11.1**	**-0.9**
	100nm,0.4s						
KPKS				*e*S	Sg	**17 25 46.2**	**+0.5**
	95nm,0.3s						
KST	**Kastek**	**2.44**	**324**	*e*P	Pb	**17 25 11.3**	**-0.7**
	15nm,0.3s						
KST				*e*S	Sg	**17 25 46.5**	**+0.9**
	69nm,0.5s						
KST	**Kastek**	**2.44**	**324**	Pg	Pb	**17 25 11.3**	**-0.7**
	15nm,0.3s						
KST				Lg	Lg	17 25 46.6	
	69nm,0.5s						
TKM2	**Tokmak 2**	**2.52**	**317**	⇓*i*P	Pn	**17 25 10.1**	**+0.5**
	baz=19						
TKM2				⇓*i*S	Sb	**17 25 43.4**	**-1.7**
	baz=19						
TKM2	**Tokmak 2**	**2.52**	**317**	P	Pb	**17 25 11.6**	**-1.9**
	SNR=12						
TKM2	**Tokmak 2**	**2.52**	**317**	⇑Pn	Pn	**17 25 08.6**	**-0.9**
	4.7nm,0.3s						
TKM2				⇑Lg	Lg	17 25 47.9	
	39nm,0.8s						
DGS	**Degeres**	**2.68**	**324**	*e*P	Pb	**17 25 15.0**	**-1.1**
	20nm,0.5s						
DGS				*e*S	Sg	**17 25 52.9**	**-0.6**
	96nm,0.5s						
DGS	**Degeres**	**2.68**	**324**	Pg	Pb	**17 25 15.0**	**-1.1**
	20nm,0.5s						
DGS				Lg	Lg	17 25 52.9	
	96nm,0.5s						
KBK	**Karagaybulak**	**2.72**	**306**	⇑*i*P	Pn	**17 25 12.7**	**+0.4**
	baz=8.0						
KBK				⇑*e*S	Sb	**17 25 48.0**	**-2.7**
	baz=8.0						
KBK	**Karagaybulak**	**2.72**	**306**	P	Pb	**17 25 16.6**	**-0.2**
	SNR=15						
KTBS	**Karatobe**	**2.77**	**341**	*e*P	Pb	**17 25 17.3**	**-0.4**
	17nm,0.6s						
KTBS				*e*S	Sg	**17 25 56.9**	**+0.4**
	94nm,0.3s						
KTBS	**Karatobe**	**2.77**	**341**	Pg	Pb	**17 25 17.3**	**-0.4**
	17nm,0.6s						
KTBS				Lg	Lg	17 25 56.9	
	94nm,0.3s						
UCH	**Uchtor**	**2.80**	**295**	⇑*i*P	Pn	**17 25 13.7**	**+0.1**
	baz=98						
UCH				⇑*i*S	Sn	**17 25 49.4**	**+1.2**
	baz=98						
UCH	**Uchtor**	**2.80**	**295**	P	Pn	**17 25 14.9**	**+1.3**
	SNR=11						
ARLS	**Aral**	**2.82**	**287**	⇑*i*P	Pn	**17 25 13.5**	**-0.1**
	baz=90						
ARLS				⇑*i*S	Sn	**17 25 49.0**	**+0.8**
	baz=90						
KTMS	**Ketmen**	**2.96**	**37**	*e*P	Pb	**17 25 20.2**	**-0.7**
	6.4nm,0.6s						
KTMS				*e*S	Sg	**17 26 01.3**	**-1.1**
	30nm,0.9s						
KTMS	**Ketmen**	**2.96**	**37**	Pg	Pb	**17 25 20.2**	**-0.7**
	6.4nm,0.6s						
KTMS				Lg	Lg	17 26 01.3	
	30nm,0.9s						
AAK	**Ala-Archa**	**2.99**	**302**	⇑*e*P	Pn	**17 25 16.3**	**+0.3**
	baz=4.0						
AAK				⇑*i*S	Sn	**17 25 54.1**	**+1.5**
	baz=4.0						
AAK	**Ala-Archa**	**2.99**	**302**	P	Pb	**17 25 22.4**	**+0.9**
	SNR=7.3						
AAK	**Ala-Archa**	**2.99**	**302**	⇓Pg	Pb	**17 25 21.8**	**+0.3**
	6.4nm,0.3s						
AAK				⇑Lg	Lg	17 26 02.2	
	42nm,0.7s						
KUU	**Kurty**	**3.04**	**338**	*e*P	Pb	**17 25 21.6**	**-0.5**
	5.8nm,0.4s						
KUU				*e*S	Sg	**17 26 04.1**	**-0.7**
	48nm,0.7s						
KUU	**Kurty**	**3.04**	**338**	Pg	Pb	**17 25 21.6**	**-0.5**
	5.8nm,0.4s						
KUU				Lg	Lg	17 26 04.1	
	48nm,0.7s						
CHMS	**Chumysh**	**3.04**	**310**	⇑*i*P	Pn	**17 25 16.6**	**+0.1**
	baz=12						
CHMS				⇑*i*S	Sn	**17 25 55.1**	**+1.6**
	baz=12						
CHMS	**Chumysh**	**3.04**	**310**	P	Sb	**17 26 02.7**	**+3.0**
	SNR=8.3						
KRBS	**Karabastau**	**3.09**	**328**	*e*P	Pb	**17 25 22.4**	**-0.7**
	11nm,0.4s						
KRBS				*e*S	Sg	**17 26 05.3**	**-1.4**
	30nm,0.7s						
KRBS	**Karabastau**	**3.09**	**328**	Pg	Pb	**17 25 22.4**	**-0.7**
	11nm,0.4s						
KRBS				Lg	Lg	17 26 05.3	
	30nm,0.7s						
ARXS	**Arharly**	**3.12**	**359**	*e*P	Pb	**17 25 23.6**	**0.0**
	27nm,0.5s						
ARXS				*e*S	Sg	**17 26 07.7**	**+0.2**
	22nm,0.4s						
ARXS	**Arharly**	**3.12**	**359**	Pg	Pb	**17 25 23.6**	**0.0**
	27nm,0.5s						
ARXS				Lg	Lg	17 26 07.7	
	22nm,0.4s						
AML	**Almayashu**	**3.34**	**289**	⇓*i*P	Pn	**17 25 20.9**	**-0.1**
	baz=92						
AML				⇓*i*S	Sn	**17 26 02.2**	**+0.7**
	baz=92						
AML	**Almayashu**	**3.34**	**289**	P	Pn	**17 25 21.4**	**+0.5**
	SNR=8.4						
USP	**Ospenovka**	**3.35**	**312**	P	Pb	**17 25 26.7**	**-0.7**
	SNR=6.2						
SGDS	**Sogindy**	**3.40**	**315**	Pg	Pb	**17 25 27.5**	**-0.8**
	3.1nm,0.3s						
SGDS				Lg	Lg	17 26 14.0	
	23nm,0.6s						
EKS2	**Erkin-Say**	**3.47**	**298**	P	Pg	**17 25 32.4**	**-1.6**
	SNR=12						
DJR	**Jarkent**	**3.52**	**22**	*e*P	Pb	**17 25 30.2**	**-0.2**
	7.5nm,0.4s						
DJR				*e*S	Sg	**17 26 18.6**	**-1.7**
	13nm,0.4s						
DJR	**Jarkent**	**3.52**	**22**	Pg	Pb	**17 25 30.2**	**-0.2**
	7.5nm,0.4s						
DJR				Lg	Lg	17 26 18.6	
	13nm,0.4s						
MRKS	**Merke**	**3.88**	**297**	*e*P	Pb	**17 25 36.4**	**-0.1**
	6.6nm,0.3s						
MRKS				*e*S	Sg	**17 26 30.0**	**-1.9**
	11nm,0.4s						
MRKS	**Merke**	**3.88**	**297**	Pg	Pb	**17 25 36.5**	**-0.1**
MRKS				Lg	Lg	17 26 30.0	
KAPS	**Kapalarasan**	**4.32**	**14**	*e*P	Pb	**17 25 45.9**	**+1.8**
	4.9nm,0.5s						
KAPS				*e*S	Sg	**17 26 45.5**	**-0.5**
	12nm,0.8s						
KAPS	**Kapalarasan**	**4.32**	**14**	Pg	Pb	**17 25 45.9**	**+1.8**
	4.9nm,0.5s						
KAPS				Lg	Lg	17 26 45.5	
	12nm,0.8s						
KK31	**Karatay Array**	**5.87**	**292**	⇓Pg	Pb	**17 26 14.3**	**+3.8**
	2.1nm,0.8s,baz=108,slow=17,SNR=8.0						
KK31				⇑Lg	Lg	17 27 34.2	
	6.2nm,1.1s						
MAKZ	**Makanchi**	**6.42**	**26**	⇓Lg	Lg	17 27 52.9	
	2.6nm,0.8s						
MK31	**Makanchi Array**	**6.51**	**27**	⇓Pn	Pn	**17 26 02.5**	**-1.7**
	0.2nm,0.3s,baz=202,slow=15,SNR=6.2						
MK31				⇑Pg	Pb	17 26 26.1	+4.8
	1.0nm,0.7s,baz=206,slow=14,SNR=4.0						
MK31				⇑Lg	Lg	17 27 56.3	
	2.0nm,0.8s,baz=274,slow=32,SNR=7.0						
OTUK	**Ortayu**	**8.18**	**333**	⇑Lg	Lg	17 28 49.0	
	4.6nm,0.8s						
KURBB	**Kurchatov Arra**	**9.54**	**2**	⇓Lg	Lg	17 29 33.6	
	8.8nm,1.0s						

***IDC* 11 17:25:38.6±2.9, 27°.55S×73°.42E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.7/40, mbtmp3.8/7, MS3.5/15, Ms1 3.5/15, ms1mx3.4/35, Error ellipse: s-maj=92.3km s-min=28.2km az=42.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S2	**Diego Garcia H**	**19.82**	**357**	T	T	17 50 33.9	
	baz=178,slow=76,SNR=1012						
H08S1	**Diego Carcia H**	**19.82**	**357**	T	T	17 50 33.1	
	baz=178,slow=76,SNR=828						
H08S3	**Diego Garcia H**	**19.84**	**357**	T	T	17 50 34.5	
	baz=178,slow=76,SNR=824						
H01W2	**Cape Leeuwin H**	**35.39**	**112**	T	T	18 09 54.4	
	baz=271,slow=74,SNR=8.3						
H01W3	**Cape Leeuwin H**	**35.39**	**112**	T	T	18 09 50.1	
	baz=271,slow=74,SNR=7.3						
H01W1	**Cape Leeuwin H**	**35.41**	**112**	T	T	18 09 51.6	
	baz=271,slow=74,SNR=8.0						
LEM	**Lembang**	**38.41**	**64**	LR	LR	17 47 06.6	
	comp=Z,93nm,19.4s,baz=340,slow=34						
MAW	**Mawson**	**40.58**	**186**	LR	LR	17 46 24.6	
	comp=Z,85nm,19.2s,baz=56,slow=31						
BOSA	**Boshof**	**42.28**	**257**	LR	LR	17 47 18.1	
	comp=Z,176nm,21.3s,baz=90,slow=31						

0.7nm,0.7s,baz=193,slow=6.3,SNR=8.0
MKAR LR LR 18 07 39.1
comp=Z,37nm,20.7s,baz=190,slow=34
KBZ Khabaz 76.26 338 LR LR 18 08 57.2
comp=Z,22nm,20.3s,baz=178,slow=34
BRTR Keskin Array B 76.51 330 P P 17 37 31.6 +1.1
0.4nm,0.6s,baz=163,slow=10,SNR=2.6
BRTR LR LR 18 08 01.3
comp=Z,18nm,19.8s,baz=148,slow=33
SONM Songino Array 80.69 22 P P 17 37 52.7 -0.7
0.5nm,0.5s,baz=324,slow=21,SNR=2.4
ZALV Zalesovo Beam 81.76 7 P P 17 37 58.4 -0.3
0.2nm,0.3s,baz=198,slow=9.1,SNR=1.6
ZALV LR LR 18 13 38.8
comp=Z,34nm,18.3s,baz=152,slow=35
KSRS Korea Array 82.44 41 LR LR 18 12 38.9
comp=Z,42nm,20.2s,baz=208,slow=34
FINES FINESS Array B 96.57 339 LR LR 18 22 47.4
comp=Z,19nm,18.2s,baz=146,slow=36

IDC ***11*** *17:26:21.1±1.4,49.°41N×151.°50E,h292km±14km, mb3.2/16,mb1 3.4/20,mb1mx3.2/37,mbtmp3.9/20,Error ellipse: s-maj=17.5km s-min=9.1km az=138.0*
NEIC ***11*** *17:26:21.4±1.4,49.°5N±0.°2×151.°5E±0.°2,h292km±11km, mb4.1/39,Error ellipse: s-maj=25.9km s-min=12.7km az=146.0*
ISC 11 17:26:21.6±0.6,**49.°4N**±0.°1×**151.°53E**±0.°09,**h300**km,**n72,** σ0**s73**/73,**mb4.0**/33,**Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PEA0B	**Petropavlovsk-**	**5.37**	**44**	Pn		**Pn**	**Pn**	**17 27 42.3**	**-0.9**
PETK	**Petropavlovsk-**	**5.37**	**44**	P		**Pn**	**Pn**	**17 27 42.1**	**-1.1**
	0.5nm,0.3s,baz=210,slow=12,SNR=6.6								
PETK				S		**S**	**S**	**17 28 47.8**	**-1.1**
	0.1nm,0.3s,baz=184,slow=3.9,SNR=3.5								
PET	**Petropavlovsk**	**5.76**	**48**	Pn		**Pn**	**Pn**	**17 27 46.2**	**-1.7**
JKA	**Kamikawa-asahi**	**8.09**	**233**				**Pn**	**17 28 16.2**	**0.0**
ASAJ	**Asahikawa**	**8.09**	**233**	P			**Pn**	**17 28 16.2**	**0.0**
	0.5nm,0.3s,baz=72,slow=14,SNR=5.2								
USRK	**Ussuriysk Ar.**	**14.35**	**256**	P		**Pn**	**Pn**	**17 29 31.9**	**-0.2**
	baz=68,slow=13,SNR=3.4								
MDJ	**Mudanjiang**	**15.69**	**261**	P		**Pn**	**Pn**	**17 29 47.5**	**-0.4**
MDJ				IAmb		IAmb	IAmb	17 29 52.0	
	comp=Z,13nm,0.8s								
MJB9	**Matsu-Tunnel**	**16.10**	**222**	P		**P**	**P**	**17 29 50.6**	**0.0**
MAJO	**Matsushiro**	**16.10**	**222**	P		**P**	**P**	**17 29 50.6**	**0.0**
MAT	**Matsushiro**	**16.10**	**222**	P		**P**	**Pn**	**17 29 51.9**	**-0.9**
MJAR	**Matsushiro Arr**	**16.10**	**222**	P		**P**	**Pn**	**17 29 52.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=18,slow=11,SNR=24								
MJAR	**Matsushiro Arr**	**16.10**	**222**	P		**P**	**Pn**	**17 29 51.7**	**-1.1**
KSRS	**Korea Array**	**20.80**	**244**	P		**P**	**P**	**17 30 40.6**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=50,slow=10,SNR=8.2								
JNU	**Nakatsue**	**22.37**	**231**			**P**	**P**	**17 30 54.8**	**-0.1**
	comp=Z,7.2nm,1.0s,baz=49,slow=18,SNR=2.1								
TIXI	**Tiksi**	**24.62**	**343**	P		**P**	**P**	**17 31 14.8**	**0.0**
	comp=Z,0.6nm,0.3s,baz=130,slow=7.9,SNR=6.3								
TIXI	**Tiksi**	**24.62**	**343**	P		**P**	**P**	**17 31 14.6**	**-0.1**
ULN	**Ulaanbaatar**	**29.11**	**284**	P		**P**	**P**	**17 31 55.1**	**-0.1**
ULN				IAmb		IAmb	IAmb	17 32 45.6	
	comp=Z,2.0nm,0.5s								
IMAR	**Indian Mountai**	**32.30**	**39**	P		**P**	**P**	**17 32 22.5**	**-0.1**
PPLA	**Purkeypile**	**32.95**	**44**	P		**P**	**P**	**17 32 27.7**	**-0.7**
OHAK	**Old Harbor**	**33.05**	**55**	P		**P**	**P**	**17 32 28.3**	**-0.8**
OHAK				IAmb		IAmb	IAmb	17 32 44.7	
	comp=Z,16nm,1.4s								
KDAK	**Kodiak Island**	**33.32**	**54**	P		**P**	**P**	**17 32 30.3**	**-1.1**
	comp=Z,3.9nm,1.0s,baz=270,slow=7.1,SNR=1.3								
KDAK	**Kodiak Island**	**33.32**	**54**	P		**P**	**P**	**17 32 30.7**	**-0.8**
BPAW	**Bear Paw Mtn.**	**33.45**	**42**	P		**P**	**P**	**17 32 32.0**	**-0.5**
BPAW				IAmb		IAmb	IAmb	17 33 18.7	
	comp=Z,12nm,2.0s								
CNPM	**China Poot**	**33.74**	**51**	P		**P**	**P**	**17 32 34.9**	**-0.1**
TRF	**Thorofare Moun**	**33.78**	**43**	P		**P**	**P**	**17 32 36.4**	**+0.8**
TRF				IAmb		IAmb	IAmb	17 33 06.4	
	comp=Z,13nm,1.7s								
TOLK	**Toolik Lake Re**	**34.09**	**34**	P		**P**	**P**	**17 32 38.6**	**+0.6**
TOLK				IAmb		IAmb	IAmb	17 32 39.3	
	comp=Z,4.4nm,0.5s								
GHO	**Glory Hole Cre**	**34.56**	**46**	P		**P**	**P**	**17 32 42.3**	**+0.1**
GHO				IAmb		IAmb	IAmb	17 33 58.6	
	comp=Z,20nm,1.5s								
SML	**Sawmill**	**34.84**	**46**	P		**P**	**P**	**17 32 45.1**	**+0.7**
SML				IAmb		IAmb	IAmb	17 32 45.5	
	comp=Z,4.6nm,0.6s								
IL31		**35.19**	**41**	P		**P**	**P**	**17 32 48.6**	**+1.4**
ILAR	**Eielson Array**	**35.19**	**41**	P		**P**	**P**	**17 32 47.6**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=276,slow=8.3,SNR=8.5								
ILAR	**Eielson Array**	**35.19**	**41**	P		**P**	**P**	**17 32 46.9**	**-0.4**
HDA	**Harding Lake**	**35.19**	**41**	P		**P**	**P**	**17 32 46.9**	**-0.4**
HDA				IAmb		IAmb	IAmb	17 34 04.1	
	comp=Z,13nm,2.0s								
FYU	**Fort Yukon**	**35.75**	**38**	P		**P**	**P**	**17 32 53.3**	**+1.3**
FYU				IAmb		IAmb	IAmb	17 32 54.1	
	comp=Z,5.8nm,0.7s								
BMAR	**Burnt Mountain**	**35.96**	**36**	P		**P**	**P**	**17 32 55.0**	**+1.1**
SCRK	**Sand Creek**	**36.52**	**42**	P		**P**	**P**	**17 32 58.4**	**-0.4**
DOT	**Dot Lake**	**36.54**	**43**	P		**P**	**P**	**17 32 58.0**	**-0.7**
DOT				IAmb		IAmb	IAmb	17 33 00.0	
	comp=Z,7.7nm,1.7s								
EGAK	**Eagle**	**37.62**	**40**	P		**P**	**P**	**17 33 08.0**	**+0.3**
BCAR	**Beaver Creek A**	**37.65**	**43**	P		**P**	**P**	**17 33 09.1**	**+1.1**
WAX	**Waxell Ridge**	**37.70**	**48**	P		**P**	**P**	**17 33 09.7**	**+1.1**
WAX				IAmb		IAmb	IAmb	17 34 48.7	
	comp=Z,9.0nm,1.0s								
CTGM	**Chitina Glacie**	**38.30**	**46**	P		**P**	**P**	**17 33 14.6**	**+1.0**
CTGM				IAmb		IAmb	IAmb	17 34 56.4	
	comp=Z,4.0nm,0.7s								
EPYK	**Eagle Plains**	**39.16**	**37**	P		**P**	**P**	**17 33 21.8**	**+1.3**
EPYK				IAmb		IAmb	IAmb	17 34 30.6	
	comp=Z,17nm,1.9s								
INK	**Inuvik**	**40.01**	**34**	P		**P**	**P**	**17 33 28.2**	**+0.9**
	comp=Z,2.3nm,0.3s,baz=298,slow=8.6,SNR=7.1								
INK	**Inuvik**	**40.01**	**34**	P		**P**	**P**	**17 33 28.3**	**+0.9**
INK				IAmb		IAmb	IAmb	17 34 46.7	
	comp=Z,12nm,1.8s								
HYT	**Haines Junctio**	**40.15**	**46**	P		**P**	**P**	**17 33 29.4**	**+0.7**
WHY	**Whitehorse**	**41.43**	**46**	P		**P**	**P**	**17 33 40.5**	**+1.4**
C36M	**Paulatuk**	**43.07**	**31**	P		**P**	**P**	**17 33 52.5**	**+0.5**
MK31	**Makanchi Array**	**44.83**	**294**	P		**P**	**P**	**17 34 06.9**	**+0.7**
MKAR	**Makanchi Array**	**44.83**	**294**	P		**P**	**P**	**17 34 06.7**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=65,slow=8.4,SNR=7.9								
MKAR	**Makanchi Array**	**44.83**	**294**	P		**P**	**P**	**17 34 05.6**	**-0.6**
KURK	**Kurchatov**	**45.05**	**301**	P		**P**	**P**	**17 34 08.4**	**+0.6**
YKA	**Yellowknife Ar**	**49.45**	**38**	P		**P**	**P**	**17 34 42.0**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=299,slow=7.3,SNR=9.0								
ARCES	**ARCESS Array B**	**54.99**	**340**	P		**P**	**P**	**17 35 21.7**	**0.0**
	comp=Z,0.4nm,0.4s,baz=28,slow=7.5,SNR=7.6								
WALA	**Waterton Lakes**	**57.58**	**51**	P		**P**	**P**	**17 35 40.8**	**+0.5**
WALA				IAmb		IAmb	IAmb	17 37 39.1	
	comp=Z,15nm,2.0s								
FFC	**Flin Flon**	**59.39**	**40**	P		**P**	**P**	**17 35 53.3**	**+0.8**
LRM	**Limekiln Ridge**	**60.44**	**53**	P		**P**	**P**	**17 36 00.1**	**0.0**
BOZ	**Bozeman (W)**	**61.02**	**53**	P		**P**	**P**	**17 36 04.5**	**+0.6**
FINES	**FINESS Array B**	**61.19**	**333**	P		**P**	**P**	**17 36 04.1**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=32,slow=8.2,SNR=8.8								
FINES	**FINESS Array B**	**61.19**	**333**	P		**P**	**P**	**17 36 04.0**	**-0.5**
NVAR	**Mina Array Bea**	**62.15**	**63**	P		**P**	**P**	**17 36 12.6**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=295,slow=6.5,SNR=4.9								
NVAR	**Mina Array Bea**	**62.15**	**63**	P		**P**	**P**	**17 36 12.3**	**+0.7**
PDAR	**Pinedale Array**	**64.04**	**54**	P		**P**	**P**	**17 36 24.8**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=111,slow=2.1,SNR=4.4								
PDAR	**Pinedale Array**	**64.04**	**54**	P		**P**	**P**	**17 36 24.6**	**+0.7**
PV13	**Radium Mtn., P**	**67.70**	**57**	P		**P**	**P**	**17 36 48.1**	**+1.0**
PV13				IAmb		IAmb	IAmb	17 36 48.6	
	comp=Z,2.1nm,0.6s								
ECSD	**EROS Data Cent**	**69.80**	**46**	P		**P**	**P**	**17 36 59.8**	**+0.2**
ECSD				IAmb		IAmb	IAmb	17 37 00.4	
	comp=Z,2.9nm,0.5s								
WRA	**Warramunga Arr**	**70.71**	**197**	P		**P**	**P**	**17 37 04.8**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=14,slow=6.4,SNR=2.6								
SCHQ	**Schefferville**	**71.27**	**22**	P		**P**	**P**	**17 37 07.9**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=285,slow=12,SNR=1.9								
SCHQ	**Schefferville**	**71.27**	**22**	P		**P**	**P**	**17 37 07.8**	**-0.4**
ASAR	**Alice Springs**	**74.42**	**197**	P		**P**	**P**	**17 37 27.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=8.7,slow=6.0,SNR=8.0								
TX31	**Lajitas Ar. Si**	**77.10**	**60**	P		**P**	**P**	**17 37 42.7**	**+0.4**
TX32	**Lajitas Array**	**77.10**	**60**	P		**P**	**P**	**17 37 42.7**	**+0.5**
TX32				IAmb		IAmb	IAmb	17 38 41.1	
	comp=Z,6.3nm,1.6s								
TXAR	**Lajitas Array**	**77.10**	**60**	P		**P**	**P**	**17 37 42.9**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=249,slow=2.1,SNR=4.3								
U40A	**Yellville**	**77.36**	**48**	P		**P**	**P**	**17 37 43.1**	**-0.3**
U40A				IAmb		IAmb	IAmb	17 37 43.5	
	comp=Z,2.4nm,0.6s								

DRS ***11*** *17:37:33.9±0.0,43.°12N×47.°22E,h11km*
NORS ***11*** *17:37:35.7±0.0,43.°01N×47.°04E,h12km,MPVA3.6*
ISC 11 17:37:36.5±1.4,**43.°02N**±0.°06×**47.°05E**±0.°05,**h13**km±8km, **n16,** σ0**s58**/32,**Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.16**	**270**	*e*Pg		**Pg**	**Pg**	**17 37 40.2**	**-0.3**
	708nm,0.4s								
DBC				*e*Sg		**Sb**	**Sb**	**17 37 44.1**	**-0.7**
	619nm,0.6s								
BUJR	**Buynaksk**	**0.20**	**168**	*e*Pg		**Pg**	**Pg**	**17 37 41.0**	**0.0**
	103nm,0.1s								
BUJR				*e*Sg		**Sb**	**Sb**	**17 37 45.1**	**-0.6**
	740nm,0.4s								
DLMR	**Dylym**	**0.31**	**279**	*i* Pg		**Pg**	**Pg**	**17 37 43.0**	**0.0**
	53nm,0.2s								
DLMR				*i* Sg		**Sb**	**Sb**	**17 37 49.5**	**+0.4**
	1μm,0.1s								
UNCR	**Uncukul**	**0.36**	**212**	*e*Pg		**Pg**	**Pg**	**17 37 44.0**	**+0.2**
	57nm,0.2s								
UNCR				*e*Sg		**Sb**	**Sb**	**17 37 51.0**	**+0.6**
	190nm,0.4s								
ARKR	**Arakani**	**0.42**	**186**	*e*Pg		**Pb**	**Pb**	**17 37 45.5**	**-0.3**
ARKR				*e*Sg		**Sb**	**Sb**	**17 37 52.7**	**+0.6**
	101nm,0.3s								
GNBR	**Gunib**	**0.63**	**186**	*e*Pg		**Pb**	**Pb**	**17 37 49.4**	**-0.1**
	12nm,0.4s								
GNBR				*e*Sg		**Sn**	**Sn**	**17 37 59.7**	**-1.6**
	92nm,0.2s								
BTLR	**Botlikh**	**0.71**	**240**	*e*Pg		**Pn**	**Pn**	**17 37 52.0**	**-0.3**
BTLR				*e*Sg		**Sn**	**Sn**	**17 38 03.7**	**+0.6**
KMKR	**Kumukh**	**0.89**	**178**	*e*Pg		**Pn**	**Pn**	**17 37 54.5**	**-0.4**
	17nm,0.3s								
KMKR				*e*Sg		**Sn**	**Sn**	**17 38 08.0**	**+0.2**
	107nm,0.3s								
GROC	**Groznyy**	**0.94**	**282**	*e*Pg		**Pb**	**Pb**	**17 37 54.5**	**-0.1**
GROC				*e*Sg		**Sn**	**Sn**	**17 38 09.2**	**+0.5**
URKR	**Urkarakh**	**0.95**	**153**	*e*Pg		**Pg**	**Pg**	**17 37 55.2**	**+0.2**
	17nm,0.5s								
URKR				*e*Sg		**Sn**	**Sn**	**17 38 10.1**	**+0.8**
	35nm,0.6s								
DRN	**Derbent**	**1.37**	**136**	*e*Pg		**Pg**	**Pg**	**17 38 02.4**	**-0.3**
	31nm,0.8s								
DRN				*e*Sg		**Sg**	**Sg**	**17 38 21.8**	**+1.3**
	31nm,0.6s								
AKT	**Akhty**	**1.62**	**162**	*e*Pg		**Pb**	**Pb**	**17 38 06.4**	**+0.1**
	11nm,0.6s								
AKT				*e*Sg		**Sg**	**Sg**	**17 38 28.1**	**-0.5**
	39nm,0.3s								
PNSH	**Pansheti**	**1.83**	**259**	P		**Pb**	**Pb**	**17 38 10.3**	**+0.3**
PNSH				S		**Sg**	**Sg**	**17 38 35.6**	**+0.1**
BTKR	**Batakoyurt**	**1.87**	**282**	*e*Pg		**Pb**	**Pb**	**17 38 10.2**	**-0.4**
BTKR				*e*Sg		**Sb**	**Sb**	**17 38 34.5**	**+0.6**
GUDG	**Gudauri**	**1.98**	**255**	P		**Pb**	**Pb**	**17 38 12.1**	**-0.4**
GUDG				S		**Sg**	**Sg**	**17 38 40.8**	**+0.7**
LACR	**Lac**	**2.03**	**265**	*e*Pg		**Pb**	**Pb**	**17 38 13.2**	**-0.1**
LACR				*e*Sg		**Sg**	**Sg**	**17 38 41.7**	**-0.2**

IDC 11 17:53:05.5±2.2,**9.°20S**×**116.°27E,h0**km,**mb3.0**/3, **mb1 3.5**/5,**mb1mx3.3**/35,**mbtmp3.3**/5,**ML3.5**/2,**Error ellipse: s-maj=82.6km s-min=26.2km az=46.0, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.36**	**98**	Pn		Pn	Pn	17 54 55.0	+0.7
	2.4nm,0.3s,baz=291,slow=8.2,SNR=5.2								
BATI				Sn		Sn	Sn	17 56 10.0	-8.6
	0.7nm,0.3s,baz=122,slow=22,SNR=1.6								
FITZ	**Fitzroy Crossi**	**12.69**	**135**	Pn		Pn	Pn	17 56 08.4	+1.0
	0.1nm,0.3s,baz=339,slow=14,SNR=1.5								
FITZ				Sn		Sn	Sn	17 58 17.2	-12
	0.1nm,0.3s,baz=125,slow=10,SNR=1.2								
WRA	**Warramunga Arr**	**20.47**	**123**	P		P	P	17 57 44.4	-0.7
	0.5nm,0.4s,baz=300,slow=12,SNR=11								
ASAR	**Alice Springs**	**22.17**	**133**	P		P	P	17 58 03.1	-0.2
	0.4nm,0.3s,baz=304,slow=8.2,SNR=6.9								
MKAR	**Makanchi Array**	**63.44**	**335**	P		P	P	18 03 37.2	+0.1
	0.2nm,0.6s,baz=140,slow=9.1,SNR=2.3								

JMA ***11*** *18:09:20.6±0.2,22.°32N×122.°45E,h7km*
TAP ***11*** *18:09:22.7,22.°22N×122.°30E,h89km±1km,ML2.8,D*
ISC 11 18:09:21.7±1.5,**22.°31N**±0.°08×**122.°40E**±0.°06,**h21**km±6km, **n41,** σ0**s97**/57,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.83**	**251**	*e*P		**Pn**	**Pn**	**18 09 38.4**	**+0.1**
	baz=258								
CHKT	**Chengkung**	**1.23**	**310**	*e*S		**Sb**	**Sb**	**18 09 59.9**	**0.0**
	baz=318								
TWGBT	**Beinan**	**1.32**	**293**	P		**Pb**	**Pb**	**18 09 45.7**	**-0.1**
	baz=288								
TWGBT				S		**Sb**	**Sb**	**18 10 04.0**	**+1.7**
	baz=288								
TWG	**Pinlang**	**1.33**	**293**	P		**Pb**	**Pb**	**18 09 46.3**	**+0.4**
	baz=288								
TWG				S		**Sb**	**Sb**	**18 10 03.7**	**+1.2**
	baz=288								
FULB	**Fuli**	**1.35**	**311**	*e*P		**Pb**	**Pb**	**18 09 45.8**	**-0.6**
	baz=320								
FULB				*e*S		**Sb**	**Sb**	**18 10 03.7**	**+0.5**
	baz=320								
ECL	**Taimali**	**1.37**	**282**	P		**Pb**	**Pb**	**18 09 46.5**	**-0.1**
	baz=287								
ECL				S		**Sb**	**Sb**	**18 10 03.0**	**-0.7**
	baz=287								
EAST	**Anshuo**	**1.44**	**273**	*i* P		**Pn**	**Pn**	**18 09 46.1**	**-0.5**
	baz=277								
EAST				*i* S		**Sn**	**Sn**	**18 10 03.9**	**-0.9**
	baz=277								
TSEB	**Hengchuen, Pin**	**1.45**	**254**	S		**Sb**	**Sb**	**18 10 07.0**	**+1.0**
	baz=263								
TWF1	**Yuli**	**1.45**	**316**	P		**Pb**	**Pb**	**18 09 47.9**	**-0.2**
	baz=325								
TWF1				S		**Sb**	**Sb**	**18 10 07.2**	**+1.1**
	baz=325								
HGSD	**Ruisui**	**1.48**	**323**	S		**Sb**	**Sb**	**18 10 06.6**	**-0.3**
	baz=331								
YULB	**Yu-li**	**1.48**	**317**	P		**Pb**	**Pb**	**18 09 48.3**	**-0.2**
	baz=325								
YULB				S		**Sb**	**Sb**	**18 10 08.8**	**+1.8**
	baz=325								
TWKBT	**Hengchun**	**1.52**	**256**	*e*S		**Sn**	**Sn**	**18 10 05.9**	**-0.9**
	baz=265								
TWK1	**Hengchun**	**1.52**	**256**	S		**Sn**	**Sn**	**18 10 06.0**	**-0.9**
	baz=265								
ELDTW	**Lidau**	**1.55**	**305**	P		**Pn**	**Pn**	**18 09 48.2**	**+0.1**
	baz=305								
ELDTW				S		**Sb**	**Sb**	**18 10 08.8**	**-0.2**
	baz=305								
EHY	**Hungye**	**1.55**	**320**	S		**Sb**	**Sb**	**18 10 09.3**	**+0.4**
	baz=327								
HEN	**Hengchun**	**1.57**	**259**	S		**Sn**	**Sn**	**18 10 07.0**	**-1.0**
	baz=262								
EGFH	**Guangfu**	**1.62**	**327**	S		**Sb**	**Sb**	**18 10 12.4**	**+1.5**
	baz=334								
SCZT	**Fangliau**	**1.65**	**272**	P		**Pb**	**Pb**	**18 09 51.0**	**-0.5**
	baz=272								
MASBT	**Mashibuluo**	**1.66**	**281**	P		**Pb**	**Pb**	**18 09 51.2**	**-0.5**
	baz=284								
SSD	**Sandimen**	**1.69**	**285**	P		**Pb**	**Pb**	**18 09 52.1**	**0.0**
	baz=294								
STYT	**Tauyuan**	**1.74**	**299**	*i* P		**Pb**	**Pb**	**18 09 52.3**	**-0.7**
	baz=307								
ESL	**Shilin**	**1.74**	**329**	P		**Pb**	**Pb**	**18 09 52.5**	**-0.5**
	baz=338								
ESL				S		**Sb**	**Sb**	**18 10 14.2**	**-0.2**
	baz=338								
SLGT	**Liugui**	**1.76**	**293**	*e*P		**Pb**	**Pb**	**18 09 53.3**	**0.0**
	baz=297								
VWDT	**VWDT**	**1.84**	**321**	P		**Pb**	**Pb**	**18 09 53.7**	**-1.1**
	baz=325								
VWDT				S		**Sb**	**Sb**	**18 10 16.5**	**-0.9**
	baz=325								
WTP	**Ta-pu**	**1.89**	**300**	P		**Pb**	**Pb**	**18 09 56.2**	**+0.6**
	baz=290								
WTP				S		**Sb**	**Sb**	**18 10 20.8**	**+1.9**
	baz=290								
ALS	**Alishan**	**1.89**	**309**	*i* P		**Pb**	**Pb**	**18 09 55.2**	**-0.6**
	baz=316								
TPUB	**Ta-pu**	**1.91**	**301**	*e*P		**Pb**	**Pb**	**18 09 55.8**	**0.0**
	baz=291								
TPUB				*e*S		**Sb**	**Sb**	**18 10 21.2**	**+1.9**
	baz=291								
CHN1	**Nanshi**	**1.93**	**297**	P		**Pb**	**Pb**	**18 09 55.4**	**-0.9**
	baz=301								
CHN1				*e*S		**Sb**	**Sb**	**18 10 19.8**	**-0.2**
	baz=301								
CHN4	**Tsaushan**	**1.96**	**302**	P		**Pb**	**Pb**	**18 09 55.6**	**-1.2**
	baz=293								
CHN4				*e*S		**Sb**	**Sb**	**18 10 20.8**	**0.0**
	baz=293								
SNST	**Tainan City**	**1.98**	**298**	*e*P		**Pb**	**Pb**	**18 09 57.4**	**+0.4**
	baz=301								
SSLB	**Suanglung**	**1.98**	**318**	*e*S		**Sb**	**Sb**	**18 10 21.0**	**-0.5**
	baz=328								
TWK	**Hsinying**	**2.00**	**299**	*e*P		**Pb**	**Pb**	**18 09 56.4**	**-1.1**
	baz=290								
TWK				*e*S		**Sb**	**Sb**	**18 10 21.9**	**-0.1**
	baz=290								
CHN5	**Tsauling**	**2.04**	**309**	P		**Pb**	**Pb**	**18 09 57.7**	**-0.4**
	baz=300								
HATJ	**Hateruma jima**	**2.16**	**36**	P		**Pn**	**Pn**	**18 09 57.7**	**+1.2**
HATJ				*e*S		**Sn**	**Sn**	**18 10 24.0**	**+1.3**
JYNG	**Yonagunijimaku**	**2.19**	**13**	*e*S		**Sb**	**Sb**	**18 10 25.4**	**-1.8**
YOJ	**Yonaguni jima**	**2.21**	**15**	P		**Pb**	**Pb**	**18 09 58.8**	**-2.2**
IRIF	**Iriomote-Funau**	**2.35**	**31**	P		**Pn**	**Pn**	**18 10 00.9**	**+1.7**
JKRS	**Kuro-shima**	**2.42**	**37**	P		**Pn**	**Pn**	**18 10 01.5**	**+1.4**
JIJ	**Ishigaki jima**	**2.59**	**38**	P		**Pn**	**Pn**	**18 10 03.1**	**+0.6**
JISG	**Ishigakijimahi**	**2.86**	**37**	P		**Pn**	**Pn**	**18 10 06.8**	**+0.6**
JTJ	**Tarama**	**3.14**	**42**	P		**Pn**	**Pn**	**18 10 10.4**	**+0.5**

IDC ***11*** *18:13:38.1±0.9,29.°96N×41.°91W,h0km,mb3.8/15, mb1 4.0/15,mb1mx3.9/44,mbtmp3.8/15,MS3.4/16, Ms1 3.4/16,ms1mx3.2/40,Error ellipse: s-maj=27.9km s-min=17.0km az=174.0*
NEIC ***11*** *18:13:39.2±1.0,29.°9N±0.°1×42.°0W±0.°1,h10km±1km, mb4.7/20,Error ellipse: s-maj=22.7km s-min=18.2km az=151.0*
ISC 11 18:13:39.5±0.6,**29.°9N**±0.°1×**41.°98W**±0.°10,**h10**km,**n60,** σ0**s81**/47,**mb4.3**/28,**MS3.5**/16,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**24.97**	**247**			LR	LR	18 26 47.7	
	comp=Z,23nm,20.4s,baz=98,slow=32								
SCHQ	**Schefferville**	**30.60**	**331**			LR	LR	18 30 38.4	
	comp=Z,79nm,20.5s,baz=125,slow=33								
ESDC	**Sonseca Array**	**32.48**	**62**	P		**P**	**P**	**18 20 10.0**	**-0.3**
	0.7nm,1.0s,baz=264,slow=11,SNR=3.1								
ESDC						LR	LR	18 30 24.7	
	comp=Z,29nm,20.5s,baz=195,slow=31								
ESDC	**Sonseca Array**	**32.48**	**62**	P		**P**	**P**	**18 20 09.8**	**-0.4**
BCIP	**Isla Barro Col**	**40.95**	**248**	P		**P**	**P**	**18 21 22.7**	**+0.1**
DBIC	**Dimbokro**	**41.86**	**116**	LR		LR	LR	18 35 52.5	
	comp=Z,95nm,20.6s,baz=287,slow=32								
BFO	**Black Forest**	**42.28**	**50**	P		**P**	**P**	**18 21 33.2**	**+0.1**
SUMG	**Summit**	**42.73**	**2**	P		**P**	**P**	**18 21 37.0**	**+0.1**
KEST	**Kesra**	**43.11**	**68**	P		**P**	**P**	**18 21 41.4**	**+1.3**
	4.1nm,1.0s,baz=290,slow=2.8,SNR=4.0								
KEST	**Kesra**	**43.11**	**68**	P		**P**	**P**	**18 21 40.0**	**0.0**
KEST				IAmb		IAmb	IAmb	18 22 23.3	
	comp=Z,29nm,1.9s								
DAVA

KURK	**Kurchatov**	**84.12**	**33**	P	**P**		**18 26 10.2**	**-0.4**
KURK				IAmb	IAmb		18 26 13.0	
	comp=Z,2.4nm,0.8s							
BOSA	**Boshof**	**86.63**	**126**	LR	LR		19 02 40.9	
	comp=Z,36nm,19.8s,baz=48,slow=34							
MKAR	**Makanchi Array**	**88.56**	**35**	P	**P**		**18 26 32.7**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=5.7,slow=5.8,SNR=3.1							

IDC ***11*** *18:19:31.5±1.1,27˚.44N×104˚.09E,h0km,mb3.6/7, mb1 3.7/7,mb1mx3.5/36,mbtmp3.6/7,MS2.9/1,Ms1 3.1/1, ms1mx2.4/33,Error ellipse: s-maj=34.0km s-min=20.6km az=64.0*

ISC 11 18:19:36.7±1.3,27˚.5N±0˚.2×104˚.2E±0˚.2,h35km,n8, σ1§02/7,mb3.7/6,Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**10.21**	**209**	LR	LR	18 26 18.9	
	comp=Z,72nm,19.5s,baz=55,slow=40						
SONM	**Songino Array**	**20.36**	**4**	P	**P**	**18 24 08.7**	**-1.6**
	0.6nm,0.6s,baz=178,slow=10,SNR=2.7						
KSRS	**Korea Array**	**22.31**	**58**	P	**P**	**18 24 32.0**	**+0.8**
	1.0nm,0.6s,baz=248,slow=10,SNR=7.7						
MKAR	**Makanchi Array**	**25.81**	**324**	P	**P**	**18 25 04.6**	**+0.1**
	1.1nm,0.6s,baz=130,slow=12,SNR=14						
USRK	**Ussuriysk Ar.**	**27.85**	**46**	P	**P**	**18 25 23.3**	**+0.4**
	1.3nm,0.6s,baz=251,slow=7.2,SNR=2.2						
WRA	**Warramunga Arr**	**55.49**	**145**	P	**P**	**18 29 08.0**	**-0.4**
	0.5nm,0.6s,baz=333,slow=8.5,SNR=9.5						
ASAR	**Alice Springs**	**58.42**	**148**	P	**P**	**18 29 28.9**	**-0.3**
	0.2nm,0.6s,baz=330,slow=6.6,SNR=7.1						
FINES	**FINESS Array B**	**60.58**	**327**	P	**P**	**18 29 44.3**	**+0.8**
	1.1nm,0.9s,baz=91,slow=13,SNR=2.2						

VAO 11 18:57:40.6±0.4,16˚.99S×65˚.70W,h0km,mb4.0,Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.43**	**286**	*eP*	Pn	18 58 20.8	-1.3
LPAZ				*eS*	Sn	18 58 52.5	-0.3
LPAZ	**La Paz**	**2.43**	**286**	*eP*	Pn	18 58 20.8	-1.3
LPAZ				*eS*	Sn	18 58 52.5	-0.3
PTLB	**Pontes e Lacer**	**6.49**	**77**	*eP*	Pn	18 59 16.2	-1.2
PTLB				*eS*	Sn	19 00 32.4	+0.1
PTLB	**Pontes e Lacer**	**6.49**	**77**	*eP*	Pn	18 59 16.2	-1.2
PTLB				*eS*	Sn	19 00 32.4	+0.1
VILB	**Vilhena**	**6.66**	**54**	*eP*	Pn	18 59 21.7	+1.9
VILB				*eS*	Sn	19 00 36.8	+0.3
VILB	**Vilhena**	**6.66**	**54**	*eP*	Pn	18 59 21.7	+1.9
VILB				*eS*	Sn	19 00 36.8	+0.3
SAML	**Samuel**	**8.36**	**17**	*eP*	Pn	18 59 43.5	+0.3
SAML				*eS*	Sn	19 01 18.4	+0.1
SAML	**Samuel**	**8.36**	**17**	*eP*	Pn	18 59 43.5	+0.3
SAML				*eS*	Sn	19 01 18.4	+0.1
SALV	**Santo Antonio**	**9.67**	**85**	*eP*	Pn	19 00 00.8	-0.2
SALV				*eS*	Sn	19 01 50.8	+0.3
SALV	**Santo Antonio**	**9.67**	**85**	*eP*	Pn	19 00 00.8	-0.2
SALV				*eS*	Sn	19 01 50.8	+0.3
AQDB	**Aquidauana**	**10.09**	**112**	*eP*	Pn	19 00 06.6	-0.3
AQDB				*eS*	Sn	19 02 01.9	+1.0
AQDB	**Aquidauana**	**10.09**	**112**	*eP*	Pn	19 00 06.6	-0.3
AQDB				*eS*	Sn	19 02 01.9	+1.0
CLDB	**Colider**	**11.37**	**59**	*eS*	Sn	19 02 33.0	+0.6
CLDB	**Colider**	**11.37**	**59**	*eS*	Sn	19 02 33.0	+0.6
ARAG	**Araguaiana, MT**	**13.39**	**87**	*eP*	Pn	19 00 51.3	-0.8
ARAG				*eS*	Sn	19 03 23.2	+1.3
ARAG	**Araguaiana, MT**	**13.39**	**87**	*eP*	Pn	19 00 51.3	-0.8
ARAG				*eS*	Sn	19 03 23.2	+1.3
NPGB	**Novo Progresso**	**14.14**	**47**	*eP*	Pn	19 01 02.4	+0.1
NPGB				*eS*	Sn	19 03 40.6	+0.6
NPGB	**Novo Progresso**	**14.14**	**47**	*eP*	Pn	19 01 02.4	+0.1
NPGB				*eS*	Sn	19 03 40.6	+0.6
ITTB	**Itaituba**	**15.90**	**39**	*eP*	Pn	19 01 25.9	0.0
ITTB	**Itaituba**	**15.90**	**39**	*eP*	Pn	19 01 25.9	0.0
SMTB	**Santa Maria do**	**19.40**	**68**	*eP*	P	19 02 08.4	-0.1
SMTB	**Santa Maria do**	**19.40**	**68**	*eP*	P	19 02 08.4	-0.1

IDC ***11*** *19:05:16.2±2.6,43˚.67N×105˚.14W,h0km,mb1 3.2/3, mb1mx3.1/45,mbtmp2.9/3,ML3.0/3,Error ellipse: s-maj=44.5km s-min=13.1km az=147.0*

NEIC ***11*** *19:05:19.7±1.3,43˚.64N±0˚.04×105˚.20W±0˚.07,h0km±2km, Error ellipse: s-maj=9.2km s-min=6.2km az=310.0*

ISC 11 19:05:20.6±0.8,43˚.65N±0˚.05×105˚.31W±0˚.05,h0km,n84, σ1§46/81,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.03**	**62**	Pg	**Pg**	**19 05 38.3**	**-2.2**
K22A	**Casper**	**1.34**	**222**	Pn	**Pg**	**19 05 43.2**	**-3.1**
PHWY	**Pilot Hill**	**2.35**	**183**	Pn	**Pn**	**19 05 59.0**	**-1.7**
RWWY	**Rawlins**	**2.41**	**216**	Pn	**Pn**	**19 06 01.4**	**-0.1**
N23A	**Red Feather La**	**2.79**	**190**	Pn	**Pn**	**19 06 05.9**	**-0.9**
LAO	**LASA Array**	**3.11**	**348**	Pn	**Pn**	**19 06 11.3**	**+0.3**
RLMT	**Red Lodge**	**3.20**	**299**	Pn	**Pn**	**19 06 12.4**	**0.0**
BW06	**Boulder Array**	**3.23**	**256**	Pn	**Pn**	**19 06 13.0**	**+0.2**
PD31	**Pinedale Array**	**3.23**	**256**	Pn	**Pn**	**19 06 12.0**	**-0.8**
PDAR	**Pinedale Array**	**3.23**	**256**	Pn	**Pn**	**19 06 11.5**	**-1.4**
	0.3nm,0.3s,baz=77,slow=17,SNR=3.2						
PDAR				Lg	Lg	19 07 00.7	
	11nm,0.3s,baz=76,slow=41,SNR=6.5						
PDAR	**Pinedale Array**	**3.23**	**256**	Pn	**Pn**	**19 06 13.8**	**+0.9**
OGNE	**Ogallala**	**3.63**	**137**	Pn	**Pn**	**19 06 16.1**	**-2.0**
YNE	**Yellowstone No**	**3.64**	**294**		**Pn**	**19 06 18.1**	**-0.4**
YMP	**Mirror Lake Pl**	**3.66**	**289**	Pn	**Pn**	**19 06 18.6**	**-0.1**
GCMT	**Greycliff**	**3.78**	**306**	Pn	**Pn**	**19 06 18.6**	**-1.7**
ISCO	**Idaho Springs**	**3.85**	**184**	Pn	**Pn**	**19 06 22.1**	**+0.6**
H17A	**Grant Village**	**3.88**	**283**		**Pn**	**19 06 21.6**	**0.0**
FLWY	**Flagg Ranch**	**3.92**	**278**	Pn	**Pn**	**19 06 22.4**	**0.0**
SNOW	**Snow King Moun**	**3.97**	**269**		**Pn**	**19 06 22.9**	**0.0**
YPP	**Pitchstone Pla**	**4.02**	**281**		**Pn**	**19 06 24.6**	**+0.8**
IMW	**Indian Meadow**	**4.09**	**275**	Pn	**Pn**	**19 06 25.3**	**+0.7**
TPAW	**Teton Pass**	**4.11**	**270**		**Pn**	**19 06 24.7**	**-0.2**
O20A	**White River Ci**	**4.14**	**213**	Pn	**Pn**	**19 06 26.4**	**+1.2**
YHH	**Holmes Hill**	**4.15**	**288**	Pn	**Pn**	**19 06 25.1**	**-0.4**
FXWY	**Fox Creek**	**4.15**	**272**	Pn	**Pn**	**19 06 25.5**	**0.0**
YMR	**Madison River**	**4.20**	**286**	Pn	**Pn**	**19 06 26.1**	**0.0**
AHID	**Auburn Hatcher**	**4.33**	**260**	Pn	**Pn**	**19 06 27.5**	**-0.3**
YHB	**Horse Butte**	**4.38**	**287**		**Pb**	**19 06 40.5**	**+1.9**
E28A	**Huff**	**4.38**	**47**	Pn	**Pn**	**19 06 26.1**	**-2.3**
RDMU	**Red Mountain**	**4.42**	**227**		**Pn**	**19 06 29.2**	**+0.1**
QLMT	**Earthquake Lak**	**4.56**	**287**	Pn	**Pn**	**19 06 29.4**	**-1.6**
Q24A	**Divide**	**4.68**	**179**	Pn	**Pn**	**19 06 34.0**	**+1.2**
DGMT	**Dagmar**	**4.89**	**9**		**Pn**	**19 06 37.1**	**+1.7**
K31A	**O'Neill**	**4.90**	**100**	Pn	**Pn**	**19 06 34.1**	**-1.5**
BOZ	**Bozeman (W)**	**4.92**	**296**	Pn	**Pn**	**19 06 37.6**	**+1.7**
HWUT	**Hardware Ranch**	**5.05**	**248**	Pn	**Pn**	**19 06 37.9**	**+0.1**
KSCO	**Kaye Shedlock'**	**5.05**	**156**		**Pn**	**19 06 35.0**	**-2.7**
TCUT	**Toone Canyon**	**5.18**	**243**		**Pn**	**19 06 37.8**	**-1.8**
EGMT	**Eagleton**	**5.37**	**326**	Pn	**Pn**	**19 06 42.7**	**+0.6**
JLU	**Jordanelle**	**5.49**	**238**	Pn	**Pn**	**19 06 42.4**	**-1.5**
DLMT	**Dillon**	**5.49**	**291**		**Pn**	**19 06 43.5**	**-0.3**
LRM	**Limekiln Ridge**	**5.54**	**296**		**Pn**	**19 06 43.4**	**-1.1**
MCMT	**McKenzie Canyo**	**5.55**	**285**	Pn	**Pn**	**19 06 43.6**	**-1.0**
PV22	**Blue Mesa, Par**	**5.74**	**208**	Pn	**Pn**	**19 06 45.7**	**-1.7**
PV07	**Paradox Valley**	**5.78**	**207**	Pn	**Pn**	**19 06 47.1**	**-0.7**
PV21	**Cone Mtn., Par**	**5.79**	**210**	Pn	**Pn**	**19 06 47.3**	**-0.7**
PV15	**Paradox Valley**	**5.82**	**205**		**Pn**	**19 06 50.2**	**+1.8**
P17A	**Butcher Ranch,**	**5.83**	**226**		**Pn**	**19 06 51.0**	**+2.5**
PV23	**Carpenter Ridg**	**5.90**	**210**		**Pn**	**19 06 50.5**	**+1.0**
SDCO	**Great Sand Dun**	**5.90**	**182**	Pn	**Pn**	**19 06 52.2**	**+2.7**
PV09	**Paradox Valley**	**5.90**	**211**		**Pn**	**19 06 50.8**	**+1.3**
PV04	**Paradox Valley**	**5.91**	**209**		**Pn**	**19 06 51.5**	**+1.8**
PV12	**Saucer Basin,**	**5.94**	**208**		**Pn**	**19 06 51.1**	**+1.0**
PV14	**Lion Creek, Pa**	**5.97**	**209**		**Pn**	**19 06 50.8**	**+0.3**
PV20	**West Nyswonger**	**5.98**	**209**		**Pn**	**19 06 52.3**	**+1.7**
PV11	**David Mesa, Pa**	**5.99**	**208**		**Pn**	**19 06 51.1**	**+0.4**
SRU	**San Rafael Swe**	**5.99**	**223**		**Pn**	**19 06 49.5**	**-1.2**
S22A	**4UR Ranch, Cre**	**6.01**	**192**		**Pn**	**19 06 51.5**	**+0.5**
PV03	**Paradox Valley**	**6.02**	**208**		**Pn**	**19 06 51.9**	**+0.8**
PV02	**Paradox Valley**	**6.02**	**207**		**Pn**	**19 06 53.0**	**+1.8**
PV17	**East Wray Mesa**	**6.03**	**209**		**Pn**	**19 06 52.9**	**+1.6**
PV01	**Paradox Valley**	**6.04**	**205**		**Pn**	**19 06 52.7**	**+1.3**
PV18	**Skein Mesa, Pa**	**6.04**	**208**	Pn	**Pn**	**19 06 51.9**	**+0.4**
PV13	**Radium Mtn , P**	**6.09**	**207**		**Pn**	**19 06 53.0**	**+0.8**
TMUT	**Trail Mountain**	**6.21**	**228**	Pn	**Pn**	**19 06 53.9**	**+0.1**
PV05	**Paradox Valley**	**6.26**	**209**	Pn	**Pn**	**19 06 53.9**	**-0.6**
ECSD	**EROS Data Cent**	**6.30**	**86**		Pn	19 07 00.7	+5.9
T25A	**Trinidad**	**6.54**	**174**	Pn	**Pn**	**19 07 00.6**	**+2.4**
DUG	**Dugway, Tooele**	**6.58**	**241**	Pn	**Pn**	**19 06 57.6**	**-1.1**
F33A	**5 Mile Ranch,**	**6.78**	**68**	Pn	**Pn**	**19 07 00.1**	**-1.3**
MSU	**Marysvale**	**7.29**	**228**		**Pn**	**19 07 09.1**	**+0.5**
MTPU	**Mount Pierson**	**7.65**	**225**		**Pn**	**19 07 14.1**	**+0.5**
ELK	**Elko**	**7.92**	**252**	Pn	**Pn**	**19 07 18.0**	**+0.7**
	0.2nm,0.3s,baz=63,slow=18,SNR=4.5						
ELK				Lg	Lg	19 09 29.3	
	0.1nm,0.3s,baz=151,slow=19,SNR=1.5						
ELK	**Elko**	**7.92**	**252**		**Pn**	**19 07 18.0**	**+0.7**
WALA	**Waterton Lakes**	**8.04**	**315**	Pn	**Pn**	**19 07 18.4**	**-0.4**
AGMN	**Agassiz Nation**	**8.05**	**51**		**Pn**	**19 07 19.7**	**+0.9**
PSUT	**Pine Spring**	**8.23**	**235**	Pn	**Pn**	**19 07 23.0**	**+1.6**
CCUT	**Cedar City**	**8.64**	**228**	Pn	**Pn**	**19 07 28.0**	**+1.0**
KNB	**Kanab**	**8.76**	**223**	Pn	**Pn**	**19 07 29.8**	**+1.1**
ULM	**Lac du Bonnet**	**9.23**	**41**	Pg	Pn	19 07 53.5	+19
	0.7nm,0.3s,baz=227,slow=16,SNR=1.9						
ULM				Lg	Lg	19 09 59.2	
	0.2nm,0.3s,baz=250,slow=13,SNR=1.3						
I56US	**NEWPORT INFRAS**	**9.44**	**303**	*i*		20 06 20.0	
	baz=116,slow=319,SNR=1.5						
S39A	**Bolivar**	**10.87**	**119**		**Pn**	**19 08 00.2**	**+2.8**
FFC	**Flin Flon**	**11.30**	**10**	Pn	**Pn**	**19 08 04.8**	**+1.6**
YKA	**Yellowknife Ar**	**19.65**	**347**	P	**P**	**19 09 46.1**	**-4.6**
	0.0nm,0.3s,baz=160,slow=11,SNR=1.7						

NEIC ***11*** *19:10:32.7±1.9,56˚.75N±0˚.05×156˚.57W±0˚.07,h75km±7km, Error ellipse: s-maj=7.4km s-min=5.1km az=150.0*

IDC ***11*** *19:10:32.8±2.9,57˚.11N×156˚.78W,h60km±23km,mb3.8/15, mb1 4.0/18,mb1mx3.7/59,mbtmp4.1/18,ML4.2/3,MS2.9/4, Ms1 2.9/4,ms1mx2.5/47,Error ellipse: s-maj=33.7km s-min=18.1km az=171.0*

AEIC ***11*** *19:10:34.1±2.6,56˚.73N±0˚.05×156˚.52W±0˚.08,h32km±5km, ML3.8,mb4.3/5(NEIC),Error ellipse: s-maj=8.7km s-min=4.0km az=143.0*

ISC 11 19:10:32.9±0.9,56˚.79N±0˚.06×156˚.63W±0˚.05,h76km±8km, n131,σ1§15/132,mb4.1/16,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBL	**Peulik Blue Cr**	**0.92**	**354**		**Pn**	**19 10 50.7**	**+0.1**
PLK3	**Peulik 3**	**0.92**	**12**		**Pn**	**19 10 51.1**	**+0.4**
PLK3					**Sn**	**19 11 04.4**	**+0.4**
PLK2	**Peulik 2**	**0.99**	**9**		**Pn**	**19 10 52.0**	**+0.5**
PLK1	**Peulik 1**	**1.01**	**1**		**Pn**	**19 10 51.8**	**+0.1**
CHGN	**Chignik**	**1.11**	**244**		**Pn**	**19 10 52.6**	**-0.3**
CHGN	**Chignik**	**1.11**	**244**		**Sn**	**19 11 06.9**	**-1.0**
PLK5	**Peulik 5**	**1.22**	**354**		**Pn**	**19 10 54.4**	**+0.1**
CAHL	**Cahill**	**1.45**	**29**		**Pn**	**19 10 57.4**	**0.0**
VNHG	**Veniaminof 1**	**1.52**	**249**		**Pn**	**19 10 58.9**	**+0.6**
ANCK	**Angle Creek**	**1.54**	**23**		**Pn**	**19 10 58.8**	**+0.3**
ANCK					**Sn**	**19 11 17.9**	**0.0**
VNNF	**Veniaminof 3**	**1.57**	**252**		**Pn**	**19 10 59.7**	**+0.7**
ACHA	**Angle Creek He**	**1.58**	**26**		**Pn**	**19 10 59.5**	**+0.3**
KABU	**Katmai Buttres**	**1.65**	**26**		**Pn**	**19 11 00.4**	**+0.4**
KABU					**Sn**	**19 11 21.3**	**+0.7**
VNSS	**Veniaminof 8**	**1.67**	**251**		**Pn**	**19 11 00.7**	**+0.4**
VNFG	**Fog Glacier, M**	**1.70**	**254**		**Pn**	**19 11 01.2**	**+0.5**
KELA	**Mount Kelaz**	**1.72**	**16**		**Pn**	**19 11 00.8**	**-0.1**
VNWF	**Veniaminof 8**	**1.75**	**250**		**Pn**	**19 11 02.2**	**+0.8**
OHAK	**Old Harbor**	**1.88**	**75**		**Pn**	**19 11 02.9**	**-0.1**
OHAK					**Sn**	**19 11 24.9**	**-0.9**
KAHG	**Katmai Hook Gl**	**2.04**	**32**		**Pn**	**19 11 05.7**	**+0.5**
KAHC	**Katmai Hardscr**	**2.05**	**24**		**Pn**	**19 11 05.7**	**+0.2**
KDAK	**Kodiak Island**	**2.41**	**64**	P	**Pn**	**19 11 10.2**	**+0.1**
	20nm,0.3s,baz=238,slow=6.8,SNR=146						
KDAK				S	**Sn**	**19 11 37.4**	**-1.1**
	60nm,0.3s,baz=162,slow=20,SNR=24						
CNBA	**Chernabura Isl**	**2.59**	**221**		**Pn**	**19 11 12.1**	**-0.4**
SDPT	**Sand Point**	**2.60**	**238**		**Pn**	**19 11 13.4**	**+0.7**
SDPT					**Sn**	**19 11 44.1**	**+0.9**
AUW	**Augustine West**	**3.08**	**32**		**Pn**	**19 11 20.6**	**+1.5**
AUH	**Augustine H**	**3.08**	**32**		**Pn**	**19 11 20.7**	**+1.5**
AUP	**Augustine Pinn**	**3.09**	**32**		**Pn**	**19 11 20.7**	**+1.4**
AU22	**Augustine Moun**	**3.11**	**33**		**Pn**	**19 11 20.9**	**+1.4**
PS4A	**Pavlof South-4**	**3.27**	**246**		**Pn**	**19 11 23.0**	**+1.2**
HAG	**Hague Volcano**	**3.31**	**246**		**Pn**	**19 11 23.7**	**+1.4**
ILS	**Iliamna Low So**	**3.69**	**29**		**Pn**	**19 11 28.7**	**+1.2**
IVE	**Iliamna Volcan**	**3.75**	**29**		**Pn**	**19 11 29.4**	**+1.1**
ILW	**Iliamna West**	**3.75**	**28**		**Pn**	**19 11 29.6**	**+1.1**
CNPM	**China Poot**	**3.96**	**44**		**Pn**	**19 11 31.6**	**+0.5**
RED	**Redoubt Volcan**	**4.16**	**27**		**Pn**	**19 11 35.2**	**+1.3**
RSO	**Redoubt South**	**4.20**	**27**		**Pn**	**19 11 35.6**	**+1.1**
RDWB	**Redoubt West**	**4.20**	**27**		**Pn**	**19 11 35.6**	**+1.0**
BRLK	**Bradley Lake**	**4.25**	**43**		**Pn**	**19 11 34.4**	**-0.7**
BRSE	**Bradley Lake S**	**4.29**	**44**		**Pn**	**19 11 35.5**	**-0.1**
FALS	**False Pass**	**4.29**	**246**	Pn	**Pn**	**19 11 35.1**	**-0.6**
RDJH	**Redoubt Jeurge**	**4.30**	**26**		**Pn**	**19 11 37.4**	**+1.5**
SVW2	**Sparrevohn**	**4.35**	**7**		**Pn**	**19 11 36.8**	**+0.3**
SPBG	**Spurr Blockage**	**4.99**	**24**		**Pn**	**19 11 46.6**	**+1.4**
SLKM	**Skilak Lake**	**5.00**	**39**		**Pn**	**19 11 45.5**	**+0.1**
SPNN	**North Nagishla**	**5.01**	**22**		**Pn**	**19 11 47.3**	**+1.7**
SEW	**Seward**	**5.02**	**46**	Pn	**Pn**	**19 11 45.1**	**-0.4**
SPCG	**Spurr Capps Gl**	**5.10**	**26**		**Pn**	**19 11 48.1**	**+1.4**
STLK	**Strandline Lak**	**5.32**	**26**		**Pn**	**19 11 51.1**	**+1.4**
RC01	**Rabbit Creek A**	**5.59**	**37**		**Pn**	**19 11 52.7**	**-0.6**
AKUT	**Akutan**	**5.84**	**247**	Pn	**Pn**	**19 11 58.7**	**+1.9**
PWL	**Port Wells**	**5.93**	**43**		**Pn**	**19 11 57.3**	**-0.7**
MID	**Middleton Isla**	**6.06**	**60**	Pn	**Pn**	**19 12 00.1**	**+0.4**
TT01	**Tatalina**	**6.14**	**3**		**Pn**	**19 12 01.2**	**+0.4**
TTA	**Tatalina**	**6.17**	**3**		**Pn**	**19 12 01.1**	**-0.1**
KNK	**Knik Glacier**	**6.25**	**39**		**Pn**	**19 12 01.9**	**-0.5**
GHO	**Glory Hole Cre**	**6.36**	**35**		**Pn**	**19 12 02.8**	**-1.1**
HIN	**Hinchinbrook I**	**6.41**	**51**		**Pn**	**19 12 04.2**	**-0.3**
GLI	**Glacier Island**	**6.42**	**46**		**Pn**	**19 12 03.4**	**-1.3**
MSW	**Makushin Switc**	**6.47**	**248**		**Pn**	**19 12 06.0**	**+0.7**
PPLA	**Purkeypile**	**6.52**	**18**		**Pn**	**19 12 08.2**	**+2.1**
SML	**Sawmill**	**6.58**	**37**		**Pn**	**19 12 06.3**	**-0.5**
FID	**Port Fidalgo**	**6.60**	**49**		**Pn**	**19 12 05.5**	**-1.6**
SCM	**Sheep Creek Mo**	**6.94**	**39**		**Pn**	**19 12 11.2**	**-0.5**
RAGM	**Ragged Mountai**	**7.21**	**55**		**Pn**	**19 12 15.5**	**+0.1**
KTH	**Kantishna Hill**	**7.35**	**20**	Pn	**Pn**	**19 12 17.2**	**-0.2**
TRF	**Thorofare Moun**	**7.39**	**23**		**Pn**	**19 12 17.7**	**-0.3**
WAT2	**Susitna Watana**	**7.39**	**30**		**Pn**	**19 12 16.7**	**-1.3**
SPIA	**Saint Paul Isl**	**7.45**	**279**		**Pn**	**19 12 19.6**	**+0.9**
RND	**Reindeer**	**7.68**	**27**		**Pn**	**19 12 21.0**	**-0.9**
DHY	**Denali Highway**	**7.82**	**33**		**Pn**	**19 12 22.5**	**-1.4**
BPAW	**Bear Paw Mtn.**	**7.84**	**18**		**Pn**	**19 12 23.8**	**-0.2**
MCK	**McKinley**	**7.94**	**26**	Pn	**Pn**	**19 12 24.8**	**-0.6**
WAX	**Waxell Ridge**	**8.07**	**57**		**Pn**	**19 12 26.3**	**-0.8**
GLB	**Gilahina Butte**	**8.07**	**49**		**Pn**	**19 12 26.5**	**-0.7**
HARP	**HAARP**	**8.08**	**41**		**Pn**	**19 12 28.9**	**+1.6**
VRDI	**Verde Repeater**	**8.12**	**51**		**Pn**	**19 12 27.9**	**0.0**
PAX	**Paxson**	**8.35**	**38**		Pn	19 12 26.4	-4.7
MCARA	**McCarthy VSAT**	**8.37**	**51**	Pn	**Pn**	**19 12 30.5**	**-0.8**
MESA	**MESA**	**8.40**	**60**		**Pn**	**19 12 32.3**	**+0.4**
KIAG	**Kiagna River**	**8.47**	**55**		**Pn**	**19 12 33.1**	**+0.3**
BALM	**Baldy**	**8.52**	**54**	Pn	**Pn**	**19 12 33.1**	**-0.3**
PTPK	**Patty Peak**	**8.53**	**53**		**Pn**	**19 12 34.0**	**+0.4**
YAH	**Yahtse**	**8.55**	**59**		**Pn**	**19 12 34.2**	**+0.2**
RKAV	**Rock Avalanche**	**8.72**	**60**		**Pn**	**19 12 36.6**	**+0.3**
WRH	**Wood River Hil**	**8.76**	**25**	Pn	**Pn**	**19 12 35.0**	**-1.5**
BARN	**Barnard Glacie**	**8.84**	**55**		**Pn**	**19 12 37.8**	**0.0**
ANM	**Nome**	**8.89**	**335**	Pn	**Pn**	**19 12 39.4**	**+1.1**
CTGM	**Chitina Glacie**	**8.95**	**56**		**Pn**	**19 12 37.9**	**-1.4**
CCB	**Clear Creek Bu**	**8.98**	**25**		**Pn**	**19 12 37.8**	**-1.7**
HDA	**Harding Lake**	**8.99**	**28**		**Pn**	**19 12 37.5**	**-2.2**
RIDG	**Independent Ri**	**9.09**	**35**		**Pn**	**19 12 40.7**	**-0.4**
MDM	**Murphy Dome**	**9.15**	**23**		**Pn**	**19 12 40.0**	**-1.8**
DOT	**Dot Lake**	**9.28**	**37**	Pn	**Pn**	**19 12 43.2**	**-0.4**
IL31		**9.30**	**27**		**Pn**	**19 12 41.8**	**-2.1**
ILAR	**Eielson Array**	**9.30**	**27**	P	**Pn**	**19 12 41.6**	**-2.4**
	3.6nm,0.3s,baz=213,slow=18,SNR=48						
ILAR				S	**Sn**	**19 14 19.6**	**-7.1**
	0.5nm,0.3s,baz=224,slow=19,SNR=2.4						
ILAR				LR	LR	19 16 38.1	
	comp=Z,30nm,18.5s,baz=292,slow=40						
ILAR	**Eielson Array**	**9.30**	**27**		**Pn**	**19 12 41.2**	**-2.7**
IM03		**9.32**	**7**		**Pn**	**19 12 45.0**	**+0.8**
IMAR	**Indian Mountai**	**9.32**	**7**		**Pn**	**19 12 44.9**	**+0.7**
SCRK	**Sand Creek**	**9.53**	**36**		**Pn**	**19 12 46.1**	**-1.0**
BC03		**9.73**	**44**		**Pn**	**19 12 50.1**	**+0.4**
BCAR	**Beaver Creek A**	**9.73**	**44**		**Pn**	**19 12 48.8**	**-1.0**
DAWY	**Dawson**	**11.18**	**42**	Pn	**Pn**	**19 13 09.2**	**-0.3**
WHY	**Whitehorse**	**11.92**	**62**	Pn	**Pn**	**19 13 20.8**	**+1.1**
BMAR	**Burnt Mountain**	**12.04**	**23**		Pn	19 13 16.0	-5.2
EPYK	**Eagle Plains**	**13.42**	**36**	Pn	**Pn**	**19 13 40.3**	**+0.5**
DLBC	**Dease Lake**	**14.31**	**72**	LR	LR	19 20 01.8	
	comp=Z,21nm,18.5s,baz=293,slow=40						
INK	**Inuvik**	**15.57**	**33**	P	**Pn**	**19 14 06.2**	**-1.3**
	0.9nm,0.3s,baz=203,slow=10,SNR=9.4						
INK	**Inuvik**	**15.57**	**33**		**Pn**	**19 14 06.4**	**-1.0**
C36M	**Paulatuk**	**19.05**	**36**	P	**P**	**19 14 48.4**	**-0.1**
C36M				IAmb	IAmb	19 14 49.5	
	comp=Z,12nm,0.5s						
YKA	**Yellowknife Ar**	**21.67**	**57**	P	**P**	**19 15 17.2**	**+0.4**
	comp=Z,2.0nm,0.8s,baz=270,slow=9.7,SNR=16						
NEW	**Newport**	**25.19**	**93**	LR	LR	19 24 30.3	
	comp=Z,53nm,21.1s,baz=234,slow=33						
NVAR	**Mina Array Bea**	**31.14**	**110**	LR	LR	19 27 22.3	
	comp=Z,36nm,18.2s,baz=218,slow=32						
EYMN	**Ely**	**39.31**	**74**	P	**P**	**19 17 55.7**	**+1.6**
EYMN				IAmb	IAmb	19 17 56.6	
	comp=Z,3.6nm,0.8s						
FRB	**Frobisher Bay**	**40.88**	**43**	P	**P**	**19 18 07.7**	**+0.8**
	comp=Z,4.6nm,0.6s,baz=308,slow=8.8,SNR=9.5						
SCHQ	**Schefferville**	**46.98**	**52**	P	**P**	**19 18 56.0**	**+0.2**
	comp=Z,1.9nm,0.4s,baz=299,slow=9.1,SNR=6.6						
SCHQ	**Schefferville**	**46.98**	**52**	IAmb	IAmb	19 18 56.9	
	comp=Z,2.3nm,0.5s						
V48A	**Smith Brothers**	**50.20**	**84**	P	**P**	**19 19 22.9**	**+2.2**
Q54A	**Coxs Mills**	**51.07**	**76**		**S**	**19 26 38.0**	**-0.7**
KSRS	**Korea Array**	**52.00**	**282**	P	**P**	**19 19 34.4**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=49,slow=7.1,SNR=6.0						
ARCES	**ARCESS

TXAR	**Lajitas Array**	**94.58**	**53**	P		**P**	**19 25 25.0**	**+0.9**
LPAZ	**La Paz**	**149.30**	**73**	PKPbc		**PKiKP**	**19 31 54.4**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=252,slow=3.2,SNR=5.6							
LPAZ	**La Paz**	**149.30**	**73**			**PKiKP**	**19 31 55.6**	**+1.3**

*KRSC **11** 19:14:16.8±0.9, 54°.24N×161°.13E, h63km±19km, ML4.4*
*MOS **11** 19:14:17.8±0.5, 54°.24N×161°.17E, h72km, mb4.0/4, Error ellipse: s-maj=8.6km s-min=3.9km az=76.8*
*IDC **11** 19:14:17.2±4.9, 54°.05N±161°.41E, h56km±49km, mb3.6/4, mb1 3.9/7, mb1mx3.3/52, mbtmp4.0/7, ML3.7/3, MS2.1/2, Ms1 2.1/2, ms1mx2.0/48, Error ellipse: s-maj=68.0km s-min=18.0km az=132.0*
*NEIC **11** 19:14:18.4±0.8, 54°.1N±0°.1×161°.3E±0°.3, h61km±7km, mb4.3/6, Error ellipse: s-maj=26.9km s-min=11.7km az=123.0*

ISC 11 19:14:18.5±0.9, 54°22N±0°.03×161°17E±0°.04, h56km±10km, n127, σ1s12/182, mb4.0/12, 5C-3D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KZV	**Kizimen**	**1.03**	**331**		*eP*		**Pn**	**19 14 36.6**	**-0.3**
KZV					*eS*		**Sn**	**19 14 49.7**	**-0.8**
KZV	**Kizimen**	**1.03**	**331**	PN			**Pn**	**19 14 36.6**	**-0.3**
KZV				S			**Sn**	**19 14 49.7**	**-0.8**
KII	**Karymskiy**	**1.03**	**260**		*eP*		**Pn**	**19 14 36.4**	**-0.5**
KII					*eS*		**Sn**	**19 14 49.6**	**-0.8**
KII	**Karymskiy**	**1.03**	**260**	PN			**Pn**	**19 14 36.4**	**-0.5**
KII				S			**Sn**	**19 14 49.6**	**-0.8**
TUMD	**Tumrok D**	**1.08**	**336**		*eP*		**Pn**	**19 14 36.6**	**-0.9**
TUMD					*eS*		**Sn**	**19 14 50.1**	**-1.4**
TUMR	**Tumrok**	**1.22**	**331**		*eP*		**Pn**	**19 14 39.2**	**-0.2**
TUMR					*eS*		**Sn**	**19 14 53.9**	**-1.1**
TUMR	**Tumrok**	**1.22**	**331**	PN			**Pn**	**19 14 39.2**	**-0.2**
TUMR				S			**Sn**	**19 14 53.9**	**-1.1**
SPN	**Mys Shipunski**	**1.32**	**212**		*eP*		**Pn**	**19 14 40.4**	**-0.2**
SPN					*eS*		**Sn**	**19 14 56.8**	**-0.3**
SPN	**Mys Shipunski**	**1.32**	**212**	PN			**Pn**	**19 14 40.4**	**-0.2**
SPN				S			**Sn**	**19 14 56.8**	**-0.3**
NLC	**Nalytchevo**	**1.51**	**227**		*eP*		**Pn**	**19 14 43.3**	**+0.1**
NLC					*eS*		**Sn**	**19 15 02.1**	**+0.3**
NLC	**Nalytchevo**	**1.51**	**227**	PN			**Pn**	**19 14 43.3**	**+0.1**
NLC				S			**Sn**	**19 15 02.1**	**+0.3**
KMNR	**Kamenistaya**	**1.63**	**341**		*eP*		**Pn**	**19 14 45.5**	**+0.6**
KMNR	**Kamenistaya**	**1.63**	**341**	PN			**Pn**	**19 14 45.5**	**+0.6**
SDLR	**Sedlovina**	**1.65**	**236**		*eP*		**Pn**	**19 14 45.7**	**+0.4**
SDLR					*eS*		**Sn**	**19 15 05.5**	**0.0**
SDLR	**Sedlovina**	**1.65**	**236**	PN			**Pn**	**19 14 45.7**	**+0.4**
SDLR				S			**Sn**	**19 15 05.5**	**0.0**
SMAR	**Somma**	**1.70**	**237**		*eP*		**Pn**	**19 14 46.3**	**+0.2**
SMAR					*eS*		**Sn**	**19 15 06.3**	**-0.5**
SMAR	**Somma**	**1.70**	**237**	PN			**Pn**	**19 14 46.3**	**+0.2**
SMAR				S			**Sn**	**19 15 06.3**	**-0.5**
KRER	**Koryakskii**	**1.71**	**238**		*eP*		**Pn**	**19 14 46.6**	**+0.5**
KRER					*eS*		**Sn**	**19 15 07.3**	**+0.4**
KRER	**Koryakskii**	**1.71**	**238**	PN			**Pn**	**19 14 46.6**	**+0.5**
KRER				S			**Sn**	**19 15 07.3**	**+0.4**
UGLR	**Uglovaya**	**1.73**	**235**		*eP*		**Pn**	**19 14 46.8**	**+0.6**
UGLR					*eS*		**Sn**	**19 15 07.6**	**+0.4**
UGLR	**Uglovaya**	**1.73**	**235**	PN			**Pn**	**19 14 46.8**	**+0.6**
UGLR				S			**Sn**	**19 15 07.6**	**+0.4**
KRX	**Arik**	**1.73**	**241**		*eP*		**Pn**	**19 14 46.4**	**+0.1**
KRX					*eS*		**Sn**	**19 15 07.2**	**-0.1**
KRX	**Arik**	**1.73**	**241**	PN			**Pn**	**19 14 46.4**	**+0.1**
KRX				S			**Sn**	**19 15 07.2**	**-0.1**
AVH	**Avacha**	**1.73**	**237**		*eP*		**Pn**	**19 14 46.9**	**+0.6**
AVH					*eS*		**Sn**	**19 15 08.3**	**+0.9**
AVH	**Avacha**	**1.73**	**237**	PN			**Pn**	**19 14 46.9**	**+0.6**
AVH				S			**Sn**	**19 15 08.3**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**1.74**	**351**		*eP*		**Pn**	**19 14 46.9**	**+0.4**
BZGR					*eS*		**Sn**	**19 15 07.8**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**1.74**	**351**	PN			**Pn**	**19 14 46.9**	**+0.4**
BZGR				S			**Sn**	**19 15 07.8**	**+0.1**
BZMR	**Bezymyannaya**	**1.76**	**347**		*eP*		**Pn**	**19 14 47.4**	**+0.6**
BZMR					*eS*		**Sn**	**19 15 10.0**	**+1.9**
BZMR	**Bezymyannaya**	**1.76**	**347**	PN			**Pn**	**19 14 47.4**	**+0.6**
BZMR				S			**Sn**	**19 15 10.0**	**+1.9**
KOK	**Koryaka**	**1.77**	**239**		*eP*		**Pn**	**19 14 47.2**	**+0.4**
KOK					*eS*		**Sn**	**19 15 09.2**	**+0.9**
KOK	**Koryaka**	**1.77**	**239**	PN			**Pn**	**19 14 47.2**	**+0.4**
KOK				S			**Sn**	**19 15 09.2**	**+0.9**
BZWR	**Bezymyannyi-We**	**1.79**	**348**		*eP*		**Pn**	**19 14 47.5**	**+0.3**
BZWR	**Bezymyannyi-We**	**1.79**	**348**	PN			**Pn**	**19 14 47.5**	**+0.3**
KIRR	**Kirishev**	**1.80**	**345**		*eP*		**Pn**	**19 14 47.6**	**+0.3**
KIRR					*eS*		**Sn**	**19 15 11.3**	**+2.2**
KIRR	**Kirishev**	**1.80**	**345**	PN			**Pn**	**19 14 47.6**	**+0.3**
KIRR				S			**Sn**	**19 15 11.3**	**+2.2**
ZLN	**Zelenaya**	**1.81**	**353**		*eP*		**Pn**	**19 14 48.1**	**+0.7**
ZLN					*eS*		**Sn**	**19 15 10.0**	**+0.7**
ZLN	**Zelenaya**	**1.81**	**353**	PN			**Pn**	**19 14 48.1**	**+0.7**
ZLN				S			**Sn**	**19 15 10.0**	**+0.7**
KPT	**Kopyto**	**1.83**	**343**		*eP*		**Pn**	**19 14 47.8**	**+0.1**
KPT	**Kopyto**	**1.83**	**343**	PN			**Pn**	**19 14 47.8**	**+0.1**
DALK	**Dalny**	**1.87**	**231**		*eP*		**Pn**	**19 14 48.4**	**+0.3**
DALK					*eS*		**Sn**	**19 15 10.8**	**+0.3**
DALK	**Dalny**	**1.87**	**231**	PN			**Pn**	**19 14 48.4**	**+0.3**
DALK				S			**Sn**	**19 15 10.8**	**+0.3**
LGNR	**Loginova**	**1.89**	**352**		*eP*		**Pn**	**19 14 49.5**	**+0.9**
LGNR					*eS*		**Sn**	**19 15 12.9**	**+1.5**
LGNR	**Loginova**	**1.89**	**352**	PN			**Pn**	**19 14 49.5**	**+0.9**
LGNR				S			**Sn**	**19 15 12.9**	**+1.5**
CIRR	**Tsirk**	**1.91**	**353**		*eP*		**Pn**	**19 14 49.4**	**+0.6**
CIRR					*eS*		**Sn**	**19 15 12.7**	**+0.9**
CIRR	**Tsirk**	**1.91**	**353**	PN			**Pn**	**19 14 49.4**	**+0.6**
CIRR				S			**Sn**	**19 15 12.7**	**+0.9**
PET	**Petropavlovsk**	**1.92**	**232**		*eP*		**Pn**	**19 14 49.3**	**+0.5**
PET					*eS*		**Sn**	**19 15 12.1**	**+0.3**
PET	**Petropavlovsk**	**1.92**	**232**	⇓	*i*	PN	**Pn**	**19 14 49.2**	**+0.5**
PET						*eS*	**Sn**	**19 15 12.2**	**+0.4**
PET						pmax	pmax		
	comp=Z,400nm,0.5s								
PET						pmax	pmax		
	comp=Z,392nm,0.4s								
PET						smax	smax		
	comp=N,1μm,0.5s								
PET						smax	smax		
	comp=N,2μm,0.4s								
PET						smax	smax		
	comp=E,1μm,0.4s								
PET						smax	smax		
	comp=E,2μm,0.4s								
PET	**Petropavlovsk**	**1.92**	**232**				**Pn**	**19 14 48.9**	**+0.1**
KOZ	**Kozyrevsk**	**1.98**	**339**		*eP*		**Pn**	**19 14 49.8**	**+0.1**
KOZ	**Kozyrevsk**	**1.98**	**339**	PN			**Pn**	**19 14 49.8**	**+0.1**
KRSR	**Krestovskiy**	**2.03**	**350**		*eP*		**Pn**	**19 14 50.5**	**+0.1**
KRSR					*eS*		**Sn**	**19 15 14.4**	**-0.2**
KRSR	**Krestovskiy**	**2.03**	**350**	PN			**Pn**	**19 14 50.5**	**+0.1**
KRSR				S			**Sn**	**19 15 14.4**	**-0.2**
KLY	**Klyuchi**	**2.12**	**352**		*eP*		**Pn**	**19 14 51.7**	**+0.3**
KLY					*eS*		**Sn**	**19 15 16.7**	**+0.1**
KLY	**Klyuchi**	**2.12**	**352**	PN			**Pn**	**19 14 51.7**	**+0.3**
KLY				S			**Sn**	**19 15 16.7**	**+0.1**
KBTR	**Krutoberegovo**	**2.20**	**25**		*eP*		**Pn**	**19 14 52.8**	**+0.2**
KBTR	**Krutoberegovo**	**2.20**	**25**	PN			**Pn**	**19 14 52.8**	**+0.2**
KBG	**Krutoberegovo**	**2.22**	**23**		*eP*		**Pn**	**19 14 52.8**	**0.0**
KBG					*eS*		**Sn**	**19 15 24.2**	**+5.1**
KBG	**Krutoberegovo**	**2.22**	**23**	PN			**Pn**	**19 14 52.8**	**0.0**
ESO	**Esso**	**2.22**	**321**		*eP*		**Pn**	**19 14 52.1**	**-0.8**
ESO					*eS*		**Sn**	**19 15 17.3**	**-1.9**
ESO	**Esso**	**2.22**	**321**	PN			**Pn**	**19 14 52.1**	**-0.8**
ESO				S			**Sn**	**19 15 17.3**	**-1.9**
KRMR	**Karymshinskiy**	**2.29**	**234**		*eP*		**Pn**	**19 14 55.1**	**+1.3**
KRMR					*eS*		**Sn**	**19 15 22.4**	**+1.6**
KRMR	**Karymshinskiy**	**2.29**	**234**	PN			**Pn**	**19 14 55.1**	**+1.3**
KRMR				S			**Sn**	**19 15 22.4**	**+1.6**
PEA0B	**Petropavlovsk-**	**2.35**	**243**	*d*	*i*	PN	**Pn**	**19 14 54.6**	**0.0**
PEA0B	**Petropavlovsk-**	**2.35**	**243**				**Pn**	**19 14 54.8**	**+0.2**
PETK	**Petropavlovsk-**	**2.35**	**243**		P		**Pn**	**19 14 54.6**	**-0.1**
	comp=E,16nm,0.3s,baz=71,slow=17,SNR=139								
PETK					S		**Sn**	**19 15 23.0**	**+0.7**
	comp=E,21nm,0.3s,baz=76,slow=18,SNR=13								
PETK					LR		LR	19 16 08.2	
	comp=E,85nm,20.9s,baz=57,slow=46								
BDR	**Baidarnaya**	**2.35**	**1**		*eP*		**Pn**	**19 14 55.3**	**+0.5**
BDR	**Baidarnaya**	**2.35**	**1**	PN			**Pn**	**19 14 55.3**	**+0.5**
SMKR	**Semkarok**	**2.37**	**4**		*eP*		**Pn**	**19 14 55.6**	**+0.6**
SMKR					*eS*		**Sn**	**19 15 23.8**	**+0.9**
SMKR	**Semkarok**	**2.37**	**4**	PN			**Pn**	**19 14 55.6**	**+0.6**
SMKR				S			**Sn**	**19 15 23.8**	**+0.9**
RUS	**Russkaya**	**2.40**	**223**		*eP*		**Pn**	**19 14 55.3**	**0.0**
RUS					*eS*		**Sn**	**19 15 22.6**	**-0.9**
RUS	**Russkaya**	**2.40**	**223**	PN			**Pn**	**19 14 55.3**	**0.0**
RUS				S			**Sn**	**19 15 22.6**	**-0.9**
SRKR	**Sorokina**	**2.44**	**360**		*eP*		**Pn**	**19 14 56.5**	**+0.6**
SRKR	**Sorokina**	**2.44**	**360**	PN			**Pn**	**19 14 56.5**	**+0.6**
GRL	**Gorelyy**	**2.50**	**229**		*eP*		**Pn**	**19 14 57.9**	**+1.1**
GRL					*eS*		**Sn**	**19 15 26.7**	**+0.6**
GRL	**Gorelyy**	**2.50**	**229**	PN			**Pn**	**19 14 57.9**	**+1.1**
GRL				S			**Sn**	**19 15 26.7**	**+0.6**
MTVR	**Mutnovka**	**2.50**	**227**		*eP*		**Pn**	**19 14 57.5**	**+0.7**
MTVR	**Mutnovka**	**2.50**	**227**	PN			**Pn**	**19 14 57.5**	**+0.7**
ASAK	**Asacha**	**2.69**	**228**		*eP*		**Pn**	**19 15 00.6**	**+1.2**
ASAK					*eS*		**Sn**	**19 15 32.8**	**+2.0**
ASAK	**Asacha**	**2.69**	**228**	PN			**Pn**	**19 15 00.6**	**+1.2**
ASAK				S			**Sn**	**19 15 32.8**	**+2.0**
APC	**Apacha**	**2.72**	**243**		*eP*		**Pn**	**19 15 00.5**	**+0.8**
APC	**Apacha**	**2.72**	**243**	PN			**Pn**	**19 15 00.5**	**+0.8**
BKI	**Bering**	**2.96**	**69**		*eP*		**Pn**	**19 15 03.4**	**+0.5**
BKI					*eS*		**Sn**	**19 15 36.0**	**-1.1**
BKI	**Bering**	**2.96**	**69**	PN			**Pn**	**19 15 03.4**	**+0.5**
BKI				S			**Sn**	**19 15 36.0**	**-1.1**
MIPR	**Malaya Ipel'ka**	**3.29**	**235**		*eP*		**Pn**	**19 15 08.4**	**+0.9**
MIPR	**Malaya Ipel'ka**	**3.29**	**235**	PN			**Pn**	**19 15 08.4**	**+0.9**
PAU	**Pauzhetka**	**3.82**	**226**		*eP*		**Pn**	**19 15 16.9**	**+2.1**
PAU	**Pauzhetka**	**3.82**	**226**	PN			**Pn**	**19 15 16.9**	**+2.1**
SKR	**Severo-Kuril's**	**4.70**	**223**		*e*	PN	**Pn**	**19 15 31.4**	**+4.6**
SKR						*eS*	**Sn**	**19 16 18.1**	**-1.9**
SKR						pmax	pmax		
	comp=Z,42nm,0.8s								
SKR						smax	smax		
	comp=N,104nm,0.6s								
SKR						smax	smax		
	comp=E,80nm,0.6s								
ALID	**Alaid**	**4.80**	**228**		*eP*		**Pn**	**19 15 30.7**	**+2.4**
ALID	**Alaid**	**4.80**	**228**	PN			**Pn**	**19 15 30.7**	**+2.4**
OSSR	**Ossora**	**5.15**	**11**		*eS*		**Sn**	**19 16 31.4**	**+0.5**
MA2	**Magadan**	**7.82**	**318**	P			**Pn**	**19 16 10.7**	**+1.2**
	comp=E,0.3nm,0.3s,baz=129,slow=14,SNR=3.9								
MA2						LR	LR	19 20 05.5	
	comp=E,5.9nm,19.4s,baz=132,slow=43								
MA2	**Magadan**	**7.82**	**318**	⇑	*e*	PN	**Pn**	**19 16 10.9**	**+1.4**
MA2	**Magadan**	**7.82**	**318**				**Pn**	**19 16 11.9**	**+2.5**
YSS	**Yuzh-Sakhalins**	**13.75**	**246**		*eP*		**Pn**	**19 17 30.8**	**+0.4**
BILL	**Bilibino**	**14.07**	**8**		*eP*		**Pn**	**19 17 37.7**	**+3.0**
BILL						pmax	pmax		
	comp=Z,9.0nm,1.5s								
BILL	**Bilibino**	**14.07**	**8**	P			**P**	**19 17 39.0**	**-1.8**
JKA	**Kamikawa-asahi**	**15.75**	**238**				**Pn**	**19 17 55.9**	**-0.8**
ASAJ	**Asahikawa**	**15.76**	**238**	P			**Pn**	**19 17 55.9**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=117,slow=16,SNR=3.1								
YAK	**Yakutsk**	**18.21**	**308**	⇑	*eP*		**P**	**19 18 25.3**	**-1.3**
TIXI	**Tiksi**	**22.34**	**334**	⇓	*eP*		**P**	**19 19 10.1**	**-1.0**
TIXI						pmax	pmax		
	comp=Z,1.0nm,1.0s								
MJB9	**Matsu-Tunnel**	**23.75**	**231**		P		**P**	**19 19 24.2**	**-1.3**
MJB9						IAmb	IAmb	19 19 24.5	
	comp=Z,6.4nm,0.7s								
MAJO	**Matsushiro**	**23.75**	**231**	⇑	*eP*		**P**	**19 19 24.0**	**-1.6**
MAJO						pmax	pmax		
	comp=Z,8.0nm,1.0s								
MAJO	**Matsushiro**	**23.75**	**231**		P		**P**	**19 19 24.2**	**-1.3**
MJAR	**Matsushiro Arr**	**23.75**	**231**		P		**P**	**19 19 23.6**	**-2.0**
	comp=Z,1.0nm,0.4s,baz=22,slow=9.6,SNR=6.4								
MJAR	**Matsushiro Arr**	**23.75**	**231**		P		**P**	**19 19 23.9**	**-1.7**
MJAR						pmax	pmax		
	comp=Z,2.0nm,0.9s								
MJAR	**Matsushiro Arr**	**23.75**	**231**		P		**P**	**19 19 23.9**	**-1.7**
IMAR	**Indian Mountai**	**24.74**	**44**		P		**P**	**19 19 34.3**	**+0.1**
ILAR	**Eielson Array**	**27.57**	**47**		P		**P**	**19 19 58.7**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=261,slow=7.7,SNR=7.2								
BMAR	**Burnt Mountain**	**28.46**	**41**		P		**P**	**19 20 07.5**	**-0.3**
BCAR	**Beaver Creek A**	**29.99**	**50**		P		**P**	**19 20 21.7**	**+0.3**
ULN	**Ulaanbaatar**	**33.88**	**282**	⇑	*eP*		**P**	**19 20 57.0**	**+1.2**
ULN						pmax	pmax		
	comp=Z,1.0nm,0.9s								
H11N2	**WAKE ISLAND Hy**	**34.71**	**170**		T		T	19 58 15.8	
	baz=354,slow=76,SNR=164								
H11N3	**WAKE ISLAND Hy**	**34.72**	**170**		T		T	19 58 08.5	
	baz=354,slow=76,SNR=214								
H11N1	**WAKE ISLAND Hy**	**34.73**	**171**		T		T	19 58 11.1	
	baz=354,slow=76,SNR=161								
H11S1	**WAKE ISLAND Hy**	**35.90**	**171**		T		T	19 59 34.2	
	baz=352,slow=76,SNR=5.2								
H11S3	**WAKE ISLAND Hy**	**35.91**	**171**		T		T	19 59 40.0	
	baz=352,slow=76,SNR=6.4								
H11S2	**WAKE ISLAND Hy**	**35.92**	**171**		T		T	19 59 42.0	
	baz=352,slow=76,SNR=4.2								
DGZ	**Jazzator, Alta**	**43.75**	**296**	⇑	*eP*		**P**	**19 22 20.8**	**+2.6**
DGZ						pmax	pmax		
	comp=Z,1.0nm,0.9s								
KIV	**Kislovodsk**	**69.05**	**317**		*i*	P	**P**	**19 25 17.6**	**-0.5**
KIV						*i*		19 27 53.4	
KIV						pmax	pmax		
	comp=Z,5.0nm,1.0s								
WRAB	**Tennant Creek**	**77.37**	**206**		P		**P**	**19 26 05.8**	**-1.3**
WRAB						pmax	pmax		
	comp=Z,6.0nm,1.1s								
WRAB	**Tennant Creek**	**77.37**	**206**		P		**P**	**19 26 05.8**	**-1.3**
WB2	**Warramunga Arr**	**77.37**	**206**		P		**P**	**19 26 05.9**	**-1.3**
WB2						IAmb	IAmb	19 26 22.1	
	comp=Z,5.1nm,0.9s								
WRA	**Warramunga Arr**	**77.38**	**206**		P		**P**	**19 26 05.3**	**-1.9**
	comp=Z,1.3nm,0.7s,baz=21,slow=6.0,SNR=5.2								
WRA	**Warramunga Arr**	**77.38**	**206**		*i*	P	**P**	**19 26 06.4**	**-0.8**
WRA						pmax	pmax		
	comp=Z,1.0nm,0.8s								
WRA	**Warramunga Arr**	**77.38**	**206**		IAmb		IAmb	19 26 06.8	
	comp=Z,0.1nm,0.8s								
ASAR	**Alice Springs**	**81.05**	**205**		P		**P**	**19 26 25.8**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=17,slow=4.8,SNR=7.4								

*IDC **11** 19:16:38.3±1.6, 4°.14S×142°.89E, h132km±15km, mb3.7/9, mb1 3.8/11, mb1mx3.5/34, mbtmp4.2/11, Error ellipse: s-maj=20.4km s-min=12.2km az=76.0*
*NEIC **11** 19:16:38.8±1.8, 4°.13S±0°.05×142°.88E±0°.09, h137km±9km, mb4.2/12, Error ellipse: s-maj=14.0km s-min=5.0km az=69.0*

ISC 11 19:16:37.0±0.6, 4°22S±0°.07×142°89E±0°.08, h115km, n31, σ2s27/35, mb4.0/9, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.76**	**308**			P	**Pn**	**19 17 22.1**	**+1.9**
	1.1nm,0.3s,baz=150,slow=10,SNR=18								
JAY						S	**Sn**	**19 17 54.5**	**+1.2**
	5.9nm,0.3s,baz=33,slow=11,SNR=8.5								
PMG	**Port Moresby**	**6.67**	**141**			P	**Pn**	**19 18 16.0**	**+3.4**
	0.6nm,0.3s,baz=262,slow=12,SNR=1.9								
PMG						S	**Sn**	**19 19 25.7**	**-1.5**
	1.3nm,0.3s,baz=92,slow=21,SNR=1.5								
COEN	**Coen**	**9.68**	**178**			Pn	**Pn**	**19 18 55.9**	**+2.6**
MTN	**Manton Dam**	**14.43**	**233**				**Pn**	**19 19 56.9**	**+0.8**
CTA	**Charters Tower**	**16.11**	**169**			P	**P**	**19 20 21.5**	**+3.4**
	0.2nm,0.3s,baz=1.4,slow=14,SNR=2.4								
WB0	**Warramunga Arr**	**17.53**	**208**			P	**Pn**	**19 20 35.3**	**+1.0**
WB0						IAmb	IAmb	19 20 38.6	
	comp=Z,11nm,0.9s								
WR0	**Warramunga Arr**	**17.63**	**207**			P	**Pn**	**19 20 36.4**	**+0.8**
WR0						IAmb	IAmb	19 20 38.8	
	comp=Z,9.5nm,0.8s								
WRAB	**Tennant Creek**	**17.69**	**207**			P	**Pn**	**19 20 37.3**	**+0.9**
WRAB						IAmb	IAmb	19 20 38.0	
	comp=Z,12nm,0.6s								
WB2	**Warramunga Arr**	**17.70**	**207**			P	**Pn**	**19 20 37.5**	**+1.0**
WRA	**Warramunga Arr**	**17.71**	**207**			P	**Pn**	**19 20 37.1**	**+0.7**
	comp=Z,1.8nm,0.3s,baz=27,slow=12,SNR=87								
WRA						S	**S**	**19 23 44.5**	**-9.4**
	baz=22,slow=21,SNR=1.8								
WRA	**Warramunga Arr**	**17.71**	**207**			P	**P**	**19 20 35.5**	**-0.2**
KNRA	**Kununurra**	**17.96**	**230**			P	**Pn**	**19 20 40.3**	**+0.8**
SOEI	**Soe**	**19.28**	**252**			Pn	**Pn**	**19 20 55.8**	**+0.5**
SOEI						IAmb	IAmb	19 21 11.6	
	comp=Z,16nm,1.0s								
BATI	**Baumata**	**19.97**	**252**			P	**Pn**	**19 21 02.6**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=90,slow=10,SNR=1.2								
AS31	**Alice Springs**	**21.18**	**203**				**P**	**19 21 14.4**	**+1.0**
AS31						IAmb	IAmb	19 21 22.3	
	comp=Z,3.4nm,0.8s								
AS31	**Alice Springs**	**21.18**	**203**				**P**	**19 21 15.0**	**-1.0**
ASAR	**Alice Springs**	**21.19**	**203**			P	**P**	**19 21 14.1**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=30,slow=12,SNR=24								
ASAR						PcP	**PcP**	**19 25 11.7**	**-3.0**
	comp=Z,0.4nm,0.7s,baz=132,slow=2.6,SNR=2.8								
ASAR	**Alice Springs**	**21.19**	**203**		P		**P**	**19 21 14.6**	**-1.4**
ASAR	**Alice Springs**	**21.19**	**203**		P		**P**	**19 21 14.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**21.80**	**229**		P		**P**	**19 21 20.7**	**+0.7**
	comp=Z,2.8nm,0.4s,baz=44,slow=9.8,SNR=15								
FITZ	**Fitzroy Crossi**	**21.80**	**229**		P		**P**	**19 21 20.4**	**+0.4**
FITZ					IAmb		IAmb	19 21 23.5	
	comp=Z,3.6nm,0.5s								
EIDS	**Eidsvold**	**22.45**	**160**		P		**P**	**19 21 26.0**	**-0.7**
EIDS					IAmb		IAmb	19 21 27.1	
	comp=Z,14nm,1.1s								
STKA	**Stephens Creek**	**27.54**	**182**		P		**P**	**19 22 12.9**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=359,slow=12,SNR=5.5								
STKA	**Stephens Creek**	**27.54**	**182**		P		**P**	**19 22 13.0**	**-0.1**
DZM	**Mont Dzumac**	**28.91**	**130**		P		**P**	**19 22 25.7**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=263,slow=12,SNR=5.7								
DZM	**Mont Dzumac**	**28.91**	**130**		P		**P**	**19 22 25.9**	**+0.4**
DZM					IAmb		IAmb	19 22 37.1	
	comp=Z,7.4nm,1.0s								
USRK	**Ussuriysk Ar.**	**49.19**	**350**		P		**P**	**19 25 13.0**	**-0.5**
	comp=Z,2.1nm,0.5s,baz=137,slow=7.8,SNR=6.5								
PETK	**Petropavlovsk-**	**58.47**	**10**		P		**P**	**19 26 20.8**	**0.0**
	comp=Z,1.2nm,0.7s,baz=185,slow=8.1,SNR=4.0								
PETK	**Petropavlovsk-**	**58.47**	**10**		P		**P**	**19 26 19.8**	**-1.1**
MKAR	**Makanchi Array**	**73.55**	**321**		P		**P**	**19 27 57.4**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=111,slow=7.0,SNR=3.8								
ILAR	**Eielson Array**	**85.50**	**24**		P		**P**	**19 28 58.8**	**-3.0**
	comp=Z,0.3nm,0.5s,baz=259,slow=4.5,SNR=6.0								

*JMA **11** 19:36:19.5, 42°.66N×141°.26E, h0km, M3.3*
JMA Felt II J1.
*IDC **11** 19:36:22.9±1.7, 42°.62N×141°.27E, h44km±19km, mb3.4/6, mb1 3.4/9, mb1mx3.2/51, mbtmp3.5/9, ML2.3/3, Error ellipse: s-maj=25.0km s-min=12.9km az=125.0*

ISC 11 19:36:19.6±0.9, 42°.65N±0°.04×141°.25E±0°.04, h14km±6km, n17, σ1s03/22, mb3.7/6, 4C-3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JNB	**Noboribetsu**	**0.24**	**222**	⇑		P	**Pg**	**19 36 24.7**	**-0.1**
JNB						*eS*	**Sg**	**19 36 28.3**	**0.0**
JEW	**Eniwo**	**0.24**	**37**	⇑		P	**Pg**	**19 36 24.4**	**-0.5**
JEW						*eS*	**Sg**	**19 36 28.2**	**-0.3**
JIAM	**Iburiatsuma**	**0.49**	**93**	⇓		P	**Pg**	**19 36 29.4**	**0.0**
JI

LKR				AML	AML	20 03 39.6	
	comp=E,375µm,0.1s						
KRND	**KRANIDI**	**0.81**	**207**	P	Pb	20 03 26.7	-0.1
KRND				AML	AML	20 03 40.4	
	comp=N,115µm,0.3s						
KRND				AML	AML	20 03 42.4	
	comp=E,112µm,0.3s						
AXAR	**Agios Charalam**	**0.99**	**312**	P	Pb	20 03 29.3	-0.7
SKIA	**Skiathos**	**1.06**	**354**	P	Pb	20 03 31.3	+0.1
SERI	**Serifos**	**1.18**	**143**	P	Pb	20 03 33.2	+0.1
SERI				AML	AML	20 03 49.8	
	comp=N,162µm,0.2s						
SERI				AML	AML	20 03 49.8	
	comp=E,125µm,0.2s						
SERG	**Sergoula**	**1.25**	**285**	P	Pn	20 03 34.3	+0.1
ANX	**Ano Chora**	**1.41**	**291**	P	Pg	20 03 37.7	-0.4
VLI	**Veliai**	**1.48**	**201**	P	Pb	20 03 38.4	+0.1
APE	**Apeiranthos**	**1.85**	**123**	P	Pb	20 03 44.2	-0.4

*THE **11** 20:03:30.7, 38°.55N × 21°.28E, h20km ± 1km, ML2.4/7, Error ellipse: s-maj=1.5km s-min=0.3km az=20.0*

ATH 11 20:03:30.8, 38°.54N × 21°.28E, h15km ± 3km, ML2.5/15, Error ellipse: s-maj=3.1km s-min=0.8km az=87.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVO	**Paravola**	**0.21**	**67**	P	Pg	20 03 35.6	+0.1
PVO				S	Sb	20 03 39.8	-0.2
	3µm,0.4s						
PVO	**Paravola**	**0.21**	**67**	P	Pg	20 03 35.5	0.0
PVO				S	Sg	20 03 38.9	+0.2
PVO				AML	AML	20 03 40.5	
	comp=N,5206µm,0.2s						
PVO				AML	AML	20 03 41.0	
	comp=E,6618µm,0.3s						
MGNA	**Meganis**	**0.40**	**287**	P	Pg	20 03 38.9	0.0
MGNA				S	Sb	20 03 44.9	-0.6
MGNA				AML	AML	20 03 47.4	
	comp=N,1464µm,0.3s						
MGNA				AML	AML	20 03 47.5	
	comp=E,1600µm,0.3s						
EVGI	**Lefkada island**	**0.50**	**280**	P	Pg	20 03 40.7	+0.1
EVGI	**Lefkada island**	**0.50**	**280**	P	Pg	20 03 40.8	+0.2
RLS	**Riolos of Patr**	**0.50**	**163**	P	Pg	20 03 40.5	-0.2
RLS				S	Sb	20 03 48.6	+0.2
	comp=E,532nm,0.3s						
RLS	**Riolos of Patr**	**0.50**	**163**	P	Pg	20 03 40.4	-0.2
RLS				S	Sb	20 03 47.9	-0.4
RLS				AML	AML	20 03 50.0	
	comp=E,946µm,0.5s						
RLS				AML	AML	20 03 51.8	
	comp=N,1174µm,0.2s						
ANX	**Ano Chora**	**0.51**	**83**	P	Pg	20 03 40.6	-0.2
ANX				S	Sb	20 03 48.3	-0.3
	comp=N,560nm,0.5s						
ANX	**Ano Chora**	**0.51**	**83**	P	Pg	20 03 40.4	-0.4
ANX				AML	AML	20 03 51.1	
	comp=N,1016µm,0.5s						
ANX				AML	AML	20 03 54.6	
	comp=E,1267µm,0.5s						
EVR	**Evrytania**	**0.56**	**47**	P	Pg	20 03 41.5	-0.3
EVR				S	Sg	20 03 49.5	+0.1
	comp=E,340nm,0.3s						
EVR	**Evrytania**	**0.56**	**47**	P	Pg	20 03 41.3	-0.5
EVR				AML	AML	20 03 53.5	
	comp=E,858µm,0.4s						
EVR				AML	AML	20 03 53.6	
	comp=N,497µm,0.3s						
EVR	**Evrytania**	**0.56**	**47**	P	Pg	20 03 41.3	-0.5
EVR				AML	AML	20 03 53.5	
	comp=E,858µm,0.4s						
EVR				AML	AML	20 03 53.6	
	comp=N,497µm,0.3s						
FSK	**Fiskardo**	**0.57**	**262**	P	Pg	20 03 41.9	0.0
FSK				S	Sb	20 03 50.0	-0.3
	comp=N,608nm,0.2s						
FSK	**Fiskardo**	**0.57**	**262**	P	Pg	20 03 41.9	-0.1
FSK				S	Sb	20 03 50.1	-0.3
FSK				AML	AML	20 03 52.6	
	comp=N,958µm,0.3s						
FSK				AML	AML	20 03 53.6	
	comp=E,1462µm,0.2s						
VSK1	**VASILIKIADES**	**0.58**	**257**	P	Pg	20 03 41.8	-0.3
SERG	**Sergoula**	**0.62**	**101**	P	Pg	20 03 42.6	-0.4
SERG				S	Sb	20 03 52.1	+0.2
	comp=E,438nm,0.3s						
SERG	**Sergoula**	**0.62**	**101**	P	Pg	20 03 42.7	-0.3
SERG				AML	AML	20 03 56.4	
	comp=N,1020µm,0.3s						
SERG				AML	AML	20 03 56.6	
	comp=E,763µm,0.4s						
VTN	**Vitineika**	**0.62**	**187**	P	Pb	20 03 43.2	-0.2
TRIZ	**Trizonia**	**0.65**	**105**	P	Pg	20 03 43.1	-0.3
TRIZ	**Trizonia**	**0.65**	**105**	P	Pg	20 03 43.5	+0.2
VLS	**Valsamata**	**0.65**	**237**	P	Pg	20 03 43.2	-0.3
VLS				AML	AML	20 03 55.1	
	comp=E,1052µm,0.1s						
VLS				AML	AML	20 03 55.2	
	comp=N,2129µm,0.2s						
DRO	**Drossia**	**0.68**	**150**	P	Pg	20 03 44.0	+0.1
DRO				AML	AML	20 03 56.2	
	comp=E,2228µm,0.3s						
DRO				AML	AML	20 03 56.8	
	comp=N,4535µm,0.3s						
KEF5	**Kardakata, Kep**	**0.69**	**248**	P	Pg	20 03 43.8	-0.3
KALE	**Kalithea**	**0.69**	**102**	P	Pg	20 03 43.9	-0.3
KALE				S	Sb	20 03 54.1	+0.2
	comp=N,308nm,0.3s						
KALE	**Kalithea**	**0.69**	**102**	P	Pg	20 03 44.2	0.0
KALE				AML	AML	20 03 57.4	
	comp=N,607µm,0.2s						
KALE				AML	AML	20 03 59.2	
	comp=E,615µm,0.4s						
ARGA	**Argostoli. Kep**	**0.72**	**241**	P	Pg	20 03 44.5	-0.4
KEF4	**Livadi, Kephal**	**0.73**	**248**	P	Pg	20 03 44.6	-0.4
KEF3	**Kipouria, Keph**	**0.81**	**246**	P	Pg	20 03 45.7	-0.7
MAKR	**Makrakomi, Fth**	**0.82**	**54**	P	Pg	20 03 46.3	-0.4
MAKR				AML	AML	20 04 01.9	
	comp=N,582µm,0.5s						
MAKR				AML	AML	20 04 02.8	
	comp=E,902µm,0.3s						
VLMS	**Volimes, Zakyn**	**0.82**	**217**	P	Pg	20 03 46.0	-0.7
VLMS				AML	AML	20 04 08.5	
	comp=N,831µm,0.3s						
VLMS				AML	AML	20 04 11.7	
	comp=E,678µm,0.4s						
KLV	**Kalavryta, Ach**	**0.84**	**125**	P	Pg	20 03 46.5	-0.6
KLV				AML	AML	20 04 02.8	
	comp=E,223µm,0.3s						
KLV				AML	AML	20 04 03.9	
	comp=N,183µm,0.6s						
AMT	**Artemida-Makis**	**1.06**	**161**	P	Pg	20 03 51.2	0.0
AMT				AML	AML	20 04 09.9	
	comp=E,757µm,0.5s						
AMT				AML	AML	20 04 11.4	
	comp=N,730µm,0.4s						
IGT	**Igoumenitsa**	**1.24**	**324**	P	Pg	20 03 54.3	-0.3
IGT				AML	AML	20 04 20.0	
	comp=E,143µm,0.7s						
IGT				AML	AML	20 04 23.2	
	comp=N,96µm,1.1s						
KEK	**Kerkira**	**1.65**	**316**	P	Pb	20 04 01.4	+0.6

IDC 11 20:08:34.5 ± 53.0, 18°.68S × 179°.74E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/21, mbtmp3.8/3, Error ellipse: s-maj=958.1km s-min=146.2km az=79.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.72**	**242**	P	P	20 15 44.2	+0.7
	0.7nm,0.5s,baz=95,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**42.76**	**261**	P	P	20 16 33.9	-0.2
	0.6nm,0.4s,baz=98,slow=8.0,SNR=20						
ASAR	**Alice Springs**	**42.89**	**255**	P	P	20 16 34.5	-0.7
	0.8nm,0.4s,baz=88,slow=8.2,SNR=30						

IDC 11 21:05:25.2 ± 79.0, 14°.42S × 167°.51E, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.6/35, mbtmp3.9/3, Error ellipse: s-maj=1330.0km s-min=123.2km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.37**	**229**	P	P	21 11 30.1	0.0
	3.6nm,1.1s,baz=63,slow=11,SNR=4.4						
WRA	**Warramunga Arr**	**32.12**	**255**	P	P	21 11 54.7	0.0
	0.6nm,0.6s,baz=86,slow=9.0,SNR=5.5						
ASAR	**Alice Springs**	**33.00**	**249**	P	P	21 12 02.2	-0.1
	0.4nm,0.4s,baz=77,slow=9.1,SNR=12						

*NNC **11** 22:02:27.9 ± 0.6, 43°.10N × 78°.31E, h2km ± 4km, mpv2.7, Error ellipse: s-maj=5.6km s-min=2.9km az=168.0*
*KRNET **11** 22:02:30.8 ± 0.1, 40°.56N × 77°.04E, mb2.0*

SOME 11 22:02:28.3, 43°.10N × 78°.33E, h10km, 14C-10D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.07**	**127**	⇓*i*P	Pg	22 02 30.4	-0.2
	28nm,0.1s						
SATY				⇓*i*S	Sg	22 02 32.0	-0.3
	324nm,0.1s						
SATY	**Saty**	**0.07**	**127**	P	Pg	22 02 30.4	-0.2
	20nm,0.1s						
SATY				S	Sg	22 02 31.9	-0.4
	324nm,0.1s						
KURS	**Kuram**	**0.41**	**343**	⇑*e*P	Pg	22 02 36.2	-0.1
	1.0nm,0.1s						
KURS				⇑*e*S	Sg	22 02 41.9	+0.1
	1.4nm,0.2s						
KPKS	**Kokpek**	**0.45**	**35**	⇓*i*P	Pg	22 02 36.9	-0.2
	3.2nm,0.1s						
KPKS				⇑*i*S	Sg	22 02 43.3	+0.3
	14nm,0.2s						
UZB	**Uzynbulak**	**0.51**	**84**	⇑*i*P	Pg	22 02 37.7	-0.5
	7.0nm,0.1s						
UZB				⇓*i*S	Sg	22 02 44.6	-0.3
	9.1nm,0.1s						
UZB	**Uzynbulak**	**0.51**	**84**	P	Pg	22 02 37.7	-0.5
	7.0nm,0.1s						
UZB				S	Sg	22 02 44.6	-0.4
	9.1nm,0.1s						
SHLS	**Shalkode**	**0.83**	**86**	*e*P	Pn	22 02 49.5	+3.3
	1.8nm,0.1s						
SHLS				*e*S	Sn	22 03 04.5	+6.0
	1.5nm,0.2s						
KOTS	**Kotyrbulak**	**0.90**	**279**	⇑*e*P	Pg	22 02 45.0	-0.7
	2.8nm,0.2s						
KOTS				⇓*i*S	Sg	22 02 57.0	-0.5
	8.1nm,0.3s						
KOTS	**Kotyrbulak**	**0.90**	**279**	P	Pg	22 02 45.0	-0.7
	2.8nm,0.2s						
KOTS				S	Sg	22 02 57.0	-0.5
	8.1nm,0.3s						
MDOK	**Medeo**	**0.94**	**274**	⇑*e*P	Pg	22 02 45.6	-0.8
	0.9nm,0.2s						
MDOK				⇓*i*S	Sg	22 02 58.0	-0.7
	1.6nm,0.3s						
MDOK	**Medeo**	**0.94**	**274**	Pg	Pg	22 02 45.6	-0.8
MDOK				Lg	Lg	22 02 58.0	
ARXS	**Arharly**	**1.17**	**342**	*e*P	Pb	22 02 50.0	-0.7
	0.7nm,0.1s						
ARXS				*e*S	Sb	22 03 05.6	-0.4
	1.0nm,0.2s						
KTBS	**Karatobe**	**1.35**	**298**	⇑*i*P	Pn	22 02 53.1	-0.2
	1.4nm,0.2s						
KTBS				⇑*i*S	Sn	22 03 11.2	-0.1
	1.6nm,0.2s						
KTBS	**Karatobe**	**1.35**	**298**	P	Pn	22 02 53.1	-0.1
	1.4nm,0.2s						
KTBS				S	Sb	22 03 10.9	-0.1
	1.6nm,0.2s						
TARG	**Taragay, Kyrgy**	**1.43**	**196**	⇑*i*P	Pn	22 02 54.2	-0.4
	baz=26						
TARG				⇑*i*S	Sb	22 03 11.6	-2.0
	baz=26						
DJR	**Jarkent**	**1.62**	**40**	*e*P	Pb	22 02 58.2	-0.2
	1.1nm,0.2s						
DJR				*e*S	Sb	22 03 19.5	+0.6
	2.8nm,0.3s						
DJR	**Jarkent**	**1.62**	**40**	P	Pb	22 02 58.2	-0.2
	1.1nm,0.2s						
DJR				S	Sb	22 03 19.5	+0.6
	2.8nm,0.3s						
ULHL	**Ulahol**	**1.76**	**242**	⇑*i*P	Pb	22 03 00.8	0.0
	baz=41						
ULHL				⇑*i*S	Sb	22 03 22.9	-0.2
	baz=41						
BOOM	**Boomskoye usch**	**1.86**	**252**	⇑*i*P	Pg	22 03 05.3	+1.3
	baz=37						
BOOM				⇑*i*S	Sg	22 03 30.4	+2.2
	baz=37						
TKM2	**Tokmak 2**	**2.02**	**266**	⇓*i*P	Pg	22 03 12.8	+5.9
	baz=36						
TKM2				⇓*i*S	Sg	22 03 43.7	+11
	baz=36						
KAPS	**Kapalarasan**	**2.31**	**18**	*e*P	Pb	22 03 10.9	+0.9
	0.3nm,0.2s						
KAPS				*e*S	Sg	22 03 41.4	-1.0
	1.6nm,0.5s						
KAPS	**Kapalarasan**	**2.31**	**18**	Pg	Pb	22 03 10.9	+0.9
	0.3nm,0.2s						
KAPS				Lg	Lg	22 03 41.4	
	1.6nm,0.5s						
KZA	**Kyzart**	**2.50**	**247**	⇓*i*P	Pn	22 03 04.5	-4.8
	baz=19						
KZA				⇓*i*S	Sn	22 03 29.6	-10
	baz=19						

*TEH **11** 22:20:45.2, 32°.44N × 48°.80E, h8km, ML3.1*
*THR **11** 22:20:49.0 ± 0.3, 32°.57N × 48°.86E, h16km ± 5km, ML3.1*

ISC 11 22:20:48.3 ± 1.4, 32°.43N ± 0°.05 × 48°.79E ± 0°.06, h23km, n30, σ1 ¶ 00/31, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.32**	**178**	IAML		22 20 59.4	
	comp=N,2µm,0.2s						
SHGR				IAML		22 21 09.1	
	comp=E,2µm,0.4s						
AHWZ	**Ahwaz**	**1.10**	**186**	*e*Sg	**Sn**	**22 21 23.7**	**+0.9**
AHWZ				*e*Pg	Pn	22 21 06.0	-2.3
IKMR	**Kamar-syah**	**1.14**	**343**	*e*		22 21 27.4	
IKMR				*e*Pg	**Pn**	**22 21 06.7**	**-2.2**
BMDN	**Meydan**	**1.24**	**1**	*e*		22 21 32.7	
BMDN				*e*Pg	**Pn**	**22 21 08.6**	**-1.9**
IDOB	**Doab**	**1.45**	**340**	*e*Pn	**Pn**	**22 21 13.0**	**-0.4**
IDOB				*e*		22 21 14.3	
JHBN	**Jahan bin**	**1.60**	**96**	*e*Pg	**Pn**	**22 21 15.4**	**-0.1**
JHBN				*e*		22 21 42.0	
KHMZ	**Khomeyn**	**1.64**	**37**	*e*Pg	**Pn**	**22 21 16.6**	**+0.6**
KHMZ				*e*Sg	**Sb**	**22 21 36.7**	**-1.6**
KHMZ	**Khomeyn**	**1.64**	**37**	*e*Pn	**Pn**	**22 21 16.6**	**+0.6**
HSAM	**Samen**	**1.79**	**355**	*e*Pn	**Pn**	**22 21 18.9**	**+0.8**
IPIR	**Pirpir**	**1.80**	**81**	*e*Pn	**Pn**	**22 21 18.4**	**+0.2**
IPIR				*e*		22 21 47.1	
ROKH	**ROKH**	**1.90**	**92**	*e*Pn	**Pn**	**22 21 19.6**	**0.0**
IKOM	**Komasi**	**2.05**	**329**	*e*Pn	**Pn**	**22 21 22.1**	**+0.6**
IKOM				*e*		22 22 02.2	
ASAO	**Ashtian**	**2.36**	**26**	*e*Pn	**Pn**	**22 21 27.2**	**+1.4**
ASAO				*e*Sg	**Sb**	**22 21 58.3**	**-0.7**
ASAO	**Ashtian**	**2.36**	**26**	*e*Pn	**Pn**	**22 21 27.3**	**+1.4**
HAGD	**Aghdareh**	**2.41**	**7**	*e*Pn	**Pn**	**22 21 27.0**	**+0.4**
HAGD				*e*		22 22 08.1	
IKLH	**Kolahrood**	**2.51**	**68**	*e*Pn	**Pn**	**22 21 28.5**	**+0.5**
IKLH				*e*		22 22 14.1	
IGAR	**Gharneh**	**2.75**	**90**	*e*Pn	**Pn**	**22 21 31.1**	**-0.2**
IGAR				*e*		22 22 16.6	
KLNJ	**Kolanjah**	**2.78**	**120**	*e*Pn	**Pn**	**22 21 31.9**	**+0.2**
KLNJ				*e*		22 22 31.0	
ILIN	**Lien**	**2.92**	**329**	*e*Pn	**Pn**	**22 21 34.7**	**+1.2**
GHVR	**GHOM**	**2.93**	**45**	*e*Pn	**Pn**	**22 21 34.6**	**+1.0**
GHVR	**GHOM**	**2.93**	**45**	*e*Pn	**Pn**	**22 21 34.6**	**+1.0**
IZEF	**Zefreh**	**3.02**	**80**	*e*Pn	**Pn**	**22 21 34.6**	**-0.5**
IDHR	**Dehrash**	**3.03**	**319**	*e*Pn	**Pn**	**22 21 35.4**	**+0.4**
IQOM	**Qom**	**3.07**	**38**	*e*Pn	**Pn**	**22 21 36.4**	**+0.7**
IQOM				*e*		22 22 38.2	
IRAM	**Ramesheh**	**3.11**	**100**	*e*Pn	**Pn**	**22 21 35.2**	**-1.0**
IRAZ	**Razeghan**	**3.12**	**17**	*e*Pn	**Pn**	**22 21 37.7**	**+1.4**
QABG	**Abgarm-Qazvin**	**3.34**	**11**	*e*Pn	**Pn**	**22 21 39.3**	**-0.1**
IVRN	**Varamin**	**3.55**	**43**	*e*Pn	**Pn**	**22 21 43.0**	**+0.9**
IVRN				*e*		22 22 00.4	
QSDN	**Sirdan**	**4.08**	**4**	*e*Pn	**Pn**	**22 21 50.2**	**+0.6**
QALM	**Alamut, Qazvin**	**4.28**	**21**	*e*Pn	**Pn**	**22 21 53.2**	**+0.9**

*IDC **11** 22:40:58.8 ± 2.2, 37°.58N × 143°.32E, h0km, mb3.7/3, mb1 3.7/7, mb1mx3.5/34, mbtmp3.7/7, ML3.1/4, Error ellipse: s-maj=42.5km s-min=26.7km az=136.0*
*NIED **11** 22:41:00, 37°.70N × 143°.20E, h8km, Mw3.6 Best double couple: M₀2.52000×10¹⁴ NP1:φs98.00000°, δ72.00000°, λ-24.00000°. NP2:φs196.00000°, δ67.00000°, λ-160.00000°.*
*JMA **11** 22:41:01.2 ± 0.1, 37°.69N × 143°.15E, h47km, MS3.7*

ISC 11 22:41:02.0 ± 1.2, 37°.67N ± 0°.05 × 143°.17E ± 0°.09, h24km, n28, σ1 ¶ 68/32, mb3.6/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.49**	**296**	P	**Pn**	**22 41 25.9**	**-1.4**
JIKH				S	**Sn**	**22 41 44.2**	**-1.8**
JIO	**Ouri**	**1.64**	**299**	P	**Pn**	**22 41 28.1**	**-1.2**
JIO				*e*S	**Sn**	**22 41 47.8**	**-1.8**
JKMT	**Kesennumamotoy**	**1.76**	**311**	P	**Pn**	**22 41 29.5**	**-1.5**
JKMT				S	**Sn**	**22 41 50.6**	**-2.0**
JMST	**Minamisoumatoc**	**1.81**	**273**	P	**Pn**	**22 41 30.2**	**-1.5**
JMST				S	**Sn**	**22 41 52.3**	**-1.6**
OFUJ	**Ofunato**	**1.84**	**321**	P	**Pn**	**22 41 30.5**	**-1.6**
OFUJ				*e*S	**Sn**	**22 41 52.2**	**-2.4**
JMK	**Ichinoseki**	**2.00**	**311**	P	**Pn**	**22 41 33.0**	**-1.3**
JFT	**Otama**	**2.25**	**267**	P	**Pn**	**22 41 37.5**	**-0.3**
JFT				*e*S	**Sn**	**22 42 04.6**	**-0.3**
JOM	**Ohasama**	**2.33**	**321**	P	**Pn**	**22 41 37.9**	**-0.9**
JOM				*e*S	**Sn**	**22 42 05.2**	**-1.5**
JYK	**Kaneyama**	**2.54**	**300**	P	**Pn**	**22 41 41.4**	**-0.3**
JANG	**Nango**	**3.00**	**335**	S	**Sn**	**22 42 21.2**	**-2.0**
JAW	**Awa shima**	**3.19**	**286**	P	**Pn**	**22 41 50.9**	**+0.2**
JAG	**Ashikaga**	**3.22**	**249**	P	**Pn**	**22 41 50.9**	**-0.2**
BSO1	**Boso 1**	**3.49**	**211**	P	**Pn**	**22 41 54.0**	**-0.3**
JRY	**Ryogami san**	**3.80**	**246**	P	**Pn**	**22 41 59.6**	**+0.5**
MJAR	**Matsushiro Arr**	**4.12**	**256**	Pn	**Pn**	**22 42 03.7**	**+0.2**
	0.3nm,0.3s,baz=80,slow=14,SNR=11						
MAT	**Matsushiro**	**4.12**	**256**	P	**Pn**	**22 42 03.9**	**+0.4**
MAT				*e*S	**Sn**	**22 42 50.1**	**-0.9**
JHJ	**Hachijo jima 2**	**5.31**	**212**	Pn	**Pn**	**22 42 20.1**	**+0.2**
	7.4nm,0.3s,baz=93,slow=18,SNR=1.9						
JHJ				Sn	**Sn**	**22 43 14.8**	**-5.5**
	3.6nm,0.3s,baz=90,slow=20,SNR=1.7						
ASAJ	**Asahikawa**	**6.46**	**356**	Pn	**Pn**	**22 42 37.1**	**+1.5**
	1.0nm,0.3s,baz=155,slow=19,SNR=1.3						
ASAJ				Sn	**Sn**	**22 43 47.3**	**-1.2**
	0.6nm,0.3s,baz=258,slow=32,SNR=1.3						
USRK	**Ussuriysk Ar.**	**10.68**	**311**	Pn	**Pn**	**22 43 35.4**	**+2.0**
	baz=119,slow=15,SNR=1.8						
H11N2	**WAKE ISLAND Hy**	**27.31**	**124**	T	T	23 15 19.3	
	baz=316,slow=75,SNR=126						
H11N1	**WAKE ISLAND Hy**	**27.32**	**124**	T	T	23 15 19.8	
	baz=316,slow=75,SNR=67						
H11N3	**WAKE ISLAND Hy**	**27.32**	**124**	T	T	23 15 21.1	
	baz=316,slow=75,SNR=50						
H11S1	**WAKE ISLAND Hy**	**28.07**	**126**	T	T	23 16 13.2	
	baz=318,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**28.07**	**126**	T	T	23 16 16.9	
	baz=318,slow=76,SNR=26						
H11S2	**WAKE ISLAND Hy**	**28.08**	**126**	T	T	23 16 13.9	
	baz=318,slow=76,SNR=16						
SONM	**Songino Array**	**28.61**	**303**	P	**P**	**22 46 58.3**	**+1.9**
	0.6nm,0.5s,baz=117,slow=8.3,SNR=2.3						
MKAR	**Makanchi Array**	**44.97**	**302**	P	**P**	**22 49 16.2**	**+1.0**
	1.2nm,0.7s,baz=86,slow=9.8,SNR=12						
ILAR	**Eielson Array**	**48.21**	**33**	P	**P**	**22 49 40.7**	**+0.4**
	0.4nm,0.6s,baz=253,slow=6.7,SNR=5.2						

*GUC **11** 23:01:58.5 ± 0.6, 30°.04S × 71°.53W, h36km ± 5km, ML4.0*
*SJA **11** 23:01:58.2 ± 0.6, 30°.12S × 71°.60W, h4km ± 7km, ML3.8, MW3.6*
*NEIC **11** 23:01:59.1 ± 2.4, 30°.01S ± 0°.04 × 71°.67W ± 0°.07, h25km ± 11km, Error ellipse: s-maj=8.6km s-min=5.2km az=102.0*
*IDC **11** 23:02:01.6 ± 4.3, 29°.76S × 71°.61W, h48km ± 33km, mb3.4/2, mb1 3.8/4, mb1mx3.5/20, mbtmp3.7/4, ML3.3/2, MS2.9/5, Ms1 3.0/5, ms1mx2.8/17, Error ellipse: s-maj=53.5km s-min=16.4km az=65.0*

ISC 11 23:01:54.1 ± 1.6, 30°.00S ± 0°.03 × 71°.85W ± 0°.05, h1km ± 10km, n57, σ1 ¶ 90/71, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO04	**Tololo Observa**	**0.93**	**101**	*e*P	**Pb**	**23 02 12.7**	**-0.4**
GO04				*e*S	**Sg**	**23 02 23.0**	**-0.9**
GO04				IAML		23 02 26.0	
	comp=N,8µm,0.5s						
GO04	**Tololo Observa**	**0.93**	**101**		**Pb**	**23 02 12.9**	**-0.2**
GO04				Sg	**Sg**	**23 02 23.1**	**-0.9**
GO04	**Tololo Observa**	**0.93**	**101**	*i* P	**Pb**	**23 02 12.9**	**-0.2**
GO04				*i* S	**Sg**	**23 02 23.4**	**-0.6**
CO03	**El Pedregal**	**1.31**	**130**		**Pb**	**23 02 18.9**	**-0.6**
CO03				Sg	**Sb**	**23 02 34.8**	**-2.1**
CO02	**Combarbal**	**1.41**	**149**	⇓*i*P	**Pb**	**23 02 21.2**	**0.0**
CO02				*i* S	**Sn**	**23 02 38.9**	**-1.4**
CO02				IAML		23 02 44.7	
	comp=N,7µm,0.5s						
CO02	**Combarbal**	**1.41**	**149**		**Pb**	**23 02 21.3**	**0.0**
CO02				Sn	**Sn**	**23 02 38.8**	**-1.4**
LCO	**Las Campanas**	**1.41**	**46**	*e*P	**Pg**	**23 02 22.1**	**+1.0**
LCO				*e*S	**Sg**	**23 02 39.5**	**+0.1**
AC05	**El Transito**	**1.80**	**50**		**Pb**	**23 02 27.4**	**-0.6**
AC04	**Llanos de Chal**	**1.92**	**21**		**Pb**	**23 02 28.8**	**-1.0**
GO03	**Copiap**	**2.79**	**31**	*e*P	**Pn**	**23 02 41.0**	**+1.1**
GO03				*e*S	**Sb**	**23 03 16.3**	**-3.1**
GO03				IAML		23 03 26.9	
	comp=E,353nm,0.6s						
GO03	**Copiap**	**2.79**	**31**	Pn	**Pn**	**23 02 41.1**	**+1.1**
GO03	**Copiap**	**2.79**	**31**	*i* P	**Pn**	**23 02 41.0**	**+1.1**
GO03				*i* S	**Sg**	**23 03 22.0**	**-1.7**
RTLS	**Leoncito**	**2.83**	**130**	*i* P	**Pb**	**23 02 44.2**	**-1.5**
RTLS				*i* S	**Sb**	**23 03 21.7**	**+0.6**
RTLS				IAML		23 03 37.0	
	comp=Z,322nm,0.6s						
AGUA	**GUANDACOL**	**2.97**	**81**	*i* P	**Pb**	**23 02 47.0**	**-0.9**
AGUA				*i* S	**Sg**	**23 03 31.7**	**+2.2**
AGUA				IAML		23 03 37.2	
	comp=Z,304nm,0.6s						
VA03	**San Esteban**	**2.97**	**158**		**Pn**	**23 02 44.4**	**+2.0**
ROCH	**El Roble**	**3.05**	**167**	*e*P	**Pb**	**23 02 47.4**	**-1.

TCA	**Tanti**	**6.39**	**104**	*i* P		**Pn**	**23 03 29.6**	**+0.1**
TCA				*i* S		**Sn**	**23 04 45.9**	**+2.7**
BI02	**San Fabin de**	**6.66**	**176**	Pn		**Pn**	**23 03 34.4**	**+1.3**
H03N1	**Juan Fernandez**	**6.92**	**238**	T		T	23 10 54.5	
	baz=66,slow=72,SNR=567							
H03N2	**Juan Fernandez**	**6.94**	**239**	T		T	23 10 54.5	
	baz=66,slow=72,SNR=529							
H03N3	**Juan Fernandez**	**6.94**	**238**	T		T	23 10 52.8	
	baz=66,slow=72,SNR=673							
PB15	**IPOC Station P**	**7.09**	**18**			**Pn**	**23 03 41.0**	**+1.7**
PB05	**IPOC Station P**	**7.27**	**12**	*i* P		**Pn**	**23 03 39.2**	**-2.4**
LVC	**Limon Verde**	**7.82**	**20**	P		**Pn**	**23 03 47.7**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=185,slow=11,SNR=6.6							
LVC				S		**Sn**	**23 05 14.6**	**-4.2**
	baz=158,slow=20,SNR=1.4							
LVC				LR		LR	23 06 54.9	
	comp=Z,87nm,21.1s,baz=217,slow=39							
PB07	**IPOC Station P**	**8.43**	**13**	Pn		**Pn**	**23 04 00.2**	**+2.6**
PB09	**IPOC Station P**	**8.50**	**17**	Pn		**Pn**	**23 04 01.1**	**+2.6**
PSGCX	**Pisagua**	**10.48**	**9**	Pn		**Pn**	**23 04 27.6**	**+2.0**
PLCA	**Paso Flores**	**10.76**	**175**	LR		LR	23 09 38.4	
	comp=Z,100nm,18.7s,baz=340,slow=42							
CPUP	**Villa Florida**	**13.32**	**78**	LR		LR	23 10 38.7	
	comp=Z,71nm,19.9s,baz=217,slow=40							
LPAZ	**La Paz**	**14.07**	**15**	P		**Pn**	**23 05 17.7**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=198,slow=6.9,SNR=7.5							
LPAZ				LR		LR	23 11 14.5	
	comp=Z,41nm,20.1s,baz=184,slow=40							
LPAZ	**La Paz**	**14.07**	**15**			**Pn**	**23 05 17.6**	**+2.4**
SIV	**San Ignacio**	**17.10**	**38**	P		**P**	**23 05 56.1**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=233,slow=10,SNR=12							
TXAR	**Lajitas Array**	**66.35**	**330**	P		**P**	**23 12 45.4**	**+0.8**
	comp=Z,0.4nm,0.9s,baz=148,slow=7.5,SNR=2.8							
TORD	**Torodi Ar. Bea**	**82.71**	**70**	P		**P**	**23 14 18.8**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=254,slow=6.5,SNR=7.4							
H11S2	**WAKE ISLAND Hy**	**25.89**	**272**	T		T	01 39 48.4	
	baz=115,slow=75,SNR=9.7							
H11S1	**WAKE ISLAND Hy**	**25.90**	**272**	T		T	01 39 49.5	
	baz=115,slow=75,SNR=12							
H11S3	**WAKE ISLAND Hy**	**25.91**	**272**	T		T	01 39 49.7	
	baz=115,slow=75,SNR=15							
ZALV	**Zalesovo Beam**	**150.71**	**29**	PKPbc		**PKPbc**	**23 21 47.0**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=298,slow=3.1,SNR=7.5							

*ANF **12** 00:38:08.5±0.2,37.38N×118.61W,h11km±3km, ML2.9/15, Error ellipse: s-maj=2.8km s-min=1.7km az=39.0*

NCEDC 12 00:38:08.7,37.41N×118.60W,h12km, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLAC	**Mammoth, Mammo**	**0.31**	**324**	S	Sg	00 38 19.0	0.0
	baz=140						
MLAC	**Mammoth, Mammo**	**0.31**	**324**	P	Pg	00 38 14.9	+0.1
	baz=140,SNR=94						
TIN	**Tinemaha, Big**	**0.45**	**137**	S	Sb	00 38 24.5	-0.7
	baz=320						
TIN	**Tinemaha, Big**	**0.45**	**137**	P	Pb	00 38 17.9	-0.5
	baz=320,SNR=19						
CWC	**Cottonwood Cre**	**1.03**	**155**	S	Sb	00 38 42.1	0.0
	baz=337						
CWC	**Cottonwood Cre**	**1.03**	**155**	P	Pg	00 38 28.2	-0.1
	baz=337						
GRAC	**Grapevine Rang**	**1.06**	**111**	S	Sb	00 38 43.3	+0.3
	baz=293						
GRAC	**Grapevine Rang**	**1.06**	**111**	P	Pb	00 38 29.1	+0.1
	baz=293,SNR=14						
VOG	**Valley Oaks Go**	**1.23**	**211**	S	Sn	00 38 48.2	0.0
	baz=30						
VOG	**Valley Oaks Go**	**1.23**	**211**	P	Pg	00 38 32.0	-0.1
	baz=30						
VES	**Vestal, Richgr**	**1.58**	**194**	Sb	Sg	00 38 59.5	+0.1
	baz=14						
VES	**Vestal, Richgr**	**1.58**	**194**	P	Pb	00 38 37.4	-0.4
	baz=14,SNR=8.6						
MPMC	**Manual Prospec**	**1.60**	**145**	Sb	Sg	00 38 59.6	-0.3
	baz=327						
MPMC	**Manual Prospec**	**1.60**	**145**	Pb	Pb	00 38 38.4	+0.2
	baz=327,SNR=15						
FURC	**Furnace Creek,**	**1.67**	**123**	Sg	Sg	00 39 03.8	+1.5
	baz=305						
ISA	**Isabella, Lake**	**1.72**	**176**	Sb	Sg	00 39 03.4	-0.3
	baz=357						
ISA	**Isabella, Lake**	**1.72**	**176**	Pb	Pb	00 38 40.5	+0.3
	baz=357,SNR=36						
TPNV	**Topopah Spring**	**1.94**	**102**	P	Pn	00 38 41.9	+0.4
	baz=284,SNR=23						
LRMC	**Laurel Mtn Rad**	**2.04**	**158**	Sb	Sg	00 39 13.3	-0.8
	baz=339						
ARVC	**Arvin**	**2.26**	**185**	Sb	Sb	00 39 19.1	+1.9
	baz=4.5						
SMMC	**Simmler**	**2.35**	**209**	P	Pn	00 38 47.1	0.0
	baz=28						
SHOC	**Shoshone, Teco**	**2.39**	**127**	Sb	Sg	00 39 23.4	-1.9
	baz=310						
R11A	**Troy Canyon, C**	**2.58**	**67**	S	Sn	00 39 22.0	0.0
	baz=249						
R11A	**Troy Canyon, C**	**2.58**	**67**	P	Pn	00 38 50.8	+0.3
	baz=249,SNR=17						
TUQ	**Turquoise Moun**	**2.91**	**131**	S	Sn	00 39 30.3	+0.4
	baz=313						

*NCEDC **12** 00:38:35.8±1.0,37.40N±0.03×118.60W±0.04,h13km±4km, ML3.4/11, ML2.8/1(REN), Error ellipse: s-maj=5.7km s-min=4.2km az=48.0*

*NEIC **12** 00:38:36.4±1.3,37.432N±0.010×118.57W±0.02, h7km±9km, Error ellipse: s-maj=2.4km s-min=1.4km az=88.0*

ISC 12 00:38:36.3±0.9,37.41N±0.02×118.61W±0.02,h11km±6km, n60,σ0s50/70, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMD		**0.04**	**324**		**Pg**	**00 38 38.1**	**-0.2**
MTUM	**Tungsten Hills**	**0.07**	**145**		**Pg**	**00 38 38.3**	**-0.5**
SCHCA	**Scheelite**	**0.08**	**230**		**Pg**	**00 38 38.6**	**-0.4**
MFBM	**Five Bridges**	**0.15**	**83**		**Pg**	**00 38 39.5**	**-0.3**
MCDM	**Chidago Canyon**	**0.19**	**44**		**Pg**	**00 38 40.7**	**+0.2**
ORC	**Owens River**	**0.23**	**351**		**Pg**	**00 38 41.0**	**-0.2**
MCVM	**Convict Lake**	**0.25**	**316**		**Pg**	**00 38 41.4**	**-0.1**
POCCA	**Poleta Canyon**	**0.27**	**100**		**Pg**	**00 38 41.5**	**-0.4**
MRCM	**Red Rock Canyo**	**0.28**	**18**		**Pg**	**00 38 41.7**	**-0.3**
MLAC	**Mammoth, Mammo**	**0.28**	**321**		**Pg**	**00 38 42.2**	**+0.1**
MLAC					**Sg**	**00 38 46.9**	**+0.9**
MLNR	**Milner Canyon**	**0.28**	**49**		**Pg**	**00 38 41.8**	**-0.3**
MCMM	**Convict Lake**	**0.29**	**314**		**Pg**	**00 38 42.1**	**-0.1**
MDRNC	**Doe Ridge**	**0.29**	**322**		**Pg**	**00 38 42.3**	**+0.1**
BENR	**Benton**	**0.31**	**6**		**Pg**	**00 38 42.1**	**-0.5**
MLHM	**Little Hot Cre**	**0.31**	**329**		**Pg**	**00 38 42.9**	**+0.2**
MLCM	**Laurel Creek C**	**0.31**	**310**		**Pg**	**00 38 42.6**	**-0.1**
MGPM	**Gravel Pit**	**0.32**	**313**		**Pg**	**00 38 42.8**	**0.0**
MCBM	**Casa Benchmark**	**0.33**	**316**		**Pg**	**00 38 43.0**	**+0.1**
MCBM					**Sg**	**00 38 47.8**	**+0.5**
MCSM	**Casa Diablo Ho**	**0.34**	**316**		**Pg**	**00 38 43.2**	**+0.1**
BCKR	**Birch Creek**	**0.34**	**34**		**Pg**	**00 38 43.1**	**-0.1**
MEMM	**East Mammoth H**	**0.36**	**315**		**Pg**	**00 38 43.6**	**0.0**
OMMB	**Old Mammoth Mi**	**0.37**	**303**		**Pg**	**00 38 43.4**	**-0.3**
OMMB					**Sg**	**00 38 48.5**	**-0.2**
MMLB	**Mammoth Lakes**	**0.38**	**311**		**Pg**	**00 38 44.0**	**0.0**
MMLB					**Sg**	**00 38 49.4**	**+0.3**
MMPM	**Mammoth Pass**	**0.39**	**301**		**Pg**	**00 38 43.9**	**-0.1**
MLIM	**Lincoln Peak**	**0.39**	**305**		**Pg**	**00 38 44.6**	**+0.4**
MLIM					**Sg**	**00 38 50.0**	**+0.6**
MMSM	**Mammoth Summit**	**0.40**	**304**		**Pg**	**00 38 44.3**	**0.0**
MRDM	**Red Cones**	**0.40**	**298**		**Pg**	**00 38 44.1**	**-0.2**
MDYM	**Dry Creek**	**0.40**	**308**		**Pg**	**00 38 44.3**	**-0.1**
MDYM					**Sg**	**00 38 50.2**	**+0.5**
LMCR	**Lookout Mounta**	**0.41**	**320**		**Pg**	**00 38 44.9**	**+0.4**
MINS	**Minaret Summit**	**0.43**	**304**		**Pg**	**00 38 44.6**	**-0.2**
MINS					**Sg**	**00 38 50.7**	**+0.1**
MDPB	**Devils Postpil**	**0.43**	**301**		**Pg**	**00 38 44.6**	**-0.2**
MDPB					**Sg**	**00 38 50.6**	**0.0**
MDCM	**Deadman Creek**	**0.45**	**311**		**Pg**	**00 38 45.3**	**0.0**
TIN	**Tinemaha, Big**	**0.47**	**139**		**Pg**	**00 38 45.4**	**-0.1**
TIN					**Sg**	**00 38 52.1**	**+0.4**
ANTCA	**Antelope Range**	**0.51**	**4**		**Pg**	**00 38 45.9**	**-0.4**
KCC	**Kaiser Creek**	**0.57**	**261**		**Pg**	**00 38 46.9**	**-0.4**
KCC					**Sg**	**00 38 54.5**	**-0.4**
BONR	**Boundary Peak**	**0.60**	**24**		**Pg**	**00 38 47.8**	**-0.2**
HCK	**Huntoon Valley**	**0.66**	**1**		**Pg**	**00 38 49.0**	**-0.1**
LHV	**Little Huntoon**	**0.84**	**6**		**Pg**	**00 38 52.3**	**-0.3**
MMIM	**Miami Mountain**	**0.90**	**271**		**Pg**	**00 38 53.1**	**-0.5**
NVAR	**Mina Array Bea**	**1.05**	**13**		**Pg**	**00 38 55.6**	**-0.8**
CWC	**Cottonwood Cre**	**1.06**	**156**		**Pg**	**00 38 55.7**	**-1.0**
NV11	**Mina Array Sit**	**1.08**	**19**		**Pb**	**00 38 56.1**	**-1.0**
RYN	**Ryan**	**1.22**	**3**	Pn	**Pn**	**00 38 59.0**	**-0.4**
WAKR	**Walker**	**1.27**	**329**		**Pn**	**00 39 00.1**	**-0.2**
MYLM	**Yosemite Lake**	**1.44**	**269**		**Pb**	**00 39 02.6**	**-0.5**
PWMM	**Westland Maint**	**1.61**	**233**		**Pb**	**00 39 06.1**	**+0.1**
YERR	**Yerington**	**1.65**	**343**	Pn	**Pn**	**00 39 05.9**	**+0.5**
BFC	**Buffalo Canyon**	**1.68**	**332**		**Pg**	**00 39 08.1**	**-0.3**
TOW	**Tower One**	**1.74**	**157**		**Pb**	**00 39 08.6**	**+0.3**
PNTR	**Pine Nut**	**1.85**	**335**		**Pn**	**00 39 08.9**	**+0.7**
BRMM	**Rolling Bench**	**1.86**	**253**		**Pb**	**00 39 09.1**	**-1.2**
TPNV	**Topopah Spring**	**1.94**	**103**	Pn	**Pb**	**00 39 11.0**	**-0.8**
RUBR	**Rubicon Trail**	**2.04**	**324**	Pn	**Pn**	**00 39 11.7**	**+0.9**
VCNR	**Virginia City**	**2.05**	**337**		**Pb**	**00 39 13.2**	**-0.5**
BAVM	**Antelope Valle**	**2.08**	**249**		**Pb**	**00 39 13.4**	**-0.7**
PMPB	**Monarch Peak**	**2.12**	**236**		**Pn**	**00 39 12.3**	**+0.6**
SHPR	**Sheep Range**	**2.91**	**107**	Pn	**Pn**	**00 39 24.0**	**+1.3**
LCMT	**Little Creek M**	**4.30**	**94**		**Pn**	**00 39 42.5**	**+0.6**
PKCU	**Pink Cliffs**	**5.02**	**88**		**Pn**	**00 39 53.2**	**+1.4**
U15A	**North Rim**	**5.16**	**99**		**Pn**	**00 39 54.1**	**+0.3**

*IDC **12** 00:47:54.0±4.0,67.94N×162.78W,h0km,mb3.1/3, mb1 3.7/5,mb1mx3.3/37,mbtmp3.3/5,ML3.4/2,MS3.0/1, Ms1 3.0/1,ms1mx2.1/24,Error ellipse: s-maj=61.3km s-min=54.3km az=5.0*

*AEIC **12** 00:47:54.8±1.3,67.7°N±0.1°×162.3°W±0.2,h14km±8km, ML2.7/19,Error ellipse: s-maj=16.2km s-min=8.5km az=202.0*

*NEIC **12** 00:47:55.9±1.2,67.71N±0.04×162.6W±0.3,h32km±9km, Error ellipse: s-maj=17.7km s-min=5.2km az=89.0*

ISC 12 00:47:55.4±1.1,67.75N±0.09×162.31W±0.08,h10km,n32,σ1s09/35,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.38**	**324**	Pg	**Pb**	**00 48 03.3**	**-0.9**
RDOG					**Sb**	**00 48 09.9**	**-0.2**
IM03		**3.82**	**114**		**Pn**	**00 48 53.1**	**-1.0**
IM03					**Sn**	**00 49 39.2**	**+0.3**
IMAR	**Indian Mountai**	**3.82**	**114**	Pn	**Pn**	**00 48 52.9**	**-1.2**
PS05	**TAPS Pump Stn5**	**4.61**	**96**		**Pn**	**00 49 05.0**	**-0.1**
PS05					**Sn**	**00 49 57.3**	**-1.3**
COLD	**Coldfoot**	**4.68**	**91**		**Pn**	**00 49 06.0**	**0.0**
COLD	**Coldfoot**	**4.68**	**91**		**Sn**	**00 50 00.5**	**+0.1**
TT01	**Tatalina**	**5.53**	**149**		**Pn**	**00 49 16.6**	**-1.0**
BPAW	**Bear Paw Mtn.**	**5.90**	**123**	Pn	**Pn**	**00 49 22.1**	**-0.7**
MDM	**Murphy Dome**	**6.32**	**110**		**Pn**	**00 49 28.4**	**-0.1**
PPLA	**Purkeypile**	**6.45**	**134**	Pn	**Pn**	**00 49 30.9**	**+0.4**
TRF	**Thorofare Moun**	**6.58**	**125**		**Pn**	**00 49 31.7**	**-0.6**
CCB	**Clear Creek Bu**	**6.64**	**111**	Pn	**Pn**	**00 49 32.4**	**-0.5**
WRH	**Wood River Hil**	**6.64**	**113**	Pn	**Pn**	**00 49 32.5**	**-0.4**
BMAR	**Burnt Mountain**	**6.78**	**85**	Pn	**Pn**	**00 49 33.9**	**-0.9**
IL31		**6.90**	**108**	Pn	**Pn**	**00 49 36.1**	**-0.3**
ILAR	**Eielson Array**	**6.90**	**108**	Pn	**Pn**	**00 49 36.4**	**0.0**
	1.3nm,0.3s,baz=302,slow=14,SNR=61						
ILAR				Sn	**Sn**	**00 50 51.7**	**-3.2**
	0.2nm,0.3s,baz=302,slow=23,SNR=5.3						
ILAR	**Eielson Array**	**6.90**	**108**	Pn	**Pn**	**00 49 35.8**	**-0.6**
RND	**Reindeer**	**7.07**	**122**	Pn	**Pn**	**00 49 38.0**	**-0.9**
HDA	**Harding Lake**	**7.08**	**111**	Pn	**Pn**	**00 49 38.3**	**-0.6**
SVW2	**Sparrevohn**	**7.28**	**153**	Pn	**Pn**	**00 49 41.2**	**-0.5**
WAT2	**Susitna Watana**	**7.47**	**124**		**Pn**	**00 49 43.1**	**-1.3**
DHY	**Denali Highway**	**7.78**	**120**	Pn	**Pn**	**00 49 48.1**	**-0.6**
PAX	**Paxson**	**8.49**	**116**	Pn	**Pn**	**00 49 57.2**	**-1.2**
BCAR	**Beaver Creek A**	**9.73**	**109**	Pn	**Pn**	**00 50 14.3**	**-1.0**
EPYK	**Eagle Plains**	**10.05**	**86**	Pn	**Pn**	**00 50 18.3**	**-1.3**
INK	**Inuvik**	**10.75**	**74**	Pn	**Pn**	**00 50 27.5**	**-1.6**
	0.1nm,0.3s,baz=275,slow=7.0,SNR=5.3						
INK				Sn	Sn	00 52 21.9	-7.3
	0.1nm,0.3s,baz=199,slow=15,SNR=2.1						
INK	**Inuvik**	**10.75**	**74**		**Pn**	**00 50 28.6**	**-0.5**
C36M	**Paulatuk**	**13.92**	**66**	Pn	**Pn**	**00 51 11.6**	**-0.8**
DLBC	**Dease Lake**	**17.11**	**107**	LR	LR	00 59 50.5	
	comp=Z,47nm,20.5s,baz=12,slow=41						
YKA	**Yellowknife Ar**	**20.29**	**82**	P	**P**	**00 52 32.0**	**+1.1**
	0.4nm,0.6s,baz=304,slow=10.0,SNR=3.9						
NVAR	**Mina Array Bea**	**38.05**	**118**	P	**P**	**00 55 15.4**	**+1.6**
	0.1nm,0.3s,baz=326,slow=9.0,SNR=2.0						
TXAR	**Lajitas Array**	**51.41**	**107**	P	**P**	**00 57 02.2**	**+1.9**
	0.3nm,0.7s,baz=335,slow=6.2,SNR=4.4						

*IDC **12** 01:08:53.0±19.0,20.78S×177.69W,h530km±169km, mb3.1/5,mb1 3.3/5,mb1mx3.0/28,mbtmp4.1/5,Error ellipse: s-maj=181.8km s-min=39.5km az=127.0*

ISC 12 01:08:51.5±3.0,20.65S±0.6×177.8W±0.5,h500km,n8, σ0s72/8,mb3.5/5,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.68**	**264**	P	**P**	**01 14 50.9**	**+0.4**
	5.3nm,0.5s,baz=89,slow=9.4,SNR=6.6						
ASAR	**Alice Springs**	**44.70**	**257**	P	**P**	**01 16 19.1**	**-0.5**
	1.1nm,0.7s,baz=95,slow=8.2,SNR=9.5						
ASAR				PcP	**pP**	**01 17 51.3**	**+0.1**
	0.2nm,0.5s,baz=72,slow=5.9,SNR=1.3						
WRA	**Warramunga Arr**	**44.79**	**262**	P	**P**	**01 16 19.7**	**-0.6**
	0.5nm,0.3s,baz=92,slow=6.4,SNR=61						
PETK	**Petropavlovsk-**	**76.39**	**345**	P	**P**	**01 19 48.9**	**+0.2**
	1.2nm,0.3s,baz=112,slow=6.7,SNR=2.9						
ILAR	**Eielson Array**	**88.34**	**13**	P	**P**	**01 20 48.5**	**-0.4**
	0.3nm,0.3s,baz=215,slow=5.2,SNR=5.8						
AKASG	**Malin Array Be**	**143.18**	**331**	PKP	PKPab	01 27 24.5	-1.2
	0.7nm,0.5s,baz=44,slow=4.4,SNR=9.0						
BRTR	**Keskin Array B**	**147.04**	**312**	PKPbc	**PKPdf**	**01 27 36.3**	**+1.1**
	0.4nm,0.6s,baz=22,slow=2.1,SNR=2.3						
GERES	**GERESS Array B**	**150.33**	**345**	PKPbc	**PKPbc**	**01 27 45.4**	**-0.5**
	0.2nm,0.4s,baz=32,slow=2.4,SNR=2.2						

IDC 12 01:21:46.0±53.0,17.29S×178.14W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.7/35,mbtmp4.1/3,Error ellipse: s-maj=980.1km s-min=169.1km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.15**	**241**	P	P	01 29 16.1	+0.5
	1.0nm,0.3s,baz=299,slow=19,SNR=2.6						
WRA	**Warramunga Arr**	**45.00**	**259**	P	P	01 30 03.0	-0.6
	0.4nm,0.3s,baz=97,slow=7.5,SNR=14						
ASAR	**Alice Springs**	**45.21**	**254**	P	P	01 30 05.1	-0.1
	3.2nm,0.5s,baz=88,slow=8.5,SNR=31						

*IDC **12** 01:22:25.4±1.7,2.37S×140.20E,h0km,mb3.7/6, mb1 4.0/7,mb1mx3.8/31,mbtmp3.8/7,ML3.9/1,MS3.1/8, Ms1 3.1/8,ms1mx2.8/36,Error ellipse: s-maj=55.3km s-min=22.9km az=96.0*

ISC 12 01:22:29.2±1.5,2.45S±0.2×140.2E±0.3,h25km,n20, σ0s85/7,mb3.9/6,MS2.9/5,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**9.04**	**279**	LR	LR	01 28 22.7	
	comp=Z,96nm,18.5s,baz=242,slow=40						
PMG	**Port Moresby**	**9.83**	**135**	LR	LR	01 30 09.6	
	comp=Z,134nm,18.8s,baz=330,slow=47						
KRVT	**Keravat (AS076**	**11.97**	**99**	LR	LR	01 29 02.7	
	comp=Z,78nm,18.9s,baz=286,slow=33						
WRA	**Warramunga Arr**	**18.35**	**198**	P	**P**	**01 26 41.4**	**-0.7**
	0.4nm,0.3s,baz=19,slow=12,SNR=22						
FITZ	**Fitzroy Crossi**	**21.14**	**221**	P	**P**	**01 27 13.1**	**+0.6**
	5.2nm,1.1s,baz=48,slow=15,SNR=2.3						
ASAR	**Alice Springs**	**22.00**	**196**	P	**P**	**01 27 21.9**	**+0.1**
	2.0nm,0.6s,baz=30,slow=10,SNR=12						
STKA	**Stephens Creek**	**29.36**	**178**	LR	LR	01 41 13.9	
	comp=Z,86nm,20.0s,baz=25,slow=38						
H11S3	**WAKE ISLAND Hy**	**33.34**	**50**	T	T	02 04 11.6	
	baz=231,slow=74,SNR=120						
H11S2	**WAKE ISLAND Hy**	**33.35**	**50**	T	T	02 04 14.0	
	baz=231,slow=74,SNR=46						
H11S1	**WAKE ISLAND Hy**	**33.35**	**50**	T	T	02 04 14.0	
	baz=231,slow=74,SNR=55						
H11N1	**WAKE ISLAND Hy**	**34.21**	**49**	T	T	02 05 15.4	
	baz=229,slow=76,SNR=81						
H11N2	**WAKE ISLAND Hy**	**34.23**	**49**	T	T	02 05 14.9	
	baz=229,slow=76,SNR=80						
H11N3	**WAKE ISLAND Hy**	**34.23**	**49**	T	T	02 05 17.1	
	baz=229,slow=76,SNR=64						
KSRS	**Korea Array**	**41.25**	**345**	LR	LR	01 46 14.7	
	comp=Z,18nm,21.0s,baz=170,slow=35						
CMAR	**Chiang Mai Arr**	**45.57**	**299**	P	**P**	**01 30 46.5**	**-0.9**
	0.8nm,0.3s,baz=189,slow=6.7,SNR=4.0						
CMAR				LR	LR	01 53 37.0	
	comp=Z,12nm,18.3s,baz=215,slow=41						
PETK	**Petropavlovsk-**	**57.23**	**12**	LR	LR	01 56 31.1	
	comp=Z,8.0nm,20.0s,baz=68,slow=36						
MKAR	**Makanchi Array**	**70.45**	**322**	P	**P**	**01 33 42.0**	**+0.5**
	0.8nm,0.8s,baz=124,slow=6.5,SNR=5.7						
ZALV	**Zalesovo Beam**	**72.41**	**329**	P	**P**	**01 33 54.1**	**+1.0**
	0.7nm,0.6s,baz=91,slow=5.8,SNR=2.7						
ILAR	**Eielson Array**	**84.94**	**24**	P	**P**	**01 35 01.6**	**-0.3**
	0.2nm,0.7s,baz=243,slow=4.0,SNR=2.4						
INK	**Inuvik**	**90.83**	**22**	LR	LR	02 13 28.6	
	comp=Z,15nm,21.1s,baz=294,slow=34						

*NEIC **12** 01:24:51.3±0.8,17.9S±0.2×178.5W±0.2,h572km±7km, mb4.5/21,Error ellipse: s-maj=23.6km s-min=20.2km az=147.0*

*IDC **12** 01:24:52.3±4.3,17.88S×178.52W,h573km±46km, mb3.6/13,mb1 3.8/14,mb1mx3.4/38,mbtmp4.6/14,Error ellipse: s-maj=28.5km s-min=21.5km az=122.0*

ISC 12 01:24:52.2±0.6,17.9S±0.1×178.5W±0.1,h579km,n86, σ0s85/88,mb4.5/24,10C-5D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.30**	**273**	P	**P**	**01 26 13.3**	**+1.7**
DZM	**Mont Dzumac**	**14.75**	**251**	P	**P**	**01 27 57.7**	**-1.0**
	0.7nm,0.3s,baz=87,slow=17,SNR=9.4						
DZM	**Mont Dzumac**	**14.75**	**251**	P	**P**	**01 27 57.8**	**-0.9**
CTA	**Charters Tower**	**33.37**	**261**	P	**P**	**01 30 43.5**	**-0.4**
	7.2nm,0.8s,baz=93,slow=9.4,SNR=8.5						
CAN	**Canberra**	**33.64**	**233**	P	**P**	**01 30 45.0**	**-0.9**
CAN				IAmb	IAmb	01 30 53.0	
	comp=Z,10nm,1.1s						
PMG	**Port Moresby**	**34.39**	**280**	P	**P**	**01 30 53.3**	**+1.0**
	comp=Z,22nm,0.6s,baz=55,slow=7.5,SNR=5.9						
PMG	**Port Moresby**	**34.39**	**280**	P	**P**	**01 30 51.4**	**-0.9**
COEN	**Coen**	**37.03**	**270**	P	**P**	**01 31 14.5**	**+0.3**
COEN				IAmb	IAmb	01 31 15.5	
	comp=Z,15nm,0.8s						
TOO	**Toolangi**	**37.10**	**231**	P	**P**	**01 31 14.5**	**0.0**
TOO				IAmb	IAmb	01 31 16.5	
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**01 31 27.4**	**+1.0**
	comp=Z,14nm,0.5s,baz=92,slow=10,SNR=40						
STKA	**Stephens Creek**	**38.56**	**241**	P	**P**	**01 31 27.4**	**+1.0**
STKA				IAmb	IAmb	01 31 27.8	
	comp=Z,3.3nm,0.6s						
JAY	**Jayapura**	**42.84**	**286**	P	**P**	**01 32 01.2**	**+0.6**
	comp=Z,7.8nm,0.4s,baz=63,slow=2.5,SNR=9.2						
BBOO	**Buckleboo**	**43.33**	**241**	P	**P**	**01 32 04.2**	**0.0**
WR0	**Warramunga Arr**	**44.37**	**260**	P	**P**	**01 32 11.7**	**-0.7**
WR0				IAmb	IAmb	01 32 14.3	
	comp=Z,5.4nm,0.8s						
WB0	**Warramunga Arr**	**44.52**	**260**	P	**P**	**01 32 12.8**	**-0.8**
WB0				IAmb	IAmb	01 32 13.7	
	comp=Z,12nm,0.6s						
WB2	**Warramunga Arr**	**44.54**	**260**	P	**P**	**01 32 13.2**	**-0.6**
WB2				IAmb	IAmb	01 32 13.9	
	comp=Z,14nm,0.6s						
WRAB	**Tennant Creek**	**44.55**	**260**	P	**P**	**01 32 12.6**	**-1.1**
WRAB				IAmb	IAmb	01 32 13.8	
	comp=Z,11nm,0.5s						
WRA	**Warramunga Arr**	**44.55**	**260**	P	**P**	**01 32 13.0**	**-0.8**
	comp=Z,6.6nm,0.5s,baz=96,slow=7.2,SNR=145						
WRA				PcP	**PcP**	**01 33 44.4**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=102,slow=3.3,SNR=2.4						
WRA	**Warramunga Arr**	**44.55**	**260**	P	**P**	**01 32 13.0**	**-0.8**
WRA					**PcP**	**01 33 44.2**	**0.0**
AS31	**Alice Springs**	**44.71**	**254**	P	**P**	**01 32 15.1**

MOTA	**Moosalm**	**149.61**	**347**	*i* PKPbc	**PKPbc**	**01 43 35.2**	**-2.0**
	comp=Z,4.0nm,0.9s						
MYKA	**Terra Mystica**	**149.66**	**343**	*i* PKPbc	**PKPbc**	**01 43 36.5**	**-0.8**
	comp=Z,4.1nm,0.7s						
SQTA	**Sankt Quirin**	**149.71**	**347**	*i* PKPbc	**PKPbc**	**01 43 36.6**	**-0.8**
	comp=Z,3.0nm,0.5s						
ABTA	**Abfaltersbach**	**149.85**	**345**	*i* PKPbc	**PKPbc**	**01 43 37.0**	**-0.7**
	comp=Z,4.1nm,0.6s						
FETA	**Feichten**	**150.00**	**347**	*i* PKPbc	**PKPbc**	**01 43 36.9**	**-1.2**
	comp=Z,2.7nm,0.8s						
CIMO	**Cimolais**	**150.28**	**345**		**PKPbc**	**01 43 38.2**	**-0.4**
FUORN	**Ofenpass-Fuorn**	**150.48**	**348**		**PKPbc**	**01 43 39.1**	**-0.3**

IDC 12 01:34:27.5±1.6, 0°48'S×132°06'E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.6/35, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=25.7km s-min=13.8km az=156.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.88**	**244**	Pg	Pg	01 34 45.0	+0.5
	50nm,0.3s,baz=326,slow=18,SNR=180						
SIJI				Lg	Lg	01 34 56.5	
	321nm,0.3s,baz=338,slow=19,SNR=56						
FITZ	**Fitzroy Crossi**	**18.61**	**199**	P	P	01 38 44.8	-1.9
	0.1nm,0.3s,baz=25,slow=13,SNR=1.7						
WRA	**Warramunga Arr**	**19.48**	**174**	P	P	01 38 56.3	+0.1
	0.2nm,0.3s,baz=353,slow=11,SNR=5.8						
WRA				S	Sn	01 42 22.0	-15
	0.0nm,0.3s,baz=354,slow=23,SNR=1.7						
ASAR	**Alice Springs**	**23.12**	**176**	P	P	01 39 35.8	+0.4
	1.7nm,0.6s,baz=355,slow=10.0,SNR=12						
MKAR	**Makanchi Array**	**64.04**	**324**	P	P	01 45 03.1	-0.1
	0.8nm,0.7s,baz=115,slow=8.1,SNR=6.1						

*IDC **12** 01:39:03.0±1.1, 0°91S×130°49E, h0km, mb4.1/3, mb1 4.2/5, mb1mx3.7/36, mbtmp4.0/5, ML3.9/2, MS3.0/3, Ms1 3.0/3, ms1mx2.6/30, Error ellipse: s-maj=21.5km s-min=10.2km az=179.0*
*DJA **12** 01:39:04.3±1.0, 0°S±5'×13°2E±°, h18km±8km, M4.3/9, MLv4.3/9*
ISC 12 01:39:06.3±1.3, 0°55S±0°10'×131°80E±0°07, h35km, n15, σ1§35/12, mb4.3/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**0.62**	**239**	Pg	**Pn**	**01 39 17.9**	**-0.8**
	384nm,0.3s,baz=323,slow=18,SNR=273						
SIJI				Lg	Lg	01 39 29.1	
	2µm,0.3s,baz=345,slow=20,SNR=48						
FAKI	**Fak Fak**	**2.40**	**169**	P	**Pn**	**01 39 41.5**	**-1.6**
FAKI				S	**Sn**	**01 40 13.0**	**+1.7**
RKPI	**Ransiki, Papua**	**2.57**	**112**	P	**Pn**	**01 39 47.0**	**+1.6**
KMPI	**Kaimana, Papua**	**3.63**	**148**	P	**Pn**	**01 39 59.5**	**-0.6**
MSAI	**Masohi**	**3.99**	**226**	P	**Pn**	**01 40 06.7**	**+1.7**
BNDI	**Bandanaira**	**4.38**	**206**	P	**Pn**	**01 40 11.3**	**+1.0**
AAI	**Ambon**	**4.76**	**229**	P	**Pn**	**01 40 16.9**	**+1.3**
NLAI	**Namlea**	**5.40**	**240**	P	Pn	01 40 32.3	+7.9
PMG	**Port Moresby**	**17.64**	**120**	LR	LR	01 52 43.3	
	comp=Z,62nm,21.8s,baz=299,slow=44						
FITZ	**Fitzroy Crossi**	**18.46**	**199**	P	P	01 43 12.4	-6.8
	0.2nm,0.3s,baz=29,slow=12,SNR=1.7						
FITZ				S	Sn	01 46 26.2	-19
	0.1nm,0.3s,baz=30,slow=14,SNR=2.2						
WRA	**Warramunga Arr**	**19.44**	**173**	P	**P**	**01 43 29.2**	**-0.7**
	0.4nm,0.3s,baz=352,slow=11,SNR=20						
WRA				S	S	01 46 54.7	-13
	0.2nm,0.3s,baz=352,slow=24,SNR=2.8						
ASAR	**Alice Springs**	**23.07**	**175**	P	**P**	**01 44 08.2**	**-0.8**
	7.3nm,0.7s,baz=354,slow=11,SNR=36						
ASAR				LR	LR	01 53 42.7	
	comp=Z,64nm,18.4s,baz=328,slow=38						
MJAR	**Matsushiro Arr**	**37.38**	**9**	LR	LR	01 58 41.9	
	comp=Z,12nm,21.6s,baz=270,slow=31						
MKAR	**Makanchi Array**	**63.94**	**324**	P	**P**	**01 49 35.7**	**-0.2**
	2.1nm,0.8s,baz=116,slow=7.6,SNR=16						
ZALV	**Zalesovo Beam**	**66.69**	**332**	P	**P**	**01 49 52.6**	**-0.9**
	0.5nm,0.4s,baz=114,slow=6.5,SNR=2.4						

IDC 12 01:44:48.8±16.0, 15°47S×178°84W, h550km±200km, mb2.8/5, mb1 3.2/5, mb1mx2.9/29, mbtmp3.7/5, Error ellipse: s-maj=128.5km s-min=51.7km az=163.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.72**	**257**	P	P	01 52 13.2	-0.4
	0.3nm,0.3s,baz=95,slow=7.7,SNR=16						
ASAR	**Alice Springs**	**45.10**	**252**	P	P	01 52 16.4	-0.1
	3.0nm,0.4s,baz=84,slow=8.5,SNR=40						
ILAR	**Eielson Array**	**83.62**	**13**	P	P	01 56 18.4	-0.7
	0.4nm,0.6s,baz=227,slow=5.7,SNR=4.9						
TXAR	**Lajitas Array**	**85.05**	**58**	P	P	01 56 27.9	+0.8
	0.1nm,0.5s,baz=217,slow=5.7,SNR=1.7						
PDAR	**Pinedale Array**	**85.88**	**44**	P	P	01 56 29.3	-1.7
	0.2nm,0.3s,baz=229,slow=8.2,SNR=1.8						
GERES	**GERESS Array B**	**145.16**	**345**	PKPbc	PKPab	02 03 26.0	0.0
	0.3nm,0.6s,baz=11,slow=1.0,SNR=2.5						

*SOME **12** 02:35:31.8, 43°.03N×72°.00E, h10km*
*NNC **12** 02:35:31.4±0.5, 42°.72N×71°.99E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=7.7km s-min=2.0km az=7.0*
*KRNET **12** 02:35:32.6±0.1, 42°.75N×72°.05E, h19km, mb3.0*
*KNET **12** 02:35:35.3±0.8, 42°.75N×72°.31E, h0km, ml2.6, Error ellipse: s-maj=6.0km s-min=4.1km az=31.0*
ISC 12 02:35:31.6±0.8, 42°.76N±0°.03×72°.06E±0°.02, h10km, n61, σ1§95/102, 32C-24D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRKS	**Merke**	**0.86**	**91**	*e*P	**Pn**	**02 35 49.5**	**-0.3**
	19nm,0.1s						
MRKS				⇓*i*S	**Sb**	**02 36 01.2**	**+1.0**
	87nm,0.2s						
MRKS	**Merke**	**0.86**	**91**	P	**Pn**	**02 35 49.5**	**-0.3**
	19nm,0.1s						
MRKS				S	**Sb**	**02 36 01.2**	**+1.0**
	149nm,0.4s						
ARK	**Arkit**	**0.97**	**184**	⇑*e*P	**Pn**	**02 35 51.1**	**-0.2**
	baz=83						
ARK				⇑*i*S	**Sn**	**02 36 04.2**	**-1.0**
	baz=83						
KK31	**Karatay Array**	**1.19**	**287**	⇑P	**Pn**	**02 35 53.8**	**-0.5**
	1.6nm,0.2s,baz=107,slow=15,SNR=95						
KK31				⇑S	**Sb**	**02 36 08.8**	**-0.9**
	51nm,0.3s,baz=113,slow=28,SNR=56						
EKS2	**Erkin-Say**	**1.27**	**94**	⇑*i*P	**Pg**	**02 35 56.8**	**+0.9**
	baz=93						
EKS2				⇑*i*S	**Sn**	**02 36 13.9**	**+1.3**
	baz=93						
AML	**Almayashu**	**1.36**	**117**	⇓*i*P	**Pg**	**02 35 58.0**	**+0.2**
	baz=16						
AML				⇓*i*S	**Sg**	**02 36 17.0**	**+1.5**
	baz=16						
AML	**Almayashu**	**1.36**	**117**	⇓P	**Pg**	**02 35 58.1**	**+0.3**
	14nm,0.2s,SNR=32						
AML				⇑S	**Sg**	**02 36 16.4**	**+0.9**
	44nm,0.2s						
ARSB	**Arslanbob**	**1.59**	**154**	⇓*i*P	**Pg**	**02 36 02.2**	**+0.1**
	baz=54						
ARSB				⇓*i*S	**Sg**	**02 36 23.0**	**+0.2**
	baz=54						
IUG	**Iuzhnay**	**1.62**	**248**	*e*P	**Pg**	**02 36 03.0**	**+0.3**
	14nm,0.3s						
IUG				*e*S	**Sg**	**02 36 24.3**	**+0.5**
	157nm,0.2s						
BRLS	**Borolday**	**1.66**	**280**	*e*P	**Pg**	**02 36 03.5**	**+0.1**
	5.9nm,0.2s						
BRLS				*e*S	**Sg**	**02 36 26.3**	**+1.5**
	194nm,0.4s						
AAK	**Ala-Archa**	**1.80**	**93**	⇓*i*P	**Pg**	**02 36 05.8**	**-0.2**
	baz=93						
AAK				⇓*i*S	**Sg**	**02 36 30.0**	**+0.7**
	baz=93						
AAK	**Ala-Archa**	**1.80**	**93**	⇑P	**Pg**	**02 36 06.3**	**+0.3**
	15nm,0.2s,SNR=15						
AAK				⇑S	**Sg**	**02 36 30.7**	**+1.4**
	55nm,0.2s						
AAK	**Ala-Archa**	**1.80**	**93**	⇓P	**Pg**	**02 36 06.4**	**+0.3**
	10nm,0.4s						
AAK				S	**Sg**	**02 36 30.1**	**+0.8**
	9.6nm,0.4s						
USP	**Ospenovka**	**1.86**	**73**	⇓*i*P	**Pb**	**02 36 06.4**	**+0.8**
	baz=73						
USP				⇓*i*S	**Sg**	**02 36 31.0**	**-0.3**
	baz=73						
USP	**Ospenovka**	**1.86**	**73**	⇓P	**Pb**	**02 36 06.4**	**+0.8**
	23nm,0.2s,SNR=36						
USP				⇓S	**Sg**	**02 36 31.2**	**0.0**
	96nm,0.2s						
UCH	**Uchtor**	**1.89**	**106**	⇑*i*P	**Pg**	**02 36 07.6**	**-0.2**
	baz=5.0						
UCH				⇑*i*S	**Sg**	**02 36 32.8**	**+0.4**
	baz=5.0						
UCH	**Uchtor**	**1.89**	**106**	⇑P	**Pg**	**02 36 07.9**	**+0.1**
	7.0nm,0.1s,SNR=30						
UCH				⇑S	**Sg**	**02 36 33.3**	**+1.0**
	34nm,0.2s						
FRU1	**Bishkek**	**1.89**	**88**	⇓*e*P	**Pg**	**02 36 07.7**	**-0.1**
	baz=87						
FRU1				⇓*i*S	**Sg**	**02 36 33.0**	**+0.7**
	baz=87						
CHMS	**Chumysh**	**1.99**	**82**	⇑*e*P	**Pg**	**02 36 08.9**	**-0.8**
	baz=82						
CHMS				⇑*i*S	**Sg**	**02 36 35.3**	**-0.2**
	baz=82						
KBK	**Karagaybulak**	**2.13**	**92**	⇑*e*P	**Pb**	**02 36 11.0**	**+0.7**
	baz=91						
KBK				⇑*i*S	**Sb**	**02 36 38.5**	**+1.6**
	baz=91						
KBK	**Karagaybulak**	**2.13**	**92**	⇑P	**Pg**	**02 36 11.6**	**-0.8**
	11nm,0.1s,SNR=34						
KBK				⇓S	**Sg**	**02 36 40.9**	**+0.9**
	92nm,0.2s						
KZA	**Kyzart**	**2.46**	**105**	⇑P	**Pg**	**02 36 17.9**	**-0.8**
	15nm,0.3s,SNR=14						
TKM2	**Tokmak 2**	**2.60**	**85**	⇑*i*P	**Pb**	**02 36 17.7**	**-0.8**
	baz=85						
TKM2				⇑*i*S	**Sb**	**02 36 50.3**	**-0.3**
	baz=85						
TKM2	**Tokmak 2**	**2.60**	**85**	⇑Pg	**Pb**	**02 36 19.2**	**+0.8**
	4.0nm,0.5s						
TKM2				⇑Lg	Lg	02 36 55.4	
	8.1nm,0.3s						
BTLS	**Baital**	**2.69**	**32**	*e*P	**Pb**	**02 36 17.9**	**-1.9**
	2.8nm,0.1s						
BTLS				*e*S	**Sn**	**02 36 50.1**	**+2.6**
	29nm,0.3s						
BTLS	**Baital**	**2.69**	**32**	Pg	**Pb**	**02 36 17.9**	**-1.9**
	2.8nm,0.1s						
BTLS				Lg	Lg	02 36 50.1	
	29nm,0.3s						
DGS	**Degeres**	**2.76**	**79**	*e*P	**Pb**	**02 36 22.4**	**+1.3**
	6.9nm,0.2s						
DGS				*e*S	**Sg**	**02 36 58.3**	**-2.0**
	28nm,0.3s						
DGS	**Degeres**	**2.76**	**79**	Pg	**Pb**	**02 36 22.4**	**+1.3**
	6.9nm,0.2s						
DGS				Lg	Lg	02 36 58.3	
	28nm,0.3s						
KRBS	**Karabastau**	**2.80**	**69**	*e*P	**Pb**	**02 36 23.0**	**+1.3**
	4.2nm,0.2s						
KRBS				*e*S	**Sg**	**02 36 59.4**	**-2.1**
	9.9nm,0.3s						
KRBS	**Karabastau**	**2.80**	**69**	Pg	**Pb**	**02 36 23.0**	**+1.3**
	5.7nm,0.5s						
KRBS				Lg	Lg	02 36 59.4	
	9.9nm,0.3s						
BTK	**Batken**	**2.86**	**200**	⇑*i*P	**Pb**	**02 36 20.7**	**-2.1**
	baz=99						
BTK				⇑*i*S	**Sb**	**02 36 55.4**	**-2.4**
	baz=99						
BOOM	**Boomskoye usch**	**2.88**	**94**	⇑*e*P	**Pb**	**02 36 21.5**	**-1.5**
	baz=94						
BOOM				⇑*i*S	**Sb**	**02 36 56.8**	**-1.5**
	baz=94						
KST	**Kastek**	**2.88**	**83**	⇑*i*P	**Pb**	**02 36 24.9**	**+1.8**
	5.3nm,0.3s						
KST				⇑*i*S	**Sg**	**02 37 03.0**	**-1.1**
	35nm,0.5s						
KST	**Kastek**	**2.88**	**83**	Pg	**Pb**	**02 36 24.9**	**+1.8**
	10nm,0.5s						
KST				Lg	Lg	02 37 03.0	
	37nm,0.7s						
ULHL	**Ulahol**	**3.13**	**98**	⇓*e*P	**Pb**	**02 36 25.0**	**-2.5**
	baz=98						
ULHL				⇓*i*S	**Sb**	**02 37 03.0**	**-2.8**
	baz=98						
MTBS	**Maitube**	**3.23**	**82**	*e*P	**Pg**	**02 36 31.6**	**-1.8**
	5.2nm,0.2s						
MTBS				*e*S	**Sg**	**02 37 14.0**	**-1.2**
	16nm,0.3s						
MTBS	**Maitube**	**3.23**	**82**	Pg	**Pg**	**02 36 31.6**	**-1.8**
	5.2nm,0.2s						
MTBS				Lg	Lg	02 37 14.0	
	16nm,0.3s						
KUU	**Kurty**	**3.32**	**69**	*e*P	**Pb**	**02 36 31.7**	**+1.2**
	3.2nm,0.3s						
KUU				*e*S	**Sb**	**02 37 14.5**	**+3.6**
	8.8nm,0.1s						
KUU	**Kurty**	**3.32**	**69**	Pg	**Pb**	**02 36 31.7**	**+1.2**
	4.7nm,0.2s						
KUU				Lg	Lg	02 37 14.5	
	16nm,0.5s						
IZV	**Izvestkoviy**	**3.35**	**84**	*e*P	**Pg**	**02 36 33.8**	**-2.0**
	3.9nm,0.2s						
IZV				*e*S	**Sg**	**02 37 17.9**	**-1.4**
	17nm,0.3s						
IZV	**Izvestkoviy**	**3.35**	**84**	Pg	**Pg**	**02 36 33.8**	**-2.0**
	3.9nm,0.2s						
IZV				Lg	Lg	02 37 17.9	
	21nm,0.5s						
KTBS	**Karatobe**	**3.51**	**73**	*e*P	**Pb**	**02 36 35.9**	**+2.1**
	2.2nm,0.2s						
KTBS				*e*S	**Sg**	**02 37 21.5**	**-2.6**
	28nm,0.3s						
KTBS	**Karatobe**	**3.51**	**73**	Pg	**Pb**	**02 36 35.9**	**+2.1**
	3.2nm,0.5s						
KTBS				Lg	Lg	02 37 21.5	
	28nm,0.3s						
TNSS	**Tian-Shan**	**3.60**	**84**	*e*P	**Pg**	**02 36 38.3**	**-2.2**
	11nm,0.3s						
TNSS				*e*S	**Sg**	**02 37 25.8**	**-1.4**
	18nm,0.6s						
TNSS	**Tian-Shan**	**3.60**	**84**	Pg	**Pg**	**02 36 38.3**	**-2.2**
	11nm,0.3s						
TNSS				Lg	Lg	02 37 25.8	
	18nm,0.6s						
MDOK	**Medeo**	**3.68**	**82**	*e*P	**Pg**	**02 36 39.7**	**-2.4**
	5.9nm,0.4s						
MDOK				*e*S	**Sg**	**02 37 28.1**	**-1.7**
	14nm,0.7s						
MDOK	**Medeo**	**3.68**	**82**	⇑Pg	**Pg**	**02 36 41.1**	**-1.0**
	3.3nm,0.4s						
MDOK				⇓Lg	Lg	02 37 29.7	
	7.9nm,0.5s						
MDOK	**Medeo**	**3.68**	**82**	Pg	**Pg**	**02 36 39.7**	**-2.4**
	5.9nm,0.4s						
MDOK				Lg	Lg	02 37 28.1	
	14nm,0.7s						
KOTS	**Kotyrbulak**	**3.73**	**81**	*e*P	**Pg**	**02 36 40.6**	**-2.4**
	9.2nm,0.3s						
KOTS				*e*S	**Sg**	**02 37 29.3**	**-2.2**
	32nm,0.5s						
KOTS	**Kotyrbulak**	**3.73**	**81**	Pg	**Pg**	**02 36 40.6**	**-2.4**
	9.2nm,0.3s						
KOTS				Lg	Lg	02 37 29.3	
	32nm,0.5s						
ARXS	**Arharly**	**4.44**	**69**	*e*P	**Pb**	**02 36 52.9**	**+3.3**
	4.4nm,0.3s						
ARXS				*e*S	**Sg**	**02 37 50.7**	**-3.3**
	12nm,0.6s						
KURS	**Kuram**	**4.53**	**79**	*e*P	**Pg**	**02 36 55.3**	**-3.0**
	6.2nm,0.6s						
KURS				*e*S	**Sg**	**02 37 55.2**	**-1.7**
	5.0nm,0.4s						
KPKS	**Kokpek**	**4.90**	**80**	*e*P	**Pg**	**02 37 01.7**	**-3.7**
	3.8nm,0.5s						
KPKS				*e*S	**Sg**	**02 38 05.6**	**-3.2**
	13nm,0.4s						
UZB	**Uzynbulak**	**5.12**	**83**	*e*P	**Pg**	**02 37 06.1**	**-3.6**
	0.9nm,0.1s						
UZB				*e*S	**Sg**	**02 38 13.1**	**-2.9**
	4.1nm,0.3s						
UZB	**Uzynbulak**	**5.12**	**83**	Pg	**Pg**	**02 37 06.1**	**-3.6**
	0.9nm,0.1s						
UZB				Lg	Lg	02 38 13.1	
	4.1nm,0.3s						
OTUK	**Ortayu**	**5.49**	**2**	⇑Pn	**Pn**	**02 36 54.7**	**+1.3**
	1.4nm,0.8s						
OTUK				⇓Lg	Lg	02 38 27.3	
	20nm,1.1s						
DJR	**Jarkent**	**5.83**	**72**	*e*P	**Pg**	**02 37 20.2**	**-3.0**
	1.3nm,0.5s						
DJR				*e*S	**Sg**	**02 38 37.1**	**-1.6**
	2.2nm,0.3s						
KAPS	**Kapalarasan**	**5.83**	**62**	*e*P	**Pg**	**02 37 19.0**	**-4.2**
	1.1nm,0.2s						
KAPS				*e*S	**Sg**	**02 38 34.6**	**-4.2**
	4.2nm,0.4s						
MK31	**Makanchi Array**	**8.31**	**58**	⇑Pn	**Pn**	**02 37 36.1**	**+3.9**
	1.0nm,0.8s,baz=236,slow=13,SNR=7.0						
MK31				⇓Sn	**Sn**	**02 39 12.2**	**+6.1**
	0.6nm,0.6s,baz=241,slow=25,SNR=4.6						
MK31				⇓Lg	Lg	02 39 58.7	
	0.9nm,0.6s,baz=254,slow=26,SNR=3.9						
KURBB	**Kurchatov Arra**	**9.03**	**27**	⇓Lg	Lg	02 40 22.6	
	7.7nm,0.8s						
KURK	**Kurchatov**	**9.14**	**27**	⇓Lg	Lg	02 40 26.3	
	3.7nm,0.6s						

*NEIC **12** 02:37:15.4±1.8, 28°.18N±0°.07×53°.13E±0°.05, h2km±4km, Error ellipse: s-maj=10.0km s-min=6.7km az=175.0*
*MOS **12** 02:37:15.7±1.5, 27°.99N×53°.30E, h11km, mb4.8/48, Error ellipse: s-maj=6.4km s-min=3.9km az=110.5*
*IDC **12** 02:37:16.1±0.6, 27°.94N×53°.14E, h0km, mb4.4/30, mb1 4.4/38, mb1mx4.4/52, mbtmp4.4/38, ML3.8/8, MS3.6/26, Ms1 3.6/26, ms1mx3.5/47, Error ellipse: s-maj=13.0km s-min=11.3km az=161.0*
*TEH **12** 02:37:17.8, 28°.09N×53°.15E, h11km, ML4.6*
*THR **12** 02:37:18.9±0.3, 28°.15N×53°.23E, h17km±4km, ML4.6*
*DSN **12** 02:37:20.2±1.3, 27°.93N×53°.17E, h10km, ML4.4/7, Error ellipse: s-maj=23.5km s-min=4.8km az=11.0*
*GII **12** 02:37:21.1±0.0, 28°.08N×53°.22E, h10km*
*OMAN **12** 02:37:22.7±0.8, 27°.76N×53°.03E, h22km±4km, mb5.2/1, ml4.2/8, Error ellipse: s-maj=9.6km s-min=6.1km az=12.0*
ISC 12 02:37:18.4±0.5, 28°.00N±0°.03×53°.11E±0°.03, h14km±3km, h14km:pP-P, n395, σ1§92/413, mb4.5/108, MS3.7/25, 27C-23D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHRM	**Jahrom**	**0.65**	**39**	*e*Pg	**Pg**	**02 37 28.1**	**-3.0**
JHRM				*e*		02 37 48.9	
LMD1	**Lamerd**	**0.66**	**176**	*e*Pg	**Pn**	**02 37 33.1**	**-0.3**
LAR1	**LAR**	**1.16**	**106**	*e*Pg	**Pg**	**02 37 40.8**	**-0.1**
LAR1				*e*		02 38 04.7	
SHI	**Shiraz**	**1.72**	**342**	P	**Pn**	**02 37 48.2**	**+0.2**
SHI	**Shiraz**	**1.72**	**342**	*e*Pg	**Pn**	**02 37 48.3**	**+0.2**
SHI				*e*		02 38 22.5	
AHBU	**AHRAM**	**1.82**	**299**	*e*Pn	**Pb**	**02 37 51.7**	**+0.2**
GENO	**Geno**	**2.78**	**102**	*e*Pn	**Pb**	**02 38 05.7**	**-2.2**
JRN	**Qarnain Island**	**3.06**	**185**	*e*Pn	**Pn**	**02 38 07.5**	**+1.2**
KLNJ	**Kolanjah**	**3.28**	**336**	*e*Pn	**Pn**	**02 38 10.4**	**+0.7**
SHME	**Shamm**	**3.33**	**125**	P	**Pn**	**02 38 10.9**	**+0.8**
SHME	**Shamm**	**3.33**	**125**	*e*Pn	**Pn**	**02 38 11.1**	**+1.0**
UMQ	**Umm Al-Quwin**	**3.36**	**137**	*e*Pn	**Pn**	**02 38 10.9**	**+0.5**
BANOM	**Banah**	**3.52**	**125**	*i* P	**Pn**	**02 38 13.9**	**+1.2**
	SNR=46						
BANOM				S	**Sn**	**02 38 55.2**	**+1.1**
BANOM	**Banah**	**3.52**	**125**	P	**Pn**	**02 38 14.8**	**+2.2**
	SNR=46						
BANOM				S	**Sn**	**02 38 55.8**	**+1.7**
BANOM	**Banah**	**3.52**	**125**	*e*Pn	**Pn**	**02 38 14.2**	**+1.5**
NGRK	**Negar Kerman**	**3.57**	**62**	*e*Pn	**Pn**	**02 38 14.3**	**+0.6**
IMEH	**Mehriz**	**3.62**	**21**	*e*Pn	**Pn**	**02 38 15.5**	**+1.2**
KRBR	**Kerman**	**3.75**	**57**	*e*Pn	**Pn**	**02 38 16.1**	**-0.1**
KRBR	**Kerman**	**3.75**	**57**	*e*Pn	**Pn**	**02 38 16.1**	**-0.1**
TVBK	**TV Kerman**	**3.76**	**57**	*e*Pn	**Pn**	**02 38 17.4**	**+1.1**
TVBK				*e*		02 38 32.3	
NAZ	**Nazwa, Dubai**	**3.77**	**142**	*i* P	**Pn**	**02 38 18.5**	**+2.4**
	SNR=18						
NAZ	**Nazwa, Dubai**	**3.77**	**142**	P	**Pn**	**02 38 18.6**	**+2.5**
	SNR=18						
NAZ				S	**Sn**	**02 39 01.9**	**+1.6**
NAZ	**Nazwa, Dubai**	**3.77**	**142**	*e*Pn	**Pn**	**02 38 18.7**	**+2.5**
KHGB	**Koh Gabri**	**3.77**	**50**	*e*Pn	**Pn**	**02 38 17.3**	**+0.9**
KHGB				*e*		02 39 41.3	
MSFE	**Esma-Masafi**	**3.79**	**133**	*i* P	**Pn**	**02 38 18.0**	**+1.6**
	SNR=13						
MSFE	**Esma-Masafi**	**3.79**	**133**	*e*Pn	**Pn**	**02 38 18.0**	**+1.6**
IRAM	**Ramesheh**	**3.85**	**351**	*e*Pn	**Pn**	**02 38 18.2**	**+0.8**
MDH	**Madha**	**3.92**	**133**	*i* P	**Pn**	**02 38 19.8**	**+1.6**
	SNR=9.0						
MDH	**Madha**	**3.92**	**133**	P	**Pn**	**02 38 20.0**	**+1.8**
	SNR=9.0						
MDH				S	**Sn**	**02 39 05.7**	**+1.7**
MDH	**Madha**	**3.92**	**133**	*e*Pn	**Pn**	**02 38 19.6**	**+1.4**
ISAD	**Sadrabad**	**3.93**	**7**	*e*Pn	**Pn**	**02 38 19.9**	**+1.3**
KHNJ	**Kahnooj**	**4.06**	**90**	*e*Pn	**Pn**	**02 38 21.7**	**+1.5**
UOSS	**Minazif**	**4.12**	**137**	*i* P	**Pn**	**02 38 22.0**	**+1.1**
	SNR=9.4						
UOSS	**Minazif**	**4.12**	**137**	P	**Pn**	**02 38 22.8**	**+1.9**
UOSS				S	**Sn**	**02 39 08.9**	**0.0**
UOSS	**Minazif**	**4.12**	**137**	Pn	**Pn**	**02 38 21.8**	**+0.9**
UOSS				Sn	**Sn**	**02 39 09.5**	**+0.7**
SLWR	**Sila**	**4.12**	**198**	*e*Pn	**Pn**	**02 38 23.9**	**+3.0**
HATD	**Hatta, Dubai**	**4.16**	**139**	*i* P	**Pn**	**02 38 23.0**	**+1.4**
	SNR=9.7						
HATD	**Hatta, Dubai**	**4.16**	**139**	P	**Pn**	**02 38 23.5**	**+2.0**
	SNR=9.8						
HATD				S	**Sn**	**02 39 11.4**	**+1.4**
HATD	**Hatta, Dubai**	**4.16**	**139**	*e*Pn	**Pn**	**02 38 23.5**	**+2.0**
IBAF	**Bafgh**	**4.16**	**30**	*e*Pn	**Pn**	**02 38 23.0**	**+1.3**
ASHO	**Ashiyiah**	**4.23**	**141**	*i* P	**Pn**	**02 38 23.9**	**+1.4**
	SNR=21						
ASHO	**Ashiyiah**	**4.23**	**141**	P	**Pn**	**02 38 24.1**	**+1.7**
	SNR=21						
ASHO				S	**Sn**	**02 39 12.6**	**+0.9**
ASHO	**Ashiyiah**	**4.23**	**141**	*e*Pn	**Pn**	**02 38 24.2**	**+1.7**
CHMN	**Cheshme madani**	**4.30**	**63**	*e*Pn	**Pn**	**02 38 25.7**	**+2.0**

SNR=24
WSAR S Sn 02 40 15.2 -1.7
IQOM Qom 7.04 346 *e*Pn Pn 02 39 01.3 0.0
IVRN Varamin 7.07 351 *e*Pn Pn 02 39 02.2 +0.6
IDOB Doab 7.16 325 *e*Pn Pn 02 39 02.2 -0.7
JMDO Jabal Madar 7.20 140 P Pn 02 39 04.5 +1.2
JMDO S Sn 02 40 24.4 -0.6
HSAM Samen 7.30 329 *e*Pn Pn 02 39 05.3 +0.4
IANJ Anjilo 7.47 5 *e*Pn Pn 02 39 09.3 +2.1
WBK Wadi Bani Khal 7.54 134 P Pn 02 39 08.1 +0.1
SNR=5.0
IHSB Hasanabad 7.58 349 *e*Pn Pn 02 39 08.8 +0.3
HAGD Aghdareh 7.60 334 *e*Pn Pn 02 39 09.4 +0.4
IDMV Damavand 7.61 353 *e*Pn Pn 02 39 10.5 +1.4
IKOM Komasi 7.81 323 *e*Pn Pn 02 39 11.6 -0.1
IBZA Bozab 7.86 326 *e*Pn Pn 02 39 14.7 +2.1
IRAZ Razeghan 7.86 341 *e*Pn Pn 02 39 12.4 -0.2
RAYN Ar Rayn 8.18 239 *i* P Pn 02 39 18.6 +1.8
SNR=12
RAYN Ar Rayn 8.18 239 P Pn 02 39 18.1 +1.3
RAYN Ar Rayn 8.18 239 Pn Pn 02 39 18.1 +1.3
MHTO MHTO 8.26 147 P Pn 02 39 19.0 +1.1
SNR=12
MHTO S Sn 02 40 48.2 -2.9
SNR=11
IGHG Ghaleghazi 8.44 320 *e*Pn Pn 02 39 22.2 +1.7
QALM Alamut, Qazvin 8.66 347 *e*Pn Pn 02 39 24.8 +1.3
IDHR Dehrash 8.81 321 *e*Pn Pn 02 39 25.5 0.0
SBZV Sabzevar 9.19 23 *e*Pn Pn 02 39 32.1 +1.4
WHFO Wadi Hawf 10.05 176 P Pn 02 39 43.5 +1.0
WHFO S Sn 02 41 32.3 -2.9
HRA Herat 10.08 49 Pn Pn 02 39 40.1 -2.8
DMTO DMTO 10.38 170 P Pn 02 39 49.0 +2.1
SNR=9.4
RBK Rabkut 10.50 174 P Pn 02 39 49.6 +1.0
SNR=5.8
RBK S Sn 02 41 46.0 0.0
ABTO Aybut 10.60 179 P Pn 02 39 50.6 +0.6
GEYT Alibeck 10.75 22 Pn Pn 02 39 52.9 +0.9
comp=E,1.0nm,0.3s,baz=197,slow=15,SNR=14
GEYT Alibeck 10.75 22 Pn Pn 02 39 50.0 -2.0
GYA0B ALIBECK ARRAY 10.75 22 Pn Pn 02 39 48.8 -3.2
AKT Akhty 14.15 343⇓ *e*P Pn 02 40 38.3 -0.2
ASF Jabal al Asfar 14.64 290 Pn Pn 02 40 46.1 +0.9
comp=E,0.4nm,0.3s,baz=124,slow=11,SNR=3.0
ASF Sn Sn 02 43 15.5 -12
comp=E,0.3nm,0.3s,baz=31,slow=5.9,SNR=3.4
ASF Lg Lg 02 45 11.9
comp=E,0.1nm,0.3s,baz=199,slow=19,SNR=1.2
KBL Kabul 15.09 60 P Pn 02 40 48.3 -3.1
KBL pmax pmax
comp=Z,5.0nm,0.8s
KBL Kabul 15.09 60 Pn Pn 02 40 48.3 -3.1
TBLG Delisi 15.31 336 P Pn 02 40 49.7 -4.4
TBLG pmax pmax
comp=Z,7.0nm,0.7s
TBLG Delisi 15.31 336 Pn Pn 02 40 49.7 -4.4
BGD Bogdanovka 15.36 332 P P 02 41 03.5 +3.9
AKH Akhalkalaki 15.53 332 P Pn 02 40 52.9 -4.2
AKH pmax pmax
comp=Z,6.0nm,1.1s
AKH Akhalkalaki 15.53 332 Pn Pn 02 40 52.9 -4.2
MAK Makhachkala 15.60 345 *e*P Pn 02 40 57.8 -0.1
MAK *e*S Sn 02 43 52.5 +2.0
MAK pmax pmax
comp=Z,104nm,1.0s
MAK MLR MLR
comp=Z,133nm,16.0s
GHAJ Ghor Haditha 15.61 286 Pn P 02 41 02.7 +0.6
DAMY Dhamar 15.63 213 P Pn 02 40 58.8 +0.2
DAMI2 DAM2 15.69 286 Pn P 02 41 02.6 -0.5
DSI Dead Sea 15.80 287 Pn P 02 41 05.1 +0.8
NATI Neve Ativ 15.85 294 Pn P 02 41 05.0 +0.2
ZFRI Zfri 15.86 284 Pn P 02 41 05.4 +0.5
HRFI Mount Harif 15.95 282 Pn P 02 41 07.0 +1.0
PRNI Paran 15.99 283 Pn P 02 41 06.6 +0.1
YTIR Yattir 16.00 286 Pn P 02 41 08.3 +1.7
EIL Elat 16.01 280 Pn Pn 02 41 04.0 +0.8
comp=Z,0.3nm,0.3s,baz=115,slow=5.5,SNR=11
EIL LR LR 02 49 01.3
comp=Z,197nm,21.6s,baz=98,slow=44
MALT Malatya 16.01 314 P P 02 41 06.6 -0.1
MBRI Mt Berech 16.04 281 Pn P 02 41 07.5 +0.4
GUDG Gudauri 16.05 336 P P 02 41 07.5 +0.3
MMA0B Mount Meron ar 16.06 292 Pn P 02 41 07.9 +0.7
MMAI Mount Meron Ar 16.06 292 Pn Pn 02 41 03.0 -0.9
comp=Z,0.5nm,0.3s,baz=102,slow=15,SNR=5.5
MMAI Sn Sn 02 43 51.9 -10
comp=Z,0.6nm,0.3s,baz=75,slow=20,SNR=1.8
MMAI LR LR 02 48 22.8
comp=Z,154nm,21.3s,baz=70,slow=41
AMAZ Amatzia 16.19 287 Pn P 02 41 09.5 +0.8
SLTI Sal'it 16.20 290 Pn P 02 41 10.0 +1.3
GAZ Gaziantep 16.21 308 P Pn 02 41 03.2 -2.6
GAZ IAmb IAmb 02 41 12.2
comp=Z,29nm,1.2s
KRMI Paran Flat 16.22 282 Pn P 02 41 09.0 0.0
GROC Groznyy 16.28 341 *e*P Pn 02 41 04.4 -2.2
GROC S Sn 02 44 12.7 +5.7
GROC pmax pmax
comp=Z,6.0nm,0.5s
ONI Oni 16.54 334 P P 02 41 14.6 +2.1
ZEI Tsey 16.54 336 *e*P Pn 02 41 08.7 -1.4
ZEI pmax pmax
comp=Z,43nm,0.9s
KZIT Kziot 16.56 285 Pn P 02 41 12.3 -0.4
CHGR Chuyangaron 17.08 47 Pn Pn 02 41 13.4 -3.5
CHGR IAmb IAmb 02 41 22.3
comp=Z,43nm,0.8s
KBZ Khabaz 17.72 335 P P 02 41 26.8 +1.3
comp=Z,0.2nm,0.3s,baz=121,slow=7.7,SNR=9.5
KBZ Khabaz 17.72 335 *de*P P 02 41 25.9 +0.4
KVAR Kislovodsk Arr 17.99 335 Pn P 02 41 30.1 +1.5
baz=90,slow=20,SNR=1.9
KIV Kislovodsk 17.99 335 *ce*P P 02 41 30.6 +2.0
KIV *i* S Sn 02 44 48.7 +0.1
KIV pmax pmax
comp=Z,39nm,1.3s
KIV Kislovodsk 17.99 335 P Pn 02 41 24.1 -4.0
GAR Garm 18.03 48 Pn Pn 02 41 25.5 -3.1
GAR IAmb IAmb 02 41 33.0
comp=Z,32nm,0.9s
NIL Nilore 18.18 67 P Pn 02 41 27.0 -3.5
NIL pmax pmax
comp=Z,42nm,0.9s
NIL Nilore 18.18 67 P Pn 02 41 27.0 -3.5
NIL IAmb IAmb 02 41 35.5
comp=Z,42nm,0.8s
GOF Gofitskoye 18.82 337⇑ *e*P Pn 02 41 38.7 +0.6
GOF pmax pmax
comp=Z,28nm,0.8s
SOC Sochi 18.93 329 *e*P P 02 41 37.4 -1.4
SOC *e* 02 45 06.5
SOC pmax pmax
comp=Z,53nm,1.0s
SOC MLR MLR
comp=Z,244nm,10.0s
BTK Batken 18.93 46 P P 02 41 36.2 -2.8
BTK pmax pmax
comp=Z,26nm,1.1s
BTK Batken 18.93 46 P 02 41 36.1 -2.8
BTK IAmb IAmb 02 41 45.0
comp=Z,26nm,1.1s
ATD Arta Tunnel 19.00 212 LR LR 02 50 15.7
comp=Z,284nm,18.3s,baz=32,slow=41
BR131 Keskin Array S 19.91 311 *ce*P Pn 02 41 50.6 -0.8
BR131 Keskin Array S 19.91 311 P P 02 41 47.6 -2.1
BRTR Keskin Array B 19.91 311 P Pn 02 41 51.0 -0.5
comp=Z,0.4nm,0.3s,baz=139,slow=13,SNR=22
BRTR LR LR 02 51 40.0
comp=Z,251nm,19.8s,baz=102,slow=43
BRTR Keskin Array B 19.91 311 *i* P Pn 02 41 52.7 +1.3
BRTR pmax pmax
comp=Z,10.0nm,0.7s
BRTR Keskin Array B 19.91 311 P P 02 41 47.9 -1.8
BR231 Keskin MP Arra 20.55 310 P P 02 41 53.9 -2.8
BR231 IAmb IAmb 02 41 59.6
comp=Z,21nm,0.9s
ANTO Ankara 20.55 310 P P 02 41 54.4 -2.2
ANTO pmax pmax
comp=Z,25nm,1.0s
ANTO Ankara 20.55 310 P P 02 41 54.4 -2.2
ANTO IAmb IAmb 02 42 02.1
comp=Z,25nm,0.9s

KK31 Karatay Array 20.61 38 P P 02 41 54.4 -2.8
KK31 pmax pmax
comp=Z,15nm,0.9s
KK31 Karatay Array 20.61 38 P P 02 41 54.4 -2.8
KK31 IAmb IAmb 02 42 03.6
comp=Z,15nm,0.8s
KKAR Karatay Array 20.61 38 P P 02 41 54.3 -2.9
KKAR Karatay Array 20.61 38 P P 02 41 54.3 -2.9
KKAR Karatay Array 20.61 38 IAmb IAmb 02 42 04.1
comp=Z,14nm,0.8s
ARSB Arslanbob 21.00 46 IAmb IAmb 02 42 10.4
comp=Z,28nm,0.8s
ELL Elmali 21.41 300 P P 02 42 08.7 +2.7
ABKAR Akbulak array 21.86 12 P P 02 42 07.9 -2.7
AML Almayashu 21.89 45 P P 02 42 13.3 +1.9
SNR=28
KSH Kashi 22.14 53 *e*P P 02 42 14.1 +0.3
KSH pmax pmax
comp=Z,30nm,0.7s
KSH LR LR
comp=Z,780nm,10.4s
KSH LR LR
comp=Z,710nm,11.3s
KSH LR LR
comp=Z,1μm,12.4s
EKS2 Erkin-Say 22.24 43 P P 02 42 17.1 +2.3
SNR=6.2
ARG Arkhangelos 22.65 298 P P 02 42 19.6 +0.4
ARG pmax pmax
comp=Z,60nm,1.6s
AAK Ala-Archa 22.66 44 P P 02 42 21.3 +1.9
comp=Z,1.8nm,0.3s,baz=226,slow=10,SNR=11
AAK LR LR 02 52 51.9
comp=Z,395nm,20.1s,baz=222,slow=41
AAK Ala-Archa 22.66 44 *de*P P 02 42 22.3 +2.9
AAK pmax pmax
comp=Z,29nm,1.7s
AAK Ala-Archa 22.66 44 P P 02 42 15.8 -3.6
SIM Simferopol' 22.70 323 *de*P P 02 42 20.1 +0.5
SIM S S 02 46 29.4 +1.9
SIM pmax pmax
comp=Z,24nm,1.0s
AKTO Aktyubinsk 22.71 8 P P 02 42 21.4 +1.7
comp=Z,13nm,0.6s,baz=209,slow=8.9,SNR=14
AKTO LR LR 02 51 58.1
comp=Z,97nm,19.9s,baz=179,slow=39
BOOM Boomskoye usch 23.49 46 IAmb IAmb 02 42 34.6
comp=Z,13nm,0.9s
ULHL Ulahol 23.56 47 P P 02 42 33.0 +4.3
SNR=5.6
KDJ Kajisay 24.12 48 P P 02 42 31.3 -2.6
KDJ pmax pmax
comp=Z,13nm,1.0s
KDJ Kajisay 24.12 48 P P 02 42 31.3 -2.6
KDJ IAmb IAmb 02 42 39.3
comp=Z,13nm,0.9s
TARG Taragay, Kyrgy 24.35 49 IAmb IAmb 02 42 45.0
comp=Z,12nm,1.0s
VRH Novokhopyorsk 24.72 343 *e*P P 02 42 38.9 -0.2
VRH *e*S S 02 47 03.4 +3.0
VRH pmax pmax
comp=Z,30nm,0.7s
VRH smax smax
comp=E,150nm,1.8s
IDI Anoyia 25.05 294 P P 02 42 43.1 +0.8
comp=E,29nm,0.9s,baz=102,slow=9.4,SNR=12
IDI LR LR 02 55 07.3
comp=E,49nm,21.4s,baz=86,slow=43
EZN Ezine 25.07 305 P P 02 42 46.9 +4.5
VSR Storozhevoye 25.47 339 *e*P P 02 42 45.7 -0.1
VSR *e*S S 02 47 12.9 +0.5
VSR pmax pmax
comp=Z,20nm,0.9s
VSR smax smax
comp=N,80nm,1.3s
ALN Alexandroupoli 25.65 307 P P 02 42 50.8 +3.2
ALN pmax pmax
comp=Z,18nm,1.1s
ALN Alexandroupoli 25.65 307 IAmb IAmb 02 42 56.5
comp=Z,14nm,0.9s
TIRR Tirgusor 25.68 316 ⇓P P 02 42 50.4 +2.6
TIRR Tirgusor 25.68 316 ⇓P P 02 42 50.4 +2.6
VORR Voronezh 25.85 340 *e*P P 02 42 50.0 +0.7
VORR pmax pmax
comp=Z,250nm,1.2s
HARR Harsova 26.09 316 ⇓P P 02 42 55.2 +3.6
HARR Harsova 26.09 316 ⇓P P 02 42 55.2 +3.6
CFR Carcaliu 26.22 317 ⇑P P 02 42 55.8 +3.0
CFR Carcaliu 26.22 317 ⇑P P 02 42 55.8 +3.0
LPSR Galich'ya Gora 26.75 341 *e*P P 02 42 57.1 -0.3
LPSR pmax pmax
comp=Z,30nm,0.8s
VRI Vrincioaia 27.43 318 ⇑P P 02 43 06.5 +2.8
VRI Vrincioaia 27.43 318 ⇑P P 02 43 06.5 +2.8
NEHR Nehoiu 27.46 316 ⇓P P 02 43 06.6 +2.6
PLOR Plostina 27.47 318 ⇓P P 02 43 06.3 +2.3
PLOR Plostina 27.47 318 ⇓P P 02 43 06.3 +2.3
MLR Muntele Rosu 27.71 316 P P 02 43 07.3 +0.9
comp=Z,4.6nm,1.1s,baz=74,slow=10.0,SNR=7.0
MLR Muntele Rosu 27.71 316 ⇓P P 02 43 08.6 +2.2
MLR Muntele Rosu 27.71 316 P P 02 43 03.4 -2.9
MLR Muntele Rosu 27.71 316 P P 02 43 03.4 -2.9
SORM Soroca 27.80 323 ⇓P P 02 43 15.8 +8.9
TESR Tescani 27.82 319 ⇑P P 02 43 09.7 +2.5
BRVK Borovoye 28.08 22 *de*P P 02 43 10.0 +0.6
BRVK pmax pmax
comp=Z,20nm,1.7s
BRVK Borovoye 28.08 22 P P 02 43 06.3 -3.1
BRVK IAmb IAmb 02 43 13.9
comp=Z,14nm,1.1s
BVAR Borovoye Array 28.09 22 P P 02 43 10.1 +0.7
comp=Z,9.8nm,0.9s,baz=228,slow=5.6,SNR=21
BVAR ScP ScP 02 50 07.7 +3.5
comp=Z,1.0nm,0.7s,baz=197,slow=4.6,SNR=5.0
VOIR 28.23 316 ⇑P P 02 43 12.5 +1.6
VOIR 28.23 316 ⇑P P 02 43 12.5 +1.6
DOPR Dopca 28.28 317 ⇓P P 02 43 12.8 +1.5
ARU Arti 28.68 6 P P 02 43 15.8 +1.2
comp=Z,0.7nm,0.2s,baz=99,slow=19,SNR=1.4
ARU LR LR 02 56 15.0
comp=Z,115nm,18.5s,baz=178,slow=40
ARU Arti 28.68 6 *c i*P P 02 43 19.0 +4.4
ARU 02 44 12.2
ARU pmax pmax
comp=Z,7.0nm,1.4s
ARU MLR MLR
comp=Z,190nm,14.0s
ARU Arti 28.68 6 P P 02 43 11.8 -2.9
AKASG Malin Array Be 29.01 328 P P 02 43 17.2 -0.4
comp=Z,2.0nm,0.6s,baz=136,slow=8.5,SNR=14
AKBB Malin Array Si 29.01 328 *de*P P 02 43 17.6 0.0
BURAR Bucovina Array 29.23 320 ⇑P P 02 43 24.6 +4.8
BURAR Bucovina Array 29.23 320 ⇑P P 02 43 24.6 +4.8
MAKZ Makanchi 29.39 43 P P 02 43 18.4 -2.7
MAKZ pmax pmax
comp=Z,12nm,0.7s
MAKZ Makanchi 29.39 43 P P 02 43 18.4 -2.7
MK31 Makanchi Array 29.57 43 P P 02 43 21.6 -1.1
MK31 Makanchi Array 29.57 43 P P 02 43 21.6 -1.1
MKAR Makanchi Array 29.57 43 P P 02 43 22.8 +0.1
comp=Z,2.6nm,0.5s,baz=229,slow=8.4,SNR=18
MKAR PcP PcP 02 46 26.1 -1.4
comp=Z,0.5nm,0.6s,baz=237,slow=2.9,SNR=3.3
MKAR ScP ScP 02 50 12.0 +3.0
comp=Z,0.3nm,0.7s,baz=247,slow=3.0,SNR=2.5
MKAR LR LR 02 56 03.4
comp=Z,36nm,18.3s,baz=203,slow=38
MKAR Makanchi Array 29.57 43 P P 02 43 20.1 -2.7
MKAR PcP 02 46 25.7 -1.8
OBN Obninsk 29.63 341 P P 02 43 23.3 +0.3
comp=Z,3.4nm,0.3s,baz=288,slow=19,SNR=5.0
OBN Obninsk 29.63 341 *ce*P P 02 43 23.4 +0.3
OBN *e**PP pP 02 43 27.1 -0.5
OBN *i* *SP sP 02 43 28.5 -1.0
OBN S S 02 48 15.0 -2.9
OBN SSS SSS 02 49 58.0
OBN pmax pmax
comp=Z,33nm,1.7s
OBN MLR MLR
comp=Z,67nm,16.0s
OBN Obninsk 29.63 341 P P 02 43 19.7 -3.4
KURBB Kurchatov Arra 29.69 34 P P 02 43 24.0 +0.3
comp=Z,6.2nm,0.9s,baz=234,slow=8.9,SNR=24
KURBB ScP ScP 02 50 11.6 +2.4
comp=Z,1.3nm,0.9s,baz=223,slow=3.9,SNR=7.3

KURK Kurchatov 29.79 33 *ce*P P 02 43 25.1 +0.5
KURK pmax pmax
comp=Z,16nm,1.7s
KURK Kurchatov 29.79 33 ScP 02 50 11.6 +2.0
KURK Kurchatov 29.79 33 P P 02 43 22.5 -2.1
KURK IAmb IAmb 02 43 29.3
comp=Z,8.5nm,1.0s
MOS Moscow 29.88 342 *e*P P 02 43 22.5 -2.8
MOS *e* 02 44 40.3
MOS *e*S S 02 48 19.6 -2.2
MDVR Moldovita 30.08 312 ⇑P P 02 43 28.1 +0.8
DRGR 30.31 316 ⇑P P 02 43 31.4 +2.1
DRGR 30.31 316 ⇑P P 02 43 31.4 +2.1
BZS Buzias 30.48 314 ⇓P P 02 43 31.4 +0.7
BZS Buzias 30.48 314 ⇓P P 02 43 31.4 +0.7
KIRV Kirov 30.68 356 P P 02 43 33.0 +0.7
comp=Z,19nm,0.5s,baz=195,slow=2.7,SNR=12
SIRR Siria 30.72 315 ⇑P P 02 43 35.4 +2.5
LVV L'vov 31.09 322 *e*P P 02 43 25.6 -11
KOLS Kolonicke sedl 31.60 320 *e*P P 02 43 42.4 +1.8
KOLS pmax pmax
comp=Z,14nm,1.3s
KOLS Kolonicke sedl 31.60 320 *e*P P 02 43 42.3 +1.7
KMBO Kilima Mbogo 32.72 210 LR LR 02 58 10.6
comp=Z,108nm,20.8s,baz=5.0,slow=38
VYHS Vyhne 33.41 317 *e*P P 02 43 57.0 +0.5
VYHS Vyhne 33.41 317 *e*P P 02 43 57.0 +0.5
IIGN Ignalina 33.51 332 *e*P P 02 43 58.0 +0.8
OJC Ojcow 33.63 320 *e*P P 02 43 58.8 +0.4
ISAL Salakas 33.70 332 *e*P P 02 43 59.4 +0.4
IZAR Zarasai 33.78 333 *e*P P 02 44 00.0 +0.4
DGZ Jazzator, Alta 33.96 41 *ce*P P 02 44 02.0 +0.5
DGZ pmax pmax
comp=Z,7.0nm,0.8s
SUW Suwalki 33.98 328 P P 02 43 58.2 -3.1
SUW pmax pmax
comp=Z,28nm,1.1s
SUW Suwalki 33.98 328 P P 02 43 58.2 -3.1
KLMR Klimovskoe 34.11 348 *e*P P 02 44 00.7 -1.7
KLMR pmax pmax
comp=Z,19nm,1.0s
KLMR Klimovskoe 34.11 348 *e*P P 02 44 00.7 -1.7
KLMR AMP 02 44 06.3
comp=Z,19nm,1.0s
JAVC Velka Javorina 34.27 317 *e*P P 02 44 04.9 +0.9
OKC Ostrava-Krasne 34.40 319 *e*P P 02 44 08.1 +3.0
OKC Ostrava-Krasne 34.40 319 *e*P P 02 44 08.1 +3.0
PABE Paberze 34.57 331 *e*P P 02 44 06.4 0.0
CLTB Caltabellotta 34.66 296 IAmb IAmb 02 44 18.4
comp=Z,4.6nm,0.7s
MORC Moravsky Berou 34.73 319 *e*P P 02 44 07.8 -0.2
MORC Moravsky Berou 34.73 319 P P 02 44 09.1 +1.1
MORC Moravsky Berou 34.73 319 IAmb IAmb 02 44 14.4
comp=Z,3.6nm,0.8s
ZAA0 Zalesovo Array 34.78 33 P P 02 44 06.8 -1.5
ZALV Zalesovo Beam 34.78 33 P P 02 44 08.0 -0.3
comp=Z,9.9nm,0.5s,baz=240,slow=9.6,SNR=31
ZALV LR LR 03 01 40.8
comp=Z,57nm,20.4s,baz=230,slow=42
ZALV Zalesovo Beam 34.78 33 P P 02 44 06.0 -2.3
ZALV Zalesovo Beam 34.78 33 P P 02 44 06.0 -2.3
ARSA Arzberg 34.99 314 *i* pP P 02 44 11.1 +0.8
comp=Z,3.2nm,0.8s
CONA Conrad Observa 35.02 315 *i* pP P 02 44 11.3 +0.8
comp=Z,5.5nm,1.3s
VRAC Vranov 35.09 317 *e*P P 02 44 11.6 +0.5
KRUC Moravsky 35.12 317 *e*P P 02 44 11.8 +0.5
SOKA Soboth 35.12 312 *i* P P 02 44 10.4 -1.1
comp=Z,2.6nm,0.7s
OBKA Obir 35.39 312 *i* pP P 02 44 14.7 +0.9
comp=Z,1.9nm,0.6s
NRCA Norcia 35.45 305 IAmb IAmb 02 44 21.6
comp=Z,4.4nm,0.7s
VSU Vasula 35.54 336 *e*P P 02 44 14.6 -0.1
VSU Vasula 35.54 336 *de*P P 02 44 14.7 -0.1
VSU pmax pmax
comp=Z,21nm,0.8s
MBAR Mbarara 35.63 221 P P 02 44 15.6 -0.6
comp=Z,3.4nm,0.6s,baz=48,slow=7.9,SNR=7.2
MBAR Mbarara 35.63 221⇑ *e*P P 02 44 18.4 +2.2
MBAR pmax pmax
comp=Z,5.0nm,0.9s
MBAR Mbarara 35.63 221 P P 02 44 15.4 -0.8
MBAR IAmb IAmb 02 44 19.4
comp=Z,5.2nm,0.8s
DPC Dobruska-Polom 35.68 319 *e*P P 02 44 17.1 +0.9
DPC *ep*P pP 02 44 21.6 +0.9
DPC Dobruska-Polom 35.68 319 *e*P P 02 44 17.1 +0.9
DPC *e* 02 44 21.6
OSTC Ostas 35.83 319 *e*P P 02 44 17.3 -0.1
KSP Ksiaz 35.91 320 *e*P P 02 44 19.0 +0.9
KSP Ksiaz 35.91 320 P P 02 44 22.7 +4.6
CHVC Chvalec 35.94 319 *e*P P 02 44 19.0 +0.6
CHVC *ex* x 02 44 24.7
MURB Monte Urbino 35.96 306 IAmb IAmb 02 44 26.9
comp=Z,10nm,1.0s
MOA Molln 36.00 314 *i* pP P 02 44 19.8 +0.9
comp=Z,7.0nm,1.6s
MYKA Terra Mystica 36.02 312 *i* pP P 02 44 20.8 +1.6
comp=Z,2.2nm,0.5s
KBA Koelnbreinsper 36.35 312 *i* pP P 02 44 22.7 +0.6
comp=Z,5.1nm,0.9s
ZOU Zoufplan 36.44 312 IAmb IAmb 02 44 28.6
comp=Z,8.2nm,1.2s
STAL STALIGIAL 36.53 311 IAmb IAmb 02 44 28.1
comp=Z,7.8nm,1.2s
SLIT Slitere, Latvi 36.66 333 *e*P P 02 44 26.0 +1.7
GERES GERESS Array B 36.69 315 P P 02 44 24.4 -0.5
comp=Z,0.2nm,0.3s,baz=120,slow=7.9,SNR=3.7
GERES GERESS Array B 36.69 315 P P 02 44 23.4 -1.5
GERES pP 02 44 29.6 +0.2
CIMO Cimolais 36.73 311 IAmb IAmb 02 44 26.6
comp=Z,8.5nm,1.2s
ABTA Abfaltersbach 36.80 312 *i* pP P 02 44 26.7 +0.9
comp=Z,6.8nm,1.0s
KHC Kasperske Hory 36.86 316 *e*P P 02 44 26.6 +0.3
KHC *ep*P pP 02 44 29.7 -1.1
KHC Kasperske Hory 36.86 316 *ce*P P 02 44 25.9 -0.4
KHC pmax pmax
comp=Z,19nm,1.7s
CTI Castel Tesino 37.19 310 IAmb IAmb 02 44 35.7
comp=Z,5.6nm,0.7s
BRG Berggiesshubel 37.28 319 *e*P P 02 44 29.7 -0.1
comp=Z,5.4nm,1.3s
BRG Berggiesshubel 37.28 319 *e*P P 02 44 29.7 -0.1
BRG pmax pmax
comp=Z,5.0nm,1.3s
TMCR Tamitsa 37.45 349 *e*P P 02 44 30.0 -0.9
TMCR pmax pmax
comp=Z,14nm,0.5s
WTTA Wattenberg 37.52 312 *i* pP P 02 44 31.9 -0.1
comp=Z,4.7nm,0.6s
WATA Walderalm 37.58 312 *i* pP P 02 44 32.7 +0.2
comp=Z,15nm,1.3s
SQTA Sankt Quirin 37.79 312 *i* pP P 02 44 34.2 -0.1
comp=Z,5.2nm,0.7s
VSL Villasalto 37.80 299 IAmb IAmb 02 44 42.3
comp=Z,6.4nm,0.9s
MOTA Moosalm 37.89 312 *i* pP P 02 44 35.1 -0.1
comp=Z,9.6nm,1.1s
CLL Collm 38.00 319⇓ *i*P P 02 44 37.4 +1.6
comp=Z,5.0nm,1.0s
CLL *i* 02 44 40.7
comp=Z,7.0nm,1.1s
CLL *e*PPP PPP 02 46 19.0
CLL Collm 38.00 319⇓ *i*P P 02 44 37.4 +1.6
CLL *i* 02 44 40.7
CLL pmax pmax
comp=Z,5.0nm,1.0s
FIA1 FINESS Array S 38.00 339 P P 02 44 33.1 -2.6
FIA1 IAmb IAmb 02 44 40.0
comp=Z,11nm,0.9s
FINES FINESS Array B 38.00 339 P P 02 44 35.3 -0.4
comp=Z,3.6nm,0.4s,baz=144,slow=9.0,SNR=60
FINES LR LR 03 02 16.4
comp=Z,83nm,19.1s,baz=158,slow=39
FINES FINESS Array B 38.00 339 P P 02 44 33.9 -1.8
FINES FINESS Array B 38.00 339 P P 02 44 33.9 -1.8
FETA Feichten 38.05 312 *i* pP P 02 44 37.0 +0.5
comp=Z,7.6nm,1.0s
RETA Reutte 38.15 312 *i* pP P 02 44 37.2 -0.1
comp=Z,3.5nm,0.7s
DAVA Damuels 38.68 312 *i* pP P 02 44 41.8 0.0
comp=Z,12nm,0.8s
GTA Gaotai 40.08 61 *e*P P 02 44 54.5 +0.9

GTA pP pP 02 44 58.3 +0.1
GTA sP sP 02 45 02.2 +2.2
GTA pmax pmax
comp=Z,8.0nm,0.8s
GTA pmax pmax
comp=Z,81nm,6.2s
GTA LR LR
comp=Z,82nm,10.7s
GTA LR LR
comp=Z,170nm,10.3s
GTA LR LR
comp=Z,150nm,14.1s
BNI Bardonecchia 40.41 308 P **P** **02 44 54.0 -2.3**
BNI pmax pmax
comp=Z,4.0nm,0.9s
BNI Bardonecchia 40.41 308 P **P** **02 44 54.0 -2.3**
LPG La Plagne 40.43 308 *eP* **P** **02 44 58.6 +2.0**
LPG pmax pmax
comp=Z,5.0nm,0.9s
LPL La Plagne 40.45 308 *eP* **P** **02 44 58.0 +1.3**
LPL pmax pmax
comp=Z,10.0nm,1.1s
ECH Echery 40.68 312 P **P** **02 44 56.9 -1.4**
ECH pmax pmax
comp=Z,6.0nm,1.1s
ECH Echery 40.68 312 P **P** **02 44 56.9 -1.4**
HINF Hinteralfeld 40.80 312 *eP* **P** **02 44 58.3 -1.0**
HINF pmax pmax
comp=Z,21nm,1.7s
CABF La Chapelle 41.08 310 *eP* **P** **02 45 01.4 -0.3**
CABF pmax pmax
comp=Z,23nm,1.6s
HAU Haudompre 41.17 312 *eP* **P** **02 45 04.7 +2.4**
HAU pmax pmax
comp=Z,4.0nm,1.0s
LVZ Lovozero 41.44 350↑ *eP* **P** **02 45 06.6 +2.4**
LVZ pmax pmax
comp=Z,18nm,1.2s
LOR Lormes 42.69 310 *eP* **P** **02 45 13.8 -1.0**
LOR pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 42.96 93 P **P** **02 45 16.0 -1.3**
comp=Z,1.6nm,0.7s,baz=289,slow=8.3,SNR=2.2
CMAR PcP **PcP** **02 47 08.4 +0.6**
comp=Z,1.2nm,0.5s,baz=290,slow=2.7,SNR=1.3
CMAR LR LR 03 07 45.8
comp=Z,59nm,18.1s,baz=300,slow=43
CMAR Chiang Mai Arr 42.96 93 *ceP* **P** **02 45 21.3 +4.0**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
NC405 NORSAR Array S 43.08 332 P **P** **02 45 15.0 -2.8**
NB2 NORSAR Subarra 43.26 332 P **P** **02 45 18.4 -0.8**
comp=Z,8.2nm,1.0s,baz=119,slow=7.9
NOA NORSAR Array B 43.26 332 P **P** **02 45 18.3 -0.9**
comp=Z,2.9nm,0.8s,baz=120,slow=8.1,SNR=12
NOA LR LR 03 04 54.0
comp=Z,90nm,19.5s,baz=115,slow=38
ZAK Zakamensk 43.83 45 *eP* **P** **02 45 23.0 -1.0**
ZAK pmax pmax
comp=Z,3.0nm,1.5s
TLY Talaya 44.32 43↓↓ *eP* **P** **02 45 29.5 +1.6**
TLY pmax pmax
comp=Z,8.0nm,0.8s
ARCES ARCESS Array B 44.54 347 P **P** **02 45 28.8 -0.5**
comp=Z,3.4nm,0.8s,baz=149,slow=9.0,SNR=10
ARCES LR LR 03 05 33.0
comp=Z,86nm,18.2s,baz=118,slow=38
ARCES ARCESS Array B 44.54 347 P **P** **02 45 26.7 -2.6**
ARCES ARCESS Array B 44.54 347 P **P** **02 45 26.7 -2.6**
SONM Songino Array 45.47 49 P **P** **02 45 37.5 +0.4**
comp=Z,2.4nm,0.9s,baz=255,slow=8.6,SNR=4.9
SONM LR LR 03 07 35.5
comp=Z,115nm,18.7s,baz=56,slow=40
SONM Songino Array 45.47 49 P **P** **02 45 34.5 -2.7**
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 45.47 49 P **P** **02 45 34.5 -2.7**
FLN La Foliniere 45.78 312 *eP* **P** **02 45 38.6 -0.9**
FLN pmax pmax
comp=Z,6.0nm,0.8s
NRIK Noril'sk 45.94 16 P **P** **02 45 41.4 +1.0**
comp=Z,3.2nm,0.7s,baz=227,slow=6.0,SNR=7.2
NRIK LR LR 03 08 11.2
comp=Z,74nm,18.6s,baz=208,slow=40
GRR Gorron 45.99 311 *eP* **P** **02 45 40.5 -0.6**
GRR pmax pmax
comp=Z,36nm,1.8s
SGMF Saint Gilles 47.10 311 *eP* **P** **02 45 49.3 -0.6**
SGMF pmax pmax
comp=Z,13nm,1.1s
GYA Guiyang 47.32 79 *eP* P 02 45 58.0 +6.0
GYA pmax pmax
comp=Z,10.0nm,0.6s
QUIF Quistinic 47.49 311 *eP* **P** **02 45 52.4 -0.4**
QUIF pmax pmax
comp=Z,13nm,1.1s
XAN Xi'an 47.71 68 P **P** **02 45 57.4 +2.5**
XAN pP sP 02 46 02.4 +1.1
XAN pmax pmax
comp=Z,13nm,1.2s
XAN pmax pmax
comp=Z,150nm,3.9s
ESDC Sonseca Array 48.09 299 P **P** **02 45 57.9 +0.1**
comp=Z,0.4nm,0.4s,baz=80,slow=7.5,SNR=11
ESDC Sonseca Array 48.09 299 P **P** **02 45 55.5 -2.2**
LSZ Lusaka 49.34 212 P **P** **02 46 07.5 0.0**
LSZ pmax pmax
comp=Z,4.0nm,1.1s
LSZ Lusaka 49.34 212 P **P** **02 46 07.5 0.0**
LSZ IAmb IAmb 02 46 12.1
comp=Z,4.2nm,1.1s
TOA0 Torodi Ar. Sit 50.01 264 P **P** **02 46 14.2 +1.6**
SNR=6.8
TOA0 Torodi Ar. Sit 50.01 264 P **P** **02 46 11.9 -0.8**
TORD Torodi Ar. Bea 50.01 264 P **P** **02 46 12.8 +0.2**
comp=Z,9.4nm,0.8s,baz=56,slow=8.5,SNR=88
TORD Torodi Ar. Bea 50.01 264 P **P** **02 46 12.3 -0.4**
BOD Bodaibo 51.34 37 *eP* **P** **02 46 22.8 +0.7**
BOD pmax pmax
comp=Z,19nm,1.5s
WHN Wuhan 52.90 71 ↓↓P P 02 46 27.1 -7.0
NJ2 Nanjing 56.28 69 *eP* **P** **02 47 00.9 +2.2**
NJ2 pmax pmax
comp=Z,17nm,0.5s
DBIC Dimbokro 58.69 260 P **P** **02 47 16.1 +0.3**
comp=Z,5.5nm,0.5s,baz=43,slow=6.9,SNR=9.5
DBIC LR LR 03 13 56.0
comp=Z,60nm,21.6s,baz=38,slow=38
DBIC Dimbokro 58.69 260 P **P** **02 47 14.7 -1.2**
KIC Kosan Boka 58.73 260 *eP* **P** **02 47 16.8 +0.6**
comp=Z,25nm,1.0s
MDSI Maura Dua 58.82 115 P **P** **02 47 14.8 -1.9**
comp=Z,7.0nm,0.7s
TIC Toumodi 58.84 260 *eP* **P** **02 47 17.5 +0.5**
LBTB Lobatse 58.99 209 P **P** **02 47 18.3 +0.4**
LBTB pmax pmax
comp=Z,4.0nm,0.7s
LBTB Lobatse 58.99 209 P **P** **02 47 18.2 +0.4**
LIC Lamto 59.05 260 *eP* **P** **02 47 18.9 +0.5**
comp=Z,43nm,0.9s
TIXI Tiksi 59.21 21↑↑ *eP* **P** **02 47 19.2 +0.6**
TIXI pmax pmax
comp=Z,11nm,1.7s
TIXI Tiksi 59.21 21 P **P** **02 47 17.4 -1.2**
TIXI IAmb IAmb 02 47 21.9
comp=Z,2.6nm,0.7s
KSRS Korea Array 62.15 60 P **P** **02 47 38.2 -1.0**
comp=Z,1.7nm,0.6s,baz=285,slow=7.1,SNR=6.3
KSRS LR LR 03 18 27.0
comp=Z,90nm,18.4s,baz=280,slow=40
BOSA Boshof 62.30 208 P **P** **02 47 40.6 +0.3**
comp=Z,1.6nm,0.5s,baz=22,slow=6.5,SNR=8.9
BOSA LR LR 03 18 25.0
comp=Z,122nm,20.0s,baz=54,slow=40
BOSA Boshof 62.30 208 P **P** **02 47 40.3 -0.1**
MSHR Mys Shultsa 63.25 54↑↑ *eP* **P** **02 47 49.3 +2.8**
SUMG Summit 64.02 340 P **P** **02 47 50.1 -1.5**
SUMG pmax pmax
comp=Z,8.0nm,0.8s
SUMG Summit 64.02 340 P **P** **02 47 50.1 -1.5**
JNU Nakatsue 65.72 64 LR LR 03 22 34.5
comp=Z,42nm,18.1s,baz=341,slow=41
TULEG Thule 69.85 348 P **P** **02 48 27.6 -0.5**
MJAR Matsushiro Arr 70.26 58 LR LR 03 23 08.8
comp=Z,39nm,20.0s,baz=255,slow=39
BILL Bilibino 72.43 21↓↓ *eP* **P** **02 48 44.8 +0.9**

BILL *e*PP **pP** **02 48 48.3 -0.4**
BILL *e*SP **sP** **02 48 54.1 +3.6**
BILL 02 49 03.0
BILL SS SS 03 02 50.0 +5.5
BILL SSS SSS 03 06 01.0
BILL pmax pmax
comp=Z,10.0nm,1.0s
BILL MLR MLR
comp=Z,114nm,16.0s
PETK Petropavlovsk- 76.21 37 P **P** **02 49 04.8 -1.3**
comp=Z,2.0nm,0.9s,baz=286,slow=2.6,SNR=2.5
PETK LR LR 03 26 29.4
comp=Z,98nm,18.0s,baz=239,slow=39
PETK Petropavlovsk- 76.21 37 P **P** **02 49 04.5 -1.7**
PETK Petropavlovsk- 76.21 37 P **P** **02 49 04.5 -1.7**
TOLK Toolik Lake Re 82.20 8 IAmb IAmb 02 49 49.3
comp=Z,5.2nm,0.9s
SCHQ Schefferville 82.79 330 P **P** **02 49 42.0 +0.1**
comp=Z,4.3nm,1.0s,baz=42,slow=5.5,SNR=3.8
SCHQ Schefferville 82.79 330 IAmb IAmb 02 49 47.9
comp=Z,6.5nm,1.0s
BMAR Burnt Mountain 83.94 7 P **P** **02 49 46.8 -0.9**
IMAR Indian Mountai 84.07 11 P **P** **02 49 46.5 -1.9**
ILAR Eielson Array 86.22 8 P **P** **02 49 58.5 -0.7**
comp=Z,0.9nm,0.8s,baz=321,slow=3.9,SNR=8.2
ILAR LR LR 03 34 53.7
comp=Z,30nm,18.1s,baz=334,slow=40
ILAR Eielson Array 86.22 8 P **P** **02 49 57.7 -1.4**
ILAR Eielson Array 86.22 8 P **P** **02 49 57.7 -1.4**
BCAR Beaver Creek A 88.47 7 P **P** **02 50 08.1 -2.0**
YKA Yellowknife Ar 89.28 354 P **P** **02 50 13.8 0.0**
comp=Z,1.6nm,0.8s,baz=7.3,slow=4.1,SNR=7.6
WRA Warramunga Arr 91.80 112 P **P** **02 50 25.4 -0.9**
comp=Z,0.9nm,0.8s,baz=316,slow=4.0,SNR=6.2
WRA Warramunga Arr 91.80 112 *i* P **P** **02 50 25.3 -1.0**
WRA pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 93.25 115 P **P** **02 50 32.4 -0.6**
comp=Z,0.6nm,0.7s,baz=300,slow=4.4,SNR=6.7
ASAR Alice Springs 93.25 115 P **P** **02 50 31.8 -1.1**
ULM Lac du Bonnet 97.38 341 LR LR 03 37 51.4
comp=Z,28nm,18.1s,baz=16,slow=37

ROM 12 02:41:14.4±0.0, 43°.313N±0°.002×12°.540E±0°.003, h8km, ML1.5/15, Error ellipse: s-maj=0.3km s-min=0.1km az=40.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MURB	**Monte Urbino**	**0.05**	**192**	P	Pg	02 41 16.4	+0.2
MURB				S	Sg	02 41 17.7	+0.2
MURB				AML	AML		
	comp=N,2240μm,0.3s						
MURB				AML	AML		
	comp=N,1965μm,0.3s						
MURB				AML	AML		
	comp=E,1975μm,1.4s						
MURB				AML	AML		
	comp=E,2210μm,1.3s						
ATFO	**Monte Foce - G**	**0.06**	**23**	P	Pg	02 41 16.5	+0.2
ATFO				S	Sg	02 41 17.9	+0.2
ATFO				AML	AML		
	comp=E,1665μm,0.5s						
ATFO				AML	AML		
	comp=N,1280μm,0.2s						
ATVO	**AVT- Monte Val**	**0.12**	**306**	P	Pg	02 41 17.5	+0.4
ATVO				S	Sg	02 41 19.9	+0.9
ATVO				AML	AML		
	comp=E,956μm,0.2s						
ATVO				AML	AML		
	comp=E,956μm,0.2s						
ATVO				AML	AML		
	comp=N,1180μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.15**	**150**	P	Pg	02 41 18.3	+0.8
ATCC				S	Sg	02 41 21.3	+1.6
ATCC				AML	AML		
	comp=N,651μm,0.3s						
ATCC				AML	AML		
	comp=E,326μm,0.5s						
FOSV	**Fossato di Vic**	**0.16**	**96**	P	Pg	02 41 18.4	+0.5
FOSV				S	Sg	02 41 21.4	+1.2
FOSV				AML	AML		
	comp=E,159μm,0.3s						
FOSV				AML	AML		
	comp=N,134μm,0.5s						
FOSV				AML	AML		
	comp=N,135μm,0.5s						
FOSV				AML	AML		
	comp=E,158μm,0.3s						
ATPI	**Pietralunga -**	**0.17**	**324**	P	Pg	02 41 18.5	+0.5
ATPI				S	Sg	02 41 21.7	+1.3
ATPI				AML	AML		
	comp=E,238μm,0.2s						
ATPI				AML	AML		
	comp=E,237μm,0.2s						
ATPI				AML	AML		
	comp=N,258μm,0.8s						
ATTE	**AVT- Monte Tez**	**0.18**	**230**	P	Pg	02 41 18.6	+0.5
ATTE				S	Sg	02 41 21.8	+1.1
ATTE				AML	AML		
	comp=E,168μm,0.5s						
ATTE				AML	AML		
	comp=N,122μm,0.2s						
ATTE				AML	AML		
	comp=E,168μm,0.5s						
ATTE				AML	AML		
	comp=N,122μm,0.2s						
ATMI	**Monte Miggiano**	**0.20**	**276**	P	Pg	02 41 19.1	+0.6
SSFR	**Montelago di S**	**0.22**	**55**	P	Pg	02 41 19.3	+0.5
SSFR				S	Sg	02 41 23.2	+1.4
SSFR				AML	AML		
	comp=E,574μm,0.9s						
SSFR				AML	AML		
	comp=N,382μm,0.2s						
SSFR				AML	AML		
	comp=E,574μm,0.9s						
SSFR				AML	AML		
	comp=N,355μm,0.2s						
PIEI	**Pieia**	**0.22**	**359**	P	Pg	02 41 19.8	+0.9
PIEI				S	Sg	02 41 23.9	+1.9
PIEI				AML	AML		
	comp=N,146μm,0.3s						
PIEI				AML	AML		
	comp=E,134μm,0.7s						
FRON	**Frontone**	**0.25**	**33**	P	Pg	02 41 19.9	+0.5
FRON				S	Sg	02 41 24.1	+1.4
CDCA	**Citt' di Caste**	**0.27**	**303**	P	Pg	02 41 20.5	+0.8
ASSB	**Assisi San Ben**	**0.28**	**162**	P	Pg	02 41 20.6	+0.5
ASSB				S	Sb	02 41 25.4	-1.4
BADI	**Badiali**	**0.29**	**313**	P	Pg	02 41 20.8	+0.6
BADI				S	Sb	02 41 25.9	-1.0
BADI				AML	AML		
	comp=E,199μm,0.9s						
BADI				AML	AML		
	comp=N,259μm,0.4s						
SNTG	**Esanatoglia**	**0.30**	**101**	P	Pg	02 41 21.1	+0.8
SNTG				S	Sb	02 41 25.9	-1.2
NARO	**Abbazia di Nar**	**0.30**	**6**	P	Pg	02 41 20.9	+0.5
NARO				S	Sb	02 41 26.1	-1.1
NARO				AML	AML		
	comp=N,42μm,0.5s						
NARO				AML	AML		
	comp=E,44μm,0.3s						
ARVD	**Arcevia**	**0.35**	**58**	P	Pg	02 41 21.8	+0.6
ARVD				S	Sb	02 41 27.6	-0.9
ARVD				AML	AML		
	comp=E,57μm,1.1s						
ARVD				AML	AML		
	comp=N,34μm,0.2s						
MPAG	**Monte Paganucc**	**0.35**	**27**	P	Pg	02 41 21.6	+0.2
MPAG				S	Sb	02 41 27.9	-0.9
PARC	**Parchiule**	**0.40**	**327**	P	Pb	02 41 23.1	-0.7
PARC				S	Sb	02 41 29.5	-0.6
PARC				AML	AML		
	comp=E,49μm,1.2s						
PARC				AML	AML		
	comp=N,108μm,0.2s						
CESI	**CESI - Serrava**	**0.41**	**139**	P	Pg	02 41 22.9	+0.5
CESI				S	Sb	02 41 29.5	-0.8
EL6		**0.41**	**88**	P	Pg	02 41 23.1	+0.6
EL6	**Elcito**			S	Sb	02 41 29.8	-0.6
CAFI	**Castiglion Fio**	**0.42**	**272**	P	Pg	02 41 23.2	+0.6
CAFI				S	Sb	02 41 29.8	-0.8
CAFI				AML	AML		
	comp=N,22μm,0.7s						
CAFI				AML	AML		
	comp=E,23μm,0.6s						
COR1	**Corinaldo**	**0.46**	**46**	P	Pb	02 41 24.9	+0.1
COR1				S	Sb	02 41 32.9	+1.0
CING	**Cingoli**	**0.48**	**82**	P	Pg	02 41 24.4	+0.7
CING				S	Sb	02 41 32.2	-0.3
CING				AML	AML		
	comp=E,21μm,0.4s						
CING				AML	AML		
	comp=N,33μm,0.3s						
FDMO	**Fiordimonte**	**0.49**	**124**	P	Pg	02 41 24.2	+0.3
FDMO				S	Sb	02 41 32.0	-0.5
MGAB	**Montegabbione**	**0.51**	**218**	P	Pg	02 41 24.8	+0.6
MGAB				S	Sb	02 41 33.1	-0.1
MGAB				AML	AML		
	comp=N,122μm,0.4s						
MGAB				AML	AML		
	comp=E,88μm,0.4s						
CSP1	**Cessapalombo**	**0.53**	**114**	P	Pg	02 41 25.2	+0.5
CSP1				S	Sb	02 41 33.8	-0.2
NRCA	**Norcia**	**0.64**	**138**	P	Pg	02 41 26.8	+0.1
NRCA				S	Sb	02 41 37.0	0.0
SACS	**San Casciano d**	**0.65**	**225**	P	Pb	02 41 27.7	-0.5

IDC 12 02:59:22.7±2.3, 0°.96N×127°.60E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/26, mbtmp3.6/3, Error ellipse: s-maj=176.5km s-min=27.1km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.80**	**163**	P	P	03 04 18.3	+1.8
	2.1nm,0.7s,baz=342,slow=10,SNR=11						
ASAR	**Alice Springs**	**25.23**	**166**	P	P	03 04 49.4	-1.2
	0.6nm,0.6s,baz=346,slow=7.0,SNR=12						
MKAR	**Makanchi Array**	**60.31**	**326**	P	P	03 09 33.4	0.0
	0.3nm,0.6s,baz=111,slow=6.6,SNR=3.9						

*AEIC **12** 03:00:19±1.0, 63°.66N±0°.04×149°.84W±0°.07, h137km±3km, ML3.6/98, mb4.2/18(NEIC), Error ellipse: s-maj=5.7km s-min=4.0km az=152.0*
*IDC **12** 03:00:20.6±1.8, 63°.90N×149°.88W, h139km±12km, mb3.6/14, mb1 3.8/15, mb1mx3.5/44, mbtmp4.0/15, Error ellipse: s-maj=22.5km s-min=12.7km az=46.0*
ISC 12 03:00:19.2±0.6, 63°.66N±0°.03×149°.88W±0°.04, h140km±5km, n141, c0s84/154, mb4.0/21, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRF	**Thorofare Moun**	**0.28**	**221**		**Pn**	**03 00 38.9**	**+0.2**
TRF					**Sn**	**03 00 53.3**	**-0.1**
MCK	**McKinley**	**0.43**	**80**		**Pn**	**03 00 39.3**	**+0.3**
MCK					**Sn**	**03 00 53.8**	**-0.4**
KTH	**Kantishna Hill**	**0.48**	**258**		**Pn**	**03 00 39.5**	**+0.2**
KTH					**Sn**	**03 00 54.4**	**-0.3**
RND	**Reindeer**	**0.53**	**119**		**Pn**	**03 00 39.6**	**-0.1**
RND					**Sn**	**03 00 54.5**	**-0.6**
BPAW	**Bear Paw Mtn.**	**0.66**	**312**		**Pn**	**03 00 40.1**	**-0.3**
WAT2	**Susitna Watana**	**0.91**	**140**		**Pn**	**03 00 42.3**	**-0.1**
CAST	**Castle Rocks**	**1.02**	**257**		**Pn**	**03 00 43.3**	**+0.1**
CHUM	**Lake Minchumin**	**1.11**	**283**		**Pn**	**03 00 44.1**	**+0.2**
CHUM					**Sn**	**03 01 02.4**	**-0.3**
WRH	**Wood River Hil**	**1.13**	**43**		**Pn**	**03 00 44.1**	**-0.1**
WRH					**Sn**	**03 01 02.1**	**-1.1**
DHY	**Denali Highway**	**1.27**	**116**		**Pn**	**03 00 46.0**	**+0.2**
PPLA	**Purkeypile**	**1.30**	**235**		**Pn**	**03 00 46.4**	**+0.4**
CCB	**Clear Creek Bu**	**1.34**	**42**		**Pn**	**03 00 46.2**	**0.0**
CCB					**Sn**	**03 01 05.9**	**-1.1**
MLY	**Manley**	**1.43**	**345**		**Pn**	**03 00 46.5**	**-0.7**
MDM	**Murphy Dome**	**1.49**	**28**		**Pn**	**03 00 48.0**	**+0.1**
HDA	**Harding Lake**	**1.49**	**58**		**Pn**	**03 00 47.7**	**-0.2**
HDA					**Sn**	**03 01 08.6**	**-1.2**
TCOL	**CIGO, UAF Yank**	**1.50**	**35**		**Pn**	**03 00 48.0**	**+0.1**
COLA	**College**	**1.51**	**35**		**Pn**	**03 00 48.0**	**0.0**
COLA					**Sn**	**03 01 08.9**	**-1.1**
PS08	**TAPS Pump Stn8**	**1.61**	**55**		**Pn**	**03 00 48.8**	**-0.3**
IL31		**1.72**	**48**		**Pn**	**03 00 50.0**	**-0.3**
ILAR	**Eielson Array**	**1.72**	**48**	P	**Pn**	**03 00 50.0**	**-0.4**
	22nm,0.3s,baz=229,slow=11,SNR=2081						
ILAR				S	**Sn**	**03 01 12.6**	**-1.7**
	19nm,0.3s,baz=236,slow=19,SNR=20						
ILAR	**Eielson Array**	**1.72**	**48**		**Pn**	**03 00 49.6**	**-0.8**
PS07	**TAPS Pump Stn7**	**1.80**	**22**		**Pn**	**03 00 51.2**	**0.0**
POKR	**Poker Plat Res**	**1.81**	**35**		**Pn**	**03 00 51.4**	**0.0**
PS10	**TAPS Pump St10**	**1.86**	**96**		**Pn**	**03 00 52.9**	**+0.9**
GHO	**Glory Hole Cre**	**1.94**	**167**		**Pn**	**03 00 53.4**	**+0.2**
GHO					**Sn**	**03 01 19.2**	**+0.1**
SML	**Sawmill**	**1.99**	**158**		**Pn**	**03 00 53.4**	**-0.3**
SML					**Sn**	**03 01 19.9**	**-0.2**
PMR	**Palmer**	**2.10**	**170**		**Pn**	**03 00 54.7**	**-0.2**
PAX	**Paxson**	**2.11**	**107**		**Pn**	**03 00 55.0**	**-0.1**
SCM	**Sheep Creek Mo**	**2.18**	**146**		**Pn**	**03 00 55.6**	**-0.3**
RDG	**Independent Ri**	**2.24**	**86**		**Pn**	**03 00 56.7**	**0.0**
KNK	**Knik Glacier**	**2.35**	**163**		**Pn**	**03 00 57.8**	**-0.1**
STLK	**Strandline Lak**	**2.35**	**204**		**Pn**	**03 00 57.9**	**-0.1**
HARP	**HAARP**	**2.50**	**118**		**Pn**	**03 00 59.4**	**-0.4**
PS11	**TAPS Pump St11**	**2.57**	**126**		**Pn**	**03 01 00.9**	**+0.3**
SPCG	**Spurr Capps Gl**	**2.58**	**204**		**Pn**	**03 01 00.6**	**-0.3**
RC01	**Rabbit Creek A**	**2.58**	**178**		**Pn**	**03 01 00.8**	**-0.1**
DOT	**Dot Lake**	**2.59**	**88**		**Pn**	**03 01 00.6**	**-0.4**
SCRK	**Sand Creek**	**2.63**	**80**		**Pn**	**03 01 01.3**	**-0.3**
PRP	**Porcupine Dome**	**2.65**	**43**		**Pn**	**03 01 01.3**	**-0.4**
SPNN	**North Nagishla**	**2.65**	**211**		**Pn**	**03 01 01.9**	**+0.1**
SPBG	**Spurr Blockage**	**2.67**	**207**		**Pn**	**03 01 03.1**	**+1.0**
SPCR	**Spurr Chakacha**	**2.70**	**205**		**Pn**	**03 01 02.9**	**+0.5**
IMAR	**Indian Mountai**	**2.86**	**326**		**Pn**	**03 01 04.0**	**-0.3**
TTA	**Tatalina**	**2.87**	**258**	Pn	**Pn**	**03 01 04.2**	**-0.3**
MENT	**Mentasta**	**2.87**	**102**		**Pn**	**03 01 03.7**	**-0.8**
PWL	**Port Wells**	**2.90**	**165**		**Pn**	**03 01 04.7**	**-0.2**
GLI	**Glacier Island**	**3.08**	**154**		**Pn**	**03 01 06.2**	**-1.0**
SLKM	**Skilak Lake**	**3.17**	**183**		**Pn**	**03 01 08.2**	**-0.1**
FID	**Port Fidalgo**	**3.33**	**150**		**Pn**	**03 01 09.8**	**-0.6**
RDJH	**Redoubt Jeurge**	**3.37**	**205**		**Pn**	**03 01 11.4**	**+0.3**
RSO	**Redoubt South**	**3.48**	**204**		**Pn**	**03 01 11.6**	**-1.0**
FYU	**Fort Yukon**	**3.52**	**32**	Pn	**Pn**	**03 01 12.1**	**-0.6**
SEW	**Seward**	**3.58**	**177**		**Pn**	**03 01 12.4**	**-1.1**
GLB	**Gilahina Butte**	**3.58**	**126**		**Pn**	**03 01 13.7**	**-0.1**
COLD	**Coldfoot**	**3.59**	**358**	Pn	**Pn**	**03 01 13.3**	**-0.4**
HIN	**Hinchinbrook I**	**3.64**	**153**		**Pn**	**03 01 13.9**	**-0.5**
EYAK	**Cordova Ski Ar**	**3.68**	**146**		**Pn**	**03 01 14.6**	**-0.3**
BC03		**3.69**	**96**		**Pn**	**03 01 14.7**	**-0.3**
BCAR	**Beaver Creek A**	**3.69**	**96**		**Pn**	**03 01 14.6**	**-0.6**
SVW2	**Sparrevohn**	**3.70**	**228**		**Pn**	**03 01 15.1**	**0.0**
VRDI	**Verde Repeater**	**3.86**	**126**		**Pn**	**03 01 17.1**	**-0.3**
MCARA	**McCarthy VSAT**	**3.91**	**123**		**Pn**	**03 01 18.7**	**+0.7**
ILW	**Iliamna West**	**3.93**	**205**		**Pn**	**03 01 18.7**	**+0.3**
BRLK	**Bradley Lake**	**3.94**	**187**	Pn	**Pn**	**03 01 18.6**	**+0.2**
IVE	**Iliamna Volcan**	**3.95**	**204**		**Pn**	**03 01 18.5**	**0.0**
BRSE	**Bradley Lake S**	**3.95**	**186**		**Pn**	**03 01 18.2**	**-0.4**
EGAK	**Eagle**	**3.97**	**70**		**Pn**	**03 01 18.5**	**-0.2**
RAGM	**Ragged Mountai**	**4.10**	**141**		**Pn**	**03 01 20.2**	**-0.3**
CNPM	**China Poot**	**4.20**	**189**		**Pn**	**03 01 21.6**	**-0.2**
PTPK	**Patty Peak**	**4.25**	**122**		**Pn**	**03 01 22.7**	**+0.1**
BVCY	**Beaver Creek**	**4.29**	**103**		**Pn**	**03 01 22.8**	**-0.3**
BMAR	**Burnt Mountain**	**4.38**	**28**	Pn	**Pn**	**03 01 23.7**	**-0.4**
BALM	**Baldy**	**4.39**	**123**		**Pn**	**03 01 24.0**	**-0.4**
KIAG	**Kiagna River**	**4.46**	**125**		**Pn**	**03 01 24.5**	**-0.8**
KHIT	**Khitrov Hills**	**4.49**	**133**		**Pn**	**03 01 25.5**	**-0.2**
YUK2	**White River**	**4.56**	**110**		**Pn**	**03 01 27.2**	**+0.5**
GRIN	**Grindle Hills**	**4.59**	**135**		**Pn**	**03 01 27.2**	**+0.3**
WAX	**Waxell Ridge**	**4.61**	**131**		**Pn**	**03 01 27.4**	**0.0**
BARN	**Barnard Glacie**	**4.63**	**121**		**Pn**	**03 01 28.5**	**+0.8**
DAWY	**Dawson**	**4.66**	**80**		**Pn**	**03 01 27.4**	**-0.4**
YUK3	**Moose Creek**	**4.73**	**109**		**Pn**	**03 01 29.1**	**+0.2**
CTGM	**Chitina Glacie**	**4.82**	**120**		**Pn**	**03 01 30.5**	**+0.4**
TOLK	**Toolik Lake Re**	**5.00**	**1**	Pn	**Pn**	**03 01 33.1**	**+0.7**
YAH	**Yahtse**	**5.06**	**127**		**Pn**	**03 01 32.8**	**-0.6**
MESA	**MESA**	**5.12**	**129**		**Pn**	**03 01 33.8**	**-0.4**
RKAV	**Rock Avalanche**	**5.25**	**126**		**Pn**	**03 01 35.6**	**-0.2**
CHX	**Chaix Hills**	**5.50**	**127**		**Pn**	**03 01 39.5**	**+0.4**
KAHC	**Katmai Hardscr**	**5.61**	**209**		**Pn**	**03 01 40.2**	**-0.4**
YUK4	**Talbot Arm**	**5.70**	**109**		**Pn**	**03 01 41.9**	**+0.1**
PCA	**Pinnacle**	**5.78**	**124**		**Pn**	**03 01 43.3**	**+0.4**
KABU	**Katmai Buttres**	**6.01**	**208**		**Pn**	**03 01 46.0**	**0.0**
YUK6	**Outpost Mounta**	**6.02**	**112**		**Pn**	**03 01 46.6**	**+0.4**
KDAK	**Kodiak Island**	**6.04**	**194**	P	**Pn**	**03 01 43.4**	**-2.9**
	1.1nm,0.3s,baz=37,slow=7.1,SNR=60						
KDAK				S	**Sn**	**03 02 49.2**	**-5.1**
	2.4nm,0.3s,baz=330,slow=18,SNR=4.3						

YUK7	**Dusty Glacier**	**6.34**	**114**			**Pn**	**03 01 51.2**	**+0.8**
PNL	**Peninsula**	**6.39**	**124**			**Pn**	**03 01 51.0**	**0.0**
HYT	**Haines Junctio**	**6.44**	**111**		Pn	**Pn**	**03 01 51.6**	**-0.1**
OHAK	**Old Harbor**	**6.67**	**196**			**Pn**	**03 01 53.5**	**-1.2**
RDOG	**Red Dog Mine**	**6.92**	**315**		Pn	**Pn**	**03 01 57.4**	**-0.6**
PLBC	**Pleasant Camp**	**7.70**	**117**			**Pn**	**03 02 08.3**	**-0.1**
BESE	**Bessie Mountai**	**8.86**	**118**			**Pn**	**03 02 22.9**	**-1.2**
SIT	**Sitka**	**9.77**	**126**			**Pn**	**03 02 35.3**	**-0.8**
YKA	**Yellowknife Ar**	**15.89**	**78**	P		**Pn**	**03 03 54.6**	**-0.2**
	0.6nm,0.3s,baz=282,slow=10,SNR=23							
RES	**Resolute Bay**	**21.43**	**37**	P		**P**	**03 04 55.5**	**-0.1**
	1.5nm,0.6s,baz=264,slow=10,SNR=6.9							
B08A	**Colville Reser**	**22.62**	**118**	P		**P**	**03 05 08.0**	**0.0**
WALA	**Waterton Lakes**	**24.27**	**110**	P		**P**	**03 05 23.8**	**+0.6**
JTMT	**Jette**	**25.14**	**112**	P		**P**	**03 05 31.1**	**-0.1**
JTMT				IAmb		IAmb	03 05 36.5	
	comp=Z,4.5nm,0.9s							
IMW	**Indian Meadow**	**29.63**	**113**	P		**P**	**03 06 13.8**	**+2.4**
IMW				IAmb		IAmb	03 06 15.5	
	comp=Z,4.3nm,0.9s							
PD31	**Pinedale Array**	**31.13**	**113**	P		**P**	**03 06 25.9**	**+1.3**
PD31				IAmb		IAmb	03 06 27.9	
	comp=Z,4.3nm,1.0s							
PDAR	**Pinedale Array**	**31.13**	**113**	P		**P**	**03 06 27.0**	**+2.4**
	comp=Z,2.6nm,0.7s,baz=330,slow=5.6,SNR=19							
PDAR	**Pinedale Array**	**31.13**	**113**	P		**P**	**03 06 24.9**	**+0.3**
ULM	**Lac du Bonnet**	**31.29**	**90**	P		**P**	**03 06 27.5**	**+1.9**
	comp=Z,3.4nm,0.6s,baz=301,slow=5.9,SNR=3.2							
ULM	**Lac du Bonnet**	**31.29**	**90**	P		**P**	**03 06 25.0**	**-0.6**
ULM				IAmb		IAmb	03 06 27.8	
	comp=Z,3.6nm,0.8s							
NVAR	**Mina Array Bea**	**31.52**	**128**	P		**P**	**03 06 30.5**	**+2.6**
	comp=Z,1.7nm,0.6s,baz=322,slow=7.8,SNR=20							
NVAR	**Mina Array Bea**	**31.52**	**128**	P		**P**	**03 06 27.5**	**-0.5**
SRU	**San Rafael Swe**	**33.83**	**118**	P		**P**	**03 06 46.7**	**-1.3**
LCMT	**Little Creek M**	**34.61**	**123**	P		**P**	**03 06 54.6**	**-0.2**
EYMN	**Ely**	**34.94**	**89**	P		**P**	**03 06 56.9**	**-0.4**
PV13	**Radium Mtn., P**	**35.33**	**116**	P		**P**	**03 07 00.2**	**-0.8**
PV13				IAmb		IAmb	03 07 03.4	
	comp=Z,2.2nm,0.6s							
Y14A	**Wickenburg**	**37.44**	**125**	P		**P**	**03 07 20.5**	**+1.8**
Y14A				IAmb		IAmb	03 07 21.7	
	comp=Z,2.7nm,0.6s							
TX31	**Lajitas Ar. Si**	**45.11**	**117**	P		**P**	**03 08 20.8**	**-0.5**
TX32	**Lajitas Array**	**45.11**	**117**	P		**P**	**03 08 20.6**	**-0.7**
TX32				IAmb		IAmb	03 08 24.5	
	comp=Z,4.9nm,1.1s							
TXAR	**Lajitas Array**	**45.11**	**117**	P		**P**	**03 08 23.6**	**+2.3**
	comp=Z,2.5nm,0.7s,baz=328,slow=6.2,SNR=29							
TXAR	**Lajitas Array**	**45.11**	**117**	P		**P**	**03 08 20.6**	**-0.7**
JCT	**Junction City**	**45.66**	**112**	P		**P**	**03 08 25.1**	**-0.5**
JCT				IAmb		IAmb	03 08 28.0	
	comp=Z,5.7nm,0.9s							
CLTN	**Cedars of Leba**	**46.70**	**95**	P		**P**	**03 08 33.2**	**-0.4**
CLTN				IAmb		IAmb	03 08 36.4	
	comp=Z,6.3nm,1.1s							
ARCES	**ARCESS Array B**	**47.05**	**2**	P		**P**	**03 08 36.3**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=3.7,slow=7.2,SNR=10							
ARCES	**ARCESS Array B**	**47.05**	**2**	P		**P**	**03 08 36.1**	**+0.2**
FPAL	**Fort Paine**	**48.32**	**95**	P		**P**	**03 08 46.4**	**+0.3**
KSRS	**Korea Array**	**53.83**	**282**	P		**P**	**03 09 28.5**	**+1.3**
	comp=Z,1.7nm,0.6s,baz=27,slow=7.0,SNR=5.5							
SONM	**Songino Array**	**53.84**	**306**	P		**P**	**03 09 27.9**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=19,slow=6.3,SNR=5.2							
NB2	**NORSAR Subarra**	**54.80**	**11**	P		**P**	**03 09 33.3**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=350,slow=7.4							
NOA	**NORSAR Array B**	**54.80**	**11**	P		**P**	**03 09 33.6**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=349,slow=7.3,SNR=4.5							
FINES	**FINESS Array B**	**55.17**	**2**	P		**P**	**03 09 36.1**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=355,slow=9.6,SNR=6.7							
FINES	**FINESS Array B**	**55.17**	**2**	P		**P**	**03 09 36.3**	**-0.2**
ZALV	**Zalesovo Beam**	**55.28**	**324**	P		**P**	**03 09 36.9**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=30,slow=9.2,SNR=4.0							
ZALV	**Zalesovo Beam**	**55.28**	**324**	P		**P**	**03 09 36.7**	**-0.8**
AKASG	**Malin Array Be**	**65.98**	**1**	P		**P**	**03 10 49.4**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=0.4,slow=6.2,SNR=4.0							
GERES	**GERESS Array B**	**67.09**	**12**	P		**P**	**03 10 57.0**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=354,slow=4.0,SNR=3.8							
GERES	**GERESS Array B**	**67.09**	**12**	P		**P**	**03 10 57.2**	**+0.1**
ESDC	**Sonseca Array**	**73.50**	**27**	P		**P**	**03 11 36.2**	**0.0**
	comp=Z,0.9nm,0.7s,baz=341,slow=5.9,SNR=8.7							
ESDC	**Sonseca Array**	**73.50**	**27**	P		**P**	**03 11 36.2**	**0.0**

*ISU **12** 03:07:59.8,41.31N×72.77E,h5km*
*KRNET **12** 03:07:59.8±0.1,41.24N×72.73E,h16km,mb3.5*
*SOME **12** 03:07:59.1,41.27N×72.73E,h5km*
*KNET **12** 03:08:01.3±0.5,41.29N×72.86E,h0km,ml3.0,Error ellipse: s-maj=4.5km s-min=2.8km az=156.0*
*NNC **12** 03:08:06.1±2.4,41.62N×72.76E,h0km,mb4.1,mpv3.7, Error ellipse: s-maj=24.1km s-min=8.1km az=179.0*

ISC 12 03:08:00.4±0.9,41.30N±0.03×72.76E±0.02,h11km±7km, n67,σ1°63/110,32C-21D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**0.17**	**80**	⇑*e*P		**Pg**	**03 08 03.9**	**-0.4**
ARSB	baz=66			⇑*i*S		**Sg**	**03 08 07.1**	**0.0**
	baz=66							
ARSB	**Arslanbob**	**0.17**	**80**	*e*P		**Pg**	**03 08 03.8**	**-0.5**
ARSB				*e*S		**Sg**	**03 08 06.8**	**-0.3**
ARK	**Arkit**	**0.78**	**310**	⇓*i*P		**Pg**	**03 08 14.9**	**-0.6**
ARK	baz=14			⇓*i*S		**Sg**	**03 08 25.7**	**0.0**
	baz=14							
AML	**Almayashu**	**1.09**	**40**	⇓*i*P		**Pb**	**03 08 21.5**	**-0.1**
AML	baz=39			⇓*i*S		**Sn**	**03 08 36.9**	**-0.4**
	baz=39							
AML	**Almayashu**	**1.09**	**40**	⇓P		**Pb**	**03 08 21.4**	**-0.1**
	38nm,0.2s,SNR=65							
AML				⇑S		**Sn**	**03 08 37.4**	**+0.2**
	159nm,0.3s							
ARLS	**Aral**	**1.30**	**64**	⇑*i*P		**Pn**	**03 08 24.7**	**0.0**
ARLS	baz=62			⇑*i*S		**Sg**	**03 08 43.3**	**+0.9**
	baz=62							
MRKS	**Merke**	**1.49**	**13**	⇓*i*P		**Pb**	**03 08 28.4**	**+0.3**
MRKS	23nm,0.4s			⇓*i*S		**Sg**	**03 08 49.5**	**+1.1**
	84nm,0.2s							
EKS2	**Erkin-Say**	**1.56**	**29**	⇑*i*P		**Pb**	**03 08 29.5**	**+0.1**
EKS2	baz=28			⇑*i*S		**Sg**	**03 08 51.4**	**+0.7**
	baz=28							
EKS2	**Erkin-Say**	**1.56**	**29**	⇑P		**Pg**	**03 08 30.1**	**-0.4**
	9.4nm,0.2s,SNR=18							
UCH	**Uchtor**	**1.61**	**54**	⇑*i*P		**Pb**	**03 08 30.6**	**+0.2**
UCH	baz=53			⇑*i*S		**Sg**	**03 08 52.9**	**+0.6**
	baz=53							
UCH	**Uchtor**	**1.61**	**54**	⇑P		**Pb**	**03 08 30.7**	**+0.3**
	65nm,0.2s,SNR=133							
AAK	**Ala-Archa**	**1.86**	**43**	⇓*i*P		**Pb**	**03 08 35.1**	**+0.5**
AAK	baz=43			⇓*i*S		**Sg**	**03 09 00.3**	**-0.1**
	baz=43							
AAK	**Ala-Archa**	**1.86**	**43**	⇓P		**Pg**	**03 08 36.0**	**-0.2**
	53nm,0.2s,SNR=50							
AAK				⇑S		**Sg**	**03 09 01.9**	**+1.6**
	151nm,0.5s							
AAK	**Ala-Archa**	**1.86**	**43**	⇑Pn		**Pg**	**03 08 36.0**	**-0.2**
	20nm,0.3s							
AAK					Sn	**Sg**	**03 09 01.4**	**+1.0**
	122nm,0.6s							
BTK	**Batken**	**1.92**	**231**	⇓*i*P		**Pn**	**03 08 34.2**	**+1.1**
BTK	baz=32			⇓*i*S		**Sb**	**03 08 59.0**	**-0.6**
	baz=32							
BTK	**Batken**	**1.92**	**231**	*e*P		**Pb**	**03 08 35.7**	**+0.2**
BTK				*e*S		**Sg**	**03 09 01.7**	**-0.5**
KZA	**Kyzart**	**2.02**	**66**	⇑*i*P		**Pb**	**03 08 37.3**	**-0.1**
KZA	baz=65			⇑*i*S		**Sg**	**03 09 04.5**	**-1.0**
	baz=65							
KZA	**Kyzart**	**2.02**	**66**	⇑P		**Pb**	**03 08 37.5**	**+0.1**
	30nm,0.2s,SNR=38							
KZA				⇓S		**Sg**	**03 09 06.8**	**+1.3**
	82nm,0.5s							
FRU1	**Bishkek**	**2.06**	**42**	⇑*i*P		**Pb**	**03 08 37.5**	**-0.3**
FRU1	baz=41			⇑*i*S		**Sb**	**03 09 04.9**	**+1.5**
	baz=41							
KBK	**Karagaybulak**	**2.13**	**49**	⇑*e*P		**Pb**	**03 08 38.8**	**-0.2**
	baz=49							
KBK				⇑*i*S		**Sb**	**03 09 07.0**	**+1.5**
	baz=49							
KBK	**Karagaybulak**	**2.13**	**49**	⇑P		**Pg**	**03 08 40.6**	**-0.6**
	19nm,0.1s,SNR=48							
KBK				⇓S		**Sg**	**03 09 10.1**	**+1.4**
	167nm,0.4s							
CHRV	**Charvak**	**2.14**	**280**	*e*P		**Pb**	**03 08 39.8**	**+0.7**
CHRV				*i*S		**Sg**	**03 09 09.7**	**+0.6**
IUG	**Iuzhnay**	**2.21**	**294**	*e*P		**Pb**	**03 08 41.4**	**+1.0**
	21nm,0.3s							
IUG				*e*S		**Sg**	**03 09 11.9**	**+0.4**
	333nm,0.4s							
CHMS	**Chumysh**	**2.26**	**40**	⇑*i*P		**Pb**	**03 08 40.3**	**-0.9**
	baz=40							
CHMS				⇑*i*S		**Sb**	**03 09 09.4**	**+0.3**
	baz=40							
USP	**Ospenovka**	**2.36**	**33**	⇑*i*P		**Pb**	**03 08 41.7**	**-1.2**
	baz=32							
USP				⇑*i*S		**Sb**	**03 09 12.3**	**+0.3**
	baz=32							
USP	**Ospenovka**	**2.36**	**33**	⇑P		**Pb**	**03 08 43.6**	**+0.7**
	33nm,0.3s,SNR=39							
KK31	**Karatay Array**	**2.46**	**318**	⇑Pn		**Pb**	**03 08 43.3**	**-1.3**
	15nm,0.4s,baz=116,slow=12,SNR=148							
KK31				⇑Sn		**Sb**	**03 09 13.8**	**-1.1**
	26nm,0.3s,baz=112,slow=26,SNR=11							
SGDS	**Sogindy**	**2.56**	**32**	Pg		**Pb**	**03 08 47.2**	**+0.8**
	22nm,0.4s							
SGDS				Lg		Lg	03 09 22.2	
	60nm,0.3s							
CHM	**Chimkent**	**2.57**	**294**	*e*P		**Pb**	**03 08 48.0**	**+1.5**
	132nm,0.1s							
CHM				*e*S		**Sg**	**03 09 23.1**	**+0.2**
	326nm,0.2s							
BOOM	**Boomskoye usch**	**2.66**	**62**	⇑*i*P		**Pn**	**03 08 45.7**	**+2.4**
	baz=61							
BOOM				⇑*i*S		**Sb**	**03 09 19.1**	**-1.7**
	baz=61							
TKM2	**Tokmak 2**	**2.67**	**52**	⇑*i*P		**Pb**	**03 08 46.2**	**-2.0**
	baz=51							
TKM2				⇑*i*S		**Sb**	**03 09 19.9**	**-1.1**
	baz=51							
TKM2	**Tokmak 2**	**2.67**	**52**	⇓Pn		**Pb**	**03 08 48.1**	**-0.2**
	38nm,0.8s							
TKM2				⇓Lg		Lg	03 09 26.1	
	54nm,0.6s							
ULHL	**Ulahol**	**2.77**	**69**	⇓*i*P		**Pn**	**03 08 47.3**	**+2.3**
	baz=68							
ULHL				⇓*i*S		**Sb**	**03 09 22.3**	**-1.9**
	baz=68							
ULHL	**Ulahol**	**2.77**	**69**	⇓P		**Pb**	**03 08 49.3**	**-0.8**
	14nm,0.4s,SNR=24							
BRLS	**Borolday**	**2.78**	**310**	*e*P		**Pb**	**03 08 50.9**	**+0.8**
	28nm,0.5s							
BRLS				*e*S		**Sg**	**03 09 28.1**	**-1.6**
	65nm,0.5s							
KST	**Kastek**	**2.96**	**53**	*e*P		**Pg**	**03 08 55.3**	**-1.7**
	33nm,0.3s							
KST				⇓*i*S		**Sg**	**03 09 35.5**	**+0.2**
	60nm,0.5s							
KST	**Kastek**	**2.96**	**53**	Pg		**Pg**	**03 08 55.3**	**-1.7**
	34nm,0.6s							
KST				Lg		Lg	03 09 35.5	
	60nm,0.5s							
DGS	**Degeres**	**2.96**	**48**	*e*P		**Pg**	**03 08 55.2**	**-2.0**
	24nm,0.4s							
DGS				*e*S		**Sg**	**03 09 35.8**	**+0.1**
	49nm,0.6s							
DGS	**Degeres**	**2.96**	**48**	Pg		**Pg**	**03 08 55.2**	**-2.0**
	24nm,0.4s							
DGS				Lg		Lg	03 09 35.8	
	49nm,0.6s							
KRBS	**Karabastau**	**3.23**	**41**	*e*P		**Pb**	**03 08 59.8**	**+2.0**
	15nm,0.4s							
KRBS				*e*S		**Sg**	**03 09 43.1**	**-1.0**
	13nm,0.5s							
KRBS	**Karabastau**	**3.23**	**41**	Pg		**Pb**	**03 08 59.8**	**+2.0**
	15nm,0.4s							
KRBS				Lg		Lg	03 09 43.1	
	15nm,0.6s							
MTBS	**Maitube**	**3.29**	**55**	*e*P		**Pb**	**03 09 01.0**	**+2.2**
	7.3nm,0.2s							
MTBS				*e*S		**Sg**	**03 09 45.3**	**-0.6**
	42nm,0.3s							
MTBS	**Maitube**	**3.29**	**55**	Pg		**Pg**	**03 09 01.3**	**-2.1**
	7.3nm,0.2s							
MTBS				Lg		Lg	03 09 45.3	
	42nm,0.3s							
IZV	**Izvestkoviy**	**3.35**	**57**	*e*P		**Pg**	**03 09 03.0**	**-1.6**
	13nm,0.4s							
IZV				*e*S		**Sg**	**03 09 49.1**	**+1.1**
	30nm,0.3s							
IZV	**Izvestkoviy**	**3.35**	**57**	Pg		**Pg**	**03 09 03.0**	**-1.6**
	13nm,0.4s							
IZV				Lg		Lg	03 09 49.1	
	30nm,0.3s							
TNSS	**Tian-Shan**	**3.57**	**59**	*e*P		**Pg**	**03 09 06.9**	**-1.9**
	8.4nm,0.4s							
TNSS				*e*S		**Sg**	**03 09 56.0**	**+1.0**
	28nm,0.3s							
TNSS	**Tian-Shan**	**3.57**	**59**	Pg		**Pg**	**03 09 06.9**	**-1.9**
	8.4nm,0.4s							
TNSS				Lg		Lg	03 09 56.0	
	28nm,0.3s							
MDOK	**Medeo**	**3.69**	**58**	*e*P		**Pb**	**03 09 07.7**	**+2.0**
	6.9nm,0.3s							
MDOK				*e*S		**Sg**	**03 09 57.1**	**-1.8**
	16nm,0.5s							
MDOK	**Medeo**	**3.69**	**58**	Pn		**Pb**	**03 09 02.5**	**-3.2**
	5.0nm,0.6s							
MDOK				⇓Lg		Lg	03 09 59.3	
	14nm,0.5s							
MDOK	**Medeo**	**3.69**	**58**	Pg		**Pb**	**03 09 07.7**	**+2.0**
	12nm,0.7s							
MDOK				Lg		Lg	03 09 57.1	
	24nm,0.7s							
KUU	**Kurty**	**3.71**	**44**	*e*P		**Pb**	**03 09 08.1**	**+2.2**
	4.8nm,0.4s							
KUU				*e*S		**Sg**	**03 09 57.8**	**-1.6**
	33nm,0.6s							
KUU	**Kurty**	**3.71**	**44**	Pg		**Pb**	**03 09 07.9**	**+2.0**
	9.8nm,0.3s							
KUU				Lg		Lg	03 09 57.8	
	33nm,0.6s							
KOTS	**Kotyrbulak**	**3.77**	**58**	*e*P		**Pb**	**03 09 09.1**	**+2.1**
	27nm,0.6s							
KOTS				*e*S		**Sg**	**03 09 59.3**	**-2.1**
	21nm,0.5s							
KOTS	**Kotyrbulak**	**3.77**	**58**	Pg		**Pb**	**03 09 09.1**	**+2.1**
	27nm,0.6s							
KOTS				Lg		Lg	03 09 59.3	
	21nm,0.5s							
KTBS	**Karatobe**	**3.77**	**49**	*e*P		**Pb**	**03 09 09.6**	**+2.6**
	7.8nm,0.6s							
KTBS				*e*S		**Sg**	**03 10 00.3**	**-1.3**
	86nm,0.7s							
KTBS	**Karatobe**	**3.77**	**49**	Pg		**Pg**	**03 09 10.0**	**-2.7**
	7.8nm,0.6s							
KTBS				Lg		Lg	03 10 00.3	
	86nm,0.7s							
SATY	**Saty**	**4.55**	**65**	*e*P		**Pb**	**03 09 23.5**	**+3.1**
	8.9nm,0.7s							
SATY				*e*S		**Sg**	**03 10 24.7**	**-1.8**
	12nm,0.3s							
SATY	**Saty**	**4.55**	**65**	Pg		**Pb**	**03 09 23.5**	**+3.1**
	7.4nm,0.9s							
SATY				Lg		Lg	03 10 24.7	
	12nm,0.3s							
KURS	**Kuram**	**4.57**	**60**	*e*P		**Pg**	**03 09 25.6**	**-2.3**
	5.5nm,0.5s							
KURS				*e*S		**Sg**	**03 10 28.0**	**+1.0**
	17nm,1.3s							
KURS	**Kuram**	**4.57**	**60**	Pg		**Pg**	**03 09 25.5**	**-2.3**
	7.6nm,0.7s							
KURS				Lg		Lg	03 10 28.0	
	17nm,1.3s							
ARXS	**Arharly**	**4.74**	**50**	*e*P		**Pg**	**03 09 28.2**	**-2.9**
	6.3nm,0.5s							
ARXS				*e*S		**Sg**	**03 10 32.1**	**-0.3**
	21nm,0.5s							
ARXS	**Arharly**	**4.74**	**50**	Pg		**Pg**	**03 09 27.7**	**-3.4**
	10.0nm,0.5s							
ARXS				Lg		Lg	03 10 32.1	
	21nm,0.5s							
KPKS	**Kokpek**	**4.90**	**62**	*e*P		**Pg**	**03 09 31.2**	**-2.9**
	14nm,0.4s							
KPKS				*e*S		**Sg**	**03 10 37.6**	**+0.1**
	19nm,0.5s							
UZB	**Uzynbulak**	**5.01**	**66**	*e*P		**Pb**	**03 09 32.0**	**+4.0**
	7.2nm,0.4s							
UZB				*e*S		**Sg**	**03 10 39.0**	**-2.1**
	8.4nm,0.4s							
UZB	**Uzynbulak**	**5.01**	**66**	Pg		**Pb**	**03 09 31.8**	**+3.7**
	7.2nm,0.4s							
UZB				Lg		Lg	03 10 39.0	
	8.4nm,0.4s							
DJR	**Jarkent**	**6.00**	**57**	Pg		Pg	03 09 50.2	-5.0
	3.7nm,0.4s							
DJR				Lg		Lg	03 11 10.8	
	7.5nm,0.5s							
KAPS	**Kapalarasan**	**6.25**	**48**	Pg		**Pg**	**03 09 55.8**	**-4.3**
	1.9nm,0.4s							
KAPS				Lg		Lg	03 11 19.7	
	5.6nm,0.4s							

*IDC **12** 03:15:38.4±6.0,34.71N×72.49E,h0km,mb3.6/3, mb1 3.7/3,mb1mx3.3/38,mbtmp3.7/3,Error ellipse: s-maj=147.1km s-min=40.3km az=132.0*

ISC 12 03:15:45.7±1.2,35.0N±0.2×72.2E±0.2,h35km,n4,σ0°84/5, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
THN	**Thein Dam**	**3.91**	**130**	*e*P		**Pn**	**03 16 43.0**	**-0.3**
THN				*e*S		**Sn**	**03 17 28.5**	**+0.5**
ZALV	**Zalesovo Beam**	**20.90**	**21**	P		**P**	**03 20 24.3**	**-0.6**
	1.6nm,0.5s,baz=210,slow=13,SNR=7.6							
ARCES	**ARCESS Array B**	**42.88**	**338**	P		**P**	**03 23 41.0**	**+0.8**
	0.5nm,0.4s,baz=116,slow=8.2,SNR=14							
TORD	**Torodi Ar. Bea**	**66.66**	**270**	P		**P**	**03 26 32.9**	**-0.3**
	0.3nm,0.6s,baz=52,slow=5.4,SNR=1.8							

*IDC **12** 03:39:25.1±0.8,6.75N×72.95W,h162km±10km,mb3.2/3, mb1 3.5/5,mb1mx3.1/30,mbtmp3.8/5,MS3.4/1,Ms1 3.4/1, ms1mx2.2/22,Error ellipse: s-maj=37.0km s-min=7.9km az=131.0*
*RSNC **12** 03:39:26.3±0.9,6.83N×73.17W,h141km±4km,ML3.5, Mw3.8*

ISC 12 03:39:24.5±0.8,6.84N±0.03×73.10W±0.03,h153km±6km, n40,σ1°51/70,mb3.6/3,6C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BARC	**Barichara**	**0.26**	**198**	⇓*i*P		**Pn**	**03 39 45.8**	**+0.2**
BARC				*e*S		**Sn**	**03 40 00.1**	**-1.5**
BARC				*i*			03 40 02.0	
	comp=Z,1μm,0.2s							
PAMC	**Pamplona, Colo**	**0.64**	**39**	⇑*e*P		**Pn**	**03 39 48.5**	**+1.0**
PAMC				*i*			03 40 07.1	
	comp=Z,574nm,0.5s							
RUSC	**La Rusia**	**0.94**	**179**	⇑*e*P		**Pn**	**03 39 49.8**	**+0.1**
RUSC				*e*S		**Sn**	**03 40 08.0**	**-0.8**
RUSC				*i*			03 40 10.1	
	comp=Z,569nm,0.3s							
TAMC	**Tame, Arauca**	**1.36**	**107**	⇑*i*P		**Pn**	**03 39 54.2**	**+1.3**
TAMC				*i*			03 40 14.6	
	comp=Z,148nm,0.4s							
TAMC				*e*S		**Sn**	**03 40 15.6**	**+1.0**
PTBC	**PUERTO BERRIO,**	**1.38**	**257**	⇑*e*P		**Pn**	**03 39 52.3**	**-0.8**
PTBC				*e*S		**Sn**	**03 40 12.9**	**-2.0**
PTBC				*i*			03 40 18.7	
	comp=Z,437nm,0.3s							
OCAC	**Ocana**	**1.40**	**351**	⇑*e*P		**Pn**	**03 39 53.8**	**+0.3**
OCAC				*e*S		**Sn**	**03 40 15.0**	**-0.7**
OCAC				*i*			03 40 20.2	
	comp=Z,448nm,0.2s							
SPBC	**San Pablo de B**	**1.53**	**219**	*e*P		**Pn**	**03 39 54.8**	**+0.1**
SPBC				*e*S		**Sn**	**03 40 16.5**	**-1.2**
SPBC				*i*			03 40 23.1	
	comp=Z,576nm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.86**	**290**	*e*P		**Pn**	**03 39 58.4**	**+0.2**
ZARC				*e*S		**Sn**	**03 40 23.7**	**-0.3**
ZARC				*i*			03 40 29.2	
	comp=Z,425nm,0.3s							
NORC	**Norcasia**	**2.17**	**234**	*e*P		**Pn**	**03 40 01.9**	**0.0**
NORC				*e*S		**Sn**	**03 40 29.6**	**-1.0**
NORC				*i*			03 40 32.5	
	comp=Z,233nm,0.2s							
SMLC	**San Martn de**	**2.17**	**334**	*e*P		**Pn**	**03 40 02.2**	**+0.4**
SMLC				*e*S		**Sn**	**03 40 29.4**	**-1.2**
SMLC				*i*			03 40 36.0	
	comp=Z,239nm,0.2s							
CHIC	**Chingaza**	**2.29**	**196**	*e*P		**Pn**	**03 40 04.0**	**+0.4**
CHIC				*e*S		**Sn**	**03 40 33.7**	**+0.1**
CHIC				*i*			03 40 36.7	
	comp=Z,185nm,0.3s							
ROSC	**El Rosal**	**2.33**	**211**	P		**Pn**	**03 40 05.8**	**+1.7**
	comp=Z,65nm,0.3s,baz=90,slow=16,SNR=129							
ROSC				S		**Sn**	**03 40 36.8**	**+2.2**
	comp=Z,72nm,0.3s,baz=115,slow=17,SNR=6.8							
ROSC	**El Rosal**	**2.33**	**211**	⇓*e*P		**Pn**	**03 40 05.7**	**+1.7**
ROSC				*e*S		**Sn**	**03 40 35.8**	**+1.2**
ROSC				*i*			03 40 40.4	
	comp=Z,340nm,0.5s							
HELC	**Santa Helena**	**2.50**	**255**	*e*P		**Pn**	**03 40 06.0**	**-0.1**
HELC				*e*S		**Sn**	**03 40 38.6**	**+0.6**
HELC				*i*			03 40 46.5	
	comp=Z,221nm,0.3s							
UREC	**San Jos de Ur**	**2.58**	**291**	*e*P		**Pn**	**03 40 06.0**	**-0.7**
UREC				*e*S		**Sn**	**03 40 37.5**	**-1.7**
UREC				*i*			03 40 49.3	
	comp=Z,181nm,0.2s							
GUY2C	**Gu

MACC	**Macarena, Meta**	**4.72**	**189**	*eP*	**Pn**	**03 40 33.1**	**-1.2**
MACC				*eS*	**Sn**	**03 41 24.1**	**-4.8**
MACC				*i*		03 41 29.3	
	comp=Z,54nm,1.1s						
MALC	**Bahia Malaga**	**5.07**	**237**	*eP*	**Pn**	**03 40 39.9**	**+1.1**
MALC				*i*		03 41 47.5	
	comp=Z,39nm,2.0s						
GARC	**Garzon, Huila**	**5.20**	**207**	*eP*	**Pn**	**03 40 40.2**	**-0.7**
GARC				*eS*	**Sn**	**03 41 37.5**	**-3.0**
GARC				*i*		03 41 42.0	
	comp=Z,46nm,0.3s						
PCRV	**Puerto La Cruz**	**9.00**	**68**	LR	LR	03 45 49.3	
	comp=Z,262nm,20.7s,slow=43						
TXAR	**Lajitas Array**	**36.46**	**312**	P	**P**	**03 46 15.9**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=128,slow=9.1,SNR=5.1						
SCHQ	**Schefferville**	**48.12**	**5**	P	**P**	**03 47 49.7**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=116,slow=4.3,SNR=5.4						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**03 49 36.5**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=132,slow=6.9,SNR=5.6						
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc	**PKPbc**	**03 58 54.8**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=132,slow=2.5,SNR=6.2						
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc	**PKPbc**	**03 58 58.0**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=109,slow=2.7,SNR=23						

TRN **12** *03:56:22.1, 17.7N×60.9W, h25km, MD4.2*
IDC **12** *03:56:27.1±0.6, 16.95N×60.32W, h46km±6km, mb3.4/9, mb1 3.7/9, mb1mx3.5/33, mbtmp3.7/9, MS2.9/2, Ms1 2.9/2, ms1mx2.4/24, Error ellipse: s-maj=14.4km s-min=6.8km az=126.0*
ISC 12 03:56:25.1±0.6, 17°09N±0°04×60°24W±0°04, h28km±4km, n65, σ1ᵎ03/90, mb3.8/10, 1C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H05N1	**Guadeloupe/Mar**	**1.10**	**226**	P	**Pn**	**03 56 43.3**	**-1.4**
H05N1				S	**Sn**	**03 56 56.9**	**-2.1**
ABD	**La Joyeuse, An**	**1.34**	**243**	*eP*	**Pn**	**03 56 47.4**	**-0.6**
ABD				*eS*	**Sb**	**03 57 08.4**	**+1.9**
MAGL	**Barre de l'ile**	**1.51**	**221**	*eP*	**Pn**	**03 56 49.7**	**-0.7**
MAGL				*eS*	**Sn**	**03 57 07.8**	**-1.4**
ANWB	**Willy Bob**	**1.58**	**291**	*eP*	**Pn**	**03 56 50.1**	**-1.2**
ANWB				*eS*	**Sn**	**03 57 10.3**	**-0.6**
CBE	**Ff, Capester**	**1.66**	**232**	*eP*	**Pn**	**03 56 52.3**	**-0.1**
CBE				*eS*	**Sb**	**03 57 15.9**	**+0.4**
TDBA	**Terre de Bas,**	**1.82**	**227**	*eP*	**Pn**	**03 56 55.0**	**+0.3**
TDBA				*eS*	**Sn**	**03 57 18.6**	**+1.8**
MDPV	**Dominica, Penn**	**1.85**	**218**	*eP*	**Pn**	**03 56 56.3**	**+1.3**
MDPV				*eS*	**Sn**	**03 57 19.2**	**+1.7**
MLYT	**Lee's Yard**	**1.90**	**259**	*eP*	**Pn**	**03 56 56.4**	**+0.6**
MLYT				*eS*	**Sn**	**03 57 19.7**	**+0.8**
DLPL	**La Plaine**	**2.00**	**209**	*eP*	**Pn**	**03 56 58.0**	**+0.9**
MDN	**Morne-Daniel**	**2.08**	**212**	*eP*	**Pn**	**03 56 58.1**	**-0.1**
MDN				*eS*	**Sn**	**03 57 24.5**	**+1.2**
DPMT	**Pointe Michel**	**2.12**	**211**	*eP*	**Pn**	**03 56 59.1**	**+0.3**
DPMT				*eS*	**Sb**	**03 57 27.4**	**-1.5**
NVDO	**Nevis, Disaste**	**2.27**	**271**	*eP*	**Pn**	**03 57 00.5**	**-0.4**
NVDO				*eS*	**Sn**	**03 57 27.6**	**-0.4**
ILAM	**Ilet Lapin Mar**	**2.38**	**195**	*eP*	**Pn**	**03 57 02.2**	**-0.1**
SKOC	**St. Kitts, UWI**	**2.39**	**275**	*eS*	**Sn**	**03 57 30.7**	**-0.1**
SKI	**Saint Kitts**	**2.40**	**276**	*eP*	**Pn**	**03 57 02.5**	**-0.1**
SKI				*eS*	**Sn**	**03 57 31.1**	**0.0**
BAMF	**Morne Balai**	**2.43**	**201**	*eP*	**Pn**	**03 57 03.2**	**+0.2**
CXM	**Morne La Croix**	**2.44**	**202**	*eP*	**Pn**	**03 57 03.5**	**+0.2**
PCM	**Pelee Case Pet**	**2.45**	**203**	*eP*	**Pn**	**03 57 03.9**	**+0.6**
GBMF	**Grand Be**	**2.45**	**201**	*eP*	**Pn**	**03 57 03.0**	**-0.4**
PML	**Morne Lenard**	**2.47**	**202**	*eP*	**Pn**	**03 57 03.7**	**+0.1**
FDF	**Fort de France**	**2.50**	**201**	*eP*	**Pn**	**03 57 04.6**	**+0.5**
LPMF	**Morne Lapointe**	**2.60**	**196**	*eP*	**Pn**	**03 57 04.7**	**-0.7**
MVM	**Montagne Vaucl**	**2.60**	**194**	*eP*	**Pn**	**03 57 05.1**	**-0.3**
ZAM	**Aeronautique**	**2.62**	**197**	*eP*	**Pn**	**03 57 05.0**	**-0.6**
SEUS	**St. Eustatius**	**2.65**	**279**	*eP*	**Pn**	**03 57 06.2**	**+0.2**
SEUS				*eS*	**Sn**	**03 57 37.5**	**+0.2**
BIM	**Bigot**	**2.68**	**197**	*eP*	**Pn**	**03 57 07.2**	**+0.6**
BIM				*eS*	**Sn**	**03 57 40.0**	**+1.9**
MPOM	**Morne Pois Mar**	**2.70**	**193**	*eP*	**Pn**	**03 57 06.6**	**-0.1**
MPOM				*eS*	**Sn**	**03 57 39.0**	**+0.5**
H05S1	**Guadeloupe/Mar**	**2.71**	**192**	P	**Pn**	**03 57 07.0**	**+0.1**
H05S1				S	**Sn**	**03 57 37.4**	**-1.4**
SLW	**Petit Monier**	**3.13**	**193**	*eS*	**Sn**	**03 57 49.3**	**+0.2**
SLBI	**Saint Lucia, B**	**3.13**	**193**	*eP*	**Pn**	**03 57 12.8**	**+0.1**
SLBI				*eS*	**Sn**	**03 57 48.4**	**-0.8**
SLAC	**Saint Lucia, A**	**3.24**	**191**	*eP*	**Pn**	**03 57 14.2**	**0.0**
SLAC				*eS*	**Sn**	**03 57 50.6**	**-1.2**
SLB	**Belfond**	**3.34**	**193**	*eP*	**Pn**	**03 57 16.1**	**+0.6**
SLB				*eS*	**Sn**	**03 57 54.7**	**+0.4**
MCLT	**Moule a Chique**	**3.43**	**191**	*eP*	**Pn**	**03 57 16.4**	**+0.4**
MCLT				*eS*	**Sn**	**03 57 58.3**	**+1.8**
SVV	**Soufriere Volc**	**3.87**	**194**	*eP*	**Pn**	**03 57 24.1**	**+1.3**
SVV				*eS*	**Sn**	**03 58 08.8**	**+1.4**
SVCV	**St. Vincent, C**	**3.90**	**193**	*eP*	**Pn**	**03 57 24.0**	**+0.8**
SVB	**Belmont**	**3.92**	**195**	*eP*	**Pn**	**03 57 24.2**	**+0.7**
SVB				*eS*	**Sn**	**03 58 08.1**	**-0.6**
BCHC	**Barbados, Cave**	**3.98**	**171**	*eP*	**Pn**	**03 57 24.8**	**+0.5**
BBGH	**Gun Hill**	**3.98**	**170**	*eP*	**Pn**	**03 57 25.0**	**+0.7**
BBSP	**Saint Philip**	**4.04**	**169**	*eP*	**Pn**	**03 57 25.6**	**+0.5**
CDVI	**St. Croix**	**4.37**	**279**	*eP*	**Pn**	**03 57 29.0**	**-0.6**
CDVI	**St. Croix**	**4.37**	**279**	*eS*	**Sn**	**03 58 19.4**	**-0.4**
GCMP	**Grenada, Carri**	**4.72**	**194**	*eP*	**Pn**	**03 57 35.2**	**+0.7**
GCMP	**Grenada, Carri**	**4.72**	**194**	*eS*	**Sn**	**03 58 28.2**	**-0.1**
GRGR	**Grenville**	**5.12**	**196**	*eP*	**Pn**	**03 57 42.4**	**+2.4**
GRGR	**Grenville**	**5.12**	**196**	*eS*	**Sn**	**03 58 38.0**	**-0.2**
SJG	**San Juan**	**5.73**	**281**	S	**Sn**	**03 58 53.1**	**-0.1**
	3.9nm,0.3s,baz=315,slow=16,SNR=6.8						
SJG				LR	LR	04 00 41.2	
	comp=Z,55nm,19.1s,baz=177,slow=45						
TOSP	**Speyside**	**5.77**	**183**	*eP*	**Pn**	**03 57 49.4**	**+0.5**
AOPR	**Arecibo Observ**	**6.33**	**282**	*eP*	**Pn**	**03 57 56.5**	**-0.2**
TRN	**Trinidad (W)**	**6.50**	**190**	*eP*	**Pn**	**03 58 00.5**	**+1.5**
TRN	**Trinidad (W)**	**6.50**	**190**	*eS*	**Sn**	**03 59 12.7**	**+0.3**
MDP	**Montagnes des**	**14.05**	**147**	P	**Pn**	**03 59 38.3**	**-4.2**
	0.4nm,0.3s,baz=337,slow=15,SNR=6.8						
MDP				S	Sn	04 02 04.3	-13
	0.6nm,0.3s,baz=67,slow=21,SNR=6.4						
SMLC	**San Martn de**	**15.79**	**240**	*eP*	**Pn**	**04 00 03.8**	**-1.9**
RUSC	**La Rusia**	**16.79**	**230**	*eP*	**P**	**04 00 22.1**	**+1.2**
PTBC	**PUERTO BERRIO,**	**17.41**	**235**	*eP*	**Pn**	**04 00 24.5**	**-1.7**
ATAH	**Atahualpa**	**30.03**	**218**	LR	LR	04 15 03.3	
	comp=Z,36nm,19.3s,baz=33,slow=37						
SCHQ	**Schefferville**	**38.01**	**354**	P	**P**	**04 03 42.4**	**+1.7**
	2.2nm,0.6s,baz=175,slow=8.1,SNR=10						
TXAR	**Lajitas Array**	**41.51**	**295**	P	**P**	**04 04 11.0**	**+0.7**
	0.1nm,0.6s,baz=83,slow=7.4,SNR=2.0						
PDAR	**Pinedale Array**	**48.95**	**312**	P	**P**	**04 05 10.2**	**+0.8**
	0.4nm,0.8s,baz=101,slow=9.3,SNR=2.4						
YKA	**Yellowknife Ar**	**58.84**	**334**	P	**P**	**04 06 20.7**	**-0.3**
	0.7nm,0.7s,baz=112,slow=7.4,SNR=5.4						
YKA				pP	**pwP**	**04 06 34.2**	**-0.3**
	0.4nm,0.5s,baz=110,slow=7.7,SNR=4.2						
TORD	**Torodi Ar. Bea**	**59.71**	**85**	P	**P**	**04 06 27.5**	**-0.3**
	0.5nm,0.6s,baz=295,slow=7.7,SNR=7.8						
TORD				pP	**pwP**	**04 06 40.5**	**-0.8**
	1.1nm,0.8s,baz=290,slow=5.8,SNR=5.6						
GERES	**GERESS Array B**	**66.79**	**44**	P	**P**	**04 07 14.9**	**+0.6**
	0.2nm,0.5s,baz=260,slow=5.3,SNR=4.3						
GERES				pP	**pwP**	**04 07 28.6**	**+0.6**
	1.0nm,0.9s,baz=260,slow=5.3,SNR=3.8						
BRG	**Berggiesshubel**	**66.97**	**41**	*e*(P)	P	04 07 29.8	+14
	4.4nm,1.1s						
ILAR	**Eielson Array**	**73.27**	**333**	P	**P**	**04 07 53.9**	**+0.2**
	0.5nm,0.9s,baz=85,slow=4.2,SNR=4.8						
FINES	**FINESS Array B**	**73.40**	**30**	P	**P**	**04 07 55.4**	**+1.0**
	0.9nm,0.5s,baz=245,slow=4.0,SNR=7.0						
FINES				pP	**pwP**	**04 08 08.8**	**+0.7**
	1.6nm,0.8s,baz=236,slow=2.1,SNR=2.5						
BRTR	**Keskin Array B**	**82.18**	**51**	P	**P**	**04 08 43.5**	**-0.5**
	1.1nm,0.9s,baz=289,slow=3.8,SNR=4.3						
BRTR				pP	**pwP**	**04 08 58.4**	**+0.6**
	1.7nm,0.8s,baz=259,slow=2.0,SNR=5.5						

DJA **12** *04:09:29.5±0.2, 4.2×12.7E±, h10km, M4.6/18, mb4.7/18, mB5.1/6, MLv4.6/18, Mw(mB)4.5/6, Mwp5.0/1*
GCMT **12** *04:09:31.3±0.3, 3.58S±0.02×127.30E±0.03, h22km±1km, MW4.8/70, Moment Tensor Solution. s26, c29; s70, c86; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.13±.17; Mθθ-1.27±.10; Mϕϕ-0.85±.11; Mrθ-0.07±.14; Mϕθ1.17±.06; Mϕr-0.84±.16; Best double couple: Mo2.34800×10¹⁶ NP1:ϕ294.00000°, δ41.00000°, λ64.00000°. NP2: ϕ146.00000°, δ54.00000°, λ111.00000°. Principal axes: T 2.3890, Plg72.0000°, Azm111.0000°; N -0.0780,*

Plg16.0000°, Azm314.0000°; P -2.3060, Plg7.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
NEIC **12** *04:09:31.3±1.4, 3.71S±0.07×127.40E±0.03, h51km±6km, mb4.6/21 Error ellipse: s-maj=10.1km s-min=4.6km az=188.0*
IDC **12** *04:09:32.3±2.2, 3.66S×127.43E, h49km±22km, mb4.1/12, mb1 4.2/14, mb1mx4.0/33, mbtmp4.4/14, ML4.2/1, MS3.7/11, Ms1 3.7/11, ms1mx3.4/41, Error ellipse: s-maj=19.5km s-min=14.6km az=97.0*
ISC 12 04:09:28.3±0.5, 3.64S±0.05×127.41E±0.04, h10km, n105, σ1ᵎ85/77, mb4.6/24, MS3.6/6, 2C, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.51**	**322**	P	**Pg**	**04 09 37.0**	**-1.2**
NLAI				S	**Sg**	**04 09 43.3**	**-1.5**
AAI	**Ambon**	**0.79**	**93**	P	**Pg**	**04 09 44.2**	**+0.7**
MSAI	**Masohi**	**1.54**	**79**	P	**Pn**	**04 09 56.7**	**+0.8**
SANI	**Sanana**	**2.12**	**318**	P	**Pn**	**04 10 03.3**	**-0.6**
BNDI	**Bandanaira**	**2.64**	**109**	P	**Pn**	**04 10 13.1**	**+2.1**
LBMI	**Labuha**	**2.99**	**2**	P	**Pn**	**04 10 16.8**	**+1.1**
LBMI				S	**Sn**	**04 10 52.9**	**+1.3**
TNTI	**Ternate**	**4.38**	**359**	P	**Pn**	**04 10 36.0**	**+1.0**
TNTI	**Ternate**	**4.38**	**359**	Pn	**Pn**	**04 10 37.1**	**+2.1**
SIJI	**Sorong**	**4.74**	**55**	P	**Pn**	**04 10 41.1**	**+1.2**
	11nm,0.3s,baz=274,slow=3.4,SNR=6.8						
SIJI				S	**Sn**	**04 11 34.6**	**-0.3**
	43nm,0.3s,baz=12,slow=22,SNR=16						
SIJI				LR	LR	04 13 23.0	
	comp=Z,802nm,18.9s,baz=314,slow=49						
FAKI	**Fak Fak**	**4.88**	**82**	P	**Pn**	**04 10 43.1**	**+1.2**
FAKI	**Fak Fak**	**4.88**	**82**	Pn	**Pn**	**04 10 43.7**	**+1.8**
FAKI				Sn	**Sn**	**04 11 36.4**	**-2.2**
BBSI	**Bau Bau**	**5.16**	**249**	P	**Pn**	**04 10 48.8**	**+3.1**
	0.1nm16nm,1.1s						
LUWI	**Luwuk**	**5.30**	**299**	P	**Pn**	**04 10 49.1**	**+1.5**
	1.4nm400nm,1.0s						
LUWI	**Luwuk**	**5.30**	**299**		**Pn**	**04 10 47.9**	**+0.3**
KMSI	**Cibinong**	**5.41**	**321**	P	**Pn**	**04 10 50.4**	**+1.3**
	1.8nm3µm250nm,0.6s						
MRSI	**Marisa**	**6.83**	**307**	P	**Pn**	**04 11 09.2**	**+0.6**
	0.6nm2µm168nm,0.7s						
SOEI	**Soe**	**6.83**	**207**	P	**Pn**	**04 11 11.7**	**+3.0**
	0.4nm3µm1µm888nm,1.2s						
BNSI	**Bone**	**7.32**	**264**	P	**Pn**	**04 11 17.8**	**+2.4**
	0.2nm831nm40nm,1.0s						
BATI	**Baumata**	**7.51**	**209**	LR	LR	04 15 21.5	
	comp=Z,508nm,18.6s,baz=46,slow=46						
TTSI	**Tana Toraja**	**7.60**	**274**	P	Pn	04 11 31.0	+12
EDFI	**Ende, Flores**	**7.62**	**228**	P	**Pn**	**04 11 21.3**	**+1.7**
	0.1nm17nm,0.8s						
SPSI	**Sidrap Palu**	**7.63**	**267**	P	Pn	04 11 29.5	+10
KAPI	**Kappang**	**7.76**	**260**	P	**Pn**	**04 11 23.2**	**+1.9**
	baz=112,slow=4.5,SNR=1.3						
KAPI	**Kappang**	**7.76**	**260**		**Pn**	**04 11 22.5**	**+1.1**
MPSI	**Mapaga**	**8.48**	**298**	P	**Pn**	**04 11 32.8**	**+1.5**
	46nm,1.0s						
MTN	**Manton Dam**	**9.86**	**158**	Pn	**Pn**	**04 11 51.7**	**+1.5**
KCP	**Kidapawan**	**10.83**	**348**	*eP*	**Pn**	**04 12 04.9**	**+1.3**
SMPI	**Sarmi**	**11.41**	**82**	P	**Pn**	**04 12 12.0**	**+0.6**
	2µm29nm,1.0s						
KNRA	**Kununurra**	**12.03**	**174**	Pn	**Pn**	**04 12 18.9**	**-1.1**
JAY	**Jayapura**	**13.32**	**86**	LR	LR	04 20 00.4	
	comp=Z,311nm,18.9s,baz=307,slow=47						
MMPI	**Merauke**	**13.76**	**111**	P	**P**	**04 12 52.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**14.47**	**187**	LR	LR	04 18 19.7	
	comp=Z,227nm,20.5s,baz=7.0,slow=36						
FITZ	**Fitzroy Crossi**	**14.47**	**187**	Pn	**Pn**	**04 12 52.2**	**-1.1**
WOJI	**Wonogiri, Jawa**	**16.92**	**255**	P	**Pn**	**04 13 28.2**	**+2.8**
	35nm,1.4s						
WB0	**Warramunga Arr**	**17.42**	**158**	Pn	**Pn**	**04 13 29.0**	**-2.6**
WB0				IAmb	IAmb	04 13 43.6	
	comp=Z,45nm,0.9s						
WRAB	**Tennant Creek**	**17.55**	**158**		**Pn**	**04 13 31.9**	**-1.3**
WRAB				IAmb	IAmb	04 13 45.2	
	comp=Z,34nm,1.0s						
WRA	**Warramunga Arr**	**17.55**	**158**	P	**Pn**	**04 13 30.4**	**-2.9**
	comp=Z,0.5nm,0.3s,baz=340,slow=12,SNR=16						
WRA	**Warramunga Arr**	**17.55**	**158**	Pn	**Pn**	**04 13 30.7**	**-2.6**
WB2	**Warramunga Arr**	**17.56**	**158**	Pn	**Pn**	**04 13 30.8**	**-2.6**
WB2				IAmb	IAmb	04 13 45.3	
	comp=Z,40nm,1.0s						
WR0	**Warramunga Arr**	**17.65**	**157**		**Pn**	**04 13 32.2**	**-2.2**
KSM	**Kuching**	**17.83**	**286**		**Pn**	**04 13 35.9**	**-0.8**
COEN	**Coen**	**18.63**	**124**		**P**	**04 13 43.6**	**-2.7**
COEN				IAmb	IAmb	04 13 47.9	
	comp=Z,63nm,1.1s						
CISI	**Cisompet, Garu**	**19.88**	**258**	P	**P**	**04 14 02.0**	**+1.9**
	comp=Z,78nm,0.7s						
LEM	**Lembang**	**19.96**	**260**	LR	LR	04 22 41.1	
	comp=Z,387nm,18.9s,baz=58,slow=40						
PMG	**Port Moresby**	**20.43**	**107**	LR	LR	04 24 02.6	
	comp=Z,337nm,20.0s,baz=274,slow=43						
CNJI	**Cibinong**	**20.51**	**259**	P	**P**	**04 14 05.6**	**-1.2**
AS31	**Alice Springs**	**20.87**	**163**	P	**P**	**04 14 08.7**	**-2.1**
AS31				IAmb	IAmb	04 14 13.0	
	comp=Z,32nm,0.8s						
ASAR	**Alice Springs**	**20.87**	**163**	P	**P**	**04 14 11.2**	**+0.5**
	comp=Z,118nm,1.0s,baz=343,slow=10,SNR=297						
ASAR	**Alice Springs**	**20.87**	**163**	P	**P**	**04 14 08.7**	**-2.1**
CTA	**Charters Tower**	**24.59**	**133**	P	**P**	**04 14 50.3**	**+1.4**
	comp=Z,16nm,1.0s,baz=309,slow=12,SNR=5.3						
STKA	**Stephens Creek**	**31.09**	**156**	P	**P**	**04 15 45.8**	**-1.1**
	comp=Z,4.5nm,1.0s,baz=320,slow=7.6,SNR=3.8						
STKA				LR	LR	04 29 24.3	
	comp=Z,179nm,19.6s,baz=25,slow=38						
STKA	**Stephens Creek**	**31.09**	**156**	P	P	04 15 44.1	-2.8
HNR	**Honiara**	**32.82**	**102**	LR	LR	04 30 31.4	
	comp=Z,97nm,20.1s,baz=282,slow=38						
CMAR	**Chiang Mai Arr**	**35.62**	**309**	P	**P**	**04 16 26.7**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=129,slow=7.1,SNR=0.9						
CMAR				PcP	**PcP**	**04 18 55.2**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=169,slow=3.2,SNR=4.3						
CMAR				LR	LR	04 31 34.3	
	comp=Z,156nm,21.9s,baz=176,slow=37						
GYA	**Guiyang**	**36.03**	**327**	*i*P	**P**	**04 16 34.5**	**+4.4**
GYA				sP	pwP	04 16 49.7	+13
GYA				S	**S**	**04 22 10.1**	**+0.7**
GYA				sS	ScP	04 22 35.0	-8.2
GYA				SS	**SS**	**04 24 51.1**	**+4.5**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA				pmax	pmax		
	comp=Z,180nm,4.0s						
GYA				LR	LR		
	comp=N,260nm,3.8s						
GYA				LR	LR		
	comp=E,210nm,3.8s						
GYA				LR	LR		
	comp=Z,190nm,4.3s						
NJ2	**Nanjing**	**36.42**	**348**	*eP*	**P**	**04 16 36.1**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.7s						
KMI	**Kunming**	**37.30**	**321**	P	**P**	**04 16 45.5**	**+4.4**
KMI				pP	pwP	04 16 56.1	+8.6
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KMI				pmax	pmax		
	comp=Z,150nm,4.4s						
SANVU	**Saraoutou**	**40.87**	**109**	P	P	04 17 07.6	-3.3
KSAR	**Wonju Array Be**	**40.88**	**1**	P	**P**	**04 17 09.3**	**-1.3**
KSRS	**Korea Array**	**40.89**	**1**	P	**P**	**04 17 10.4**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=181,slow=9.1,SNR=12						
MJAR	**Matsushiro Arr**	**41.23**	**13**	LR	LR	04 33 45.7	
	comp=Z,66nm,19.6s,baz=215,slow=35						
XAN	**Xi'an**	**41.34**	**337**	P	**P**	**04 17 13.3**	**-1.2**
XAN				pP	sP	04 17 21.7	+4.2
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
XAN				pmax	pmax		
	comp=Z,160nm,4.7s						
SHL	**Shillong**	**45.05**	**312**	P	P	04 17 42.2	-2.7
USRK	**Ussuriysk Ar.**	**47.80**	**4**	P	**P**	**04 18 05.6**	**-0.3**
	comp=Z,3.4nm,0.6s,baz=197,slow=11,SNR=8.6						
USRK	**Ussuriysk Ar.**	**47.80**	**4**	P	**P**	**04 18 04.3**	**-1.6**
ODAN	**Odare**	**49.12**	**311**	*eP*	**P**	**04 18 16.3**	**-0.4**
	comp=Z,15nm,0.3s						
TAPN	**Taplejung**	**49.14**	**311**	*eP*	**P**	**04 18 16.2**	**-0.8**
	comp=Z,14nm,0.6s						
ASAJ	**Asahikawa**	**49.46**	**14**	LR	LR	04 38 46.4	
	comp=Z,54nm,20.0s,baz=166,slow=36						
RAMN	**Ramite**	**49.77**	**310**	*eP*	**P**	**04 18 20.8**	**-0.9**
	comp=Z,44nm,0.6s						
GTA	**Gaotai**	**49.81**	**332**	*eP*	**P**	**04 18 20.6**	**-1.0**
GTA				pP	pP	04 18 25.3	+1.5
GTA				sP	sP	04 18 28.3	+3.7
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
JIRN	**Jiri**	**50.45**	**311**	*eP*	**P**	**04 18 26.1**	**-0.9**
	comp=Z,19nm,0.5s						
GUN	**Gumba**	**50.82**	**311**	*eP*	**P**	**04 18 28.6**	**-1.1**
	comp=Z,28nm,0.7s						
PKI	**Pulchoki**	**51.00**	**310**	*eP*	**P**	**04 18 29.6**	**-1.5**
	comp=Z,31nm,1.2s						
PKIN	**Phulchoki**	**51.01**	**310**	*eP*	**P**	**04 18 30.0**	**-1.1**
DMN	**Daman**	**51.25**	**310**	*eP*	**P**	**04 18 31.6**	**-1.3**
	comp=Z,28nm,1.0s						
GKN	**Gorkha**	**51.81**	**310**	*eP*	**P**	**04 18 35.7**	**-1.2**
	comp=Z,16nm,0.5s						
KOLN	**Koldanda**	**52.49**	**309**	*eP*	**P**	**04 18 40.9**	**-1.2**
	comp=Z,21nm,0.6s						
DANN	**Dangsing**	**52.65**	**310**	*eP*	**P**	**04 18 42.0**	**-1.4**
	comp=Z,47nm,0.7s						
SONM	**Songino Array**	**54.48**	**343**	P	**P**	**04 18 55.3**	**-0.9**
	comp=Z,3.3nm,0.9s,baz=160,slow=8.6,SNR=14						
SONM	**Songino Array**	**54.48**	**343**	P	P	04 18 54.3	-1.9
PETK	**Petropavlovsk-**	**62.02**	**20**	P	**P**	**04 19 49.0**	**+0.3**
	comp=Z,3.4nm,0.9s,baz=222,slow=1.9,SNR=4.1						
PETK	**Petropavlovsk-**	**62.02**	**20**	P	P	04 19 46.9	-1.8
MK31	**Makanchi Array**	**64.02**	**327**	P	P	04 20 00.5	-1.7
MK31				IAmb	IAmb	04 20 01.5	
	comp=Z,4.9nm,0.8s						
MKAR	**Makanchi Array**	**64.02**	**327**	P	P	04 19 60.0	-2.3
	comp=Z,5.3nm,0.7s,baz=129,slow=7.9,SNR=49						
MKAR	**Makanchi Array**	**64.02**	**327**	P	P	04 20 00.1	-2.1
MAKZ	**Makanchi**	**64.20**	**327**	P	P	04 20 01.3	-2.1
MAKZ				IAmb	IAmb	04 20 02.6	
	comp=Z,7.6nm,1.1s						
ARSB	**Arslanbob**	**66.69**	**318**	P	P	04 20 16.9	-2.8
ARSB				IAmb	IAmb	04 20 19.2	
	comp=Z,6.4nm,0.9s						
ZAA0	**Zalesovo Array**	**67.45**	**334**	P	P	04 20 21.8	-2.3
ZAA0				IAmb	IAmb	04 20 23.0	
	comp=Z,7.2nm,1.0s						
ZALV	**Zalesovo Beam**	**67.45**	**334**	P	P	04 20 21.8	-2.3
	comp=Z,4.5nm,0.8s,baz=108,slow=4.8,SNR=18						
KURK	**Kurchatov**	**68.33**	**329**	P	P	04 20 26.5	-3.3
KKAR	**Karatay Array**	**69.13**	**319**	P	P	04 20 32.6	-2.3
BRVK	**Borovoye**	**73.94**	**328**	P	P	04 21 00.6	-3.1
BRVK				IAmb	IAmb	04 21 03.1	
	comp=Z,3.1nm,0.8s						
TIXI	**Tiksi**	**75.16**	**0**	P	P	04 21 08.3	-2.1
TIXI				IAmb	IAmb	04 21 11.3	
	comp=Z,5.8nm,1.1s						
VNDA	**Vanda**	**76.08**	**173**	P	P	04 21 13.6	-2.1
	comp=Z,2.3nm,0.8s,baz=306,slow=7.7,SNR=6.1						
VNDA	**Vanda**	**76.08**	**173**	P	P	04 21 13.4	-2.3
NRIK	**Noril'sk**	**77.71**	**347**	P	**P**	**04 21 24.2**	**-0.7**
	comp=Z,2.1nm,0.3s,baz=120,slow=6.6,SNR=11						
ABKAR	**Akbulak array**	**78.29**	**322**	P	P	04 21 26.4	-2.2
QSPA	**South Pole Qui**	**86.31**	**180**	P	P	04 22 07.3	-3.1
ILAR	**Eielson Array**	**91.43**	**25**	P	P	04 22 32.5	-2.0
	comp=Z,0.3nm,0.8s

BCK	**Bucak**	**3.27**	**23**	PN	**Pn**	**04 20 07.9**	**+2.0**
LEF	**Lefka**	**3.27**	**77**	PN	**Pn**	**04 20 08.1**	**+2.3**
IDI	**Anoyia**	**3.48**	**285**	PN	**Pn**	**04 20 10.3**	**+1.4**
GCAM	**G?zelcaml?**	**3.55**	**337**	PN	**Pn**	**04 20 11.5**	**+1.9**
CSS	**Mathiatis**	**3.60**	**81**	PN	**Pn**	**04 20 12.9**	**+2.5**
AYDB	**Zeytinkoy-Aydi**	**3.60**	**346**	PN	**Pn**	**04 20 12.3**	**+1.7**
SEYD	**Seydisehir-KON**	**3.74**	**37**	PN	**Pn**	**04 20 14.7**	**+2.2**
TEKE	**Tekeli-Mersin**	**3.76**	**62**	PN	**Pn**	**04 20 15.1**	**+2.5**
APE	**Apeiranthos**	**3.85**	**314**	PN	**Pn**	**04 20 15.2**	**+1.3**
BERE	**Bereket-Mersin**	**3.93**	**60**	PN	**Pn**	**04 20 17.5**	**+2.4**
GVD	**Gavdhos**	**4.07**	**277**	PN	**Pn**	**04 20 18.1**	**+1.2**
AKKU	**Akkuyu-Mersin**	**4.09**	**64**	PN	**Pn**	**04 20 19.5**	**+2.3**
IKL	**Isikli**	**4.22**	**64**	PN	**Pn**	**04 20 21.4**	**+2.4**
DOGA	**KONYA_Doganhis**	**4.24**	**30**	*i* P	**Pn**	**04 20 23.5**	**+4.2**
DOGA				IAML		04 21 17.0	
	comp=N,12nm,0.4s						
DOGA				IAML		04 21 19.0	
	comp=E,7.2nm,1.3s						
IMMV	**Iera Moni Meta**	**4.25**	**285**	PN	**Pn**	**04 20 20.3**	**+1.0**
KEBE	**Keben-Mersin**	**4.33**	**61**	PN	**Pn**	**04 20 22.9**	**+2.4**
KONT	**Konya--Tatoy**	**4.42**	**37**	PN	**Pn**	**04 20 23.8**	**+2.1**
RODP	**Rodopos**	**4.45**	**286**	PN	**Pn**	**04 20 23.1**	**+1.1**
KIZK	**Mersin**	**4.66**	**63**	PN	**Pn**	**04 20 27.2**	**+2.2**
KTHA	**Kythira Island**	**5.18**	**292**	PN	**Pn**	**04 20 32.9**	**+0.8**

*IDC **12** 04:31:05.6±9.0, 36°.30N×74°.00E, h0km, mb3.8/2, mb1 3.9/4, mb1mx3.4/52, mbtmp3.8/4, ML3.5/2, MS3.4/1, Ms1 3.4/1, ms1mx2.5/34, Error ellipse: s-maj=148.4km s-min=66.1km az=147.0*

*SOME **12** 04:31:33.7, 39°.42N×73°.03E, h5km*

*NNC **12** 04:31:38.6±9.9, 39°.03N×73°.01E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=77.4km s-min=51.3km az=170.0*

ISC 12 04:31:33.3±1.9, 39°.3N±0°.1×73°.05E±0°.06, h10km, n19, σ2°28/24, 2C-5D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.84**	**10**	P	**Pg**	**04 32 30.0**	**+2.2**
	SNR=20						
UCH	**Uchtor**	**3.10**	**21**	P	**Pg**	**04 32 33.4**	**+0.6**
	SNR=18						
KZA	**Kyzart**	**3.21**	**31**	P	**Pg**	**04 32 33.8**	**-1.2**
	SNR=6.8						
EKS2	**Erkin-Say**	**3.37**	**9**	P	**Pg**	**04 32 37.9**	**-0.1**
	SNR=28						
MRKS	**Merke**	**3.41**	**2**	⇑*e*P	**Pg**	**04 32 37.8**	**-1.0**
	27nm,0.2s						
MRKS				*e*S	**Sg**	**04 33 23.6**	**+0.6**
	45nm,0.3s						
AAK	**Ala-Archa**	**3.48**	**18**	P	**Pg**	**04 32 38.9**	**-1.2**
	SNR=7.1						
AAK	**Ala-Archa**	**3.48**	**18**	⇓Pn	**Pg**	**04 32 38.6**	**-1.5**
	8.5nm,0.7s						
AAK				⇓Sn	**Sg**	**04 33 26.4**	**+1.2**
	42nm,1.2s						
KBK	**Karagaybulak**	**3.62**	**23**	P	**Pg**	**04 32 40.9**	**-1.8**
	SNR=7.0						
IUG	**Iuzhnay**	**3.63**	**322**	⇓*e*P	**Pb**	**04 32 38.6**	**+0.9**
	3.6nm,0.2s						
IUG				*e*S	**Sg**	**04 33 24.9**	**-5.0**
	39nm,0.2s						
ULHL	**Ulahol**	**3.79**	**39**	P	**Pb**	**04 32 40.9**	**+0.5**
	SNR=8.3						
TKM2	**Tokmak 2**	**4.07**	**27**	⇑Pn	**Pb**	**04 32 45.9**	**+0.6**
	1.2nm,0.6s						
TKM2				⇓Sn	**Sg**	**04 33 37.7**	**-6.4**
	8.0nm,0.5s						
USP	**Ospenovka**	**4.08**	**15**	P	**Pb**	**04 32 46.2**	**+0.9**
	SNR=5.2						
KK31	**Karatay Array**	**4.23**	**334**	Pn	**Pb**	**04 32 47.3**	**-0.5**
	2.3nm,0.2s,baz=137,slow=12,SNR=103						
KK31				⇓Sn	**Sb**	**04 33 41.0**	**+2.1**
	3.3nm,0.3s,baz=140,slow=23,SNR=4.9						
KST	**Kastek**	**4.31**	**30**	*e*P	**Pb**	**04 32 49.1**	**-0.2**
	3.8nm,0.4s						
KST				*e*S	**Sb**	**04 33 43.0**	**+1.5**
	9.9nm,0.6s						
BVAR	**Borovoye Array**	**13.82**	**353**	Pn	**P**	**04 35 01.1**	**+3.4**
	0.7nm,0.3s,baz=163,slow=11,SNR=16						
ZALV	**Zalesovo Beam**	**16.67**	**25**	P	**P**	**04 35 30.7**	**+1.4**
	0.2nm,0.3s,baz=211,slow=13,SNR=4.0						
KVAR	**Kislovodsk Arr**	**23.08**	**291**	LR	LR	04 50 12.3	
	comp=Z,90nm,20.2s,baz=258,slow=46						
FINES	**FINESS Array B**	**36.11**	**323**	P	**P**	**04 38 33.2**	**-1.9**
	0.3nm,0.4s,baz=119,slow=11,SNR=4.2						
ARCES	**ARCESS Array B**	**39.19**	**336**	P	**P**	**04 39 00.3**	**-0.8**
	1.8nm,0.9s,baz=110,slow=7.8,SNR=4.3						

*TAP **12** 04:32:03.4, 24°.51N×122°.83E, h98km±1km, ML2.9, C*

*JMA **12** 04:32:03.2±0.2, 24°.52N×122°.87E, h101km±2km, M2.5*

ISC 12 04:32:03.2±1.4, 24°.55N±0°.06×122°.87E±0°.03, h99km±8km, n51, σ0°59/96, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.12**	**143**	P	**Pn**	**04 32 17.4**	**+0.4**
JYNG				*e*S	**Sn**	**04 32 27.7**	**+0.4**
YOJ	**Yonaguni jima**	**0.16**	**122**	P	**Pn**	**04 32 17.2**	**+0.1**
	baz=103						
YOJ				S	**Sn**	**04 32 27.8**	**+0.3**
	baz=103						
YOJ	**Yonaguni jima**	**0.16**	**122**	P	**Pn**	**04 32 17.4**	**+0.3**
YOJ				S	**Sn**	**04 32 27.6**	**+0.1**
IRIF	**Iriomote-Funau**	**0.82**	**105**	P	**Pn**	**04 32 21.7**	**+0.1**
IRIF				S	**Sn**	**04 32 35.2**	**-0.2**
TWC	**Suao**	**0.93**	**274**	*e*P	**Pn**	**04 32 22.4**	**-0.3**
	baz=276						
TWC				*e*S	**Sn**	**04 32 36.6**	**-0.8**
	baz=276						
HATJ	**Hateruma jima**	**0.99**	**119**	P	**Pn**	**04 32 24.0**	**+0.6**
HATJ				*e*S	**Sn**	**04 32 38.7**	**+0.2**
ENA	**Nanau**	**1.03**	**264**	*e*P	**Pn**	**04 32 24.1**	**+0.3**
	baz=265						
ENA				*e*S	**Sn**	**04 32 39.5**	**+0.1**
	baz=265						
TIPB	**Shuangxi**	**1.04**	**294**	*e*P	**Pn**	**04 32 23.9**	**0.0**
	baz=296						
TIPB				*e*S	**Sn**	**04 32 38.7**	**-0.9**
	baz=296						
JKRS	**Kuro-shima**	**1.09**	**106**	P	**Pn**	**04 32 24.9**	**+0.4**
JKRS				S	**Sn**	**04 32 41.0**	**+0.5**
JIJ	**Ishigaki jima**	**1.18**	**99**	P	**Pn**	**04 32 25.6**	**+0.1**
JIJ				S	**Sn**	**04 32 41.3**	**-1.1**
ENTT	**Nioudou**	**1.19**	**275**	*e*P	**Pn**	**04 32 26.6**	**+1.0**
	baz=276						
ENTT				*e*S	**Sn**	**04 32 42.8**	**+0.2**
	baz=276						
NACB	**Ninganchiao**	**1.22**	**253**	*e*P	**Pn**	**04 32 25.7**	**-0.2**
	baz=253						
NACB				*e*S	**Sn**	**04 32 42.1**	**-1.1**
	baz=253						
NDT	**Datong Townshi**	**1.23**	**273**	*e*P	**Pn**	**04 32 26.7**	**+0.5**
	baz=274						
NDT				S	**Sn**	**04 32 44.0**	**+0.4**
	baz=274						
TWD	**Chiawan**	**1.25**	**248**	*e*P	**Pn**	**04 32 26.2**	**-0.1**
	baz=249						
TWD				*e*S	**Sn**	**04 32 43.0**	**-0.8**
	baz=249						
NWLT	**Wulai**	**1.26**	**281**	*e*P	**Pn**	**04 32 26.8**	**+0.2**
	baz=282						
NWLT				*e*S	**Sn**	**04 32 44.0**	**-0.2**
	baz=282						
ETLH	**Xiulin Townshi**	**1.31**	**255**	*e*P	**Pn**	**04 32 27.2**	**0.0**
	baz=256						
ETLH				*e*S	**Sn**	**04 32 44.8**	**-0.5**
	baz=256						
JISG	**Ishigakijimahi**	**1.32**	**88**	P	**Pn**	**04 32 27.0**	**-0.1**
JISG				S	**Sn**	**04 32 44.2**	**-1.1**
NNSB	**Datong**	**1.36**	**265**	*e*P	**Pn**	**04 32 28.1**	**+0.4**
	baz=266						
NNSB				*e*S	**Sn**	**04 32 45.1**	**-1.2**
	baz=266						
NNSH	**Datong**	**1.36**	**265**	*e*P	**Pn**	**04 32 28.1**	**+0.3**
	baz=266						
NNSH				S	**Sn**	**04 32 45.8**	**-0.5**
	baz=266						
YHNB	**Yeheng**	**1.36**	**275**	*e*P	**Pn**	**04 32 28.3**	**+0.5**
	baz=276						
YHNB				S	**Sn**	**04 32 46.3**	**-0.1**
	baz=276						
NNS	**Nan Shan**	**1.36**	**266**	*e*P	**Pn**	**04 32 28.4**	**+0.6**
	baz=266						
NNS				*e*S	**Sn**	**04 32 46.2**	**-0.3**
	baz=266						
NSK	**Sanguang**	**1.38**	**276**	*e*P	**Pn**	**04 32 28.6**	**+0.6**
	baz=277						
NSK				S	**Sn**	**04 32 46.4**	**-0.3**
	baz=277						
ESL	**Shilin**	**1.50**	**241**	*e*P	**Pn**	**04 32 29.2**	**-0.1**
	baz=241						
ESL				*e*S	**Sn**	**04 32 48.7**	**-0.5**
	baz=241						
WHF	**Hehuan Shan**	**1.51**	**255**	P	**Pn**	**04 32 30.2**	**+0.2**
	baz=255						
WHF				S	**Sn**	**04 32 49.8**	**-0.5**
	baz=255						
TWT	**Tachien**	**1.57**	**260**	*e*P	**Pn**	**04 32 30.8**	**+0.3**
	baz=260						
TWT				*e*S	**Sn**	**04 32 51.5**	**+0.5**
	baz=260						
EGFH	**Guangfu**	**1.58**	**237**	*e*P	**Pn**	**04 32 30.2**	**-0.2**
	baz=236						
EGFH				*e*S	**Sn**	**04 32 50.3**	**-0.7**
	baz=236						
TDCB	**Techi**	**1.58**	**260**	*e*P	**Pn**	**04 32 31.1**	**+0.5**
	baz=260						
TDCB				*e*S	**Sn**	**04 32 51.1**	**-0.3**
	baz=260						
CHGB	**Renai**	**1.62**	**253**	P	**Pn**	**04 32 31.6**	**+0.5**
	baz=253						
CHGB				S	**Sn**	**04 32 50.9**	**-1.3**
	baz=253						
HGSD	**Ruisui**	**1.69**	**232**	*e*P	**Pn**	**04 32 31.5**	**-0.2**
	baz=231						
HGSD				*e*S	**Sn**	**04 32 52.2**	**-1.1**
	baz=231						
VWDT	**VWDT**	**1.76**	**244**	*e*P	**Pn**	**04 32 33.4**	**+0.7**
	baz=244						
VWDT				*e*S	**Sn**	**04 32 54.8**	**-0.3**
	baz=244						
WHP	**Taichung City**	**1.77**	**262**	*e*P	**Pn**	**04 32 33.8**	**+0.9**
	baz=262						
WHP				*e*S	**Sn**	**04 32 55.7**	**+0.3**
	baz=262						
YULB	**Yu-li**	**1.84**	**232**	*e*P	**Pn**	**04 32 33.6**	**-0.1**
	baz=231						
YULB				*e*S	**Sn**	**04 32 56.1**	**-0.8**
	baz=231						
TWF1	**Yuli**	**1.86**	**231**	*e*P	**Pn**	**04 32 33.4**	**-0.6**
	baz=230						
TWF1				*e*S	**Sn**	**04 32 56.9**	**-0.6**
	baz=230						
SSLB	**Suanglung**	**1.90**	**247**	*e*P	**Pn**	**04 32 34.9**	**+0.4**
	baz=247						
SSLB				*e*S	**Sn**	**04 32 58.0**	**-0.4**
	baz=247						
SMLT	**Sun Moon Lake**	**1.91**	**250**	*e*P	**Pn**	**04 32 35.3**	**+0.6**
	baz=250						
SMLT				*e*S	**Sn**	**04 32 58.9**	**-0.2**
	baz=250						
TYC	**Yuchr**	**1.94**	**251**	*e*P	**Pn**	**04 32 35.8**	**+0.8**
	baz=251						
TYC				*e*S	**Sn**	**04 32 59.2**	**0.0**
	baz=251						
FULB	**Fuli**	**1.97**	**227**	*e*P	**Pn**	**04 32 34.9**	**-0.4**
	baz=227						
FULB				*e*S	**Sn**	**04 32 59.7**	**-0.2**
	baz=227						
WHYT	**Xinyi Township**	**2.02**	**246**	*e*P	**Pn**	**04 32 37.0**	**+0.9**
	baz=245						
WHYT				*e*S	**Sn**	**04 33 01.1**	**-0.1**
	baz=245						
JIRB	**Irabujima**	**2.12**	**82**	*e*S	**Sn**	**04 33 02.1**	**-1.2**
ALS	**Alishan**	**2.15**	**242**	*e*P	**Pn**	**04 32 38.5**	**+0.6**
	baz=241						
ALS				*e*S	**Sn**	**04 33 04.1**	**-0.4**
	baz=241						
JIKM	**Ikemajima**	**2.20**	**80**	S	**Sn**	**04 33 05.5**	**+0.3**
CHN5	**Tsauling**	**2.21**	**245**	*e*P	**Pn**	**04 32 39.4**	**+0.8**
	baz=245						
CHN5				*e*S	**Sn**	**04 33 05.8**	**+0.2**
	baz=245						
JMJ2	**Miyako jima3**	**2.25**	**85**	*e*S	**Sn**	**04 33 06.4**	**+0.1**
TWGBT	**Beinan**	**2.38**	**224**	*e*P	**Pn**	**04 32 40.5**	**-0.1**
	baz=223						
TWG	**Pinlang**	**2.38**	**224**	*e*P	**Pn**	**04 32 41.1**	**+0.4**
	baz=223						
TWG				*e*S	**Sn**	**04 33 09.0**	**-0.4**
	baz=223						
TPUB	**Ta-pu**	**2.39**	**239**	*e*P	**Pn**	**04 32 41.9**	**+1.0**
	baz=239						
TPUB				*e*S	**Sn**	**04 33 10.2**	**+0.4**
	baz=239						
WTP	**Ta-pu**	**2.43**	**238**	*e*P	**Pn**	**04 32 42.4**	**+0.9**
	baz=238						
WTP				*e*S	**Sn**	**04 33 10.4**	**-0.4**
	baz=238						
CHN1	**Nanshi**	**2.53**	**238**	*e*P	**Pn**	**04 32 43.6**	**+0.9**
	baz=238						
CHN1				*e*S	**Sn**	**04 33 13.1**	**0.0**
	baz=238						
SLGT	**Liugui**	**2.55**	**233**	*e*P	**Pn**	**04 32 44.2**	**+1.2**
	baz=233						
SLGT				*e*S	**Sn**	**04 33 13.8**	**+0.2**
	baz=233						
MASBT	**Mashibuluo**	**2.81**	**227**	*e*P	**Pn**	**04 32 46.6**	**+0.1**
	baz=226						
VWUC	**VWUC**	**3.14**	**279**	*e*S	**Sn**	**04 33 25.7**	**-1.7**
	baz=278						

*IDC **12** 04:33:32.7±0.4, 0°.32N×129°.85E, h0km, mb4.9/30, mb1 4.9/34, mb1mx4.8/45, mbtmp4.8/34, ML3.9/4, MS4.5/28, Ms1 4.5/28, ms1mx4.4/35, Error ellipse: s-maj=15.1km s-min=8.3km az=70.0*

*BJI **12** 04:33:33.3±0.0, 0°.17S×130°.07E, h39km, mB5.2/57, mb5.0/75, Ms4.8/72, Ms7 4.7/68*

*DJA **12** 04:33:34.9±0.1, 0°.N±2°×13°.0E±°, h10km, M5.0/50, mb5.1/50, mB5.5/31, MLv5.1/14, Mw(mB)5.0/31, Mwp5.2/6*

*MOS **12** 04:33:35.2±1.0, 0°.28N×129°.90E, h30km, mb5.3/42, MS4.5/5, Error ellipse: s-maj=9.9km s-min=5.4km az=112.0*

*GCMT **12** 04:33:35.5±0.1, 0°.40N±0°.01×129°.83E±0°.01, h15km, MW5.2/139, Moment Tensor Solution. s84,c118; s139,c236; Duration: 1s0 Moment tensor: Scale 10^{17} Nm; M_{rr}0.07±.01; $M_{\theta\theta}$0.65±.01; $M_{\phi\phi}$-0.71±.01; $M_{r\theta}$0.38±.04; $M_{\theta\phi}$-0.29±.01; $M_{\phi r}$-0.10±.04; Best double couple: $M_0$0.83500×10^{17} NP1:ϕ_s54.00000°, δ71.00000°, λ163.00000°. NP2:ϕ_s149.00000°, δ74.00000°, λ20.00000°. Principal axes: T 0.8940, Plg26.0000°, Azm12.0000°; N -0.1180, Plg64.0000°, Azm187.0000°; P -0.7760, Plg2.0000°, Azm281.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*UNK **12** 04:33:38.9, 0°.28N×129°.88E, h39km*

*NEIC **12** 04:33:39.5±1.1, 0°.29N±0°.07×129°.90E±0°.06, h56km±1km, mb5.1/114, Error ellipse: s-maj=11.7km s-min=7.5km az=218.0*

*KLM **12** 04:33:41.0, 0°.39N×130°.00E, h62km, mb5.3*

ISC 12 04:33:38.4±0.2, 0°.24N±0°.03×129°.87E±0°.04, h39km±3km, h39km:pP-P, n401, σ1s78/402, mb5.1/120, MS4.5/51, 18C-13D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**1.78**	**128**	Pn	**Pn**	**04 34 05.4**	**-1.2**
	434nm,0.3s,baz=329,slow=7.9,SNR=1079						
SIJI				Sn	**Sn**	**04 34 30.0**	**+2.0**
	322nm,0.3s,baz=165,slow=22,SNR=18						
SIJI				LR	LR	04 34 57.7	
	comp=Z,25μm,19.1s,baz=190,slow=46						
LBMI	**Labuha**	**2.52**	**250**	P	**Pn**	**04 34 15.8**	**-1.1**
TNTI	**Ternate**	**2.56**	**282**	P	**Pn**	**04 34 15.5**	**-1.8**
TNTI				S	**Sn**	**04 34 48.7**	**+1.5**
TNTI	**Ternate**	**2.56**	**282**	Pn	**Pn**	**04 34 15.8**	**-1.5**
TNTI				Sn	**Sn**	**04 34 46.9**	**-0.3**
MSAI	**Masohi**	**3.68**	**195**	P	**Pn**	**04 34 34.4**	**+1.6**
MSAI				S	**Sn**	**04 35 20.1**	**+5.1**
FAKI	**Fak Fak**	**3.94**	**143**	P	**Pn**	**04 34 36.2**	**-0.1**
FAKI	**Fak Fak**	**3.94**	**143**	Pn	**Pn**	**04 34 36.2**	**-0.1**
FAKI				Sn	**Sn**	**04 35 20.0**	**-1.3**
AAI	**Ambon**	**4.24**	**203**	P	**Pn**	**04 34 42.0**	**+1.5**
NLAI	**Namlea**	**4.43**	**219**	P	**Pn**	**04 34 43.9**	**+0.9**
SANI	**Sanana**	**4.50**	**240**	P	**Pn**	**04 34 43.3**	**-0.7**
BNDI	**Bandanaira**	**4.73**	**180**	P	**Pn**	**04 34 48.0**	**+0.8**

MNI	**Manado**	**5.17**	**283**	P	**Pn**	**04 34 52.9**	**-0.4**
MNI				pmax	pmax		
	comp=Z,827nm,1.2s						
KMSI	**Cibinong**	**5.90**	**273**	P	**Pn**	**04 35 02.9**	**-0.4**
	comp=Z,3.3nmcomp=Z,7μmcomp=E,616nm,0.7s						
LUWI	**Luwuk**	**7.21**	**260**	P	Pn	04 35 27.2	+5.9
LUWI	**Luwuk**	**7.21**	**260**	Pn	**Pn**	**04 35 21.9**	**+0.6**
MRSI	**Marisa**	**7.93**	**272**	P	**Pn**	**04 35 31.9**	**+0.7**
	comp=Z,0.6nmcomp=Z,2μmcomp=E,184nm,1.2s						
KCP	**Kidapawan**	**8.24**	**325**	⇓*e*P	**Pn**	**04 35 34.0**	**-1.5**
KCP				*i* S	**Sn**	**04 37 07.1**	**-0.4**
CTBH	**Cotabato--PC H**	**8.92**	**321**	⇓*i*P	**Pn**	**04 35 45.5**	**+0.8**
SMPI	**Sarmi**	**9.11**	**104**	P	**Pn**	**04 35 46.7**	**-0.7**
	comp=Z,2μmcomp=Z,1μmcomp=Z,53nm,1.0s						
BBSI	**Bau Bau**	**9.24**	**232**	P	**Pn**	**04 35 52.8**	**+3.6**
	comp=Z,415nmcomp=Z,41nm,1.0s						
CGP	**Cagayan de Oro**	**9.65**	**328**	⇓*e*P	**Pn**	**04 35 56.9**	**+2.1**
MPSI	**Mapaga**	**9.97**	**271**	P	**Pn**	**04 35 58.5**	**-0.7**
	comp=Z,1μmcomp=Z,54nm,1.1s						
TTSI	**Tana Toraja**	**10.56**	**252**	P	**Pn**	**04 36 06.8**	**-0.5**
	comp=Z,2μmcomp=Z,123nm,1.3s						
GENI	**Genyem**	**10.67**	**105**	P	**Pn**	**04 36 11.1**	**+2.3**
	comp=Z,4μmcomp=Z,7μmcomp=Z,244nm,0.6s						
BNSI	**Bone**	**10.79**	**245**	P	**Pn**	**04 36 11.6**	**+1.2**
	comp=Z,1μmcomp=Z,87nm,1.2s						
SPSI	**Sidrap Palu**	**10.92**	**247**	P	**Pn**	**04 36 13.5**	**+1.3**
	comp=Z,4μmcomp=Z,272nm,0.6s						
JAY	**Jayapura**	**11.17**	**104**	Pn	**Pn**	**04 36 16.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=279,slow=11,SNR=4.5						
JAY				LR	LR	04 40 59.2	
	comp=Z,5μm,19.3s,baz=294,slow=40						
JAY	**Jayapura**	**11.17**	**104**	P	**Pn**	**04 36 14.9**	**-0.8**
	comp=Z,716nmcomp=Z,12nm,1.2s						
KAPI	**Kappang**	**11.37**	**243**	Pn	**Pn**	**04 36 18.4**	**0.0**
	comp=Z,1.8nm,0.3s,baz=82,slow=5.5,SNR=10						
KAPI	**Kappang**	**11.37**	**243**	P	**Pn**	**04 36 19.2**	**+0.8**
KAPI	**Kappang**	**11.37**	**243**		**Pn**	**04 36 19.1**	**+0.8**
SOEI	**Soe**	**11.39**	**209**	P	**Pn**	**04 36 18.4**	**-0.3**
	comp=Z,3μmcomp=Z,4μmcomp=Z,132nm,1.1s						
BATI	**Baumata**	**12.07**	**211**	LR	LR	04 41 20.3	
	comp=Z,4μm,21.1s,baz=28,slow=38						
BATI	**Baumata**	**12.07**	**211**	P	**Pn**	**04 36 30.2**	**+2.2**
	comp=Z,53nm,1.2s						
EDFI	**Ende, Flores**	**12.09**	**222**	P	**Pn**	**04 36 29.8**	**+1.5**
	comp=Z,556nmcomp=Z,40nm,1.7s						
MTN	**Manton Dam**	**13.06**	**175**	P	**Pn**	**04 36 39.5**	**-1.9**
	baz=13,SNR=68						
MTN	**Manton Dam**	**13.06**	**175**		**Pn**	**04 36 38.9**	**-2.5**
KDU	**Kakadu**	**13.10**	**169**	P	**Pn**	**04 36 38.2**	**-3.8**
	baz=13,SNR=110						
SPMM	**Sapulut**	**14.10**	**289**	P	**Pn**	**04 36 55.0**	**-0.8**
KBKI	**Kotabaru**	**14.14**	**255**	P	**P**	**04 37 05.1**	**+2.0**
WBSI	**Waikabubak, Su**	**14.32**	**226**	P	**Pn**	**04 36 59.5**	**+0.8**
	comp=Z,2μmcomp=Z,116nm,1.7s						
KKM	**Kota Kinabalu**	**14.80**	**293**	Pn	**Pn**	**04 37 02.9**	**-2.2**
PLAI	**Plampang**	**15.04**	**233**	P	**Pn**	**04 37 09.6**	**+1.3**
	comp=Z,3μmcomp=Z,232nm,1.9s						
KNRA	**Kununurra**	**15.85**	**184**	P	**Pn**	**04 37 17.6**	**-1.2**
	baz=16,SNR=25						
KNRA	**Kununurra**	**15.85**	**184**	Pn	**Pn**	**04 37 18.0**	**-0.8**
KNRA				IAmb	IAmb	04 37 30.0	
	comp=Z,117nm,0.9s						
SRBI	**Singaraja**	**16.79**	**240**	P	**P**	**04 37 32.5**	**0.0**
	comp=Z,2μmcomp=Z,191nm,1.1s						
KMMI	**Kalianget**	**17.44**	**245**	P	P	04 37 53.4	+14
JAGI	**Jajag, Banyuwa**	**17.89**	**241**	P	**P**	**04 37 46.3**	**+1.5**
	comp=Z,4μmcomp=Z,120nm,1.0s						
JAGI	**Jajag, Banyuwa**	**17.89**	**241**	P	**P**	**04 37 44.7**	**0.0**
JAGI				IAmb	IAmb	04 37 59.8	
	comp=Z,86nm,0.9s						
FITZ	**Fitzroy Crossi**	**18.69**	**193**	P	**Pn**	**04 37 54.5**	**+0.3**
	baz=19,SNR=17						
FITZ	**Fitzroy Crossi**	**18.69**	**193**	P	**P**	**04 37 52.6**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=31,slow=9.6,SNR=31						
FITZ				LR	LR	04 46 40.2	
	comp=Z,1μm,19.1s,baz=28,slow=42						
FITZ	**Fitzroy Crossi**	**18.69**	**193**		**P**	**04 37 53.2**	**-0.2**
COEN	**Coen**	**19.30**	**137**	P	**P**	**04 38 00.2**	**0.0**
	baz=19,SNR=16						
COEN	**Coen**	**19.30**	**137**		**P**	**04 37 60.0**	**-0.3**
COEN				IAmb	IAmb	04 38 03.3	
	comp=Z,115nm,1.1s						
KSM	**Kuching**	**19.60**	**274**	P	**P**	**04 38 03.5**	**0.0**
KSM				IAmb	IAmb	04 38 16.0	
	comp=Z,103nm,1.0s						
KSM	**Kuching**	**19.60**	**274**	P	**Pn**	**04 38 05.0**	**-0.1**
PMG	**Port Moresby**	**19.70**	**120**	*c*P	**P**	**04 38 04.1**	**-0.5**
	comp=Z,2.6nm,0.3s,baz=334,slow=7.2,SNR=8.7						
PMG				LR	LR	04 47 00.4	
	comp=Z,4μm,19.0s,baz=290,slow=41						
PMG	**Port Moresby**	**19.70**	**120**	*c*eP	**P**	**04 38 04.6**	**0.0**
PMG				pmax	pmax		
	comp=Z,73nm,1.0s						
PMG	**Port Moresby**	**19.70**	**120**	P	**P**	**04 38 03.6**	**-1.0**
PMG				IAmb	IAmb	04 38 08.3	
	comp=Z,102nm,1.1s						
WB0	**Warramunga Arr**	**20.37**	**168**	P	**P**	**04 38 12.2**	**+0.3**
WB0				IAmb	IAmb	04 38 13.3	
	comp=Z,98nm,0.9s						
WOJI	**Wonogiri, Jawa**	**20.52**	**247**	P	Pn	04 38 21.1	+5.2
WRAB	**Tennant Creek**	**20.52**	**168**	*c i*P	**P**	**04 38 13.2**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,107nm,0.9s						
WRAB	**Tennant Creek**	**20.52**	**168**	P	**P**	**04 38 13.9**	**+0.4**
WRAB				IAmb	IAmb	04 38 14.9	
	comp=Z,115nm,0.9s						
WRA	**Warramunga Arr**	**20.53**	**168**	P	**P**	**04 38 13.4**	**-0.2**
	comp=Z,94nm,0.8s,baz=347,slow=11,SNR=159						
WRA				LR	LR	04 48 24.2	
	comp=

comp=Z,1µm,21.7s,baz=331,slow=40
CTAO Charters Tower 25.80 142 P **P** **04 39 06.7 +0.7**
CTAO pmax pmax
comp=Z,30nm,1.1s
CTAO Charters Tower 25.80 142 P **P** **04 39 06.7 +0.7**
KASI Kota Agung 25.97 257 P **P** **04 39 09.7 +2.0**
comp=Z,1µmcomp=Z,102nm,1.1s
MYKOM Kota Tinggi 26.06 274 IAmb IAmb 04 39 20.6
comp=Z,44nm,1.0s
MYKOM Kota Tinggi 26.06 274 P **P** **04 39 09.0 +0.5**
LWLI Liwa 26.30 258 P P 04 39 24.7 +14
JOW Kunigami 26.48 357 P **P** **04 39 12.8 +0.7**
comp=Z,5.2nm,0.8s,baz=235,slow=3.5,SNR=4.2
JOW Kunigami 26.48 357 IAmb IAmb 04 39 17.3
comp=Z,56nm,1.1s
LHSI Lahat 26.64 261 P P 04 39 26.2 +13
QZH Quanzhou 26.87 337 P **P** **04 39 15.1 -0.5**
QZH S **S** **04 43 50.5 +0.7**
QZH LR LR
comp=Z,990nm,20.8s
QZH LR LR
comp=Z,1µm,25.6s
QIZ Qiongzhong 27.11 315 P **P** **04 39 18.1 +0.3**
QIZ S **S** **04 43 56.5 +2.8**
QIZ sS **sS** **04 44 11.7 +0.1**
QIZ pmax pmax
comp=Z,39nm,1.4s
QIZ pmax pmax
comp=Z,360nm,2.7s
QIZ LR LR
comp=Z,2µm,15.7s
QIZ LR LR
comp=Z,1µm,24.0s
QIZ LR LR
comp=Z,830nm,19.6s
GIRL Giralia 27.37 213 P **P** **04 39 22.6 +2.5**
baz=28,SNR=4.5
MASI Maura Aman, Be 27.82 263 P P 04 39 40.2 +16
SDSI Sungai Dareh 28.46 268 P P 04 39 36.1 +6.0
MEEK Meekatharra 28.84 201 P **P** **04 39 33.8 +0.5**
baz=29,SNR=9.3
IPM Ipoh 29.12 279 P **P** **04 39 35.7 -0.2**
PDSI Padang 29.43 268 P **P** **04 39 39.6 +0.9**
QLP Quilpie 30.05 154 P **P** **04 39 44.6 +0.7**
baz=30,SNR=4.1
MNSI Mandailing Nat 30.29 271 P P 04 40 01.3 +15
SISI Saibi 30.82 267 P P 04 39 56.4 +5.5
PSI Prapat 31.04 275 P **P** **04 39 52.6 -0.4**
comp=Z,11nm,0.7s,baz=181,slow=1.3,SNR=4.4
SSE Sheshan 31.77 346 P **P** **04 39 59.9 +0.8**
SSE S **S** **04 45 10.7 +4.0**
SSE pmax pmax
comp=Z,14nm,0.7s
SSE pmax pmax
comp=Z,94nm,4.4s
SSE LR LR
comp=Z,240nm,15.1s
SSE LR LR
comp=Z,610nm,15.9s
MORW Morawa 32.00 203 P **P** **04 40 01.5 +0.3**
baz=32,SNR=6.6
KCSI Kotacane, Aceh 32.24 276 P **P** **04 40 03.2 -0.3**
comp=Z,32nm,1.5s
KMBL Kambalda 32.33 193 P **P** **04 40 04.5 +0.5**
baz=32,SNR=7.1
JNU Nakatsue 32.72 2 P **P** **04 40 06.4 -1.1**
JNU IAmb IAmb 04 40 13.9
comp=Z,26nm,1.0s
SLVN Son La 32.89 311 P **P** **04 40 08.3 -0.8**
BLDU Ballidu 33.14 201 P **P** **04 40 11.7 +0.6**
baz=33,SNR=5.2
NJ2 Nanjing 33.31 343 *e*P **P** **04 40 14.5 +2.0**
NJ2 S **S** **04 45 35.0 +4.4**
NJ2 sS **sS** **04 45 52.0 +3.4**
NJ2 pmax pmax
comp=Z,27nm,0.7s
NJ2 pmax pmax
comp=Z,270nm,4.5s
NJ2 LR LR
comp=Z,640nm,19.4s
NJ2 LR LR
comp=Z,770nm,20.1s
NJ2 LR LR
comp=Z,950nm,19.9s
WHN Wuhan 33.55 335 ⇓P **P** **04 40 15.5 +0.8**
WHN pmax pmax
comp=Z,34nm,0.7s
WHN LR LR
comp=Z,3µm,20.9s
WHN LR LR
comp=Z,1µm,13.0s
WHN LR LR
comp=Z,3µm,22.2s
KLBR Kellerberrin 33.67 199 P **P** **04 40 16.5 +0.8**
baz=34,SNR=10
STKA Stephens Creek 33.82 162 P **P** **04 40 17.6 +0.7**
baz=34,SNR=19
STKA Stephens Creek 33.82 162 P **P** **04 40 17.7 +0.7**
comp=Z,37nm,0.7s,baz=334,slow=8.7,SNR=60
STKA LR LR 04 57 11.0
comp=Z,656nm,19.3s,baz=342,slow=42
GYA Guiyang 34.34 321 ⇓*i*P **P** **04 40 23.4 +1.7**
GYA SS SS 04 48 04.1 -13
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax
comp=Z,220nm,3.8s
GYA LR LR
comp=Z,670nm,14.9s
GYA LR LR
comp=Z,420nm,17.9s
GYA LR LR
comp=Z,890nm,18.4s
CMSA Cobar Meteorol 34.98 156 P **P** **04 40 28.1 +1.1**
baz=35,SNR=21
NWAO Narrogin (SRO) 35.07 199 P **P** **04 40 28.7 +0.8**
baz=35,SNR=4.0
NWAO Narrogin (SRO) 35.07 199 P **P** **04 40 28.3 +0.5**
NWAO pmax pmax
comp=Z,31nm,1.1s
NWAO Narrogin (SRO) 35.07 199 P **P** **04 40 28.3 +0.5**
NWAO IAmb IAmb 04 40 44.4
comp=Z,31nm,1.1s
CMAR Chiang Mai Arr 35.36 303 P **P** **04 40 31.4 +0.9**
comp=Z,23nm,1.0s,baz=120,slow=6.8,SNR=54
CMAR LR LR 04 56 37.3
comp=Z,336nm,18.2s,baz=142,slow=39
CMAR Chiang Mai Arr 35.36 303 *ce*P **P** **04 40 31.7 +1.2**
CMAR pmax pmax
comp=Z,23nm,1.0s
CHTO Chiang Mai 35.52 303 P **P** **04 40 31.1 -0.8**
CHTO pmax pmax
comp=Z,68nm,1.1s
CHTO Chiang Mai 35.52 303 P **P** **04 40 31.1 -0.8**
TJN Taejon 36.03 357 ⇓*e*P **P** **04 40 36.6 +0.6**
KMI Kunming 36.05 315 P **P** **04 40 38.0 +1.4**
KMI pP pP 04 40 48.0 +0.5
KMI sP sP 04 40 52.7 +0.8
KMI PP **PP** **04 42 02.3 +3.2**
KMI S **S** **04 46 18.5 +5.0**
KMI pmax pmax
comp=Z,53nm,0.7s
KMI pmax pmax
comp=Z,260nm,3.6s
KMI LR LR
comp=Z,910nm,19.1s
KMI LR LR
comp=Z,800nm,21.7s
KMI LR LR
comp=Z,800nm,26.3s
ARMA Armidale 36.85 148 P **P** **04 40 44.6 +1.3**
baz=37,SNR=6.4
ARMA Armidale 36.85 148 P **P** **04 40 43.2 -0.1**
MJAR Matsushiro Arr 36.94 11 P **P** **04 40 41.2 -2.5**
comp=Z,1.4nm,0.3s,baz=187,slow=10.0,SNR=8.2
MJAR LR LR 04 53 57.0
comp=Z,891nm,21.1s,baz=195,slow=33
MJAR Matsushiro Arr 36.94 11 P **P** **04 40 41.1 -2.7**
MJAR pmax pmax
comp=Z,4.0nm,1.1s
MJAR Matsushiro Arr 36.94 11 P **P** **04 40 41.1 -2.7**
MAJO Matsushiro 36.94 11 P **P** **04 40 42.5 -1.3**
MAJO pmax pmax
comp=Z,17nm,0.9s
MAJO Matsushiro 36.94 11 P **P** **04 40 42.5 -1.3**
MAJO IAmb IAmb 04 40 57.3
comp=Z,17nm,0.9s
MAT Matsushiro 36.94 11 P **P** **04 40 46.4 +2.6**
MAT *e*S **S** **04 46 33.4 +7.0**
KSAR Wonju Array Be 37.06 357 P **P** **04 40 43.8 -1.0**
KSAR Wonju Array Be 37.06 357 P **P** **04 40 43.8 -1.0**
KSAR **PcP** **04 43 04.1 -0.9**
KSRS Korea Array 37.07 357 P **P** **04 40 44.1 -0.8**
comp=Z,5.0nm,0.9s,baz=177,slow=10,SNR=17
KSRS PcP **PcP** **04 43 06.4 +1.4**
comp=Z,2.1nm,0.8s,baz=181,slow=4.3,SNR=4.6
KSRS LR LR 04 54 48.8
comp=Z,1µm,20.2s,baz=178,slow=34
ARPS Mount Arapiles 38.46 164 P **P** **04 40 58.4 +1.8**
baz=39,SNR=9.8
YNG Young 38.50 155 P **P** **04 40 58.7 +1.7**
baz=39,SNR=10
XAN Xi'an 38.94 332 P **P** **04 40 59.6 -1.1**
XAN PP **PP** **04 42 30.8 +0.3**
XAN PcP **PcP** **04 43 10.5 -0.4**
XAN pmax pmax
comp=Z,24nm,0.8s
XAN pmax pmax
comp=Z,190nm,3.3s
XAN LR LR
comp=Z,840nm,13.3s
XAN LR LR
comp=Z,900nm,16.1s
XAN LR LR
comp=Z,740nm,23.5s
DL2 Dalian 39.22 350 P **P** **04 41 04.1 +1.2**
DL2 S **S** **04 47 07.6 +6.9**
DL2 pmax pmax
comp=Z,22nm,1.0s
DL2 pmax pmax
comp=Z,56nm,5.1s
DL2 LR LR
comp=Z,720nm,18.2s
DL2 LR LR
comp=Z,660nm,20.0s
DL2 LR LR
comp=Z,730nm,19.1s
CD2 Chengdu 39.30 323 ⇓P **P** **04 41 04.6 +0.8**
CD2 sP sP 04 41 20.5 +1.4
CD2 PP **PnPn** **04 42 37.0 -0.4**
CD2 S **S** **04 47 03.0 +0.8**
CD2 SS **SnSn** **04 49 58.3 -0.2**
CD2 pmax pmax
comp=Z,70nm,0.6s
CD2 pmax pmax
comp=Z,200nm,4.6s
CD2 LR LR
comp=Z,1µm,14.3s
CD2 LR LR
comp=Z,1µm,15.9s
CD2 LR LR
comp=Z,2µm,24.9s
CAN Canberra 39.63 155 P **P** **04 41 06.7 +0.2**
CAN pmax pmax
comp=Z,20nm,0.9s
CAN Canberra 39.63 155 P **P** **04 41 06.7 +0.2**
CAN IAmb IAmb 04 41 09.1
comp=Z,20nm,0.9s
SANVU Saraoutou 40.04 115 P **P** **04 41 09.4 -0.7**
SANVU IAmb IAmb 04 41 24.3
comp=Z,40nm,1.0s
TOO Toolangi 40.30 161 P **P** **04 41 14.2 +2.2**
baz=40,SNR=4.7
TOO Toolangi 40.30 161 P **P** **04 41 11.8 -0.2**
TOO pmax pmax
comp=Z,18nm,1.1s
TOO Toolangi 40.30 161 P **P** **04 41 11.8 -0.2**
H11S3 WAKE ISLAND Hy 40.45 61 T T 05 24 08.7
baz=248,slow=75,SNR=67
H11S2 WAKE ISLAND Hy 40.46 61 T T 05 24 10.4
baz=248,slow=75,SNR=45
H11S1 WAKE ISLAND Hy 40.46 61 T T 05 24 10.0
baz=248,slow=75,SNR=27
H11N1 WAKE ISLAND Hy 41.10 60 T T 05 24 57.4
baz=246,slow=75,SNR=415
H11N2 WAKE ISLAND Hy 41.11 60 T T 05 24 54.2
baz=246,slow=75,SNR=263
H11N3 WAKE ISLAND Hy 41.12 60 T T 05 24 54.9
baz=246,slow=75,SNR=263
BJI Beijing 41.54 344 P **P** **04 41 22.7 +0.6**
BJI S **S** **04 47 40.0 +4.8**
BJI pmax pmax
comp=Z,22nm,0.7s
BJI LR LR
comp=Z,430nm,12.8s
BJI LR LR
comp=Z,510nm,21.0s
DZM Mont Dzumac 41.98 124 *e*P P 04 41 32.5 +6.4
comp=Z,58nm,1.4s
DZM *e*S **S** **04 47 49.9 +7.3**
comp=Z,278nm,33.2s
DZM *e*LR LR 04 53 10.5
comp=Z,2µm,24.4s
MSHR Mys Shultsa 42.17 1 ⇓*e*P **P** **04 41 28.4 +1.2**
MSHR pmax pmax
comp=Z,16nm,1.3s
LKP Lekhapani 42.34 312 *e*P **P** **04 41 28.6 -0.2**
KOHI KOHIMA 42.80 309 *e*P **P** **04 41 32.2 -0.6**
KOHI IAmb IAmb 04 41 37.7
comp=Z,104nm,1.2s
LZH Lanzhou 43.09 329 ⇑P **P** **04 41 36.4 +1.4**
LZH pP sP 04 41 47.7 -2.8
LZH sP pP 04 41 51.0 +5.0
LZH S **S** **04 48 00.8 +2.1**
LZH SS **SS** **04 51 10.8 -1.4**
LZH pmax pmax
comp=Z,42nm,1.3s
LZH pmax pmax
comp=Z,320nm,4.3s
LZH LR LR
comp=Z,1µm,16.8s
LZH LR LR
comp=Z,960nm,17.3s
LZH LR LR
comp=Z,630nm,17.5s
CN2 Changchun 43.55 355 *e*P **P** **04 41 40.2 +1.8**
CN2 *e*S **S** **04 48 08.6 +3.8**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,30nm,3.0s
CN2 LR LR
comp=Z,930nm,18.0s
CN2 LR LR
comp=Z,590nm,18.0s
CN2 LR LR
comp=Z,920nm,20.0s
HHC Hu-ho-hao-te 43.70 340 *e*P **P** **04 41 40.5 +0.7**
HHC S **S** **04 48 08.3 +0.9**
HHC SS **SS** **04 51 20.0 -3.9**
HHC pmax pmax
comp=Z,15nm,1.2s
HHC pmax pmax
comp=Z,100nm,5.7s
HHC LR LR
comp=Z,310nm,17.2s
HHC LR LR
comp=Z,160nm,12.6s
HHC LR LR
comp=Z,350nm,19.4s
USA0B Ussuriysk Arra 43.81 2 ⇑*e*P **P** **04 41 39.9 -0.6**
USA0B Ussuriysk Arra 43.81 2 P **P** **04 41 39.7 -0.8**
USRK Ussuriysk Ar. 43.81 2 P **P** **04 41 40.1 -0.3**
comp=Z,8.0nm,0.8s,baz=197,slow=8.2,SNR=14
USRK LR LR 05 00 09.3
comp=Z,721nm,18.3s,baz=172,slow=36
USRK Ussuriysk Ar. 43.81 2 P **P** **04 41 39.7 -0.8**
USRK Ussuriysk Ar. 43.81 2 P **P** **04 41 39.7 -0.8**
ZIRO ZIRO 43.93 311 *e*P **P** **04 41 42.0 0.0**
ZIRO IAmb IAmb 04 41 48.7
comp=Z,140nm,1.1s
MDJ Mudanjiang 44.19 360 P **P** **04 41 46.6 +3.1**
MDJ pP sP 04 41 57.5 -1.6
MDJ sP pP 04 42 02.6 +8.0
MDJ S **S** **04 48 21.5 +7.4**
MDJ pmax pmax
comp=Z,14nm,1.3s
MDJ pmax pmax
comp=Z,160nm,4.1s
MDJ LR LR
comp=Z,590nm,20.7s
MDJ LR LR
comp=Z,380nm,17.0s
MDJ LR LR
comp=Z,780nm,17.1s
MDJ Mudanjiang 44.19 360 P **P** **04 41 42.4 -1.1**
MDJ IAmb IAmb 04 41 53.8
comp=Z,42nm,1.1s
YUK Yuzh-Kuril'sk 45.88 16 *e*P **P** **04 41 56.2 -0.7**
YUK *i*S **S** **04 48 39.6 +1.1**
DHUB **DHUBRI 46.18 307** *e*P **P** **04 41 59.3 -0.3**
DHUB IAmb IAmb 04 42 06.0
comp=Z,28nm,0.7s
LSA Lhasa 47.09 312 P **P** **04 42 08.1 +0.8**
LSA pmax pmax
comp=Z,84nm,1.1s
LSA Lhasa 47.09 312 P **P** **04 42 06.5 -0.8**
LSA pmax pmax
comp=Z,35nm,1.0s
LSA Lhasa 47.09 312 P **P** **04 42 06.5 -0.8**
LSA IAmb IAmb 04 42 22.8
comp=Z,35nm,1.0s
GTA Gaotai 47.69 328 *e*P **P** **04 42 11.5 +0.1**
GTA pP pP 04 42 21.1 -1.5
GTA sP sP 04 42 24.9 -2.1
GTA S **S** **04 49 03.5 -1.4**
GTA sS sS 04 49 23.0 -0.5
GTA SS **SS** **04 52 30.0 -3.7**
GTA pmax pmax
comp=Z,13nm,1.0s
GTA pmax pmax
comp=Z,140nm,7.2s
GTA LR LR
comp=Z,450nm,21.0s
GTA LR LR
comp=Z,550nm,24.4s
GTA LR LR
comp=Z,700nm,19.2s
YSS Yuzh-Sakhalins 47.87 12 *e*P **P** **04 42 13.8 +1.3**
YSS *e* 04 44 08.3
YSS *e*S **S** **04 49 09.0 +2.1**
YSS *e*SS **SS** **04 52 32.2 -3.9**
GTK Tadong 47.88 308 *e*P **P** **04 42 13.4 +0.3**
TAPN Taplejung 48.60 307 *e*P **P** **04 42 18.7 -0.2**
comp=Z,140nm,1.1s
ODAN Odare 48.65 307 *e*P **P** **04 42 19.3 +0.2**
comp=Z,102nm,1.0s
RAMN Ramite 49.32 306 *e*P **P** **04 42 24.1 -0.2**
comp=Z,135nm,1.1s
JIRN Jiri 49.95 307 *e*P **P** **04 42 28.9 -0.4**
comp=Z,248nm,1.3s
GUN Gumba 50.31 307 *e*P **P** **04 42 31.7 -0.2**
comp=Z,78nm,0.9s
PKI Pulchoki 50.54 306 *e*P **P** **04 42 33.0 -0.7**
comp=Z,48nm,1.1s
PKIN Phulchoki 50.55 306 *e*P **P** **04 42 33.3 -0.4**
comp=Z,50nm,1.2s
MSVF Nonsavu 50.64 113 *de*P **P** **04 42 35.1 +0.9**
MSVF pmax pmax
comp=Z,29nm,1.2s
MSVF Nonsavu 50.64 113 P **P** **04 42 33.6 -0.7**
MSVF IAmb IAmb 04 42 52.1
comp=Z,33nm,1.1s
DMN Daman 50.80 306 *e*P **P** **04 42 35.3 -0.3**
comp=Z,55nm,0.9s
GKN Gorkha 51.34 306 *e*P **P** **04 42 39.3 -0.2**
comp=Z,115nm,1.2s
ULN Ulaanbaatar 51.41 340 *ce*P **P** **04 42 39.8 +0.2**
ULN pmax pmax
comp=Z,8.0nm,0.7s
ULN Ulaanbaatar 51.41 340 P **P** **04 42 38.9 -0.8**
ULN IAmb IAmb 04 42 44.4
comp=Z,26nm,1.0s
SONM Songino Array 51.61 340 P **P** **04 42 41.2 +0.1**
comp=Z,9.6nm,0.9s,baz=155,slow=7.3,SNR=24
SONM LR LR 05 05 15.5
comp=Z,550nm,21.3s,baz=161,slow=37
SONM Songino Array 51.61 340 P **P** **04 42 39.7 -1.4**
SONM pmax pmax
comp=Z,11nm,0.9s
SONM Songino Array 51.61 340 P **P** **04 42 39.7 -1.4**
KOLN Koldanda 52.09 306 *e*P **P** **04 42 44.8 -0.3**
comp=Z,233nm,1.2s
DANN Dangsing 52.19 306 *e*P **P** **04 42 45.0 -1.0**
comp=Z,276nm,1.4s
HYB Hyderabad 53.28 292 *i*P **P** **04 42 53.5 -0.4**
CIT Chita 53.39 348 *e*P **P** **04 42 55.2 +1.1**
CIT *e* 04 43 10.6
CIT pmax pmax
comp=Z,54nm,1.6s
OUZ Omahuta 53.89 136 P **P** **04 42 57.7 -0.3**
ZAK Zakamensk 54.85 339 *e*P **P** **04 43 04.2 -0.7**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
SKR Severo-Kuril's 54.99 20 *e*P **P** **04 43 05.4 -0.3**
SKR *e*S S 04 50 58.2 +13
SKR MLR MLR
comp=Z,100nm,20.0s
TLY Talaya 55.82 341 LR LR 05 11 03.0
comp=Z,157nm,18.1s,baz=133,slow=40
TLY Talaya 55.82 341 *e*P **P** **04 43 14.0 +2.3**
TLY *e*S **S** **04 50 56.9 +0.7**
TLY pmax pmax
comp=Z,32nm,1.3s
TLY MLR MLR
comp=Z,991nm,17.0s
IRK Irkutsk 56.10 341 *e*P **P** **04 43 14.1 +0.4**
IRK pmax pmax
comp=Z,36nm,1.9s
MOY Mondy 56.73 339 *e*P **P** **04 43 19.2 +0.9**
MOY pmax pmax
comp=Z,54nm,1.5s
LBZ Lake Benmore 57.06 146 P **P** **04 43 20.3 -0.4**
WMQ Urumqi 57.36 325 *e*P **P** **04 43 24.5 +1.6**
WMQ pP pP 04 43 30.8 -3.5
WMQ sP sP 04 43 39.1 +0.5
WMQ S **S** **04 51 18.3 +1.3**
WMQ pmax pmax
comp=Z,40nm,0.7s
WMQ pmax pmax
comp=Z,86nm,3.7s
WMQ LR LR
comp=Z,880nm,28.9s
WMQ LR LR
comp=Z,540nm,28.9s
WMQ LR LR
comp=Z,870nm,25.5s
PEA0B Petropavlovsk- 57.56 19 *de*P **P** **04 43 24.1 +0.1**
PETK Petropavlovsk- 57.56 19 P **P** **04 43 24.3 +0.3**
comp=Z,14nm,1.0s,baz=188,slow=4.5,SNR=15
PETK Petropavlovsk- 57.56 19 P **P** **04 43 23.2 -0.8**
PETK Petropavlovsk- 57.56 19 P **P** **04 43 23.2 -0.8**
PET Petropavlovsk 57.81 20 *e*P P 04 43 32.5 +6.8
PET *e*S **S** **04 51 25.7 +3.4**
BOD Bodaibo 58.78 350 *e*P **P** **04 43 32.1 -0.4**
BOD pmax pmax
comp=Z,33nm,1.4s
DGZ Jazzator, Alta 61.16 330 ⇑*e*P **P** **04 43 48.9 -0.3**
DGZ pmax pmax
comp=Z,32nm,1.2s
YAK Yakutsk 61.63 360 P **P** **04 43 51.7 -0.1**
comp=Z,11nm,0.4s,baz=3.5,slow=2.2,SNR=8.2
YAK Yakutsk 61.63 360 *e*P **P** **04 43 51.3 -0.6**
YAK *e**PP **pP** **04 43 58.4 -5.0**
YAK *e* 04 44 35.0
YAK *e*S **S** **04 52 10.4 -0.8**
YAK *e**SS **sS** **04 52 33.4 +4.6**
YAK *e* 04 53 41.0
YAK *e*SS **SS** **04 56 13.7 +0.5**
YAK *e*SSS SSS 04 58 59.6
YAK pmax pmax
comp=N,12nm,0.9s
YAK pmax pmax
comp=Z,42nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK smax smax
comp=E,39nm,2.5s
YAK smax smax
comp=N,58nm,2.3s
YAK Yakutsk 61.63 360 P **P** **04 43 51.4 -0.4**
MK31 Makanchi Array 62.19 325 *i*P **P** **04 43 55.6 -0.4**
MKAR Makanchi Array 62.19 325 P **P** **04 43 55.4 -0.6**
comp=N,20nm,0.6s,baz=119,slow=8.1,SNR=119
MKAR LR LR 05 13 14.0
comp=N,352nm,20.3s,baz=118,slow=38
MKAR Makanchi Array 62.19 325 *i*P **P** **04 43 55.7 -0.3**

MKAR pmax pmax
comp=Z,20nm,0.6s
MKAR Makanchi Array 62.19 325 P **P** **04 43 55.6 -0.5**
MAKZ Makanchi 62.38 325 P **P** **04 43 57.3 0.0**
MAKZ Makanchi 62.38 325 P **P** **04 43 57.0 -0.3**
NIL Nilore 62.53 308 P **P** **04 43 57.9 -0.6**
NIL pmax pmax
comp=Z,19nm,0.9s
NIL Nilore 62.53 308 P **P** **04 43 57.9 -0.6**
NIL lAmb lAmb 04 44 07.4
comp=Z,19nm,0.9s
KSH Kashi 62.71 315 *eP* **P** **04 44 01.3 +1.5**
KSH pP sP 04 44 14.7 -0.9
KSH S **S** **04 52 24.5 -1.5**
KSH pmax pmax
comp=Z,32nm,0.8s
KSH LR LR
comp=Z,460nm,12.0s
KSH LR LR
comp=Z,430nm,10.6s
KSH LR LR
comp=Z,470nm,10.8s
KDJ Kajisay 63.02 318 lAmb lAmb 04 44 06.9
comp=Z,28nm,1.1s
BOOM Boomskoye usch 64.00 318 lAmb lAmb 04 44 15.8
comp=Z,21nm,1.1s
KZA Kyzart 64.29 318 P **P** **04 44 10.8 +0.3**
SNR=21
TKM2 Tokmak 2 64.42 319 P **P** **04 44 11.3 +0.2**
SNR=15
TKM2 Tokmak 2 64.42 319 P **P** **04 44 11.1 0.0**
KBK Karagaybulak 64.74 318 P **P** **04 44 17.6 +4.4**
SNR=6.4
UCH Uchtor 64.85 318 P **P** **04 44 14.8 +0.7**
SNR=21
AAK Ala-Archa 65.03 318 *ce*P **P** **04 44 15.6 +0.6**
AAK pmax pmax
comp=Z,25nm,1.7s
AAK Ala-Archa 65.03 318 P **P** **04 44 14.5 -0.5**
AAK lAmb lAmb 04 44 22.9
comp=Z,15nm,1.1s
ZAA0 Zalesovo Array 65.11 333 lAmb lAmb 04 44 18.1
comp=Z,18nm,1.1s
ZALV Zalesovo Beam 65.11 333 P **P** **04 44 13.9 -1.1**
comp=Z,6.7nm,0.8s,baz=116,slow=6.8,SNR=23
ZALV LR LR 05 12 46.2
comp=Z,196nm,21.8s,baz=121,slow=36
ZALV Zalesovo Beam 65.11 333 *i* P **P** **04 44 14.6 -0.4**
ZALV pmax pmax
comp=Z,7.0nm,0.8s
ZALV Zalesovo Beam 65.11 333 P **P** **04 44 14.0 -1.0**
USP Ospenovka 65.30 319 P **P** **04 44 16.6 0.0**
SNR=20
AML Almayashu 65.36 317 P **P** **04 44 17.8 +0.3**
SNR=19
EKS2 Erkin-Say 65.53 318 P **P** **04 44 19.4 +1.3**
SNR=17
ARSB Arslanbob 65.53 316 lAmb lAmb 04 44 25.1
comp=Z,30nm,1.1s
KBL Kabul 66.12 308 P **P** **04 44 21.5 -0.8**
KBL pmax pmax
comp=Z,17nm,1.1s
KBL Kabul 66.12 308 P **P** **04 44 21.5 -0.8**
KBL lAmb lAmb 04 44 32.3
comp=Z,17nm,1.1s
KURBB Kurchatov Arra 66.35 327 P **P** **04 44 22.5 -0.6**
KURK Kurchatov 66.35 327 *ce*P **P** **04 44 22.8 -0.3**
KURK pmax pmax
comp=Z,56nm,0.8s
KURK Kurchatov 66.35 327 P **P** **04 44 22.6 -0.6**
BTK Batken 66.59 314 lAmb lAmb 04 44 36.9
comp=Z,21nm,1.1s
CHGR Chuyangaron 67.32 312 lAmb lAmb 04 44 39.4
comp=Z,24nm,1.0s
KK31 Karatay Array 67.91 317 lAmb lAmb 04 44 37.7
comp=Z,24nm,1.1s
KKAR Karatay Array 67.91 317 P **P** **04 44 32.7 -0.5**
KKAR Karatay Array 67.91 317 P **P** **04 44 32.7 -0.5**
KKAR Karatay Array 67.91 317 lAmb lAmb 04 44 37.7
comp=Z,24nm,1.1s
OTUK Ortayu 68.78 323 P **P** **04 44 38.7 +0.1**
TIXI Tiksi 71.30 360 P **P** **04 44 52.8 -0.7**
comp=Z,11nm,0.8s,baz=172,slow=4.8,SNR=35
TIXI Tiksi 71.30 360 *c i*P **P** **04 44 52.8 -0.7**
TIXI pmax pmax
comp=Z,26nm,1.7s
TIXI Tiksi 71.30 360 P **P** **04 44 53.1 -0.3**
HRA Herat 71.51 306 P **P** **04 44 55.2 -0.6**
BRVK Borovoye 72.01 327 *c i*P **P** **04 44 58.2 +0.1**
BRVK pmax pmax
comp=Z,46nm,1.2s
BRVK Borovoye 72.01 327 P **P** **04 44 57.9 -0.2**
BRVK lAmb lAmb 04 45 10.9
comp=Z,22nm,0.9s
BILL Bilibino 72.15 14 ⇓ *e*P **P** **04 44 58.5 -0.2**
BILL *PP **pP** **04 45 05.0 -5.4**
BILL *e*SP **sP** **04 45 15.0 +0.2**
BILL PPP PPP 04 49 26.0
BILL pmax pmax
comp=Z,8.0nm,1.3s
BILL MLR MLR
comp=Z,468nm,19.0s
BILL Bilibino 72.15 14 P **P** **04 44 57.9 -0.8**
NRIK Noril'sk 74.56 346 P **P** **04 45 12.8 0.0**
comp=Z,13nm,0.7s,baz=128,slow=5.9,SNR=17
NRIK LR LR 05 20 08.9
comp=Z,302nm,20.7s,baz=156,slow=38
NRIK Noril'sk 74.56 346 *eP* **P** **04 45 12.7 -0.1**
UOSS Minazif 75.10 296 P **P** **04 45 16.2 -0.7**
GEYT Alibeck 75.51 309 P **P** **04 45 19.3 +0.2**
comp=Z,12nm,0.9s,baz=169,slow=3.0,SNR=20
GEYT LR LR 05 21 29.1
comp=Z,121nm,21.2s,baz=150,slow=38
GEYT Alibeck 75.51 309 P **P** **04 45 18.5 -0.6**
GYA0B ALIBECK ARRAY 75.51 309 lAmb lAmb 04 45 29.5
comp=Z,27nm,0.9s
GAMB Gambell 76.33 23 lAmb lAmb 04 45 32.1
comp=Z,18nm,1.2s
ABKAR Akbulak array 76.82 321 P **P** **04 45 25.9 -0.3**
AKTO Aktyubinsk 78.32 322 P **P** **04 45 34.5 -0.1**
comp=Z,15nm,0.8s,baz=102,slow=7.1,SNR=40
SVE Sverdlovsk 78.56 328 *d i*P **P** **04 45 36.1 +0.4**
SVE pmax pmax
comp=Z,90nm,1.3s
ARU Arti 79.54 328 *c i*P **P** **04 45 40.8 -0.3**
ARU 04 48 36.7
ARU S **S** **04 55 40.6 +0.7**
ARU SS **SS** **05 00 51.3 +3.0**
ARU pmax pmax
comp=Z,57nm,1.1s
ARU MLR MLR
comp=Z,185nm,18.0s
ARU Arti 79.54 328 P **P** **04 45 40.7 -0.5**
VNDA Vanda 79.60 173 P **P** **04 45 41.5 +0.4**
comp=Z,3.5nm,0.9s,baz=319,slow=5.6,SNR=18
VNDA LR LR 05 22 30.5
comp=Z,333nm,18.5s,baz=342,slow=37
VNDA Vanda 79.60 173 P **P** **04 45 41.8 +0.7**
VNDA pmax pmax
comp=Z,8.0nm,1.1s
VNDA Vanda 79.60 173 P **P** **04 45 41.8 +0.7**
PPT Papeete 81.07 108 LR LR 05 17 52.5
comp=Z,330nm,21.5s,baz=275,slow=33
PPT2 Papeete2 81.07 108 *e*LQ LQ 05 07 52.0
comp=Z,782nm,36.2s
PPT2 *e*LR LR 05 11 17.8
comp=Z,555nm,21.8s
TBI Tubuai 81.53 114 *e*LQ LQ 05 08 02.7
comp=Z,284nm,36.0s
TBI *e*LR LR 05 11 31.0
comp=Z,556nm,37.5s
MAW Mawson 81.61 201 P **P** **04 45 52.7 +0.8**
comp=Z,3.5nm,0.7s,baz=99,slow=9.8,SNR=12
MAW LR LR 05 20 57.2
comp=Z,204nm,19.0s,baz=60,slow=35
MAW Mawson 81.61 201 P **P** **04 45 52.7 +0.8**
MAW pmax pmax
comp=Z,1.0nm,0.8s
MAW Mawson 81.61 201 P **P** **04 45 52.7 +0.8**
KDAK Kodiak Island 83.17 32 P **P** **04 46 00.6 +0.3**
comp=Z,12nm,0.8s,baz=278,slow=5.5,SNR=9.6
KDAK Kodiak Island 83.17 32 P **P** **04 45 59.8 -0.5**
KDAK pmax pmax
comp=Z,18nm,1.0s
KDAK Kodiak Island 83.17 32 P **P** **04 45 59.8 -0.5**
KDAK lAmb lAmb 04 46 03.5
comp=Z,18nm,1.0s
MAK Makhachkala 84.24 313 *e*P **P** **04 46 03.7 -2.4**
MAK *e* 04 49 19.7
MAK *e*S **S** **04 56 22.9 -5.9**
MAK pmax pmax
comp=Z,118nm,1.2s
IMAR Indian Mountai 84.25 24 P **P** **04 46 05.1 -0.6**
PPLA Purkeypile 84.30 27 lAmb lAmb 04 46 17.0
comp=Z,20nm,1.2s
RAYN Ar Rayn 84.73 293 P **P** **04 46 08.0 -1.2**
RAYN pmax pmax
comp=Z,18nm,1.2s
RAYN Ar Rayn 84.73 293 P **P** **04 46 08.0 -1.2**
RAYN lAmb lAmb 04 46 16.7
comp=Z,18nm,1.1s
KIRV Kirov 84.81 329 *e*P **P** **04 46 09.0 +0.4**
KTH Kantishna Hill 84.98 26 lAmb lAmb 04 46 12.8
comp=Z,26nm,1.2s
BPAW Bear Paw Mtn. 85.04 26 lAmb lAmb 04 46 15.2
comp=Z,16nm,1.2s
RC01 Rabbit Creek A 85.14 29 lAmb lAmb 04 46 11.1
comp=Z,15nm,1.0s
TRF Thorofare Moun 85.24 26 lAmb lAmb 04 46 16.3
comp=Z,15nm,1.0s
PMR Palmer 85.50 28 lAmb lAmb 04 46 15.2
comp=Z,19nm,1.1s
GROC Groznyy 85.51 313 *e*P **P** **04 46 12.5 0.0**
GROC pmax pmax
comp=Z,96nm,1.2s
TBLG Delisi 86.20 312 P **P** **04 46 17.7 +1.7**
TOLK Toolik Lake Re 86.33 21 P **P** **04 46 15.9 -0.3**
baz=261
WRH Wood River Hil 86.35 25 lAmb lAmb 04 46 19.6
comp=Z,14nm,1.2s
GLI Glacier Island 86.39 29 lAmb lAmb 04 46 17.7
comp=Z,12nm,0.8s
GUDG Gudauri 86.43 312 P **P** **04 46 17.7 +0.3**
KZRT Kazreti 86.44 311 P **P** **04 46 18.6 +1.4**
FID Port Fidalgo 86.68 29 lAmb lAmb 04 46 23.3
comp=Z,19nm,1.1s
HDA Harding Lake 86.83 26 P **P** **04 46 18.6 0.0**
baz=264
ZEI Tsey 86.87 313 *e*P P 04 46 13.8 -5.7
ZEI pmax pmax
comp=Z,44nm,1.3s
ILAR Eielson Array 86.90 25 P **P** **04 46 18.0 -0.9**
comp=Z,1.1nm,0.7s,baz=240,slow=5.2,SNR=11
ILAR LR LR 05 20 27.7
comp=Z,137nm,21.6s,baz=268,slow=32
ILAR Eielson Array 86.90 25 P **P** **04 46 17.3 -1.6**
ILAR Eielson Array 86.90 25 P **P** **04 46 17.3 -1.6**
BGD Bogdanovka 87.03 311 P **P** **04 46 23.9 +3.5**
AKH Akhalkalaki 87.12 311 P **P** **04 46 23.5 +2.8**
KBZ Khabaz 87.64 314 P **P** **04 46 23.4 +0.5**
comp=Z,8.8nm,0.8s,baz=110,slow=2.3,SNR=9.6
KBZ LR LR 05 31 26.6
comp=Z,111nm,18.6s,baz=78,slow=40
KBZ Khabaz 87.64 314 *ce*P **P** **04 46 23.6 +0.7**
KBZ pmax pmax
comp=Z,17nm,1.0s
RIDG Independent Ri 87.69 26 lAmb lAmb 04 46 29.2
comp=Z,8.0nm,0.9s
KIV Kislovodsk 87.80 314 ⇑ *e*P **P** **04 46 25.8 +2.0**
KIV *e*PP **pP** **04 46 33.3 -2.5**
KIV *e*SP **sP** **04 46 40.7 +0.5**
KIV *e*S **S** **04 56 59.9 -4.0**
KIV SS **SS** **05 02 53.0 +1.7**
KIV pmax pmax
comp=Z,6.0nm,0.8s
KIV MLR MLR
comp=Z,100nm,20.0s
GLB Gilahina Butte 88.03 29 lAmb lAmb 04 46 26.7
comp=Z,11nm,1.1s
BMAR Burnt Mountain 88.06 23 P **P** **04 46 23.3 -1.2**
VRH Novokhopyorsk 88.65 321 *e*P **P** **04 46 26.7 -0.8**
VRH pmax pmax
comp=Z,40nm,1.8s
BCAR Beaver Creek A 89.04 27 P **P** **04 46 27.8 -1.4**
KLMR Klimovskoe 89.96 331 *e*P **P** **04 46 30.8 -2.7**
KLMR *e* 04 50 02.8
KLMR *e*S **SKSac** **04 56 58.6 -2.5**
KLMR pmax pmax
comp=Z,30nm,1.2s
KLMR Klimovskoe 89.96 331 *e*P **P** **04 46 30.9 -2.6**
KLMR AMP 04 46 36.6
comp=Z,30nm,1.2s
KLMR *e*PP **PP** **04 50 02.8 -3.8**
KLMR *e*S **SKSac** **04 56 58.6 -2.5**
KLMR *e*S **SKSac** **04 56 58.6 -2.5**
KLMR LQ LQ 05 19 38.4
KLMR LQ LQ 05 19 38.4
KLMR LR LR 05 27 19.6
QSPA South Pole Qui 90.17 180 P **P** **04 46 33.5 -1.0**
VSR Storozhevoye 90.26 321 *e*P **P** **04 46 32.5 -2.6**
VSR pmax pmax
comp=Z,10.0nm,1.4s
SYO Syowa Base 90.32 201 ⇑ *i*X P 04 46 44.0 +9.0
LPSR Galich'ya Gora 90.39 322 *e*P **P** **04 46 34.8 -0.8**
LPSR pmax pmax
comp=Z,20nm,0.8s
TMCR Tamitsa 90.59 334 *e*P **P** **04 46 34.5 -1.8**
TMCR pmax pmax
comp=Z,13nm,1.0s
MOS Moscow 91.07 326 *e*P **P** **04 46 39.3 +0.6**
EPYK Eagle Plains 91.16 24 P **P** **04 46 38.9 -0.1**
baz=273
EPYK Eagle Plains 91.16 24 lAmb lAmb 04 46 40.3
comp=Z,7.5nm,1.1s
OBN Obninsk 91.70 325 ⇓ *i*P **P** **04 46 44.0 +2.3**
OBN SSS SSS 05 07 32.0
OBN pmax pmax
comp=Z,16nm,0.6s
OBN MLR MLR
comp=Z,310nm,23.0s
LVZ Lovozero 91.75 338 ⇑ *e*P **P** **04 46 40.4 -1.3**
LVZ pmax pmax
comp=Z,33nm,1.2s
INK Inuvik 92.23 22 P **P** **04 46 43.4 -0.5**
comp=Z,1.9nm,0.5s,baz=280,slow=5.1,SNR=5.2
INK Inuvik 92.23 22 lAmb lAmb 04 46 47.1
comp=Z,5.8nm,1.1s
KMBO Kilima Mbogo 92.62 269 LR LR 05 25 58.2
comp=Z,192nm,20.0s,baz=83,slow=34
A36M Sachs Harbour 94.36 18 P **P** **04 46 52.7 -0.9**
baz=284
BR131 Keskin Array S 94.65 310 ⇑ *eP* **P** **04 46 54.5 -1.4**
BR131 Keskin Array S 94.65 310 lAmb lAmb 04 46 57.8
comp=Z,8.5nm,0.9s
BRTR Keskin Array B 94.65 310 P **P** **04 46 55.0 -0.9**
comp=Z,5.3nm,0.9s,baz=114,slow=3.1,SNR=18
BRTR LR LR 05 37 12.0
comp=Z,46nm,18.2s,baz=62,slow=40
BRTR Keskin Array B 94.65 310 *i* P **P** **04 46 55.0 -0.9**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 94.65 310 P **P** **04 46 54.2 -1.7**
ARCES ARCESS Array B 94.78 340 P **P** **04 46 55.2 -0.4**
comp=Z,6.2nm,0.9s,baz=69,slow=6.6,SNR=11
ARCES LR LR 05 35 40.2
comp=Z,161nm,19.9s,baz=71,slow=39
ARCES ARCESS Array B 94.78 340 P **P** **04 46 54.3 -1.3**
ARCES ARCESS Array B 94.78 340 P **P** **04 46 54.3 -1.3**
RKT Rikitea 94.84 113 *e*LR LR 05 17 34.4
comp=Z,614nm,33.2s
C36M Paulatuk 95.41 20 P **P** **04 46 57.3 -1.1**
baz=285
FINES FINESS Array B 96.37 332 P **P** **04 47 01.4 -1.5**
comp=Z,5.9nm,1.1s,baz=124,slow=3.4,SNR=7.9
FINES LR LR 05 32 51.3
comp=Z,239nm,21.7s,baz=78,slow=37
FINES FINESS Array B 96.37 332 P **P** **04 47 01.7 -1.2**
AKASG Malin Array Be 96.56 321 P **P** **04 47 02.6 -1.4**
comp=Z,0.5nm,0.4s,baz=75,slow=3.9,SNR=4.8
AKASG Malin Array Be 96.56 321 *i* P **P** **04 47 06.4 +2.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 96.56 321 P **P** **04 47 02.1 -2.0**
AKBB Malin Array Si 96.56 321 ⇑ *eP* **P** **04 47 02.0 -2.1**
RES Resolute Bay 100.64 11 P **Pdif** **04 47 20.7 -1.2**
comp=Z,3.1nm,1.0s,baz=303,slow=4.5,SNR=5.2
YKA Yellowknife Ar 101.33 25 P **Pdif** **04 47 23.9 -1.2**
comp=Z,0.8nm,0.8s,baz=294,slow=4.2,SNR=5.5
YKA PKKPbc **PKKPbc** **05 03 36.2 -0.7**
comp=Z,0.2nm,0.6s,baz=116,slow=3.2,SNR=5.1
NOA NORSAR Array B 103.28 334 Pdiff **Pdif** **04 47 32.9 -1.1**
comp=Z,3.6nm,1.1s,baz=270,slow=2.9,SNR=3.4
NVAR Mina Array Bea 106.83 50 PP **PP** **04 52 21.3 +4.8**
comp=Z,0.7nm,0.9s,baz=284,slow=7.5,SNR=5.4
MNTX Cornudas Mount 118.93 53 PKPdf **PKPdf** **04 52 20.8 -2.7**
ECSD EROS Data Cent 119.75 37 PKPdf **PKPdf** **04 52 22.7 -2.0**
TXAR Lajitas Array 121.13 55 PKP **PKPdf** **04 52 27.9 +0.1**
comp=Z,0.8nm,0.8s,baz=223,slow=1.0,SNR=10
TXAR PKKPab **PKKPab** **05 02 31.6 +0.2**
comp=Z,0.3nm,0.7s,baz=94,slow=6.4,SNR=4.4
TXAR Lajitas Array 121.13 55 PKIKP **PKPdf** **04 52 26.4 -1.5**
TXAR Lajitas Array 121.13 55 **PKPdf** **04 52 26.4 -1.5**
ESDC Sonseca Array 122.13 319 PP PP 04 54 07.5 +3.4
comp=Z,2.1nm,1.1s,baz=33,slow=6.0,SNR=4.4
P38A Dawn 123.95 40 PKPdf **PKPdf** **04 52 31.7 -1.2**
JFWS Jewell Farm 123.99 35 PKIKP **PKPdf** **04 52 30.5 -2.4**
JFWS Jewell Farm 123.99 35 PKPdf **PKPdf** **04 52 30.5 -2.4**
CCM Cathedral Cave 126.31 40 PKIKP **PKPdf** **04 52 35.1 -2.4**
CCM Cathedral Cave 126.31 40 PKPdf **PKPdf** **04 52 35.1 -2.4**
TORD Torodi Ar. Bea 126.95 287 PKP **PKPdf** **04 52 39.0 -0.2**
comp=Z,3.0nm,0.8s,baz=55,slow=2.6,SNR=13
TORD Torodi Ar. Bea 126.95 287 **PKPdf** **04 52 37.0 -2.3**
PB10 IPOC Station P 149.53 141 **PKPdf** **04 53 22.1 +2.1**
LVC Limon Verde 151.22 142 PKIKP **PKPbc** **04 53 26.6 -2.4**
LVC Limon Verde 151.22 142 **PKPbc** **04 53 26.6 -2.4**
GCUF Volcan Galeras 152.75 87 *eP* **PKiKP** **04 53 33.6 +0.5**
BBAC Balboa, Cauca 152.80 85 *eP* **PKiKP** **04 53 32.9 0.0**
SJCC San Jacinto, C 153.12 67 *eP* **PKPbc** **04 53 32.7 -0.5**
CPUP Villa Florida 153.15 166 PKPbc **PKPbc** **04 53 32.9 +0.1**
comp=Z,6.9nm,0.9s,baz=182,slow=11,SNR=4.2
SOTA Rioblanco 153.42 85 *eP* **PKiKP** **04 53 36.1 +1.6**
CBOC Ciudad Bolivar 153.46 76 *eP* **PKPbc** **04 53 31.7 -2.3**
YOTC Yotoco, Valle 153.47 81 *eP* **PKPdf** **04 53 28.3 +1.9**
PUAC Puerto Asis, P 153.55 88 *eP* **PKiKP** **04 53 34.2 0.0**
ZARC Zaragoza, Cauc 154.17 72 *eP* **PKPbc** **04 53 32.4 -3.0**
GUY2C Guyana, Caldas 154.22 77 *eP* **PKiKP** **04 53 36.5 +0.3**
TOLC Tolima 154.38 79 *eP* **PKiKP** **04 53 36.4 +0.1**
SMLC San Martn de 154.52 69 *eP* **PKPbc** **04 53 35.6 -0.5**
ORTC Ortega, Tolima 154.57 80 *eP* **PKPdf** **04 53 30.7 +2.9**
PRAC Prado 154.95 81 *eP* **PKPbc** **04 53 34.5 -2.6**
LPAZ La Paz 156.14 133 PKP **PKPdf** **04 53 31.8 +1.2**
comp=Z,2.8nm,1.1s,baz=235,slow=2.5,SNR=8.4
LPAZ PKPab **PKPab** **04 53 59.4 +1.3**
comp=Z,3.4nm,1.1s,baz=259,slow=4.7,SNR=4.4
LPAZ La Paz 156.14 133 PKIKP **PKPdf** **04 53 25.9 -4.6**
LPAZ La Paz 156.14 133 PKPdf **PKPdf** **04 53 25.9 -4.6**

NEIC ***12*** *04:34:04.9, 40.89N×111.68W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr-1.08; Mθθ 0.19; Mϕϕ 0.90; Mrθ 0.11; Mrϕ -0.44; Mθϕ -0.49; Fault plane solution: M0 1.21000×10^14 NP1:ϕs 148.73000°, δ 33.15000°, λ -99.31000°. NP2:ϕs 339.81000°, δ 57.34000°, λ -83.97000°. Principal axes: T 1.2175, Plg 12.0000°, Azm 65.0000°; N -0.0174, Plg 5.0000°, Azm 157.0000°; P -1.2001, Plg 77.0000°, Azm 269.0000°;*

UUSS ***12*** *04:34:04.9± 1.4, 40.89N± 0.01× 111.68W± 0.03, h12km± 6km, ML 3.3/27, Mwr 3.3/25(NEIC) Error ellipse: s-maj=3.0km s-min=1.8km az=71.0*

IDC ***12*** *04:34:04.8± 1.2, 41.01N× 111.71W, h0km, mb 2.6/1, mb1 3.6/5, mb1mx3.4/53, mbtmp3.3/5, ML 2.7/3, Error ellipse: s-maj=22.8km s-min=5.6km az=151.0*

ANF ***12*** *04:34:05.0± 1.5, 40.87N× 111.71W, h11km± 14km, ML 3.6/8, Error ellipse: s-maj=4.9km s-min=2.6km az=154.0*

ISC 12 04:34:05.0±0.9, **40.89N**±0.02× **111.71W**±0.03, **h11**km±8km, **n56**, σ **1.59**/69, **Utah**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTU	**Camp Tracy**	**0.20**	**189**	Pg	**Pg**	**04 34 09.6**	**+0.1**
CTU				Sg	Sg	04 34 12.7	+0.2
TCUT	**Toone Canyon**	**0.32**	**45**	Pg	**Pb**	**04 34 12.0**	**-1.0**
TCUT				Sg	**Sb**	**04 34 16.7**	**-1.5**
JLU	**Jordanelle**	**0.35**	**146**	Pg	**Pg**	**04 34 12.1**	**-0.1**
JLU				Sg	**Sg**	**04 34 17.4**	**+0.5**
SPUT	**South Promonto**	**0.69**	**307**	Pg	**Pb**	**04 34 19.1**	**-0.1**
SPUT				Sg	**Sg**	**04 34 28.6**	**+0.9**
HWUT	**Hardware Ranch**	**0.72**	**9**	Pg	**Pg**	**04 34 19.1**	**+0.1**
HWUT				Sg	**Sb**	**04 34 29.3**	**-0.4**
MPU	**Maple Canyon**	**0.88**	**176**	Pg	**Pg**	**04 34 21.8**	**-0.2**
MPU				Sg	**Sg**	**04 34 33.4**	**-0.1**
NLU	**North Lily Min**	**0.98**	**197**		**Pg**	**04 34 23.8**	**-0.1**
NLU				Sg	**Sg**	**04 34 36.7**	**0.0**
BGU	**Big Grassy Mou**	**1.00**	**272**		**Pb**	**04 34 24.6**	**+0.2**
BGU				Sg	**Sg**	**04 34 37.4**	**0.0**
DUG	**Dugway, Tooele**	**1.09**	**231**	P	**Pb**	**04 34 25.6**	**-0.4**
	baz=51,SNR=400						
DUG				S	**Sg**	**04 34 40.8**	**+0.5**
	baz=51						
DUG	**Dugway, Tooele**	**1.09**	**231**		**Pb**	**04 34 26.1**	**+0.1**
HVU	**Hansel Valley**	**1.19**	**318**	Pg	**Pn**	**04 34 27.7**	**-0.1**
P17A	**Butcher Ranch,**	**1.60**	**152**	Pn	**Pn**	**04 34 33.0**	**-0.4**
TMUT	**Trail Mountain**	**1.64**	**166**	Pn	**Pb**	**04 34 34.6**	**-0.8**
RDMU	**Red Mountain**	**1.66**	**101**	Pn	**Pb**	**04 34 34.8**	**-0.9**
SRU	**San Rafael Swe**	**2.00**	**153**	Pn	**Pb**	**04 34 39.9**	**-1.6**
Q16A	**Castle Valley**	**2.02**	**168**	Pn	**Pn**	**04 34 39.8**	**+0.6**
MSU	**Marysvale**	**2.41**	**189**	Pn	**Pn**	**04 34 45.7**	**+1.2**
BW06	**Boulder Array**	**2.47**	**40**	P	**Pn**	**04 34 46.4**	**+1.0**
	baz=221,SNR=127						
BW06				Sb	**Sb**	**04 35 21.3**	**+1.3**
	baz=221						
PD31	**Pinedale Array**	**2.47**	**40**	Pn	**Pn**	**04 34 46.4**	**+1.0**
PDAR	**Pinedale Array**	**2.47**	**40**	Pn	**Pn**	**04 34 46.3**	**+0.9**
	39nm,0.3s,baz=213,slow=13,SNR=311						
PDAR				Pg	**Pb**	**04 34 48.8**	**-0.7**
	42nm,0.3s,baz=214,slow=16,SNR=275						
PDAR				Lg	Lg	04 35 21.3	
	39nm,0.3s,baz=216,slow=24,SNR=10						
PDAR	**Pinedale Array**	**2.47**	**40**	Pn	**Pn**	**04 34 46.2**	**+0.8**
TPAW	**Teton Pass**	**2.66**	**12**	Pn	**Pn**	**04 34 47.8**	**-0.2**
SNOW	**Snow King Moun**	**2.66**	**15**		**Pn**	**04 34 47.5**	**-0.6**
ELK	**Elko**	**2.68**	**268**	Pn	**Pb**	**04 34 51.5**	**-1.7**
	3.1nm,0.3s,baz=84,slow=11,SNR=35						
ELK				Lg	Lg	04 35 28.0	
	13nm,0.3s,baz=153,slow=22,SNR=10						
ELK	**Elko**	**2.68**	**268**	Pn	**Pn**	**04 34 49.2**	**+0.9**
O20A	**White River Ci**	**2.75**	**105**	Pb	**Pb**	**04 34 54.2**	**-0.1**
	baz=287						
O20A				Sb	**Sb**	**04 35 29.3**	**+1.2**
	baz=287						
FXWY	**Fox Creek**	**2.79**	**10**	Pn	**Pn**	**04 34 48.9**	**-0.9**
MTPU	**Mount Pierson**	**2.87**	**187**	Pn	**Pn**	**04 34 52.4**	**+1.4**
PSUT	**Pine Spring**	**2.88**	**216**	Pn	**Pn**	**04 34 51.5**	**+0.5**
IMW	**Indian Meadow**	**3.06**	**11**	Pn	**Pn**	**04 34 55.5**	**+2.0**
PV09	**Paradox Valley**	**3.11**	**139**	Pn	**Pn**	**04 34 55.5**	**+1.3**
PV21	**Cone Mtn., Par**	**3.14**	**137**	Pn	**Pn**	**04 34 56.9**	**+2.2**
PV23	**Carpenter Ridg**	**3.21**	**139**	Pn	**Pn**	**04 34 57.0**	**+1.5**
PV22	**Blue Mesa, Par**	**3.26**	**135**	Pn	**Pn**	**04 34 57.5**	**+1.3**
FLWY	**Flagg Ranch**	**3.27**	**13**	Pn	**Pn**	**04 34 59.0**	**+2.5**
YPP	**Pitchstone Pla**	**3.44**	**11**	Pn	**Pn**	**04 35 01.2**	**+2.4**
RWWY	**Rawlins**	**3.48**	**75**	Pn	**Pn**	**04 35 01.0**	**+1.6**
PV15	**Paradox Valley**	**3.57**	**135**	Pn	**Pn**	**04 35 02.4**	**+1.9**
PV01	**Paradox Valley**	**3.67**	**138**	Pn	**Pn**	**04 35 03.9**	**+2.0**
K22A	**Casper**	**4.26**	**64**	P	**Pn**	**04 35 11.7**	**+1.8**
	baz=247,SNR=27						
K22A				Sb	**Sb**	**04 36 15.0**	**+3.6**
	baz=247						
N23A	**Red Feather La**	**4.37**	**88**	P	**Pn**	**04 35 14.3**	**+2.7**
	baz=272,SNR=20						
MVCO	**Mesa Verde**	**4.45**	**145**	Sb	**Sb**	**04 36 20.5**	**+3.6**
	baz=327						
RLMT	**Red Lodge**	**4.59**	**22**	Sb	**Sb**	**04 36 25.3**	**+4.2**
	baz=204						
ISCO	**Idaho Springs**	**4.79**	**101**	Sb	**Sb**	**04 36 30.4**	**+3.6**
	baz=285						
NVAR	**Mina Array Bea**	**5.65**	**246**	Pn	**Pn**	**04 35 31.1**	**+2.0**
	0.3nm,0.3s,baz=67,slow=12,SNR=4.0						
NVAR				Lg	Lg	04 37 03.5	
	2.8nm,0.3s,baz=72,slow=28,SNR=11						
NVAR	**Mina Array Bea**	**5.65**	**246**		**Pn**	**04 35 29.8**	**+0.7**
RSSD	**Black Hills**	**6.52**	**58**	P	**Pn**	**04 35 41.1**	**0.0**
	baz=243						
RSSD	**Black Hills**	**6.52**	**58**	Pn	**Pn**	**04 35 41.1**	**0.0**
LAO	**LASA Array**	**7.02**	**33**	P	**Pn**	**04 35 48.5**	**+0.8**
	baz=216,SNR=8.4						
LAO	**LASA Array**	**7.02**	**33**	Pn	**Pn**	**04 35 48.8**	**+1.0**
ANMO	**Albuquerque**	**7.24**	**143**	Pg	**Pg**	**04 36 19.4**	**-4.3**
	0.2nm,0.3s,baz=332,slow=15,SNR=2.5						
ANMO				Lg	Lg	04 37 50.2	
	0.2nm,0.3s,baz=237,slow=19,SNR=3.3						
ANMO	**Albuquerque**	**7.24**	**143**	Pn	**Pn**	**04 35 51.0**	**0.0**
E28A	**Huff**	**9.79**	**51**	Pn	**Pn**	**04 36 25.4**	**-0.2**

ECSD	**EROS Data Cent**	11.53	71	Pn		Pn	04 36 48.8	-0.7
ULM	**Lac du Bonnet**	14.48	44	Pn		Pn	04 37 26.4	-3.4
	0.3nm,0.3s,baz=244,slow=12,SNR=2.0							
YKA	**Yellowknife Ar**	21.70	356	P		P	04 38 55.8	+0.2
	0.2nm,0.7s,baz=168,slow=11,SNR=2.4							

SOME **12** *04:39:54.2,40˚.55N×77˚.05E,h5km*
KRNET **12** *04:39:55.7±0.1,40˚.64N×77˚.33E,h18km,mb2.8*
NNC **12** *04:39:55.3±1.1,40˚.57N×77˚.08E,h0km,mb3.5,mpv3.1,*
Error ellipse: s-maj=7.5km s-min=6.1km az=172.0

ISC 12 04:39:53.9±2.5,40.54N±0.09×77.09E±0.04,h2km±12km, n39,σ1°37/63,22C-10D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	1.30	24	⇑*i*P	Pn	04 40 17.4	-2.1
	baz=18						
TARG				⇑*i*S	Sb	04 40 33.2	-3.5
	baz=18						
KDJ	**Kajisay**	1.59	2	⇑*e*P	Pn	04 40 23.5	+0.3
	baz=56						
KDJ				⇑*i*S	Sn	04 40 43.9	-0.5
	baz=56						
ULHL	**Ulahol**	1.82	340	⇑*i*P	Pb	04 40 28.9	+0.9
	baz=33						
ULHL				⇑*i*S	Sg	04 40 53.4	+1.1
	baz=33						
KZA	**Kyzart**	2.07	318	⇑*e*P	Pg	04 40 33.7	+0.1
	baz=13						
KZA				⇑*i*S	Sg	04 41 02.3	+1.9
	baz=13						
BOOM	**Boomskoye usch**	2.13	336	⇓*i*P	Pb	04 40 34.2	+0.9
	baz=31						
BOOM				⇓*i*S	Sg	04 41 02.2	-0.1
	baz=31						
PRZ	**Przheval'sk**	2.17	26	⇑*i*P	Pn	04 40 32.6	+1.3
	baz=23						
PRZ				⇑*i*S	Sn	04 40 59.4	+0.6
	baz=23						
ANVS	**Anan'yevo**	2.28	11	⇑*i*P	Pn	04 40 34.5	+1.8
	baz=7.0						
ANVS				⇑*i*S	Sb	04 41 03.0	-1.6
	baz=7.0						
ARLS	**Aral**	2.47	303	⇓*e*P	Pb	04 40 40.3	+1.2
	baz=99						
ARLS				⇓*i*S	Sg	04 41 12.8	-0.5
	baz=99						
TNSS	**Tian-Shan**	2.50	358	*e*P	Pb	04 40 41.2	+1.5
	8.1nm,0.5s						
TNSS				*e*S	Sg	04 41 14.7	+0.6
	15nm,0.5s						
TNSS	**Tian-Shan**	2.50	358	Pg	Pb	04 40 41.2	+1.5
	11nm,0.6s						
TNSS				Lg	Lg	04 41 14.7	
	14nm,0.6s						
IZV	**Izvestkoviy**	2.52	352	*e*P	Pb	04 40 41.4	+1.5
	7.1nm,0.4s						
IZV				*e*S	Sg	04 41 15.0	+0.2
	6.1nm,0.2s						
IZV	**Izvestkoviy**	2.52	352	Pg	Pb	04 40 41.4	+1.5
	7.1nm,0.4s						
IZV				Lg	Lg	04 41 15.0	
	12nm,0.3s						
UCH	**Uchtor**	2.57	312	⇓*i*P	Pb	04 40 41.7	+0.7
	baz=8.0						
UCH				⇓*i*S	Sg	04 41 15.0	-1.5
	baz=8.0						
MDOK	**Medeo**	2.62	359	*e*P	Pg	04 40 43.7	-0.4
	6.2nm,0.3s						
MDOK				*e*S	Sg	04 41 19.1	+1.0
	10nm,0.4s						
MDOK	**Medeo**	2.62	359	⇓Pg	Pb	04 40 42.2	+0.6
	3.5nm,0.4s						
MDOK				⇑Lg	Lg	04 41 17.8	
	10nm,0.6s						
MDOK	**Medeo**	2.62	359	Pg	Pg	04 40 43.7	-0.4
	6.9nm,0.6s						
MDOK				Lg	Lg	04 41 19.1	
	11nm,0.7s						
TKM2	**Tokmak 2**	2.63	335	⇑Pg	Pb	04 40 42.4	+0.6
	1.3nm,0.5s						
TKM2				⇑Lg	Lg	04 41 18.8	
	3.0nm,0.5s						
KST	**Kastek**	2.64	342	*e*P	Pb	04 40 43.5	+1.5
	3.3nm,0.3s						
KST				*e*S	Sg	04 41 18.6	0.0
	9.6nm,0.4s						
KST	**Kastek**	2.64	342	Pg	Pb	04 40 43.4	+1.5
	3.3nm,0.3s						
KST				Lg	Lg	04 41 18.6	
	9.6nm,0.4s						
KBK	**Karagaybulak**	2.66	323	⇓*i*P	Pb	04 40 42.0	-0.3
	baz=19						
KBK				⇓*i*S	Sb	04 41 15.4	+0.1
	baz=19						
KOTS	**Kotyrbulak**	2.69	0	*e*P	Pg	04 40 45.5	0.0
	9.6nm,0.2s						
KOTS				*e*S	Sg	04 41 22.0	+1.7
	15nm,0.5s						
KOTS	**Kotyrbulak**	2.69	0	Pg	Pg	04 40 45.5	0.0
	9.6nm,0.3s						
KOTS				Lg	Lg	04 41 22.0	
	15nm,0.5s						
SATY	**Saty**	2.70	21	*e*P	Pb	04 40 44.3	+1.3
	3.9nm,0.2s						
SATY				*e*S	Sg	04 41 19.8	-0.9
	4.8nm,0.1s						
SATY	**Saty**	2.70	21	Pg	Pb	04 40 44.3	+1.3
	4.6nm,0.3s						
SATY				Lg	Lg	04 41 19.8	
	8.1nm,0.3s						
AAK	**Ala-Archa**	2.86	318	⇑*i*P	Pb	04 40 45.2	-0.5
	baz=14						
AAK				⇑*i*S	Sb	04 41 20.8	-0.4
	baz=14						
AAK	**Ala-Archa**	2.86	318	⇓Pg	Pb	04 40 46.4	+0.6
	7.3nm,0.9s						
AAK				⇑Lg	Lg	04 41 26.5	
	8.0nm,0.8s						
DGS	**Degeres**	2.87	340	*e*P	Pb	04 40 46.6	+0.7
	5.4nm,0.6s						
DGS				*e*S	Sg	04 41 23.9	-2.2
	7.8nm,0.5s						
DGS	**Degeres**	2.87	340	Pg	Pb	04 40 46.6	+0.7
	5.4nm,0.6s						
DGS				Lg	Lg	04 41 23.9	
	7.8nm,0.5s						
UZB	**Uzynbulak**	2.98	28	*e*P	Pb	04 40 49.2	+1.5
	2.9nm,0.3s						
UZB				*e*S	Sg	04 41 28.5	-1.0
	3.9nm,0.3s						
UZB	**Uzynbulak**	2.98	28	Pg	Pb	04 40 49.2	+1.5
	2.9nm,0.3s						
UZB				Lg	Lg	04 41 28.5	
	3.9nm,0.3s						
AML	**Almayashu**	3.01	303	⇑*i*P	Pb	04 40 48.1	-0.3
	baz=0.0						
AML				⇑*i*S	Sb	04 41 26.5	+0.7
	baz=0.0						
KTBS	**Karatobe**	3.18	355	*e*P	Pb	04 40 52.8	+1.7
	3.8nm,0.3s						
KTBS				*e*S	Sg	04 41 34.6	-1.5
	8.2nm,0.4s						
KTBS	**Karatobe**	3.18	355	Pg	Pb	04 40 52.8	+1.7
	3.8nm,0.3s						
KTBS				Lg	Lg	04 41 34.6	
	8.2nm,0.4s						
EKS2	**Erkin-Say**	3.27	312	⇑*i*P	Pb	04 40 50.9	-1.7
	baz=8.0						
EKS2				⇑*i*S	Sb	04 41 31.4	-1.4
	baz=8.0						
KRBS	**Karabastau**	3.32	342	*e*P	Pb	04 40 55.4	+1.8
	2.3nm,0.5s						
KRBS				*e*S	Sg	04 41 39.2	-1.5
	2.6nm,0.6s						
KRBS	**Karabastau**	3.32	342	Pg	Pb	04 40 55.4	+1.8
	2.3nm,0.5s						
KRBS				Lg	Lg	04 41 39.2	
	2.6nm,0.6s						
SGDS	**Sogindy**	3.44	329	Pg	Pb	04 40 57.6	+2.0
	3.4nm,0.4s						
SGDS				Lg	Lg	04 41 42.8	
	2.6nm,0.7s						
ARXS	**Arharly**	3.71	8	*e*P	Pb	04 41 01.7	+1.6
	3.9nm,0.5s						
ARXS				*e*S	Sg	04 41 50.0	-3.0
	4.1nm,0.3s						
ARXS	**Arharly**	3.71	8	Pg	Pb	04 41 01.7	+1.6
	3.9nm,0.5s						
ARXS				Lg	Lg	04 41 50.0	
	4.1nm,0.3s						

IDC **12** *05:39:19.8±1.7,7˚.76S×118˚.59E,h0km,mb3.9/3,*
mb1 3.9/6,mb1mx3.7/33,mbtmp3.7/6,ML3.6/3,MS2.9/2,
Ms1 2.9/2,ms1mx2.5/34,Error ellipse: s-maj=47.7km
s-min=20.0km az=71.0
NEIC **12** *05:39:20.9±0.9,7˚.79S±0.07×118˚.60E±0.07,h10km±1km,*
mb4.1/11, Error ellipse: s-maj=12.8km s-min=10.0km
az=320.0
DJA **12** *05:39:23.6±1.2,8˚S±2˚×11˚9E±˚,h29km±12km,M4.0/8,*
MLv4.0/8

ISC 12 05:39:24.1±0.7,7.78S±0.04×118.58E±0.04,h35km,n35, σ1°18/41,mb4.1/5,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	1.30	217	P	Pn	05 39 45.7	-0.2
PLAI				S	Sn	05 40 03.4	+1.3
WBSI	**Waikabubak, Su**	2.01	156	P	Pn	05 39 55.8	+0.1
WBSI				S	Sn	05 40 21.3	+1.6
KAPI	**Kappang**	2.99	23	Pn	Pn	05 40 08.8	-0.3
	4.9nm,0.3s,baz=220,slow=6.5,SNR=18						
KAPI				Sn	Sn	05 40 43.5	-0.1
	27nm,0.3s,baz=161,slow=20,SNR=5.6						
KAPI				LR	LR	05 41 25.5	
	comp=Z,73nm,20.1s,baz=170,slow=42						
KAPI	**Kappang**	2.99	23		Pn	05 40 08.4	-0.6
KAPI					Sn	05 40 43.1	-0.6
EDFI	**Ende, Flores**	3.23	108	P	Pn	05 40 12.5	+0.1
SRBI	**Singaraja**	3.34	265	P	Pn	05 40 13.5	-0.4
BNSI	**Bone**	3.69	24	P	Pn	05 40 19.4	+0.7
MMRI	**Maumere**	3.72	103	P	Pn	05 40 22.0	+2.8
MMRI	**Maumere**	3.72	103		Pn	05 40 18.1	-1.0
SPSI	**Sidrap Palu**	3.98	17	P	Pn	05 40 22.4	-0.2
JAGI	**Jajag, Banyuwa**	4.43	261	P	Pn	05 40 28.5	-0.4
JAGI	**Jajag, Banyuwa**	4.43	261		Pn	05 40 28.3	-0.6
JAGI				Sn	Sn	05 41 19.6	+0.3
FITZ	**Fitzroy Crossi**	12.35	147	Pn	Pn	05 42 16.6	-0.9
	0.1nm,0.3s,baz=328,slow=15,SNR=1.4						
FITZ				Sn	Sn	05 44 29.5	-4.4
	0.2nm,0.3s,baz=171,slow=20,SNR=1.6						
FITZ	**Fitzroy Crossi**	12.35	147		Pn	05 42 15.8	-1.7
KNRA	**Kununurra**	12.69	129	Pn	Pn	05 42 20.8	-1.4
MTN	**Manton Dam**	13.34	113	Pn	Pn	05 42 30.1	-0.9
PSAB2	**Pilbara Seismi**	13.75	175	Pn	Pn	05 42 35.7	-0.9
PSA00	**Pilbara Seismi**	13.76	175	Pn	Pn	05 42 35.5	-1.3
WB0	**Warramunga Arr**	19.42	129	P	P	05 43 47.3	-0.3
WB0				IAmb	IAmb	05 43 57.1	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	19.48	130	P	P	05 43 48.3	0.0
	comp=Z,0.3nm,0.3s,baz=302,slow=12,SNR=16						
WRA	**Warramunga Arr**	19.48	130	P	P	05 43 48.4	+0.2
WRAB	**Tennant Creek**	19.48	130	P	P	05 43 48.0	-0.2
WB2	**Warramunga Arr**	19.49	130	P	P	05 43 48.0	-0.3
WB2				IAmb	IAmb	05 43 58.1	
	comp=Z,9.4nm,1.3s						
WR0	**Warramunga Arr**	19.64	130	P	P	05 43 49.8	-0.2
WR0				IAmb	IAmb	05 44 00.2	
	comp=Z,13nm,1.5s						
MORW	**Morawa**	21.31	186	P	P	05 44 08.1	+0.2
AS31	**Alice Springs**	21.58	139	P	P	05 44 10.3	-0.6
ASAR	**Alice Springs**	21.58	139	P	P	05 44 11.4	+0.5
	comp=Z,2.9nm,0.7s,baz=311,slow=8.5,SNR=23						
ASAR				LR	LR	05 52 29.9	
	comp=Z,75nm,18.5s,baz=344,slow=37						
ASAR	**Alice Springs**	21.58	139	P	P	05 44 10.5	-0.5
COEN	**Coen**	24.91	106	P	P	05 44 43.9	-0.3
COEN				IAmb	IAmb	05 44 51.5	
	comp=Z,5.3nm,1.0s						
BBOO	**Buckleboo**	29.72	149	P	P	05 45 28.3	+1.2
STKA	**Stephens Creek**	32.16	141	P	P	05 45 49.5	+0.9
	comp=Z,2.4nm,0.7s,baz=312,slow=12,SNR=3.8						
STKA	**Stephens Creek**	32.16	141	P	P	05 45 49.8	+1.2
STKA				IAmb	IAmb	05 45 55.6	
	comp=Z,2.4nm,1.2s						
MKAR	**Makanchi Array**	63.19	333	P	P	05 49 49.6	+0.9
	comp=Z,0.4nm,0.6s,baz=143,slow=6.7,SNR=5.1						
MKAR	**Makanchi Array**	63.19	333	P	P	05 49 50.0	+1.2
QSPA	**South Pole Qui**	82.20	180	P	P	05 51 43.0	+1.5
QSPA				IAmb	IAmb	05 51 52.0	
	comp=Z,6.0nm,1.4s						

IDC **12** *06:19:09.4±1.3,28˚.82S×179˚.30W,h353km±27km,mb3.5/4,*
mb1 3.6/4,mb1mx3.2/29,mbtmp4.2/4,Error ellipse:
s-maj=110.9km s-min=23.6km az=158.0

ISC 12 06:19:08.8±0.8,29.36S±0.08×179.2W±0.2,h350km,n29, σ1°89/35,mb3.7/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	1.09	84	P	Pn	06 19 54.2	-0.7
GLKZ	**Green Lake**	1.10	85	P	Pn	06 19 55.9	+1.0
GLKZ				S	S	06 20 30.8	-1.1
RAO	**Raoul Island**	1.10	85	P	Pn	06 19 56.6	+1.7
	422nm,0.3s,baz=57,slow=22,SNR=8.6						
HAZ	**Te Kaha**	8.75	196	P	P	06 21 16.4	+2.2
HAZ				S	S	06 22 53.1	+1.0
PUZ	**Puketiti**	8.95	193	P	P	06 21 18.1	+1.7
PUZ				S	S	06 22 53.5	-3.0
RUGZ	**Raukumara Rang**	8.97	196	P	P	06 21 18.0	+1.2
RUGZ				S	S	06 22 54.7	-2.5
MWZ	**Matawai**	9.36	196	P	P	06 21 23.6	+2.6
MWZ				S	S	06 23 05.3	-0.3
URZ	**Urewera**	9.40	198	P	P	06 21 22.5	+1.1
URZ				S	S	06 23 04.4	-1.9
RTZ	**Ruatahuna**	9.77	198	P	P	06 21 27.0	+1.4
RTZ				S	S	06 23 12.0	-2.6
RAHZ	**Arahi**	10.02	197	P	P	06 21 29.9	+1.5
NMHZ	**Naumai**	10.27	198	P	P	06 21 32.0	+0.9
HIZ	**Hauiti**	10.38	207	P	P	06 21 37.8	+5.5
BKZ	**Black Stump Fm**	10.41	199	P	P	06 21 33.5	+0.8
FWVZ	**Far West T-bar**	10.79	202	P	P	06 21 38.0	+1.0
PKVZ	**Pokaka**	10.89	203	P	P	06 21 40.4	+2.4
KRHZ	**Kereru**	10.89	198	P	P	06 21 38.7	+0.7
KAHZ	**Kahuranaki**	10.90	196	P	P	06 21 40.3	+2.2
VRZ	**Vera Road**	10.95	206	P	P	06 21 42.3	+3.7
PNHZ	**Pukenui**	11.19	199	P	P	06 21 41.9	+0.5
BFZ	**Birch Farm**	11.90	197	P	Pn	06 21 50.7	+1.5
BFZ				S	S	06 23 57.1	-4.4
STKA	**Stephens Creek**	33.73	256	P	P	06 25 19.5	+1.0
	1.6nm,0.5s,baz=121,slow=15,SNR=4.6						
ASAR	**Alice Springs**	42.15	266	P	P	06 26 27.9	-0.5
	1.5nm,0.5s,baz=98,slow=6.8,SNR=25						
WRA	**Warramunga Arr**	43.04	272	P	P	06 26 34.6	-0.9
	4.2nm,0.7s,baz=110,slow=7.6,SNR=19						
PETK	**Petropavlovsk-**	84.56	346	P	P	06 31 01.0	-1.8
	2.2nm,0.8s,baz=148,slow=8.5,SNR=2.2						
ARCES	**ARCESS Array B**	137.36	347	PKP	PKPdf	06 37 50.1	0.0
	1.9nm,0.9s,baz=86,slow=4.6,SNR=3.9						
FINES	**FINESS Array B**	143.82	340	PKhKP	PKPpre	06 37 57.9	
	2.4nm,0.5s,baz=55,slow=4.1,SNR=25						
NB2	**NORSAR Subarra**	147.57	351	PKP	PKPdf	06 38 09.4	+1.1
	comp=Z,0.7nm,0.5s,baz=15,slow=2.9						
NOA	**NORSAR Array B**	147.57	351	PKPbc	PKPdf	06 38 09.5	+1.1
	comp=Z,0.9nm,0.5s,baz=14,slow=4.3,SNR=3.6						
AKASG	**Malin Array Be**	149.86	323	PKPbc	PKPbc	06 38 15.8	-1.7
	comp=Z,0.9nm,0.3s,baz=47,slow=2.9,SNR=7.2						

VAO **12** *06:30:27.6±1.1,5˚.98N×73˚.63W,h0km,mb4.1*
IDC **12** *06:30:37.3±1.0,3˚.98N×73˚.82W,h0km,mb3.6/4,mb1 4.1/7,*
mb1mx3.8/30,mbtmp3.9/7,ML3.9/3,MS3.4/5,Ms1 3.4/5,
ms1mx3.1/24,Error ellipse: s-maj=29.2km s-min=11.0km
az=57.0
RSNC **12** *06:30:41.1±2.3,4˚.19N×73˚.71W,h0km±6km,ML4.3,Mw4.3,*
Fault plane solution: NP1,φs=56.00000°,δ83.00000°,
λ-162.00000°.
NEIC **12** *06:30:42.5±1.5,4˚.23N±0.05×73˚.89W±0.06,h42km±7km,*
mb4.2/7,Error ellipse: s-maj=8.8km s-min=6.4km az=62.0

ISC 12 06:30:39.3±0.9,4.23N±0.02×73.69W±0.02,h9km±6km,n95, σ2°04/119,mb3.9/8,MS3.4/5,5C-7D,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VILC	**Villavicencio,**	0.11	182	⇑*i*Pg	Pg	06 30 42.0	-0.2
VILC				*e*Sg	Sg	06 30 44.7	+0.6
CHIC	**Chingaza**	0.40	354	⇑*i*Pg	Pg	06 30 47.8	+0.4
CHIC				*e*Sg	Sg	06 30 54.1	+1.3
CHIC				*i*		06 30 56.8	
	comp=Z,20μm,0.3s						
CVER	**Cruz Verde, Cu**	0.48	308	*i* P	Pg	06 30 47.9	-1.0
ROSC	**El Rosal**	0.88	314	Pg	Pb	06 30 57.2	+0.3
	comp=Z,532nm,0.3s,baz=332,slow=24,SNR=775						
ROSC				Lg	Lg	06 31 11.0	
	comp=Z,1μm,0.3s,baz=144,slow=24,SNR=10						
ROSC	**El Rosal**	0.88	314	⇓*i*P	Pb	06 30 57.2	+0.3
ROSC				*e*S	Sb	06 31 09.8	+0.9
ROSC	**El Rosal**	0.88	314		Pb	06 30 57.4	+0.5
CTAB	**Cerro Tablazo,**	0.94	327	*e*P	Pn	06 30 59.2	+0.2
CTAU	**Tausa, Cundina**	1.03	340	*e*P	Pn	06 31 01.9	+1.5
PRAC	**Prado**	1.30	247	⇓*e*P	Pn	06 31 01.3	-2.4
PRAC				*e*S	Sn	06 31 24.2	+3.1
SPBC	**San Pablo de B**	1.47	345	*e*P	Pb	06 31 07.3	+0.4
SPBC				*e*S	Sg	06 31 28.0	+1.3
PTGC	**Puerto Gaitan,**	1.55	91	⇓*i*P	Pg	06 31 09.4	+0.3
PTGC				*e*S	Sg	06 31 29.4	+0.1
ORTC	**Ortega, Tolima**	1.58	259	⇓*i*P	Pn	06 31 06.5	-1.0
ORTC				*e*S	Sn	06 31 25.9	-2.3
TOLC	**Tolima**	1.67	282	⇓*e*P	Pn	06 31 08.5	-0.5
TOLC				*e*S	Sn	06 31 30.8	+0.2
RUSC	**La Rusia**	1.76	20	⇑*i*P	Pg	06 31 13.3	+0.1
RUSC				*e*S	Sg	06 31 38.6	+2.4
RUSC	**La Rusia**	1.76	20	Pn	Pg	06 31 13.4	+0.2
RUSC				Sn	Sg	06 31 35.7	-0.5
NORC	**Norcasia**	1.77	319	⇓*e*P	Pn	06 31 11.3	+1.1
GUY2C	**Guyana, Caldas**	1.94	301	⇓*e*P	Pn	06 31 14.0	+1.1
GUY2C				*e*S	Sb	06 31 40.2	+0.5
GUY2C				*i*		06 31 43.4	
	comp=Z,1μm,0.5s						
GUVC	**San Jose del G**	1.98	148	*e*P	Pn	06 31 14.0	+1.0
GUVC				*e*S	Sb	06 31 40.4	+0.1
MACC	**Macarena, Meta**	2.07	184	⇑*i*P	Pn	06 31 13.5	-0.8
MACC				*e*S	Sn	06 31 39.8	-0.4
BETC	**Betania**	2.33	229	*e*P	Pn	06 31 18.9	+1.1
BETC				*e*S	Sn	06 31 47.1	+0.5
BARC	**Barichara**	2.41	12	*e*P	Pb	06 31 21.9	-1.0
BARC				*i*		06 32 03.5	
	comp=Z,2μm,0.4s						
PTBC	**PUERTO BERRIO,**	2.42	342	*e*P	Pn	06 31 20.3	+1.1
PTBC				*e*S	Sb	06 31 52.0	-1.1
YOTC	**Yotoco, Valle**	2.66	265	*e*P	Pn	06 31 22.4	0.0
YOTC				*e*S	Sn	06 31 55.1	+0.1
PLMC	**San Jos del P**	2.67	285	*e*P	Pn	06 31 25.5	+2.9
PLMC				*e*S	Sb	06 32 00.3	0.0
HELC	**Santa Helena**	2.68	317	*e*P	Pn	06 31 24.9	+2.0
HELC				*e*S	Sb	06 31 59.9	-0.9
GARC	**Garzon, Huila**	2.71	222	⇑*e*P	Pn	06 31 24.5	+1.2
GARC				*e*S	Sn	06 31 58.3	+2.0
CBOC	**Ciudad Bolivar**	2.83	305	*e*P	Pn	06 31 28.2	+3.3
CBOC				*e*S	Sb	06 32 03.7	-1.3
TAMC	**Tame, Arauca**	2.90	41	*e*P	Pb	06 31 29.2	-2.0
TAMC				*e*S	Sg	06 32 14.2	+1.7
PAMC	**Pamplona, Colo**	3.25	18	*e*P	Pn	06 31 34.3	+3.4
PAMC				*e*S	Sg	06 32 21.1	-2.8
PCON	**Cinco Dias**	3.29	235	*e*P	Pn	06 31 33.3	+1.7
PCON				*e*S	Sb	06 32 19.0	+0.2
ZARC	**Zaragoza, Cauc**	3.45	340	*e*P	Pn	06 31 35.4	+2.2
ZARC				*e*S	Sb	06 32 20.6	-2.0
SOTA	**Rioblanco**	3.58	235	*e*P	Pn	06 31 37.9	+2.4
SOTA				*e*S	Sb	06 32 24.0	-2.8
MALC	**Bahia Malaga**	3.64	267	*e*P	Pn	06 31 37.6	+1.7
MALC				*e*S	Sn	06 32 21.3	+2.3
DBBC	**Dabeiba**	3.74	318	*e*P	Pb	06 31 44.6	-1.0
DBBC				*i*		06 32 43.0	
	comp=Z,650nm,1.0s						
UREC	**San Jos de Ur**	3.95	332	*e*P	Pn	06 31 42.8	+2.6
UREC				*e*S	Sn	06 32 31.6	+4.9
OCAC	**Ocana**	4.00	5	*e*P	Pn	06 31 43.3	+2.3
OCAC				*e*S	Sb	06 32 36.4	-2.4
BBAC	**Balboa, Cauca**	4.17	238	*e*P	Pn	06 31 45.0	+1.6
BBAC				*e*S	Sb	06 32 44.0	+0.3
SMLC	**San Martn de**	4.56	355	*e*P	Pn	06 31 51.5	+3.0
GR1C	**Gorgona, Isla**	4.63	255	*e*P	Pn	06 31 49.5	0.0
PUAC	**Puerto Asis, P**	4.65	218	*e*P	Pn	06 31 50.0	+0.2
PUAC				*e*S	Sb	06 32 59.0	+1.8
GCUF	**Volcan Galeras**	4.71	231	*e*P	Pn	06 31 53.2	+2.2
GCUF				*e*S	Sb	06 33 02.8	+3.3
ELOV	**Elorza**	5.01	56	*e*P	Pn	06 31 56.5	+1.8
SDV	**Santo Domingo**	5.54	33	Pn	Pn	06 32 04.8	+2.7
	comp=Z,28nm,0.3s,baz=196,slow=9.8,SNR=8.7						
SDV	**Santo Domingo**	5.54	33	*e*P	Pn	06 32 06.1	+4.0
SDV	**Santo Domingo**	5.54	33	Pn	Pn	06 32 04.4	+2.3
SJCC	**San Jacinto, C**	5.83	345	*e*P	Pn	06 32 07.1	+1.1
SJCC				*e*S	Sn	06 33 13.5	+0.5
HATO	**Hato, Curacao**	9.19	30	Pn	Pn	06 32 53.6	+1.5
PCRV	**Puerto La Cruz**	10.75	56	Pn	Pn	06 33 14.8	+1.2
	comp=Z,1.0nm,0.3s,baz=216,slow=8.3,SNR=5.9						
PLCV	**Puerto La Cruz**	10.78	56		Pn	06 33 14.8	+0.8
PTGA	**Pitinga**	14.57	109	Pn	Pn	06 34 03.6	-2.3
	comp=Z,0.7nm,0.3s,baz=274,slow=19,SNR=7.8						
PTGA	**Pitinga**	14.57	109	Pn	Pn	06 34 06.6	+0.7
PTGA	**Pitinga**	14.57	109	*e*P	Pn	06 34 03.1	-2.7
PTGA	**Pitinga**	14.57	109	*e*P	Pn	06 34 03.1	-2.7
SDDR	**Presa de Saban**	14.85	9		Pn	06 34 10.0	+0.3
MACA	**Manacapuru-AM**	14.92	119	*e*P	Pn	06 34 10.7	+0.1
MACA	**Manacapuru-AM**	14.92	119	*e*P	Pn	06 34 10.7	+0.1
CUPR	**Culebra, Puert**	16.23	30	Pn	Pn	06 34 28.3	+0.6
ITTB	**Itaituba**	19.86	115	*e*S	Sn	06 39 01.1	+5.0
ITTB	**Ita

IDC ***12*** *07:12:06.3±1.0, 55°.37N×162°.96E, h0km, mb3.8/9, mb1 4.0/10, mb1mx3.8/31, mbtmp3.8/10, ML2.6/1, MS2.8/3, Ms1 2.8/3, ms1mx2.5/38, Error ellipse: s-maj=33.6km s-min=18.5km az=157.0*

NEIC ***12*** *07:12:07.4±2.3, 55°.3N±0°.2×163°.0E±0°.2, h10km±1km, mb4.2/25, Error ellipse: s-maj=28.0km s-min=16.6km az=151.0*

KRSC ***12*** *07:12:07.5±1.1, 55°.11N×163°.40E, h50km±29km, ML4.1*

MOS ***12*** *07:12:09.9±0.8, 55°.18N×163°.25E, h45km, mb4.3/4, Error ellipse: s-maj=7.2km s-min=5.4km az=77.4*

ISC 12 07:12:08.7±1.6, 55°.21N±0°.03×163°.31E±0°.03, h18km±7km, n142, σ1§08/171, mb4.2/26, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.04**	**345**	P		**Pb**		**07 12 27.5**	**-0.7**
KBTR				S		**Sn**		**07 12 42.5**	**0.0**
KBTR	**Krutoberegovo**	**1.04**	**345**	PN		**Pb**		**07 12 27.5**	**-0.7**
KBTR				S		**Sn**		**07 12 42.5**	**0.0**
KBG	**Krutoberegovo**	**1.10**	**342**	P		**Pn**		**07 12 28.5**	**-0.7**
KBG				S		**Sg**		**07 12 44.6**	**0.0**
KBG	**Krutoberegovo**	**1.10**	**342**	PN		**Pn**		**07 12 28.5**	**-0.7**
KBG				S		**Sg**		**07 12 44.6**	**0.0**
BKI	**Bering**	**1.53**	**89**	P		**Pn**		**07 12 34.3**	**-0.7**
BKI				S		**Sn**		**07 12 54.1**	**-0.3**
BKI	**Bering**	**1.53**	**89**	PN		**Pn**		**07 12 34.3**	**-0.7**
BKI				S		**Sn**		**07 12 54.1**	**-0.3**
ZLN	**Zelenaya**	**1.64**	**301**	P		**Pn**		**07 12 37.2**	**+0.5**
ZLN	**Zelenaya**	**1.64**	**301**	PN		**Pn**		**07 12 37.2**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**1.66**	**297**	P		**Pn**		**07 12 37.5**	**+0.6**
BZGR				S		**Sb**		**07 13 00.1**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**1.66**	**297**	PN		**Pn**		**07 12 37.5**	**+0.6**
BZGR				S		**Sb**		**07 13 00.1**	**+0.8**
TUMD	**Tumrok D**	**1.67**	**271**	P		**Pn**		**07 12 36.4**	**-0.6**
TUMD				S		**Sn**		**07 12 57.7**	**-0.2**
CIRR	**Tsirk**	**1.71**	**303**	P		**Pn**		**07 12 38.3**	**+0.5**
CIRR	**Tsirk**	**1.71**	**303**	PN		**Pn**		**07 12 38.3**	**+0.5**
LGNR	**Loginova**	**1.73**	**302**	P		**Pb**		**07 12 39.5**	**-0.5**
LGNR	**Loginova**	**1.73**	**302**	PN		**Pb**		**07 12 39.5**	**-0.5**
SMKR	**Semkarok**	**1.73**	**324**	P		**Pn**		**07 12 38.9**	**+1.0**
SMKR	**Semkarok**	**1.73**	**324**	PN		**Pn**		**07 12 38.9**	**+1.0**
KZV	**Kizimen**	**1.73**	**268**	P		**Pn**		**07 12 36.8**	**-1.2**
KZV				S		**Sn**		**07 12 58.6**	**-1.1**
KZV	**Kizimen**	**1.73**	**268**	PN		**Pn**		**07 12 36.8**	**-1.2**
KZV				S		**Sn**		**07 12 58.6**	**-1.1**
BZMR	**Bezymyannaya**	**1.76**	**296**	P		**Pn**		**07 12 38.8**	**+0.4**
BZMR	**Bezymyannaya**	**1.76**	**296**	PN		**Pn**		**07 12 38.8**	**+0.4**
BDR	**Baidarnaya**	**1.81**	**320**	P		**Pn**		**07 12 39.5**	**+0.5**
BDR	**Baidarnaya**	**1.81**	**320**	PN		**Pn**		**07 12 39.5**	**+0.5**
TUMR	**Tumrok**	**1.81**	**274**	P		**Pn**		**07 12 39.7**	**+0.6**
TUMR				S		**Sb**		**07 13 04.0**	**+0.2**
TUMR	**Tumrok**	**1.81**	**274**	PN		**Pn**		**07 12 39.7**	**+0.6**
TUMR				S		**Sb**		**07 13 04.0**	**+0.2**
KMNR	**Kamenistaya**	**1.83**	**289**	P		**Pn**		**07 12 40.1**	**+0.7**
KMNR				S		**Sb**		**07 13 05.2**	**+0.8**
KMNR	**Kamenistaya**	**1.83**	**289**	PN		**Pn**		**07 12 40.1**	**+0.7**
KMNR				S		**Sb**		**07 13 05.2**	**+0.8**
KIRR	**Kirishev**	**1.84**	**295**	P		**Pn**		**07 12 40.2**	**+0.7**
KIRR				S		**Sb**		**07 13 04.8**	**+0.1**
KIRR	**Kirishev**	**1.84**	**295**	PN		**Pn**		**07 12 40.2**	**+0.7**
KIRR				S		**Sb**		**07 13 04.8**	**+0.1**
KRSR	**Krestovskiy**	**1.85**	**304**	P		**Pn**		**07 12 39.7**	**+0.1**
KRSR	**Krestovskiy**	**1.85**	**304**	PN		**Pn**		**07 12 39.7**	**+0.1**
KLY	**Klyuchi**	**1.87**	**308**	P		**Pn**		**07 12 38.8**	**-0.9**
KLY	**Klyuchi**	**1.87**	**308**	PN		**Pn**		**07 12 38.8**	**-0.9**
SRKR	**Sorokina**	**1.89**	**321**	P		**Pn**		**07 12 40.8**	**+0.7**
SRKR	**Sorokina**	**1.89**	**321**	PN		**Pn**		**07 12 40.8**	**+0.7**
KPT	**Kopyto**	**1.91**	**295**	P		**Pn**		**07 12 41.4**	**+1.0**
KPT	**Kopyto**	**1.91**	**295**	PN		**Pn**		**07 12 41.4**	**+1.0**
KOZ	**Kozyrevsk**	**2.13**	**295**	P		**Pn**		**07 12 44.5**	**+1.2**
KOZ	**Kozyrevsk**	**2.13**	**295**	PN		**Pn**		**07 12 44.5**	**+1.2**
SRDR	**Sredinnyy**	**2.31**	**300**	P		**Pn**		**07 12 47.0**	**+1.1**
SRDR				S		**Sb**		**07 13 17.4**	**-0.8**
SRDR	**Sredinnyy**	**2.31**	**300**	PN		**Pn**		**07 12 47.0**	**+1.1**
SRDR				S		**Sb**		**07 13 17.4**	**-0.8**
KII	**Karymskiy**	**2.53**	**244**	P		**Pn**		**07 12 48.8**	**-0.1**
KII	**Karymskiy**	**2.53**	**244**	PN		**Pn**		**07 12 48.8**	**-0.1**
SPN	**Mys Shipunski**	**2.86**	**224**	S		**Sn**		**07 13 25.2**	**-2.2**
SDLR	**Sedlovina**	**3.24**	**235**	P		**Pn**		**07 12 58.5**	**-0.2**
SDLR	**Sedlovina**	**3.24**	**235**	PN		**Pn**		**07 12 58.5**	**-0.2**
KRER	**Koryakskii**	**3.28**	**236**	P		**Pn**		**07 12 59.7**	**+0.3**
KRER				S		**Sn**		**07 13 38.4**	**+0.3**
KRER	**Koryakskii**	**3.28**	**236**	PN		**Pn**		**07 12 59.7**	**+0.3**
KRER				S		**Sn**		**07 13 38.4**	**+0.3**
SMAR	**Somma**	**3.29**	**235**	P		**Pn**		**07 12 59.2**	**-0.2**
SMAR				S		**Sn**		**07 13 38.5**	**+0.4**
SMAR	**Somma**	**3.29**	**235**	PN		**Pn**		**07 12 59.2**	**-0.2**
SMAR				S		**Sn**		**07 13 38.5**	**+0.4**
KRX	**Arik**	**3.30**	**238**	P		**Pn**		**07 12 59.9**	**+0.4**
KRX	**Arik**	**3.30**	**238**	PN		**Pn**		**07 12 59.9**	**+0.4**
UGLR	**Uglovaya**	**3.31**	**235**	P		**Pn**		**07 12 59.8**	**+0.2**
UGLR	**Uglovaya**	**3.31**	**235**	PN		**Pn**		**07 12 59.8**	**+0.2**
AVH	**Avacha**	**3.31**	**236**	P		**Pn**		**07 13 00.1**	**+0.4**
AVH				S		**Sn**		**07 13 38.8**	**+0.2**
AVH	**Avacha**	**3.31**	**236**	PN		**Pn**		**07 13 00.1**	**+0.4**
AVH				S		**Sn**		**07 13 38.8**	**+0.2**
KOK	**Koryaka**	**3.35**	**237**	P		**Pn**		**07 13 00.5**	**+0.4**
KOK	**Koryaka**	**3.35**	**237**	PN		**Pn**		**07 13 00.5**	**+0.4**
DALK	**Dalny**	**3.46**	**233**	P		**Pn**		**07 13 01.7**	**+0.2**
DALK	**Dalny**	**3.46**	**233**	PN		**Pn**		**07 13 01.7**	**+0.2**
PET	**Petropavlovsk**	**3.51**	**233**	P		**Pn**		**07 13 02.0**	**-0.2**
PET				S		**Sn**		**07 13 42.0**	**-1.2**
PET	**Petropavlovsk**	**3.51**	**233**	*e*PN		**Pn**		**07 13 03.1**	**+0.9**
PET				*e*S		**Sn**		**07 13 47.6**	**+4.4**
PET	comp=N,212nm,0.7s			smax		smax			
PET	comp=E,238nm,0.7s			smax		smax			
PET	**Petropavlovsk**	**3.51**	**233**	Pn		**Pn**		**07 13 02.1**	**-0.1**
KRMR	**Karymshinskiy**	**3.87**	**234**	P		**Pn**		**07 13 07.8**	**+0.5**
KRMR				S		**Sn**		**07 13 52.0**	**-0.2**
KRMR	**Karymshinskiy**	**3.87**	**234**	PN		**Pn**		**07 13 07.8**	**+0.5**
KRMR				S		**Sn**		**07 13 52.0**	**-0.2**
PEA0B	**Petropavlovsk-**	**3.91**	**240**	PN		**Pn**		**07 13 08.0**	**+0.2**
PEA0B	**Petropavlovsk-**	**3.91**	**240**			**Pn**		**07 13 08.0**	**+0.2**
PETK	**Petropavlovsk-**	**3.91**	**240**	Pn		**Pn**		**07 13 08.2**	**+0.4**
PETK	comp=E,2.1nm,0.3s,baz=97,slow=18,SNR=18			LR		LR		07 14 56.7	
PETK	comp=E,156nm,19.5s,baz=65,slow=44 **Petropavlovsk-**	**3.91**	**240**			**Pn**		**07 13 07.7**	**-0.2**
RUS	**Russkaya**	**3.97**	**228**	P		**Pn**		**07 13 07.5**	**-1.2**
RUS				S		**Sn**		**07 13 51.7**	**-3.0**
RUS	**Russkaya**	**3.97**	**228**	PN		**Pn**		**07 13 07.5**	**-1.2**
OSSR	**Ossora**	**4.06**	**358**	P		**Pn**		**07 13 10.0**	**+0.2**
OSSR	**Ossora**	**4.06**	**358**	PN		**Pn**		**07 13 10.0**	**+0.2**
MTVR	**Mutnovka**	**4.08**	**230**	P		**Pn**		**07 13 10.7**	**+0.4**
MTVR				S		**Sn**		**07 13 58.2**	**+0.6**
MTVR	**Mutnovka**	**4.08**	**230**	PN		**Pn**		**07 13 10.7**	**+0.4**
MTVR				S		**Sn**		**07 13 58.2**	**+0.6**
GRL	**Gorelyy**	**4.08**	**232**	P		**Pn**		**07 13 11.9**	**+1.6**
GRL	**Gorelyy**	**4.08**	**232**	PN		**Pn**		**07 13 11.9**	**+1.6**
ASAK	**Asacha**	**4.28**	**231**	P		**Pn**		**07 13 14.2**	**+1.3**
ASAK				S		**Sn**		**07 14 03.9**	**+1.6**
ASAK	**Asacha**	**4.28**	**231**	PN		**Pn**		**07 13 14.2**	**+1.3**
ASAK				S		**Sn**		**07 14 03.9**	**+1.6**
APC	**Apacha**	**4.28**	**240**	P		**Pn**		**07 13 14.5**	**+1.6**
APC	**Apacha**	**4.28**	**240**	PN		**Pn**		**07 13 14.5**	**+1.6**
MA2	**Magadan**	**8.06**	**308**	LR		LR		07 17 05.0	
YAK	comp=E,33nm,19.5s,baz=310,slow=38 **Yakutsk**	**18.62**	**305**	LR		LR		07 24 21.6	
TTA	comp=E,61nm,21.6s,baz=274,slow=40 **Tatalina**	**21.95**	**53**	P		**P**		**07 17 02.6**	**+1.6**
TTA				pmax		pmax			
TTA	comp=Z,2.0nm,0.7s **Tatalina**	**21.95**	**53**	P		**P**		**07 17 02.6**	**+1.6**
TIXI	**Tiksi**	**22.04**	**331**	P		**P**		**07 17 02.6**	**+0.8**
SVW2	comp=Z,2.3nm,0.6s,baz=128,slow=16,SNR=6.6 **Sparrevohn**	**22.18**	**58**	P		**P**		**07 17 04.9**	**+1.4**
IMAR	**Indian Mountai**	**23.16**	**45**	P		**P**		**07 17 13.2**	**-0.5**
PPLA	**Purkeypile**	**23.70**	**53**	P		**P**		**07 17 17.1**	**-2.2**
PPLA				IAmb		IAmb		07 17 25.2	
OHAK	comp=Z,14nm,1.5s **Old Harbor**	**23.92**	**67**	P		**P**		**07 17 20.1**	**-1.1**
OHAK				IAmb		IAmb		07 17 22.5	
KDAK	comp=Z,6.3nm,0.8s **Kodiak Island**	**24.16**	**66**	P		**P**		**07 17 23.3**	**-0.1**
KDAK	comp=Z,2.9nm,0.4s,baz=268,slow=5.1,SNR=16 **Kodiak Island**	**24.16**	**66**	P		**P**		**07 17 23.3**	**-0.1**
KDAK	comp=Z,12nm,1.2s			pmax		pmax			
KDAK	**Kodiak Island**	**24.16**	**66**	P		**P**		**07 17 23.3**	**-0.1**
BPAW	**Bear Paw Mtn.**	**24.22**	**50**	P		**P**		**07 17 24.5**	**+0.5**
CNPM	**China Poot**	**24.50**	**61**	P		**P**		**07 17 26.4**	**-0.3**
CNPM				IAmb		IAmb		07 17 40.6	
TRF	comp=Z,6.2nm,0.9s **Thorofare Moun**	**24.54**	**52**	P		**P**		**07 17 27.5**	**+0.4**
TRF				IAmb		IAmb		07 17 29.9	
BRLK	comp=Z,4.2nm,0.7s **Bradley Lake**	**24.64**	**60**	P		**P**		**07 17 27.9**	**+0.1**
TOLK	**Toolik Lake Re**	**25.13**	**39**	P		**P**		**07 17 33.8**	**+1.6**
TOLK				IAmb		IAmb		07 17 34.8	
RND	comp=Z,4.0nm,0.6s **Reindeer**	**25.19**	**52**	P		**P**		**07 17 33.1**	**+0.2**
RND				pmax		pmax			
RND	comp=Z,3.0nm,1.0s **Reindeer**	**25.19**	**52**	P		**P**		**07 17 33.1**	**+0.2**
WRH	**Wood River Hil**	**25.48**	**49**	P		**P**		**07 17 36.3**	**+0.9**
WRH				IAmb		IAmb		07 17 36.8	
SML	comp=Z,2.5nm,0.7s **Sawmill**	**25.58**	**55**	P		**P**		**07 17 37.1**	**+0.7**
SML				IAmb		IAmb		07 17 41.2	
CCB	comp=Z,4.8nm,0.8s **Clear Creek Bu**	**25.60**	**49**	P		**P**		**07 17 37.0**	**+0.6**
DHY	**Denali Highway**	**25.88**	**52**	P		**P**		**07 17 39.5**	**+0.3**
DHY				IAmb		IAmb		07 17 40.5	
HDA	comp=Z,3.2nm,0.6s **Harding Lake**	**25.98**	**49**	P		**P**		**07 17 40.2**	**+0.4**
ILAR	**Eielson Array**	**25.99**	**48**	P		**P**		**07 17 40.0**	**0.0**
ILAR	comp=Z,1.0nm,0.8s,baz=266,slow=8.9,SNR=10 **Eielson Array**	**25.99**	**48**	P		**P**		**07 17 39.9**	**-0.1**
SCM	**Sheep Creek Mo**	**26.05**	**55**	P		**P**		**07 17 41.5**	**+0.9**
SCM				pmax		pmax			
SCM	comp=Z,6.0nm,0.6s **Sheep Creek Mo**	**26.05**	**55**	P		**P**		**07 17 41.5**	**+0.9**
SCM				IAmb		IAmb		07 17 44.8	
PRP	comp=Z,5.5nm,0.6s **Porcupine Dome**	**26.54**	**47**	P		**P**		**07 17 44.9**	**-0.2**
PRP				IAmb		IAmb		07 17 59.4	
BMAR	comp=Z,4.5nm,1.1s **Burnt Mountain**	**26.90**	**42**	P		**P**		**07 17 49.5**	**+1.2**
BCAR	**Beaver Creek A**	**28.41**	**52**	P		**P**		**07 18 02.2**	**+0.4**
C36M	**Paulatuk**	**34.22**	**37**	P		**P**		**07 18 53.6**	**+0.9**
H11N2	**WAKE ISLAND Hy**	**35.52**	**174**	T		T		07 58 19.5	
H11N3	baz=359,slow=76,SNR=26 **WAKE ISLAND Hy**	**35.53**	**174**	T		T		07 58 18.5	
H11N1	baz=359,slow=76,SNR=18 **WAKE ISLAND Hy**	**35.54**	**174**	T		T		07 58 24.3	
YKA	baz=359,slow=76,SNR=19 **Yellowknife Ar**	**40.33**	**45**	P		**P**		**07 19 45.6**	**+1.1**
KURK	comp=Z,1.2nm,0.8s,baz=294,slow=7.7,SNR=8.9 **Kurchatov**	**48.22**	**302**	P		**P**		**07 20 45.2**	**-2.6**
KURK				pmax		pmax			
KURK	comp=Z,7.0nm,1.5s **Kurchatov**	**48.22**	**302**	P		**P**		**07 20 45.2**	**-2.6**
MKAR	**Makanchi Array**	**48.94**	**296**	P		**P**		**07 20 50.3**	**-3.2**
MKAR	comp=Z,0.3nm,0.4s,baz=61,slow=7.5,SNR=6.5 **Makanchi Array**	**48.94**	**296**	P		**P**		**07 20 50.0**	**-3.5**
ARCES	**ARCESS Array B**	**51.85**	**343**	PcP		**PcP**		**07 22 27.9**	**+0.1**
NVAR	comp=Z,1.1nm,0.8s,baz=19,slow=5.1,SNR=6.2 **Mina Array Bea**	**53.28**	**74**	P		**P**		**07 21 28.7**	**+2.3**
NVAR	comp=Z,0.4nm,0.5s,baz=311,slow=6.8,SNR=5.4 **Mina Array Bea**	**53.28**	**74**	P		**P**		**07 21 28.4**	**+2.0**
PDAR	**Pinedale Array**	**54.87**	**64**	P		**P**		**07 21 39.6**	**+1.7**
SRU	comp=Z,19nm,0.4s,baz=347,slow=4.5,SNR=4.5 **San Rafael Swe**	**57.00**	**68**	P		**P**		**07 21 54.7**	**+1.5**
SRU				pmax		pmax			
SRU	comp=Z,3.0nm,0.8s **San Rafael Swe**	**57.00**	**68**	P		**P**		**07 21 54.7**	**+1.5**
O20A	**White River Ci**	**57.45**	**65**	P		**P**		**07 21 58.7**	**+2.3**
KKAR	**Karatay Array**	**57.49**	**300**	P		**P**		**07 21 53.8**	**-2.6**
KKAR	**Karatay Array**	**57.49**	**300**	P		**P**		**07 21 53.8**	**-2.6**
ABKAR	**Akbulak array**	**57.84**	**311**	P		**P**		**07 21 58.5**	**-0.2**
ABKAR	**Akbulak array**	**57.84**	**311**	P		**P**		**07 21 59.8**	**+1.0**
ABKAR				IAmb		IAmb		07 22 14.5	
PV13	comp=Z,17nm,0.6s **Radium Mtn., P**	**58.60**	**67**	P		**P**		**07 22 07.0**	**+2.5**
PV13				IAmb		IAmb		07 22 07.7	
FINES	comp=Z,2.3nm,0.8s **FINESS Array B**	**58.91**	**338**	P		**P**		**07 22 05.3**	**-0.7**
SCHQ	comp=Z,0.6nm,0.5s,baz=21,slow=11,SNR=5.1 **Schefferville**	**62.88**	**30**	P		**P**		**07 22 33.5**	**+0.3**
SCHQ	comp=Z,1.4nm,0.6s,baz=317,slow=6.5,SNR=5.5 **Schefferville**	**62.88**	**30**	P		**P**		**07 22 33.6**	**+0.4**
SCHQ				IAmb		IAmb		07 22 44.7	
TXAR	comp=Z,3.6nm,1.3s **Lajitas Array**	**68.10**	**70**	P		**P**		**07 23 08.1**	**+0.7**
TXAR	**Lajitas Array**	**68.10**	**70**	P		**P**		**07 23 08.1**	**+0.7**
ASAR	**Alice Springs**	**82.48**	**207**	P		**P**		**07 24 30.1**	**+0.3**
ASAR	comp=Z,0.4nm,0.6s,baz=13,slow=6.4,SNR=5.5 **Alice Springs**	**82.48**	**207**	P		**P**		**07 24 29.8**	**0.0**
ASAR	**Alice Springs**	**82.48**	**207**	P		**P**		**07 24 29.8**	**0.0**
ESDC	**Sonseca Array**	**84.86**	**350**	P		**P**		**07 24 42.6**	**+0.5**
	comp=Z,1.3nm,0.9s,baz=1.2,slow=5.1,SNR=6.2								

IDC ***12*** *07:41:31.5±1.0, 6°.64S×75°.64W, h0km, mb3.5/4, mb1 3.9/9, mb1mx3.8/31, mbtmp3.8/9, ML3.9/5, MS2.8/5, Ms1 2.8/5, ms1mx2.7/24, Error ellipse: s-maj=22.5km s-min=14.8km az=170.0*

VAO ***12*** *07:41:56.1±0.7, 7°.05S×73°.92W, h10km, mbR3.9*

ISC 12 07:41:35.3±0.6, 6°.72S±0°.06×75°.60W±0°.07, h29km, n41, σ2§54/27, mb3.6/4, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.81**	**261**	Pn		**Pn**		**07 42 19.4**	**+0.8**
ATAH	16nm,0.3s,baz=80,slow=15,SNR=84			Pg		**Pb**		**07 42 22.9**	**-2.1**
ATAH	28nm,0.3s,baz=71,slow=13,SNR=42			Lg		Lg		07 42 57.6	
ATAH	99nm,0.3s,baz=290,slow=16,SNR=59			LR		LR		07 43 31.9	
NNA	comp=Z,164nm,19.0s,baz=92,slow=43 **Nana**	**5.38**	**193**	Pn		**Pn**		**07 42 55.5**	**+1.8**
NNA	8.0nm,0.3s,baz=3.2,slow=8.4,SNR=18			Sn		**Sn**		**07 43 56.9**	**+2.2**
NNA	14nm,0.3s,baz=293,slow=18,SNR=7.9			LR		LR		07 45 27.2	
PUAC	comp=Z,160nm,19.8s,baz=358,slow=43 **Puerto Asis, P**	**7.29**	**352**	*e*P		**Pn**		**07 43 19.0**	**-0.9**
GCUF	**Volcan Galeras**	**8.09**	**347**	*e*P		**Pn**		**07 43 32.1**	**+0.8**
GARC	**Garzon, Huila**	**8.85**	**1**	*e*P		**Pn**		**07 43 41.7**	**+0.2**
MACC	**Macarena, Meta**	**8.98**	**11**	*e*P		**Pn**		**07 43 42.6**	**-0.5**
ORTC	**Ortega, Tolima**	**10.56**	**2**	*e*P		**Pn**		**07 44 03.2**	**-1.7**
VILC	**Villavicencio,**	**10.93**	**10**	*e*P		**Pn**		**07 44 10.5**	**+0.5**
VILC				*e*S				07 47 13.8	
ROSC	**El Rosal**	**11.55**	**6**	Lg		Lg		07 47 38.9	
LPAZ	0.9nm,0.3s,baz=24,slow=24,SNR=2.2 **La Paz**	**11.99**	**143**	Pn		**Pn**		**07 44 26.2**	**+1.3**
LPAZ	0.3nm,0.3s,baz=325,slow=15,SNR=11			LR		LR		07 49 48.1	
LPAZ	comp=Z,59nm,19.4s,baz=89,slow=41 **La Paz**	**11.99**	**143**	*e*S		**Sn**		**07 46 33.5**	**-4.7**
LPAZ	**La Paz**	**11.99**	**143**	*e*S		**Sn**		**07 46 33.5**	**-4.7**
SDV	**Santo Domingo**	**16.27**	**18**	*e*P		P		07 45 43.8	+19
SDV	**Santo Domingo**	**16.27**	**18**	*e*P		P		07 45 43.8	+19
VILB	**Vilhena**	**16.38**	**113**	*e*P		**P**		**07 45 24.5**	**-1.4**
VILB	**Vilhena**	**16.38**	**113**	*e*P		**P**		**07 45 24.5**	**-1.4**
PTGA	**Pitinga**	**16.69**	**70**	Pn		**P**		**07 45 27.6**	**-1.7**
PTGA	0.6nm,0.3s,baz=282,slow=22,SNR=4.9			LR		LR		07 50 57.1	
SIV	comp=Z,13nm,20.6s,baz=275,slow=34 **San Ignacio**	**16.95**	**124**	Pn		**P**		**07 45 30.9**	**-1.4**
PTLB	0.2nm,0.3s,baz=304,slow=13,SNR=6.4 **Pontes e Lacer**	**18.32**	**120**	*e*P		**Pn**		**07 45 50.4**	**+3.0**
PTLB	**Pontes e Lacer**	**18.32**	**120**	*e*P		**Pn**		**07 45 50.4**	**+3.0**
CLDB	**Colider**	**19.99**	**103**	*e*S		S		07 49 35.8	-14
CLDB	**Colider**	**19.99**	**103**	*e*S		S		07 49 35.8	-14
NPGB	**Novo Progresso**	**20.10**	**92**	*e*P		Pn		07 46 11.2	+2.4
NPGB	**Novo Progresso**	**20.10**	**92**	*e*P		Pn		07 46 11.2	+2.4
SALV	**Santo Antonio**	**21.52**	**117**	*e*P		**P**		**07 46 27.7**	**+5.5**
SALV	**Santo Antonio**	**21.52**	**117**	*e*P		**P**		**07 46 27.7**	**+5.5**
MALB	**Monte Alegre**	**21.81**	**78**	*e*P		P		07 46 32.6	+7.2
MALB	**Monte Alegre**	**21.81**	**78**	*e*P		P		07 46 32.6	+7.2
AQDB	**Aquidauana**	**23.64**	**127**	*e*P		P		07 46 51.1	+6.8
AQDB	**Aquidauana**	**23.64**	**127**	*e*P		P		07 46 51.1	+6.8
C2SB	**Chapadao do Su**	**25.18**	**121**	*e*P		P		07 47 06.2	+7.7
C2SB	**Chapadao do Su**	**25.18**	**121**	*e*P		P		07 47 06.2	+7.7
CFA	**Coronel Fontan**	**25.70**	**165**	LR		LR		07 56 30.9	
PCMB	comp=Z,29nm,21.1s,baz=262,slow=35 **Pacaembu**	**27.79**	**125**	*e*P		P		07 47 32.4	+10
PCMB	**Pacaembu**	**27.79**	**125**	*e*P		P		07 47 32.4	+10
TXAR	**Lajitas Array**	**44.88**	**324**	P		**P**		**07 49 48.3**	**+0.8**
YKA	0.2nm,0.6s,baz=145,slow=8.4,SNR=2.3 **Yellowknife Ar**	**75.20**	**342**	P		**P**		**07 53 14.8**	**0.0**
TORD	0.4nm,0.6s,baz=139,slow=6.3,SNR=6.8 **Torodi Ar. Bea**	**79.25**	**75**	P		**P**		**07 53 38.9**	**+0.3**
ILAR	0.3nm,0.3s,baz=267,slow=4.5,SNR=6.9 **Eielson Array**	**88.19**	**336**	P		**P**		**07 54 23.5**	**+0.2**
ASAR	0.3nm,0.8s,baz=138,slow=2.7,SNR=4.3 **Alice Springs**	**138.26**	**223**	PKP		**PKiKP**		**08 00 59.3**	**-1.4**
WRA	0.6nm,0.6s,baz=132,slow=2.6,SNR=6.1 **Warramunga Arr**	**140.38**	**227**	PKP		**PKiKP**		**08 01 03.5**	**-1.7**
	0.9nm,0.5s,baz=126,slow=2.0,SNR=9.1								

SOME ***12*** *08:25:45.5, 39°.85N×75°.87E, h10km*

NNC ***12*** *08:25:52.3±3.9, 40°.13N×75°.82E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=29.2km s-min=22.4km az=139.0*

KRNET ***12*** *08:25:53.2±0.1, 40°.17N×75°.83E, mb3.3*

ISC 12 08:25:54.0±1.8, 40°.18N±0°.08×75°.91E±0°.04, h10km, n42, σ1§63/68, 23C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**1.96**	**345**	*e*P	⇑	**Pb**		**08 26 29.7**	**-0.4**
KZA	baz=47			*i*S	⇑	**Sg**		**08 26 55.9**	**-1.2**
KZA	baz=47 **Kyzart**	**1.96**	**345**	P		**Pg**		**08 26 31.1**	**-0.6**
ULHL	SNR=26 **Ulahol**	**2.08**	**7**	*i*P	⇑	**Pb**		**08 26 31.2**	**-0.8**
ULHL	baz=8.0			*i*S	⇑	**Sg**		**08 26 59.3**	**-1.6**
ULHL	baz=8.0 **Ulahol**	**2.08**	**7**	P		**Pg**		**08 26 33.2**	**-0.7**
TARG	SNR=11 **Taragay, Kyrgy**	**2.11**	**42**	*i*P	⇑	**Pb**		**08 26 32.0**	**-0.7**
TARG	baz=43			*i*S	⇑	**Sg**		**08 27 01.1**	**-0.9**
KDJ	baz=43 **Kajisay**	**2.17**	**26**	*i*P	⇑	**Pb**		**08 26 32.9**	**-0.7**
KDJ	baz=27			*i*S	⇑	**Sb**		**08 27 02.1**	**+1.5**
UCH	baz=27 **Uchtor**	**2.30**	**333**	*i*P	⇑	**Pb**		**08 26 34.2**	**-1.7**
UCH	baz=35			*i*S	⇑	**Sb**		**08 27 03.9**	**-0.7**
UCH	baz=35 **Uchtor**	**2.30**	**333**	P		**Pb**		**08 26 35.3**	**-0.6**
BOOM	SNR=49 **Boomskoye usch**	**2.31**	**1**	*e*P	⇑	**Pb**		**08 26 34.4**	**-1.5**
BOOM	baz=2.0			*i*S	⇑	**Sb**		**08 27 04.5**	**0.0**
ARSB	baz=2.0 **Arslanbob**	**2.50**	**298**	*i*P	⇑	**Pn**		**08 26 36.5**	**+1.6**
ARSB	baz=99			*i*S	⇑	**Sb**		**08 27 07.9**	**-2.1**
AML	baz=99 **Almayashu**	**2.57**	**320**	*e*P	⇓	**Pn**		**08 26 37.5**	**+1.4**
AML	baz=21			*i*S	⇓	**Sb**		**08 27 10.2**	**-2.0**
AML	baz=21 **Almayashu**	**2.57**	**320**	P		**Pb**		**08 26 38.7**	**-1.8**
KBK	SNR=7.7 **Karagaybulak**	**2.58

11nm,0.6s
KPKS Kokpek 3.88 31 *e*P **Pb 08 27 02.4 -0.3**
2.4nm,0.2s
KPKS *e*S **Sg 08 27 58.1 -0.7**
12nm,0.5s
KK31 Karatay Array 4.99 308 ⇑Pg **Pb 08 27 23.1 +1.7**
0.6nm,0.4s,baz=129,slow=16,SNR=9.4
KK31 ⇓Lg Lg 08 28 31.9
3.4nm,0.8s,baz=140,slow=28,SNR=3.9

IDC ***12*** *09:31:12.3*±*1.2,28˚.07N*×*142˚.86E, h0*km*, mb3.7/6, mb1 3.9/7, mb1mx3.7/38, mbtmp3.7/7, ML3.2/1, MS2.8/2, Ms1 2.8/2, ms1mx2.3/30, Error ellipse: s-maj=37.7km s-min=25.0km az=83.0*

JMA ***12*** *09:31:14.4, 28˚.30N*×*142˚.75E, h28*km*, M4.1*

ISC 12 09:31:16.0±1.1**, 28˚.20N**±0˚.08×**142˚.8E**±0˚.2**, h22**km**, n11,** σ**0.81/12, mb3.8/6, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.22**	**206**	S		**Sn**		**09 31 53.7**	**+0.2**
JHU	**Hanno**	**8.19**	**340**	P		**Pn**		**09 33 13.1**	**-0.5**
JHU				S		**Sn**		**09 34 44.2**	**-1.2**
JRY	**Ryogami san**	**8.46**	**338**	P		**Pn**		**09 33 17.1**	**-0.2**
MJAR	**Matsushiro Arr**	**9.18**	**336**	Pn		**Pn**		**09 33 26.6**	**-0.5**
	0.2nm,0.3s,baz=157,slow=11,SNR=13								
KSRS	**Korea Array**	**15.52**	**310**	Pn		**P**		**09 34 57.7**	**+0.1**
	0.2nm,0.3s,baz=120,slow=11,SNR=8.3								
KSRS				LR		LR		09 41 17.6	
	comp=Z,16nm,18.4s,baz=105,slow=39								
SONM	**Songino Array**	**34.30**	**315**	P		**P**		**09 38 01.7**	**+0.9**
	0.8nm,0.5s,baz=108,slow=6.9,SNR=3.9								
WRA	**Warramunga Arr**	**48.55**	**191**	P		**P**		**09 39 56.3**	**-1.3**
	1.1nm,0.6s,baz=12,slow=8.2,SNR=14								
ZALV	**Zalesovo Beam**	**49.02**	**318**	P		**P**		**09 40 01.9**	**+1.0**
	0.6nm,0.3s,baz=88,slow=7.5,SNR=2.4								
ZALV				LR		LR		09 59 29.3	
	comp=Z,16nm,19.5s,baz=72,slow=34								
MKAR	**Makanchi Array**	**50.19**	**309**	P		**P**		**09 40 10.5**	**+0.4**
	0.4nm,0.6s,baz=94,slow=5.7,SNR=4.0								
ILAR	**Eielson Array**	**56.50**	**29**	P		**P**		**09 40 56.2**	**+0.1**
	0.3nm,0.7s,baz=269,slow=6.3,SNR=2.3								
YKA	**Yellowknife Ar**	**70.92**	**29**	P		**P**		**09 42 31.6**	**+0.4**
	0.4nm,0.7s,baz=288,slow=6.4,SNR=4.1								

IDC ***12*** *09:35:37.0*±*6.0, 10˚.86S*×*166˚.06E, h116*km±*54*km*, mb3.6/7, mb1 4.0/8, mb1mx3.6/27, mbtmp4.0/8, Error ellipse: s-maj=35.4km s-min=24.9km az=148.0*

ISC 12 09:35:35.2±0.8**, 10˚.86S**±0˚.09×**166˚.1E**±0˚.2**, h100**km**, n27,** σ**1.33/16, mb3.8/7, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.16**	**178**	P		**Pn**		**09 38 13.4**	**+1.6**
	4.7nm,0.3s,baz=299,slow=22,SNR=77								
DZM				S		**Sn**		**09 40 11.6**	**-3.0**
	0.9nm,0.3s,baz=138,slow=22,SNR=3.2								
H11S2	**WAKE ISLAND Hy**	**29.17**	**1**	T		T		10 12 05.0	
	baz=181,slow=76,SNR=4.4								
H11S3	**WAKE ISLAND Hy**	**29.17**	**1**	T		T		10 12 05.4	
	baz=181,slow=76,SNR=2.7								
H11S1	**WAKE ISLAND Hy**	**29.19**	**1**	T		T		10 12 06.7	
	baz=181,slow=76,SNR=3.8								
KHEZ	**Kahui Hut**	**29.19**	**167**	P		**P**		**09 41 28.9**	**+1.6**
RITZ	**Rihia Road**	**29.33**	**164**	P		**P**		**09 41 30.3**	**+1.8**
RAHZ	**Arahi**	**29.62**	**162**	P		**P**		**09 41 31.1**	**+0.1**
BKZ	**Black Stump Fm**	**29.68**	**164**	P		**P**		**09 41 31.7**	**+0.1**
BHHZ	**Black Hill Sta**	**29.87**	**164**	P		**P**		**09 41 33.9**	**+0.6**
PNHZ	**Pukenui**	**30.30**	**164**	P		P		09 41 30.4	-6.7
TSZ	**Takapari Road**	**30.37**	**165**	P		P		09 41 30.4	-7.4
H11N1	**WAKE ISLAND Hy**	**30.39**	**2**	T		T		10 13 36.8	
	baz=183,slow=74								
H11N3	**WAKE ISLAND Hy**	**30.39**	**2**	T		T		10 13 37.2	
	baz=183,slow=74								
H11N2	**WAKE ISLAND Hy**	**30.41**	**2**	T		T		10 13 38.0	
	baz=183								
WPHZ	**Waipukurau**	**30.50**	**164**	P		P		09 41 29.0	-10
DVHZ	**Dannevirke**	**30.65**	**165**	P		P		09 41 28.9	-11
PRHZ	**Porangahau**	**30.75**	**164**	P		P		09 41 31.4	-10
ANWZ	**Angora Road**	**30.89**	**164**	P		P		09 41 32.4	-10
BFZ	**Birch Farm**	**31.03**	**165**	P		P		09 41 35.2	-8.3
WRA	**Warramunga Arr**	**31.86**	**250**	P		**P**		**09 41 51.6**	**+0.6**
	1.0nm,0.7s,baz=83,slow=9.0,SNR=6.1								
ASAR	**Alice Springs**	**33.17**	**243**	P		**P**		**09 42 02.1**	**-0.4**
	1.3nm,0.8s,baz=66,slow=10,SNR=13								
ASAR				PcP		**PcP**		**09 44 43.4**	**0.0**
	0.4nm,0.7s,baz=83,slow=1.7,SNR=4.2								
VNDA	**Vanda**	**66.69**	**181**	P		**P**		**09 46 14.8**	**-0.1**
	1.8nm,0.8s,baz=66,slow=8.9,SNR=6.1								
ILAR	**Eielson Array**	**83.23**	**18**	P		**P**		**09 47 50.1**	**0.0**
	0.7nm,0.6s,baz=224,slow=5.9,SNR=8.2								
NVAR	**Mina Array Bea**	**85.65**	**50**	P		**P**		**09 48 04.2**	**+0.9**
	0.6nm,0.9s,baz=230,slow=17,SNR=4.8								
MKAR	**Makanchi Array**	**93.61**	**317**	P		**P**		**09 48 40.4**	**0.0**
	0.9nm,0.6s,baz=100,slow=6.7,SNR=8.5								
YKA	**Yellowknife Ar**	**94.66**	**27**	P		**P**		**09 48 42.8**	**-1.9**
	0.2nm,0.7s,baz=252,slow=4.4,SNR=3.1								
ARCES	**ARCESS Array B**	**116.24**	**346**	PKP		**PKPdf**		**09 54 05.7**	**-0.7**
	0.5nm,0.5s,baz=98,slow=2.5,SNR=4.2								

IDC 12 10:58:27.2±2.1**, 0˚.16N**×**126˚.72E, h0**km**, mb3.1/3, mb1 3.5/4, mb1mx3.3/57, mbtmp3.3/4, ML3.4/1, Error ellipse: s-maj=134.0km s-min=27.5km az=69.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.17**	**183**	P			Pn	11 02 41.0	-0.1
	0.1nm,0.3s,baz=21,slow=8.6,SNR=3.6								
WRA	**Warramunga Arr**	**21.33**	**160**	P			P	11 03 15.1	-0.8
	0.3nm,0.5s,baz=342,slow=12,SNR=10.0								
ASAR	**Alice Springs**	**24.69**	**164**	P			P	11 03 50.8	+0.7
	0.3nm,0.6s,baz=338,slow=11,SNR=6.8								
MKAR	**Makanchi Array**	**60.49**	**326**	P			P	11 08 38.9	-0.1
	0.2nm,0.5s,baz=118,slow=8.6,SNR=2.7								

IDC ***12*** *10:59:07.2*±*0.5, 13˚.73S*×*166˚.97E, h0*km*, mb4.8/24, mb1 4.8/25, mb1mx4.7/38, mbtmp4.7/25, ML2.6/1, MS4.1/22, Ms1 4.1/22, ms1mx4.0/31, Error ellipse: s-maj=18.7km s-min=13.5km az=113.0*

NEIC ***12*** *10:59:15.2*±*2.3, 13˚.73S*±*0˚.07*×*166˚.75E*±*0˚.08, h52*km±*4km, mb4.9/72, Error ellipse: s-maj=11.6km s-min=8.6km az=58.0*

BJI ***12*** *10:59:15.7*±*0.0, 13˚.32S*×*167˚.23E, h69*km*, mB5.1/33, mb5.0/46, Ms4.8/10, Ms7 4.6/9*

GCMT ***12*** *10:59:16.2*±*0.2, 13˚.71S*±*0˚.02*×*166˚.49E*±*0˚.01, h41*km*, MW5.1/87, Moment Tensor Solution. s87,c118; s85,c124; Duration: 0 Moment tensor: Scale 10*^{16}*Nm; Mrr4.54*±*.14; Mθθ0.00*±*.11; Mϕϕ-4.54*±*.10; Mrθ-1.15*±*.10; Mθϕ0.64*±*.10; Mϕr1.93*±*.11; Best double couple: M*$_o$*5.10600*×*10*^{16} *NP1:*ϕ$_s$*182.00000˚, δ34.00000˚, λ106.00000˚. NP2:*ϕ$_s$*342.00000˚, δ58.00000˚, λ79.00000˚. Principal axes: T 5.1310, Plg75.0000˚, Azm223.0000˚; N -0.0460, Plg9.0000˚, Azm348.0000˚; P -5.0800, Plg12.0000˚, Azm80.0000˚; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 10:59:13.9±1.2**, 13˚.64S**±0˚.06×**166˚.95E**±0˚.07**, h44**km**,** σ**9**km**, n211,** σ**1.36/210, mb4.9/71, MS4.3/25, 1C-3D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.81**	**172**				**Pn**	**10 59 42.6**	**0.0**
SANVU							Pn	10 59 44.0	+1.3
HNR	**Honiara**	**8.04**	**301**	Pn			**Pn**	**11 01 09.8**	**+1.7**
	23nm,0.3s,baz=331,slow=5.3,SNR=6.4								
HNR							**Sn**	**11 02 33.5**	**-4.2**
	30nm,0.3s,baz=322,slow=23,SNR=1.6								
HNR				LR			LR	11 04 06.2	
	comp=Z,2μm,21.4s,baz=141,slow=37								
HNR	**Honiara**	**8.04**	**301**	Pn			**Pn**	**11 01 09.6**	**+1.5**
DZM	**Mont Dzumac**	**8.40**	**183**	Pn			**Pn**	**11 01 13.6**	**+0.4**
	6.0nm,0.3s,baz=191,slow=20,SNR=55								
DZM							**Sn**	**11 02 45.5**	**-1.3**
	5.9nm,0.3s,baz=333,slow=23,SNR=1.7								
DZM	**Mont Dzumac**	**8.40**	**183**	*e*Pn			**Pn**	**11 01 13.7**	**+0.5**
	148nm,0.3s								
DZM						*e*Sn	**Sn**	**11 02 45.6**	**-1.2**
	481nm,0.8s								
DZM						*e*LR	LR	11 03 15.0	
	comp=Z,4μm,24.6s								
MSVF	**Nonsavu**	**11.44**	**112**				Pn	11 02 03.0	+8.3
KRVT	**Keravat (AS076**	**17.40**	**301**	LR			LR	11 10 10.9	
	comp=Z,1μm,21.9s,baz=123,slow=38								
EIDS	**Eidsvold**	**18.95**	**230**	P			**Pn**	**11 03 33.8**	**+1.4**
	baz=19,SNR=17								
EIDS	**Eidsvold**	**18.95**	**230**				**Pn**	**11 03 33.3**	**+0.9**
EIDS						IAmb	IAmb	11 03 34.4	
	comp=Z,34nm,0.7s								
PMG	**Port Moresby**	**19.84**	**280**	P			**P**	**11 03 42.1**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=95,slow=6.5,SNR=4.0								
PMG				LR			LR	11 10 45.5	
	comp=Z,403nm,18.6s,baz=86,slow=35								
CTA	**Charters Tower**	**20.81**	**249**	P			**P**	**11 03 52.0**	**+0.2**
	comp=Z,14nm,0.8s,baz=76,slow=12,SNR=14								
CTA				LR			LR	11 10 40.7	
	comp=Z,1μm,21.6s,baz=74,slow=33								
CTAO	**Charters Tower**	**20.81**	**249**	P			**P**	**11 03 52.5**	**+0.8**
CTAO							Pn	11 03 52.6	-1.9
RMQ	**Roma**	**21.30**	**230**	P			**P**	**11 03 58.8**	**+1.8**
	baz=22,SNR=32								
ARMA	**Armidale**	**21.88**	**218**	P			**P**	**11 04 04.6**	**+1.3**
	baz=22,SNR=9.5								
ARMA	**Armidale**	**21.88**	**218**	P			**P**	**11 04 04.5**	**+1.3**
ARMA						IAmb	IAmb	11 04 05.7	
	comp=Z,44nm,1.2s								
MTSU	**Mount Surprise**	**22.22**	**255**	P			**P**	**11 04 07.2**	**+0.3**
	baz=22,SNR=21								
OUZ	**Omahuta**	**22.31**	**166**	P			**P**	**11 04 10.0**	**+2.4**
OUZ						IAmb	IAmb	11 04 26.4	
	comp=Z,50nm,1.3s								
COEN	**Coen**	**23.09**	**266**	P			**P**	**11 04 15.8**	**-0.3**
	baz=23,SNR=8.6								
COEN	**Coen**	**23.09**	**266**	P			**P**	**11 04 16.3**	**+0.2**
COEN							P	**11 04 16.4**	**+0.4**
MGCD	**Mangrove Creek**	**24.25**	**214**	P			**P**	**11 04 28.2**	**+1.4**
	baz=24,SNR=11								
RIV	**Riverview**	**24.70**	**213**	P			**P**	**11 04 32.1**	**+1.2**
	baz=25,SNR=6.7								
QLP	**Quilpie**	**24.86**	**235**	P			**P**	**11 04 32.6**	**+0.1**
	baz=25,SNR=16								
CMSA	**Cobar Meteorol**	**26.42**	**224**	P			**P**	**11 04 47.1**	**+0.6**
	baz=27,SNR=48								
YNG	**Young**	**26.57**	**216**	P			**P**	**11 04 48.8**	**+0.9**
	baz=27,SNR=7.9								
CNB	**Canberra Magne**	**26.78**	**213**	P			**P**	**11 04 50.8**	**+0.9**
	baz=27,SNR=5.6								
BKZ	**Black Stump Fm**	**26.79**	**163**	P			**P**	**11 04 51.3**	**+1.5**
BKZ						IAmb	IAmb	11 05 08.8	
	comp=Z,44nm,1.3s								
CAN	**Canberra**	**26.98**	**214**				**P**	**11 04 52.1**	**+0.5**
CAN						IAmb	IAmb	11 04 52.4	
	comp=Z,21nm,1.2s								
QIS	**Mount Isa**	**27.00**	**251**	P			**P**	**11 04 51.5**	**-0.4**
	baz=27,SNR=6.4								
GENI	**Genyem**	**28.66**	**290**	P			**P**	**11 05 08.3**	**+1.6**
	comp=Z,16nm,0.7s								
LTZ	**Lake Taylor**	**29.40**	**172**	P			**P**	**11 05 13.5**	**+0.4**
STKA	**Stephens Creek**	**29.48**	**228**	P			**P**	**11 05 14.4**	**+0.6**
	baz=30,SNR=35								
STKA	**Stephens Creek**	**29.48**	**228**	P			**P**	**11 05 14.4**	**+0.6**
	comp=Z,8.9nm,0.5s,baz=48,slow=9.0,SNR=48								
STKA						PcP	**PcP**	**11 08 18.1**	**-0.6**
	comp=Z,3.9nm,0.7s,baz=30,slow=5.5,SNR=2.9								
STKA						ScP	**ScP**	**11 12 01.1**	**+4.0**
	comp=Z,6.9nm,0.6s,baz=71,slow=4.2,SNR=13								
STKA				LR			LR	11 16 53.8	
	comp=Z,1μm,19.3s,baz=52,slow=36								
STKA	**Stephens Creek**	**29.48**	**228**	P			**P**	**11 05 14.6**	**+0.7**
RPZ	**Rata Peaks**	**30.18**	**174**	P			**P**	**11 05 21.8**	**+1.9**
RPZ						IAmb	IAmb	11 05 37.4	
	comp=Z,24nm,1.3s								
TOO	**Toolangi**	**30.55**	**215**	P			**P**	**11 05 24.2**	**+0.9**
	baz=31,SNR=20								
TOO	**Toolangi**	**30.55**	**215**	P			**P**	**11 05 24.2**	**+0.9**
TOO						IAmb	IAmb	11 05 24.7	
	comp=Z,22nm,0.8s								
LBZ	**Lake Benmore**	**30.77**	**175**	P			**P**	**11 05 25.9**	**+0.8**
LBZ						IAmb	IAmb	11 05 31.3	
	comp=Z,19nm,1.1s								
WKZ	**Wanaka**	**31.13**	**177**	P			**P**	**11 05 30.3**	**+1.9**
WKZ						IAmb	IAmb	11 05 41.2	
	comp=Z,15nm,0.9s								
WR0	**Warramunga Arr**	**31.62**	**254**	P			**P**	**11 05 31.2**	**-1.7**
MLZ	**Mavora Lakes**	**31.64**	**178**	P			**P**	**11 05 34.1**	**+1.3**
MLZ						IAmb	IAmb	11 05 36.2	
	comp=Z,36nm,1.4s								
WC3	**Warramunga Arr**	**31.78**	**254**	P			**P**	**11 05 32.5**	**-1.8**
	baz=32								
WB2	**Warramunga Arr**	**31.80**	**254**	P			**P**	**11 05 32.9**	**-1.6**
WB2							P	**11 05 33.1**	**-1.4**
WB2						IAmb	IAmb	11 05 33.3	
	comp=Z,11nm,0.8s								
WRAB	**Tennant Creek**	**31.80**	**254**	P			**P**	**11 05 32.4**	**-2.1**
WRAB						IAmb	IAmb	11 05 33.2	
	comp=Z,10nm,0.8s								
WRA	**Warramunga Arr**	**31.81**	**254**	P			**P**	**11 05 32.8**	**-1.8**
	comp=Z,6.5nm,0.6s,baz=84,slow=9.5,SNR=50								
WRA						PcP	**PcP**	**11 08 24.8**	**-0.3**
	comp=Z,4.8nm,0.9s,baz=80,slow=2.6,SNR=11								
WRA						ScP	**ScP**	**11 12 09.4**	**+4.4**
	comp=Z,2.5nm,0.8s,baz=84,slow=3.7,SNR=9.2								
WRA						LR	LR	11 18 00.8	
	comp=Z,1μm,18.4s,baz=95,slow=36								
WRA	**Warramunga Arr**	**31.81**	**254**	P			**P**	**11 05 32.5**	**-2.1**
WRA							P	**11 05 32.6**	**-2.0**
WRA							PcP	**11 08 25.1**	**0.0**
WRA							ScP	**11 12 09.3**	**+4.3**
ARPS	**Mount Arapiles**	**32.17**	**220**	P			**P**	**11 05 38.3**	**+0.8**
	baz=32,SNR=9.8								
HTT	**Hallett**	**32.21**	**227**	P			**P**	**11 05 38.5**	**+0.5**
	baz=32,SNR=7.7								
ASAR	**Alice Springs**	**32.79**	**247**	P			**P**	**11 05 41.5**	**-1.7**
	comp=Z,10nm,0.6s,baz=74,slow=9.3,SNR=226								
ASAR				PcP			**PcP**	**11 08 26.6**	**-1.2**
	comp=Z,2.6nm,0.8s,baz=127,slow=2.5,SNR=7.1								
ASAR				ScP			**ScP**	**11 12 13.1**	**+4.7**
	comp=Z,4.2nm,0.9s,baz=81,slow=3.2,SNR=14								
ASAR				LR			LR	11 18 08.8	
	comp=Z,590nm,21.1s,baz=80,slow=35								
ASAR	**Alice Springs**	**32.79**	**247**	P			**P**	**11 05 40.7**	**-2.4**
ASAR							PcP	**11 08 26.5**	**-1.2**
ASAR						ScP	**ScP**	**11 12 09.4**	**+1.0**
MOO	**Moorlands**	**33.41**	**207**	P			**P**	**11 05 49.6**	**+1.3**
	baz=34,SNR=5.3								
KDU	**Kakadu**	**33.57**	**268**	P			**P**	**11 05 49.7**	**-0.3**
	baz=34,SNR=4.7								
TAU	**Tasmania Unive**	**33.73**	**206**	P			**P**	**11 05 50.4**	**-0.6**
TAU						IAmb	IAmb	11 05 53.0	
	comp=Z,28nm,1.1s								
BBOO	**Buckleboo**	**34.02**	**231**	P			**P**	**11 05 53.6**	**-0.1**
	baz=34,SNR=8.0								
MTN	**Manton Dam**	**34.86**	**267**	P			**P**	**11 06 00.7**	**-0.5**
	baz=35,SNR=4.1								
MTN	**Manton Dam**	**34.86**	**267**			IAmb	IAmb	11 06 01.3	
	comp=Z,12nm,0.9s								
KNRA	**Kununurra**	**36.97**	**262**	P			**P**	**11 06 18.2**	**-1.1**
	baz=37,SNR=4.3								
KNRA	**Kununurra**	**36.97**	**262**				pP	11 06 28.3	-2.1
SIJI	**Sorong**	**37.53**	**287**	P			**P**	**11 06 23.8**	**-0.2**
	comp=Z,25nm,0.9s,baz=85,slow=6.1,SNR=4.4								
WRKA	**Warakurna**	**38.07**	**247**	P			**P**	**11 06 27.2**	**-1.3**
	baz=38,SNR=15								
FORT	**Forrest**	**39.60**	**238**	P			**P**	**11 06 40.7**	**-0.5**
	baz=40,SNR=7.4								
FORT	**Forrest**	**39.60**	**238**	P			**P**	**11 06 40.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**39.93**	**258**	P			**P**	**11 06 43.3**	**-0.8**
	baz=40,SNR=3.8								
FITZ	**Fitzroy Crossi**	**39.93**	**258**	P			**P**	**11 06 43.1**	**-0.9**
	comp=Z,5.2nm,0.8s,baz=104,slow=6.2,SNR=6.8								
FITZ						PcP	**PcP**	**11 08 48.6**	**-0.5**
	comp=Z,5.1nm,0.9s,baz=172,slow=0.4,SNR=3.6								
FITZ	**Fitzroy Crossi**	**39.93**	**258**	P			**P**	**11 06 43.4**	**-0.6**
LBMI	**Labuha**	**41.13**	**285**	P			**P**	**11 06 55.8**	**+1.7**
	comp=Z,58nm,1.0s								
PPT2	**Papeete2**	**41.98**	**101**	*e*S			**S**	**11 13 13.6**	**-3.6**
	comp=Z,158nm,33.0s								
PPT2						*e*LQ	LQ	11 16 58.7	
	comp=Z,782nm,30.2s								
PPT2						*e*LR	LR	11 18 45.7	
	comp=Z,1μm,26.5s,baz=269								
PPT	**Papeete**	**41.99**	**101**	LR			LR	11 21 38.3	
	comp=Z,139nm,20.2s,baz=268,slow=32								
SANI	**Sanana**	**42.10**	**282**	P			**P**	**11 07 02.2**	**+0.2**
	comp=Z,534nmcomp=Z,42nm,1.0s								
TBI	**Tubuai**	**42.31**	**110**	*e*S			**S**	**11 13 17.6**	**-4.1**
	comp=Z,82nm,31.2s								
TBI					*e*LQ		LQ	11 17 05.9	
	comp=Z,543nm,29.0s								
TBI					*e*LR		LR	11 18 56.4	
	comp=Z,705nm,25.2s,baz=280								
KMBL	**Kambalda**	**44.87**	**239**	P			**P**	**11 07 23.6**	**-0.6**
	baz=45,SNR=4.9								
DAV	**Davao City (W)**	**45.94**	**294**	LR			LR	11 27 05.4	
	comp=Z,81nm,18.7s,baz=138,slow=36								
APSI	**Ampana**	**46.58**	**282**	P			**P**	**11 07 38.6**	**+0.8**
	comp=Z,641nmcomp=Z,40nm,1.1s								
MRSI	**Marisa**	**46.74**	**284**	P			P	11 07 51.5	+12
MEEK	**Meekatharra**	**46.93**	**246**	P			**P**	**11 07 40.1**	**-0.4**
	baz=47,SNR=42								
BNSI	**Bone**	**47.09**	**277**	P			**P**	**11 07 43.1**	**+1.2**
	comp=Z,31nm,1.3s								
KAPI	**Kappang**	**47.28**	**276**	P			**P**	**11 07 44.1**	**+0.7**
KAPI						IAmb	IAmb	11 07 44.3	
	comp=Z,25nm,1.1s								
KLBR	**Kellerberrin**	**48.38**	**240**	P			**P**	**11 07 50.3**	**-1.3**
	baz=48,SNR=12								
MPSI	**Mapaga**	**48.63**	**283**	P			**P**	**11 07 53.4**	**-0.4**
	comp=Z,49nm,0.9s								
NWAO	**Narrogin (SRO)**	**49.05**	**238**	P			**P**	**11 07 55.9**	**-0.9**
	baz=49,SNR=19								
NWAO	**Narrogin (SRO)**	**49.05**	**238**	P			**P**	**11 07 55.8**	**-0.9**
	comp=Z,16nm,0.6s,baz=76,slow=7.0,SNR=20								
NWAO	**Narrogin (SRO)**	**49.05**	**238**	P			**P**	**11 07 55.8**	**-1.0**
NWAO	**Narrogin (SRO)**	**49.05**	**238**	P			**P**	**11 07 56.0**	**-0.9**
NWAO						IAmb	IAmb	11 07 56.2	
	comp=Z,17nm,0.7s								
MORW	**Morawa**	**49.47**	**243**	P			**P**	**11 07 59.4**	**-0.7**
	baz=50,SNR=7.9								
MORW	**Morawa**	**49.47**	**243**	P			**P**	**11 07 59.6**	**-0.5**
MUN	**Mundaring**	**49.74**	**240**	P			**P**	**11 08 01.5**	**-0.5**
	baz=50,SNR=5.3								
TAOE	**Nuku Hiva Isla**	**52.02**	**91**	*e*LR			LR	11 23 20.2	
	comp=Z,737nm,24.9s								
KKM	**Kota Kinabalu**	**54.03**	**288**	P			**P**	**11 08 34.7**	**+0.3**
RKT	**Rikitea**	**55.61**	**109**	*e*LQ			LQ	11 22 40.0	
	comp=Z,250nm,44.5s								
RKT					*e*LR		LR	11 25 03.7	
	comp=Z,481nm,29.2s								
UGM	**Wanagama**	**55.63**	**270**	P			**P**	**11 08 45.6**	**-0.3**
MJAR	**Matsushiro Arr**	**56.80**	**332**	P			**P**	**11 08 53.6**	**-0.2**
	comp=Z,4.6nm,0.9s,baz=167,slow=8.6,SNR=10								
MJAR					LR		LR	11 29 17.1	
	comp=Z,34nm,21.6s,baz=155,slow=32								
MJAR	**Matsushiro Arr**	**56.80**	**332**	P			**P**	**11 08 53.8**	**0.0**
MAT	**Matsushiro**	**56.80**	**332**	P			**P**	**11 08 53.7**	**-0.1**
JNU	**Nakatsue**	**57.86**	**324**	P			**P**	**11 09 01.4**	**0.0**
KSM	**Kuching**	**58.10**	**280**	P			**P**	**11 09 03.5**	**+0.1**
KSM						IAmb	IAmb	11 09 04.2	
	comp=Z,14nm,1.0s								
KSRS	**Korea Array**	**62.67**	**326**	P			**P**	**11 09 34.4**	**+0.4**
	comp=Z,4.4nm,0.8s,baz=138,slow=6.9,SNR=16								
KSAR	**Wonju Array Be**	**62.68**	**326**	P			**P**	**11 09 34.9**	**+0.7**
HKPS	**Hong Kong Po S**	**62.87**	**304**	P			**P**	**11 09 34.4**	**-1.3**
VNDA	**Vanda**	**63.94**	**181**	P			**P**	**11 09 41.4**	**-0.5**
	comp=Z,3.0nm,0.6s,baz=355,slow=4.7,SNR=9.9								
VNDA					LR		LR	11 34 24.3	
	comp=Z,109nm,19.7s,baz=12,slow=33								
VNDA	**Vanda**	**63.94**	**181**	P			**P**	**11 09 41.6**	**-0.3**
CASY	**Casey**	**64.42**	**202**	P			**P**	**11 09 45.2**	**0.0**
NJ2	**Nanjing**	**64.69**	**316**	*e*P			**P**	**11 09 48.6**	**+1.1**
NJ2					pmax		pmax		
	comp=Z,24nm,0.7s								
USA0B	**Ussuriysk Arra**	**65.78**	**333**		IAmb		IAmb	11 09 57.0	
	comp=Z,20nm,1.0s								
USRK	**Ussuriysk Ar.**	**65.78**	**333**	P			**P**	**11 09 55.4**	**+1.1**
	comp=Z,7.8nm,0.8s,baz=125,slow=6.3,SNR=12								
USRK					LR		LR	11 36 24.3	
	comp

comp=Z,195nm,21.1s,baz=62,slow=31
MAW Mawson 82.77 202 P **P** **11 11 32.5 -0.4**
MAW **P** **11 11 32.9 0.0**
SCM Sheep Creek Mo 83.35 20 IAmb IAmb 11 11 38.4
comp=Z,7.2nm,0.8s
WAX Waxell Ridge 83.97 23 P **P** **11 11 41.5 +2.3**
WAX IAmb IAmb 11 11 41.6
comp=Z,9.2nm,0.6s
RND Reindeer 84.00 18 IAmb IAmb 11 11 41.9
comp=Z,8.0nm,0.6s
MCK McKinley 84.22 18 IAmb IAmb 11 11 42.8
comp=Z,10.0nm,1.0s
DHY Denali Highway 84.22 19 IAmb IAmb 11 11 44.2
comp=Z,12nm,1.4s
BALM Baldy 84.55 22 IAmb IAmb 11 11 44.9
comp=Z,4.8nm,0.5s
IMAR Indian Mountai 84.60 15 P **P** **11 11 42.8 +0.7**
LSA Lhasa 84.72 302 IAmb IAmb 11 11 46.4
comp=Z,13nm,0.8s
WRH Wood River Hil 85.01 18 IAmb IAmb 11 11 46.2
comp=Z,21nm,1.4s
CCB Clear Creek Bu 85.22 18 P **P** **11 11 45.1 -0.2**
CCB IAmb IAmb 11 11 47.5
comp=Z,4.4nm,0.5s
COLA College 85.38 18 P **P** **11 11 46.7 +0.7**
COLA IAmb IAmb 11 11 47.7
comp=Z,20nm,1.5s
RIDG Independent Ri 85.50 19 IAmb IAmb 11 11 52.0
comp=Z,3.1nm,0.6s
IL31 85.59 18 IAmb IAmb 11 11 49.6
comp=Z,5.7nm,0.6s
ILAR Eielson Array 85.59 18 P **P** **11 11 47.1 0.0**
comp=Z,5.0nm,0.5s,baz=241,slow=4.7,SNR=82
ILAR LR LR 11 44 51.1
comp=Z,254nm,20.3s,baz=246,slow=32
ILAR Eielson Array 85.59 18 P **P** **11 11 46.3 -0.9**
BCAR Beaver Creek A 86.08 21 P **P** **11 11 50.9 +1.2**
NVAR Mina Array Bea 86.80 49 P **P** **11 11 56.0 +2.0**
comp=Z,0.5nm,0.7s,baz=227,slow=9.0,SNR=6.1
NVAR LR LR 11 44 18.3
comp=Z,281nm,19.2s,baz=208,slow=31
TAPN Taplejung 86.89 299 *eP* **P** **11 11 54.9 +0.1**
comp=Z,32nm,0.9s
TAPN Taplejung 86.89 299 *eP* **P** **11 11 54.9 +0.1**
ODAN Odare 87.02 298 *eP* **P** **11 11 55.5 +0.2**
comp=Z,59nm,0.9s
ODAN Odare 87.02 298 *eP* **P** **11 11 55.5 +0.2**
comp=Z,59nm,0.9s
RAMN Ramite 87.72 298 *eP* **P** **11 11 58.6 -0.1**
comp=Z,24nm,0.7s
RAMN Ramite 87.72 298 *eP* **P** **11 11 58.6 -0.1**
comp=Z,24nm,0.7s
BMAR Burnt Mountain 88.13 17 P **P** **11 12 00.1 +0.6**
JIRN Jiri 88.27 299 *eP* **P** **11 12 01.6 +0.1**
comp=Z,51nm,0.8s
JIRN Jiri 88.27 299 *eP* **P** **11 12 01.6 +0.1**
comp=Z,51nm,0.8s
GUN Gumba 88.60 299 *eP* **P** **11 12 03.1 +0.1**
comp=Z,38nm,0.8s
GUN Gumba 88.60 299 *eP* **P** **11 12 03.1 +0.1**
comp=Z,38nm,0.8s
TIXI Tiksi 88.85 349 P **P** **11 12 03.8 +1.1**
comp=Z,1.8nm,0.7s,baz=152,slow=1.0,SNR=9.0
TIXI Tiksi 88.85 349 P **P** **11 12 01.9 -0.8**
PKI Pulchoki 88.91 299 *eP* **P** **11 12 04.2 -0.3**
comp=Z,38nm,0.7s
PKI Pulchoki 88.91 299 *eP* **P** **11 12 04.2 -0.3**
comp=Z,38nm,0.7s
PKIN Phulchoki 88.92 299 *eP* **P** **11 12 04.3 -0.2**
comp=Z,34nm,0.7s
PKIN Phulchoki 88.92 299 *eP* **P** **11 12 04.2 -0.2**
comp=Z,33nm,0.6s
KKN Kakani 89.08 299 *eP* **P** **11 12 05.2 +0.1**
comp=Z,43nm,0.7s
KKN Kakani 89.08 299 *eP* **P** **11 12 05.1 0.0**
comp=Z,43nm,0.7s
DMN Daman 89.18 299 *eP* **P** **11 12 05.7 +0.1**
comp=Z,87nm,0.9s
DMN Daman 89.18 299 *eP* **P** **11 12 05.6 0.0**
comp=Z,44nm,0.6s
SYO Syowa Base 89.66 197⇓ *eP* **P** **11 12 05.0 -1.7**
SYO Syowa Base 89.66 197⇓ *eP*cP **PcP** **11 12 07.8 -0.2**
GKN Gorkha 89.68 299 *eP* **P** **11 12 07.4 -0.5**
comp=Z,38nm,0.5s
GKN Gorkha 89.68 299 *eP* **P** **11 12 07.4 -0.5**
comp=Z,40nm,0.6s
KOLN Koldanda 90.51 298 *eP* **P** **11 12 10.9 -0.9**
comp=Z,17nm,0.8s
KOLN Koldanda 90.51 298 *eP* **P** **11 12 10.9 -0.9**
DANN Dangsing 90.52 299 *eP* **P** **11 12 10.9 -1.1**
comp=Z,37nm,0.8s
DANN Dangsing 90.52 299 *eP* **P** **11 12 11.1 -0.9**
comp=Z,37nm,0.8s
WMQ Urumqi 91.75 315 *eP* **P** **11 12 18.6 +1.6**
WMQ pmax pmax
comp=Z,14nm,0.9s
WMQ pmax pmax
comp=Z,98nm,4.3s
WMQ LR LR
comp=Z,140nm,21.5s
WMQ LR LR
comp=Z,160nm,29.0s
WMQ LR LR
comp=Z,230nm,29.7s
PDAR Pinedale Array 94.44 47 LR LR 11 49 37.9
comp=Z,69nm,18.4s,baz=298,slow=32
SNAA Sanae 94.61 183 P **P** **11 12 28.9 -0.8**
SNAA Sanae 94.61 183 P **P** **11 12 28.8 -1.0**
SNAA IAmb IAmb 11 12 30.2
comp=Z,8.1nm,1.0s
VNA3 Neumayer Olymp 95.29 181 P **P** **11 12 31.7 -1.1**
VNA2 Neumayer--Watz 95.55 182 P **P** **11 12 33.5 -0.5**
baz=188,slow=2.6
VNA1 Neumayer--Stat 95.86 182 P **P** **11 12 35.3 0.0**
TXAR Lajitas Array 96.03 61 LR LR 11 47 22.0
comp=Z,107nm,21.8s,baz=0.0,slow=30
MKAR Makanchi Array 96.21 317 P **P** **11 12 37.5 +0.1**
comp=Z,6.6nm,0.7s,baz=97,slow=6.4,SNR=53
MKAR Makanchi Array 96.21 317 P **P** **11 12 37.4 0.0**
ZALV Zalesovo Beam 96.33 324 P **P** **11 12 36.9 -0.8**
comp=Z,4.5nm,0.7s,baz=123,slow=4.8,SNR=15
ZALV LR LR 11 55 06.3
comp=Z,83nm,21.1s,baz=82,slow=35
ZALV Zalesovo Beam 96.33 324 P **P** **11 12 36.7 -1.0**
MAKZ Makanchi 96.42 316 P **P** **11 12 37.8 -0.5**
YKA Yellowknife Ar 96.72 27 P **P** **11 12 39.4 +0.1**
comp=Z,0.6nm,0.6s,baz=253,slow=4.9,SNR=10
NRIK Noril'sk 98.95 339 P **P** **11 12 48.0 -1.2**
comp=Z,1.7nm,0.6s,baz=141,slow=3.4,SNR=4.2
NRIK LR LR 11 54 49.3
comp=Z,80nm,21.8s,baz=53,slow=34
KURK Kurchatov 99.37 320 P **Pdif** **11 12 50.6 -0.8**
KURK Kurchatov 99.37 320 IAmb IAmb 11 12 51.8
comp=Z,1.7nm,1.0s
KURBB Kurchatov Arra 99.41 320 P **Pdif** **11 12 50.6 -1.0**
comp=Z,0.5nm,0.6s,baz=98,slow=3.3,SNR=5.5
U59A Littleton 118.24 56 **PKiKP** **11 17 56.8 +0.1**
ARCES ARCESS Array B 119.12 345 PKP **PKPdf** **11 17 56.8 -0.6**
comp=Z,2.2nm,0.6s,baz=83,slow=2.1,SNR=9.1
BOSA Boshof 124.00 221 PKP **PKPdf** **11 18 06.8 -1.4**
comp=Z,2.9nm,0.8s,baz=110,slow=0.7,SNR=4.8
FINES FINESS Array B 124.60 338 PKP **PKPdf** **11 18 07.4 -0.7**
comp=Z,1.1nm,0.5s,baz=90,slow=3.8,SNR=7.0
SJG San Juan 128.87 78 PKPpre 11 18 10.1
NOA NORSAR Array B 129.50 345 PKP **PKiKP** **11 18 18.1 -0.2**
comp=Z,0.9nm,0.7s,baz=336,slow=2.2,SNR=3.6
BURAR Bucovina Array 133.55 325 PKPdf **PKPdf** **11 18 26.0 +0.3**
CONA Conrad Observa 138.22 331 *i* PKiKP **PKiKP** **11 18 36.0 -0.5**
comp=Z,2.9nm,1.0s
GERES GERESS Array B 138.54 333 PKP **PKPdf** **11 18 34.3 -0.6**
comp=Z,0.7nm,0.6s,baz=80,slow=1.1,SNR=6.4
MOTA Moosalm 140.81 334 *i* PKPdf **PKPdf** **11 18 39.2 0.0**
comp=Z,2.7nm,0.5s
FETA Feichten 141.22 334 *i* PKiKP **PKiKP** **11 18 41.7 -1.0**
comp=Z,3.6nm,0.9s
DAVOX Davos/Dischmat 141.77 334 PKP **PKPdf** **11 18 40.2 -0.8**
comp=Z,1.7nm,0.4s,baz=334,slow=4.8,SNR=3.3
BNI Bardonecchia 144.48 336 PKPdf PKPbc 11 18 44.9 +0.5
VSL Villasalto 147.54 327 **PKPbc** **11 18 53.4 -0.2**
KEST Kesra 150.17 321 PKPbc **PKPbc** **11 19 00.5 0.0**
comp=Z,16nm,1.0s,baz=254,slow=6.5,SNR=11
KEST Kesra 150.17 321 **PKiKP** **11 19 01.0 -0.4**
ESDC Sonseca Array 152.86 345 PKPbc **PKPbc** **11 19 06.4 -0.1**
comp=Z,2.2nm,0.7s,baz=13,slow=2.6,SNR=15
TORD Torodi Ar. Bea 165.65 270 PKP **PKPdf** **11 19 13.6 -1.1**
comp=Z,2.0nm,0.9s,baz=106,slow=0.5,SNR=9.3
TORD PKPab **PKPab** **11 20 12.5 -1.3**
comp=Z,2.9nm,1.0s,baz=87,slow=3.1,SNR=7.0
TORD Torodi Ar. Bea 165.65 270 **PKPdf** **11 19 13.4 -1.3**
TORD **PKPab** **11 20 14.0 +0.2**

*ISK **12** 11:04:29.9, 38.78N×43.53E, h5km, ML3.9/17*
*NSSP **12** 11:04:30.9, 38.77N×43.52E, h10km, Ms3.8*
*IDC **12** 11:04:30.4±1.8, 39.07N×43.11E, h0km, mb3.6/8, mb1 3.7/9, mb1mx3.5/46, mbtmp3.6/9, ML3.5/1, MS3.1/11, Ms1 3.1/11, ms1mx2.8/46, Error ellipse: s-maj=58.6km s-min=19.7km az=153.0*
*DDA **12** 11:04:31.6, 38.77N×43.40E, h0km±2km, MW3.8*
*TEH **12** 11:04:31.4, 38.79N×43.56E, h7km, ML3.7*
ISC 12 11:04:32.1±0.9, 38.80N±0.02×43.50E±0.02, h13km±6km, n88, σ1°36/98, mb3.3/7, MS3.0/7, 6C-1D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VANB	**Van**	**0.22**	**204**	Pg	**Pg**	**11 04 36.9**	**-0.1**
VANB				SG	**Sb**	**11 04 42.0**	**0.0**
VANB	**Van**	**0.22**	**204**	*e*Pg	**Pg**	**11 04 37.1**	**+0.1**
ERCV	**ERCIS-VAN**	**0.26**	**330**	PG	**Pg**	**11 04 36.6**	**-1.1**
ERCV				SG	**Sg**	**11 04 41.9**	**+0.4**
ERCV	**ERCIS-VAN**	**0.26**	**330**	*e*Pg	**Pg**	**11 04 37.0**	**-0.7**
CLDR	**Caldiran**	**0.47**	**43**	PG	**Pg**	**11 04 39.8**	**-1.8**
CLDR				SG	**Sg**	**11 04 48.1**	**+0.1**
CLDR	**Caldiran**	**0.47**	**43**	*i* P	**Pg**	**11 04 39.6**	**-2.0**
CLDR	**Caldiran**	**0.47**	**43**	*e*Pg	**Pg**	**11 04 39.8**	**-1.8**
AKDM	**Akdamar-Van**	**0.62**	**221**	PG	**Pg**	**11 04 42.8**	**-1.5**
AKDM	**Akdamar-Van**	**0.62**	**221**	*e*Pg	**Pg**	**11 04 43.4**	**-0.9**
TUTA	**Tutak**	**0.81**	**319**	*i* P	**Pg**	**11 04 46.4**	**-1.4**
TUTA				IAML		11 05 07.0	
	comp=N,3μm,0.8s						
MLAZ	**Malazgirt-MUS**	**0.82**	**295**	PG	**Pg**	**11 04 47.6**	**-0.4**
MLAZ				SG	**Sb**	**11 05 00.3**	**+0.9**
MLAZ	**Malazgirt-MUS**	**0.82**	**295**	*e*Pg	**Pb**	**11 04 48.4**	**+0.1**
AGRB	**Hanur-Agry**	**0.88**	**333**	PG	**Pg**	**11 04 47.5**	**-1.6**
AGRB				SG	**Sb**	**11 05 01.9**	**+0.9**
AGRB	**Hanur-Agry**	**0.88**	**333**	*e*Pg	**Pg**	**11 04 49.0**	**-0.1**
BLIS	**Bitlis-Merkez**	**1.15**	**251**	*i* P	**Pb**	**11 04 52.4**	**-1.7**
BLIS				*i* S	**Sb**	**11 05 08.4**	**-0.5**
BLIS				IAML		11 05 11.0	
	comp=N,1μm,0.6s						
BLIS				IAML		11 05 13.0	
	comp=E,1μm,0.5s						
BLIS	**Bitlis-Merkez**	**1.15**	**251**	*e*Pg	**Pb**	**11 04 52.3**	**-1.7**
IGDI	**IGDIR**	**1.16**	**22**	*i* P	**Pb**	**11 04 52.6**	**-1.5**
IGDI				*i* S	**Sn**	**11 05 13.1**	**+3.1**
GURO	**Guroymak-BITLI**	**1.18**	**258**	PN	**Pn**	**11 04 52.8**	**-1.6**
GURO				SN	**Sn**	**11 05 10.9**	**+0.5**
GURO	**Guroymak-BITLI**	**1.18**	**258**	*e*Pg	**Pn**	**11 04 52.9**	**-1.5**
HAKT	**HAKKARI**	**1.25**	**173**	*i* P	**Pn**	**11 04 52.9**	**-2.7**
HAKT				*i* S	**Sg**	**11 05 15.2**	**+2.8**
HAKT	**HAKKARI**	**1.25**	**173**	*e*Pg	**Pn**	**11 04 52.8**	**-2.7**
EATA	**Eleskirt**	**1.32**	**324**	*i* P	**Pn**	**11 04 56.0**	**-0.7**
EATA				*i* S	**Sg**	**11 05 17.1**	**+2.2**
EATA				IAML		11 05 25.0	
	comp=N,673nm,0.9s						
EATA				IAML		11 05 27.0	
	comp=E,809nm,1.1s						
EATA	**Eleskirt**	**1.32**	**324**	*e*Pg	**Pn**	**11 04 55.9**	**-0.7**
VNNZ	**Vanand**	**1.33**	**11**	⇑*i*P	**Pg**	**11 04 58.0**	**+0.3**
VNNZ				⇑*i*S	**Sg**	**11 05 17.5**	**+2.5**
YOVA	**Hakkari_Yksek**	**1.36**	**153**	*i* P	**Pn**	**11 04 56.1**	**-0.9**
YOVA				*i* S	**Sg**	**11 05 17.3**	**+1.4**
YOVA				IAML		11 05 36.0	
	comp=E,572nm,1.0s						
YOVA	**Hakkari_Yksek**	**1.36**	**153**	*e*Pg	**Pn**	**11 04 56.0**	**-0.9**
METS	**Metsamor**	**1.43**	**18**	*e*P	**Pb**	**11 04 58.2**	**-0.4**
METS				*e*S	**Sg**	**11 05 18.2**	**+0.2**
SRTM	**Siirt_Merkez**	**1.48**	**238**	*i* P	**Pg**	**11 05 00.3**	**-0.3**
SRTM				IAML		11 05 28.0	
	comp=E,734nm,0.7s						
SRTM				IAML		11 05 45.0	
	comp=N,1μm,0.9s						
SRTM	**Siirt_Merkez**	**1.48**	**238**	*e*Pg	**Pg**	**11 05 00.2**	**-0.3**
SIRT	**Sirnak**	**1.54**	**213**	PN	**Pn**	**11 04 59.5**	**+0.1**
SIRT	**Sirnak**	**1.54**	**213**	*e*Pg	**Pb**	**11 05 00.7**	**+0.1**
CUKT	**Cukurca**	**1.55**	**177**	PN	**Pn**	**11 04 59.4**	**-0.1**
CUKT	**Cukurca**	**1.55**	**177**	*i* P	**Pg**	**11 05 03.4**	**+1.5**
CUKT				IAML		11 05 31.0	
	comp=N,824nm,1.0s						
CUKT				IAML		11 05 42.0	
	comp=E,917nm,0.8s						
CUKT	**Cukurca**	**1.55**	**177**	*e*Pg	**Pb**	**11 05 00.5**	**-0.2**
ARUZ	**Aruch**	**1.55**	**17**	⇑*i*P	**Pb**	**11 05 00.6**	**-0.2**
ARUZ				⇑*i*S	**Sg**	**11 05 22.3**	**+0.1**
MUSM	**Mu-Merkez**	**1.56**	**268**	*i* P	**Pb**	**11 05 00.6**	**-0.4**
MUSM	**Mu-Merkez**	**1.56**	**268**	*e*Pn	**Pb**	**11 05 00.5**	**-0.4**
NAX	**Nakhchivan**	**1.60**	**76**	*e*Pn	**Pb**	**11 05 01.2**	**-0.4**
DIGO	**Kars**	**1.62**	**357**	*i* P	**Pb**	**11 05 02.6**	**+0.6**
DIGO				IAML		11 05 37.0	
	comp=N,491nm,0.8s						
DIGO				IAML		11 05 45.0	
	comp=E,653nm,0.8s						
VRTB	**Varto-Mus**	**1.64**	**284**	PN	**Pn**	**11 05 01.4**	**+0.6**
SBZ	**Shahbuz**	**1.71**	**69**	*e*Pn	**Pb**	**11 05 03.0**	**-0.4**
IMRD	**Marand**	**1.72**	**92**	*e*Pg	**Pn**	**11 05 01.9**	**-0.1**
IMRD				*e*		11 05 31.5	
KOPR	**Koprukoy-ERZUR**	**1.75**	**314**	PN	**Pb**	**11 05 03.4**	**-0.8**
HOMI	**Horasan**	**1.76**	**316**	*i* P	**Pb**	**11 05 05.2**	**+0.9**
HOMI				IAML		11 05 41.0	
	comp=E,1μm,1.3s						
HOMI				IAML		11 05 54.0	
	comp=N,875nm,1.1s						
KAPZ	**Kaputan**	**1.78**	**31**	⇑*i*P	**Pn**	**11 05 03.1**	**+0.2**
KAPZ				⇑*i*S	**Sb**	**11 05 26.5**	**-0.7**
KARS	**Kars**	**1.86**	**350**	PN	**Pn**	**11 05 04.6**	**+0.8**
EAK	**Akyaka**	**1.89**	**2**	*i* P	**Pg**	**11 05 09.8**	**+1.3**
EAK				IAML		11 05 48.0	
	comp=N,706nm,0.7s						
EAK				IAML		11 05 48.0	
	comp=E,705nm,0.7s						
SVAN	**Silvan-Diyarba**	**1.92**	**251**	PN	**Pn**	**11 05 05.6**	**+1.0**
SVAN	**Silvan-Diyarba**	**1.92**	**251**	*i* P	**Pb**	**11 05 07.0**	**0.0**
SVAN				*i* S	**Sg**	**11 05 33.4**	**-0.5**
SVAN				IAML		11 05 41.0	
	comp=N,348nm,1.7s						
ORD	**Ordubad**	**1.95**	**85**	*e*Pn	**Pb**	**11 05 06.2**	**-1.4**
BTMN	**Batman**	**1.97**	**243**	*i* P	**Pb**	**11 05 07.3**	**-0.6**
BTMN				IAML		11 05 43.0	
	comp=N,704nm,0.9s						
BTMN				IAML		11 05 44.0	
	comp=E,866nm,1.6s						
SENK	**Senkaya-Erzuru**	**1.98**	**334**	PN	**Pn**	**11 05 06.6**	**+1.1**
GMRZ	**Gyumri**	**2.03**	**7**	*e*P	**Pb**	**11 05 08.0**	**-1.0**
GMRZ				S	**Sg**	**11 05 38.0**	**+0.6**
ITBZ	**Tabriz**	**2.15**	**104**	*e*		11 05 20.7	
ITBZ				*e*Pn	**Pn**	**11 05 08.8**	**+1.0**
BNGB	**Bingl**	**2.21**	**276**	PN	**Pn**	**11 05 09.2**	**+0.5**
IAZR	**Azarshahr**	**2.25**	**119**	*e*Pn	**Pb**	**11 05 10.7**	**-2.0**
IAZR				*e*		11 05 17.1	
STE	**Stepanavan**	**2.30**	**17**	*e*P	**Pb**	**11 05 13.0**	**-0.6**
STE				⇓S	**Sg**	**11 05 48.5**	**+2.4**
EMRE	**Erzurum,Aziziy**	**2.31**	**303**	*i* P	**Pb**	**11 05 13.8**	**-0.1**
EMRE				IAML		11 06 04.0	
	comp=E,716nm,0.8s						
EMRE				IAML		11 06 06.0	
	comp=N,618nm,0.9s						
HANI	**Diyarbakir_Han**	**2.46**	**262**	*i* P	**Pb**	**11 05 16.0**	**-0.2**
HANI				*i* S	**Sb**	**11 05 47.0**	**+0.5**
HANI				IAML		11 06 19.0	
	comp=E,180nm,1.4s						
DAGI	**Agillar**	**2.59**	**332**	*i* P	**Pg**	**11 05 20.8**	**-0.9**
MARD	**Mardin**	**2.61**	**236**	*i* P	**Pn**	**11 05 15.7**	**+1.5**
MARD				*i* S	**Sb**	**11 05 51.8**	**+1.0**
MARD				IAML		11 06 10.0	
	comp=E,313nm,0.9s						
MARD				IAML		11 06 22.0	
	comp=N,356nm,0.7s						
DBAD	**Bademkaya**	**2.62**	**329**	*i* P	**Pg**	**11 05 21.0**	**-1.4**
MAHB	**Mahabad**	**2.67**	**139**	*e*Pn	**Pn**	**11 05 17.0**	**+2.0**
MAZI	**Mazidag**	**2.75**	**242**	PN	**Pn**	**11 05 17.0**	**+0.9**
DYBB	**Diyarbakir**	**2.77**	**253**	PN	**Pn**	**11 05 17.6**	**+1.3**
AHAR	**Ahar**	**2.80**	**95**	*e*Pn	**Pn**	**11 05 17.7**	**+1.0**
AHAR				*e*		11 06 19.8	
IHRS	**Heris**	**2.81**	**99**	*e*Pn	**Pn**	**11 05 18.2**	**+1.1**
IHRS				*e*		11 05 24.1	
KBZ	**Khabaz**	**4.95**	**355**	LR	LR	11 07 03.2	
	comp=N,26nm,20.0s,baz=179,slow=33						
QABG	**Abgarm-Qazvin**	**5.75**	**121**	*e*Pn	**Pn**	**11 05 59.1**	**+1.8**
MMAI	**Mount Meron Ar**	**8.74**	**231**	LR	LR	11 10 30.2	
	comp=N,109nm,21.3s,baz=50,slow=41						
GEYT	**Alibeck**	**11.51**	**90**	LR	LR	11 12 16.8	
	comp=N,46nm,19.6s,baz=215,slow=40						
EIL	**Elat**	**11.52**	**220**	LR	LR	11 12 15.1	
	comp=N,86nm,19.6s,baz=84,slow=40						
AKTO	**Aktyubinsk**	**15.53**	**37**	Pn	**Pn**	**11 08 08.7**	**-2.0**
	comp=N,0.2nm,0.3s,baz=234,slow=12,SNR=4.2						
AKTO				LR	LR	11 15 40.8	
	comp=N,74nm,19.0s,baz=223,slow=43						
ARU	**Arti**	**20.27**	**25**	P	**P**	**11 09 06.7**	**-0.5**
	comp=N,2.0nm,0.2s,baz=222,slow=7.0,SNR=9.9						
ARU				LR	LR	11 19 45.2	
	comp=N,27nm,18.2s,baz=74,slow=45						
KLMR	**Klimovskoe**	**22.22**	**355**	*e*	**P**	**11 09 32.5**	**+4.3**
KLMR				AMP		11 09 36.9	
	comp=Z,22nm,1.2s						
BVAR	**Borovoye Array**	**23.32**	**44**	P	**P**	**11 09 38.7**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=222,slow=44,SNR=1.8						
FINES	**FINESS Array B**	**25.11**	**340**	LR	LR	11 20 32.7	
	comp=Z,45nm,18.2s,baz=204,slow=39						
DAVOX	**Davos/Dischmat**	**25.78**	**299**	LR	LR	11 22 16.6	
	comp=Z,22nm,21.4s,baz=274,slow=42						
KURBB	**Kurchatov Arra**	**27.30**	**53**	P	**P**	**11 10 16.1**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=262,slow=9.0,SNR=12						
HFS	**Hagfors**	**28.41**	**328**	LR	LR	11 22 55.6	
	comp=Z,39nm,18.0s,baz=103,slow=39						
MKAR	**Makanchi Array**	**29.32**	**62**	P	**P**	**11 10 37.6**	**+3.2**
	comp=Z,0.7nm,0.9s,baz=251,slow=4.4,SNR=1.4						
NOA	**NORSAR Array B**	**29.93**	**329**	LR	LR	11 23 52.6	
	comp=Z,21nm,19.9s,baz=195,slow=39						
ZALV	**Zalesovo Beam**	**31.76**	**48**	P	**P**	**11 10 55.9**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=260,slow=8.2,SNR=2.2						
ESDC	**Sonseca Array**	**36.44**	**287**	P	**P**	**11 11 33.9**	**-2.8**
	comp=Z,0.3nm,0.6s,baz=71,slow=9.7,SNR=2.2						
SPITS	**Spitsbergen Ar**	**41.06**	**352**	LR	LR	11 28 48.2	
	comp=Z,43nm,18.4s,baz=225,slow=36						
TORD	**Torodi Ar. Bea**	**44.89**	**247**	P	**P**	**11 12 45.8**	**-0.8**
	comp=Z,0.4nm,1.0s,baz=31,slow=8.5,SNR=2.8						
YKA	**Yellowknife Ar**	**77.53**	**350**	P	**P**	**11 16 24.8**	**-2.3**
	comp=Z,0.1nm,0.5s,baz=18,slow=5.3,SNR=3.2						
ULM	**Lac du Bonnet**	**84.40**	**335**	LR	LR	11 56 02.0	
	comp=Z,84nm,18.8s,baz=270,slow=37						

*CMWS **12** 11:16:38.4±0.7, 44.12N×42.00E, M2.0, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*NORS **12** 11:16:41.4±0.0, 43.80N×42.07E, h5km, MPVA3.5, Explosion*
MOS 12 11:16:38.4±0.0, 44.11N×41.99E, h0km, MPVA3.5, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NVNR	**Nevinnomyssk**	**0.51**	**358**	*e*Pg	Pb	11 16 50.7	+0.5
NVNR				*e*Sg	Sb	11 16 58.8	+0.6
KIV	**Kislovodsk**	**0.53**	**106**	*i* Pg	Pg	11 16 49.5	+1.0
KIV				*e*Sg	Sg	11 16 56.4	+1.1
KIV0	**Kislovodsk Arr**	**0.53**	**106**	*e*Pg	Pg	11 16 49.6	+1.0
KIV0				*e*Sg	Sg	11 16 56.3	+0.8
BEYR	**Belyy Ugol+**	**0.61**	**99**	*e*Pg	Pb	11 16 51.1	-0.8
BEYR				*i* Sg	Sg	11 16 58.8	+0.9
ARXR	**Arkhyz**	**0.75**	**224**	*e*Pg	Pg	11 16 51.9	-0.8
ARXR				*e*Sg	Sb	11 17 04.2	-1.0
KBZ	**Khabaz**	**0.76**	**119**	*e*Pg	Pg	11 16 53.4	+0.4
KBZ				*e*Sg	Sg	11 17 03.4	+0.7
NEY	**Neytrino**	**1.01**	**148**	*e*Pg	Pg	11 16 57.6	-0.1
NEY				*e*Sg	Sg	11 17 11.1	+0.3
RPOR	**Krasnaya Polya**	**1.31**	**253**	*e*Pg	Pn	11 17 04.1	+0.1
RPOR				*e*Sg	Sb	11 17 21.1	-0.1
LSNR	**Lesken**	**1.57**	**121**	*e*Pg	Pg	11 17 09.6	+1.1
LSNR				*e*Sg	Sg	11 17 30.2	+1.4
DIGR	**Digorskoe uzhe**	**1.67**	**136**	*e*Pg	Pg	11 17 10.5	+0.1
DIGR				*e*Sg	Sn	11 17 31.6	+0.2
ZEI	**Tsey**	**1.92**	**133**	*e*Pg	Pg	11 17 15.0	-0.2
ZEI				*e*Sg	Sg	11 17 39.8	-0.2
LACR	**Lac**	**2.11**	**126**	*e*Pg	Pb	11 17 18.2	+0.6
LACR				*e*Sg	Sg	11 17 45.8	-0.4

HEL 12 11:19:33.3±0.7, 69.34N×30.48E, h0km, ML1.3, Explosion, Norway-Murmansk border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**1.63**	**192**	PG	Pn	11 20 02.7	-0.5
VRF				MSG		11 20 22.0	
	comp=Z,1.6nm,0.2s						
VRF				SN	Sn	11 20 24.5	-0.4
ARE0	**ARCESS Array S**	**1.77**	**279**	PG	Pn	11 20 05.1	0.0
	baz=96						
ARE0				SN	Sb	11 20 29.3	+0.1
SGF	**Sodankyl**	**2.40**	**219**	SG	Sb	11 20 48.4	+0.9
HEF	**Hetta**	**2.64**	**252**	MSG		11 20 51.0	
	comp=Z,1.0nm,0.2s						
HEF				SG	Sb	11 20 53.9	-0.5

BER 12 11:19:56.5±1.0, 75.85N×8.08E, h10km, ML1.5, Confirmed Earthquake, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**2.10**	**53**	*e*P	Pn	11 20 30.1	-1.6
HSPB				*e*S	Sn	11 20 54.9	-3.0
HSPB				IAML		11 20 56.9	
	comp=Z,2.1nm,0.8s						
BRBB	**Barentsburg B**	**2.65**	**29**	*e*P	Pn	11 20 36.6	-2.5
BRBB				*e*S	Sn	11 21 07.3	-3.8
SPA0	**Spitsbergen Ar**	**2.99**	**35**	*e*P	Pn	11 20 42.7	-1.2
SPA0				*e*S	Sn	11 21 16.5	-3.3
SPA0				IAML		11 21 29.6	
	comp=Z,2.7nm,0.6s						
KBS	**Kingsbay**	**3.20**	**13**	*e*P	Pn	11 20 44.7	-2.1
KBS				*e*S	Sn	11 21 20.7	-4.2
KBS				IAML		11 21 26.6	
	comp=Z,3.2nm,0.7s						
HOPEN	**Hopen**	**4.11**	**73**	*e*P	Pn	11 20 57.9	-1.3
HOPEN				IAML		11 21 16.4	
	comp=Z,7.0nm,0.3s					

ZSN	**Zaisan** 7.5nm,0.5s	**3.76**	**8**	*e*P	**Pb**	**11 36 48.6**	**+0.2**
ZSN	32nm,0.9s			*e*S	**Sb**	**11 37 36.9**	**+2.8**
ZSN	**Zaisan** 7.5nm,0.5s	**3.76**	**8**	Pg	**Pb**	**11 36 48.6**	**+0.2**
ZSN	32nm,0.9s			Lg	Lg	11 37 36.9	
SATY	**Saty** 2.0nm,0.2s	**4.20**	**263**	*e*P	**Pb**	**11 36 55.8**	**-0.1**
SATY	25nm,0.3s			*e*S	**Sb**	**11 37 49.4**	**+2.7**
SATY	**Saty** 2.0nm,0.2s	**4.20**	**263**	Pg	**Pb**	**11 36 55.8**	**-0.1**
SATY	25nm,0.3s			Lg	Lg	11 37 49.4	
ARXS	**Arharly** 4.4nm,0.4s	**4.55**	**278**	*e*P	**Pb**	**11 37 01.5**	**-0.4**
ARXS	28nm,0.5s			*e*S	**Sb**	**11 37 59.1**	**+2.4**
KURBB	**Kurchatov Arra** 11nm,0.6s	**7.86**	**333**	⇑Lg	Lg	11 39 52.7	
KURK	**Kurchatov** 4.0nm,0.8s	**7.92**	**334**	⇓Lg	Lg	11 39 51.2	

GEN **12** *11:46:48.7,44˚.69N×6˚.77E,h6km±1km,MI3.4*
LDG **12** *11:46:48.7±0.0,44˚.70N×6˚.79E,h4km,Md3.5/4,MI3.6/68, Error ellipse: s-maj=0.7km s-min=0.6km az=60.0*
ROM **12** *11:46:48.4±0.2,44˚.695N±0˚.005×6˚.78E±0˚.01,h10km±1km, ML3.4/35,Mw3.3,Error ellipse: s-maj=0.8km s-min=0.5km az=59.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr0.16; Mθθ0.24; Mϕϕ-0.40; Mrθ0.90; Mθϕ-0.08; Mϕr0.83; Fault plane solution: M₀1.27568×10¹⁴ NP1: ϕs149.00000°,δ15.00000°,λ14.00000°. NP2:ϕs46.00000°, δ87.00000°,λ105.00000°.*
STR **12** *11:46:48.7±0.2,45˚N±1˚×±˚,h0km,MLv3.6/6, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*
PRU **12** *11:46:51.7±0.0,44˚.19N×6˚.99E,h45km*
ISC 12 11:46:48.4±0˚.8,**44˚.70N**±0˚.01×**6˚.74E**±0˚.01,**h15**km±4km, **n193,**σ2°**10**/312**, France**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MBDF	**Montbardon**	**0.04**	**41**	*e*Pg	**Pg**		**11 46 50.3**	**-1.0**
MBDF				*e*Sg	**Sg**		**11 46 51.1**	**-2.2**
	54µm,0.2s							
RRL	**Rocca Remolon**	**0.23**	**10**	P	**Pg**		**11 46 53.5**	**-0.1**
RRL				S	**Sg**		**11 46 56.8**	**-0.3**
RRL	**Rocca Remolon**	**0.23**	**10**	P	**Pg**		**11 46 53.5**	**-0.1**
RRL				S	**Sg**		**11 46 57.1**	**-0.1**
RRL				AML	AML			
	comp=E,15450µm,0.7s							
RRL				AML	AML			
	comp=N,18900µm,0.5s							
RRL				AML	AML			
	comp=N,18900µm,0.5s							
SURF	**Saint Ours**	**0.23**	**166**	Pg	**Pg**		**11 46 53.1**	**-0.5**
SURF				Sg	**Sg**		**11 46 56.6**	**-0.4**
OGAG	**Argentiere**	**0.28**	**210**	Pg	**Pg**		**11 46 52.7**	**-1.8**
OGAG				Sg	**Sg**		**11 46 55.7**	**-2.8**
PZZ	**Stroppo**	**0.33**	**125**	P	**Pg**		**11 46 54.7**	**-0.6**
PZZ				S	**Sg**		**11 46 59.1**	**-0.9**
PZZ	**Stroppo**	**0.33**	**125**	P	**Pg**		**11 46 54.7**	**-0.6**
PZZ				S	**Sg**		**11 46 59.1**	**-0.9**
PZZ				AML	AML			
	comp=N,47350µm,0.2s							
PZZ				AML	AML			
	comp=E,46050µm,1.1s							
PZZ				AML	AML			
	comp=N,47350µm,0.2s							
PZZ				AML	AML			
	comp=E,46050µm,1.1s							
BNI	**Bardonecchia**	**0.36**	**353**	P	**Pg**		**11 46 55.7**	**-0.1**
BNI				S	**Sg**		**11 47 01.5**	**+0.7**
BNI				AML	AML			
	comp=E,3750µm,0.6s							
BNI				AML	AML			
	comp=E,4740µm,0.6s							
BNI				AML	AML			
	comp=N,2620µm,0.6s							
BNI				AML	AML			
	comp=N,3010µm,0.6s							
BNI				AML	AML			
	comp=E,3745µm,0.6s							
BHB	**Bricherasio**	**0.40**	**69**	P	**Pg**		**11 46 56.3**	**-0.3**
BHB				S	**Sg**		**11 47 01.2**	**-0.9**
BHB	**Bricherasio**	**0.40**	**69**	P	**Pg**		**11 46 56.2**	**-0.3**
BHB				S	**Sg**		**11 47 01.8**	**-0.2**
BHB				AML	AML			
	comp=E,4590µm,0.6s							
BHB				AML	AML			
	comp=N,3760µm,0.5s							
DOI	**San Damiano**	**0.41**	**118**	P	**Pg**		**11 46 56.1**	**-0.7**
DOI				S	**Sg**		**11 47 01.9**	**-0.5**
DOI				AML	AML			
	comp=E,33400µm,0.3s							
DOI				AML	AML			
	comp=N,33950µm,0.3s							
DOI				AML	AML			
	comp=E,33400µm,0.3s							
DOI				AML	AML			
	comp=N,33950µm,0.3s							
OGMO	**Fort Saint-Gob**	**0.51**	**356**	Pg	**Pg**		**11 46 58.9**	**+0.3**
OGMO				Sg	**Sg**		**11 47 06.1**	**+0.6**
ISO	**Isola**	**0.56**	**156**	Pg	**Pg**		**11 46 59.2**	**-0.3**
ISO				Sg	**Sg**		**11 47 06.4**	**-0.6**
RSP	**Reno Superiore**	**0.58**	**40**	P	**Pg**		**11 46 59.9**	**0.0**
RSP				S	**Sg**		**11 47 07.4**	**-0.4**
RSP	**Reno Superiore**	**0.58**	**40**	P	**Pg**		**11 46 60.0**	**0.0**
RSP				S	**Sg**		**11 47 07.6**	**-0.2**
RSP				AML	AML			
	comp=E,3135µm,1.6s							
RSP				AML	AML			
	comp=N,4690µm,1.5s							
RSP				AML	AML			
	comp=N,4990µm,1.5s							
RSP				AML	AML			
	comp=N,4685µm,1.5s							
RSP				AML	AML			
	comp=E,3415µm,1.6s							
RSP				AML	AML			
	comp=E,3130µm,1.6s							
STV	**Sant Anna di V**	**0.62**	**137**	P	**Pg**		**11 46 59.9**	**-0.7**
STV				S	**Sg**		**11 47 08.1**	**-0.7**
STV	**Sant Anna di V**	**0.62**	**137**	P	**Pg**		**11 46 59.9**	**-0.7**
STV				S	**Sg**		**11 47 08.3**	**-0.5**
STV				AML	AML			
	comp=E,4295µm,0.4s							
STV				AML	AML			
	comp=N,3755µm,0.8s							
ORIF	**Oris-en-Rattie**	**0.65**	**290**	*e*Pg	**Pg**		**11 47 01.5**	**+0.3**
ORIF	**Oris-en-Rattie**	**0.65**	**290**	*e*P	**Pb**		**11 47 03.0**	**+1.4**
ORIF				*e*Sg	**Sg**		**11 47 10.1**	**+0.3**
	comp=N,1µm,0.2s							
ORIF	**Oris-en-Rattie**	**0.65**	**290**	P	**Pg**		**11 47 01.4**	**+0.3**
ORIF				S	**Sg**		**11 47 10.3**	**+0.5**
ORIF				AML	AML			
	comp=N,2315µm,1.2s							
ORIF				AML	AML			
	comp=E,2570µm,0.7s							
OGDI	**Digne**	**0.67**	**208**	Pg	**Pb**		**11 47 03.3**	**+1.5**
GDM	**Grand'Maison**	**0.67**	**319**	Pg	**Pg**		**11 47 01.9**	**+0.3**
GDM				Sg	**Sg**		**11 47 10.7**	**+0.2**
ENR	**Entracque**	**0.68**	**134**	P	**Pg**		**11 47 00.9**	**-0.8**
ENR				S	**Sg**		**11 47 10.0**	**-0.7**
ENR	**Entracque**	**0.68**	**134**	P	**Pg**		**11 47 00.9**	**-0.8**
ENR				S	**Sg**		**11 47 10.2**	**-0.5**
ENR				AML	AML			
	comp=E,9995µm,0.7s							
ENR				AML	AML			
	comp=N,6825µm,1.6s							
LPG	**La Plagne**	**0.80**	**1**	*e*Pg	**Pg**		**11 47 04.0**	**0.0**
LPG	**La Plagne**	**0.80**	**1**	*e*Pn	**Pb**		**11 47 05.4**	**+1.2**
LPG				*e*Sg	**Sg**		**11 47 14.5**	**-0.1**
	comp=N,2µm,0.5s							
LSD	**Lago del Serru**	**0.81**	**20**	P	**Pg**		**11 47 03.8**	**-0.5**
LSD				S	**Sg**		**11 47 14.4**	**-0.6**
LSD	**Lago del Serru**	**0.81**	**20**	P	**Pg**		**11 47 03.7**	**-0.5**
LSD				S	**Sg**		**11 47 15.1**	**+0.2**
LSD				AML	AML			
	comp=N,2090µm,0.5s							
LSD				AML	AML			
	comp=E,4070µm,0.2s							
LPL	**La Plagne**	**0.82**	**360**	*e*Pg	**Pg**		**11 47 04.4**	**0.0**
LPL				*e*Sg	**Sg**		**11 47 15.1**	**-0.1**
	comp=E,2µm,0.5s							
TURF	**col de Turini**	**0.86**	**147**	Pg	**Pg**		**11 47 04.8**	**-0.4**
TURF				Sg	**Sg**		**11 47 16.1**	**-0.5**
GRN	**Grenoble**	**0.89**	**308**	Pg	**Pg**		**11 47 06.5**	**+0.8**
BLAF	**les Blancs**	**0.90**	**214**	Pg	**Pg**		**11 47 06.6**	**+0.8**
GBOS	**Grotte di Boss**	**0.91**	**120**	P	**Pg**		**11 47 05.2**	**-1.0**
GBOS				S	**Sg**		**11 47 16.7**	**-1.4**
GBOS	**Grotte di Boss**	**0.91**	**120**	P	**Pg**		**11 47 05.1**	**-1.0**
GBOS				S	**Sg**		**11 47 17.2**	**-0.8**
GBOS				AML	AML			
	comp=N,5520µm,0.5s							
GBOS				AML	AML			
	comp=E,2445µm,1.5s							
SAOF	**Saorge**	**0.92**	**140**	P	**Pg**		**11 47 05.7**	**-0.6**
SAOF				S	**Sg**		**11 47 18.2**	**-0.2**
SAOF	**Saorge**	**0.92**	**140**	AML	AML			
	comp=E,2580µm,0.5s							
SAOF				AML	AML			
	comp=N,2835µm,0.4s							
MONC	**Moncucco Torin**	**0.93**	**66**	P	**Pb**		**11 47 06.6**	**+0.4**
MONC				AML	AML			
	comp=N,6330µm,0.6s							
MONC				AML	AML			
	comp=E,6150µm,0.4s							
CALF	**Calern**	**0.96**	**172**	Pg	**Pg**		**11 47 07.2**	**+0.3**
CALF				Sg	**Sg**		**11 47 19.5**	**+0.1**
SBF	**Sospel**	**0.97**	**149**	*e*Pg	**Pg**		**11 47 06.9**	**-0.4**
SBF	**Sospel**	**0.97**	**149**	*e*Pn	**Pb**		**11 47 07.9**	**+0.8**
SBF	**Sospel**	**0.97**	**149**	*e*P	**Pn**		**11 47 09.1**	**+1.4**
SBF				*e*Sg	**Sg**		**11 47 18.6**	**-1.4**
SBF				*e*Sn	**Sb**		**11 47 20.9**	**+1.1**
	comp=E,4µm,0.6s							
ESCA	**l'Escarene**	**0.98**	**152**	Pg	**Pg**		**11 47 07.3**	**-0.1**
RSL	**Roselend**	**0.99**	**355**	Pg	**Pg**		**11 47 07.8**	**+0.1**
RSL				Sg	**Sb**		**11 47 21.5**	**+1.1**
CIRO	**Champorcher**	**1.08**	**33**	P	**Pg**		**11 47 08.8**	**-0.5**
CIRO				S	**Sg**		**11 47 22.3**	**-1.1**
CIRO	**Champorcher**	**1.08**	**33**	P	**Pg**		**11 47 08.7**	**-0.6**
CIRO				S	**Sg**		**11 47 22.4**	**-1.0**
CIRO				AML	AML			
	comp=E,1150µm,0.7s							
CIRO				AML	AML			
	comp=N,1175µm,0.5s							
CIRO				AML	AML			
	comp=N,1170µm,0.5s							
TRAV	**Traversella**	**1.08**	**41**	P	**Pg**		**11 47 08.6**	**-0.8**
TRAV				S	**Sg**		**11 47 21.9**	**-1.6**
TRAV	**Traversella**	**1.08**	**41**	P	**Pg**		**11 47 08.5**	**-0.8**
TRAV				S	**Sg**		**11 47 22.3**	**-1.2**
TRAV				AML	AML			
	comp=N,1270µm,0.5s							
TRAV				AML	AML			
	comp=E,1685µm,1.1s							
MON	**Monaco**	**1.09**	**153**	Pg	**Pg**		**11 47 09.4**	**0.0**
MON				Sg	**Sb**		**11 47 24.5**	**+1.6**
MRGE	**Morge**	**1.09**	**12**	P	**Pg**		**11 47 09.1**	**-0.5**
MRGE				AML	AML			
	comp=E,1350µm,0.8s							
MRGE				AML	AML			
	comp=N,1680µm,0.6s							
NEGI	**Seborga**	**1.10**	**140**	P	**Pg**		**11 47 09.0**	**-0.6**
NEGI				S	**Sg**		**11 47 22.3**	**-1.7**
NEGI	**Seborga**	**1.10**	**140**	P	**Pg**		**11 47 09.0**	**-0.6**
NEGI				S	**Sb**		**11 47 23.7**	**+0.4**
NEGI				AML	AML			
	comp=N,6435µm,0.2s							
NEGI				AML	AML			
	comp=E,3130µm,1.4s							
SMRF	**Simiane la Rot**	**1.10**	**230**	*e*Pg	**Pb**		**11 47 10.7**	**+1.4**
SMRF	**Simiane la Rot**	**1.10**	**230**	*e*P	**Pn**		**11 47 11.8**	**+2.4**
SMRF				*e*Sg	**Sg**		**11 47 24.5**	**+0.4**
	comp=E,545nm,0.6s							
RORO	**Rocca Rossa**	**1.12**	**121**	P	**Pg**		**11 47 08.6**	**-1.4**
RORO				S	**Sg**		**11 47 22.3**	**-2.3**
RORO	**Rocca Rossa**	**1.12**	**121**	P	**Pg**		**11 47 08.6**	**-1.4**
RORO				S	**Sg**		**11 47 23.1**	**-1.5**
RORO				AML	AML			
	comp=E,2730µm,0.8s							
RORO				AML	AML			
	comp=N,2600µm,0.9s							
BSTF	**la Bastide-des**	**1.13**	**224**	Pg	**Pn**		**11 47 12.7**	**+2.9**
FRF	**La Foret Royal**	**1.14**	**183**	*e*Pg	**Pg**		**11 47 10.2**	**-0.2**
FRF	**La Foret Royal**	**1.14**	**183**	*e*P	**Pn**		**11 47 11.6**	**+1.7**
FRF				*e*Sg	**Sg**		**11 47 24.8**	**-0.5**
	comp=N,532nm,0.2s							
IMI	**Imperia**	**1.14**	**133**	P	**Pg**		**11 47 09.4**	**-1.1**
IMI				S	**Sg**		**11 47 24.5**	**-1.0**
IMI				AML	AML			
	comp=E,2215µm,0.7s							
IMI				AML	AML			
	comp=N,5745µm,0.5s							
ROTM	**Rocchetta Tana**	**1.16**	**82**	P	**Pg**		**11 47 10.4**	**-0.4**
ROTM				AML	AML			
	comp=E,6065µm,0.9s							
ROTM				AML	AML			
	comp=N,6195µm,0.7s							
REMY	**Saint-Rhmy-en**	**1.18**	**14**	P	**Pg**		**11 47 10.7**	**-0.5**
REMY				AML	AML			
	comp=E,1695µm,0.6s							
REMY				AML	AML			
	comp=N,2425µm,0.6s							
QLNO	**Quiliano**	**1.21**	**107**	P	**Pg**		**11 47 10.2**	**-1.6**
QLNO				S	**Sg**		**11 47 25.9**	**-1.6**
QLNO				AML	AML			
	comp=N,1390µm,0.4s							
QLNO				AML	AML			
	comp=E,1960µm,0.4s							
FINB	**Finale Ligure**	**1.25**	**114**	P	**Pg**		**11 47 11.1**	**-1.4**
FINB				S	**Sg**		**11 47 27.5**	**-1.3**
FINB				AML	AML			
	comp=N,2220µm,1.6s							
FINB				AML	AML			
	comp=E,2430µm,0.6s							
ARTF	**Artigues**	**1.30**	**211**	Pg	**Pg**		**11 47 13.9**	**+0.5**
PCP	**Piancastagn**	**1.30**	**96**	P	**Pg**		**11 47 11.9**	**-1.5**
PCP				S	**Sg**		**11 47 29.1**	**-1.3**
PCP				AML	AML			
	comp=E,1071µm,0.4s							
PCP				AML	AML			
	comp=N,1285µm,0.4s							
LMR	**La Mourre**	**1.38**	**187**	*e*Pg	**Pn**		**11 47 14.3**	**+1.2**
LMR	**La Mourre**	**1.38**	**187**	*e*P	**Pb**		**11 47 14.9**	**+1.0**
LMR				*e*Sg	**Sb**		**11 47 32.1**	**+0.9**
	comp=N,280nm,0.2s							
DIX	**Grande Dixence**	**1.46**	**19**	P	**Pn**		**11 47 15.5**	**+1.0**
DIX				AML	AML			
	comp=E,682µm,0.5s							
DIX				AML	AML			
	comp=N,473µm,0.6s							
VIVF	**Saint-Julien-l**	**1.48**	**277**	*e*P	**Pn**		**11 47 16.5**	**+1.9**
VIVF	**Saint-Julien-l**	**1.48**	**277**	*e*Pg	**Pb**		**11 47 17.0**	**+1.3**
VIVF				*e*Sn	**Sn**		**11 47 34.0**	**+0.3**
VIVF				*e*Sg	**Sb**		**11 47 36.4**	**+2.1**
	comp=N,294nm,0.3s							
OG35	**Corcelles**	**1.58**	**329**	Pg	**Pb**		**11 47 18.5**	**+1.2**
OG35				Sg	**Sb**		**11 47 39.6**	**+2.4**
MMK	**Mattmark**	**1.60**	**32**	P	**Pb**		**11 47 18.3**	**+0.4**
MMK				AML	AML			
	comp=E,810µm,0.7s							
MMK				AML	AML			
	comp=N,710µm,0.5s							
EMBD	**Embd, Matterta**	**1.70**	**27**	Pg	**Pb**		**11 47 20.2**	**+0.7**
GORR	**Gorreto**	**1.83**	**92**	P	**Pb**		**11 47 21.3**	**-0.3**
GORR				AML	AML			
	comp=N,731µm,0.6s							
GORR				AML	AML			
	comp=E,768µm,0.6s							
GIMEL	**St. Georges /**	**1.87**	**350**	P	**Pb**		**11 47 22.6**	**+0.3**
GIMEL				AML	AML			
	comp=N,408µm,0.6s							
GIMEL				AML	AML			
	comp=E,728µm,0.6s							
GIMEL	**St. Georges /**	**1.87**	**350**	Pg	**Pb**		**11 47 22.6**	**+0.3**
CABF	**La Chapelle**	**1.97**	**347**	*e*P	**Pn**		**11 47 23.8**	**+2.4**
CABF	**La Chapelle**	**1.97**	**347**	*e*Pg	**Pb**		**11 47 25.7**	**+1.7**
CABF				*e*Sg	**Sb**		**11 47 51.0**	**+2.6**
	comp=E,438nm,0.8s							
MUGIO	**Muggio**	**2.03**	**52**	P	**Pn**		**11 47 22.8**	**+0.5**
MUGIO				AML	AML			
	comp=E,381µm,0.6s							
MUGIO				AML	AML			
	comp=N,532µm,0.6s							
TRBF	**Trabuc cave**	**2.08**	**254**	Pg	**Pn**		**11 47 24.2**	**+1.4**
TORNY	**Torny/Romont**	**2.08**	**4**	Pg	**Pb**		**11 47 26.5**	**+0.5**
LASF	**Ste Croix**	**2.16**	**254**	*e*Pn	**Pn**		**11 47 24.9**	**+1.0**
LASF	**Ste Croix**	**2.16**	**254**	*e*P	**Pn**		**11 47 26.7**	**+2.8**
LASF	**Ste Croix**	**2.16**	**254**	*e*Pg	**Pb**		**11 47 29.4**	**+2.2**
LASF				*e*Sn	**Sn**		**11 47 49.7**	**-0.7**
	comp=N,47nm,0.4s							
LASF				*e*Sg	**Sg**		**11 47 57.6**	**-0.2**
	comp=N,118nm,0.7s							
BRANT	**Les Verrieres**	**2.25**	**355**	Pg	**Pn**		**11 47 27.6**	**+2.3**
LBL	**Lubilhac**	**2.54**	**283**	Pg	**Pn**		**11 47 31.4**	**+2.3**
GROG	**Isola di Gorgo**	**2.60**	**118**	P	**Pn**		**11 47 30.1**	**0.0**
GROG				AML	AML			
	comp=E,143µm,1.2s							
GROG				AML	AML			
	comp=N,147µm,1.3s							
PGF	**Pioggiola**	**2.71**	**142**	*e*Pn	**Pn**		**11 47 31.6**	**+0.1**
PGF				*e*Sn	**Sn**		**11 48 02.2**	**-1.9**
	comp=N,115nm,0.3s							
PGF	**Pioggiola**	**2.71**	**142**	P	**Pn**		**11 47 32.1**	**+0.6**
PGF				S	**Sn**		**11 48 04.6**	**+0.5**
PGF				AML	AML			
	comp=E,304µm,0.4s							
PGF				AML	AML			
	comp=N,400µm,0.5s							
BOURR	**Bourrignon**	**2.72**	**7**	Pn	**Pn**		**11 47 34.0**	**+2.3**
BALST	**Balsthal**	**2.72**	**14**	Pn	**Pn**		**11 47 34.7**	**+3.0**
SMF	**Signal de Mont**	**2.81**	**315**	*e*P	**Pn**		**11 47 35.4**	**+2.5**
SMF	**Signal de Mont**	**2.81**	**315**	*e*Pg	**Pg**		**11 47 41.6**	**-0.7**
SMF				*e*Sn	**Sn**		**11 48 05.6**	**-1.0**
	comp=N,28nm,0.2s							
SMF				*e*Sg	**Sg**		**11 48 17.9**	**-0.9**
	comp=N,100nm,0.2s							
PYM	**Petit Puy Mans**	**2.84**	**293**	Pn	**Pn**		**11 47 35.9**	**+2.6**
AGO	**Saint Agoulin**	**2.88**	**299**	Pn	**Pn**		**11 47 36.1**	**+2.3**
MAGA	**Magasa**	**2.95**	**67**	P	**Pn**		**11 47 35.2**	**+0.3**
MAGA				AML	AML			
	comp=E,1440µm,0.6s							
MAGA				AML	AML			
	comp=N,962µm,0.6s							
SULZ	**Cheisacher**	**2.99**	**18**	Pn	**Pn**		**11 47 37.4**	**+2.0**
HINF	**Hinteralfeld**	**3.12**	**1**	*e*P	**Pn**		**11 47 38.6**	**+1.4**
HINF	**Hinteralfeld**	**3.12**	**1**	*e*Pg	**Pg**		**11 47 46.8**	**-1.4**
HINF				*e*Sn	**Sn**		**11 48 12.5**	**-1.7**
	comp=N,22nm,0.2s							
HINF				*e*Sg	**Sg**		**11 48 26.9**	**-1.7**
	comp=N,38nm,0.3s							
MTCR	**Monte La Croce**	**3.13**	**101**	P	**Pn**		**11 47 39.3**	**+1.9**
MTCR				AML	AML			
	comp=N,202µm,0.8s							
MTCR				AML	AML			
	comp=E,128µm,1.6s							
AVF	**Avril sur Loir**	**3.16**	**313**	*e*P	**Pn**		**11 47 40.2**	**+2.5**
AVF	**Avril sur Loir**	**3.16**	**313**	*e*Pg	**Pb**		**11 47 47.6**	**+3.3**
AVF				*e*Sn	**Sn**		**11 48 14.1**	**-1.0**
	comp=E,20nm,0.3s							
AVF				*e*Sg	**Sg**		**11 48 28.5**	**-1.4**
	comp=E,108nm,0.6s							
MOF	**Molkenrain**	**3.17**	**5**	Pn	**Pn**		**11 47 39.6**	**+1.7**
FNVD	**Fontana Vidola**	**3.19**	**98**	S	**Sg**		**11 48 31.0**	**+0.3**
SMPL	**Sampolo**	**3.20**	**144**	P	**Pn**		**11 47 39.6**	**+1.4**
SMPL				S	**Sn**		**11 48 17.6**	**+1.5**
SMPL	**Sampolo**	**3.20**	**144**	AML	AML			
	comp=N,13550µm,1.1s							
SMPL				AML	AML			
	comp=N,13550µm,1.1s							
SMPL				AML	AML			
	comp=E,11800µm,0.7s							
LOR	**Lormes**	**3.26**	**323**	*e*P	**Pn**		**11 47 41.8**	**+2.7**
	baz=143							
LOR	**Lormes**	**3.26**	**323**	*e*Pg	**Pb**		**11 47 49.4**	**+3.4**
	baz=142							
LOR				*e*Sn	**Sn**		**11 48 16.5**	**-1.1**
	comp=E,58nm,0.4s,baz=141							
LOR				*e*Sg	**Sg**		**11 48 31.4**	**-1.7**
	comp=E,58nm,0.3s,baz=144							
SSF	**Saint Saulge**	**3.27**	**317**	*e*Pn	**Pn**		**11 47 39.3**	**+0.1**
SSF	**Saint Saulge**	**3.27**	**317**	*e*P	**Pn**		**11 47 41.7**	**+2.5**
SSF	**Saint Saulge**	**3.27**	**317**	*e*Pg	**Pg**		**11 47 50.1**	**-0.9**
SSF				*e*Sn	**Sn**		**11 48 16.5**	**-1.3**
	comp=E,53nm,0.5s							
SSF				*e*Sg	**Sg**		**11 48 31.9**	**-1.4**
	comp=E,87nm,0.4s							
BGF	**Bois d'Agland**	**3.30**	**306**	*e*P	**Pn**		**11 47 42.2**	**+2.6**
BGF	**Bois d'Agland**	**3.30**	**306**	*e*Pg	**Pb**		**11 47 50.3**	**+3.6**
BGF				*e*Sn	**Sn**		**11 48 17.4**	**-1.3**
	comp=E,66nm,0.3s							
BGF				*e*Sg	**Sg**		**11 48 33.3**	**-1.2**
	comp=E,165nm,0.3s							
HAU	**Haudompre**	**3.32**	**355**	*e*P	**Pn**		**11 47 41.7**	**+1.8**
HAU	**Haudompre**	**3.32**	**355**	*e*Pg	**Pb**		**11 47 50.2**	**+3.2**
HAU				*e*Sn	**Sn**		**11 48 16.6**	**-2.5**
	comp=E,60nm,0.4s							
HAU				*e*Sg	**Sg**		**11 48 33.1**	**-1.9**
	comp=E,70nm,0.4s							
CAF	**Calviac**	**3.33**	**276**	*e*P	**Pn**		**11 47 42.4**	**+2.3**
CAF	**Calviac**	**3.33**	**276**	*e*Pg	**Pb**		**11 47 50.8**	**+3.5**
CAF				*e*Sn	**Sn**		**11 48 18.0**	**-1.5**
	comp=E,43nm,0.5s							
CAF				*e*Sg	**Sg**		**11 48 34.2**	**-1.3**
	comp=E,60nm,0.6s							
DAVA	**Damuels**	**3.39**	**39**	*i* Pn	**Pn**		**11 47 44.3**	**+3.3**
	comp=E,6.4nm,0.2s							
DAVA				*i* Sn	**Sn**		**11 48 25.2**	**+4.2**
	comp=E,79nm,0.6s							
MTLF	**Montolieu**	**3.53**	**249**	*e*P	**Pn**		**11 47 45.0**	**+2.2**
MTLF	**Montolieu**	**3.53**	**249**	*e*Pg	**Pb**		**11 47 54.3**	**+3.7**
MTLF				*e*Sn	**Sn**		**11 48 23.1**	**-1.2**
	comp=E,11nm,0.4s							
MTLF				*e*Sg	**Sg**		**11 48 40.6**	**-1.2**
	comp=E,22nm,0.7s							
MTLF	**Montolieu**	**3.53**	**249**	P	**Pn**		**11 47 44.8**	**+2.0**
MTLF				AML	AML			
	comp=N,61µm,0.8s							
MTLF				AML	AML			
	comp=E,50µm,0.8s							
TCF	**Toulx Ste Croi**	**3.56**	**298**	*e*P	**Pn**		**11 47 45.7**	**+2.5**
TCF	**Toulx Ste Croi**	**3.56**	**298**	*e*Pg	**Pg**		**11 47 55.3**	**-1.3**
TCF				*e*Sn	**Sn**		**11 48 23.8**	**-1.2**
	comp=E,14nm,0.2s							
TCF				*e*Sg	**Sg**		**11 48 41.7**	**-1.0**
	comp=E,112nm,0.7s							
FETA	**Feichten**	**3.63**	**49**	*i* Pn	**Pn**		**11 47 48.0**	**+3.7**
	comp=E,3.0nm,0.3s							
FETA				*i* Sn	**Sn**		**11 48 31.6**	**+4.7**
	comp=E,6.9nm,0.5s							
SFTF	**Sexfontaines**	**3.70**	**342**	*e*P	**Pn**		**11 47 47.6**	**+2.5**
	baz=158							
SFTF				*e*Sn	**Sn**		**11 48 26.5**	**-1.9**
	comp=E,23nm,0.3s,baz=151		

MEZF	**Maizieres J'vi**	**3.98**	**344**	*e*P		**Pn**	**11 47 51.7**	**+2.8**
	baz=164								
MEZF	**Maizieres J'vi**	**3.98**	**344**	*e*Pg		**Pg**	**11 48 02.4**	**-2.2**
	baz=162								
MEZF				*e*Sn		**Sn**	**11 48 33.4**	**-1.9**
	comp=E,16nm,0.2s,baz=159								
MEZF				*e*Sg		**Sg**	**11 48 54.2**	**-1.9**
	comp=E,61nm,0.5s,baz=166								
SQTA	**Sankt Quirin**	**4.01**	**49**	*i* Pn		**Pn**	**11 47 52.8**	**+3.3**
	comp=E,1.4nm,0.1s								
SQTA				*i* Sn		**Sn**	**11 48 39.9**	**+3.7**
	comp=E,14nm,0.4s								
MOTA	**Moosalm**	**4.03**	**47**	*i* Pn		**Pn**	**11 47 52.0**	**+2.3**
	comp=E,2.4nm,0.1s								
MOTA				*i* Sn		**Sn**	**11 48 43.3**	**+6.5**
	comp=E,16nm,0.4s								
LATE	**Laterza**	**4.23**	**118**	S		**Sn**	**11 48 46.0**	**+4.5**
WTTA	**Wattenberg**	**4.27**	**51**	*i* Pn		**Pn**	**11 47 55.8**	**+2.7**
	comp=E,3.7nm,0.2s								
WTTA				*i* Sn		**Sn**	**11 48 47.4**	**+4.7**
	comp=E,11nm,0.4s								
LFF	**La Frestale**	**4.27**	**275**	*e*Pn		**Pn**	**11 47 53.0**	**0.0**
LFF	**La Frestale**	**4.27**	**275**	*e*P		**Pn**	**11 47 56.7**	**+3.7**
LFF	**La Frestale**	**4.27**	**275**	*e*Pg		**Pg**	**11 48 08.4**	**-1.9**
LFF				*e*Sn		**Sn**	**11 48 40.9**	**-1.7**
	comp=E,31nm,0.8s								
LFF				*e*Sg		**Sg**	**11 49 03.7**	**-1.9**
	comp=E,98nm,0.7s								
WATA	**Walderalm**	**4.28**	**50**	*i* Pn		**Pn**	**11 47 56.4**	**+3.2**
	comp=E,2.8nm,0.2s								
WATA				*i* Sn		**Sn**	**11 48 47.9**	**+5.0**
	comp=E,11nm,0.5s								
ABTA	**Abfaltersbach**	**4.53**	**61**	*i* Sn		**Sn**	**11 48 52.5**	**+3.4**
	comp=E,50nm,0.9s								
EPF	**Esparros**	**4.92**	**252**	*e*Pn		**Pn**	**11 48 01.8**	**-0.1**
EPF	**Esparros**	**4.92**	**252**	*e*P		**Pn**	**11 48 05.9**	**+4.0**
EPF	**Esparros**	**4.92**	**252**	*e*Pg		**Pg**	**11 48 20.0**	**-2.6**
EPF				*e*Sg		**Sg**	**11 49 23.9**	**-2.3**
	comp=E,21nm,0.6s								
BRJN	**Brijuni**	**5.00**	**85**	*e*Pn		**Pn**	**11 48 01.6**	**-1.3**
BRJN				Sn		**Sn**	**11 48 53.3**	**-7.0**
MTCE	**Montecelio**	**5.13**	**119**	P		**Pb**	**11 48 18.7**	**+0.8**
MFF	**Saint Martin d**	**5.19**	**294**	*e*P		**Pn**	**11 48 08.6**	**+3.1**
MFF	**Saint Martin d**	**5.19**	**294**	*e*Pg		**Pg**	**11 48 24.6**	**-3.1**
MFF				*e*Sn		**Sn**	**11 49 02.7**	**-2.4**
	comp=E,14nm,0.4s								
MFF				*e*Sg		**Sg**	**11 49 31.9**	**-3.0**
	comp=E,48nm,0.8s								
KBA	**Koelnbreinsper**	**5.19**	**60**	*i* Pn		**Pn**	**11 48 08.1**	**+2.4**
	comp=E,4.2nm,0.7s								
RMP	**Rome, Mte Porz**	**5.22**	**121**	P		**Pn**	**11 48 07.0**	**+0.9**
GIVF	**Givet**	**5.56**	**347**	*e*Pn		**Pn**	**11 48 09.9**	**-0.7**
GIVF	**Givet**	**5.56**	**347**	*e*P		**Pn**	**11 48 13.7**	**+3.1**
GIVF				*e*Sn		**Sn**	**11 49 10.5**	**-3.7**
	comp=E,12nm,0.3s								
GIVF				*e*Sg		**Sg**	**11 49 42.9**	**-3.9**
	comp=E,227nm,1.3s								
ETSF	**Etsaut**	**5.58**	**254**	*e*Pn		**Pn**	**11 48 10.6**	**-0.4**
ETSF	**Etsaut**	**5.58**	**254**	*e*P		**Pn**	**11 48 15.3**	**+4.3**
ETSF	**Etsaut**	**5.58**	**254**	*e*Pg		**Pg**	**11 48 32.1**	**-3.1**
ETSF				*e*Sn		**Sn**	**11 49 11.8**	**-3.1**
	comp=E,11nm,0.5s								
ETSF				*e*Sg		**Sg**	**11 49 44.5**	**-3.0**
	comp=E,6.5nm,0.6s								
BAIF	**Baives**	**5.63**	**343**	*e*Pn		**Pn**	**11 48 11.4**	**-0.2**
BAIF	**Baives**	**5.63**	**343**	*e*P		**Pn**	**11 48 14.0**	**+2.4**
BAIF				*e*Sn		**Sn**	**11 49 13.0**	**-3.0**
	comp=E,19nm,0.6s								
BAIF				*e*Sg		**Sg**	**11 49 45.1**	**-4.0**
	comp=E,35nm,0.7s								
OBKA	**Obir**	**5.77**	**69**	*i* Pn		**Pn**	**11 48 15.9**	**+2.3**
	comp=E,5.2nm,0.6s								
OBKA				*i* Sn		**Sn**	**11 49 21.7**	**+2.1**
	comp=E,11nm,0.8s								
NVLJ	**Novalja**	**5.81**	**88**	*i* Pn		**Pn**	**11 48 12.8**	**-1.2**
NVLJ				Sn		Sn	11 49 12.3	-8.0
SJPF	**Ste Jean**	**5.97**	**257**	*e*Pn		**Pn**	**11 48 16.8**	**+0.5**
SJPF	**Ste Jean**	**5.97**	**257**	*e*P		**Pn**	**11 48 20.7**	**+4.4**
SJPF				*e*Sg		**Sg**	**11 49 56.4**	**-3.5**
	comp=E,12nm,0.6s								
DUGI	**Dugi Otok**	**6.01**	**94**	*e*Pn		**Pn**	**11 48 15.0**	**-1.8**
DUGI				Sn		Sn	11 49 17.0	-8.3
MOA	**Molln**	**6.09**	**56**	*i* Sn		**Sn**	**11 49 29.7**	**+2.2**
	comp=E,8.9nm,0.4s								
LDF	**La Druitiere**	**6.12**	**312**	*e*Pn		**Pn**	**11 48 17.5**	**-0.8**
LDF	**La Druitiere**	**6.12**	**312**	*e*P		**Pn**	**11 48 20.8**	**+2.5**
LDF	**La Druitiere**	**6.12**	**312**	*e*Pg		**Pg**	**11 48 41.7**	**-3.9**
LDF				*e*Sn		**Sn**	**11 49 24.7**	**-3.4**
	comp=E,28nm,0.8s								
LDF				*e*Sg		**Sg**	**11 50 00.9**	**-3.9**
	comp=E,41nm,0.7s								
SOKA	**Soboth**	**6.14**	**68**	*i* Sn		**Sn**	**11 49 30.9**	**+2.3**
	comp=E,1.7nm,0.5s								
GRR	**Gorron**	**6.41**	**308**	*e*Pn		**Pn**	**11 48 21.9**	**-0.3**
GRR	**Gorron**	**6.41**	**308**	*e*P		**Pn**	**11 48 24.7**	**+2.5**
GRR	**Gorron**	**6.41**	**308**	*e*Pg		**Pg**	**11 48 47.3**	**-3.7**
GRR				*e*Sn		**Sn**	**11 49 31.7**	**-3.4**
	comp=E,9.6nm,0.3s								
GRR				*e*Sg		**Sg**	**11 50 09.9**	**-4.0**
	comp=E,30nm,0.6s								
FLN	**La Foliniere**	**6.41**	**312**	*e*Pn		**Pn**	**11 48 22.0**	**-0.3**
	baz=132								
FLN	**La Foliniere**	**6.41**	**312**	*e*P		**Pn**	**11 48 25.2**	**+2.9**
	baz=133								
FLN				*e*Sn		**Sn**	**11 49 31.5**	**-3.7**
	comp=E,20nm,0.5s								
FLN				*e*Sg		**Sg**	**11 50 10.6**	**-3.5**
	comp=E,21nm,0.6s,baz=130								
KHC	**Kasperske Hory**	**6.45**	**44**	*e*PN		**Pn**	**11 48 26.3**	**+3.4**
KHC				*e*SN		**Sn**	**11 49 37.9**	**+1.7**
ZIRJ	**Zirje**	**6.49**	**96**	*e*Pn		**Pn**	**11 48 20.8**	**-2.6**
ZIRJ				Sn		Sn	11 49 27.5	-10
MORI	**Morici**	**6.49**	**94**	*e*Pn		**Pn**	**11 48 22.2**	**-1.2**
MORI				Sn		Sn	11 49 28.9	-8.3
HVAR	**Hvar**	**7.17**	**99**	*e*Pn		**Pn**	**11 48 30.6**	**-2.2**
HVAR				Sn		Sn	11 49 44.2	-10
SGMF	**Saint Gilles**	**7.33**	**302**	*e*Pn		**Pn**	**11 48 35.9**	**+0.9**
SGMF	**Saint Gilles**	**7.33**	**302**	*e*Pg		Pg	11 49 04.6	-4.2
SGMF				*e*Sn		**Sn**	**11 49 53.9**	**-4.0**
	comp=E,3.2nm,0.5s								
SGMF				*e*Sg		**Sg**	**11 50 39.0**	**-4.7**
	comp=E,16nm,0.7s								
QUIF	**Quistinic**	**7.58**	**299**	*e*Pn		**Pn**	**11 48 37.5**	**-0.8**
QUIF	**Quistinic**	**7.58**	**299**	*e*P		**Pn**	**11 48 41.1**	**+2.8**
QUIF	**Quistinic**	**7.58**	**299**	*e*Pg		Pg	11 49 09.0	-4.3
QUIF				*e*Sn		**Sn**	**11 49 59.7**	**-4.1**
	comp=E,1.4nm,0.2s								
QUIF				*e*Sg		**Sg**	**11 50 46.6**	**-4.7**
	comp=E,42nm,0.9s								
ROSF	**Rostrenen**	**7.80**	**301**	*e*Pn		**Pn**	**11 48 41.1**	**-0.3**
CLL	**Collm**	**7.83**	**30**	*e*Pn		Pn	11 48 48.0	+6.2
CLL				*e*Sn		Sn	11 49 50.0	-20
CLL				*e*			11 50 26.0	
CLL				*e*Sg		**Sg**	**11 51 04.0**	**+4.5**
KRUC	**Moravsky**	**7.92**	**53**	*e*SN		**Sn**	**11 50 12.2**	**-0.2**
VRAC	**Vranov**	**8.16**	**52**	*e*SN		**Sn**	**11 50 15.3**	**-3.0**
MORC	**Moravsky Berou**	**8.93**	**52**	*e*SN		**Sn**	**11 50 33.3**	**-4.0**

SNET ***12*** *12:06:36.2±1.7, 13°.33N×89°.64W, h52km±13km, ML3.3*
GCG ***12*** *12:06:47.3±0.9, 13°.25N×89°.82W, h34km±999km, MD3.8*
ISC 12 12:06:35.5±1.6**, 13°.21N**±0°.09×**89°.54W**±0°.05**, h15**km±12km**, n20**, σ1°.41/30**, 1C, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.35**	**38**	*e*P	**Pn**	**12 06 46.2**	**+0.1**
LALI				*e*S	**Sb**	**12 06 53.6**	**+4.6**
LALI				IAML		12 06 55.8	
	comp=Z,692nm,0.2s						
SNET	**Serv Nac Est T**	**0.56**	**32**	*e*P	**Pn**	**12 06 48.7**	**-0.5**
SNET				*e*S	**Sn**	**12 06 57.9**	**-0.5**
SNET				IAML		12 07 00.3	
	comp=Z,2μm,0.2s						
BQQS	**Boqueron**	**0.58**	**26**	*e*P	**Pn**	**12 06 48.7**	**-0.9**
BQQS				*e*S	**Sn**	**12 06 58.2**	**-0.8**
UEES	**Universidad Ev**	**0.58**	**30**	*e*P	**Pn**	**12 06 48.9**	**-0.7**
UEES				*e*S	**Sn**	**12 06 58.1**	**-0.8**
CEDA	**San Andres**	**0.61**	**14**	*e*P	**Pn**	**12 06 48.8**	**-1.0**
CEDA				*e*S	**Sn**	**12 06 58.3**	**-1.1**
CEDA				IAML		12 07 04.7	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**0.62**	**353**	*e*P	**Pb**	**12 06 46.9**	**-1.4**
CEVE				*e*S	**Sb**	**12 06 56.5**	**-0.5**
CEVE				IAML		12 06 59.8	
	comp=Z,3μm,0.3s						
LFRS	**El Faro**	**0.62**	**48**	*e*P	**Pn**	**12 06 49.6**	**-0.4**
SBLS	**San Blas**	**0.63**	**353**	*e*P	**Pb**	**12 06 48.5**	**-0.1**
SNJE	**San Jose**	**0.66**	**355**	*e*P	**Pb**	**12 06 48.8**	**-0.2**
RTR	**El Retiro**	**0.69**	**352**	*e*P	**Pb**	**12 06 49.2**	**-0.3**
LBRS	**Las Brisas**	**0.72**	**42**	*e*P	**Pn**	**12 06 50.7**	**-0.6**
PAVA	**Las Pavas**	**0.77**	**49**	*e*P	**Pn**	**12 06 51.7**	**-0.5**
PAVA				*e*S	**Sn**	**12 07 04.1**	**+0.5**
PAVA				IAML		12 07 05.4	
	comp=Z,1μm,0.3s						
COEB	**Comit de Eme**	**1.03**	**74**	*e*P	**Pn**	**12 06 55.4**	**-0.2**
COEB				*e*S	**Sn**	**12 07 09.7**	**-0.1**
TECA	**Tecapa**	**1.05**	**74**	*e*P	**Pn**	**12 06 56.0**	**0.0**
JUCU	**Jucuar¡n**	**1.26**	**88**	*e*P	**Pg**	**12 06 59.9**	**0.0**
JUCU				*e*S	**Sn**	**12 07 16.2**	**+0.6**
IXG	**Ixpaco**	**1.30**	**318⇑**	*e*P	Pg	12 07 06.3	+5.8
IXG				*e*S	**Sn**	**12 07 20.3**	**+3.6**
ESQI	**Esquipulas**	**1.36**	**8**	*e*P	**Pn**	**12 06 58.0**	**-2.2**
LCND	**La Caada**	**1.61**	**86**	*e*P	**Pb**	**12 07 03.7**	**-1.3**
FUG	**Fuego 3**	**1.77**	**314**	*e*P	Pg	12 07 13.3	+3.8
FUG				*e*S	**Sg**	**12 07 33.6**	**+1.1**
STG3	**Santiaguito 3,**	**2.47**	**307**	*e*P	**Pg**	**12 07 23.0**	**0.0**
STG3				*e*S	**Sb**	**12 07 49.9**	**-0.3**

IDC ***12*** *12:15:10.5±5.7, 16°.43N×98°.53W, h0km, mb3.3/4, mb1 3.7/7, mb1mx3.6/45, mbtmp3.4/7, ML3.6/3, MS3.4/4, Ms1 3.5/4, ms1mx2.9/20, Error ellipse: s-maj=118.2km s-min=29.1km az=15.0*
NEIC ***12*** *12:15:13.0±2.2, 16°.53N±0°.04×98°.71W±0°.04, h10km±1km, mb4.0/10, Md4.0/42(MEX), Error ellipse: s-maj=6.3km s-min=5.8km az=47.0*
MEX ***12*** *12:15:15.3±0.9, 16°.42N×98°.61W, h20km±69km, MD4.0*
ISC 12 12:15:10.3±1.6**, 16°.42N**±0°.05×**98°.60W**±0°.03**, h7**km±10km**, n56**, σ1°**.89/74, mb3.9/9, MS3.3/3, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOIG	**Yosondua**	**1.10**	**67**	*e*P	**Pg**	**12 15 32.9**	**+1.3**
YOIG				*e*S	**Sb**	**12 15 46.5**	**-0.1**
TLIG	**Tlapa**	**1.14**	**2**		**Pg**	**12 15 32.5**	**+0.3**
TLIG					**Sg**	**12 15 46.6**	**-0.4**
TLIG	**Tlapa**	**1.14**	**2**	*e*P	**Pg**	**12 15 32.5**	**+0.3**
TLIG				*e*S	**Sg**	**12 15 46.6**	**-0.4**
TXIG	**Tlaxiaco**	**1.15**	**44**	*e*P	**Pb**	**12 15 33.1**	**+0.2**
TXIG				*e*S	**Sg**	**12 15 47.5**	**0.0**
ACP2	**Acapulco**	**1.31**	**290**		**Pn**	**12 15 35.2**	**+0.1**
ACP2	**Acapulco**	**1.31**	**290**	*e*P	**Pn**	**12 15 35.2**	**+0.1**
ACP2				*e*S	**Sb**	**12 15 50.3**	**-2.1**
PEIG	**Puerto Escondi**	**1.46**	**106**	*e*P	**Pn**	**12 15 37.6**	**+0.5**
PEIG				*e*S	**Sn**	**12 15 55.2**	**-1.4**
FTIG	**Fresnillo de T**	**1.55**	**17**	*e*P	**Pn**	**12 15 38.8**	**+0.3**
FTIG				*e*S	**Sn**	**12 15 57.4**	**-1.6**
HLIG	**Huajuapan de L**	**1.60**	**28**	*e*P	**Pn**	**12 15 39.2**	**-0.1**
HLIG				*e*S	**Sn**	**12 15 59.4**	**-0.9**
CAIG	**El Cayaco**	**1.71**	**292**		**Pn**	**12 15 41.1**	**+0.4**
CAIG					**Sn**	**12 16 01.4**	**-1.4**
CAIG	**El Cayaco**	**1.71**	**292**	*e*P	**Pn**	**12 15 41.1**	**+0.4**
CAIG				*i* S	**Sn**	**12 16 01.4**	**-1.4**
MEIG	**Mezcala**	**1.79**	**327**		**Pb**	**12 15 43.0**	**-0.5**
MEIG					**Sn**	**12 16 03.3**	**-1.5**
MEIG	**Mezcala**	**1.79**	**327**	*e*P	**Pb**	**12 15 43.0**	**-0.5**
MEIG				*e*S	**Sn**	**12 16 03.3**	**-1.5**
VHO	**Vista Hermosa**	**1.91**	**70**	*e*P	**Pn**	**12 15 44.2**	**+0.7**
VHO				*e*S	**Sn**	**12 16 06.0**	**-1.9**
PLIG	**Platanillo**	**2.14**	**337**		**Pn**	**12 15 48.0**	**+1.3**
PLIG					LR	12 16 15.9	
PLIG	**Platanillo**	**2.14**	**337**	*e*P	**Pn**	**12 15 48.0**	**+1.3**
PLIG				*e*S	**Sb**	**12 16 15.9**	**-0.6**
TPIG	**Tehuac#an**	**2.32**	**31**		**Pb**	**12 15 52.4**	**-0.3**
TPIG					**Sg**	**12 16 22.6**	**-2.2**
TPIG	**Tehuac#an**	**2.32**	**31**	*e*P	**Pb**	**12 15 52.4**	**-0.3**
TPIG				*i* S	**Sg**	**12 16 22.6**	**-2.2**
HUIG	**Huatulco**	**2.48**	**105**		**Pn**	**12 15 52.7**	**+1.4**
HUIG	**Huatulco**	**2.48**	**105**	*e*P	**Pn**	**12 15 52.7**	**+1.4**
HUIG				*e*S	**Sn**	**12 16 18.2**	**-3.7**
ARIG	**Puente Sto Nin**	**2.49**	**318**		**Pn**	**12 15 53.3**	**+1.9**
ARIG					**Sb**	**12 16 23.7**	**-2.7**
ARIG	**Puente Sto Nin**	**2.49**	**318**	*e*P	**Pn**	**12 15 53.3**	**+1.9**
ARIG				*i* S	**Sb**	**12 16 23.7**	**-2.7**
PPM	**Popocatepetl**	**2.63**	**360**	*e*P	**Pn**	**12 15 54.5**	**+0.7**
PPM				*i* S	**Sn**	**12 16 26.8**	**+0.5**
MAVM	**Malinalco, Edo**	**2.67**	**342**		**Pb**	**12 15 58.4**	**-0.2**
MAVM	**Malinalco, Edo**	**2.67**	**342**	*e*P	**Pb**	**12 15 58.4**	**-0.2**
AMVM	**AMECAMECA**	**2.71**	**356**		**Pb**	**12 15 58.8**	**-0.5**
AMVM	**AMECAMECA**	**2.71**	**356**	*e*P	**Pb**	**12 15 58.8**	**-0.5**
UNM	**Universidad Na**	**2.95**	**349**		**Sn**	**12 16 34.8**	**+1.1**
TOVM	**TOLUCA**	**3.03**	**340**		**Pb**	**12 16 02.8**	**-2.0**
TOVM	**TOLUCA**	**3.03**	**340**	*e*P	**Pb**	**12 16 02.8**	**-2.0**
PBVM	**Pinon**	**3.04**	**351**	*i* P	**Pb**	**12 16 06.0**	**+1.2**
PTVM	**Pico Tres Padr**	**3.19**	**351**	*i* P	**Pb**	**12 16 07.3**	**-0.3**
AZVM	**Cuida Lopez Ma**	**3.22**	**348**	*e*P	**Pb**	**12 16 05.8**	**-2.2**
VTVM	**Tizayuca**	**3.34**	**357**		**Pb**	**12 16 10.4**	**+0.3**
VTVM	**Tizayuca**	**3.34**	**357**	*e*P	**Pb**	**12 16 10.4**	**+0.3**
CMIG	**Matias Romero**	**3.62**	**79**	Pn	**Pn**	**12 16 07.5**	**+0.5**
	5.2nm,0.3s,baz=258,slow=8.8,SNR=53						
CMIG					**Sn**	**12 16 47.6**	**-2.4**
	21nm,0.3s,baz=16,slow=22,SNR=9.4						
CMIG	**Matias Romero**	**3.62**	**79**	*i* P	**Pn**	**12 16 07.4**	**+0.5**
CMIG				*i* S	**Sn**	**12 16 47.6**	**-2.4**
MOIG	**Morelia**	**4.07**	**323**		**Pb**	**12 16 20.0**	**-2.6**
CCIG	**Comitan**	**6.21**	**90**	Pn	Pn	12 16 48.9	+6.2
TEIG	**Tepich**	**10.51**	**67**	Pn	**Pn**	**12 17 41.4**	**-0.1**
	0.3nm,0.3s,baz=139,slow=23,SNR=1.5						
TEIG				Sn	**Sn**	**12 19 30.8**	**-8.9**
	2.1nm,0.3s,baz=319,slow=20,SNR=11						
TEIG	**Tepich**	**10.51**	**67**	Pn	Pn	12 17 46.6	+5.0
TXAR	**Lajitas Array**	**13.67**	**341**	Pn	**P**	**12 18 29.9**	**-3.9**
	0.1nm,0.3s,baz=154,slow=13,SNR=1.8						
TXAR				LR	LR	12 24 08.9	
	comp=Z,100nm,18.3s,baz=0.0,slow=39						
U40A	**Yellville**	**20.51**	**13**	P	Pn	12 19 51.7	+0.4
113A	**Mohawk Valley,**	**21.29**	**323**	P	**P**	**12 19 57.6**	**0.0**
113A				IAmb	IAmb	12 20 34.9	
	comp=Z,4.8nm,0.5s						
X16A	**Lo Mia Camp, P**	**21.31**	**330**	P	**P**	**12 19 59.2**	**+1.2**
WUAZ	**Wupatki**	**22.18**	**331**	P	**P**	**12 20 07.6**	**+0.3**
WUAZ				IAmb	IAmb	12 20 19.7	
	comp=Z,4.3nm,0.9s						
MVCO	**Mesa Verde**	**22.49**	**339**	P	**P**	**12 20 14.0**	**+3.3**
MVCO				IAmb	IAmb	12 20 16.3	
	comp=Z,6.9nm,1.3s						
R40A	**Maddies Stadio**	**22.49**	**13**	P	**P**	**12 20 11.0**	**+0.6**
R40A				IAmb	IAmb	12 20 18.9	
	comp=Z,3.9nm,0.7s						
U15A	**North Rim**	**23.35**	**331**	P	**P**	**12 20 23.2**	**+3.4**
U15A				IAmb	IAmb	12 20 31.2	
	comp=Z,4.2nm,1.1s						
PDAR	**Pinedale Array**	**27.88**	**343**	P	**P**	**12 21 02.0**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=163,slow=6.2,SNR=3.7						
PDAR				LR	LR	12 33 11.0	
	comp=Z,66nm,18.0s,baz=137,slow=39						
NVAR	**Mina Array Bea**	**27.93**	**326**	P	**P**	**12 21 02.9**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=162,slow=7.2,SNR=4.0						
H48A	**Harrisville**	**31.00**	**21**	P	**P**	**12 21 30.6**	**+2.2**
YBH	**Yreka Blue Hor**	**32.65**	**325**	LR	LR	12 34 28.7	
	comp=Z,40nm,18.8s,baz=272,slow=35						
LPAZ	**La Paz**	**44.27**	**136**	LR	LR	12 39 50.9	
	comp=Z,155nm,20.6s,baz=144,slow=34						
YKA	**Yellowknife Ar**	**47.38**	**350**	P	**P**	**12 23 44.7**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=161,slow=7.6,SNR=4.5						
ILAR	**Eielson Array**	**58.16**	**338**	P	**P**	**12 25 07.5**	**+2.8**
	comp=Z,0.1nm,0.4s,baz=132,slow=5.4,SNR=1.7						

JMA ***12*** *12:19:16.7±0.2, 39°.65N×143°.33E, h17km±3km, M3.4*
IDC ***12*** *12:19:22.3±1.7, 40°.06N×142°.23E, h0km, mb3.6/5, mb1 3.6/7, mb1mx3.5/54, mbtmp3.5/7, ML2.8/2, MS2.5/1, Ms1 2.5/1, ms1mx2.2/29, Error ellipse: s-maj=46.4km s-min=21.0km az=83.0*
ISC 12 12:19:17.2±3.1**, 39°.72N**±0°.06×**143°.13E**±0°.10**, h5**km±16km**, n29**, σ0°**.92/29, mb3.6/5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.00**	**283**	P	**Pn**	**12 19 38.1**	**+0.3**
JTH				*e*S	**Sn**	**12 19 53.9**	**+1.6**
MIYJ	**Miyakonagasawa**	**1.02**	**262**	P	**Pn**	**12 19 38.0**	**-0.1**
JKEN	**Kujiedanarisaw**	**1.19**	**294**	P	**Pn**	**12 19 40.8**	**+0.3**
JANG	**Nango**	**1.40**	**298**	P	**Pb**	**12 19 43.7**	**-0.1**
JOM	**Ohasama**	**1.44**	**261**	P	**Pb**	**12 19 44.7**	**+0.2**
JOM				*e*S	**Sg**	**12 20 04.7**	**+1.3**
JMK	**Ichinoseki**	**1.67**	**243**	P	**Pn**	**12 19 47.2**	**+0.2**
JMK				*e*S	**Sb**	**12 20 09.8**	**+0.2**
JIO	**Ouri**	**1.87**	**228**	P	**Pn**	**12 19 49.1**	**-0.8**
JTM	**Tenmabayashi**	**1.90**	**305**	P	**Pb**	**12 19 51.8**	**-0.6**
JTM				*e*S	**Sg**	**12 20 18.1**	**-0.2**
JRG	**Rokugo**	**1.95**	**261**	P	**Pb**	**12 19 52.6**	**-0.7**
JRG				S	**Sg**	**12 20 19.9**	**-0.1**
JAH	**Hinai**	**1.97**	**285**	P	**Pb**	**12 19 52.8**	**-0.8**
JAH				*e*S	**Sg**	**12 20 19.6**	**-0.9**
JYK	**Kaneyama**	**2.29**	**250**	P	**Pn**	**12 19 56.9**	**+1.3**
JEM	**Eirono**	**2.29**	**1**	P	**Pn**	**12 19 56.7**	**+1.0**
JOT	**Ohata**	**2.29**	**317**	P	**Pb**	**12 19 59.0**	**-0.1**
JNBK	**Urakawa-nobuka**	**2.57**	**354**	P	**Pn**	**12 20 00.8**	**+1.3**
JNBK				*e*S	**Sn**	**12 20 32.4**	**+1.2**
ASAJ	**Asahikawa**	**4.41**	**355**	Pn	**Pn**	**12 20 25.5**	**+0.7**
	0.7nm,0.3s,baz=222,slow=9.3,SNR=7.7						
ASAJ				Sn	**Sn**	**12 21 14.7**	**-1.8**
	0.5nm,0.3s,baz=161,slow=20,SNR=1.3						
MJAR	**Matsushiro Arr**	**5.01**	**232**	Pn	**Pn**	**12 20 34.3**	**+1.2**
	0.2nm,0.3s,baz=40,slow=12,SNR=16						
MAT	**Matsushiro**	**5.01**	**232**	P	**Pn**	**12 20 34.3**	**+1.3**
MAT				*e*S	**Sn**	**12 21 31.5**	**+0.2**
KSRS	**Korea Array**	**12.11**	**264**	LR	LR	12 26 26.5	
	comp=Z,25nm,19.1s,baz=80,slow=37						
SONM	**Songino Array**	**27.52**	**299**	P	**P**	**12 25 04.5**	**-0.2**
	0.6nm,0.5s,baz=84,slow=6.6,SNR=3.7						
H11N2	**WAKE ISLAND Hy**	**28.54**	**127**	T	T	12 54 53.5	
	baz=320,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**28.55**	**127**	T	T	12 55 04.5	
	baz=320,slow=75,SNR=19						
H11N3	**WAKE ISLAND Hy**	**28.55**	**127**	T	T	12 54 51.8	
	baz=320,slow=75,SNR=16						
H11S1	**WAKE ISLAND Hy**	**29.35**	**129**	T	T	12 56 02.0	
	baz=322,slow=76,SNR=5.8						
H11S3	**WAKE ISLAND Hy**	**29.35**	**129**	T	T	12 56 02.4	
	baz=322,slow=76,SNR=3.7						
H11S2	**WAKE ISLAND Hy**	**29.37**	**129**	T	T	12 55 56.1	
	baz=322,slow=76,SNR=5.2						
ZALV	**Zalesovo Beam**	**41.16**	**310**	P	**P**	**12 27 01.5**	**-0.7**
	0.6nm,0.4s,baz=69,slow=7.9,SNR=1.7						
MKAR	**Makanchi Array**	**43.89**	**300**	P	**P**	**12 27 23.8**	**-0.8**
	0.6nm,0.8s,baz=78,slow=10,SNR=3.9						
WRA	**Warramunga Arr**	**59.92**	**190**	P	P	12 29 31.5	+7.3
	0.7nm,0.7s,baz=6.6,slow=6.7,SNR=5.4						
ASAR	**Alice Springs**	**63.64**	**189**	P	P	12 29 57.0	+7.7
	0.2nm,0.7s,baz=360,slow=6.3,SNR=1.6						

IDC ***12*** *12:28:53.6±0.5, 30°.68S×71°.21W, h52km±4km, mb4.3/12, mb1 4.4/17, mb1mx4.3/27, mbtmp4.5/17, MS3.5/10, Ms1 3.5/10, ms1mx3.3/22, Error ellipse: s-maj=18.5km s-min=15.0km az=79.0*
GUC ***12*** *12:28:53.3±0.9, 30°.75S×70°.56W, h53km±6km, ML5.

LAMA	**Las Malvinas**	**4.55**	**160**	*i* P		**Pn**	**12 30 04.3**	**+3.8**
LAMA				*i* S		Sn	12 30 29.2	-23
MRA	**San Martin**	**4.93**	**112**	*i* P		**Pn**	**12 30 08.1**	**+2.2**
MRA				*i* S		Sn	12 30 26.9	-35
MRA				IAML			12 31 12.3	
	comp=Z,892nm,1.0s							
CYA	**Choya**	**5.14**	**66**	*i* P		**Pn**	**12 30 11.0**	**+2.4**
CYA				*i* S		Sn	12 30 39.5	-27
CYA				IAML			12 30 46.3	
	comp=Z,833nm,0.7s							
TCA	**Tanti**	**5.64**	**98**	*i* P		**Pn**	**12 30 17.2**	**+1.6**
TCA				*i* S		Sn	12 30 50.5	-29
TCA				IAML			12 31 28.4	
	comp=Z,684nm,0.7s							
GO02	**Mina Guanaco**	**5.65**	**14**	Pn		**Pn**	**12 30 15.9**	**0.0**
PB10	**IPOC Station P**	**7.14**	**4**	Pn		**Pn**	**12 30 36.6**	**+0.5**
H03N1	**Juan Fernandez**	**7.17**	**245**	P		**Pn**	**12 30 34.7**	**-1.5**
	baz=117,slow=18,SNR=1009							
H03N1				T		T	12 37 32.3	
	baz=71,slow=72,SNR=2372							
VA04	**Juan Fernndez**	**7.18**	**244**			**Pn**	**12 30 34.5**	**-2.1**
H03N3	**Juan Fernandez**	**7.18**	**245**	P		**Pn**	**12 30 34.3**	**-2.1**
	baz=117,slow=18,SNR=683							
H03N3				T		T	12 37 31.3	
	baz=71,slow=72,SNR=1474							
H03N2	**Juan Fernandez**	**7.18**	**245**	P		**Pn**	**12 30 34.8**	**-1.6**
	baz=117,slow=18,SNR=910							
H03N2				T		T	12 37 33.3	
	baz=71,slow=72,SNR=1712							
H03S3	**Juan Fernandez**	**7.31**	**242**	P		**Pn**	**12 30 35.3**	**-2.8**
	baz=43,slow=18,SNR=72							
H03S3				T		T	12 37 34.4	
	baz=83,slow=74,SNR=16							
H03S1	**Juan Fernandez**	**7.32**	**242**	P		**Pn**	**12 30 35.1**	**-3.1**
	baz=43,slow=18,SNR=60							
H03S1				T		T	12 37 38.7	
	baz=83,slow=74,SNR=22							
H03S2	**Juan Fernandez**	**7.33**	**242**	P		**Pn**	**12 30 35.2**	**-3.1**
	baz=43,slow=18,SNR=122							
H03S2				T		T	12 37 42.6	
	baz=83,slow=74,SNR=16							
PB15	**IPOC Station P**	**7.57**	**12**			**Pn**	**12 30 41.3**	**-0.9**
PB06	**IPOC Station P**	**8.05**	**10**			**Pn**	**12 30 47.7**	**-1.0**
LVC	**Limon Verde**	**8.26**	**14**	P		**Pn**	**12 30 51.3**	**-0.5**
	comp=Z,2.4nm,0.3s,baz=193,slow=9.2,SNR=13							
LVC				LR		LR	12 33 57.2	
	comp=Z,333nm,20.9s,baz=212,slow=37							
LVC	**Limon Verde**	**8.26**	**14**	Pn		**Pn**	**12 30 50.2**	**-1.6**
LVC	**Limon Verde**	**8.26**	**14**	*e*P		**Pn**	**12 30 55.2**	**+3.4**
LVC	**Limon Verde**	**8.26**	**14**	*e*P		**Pn**	**12 30 55.2**	**+3.4**
PB04	**IPOC Station P**	**8.35**	**6**	Pn		**Pn**	**12 30 54.2**	**+1.5**
PB07	**IPOC Station P**	**8.97**	**7**			**Pn**	**12 31 01.2**	**-0.2**
PB09	**IPOC Station P**	**8.99**	**11**	Pn		**Pn**	**12 31 01.9**	**+0.3**
PB01	**IPOC Station P**	**9.70**	**9**			**Pn**	**12 31 08.3**	**-2.8**
PLCA	**Paso Flores**	**10.05**	**178**	P		**Pn**	**12 31 16.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=345,slow=12,SNR=5.5							
PLCA				LR		LR	12 35 42.5	
	comp=Z,241nm,19.0s,baz=338,slow=41							
PB11	**IPOC Station P**	**10.94**	**7**	Pn		**Pn**	**12 31 27.8**	**-0.5**
GO01	**Chusmiza**	**11.09**	**9**			**Pn**	**12 31 29.3**	**-1.3**
MNMC	**Minye Minye**	**11.57**	**7**			**Pn**	**12 31 39.4**	**+2.4**
ITQB	**Itaqui**	**12.58**	**89**	*e*P		**Pn**	**12 31 49.4**	**-1.1**
ITQB				*e*S		**Sn**	**12 34 11.0**	**+1.9**
ITQB	**Itaqui**	**12.58**	**89**	*e*P		**Pn**	**12 31 49.4**	**-1.1**
ITQB				*e*S		**Sn**	**12 34 11.0**	**+1.9**
CPUP	**Villa Florida**	**12.87**	**74**	P		**Pn**	**12 31 55.1**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=229,slow=11,SNR=4.3							
CPUP				LR		LR	12 37 27.3	
	comp=Z,324nm,20.6s,baz=214,slow=40							
CPUP	**Villa Florida**	**12.87**	**74**	*e*P		**Pn**	**12 31 55.0**	**+0.5**
CPUP	**Villa Florida**	**12.87**	**74**	*e*P		**Pn**	**12 31 55.0**	**+0.5**
LPAZ	**La Paz**	**14.57**	**11**	P		**Pn**	**12 32 19.1**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=176,slow=5.9,SNR=27							
LPAZ	**La Paz**	**14.57**	**11**	P		**Pn**	**12 32 19.5**	**+1.5**
LPAZ	**La Paz**	**14.57**	**11**	*e*P		**Pn**	**12 32 19.4**	**+1.5**
LPAZ	**La Paz**	**14.57**	**11**	*e*P		**Pn**	**12 32 19.4**	**+1.5**
PLTB	**Pedras Altas**	**15.03**	**99**	*e*P		**Pn**	**12 32 22.6**	**-0.7**
PLTB	**Pedras Altas**	**15.03**	**99**	*e*P		**Pn**	**12 32 22.6**	**-0.7**
CPSB	**Cacapava Do Su**	**15.24**	**94**	*e*P		**Pn**	**12 32 25.5**	**-0.5**
CPSB	**Cacapava Do Su**	**15.24**	**94**	*e*P		**Pn**	**12 32 25.5**	**-0.5**
AQDB	**Aquidauana**	**17.20**	**57**	*e*P		**Pn**	**12 32 49.5**	**-1.3**
AQDB	**Aquidauana**	**17.20**	**57**	*e*P		**Pn**	**12 32 49.5**	**-1.3**
SIV	**San Ignacio**	**17.26**	**34**	P		**P**	**12 32 52.3**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=225,slow=10,SNR=83							
SIV				LR		LR	12 40 31.2	
	comp=Z,89nm,20.5s,baz=248,slow=40							
CNLB	**Canela**	**17.61**	**91**	*e*P		**P**	**12 32 57.0**	**+0.7**
CNLB	**Canela**	**17.61**	**91**	*e*P		**P**	**12 32 57.0**	**+0.7**
PTGB	**Pitanga**	**17.88**	**75**	*e*P		**Pn**	**12 33 00.5**	**+1.3**
PTGB	**Pitanga**	**17.88**	**75**	*e*P		**Pn**	**12 33 00.5**	**+1.3**
TRCB	**Terra Rica**	**18.26**	**69**	*e*P		**Pn**	**12 33 04.3**	**+0.5**
TRCB	**Terra Rica**	**18.26**	**69**	*e*P		**Pn**	**12 33 04.3**	**+0.5**
PTLB	**Pontes e Lacer**	**18.71**	**39**	*e*P		**P**	**12 33 08.3**	**-0.1**
PTLB	**Pontes e Lacer**	**18.71**	**39**	*e*P		**P**	**12 33 08.3**	**-0.1**
NNA	**Nana**	**19.33**	**343**	LR		LR	12 39 44.5	
	comp=Z,18nm,20.9s,baz=171,slow=34							
PCMB	**Pacaembu**	**19.96**	**68**	*e*P		**P**	**12 33 22.7**	**+0.8**
PCMB	**Pacaembu**	**19.96**	**68**	*e*P		**P**	**12 33 22.7**	**+0.8**
TIJ01	**Guaruva-PR**	**20.23**	**80**	*e*P		**P**	**12 33 23.5**	**-1.5**
TIJ01	**Guaruva-PR**	**20.23**	**80**	*e*P		**P**	**12 33 23.5**	**-1.5**
VILB	**Vilhena**	**20.31**	**32**	*e*P		**P**	**12 33 26.0**	**+0.2**
VILB	**Vilhena**	**20.31**	**32**	*e*P		**P**	**12 33 26.0**	**+0.2**
C2SB	**Chapadao do Su**	**20.36**	**59**	*e*P		**P**	**12 33 27.2**	**+0.9**
C2SB	**Chapadao do Su**	**20.36**	**59**	*e*P		**P**	**12 33 27.2**	**+0.9**
SALV	**Santo Antonio**	**20.38**	**47**	*e*P		**P**	**12 33 26.8**	**+0.3**
SALV	**Santo Antonio**	**20.38**	**47**	*e*P		**P**	**12 33 26.8**	**+0.3**
FRTB	**Fartura**	**20.52**	**74**	*e*P		**P**	**12 33 29.1**	**+1.0**
FRTB	**Fartura**	**20.52**	**74**	*e*P		**P**	**12 33 29.1**	**+1.0**
ITRB	**Iturama**	**21.69**	**65**	*e*P		**P**	**12 33 40.6**	**0.0**
ITRB	**Iturama**	**21.69**	**65**	*e*P		**P**	**12 33 40.6**	**0.0**
PET01	**Itanhaem-SP**	**22.07**	**79**	*e*P		**P**	**12 33 45.6**	**+1.0**
PET01	**Itanhaem-SP**	**22.07**	**79**	*e*P		**P**	**12 33 45.6**	**+1.0**
SPB	**Sao Paulo**	**22.20**	**77**	*e*P		**P**	**12 33 47.7**	**+1.6**
SPB	**Sao Paulo**	**22.20**	**77**	*e*P		**P**	**12 33 47.7**	**+1.6**
BB19B	**Bebedouro**	**22.43**	**70**	*e*P		**P**	**12 33 49.3**	**+0.7**
BB19B	**Bebedouro**	**22.43**	**70**	*e*P		**P**	**12 33 49.3**	**+0.7**
VAO	**Valinhos**	**22.84**	**76**	*e*P		**P**	**12 33 53.0**	**+0.1**
VAO	**Valinhos**	**22.84**	**76**	*e*P		**P**	**12 33 53.0**	**+0.1**
SAML	**Samuel**	**22.84**	**21**	P		**P**	**12 33 51.3**	**-1.6**
SAML	**Samuel**	**22.84**	**21**	*e*P		**P**	**12 33 52.9**	**0.0**
SAML	**Samuel**	**22.84**	**21**	*e*P		**P**	**12 33 52.9**	**0.0**
ARAG	**Araguaiana, MT**	**23.11**	**54**	*e*P		**P**	**12 33 56.2**	**+0.5**
ARAG	**Araguaiana, MT**	**23.11**	**54**	*e*P		**P**	**12 33 56.2**	**+0.5**
PARB	**Paraibuna**	**23.83**	**78**	*e*P		**P**	**12 34 02.8**	**+0.3**
PARB	**Paraibuna**	**23.83**	**78**	*e*P		**P**	**12 34 02.8**	**+0.3**
CLDB	**Colider**	**24.30**	**39**	*e*P		**P**	**12 34 05.9**	**-0.8**
CLDB	**Colider**	**24.30**	**39**	*e*P		**P**	**12 34 05.9**	**-0.8**
IPMB	**Ipameri, GO**	**24.34**	**64**	*e*P		**P**	**12 34 07.2**	**+0.1**
IPMB	**Ipameri, GO**	**24.34**	**64**	*e*P		**P**	**12 34 07.2**	**+0.1**
ATAH	**Atahualpa**	**24.38**	**342**	LR		LR	12 41 39.9	
	comp=Z,104nm,21.5s,baz=211,slow=31							
ESAR	**Angra dos Reis**	**24.95**	**79**	*e*P		**P**	**12 34 12.9**	**+0.4**
ESAR	**Angra dos Reis**	**24.95**	**79**	*e*P		**P**	**12 34 12.9**	**+0.4**
BSCB	**Bom Sucesso**	**25.54**	**74**	*e*P		**P**	**12 34 18.6**	**+0.6**
BSCB	**Bom Sucesso**	**25.54**	**74**	*e*P		**P**	**12 34 18.6**	**+0.6**
BDFB	**Brasilia**	**25.90**	**60**	P		**P**	**12 34 21.4**	**0.0**
	comp=Z,28nm,0.7s,baz=237,slow=8.3,SNR=30							
BDFB				LR		LR	12 45 54.1	
	comp=Z,251nm,18.9s,baz=259,slow=39							
BDFB	**Brasilia**	**25.90**	**60**	P		**P**	**12 34 21.4**	**0.0**
BDFB				IAmb		IAmb	12 34 22.3	
	comp=Z,29nm,0.7s							
NPGB	**Novo Progresso**	**27.76**	**35**	*e*P		**P**	**12 34 37.0**	**-1.0**
NPGB	**Novo Progresso**	**27.76**	**35**	*e*P		**P**	**12 34 37.0**	**-1.0**
PEXB	**Peixe**	**28.05**	**54**	*e*P		**P**	**12 34 40.9**	**+0.3**
PEXB	**Peixe**	**28.05**	**54**	*e*P		**P**	**12 34 40.9**	**+0.3**
MC01	**Montes Claros**	**28.41**	**67**	*e*P		**P**	**12 34 43.7**	**-0.1**
MC01	**Montes Claros**	**28.41**	**67**	*e*P		**P**	**12 34 43.7**	**-0.1**
JANB	**Januaria**	**29.07**	**64**	*e*P		**P**	**12 34 49.8**	**0.0**
JANB	**Januaria**	**29.07**	**64**	*e*P		**P**	**12 34 49.8**	**0.0**
MACA	**Manacapuru-AM**	**29.08**	**22**	*e*P		**P**	**12 34 49.6**	**-0.1**
MACA	**Manacapuru-AM**	**29.08**	**22**	*e*P		**P**	**12 34 49.6**	**-0.1**
SJMB	**Sao Joao De Ma**	**29.60**	**73**	*e*P		**P**	**12 34 54.9**	**+0.6**
SJMB	**Sao Joao De Ma**	**29.60**	**73**	*e*P		**P**	**12 34 54.9**	**+0.6**
BSFB	**Barra de Sao F**	**29.82**	**74**	*e*P		**P**	**12 34 56.3**	**+0.1**
BSFB	**Barra de Sao F**	**29.82**	**74**	*e*P		**P**	**12 34 56.3**	**+0.1**
SMTB	**Santa Maria do**	**30.87**	**50**	*e*P		**P**	**12 35 06.1**	**+0.6**
SMTB	**Santa Maria do**	**30.87**	**50**	*e*P		**P**	**12 35 06.1**	**+0.6**
PRPB	**Paraupebas**	**31.53**	**44**	*e*P		**P**	**12 35 11.2**	**-0.2**
PRPB	**Paraupebas**	**31.53**	**44**	*e*P		**P**	**12 35 11.2**	**-0.2**
PTGA	**Pitinga**	**31.60**	**22**	*e*P		**P**	**12 35 12.1**	**+0.1**
PTGA	**Pitinga**	**31.60**	**22**	*e*P		**P**	**12 35 12.1**	**+0.1**
MALB	**Monte Alegre**	**32.81**	**32**	*e*P		**P**	**12 35 21.2**	**-1.3**
MALB	**Monte Alegre**	**32.81**	**32**	*e*P		**P**	**12 35 21.2**	**-1.3**
PRAC	**Prado**	**34.38**	**353**	*e*P		**P**	**12 35 36.7**	**+0.5**
ORTC	**Ortega, Tolima**	**34.61**	**353**	*e*P		**P**	**12 35 39.3**	**+1.1**
CHIC	**Chingaza**	**35.19**	**355**	*e*P		**P**	**12 35 44.1**	**+0.5**
TOLC	**Tolima**	**35.28**	**353**	*e*P		**P**	**12 35 47.9**	**+3.5**
GUY2C	**Guyana, Caldas**	**35.92**	**353**	*e*P		**P**	**12 35 51.3**	**+1.4**
NORC	**Norcasia**	**36.20**	**354**	*e*P		**P**	**12 35 53.2**	**+1.3**
RUSC	**La Rusia**	**36.40**	**357**	*e*P		**P**	**12 35 55.2**	**+1.2**
CBOC	**Ciudad Bolivar**	**36.62**	**352**	*e*P		**P**	**12 35 57.1**	**+1.5**
HELC	**Santa Helena**	**36.89**	**353**	*e*P		P	12 35 51.5	-6.6
PTBC	**PUERTO BERRIO,**	**37.13**	**355**	*e*P		**P**	**12 35 58.7**	**-1.1**
ZARC	**Zaragoza, Cauc**	**38.11**	**354**	*e*P		**P**	**12 36 08.1**	**0.0**
SMLC	**San Martn de**	**39.34**	**355**	*e*P		**P**	**12 36 16.7**	**-1.6**
SJCC	**San Jacinto, C**	**40.52**	**354**	*e*P		**P**	**12 36 28.8**	**+0.6**
CRPR	**Cabo Rojo, PR**	**48.55**	**5**	P		**P**	**12 37 31.5**	**-0.5**
OBIP	**Obispado Ponce**	**48.62**	**6**	P		**P**	**12 37 32.3**	**-0.3**
CBYP	**Canovanas**	**48.92**	**7**	P		**P**	**12 37 34.3**	**-0.6**
VNA3	**Neumayer Olymp**	**52.16**	**159**	P		**P**	**12 37 59.4**	**+0.6**
VNA1	**Neumayer--Stat**	**52.45**	**158**	P		**P**	**12 38 01.9**	**+1.0**
VNA2	**Neumayer--Watz**	**52.79**	**158**	P		**P**	**12 38 03.9**	**+0.4**
	baz=288,slow=8.9							
TEIG	**Tepich**	**53.22**	**340**	P		**P**	**12 38 07.4**	**+0.2**
SNAA	**Sanae**	**54.39**	**159**	P		**P**	**12 38 15.4**	**+0.2**
SNAA	**Sanae**	**54.39**	**159**	P		**P**	**12 38 15.3**	**+0.2**
RKT	**Rikitea**	**56.79**	**261**	*e*T		T	13 39 23.6	
	comp=Z,10nm,0.2s							
QSPA	**South Pole Qui**	**59.56**	**180**	P		**P**	**12 38 52.5**	**+0.5**
QSPA				IAmb		IAmb	12 38 54.8	
	comp=Z,8.9nm,0.9s							
833A	**Chaparral WMA,**	**64.57**	**332**	P		**P**	**12 39 26.3**	**+0.6**
	baz=153							
GOGA	**Godfrey**	**64.79**	**349**	P		**P**	**12 39 26.4**	**-0.7**
	baz=168							
Y55A	**Saluda**	**65.05**	**350**	P		**P**	**12 39 28.3**	**-0.4**
	baz=170							
LRAL	**Lakeview Retre**	**65.11**	**345**	P		**P**	**12 39 29.2**	**0.0**
	baz=165							
X56A	**White Oak**	**65.48**	**351**	P		**P**	**12 39 31.4**	**-0.1**
	baz=170							
X55A	**Gracelyn & Ava**	**65.54**	**350**	P		**P**	**12 39 31.7**	**-0.2**
	baz=170							
X54A	**Belton**	**65.73**	**350**	P		**P**	**12 39 32.9**	**-0.2**
	baz=169							
W58A	**Raeford**	**65.78**	**353**	P		**P**	**12 39 33.7**	**+0.2**
	baz=172							
W57A	**Gilead**	**66.00**	**352**	P		**P**	**12 39 34.4**	**-0.5**
	baz=171							
W57A	**Gilead**	**66.00**	**352**	IAmb		IAmb	12 39 35.5	
	comp=Z,8.9nm,0.8s							
W56A	**Indian Trail**	**66.06**	**352**	P		**P**	**12 39 34.5**	**-0.7**
	baz=171							
KMSC	**Kings Mountain**	**66.16**	**351**	P		**P**	**12 39 35.2**	**-0.7**
	baz=170							
X51A	**Calhoun**	**66.17**	**348**	P		**P**	**12 39 35.6**	**-0.3**
W54A	**Cherokee Point**	**66.23**	**350**	P		**P**	**12 39 36.2**	**-0.1**
	baz=169							
V59A	**Middlesex**	**66.42**	**354**	P		**P**	**12 39 37.8**	**+0.3**
	baz=173,SNR=6.5							
X48A	**Hartselle**	**66.49**	**346**	P		**P**	**12 39 37.5**	**-0.5**
Y45A	**Yeager Farm, C**	**66.50**	**343**	P		**P**	**12 39 38.5**	**+0.4**
W52A	**Murphy**	**66.51**	**349**	IAmb		IAmb	12 39 40.3	
	comp=Z,13nm,1.1s							
V58A	**Windy Hill, Pi**	**66.54**	**353**	P		**P**	**12 39 38.2**	**-0.1**
	baz=172,SNR=5.2							
V58A	**Windy Hill, Pi**	**66.54**	**353**	P		**P**	**12 39 37.8**	**-0.5**
V58A				IAmb		IAmb	12 39 38.9	
	comp=Z,11nm,1.1s							
JCT	**Junction City**	**66.64**	**333**	P		**P**	**12 39 39.7**	**+0.5**
	baz=153							
JCT	**Junction City**	**66.64**	**333**	P		**P**	**12 39 39.3**	**+0.2**
V57A	**Coltrane Farms**	**66.70**	**352**	P		**P**	**12 39 38.9**	**-0.4**
	baz=172							
V56A	**Mocksville**	**66.71**	**352**	P		**P**	**12 39 39.4**	**0.0**
	baz=171							
V55A	**Taylorsville**	**66.84**	**351**	P		**P**	**12 39 40.2**	**-0.1**
	baz=170							
W50A	**Signal Mountai**	**66.87**	**347**	P		**P**	**12 39 40.0**	**-0.5**
V54A	**Nebo**	**66.87**	**350**	P		**P**	**12 39 40.1**	**-0.3**
	baz=170							
V53A	**Saluda**	**66.90**	**350**	P		**P**	**12 39 40.0**	**-0.6**
V53A				IAmb		IAmb	12 39 42.5	
	comp=Z,9.9nm,0.9s							
U59A	**Littleton**	**66.96**	**354**	P		**P**	**12 39 41.3**	**+0.3**
	baz=173							
U59A	**Littleton**	**66.96**	**354**	P		**P**	**12 39 41.0**	**+0.1**
CPCT	**Cooper Cave**	**66.97**	**348**	P		**P**	**12 39 41.1**	**+0.1**
SWET	**Sewanee**	**67.00**	**347**	P		**P**	**12 39 40.8**	**-0.5**
TKL	**Tuckalechee C**	**67.04**	**349**	IAmb		IAmb	12 39 41.9	
	comp=Z,15nm,1.1s							
U58A	**Oxford**	**67.07**	**353**	P		**P**	**12 39 41.5**	**-0.1**
	baz=173							
OXF	**Oxford**	**67.09**	**344**	P		**P**	**12 39 41.4**	**-0.4**
	baz=163,SNR=7.3							
OXF	**Oxford**	**67.09**	**344**	P		**P**	**12 39 41.2**	**-0.6**
WHTX	**Lake Whitney,**	**67.13**	**336**	P		**P**	**12 39 42.5**	**+0.4**
	baz=155							
WHTX	**Lake Whitney,**	**67.13**	**336**	P		**P**	**12 39 42.0**	**-0.1**
WHTX				IAmb		IAmb	12 39 44.7	
	comp=Z,11nm,0.8s							
V52A	**Sevierville**	**67.19**	**349**	P		**P**	**12 39 41.5**	**-1.0**
U57A	**Blanch**	**67.19**	**353**	P		**P**	**12 39 42.0**	**-0.4**
	baz=172							
U56A	**King**	**67.23**	**352**	P		**P**	**12 39 42.5**	**-0.1**
	baz=171							
TXAR	**Lajitas Array**	**67.24**	**329**	P		**P**	**12 39 42.5**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=161,slow=8.0,SNR=11							
TXAR				pP		**pP**	**12 39 57.2**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=148,slow=7.7,SNR=4.9							
TXAR	**Lajitas Array**	**67.24**	**329**	P		**P**	**12 39 43.4**	**+0.4**
TXAR						**pP**	**12 39 58.6**	**+0.3**
TX31	**Lajitas Ar. Si**	**67.24**	**329**	IAmb		IAmb	12 39 44.1	
	comp=Z,7.5nm,0.6s							
V51A	**Loudon**	**67.28**	**348**	IAmb		IAmb	12 39 45.1	
	comp=Z,10.0nm,0.8s							
U55A	**TA2, Sparta**	**67.46**	**351**	P		**P**	**12 39 43.9**	**-0.4**
	baz=170							
VNDA	**Vanda**	**67.51**	**191**	P		**P**	**12 39 44.9**	**+0.9**
	comp=Z,1.4nm,1.1s,baz=173,slow=4.0,SNR=4.4							
T59A	**Double "B" Far**	**67.56**	**354**	P		**P**	**12 39 44.9**	**+0.3**
	baz=174,SNR=5.0							
U54A	**Nelsons Funny**	**67.58**	**351**	P		**P**	**12 39 44.6**	**-0.4**
	baz=170							
U54A	**Nelsons Funny**	**67.58**	**351**	IAmb		IAmb	12 39 45.5	
	comp=Z,11nm,0.7s							
T58A	**Grand View Acr**	**67.62**	**354**	P		**P**	**12 39 45.3**	**+0.2**
	baz=173,SNR=7.4							
T57A	**Hurt**	**67.74**	**353**	P		**P**	**12 39 45.7**	**-0.2**
	baz=172							
T56A	**Rocky Mt**	**67.86**	**352**	P		**P**	**12 39 46.5**	**-0.1**
	baz=171							
TZTN	**Tazewell**	**67.87**	**349**	P		**P**	**12 39 46.1**	**-0.6**
	baz=168							
CLTN	**Cedars of Leba**	**67.93**	**347**	P		**P**	**12 39 46.5**	**-0.5**
T55A	**Pulaski**	**68.03**	**352**	P		**P**	**12 39 47.6**	**-0.2**
	baz=171							
T54A	**Tazewell**	**68.08**	**351**	P		**P**	**12 39 47.6**	**-0.5**
	baz=170							
T53A	**Wise**	**68.14**	**350**	P		**P**	**12 39 47.7**	**-0.8**
	baz=169							
U49A	**Red Boiling Sp**	**68.23**	**347**	IAmb		IAmb	12 39 49.0	
	comp=Z,6.8nm,0.7s							
MIAR	**Mount Ida**	**68.23**	**340**	P		**P**	**12 39 49.0**	**0.0**
	baz=159,SNR=5.9							
MIAR	**Mount Ida**	**68.23**	**340**	P		**P**	**12 39 47.9**	**-1.2**
MIAR				IAmb		IAmb	12 39 50.7	
	comp=Z,10.0nm,1.2s							
S58A	**Poland Farm, P**	**68.23**	**354**	P		**P**	**12 39 48.9**	**0.0**
	baz=173							
S58A	**Poland Farm, P**	**68.23**	**354**	IAmb		IAmb	12 39 50.5	
	comp=Z,17nm,1.1s							
WVT	**Waverly**	**68.27**	**345**	P		**P**	**12 39 48.9**	**-0.4**
	baz=164							
WVT	**Waverly**	**68.27**	**345**	P		**P**	**12 39 49.0**	**-0.3**
WVT				IAmb		IAmb	12 39 49.9	
	comp=Z,16nm,0.9s							
WVT				pP		**pP**	**12 40 04.0**	**-0.6**
S59A	**Mechanicsville**	**68.32**	**355**	P		**P**	**12 39 49.3**	**-0.2**
	baz=174							
W41B	**Gary Mavity, V**	**68.44**	**341**	P		**P**	**12 39 50.3**	**-0.1**
	baz=160							
S56A	**Natural Bridge**	**68.45**	**353**	P		**P**	**12 39 50.0**	**-0.3**
	baz=172							
S57A	**Dark Hollow, R**	**68.47**	**353**	P		**P**	**12 39 50.5**	**0.0**
	baz=172							
S57A	**Dark Hollow, R**	**68.47**	**353**	IAmb		IAmb	12 39 52.9	
	comp=Z,17nm,1.2s							
ABTX	**Abilene, Hawle**	**68.50**	**334**	P		**P**	**12 39 51.2**	**+0.4**
	baz=153							
ABTX	**Abilene, Hawle**	**68.50**	**334**	IAmb		IAmb	12 39 52.8	
	comp=Z,22nm,1.2s							
R58B	**Mineral**	**68.57**	**354**	P		**P**	**12 39 51.0**	**-0.1**
	baz=173,SNR=5.1							
R58B	**Mineral**	**68.57**	**354**	IAmb		IAmb	12 39 52.8	
	comp=Z,14nm,0.9s							
S55A	**Lewisburg**	**68.65**	**352**	P		**P**	**12 39 51.5**	**-0.1**
	baz=171							
SYO	**Syowa Base**	**68.68**	**159**	*i* P		**P**	**12 39 48.0**	**-3.4**
SYO	**Syowa Base**	**68.68**	**159**	*e*pP		pP	12 40 02.7	-4.1
SYO	**Syowa Base**	**68.68**	**159**	*e*sP		sP	12 40 08.0	-5.1
R61A	**Willards**	**68.75**	**356**	P		**P**	**12 39 52.0**	**-0.2**
	baz=176							
S54A	**Dingess, Beckl**	**68.78**	**351**	P		**P**	**12 39 51.5**	**-0.9**
	baz=170							
TBI	**Tubuai**	**68.90**	**255**	*e*S		S	12 48 36.5	-18
	comp=Z,44nm,30.8s							
TBI	**Tubuai**	**68.90**	**255**	*e*LR		LR	13 00 13.6	
	comp=Z,84nm,27.5s							
TBI	**Tubuai**	**68.90**	**255**	*e*T		T	13 54 34.8	
	comp=Z,14nm,0.2s							
W39A	**Magazine**	**68.90**	**340**	P		**P**	**12 39 53.6**	**+0.4**
	baz=159,SNR=14							
W39A	**Magazine**	**68.90**	**340**	IAmb		IAmb	12 39 56.0	
	comp=Z,18nm,0.9s							
W39A						pP	12 40 09.6	+1.0
R58A	**Rapidan**	**68.91**	**354**	P		**P**	**12 39 53.0**	**-0.2**
	baz=173							
T47A	**Sharon Grove**	**68.95**	**346**	IAmb		IAmb	12 39 54.6	
	comp=Z,14nm,0.9s							
R57A	**Stanardsville**	**68.96**	**354**	P		**P**	**12 39 53.1**	**-0.4**
	baz=173							
LCAR	**Lake Charles**	**69.00**	**343**	P		**P**	**12 39 53.5**	**-0.3**
LCAR				IAmb		IAmb	12 39 54.4	
	comp=Z,13nm,0.7s							
R55A	**Marlinton**	**69.11**	**352**	P		**P**	**12 39 54.7**	**+0.2**
	baz=171							
R54A	**Victor**	**69.11**	**352**	P		**P**	**12 39 54.0**	**-0.4**
	baz=171							
Q57A	**Strasburg**	**69.68**	**354**	P		**P**	**12 39 58.4**	**+0.5**
	baz=173,SNR=6.4							
U40A	**Yellville**	**69.72**	**341**	P		**P**	**12 39 58.0**	**-0.3**
	baz=160,SNR=10	

M56A	Emporium	72.09	354	IAmb	IAmb	12 40 13.7		
	comp=Z,28nm,1.4s							
M55A	Ridgway	72.12	354	P	P	12 40 12.5	-0.3	
	baz=173							
M55A	Ridgway	72.12	354	P	P	12 40 12.2	-0.6	
M55A				IAmb	IAmb	12 40 14.9		
	comp=Z,14nm,1.1s							
M54A	Oil Creek Stat	72.25	353	P	P	12 40 13.1	-0.4	
	baz=172							
N47A	Urbana	72.46	348	IAmb	IAmb	12 40 14.1		
	comp=Z,12nm,0.7s							
L58A	Harry Jones Me	72.48	356	P	P	12 40 15.2	+0.4	
	baz=175							
P40A	Paris	72.50	343	P	P	12 40 14.5	-0.5	
P40A					pP	12 40 30.5	0.0	
L59A	Walton	72.59	357	P	P	12 40 15.5	0.0	
	baz=176							
L56A	Greenwood	72.69	355	P	P	12 40 16.1	0.0	
	baz=174							
L56A	Greenwood	72.69	355	IAmb	IAmb	12 40 17.4		
	comp=Z,17nm,1.1s							
L55A	Hinsdale	72.80	354	P	P	12 40 16.7	-0.1	
	baz=173							
L54A	Sinclairville	72.93	354	P	P	12 40 17.5	0.0	
	baz=172							
LIC	Lamto	72.99	72	eP	P	12 40 17.9	-0.6	
	comp=Z,64nm,1.2s							
WVNY	West Valley, N	73.04	354	IAmb	IAmb	12 40 19.5		
	comp=Z,16nm,1.0s							
TUC	Tucson	73.04	326	P	P	12 40 19.4	+0.9	
	baz=144							
K59A	Cooperstown	73.16	357	P	P	12 40 19.0	+0.1	
	baz=176							
K58A	Earlville	73.19	357	P	P	12 40 19.2	+0.1	
	baz=176							
TIC	Toumodi	73.23	72	eP	P	12 40 20.0	0.0	
ANMO	Albuquerque	73.26	330	P	P	12 40 20.7	+0.8	
	baz=148							
ANMO	Albuquerque	73.26	330	P	P	12 40 19.8	-0.1	
L48A	N Adams	73.29	350	P	P	12 40 19.0	-0.6	
L48A				IAmb	IAmb	12 40 19.7		
	comp=Z,12nm,0.8s							
KIC	Kosan Boka	73.30	72	eP	P	12 40 20.4	0.0	
	comp=Z,90nm,1.2s							
DBIC	Dimbokro	73.38	72	P	P	12 40 21.1	+0.3	
	comp=Z,21nm,0.9s,baz=208,slow=6.3,SNR=12							
DBIC	Dimbokro	73.38	72	P	P	12 40 21.5	+0.7	
214A	Organ Pipe Nat	73.76	324	P	P	12 40 23.7	+1.0	
	baz=143,SNR=5.0							
214A	Organ Pipe Nat	73.76	324	IAmb	IAmb	12 40 24.9		
	comp=Z,17nm,1.3s							
J57A	Williamstown	73.85	356	P	P	12 40 22.8	-0.1	
	baz=175							
J52A	Paris	74.05	353	P	P	12 40 23.4	-0.6	
	baz=171							
I58A	Old Forge	74.08	357	P	P	12 40 24.4	+0.1	
	baz=176							
K47A	Vermontville	74.08	349	P	P	12 40 23.3	-1.0	
	baz=167							
CBKS	Cedar Bluff	74.09	337	P	P	12 40 24.9	+0.4	
	baz=154							
CBKS	Cedar Bluff	74.09	337	IAmb	IAmb	12 40 25.9		
	comp=Z,18nm,0.8s							
I60A	Shoreham	74.18	358	P	P	12 40 25.1	+0.4	
	baz=178							
I64A	Boothbay	74.24	1	P	P	12 40 24.9	-0.1	
	baz=181							
T25A	Trinidad	74.31	333	P	P	12 40 27.0	+1.1	
	baz=150,SNR=9.4							
T25A	Trinidad	74.31	333	IAmb	IAmb	12 40 28.1		
	comp=Z,11nm,0.9s							
I63A	Otisfield	74.36	0	P	P	12 40 26.5	+0.7	
	baz=180							
LBNH	Lisbon	74.55	359	P	P	12 40 27.1	+0.1	
	baz=179							
I51A	Listowel	74.66	353	P	P	12 40 27.3	-0.3	
	baz=171							
N35A	Tabor	74.70	341	P	P	12 40 26.5	-1.4	
L40A	Anamosa	74.70	345	P	P	12 40 27.3	-0.6	
I55A	Frankford	74.76	355	P	P	12 40 28.1	0.0	
	baz=174							
H58A	Gabriels	74.78	358	P	P	12 40 28.3	0.0	
	baz=177							
H61A	Lyndonville	74.84	359	P	P	12 40 29.1	+0.5	
	baz=179							
H59A	Cadyville	74.99	358	P	P	12 40 29.6	+0.2	
	baz=177							
LONY	Lake Ozonia	74.99	357	P	P	12 40 29.7	+0.2	
	baz=177							
H56A	Elgin	75.05	356	P	P	12 40 30.0	+0.3	
	baz=175							
H65A	Eastbrook	75.05	2	P	P	12 40 30.0	+0.3	
	baz=182							
H55A	Tweed	75.06	356	P	P	12 40 29.8	0.0	
	baz=174							
H66A	Whiting	75.17	3	P	P	12 40 30.5	0.0	
	baz=183							
H53A	Bobcaygeon	75.19	354	P	P	12 40 30.6	0.0	
	baz=173							
JFWS	Jewell Farm	75.30	346	P	P	12 40 30.9	-0.4	
	baz=163							
I48A	Sherman Twp	75.38	351	P	P	12 40 31.0	-0.7	
	baz=168							
G63A	Kingsbury	75.43	1	P	P	12 40 32.5	+0.5	
	baz=181							
G57A	Newington	75.49	357	P	P	12 40 32.5	+0.2	
	baz=178							
G62A	West of Eustis	75.53	0	P	P	12 40 33.1	+0.6	
	baz=180							
G65A	Princeton	75.58	3	P	P	12 40 33.1	+0.3	
	baz=183							
G61A	St-Isidore-de-	75.59	360	P	P	12 40 33.5	+0.6	
	baz=179							
G64A	Maxfield	75.59	2	P	P	12 40 33.3	+0.5	
	baz=182							
G53A	Haliburton	75.74	355	P	P	12 40 33.7	-0.1	
	baz=173							
S22A	4UR Ranch, Cre	75.80	331	P	P	12 40 35.6	+0.9	
	baz=148							
S22A	4UR Ranch, Cre	75.80	331	P	P	12 40 35.8	+1.1	
WUAZ	Wupatki	75.94	327	P	P	12 40 36.5	+1.2	
	baz=145,SNR=6.3							
WUAZ	Wupatki	75.94	327	IAmb	IAmb	12 40 38.4		
	comp=Z,12nm,1.2s							
G54A	Lake Saint Pet	75.97	355	P	P	12 40 34.9	-0.2	
	baz=174							
F63A	Nahmakanta, Br	76.03	1	P	P	12 40 35.3	-0.1	
	baz=182							
MVCO	Mesa Verde	76.05	330	P	P	12 40 36.8	+0.8	
	baz=147,SNR=6.3							
MVCO	Mesa Verde	76.05	330	IAmb	IAmb	12 40 39.3		
	comp=Z,9.3nm,1.1s							
MAW	Mawson	76.15	164	P	P	12 40 35.8	-0.1	
	comp=Z,5.9nm,0.7s,baz=204,slow=5.8,SNR=28							
MAW	Mawson	76.15	164	P	P	12 40 36.3	+0.3	
Q24A	Divide	76.18	333	P	P	12 40 37.6	+0.8	
	baz=150,SNR=5.5							
F60A	Warwick	76.28	359	P	P	12 40 37.1	+0.4	
	baz=179							
BAR	Barrett	76.34	322	P	P	12 40 38.7	+1.2	
BAR				IAmb	IAmb	12 40 39.6		
	comp=Z,11nm,1.3s							
G47A	Hillman	76.36	351	P	P	12 40 37.1	-0.2	
	baz=168							
MONP2	Monument Peak	76.37	322	P	P	12 40 38.6	+0.7	
	baz=140							
BC3	Big Chuckawall	76.46	323	P	P	12 40 39.2	+0.9	
	baz=141,SNR=5.7							
F52A	Sundridge	76.47	354	P	P	12 40 37.4	-0.4	
	baz=172							
ALGO	Algonquin Park	76.52	355	P	P	12 40 37.8	-0.4	
	baz=174							
F51A	Arnstein	76.65	354	P	P	12 40 38.4	-0.5	
	baz=172							
E60A	Ste Agathe de	76.67	360	P	P	12 40 39.5	+0.5	
	baz=180							
IRM	Iron Mountain	76.70	324	P	P	12 40 40.5	+1.0	
	baz=142,SNR=5.2							
E58A	La Victoria	76.70	358	P	P	12 40 39.0	-0.2	
	baz=178							
F49A	Sandfield	76.71	352	P	P	12 40 38.7	-0.5	
	baz=170							
E63A	Oxbow	76.77	2	P	P	12 40 39.2	-0.3	
	baz=182							
E64A	Bridgewater	76.78	2	P	P	12 40 39.7	+0.1	
	baz=183							
F48A	Evansville	76.85	352	P	P	12 40 39.2	-0.8	
	baz=170,SNR=5.0							
PV01	Paradox Valley	76.86	331	IAmb	IAmb	12 40 43.4		
	comp=Z,10nm,1.3s							
E53A	Dumoine, Ponti	76.91	355	P	P	12 40 40.2	-0.2	
	baz=174							
E56A	St. Veronique	76.93	357	P	P	12 40 40.4	-0.1	
	baz=176							
E54A	Lac Daplat, Po	76.94	356	P	P	12 40 40.3	-0.2	
	baz=174							
E62A	Clayton Lake	76.94	1	P	P	12 40 41.0	+0.5	
	baz=181							
E62A	Clayton Lake	76.94	1	P	P	12 40 41.6	+1.1	
E62A				IAmb	IAmb	12 40 43.7		
	comp=Z,7.8nm,1.0s							
XPFO	Pion Flat	76.95	322	P	P	12 40 42.6	+1.6	
PFO	Pinyon Flats O	76.95	322	P	P	12 40 42.2	+1.1	
	baz=141							
PFO	Pinyon Flats O	76.95	322	P	P	12 40 42.6	+1.6	
PV15	Paradox Valley	77.00	331	IAmb	IAmb	12 40 43.7		
	comp=Z,9.6nm,1.3s							
BELC	Belle Mtn. Jos	77.01	323	P	P	12 40 42.2	+0.8	
	baz=141							
PV03	Paradox Valley	77.08	330	IAmb	IAmb	12 40 43.7		
	comp=Z,12nm,1.5s							
ISCO	Idaho Springs	77.08	333	P	P	12 40 42.3	+0.4	
	baz=150,SNR=6.0							
F45A	CMU Biological	77.11	350	P	P	12 40 41.5	0.0	
	baz=167							
PV12	Saucer Basin,	77.11	330	P	P	12 40 40.5	-1.4	
PV12				IAmb	IAmb	12 40 44.6		
	comp=Z,13nm,1.4s							
E51A	G1948 Merrick	77.21	354	P	P	12 40 41.7	-0.3	
	baz=172							
D60A	Saint Jean D'O	77.22	0	P	P	12 40 42.3	+0.3	
	baz=180							
E50A	Wahnapitae	77.22	353	P	P	12 40 41.7	-0.4	
	baz=171							
K31A	O'Neill	77.23	339	P	P	12 40 42.4	+0.1	
PV14	Lion Creek, Pa	77.25	330	P	P	12 40 40.5	-2.3	
PV14				IAmb	IAmb	12 40 44.6		
	comp=Z,15nm,1.5s							
MURC	Murrieta	77.33	322	P	P	12 40 44.2	+1.1	
	baz=140							
D57A	Chemin Vers le	77.36	358	P	P	12 40 43.1	+0.2	
	baz=177							
D63A	Stockholm	77.39	2	P	P	12 40 43.1	+0.1	
	baz=182							
D62A	Allapoint, All	77.41	1	P	P	12 40 43.6	+0.5	
	baz=182							
D62A	Allapoint, All	77.41	1	P	P	12 40 43.8	+0.7	
D62A				IAmb	IAmb	12 40 46.0		
	comp=Z,15nm,1.2s							
D62A				pP	pP	12 40 59.2	+0.5	
D58A	Chemin du LacG	77.42	359	P	P	12 40 43.1	-0.1	
	baz=178							
D56A	ZEC Mazanza, M	77.42	357	P	P	12 40 43.0	-0.2	
	baz=176							
D55A	Sainte-Anne-du	77.42	357	P	P	12 40 42.8	-0.4	
	baz=176							
E48A	Lockeyer	77.44	352	P	P	12 40 42.8	-0.5	
	baz=170,SNR=6.7							
GMRC	Granite Mounta	77.45	324	P	P	12 40 44.7	+0.9	
	baz=141							
E47A	Iron Bridge	77.55	351	P	P	12 40 43.6	-0.3	
	baz=169,SNR=8.8							
D52A	ZEK Kipawa Sen	77.56	355	P	P	12 40 44.0	0.0	
	baz=172							
E46A	Sault Ste Mari	77.60	351	IAmb	IAmb	12 40 45.4		
	comp=Z,19nm,1.2s							
D53A	Lac Vacive, Po	77.61	355	P	P	12 40 43.9	-0.3	
	baz=174							
D53A	Lac Vacive, Po	77.61	355	IAmb	IAmb	12 41 00.1		
	comp=Z,11nm,1.2s							
D54A	Lac Fusel, La	77.62	356	P	P	12 40 44.0	-0.3	
	baz=175							
ECSD	EROS Data Cent	77.63	341	P	P	12 40 44.5	0.0	
	baz=157							
ECSD	EROS Data Cent	77.63	341	P	P	12 40 44.0	-0.5	
ECSD				pP	pP	12 40 60.0	-0.1	
HEC	Hector,Ludlow	77.83	323	P	P	12 40 47.0	+1.1	
	baz=141							
D50A	G1974 Best Tow	77.87	354	P	P	12 40 45.7	0.0	
	baz=172							
E43A	Lone Tree Farm	78.02	349	IAmb	IAmb	12 40 47.4		
	comp=Z,5.8nm,0.8s							
BFSC	Mount Baldy Ra	78.07	322	P	P	12 40 48.8	+1.5	
	baz=140							
D46A	Sault St. Mari	78.07	351	P	P	12 40 46.3	-0.6	
	baz=168							
D48A	Paudash Townsh	78.08	353	P	P	12 40 46.4	-0.5	
	baz=170							
TUQ	Turquoise Moun	78.09	324	P	P	12 40 48.4	+1.0	
	baz=141							
D47A	Chapleau	78.11	352	P	P	12 40 47.0	-0.1	
	baz=169							
D49A	Beulah Townshi	78.13	353	P	P	12 40 47.6	+0.4	
	baz=171							
N23A	Red Feather La	78.16	334	P	P	12 40 48.9	+1.1	
	baz=149							
O20A	White River Ci	78.41	332	P	P	12 40 49.8	+0.7	
	baz=148,SNR=5.6							
O20A	White River Ci	78.41	332	P	P	12 40 48.6	-0.5	
O20A				IAmb	IAmb	12 40 51.7		
	comp=Z,10.0nm,1.1s							
GSC	Goldstone, Bar	78.44	323	P	P	12 40 50.3	+1.0	
	baz=141							
CCUT	Cedar City	78.52	327	P	P	12 40 50.7	+0.9	
CCUT				pP	pP	12 41 07.3	+2.0	
SHPR	Sheep Range	78.55	325	P	P	12 40 50.7	+0.8	
SHPR				pP	pP	12 41 06.6	+1.1	
VLDQ	Val d'Or	78.62	356	IAmb	IAmb	12 40 51.0		
	comp=Z,14nm,1.1s							
EDW2	Edwards Air Fo	78.74	322	P	P	12 40 51.7	+0.8	
	baz=140							
D41A	Chassel	78.95	348	P	P	12 40 51.1	-0.6	
RWWY	Rawlins	79.33	333	IAmb	IAmb	12 40 57.1		
	comp=Z,13nm,1.0s							
MPMC	Maual Prospec	79.38	323	P	P	12 40 55.1	+0.5	
	baz=140							
TSUM	Tsumeb	79.38	106	P	P	12 40 54.9	-0.1	
TSUM				IAmb	IAmb	12 40 56.9		
	comp=Z,20nm,1.2s							
TPNV	Topopah Spring	79.44	325	P	P	12 40 55.6	+0.9	
	baz=141,SNR=5.7							
TPNV	Topopah Spring	79.44	325	P	P	12 40 55.7	+0.9	
TPNV				pP	pP	12 41 13.6	+3.2	
LSQQ	Lebel-sur-Quev	79.54	356	P	P	12 40 54.7	-0.1	
	baz=175							
ISA	Isabella, Lake	79.59	322	P	P	12 40 56.6	+1.1	
	baz=139							
ISA	Isabella, Lake	79.59	322	P	P	12 40 54.6	-0.9	
ISA				pP	pP	12 41 11.7	+0.6	
PKM	Mcpherson Peak	79.71	321	P	P	12 40 57.5	+1.1	
	baz=138							
K22A	Casper	79.89	334	P	P	12 40 57.6	+0.5	
	baz=149							
K22A	Casper	79.89	334	IAmb	IAmb	12 40 58.9		
	comp=Z,20nm,1.4s							
CWC	Cottonwood Cre	79.97	323	P	P	12 40 58.6	+0.9	
	baz=140							
GRAC	Grapevine Rang	80.04	324	P	P	12 40 59.0	+1.1	
	baz=140							
VES	Vestal, Richgr	80.04	322	P	P	12 40 58.8	+0.9	
	baz=139							
SMMC	Simmler	80.13	321	P	P	12 40 59.6	+1.2	
	baz=138							
JLU	Jordanelle	80.15	330	P	P	12 40 58.5	-0.2	
R11A	Troy Canyon, C	80.22	326	P	P	12 40 59.6	+0.6	
	baz=142,SNR=6.8							
CHGQ	Chibougamau	80.27	358	P	P	12 40 58.6	-0.2	
	baz=177							
MATQ	Matagami	80.28	356	P	P	12 40 58.7	-0.1	
	baz=174							
RSSD	Black Hills	80.28	337	P	P	12 40 59.8	+0.5	
	baz=151							
RSSD	Black Hills	80.28	337	P	P	12 41 00.0	+0.8	
DUG	Dugway, Tooele	80.41	329	P	P	12 41 00.7	+0.7	
	baz=144							
DUG	Dugway, Tooele	80.41	329	P	P	12 41 00.1	+0.1	
BOSA	Boshof	80.93	118	P	P	12 41 03.0	-0.2	
	comp=Z,5.1nm,0.9s,baz=238,slow=7.1,SNR=6.2							
BOSA	Boshof	80.93	118	IAmb	IAmb	12 41 07.0		
	comp=Z,13nm,1.2s							
HWUT	Hardware Ranch	81.02	330	IAmb	IAmb	12 41 04.3		
	comp=Z,6.6nm,0.8s							
BW06	Boulder Array	81.16	332	P	P	12 41 03.7	-0.3	
	baz=147							
PD31	Pinedale Array	81.16	332	P	P	12 41 03.1	-0.9	
PDAR	Pinedale Array	81.16	332	P	P	12 41 03.5	-0.5	
	comp=Z,1.5nm,0.6s,baz=140,slow=6.6,SNR=13							
PDAR				pP	pP	12 41 19.6	0.0	
	comp=Z,0.9nm,0.6s,baz=135,slow=6.9,SNR=4.7							
PDAR	Pinedale Array	81.16	332	P	P	12 41 02.9	-1.1	
PDAR					pP	12 41 18.9	-0.7	
MLAC	Mammoth, Mammo	81.28	324	P	P	12 41 05.2	+0.4	
	baz=139							
OMMB	Old Mammoth Mi	81.35	323	pP	pP	12 41 23.8	+2.9	
E28A	Huff	81.40	340	IAmb	IAmb	12 41 05.7		
	comp=Z,13nm,0.7s							
NVAR	Mina Array Bea	81.62	324	P	P	12 41 06.5	0.0	
	comp=Z,1.4nm,0.7s,baz=150,slow=6.2,SNR=12							
NVAR	Mina Array Bea	81.62	324	P	P	12 41 07.0	+0.5	
AGMN	Agassiz Nation	81.68	344	P	P	12 41 05.9	-0.3	
	baz=158							
AGMN	Agassiz Nation	81.68	344	IAmb	IAmb	12 41 06.9		
	comp=Z,6.1nm,0.7s							
ELK	Elko	81.95	328	P	P	12 41 08.6	+0.4	
ELK				pP	pP	12 41 23.9	+0.1	
MDND	Maddock	82.24	341	P	P	12 41 09.1	-0.2	
	baz=155							
TOA0	Torodi Ar. Sit	82.34	70	P	P	12 41 10.6	0.0	
TOA0				pP	pP	12 41 26.2	-0.1	
TORD	Torodi Ar. Bea	82.34	70	P	P	12 41 10.8	+0.2	
	comp=Z,20nm,0.9s,baz=264,slow=5.3,SNR=61							
TORD				pP	pP	12 41 26.6	+0.2	
	comp=Z,2.1nm,0.5s,baz=270,slow=6.3,SNR=3.2							
TORD				LR	LR	13 16 47.7		
	comp=Z,52nm,18.0s,baz=120,slow=35							
TORD	Torodi Ar. Bea	82.34	70	P	P	12 41 10.8	+0.2	
PNTR	Pine Nut	82.77	324	IAmb	IAmb	12 41 14.6		
	comp=Z,7.5nm,0.9s							
LBTB	Lobatse	82.99	115	P	P	12 41 13.9	-0.2	
LBTB				IAmb	IAmb	12 41 15.1		
	comp=Z,17nm,1.0s							
RLMT	Red Lodge	83.03	334	P	P	12 41 14.1	+0.4	
	baz=147							
PAHR	Pah Rah Range	83.13	325	P	P	12 41 14.7	+0.4	
PAHR					pP	12 41 30.9	+1.0	
LAO	LASA Array	83.27	337	P	P	12 41 14.7	0.0	
	baz=150							
LAO	LASA Array	83.27	337	IAmb	IAmb	12 41 16.4		
	comp=Z,13nm,1.1s							
ULM	Lac du Bonnet	83.50	344	P	P	12 41 14.8	-0.9	
	comp=Z,7.6nm,0.8s,baz=142,slow=2.7,SNR=4.0							
ULM	Lac du Bonnet	83.50	344	IAmb	IAmb	12 41 17.3		
	comp=Z,7.4nm,0.8s							
DGMT	Dagmar	84.16	339	P	P	12 41 19.6	+0.4	
	baz=151							
MCMT	McKenzie Canyo	84.20	332	P	P	12 41 20.1	+0.3	
O03E	Paynes Creek	84.80	324	P	P	12 41 22.3	-0.4	
	baz=138							
J08A	Circle Bar Ran	85.49	327	P	P	12 41 26.9	+0.8	
J08A				IAmb	IAmb	12 41 29.0		
	comp=Z,8.3nm,0.9s							
J08A				pP	pP	12 41 43.0	+1.2	
EGMT	Eagleton	85.66	335	P	P	12 41 27.0	+0.2	
	baz=147							
M04C	Macdoel	85.92	325	P	P	12 41 29.3	+1.0	
	baz=138							
BMO	Blue Mountains	86.12	329	P	P	12 41 29.9	+0.7	
MSO	Missoula	86.28	332	P	P	12 41 30.4	+0.5	
	baz=144							
I07A	Izee	86.53	327	IAmb	IAmb	12 41 33.0		
	comp=Z,6.6nm,1.3s							
J05D	Fort Rock, OR	86.75	326	P	P	12 41 33.3	+0.9	
	baz=138							
PINE	Pine Mountain	86.99	326		pP	12 41 50.5	+1.1	
K02D	Willamette Mer	87.51	324	P	P	12 41 36.5	+0.6	
	baz=136							
I05D	Terrebonne, OR	87.59	326	P	P	12 41 36.9	+0.7	
	baz=138							
I04A	Tendick Farm,	87.70	326	P	P	12 41 37.3	+0.5	
	baz=137							
WALA	Waterton Lakes	88.07	333	IAmb	IAmb	12 41 39.5		
	comp=Z,11nm,1.1s							
H04A	Detroit Lake	88.25	326	IAmb	IAmb	12 41 41.7		
	comp=Z,9.2nm,1.1s							
G05D	Wamic, OR	88.25	327	P	P	12 41 40.2	+0.8	
	baz=138							
I02D	Swisshome	88.63	325	P	P	12 41 41.8	+0.7	
	baz=136							
F04A	Amboy	89.28	327	P	P	12 41 44.0	-0.1	
LTY	Liberty	89.47	329	P	P	12 41 42.5	-2.7	
LTY				IAmb	IAmb	12 41 46.4		
	comp=Z,6.7nm,1.2s							
LON	Longmire	89.61	328	IAmb	IAmb	12 41 47.3		
	comp=Z,6.4nm,1.4s							
E04D	Cinebar	89.81	327	P	P	12 41 47.8	+1.2	
	baz=137							
LSZ	Lusaka	90.09	108	P	P	12 41 50.9	+2.0	
D03D	Eldon	90.78	328	P	P	12 41 51.4	+0.3	
	baz=137							
ESDC	Sonseca Array	93.70	45	P	P	12 42 04.5	-0.4	
	comp=Z,1.2nm,1.2s,baz=247,slow=3.1,SNR=4.0							
ESDC				LR	LR	13 23 30.4		
	comp=Z,36nm,19.0s,baz=135,slow=35							
YKA	Yellowknife Ar	99.16	341	P	Pdif	12 42 27.9	-1.1	
	comp=Z,0.7nm,0.8s,baz=142,slow=5.0,SNR=7.2							
YKA				pP	pP	12 42 42.9	-2.0	
	comp=Z,0.6nm,0.7s,baz=146,slow=5.1,SNR=4.9							
DZM	Mont Dzumac	103.83	234	eLR	LR	13 16 31.7		
	comp=Z,81nm,27.1s							
ASAR	Alice Springs	120.88	207	PKP	PKPdf	12 47 38.8	-2.2	
	comp=Z,0.3nm,0.9s,baz=184,slow=3.6,SNR=4.1							
ASAR				pPKP	pPKPdf	12 47 54.8	-2.6	
	comp=Z,0.2nm,0.5s,baz=129,slow=1.7,SNR=2.3							
WRA	Warramunga Arr	124.04	209	PKP	PKPdf	12 47 45.3	-1.8	
	comp=Z,0.9nm,0.7s,baz=161,slow=1.7,SNR=15							
WRA				pPKP	pPKPdf	12 48 02.1	-1.4	
	comp=Z,1.2nm,0.5s,baz=159,slow=1.7,SNR=7.2							
H11S2	WAKE ISLAND Hyl	26.54	271	T	T	15 06 41.5		
	baz=116,slow=75,SNR=752							
H11S1	WAKE ISLAND Hyl	26.56	271	T	T	15 06 42.4		
	baz=116,slow=75,SNR=521							
H11S3	WAKE ISLAND Hyl	26.56	271	T	T	15 06 45.8		
	baz=116,slow=75,SNR=748							
H11N3	WAKE ISLAND Hyl	26.87	273	T	T	15 07 08.4		
	baz=116,slow=75,SNR=89							
H11N1	WAKE ISLAND Hyl	26.89	273	T	T	15 07 09.9		
	baz=116,slow=75,SNR=37							
H11N2	WAKE ISLAND Hyl	26.89	273	T	T	15 07 10.3		
	baz=116,slow=75,SNR=199							
BRVK	Borovoye	144.20	40	PKPdf	PKPbc	12 48 22.3	+0.5	
YAK	Yakutsk	145.82	343	PKPbc	PKPdf	12 48 26.1	+0.1	
	comp=Z,19nm,0.6s,baz=135,slow=0.9,SNR=9.7							
CHGR	Chuyangaron	146.57	65		PKPdf	12 48 28.6	+0.4	
KKAR	Karatay Array	147.18	57		PKPbc	12 48 30.8	-0.5	
KURK	Kurchatov	149.87	40		PKPbc	12 48 37.8	-0.1	
KURK				PKPab	PKP

IDC ***12*** *14:37:14.5±1.0,2˝44S×138˚96E,h0km,mb3.6/5, mb1 4.0/7,mb1mx3.7/23,mbtmp3.8/7,ML3.7/2,MS3.2/5, Ms1 3.2/5,ms1mx2.9/31,Error ellipse: s-maj=22.8km s-min=13.6km az=4.0*

DJA ***12*** *14:37:18.6±0.4,2˝S±5˝×13˚9E±˚,h27km±5km,M3.5/5, MLv3.5/5*

ISC 12 14:37:18.8±1.2,**2˝23S**±0˝06×**139˚06E**±0˝04,**h30**km±10km, **n17**,σ2°**15**/18,**mb3.7**/5,**MS3.4**/3,**Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.42**	**304**	P	**Pb**	**14 37 27.2**	**-0.8**
SMPI				S	**Sn**	**14 37 37.0**	**+1.4**
GENI	**Genyem**	**1.16**	**108**	P	**Pn**	**14 37 39.0**	**0.0**
GENI				S	**Sb**	**14 37 55.3**	**+0.3**
JAY	**Jayapura**	**1.67**	**100**	Pg	**Pn**	**14 37 46.7**	**+0.8**
	19nm,0.3s,baz=264,slow=7.4,SNR=73						
JAY				Lg	Lg	14 38 10.2	
	41nm,0.3s,baz=305,slow=23,SNR=8.9						
JAY	**Jayapura**	**1.67**	**100**	P	**Pn**	**14 37 45.5**	**-0.4**
JAY				S	**Sn**	**14 38 08.4**	**+2.1**
WAMI	**Wamena**	**1.69**	**192**	P	**Pb**	**14 37 49.1**	**0.0**
WAMI				S	**Sb**	**14 38 14.4**	**+4.4**
SRPI	**Serui, Papua**	**2.84**	**277**	P	**Pn**	**14 38 01.8**	**-0.3**
SRPI				S	**Sn**	**14 38 36.3**	**+0.9**
KRVT	**Keravat (AS076**	**13.11**	**99**	LR	LR	14 45 16.6	
	comp=Z,70nm,21.6s,baz=189,slow=37						
WRA	**Warramunga Arr**	**18.20**	**194**	P	**Pn**	**14 41 25.1**	**-4.2**
	0.5nm,0.3s,baz=18,slow=13,SNR=25						
WRA				S	Sn	14 44 34.3	-18
	0.1nm,0.3s,baz=23,slow=23,SNR=4.2						
CTA	**Charters Tower**	**19.09**	**159**	P	**P**	**14 41 37.0**	**-2.2**
	0.1nm,0.3s,baz=313,slow=18,SNR=1.9						
KAPI	**Kappang**	**19.47**	**261**	LR	LR	14 52 08.0	
	comp=Z,25nm,18.4s,baz=92,slow=46						
FITZ	**Fitzroy Crossi**	**20.55**	**219**	LR	LR	14 50 24.7	
	comp=Z,74nm,18.2s,baz=34,slow=39						
ASAR	**Alice Springs**	**21.89**	**193**	P	**P**	**14 42 06.5**	**-3.0**
	1.3nm,0.5s,baz=16,slow=11,SNR=27						
STKA	**Stephens Creek**	**29.59**	**176**	LR	LR	14 57 04.1	
	comp=Z,88nm,19.0s,baz=14,slow=40						
CMAR	**Chiang Mai Arr**	**44.51**	**299**	P	**P**	**14 45 29.9**	**+1.9**
	0.5nm,0.4s,baz=113,slow=6.9,SNR=1.8						
MKAR	**Makanchi Array**	**69.62**	**322**	P	**P**	**14 48 26.3**	**+1.0**
	0.5nm,0.6s,baz=99,slow=7.8,SNR=4.5						
VNDA	**Vanda**	**76.23**	**175**	P	**P**	**14 49 04.2**	**+0.3**
	0.5nm,0.6s,baz=294,slow=8.3,SNR=2.3						
VNDA				LR	LR	15 20 56.6	
	comp=Z,31nm,19.3s,baz=268,slow=34						
ILAR	**Eielson Array**	**85.25**	**24**	P	**P**	**14 49 52.6**	**+0.3**
	0.6nm,0.8s,baz=264,slow=4.6,SNR=4.9						

NIED ***12*** *14:53:00,32˚60N×142˚00E,h5km,Mw4.1 Best double couple: M₀1.62000×10¹⁵ NP1:φ₈27.00000°,δ59.00000°, λ125.00000°. NP2:φ₈153.00000°,δ45.00000°,λ46.00000°.*

IDC ***12*** *14:53:25.9±0.9,32˚49N×141˚77E,h0km,mb3.9/9, mb1 4.0/11,mb1mx3.8/44,mbtmp3.9/11,ML3.6/2,MS3.0/5, Ms1 3.1/5,ms1mx2.7/33,Error ellipse: s-maj=23.6km s-min=16.6km az=66.0*

NEIC ***12*** *14:53:28.1±2.4,32˚4N±0˝1×141˚79E±0˝06,h19km±6km, mb4.6/10,Error ellipse: s-maj=15.8km s-min=7.0km az=191.0*

JMA ***12*** *14:53:28.6±0.8,32˚57N×142˚01E,h45km,M3.7*

ISC 12 14:53:30.6±0.7,**32˚50N**±0˝06×**141˚85E**±0˝08,**h39**km,**n50**, σ1°**34**/50,**mb4.2**/13,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.77**	**270**	P	**Pn**	**14 53 59.4**	**+0.7**
JHJ2	**Mitsune**	**1.82**	**290**	P	**Pn**	**14 54 00.0**	**+0.6**
JHJ2	**Mitsune**	**1.82**	**290**	Pn	**Pn**	**14 53 58.5**	**-0.9**
JHJ	**Hachijo jima 2**	**1.85**	**290**	Pn	**Pn**	**14 53 58.6**	**-1.2**
	37nm,0.3s,baz=262,slow=23,SNR=14						
JHJ				Sn	**Sn**	**14 54 20.6**	**-1.4**
	52nm,0.3s,baz=234,slow=21,SNR=6.1						
BSO1	**Boso 1**	**2.27**	**341**	P	**Pn**	**14 54 04.7**	**-0.4**
BSO3	**Boso 3**	**2.56**	**334**	P	**Pn**	**14 54 09.0**	**-0.3**
JOD2	**Odawara 2**	**3.59**	**321**	P	**Pn**	**14 54 25.0**	**+1.2**
JYN	**Shimob**	**4.07**	**318**	P	**Pn**	**14 54 31.9**	**+1.6**
JRY	**Ryogami san**	**4.28**	**326**	P	**Pn**	**14 54 33.5**	**+0.3**
JRY				eS	**Sn**	**14 55 22.8**	**+0.9**
JAG	**Ashikaga**	**4.39**	**334**	P	**Pn**	**14 54 34.5**	**-0.3**
JAG				eS	**Sn**	**14 55 24.2**	**-0.5**
INU	**Inuyama**	**4.93**	**307**	Pn	**Pn**	**14 54 39.0**	**-3.0**
MJAR	**Matsushiro Arr**	**5.03**	**324**	Pn	**Pn**	**14 54 42.8**	**-0.8**
	0.4nm,0.3s,baz=149,slow=11,SNR=24						
MJAR				Sn	**Sn**	**14 55 40.8**	**+0.3**
	0.3nm,0.3s,baz=288,slow=24,SNR=4.7						
MJAR				LR	LR	14 56 47.8	
	comp=Z,207nm,18.2s,baz=145,slow=41						
MAJO	**Matsushiro**	**5.04**	**324**		**Pn**	**14 54 43.6**	**0.0**
MAT	**Matsushiro**	**5.04**	**324**	P	**Pn**	**14 54 43.5**	**-0.1**
MAT				S	**Sn**	**14 55 41.2**	**+0.7**
MAT	**Matsushiro**	**5.04**	**324**	P	**Pn**	**14 54 44.2**	**+0.6**
MAT				eS	**Sn**	**14 55 39.1**	**-1.4**
MJB9	**Matsu-Tunnel**	**5.04**	**324**		**Pn**	**14 54 44.4**	**+0.7**
JFT	**Otama**	**5.16**	**346**	P	**Pn**	**14 54 44.9**	**-0.5**
JFT				eS	**Sn**	**14 55 39.8**	**-3.9**
JNU	**Nakatsue**	**9.26**	**277**	LR	LR	14 59 23.7	
	comp=Z,96nm,18.8s,baz=56,slow=39						
ASAJ	**Asahikawa**	**11.62**	**3**	Pn	**Pn**	**14 56 11.7**	**-2.1**
	1.2nm,0.3s,baz=233,slow=7.6,SNR=12						
ASAJ				Sn	Sn	14 58 04.4	-18
	0.2nm,0.3s,baz=248,slow=31,SNR=2.0						
JKA	**Kamikawa-asahi**	**11.62**	**3**		**Pn**	**14 56 11.7**	**-2.1**
KSRS	**Korea Array**	**12.45**	**297**	LR	LR	15 01 14.1	
	comp=Z,89nm,19.6s,baz=112,slow=38						
H11N2	**WAKE ISLAND Hy**	**25.76**	**113**	T	T	15 25 54.9	
	SNR=3.3						
H11N1	**WAKE ISLAND Hy**	**25.76**	**113**	T	T	15 25 53.5	
	SNR=3.7						
H11N3	**WAKE ISLAND Hy**	**25.77**	**113**	T	T	15 25 58.2	
	SNR=3.6						
DAV	**Davao City (W)**	**29.48**	**214**	LR	LR	15 10 23.5	
	comp=Z,41nm,20.0s,baz=310,slow=35						
PATS	**Pohnpei**	**29.78**	**145**	P	**P**	**14 59 31.7**	**-2.0**
SONM	**Songino Array**	**30.81**	**310**	P	**P**	**14 59 43.9**	**+1.1**
	4.1nm,0.8s,baz=113,slow=8.7,SNR=15						
SONM	**Songino Array**	**30.81**	**310**	P	**P**	**14 59 42.0**	**-0.7**
CMAR	**Chiang Mai Arr**	**40.91**	**261**	LR	LR	15 18 44.8	
	comp=Z,11nm,18.7s,baz=275,slow=37						
SOEI	**Soe**	**45.24**	**205**	P	**P**	**15 01 43.4**	**-1.0**
ZAA0	**Zalesovo Array**	**45.33**	**316**	P	**P**	**15 01 41.9**	**-2.6**
ZALV	**Zalesovo Beam**	**45.33**	**316**	P	**P**	**15 01 44.5**	**-0.1**
	1.7nm,0.8s,baz=90,slow=5.9,SNR=8.4						
ZALV	**Zalesovo Beam**	**45.33**	**316**	P	**P**	**15 01 42.4**	**-2.2**
MK31	**Makanchi Array**	**46.95**	**306**	P	**P**	**15 01 58.8**	**+1.3**
MK31				IAmb	IAmb	15 02 01.6	
	comp=Z,4.7nm,0.9s						
MKAR	**Makanchi Array**	**46.95**	**306**	P	**P**	**15 01 57.8**	**+0.2**
	comp=Z,3.9nm,0.8s,baz=88,slow=9.5,SNR=30						
MKAR	**Makanchi Array**	**46.95**	**306**	P	**P**	**15 01 58.3**	**+0.8**
MAKZ	**Makanchi**	**47.16**	**306**	P	**P**	**15 01 59.2**	**0.0**
MAKZ				IAmb	IAmb	15 02 03.4	
	comp=Z,3.2nm,0.9s						
KURK	**Kurchatov**	**49.11**	**311**	P	**P**	**15 02 15.1**	**+1.0**
KURK				IAmb	IAmb	15 02 15.6	
	comp=Z,4.9nm,1.0s						
KNRA	**Kununurra**	**49.51**	**197**	P	**P**	**15 02 15.7**	**-1.7**
KNRA				IAmb	IAmb	15 03 02.4	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**52.63**	**189**	P	**P**	**15 02 41.2**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=6.9,slow=7.7,SNR=17						
WRA	**Warramunga Arr**	**52.63**	**189**	P	**P**	**15 02 41.6**	**+0.7**
ILAR	**Eielson Array**	**53.17**	**30**	P	**P**	**15 02 45.5**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=276,slow=4.8,SNR=5.7						
KKAR	**Karatay Array**	**55.80**	**303**	P	**P**	**15 03 03.9**	**0.0**
AS31	**Alice Springs**	**56.36**	**189**	P	**P**	**15 03 08.9**	**+1.1**
ASAR	**Alice Springs**	**56.36**	**189**	P	**P**	**15 03 08.9**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=7.4,slow=8.1,SNR=12						
ASAR	**Alice Springs**	**56.36**	**189**	P	**P**	**15 03 07.5**	**-0.4**
ABKAR	**Akbulak array**	**61.20**	**312**	P	**P**	**15 03 42.0**	**+0.7**
YKA	**Yellowknife Ar**	**67.56**	**29**	P	**P**	**15 04 25.0**	**+2.4**
	comp=Z,0.1nm,0.4s,baz=304,slow=5.7,SNR=2.1						
FINES	**FINESS Array B**	**73.00**	**333**	P	**P**	**15 04 56.3**	**+0.4**
	comp=Z,2.2nm,1.0s,baz=176,slow=34,SNR=1.5						
NOA	**NORSAR Array B**	**78.51**	**338**	P	**P**	**15 05 28.9**	**+1.4**
	comp=Z,1.0nm,0.9s,baz=169,slow=13,SNR=2.8						

AEIC ***12*** *15:25:16.9±0.8,57˚70N±0˝09×142˚9W±0˝1,h12km±8km, Error ellipse: s-maj=13.1km s-min=8.3km az=172.0*

NEIC 12 15:25:14.2±1.1,**57˚70N**±0˝09×**142˚9W**±0˝1,**h39**km±49km, **ML2.5**/53(AEIC),**Error ellipse: s-maj=12.5km s-min=8.7km az=188.0,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CYK	**Cape Yakataga**	**2.40**	**4**		Pn	15 25 52.1	+1.1
CYK					Sn	15 26 17.4	-1.7
BGLC	**Bering Glacier**	**2.44**	**355**		Pn	15 25 52.0	+0.5
BGLC					Sn	15 26 19.2	-0.8
YKU2	**Yakutat**	**2.47**	**41**	Pn	Pn	15 25 52.2	+0.4
YKU2	**Yakutat**	**2.47**	**41**		Sn	15 26 20.1	-0.6
MID	**Middleton Isla**	**2.52**	**315**	Pn	Pn	15 25 52.2	-0.3
MESA	**MESA**	**2.54**	**10**	Pn	Pn	15 25 53.3	+0.3
CHX	**Chaix Hills**	**2.54**	**20**		Pn	15 25 53.3	+0.3
GRIN	**Grindle Hills**	**2.60**	**355**		Pn	15 25 54.2	+0.4
PNL	**Peninsula**	**2.68**	**41**		Pn	15 25 54.5	-0.3
PNL					Sn	15 26 23.3	-2.7
RKAV	**Rock Avalanche**	**2.73**	**16**		Pn	15 25 56.1	+0.5
RKAV					Sn	15 26 25.7	-1.6
YAH	**Yahtse**	**2.74**	**12**	Pn	Pn	15 25 56.1	+0.3
PCA	**Pinnacle**	**2.76**	**28**	Pn	Pn	15 25 56.1	+0.1
KHIT	**Khitrov Hills**	**2.76**	**356**		Pn	15 25 55.9	-0.1
WAX	**Waxell Ridge**	**2.76**	**0**	Pn	Pn	15 25 55.8	-0.2
RAGM	**Ragged Mountai**	**2.86**	**342**	Pn	Pn	15 25 57.2	0.0
GOAT	**Goat Mountain**	**3.05**	**342**		Pn	15 25 59.6	-0.3
EYAK	**Cordova Ski Ar**	**3.23**	**334**	Pn	Pn	15 26 01.9	-0.4
KIAG	**Kiagna River**	**3.25**	**4**		Pn	15 26 02.9	+0.1
KIAG					Sn	15 26 38.0	-2.3
HIN	**Hinchinbrook I**	**3.30**	**327**	Pn	Pn	15 26 03.3	0.0
HIN	**Hinchinbrook I**	**3.30**	**327**		Sn	15 26 40.5	-0.8
BALM	**Baldy**	**3.36**	**4**	Pn	Pn	15 26 04.5	+0.3
CTGM	**Chitina Glacie**	**3.37**	**13**	Pn	Pn	15 26 04.7	+0.2
BARN	**Barnard Glacie**	**3.43**	**10**	Pn	Pn	15 26 05.5	+0.2
PTPK	**Patty Peak**	**3.51**	**3**		Pn	15 26 07.0	+0.6
VRDI	**Verde Repeater**	**3.56**	**355**	Pn	Pn	15 26 07.0	0.0
VRDI	**Verde Repeater**	**3.56**	**355**		Sn	15 26 46.0	-1.9
FID	**Port Fidalgo**	**3.59**	**330**	Pn	Pn	15 26 06.9	-0.3
MCARA	**McCarthy VSAT**	**3.70**	**359**	Pn	Pn	15 26 09.5	+0.6
YUK7	**Dusty Glacier**	**3.74**	**39**		Pn	15 26 10.5	+1.0
GLB	**Gilahina Butte**	**3.79**	**353**	Pn	Pn	15 26 09.9	-0.2
PLBC	**Pleasant Camp**	**3.83**	**60**		Pn	15 26 10.5	0.0
GLI	**Glacier Island**	**3.86**	**328**	Pn	Pn	15 26 10.1	-0.9
YUK6	**Outpost Mounta**	**3.99**	**33**		Pn	15 26 14.0	+1.1
SIT	**Sitka**	**4.13**	**96**	Pn	Pn	15 26 11.7	-2.9
HYT	**Haines Junctio**	**4.17**	**39**	Pn	Pn	15 26 15.8	+0.5
SEW	**Seward**	**4.19**	**308**	Pn	Pn	15 26 15.2	-0.2
YUK5	**Granite Creek**	**4.29**	**34**		Pn	15 26 18.3	+1.3
SKAG	**Skagway**	**4.32**	**63**	Pn	Pn	15 26 18.2	+0.9
BESE	**Bessie Mountai**	**4.33**	**75**	Pn	Pn	15 26 17.3	-0.2
BRSE	**Bradley Lake S**	**4.59**	**300**		Pn	15 26 21.0	-0.1
BRLK	**Bradley Lake**	**4.67**	**300**		Pn	15 26 15.0	-7.1
BRLK	**Bradley Lake**	**4.67**	**300**		Pn	15 26 22.2	+0.1
KNK	**Knik Glacier**	**4.69**	**325**		Pn	15 26 17.2	-5.2
SCM	**Sheep Creek Mo**	**4.73**	**333**	Pn	Pn	15 26 21.3	-1.6
SLKM	**Skilak Lake**	**4.73**	**310**		Pn	15 26 22.9	-0.1
CNPM	**China Poot**	**4.75**	**296**	Pn	Pn	15 26 23.5	+0.3
RC01	**Rabbit Creek A**	**4.89**	**317**	Pn	Pn	15 26 23.7	-1.4
SML	**Sawmill**	**4.97**	**328**		Pn	15 26 23.7	-2.5
WHY	**Whitehorse**	**5.07**	**51**		Pn	15 26 27.7	+0.1
GHO	**Glory Hole Cre**	**5.11**	**326**		Pn	15 26 24.4	-3.9
KDAK	**Kodiak Island**	**5.21**	**275**	Pn	Pn	15 26 30.7	+1.1
OHAK	**Old Harbor**	**5.65**	**270**	Pn	Pn	15 26 36.2	+0.7
RSO	**Redoubt South**	**5.81**	**303**	Pn	Pn	15 26 34.8	-3.1
DHY	**Denali Highway**	**5.84**	**339**	Pn	Pn	15 26 38.6	+0.3
STLK	**Strandline Lak**	**5.94**	**314**		Pn	15 26 39.9	+0.3
RIDG	**Independent Ri**	**6.14**	**352**	Pn	Pn	15 26 42.3	0.0
SCRK	**Sand Creek**	**6.33**	**355**	Pn	Pn	15 26 45.1	+0.2
RND	**Reindeer**	**6.45**	**335**	Pn	Pn	15 26 48.0	+1.5
TRF	**Thorofare Moun**	**6.83**	**331**		Pn	15 26 52.7	+0.8
PPLA	**Purkeypile**	**6.98**	**322**	Pn	Pn	15 26 54.9	+1.1
KTH	**Kantishna Hill**	**7.09**	**329**	Pn	Pn	15 26 56.6	+1.3
SVW2	**Sparrevohn**	**7.33**	**303**	Pn	Pn	15 26 59.0	+0.4
BPAW	**Bear Paw Mtn.**	**7.54**	**332**	Pn	Pn	15 27 01.3	-0.2

INET 12 15:25:36.6,12˚37N×86˚45W,h5km,ML3.6,Nicaragua

OSPL ***12*** *15:30:49.2±0.4,19˚04N×66˚95W,h29km±3km,ML3.7, Fault plane solution: NP1:φ₈246.40000°,δ29.40000°, λ39.10000°.*

RSPR ***12*** *15:30:49.7,19˚02N×67˚13W,h8km±1km,MD3.8/17*

NEIC ***12*** *15:30:50.9±2.2,18˚90N±0˝05×67˚14W±0˝04,h35km±70km, Error ellipse: s-maj=8.0km s-min=5.4km az=188.0*

ISC 12 15:30:48.8±1.1,**19˚02N**±0˝05×**67˚13W**±0˝03,**h29**km,**n68**, σ0°**80**/73,**13C-5D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.55**	**178**	↑*e*P	**Pb**	**15 31 00.0**	**0.0**
AGPR	**Aguadilla, PR**	**0.55**	**178**	*e*S	**Sb**	**15 31 08.0**	**+0.2**
AGPR	**Aguadilla, PR**	**0.55**	**178**		**Pb**	**15 31 00.1**	**0.0**
AGPR	**Aguadilla, PR**	**0.55**	**178**		**Sb**	**15 31 08.0**	**+0.2**
AGPR	**Aguadilla, PR**	**0.55**	**178**	*i* P	**Pb**	**15 31 00.1**	**0.0**
	comp=Z,5μm,0.3s						
AGPR				*e*S	**Sb**	**15 31 08.2**	**+0.4**
AGPR				IAML		15 31 08.9	
	comp=Z,5μm,0.3s						
IDE	**Isla Desecheo**	**0.71**	**207**	↑*i*P	**Pb**	**15 31 02.7**	**-0.1**
IDE	**Isla Desecheo**	**0.71**	**207**		**Pb**	**15 31 02.7**	**-0.1**
AOPR	**Arecibo Observ**	**0.76**	**152**	*e*S	**Sn**	**15 31 14.3**	**+0.1**
AOPR	**Arecibo Observ**	**0.76**	**152**	↑*e*P	**Pb**	**15 31 03.1**	**-0.5**
AOPR	**Arecibo Observ**	**0.76**	**152**		**Pb**	**15 31 03.2**	**-0.3**
AOPR	**Arecibo Observ**	**0.76**	**152**		**Sn**	**15 31 14.3**	**+0.1**
EMPR	**Esperanza - Ma**	**0.79**	**134**	↑*e*P	**Pn**	**15 31 03.8**	**-0.1**
EMPR	**Esperanza - Ma**	**0.79**	**134**		**Pn**	**15 31 03.9**	**-0.1**
MPR	**Mayaguez**	**0.81**	**181**	↓*e*P	**Pn**	**15 31 04.0**	**-0.3**
MPR	**Mayaguez**	**0.81**	**181**		**Pn**	**15 31 03.9**	**-0.4**
MPR	**Mayaguez**	**0.81**	**181**	*i* P	**Pn**	**15 31 03.9**	**-0.4**
MPR				*e*S	**Sb**	**15 31 14.3**	**-0.5**
MPR				IAML		15 31 14.5	
	comp=Z,886nm,0.6s						
LSP	**Las Mesas**	**0.84**	**177**	*e*S	**Sn**	**15 31 16.1**	**-0.2**
LSP	**Las Mesas**	**0.84**	**177**	↓*e*P	**Pn**	**15 31 04.7**	**-0.1**
LSP	**Las Mesas**	**0.84**	**177**		**Pn**	**15 31 04.7**	**-0.1**
LSP					**Sn**	**15 31 16.1**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.01**	**179**	*e*S	**Sn**	**15 31 20.2**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.01**	**179**	↓*e*P	**Pn**	**15 31 07.1**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.01**	**179**		**Pn**	**15 31 07.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.01**	**179**		**Sn**	**15 31 20.2**	**-0.1**
MLPR	**Magueyes Islan**	**1.05**	**176**	*e*S	**Sn**	**15 31 21.0**	**-0.3**
MLPR	**Magueyes Islan**	**1.05**	**176**	↑*e*P	**Pn**	**15 31 07.6**	**0.0**
MLPR	**Magueyes Islan**	**1.05**	**176**		**Pn**	**15 31 07.7**	**0.0**
MLPR	**Magueyes Islan**	**1.05**	**176**		**Sn**	**15 31 21.0**	**-0.3**
GBPR	**Guanica, Bosqu**	**1.07**	**167**	*e*S	**Sb**	**15 31 22.8**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.07**	**167**	↓*e*P	**Pn**	**15 31 07.9**	**+0.1**
GBPR	**Guanica, Bosqu**	**1.07**	**167**		**Pn**	**15 31 07.9**	**+0.1**
GBPR					**Sb**	**15 31 22.8**	**+0.4**
OBIP	**Obispado Ponce**	**1.09**	**153**	*e*S	**Sn**	**15 31 22.6**	**+0.2**
OBIP	**Obispado Ponce**	**1.09**	**153**	↑*e*P	**Pn**	**15 31 08.3**	**+0.1**
OBIP	**Obispado Ponce**	**1.09**	**153**		**Pn**	**15 31 08.3**	**+0.1**
OBIP	**Obispado Ponce**	**1.09**	**153**		**Sn**	**15 31 22.6**	**+0.2**
GCPR	**Guaynabo City**	**1.22**	**125**	↑*e*P	**Pn**	**15 31 09.8**	**-0.1**
GCPR	**Guaynabo City**	**1.22**	**125**		**Pn**	**15 31 10.2**	**+0.2**
ICMP	**Isla Caja de M**	**1.27**	**153**	↑*e*P	**Pn**	**15 31 10.4**	**-0.2**
ICMP	**Isla Caja de M**	**1.27**	**153**	*e*S	**Sb**	**15 31 27.7**	**-0.2**
ICMP	**Isla Caja de M**	**1.27**	**153**	Pn	**Pn**	**15 31 10.4**	**-0.2**
ICMP	**Isla Caja de M**	**1.27**	**153**		**Sb**	**15 31 27.7**	**-0.2**
PCDR	**Punta Cana, DR**	**1.29**	**247**	Pn	**Pb**	**15 31 12.0**	**-0.4**
PCDR	**Punta Cana, DR**	**1.29**	**247**	*i* P	**Pb**	**15 31 11.9**	**-0.6**
PCDR				*e*S	**Sb**	**15 31 29.2**	**+0.5**
PCDR				IAML		15 31 36.3	
	comp=Z,1μm,0.5s						
SJG	**San Juan**	**1.30**	**134**		**Pn**	**15 31 11.5**	**+0.5**
CBYP	**Canovanas**	**1.42**	**122**	↑*e*P	**Pn**	**15 31 12.4**	**-0.3**
CBYP	**Canovanas**	**1.42**	**122**		**Pn**	**15 31 12.6**	**-0.1**
IGPR	**InterUniversit**	**1.43**	**137**	↓*e*P	**Pn**	**15 31 13.3**	**+0.4**
IGPR	**InterUniversit**	**1.43**	**137**	*e*S	**Sn**	**15 31 31.7**	**+1.0**
IGPR	**InterUniversit**	**1.43**	**137**		**Pn**	**15 31 12.6**	**-0.2**
IGPR	**InterUniversit**	**1.43**	**137**		**Sn**	**15 31 31.7**	**+1.0**
HUMP	**Col San Antoni**	**1.50**	**126**	↑*e*P	**Pn**	**15 31 13.8**	**+0.1**
HUMP	**Col San Antoni**	**1.50**	**126**		**Pn**	**15 31 13.7**	**0.0**
MTP	**Monte Pirata**	**1.76**	**121**	↑*e*P	**Pn**	**15 31 17.3**	**0.0**
MTP	**Monte Pirata**	**1.76**	**121**		**Pn**	**15 31 17.5**	**+0.1**
CUPR	**Culebra, Puert**	**1.89**	**112**	↑*e*P	**Pn**	**15 31 19.2**	**0.0**
CUPR	**Culebra, Puert**	**1.89**	**112**		**Pn**	**15 31 19.0**	**-0.2**
DR12	**Loma Pena Alta**	**2.14**	**264**		**Pn**	**15 31 24.6**	**+1.9**
STVI	**Saint Thomas**	**2.17**	**108**	↑*e*P	**Pn**	**15 31 23.0**	**0.0**
STVI	**Saint Thomas**	**2.17**	**108**		**Pn**	**15 31 22.4**	**-0.6**
TBVI	**Tortola**	**2.46**	**104**	↑*e*P	**Pn**	**15 31 28.0**	**+1.1**
TBVI	**Tortola**	**2.46**	**104**		**Pb**	**15 31 28.0**	**+1.1**
CDVI	**St. Croix**	**2.58**	**119**		**Pb**	**15 31 32.6**	**-1.7**
SDD	**Santo Domingo**	**2.70**	**258**	Pn	**Pn**	**15 31 30.4**	**+0.2**
BANI	**BANI**	**3.12**	**259**		**Pb**	**15 31 40.2**	**-3.6**
SC01	**Santiago de lo**	**3.42**	**277**		**Pn**	**15 31 41.2**	**+1.0**
SDDR	**Presa de Saban**	**3.94**	**270**		**Pn**	**15 31 50.3**	**+2.9**
SMRT	**St. Maarten**	**3.97**	**103**	Pn	**Pn**	**15 31 49.5**	**+1.7**
SKI	**Saint Kitts**	**4.50**	**111**	Pn	**Pn**	**15 31 57.2**	**+2.1**
GRTK	**Grand Turk**	**4.50**	**304**		**Pn**	**15 31 54.8**	**-0.3**

KRNET ***12*** *15:33:51.2±0.1,42˚46N×79˚68E,h19km,mb1.9*

NNC ***12*** *15:33:53.6±1.2,42˚55N×79˚49E,h0km,mb2.7,mpv2.4, Error ellipse: s-maj=9.3km s-min=4.6km az=156.0*

ISC 12 15:33:52.8±1.6,**42˚50N**±0˝07×**79˚53E**±0˝06,**h18**km±6km, **n13**,σ1°**15**/22,**9C-7D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.75**	**330**	P	**Pb**	**15 34 06.9**	**-0.5**
	1.8nm,0.1s						
UZB				S	**Sb**	**15 34 17.1**	**-0.2**
	3.1nm,0.3s						
PRZ	**Przheval'sk**	**0.84**	**269**	↑*i*P	**Pb**	**15 34 09.0**	**+0.1**
	baz=72						
PRZ				↑*i*S	**Sg**	**15 34 21.8**	**+1.5**
	baz=72						
KTMS	**Ketmen**	**1.12**	**32**	P	**Pg**	**15 34 14.7**	**+0.2**
	0.6nm,0.1s						
KTMS				S	**Sg**	**15 34 30.6**	**+1.3**
	5.5nm,0.2s						
ANVS	**Anan'yevo**	**1.41**	**282**	↑*i*P	**Pb**	**15 34 19.2**	**+0.6**
	baz=83						
ANVS				↑*i*S	**Sg**	**15 34 39.9**	**+1.6**
	baz=83						
TARG	**Taragay, Kyrgy**	**1.50**	**240**	↓*i*P	**Pb**	**15 34 20.2**	**-0.1**
	baz=43						
TARG				↓*i*S	**Sg**	**15 34 41.7**	**+0.5**
	baz=43						
KDJ	**Kajisay**	**1.78**	**259**	↓*e*P	**Pb**	**15 34 25.6**	**+0.6**
	baz=61						
KDJ				↓*i*S	**Sg**	**15 34 50.4**	**+0.1**
	baz=61						
DJR	**Jarkent**	**1.84**	**6**	P	**Pg**	**15 34 26.0**	**-2.2**
	1.0nm,0.2s						
DJR				S	**Sb**	**15 34

KSRS	**Korea Array**	**11.15**	**284**	Pn		**Pn**	**16 10 01.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=99,slow=15,SNR=3.5							
KSRS				LR		LR	16 14 33.6	
	comp=Z,147nm,18.6s,baz=92,slow=39							
KSAR	**Wonju Array Be**	**11.18**	**284**	P		**Pn**	**16 10 02.4**	**+1.2**
KSAR	**Wonju Array Be**	**11.18**	**284**	Pn		**Pn**	**16 10 02.4**	**+1.2**
KS19	**Wonju Array Si**	**11.20**	**284**	Pn		**Pn**	**16 10 00.9**	**-0.6**
USRK	**Ussuriysk Ar.**	**11.37**	**323**	Pn		**Pn**	**16 10 03.8**	**0.0**
	baz=134,slow=11,SNR=4.5							
USRK				LR		LR	16 14 33.4	
	comp=Z,76nm,21.4s,baz=138,slow=38							
USRK	**Ussuriysk Ar.**	**11.37**	**323**	P		**Pn**	**16 10 05.4**	**+1.6**
USRK	**Ussuriysk Ar.**	**11.37**	**323**	Pn		**Pn**	**16 10 05.4**	**+1.6**
USA0B	**Ussuriysk Arra**	**11.37**	**323**	*i* P		**Pn**	**16 10 05.0**	**+1.2**
USA0B	**Ussuriysk Arra**	**11.37**	**323**	Pn		**Pn**	**16 10 04.8**	**+1.0**
YSS	**Yuzh-Sakhalins**	**11.47**	**4**	*e*P		**Pn**	**16 10 04.4**	**-0.7**
YSS				pmax	pmax			
	comp=Z,20nm,0.9s							
YSS				MLR	MLR			
	comp=Z,600nm,14.0s							
YSS	**Yuzh-Sakhalins**	**11.47**	**4**	Pn		**Pn**	**16 10 04.5**	**-0.7**
TYV	**Tymovskoe**	**15.37**	**3**	*e*P		**Pn**	**16 10 53.9**	**-4.2**
TYV				*e*S		**Sn**	**16 13 41.5**	**-6.1**
TYV				pmax	pmax			
	comp=Z,2.0nm,0.6s							
TYV				smax	smax			
	comp=N,11nm,1.3s							
TYV				MLR	MLR			
	comp=Z,500nm,15.0s							
SKR	**Severo-Kuril's**	**18.47**	**30**	*e*P		**P**	**16 11 34.6**	**-2.3**
NJ2	**Nanjing**	**19.18**	**266**	*e*P		**P**	**16 11 42.6**	**-2.2**
NJ2				pmax	pmax			
	comp=Z,13nm,0.5s							
BJT	**Baijiatuau**	**20.55**	**290**	P		**P**	**16 11 58.5**	**-1.2**
BJT				pmax	pmax			
	comp=Z,7.0nm,0.5s							
BJT	**Baijiatuau**	**20.55**	**290**	P		**P**	**16 11 58.5**	**-1.2**
ZEA	**Zeya**	**20.81**	**336**	*e*P		Pn	16 12 05.2	+0.3
ZEA				pmax	pmax			
	comp=Z,20nm,0.8s							
ZEA				MLR	MLR			
	comp=Z,300nm,13.0s							
ZEA				MLR	MLR			
	comp=N,200nm,14.0s							
PEA0B	**Petropavlovsk-**	**20.96**	**28**	*i* P		**P**	**16 12 02.7**	**-1.4**
PEA0B	**Petropavlovsk-**	**20.96**	**28**	P		Pn	16 12 06.4	-0.3
PETK	**Petropavlovsk-**	**20.96**	**28**	P		Pn	16 12 06.2	-0.5
	comp=N,1.1nm,0.7s,baz=248,slow=10,SNR=1.5							
PETK	**Petropavlovsk-**	**20.96**	**28**	P		**P**	**16 12 05.6**	**+1.5**
HIA	**Hailar**	**21.08**	**317**	P		**P**	**16 12 04.4**	**-1.1**
HIA				pmax	pmax			
	comp=Z,5.0nm,0.5s							
HIA	**Hailar**	**21.08**	**317**	P		**P**	**16 12 04.4**	**-1.1**
YULB	**Yu-li**	**21.33**	**241**	P		**P**	**16 12 06.2**	**-2.1**
YULB				IAmb	IAmb		16 12 29.4	
	comp=Z,49nm,1.7s							
WHN	**Wuhan**	**23.31**	**265**	⇑P		**P**	**16 12 34.7**	**+5.6**
WHN				S	S		16 16 14.3	-26
WHN				LR	LR			
	comp=N,320nm,3.7s							
WHN				LR	LR			
	comp=E,880nm,11.5s							
WHN				LR	LR			
	comp=Z,1μm,12.7s							
HHC	**Hu-ho-hao-te**	**24.11**	**292**	*e*P		**P**	**16 12 38.0**	**+1.1**
HHC				pmax	pmax			
	comp=Z,20nm,0.9s							
HHC				pmax	pmax			
	comp=Z,39nm,6.6s							
H11N2	**WAKE ISLAND Hy**	**27.29**	**118**	T		T	16 42 06.9	
	baz=310,slow=75							
H11N1	**WAKE ISLAND Hy**	**27.30**	**118**	T		T	16 41 52.2	
	baz=310,slow=75							
H11N3	**WAKE ISLAND Hy**	**27.31**	**118**	T		T	16 41 39.4	
	baz=310,slow=75							
ENH	**Enshi**	**27.36**	**268**	P		**P**	**16 13 04.7**	**-1.7**
ENH				IAmb	IAmb		16 13 11.6	
	comp=Z,12nm,0.9s							
YAK	**Yakutsk**	**27.58**	**348**	*e*P		**P**	**16 13 08.3**	**+0.4**
YAK				*e**PP		**sP**	**16 13 16.7**	**-0.1**
YAK				*e*			16 13 50.5	
YAK				*e*PPP		PPP	16 14 03.8	
YAK				*e*S		**S**	**16 17 48.7**	**+1.0**
YAK				*e**SS		**sS**	**16 18 02.0**	**+3.9**
YAK				*e*SS		**SnSn**	**16 18 59.2**	**-0.1**
YAK				*e*SSS		SSS	16 19 17.7	
YAK				pmax	pmax			
	comp=Z,11nm,1.1s							
YAK				pmax	pmax			
	comp=N,7.0nm,1.3s							
YAK				pmax	pmax			
	comp=E,3.0nm,1.6s							
YAK				pmax	pmax			
	comp=Z,60nm,2.8s							
YAK				pmax	pmax			
	comp=N,65nm,3.0s							
YAK				pmax	pmax			
	comp=E,16nm,2.3s							
YAK				smax	smax			
	comp=N,44nm,2.7s							
YAK				smax	smax			
	comp=E,19nm,2.3s							
YAK				MLR	MLR			
	comp=Z,104nm,17.0s							
YAK				MLR	MLR			
	comp=N,89nm,16.0s							
YAK				MLR	MLR			
	comp=E,52nm,19.0s							
YAK	**Yakutsk**	**27.58**	**348**	P		**P**	**16 13 08.6**	**+0.7**
YAK				IAmb	IAmb		16 13 20.8	
	comp=Z,9.3nm,0.8s							
H11S1	**WAKE ISLAND Hy**	**27.96**	**121**	T		T	16 42 42.1	
	baz=312,slow=75							
H11S3	**WAKE ISLAND Hy**	**27.96**	**121**	T		T	16 42 41.8	
	baz=312,slow=75							
H11S2	**WAKE ISLAND Hy**	**27.97**	**121**	T		T	16 42 47.9	
	baz=312,slow=75							
ULN	**Ulaanbaatar**	**28.33**	**307**	P		**P**	**16 13 15.8**	**+0.8**
ULN				pmax	pmax			
	comp=Z,4.0nm,0.5s							
ULN	**Ulaanbaatar**	**28.33**	**307**	P		**P**	**16 13 15.8**	**+0.8**
SONM	**Songino Array**	**28.76**	**306**	P		**P**	**16 13 19.5**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=110,slow=11,SNR=2.7							
SONM	**Songino Array**	**28.76**	**306**	P		**P**	**16 13 19.1**	**+0.4**
LZH	**Lanzhou**	**30.47**	**282**	*e*P		**P**	**16 13 35.4**	**+1.3**
LZH				pP		pP	16 13 40.4	-0.2
LZH				sP		sP	16 13 42.5	-0.8
LZH				PP		**PP**	**16 14 38.4**	**-4.5**
LZH				pmax	pmax			
	comp=Z,18nm,1.0s							
LZH				pmax	pmax			
	comp=Z,60nm,5.5s							
LZH				LR	LR			
	comp=Z,350nm,16.3s							
LZH				LR	LR			
	comp=Z,220nm,13.6s							
LZH				LR	LR			
	comp=Z,190nm,15.7s							
CD2	**Chengdu**	**31.83**	**273**	*e*P		**P**	**16 13 45.0**	**-0.9**
DAV	**Davao City (W)**	**31.88**	**211**	LR		LR	16 26 22.1	
	comp=Z,49nm,20.7s,baz=344,slow=36							
GTA	**Gaotai**	**33.15**	**289**	*e*P		P	16 14 07.0	+9.4
GTA				pP		sP	16 14 11.2	+4.4
GTA				sP		pP	16 14 14.7	+11
GTA				pmax	pmax			
	comp=Z,4.0nm,0.6s							
BILL	**Bilibino**	**35.46**	**16**	*i* P		**P**	**16 14 16.5**	**-0.5**
BILL				pmax	pmax			
	comp=Z,3.0nm,1.2s							
TIXI	**Tiksi**	**36.82**	**353**	P		**P**	**16 14 29.5**	**+0.9**
	comp=Z,1.5nm,0.5s,baz=148,slow=6.9,SNR=9.1							
TIXI	**Tiksi**	**36.82**	**353**	*ce*P		**P**	**16 14 29.0**	**+0.4**
TIXI				pmax	pmax			
	comp=Z,3.0nm,1.0s							
TIXI	**Tiksi**	**36.82**	**353**	P		**P**	**16 14 29.4**	**+0.8**
JAY	**Jayapura**	**37.83**	**181**	LR		LR	16 27 05.1	
	comp=Z,47nm,21.6s,baz=58,slow=31							
NIKH	**Nikolski High**	**38.70**	**47**	P		**P**	**16 14 45.2**	**+0.4**
FAKI	**Fak Fak**	**39.21**	**195**	P		**P**	**16 14 48.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**41.25**	**257**	P		**P**	**16 15 06.3**	**0.0**
	comp=Z,0.3nm,0.4s,baz=161,slow=35,SNR=1.7							
CMAR				LR		LR	16 35 07.5	
	comp=Z,121nm,18.8s,baz=118,slow=40							
DGZ	**Jazzator, Alta**	**41.39**	**307**	*i* P		**P**	**16 15 08.3**	**+1.0**
DGZ				pmax	pmax			

	comp=Z,9.0nm,0.7s							
WMQ	**Urumqi**	**41.65**	**298**	*e*P		**P**	**16 15 11.2**	**+1.8**
LSA	**Lhasa**	**42.49**	**277**	P		**P**	**16 15 18.9**	**+2.0**
LSA				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ZAA0	**Zalesovo Array**	**43.04**	**314**	P		**P**	**16 15 21.5**	**+1.0**
ZALV	**Zalesovo Beam**	**43.04**	**314**	P		**P**	**16 15 21.0**	**+0.5**
	comp=Z,3.4nm,0.6s,baz=96,slow=7.0,SNR=13							
ZALV	**Zalesovo Beam**	**43.04**	**314**	*i* P		**P**	**16 15 21.5**	**+1.0**
ZALV				pmax	pmax			
	comp=Z,3.0nm,0.6s							
ZALV	**Zalesovo Beam**	**43.04**	**314**			**P**	**16 15 20.9**	**+0.5**
CNBA	**Chernabura Isl**	**44.29**	**45**	P		**P**	**16 15 31.1**	**+0.6**
SAUI	**Saumlaki**	**44.32**	**195**	P		**P**	**16 15 31.5**	**+0.4**
NRIK	**Noril'sk**	**44.70**	**336**	P		**P**	**16 15 34.2**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=94,slow=13,SNR=2.1							
NRIK	**Noril'sk**	**44.70**	**336**	*i* P		**P**	**16 15 34.2**	**+0.6**
NRIK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
PMG	**Port Moresby**	**44.98**	**172**	LR		LR	16 34 04.2	
	comp=Z,23nm,19.0s,baz=22,slow=36							
MK31	**Makanchi Array**	**45.04**	**303**	P		**P**	**16 15 37.3**	**+0.6**
MK31				pmax	pmax			
	comp=Z,6.0nm,0.9s							
MK31	**Makanchi Array**	**45.04**	**303**	P		**P**	**16 15 37.3**	**+0.6**
MK31				IAmb	IAmb		16 15 45.7	
	comp=Z,6.0nm,0.9s							
MKAR	**Makanchi Array**	**45.04**	**303**	P		**P**	**16 15 37.1**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=90,slow=9.9,SNR=16							
MKAR	**Makanchi Array**	**45.04**	**303**	*i* P		**P**	**16 15 37.5**	**+0.8**
MKAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
MKAR	**Makanchi Array**	**45.04**	**303**	P		**P**	**16 15 36.7**	**0.0**
MAKZ	**Makanchi**	**45.25**	**303**	P		**P**	**16 15 38.9**	**+0.5**
MAKZ				pmax	pmax			
	comp=Z,6.0nm,0.9s							
MAKZ	**Makanchi**	**45.25**	**303**	P		**P**	**16 15 38.9**	**+0.5**
MAKZ				IAmb	IAmb		16 15 47.0	
	comp=Z,5.5nm,0.9s							
SVW2	**Sparrevohn**	**46.67**	**36**	P		**P**	**16 15 51.1**	**+1.7**
KURK	**Kurchatov**	**46.98**	**309**	*ce*P		**P**	**16 15 52.3**	**+0.5**
KURK				pmax	pmax			
	comp=Z,8.0nm,1.3s							
KURK	**Kurchatov**	**46.98**	**309**	P		**P**	**16 15 51.8**	**0.0**
KURK				IAmb	IAmb		16 16 02.7	
	comp=Z,9.0nm,0.8s							
IMAR	**Indian Mountai**	**47.91**	**30**	P		**P**	**16 15 59.9**	**+1.0**
RSO	**Redoubt South**	**48.03**	**37**	P		**P**	**16 16 00.6**	**+0.4**
KDAK	**Kodiak Island**	**48.16**	**41**	P		**P**	**16 16 02.4**	**+1.4**
	comp=Z,3.5nm,0.7s,baz=294,slow=11,SNR=2.3							
KDAK	**Kodiak Island**	**48.16**	**41**	P		**P**	**16 16 02.5**	**+1.6**
KDAK				pmax	pmax			
	comp=Z,36nm,1.8s							
KDAK	**Kodiak Island**	**48.16**	**41**	P		**P**	**16 16 02.5**	**+1.6**
BATI	**Baumata**	**48.51**	**204**	P		**P**	**16 16 04.8**	**+0.7**
	comp=Z,13nm,0.7s,baz=214,slow=3.6,SNR=2.2							
CNPM	**China Poot**	**48.81**	**39**	P		**P**	**16 16 07.4**	**+1.5**
MTN	**Manton Dam**	**49.09**	**194**	P		**P**	**16 16 08.2**	**-0.2**
MTN				IAmb	IAmb		16 16 11.2	
	comp=Z,9.6nm,1.1s							
TARG	**Taragay, Kyrgy**	**49.20**	**298**	P		**P**	**16 16 09.2**	**-0.4**
TARG				IAmb	IAmb		16 16 19.3	
	comp=Z,5.6nm,0.8s							
COEN	**Coen**	**49.22**	**178**	P		**P**	**16 16 07.6**	**-1.8**
COEN				IAmb	IAmb		16 16 42.0	
	comp=Z,10nm,1.2s							
WRH	**Wood River Hil**	**50.21**	**32**	P		**P**	**16 16 17.0**	**+0.5**
WRH				IAmb	IAmb		16 16 27.0	
	comp=Z,6.7nm,1.5s							
BOOM	**Boomskoye usch**	**50.34**	**299**	P		**P**	**16 16 18.9**	**+0.8**
BOOM				pmax	pmax			
	comp=Z,6.0nm,1.3s							
BOOM	**Boomskoye usch**	**50.34**	**299**	P		**P**	**16 16 18.9**	**+0.8**
BOOM				IAmb	IAmb		16 16 38.2	
	comp=Z,5.5nm,1.3s							
HDA	**Harding Lake**	**50.70**	**32**	P		**P**	**16 16 21.5**	**+1.2**
HDA				IAmb	IAmb		16 16 58.2	
	comp=Z,13nm,1.8s							
IL31		**50.72**	**32**	P		**P**	**16 16 20.5**	**+0.2**
ILAR	**Eielson Array**	**50.72**	**32**	P		**P**	**16 16 22.1**	**+1.6**
	comp=Z,1.7nm,0.8s,baz=266,slow=6.0,SNR=19							
ILAR	**Eielson Array**	**50.72**	**32**	P		**P**	**16 16 20.8**	**+0.4**
AAK	**Ala-Archa**	**51.33**	**299**	LR		LR	16 37 50.7	
	comp=Z,71nm,18.8s,baz=72,slow=36							
AAK	**Ala-Archa**	**51.33**	**299**	*i* P		**P**	**16 16 25.2**	**-0.3**
AAK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BMAR	**Burnt Mountain**	**51.62**	**28**	P		**P**	**16 16 29.7**	**+2.6**
BRVK	**Borovoye**	**51.75**	**313**	*ce*P		**P**	**16 16 28.4**	**+0.1**
BRVK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
BRVK	**Borovoye**	**51.75**	**313**	P		**P**	**16 16 28.5**	**+0.3**
BRVK				IAmb	IAmb		16 16 37.0	
	comp=Z,5.2nm,0.9s							
DOT	**Dot Lake**	**52.01**	**33**	P		**P**	**16 16 30.9**	**+0.8**
DOT				IAmb	IAmb		16 16 54.8	
	comp=Z,8.5nm,1.7s							
SCRK	**Sand Creek**	**52.02**	**33**	P		**P**	**16 16 31.4**	**+1.2**
RAGM	**Ragged Mountai**	**52.04**	**37**	P		**P**	**16 16 31.6**	**+1.3**
RAGM				IAmb	IAmb		16 16 39.5	
	comp=Z,9.4nm,1.0s							
KNRA	**Kununurra**	**52.33**	**196**	P		**P**	**16 16 33.3**	**+0.5**
KNRA				IAmb	IAmb		16 16 43.3	
	comp=Z,8.5nm,0.8s							
VRDI	**Verde Repeater**	**52.53**	**36**	P		**P**	**16 16 35.2**	**+1.0**
BALM	**Baldy**	**53.09**	**36**	P		**P**	**16 16 40.4**	**+2.2**
BALM				IAmb	IAmb		16 16 59.1	
	comp=Z,5.7nm,1.2s							
GSI	**Gunungsitoli**	**53.13**	**240**	P		**P**	**16 16 38.5**	**-0.5**
CTGM	**Chitina Glacie**	**53.59**	**36**	P		**P**	**16 16 42.1**	**+0.2**
CTGM				IAmb	IAmb		16 17 13.6	
	comp=Z,5.5nm,0.8s							
KK31	**Karatay Array**	**54.00**	**301**	P		**P**	**16 16 44.7**	**-0.4**
KK31				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KK31	**Karatay Array**	**54.00**	**301**	P		**P**	**16 16 44.7**	**-0.4**
KK31				IAmb	IAmb		16 17 03.4	
	comp=Z,5.9nm,1.0s							
KKAR	**Karatay Array**	**54.00**	**301**	P		**P**	**16 16 45.5**	**+0.4**
KKAR				pmax	pmax			
	comp=Z,6.0nm,1.0s							
KKAR	**Karatay Array**	**54.00**	**301**	P		**P**	**16 16 45.5**	**+0.4**
KKAR	**Karatay Array**	**54.00**	**301**	P		**P**	**16 16 44.8**	**-0.3**
KKAR				IAmb	IAmb		16 17 03.4	
	comp=Z,5.9nm,1.0s							
EPYK	**Eagle Plains**	**54.80**	**29**	P		**P**	**16 16 53.4**	**+2.9**
EPYK				IAmb	IAmb		16 17 12.5	
	comp=Z,6.4nm,0.9s							
NIL	**Nilore**	**55.22**	**289**	P		**P**	**16 16 54.8**	**+0.8**
NIL				pmax	pmax			
	comp=Z,23nm,1.6s							
NIL	**Nilore**	**55.22**	**289**	P		**P**	**16 16 54.8**	**+0.8**
WB0	**Warramunga Arr**	**55.39**	**188**	P		**P**	**16 16 54.5**	**-0.7**
WB0				IAmb	IAmb		16 17 17.6	
	comp=Z,7.7nm,1.0s							
FITZ	**Fitzroy Crossi**	**55.41**	**198**	P		**P**	**16 16 56.3**	**+1.0**
	comp=Z,2.8nm,1.0s,baz=23,slow=11,SNR=2.1							
FITZ	**Fitzroy Crossi**	**55.41**	**198**	P		**P**	**16 16 55.0**	**-0.4**
HYT	**Haines Junctio**	**55.46**	**36**	P		**P**	**16 16 55.2**	**-0.2**
CTAO	**Charters Tower**	**55.47**	**175**	P		**P**	**16 16 56.8**	**+1.0**
CTAO				pmax	pmax			
	comp=Z,52nm,1.7s							
CTAO	**Charters Tower**	**55.47**	**175**	P		**P**	**16 16 56.8**	**+1.0**
GAR	**Garm**	**55.47**	**296**	P		**P**	**16 16 55.5**	**-0.4**
GAR				IAmb	IAmb		16 17 05.7	
	comp=Z,9.1nm,1.1s							
WRAB	**Tennant Creek**	**55.56**	**188**	*e*P		**P**	**16 16 56.2**	**-0.2**
WRAB				pmax	pmax			
	comp=Z,7.0nm,1.1s							
WRAB	**Tennant Creek**	**55.56**	**188**	P		**P**	**16 16 55.9**	**-0.5**
WRAB				IAmb	IAmb		16 17 01.6	
	comp=Z,14nm,1.2s							
WR0	**Warramunga Arr**	**55.56**	**188**	P		**P**	**16 16 55.8**	**-0.7**
WR0				IAmb	IAmb		16 16 58.6	
	comp=Z,20nm,1.6s							
WB2	**Warramunga Arr**	**55.57**	**188**			**P**	**16 16 55.8**	**-0.7**
WRA	**Warramunga Arr**	**55.57**	**188**	P		**P**	**16 16 55.8**	**-0.7**
	comp=Z,1.9nm,0.4s,baz=0.7,slow=7.5,SNR=51							
WRA	**Warramunga Arr**	**55.57**	**188**	P		**P**	**16 16 55.0**	**-1.5**
INK	**Inuvik**	**55.69**	**27**	LR		LR	16 42 33.7	
	comp=Z,42nm,20.4s,baz=280,slow=38							
INK	**Inuvik**	**55.69**	**27**	P		**P**	**16 16 57.6**	**+0.8**
INK				pmax	pmax			
	comp=Z,4.0nm,1.3s							
INK	**Inuvik**	**55.69**	**27**	P		**P**	**16 16 57.6**	**+0.8**

SANVU	**Saraoutou**	**56.20**	**150**	P		**P**	**16 17 01.3**	**+0.2**
CHGR	**Chuyangaron**	**56.44**	**296**	P		**P**	**16 17 02.6**	**-0.2**
ARU	**Arti**	**57.59**	**319**	LR		LR	16 43 03.2	
	comp=Z,32nm,20.2s,baz=82,slow=37							
ARU	**Arti**	**57.59**	**319**	*d* P		**P**	**16 17 11.0**	**+0.5**
ARU				S		**S**	**16 25 09.2**	**+2.3**
ARU				SS		**SS**	**16 28 56.6**	**+0.1**
ARU				pmax	pmax			
	comp=Z,6.0nm,1.2s							
ARU	**Arti**	**57.59**	**319**	P		**P**	**16 17 10.4**	**-0.1**
ARU				IAmb	IAmb		16 17 21.2	
	comp=Z,6.7nm,0.9s							
KBL	**Kabul**	**58.08**	**292**	P		**P**	**16 17 15.2**	**+0.6**
KBL				pmax	pmax			
	comp=Z,11nm,1.7s							
KBL	**Kabul**	**58.08**	**292**	P		**P**	**16 17 15.2**	**+0.6**
KBL				IAmb	IAmb		16 17 15.7	
	comp=Z,11nm,1.7s							
C36M	**Paulatuk**	**58.77**	**24**	P		**P**	**16 17 19.4**	**+0.9**
C36M				IAmb	IAmb		16 17 45.2	
	comp=Z,7.5nm,1.4s							
ABKAR	**Akbulak array**	**59.02**	**311**	P		**P**	**16 17 20.4**	**-0.2**
AS31	**Alice Springs**	**59.29**	**188**	P		**P**	**16 17 23.3**	**+0.6**
ASAR	**Alice Springs**	**59.30**	**188**	P		**P**	**16 17 22.4**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=6.4,slow=7.2,SNR=19							
ASAR				LR		LR	16 40 40.6	
	comp=Z,37nm,21.9s,baz=337,slow=34							
ASAR	**Alice Springs**	**59.30**	**188**	P		**P**	**16 17 21.7**	**-1.1**
AKTO	**Aktyubinsk**	**59.79**	**313**	LR		LR	16 44 42.4	
	comp=Z,32nm,18.3s,baz=64,slow=38							
KIRV	**Kirov**	**61.54**	**323**	*i* P		**P**	**16 17 37.9**	**+0.2**
SPITS	**Spitsbergen Ar**	**62.04**	**349**	LR		LR	16 47 31.6	
	comp=Z,59nm,18.4s,baz=55,slow=39							
RES	**Resolute Bay**	**64.05**	**14**	P		**P**	**16 17 55.7**	**+1.5**
RES				pmax	pmax			
	comp=Z,3.0nm,0.8s							
RES	**Resolute Bay**	**64.05**	**14**			**P**	**16 17 55.6**	**+1.5**
RES				IAmb	IAmb		16 18 07.4	
	comp=Z,2.8nm,0.8s							
YKA	**Yellowknife Ar**	**65.07**	**30**	P		**P**	**16 18 02.2**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=296,slow=6.2,SNR=3.8							
KLMR	**Klimovskoe**	**65.11**	**328**	*e*P		**P**	**16 17 57.5**	**-3.8**
KLMR				pmax	pmax			
	comp=Z,12nm,1.4s							
KLMR	**Klimovskoe**	**65.11**	**328**	*e*P		**P**	**16 17 57.5**	**-3.8**
KLMR				AMP			16 18 16.6	
	comp=Z,12nm,1.4s							
OBN	**Obninsk**	**69.39**	**324**	*i* P		**P**	**16 18 28.6**	**+0.1**
OBN				pmax	pmax			
	comp=Z,3.0nm,0.6s							
FIA1	**FINESS Array S**	**70.22**	**333**	P		**P**	**16 18 32.7**	**-0.8**
FINES	**FINESS Array B**	**70.22**	**333**	P		**P**	**16 18 33.8**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=55,slow=7.3,SNR=3.0							
FINES				LR		LR	16 53 22.5	
	comp=Z,62nm,19.1s,baz=40,slow=39							
FINES	**FINESS Array B**	**70.22**	**333**	P		**P**	**16 18 34.1**	**+0.6**
FINES	**FINESS Array B**	**70.22**	**333**	P		**P**	**16 18 34.1**	**+0.6**
CAN	**Canberra**	**70.81**	**174**	P		**P**	**16 18 36.9**	**-0.4**
CAN				pmax	pmax			
	comp=Z,23nm,1.4s							
CAN	**Canberra**	**70.81**	**174**	P		**P**	**16 18 36.9**	**-0.4**
AKASG	**Malin Array Be**	**75.58**	**323**	P		**P**	**16 19 04.8**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=49,slow=5.4,SNR=5.0							
AKASG	**Malin Array Be**	**75.58**	**323**	P		**P**	**16 19 06.2**	**+0.7**
AKASG				pmax	pmax			
	comp=Z,1.0nm,1.1s							
AKASG	**Malin Array Be**	**75.58**	**323**	P		**P**	**16 19 06.2**	**+0.7**
NB2	**NORSAR Subarra**	**75.64**	**337**	P		**P**	**16 19 06.7**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=40,slow=5.9							
NOA	**NORSAR Array B**	**75.64**	**337**	P		**P**	**16 19 05.3**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=38,slow=5.7,SNR=2.6							
NOA				LR		LR	16 56 26.3	
	comp=Z,50nm,18.9s,baz=185,slow=39							
NVAR	**Mina Array Bea**	**75.81**	**53**	P		**P**	**16 19 08.5**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=307,slow=7.5,SNR=3.6							
NVAR	**Mina Array Bea**	**75.81**	**53**	P		**P**	**16 19 08.0**	**+0.6**
ULM	**Lac du Bonnet**	**80.71**	**33**	LR		LR	16 58 26.8	
	comp=Z,13nm,20.6s,baz=132,slow=38							
CLL	**Collm**	**82.48**	**330**	*e*pP		pP	16 19 51.0	+0.7
GERES	**GERESS Array B**	**84.07**	**328**	P		**P**	**16 19 52.3**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=262,slow=40,SNR=1.9							
GERES	**GERESS Array B**	**84.07**	**328**	P		**P**	**16 19 51.4**	**-0.3**
SCHQ	**Schefferville**	**86.77**	**16**	LR		LR	17 04 05.7	
	comp=Z,24nm,18.0s,baz=59,slow=39							
TXAR	**Lajitas Array**	**90.96**	**52**	P		**P**	**16 20 27.3**	**+1.9**
	comp=Z,0.2nm,0.7s,baz=298,slow=1.9,SNR=1.6							
TXAR	**Lajitas Array**	**90.96**	**52**	P		**P**	**16 20 26.2**	**+0.9**
TXAR	**Lajitas Array**	**90.96**	**52**	P		**P**	**16 20 26.2**	**+0.9**
H03N2	**Juan Fernandez**	**

WHZ	**Wether Hill Ro**	**33.67**	**203**	P		**P**	**16 36 46.9**	**+1.4**
H11S2	**WAKE ISLAND Hy**	**38.81**	**330**	T		T	17 18 14.0	
	baz=146,slow=76							
H11S3	**WAKE ISLAND Hy**	**38.82**	**330**	T		T	17 18 15.7	
	baz=146,slow=76							
H11S1	**WAKE ISLAND Hy**	**38.83**	**330**	T		T	17 18 16.1	
	baz=146,slow=76							
COEN	**Coen**	**41.23**	**267**			**P**	**16 37 51.7**	**+2.0**
COEN				IAmb		IAmb	16 38 21.7	
	comp=Z,8.0nm,1.1s							
STKA	**Stephens Creek**	**43.27**	**240**	P		**P**	**16 38 05.7**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=92,slow=16,SNR=2.1							
STKA	**Stephens Creek**	**43.27**	**240**	P		**P**	**16 38 05.4**	**-0.6**
MIDW	**Midway**	**43.72**	**356**	P		**P**	**16 38 06.0**	**-3.4**
WR0	**Warramunga Arr**	**48.88**	**257**	P		**P**	**16 38 50.5**	**+0.3**
WR0				IAmb		IAmb	16 38 52.7	
	comp=Z,5.1nm,1.2s							
WB0	**Warramunga Arr**	**49.03**	**257**	P		**P**	**16 38 51.3**	**-0.1**
WB0				IAmb		IAmb	16 39 15.8	
	comp=Z,11nm,1.6s							
WB2	**Warramunga Arr**	**49.06**	**257**	P		**P**	**16 38 51.4**	**-0.2**
WB2				IAmb		IAmb	16 39 22.7	
	comp=Z,4.9nm,1.1s							
WRAB	**Tennant Creek**	**49.06**	**257**	P		**P**	**16 38 51.5**	**-0.1**
WRAB				IAmb		IAmb	16 38 53.6	
	comp=Z,16nm,1.6s							
WRA	**Warramunga Arr**	**49.07**	**257**	P		**P**	**16 38 50.7**	**-1.0**
	comp=Z,1.3nm,0.5s,baz=84,slow=8.5,SNR=3.7							
WRA				PcP		**PcP**	**16 40 15.5**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=95,slow=3.5,SNR=1.7							
WRA	**Warramunga Arr**	**49.07**	**257**	IAmb		IAmb	16 38 51.0	
	comp=Z,0.2nm,0.7s							
AS31	**Alice Springs**	**49.33**	**252**	P		**P**	**16 38 53.8**	**+0.1**
AS31				IAmb		IAmb	16 38 55.4	
	comp=Z,3.1nm,1.2s							
ASAR	**Alice Springs**	**49.33**	**252**	P		**P**	**16 38 53.7**	**0.0**
	comp=Z,4.8nm,0.5s,baz=89,slow=7.7,SNR=118							
ASAR				PcP		**PcP**	**16 40 16.2**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=96,slow=4.2,SNR=0.8							
ASAR	**Alice Springs**	**49.33**	**252**	P		**P**	**16 38 53.9**	**+0.2**
MTN	**Manton Dam**	**52.98**	**266**			**PcP**	**16 40 29.5**	**+0.9**
FAKI	**Fak Fak**	**54.22**	**278**	P		**P**	**16 39 27.2**	**-2.8**
KNRA	**Kununurra**	**54.80**	**262**	P		**P**	**16 39 31.2**	**-3.0**
UNV	**Unalaska Valle**	**69.53**	**5**	P		**P**	16 41 15.1	+3.3
QSPA	**South Pole Qui**	**74.39**	**180**	P		**P**	**16 41 42.0**	**+0.9**
QSPA				IAmb		IAmb	16 42 10.2	
	comp=Z,5.4nm,1.3s							
NVAR	**Mina Array Bea**	**75.01**	**42**	P		**P**	**16 41 47.2**	**+2.0**
	comp=Z,1.3nm,0.8s,baz=229,slow=9.5,SNR=8.9							
NVAR	**Mina Array Bea**	**75.01**	**42**	P		**P**	**16 41 46.5**	**+1.4**
PAHR	**Pah Rah Range**	**75.05**	**41**	P		**P**	**16 41 46.8**	**+1.6**
PAHR				IAmb		IAmb	16 41 48.0	
	comp=Z,2.6nm,0.8s							
NV11	**Mina Array Sit**	**75.11**	**42**	P		**P**	**16 41 46.8**	**+1.2**
KVN	**Kaiserville**	**75.49**	**42**	P		**P**	**16 41 49.0**	**+1.1**
MNTX	**Cornudas Mount**	**80.97**	**54**	P		**P**	**16 42 19.2**	**+1.2**
TXAR	**Lajitas Array**	**81.36**	**56**	P		**P**	**16 42 22.1**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=232,slow=7.4,SNR=4.4							
TXAR	**Lajitas Array**	**81.36**	**56**	P		**P**	**16 42 21.6**	**+1.4**
WRH	**Wood River Hil**	**82.34**	**11**	P		**P**	**16 42 25.7**	**+1.3**
WRH				IAmb		IAmb	16 42 26.6	
	comp=Z,3.1nm,0.8s							
DOT	**Dot Lake**	**82.41**	**13**	IAmb		IAmb	16 42 27.2	
	comp=Z,3.1nm,0.8s							
S22A	**4UR Ranch, Cre**	**82.48**	**48**	P		**P**	**16 42 27.8**	**+1.6**
S22A				IAmb		IAmb	16 42 29.0	
	comp=Z,2.5nm,0.8s							
HDA	**Harding Lake**	**82.50**	**12**	P		**P**	**16 42 26.4**	**+1.1**
HDA				IAmb		IAmb	16 42 27.3	
	comp=Z,2.4nm,0.7s							
CCB	**Clear Creek Bu**	**82.55**	**11**	P		**P**	**16 42 26.6**	**+1.1**
CCB				IAmb		IAmb	16 42 27.5	
	comp=Z,2.8nm,0.7s							
SCRK	**Sand Creek**	**82.72**	**13**	P		**P**	**16 42 27.6**	**+1.0**
ILAR	**Eielson Array**	**82.83**	**11**	P		**P**	**16 42 27.6**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=231,slow=6.1,SNR=7.6							
ILAR	**Eielson Array**	**82.83**	**11**	P		**P**	**16 42 27.9**	**+0.9**
PD31	**Pinedale Array**	**82.94**	**42**	P		**P**	**16 42 29.7**	**+1.3**
PDAR	**Pinedale Array**	**82.94**	**42**	P		**P**	**16 42 29.4**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=213,slow=3.1,SNR=13							
PRP	**Porcupine Dome**	**83.76**	**12**	P		**P**	**16 42 33.2**	**+1.3**
PRP				IAmb		IAmb	16 42 34.4	
	comp=Z,2.9nm,0.8s							
YKA	**Yellowknife Ar**	**90.62**	**24**	P		**P**	**16 43 05.5**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=234,slow=5.6,SNR=3.9							
BRTR	**Keskin Array B**	**145.88**	**320**	PKPbc		**PKiKP**	**16 49 44.0**	**-1.9**
	comp=Z,0.5nm,0.7s,baz=33,slow=3.4,SNR=2.5							

*RSNC **12** 16:46:42.6±1.1,6°.83N×73°.15W,h149km±4km,ML3.7, Mw3.9*
*IDC **12** 16:46:44.9±4.7,6°.78N×73°.59W,h179km±27km,mb3.1/2, mb1 3.6/3,mb1mx3.1/23,mbtmp3.7/3,Error ellipse: s-maj=132.8km s-min=30.9km az=88.0*
ISC 12 16:46:41.0±0.9,6°.84N±0°.03×73°.13W±0°.04,h160km±5km, n41,σ1°69/75,5C-2D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**192**	*i*	P	**Pn**	**16 47 02.8**	**-0.1**
BARC					eS	**Sn**	**16 47 17.3**	**-2.3**
BARC					*i*		16 47 18.8	
	comp=Z,1μm,0.3s							
BRRC	**Barranca, Sant**	**0.64**	**295**	*i*	P	**Pn**	**16 47 04.5**	**+0.4**
BRRC					eS	**Sn**	**16 47 21.1**	**-0.6**
BRRC					*i*		16 47 24.7	
	comp=Z,589nm,0.3s							
PAMC	**Pamplona, Colo**	**0.66**	**41**	*e*	P	**Pn**	**16 47 05.6**	**+0.8**
PAMC					eS	**Sn**	**16 47 22.8**	**-0.3**
PAMC					*i*		16 47 25.2	
	comp=Z,607nm,0.4s							
RUSC	**La Rusia**	**0.94**	**177**	*i*	P	**Pn**	**16 47 06.7**	**-0.1**
RUSC					eS	**Sn**	**16 47 25.4**	**-1.1**
RUSC					*i*		16 47 26.5	
	comp=Z,493nm,0.7s							
PTBC	**PUERTO BERRIO,**	**1.35**	**257**	*e*	P	**Pn**	**16 47 09.1**	**-0.7**
PTBC					eS	**Sn**	**16 47 30.3**	**-1.6**
PTBC					*i*		16 47 37.1	
	comp=Z,613nm,0.4s							
TAMC	**Tame, Arauca**	**1.39**	**107**	*i*	P	**Pn**	**16 47 11.2**	**+1.0**
TAMC					*i*		16 47 31.8	
	comp=Z,318nm,0.4s							
TAMC					eS	**Sn**	**16 47 32.8**	**+0.1**
OCAC	**Ocana**	**1.40**	**352**	*e*	P	**Pn**	**16 47 10.7**	**+0.2**
OCAC					eS	**Sn**	**16 47 32.7**	**-0.6**
OCAC					*i*		16 47 41.0	
	comp=Z,598nm,0.4s							
SPBC	**San Pablo de B**	**1.50**	**218**	*i*	P	**Pn**	**16 47 11.6**	**+0.1**
SPBC					eS	**Sn**	**16 47 33.7**	**-1.2**
SPBC					*i*		16 47 38.3	
	comp=Z,644nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.83**	**291**	*e*	P	**Pn**	**16 47 15.4**	**+0.6**
ZARC					eS	**Sn**	**16 47 40.4**	**-0.4**
ZARC					*i*		16 47 45.9	
	comp=Z,476nm,0.3s							
NORC	**Norcasia**	**2.14**	**234**	*e*	P	**Pn**	**16 47 18.7**	**+0.3**
NORC					eS	**Sn**	**16 47 47.3**	**0.0**
NORC					*i*		16 47 51.8	
	comp=Z,272nm,0.4s							
SMLC	**San Martn de**	**2.16**	**335**	*e*	P	**Pn**	**16 47 18.9**	**+0.4**
SMLC					eS	**Sn**	**16 47 49.0**	**+1.4**
SMLC					*i*		16 47 54.8	
	comp=Z,397nm,0.1s							
CHIC	**Chingaza**	**2.27**	**195**	*i*	P	**Pn**	**16 47 20.7**	**+0.4**
CHIC					eS	**Sn**	**16 47 50.0**	**-0.7**
CHIC					*i*		16 47 55.4	
	comp=Z,357nm,0.4s							
ROSC	**El Rosal**	**2.31**	**211**	*e*	P	**Pn**	**16 47 22.6**	**+1.9**
	comp=Z,60nm,0.3s,baz=87,slow=17,SNR=105							
ROSC					S	**Sn**	**16 47 52.8**	**+1.4**
	comp=Z,54nm,0.3s,baz=45,slow=22,SNR=6.3							
ROSC	**El Rosal**	**2.31**	**211**	*i*	P	**Pn**	**16 47 22.5**	**+1.8**
ROSC					eS	**Sn**	**16 47 52.1**	**+0.7**
ROSC					*i*		16 47 57.3	
	comp=Z,1μm,0.4s							
CVER	**Cruz Verde, Cu**	**2.49**	**202**	*e*	P	**Pn**	**16 47 23.1**	**+0.2**
UREC	**San Jos de Ur**	**2.55**	**291**	*e*	P	**Pn**	**16 47 22.8**	**-0.4**
UREC					eS	**Sn**	**16 47 53.1**	**-2.7**
UREC					*i*		16 48 05.7	
	comp=Z,264nm,0.2s							
GUY2C	**Guyana, Caldas**	**2.74**	**234**	*e*	P	**Pn**	**16 47 26.7**	**+0.7**
GUY2C					eS	**Sn**	**16 48 04.9**	**+4.2**
GUY2C					*i*		16 48 08.8	
	comp=Z,349nm,0.4s							

VILC	**Villavicencio,**	**2.77**	**192**	*i*	P	**Pn**	**16 47 26.1**	**+0.1**
VILC					eS	**Sn**	**16 48 00.4**	**-0.4**
VILC					*i*		16 48 10.5	
	comp=Z,484nm,0.5s							
PTGC	**Puerto Gaitan,**	**2.81**	**159**	*i*	P	**Pn**	**16 47 25.9**	**-0.4**
PTGC					eS	**Sn**	**16 47 59.3**	**-2.2**
PTGC					*i*		16 48 02.0	
	comp=Z,145nm,0.3s							
RREF	**El Recreo**	**2.93**	**229**	*e*	P	**Pn**	**16 47 28.8**	**+0.4**
RREF					eS	**Sn**	**16 48 08.4**	**+3.3**
RREF					*i*		16 48 14.1	
	comp=Z,380nm,0.6s							
CBOC	**Ciudad Bolivar**	**3.02**	**251**	*e*	P	**Pn**	**16 47 30.2**	**+1.1**
CBOC					eS	**Sn**	**16 48 07.6**	**+1.1**
CBOC					*i*		16 48 12.4	
	comp=Z,89nm,0.5s							
DBBC	**Dabeiba**	**3.06**	**274**	*e*	P	**Pn**	**16 47 30.2**	**+0.7**
DBBC					eS	**Sn**	**16 48 04.7**	**-2.5**
TOLC	**Tolima**	**3.12**	**224**	*e*	P	**Pn**	**16 47 31.4**	**+0.8**
TOLC					eS	**Sn**	**16 48 10.3**	**+1.2**
TOLC					*i*		16 48 17.1	
	comp=Z,600nm,0.3s							
ARGC	**Ariguani, Magd**	**3.20**	**340**	*e*	P	**Pn**	**16 47 32.8**	**+1.6**
ARGC					eS	**Sn**	**16 48 11.9**	**+1.7**
ARGC					*i*		16 48 18.3	
	comp=Z,99nm,0.4s							
SDV	**Santo Domingo**	**3.20**	**50**	*i*	P	**Pn**	**16 47 32.2**	**+0.8**
SDV					eS	**Sn**	**16 48 09.1**	**-1.6**
SDV					*i*		16 48 12.8	
	comp=Z,51nm,0.3s							
ANIL	**Santa Ana**	**3.25**	**224**	*e*	P	**Pn**	**16 47 33.3**	**+1.1**
ANIL					eS	**Sn**	**16 48 13.7**	**+1.9**
PRAC	**Prado**	**3.56**	**209**	*e*	P	**Pn**	**16 47 35.9**	**0.0**
PRAC					eS	**Sn**	**16 48 18.2**	**-0.5**
PRAC					*i*		16 48 22.6	
	comp=Z,374nm,0.5s							
ORTC	**Ortega, Tolima**	**3.59**	**216**	*e*	P	**Pn**	**16 47 36.7**	**+0.4**
ORTC					eS	**Sn**	**16 48 20.2**	**+0.9**
ORTC					*i*		16 48 24.3	
	comp=Z,135nm,0.2s							
SJCC	**San Jacinto, C**	**3.65**	**326**	*e*	P	**Pn**	**16 47 36.4**	**-0.6**
SJCC					eS	**Sn**	**16 48 17.4**	**-3.3**
SJCC					*i*		16 48 31.9	
	comp=Z,85nm,0.6s							
YOTC	**Yotoco, Valle**	**4.28**	**229**	*e*	P	**Pn**	**16 47 45.2**	**0.0**
YOTC					eS	**Sn**	**16 48 30.7**	**-4.6**
GUVC	**San Jose del G**	**4.29**	**173**	*e*	P	**Pn**	**16 47 45.1**	**-0.3**
GUVC					eS	**Sn**	**16 48 35.3**	**-0.3**
GUVC					*i*		16 48 40.0	
	comp=Z,126nm,0.3s							
SMRC	**Santa Marta, M**	**4.43**	**346**	*i*	P	**Pn**	**16 47 47.5**	**+0.4**
SMRC					eS	**Sn**	**16 48 34.8**	**-4.0**
SMRC					*i*		16 48 39.8	
	comp=Z,66nm,0.5s							
CAPC	**Capurgana**	**4.55**	**293**	*e*	P	**Pn**	**16 47 48.8**	**+0.2**
CAPC					eS	**Sn**	**16 48 38.3**	**-3.1**
CAPC					*i*		16 48 40.9	
	comp=Z,43nm,0.3s							
MACC	**Macarena, Meta**	**4.72**	**189**	*e*	P	**Pn**	**16 47 49.9**	**-1.0**
MACC					*i*		16 48 49.1	
	comp=Z,59nm,0.8s							
MARP	**Paez Belalcaza**	**4.87**	**215**	*e*	P	**Pn**	**16 47 53.0**	**-0.1**
MARP					eS	**Sn**	**16 48 44.3**	**-5.1**
GARC	**Garzon, Huila**	**5.19**	**207**	*e*	P	**Pn**	**16 47 56.8**	**-0.5**
GARC					eS	**Sn**	**16 48 52.4**	**-4.5**
GARC					*i*		16 48 58.7	
	comp=Z,59nm,0.2s							
PCON	**Cinco Dias**	**5.54**	**216**	*e*	P	**Pn**	**16 48 03.7**	**+1.4**
PCON					*i*		16 49 20.9	
	comp=Z,21nm,0.7s							
PDAR	**Pinedale Array**	**48.06**	**324**	P		**P**	**16 55 05.0**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=137,slow=8.2,SNR=1.0							
YKA	**Yellowknife Ar**	**63.24**	**340**	P		**P**	**16 56 53.4**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=132,slow=6.9,SNR=9.3							
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc		**PKPbc**	**17 06 11.3**	**0.0**
	comp=Z,0.2nm,0.7s,baz=118,slow=3.9,SNR=6.1							
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc		**PKiKP**	**17 06 14.5**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=105,slow=3.0,SNR=1.8							

IDC 12 18:20:24.5±1.4,25°.08N×97°.86E,h0km,mb3.5/4, mb1 3.5/5,mb1mx3.3/49,mbtmp3.5/5,ML3.9/1,MS3.3/1, Ms1 3.3/1,ms1mx2.4/33,Error ellipse: s-maj=59.2km s-min=18.1km az=80.0,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**6.66**	**171**	Pn		Pn	18 22 03.9	+0.1
	0.6nm,0.3s,baz=346,slow=13,SNR=18							
CMAR				Pg		Pg	18 22 27.9	-4.4
	0.4nm,0.3s,baz=349,slow=17,SNR=13							
CMAR				Lg		Lg	18 23 54.4	
	0.3nm,0.3s,baz=357,slow=32,SNR=6.0							
SONM	**Songino Array**	**23.70**	**14**	P		P	18 25 38.9	+0.8
	0.7nm,0.8s,baz=203,slow=9.4,SNR=3.9							
MKAR	**Makanchi Array**	**24.98**	**334**	P		P	18 25 50.3	+0.4
	0.8nm,0.8s,baz=145,slow=9.9,SNR=7.5							
KURBB	**Kurchatov Arra**	**29.54**	**335**	P		P	18 26 28.8	-1.9
	0.1nm,0.2s,baz=155,slow=7.1,SNR=3.4							
ZALV	**Zalesovo Beam**	**30.44**	**345**	P		P	18 26 39.0	+0.4
	0.4nm,0.4s,baz=170,slow=9.6,SNR=3.6							
GEYT	**Alibeck**	**35.96**	**301**	LR		LR	18 46 02.7	
	comp=Z,46nm,18.8s,baz=170,slow=43							

*IDC **12** 18:28:45.5±0.7,49°.63S×8°.43W,h0km,mb4.3/11, mb1 4.3/11,mb1mx4.1/32,mbtmp4.3/11,MS3.5/7, Ms1 3.5/7,ms1mx3.3/18,Error ellipse: s-maj=23.2km s-min=17.1km az=118.0*
*NEIC **12** 18:28:46.6±1.3,49°.5S±0°.1×8°.3W±0°.1,h10km±1km, mb4.5/4,Error ellipse: s-maj=24.8km s-min=6.5km az=146.0*
ISC 12 18:28:46.9±0.5,49°.6S±0°.1×8°.4W±0°.1,h10km,n39, σ0°96/33,mb4.3/14,MS3.5/7,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**21.13**	**180**	P		**P**	**18 33 32.9**	**+1.5**
VNA2	**Neumayer--Watz**	**21.41**	**179**	P		**P**	**18 33 34.7**	**+0.2**
	baz=356,slow=10							
VNA3	**Neumayer Olymp**	**21.73**	**181**	P		**P**	**18 33 39.4**	**+1.4**
SNAA	**Sanae**	**22.30**	**175**	P		**P**	**18 33 44.2**	**+0.1**
SNAA	**Sanae**	**22.30**	**175**	P		**P**	**18 33 43.9**	**-0.2**
	6.2nm,1.0s,baz=346,slow=9.1,SNR=19							
SNAA				LR		LR	18 40 01.0	
	comp=Z,40nm,21.7s,baz=333,slow=30							
SNAA	**Sanae**	**22.30**	**175**	P		**P**	**18 33 44.2**	**+0.1**
SNAA				IAmb		IAmb	18 33 52.8	
	comp=Z,18nm,1.1s							
SUR	**Sutherland**	**27.70**	**63**	LR		LR	18 43 06.4	
	comp=Z,146nm,18.1s,baz=208,slow=31							
BOSA	**Boshof**	**33.06**	**63**	P		**P**	**18 35 23.6**	**+1.0**
	comp=Z,2.5nm,1.0s,baz=182,slow=15,SNR=2.7							
BOSA				LR		LR	18 46 13.7	
	comp=Z,170nm,19.3s,baz=221,slow=32							
LBTB	**Lobatse**	**36.01**	**60**	P		**P**	**18 35 47.4**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=233,slow=18,SNR=3.7							
USHA	**Ushuaia**	**36.17**	**238**	P		**P**	**18 35 48.5**	**-0.7**
	comp=Z,12nm,0.5s,baz=68,slow=3.3,SNR=1.5							
MAW	**Mawson**	**38.60**	**144**	LR		LR	18 50 29.3	
	comp=Z,57nm,18.1s,baz=246,slow=34							
QSPA	**South Pole Qui**	**40.66**	**180**	P		**P**	**18 36 25.5**	**-1.5**
	comp=Z,4.1nm,1.1s,baz=206,slow=3.7,SNR=6.2							
QSPA	**South Pole Qui**	**40.66**	**180**	P		**P**	**18 36 27.3**	**+0.3**
QSPA				IAmb		IAmb	18 36 29.4	
	comp=Z,16nm,1.4s							
MATP	**Matopo**	**41.27**	**59**	P		**P**	**18 36 30.6**	**-1.9**
	comp=Z,3.5nm,0.8s,baz=201,slow=5.8,SNR=5.6							
PLCA	**Paso Flores**	**43.58**	**257**	LR		LR	18 52 02.5	
	comp=Z,71nm,20.0s,baz=139,slow=32							
CPUP	**Villa Florida**	**44.07**	**283**	LR		LR	18 51 52.1	
	comp=Z,49nm,22.0s,baz=214,slow=32							
LSZ	**Lusaka**	**45.31**	**54**	P		**P**	**18 37 07.0**	**+1.8**
	comp=Z,2.8nm,0.3s,baz=195,slow=12,SNR=2.3							
CFA	**Coronel Fontan**	**47.56**	**269**	P		**P**	**18 37 22.7**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=172,slow=4.7,SNR=3.5							
VNDA	**Vanda**	**53.01**	**177**	P		**P**	**18 38 04.0**	**+0.8**
	comp=Z,4.4nm,1.3s,baz=214,slow=7.6,SNR=6.1							
VNDA	**Vanda**	**53.01**	**177**	P		**P**	**18 38 04.3**	**+1.1**
VNDA				IAmb		IAmb	18 38 05.6	
	comp=Z,12nm,1.5s							
SIV	**San Ignacio**	**54.04**	**289**	P		**P**	**18 38 11.5**	**0.0**
	comp=Z,0.9nm,0.7s,baz=109,slow=8.1,SNR=5.1							

LIC	**Lamto**	**55.66**	**4**	*e*	P		18 38 30.3	+7.2
	comp=Z,68nm,1.3s							
KIC	**Kosan Boka**	**55.81**	**4**	*e*	P		18 38 30.0	+5.8
	comp=Z,87nm,1.6s							
TIC	**Toumodi**	**56.08**	**4**	*e*	P	**P**	**18 38 28.1**	**+1.9**
DBIC	**Dimbokro**	**56.11**	**4**	P		**P**	**18 38 26.5**	**+0.1**
	comp=Z,11nm,1.1s,baz=179,slow=6.0,SNR=3.6							
LPAZ	**La Paz**	**58.24**	**283**	LR		LR	19 01 33.1	
	comp=Z,36nm,21.5s,baz=131,slow=34							
TORD	**Torodi Ar. Bea**	**63.10**	**11**	P		**P**	**18 39 14.8**	**+0.3**
	comp=Z,1.6nm,1.0s,baz=194,slow=5.8,SNR=5.6							
TORD	**Torodi Ar. Bea**	**63.10**	**11**	P		**P**	**18 39 14.7**	**+0.3**
MKAR	**Makanchi Array**	**123.84**	**56**	PKP		**PKPdf**	**18 47 43.9**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=205,slow=2.7,SNR=2.0							
KURBB	**Kurchatov Arra**	**124.26**	**50**	PKP		**PKPdf**	**18 47 44.4**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=222,slow=2.5,SNR=1.7							
SONM	**Songino Array**	**138.14**	**66**	PKP		**PKiKP**	**18 48 12.6**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=232,slow=1.6,SNR=2.1							
SONM	**Songino Array**	**138.14**	**66**			**PKPdf**	**18 48 12.3**	**+0.8**
KSAR	**Wonju Array Be**	**146.50**	**94**			**PKPdf**	**18 48 25.1**	**-1.3**
KSRS	**Korea Array**	**146.53**	**94**	PKPbc		**PKPbc**	**18 48 27.4**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=254,slow=4.5,SNR=5.6							
INK	**Inuvik**	**147.58**	**325**	PKPbc		**PKPbc**	**18 48 29.5**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=73,slow=2.8,SNR=8.0							
INK	**Inuvik**	**147.58**	**325**			**PKPbc**	**18 48 29.7**	**-0.3**
TIXI	**Tiksi**	**150.64**	**26**			**PKPbc**	**18 48 36.6**	**-0.9**
BCAR	**Beaver Creek A**	**151.60**	**316**			**PKPdf**	**18 48 34.7**	**+0.8**
BCAR				PKPbc		**PKiKP**	**18 48 40.6**	**0.0**
BMAR	**Burnt Mountain**	**151.86**	**325**			**PKPbc**	**18 48 39.7**	**-0.9**

*NIED **12** 18:32:00,26°.00N×128°.70E,h11km,Mw3.7 Best double couple: M03.51000×10^14 NP1:φs263.00000°,δ60.00000°, λ-40.00000°. NP2:φs16.00000°,δ56.00000°, λ-143.00000°.*
*IDC **12** 18:32:06.8±1.3,25°.91N×128°.67E,h0km,mb3.6/4, mb1 3.7/5,mb1mx3.4/42,mbtmp3.6/5,ML3.8/1,Error ellipse: s-maj=63.3km s-min=17.1km az=75.0*
*JMA **12** 18:32:10.7±0.3,26°.03N×128°.67E,h42km±5km,M3.7*
ISC 12 18:32:07.1±1.9,25°.96N±0°.05×128°.79E±0°.04,h9km±12km, n17,σ1°61/30,mb3.6/4,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JNTH	**Nagotoyohara**	**0.88**	**309**	P		**Pb**	**18 32 24.9**	**+0.3**
JNTH				S		**Sg**	**18 32 35.3**	**-0.3**
JJT3	**Tamagusuku3**	**0.92**	**282**	P		**Pb**	**18 32 25.9**	**+0.6**
JJT3				S		**Sg**	**18 32 37.5**	**+0.7**
JOW	**Kunigami**	**0.98**	**332**	Pn		**Pn**	**18 32 27.2**	**+0.1**
	73nm,0.3s,baz=180,slow=30,SNR=2083							
JOW				Sn		**Sg**	**18 32 35.9**	**-2.9**
	42nm,0.3s,baz=67,slow=14,SNR=11							
JOW	**Kunigami**	**0.98**	**332**	P		**Pb**	**18 32 27.0**	**+0.7**
JOW				S		**Sg**	**18 32 38.3**	**-0.5**
JYRO	**Yoronjima**	**1.10**	**344**	P		**Pb**	**18 32 28.8**	**+0.4**
JYRO				S		**Sg**	**18 32 42.3**	**-0.4**
JIH	**Iheya**	**1.30**	**326**	P		**Pn**	**18 32 31.7**	**+0.3**
JIH				S		**Sg**	**18 32 47.2**	**-1.7**
JOKE	**Okinoerabujima**	**1.41**	**352**	P		**Pn**	**18 32 33.6**	**+0.6**
JOKE				S		**Sb**	**18 32 50.7**	**-1.0**
JAGN	**Aguni-jima**	**1.52**	**295**	P		**Pn**	**18 32 34.6**	**+0.1**
JAGN				S		**Sn**	**18 32 52.5**	**-1.9**
JTK	**Tokunoshima**	**1.82**	**5**	P		**Pn**	**18 32 39.4**	**+0.7**
JTK				S		**Sn**	**18 33 00.5**	**-1.4**
JKE	**Kume jima 2**	**1.83**	**282**	P		**Pn**	**18 32 38.2**	**-0.6**
JKE				S		**Sn**	**18 32 58.9**	**-3.3**
JMZ	**Minamidaito 2**	**2.20**	**93**	P		**Pn**	**18 32 43.9**	**+0.1**
JMZ				S		**Sn**	**18 33 06.8**	**-4.3**
JKDJ	**Kitadaitoujima**	**2.26**	**90**	P		**Pn**	**18 32 45.0**	**+0.3**
JKDJ				S		**Sn**	**18 33 10.

comp=Z,4.1nm,1.1s
AAK Ala-Archa 26.16 318 P **P 18 42 55.4 +0.8**
comp=Z,1.0nm,0.4s,baz=183,slow=3.4,SNR=4.4
AAK LR LR 18 55 09.1
comp=Z,24nm,18.7s,baz=222,slow=41
AAK Ala-Archa 26.16 318 P **P 18 42 55.4 +0.8**
AAK IAmb IAmb 18 43 00.8
comp=Z,4.8nm,1.2s
KBL Kabul 26.84 297 P **P 18 42 59.9 -1.0**
TLY Talaya 26.94 8 LR LR 18 53 59.2
comp=Z,30nm,18.9s,baz=241,slow=37
KURBB Kurchatov Arra 29.66 334 P **P 18 43 25.8 +0.2**
comp=Z,0.2nm,0.4s,baz=150,slow=7.9,SNR=1.3
KURBB PcP **PcP 18 46 29.1 -0.7**
comp=Z,0.2nm,0.3s,baz=141,slow=3.1,SNR=1.7
JNU Nakatsue 29.69 67 LR LR 18 57 05.5
comp=Z,19nm,20.0s,baz=61,slow=40
ZAA0 Zalesovo Array 30.52 345 P **P 18 43 34.0 +0.7**
ZAA0 IAmb IAmb 18 43 35.7
comp=Z,1.8nm,0.8s
ZALV Zalesovo Beam 30.52 345 P **P 18 43 33.5 +0.2**
comp=Z,1.4nm,0.5s,baz=162,slow=8.1,SNR=8.1
ZALV Zalesovo Beam 30.52 345 P **P 18 43 33.8 +0.5**
ABKAR Akbulak array 38.23 319 P **P 18 44 39.6 -0.5**
WRA Warramunga Arr 56.95 138 P **P 18 47 06.1 +0.3**
comp=Z,0.5nm,0.5s,baz=326,slow=7.3,SNR=6.1
ASAR Alice Springs 59.58 142 P **P 18 47 26.4 +2.2**
comp=Z,0.2nm,0.6s,baz=316,slow=6.6,SNR=2.3

*TEH **12** 19:55:39.6, 32.°70N×49.°82E, h8km, ML3.7*
*THR **12** 19:55:42.2±0.4, 32.°66N×49.°71E, h18km±3km, ML3.5*
ISC 12 19:55:41.6±0.9, 32.°63N±0.°03×49.°78E±0.°03, h11km, n40, σ1s45/42, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHBN	**Jahan bin**	**0.85**	**118**	*eP*g	**Pg**	**19 55 56.8**	**-1.2**
IPIR	**Pirpir**	**0.94**	**86**	*eP*g	**Pg**	**19 55 57.1**	**-2.6**
SHGR	**Shooshtar-Gavs**	**0.98**	**238**	*eP*g	**Pg**	**19 56 00.1**	**-0.4**
SHGR				IAML		19 56 20.2	
	comp=N,1μm,0.4s						
SHGR	**Shooshtar-Gavs**	**0.98**	**238**	*eP*g	**Pg**	**19 56 00.1**	**-0.4**
ROKH	**ROKH**	**1.10**	**105**	*eP*g	**Pg**	**19 56 00.5**	**-2.2**
BMDN	**Meydan**	**1.31**	**323**	*e*		19 56 30.8	
BMDN				*eP*g	**Pn**	**19 56 04.7**	**-1.4**
IKMR	**Kamar-syah**	**1.47**	**307**	*e*		19 56 36.0	
IKMR				*eP*g	**Pn**	**19 56 07.3**	**-0.8**
AHWZ	**Ahwaz**	**1.62**	**217**	*eP*g	**Pb**	**19 56 11.7**	**+0.3**
IKLH	**Kolahrood**	**1.66**	**65**	*eP*n	**Pn**	**19 56 09.8**	**-1.1**
IDOB	**Doab**	**1.77**	**311**	*eP*n	**Pn**	**19 56 12.4**	**0.0**
IDOB				*e*		19 56 43.8	
HSAM	**Samen**	**1.86**	**328**	*eP*n	**Pn**	**19 56 14.1**	**+0.4**
HSAM				*e*		19 56 44.8	
IGAR	**Gharneh**	**1.92**	**96**	*e*	**Sg**	**19 56 47.1**	**+3.7**
ASAO	**Ashtian**	**1.92**	**6**	*eP*n	**Pb**	**19 56 16.0**	**-0.9**
ASAO				*eS*g	**Sg**	**19 56 42.4**	**-1.1**
ASAO	**Ashtian**	**1.92**	**6**	*eP*n	**Pb**	**19 56 16.0**	**-0.9**
IZEF	**Zefreh**	**2.16**	**82**	*eP*n	**Pb**	**19 56 19.9**	**-1.0**
KLNJ	**Kolanjah**	**2.23**	**136**	*eP*n	**Pb**	**19 56 20.7**	**-1.5**
KLNJ				*e*		19 57 06.6	
GHVR	**GHOM**	**2.24**	**34**	*eP*n	**Pn**	**19 56 20.1**	**+1.4**
GHVR				*eS*g	**Sg**	**19 56 52.3**	**-1.2**
GHVR	**GHOM**	**2.24**	**34**	*eP*n	**Pn**	**19 56 20.1**	**+1.4**
HAGD	**Aghdareh**	**2.25**	**346**	*e*	**Sg**	**19 56 54.6**	**+0.6**
IRAM	**Ramesheh**	**2.35**	**110**	*eP*n	**Pn**	**19 56 21.5**	**+1.1**
IRAM				*e*		19 56 25.2	
IBZA	**Bozab**	**2.44**	**319**	*eP*n	**Pn**	**19 56 22.9**	**+1.3**
IBZA				*e*		19 57 10.0	
IKOM	**Komasi**	**2.45**	**310**	*eP*n	**Pn**	**19 56 22.4**	**+0.8**
IKOM				*e*		19 57 15.1	
IQOM	**Qom**	**2.45**	**26**	*eP*n	**Pn**	**19 56 21.7**	**-0.1**
IQOM				*e*		19 56 33.0	
IALM	**Almabolaq**	**2.60**	**329**	*eP*n	**Pn**	**19 56 23.7**	**-0.1**
IRAZ	**Razeghan**	**2.77**	**2**	*e*	**Pg**	**19 56 36.4**	**+1.7**
KCHF	**Cheshme Sefid,**	**2.82**	**306**	*eP*n	**Pn**	**19 56 26.0**	**-0.8**
KER	**Kermanshah**	**2.82**	**309**	*eP*n	**Pn**	**19 56 27.0**	**+0.2**
IVRN	**Varamin**	**2.86**	**34**	*eP*n	**Pn**	**19 56 29.5**	**+2.3**
QABG	**Abgarm-Qazvin**	**3.08**	**357**	*eP*n	**Pn**	**19 56 31.0**	**+0.7**
ILIN	**Lien**	**3.27**	**315**	*eP*n	**Pn**	**19 56 33.7**	**+0.6**
ANAR	**Anarak**	**3.37**	**79**	*eP*n	**Pn**	**19 56 36.2**	**+2.0**
ISAD	**Sadrabad**	**3.38**	**101**	*eP*n	**Pn**	**19 56 35.2**	**+0.6**
CHTH	**Charan**	**3.45**	**18**	*eP*n	**Pn**	**19 56 37.3**	**+1.7**
CHTH	**Charan**	**3.45**	**18**	*eP*n	**Pn**	**19 56 37.3**	**+1.7**
IDHR	**Dehrash**	**3.50**	**307**	*eP*n	**Pn**	**19 56 36.8**	**+0.6**
QALM	**Alamut, Qazvin**	**3.86**	**10**	*eP*n	**Pn**	**19 56 41.2**	**+0.1**
QALM				*e*		19 57 53.4	
QSDN	**Sirdan**	**3.90**	**353**	*eP*n	**Pn**	**19 56 42.9**	**+1.3**
TPRV	**Parvadeh(Tabas**	**5.83**	**84**	*eP*n	**Pn**	**19 57 09.6**	**+1.6**
TNSJ	**Nastanj**	**5.87**	**75**	*eP*n	**Pn**	**19 57 11.3**	**+2.7**
TKDS	**Koohdasht(Taba**	**6.24**	**79**	*eP*n	**Pn**	**19 57 15.7**	**+2.0**

*AUST **12** 20:08:08.6±0.4, 32.°52S×138.°28E, h12km, Error ellipse: s-maj=4.4km s-min=3.6km az=48.0*
*IDC **12** 20:08:12.0±4.6, 31.°77S×138.°55E, h0km, mb1 3.6/4, mb1mx3.4/28, mbtmp3.4/4, ML3.0/4, Error ellipse: s-maj=70.9km s-min=16.9km az=24.0*
ISC 12 20:08:07.3±0.8, 32.°46S±0.°04×138.°26E±0.°04, h10km, n13, σ2s21/22, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTT	**Hallett**	**1.12**	**150**	P	**Pb**	**20 08 28.5**	**-0.2**
HTT	baz=1.1,SNR=54			S	**Sg**	**20 08 43.7**	**+0.4**
	baz=1.1						
BBOO	**Buckleboo**	**1.89**	**259**	P	**Pn**	**20 08 42.1**	**+2.5**
BBOO	baz=1.9,SNR=46			S	**Sn**	**20 09 05.2**	**+1.6**
	baz=1.9						
LCRK	**Leigh Creek**	**2.01**	**359**	P	**Pb**	**20 08 43.7**	**-0.2**
LCRK	baz=2.1,SNR=17			S	**Sb**	**20 09 10.6**	**+1.7**
	baz=2.1						
STKA	**Stephens Creek**	**2.88**	**79**	P	**Pn**	**20 08 54.3**	**+1.0**
STKA	baz=2.9,SNR=15			S	**Sn**	**20 09 31.0**	**+2.9**
	baz=2.9						
STKA	**Stephens Creek**	**2.88**	**79**	Pn	**Pn**	**20 08 55.5**	**+2.2**
	0.9nm,0.3s,baz=262,slow=14,SNR=22						
STKA				Lg	Lg	20 09 34.0	
	12nm,0.3s,baz=335,slow=15,SNR=9.0						
MULG	**Mulgathing**	**4.20**	**300**	P	**Pn**	**20 09 13.9**	**+2.5**
MULG	baz=4.2,SNR=10			S	**Sn**	**20 10 01.8**	**+1.3**
	baz=4.2						
INKA	**Innaminka**	**5.17**	**25**	P	**Pn**	**20 09 26.2**	**+1.5**
INKA	baz=5.2,SNR=3.6			S	**Sn**	**20 10 25.0**	**+0.5**
	baz=5.2						
ARPS	**Mount Arapiles**	**5.21**	**147**	P	**Pn**	**20 09 25.5**	**+0.2**
ARPS	baz=5.2,SNR=16			S	**Sn**	**20 10 23.4**	**-2.0**
	baz=5.2						
CMSA	**Cobar Meteorol**	**6.38**	**84**	P	**Pn**	**20 09 41.4**	**+0.1**
	baz=6.4						
FORT	**Forrest**	**8.86**	**278**	P	**Pn**	**20 10 15.9**	**+0.5**
FORT	baz=8.9			S	**Sn**	**20 11 51.7**	**-3.6**
	baz=8.9						
ASAR	**Alice Springs**	**9.57**	**335**	Pn	**Pn**	**20 10 25.9**	**+0.7**
ASAR	0.2nm,0.3s,baz=151,slow=13,SNR=17			Sn	**Sn**	**20 12 06.8**	**-6.0**
	0.2nm,0.3s,baz=152,slow=22,SNR=2.4						
WRA	**Warramunga Arr**	**12.95**	**343**	Pn	**Pn**	**20 11 10.1**	**-1.4**
WRA	0.1nm,0.3s,baz=164,slow=12,SNR=7.6			Sn	Sn	20 13 26.9	-8.8
	0.1nm,0.3s,baz=168,slow=24,SNR=1.3						
FITZ	**Fitzroy Crossi**	**18.27**	**318**	Pn	**Pn**	**20 12 21.4**	**+0.4**
	0.1nm,0.3s,baz=138,slow=15,SNR=1.7						

*GCG **12** 20:27:21.9±0.3, 13.°27N×91.°34W, h13km±19km, MD4.0*
*IDC **12** 20:27:21.5±2.2, 14.°02N×90.°92W, h0km, mb4.1/7, mb1 4.3/10, mb1mx3.9/41, mbtmp4.0/10, ML3.8/3, MS3.2/7, Ms1 3.2/7, ms1mx2.9/38, Error ellipse: s-maj=68.8km s-min=27.1km az=34.0*
*SNET **12** 20:27:22.8±1.5, 13.°38N×91.°38W, h34km±999km, ML4.0*
*UCR **12** 20:27:23.0±1.5, 13.°40N×91.°38W, h34km±999km, ML3.7, mb4.5(NEIC)*
*NEIC **12** 20:27:24.3±2.8, 13.°56N±0.°07×91.°29W±0.°07, h39km±9km, mb4.5/24, Error ellipse: s-maj=14.3km s-min=1.3km az=224.0*
ISC 12 20:27:22.5±0.9, 13.°48N±0.°09×91.°33W±0.°05, h28km, n80, σ1s47/83, mb4.5/17, MS3.4/5, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERG	**Entre ros, C**	**0.98**	**346**	*eP*	**Pb**	**20 27 42.8**	**+2.0**
FUG	**Fuego 3**	**1.07**	**26**	*eP*	**Pb**	**20 27 44.7**	**+2.2**
IXG	**Ixpaco**	**1.10**	**52**	*eP*	**Pb**	**20 27 44.5**	**+1.5**
PCG	**Pacaya**	**1.15**	**38**	*eP*	**Pb**	**20 27 44.5**	**+0.7**
NBG	**Las Nubes**	**1.46**	**41**	*eP*	**Pb**	**20 27 50.8**	**+1.7**
NUBE	**Las Nubes**	**1.57**	**74**	*eP*	**Pn**	**20 27 49.2**	**+0.6**
NUBE	**Las Nubes**	**1.57**	**74**	*eP*	**Pn**	**20 27 49.2**	**+0.6**
RTR	**El Retiro**	**1.69**	**76**	*eP*	**Pb**	**20 27 51.9**	**-1.1**
RTR	**El Retiro**	**1.69**	**76**	*eP*	**Pb**	**20 27 51.9**	**-1.1**
CEVE	**Cerro Verde**	**1.70**	**78**	*eP*	**Pn**	**20 27 50.4**	**-0.1**
CEVE				*eS*	**Sb**	**20 28 14.5**	**+0.3**
CEVE				IAML		20 28 31.6	
	comp=Z,1μm,0.6s						
CEVE	**Cerro Verde**	**1.70**	**78**	*eP*	**Pn**	**20 27 50.4**	**-0.1**
CEVE				*eS*	**Sb**	**20 28 14.5**	**+0.3**
CEVE				IAML		20 28 31.6	
	comp=Z,1μm,0.6s						
SBLS	**San Blas**	**1.70**	**78**	*eP*	**Pn**	**20 27 51.3**	**+0.8**
SBLS	**San Blas**	**1.70**	**78**	*eP*	**Pn**	**20 27 51.3**	**+0.8**
SNJE	**San Jose**	**1.72**	**77**	*eP*	**Pn**	**20 27 52.1**	**+1.3**
SNJE	**San Jose**	**1.72**	**77**	*eP*	**Pn**	**20 27 52.1**	**+1.3**
TACO	**Tacachico**	**1.98**	**76**	*eP*	**Pn**	**20 27 55.7**	**+1.5**
TACO	**Tacachico**	**1.98**	**76**	*eP*	**Pn**	**20 27 55.7**	**+1.5**
BOQS	**Boqueron**	**2.01**	**83**	*eP*	**Pn**	**20 27 56.1**	**+1.3**
BOQS	**Boqueron**	**2.01**	**83**	*eP*	**Pn**	**20 27 56.1**	**+1.3**
LFRS	**El Faro**	**2.21**	**86**	*eP*	**Pn**	**20 27 59.2**	**+1.7**
LFRS	**El Faro**	**2.21**	**86**	*eP*	**Pn**	**20 27 59.2**	**+1.7**
PAVA	**Las Pavas**	**2.34**	**84**	*eP*	**Pn**	**20 28 00.8**	**+1.6**
PAVA	**Las Pavas**	**2.34**	**84**	*eP*	**Pn**	**20 28 00.8**	**+1.6**
TECA	**Tecapa**	**2.75**	**89**	*eP*	**Pn**	**20 28 05.9**	**+0.9**
TECA	**Tecapa**	**2.75**	**89**	*eP*	**Pn**	**20 28 05.9**	**+0.9**
CCIG	**Comitan**	**2.89**	**344**	Pn	**Pn**	**20 28 10.2**	**+3.4**
LCND	**La Caada**	**3.35**	**93**	*eP*	**Pn**	**20 28 13.8**	**+0.7**
LCND				*eS*	**Sn**	**20 28 53.5**	**+1.5**
LCND				IAML		20 28 57.8	
	comp=Z,375nm,0.3s						
LCND	**La Caada**	**3.35**	**93**	*eP*	**Pn**	**20 28 13.8**	**+0.7**
LCND				*eS*	**Sn**	**20 28 53.5**	**+1.5**
LCND				IAML		20 28 57.8	
	comp=Z,375nm,0.3s						
CNCH	**Conchagua**	**3.41**	**93**	*eP*	**Pn**	**20 28 14.2**	**+0.3**
CNCH				*eS*	**Sn**	**20 28 55.4**	**+1.8**
CNCH	**Conchagua**	**3.41**	**93**	*eP*	**Pn**	**20 28 14.2**	**+0.3**
CNCH				*eS*	**Sn**	**20 28 55.4**	**+1.8**
TGUH	**Tegucigalpa,Un**	**3.99**	**81**	Pn	**Pn**	**20 28 18.5**	**-3.4**
CMIG	**Matias Romero**	**4.96**	**317**	Pn	**Pn**	**20 28 34.7**	**-0.5**
	comp=Z,2.2nm,0.3s,baz=131,slow=9.8,SNR=18						
CMIG				Sn	**Sn**	**20 29 31.9**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=106,slow=15,SNR=4.3						
CMIG				LR	LR	20 30 43.5	
	comp=Z,147nm,18.1s,baz=160,slow=41						
JTS	**Las Juntas de**	**7.00**	**116**	Pn	**Pn**	**20 29 05.8**	**+2.5**
	comp=Z,1.0nm,0.3s,baz=15,slow=11,SNR=3.7						
JTS	**Las Juntas de**	**7.00**	**116**		**Pn**	**20 29 04.7**	**+1.4**
TEIG	**Tepich**	**7.32**	**23**	Pn	**Pn**	**20 29 05.7**	**-1.8**
	baz=139,slow=0.5,SNR=0.9						
TEIG				LR	LR	20 31 48.1	
	comp=Z,72nm,22.0s,baz=50,slow=40						
TEIG	**Tepich**	**7.32**	**23**		**Pn**	**20 29 03.7**	**-3.8**
TLIG	**Tlapa**	**8.06**	**301**		**Pn**	**20 29 18.5**	**+0.5**
TXAR	**Lajitas Array**	**19.48**	**326**	P	**Pn**	**20 31 49.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=148,slow=12,SNR=10						
TXAR	**Lajitas Array**	**19.48**	**326**	P	**P**	**20 31 46.2**	**-1.2**
TX31	**Lajitas Ar. Si**	**19.48**	**326**	P	**P**	**20 31 46.6**	**-0.8**
TX32	**Lajitas Array**	**19.48**	**326**	P	**P**	**20 31 46.8**	**-0.7**
MNTX	**Cornudas Mount**	**22.25**	**327**	P	**P**	**20 32 17.9**	**+0.7**
FCAR	**Ozark Folk Cen**	**22.32**	**358**	P	**P**	**20 32 15.3**	**-2.6**
TKL	**Tuckaleechee C**	**23.11**	**16**	LR	LR	20 42 08.8	
	comp=Z,64nm,20.8s,baz=182,slow=40						
AMTX	**Amarillo**	**23.27**	**338**	P	**P**	**20 32 27.8**	**-0.2**
AMTX				IAmb	IAmb	20 32 29.9	
	comp=Z,11nm,0.7s						
S39A	**Bolivar**	**24.17**	**356**	P	**P**	**20 32 33.9**	**-2.6**
CCM	**Cathedral Cave**	**24.47**	**0**	P	**P**	**20 32 38.7**	**-0.5**
CCM				IAmb	IAmb	20 32 39.9	
	comp=Z,13nm,0.7s						
BNM	**Barren Site**	**24.82**	**329**	P	**P**	**20 32 44.2**	**+1.6**
MTPU	**Mount Pierson**	**30.69**	**327**	P	**P**	**20 33 38.1**	**+2.7**
J58A	**Remsen**	**32.82**	**22**	P	**P**	**20 33 53.4**	**-0.2**
SADO	**Sadowa**	**32.87**	**16**	LR	LR	20 47 52.2	
	comp=Z,72nm,20.3s,baz=184,slow=38						
LONY	**Lake Ozonia**	**34.17**	**21**		**P**	**20 34 05.4**	**+0.1**
ELK	**Elko**	**34.27**	**327**	P	**P**	**20 34 08.4**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=129,slow=7.7,SNR=7.1						
NVAR	**Mina Array Bea**	**34.48**	**321**	P	**P**	**20 34 11.4**	**+3.0**
	comp=Z,1.5nm,0.6s,baz=136,slow=9.0,SNR=9.2						
NVAR	**Mina Array Bea**	**34.48**	**321**	P	**P**	**20 34 10.2**	**+1.9**
ULM	**Lac du Bonnet**	**36.85**	**355**	LR	LR	20 52 10.9	
	comp=Z,30nm,18.6s,baz=262,slow=41						
J08A	**Circle Bar Ran**	**37.82**	**327**	P	**P**	**20 34 38.8**	**+2.0**
J08A				IAmb	IAmb	20 34 41.3	
	comp=Z,4.2nm,0.5s						
F10A	**Beach Ranch, E**	**39.07**	**331**		**P**	**20 34 47.3**	**+0.2**
F10A				IAmb	IAmb	20 36 14.8	
	comp=Z,24nm,1.8s						
SCHQ	**Schefferville**	**45.48**	**20**	P	**P**	**20 35 37.3**	**-1.8**
	comp=Z,4.8nm,0.9s,baz=186,slow=5.6,SNR=3.8						
SCHQ				LR	LR	20 56 10.2	
	comp=Z,58nm,18.1s,baz=128,slow=39						
SCHQ	**Schefferville**	**45.48**	**20**	P	**P**	**20 35 37.8**	**-1.4**
SCHQ				IAmb	IAmb	20 35 38.9	
	comp=Z,7.1nm,1.1s						
YKA	**Yellowknife Ar**	**51.67**	**346**	P	**P**	**20 36 26.0**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=151,slow=7.8,SNR=9.5						
DLBC	**Dease Lake**	**53.39**	**336**	P	**P**	**20 36 41.5**	**+2.0**
	comp=Z,3.3nm,0.7s,baz=163,slow=3.7,SNR=6.0						
DLBC	**Dease Lake**	**53.39**	**336**	P	**P**	**20 36 38.2**	**-1.3**
BCAR	**Beaver Creek A**	**60.77**	**336**	P	**P**	**20 37 32.6**	**+0.9**
INK	**Inuvik**	**61.12**	**343**	P	**P**	**20 37 34.0**	**+0.2**
	comp=Z,1.9nm,0.8s,baz=151,slow=6.9,SNR=3.9						
INK	**Inuvik**	**61.12**	**343**	P	**P**	**20 37 32.2**	**-1.6**
INK				IAmb	IAmb	20 37 35.8	
	comp=Z,2.8nm,1.1s						
DOT	**Dot Lake**	**61.95**	**336**	P	**P**	**20 37 40.3**	**+0.7**
DOT				IAmb	IAmb	20 37 41.7	
	comp=Z,2.5nm,0.9s						
PRP	**Porcupine Dome**	**63.40**	**338**	P	**P**	**20 37 50.1**	**+0.7**
PRP				IAmb	IAmb	20 37 51.1	
	comp=Z,3.2nm,1.0s						
IL31		**63.57**	**337**	P	**P**	**20 37 49.1**	**-1.1**
ILAR	**Eielson Array**	**63.57**	**337**	P	**P**	**20 37 50.9**	**+0.5**
	comp=Z,3.1nm,1.0s,baz=142,slow=3.9,SNR=17						
ILAR	**Eielson Array**	**63.57**	**337**	P	**P**	**20 37 50.1**	**-0.2**
RND	**Reindeer**	**63.77**	**335**	P	**P**	**20 37 52.9**	**+1.2**
CCB	**Clear Creek Bu**	**63.87**	**336**	P	**P**	**20 37 52.3**	**+0.1**
CCB				IAmb	IAmb	20 38 04.1	
	comp=Z,10.0nm,1.8s						
WRH	**Wood River Hil**	**63.90**	**336**	P	**P**	**20 37 52.4**	**-0.1**
WRH				IAmb	IAmb	20 40 11.9	
	comp=Z,9.0nm,1.7s						
BMAR	**Burnt Mountain**	**64.00**	**340**	P	**P**	**20 37 53.7**	**+0.5**
TRF	**Thorofare Moun**	**64.38**	**335**	P	**P**	**20 37 56.4**	**+0.5**
TRF				IAmb	IAmb	20 37 57.6	
	comp=Z,4.3nm,0.9s						
BPAW	**Bear Paw Mtn.**	**64.91**	**335**	P	**P**	**20 37 59.2**	**0.0**
BPAW				IAmb	IAmb	20 38 00.6	
	comp=Z,3.3nm,0.8s						
IMAR	**Indian Mountai**	**66.69**	**337**	P	**P**	**20 38 10.2**	**-0.3**
NRIK	**Noril'sk**	**97.39**	**0**	LR	LR	21 28 55.6	
	comp=Z,24nm,18.1s,baz=38,slow=38						
CMAR	**Chiang Mai Arr**	**146.68**	**342**	PKPbc	**PKPbc**	**20 47 02.8**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=348,slow=3.4,SNR=9.2						

*IDC **12** 20:30:12.5±2.9, 32.°51N×60.°45E, h0km, mb3.2/3, mb1 3.4/4, mb1mx3.2/42, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=60.0km s-min=33.4km az=151.0*
*TEH **12** 20:30:13.0, 32.°66N×60.°46E, h6km, ML3.7*
*THR **12** 20:30:14.5±0.6, 32.°72N×60.°40E, h15km±6km, ML3.5*
ISC 12 20:30:14.5±1.1, 32.°67N±0.°04×60.°47E±0.°06, h10km, n34, σ1s29/34, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IDAH	**Dahanechah**	**0.51**	**277**	*eP*g	**Pg**	**20 30 23.8**	**-0.7**
IDAH				*e*		20 30 32.5	
IMON	**Monand**	**0.85**	**308**	*eP*g	**Pg**	**20 30 30.0**	**-0.9**
IMON				*e*		20 30 45.7	
SHRT	**Shahrakht**	**0.98**	**351**	*eP*g	**Pg**	**20 30 32.0**	**-1.4**
SHRT				IAML		20 30 49.2	
	comp=N,1μm,0.4s						
SHRT	**Shahrakht**	**0.98**	**351**	*eP*g	**Pg**	**20 30 32.0**	**-1.4**
IKOO	**Kooshah**	**1.26**	**259**	*eP*g	**Pn**	**20 30 37.0**	**-1.4**
IKOO				*e*		20 30 43.2	
NHDN	**Nehbandan**	**1.32**	**196**	*eP*g	**Pn**	**20 30 38.0**	**-1.2**
NHDN				*e*		20 31 00.5	
BSRN	**Basiran**	**1.34**	**238**	*eP*g	**Pn**	**20 30 38.6**	**-0.8**
BSRN	**Basiran**	**1.34**	**238**	*eP*g	**Pn**	**20 30 38.6**	**-0.8**
AFRZ	**Afriz**	**1.43**	**302**	*eP*g	**Pn**	**20 30 40.5**	**-0.2**
AFRZ				*e*		20 30 45.6	
ITEG	**Tejag**	**1.46**	**279**	*eP*g	**Pn**	**20 30 41.2**	**0.0**
TABS	**Tabas**	**2.97**	**290**	*eP*n	**Pn**	**20 31 02.4**	**+0.6**
TABS	**Tabas**	**2.97**	**290**	*eP*n	**Pn**	**20 31 02.4**	**+0.6**
ZHSF	**Zahedan**	**3.06**	**175**	*eP*n	**Pn**	**20 31 05.3**	**+2.1**
ZHSF	**Zahedan**	**3.06**	**175**	*eP*n	**Pn**	**20 31 05.3**	**+2.1**
TPRV	**Parvadeh(Tabas**	**3.20**	**277**	*eP*n	**Pn**	**20 31 05.9**	**+0.9**
JRKH	**Jarkhoshk**	**3.23**	**358**	*eP*n	**Pn**	**20 31 06.1**	**+0.7**
TNSJ	**Nastanj**	**3.48**	**293**	*eP*n	**Pn**	**20 31 09.9**	**+1.1**
IMOG	**Moghan**	**3.55**	**345**	*eP*n	**Pn**	**20 31 11.3**	**+1.3**
IMYA	**Miami**	**3.67**	**355**	*eP*n	**Pn**	**20 31 12.5**	**+0.9**
CHMN	**Cheshme madani**	**3.76**	**223**	*eP*n	**Pn**	**20 31 13.8**	**+0.9**
IPAY	**Payeh**	**3.96**	**343**	*eP*n	**Pn**	**20 31 17.2**	**+1.7**
KHGB	**Koh Gabri**	**4.10**	**237**	*eP*n	**Pn**	**20 31 19.1**	**+1.5**
KRBR	**Kerman**	**4.15**	**231**	*eP*n	**Pn**	**20 31 20.0**	**+1.7**
KRBR	**Kerman**	**4.15**	**231**	*eP*n	**Pn**	**20 31 20.0**	**+1.7**
IAKL	**Akhelmad**	**4.16**	**341**	*eP*n	**Pn**	**20 31 19.7**	**+1.3**
IKRD	**Kardeh**	**4.40**	**339**	*eP*n	**Pn**	**20 31 19.9**	**-1.7**
IMEH	**Mehriz**	**5.13**	**257**	*eP*n	**Pn**	**20 31 33.2**	**+1.5**
GEYT	**Alibeck**	**5.58**	**341**	Pn	**Pn**	**20 31 38.1**	**+0.4**
	comp=N,1.4nm,0.3s,baz=171,slow=12,SNR=11						
ANAR	**Anarak**	**5.69**	**277**	*eP*n	**Pn**	**20 31 40.1**	**+0.9**
IANJ	**Anjilo**	**6.11**	**299**	*eP*n	**Pn**	**20 31 46.3**	**+1.2**
IPRN	**Peran**	**7.60**	**300**	*eP*n	**Pn**	**20 32 07.4**	**+2.0**
MKAR	**Makanchi Array**	**21.82**	**43**	P	**P**	**20 35 07.8**	**+0.9**
	comp=N,0.2nm,0.5s,baz=242,slow=11,SNR=2.2						
BRTR	**Keskin Array B**	**22.71**	**296**	P	**P**	**20 35 17.4**	**+0.8**
	comp=N,0.8nm,0.8s,baz=119,slow=12,SNR=3.6						
TORD	**Torodi Ar. Bea**	**56.81**	**264**	P	**P**	**20 39 58.4**	**-1.1**
	comp=N,0.7nm,0.8s,baz=54,slow=7.5,SNR=3.7						

ISC 12 20:44:33.3±1.1, 44.°09N±0.°04×16.°87E±0.°04, h7km±13km, n9, σ0s64/17, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MGRS	**Mrkonjic Grad**	**0.36**	**25**	*eP*g	**Pg**	**20 44 40.5**	**0.0**
MGRS				*eS*g	**Sg**	**20 44 45.2**	**-0.1**
MAKA	**Makarska**	**0.81**	**172**	*eP*g	**Pg**	**20 44 48.2**	**-0.5**
MAKA				Sg	**Sg**	**20 44 59.6**	**+0.4**
MORI	**Morici**	**0.87**	**256**	*eP*g	**Pg**	**20 44 49.4**	**-0.6**
MORI				Sg	**Sb**	**20 45 03.5**	**+1.0**
UDBI	**Udbina**	**0.91**	**299**	*eP*g	**Pg**	**20 44 49.7**	**-1.1**
UDBI				Sg	**Sg**	**20 45 02.8**	**+0.1**
HVAR	**Hvar**	**0.96**	**199**	*eP*g	**Pn**	**20 44 53.0**	**-0.3**
HVAR				Sg	**Sb**	**20 45 05.7**	**+0.5**
ZIRJ	**Zirje**	**0.99**	**245**	*eP*g	**Pn**	**20 44 53.5**	**-0.1**
ZIRJ				Sg	**Sn**	**20 45 07.4**	**-0.4**
STON	**Ston**	**1.35**	**153**	*eP*g	**Pb**	**20 44 58.9**	**-0.1**
STON				Sg	**Sg**	**20 45 17.7**	**+0.8**
NVLJ	**Novalja**	**1.51**	**289**	*eP*n	**Pg**	**20 45 02.6**	**+0.2**
NVLJ				Sg	**Sg**	**20 45 23.0**	**+1.0**
DBRK	**Dubrovnik**	**1.69**	**146**	Sn	**Sg**	**20 45 28.0**	**+0

NEW	**Newport**	**9.44**	**43**	LR	LR	20 54 11.0		
	comp=Z,153nm,18.2s,baz=228,slow=40							
PFO	**Pinyon Flats O**	**11.58**	**132**	LR	LR	20 54 49.4		
	comp=Z,87nm,21.4s,baz=308,slow=34							
ANMO	**Albuquerque**	**17.36**	**107**	LR	LR	20 59 32.9		
	comp=Z,94nm,19.9s,baz=311,slow=40							
YKA	**Yellowknife Ar**	**21.97**	**15**	P	**P**	**20 53 03.7**	**-0.2**	
	0.7nm,0.7s,baz=209,slow=11,SNR=4.6							
LPIG	**La Paz**	**22.38**	**137**	LR	LR	21 00 53.7		
	comp=Z,27nm,21.6s,baz=224,slow=34							
TXAR	**Lajitas Array**	**22.50**	**116**	P	**P**	**20 53 14.3**	**+4.4**	
	0.2nm,0.6s,baz=306,slow=12,SNR=1.3							
TXAR				LR	LR	21 02 44.2		
	comp=Z,54nm,19.5s,baz=0.0,slow=39							
TXAR	**Lajitas Array**	**22.50**	**116**	P	**P**	**20 53 10.3**	**+0.3**	
KDAK	**Kodiak Island**	**22.86**	**323**	LR	LR	20 59 43.0		
	comp=Z,91nm,18.5s,baz=126,slow=30							
ILAR	**Eielson Array**	**25.71**	**340**	P	**P**	**20 53 40.2**	**0.0**	
	0.6nm,0.9s,baz=149,slow=7.1,SNR=4.7							
SCHQ	**Schefferville**	**40.72**	**50**	LR	LR	21 12 40.0		
	comp=Z,32nm,18.4s,baz=102,slow=36							
H11N3	**WAKE ISLAND Hy**	**59.58**	**270**	T	T	22 02 27.9		
	baz=52,slow=75,SNR=57							
H11N2	**WAKE ISLAND Hy**	**59.58**	**270**	T	T	22 02 30.5		
	baz=52,slow=75,SNR=35							
H11N1	**WAKE ISLAND Hy**	**59.59**	**270**	T	T	22 02 31.6		
	baz=52,slow=75,SNR=23							
H11S1	**WAKE ISLAND Hy**	**60.47**	**269**	T	T	22 03 40.6		
	baz=52,slow=75,SNR=108							
H11S2	**WAKE ISLAND Hy**	**60.48**	**269**	T	T	22 03 44.9		
	baz=52,slow=75,SNR=81							
H11S3	**WAKE ISLAND Hy**	**60.49**	**269**	T	T	22 03 41.8		
	baz=52,slow=75,SNR=57							

JMA ***12*** *21:13:24.1±0.3,24.˚79N×122.˚84E,h24km±3km,M2.1*
TAP ***12*** *21:13:27.6,24.˚56N×122.˚79E,h19km,ML3.1,D*
ISC 12 21:13:25.7±1.0,24.˚71N±0.˚05×122.˚89E±0.˚03,h27km±9km, n59,σ1º05/71,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.26**	**169**	P		**Pb**	**21 13 31.7**	**-0.7**
YOJ	**Yonaguni jima**	**0.27**	**156**	*i* P		**Pb**	**21 13 33.3**	**+0.8**
	baz=108							
YOJ				*i* S		**Sb**	**21 13 37.3**	**+0.1**
	baz=108							
YOJ	**Yonaguni jima**	**0.27**	**156**	P		**Pb**	**21 13 32.0**	**-0.5**
YOJ				*e*S		**Sb**	**21 13 37.4**	**+0.3**
IRIF	**Iriomote-Funau**	**0.85**	**116**	P		**Pb**	**21 13 41.0**	**-0.9**
IRIF				*e*S		**Sb**	**21 13 53.3**	**+0.3**
TWB1	**Santiao Chiao**	**0.87**	**290**	*e*P		**Pn**	**21 13 42.7**	**+0.6**
	baz=302							
EGS		**0.88**	**279**	*e*P		**Pn**	**21 13 43.4**	**+1.2**
	baz=290							
TWC	**Suao**	**0.95**	**264**	P		**Pb**	**21 13 43.2**	**-0.3**
	baz=274							
TWC				*e*S		**Sn**	**21 13 56.4**	**+0.6**
	baz=274							
NTC	**Toucheng**	**0.97**	**279**	*e*P		**Pn**	**21 13 44.4**	**+0.9**
	baz=277							
HATJ	**Hateruma jima**	**1.06**	**128**	P		**Pb**	**21 13 45.3**	**-0.1**
NWF	**Wu-fen Shan**	**1.07**	**290**	*e*P		**Pb**	**21 13 45.5**	**0.0**
	baz=300							
ENA	**Nanau**	**1.08**	**255**	*e*P		**Pb**	**21 13 43.7**	**-2.0**
	baz=263							
ENA				*e*S		**Sb**	**21 13 58.7**	**-0.8**
	baz=263							
TWE	**Neicheng**	**1.11**	**271**	*e*P		**Pn**	**21 13 44.2**	**-1.2**
	baz=280							
JKRS	**Kuro-shima**	**1.13**	**115**	P		**Pn**	**21 13 45.8**	**+0.2**
JKRS				*e*S		**Sb**	**21 14 00.9**	**+0.2**
PCYT	**Pengchaiyu**	**1.18**	**321**	*e*P		**Pb**	**21 13 47.8**	**+0.4**
	baz=314							
JIJ	**Ishigaki jima**	**1.19**	**107**	P		**Pn**	**21 13 45.8**	**-0.7**
JIJ				*e*S		**Sb**	**21 14 01.7**	**-1.0**
ENTT	**Nioudou**	**1.20**	**267**	*e*P		**Pn**	**21 13 46.5**	**-0.2**
	baz=275							
ENTT				*e*S		**Sb**	**21 14 01.6**	**-1.4**
	baz=275							
NDT	**Datong Townshi**	**1.25**	**265**	*e*P		**Pn**	**21 13 46.3**	**-1.1**
	baz=273							
NDT				*e*S		**Sb**	**21 14 02.1**	**-2.3**
	baz=273							
NWLT	**Wulai**	**1.26**	**273**	*e*P		**Pn**	**21 13 46.6**	**-0.9**
	baz=281							
YM01	**YM01**	**1.27**	**290**	*e*P		**Pb**	**21 13 50.1**	**+1.1**
	baz=298							
YM11	**YM11**	**1.27**	**291**	*e*P		**Pn**	**21 13 48.6**	**+0.9**
	baz=299							
NACB	**Ninganchiao**	**1.29**	**246**	*e*P		**Pn**	**21 13 47.7**	**-0.2**
	baz=258							
NACB				*e*S		**Sn**	**21 14 04.5**	**+0.2**
	baz=258							
JISG	**Ishigakijimahi**	**1.30**	**95**	P		**Pn**	**21 13 47.6**	**-0.4**
YM04	**YM04**	**1.30**	**290**	*e*P		**Pn**	**21 13 48.8**	**+0.7**
	baz=298							
TWD	**Chiawan**	**1.33**	**242**	*e*P		**Pn**	**21 13 49.0**	**+0.6**
	baz=248							
ETLH	**Xiulin Townshi**	**1.38**	**249**	P		**Pn**	**21 13 48.9**	**-0.3**
	baz=255							
YHNB	**Yeheng**	**1.38**	**269**	*e*P		**Pn**	**21 13 48.7**	**-0.4**
	baz=276							
NSK	**Sanguang**	**1.39**	**269**	*e*P		**Pn**	**21 13 49.3**	**0.0**
	baz=276							
NNSB	**Datong**	**1.40**	**259**	P		**Pn**	**21 13 49.0**	**-0.4**
	baz=275							
NNSB				*e*S		**Sb**	**21 14 08.7**	**0.0**
	baz=275							
NNSH	**Datong**	**1.40**	**259**	*e*P		**Pn**	**21 13 49.6**	**+0.1**
	baz=265							
NNS	**Nan Shan**	**1.41**	**259**	*e*P		**Pb**	**21 13 51.3**	**0.0**
	baz=266							
WHF	**Hehuan Shan**	**1.58**	**249**	P		**Pn**	**21 13 52.8**	**+0.5**
	baz=255							
ESL	**Shilin**	**1.60**	**236**	*e*P		**Pn**	**21 13 53.0**	**+0.9**
	baz=228							
EGFH	**Guangfu**	**1.69**	**232**	*e*P		**Pn**	**21 13 53.9**	**+0.5**
	baz=224							
CHGB	**Renai**	**1.69**	**248**	*e*P		**Pn**	**21 13 54.9**	**+1.3**
	baz=238							
LIOB	**Emei**	**1.70**	**268**	*e*P		**Pb**	**21 13 55.8**	**-0.6**
	baz=290							
NSTT	**Nanjuang**	**1.72**	**268**	*e*P		**Pb**	**21 13 56.0**	**-0.5**
	baz=286							
NSTT				*e*S		**Sb**	**21 14 16.8**	**-0.9**
	baz=286							
HGSD	**Ruisui**	**1.81**	**228**	*e*P		**Pn**	**21 13 54.9**	**-0.1**
	baz=231							
WHP	**Taichung City**	**1.82**	**257**	*e*P		**Pb**	**21 13 58.1**	**-0.3**
	baz=262							
VWDT	**VWDT**	**1.86**	**239**	*e*P		**Pn**	**21 13 56.9**	**+1.2**
	baz=232							
EHY	**Hungye**	**1.87**	**230**	*e*P		**Pn**	**21 13 56.1**	**+0.3**
	baz=223							
DPDB	**Guoxing**	**1.91**	**250**	*e*P		**Pb**	**21 13 59.4**	**-0.5**
	baz=242							
YULB	**Yu-li**	**1.96**	**228**	*e*P		**Pn**	**21 13 57.3**	**+0.2**
	baz=232							
TWF1	**Yuli**	**1.99**	**227**	P		**Pn**	**21 13 58.0**	**+0.5**
	baz=230							
SSLB	**Suanglung**	**1.99**	**243**	*e*P		**Pn**	**21 13 58.2**	**+0.7**
	baz=247							
TYC	**Yuchr**	**2.02**	**247**	*e*P		**Pb**	**21 14 00.9**	**-0.8**
	baz=237							
WHYT	**Xinyi Township**	**2.12**	**242**	*e*P		**Pn**	**21 14 01.4**	**+2.1**
	baz=236							
ALS	**Alishan**	**2.25**	**238**	*e*P		**Pn**	**21 14 03.4**	**+2.1**
	baz=242							
ELDTW	**Lidau**	**2.29**	**229**	*e*P		**Pn**	**21 14 02.7**	**+1.0**
	baz=232							
CHN5	**Tsauling**	**2.30**	**242**	*e*P		**Pn**	**21 14 02.8**	**+0.9**
	baz=246							
STYT	**Tauyuan**	**2.48**	**232**	*e*P		**Pn**	**21 14 06.6**	**+2.3**
	baz=235							
TPUB	**Ta-pu**	**2.50**	**236**	*e*P		**Pn**	**21 14 06.3**	**+1.8**
	baz=240							
TWGBT	**Beinan**	**2.51**	**222**	*e*P		**Pn**	**21 14 05.9**	**+1.2**
	baz=236							
TWG	**Pinlang**	**2.51**	**222**	*e*P		**Pn**	**21 14 06.2**	**+1.6**
	baz=236							
WTP	**Ta-pu**	**2.54**	**235**	*e*P		**Pn**	**21 14 07.8**	**+2.7**
	baz=239							
TWK	**Hsinying**	**2.62**	**237**	*e*P		**Pn**	**21 14 08.6**	**+2.3**
	baz=240							
SLGT	**Liugui**	**2.67**	**231**	*e*P		**Pn**	**21 14 08.8**	**+1.9**
	baz=223							
SSD	**Sandimen**	**2.85**	**227**	*e*P		**Pn**	**21 14 09.5**	**+0.2**
	baz=220							
MASBT	**Mashibuluo**	**2.94**	**225**	*e*P		**Pn**	**21 14 11.1**	**+0.6**
	baz=219							
EAST	**Anshuo**	**2.98**	**219**	*e*P		**Pn**	**21 14 12.0**	**+0.9**
	baz=222							

KRNET ***12*** *21:13:45.9±0.1,41.˚13N×71.˚45E,h16km,mb3.0*
NNC ***12*** *21:13:46.6±2.0,41.˚02N×71.˚66E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=17.4km s-min=8.9km az=0.0*
SOME ***12*** *21:13:46.0,40.˚98N×71.˚63E,h10km*
ISU ***12*** *21:13:48.0,40.˚00N×72.˚30E,h5km*
ISC 12 21:13:45.9±1.1,41.˚12N±0.˚02×71.˚53E±0.˚02,h5km±12km, n34,σ1º99/58,16C-16D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FRG	**Fergana**	**0.43**	**153**	*i* P		**Pn**	**21 13 59.0**	**+0.1**
FRG				*i* S			21 14 17.0	
ANR	**Andizhan**	**0.73**	**120**	*e*P		**Pg**	**21 14 01.5**	**+1.6**
ANR				*e*S		**Sb**	**21 14 12.0**	**+0.6**
ARK	**Arkit**	**0.75**	**26**	⇓*i*P		**Pg**	**21 14 00.5**	**+0.1**
	baz=32							
ARK				⇓*i*S		**Sb**	**21 14 11.3**	**-0.9**
	baz=32							
CHMI	**Chimion**	**0.85**	**180**	*i* P		**Pb**	**21 14 01.1**	**-2.1**
CHMI				*i* S		**Sn**	**21 14 20.3**	**+2.8**
ARSB	**Arslanbob**	**1.11**	**79**	⇓*i*P		**Pb**	**21 14 08.1**	**+0.3**
	baz=80							
ARSB				⇓*i*S		**Sg**	**21 14 24.5**	**+2.7**
	baz=80							
BTK	**Batken**	**1.19**	**207**	⇑*i*P		**Pg**	**21 14 08.3**	**-0.5**
	baz=4.0							
BTK				⇑*i*S		**Sg**	**21 14 24.8**	**+0.5**
	baz=4.0							
BTK	**Batken**	**1.19**	**207**	*i* P		**Pg**	**21 14 08.3**	**-0.5**
BTK				*i* S		**Sg**	**21 14 26.0**	**+1.7**
IUG	**luzhnay**	**1.52**	**313**	*e*P		**Pg**	**21 14 16.9**	**+1.8**
	14nm,0.2s							
IUG				*e*S		**Sg**	**21 14 39.2**	**+4.4**
	246nm,0.4s							
TAS	**Tashkent**	**1.70**	**278**	⇓*e*P		**Pg**	**21 14 16.6**	**-1.9**
	baz=78							
TAS				⇓*e*S		**Sg**	**21 14 38.5**	**-2.0**
	baz=78							
CHM	**Chimkent**	**1.87**	**310**	*e*P		**Pg**	**21 14 23.5**	**+1.7**
	31nm,0.2s							
CHM				*e*S		**Sg**	**21 14 50.2**	**+4.1**
	436nm,0.4s							
AML	**Almayashu**	**1.91**	**57**	⇑*i*P		**Pb**	**21 14 21.9**	**+0.4**
	baz=59							
AML				⇑*i*S		**Sg**	**21 14 48.6**	**+1.2**
	baz=59							
MRKS	**Merke**	**2.06**	**37**	*e*P		**Pg**	**21 14 25.9**	**+0.5**
	35nm,0.2s							
MRKS				*e*S		**Sg**	**21 14 54.7**	**+2.6**
	109nm,0.5s							
MRKS	**Merke**	**2.06**	**37**	Pg		**Pg**	**21 14 25.9**	**+0.5**
	35nm,0.2s							
MRKS				Lg		Lg	21 14 54.7	
	109nm,0.5s							
KK31	**Karatay Array**	**2.12**	**339**	⇑Pn		**Pg**	**21 14 25.9**	**-0.7**
	5.4nm,0.3s,baz=161,slow=13,SNR=147							
KK31				⇑Lg		Lg	21 14 56.0	
	19nm,0.3s,baz=161,slow=30,SNR=19							
ARLS	**Aral**	**2.23**	**70**	⇓*i*P		**Pb**	**21 14 26.6**	**-0.1**
	baz=70							
ARLS				⇓*i*S		**Sb**	**21 14 56.3**	**+1.7**
	baz=70							
EKS2	**Erkin-Say**	**2.28**	**47**	⇑*i*P		**Pb**	**21 14 27.3**	**-0.3**
	baz=48							
EKS2				⇑*i*S		**Sb**	**21 14 57.4**	**+1.3**
	baz=48							
BRLS	**Borolday**	**2.29**	**327**	*e*P		**Pg**	**21 14 27.5**	**-2.2**
	10nm,0.3s							
BRLS				*e*S		**Sg**	**21 14 57.0**	**-2.3**
	89nm,0.4s							
GAR	**Garm**	**2.31**	**204**	⇓*i*P		**Pb**	**21 14 26.8**	**-1.4**
	baz=2.0							
GAR				⇓*i*S		**Sb**	**21 14 56.7**	**-0.5**
	baz=2.0							
UCH	**Uchtor**	**2.49**	**63**	⇑*i*P		**Pb**	**21 14 30.6**	**-0.9**
	baz=64							
UCH				⇑*i*S		**Sb**	**21 15 03.1**	**+0.4**
	baz=64							
AAK	**Ala-Archa**	**2.68**	**55**	⇓*e*P		**Pb**	**21 14 32.8**	**-1.7**
	baz=56							
AAK				⇓*i*S		**Sb**	**21 15 07.2**	**-0.6**
	baz=56							
AAK	**Ala-Archa**	**2.68**	**55**	⇓Pg		**Pb**	**21 14 33.0**	**-1.5**
	1.9nm,0.3s							
AAK				⇓Lg		Lg	21 15 11.8	
	11nm,0.7s							
FRU1	**Bishkek**	**2.86**	**53**	⇑*e*P		**Pb**	**21 14 34.9**	**-2.6**
	baz=54							
FRU1				⇑*e*S		**Sb**	**21 15 11.3**	**-1.6**
	baz=54							
KZA	**Kyzart**	**2.95**	**70**	⇑*i*P		**Pb**	**21 14 37.1**	**-2.1**
	baz=70							
KZA				⇑*i*S		**Sb**	**21 15 14.3**	**-1.4**
	baz=70							
USP	**Ospenovka**	**3.08**	**45**	⇓*e*P		**Pb**	**21 14 38.0**	**-3.2**
	baz=46							
USP				⇓*i*S		**Sb**	**21 15 16.1**	**-2.9**
	baz=46							
SGDS	**Sogindy**	**3.27**	**44**	Pg		**Pg**	**21 14 46.8**	**-1.8**
	5.0nm,0.4s							
SGDS				Lg		Lg	21 15 30.4	
	20nm,0.7s							
TKM2	**Tokmak 2**	**3.52**	**58**	⇑Pg		**Pb**	**21 14 49.4**	**+0.5**
	1.8nm,0.4s							
TKM2				⇑Lg		Lg	21 15 37.2	
	5.3nm,0.6s							
DGS	**Degeres**	**3.80**	**55**	*e*P		**Pg**	**21 14 56.7**	**-2.0**
	1.4nm,0.8s							
DGS				*e*S		**Sg**	**21 15 47.3**	**-0.6**
	19nm,0.8s							
DGS	**Degeres**	**3.80**	**55**	Pg		**Pg**	**21 14 56.7**	**-2.0**
	1.4nm,0.8s							
DGS				Lg		Lg	21 15 47.3	
	19nm,0.8s							
BTLS	**Baital**	**4.33**	**24**	*e*P		**Pg**	**21 15 07.6**	**-1.2**
	2.4nm,0.2s							
BTLS				*e*S		**Sg**	**21 16 05.7**	**+0.8**
	12nm,0.6s							
BTLS	**Baital**	**4.33**	**24**	Pg		**Pg**	**21 15 07.6**	**-1.2**
	2.4nm,0.2s							
BTLS				Lg		Lg	21 16 05.7	
	12nm,0.6s							
TNSS	**Tian-Shan**	**4.46**	**63**	*e*P		**Pg**	**21 15 08.8**	**-2.6**
	1.8nm,0.4s							
TNSS				*e*S		**Sg**	**21 16 08.5**	**-0.8**
	7.3nm,0.6s							
TNSS	**Tian-Shan**	**4.46**	**63**	Pg		**Pg**	**21 15 08.8**	**-2.6**
	1.8nm,0.4s							
TNSS				Lg		Lg	21 16 08.5	
	7.3nm,0.6s							
CHKK	**Chushkaly**	**4.87**	**54**	*e*P		**Pb**	**21 15 15.7**	**+3.9**
	0.9nm,0.1s							
CHKK				*e*S		**Sg**	**21 16 19.6**	**-2.7**
	6.8nm,0.6s							
CHKK	**Chushkaly**	**4.87**	**54**	Pg		**Pb**	**21 15 15.7**	**+3.9**
	0.9nm,0.1s							
CHKK				Lg		Lg	21 16 19.6	
	6.8nm,0.6s							

IDC ***12*** *21:15:46.0±0.4,6.˚35S×154.˚40E,h0km,mb4.8/29, mb1 4.9/34,mb1mx4.9/39,mbtmp4.8/34,ML3.8/5,MS4.3/31, Ms1 4.3/31,ms1mx4.3/36,Error ellipse: s-maj=13.8km s-min=11.8km az=94.0*
MOS ***12*** *21:15:49.8±1.1,6.˚43S×154.˚45E,h40km,mb5.1/17, MS4.6/5,Error ellipse: s-maj=7.1km s-min=6.2km az=91.9*
BJI ***12*** *21:15:50.9±0.0,5.˚82S×154.˚76E,h34km,mB5.2/49, mb5.2/69,Ms4.8/50,Ms7 4.5/48*
UNK ***12*** *21:15:52.1,6.˚44S×154.˚44E,h48km*
NEIC ***12*** *21:15:52.1±1.5,6.˚44S±0.˚07×154.˚44E±0.˚06,h48km±5km, mb5.0/190,Error ellipse: s-maj=10.3km s-min=8.6km az=197.0*
GCMT ***12*** *21:15:54.1±0.1,6.˚61S±0.˚01×154.˚30E±0.˚01,h21km, MW5.2/128,Moment Tensor Solution. s108,c154; s128,c202; Duration: 1s0 Moment tensor: Scale 10¹⁶ Nm; Mrr6.05±.13; Mθθ-3.29±.09; Mϕϕ-2.76±.09; Mrθ3.59±.16; Mθϕ2.83±.07; Mϕr-3.34±.17; Best double couple: M₀7.71700×10¹⁶ NP1:ϕ₁312.00000°,δ25.00000°, λ89.00000°. NP2:ϕ₂133.00000°,δ65.00000°,λ90.00000°. Principal axes: T 7.8080, Plg70.0000°, Azm43.0000°; N -0.1830, Plg0.0000°, Azm313.0000°; P -7.6250, Plg20.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***12*** *21:15:55.0±0.4,6.˚5S×3.˚5×15.˚4E±.˚,h55km±4km,M4.9/41, mb5.2/41,mB5.4/19,MLv5.2/3,Mw(mB)4.8/19,Mwp4.9/3*
ISC 12 21:15:52.1±0.2,6.˚40S±0.˚04×154.˚48E±0.˚04,h48km,n440, σ1º40/454,mb5.0/159,MS4.5/49,11C-3D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**3.19**	**313**	P		**Pn**	**21 16 39.9**	**+0.1**
KRVT	**Keravat (AS076**	**3.21**	**310**	P		**Pn**	**21 16 39.2**	**-0.9**
	56nm,0.3s,baz=351,slow=3.4,SNR=32							
KRVT				Sn		**Sn**	**21 17 16.6**	**-0.6**
	102nm,0.3s,baz=54,slow=14,SNR=7.8							
HNR	**Honiara**	**6.20**	**119**	Pn		**Pn**	**21 17 21.6**	**+0.5**
	8.0nm,0.3s,baz=229,slow=19,SNR=1.7							
HNR				LR		LR	21 20 06.7	
	comp=Z,8μm,18.2s,baz=274,slow=42							
PMG	**Port Moresby**	**7.84**	**247**	Pn		**Pn**	**21 17 42.5**	**-1.2**
	12nm,0.3s,baz=52,slow=8.5,SNR=64							
PMG				Sn		**Sn**	**21 19 12.1**	**+0.9**
	17nm,0.3s,baz=59,slow=23,SNR=14							
PMG				LR		LR	21 21 06.7	
	comp=Z,5μm,18.3s,baz=38,slow=41							
PMG	**Port Moresby**	**7.84**	**247**	*ce*P		**Pn**	**21 17 42.5**	**-1.2**
PMG				pmax		pmax		
	comp=Z,237nm,0.8s							
PMG	**Port Moresby**	**7.84**	**247**	Pn		**Pn**	**21 17 43.0**	**-0.7**
PMG						**Sn**	**21 19 10.5**	**-0.7**
COEN	**Coen**	**13.42**	**235**	P		**Pn**	**21 18 59.5**	**-0.5**
	baz=14,SNR=4.6							
COEN	**Coen**	**13.42**	**235**	Pn		**Pn**	**21 18 59.2**	**-0.8**
PATS	**Pohnpei**	**13.70**	**16**	P		**Pn**	**21 19 04.7**	**+0.9**
	baz=14,SNR=4.7							
JAY	**Jayapura**	**14.26**	**285**	Pn		**Pn**	**21 19 10.3**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=180,slow=24,SNR=6.7							
JAY				LR		LR	21 25 37.5	
	comp=Z,3μm,18.3s,baz=80,slow=42							
JAY	**Jayapura**	**14.26**	**285**	P		**Pn**	**21 19 11.1**	**-0.4**
	comp=Z,326nmcomp=Z,16nm,1.1s							
GENI	**Genyem**	**14.76**	**284**	P		**Pn**	**21 19 15.2**	**-2.8**
	comp=Z,31nm,0.4s							
MTSU	**Mount Surprise**	**15.31**	**219**	P		**Pn**	**21 19 25.5**	**+0.3**
	baz=15,SNR=4.6							
SANVU	**Saraoutou**	**15.38**	**127**	P		**P**	**21 19 29.0**	**-1.0**
SANVU				lAmb		lAmb	21 19 45.6	
	comp=Z,113nm,1.1s							
CTA	**Charters Tower**	**15.78**	**210**	Pn		**Pn**	**21 19 31.9**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=33,slow=13,SNR=28							
CTA				LR		LR	21 24 57.0	
	comp=Z,880nm,20.6s,baz=27,slow=35							
CTAO	**Charters Tower**	**15.78**	**210**	P		**Pn**	**21 19 28.6**	**-2.6**
CTAO				pmax		pmax		
	comp=Z,66nm,0.9s							
CTAO	**Charters Tower**	**15.78**	**210**	Pn		**Pn**	**21 19 28.6**	**-2.6**
SMPI	**Sarmi**	**16.32**	**285**	P		**Pn**	**21 19 38.4**	**+0.2**
	comp=Z,657nmcomp=Z,50nm,1.0s							
EIDS	**Eidsvold**	**19.14**	**189**	P		**Pn**	**21 20 12.6**	**-0.1**
	baz=19,SNR=3.3							
EIDS	**Eidsvold**	**19.14**	**189**	P		**P**	**21 20 11.2**	**-0.2**
DZM	**Mont Dzumac**	**19.40**	**145**	P		**Pn**	**21 20 16.2**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=341,slow=10,SNR=13							
DZM				LR		LR	21 26 58.6	
	comp=Z,1μm,20.4s,baz=314,slow=34							
DZM	**Mont Dzumac**	**19.40**	**145**	*e*Pn		**Pn**	**21 20 16.2**	**+0.3**
	comp=Z,128nm,1.1s							
DZM				*e*LR		LR	21 24 45.3	
	comp=Z,2μm,22.1s							
DZM	**Mont Dzumac**	**19.40**	**145**	P		**P**	**21 20 13.9**	**-0.5**
KWAJ	**Kwajalein Atol**	**19.99**	**41**	P		**P**	**21 20 21.0**	**+0.2**
KWAJ				pmax		pmax		
	comp=Z,255nm,1.0s							
KWAJ	**Kwajalein Atol**	**19.99**	**41**	P		**P**	**21 20 21.0**	**+0.2**
QIS	**Mount Isa**	**20.15**	**224**	P		**P**	**21 20 22.7**	**+0.1**
	baz=20,SNR=36							
RMQ	**Roma**	**20.70**	**195**	P		**P**	**21 20 29.1**	**+0.6**
	baz=21,SNR=11							
GUMO	**Guam**	**22.04**	**334**	P		**P**	**21 20 42.4**	**-0.4**
GUMO				pmax		pmax		
	comp=Z,115nm,1.1s							
GUMO	**Guam**	**22.04**	**334**	P		**P**	**21 20 42.4**	**-0.4**
GUMO				lAmb		lAmb	21 20 48.2	
	comp=Z,115nm,1.1s							
QLP	**Quilpie**	**22.32**	**205**	P		**P**	**21 20 46.2**	**+0.4**
	baz=22,SNR=11							
FAKI	**Fak Fak**	**22.42**	**278**	P		**P**	**21 20 45.5**	**-1.6**
	comp=Z,1μmcomp=Z,65nm,0.9s							
FAKI	**Fak Fak**	**22.42**	**278**	P		**P**	**21 20 45.2**	**-1.9**
FAKI				lAmb		lAmb	21 21 02.2	
	comp=Z,71nm,1.1s							
KDU	**Kakadu**	**22.57**	**252**	P		**P**	**21 20 47.4**	**-1.2**
	baz=23,SNR=14							
SAUI	**Saumlaki**	**23.05**	**265**	P		**P**	**21 20 53.5**	**-0.2**
WR0	**Warramunga Arr**	**23.59**	**233**	P		**P**	**21 20 57.9**	**-0.9**
WR0				lAmb		lAmb	21 21 14.3	
	comp=Z,74nm,1.1s							
WB0	**Warramunga Arr**	**23.61**	**234**	P		**P**	**21 20 57.9**	**-1.1**
WB0				lAmb		lAmb	21 21 15.2	
	comp=Z,51nm,1.1s							
WRAB	**Tennant Creek**	**23.73**	**234**	*ce*P		**P**	**21 20 58.8**	**-1.3**
WRAB				pmax		pmax		
	comp=Z,43nm,1.3s							
WRAB	**Tennant Creek**	**23.73**	**234**	P		**P**	**21 20 59.1**	**-1.0**
WRAB				lAmb		lAmb	21 21 08.9	
	comp=Z,38nm,0.9s					

STKA	**Stephens Creek**	**28.06**	**204**	P	**P**	**21**	**21**	**38.5 -0.7**
STKA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
STKA	**Stephens Creek**	**28.06**	**204**	P	**P**	**21**	**21**	**38.5 -0.7**
SOEI	**Soe**	**30.09**	**262**	P	**P**	**21**	**21**	**56.7 -0.9**
SOEI				IAmb	IAmb	21	22	13.1
	comp=Z,40nm,1.1s							
FITZ	**Fitzroy Crossi**	**30.43**	**245**	P	**P**	**21**	**22**	**00.0 -0.3**
	baz=30,SNR=6.0							
FITZ	**Fitzroy Crossi**	**30.43**	**245**	P	**P**	**21**	**21**	**59.8 -0.5**
FITZ				IAmb	IAmb	21	22	13.1
	comp=Z,23nm,0.8s							
WRKA	**Warakurna**	**31.17**	**231**	P	**P**	**21**	**22**	**06.5 -0.4**
	baz=31,SNR=12							
KMSI	**Cibinong**	**31.22**	**282**	P	**P**	**21**	**22**	**07.3 0.0**
	comp=Z,3µmcomp=Z,168nm,1.0s							
MMRI	**Maumere**	**32.04**	**264**	P	P	21	22	26.9 +12
MMRI	**Maumere**	**32.04**	**264**	P	**P**	**21**	**22**	**14.9 +0.4**
LUWI	**Luwuk**	**32.07**	**278**	P	**P**	**21**	**22**	**15.4 +0.5**
	comp=Z,3µmcomp=Z,102nm,0.8s							
LUWI	**Luwuk**	**32.07**	**278**	P	**P**	**21**	**22**	**14.5 -0.4**
TOO	**Toolangi**	**32.09**	**194**	P	**P**	**21**	**22**	**14.3 -0.4**
TOO				pmax	pmax			
	comp=Z,6.0nm,1.0s							
TOO	**Toolangi**	**32.09**	**194**	P	**P**	**21**	**22**	**14.3 -0.4**
EDFI	**Ende, Flores**	**32.58**	**264**	P	**P**	**21**	**22**	**19.1 -0.3**
	comp=Z,374nmcomp=Z,52nm,0.7s							
MRSI	**Marisa**	**33.19**	**281**	P	**P**	**21**	**22**	**24.6 0.0**
	comp=Z,37nm,1.1s							
APSI	**Ampana**	**33.20**	**278**	P	**P**	**21**	**22**	**25.1 +0.4**
	comp=Z,653nmcomp=Z,52nm,1.0s							
OUZ	**Omahuta**	**33.65**	**151**	P	**P**	**21**	**22**	**27.4 -0.9**
OUZ				IAmb	IAmb	21	22	36.4
	comp=Z,28nm,1.2s							
BNSI	**Bone**	**34.27**	**272**	P	**P**	**21**	**22**	**34.8 +0.7**
	comp=Z,24nm,1.3s							
KAPI	**Kappang**	**34.58**	**270**	P	**P**	**21**	**22**	**34.7 -2.0**
KAPI				pmax	pmax			
	comp=Z,20nm,0.7s							
KAPI	**Kappang**	**34.58**	**270**	P	**P**	**21**	**22**	**34.7 -2.0**
KAPI				IAmb	IAmb	21	22	53.9
	comp=Z,20nm,0.7s							
SPSI	**Sidrap Palu**	**34.65**	**272**	P	**P**	**21**	**22**	**37.4 +0.1**
	comp=Z,393nmcomp=Z,22nm,1.1s							
FORT	**Forrest**	**34.67**	**222**	P	**P**	**21**	**22**	**35.3 -2.0**
FORT				IAmb	IAmb	21	22	50.8
	comp=Z,25nm,0.8s							
MPSI	**Mapaga**	**35.16**	**280**	P	**P**	**21**	**22**	**41.8 +0.1**
	comp=Z,699nmcomp=Z,80nm,0.8s							
THZ	**Tophouse**	**38.84**	**158**	P	**P**	**21**	**23**	**13.0 +0.3**
TUWZ	**Tuamarina**	**38.95**	**157**	P	**P**	**21**	**23**	**14.0 +0.4**
SNZO	**South Karori**	**39.16**	**156**	P	**P**	**21**	**23**	**14.2 -1.0**
SNZO				IAmb	IAmb	21	23	17.4
	comp=Z,48nm,1.1s							
BFZ	**Birch Farm**	**39.30**	**154**	P	**P**	**21**	**23**	**16.4 0.0**
BFZ				IAmb	IAmb	21	23	22.4
	comp=Z,36nm,1.1s							
BHW	**Baring Head**	**39.31**	**156**	P	**P**	**21**	**23**	**16.3 -0.2**
CMWZ	**Cape Campbell**	**39.33**	**157**	P	**P**	**21**	**23**	**14.2 -2.5**
FOZ	**Fox Glacier**	**39.37**	**162**	P	**P**	**21**	**23**	**16.1 -0.8**
FOZ				IAmb	IAmb	21	23	30.0
	comp=Z,20nm,1.0s							
MSWZ	**Moikau Station**	**39.47**	**155**	P	**P**	**21**	**23**	**17.7 -0.2**
LTZ	**Lake Taylor**	**39.50**	**159**	P	**P**	**21**	**23**	**18.6 +0.5**
LTZ				IAmb	IAmb	21	23	37.5
	comp=Z,21nm,0.9s							
PLWZ	**Palliser**	**39.60**	**155**	P	**P**	**21**	**23**	**18.4 -0.7**
MEEK	**Meekatharra**	**39.62**	**235**	P	**P**	**21**	**23**	**19.9 +0.5**
	baz=40,SNR=11							
KHZ	**Kahutara**	**39.64**	**158**	P	**P**	**21**	**23**	**20.0 +0.8**
KHZ				IAmb	IAmb	21	23	37.9
	comp=Z,26nm,0.9s							
RPZ	**Rata Peaks**	**39.92**	**161**	P	**P**	**21**	**23**	**22.1 +0.5**
	comp=Z,13nm,0.8s,baz=73,slow=6.7,SNR=4.0							
RPZ	**Rata Peaks**	**39.92**	**161**	P	**P**	**21**	**23**	**21.8 +0.2**
RPZ				IAmb	IAmb	21	23	36.1
	comp=Z,36nm,0.9s							
JAGI	**Jajag, Banyuwa**	**40.03**	**264**	P	**P**	**21**	**23**	**21.2 -1.7**
DCZ	**Deep Cove**	**40.44**	**166**	P	**P**	**21**	**23**	**26.2 +0.3**
MQZ	**McQueen's Vall**	**40.44**	**160**	P	**P**	**21**	**23**	**25.4 -0.5**
MLZ	**Mavora Lakes**	**40.59**	**165**	P	**P**	**21**	**23**	**26.9 -0.2**
MLZ				IAmb	IAmb	21	23	41.4
	comp=Z,24nm,1.0s							
ODZ	**Otahua Downs**	**40.99**	**162**	P	**P**	**21**	**23**	**28.3 -2.1**
WHZ	**Wether Hill Ro**	**41.03**	**166**	P	**P**	**21**	**23**	**29.8 -1.0**
JOHN	**Johnston Islan**	**42.37**	**57**	P	**P**	**21**	**23**	**40.5 -1.5**
KLBR	**Kellerberrin**	**42.48**	**229**	P	**P**	**21**	**23**	**42.9 +0.1**
	baz=43,SNR=4.9							
MORW	**Morawa**	**42.69**	**233**	P	**P**	**21**	**23**	**44.7 +0.2**
	baz=43,SNR=3.5							
MORW	**Morawa**	**42.69**	**233**	P	**P**	**21**	**23**	**43.9 -0.7**
MORW				IAmb	IAmb	21	23	57.6
	comp=Z,22nm,0.9s							
NWAO	**Narrogin (SRO)**	**43.51**	**228**	P	**P**	**21**	**23**	**49.6 -1.5**
NWAO				pmax	pmax			
	comp=Z,11nm,1.0s							
NWAO	**Narrogin (SRO)**	**43.51**	**228**	P	**P**	**21**	**23**	**49.6 -1.5**
MJAR	**Matsushiro Arr**	**45.36**	**342**	P	**P**	**21**	**24**	**04.5 -1.3**
	comp=Z,2.2nm,0.7s,baz=162,slow=7.8,SNR=5.4							
MJAR				PcP	**PcP**	**21**	**25**	**45.3 +0.6**
	comp=Z,4.8nm,0.9s,baz=173,slow=5.0,SNR=5.6							
MJAR				LR	LR	21	43	54.5
	comp=Z,179nm,18.0s,baz=175,slow=37							
MJAR	**Matsushiro Arr**	**45.36**	**342**	P	**P**	**21**	**24**	**06.6 +0.8**
MJAR				pmax	pmax			
	comp=Z,3.0nm,1.2s							
MJAR	**Matsushiro Arr**	**45.36**	**342**	P	**P**	**21**	**24**	**06.6 +0.8**
MAT	**Matsushiro**	**45.36**	**342**	P	**P**	**21**	**24**	**05.9 +0.1**
MAT				*e*S	**S**	**21**	**30**	**39.0 -4.4**
CISI	**Cisompet, Garu**	**46.32**	**266**	P	**P**	**21**	**24**	**12.9 -0.9**
	comp=Z,92nm,0.9s							
CISI	**Cisompet, Garu**	**46.32**	**266**	P	**P**	**21**	**24**	**13.4 -0.4**
RAR	**Rarotonga**	**46.61**	**113**	P	**P**	**21**	**24**	**16.9 +1.0**
	comp=Z,16nm,0.8s,baz=317,slow=3.2,SNR=3.7							
RAR	**Rarotonga**	**46.61**	**113**	P	**P**	**21**	**24**	**15.3 -0.6**
RAR				pmax	pmax			
	comp=Z,27nm,1.1s							
RAR	**Rarotonga**	**46.61**	**113**	P	**P**	**21**	**24**	**15.3 -0.6**
RAR				IAmb	IAmb	21	24	32.1
	comp=Z,27nm,1.1s							
QZH	**Quanzhou**	**46.80**	**313**⇑	*i*P	**P**	**21**	**24**	**18.6 +1.3**
QZH				S	**S**	**21**	**31**	**01.2 -3.3**
QZH				pmax	pmax			
	comp=Z,92nm,0.8s							
SKJI	**Sukabumi**	**47.58**	**266**	P	**P**	**21**	**24**	**21.9 -1.7**
	comp=Z,196nm,0.6s							
TJN	**Taejon**	**49.57**	**331**	*c*eP	**P**	**21**	**24**	**38.8 +0.3**
KSRS	**Korea Array**	**50.18**	**332**	P	**P**	**21**	**24**	**43.3 +0.2**
	comp=Z,14nm,1.0s,baz=150,slow=8.9,SNR=45							
KSRS				LR	LR	21	44	35.6
	comp=Z,118nm,19.2s,baz=144,slow=34							
KSAR	**Wonju Array Be**	**50.19**	**332**	P	**P**	**21**	**24**	**42.8 -0.4**
KSAR	**Wonju Array Be**	**50.19**	**332**	P	**P**	**21**	**24**	**42.8 -0.4**
QIZ	**Qiongzhong**	**50.72**	**301**	P	**P**	**21**	**24**	**48.0 +0.5**
QIZ				S	**S**	**21**	**32**	**00.2 +0.4**
QIZ				LR	LR			
	comp=Z,520nm,16.9s							
QIZ				LR	LR			
	comp=Z,490nm,20.0s							
INCN	**Inchon**	**50.81**	**331**	P	**P**	**21**	**24**	**48.6 +0.7**
INCN				pmax	pmax			
	comp=Z,54nm,1.0s							
INCN	**Inchon**	**50.81**	**331**	P	**P**	**21**	**24**	**48.6 +0.7**
NJ2	**Nanjing**	**51.13**	**321**	*e*P	**P**	**21**	**24**	**52.8 +2.4**
NJ2				pmax	pmax			
	comp=Z,15nm,1.3s							
NJ2				pmax	pmax			
	comp=Z,470nm,3.9s							
NJ2				LR	LR			
	comp=Z,600nm,19.4s							
NJ2				LR	LR			
	comp=Z,250nm,15.4s							
NJ2				LR	LR			
	comp=Z,710nm,20.4s							
MNAI	**Manna**	**51.32**	**270**	P	**P**	**21**	**24**	**49.4 -2.8**
WHN	**Wuhan**	**53.16**	**316**	⇑P	**P**	**21**	**25**	**07.6 +2.1**
WHN				S	**S**	**21**	**32**	**40.5 +7.6**
WHN				pmax	pmax			
	comp=Z,140nm,1.0s							
WHN				LR	LR			
	comp=Z,1µm,18.2s							
YSS	**Yuzh-Sakhalins**	**54.13**	**350**	*e*P	**P**	**21**	**25**	**14.6 +2.3**
YSS				MLR	MLR			
	comp=Z,400nm,15.0s							
KIP	**Kipapa**	**54.18**	**58**	P	**P**	**21**	**25**	**12.4 -0.7**
USA0B	**Ussuriysk Arra**	**54.30**	**340**	P	**P**	**21**	**25**	**13.9 +0.3**
USA0B				pmax	pmax			
	comp=Z,5.0nm,0.9s							
USA0B	**Ussuriysk Arra**	**54.30**	**340**	P	**P**	**21**	**25**	**13.9 +0.3**
USRK	**Ussuriysk Ar.**	**54.30**	**340**	P	**P**	**21**	**25**	**14.0 +0.4**
	comp=Z,3.8nm,0.8s,baz=181,slow=9.1,SNR=8.2							
USRK				LR	LR	21	46	41.2
	comp=Z,98nm,20.5s,baz=155,slow=34							
USRK	**Ussuriysk Ar.**	**54.30**	**340**	P	**P**	**21**	**25**	**14.0 +0.4**
DL2	**Dalian**	**54.40**	**329**	P	**P**	**21**	**25**	**15.3 +0.9**
DL2				S	**S**	**21**	**32**	**52.5 +3.1**
DL2				pmax	pmax			
	comp=Z,27nm,0.9s							
DL2				LR	LR			
	comp=Z,220nm,17.6s							
DL2				LR	LR			
	comp=Z,200nm,19.5s							
DL2				LR	LR			
	comp=Z,280nm,15.9s							
PPT	**Papeete**	**55.66**	**107**	LR	LR	21	45	57.5
	comp=Z,176nm,19.0s,baz=290,slow=32							
PPT2	**Papeete2**	**55.66**	**107**	*e*S	**S**	**21**	**33**	**06.5 -0.7**
	comp=Z,144nm,26.0s							
PPT2				*e*LQ	LQ	21	39	15.5
	comp=Z,524nm,26.5s							
PPT2				*e*LR	LR	21	41	36.1
	comp=Z,186nm,21.5s							
TBI	**Tubuai**	**56.38**	**114**	*e*S	**S**	**21**	**33**	**15.4 -1.1**
	comp=Z,97nm,29.8s							
TBI				*e*LQ	LQ	21	39	32.5
	comp=Z,927nm,29.8s							
TBI				*e*LR	LR	21	42	00.4
	comp=Z,234nm,23.0s							
CN2	**Changchun**	**56.44**	**335**	*e*P	**P**	**21**	**25**	**28.7 -0.3**
CN2				*e*S	**S**	**21**	**33**	**10.7 -5.8**
CN2				pmax	pmax			
	comp=Z,20nm,1.0s							
CN2				LR	LR			
	comp=Z,270nm,15.0s							
CN2				LR	LR			
	comp=Z,210nm,15.0s							
CN2				LR	LR			
	comp=Z,270nm,17.0s							
GYA	**Guiyang**	**56.69**	**307**⇓	*i*P	**P**	**21**	**25**	**34.1 +2.9**
GYA				PcP	**PcP**	**21**	**26**	**32.1 +5.1**
GYA				PP	**PP**	**21**	**27**	**35.0 -2.8**
GYA				S	**S**	**21**	**33**	**26.9 +6.2**
GYA				SS	**SS**	**21**	**37**	**07.7 -1.6**
GYA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
GYA				pmax	pmax			
	comp=Z,180nm,5.0s							
GYA				LR	LR			
	comp=Z,250nm,5.0s							
GYA				LR	LR			
	comp=Z,320nm,5.1s							
GYA				LR	LR			
	comp=Z,460nm,19.0s							
SKR	**Severo-Kuril's**	**56.87**	**1**	*e*P	**P**	**21**	**25**	**35.8 +3.9**
SKR				*e*S	S	21	33	39.6 +18
SKR				*e*SS	**SS**	**21**	**37**	**09.4 -1.6**
SKR				pmax	pmax			
	comp=Z,100nm,12.0s							
SKR				MLR	MLR			
	comp=Z,100nm,20.0s							
BJI	**Beijing**	**58.15**	**326**	P	**P**	**21**	**25**	**41.4 +0.3**
BJI				S	**S**	**21**	**33**	**43.4 +4.3**
BJI				pmax	pmax			
	comp=Z,4.0nm,0.5s							
BJI				LR	LR			
	comp=Z,180nm,14.9s							
BJI				LR	LR			
	comp=Z,140nm,16.1s							
XAN	**Xi'an**	**58.93**	**316**	P	**P**	**21**	**25**	**47.3 +0.6**
XAN				PcP	**PcP**	**21**	**26**	**39.4 +3.8**
XAN				PP	**PP**	**21**	**27**	**57.7 +0.2**
XAN				S	S	21	33	38.6 -11
XAN				ScS	**ScS**	**21**	**35**	**26.3 -6.7**
XAN				pmax	pmax			
	comp=Z,47nm,0.9s							
XAN				pmax	pmax			
	comp=Z,230nm,3.9s							
XAN				LR	LR			
	comp=Z,320nm,23.9s							
XAN				LR	LR			
	comp=Z,410nm,20.4s							
XAN				LR	LR			
	comp=Z,720nm,20.1s							
XAN	**Xi'an**	**58.93**	**316**	P	**P**	**21**	**25**	**47.5 +0.8**
XAN				pmax	pmax			
	comp=Z,31nm,0.8s							
XAN	**Xi'an**	**58.93**	**316**	P	**P**	**21**	**25**	**47.5 +0.8**
KMI	**Kunming**	**59.26**	**304**	P	**P**	**21**	**25**	**52.8 +3.4**
KMI				pP	pP	21	26	03.4 +2.3
KMI				pmax	pmax			
	comp=Z,27nm,0.9s							
KMI				pmax	pmax			
	comp=Z,170nm,4.3s							
KMI				LR	LR			
	comp=Z,300nm,14.2s							
KMI				LR	LR			
	comp=Z,290nm,19.9s							
KMI				LR	LR			
	comp=Z,380nm,23.7s							
PET	**Petropavlovsk**	**59.30**	**3**	*e*P	**P**	**21**	**25**	**51.8 +3.0**
PET				*e*		21	28	08.4
PET				*e*S	S	21	34	03.6 +10
PET						21	40	20.8
PET				pmax	pmax			
	comp=Z,100nm,11.1s							
PET				pmax	pmax			
	comp=Z,100nm,16.4s							
PET				MLR	MLR			
	comp=Z,300nm,15.0s							
PET				MLR	MLR			
	comp=Z,200nm,16.0s							
PEA0B	**Petropavlovsk-**	**59.35**	**2**	*i*P	**P**	**21**	**25**	**49.0 -0.2**
PETK	**Petropavlovsk-**	**59.35**	**2**	P	**P**	**21**	**25**	**50.5 +1.3**
	comp=Z,5.0nm,0.9s,baz=182,slow=8.5,SNR=7.8							
PETK				LR	LR	21	47	48.9
	comp=Z,166nm,21.9s,baz=226,slow=32							
PETK	**Petropavlovsk-**	**59.35**	**2**	P	**P**	**21**	**25**	**50.0 +0.8**
PETK	**Petropavlovsk-**	**59.35**	**2**	P	**P**	**21**	**25**	**50.0 +0.8**
CMAR	**Chiang Mai Arr**	**60.07**	**295**	P	**P**	**21**	**25**	**56.1 +1.3**
	comp=Z,9.2nm,1.1s,baz=112,slow=5.1,SNR=23							
CMAR				LR	LR	21	50	34.2
	comp=Z,129nm,21.2s,baz=158,slow=35							
CMAR	**Chiang Mai Arr**	**60.07**	**295**	*i*P	**P**	**21**	**25**	**57.0 +2.2**
CMAR				pmax	pmax			
	comp=Z,9.0nm,1.0s							
CHTO	**Chiang Mai**	**60.18**	**296**	P	**P**	**21**	**25**	**55.6 0.0**
CHTO				pmax	pmax			
	comp=Z,11nm,1.2s							
CHTO	**Chiang Mai**	**60.18**	**296**	P	**P**	**21**	**25**	**55.5 0.0**
CHTO				IAmb	IAmb	21	26	07.4
	comp=Z,11nm,1.1s							
CD2	**Chengdu**	**61.04**	**311**	*e*P	**P**	**21**	**26**	**01.0 -0.3**
CD2				S	**S**	**21**	**34**	**17.6 +0.7**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				LR	LR			
	comp=Z,630nm,20.6s							
CD2				LR	LR			
	comp=Z,640nm,19.6s							
HHC	**Hu-ho-hao-te**	**61.32**	**324**	*e*P	**P**	**21**	**26**	**04.3 +1.3**
HHC				pmax	pmax			
	comp=Z,7.0nm,0.9s							
HHC				pmax	pmax			
	comp=Z,55nm,6.6s							
HHC				LR	LR			
	comp=Z,130nm,20.3s							
HHC				LR	LR			
	comp=Z,200nm,21.1s							
HHC				LR	LR			
	comp=Z,160nm,20.4s							
ADK	**Adak**	**63.08**	**20**	P	**P**	**21**	**26**	**12.7 -1.7**
ADK				pmax	pmax			
	comp=Z,26nm,1.0s							
ADK	**Adak**	**63.08**	**20**	P	**P**	**21**	**26**	**12.7 -1.7**
HIA	**Hailar**	**63.17**	**335**	P	**P**	**21**	**26**	**14.8 -0.4**
HIA				pmax	pmax			
	comp=Z,22nm,0.8s							
HIA	**Hailar**	**63.17**	**335**	P	**P**	**21**	**26**	**14.8 -0.4**
LZH	**Lanzhou**	**63.54**	**316**	⇓P	**P**	**21**	**26**	**20.1 +2.1**
LZH				pP	sP	21	26	33.4 -1.4
LZH				sP	pwP	21	26	38.6 +1.7
LZH				pmax	pmax			
	comp=Z,26nm,1.4s							
LZH				pmax	pmax			
	comp=Z,120nm,5.5s							
LZH				LR	LR			
	comp=Z,260nm,17.9s							
LZH				LR	LR			
	comp=Z,310nm,17.9s							
LZH				LR	LR			
	comp=Z,290nm,17.9s							
ZEA	**Zeya**	**64.16**	**342**	*e*P	**P**	**21**	**26**	**22.4 +0.9**
ZEA				pmax	pmax			
	comp=Z,35nm,1.0s							
MA2	**Magadan**	**65.83**	**358**	LR	LR	21	54	42.9
	comp=Z,124nm,19.2s,baz=142,slow=36							
MA2	**Magadan**	**65.83**	**358**	P	**P**	**21**	**26**	**30.7 -1.6**
MA2				pmax	pmax			
	comp=Z,9.0nm,0.9s							
MA2	**Magadan**	**65.83**	**358**	P	**P**	**21**	**26**	**30.7 -1.6**
NIKH	**Nikolski High**	**66.80**	**23**	P	**P**	**21**	**26**	**38.3 -0.3**
CASY	**Casey**	**67.00**	**198**	P	**P**	**21**	**26**	**40.3 +0.6**
GTA	**Gaotai**	**67.96**	**317**	P	**P**	**21**	**26**	**47.8 +1.3**
GTA				pP	pP	21	27	00.8 +2.4
GTA				sP	pwP	21	27	05.7 +0.3
GTA				S	**S**	**21**	**35**	**40.4 -1.8**
GTA				pmax	pmax			
	comp=Z,10.0nm,0.8s							
GTA				pmax	pmax			
	comp=Z,160nm,7.6s							
GTA				LR	LR			
	comp=Z,180nm,18.2s							
GTA				LR	LR			
	comp=Z,230nm,15.8s							
GTA				LR	LR			
	comp=Z,270nm,18.2s							
ULN	**Ulaanbaatar**	**68.23**	**328**	P	**P**	**21**	**26**	**49.4 +1.4**
ULN				pmax	pmax			
	comp=Z,11nm,1.0s							
ULN	**Ulaanbaatar**	**68.23**	**328**	P	**P**	**21**	**26**	**49.4 +1.4**
ULN				IAmb	IAmb	21	26	56.5
	comp=Z,11nm,0.9s							
UNV	**Unalaska Valle**	**68.39**	**24**	P	**P**	**21**	**26**	**49.4 +0.8**
UNV				IAmb	IAmb	21	27	05.8
	comp=Z,23nm,1.0s							
SHL	**Shillong**	**68.56**	**301**	P	**P**	**21**	**26**	**51.1 +0.6**
SHL				pmax	pmax			
	comp=Z,82nm,0.9s							
SHL	**Shillong**	**68.56**	**301**	P	**P**	**21**	**26**	**51.1 +0.6**
SONM	**Songino Array**	**68.56**	**327**	P	**P**	**21**	**26**	**51.3 +1.3**
	comp=Z,6.6nm,1.0s,baz=131,slow=5.9,SNR=25							
SONM				LR	LR	21	58	51.4
	comp=Z,301nm,18.1s,baz=114,slow=38							
SONM	**Songino Array**	**68.56**	**327**	P	**P**	**21**	**26**	**51.0 +1.0**
SONM				pmax	pmax			
	comp=Z,9.0nm,1.0s							
SONM	**Songino Array**	**68.56**	**327**	P	**P**	**21**	**26**	**51.0 +1.0**
RKT	**Rikitea**	**69.64**	**112**	*e*LQ	LQ	21	45	06.5
	comp=Z,274nm,27.8s							
RKT				*e*LR	LR	21	48	01.8
	comp=Z,464nm,23.5s							
FALS	**False Pass**	**70.37**	**24**	P	**P**	**21**	**27**	**01.0 +0.2**
LSA	**Lhasa**	**70.52**	**304**	P	**P**	**21**	**27**	**05.9 +3.0**
LSA				pmax	pmax			
	comp=Z,120nm,1.0s							
LSA	**Lhasa**	**70.52**	**304**	P	**P**	**21**	**27**	**03.1 +0.2**
LSA				pmax	pmax			
	comp=Z,21nm,0.7s							
LSA	**Lhasa**	**70.52**	**304**	P	**P**	**21**	**27**	**03.1 +0.2**
LSA				IAmb	IAmb	21	27	18.8
	comp=Z,21nm,0.7s							
YAK	**Yakutsk**	**70.87**	**348**	*e*P	**P**	**21**	**27**	**03.9 +0.2**
YAK				pmax	pmax			
	comp=Z,23nm,1.0s							
YAK				pmax	pmax			
	comp=N,6.0nm,1.3s							
YAK				pmax	pmax			
	comp=E,4.0nm,1.5s							
YAK	**Yakutsk**	**70.87**	**348**	P	**P**	**21**	**27**	**03.9 +0.2**
YAK				IAmb	IAmb	21	27	05.4
	comp=Z,21nm,0.9s							
VNDA	**Vanda**	**71.18**	**178**	P	**P**	**21**	**27**	**06.9 +1.4**
	comp=Z,2.9nm,0.8s,baz=334,slow=6.3,SNR=18							
VNDA	**Vanda**	**71.18**	**178**	P	**P**	**21**	**27**	**05.1 -0.4**
VNDA				pmax	pmax			
	comp=Z,5.0nm,0.9s							
VNDA	**Vanda**	**71.18**	**178**	P	**P**	**21**	**27**	**05.1 -0.4**
ZAK	**Zakamensk**	**71.72**	**328**	*e*P	**P**	**21**	**27**	**09.9 +0.6**
ZAK				pmax	pmax			
	comp=Z,14nm,1.2s							
TLY	**Talaya**	**72.30**	**330**	*e*P	**P**	**21**	**27**	**14.6 +2.0**
TLY				*e*S	**SKiKP**	**21**	**36**	**39.3 -5.3**
TLY				pmax	pmax			
	comp=Z,14nm,1.0s							
TLY				MLR	MLR			
	comp=Z,408nm,18.0s							
TLY	**Talaya**	**72.30**	**330**	P	**P**	**21**	**27**	**12.4 -0.2**
CHGN	**Chignik**	**73.44**	**25**	P	**P**	**21**	**27**	**19.4 +0.2**
CHGN				IAmb	IAmb	21	27	20.4
	comp=Z,21nm,0.9s							
MOY	**Mondy**	**73.64**	**329**	*e*P	**P**	**21**	**27**	**23.5 +2.8**
GAMB	**Gambell**	**74.48**	**15**	P	**P**	**21**	**27**	**26.0 +0.9**
BILL	**Bilibino**	**74.73**	**5***c*	*i*P	**P**	**21**	**27**	**27.3 +0.7**
BILL				*e**PP	**pP**	**21**	**27**	**38.9 -0.5**
BILL				*e**SP	**sP**	**21**	**27**	**45.4 +1.0**
BILL				*e*S	**S**	**21**	**36**	**54.8 -4.3**
BILL				pmax	pmax			
	comp=Z,7.0nm,1.0s							
BILL				MLR	MLR			
	comp=Z,236nm,18.0s							
BILL	**Bilibino**	**74.73**	**5**	P	**P**	**21**	**27**	**26.7 +0.1**
OHAK	**Old Harbor**	**76.22**	**26**	P	**P**	**21**	**27**	**35.5 +0.2**
OHAK				IAmb	IAmb	21	27	36.9
	comp=Z,20nm,1.0s							
ANM	**Nome**	**76.81**	**17**	P	**P**	**21**	**27**	**38.5 0.0**
ANM				pmax	pmax			
	comp=Z,8.0nm,0.9s							
ANM	**Nome**	**76.81**	**17**	P	**P**	**21**	**27**	**38.5 0.0**
KDAK	**Kodiak Island**	**76.86**	**26**	P	**P**	**21**	**27**	**39.9 +1.1**
	comp=Z,8.2nm,0.9s,baz=144,slow=3.9,SNR=4.8							
KDAK				LR	LR	21	55	31.8
	comp=Z,259nm,21.9s,baz=244,slow=31							
KDAK	**Kodiak Island**	**76.86**	**26**	P	**P**	**21**	**27**	**39.1 +0.2**
KDAK				pmax	pmax			
	comp=Z,16nm,1.1s							
KDAK	**Kodiak Island**	**76.86**	**26**	P	**P**	**21**	**27**	**39.0 +0.2**
KDAK				IAmb	IAmb	21

SML Sawmill 80.89 24 P P 21 28 00.0 -1.0
SML Sawmill 80.89 24 P P 21 28 00.9 -0.1
SML IAmb IAmb 21 28 03.0
comp=Z,22nm,0.9s
GLI Glacier Island 80.91 25 P P 21 28 00.6 -0.5
GLI IAmb IAmb 21 28 03.0
comp=Z,18nm,0.9s
HIN Hinchinbrook I 80.92 26 P P 21 28 02.2 +1.1
HIN IAmb IAmb 21 28 03.2
comp=Z,13nm,0.9s
TRF Thorofare Moun 81.04 22 P P 21 28 02.4 +0.5
FID Port Fidalgo 81.11 25 P P 21 28 01.9 -0.2
FID IAmb IAmb 21 28 03.9
comp=Z,12nm,0.9s
BPAW Bear Paw Mtn. 81.16 21 P P 21 28 02.2 -0.2
IMAR Indian Mountai 81.34 19 P P 21 28 03.4 +0.2
RND Reindeer 81.55 22 P P 21 28 03.7 -0.8
RND pmax pmax
comp=Z,11nm,0.8s
RND Reindeer 81.55 22 P P 21 28 03.6 -0.8
RND IAmb IAmb 21 28 05.5
comp=Z,11nm,0.8s
MCK McKinley 81.70 22 P P 21 28 04.3 -0.9
MCK pmax pmax
comp=Z,22nm,0.8s
MCK McKinley 81.70 22 P P 21 28 04.3 -0.9
MCK IAmb IAmb 21 28 06.3
comp=Z,22nm,0.8s
DHY Denali Highway 81.94 23 P P 21 28 06.8 +0.1
WRH Wood River Hil 82.41 22 P P 21 28 08.3 -0.6
GLB Gilahina Butte 82.58 25 P P 21 28 10.1 +0.2
GLB IAmb IAmb 21 28 12.1
comp=Z,18nm,1.0s
CCB Clear Creek Bu 82.61 22 P P 21 28 09.1 -0.8
MK31 Makanchi Array 82.62 319 P P 21 28 11.3 +0.9
MK31 pmax pmax
comp=Z,9.0nm,0.9s
MK31 Makanchi Array 82.62 319 P P 21 28 11.3 +0.9
MK31 IAmb IAmb 21 28 13.8
comp=Z,9.3nm,0.8s
MKAR Makanchi Array 82.62 319 P P 21 28 11.3 +0.9
comp=Z,9.5nm,0.8s,baz=106,slow=4.8,SNR=76
MKAR LR LR 22 06 44.8
comp=Z,154nm,18.7s,baz=94,slow=37
MKAR Makanchi Array 82.62 319 P P 21 28 10.9 +0.5
VRDI Verde Repeater 82.63 26 P P 21 28 10.7 +0.4
VRDI IAmb IAmb 21 28 12.5
comp=Z,11nm,1.0s
PAX Paxson 82.64 24 P P 21 28 10.6 +0.4
COLA College 82.72 21 *i* P P 21 28 09.1 -1.3
COLA pmax pmax
comp=Z,11nm,0.8s
HDA Harding Lake 82.80 22 P P 21 28 10.9 0.0
baz=239
HDA Harding Lake 82.80 22 P P 21 28 11.0 0.0
MAKZ Makanchi 82.83 319 P P 21 28 12.0 +0.4
MAKZ pmax pmax
comp=Z,19nm,1.0s
MAKZ Makanchi 82.83 319 P P 21 28 11.9 +0.4
MAKZ IAmb IAmb 21 28 14.8
comp=Z,19nm,1.0s
ILAR Eielson Array 83.01 22 P P 21 28 11.3 -0.7
comp=Z,5.7nm,0.8s,baz=253,slow=5.1,SNR=35
ILAR LR LR 22 03 56.3
comp=Z,585nm,19.3s,baz=247,slow=35
ILAR Eielson Array 83.01 22 P P 21 28 11.2 -0.8
ILAR Eielson Array 83.01 22 P P 21 28 11.2 -0.8
BALM Baldy 83.02 26 P P 21 28 12.0 -0.3
RIDG Independent Ri 83.26 23 IAmb IAmb 21 28 15.8
comp=Z,17nm,1.2s
MENT Mentasta 83.32 24 P P 21 28 13.9 +0.2
BARN Barnard Glacie 83.33 26 P P 21 28 14.8 +0.8
BARN IAmb IAmb 21 28 16.5
comp=Z,11nm,1.0s
ZALV Zalesovo Beam 83.41 326 P P 21 28 13.6 -0.6
comp=Z,5.4nm,0.8s,baz=114,slow=5.5,SNR=22
ZALV LR LR 22 05 19.9
comp=Z,106nm,19.8s,baz=140,slow=36
ZALV Zalesovo Beam 83.41 326 P P 21 28 13.4 -0.8
CTGM Chitina Glacie 83.43 26 P P 21 28 14.6 +0.1
CTGM IAmb IAmb 21 28 17.0
comp=Z,14nm,1.0s
DOT Dot Lake 83.52 23 IAmb IAmb 21 28 17.7
comp=Z,15nm,1.0s
PCA Pinnacle 83.54 27 P P 21 28 15.4 +0.5
PCA IAmb IAmb 21 28 17.4
comp=Z,13nm,0.9s
QSPA South Pole Qui 83.57 180 P P 21 28 14.9 -0.2
QSPA IAmb IAmb 21 28 18.0
comp=Z,23nm,1.0s
SCRK Sand Creek 83.71 23 P P 21 28 15.2 -0.6
BCAR Beaver Creek A 84.17 24 P P 21 28 18.5 +0.5
TOLK Toolik Lake Re 84.22 18 P P 21 28 17.7 -0.5
baz=236
TOLK Toolik Lake Re 84.22 18 IAmb IAmb 21 28 20.2
comp=Z,8.6nm,0.8s
FYU Fort Yukon 84.52 20 P P 21 28 20.0 +0.4
MAW Mawson 84.74 203 P P 21 28 21.8 +1.0
baz=85,SNR=16
MAW Mawson 84.74 203 P P 21 28 21.5 +0.7
comp=Z,6.6nm,0.7s,baz=100,slow=7.9,SNR=18
MAW LR LR 22 03 06.7
comp=Z,154nm,19.8s,baz=66,slow=34
MAW Mawson 84.74 203 P P 21 28 20.6 -0.2
MAW pmax pmax
comp=Z,3.0nm,0.7s
MAW Mawson 84.74 203 P P 21 28 20.6 -0.2
HYT Haines Junctio 85.08 27 P P 21 28 23.8 +0.9
HYT IAmb IAmb 21 28 25.7
comp=Z,13nm,1.0s
BMAR Burnt Mountain 85.17 20 P P 21 28 23.7 +0.7
EGAK Eagle 85.17 23 IAmb IAmb 21 28 26.2
comp=Z,16nm,0.9s
KSH Kashi 85.24 310 P P 21 28 27.0 +2.9
KSH S S 21 38 53.6 +2.5
KSH sS sS 21 39 16.2 +4.5
KSH pmax pmax
comp=Z,81nm,1.0s
KSH pmax pmax
comp=Z,420nm,4.5s
KSH LR LR
comp=Z,370nm,8.1s
KSH LR LR
comp=Z,300nm,7.4s
ULHL Ulahol 85.63 313 P P 21 28 27.5 +1.4
SNR=20
KURK Kurchatov 86.05 322 *ce*P P 21 28 29.1 +1.4
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 86.05 322 P P 21 28 27.7 +0.1
KURK IAmb IAmb 21 28 42.9
comp=Z,6.5nm,0.9s
TKM2 Tokmak 2 86.24 314 P P 21 28 29.9 +0.8
SNR=6.0
NIL Nilore 86.25 304 P P 21 28 29.8 +0.7
NIL pmax pmax
comp=Z,31nm,0.8s
NIL Nilore 86.25 304 P P 21 28 29.8 +0.7
KZA Kyzart 86.31 313 P P 21 28 31.6 +1.9
SNR=19
CHMS Chumysh 86.86 314 P P 21 28 32.9 +0.9
SNR=8.2
UCH Uchtor 86.88 313 P P 21 28 35.2 +2.7
SNR=12
AAK Ala-Archa 86.97 313 *ce*P P 21 28 33.0 +0.4
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 86.97 313 P P 21 28 32.8 +0.1
AAK IAmb IAmb 21 28 36.8
comp=Z,8.1nm,1.1s
USP Ospenovka 87.10 314 P P 21 28 34.3 +1.3
SNR=7.6
AML Almayashu 87.46 313 P P 21 28 36.6 +1.3
SNR=21
EKS2 Erkin-Say 87.50 313 P P 21 28 35.0 -0.1
SNR=9.1
EPYK Eagle Plains 87.51 22 P P 21 28 35.1 +0.6
baz=248
DLBC Dease Lake 87.89 31 P P 21 28 37.5 +0.9
comp=Z,5.0nm,1.0s,baz=246,slow=10,SNR=5.4
KHMM Horse Mountain 87.97 49 P P 21 28 38.0 +0.6
KHMM IAmb IAmb 21 28 42.0
comp=Z,8.4nm,0.9s
NRIK Noril'sk 88.01 341 P P 21 28 35.8 -1.0
comp=Z,7.9nm,0.8s,baz=114,slow=4.7,SNR=14
NRIK LR LR 22 07 33.9
comp=Z,93nm,21.0s,baz=80,slow=35
NRIK Noril'sk 88.01 341⇑ *e*P P 21 28 35.8 -1.0
NRIK pmax pmax
comp=Z,9.0nm,0.9s
O02D Mt. Diablo Mer 88.56 49 P P 21 28 42.2 +2.0
baz=260
M02C Callahan 88.71 48 P P 21 28 42.6 +1.8
baz=260
YBH Yreka Blue Hor 88.87 48 P P 21 28 42.8 +1.2
comp=Z,4.9nm,0.9s,baz=245,slow=9.8,SNR=10
YBH Yreka Blue Hor 88.87 48 P P 21 28 41.3 -0.3
YBH pmax pmax
comp=Z,7.0nm,1.1s
YBH Yreka Blue Hor 88.87 48 P P 21 28 41.3 -0.3
YBH IAmb IAmb 21 28 46.7
comp=Z,6.7nm,1.1s
O03E Paynes Creek 89.32 49 P P 21 28 45.3 +1.5
baz=261
INK Inuvik 89.35 21 P P 21 28 43.0 -0.1
comp=Z,4.6nm,0.9s,baz=214,slow=12,SNR=6.1
INK LR LR 22 07 25.9
comp=Z,499nm,19.8s,baz=228,slow=35
INK Inuvik 89.35 21 IAmb IAmb 21 28 44.6
comp=Z,5.9nm,0.9s
ORV Oroville 89.44 50 P P 21 28 44.5 +0.3
ORV pmax pmax
comp=Z,5.0nm,0.9s
ORV Oroville 89.44 50 P P 21 28 44.5 +0.3
GAR Garm 89.47 309 P P 21 28 44.4 -0.1
AFDM Forest Hills D 89.75 51 P P 21 28 45.6 -0.1
AFDM IAmb IAmb 21 28 48.8
comp=Z,8.4nm,1.1s
KBL Kabul 89.84 305 P P 21 28 46.1 -0.4
KBL pmax pmax
comp=Z,11nm,0.9s
KBL Kabul 89.84 305 P P 21 28 46.1 -0.4
KBL IAmb IAmb 21 28 47.4
comp=Z,11nm,0.8s
PAGB Antelope Grade 89.87 54 P P 21 28 46.6 +0.3
PAGB IAmb IAmb 21 28 49.7
comp=Z,9.5nm,0.9s
KK31 Karatay Array 89.94 313 P P 21 28 46.6 +0.1
KK31 pmax pmax
comp=Z,8.0nm,1.0s
KK31 Karatay Array 89.94 313 P P 21 28 46.6 +0.1
KK31 IAmb IAmb 21 28 49.6
comp=Z,7.7nm,1.0s
KKAR Karatay Array 89.94 313 P P 21 28 47.0 +0.5
KKAR Karatay Array 89.94 313 P P 21 28 47.0 +0.5
CMB Columbia Colle 90.08 52 P P 21 28 48.1 +0.8
CMB pmax pmax
comp=Z,6.0nm,1.0s
CMB Columbia Colle 90.08 52 P P 21 28 48.1 +0.8
CMB IAmb IAmb 21 28 51.6
comp=Z,5.9nm,1.0s
SNCC San Nicolas Is 90.13 57 P P 21 28 47.7 +0.1
CHGR Chuyangaron 90.31 309 P P 21 28 48.4 -0.1
BEKR Beckworth 90.36 50 P P 21 28 48.7 0.0
BEKR IAmb IAmb 21 28 51.7
comp=Z,7.3nm,0.9s
K05A Summer Lake 90.36 47 P P 21 28 48.9 +0.2
K05A IAmb IAmb 21 28 51.4
comp=Z,9.0nm,1.0s
PNTR Pine Nut 90.83 51 P P 21 28 51.2 +0.2
WAKR Walker 90.88 52 P P 21 28 51.3 +0.1
WAKR IAmb IAmb 21 28 54.8
comp=Z,8.8nm,1.0s
PAHR Pah Rah Range 91.08 50 P P 21 28 51.3 -0.7
PAHR IAmb IAmb 21 28 55.2
comp=Z,8.1nm,0.9s
OMMB Old Mammoth Mi 91.11 52 P P 21 28 52.2 -0.2
OMMB IAmb IAmb 21 28 55.8
comp=Z,6.8nm,1.0s
ISA Isabella, Lake 91.29 54 P P 21 28 53.1 +0.1
ISA pmax pmax
comp=Z,5.0nm,1.1s
ISA Isabella, Lake 91.29 54 P P 21 28 53.1 +0.1
ISA IAmb IAmb 21 28 55.8
comp=Z,4.8nm,1.1s
PASC Pasadena Art C 91.35 56 P P 21 28 52.9 -0.3
MWC Mount Wilson 91.46 56 P P 21 28 54.8 +0.8
MWC pmax pmax
comp=Z,56nm,1.1s
MWC Mount Wilson 91.46 56 P P 21 28 54.8 +0.8
I07A Izee 91.55 46 P P 21 28 53.3 -0.7
I07A IAmb IAmb 21 28 56.5
comp=Z,4.8nm,0.9s
BRVK Borovoye 91.58 323 *ce*P P 21 28 53.5 -0.3
BRVK pmax pmax
comp=Z,5.0nm,1.0s
BRVK Borovoye 91.58 323 P P 21 28 53.2 -0.7
BRVK IAmb IAmb 21 28 55.2
comp=Z,4.2nm,0.9s
RYN Ryan 91.61 51 P P 21 28 55.8 +1.3
E07A Sunnyside 91.62 43 P P 21 28 54.4 +0.2
NVAR Mina Array Bea 91.76 52 P P 21 28 57.3 +2.0
comp=Z,15nm,0.9s,baz=253,slow=6.5,SNR=44
NVAR LR LR 22 05 59.3
comp=Z,375nm,19.2s,baz=270,slow=33
NVAR Mina Array Bea 91.76 52 P P 21 28 57.1 +1.8
HAWA Hanford 91.82 44 P P 21 28 55.7 +0.6
HAWA IAmb IAmb 21 28 57.5
comp=Z,6.3nm,0.9s
NV11 Mina Array Sit 91.87 52 P P 21 28 56.7 +1.0
KVN Kaiserville 91.99 51 P P 21 28 55.8 -0.5
KVN pmax pmax
comp=Z,12nm,1.0s
KVN Kaiserville 91.99 51 P P 21 28 55.8 -0.5
G08A Pilot Rock 92.08 45 P P 21 28 55.5 -1.0
G08A IAmb IAmb 21 28 58.8
comp=Z,6.0nm,0.9s
109C Camp Elliot, M 92.11 57 P P 21 28 56.9 +0.1
PNT Penticton 92.14 41 P P 21 28 51.2 -5.3
PNT pmax pmax
comp=Z,17nm,0.8s
E08A Dider Farm, El 92.16 44 P P 21 28 55.9 -0.8
E08A IAmb IAmb 21 28 58.1
comp=Z,5.9nm,0.8s
J08A Circle Bar Ran 92.20 47 P P 21 28 56.8 -0.3
J08A IAmb IAmb 21 28 59.5
comp=Z,5.2nm,0.9s
B08A Colville Reser 92.20 42 P P 21 28 56.1 -0.8
B08A IAmb IAmb 21 28 58.8
comp=Z,5.3nm,1.1s
D08A Wollman Farm, 92.32 43 P P 21 28 57.0 -0.5
D08A IAmb IAmb 21 28 59.7
comp=Z,4.7nm,0.7s
BAR Barrett 92.45 58 P P 21 28 57.8 -0.6
GSC Goldstone, Bar 92.61 55 P P 21 28 59.3 +0.2
GSC pmax pmax
comp=Z,8.0nm,1.1s
GSC Goldstone, Bar 92.61 55 P P 21 28 59.3 +0.2
GSC IAmb IAmb 21 29 15.3
comp=Z,8.5nm,1.1s
PFO Pinyon Flats O 92.72 57 P P 21 29 01.4 +1.6
comp=Z,14nm,0.9s,baz=264,slow=4.5,SNR=18
PFO Pinyon Flats O 92.72 57 P P 21 29 01.0 +1.3
PFO pmax pmax
comp=Z,17nm,0.9s
PFO Pinyon Flats O 92.72 57 P P 21 29 01.0 +1.3
XPFO Pion Flat 92.72 57 P P 21 29 00.3 +0.6
E09A Wood Farm, Sta 92.79 44 P P 21 28 57.5 -2.0
C09A Chrisman Ranch 92.84 42 P P 21 28 57.8 -2.0
C09A IAmb IAmb 21 29 01.7
comp=Z,4.5nm,0.9s
C36M Paulatuk 92.93 21 P P 21 28 59.3 -0.4
C36M IAmb IAmb 21 29 00.8
comp=Z,6.3nm,0.8s
BMO Blue Mountains 93.20 45 P P 21 29 01.2 -0.5
BMO pmax pmax
comp=Z,5.0nm,1.0s
BMO Blue Mountains 93.20 45 P P 21 29 01.2 -0.5
BMO IAmb IAmb 21 29 03.8
comp=Z,5.1nm,1.0s
TPNV Topopah Spring 93.22 53 P P 21 29 01.1 -0.9
TPNV pmax pmax
comp=Z,16nm,1.1s
TPNV Topopah Spring 93.22 53 P P 21 29 01.1 -0.9
F10A Beach Ranch, E 93.37 44 P P 21 29 02.2 -0.2
F10A IAmb IAmb 21 29 04.3
comp=Z,7.2nm,1.0s
NEW Newport 93.66 42 P P 21 29 04.4 +0.8
comp=Z,3.8nm,0.7s,baz=182,slow=1.8,SNR=4.9
NEW Newport 93.66 42 P P 21 29 02.8 -0.8
NEW pmax pmax
comp=Z,5.0nm,0.9s
NEW Newport 93.66 42 P P 21 29 02.8 -0.8
NEW IAmb IAmb 21 29 05.5
comp=Z,5.1nm,0.9s
R11A Troy Canyon, C 93.87 52 P P 21 29 04.2 -0.8
R11A IAmb IAmb 21 29 08.4
comp=Z,10.0nm,1.1s
GLA Glamis 94.03 57 P P 21 29 06.3 +0.7
GLA pmax pmax
comp=Z,20nm,1.2s
GLA Glamis 94.03 57 P P 21 29 06.3 +0.7
SHPR Sheep Range 94.05 54 P P 21 29 06.5 +0.6
Y12C Blythe 94.34 57 P P 21 29 07.8 +0.7
Y12C IAmb IAmb 21 29 11.1
comp=Z,9.9nm,0.9s
ELK Elko 94.34 50 P P 21 29 07.7 +0.5
comp=Z,3.1nm,0.9s,baz=272,slow=5.2,SNR=12
ELK Elko 94.34 50 P P 21 29 07.3 +0.1
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK Elko 94.34 50 P P 21 29 07.3 +0.1
PSUT Pine Spring 95.24 52 P P 21 29 11.9 +0.6
CCUT Cedar City 95.56 53 P P 21 29 12.9 +0.1
LCMT Little Creek M 95.62 53 P P 21 29 14.1 +1.1
YKA Yellowknife Ar 96.05 28 P P 21 29 14.8 +0.7
comp=Z,2.7nm,0.9s,baz=262,slow=4.8,SNR=13
YKA LR LR 22 11 56.5
comp=Z,88nm,18.5s,baz=0.0,slow=35
MTPU Mount Pierson 96.53 53 P P 21 29 17.1 -0.2
TMUT Trail Mountain 97.34 51 P P 21 29 20.9 -0.1
SRU San Rafael Swe 97.87 51 P Pdif 21 29 23.8 +0.6
SRU pmax pmax
comp=Z,5.0nm,1.0s
SRU San Rafael Swe 97.87 51 P Pdif 21 29 23.8 +0.6
ARU Arti 98.57 326 LR LR 22 14 58.7
comp=Z,201nm,20.5s,baz=82,slow=36
ARU Arti 98.57 326 *d* *i*P P 21 29 23.6 -2.0
ARU 21 33 24.9
ARU S SKSac 21 39 58.9 -0.7
ARU SP SP 21 42 13.7 -1.8
ARU SS SS 21 47 35.0 -1.7
ARU pmax pmax
comp=Z,4.0nm,1.0s
ARU MLR MLR
comp=Z,215nm,21.0s
RDMU Red Mountain 98.64 50 P P 21 29 26.5 -0.2
PDAR Pinedale Array 98.68 48 P Pdif 21 29 27.2 +0.4
comp=Z,1.4nm,0.7s,baz=257,slow=2.8,SNR=12
PDAR LR LR 22 11 50.7
comp=Z,141nm,18.4s,baz=286,slow=34
PDAR Pinedale Array 98.68 48 P P 21 29 26.3 -0.5
GEYT Alibeck 98.91 307 P Pdif 21 29 27.9 +0.2
comp=Z,2.2nm,1.0s,baz=94,slow=2.1,SNR=4.5
GEYT LR LR 22 15 46.6
comp=Z,76nm,21.7s,baz=60,slow=36
GEYT Alibeck 98.91 307 IAmb IAmb 21 29 29.1
comp=Z,2.4nm,1.1s
AKTO Aktyubinsk 99.02 320 LR LR 22 13 33.6
comp=Z,93nm,21.8s,baz=93,slow=35
PV23 Carpenter Ridg 99.04 52 P Pdif 21 29 29.0 +0.5
PV04 Paradox Valley 99.12 52 P Pdif 21 29 28.9 +0.1
PV04 IAmb IAmb 21 29 34.2
comp=Z,5.8nm,1.0s
PV22 Blue Mesa, Par 99.21 52 P Pdif 21 29 28.4 -0.8
PV22 IAmb IAmb 21 29 34.4
comp=Z,3.0nm,0.9s
SNAA Sanae 100.66 187 Pdiff Pdif 21 29 32.8 -2.1
AKASG Malin Array Be 116.76 324 PP PP 21 35 44.9 +5.2
comp=Z,0.4nm,0.3s,baz=51,slow=7.5,SNR=4.6
KMBO Kilima Mbogo 116.90 265 *i* PKIKP PKPdf 21 34 22.1 -11
KMBO pmax pmax
comp=Z,1.0nm,0.4s
BRTR Keskin Array B 117.61 312 PKP PKiKP 21 34 34.4 +0.9
comp=Z,0.2nm,0.4s,baz=156,slow=6.2,SNR=3.8
BRTR PP PP 21 35 46.9 +0.7
comp=Z,1.2nm,0.8s,baz=124,slow=6.6,SNR=4.6
BOSA Boshof 119.99 232 PKP PKiKP 21 34 38.5 +0.1
comp=Z,1.6nm,0.7s,baz=204,slow=0.9,SNR=4.7
KOLS Kolonicke sedl 121.57 325 *e*PKIKP PKiKP 21 34 42.0 +1.2
KOLS Kolonicke sedl 121.57 325 *e*PKP PKiKP 21 34 42.0 +1.2
CLL Collm 125.05 331 *e*PKPdf PKiKP 21 34 48.0 +0.5
CLL *i* sPKPdf sPKPdf 21 35 07.4 +2.8
CLL *e*SS SS 21 53 30.0 +1.7
CLL *e*SSS SSS 21 58 12.0
CLL Lm MLR 22 34 00.0
comp=N,100nm,19.5s
CLL Lm MLR 22 34 00.0
comp=E,100nm,18.6s
CLL Lm MLR 22 34 00.0
comp=Z,200nm,18.6s
CLL Collm 125.05 331 *e*PKIKP PKiKP 21 34 48.0 +0.5
KHC Kasperske Hory 126.17 329 *e*PKPDF PKiKP 21 34 50.9 +1.0
KHC *ex* x 21 35 10.1
KHC Kasperske Hory 126.17 329 *e*PKIKP PKiKP 21 34 50.9 +1.0
KHC *e* 21 35 10.1
GERES GERESS Array B 126.28 329 PKP PKiKP 21 34 50.6 +0.4
comp=Z,1.1nm,0.8s,baz=135,slow=0.6,SNR=9.9
GERES GERESS Array B 126.28 329 PKIKP PKiKP 21 34 50.8 +0.6
GERES GERESS Array B 126.28 329 PKPdf PKiKP 21 34 50.8 +0.6
RREF El Recreo 130.41 89 *e*P PKiKP 21 35 00.7 +0.5
TOLC Tolima 130.41 89 *e*P PKiKP 21 35 00.0 +0.2
GUY2C Guyana, Caldas 130.41 89 *e*P PKPdf 21 34 58.2 -0.9
ORTC Ortega, Tolima 130.43 90 *e*P PKPdf 21 34 58.9 +0.3
ZARC Zaragoza, Cauc 131.03 86 *e*P PKiKP 21 35 00.7 +0.1
SPBC San Pablo de B 131.72 88 *e*P PKiKP 21 35 01.6 -0.5
VILC Villavicencio, 131.99 90 *e*P PKiKP 21 35 03.2 +0.4
LPAZ La Paz 132.19 119 PKP PKiKP 21 35 03.2 -0.4
comp=Z,1.6nm,0.9s,baz=20,slow=3.0,SNR=4.3
LPAZ La Paz 132.19 119 PKIKP PKPdf 21 35 02.6 0.0
LPAZ La Paz 132.19 119 PKPdf PKPdf 21 35 02.6 0.0
PAMC Pamplona, Colo 133.17 86 *e*P PKiKP 21 35 05.9 +0.4
CPUP Villa Florida 135.16 138 PKP PKiKP 21 35 08.7 +0.1
comp=Z,3.4nm,0.9s,baz=205,slow=6.2,SNR=2.9
CPUP Villa Florida 135.16 138 PKIKP PKPdf 21 35 05.5 -1.6
CPUP Villa Florida 135.16 138 PKPdf PKPdf 21 35 05.5 -1.6
HUMP Col San Antoni 139.00 70 PKPdf PKPdf 21 35 07.2 -7.2
ESDC Sonseca Array 141.61 333 PKhKP PKPpre 21 35 15.8
comp=Z,0.8nm,0.9s,baz=13,slow=2.9,SNR=4.5
MVO Moncorvo 141.65 337 *e*PKP PKiKP 21 35 20.7 -0.9
PMRV Marv??o 143.28 336 *e*PKP PKPbc 21 35 19.1 +0.4
PBEJ Beja 144.67 336 *e*PKP PKPdf 21 35 24.1 +0.1
PNCL Nicolau / Gran 144.87 336 *e*PKP PKPbc 21 35 23.9 +0.4
PTGA Pitinga 144.90 100 PKPdf 21 35 25.1 0.0
MESJ Messejana 144.98 336 *e*PKP PKPab 21 35 23.4 -0.5
MESJ AMS AMS 22 48 07.8
comp=Z,102nm,21.2s
MESJ Messejana 144.98 336 *e*PKP PKPdf 21 35 25.1 +0.6
PCVE Castro Verde 145.08 335 *e*PKP PKPdf 21 35 25.4 +0.7
TOSP Speyside 145.08 79 PKPdf 21 35 25.1 -0.2
PVAQ Vaqueiros 145.14 335 *e*PKP PKPdf 21 35 25.6 +0.8
PVAQ Vaqueiros 145.14 335 PKPdf 21 35 25.6 +0.8
PTEO Sao Teotonio 145.43 336 *e*PKP PKPab 21 35 27.1 +1.6
MORF Marmelete 145.61 336 *e*PKP PKPdf 21 35 24.4 -1.3
MORF Marmelete 145.61 336 *e*PKP PKPab 21 35 27.2 +0.9
PFVI Vila Bisbo 145.83 336 *e*PKP PKPab 21 35 27.9 +0.9
BDFB Brasilia 148.76 135 PKP PKPdf 21 35 32.9 +1.2
comp=Z,5.7nm,0.7s,baz=176,slow=22,SNR=8.4
BDFB PKPbc PKiKP 21 35 36.4 -0.5
comp=Z,14nm,0.8s,baz=214,slow=2.7,SNR=6.6
TOA0 Torodi Ar. Sit 152.37 286 PKPdf PKPdf 21 35 38.0 +0.9
TOA0 PKPbc PKiKP 21 35 44.8 +0.5
TORD Torodi Ar. Bea 152.37 286 PKP PKPdf 21 35 38.0 +0.8
comp=Z,4.3nm,0.8s,baz=38,slow=2.4,SNR=18
TORD PKPbc PKiKP 21 35 44.4 +0.1
comp=Z,39nm,0.8s,baz=86,slow=1.8,SNR=83
TORD Torodi Ar. Bea 152.37 286 PKPdf 21 35 37.6 +0.5

JMA **12** *21:17:48.8*±*0.2,24°.69N*×*122°.96E,h35*km±*3km,M1.3*
TAP **12** *21:17:49.6,24°.63N*×*122°.89E,h27*km*,ML2.5,C*
ISC 12 21:17:46.9±**1.3,24°.81N**±**0°.07**×**122°.93E**±**0°.04,h15**km±11km,
n23,σ**0°.62/34,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima** baz=146	**0.35**	**167**	*i* P		**Pb**	**21 17 55.6**	**+0.8**
YOJ				*e*S		**Sb**	**21 17 59.9**	**-0.3**
YOJ	**Yonaguni jima**	**0.35**	**167**	P		**Pb**	**21 17 55.6**	**+0.8**
YOJ				*e*S		**Sb**	**21 18 00.6**	**+0.5**
JYNG	**Yonagunijimaku**	**0.35**	**177**	P		**Pb**	**21 17 55.7**	**+0.9**
JYNG				*e*S		**Sb**	**21 18 00.5**	**+0.3**

IRIF	**Iriomote-Funau**	**0.87**	**122**	P	**Pg**	**21**	**18**	**03.3 -0.4**
IRIF				*eS*	**Sg**	**21**	**18**	**14.5 -0.7**
TWC	**Suao**	**1.00**	**259**	*eP*	**Pb**	**21**	**18**	**06.0 +0.1**
	baz=269							
TIPB	**Shuangxi**	**1.01**	**280**	*eP*	**Pn**	**21**	**18**	**07.8 +1.3**
	baz=290							
ENA	**Nanau**	**1.14**	**251**	P	**Pb**	**21**	**18**	**08.3 0.0**
	baz=260							
ENA				*eS*	**Sb**	**21**	**18**	**21.5 -1.5**
	baz=260							
TWE	**Neicheng**	**1.15**	**266**	*eP*	**Pg**	**21**	**18**	**09.2 +0.2**
	baz=275							
ENTT	**Nioudou**	**1.25**	**263**	*eP*	**Pn**	**21**	**18**	**09.7 -0.1**
	baz=271							
ENTT				*eS*	**Sb**	**21**	**18**	**26.1 +0.1**
	baz=271							
YM01	**YM01**	**1.28**	**286**	*eP*	**Pg**	**21**	**18**	**12.0 +0.5**
	baz=280							
JISG	**Ishigakijimahi**	**1.28**	**99**	S	**Sb**	**21**	**18**	**26.1 -0.7**
NDT	**Datong Townshi**	**1.30**	**261**	*eP*	**Pg**	**21**	**18**	**11.8 -0.1**
	baz=283							
NDT				*eS*	**Sb**	**21**	**18**	**27.6 0.0**
	baz=283							
NACB	**Ninganchiao**	**1.37**	**243**	*eP*	**Pn**	**21**	**18**	**10.9 -0.5**
	baz=263							
NACB				*eS*	**Sn**	**21**	**18**	**28.4 -0.8**
	baz=263							
YHNB	**Yeheng**	**1.42**	**265**	*eP*	**Pb**	**21**	**18**	**13.5 +0.4**
	baz=272							
NSK	**Sanguang**	**1.43**	**265**	*eP*	**Pb**	**21**	**18**	**13.5 +0.2**
	baz=272							
ETLH	**Xiulin Townshi**	**1.45**	**246**	*eP*	**Pb**	**21**	**18**	**13.5 -0.1**
	baz=253							
ETLH				*eS*	**Sn**	**21**	**18**	**31.2 -0.1**
	baz=253							
NNSB	**Datong**	**1.45**	**255**	*eP*	**Pb**	**21**	**18**	**13.8 +0.1**
	baz=272							
NNSB				*eS*	**Sn**	**21**	**18**	**31.2 -0.4**
	baz=272							
NNSH	**Datong**	**1.45**	**255**	*eP*	**Pb**	**21**	**18**	**14.0 +0.3**
	baz=271							
NNSH				*eS*	**Sn**	**21**	**18**	**31.0 -0.5**
	baz=271							
WHF	**Hehuan Shan**	**1.65**	**247**	*eP*	**Pn**	**21**	**18**	**15.8 +0.1**
	baz=252							
ESL	**Shilin**	**1.68**	**234**	*eP*	**Pn**	**21**	**18**	**16.7 +0.9**
	baz=240							
CHGB	**Renai**	**1.76**	**245**	*eP*	**Pn**	**21**	**18**	**18.0 +1.0**
	baz=239							
HGSD	**Ruisui**	**1.90**	**227**	*eP*	**Pn**	**21**	**18**	**18.3 -0.4**
	baz=232							
TWF1	**Yuli**	**2.08**	**226**	*eP*	**Pn**	**21**	**18**	**21.4 +0.2**
	baz=231							

*KRNET **12** 21:38:09.4±0.1, 41.°06N×71.°53E, h15km, mb2.1*
*SOME **12** 21:38:09.0, 41.°10N×71.°57E, h5km*
*NNC **12** 21:38:13.4±6.9, 41.°30N×71.°65E, h0km, mb2.5, mpv2.6,*
Error ellipse: s-maj=54.4km s-min=21.9km az=172.0
ISC 12 21:38:09.3±1.2, **41.°08N**±0.°03×**71.°56E**±0.°03, **h8**km±15km, **n16**, σ0**s96**/29, **10C-10D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.78**	**23**	⇑*iP*	**Pg**	**21 38 24.5**	**+0.2**
	baz=25						
ARK				⇑*iS*	**Sb**	**21 38 35.6**	**-0.3**
	baz=25						
ARSB	**Arslanbob**	**1.10**	**77**	⇓*iP*	**Pb**	**21 38 30.8**	**+0.1**
	baz=76						
ARSB				⇓*iS*	**Sb**	**21 38 46.2**	**+1.0**
	baz=76						
BTK	**Batken**	**1.17**	**209**	⇓*iP*	**Pg**	**21 38 31.2**	**-0.4**
	baz=8.0						
BTK				⇓*iS*	**Sg**	**21 38 46.9**	**+0.1**
	baz=8.0						
IUG	**Iuzhnay**	**1.56**	**313**	*eP*	**Pg**	**21 38 39.3**	**0.0**
	1.4nm,0.3s						
IUG				*eS*	**Sg**	**21 39 01.1**	**+1.6**
	28nm,0.5s						
IUG	**Iuzhnay**	**1.56**	**313**	P	**Pg**	**21 38 39.5**	**+0.2**
	1.4nm,0.3s						
IUG				S	**Sg**	**21 39 01.1**	**+1.6**
	28nm,0.5s						
TAS	**Tashkent**	**1.73**	**279**	⇑*eP*	**Pb**	**21 38 41.4**	**+0.2**
	baz=80						
TAS				⇑*eS*	**Sb**	**21 39 04.0**	**+1.0**
	baz=80						
AML	**Almayashu**	**1.92**	**56**	⇓*eP*	**Pg**	**21 38 45.5**	**-0.5**
	baz=56						
AML				⇓*iS*	**Sg**	**21 39 11.6**	**+0.7**
	baz=56						
MRKS	**Merke**	**2.08**	**36**	*eP*	**Pg**	**21 38 48.2**	**-0.9**
	1.0nm,0.1s						
MRKS				*eS*	**Sg**	**21 39 16.1**	**0.0**
	5.8nm,0.3s						
MRKS	**Merke**	**2.08**	**36**	Pg	**Pg**	**21 38 48.7**	**-0.4**
	1.1nm,0.2s						
MRKS				Lg	Lg	21 39 17.1	
	5.8nm,0.3s						
KK31	**Karatay Array**	**2.17**	**339**	⇓Pg	**Pb**	**21 38 49.1**	**+0.4**
	0.2nm,0.2s,baz=143,slow=14,SNR=4.7						
KK31				⇓Lg	Lg	21 39 18.5	
	2.3nm,0.3s,baz=147,slow=27,SNR=18						
ARLS	**Aral**	**2.22**	**69**	⇑*iP*	**Pb**	**21 38 49.8**	**+0.1**
	baz=68						
ARLS				⇑*iS*	**Sb**	**21 39 18.8**	**+1.4**
	baz=68						
GAR	**Garm**	**2.29**	**205**	⇑*iP*	**Pb**	**21 38 50.0**	**-0.8**
	baz=5.0						
GAR				⇑*iS*	**Sb**	**21 39 19.6**	**+0.3**
	baz=5.0						
EKS2	**Erkin-Say**	**2.29**	**46**	⇑*iP*	**Pb**	**21 38 50.9**	**0.0**
	baz=46						
EKS2				⇑*iS*	**Sg**	**21 39 21.1**	**-1.7**
	baz=46						
BRLS	**Borolday**	**2.33**	**327**	*eP*	**Pb**	**21 38 50.0**	**-1.6**
	1.7nm,0.3s						
BRLS				*eS*	**Sb**	**21 39 19.1**	**-1.4**
	4.4nm,0.1s						
BRLS	**Borolday**	**2.33**	**327**	Pg	**Pb**	**21 38 50.0**	**-1.6**
	60nm,1.0s						
BRLS				Lg	Lg	21 39 19.1	
	6.5nm,0.3s						
UCH	**Uchtor**	**2.49**	**62**	⇓*eP*	**Pb**	**21 38 54.4**	**-0.2**
	baz=62						
UCH				⇓*iS*	**Sb**	**21 39 26.5**	**+0.9**
	baz=62						

*JMA **12** 21:38:24.0±0.1, 24.°96N×122.°90E, h12km±3km, M2.0*
*TAP **12** 21:38:27.3, 24.°73N×122.°88E, h20km, ML2.8, C*
ISC 12 21:38:26.2±1.5, **24.°80N**±0.°07×**122.°88E**±0.°04, **h15**km±9km, **n24**, σ0**s63**/43, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.35**	**170**	P	**Pb**	**21 38 34.0**	**-0.2**
JYNG				S	**Sb**	**21 38 40.8**	**+1.2**
YOJ	**Yonaguni jima**	**0.36**	**160**	P	**Pg**	**21 38 33.9**	**+0.3**
	baz=151						
YOJ				S	**Sg**	**21 38 38.4**	**-0.2**
	baz=151						
YOJ	**Yonaguni jima**	**0.36**	**160**	P	**Pg**	**21 38 33.8**	**+0.2**
YOJ				S	**Sb**	**21 38 40.8**	**+1.1**
TWB1	**Santiao Chiao**	**0.83**	**284**	*eS*	**Sn**	**21 38 56.2**	**+0.9**
	baz=289						
IRIF	**Iriomote-Funau**	**0.90**	**121**	P	**Pb**	**21 38 42.5**	**-1.1**
IRIF				S	**Sb**	**21 38 55.0**	**-0.4**
NWF	**Wu-fen Shan**	**1.03**	**285**	*eS*	**Sn**	**21 39 01.1**	**+0.7**
	baz=289						
WFSB	**Wu-fen Shan**	**1.03**	**285**	*eS*	**Sn**	**21 39 01.6**	**+1.3**
	baz=289						
ENA	**Nanau**	**1.10**	**250**	P	**Pb**	**21 38 46.6**	**-0.3**
	baz=254						
ENA				*eS*	**Sb**	**21 38 59.6**	**-1.4**
	baz=254						
TWE	**Neicheng**	**1.10**	**266**	P	**Pg**	**21 38 47.6**	**0.0**
	baz=270						
TWE				*eS*	**Sn**	**21 39 01.3**	**-0.7**
	baz=270						
ENTT	**Nioudou**	**1.21**	**263**	*eP*	**Pg**	**21 38 50.0**	**+0.6**
	baz=266						
ENTT				*eS*	**Sb**	**21 39 03.8**	**-0.3**
	baz=266						
NWLT	**Wulai**	**1.25**	**269**	*eP*	**Pg**	**21 38 50.6**	**+0.3**
	baz=272						
NWLT				*eS*	**Sb**	**21 39 04.8**	**-0.6**
	baz=272						
NDT	**Datong Townshi**	**1.26**	**261**	*eP*	**Pb**	**21 38 49.6**	**0.0**
	baz=264						
NDT				*eS*	**Sn**	**21 39 05.6**	**-0.3**
	baz=264						
NACB	**Ninganchiao**	**1.33**	**242**	*eP*	**Pn**	**21 38 50.1**	**-0.1**
	baz=253						
NACB				S	**Sn**	**21 39 07.2**	**-0.4**
	baz=253						
YHNB	**Yeheng**	**1.37**	**265**	*eP*	**Pb**	**21 38 51.8**	**+0.2**
	baz=259						
YHNB				*eS*	**Sb**	**21 39 09.5**	**+0.5**
	baz=259						
ETLH	**Xiulin Townshi**	**1.40**	**245**	P	**Pb**	**21 38 51.6**	**-0.5**
	baz=256						
ETLH				*eS*	**Sn**	**21 39 09.4**	**-0.2**
	baz=256						
NNSH	**Datong**	**1.41**	**255**	P	**Pb**	**21 38 52.2**	**-0.1**
	baz=258						
NNSH				*eS*	**Sn**	**21 39 09.4**	**-0.4**
	baz=258						
NNSB	**Datong**	**1.41**	**255**	P	**Pb**	**21 38 52.3**	**0.0**
	baz=258						
NNSB				*eS*	**Sn**	**21 39 09.4**	**-0.4**
	baz=258						
NNS	**Nan Shan**	**1.42**	**256**	P	**Pb**	**21 38 52.4**	**0.0**
	baz=258						
NNS				*eS*	**Sb**	**21 39 10.3**	**0.0**
	baz=258						
WHF	**Hehuan Shan**	**1.61**	**246**	*eP*	**Pn**	**21 38 54.5**	**+0.1**
	baz=249						
WHF				*eS*	**Sn**	**21 39 15.6**	**+0.4**
	baz=249						
CHGB	**Renai**	**1.72**	**245**	*eP*	**Pb**	**21 38 57.3**	**-0.3**
	baz=248						
CHGB				*eS*	**Sb**	**21 39 19.0**	**-0.1**
	baz=248						
WHP	**Taichung City**	**1.84**	**254**	*eP*	**Pb**	**21 38 58.4**	**-1.1**
	baz=263						
WHP				*eS*	**Sb**	**21 39 22.5**	**+0.2**
	baz=263						
VWDT	**VWDT**	**1.90**	**237**	*eP*	**Pn**	**21 38 59.0**	**+1.0**
	baz=240						
VWDT				*eS*	**Sn**	**21 39 21.9**	**+0.3**
	baz=240						
YULB	**Yu-li**	**2.02**	**226**	*eP*	**Pn**	**21 38 59.3**	**-0.4**
	baz=214						
SMLT	**Sun Moon Lake**	**2.02**	**244**	*eP*	**Pb**	**21 39 01.7**	**-1.0**
	baz=231						

IDC 12 21:43:18.6±2.1, **4.°77N×123.°20E, h0**km, **mb3.4**/3, **mb1 3.6**/3, **mb1mx3.3**/35, **mbtmp3.4**/3, **Error ellipse: s-maj=248.2km s-min=28.0km az=63.0, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.89**	**156**	P	P	21 49 00.9	-0.6
	0.2nm,0.5s,baz=334,slow=10,SNR=5.1						
ASAR	**Alice Springs**	**30.13**	**160**	P	P	21 49 30.9	+0.6
	0.3nm,0.4s,baz=340,slow=7.9,SNR=4.5						
MKAR	**Makanchi Array**	**54.73**	**327**	P	P	21 52 49.8	-0.1
	0.2nm,0.4s,baz=112,slow=7.8,SNR=4.4						

*IDC **12** 21:48:31.6±1.1, 55.°97N×164.°71E, h0km, mb3.5/7,*
mb1 3.8/8, mb1mx3.5/47, mbtmp3.5/8, ML2.3/1, Error
ellipse: s-maj=35.1km s-min=19.0km az=156.0
*KRSC **12** 21:48:32.7±1.1, 55.°99N×164.°67E, h49km±19km, ML4.0*
*MOS **12** 21:48:35.4±1.1, 55.°97N×164.°56E, h44km, mb4.2/5, Error*
ellipse: s-maj=8.0km s-min=5.7km az=47.4
*NEIC **12** 21:48:36.3±1.5, 56.°1N±0.°2×164.°5E±0.°3, h32km±7km,*
mb4.0/27, Error ellipse: s-maj=40.7km s-min=14.2km
az=146.0
ISC 12 21:48:32.8±0.6, **56.°00N**±0.°04×**164.°54E**±0.°03, **h10**km, **n126**, σ1**s55**/143, **mb4.0**/22, **Komandorsky Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.98**	**283**	*eP*	**Pg**	**21 48 50.9**	**-0.8**
KBTR				*eS*	**Sg**	**21 49 04.1**	**-0.4**
KBTR	**Krutoberegovo**	**0.98**	**283**	PN	**Pg**	**21 48 50.9**	**-0.8**
KBTR				S	**Sg**	**21 49 04.1**	**-0.4**
KBG	**Krutoberegovo**	**1.05**	**285**	*eP*	**Pg**	**21 48 51.9**	**-1.2**
KBG				*eS*	**Sg**	**21 49 06.3**	**-0.5**
KBG	**Krutoberegovo**	**1.05**	**285**	PN	**Pg**	**21 48 51.9**	**-1.2**
KBG				S	**Sg**	**21 49 06.3**	**-0.5**
BKI	**Bering**	**1.14**	**134**	*eP*	**Pg**	**21 48 53.5**	**-1.3**
BKI				*eS*	**Sb**	**21 49 07.7**	**-1.8**
BKI	**Bering**	**1.14**	**134**	PN	**Pg**	**21 48 53.5**	**-1.3**
BKI				S	**Sb**	**21 49 07.7**	**-1.8**
SMKR	**Semkarok**	**1.81**	**290**	*eP*	**Pb**	**21 49 04.5**	**-1.5**
SMKR				*eS*	**Sb**	**21 49 28.0**	**-0.7**
SMKR	**Semkarok**	**1.81**	**290**	PN	**Pb**	**21 49 04.5**	**-1.5**
SMKR				S	**Sb**	**21 49 28.0**	**-0.7**
BDR	**Baidarnaya**	**1.94**	**288**	*eP*	**Pb**	**21 49 06.7**	**-1.6**
BDR				*eS*	**Sb**	**21 49 31.6**	**-0.9**
BDR	**Baidarnaya**	**1.94**	**288**	PN	**Pb**	**21 49 06.7**	**-1.6**
BDR				S	**Sb**	**21 49 31.6**	**-0.9**
SRKR	**Sorokina**	**1.98**	**291**	*eP*	**Pb**	**21 49 07.2**	**-1.8**
SRKR	**Sorokina**	**1.98**	**291**	PN	**Pb**	**21 49 07.2**	**-1.8**
ZLN	**Zelenaya**	**2.10**	**272**	*eP*	**Pb**	**21 49 09.3**	**-1.6**
ZLN				*eS*	**Sb**	**21 49 36.1**	**-0.9**
ZLN	**Zelenaya**	**2.10**	**272**	PN	**Pb**	**21 49 09.3**	**-1.6**
ZLN				S	**Sb**	**21 49 36.1**	**-0.9**
CIRR	**Tsirk**	**2.13**	**275**	*eP*	**Pb**	**21 49 09.9**	**-1.6**
CIRR	**Tsirk**	**2.13**	**275**	PN	**Pb**	**21 49 09.9**	**-1.6**
BZGR	**Bezymyannyi-Gr**	**2.16**	**270**	*eP*	**Pb**	**21 49 10.1**	**-1.9**
BZGR				*eS*	**Sn**	**21 49 36.8**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**2.16**	**270**	PN	**Pb**	**21 49 10.1**	**-1.9**
BZGR				S	**Sn**	**21 49 36.8**	**+1.0**
LGNR	**Loginova**	**2.16**	**274**	*eP*	**Pb**	**21 49 10.4**	**-1.7**
LGNR	**Loginova**	**2.16**	**274**	PN	**Pb**	**21 49 10.4**	**-1.7**
KLY	**Klyuchi**	**2.19**	**280**	*eP*	**Pn**	**21 49 08.9**	**-0.4**
KLY				*eS*	**Sn**	**21 49 34.7**	**-1.7**
KLY	**Klyuchi**	**2.19**	**280**	PN	**Pn**	**21 49 08.9**	**-0.4**
KLY				S	**Sn**	**21 49 34.7**	**-1.7**
KRSR	**Krestovskiy**	**2.23**	**277**	*eP*	**Pb**	**21 49 11.0**	**-2.3**
KRSR	**Krestovskiy**	**2.23**	**277**	PN	**Pb**	**21 49 11.0**	**-2.3**
BZWR	**Bezymyannyi-We**	**2.27**	**271**	*eP*	**Pb**	**21 49 11.8**	**-2.1**
BZWR				*eS*	**Sn**	**21 49 39.8**	**+1.2**
BZWR	**Bezymyannyi-We**	**2.27**	**271**	PN	**Pb**	**21 49 11.8**	**-2.1**
BZWR				S	**Sn**	**21 49 39.8**	**+1.2**
KIRR	**Kirishev**	**2.36**	**270**	*eP*	**Pb**	**21 49 13.2**	**-2.2**
KIRR				*eS*	**Sb**	**21 49 42.4**	**-2.2**
KIRR	**Kirishev**	**2.36**	**270**	PN	**Pb**	**21 49 13.2**	**-2.2**
KIRR				S	**Sb**	**21 49 42.4**	**-2.2**
KPT	**Kopyto**	**2.42**	**271**	*eP*	**Pb**	**21 49 14.1**	**-2.4**
KPT	**Kopyto**	**2.42**	**271**	PN	**Pb**	**21 49 14.1**	**-2.4**
KMNR	**Kamenistaya**	**2.43**	**266**	*eP*	**Pb**	**21 49 14.7**	**-2.0**
KMNR	**Kamenistaya**	**2.43**	**266**	PN	**Pb**	**21 49 14.7**	**-2.0**
TUMD	**Tumrok D**	**2.48**	**253**	*eP*	**Pb**	**21 49 15.3**	**-2.1**
TUMD				*eS*	**Sn**	**21 49 45.3**	**+1.7**
KZV	**Kizimen**	**2.57**	**251**	*eP*	**Pn**	**21 49 16.1**	**+1.5**
KZV	**Kizimen**	**2.57**	**251**	PN	**Pn**	**21 49 16.1**	**+1.5**
TUMR	**Tumrok**	**2.59**	**256**	*eP*	**Pb**	**21 49 16.6**	**-2.8**
TUMR	**Tumrok**	**2.59**	**256**	PN	**Pb**	**21 49 16.6**	**-2.8**
KOZ	**Kozyrevsk**	**2.62**	**273**	*eP*	**Pb**	**21 49 19.5**	**-0.3**
KOZ	**Kozyrevsk**	**2.62**	**273**	PN	**Pb**	**21 49 19.5**	**-0.3**
SRDR	**Sredinnyy**	**2.71**	**279**	*eP*	**Pb**	**21 49 18.3**	**-3.1**
SRDR	**Sredinnyy**	**2.71**	**279**	PN	**Pb**	**21 49 18.3**	**-3.1**
OSSR	**Ossora**	**3.35**	**347**	*eP*	**Pn**	**21 49 25.1**	**0.0**
OSSR	**Ossora**	**3.35**	**347**	PN	**Pn**	**21 49 25.1**	**0.0**
SPN	**Mys Shipunski**	**3.92**	**224**	*eP*	**Pn**	**21 49 32.5**	**-0.5**
SPN	**Mys Shipunski**	**3.92**	**224**	PN	**Pn**	**21 49 32.5**	**-0.5**
PALN	**Palana**	**3.95**	**323**	*eP*	**Pn**	**21 49 35.6**	**+2.2**
PALN	**Palana**	**3.95**	**323**	PN	**Pn**	**21 49 35.6**	**+2.2**
NLC	**Nalytchevo**	**4.14**	**229**	*eS*	**Sn**	**21 50 24.7**	**+0.2**
SDLR	**Sedlovina**	**4.27**	**233**	*eP*	**Pn**	**21 49 39.2**	**+1.3**
SDLR	**Sedlovina**	**4.27**	**233**	PN	**Pn**	**21 49 39.2**	**+1.3**
KRER	**Koryakskii**	**4.31**	**234**	*eP*	**Pn**	**21 49 40.5**	**+1.9**
KRER	**Koryakskii**	**4.31**	**234**	PN	**Pn**	**21 49 40.5**	**+1.9**
SMAR	**Somma**	**4.32**	**233**	*eP*	**Pn**	**21 49 40.0**	**+1.3**
SMAR	**Somma**	**4.32**	**233**	PN	**Pn**	**21 49 40.0**	**+1.3**
KRX	**Arik**	**4.32**	**235**	*eP*	**Pn**	**21 49 40.4**	**+1.7**
KRX	**Arik**	**4.32**	**235**	PN	**Pn**	**21 49 40.4**	**+1.7**
AVH	**Avacha**	**4.34**	**233**	*eP*	**Pn**	**21 49 40.7**	**+1.8**
AVH	**Avacha**	**4.34**	**233**	PN	**Pn**	**21 49 40.7**	**+1.8**
KOK	**Koryaka**	**4.37**	**234**	*eP*	**Pn**	**21 49 40.8**	**+1.5**
KOK	**Koryaka**	**4.37**	**234**	PN	**Pn**	**21 49 40.8**	**+1.5**
DALK	**Dalny**	**4.50**	**231**	*eP*	**Pn**	**21 49 42.5**	**+1.6**
DALK	**Dalny**	**4.50**	**231**	PN	**Pn**	**21 49 42.5**	**+1.6**
PET	**Petropavlovsk**	**4.54**	**231**	PN	**Pn**	**21 49 42.9**	**+1.3**
PET	**Petropavlovsk**	**4.54**	**231**	Pn	**Pn**	**21 49 42.9**	**+1.3**
PEA0B	**Petropavlovsk-**	**4.92**	**237**	PN	**Pn**	**21 49 49.3**	**+2.5**
PEA0B	**Petropavlovsk-**	**4.92**	**237**	Pn	**Pn**	**21 49 49.3**	**+2.5**
PETK	**Petropavlovsk-**	**4.92**	**237**	Pn	**Pn**	**21 49 48.0**	**+1.2**
	0.6nm,0.3s,baz=71,slow=17,SNR=13						
PETK				Sn	**Sn**	**21 50 46.9**	**+3.1**
	0.3nm,0.3s,baz=82,slow=20,SNR=1.5						
RUS	**Russkaya**	**5.03**	**227**	*eP*	**Pn**	**21 49 48.8**	**+0.6**
RUS	**Russkaya**	**5.03**	**227**	PN	**Pn**	**21 49 48.8**	**+0.6**
GRL	**Gorelyy**	**5.13**	**230**	*eP*	**Pn**	**21 49 52.0**	**+2.3**
GRL	**Gorelyy**	**5.13**	**230**	PN	**Pn**	**21 49 52.0**	**+2.3**
MTVR	**Mutnovka**	**5.13**	**229**	*eP*	**Pn**	**21 49 51.7**	**+2.0**
MTVR	**Mutnovka**	**5.13**	**229**	PN	**Pn**	**21 49 51.7**	**+2.0**
ASAK	**Asacha**	**5.32**	**230**	*eP*	**Pn**	**21 49 54.6**	**+2.3**
ASAK	**Asacha**	**5.32**	**230**	PN	**Pn**	**21 49 54.6**	**+2.3**
MIPR	**Malaya Ipel'ka**	**5.90**	**234**	*eP*	**Pn**	**21 50 02.9**	**+2.7**
MIPR	**Malaya Ipel'ka**	**5.90**	**234**	PN	**Pn**	**21 50 02.9**	**+2.7**
GAMB	**Gambell**	**14.16**	**47**	Pn	**Pn**	**21 51 53.1**	**-0.1**
TTA	**Tatalina**	**20.92**	**55**	P	Pn	21 53 16.3	-1.4
TTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TTA	**Tatalina**	**20.92**	**55**	P	Pn	21 53 16.3	-1.4
TTA				lAmb	lAmb	21 53 20.2	
	comp=Z,3.1nm,0.8s						
SVW2	**Sparrevohn**	**21.17**	**60**	P	**P**	**21 53 18.7**	**+0.9**
TIXI	**Tiksi**	**21.68**	**330**	P	**P**	**21 53 25.8**	**+2.6**
	comp=Z,1.3nm,0.7s,baz=117,slow=9.7,SNR=8.3						
IMAR	**Indian Mountai**	**22.11**	**46**	P	**P**	**21 53 29.0**	**+1.1**
PPLA	**Purkeypile**	**22.67**	**55**	P	**P**	**21 53 35.4**	**+1.3**
PPLA				lAmb	lAmb	21 53 39.2	
	comp=Z,2.9nm,0.8s						
SPU	**Mount Spurr**	**22.86**	**59**	P	**P**	**21 53 32.8**	**-3.2**
BPAW	**Bear Paw Mtn.**	**23.18**	**51**	P	**P**	**21 53 39.3**	**+0.1**
KDAK	**Kodiak Island**	**23.20**	**68**	P	**P**	**21 53 38.4**	**-1.1**
	comp=Z,2.4nm,0.6s,baz=287,slow=12,SNR=5.4						
KDAK	**Kodiak Island**	**23.20**	**68**	P	**P**	**21 53 39.1**	**-0.4**
KDAK				lAmb	lAmb	21 53 56.9	
	comp=Z,7.6nm,0.9s						
TRF	**Thorofare Moun**	**23.50**	**53**	P	**P**	**21 53 43.6**	**+1.0**
TRF				lAmb	lAmb	21 53 44.8	
	comp=Z,6.3nm,0.8s						
CNPM	**China Poot**	**23.52**	**63**	P	**P**	**21 53 42.9**	**+0.3**
BRLK	**Bradley Lake**	**23.65**	**62**	P	**P**	**21 53 43.0**	**-1.0**
BRLK				lAmb	lAmb	21 53 45.4	
	comp=Z,7.9nm,0.9s						
RC01	**Rabbit Creek A**	**23.99**	**59**	P	**P**	**21 53 46.7**	**-0.4**
RC01				lAmb	lAmb	21 53 50.5	
	comp=Z,5.5nm,0.7s						
RND	**Reindeer**	**24.15**	**53**	P	**P**	**21 53 48.4**	**-0.4**
RND				pmax	pmax		
	comp=Z,5.0nm,0.8s						
RND	**Reindeer**	**24.15**	**53**	P	**P**	**21 53 48.4**	**-0.4**
RND				lAmb	lAmb	21 53 50.1	
	comp=Z,4.7nm,0.8s						
SEW	**Seward**	**24.29**	**61**	P	**P**	**21 53 49.6**	**-0.3**
SEW				lAmb	lAmb	21 53 51.4	
	comp=Z,8.0nm,0.8s						
WRH	**Wood River Hil**	**24.43**	**50**	P	**P**	**21 53 51.8**	**+0.6**
WRH				lAmb	lAmb	21 53 53.5	
	comp=Z,4.5nm,0.8s						
CCB	**Clear Creek Bu**	**24.55**	**50**	P	**P**	**21 53 52.7**	**+0.4**
CCB				lAmb	lAmb	21 53 54.5	
	comp=Z,4.7nm,0.8s						
SML	**Sawmill**	**24.56**	**57**	P	**P**	**21 53 52.6**	**+0.2**
DHY	**Denali Highway**	**24.85**	**54**	P	**P**	**21 53 55.4**	**+0.2**
DHY				lAmb	lAmb	21 53 56.3	
	comp=Z,3.0nm,0.8s						
IL31		**24.94**	**50**	P	**P**	**21 53 55.6**	**-0.2**
ILAR	**Eielson Array**	**24.94**	**50**	P	**P**	**21 53 54.1**	**-1.7**
	comp=Z,1.0nm,0.7s,baz=259,slow=8.2,SNR=7.7						
ILAR	**Eielson Array**	**24.94**	**50**	P	**P**	**21 53 56.0**	**+0.2**
ILAR	**Eielson Array**	**24.94**	**50**	P	**P**	**21 53 56.0**	**+0.2**
SCM	**Sheep Creek Mo**	**25.02**	**57**	P	**P**	**21 53 56.3**	**-0.4**
SCM				pmax	pmax		
	comp=Z,28nm,0.7s						
SCM	**Sheep Creek Mo**	**25.02**	**57**	P	**P**	**21 53 56.3**	**-0.4**
GLI	**Glacier Island**	**25.29**	**59**	P	**P**	**21 53 59.4**	**+0.3**
PRP	**Porcupine Dome**	**25.48**	**48**	P	**P**	**21 54 01.2**	**+0.4**
PRP				lAmb	lAmb	21 54 03.3	
	comp=Z,2.7nm,1.0s						
PAX	**Paxson**	**25.72**	**54**	P	**P**	**21 54 03.2**	**+0.2**
PAX				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PAX	**Paxson**	**25.72**	**54**	P	**P**	**21 54 03.2**	**+0.2**
PAX				lAmb	lAmb	21 54 11.3	
	comp=Z,1.8nm,0.8s						
BMAR	**Burnt Mountain**	**25.84**	**43**	P	**P**	**21 54 04.2**	**+0.2**
SCRK	**Sand Creek**	**26.26**	**51**	P	**P**	**21 54 07.3**	**-0.6**
SCRK				lAmb	lAmb	21 54 07.9	
	comp=Z,2.2nm,0.8s						
**DO

WB0				IAmb	IAmb	22 05 28.2	
	comp=Z,7.8nm,1.1s						
WB2	**Warramunga Arr**	**45.13**	**260**	P	**P**	**22 05 25.4**	**-0.1**
WRA	**Warramunga Arr**	**45.15**	**260**	P	**P**	**22 05 25.8**	**+0.3**
	comp=Z,2.8nm,0.5s,baz=97,slow=6.5,SNR=92						
WRA	**Warramunga Arr**	**45.15**	**260**	P	**P**	**22 05 25.6**	**+0.1**
AS31	**Alice Springs**	**45.25**	**255**	P	**P**	**22 05 27.3**	**+1.0**
AS31				IAmb	IAmb	22 05 27.8	
	comp=Z,6.3nm,0.8s						
ASAR	**Alice Springs**	**45.25**	**255**	P	**P**	**22 05 27.2**	**+0.9**
	comp=Z,17nm,0.5s,baz=89,slow=8.5,SNR=240						
ASAR	**Alice Springs**	**45.25**	**255**	P	**P**	**22 05 26.6**	**+0.3**
FORT	**Forrest**	**50.35**	**245**	P	**P**	**22 06 01.9**	**-2.3**
KNRA	**Kununurra**	**51.05**	**264**	P	**P**	**22 06 08.8**	**-0.7**
KNRA				IAmb	IAmb	22 06 11.2	
	comp=Z,20nm,1.1s						
SIJI	**Sorong**	**52.94**	**283**	P	**P**	**22 06 23.7**	**+0.5**
	comp=Z,5.0nm,0.4s,baz=55,slow=5.6,SNR=5.0						
FITZ	**Fitzroy Crossi**	**53.55**	**261**	P	**P**	**22 06 28.4**	**+1.0**
	comp=Z,2.3nm,0.8s,baz=143,slow=5.1,SNR=2.2						
FITZ	**Fitzroy Crossi**	**53.55**	**261**	P	**P**	**22 06 27.4**	**0.0**
PSA00	**Pilbara Seismi**	**58.38**	**256**	P	**P**	**22 07 00.4**	**-0.3**
PSA00				IAmb	IAmb	22 07 19.1	
	comp=Z,12nm,1.1s						
MORW	**Morawa**	**60.84**	**247**	P	**P**	**22 07 17.0**	**0.0**
RYN	**Ryan**	**79.33**	**43**	P	**P**	**22 09 04.1**	**-2.4**
BMO	**Blue Mountains**	**83.55**	**39**	P	**P**	**22 09 28.9**	**+1.1**
PV12	**Saucer Basin,**	**85.74**	**47**	P	**P**	**22 09 39.6**	**+0.7**
PV12				IAmb	IAmb	22 09 44.6	
	comp=Z,5.6nm,1.1s						
TXAR	**Lajitas Array**	**85.75**	**57**	P	P	22 09 42.7	+3.8
	comp=Z,0.5nm,0.7s,baz=216,slow=6.2,SNR=3.5						
TXAR	**Lajitas Array**	**85.75**	**57**	P	**P**	**22 09 39.4**	**+0.4**
COLD	**Coldfoot**	**87.79**	**10**		pP	22 11 46.4	-1.9

*IDC **12** 22:25:41.1±4.5,68˚.24N×162˚.84W,h0^{km},mb3.1/2, mb1 3.8/3,mb1mx3.3/33,mbtmp3.4/3,ML3.7/1,Error ellipse: s-maj=88.0km s-min=56.6km az=29.0*

*NEIC **12** 22:25:44.6±1.4,67˚.89N±0˚.08×162˚.4W±0˚.2,h34^{km}±9^{km}, ML2.6/4,Error ellipse: s-maj=17.0km s-min=2.5km az=129.0*

ISC 12 22:25:43.3±1.1**,67˚.81N**±0˚.09×**162˚.28W**±0˚.08**,h10**^{km}**,n26,** σ0**.77/28,Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RDOG	**Red Dog Mine**	**0.34**	**317**			**Pg**	**22 25 49.6**	**-0.6**
RDOG				IAML			22 25 58.4	
	comp=N,667nm,0.5s							
ANM	**Nome**	**3.49**	**203**	Pn		**Pn**	**22 26 38.1**	**+0.5**
ANM				IAML			22 27 35.6	
	comp=N,13nm,0.9s							
IMAR	**Indian Mountai**	**3.83**	**115**			**Pn**	**22 26 41.4**	**-0.8**
IMAR					Sn	**Sn**	**22 27 26.1**	**-1.2**
TTA	**Tatalina**	**5.55**	**149**	Pn		**Pn**	**22 27 04.5**	**-1.5**
BPAW	**Bear Paw Mtn.**	**5.92**	**124**	Pn		**Pn**	**22 27 11.2**	**+0.1**
MDM	**Murphy Dome**	**6.32**	**110**	Pn		**Pn**	**22 27 15.7**	**-0.8**
KTH	**Kantishna Hill**	**6.34**	**127**	Pn		**Pn**	**22 27 17.4**	**+0.6**
PPLA	**Purkeypile**	**6.48**	**135**	Pn		**Pn**	**22 27 19.2**	**+0.4**
CCB	**Clear Creek Bu**	**6.65**	**112**			**Pn**	**22 27 20.4**	**-0.5**
WRH	**Wood River Hil**	**6.65**	**114**	Pn		**Pn**	**22 27 20.9**	**-0.1**
FYU	**Fort Yukon**	**6.74**	**93**	Pn		**Pn**	**22 27 21.8**	**-0.4**
BMAR	**Burnt Mountain**	**6.77**	**85**	Pn		**Pn**	**22 27 22.5**	**0.0**
IL31		**6.91**	**109**	Pn		**Pn**	**22 27 24.5**	**+0.1**
ILAR	**Eielson Array**	**6.91**	**109**	Pn		**Pn**	**22 27 24.5**	**0.0**
	comp=N,1.4nm,0.3s,baz=302,slow=14,SNR=33							
ILAR					Sn	**Sn**	**22 28 42.1**	**-0.9**
	comp=N,0.1nm,0.3s,baz=306,slow=23,SNR=2.1							
ILAR	**Eielson Array**	**6.91**	**109**			**Pn**	**22 27 24.7**	**+0.2**
PRP	**Porcupine Dome**	**7.03**	**101**	Pn		**Pn**	**22 27 26.5**	**+0.2**
HDA	**Harding Lake**	**7.09**	**111**			**Pn**	**22 27 25.1**	**-1.9**
RND	**Reindeer**	**7.09**	**122**	Pn		**Pn**	**22 27 26.7**	**-0.4**
SVW2	**Sparrevohn**	**7.33**	**154**			**Pn**	**22 27 30.1**	**-0.1**
DHY	**Denali Highway**	**7.80**	**120**	Pn		**Pn**	**22 27 36.7**	**-0.2**
RIDG	**Independent Ri**	**8.23**	**111**	Pn		**Pn**	**22 27 43.0**	**+0.3**
GHO	**Glory Hole Cre**	**8.30**	**130**	Pn		**Pn**	**22 27 44.3**	**+0.7**
SCRK	**Sand Creek**	**8.40**	**109**	Pn		**Pn**	**22 27 44.5**	**-0.5**
DOT	**Dot Lake**	**8.56**	**110**	Pn		**Pn**	**22 27 47.6**	**+0.4**
YKA	**Yellowknife Ar**	**20.27**	**82**	P		**P**	**22 30 18.9**	**+0.3**
	comp=N,0.2nm,0.6s,baz=301,slow=11,SNR=3.7							
TXAR	**Lajitas Array**	**51.42**	**108**	P		**P**	**22 34 49.9**	**+1.6**
	comp=N,0.6nm,0.8s,baz=347,slow=5.1,SNR=7.3							

*IDC **12** 22:40:17.4±1.4,20˚.82S×169˚.07E,h0^{km},mb4.4/15, mb1 4.5/16,mb1mx4.3/43,mbtmp4.4/16,ML3.8/1,MS3.8/13, Ms1 3.8/13,ms1mx3.6/29,Error ellipse: s-maj=42.7km s-min=17.2km az=145.0*

*NEIC **12** 22:40:22.4±1.8,20˚.78S±0˚.05×168˚.88E±0˚.07,h35^{km}±1^{km}, mb4.7/57,Error ellipse: s-maj=11.2km s-min=8.2km az=98.0*

*GCMT **12** 22:40:24.5±0.3,20˚.77S±0˚.03×168˚.68E±0˚.02,h29^{km}±1^{km}, MW5.0/65,Moment Tensor Solution. s26,c28; s65,c83; Duration: 0 Moment tensor: Scale 10^{16}Nm; M$_{rr}$2.84±.20; M$_{\theta\theta}$-0.45±.13; M$_{\phi\phi}$-2.38±.13; M$_{r\theta}$-0.07±.21; M$_{r\phi}$1.19±.07; M$_{\theta\phi}$-2.10±.17; Best double couple: M$_0$3.57600×10^{16} NP1:ϕ_s320.00000°,δ30.00000°,λ64.00000°. NP2: ϕ_s170.00000°,δ63.00000°,λ104.00000°. Principal axes: T 3.6340, Plg68.0000°, Azm109.0000°; N -0.1090, Plg13.0000°, Azm343.0000°; P -3.5180, Plg17.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 22:40:21.0±0.4**,20˚.81S**±0˚.06×**168˚.96E**±0˚.06**,h25**^{km}**,n151,** σ1**.9**§**30/136,mb4.7/44,MS3.9/14,Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**2.66**	**241**	Pn		**Pn**	**22 41 01.4**	**-1.0**
	15nm,0.3s,baz=61,slow=17,SNR=96							
DZM					LR	LR	22 41 30.8	
	comp=Z,1μm,20.7s,baz=51,slow=27							
DZM					Sn	**Sn**	**22 41 33.0**	**-0.9**
	59nm,0.3s,baz=72,slow=19,SNR=9.9							
DZM	**Mont Dzumac**	**2.66**	**241**	*e*Pn		**Pn**	**22 41 01.0**	**-1.4**
	1μm,0.8s							
DZM				*e*Sn		**Sn**	**22 41 30.6**	**-3.3**
	2μm,1.0s							
DZM				*e*LR		LR	22 41 38.2	
	comp=Z,4μm,25.9s							
DZM	**Mont Dzumac**	**2.66**	**241**	Pn		**Pn**	**22 41 01.8**	**-0.6**
DZM						**Sn**	**22 41 32.7**	**-1.2**
SANVU	**Saraoutou**	**5.59**	**342**	Pn		**Pn**	**22 41 42.0**	**-0.5**
MSVF	**Nonsavu**	**9.11**	**72**	Pn		**Pn**	**22 42 32.2**	**+1.1**
OUZ	**Omahuta**	**14.93**	**165**	Pn		**Pn**	**22 43 51.8**	**+1.4**
EIDS	**Eidsvold**	**17.06**	**251**			**Pn**	**22 44 16.0**	**-1.9**
ARMA	**Armidale**	**18.31**	**235**	P		**P**	**22 44 31.1**	**-2.3**
HIZ	**Hauiti**	**18.36**	**165**	P		**Pn**	**22 44 34.6**	**+0.7**
BKZ	**Black Stump Fm**	**19.41**	**162**	P		**Pn**	**22 44 47.0**	**+0.4**
BFZ	**Birch Farm**	**20.76**	**164**	P		**P**	**22 45 00.8**	**+0.8**
BFZ				IAmb		IAmb	22 45 11.0	
	comp=Z,44nm,1.1s							
MSWZ	**Moikau Station**	**21.23**	**167**	P		**P**	**22 45 06.2**	**+1.1**
CTA	**Charters Tower**	**21.29**	**268**	P		**P**	**22 45 07.6**	**+1.7**
	comp=Z,8.0nm,0.8s,baz=72,slow=13,SNR=2.3							
CTAO	**Charters Tower**	**21.29**	**268**	P		**P**	**22 45 07.2**	**+1.3**
PLWZ	**Palliser**	**21.37**	**167**	P		**P**	**22 45 06.8**	**+0.2**
FOZ	**Fox Glacier**	**22.67**	**178**	P		**P**	**22 45 21.5**	**+1.1**
FOZ				IAmb		IAmb	22 45 25.1	
	comp=Z,26nm,1.1s							
CAN	**Canberra**	**22.73**	**226**	P		**P**	**22 45 19.2**	**-2.0**
CAN				IAmb		IAmb	22 45 29.4	
	comp=Z,28nm,1.1s							
RPZ	**Rata Peaks**	**22.91**	**176**	LR		LR	22 52 21.2	
	comp=Z,186nm,19.4s,baz=336,slow=32							
LBZ	**Lake Benmore**	**23.54**	**178**	P		**P**	**22 45 30.9**	**+1.6**
PMG	**Port Moresby**	**23.87**	**295**	P		**P**	**22 45 35.0**	**+2.3**
	comp=Z,5.5nm,0.3s,baz=114,slow=3.8,SNR=4.9							
PMG				LR		LR	22 53 04.7	
	comp=Z,139nm,20.7s,baz=141,slow=32							
DCZ	**Deep Cove**	**24.64**	**183**	P		**P**	**22 45 39.8**	**+0.3**
COEN	**Coen**	**25.51**	**281**	P		**P**	**22 45 48.5**	**+0.8**
TOO	**Toolangi**	**26.32**	**226**	P		**P**	**22 45 53.7**	**-1.2**
TOO				IAmb		IAmb	22 46 01.7	
	comp=Z,20nm,1.1s							
STKA	**Stephens Creek**	**26.81**	**240**	P		**P**	**22 46 01.3**	**+1.9**
	comp=Z,9.4nm,0.8s,baz=87,slow=10,SNR=14							
STKA				LR		LR	22 55 42.8	
	comp=Z,393nm,21.5s,baz=28,slow=34							
STKA	**Stephens Creek**	**26.81**	**240**	P		**P**	**22 46 01.5**	**+2.2**

RAR	**Rarotonga**	**29.17**	**96**	LR		LR	22 55 08.5
	comp=Z,90nm,21.0s,baz=265,slow=31						
BBOO	**Buckleboo**	**31.58**	**241**	P		**P**	**22 46 41.2**	**-0.5**
WR0	**Warramunga Arr**	**32.24**	**265**	P		**P**	**22 46 47.6**	**-0.1**
WB0	**Warramunga Arr**	**32.40**	**266**	P		**P**	**22 46 49.2**	**0.0**
WB0				IAmb		IAmb	22 47 07.0	
	comp=Z,8.4nm,1.0s							
WB2	**Warramunga Arr**	**32.42**	**265**	P		**P**	**22 46 49.7**	**+0.4**
WB2				IAmb		IAmb	22 47 07.4	
	comp=Z,9.6nm,1.1s							
WRA	**Warramunga Arr**	**32.43**	**265**	P		**P**	**22 46 49.2**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=91,slow=5.5,SNR=14							
AS31	**Alice Springs**	**32.52**	**258**	P		**P**	**22 46 50.1**	**-0.1**
ASAR	**Alice Springs**	**32.52**	**258**	P		**P**	**22 46 50.7**	**+0.5**
	comp=Z,11nm,0.8s,baz=81,slow=9.3,SNR=33							
ASAR					LR	LR	23 00 57.4	
	comp=Z,305nm,18.0s,baz=90,slow=38							
ASAR	**Alice Springs**	**32.52**	**258**	P		**P**	**22 46 49.9**	**-0.3**
JAY	**Jayapura**	**33.00**	**300**	LR		LR	22 58 28.9	
	comp=Z,149nm,19.6s,baz=78,slow=33							
MTN	**Manton Dam**	**36.99**	**276**	P		**P**	**22 47 28.6**	**-0.2**
MTN				IAmb		IAmb	22 47 33.4	
	comp=Z,8.4nm,0.8s							
FORT	**Forrest**	**37.96**	**246**	P		**P**	**22 47 37.1**	**+0.2**
KNRA	**Kununurra**	**38.45**	**271**	P		**P**	**22 47 40.6**	**-0.5**
TBI	**Tubuai**	**38.52**	**102**	*e*LQ		LQ	22 56 47.3	
	comp=Z,445nm,29.0s							
TBI				*e*LR		LR	22 58 16.0	
	comp=Z,143nm,30.2s							
PPT2	**Papeete2**	**39.21**	**93**	*e*S		**S**	**22 53 42.7**	**-4.1**
	comp=Z,93nm,25.0s							
PPT2				*e*LQ		LQ	22 56 59.6	
	comp=Z,497nm,28.5s							
PPT2				*e*LR		LR	22 58 33.2	
	comp=Z,282nm,27.8s							
FAKI	**Fak Fak**	**39.92**	**292**	P		**P**	**22 47 52.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**40.85**	**266**	P		**P**	**22 48 02.1**	**+1.0**
	comp=Z,16nm,0.7s,baz=129,slow=7.8,SNR=21							
FITZ	**Fitzroy Crossi**	**40.85**	**266**	P		**P**	**22 48 01.7**	**+0.6**
FITZ				IAmb		IAmb	22 48 06.5	
	comp=Z,17nm,0.8s							
SOEI	**Soe**	**44.35**	**277**	P		**P**	**22 48 28.9**	**-0.8**
PSA00	**Pilbara Seismi**	**45.65**	**260**	P		**P**	**22 48 41.5**	**+1.7**
NWAO	**Narrogin (SRO)**	**47.28**	**244**	P		**P**	**22 48 54.7**	**+2.1**
MORW	**Morawa**	**48.35**	**249**	P		**P**	**22 49 02.8**	**+1.9**
VNDA	**Vanda**	**56.86**	**182**	LR		LR	23 11 01.5	
	comp=Z,58nm,18.7s,baz=29,slow=32							
MJAR	**Matsushiro Arr**	**64.01**	**333**	P		**P**	**22 50 53.0**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=168,slow=6.2,SNR=3.7							
QSPA	**South Pole Qui**	**69.25**	**180**	P		**P**	**22 51 26.5**	**+0.8**
QSPA				IAmb		IAmb	22 51 44.2	
	comp=Z,7.9nm,1.0s							
KSRS	**Korea Array**	**69.65**	**326**	P		**P**	**22 51 29.1**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=152,slow=6.6,SNR=5.7							
KSAR	**Wonju Array Be**	**69.66**	**326**	P		**P**	**22 51 28.3**	**-0.1**
NJ2	**Nanjing**	**71.15**	**316**	*e*P		**P**	**22 51 39.6**	**+1.9**
NJ2				pmax		pmax		
	comp=Z,14nm,0.6s							
USRK	**Ussuriysk Ar.**	**73.01**	**333**	P		**P**	**22 51 49.8**	**+1.3**
	comp=Z,2.8nm,0.9s,baz=104,slow=8.0,SNR=4.4							
USRK	**Ussuriysk Ar.**	**73.01**	**333**	P		**P**	**22 51 47.6**	**-0.9**
PEA0B	**Petropavlovsk-**	**74.25**	**353**	P		**P**	**22 51 52.8**	**-2.8**
PEA0B				IAmb		IAmb	22 52 09.0	
	comp=Z,9.6nm,0.9s							
PETK	**Petropavlovsk-**	**74.25**	**353**	P		**P**	**22 51 55.8**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=116,slow=6.8,SNR=6.4							
PETK					LR	LR	23 21 33.9	
	comp=Z,81nm,19.4s,baz=73,slow=33							
NIKH	**Nikolski High**	**75.95**	**14**	P		**P**	**22 52 04.2**	**-1.2**
MAW	**Mawson**	**76.89**	**202**	LR		LR	23 22 46.7	
	comp=Z,68nm,19.8s,baz=63,slow=33							
CMAR	**Chiang Mai Arr**	**78.91**	**295**	P		**P**	**22 52 23.9**	**+1.1**
	comp=Z,1.5nm,0.3s,baz=137,slow=5.1,SNR=6.7							
CHTO	**Chiang Mai**	**79.07**	**295**	P		**P**	**22 52 21.2**	**-2.5**
CHTO				IAmb		IAmb	22 52 37.0	
	comp=Z,10.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**81.24**	**320**	*e*P		**P**	**22 52 36.0**	**+1.0**
HHC				pmax		pmax		
	comp=Z,7.0nm,0.8s							
HHC				pmax		pmax		
	comp=Z,61nm,7.6s							
LZH	**Lanzhou**	**83.58**	**312**	*e*P		**P**	**22 52 46.4**	**-1.0**
LZH				pP		pwP	22 53 08.9	+7.7
LZH				sP		sP	22 53 17.3	+21
LZH				pmax		pmax		
	comp=Z,18nm,1.0s							
LZH				pmax		pmax		
	comp=Z,76nm,5.0s							
PMSA	**Palmer Station**	**85.53**	**160**	P		**P**	**22 52 56.4**	**-0.2**
GAMB	**Gambell**	**85.65**	**8**	P		**P**	**22 52 56.3**	**-0.7**
SNAA	**Sanae**	**87.59**	**183**	P		**P**	**22 53 07.1**	**+0.3**
SNAA	**Sanae**	**87.59**	**183**	P		**P**	**22 53 06.5**	**-0.3**
SNAA				IAmb		IAmb	22 53 07.6	
	comp=Z,6.7nm,1.1s							
WDC	**Whiskeytown Da**	**88.15**	**45**	P		**P**	**22 53 10.0**	**+0.3**
WDC				IAmb		IAmb	22 53 23.0	
	comp=Z,4.1nm,1.1s							
VNA3	**Neumayer Olymp**	**88.19**	**180**	P		**P**	**22 53 09.8**	**+0.2**
SONM	**Songino Array**	**88.31**	**323**	P		**P**	**22 53 11.9**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=156,slow=5.2,SNR=8.0							
SONM	**Songino Array**	**88.31**	**323**	P		**P**	**22 53 10.8**	**+0.3**
VNA2	**Neumayer--Watz**	**88.48**	**181**	P		**P**	**22 53 11.0**	**+0.1**
	baz=179,slow=4.5							
YBH	**Yreka Blue Hor**	**88.60**	**44**	P		**P**	**22 53 12.7**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=240,slow=18,SNR=3.0							
YBH	**Yreka Blue Hor**	**88.60**	**44**	P		**P**	**22 53 11.1**	**-0.9**
BILL	**Bilibino**	**88.61**	**359**	P		**P**	**22 53 10.8**	**-0.4**
BILL				IAmb		IAmb	22 53 11.8	
	comp=Z,3.8nm,0.9s							
ISA	**Isabella, Lake**	**88.67**	**51**	P		**P**	**22 53 11.1**	**-1.3**
ISA				IAmb		IAmb	22 53 25.6	
	comp=Z,3.0nm,0.9s							
GLI	**Glacier Island**	**88.77**	**20**	P		**P**	**22 53 11.8**	**-0.4**
GLI				IAmb		IAmb	22 53 14.1	
	comp=Z,4.9nm,1.0s							
FID	**Port Fidalgo**	**88.87**	**20**	P		**P**	**22 53 12.3**	**-0.4**
FID				IAmb		IAmb	22 53 21.0	
	comp=Z,6.1nm,1.2s							
OMMB	**Old Mammoth Mi**	**89.17**	**49**	P		**P**	**22 53 13.5**	**-1.6**
OMMB				IAmb		IAmb	22 53 27.6	
	comp=Z,5.4nm,1.2s							
RAGM	**Ragged Mountai**	**89.19**	**21**	P		**P**	**22 53 14.2**	**0.0**
SCM	**Sheep Creek Mo**	**89.43**	**19**	P		**P**	**22 53 12.9**	**-2.4**
SCM				IAmb		IAmb	22 53 25.3	
	comp=Z,4.6nm,1.1s							
PNTR	**Pine Nut**	**89.43**	**48**	P		**P**	**22 53 12.9**	**-3.2**
GSC	**Goldstone, Bar**	**89.73**	**52**	P		**P**	**22 53 16.4**	**-1.1**
NVAR	**Mina Array Bea**	**90.03**	**49**	P		**P**	**22 53 19.5**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=230,slow=8.6,SNR=4.7							
NVAR					LR	LR	23 30 35.1	
	comp=Z,70nm,18.0s,baz=232,slow=34							
NVAR	**Mina Array Bea**	**90.03**	**49**	P		**P**	**22 53 19.1**	**+0.1**
NV11	**Mina Array Sit**	**90.14**	**49**	IAmb		IAmb	22 53 20.2	
	comp=Z,4.8nm,1.1s							
GLB	**Gilahina Butte**	**90.25**	**21**	P		**P**	**22 53 20.0**	**+0.9**
KVN	**Kaiserville**	**90.45**	**48**	P		**P**	**22 53 20.1**	**-0.7**
KVN				IAmb		IAmb	22 53 34.2	
	comp=Z,3.5nm,1.0s							
PINE	**Pine Mountain**	**90.74**	**43**	P		**P**	**22 53 20.7**	**-1.4**
TPNV	**Topopah Spring**	**90.84**	**51**	P		**P**	**22 53 21.2**	**-1.5**
TPNV				IAmb		IAmb	22 53 23.7	
	comp=Z,3.1nm,0.8s							
RIDG	**Independent Ri**	**91.62**	**19**	P		**P**	**22 53 25.3**	**-0.2**
RIDG				IAmb		IAmb	22 53 44.2	
	comp=Z,3.3nm,1.1s							
ILAR	**Eielson Array**	**91.80**	**17**	P		**P**	**22 53 24.9**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=224,slow=5.0,SNR=3.5							
ILAR	**Eielson Array**	**91.80**	**17**	P		**P**	22 53 20.3	-5.9
HYT	**Haines Junctio**	**92.03**	**23**	P		**P**	**22 53 25.6**	**-1.9**
HYT				IAmb		IAmb	22 53 27.8	
	comp=Z,3.6nm,0.9s							
LTY	**Liberty**	**92.55**	**40**	P		**P**	**22 53 29.4**	**-0.8**
LTY				IAmb		IAmb	22 53 43.5	
	comp=Z,3.5nm,1.1s							
G08A	**Pilot Rock**	**92.69**	**42**	P		**P**	**22 53 30.7**	**-0.3**
G08A				IAmb		IAmb	22 53 45.8	
	comp=Z,3.8nm,1.0s							
LLLB	**Lillooet**	**93.45**	**37**	P		**P**	**22 53 32.9**	**-1.3**
LLLB				IAmb		IAmb	22 53 48.2	
	comp=Z,3.3nm,0.7s							
EGAK	**Eagle**	**93.48**	**19**	P		**P**	**22 53 34.4**	**+0.4**
EGAK				IAmb		IAmb	22 53 46.9	
	comp=Z,3.1nm,0.9s							
TXAR	**Lajitas Array**	**97.74**	**62**	LR		LR	23 31 10.3	
	comp=Z,84nm,19.1s,baz=0.0,slow=31							

PDAR	**Pinedale Array**	**97.87**	**47**	LR		LR	23 32 36.8
	comp=Z,34nm,19.3s,baz=120,slow=32						
WMQ	**Urumqi**	**98.09**	**314**	*e*P		Pdif	22 53 57.4	+1.7
MKAR	**Makanchi Array**	**102.67**	**315**	P		**Pdif**	**22 54 15.8**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=103,slow=6.5,SNR=2.3							
VYHS	**Vyhne**	**143.45**	**326**	*e*PKP		PKPbc	22 59 51.8	+1.2
JAVC	**Velka Javorina**	**143.81**	**327**	*e*PKP		**PKPdf**	**22 59 54.2**	**+0.2**
BRG	**Berggiesshubel**	**144.15**	**333**	*e*		**PKiKP**	**23 00 05.5**	**+7.5**
	comp=Z,6.5nm,0.8s							
BRG	**Berggiesshubel**	**144.15**	**333**	*e*PKPbc		PKPbc	22 59 52.9	+0.3
	baz=40,slow=2.9							
BRG	**Berggiesshubel**	**144.15**	**333**	*e*PKP		PKPbc	22 59 53.3	+0.8
	comp=Z,9.2nm,1.0s							
CLL	**Collm**	**144.21**	**334**	*i* pPKPdf		pPKPdf	23 00 06.0	+4.7
CLL	**Collm**	**144.21**	**334**	*e*PKPdf		PKPbc	22 59 53.0	+0.3
	comp=Z,6.0nm,1.0s							
KRUC	**Moravsky**	**144.31**	**329**	*e*PKP		PKPbc	22 59 53.7	+0.6
FBE	**Freiberg**	**144.36**	**333**	*e*PKPbc		PKPbc	22 59 53.8	+0.6
	baz=40,slow=2.9							
GOPC	**GO Pecny, Ondr**	**144.47**	**331**	*e*PKP		**PKPdf**	**22 59 54.6**	**-0.5**
PRU	**Pruhonice**	**144.53**	**331**	*e*PKP		**PKPdf**	**22 59 55.0**	**-0.2**
NEUB	**Neuenburg**	**144.78**	**335**	*e*PKPbc		PKPbc	22 59 55.1	+0.6
	baz=40,slow=2.9							
PBCC	**Pribram**	**144.99**	**331**	*e*PKP		**PKPdf**	**22 59 56.2**	**+0.2**
ESK	**Eskdalemuir**	**145.04**	**352**			**PKPbc**	**22 59 55.2**	**-0.1**
TANN	**Tannenbergstha**	**145.12**	**334**	*e*PKPbc		**PKPdf**	**22 59 56.3**	**+0.1**
	baz=40,slow=2.9							
GTTG	**Gottingen**	**145.21**	**337**	*e*PKPbc		**PKPdf**	**22 59 56.7**	**+0.4**
	baz=40,slow=2.9							
GUNZ	**Gunzen**	**145.21**	**334**	*e*PKPbc		**PKPdf**	**22 59 56.7**	**+0.3**
	baz=40,slow=2.9							
NKC	**Novy Kostel**	**145.26**	**333**	*e*PKP		**PKPdf**	**22 59 57.0**	**+0.5**
CONA	**Conrad Observa**	**145.33**	**328**	*i* PKPdf		**PKPab**	**22 59 57.8**	**+1.1**
	comp=Z,17nm,1.5s							
DIVS	**Divibare**	**145.33**	**319**			**PKPab**	**22 59 57.2**	**+0.4**
KHC	**Kasperske Hory**	**145.58**	**331**	*e*PKP		**PKPab**	**22 59 57.8**	**+0.3**
KHC				*ex*		x	23 00 07.5	
KHC				*ex*		x	23 01 18.0	
ROTZ	**Rotzenmuhle**	**145.71**	**333**	*e*PKPbc		**PKPab**	**22 59 58.3**	**+0.4**
	baz=40,slow=2.9							
GEC2	**GERESS Array S**	**145.73**	**331**	*e*PKPbc		**PKPab**	**22 59 58.1**	**0.0**
	baz=40,slow=2.9							
GERES	**GERESS Array B**	**145.73**	**331**			**PKPab**	**22 59 58.3**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=46,slow=3.9,SNR=37							
GERES	**GERESS Array B**	**145.73**	**331**			**PKPdf**	**22 59 57.4**	**0.0**
WET	**Wettzell**	**145.89**	**332**	*e*PKPbc		**PKPab**	**22 59 58.7**	**0.0**
	baz=40,slow=2.9							
ARSA	**Arzberg**	**145.96**	**327**	*e*pPKPdf		pPKPdf	23 00 05.2	+0.6
	comp=Z,12nm,1.4s							
MOA	**Molln**	**146.17**	**329**	*i* PKiKP		**PKPab**	**23 00 00.8**	**+1.1**
	comp=Z,3.5nm,1.1s							
TNS	**Taunus Mts**	**146.84**	**337**	*e*PKPbc		**PKPbc**	**23 00 01.5**	**+0.5**

X18A	**Snowflake**	**6.81**	**14**			**Pn**		**22 54 27.6**	**+1.0**
MNTX	**Cornudas Mount**	**6.83**	**55**	Pn		**Pn**		**22 54 27.6**	**+0.9**
XPFO	**Pion Flat**	**6.88**	**327**	Pn		**Pn**		**22 54 28.4**	**+0.8**
PFO	**Pinyon Flats O**	**6.88**	**327**	Pn		Pn		22 54 33.0	+5.4
	comp=N,1.8nm,0.3s,baz=147,slow=12,SNR=12								
PFO				LR		LR		22 57 00.5	
	comp=N,263nm,20.4s,baz=271,slow=36								
PFO	**Pinyon Flats O**	**6.88**	**327**	Pn		**Pn**		**22 54 28.9**	**+1.3**
W13A	**Hualapai Mount**	**7.35**	**347**	Pn		**Pn**		**22 54 36.1**	**+2.0**
TX31	**Lajitas Ar. Si**	**7.40**	**77**			**Pn**		**22 54 35.2**	**+0.4**
TX32	**Lajitas Array**	**7.40**	**77**			**Pn**		**22 54 35.6**	**+0.9**
TXAR	**Lajitas Array**	**7.40**	**77**	Pn		**Pn**		**22 54 35.9**	**+1.1**
	comp=N,0.3nm,0.3s,baz=247,slow=13,SNR=36								
TXAR				Sn		**Sn**		**22 56 00.0**	**+1.0**
	comp=N,0.1nm,0.3s,baz=262,slow=26,SNR=2.7								
TXAR				Lg		Lg		22 56 39.6	
	comp=N,0.5nm,0.3s,baz=326,slow=6.0,SNR=4.7								
TXAR				LR		LR		22 57 37.8	
	comp=N,338nm,19.7s,baz=0.0,slow=40								
TXAR	**Lajitas Array**	**7.40**	**77**	Pn		**Pn**		**22 54 35.6**	**+0.9**
W18A	**Petrified Fore**	**7.42**	**14**			**Pn**		**22 54 34.9**	**-0.2**
LENM	**Lemitar**	**7.54**	**33**	Pn		**Pn**		**22 54 35.7**	**-1.0**
WUAZ	**Wupatki**	**7.59**	**3**	Pn		**Pn**		**22 54 38.5**	**+1.1**
BNM	**Barren Site**	**7.70**	**35**	Pn		**Pn**		**22 54 39.2**	**+0.2**
ANMO	**Albuquerque**	**8.42**	**32**	Pn		**Pn**		**22 54 52.5**	**+3.6**
	comp=N,0.4nm,0.3s,baz=219,slow=15,SNR=8.2								
ANMO				Lg		Lg		22 57 15.3	
	comp=N,0.4nm,0.3s,baz=292,slow=19,SNR=3.0								
ANMO	**Albuquerque**	**8.42**	**32**	Pn		**Pn**		**22 54 49.5**	**+0.7**
U15A	**North Rim**	**8.49**	**358**	Pn		**Pn**		**22 54 51.7**	**+1.9**
SHPR	**Sheep Range**	**8.99**	**343**	Pn		**Pn**		**22 54 59.1**	**+2.6**
KNB	**Kanab**	**9.10**	**356**	Pn		**Pn**		**22 55 01.1**	**+2.9**
PKCU	**Pink Cliffs**	**9.50**	**358**			**Pn**		**22 55 05.5**	**+1.7**
CCUT	**Cedar City**	**9.68**	**353**	Pn		**Pn**		**22 55 08.8**	**+2.7**
MVCO	**Mesa Verde**	**9.71**	**16**	Pn		**Pn**		**22 55 07.4**	**+1.0**
MTPU	**Mount Pierson**	**10.10**	**359**			**Pn**		**22 55 14.3**	**+2.4**
PV13	**Radium Mtn., P**	**10.54**	**14**	Pn		**Pn**		**22 55 19.5**	**+1.6**
PV01	**Paradox Valley**	**10.57**	**15**	Pn		**Pn**		**22 55 19.2**	**+0.9**
PV02	**Paradox Valley**	**10.60**	**14**			**Pn**		**22 55 19.6**	**+0.9**
PV18	**Skein Mesa, Pa**	**10.61**	**13**	Pn		**Pn**		**22 55 19.9**	**+1.1**
PV03	**Paradox Valley**	**10.63**	**13**	Pn		**Pn**		**22 55 20.0**	**+0.9**
PV19	**Morning Glory**	**10.65**	**13**	Pn		**Pn**		**22 55 18.2**	**-1.2**
PV11	**David Mesa, Pa**	**10.66**	**13**			**Pn**		**22 55 20.7**	**+1.2**
TCRU	**Three Creeks R**	**10.67**	**358**	Pn		**Pn**		**22 55 21.5**	**+1.8**
PV20	**West Nyswonger**	**10.69**	**13**	Pn		**Pn**		**22 55 20.7**	**+0.9**
PV12	**Saucer Basin,**	**10.70**	**13**			**Pn**		**22 55 20.8**	**+0.8**
PSUT	**Pine Spring**	**10.71**	**352**	Pn		**Pn**		**22 55 22.1**	**+2.0**
PV04	**Paradox Valley**	**10.75**	**13**	Pn		**Pn**		**22 55 22.0**	**+1.3**
PV23	**Carpenter Ridg**	**10.79**	**12**			**Pn**		**22 55 23.8**	**+2.5**
PV15	**Paradox Valley**	**10.79**	**15**	Pn		**Pn**		**22 55 23.4**	**+2.1**
PV09	**Paradox Valley**	**10.81**	**12**	Pn		**Pn**		**22 55 24.1**	**+2.5**
PV07	**Paradox Valley**	**10.85**	**14**			**Pn**		**22 55 23.9**	**+1.9**
PV21	**Cone Mtn., Par**	**10.90**	**12**			**Pn**		**22 55 24.5**	**+1.7**
PV22	**Blue Mesa, Par**	**10.91**	**13**	Pn		**Pn**		**22 55 26.0**	**+3.1**
OMMB	**Old Mammoth Mi**	**11.34**	**330**	Pn		**Pn**		**22 55 28.5**	**-0.4**
TMUT	**Trail Mountain**	**11.36**	**3**	Pn		**Pn**		**22 55 31.1**	**+1.8**
P17A	**Butcher Ranch,**	**11.57**	**5**	Pn		**Pn**		**22 55 34.6**	**+2.7**
NVAR	**Mina Array Bea**	**11.76**	**335**	Pn		Pn		22 55 41.8	+7.3
	comp=N,0.2nm,0.3s,baz=162,slow=16,SNR=4.1								
NVAR				LR		LR		22 59 40.6	
	comp=N,111nm,19.0s,baz=144,slow=35								
ELK	**Elko**	**13.08**	**349**	Pn		P		22 55 57.2	-5.9
	comp=N,0.2nm,0.3s,baz=185,slow=11,SNR=17								
ELK				LR		LR		23 01 07.8	
	comp=N,163nm,18.0s,baz=158,slow=38								
BW06	**Boulder Array**	**14.94**	**7**	Pn		**Pn**		**22 56 19.1**	**+1.1**
PD31	**Pinedale Array**	**14.94**	**7**	Pn		**Pn**		**22 56 20.0**	**+2.1**
PDAR	**Pinedale Array**	**14.94**	**7**	Pn		**P**		**22 56 25.2**	**+1.5**
	comp=N,0.2nm,0.3s,baz=178,slow=9.0,SNR=26								
PDAR	**Pinedale Array**	**14.94**	**7**	Pn		**P**		**22 56 20.5**	**-3.2**
K22A	**Casper**	**15.34**	**15**	P		**Pn**		**22 56 25.1**	**+1.8**
K22A				IAmb		IAmb		22 56 34.6	
	comp=Z,14nm,1.1s								
WDC	**Whiskeytown Da**	**15.36**	**328**	Pn		**Pn**		**22 56 24.5**	**+1.2**
WDC				IAmb		IAmb		22 56 39.1	
	comp=Z,3.9nm,1.1s								
YHH	**Holmes Hill**	**16.86**	**3**	Pn		**P**		**22 56 44.4**	**-0.6**
MCMT	**McKenzie Canyo**	**16.89**	**358**			**P**		**22 56 44.4**	**-0.9**
CMIG	**Matias Romero**	**19.06**	**121**	LR		LR		23 05 14.3	
	comp=Z,61nm,18.5s,baz=224,slow=39								
NEW	**Newport**	**20.71**	**350**	P		Pn		22 57 30.2	+0.8
	comp=Z,7.8nm,0.9s,baz=157,slow=10.0,SNR=10								
NEW				LR		LR		23 05 39.4	
	comp=Z,74nm,20.0s,baz=154,slow=37								
TEIG	**Tepich**	**22.89**	**104**	LR		LR		23 07 55.6	
	comp=Z,74nm,19.7s,baz=230,slow=40								
TKL	**Tuckaleechee C**	**25.09**	**65**	LR		LR		23 08 44.5	
	comp=Z,134nm,18.8s,baz=254,slow=38								
BBB	**Bella Bella**	**27.09**	**338**	LR		LR		23 09 01.1	
	comp=Z,58nm,20.1s,baz=192,slow=36								
YKA	**Yellowknife Ar**	**34.62**	**358**	LR		LR		23 16 11.7	
	comp=Z,41nm,20.2s,baz=0.0,slow=40								
SCM	**Sheep Creek Mo**	**41.21**	**335**	P		**P**		**23 00 32.5**	**+1.1**
SCM				IAmb		IAmb		23 00 37.1	
	comp=Z,11nm,1.2s								
INK	**Inuvik**	**42.41**	**348**	LR		LR		23 18 50.4	
	comp=Z,63nm,20.0s,baz=158,slow=37								
ILAR	**Eielson Array**	**42.97**	**339**	P		P		23 00 50.0	+4.4
	comp=Z,1.1nm,0.9s,baz=156,slow=7.8,SNR=7.1								

GEN ***12*** *22:58:10.1,46.03N×6.89E,h9km,Ml0.9*
LDG ***12*** *22:58:10.2±0.0,46.03N×6.88E,h3km,Md1.9/2,Ml1.8/3, Error ellipse: s-maj=1.2km s-min=0.7km az=93.0*

ZUR 12 22:58:10.4,46.04N×6.89E,h4km±1km,MLh1.1/8,5C-5D, Error ellipse: s-maj=2.7km s-min=0.9km az=113.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEMOS	**Emosson Stauma**	**0.04**	**45**	Pg	Pg	22 58 12.0	+0.2
	0.5nm,SNR=2.4						
SEMOS				Sg	Sg	22 58 13.0	+0.2
OGSI	**Sixt**	**0.10**	**288**	⇓Pg	Pg	22 58 12.5	0.0
	0.1nm,SNR=1.3						
OGSI				Sg	Sg	22 58 14.0	+0.1
SALAN	**Lac Salanfe**	**0.12**	**28**	⇑Pg	Pg	22 58 13.2	+0.1
SALAN				⇑Pg	Pg	22 58 13.2	+0.1
	0.1nm,SNR=5.3						
SALAN				Sg	Sg	22 58 15.0	+0.2
SMAO	**Martigny, Rue**	**0.14**	**64**	⇑Pg	Pg	22 58 13.6	+0.3
	0.3nm,SNR=3.9						
GRYON	**Gryon**	**0.27**	**36**	Pg	Pg	22 58 15.8	+0.2
	0.1nm,SNR=2.4						
GRYON				Pg	Pg	22 58 15.8	+0.2
GRYON				Sg	Sg	22 58 19.5	+0.4
REMY	**Saint-Rhmy-en**	**0.27**	**137**	⇓Pg	Pg	22 58 16.1	+0.3
REMY				⇓Pg	Pg	22 58 16.1	+0.3
	0.1nm,SNR=3.4						
REMY				Sg	Sg	22 58 19.9	+0.6
REMY	**Saint-Rhmy-en**	**0.27**	**137**	P	Pg	22 58 16.1	+0.3
REMY				S	Sg	22 58 19.7	+0.3
DIX	**Grande Dixence**	**0.36**	**83**	⇓Pg	Pg	22 58 17.7	+0.2
	SNR=1.9						
DIX				⇓Pg	Pg	22 58 17.7	+0.2
DIX				Sg	Sg	22 58 22.6	+0.2
RSL	**Roselend**	**0.39**	**208**	⇑Pg	Pg	22 58 17.8	-0.2
RSL				⇑Pg	Pg	22 58 17.8	-0.2
	SNR=1.2						
LPL	**La Plagne**	**0.53**	**192**	*e*Pg	Pg	22 58 20.5	-0.1
LPL	**La Plagne**	**0.53**	**192**	*e*Pn	Pb	22 58 23.1	+0.7
LPL				*e*Sg	Sg	22 58 27.4	-0.1
	2.1nm,0.3s						
LPG	**La Plagne**	**0.55**	**190**	*e*Pg	Pg	22 58 20.8	-0.2
LPG	**La Plagne**	**0.55**	**190**	*e*Pn	Pb	22 58 23.6	+0.9
LPG				*e*Sg	Sg	22 58 28.1	0.0
	1.9nm,0.3s						
LSD	**Lago del Serru**	**0.60**	**163**	P	Pg	22 58 21.5	-0.5
LSD				S	Sg	22 58 29.3	-0.5
CABF	**La Chapelle**	**0.80**	**316**	*e*Pg	Pg	22 58 25.3	-0.5
CABF				*e*Sg	Sg	22 58 36.0	-0.2
	3.3nm,0.4s						
HINF	**Hinteralfeld**	**1.78**	**359**	*e*Pn	Pn	22 58 40.2	-1.8
HINF	**Hinteralfeld**	**1.78**	**359**	*e*Pg	Pb	22 58 43.3	-0.4
HINF				*e*Sg	Sb	22 59 06.1	-0.3
	1.6nm,0.4s						
HAU	**Haudompre**	**2.00**	**350**	*e*Pn	Pn	22 58 43.6	-1.5
HAU				*e*Sn	Sn	22 59 08.1	-2.5
	1.4nm,0.3s						
CDF	**Champ du Feu**	**2.39**	**6**	*e*Pn	Pn	22 58 48.2	-2.3
CDF				*e*Sn	Sn	22 59 17.4	-2.9
	0.9nm,0.3s						

MEX ***12*** *23:08:18.9±1.2,27.94N×112.00W,h5km,MD3.7*
ECX ***12*** *23:08:19.7±0.7,27.89N×111.91W,h4km±14km,MD3.1*

ISC 12 23:08:17.4±1.5,27.94N±0.08×111.94W±0.08, h16km±16km,n7,σ0.631/12,1D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRIG	**Santa Rosalia**	**0.68**	**203**	⇓*e*P	Pb	**23 08 30.7**	**-0.1**
SRIG				*e*S	Sb	**23 08 40.0**	**0.0**
SRIG	**Santa Rosalia**	**0.68**	**203**	*e*P	Pb	**23 08 30.6**	**-0.1**
SRIG				*e*S	Sb	**23 08 40.0**	**0.0**
GUYB	**Guaymas**	**0.95**	**92**	*e*P	Pn	**23 08 36.1**	**+0.1**
GUYB				*e*S	Sb	**23 08 48.2**	**+0.5**
GUYB	**Guaymas**	**0.95**	**92**	*e*P	Pb	**23 08 34.9**	**-0.5**
GUYB				*e*S	Sn	**23 08 49.1**	**0.0**
HSIG		**1.38**	**39**	*e*P	Pg	**23 08 44.0**	**-0.1**
HSIG				*e*S	Sg	**23 09 02.4**	**+0.3**
HSIG		**1.38**	**39**	*e*P	Pb	**23 08 42.6**	**-0.2**
HSIG				*i* S	Sb	**23 09 00.3**	**0.0**
BAHB	**Baha de los**	**2.45**	**325**	*e*S	Sn	23 09 14.3	-12

IDC ***12*** *23:13:09.4±1.8,7.37S×155.10E,h85km±10km,mb3.4/5, mb1 3.7/6,mb1mx3.4/28,mbtmp3.8/6, Error ellipse: s-maj=50.0km s-min=21.3km az=112.0*

ISC 12 23:13:03.3±1.4,7.5S±0.2×155.6E±0.2,h35km,n7,σ2.827/8, mb3.7/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.71**	**311**	P	**Pn**	**23 14 11.9**	**0.0**
	10nm,0.3s,baz=349,slow=8.1,SNR=2.7						
WRA	**Warramunga Arr**	**24.04**	**237**	P	**P**	**23 18 12.3**	**-3.0**
	1.6nm,0.7s,baz=58,slow=9.3,SNR=5.1						
WRA				pP	**pwP**	**23 18 32.9**	**+3.8**
	2.2nm,0.6s,baz=58,slow=9.4,SNR=5.2						
ASAR	**Alice Springs**	**26.31**	**230**	P	**P**	**23 18 35.5**	**-0.4**
	0.5nm,0.6s,baz=54,slow=9.3,SNR=2.6						
ASAR				pP	pwP	23 18 55.0	+6.3
	0.6nm,0.6s,baz=57,slow=10,SNR=2.7						
STKA	**Stephens Creek**	**27.57**	**206**	P	**P**	**23 18 46.3**	**-0.9**
	2.4nm,0.8s,baz=9.0,slow=14,SNR=2.4						
ILAR	**Eielson Array**	**83.59**	**21**	P	**P**	**23 25 28.3**	**+0.6**
	0.3nm,0.5s,baz=250,slow=4.8,SNR=5.7						
MKAR	**Makanchi Array**	**84.12**	**319**	P	**P**	**23 25 29.9**	**-0.9**
	0.5nm,0.8s,baz=111,slow=5.3,SNR=4.0						
MKAR				pP	pwP	23 25 51.3	+9.5
	0.9nm,0.6s,baz=106,slow=5.0,SNR=6.7						
TORD	**Torodi Ar. Bea**	**153.69**	**285**	PKPbc	**PKPbc**	**23 32 59.8**	**+0.1**
	0.5nm,0.8s,baz=75,slow=1.8,SNR=2.8						

JMA ***12*** *23:24:19.7±0.1,35.42N×140.36E,h26km±2km,M3.2*
JMA Felt II J1.
IDC ***12*** *23:24:23.7±4.5,35.49N×140.15E,h50km±37km,mb3.4/5, mb1 3.6/5,mb1mx3.2/48,mbtmp3.7/5,MS2.9/2,Ms1 2.9/2, ms1mx2.6/22,Error ellipse: s-maj=37.9km s-min=31.3km az=76.0*

ISC 12 23:24:20.1±1.0,35.44N±0.04×140.31E±0.09,h26km±7km, n15,σ1.911/17,mb3.6/5,2C-2D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.09**	**256**	⇓P	**Pb**	**23 24 25.2**	**+0.3**
KTR	**Katsuura**	**0.29**	**179**	⇑P	**Pb**	**23 24 26.2**	**-0.9**
KTR				*e*S	**Sb**	**23 24 31.0**	**-0.9**
JKUC	**kamogawauchiur**	**0.29**	**198**	⇑P	**Pb**	**23 24 26.4**	**-0.7**
JKUC				*e*S	**Sb**	**23 24 31.7**	**-0.2**
BSO4	**Boso 4**	**0.45**	**177**	P	**Pb**	**23 24 29.1**	**-0.4**
BSO3	**Boso 3**	**0.66**	**165**	⇓P	**Pb**	**23 24 31.8**	**-1.1**
JYT	**Yasato**	**0.79**	**353**	P	**Pb**	**23 24 34.4**	**-0.9**
JYT				*e*S	**Sb**	**23 24 45.2**	**-0.4**
MJAR	**Matsushiro Arr**	**2.03**	**303**	P	**Pn**	**23 24 53.0**	**+0.4**
	1.3nm,0.3s,baz=126,slow=9.8,SNR=30						
MAT	**Matsushiro**	**2.03**	**303**	P	**Pb**	**23 24 53.9**	**-2.4**
MAT				*e*S	**Sb**	**23 25 23.0**	**+1.9**
KSRS	**Korea Array**	**10.18**	**285**	LR	LR	23 30 25.1	
	comp=Z,66nm,20.3s,baz=95,slow=36						
USRK	**Ussuriysk Ar.**	**10.83**	**326**	LR	LR	23 30 38.8	
	comp=Z,75nm,20.6s,baz=175,slow=35						
ZALV	**Zalesovo Beam**	**42.35**	**314**	P	**P**	**23 32 11.8**	**+0.1**
	0.8nm,0.6s,baz=103,slow=6.7,SNR=4.4						
MKAR	**Makanchi Array**	**44.23**	**303**	P	**P**	**23 32 26.2**	**-0.8**
	0.4nm,0.6s,baz=100,slow=7.9,SNR=5.5						
KURBB	**Kurchatov Arra**	**46.29**	**309**	P	**P**	**23 32 43.0**	**-0.3**
	2.0nm,0.8s,baz=86,slow=7.9,SNR=12						
ILAR	**Eielson Array**	**51.32**	**32**	P	**P**	**23 33 22.4**	**+0.6**
	0.4nm,0.7s,baz=276,slow=7.3,SNR=4.4						
WRA	**Warramunga Arr**	**55.37**	**187**	P	**P**	**23 33 52.9**	**+1.0**
	0.5nm,0.5s,baz=3.8,slow=7.4,SNR=1.8						

IGIL ***12*** *23:25:11.5,39.07N×12.61W,h31km,ML2.8*
MDD ***12*** *23:25:12.3±1.2,39.10N×12.14W,h0km,mb4.4/20, Error ellipse: s-maj=11.4km s-min=6.9km az=80.0,PRXIMO*
INMG ***12*** *23:25:13.9±1.9,39.07N×12.60W,h10km,ML2.7, Error ellipse: s-maj=4.9km s-min=3.1km az=97.0*
CNRM ***12*** *23:25:18.2±0.9,38.42N×12.03W,h142km±14km, Error ellipse: s-maj=9.5km s-min=4.0km az=160.0*

ISC 12 23:25:09.1±1.4,39.11N±0.04×12.36W±0.08,h10km,n92, σ2.961/172,2C-3D,North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMAFR	**Mafra**	**2.40**	**93**	⇑P	**Pn**	**23 25 50.1**	**+1.7**
	32nm,0.1s,SNR=18						
PMAFR				S	**Sn**	**23 26 17.9**	**+0.2**
	59nm,0.2s,SNR=13						
PMAFR	**Mafra**	**2.40**	**93**	⇑*e*Pn	**Pn**	**23 25 50.1**	**+1.7**
PMAFR				*e*Sn	**Sn**	**23 26 18.0**	**+0.2**
PMAFR				A	A	23 26 21.1	
	80nm,0.2s						
PSBE	**So Bento**	**2.79**	**81**	*e*Pn	**Pn**	**23 25 55.4**	**+1.6**
PSBE				*e*Sn	**Sn**	**23 26 26.8**	**-0.7**
PSBE				A	A	23 26 29.1	
	15nm,0.2s						
PCAS	**Casmilo, Conde**	**3.12**	**71**	P	**Pn**	**23 25 55.8**	**-2.6**
PCAS				S	**Sn**	**23 26 30.5**	**-5.3**
	10nm,0.3s						
PCAS	**Casmilo, Conde**	**3.12**	**71**	*e*Pn	**Pn**	**23 25 55.8**	**-2.6**
PCAS				*e*Sn	**Sn**	**23 26 30.5**	**-5.3**
PCAS				A	A	23 26 36.9	
	10nm,0.3s						
PNCL	**Nicolau / Gran**	**3.16**	**107**	P	**Pn**	**23 25 59.5**	**+0.7**
PNCL				S	**Sn**	**23 26 32.9**	**-3.7**
	10nm,0.2s						
PNCL	**Nicolau / Gran**	**3.16**	**107**	*e*Pn	**Pn**	**23 25 59.5**	**+0.7**
PNCL				*e*Sn	**Sn**	**23 26 32.9**	**-3.7**
PNCL				A	A	23 26 40.9	
	10nm,0.2s						
PMTG	**Montargil**	**3.21**	**89**	P	**Pn**	**23 26 01.1**	**+1.5**
PMTG				S	**Sn**	**23 26 36.5**	**-1.4**
	12nm,0.1s						
PMTG	**Montargil**	**3.21**	**89**	*e*Pn	**Pn**	**23 26 01.1**	**+1.5**
PMTG				*e*Sn	**Sn**	**23 26 36.5**	**-1.4**
PMTG				A	A	23 26 41.2	
	12nm,0.1s						
COI	**Coimbra**	**3.23**	**69**	S	**Sn**	**23 26 37.1**	**-1.3**
COI	**Coimbra**	**3.23**	**69**	*e*Sn	**Sn**	**23 26 37.1**	**-1.3**
PTEO	**Sao Teotonio**	**3.25**	**118**	P	**Pn**	**23 26 00.8**	**+0.7**
PTEO				S	**Sn**	**23 26 34.5**	**-4.4**
	7.4nm,0.5s						
PTEO	**Sao Teotonio**	**3.25**	**118**	*e*Pn	**Pn**	**23 26 00.8**	**+0.7**
PTEO				*e*Sn	**Sn**	**23 26 34.5**	**-4.4**
PTEO				A	A	23 26 39.1	
	15nm,0.5s						
PFVI	**Vila Bisbo**	**3.41**	**124**	⇓P	**Pn**	**23 26 02.3**	**0.0**
	9.1nm,0.1s,SNR=18						
PFVI				S	**Sn**	**23 26 39.7**	**-3.1**
	1.3nm,0.1s,SNR=7.9						
PFVI	**Vila Bisbo**	**3.41**	**124**	P	**Pn**	**23 26 02.7**	**+0.3**
PFVI				S	**Sn**	**23 26 38.3**	**-4.5**
PFVI	**Vila Bisbo**	**3.41**	**124**	⇓*e*Pn	**Pn**	**23 26 02.3**	**0.0**
PFVI				*e*Sn	**Sn**	**23 26 38.0**	**-4.8**
PFVI				A	A	23 26 47.2	
	5.2nm,0.3s						
MORF	**Marmelete**	**3.43**	**121**	*e*P	**Pn**	**23 26 02.9**	**+0.3**
MORF				*e*S	**Sn**	**23 26 40.4**	**-2.9**
MORF				AML	AML	23 26 44.5	
	comp=N,35nm,0.2s						
MORF	**Marmelete**	**3.43**	**121**	P	**Pn**	**23 26 02.9**	**+0.3**
MORF				S	**Sn**	**23 26 40.4**	**-2.9**
	comp=N,35nm,0.2s						
MORF	**Marmelete**	**3.43**	**121**	⇓*e*Pn	**Pn**	**23 26 02.9**	**+0.3**
MORF				*e*Sn	**Sn**	**23 26 40.4**	**-2.9**
MORF				A	A	23 26 45.5	
	comp=N,13nm,0.1s						
EVO	**Evora**	**3.44**	**98**	P	**Pn**	**23 26 03.9**	**+1.2**
EVO				S	**Sn**	**23 26 41.1**	**-2.4**
	comp=N,9.4nm,0.2s						
EVO	**Evora**	**3.44**	**98**	*e*P	**Pn**	**23 26 03.8**	**+1.2**
EVO				*e*S	**Sn**	**23 26 41.9**	**-1.6**
EVO	**Evora**	**3.44**	**98**	*e*Pn	**Pn**	**23 26 03.9**	**+1.2**
EVO				*e*Sn	**Sn**	**23 26 41.1**	**-2.4**
EVO				A	A	23 26 54.4	
	comp=N,9.4nm,0.2s						
MESJ	**Messejana**	**3.48**	**110**	*e*P	**Pn**	**23 26 04.1**	**+0.8**
MESJ				*e*S	**Sn**	**23 26 42.0**	**-2.6**
MESJ				AML	AML	23 26 46.5	
	comp=N,19nm,0.1s						
MESJ	**Messejana**	**3.48**	**110**	P	**Pn**	**23 26 04.1**	**+0.8**
MESJ				S	**Sn**	**23 26 42.0**	**-2.6**
	comp=N,19nm,0.1s						
MESJ	**Messejana**	**3.48**	**110**	*e*Pn	**Pn**	**23 26 04.3**	**+1.0**
MESJ				*e*Sn	**Sn**	**23 26 43.2**	**-1.4**
MESJ				A	A	23 26 47.5	
	comp=N,9.5nm,0.2s						
PTO	**Porto**	**3.52**	**54**	P	**Pn**	**23 26 04.9**	**+1.2**
PTO				S	**Sn**	**23 26 42.6**	**-2.8**
	comp=N,17nm,0.3s						
PTO	**Porto**	**3.52**	**54**	*e*Pn	**Pn**	**23 26 04.9**	**+1.2**
PTO				*e*Sn	**Sn**	**23 26 42.6**	**-2.8**
PTO				A	A	23 26 45.5	
	comp=N,34nm,0.3s						
PBEJ	**Beja**	**3.68**	**106**	P	**Pn**	**23 26 07.0**	**+1.0**
PBEJ				S	**Sn**	**23 26 47.6**	**-1.9**
	comp=N,3.3nm,0.1s						
PBEJ	**Beja**	**3.68**	**106**	*e*Pn	**Pn**	**23 26 07.0**	**+1.0**
PBEJ				*e*Sn	**Sn**	**23 26 47.6**	**-1.9**
PBEJ				A	A	23 26 51.6	
	comp=N,6.6nm,0.1s						
PCVE	**Castro Verde**	**3.70**	**112**	P	**Pn**	**23 26 07.7**	**+1.4**
PCVE				S	**Sn**	**23 26 46.9**	**-3.0**
	comp=N,6.7nm,0.2s						
PCVE	**Castro Verde**	**3.70**	**112**	*e*Pn	**Pn**	**23 26 07.7**	**+1.4**
PCVE				*e*Sn	**Sn**	**23 26 46.9**	**-3.0**
PCVE				A	A	23 26 54.9	
	comp=N,6.7nm,0.2s						
PVIS	**Viseu**	**3.79**	**64**	P	**Pn**	**23 26 10.0**	**+2.5**
PVIS				S	**Sn**	**23 26 50.0**	**-2.1**
	comp=N,8.9nm,0.1s						
PVIS	**Viseu**	**3.79**	**64**	*e*Pn	**Pn**	**23 26 10.0**	**+2.5**
PVIS				*e*Sn	**Sn**	**23 26 50.0**	**-2.1**
PVIS				A	A	23 26 54.4	
	comp=N,18nm,0.1s						
PCBR	**Castelo Branco**	**3.84**	**78**	P	**Pn**	**23 26 09.5**	**+1.3**
PCBR				S	**Sn**	**23 26 51.2**	**-2.3**
	comp=N,4.9nm,0.1s						
PCBR	**Castelo Branco**	**3.84**	**78**	*e*Pn	**Pn**	**23 26 09.5**	**+1.3**
PCBR				*e*Sn	**Sn**	**23 26 51.2**	**-2.3**
PCBR				A	A	23 26 53.5	
	comp=N,9.8nm,0.1s						
PMRV	**Marv??o**	**3.87**	**84**	P	**Pn**	**23 26 09.8**	**+1.2**
PMRV				S	**Sn**	**23 26 51.8**	**-2.2**
	comp=N,15nm,0.2s						
PMRV	**Marv??o**	**3.87**	**84**	*e*Pn	**Pn**	**23 26 09.8**	**+1.2**
PMRV				*e*Sn	**Sn**	**23 26 51.8**	**-2.2**
PMRV				A	A	23 26 55.8	
	comp=N,15nm,0.2s						
MTE	**Manteigas**	**3.92**	**69**	P	**Pn**	**23 26 09.4**	**0.0**
MTE				S	**Sn**	**23 26 53.9**	**-1.7**
	comp=N,4.4nm,0.6s						
MTE	**Manteigas**	**3.92**	**69**	*e*Pn	**Pn**	**23 26 09.4**	**0.0**
MTE				*e*Sn	**Sn**	**23 26 53.9**	**-1.7**
MTE				A	A	23 27 01.4	
	comp=N,8.8nm,0.6s						
PBDV	**Barranco-do-Ve**	**3.95**	**117**	P	**Pn**	**23 26 11.1**	**+1.3**
PBDV				S	**Sn**	**23 26 53.2**	**-3.0**
	comp=N,7.8nm,0.2s						
PBDV	**Barranco-do-Ve**	**3.95**	**117**	*e*Pn	**Pn**	**23 26 11.1**	**+1.3**
PBDV				*e*Sn	**Sn**	**23 26 53.2**	**-3.0**
PBDV				A	A	23 26 56.4	
	comp=N,7.8nm,0.2s						
PVAQ	**Vaqueiros**	**4.03**	**114**	P	**Pn**

comp=N,4.6nm,0.2s,SNR=7.9
EADA Adamuz 6.16 96 P **Pn** **23 26 41.4 +1.3**
comp=N,2.9nm,0.2s,SNR=23
EADA S **Sn** **23 27 47.2 -3.5**
comp=N,1.8nm,0.2s,SNR=7.9
PAB San Pablo 6.22 83 P **Pn** **23 26 42.3 +1.3**
comp=N,3.5nm,0.2s,SNR=7.9
PAB S **Sn** **23 27 48.2 -4.1**
comp=N,1.9nm,0.1s,SNR=7.9
GUD Guadarrama 6.49 74 P **Pn** **23 26 46.3 +1.5**
comp=N,0.9nm,0.2s,SNR=6.5
GUD S **Sn** **23 27 55.0 -4.0**
comp=N,2.3nm,0.2s,SNR=7.9
EMIJ Mijas 6.52 111 P **Pn** **23 26 46.6 +1.6**
comp=N,0.5nm,0.1s,SNR=7.9
EMIJ S **Sn** **23 27 54.9 -4.5**
comp=N,0.2nm,0.2s,SNR=7.9
ESDC Sonseca Array 6.53 82 P **Pn** **23 26 46.3 +1.2**
comp=N,2.6nm,0.2s,baz=266,slow=13,SNR=31
ESDC S **Sn** **23 27 55.9 -3.8**
baz=266,slow=23,SNR=7.9
EGOR Sierra Gorda, 6.80 105 P **Pn** **23 26 50.4 +1.4**
comp=N,0.8nm,0.4s,SNR=7.9
EGOR S **Sn** **23 28 03.8 -2.8**
comp=N,0.0nm,0.2s,SNR=7.9
EARI Arriondas 6.82 50 P **Pn** **23 26 50.6 +1.4**
comp=N,0.6nm,0.2s,SNR=12
EARI S **Sn** **23 28 03.3 -3.6**
comp=N,0.4nm,0.2s,SNR=7.9
PMPST Porto Santo, M 6.83 209 *e*Sn Sn 23 27 54.7 -12
PMPS Porto Santo 6.85 209 S Sn 23 27 54.7 -13
UCM Universidad Co 7.13 77 *e*P **Pn** **23 26 55.0 +1.6**
UCM *e*S **Sn** **23 28 10.1 -4.3**
ELGU Los Guajares, 7.25 105 P **Pn** **23 26 57.6 +2.5**
comp=N,0.7nm,0.2s,SNR=7.9
ELGU S **Sn** **23 28 14.8 -2.7**
comp=N,1.2nm,0.3s,SNR=7.9
EQUE Quentar 7.28 102 P **Pn** **23 26 56.7 +1.2**
comp=N,1.0nm,0.3s,SNR=6.0
EQUE S **Sn** **23 28 14.2 -4.0**
comp=N,0.8nm,0.3s,SNR=7.9
PMOZ Porto Moniz, M 7.40 213 P **Pn** **23 26 57.9 +0.7**
PMOZ S **Sn** **23 28 17.3 -4.0**
EQES Quesada 7.40 97 P **Pn** **23 26 58.1 +0.8**
comp=N,0.7nm,0.1s,SNR=7.9
EQES S **Sn** **23 28 18.4 -2.9**
comp=N,0.4nm,0.1s,SNR=7.9
SESP Santiago Espad 7.75 94 P **Pn** **23 27 02.5 +0.5**
comp=N,1.4nm,0.2s,SNR=7.9
SESP S **Sn** **23 28 24.7 -5.1**
comp=N,0.4nm,0.1s,SNR=7.9
SESP Santiago Espad 7.75 94 P **Pn** **23 27 04.0 +2.1**
SESP S **Sn** **23 28 27.9 -1.9**
EBER Berja 7.79 104 P **Pn** **23 27 04.9 +2.2**
comp=N,1.7nm,0.4s,SNR=7.9
EBER S **Sn** **23 28 26.8 -4.3**
comp=N,0.0nm,0.2s,SNR=7.9
ELAN Lanestosa 7.89 56 P **Pn** **23 27 07.1 +3.3**
comp=N,0.4nm,0.2s,SNR=6.1
ELAN S **Sn** **23 28 28.4 -4.7**
comp=N,0.1nm,0.2s,SNR=7.9
ETOR Torete 8.09 75 P **Pn** **23 27 08.5 +1.9**
comp=N,5.8nm,0.2s,SNR=14
ETOR S **Sn** **23 28 33.7 -4.5**
comp=N,0.8nm,0.2s,SNR=7.9
ETOB Tobarra 8.44 90 P **Pn** **23 27 12.9 +1.4**
comp=N,0.8nm,0.2s,SNR=7.2
ETOB S **Sn** **23 28 44.0 -2.9**
comp=N,0.1nm,0.1s,SNR=7.9
MD31 MD31 8.76 133 P **Pn** **23 27 14.7 -1.1**
MD31 S Sn 23 28 44.1 -11
EMUR La Murta 8.81 95 P **Pn** **23 27 17.3 +0.8**
comp=N,1.5nm,0.4s,SNR=7.9
ECHE Chera 8.84 83 P **Pn** **23 27 17.8 +0.9**
comp=N,0.3nm,0.1s,SNR=7.9
MDT Midelt 8.88 133 S Sn 23 28 45.7 -12
EMOS Mosqueruela 9.24 78 P **Pn** **23 27 24.5 +2.0**
comp=N,1.1nm,0.2s,SNR=9.1
EMOS S **Sn** **23 29 01.6 -5.0**
comp=N,0.2nm,0.2s,SNR=7.9
ATE Arette 9.65 62 P **Pn** **23 27 30.6 +2.6**
comp=N,0.5nm,0.2s,SNR=7.9
ATE S **Sn** **23 29 10.2 -6.2**
comp=N,1.0nm,0.3s,SNR=7.9
ERTA Horta de San J 9.91 75 P **Pn** **23 27 33.1 +1.6**
comp=N,0.6nm,0.3s,SNR=7.9
ERTA S **Sn** **23 29 18.9 -3.8**
comp=N,2.1nm,0.6s,SNR=7.9

*NEIC **12** 23:25:31.6±1.4,20.°53S±0.°08×177.°7W±0.°1,h475km±6km, mb4.3/51,Error ellipse: s-maj=16.9km s-min=11.4km az=111.0*
*IDC **12** 23:25:36.5±3.7,20.°35S×177.°93W,h514km±41km, mb3.6/15,mb1 3.8/16,mb1mx3.5/37,mbtmp4.4/16,Error ellipse: s-maj=18.4km s-min=15.8km az=73.0*
ISC 12 23:25:37.1±0.5,**20.°56S**±0.°09×**177.°88W**±0.°08,**h534**km, **n143,**σ**1**§**05**/150,**mb4.4**/41,**20C-10D,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.77**	**305**			**P**	**23 27 00.8**	**-3.5**
AFI	**Afiamalu**	**8.82**	**42**			P	23 27 35.8	-7.1
DZM	**Mont Dzumac**	**14.69**	**261**	P		**P**	**23 28 44.4**	**+0.7**
	0.5nm,0.3s,baz=97,slow=19,SNR=5.4							
DZM	**Mont Dzumac**	**14.69**	**261**			**P**	**23 28 45.8**	**+2.0**
OUZ	**Omahuta**	**16.42**	**205**			**P**	**23 29 01.3**	**+0.2**
HIZ	**Hauiti**	**18.96**	**198**	P		**P**	**23 29 24.9**	**+0.5**
BKZ	**Black Stump Fm**	**19.16**	**193**	P		**P**	**23 29 25.8**	**-0.6**
BKZ				IAmb	IAmb		23 29 41.4	
	comp=Z,9.5nm,1.0s							
BFZ	**Birch Farm**	**20.67**	**193**	P		**P**	**23 29 37.5**	**-2.4**
MSWZ	**Moikau Station**	**21.59**	**194**	P		**P**	**23 29 47.3**	**-0.9**
BHW	**Baring Head**	**21.67**	**195**	P		**P**	**23 29 47.6**	**-1.3**
PLWZ	**Palliser**	**21.74**	**194**	P		**P**	**23 29 47.8**	**-1.7**
QRZ	**Quartz Range**	**21.79**	**200**	P		**P**	**23 29 48.4**	**-1.6**
NNZ	**Nelson**	**21.89**	**198**	P		**P**	**23 29 49.0**	**-1.9**
TUWZ	**Tuamarina**	**21.93**	**197**	P		**P**	**23 29 50.1**	**-1.2**
THZ	**Tophouse**	**22.53**	**198**	P		**P**	**23 29 55.5**	**-1.2**
THZ				IAmb	IAmb		23 30 08.2	
	comp=Z,12nm,1.0s							
KHZ	**Kahutara**	**22.96**	**196**	P		**P**	**23 29 58.6**	**-1.8**
LTZ	**Lake Taylor**	**23.65**	**198**	P		**P**	**23 30 05.6**	**-1.0**
LTZ				IAmb	IAmb		23 30 18.7	
	comp=Z,7.3nm,0.7s							
OXZ	**Oxford**	**24.22**	**198**	P		**P**	**23 30 10.2**	**-1.4**
RPZ	**Rata Peaks**	**24.87**	**199**	P		**P**	**23 30 19.2**	**+1.8**
	comp=Z,5.9nm,0.7s,baz=239,slow=1.6,SNR=6.4							
RPZ	**Rata Peaks**	**24.87**	**199**	P		**P**	**23 30 15.9**	**-1.5**
RPZ				IAmb	IAmb		23 30 23.4	
	comp=Z,20nm,1.2s							
FOZ	**Fox Glacier**	**25.11**	**201**	P		**P**	**23 30 17.2**	**-2.3**
FOZ				IAmb	IAmb		23 30 33.6	
	comp=Z,19nm,1.2s							
MLZ	**Mavora Lakes**	**27.30**	**202**	P		**P**	**23 30 37.4**	**-1.5**
DCZ	**Deep Cove**	**27.73**	**203**	P		**P**	**23 30 40.2**	**-2.3**
DCZ				IAmb	IAmb		23 30 50.5	
	comp=Z,6.5nm,0.9s							
WHZ	**Wether Hill Ro**	**27.82**	**201**	P		**P**	**23 30 43.8**	**+0.5**
WHZ				IAmb	IAmb		23 30 51.9	
	comp=Z,12nm,1.0s							
EIDS	**Eidsvold**	**28.94**	**255**	P		**P**	**23 30 52.4**	**-1.1**
EIDS				IAmb	IAmb		23 30 57.9	
	comp=Z,7.1nm,1.1s							
CTAO	**Charters Tower**	**33.59**	**264**	P		**P**	**23 31 33.4**	**0.0**
CTAO				IAmb	IAmb		23 31 34.4	
	comp=Z,18nm,1.0s							
PMG	**Port Moresby**	**35.47**	**283**	P		**P**	**23 31 48.6**	**-0.5**
	comp=Z,3.6nm,0.3s,baz=125,slow=4.3,SNR=4.0							
COEN	**Coen**	**37.70**	**274**	P		**P**	**23 32 06.6**	**-0.9**
COEN				IAmb	IAmb		23 32 22.0	
	comp=Z,7.5nm,1.1s							
STKA	**Stephens Creek**	**37.86**	**244**	P		**P**	**23 32 07.3**	**-1.2**
MCQ	**Macquarie Isla**	**38.17**	**202**	P		**P**	**23 32 08.5**	**-2.2**
BBOO	**Buckleboo**	**42.62**	**244**	P		**P**	**23 32 46.6**	**0.0**
BBOO				IAmb	IAmb		23 32 48.3	
	comp=Z,17nm,1.0s							
PTCN	**Pitcairn Islan**	**44.10**	**105**	P		**P**	**23 32 56.5**	**-1.7**
JAY	**Jayapura**	**44.17**	**288**	P		**P**	**23 32 59.2**	**+0.2**
	comp=Z,14nm,0.5s,baz=144,slow=5.0,SNR=10							
WR0	**Warramunga Arr**	**44.51**	**262**	P		**P**	**23 33 01.0**	**-0.5**
WR0				IAmb	IAmb		23 33 10.8	
	comp=Z,3.9nm,0.7s							
AS31	**Alice Springs**	**44.61**	**257**	P		**P**	**23 33 02.2**	**0.0**
ASAR	**Alice Springs**	**44.61**	**257**	P		**P**	**23 33 02.6**	**+0.4**
	comp=Z,11nm,0.6s,baz=96,slow=7.6,SNR=108							
ASAR				PcP		**PcP**	**23 34 34.5**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=97,slow=4.2,SNR=4.5							
ASAR				S		**S**	**23 38 59.5**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=94,slow=16,SNR=5.8							
ASAR	**Alice Springs**	**44.61**	**257**	P		**P**	**23 33 01.8**	**-0.5**
WB0	**Warramunga Arr**	**44.68**	**262**	P		**P**	**23 33 01.9**	**-0.9**
WB2	**Warramunga Arr**	**44.69**	**262**	P		**P**	**23 33 02.5**	**-0.4**
WB2				IAmb	IAmb		23 33 04.3	
	comp=Z,4.3nm,0.6s							
WRAB	**Tennant Creek**	**44.70**	**262**	P		**P**	**23 32 59.5**	**-3.4**
WRA	**Warramunga Arr**	**44.70**	**262**	P		**P**	**23 33 02.7**	**-0.3**
	comp=Z,6.3nm,0.6s,baz=98,slow=8.5,SNR=44							
WRA	**Warramunga Arr**	**44.70**	**262**	P		**P**	**23 33 02.6**	**-0.3**
MTN	**Manton Dam**	**49.27**	**271**	P		**P**	**23 33 37.2**	**-0.3**
MTN				IAmb	IAmb		23 33 38.1	
	comp=Z,11nm,0.8s							
KNRA	**Kununurra**	**50.77**	**266**	P		**P**	**23 33 48.0**	**-0.4**
KNRA				IAmb	IAmb		23 33 49.0	
	comp=Z,9.4nm,0.7s							
FITZ	**Fitzroy Crossi**	**53.13**	**262**	P		**P**	**23 34 05.5**	**+0.1**
PSA00	**Pilbara Seismi**	**57.76**	**257**	P		**P**	**23 34 37.4**	**-0.2**
PSA00				IAmb	IAmb		23 34 55.2	
	comp=Z,14nm,1.1s							
VNDA	**Vanda**	**57.86**	**185**	P		**P**	**23 34 40.0**	**+2.7**
	comp=Z,0.6nm,0.6s,baz=0.9,slow=6.4,SNR=2.7							
QSPA	**South Pole Qui**	**69.51**	**180**	P		**P**	**23 35 54.6**	**+2.7**
	comp=Z,1.6nm,0.7s,baz=334,slow=1.4,SNR=10							
PEA0B	**Petropavlovsk-**	**76.36**	**345**	P		**P**	**23 36 30.6**	**-0.6**
PEA0B				IAmb	IAmb		23 36 45.1	
	comp=Z,6.8nm,1.1s							
PETK	**Petropavlovsk-**	**76.36**	**345**	P		**P**	**23 36 30.9**	**-0.3**
	comp=Z,3.8nm,0.7s,baz=148,slow=9.4,SNR=12							
PETK	**Petropavlovsk-**	**76.36**	**345**	P		**P**	**23 36 30.7**	**-0.5**
USRK	**Ussuriysk Ar.**	**79.08**	**326**	P		**P**	**23 36 47.5**	**+1.4**
	comp=Z,3.0nm,0.8s,baz=112,slow=3.8,SNR=4.3							
KRMB	**Red Mountain**	**79.44**	**38**	P		**P**	**23 36 47.2**	**-1.0**
YBH	**Yreka Blue Hor**	**80.27**	**39**	P		**P**	**23 36 53.3**	**+0.9**
	comp=Z,2.5nm,0.7s,baz=177,slow=3.9,SNR=7.5							
NVAR	**Mina Array Bea**	**80.99**	**43**	P		**P**	**23 36 56.6**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=220,slow=10,SNR=6.6							
CNPM	**China Poot**	**82.73**	**13**	P		**P**	**23 37 04.4**	**-0.2**
CNPM				IAmb	IAmb		23 37 05.3	
	comp=Z,7.2nm,0.9s							
WVOR	**Wild Horse Val**	**83.11**	**40**	P		**P**	**23 37 06.1**	**-0.9**
WVOR				IAmb	IAmb		23 37 06.7	
	comp=Z,6.1nm,0.7s							
SVW2	**Sparrevohn**	**83.34**	**11**	P		**P**	**23 37 07.1**	**-0.5**
GAMB	**Gambell**	**84.20**	**3**	P		**P**	**23 37 12.5**	**+0.8**
GAMB				IAmb	IAmb		23 37 13.3	
	comp=Z,6.9nm,0.8s							
F10A	**Beach Ranch, E**	**85.98**	**38**	P		**P**	**23 37 22.0**	**+1.1**
F10A				IAmb	IAmb		23 37 22.6	
	comp=Z,5.0nm,0.8s							
SRU	**San Rafael Swe**	**86.48**	**46**	P		**P**	**23 37 23.2**	**-0.4**
TRF	**Thorofare Moun**	**86.48**	**12**	P		**P**	**23 37 22.5**	**-0.5**
TRF				IAmb	IAmb		23 37 23.6	
	comp=Z,7.3nm,0.9s							
MNTX	**Cornudas Mount**	**86.69**	**55**	P		**P**	**23 37 23.8**	**-0.8**
RND	**Reindeer**	**86.73**	**13**	P		**P**	**23 37 23.6**	**-0.5**
DHY	**Denali Highway**	**86.75**	**13**	P		**P**	**23 37 24.1**	**-0.2**
BPAW	**Bear Paw Mtn.**	**86.94**	**11**	P		**P**	**23 37 24.3**	**-0.7**
TXAR	**Lajitas Array**	**86.99**	**57**	P		**P**	**23 37 27.3**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=220,slow=7.0,SNR=12							
TXAR	**Lajitas Array**	**86.99**	**57**	P		**P**	**23 37 26.2**	**0.0**
WRH	**Wood River Hil**	**87.84**	**12**	P		**P**	**23 37 28.4**	**-0.7**
WRH				IAmb	IAmb		23 37 29.5	
	comp=Z,7.5nm,0.9s							
DOT	**Dot Lake**	**88.00**	**14**	P		**P**	**23 37 29.5**	**-0.4**
HDA	**Harding Lake**	**88.02**	**13**	P		**P**	**23 37 29.5**	**-0.5**
HDA				IAmb	IAmb		23 37 30.7	
	comp=Z,5.0nm,0.6s							
CCB	**Clear Creek Bu**	**88.05**	**12**	P		**P**	**23 37 29.4**	**-0.7**
CCB				IAmb	IAmb		23 37 30.2	
	comp=Z,6.0nm,0.7s							
BCAR	**Beaver Creek A**	**88.05**	**16**	P		**P**	**23 37 30.2**	**0.0**
IMAR	**Indian Mountai**	**88.20**	**10**	P		**P**	**23 37 30.7**	**-0.1**
XAN	**Xi'an**	**88.26**	**307**	P		**P**	**23 37 33.2**	**+1.3**
XAN				pP	PcP		23 37 42.2	+9.1
XAN				pmax	pmax			
	comp=Z,10.0nm,0.9s							
XAN				pmax	pmax			
	comp=Z,120nm,6.5s							
ILAR	**Eielson Array**	**88.35**	**13**	P		**P**	**23 37 30.9**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=223,slow=5.3,SNR=12							
ILAR	**Eielson Array**	**88.35**	**13**	P		**P**	**23 37 30.4**	**-1.1**
PDAR	**Pinedale Array**	**88.93**	**43**	P		**P**	**23 37 35.6**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=210,slow=4.7,SNR=3.0							
PDAR	**Pinedale Array**	**88.93**	**43**	P		**P**	**23 37 34.5**	**-0.6**
SMCO	**Snowmass**	**88.94**	**47**	P		**P**	**23 37 33.0**	**-2.4**
HHC	**Hu-ho-hao-te**	**89.48**	**314**	*e*P		**P**	**23 37 37.6**	**+0.1**
HHC				pmax	pmax			
	comp=Z,8.0nm,0.8s							
HHC				pmax	pmax			
	comp=Z,55nm,5.7s							
CMAR	**Chiang Mai Arr**	**90.24**	**290**	P		**P**	**23 37 43.5**	**+2.2**
	comp=Z,2.6nm,0.7s,baz=116,slow=2.8,SNR=13							
LZH	**Lanzhou**	**92.90**	**307**	*e*P		**P**	**23 37 56.3**	**+2.9**
LZH				pP	PcP		23 38 01.8	+8.0
LZH				PP		**sP**	**23 40 43.5**	**-0.5**
LZH				pmax	pmax			
	comp=Z,15nm,1.1s							
LZH				pmax	pmax			
	comp=Z,58nm,4.3s							
MKAR	**Makanchi Array**	**111.32**	**313**	PKiKP		**PKiKP**	**23 43 10.2**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=51,slow=0.5,SNR=9.7							
AKASG	**Malin Array Be**	**143.12**	**331**	PKhKP		PKPpre	23 44 07.5	
	comp=Z,7.6nm,0.6s,baz=42,slow=4.5,SNR=39							
SORM	**Soroca**	**145.32**	**329**	⇑P		**PKPbc**	**23 44 15.2**	**+0.1**
MILM	**Milestii Mici**	**145.90**	**327**	⇓P		**PKPbc**	**23 44 16.8**	**0.0**
VASR	**Vaslui**	**146.61**	**327**	⇓P		**PKiKP**	**23 44 20.0**	**-1.0**
KWP	**Kalwaria Pacla**	**146.68**	**335**	*e*PKP		**PKPbc**	**23 44 19.5**	**+0.5**
PRAR	**RASCA**	**146.88**	**329**	⇑P		**PKPab**	**23 44 25.2**	**+2.6**
BRTR	**Keskin Array B**	**146.96**	**312**	PKPbc		**PKPbc**	**23 44 20.3**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=142,slow=4.7,SNR=13							
TLCR		**147.03**	**324**	⇓P		**PKPbc**	**23 44 20.4**	**+0.4**
BURAR	**Bucovina Array**	**147.17**	**331**	⇓P		**PKPbc**	**23 44 21.3**	**+0.8**
BIZ	**Bicaz**	**147.24**	**329**	⇑P		**PKiKP**	**23 44 21.9**	**-0.4**
OJC	**Ojcow**	**147.26**	**339**	*e*PKP		**PKPbc**	**23 44 20.8**	**+0.3**
CFR	**Carcaliu**	**147.40**	**325**	⇑P		**PKPbc**	**23 44 21.6**	**+0.7**
KOLS	**Kolonicke sedl**	**147.41**	**335**	*e*PKP		**PKiKP**	**23 44 22.0**	**-0.6**
KOLS				*e*			23 44 25.3	
TOPG	**Topolog**	**147.46**	**324**	⇓P		**PKPbc**	**23 44 21.7**	**+0.6**
VRI	**Vrincioaia**	**147.68**	**327**	⇑P		**PKPbc**	**23 44 22.1**	**+0.3**
PLOR	**Plostina**	**147.73**	**327**	⇑P		**PKPbc**	**23 44 21.7**	**-0.2**
CRVS	**Cervenica-Dubn**	**147.76**	**336**	*e*PKP		**PKPab**	**23 44 27.0**	**+0.9**
NIE	**Niedzica**	**147.76**	**338**	*e*PKP		**PKiKP**	**23 44 22.9**	**-0.4**
KSP	**Ksiaz**	**147.78**	**343**	*e*PKP		**PKiKP**	**23 44 22.7**	**-0.6**
HARR	**Harsova**	**147.82**	**324**	⇓P		**PKiKP**	**23 44 22.8**	**-0.7**
TLBR	**Topalu**	**147.85**	**324**	⇑P		**PKiKP**	**23 44 23.0**	**-0.6**
TRPA	**Tarpa**	**147.94**	**334**	⇑P		**PKiKP**	**23 44 23.0**	**-0.6**
ARCR	**ARCALIA**	**147.96**	**331**	⇑P		**PKPab**	**23 44 28.0**	**+1.1**
OSTC	**Ostas**	**148.06**	**343**	⇑*e*PKP		**PKiKP**	**23 44 23.7**	**-0.2**
OSTC				*e*PKPAB		**PKPab**	**23 44 28.3**	**+1.0**
CHVC	**Chvalec**	**148.08**	**343**	⇑*e*PKP		**PKPbc**	**23 44 23.2**	**+0.6**
CHVC				*e*PKPAB		**PKPab**	**23 44 27.7**	**+0.3**
CLL	**Collm**	**148.15**	**347**	⇓*i*PKPbc		**PKPbc**	**23 44 23.2**	**+0.5**
	comp=Z,11nm,0.7s							
CLL				*i* PKPab		**PKPab**	**23 44 27.4**	**-0.2**
	comp=Z,4.0nm,0.8s							
UPC	**Upice**	**148.16**	**343**	⇑*e*PKP		**PKiKP**	**23 44 23.5**	**-0.6**
DPC	**Dobruska-Polom**	**148.22**	**343**	⇑*e*PKP		**PKiKP**	**23 44 23.9**	**-0.3**
DPC				*e*PKPAB		**PKPab**	**23 44 28.6**	**+0.6**
DOPR	**Dopca**	**148.28**	**328**	⇑P		**PKiKP**	**23 44 24.5**	**0.0**
BRG	**Berggiesshubel**	**148.35**	**346**	*e*PKP		**PKiKP**	**23 44 23.9**	**-0.5**
	comp=Z,5.5nm,0.7s							
BRG				*e*			23 44 28.6	
	comp=Z,4.0nm,0.9s							
MORC	**Moravsky Berou**	**148.37**	**341**	⇓P		**PKiKP**	**23 44 24.0**	**-0.5**
MORC	**Moravsky Berou**	**148.37**	**341**	*e*PKP		**PKiKP**	**23 44 24.3**	**-0.3**
MORC				*e*			23 44 29.2	
VOIR		**148.82**	**328**	⇓P		**PKiKP**	**23 44 25.6**	**-0.1**
PRU	**Pruhonice**	**149.02**	**344**	⇑*e*PKP		**PKiKP**	**23 44 25.7**	**-0.1**
PRU				*e*PKPAB		**PKPab**	**23 44 31.5**	**+0.3**
GOPC	**GO Pecny, Ondr**	**149.03**	**344**	⇑*e*PKP		**PKiKP**	**23 44 25.5**	**-0.4**
VYHS	**Vyhne**	**149.06**	**338**	*e*PKP		**PKPbc**	**23 44 25.5**	**+0.4**
VYHS				*e*			23 44 31.9	
VRAC	**Vranov**	**149.07**	**341**	*e*PKP		**PKiKP**	**23 44 25.8**	**-0.2**
VRAC				*e*			23 44 32.2	
ARR	**Arges**	**149.08**	**328**	⇓P		**PKiKP**	**23 44 27.3**	**+1.1**
JAVC	**Velka Javorina**	**149.13**	**340**	*e*PKP		**PKiKP**	**23 44 27.2**	**+1.0**
JAVC				*e*			23 44 33.3	
KRUC	**Moravsky**	**149.35**	**341**	*e*PKP		**PKiKP**	**23 44 26.4**	**-0.1**
KRUC				*e*			23 44 33.1	
MODS	**Modra-Piesok**	**149.69**	**340**	*e*PKP		**PKiKP**	**23 44 27.2**	**-0.1**
SIRR	**Siria**	**149.78**	**333**	⇑P		**PKPbc**	**23 44 26.6**	**-0.3**
BSTI	**Sart Tilman**	**149.92**	**356**	PKPdf		**PKiKP**	**23 44 27.9**	**+0.2**
GZR	**Gura Zlata**	**149.95**	**330**	⇑P		**PKPbc**	**23 44 27.6**	**+0.2**
KHC	**Kasperske Hory**	**150.06**	**345**	⇑*e*PKP		**PKiKP**	**23 44 27.8**	**-0.3**
KHC				*e*PKPAB		**PKPab**	**23 44 35.6**	**0.0**
BMRD	**Maredsous**	**150.25**	**357**	PKPdf		**PKiKP**	**23 44 28.3**	**-0.1**
GERES	**GERESS Array B**	**150.29**	**344**	PKPbc		**PKiKP**	**23 44 28.5**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=29,slow=3.0,SNR=19							
BZS	**Buzias**	**150.31**	**332**	⇑P		**PKiKP**	**23 44 28.6**	**0.0**
DOU	**Dourbes**	**150.46**	**357**	PKPdf		**PKiKP**	**23 44 28.7**	**-0.1**
CONA	**Conrad Observa**	**150.53**	**341**	*i* PKiKP		**PKiKP**	**23 44 29.5**	**+0.4**
	comp=Z,3.8nm,0.6s							
WLF	**Walferdange**	**150.78**	**355**	PKPdf		**PKiKP**	**23 44 30.4**	**+1.0**
MOA	**Molln**	**151.06**	**343**	*i* PKiKP		**PKiKP**	**23 44 30.2**	**+0.1**
	comp=Z,1.9nm,0.7s							
SOKA	**Soboth**	**151.90**	**341**	*i* PKiKP		**PKiKP**	**23 44 32.7**	**+0.7**
	comp=Z,1.7nm,0.8s							
OBKA	**Obir**	**152.19**	**341**	*i* PKPbc		**PKPbc**	**23 44 32.3**	**-0.2**
	comp=Z,1.9nm,0.5s							
RETA	**Reutte**	**152.24**	**347**	*e*PKiKP		**PKiKP**	**23 44 34.0**	**+1.3**
	comp=Z,0.8nm,0.6s							
WTTA	**Wattenberg**	**152.26**	**346**	*e*PKiKP		**PKiKP**	**23 44 32.8**	**-0.1**
	comp=Z,5.0nm,0.8s							
MOTA	**Moosalm**	**152.30**	**347**	*i* PKiKP		**PKiKP**	**23 44 33.0**	**+0.1**
	comp=Z,4.4nm,1.2s							
SQTA	**Sankt Quirin**	**152.40**	**347**	*e*PKiKP		**PKiKP**	**23 44 33.4**	**+0.3**
	comp=Z,3.1nm,0.9s							
ABTA	**Abfaltersbach**	**152.54**	**344**	*i* PKPbc		**PKPbc**	**23 44 33.1**	**-0.1**
	comp=Z,2.7nm,0.6s							

*IDC **12** 23:52:47.7±1.4,42.°81N×88.°06E,h0km,mb3.6/2, mb1 3.6/6,mb1mx3.3/38,mbtmp3.5/6,ML3.3/4,MS2.3/1, Ms1 2.3/1,ms1mx2.1/37,Error ellipse: s-maj=58.2km s-min=17.4km az=50.0*
*SOME **12** 23:52:48.0,43.°52N×86.°92E,h10km BJI **12** 23:52:54.3±0.0,43.°15N×88.°50E,h3km,mB3.8/1,mb3.8/1, ML3.6/8*
*NNC **12** 23:52:57.1±3.0,44.°11N×88.°66E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=28.0km s-min=21.1km az=49.0*
ISC 12 23:52:52.9±1.6,**43.°41N**±0.°10×**88.°4E**±0.°1,**h10**km,**n16,** σ**2**§**57**/22,**5C-5D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**4.74**	**330**	*e*P		**Pn**	**23 54 07.4**	**+3.0**
	6.7nm,0.2s							
ZSN				*e*S		**Sn**	**23 55 04.6**	**+5.2**
	75nm,0.4s							
MK31	**Makanchi Array**	**5.48**	**310**	Pn		**Pn**	**23 54 16.2**	**+1.6**
	1.9nm,0.4s,baz=128,slow=13,SNR=146							
MK31				⇓Sn		**Sn**	**23 55 19.7**	**+2.0**
	11nm,0.5s,baz=125,slow=20,SNR=6.0							
MK31				⇑Lg		Lg	23 55 44.7	
	7.7nm,0.4s,baz=121,slow=26,SNR=4.7							
MKAR	**Makanchi Array**	**5.48**	**310**	Pn		**Pn**	**23 54 15.2**	**+0.5**
	1.8nm,0.3s,baz=133,slow=14,SNR=104							
MKAR				Sn		**Sn**	**23 55 20.4**	**+2.7**
	6.4nm,0.3s,baz=133,slow=24,SNR=9.2							
MKAR				Lg		Lg	23 55 48.0	
	4.9nm,0.3s,baz=135,slow=30,SNR=4.4							
MKAR				LR		LR	23 56 45.2	
	comp=Z,26nm,18.1s,baz=216,slow=42							
MAKZ	**Makanchi**	**5.67**	**309**	⇓Pn		**Pn**	**23 54 18.5**	**+1.4**
	4.3nm,0.4s							
MAKZ				⇑Sn		**Sn**	**23 55 22.8**	**+0.5**
	7.2nm,0.3s							
MAKZ				⇓Lg		Lg	23 55 51.7	
	23nm,0.8s							
DJR	**Jarkent**	**6.28**	**281**	*e*P		**Pn**	**23 54 27.0**	**+1.

	comp=N,32μm,0.8s					
GIUL	**Giuliano Di Ro**	**0.45**	**184**	P	Pg	00 00 31.1 +0.5
GIUL				S	Sb	00 00 38.1 -0.6
GIUL				AML	AML	
	comp=E,31μm,0.9s					
GIUL				AML	AML	
	comp=N,38μm,1.2s					
GIUL				AML	AML	
	comp=N,38μm,1.2s					
GIUL				AML	AML	
	comp=E,31μm,0.9s					
INTR	**Introdacqua**	**0.45**	**89**	P	Pg	00 00 31.2 +0.5
INTR				S	Sb	00 00 38.2 -0.7
RMP	**Rome, Mte Porz**	**0.49**	**247**	P	Pb	00 00 31.9 -0.6
RMP				S	Sb	00 00 39.3 -0.5
RDP	**Rocca di Papa**	**0.50**	**241**	S	Sb	00 00 40.1 -0.2

TIR ***13*** *00:01:57.6, 42.°92N×18.°15E, h15km, Md3.0/3*
PDG ***13*** *00:02:00.7±0.1, 42.°74N×18.°26E, h3km, MD2.9/6, ML2.8/14, Error ellipse: s-maj=0.2km s-min=0.3km az=0.0*
RHSSO ***13*** *00:02:01.5±0.2, 42.°75N×18.°29E, h4km±1km, ML2.9/14*
BEO ***13*** *00:02:01.6±0.3, 42.°72N×18.°22E, h3km±2km, ML2.6/16*

ISC 13 00:02:01.5±0.8, 42.°76N±0.°02×18.°28E±0.°01, h6km±5km, n92, σ1°57/155, 18C-9D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TREB	**Trebinje**	**0.07**	**132**	*e*Pg		**Pg**	**00 02 03.2**	**0.0**
TREB				*e*Sg		**Sg**	**00 02 05.7**	**+1.3**
TREB	**Trebinje**	**0.07**	**132**	⇑*i*Pg		**Pg**	**00 02 03.2**	**0.0**
TREB				*e*Sg		**Sg**	**00 02 04.6**	**+0.2**
DBRK	**Dubrovnik**	**0.14**	**227**	*i* Pg		**Pg**	**00 02 04.0**	**-0.3**
DBRK				Sg		**Sg**	**00 02 06.0**	**-0.2**
BRY	**Bratogost**	**0.23**	**54**	⇓*i*Pg		**Pg**	**00 02 05.6**	**-0.6**
BRY				*i* Sg		**Sg**	**00 02 09.7**	**+0.4**
BRY	**Bratogost**	**0.23**	**54**	⇓*i*Pg		**Pg**	**00 02 06.0**	**-0.2**
BRY				*e*Sg		**Sg**	**00 02 10.2**	**+0.9**
HCY	**Herceg Novi**	**0.35**	**153**	⇑*i*Pg		**Pg**	**00 02 07.4**	**-0.9**
HCY				*i* Sg		**Sg**	**00 02 12.6**	**-0.3**
HCY	**Herceg Novi**	**0.35**	**153**	⇑*i*Pg		**Pg**	**00 02 07.6**	**-0.7**
HCY				*e*Sg		**Sg**	**00 02 12.9**	**0.0**
STON	**Ston**	**0.44**	**285**	*e*Pg		**Pg**	**00 02 09.4**	**-0.6**
STON				*e*Sg		**Sg**	**00 02 15.9**	**+0.1**
STON	**Ston**	**0.44**	**285**	*i* Pg		**Pg**	**00 02 09.1**	**-0.9**
STON				Sg		**Sg**	**00 02 15.9**	**+0.1**
STON	**Ston**	**0.44**	**285**	⇑*i*Pg		**Pg**	**00 02 09.1**	**-0.9**
STON				*e*Sg		**Sg**	**00 02 16.1**	**+0.3**
NKME	**Niksic**	**0.49**	**89**	⇓*i*Pg		**Pg**	**00 02 10.3**	**-0.7**
NKME				*i* Sg		**Sg**	**00 02 18.3**	**+0.8**
CEME	**Cevo**	**0.52**	**114**	⇑*i*Pg		**Pg**	**00 02 10.3**	**-1.1**
CEME				*i* Sg		**Sg**	**00 02 18.6**	**+0.4**
NKY	**Niksic**	**0.53**	**84**	⇑*i*Pg		**Pg**	**00 02 10.7**	**-0.9**
NKY				*i* Sg		**Sg**	**00 02 19.5**	**+1.0**
UPM	**Unac-Piva**	**0.64**	**46**	⇓*i*Pg		**Pg**	**00 02 12.8**	**-1.0**
UPM				*i* Sg		**Sg**	**00 02 23.6**	**+1.6**
UPM	**Unac-Piva**	**0.64**	**46**	*e*Pg		**Pg**	**00 02 12.7**	**-1.0**
UPM				*e*Sg		**Sg**	**00 02 22.6**	**+0.8**
BUM	**Brajici-Budva**	**0.65**	**135**	⇑*i*Pg		**Pg**	**00 02 12.5**	**-1.4**
BUM				*i* Sg		**Sg**	**00 02 22.9**	**+0.6**
PDG	**Podgorica**	**0.79**	**114**	*e*Pg		**Pg**	**00 02 15.5**	**-1.2**
PDG				*e*Sg		**Sg**	**00 02 28.1**	**+1.1**
PDG	**Podgorica**	**0.79**	**114**	⇑P		**Pg**	**00 02 16.1**	**-0.6**
PDG	**Podgorica**	**0.79**	**114**	⇓*i*Pg		**Pg**	**00 02 15.2**	**-1.4**
PDG				*e*Sg		**Sg**	**00 02 26.8**	**-0.2**
TTG	**Podgorica**	**0.79**	**114**	⇑*i*Pg		**Pg**	**00 02 15.3**	**-1.4**
TTG				*i* Sg		**Sg**	**00 02 28.2**	**+1.2**
DRME	**Dracevica, Mon**	**0.88**	**130**	⇑*i*Pg		**Pg**	**00 02 17.1**	**-1.3**
DRME				*i* Sg		**Sb**	**00 02 30.9**	**-0.3**
DRME	**Dracevica, Mon**	**0.88**	**130**	*e*Pg		**Pg**	**00 02 17.2**	**-1.2**
DRME				*e*Sg		**Sg**	**00 02 28.8**	**-1.0**
KOME	**Kolasin**	**0.91**	**84**	⇑*i*Pg		**Pg**	**00 02 17.9**	**-1.1**
KOME				*i* Sg		**Sg**	**00 02 32.6**	**+1.8**
PLE	**Pljevlja**	**0.99**	**55**	⇑*i*Pg		**Pg**	**00 02 19.6**	**-0.9**
PLE				*i* Sg		**Sg**	**00 02 35.5**	**+2.1**
MAKA	**Makarska**	**1.06**	**300**	*e*Pg		**Pg**	**00 02 19.8**	**-2.1**
MAKA				Sg		**Sn**	**00 02 36.3**	**-1.6**
ULC	**Ulcinj**	**1.07**	**138**	⇓*i*Pg		**Pg**	**00 02 20.2**	**-1.8**
ULC				*i* Sg		**Sn**	**00 02 37.1**	**-1.1**
RUDO	**Rudo**	**1.17**	**43**	*e*Pg		**Pn**	**00 02 22.4**	**-2.0**
RUDO				*e*Sg		**Sb**	**00 02 38.3**	**-1.2**
IVA	**Berane**	**1.19**	**84**	⇓*i*Pg		**Pn**	**00 02 23.3**	**-1.4**
IVA				*i* Sg		**Sn**	**00 02 41.9**	**+0.6**
PVY	**Plav**	**1.25**	**97**	⇑*i*Pg		**Pn**	**00 02 24.4**	**-1.2**
PVY				*i* Sg		**Sn**	**00 02 44.1**	**+1.4**
SJES	**Sjenica**	**1.34**	**68**	*e*Pn		**Pn**	**00 02 26.9**	**+0.1**
SJES				*e*Sn		**Sg**	**00 02 47.4**	**+2.9**
BBLS	**Lazići**	**1.37**	**36**	*e*Pn		**Pn**	**00 02 27.2**	**-0.1**
BBLS				*e*Sn		**Sg**	**00 02 48.3**	**+2.6**
BBLS	**Lazići**	**1.37**	**36**	*e*Pg		**Pn**	**00 02 26.9**	**-0.4**
BBLS				*e*Sg		**Sn**	**00 02 45.6**	**-0.2**
BCI	**Bajram Curri**	**1.38**	**106**	*i* PN		**Pn**	**00 02 27.2**	**0.0**
BCI				*i* SN		**Sg**	**00 02 49.4**	**+4.1**
PUK	**Puka**	**1.39**	**121**	*i* PN		**Pn**	**00 02 27.0**	**-0.5**
PUK				*i* SN		**Sg**	**00 02 49.1**	**+2.9**
HVAR	**Hvar**	**1.41**	**288**	*e*Pn		**Pn**	**00 02 25.8**	**-1.8**
HVAR				Sg		**Sg**	**00 02 46.2**	**-0.6**
IVAS	**Ivanjica**	**1.59**	**59**	*e*Pn		**Pn**	**00 02 30.2**	**0.0**
IVAS				*e*Sn		**Sb**	**00 02 52.6**	**+0.9**
DIVS	**Divibare**	**1.83**	**42**	*e*Pn		**Pn**	**00 02 34.1**	**+0.6**
DIVS				*e*Sn		**Sb**	**00 02 58.9**	**+0.4**
DIVS	**Divibare**	**1.83**	**42**	*e*Pn		**Pn**	**00 02 33.8**	**+0.3**
DIVS				*e*Sn		**Sn**	**00 02 57.5**	**+0.5**
TIR	**Tirane**	**1.84**	**140**	*e*Pn		**Pb**	**00 02 34.5**	**-1.0**
TIR	**Tirane**	**1.84**	**140**	⇑P		**Pn**	**00 02 33.7**	**+0.1**
MGRS	**Mrkonjic Grad**	**1.87**	**333**	*e*Pn		**Pn**	**00 02 34.9**	**+0.9**
MGRS				*e*Sn		**Sn**	**00 02 58.7**	**+0.8**
PHP	**Peshkopia**	**1.93**	**123**	*i* PN		**Pn**	**00 02 35.9**	**+1.0**
PHP				*i* SN		**Sg**	**00 03 04.5**	**+1.0**
BAI	**Bari**	**1.96**	**213**	*e*Pn		**Pg**	**00 02 42.2**	**+3.2**
TEKS	**Tekeris**	**2.00**	**26**	*e*Sn		**Sb**	**00 03 02.6**	**+0.1**
TEKS	**Tekeris**	**2.00**	**26**	*e*Pn		**Pn**	**00 02 36.3**	**+0.5**
TEKS				*e*Sn		**Sn**	**00 03 01.9**	**+0.7**
GRUS	**Gruza**	**2.10**	**57**	*e*Pn		**Pn**	**00 02 38.0**	**+0.8**
GRUS				*e*Sn		**Sb**	**00 03 06.2**	**-0.1**
ZIRJ	**Zirje**	**2.12**	**296**	*e*Pn		**Pn**	**00 02 37.6**	**+0.1**
ZIRJ				Sn		**Sb**	**00 03 06.7**	**-0.3**
TRUS	**Trudelj**	**2.13**	**46**	*e*Pn		**Pn**	**00 02 37.8**	**+0.3**
SELS	**Selova**	**2.13**	**77**	*e*Pn		**Pn**	**00 02 38.6**	**+1.0**
BLY	**Banja Luka**	**2.14**	**339**	*e*Pn		**Pb**	**00 02 39.5**	**-1.1**
BLY	**Banja Luka**	**2.14**	**339**	*e*Pn		**Pn**	**00 02 38.5**	**+0.8**
BLY				*e*Sn		**Sn**	**00 03 05.7**	**+1.2**
MORI	**Morici**	**2.18**	**301**	*e*Pn		**Pb**	**00 02 39.4**	**-1.9**
MORI				Sn		**Sn**	**00 03 05.7**	**+0.2**
SG1	**Sgolgore (BA)**	**2.26**	**212**	*e*Pn		**Pg**	**00 02 44.8**	**-0.1**
MATE	**Matera**	**2.42**	**210**	⇓P		**Pg**	**00 02 49.1**	**+1.3**
PRIJ	**Prijedor**	**2.49**	**333**	*e*Sn		**Sn**	**00 03 13.5**	**+0.4**
UDBI	**Udbina**	**2.54**	**315**	*e*Pn		**Pb**	**00 02 45.5**	**-2.0**
UDBI				Sn		**Sn**	**00 03 15.2**	**+0.6**
BARS	**Barje**	**2.60**	**88**	*e*Pn		**Pn**	**00 02 45.6**	**+1.5**
BARS				*e*Sn		**Sn**	**00 03 18.1**	**+2.1**
FRGS	**Fruska Gora**	**2.64**	**24**	*e*Pn		**Pn**	**00 02 44.5**	**-0.1**
FRGS	**Fruska Gora**	**2.64**	**24**	*e*Pn		**Pn**	**00 02 45.2**	**+0.6**
FRGS	**Fruska Gora**	**2.64**	**24**	*e*Pn		**Pn**	**00 02 44.3**	**-0.3**
FRGS				*e*Sn		**Sn**	**00 03 18.0**	**+1.1**
BOVS	**Bovan**	**2.65**	**70**	*e*Sn		**Sn**	**00 03 19.8**	**+2.6**
DUGI	**Dugi Otok**	**2.65**	**299**	*e*Pn		**Pn**	**00 02 45.2**	**+0.4**
DUGI				Sn		**Sn**	**00 03 18.1**	**+0.9**
MOSL	**Moslavina**	**3.06**	**339**	*e*Pn		**Pn**	**00 02 50.8**	**+0.5**
MOSL				Sn		**Sn**	**00 03 27.5**	**+0.4**
NVLJ	**Novalja**	**3.06**	**307**	*e*Pn		**Pn**	**00 02 51.2**	**+0.8**
NVLJ				Sn		**Sn**	**00 03 27.9**	**+0.7**
ZAGS	**Zajecar**	**3.07**	**69**	*e*Pn		**Pn**	**00 02 51.1**	**+0.6**
ZAGS				*e*Sn		**Sn**	**00 03 29.5**	**+2.0**
STIP	**Stip**	**3.09**	**109**	*e*Pn		**Pb**	**00 02 54.4**	**-2.4**
BOSS	**Bosilegrad**	**3.11**	**93**	*e*Pn		**Pn**	**00 02 52.4**	**+1.4**
BOSS				*e*Sn		**Sn**	**00 03 30.2**	**+1.7**
ZAPS	**Zavoj**	**3.23**	**79**	*e*Pn		**Pn**	**00 02 54.6**	**+1.8**
MORH	**Mrgy, Hungar**	**3.46**	**4**	*e*Pn		**Pn**	**00 02 56.5**	**+0.6**
MORH				*e*Sn		**Sn**	**00 03 36.4**	**-0.7**
OZLJ	**Ozalj**	**3.50**	**326**	*e*Pn		**Pn**	**00 02 57.9**	**+1.5**
OZLJ				Sn		**Sn**	**00 03 39.8**	**+1.8**
VAY	**Valandovo**	**3.50**	**113**	*e*Pn		**Pn**	**00 02 56.2**	**-0.2**
PTJ	**Puntijarka**	**3.56**	**333**	*e*Pn		**Pn**	**00 02 58.7**	**+1.4**
PTJ				Sn		**Sn**	**00 03 40.9**	**+1.3**
KALN	**Kalnik**	**3.61**	**339**	*i* Pn		**Pn**	**00 02 59.2**	**+1.2**
KALN				Sn		**Sn**	**00 03 42.2**	**+1.3**
VTS	**Vitosha**	**3.65**	**91**	⇑P		**Sn**	**00 03 43.4**	**+1.2**
CRES	**Cresnjev**	**3.67**	**327**	*e*Pn		**Pn**	**00 02 59.4**	**+0.6**
CRES				*e*Sn		**Sn**	**00 03 42.1**	**-0.3**
BZS	**Buzias**	**3.73**	**39**	⇑P		**Pg**	**00 03 11.5**	**-1.4**
RIY	**Rijeka**	**3.75**	**314**	*e*Pn		**Pn**	**00 02 59.6**	**-0.2**
RIY				Sn		**Sn**	**00 03 46.2**	**+1.9**
RIY	**Rijeka**	**3.75**	**314**	*e*Sn		**Sn**	**00 03 44.7**	**+0.4**
BAIL	**Bailesti**	**3.90**	**69**	⇓P		**Sn**	**00 03 39.9**	**-8.0**
BRJN	**Brijuni**	**3.92**	**305**	*e*Pn		**Pn**	**00 03 04.1**	**+2.0**
BRJN				Sn		**Sn**	**00 03 51.0**	**+2.6**
CEY	**Cerknica**	**4.07**	**318**	*e*Pn		**Pn**	**00 03 05.1**	**+0.9**
CEY				*e*Sn		**Sn**	**00 03 51.1**	**-1.0**
GZR	**Gura Zlata**	**4.17**	**49**	⇑P		**Pn**	**00 03 06.0**	**+0.3**
SIRR	**Siria**	**4.26**	**33**	⇑P		**Sn**	**00 03 54.3**	**-2.5**
SOKA	**Soboth**	**4.55**	**331**	Pn		**Pn**	**00 03 12.5**	**+1.6**
	4.2nm,0.4s,SNR=8.9							
SOKA				*i* Sn		**Sn**	**00 04 04.7**	**+0.7**
	1.5nm,0.4s							
OBKA	**Obir**	**4.60**	**326**	Pg		**Pg**	**00 03 27.1**	**-2.4**
	4.9nm,0.5s							
ARSA	**Arzberg**	**4.89**	**337**	Pn		**Pn**	**00 03 17.5**	**+1.9**
	3.0nm,0.3s,SNR=8.7							
MYKA	**Terra Mystica**	**5.09**	**321**	*i* Pn		**Pn**	**00 03 17.8**	**-0.5**
	2.4nm,0.4s							
KBA	**Koelnbreinsper**	**5.56**	**323**	*i* Pn		**Pn**	**00 03 26.4**	**+1.6**
	1.0nm,0.1s							
MOA	**Molln**	**5.82**	**332**	*i* Pn		**Pn**	**00 03 31.2**	**+2.9**
	2.0nm,0.3s							
MOA				*i* Sn		**Sn**	**00 04 41.1**	**+5.7**
	4.4nm,0.6s							
WTTA	**Wattenberg**	**6.51**	**316**	*i* Pn		**Pn**	**00 03 41.3**	**+3.4**
	0.9nm,0.2s							
WTTA				*i* Sn		**Sn**	**00 04 54.2**	**+1.6**
	4.7nm,0.5s							
WATA	**Walderalm**	**6.59**	**316**	*e*Pn		**Pn**	**00 03 41.3**	**+2.3**
	1.0nm,0.2s							
MOTA	**Moosalm**	**6.84**	**314**	*i* Pn		**Pn**	**00 03 46.1**	**+3.6**
	0.7nm,0.2s							

PRU 13 00:02:13.6±0.0, 50.°20N×19.°25E, h0km, 2D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OJC	**Ojcow**	**0.35**	**87**	*e*Pg		Pg	00 02 19.3	-1.1
OJC				*e*Sg		Sg	00 02 23.7	-1.2
OKC	**Ostrava-Krasne**	**0.80**	**243**	*e*PG		Pg	00 02 28.6	-0.3
OKC				*e*SG		Sg	00 02 40.1	+0.9
	comp=Z,11nm,0.6s							
NIE	**Niedzica**	**1.04**	**139**	*e*Pg		Pb	00 02 34.1	-0.4
NIE				*e*Sg		Sg	00 02 47.7	+0.8
LANS	**Liptovska Anna**	**1.06**	**172**	*e*PG		Pg	00 02 33.9	0.0
LANS				*e*SG		Sg	00 02 48.1	+0.5
LANS				eLG		Lg	00 02 50.4	
MORC	**Moravsky Berou**	**1.18**	**250**	⇓P		Sg	00 02 52.6	+1.1
MORC	**Moravsky Berou**	**1.18**	**250**	*e*PG		Pg	00 02 36.1	-0.1
MORC				*e*SG		Sg	00 02 52.1	+0.6
VYHS	**Vyhne**	**1.73**	**189**	*e*PN		Pn	00 02 43.6	-1.3
VYHS				*e*SN		Sn	00 03 06.4	-1.3
DPC	**Dobruska-Polom**	**1.88**	**276**	*e*PG		Pn	00 02 47.7	+0.6
DPC				*e*SG		Sg	00 03 14.4	+0.3
	comp=Z,8.6nm,0.5s							
VRAC	**Vranov**	**1.94**	**244**	⇓P		Sb	00 03 13.6	-1.0
VRAC	**Vranov**	**1.94**	**244**	*e*SG		Sb	00 03 13.9	-0.7
OSTC	**Ostas**	**1.98**	**282**	*e*PG		Pn	00 02 49.2	+0.9
OSTC				*e*SG		Sg	00 03 18.1	+1.1
	comp=Z,3.9nm,0.4s							
KSP	**Ksiaz**	**1.99**	**290**	*e*Pg		Pg	00 02 51.4	-0.4
KSP				*e*Sg		Sg	00 03 17.9	+0.2
CHVC	**Chvalec**	**2.08**	**282**	*e*PG		Pb	00 02 51.6	-0.6
CHVC				*e*SG		Sg	00 03 21.0	+0.6
	comp=Z,6.5nm,0.5s							
UPC	**Upice**	**2.10**	**280**	*e*SG		Sg	00 03 21.7	+0.8
	comp=Z,5.8nm,0.6s							
KRUC	**Moravsky**	**2.18**	**240**	*e*SG		Sb	00 03 21.5	+0.1
TREC	**Trest**	**2.60**	**251**	*e*SG		Sg	00 03 37.2	0.0
	comp=Z,2.6nm,0.3s							
GOPC	**GO Pecny, Ondr**	**2.89**	**266**	*e*SG		Sg	00 03 45.1	-1.3
	comp=Z,4.7nm,0.5s							
PVCC	**Panska Ves**	**3.02**	**278**	*e*SG		Sg	00 03 50.9	+0.5
	comp=Z,7.0nm,0.3s							
PRU	**Pruhonice**	**3.04**	**268**	*e*SG		Sg	00 03 50.1	-1.1
	comp=Z,2.8nm,0.4s							
PRA	**Prague**	**3.10**	**269**	*e*SG		Sg	00 03 53.0	-0.2
	comp=Z,2.4nm,0.7s							
KHC	**Kasperske Hory**	**3.84**	**256**	*e*SG		Sg	00 04 15.5	-1.3
	comp=Z,1.8nm,0.4s							

SOME ***13*** *00:34:12.8, 42.°78N×79.°10E, h15km*
NNC ***13*** *00:34:12.8±0.8, 42.°83N×79.°13E, h0km, mb2.7, mpv2.7, Error ellipse: s-maj=5.6km s-min=3.1km az=164.0*
KRNET ***13*** *00:34:13.4±0.1, 42.°90N×79.°08E, h35km, mb2.1*

ISC 13 00:34:12.6±1.3, 42.°82N±0.°04×79.°11E±0.°03, h16km±9km, n41, σ0°86/76, 10C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
UZB	**Uzynbulak**	**0.34**	**348**	*e*P		**Pg**	**00 34 19.8**	**+0.1**
	12nm,0.2s							
UZB				*e*S		**Sb**	**00 34 25.0**	**-0.5**
	12nm,0.1s							
UZB	**Uzynbulak**	**0.34**	**348**	P		**Pg**	**00 34 19.8**	**+0.1**
	12nm,0.2s							
UZB				S		**Sb**	**00 34 25.0**	**-0.5**
	12nm,0.1s							
SATY	**Saty**	**0.57**	**295**	*e*P		**Pg**	**00 34 23.8**	**-0.1**
	3.3nm,0.1s							
SATY				*e*S		**Sb**	**00 34 31.9**	**-0.4**
	60nm,0.1s							
SATY	**Saty**	**0.57**	**295**	P		**Pg**	**00 34 23.8**	**-0.1**
	3.3nm,0.1s							
SATY				S		**Sb**	**00 34 31.9**	**-0.4**
	60nm,0.1s							
PRZ	**Przheval'sk**	**0.62**	**238**	⇑*i*P		**Pn**	**00 34 27.5**	**+0.5**
	baz=30							
PRZ				⇑*i*S		**Sn**	**00 34 37.6**	**+0.9**
	baz=30							
KPKS	**Kokpek**	**0.72**	**334**	*e*P		**Pg**	**00 34 26.7**	**0.0**
	baz=31							
KPKS				*e*S		**Sb**	**00 34 36.7**	**+0.2**
	baz=31							
KPKS	**Kokpek**	**0.72**	**334**	*e*P		**Pg**	**00 34 26.6**	**0.0**
	14nm,0.1s							
KPKS				*e*S		**Sb**	**00 34 36.7**	**+0.2**
	15nm,0.2s							
KURS	**Kuram**	**0.96**	**314**	*e*P		**Pb**	**00 34 30.8**	**-0.1**
	baz=12							
KURS				*e*S		**Sg**	**00 34 43.6**	**-0.3**
	baz=12							
KURS	**Kuram**	**0.96**	**314**	*e*P		**Pb**	**00 34 30.8**	**-0.1**
	1.7nm,0.5s							
KURS				*e*S		**Sg**	**00 34 43.5**	**-0.3**
	2.4nm,0.3s							
KURS	**Kuram**	**0.96**	**314**	P		**Pb**	**00 34 30.8**	**-0.1**
	1.7nm,0.5s							
KURS				S		**Sg**	**00 34 43.5**	**-0.3**
	2.4nm,0.3s							
ANVS	**Anan'yevo**	**1.06**	**269**	⇑*i*P		**Pb**	**00 34 32.6**	**-0.2**
	baz=64							
ANVS				⇑*i*S		**Sb**	**00 34 46.6**	**+0.1**
	baz=64							
KTMS	**Ketmen**	**1.10**	**55**	*e*P		**Pb**	**00 34 33.1**	**-0.3**
	baz=58							
KTMS				*e*S		**Sb**	**00 34 47.8**	**+0.2**
	baz=58							
KTMS	**Ketmen**	**1.10**	**55**	*e*P		**Pb**	**00 34 33.1**	**-0.3**
	1.2nm,0.1s							
KTMS				*e*S		**Sb**	**00 34 47.8**	**+0.2**
	2.2nm,0.2s							
KTMS	**Ketmen**	**1.10**	**55**	P		**Pb**	**00 34 33.1**	**-0.3**
	1.2nm,0.1s							
KTMS				S		**Sb**	**00 34 47.8**	**+0.2**
	2.2nm,0.2s							
TARG	**Taragay, Kyrgy**	**1.46**	**222**	⇑*i*P		**Pn**	**00 34 39.0**	**+0.3**
	baz=20							
TARG				⇑*i*S		**Sn**	**00 34 57.9**	**+0.2**
	baz=20							
KOTS	**Kotyrbulak**	**1.52**	**286**	*e*P		**Pg**	**00 34 42.0**	**+0.1**
	3.3nm,0.1s							
KOTS				*e*S		**Sg**	**00 35 02.8**	**+1.0**
	8.6nm,0.5s							
KOTS	**Kotyrbulak**	**1.52**	**286**	P		**Pg**	**00 34 42.0**	**+0.1**
	3.3nm,0.1s							
KOTS				S		**Sg**	**00 35 02.8**	**+1.0**
	8.6nm,0.5s							
MDOK	**Medeo**	**1.55**	**283**	*e*P		**Pb**	**00 34 41.2**	**+0.2**
	0.4nm,0.2s							
MDOK				*e*S		**Sb**	**00 35 01.4**	**+0.8**
	2.9nm,0.6s							
KDJ	**Kajisay**	**1.59**	**245**	⇑*i*P		**Pn**	**00 34 40.2**	**0.0**
	baz=42							
KDJ				⇑*i*S		**Sn**	**00 35 00.0**	**-0.5**
	baz=42							
DJR	**Jarkent**	**1.59**	**18**	*e*P		**Pg**	**00 34 42.7**	**-0.5**
	1.4nm,0.3s							
DJR				*e*S		**Sg**	**00 35 04.0**	**+0.1**
	2.7nm,0.1s							
DJR	**Jarkent**	**1.59**	**18**	P		**Pg**	**00 34 42.7**	**-0.5**
	1.4nm,0.3s							
DJR				S		**Sg**	**00 35 04.0**	**+0.1**
	2.7nm,0.1s							
ARXS	**Arharly**	**1.68**	**327**	*e*P		**Pb**	**00 34 43.9**	**+0.8**
	2.0nm,0.1s							
ARXS				*e*S		**Sg**	**00 35 06.1**	**-0.5**
	6.6nm,0.4s							
ARXS	**Arharly**	**1.68**	**327**	P		**Pb**	**00 34 43.9**	**+0.8**
	2.0nm,0.1s							
ARXS				S		**Sg**	**00 35 06.1**	**-0.5**
	6.6nm,0.4s							
IZV	**Izvestkoviy**	**1.85**	**278**	*e*P		**Pb**	**00 34 47.1**	**+1.0**
	2.9nm,0.2s							
IZV				*e*S		**Sg**	**00 35 11.6**	**-0.6**
	3.9nm,0.2s							
IZV	**Izvestkoviy**	**1.85**	**278**	P		**Pb**	**00 34 47.1**	**+1.0**
	2.9nm,0.2s							
IZV				S		**Sg**	**00 35 11.5**	**-0.6**
	3.9nm,0.2s							
CHKK	**Chushkaly**	**1.86**	**304**	*e*P		**Pb**	**00 34 47.0**	**+0.8**
	0.9nm,0.1s							
CHKK				*e*S		**Sg**	**00 35 11.4**	**-1.2**
	6.4nm,0.2s							
CHKK	**Chushkaly**	**1.86**	**304**	P		**Pb**	**00 34 47.0**	**+0.8**
	0.9nm,0.1s							
CHKK				S		**Sg**	**00 35 11.4**	**-1.2**
	6.4nm,0.2s							
KTBS	**Karatobe**	**1.99**	**298**	*e*P		**Pb**	**00 34 49.0**	**+0.6**
	0.7nm,0.2s							
KTBS				*e*S		**Sg**	**00 35 15.0**	**-1.5**
	6.8nm,0.2s							
KTBS	**Karatobe**	**1.99**	**298**	Pg		**Pb**	**00 34 49.0**	**+0.6**
	0.7nm,0.2s							
KTBS				Lg		Lg	00 35 15.0	
	6.8nm,0.2s							
ULHL	**Ulahol**	**2.20**	**256**	⇓*i*P		**Pn**	**00 34 48.5**	**-0.1**
	baz=54							
ULHL				⇓*i*S		**Sn**	**00 35 14.2**	**-1.4**
	baz=54							
KUU	**Kurty**	**2.29**	**299**	*e*P		**Pb**	**00 34 54.2**	**+0.7**
	0.7nm,0.4s							
KUU				*e*S		**Sg**	**00 35 23.9**	**-2.3**
	3.3nm,0.4s							
KUU	**Kurty**	**2.29**	**299**	Pg		**Pb**	**00 34 54.2**	**+0.7**
	0.8nm,0.4s							
KUU				Lg		Lg	00 35 24.0	
	3.5nm,0.3s							
KST	**Kastek**	**2.33**	**277**	*e*P		**Pb**	**00 34 54.9**	**+0.7**
	3.7nm,0.6s							
KST				*e*S		**Sg**	**00 35 25.7**	**-1.6**
	3.0nm,0.6s							
KST	**Kastek**	**2.33**	**277**	Pg		**Pb**	**00 34 54.9**	**+0.7**
	3.7nm,0.6s							
KST				Lg		Lg	00 35 25.7	
	3.0nm,0.6s							
BOOM	**Boomskoye usch**	**2.36**	**263**	⇑*i*P		**Pn**	**00 34 50.6**	**-0.3**
	baz=61							
BOOM

λ162.00000°. NP2:φ₀129.00000°,δ76.00000°,λ41.00000°. Principal axes: T 1.2500, Plg38.0000°, Azm356.0000°; N 0.0000, Plg47.0000°, Azm144.0000°; P -1.2600, Plg16.0000°, Azm253.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.

ISK ***13*** *00:34:52.2,35.°41N,×27.°04E,h76km,ML4.9/25*

IDC ***13*** *00:34:53.4±0.9,35.°48N×26.°95E,h78km±7km, mb4.7/39, mb1 4.7/49,mb1mx4.6/58,mbtmp4.9/49,MS3.3/23, Ms1 3.4/23,ms1mx3.2/43,Error ellipse: s-maj=10.2km s-min=6.4km az=153.0*

THE ***13*** *00:34:54.6,35.°46N×27.°01E,h67km±1km,ML4.9/14,Error ellipse: s-maj=1.5km s-min=0.4km az=144.0*

GII ***13*** *00:34:54.9±0.2,35.°23N×27.°57E,h80km, mb4.8/4, MD4.9/4*

BGR ***13*** *00:35:25.6±0.0,38.°63N×25.°45E,h33km*

ISC 13 00:34:51.5±0.4,35.°36N±0.°03×27.°04E±0.°02,h71km±3km, h74km:pP-P,n1622,σ1.964/1766,mb5.0/322,95C-47D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.21**	**27**	P	**Pn**	**00 35 03.8**	**+1.5**
KARP				S	**Sn**	**00 35 11.8**	**+1.6**
	445μm,0.5s						
KARP	**Karpathos**	**0.21**	**27**	P	**Pn**	**00 35 03.8**	**+1.5**
KARP				S	**Sn**	**00 35 11.9**	**+1.6**
KARP				AML	AML	00 35 12.8	
KARP				AML	AML	00 35 13.0	
KARP	**Karpathos**	**0.21**	**27**	PG	**Pn**	**00 35 04.2**	**+1.9**
KARP				SG	**Sn**	**00 35 12.1**	**+1.8**
KARP	**Karpathos**	**0.21**	**27**	Pn	**Pn**	**00 35 03.3**	**+1.0**
KARP				Sn	**Sn**	**00 35 11.8**	**+1.6**
KARP	**Karpathos**	**0.21**	**27**	P	**Pn**	**00 35 03.9**	**+1.6**
KARP				S	**Sn**	**00 35 12.0**	**+1.8**
ZKR	**Zakros**	**0.72**	**250**	P	**Pn**	**00 35 08.5**	**+1.8**
ZKR				S	**Sn**	**00 35 19.9**	**+2.0**
	119μm,0.4s						
ZKR	**Zakros**	**0.72**	**250**	P	**Pn**	**00 35 08.5**	**+1.8**
ZKR				S	**Sn**	**00 35 20.1**	**+2.2**
ZKR				AML	AML	00 35 21.8	
ZKR				AML	AML	00 35 21.9	
ZKR	**Zakros**	**0.72**	**250**	PG	**Pn**	**00 35 08.5**	**+1.8**
ZKR				SG	**Sn**	**00 35 20.7**	**+2.8**
ZKR	**Zakros**	**0.72**	**250**	P	**Pn**	**00 35 08.6**	**+1.8**
ZKR				S	**Sn**	**00 35 20.3**	**+2.4**
STIA	**Sitia Lasithi**	**0.80**	**259**	P	**Pn**	**00 35 09.9**	**+2.4**
STIA				S	**Sn**	**00 35 21.4**	**+2.0**
NPS	**Neapolis**	**1.17**	**266**	P	**Pn**	**00 35 14.7**	**+2.5**
NPS				S	**Sn**	**00 35 30.6**	**+2.8**
	47μm,0.3s						
NPS	**Neapolis**	**1.17**	**266**	P	**Pn**	**00 35 14.8**	**+2.6**
NPS				S	**Sn**	**00 35 30.6**	**+2.8**
NPS				AML	AML	00 35 31.2	
	comp=N,85135μm,0.4s						
NPS				AML	AML	00 35 31.9	
NPS	**Neapolis**	**1.17**	**266**	P	**Pn**	**00 35 14.7**	**+2.5**
NPS				S	**Sn**	**00 35 30.6**	**+2.8**
ARG	**Arkhangelos**	**1.23**	**46**	P	**Pn**	**00 35 15.0**	**+2.1**
ARG				S	**Sn**	**00 35 30.7**	**+1.8**
	comp=N,38μm,0.4s						
ARG	**Arkhangelos**	**1.23**	**46**	P	**Pn**	**00 35 14.9**	**+2.0**
ARG				S	**Sn**	**00 35 29.6**	**+0.7**
ARG				AML	AML	00 35 31.5	
	comp=N,68233μm,0.5s						
ARG				AML	AML	00 35 32.8	
	comp=E,83214μm,0.3s						
ARG	**Arkhangelos**	**1.23**	**46**	PN	**Pn**	**00 35 14.8**	**+2.0**
ARG				SN	**Sn**	**00 35 30.7**	**+1.8**
ARG	**Arkhangelos**	**1.23**	**46**	P	**Pn**	**00 35 14.8**	**+2.0**
ARG				S	**Sn**	**00 35 30.7**	**+1.8**
ARG	**Arkhangelos**	**1.23**	**46**	P	**Pn**	**00 35 15.1**	**+2.3**
ARG				S	**Sn**	**00 35 31.2**	**+2.3**
NISR	**Nisiros**	**1.25**	**3**	P	**Pn**	**00 35 14.2**	**+1.0**
NISR				S	**Sn**	**00 35 30.1**	**+0.7**
	comp=E,32μm,0.5s						
NISR	**Nisiros**	**1.25**	**3**	P	**Pn**	**00 35 14.2**	**+1.0**
NISR				S	**Sn**	**00 35 29.7**	**+0.3**
NISR				AML	AML	00 35 31.1	
	comp=N,58479μm,0.4s						
NISR				AML	AML	00 35 34.3	
	comp=E,69230μm,0.6s						
LAST	**Lasithi**	**1.30**	**262**	P	**Pn**	**00 35 16.3**	**+2.4**
LAST				S	**Sn**	**00 35 32.6**	**+1.9**
	comp=E,24μm,0.6s						
LAST	**Lasithi**	**1.30**	**262**	P	**Pn**	**00 35 16.2**	**+2.4**
LAST				S	**Sn**	**00 35 32.9**	**+2.3**
LAST				AML	AML	00 35 36.0	
	comp=N,41150μm,0.4s						
LAST				AML	AML	00 35 36.0	
	comp=E,41953μm,0.3s						
KOSK	**Kos Island**	**1.39**	**358**	P	**Pn**	**00 35 16.1**	**+1.1**
KOSK				S	**Sn**	**00 35 32.5**	**-0.1**
	comp=E,21μm,0.6s						
KOSK	**Kos Island**	**1.39**	**358**	PN	**Pn**	**00 35 16.3**	**+1.3**
KOSK				SN	**Sn**	**00 35 33.8**	**+1.2**
DAT	**Datca**	**1.43**	**17**	P	**Pn**	**00 35 16.9**	**+1.2**
DAT				S	**Sn**	**00 35 33.8**	**-0.1**
DAT	**Datca**	**1.43**	**17**	PN	**Pn**	**00 35 16.9**	**+1.2**
DAT				SN	**Sn**	**00 35 34.7**	**+0.8**
DAT	**Datca**	**1.43**	**17**	⇓*i*P	**Pn**	**00 35 16.9**	**+1.2**
DAT				*i* S	**Sn**	**00 35 34.6**	**+0.8**
ANAF	**Anafi Island**	**1.43**	**314**	P	**Pn**	**00 35 16.8**	**+1.2**
ANAF				S	**Sn**	**00 35 34.2**	**+0.5**
	comp=E,167μm,0.4s						
ANAF	**Anafi Island**	**1.43**	**314**	P	**Pn**	**00 35 16.7**	**+1.1**
ANAF				S	**Sn**	**00 35 33.8**	**+0.1**
ANAF				AML	AML	00 35 35.9	
ANAF				AML	AML	00 35 36.1	
DATC	**Datca-Mugla**	**1.48**	**20**	PN	**Pn**	**00 35 17.9**	**+1.7**
DATC				SN	**Sn**	**00 35 35.9**	**+1.1**
HRKL	**Herakleio**	**1.59**	**269**	P	**Pn**	**00 35 19.6**	**+2.0**
HRKL	**Herakleio**	**1.59**	**269**	PN	**Pn**	**00 35 19.7**	**+2.1**
IACM	**Heraklion**	**1.61**	**269**	P	**Pn**	**00 35 19.9**	**+2.0**
IACM	**Heraklion**	**1.61**	**269**	P	**Pn**	**00 35 19.9**	**+2.0**
KSTL	**Kastelli Herak**	**1.61**	**269**	P	**Pn**	**00 35 17.8**	**-0.1**
SANT	**Santorini**	**1.63**	**309**	P	**Pn**	**00 35 19.5**	**+1.2**
SANT	**Santorini**	**1.63**	**309**	P	**Pn**	**00 35 19.5**	**+1.2**
SANT				S	**Sn**	**00 35 38.5**	**0.0**
SANT	**Santorini**	**1.63**	**309**	⇑P	**Pn**	**00 35 19.5**	**+1.2**
SANT				⇓S	**Sn**	**00 35 38.5**	**0.0**
SANT	**Santorini**	**1.63**	**309**	PN	**Pn**	**00 35 19.8**	**+1.5**
SANT				SN	**Sn**	**00 35 40.1**	**+1.5**
SANT	**Santorini**	**1.63**	**309**	*i* P	**Pn**	**00 35 19.5**	**+1.2**
SANT				*i* S	**Sn**	**00 35 35.1**	**-3.5**
SANT	**Santorini**	**1.63**	**309**	Pn	**Pn**	**00 35 19.4**	**+1.2**
SANT				Sn	**Sn**	**00 35 38.3**	**-0.2**
MRSB	**Marmaris-Mugla**	**1.64**	**34**	PN	**Pn**	**00 35 19.6**	**+1.2**
THR8	**Santorini-Mono**	**1.64**	**310**	P	**Pn**	**00 35 19.3**	**+1.0**
SNT3	**Karterados, Sa**	**1.67**	**309**	P	**Pn**	**00 35 20.2**	**+1.5**
SNT1	**Gialos, Santor**	**1.68**	**309**	P	**Pn**	**00 35 20.1**	**+1.3**
SFIR	**Foira Santorin**	**1.69**	**309**	P	**Pn**	**00 35 20.4**	**+1.5**
THR9	**Santorini-Faro**	**1.69**	**306**	P	**Pn**	**00 35 20.0**	**+1.0**
BODT	**Bodrum**	**1.71**	**7**	P	**Pn**	**00 35 20.4**	**+1.1**
BODT				S	**Sn**	**00 35 40.0**	**-0.3**
BODT	**Bodrum**	**1.71**	**7**	PN	**Pn**	**00 35 20.6**	**+1.3**
BODT				SN	**Sn**	**00 35 41.3**	**+1.0**
CMBO	**Columbo, Santo**	**1.73**	**310**	P	**Pn**	**00 35 20.8**	**+1.3**
CMBO				S	**Sn**	**00 35 41.0**	**+0.3**
	comp=E,54μm,0.5s						
CMBO	**Columbo, Santo**	**1.73**	**310**	P	**Pn**	**00 35 20.8**	**+1.3**
CMBO				S	**Sn**	**00 35 40.9**	**+0.1**
BDRM	**Kayabasi**	**1.73**	**11**	⇓*i*P	**Pn**	**00 35 20.9**	**+1.3**
BDRM				*i* P	**Pn**	**00 35 20.9**	**+1.3**
BDRM				*i* S	**Sn**	**00 35 36.1**	**-4.7**
BDRM				*i* S	**Sn**	**00 35 41.4**	**+0.6**
AMGA	**Amorgos Island**	**1.74**	**328**	P	**Pn**	**00 35 20.6**	**+1.0**
AMGA				S	**Sn**	**00 35 40.6**	**-0.4**
	comp=E,16μm,0.2s						
AMGA	**Amorgos Island**	**1.74**	**328**	P	**Pn**	**00 35 20.7**	**+1.0**
AMGA				S	**Sn**	**00 35 40.4**	**-0.6**
AMGA				AML	AML	00 35 41.6	
	comp=E,32661μm,0.2s						
AMGA				AML	AML	00 35 41.9	
	comp=N,28130μm,0.2s						
SAP3	**Santorini-Thir**	**1.75**	**308**	P	**Pn**	**00 35 21.0**	**+1.3**
SAP3	**Santorini-Thir**	**1.75**	**308**	P	**Pn**	**00 35 21.0**	**+1.3**
SAP4	**Santorini-Oia**	**1.75**	**310**	P	**Pn**	**00 35 21.3**	**+1.5**
IDI	**Anoyia**	**1.76**	**268**	P	**Pn**	**00 35 21.6**	**+1.6**
	comp=N,884nm,0.3s,baz=83,slow=3.0,SNR=4345						
IDI				S	**Sn**	**00 35 42.6**	**+1.0**
	comp=N,1μm,0.3s,baz=358,slow=14,SNR=11						
IDI				LR	LR	00 35 46.2	
	comp=N,467nm,19.1s,baz=87,slow=31						
IDI	**Anoyia**	**1.76**	**268**	⇓P	**Pn**	**00 35 21.7**	**+1.6**
IDI				⇓S	**Sn**	**00 35 42.8**	**+1.2**
IDI	**Anoyia**	**1.76**	**268**	PN	**Pn**	**00 35 21.7**	**+1.6**
IDI	**Anoyia**	**1.76**	**268**	Pn	**Pn**	**00 35 21.5**	**+1.5**
IDI				Sn	**Sn**	**00 35 42.9**	**+1.3**
YKAV	**Yalikavak-Bodr**	**1.77**	**6**	PN	**Pn**	**00 35 21.4**	**+1.4**
SIVA	**Sivas**	**1.86**	**260**	P	**Pn**	**00 35 23.8**	**+2.6**
SIVA	**Sivas**	**1.86**	**260**	P	**Pn**	**00 35 23.9**	**+2.6**
SIVA				AML	AML	00 35 47.6	
	comp=N,36828μm,0.7s						
SIVA				AML	AML	00 35 53.2	
	comp=E,55244μm,0.7s						
TMBK	**Timbaki Herakl**	**1.89**	**262**	P	**Pn**	**00 35 24.4**	**+2.8**
DALY	**Dalyan (Mula)**	**1.95**	**41**	PN	**Pn**	**00 35 24.5**	**+2.0**
DALY	**Dalyan (Mula)**	**1.95**	**41**	⇓*i*P	**Pn**	**00 35 24.4**	**+1.9**
DALY				*i* S	**Sn**	**00 35 46.9**	**+0.9**
IOSP	**Ios island**	**1.97**	**314**	P	**Pn**	**00 35 23.9**	**+1.2**
IOSP				S	**Sn**	**00 35 46.2**	**-0.2**
	comp=E,43μm,0.5s						
IOSP	**Ios island**	**1.97**	**314**	P	**Pn**	**00 35 23.9**	**+1.2**
IOSP				S	**Sn**	**00 35 46.3**	**-0.2**
TURN	**Turunc**	**1.97**	**39**	PN	**Pn**	**00 35 20.7**	**-2.0**
TURN	**Turunc**	**1.97**	**39**	⇓*i*P	**Pn**	**00 35 20.6**	**-2.0**
TURN				*i* S	**Sn**	**00 35 40.8**	**-5.6**
YER	**Yerkesik**	**2.03**	**29**	P	**Pn**	**00 35 25.4**	**+1.8**
YER				S	**Sn**	**00 35 49.3**	**+1.2**
YER	**Yerkesik**	**2.03**	**29**	PN	**Pn**	**00 35 25.3**	**+1.7**
YER				SN	**Sn**	**00 35 49.0**	**+0.9**
YER	**Yerkesik**	**2.03**	**29**	P	**Pn**	**00 35 25.4**	**+1.8**
YER				S	**Sn**	**00 35 49.3**	**+1.2**
PRNS	**Prines Rethymn**	**2.08**	**271**	P	**Pn**	**00 35 26.5**	**+2.4**
FETY	**Fethiye**	**2.09**	**52**	P	**Pn**	**00 35 25.2**	**+0.9**
FETY				S	**Sn**	**00 35 50.3**	**+0.9**
FETY	**Fethiye**	**2.09**	**52**	PN	**Pn**	**00 35 25.2**	**+0.9**
FETY	**Fethiye**	**2.09**	**52**	⇓*i*P	**Pn**	**00 35 25.1**	**+0.8**
FETY				*i* S	**Sn**	**00 35 49.2**	**-0.1**
APE	**Apeiranthos**	**2.10**	**325**	P	**Pn**	**00 35 25.7**	**+1.2**
APE				S	**Sn**	**00 35 49.6**	**-0.1**
	comp=E,15μm,0.2s						
APE	**Apeiranthos**	**2.10**	**325**	P	**Pn**	**00 35 25.5**	**+1.1**
APE				S	**Sn**	**00 35 49.7**	**+0.1**
APE				AML	AML	00 35 51.2	
	comp=E,32916μm,0.3s						
APE				AML	AML	00 35 51.2	
	comp=N,31061μm,0.2s						
APE	**Apeiranthos**	**2.10**	**325**	⇓P	**Pn**	**00 35 25.4**	**+0.9**
APE				⇑S	**Sn**	**00 35 49.6**	**-0.1**
APE	**Apeiranthos**	**2.10**	**325**	PN	**Pn**	**00 35 25.9**	**+1.4**
APE	**Apeiranthos**	**2.10**	**325**	*i* P	**Pn**	**00 35 25.7**	**+1.2**
APE				*i* S	**Sn**	**00 35 47.1**	**-2.5**
APE	**Apeiranthos**	**2.10**	**325**	*c i*P	**Pn**	**00 35 25.6**	**+1.1**
KSL	**Kastellorizon**	**2.21**	**68**	P	**Pn**	**00 35 27.0**	**+1.0**
KSL				S	**Sn**	**00 35 54.6**	**+2.3**
	comp=N,7μm,0.5s						
KSL	**Kastellorizon**	**2.21**	**68**	P	**Pn**	**00 35 27.0**	**+1.0**
KSL				AML	AML	00 35 56.5	
	comp=E,18534μm,0.4s						
KSL				AML	AML	00 35 56.8	
	comp=N,10240μm,0.6s						
KSL	**Kastellorizon**	**2.21**	**68**	P	**Pn**	**00 35 27.0**	**+1.0**
KSL				S	**Sn**	**00 35 51.9**	**-0.4**
KSL				AML	AML	00 35 54.2	
	comp=N,19nm,0.3s						
KSL				AML	AML	00 35 54.2	
	comp=N,19nm,0.3s						
KSL				AML	AML	00 35 56.5	
	comp=N,10nm,0.6s						
KSL				AML	AML	00 35 56.5	
	comp=N,10nm,0.6s						
AKAS	**Kas**	**2.26**	**67**	PN	**Pn**	**00 35 27.9**	**+1.2**
AKAS	**Kas**	**2.26**	**67**	⇓*i*P	**Pn**	**00 35 27.8**	**+1.1**
AKAS				*i* S	**Sn**	**00 35 53.5**	**-0.1**
AKAS				IAML		00 35 58.0	
	comp=E,4μm,0.7s						
AKAS				IAML		00 36 04.0	
	comp=N,3μm,0.5s						
VAM	**Vamos**	**2.32**	**272**	P	**Pn**	**00 35 28.0**	**+0.5**
VAM	**Vamos**	**2.32**	**272**	P	**Pn**	**00 35 28.4**	**+0.8**
VAM				AML	AML	00 36 01.1	
	comp=E,19592μm,0.8s						
VAM				AML	AML	00 36 01.5	
	comp=N,16204μm,0.4s						
VAM	**Vamos**	**2.32**	**272**	P	**Pn**	**00 35 28.3**	**+0.8**
GCAM	**G?zelcaml?**	**2.34**	**4**	PN	**Pn**	**00 35 29.6**	**+1.9**
GCAM	**G?zelcaml?**	**2.34**	**4**	⇑*i*P	**Pn**	**00 35 29.6**	**+1.9**
GCAM				*i* S	**Sn**	**00 35 56.8**	**+1.4**
SMG	**Samos**	**2.35**	**356**	P	**Pn**	**00 35 29.2**	**+1.4**
SMG				S	**Sn**	**00 35 56.4**	**+0.7**
	comp=N,7μm,0.5s						
SMG	**Samos**	**2.35**	**356**	P	**Pn**	**00 35 29.0**	**+1.2**
SMG				AML	AML	00 35 57.4	
	comp=N,10724μm,0.4s						
SMG				AML	AML	00 35 57.5	
	comp=E,18968μm,0.5s						
CHAN	**Chania**	**2.46**	**275**	P	**Pn**	**00 35 30.3**	**+1.0**
GVD	**Gavdhos**	**2.48**	**259**	P	**Pn**	**00 35 30.8**	**+1.2**
GVD	**Gavdhos**	**2.48**	**259**	P	**Pn**	**00 35 31.4**	**+1.8**
GVD				AML	AML	00 36 06.3	
	comp=N,22460μm,0.3s						
GVD				AML	AML	00 36 07.9	
	comp=E,15952μm,0.3s						
GVD	**Gavdhos**	**2.48**	**259**	PN	**Pn**	**00 35 32.0**	**+2.4**
IMMV	**Iera Moni Meta**	**2.50**	**273**	P	**Pn**	**00 35 31.7**	**+1.8**
IMMV	**Iera Moni Meta**	**2.50**	**273**	P	**Pn**	**00 35 31.3**	**+1.3**
IMMV	**Iera Moni Meta**	**2.50**	**273**	PN	**Pn**	**00 35 32.2**	**+2.3**
MHLO	**Agia Marina, M**	**2.52**	**303**	P	**Pn**	**00 35 32.4**	**+2.3**
MHLO	**Agia Marina, M**	**2.52**	**303**	P	**Pn**	**00 35 31.9**	**+1.8**
MHLO				AML	AML	00 36 02.9	
	comp=N,29517μm,0.4s						
MHLO				AML	AML	00 36 07.1	
	comp=E,28225μm,0.8s						
MHLA	**Plaka, Milos I**	**2.53**	**304**	P	**Pn**	**00 35 32.2**	**+1.8**
MHLA				AML	AML	00 36 11.1	
	comp=E,10512μm,0.7s						
MHLA				AML	AML	00 36 11.6	
	comp=N,13571μm,0.8s						
TAVA	**DENIZLI_Tavas**	**2.58**	**35**	⇓*i*P	**Pn**	**00 35 32.5**	**+1.4**
TAVA				*i* S	**Sn**	**00 36 02.0**	**+0.4**
TNSA	**Tinos**	**2.65**	**326**	P	**Pn**	**00 35 33.4**	**+1.5**
TNSA				S	**Sn**	**00 36 02.5**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**2.67**	**15**	PN	**Pn**	**00 35 33.9**	**+1.6**
DGB	**zmir**	**2.69**	**357**	⇑*i*P	**Pn**	**00 35 34.0**	**+1.6**
DGB				*i* S	**Sn**	**00 36 03.4**	**-0.4**
RODP	**Rodopos**	**2.69**	**275**	P	**Pn**	**00 35 34.2**	**+1.7**
ELL	**Elmali**	**2.70**	**58**	PN	**Pn**	**00 35 34.9**	**+2.2**
ELL	**Elmali**	**2.70**	**58**	P	**Pn**	**00 35 34.6**	**+1.8**
ELL	**Elmali**	**2.70**	**58**	Pn	**Pn**	**00 35 34.6**	**+1.8**
SERI	**Serifos**	**2.74**	**312**	P	**Pn**	**00 35 34.7**	**+1.6**
SERI	**Serifos**	**2.74**	**312**	P	**Pn**	**00 35 34.4**	**+1.3**
KNDR	**Palaiochora Ch**	**2.75**	**268**	P	**Pn**	**00 35 36.1**	**+2.9**
KNDR	**Palaiochora Ch**	**2.75**	**268**	PN	**Pn**	**00 35 36.2**	**+3.0**
GOLH	**Golhisar**	**2.76**	**47**	⇓*i*P	**Pn**	**00 35 35.6**	**+2.0**
GOLH				*i* S	**Sn**	**00 36 07.2**	**+1.3**
AKUM	**Antalya-Kumluc**	**2.85**	**69**	⇓*i*P	**Pn**	**00 35 35.5**	**+1.0**
AKUM				*i* S	**Sn**	**00 36 07.0**	**-0.8**
AKUM				IAML		00 36 10.0	
	comp=N,2μm,0.6s						
AKUM				IAML		00 36 13.0	
	comp=E,1μm,0.4s						
URLA	**Izmir**	**3.01**	**353**	PN	**Pn**	**00 35 38.3**	**+1.4**
URLA	**Izmir**	**3.01**	**353**	⇑*i*P	**Pn**	**00 35 38.3**	**+1.4**
URLA				*i* S	**Sn**	**00 36 13.0**	**+1.1**
BLCB	**Balcova**	**3.02**	**360**	P	**Pn**	**00 35 38.6**	**+1.7**
BLCB	**Balcova**	**3.02**	**360**	PN	**Pn**	**00 35 38.7**	**+1.8**
ANKY	**Antikythira Is**	**3.09**	**280**	P	**Pn**	**00 35 38.8**	**+0.9**
ANKY	**Antikythira Is**	**3.09**	**280**	P	**Pn**	**00 35 38.8**	**+0.9**
KEMT	**Kemer-ANTALYA**	**3.11**	**65**	PN	**Pn**	**00 35 40.4**	**+2.3**
CHOS	**Chios island**	**3.12**	**346**	P	**Pn**	**00 35 39.4**	**+1.0**
CHOS	**Chios island**	**3.12**	**346**	P	**Pn**	**00 35 39.1**	**+0.7**
CHOS	**Chios island**	**3.12**	**346**	PN	**Pn**	**00 35 39.9**	**+1.5**
KORT	**Korkueli**	**3.13**	**58**	PN	**Pn**	**00 35 41.6**	**+2.9**
KORT	**Korkueli**	**3.13**	**58**	⇓*i*P	**Pn**	**00 35 41.6**	**+2.9**
KORT				*i* S	**Sn**	**00 36 17.9**	**+2.9**
KRBN	**Karaburun**	**3.25**	**353**	PN	**Pn**	**00 35 42.1**	**+2.0**
ANTB	**Antalya**	**3.30**	**61**	PN	**Pn**	**00 35 43.2**	**+2.5**
MANT	**Manisa**	**3.35**	**21**	*i* P	**Pn**	**00 35 43.0**	**+1.3**
MANT				*i* S	**Sn**	**00 36 18.2**	**-2.1**
MANT	**Manisa**	**3.35**	**21**	Pn	**Pn**	**00 35 43.2**	**+1.6**
KTHA	**Kythira Island**	**3.36**	**287**	P	**Pn**	**00 35 42.3**	**+0.8**
KTHA	**Kythira Island**	**3.36**	**287**	P	**Pn**	**00 35 42.5**	**+1.0**
KTHA				AML	AML	00 36 23.7	
	comp=E,15883μm,0.3s						
KTHA				AML	AML	00 36 25.0	
	comp=N,8973μm,0.4s						
BRDR	**BURDUR-Merkez**	**3.37**	**45**	⇓*i*P	**Pn**	**00 35 42.9**	**+1.1**
BRDR				*i* S	**Sn**	**00 36 21.1**	**+0.5**
PSRA	**Psara**	**3.39**	**340**	P	**Pn**	**00 35 44.1**	**+2.2**
KARY	**Karystos**	**3.39**	**323**	P	**Pn**	**00 35 44.0**	**+2.0**
KULA	**Kula-Manisa**	**3.40**	**22**	P	**Pn**	**00 35 43.5**	**+1.3**
MNVA	**Monemvasia**	**3.51**	**293**	P	**Pn**	**00 35 44.9**	**+1.4**
MNVA				AML	AML	00 36 25.0	
	comp=N,9262μm,0.4s						
MNVA				AML	AML	00 36 25.8	
	comp=E,11780μm,0.4s						
AKHS	**Akhisar**	**3.56**	**10**	⇑*i*P	**Pn**	**00 35 45.6**	**+1.2**
AKHS				*i* S	**Sn**	**00 36 26.1**	**+0.8**
AKHS				IAML		00 36 27.0	
	comp=E,544nm,0.9s						
KHAL	**Karahalli**	**3.59**	**32**	⇓*i*P	**Pn**	**00 35 45.6**	**+0.9**
KHAL				*i* S	**Sn**	**00 36 24.0**	**-2.0**
VLI	**Veliai**	**3.59**	**293**	P	**Pn**	**00 35 45.8**	**+1.0**
VLI	**Veliai**	**3.59**	**293**	P	**Pn**	**00 35 45.7**	**+1.0**
ZEDA	**zmir-Bergama**	**3.60**	**0**	*i* P	**Pn**	**00 35 46.6**	**+1.8**
ZEDA				*i* S	**Sn**	**00 36 26.7**	**+0.6**
VLY	**Voula,Athens**	**3.61**	**315**	P	**Pn**	**00 35 47.1**	**+2.1**
DION	**Dionisos Attik**	**3.69**	**318**	P	**Pn**	**00 35 48.5**	**+2.5**
DION				AML	AML	00 36 28.7	
	comp=E,5652μm,0.5s						
DION				AML	AML	00 36 29.9	
	comp=N,10582μm,0.6s						
ATHU	**Athens Univers**	**3.69**	**316**	P	**Pn**	**00 35 48.5**	**+2.4**
USAK	**Uak-Merkez**	**3.70**	**25**	⇓*i*P	**Pn**	**00 35 47.5**	**+1.2**
USAK				*i* S	**Sn**	**00 36 27.6**	**-1.1**
PTL	**Penteli**	**3.70**	**317**	P	**Pn**	**00 35 48.6**	**+2.4**
ISP	**Isparta**	**3.72**	**48**	P	**Pn**	**00 35 46.9**	**+0.3**
ISP	**Isparta**	**3.72**	**48**	Pn	**Pn**	**00 35 47.0**	**+0.3**
ISP	**Isparta**	**3.72**	**48**	Pn	**Pn**	**00 35 46.9**	**+0.3**
ATH	**Athens Observa**	**3.73**	**315**	P	**Pn**	**00 35 49.2**	**+2.6**
ATH				AML	AML	00 36 30.1	
	comp=E,5932μm,0.7s						
ATH				AML	AML	00 36 32.7	
	comp=N,4632μm,0.6s						
KRND	**KRANIDI**	**3.73**	**304**	P	**Pn**	**00 35 48.9**	**+2.2**
KRND	**KRANIDI**	**3.73**	**304**	P	**Pn**	**00 35 48.8**	**+2.2**
DID	**Didima**	**3.74**	**306**	P	**Pn**	**00 35 48.8**	**+2.0**
DID	**Didima**	**3.74**	**306**	P	**Pn**	**00 35 48.8**	**+2.0**
DEMI	**Demirci**	**3.91**	**19**	⇑*i*P	**Pn**	**00 35 50.5**	**+1.3**
DEMI				*i* S	**Sn**	**00 36 33.5**	**-0.4**
PRK	**Paraskevi**	**3.93**	**351**	P	**Pn**	**00 35 51.8**	**+2.5**
PRK	**Paraskevi**	**3.93**	**351**	P	**Pn**	**00 35 51.7**	**+2.5**
AYVA	**Ayvalik**	**3.95**	**356**	*i* P	**Pn**	**00 35 51.2**	**+1.6**
AYVA				*i* S	**Sn**	**00 36 38.1**	**+3.5**
SIGR	**SIGRI**	**3.96**	**347**	P	**Pn**	**00 35 51.1**	**+1.4**
SIGR	**SIGRI**	**3.96**	**347**	P	**Pn**	**00 35 51.1**	**+1.4**
OSC1	**CSNet OBS 1**	**3.96**	**117**	P	**Pn**	**00 35 47.7**	**-2.1**
OSC1				S	**Sn**	**00 36 30.2**	**-4.8**
BAGO	**Egridir - ISPA**	**3.99**	**48**	⇓*i*P	**Pn**	**00 35 50.9**	**+0.6**
BAGO				*i* S	**Sn**	**00 36 35.9**	**0.0**
KEPZ	**Antalya-Kepez**	**4.00**	**66**	⇓*i*P	**Pn**	**00 35 51.5**	**+1.2**
KEPZ				*i* S	**Sn**	**00 36 35.9**	**0.0**
MATC	**Matruh**	**4.01**	**178**	P	**Pn**	**00 35 50.7**	**+0.3**
	baz=182						
MATC				AMP		00 36 00.0	
	baz=182						
MATC				S	**Sn**	**00 36 31.3**	**-4.9**
	baz=182						
KYMI	**Kymi, Euboea I**	**4.03**	**325**	P	**Pn**	**00 35 52.8**	**+2.1**
SKY	**Skiros Island**	**4.04**	**331**	P	**Pn**	**00 35 53.1**	**+2.3**
STEP	**BALIKESIR_Sava**	**4.04**	**7**	*i* P	**Pn**	**00 35 52.3**	**+1.3**
STEP				*i* S	**Sn**	**00 36 37.5**	**+0.5**
VIL2	**Platees**	**4.16**	**314**	P	**Pn**	**00 35 54.1**	**+1.6**
LOUT	**Loutraki**	**4.19**	**310**	P	**Pn**	**00 35 55.4**	**+2.5**
GDZ	**Gediz**	**4.

SMTH Samothraki Isl 5.24 347 P Pn 00 36 08.4 +1.2
AGG Agios Georgios 5.24 316 P Pn 00 36 09.2 +1.9
AGG Agios Georgios 5.24 316 Pn Pn 00 36 09.2 +1.9
BORA Eskisehir 5.26 30 *i* P Pn 00 36 08.4 +0.9
BORA *i* S Sn 00 37 05.3 -1.5
PAIG Paliouri 5.28 331 P Pn 00 36 09.7 +2.0
PAIG Paliouri 5.28 331 P Pn 00 36 09.6 +1.8
SART Tekirdag 5.32 1 *i* P Pn 00 36 10.1 +1.7
SART *i* S Sn 00 37 04.2 -4.1
HBRG Burj al `Arab 5.32 153 P Pn 00 36 07.6 -0.8
baz=154
HBRG S Sn 00 36 59.8 -8.5
baz=154
GULN MERSIN_Gulnar 5.35 79 *i* P Pn 00 36 08.3 -0.4
GULN *i* S Sn 00 37 03.3 -5.6
MVOU Mavrovouni 5.41 92 P Pn 00 36 08.7 -0.8
AUSIV SIVRIHISAR 5.42 40 *i* P Pn 00 36 10.7 +0.9
AUSIV *i* S Sn 00 37 08.5 -2.3
KESN Edirne-Kesan 5.46 357 *i* P Pn 00 36 11.4 +0.8
KESN *i* S Sn 00 37 09.1 -3.2
SRCK Saricakaya, Es 5.47 30 *i* P Pn 00 36 11.8 +1.5
SRCK *i* S Sn 00 37 10.2 -1.6
THAS Thassos island 5.55 341 P Pn 00 36 12.6 +1.2
ALN Alexandroupoli 5.58 352 P Pn 00 36 13.7 +1.8
ALN Alexandroupoli 5.58 352 P Pn 00 36 13.8 +1.9
ALN Alexandroupoli 5.58 352 Pn Pn 00 36 13.8 +1.9
BUY Buyukada 5.72 16 *i* P Pn 00 36 14.8 +1.1
BUY *i* S Sn 00 37 02.1 -16
PLG Polygyros 5.76 331 P Pn 00 36 16.2 +1.9
KIZK Mersin 5.87 77 *i* P Pn 00 36 16.3 +0.5
ELBA Catalca 5.88 10 *i* P Pn 00 36 17.0 +1.0
ELBA *i* S Sn 00 37 10.1 -12
RDO Rodhopi 5.89 349 P Pn 00 36 18.0 +1.8
ISK Istanbul-Kandi 5.91 15 P Pn 00 36 17.3 +0.9
ORH Orhaniye 5.99 23 *i* P Pn 00 36 45.8 +28
MDUB Mudurnu 6.07 32 Pn Pn 00 36 20.3 +1.7
BTAS Taskesti 6.07 30 *i* P Pn 00 36 20.2 +1.7
KERG Konya-Eregli 6.07 68 *i* P Pn 00 36 19.4 +0.7
THE Thessaloniki 6.17 330 P Pn 00 36 23.6 +3.7
KAND Kocaeli-Kandir 6.24 22 *i* P Pn 00 36 21.9 +1.1
SWA2 6.25 193 P Pn 00 36 20.9 -0.1
baz=196
SAHE Sakarya_HENDEK 6.25 28 *i* P Pn 00 36 22.6 +1.5
AKSY AKSARAY - Alti 6.30 57 *i* P Pn 00 36 22.9 +1.1
AKSY IAML 00 37 31.0
comp=E,60nm,1.3s
KIBS BOLU 6.32 36 *i* P Pn 00 36 23.6 +1.5
BR231 Keskin MP Arra 6.38 44 Pn Pn 00 36 24.4 +1.4
BBAL Bala 6.39 47 *i* P Pn 00 36 23.9 +0.9
KDZ Kurdzhali 6.41 349 *i* P Pn 00 36 25.0 +1.8
ANTO Ankara 6.41 44 P Pn 00 36 24.4 +1.2
ANTO Ankara 6.41 44 Pn Pn 00 36 24.4 +1.2
KIRK Kırklareli 6.41 0 *i* P Pn 00 36 24.5 +1.3
HNAT Natroun 6.46 151 P Pn 00 36 22.4 -1.5
baz=152
RZN Rozhen 6.57 345 *i* P Pn 00 36 28.1 +2.5
YIGI Dzce 6.58 31 *i* P Pn 00 36 26.9 +1.4
KIRS Krehir-Merke 6.65 54 *i* P Pn 00 36 27.4 +0.8
CMDR Camlidere-ANKA 6.68 38 *i* P Pn 00 36 28.5 +1.5
BCAM Yenicaga 6.73 35 *i* P Pn 00 36 29.4 +1.6
MMB Musomiste 6.74 338 *i* P Pn 00 36 29.8 +2.1
IGT Igoumenitsa 6.77 310 P Pn 00 36 28.4 +0.3
IGT pmax pmax
comp=Z,54nm,0.6s
DIM Dimitrovgrad 6.78 350 *i* P Pn 00 36 30.2 +1.9
BR131 Keskin Array S 6.81 48 *d* P Pn 00 36 29.2 +0.3
BR131 Keskin Array S 6.81 48 Pn Pn 00 36 29.1 +0.3
BRTR Keskin Array B 6.81 48 P Pn 00 36 29.4 +0.5
comp=Z,2.4nm,0.3s,baz=213,slow=14,SNR=96
BRTR S Sn 00 37 43.5 -1.5
comp=Z,9.1nm,0.3s,baz=214,slow=26,SNR=12
BRTR Keskin Array B 6.81 48 *i* P Pn 00 36 29.3 +0.5
BRTR pmax pmax
comp=Z,7.0nm,0.3s
BRTR Keskin Array B 6.81 48 Pn Pn 00 36 29.2 +0.3
HHAG Hagoal 6.87 140 P Pn 00 36 27.5 -2.1
baz=141
HHAG AMP 00 37 00.0
baz=141
HHAG S Sn 00 37 39.9 -6.5
baz=141
PLD Plovdiv 6.98 346 *i* P Pn 00 36 33.6 +2.6
PLD Plovdiv 6.98 346 P Pn 00 36 33.5 +2.6
PLD pmax pmax
comp=Z,569nm,0.8s
GLL Jalalah 6.99 144 P Pn 00 36 28.9 -2.2
baz=145
HNTI Hanita 7.11 106 Pn Pn 00 36 30.5 -2.3
HNTI Sn Sn 00 37 45.3 -6.8
BEYL Beirut 7.12 100 *eP* Pn 00 36 30.7 -2.3
DELI KIRIKKALE 7.15 48 *i* P Pn 00 36 33.8 +0.4
KKB Krupnik 7.20 336 *i* P Pn 00 36 36.1 +2.1
CDAG Cicekdag 7.21 52 *i* P Pn 00 36 34.7 +0.4
DORL Deir Qamar 7.23 101 *eP* Pn 00 36 31.6 -2.9
BHL Bhannes 7.25 99 *eP* Pn 00 36 32.0 -2.7
BHL *eS* Sn 00 37 46.6 -9.0
BLGI Bet Lehem HaGe 7.25 109 Pn Pn 00 36 32.3 -2.5
BLGI Sn Sn 00 37 48.5 -7.1
MMAI Mount Meron Ar 7.31 106 P Pn 00 36 32.9 -2.7
comp=Z,41nm,0.3s,baz=295,slow=12,SNR=340
MMAI S Sn 00 37 53.6 -3.6
comp=Z,177nm,0.3s,baz=303,slow=25,SNR=12
MMA0B Mount Meron ar 7.31 106 Pn Pn 00 36 33.0 -2.6
KBUK KARABUK-Merkez 7.33 35 *i* P Pn 00 36 37.0 +1.2
QRWL Qaraoun 7.36 102 *eP* Pn 00 36 33.9 -2.4
STIP Stip 7.38 330 *i* Pn Pn 00 36 38.4 +2.0
HWQ Hawqa 7.40 96 *eP* Pn 00 36 34.5 -2.4
HWQ *eS* Sn 00 37 50.2 -9.3
GEM Giv'at Ha'Em 7.45 104 Pn Pn 00 36 34.9 -2.6
SHBL Chebaa 7.47 103 *eP* Pn 00 36 35.3 -2.6
BTIN Bartın 7.48 32 *i* P Pn 00 36 39.1 +1.4
RCY Rachaya 7.50 102 *eP* Pn 00 36 35.8 -2.5
PGB Panagyurishte 7.52 344 *i* P Pn 00 36 40.4 +2.0
MMLI Mount Malkishu 7.55 110 Pn Pn 00 36 36.2 -2.7
OHR Ohrid 7.55 321 *i* Pn Pn 00 36 42.8 +3.9
KZIT Kziot 7.60 124 Pn Pn 00 36 36.8 -2.7
KZIT Sn Sn 00 37 56.7 -7.5
AMAZ Amatzia 7.61 118 Pn Pn 00 36 37.3 -2.3
AMAZ Sn Sn 00 37 57.4 -6.9
ELND Elena 7.61 354 ⇑P Pn 00 36 41.7 +2.1
NBNS Bani Suef 7.63 151 AMP 00 38 00.0
baz=151
PELI Kastamonı-Ara 7.71 38 *i* P Pn 00 36 42.6 +1.6
HMDT Nahal Hemdat 7.71 111 Pn Pn 00 36 38.6 -2.4
HMDT Sn Sn 00 37 59.8 -7.0
ILGA Ilgaz 7.74 41 Pn Pn 00 36 42.1 +0.6
VTS Vitosha 7.83 339 ⇑P Pn 00 36 44.8 +2.1
VTS ⇑S Sn 00 38 11.6 +1.8
VTS Vitosha 7.83 339 *i* P Pn 00 36 44.9 +2.2
VTS Vitosha 7.83 339 P Pn 00 36 44.4 +1.7
VTS Vitosha 7.83 339 Pn 00 36 44.4 +1.7
PRD Provadia 7.83 2 *i* P Pn 00 36 44.4 +1.8
SKO Skopje 7.92 328 *i* Pn Pn 00 36 47.9 +4.0
DSI Dead Sea 7.92 116 Pn Pn 00 36 41.9 -2.1
DSI Sn Sn 00 38 05.2 -6.9
DAMI2 DAM2 8.18 118 Pn Pn 00 36 45.6 -1.8
GHAJ Ghor Haditha 8.20 117 Pn Pn 00 36 46.3 -1.4
GHAJ Sn Sn 00 38 11.7 -7.1
RAZG Razgrad 8.20 357 ⇓P Pn 00 36 50.3 +2.6
TIR Tirane 8.21 319 ⇓P Pn 00 36 49.7 +1.9
TIR Tirane 8.21 319 P Pn 00 36 49.7 +1.9
TIR Tirane 8.21 319 Pn Pn 00 36 49.7 +1.9
PLVB Pleven 8.23 348 ⇑P Pn 00 36 50.1 +2.1
HFRF Wahat Farafira 8.26 172 P Pn 00 36 47.1 -1.5
baz=173
HFRF S Sn 00 38 12.1 -8.2
baz=173
SCTE Santa Cesarea 8.26 307 Pn Pn 00 36 47.2 -1.3
KRMI Paran Flat 8.32 127 Pn Pn 00 36 46.7 -2.7
KARJ KARJ 8.36 118 Pn Pn 00 36 40.6 -9.3
MPEP Malo Peshtene 8.38 343 *i* P Pn 00 36 51.7 +1.6
ZIMR 8.38 352 ⇓P Pn 00 36 52.4 +2.3
GAZ Gaziantep 8.41 75 Pn Pn 00 36 49.7 -0.9
HRFI Mount Harif 8.57 126 Pn Pn 00 36 50.5 -2.4
MBRI Mt Berech 8.65 128 Pn Pn 00 36 51.8 -2.2
EIL Elat 8.76 128 P Pn 00 36 52.7 -2.7
comp=Z,5.3nm,0.3s,baz=311,slow=2.9,SNR=149
EIL S Sn 00 38 23.7 -8.9
comp=Z,47nm,0.3s,baz=262,slow=19,SNR=15
EIL Elat 8.76 128 Pn Pn 00 36 53.1 -2.3
ICOR Ion Corvin 8.76 4 ⇓P Pn 00 36 57.3 +2.0

AQBJ Aqaba 8.79 128 Pn Pn 00 36 53.6 -2.1
ASF Jabal al Asfar 8.80 108 P Pn 00 36 54.3 -1.7
comp=Z,2.2nm,0.3s,baz=240,slow=8.5,SNR=26
ASF S Sn 00 38 30.5 -3.1
comp=Z,7.6nm,0.3s,baz=346,slow=13,SNR=3.2
RASA Rasa 8.84 0 ⇑S Sn 00 38 36.1 +1.7
RASA Rasa 8.84 0 ⇑P Pn 00 36 58.4 +2.0
VLAD Vladila 8.86 348 ⇑P Pn 00 36 58.1 +1.4
MFTR Murfatlar 8.87 6 ⇑P Pn 00 36 57.8 +1.1
COPA Copaceanca 8.87 351 ⇑P Pn 00 36 58.3 +1.4
SGRR Singureni 8.89 355 ⇑P Pn 00 36 59.2 +2.2
HBST Basata 8.94 131 P Pn 00 36 56.1 -1.7
baz=131
ULC Ulcinj 8.98 320 ⇓*i*Pn Pn 00 36 57.9 -0.4
ULC *i* Sn Sn 00 38 33.8 -4.0
TIP Timpagrande 9.04 298 Pn Pn 00 36 58.0 -1.2
PVY Plav 9.08 325 ⇑*i*Pn Pn 00 37 01.0 +1.1
PVY *i* Sn Sn 00 38 37.6 -2.9
BAIL Bailesti 9.10 343 ⇓P Pn 00 37 01.5 +1.6
TIRR Tirgusor 9.15 6 ⇑P Pn 00 37 01.5 +1.0
TIRR Tirgusor 9.15 6 ⇑P Pn 00 37 01.5 +1.0
TIRR Tirgusor 9.15 6 P Pn 00 37 00.6 +0.1
TIRR Tirgusor 9.15 6 Pn Pn 00 37 00.6 +0.1
DRME Dracevica, Mon 9.17 320 ⇑*i*Pn Pn 00 37 00.3 -0.6
DRME *i* Sn Sn 00 38 38.9 -3.5
DRME Dracevica, Mon 9.17 320 *e*Pn Pn 00 37 00.3 -0.6
TLBR Topalu 9.20 4 ⇓P Pn 00 37 02.4 +1.1
TAR1 Taranto 9.27 307 ⇓*i*Pn Pn 00 37 00.7 +1.6
TAR1 S Sn 00 38 35.8 -9.1
HUMR Humele 9.29 351 ⇑P Pn 00 37 03.7 +1.2
PDG Podgorica 9.30 322 Pn Pn 00 37 02.6 -0.1
PDG Podgorica 9.30 322 *e*Pn Pn 00 37 02.1 -0.7
TTG Podgorica 9.30 322 ⇑*i*Pn Pn 00 37 02.0 -0.7
TTG *i* Sn Sn 00 38 42.5 -3.2
IVA Berane 9.33 326 ⇑*i*Pn Pn 00 37 04.4 +1.2
IVA *i* Sn Sn 00 38 43.7 -2.8
HARR Harsova 9.34 4 ⇑P Pn 00 37 04.4 +1.1
HARR Harsova 9.34 4 P Pn 00 37 04.3 +1.1
BUM Brajici-Budva 9.40 320 ⇑*i*Pn Pn 00 37 04.7 +0.6
BUM *i* Sn Sn 00 38 44.1 -4.1
KOME Kolasin 9.49 324 ⇓*i*Pn Pn 00 37 06.1 +0.7
KOME *i* Sn Sn 00 38 47.4 -3.0
TOPG Topolog 9.56 6 ⇑P Pn 00 37 06.9 +0.7
CEME Cevo 9.56 321 ⇓*i*Pn Pn 00 37 05.3 -1.0
CEME *i* Sn Sn 00 38 47.9 -4.2
SECR 9.69 356 ⇑P Pn 00 37 09.8 +1.8
NKME Niksic 9.70 322 ⇓*i*Pn Pn 00 37 08.0 -0.2
NKME *i* Sn Sn 00 38 52.1 -3.5
HCY Herceg Novi 9.71 319 ⇑*i*Pn Pn 00 37 08.0 -0.3
HCY *i* Sn Sn 00 38 49.8 -5.9
HCY Herceg Novi 9.71 319 *e*Pn Pn 00 37 06.8 -1.5
ISR Istrita 9.75 358 ⇓P Pn 00 37 10.7 +1.8
ISR Istrita 9.75 358 P Pn 00 37 11.3 +2.4
ISR pmax pmax
comp=Z,77nm,0.9s
BAI Bari 9.84 309 *eP* Pn 00 37 08.4 -1.6
BAI S Sn 00 38 49.1 -10
CFR Carcaliu 9.84 5 ⇑P Pn 00 37 10.5 +0.4
CFR Carcaliu 9.84 5 P Pn 00 37 10.4 +0.4
CFR pmax pmax
comp=Z,18nm,0.6s
TLCR 9.91 7 ⇑P Pn 00 37 11.8 +0.9
TLCR 9.91 7 P Pn 00 37 11.8 +0.9
PLE Pljevlja 9.92 326 ⇑*i*Pn Pn 00 37 11.9 +0.7
PLE *i* Sn Sn 00 38 57.6 -3.3
MTUR Matau 9.97 352 ⇑P Pn 00 37 13.5 +1.7
MTUR Matau 9.97 352 P Pn 00 37 13.5 +1.7
TREB Trebinje 9.98 320 *e*Pn Pn 00 37 09.7 -2.2
HDK1 Dakhla 10.00 168 P Pn 00 37 11.0 -1.3
baz=169
BRY Bratogost 10.01 321 ⇓*i*Pn Pn 00 37 12.6 +0.1
BRY *i* Sn Sn 00 38 59.1 -4.1
BRY Bratogost 10.01 321 *e*Pn Pn 00 37 11.7 -0.8
UPM Unac-Piva 10.05 324 ⇑*i*Pn Pn 00 37 13.0 -0.1
UPM *i* Sn Sn 00 39 00.1 -4.1
UPM Unac-Piva 10.05 324 *e*Pn Pn 00 37 12.9 -0.1
DBRK Dubrovnik 10.05 319 Sn Sn 00 38 53.0 -11
NEHR Nehoiu 10.07 357 ⇓P Pn 00 37 15.7 +2.5
HERR Herculane 10.14 341 ⇑P Pn 00 37 14.4 +0.3
RUDO Rudo 10.15 327 *e*Pn Pn 00 37 14.3 0.0
MLR Muntele Rosu 10.15 356 P Pn 00 37 15.8 +1.4
comp=Z,1.0nm,0.3s,baz=210,slow=2.9,SNR=38
MLR S Sn 00 39 07.1 +0.5
comp=Z,0.3nm,0.3s,baz=276,slow=20,SNR=2.3
MLR LR LR 00 41 37.4
comp=Z,255nm,20.4s,baz=122,slow=40
MLR Muntele Rosu 10.15 356 ⇑P Pn 00 37 16.5 +2.1
MLR Muntele Rosu 10.15 356 Pn Pn 00 37 14.9 +0.5
ARR Arges 10.16 350 ⇓P Pn 00 37 15.9 +1.4
VOIR 10.18 352 ⇑P Pn 00 37 15.9 +1.2
VOIR 10.18 352 P Pn 00 37 15.9 +1.2
VOIR pmax pmax
comp=Z,23nm,0.7s
WDD Wied Dalam 10.21 276 Pn Pn 00 37 13.0 -2.1
MDVR Moldovita 10.25 338 ⇑P Pn 00 37 16.9 +1.2
DIVS Divibare 10.27 330 Pn Pn 00 37 16.8 +0.8
DIVS Divibare 10.27 330 *e*Pn Pn 00 37 17.4 +1.4
BBLS Lazići 10.33 328 *e*Pn Pn 00 37 17.9 +1.1
LOT Lotru 10.38 347 ⇓P Pn 00 37 17.8 +0.4
ODBI Odobesti 10.39 0 ⇓P Pn 00 37 20.5 +3.0
VAE Valguarnera 10.40 285 P Pn 00 37 16.9 -0.9
comp=Z,19nm,0.3s,baz=157,slow=5.5,SNR=99
VAE S Sn 00 39 04.7 -7.9
comp=Z,34nm,0.3s,baz=247,slow=4.8,SNR=7.8
STON Ston 10.43 319 Sn Sn 00 39 01.5 -12
STON Ston 10.43 319 *e*Pn Pn 00 37 15.4 -2.7
PLOR Plostina 10.48 358 ⇑P Pn 00 37 20.5 +1.7
PLOR Plostina 10.48 358 P Pn 00 37 20.5 +1.7
VRI Vrincioaia 10.50 359 ⇑P Pn 00 37 20.6 +1.6
VRI Vrincioaia 10.50 359 P Pn 00 37 21.3 +2.3
VRI pmax pmax
comp=Z,41nm,0.8s
GZR Gura Zlata 10.53 343 ⇑P Pn 00 37 20.0 +0.4
VARL Varlezi 10.54 3 ⇑P Pn 00 37 21.5 +1.3
DOPR Dopca 10.67 354 ⇑P Pn 00 37 22.6 +1.3
GHRR 10.69 1 ⇑P Pn 00 37 24.5 +2.9
OZUR 10.77 355 ⇓P Pn 00 37 24.2 +1.6
TEKS Tekeris 10.83 330 *e*Pn Pn 00 37 24.5 +0.9
MDB Medias 10.96 350 ⇑P Pn 00 37 27.7 +2.5
DEV Deva 10.97 345 ⇑P Pn 00 37 26.7 +1.3
DEV Deva 10.97 345 P Pn 00 37 27.7 +2.3
DEV pmax pmax
comp=Z,37nm,0.8s
BZS Buzias 11.04 340 ⇓P Pn 00 37 27.4 +0.9
MAKA Makarska 11.08 319 *e*Pn Pn 00 37 25.5 -1.4
MAKA Sn Sn 00 39 18.2 -11
TESR Tescani 11.14 359 ⇑P Pn 00 37 27.9 +0.1
FRGS Fruska Gora 11.23 333 *e*Pn Pn 00 37 29.6 +0.6
CORL Corleone 11.33 287 Pn Pn 00 37 29.6 -0.5
BIZ Bicaz 11.59 357 ⇓P Pn 00 37 30.5 +1.7
MILM Milestii Mici 11.62 6 ⇑P Pn 00 37 35.1 +0.8
SIRR Siria 11.63 341 ⇓P Pn 00 37 35.3 +0.8
IAS Iasi 11.83 2 P Pn 00 37 37.2 +0.1
IAS pmax pmax
comp=Z,11nm,0.6s
DRGR 11.87 345 ⇑P Pn 00 37 39.2 +1.4
DRGR 11.87 345 P Pn 00 37 39.1 +1.3
DRGR pmax pmax
comp=Z,14nm,0.7s
ARCR ARCALIA 11.88 351 ⇑P Pn 00 37 38.0 +0.1
BLY Banja Luka 12.03 324 *e*Pn Pn 00 37 38.9 -1.0
ZIRJ Zirje 12.08 317 *e*Pn Pn 00 37 39.0 -1.5
ZIRJ Sn Sn 00 39 42.5 -11
MORI Morici 12.18 318 *e*Pn Pn 00 37 39.6 -2.3
MORI Sn Sn 00 39 45.6 -10
INTR Introdacqua 12.22 307 Pn Pn 00 37 41.7 -0.9
BURAR Bucovina Array 12.32 354 ⇑P Pn 00 37 45.0 +1.1
BURAR Bucovina Array 12.32 354 Pn 00 37 43.5 -0.4
PRIJ Prijedor 12.42 324 *e*Pn Pn 00 37 45.3 +0.1
MORH Mrgy, Hungar 12.56 332 *e*Pn Pn 00 37 46.0 -1.1
UDBI Udbina 12.59 320 *e*Pn Pn 00 37 47.1 -0.5
UDBI Sn Sn 00 39 56.4 -9.4
DUGI Dugi Otok 12.62 317 *e*Pn Pn 00 37 45.7 -2.2
DUGI Sn Sn 00 39 56.9 -10
AQU L'Aquila 12.71 307 P Pn 00 37 48.8 -0.5
AQU L'Aquila 12.71 307 Pn Pn 00 37 48.8 -0.5
AQU L'Aquila 12.71 307 *e*Pn Pn 00 37 49.1 -0.1
SOC Sochi 12.77 46 *eP* Pn 00 37 50.5 +0.6
SOC *e* 00 40 11.0
SOC pmax pmax
comp=Z,32nm,0.8s

SORM Soroca 12.80 4 ⇑P Pn 00 37 50.5 +0.2
SORM Soroca 12.80 4 P Pn 00 37 50.5 +0.2
MOSL Moslavina 12.88 326 *e*Pn Pn 00 37 49.1 -2.4
MOSL Sn Sn 00 40 04.5 -8.4
KSV Kosov 13.03 354 P Pn 00 37 53.6 +0.2
NVLJ Novalja 13.09 318 *e*Pn Pn 00 37 53.1 -1.1
NVLJ Sn Sn 00 40 06.5 -11
TRPA Tarpa 13.19 347 ⇓P Pn 00 37 56.1 +0.6
KMPD K-Podol'skiy 13.20 358 P Pn 00 37 55.0 -0.7
ZAG Zagreb 13.40 325 P Pn 00 38 01.4 +3.0
ZAG Zagreb 13.40 325 *e*Pn Pn 00 38 00.0 +1.6
KALN Kalnik 13.41 327 *e*Pn Pn 00 37 57.0 -1.6
KALN Sn Sn 00 40 18.9 -6.9
PTJ Puntijarka 13.46 325 *e*Pn Pn 00 37 57.0 -2.4
BOJS Bojanci 13.52 322 *e*Pn Pn 00 37 58.5 -1.6
BOJS *e*Sn Sn 00 40 18.2 -10
comp=Z,24nm,0.5s
BEHE Becsehely 13.53 328 *e*Pn Pn 00 38 03.0 +2.9
PSZ Piszkesteto 13.63 339 ⇓P Pn 00 38 02.4 +0.9
PSZ Piszkesteto 13.63 339 P Pn 00 38 01.1 -0.4
PSZ Piszkesteto 13.63 339 Pn Pn 00 38 01.1 -0.4
CRES Cresnjev 13.65 323 *e*Pn Pn 00 37 59.1 -2.6
UZH Uzhgorod 13.72 347 *e*P Pn 00 38 02.0 -0.6
UZH *e*S Sn 00 40 33.0 -0.2
MURB Monte Urbino 13.72 309 Pn Pn 00 38 02.8 0.0
BRJN Brijuni 13.92 317 *e*Pn Pn 00 38 05.3 0.0
BRJN Sn Sn 00 40 26.5 -12
MORS Morshin 13.96 351 P Pn 00 38 07.9 +2.2
SRO2 Moca 13.97 335 *e*P Pn 00 38 06.9 +1.0
SRO2 *e* 00 40 45.4
SRO2 Moca 13.97 335 *e*PN Pn 00 38 06.9 +1.0
SRO2 Moca 13.97 335 *e*SN Sn 00 40 45.4 +6.2
KOLS Kolonicke sedl 14.01 347 *e*P Pn 00 38 07.5 +1.0
KOLS Kolonicke sedl 14.01 347 *e*PN Pn 00 38 07.5 +1.0
CRVS Cervenica-Dubn 14.14 345 *e*P Pn 00 38 09.2 +1.0
CRVS Cervenica-Dubn 14.14 345 *e*PN Pn 00 38 09.2 +1.0
AKH Akhalkalaki 14.24 60 ⇑P Pn 00 38 09.9 +0.3
AKH Akhalkalaki 14.24 60 P Pn 00 38 10.3 +0.6
AKH Akhalkalaki 14.24 60 Pn 00 38 10.3 +0.6
LJU Ljubljana 14.26 322 *e*Pn Pn 00 38 08.9 -0.9
KEST Kesra 14.42 277 P Pn 00 38 10.8 -1.2
comp=Z,1.0nm,0.3s,baz=58,slow=10,SNR=22
KEST S Sn 00 40 40.8 -10
comp=Z,1.1nm,0.3s,baz=91,slow=24,SNR=7.2
KEST Kesra 14.42 277 Pn Pn 00 38 11.9 0.0
TRI Trieste 14.43 320 P Pn 00 38 10.8 -1.1
TRI Trieste 14.43 320 Pn Pn 00 38 10.8 -1.1
VYHS Vyhne 14.46 338 *e*P Pn 00 38 12.2 -0.2
VYHS Vyhne 14.46 338 *e*PN Pn 00 38 12.2 -0.2
SOKA Soboth 14.47 325 *e*Pn Pn 00 38 12.0 -0.5
comp=Z,25nm,0.6s,SNR=34
SOKA *i* Sn Sn 00 40 45.9 -5.8
comp=Z,3.8nm,0.6s
CASP Castiglione de 14.58 305 Pn Pn 00 38 13.7 -0.2
OBKA Obir 14.58 324 *e*Pn Pn 00 38 14.0 0.0
comp=Z,26nm,0.7s,SNR=15
OBKA *i* Sn Sn 00 40 48.5 -5.7
comp=Z,11nm,0.7s
SOP Sopron 14.58 331 P Pn 00 38 14.6 +0.7
KWP Kalwaria Pacla 14.61 349 *e*P P 00 38 17.5 -1.4
KWP Kalwaria Pacla 14.61 349 P Pn 00 38 16.0 +1.7
KWP pmax pmax
comp=Z,48nm,0.8s
KWP Kalwaria Pacla 14.61 349 Pn Pn 00 38 14.6 +0.3
LVV L'vov 14.62 352 *e*P Pn 00 38 15.1 +0.8
VSL Villasalto 14.63 292 Pn Pn 00 38 12.3 -2.3
OSSC Osservatorio P 14.66 309 Pn 00 38 15.3 +0.4
ARSA Arzberg 14.68 328 *i* Pn Pn 00 38 15.8 +0.7
comp=Z,15nm,0.7s,SNR=23
ARSA *i* Sn Sn 00 40 52.8 -3.8
comp=Z,3.3nm,0.5s
KIV Kislovodsk 14.77 50 *c i*P P 00 38 22.7 +1.9
KIV pmax pmax
comp=Z,35nm,1.0s
KIV Kislovodsk 14.77 50 Pn Pn 00 38 15.9 -0.6
KVAR Kislovodsk Arr 14.78 50 P Pn 00 38 17.3 +0.6
baz=264,slow=19,SNR=2.5
KBZ Khabaz 14.79 51 *c*eP P 00 38 18.9 -2.0
comp=Z,0.1nm,0.3s,baz=211,slow=9.1,SNR=13
ZST Bratislava 14.79 333 *e*P Pn 00 38 15.7 -1.0
ZST Bratislava 14.79 333 *e*PN Pn 00 38 15.7 -1.0
MODS Modra-Piesok 14.88 334 *e*P Pn 00 38 18.1 +0.3
MODS Modra-Piesok 14.88 334 *e*PN Pn 00 38 18.1 +0.3
NIE Niedzica 14.89 343 *e*P P 00 38 21.1 -0.9
SMOL Smolenice 14.95 334 *e*P Pn 00 38 20.0 +1.4
SMOL Smolenice 14.95 334 *e*PN Pn 00 38 20.0 +1.4
PRED Cave del Predi 15.02 322 Pn Pn 00 38 18.3 -1.4
ZEI Tsey 15.03 55 *e*P P 00 38 22.5 -1.3
ZEI pmax pmax
comp=Z,23nm,0.6s
CONA Conrad Observa 15.06 330 *i* Pn Pn 00 38 20.4 +0.2
comp=Z,14nm,0.7s,SNR=21
MYKA Terra Mystica 15.11 322 *i* Pn Pn 00 38 20.5 -0.3
comp=Z,12nm,0.7s,SNR=10.0
MYKA *i* Sn Sn 00 40 59.7 -7.5
comp=Z,6.2nm,0.6s
JAVC Velka Javorina 15.16 336 *e*PN Pn 00 38 22.6 +1.2
NAX Nakhchivan 15.17 70 P P 00 38 23.8 -1.4
TBLG Delisi 15.22 60 P Pn 00 38 21.7 -0.6
TBLG pmax pmax
comp=Z,24nm,1.1s
TBLG Delisi 15.22 60 Pn 00 38 21.7 -0.6
ZCCA Zocca 15.24 311 Pn Pn 00 38 23.1 +0.7
ZOU Zoufplan 15.40 321 Pn Pn 00 38 24.1 -0.6
AKASG Malin Array Be 15.41 5 P Pn 00 38 24.6 +0.1
comp=Z,23nm,0.3s,baz=195,slow=11,SNR=51
AKASG LR LR 00 45 03.3
comp=Z,97nm,18.8s,baz=200,slow=40
AKASG ScP **ScP 00 46 50.1 -1.6**
comp=Z,0.3nm,0.3s,baz=238,slow=0.4,SNR=6.3
AKASG Malin Array Be 15.41 5 *i* P Pn 00 38 24.6 +0.1
AKASG pmax pmax
comp=Z,74nm,0.6s
AKASG Malin Array Be 15.41 5 Pn Pn 00 38 24.0 -0.5
AKASG **ScP 00 46 51.7 0.0**
AKBB Malin Array Si 15.41 5 *c*eP Pn 00 38 24.1 -0.4
AKBB Malin Array Si 15.41 5 Pn Pn 00 38 24.1 -0.4
AKBB IAmb IAmb 00 38 29.2
comp=Z,68nm,0.7s
VLC Villacollemand 15.51 310 Pn Pn 00 38 24.8 -1.1
CIMO Cimolais 15.52 319 Pn Pn 00 38 24.7 -1.3
KBA Koelnbreinsper 15.57 323 *i* Pn Pn 00 38 27.0 +0.3
comp=Z,37nm,0.7s,SNR=37
KBA Koelnbreinsper 15.57 323 P Pn 00 38 26.3 -0.5
KBA pmax pmax
comp=Z,71nm,1.1s
MOA Molln 15.69 327 *i* Pn Pn 00 38 28.3 +0.2
comp=Z,8.7nm,0.7s,SNR=19
MOA *i* Sn Sn 00 41 15.2 -5.8
comp=Z,3.5nm,0.4s
OJC Ojcow 15.76 343 *e*P Pn 00 38 29.4 +0.4
OJC Ojcow 15.76 343 P Pn 00 38 28.3 -0.7
OJC pmax pmax
comp=Z,30nm,0.6s
OJC Ojcow 15.76 343 Pn Pn 00 38 28.3 -0.7
ABTA Abfaltersbach 15.77 321 *i* Pn Pn 00 38 28.4 -0.7
comp=Z,38nm,0.7s,SNR=24
ABTA *e*Sn Sn 00 41 15.2 -7.8
comp=Z,15nm,0.6s
KRUC Moravsky 15.78 333 *e*PN Pn 00 38 28.5 -0.7
KRUC Moravsky 15.78 333 P Pn 00 38 29.0 -0.2
KRUC pmax pmax
comp=Z,31nm,0.8s
CTI Castel Tesino 15.79 317 P Pn 00 38 28.7 -0.8
CTI pmax pmax
comp=Z,33nm,0.6s
CTI Castel Tesino 15.79 317 Pn Pn 00 38 28.6 -0.8
PRMA PARMA 15.86 311 Pn Pn 00 38 28.8 -1.4
OKC Ostrava-Krasne 15.86 339 *e*P Pn 00 38 31.2 +0.9
OKC Ostrava-Krasne 15.86 339 *e*P Pn 00 38 31.2 +0.9
VRAC Vranov 15.91 334 P Pn 00 38 31.3 +0.3
comp=Z,1.8nm,0.3s,baz=151,slow=12,SNR=58
VRAC LR LR 00 44 34.7
comp=Z,56nm,21.5s,baz=156,slow=37
VRAC Vranov 15.91 334 ⇓P Pn 00 38 31.5 +0.6
VRAC Vranov 15.91 334 *e*PN Pn 00 38 31.2 +0.3
MORC Moravsky Berou 15.99 337 *e*PN Pn 00 38 32.5 +0.5
MORC Moravsky Berou 15.99 337 P Pn 00 38 32.2 +0.2
MORC pmax pmax
comp=Z,16nm,0.7s
MORC Moravsky Berou 15.99 337 Pn Pn 00 38 32.2 +0.2
GANJ Ganja 16.08 65 P P 00 38 35.6 +0.4

MSSA Maissana 16.14 309 Pn 00 38 32.4 -1.4
TREC Trest 16.31 332 *e*P **Pn 00 38 35.6 -0.3**
TREC Trest 16.31 332 *e*P **Pn 00 38 35.6 -0.3**
GROC Groznyy 16.47 56 *e*P **Pn 00 38 37.2 -0.8**
GROC pmax pmax
comp=Z,31nm,1.0s
WTTA Wattenberg 16.56 321 *i* P **P 00 38 40.4 -0.1**
comp=Z,35nm,0.7s,SNR=30
WTTA Sn **Sn 00 41 32.1 -10**
comp=Z,11nm,0.6s
WTTA *e*S S 00 42 10.2 +20
comp=Z,17nm,0.6s
WTTA Wattenberg 16.56 321 P **P 00 38 40.5 -0.1**
WTTA pmax pmax
comp=Z,82nm,1.3s
BTLR Botlikh 16.57 58*c i*P **P 00 38 42.6 +1.9**
WATA Walderalm 16.64 321 *i* P **P 00 38 41.1 -0.4**
comp=Z,22nm,0.8s,SNR=18
WATA *e*Sn **Sn 00 41 38.4 -5.8**
comp=Z,12nm,0.5s
WATA *e*S S 00 42 09.8 +18
comp=Z,14nm,0.6s
MNGR Mingechevir, A 16.67 65 P **P 00 38 42.8 +1.1**
GEC2 GERESS Array S 16.68 328 P **Pn 00 38 40.9 +0.3**
GEC2 pmax pmax
comp=Z,31nm,1.4s
GEC2 GERESS Array S 16.68 328 Pn 00 38 40.6 0.0
GERES GERESS Array B 16.68 328 P **Pn 00 38 40.7 0.0**
comp=Z,2.7nm,0.3s,baz=145,slow=12,SNR=111
GERES LR LR 00 46 40.8
comp=Z,71nm,18.3s,baz=138,slow=43
GERES ScP **ScP 00 46 54.2 -0.2**
comp=Z,0.1nm,0.3s,baz=132,slow=2.0,SNR=4.7
GERES GERESS Array B 16.68 328 Pn **Pn 00 38 40.4 -0.3**
SQTA Sankt Quirin 16.75 320 *i* P **P 00 38 42.5 -0.2**
comp=Z,32nm,0.6s,SNR=19
SQTA *e*Sn **Sn 00 41 37.0 -10**
comp=Z,8.2nm,0.6s
SQTA *e*S S 00 42 12.3 +18
comp=Z,14nm,0.5s
SEKA Sheki 16.85 64 P **P 00 38 46.0 +2.2**
FETA Feichten 16.89 319 *i* P **P 00 38 43.9 -0.3**
comp=Z,44nm,0.7s,SNR=42
DPC Dobruska-Polom 16.89 336 *e*P **P 00 38 43.7 -0.4**
DPC Dobruska-Polom 16.89 336 *e*P **P 00 38 43.7 -0.4**
MOTA Moosalm 16.89 320 *i* Pn **Pn 00 38 43.5 +0.3**
comp=Z,34nm,0.7s,SNR=28
MOTA *e*Sn **Sn 00 41 42.4 -7.8**
comp=Z,19nm,0.8s
MOTA *i* S S 00 42 14.7 +18
comp=Z,26nm,0.7s
FUORN Ofenpass-Fuorn 16.90 317 Pn 00 38 43.8 +0.3
KHC Kasperske Hory 16.95 328 *e*P **Pn 00 38 44.1 +0.2**
KHC *ep*P **pP 00 38 55.5 -3.5**
KHC *ex* x 00 40 12.0
KHC *ex* x 00 41 53.0
KHC Kasperske Hory 16.95 328 *e*P **Pn 00 38 44.1 +0.2**
KHC *e* 00 41 53.0
KHC Kasperske Hory 16.95 328 Pn 00 38 43.9 0.0
BEL Belsk 17.07 347 *e*P **P 00 38 47.6 +1.6**
BEL Belsk 17.07 347 P **P 00 38 47.8 +1.8**
BEL pmax pmax
comp=Z,165nm,0.6s
OSTC Ostas 17.10 336 *e*P **Pn 00 38 46.0 +0.3**
UPC Upice 17.13 335 *e*P **P 00 38 46.5 -0.2**
UPC Upice 17.13 335 *e*P **P 00 38 46.5 -0.2**
RETA Reutte 17.16 320 *e*Pn **Pn 00 38 46.7 +0.2**
comp=Z,25nm,0.6s,SNR=30
RETA *e*Sn **Sn 00 41 47.9 -8.8**
comp=Z,832nm,0.0s
RETA *e*S S 00 42 15.9 +14
comp=Z,23nm,0.7s
CHVC Chvalec 17.18 336 *e*P **P 00 38 47.2 -0.1**
PBCC Pribram 17.21 330 *e*P **Pn 00 38 46.8 -0.2**
DAVOX Davos/Dischmat 17.21 317 P **P 00 38 48.5 +0.7**
comp=Z,3.3nm,0.3s,baz=125,slow=11,SNR=36
DAVOX LR LR 00 47 01.7
comp=Z,89nm,20.0s,baz=98,slow=43
PRU Pruhonice 17.23 332 *e*P **Pn 00 38 46.9 -0.4**
PRU Pruhonice 17.23 332 *e*P **Pn 00 38 46.9 -0.4**
WET Wettzell 17.27 327 P **Pn 00 38 47.5 -0.3**
WET pmax pmax
comp=Z,72nm,0.8s
KSP Ksiaz 17.32 337 *e*P **P 00 38 49.1 +0.3**
KSP Ksiaz 17.32 337 P **P 00 38 49.2 +0.4**
KSP pmax pmax
comp=Z,59nm,1.4s
FUR Furstenfeldbru 17.33 322 P **Pn 00 38 48.7 +0.1**
FUR pmax pmax
comp=Z,143nm,0.9s
PRA Prague 17.34 332 *e*P **P 00 38 48.9 -0.1**
PRA Prague 17.34 332 *e*P **P 00 38 48.9 -0.1**
DAVA Damuels 17.51 318 *e*Pn **Pn 00 38 50.9 +0.1**
comp=Z,54nm,0.8s,SNR=45
DAVA Sn **Sn 00 41 58.0 -7.2**
comp=Z,4.5nm,0.4s
DAVA *e*S S 00 42 22.4 +14
comp=Z,35nm,0.7s
SET Setif 17.58 279 P **P 00 38 55.0 +3.1**
PVCC Panska Ves 17.66 333 *e*P **Pn 00 38 52.3 -0.2**
PVCC Panska Ves 17.66 333 *e*P **Pn 00 38 52.3 -0.2**
LKRN Lenkeran, Azer 17.67 73 P **Pn 00 38 54.0 +1.3**
VORD Divnogorie 17.93 26 *e*P **Pn 00 38 56.7 +0.9**
VORD pmax pmax
comp=Z,160nm,0.8s
VSR Storozhevoye 18.10 25 *e*P **Pn 00 38 58.1 +0.3**
VSR *e*S **Sn 00 42 15.9 -3.2**
VSR pmax pmax
comp=Z,100nm,0.5s
VSR smax smax
comp=N,130nm,3.4s
BRG Berggiesshubel 18.17 333 *i* P **Pn 00 38 58.6 -0.1**
comp=N,20nm,0.8s
BRG *i* sP **sP 00 39 25.7 +4.3**
comp=N,12nm,0.8s
BRG S Sn 00 42 09.0 -12
BRG *e* 01 07 22.0
BRG Berggiesshubel 18.17 333 *i* P **Pn 00 38 58.6 -0.1**
BRG S Sn 00 42 09.0 -12
BRG pmax pmax
comp=Z,20nm,0.8s
BRG pmax pmax
comp=N,12nm,0.8s
NKC Novy Kostel 18.27 329 *e*P **P 00 38 59.5 +0.2**
NKC Novy Kostel 18.27 329 *e*P **P 00 38 59.5 +0.2**
BNI Bardonecchia 18.28 308 P **Pn 00 39 00.3 +0.1**
BNI pmax pmax
comp=Z,13nm,0.6s
BNI Bardonecchia 18.28 308 P **Pn 00 39 00.3 +0.1**
GRA1 Grafenberg Arr 18.41 326 P **P 00 39 00.3 -0.5**
GRA1 IAmb IAmb 00 39 02.2
comp=Z,54nm,0.7s
GRF Grafenberg Arr 18.41 326 P **P 00 39 00.3 -0.5**
GRF pmax pmax
comp=Z,54nm,0.7s
GRF Grafenberg Arr 18.41 326 *e*P **P 00 39 00.8 0.0**
comp=Z,44nm,0.8s,baz=138,slow=13
LPG La Plagne 18.42 309 *e*P **P 00 39 00.9 -0.4**
LPG pmax pmax
comp=Z,30nm,0.6s
LPL La Plagne 18.44 310 *e*P **P 00 39 01.6 +0.2**
LPL pmax pmax
comp=Z,20nm,0.5s
SENIN Lac Senin/Sane 18.49 312 P **P 00 39 01.2 -0.7**
SENIN IAmb IAmb 00 39 10.0
comp=Z,49nm,0.7s
VORR Voronezh 18.49 24 P **P 00 39 02.0 +0.3**
VORR pmax pmax
comp=Z,250nm,1.2s
SLE Schleitheim 18.55 318 P **P 00 39 01.9 -0.5**
SLE pmax pmax
comp=Z,65nm,0.6s
STU Stuttgart 18.78 321 P **Pn 00 39 07.8 +1.7**
SUW Suwalki 18.84 353 *e*P **P 00 39 05.5 0.0**
CLL Collm 18.88 332 *e*P **P 00 39 05.0 -0.9**
CLL *i* Pmax 00 39 07.0
comp=Z,81nm,0.8s
CLL *e*S **S 00 42 32.0 -4.4**
CLL Collm 18.88 332 *e*P **P 00 39 05.0 -0.9**
CLL *e*S **S 00 42 32.0 -4.4**
CLL pmax pmax
comp=Z,81nm,0.8s
CLL Collm 18.88 332 P **P 00 39 05.7 -0.2**
CLL IAmb IAmb 00 39 08.2
comp=Z,72nm,0.7s

MOX Moxa 18.93 329 P **Pn 00 39 07.7 -0.1**
MOX pmax pmax
comp=Z,41nm,0.7s
BFO Black Forest 18.97 319 P **P 00 39 06.4 -0.5**
BFO pmax pmax
comp=Z,42nm,1.1s
BFO Black Forest 18.97 319 P **P 00 39 06.4 -0.5**
VRH Novokhopyorsk 19.04 29 *e*P **Pn 00 39 08.9 -0.2**
VRH *e*S **S 00 42 34.4 -5.5**
VRH pmax pmax
comp=Z,340nm,0.6s
VRH smax smax
comp=N,170nm,2.0s
MICGM Minsk 19.15 1 *e* **P 00 39 07.0 -1.8**
MNK Minsk 19.15 1 *e*P **P 00 39 07.0 -1.8**
LPSR Galich'ya Gora 19.19 22 *e*P **P 00 39 09.7 +0.4**
LPSR *e*S **S 00 42 37.8 -5.1**
LPSR pmax pmax
comp=Z,60nm,0.5s
LPSR smax smax
comp=E,60nm,2.1s
GKP Gorka Klasztor 19.20 342 *e*P **P 00 39 09.1 -0.3**
HINF Hinteralfeld 19.50 316 *e*P **P 00 39 11.5 -1.3**
HINF pmax pmax
comp=Z,10.0nm,0.4s
NACGM Naroch 19.54 360 *e* **P 00 39 12.0 -1.1**
RUE Ruedersdorf 19.54 335 *e*P **P 00 39 13.9 +0.8**
ECH Echery 19.54 317 P **P 00 39 13.1 -0.1**
ECH pmax pmax
comp=Z,24nm,0.7s
ECH Echery 19.54 317 P **P 00 39 13.1 -0.1**
KTD Kalmit 19.70 321 P **P 00 39 15.3 +0.4**
HAU Haudompre 19.89 316 *e*P **P 00 39 16.2 -0.8**
HAU pmax pmax
comp=Z,22nm,0.6s
RAYN Ar Rayn 19.90 121 P **Pn 00 39 18.9 -0.7**
RAYN pmax pmax
comp=Z,9.0nm,1.2s
RAYN Ar Rayn 19.90 121 P **Pn 00 39 18.9 -0.7**
IIGN Ignalina 20.00 359 *e*P **P 00 39 17.4 -0.6**
IIGN IAmb IAmb 00 39 23.7
comp=Z,37nm,0.6s
TNS Taunus Mts 20.09 323 P **P 00 39 18.9 -0.2**
TNS pmax pmax
comp=Z,99nm,0.7s
ISAL Salakas 20.22 358 *e*P **P 00 39 20.2 -0.2**
ISAL IAmb IAmb 00 39 25.0
comp=Z,42nm,0.7s
PABE Paberze 20.26 355 *e*P **P 00 39 20.0 -0.8**
PABE IAmb IAmb 00 39 25.1
comp=Z,108nm,0.6s
IZAR Zarasai 20.40 359 *e*P **P 00 39 22.0 -0.4**
OBN Obninsk 20.82 16 P **P 00 39 26.5 -0.4**
comp=Z,34nm,0.4s,baz=353,slow=0.9,SNR=28
OBN Obninsk 20.82 16*c i*P **P 00 39 26.3 -0.6**
OBN *e*S **S 00 43 10.9 -4.1**
OBN pmax pmax
comp=Z,254nm,1.3s
OBN Obninsk 20.82 16 P **P 00 39 26.5 -0.4**
WLF Walferdange 20.91 320 P **P 00 39 27.9 0.0**
comp=Z,34nm,0.7s
WLF Walferdange 20.91 320 P **P 00 39 28.0 0.0**
WLF pmax pmax
comp=Z,38nm,0.7s
WLF Walferdange 20.91 320 P **P 00 39 28.0 0.0**
PBUR Paburge 20.96 352 *e*P **P 00 39 27.6 -0.8**
AVF Avril sur Loir 21.11 310 *e*P **P 00 39 28.6 -1.5**
AVF pmax pmax
comp=Z,18nm,0.6s
CAF Calviac 21.28 304 *e*P **P 00 39 31.9 -0.1**
CAF pmax pmax
comp=Z,10.0nm,0.8s
BHOU Houvegnez 21.39 321 P **P 00 39 33.2 +0.1**
comp=Z,61nm,1.0s
BHOU Pb pP 00 39 36.4 -11
BUG Bochum--Univer 21.45 325 P **P 00 39 33.9 +0.3**
BUG pmax pmax
comp=Z,40nm,0.9s
BSD Bornholm Skovb 21.46 341 *i* P **P 00 39 30.7 -3.0**
BSD Bornholm Skovb 21.46 341 *i* P **P 00 39 30.7 -3.0**
MEM Membach 21.55 321 P **P 00 39 34.6 -0.1**
comp=Z,82nm,0.9s
MEM Membach 21.55 321 P **P 00 39 35.0 +0.3**
MEM pmax pmax
comp=Z,130nm,1.0s
MOS Moscow 21.64 16 *e*P **P 00 39 34.5 -1.1**
MOS *e*S **S 00 43 26.2 -4.9**
MOS *e* 00 43 33.4
MOS pmax pmax
comp=Z,200nm,0.9s
MOS pmax pmax
comp=Z,300nm,0.9s
BSTI Sart Tilman 21.76 321 P **P 00 39 37.8 +0.9**
comp=Z,15nm,0.9s
BSTI Pb pP 00 39 39.9 -12
BSTI x x 00 39 42.4
RJF Les Rejaudoux 21.77 305 *e*P **P 00 39 36.5 -0.7**
RJF pmax pmax
comp=Z,27nm,0.8s
BCLA Clavier 21.80 320 ⇑P **P 00 39 37.1 -0.3**
comp=Z,50nm,0.9s
BEBN Eben Emael 21.83 322 P **P 00 39 37.8 +0.1**
BEBN x x 00 39 43.2
BEBN pP **pP 00 39 52.6 +0.2**
BGES Gesves 21.89 320 P **P 00 39 37.6 -0.8**
DOU Dourbes 21.99 319 ⇑P **P 00 39 38.7 -0.7**
comp=Z,24nm,0.7s
DOU sP **sP 00 40 01.2 -1.9**
BMRD Maredsous 22.01 320 P **P 00 39 39.4 -0.3**
comp=Z,22nm,0.9s
BAIF Baives 22.18 318 *e*P **P 00 39 40.1 -1.4**
BAIF pmax pmax
comp=Z,106nm,1.0s
CLF Chambon-Foret 22.30 312 P **P 00 39 42.7 -0.2**
CLF IAmb IAmb 00 39 45.4
comp=Z,54nm,1.1s
SNF Seneffe 22.38 320 P **P 00 39 42.9 -0.8**
comp=Z,56nm,1.0s
SLIT Slitere, Latvi 22.50 353 *e*P **P 00 39 43.7 -1.2**
UCC Uccle 22.51 320 P **P 00 39 44.5 -0.5**
UCC Pb **P 00 39 45.8 +0.8**
UCC x x 00 39 49.8
UCC x x 00 39 51.7
CART Cartagena 22.63 284 P **P 00 39 46.7 +0.2**
VSU Vasula 23.11 360 *e*P **P 00 39 50.8 -0.3**
VSU Vasula 23.11 360 *i* P **P 00 39 50.5 -0.6**
VSU pmax pmax
comp=Z,146nm,1.0s
FLN La Foliniere 24.27 312 *e*P **P 00 40 00.5 -1.3**
FLN pmax pmax
comp=Z,41nm,0.6s
GRR Gorron 24.36 311 *e*P **P 00 40 01.4 -1.2**
GRR pmax pmax
comp=Z,59nm,0.6s
UCM Universidad Co 24.36 291 *e*P **P 00 40 03.7 +0.9**
ELSH Elham, Standar 24.42 318 *e*P **P 00 40 03.0 -0.1**
ELSH IAmb IAmb 00 40 04.3
comp=Z,89nm,0.6s
PUL Pulkovo 24.52 4 *e*P **P 00 40 03.5 -0.4**
PUL Pulkovo 24.52 4*ce*P **P 00 40 03.7 -0.2**
PUL pmax pmax
comp=Z,390nm,0.7s
ESBB Sonseca Array 24.90 289 P **P 00 40 07.4 -0.3**
ESDC Sonseca Array 24.90 289 P **P 00 40 08.7 +0.9**
comp=Z,6.6nm,0.6s,baz=82,slow=9.6,SNR=95
ESDC PcP **PcP 00 43 42.8 +1.0**
comp=Z,0.6nm,0.8s,baz=82,slow=2.6,SNR=4.6
ESDC LR LR 00 50 13.3
comp=Z,37nm,18.3s,baz=220,slow=37
ESDC Sonseca Array 24.90 289 P **P 00 40 08.1 +0.3**
GEYT Alibeck 25.01 75 P **P 00 40 10.4 +1.7**
comp=Z,8.7nm,0.5s,baz=283,slow=7.4,SNR=28
GEYT LR LR 00 50 41.4
comp=Z,53nm,18.8s,baz=245,slow=38
GEYT Alibeck 25.01 75 P **P 00 40 09.0 +0.3**
GYA0 ALIBECK ARRAY 25.01 75 P **P 00 40 09.8 +1.1**
GYA0B ALIBECK ARRAY 25.01 75 P **P 00 40 09.4 +0.6**
GUD Guadarrama 25.07 292 P **P 00 40 11.3 +2.0**
GUD pmax pmax
comp=Z,19nm,1.3s
PAB San Pablo 25.20 289 P **P 00 40 10.8 +0.3**
PAB pmax pmax
comp=Z,6.0nm,0.7s
PAB San Pablo 25.20 289 P **P 00 40 10.8 +0.3**

EMAL Malaga-Limoner 25.43 282 *e*P **P 00 40 15.4 +2.9**
JVM Valle D.L. Mar 25.50 312 *e*P **P 00 40 12.2 -0.8**
WACR West Acre 25.50 321 *e*P **P 00 40 11.8 -1.2**
WACR IAmb IAmb 00 40 13.5
comp=Z,98nm,1.0s
QUIF Quistinic 25.65 309 *e*P **P 00 40 13.1 -1.2**
QUIF pmax pmax
comp=Z,26nm,0.6s
WOL Wolverton 25.80 317 *e*P **P 00 40 14.9 -0.7**
HOMB Homborsund 26.02 337 *e*P **P 00 40 15.8 -1.7**
FINES FINESS Array B 26.11 359 P **P 00 40 17.5 -0.8**
comp=Z,13nm,0.4s,baz=159,slow=11,SNR=232
FINES PcP **PcP 00 43 44.7 +0.8**
comp=Z,2.9nm,0.5s,baz=163,slow=1.5,SNR=2.9
FINES ScP **ScP 00 47 17.2 -0.1**
comp=Z,1.7nm,0.7s,baz=270,slow=0.2,SNR=3.9
FINES FINESS Array B 26.11 359 *i* P **P 00 40 17.5 -0.8**
FINES pmax pmax
comp=Z,14nm,0.4s
FINES FINESS Array B 26.11 359 P **P 00 40 17.3 -1.1**
FIA1 FINESS Array S 26.11 359 IAmb IAmb 00 40 21.2
comp=Z,33nm,0.9s
SWN1 Swindon 26.21 317 *e*P **P 00 40 19.1 -0.2**
SWN1 IAmb IAmb 00 40 19.7
comp=Z,122nm,0.6s
MDT Midelt 26.28 274 P **P 00 40 21.5 +1.2**
comp=Z,7.8nm,0.6s,baz=87,slow=12,SNR=22
MDT LR LR 00 52 45.8
comp=Z,41nm,18.4s,baz=83,slow=41
CEU Ceuta 26.29 281 *e*P **P 00 40 21.7 +1.5**
BATH Bath 26.47 316 *e*P **P 00 40 21.2 -0.5**
SNART Snartemo 26.49 336 *e*P **P 00 40 21.2 -0.6**
CWF Charnwood Fore 26.52 320 *e*P **P 00 40 21.1 -1.1**
CWF IAmb IAmb 00 40 22.0
comp=Z,33nm,1.0s
STRD Stroud 26.53 317 *e*P **P 00 40 21.4 -0.8**
STRD IAmb IAmb 00 40 22.3
comp=Z,62nm,0.9s
IFR Ifrane 26.54 275 *e*P **P 00 40 24.6 +1.9**
OLDB Oldbury-Upon-S 26.69 317 *e*P **P 00 40 23.0 -0.7**
KLMR Klimovskoe 26.74 14 *e*P **P 00 40 22.5 -1.5**
KLMR pmax pmax
comp=Z,85nm,0.6s
KLMR Klimovskoe 26.74 14 *e*P **P 00 40 22.6 -1.5**
KLMR AMP 00 40 24.5
comp=Z,85nm,0.6s
OSL Oslo 26.78 342 *e*P **P 00 40 22.5 -1.9**
KONO Kongsberg 26.84 340*ce*P **P 00 40 23.4 -1.5**
KONO pmax pmax
comp=Z,54nm,2.5s
KONO Kongsberg 26.84 340 P **P 00 40 23.6 -1.3**
KONO Kongsberg 26.84 340 *e*P **P 00 40 23.6 -1.3**
MONM Monmouth 26.91 317 *e*P **P 00 40 24.8 -0.9**
MONM IAmb IAmb 00 40 26.4
comp=Z,21nm,0.7s
AKTO Aktyubinsk 26.99 46 P **P 00 40 27.4 +1.0**
comp=Z,24nm,0.6s,baz=249,slow=8.2,SNR=91
AKTO Aktyubinsk 26.99 46 P **P 00 40 27.0 +0.6**
PBRG Braganca 27.06 294 *e*P **P 00 40 27.8 +0.6**
LBWR Ladybower, Pea 27.07 321 *e*P **P 00 40 26.3 -0.8**
LBWR IAmb IAmb 00 40 27.0
comp=Z,36nm,1.0s
MCH1 Michaelchurch 27.09 317 *e*P **P 00 40 26.1 -1.2**
MCH1 IAmb IAmb 00 40 27.0
comp=Z,12nm,0.6s
STNC Stoke 27.17 320 *e*P **P 00 40 27.8 -0.2**
STNC IAmb IAmb 00 40 28.6
comp=Z,76nm,0.7s
MVO Moncorvo 27.26 293 *e*P **P 00 40 29.7 +0.7**
NC602 NORSAR Array S 27.28 343 IAmb IAmb 00 40 28.2
comp=Z,34nm,0.7s
NC602 NORSAR Array S 27.28 343 *e*P **P 00 40 27.3 -1.6**
NORES NORESS Array B 27.28 343 P **P 00 40 27.5 -1.4**
NORES pmax pmax
comp=Z,12nm,0.3s
HPK Haverah Park 27.30 322 *e*P **P 00 40 28.4 -0.8**
HPK IAmb IAmb 00 40 28.9
comp=Z,70nm,1.4s
HTL Hartland 27.53 314 *e*P **P 00 40 30.6 -0.6**
HTL IAmb IAmb 00 40 31.8
comp=Z,27nm,0.6s
KIRV Kirov 27.54 26 P **P 00 40 30.9 -0.4**
comp=Z,27nm,0.6s,baz=276,slow=4.6,SNR=11
KIRV LR LR 00 50 56.0
comp=Z,53nm,19.7s,baz=214,slow=35
KIRV Kirov 27.54 26*i* *e*P **P 00 40 30.3 -0.9**
PMRV Marv??o 27.55 289 *e*P **P 00 40 32.1 +0.5**
PMRV *i* LQ LQ 00 40 52.2
NC405 NORSAR Array S 27.57 344 IAmb IAmb 00 40 30.6
comp=Z,45nm,0.7s
BLS5 Blasjo 27.58 337 *e*P **P 00 40 31.0 -0.6**
FOEL Foel Wylfa 27.60 319 *e*P **P 00 40 31.3 -0.6**
FOEL IAmb IAmb 00 40 32.2
comp=Z,42nm,0.7s
PCBR Castelo Branco 27.61 290 *e*P **P 00 40 29.2 -2.9**
PCBR *i* LQ LQ 00 40 53.0
NB201 NORSAR Array S 27.61 343 IAmb IAmb 00 40 31.7
comp=Z,43nm,0.7s
NB2 NORSAR Subarra 27.62 343 P **P 00 40 30.2 -1.8**
comp=Z,17nm,0.7s,baz=149,slow=9.3
NB2 NORSAR Subarra 27.62 343 P **P 00 40 30.2 -1.8**
baz=149,slow=9.3
NOA NORSAR Array B 27.62 343 P **P 00 40 30.1 -1.8**
comp=Z,12nm,0.5s,baz=147,slow=11,SNR=77
NOA LR LR 00 53 06.3
comp=Z,65nm,19.5s,baz=140,slow=40
NBO00 NORSAR Array S 27.72 343 IAmb IAmb 00 40 33.3
comp=Z,50nm,1.0s
NC303 NORSAR Array S 27.75 344 IAmb IAmb 00 40 32.3
comp=Z,21nm,0.7s
ABKAR Akbulak array 27.76 50 P **P 00 40 34.2 +0.9**
PVRL Vila Real 27.78 293 *e*P **P 00 40 34.6 +1.0**
PVIS Viseu 27.91 292 *e*P **P 00 40 34.8 0.0**
PVIS *i* LQ LQ 00 40 53.6
EDMD Edmundbyers 27.93 323 *e*P **P 00 40 33.8 -1.0**
NC204 NORSAR Array S 27.94 343 IAmb IAmb 00 40 34.5
comp=Z,59nm,0.8s
PVAQ Vaqueiros 27.97 285 *e*P **P 00 40 35.5 +0.2**
PCAB Cabril 28.02 294 *e*P **P 00 40 36.9 +1.1**
PCAB *i* LQ LQ 00 40 56.6
PBEJ Beja 28.02 286 *e*P **P 00 40 38.9 +3.1**
PBEJ *i* LQ LQ 00 40 57.3
SKAR Skarslia 28.06 340 *e*P **P 00 40 35.1 -0.8**
EVO Evora 28.09 287 *e*P **P 00 40 32.4 -4.0**
PBDV Barranco-do-Ve 28.16 284 *e*P **P 00 40 38.1 +1.1**
PBDV *i* LQ LQ 00 41 03.5
PMTG Montargil 28.22 288 *e*P **P 00 40 38.8 +1.3**
PMTG *i* LQ LQ 00 40 58.6
MESJ Messejana 28.32 286 *e*P **P 00 40 39.6 +1.2**
KESW Keswick, Cumbr 28.37 322 *e*P **P 00 40 38.3 -0.4**
KESW IAmb IAmb 00 40 38.8
comp=Z,35nm,0.7s
BER Bergen 28.69 337 *e*P **P 00 40 41.0 -0.4**
EKA Eskdalemuir Ar 28.78 323 P **P 00 40 41.5 -0.8**
comp=Z,6.6nm,0.4s,baz=124,slow=10,SNR=95
EKA PcP **PcP 00 43 51.9 +1.4**
comp=Z,1.5nm,0.6s,baz=76,slow=3.5,SNR=4.2
EKA ScP **ScP 00 47 25.5 -0.1**
comp=Z,2.4nm,0.7s,baz=124,slow=4.1,SNR=10.0
ESK Eskdalemuir 28.80 323 P **P 00 40 41.6 -0.8**
ESK pmax pmax
comp=Z,21nm,1.1s
ESK Eskdalemuir 28.80 323 P **P 00 40 41.6 -0.8**
HRA Herat 28.81 82 P **P 00 40 45.2 +2.1**
EBL Broad Law 28.96 324 *e*P **P 00 40 43.0 -0.9**
IOMK Kirk Michael 28.96 321 *e*P **P 00 40 43.6 -0.3**
IOMK IAmb IAmb 00 40 44.3
comp=Z,132nm,0.7s
WIM Isle of Man 28.96 320 *e*P **P 00 40 43.5 -0.5**
DOMB Dombas 29.01 343 *e*P **P 00 40 43.9 -0.4**
HYA Hoyanger 29.05 339 *e*P **P 00 40 43.9 -0.7**
EDI Edinburgh 29.11 324 *e*P **P 00 40 44.2 -1.0**
EDI IAmb IAmb 00 40 45.3
comp=Z,27nm,0.5s
NEWG New Galloway 29.20 322 *e*P **P 00 40 45.4 -0.6**
NEWG IAmb IAmb 00 40 46.0
comp=Z,29nm,0.7s
GAL1 Galloway 29.32 322 *e*P **P 00 40 46.3 -0.8**
GAL1 IAmb IAmb 00 40 47.3
comp=Z,43nm,0.7s
DRUM Mains of Drumt 29.33 327 *e*P **P 00 40 45.3 -1.8**
DRUM IAmb IAmb 00 40 45.9
comp=Z,23nm,0.5s
TMCR Tamitsa 29.60 10 *e*P **P 00 40 48.0 -1.5**

AKN **Aaknes** 29.65 341 *eP* **P** **00 40 49.5 -0.5**
INVG **Invergeldie, C** 29.78 325 *eP* **P** **00 40 50.0 -1.2**
TBLU **Trondheim** 29.79 345 *eP* **P** **00 40 51.2 0.0**
EAB **Aberfoyle** 29.80 324 *eP* **P** **00 40 50.5 -0.8**
MOL **Molde** 29.84 342 *eP* **P** **00 40 51.2 -0.3**
ARU **Arti** 29.99 36 P **P** **00 40 53.7 +0.7**
comp=Z,3.2nm,0.4s,baz=233,slow=11,SNR=17
ARU ScP **ScP** **00 47 29.1 -0.4**
comp=Z,1.0nm,0.7s,baz=242,slow=8.2,SNR=4.3
ARU LR LR 00 54 47.0
comp=Z,24nm,19.2s,baz=242,slow=40
ARU **Arti** 29.99 36*c iP* **P** **00 40 53.3 +0.4**
ARU *PP **pwP** **00 41 13.0 +1.5**
ARU 00 41 51.2
ARU 00 43 52.1
ARU S **S** **00 45 46.2 +0.7**
ARU SS **SnSn** **00 47 25.9 +2.1**
ARU pmax pmax
comp=Z,36nm,1.8s
ARU **Arti** 29.99 36 P **P** **00 40 53.4 +0.4**
ARU **ScP** **00 47 29.9 +0.5**
CLGH **Cloghs, Cushen** 30.14 321 *eP* **P** **00 40 53.8 -0.5**
CLGH IAmb IAmb 00 40 54.8
comp=Z,77nm,0.8s
LAWE **Loch Awe, Argy** 30.34 324 *eP* **P** **00 40 55.4 -0.7**
NSS **Namsos** 30.60 347 *eP* **P** **00 40 57.3 -1.0**
KPL **Plockton** 31.01 325 *eP* **P** **00 41 00.2 -1.7**
KPL IAmb IAmb 00 41 02.9
comp=Z,14nm,0.8s
SVE **Sverdlovsk** 31.18 36*deP* **P** **00 41 04.2 +0.7**
SVE pmax pmax
comp=Z,39nm,0.9s
MOR8 **Moi Rana** 31.73 350 *eP* **P** **00 41 07.6 -0.6**
TOA0 **Torodi Ar. Sit** 31.82 232 P **P** **00 41 10.3 +0.8**
TORD **Torodi Ar. Bea** 31.82 232 P **P** **00 41 10.2 +0.7**
comp=Z,33nm,0.7s,baz=33,slow=9.1,SNR=193
TORD ScP **ScP** **00 47 36.8 +0.6**
comp=Z,1.0nm,0.7s,baz=24,slow=2.3,SNR=6.5
TORD LR LR 00 55 13.9
comp=Z,94nm,21.4s,baz=70,slow=38
TORD **Torodi Ar. Bea** 31.82 232 P **P** **00 41 10.1 +0.6**
TORD **ScP** **00 47 37.0 +0.8**
STOK **Stokkvaagen** 32.09 349 *eP* **P** **00 41 10.9 -0.4**
KONS **Konsvik** 32.23 350 *eP* **P** **00 41 11.7 -0.9**
NBB17 **Glomfjord BⱯr** 32.41 350 *eP* **P** **00 41 13.5 -0.6**
NBB30 **Finnes** 32.58 350 *eP* **P** **00 41 15.3 -0.4**
NBB05 **Inndyr** 32.60 351 *eP* **P** **00 41 15.5 -0.3**
NBB28 **Valnes** 32.69 351 *eP* **P** **00 41 16.4 -0.3**
N2ST **Straumen** 32.70 352 *eP* **P** **00 41 16.0 -0.7**
LVZ **Lovozero** 32.87 5*c iP* **P** **00 41 17.6 -0.6**
LVZ pmax pmax
comp=Z,80nm,0.8s
LVZ **Lovozero** 32.87 5 P **P** **00 41 17.3 -0.9**
N2TV **TⱯrnvik** 32.97 352 *eP* **P** **00 41 18.6 -0.4**
N2IH **Innhavet** 33.26 352 *eP* **P** **00 41 21.3 -0.2**
STEI **Steigen** 33.30 352 *eP* **P** **00 41 21.1 -0.8**
N2RO **R_st** 33.32 350 *eP* **P** **00 41 20.8 -1.3**
N2VA **Vr_y** 33.38 350 *eP* **P** **00 41 21.5 -1.0**
LOF **Lofoten** 33.70 351 *eP* **P** **00 41 25.1 -0.3**
KTK1 **Kautokeino** 33.77 358 *eP* **P** **00 41 25.3 -0.7**
N2VI **Vinje** 33.80 351 *eP* **P** **00 41 24.4 -1.8**
IUG **Iuzhnay** 33.92 65 *eP* **P** **00 41 29.3 +1.5**
comp=Z,2.3nm,0.8s,baz=66
IUG *eS* **S** **00 46 48.6 +1.2**
baz=66
IUG **Iuzhnay** 33.92 65 *eP* **P** **00 41 29.3 +1.5**
IUG *eS* **S** **00 46 48.6 +1.2**
IUG pmax pmax
comp=Z,2.0nm,0.8s
KK31 **Karatay Array** 34.23 64 *i P* **P** **00 41 31.8 +1.4**
KK31 **Karatay Array** 34.23 64 IAmb IAmb 00 41 33.7
comp=Z,17nm,0.8s
KKAR **Karatay Array** 34.23 64 P **P** **00 41 31.8 +1.4**
KKAR **Karatay Array** 34.23 64 P **P** **00 41 31.8 +1.4**
KKAR **Karatay Array** 34.23 64 IAmb IAmb 00 41 33.7
comp=Z,17nm,0.8s
ARE0 **ARCESS Array S** 34.24 359 *eP* **P** **00 41 29.2 -0.8**
ARCES **ARCESS Array B** 34.24 359 P **P** **00 41 29.2 -0.8**
comp=Z,33nm,0.6s,baz=172,slow=8.0,SNR=118
ARCES PcP **PcP** **00 44 05.4 +0.4**
comp=Z,2.3nm,0.5s,baz=168,slow=2.2,SNR=3.7
ARCES LR LR 00 57 05.6
comp=Z,32nm,20.9s,baz=214,slow=39
ARCES **ARCESS Array B** 34.24 359 P **P** **00 41 29.1 -0.9**
KEV **Kevo** 34.45 360 P **P** **00 41 31.5 -0.4**
KEV pmax pmax
comp=Z,41nm,1.1s
KEV **Kevo** 34.45 360 P **P** **00 41 31.5 -0.4**
TRO **Tromso** 34.62 355 *eP* **P** **00 41 32.2 -1.1**
DZA **Taraz** 34.84 64 *i P* **P** **00 41 37.7 +2.0**
comp=Z,11nm,0.9s,baz=64
DZA **Taraz** 34.84 64 *i P* **P** **00 41 37.6 +1.9**
DZA pmax pmax
comp=Z,11nm,0.9s
BRVK **Borovoye** 35.04 46 P **P** **00 41 36.9 -0.3**
BRVK **Borovoye** 35.04 46 P **P** **00 41 38.9 +1.7**
BRVK IAmb IAmb 00 41 40.5
comp=Z,31nm,1.1s
BVAR **Borovoye Array** 35.09 46 P **P** **00 41 39.1 +1.5**
comp=Z,14nm,0.6s,baz=255,slow=6.4,SNR=116
HAMF **Hammerfest** 35.39 358 *eP* **P** **00 41 38.8 -1.1**
OTUK **Ortayu** 35.62 55 P **P** **00 41 43.8 +1.5**
MBAR **Mbarara** 35.95 174*ceP* **P** **00 41 48.6 +3.2**
MBAR pmax pmax
comp=Z,3.0nm,1.0s
AML **Almayashu** 36.64 65 P **P** **00 41 53.5 +2.0**
SNR=7.3
EKS2 **Erkin-Say** 36.66 64 P **P** **00 41 53.8 +2.5**
SNR=25
USP **Ospenovka** 37.14 63 P **P** **00 41 56.9 +1.6**
SNR=19
AAK **Ala-Archa** 37.19 64 P **P** **00 41 58.3 +2.5**
comp=Z,30nm,0.6s,baz=230,slow=4.4,SNR=78
AAK **Ala-Archa** 37.19 64 P **P** **00 41 58.3 +2.5**
SNR=27
AAK **Ala-Archa** 37.19 64 P **P** **00 41 57.3 +1.5**
AAK **Ala-Archa** 37.19 64 P **P** **00 41 58.4 +2.5**
SGDS **Sogindy** 37.22 63⇑*iP* **P** **00 41 57.3 +1.2**
comp=Z,7.1nm,0.9s,baz=63
SGDS *eS* **S** **00 47 38.6 +0.8**
baz=63
SGDS **Sogindy** 37.22 63*c iP* **P** **00 41 57.2 +1.2**
SGDS *eS* **S** **00 47 38.6 +0.8**
SGDS pmax pmax
comp=Z,7.0nm,0.9s
UCH **Uchtor** 37.24 65 P **P** **00 41 58.5 +1.9**
SNR=19
CHMS **Chumysh** 37.34 63 P **P** **00 41 59.2 +2.2**
SNR=23
KBK **Karagaybulak** 37.52 64 P **P** **00 42 01.3 +2.6**
SNR=16
KMBO **Kilima Mbogo** 37.53 163 LR LR 00 57 32.7
comp=Z,54nm,19.3s,baz=277,slow=36
KZA **Kyzart** 37.80 65 P **P** **00 42 04.1 +2.8**
SNR=33
NIL **Nilore** 37.85 79 P **P** **00 42 02.0 +0.6**
NIL pmax pmax
comp=Z,26nm,1.1s
NIL **Nilore** 37.85 79 P **P** **00 42 02.0 +0.6**
NIL IAmb IAmb 00 42 04.4
comp=Z,26nm,1.1s
TKM2 **Tokmak 2** 37.97 64 P **P** **00 42 04.5 +2.0**
SNR=23
TKM2 **Tokmak 2** 37.97 64 P **P** **00 42 04.2 +1.7**
KUU **Kurty** 38.42 62⇑*iP* **P** **00 42 08.4 +2.3**
comp=Z,31nm,0.6s,baz=62
KUU *eS* **S** **00 47 57.7 +1.7**
baz=62
KUU **Kurty** 38.42 62*c iP* **P** **00 42 08.4 +2.3**
KUU *eS* **S** **00 47 57.6 +1.7**
KUU pmax pmax
comp=Z,31nm,0.6s
ULHL **Ulahol** 38.51 65 P **P** **00 42 09.8 +2.8**
SNR=40
MTBS **Maitube** 38.56 63 *eP* **P** **00 42 09.7 +2.4**
baz=63
MTBS **Maitube** 38.56 63 *eP* **P** **00 42 09.6 +2.4**
KSH **Kashi** 38.69 69 P **P** **00 42 08.4 -0.1**
KSH pP pP 00 42 24.2 -1.2
KSH S **S** **00 47 58.4 -1.9**
KSH pmax pmax
comp=Z,9.0nm,0.8s
KSH pmax pmax
comp=Z,130nm,6.9s
KSH LR LR
comp=Z,300nm,8.7s
KSH LR LR
comp=Z,210nm,8.7s
KSH LR LR
comp=Z,340nm,8.6s
CHKK **Chushkaly** 38.90 62 *eP* **P** **00 42 12.2 +2.1**
baz=62
CHKK *eS* **S** **00 48 04.7 +1.6**
baz=62
CHKK **Chushkaly** 38.90 62 *eP* **P** **00 42 12.1 +2.1**
CHKK *eS* **S** **00 48 04.6 +1.6**
AAA **Alma-Ata** 38.90 63 *eP* **P** **00 42 12.6 +2.4**
comp=Z,17nm,0.7s,baz=63
AAA **Alma-Ata** 38.90 63 *eP* **P** **00 42 12.5 +2.4**
AAA pmax pmax
comp=Z,17nm,0.7s
TNSS **Tian-Shan** 38.94 63 *i P* **P** **00 42 12.1 +1.2**
baz=63
TNSS **Tian-Shan** 38.94 63 *i P* **P** **00 42 12.9 +2.0**
MDOK **Medeo** 39.00 63 *i P* **P** **00 42 13.2 +2.1**
baz=63
MDOK LR LR 00 59 43.4
comp=Z,46nm,6.8s,baz=63
MDOK **Medeo** 39.00 63 *i P* **P** **00 42 13.2 +2.1**
MDOK MLR MLR
comp=Z,46nm,7.0s
KDJ **Kajisay** 39.22 65 P **P** **00 42 13.7 +0.8**
KDJ pmax pmax
comp=Z,27nm,0.8s
KDJ **Kajisay** 39.22 65 P **P** **00 42 13.7 +0.8**
KDJ IAmb IAmb 00 42 17.0
comp=Z,27nm,0.8s
BJO1 **Bjornoya** 39.42 357 *eP* **P** **00 42 13.3 -0.6**
TARG **Taragay, Kyrgy** 39.73 65 P **P** **00 42 18.9 +1.5**
KURBB **Kurchatov Arra** 39.80 51 P **P** **00 42 19.1 +1.8**
comp=Z,70nm,0.7s,baz=276,slow=8.8,SNR=168
KURBB PcP **PcP** **00 44 23.8 +1.6**
comp=Z,9.1nm,0.8s,baz=271,slow=3.9,SNR=8.8
KURBB **Kurchatov Arra** 39.80 51 P **P** **00 42 18.9 +1.5**
TDK **Taldyqorghan** 39.82 60 *eP* **P** **00 42 19.5 +1.8**
comp=Z,38nm,0.7s,baz=60
TDK *eS* **S** **00 48 18.1 +1.3**
baz=60
TDK **Taldyqorghan** 39.82 60 *eP* **P** **00 42 19.5 +1.8**
TDK *eS* **S** **00 48 18.1 +1.3**
TDK pmax pmax
comp=Z,38nm,0.7s
KURK **Kurchatov** 39.86 51*ceP* **P** **00 42 19.3 +1.4**
KURK pmax pmax
comp=Z,52nm,0.7s
KURK **Kurchatov** 39.86 51 **PcP** **00 44 23.8 +1.4**
KURK **Kurchatov** 39.86 51 P **P** **00 42 19.6 +1.7**
SATY **Saty** 40.00 63⇑*eP* **P** **00 42 21.9 +2.5**
comp=Z,22nm,0.7s,baz=63
SATY *eS* **S** **00 48 21.9 +2.0**
baz=63
SATY **Saty** 40.00 63*ceP* **P** **00 42 21.9 +2.5**
SATY *eS* **S** **00 48 21.9 +2.0**
SATY pmax pmax
comp=Z,22nm,0.7s
PRZ **Przheval'sk** 40.07 64 P **P** **00 42 21.4 +1.4**
PRZ pmax pmax
comp=Z,32nm,1.1s
PRZ **Przheval'sk** 40.07 64 P **P** **00 42 21.4 +1.4**
PRZ IAmb IAmb 00 42 24.8
comp=Z,32nm,1.1s
JMIC **Jan Mayen** 40.33 343 *eP* **P** **00 42 21.7 +0.1**
UZB **Uzynbulak** 40.44 63⇑*iP* **P** **00 42 24.8 +1.7**
comp=Z,5.7nm,0.7s,baz=63
UZB **Uzynbulak** 40.44 63*c iP* **P** **00 42 24.7 +1.7**
UZB pmax pmax
comp=Z,6.0nm,0.7s
SEM **Semipalatinsk** 40.89 52 *i P* **P** **00 42 28.4 +1.7**
comp=Z,12nm,0.7s,baz=52
SEM **Semipalatinsk** 40.89 52 *i P* **P** **00 42 28.3 +1.6**
SEM pmax pmax
comp=Z,12nm,0.7s
DBIC **Dimbokro** 40.91 233 P **P** **00 42 27.4 +0.4**
comp=Z,13nm,0.4s,baz=24,slow=8.9,SNR=34
DBIC LR LR 01 01 06.4
comp=Z,62nm,20.8s,baz=38,slow=38
DBIC **Dimbokro** 40.91 233 P **P** **00 42 27.8 +0.8**
DBIC pmax pmax
comp=Z,20nm,0.5s
DBIC **Dimbokro** 40.91 233 P **P** **00 42 27.8 +0.8**
DBIC IAmb IAmb 00 42 27.8
comp=Z,20nm,0.5s
TIC **Toumodi** 41.04 233 *eP* **P** **00 42 27.6 -0.4**
KIC **Kosan Boka** 41.07 233 *eP* **P** **00 42 28.5 +0.3**
comp=Z,45nm,0.5s
BORG **Borgarnes** 41.12 331 P **P** **00 42 29.6 +1.5**
comp=Z,20nm,0.8s,baz=117,slow=7.0,SNR=9.2
BORG **Borgarnes** 41.12 331 P **P** **00 42 27.6 -0.5**
BORG IAmb IAmb 00 42 30.3
comp=Z,32nm,0.8s
HOPEN **Hopen** 41.25 359 *eP* **P** **00 42 28.8 -0.2**
LIC **Lamto** 41.35 233 *eP* **P** **00 42 30.8 +0.2**
comp=Z,61nm,0.6s
MAKZ **Makanchi** 42.16 57 P **P** **00 42 38.1 +1.2**
MAKZ pmax pmax
comp=Z,32nm,0.9s
MAKZ **Makanchi** 42.16 57 P **P** **00 42 38.1 +1.2**
MAKZ IAmb IAmb 00 42 39.6
comp=Z,32nm,0.9s
MK31 **Makanchi Array** 42.38 57 *i P* **P** **00 42 40.2 +1.5**
MK31 **Makanchi Array** 42.38 57 P **P** **00 42 39.5 +0.9**
MKAR **Makanchi Array** 42.38 57 P **P** **00 42 40.5 +1.9**
comp=Z,58nm,0.6s,baz=279,slow=6.8,SNR=590
MKAR ScP **ScP** **00 48 15.3 +0.2**
comp=Z,1.5nm,0.8s,baz=268,slow=5.8,SNR=4.7
MKAR **Makanchi Array** 42.38 57 P **P** **00 42 40.2 +1.5**
SPA0 **Spitsbergen Ar** 43.16 357 P **P** **00 42 44.6 0.0**
SPA0 IAmb IAmb 00 42 46.7
comp=Z,33nm,0.9s
SPA0 **Spitsbergen Ar** 43.16 357 *eP* **P** **00 42 44.2 -0.4**
SPITS **Spitsbergen Ar** 43.16 357 P **P** **00 42 44.4 -0.2**
comp=Z,7.0nm,0.4s,baz=146,slow=12,SNR=51
SCO **Scoresbysund** 43.71 338⇑*iP* **P** **00 42 49.6 +0.6**
comp=Z,26nm,0.8s
SCO **Scoresbysund** 43.71 338⇑*iP* **P** **00 42 49.6 +0.6**
SCO pmax pmax
comp=Z,28nm,0.8s
ZAA0 **Zalesovo Array** 43.75 46 P **P** **00 42 50.6 +1.0**
ZALV **Zalesovo Beam** 43.75 46 P **P** **00 42 50.7 +1.1**
comp=Z,52nm,0.6s,baz=267,slow=9.0,SNR=257
ZALV LR LR 01 03 05.3
comp=Z,56nm,21.9s,baz=308,slow=39
ZALV **Zalesovo Beam** 43.75 46 P **P** **00 42 50.6 +1.0**
ZALV **Zalesovo Beam** 43.75 46 P **P** **00 42 50.6 +1.0**
ZSN **Zaisan** 44.06 56⇑*iP* **P** **00 42 54.2 +2.0**
comp=Z,11nm,0.8s,baz=56
ZSN *eS* **S** **00 49 20.7 +1.3**
baz=56
ZSN **Zaisan** 44.06 56*c iP* **P** **00 42 54.2 +2.0**
ZSN *eS* **S** **00 49 20.6 +1.2**
ZSN pmax pmax
comp=Z,11nm,0.8s
KBS **Kingsbay** 44.12 356*ceP* **P** **00 42 52.4 +0.2**
KBS pmax pmax
comp=Z,34nm,1.0s
KBS **Kingsbay** 44.12 356 P **P** **00 42 52.4 +0.2**
KBS **Kingsbay** 44.12 356 *eP* **P** **00 42 51.7 -0.6**
DGZ **Jazzator, Alta** 45.54 52*c iP* **P** **00 43 06.1 +2.0**
DGZ pmax pmax
comp=Z,25nm,0.7s
DAG **Danmarks Havn** 46.20 347⇑*iP* **P** **00 43 08.0 -0.7**
comp=Z,14nm,0.6s
DAG *i* 00 43 22.1
DAG **Danmarks Havn** 46.20 347⇑*iP* **P** **00 43 08.0 -0.7**
DAG pmax pmax
comp=Z,14nm,0.6s
WMQ **Urumqi** 46.57 60 *eP* **P** **00 43 14.2 +2.0**
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ pmax pmax
comp=Z,49nm,5.1s
WMQ LR LR
comp=Z,520nm,29.3s
WMQ LR LR
comp=Z,1μm,28.9s
WMQ **Urumqi** 46.57 60 P **P** **00 43 12.7 +0.5**
WMQ pmax pmax
comp=Z,21nm,1.0s
WMQ **Urumqi** 46.57 60 P **P** **00 43 12.7 +0.5**
WMQ IAmb IAmb 00 43 16.2
comp=Z,21nm,1.0s
NRIK **Noril'sk** 47.04 25 P **P** **00 43 17.1 +1.7**
comp=Z,36nm,0.5s,baz=238,slow=4.5,SNR=90
NRIK **Noril'sk** 47.04 25⇑*eP* **P** **00 43 16.9 +1.5**
NRIK pmax pmax
comp=Z,36nm,0.8s
PYUN **Piuthan** 47.60 82 *eP* **P** **00 43 22.1 +1.5**
comp=Z,75nm,0.7s
DANN **Dangsing** 48.12 82 *eP* **P** **00 43 26.7 +2.0**
KOLN **Koldanda** 48.23 82 *eP* **P** **00 43 26.5 +1.1**
comp=Z,9.3nm,0.3s
HYB **Hyderabad** 48.92 98 *i P* **P** **00 43 31.5 +0.9**
NOR **Nord** 48.95 352⇑*iP* **P** **00 43 29.1 -0.9**
comp=Z,12nm,0.5s
NOR **Nord** 48.95 352⇑*iP* **P** **00 43 29.1 -0.9**
NOR pmax pmax
comp=Z,12nm,0.5s
GKN **Gorkha** 48.97 82 *eP* **P** **00 43 32.3 +1.2**
comp=Z,21nm,0.3s
SUMG **Summit** 49.34 339⇑*iP* **P** **00 43 33.5 -0.1**
comp=Z,67nm,0.7s
SUMG **Summit** 49.34 339⇑*iP* **P** **00 43 33.5 -0.1**
SUMG pmax pmax
comp=Z,67nm,0.7s
SUMG **Summit** 49.34 339 **PcP** **00 44 55.2 +0.1**
DMN **Daman** 49.51 82 *eP* **P** **00 43 36.8 +1.5**
PKIN **Phulchoki** 49.76 82 *eP* **P** **00 43 38.3 +1.1**
comp=Z,13nm,0.6s
PKI **Pulchoki** 49.77 82 *eP* **P** **00 43 38.4 +1.0**
JIRN **Jiri** 50.37 81 *eP* **P** **00 43 43.0 +1.1**
LSZ **Lusaka** 50.37 179 P **P** **00 43 42.4 +0.8**
comp=Z,2.8nm,0.9s,baz=20,slow=12,SNR=4.2
LSZ **Lusaka** 50.37 179 P **P** **00 43 41.7 +0.1**
RAMN **Ramite** 50.99 82 *eP* **P** **00 43 47.0 +0.5**
comp=Z,13nm,0.5s
ODAN **Odare** 51.67 82 *eP* **P** **00 43 52.4 +0.8**
comp=Z,6.2nm,0.4s
TAPN **Taplejung** 51.72 81 *eP* **P** **00 43 53.0 +1.0**
comp=Z,9.9nm,0.4s
IVI **Ivigtut** 52.76 324 P **P** **00 43 58.9 +0.1**
SFJD **Kangerlussuaq** 53.24 331 P **P** **00 44 02.0 -0.3**
comp=Z,15nm,0.5s,baz=77,slow=5.7,SNR=9.7
SFJD **Kangerlussuaq** 53.24 331 *i P* **P** **00 44 01.7 -0.6**
SFJD **Kangerlussuaq** 53.24 331 P **P** **00 44 02.0 -0.3**
SFJD pmax pmax
comp=Z,19nm,0.8s
SFJD **Kangerlussuaq** 53.24 331 P **P** **00 44 02.0 -0.3**
SFJD IAmb IAmb 00 44 03.6
comp=Z,19nm,0.8s
ILULI **Ilulissat** 53.27 334 P **P** **00 44 01.5 -0.9**
ILULI pmax pmax
comp=Z,26nm,0.8s
ILULI **Ilulissat** 53.27 334 P **P** **00 44 01.5 -0.9**
MOY **Mondy** 53.74 48 *eP* **P** **00 44 08.8 +2.5**
MOY pmax pmax
comp=Z,35nm,1.5s
KULLO **Kullorsuaq** 54.76 341 *i P* **P** **00 44 13.0 -0.2**
comp=Z,13nm,0.8s
KULLO **Kullorsuaq** 54.76 341 *i P* **P** **00 44 13.0 -0.2**
KULLO pmax pmax
comp=Z,13nm,0.8s
TSUM **Tsumeb** 55.00 191 P **P** **00 44 16.2 +0.4**
TLY **Talaya** 55.33 47*c iP* **P** **00 44 18.8 +1.1**
TLY pmax pmax
comp=Z,23nm,1.0s
TLY **Talaya** 55.33 47 P **P** **00 44 18.8 +1.1**
TLY IAmb IAmb 00 44 21.4
comp=Z,27nm,1.0s
ZAK **Zakamensk** 55.45 49 *eP* **P** **00 44 20.2 +1.5**
ZAK pmax pmax
comp=Z,30nm,1.0s
MATP **Matopo** 55.50 178 P **P** **00 44 21.2 +1.9**
comp=Z,5.4nm,0.9s,baz=6.9,slow=8.5,SNR=10.0
IRK **Irkutsk** 55.56 47 *eP* **P** **00 44 19.6 +0.2**
IRK pmax pmax
comp=Z,41nm,1.8s
GTA **Gaotai** 56.51 63 *eP* **P** **00 44 27.5 +1.0**
GTA pmax pmax
comp=Z,19nm,0.8s
TULEG **Thule** 57.28 344 P **P** **00 44 30.0 -1.2**
SONM **Songino Array** 58.16 51 P **P** **00 44 39.8 +1.8**
comp=Z,28nm,0.7s,baz=286,slow=7.9,SNR=132
SONM LR LR 01 11 12.5
comp=Z,60nm,21.6s,baz=272,slow=38
SONM **Songino Array** 58.16 51 P **P** **00 44 39.6 +1.6**
SONM pmax pmax
comp=Z,18nm,0.7s
SONM **Songino Array** 58.16 51 P **P** **00 44 39.6 +1.6**
ULN **Ulaanbaatar** 58.57 51 P **P** **00 44 41.9 +1.0**
ULN pmax pmax
comp=Z,30nm,0.9s
ULN **Ulaanbaatar** 58.57 51 P **P** **00 44 41.9 +1.0**
TIXI **Tiksi** 60.43 21*c iP* **P** **00 44 53.5 +0.5**
TIXI pmax pmax
comp=Z,19nm,0.9s
TIXI **Tiksi** 60.43 21 P **P** **00 44 53.1 +0.1**
LZH **Lanzhou** 60.72 65 ⇑P **P** **00 44 57.8 +2.0**
LZH pP pP 00 45 12.3 -1.5
LZH pmax pmax
comp=Z,26nm,1.1s
LZH pmax pmax
comp=Z,110nm,4.9s
CD2 **Chengdu** 62.88 70 P **P** **00 45 11.6 +1.4**
CD2 pmax pmax
comp=Z,60nm,0.8s
BTO **Baotou** 63.28 58 *eP* **P** **00 45 13.4 +0.6**
BOSA **Boshof** 63.66 182 P **P** **00 45 16.9 +1.7**
comp=Z,2.1nm,0.5s,baz=356,slow=7.6,SNR=8.6
BOSA LR LR 01 16 31.7
comp=Z,102nm,19.7s,baz=0.5,slow=39
BOSA **Boshof** 63.66 182 P **P** **00 45 15.5 +0.2**
RES **Resolute Bay** 63.86 345 P **P** **00 45 15.0 -1.0**
RES pmax pmax
comp=Z,4.0nm,0.9s
RES **Resolute Bay** 63.86 345 P **P** **00 45 15.0 -1.0**
SCHQ **Schefferville** 64.03 320 P **P** **00 45 17.5 +0.1**
comp=Z,25nm,0.5s,baz=65,slow=4.4,SNR=94
SCHQ **Schefferville** 64.03 320 P **P** **00 45 17.5 +0.1**
HHC **Hu-ho-hao-te** 64.24 57 *eP* **P** **00 45 21.7 +2.5**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,65nm,6.6s
KMI **Kunming** 64.77 76 P **P** **00 45 24.7 +1.7**
KMI pmax pmax
comp=Z,14nm,0.8s
YAK **Yakutsk** 64.92 31 *eP* **P** **00 45 22.0 -1.1**
YAK pmax pmax
comp=Z,18nm,0.8s
YAK pmax pmax
comp=E,6.0nm,1.3s
GBN **Guysborough** 64.95 309 P **P** **00 45 23.9 +0.4**
GBN IAmb IAmb 00 45 25.1
comp=Z,30nm,0.9s
CM31 **Chiang Mai Arr** 65.02 84 P **P** **00 45 24.2 -0.2**
CM31 IAmb IAmb 00 45 26.3
comp=Z,22nm,1.1s
CMAR **Chiang Mai Arr** 65.02 84 P **P** **00 45 25.2 +0.8**
comp=Z,6.9nm,0.8s,baz=299,slow=8.1,SNR=19
CMAR LR LR 01 18 40.8
comp=Z,17nm,18.4s,baz=260,slow=40
XAN **Xi'an** 65.36 65 P **P** **00 45 27.6 +1.1**
XAN pmax pmax
comp=Z,23nm,0.7s
XAN **Xi'an** 65.36 65 P **P** **00 45 27.1 +0.6**
XAN pmax pmax
comp=Z,14nm,0.7s
XAN **Xi'an** 65.36 65 P **P** **00 45 27.1 +0.6**
XAN IAmb IAmb 00 45 28.6
comp=Z,14nm,0.7s
HIA **Hailar** 65.79 46 P **P** **00 45 29.7 +0.8**
HIA pmax pmax
comp=Z,24nm,0.6s
HIA **Hailar** 65.79 46 P **P** **00 45 29.7 +0.8**
HAL **Halifax** 66.61 309 P **P** **00 45 33.8 -0.4**
HAL pmax pmax
comp=Z,47nm,1.0s
HAL **Halifax** 66.61 309 P **P** **00 45 33.8 -0.4**
GYA **Guiyang** 67.21 73⇑*iP* **P** **00 45 39.5 +1.0**
GYA PcP **PcP** **00 46 08.6 +2.6**
GYA PP **PP** **00 48 14.2 +7.0**
GYA S S 00 54 18.6 -9.4
GYA pmax pmax
comp=Z,20nm,0.9s
GYA pmax pmax

comp=Z,180nm,5.0s
GYA LR LR
comp=Z,310nm,4.0s
GYA LR LR
comp=Z,170nm,4.3s
GYA LR LR
comp=Z,150nm,4.6s
ENH Enshi 67.54 68 P **P** **00 45 39.5 -0.9**
SUR Sutherland 67.64 186 P **P** **00 45 40.4 -0.5**
BJI Beijing 67.75 56 P **P** **00 45 43.2 +1.7**
BJI pmax pmax
comp=Z,17nm,0.8s
BJT Baijiatuau 67.75 56 P **P** **00 45 41.5 -0.1**
BJT pmax pmax
comp=Z,14nm,0.8s
BJT Baijiatuau 67.75 56 P **P** **00 45 41.5 -0.1**
BJT IAmb IAmb 00 45 44.0
comp=Z,14nm,0.8s
ZEA Zeya 67.83 39 *eP* **P** **00 45 43.3 +1.5**
ZEA pmax pmax
comp=Z,12nm,1.0s
D63A Stockholm 68.28 313 P **P** **00 45 45.0 +0.3**
baz=61
PQI Presque Isle 68.40 312 P **P** **00 45 45.6 +0.1**
PQI IAmb IAmb 00 45 47.1
comp=Z,14nm,0.7s
E64A Bridgewater 68.41 312 P **P** **00 45 46.3 +0.7**
baz=61,SNR=7.8
E63A Oxbow 68.77 312 P **P** **00 45 48.6 +0.9**
baz=61,SNR=6.0
E63A Oxbow 68.77 312 P **P** **00 45 47.7 -0.1**
E63A IAmb IAmb 00 45 49.7
comp=Z,19nm,0.8s
D62A Allapoint, All 68.82 313 P **P** **00 45 49.3 +1.3**
baz=60,SNR=17
D62A Allapoint, All 68.82 313 P **P** **00 45 48.7 +0.6**
G65A Princeton 68.83 311 P **P** **00 45 49.0 +0.8**
baz=61
G65A Princeton 68.83 311 P **P** **00 45 48.6 +0.5**
G65A IAmb IAmb 00 45 50.1
comp=Z,14nm,0.9s
H66A Whiting 68.88 310 P **P** **00 45 49.3 +0.8**
baz=61,SNR=8.7
F64A Sherman 68.99 312 P **P** **00 45 50.2 +1.0**
baz=60
F64A Sherman 68.99 312 P **P** **00 45 49.8 +0.6**
F64A IAmb IAmb 00 45 50.8
comp=Z,13nm,0.7s
EMMW East Machias 69.01 310 P **P** **00 45 49.7 +0.4**
EMMW IAmb IAmb 00 45 51.2
comp=Z,22nm,0.8s
E62A Clayton Lake 69.33 313 P **P** **00 45 52.4 +1.1**
baz=60,SNR=6.6
E62A Clayton Lake 69.33 313 P **P** **00 45 51.2 -0.1**
E62A IAmb IAmb 00 45 52.9
comp=Z,14nm,0.7s
D61A St Aubert, Com 69.43 314 P **P** **00 45 53.0 +1.1**
baz=60,SNR=7.8
H65A Eastbrook 69.51 311 P **P** **00 45 53.1 +0.8**
baz=60
F63A Nahmakanta, Br 69.53 312 P **P** **00 45 53.8 +1.2**
baz=60,SNR=5.4
F63A Nahmakanta, Br 69.53 312 P **P** **00 45 52.6 +0.1**
F63A IAmb IAmb 00 45 54.6
comp=Z,14nm,0.7s
G64A Maxfield 69.54 311 P **P** **00 45 53.9 +1.3**
baz=60,SNR=7.7
PKME Peaks-Kenny Pk 69.87 312 P **P** **00 45 54.7 +0.1**
F62A Pittston Farm, 69.96 312 P **P** **00 45 56.2 +1.1**
baz=60
F62A Pittston Farm, 69.96 312 P **P** **00 45 55.7 +0.6**
F62A IAmb IAmb 00 45 57.4
comp=Z,14nm,0.8s
D60A Saint Jean D'O 70.01 314 P **P** **00 45 56.1 +0.7**
baz=59
H64A Troy 70.14 311 P **P** **00 45 57.1 +0.9**
baz=60
G63A Kingsbury 70.14 312 P **P** **00 45 57.6 +1.3**
baz=60
CHGQ Chibougamau 70.43 318 P **P** **00 45 58.9 +0.9**
baz=58
D59A Saint-Raymond 70.50 314 P **P** **00 45 58.8 +0.4**
baz=59
F61A St Evariste 70.53 313 P **P** **00 46 00.3 +1.6**
baz=59
E60A Ste Agathe de 70.60 313 P **P** **00 46 00.0 +1.0**
baz=59
G62A West of Eustis 70.64 312 P **P** **00 46 00.3 +0.9**
baz=59
G62A West of Eustis 70.64 312 P **P** **00 45 59.1 -0.2**
LATQ La Tuque 70.86 315 P **P** **00 46 01.6 +1.0**
baz=58
LATQ La Tuque 70.86 315 P **P** **00 46 00.9 +0.3**
WHN Wuhan 71.07 66 P **P** **00 46 04.7 +2.6**
D58A Chemin du LacG 71.07 315 P **P** **00 46 02.5 +0.6**
baz=58,SNR=5.5
F60A Warwick 71.11 313 P **P** **00 46 03.2 +1.0**
baz=58,SNR=9.2
A36M Sachs Harbour 71.19 351 P **P** **00 46 02.5 +0.4**
baz=24,SNR=23
G61A St-Isidore-de- 71.21 312 P **P** **00 46 04.5 +1.7**
baz=58,SNR=6.0
I63A Otisfield 71.28 311 P **P** **00 46 04.7 +1.6**
baz=59
H62A Milan 71.36 312 P **P** **00 46 04.2 +0.5**
baz=58,SNR=6.6
H62A Milan 71.36 312 P **P** **00 46 03.8 +0.1**
H62A IAmb IAmb 00 46 06.4
comp=Z,23nm,1.1s
F59A Saint Guilaume 71.67 313 P **P** **00 46 06.7 +1.2**
baz=58
E58A La Victoria 71.68 314 P **P** **00 46 06.4 +0.9**
baz=58,SNR=10
D57A Chemin Vers le 71.69 315 P **P** **00 46 06.6 +0.9**
baz=58,SNR=5.6
G60A Masonville 71.80 313 P **P** **00 46 07.4 +1.1**
baz=58
I62A Tamworth 71.83 311 P **P** **00 46 07.3 +0.7**
baz=58
H61A Lyndonville 71.85 312 P **P** **00 46 08.2 +1.6**
baz=58,SNR=6.7
J63A Strafford 71.99 311 P **P** **00 46 09.1 +1.7**
baz=58
LBNH Lisbon 72.00 312 P **P** **00 46 09.5 +2.0**
baz=58
LBNH Lisbon 72.00 312 P **P** **00 46 08.1 +0.5**
LBNH pmax pmax
comp=Z,16nm,0.8s
LBNH Lisbon 72.00 312 P **P** **00 46 08.1 +0.5**
LBNH IAmb IAmb 00 46 10.4
comp=Z,16nm,0.8s
D56A ZEC Mazanza, M 72.18 315 P **P** **00 46 09.6 +1.1**
baz=57,SNR=12
MATQ Matagami 72.29 319 P **P** **00 46 10.3 +1.1**
baz=56
H60A Morristown 72.30 312 P **P** **00 46 11.1 +1.7**
baz=58
LSQQ Lebel-sur-Quev 72.32 318 P **P** **00 46 10.3 +0.9**
baz=56
I61A Oroboro, Fairl 72.34 312 P **P** **00 46 11.3 +1.8**
baz=58
VT1 Waterbury 72.46 312 P **P** **00 46 10.7 +0.4**
J62A Henniker 72.47 311 P **P** **00 46 12.2 +1.9**
baz=58
BILL Bilibino 72.48 15 *dP* **P** **00 46 10.0 0.0**
BILL *e* 00 46 26.3
BILL *e* 00 48 49.1
BILL pmax pmax
comp=Z,16nm,1.6s
BILL Bilibino 72.48 15 P **P** **00 46 09.6 -0.4**
HNH Hanover 72.51 311 P **P** **00 46 11.7 +1.2**
HNH IAmb IAmb 00 46 13.5
comp=Z,20nm,0.8s
BCX Boston College 72.54 310 P **P** **00 46 11.0 +0.2**
BCX IAmb IAmb 00 46 13.2
comp=Z,20nm,0.8s
L64A Middleborough 72.54 309 P **P** **00 46 12.4 +1.6**
baz=58
K63A Dunstable 72.58 310 P **P** **00 46 12.1 +1.1**
baz=58
D55A Sainte-Anne-du 72.60 316 P **P** **00 46 12.2 +1.1**
baz=57,SNR=8.7
E56A St. Veronique 72.61 315 P **P** **00 46 12.1 +1.0**
baz=57,SNR=6.0
WES Weston 72.61 310 P **P** **00 46 11.1 -0.1**
WES pmax pmax
comp=Z,23nm,0.7s
WES Weston 72.61 310 P **P** **00 46 11.1 -0.1**
WES IAmb IAmb 00 46 12.6
comp=Z,23nm,0.7s
FRNY Flat Rock 72.69 313 P **P** **00 46 12.2 +0.6**
FRNY IAmb IAmb 00 46 13.7
comp=Z,15nm,0.8s
G58A Ormstown 72.80 313 P **P** **00 46 13.3 +1.1**
baz=57,SNR=5.2
H59A Cadyville 72.85 313 P **P** **00 46 13.8 +1.2**
baz=57,SNR=6.9
J61A Chester 72.86 311 P **P** **00 46 13.4 +0.7**
baz=57,SNR=5.0
M64A Tiverton 72.98 309 P **P** **00 46 14.6 +1.3**
baz=58
K62A Royalston 73.03 310 P **P** **00 46 14.9 +1.2**
baz=57
K62A Royalston 73.03 310 P **P** **00 46 13.6 -0.1**
I60A Shoreham 73.05 312 P **P** **00 46 14.3 +0.5**
baz=57
L63A North Scituate 73.07 309 P **P** **00 46 14.8 +0.9**
baz=58
VLDQ Val d'Or 73.11 317 P **P** **00 46 14.8 +0.7**
VLDQ IAmb IAmb 00 46 16.6
comp=Z,16nm,0.7s
D54A Lac Fusel, La 73.20 316 P **P** **00 46 15.7 +1.0**
baz=56
E55A Montcerf-Lytto 73.25 315 P **P** **00 46 15.9 +1.0**
baz=56
H58A Gabriels 73.27 313 P **P** **00 46 16.3 +1.2**
baz=57,SNR=6.6
QUA2 Belchertown 73.31 310 P **P** **00 46 16.0 +0.7**
QUA2 IAmb IAmb 00 46 18.0
comp=Z,11nm,0.7s
G57A Newington 73.37 314 P **P** **00 46 16.7 +1.1**
baz=56
BBSR BB Station 73.38 298 P **P** **00 46 13.8 -2.1**
LONY Lake Ozonia 73.40 313 P **P** **00 46 17.0 +1.2**
baz=56
LONY Lake Ozonia 73.40 313 P **P** **00 46 16.0 +0.2**
LONY IAmb IAmb 00 46 18.2
comp=Z,13nm,0.8s
L61B Northampton 73.42 310 P **P** **00 46 17.8 +1.8**
baz=57
I59A Olmsteadville 73.43 312 P **P** **00 46 17.3 +1.3**
baz=57
J60A Lant Hill Farm 73.45 311 P **P** **00 46 17.8 +1.6**
baz=57
C36M Paulatuk 73.45 350 P **P** **00 46 15.5 -0.2**
baz=24,SNR=16
C36M Paulatuk 73.45 350 P **P** **00 46 15.3 -0.4**
ORIO Orleans, Innes 73.49 314 P **P** **00 46 17.7 +1.4**
baz=56
ORIO Orleans, Innes 73.49 314 P **P** **00 46 16.1 -0.2**
ACCN Adirondack Com 73.53 312 P **P** **00 46 17.1 +0.5**
ACCN IAmb IAmb 00 46 19.4
comp=Z,16nm,0.8s
KULM Kulim 73.59 95 P **P** **00 46 16.9 -0.5**
KULM IAmb IAmb 00 46 17.6
comp=Z,16nm,1.1s
M63A Gales Ferry 73.59 309 P **P** **00 46 18.5 +1.5**
baz=57
NJ2 Nanjing 73.60 62 *eP* **P** **00 46 16.1 -1.1**
NJ2 pmax pmax
comp=Z,12nm,0.8s
PSI Prapat 73.63 98 P **P** **00 46 16.7 -1.1**
PSI pmax pmax
comp=Z,10.0nm,0.9s
K61A Williamstown 73.67 311 P **P** **00 46 19.3 +1.9**
baz=57
RPSI Rantau Prapat 73.69 98 P **P** **00 46 16.7 -1.3**
F55A Otter Lake 73.77 315 P **P** **00 46 19.2 +1.3**
baz=56
D53A Lac Vacive, Po 73.83 317 P **P** **00 46 19.4 +1.1**
baz=55,SNR=15
D53A Lac Vacive, Po 73.83 317 P **P** **00 46 18.4 +0.1**
D53A IAmb IAmb 00 46 20.5
comp=Z,23nm,0.8s
E54A Lac Daplat, Po 73.91 316 P **P** **00 46 19.5 +0.8**
baz=55,SNR=9.1
J59A Piesco 73.99 312 P **P** **00 46 20.9 +1.5**
baz=56,SNR=5.2
J59A Piesco 73.99 312 P **P** **00 46 20.0 +0.6**
M62A Hamden 74.11 310 P **P** **00 46 21.0 +1.0**
baz=57
L61A Hillsdale 1, H 74.11 311 P **P** **00 46 21.8 +1.8**
baz=56
I58A Old Forge 74.15 312 P **P** **00 46 22.0 +1.7**
baz=56,SNR=5.1
GRNR Gornyy 74.17 39 *iP* **P** **00 46 21.3 +1.1**
GRNR pmax pmax
comp=Z,7.0nm,1.1s
GRNR MLR MLR
comp=Z,70nm,13.0s
YLE Yale 74.20 310 P **P** **00 46 20.5 -0.1**
E53A Dumoine, Ponti 74.21 316 P **P** **00 46 21.6 +1.0**
baz=55
D52A ZEK Kipawa Sen 74.29 317 P **P** **00 46 21.8 +0.8**
baz=55,SNR=6.3
G55A Calabogie 74.31 315 P **P** **00 46 22.4 +1.3**
baz=56
KSCT Kent School, K 74.32 310 P **P** **00 46 21.3 0.0**
KSCT IAmb IAmb 00 46 23.7
comp=Z,16nm,0.8s
H56A Elgin 74.41 314 P **P** **00 46 22.9 +1.2**
baz=56
I57A Carthage 74.42 313 P **P** **00 46 23.1 +1.2**
baz=56,SNR=5.7
J58A Remsen 74.52 312 P **P** **00 46 23.9 +1.5**
baz=56,SNR=6.9
J58A Remsen 74.52 312 P **P** **00 46 22.4 0.0**
J58A IAmb IAmb 00 46 25.1
comp=Z,18nm,0.8s
K59A Cooperstown 74.58 312 P **P** **00 46 24.5 +1.7**
baz=56
MA2 Magadan 74.63 26 *i* P **P** **00 46 23.6 +0.9**
MA2 pmax pmax
comp=Z,25nm,1.4s
MA2 Magadan 74.63 26 P **P** **00 46 22.4 -0.3**
MA2 IAmb IAmb 00 46 24.4
comp=Z,20nm,0.9s
L60A Shokan 74.64 311 P **P** **00 46 24.5 +1.4**
baz=56
ALGO Algonquin Park 74.67 316 P **P** **00 46 24.3 +1.1**
baz=55
D51A Lot 18 Range I 74.76 317 P **P** **00 46 24.8 +1.0**
baz=54
E52A Mattawa 74.83 316 P **P** **00 46 25.0 +0.9**
baz=54,SNR=8.8
J57A Williamstown 74.92 313 P **P** **00 46 26.0 +1.3**
baz=55
J57A Williamstown 74.92 313 P **P** **00 46 23.5 -1.2**
J57A IAmb IAmb 00 46 27.2
comp=Z,17nm,0.8s
D50A G1974 Best Tow 74.98 317 P **P** **00 46 25.9 +1.0**
baz=54,SNR=5.2
H55A Tweed 74.98 314 P **P** **00 46 26.4 +1.4**
baz=55
PAL Palisades 74.98 310 P **P** **00 46 24.1 -1.0**
PAL pmax pmax
comp=Z,10.0nm,0.7s
PAL Palisades 74.98 310 P **P** **00 46 24.1 -1.0**
PAL IAmb IAmb 00 46 26.8
comp=Z,10nm,0.7s
G54A Lake Saint Pet 75.02 315 P **P** **00 46 26.4 +1.2**
baz=55,SNR=12
L59A Walton 75.03 311 P **P** **00 46 26.9 +1.5**
baz=56,SNR=8.1
L59A Walton 75.03 311 P **P** **00 46 25.9 +0.4**
K58A Earlville 75.08 312 P **P** **00 46 27.1 +1.4**
baz=56,SNR=5.5
K58A Earlville 75.08 312 P **P** **00 46 25.8 +0.2**
K58A IAmb IAmb 00 46 28.2
comp=Z,18nm,0.9s
E51A G1948 Merrick 75.15 317 P **P** **00 46 26.8 +0.8**
baz=54,SNR=6.3
HKPS Hong Kong Po S 75.20 73 P **P** **00 46 25.7 -1.0**
PECO Prince Edward 75.22 314 P **P** **00 46 26.6 +0.2**
PECO IAmb IAmb 00 46 28.7
comp=Z,12nm,0.7s
DELO Deloro Mine 75.25 314 P **P** **00 46 26.3 -0.2**
M60A Port Jervis 75.25 310 P **P** **00 46 28.0 +1.3**
baz=56
N61A South Mountain 75.37 310 P **P** **00 46 28.6 +1.2**
baz=56
ODNJ Ogdensburg 75.38 310 P **P** **00 46 27.7 +0.3**
ODNJ IAmb IAmb 00 46 29.7
comp=Z,17nm,0.8s
I55A Frankford 75.46 314 P **P** **00 46 29.0 +1.2**
baz=55
G53A Haliburton 75.48 315 P **P** **00 46 29.3 +1.4**
baz=54
F52A Sundridge 75.49 316 P **P** **00 46 29.3 +1.4**
baz=54,SNR=5.8
J56A Wolcott 75.51 313 P **P** **00 46 28.8 +0.8**
baz=55
J56A Wolcott 75.51 313 P **P** **00 46 28.3 +0.2**
J56A IAmb IAmb 00 46 30.6
comp=Z,25nm,0.8s
BRNJ Basking Ridge 75.58 310 P **P** **00 46 28.6 0.0**
BRNJ IAmb IAmb 00 46 31.0
comp=Z,17nm,0.8s
USA0B Ussuriysk Arra 75.60 46 *cP* **P** **00 46 29.3 +0.7**
USA0B Ussuriysk Arra 75.60 46 P **P** **00 46 28.9 +0.3**
USRK Ussuriysk Ar. 75.60 46 P **P** **00 46 29.5 +0.9**
comp=Z,28nm,0.7s,baz=295,slow=4.8,SNR=55
USRK Ussuriysk Ar. 75.60 46 P **P** **00 46 29.4 +0.8**
BINY Binghamton 75.60 312 P **P** **00 46 30.1 +1.4**
baz=55
BINY Binghamton 75.60 312 P **P** **00 46 28.8 +0.2**
BINY IAmb IAmb 00 46 31.2
comp=Z,22nm,0.9s
L58A Harry Jones Me 75.61 311 P **P** **00 46 29.3 +0.6**
baz=55
K57A Scipio Center 75.62 312 P **P** **00 46 29.8 +1.0**
baz=55
M59A Waymart 75.64 311 P **P** **00 46 29.9 +1.0**
baz=55
D49A Beulah Townshi 75.75 318 P **P** **00 46 30.4 +1.0**
baz=53
F51A Arnstein 75.75 316 P **P** **00 46 30.6 +1.2**
baz=54,SNR=6.9
H53A Bobcaygeon 75.78 315 P **P** **00 46 30.9 +1.3**
baz=54
N60A Cedar Hill Far 75.81 310 P **P** **00 46 31.3 +1.5**
baz=55,SNR=7.7
KSPA Keystone Colle 75.83 311 P **P** **00 46 30.0 0.0**
KSPA IAmb IAmb 00 46 32.4
comp=Z,24nm,0.8s
E50A Wahnapitae 75.91 317 P **P** **00 46 31.7 +1.4**
baz=53
SADO Sadowa 75.99 315 P **P** **00 46 31.9 +1.1**
comp=Z,9.5nm,0.6s,baz=94,slow=5.5,SNR=13
D48A Paudash Townsh 76.05 318 P **P** **00 46 31.8 +0.7**
baz=53
K56A Middlesex 76.13 313 P **P** **00 46 33.0 +1.4**
baz=54
N59A State Game Lan 76.20 310 P **P** **00 46 33.6 +1.5**
baz=55,SNR=10
N59A State Game Lan 76.20 310 P **P** **00 46 32.2 +0.1**
N59A IAmb IAmb 00 46 34.6
comp=Z,22nm,0.7s
L57A Andrews Acres 76.24 312 P **P** **00 46 33.8 +1.4**
baz=55,SNR=8.6
O60A Telford 76.31 310 P **P** **00 46 34.1 +1.4**
baz=55,SNR=5.8
M58A Price's Panora 76.37 311 P **P** **00 46 34.6 +1.6**
baz=55,SNR=9.0
MMNY Mt. Morris Dam 76.46 313 P **P** **00 46 33.7 +0.2**
MMNY IAmb IAmb 00 46 35.6
comp=Z,20nm,0.9s
H52A Wyevale 76.49 315 P **P** **00 46 34.4 +0.7**
baz=53
K55A Perry 76.56 313 P **P** **00 46 35.2 +1.1**
baz=54,SNR=6.6
J54A Appleton 76.58 314 P **P** **00 46 35.0 +0.9**
baz=54
J54A Appleton 76.58 314 P **P** **00 46 33.8 -0.3**
J54A IAmb IAmb 00 46 36.4
comp=Z,24nm,1.0s
L56A Greenwood 76.59 312 P **P** **00 46 35.7 +1.3**
baz=54,SNR=10.0
L56A Greenwood 76.59 312 P **P** **00 46 34.7 +0.4**
RDOG Red Dog Mine 76.63 4 P **P** **00 46 34.1 +0.1**
RDOG IAmb IAmb 00 46 35.1
comp=Z,12nm,0.7s
E48A Lockeyer 76.67 318 P **P** **00 46 35.5 +0.9**
baz=52
P60A Greenville 76.75 309 P **P** **00 46 36.6 +1.5**
baz=55
M57A Sunshine Farm, 76.80 311 P **P** **00 46 36.9 +1.5**
baz=54,SNR=8.1
M57A Sunshine Farm, 76.80 311 P **P** **00 46 36.0 +0.6**
M57A IAmb IAmb 00 46 37.9
comp=Z,18nm,0.8s
O59A Robesonia 76.81 310 P **P** **00 46 36.7 +1.2**
baz=55,SNR=6.8
D47A Chapleau 76.82 319 P **P** **00 46 36.4 +0.9**
baz=52,SNR=6.4
N58A Sunbury 76.83 311 P **P** **00 46 36.9 +1.3**
baz=54,SNR=9.7
N58A Sunbury 76.83 311 P **P** **00 46 35.3 -0.3**
N58A IAmb IAmb 00 46 37.9
comp=Z,22nm,0.8s
KS19 Wonju Array Si 76.87 53 P **P** **00 46 35.6 -0.3**
KS19 IAmb IAmb 00 46 38.4
comp=Z,18nm,0.8s
KSAR Wonju Array Be 76.91 53 P **P** **00 46 36.5 +0.4**
KSAR Wonju Array Be 76.91 53 P **P** **00 46 36.5 +0.4**
KSRS Korea Array 76.93 53 P **P** **00 46 37.5 +1.3**
comp=Z,14nm,0.6s,baz=303,slow=4.8,SNR=54
KSRS LR LR 01 25 08.7
comp=Z,74nm,19.6s,baz=216,slow=39
K54A Basiliko Farm, 77.00 313 P **P** **00 46 37.7 +1.1**
baz=54
F49A Sandfield 77.03 317 P **P** **00 46 37.8 +1.1**
baz=52,SNR=5.6
WVNY West Valley, N 77.06 313 P **P** **00 46 37.5 +0.6**
WVNY IAmb IAmb 00 46 39.1
comp=Z,18nm,0.8s
MVL Millersville 77.09 310 P **P** **00 46 37.5 +0.4**
MVL IAmb IAmb 00 46 39.5
comp=Z,24nm,1.0s
L55A Hinsdale 77.10 313 P **P** **00 46 38.5 +1.3**
baz=54
E47A Iron Bridge 77.29 318 P **P** **00 46 39.1 +1.0**
baz=52
KNMB Chin-men Tao 77.30 69 P **P** **00 46 37.0 -1.5**
F48A Evansville 77.31 318 P **P** **00 46 39.3 +1.0**
baz=52
BMAR Burnt Mountain 77.33 357 P **P** **00 46 39.1 +1.1**
Q60A Greensboro 77.34 309 P **P** **00 46 40.0 +1.5**
baz=55
Q60A Greensboro 77.34 309 P **P** **00 46 38.0 -0.5**
M56A Emporium 77.35 312 P **P** **00 46 39.9 +1.4**
baz=54,SNR=8.1
M56A Emporium 77.35 312 P **P** **00 46 38.7 +0.1**
M56A IAmb IAmb 00 46 41.0
comp=Z,19nm,0.8s
P59A Jarrettsville 77.37 310 P **P** **00 46 40.3 +1.7**
baz=54
O58A Lewisberry 77.38 310 P **P** **00 46 39.8 +1.1**
baz=54
N57A Milroy 77.39 311 P **P** **00 46 40.1 +1.3**
baz=54,SNR=5.2
D46A Sault St. Mari 77.43 319 P **P** **00 46 40.0 +1.1**
baz=51,SNR=7.0
L54A Sinclairville 77.59 313 P **P** **00 46 40.9 +1.0**
baz=53,SNR=9.0
I51A Listowel 77.65 315 P **P** **00 46 41.4 +1.3**
baz=53
SSPA Standing Stone 77.67 311 P **P** **00 46 41.8 +1.4**
J52A Paris 77.67 314 P **P** **00 46 41.3 +1.0**
baz=53
M55A Ridgway 77.72 312 P **P** **00 46 41.7 +1.1**
baz=54,SNR=13
YKA Yellowknife Ar 77.72 343 P **P** **00 46 40.2 0.0**
comp=Z,20nm,0.7s,baz=33,slow=5.2,SNR=163
YKA LR LR 01 21 23.0
comp=Z,19nm,18.2s,baz=0.0,slow=36
N56A West Decatur 77.76 312 P **P** **00 46 42.1 +1.3**
baz=54,SNR=6.6
O57A Amberson 77.77 311 P **P** **00 46 41.8 +0.9**
baz=54
EPYK Eagle Plains 77.82 353 P **P** **00 46 40.6 -0.2**
baz=14
EPYK Eagle Plains 77.82 353 IAmb IAmb 00 46 41.5
comp=Z,21nm,0.8s
E46A Sault Ste Mari 77.90 319 IAmb IAmb 00 46 43.4
comp=Z,17nm,0.8s
P58A Pank, Wackersv 77.98 310 P **P** **00 46 42.9 +0.9**
baz=54
S61A Accomac 78.00 308 P **P** **00 46 42.8 +0.6**
baz=54
FYU Fort Yukon 78.22 357 P **P** **00 46 43.0 +0.1**

M54A Oil Creek Stat 78.23 313 P P 00 46 44.7 +1.2
baz=53,SNR=6.4
M54A Oil Creek Stat 78.23 313 P P 00 46 43.6 +0.1
M54A IAmb IAmb 00 46 45.7
comp=Z,22nm,1.1s
R60A Leonardtown, M 78.24 309 P P 00 46 44.8 +1.3
baz=54
N55A Marion Center 78.26 312 P P 00 46 45.0 +1.3
baz=53,SNR=7.5
O56A Blue Knob Stat 78.31 311 P P 00 46 45.2 +1.3
baz=53,SNR=6.0
O56A Blue Knob Stat 78.31 311 P P 00 46 43.3 -0.6
O56A IAmb IAmb 00 46 46.1
comp=Z,14nm,0.8s
L53A Girard 78.32 313 P P 00 46 44.9 +1.0
baz=53,SNR=6.7
G47A Hillman 78.40 318 P P 00 46 45.4 +1.1
baz=51
H48A Harrisville 78.40 317 P P 00 46 45.3 +1.0
baz=51
P57A Homestead Farm 78.43 310 P P 00 46 45.8 +1.3
baz=54,SNR=8.2
P57A Homestead Farm 78.43 310 P P 00 46 44.6 0.0
P57A IAmb IAmb 00 46 46.7
comp=Z,19nm,0.9s
ALLY Alegheny Colle 78.44 313 P P 00 46 44.2 -0.4
ALLY IAmb IAmb 00 46 46.4
comp=Z,20nm,1.1s
Q58A Fox Den Farm, 78.54 310 P P 00 46 46.1 +0.9
baz=54
I49A Point Hope 78.59 316 P P 00 46 46.3 +0.9
baz=52
S60A Water View 78.61 308 P P 00 46 47.1 +1.5
baz=54
R59A King George, V 78.62 309 P P 00 46 46.7 +1.1
baz=54
N54A Moraine State 78.76 312 P P 00 46 47.5 +1.1
baz=53,SNR=6.3
N54A Moraine State 78.76 312 P P 00 46 46.2 -0.1
N54A IAmb IAmb 00 46 48.4
comp=Z,16nm,0.8s
CBN Corbin Frederi 78.78 309 P P 00 46 47.4 +0.9
baz=54
CBN Corbin Frederi 78.78 309 P P 00 46 46.7 +0.2
O55A Ligonier 78.80 311 P P 00 46 47.7 +1.1
baz=53,SNR=8.2
G46A Petoskey 78.86 318 P P 00 46 47.8 +1.0
baz=50
M53A WI Miller and 78.88 313 P P 00 46 47.7 +0.7
baz=52
M53A WI Miller and 78.88 313 P P 00 46 46.8 -0.3
P56A Dayton Farm, R 78.93 311 P P 00 46 48.5 +1.2
baz=53,SNR=8.0
I48A Sherman Twp 78.94 317 P P 00 46 47.7 +0.5
baz=51
Q57A Strasburg 78.94 310 P P 00 46 48.5 +1.1
baz=53
IMAR Indian Mountai 78.98 0 P P 00 46 47.2 +0.1
F45A CMU Biological 78.98 319 P P 00 46 48.4 +0.9
baz=50
T60A Surry 79.00 308 P P 00 46 48.7 +1.0
baz=54
T60A Surry 79.00 308 P P 00 46 47.9 +0.2
GLMI Grayling 79.04 318 P P 00 46 48.4 +0.5
baz=51
GLMI Grayling 79.04 318 P P 00 46 47.4 -0.5
R58A Rapidan 79.13 309 P P 00 46 48.9 +0.5
baz=53
J49A Marlette 79.14 316 P P 00 46 49.2 +0.9
baz=51,SNR=5.1
K50A Casco 79.20 315 P P 00 46 49.5 +0.8
baz=52
K50A Casco 79.20 315 P P 00 46 48.9 +0.1
M52A Chesterland 79.22 314 P P 00 46 49.7 +0.8
baz=52
M52A Chesterland 79.22 314 P P 00 46 48.0 -0.9
M52A IAmb IAmb 00 46 50.8
comp=Z,14nm,0.8s
R58B Mineral 79.25 309 P P 00 46 50.0 +0.9
baz=53,SNR=7.4
R58B Mineral 79.25 309 P P 00 46 49.3 +0.2
R58B IAmb IAmb 00 46 50.9
comp=Z,11nm,0.8s
PRP Porcupine Dome 79.28 357 P P 00 46 49.1 +0.2
E43A Lone Tree Farm 79.33 320 P P 00 46 48.7 -0.6
E43A IAmb IAmb 00 46 50.4
comp=Z,10nm,0.7s
N53A Lisbon 79.36 313 P P 00 46 50.7 +1.0
baz=52
Q56A Snyder Ridge, 79.42 310 P P 00 46 51.2 +1.1
baz=53,SNR=14
Q56A Snyder Ridge, 79.42 310 P P 00 46 50.7 +0.7
R57A Stanardsville 79.45 310 P P 00 46 51.2 +1.0
baz=53,SNR=8.2
MCWV Mont Chateau 79.46 311 P P 00 46 51.1 +0.9
baz=53
MCWV Mont Chateau 79.46 311 P P 00 46 50.3 +0.1
MCWV IAmb IAmb 00 46 52.5
comp=Z,14nm,0.7s
O54A Avella 79.47 312 P P 00 46 51.3 +1.0
baz=52
O54A Avella 79.47 312 P P 00 46 50.0 -0.2
O54A IAmb IAmb 00 46 52.2
comp=Z,13nm,0.7s
G45A Suttons Bay 79.47 318 P P 00 46 50.9 +0.8
baz=50
G45A Suttons Bay 79.47 318 P P 00 46 50.0 -0.2
I47A Gladwin 79.49 317 P P 00 46 51.3 +1.0
baz=50
I47A Gladwin 79.49 317 P P 00 46 50.3 0.0
I47A IAmb IAmb 00 46 52.0
comp=Z,16nm,0.7s
P55A Reedsville 79.54 311 P P 00 46 51.7 +1.0
baz=52,SNR=7.0
J48A Bridge Port 79.54 316 P P 00 46 51.5 +0.9
baz=51
J48A Bridge Port 79.54 316 P P 00 46 50.1 -0.5
J48A IAmb IAmb 00 46 52.3
comp=Z,13nm,0.8s
H46A Fife Lake 79.55 318 P P 00 46 51.1 +0.5
baz=50
S58A Poland Farm, P 79.56 309 P P 00 46 51.8 +1.1
baz=53,SNR=9.3
S58A Poland Farm, P 79.56 309 P P 00 46 50.4 -0.4
S58A IAmb IAmb 00 46 52.7
comp=Z,21nm,0.7s
T59A Double "B" Far 79.63 308 P P 00 46 52.1 +1.0
baz=53
T59A Double "B" Far 79.63 308 P P 00 46 51.0 -0.1
T59A IAmb IAmb 00 46 53.0
comp=Z,13nm,0.8s
U60A Pendleton 79.67 307 P P 00 46 52.5 +1.1
baz=54
K49A Clarkson 79.68 315 P P 00 46 52.1 +0.8
baz=51
POKR Poker Plat Res 79.76 358 P P 00 46 52.1 +0.7
baz=4.5
EGAK Eagle 79.76 355 P P 00 46 51.4 +0.1
L50A Kingsville 79.77 315 P P 00 46 52.4 +0.6
baz=51
YSS Yuzh-Sakhalins 79.81 39 e P P 00 46 51.0 -0.9
YSS e 00 47 01.8
YSS pmax pmax
comp=Z,40nm,0.9s
YSS pmax pmax
comp=Z,300nm,2.4s
M51A Elyria 79.84 314 P P 00 46 52.7 +0.5
baz=52
N52A McGinn's Farm, 79.87 313 P P 00 46 53.3 +0.9
baz=52
P54A Burton 79.88 312 P P 00 46 53.5 +1.0
baz=52
ANM Nome 79.92 5 P P 00 46 52.3 +0.1
ANM pmax pmax
comp=Z,19nm,0.8s
ANM Nome 79.92 5 P P 00 46 52.3 +0.1
ANM IAmb IAmb 00 46 53.5
comp=Z,19nm,0.8s
O53A New Philadelph 79.93 312 P P 00 46 53.8 +1.0
baz=52
O53A New Philadelph 79.93 312 P P 00 46 51.9 -0.8
O53A IAmb IAmb 00 46 54.8
comp=Z,19nm,0.9s
MDM Murphy Dome 79.94 358 P P 00 46 52.2 -0.1
MDM IAmb IAmb 00 46 53.6
comp=Z,12nm,0.5s
H45A Beulah 79.95 318 P P 00 46 52.9 +0.1
baz=50
Q55A Buckhannon 80.01 311 P P 00 46 54.3 +1.0
baz=52,SNR=6.5
COLA College 80.01 358 i P P 00 46 52.5 -0.2
COLA pmax pmax
comp=Z,7.0nm,1.0s
K48A Perry 80.04 316 P P 00 46 54.1 +0.8
baz=51
S57A Dark Hollow, R 80.05 309 P P 00 46 54.5 +1.1
baz=53
S57A Dark Hollow, R 80.05 309 P P 00 46 52.9 -0.5
I46A Reed City 80.06 317 P P 00 46 54.3 +0.9
baz=50
IL31 80.08 357 P P 00 46 52.3 -0.7
ILAR Eielson Array 80.08 357 P P 00 46 53.0 -0.1
comp=Z,4.1nm,0.8s,baz=358,slow=4.6,SNR=33
ILAR PP PP 00 49 55.1 0.0
comp=Z,0.6nm,0.8s,baz=3.2,slow=7.9,SNR=4.3
ILAR Eielson Array 80.08 357 P P 00 46 52.8 -0.3
U59A Littleton 80.15 308 P P 00 46 55.2 +1.2
baz=53
U59A Littleton 80.15 308 IAmb IAmb 00 46 55.7
comp=Z,13nm,0.7s
V60A Jim Taylor Roa 80.15 307 P P 00 46 55.0 +1.0
baz=53
J47A Sunmer 80.16 316 P P 00 46 54.8 +0.9
baz=50
J47A Sunmer 80.16 316 IAmb IAmb 00 46 55.8
comp=Z,30nm,1.0s
FFC Flin Flon 80.17 333 P P 00 46 54.2 +0.5
FFC pmax pmax
comp=Z,22nm,0.9s
FFC Flin Flon 80.17 333 P P 00 46 54.2 +0.5
FFC IAmb IAmb 00 46 55.1
comp=Z,22nm,0.9s
N51A Ashland 80.21 314 P P 00 46 54.9 +0.7
baz=51
T58A Grand View Acr 80.27 308 P P 00 46 55.5 +0.9
baz=53,SNR=5.3
O52A Adamsville 80.39 313 P P 00 46 56.0 +0.8
baz=52,SNR=9.0
WRH Wood River Hil 80.42 358 IAmb IAmb 00 46 56.0
comp=Z,21nm,0.7s
I45A Fountain 80.44 318 P P 00 46 56.5 +1.1
baz=50
HDA Harding Lake 80.45 357 P P 00 46 55.2 +0.1
baz=4.9
HDA Harding Lake 80.45 357 IAmb IAmb 00 46 56.0
comp=Z,19nm,0.8s
R55A Marlinton 80.46 310 P P 00 46 57.0 +1.2
baz=52,SNR=5.8
R55A Marlinton 80.46 310 IAmb IAmb 00 46 57.5
comp=Z,12nm,0.7s
Q54A Coxs Mills 80.48 311 P P 00 46 56.3 +0.6
baz=52,SNR=5.3
Q54A Coxs Mills 80.48 311 IAmb IAmb 00 46 57.4
comp=Z,12nm,0.8s
S56A Natural Bridge 80.49 310 P P 00 46 56.7 +0.9
baz=52
P53A Whipple 80.51 312 P P 00 46 56.9 +1.1
baz=52,SNR=12
P53A Whipple 80.51 312 IAmb IAmb 00 46 58.0
comp=Z,26nm,0.8s
J46A Howard City 80.56 317 P P 00 46 56.8 +0.8
baz=50
U58A Oxford 80.61 308 P P 00 46 57.5 +1.0
baz=53
K47A Vermontville 80.63 316 P P 00 46 57.0 +0.6
baz=50,SNR=5.9
T57A Hurt 80.70 309 P P 00 46 57.9 +1.0
baz=52
T57A Hurt 80.70 309 IAmb IAmb 00 46 59.0
comp=Z,8.8nm,0.7s
L48A N Adams 80.77 315 IAmb IAmb 00 46 58.7
comp=Z,22nm,0.8s
V59A Middlesex 80.79 307 P P 00 46 58.3 +0.9
baz=53
O51A Pataskala 80.83 313 P P 00 46 58.5 +0.9
baz=51
BPAW Bear Paw Mtn. 80.86 359 IAmb IAmb 00 46 58.2
comp=Z,12nm,0.9s
P52A Corning 80.87 312 P P 00 46 58.5 +0.7
baz=51,SNR=5.3
P52A Corning 80.87 312 IAmb IAmb 00 46 59.3
comp=Z,19nm,0.9s
W60A Pink Hill 80.87 307 P P 00 46 58.8 +0.9
baz=53
CNNC Cliffs of the 80.88 307 P P 00 46 59.0 +1.1
CNNC IAmb IAmb 00 46 59.9
comp=Z,22nm,0.9s
J45A Montague 80.91 317 P P 00 46 58.9 +1.0
baz=49
J45A Montague 80.91 317 P P 00 46 58.3 +0.4
Q53A Leroy 80.98 311 P P 00 46 59.2 +0.8
baz=52,SNR=6.7
ULM Lac du Bonnet 80.99 327 P P 00 46 58.2 0.0
comp=Z,4.9nm,0.4s,baz=51,slow=6.0,SNR=6.8
ACSO Alum Creek Sta 81.00 313 IAmb IAmb 00 47 00.1
comp=Z,21nm,0.7s
S55A Lewisburg 81.02 310 P P 00 46 59.4 +0.8
baz=52
RIDG Independent Ri 81.02 356 IAmb IAmb 00 46 59.8
comp=Z,15nm,0.9s
R54A Vior 81.07 311 P P 00 46 59.6 +0.6
baz=52
DOT Dot Lake 81.07 356 IAmb IAmb 00 47 00.3
comp=Z,16nm,0.9s
U57A Blanch 81.10 308 P P 00 47 00.1 +1.0
baz=52,SNR=7.0
T56A Rocky Mt 81.17 309 P P 00 47 00.6 +1.2
baz=52
MCK McKinley 81.19 358 IAmb IAmb 00 47 00.0
comp=Z,18nm,1.1s
N49A Columbus Grove 81.27 314 IAmb IAmb 00 47 01.4
comp=Z,20nm,0.7s
BLA Blacksburg 81.31 310 P P 00 47 00.8 +0.6
baz=52
BLA Blacksburg 81.31 310 P P 00 46 59.7 -0.5
BLA pmax pmax
comp=Z,8.0nm,0.8s
BLA Blacksburg 81.31 310 P P 00 46 59.7 -0.5
V58A Windy Hill, Pi 81.34 308 P P 00 47 01.3 +1.0
baz=52
B35A Bob, Littlefor 81.35 325 P P 00 46 59.7 -0.5
Q52A Bidwell 81.37 312 P P 00 47 01.1 +0.6
baz=51,SNR=8.6
BCAR Beaver Creek A 81.50 355 P P 00 47 00.9 +0.2
S54A Dingess, Beckl 81.50 311 P P 00 47 01.8 +0.5
baz=52
P51A Williamsport 81.52 313 P P 00 47 01.7 +0.5
baz=51
P51A Williamsport 81.52 313 IAmb IAmb 00 47 02.4
comp=Z,22nm,0.7s
R53A Hurricane 81.57 311 P P 00 47 02.4 +0.9
baz=51,SNR=6.5
T55A Pulaski 81.59 310 P P 00 47 02.5 +0.8
baz=52,SNR=5.4
V57A Coltrane Farms 81.71 308 P P 00 47 02.8 +0.5
baz=52,SNR=5.9
G40A Rib Lake 81.74 321 P P 00 47 01.6 -0.7
DHY Denali Highway 81.80 357 IAmb IAmb 00 47 03.7
comp=Z,20nm,1.0s
U56A King 81.81 309 P P 00 47 04.0 +1.2
baz=52
U56A King 81.81 309 IAmb IAmb 00 47 05.0
comp=Z,17nm,0.9s
O49A Covington 81.83 314 P P 00 47 01.9 -0.9
W58A Raeford 81.89 307 P P 00 47 04.5 +1.2
baz=52
Q51A Peebles 81.98 312 P P 00 47 03.4 -0.3
Q51A IAmb IAmb 00 47 05.9
comp=Z,22nm,0.8s
PETK Petropavlovsk- 82.03 28 P P 00 47 03.2 -0.4
comp=Z,5.2nm,1.0s,baz=340,slow=3.4,SNR=6.0
PETK PP PP 00 50 13.8 +2.3
comp=Z,1.9nm,0.9s,baz=1.9,slow=4.5,SNR=3.6
PETK Petropavlovsk- 82.03 28 P P 00 47 02.7 -1.0
S53A Williamson 82.08 311 P P 00 47 05.2 +0.9
baz=51
T54A Tazewell 82.13 310 P P 00 47 05.2 +0.6
baz=51,SNR=10
U55A TA2, Sparta 82.14 309 P P 00 47 05.8 +1.1
baz=52,SNR=19
N47A Urbana 82.18 315 IAmb IAmb 00 47 05.9
comp=Z,28nm,0.9s
V56A Mocksville 82.22 309 P P 00 47 06.2 +1.2
baz=52
O48A Farmland 82.27 314 P P 00 47 05.4 +0.3
baz=50,SNR=5.4
W57A Gilead 82.30 308 P P 00 47 06.2 +0.8
baz=52
W57A Gilead 82.30 308 P P 00 47 05.2 -0.2
HARP HAARP 82.38 356 P P 00 47 05.4 +0.1
AGMN Agassiz Nation 82.39 326 P P 00 47 05.5 -0.1
baz=44
AGMN Agassiz Nation 82.39 326 P P 00 47 05.2 -0.5
P49A Miami Univ. Ec 82.47 314 P P 00 47 06.5 +0.2
baz=50
P49A Miami Univ. Ec 82.47 314 P P 00 47 05.8 -0.5
P49A IAmb IAmb 00 47 07.0
comp=Z,12nm,0.6s
L44A Lake County Fo 82.58 317 P P 00 47 06.8 +0.1
baz=48
U54A Nelsons Funny 82.62 310 P P 00 47 08.0 +0.9
baz=51,SNR=7.0
U54A Nelsons Funny 82.62 310 P P 00 47 07.2 0.0
V55A Taylorsville 82.65 309 P P 00 47 08.4 +1.2
baz=51
V55A Taylorsville 82.65 309 P P 00 47 07.3 +0.1
W56A Indian Trail 82.69 308 P P 00 47 08.3 +0.9
baz=52
T53A Wise 82.77 310 P P 00 47 08.8 +0.8
baz=51
X57A Johnson Farm, 82.79 307 P P 00 47 08.6 +0.7
baz=52
I40A Norwalk 82.89 320 P P 00 47 08.1 -0.2
I40A IAmb IAmb 00 47 09.3
comp=Z,9.0nm,0.6s
P48A Milroy 82.94 314 P P 00 47 08.4 -0.3
P48A IAmb IAmb 00 47 09.8
comp=Z,20nm,1.1s
F36A Milaca 83.01 323 IAmb IAmb 00 47 09.9
comp=Z,12nm,0.8s
S51A Beattyville 83.01 312 P P 00 47 08.6 -0.5
S51A IAmb IAmb 00 47 10.9
comp=Z,11nm,0.8s
SCM Sheep Creek Mo 83.04 357 IAmb IAmb 00 47 11.3
comp=Z,24nm,1.0s
R50A Paris 83.05 312 IAmb IAmb 00 47 11.0
comp=Z,12nm,0.8s
SPMN Marine on St. 83.10 322 P P 00 47 10.1 +0.7
baz=45
SML Sawmill 83.10 358 IAmb IAmb 00 47 09.9
comp=Z,9.3nm,0.7s
GHO Glory Hole Cre 83.15 358 IAmb IAmb 00 47 10.9
comp=Z,18nm,1.0s
V54A Nebo 83.16 309 P P 00 47 10.8 +0.9
baz=51,SNR=10
KMSC Kings Mountain 83.17 308 P P 00 47 10.7 +0.8
baz=51,SNR=5.7
KMSC Kings Mountain 83.17 308 P P 00 47 10.2 +0.2
KMSC IAmb IAmb 00 47 11.9
comp=Z,13nm,0.8s
M44A Midewin, Midew 83.18 317 P P 00 47 09.9 +0.1
GLB Gilahina Butte 83.25 356 P P 00 47 09.3 -0.6
Y57A Sumter 83.26 307 P P 00 47 10.2 -0.2
Y57A IAmb IAmb 00 47 12.6
comp=Z,30nm,1.0s
Z58A St. Stephen 83.30 306 P P 00 47 11.8 +1.3
baz=52
SFIN Lafayette 83.31 315 P P 00 47 10.9 +0.3
baz=48
SFIN Lafayette 83.31 315 P P 00 47 10.1 -0.4
SFIN IAmb IAmb 00 47 11.8
comp=Z,14nm,0.7s
HYT Haines Junctio 83.32 352 P P 00 47 10.5 +0.1
HYT IAmb IAmb 00 47 12.4
comp=Z,15nm,1.0s
PMR Palmer 83.34 358 P P 00 47 09.9 -0.3
PMR pmax pmax
comp=Z,21nm,1.2s
PMR Palmer 83.34 358 P P 00 47 09.9 -0.3
PMR IAmb IAmb 00 47 11.7
comp=Z,21nm,1.2s
JFWS Jewell Farm 83.36 319 P P 00 47 11.1 +0.3
baz=47
JFWS Jewell Farm 83.36 319 P P 00 47 10.4 -0.4
JFWS pmax pmax
comp=Z,13nm,0.6s
JFWS Jewell Farm 83.36 319 P P 00 47 10.4 -0.4
JFWS IAmb IAmb 00 47 11.8
comp=Z,13nm,0.6s
VRDI Verde Repeater 83.44 355 P P 00 47 11.1 0.0
KNK Knik Glacier 83.50 358 P P 00 47 10.9 -0.2
KNK IAmb IAmb 00 47 12.7
comp=Z,15nm,0.9s
R49A Shelbyville 83.55 313 P P 00 47 11.9 +0.1
BALM Baldy 83.55 355 IAmb IAmb 00 47 13.3
comp=Z,18nm,1.0s
KSM Kuching 83.65 93 P P 00 47 12.0 -0.7
KSM IAmb IAmb 00 47 15.7
comp=Z,7.3nm,0.5s
JSC Jenkinsville 83.66 308 P P 00 47 12.2 -0.2
JSC pmax pmax
comp=Z,5.0nm,0.8s
JSC Jenkinsville 83.66 308 P P 00 47 12.2 -0.2
L42A Oliver, Polo 83.67 318 IAmb IAmb 00 47 13.8
comp=Z,22nm,1.1s
PAULI Pauline 83.68 308 P P 00 47 12.8 +0.3
PAULI IAmb IAmb 00 47 14.6
comp=Z,16nm,0.8s
TZTN Tazewell 83.68 311 P P 00 47 13.3 +0.8
baz=50
TZTN Tazewell 83.68 311 P P 00 47 12.0 -0.5
TZTN IAmb IAmb 00 47 14.8
comp=Z,17nm,1.1s
W54A Cherokee Point 83.75 309 P P 00 47 14.1 +1.2
baz=51
BLO Bloomington 83.77 314 P P 00 47 12.6 -0.4
BLO pmax pmax
comp=Z,35nm,0.7s
BLO Bloomington 83.77 314 P P 00 47 12.6 -0.4
V53A Saluda 83.78 310 P P 00 47 12.3 -0.8
X55A Gracelyn & Ava 83.78 308 P P 00 47 14.1 +1.1
baz=51
RC01 Rabbit Creek A 83.86 358 IAmb IAmb 00 47 14.3
comp=Z,22nm,1.0s
SVW2 Sparrevohn 83.86 1 P P 00 47 13.4 +0.4
SVW2 IAmb IAmb 00 47 14.8
comp=Z,9.9nm,0.7s
P46A Rosedale 83.88 315 P P 00 47 13.0 -0.5
P46A IAmb IAmb 00 47 14.6
comp=Z,11nm,0.8s
Z57A Bowman 83.91 307 P P 00 47 14.6 +0.9
baz=51
GLI Glacier Island 83.98 357 P P 00 47 12.5 -1.1
GLI IAmb IAmb 00 47 15.1
comp=Z,14nm,1.1s
MJB9 Matsu-Tunnel 84.03 49 P P 00 47 12.8 -1.5
MJB9 IAmb IAmb 00 47 16.2
comp=Z,19nm,1.0s
MAJO Matsushiro 84.03 49 P P 00 47 14.4 0.0
MAJO pmax pmax
comp=Z,20nm,1.0s
MAJO Matsushiro 84.03 49 P P 00 47 14.4 0.0
MAJO IAmb IAmb 00 47 16.2
comp=Z,20nm,1.0s
MAT Matsushiro 84.03 49 P P 00 47 15.4 +1.0
MJAR Matsushiro Arr 84.04 49 P P 00 47 16.0 +1.7
comp=Z,14nm,0.8s,baz=305,slow=4.5,SNR=15
MJAR LR LR 01 29 00.8
comp=Z,25nm,18.7s,baz=70,slow=39
MJAR Matsushiro Arr 84.04 49 P P 00 47 13.7 -0.7
MJAR pmax pmax
comp=Z,8.0nm,0.9s
MJAR Matsushiro Arr 84.04 49 P P 00 47 13.7 -0.7
FID Port Fidalgo 84.09 357 IAmb IAmb 00 47 15.6
comp=Z,10nm,0.7s
V52A Sevierville 84.16 310 P P 00 47 15.3 +0.4
V52A IAmb IAmb 00 47 16.8
comp=Z,15nm,0.7s
T50A Nancy 84.17 312 P P 00 47 15.2 +0.2
WAX Waxell Ridge 84.17 355 P P 00 47 14.1 -0.5
YAH Yahtse 84.18 354 P P 00 47 15.1 +0.2
CAPN Captain Cook N 84.20 359 P P 00 47 15.7 +1.1
baz=1.4
X54A Belton 84.21 309 P P 00 47 16.1 +0.8
baz=51
O44A Mansfield 84.25 316 P P 00 47 14.8 -0.5
EYAK Cordova Ski Ar 84.25 356 P P 00 47 15.3 +0.4
I37A Lemond, Waseca 84.25 321 P P 00 47 14.8 -0.4
WCI Wyandotte Cave 84.26 313 P P 00 47 16.0 +0.6
baz=49
WCI Wyandotte Cave 84.26 313 P P 00 47 15.1 -0.3

WCI				pmax	pmax			
	comp=Z,20nm,0.8s							
WCI	**Wyandotte Cave**	**84.26 313**	P	**P**	**00 47 15.1**	**-0.3**		
WCI			IAmb	IAmb	00 47 17.3			
	comp=Z,20nm,0.8s							
Y55A	**Saluda**	**84.26 308**	P	**P**	**00 47 16.5**	**+1.0**		
	baz=51,SNR=7.9							
BG3	**Lake Jocassee**	**84.28 309**	P	**P**	**00 47 15.5**	**-0.1**		
PCA	**Pinnacle**	**84.31 354**	P	**P**	**00 47 15.4**	**+0.1**		
PCA			IAmb	IAmb	00 47 17.4			
	comp=Z,24nm,0.9s							
HODGE	**Hodges**	**84.33 308**	P	**P**	**00 47 15.8**	**-0.1**		
RAGM	**Ragged Mountai**	**84.35 356**	P	**P**	**00 47 15.2**	**-0.4**		
MESA	**MESA**	**84.38 354**	P	**P**	**00 47 15.9**	**+0.1**		
MESA			IAmb	IAmb	00 47 17.4			
	comp=Z,8.2nm,0.7s							
F33A	**5 Mile Ranch,**	**84.38 324**	P	**P**	**00 47 15.0**	**-0.9**		
TKL	**Tuckaleechee C**	**84.39 310**	P	**P**	**00 47 15.7**	**-0.4**		
TKL			pmax	pmax				
	comp=Z,18nm,0.8s							
TKL	**Tuckaleechee C**	**84.39 310**	P	**P**	**00 47 15.7**	**-0.4**		
TKL			IAmb	IAmb	00 47 18.1			
	comp=Z,18nm,0.8s							
DR12	**Loma Pena Alta**	**84.39 289**	P	**P**	**00 47 12.9**	**-3.5**		
SKAG	**Skagway**	**84.40 351**	P	**P**	**00 47 16.1**	**+0.4**		
SKAG			IAmb	IAmb	00 47 17.5			
	comp=Z,11nm,0.9s							
MDND	**Maddock**	**84.42 327**	P	**P**	**00 47 16.3**	**+0.2**		
	baz=41							
MDND	**Maddock**	**84.42 327**	P	**P**	**00 47 15.4**	**-0.7**		
HIN	**Hinchinbrook I**	**84.44 357**	P	**P**	**00 47 15.9**	**0.0**		
HIN			IAmb	IAmb	00 47 17.6			
	comp=Z,21nm,1.2s							
HDIL	**Hopedale**	**84.44 317**	P	**P**	**00 47 16.9**	**+0.6**		
	baz=47							
HDIL	**Hopedale**	**84.44 317**	P	**P**	**00 47 16.0**	**-0.3**		
157A	**Early Branch**	**84.48 306**	P	**P**	**00 47 18.2**	**+1.6**		
	baz=51							
DLBC	**Dease Lake**	**84.60 348**	P	**P**	**00 47 17.4**	**+0.5**		
V51A	**Loudon**	**84.65 311**	P	**P**	**00 47 17.8**	**+0.4**		
V51A			IAmb	IAmb	00 47 19.9			
	comp=Z,15nm,0.8s							
SEW	**Seward**	**84.84 358**	P	**P**	**00 47 17.6**	**-0.2**		
SEW			IAmb	IAmb	00 47 18.9			
	comp=Z,9.3nm,0.7s							
W52A	**Murphy**	**84.84 310**	P	**P**	**00 47 18.8**	**+0.3**		
W52A			IAmb	IAmb	00 47 20.5			
	comp=Z,16nm,0.8s							
K38A	**Parkersburg**	**84.89 320**	P	**P**	**00 47 17.9**	**-0.6**		
OLIL	**Olney**	**84.98 315**	P	**P**	**00 47 19.0**	**0.0**		
CPCT	**Cooper Cave**	**84.99 310**	P	**P**	**00 47 19.8**	**+0.7**		
U49A	**Red Boiling Sp**	**85.07 312**	P	**P**	**00 47 19.9**	**+0.4**		
TGY	**Tagaytay City**	**85.09 76**	P	**P**	**00 47 20.0**	**0.0**		
	comp=Z,210nm,0.3s,baz=267,slow=11,SNR=2.7							
P43A	**Skaggs, Pawnee**	**85.19 316**	P	**P**	**00 47 20.2**	**+0.1**		
BESE	**Bessie Mountai**	**85.19 351**	P	**P**	**00 47 19.9**	**+0.1**		
BESE			IAmb	IAmb	00 47 21.5			
	comp=Z,14nm,1.2s							
BRLK	**Bradley Lake**	**85.21 359**	P	**P**	**00 47 19.4**	**-0.5**		
BRLK			IAmb	IAmb	00 47 20.5			
	comp=Z,7.5nm,0.6s							
USIN	**University of**	**85.24 314**	P	**P**	**00 47 19.9**	**-0.5**		
Q44A	**Meyer Farm, Va**	**85.40 315**	P	**P**	**00 47 20.5**	**-0.7**		
Q44A			IAmb	IAmb	00 47 22.7			
	comp=Z,16nm,0.8s							
JIS	**Juneau Island**	**85.42 350**	P	**P**	**00 47 20.7**	**-0.1**		
CNPM	**China Poot**	**85.45 359**	P	**P**	**00 47 20.5**	**-0.5**		
CNPM			IAmb	IAmb	00 47 21.8			
	comp=Z,14nm,1.0s							
T47A	**Sharon Grove**	**85.56 313**	P	**P**	**00 47 21.1**	**-0.9**		
T47A			IAmb	IAmb	00 47 23.5			
	comp=Z,25nm,1.0s							
GOGA	**Godfrey**	**85.63 308**	P	**P**	**00 47 23.3**	**+1.0**		
	baz=50							
GOGA	**Godfrey**	**85.63 308**	P	**P**	**00 47 22.1**	**-0.3**		
GOGA			pmax	pmax				
	comp=Z,16nm,0.8s							
GOGA	**Godfrey**	**85.63 308**	P	**P**	**00 47 22.1**	**-0.3**		
GOGA			IAmb	IAmb	00 47 24.6			
	comp=Z,16nm,0.8s							
W50A	**Signal Mountai**	**85.64 311**	P	**P**	**00 47 22.2**	**-0.3**		
CLTN	**Cedars of Leba**	**85.68 312**	P	**P**	**00 47 22.3**	**-0.3**		
CLTN			IAmb	IAmb	00 47 24.9			
	comp=Z,17nm,0.8s							
Y52A	**Lilburn**	**85.72 309**	P	**P**	**00 47 23.6**	**+0.7**		
X51A	**Calhoun**	**85.77 310**	P	**P**	**00 47 22.7**	**-0.4**		
X51A			IAmb	IAmb	00 47 25.4			
	comp=Z,24nm,0.9s							
SWET	**Sewanee**	**86.01 311**	P	**P**	**00 47 23.9**	**-0.4**		
SWET			IAmb	IAmb	00 47 25.8			
	comp=Z,9.0nm,0.9s							
ECSD	**EROS Data Cent**	**86.07 323**	P	**P**	**00 47 24.8**	**+0.4**		
	baz=43							
ECSD	**EROS Data Cent**	**86.07 323**	P	**P**	**00 47 24.5**	**+0.1**		
ECSD			IAmb	IAmb	00 47 25.8			
	comp=Z,11nm,0.8s							
V48A	**Smith Brothers**	**86.21 312**	P	**P**	**00 47 25.7**	**+0.4**		
V48A			IAmb	IAmb	00 47 26.7			
	comp=Z,16nm,0.9s							
FPAL	**Fort Paine**	**86.26 310**	P	**P**	**00 47 24.9**	**-0.6**		
SLM	**Saint Louis**	**86.28 316**	P	**P**	**00 47 25.4**	**-0.1**		
SLM			pmax	pmax				
	comp=Z,26nm,1.0s							
SLM	**Saint Louis**	**86.28 316**	P	**P**	**00 47 25.4**	**-0.1**		
N38A	**Joes South For**	**86.44 319**	P	**P**	**00 47 26.8**	**+0.5**		
WVT	**Waverly**	**86.57 313**	P	**P**	**00 47 27.1**	**+0.1**		
	baz=48							
WVT	**Waverly**	**86.57 313**	P	**P**	**00 47 26.7**	**-0.2**		
WVT			pmax	pmax				
	comp=Z,14nm,0.7s							
WVT	**Waverly**	**86.57 313**	P	**P**	**00 47 26.7**	**-0.2**		
WVT			IAmb	IAmb	00 47 27.8			
	comp=Z,14nm,0.7s							
SUSD	**Miller**	**86.68 325**	P	**P**	**00 47 27.7**	**+0.3**		
	baz=41							
TIGA	**Tifton**	**86.97 307**	P	**P**	**00 47 30.2**	**+1.2**		
	baz=50							
X48A	**Hartselle**	**87.20 311**	IAmb	IAmb	00 47 31.5			
	comp=Z,12nm,0.9s							
Y49A	**Blount Mountai**	**87.20 310**	IAmb	IAmb	00 47 31.9			
	comp=Z,19nm,1.1s							
BDFB	**Brasilia**	**87.21 249**	P	**P**	**00 47 32.0**	**+1.6**		
	comp=Z,1.7nm,0.4s,baz=102,slow=3.7,SNR=3.6							
BDFB	**Brasilia**	**87.21 249**	P	**P**	**00 47 32.0**	**+1.6**		
BDFB			pmax	pmax				
	comp=Z,4.0nm,0.9s							
BDFB	**Brasilia**	**87.21 249**	IAmb	IAmb	00 47 33.5			
	comp=Z,4.5nm,0.9s							
CCM	**Cathedral Cave**	**87.25 316**	P	**P**	**00 47 30.9**	**+0.7**		
	baz=46							
CCM	**Cathedral Cave**	**87.25 316**	P	**P**	**00 47 31.0**	**+0.7**		
CCM			pmax	pmax				
	comp=Z,34nm,0.6s							
CCM	**Cathedral Cave**	**87.25 316**	P	**P**	**00 47 31.0**	**+0.7**		
P38A	**Dawn**	**87.43 318**	IAmb	IAmb	00 47 32.6			
	comp=Z,10nm,0.7s							
PLAL	**Pickwick Lake**	**87.48 312**	IAmb	IAmb	00 47 32.3			
	comp=Z,16nm,1.0s							
352A	**Blakely**	**87.81 308**	P	**P**	**00 47 33.0**	**-0.1**		
K31A	**O'Neill**	**87.94 323**	P	**P**	**00 47 33.1**	**-0.5**		
LRAL	**Lakeview Retre**	**88.11 310**	P	**P**	**00 47 35.2**	**+0.7**		
	baz=48							
LRAL	**Lakeview Retre**	**88.11 310**	P	**P**	**00 47 34.2**	**-0.2**		
LAO	**LASA Array**	**88.15 330**	P	**P**	**00 47 34.2**	**-0.3**		
250A	**Grady**	**88.35 309**	P	**P**	**00 47 36.0**	**+0.4**		
EGMT	**Eagleton**	**88.45 333**	P	**P**	**00 47 34.3**	**-1.5**		
BGNE	**Belgrade**	**88.55 322**	P	**P**	**00 47 37.2**	**+0.7**		
	baz=42							
BGNE	**Belgrade**	**88.55 322**	P	**P**	**00 47 36.2**	**-0.2**		
LCAR	**Lake Charles**	**88.58 314**	P	**P**	**00 47 35.9**	**-0.7**		
LCAR			IAmb	IAmb	00 47 38.5			
	comp=Z,9.6nm,0.9s							
S39A	**Bolivar**	**88.68 317**	P	**P**	**00 47 36.6**	**-0.5**		
S39A			IAmb	IAmb	00 47 38.5			
	comp=Z,6.6nm,0.7s							
RSSD	**Black Hills**	**89.26 327**	P	**P**	**00 47 40.3**	**+0.3**		
	baz=38							
RSSD	**Black Hills**	**89.26 327**	P	**P**	**00 47 40.5**	**+0.6**		
RSSD			pmax	pmax				
	comp=Z,14nm,1.1s							
RSSD	**Black Hills**	**89.26 327**	P	**P**	**00 47 40.5**	**+0.6**		
RSSD			IAmb	IAmb	00 47 41.6			
	comp=Z,14nm,1.1s							
FCAR	**Ozark Folk Cen**	**89.27 315**	IAmb	IAmb	00 47 41.1			
	comp=Z,5.2nm,0.7s							
U40A	**Yellville**	**89.36 316**	P	**P**	**00 47 40.4**	**+0.1**		
	baz=45,SNR=5.2							
U40A	**Yellville**	**89.36 316**	IAmb	IAmb	00 47 41.5			
	comp=Z,6.5nm,0.7s							
W41B	**Gary Mavity, V**	**89.84 314**	P	**P**	**00 47 42.7**	**+0.2**		
	baz=45							
W41B	**Gary Mavity, V**	**89.84 314**	P	**P**	**00 47 42.0**	**-0.5**		
HHAR	**Hobbs**	**90.03 316**	P	**P**	**00 47 43.2**	**-0.2**		
HHAR			IAmb	IAmb	00 47 44.6			
	comp=Z,6.3nm,0.8s							
LLLB	**Lillooet**	**90.11 341**	P	**P**	**00 47 42.9**	**-0.6**		
LLLB			IAmb	IAmb	00 47 45.7			
	comp=Z,5.0nm,0.7s							
U38A	**Gravette**	**90.17 317**	P	**P**	**00 47 43.8**	**-0.2**		
U38A			IAmb	IAmb	00 47 45.3			
	comp=Z,10nm,0.8s							
JTMT	**Jette**	**90.31 335**	P	**P**	**00 47 45.1**	**+0.4**		
RLMT	**Red Lodge**	**90.66 331**	P	**P**	**00 47 46.2**	**-0.2**		
X40A	**Basin Creek Fa**	**90.66 314**	P	**P**	**00 47 46.5**	**+0.2**		
	baz=45							
X40A	**Basin Creek Fa**	**90.66 314**	P	**P**	**00 47 46.8**	**+0.4**		
X40A			IAmb	IAmb	00 47 47.8			
	comp=Z,6.0nm,0.9s							
W39A	**Magazine**	**90.71 315**	P	**P**	**00 47 47.1**	**+0.5**		
	baz=44							
NEW	**Newport**	**90.81 337**	P	**P**	**00 47 47.2**	**+0.3**		
	baz=28							
NEW	**Newport**	**90.81 337**	P	**P**	**00 47 46.5**	**-0.4**		
NEW			pmax	pmax				
	comp=Z,10.0nm,0.9s							
NEW	**Newport**	**90.81 337**	P	**P**	**00 47 46.5**	**-0.4**		
NEW			IAmb	IAmb	00 47 49.2			
	comp=Z,9.7nm,0.9s							
NIKH	**Nikolski High**	**90.95 10**	P	**P**	**00 47 45.9**	**-1.5**		
MSO	**Missoula**	**90.98 334**	P	**P**	**00 47 47.9**	**+0.2**		
	baz=31							
MSO	**Missoula**	**90.98 334**	P	**P**	**00 47 46.8**	**-1.0**		
MSO			IAmb	IAmb	00 47 49.1			
	comp=Z,7.1nm,0.8s							
T35A	**Sooner Cattle**	**91.00 318**	P	**P**	**00 47 48.5**	**+0.6**		
T35A			IAmb	IAmb	00 47 50.2			
	comp=Z,8.4nm,0.8s							
YNE	**Yellowstone No**	**91.05 331**	P	**P**	**00 47 48.4**	**+0.1**		
MIAR	**Mount Ida**	**91.06 315**	P	**P**	**00 47 49.1**	**+0.9**		
	baz=44							
MIAR	**Mount Ida**	**91.06 315**	P	**P**	**00 47 47.6**	**-0.6**		
MIAR			pmax	pmax				
	comp=Z,10.0nm,0.8s							
MIAR	**Mount Ida**	**91.06 315**	P	**P**	**00 47 47.6**	**-0.6**		
MIAR			IAmb	IAmb	00 47 50.2			
	comp=Z,9.5nm,0.8s							
BOZ	**Bozeman (W)**	**91.18 332**	P	**P**	**00 47 49.6**	**+0.8**		
	baz=32							
BOZ	**Bozeman (W)**	**91.18 332**	P	**P**	**00 47 48.7**	**-0.1**		
BOZ			pmax	pmax				
	comp=Z,7.0nm,0.8s							
BOZ	**Bozeman (W)**	**91.18 332**	P	**P**	**00 47 48.7**	**-0.1**		
BOZ			IAmb	IAmb	00 47 50.7			
	comp=Z,7.0nm,0.8s							
CBKS	**Cedar Bluff**	**91.30 321**	P	**P**	**00 47 49.4**	**+0.1**		
	baz=41							
CBKS	**Cedar Bluff**	**91.30 321**	P	**P**	**00 47 47.8**	**-1.5**		
CBKS			pmax	pmax				
	comp=Z,7.0nm,0.7s							
CBKS	**Cedar Bluff**	**91.30 321**	P	**P**	**00 47 47.8**	**-1.5**		
CBKS			IAmb	IAmb	00 47 50.4			
	comp=Z,7.1nm,0.7s							
LRM	**Limekiln Ridge**	**91.30 333**	P	**P**	**00 47 49.7**	**+0.2**		
TUL1	**Leonard**	**91.34 317**	P	**P**	**00 47 49.7**	**+0.2**		
	baz=43,SNR=5.2							
TUL1	**Leonard**	**91.34 317**	P	**P**	**00 47 49.6**	**+0.1**		
B08A	**Colville Reser**	**91.41 338**	P	**P**	**00 47 49.4**	**-0.2**		
B08A			IAmb	IAmb	00 47 50.3			
	comp=Z,3.3nm,0.6s							
K22A	**Casper**	**91.53 328**	P	**P**	**00 47 49.8**	**-0.6**		
	baz=36,SNR=8.6							
K22A	**Casper**	**91.53 328**	P	**P**	**00 47 49.8**	**-0.6**		
C09A	**Chrisman Ranch**	**91.58 337**	P	**P**	**00 47 50.7**	**+0.3**		
YMR	**Madison River**	**91.71 331**	P	**P**	**00 47 51.1**	**-0.2**		
DLMT	**Dillon**	**91.75 333**	P	**P**	**00 47 51.0**	**-0.4**		
DLMT			IAmb	IAmb	00 47 53.8			
	comp=Z,5.9nm,0.6s							
YPP	**Pitchstone Pla**	**91.98 331**	P	**P**	**00 47 52.1**	**-0.6**		
X37A	**Clayton**	**92.06 316**	P	**P**	**00 47 50.9**	**-1.9**		
PHWY	**Pilot Hill**	**92.13 326**	P	**P**	**00 47 54.0**	**+0.5**		
MCMT	**McKenzie Canyo**	**92.30 333**	P	**P**	**00 47 54.2**	**+0.2**		
IMW	**Indian Meadow**	**92.34 331**	P	**P**	**00 47 55.1**	**+0.7**		
W35A	**Tecumseh**	**92.49 317**	P	**P**	**00 47 54.4**	**-0.5**		
FXWY	**Fox Creek**	**92.59 331**	P	**P**	**00 47 54.4**	**-1.1**		
KSCO	**Kaye Shedlock'**	**92.60 323**	P	**P**	**00 47 55.2**	**-0.3**		
RWWY	**Rawlins**	**92.60 328**	P	**P**	**00 47 54.7**	**-0.8**		
RWWY			IAmb	IAmb	00 47 57.0			
	comp=Z,6.4nm,1.0s							
N23A	**Red Feather La**	**92.68 326**	P	**P**	**00 47 56.0**	**+0.1**		
	baz=37,SNR=6.1							
N23A	**Red Feather La**	**92.68 326**	P	**P**	**00 47 55.5**	**-0.4**		
N23A			IAmb	IAmb	00 47 57.4			
	comp=Z,7.3nm,0.9s							
E09A	**Wood Farm, Sta**	**92.68 337**	P	**P**	**00 47 55.2**	**-0.2**		
E09A			IAmb	IAmb	00 47 57.6			
	comp=Z,5.5nm,0.6s							
TPAW	**Teton Pass**	**92.69 331**	P	**P**	**00 47 55.4**	**-0.5**		
TPAW			IAmb	IAmb	00 47 57.8			
	comp=Z,4.2nm,0.8s							
BW06	**Boulder Array**	**92.72 330**	P	**P**	**00 47 55.6**	**-0.5**		
	baz=34							
BW06	**Boulder Array**	**92.72 330**	P	**P**	**00 47 55.6**	**-0.5**		
PD31	**Pinedale Array**	**92.72 330**	P	**P**	**00 47 55.3**	**-0.8**		
PDAR	**Pinedale Array**	**92.72 330**	P	**P**	**00 47 55.8**	**-0.3**		
	comp=Z,1.5nm,0.7s,baz=66,slow=3.6,SNR=9.6							
PDAR			LR	LR	01 35 23.9			
	comp=Z,18nm,20.2s,baz=88,slow=39							
PDAR	**Pinedale Array**	**92.72 330**	P	**P**	**00 47 55.5**	**-0.6**		
REDW	**Red Top Meadow**	**92.76 331**	P	**P**	**00 47 56.4**	**+0.2**		
JCJ	**Chichijima**	**92.78 54**	P	**P**	**00 47 54.0**	**-2.3**		
F10A	**Beach Ranch, E**	**92.86 336**	P	**P**	**00 47 55.1**	**-1.3**		
F10A			IAmb	IAmb	00 47 57.3			
	comp=Z,5.2nm,1.1s							
D03D	**Eldon**	**93.24 340**	P	**P**	**00 47 59.1**	**+1.0**		
	baz=24							
ISCO	**Idaho Springs**	**93.40 325**	P	**P**	**00 47 59.4**	**0.0**		
	baz=37							
D04E	**Lakebay**	**93.48 340**	P	**P**	**00 47 59.0**	**-0.1**		
	baz=24							
LON	**Longmire**	**93.59 339**	IAmb	IAmb	00 48 01.5			
	comp=Z,4.4nm,0.8s							
WMOK	**Wichita Mounta**	**93.85 318**	P	**P**	**00 48 01.4**	**+0.2**		
	baz=42							
WMOK	**Wichita Mounta**	**93.85 318**	IAmb	IAmb	00 48 02.5			
	comp=Z,3.5nm,0.8s							
BMO	**Blue Mountains**	**93.87 335**	P	**P**	**00 47 59.5**	**-1.6**		
BMO			pmax	pmax				
	comp=Z,6.0nm,0.7s							
BMO	**Blue Mountains**	**93.87 335**	P	**P**	**00 47 59.5**	**-1.6**		
BMO			IAmb	IAmb	00 48 01.5			
	comp=Z,5.5nm,0.7s							
E04D	**Cinebar**	**93.99 340**	P	**P**	**00 48 02.1**	**+0.7**		
	baz=24							
F05D	**White Salmon**	**94.27 339**	P	**P**	**00 48 03.2**	**+0.4**		
	baz=25							
G05D	**Wamic, OR**	**94.81 338**	P	**P**	**00 48 06.0**	**+0.7**		
	baz=25							
T25A	**Trinidad**	**94.94 323**	P	**P**	**00 48 06.7**	**+0.3**		
	baz=38							
T25A	**Trinidad**	**94.94 323**	P	**P**	**00 48 05.6**	**-0.7**		
T25A			IAmb	IAmb	00 48 07.5			
	comp=Z,5.2nm,1.1s							
SDCO	**Great Sand Dun**	**94.98 324**	P	**P**	**00 48 06.0**	**-0.6**		
S22A	**4UR Ranch, Cre**	**95.61 325**	P	**P**	**00 48 09.9**	**+0.4**		
	baz=36							
S22A	**4UR Ranch, Cre**	**95.61 325**	P	**P**	**00 48 08.4**	**-1.1**		
I05D	**Terrebonne, OR**	**95.63 338**	P	**P**	**00 48 09.8**	**+0.6**		
	baz=25							
H04D	**Lebanon**	**95.89 339**	P	**P**	**00 48 11.4**	**+1.2**		
	baz=24							
PINE	**Pine Mountain**	**96.00 337**	P	**P**	**00 48 09.2**	**-1.8**		
SRU	**San Rafael Swe**	**96.16 328**	P	**P**	**00 48 10.1**	**-1.7**		
SRU			pmax	pmax				
	comp=Z,3.0nm,0.7s							
SRU	**San Rafael Swe**	**96.16 328**	P	**P**	**00 48 10.1**	**-1.7**		
DUG	**Dugway, Tooele**	**96.21 330**	P	**P**	**00 48 12.2**	**+0.2**		
	baz=32							
DUG	**Dugway, Tooele**	**96.21 330**	P	**P**	**00 48 10.6**	**-1.4**		
DUG			pmax	pmax				
	comp=Z,3.0nm,0.9s							
DUG	**Dugway, Tooele**	**96.21 330**	P	**P**	**00 48 10.6**	**-1.4**		
DUG			IAmb	IAmb	00 48 13.6			
	comp=Z,3.4nm,0.8s							
I04A	**Tendick Farm,**	**96.45 338**	P	**P**	**00 48 13.0**	**+0.2**		
	baz=25							
J05D	**Fort Rock, OR**	**96.55 337**	P	**P**	**00 48 14.3**	**+0.8**		
	baz=26							
I03D	**Drain, OR**	**96.82 339**	P	**P**	**00 48 15.2**	**+0.8**		
	baz=24							
J01E	**Myrtle Point**	**97.48 339**	P	Pdif	00 48 17.9	+0.4		
	baz=24							
K02D	**Willamette Mer**	**97.83 339**	P	Pdif	00 48 19.4	+0.2		
	baz=24							
L04D	**Klamath Falls**	**97.85 338**	P	Pdif	00 48 19.8	+0.4		
	baz=25							
M04C	**Macdoel**	**98.10 337**	P	Pdif	00 48 21.3	+0.9		
	baz=25							
M02C	**Callahan**	**98.77 338**	P	Pdif	00 48 23.9	+0.5		
	baz=24							
MNTX	**Cornudas Mount**	**99.72 320**	P	**Pdif**	**00 48 27.0**	**-0.7**		
	baz=38							
O02D	**Mt. Diablo Mer**	**99.86 337**	P	**Pdif**	**00 48 28.2**	**0.0**		
	baz=24							
NVAR	**Mina Array Bea**	**99.87 333**	P	**Pdif**	**00 48 29.6**	**+1.0**		
	comp=Z,1.1nm,0.6s,baz=47,slow=4.3,SNR=6.7							
TXAR	**Lajitas Array**	**100.64 318**	P	**Pdif**	**00 48 32.7**	**+0.7**		
	comp=Z,0.5nm,0.7s,baz=49,slow=3.8,SNR=5.5							
IKP	**In-Ko-Pah, Jac**	**104.03 329**	P	**Pdif**	**00 48 46.3**	**-0.7**		
	baz=30							
ASAR	**Alice Springs**	**116.57 101**	PKP	**PKiKP**	**00 53 28.0**	**+0.3**		
	comp=Z,0.4nm,0.3s,baz=322,slow=1.8,SNR=4.9							

NEIC ***13*** *00:47:00.2±1.6, 4.7S±0.1×103.5E±0.1, h147km±5km, mb4.2/14, Error ellipse: s-maj=19.7km s-min=8.0km az=224.0*

DJA ***13*** *00:47:00.8±0.3, 5.3S×107.4E±°, h127km±4km, M4.5/13, mB5.3/2, mb4.8/3, MLv4.4/13, Mw(mB)4.7/2*

IDC ***13*** *00:47:01.3±3.6, 4.6S×103.4E, h147km±33km, mb3.8/12, mb1 3.9/13, mb1mx3.6/36, mbtmp4.2/13, Error ellipse: s-maj=39.7km s-min=12.7km az=55.0*

ISC 13 00:46:60.0±0.7, 4.70S±0.09×103.50E±0.08, h142km±6km, n53, σ1s12/61, mb4.1/19, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.64**	**302**	P	**Pn**	**00 47 21.4**	**+0.2**
MNAI				S	**Sn**	**00 47 36.5**	**-0.8**
MNAI	**Manna**	**0.64**	**302**		**Pn**	**00 47 21.8**	**+0.6**
MNAI				Sn	**Sn**	**00 47 37.0**	**-0.2**
LWLI	**Liwa**	**0.64**	**119**	P	**Pn**	**00 47 21.6**	**+0.3**
LWLI				S	**Sn**	**00 47 37.2**	**-0.3**
LHSI	**Lahat**	**0.87**	**2**	P	**Pn**	**00 47 23.2**	**+0.3**
LHSI				S	**Sn**	**00 47 39.6**	**-0.7**
KASI	**Kota Agung**	**1.29**	**129**	P	**Pn**	**00 47 27.4**	**+0.7**
KASI				S	**Sn**	**00 47 46.4**	**-0.6**
BLSI	**Bandar Lampung**	**1.86**	**111**	P	**Pn**	**00 47 33.4**	**+0.4**
BLSI				S	**Sn**	**00 47 58.3**	**0.0**
MASI	**Maura Aman, Be**	**2.00**	**321**	P	**Pn**	**00 47 35.5**	**+0.9**
MASI				S	**Sn**	**00 48 01.7**	**+0.5**
KRJI	**Kerinci**	**3.29**	**322**	P	**Pn**	**00 47 51.9**	**+1.0**
SKJI	**Sukabumi**	**3.81**	**127**	P	**Pn**	**00 47 57.9**	**+0.4**
SKJI				S	**Sn**	**00 48 41.0**	**-1.1**
PPSI	**Pulau Pagai**	**3.98**	**299**	P	**Pn**	**00 48 00.2**	**+0.5**
CNJI	**Cibinong**	**4.45**	**126**	P	**Pn**	**00 48 05.9**	**0.0**
LEM	**Lembang**	**4.61**	**117**	P	**Pn**	**00 48 11.6**	**+3.3**
	12nm,0.3s,baz=323,slow=14,SNR=5.0						
CISI	**Cisompet, Garu**	**5.14**	**124**	P	**Pn**	**00 48 14.5**	**-0.8**
	1.3nm6μm174nm,0.4s						
CISI	**Cisompet, Garu**	**5.14**	**124**	Pn	**Pn**	**00 48 14.9**	**-0.3**
CISI					**Sn**	**00 49 09.1**	**-4.8**
SISI	**Saibi**	**5.53**	**307**	P	**Pn**	**00 48 19.8**	**-0.6**
	0.4nm2μm54nm,1.2s						
XMIS	**Christmas Isla**	**6.12**	**160**	Pn	**Pn**	**00 48 28.5**	**+0.2**
XMIS				Sn	**Sn**	**00 49 27.0**	**-10**
UGM	**Wanagama**	**7.68**	**115**	P	**Pn**	**00 48 50.8**	**+1.6**
UGM	**Wanagama**	**7.68**	**115**	Pn	**Pn**	**00 48 49.1**	**-0.1**
GSI	**Gunungsitoli**	**8.40**	**315**	Pn	**Pn**	**00 48 56.2**	**-2.7**
JAGI	**Jajag, Banyuwa**	**11.23**	**110**	Pn	**Pn**	**00 49 36.0**	**-0.5**
LUWI	**Luwuk**	**19.59**	**80**		pP	00 51 46.8	+4.4
CMAR	**Chiang Mai Arr**	**23.45**	**349**	P	**P**	**00 51 56.0**	**-0.7**
	3.8nm,0.6s,baz=182,slow=9.2,SNR=17						
CHTO	**Chiang Mai**	**23.80**	**349**	P	**P**	**00 51 59.8**	**-0.1**
CHTO				IAmb	IAmb	00 52 00.3	
	comp=Z,3.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**25.42**	**123**	P	**P**	**00 52 15.9**	**+1.3**
	comp=Z,2.8nm,0.6s,baz=296,slow=6.2,SNR=7.4						
WB0	**Warramunga Arr**	**33.

mb1 4.1/12,mb1mx3.9/35,mbtmp3.9/12,ML4.0/3,MS3.4/12, Ms1 3.4/12,ms1mx3.2/29,Error ellipse: s-maj=44.3km s-min=14.8km az=50.0

ARE ***13*** *01:14:34±3.4,5.2°S×80.9°W×0.1,h29km±6km,Error ellipse: s-maj=0.0km s-min=0.0km az=138.0*

NEIC ***13*** *01:14:38.8±1.5,4.94°S±0.10×80.5°W±0.1,h53km±9km, mb4.0/11,ML4.6(ARE),Error ellipse: s-maj=15.9km s-min=13.2km az=50.0*

ISC 13 01:14:38.5±0.9,4.8°S±0.1×80.5°W±0.2,h42km,n31, σ1°91/23,mb3.8/9,MS3.4/8,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**3.12**	**139**	Pn		**Pn**	**01 15 25.6**	**-0.1**
	34nm,0.3s,baz=336,slow=4.9,SNR=147							
ATAH				Sn		**Sn**	**01 16 06.5**	**+4.5**
	84nm,0.3s,baz=158,slow=11,SNR=9.4							
ATAH				LR		LR	01 16 33.4	
	comp=Z,305nm,18.7s,baz=280,slow=38							
NNA	**Nana**	**8.01**	**154**	Pn		**Pn**	**01 16 33.6**	**+1.0**
	1.9nm,0.3s,baz=243,slow=9.0,SNR=2.5							
NNA				Sn		**Sn**	**01 18 05.9**	**+4.0**
	2.0nm,0.3s,baz=263,slow=22,SNR=1.7							
NNA	**Nana**	**8.01**	**154**			**Pn**	**01 16 31.0**	**-1.6**
NNA						**Sn**	**01 17 58.9**	**-3.1**
ROSC	**El Rosal**	**11.35**	**33**	LR		LR	01 22 28.7	
	comp=Z,343nm,19.4s,baz=232,slow=42							
JTS	**Las Juntas de**	**15.62**	**343**	LR		LR	01 23 28.3	
	comp=Z,74nm,18.4s,baz=214,slow=34							
LPAZ	**La Paz**	**16.66**	**134**	Pn		**Pn**	**01 18 28.5**	**-1.2**
	0.2nm,0.3s,baz=309,slow=12,SNR=9.2							
LPAZ				LR		LR	01 25 48.3	
	comp=Z,105nm,20.2s,baz=54,slow=40							
LPAZ	**La Paz**	**16.66**	**134**	P		**P**	**01 18 29.4**	**-2.2**
LPAZ				IAmb		IAmb	01 18 32.3	
	comp=Z,4.8nm,1.1s							
SAML	**Samuel**	**17.65**	**105**	Pn		**Pn**	**01 18 38.7**	**-2.8**
PTGA	**Pitinga**	**20.86**	**80**	P		Pn	01 19 18.7	-1.2
	comp=Z,6.1nm,0.9s,baz=251,slow=12,SNR=8.3							
PTGA				LR		LR	01 28 43.9	
	comp=Z,229nm,19.2s,baz=245,slow=41							
PTGA	**Pitinga**	**20.86**	**80**	P		**P**	**01 19 18.2**	**+1.0**
PTGA				IAmb		IAmb	01 19 21.6	
	comp=Z,6.7nm,0.9s							
LVC	**Limon Verde**	**20.96**	**149**	LR		LR	01 28 32.7	
	comp=Z,88nm,19.3s,baz=296,slow=40							
SIV	**San Ignacio**	**22.07**	**122**	P		**P**	**01 19 29.2**	**-0.9**
	comp=Z,2.8nm,0.9s,baz=313,slow=11,SNR=8.4							
SIV				LR		LR	01 28 48.9	
	comp=Z,206nm,20.4s,baz=288,slow=39							
CPUP	**Villa Florida**	**30.81**	**136**	LR		LR	01 35 12.8	
	comp=Z,65nm,20.1s,baz=327,slow=40							
BDFB	**Brasilia**	**33.66**	**111**	LR		LR	01 35 59.3	
	comp=Z,102nm,20.5s,baz=123,slow=38							
RPN	**Rapa Nui**	**35.38**	**228**	LR		LR	01 31 36.6	
	comp=Z,106nm,18.3s,baz=54,slow=29							
TXAR	**Lajitas Array**	**40.58**	**328**	P		**P**	**01 22 15.2**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=142,slow=7.5,SNR=2.1							
TXAR				LR		LR	01 37 42.9	
	comp=Z,33nm,18.3s,baz=0.0,slow=34							
ANMO	**Albuquerque**	**46.47**	**330**	P		**P**	**01 23 02.8**	**+0.9**
	comp=Z,0.8nm,0.4s,baz=133,slow=9.4,SNR=4.3							
ANMO	**Albuquerque**	**46.47**	**330**	IAmb		IAmb	01 23 10.8	
	comp=Z,1.9nm,1.0s							
PDAR	**Pinedale Array**	**54.17**	**334**	P		**P**	**01 24 00.1**	**0.0**
	comp=Z,0.7nm,0.8s,baz=124,slow=7.9,SNR=4.8							
HWUT	**Hardware Ranch**	**54.18**	**331**	P		**P**	**01 23 59.6**	**-0.5**
NVAR	**Mina Array Bea**	**55.46**	**324**	P		**P**	**01 24 09.7**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=123,slow=7.6,SNR=1.8							
ULM	**Lac du Bonnet**	**56.40**	**348**	P		**P**	**01 24 15.8**	**+0.2**
	comp=Z,4.1nm,0.7s,baz=196,slow=3.3,SNR=3.6							
ULM	**Lac du Bonnet**	**56.40**	**348**	IAmb		IAmb	01 24 16.8	
	comp=Z,4.3nm,0.8s							
MCMT	**McKenzie Canyo**	**57.26**	**333**	P		**P**	**01 24 22.1**	**-0.1**
BOZ	**Bozeman (W)**	**57.33**	**334**	P		**P**	**01 24 20.4**	**-2.1**
BOZ				IAmb		IAmb	01 24 31.4	
	comp=Z,2.0nm,0.8s							
MFID	**Camas Ranch**	**57.61**	**330**	P		**P**	**01 24 25.3**	**+0.8**
G08A	**Pilot Rock**	**60.52**	**330**	P		**P**	**01 24 44.4**	**-0.3**
ESDC	**Sonseca Array**	**82.70**	**49**	P		**P**	**01 26 59.2**	**+1.0**
	comp=Z,1.6nm,1.0s,baz=289,slow=6.8,SNR=5.9							
ESDC	**Sonseca Array**	**82.70**	**49**	IAmb		IAmb	01 27 01.5	
	comp=Z,5.4nm,1.1s							
TORD	**Toredi Ar. Bea**	**83.47**	**76**	P		**P**	**01 27 02.2**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=285,slow=5.5,SNR=1.8							
NOA	**NORSAR Array B**	**94.96**	**29**	LR		LR	02 11 57.7	
	comp=Z,3.9nm,18.4s,baz=190,slow=36							

ISK ***13*** *01:14:49.3,35.40°N×27.05°E,h74km,ML2.9/14*

NIC ***13*** *01:14:49.4±0.0,35.01°N×27.28°E,h32km±27km,Ml2.8/3*

ATH ***13*** *01:14:49.4,35.45°N×27.04°E,h78km±3km,ML2.8/4,Error ellipse: s-maj=4.9km s-min=1.4km az=151.0*

THE ***13*** *01:14:51.6,35.47°N×27.03°E,h68km±1km,ML2.7/6,Error ellipse: s-maj=2.8km s-min=0.7km az=147.0*

HLW ***13*** *01:14:52.0,35.07°N×26.97°E,h11km±13km,Ml3.5*

DDA ***13*** *01:14:54.8,35.62°N×27.77°E,h22km±2km,ML2.3*

ISC 13 01:14:47.2±1.2,35.34°N±0.04×27.15°E±0.03,h92km±7km, n90,σ2°41/126,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.20**	**2**	P		**Pn**	**01 15 00.9**	**+0.5**
KARP				S		**Sn**	**01 15 09.1**	**-1.2**
	2µm,0.4s							
KARP	**Karpathos**	**0.20**	**2**	P		**Pn**	**01 15 00.9**	**+0.5**
KARP				S		**Sn**	**01 15 09.1**	**-1.2**
KARP				AML		AML	01 15 09.8	
	comp=N,4132µm,0.5s							
KARP				AML		AML	01 15 09.9	
	comp=E,3736µm,0.3s							
KARP	**Karpathos**	**0.20**	**2**	PG		**Pn**	**01 15 00.7**	**+0.3**
KARP				SG		**Sn**	**01 15 08.9**	**-1.4**
KARP	**Karpathos**	**0.20**	**2**	P		**Pn**	**01 15 01.0**	**+0.5**
KARP				S		**Sn**	**01 15 09.1**	**-1.2**
KARP				AML		AML	01 15 09.2	
	comp=E,4.1nm,0.5s							
KARP				AML		AML	01 15 09.2	
	comp=E,4.1nm,0.5s							
KARP				AML		AML	01 15 09.4	
	comp=E,3.9nm,0.4s							
KARP				AML		AML	01 15 09.4	
	comp=E,3.9nm,0.4s							
ZKR	**Zakros**	**0.80**	**254**	P		**Pn**	**01 15 05.5**	**+0.7**
ZKR				S		**Sn**	**01 15 17.5**	**-0.5**
	comp=E,582nm,0.3s							
ZKR	**Zakros**	**0.80**	**254**	P		**Pn**	**01 15 05.5**	**+0.7**
ZKR				S		**Sn**	**01 15 17.5**	**-0.5**
ZKR				AML		AML	01 15 18.8	
	comp=N,864µm,0.4s							
ZKR				AML		AML	01 15 19.0	
	comp=E,1457µm,0.3s							
ZKR	**Zakros**	**0.80**	**254**	PG		**Pn**	**01 15 05.8**	**+1.0**
ZKR				SG		**Sn**	**01 15 17.5**	**-0.5**
ZKR	**Zakros**	**0.80**	**254**	P		**Pn**	**01 15 05.7**	**+0.9**
ZKR				S		**Sn**	**01 15 17.3**	**-0.7**
ZKR				AML		AML	01 15 18.4	
	comp=E,0.9nm,0.4s							
ZKR				AML		AML	01 15 18.4	
	comp=E,0.9nm,0.4s							
ZKR				AML		AML	01 15 18.5	
	comp=E,1.5nm,0.3s							
ZKR				AML		AML	01 15 18.5	
	comp=E,1.5nm,0.3s							
STIA	**Sitia Lasithi**	**0.88**	**261**	P		**Pn**	**01 15 07.3**	**+1.7**
STIA				S		**Sn**	**01 15 19.3**	**-0.2**
ARG	**Arkhangelos**	**1.18**	**42**	P		**Pn**	**01 15 11.8**	**+2.8**
ARG				S		**Sn**	**01 15 27.7**	**+2.2**
	comp=E,305nm,0.2s							
ARG	**Arkhangelos**	**1.18**	**42**	P		**Pn**	**01 15 11.8**	**+2.8**
ARG				S		**Sn**	**01 15 28.0**	**+2.5**
ARG	**Arkhangelos**	**1.18**	**42**	P		**Pn**	**01 15 12.4**	**+3.4**
ARG				S		**Sn**	**01 15 29.1**	**+3.7**
NPS	**Neapolis**	**1.26**	**267**	P		**Pn**	**01 15 11.9**	**+1.9**
NPS				S		**Sn**	**01 15 27.4**	**+0.1**
	comp=E,262nm,0.4s							
NPS	**Neapolis**	**1.26**	**267**	P		**Pn**	**01 15 11.9**	**+1.9**
NPS				S		**Sn**	**01 15 27.4**	**+0.1**
NPS				AML		AML	01 15 28.6	
	comp=N,463µm,0.4s							
NPS				AML		AML	01 15 31.9	
	comp=E,599µm,0.2s							
LAST	**Lasithi**	**1.38**	**263**	P		**Pn**	**01 15 13.4**	**+1.8**
LAST				S		**Sn**	**01 15 30.9**	**+0.9**
	comp=E,125nm,0.5s							
LAST	**Lasithi**	**1.38**	**263**	P		**Pn**	**01 15 13.4**	**+1.8**
LAST				S		**Sn**	**01 15 30.9**	**+0.9**
LAST				AML		AML	01 15 33.2	
	comp=E,260µm,0.5s							
LAST				AML		AML	01 15 33.2	
	comp=N,233µm,0.5s							
DAT	**Datca**	**1.43**	**14**	P		**Pn**	**01 15 13.9**	**+1.7**
DAT				S		**Sn**	**01 15 30.9**	**-0.2**
DAT	**Datca**	**1.43**	**14**	PN		**Pn**	**01 15 13.9**	**+1.7**
DAT	**Datca**	**1.43**	**14**	*i* P		**Pn**	**01 15 13.7**	**+1.6**
DAT				*i* S		**Sn**	**01 15 27.4**	**-3.6**
DAT	**Datca**	**1.43**	**14**	*i* P		**Pn**	**01 15 13.8**	**+1.6**
DAT				*i* S		**Sn**	**01 15 28.0**	**-3.0**
HRKL	**Herakleio**	**1.68**	**270**	PN		**Pn**	**01 15 16.8**	**+1.6**
BODT	**Bodrum**	**1.72**	**4**	PN		**Pn**	**01 15 17.7**	**+1.9**
THR8	**Santorini-Mono**	**1.73**	**308**	P		**Pn**	**01 15 16.6**	**+0.8**
THR8	**Santorini-Mono**	**1.73**	**308**	P		**Pn**	**01 15 16.6**	**+0.8**
BDRM	**Kayabasi**	**1.73**	**8**	*i* P		**Pn**	**01 15 18.6**	**+2.6**
BDRM				*i* S		**Sn**	**01 15 33.4**	**-4.5**
BDRM				IAML			01 15 39.0	
	comp=N,63nm,0.5s							
THR6	**Thira Island,**	**1.75**	**306**	P		**Pn**	**01 15 16.9**	**+0.8**
THR6	**Thira Island,**	**1.75**	**306**	P		**Pn**	**01 15 16.9**	**+0.8**
THR3	**Thira Island,**	**1.78**	**307**	P		**Pn**	**01 15 17.0**	**+0.5**
THR3	**Thira Island,**	**1.78**	**307**	P		**Pn**	**01 15 17.0**	**+0.5**
THR9	**Santorini-Faro**	**1.78**	**305**	P		**Pn**	**01 15 16.9**	**+0.4**
THR9	**Santorini-Faro**	**1.78**	**305**	P		**Pn**	**01 15 16.9**	**+0.4**
AMGA	**Amorgos Island**	**1.80**	**326**	P		**Pn**	**01 15 17.7**	**+0.8**
AMGA	**Amorgos Island**	**1.80**	**326**	P		**Pn**	**01 15 17.7**	**+0.8**
THR5	**Thira Island,**	**1.82**	**307**	P		**Pn**	**01 15 17.8**	**+0.8**
THR5	**Thira Island,**	**1.82**	**307**	P		**Pn**	**01 15 17.8**	**+0.8**
IDI	**Anoyia**	**1.85**	**269**	PN		**Pn**	**01 15 18.9**	**+1.4**
DALY	**Dalyan (Mula)**	**1.91**	**39**	PN		**Pn**	**01 15 21.4**	**+3.2**
DALY	**Dalyan (Mula)**	**1.91**	**39**	*i* P		**Pn**	**01 15 21.4**	**+3.2**
DALY				*i* S		**Sn**	**01 15 37.4**	**-4.4**
DALY				IAML			01 15 46.0	
	comp=N,72nm,0.6s							
DALY				IAML			01 15 49.0	
	comp=E,34nm,0.5s							
DALY	**Dalyan (Mula)**	**1.91**	**39**	*i* P		**Pn**	**01 15 21.3**	**+3.1**
DALY				*i* S		**Sn**	**01 15 37.2**	**-4.6**
DALY				IAML			01 15 46.0	
	comp=N,72nm,0.6s							
DALY				IAML			01 15 49.0	
	comp=E,34nm,0.5s							
TURN	**Turunc**	**1.93**	**37**	PN		**Pn**	**01 15 17.8**	**-0.6**
TURN	**Turunc**	**1.93**	**37**	*i* P		**Pn**	**01 15 17.6**	**-0.8**
TURN				*i* S		**Sn**	**01 15 34.2**	**-8.0**
TURN				IAML			01 15 41.0	
	comp=N,92nm,0.2s							
TURN				IAML			01 15 42.0	
	comp=E,59nm,0.3s							
TURN	**Turunc**	**1.93**	**37**	*i* P		**Pn**	**01 15 17.9**	**-0.6**
TURN				*i* S		**Sn**	**01 15 34.6**	**-7.7**
TURN				IAML			01 15 41.0	
	comp=N,92nm,0.2s							
TURN				IAML			01 15 42.0	
	comp=E,59nm,0.3s							
SIVA	**Sivas**	**1.95**	**261**	P		**Pn**	**01 15 21.2**	**+2.5**
SIVA	**Sivas**	**1.95**	**261**	P		**Pn**	**01 15 21.2**	**+2.5**
YER	**Yerkesik**	**2.01**	**27**	PN		**Pn**	**01 15 22.5**	**+2.9**
FETY	**Fethiye**	**2.03**	**50**	P		**Pn**	**01 15 22.5**	**+2.6**
FETY	**Fethiye**	**2.03**	**50**	PN		**Pn**	**01 15 22.4**	**+2.6**
FETY	**Fethiye**	**2.03**	**50**	*i* P		**Pn**	**01 15 22.4**	**+2.6**
FETY				*i* S		**Sn**	**01 15 41.3**	**-3.4**
FETY				IAML			01 15 47.0	
	comp=E,27nm,0.6s							
FETY	**Fethiye**	**2.03**	**50**	*i* P		**Pn**	**01 15 22.3**	**+2.5**
FETY				*i* S		**Sn**	**01 15 42.0**	**-2.7**
FETY				IAML			01 15 47.0	
	comp=E,27nm,0.6s							
KSL	**Kastellorizon**	**2.13**	**67**	P		**Pn**	**01 15 24.0**	**+2.9**
KSL	**Kastellorizon**	**2.13**	**67**	P		**Pn**	**01 15 24.1**	**+2.9**
KSL	**Kastellorizon**	**2.13**	**67**	P		**Pn**	**01 15 23.9**	**+2.7**
KSL				AML		AML	01 15 50.0	
	comp=E,0.1nm,0.3s							
KSL				AML		AML	01 15 50.3	
	comp=E,0.2nm,0.4s							
APE	**Apeiranthos**	**2.17**	**323**	P		**Pn**	**01 15 22.6**	**+1.0**
APE	**Apeiranthos**	**2.17**	**323**	P		**Pn**	**01 15 22.6**	**+1.0**
APE	**Apeiranthos**	**2.17**	**323**	PN		**Pn**	**01 15 23.1**	**+1.5**
AKAS	**Kas**	**2.18**	**65**	*i* P		**Pn**	**01 15 24.6**	**+2.7**
AKAS				*i* S		**Sn**	**01 15 48.0**	**-0.6**
AKAS				IAML			01 15 53.0	
	comp=N,26nm,0.6s							
AKAS				IAML			01 15 55.0	
	comp=E,22nm,0.7s							
AKAS	**Kas**	**2.18**	**65**	*i* P		**Pn**	**01 15 24.6**	**+2.7**
AKAS				*i* S		**Sn**	**01 15 47.1**	**-1.4**
AKAS				IAML			01 15 53.0	
	comp=N,26nm,0.6s							
AKAS				IAML			01 15 55.0	
	comp=E,22nm,0.7s							
GCAM	**G?zelcaml?**	**2.35**	**2**	PN		**Pn**	**01 15 26.6**	**+2.6**
SMG	**Samos**	**2.38**	**354**	P		**Pn**	**01 15 26.3**	**+1.9**
SMG	**Samos**	**2.38**	**354**	P		**Pn**	**01 15 26.3**	**+1.9**
VAM	**Vamos**	**2.41**	**272**	P		**Pn**	**01 15 25.8**	**+0.9**
VAM				S		**Sn**	**01 15 53.9**	**+0.1**
	comp=E,48nm,0.3s							
VAM	**Vamos**	**2.41**	**272**	P		**Pn**	**01 15 25.8**	**+0.9**
TAVA	**DENIZLI_Tavas**	**2.55**	**33**	*i* P		**Pn**	**01 15 29.6**	**+2.9**
TAVA				*i* S		**Sn**	**01 15 55.1**	**-2.0**
TAVA				IAML			01 16 04.0	
	comp=E,34nm,0.6s							
TAVA				IAML			01 16 05.0	
	comp=N,30nm,0.4s							
TAVA	**DENIZLI_Tavas**	**2.55**	**33**	*i* P		**Pn**	**01 15 30.0**	**+3.2**
TAVA				*i* S		**Sn**	**01 15 53.8**	**-3.3**
TAVA				IAML			01 16 04.0	
	comp=E,34nm,0.6s							
TAVA				IAML			01 16 05.0	
	comp=N,30nm,0.4s							
GVD	**Gavdhos**	**2.56**	**260**	PN		**Pn**	**01 15 28.8**	**+2.0**
IMMV	**Iera Moni Meta**	**2.59**	**274**	P		**Pn**	**01 15 28.9**	**+1.7**
IMMV	**Iera Moni Meta**	**2.59**	**274**	P		**Pn**	**01 15 28.9**	**+1.7**
IMMV	**Iera Moni Meta**	**2.59**	**274**	PN		**Pn**	**01 15 29.5**	**+2.2**
ELL	**Elmali**	**2.64**	**57**	PN		**Pn**	**01 15 31.6**	**+3.6**
ELL	**Elmali**	**2.64**	**57**	P		**Pn**	**01 15 31.5**	**+3.5**
AYDB	**Zeytinkoy-Aydi**	**2.67**	**13**	PN		**Pn**	**01 15 30.8**	**+2.5**
GOLH	**Golhisar**	**2.71**	**45**	*i* P		**Pn**	**01 15 32.5**	**+3.6**
GOLH				IAML			01 16 00.0	
	comp=E,60nm,1.0s							
GOLH				*i* S		**Sn**	**01 16 01.5**	**+0.5**
GOLH				IAML			01 16 05.0	
	comp=N,26nm,0.5s							
GOLH	**Golhisar**	**2.71**	**45**	*i* P		**Pn**	**01 15 31.9**	**+3.0**
GOLH				IAML			01 15 59.0	
	comp=E,60nm,1.0s							
GOLH				*i* S		**Sn**	**01 15 59.2**	**-1.9**
GOLH				IAML			01 16 05.0	
	comp=N,26nm,0.5s							
AKUM	**Antalya-Kumluc**	**2.77**	**68**	*i* P		**Pn**	**01 15 32.6**	**+3.0**
AKUM				*i* S		**Sn**	**01 16 00.7**	**-1.5**
AKUM				IAML			01 16 09.0	
	comp=N,16nm,0.6s							
AKUM	**Antalya-Kumluc**	**2.77**	**68**	*i* P		**Pn**	**01 15 32.6**	**+3.0**
AKUM				*i* S		**Sn**	**01 16 01.6**	**-0.7**
AKUM				IAML			01 16 09.0	
	comp=N,16nm,0.6s							
KORT	**Korkueli**	**3.07**	**56**	*i* P		Pn	01 15 39.5	+5.7
KORT				*i* S		**Sn**	**01 16 12.0**	**+2.3**
KORT	**Korkueli**	**3.07**	**56**	*i* P		Pn	01 15 39.3	+5.5
KORT				*i* S		**Sn**	**01 16 11.3**	**+1.6**
OSC1	**CSNet OBS 1**	**3.87**	**117**	S		**Sn**	**01 16 27.0**	**-1.9**
MATC	**Matruh**	**3.99**	**179**	P		**Pn**	**01 15 47.8**	**+1.7**
	baz=176							
AKMS	**Akamas**	**4.26**	**93**	P		**Pn**	**01 15 51.2**	**+1.5**
ALFC	**Alefka**	**4.46**	**91**	P		**Pn**	**01 15 53.8**	**+1.3**
NATA	**Nata**	**4.48**	**96**	P		**Pn**	**01 15 54.2**	**+1.5**
SZAC	**Souni**	**4.74**	**95**	P		**Pn**	**01 15 57.5**	**+1.3**
OSC2	**CSNet OBS 4**	**4.80**	**117**	S		**Sn**	**01 16 49.2**	**-2.3**
ASGA	**Asgata**	**5.03**	**95**	P		**Pn**	**01 16 01.2**	**+1.0**
MVOU	**Mavrovouni**	**5.32**	**92**	P		**Pn**	**01 16 06.1**	**+2.0**
SWA2		**6.25**	**194**	P		**Pn**	**01 16 18.1**	**+1.4**
	baz=193							
SWA2				AMP			01 17 00.0	
	baz=193							
SWA2				S		**Sn**	**01 17 21.0**	**-5.8**
	baz=193							
HNAT	**Natroun**	**6.40**	**152**	AMP			01 17 00.0	
	baz=149							
SUZ	**Suez**	**7.28**	**137**	P		**Pn**	**01 16 33.6**	**+2.7**
	baz=134							
HFRF	**Wahat Farafira**	**8.23**	**173**	P		**Pn**	**01 16 44.9**	**+1.1**
	baz=171							
HFRF				AMP			01 18 00.0	
	baz=171							
HFRF				S		**Sn**	**01 18 09.9**	**-5.2**
	baz=171							

TAP ***13*** *01:47:49.0,25.39°N×122.38E,h258km,ML4.6,C*

JMA ***13*** *01:47:52.9±0.2,25.31°N×122.32E,h217km±2km,M4.1*

IDC ***13*** *01:47:53.5±3.5,25.43°N×122.24E,h260km±36km, mb3.4/10,mb1 3.5/12,mb1mx3.3/35,mbtmp4.0/12,Error ellipse: s-maj=33.6km s-min=12.8km az=66.0*

ISC 13 01:47:50.7±0.6,25.37°N±0.06×122.34°E±0.04,h236km±5km, n80,σ0°97/145,mb3.6/10,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PCYT	**Pengchaiyu**	**0.36**	**317**	*eP*		**Pn**	**01 48 22.4**	**+0.8**
	baz=311							
TWB1	**Santiao Chiao**	**0.48**	**222**	P		**Pn**	**01 48 22.5**	**+0.5**
	baz=222							
TWB1				*eS*		**S**	**01 48 47.0**	**+0.6**
	baz=222							
NWF	**Wu-fen Shan**	**0.59**	**240**	P		**Pn**	**01 48 22.8**	**+0.4**
	baz=239							
NWF				*eS*		**S**	**01 48 47.8**	**+0.6**
	baz=239							
WFSB	**Wu-fen Shan**	**0.59**	**240**	*eP*		**Pn**	**01 48 22.9**	**+0.6**
	baz=239							
WFSB				*eS*		**S**	**01 48 47.8**	**+0.8**
	baz=239							
TIPB	**Shuangxi**	**0.61**	**230**	P		**Pn**	**01 48 22.7**	**+0.3**
	baz=230							
TIPB				S		**S**	**01 48 48.0**	**+0.7**
	baz=230							
EGS		**0.64**	**216**	P		**Pn**	**01 48 23.0**	**+0.5**
	baz=215							
EGS				*eS*		**S**	**01 48 49.6**	**+2.2**
	baz=215							
TWY	**Chenhua**	**0.68**	**263**	*eP*		**Pn**	**01 48 23.4**	**+0.8**
	baz=260							
NTC	**Toucheng**	**0.69**	**222**	*eP*		**Pn**	**01 48 22.8**	**+0.1**
	baz=223							
NTC				*eS*		**S**	**01 48 49.3**	**+1.5**
	baz=223							
YM08	**YM08**	**0.70**	**256**	*eP*		**Pn**	**01 48 23.0**	**+0.3**
	baz=254							
YM08				*eS*		**S**	**01 48 49.0**	**+1.2**
	baz=254							
YM11	**YM11**	**0.72**	**254**	*eP*		**Pn**	**01 48 23.7**	**+0.8**
	baz=252							
YM01	**YM01**	**0.73**	**253**	*eP*		**Pn**	**01 48 23.3**	**+0.4**
	baz=251							
YM01				*eS*		**S**	**01 48 48.7**	**+0.6**
	baz=251							
YM04	**YM04**	**0.76**	**254**	*eP*		**Pn**	**01 48 23.5**	**+0.5**
	baz=252							
YM04				*eS*		**S**	**01 48 48.8**	**+0.5**
	baz=252							
ILA	**Ilan**	**0.81**	**222**	*eP*		**Pn**	**01 48 22.3**	**-0.9**
	baz=222							
ILA				*eS*		**S**	**01 48 50.7**	**+2.0**
	baz=222							
TATO	**Taipei**	**0.87**	**244**	*eP*		**Pn**	**01 48 23.5**	**0.0**
	baz=242							
TATO				*eS*		**S**	**01 48 48.8**	**-0.4**
	baz=242							
TWC	**Suao**	**0.88**	**211**	P		**Pn**	**01 48 23.7**	**+0.1**
	baz=211							
TWC				*eS*		**S**	**01 48 49.8**	**+0.4**
	baz=211							
TWE	**Neicheng**	**0.89**	**224**	*eP*		**Pn**	**01 48 24.4**	**+0.7**
	baz=223							
TWE				*eS*		**S**	**01 48 50.9**	**+1.4**
	baz=223							
ENTT	**Nioudou**	**1.01**	**224**	P		**Pn**	**01 48 24.8**	**+0.4**
	baz=224							
ENTT				*eS*		**S**	**01 48 49.9**	**-0.8**
	baz=224							
JYNG	**Yonagunijimaku**	**1.06**	**149**	P		**Pn**	**01 48 24.3**	**-0.4**
JYNG				*eS*		**S**	**01 48 49.5**	**-1.7**
ENA	**Nanau**	**1.08**	**210**	P		**Pn**	**01 48 25.3**	**+0.5**
	baz=210							
ENA				*eS*		**S**	**01 48 51.2**	**-0.3**
	baz=210							
YOJ	**Yonaguni jima**	**1.09**	**146**	*eP*		**Pn**	**01 48 24.9**	**+0.2**
	baz=148							
YOJ				*eS*		**S**	**01 48 51.4**	**-0.1**
	baz=148							
YOJ	**Yonaguni jima**	**1.09**	**146**	P		**Pn**	**01 48 24.7**	**-0.1**
YOJ				*eS*		**S**	**01 48 50.6**	**-0.9**
YHNB	**Yeheng**	**1.12**	**232**	*eP*		**Pn**	**01 48 25.0**	**-0.1**
	baz=231							
YHNB				*eS*		**S**	**01 48 50.1**	**-1.9**
	baz=231							
NSK	**Sanguang**	**1.13**	**233**	P		**Pn**	**01 48 25.0**	**-0.1**
	baz=232							
NSK				*eS*		**S**	**01 48 51.0**	**-1.0**
	baz=232							
NNS	**Nan Shan**	**1.27**	**224**	P		**Pn**	**01 48 26.7**	**+0.5**
	baz=223							
NNS				*eS*		**S**	**01 48 53.0**	**-1.0**
	baz=223							
NNSB

VWDT				eS	S	01 49 03.9	+0.4		
	baz=214								
JISG	**Ishigakijimahi**	**1.95**	**113**	P	Pn	01 48 32.1	+0.6		
JISG				S	S	01 49 02.4	-1.1		
SMLT	**Sun Moon Lake**	**1.98**	**222**	eP	Pn	01 48 33.0	+1.0		
	baz=221								
SMLT				eS	S	01 49 04.8	+0.5		
	baz=221								
SSLB	**Suanglung**	**2.02**	**219**	eP	Pn	01 48 32.9	+0.6		
	baz=219								
SSLB				eS	S	01 49 03.3	-1.5		
	baz=219								
HGSD	**Ruisui**	**2.04**	**204**	eP	Pn	01 48 33.1	+0.6		
	baz=204								
HGSD				eS	S	01 49 05.2	-0.1		
	baz=204								
EHY	**Hungye**	**2.07**	**207**	eP	Pn	01 48 34.2	+1.4		
	baz=206								
EHY				eS	S	01 49 07.1	+1.3		
	baz=206								
YULB	**Yu-li**	**2.18**	**206**	eP	Pn	01 48 34.0	+0.1		
	baz=206								
YULB				eS	S	01 49 08.9	+1.2		
	baz=206								
TWF1	**Yuli**	**2.22**	**206**	eP	Pn	01 48 36.1	+1.9		
	baz=205								
TWF1				eS	S	01 49 09.3	+1.0		
	baz=205								
JTJ	**Tarama**	**2.26**	**108**	P	Pn	01 48 35.6	+1.1		
JTJ				S	S	01 49 08.3	-0.6		
ALS	**Alishan**	**2.32**	**217**	eP	Pn	01 48 36.2	+0.7		
	baz=217								
ALS				eS	S	01 49 09.5	-1.1		
	baz=217								
CHN5	**Tsauling**	**2.32**	**221**	eP	Pn	01 48 36.1	+0.8		
	baz=220								
CHN5				eS	S	01 49 09.8	-0.5		
	baz=220								
FULB	**Fuli**	**2.36**	**204**	eP	Pn	01 48 37.0	+1.4		
	baz=204								
FULB				eS	S	01 49 12.2	+1.3		
	baz=204								
ELDTW	**Lidau**	**2.48**	**209**	eP	Pn	01 48 37.8	+0.9		
	baz=209								
ELDTW				eS	S	01 49 13.9	+0.6		
	baz=209								
TPUB	**Ta-pu**	**2.58**	**218**	eP	Pn	01 48 38.6	+0.7		
	baz=217								
TPUB				eS	S	01 49 13.8	-1.1		
	baz=217								
JIRB	**Irabujima**	**2.62**	**101**	P	Pn	01 48 39.5	+1.3		
JIRB				S	S	01 49 14.5	-1.0		
WTP	**Ta-pu**	**2.63**	**217**	eP	Pn	01 48 39.1	+0.7		
	baz=216								
WTP				eS	S	01 49 14.8	-1.2		
	baz=216								
JIKM	**Ikemajima**	**2.67**	**99**	P	Pn	01 48 40.3	+1.6		
JIKM				S	S	01 49 16.0	-0.4		
CHN1	**Nanshi**	**2.73**	**218**	eP	Pn	01 48 40.1	+0.6		
	baz=217								
CHN1				eS	S	01 49 16.8	-1.0		
	baz=217								
JMJ	**Miyako jima 2**	**2.73**	**101**	eP	Pn	01 48 41.6	+2.2		
	baz=102								
JMJ				eS	S	01 49 18.1	+0.4		
	baz=102								
JMJ2	**Miyako jima3**	**2.78**	**102**	P	Pn	01 48 41.5	+1.6		
JMJ2				S	S	01 49 18.1	-0.5		
SGST	**Jiashian**	**2.78**	**216**	eP	Pn	01 48 40.2	+0.1		
	baz=215								
SGST				eS	S	01 49 17.8	-1.0		
	baz=215								
TWG	**Pinlang**	**2.79**	**205**	eP	Pn	01 48 40.9	+0.8		
	baz=204								
TWG				eS	S	01 49 18.1	-0.8		
	baz=204								
TWGBT	**Beinan**	**2.79**	**205**	eP	Pn	01 48 40.9	+0.8		
	baz=204								
TWGBT				eS	S	01 49 18.2	-0.7		
	baz=204								
JOGS	**Gusukube**	**2.84**	**102**	P	Pn	01 48 42.3	+1.7		
JOGS				eS	S	01 49 20.3	+0.5		
MASBT	**Mashibuluo**	**3.16**	**210**	eP	Pn	01 48 45.1	+0.9		
	baz=209								
MASBT				eS	S	01 49 25.0	-1.2		
	baz=209								
EAST	**Anshuo**	**3.27**	**205**	eP	Pn	01 48 46.1	+0.6		
	baz=204								
EAST				eS	S	01 49 29.1	+0.4		
	baz=204								
JNU	**Nakatsue**	**10.73**	**42**	P	P	01 50 21.2	-2.7		
	0.7nm,0.3s,baz=315,slow=5.5,SNR=4.5								
KSRS	**Korea Array**	**12.95**	**20**	P	P	01 50 48.8	+0.3		
	0.3nm,0.3s,baz=196,slow=11,SNR=7.1								
SONM	**Songino Array**	**25.72**	**335**	P	P	01 52 59.7	+0.1		
	3.7nm,0.7s,baz=151,slow=9.6,SNR=18								
MKAR	**Makanchi Array**	**38.24**	**314**	P	P	01 54 48.1	0.0		
	0.7nm,0.4s,baz=97,slow=8.6,SNR=15								
MKAR				PcP	PcP	01 56 57.3	+0.2		
	0.3nm,0.7s,baz=96,slow=4.3,SNR=3.1								
ZALV	**Zalesovo Beam**	**39.84**	**326**	P	P	01 55 00.0	-1.1		
	2.5nm,0.5s,baz=113,slow=7.7,SNR=9.8								
WRA	**Warramunga Arr**	**46.52**	**164**	P	P	01 55 55.6	+0.8		
	1.2nm,0.6s,baz=347,slow=8.6,SNR=7.5								
ASAR	**Alice Springs**	**50.01**	**166**	P	P	01 56 22.8	+1.4		
	0.6nm,0.4s,baz=346,slow=7.0,SNR=7.6								
ARCES	**ARCESS Array B**	**68.84**	**338**	P	P	01 58 29.2	0.0		
	1.3nm,0.7s,baz=52,slow=7.9,SNR=5.0								
FINES	**FINESS Array B**	**70.96**	**330**	P	P	01 58 42.1	-0.1		
	2.6nm,0.5s,baz=62,slow=5.7,SNR=22								
NB2	**NORSAR Subarra**	**77.67**	**332**	P	P	01 59 20.7	-0.2		
	comp=Z,0.6nm,0.5s,baz=54,slow=6.2								
NOA	**NORSAR Array B**	**77.67**	**332**	P	P	01 59 20.8	-0.2		
	comp=Z,0.9nm,0.5s,baz=55,slow=5.9,SNR=7.7								
YKA	**Yellowknife Ar**	**81.47**	**23**	P	P	01 59 41.3	+0.1		
	comp=Z,0.3nm,0.5s,baz=311,slow=5.0,SNR=5.5								
GERES	**GERESS Array B**	**82.60**	**321**	P	P	01 59 47.4	-0.1		
	comp=Z,0.1nm,0.3s,baz=38,slow=3.8,SNR=3.9								

UCR ***13*** *02:03:34.0±2.2, 8.°62N×82.°82W, h20km±5km, MD3.6*
UPA ***13*** *02:03:34.2±0.7, 8.°63N×82.°80W, h21km±4km, MW3.0*

ISC 13 02:03:34.1±0.9, 8.°63N±0.°04×82.°81W±0.°03, h28km±6km, n20, σ0°86/37, 2C-4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time			Res
				Op			h	m	s	ISC
MLIR3	**Monte Lirio, C**	**0.16**	**354**	*i*	P	**Pb**	**02**	**03**	**39.4**	**-0.4**
MLIR3					eS	**Sb**	**02**	**03**	**44.0**	**+0.4**
BRU2	**Volcan**	**0.20**	**36**	⇓*i*	P	**Pb**	**02**	**03**	**39.8**	**-0.5**
BRU2				⇓	*i* S	**Sb**	**02**	**03**	**44.3**	**-0.1**
BRU2	**Volcan**	**0.20**	**36**	⇓*i*	P	**Pb**	**02**	**03**	**39.8**	**-0.5**
BRU2					eS	**Sb**	**02**	**03**	**44.3**	**-0.1**
EDSV	**San Vito**	**0.25**	**319**	⇑*i*	P	**Pb**	**02**	**03**	**40.4**	**-0.4**
EDSV					*i* S	**Sb**	**02**	**03**	**45.9**	**+0.5**
BC3P	**Paso Ancho**	**0.27**	**47**	*i*	P	**Pb**	**02**	**03**	**40.6**	**-0.5**
BC3P					eS	**Sb**	**02**	**03**	**44.6**	**-1.3**
BCO2	**Palmira**	**0.29**	**73**	⇓*i*	P	**Pb**	**02**	**03**	**41.2**	**-0.2**
BCO2					*i* S	**Sb**	**02**	**03**	**46.7**	**+0.4**
SBAR3	**San Bartolo, C**	**0.32**	**193**	*i*	P	**Pb**	**02**	**03**	**41.5**	**-0.3**
SBAR3					eS	**Sn**	**02**	**03**	**49.6**	**+0.8**
DVD	**David**	**0.40**	**119**	eP		**Pb**	**02**	**03**	**42.6**	**-0.4**
DVD					eS	**Sb**	**02**	**03**	**48.8**	**-0.1**
LOCO3	**Loma Colorada,**	**0.45**	**120**	*i*	P	**Pb**	**02**	**03**	**43.4**	**-0.1**
LOCO3					eS	**Sb**	**02**	**03**	**49.5**	**-0.4**
PEDE3	**Pedregal, Chir**	**0.46**	**123**	*i*	P	**Pb**	**02**	**03**	**43.3**	**-0.4**
PEDE3					eS	**Sb**	**02**	**03**	**49.0**	**-1.2**
EDBA	**Buenos Aires**	**0.70**	**319**	eP		**Pb**	**02**	**03**	**47.1**	**-0.7**
EDBA					eS	**Sn**	**02**	**03**	**58.6**	**+0.5**
EDPN	**Palmar Norte**	**0.72**	**297**	*i*	P	**Pb**	**02**	**03**	**46.3**	**-1.8**
EDPN					*i* S	**Sb**	**02**	**03**	**56.8**	**-0.9**
CHGR2	**Aguacate**	**0.72**	**65**	*i*	P	**Pb**	**02**	**03**	**47.5**	**-0.6**
CHGR2					eS	**Sb**	**02**	**03**	**57.5**	**-0.2**
DRK0	**Durika**	**0.76**	**325**	eP		**Pb**	**02**	**03**	**47.9**	**-1.0**
DRK0					eS	**Sb**	**02**	**03**	**57.9**	**-1.1**
DRK0	**Durika**	**0.76**	**325**	⇑*eP*		**Pb**	**02**	**03**	**47.9**	**-1.0**
DRK0					eS	**Sb**	**02**	**03**	**59.1**	**+0.1**
LCR2	**La Lucha 2**	**1.61**	**313**	eP		**Pn**	**02**	**04**	**00.1**	**-0.9**
CVTR	**Volcan Turrial**	**1.67**	**326**	eP		**Pn**	**02**	**04**	**02.6**	**+0.8**
CVTR					eS	**Sb**	**02**	**04**	**27.0**	**+1.8**
GMAL	**Guarumal, Vera**	**1.78**	**119**	eP		**Pn**	**02**	**04**	**02.5**	**-0.5**
GMAL					eS	**Sn**	**02**	**04**	**24.4**	**-0.4**
CACAO	**El Cacao, Vera**	**2.31**	**123**	eP		**Pn**	**02**	**04**	**11.4**	**+1.1**
ARE1	**Arenal 1**	**2.62**	**314**	eP		**Pn**	**02**	**04**	**16.6**	**+2.0**

IDC ***13*** *02:04:52.9±4.1, 48.°02N×147.°07E, h415km±59km, mb2.7/5, mb1 3.0/8, mb1mx2.7/35, mbtmp3.6/8, Error ellipse: s-maj=46.9km s-min=25.2km az=160.0*

ISC 13 02:04:54.4±0.9, 47.°9N±0.°2×147.°0E±0.°2, h442km, n8, σ0°63/8, mb3.1/5, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time			Res
				Op			h	m	s	ISC
USRK	**Ussuriysk Ar.**	**11.07**	**256**	P		**P**	**02**	**07**	**22.6**	**-0.5**
	baz=67,slow=13,SNR=2.7									
MJAR	**Matsushiro Arr**	**13.10**	**213**	P		**P**	**02**	**07**	**45.3**	**0.0**
	0.1nm,0.3s,baz=12,slow=12,SNR=6.6									
KSRS	**Korea Array**	**17.45**	**240**	P		**P**	**02**	**08**	**32.3**	**+0.7**
	0.2nm,0.3s,baz=40,slow=9.3,SNR=5.6									
ILAR	**Eielson Array**	**38.24**	**39**	P		**P**	**02**	**11**	**34.2**	**-0.3**
	0.5nm,0.6s,baz=262,slow=7.4,SNR=7.6									
MKAR	**Makanchi Array**	**42.67**	**294**	P		**P**	**02**	**12**	**10.9**	**+0.5**
	0.5nm,0.5s,baz=72,slow=7.8,SNR=4.5									
YKA	**Yellowknife Ar**	**52.42**	**35**	P		**P**	**02**	**13**	**23.1**	**-0.6**
	0.2nm,0.5s,baz=304,slow=7.1,SNR=3.0									
PDAR	**Pinedale Array**	**67.32**	**51**	P		**P**	**02**	**15**	**04.1**	**0.0**
	0.3nm,0.5s,baz=11,slow=1.5,SNR=2.8									
TXAR	**Lajitas Array**	**80.43**	**57**	P		**P**	**02**	**16**	**19.7**	**+0.7**
	0.2nm,0.5s,baz=298,slow=3.8,SNR=5.4									

IDC 13 02:18:30.8±3.6, 27.°77N×111.°72W, h0km, mb3.4/1, mb1 3.9/3, mb1mx3.5/28, mbtmp3.5/3, ML4.0/2, MS3.1/10, Ms1 3.1/10, ms1mx3.0/23, Error ellipse: s-maj=54.9km s-min=18.4km az=12.0, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time			Res
				Op			h	m	s	ISC
TXAR	**Lajitas Array**	**7.25**	**76**	Pn		Pn	02	20	18.2	+0.1
	0.8nm,0.3s,baz=249,slow=13,SNR=63									
TXAR				Sn		Sn	02	21	41.3	+0.1
	0.4nm,0.3s,baz=259,slow=22,SNR=1.7									
TXAR				Lg			02	22	20.4	
	1.5nm,0.3s,baz=258,slow=29,SNR=8.4									
TXAR				LR		LR	02	23	20.0	
	comp=Z,162nm,20.1s,baz=0.0,slow=40									
NVAR	**Mina Array Bea**	**11.97**	**334**	LR		LR	02	25	24.2	
	comp=Z,69nm,18.7s,baz=48,slow=35									
ELK	**Elko**	**13.27**	**348**	LR		LR	02	26	30.1	
	comp=Z,56nm,18.9s,baz=170,slow=36									
PDAR	**Pinedale Array**	**15.07**	**6**	Pn		P	02	22	09.7	-1.1
	0.1nm,0.3s,baz=180,slow=12,SNR=8.1									
YBH	**Yreka Blue Hor**	**16.58**	**330**	LR		LR	02	28	27.7	
	comp=Z,48nm,18.6s,baz=257,slow=36									
NEW	**Newport**	**20.89**	**350**	LR		LR	02	31	41.0	
	comp=Z,54nm,18.6s,baz=160,slow=38									
TKL	**Tuckaleechee C**	**24.98**	**65**	LR		LR	02	34	27.3	
	comp=Z,64nm,18.7s,baz=258,slow=38									
ULM	**Lac du Bonnet**	**25.50**	**24**	LR		LR	02	34	22.8	
	comp=Z,67nm,19.6s,baz=245,slow=37									
DLBC	**Dease Lake**	**33.21**	**342**	LR		LR	02	37	45.4	
	comp=Z,42nm,19.9s,baz=134,slow=35									
YKA	**Yellowknife Ar**	**34.78**	**358**	LR		LR	02	42	05.2	
	comp=Z,31nm,19.6s,baz=0.0,slow=41									
ILAR	**Eielson Array**	**43.18**	**339**	P		P	02	26	33.5	+0.5
	0.5nm,0.9s,baz=140,slow=5.2,SNR=5.0									
ILAR				LR		LR	02	43	47.0	
	comp=Z,20nm,18.0s,baz=128,slow=35									

NNC ***13*** *02:20:19.1±0.9, 43.°07N×78.°19E, h0km, mb2.5, mpv2.7, Error ellipse: s-maj=7.0km s-min=3.3km az=24.0*
KRNET ***13*** *02:20:24.8±0.1, 40.°95N×76.°81E, h35km, mb1.9*

SOME 13 02:20:19.5, 43.°07N×78.°23E, h10km, 8C-4D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time			Res
				Op			h	m	s	ISC
SATY	**Saty**	**0.13**	**94**	*eP*		Pg	02	20	22.6	0.0
	56nm,0.1s									
SATY					*eS*	Sg	02	20	25.0	+0.2
	186nm,0.2s									
SATY	**Saty**	**0.13**	**94**	P		Pg	02	20	22.6	0.0
	56nm,0.1s									
SATY				S		Sg	02	20	25.2	+0.4
	186nm,0.2s									
KURS	**Kuram**	**0.42**	**354**	*eP*		Pg	02	20	27.8	0.0
	1.4nm,0.2s									
KURS					*eS*	Sg	02	20	33.7	+0.3
	2.9nm,0.3s									
KURS	**Kuram**	**0.42**	**354**	P		Pg	02	20	27.8	0.0
	1.4nm,0.2s									
KURS				S		Sg	02	20	33.7	+0.3
	2.9nm,0.3s									
KPKS	**Kokpek**	**0.52**	**39**	*eP*		Pg	02	20	29.7	+0.1
	1.6nm,0.1s									
KPKS					*eS*	Sg	02	20	37.1	+0.7
	7.8nm,0.1s									
UZB	**Uzynbulak**	**0.58**	**82**	*eP*		Pg	02	20	30.5	-0.4
	2.3nm,0.1s									
UZB					*eS*	Sg	02	20	38.5	-0.1
	7.9nm,0.1s									
UZB	**Uzynbulak**	**0.58**	**82**	P		Pg	02	20	30.5	-0.4
	2.3nm,0.1s									
UZB				S		Sg	02	20	38.5	-0.1
	7.9nm,0.1s									
MDOK	**Medeo**	**0.87**	**277**	*eP*		Pg	02	20	35.1	-1.3
	1.3nm,0.3s									
MDOK					*eS*	Sg	02	20	46.4	-1.3
	5.7nm,0.3s									
ARXS	**Arharly**	**1.18**	**346**	*eP*		Pb	02	20	41.7	-0.4
	1.9nm,0.2s									
ARXS					*eS*	Sb	02	20	57.5	0.0
	2.3nm,0.1s									
ARXS	**Arharly**	**1.18**	**346**	P		Pb	02	20	41.7	-0.4
	1.9nm,0.2s									
ARXS				S		Sb	02	20	57.5	0.0
	2.3nm,0.1s									
KDJ	**Kajisay**	**1.22**	**220**	⇑*iP*		Pg	02	20	47.1	+4.2
	baz=14									
KDJ				⇑*iS*		Sn	02	21	03.2	+3.8
	baz=14									
KTBS	**Karatobe**	**1.30**	**300**	*eP*		Pn	02	20	43.4	-0.5
	1.6nm,0.1s									
KTBS					*eS*	Sb	02	21	00.1	-0.8
	3.9nm,0.3s									
KTBS	**Karatobe**	**1.30**	**300**	P		Pn	02	20	43.4	-0.4
	1.6nm,0.1s									
KTBS				S		Sb	02	21	00.1	-0.8
	3.9nm,0.3s									
TARG	**Taragay, Kyrgy**	**1.37**	**193**	⇑*iP*		Pn	02	20	45.1	0.0
	baz=43									
TARG				⇑*iS*		Sb	02	20	59.5	-3.8
	baz=43									
KTMS	**Ketmen**	**1.59**	**76**	*eP*		Pb	02	20	49.2	0.0
	0.5nm,0.1s									
KTMS					*eS*	Sg	02	21	10.6	-0.2
	2.1nm,0.1s									
KTMS	**Ketmen**	**1.59**	**76**	P		Pb	02	20	49.2	0.0
	0.5nm,0.1s									
KTMS				S		Sg	02	21	10.6	-0.2
	2.1nm,0.1s									
ULHL	**Ulahol**	**1.68**	**241**	⇑*iP*		Pn	02	20	49.3	+0.1
	baz=42									
ULHL				⇑*iS*		Sn	02	21	07.6	-3.3
	baz=42									
DJR	**Jarkent**	**1.69**	**41**	P		Pn	02	20	49.6	+0.3
	1.0nm,0.2s									
DJR				S		Sn	02	21	11.5	+0.4
	1.5nm,0.2s									
BOOM	**Boomskoye usch**	**1.78**	**252**	⇓*iP*		Pg	02	20	53.7	0.0
	baz=38									
BOOM				⇓*iS*		Sb	02	21	14.9	0.0
	baz=38									
KZA	**Kyzart**	**2.42**	**247**	⇓*iP*		Pn	02	20	53.0	-6.4
	baz=15									
KZA				⇓*iS*		Sn	02	21	13.8	-15
	baz=15									
ARLS	**Aral**	**3.13**	**249**	⇑*iP*		Pn	02	20	59.2	-10
	baz=97									
ARLS				⇑*iS*		Sn	02	21	24.4	-22
	baz=97									

IDC ***13*** *02:32:35.8±0.6, 1.°65N×125.°76E, h0km, mb4.4/16, mb1 4.5/18, mb1mx4.3/38, mbtmp4.4/18, ML4.7/2, MS2.9/4, Ms1 3.0/4, ms1mx2.6/39, Error ellipse: s-maj=36.6km s-min=11.8km az=80.0*
NEIC ***13*** *02:32:41.9±2.3, 1.°75N±0.°07×126.°40E±0.°08, h51km±7km, mb4.6/28, Error ellipse: s-maj=11.8km s-min=9.1km az=61.0*
BJI ***13*** *02:32:41.9±0.0, 1.°64N×126.°23E, h65km, mB5.0/23, mb4.8/38, Ms4.6/1*
DJA ***13*** *02:32:43.2±0.2, 2.°N±2.°×12.°6E±.°, h53km±4km, M4.6/12, mB5.1/4, mb4.9/8, MLv4.4/12, Mw(mB)4.4/4*

ISC 13 02:32:42.3±0.4, 1.72N±0.°04×126.°32E±0.°05, h47km, n82, σ1°87/81, mb4.5/30, 1C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time			Res
				Op			h	m	s	ISC
TNTI	**Ternate**	**1.41**	**132**	P		**Pn**	**02**	**33**	**06.6**	**+1.1**
TNTI				S		**Sn**	**02**	**33**	**26.5**	**+3.6**
TNTI	**Ternate**	**1.41**	**132**	Pn		**Pn**	**02**	**33**	**06.1**	**+0.5**
KMSI	**Cibinong**	**2.61**	**244**	P		**Pn**	**02**	**33**	**23.8**	**+1.8**
KMSI				S		**Sn**	**02**	**33**	**55.3**	**+2.9**
LBMI	**Labuha**	**2.62**	**153**	P		**Pn**	**02**	**33**	**24.7**	**+2.4**
SANI	**Sanana**	**3.76**	**185**	P		**Pn**	**02**	**33**	**40.1**	**+2.2**
LUWI	**Luwuk**	**4.49**	**232**	P		**Pn**	**02**	**33**	**50.0**	**+2.1**
LUWI	**Luwuk**	**4.49**	**232**	Pn		**Pn**	**02**	**33**	**50.3**	**+2.4**
MRSI	**Marisa**	**4.55**	**254**	P		**Pn**	**02**	**33**	**50.4**	**+1.6**
NLAI	**Namlea**	**4.99**	**171**	P		**Pn**	**02**	**33**	**57.2**	**+2.5**
	0.3nm1μm38nm,0.4s									
APSI	**Ampana**	**5.36**	**241**	P		**Pn**	**02**	**34**	**01.6**	**+1.8**
	0.9nm2μm218nm,0.7s									
DAV	**Davao City (W)**	**5.36**	**352**	Pn		**Pn**	**02**	**33**	**58.8**	**-1.1**
	63nm,0.3s,baz=238,slow=17,SNR=1.8									
DAV				Sn		**Sn**	**02**	**35**	**07.6**	**+7.2**
	32nm,0.3s,baz=334,slow=23,SNR=1.2									
DAV				LR		LR	02	36	32.6	
	comp=Z,70nm,18.5s,baz=230,slow=44									
KCP	**Kidapawan**	**5.39**	**347**	⇓*iP*		**Pn**	**02**	**34**	**02.6**	**+2.2**
KCP				*i* S		**Sn**	**02**	**35**	**03.8**	**+2.6**
CTBH	**Cotabato--PC H**	**5.84**	**339**	⇑*iP*		**Pn**	**02**	**34**	**06.1**	**-0.4**
MPSI	**Mapaga**	**6.57**	**258**	P		**Pn**	**02**	**34**	**20.0**	**+3.5**
TTSI	**Tana Toraja**	**8.04**	**234**	P		Pn	02	34	44.6	+7.9
SPSI	**Sidrap Palu**	**8.65**	**229**	P		Pn	02	34	53.8	+8.8
BNSI	**Bone**	**8.59**	**226**	P		Pn	02	35	00.2	+15
KAPI	**Kappang**	**9.38**	**224**	Pn		**Pn**	**02**	**34**	**56.1**	**+1.2**
MTN	**Manton Dam**	**15.24**	**162**	Pn		**Pn**	**02**	**36**	**13.7**	**-0.8**
KSM	**Kuching**	**16.01**	**269**			**P**	**02**	**36**	**30.2**	**+2.9**
FITZ	**Fitzroy Crossi**	**19.71**	**182**	P		**P**	**02**	**37**	**07.8**	**-0.2**
	0.8nm,0.3s,baz=16,slow=7.4,SNR=18									
FITZ	**Fitzroy Crossi**	**19.71**	**182**	IAmb		IAmb	02	37	13.8	
	comp=Z,22nm,1.4s									
WB0	**Warramunga Arr**	**22.78**	**160**	P		**P**	**02**	**37**	**40.7**	**-0.3**
WRA	**Warramunga Arr**	**22.92**	**160**	P		**P**	**02**	**37**	**42.0**	**-0.5**
	comp=Z,11nm,0.3s,baz=332,slow=11,SNR=58									
WRA	**Warramunga Arr**	**22.92**	**160**	P		**P**	**02**	**37**	**41.8**	**-0.8**
WB2	**Warramunga Arr**	**22.93**	**160**	P		**P**	**02**	**37**	**42.3**	**-0.3**
WR0	**Warramunga Arr**	**23.01**	**160**	P		**P**	**02**	**37**	**43.1**	**-0.3**
WR0				IAmb		IAmb	02	37	49.9	
	comp=Z,16nm,0.6s									
JOW	**Kunigami**	**25.04**	**4**	P		**P**	**02**	**38**	**03.1**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=186,slow=9.1,SNR=5.8									
AS31	**Alice Springs**	**26.29**	**164**	P		**P**	**02**	**38**	**12.9**	**-0.7**
AS31				IAmb		IAmb	02	38	15.8	
	comp=Z,5.7nm,0.4s									
ASAR	**Alice Springs**	**26.29**	**164**	P		**P**	**02**	**38**	**14.1**	**+0.4**
	comp=Z,7.7nm,0.5s,baz=345,slow=8.0,SNR=135									
ASAR				PcP		**PcP**	**02**	**41**	**39.8**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=358,slow=2.4,SNR=5.6									
ASAR	**Alice Springs**	**26.29**	**164**	P		**P**	**02**	**38**	**12.9**	**-0.7**
KRVT	**Keravat (AS076**	**26.37**	**103**	LR		LR	02	49	17.8	
	comp=Z,37nm,19.3s,baz=298,slow=37									
WHN	**Wuhan**	**30.83**	**340**	P		P	02	39	17.8	+24
NJ2	**Nanjing**	**30.98**	**348**	*eP*		**P**	**02**	**38**	**56.3**	**+1.0**
NJ2				sP		**sP**	**02**	**39**	**18.1**	**+5.5**
NJ2				pmax		pmax				
	comp=Z,20nm,0.6s									
GYA	**Guiyang**	**31.01**	**324**	*eP*		**P**	**02**	**38**	**56.1**	**+0.3**
GYA				pmax		pmax				
	comp=Z,10.0nm,0.6s									
CMAR	**Chiang Mai Arr**	**31.58**	**304**	LR		LR	02	51	16.8	
	comp=Z,18nm,21.5s,baz=225,slow=36									
ENH	**Enshi**	**32.58**	**332**	P		**P**	**02**	**39**	**08.1**	**-1.4**
KSRS	**Korea Array**	**35.59**	**2**	P		**P**	**02**	**39**	**37.0**

ARCES ARCESS Array B 92.18 340 P **P** **02 45 45.8 -0.8**
comp=Z,2.9nm,0.8s,baz=76,slow=6.4,SNR=3.6
FINES FINESS Array B 93.40 332 P **P** **02 45 50.4 -2.0**
comp=Z,0.7nm,0.5s,baz=90,slow=9.5,SNR=5.7
BURAR Bucovina Array 96.22 318 P **P** **02 46 04.8 -1.0**
TORD Torodi Ar. Bea 123.13 287 PKP **PKPdf** **02 51 34.8 -0.1**
comp=Z,1.5nm,0.7s,baz=64,slow=2.1,SNR=8.9
TORD Torodi Ar. Bea 123.13 287 **PKiKP** **02 51 35.1 0.0**

IDC 13 02:36:27.7±2.0, 0°91N×124°37E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/38, mbtmp3.6/3, MS2.9/1, Ms1 2.9/1, ms1mx2.4/30, Error ellipse: s-maj=201.8km s-min=27.9km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.91**	**155**	P	P	02 41 32.5	-0.9
	0.9nm,0.4s,baz=333,slow=11,SNR=5.5						
ASAR	**Alice Springs**	**26.13**	**160**	P	P	02 42 04.5	+0.8
	0.4nm,0.5s,baz=344,slow=7.1,SNR=2.7						
TLY	**Talaya**	**53.52**	**344**	LR	LR	03 10 01.8	
	comp=Z,11nm,18.5s,baz=149,slow=38						
MKAR	**Makanchi Array**	**58.58**	**327**	P	P	02 46 26.3	-0.1
	0.5nm,0.6s,baz=125,slow=8.8,SNR=3.8						

IDC 13 02:37:08.8±7.4, 15°22S×175°02W, h0km, mb4.2/3, mb1 4.5/3, mb1mx3.8/29, mbtmp4.2/3, MS4.4/1, Ms1 4.4/1, ms1mx2.8/33, Error ellipse: s-maj=328.7km s-min=33.8km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**14.22**	**190**	LR	LR	02 44 46.0	
	comp=Z,2μm,21.9s,baz=225,slow=32						
WRA	**Warramunga Arr**	**48.36**	**257**	P	P	02 45 53.0	+0.2
	1.8nm,0.5s,baz=90,slow=7.2,SNR=11						
ASAR	**Alice Springs**	**48.28**	**252**	P	P	02 45 55.0	-0.2
	4.5nm,0.4s,baz=87,slow=8.0,SNR=62						
ILAR	**Eielson Array**	**82.58**	**12**	P	P	02 49 34.0	+0.6
	0.3nm,0.5s,baz=222,slow=5.7,SNR=6.5						
BRTR	**Keskin Array B**	**145.02**	**320**	PKPbc	PKPbc	02 56 46.2	-1.7
	1.5nm,0.7s,baz=95,slow=2.9,SNR=8.7						

IDC 13 02:49:46.0±4.4, 17°36S×178°93W, h525km±49km, mb3.4/10, mb1 3.6/11, mb1mx3.4/26, mbtmp4.3/11, Error ellipse: s-maj=25.0km s-min=21.0km az=137.0
NEIC 13 02:49:47.9±1.6, 17°5S±0°2×178°9W±0°1, h555km±7km, mb4.1/15, Error ellipse: s-maj=27.8km s-min=8.7km az=139.0
ISC 13 02:49:47.0±0.6, 17°4S±0°1×179°0W±0°1, h539km, n33, σ1=32/35, mb4.0/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.85**	**264**	P	**P**	**02 51 03.6**	**+3.3**
DZM	**Mont Dzumac**	**14.47**	**249**	P	**P**	**02 52 52.4**	**+1.1**
	0.3nm,0.3s,baz=349,slow=20,SNR=2.3						
LTZ	**Lake Taylor**	**26.34**	**195**	P	**P**	**02 54 39.1**	**-0.9**
OXZ	**Oxford**	**26.91**	**195**	P	**P**	**02 54 43.9**	**-1.1**
RPZ	**Rata Peaks**	**27.52**	**196**	P	**P**	**02 54 48.9**	**-1.4**
	4.9nm,0.5s,baz=28,slow=20,SNR=2.4						
TOO	**Toolangi**	**37.05**	**230**	P	**P**	**02 56 11.6**	**+0.2**
STKA	**Stephens Creek**	**38.38**	**240**	P	**P**	**02 56 23.6**	**+1.3**
	7.5nm,0.7s,baz=94,slow=1.1,SNR=15						
WB2	**Warramunga Arr**	**44.17**	**259**	P	**P**	**02 57 08.1**	**-0.4**
WRA	**Warramunga Arr**	**44.18**	**259**	P	**P**	**02 57 08.2**	**-0.2**
	2.6nm,0.7s,baz=97,slow=7.1,SNR=22						
WRA				S	**S**	**03 02 59.1**	**-3.7**
	0.5nm,0.8s,baz=73,slow=15,SNR=1.4						
WRA	**Warramunga Arr**	**44.18**	**259**	P	**P**	**02 57 08.3**	**-0.2**
AS31	**Alice Springs**	**44.40**	**254**	P	**P**	**02 57 10.4**	**+0.3**
ASAR	**Alice Springs**	**44.40**	**254**	P	**P**	**02 57 10.6**	**+0.5**
	18nm,0.4s,baz=88,slow=8.0,SNR=246						
ASAR				PcP	**PcP**	**02 58 42.5**	**+0.2**
	0.8nm,0.5s,baz=103,slow=3.0,SNR=5.0						
ASAR				S	**S**	**03 03 04.0**	**-1.8**
	1.3nm,0.8s,baz=87,slow=17,SNR=6.9						
ASAR	**Alice Springs**	**44.40**	**254**	P	**P**	**02 57 10.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**52.57**	**260**	P	**P**	**02 58 08.6**	**-2.3**
VNDA	**Vanda**	**60.87**	**185**	P	**P**	**02 59 08.1**	**+1.2**
	1.2nm,0.9s,baz=358,slow=7.9,SNR=6.1						
QSPA	**South Pole Qui**	**72.62**	**180**	P	**P**	**03 00 18.7**	**-0.9**
QSPA				IAmb	IAmb	03 00 20.6	
	comp=Z,4.9nm,0.7s						
ISA	**Isabella, Lake**	**77.89**	**46**	P	**P**	**03 00 48.1**	**-1.3**
ISA				IAmb	IAmb	03 01 48.7	
	comp=Z,13nm,1.9s						
NVAR	**Mina Array Bea**	**79.46**	**44**	P	**P**	**03 00 58.1**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=224,slow=9.8,SNR=4.6						
X16A	**Lo Mia Camp, P**	**82.30**	**50**	P	**P**	**03 01 10.1**	**-2.6**
DUG	**Dugway, Tooele**	**84.03**	**45**	P	**P**	**03 01 21.1**	**0.0**
DUG				IAmb	IAmb	03 04 32.6	
	comp=Z,8.9nm,1.9s						
MAW	**Mawson**	**84.12**	**200**	P	**P**	**03 01 21.4**	**+0.5**
	comp=Z,3.4nm,0.6s,baz=148,slow=5.4,SNR=9.1						
MAW	**Mawson**	**84.12**	**200**	IAmb	IAmb	03 01 22.9	
	comp=Z,8.2nm,1.9s						
IL31		**85.55**	**13**	P	**P**	**03 01 27.3**	**-0.5**
ILAR	**Eielson Array**	**85.55**	**13**	P	**P**	**03 01 26.4**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=226,slow=5.4,SNR=9.4						
TXAR	**Lajitas Array**	**86.20**	**58**	P	**P**	**03 01 32.8**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=212,slow=5.9,SNR=7.4						
PDAR	**Pinedale Array**	**87.39**	**44**	P	**P**	**03 01 37.3**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=224,slow=2.5,SNR=2.0						
SNAA	**Sanae**	**91.08**	**179**	P	**P**	**03 01 52.9**	**-0.8**
VNA3	**Neumayer Olymp**	**91.24**	**177**	P	**P**	**03 01 54.2**	**-0.3**
VNA2	**Neumayer--Watz**	**91.67**	**177**	P	**P**	**03 01 56.2**	**-0.2**
	baz=184,slow=3.3						
VNA1	**Neumayer--Stat**	**91.91**	**177**	P	**P**	**03 01 57.3**	**-0.2**
BRTR	**Keskin Array B**	**144.06**	**315**	PKP	**PKPab**	**03 08 21.4**	**0.0**
	comp=Z,0.4nm,0.6s,baz=95,slow=2.3,SNR=4.2						
MMAI	**Mount Meron Ar**	**145.43**	**303**	PKPbc	**PKPbc**	**03 08 26.0**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=45,slow=4.3,SNR=3.0						
GERES	**GERESS Array B**	**147.01**	**345**	PKPbc	**PKPbc**	**03 08 28.5**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=353,slow=3.4,SNR=4.6						

WEL 13 02:59:42.4, 45°S±2°×16°8E±°, h58km±3km, M3.5/8, ML3.7/8, MLv3.5/8, Error ellipse: s-maj=0.0km s-min=0.0km az=71.9, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.46**	**36**	P	Pn	02 59 54.1	+0.3
MSZ				S	Sn	03 00 02.4	+0.5
DCZ	**Deep Cove**	**0.50**	**213**	P	Pn	02 59 54.7	+0.6
DCZ				S	Sn	03 00 03.6	+0.9
MLZ	**Mavora Lakes**	**0.52**	**128**	P	Pn	02 59 55.2	+0.8
MLZ				S	Sn	03 00 04.5	+1.4
WHZ	**Wether Hill Ro**	**0.89**	**162**	P	Pn	02 59 59.9	+1.0
WHZ				S	Sn	03 00 12.5	+1.4
WKZ	**Wanaka**	**1.07**	**79**	P	Pn	03 00 02.3	+1.0
WKZ				S	Sn	03 00 16.5	+1.2
EAZ	**Earnscleugh**	**1.26**	**99**	P	Pn	03 00 05.0	+1.2
EAZ				S	Sn	03 00 20.4	+0.6
PYZ	**Puysegur Point**	**1.27**	**208**	P	Pn	03 00 05.4	+1.4
JCZ	**Jackson Bay**	**1.32**	**43**	P	Pn	03 00 04.6	-0.1
TUZ	**Tuapeka**	**1.72**	**122**	P	Pn	03 00 11.0	+1.0
APZ	**The Paps**	**1.81**	**170**	P	Pn	03 00 12.2	+0.9
SYZ	**Scrubby Hill**	**1.86**	**144**	P	Pn	03 00 12.8	+0.9
LBZ	**Lake Benmore**	**2.00**	**72**	P	Pn	03 00 13.3	-0.5
ODZ	**Otahua Downs**	**2.20**	**91**	P	Pn	03 00 16.4	-0.1
FOZ	**Fox Glacier**	**2.23**	**48**	P	Pn	03 00 16.2	-0.7
HHSZ	**Highcliff Hill**	**2.31**	**112**	P	Pn	03 00 18.7	+0.7
RPZ	**Rata Peaks**	**2.85**	**63**	P	Pn	03 00 24.1	-1.3
INZ	**Inchbonnie**	**3.65**	**52**	P	Pn	03 00 35.6	-0.8
MQZ	**McQueen's Vall**	**3.90**	**72**	P	Pn	03 00 37.9	-1.9
LTZ	**Lake Taylor**	**4.10**	**58**	P	Pn	03 00 40.3	-2.2
OKCZ	**Okains Bay**	**4.17**	**73**	P	Pn	03 00 42.1	-1.4
DSZ	**Denniston Nort**	**4.53**	**45**	P	Pn	03 00 47.2	-1.3
THZ	**Tophouse**	**5.10**	**52**	P	Pn	03 00 55.6	-0.7
QRZ	**Quartz Range**	**5.58**	**43**	P	Pn	03 01 01.9	-1.0
NNZ	**Nelson**	**5.73**	**50**	P	Pn	03 01 06.3	+1.4
TUWZ	**Tuamarina**	**5.91**	**54**	P	Pn	03 01 08.6	+1.3

IDC 13 03:02:29.8±0.7, 23°52N×123°23E, h0km, mb3.9/14, mb1 4.1/17, mb1mx3.9/62, mbtmp3.9/17, ML3.0/2, MS3.3/8, Ms1 3.3/8, ms1mx3.0/35, Error ellipse: s-maj=23.0km s-min=14.5km az=78.0

JMA 13 03:02:32.0±0.1, 23°42N×123°13E, h46km±5km, M3.9
NEIC 13 03:02:34.3±2.2, 23°52N±0°06×123°15E±0°04, h34km±6km, mb4.3/9, Error ellipse: s-maj=8.7km s-min=5.2km az=171.0
ISC 13 03:02:33.1±2.3, 23°49N±0°06×123°15E±0°04, h25km±17km, n54, σ0=97/59, mb4.0/17, MS3.0/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.82**	**46**	P	Pn	**03 02 48.1**	**-0.9**
HATJ				eS	Sb	**03 02 59.9**	**+0.5**
JYNG	**Yonagunijimaku**	**0.97**	**349**	P	Pn	**03 02 50.4**	**-0.8**
JYNG				S	Sn	**03 03 03.7**	**-0.5**
YOJ	**Yonaguni jima**	**0.98**	**352**	P	Pn	**03 02 50.5**	**-0.7**
YOJ				eS	Sn	**03 03 04.2**	**0.0**
YOJ	**Yonaguni jima**	**0.98**	**352**		Pn	**03 02 50.7**	**-0.5**
IRIF	**Iriomote-Funau**	**0.99**	**32**	P	Pn	**03 02 51.0**	**-0.4**
IRIF				S	Sn	**03 03 05.4**	**+0.8**
JKRS	**Kuro-shima**	**1.08**	**46**	P	Pn	**03 02 52.4**	**-0.2**
JKRS				eS	Sn	**03 03 06.6**	**-0.2**
JIJ	**Ishigaki jima**	**1.25**	**46**	P	Pn	**03 02 54.4**	**-0.6**
JIJ				eS	Sn	**03 03 10.1**	**-1.0**
JISG	**Ishigakijimahi**	**1.52**	**44**	P	Pn	**03 02 58.0**	**-0.7**
JISG				eS	Sn	**03 03 17.1**	**-0.5**
NACB	**Ninganchiao**	**1.58**	**296**		Pn	**03 02 58.6**	**-1.0**
YULB	**Yu-li**	**1.71**	**267**		Pn	**03 02 59.9**	**-1.4**
JTJ	**Tarama**	**1.82**	**51**	P	Pn	**03 03 02.7**	**-0.1**
JTJ				eS	Sn	**03 03 24.9**	**-0.1**
YHNB	**Yeheng**	**2.00**	**306**		Pn	**03 03 05.6**	**+0.1**
TWG	**Pinlang**	**2.03**	**251**		Pn	**03 03 04.5**	**-1.2**
SSLB	**Suanglung**	**2.04**	**279**		Pn	**03 03 04.8**	**-1.1**
TATO	**Taipei**	**2.12**	**315**		Pn	**03 03 07.5**	**+0.6**
JIRB	**Irabujima**	**2.27**	**54**	P	Pn	**03 03 08.7**	**-0.3**
JIRB				eS	Sn	**03 03 35.8**	**-0.5**
TPUB	**Ta-pu**	**2.33**	**266**		Pn	**03 03 10.0**	**+0.2**
JMJ2	**Miyako jima3**	**2.34**	**57**	P	Pn	**03 03 10.0**	**0.0**
JMJ2				eS	Sn	**03 03 37.3**	**-0.7**
JIKM	**Ikemajima**	**2.38**	**53**	P	Pn	**03 03 10.6**	**0.0**
JIKM				eS	Sn	**03 03 38.6**	**-0.4**
JOGS	**Gusukube**	**2.42**	**58**	P	Pn	**03 03 10.9**	**-0.1**
JOGS				eS	Sn	**03 03 40.6**	**+0.9**
KNMB	**Chin-men Tao**	**4.46**	**283**	Pn	Pn	**03 03 40.0**	**+0.8**
JOW	**Kunigami**	**5.71**	**53**	Pn	Pn	**03 03 54.4**	**-1.9**
	1.0nm,0.3s,baz=44,slow=11,SNR=16						
JOW				Sn	Sn	**03 05 01.7**	**+0.7**
	0.4nm,0.3s,baz=86,slow=20,SNR=1.7						
JOW	**Kunigami**	**5.71**	**53**		Pn	**03 03 53.5**	**-2.8**
JNU	**Nakatsue**	**11.76**	**34**	LR	LR	03 10 44.8	
	comp=Z,183nm,18.1s,baz=190,slow=42						
KSRS	**Korea Array**	**14.51**	**15**	Pn	**Pn**	**03 05 57.0**	**+0.2**
	baz=194,slow=12,SNR=6.1						
KSRS				LR	LR	03 12 36.5	
	comp=Z,181nm,18.1s,baz=196,slow=42						
DAV	**Davao City (W)**	**16.49**	**171**	LR	LR	03 12 43.8	
	comp=Z,76nm,20.6s,baz=332,slow=37						
MJAR	**Matsushiro Arr**	**18.38**	**42**	P	**P**	**03 06 44.8**	**-1.3**
	0.1nm,0.3s,baz=224,slow=11,SNR=4.2						
CMAR	**Chiang Mai Arr**	**23.14**	**262**	LR	LR	03 17 31.9	
	comp=Z,40nm,18.1s,baz=195,slow=39						
SIJI	**Sorong**	**25.47**	**161**	P	**P**	**03 08 00.9**	**+1.7**
	12nm,0.8s,baz=124,slow=7.9,SNR=5.6						
ASAJ	**Asahikawa**	**26.04**	**33**	LR	LR	03 19 50.2	
	comp=Z,34nm,18.6s,baz=11,slow=40						
SONM	**Songino Array**	**27.73**	**335**	P	**P**	**03 08 21.8**	**+2.2**
	0.3nm,0.5s,baz=151,slow=9.1,SNR=1.4						
KAPI	**Kappang**	**28.52**	**187**	LR	LR	03 20 09.8	
	comp=Z,35nm,19.7s,baz=10,slow=37						
PSI	**Prapat**	**31.19**	**232**	LR	LR	03 20 19.1	
	comp=Z,92nm,18.0s,baz=330,slow=34						
PETK	**Petropavlovsk-**	**39.45**	**33**	P	**P**	**03 10 00.3**	**-0.8**
	1.4nm,0.7s,baz=176,slow=6.7,SNR=3.6						
PETK				LR	LR	03 27 11.8	
	comp=Z,41nm,18.2s,baz=239,slow=38						
MKAR	**Makanchi Array**	**40.09**	**316**	P	**P**	**03 10 07.5**	**+1.0**
	0.5nm,0.6s,baz=105,slow=9.4,SNR=6.6						
ZALV	**Zalesovo Beam**	**41.81**	**327**	P	**P**	**03 10 21.4**	**+0.9**
	0.4nm,0.3s,baz=82,slow=10,SNR=1.9						
KURK	**Kurchatov**	**43.78**	**320**	P	**P**	**03 10 36.5**	**-0.1**
KURK	**Kurchatov**	**43.78**	**320**	IAmb	IAmb	03 10 40.3	
	comp=Z,7.6nm,1.8s						
KURBB	**Kurchatov Arra**	**43.80**	**320**	P	**P**	**03 10 36.5**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=115,slow=7.8,SNR=1.9						
WRA	**Warramunga Arr**	**44.53**	**165**	P	**P**	**03 10 42.6**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=347,slow=8.6,SNR=7.3						
GAR	**Garm**	**47.11**	**302**	P	**P**	**03 11 02.5**	**-0.8**
KKAR	**Karatay Array**	**47.32**	**308**	P	**P**	**03 11 02.8**	**-1.9**
ASAR	**Alice Springs**	**48.02**	**167**	P	**P**	**03 11 11.2**	**+0.9**
	comp=Z,1.0nm,0.5s,baz=351,slow=7.5,SNR=6.7						
STKA	**Stephens Creek**	**57.81**	**161**	P	**P**	**03 12 22.6**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=359,slow=11,SNR=4.1						
TOLK	**Toolik Lake Re**	**67.37**	**23**	P	**P**	**03 13 24.1**	**-1.7**
RND	**Reindeer**	**68.38**	**29**	P	**P**	**03 13 32.0**	**-0.3**
ILAR	**Eielson Array**	**69.00**	**27**	P	**P**	**03 13 37.2**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=260,slow=4.5,SNR=4.4						
BMAR	**Burnt Mountain**	**69.41**	**24**	P	**P**	**03 13 39.8**	**+1.1**
EPYK	**Eagle Plains**	**72.68**	**25**	P	**P**	**03 13 57.0**	**-1.5**
EPYK				IAmb	IAmb	03 14 14.3	
	comp=Z,5.2nm,1.1s						
FINES	**FINESS Array B**	**72.95**	**330**	P	**P**	**03 14 00.4**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=62,slow=3.4,SNR=8.9						
INK	**Inuvik**	**73.18**	**22**	P	**P**	**03 14 01.8**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=161,slow=6.4,SNR=4.0						
NB2	**NORSAR Subarra**	**79.67**	**333**	P	P	03 14 51.3	+13
	comp=Z,1.4nm,0.8s,baz=54,slow=6.2						
YKA	**Yellowknife Ar**	**82.90**	**23**	P	**P**	**03 14 55.6**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=303,slow=4.9,SNR=6.8						
GERES	**GERESS Array B**	**84.52**	**321**	P	**P**	**03 15 04.0**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=46,slow=5.8,SNR=5.9						

DDA 13 03:09:08.9, 35°90N×30°92E, h34km±2km, ML3.3
ISK 13 03:09:08.9, 35°88N×30°87E, h83km, ML3.4/27
NIC 13 03:09:09.2±0.0, 35°83N×30°81E, h5km±5km, Ml3.6/6
HLW 13 03:09:10.7, 35°89N×30°83E, h10km±16km, Ml3.7
IDC 13 03:09:10.6±1.2, 35°83N×30°84E, h67km±17km, mb3.3/4, mb1 3.4/10, mb1mx3.2/50, mbtmp3.5/10, MS2.6/1, Ms1 2.6/1, ms1mx2.0/27, Error ellipse: s-maj=12.3km s-min=10.2km az=28.0
GII 13 03:09:11.6±0.0, 35°63N×30°81E, h10km
ISC 13 03:09:10.6±0.9, 35°91N±0°03×30°87E±0°02, h49km±13km, n114, σ1=971/146, mb3.4/4, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKUM	**Antalya-Kumluc**	**0.59**	**315**	*i* P	**Pn**	**03 09 22.1**	**-0.8**
AKUM				*i* S	**Sn**	**03 09 31.5**	**-0.3**
AKUM				IAML		03 09 34.0	
	comp=N,2μm,0.3s						
AKUM				IAML		03 09 40.0	
	comp=E,1μm,0.4s						
DEMR	**Demre-Antalya**	**0.85**	**293**	PG	**Pn**	**03 09 26.5**	**+0.3**
ANTB	**Antalya**	**1.01**	**350**	PG	**Pn**	**03 09 29.1**	**+0.8**
ANTB				SG	**Sn**	**03 09 44.1**	**+2.7**
KSL	**Kastellorizon**	**1.07**	**284**	P	**Pn**	**03 09 29.8**	**+0.6**
KSL				S	**Sn**	**03 09 44.5**	**+1.5**
AKAS	**Kas**	**1.07**	**288**	PN	**Pn**	**03 09 29.4**	**0.0**
AKAS	**Kas**	**1.07**	**288**	*i* P	**Pn**	**03 09 29.6**	**+0.2**
AKAS				*i* S	**Sn**	**03 09 42.6**	**-0.6**
ELL	**Elmali**	**1.14**	**318**	PN	**Pn**	**03 09 30.6**	**+0.3**
ELL				SN	**Sn**	**03 09 46.9**	**+1.9**
ELL	**Elmali**	**1.14**	**318**	P	**Pn**	**03 09 30.7**	**+0.4**
ELL				S	**Sn**	**03 09 48.2**	**+3.2**
ALAN	**Alanya-ANTALYA**	**1.15**	**55**	PN	**Pn**	**03 09 29.6**	**-0.6**
KEPZ	**Antalya-Kepez**	**1.16**	**31**	*i* P	**Pn**	**03 09 29.6**	**-0.8**
KEPZ				*i* S	**Sn**	**03 09 42.0**	**-3.2**
KORT	**Korkueli**	**1.17**	**339**	PN	**Pn**	**03 09 31.7**	**+1.0**
KORT	**Korkueli**	**1.17**	**339**	*i* P	**Pn**	**03 09 32.5**	**+1.8**
KORT				*i* S	**Sn**	**03 09 48.3**	**+2.7**
KORT				IAML		03 09 57.0	
	comp=E,451nm,0.7s						
GAZI	**Gazipasa**	**1.22**	**74**	PN	**Pn**	**03 09 30.5**	**-0.7**
GAZI	**Gazipasa**	**1.22**	**74**	*i* P	**Pn**	**03 09 30.3**	**-1.0**
GAZI				*i* S	**Sn**	**03 09 44.8**	**-1.8**
GAZI				IAML		03 09 47.0	
	comp=E,829nm,0.3s						
GAZI				IAML		03 09 51.0	
	comp=N,576nm,0.6s						
AKMS	**Akamas**	**1.49**	**126**	P	**Pn**	**03 09 35.3**	**+0.4**
AKMS				S	**Sn**	**03 09 57.4**	**+4.2**
AKMS				AML	AML	03 10 05.8	
	comp=N,3.4nm,0.7s						
AKMS				AML	AML	03 10 05.8	
	comp=N,3.4nm,0.7s						
AKMS				AML	AML	03 10 06.2	
	comp=N,2.6nm,0.8s						
AKMS				AML	AML	03 10 06.2	
	comp=N,2.6nm,0.8s						
BCK	**Bucak**	**1.57**	**352**	PN	**Pn**	**03 09 36.8**	**+0.7**
ALFC	**Alefka**	**1.60**	**117**	P	**Pn**	**03 09 36.6**	**+0.2**
ALFC				S	**Sn**	**03 09 59.7**	**+3.8**
ALFC				AML	AML	03 10 06.2	
	comp=N,2.3nm,0.3s						
ALFC				AML	AML	03 10 06.2	
	comp=N,2.3nm,0.3s						
ALFC				AML	AML	03 10 07.9	
	comp=N,2.3nm,0.3s						
ALFC				AML	AML	03 10 07.9	
	comp=N,2.3nm,0.3s						
FETY	**Fethiye**	**1.61**	**297**	PN	**Pn**	**03 09 37.3**	**+0.6**
FETY	**Fethiye**	**1.61**	**297**	*i* P	**Pn**	**03 09 38.2**	**+1.5**
FETY				*i* S	**Sn**	**03 09 55.5**	**-0.8**
SEYD	**Seydisehir-KON**	**1.69**	**27**	PN	**Pn**	**03 09 38.3**	**+0.5**
GOLH	**Golhisar**	**1.69**	**322**	*i* P	**Pn**	**03 09 40.1**	**+2.2**
GOLH				*i* S	**Sn**	**03 09 57.8**	**-0.6**
NATA	**Nata**	**1.79**	**128**	P	**Pn**	**03 09 41.8**	**+2.7**
NATA				AML	AML	03 10 17.9	
	comp=N,9.8nm,0.6s						
NATA				AML	AML	03 10 19.7	
	comp=N,10nm,0.7s						
ERMK	**Ermenek**	**1.81**	**65**	*i* P	**Pn**	**03 09 40.7**	**+1.3**
ERMK				*i* S	**Sn**	**03 10 02.6**	**+1.2**
ERMK				IAML		03 10 12.0	
	comp=N,315nm,0.4s						
ERMK				IAML		03 10 16.0	
	comp=E,308nm,0.4s						
AKDN	**Akdeniz- Kıbrı**	**1.82**	**109**	PN	**Pn**	**03 09 39.5**	**+0.1**
LEF	**Lefka**	**1.83**	**115**	PN	**Pn**	**03 09 39.3**	**-0.2**
LEF	**Lefka**	**1.83**	**115**	*i* P	**Pn**	**03 09 38.6**	**-1.0**
LEF				*i* S	**Sn**	**03 09 59.6**	**-1.9**
TEKE	**Tekeli-Mersin**	**1.84**	**82**	PN	**Pn**	**03 09 40.4**	**+0.8**
BRDR	**BURDUR-Merkez**	**1.90**	**340**	*i* P	**Pn**	**03 09 42.4**	**+1.8**
BRDR				*i* S	**Sn**	**03 10 03.8**	**+0.4**
ISP	**Isparta**	**1.93**	**352**	PN	**Pn**	**03 09 42.3**	**+1.2**
ISP	**Isparta**	**1.93**	**352**	Pn	**Pn**	**03 09 42.5**	**+1.4**
BERE	**Bereket-Mersin**	**1.96**	**76**	PN	**Pn**	**03 09 41.9**	**+0.5**
DALY	**Dalyan (Mula)**	**2.00**	**298**	PN	**Pn**	**03 09 42.7**	**+0.8**
DALY	**Dalyan (Mula)**	**2.00**	**298**	*i* P	**Pn**	**03 09 42.9**	**+0.9**
DALY				*i* S	**Sn**	**03 10 03.8**	**-2.1**
SZAC	**Souni**	**2.01**	**124**	P	**Pn**	**03 09 43.6**	**+1.5**
SZAC				AML	AML	03 10 20.3	
	comp=E,2.0nm,0.9s						
SZAC				AML	AML	03 10 22.4	
	comp=E,1.5nm,0.5s						
TURN	**Turunc**	**2.07**	**299**	PN	**Pn**	**03 09 46.7**	**+3.9**
TURN	**Turunc**	**2.07**	**299**	*i* P	**Pn**	**03 09 47.0**	**+4.3**
TURN				*i* S	**Sn**	**03 10 10.8**	**+3.5**
BAGO	**Egridir - ISPA**	**2.08**	**358**	*i* P	**Pn**	**03 09 44.1**	**+1.0**
BAGO				*i* S	**Sn**	**03 10 10.2**	**+2.3**
BASM	**Basmaki-Afyon**	**2.11**	**342**	PN	**Pn**	**03 09 44.6**	**+1.1**
GULN	**MERSIN_Gulnar**	**2.19**	**82**	*i* P	**Pn**	**03 09 45.9**	**+1.4**
GULN				IAML		03 10 15.0	
	comp=E,174nm,0.8s						
ATHAL	**Athalassa**	**2.20**	**110**	P	**Pn**	**03 09 45.0**	**+0.4**
TAVA	**DENIZLI_Tavas**	**2.21**	**315**	*i* P	**Pn**	**03 09 46.2**	**+1.3**
TAVA				*i* S	**Sn**	**03 10 09.6**	**-1.5**
KMER	**Konya-Meram**	**2.21**	**32**	*i* P	**Pn**	**03 09 46.8**	**+1.8**
KMER				*i* S	**Sn**	**03 10 10.9**	**-0.3**
KMER				IAML		03 10 16.0	
	comp=E,154nm,0.6s						
CSS	**Mathiatis**	**2.22**	**114**	Pn	**Pn**	**03 09 42.9**	**-2.0**
CSS	**Mathiatis**	**2.22**	**114**	P	**Pn**	**03 09 44.6**	**-0.4**
ARG	**Arkhangelos**	**2.24**	**279**	PN	**Pn**	**03 09 45.9**	**+0.7**
ASGA	**Asgata**	**2.24**	**119**	P	**Pn**	**03 09 48.0**	**+2.7**
ASGA				AML	AML	03 10 26.7	
	comp=E,1

GLL	**Jalalah**	**6.35**	**173**	P	**Pn**	03 10 42.8	**+1.1**
	baz=173						
PRNI	**Paran**	**6.54**	**147**	Pn	**Pn**	03 10 45.7	**+1.5**
MBRI	**Mt Berech**	**6.98**	**150**	Pn	**Pn**	03 10 51.0	**+0.7**
EIL	**Elat**	**7.10**	**150**	P	**Pn**	03 10 51.5	**-0.4**
	comp=N,0.5nm,0.3s,baz=23,slow=2.5,SNR=11						
EIL				S	**Sn**	03 12 08.3	**-3.0**
	comp=N,0.7nm,0.3s,baz=26,slow=15,SNR=4.1						
EIL	**Elat**	**7.10**	**150**	Pn	**Pn**	03 10 52.4	**+0.5**
NBNS	**Bani Suef**	**7.27**	**177**	P	**Pn**	03 10 55.5	**+1.3**
	baz=176						
NBNS				AMP		03 12 00.0	
	baz=176						
SWA2		**8.06**	**216**	P	**Pn**	03 11 05.0	**0.0**
	baz=216						
TAMRE	**El Minia**	**8.20**	**180**	P	**Pn**	03 11 07.9	**+1.0**
	baz=179						
HFRF	**Wahat Farafira**	**9.00**	**195**	P	**Pn**	03 11 18.1	**+0.2**
	baz=195						
HFRF				S	**Sn**	03 12 52.7	**-5.1**
	baz=195						
MLR	**Muntele Rosu**	**10.28**	**340**	LR	LR	03 16 29.3	
	comp=N,36nm,19.6s,baz=115,slow=42						
GERES	**GERESS Array B**	**18.06**	**321**	P	**Pn**	03 13 18.0	**+0.1**
	comp=N,0.1nm,0.3s,baz=131,slow=12,SNR=1.4						
FINES	**FINESS Array B**	**25.74**	**355**	P	**P**	03 14 35.2	**-1.0**
	comp=N,0.6nm,0.3s,baz=160,slow=12,SNR=11						
ARCES	**ARCESS Array B**	**33.81**	**357**	P	**P**	03 15 46.6	**-1.1**
	comp=N,1.5nm,0.8s,baz=171,slow=8.2,SNR=3.9						
MKAR	**Makanchi Array**	**39.46**	**58**	P	**P**	03 16 35.7	**-0.3**
	comp=N,0.2nm,0.4s,baz=270,slow=8.5,SNR=4.1						
YKA	**Yellowknife Ar**	**78.08**	**344**	P	P	03 21 00.7	-3.1
	comp=N,0.1nm,0.6s,baz=26,slow=5.7,SNR=1.8						

*OSPL **13** 03:50:49.7±0.4, 19°.49N×65°.55W, h79km±14km, ML2.9*
*NEIC **13** 03:50:54.1±0.9, 19°.23N±0°.09×65°.93W±0°.04, h16km±13km, Error ellipse: s-maj=13.8km s-min=5.0km az=188.0*
*RSPR **13** 03:50:55.8, 19°.31N×65°.91W, h13km±3km, MD3.3/12*

ISC 13 03:50:53.9±2.0, 19°.30N±0°.08×65°.90W±0°.04, h24km±14km, n46, σ0s38/64, 10C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.00**	**190**	⇓	*e*P		**Pn**	**03 51 12.4**	**0.0**
GCPR	**Guaynabo City**	**1.00**	**190**		*e*S		**Sb**	**03 51 25.4**	**+0.2**
GCPR	**Guaynabo City**	**1.00**	**190**				**Pn**	**03 51 12.4**	**0.0**
GCPR							**Sb**	**03 51 25.4**	**+0.2**
EMPR	**Esperanza - Ma**	**1.01**	**216**	⇑	*e*P		**Pn**	**03 51 12.4**	**-0.1**
EMPR					*e*S		**Sb**	**03 51 25.6**	**+0.1**
EMPR	**Esperanza - Ma**	**1.01**	**216**				**Pn**	**03 51 12.4**	**-0.1**
EMPR							**Sb**	**03 51 25.6**	**+0.1**
CBYP	**Canovanas**	**1.02**	**178**	⇓	*e*P		**Pn**	**03 51 13.0**	**+0.2**
CBYP	**Canovanas**	**1.02**	**178**		*e*S		**Sb**	**03 51 25.7**	**-0.2**
CBYP	**Canovanas**	**1.02**	**178**				**Pn**	**03 51 13.0**	**+0.2**
CBYP							**Sb**	**03 51 25.7**	**-0.2**
CUPR	**Culebra, Puert**	**1.15**	**149**	⇓	*e*P		**Pn**	**03 51 14.4**	**0.0**
CUPR	**Culebra, Puert**	**1.15**	**149**		*e*S		**Sn**	**03 51 29.8**	**+0.4**
CUPR	**Culebra, Puert**	**1.15**	**149**				**Pn**	**03 51 14.4**	**0.0**
CUPR							**Sn**	**03 51 29.8**	**+0.4**
HUMP	**Col San Antoni**	**1.15**	**177**	⇑	*e*P		**Pn**	**03 51 14.6**	**+0.1**
HUMP	**Col San Antoni**	**1.15**	**177**		*e*S		**Sb**	**03 51 29.1**	**-0.4**
HUMP	**Col San Antoni**	**1.15**	**177**				**Pn**	**03 51 14.6**	**+0.1**
HUMP							**Sb**	**03 51 29.1**	**-0.4**
SJG	**San Juan**	**1.20**	**191**	Pn			**Pn**	**03 51 15.2**	**0.0**
MTP	**Monte Pirata**	**1.24**	**164**	⇑	*e*P		**Pb**	**03 51 16.2**	**-0.4**
MTP	**Monte Pirata**	**1.24**	**164**		*e*S		**Sn**	**03 51 31.5**	**-0.2**
MTP	**Monte Pirata**	**1.24**	**164**				**Pb**	**03 51 16.2**	**-0.4**
MTP							**Sn**	**03 51 31.5**	**-0.2**
AOPR	**Arecibo Observ**	**1.24**	**221**	⇑	*e*P		**Pn**	**03 51 15.4**	**-0.3**
AOPR	**Arecibo Observ**	**1.24**	**221**		*e*S		**Sn**	**03 51 31.7**	**-0.1**
AOPR	**Arecibo Observ**	**1.24**	**221**				**Pn**	**03 51 15.4**	**-0.3**
AOPR							**Sn**	**03 51 31.7**	**-0.1**
STVI	**Saint Thomas**	**1.30**	**136**	⇑	*e*P		**Pn**	**03 51 16.9**	**+0.3**
STVI	**Saint Thomas**	**1.30**	**136**		*e*S		**Sn**	**03 51 33.1**	**-0.1**
STVI	**Saint Thomas**	**1.30**	**136**				**Pn**	**03 51 16.9**	**+0.3**
STVI							**Sn**	**03 51 33.1**	**-0.1**
IGPR	**InterUniversit**	**1.34**	**188**	⇑	*e*P		**Pb**	**03 51 18.2**	**0.0**
IGPR	**InterUniversit**	**1.34**	**188**		*e*S		**Sn**	**03 51 34.0**	**-0.1**
IGPR	**InterUniversit**	**1.34**	**188**				**Pb**	**03 51 18.4**	**+0.1**
AGPR	**Aguadilla, PR**	**1.41**	**234**	⇓	*e*P		**Pn**	**03 51 17.8**	**-0.3**
AGPR					*e*S		**Sn**	**03 51 35.4**	**-0.5**
AGPR	**Aguadilla, PR**	**1.41**	**234**				**Pn**	**03 51 17.8**	**-0.3**
AGPR							**Sn**	**03 51 35.4**	**-0.5**
AGPR	**Aguadilla, PR**	**1.41**	**234**		*i* P		**Pn**	**03 51 17.7**	**-0.3**
AGPR					*e*S		**Sb**	**03 51 38.8**	**+1.7**
AGPR					IAML			03 51 51.4	
	comp=Z,72nm,0.7s								
OBIP	**Obispado Ponce**	**1.41**	**208**	⇑	*e*P		**Pn**	**03 51 18.5**	**+0.4**
OBIP	**Obispado Ponce**	**1.41**	**208**		*e*S		**Sn**	**03 51 36.0**	**-0.1**
OBIP	**Obispado Ponce**	**1.41**	**208**				**Pn**	**03 51 18.5**	**+0.4**
OBIP							**Sn**	**03 51 36.0**	**-0.1**
LSP	**Las Mesas**	**1.58**	**225**	⇑	*e*P		**Pn**	**03 51 20.8**	**+0.3**
LSP	**Las Mesas**	**1.58**	**225**		*e*S		**Sn**	**03 51 39.9**	**-0.3**
LSP	**Las Mesas**	**1.58**	**225**				**Pn**	**03 51 20.8**	**+0.3**
LSP							**Sn**	**03 51 39.9**	**-0.3**
MPR	**Mayaguez**	**1.59**	**228**		*i* P		**Pn**	**03 51 20.3**	**-0.3**
MPR					*e*S		**Sb**	**03 51 42.6**	**+0.3**
MPR					IAML			03 51 43.4	
	comp=Z,76nm,0.7s								
MLPR	**Magueyes Islan**	**1.71**	**220**	⇑	*e*P		**Pn**	**03 51 22.5**	**+0.4**
MLPR	**Magueyes Islan**	**1.71**	**220**		*e*S		**Sn**	**03 51 43.5**	**+0.2**
MLPR	**Magueyes Islan**	**1.71**	**220**				**Pn**	**03 51 22.5**	**+0.4**
MLPR							**Sn**	**03 51 43.5**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.72**	**222**	⇑	*e*P		**Pn**	**03 51 22.7**	**+0.4**
CRPR					*e*S		**Sn**	**03 51 43.6**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.72**	**222**				**Pn**	**03 51 22.7**	**+0.4**
CRPR							**Sn**	**03 51 43.6**	**0.0**
CDVI	**St. Croix**	**1.88**	**145**				**Pb**	**03 51 27.4**	**-0.1**
PCDR	**Punta Cana, DR**	**2.47**	**252**		*i* P		**Pn**	**03 51 31.7**	**-0.9**
PCDR					IAML			03 52 12.1	
	comp=Z,135nm,2.3s								
DR12	**Loma Pena Alta**	**3.33**	**262**	Pn			**Pn**	**03 51 45.2**	**+0.7**
SDDR	**Presa de Saban**	**5.10**	**267**				**Pn**	**03 52 08.8**	**-0.1**

*GCG **13** 03:51:07.1±1.2, 13°.70N×91°.51W, h54km±56km, MD4.2*
*SNET **13** 03:51:09.9±1.2, 14°.02N×91°.25W, h14km±7km, ML3.9*
*UCR **13** 03:51:10.2±1.3, 14°.02N×91°.28W, h21km±13km, ML3.8*
*IDC **13** 03:51:13.4±6.8, 14°.26N×91°.40W, h58km±41km, mb3.1/3, mb1 3.5/5, mb1mx3.2/34, mbtmp3.3/5, ML3.6/3, MS2.9/3, Ms1 2.9/3, ms1mx2.6/14, Error ellipse: s-maj=59.6km s-min=21.5km az=170.0*

ISC 13 03:51:08.3±1.9, 13°.93N±0°.07×91°.42W±0°.05, h27km±13km, n48, σ1s39/63, mb3.3/3, MS2.7/3, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.53**	**344**		*e*P		**Pn**	**03 51 22.2**	**+2.1**
RTAL	**Retalhuleu**	**0.65**	**335**		*e*P		**Pn**	**03 51 22.5**	**+0.7**
RTAL							**Sn**	**03 51 31.6**	**+0.3**
FUG	**Fuego 3**	**0.76**	**47**		*e*P		**Pn**	**03 51 24.7**	**+1.3**
STG3	**Santiaguito 3,**	**0.79**	**349**		*e*P		**Pn**	**03 51 25.1**	**+1.1**
PCG	**Pacaya**	**0.91**	**59**		*e*P		**Pn**	**03 51 27.4**	**+1.8**
IXG	**Ixpaco**	**0.98**	**75**		*e*P		**Pn**	**03 51 27.2**	**+0.8**
NBG	**Las Nubes**	**1.23**	**58**		*e*P		**Pb**	**03 51 32.5**	**+1.5**
NBG					*e*S		**Sn**	**03 51 51.0**	**+5.3**
HUEH	**Huehuetenango**	**1.39**	**357**		*e*P		**Pb**	**03 51 33.9**	**+0.2**
HUEH					*e*S		**Sb**	**03 51 52.2**	**+1.1**
HUEH					IAML			03 51 57.3	
	comp=Z,1μm,0.3s								
NUBE	**Las Nubes**	**1.59**	**91**		*e*P		**Pn**	**03 51 35.2**	**+0.4**
NUBE					*e*S		**Sn**	**03 51 54.1**	**-0.4**
NUBE	**Las Nubes**	**1.59**	**91**		*e*P		**Pn**	**03 51 35.2**	**+0.4**
NUBE					*e*S		**Sn**	**03 51 54.1**	**-0.4**
RTR	**El Retiro**	**1.72**	**91**		*e*P		**Pn**	**03 51 37.9**	**+1.3**
RTR	**El Retiro**	**1.72**	**91**		*e*P		**Pn**	**03 51 37.9**	**+1.3**
CEVE	**Cerro Verde**	**1.74**	**93**		*e*P		**Pn**	**03 51 36.6**	**-0.4**
CEVE					*e*S		**Sn**	**03 52 00.1**	**+1.6**
CEVE					IAML			03 52 06.4	
	comp=Z,3μm,0.4s								
CEVE	**Cerro Verde**	**1.74**	**93**		*e*P		**Pn**	**03 51 36.6**	**-0.4**
CEVE					*e*S		**Sn**	**03 52 00.1**	**+1.6**
CEVE					IAML			03 52 06.4	
	comp=Z,3μm,0.4s								
SBLS	**San Blas**	**1.74**	**93**		*e*P		**Pn**	**03 51 38.0**	**+1.0**
SBLS	**San Blas**	**1.74**	**93**		*e*P		**Pn**	**03 51 38.0**	**+1.0**
SNJE	**San Jose**	**1.76**	**92**		*e*P		**Pn**	**03 51 38.3**	**+1.1**
SNJE	**San Jose**	**1.76**	**92**		*e*P		**Pn**	**03 51 38.3**	**+1.1**
UNIC	**Universidad Ca**	**1.81**	**88**		*e*P		**Pn**	**03 51 38.9**	**+1.1**
UNIC	**Universidad Ca**	**1.81**	**88**		*e*P		**Pn**	**03 51 38.9**	**+1.1**
CEDA	**San Andres**	**1.97**	**93**		*e*P		**Pn**	**03 51 41.0**	**+1.1**
CEDA					*e*S		**Sn**	**03 52 04.6**	**+0.9**
CEDA					IAML			03 52 19.5	
	comp=Z,799nm,0.5s								
CEDA	**San Andres**	**1.97**	**93**		*e*P		**Pn**	**03 51 41.0**	**+1.1**
CEDA					*e*S		**Sn**	**03 52 04.6**	**+0.9**
CEDA					IAML			03 52 19.5	
	comp=Z,799nm,0.5s								
TACO	**Tacachico**	**2.00**	**89**		*e*P		**Pn**	**03 51 41.2**	**+0.8**
TACO	**Tacachico**	**2.00**	**89**		*e*P		**Pn**	**03 51 41.2**	**+0.8**
MRL	**Marmol**	**2.03**	**55**		*e*P		**Pb**	**03 51 42.9**	**-1.8**
MTO3	**Montecristo**	**2.05**	**77**		*e*P		**Pn**	**03 51 41.5**	**+0.3**
MTO3					*e*S		**Sn**	**03 52 06.4**	**+0.4**
MTO3	**Montecristo**	**2.05**	**77**		*e*P		**Pn**	**03 51 41.5**	**+0.3**
MTO3					*e*S		**Sn**	**03 52 06.4**	**+0.4**
LALI	**Alcalda de L**	**2.08**	**102**		*e*P		**Pn**	**03 51 42.1**	**+0.6**
LALI					*e*S		**Sn**	**03 52 07.5**	**+1.0**
LALI	**Alcalda de L**	**2.08**	**102**		*e*P		**Pn**	**03 51 42.1**	**+0.6**
LALI					*e*S		**Sn**	**03 52 07.5**	**+1.0**
BOQS	**Boqueron**	**2.08**	**95**		*e*P		**Pn**	**03 51 42.1**	**+0.4**
BOQS	**Boqueron**	**2.08**	**95**		*e*P		**Pn**	**03 51 42.1**	**+0.4**
ESQI	**Esquipulas**	**2.11**	**72**		*e*P		**Pn**	**03 51 42.1**	**+0.2**
ESQI					*e*S		**Sb**	**03 52 08.4**	**-3.3**
SNET	**Serv Nac Est T**	**2.13**	**96**		*e*P		**Pn**	**03 51 43.3**	**+1.0**
SNET					*e*S		**Sn**	**03 52 08.9**	**+0.9**
SNET					IAML			03 52 21.3	
	comp=Z,555nm,0.3s								
SNET	**Serv Nac Est T**	**2.13**	**96**		*e*P		**Pn**	**03 51 43.3**	**+1.0**
SNET					*e*S		**Sn**	**03 52 08.9**	**+0.9**
SNET					IAML			03 52 21.3	
	comp=Z,555nm,0.3s								
LFRS	**El Faro**	**2.31**	**97**		*e*P		**Pn**	**03 51 46.1**	**+1.4**
LFRS	**El Faro**	**2.31**	**97**		*e*P		**Pn**	**03 51 46.1**	**+1.4**
PAVA	**Las Pavas**	**2.42**	**95**		*e*P		**Pn**	**03 51 47.4**	**+1.2**
PAVA	**Las Pavas**	**2.42**	**95**		*e*P		**Pn**	**03 51 47.4**	**+1.2**
PETF	**Flores**	**3.33**	**26**		*e*P		**Pn**	**03 51 59.3**	**+0.7**
CMIG	**Matias Romero**	**4.59**	**314**	P			**Pn**	**03 52 17.0**	**+1.0**
	comp=Z,2.2nm,0.3s,baz=150,slow=13,SNR=17								
CMIG				S			**Sn**	**03 53 07.7**	**-0.8**
	comp=Z,5.7nm,0.3s,baz=122,slow=16,SNR=2.5								
TEIG	**Tepich**	**6.95**	**25**	P			**Pn**	**03 52 49.0**	**+0.6**
	comp=Z,4.4nm,0.3s,baz=320,slow=0.3,SNR=52								
TEIG				S			**Sn**	**03 54 03.3**	**-3.2**
	comp=Z,0.3nm,0.3s,baz=139,slow=20,SNR=1.8								
TXAR	**Lajitas Array**	**19.07**	**325**	P			**P**	**03 55 29.5**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=147,slow=12,SNR=4.7								
LPIG	**La Paz**	**20.51**	**302**	LR		LR		04 03 18.9	
	comp=Z,19nm,20.2s,baz=39,slow=36								
SJG	**San Juan**	**24.63**	**77**	LR		LR		04 07 27.0	
	comp=Z,21nm,19.1s,baz=254,slow=40								
PFO	**Pinyon Flats O**	**30.02**	**315**	LR		LR		04 09 38.9	
	comp=Z,38nm,19.3s,baz=126,slow=37								
NVAR	**Mina Array Bea**	**34.09**	**321**	P			**P**	**03 57 51.5**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=135,slow=9.0,SNR=2.2								
YKA	**Yellowknife Ar**	**51.23**	**346**	P			**P**	**04 00 06.8**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=151,slow=7.8,SNR=4.1								
ILAR	**Eielson Array**	**63.13**	**337**	P			**P**	**04 01 33.4**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=142,slow=7.8,SNR=2.1								

*NEIC **13** 03:55:26.0±1.3, 18°.65S±0°.3×177°.7W±0°.2, h616km±12km, mb4.1/8, Error ellipse: s-maj=45.7km s-min=21.9km az=150.0*
*IDC **13** 03:55:28.0±5.2, 18°.60S×177°.80W, h636km±62km, mb3.0/9, mb1 3.3/10, mb1mx3.1/32, mbtmp4.0/10, Error ellipse: s-maj=50.5km s-min=26.8km az=140.0*

ISC 13 03:55:32.7±1.5, 16°.4S±0°.5×179°.2W±0°.4, h650km, n30, σ2s13/21, mb3.6/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**2.92**	**243**		P		**P**	**03 56 54.8**	**-0.9**
DZM	**Mont Dzumac**	**14.65**	**245**		P		**P**	**03 58 37.5**	**+1.6**
	0.4nm,0.3s,baz=71,slow=14,SNR=2.8								
STKA	**Stephens Creek**	**38.69**	**239**		P		**P**	**04 02 00.9**	**-2.9**
	2.3nm,0.7s,baz=146,slow=22,SNR=1.9								
WRA	**Warramunga Arr**	**44.15**	**258**		P		**P**	**04 02 49.4**	**+2.7**
	0.9nm,0.5s,baz=98,slow=7.0,SNR=8.4								
ASAR	**Alice Springs**	**44.46**	**253**		P		**P**	**04 02 50.8**	**+1.7**
	1.5nm,0.5s,baz=89,slow=7.9,SNR=23								
MJAR	**Matsushiro Arr**	**66.24**	**323**		P		P	04 05 31.1	+12
	1.4nm,0.6s,baz=154,slow=1.4,SNR=2.6								
MJAR	**Matsushiro Arr**	**66.24**	**323**		IAmb		IAmb	04 05 35.1	
	comp=Z,12nm,1.9s								
PETK	**Petropavlovsk-**	**72.04**	**346**		P		P	04 06 03.3	+11
	comp=Z,2.3nm,0.6s,baz=141,slow=7.3,SNR=7.8								
NVAR	**Mina Array Bea**	**78.90**	**44**		P		**P**	**04 06 31.6**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=223,slow=9.0,SNR=4.1								
RND	**Reindeer**	**82.99**	**13**		P		P	04 06 55.0	+3.6
RND					IAmb		IAmb	04 06 57.3	
	comp=Z,4.3nm,0.7s								
WRH	**Wood River Hil**	**84.09**	**13**		P		P	04 07 01.6	+5.0
WRH					IAmb		IAmb	04 07 02.1	
	comp=Z,3.6nm,0.9s								
CCB	**Clear Creek Bu**	**84.30**	**13**		P		P	04 07 02.1	+4.5
IMAR	**Indian Mountai**	**84.35**	**10**		P		P	04 07 03.1	+5.3
IL31		**84.61**	**13**		P		P	04 07 03.6	+4.5
ILAR	**Eielson Array**	**84.61**	**13**		P		P	04 07 03.5	+4.3
	comp=Z,0.8nm,0.5s,baz=226,slow=5.0,SNR=22								
MCMT	**McKenzie Canyo**	**85.62**	**41**		P		**P**	**04 07 04.8**	**0.0**
PDAR	**Pinedale Array**	**86.81**	**44**		P		**P**	**04 07 10.1**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=227,slow=3.6,SNR=2.0								
YKA	**Yellowknife Ar**	**93.30**	**25**		P		**P**	**04 07 42.4**	**+2.8**
	comp=Z,0.2nm,0.6s,baz=220,slow=5.8,SNR=2.3								
ARCES	**ARCESS Array B**	**124.71**	**350**		PKP		**PKiKP**	**04 13 20.6**	**+0.7**
	comp=Z,2.6nm,0.9s,baz=10,slow=7.4,SNR=7.4								
FINES	**FINESS Array B**	**131.54**	**344**		PKP		**PKiKP**	**04 13 34.5**	**+0.6**
	comp=Z,3.1nm,1.0s,baz=294,slow=1.9,SNR=3.8								
BRTR	**Keskin Array B**	**143.17**	**316**		PKPbc		**PKiKP**	**04 13 57.7**	**-0.8**
	comp=Z,0.9nm,0.7s,baz=146,slow=5.9,SNR=4.1								
CLL	**Collm**	**143.83**	**347**	*i*	PKPbc		**PKiKP**	**04 13 59.0**	**-0.3**
GERES	**GERESS Array B**	**145.97**	**345**		PKPbc		**PKiKP**	**04 14 03.7**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=44,slow=4.1,SNR=5.5								
WATA	**Walderalm**	**147.89**	**346**	*i*	PKiKP		**PKPab**	**04 14 09.1**	**-2.7**
	comp=Z,3.3nm,0.4s								
WTTA	**Wattenberg**	**147.94**	**346**	*i*	PKiKP		**PKPab**	**04 14 09.5**	**-2.6**
	comp=Z,3.7nm,0.4s								
DIVS	**Divibare**	**147.96**	**333**				**PKPab**	**04 14 09.0**	**-3.1**
MYKA	**Terra Mystica**	**148.02**	**343**	*i*	PKPbc		**PKPab**	**04 14 09.2**	**-3.0**
	comp=Z,1.7nm,0.3s								
SQTA	**Sankt Quirin**	**148.08**	**346**	*i*	PKiKP		**PKPab**	**04 14 10.1**	**-2.4**
	comp=Z,1.0nm,0.2s								
ABTA	**Abfaltersbach**	**148.21**	**345**	*i*	PKiKP		**PKPab**	**04 14 09.8**	**-3.3**
	comp=Z,2.7nm,0.4s								
CIMO	**Cimolais**	**148.64**	**344**				**PKiKP**	**04 14 10.8**	**+1.4**

*TEH **13** 03:58:15.9, 26°.78N×54°.74E, h18km, ML3.4*
*OMAN **13** 03:58:17.0±0.5, 27°.07N×54°.73E, h30km, ml2.9/7, Error ellipse: s-maj=20.6km s-min=8.2km az=38.0*

ISC 13 03:58:18.3±1.1, 26°.87N±0°.04×54°.74E±0°.05, h18km, n19, σ0s69/23, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.86**	**338**		*e*Pg		**Pb**	**03 58 33.8**	**-1.0**
LAR1					*e*			03 58 53.8	
GENO	**Geno**	**1.38**	**67**		*e*Pg		**Pn**	**03 58 42.5**	**-0.3**
GENO					*e*Sg		**Sg**	**03 59 03.1**	**+0.1**
GENO					*e*			03 59 15.3	
LMD1	**Lamerd**	**1.48**	**289**		*e*Pg		**Pn**	**03 58 44.1**	**0.0**
LMD1					*e*			03 59 14.7	
BANOM	**Banah**	**1.68**	**124**		P		**Pn**	**03 58 46.4**	**-0.4**
	SNR=12								
JHRM	**Jahrom**	**1.93**	**328**		*e*Pn		**Pn**	**03 58 51.4**	**+1.0**
NAZ	**Nazwa, Dubai**	**2.04**	**156**		P		**Pn**	**03 58 52.4**	**+0.6**
NAZ					S		**Sb**	**03 59 19.5**	**-0.5**
MDH	**Madha**	**2.10**	**138**		P		**Pn**	**03 58 52.2**	**-0.3**
MDH					S		**Sn**	**03 59 19.4**	**+1.2**
UOSS	**Minazif**	**2.32**	**145**		P		**Pn**	**03 58 55.6**	**0.0**
ASHO	**Ashiyiah**	**2.48**	**151**		P		**Pn**	**03 58 57.9**	**+0.1**
	SNR=15								
NGRK	**Negar Kerman**	**3.28**	**32**		*e*			03 59 10.5	
NGRK					*e*Pn		**Pn**	**03 59 08.2**	**-0.9**
TVBK	**TV Kerman**	**3.58**	**29**		*e*Pn		**Pn**	**03 59 13.8**	**+0.6**
TVBK					*e*			03 59 16.4	
KHGB	**Koh Gabri**	**3.81**	**23**		*e*Pn		**Pn**	**03 59 17.1**	**+0.7**
KHGB					*e*			03 59 21.1	
ARQ	**Araqi**	**3.87**	**155**		P		**Pn**	**03 59 16.9**	**0.0**
	SNR=5.9								
ARQ					S		**Sn**	**04 00 02.8**	**+0.9**
CHMN	**Cheshme madani**	**3.87**	**39**		*e*Pn		**Pn**	**03 59 18.2**	**+1.0**
IMEH	**Mehriz**	**4.51**	**359**		*e*Pn		**Pn**	**03 59 26.3**	**+0.4**
KLNJ	**Kolanjah**	**4.97**	**327**		*e*Pn		**Pn**	**03 59 31.9**	**-0.4**
ISAD	**Sadrabad**	**5.11**	**350**		*e*Pn		**Pn**	**03 59 35.2**	**+0.9**
IRAM	**Ramesheh**	**5.34**	**338**		*e*Pn		**Pn**	**03 59 37.0**	**-0.3**
IGAR	**Gharneh**	**6.00**	**338**		*e*Pn		**Pn**	**03 59 46.5**	**+0.1**

*OSPL **13** 04:04:02.4±1.4, 19°.33N×67°.69W, h9km±17km, ML2.6*
*NEIC **13** 04:04:02.8±1.0, 19°.24N±0°.04×67°.70W±0°.02, h10km±8km, Error ellipse: s-maj=6.2km s-min=3.1km az=186.0*
*RSPR **13** 04:04:03.8, 19°.39N×67°.79W, h16km±5km, MD3.2/11*

ISC 13 04:04:03.4±1.6, 19°.17N±0°.08×67°.74W±0°.03, h15km±9km, n42, σ0s48/57, 11C-1D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.89**	**223**	⇑	*e*P		**Pg**	**04 04 20.8**	**+0.1**
PCDR	**Punta Cana, DR**	**0.89**	**223**		*e*S		**Sn**	**04 04 33.7**	**-0.4**
PCDR	**Punta Cana, DR**	**0.89**	**223**				**Pg**	**04 04 20.8**	**+0.1**
PCDR							**Sn**	**04 04 33.7**	**-0.4**
PCDR	**Punta Cana, DR**	**0.89**	**223**		*i* P		**Pn**	**04 04 21.4**	**0.0**
PCDR					*e*S		**Sn**	**04 04 34.2**	**+0.1**
PCDR					IAML			04 04 38.9	
	comp=Z,267nm,0.7s								
AGPR	**Aguadilla, PR**	**0.92**	**139**	⇑	*e*P		**Pg**	**04 04 21.4**	**+0.1**
AGPR	**Aguadilla, PR**	**0.92**	**139**				**Pg**	**04 04 21.4**	**+0.1**
AGPR							**Sg**	**04 04 33.5**	**+0.1**
AGPR	**Aguadilla, PR**	**0.92**	**139**		*i* P		**Pb**	**04 04 20.9**	**-0.2**
AGPR					*e*S		**Sg**	**04 04 33.7**	**+0.3**
AGPR					IAML			04 04 36.8	
	comp=Z,161nm,0.2s								
MPR	**Mayaguez**	**1.11**	**149**		*i* P		**Pb**	**04 04 23.0**	**-1.4**
MPR					*e*S		**Sn**	**04 04 40.5**	**+0.9**
MPR					IAML			04 04 45.8	
	comp=Z,53nm,0.4s								
LSP	**Las Mesas**	**1.17**	**148**	⇑	*e*P		**Pb**	**04 04 25.6**	**+0.2**
LSP	**Las Mesas**	**1.17**	**148**		*e*S		**Sg**	**04 04 42.2**	**+0.9**
LSP	**Las Mesas**	**1.17**	**148**				**Pb**	**04 04 25.6**	**+0.2**
LSP							**Sg**	**04 04 42.2**	**+0.9**
**AOPR

MTP	**Monte Pirata**	**2.24**	**114**	⇓*i*P	**Pn**	**04 13 55.0 +0.5**
MTP	**Monte Pirata**	**2.24**	**114**	*e*S	**Sn**	**04 14 22.5 +0.3**
MTP	**Monte Pirata**	**2.24**	**114**		**Pn**	**04 13 55.0 +0.5**
MTP					**Sn**	**04 14 22.5 +0.3**
SDDR	**Presa de Saban**	**3.40**	**270**	Pn	**Pn**	**04 14 11.1 +0.5**

NEIC ***13*** *04:22:32.1±0.3, 19°.25N±0°.09×67°.75W±0°.04, h35km±41km, Error ellipse: s-maj=13.1km s-min=5.3km az=182.0*

RSPR 13 04:22:32.5, 19°.30N×67°.75W, h32km±19km, MD2.8/3, 4C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.98**	**218**	⇑*e*P	Pn	04 22 47.9	-2.2
PCDR	**Punta Cana, DR**	**0.98**	**218**	*e*S	Sn	04 23 01.3	-1.7
PCDR	**Punta Cana, DR**	**0.98**	**218**		Pn	04 22 47.9	-2.2
PCDR					Sn	04 23 01.3	-1.7
AGPR	**Aguadilla, PR**	**1.02**	**144**	⇑*e*P	Pn	04 22 49.0	-1.7
AGPR	**Aguadilla, PR**	**1.02**	**144**	*e*S	Sn	04 23 01.6	-2.3
AGPR	**Aguadilla, PR**	**1.02**	**144**		Pn	04 22 49.0	-1.7
AGPR					Sn	04 23 01.6	-2.3
LSP	**Las Mesas**	**1.28**	**151**	⇑*e*P	Pn	04 22 53.0	-1.2
LSP	**Las Mesas**	**1.28**	**151**	*e*S	Sn	04 23 08.6	-1.8
LSP	**Las Mesas**	**1.28**	**151**		Pn	04 22 53.0	-1.2
LSP					Sn	04 23 08.6	-1.8
AOPR	**Arecibo Observ**	**1.34**	**135**	Pn	Pn	04 22 53.8	-1.2
CRPR	**Cabo Rojo, PR**	**1.42**	**155**	⇑*e*P	Pn	04 22 55.0	-1.2
CRPR	**Cabo Rojo, PR**	**1.42**	**155**	*e*S	Sn	04 23 11.7	-2.0
CRPR	**Cabo Rojo, PR**	**1.42**	**155**		Pn	04 22 55.0	-1.2
CRPR					Sn	04 23 11.7	-2.0

NEIC ***13*** *04:23:24.0±0.9, 19°.11N±0°.05×67°.84W±0°.03, h10km±5km, Error ellipse: s-maj=7.9km s-min=3.8km az=185.0*

RSPR 13 04:23:26.1, 19°.27N×67°.80W, h25km±14km, MD2.5/3, 5C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.93**	**216**	⇑*e*P	Pb	04 23 39.0	-4.6
PCDR	**Punta Cana, DR**	**0.93**	**216**	*e*S	Sb	04 23 53.2	-2.4
PCDR	**Punta Cana, DR**	**0.93**	**216**		Pb	04 23 39.0	-4.6
PCDR					Sb	04 23 53.2	-2.4
AGPR	**Aguadilla, PR**	**1.03**	**141**	⇑*e*P	Pn	04 23 42.5	-2.5
AGPR	**Aguadilla, PR**	**1.03**	**141**	*e*S	Sb	04 23 51.7	-6.7
AGPR	**Aguadilla, PR**	**1.03**	**141**		Pn	04 23 42.5	-2.5
AGPR					Pb	04 23 51.7	+6.4
LSP	**Las Mesas**	**1.28**	**148**	⇑*e*P	Pn	04 23 46.4	-2.1
LSP	**Las Mesas**	**1.28**	**148**	*e*S	Sn	04 24 02.0	-2.9
LSP	**Las Mesas**	**1.28**	**148**		Pn	04 23 46.4	-2.1
LSP					Sn	04 24 02.0	-2.9
CRPR	**Cabo Rojo, PR**	**1.42**	**152**	⇑*e*P	Pn	04 23 48.1	-2.2
CRPR	**Cabo Rojo, PR**	**1.42**	**152**	*e*S	Sn	04 24 05.2	-3.0
CRPR	**Cabo Rojo, PR**	**1.42**	**152**		Pn	04 23 48.1	-2.2
CRPR					Sn	04 24 05.2	-3.0
MLPR	**Magueyes Islan**	**1.48**	**151**	⇑*e*P	Pn	04 23 49.2	-1.9
MLPR	**Magueyes Islan**	**1.48**	**151**	*e*S	Sn	04 24 07.0	-2.8
MLPR	**Magueyes Islan**	**1.48**	**151**		Pn	04 23 49.2	-1.9
MLPR					Sn	04 24 07.0	-2.8

SJA ***13*** *04:25:00.4±0.6, 31°.80S×71°.95W, h37km±13km, ML3.6, MW4.0*

GUC ***13*** *04:25:01.5±0.6, 31°.66S×71°.55W, h48km±6km, ML3.3*

ISC 13 04:24:58.3±2.1, 31°.60S±0°.04×71°.80W±0°.09, h13km±13km, n19, σ1°.15/30, 2C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.79**	**60**	⇓*i*P	**Pn**	**04 25 15.5**	**+0.3**
CO02				*i* S	**Sn**	**04 25 26.3**	**-0.6**
CO02				IAML		04 25 26.9	
	comp=E,5μm,0.3s						
CO03	**El Pedregal**	**1.22**	**51**	⇓*i*P	**Pg**	**04 25 22.3**	**+0.6**
CO03				*i* S	**Sn**	**04 25 38.2**	**+0.7**
CO03				IAML		04 25 40.3	
	comp=E,715nm,0.1s						
ROCH	**El Roble**	**1.52**	**154**	⇓*i*P	**Pn**	**04 25 25.4**	**+0.1**
ROCH				*i* S	**Sn**	**04 25 44.5**	**-0.6**
ROCH				IAML		04 25 52.3	
	comp=N,616nm,0.4s						
ROC1	**El Roble**	**1.52**	**154**	*i* P	**Pn**	**04 25 25.6**	**+0.2**
ROC1				*e*S	**Sn**	**04 25 44.3**	**-0.8**
VA03	**San Esteban**	**1.57**	**138**	*e*P	**Pn**	**04 25 26.5**	**+0.6**
VA03				*e*S	**Sn**	**04 25 45.7**	**-0.4**
VA03				IAML		04 25 48.0	
	comp=N,864nm,0.3s						
GO04	**Tololo Observa**	**1.66**	**31**	⇑*i*P	**Pb**	**04 25 29.2**	**+0.3**
GO04				*i* S	**Sg**	**04 25 51.8**	**-0.1**
MT02	**Curacav**	**1.74**	**162**	*e*P	**Pn**	**04 25 28.1**	**-0.1**
MT02				*e*S	**Sn**	**04 25 49.9**	**-0.4**
PEL	**Peldehue**	**1.80**	**149**	*e*P	**Pn**	**04 25 29.8**	**+0.8**
PEL				*e*S	**Sn**	**04 25 51.2**	**-0.6**
PEL				IAML		04 25 55.1	
	comp=E,396nm,0.3s						
CLCH	**Cerro Calan**	**2.08**	**150**	⇑*i*P	**Pn**	**04 25 34.0**	**+1.0**
CLCH				*i* S	**Sn**	**04 25 59.0**	**+0.2**
CLCH				IAML		04 26 06.5	
	comp=E,523nm,0.5s						
RTLS	**Leoncito**	**2.14**	**96**	*i* P	**Pb**	**04 25 37.9**	**+0.8**
RTLS				*e*S	**Sg**	**04 26 05.9**	**-1.3**
RTLS				IAML		04 26 06.8	
	comp=Z,294nm,0.5s						
AUSP	**Uspallata**	**2.14**	**107**	*i* P	**Pb**	**04 25 37.6**	**+0.5**
AUSP				*e*S	**Sb**	**04 26 04.5**	**+0.9**
MT03	**Universidad Ad**	**2.17**	**150**	⇓*i*P	**Pn**	**04 25 35.4**	**+1.1**
MT03				IAML		04 26 10.1	
	comp=N,578nm,0.6s						
AROD	**Rodeo**	**2.46**	**55**	*i* P	**Pb**	**04 25 43.8**	**+1.3**
ACCO	**Cerro Coronel**	**2.55**	**67**	*i* P	**Pb**	**04 25 45.5**	**+1.3**
ACCO				IAML		04 26 29.9	
	comp=Z,108nm,0.5s						
ACDV	**Cuesta del Vie**	**2.71**	**59**	*i* P	**Pb**	**04 25 47.4**	**+0.6**
RTCV	**Cerro Valdivia**	**2.79**	**96**	*i* P	**Pb**	**04 25 46.8**	**-1.1**
CFA	**Coronel Fontan**	**3.04**	**91**	*i* P	**Pb**	**04 25 50.3**	**-1.9**
AGUA	**GUANDACOL**	**3.55**	**54**	*i* P	**Pb**	**04 25 58.8**	**-2.2**
AGUA				IAML		04 27 01.4	
	comp=Z,144nm,0.7s						
VCA	**Vinchina**	**4.22**	**48**	*i* P	**Pb**	**04 26 09.2**	**-3.3**
VCA				IAML		04 27 22.8	
	comp=Z,71nm,0.6s						

KRSC 13 05:00:35.5±1.8, 48°.04N×156°.10E, h17km±47km, ML4.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.65**	**0**	S	Sb	05 01 52.6	-1.8
ALID	**Alaid**	**2.85**	**353**	P	Pn	05 01 22.1	+1.8
ALID				S	Sn	05 01 57.2	+2.9
PAU	**Pauzhetka**	**3.46**	**7**	S	Sn	05 02 12.9	+3.9
MIPR	**Malaya Ipel'ka**	**4.26**	**5**	P	Pn	05 01 41.8	+2.3
ASAK	**Asacha**	**4.50**	**14**	P	Pn	05 01 47.3	+4.5
ASAK				S	Sn	05 02 40.8	+6.1
MTVR	**Mutnovka**	**4.64**	**16**	P	Pn	05 01 49.3	+4.5
MTVR				S	Sn	05 02 43.6	+5.2
RUS	**Russkaya**	**4.66**	**18**	P	Pn	05 01 48.6	+3.7
RUS				S	Sn	05 02 42.4	+3.8
GRL	**Gorelyy**	**4.69**	**15**	P	Pn	05 01 50.2	+4.7
GRL				S	Sn	05 02 45.1	+5.6
UGLR	**Uglovaya**	**5.46**	**17**	P	Pn	05 02 00.3	+4.3
KOK	**Koryaka**	**5.50**	**16**	P	Pn	05 02 01.3	+4.8
SMAR	**Somma**	**5.50**	**17**	P	Pn	05 02 02.8	+6.1
SDLR	**Sedlovina**	**5.53**	**18**	P	Pn	05 02 01.4	+4.4
KRX	**Arik**	**5.56**	**16**	P	Pn	05 02 03.2	+5.7
SPN	**Mys Shipunski**	**5.64**	**25**	P	Pn	05 02 03.4	+5.0
SPN				S	Sn	05 03 07.3	+4.5

MAN ***13*** *05:01:13.0, 6°.46N×125°.52E, h208km, MS3.2*

NEIC ***13*** *05:01:12.9±2.2, 6°.41N±0°.09×125°.3E±0°.2, h213km±6km, mb4.2/7, Error ellipse: s-maj=31.4km s-min=11.4km az=77.0*

IDC ***13*** *05:01:12.3±0.7, 6°.57N×125°.27E, h211km±4km, mb3.5/7, mb1 3.7/8, mb1mx3.3/35, mbtmp4. 1/8, Error ellipse: s-maj=33.3km s-min=16.5km az=72.0*

ISC 13 05:01:11.6±0.6, 6°.42N±0°.07×125°.4E±0°.1, h200km, n31, σ2°.38/33, mb3.9/8, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.55**	**234**	⇑*i*P	**Pn**	**05 01 42.1**	**+3.0**
GSPH				*i* S	**Sn**	**05 02 04.3**	**+4.0**
KCP	**Kidapawan**	**0.66**	**333**	⇑*i*P	**Pn**	**05 01 42.8**	**+3.3**
KCP				*i* S	**Sn**	**05 02 05.1**	**+3.9**
DMPH	**Davao City--Mi**	**0.67**	**9**	*e*P	Pn	05 01 46.1	+6.7
DMPH				*i* S	**Sn**	**05 02 07.1**	**+5.8**
DAV	**Davao City (W)**	**0.67**	**16**	P	**Pn**	**05 01 42.5**	**+3.0**
	34nm,0.3s,baz=258,slow=4.7,SNR=11						
DAV				S	**Sn**	**05 02 04.2**	**+3.0**
	205nm,0.3s,baz=126,slow=20,SNR=20						
CTBH	**Cotabato--PC H**	**1.39**	**305**	⇑*i*P	Pn	05 01 48.2	+3.8
TNTI	**Ternate**	**5.94**	**161**	Pn	**Pn**	**05 02 40.8**	**+2.6**
YULB	**Yu-li**	**17.33**	**347**	P	**Pn**	**05 05 01.0**	**-0.9**
YULB				IAmb	IAmb	05 05 03.1	
	comp=Z,23nm,1.5s						
JAY	**Jayapura**	**17.67**	**120**	P	**Pn**	**05 05 05.3**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=280,slow=4.5,SNR=5.7						
SSLB	**Suanglung**	**17.79**	**347**	P	**Pn**	**05 05 06.4**	**-0.8**
SSLB				IAmb	IAmb	05 05 18.3	
	comp=Z,19nm,1.2s						
FITZ	**Fitzroy Crossi**	**24.36**	**179**	P	**P**	**05 06 12.7**	**+1.3**
	comp=Z,2.0nm,0.6s,baz=354,slow=9.5,SNR=7.9						
FITZ	**Fitzroy Crossi**	**24.36**	**179**	P	**P**	**05 06 12.7**	**+1.3**
FITZ				IAmb	IAmb	05 06 15.7	
	comp=Z,16nm,1.5s						
KSRS	**Korea Array**	**30.98**	**4**	P	**P**	**05 07 09.2**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=182,slow=8.7,SNR=5.7						
ASAR	**Alice Springs**	**31.03**	**165**	P	**P**	**05 07 06.3**	**-4.6**
BBOO	**Buckleboo**	**40.31**	**166**	P	**P**	**05 08 30.9**	**+1.4**
MK31	**Makanchi Array**	**54.61**	**325**	P	**P**	**05 10 18.9**	**-0.6**
MKAR	**Makanchi Array**	**54.61**	**325**	P	**P**	**05 10 17.3**	**-2.2**
	comp=Z,0.6nm,0.4s,baz=119,slow=8.1,SNR=9.0						
MKAR				PcP	**PcP**	**05 11 18.7**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=108,slow=4.0,SNR=5.9						
MKAR	**Makanchi Array**	**54.61**	**325**	P	**P**	**05 10 18.8**	**-0.7**
KKAR	**Karatay Array**	**60.38**	**316**	P	**P**	**05 10 59.2**	**-0.7**
TTA	**Tatalina**	**79.12**	**27**	P	**P**	**05 12 54.0**	**+0.2**
TTA				IAmb	IAmb	05 13 06.4	
	comp=Z,2.3nm,1.2s						
IMAR	**Indian Mountai**	**80.45**	**24**	P	**P**	**05 13 01.7**	**+0.9**
BPAW	**Bear Paw Mtn.**	**81.47**	**26**	P	**P**	**05 13 07.1**	**+0.8**
BPAW				IAmb	IAmb	05 13 07.3	
	comp=Z,2.8nm,1.1s						
ILAR	**Eielson Array**	**83.26**	**26**	P	**P**	**05 13 14.7**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=242,slow=4.4,SNR=6.3						
BMAR	**Burnt Mountain**	**84.13**	**23**	P	**P**	**05 13 21.7**	**+1.7**
ARCES	**ARCESS Array B**	**87.48**	**340**	P	**P**	**05 13 33.7**	**-2.6**
	comp=Z,2.6nm,0.8s,baz=76,slow=7.8,SNR=4.6						
ARCES	**ARCESS Array B**	**87.48**	**340**	P	**P**	**05 13 34.7**	**-1.6**
FINES	**FINESS Array B**	**88.85**	**332**	P	**P**	**05 13 40.6**	**-2.2**
	comp=Z,1.1nm,0.6s,baz=90,slow=5.7,SNR=8.2						
FINES	**FINESS Array B**	**88.85**	**332**	P	**P**	**05 13 41.1**	**-1.7**
YKA	**Yellowknife Ar**	**97.61**	**24**	P	Pdif	05 14 22.8	-0.3
	comp=Z,0.1nm,0.4s,baz=316,slow=4.3,SNR=2.3						
TORD	**Torodi Ar. Bea**	**120.80**	**289**	PKP	**PKiKP**	**05 19 40.2**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=39,slow=1.5,SNR=2.3						
TORD	**Torodi Ar. Bea**	**120.80**	**289**		**PKiKP**	**05 19 40.9**	**-0.2**
PMSA	**Palmer Station**	**121.36**	**175**	PKPdf	**PKiKP**	**05 19 41.6**	**+0.9**

IDC 13 05:05:11.9±1.7, 19°.98S×134°.00E, h0km, mb1 3.5/3, mb1mx3.3/23, mbtmp3.3/3, ML3.1/3, Error ellipse: s-maj=9.9km s-min=3.2km az=85.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**0.32**	**84**	Pg	Pg	05 05 18.3	+0.3
	3.0nm,0.3s,baz=265,slow=18,SNR=37						
WRA				Lg	Lg	05 05 22.2	
	6.5nm,0.3s,baz=263,slow=34,SNR=30						
ASAR	**Alice Springs**	**3.67**	**181**	Pn	Pn	05 06 10.8	+0.8
	0.5nm,0.3s,baz=10,slow=14,SNR=17						
ASAR				Sn	Sn	05 06 54.0	0.0
	0.3nm,0.3s,baz=0.7,slow=29,SNR=3.1						
ASAR				Lg	Lg	05 07 07.1	
	0.4nm,0.3s,baz=5.4,slow=31,SNR=4.3						
FITZ	**Fitzroy Crossi**	**8.13**	**282**	Pn	Pn	05 07 09.8	-1.4
	0.1nm,0.3s,baz=78,slow=9.3,SNR=1.7						
FITZ				Sn	Sn	05 08 33.1	-11
	0.1nm,0.3s,baz=351,slow=16,SNR=1.2						
STKA	**Stephens Creek**	**13.67**	**152**	Pn	Pn	05 08 26.9	-0.2
	0.2nm,0.3s,baz=311,slow=19,SNR=1.6						

IDC ***13*** *05:24:03.6±0.8, 19°.85N×146°.25E, h0km, mb4.2/16, mb1 4.3/18, mb1mx4.1/47, mbtmp4.2/18, ML3.9/2, MS2.9/5, Ms1 3.0/5, ms1mx2.7/35, Error ellipse: s-maj=24.0km s-min=17.2km az=84.0*

NEIC ***13*** *05:24:12.9±1.4, 19°.90N±0°.08×146°.2E±0°.1, h65km±1km, mb4.7/30, Error ellipse: s-maj=19.6km s-min=11.7km az=89.0*

ISC 13 05:24:12.5±1.7, 19°.87N±0°.06×146°.3E±0°.1, h66km±15km, n94, σ1°.20/81, mb4.6/30, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.39**	**193**	Pn	**Pn**	**05 25 44.7**	**+0.6**
JCJ	**Chichijima**	**8.12**	**333**	Pn	**Pn**	**05 26 07.1**	**-0.6**
MJAR	**Matsushiro Arr**	**18.06**	**339**	P	**P**	**05 28 16.3**	**-2.2**
	0.1nm,0.3s,baz=169,slow=11,SNR=2.4						
MJAR	**Matsushiro Arr**	**18.06**	**339**	P	**P**	**05 28 18.3**	**-0.2**
JNU	**Nakatsue**	**19.06**	**317**	P	**P**	**05 28 28.1**	**-1.4**
	0.5nm,0.3s,baz=136,slow=4.5,SNR=4.7						
JNU				LR	LR	05 35 18.4	
	comp=Z,33nm,20.5s,baz=178,slow=35						
JNU	**Nakatsue**	**19.06**	**317**	P	**P**	**05 28 29.4**	**-0.2**
H11S3	**WAKE ISLAND Hy**	**19.32**	**91**	T	T	05 49 37.3	
	baz=276,slow=74,SNR=24						
H11S1	**WAKE ISLAND Hy**	**19.33**	**91**	T	T	05 49 39.3	
	baz=276,slow=74,SNR=13						
H11S2	**WAKE ISLAND Hy**	**19.33**	**91**	T	T	05 49 45.1	
	baz=276,slow=74,SNR=4.4						
H11N1	**WAKE ISLAND Hy**	**19.39**	**87**	T	T	05 49 15.5	
	baz=275,slow=74						
H11N2	**WAKE ISLAND Hy**	**19.39**	**87**	T	T	05 48 50.3	
	baz=275,slow=74						
H11N3	**WAKE ISLAND Hy**	**19.41**	**87**	T	T	05 49 53.7	
	baz=275						
JAY	**Jayapura**	**22.91**	**194**	LR	LR	05 36 20.9	
	comp=Z,21nm,20.9s,baz=45,slow=32						
YULB	**Yu-li**	**23.49**	**283**	P	**P**	**05 29 17.1**	**+0.5**
YULB				IAmb	IAmb	05 29 35.0	
	comp=Z,41nm,1.5s						
KSRS	**Korea Array**	**23.73**	**321**	P	**P**	**05 29 17.4**	**-1.2**
	comp=Z,10nm,0.8s,baz=149,slow=8.8,SNR=49						
KSAR	**Wonju Array Be**	**23.75**	**321**	P	**P**	**05 29 18.1**	**-0.6**
KS19	**Wonju Array Si**	**23.80**	**321**	P	**P**	**05 29 16.9**	**-2.3**
USRK	**Ussuriysk Ar.**	**27.04**	**337**	P	**P**	**05 29 48.5**	**0.0**
	comp=Z,2.9nm,0.9s,baz=154,slow=8.0,SNR=4.5						
SAUI	**Saumlaki**	**31.36**	**209**	P	**P**	**05 30 28.4**	**+1.3**
COEN	**Coen**	**33.75**	**185**	P	**P**	**05 30 47.9**	**0.0**
PETK	**Petropavlovsk-**	**34.33**	**12**	LR	LR	05 47 26.9	
	comp=Z,17nm,18.1s,baz=250,slow=41						
SBUM	**Sibu**	**37.51**	**247**	P	**P**	**05 31 21.5**	**+1.3**
SBUM				IAmb	IAmb	05 31 24.0	
	comp=Z,12nm,1.5s						
KNRA	**Kununurra**	**39.30**	**207**	P	**P**	**05 31 36.2**	**+1.0**
CTAO	**Charters Tower**	**39.71**	**180**	P	**P**	**05 31 39.5**	**+1.0**
CTAO				IAmb	IAmb	05 31 56.8	
	comp=Z,23nm,1.4s						
WB0	**Warramunga Arr**	**41.08**	**197**	P	**P**	**05 31 50.4**	**+0.5**
WB2	**Warramunga Arr**	**41.26**	**197**	P	**P**	**05 31 51.4**	**0.0**
WB2				IAmb	IAmb	05 31 56.5	
	comp=Z,10nm,0.8s						
WRA	**Warramunga Arr**	**41.26**	**197**	P	**P**	**05 31 50.7**	**-0.7**
	comp=Z,5.5nm,0.7s,baz=19,slow=8.5,SNR=30						
WRA	**Warramunga Arr**	**41.26**	**197**	P	**P**	**05 31 51.5**	**+0.1**
WRA				PcP	**PcP**	**05 33 49.5**	**+0.4**
SONM	**Songino Array**	**42.59**	**320**	P	**P**	**05 32 01.7**	**-0.4**
	comp=Z,2.2nm,0.4s,baz=128,slow=6.5,SNR=13						
SONM	**Songino Array**	**42.59**	**320**	P	**P**	**05 32 01.8**	**-0.4**
FITZ	**Fitzroy Crossi**	**42.83**	**210**	P	**P**	**05 32 04.2**	**+0.1**
FITZ				IAmb	IAmb	05 32 22.1	
	comp=Z,18nm,1.4s						
CMAR	**Chiang Mai Arr**	**44.63**	**276**	P	**P**	**05 32 17.4**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=40,slow=5.9,SNR=1.3						
CMAR				LR	LR	05 50 16.1	
	comp=Z,11nm,19.9s,baz=60,slow=35						
ASAR	**Alice Springs**	**44.92**	**196**	P	**P**	**05 32 20.2**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=17,slow=8.0,SNR=9.5						
ASAR	**Alice Springs**	**44.92**	**196**	P	**P**	**05 32 21.1**	**+0.2**
LSA	**Lhasa**	**50.61**	**293**	P	**P**	**05 33 06.9**	**+1.4**
LSA				IAmb	IAmb	05 33 10.6	

NEIC ***13*** *05:29:09.4±2.1, 21°.05S±0°.1×178°.0W±0°.1, h495km±6km, mb4.3/77, Error ellipse: s-maj=17.4km s-min=14.7km az=128.0*

IDC ***13*** *05:29:10.4±2.6, 21°.14S×178°.01W, h510km±27km, mb3.6/19, mb1 3.8/20, mb1mx3.7/43, mbtmp4.5/20, Error ellipse: s-maj=21.2km s-min=11.2km az=154.0*

ISC 13 05:29:09.0±0.4, 21°.03S±0°.08×177°.94W±0°.07, h495km, n151, σ1°.10/156, mb4.2/54, 8C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.01**	**310**		**P**	**05 30 34.2**	**-1.8**
NIUE	**Niue**	**7.77**	**77**	P	**P**	**05 30 59.8**	**-3.2**
AFI	**Afiamalu**	**9.20**	**41**	P	**P**	**05 31 17.8**	**-0.2**
DZM	**Mont Dzumac**	**14.57**	**263**	P	**P**	**05 32 14.4**	**-0.6**
	0.7nm,0.3s,baz=82,slow=17,SNR=9.3						
DZM	**Mont Dzumac**	**14.57**	**263**	P	**P**	**05 32 14.8**	**-0.2**
OUZ	**Omahuta**	**15.98**	**206**	P	**P**	**05 32 31.8**	**+2.3**
BKZ	**Black Stump Fm**	**18.70**	**194**	P	**P**	**05 32 54.1**	**-1.9**
QRZ	**Quartz Range**	**21.34**	**200**	P	**P**	**05 33 20.6**	**+0.6**
TUWZ	**Tuamarina**	**21.47**	**197**	P	**P**	**05 33 21.7**	**+0.6**
EIDS	**Eidsvold**	**28.77**	**255**	P	**P**	**05 34 26.4**	**+0.3**
EIDS				IAmb	IAmb	05 34 45.0	
	comp=Z,18nm,1.4s						
ARMA	**Armidale**	**28.90**	**245**	P	**P**	**05 34 28.1**	**+0.8**
ARMA				IAmb	IAmb	05 34 28.4	
	comp=Z,6.2nm,0.8s						
CAN	**Canberra**	**32.27**	**237**	P	**P**	**05 34 55.5**	**-0.8**
CAN				IAmb	IAmb	05 34 56.3	
	comp=Z,7.5nm,1.2s						
CTAO	**Charters Tower**	**33.50**	**265**	P	**P**	**05 35 07.0**	**+0.2**
CTAO				IAmb	IAmb	05 35 09.2	
	comp=Z,17nm,1.2s						
PMG	**Port Moresby**	**35.52**	**284**	P	**P**	**05 35 24.7**	**+0.8**
	comp=Z,7.2nm,0.4s,baz=139,slow=3.4,SNR=3.7						
PMG	**Port Moresby**	**35.52**	**284**	P	**P**	**05 35 24.4**	**+0.5**
PMG				IAmb	IAmb	05 35 25.1	
	comp=Z,11nm,0.8s						
TOO	**Toolangi**	**35.64**	**234**	P	**P**	**05 35 25.3**	**+0.7**
STKA	**Stephens Creek**	**37.62**	**245**	P	**P**	**05 35 39.7**	**-1.3**
	comp=Z,4.1nm,0.7s,baz=163,slow=17,SNR=5.4						
STKA	**Stephens Creek**	**37.62**	**245**	P	**P**	**05 35 41.1**	**+0.1**
COEN	**Coen**	**37.68**	**274**	P	**P**	**05 35 41.9**	**+0.2**
BBOO	**Buckleboo**	**42.37**	**244**	P	**P**	**05 36 18.6**	**-0.7**
JAY	**Jayapura**	**44.27**	**289**	P	**P**	**05 36 34.8**	**+0.5**
	comp=Z,14nm,0.5s,baz=137,slow=5.2,SNR=12						
WR0	**Warramunga Arr**	**44.40**	**263**	P	**P**	**05 36 34.3**	**-1.0**
AS31	**Alice Springs**	**44.46**	**257**	P	**P**	**05 36 34.7**	**-1.1**
ASAR	**Alice Springs**	**44.46**	**257**	P	**P**	**05 36 35.0**	**-0.8**
	comp=Z,5.8nm,0.5s,baz=98,slow=8.0,SNR=71						
ASAR				PcP	**PcP**	**05 38 08.8**	**0.0**
	comp=Z,1.0nm,0.6s,baz=102,slow=3.7,SNR=4.8						
ASAR				S	**S**	**05 42 33.0**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=92,slow=15,SNR=4.8						
WB0	**Warramunga Arr**	**44.57**	**263**	P	**P**	**05 36 35.6**	**-0.9**
WB0				IAmb	IAmb	05 36 36.2	
	comp=Z,9.8nm,0.9s						
WB2	**Warramunga Arr**	**44.58**	**263**	P	**P**	**05 36 35.7**	**-0.9**
WB2				IAmb	IAmb	05 36 36.4	
	comp=Z,6.7nm,0.8s						
WRA	**Warramunga Arr**	**44.59**	**263**	P	**P**	**05 36 35.8**	**-1.0**
	comp=Z,1.8nm,0.3s,baz=97,slow=7.1,SNR=42						
WRA	**Warramunga Arr**	**44.59**	**263**	P	**P**	**05 36 35.6**	**-1.2**
FORT	**Forrest**	**49.14**	**247**	P	**P**	**05 37 09.8**	**-1.3**
MTN	**Manton Dam**	**49.23**	**271**	P	**P**	**05 37 11.2**	**-0.6**
MTN				IAmb	IAmb	05 37 11.9	
	comp=Z,9.9nm,0.8s						
KNRA	**Kununurra**	**50.69**	**267**	P	**P**	**05 37 22.3**	**-0.2**

KNRA IAmb IAmb 05 37 23.8
comp=Z,10nm,0.8s
FITZ Fitzroy Crossi 53.02 263 P **P** **05 37 39.3 -0.1**
FITZ IAmb IAmb 05 37 48.9
comp=Z,15nm,1.3s
VNDA Vanda 57.40 185 P **P** **05 38 11.0 +1.9**
MORW Morawa 59.69 248 P **P** **05 38 24.9 -0.5**
QSPA South Pole Qui 69.05 180 P **P** **05 39 25.6 +1.2**
QSPA IAmb IAmb 05 39 26.3
comp=Z,5.2nm,0.9s
MJAR Matsushiro Arr 70.67 324 P **P** **05 39 34.0 -0.3**
comp=Z,2.5nm,0.7s,baz=148,slow=6.3,SNR=5.2
MJAR Matsushiro Arr 70.67 324 P **P** **05 39 34.6 +0.2**
PEA0B Petropavlovsk- 76.79 345 P **P** **05 40 09.0 +0.2**
PEA0B IAmb IAmb 05 40 14.7
comp=Z,9.8nm,1.1s
PETK Petropavlovsk- 76.79 345 P **P** **05 40 08.7 -0.1**
comp=Z,3.6nm,0.6s,baz=149,slow=8.4,SNR=10
PETK Petropavlovsk- 76.79 345 P **P** **05 40 09.2 +0.4**
KSRS Korea Array 77.32 319 P **P** **05 40 12.9 +0.9**
comp=Z,0.8nm,0.4s,baz=132,slow=5.6,SNR=4.0
HOPS Hopland Field 78.73 41 P **P** **05 40 20.9 +1.2**
HKPS Hong Kong Po S 79.00 299 P **P** **05 40 18.7 -2.8**
KMRM Mail Ridge 79.12 39 P **P** **05 40 23.5 +1.7**
USRK Ussuriysk Ar. 79.43 326 P **P** **05 40 25.0 +1.7**
comp=Z,3.3nm,0.8s,baz=74,slow=7.4,SNR=6.6
USRK Ussuriysk Ar. 79.43 326 P **P** **05 40 25.6 +2.4**
KHMM Horse Mountain 79.52 39 P **P** **05 40 26.0 +2.0**
ISA Isabella, Lake 79.66 45 P **P** **05 40 26.0 +1.2**
CMB Columbia Colle 79.81 43 P **P** **05 40 26.4 +1.0**
KRMB Red Mountain 79.83 38 P **P** **05 40 27.5 +1.9**
OHAK Old Harbor 80.64 13 P **P** **05 40 29.3 0.0**
YBH Yreka Blue Hor 80.66 39 P **P** **05 40 31.1 +1.2**
comp=Z,6.6nm,0.6s,baz=212,slow=2.8,SNR=26
YBH Yreka Blue Hor 80.66 39 P **P** **05 40 31.6 +1.6**
YBH IAmb IAmb 05 40 32.0
comp=Z,6.6nm,0.7s
WAKR Walker 80.69 43 P **P** **05 40 31.4 +1.2**
WAKR IAmb IAmb 05 40 32.3
comp=Z,8.4nm,1.1s
BEKR Beckworth 80.92 41 P **P** **05 40 32.5 +1.1**
PNTR Pine Nut 80.93 42 P **P** **05 40 32.7 +1.1**
MAW Mawson 81.09 200 P **P** **05 40 31.7 +0.1**
comp=Z,3.3nm,1.0s,baz=124,slow=3.6,SNR=6.6
MAW Mawson 81.09 200 P **P** **05 40 32.1 +0.5**
NVAR Mina Array Bea 81.36 43 P **P** **05 40 34.8 +1.0**
comp=Z,3.4nm,0.8s,baz=224,slow=8.8,SNR=20
NVAR Mina Array Bea 81.36 43 P **P** **05 40 35.0 +1.2**
PAHR Pah Rah Range 81.43 42 P **P** **05 40 34.4 +0.3**
PAHR IAmb IAmb 05 40 35.7
comp=Z,7.4nm,1.1s
HSIG 81.50 55 P **P** **05 40 34.2 -0.2**
HSIG IAmb IAmb 05 40 35.5
comp=Z,4.2nm,0.6s
KVN Kaiserville 81.85 43 P **P** **05 40 37.1 +0.8**
KVN IAmb IAmb 05 40 37.7
comp=Z,5.5nm,0.8s
MOD Modoc Plateau 82.18 40 P **P** **05 40 38.6 +0.8**
MOD IAmb IAmb 05 40 39.5
comp=Z,9.7nm,1.2s
K05A Summer Lake 82.33 39 P **P** **05 40 40.0 +1.4**
Y14A Wickenburg 82.48 49 P **P** **05 40 39.9 +0.5**
CN2 Changchun 82.75 322 *e*P **P** **05 40 41.3 +0.9**
H04A Detroit Lake 82.81 36 P **P** **05 40 41.4 +0.6**
H04A IAmb IAmb 05 40 41.7
comp=Z,7.1nm,0.5s
CNPM China Poot 83.19 13 P **P** **05 40 42.2 -0.1**
CNPM IAmb IAmb 05 40 42.8
comp=Z,7.7nm,0.8s
F04A Amboy 83.47 35 P **P** **05 40 44.9 +0.9**
BRLK Bradley Lake 83.49 13 P **P** **05 40 43.8 0.0**
BRLK IAmb IAmb 05 40 44.2
comp=Z,7.1nm,0.9s
NLWA Neilton Lookou 83.64 34 P **P** **05 40 46.1 +1.3**
NLWA IAmb IAmb 05 40 54.8
comp=Z,15nm,1.2s
SVW2 Sparrevohn 83.80 11 P **P** **05 40 45.0 -0.3**
319A Douglas 83.91 53 P **P** **05 40 48.2 +1.5**
319A IAmb IAmb 05 40 49.3
comp=Z,8.7nm,0.8s
I07A Izee 83.96 38 P **P** **05 40 47.8 +1.1**
I07A IAmb IAmb 05 40 48.6
comp=Z,5.8nm,0.9s
CCUT Cedar City 84.13 46 P **P** **05 40 49.0 +1.2**
KNB Kanab 84.21 47 P **P** **05 40 49.4 +1.2**
U15A North Rim 84.27 48 P **P** **05 40 50.1 +1.5**
U15A IAmb IAmb 05 40 50.7
comp=Z,7.5nm,0.8s
ELK Elko 84.62 43 P **P** **05 40 50.3 +0.1**
comp=Z,0.9nm,0.4s,baz=0.9,slow=6.8,SNR=3.7
PKCU Pink Cliffs 84.78 47 P **P** **05 40 53.4 +2.2**
RC01 Rabbit Creek A 84.93 13 P **P** **05 40 49.3 -1.6**
RC01 IAmb IAmb 05 40 50.3
comp=Z,8.2nm,0.8s
G08A Pilot Rock 85.00 37 P **P** **05 40 52.7 +1.0**
G08A IAmb IAmb 05 40 52.9
comp=Z,4.1nm,0.7s
MTPU Mount Pierson 85.18 46 P **P** **05 40 54.9 +1.8**
TTA Tatalina 85.45 10 P **P** **05 40 53.6 +0.1**
TTA IAmb IAmb 05 40 54.4
comp=Z,5.5nm,1.2s
PMR Palmer 85.51 13 P **P** **05 40 54.4 +0.8**
PMR IAmb IAmb 05 40 54.8
comp=Z,10nm,1.3s
BMO Blue Mountains 85.69 38 P **P** **05 40 55.8 +0.7**
BMO IAmb IAmb 05 40 56.3
comp=Z,3.2nm,0.8s
GHO Glory Hole Cre 85.72 13 P **P** **05 40 54.8 0.0**
F10A Beach Ranch, E 86.38 38 P **P** **05 40 58.9 +0.6**
TMUT Trail Mountain 86.48 46 P **P** **05 41 00.0 +0.8**
B08A Colville Reser 86.63 35 P **P** **05 40 60.0 +0.6**
B08A IAmb IAmb 05 41 00.2
comp=Z,5.6nm,0.7s
TRF Thorofare Moun 86.95 12 P **P** **05 40 59.9 -0.8**
TRF IAmb IAmb 05 41 00.8
comp=Z,6.1nm,0.8s
MNTX Cornudas Mount 87.00 55 P **P** **05 41 02.9 +1.4**
MNTX IAmb IAmb 05 41 03.5
comp=Z,3.8nm,0.8s
RND Reindeer 87.19 13 P **P** **05 41 02.1 +0.4**
TX32 Lajitas Array 87.29 57 P **P** **05 41 04.6 +1.6**
TXAR Lajitas Array 87.29 57 P **P** **05 41 04.4 +1.4**
comp=Z,2.0nm,0.8s,baz=220,slow=6.7,SNR=25
VNA3 Neumayer Olymp 87.62 176 P **P** **05 41 03.5 -0.2**
ANMO Albuquerque 87.68 51 P **P** **05 41 05.0 +0.1**
comp=Z,1.6nm,0.7s,baz=228,slow=6.0,SNR=4.1
ANMO Albuquerque 87.68 51 P **P** **05 41 05.1 +0.2**
NEW Newport 87.76 36 P **P** **05 41 04.7 0.0**
comp=Z,1.6nm,0.7s,baz=312,slow=5.3,SNR=3.9
NEW Newport 87.76 36 P **P** **05 41 05.2 +0.5**
VNA2 Neumayer--Watz 88.06 177 P **P** **05 41 05.8 0.0**
baz=312,slow=2.6
VNA1 Neumayer--Stat 88.28 177 P **P** **05 41 06.9 +0.1**
RIDG Independent Ri 88.35 14 P **P** **05 41 07.0 -0.1**
BCAR Beaver Creek A 88.51 16 P **P** **05 41 08.0 +0.2**
IMAR Indian Mountai 88.66 10 P **P** **05 41 08.2 -0.3**
TPAW Teton Pass 88.78 42 P **P** **05 41 10.7 +0.8**
TPAW IAmb IAmb 05 41 11.5
comp=Z,7.7nm,1.2s
SNOW Snow King Moun 88.89 42 P **P** **05 41 11.3 +0.9**
SNOW IAmb IAmb 05 41 11.7
comp=Z,4.5nm,0.7s
PD31 Pinedale Array 89.30 43 P **P** **05 41 12.8 +0.5**
PD31 IAmb IAmb 05 41 13.2
comp=Z,2.5nm,0.7s
PDAR Pinedale Array 89.30 43 P **P** **05 41 12.1 -0.2**
comp=Z,2.9nm,0.8s,baz=212,slow=2.7,SNR=20
PDAR Pinedale Array 89.30 43 P **P** **05 41 12.5 +0.2**
HHC Hu-ho-hao-te 89.76 314 *e*P **P** **05 41 13.4 -0.9**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,41nm,7.6s
CMAR Chiang Mai Arr 90.35 290 P **P** **05 41 17.4 0.0**
comp=Z,0.8nm,0.3s,baz=122,slow=2.7,SNR=7.0
LZH Lanzhou 93.14 307 *e*P **P** **05 41 32.1 +2.1**
LZH pP pP 05 43 13.5 -6.6
LZH sP sP 05 44 09.9 -0.1
LZH PP **PP** **05 45 26.9 +4.8**
LZH pmax pmax
comp=Z,17nm,1.1s
LZH pmax pmax
comp=Z,65nm,5.4s
YKA Yellowknife Ar 96.96 25 P **P** **05 41 45.9 -0.6**

comp=Z,0.3nm,0.7s,baz=254,slow=3.8,SNR=2.5
ZALV Zalesovo Beam 110.94 321 PKiKP **PKiKP** **05 46 43.6 -1.6**
comp=Z,0.4nm,0.5s,baz=123,slow=5.3,SNR=1.6
ZALV Zalesovo Beam 110.94 321 **PKiKP** **05 46 44.3 -0.9**
MKAR Makanchi Array 111.60 313 PKiKP **PKiKP** **05 46 45.5 -1.2**
comp=Z,0.3nm,0.4s,baz=74,slow=2.2,SNR=5.6
ARCES ARCESS Array B 129.45 350 PKP **PKPdf** **05 47 19.9 -0.5**
comp=Z,1.6nm,0.4s,baz=29,slow=1.3,SNR=19
ARCES ARCESS Array B 129.45 350 **PKPdf** **05 47 19.2 -1.1**
FINES FINESS Array B 136.29 344 PKhKP PKPpre 05 47 24.3
comp=Z,0.9nm,0.6s,baz=29,slow=4.4,SNR=3.8
FINES PKP **PKPdf** **05 47 31.5 -1.8**
comp=Z,1.3nm,0.5s,baz=64,slow=4.4,SNR=5.7
FINES FINESS Array B 136.29 344 PKPpre 05 47 23.6
FINES **PKPdf** **05 47 31.6 -1.8**
NOA NORSAR Array B 139.51 353 PKP **PKPdf** **05 47 36.9 -2.4**
comp=Z,0.5nm,0.6s,baz=18,slow=4.2,SNR=1.4
AKASG Malin Array Be 143.50 331 PKP PKPab 05 47 44.0 -1.0
comp=Z,7.5nm,0.6s,baz=42,slow=4.3,SNR=27
AKASG Malin Array Be 143.50 331 PKPab 05 47 43.7 -1.2
AKBB Malin Array Si 143.50 331 PKPab 05 47 44.1 -0.8
BR131 Keskin Array S 147.23 312 **PKPbc** **05 47 56.6 -0.1**
BRTR Keskin Array B 147.23 312 PKPbc **PKPbc** **05 47 56.1 -0.6**
comp=Z,2.1nm,0.6s,baz=133,slow=4.5,SNR=9.8
BRTR Keskin Array B 147.23 312 **PKPbc** **05 47 56.3 -0.4**
BURAR Bucovina Array 147.55 330 ⇑P **PKPdf** **05 47 55.5 +1.7**
BURAR Bucovina Array 147.55 330 **PKPbc** **05 47 57.9 +0.7**
BIZ Bicaz 147.61 329 ⇑P **PKPbc** **05 47 57.3 0.0**
VRI Vrincioaia 148.04 327 ⇑P **PKPbc** **05 47 57.1 -1.3**
CLL Collm 148.59 347 ⇓ *i* PKPbc **PKPbc** **05 47 59.7 +0.1**
comp=Z,11nm,0.8s
CLL *i* PKiKP **PKiKP** **05 48 01.9 +1.2**
CLL *i* PKPab **PKPab** **05 48 05.0 +0.1**
CLL Collm 148.59 347 **PKPbc** **05 47 59.7 +0.1**
MLR Muntele Rosu 148.69 327 ⇓P **PKPbc** **05 48 01.0 +0.8**
MLR Muntele Rosu 148.69 327 **PKPbc** **05 47 59.8 -0.4**
BRG Berggiesshubel 148.78 345 *i* PKP **PKPbc** **05 48 00.2 +0.2**
comp=Z,6.2nm,0.6s
ARR Arges 149.44 328 ⇑P **PKiKP** **05 48 02.8 0.0**
VYHS Vyhne 149.47 338 *e*PKP **PKPbc** **05 48 02.3 +0.5**
MODS Modra-Piesok 150.10 339 *e*PKP **PKPbc** **05 48 03.1 -0.3**
KHC Kasperske Hory 150.49 345 ⇑ *e*PKP **PKPbc** **05 48 04.5 +0.2**
KHC *e*PKPAB **PKPab** **05 48 13.5 +0.5**
KHC Kasperske Hory 150.49 345 **PKPbc** **05 48 04.5 +0.2**
BZS Buzias 150.69 331 ⇑P **PKPbc** **05 48 04.9 +0.1**
GEC2 GERESS Array S 150.72 344 **PKPbc** **05 48 04.7 -0.2**
GERES GERESS Array B 150.72 344 PKPbc **PKPbc** **05 48 04.8 0.0**
comp=Z,2.2nm,0.6s,baz=42,slow=3.1,SNR=7.4
GERES GERESS Array B 150.72 344 **PKPbc** **05 48 04.4 -0.5**
HERR Herculane 150.87 329 ⇑P **PKPbc** **05 48 04.6 -0.6**
MDVR Moldovita 151.28 330 ⇑P **PKPbc** **05 48 05.8 -0.4**
PRED Cave del Predi 152.96 342 **PKPab** **05 48 22.9 -0.7**
TORD Torodi Ar. Bea 172.16 177 PKP **PKPdf** **05 48 20.1 -1.3**
comp=Z,1.1nm,0.7s,baz=236,slow=0.3,SNR=6.0
TORD PKPab **PKPab** **05 49 47.6 -0.5**
comp=Z,0.4nm,0.6s,baz=167,slow=2.7,SNR=3.6
TORD Torodi Ar. Bea 172.16 177 **PKPdf** **05 48 20.7 -0.7**
TORD PKPab **PKPab** **05 49 48.7 +0.6**

IDC ***13*** *05:31:35.5±1.5,27.°43S×178.°14W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.7/40,mbtmp3.7/3,MS3.6/2,Ms1 3.6/2, ms1mx3.0/24,Error ellipse: s-maj=43.6km s-min=32.2km az=78.0*
NEIC ***13*** *05:31:38.6±2.4,27.°49S±0.°09×178.°3W±0.°2,h10km±2km, mb4.3/10,Error ellipse: s-maj=27.6km s-min=12.2km az=70.0*
ISC 13 05:31:41.2±0.9,**27.°37S**±0.°08×**178.°2W**±0.°2,**h35**km,**n32,** σ1**°79**/25,**mb4.1**/7,**MS3.5**/4,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.89**	**173**			Pn	**Pn**	**05 32 08.2**	**-2.8**
	254nm,0.3s,baz=227,slow=21,SNR=9.4								
RAO						Sn	**Sn**	**05 32 37.6**	**+4.0**
	597nm,0.3s,baz=77,slow=20,SNR=7.8								
RAO	**Raoul Island**	**1.89**	**173**				**Pn**	**05 32 08.0**	**-2.9**
MSVF	**Nonsavu**	**10.20**	**339**	Pn		Pn	**Pn**	**05 34 04.6**	**-0.7**
BKZ	**Black Stump Fm**	**12.58**	**199**	Pn		Pn	**Pn**	**05 34 35.7**	**-2.0**
BFZ	**Birch Farm**	**14.06**	**198**	Pn		Pn	**Pn**	**05 34 57.9**	**+0.1**
DZM	**Mont Dzumac**	**14.94**	**287**	*e*P		P		05 35 23.9	+8.8
	54nm,0.9s								
DZM				*e*LR		LR		05 39 17.6	
	comp=Z,423nm,24.4s								
SNZO	**South Karori**	**15.09**	**201**	Pn		**Pn**	**Pn**	**05 35 11.1**	**-0.6**
THZ	**Tophouse**	**16.12**	**205**	P		**P**	**P**	**05 35 26.8**	**-1.3**
KHZ	**Kahutara**	**16.47**	**202**	Pn		**Pn**	**Pn**	**05 35 28.3**	**-1.1**
KHZ				IAmb		IAmb	IAmb	05 35 30.1	
	comp=Z,49nm,1.4s								
TBI	**Tubuai**	**26.22**	**88**	*e*LR		LR		05 42 52.5	
	comp=Z,172nm,26.2s								
TBI	**Tubuai**	**26.22**	**88**	*e*T		T		06 02 08.1	
	comp=Z,6.4nm,0.3s								
HNR	**Honiara**	**27.29**	**307**	LR		LR		05 46 51.7	
	comp=Z,106nm,18.3s,baz=144,slow=34								
PAE	**Paea**	**28.06**	**76**	*e*T		T		06 04 21.1	
	comp=Z,2.3nm,0.3s								
PPT2	**Papeete2**	**28.10**	**76**	*e*LR		LR		05 43 40.4	
	comp=Z,171nm,25.0s								
PPT2	**Papeete2**	**28.10**	**76**	*e*T		T		06 04 24.8	
	comp=Z,2.1nm,0.3s								
CTAO	**Charters Tower**	**33.28**	**275**	P		**P**	**P**	**05 38 19.1**	**+3.6**
STKA	**Stephens Creek**	**35.12**	**253**	LR		LR		05 51 12.5	
	comp=Z,96nm,18.3s,baz=29,slow=34								
STKA	**Stephens Creek**	**35.12**	**253**	P		**P**	**P**	**05 38 30.4**	**-1.0**
STKA				IAmb		IAmb	IAmb	05 38 42.7	
	comp=Z,3.6nm,1.5s								
COEN	**Coen**	**38.39**	**282**	P		**P**	**P**	**05 39 01.7**	**+2.4**
COEN				IAmb		IAmb	IAmb	05 39 13.6	
	comp=Z,8.6nm,1.2s								
ASAR	**Alice Springs**	**43.20**	**264**	P		**P**	**P**	**05 39 39.0**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=97,slow=6.9,SNR=2.1								
ASAR	**Alice Springs**	**43.20**	**264**	P		**P**	**P**	**05 39 38.9**	**-0.2**
WB2	**Warramunga Arr**	**43.91**	**269**	P		**P**	**P**	**05 39 44.4**	**-0.3**
WB2				IAmb		IAmb	IAmb	05 40 01.5	
	comp=Z,6.1nm,1.4s								
WRA	**Warramunga Arr**	**43.92**	**269**	P		**P**	**P**	**05 39 44.2**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=107,slow=7.8,SNR=4.7								
WRA	**Warramunga Arr**	**43.92**	**269**	P		**P**	**P**	**05 39 44.3**	**-0.5**
WB0	**Warramunga Arr**	**43.92**	**269**	P		**P**	**P**	**05 39 44.0**	**-0.9**
WB0				IAmb		IAmb	IAmb	05 39 50.4	
	comp=Z,8.7nm,1.4s								
VNDA	**Vanda**	**51.09**	**185**	P		**P**	**P**	**05 40 40.3**	**+0.6**
PMSA	**Palmer Station**	**75.08**	**156**				**P**	**05 43 21.4**	**+2.3**
ILAR	**Eielson Array**	**95.01**	**13**	P		**P**	**P**	**05 44 59.8**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=219,slow=7.0,SNR=2.4								
FINES	**FINESS Array B**	**142.25**	**341**	PKP		PKPbc	**PKPdf**	**05 51 07.6**	**-1.6**
	comp=Z,1.4nm,1.0s,baz=289,slow=5.8,SNR=3.4								
AKASG	**Malin Array Be**	**148.76**	**326**	PKPbc		PKPbc	**PKPbc**	**05 51 23.6**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=45,slow=4.1,SNR=2.0								
BRTR	**Keskin Array B**	**150.92**	**303**	PKPbc		PKPbc	**PKiKP**	**05 51 30.8**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=66,slow=4.5,SNR=4.5								
BRTR	**Keskin Array B**	**150.92**	**303**				**PKiKP**	**05 51 31.8**	**+0.8**

DDA ***13*** *05:33:42.8,36.°04N×31.°09E,h40km±2km,ML2.3*
ISK ***13*** *05:33:44.2,36.°15N×31.°17E,h8km,ML2.6/16*
NIC ***13*** *05:33:45.1±0.0,36.°24N×31.°00E,h63km±5km,MI3.0/3*
ISC 13 05:33:42.6±1.1,**36.°14N**±0.°03×**31.°12E**±0.°02,**h17**km±10km, **n32,**σ1**°47**/50,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.66**	**286**	*i* P		P	**Pn**	**05 33 57.4**	**+0.2**
AKUM				*i* S		S	**Sn**	**05 34 07.1**	**0.0**
AKUM				IAML				05 34 12.0	
	comp=E,156nm,0.4s								
AKUM				IAML				05 34 12.0	
	comp=N,141nm,0.5s								
ALAN	**Alanya-ANTALYA**	**0.84**	**60**	PG			**Pn**	**05 34 00.2**	**+0.4**
ALAN				SG			**Sn**	**05 34 12.1**	**+0.3**
ANTB	**Antalya**	**0.84**	**334**	PG			**Pn**	**05 34 00.9**	**+1.1**
KEPZ	**Antalya-Kepez**	**0.85**	**27**	*i* P			**Pn**	**05 34 00.9**	**+0.9**
KEPZ				*i* S			**Sn**	**05 34 10.6**	**-1.4**
GAZI	**Gazipasa**	**0.97**	**84**	PG			**Pn**	**05 34 02.2**	**+0.7**
GAZI				SG			**Sn**	**05 34 15.8**	**+0.8**
GAZI	**Gazipasa**	**0.97**	**84**	*i* P			**Pn**	**05 34 02.1**	**+0.5**
GAZI				*i* S			**Sg**	**05 34 12.9**	**-1.3**
GAZI				IAML				05 34 17.0	
	comp=N,67nm,0.5s								
GAZI				IAML				05 34 19.0	
	comp=E,84nm,0.4s								
KORT	**Korkueli**	**1.06**	**324**	PG			**Pn**	**05 34 05.3**	**+2.4**
ELL	**Elmali**	**1.15**	**302**	PN			**Pn**	**05 34 07.1**	**+3.0**
AKAS	**Kas**	**1.23**	**275**	*i* P			**Pn**	**05 34 05.2**	**0.0**
AKAS				*i* S			**Sb**	**05 34 19.5**	**-1.7**
AKAS				IAML				05 34 28.0	
	comp=N,52nm,0.9s								
KSL	**Kastellorizon**	**1.25**	**271**	P			**Pn**	**05 34 05.2**	**-0.1**
KSL				S			**Sb**	**05 34 21.4**	**-0.1**
KSL				AML		AML		05 34 33.2	
	comp=N,0.1nm,1.0s								
KSL				AML		AML		05 34 33.2	
	comp=N,0.1nm,1.0s								
KSL				AML		AML		05 34 57.5	
	comp=N,0.1nm,1.4s								
KSL				AML		AML		05 34 57.5	
	comp=N,0.1nm,1.4s								
SEYD	**Seydisehir-KON**	**1.39**	**24**	PN			**Pg**	**05 34 10.1**	**+0.7**
SEYD				SN			**Sn**	**05 34 29.1**	**+3.7**
AKMS	**Akamas**	**1.50**	**138**	P			**Pg**	**05 34 12.3**	**+0.8**
AKMS				S			**Sg**	**05 34 32.6**	**+1.7**
AKMS				AML		AML		05 34 39.4	
	comp=N,0.6nm,0.4s								
AKMS				AML		AML		05 34 39.4	
	comp=N,0.6nm,0.4s								
AKMS				AML		AML		05 34 42.2	
	comp=N,0.5nm,0.4s								
AKMS				AML		AML		05 34 42.2	
	comp=N,0.5nm,0.4s								
ALFC	**Alefka**	**1.55**	**129**	P			**Pg**	**05 34 13.7**	**+1.2**
ALFC				S			**Sg**	**05 34 34.2**	**+1.4**
ALFC				AML		AML		05 34 34.8	
	comp=N,0.5nm,0.2s								
ALFC				AML		AML		05 34 34.8	
	comp=N,0.5nm,0.2s								
ALFC				AML		AML		05 34 42.2	
	comp=N,0.4nm,0.3s								
ALFC				AML		AML		05 34 42.2	
	comp=N,0.4nm,0.3s								
TEKE	**Tekeli-Mersin**	**1.61**	**89**	PN			**Pg**	**05 34 13.2**	**-0.5**
TEKE				SN			**Sg**	**05 34 34.6**	**0.0**
BERE	**Bereket-Mersin**	**1.71**	**82**	PN			**Pg**	**05 34 14.6**	**-0.9**
FETY	**Fethiye**	**1.72**	**287**	PN			**Pg**	**05 34 15.6**	**0.0**
LEF	**Lefka**	**1.77**	**125**	*i* P			**Pn**	**05 34 11.9**	**-0.5**
LEF				*i* S			**Sn**	**05 34 29.5**	**-5.0**
TEVE	**Tevekalti-Mers**	**1.90**	**80**	PN			**Pb**	**05 34 17.4**	**+0.5**
GULN	**MERSIN_Gulnar**	**1.96**	**88**	*i* P			**Pb**	**05 34 17.6**	**-0.3**
GULN				*i* S			**Sn**	**05 34 40.7**	**+1.3**
AKKU	**Akkuyu-Mersin**	**1.97**	**89**	PN			**Pb**	**05 34 18.1**	**+0.1**
AKKU				SN			**Sb**	**05 34 43.2**	**+1.0**
KRMN	**Karaman**	**2.01**	**58**	PN			**Pb**	**05 34 18.7**	**-0.1**
DOGA	**KONYA_Doganhis**	**2.01**	**12**	*i* P			**Pb**	**05 34 17.1**	**-1.7**
DOGA				IAML				05 34 46.0	
	comp=N,27nm,0.4s								
DOGA				IAML				05 34 49.0	
	comp=E,20nm,0.7s								
KONT	**Konya--Tatoy**	**2.06**	**28**	*i* P			**Pg**	**05 34 19.9**	**-2.2**
TISA	**Tisan-Mersin**	**2.07**	**89**	PN			**Pb**	**05 34 19.6**	**-0.2**
IKL	**Isikli**	**2.08**	**87**	PN			**Pb**	**05 34 19.9**	**0.0**
IKL				SN			**Sb**	**05 34 45.8**	**+0.4**
KEBE	**Keben-Mersin**	**2.12**	**81**	PN			**Pb**	**05 34 20.5**	**-0.1**
LFK	**Lefkose**	**2.14**	**113**	PN			**Pb**	**05 34 21.0**	**0.0**
SILI	**Silifke-Mersin**	**2.28**	**84**	PN			**Pb**	**05 34 22.8**	**-0.5**
KIZK	**Mersin**	**2.46**	**81**	PN			**Pb**	**05 34 25.4**	**-1.1**
KIZK	**Mersin**	**2.46**	**81**	*i* P			**Pb**	**05 34 26.0**	**-0.5**
KIZK				*i* S			**Sb**	**05 34 54.5**	**-2.1**
KIZK				IAML				05 35 11.0	
	comp=N,14nm,1.0s								
KERG	**Konya-Eregli**	**2.73**	**61**	*i* P			**Pb**	**05 34 29.1**	**-1.9**
KERG				*i* S			**Sn**	**05 35 00.8**	**+2.4**
KERG				IAML				05 35 07.0	
	comp=E,12nm,0.5s								
KARP	**Karpathos**	**3.27**	**261**	P			**Pn**	**05 34 33.4**	**+0.2**
KARP				S			**Sn**	**05 35 11.5**	**-0.3**

VAO ***13*** *05:38:47.2±0.7,27.°69S×72.°53W,h44km,mb4.8*
NEIC ***13*** *05:38:59.4±2.7,27.°58S±0.°01×71.°32W±0.°07,h35km±5km, mb4.6/28,ML4.8(GUC),Error ellipse: s-maj=9.4km s-min=1.8km az=94.0*
BJI ***13*** *05:38:59.5±0.0,27.°60S×71.°20W,h30km,mB5.2/1*
SJA ***13*** *05:38:59.4±0.7,27.°69S×71.°51W,h64km±13km,ML4.3, MW4.3*
IDC ***13*** *05:39:01.7±0.6,27.°55S×70.°92W,h48km±4km,mb3.8/12, mb1 4.1/16,mb1mx3.9/41,mbtmp4.1/16,MS3.1/9, Ms1 3.1/9,ms1mx2.9/24,Error ellipse: s-maj=17.3km s-min=11.0km az=79.0*
GUC ***13*** *05:39:01.0±0.7,27.°75S×70.°99W,h56km±3km,ML4.8*
ISC 13 05:39:00.5±0.5,**27.°60S**±0.°03×**71.°23W**±0.°05,**h47**km±4km, **h47**km:**pP-P,n193,**σ1**°77**/208,**mb4.5**/25,**5C-4D,Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.62**	**167**	⇑ *i* P		P	**Pn**	**05 39 13.0**	**0.0**
AC04				*i* S		S	**Sn**	**05 39 21.7**	**-0.4**
AC04				IAML				05 39 22.6	
	comp=E,93μm,0.4s								
AC04	**Llanos de Chal**	**0.62**	**167**				**Pn**	**05 39 13.1**	**0.0**
AC04						Sn	**Sn**	**05 39 21.5**	**-0.5**
GO03	**Copiap**	**0.89**	**90**	*e*P			**Pn**	**05 39 16.2**	**-0.5**
GO03				*i* S			**Sn**	**05 39 27.2**	**-1.3**
GO03				IAML				05 39 28.6	
	comp=N,82μm,0.2s								
GO03	**Copiap**	**0.89**	**90**				**Pn**	**05 39 16.5**	**-0.2**
GO03						Sn	**Sn**	**05 39 27.0**	**-1.5**
LCO	**Las Campanas**	**1.48**	**162**				**Pn**	**05 39 25.7**	**+0.8**
LCO						Sn	**Sn**	**05 39 42.4**	**-0.9**
AC05	**El Transito**	**1.49**	**146**	⇑ *i* P			**Pn**	**05 39 25.2**	**+0.2**
AC05				*i* S			**Sn**	**05 39 42.5**	**-0.9**
AC05	**El Transito**	**1.49**	**146**				**Pn**	**05 39 25.2**	**+0.2**
AC05						Sn	**Sn**	**05 39 42.5**	**-0.9**
AC01	**Pan de Azucar**	**1.56**	**22**	⇓ *i* P			**Pn**	**05 39 25.6**	**-0.1**
AC01				*i* S			**Sn**	**05 39 43.7**	**-1.1**
AC01				IAML				05 39 45.1	
	comp=E,10μm,0.4s								
AC01	**Pan de Azucar**	**1.56**	**22**				**Pn**	**05 39 25.7**	**-0.1**
AC01						Sn	**Sn**	**05 39 43.5**	**-1.3**
AC02	**Maricunga**	**2.02**	**68**	⇑ *i* P			**Pn**	**05 39 33.5**	**+1.0**
AC02				*i* S			**Sn**	**05 39 57.2**	**+0.2**
AC02				IAML				05 39 58.6

RTLL	**Cerro Villicun**	**4.42**	**148**	*i* P	**Pn**	**05 40 07.1**	**+2.0**
RTLL				IAML		05 41 20.5	
	comp=Z,333nm,0.5s						
RTLS	**Leoncito**	**4.51**	**159**	*i* P	Pn	05 40 09.5	+3.0
RTLS				IAML		05 41 22.6	
	comp=Z,391nm,0.8s						
PB15	**IPOC Station P**	**4.66**	**20**		**Pn**	**05 40 08.5**	**0.0**
PB15				Sn	**Sn**	**05 41 00.2**	**-1.3**
CFA	**Coronel Fontan**	**4.76**	**148**	P	**Pn**	**05 40 11.4**	**+1.6**
	comp=Z,2.5nm,0.3s,baz=314,slow=13,SNR=12						
CFA				S	**Sn**	**05 41 03.2**	**-0.6**
	comp=Z,24nm,0.3s,baz=2.5,slow=14,SNR=3.5						
CFA				LR	LR	05 42 06.7	
	comp=Z,239nm,18.6s,baz=314,slow=40						
CFA	**Coronel Fontan**	**4.76**	**148**	*i* P	**Pn**	**05 40 11.6**	**+1.7**
CFA				IAML		05 41 35.2	
	comp=Z,143nm,0.7s						
RTCV	**Cerro Valdivia**	**4.85**	**152**	*i* P	**Pn**	**05 40 12.5**	**+1.5**
RTCV				IAML		05 41 34.7	
	comp=Z,210nm,0.7s						
CYA	**Choya**	**4.87**	**101**	*i* P	**Pn**	**05 40 12.1**	**+0.8**
CYA				IAML		05 41 33.6	
	comp=Z,135nm,0.5s						
PB06	**IPOC Station P**	**5.10**	**18**		**Pn**	**05 40 13.1**	**-1.5**
PB06				Sn	**Sn**	**05 41 10.8**	**-1.6**
VA03	**San Esteban**	**5.18**	**174**		**Pn**	**05 40 15.8**	**+0.3**
VA03				Sn	**Sn**	**05 41 13.5**	**-0.5**
PB04	**IPOC Station P**	**5.34**	**11**		**Pn**	**05 40 15.8**	**-2.1**
ROC1	**El Roble**	**5.36**	**178**		**Pn**	**05 40 17.3**	**-0.8**
ROC1	**El Roble**	**5.36**	**178**	*i* P	**Pn**	**05 40 17.1**	**-1.1**
ROC1				*e*S	**Sn**	**05 41 20.6**	**+2.0**
LVC	**Limon Verde**	**5.40**	**23**	P	**Pn**	**05 40 18.4**	**-0.4**
	comp=Z,10nm,0.3s,baz=175,slow=9.0,SNR=147						
LVC				S	**Sn**	**05 41 18.0**	**-1.9**
	comp=Z,33nm,0.3s,baz=191,slow=10,SNR=4.1						
LVC				LR	LR	05 42 29.1	
	comp=Z,390nm,20.0s,baz=196,slow=40						
LVC	**Limon Verde**	**5.40**	**23**	Pn	**Pn**	**05 40 17.9**	**-0.9**
PEL	**Peldehue**	**5.54**	**175**		**Pn**	**05 40 19.8**	**-0.7**
MT02	**Curacav**	**5.64**	**179**	Pn	**Pn**	**05 40 20.5**	**-1.3**
MT05	**Renca**	**5.79**	**176**		**Pn**	**05 40 23.4**	**-0.4**
ACAN	**Cantantal**	**5.83**	**144**	*i* P	**Pn**	**05 40 25.4**	**+1.0**
ACAN				IAML		05 41 42.8	
	comp=Z,54nm,0.5s						
PB07	**IPOC Station P**	**5.98**	**12**		**Pn**	**05 40 24.7**	**-1.9**
PB09	**IPOC Station P**	**6.06**	**18**		**Pn**	**05 40 26.7**	**-1.0**
MT01	**Popeta**	**6.24**	**180**		**Pn**	**05 40 28.1**	**-1.9**
PB01	**IPOC Station P**	**6.72**	**14**		**Pn**	**05 40 34.7**	**-2.0**
BO02	**Sierra Bellavi**	**7.18**	**177**		**Pn**	**05 40 41.6**	**-1.3**
GO05	**Huala**	**7.41**	**184**		**Pn**	**05 40 42.9**	**-3.2**
PB08	**IPOC Station P**	**7.67**	**15**	Pn	**Pn**	**05 40 47.6**	**-2.4**
PB11	**IPOC Station P**	**7.94**	**11**	Pn	**Pn**	**05 40 51.0**	**-2.5**
PSGCX	**Pisagua**	**8.03**	**8**	Pn	Pn	05 40 50.9	-3.9
GO01	**Chusmiza**	**8.12**	**14**		**Pn**	**05 40 53.3**	**-2.9**
MNMC	**Minye Minye**	**8.57**	**10**		**Pn**	**05 40 59.6**	**-2.6**
H03N1	**Juan Fernandez**	**8.81**	**227**	P	**Pn**	**05 41 04.3**	**-0.7**
	baz=110,slow=17,SNR=70						
H03N1				S	**Sn**	**05 42 38.1**	**-4.7**
H03N1				T	T	05 50 18.3	
	baz=53,slow=72,SNR=566						
H03N2	**Juan Fernandez**	**8.82**	**227**	P	**Pn**	**05 41 04.3**	**-0.9**
	baz=110,slow=17,SNR=26						
H03N2				S	**Sn**	**05 42 38.1**	**-5.0**
H03N2				T	T	05 50 44.7	
	baz=53,slow=72,SNR=528						
H03N3	**Juan Fernandez**	**8.83**	**227**	P	**Pn**	**05 41 04.3**	**-1.0**
	baz=110,slow=17,SNR=58						
H03N3				S	**Sn**	**05 42 37.9**	**-5.4**
H03N3				T	T	05 50 40.3	
	baz=53,slow=72,SNR=470						
PB12	**IPOC Station P**	**8.99**	**6**	Pn	Pn	05 41 04.9	-2.9
H03S3	**Juan Fernandez**	**9.06**	**225**	P	**Pn**	**05 41 06.9**	**-1.5**
	baz=33,slow=20,SNR=65						
H03S3				S	**Sn**	**05 42 41.7**	**-7.2**
	baz=31,slow=18,SNR=23						
H03S3				T	T	05 50 31.6	
	baz=57,slow=78,SNR=2.6						
H03S1	**Juan Fernandez**	**9.07**	**225**	P	**Pn**	**05 41 06.5**	**-2.0**
	baz=33,slow=20,SNR=44						
H03S1				S	Sn	05 42 41.5	-7.6
	baz=31,slow=18,SNR=21						
H03S1				T	T	05 50 32.6	
	baz=57,slow=78,SNR=4.6						
H03S2	**Juan Fernandez**	**9.08**	**225**	P	**Pn**	**05 41 07.1**	**-1.6**
	baz=33,slow=20,SNR=56						
H03S2				S	Sn	05 42 41.7	-7.6
	baz=31,slow=18,SNR=17						
H03S2				T	T	05 50 27.3	
	baz=57,slow=78,SNR=2.8						
BI03	**Tigo**	**9.34**	**189**	Pn	**Pn**	**05 41 08.9**	**-3.5**
LC01	**Cunco**	**11.28**	**183**	Pn	Pn	05 41 34.5	-4.4
LPAZ	**La Paz**	**11.62**	**15**	P	**Pn**	**05 41 42.9**	**-1.4**
	comp=Z,0.8nm,0.3s,baz=206,slow=6.0,SNR=28						
LPAZ	**La Paz**	**11.62**	**15**		**Pn**	**05 41 42.5**	**-1.8**
CPUP	**Villa Florida**	**12.47**	**87**	P	**Pn**	**05 41 53.5**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=246,slow=15,SNR=3.2						
CPUP				LR	LR	05 47 35.3	
	comp=Z,56nm,20.6s,baz=254,slow=42						
CPUP	**Villa Florida**	**12.47**	**87**		**Pn**	**05 41 54.7**	**-0.6**
CPUP	**Villa Florida**	**12.47**	**87**	*e*P	Pn	05 41 57.8	+2.5
CPUP	**Villa Florida**	**12.47**	**87**	*e*P	Pn	05 41 57.8	+2.5
ITQB	**Itaqui**	**13.00**	**103**	*e*P	**Pn**	**05 42 03.5**	**+1.0**
ITQB	**Itaqui**	**13.00**	**103**	*e*P	**Pn**	**05 42 03.5**	**+1.0**
PLCA	**Paso Flores**	**13.11**	**178**	P	**Pn**	**05 42 02.4**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=9.0,slow=18,SNR=1.3						
PLCA				LR	LR	05 47 40.1	
	comp=Z,118nm,19.1s,baz=352,slow=39						
PLCA	**Paso Flores**	**13.11**	**178**		**Pn**	**05 42 06.4**	**+2.3**
PLCA	**Paso Flores**	**13.11**	**178**	*e*P	Pn	05 41 51.4	-13
PLCA	**Paso Flores**	**13.11**	**178**	*e*P	Pn	05 41 51.4	-13
LL01	**San Ignacio de**	**14.77**	**183**	P	**P**	**05 42 32.3**	**+0.9**
SIV	**San Ignacio**	**14.91**	**41**	P	Pn	05 42 20.8	-7.6
	comp=Z,2.0nm,0.3s,baz=252,slow=9.4,SNR=25						
SIV				LR	LR	05 47 35.9	
	comp=Z,20nm,19.0s,baz=246,slow=35						
GO07	**Milladeo Hill,**	**15.60**	**187**	P	**P**	**05 42 42.9**	**+2.3**
CPSB	**Cacapava Do Su**	**15.82**	**104**	*e*P	**P**	**05 42 41.5**	**-1.7**
CPSB	**Cacapava Do Su**	**15.82**	**104**	*e*P	**P**	**05 42 41.5**	**-1.7**
NNA	**Nana**	**16.40**	**340**	LR	LR	05 47 37.0	
	comp=Z,57nm,21.7s,baz=138,slow=31						
PTLB	**Pontes e Lacer**	**16.50**	**45**	*e*P	**Pn**	**05 42 46.5**	**-2.4**
PTLB	**Pontes e Lacer**	**16.50**	**45**	*e*P	**Pn**	**05 42 46.5**	**-2.4**
ITAB	**Concordia**	**16.97**	**93**	*e*P	**P**	**05 42 55.5**	**-0.5**
ITAB	**Concordia**	**16.97**	**93**	*e*P	**P**	**05 42 55.5**	**-0.5**
PTGB	**Pitanga**	**17.45**	**85**	*e*P	**P**	**05 43 01.9**	**+0.5**
PTGB	**Pitanga**	**17.45**	**85**	*e*P	**P**	**05 43 01.9**	**+0.5**
TRCB	**Terra Rica**	**17.50**	**78**	*e*P	**P**	**05 43 01.1**	**-0.7**
TRCB	**Terra Rica**	**17.50**	**78**	*e*P	**P**	**05 43 01.1**	**-0.7**
VILB	**Vilhena**	**17.86**	**37**	*e*P	**Pn**	**05 43 01.5**	**-4.1**
VILB	**Vilhena**	**17.86**	**37**	*e*P	**Pn**	**05 43 01.5**	**-4.1**
COYC	**Coyhaique**	**17.95**	**182**	P	**P**	**05 43 07.6**	**+1.0**
CNLB	**Canela**	**18.00**	**100**	*e*P	**P**	**05 43 05.9**	**-1.5**
CNLB	**Canela**	**18.00**	**100**	*e*P	**P**	**05 43 05.9**	**-1.5**
SALV	**Santo Antonio**	**18.52**	**54**	*e*P	**P**	**05 43 09.7**	**-3.4**
SALV	**Santo Antonio**	**18.52**	**54**	*e*P	**P**	**05 43 09.7**	**-3.4**
C2SB	**Chapadao do Su**	**19.04**	**66**	*e*P	**Pn**	**05 43 18.7**	**-1.2**
C2SB	**Chapadao do Su**	**19.04**	**66**	*e*P	**Pn**	**05 43 18.7**	**-1.2**
PCMB	**Pacaembu**	**19.11**	**76**	*e*P	**Pn**	**05 43 18.6**	**-2.1**
PCMB	**Pacaembu**	**19.11**	**76**	*e*P	**Pn**	**05 43 18.6**	**-2.1**
FRTB	**Fartura**	**20.01**	**83**	*e*P	**P**	**05 43 28.0**	**-1.4**
FRTB	**Fartura**	**20.01**	**83**	*e*P	**P**	**05 43 28.0**	**-1.4**
SAML	**Samuel**	**20.05**	**24**	P	**P**	**05 43 30.2**	**+0.3**
SAML	**Samuel**	**20.05**	**24**	*e*P	P	05 43 21.2	-8.7
SAML	**Samuel**	**20.05**	**24**	*e*P	P	05 43 21.2	-8.7
ITRB	**Iturama**	**20.66**	**72**	*e*P	**P**	**05 43 35.4**	**-1.0**
ITRB	**Iturama**	**20.66**	**72**	*e*P	**P**	**05 43 35.4**	**-1.0**
ATAH	**Atahualpa**	**21.46**	**340**	LR	LR	05 52 04.8	
	comp=Z,25nm,21.1s,baz=20,slow=36						
ARAG	**Araguaiana, MT**	**21.55**	**61**	*e*P	**P**	**05 43 45.1**	**-1.0**
ARAG	**Araguaiana, MT**	**21.55**	**61**	*e*P	**P**	**05 43 45.1**	**-1.0**
BB19B	**Bebedouro**	**21.67**	**77**	*e*P	**P**	**05 43 45.8**	**-1.6**
BB19B	**Bebedouro**	**21.67**	**77**	*e*P	**P**	**05 43 45.8**	**-1.6**
SPB	**Sao Paulo**	**21.82**	**85**	*e*P	**P**	**05 43 46.9**	**-2.0**
SPB	**Sao Paulo**	**21.82**	**85**	*e*P	**P**	**05 43 46.9**	**-2.0**
CLDB	**Colider**	**22.08**	**44**	*e*P	**P**	**05 43 49.0**	**-2.7**
CLDB	**Colider**	**22.08**	**44**	*e*P	**P**	**05 43 49.0**	**-2.7**
VAO	**Valinhos**	**22.40**	**84**	*e*P	**P**	**05 43 53.5**	**-1.7**
VAO	**Valinhos**	**22.40**	**84**	*e*P	**P**	**05 43 53.5**	**-1.7**
IPMB	**Ipameri, GO**	**23.25**	**71**	*e*P	**P**	**05 44 01.2**	**-2.8**
IPMB	**Ipameri, GO**	**23.25**	**71**	*e*P	**P**	**05 44 01.2**	**-2.8**
PARB	**Paraibuna**	**23.49**	**85**	*e*P	**P**	**05 44 04.0**	**-2.3**
PARB	**Paraibuna**	**23.49**	**85**	*e*P	**P**	**05 44 04.0**	**-2.3**
BDFB	**Brasilia**	**24.60**	**66**	P	**P**	**05 44 14.8**	**-1.8**
	comp=Z,8.9nm,0.5s,baz=248,slow=7.8,SNR=17						
BDFB				LR	LR	05 55 18.7	
	comp=Z,171nm,18.6s,baz=267,slow=40						
BDFB	**Brasilia**	**24.60**	**66**	P	**P**	**05 44 14.8**	**-1.8**
BDFB				IAmb	IAmb	05 44 16.8	
	comp=Z,24nm,1.1s						
NPGB	**Novo Progresso**	**25.39**	**39**	*e*P	**P**	**05 44 19.0**	**-4.6**
NPGB	**Novo Progresso**	**25.39**	**39**	*e*P	**P**	**05 44 19.0**	**-4.6**
MACA	**Manacapuru-AM**	**26.31**	**24**	*e*P	P	05 44 23.8	-8.1
MACA	**Manacapuru-AM**	**26.31**	**24**	*e*P	P	05 44 23.8	-8.1
PEXB	**Peixe**	**26.44**	**59**	*e*P	**P**	**05 44 30.5**	**-2.6**
PEXB	**Peixe**	**26.44**	**59**	*e*P	**P**	**05 44 30.5**	**-2.6**
JANB	**Januaria**	**27.94**	**69**	*e*P	**P**	**05 44 45.2**	**-1.5**
JANB	**Januaria**	**27.94**	**69**	*e*P	**P**	**05 44 45.2**	**-1.5**
PTGA	**Pitinga**	**28.82**	**24**	P	**P**	**05 44 53.7**	**-0.8**
	comp=Z,1.6nm,0.8s,baz=233,slow=15,SNR=2.2						
PTGA				LR	LR	05 57 34.8	
	comp=Z,52nm,21.1s,baz=169,slow=39						
PTGA	**Pitinga**	**28.82**	**24**	P	**P**	**05 44 54.5**	**+0.1**
RCBR	**Riachuelo**	**39.93**	**64**	P	**P**	**05 46 31.3**	**+0.9**
TEIG	**Tepich**	**50.33**	**339**	P	**P**	**05 47 54.2**	**+1.4**
	comp=Z,6.1nm,0.7s,baz=139,slow=1.8,SNR=1.9						
TEIG	**Tepich**	**50.33**	**339**	P	**P**	**05 47 54.1**	**+1.4**
VNA3	**Neumayer Olymp**	**55.05**	**160**	P	**P**	**05 48 27.4**	**+0.3**
VNA2	**Neumayer--Watz**	**55.67**	**159**	P	**P**	**05 48 31.7**	**+0.2**
	baz=286,slow=9.8						
SNAA	**Sanae**	**57.27**	**160**	P	**P**	**05 48 43.0**	**0.0**
SNAA	**Sanae**	**57.27**	**160**	P	**P**	**05 48 43.1**	**0.0**
QSPA	**South Pole Qui**	**62.61**	**180**	P	**P**	**05 49 20.9**	**+1.1**
QSPA				IAmb	IAmb	05 49 21.6	
	comp=Z,6.2nm,0.9s						
TXAR	**Lajitas Array**	**64.57**	**329**	P	**P**	**05 49 34.8**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=153,slow=9.0,SNR=4.9						
WHAR	**Wooly Hollow**	**65.64**	**171**	P	**P**	**05 49 39.6**	**-0.1**
U40A	**Yellville**	**66.80**	**341**	P	**P**	**05 49 48.4**	**+1.2**
U40A				IAmb	IAmb	05 49 48.6	
	comp=Z,2.6nm,0.7s						
TUL1	**Leonard**	**67.29**	**339**	P	**P**	**05 49 51.8**	**+1.5**
TUL1				IAmb	IAmb	05 49 52.2	
	comp=Z,6.0nm,0.9s						
CCM	**Cathedral Cave**	**67.95**	**343**	P	**P**	**05 49 55.3**	**+0.9**
CCM				IAmb	IAmb	05 49 56.2	
	comp=Z,3.9nm,0.8s						
S39A	**Bolivar**	**68.18**	**341**	P	**P**	**05 49 57.1**	**+1.2**
S39A				IAmb	IAmb	05 49 58.2	
	comp=Z,4.4nm,1.0s						
M55A	**Ridgway**	**69.08**	**354**	P	**P**	**05 50 02.3**	**+0.9**
M55A				IAmb	IAmb	05 50 06.3	
	comp=Z,11nm,1.5s						
N49A	**Columbus Grove**	**69.23**	**350**	P	**P**	**05 50 03.0**	**+0.7**
N49A				IAmb	IAmb	05 50 14.9	
	comp=Z,6.0nm,1.1s						
P40A	**Paris**	**69.55**	**343**	P	**P**	**05 50 05.9**	**+1.5**
P40A				IAmb	IAmb	05 50 20.5	
	comp=Z,4.9nm,0.8s						
VNDA	**Vanda**	**70.49**	**191**	P	**P**	**05 50 11.7**	**+2.0**
	comp=Z,0.9nm,0.8s,baz=139,slow=7.0,SNR=5.6						
L40A	**Anamosa**	**71.74**	**344**	P	**P**	**05 50 19.3**	**+1.8**
L40A				IAmb	IAmb	05 50 19.4	
	comp=Z,5.9nm,0.8s						
G62A	**West of Eustis**	**72.47**	**1**	P	**P**	**05 50 24.2**	**+2.3**
G62A				IAmb	IAmb	05 50 41.9	
	comp=Z,16nm,1.4s						
DBIC	**Dimbokro**	**72.54**	**73**	P	**P**	**05 50 22.5**	**-0.5**
	comp=Z,3.9nm,0.6s,baz=248,slow=6.4,SNR=6.1						
DBIC				pP	**pP**	**05 50 35.1**	**-1.3**
	comp=Z,10nm,0.7s,baz=222,slow=5.0,SNR=4.9						
DBIC	**Dimbokro**	**72.54**	**73**	P	**P**	**05 50 22.6**	**-0.5**
DBIC					**pP**	**05 50 34.8**	**-1.6**
E62A	**Clayton Lake**	**73.89**	**1**	P	**P**	**05 50 31.6**	**+1.4**
E62A				IAmb	IAmb	05 50 46.7	
	comp=Z,7.9nm,1.1s						
ECSD	**EROS Data Cent**	**74.71**	**341**	P	**P**	**05 50 36.4**	**+1.3**
ECSD				IAmb	IAmb	05 50 52.1	
	comp=Z,10nm,1.4s						
HWUT	**Hardware Ranch**	**78.32**	**330**	P	**P**	**05 50 58.0**	**+2.1**
PDAR	**Pinedale Array**	**78.41**	**332**	P	**P**	**05 50 57.5**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=20,slow=2.9,SNR=2.3						
PDAR				pP	**pP**	**05 51 12.2**	**+2.8**
	comp=Z,0.5nm,0.6s,baz=120,slow=8.8,SNR=3.2						
PDAR	**Pinedale Array**	**78.41**	**332**	P	**P**	**05 50 57.6**	**+1.3**
NVAR	**Mina Array Bea**	**79.08**	**324**	P	**P**	**05 51 02.4**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=167,slow=9.3,SNR=2.5						
NVAR	**Mina Array Bea**	**79.08**	**324**	P	**P**	**05 51 01.1**	**+1.0**
MAW	**Mawson**	**79.10**	**164**	P	**P**	**05 51 00.4**	**+0.8**
	comp=Z,2.7nm,0.8s,baz=238,slow=12,SNR=3.1						
MAW	**Mawson**	**79.10**	**164**	P	**P**	**05 51 00.2**	**+0.6**
ELK	**Elko**	**79.32**	**328**	P	**P**	**05 51 03.7**	**+2.3**
	comp=Z,1.6nm,0.7s,baz=107,slow=5.2,SNR=3.9						
LAO	**LASA Array**	**80.43**	**336**	P	**P**	**05 51 08.2**	**+1.1**
TOA0	**Torodi Ar. Sit**	**81.40**	**70**	P	**P**	**05 51 12.8**	**0.0**
TOA0				IAmb	IAmb	05 51 27.0	
	comp=Z,8.7nm,0.9s						
TORD	**Torodi Ar. Bea**	**81.40**	**70**	P	**P**	**05 51 12.4**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=265,slow=4.7,SNR=14						
TORD				pP	**pP**	**05 51 25.9**	**-0.2**
	comp=Z,8.0nm,0.9s,baz=257,slow=5.0,SNR=17						
TORD	**Torodi Ar. Bea**	**81.40**	**70**	P	**P**	**05 51 12.8**	**-0.1**
YKA	**Yellowknife Ar**	**96.24**	**341**	P	**P**	**05 52 22.7**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=122,slow=5.9,SNR=5.5						
YKA				pP	**pP**	**05 52 38.0**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=147,slow=5.3,SNR=4.1						
ASAR	**Alice Springs**	**123.55**	**208**	PKP	**PKiKP**	**05 57 53.2**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=123,slow=1.6,SNR=8.1						
ASAR	**Alice Springs**	**123.55**	**208**		**PKPdf**	**05 57 52.8**	**-0.7**
H11S2	**WAKE ISLAND Hyd**	**26.32**	**273**	T	T	08 17 27.2	
	baz=112,slow=75,SNR=9.8						
H11S1	**WAKE ISLAND Hyd**	**26.33**	**273**	T	T	08 17 27.7	
	baz=112,slow=75,SNR=8.6						
H11S3	**WAKE ISLAND Hyd**	**26.34**	**273**	T	T	08 17 25.9	
	baz=112,slow=75,SNR=12						
WRA	**Warramunga Arr**	**126.64**	**210**	PKP	**PKiKP**	**05 57 59.6**	**-0.2**
	comp=Z,1.5nm,0.6s,baz=158,slow=1.7,SNR=6.4						
WRA				pPKP	**pPKPdf**	**05 58 16.0**	**+3.2**
	comp=Z,0.6nm,0.6s,baz=162,slow=1.6,SNR=2.4						
WRA	**Warramunga Arr**	**126.64**	**210**		**PKiKP**	**05 57 59.2**	**-0.7**
KURK	**Kurchatov**	**147.53**	**36**	PKPbc	**PKiKP**	**05 58 40.2**	**-1.1**
ZAA0	**Zalesovo Array**	**148.34**	**27**	PKPbc	**PKPbc**	**05 58 41.4**	**+0.1**
ZALV	**Zalesovo Beam**	**148.34**	**27**	PKPbc	**PKiKP**	**05 58 42.0**	**-0.8**
	comp=Z,6.6nm,0.7s,baz=299,slow=3.9,SNR=19						
ZALV				pPKPbc	**pPKPbc**	**05 58 56.5**	**+1.6**
	comp=Z,4.1nm,0.6s,baz=316,slow=3.7,SNR=7.1						
KSH	**Kashi**	**150.36**	**58**	PKPbc	**PKiKP**	**05 58 47.8**	**+0.1**
KDJ	**Kajisay**	**150.50**	**52**		**PKiKP**	**05 58 48.4**	**+0.4**
MAKZ	**Makanchi**	**151.54**	**41**		**PKiKP**	**05 58 49.5**	**-0.3**
MK31	**Makanchi Array**	**151.72**	**40**		**PKiKP**	**05 58 50.0**	**-0.2**
MKAR	**Makanchi Array**	**151.72**	**40**	PKPbc	**PKiKP**	**05 58 50.1**	**0.0**
	comp=Z,3.1nm,0.7s,baz=320,slow=2.1,SNR=36						
MKAR				pPKPbc	**sPKPdf**	**05 59 04.5**	**+2.4**
	comp=Z,2.4nm,0.7s,baz=309,slow=2.2,SNR=11						
MKAR	**Makanchi Array**	**151.72**	**40**		**PKiKP**	**05 58 49.9**	**-0.2**
HHC	**Hu-ho-hao-te**	**166.59**	**351**	*e*PKP	**PKPdf**	**05 58 59.8**	**-1.1**
NJ2	**Nanjing**	**170.18**	**299**	*e*PKP	**PKPdf**	**05 59 05.0**	**+1.6**
LZH	**Lanzhou**	**170.56**	**25**	*e*PKP	**PKPdf**	**05 59 00.5**	**-3.2**
LZH				pPKP	pPKPdf	05 59 11.8	-5.9
LZH				sPKP		05 59 15.0	

*ECX **13** 05:42:10.2±0.5, 27.99N×112.05W, h1km±8km, MD3.2*

MEX 13 05:42:11.0±0.3, 28.01N×112.21W, h8km±5km, MD3.8, 2D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.69**	**183**	↓*i* P	Pg	05 42 22.9	-1.3
SRIG				*e*S	Sg	05 42 32.3	-0.9
SRIG	**Santa Rosalia**	**0.69**	**183**	↓*i* P	Pg	05 42 22.9	-1.4
	baz=2.5,slow=6.9						
SRIG				*i* S	Sg	05 42 32.2	-1.1
HSIG		**1.50**	**47**	*e*P	Pn	05 42 34.5	-3.7
HSIG				*e*S	Sn	05 42 54.2	-3.7
HSIG		**1.50**	**47**	*i* P	Pn	05 42 34.5	-3.7
HSIG				*i* S	Sn	05 42 52.9	-5.0

*NIED **13** 05:50:00, 30.70N×142.10E, h5km, Mw4.9 Best double couple: M0 2.67000×10^16 NP1:φs=350.00000°, δ76.00000°, λ92.00000°. NP2:φs=161.00000°, δ14.00000°, λ81.00000°.*
*BJI **13** 05:50:41.9±0.0, 30.61N×141.99E, h20km, mB4.9/54, mb5.0/77, Ms4.6/65, Ms7 4.4/61*
*IDC **13** 05:50:42.3±0.5, 30.55N×141.93E, h0km, mb4.7/26, mb1 4.8/30, mb1mx4.7/36, mbtmp4.7/30, ML3.7/4, MS4.1/18, Ms1 4.1/18, ms1mx3.9/43, Error ellipse: s-maj=15.0km s-min=12.7km az=76.0*
*JMA **13** 05:50:43.7±0.1, 30.66N×142.12E, h46km, M4.8*
*MOS **13** 05:50:47.3±1.1, 30.65N×141.80E, h42km, mb5.1/51, MS4.0/8, Error ellipse: s-maj=8.1km s-min=4.6km az=110.3*
*UNK **13** 05:50:49.8, 30.70N×141.84E, h47km*
*NEIC **13** 05:50:49.8±2.0, 30.70N±0.05×141.84E±0.08, h47km±5km, mb5.0/174, Error ellipse: s-maj=11.4km s-min=5.4km az=126.0*
ISC 13 05:50:46.1±0.6, 30.65N±0.04×141.90E±0.04, h23km±3km, h23km:pP-P, n478, σ1§48/480, mb5.0/149, MS4.2/34, 15C-13D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**3.00**	**324**	P	**Pn**	**05 51 31.4**	**-0.9**
JHCJ				*e*S	**Sn**	**05 52 07.5**	**0.0**
JHJ2	**Mitsune**	**3.02**	**325**	P	**Pn**	**05 51 32.2**	**-0.3**
JHJ2				*e*S	**Sn**	**05 52 08.1**	**0.0**
JHJ2	**Mitsune**	**3.02**	**325**	Pn	**Pn**	**05 51 32.3**	**-0.3**
JHJ	**Hachijo jima 2**	**3.05**	**324**	Pn	**Pn**	**05 51 32.5**	**-0.4**
	54nm,0.3s,baz=84,slow=22,SNR=21						
JHJ				Sn	**Sn**	**05 52 08.8**	**+0.1**
	149nm,0.3s,baz=90,slow=23,SNR=11						
JHJ				LR	LR	05 52 58.7	
	comp=Z,4μm,18.1s,baz=108,slow=44						
CBIJ	**Chichi jima**	**3.55**	**176**	*e*S	**Sn**	**05 52 17.5**	**-3.6**
JMKN	**Mikurajimanish**	**3.78**	**329**	P	**Pn**	**05 51 42.4**	**-0.5**
JMKN				*e*S	**Sn**	**05 52 24.9**	**-1.7**
JHH2	**Haha-jima-NKT2**	**4.01**	**176**	P	**Pn**	**05 51 44.5**	**-1.6**
BSO1	**Boso 1**	**4.07**	**349**	P	**Pn**	**05 51 45.8**	**-0.6**
BSO1				*e*S	**Sn**	**05 52 31.2**	**-1.8**
BSO3	**Boso 3**	**4.30**	**345**	P	**Pn**	**05 51 49.3**	**-0.6**
BSO3				*e*S	**Sn**	**05 52 38.5**	**-0.6**
JOD2	**Odawara 2**	**5.17**	**334**	P	**Pn**	**05 52 01.8**	**-0.3**
JOD2				*e*S	**Sn**	**05 52 59.9**	**-1.1**
TTO1	**TONANKAI O.B.S**	**5.25**	**306**	P	**Pn**	**05 52 05.1**	**+2.2**
JHU	**Hanno**	**5.63**	**338**	P	**Pn**	**05 52 08.1**	**-0.3**
JHU				*e*S	**Sn**	**05 53 09.5**	**-2.8**
JIE	**Ise**	**5.76**	**312**	P	**Pn**	**05 52 12.0**	**+1.9**
JNY	**Yasuok**	**5.79**	**325**	P	**Pn**	**05 52 12.0**	**+1.4**
JRY	**Ryogami san**	**5.91**	**336**	*e*S	**Sn**	**05 53 18.1**	**-1.1**
INU	**Inuyama**	**6.22**	**320**	Pn	**Pn**	**05 52 18.5**	**+1.9**
MJAR	**Matsushiro Arr**	**6.63**	**333**	Pn	**Pn**	**05 52 23.6**	**+1.4**
	2.3nm,0.3s,baz=156,slow=11,SNR=159						
MJAR				Sn	**Sn**	**05 53 38.4**	**+1.4**
	1.2nm,0.3s,baz=163,slow=20,SNR=6.6						
MJAR		

NACB IAmb IAmb 05 55 09.1
comp=Z,63nm,0.7s
YULB Yu-li 19.71 253 P **P** **05 55 13.9 -0.1**
YULB IAmb IAmb 05 55 15.5
comp=Z,73nm,0.7s
NJ2 Nanjing 19.73 280 *e*P **P** **05 55 14.3 +0.2**
NJ2 sP **pP** **05 55 21.4 +2.0**
NJ2 S **S** **05 58 53.6 -1.7**
NJ2 pmax pmax
comp=Z,39nm,0.9s
NJ2 LR LR
comp=Z,470nm,11.4s
NJ2 LR LR
comp=Z,1μm,12.3s
NJ2 LR LR
comp=Z,1μm,14.7s
SSLB Suanglung 19.83 255 P **Pn** **05 55 16.4 -0.5**
TWG Pinlang 20.15 252 P **P** **05 55 19.3 +0.5**
TYV Tymovskoe 20.20 1 *e*P Pn 05 55 20.5 -0.6
TYV *e*S Sn 05 59 09.8 +2.1
TYV pmax pmax
comp=Z,100nm,3.0s
TYV pmax pmax
comp=Z,14nm,1.1s
TYV smax smax
comp=E,300nm,4.3s
TYV smax smax
comp=E,15nm,2.2s
TYV MLR MLR
comp=Z,300nm,14.0s
TPUB Ta-pu 20.30 254 P Pn 05 55 22.0 -0.5
GRNR Gornyy 20.51 350⇑ *i*P Pn 05 55 23.6 -1.1
GRNR *e* 05 55 56.7
GRNR *e*S Sn 05 59 15.9 +0.7
GRNR *e*SS SnSn 05 59 51.5 +21
GRNR pmax pmax
comp=N,8.0nm,0.5s
GRNR pmax pmax
comp=Z,7.0nm,0.7s
GRNR smax smax
comp=N,10.0nm,1.0s
QZH Quanzhou 21.37 260⇓ *i*P P 05 55 40.0 +8.1
QZH S S 05 59 17.5 -11
QZH LR LR
comp=N,830nm,15.6s
QZH LR LR
comp=E,790nm,15.6s
QZH LR LR
comp=Z,1μm,16.1s
KNMB Chin-men Tao 21.72 259 P **P** **05 55 35.8 +0.1**
KNMB IAmb IAmb 05 56 09.8
comp=Z,58nm,0.9s
BJT Baijiatuau 22.91 301 IAmb IAmb 05 55 47.9
comp=Z,31nm,0.7s
BJI Beijing 22.91 301 P **P** **05 55 46.3 -2.0**
BJI pP **pP** **05 55 53.1 -0.3**
BJI sP **sP** **05 55 57.4 +1.5**
BJI S **S** **05 59 58.0 +1.1**
BJI pmax pmax
comp=Z,41nm,0.7s
BJI LR LR
comp=Z,380nm,14.9s
BJI LR LR
comp=Z,1μm,17.1s
WHN Wuhan 23.69 277⇓ *i*P **P** **05 55 57.4 +1.2**
WHN pmax pmax
comp=Z,76nm,0.8s
WHN LR LR
comp=Z,970nm,12.8s
WHN LR LR
comp=Z,2μm,12.8s
WHN LR LR
comp=Z,3μm,19.1s
HIA Hailar 25.02 324 P **P** **05 56 08.4 +0.1**
HIA pmax pmax
comp=Z,77nm,1.0s
HIA Hailar 25.02 324 P **P** **05 56 08.3 +0.1**
H11N2 WAKE ISLAND Hy 25.04 110 T T 06 22 19.6
baz=303,slow=74,SNR=9.8
H11N1 WAKE ISLAND Hy 25.05 110 T T 06 22 38.4
baz=303,slow=74,SNR=6.7
H11N3 WAKE ISLAND Hy 25.06 110 T T 06 22 30.9
baz=303,slow=74,SNR=8.6
PETK Petropavlovsk- 25.22 23 P **P** **05 56 10.8 +0.8**
comp=Z,2.5nm,0.9s,baz=178,slow=7.2,SNR=2.8
PETK LR LR 06 09 42.2
comp=Z,161nm,18.0s,baz=238,slow=45
PETK Petropavlovsk- 25.22 23 P **P** **05 56 13.9 +3.9**
PETK Petropavlovsk- 25.22 23 P **P** **05 56 13.9 +3.9**
TIY Taiyuan 25.30 294 *e*P **P** **05 56 10.8 -0.2**
TIY pmax pmax
comp=Z,42nm,0.8s
TIY pmax pmax
comp=Z,240nm,4.1s
TIY LR LR
comp=Z,230nm,13.9s
TIY LR LR
comp=Z,820nm,15.4s
TIY LR LR
comp=Z,1μm,17.1s
TGY Tagaytay City 25.36 234 LR LR 06 06 00.8
comp=Z,394nm,18.7s,baz=167,slow=36
ZEA Zeya 25.39 339 *e*P **P** **05 56 12.0 +0.5**
ZEA *e* 06 01 47.0
ZEA pmax pmax
comp=N,110nm,1.0s
ZEA pmax pmax
comp=E,35nm,1.0s
ZEA pmax pmax
comp=Z,170nm,1.0s
ZEA pmax pmax
comp=Z,200nm,2.0s
ZEA MLR MLR
comp=Z,800nm,16.0s
ZEA MLR MLR
comp=E,400nm,12.0s
ZEA MLR MLR
comp=N,500nm,14.0s
PET Petropavlovsk 25.48 24 *e*P **P** **05 56 12.4 +0.1**
PET *e*S **S** **06 00 36.1 -1.9**
PET pmax pmax
comp=Z,100nm,14.0s
PET MLR MLR
comp=Z,300nm,18.0s
H11S3 WAKE ISLAND Hy 25.52 113 T T 06 23 22.2
baz=302,slow=74
H11S1 WAKE ISLAND Hy 25.53 113 T T 06 23 39.1
baz=302
H11S2 WAKE ISLAND Hy 25.54 113 T T 06 23 01.5
baz=302,slow=74
HKPS Hong Kong Po S 26.16 258 P **P** **05 56 20.7 +1.9**
HHC Hu-ho-hao-te 26.52 301 *e*P **P** **05 56 21.4 -0.7**
HHC pP pP 05 56 28.0 +0.4
HHC pmax pmax
comp=Z,20nm,1.2s
HHC pmax pmax
comp=Z,83nm,6.6s
HHC LR LR
comp=Z,320nm,15.2s
HHC LR LR
comp=Z,1μm,16.2s
HHC LR LR
comp=Z,1μm,16.9s
BTO Baotou 27.62 300 *e*P **P** **05 56 32.3 +0.4**
ENH Enshi 27.89 278 IAmb IAmb 05 56 34.7
comp=Z,26nm,0.7s
XAN Xi'an 28.00 286 P **P** **05 56 33.6 -1.7**
XAN pP pP 05 56 41.3 +0.5
XAN PP **PnPn** **05 57 21.3 -1.4**
XAN PcP **PcP** **05 59 51.3 +1.3**
XAN S **S** **06 01 15.5 -2.8**
XAN ScS **ScS** **06 07 20.1 -1.9**
XAN pmax pmax
comp=Z,46nm,1.0s
XAN pmax pmax
comp=Z,230nm,4.1s
XAN LR LR
comp=Z,480nm,13.3s
XAN LR LR
comp=Z,620nm,13.3s
XAN LR LR
comp=Z,440nm,15.7s
DAV Davao City (W) 28.01 216 LR LR 06 07 37.8
comp=Z,263nm,19.6s,baz=26,slow=36
GYA Guiyang 31.15 271⇑ *i*P **P** **05 57 01.5 -1.9**
GYA PP **PnPn** **05 58 05.3 0.0**
GYA SS SS 06 03 52.1 -29
GYA pmax pmax
comp=Z,10.0nm,0.6s
GYA pmax pmax
comp=Z,290nm,4.2s
GYA LR LR
comp=Z,370nm,4.1s
GYA LR LR
comp=Z,560nm,4.4s
GYA LR LR
comp=Z,480nm,16.6s
QIZ Qiongzhong 31.20 256 P **P** **05 57 02.3 -1.4**
QIZ S **S** **06 02 08.6 -0.1**
QIZ LR LR
comp=Z,220nm,17.1s
QIZ LR LR
comp=Z,450nm,17.8s
QIZ LR LR
comp=Z,430nm,17.3s
ULN Ulaanbaatar 31.65 313 P **P** **05 57 08.8 +1.2**
ULN pmax pmax
comp=Z,27nm,1.0s
ULN Ulaanbaatar 31.65 313 P **P** **05 57 08.8 +1.2**
ULN IAmb IAmb 05 57 12.7
comp=Z,27nm,0.9s
SONM Songino Array 32.05 313 P **P** **05 57 11.7 +0.6**
comp=Z,14nm,0.8s,baz=128,slow=8.5,SNR=35
SONM PcP **PcP** **06 00 01.1 +0.8**
comp=Z,3.3nm,1.1s,baz=156,slow=3.5,SNR=4.6
SONM LR LR 06 10 48.8
comp=Z,369nm,19.3s,baz=92,slow=38
SONM Songino Array 32.05 313 P **P** **05 57 12.4 +1.2**
SONM pmax pmax
comp=Z,12nm,0.8s
SONM Songino Array 32.05 313 P **P** **05 57 12.4 +1.2**
LZH Lanzhou 32.10 290⇑ P **P** **05 57 11.0 -0.7**
LZH pP sP 05 57 19.6 0.0
LZH sP pwP 05 57 23.8 +0.2
LZH pmax pmax
comp=Z,27nm,1.4s
LZH pmax pmax
comp=Z,100nm,4.9s
LZH LR LR
comp=Z,460nm,15.7s
LZH LR LR
comp=Z,670nm,15.7s
LZH LR LR
comp=Z,640nm,16.6s
KWAJ Kwajalein Atol 32.38 127 P **P** **05 57 14.7 +0.6**
KWAJ pmax pmax
comp=Z,223nm,1.0s
KWAJ Kwajalein Atol 32.38 127 P **P** **05 57 14.7 +0.6**
YAK Yakutsk 32.39 349 P **P** **05 57 13.5 -0.2**
comp=Z,10nm,0.4s,baz=171,slow=0.7,SNR=1.4
YAK Yakutsk 32.39 349 *e*P **P** **05 57 14.0 +0.3**
YAK *e**PP **pwP** **05 57 25.2 -1.0**
YAK *e* 05 58 22.5
YAK *e*PPP PPP 05 58 43.2
YAK *e* 06 00 08.2
YAK *e*S **S** **06 02 26.6 +0.2**
YAK *e**SS sS 06 02 49.1 +14
YAK pmax pmax
comp=Z,29nm,1.3s
YAK pmax pmax
comp=N,17nm,1.3s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=Z,91nm,3.5s
YAK pmax pmax
comp=N,92nm,4.2s
YAK pmax pmax
comp=E,63nm,3.1s
YAK smax smax
comp=E,56nm,3.0s
YAK smax smax
comp=N,59nm,2.7s
YAK MLR MLR
comp=Z,260nm,19.0s
YAK MLR MLR
comp=N,288nm,18.0s
YAK MLR MLR
comp=E,149nm,20.0s
YAK Yakutsk 32.39 349 IAmb IAmb 05 57 17.7
comp=Z,26nm,0.6s
CD2 Chengdu 32.66 280 P **P** **05 57 14.9 -1.7**
CD2 S **S** **06 02 29.4 -2.1**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,210nm,4.5s
CD2 LR LR
comp=Z,920nm,17.1s
CD2 LR LR
comp=Z,1μm,19.4s
CD2 LR LR
comp=Z,1μm,19.0s
BOD Bodaibo 33.27 333 *e*P **P** **05 57 22.1 +0.7**
BOD pmax pmax
comp=Z,20nm,1.4s
ZAK Zakamensk 34.84 316 *e*P **P** **05 57 35.6 +0.3**
ZAK pmax pmax
comp=Z,25nm,1.4s
KMI Kunming 34.92 271 P **P** **05 57 37.4 +0.9**
KMI pP pP 05 57 44.1 +2.1
KMI sP sP 05 57 47.8 +3.3
KMI pmax pmax
comp=Z,11nm,0.7s
KMI pmax pmax
comp=Z,120nm,5.9s
KMI LR LR
comp=Z,230nm,16.5s
KMI LR LR
comp=Z,390nm,16.7s
KMI LR LR
comp=Z,280nm,20.6s
IRK Irkutsk 34.94 319 *e*P **P** **05 57 36.6 +0.5**
IRK pmax pmax
comp=Z,83nm,1.9s
TLY Talaya 35.09 318 P **P** **05 57 39.0 +1.6**
comp=Z,35nm,0.8s,baz=129,slow=6.3,SNR=15
TLY LR LR 06 12 34.9
comp=Z,546nm,18.9s,baz=116,slow=37
TLY Talaya 35.09 318*c i*P **P** **05 57 38.6 +1.2**
TLY pmax pmax
comp=Z,110nm,0.9s
TLY MLR MLR
comp=Z,2μm,17.0s
TLY Talaya 35.09 318 P **P** **05 57 38.6 +1.2**
GTA Gaotai 35.29 296 *e*P **P** **05 57 38.3 -1.1**
GTA pP pP 05 57 45.4 +0.4
GTA sP sP 05 57 49.3 +1.9
GTA pmax pmax
comp=Z,21nm,1.0s
GTA pmax pmax
comp=Z,100nm,6.5s
GTA LR LR
comp=Z,380nm,16.5s
GTA LR LR
comp=Z,810nm,16.5s
GTA LR LR
comp=Z,1μm,17.2s
MOY Mondy 36.63 317 *e*P **P** **05 57 51.7 +1.0**
MOY pmax pmax
comp=Z,37nm,1.8s
BILL Bilibino 40.07 14*ce*P **P** **05 58 20.1 +0.9**
BILL *e* 05 59 51.0
BILL *e*S **S** **06 04 28.2 +4.6**
BILL pmax pmax
comp=Z,21nm,2.5s
BILL MLR MLR
comp=Z,328nm,19.0s
BILL Bilibino 40.07 14 **P** **05 58 18.8 -0.5**
BILL IAmb IAmb 05 58 32.7
comp=Z,18nm,1.2s
CM31 Chiang Mai Arr 40.68 263 P **P** **05 58 24.5 -0.5**
CMAR Chiang Mai Arr 40.68 263 P **P** **05 58 24.1 -0.9**
comp=Z,5.3nm,0.8s,baz=56,slow=6.5,SNR=25
CMAR PcP **PcP** **06 00 27.4 +0.9**
comp=Z,5.5nm,0.9s,baz=58,slow=1.4,SNR=10
CMAR LR LR 06 16 23.5
comp=Z,458nm,19.1s,baz=112,slow=38
KAPI Kappang 41.31 215 P **P** **05 58 30.4 +0.4**
KAPI pmax pmax
comp=Z,30nm,1.1s
KAPI Kappang 41.31 215 P **P** **05 58 30.4 +0.4**
KAPI IAmb IAmb 05 58 53.0
comp=Z,30nm,1.1s
TIXI Tiksi 41.66 354⇑ *e*P **P** **05 58 33.0 +0.7**
TIXI pmax pmax
comp=Z,3.0nm,0.6s
TIXI Tiksi 41.66 354 P **P** **05 58 31.5 -0.8**
KSM Kuching 41.69 232 P **P** **05 58 32.9 -0.3**
KSM IAmb IAmb 05 58 48.6
comp=Z,60nm,1.8s
SOEI Soe 43.60 206 P **P** **05 58 48.0 -0.8**
SOEI IAmb IAmb 05 59 02.0
comp=Z,37nm,0.9s
SHL Shillong 44.12 276 P **P** **05 58 52.3 -0.8**
SHL pmax pmax
comp=Z,11nm,0.5s
SHL Shillong 44.12 276 P **P** **05 58 52.3 -0.8**
SHL IAmb IAmb 05 58 54.4
comp=Z,11nm,0.5s
WMQ Urumqi 44.37 303 *e*P **P** **05 58 55.9 +1.2**
WMQ sP pwP 05 59 07.8 +1.3
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ pmax pmax
comp=Z,86nm,3.7s
WMQ LR LR
comp=Z,550nm,28.9s
WMQ LR LR
comp=Z,380nm,29.1s
WMQ LR LR
comp=Z,270nm,24.7s
COEN Coen 44.37 178 P **P** **05 58 55.4 +0.6**
MTN Manton Dam 44.47 195 P **P** **05 58 54.6 -1.0**
MTN IAmb IAmb 05 58 55.0
comp=Z,27nm,0.8s
DGZ Jazzator, Alta 44.68 311*c i*P **P** **05 58 58.1 +0.8**
DGZ pmax pmax
comp=Z,57nm,0.9s
KULM Kulim 46.24 245 P **P** **05 59 10.4 +0.6**
KULM IAmb IAmb 05 59 11.4
comp=Z,17nm,1.0s
ZALV Zalesovo Beam 46.68 317 P **P** **05 59 12.9 +0.1**
comp=Z,9.3nm,0.8s,baz=100,slow=6.0,SNR=9.4
ZALV PcP **PcP** **06 00 46.0 -0.1**
comp=Z,6.8nm,0.8s,baz=104,slow=3.4,SNR=4.9
ZALV Zalesovo Beam 46.68 317 *i* P **P** **05 59 15.5 +2.7**
ZALV pmax pmax
comp=Z,9.0nm,0.8s
ODAN Odare 47.55 280 *e*P **P** **05 59 19.3 -0.9**
comp=Z,27nm,0.7s
MK31 Makanchi Array 48.08 307 P **P** **05 59 24.8 +1.0**
MK31 pmax pmax
comp=Z,15nm,0.8s
MK31 Makanchi Array 48.08 307 P **P** **05 59 24.8 +1.0**
MK31 IAmb IAmb 05 59 25.1
comp=Z,15nm,0.8s
MKAR Makanchi Array 48.08 307 P **P** **05 59 24.2 +0.4**
comp=Z,12nm,0.7s,baz=92,slow=10,SNR=57
MKAR Makanchi Array 48.08 307 P **P** **05 59 24.6 +0.8**
MKAR Makanchi Array 48.08 307 P **P** **05 59 24.6 +0.8**
RAMN Ramite 48.19 280 *e*P **P** **05 59 23.6 -1.6**
comp=Z,35nm,0.7s
MAKZ Makanchi 48.29 307 P **P** **05 59 26.3 +0.8**
MAKZ pmax pmax
comp=Z,80nm,1.7s
MAKZ Makanchi 48.29 307 P **P** **05 59 26.3 +0.8**
JIRN Jiri 48.32 281 *e*P **P** **05 59 25.3 -1.1**
comp=Z,37nm,0.6s
PKI Pulchoki 49.01 281 *e*P **P** **05 59 30.0 -1.6**
comp=Z,17nm,0.7s
PKIN Phulchoki 49.02 281 *e*P **P** **05 59 30.4 -1.2**
comp=Z,16nm,0.6s
KKN Kakani 49.05 282 *e*P **P** **05 59 30.7 -1.1**
NRIK Noril'sk 49.27 338 P **P** **05 59 33.0 +0.5**
comp=Z,14nm,0.9s,baz=115,slow=7.8,SNR=20
NRIK Noril'sk 49.27 338 *i* P **P** **05 59 32.6 +0.1**
NRIK pmax pmax
comp=Z,22nm,1.1s
GKN Gorkha 49.53 282 *e*P **P** **05 59 34.2 -1.2**
DANN Dangsing 50.16 283 *e*P **P** **05 59 39.4 -1.0**
comp=Z,18nm,0.5s
KURK Kurchatov 50.36 312*c i*P **P** **05 59 40.7 -0.5**
KURK pmax pmax
comp=Z,69nm,1.3s
KURK Kurchatov 50.36 312 P **P** **05 59 41.6 +0.4**
KOLN Koldanda 50.48 282 *e*P **P** **05 59 40.7 -1.9**
comp=Z,25nm,0.8s
TTA Tatalina 50.53 32 P **P** **05 59 43.4 +1.0**
TTA pmax pmax
comp=Z,12nm,1.4s
TTA Tatalina 50.53 32 P **P** **05 59 43.4 +1.0**
WB0 Warramunga Arr 50.65 189 P **P** **05 59 42.5 -1.1**
WR0 Warramunga Arr 50.81 189 P **P** **05 59 43.7 -1.1**
WB2 Warramunga Arr 50.82 189 P **P** **05 59 44.0 -0.9**
WRA Warramunga Arr 50.83 189 P **P** **05 59 43.8 -1.1**
comp=Z,28nm,0.8s,baz=8.8,slow=8.1,SNR=63
WRA LR LR 06 21 39.6
comp=Z,108nm,18.9s,baz=330,slow=37
WRA Warramunga Arr 50.83 189 P **P** **05 59 43.3 -1.7**
PYUN Piuthan 50.89 283 *e*P **P** **05 59 44.8 -0.9**
comp=Z,28nm,0.6s
FITZ Fitzroy Crossi 50.93 200 P **P** **05 59 45.2 -0.5**
KDAK Kodiak Island 51.71 38 P **P** **05 59 51.1 0.0**
comp=Z,4.7nm,0.6s,baz=247,slow=6.9,SNR=4.4
KDAK Kodiak Island 51.71 38 P P 05 59 54.3 +3.2
KDAK pmax pmax
comp=Z,68nm,1.7s
KDAK Kodiak Island 51.71 38 P P 05 59 54.3 +3.2
TARG Taragay, Kyrgy 51.81 301 P **P** **05 59 53.2 +0.5**
TARG IAmb IAmb 05 59 55.4
comp=Z,22nm,0.9s
IMAR Indian Mountai 52.01 28 P **P** **05 59 54.4 +1.1**
KDJ Kajisay 52.21 302 IAmb IAmb 05 59 57.2
comp=Z,13nm,0.8s
PPLA Purkeypile 52.26 32 P **P** **05 59 56.8 +1.4**
PPLA IAmb IAmb 06 00 13.3
comp=Z,30nm,1.3s
ULHL Ulahol 52.88 302 P **P** **06 00 01.1 +0.8**
SNR=13
BPAW Bear Paw Mtn. 52.92 30 P **P** **06 00 02.3 +2.2**
BOOM Boomskoye usch 53.05 302 IAmb IAmb 06 00 03.6
comp=Z,13nm,0.8s
TRF Thorofare Moun 53.17 31 P P 06 00 06.7 +4.5
TKM2 Tokmak 2 53.23 303 P **P** **06 00 04.1 +1.1**
SNR=14
KSH Kashi 53.60 299 P **P** **06 00 09.6 +4.0**
KSH S **S** **06 07 40.1 +2.2**
KSH pmax pmax
comp=Z,83nm,0.8s
KSH pmax pmax
comp=Z,340nm,5.1s
PMR Palmer 53.60 34 P **P** **06 00 05.0 -0.1**
PMR pmax pmax
comp=Z,7.0nm,0.8s
PMR Palmer 53.60 34 P **P** **06 00 05.0 -0.1**
PMR IAmb IAmb 06 00 18.5
comp=Z,7.0nm,0.8s
KZA Kyzart 53.63 302 P **P** **06 00 07.9 +1.7**
SNR=16
GHO Glory Hole Cre 53.71 33 P **P** **06 00 06.0 0.0**
GHO IAmb IAmb 06 00 27.2
comp=Z,8.9nm,0.9s
KBK Karagaybulak 53.74 303 P **P** **06 00 07.4 +0.7**
SNR=17
MCK McKinley 53.80 31 P **P** **06 00 06.7 +0.2**
MCK pmax pmax
comp=Z,11nm,1.0s
MCK McKinley 53.80 31 P **P** **06 00 06.7 +0.2**
MCK IAmb IAmb 06 00 19.9
comp=Z,11nm,1.0s
RND Reindeer 53.81 31 P **P** **06 00 06.0 -0.7**
RND pmax pmax
comp=Z,8.0nm,0.7s
RND Reindeer 53.81 31 P **P** **06 00 06.0 -0.7**
RND IAmb IAmb 06 00 20.2
comp=Z,7.7nm,0.7s
KNK Knik Glacier 53.92 34 P **P** **06 00 09.1 +1.6**
KNK IAmb IAmb 06 00 28.2
comp=Z,20nm,1.1s
USP Ospenovka 53.96 303 P **P** **06 00 08.8 +0.7**
SNR=9.2
SML Sawmill 53.99 33 P **P** **06 00 10.8 +2.7**
SML Sawmill 53.99 33 P **P** **06 00 10.8 +2.7**
SML IAmb IAmb 06 00 22.3
comp=Z,13nm,0.8s
TOLK Toolik Lake Re 54.02 25 P **P** **06 00 08.8 +0.7**
baz=262

TOLK **Toolik Lake Re** 54.02 25 P P 06 00 09.1 +0.9
AAK **Ala-Archa** 54.08 303 P P 06 00 09.8 +0.7
SNR=9.8
AAK **Ala-Archa** 54.08 303 *i* P P 06 00 09.3 +0.1
SNR=11
AAK **Ala-Archa** 54.08 303 *c i* P P 06 00 09.2 +0.1
AAK pmax pmax
comp=Z,23nm,1.3s
AAK **Ala-Archa** 54.08 303 P P 06 00 09.4 +0.3
AAK lAmb lAmb 06 00 11.4
comp=Z,13nm,0.8s
UCH **Uchtor** 54.14 302 P P 06 00 10.8 +0.8
SNR=21
MDM **Murphy Dome** 54.18 30 P P 06 00 12.3 +3.0
WRH **Wood River Hil** 54.21 30 P P 06 00 12.8 +3.3
COLA **College** 54.33 30 ‖ *eP* P 06 00 12.2 +1.8
COLA pmax pmax
comp=Z,5.0nm,0.9s
COLA **College** 54.33 30 P P 06 00 14.0 +3.6
COLA lAmb lAmb 06 00 21.9
comp=Z,7.8nm,0.9s
CCB **Clear Creek Bu** 54.34 30 P P 06 00 11.3 +0.8
SCM **Sheep Creek Mo** 54.47 33 lAmb lAmb 06 00 25.7
comp=Z,17nm,0.7s
AS31 **Alice Springs** 54.55 189 P P 06 00 10.2 -2.2
ASAR **Alice Springs** 54.55 189 P P 06 00 11.4 -1.1
comp=Z,10.0nm,0.9s,baz=11,slow=7.1,SNR=56
ASAR LR LR 06 22 28.1
comp=Z,122nm,21.7s,baz=8.5,slow=35
ASAR **Alice Springs** 54.55 189 P P 06 00 11.2 -1.2
EKS2 **Erkin-Say** 54.59 303 P P 06 00 13.2 +0.3
SNR=8.3
HDA **Harding Lake** 54.70 30 P P 06 00 13.4 +0.3
baz=268
HDA **Harding Lake** 54.70 30 P P 06 00 15.1 +2.0
HDA lAmb lAmb 06 00 29.2
comp=Z,7.7nm,0.6s
IL31 54.74 30 P P 06 00 13.8 +0.4
IL31 lAmb lAmb 06 00 26.8
comp=Z,6.8nm,0.7s
ILAR **Eielson Array** 54.74 30 P P 06 00 13.1 -0.3
comp=Z,3.5nm,0.8s,baz=266,slow=5.9,SNR=16
ILAR LR LR 06 26 43.7
comp=Z,52nm,18.5s,baz=294,slow=39
ILAR **Eielson Array** 54.74 30 P P 06 00 12.6 -0.8
AML **Almayashu** 54.76 302 P P 06 00 15.2 +0.9
SNR=30
BRVK **Borovoye** 55.35 316 *c i* P P 06 00 18.2 +0.2
BRVK pmax pmax
comp=Z,16nm,1.3s
BRVK **Borovoye** 55.35 316 P P 06 00 18.0 0.0
BRVK lAmb lAmb 06 00 22.7
comp=Z,9.1nm,0.8s
HARP **HAARP** 55.48 33 P P 06 00 22.3 +3.5
HARP lAmb lAmb 06 00 33.3
comp=Z,18nm,0.9s
FYU **Fort Yukon** 55.50 28 P P 06 00 21.8 +3.1
FYU lAmb lAmb 06 00 34.6
comp=Z,36nm,1.4s
RIDG **Independent Ri** 55.61 31 P P 06 00 22.0 +2.2
RIDG lAmb lAmb 06 00 35.0
comp=Z,14nm,1.3s
BMAR **Burnt Mountain** 55.78 27 P P 06 00 23.1 +2.2
DOT **Dot Lake** 55.96 31 P P 06 00 24.8 +2.5
SCRK **Sand Creek** 55.99 31 P P 06 00 25.0 +2.4
SCRK lAmb lAmb 06 00 41.8
comp=Z,14nm,1.3s
MENT **Mentasta** 56.14 32 P P 06 00 27.4 +3.9
MENT lAmb lAmb 06 00 44.4
comp=Z,10nm,1.0s
GLB **Gilahina Butte** 56.15 34 P P 06 00 27.2 +3.6
VRDI **Verde Repeater** 56.34 34 P P 06 00 29.0 +3.8
VRDI lAmb lAmb 06 00 51.2
comp=Z,22nm,1.7s
KK31 **Karatay Array** 56.85 304 P P 06 00 29.0 +0.1
KK31 pmax pmax
comp=Z,25nm,0.7s
KK31 **Karatay Array** 56.85 304 P P 06 00 29.0 +0.1
KKAR **Karatay Array** 56.85 304 P P 06 00 29.1 +0.2
KKAR **Karatay Array** 56.85 304 P P 06 00 29.1 +0.2
KKAR **Karatay Array** 56.85 304 P P 06 00 29.0 +0.2
KKAR lAmb lAmb 06 00 30.4
comp=Z,25nm,0.7s
BCAR **Beaver Creek A** 57.01 32 P P 06 00 30.1 +0.4
EGAK **Eagle** 57.20 30 P P 06 00 34.8 +3.9
EGAK lAmb lAmb 06 00 46.9
comp=Z,5.3nm,0.6s
NIL **Nilore** 57.21 292 P P 06 00 32.6 +1.0
NIL **Nilore** 57.21 292 P P 06 00 32.0 +0.4
NIL pmax pmax
comp=Z,59nm,0.9s
NIL **Nilore** 57.21 292 P P 06 00 32.0 +0.4
BTK **Batken** 57.34 300 lAmb lAmb 06 00 34.5
comp=Z,25nm,1.1s
DZM **Mont Dzumac** 57.48 153 *eP* P 06 00 39.9 +6.4
comp=Z,43nm,1.1s
DZM **Mont Dzumac** 57.48 153 *e*LR LR 06 17 22.0
comp=Z,161nm,25.4s
GAR **Garm** 57.99 299 P P 06 00 37.6 +0.5
TAS **Tashkent** 58.15 302 P P 06 00 39.2 +1.2
TAS pmax pmax
comp=Z,128nm,0.3s
TAS **Tashkent** 58.15 302 P P 06 00 39.2 +1.2
EPYK **Eagle Plains** 58.92 28 P P 06 00 44.0 +1.0
baz=276
EPYK **Eagle Plains** 58.92 28 P P 06 00 44.9 +1.9
EPYK lAmb lAmb 06 00 57.4
comp=Z,15nm,0.8s
CHGR **Chuyangaron** 58.95 299 P P 06 00 44.0 +0.2
INK **Inuvik** 59.92 25 P P 06 00 50.7 +0.8
comp=Z,4.6nm,0.9s,baz=283,slow=6.3,SNR=7.2
INK **Inuvik** 59.92 25 P P 06 00 51.2 +1.4
INK pmax pmax
comp=Z,5.0nm,0.8s
INK **Inuvik** 59.92 25 P P 06 00 51.2 +1.4
KBL **Kabul** 60.26 295 P P 06 00 53.1 0.0
SNR=14
KBL **Kabul** 60.26 295 P P 06 00 52.4 -0.7
KBL pmax pmax
comp=Z,34nm,0.9s
KBL **Kabul** 60.26 295 P P 06 00 52.4 -0.7
SVE **Sverdlovsk** 60.28 321 *de* P P 06 00 53.3 +0.8
SVE pmax pmax
comp=Z,60nm,1.0s
ARU **Arti** 61.49 321 *c i* P P 06 01 01.0 +0.3
ARU pmax pmax
comp=Z,66nm,0.9s
ARU **Arti** 61.49 321 P P 06 01 00.7 0.0
PALK **Pallekele** 61.59 261 *i* P P 06 00 52.9 -9.2
SNR=41
A36M **Sachs Harbour** 62.05 21 P P 06 01 04.6 +0.3
baz=283
STKA **Stephens Creek** 62.19 180 P P 06 01 04.2 -1.5
comp=Z,6.1nm,0.8s,baz=347,slow=7.5,SNR=7.5
STKA **Stephens Creek** 62.19 180 P P 06 01 06.8 +1.2
STKA pmax pmax
comp=Z,2.0nm,0.9s
STKA **Stephens Creek** 62.19 180 P P 06 01 06.8 +1.2
ABKAR **Akbulak array** 62.47 313 P P 06 01 07.5 0.0
HRA **Herat** 65.59 297 P P 06 01 29.3 +0.8
KIRV **Kirov** 65.63 325 *i* P P 06 01 28.6 +0.6
KBS **Kingsbay** 67.00 351 *de* P P 06 01 35.7 -0.8
KBS **Kingsbay** 67.00 351 P P 06 01 36.6 0.0
KBS lAmb lAmb 06 01 38.7
comp=Z,17nm,1.1s
GEYT **Alibeck** 67.40 302 P P 06 01 40.7 +0.9
comp=Z,18nm,0.8s,baz=58,slow=3.7,SNR=25
GEYT **Alibeck** 67.40 302 P P 06 01 40.4 +0.6
GYA0B **ALIBECK ARRAY** 67.40 302 P P 06 01 40.3 +0.5
NWAO **Narrogin (SRO)** 67.41 202 P P 06 01 39.1 -0.6
NWAO pmax pmax
comp=Z,25nm,0.8s
NWAO **Narrogin (SRO)** 67.41 202 P P 06 01 39.0 -0.6
NWAO **Narrogin (SRO)** 67.41 202 P P 06 01 39.0 -0.6
NWAO lAmb lAmb 06 01 40.0
comp=Z,21nm,0.8s
NOR **Nord** 67.43 357 *i* P P 06 01 40.1 +0.9
NOR **Nord** 67.43 357 *e* P P 06 01 40.1 +0.9
TMCR **Tamitsa** 68.56 333 *e* P P 06 01 45.8 -0.7
TMCR pmax pmax
comp=Z,20nm,0.7s
RES **Resolute Bay** 68.68 14 P P 06 01 47.2 +0.1
RES pmax pmax
comp=Z,8.0nm,1.1s
RES **Resolute Bay** 68.68 14 P P 06 01 47.2 +0.1

YKA **Yellowknife Ar** 69.15 29 P P 06 01 50.0 -0.2
comp=Z,5.7nm,1.1s,baz=290,slow=5.7,SNR=12
KLMR **Klimovskoe** 69.40 329 *e* P P 06 01 49.6 -2.2
KLMR *e* 06 04 21.1
KLMR pmax pmax
comp=Z,37nm,1.4s
KLMR **Klimovskoe** 69.40 329 *e* P P 06 01 49.6 -2.2
KLMR AMP 06 01 53.2
comp=Z,37nm,1.4s
KLMR *e* PP PP 06 04 21.1 -3.7
ARCES **ARCESS Array B** 70.11 340 P P 06 01 56.3 +0.2
comp=Z,6.6nm,0.8s,baz=56,slow=8.9,SNR=11
ARCES **ARCESS Array B** 70.11 340 P P 06 01 56.5 +0.4
ARCES **ARCESS Array B** 70.11 340 P P 06 01 56.5 +0.4
DAG **Danmarks Havn** 72.15 355 ⇑ *i* P P 06 02 08.7 +0.4
DAG pmax pmax
comp=Z,7.6nm,1.0s
DAG **Danmarks Havn** 72.15 355 ⇑ *i* P P 06 02 08.7 +0.4
DAG pmax pmax
comp=Z,8.0nm,1.0s
VRH **Novokhopyorsk** 72.63 320 *eP* P 06 02 10.5 -1.1
VRH pmax pmax
comp=Z,20nm,0.8s
MOS **Moscow** 72.65 325 *eP* P 06 02 09.3 -2.3
MOS *e* 06 02 23.5
MOS pmax pmax
comp=Z,46nm,0.9s
WBK **Wadi Bani Khal** 73.03 287 P P 06 02 15.2 +0.7
WSAR **Wadi Sarin** 73.03 287 P P 06 02 15.9 +1.4
B08A **Colville Reser** 73.12 44 P P 06 02 14.8 +0.2
I04A **Tendick Farm,** 73.26 49 P P 06 02 16.0 +0.4
baz=297
BIDO **Bidbid** 73.31 288 P P 06 02 17.5 +1.4
OBN **Obninsk** 73.48 325 ‖ *iP* P 06 02 17.2 +0.7
OBN *e* 06 02 35.4
OBN *e* 06 05 00.7
OBN *i* S S 06 11 36.2 -8.4
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN **Obninsk** 73.48 325 P P 06 02 16.3 -0.2
LPSR **Galich'ya Gora** 73.50 322 *eP* P 06 02 15.4 -1.3
LPSR pmax pmax
comp=Z,30nm,1.6s
SMDO **Samad** 73.58 287 P P 06 02 18.7 +0.9
BANOM **Banah** 73.73 291 P P 06 02 18.7 +0.1
SHME **Shamm** 73.80 291 *i* P P 06 02 19.7 +0.6
SNR=11
HOQ **Hoqain** 73.95 288 P P 06 02 19.8 -0.1
YBH **Yreka Blue Hor** 73.99 51 P P 06 02 19.9 0.0
YBH pmax pmax
comp=Z,5.0nm,1.0s
YBH **Yreka Blue Hor** 73.99 51 P P 06 02 19.9 0.0
MDH **Madha** 74.01 290 P P 06 02 19.8 -0.4
MDH **Madha** 74.01 290 P P 06 02 21.0 +0.7
L04D **Klamath Falls** 74.04 50 P P 06 02 20.4 +0.1
baz=297
VSR **Storozhevoye** 74.04 320 *eP* P 06 02 19.1 -0.8
VSR pmax pmax
comp=Z,20nm,1.3s
MSFE **Esma-Masafi** 74.10 290 P P 06 02 21.0 +0.2
UOSS **Minazif** 74.25 290 P P 06 02 22.0 +0.4
J05D **Fort Rock, OR** 74.26 49 P P 06 02 22.1 +0.6
baz=297
KULLO **Kullorsuaq** 74.28 5 *i* P P 06 02 23.4 +2.5
KULLO **Kullorsuaq** 74.28 5 *i* P P 06 02 23.4 +2.5
N02D **Trinity Center** 74.34 52 P P 06 02 23.0 +1.0
baz=297
SOHO **SOHO** 74.34 289 P P 06 02 22.7 +0.5
SNR=12
HATD **Hatta, Dubai** 74.36 290 P P 06 02 23.0 +0.7
HATD **Hatta, Dubai** 74.36 290 P P 06 02 23.5 +1.2
BSY **Bisya** 74.42 287 P P 06 02 23.7 +1.0
NEW **Newport** 74.47 43 P P 06 02 22.4 -0.2
NEW **Newport** 74.47 43 P P 06 02 22.4 -0.2
ASHO **Ashiyiah** 74.48 290 P P 06 02 23.6 +0.5
MHTO **MHTO** 74.59 285 P P 06 02 24.1 +0.5
SNR=6.9
FIA1 **FINESS Array S** 74.66 333 P P 06 02 23.1 -0.2
FIA1 lAmb lAmb 06 02 24.7
comp=Z,20nm,1.0s
FINES **FINESS Array B** 74.66 333 P P 06 02 23.6 +0.3
comp=Z,11nm,0.8s,baz=74,slow=6.9,SNR=25
ARQ **Araqi** 74.71 288 P P 06 02 25.3 +0.9
SNR=15
K05A **Summer Lake** 74.74 49 P P 06 02 26.9 +2.5
K05A lAmb lAmb 06 02 40.0
comp=Z,14nm,1.0s
ALNE **Al Ain** 75.02 289 P P 06 02 26.2 +0.1
ZEI **Tsey** 75.22 311 *eP* P 06 02 26.3 -0.9
ZEI pmax pmax
comp=Z,8.0nm,0.6s
O03E **Paynes Creek** 75.26 52 P P 06 02 27.3 0.0
baz=298
KBZ **Khabaz** 75.42 312 P P 06 02 28.9 +0.9
comp=Z,20nm,0.8s,baz=88,slow=3.1,SNR=24
KBZ **Khabaz** 75.42 312 *c i* P P 06 02 28.6 +0.6
KBZ pmax pmax
comp=Z,24nm,0.9s
KIV **Kislovodsk** 75.45 313 *d i* P P 06 02 29.8 +1.4
KIV *e* 06 02 39.5
KIV *e* 06 05 19.1
KIV *i* S S 06 12 13.5 +6.2
KIV pmax pmax
comp=Z,16nm,0.7s
KIV MLR MLR
comp=Z,447nm,16.0s
KIV **Kislovodsk** 75.45 313 P P 06 02 29.4 +1.1
KIV lAmb lAmb 06 02 46.7
comp=Z,20nm,0.8s
WALA **Waterton Lakes** 75.93 41 P P 06 02 31.5 +0.4
WALA lAmb lAmb 06 02 45.4
comp=Z,7.8nm,0.7s
J08A **Circle Bar Ran** 76.00 48 P P 06 02 31.9 +0.3
BMO **Blue Mountains** 76.01 46 P P 06 02 32.5 +0.9
BMO pmax pmax
comp=Z,5.0nm,0.9s
BMO **Blue Mountains** 76.01 46 P P 06 02 32.5 +0.9
AKH **Akhalkalaki** 76.14 310 P P 06 02 34.2 +1.7
AKH pmax pmax
comp=Z,21nm,1.2s
AKH **Akhalkalaki** 76.14 310 P P 06 02 34.2 +1.7
AKH lAmb lAmb 06 02 53.8
comp=Z,21nm,1.2s
VSU **Vasula** 76.17 331 ‖ *eP* P 06 02 32.8 +0.8
VSU pmax pmax
comp=Z,51nm,0.8s
BEKR **Beckworth** 76.44 52 P P 06 02 34.6 +0.5
SUMG **Summit** 77.05 0 *i* P P 06 02 38.6 +1.3
comp=Z,21nm,0.9s
SUMG **Summit** 77.05 0 *i* P P 06 02 38.6 +1.3
SUMG pmax pmax
comp=Z,21nm,0.9s
SUMG **Summit** 77.05 0 P P 06 02 38.3 +1.0
SUMG lAmb lAmb 06 02 51.8
comp=Z,23nm,1.3s
MSO **Missoula** 77.05 43 P P 06 02 37.5 0.0
baz=301
MSO **Missoula** 77.05 43 P P 06 02 37.8 +0.4
CMB **Columbia Colle** 77.30 53 P P 06 02 38.8 -0.1
CMB pmax pmax
comp=Z,6.0nm,0.9s
CMB **Columbia Colle** 77.30 53 P P 06 02 38.8 -0.1
YERR **Yerington** 77.62 52 P P 06 02 40.9 0.0
YERR lAmb lAmb 06 02 55.0
comp=Z,6.8nm,0.8s
MFID **Camas Ranch** 77.65 47 P P 06 02 41.4 +0.6
MFID lAmb lAmb 06 02 55.3
comp=Z,12nm,1.0s
MICGM **Minsk** 78.02 327 *e* P P 06 02 42.0 -0.5
MNK **Minsk** 78.02 327 *eP* P 06 02 42.0 -0.5
KVN **Kaiserville** 78.36 52 P P 06 02 45.0 0.0
KVN pmax pmax
comp=Z,7.0nm,0.8s
KVN **Kaiserville** 78.36 52 P P 06 02 45.0 0.0
LRM **Limekiln Ridge** 78.46 43 P P 06 02 45.8 +0.3
NVAR **Mina Array Bea** 78.53 52 P P 06 02 46.6 +0.6
comp=Z,1.9nm,0.6s,baz=303,slow=6.1,SNR=12
NVAR LR LR 06 34 14.9
comp=Z,135nm,18.9s,baz=273,slow=33
NVAR **Mina Array Bea** 78.53 52 P P 06 02 46.5 +0.5
DLMT **Dillon** 78.62 44 P P 06 02 47.2 +1.0
DLMT lAmb lAmb 06 03 00.5
comp=Z,26nm,1.6s
FFC **Flin Flon** 78.87 32 P P 06 02 49.4 +2.2
FFC pmax pmax
comp=Z,4.0nm,0.8s
FFC **Flin Flon** 78.87 32 P P 06 02 49.4 +2.2
BOZ **Bozeman (W)** 79.07 43 P P 06 02 49.0 +0.3
baz=303
PKM **Mcpherson Peak** 79.24 56 P P 06 02 50.6 +0.7
baz=300
RBK **Rabkut** 79.36 284 P P 06 02 51.8 +1.2
WHFO **Wadi Hawf** 79.52 285 P P 06 02 51.1 -0.4
AKASG **Malin Array Be** 79.62 323 P P 06 02 51.2 -0.2
comp=Z,3.8nm,0.6s,baz=49,slow=5.8,SNR=16
AKASG PP PP 06 05 49.1 -2.5
comp=Z,1.1nm,0.4s,baz=49,slow=10,SNR=6.7
AKASG **Malin Array Be** 79.62 323 P P 06 02 50.4 -1.0
AKBB **Malin Array Si** 79.62 323 ‖ *eP* P 06 02 51.6 +0.2
AKBB **Malin Array Si** 79.62 323 P P 06 02 50.9 -0.4
AKBB lAmb lAmb 06 03 14.2
comp=Z,31nm,1.5s
ABTO **Aybut** 80.19 284 P P 06 02 55.2 +0.1
NC204 **NORSAR Array S** 80.19 338 P P 06 02 54.6 +0.2
NB2 **NORSAR Subarra** 80.23 338 P P 06 02 54.4 -0.1
comp=Z,7.5nm,0.8s,baz=42,slow=5.3
NOA **NORSAR Array B** 80.23 338 P P 06 02 54.5 -0.1
comp=Z,6.9nm,0.8s,baz=41,slow=5.4,SNR=14
MPMC **Manual Prospec** 80.29 54 P P 06 02 55.7 +0.1
baz=301
YNE **Yellowstone No** 80.35 43 P P 06 02 56.7 +0.9
YMP **Mirror Lake Pl** 80.41 43 P P 06 02 58.6 +2.4
R11A **Troy Canyon, C** 80.41 51 P P 06 02 55.9 -0.2
baz=302
R11A **Troy Canyon, C** 80.41 51 P P 06 02 57.1 +0.9
FXWY **Fox Creek** 80.50 45 P P 06 02 55.7 -0.9
EDW2 **Edwards Air Fo** 80.53 55 P P 06 02 56.4 -0.4
baz=301
TPAW **Teton Pass** 80.62 45 P P 06 02 57.9 +0.6
TPAW lAmb lAmb 06 03 12.2
comp=Z,8.9nm,0.8s
RLMT **Red Lodge** 80.72 43 P P 06 02 58.8 +1.1
REDW **Red Top Meadow** 80.75 45 P P 06 02 58.9 +0.9
SNOW **Snow King Moun** 80.76 45 P P 06 02 59.8 +1.8
DUG **Dugway, Tooele** 81.25 48 P P 06 03 00.2 -0.4
baz=303
DUG **Dugway, Tooele** 81.25 48 P P 06 03 02.4 +1.8
DUG pmax pmax
comp=Z,8.0nm,0.9s
DUG **Dugway, Tooele** 81.25 48 P P 06 03 02.4 +1.8
HWUT **Hardware Ranch** 81.28 47 P P 06 03 01.7 +0.9
HWUT lAmb lAmb 06 03 15.8
comp=Z,10nm,0.9s
PPT **Papeete** 81.44 116 LR LR 06 38 32.8
comp=Z,68nm,18.2s,baz=302,slow=35
PPT2 **Papeete2** 81.46 116 *e*LR LR 06 28 04.2
comp=Z,117nm,23.0s
PSUT **Pine Spring** 81.47 50 P P 06 03 03.4 +1.6
CTU **Camp Tracy** 81.66 48 P P 06 03 04.0 +1.2
SHPR **Sheep Range** 81.66 53 P P 06 03 03.8 +0.9
MURC **Murrieta** 81.76 56 P P 06 03 03.8 +0.5
baz=301
BW06 **Boulder Array** 81.87 45 P P 06 03 03.5 -0.4
baz=305
BW06 **Boulder Array** 81.87 45 P P 06 03 04.4 +0.5
PD31 **Pinedale Array** 81.87 45 P P 06 03 03.4 -0.5
PDAR **Pinedale Array** 81.87 45 P P 06 03 04.5 +0.6
comp=Z,0.9nm,0.7s,baz=261,slow=2.9,SNR=7.1
PDAR LR LR 06 36 51.9
comp=Z,80nm,20.1s,baz=304,slow=34
PDAR **Pinedale Array** 81.87 45 P P 06 03 03.4 -0.5
JLU **Jordanelle** 81.90 47 P P 06 03 04.6 +0.4
MPU **Maple Canyon** 82.11 48 P P 06 03 05.4 +0.2
GMRC **Granite Mounta** 82.23 54 P P 06 03 05.8 0.0
baz=302
PFO **Pinyon Flats O** 82.28 56 P P 06 03 07.0 +0.9
PFO pmax pmax
comp=Z,12nm,1.1s
PFO **Pinyon Flats O** 82.28 56 P P 06 03 07.0 +0.9
PFO lAmb lAmb 06 03 20.4
comp=Z,12nm,1.1s
XPFO **Pion Flat** 82.28 56 P P 06 03 07.7 +1.6
XPFO lAmb lAmb 06 03 20.4
comp=Z,12nm,1.1s
TPFO **Pinon Flats** 82.28 56 P P 06 03 05.8 -0.3
baz=302
CCUT **Cedar City** 82.32 51 P P 06 03 06.5 +0.1
BELC **Belle Mtn. Jos** 82.40 55 P P 06 03 06.6 -0.2
baz=302
GAZ **Gaziantep** 82.49 309 P P 06 03 07.4 +0.3
GAZ lAmb lAmb 06 03 28.3
comp=Z,17nm,1.0s
MSU **Marysvale** 82.58 50 P P 06 03 08.7 +1.0
MSU **Marysvale** 82.58 50 P P 06 03 08.7 +1.0
ILGA **Ilgaz** 82.62 314 P P 06 03 10.8 +2.9
ILGA lAmb lAmb 06 03 28.7
comp=Z,13nm,0.9s
LCMT **Little Creek M** 82.69 51 P P 06 03 08.7 +0.5
BC3 **Big Chuckawall** 82.97 55 P P 06 03 08.8 -0.8
baz=302
KNB **Kanab** 82.97 51 P P 06 03 10.2 +0.5
KNB pmax pmax
comp=Z,15nm,1.2s
KNB **Kanab** 82.97 51 P P 06 03 10.2 +0.5
P17A **Butcher Ranch,** 82.98 48 P P 06 03 11.2 +1.5
IKP **In-Ko-Pah, Jac** 83.03 56 P P 06 03 10.4 +0.4
baz=302
RDMU **Red Mountain** 83.11 47 P P 06 03 11.3 +0.9
SRU **San Rafael Swe** 83.33 48 P P 06 03 12.0 +0.5
SRU pmax pmax
comp=Z,9.0nm,0.8s
SRU **San Rafael Swe** 83.33 48 P P 06 03 12.0 +0.5
BR131 **Keskin Array S** 83.42 313 P P 06 03 12.4 +0.5
BR131 pmax pmax
comp=Z,14nm,1.1s
BR131 **Keskin Array S** 83.42 313 P P 06 03 12.3 +0.5
BR131 lAmb lAmb 06 03 13.6
comp=Z,14nm,1.1s
BRTR **Keskin Array B** 83.42 313 P P 06 03 12.6 +0.7
comp=Z,6.5nm,0.7s,baz=99,slow=3.9,SNR=22
BRTR **Keskin Array B** 83.42 313 P P 06 03 11.9 0.0
RAYN **Ar Rayn** 83.50 293 *i* P P 06 03 13.5 +1.0
SNR=37
RAYN **Ar Rayn** 83.50 293 P P 06 03 13.1 +0.6
RAYN pmax pmax
comp=Z,61nm,1.0s
RAYN **Ar Rayn** 83.50 293 P P 06 03 13.1 +0.6
KWP **Kalwaria Pacla** 83.56 325 P P 06 03 12.4 +0.1
KWP pmax pmax
comp=Z,131nm,1.9s
KWP **Kalwaria Pacla** 83.56 325 P P 06 03 12.3 +0.1
BUR08 **Bucovina Ar. S** 83.58 323 P P 06 03 12.4 -0.1
BURAR **Bucovina Array** 83.58 323 P P 06 03 12.6 0.0
BURAR **Bucovina Array** 83.58 323 P P 06 03 12.6 0.0
U15A **North Rim** 83.65 51 P P 06 03 15.9 +2.5
U15A lAmb lAmb 06 03 22.2
comp=Z,22nm,2.0s
K22A **Casper** 83.76 44 P P 06 03 13.8 +0.2
baz=306
O20A **White River Ci** 84.19 46 P P 06 03 16.6 +0.6
baz=306
O20A **White River Ci** 84.19 46 P P 06 03 16.5 +0.6
O20A lAmb lAmb 06 03 30.5
comp=Z,19nm,1.2s
MDUB **Mudurnu** 84.52 314 P P 06 03 18.0 +0.5
Y14A **Wickenburg** 84.53 54 P P 06 03 18.6 +1.0
Y14A lAmb lAmb 06 03 31.6
comp=Z,8.4nm,1.1s
PV09 **Paradox Valley** 84.57 48 P P 06 03 18.7 +0.7
OJC **Ojcow** 84.57 327 P P 06 03 17.6 +0.2
OJC pmax pmax
comp=Z,9.0nm,0.8s
OJC **Ojcow** 84.57 327 P P 06 03 17.6 +0.2
OJC lAmb lAmb 06 03 32.5
comp=Z,9.3nm,0.8s
WUAZ **Wupatki** 84.78 52 P P 06 03 20.6 +1.6
baz=304
WUAZ **Wupatki** 84.78 52 P P 06 03 20.4 +1.4
WUAZ lAmb lAmb 06 03 33.8
comp=Z,13nm,1.1s
PV12 **Saucer Basin,** 84.88 48 lAmb lAmb 06 03 34.4
comp=Z,12nm,0.8s
PV03 **Paradox Valley** 84.89 48 lAmb lAmb 06 03 34.1
comp=Z,12nm,0.9s
TBI **Tubuai** 84.92 121 *e*LR LR 06 29 47.8
comp=Z,116nm,23.8s
PV13 **Radium Mtn., P** 84.96 48 lAmb lAmb 06 03 33.9
comp=Z,13nm,0.9s
PV02 **Paradox Valley** 84.99 48 lAmb lAmb 06 03 34.5
comp=Z,11nm,0.9s

PV01	**Paradox Valley**	**85.14**	**48**	IAmb	IAmb	06 03 34.7
	comp=Z,7.6nm,0.8s					
N23A	**Red Feather La**	**85.16**	**45**	P	**P**	**06 03 22.1 +1.2**
	baz=307					
N23A	**Red Feather La**	**85.16**	**45**	P	**P**	**06 03 22.0 +1.1**
MVCO	**Mesa Verde**	**85.72**	**49**	P	**P**	**06 03 24.9 +1.1**
	baz=306					
MVCO	**Mesa Verde**	**85.72**	**49**	P	**P**	**06 03 25.3 +1.6**
MVCO				IAmb	IAmb	06 03 37.5
	comp=Z,9.4nm,1.2s					
214A	**Organ Pipe Nat**	**85.75**	**55**	P	**P**	**06 03 23.8 +0.1**
	baz=304					
214A	**Organ Pipe Nat**	**85.75**	**55**	P	**P**	**06 03 23.8 +0.1**
214A				IAmb	IAmb	06 03 38.0
	comp=Z,7.2nm,1.0s					
ISCO	**Idaho Springs**	**86.02**	**46**	P	**P**	**06 03 27.5 +2.3**
ISCO				pmax	pmax	
	comp=Z,11nm,1.6s					
ISCO	**Idaho Springs**	**86.02**	**46**	P	**P**	**06 03 27.5 +2.3**
ISCO				IAmb	IAmb	06 03 54.1
	comp=Z,11nm,1.6s					
VYHS	**Vyhne**	**86.21**	**326**	*e*P	**P**	**06 03 26.3 +0.7**
VYHS	**Vyhne**	**86.21**	**326**	*e*P	**P**	**06 03 26.3 +0.7**
S22A	**4UR Ranch, Cre**	**86.48**	**48**	P	**P**	**06 03 26.9 -0.7**
	baz=307					
S22A	**4UR Ranch, Cre**	**86.48**	**48**	P	**P**	**06 03 30.6 +3.1**
S22A				IAmb	IAmb	06 03 42.0
	comp=Z,6.8nm,1.1s					
BRG	**Berggiesshubel**	**86.75**	**330**	*e*P	**P**	**06 03 29.8 +1.6**
	comp=Z,3.5nm,0.8s					
BRG	**Berggiesshubel**	**86.75**	**330**	*e*P	**P**	**06 03 29.8 +1.6**
BRG				pmax	pmax	
	comp=Z,4.0nm,0.8s					
CLL	**Collm**	**86.83**	**331**	*e*P	**P**	**06 03 30.0 +1.4**
CLL				*e*pP	**pwP**	**06 03 41.0 -0.8**
CLL				*e*PP	**PP**	**06 06 51.0 +0.4**
CLL				*e*S	**S**	**06 14 09.0 +3.9**
CLL	**Collm**	**86.83**	**331**	*e*P	**P**	**06 03 30.0 +1.4**
CLL				*e*		06 03 41.0
CLL				*e*S	**S**	**06 14 09.0 +3.9**
KHC	**Kasperske Hory**	**88.19**	**329**	*e*P	P	06 03 39.1 +3.8
KHC	**Kasperske Hory**	**88.19**	**329**	‖ *e*P	**P**	**06 03 35.4 +0.1**
KHC				pmax	pmax	
	comp=Z,24nm,2.9s					
GERES	**GERESS Array B**	**88.35**	**329**	P	**P**	**06 03 35.9 -0.2**
	comp=Z,0.4nm,0.3s,baz=13,slow=1.8,SNR=3.4					
GERES	**GERESS Array B**	**88.35**	**329**	P	**P**	**06 03 35.3 -0.8**
ECSD	**EROS Data Cent**	**88.67**	**38**	P	**P**	**06 03 40.4 +2.8**
ECSD				IAmb	IAmb	06 03 51.6
	comp=Z,8.6nm,1.1s					
FUORN	**Ofenpass-Fuorn**	**91.55**	**329**	P	**P**	**06 03 51.1 -0.2**
WMOK	**Wichita Mounta**	**93.43**	**46**	P	**P**	**06 04 01.3 +1.4**
WMOK				pmax	pmax	
	comp=Z,8.0nm,1.2s					
WMOK	**Wichita Mounta**	**93.43**	**46**	P	**P**	**06 04 01.3 +1.4**
WMOK				IAmb	IAmb	06 04 13.6
	comp=Z,8.1nm,1.2s					
TX31	**Lajitas Ar. Si**	**93.67**	**53**	P	**P**	**06 04 02.2 +1.1**
TX32	**Lajitas Array**	**93.67**	**53**	P	**P**	**06 04 02.0 +0.8**
TXAR	**Lajitas Array**	**93.67**	**53**	P	**P**	**06 04 02.4 +1.2**
	comp=Z,2.7nm,1.0s,baz=302,slow=2.3,SNR=14					
TXAR	**Lajitas Array**	**93.67**	**53**	P	**P**	**06 04 02.0 +0.8**
TORD	**Torodi Ar. Bea**	**122.03**	**313**	PKP	**PKiKP**	**06 09 39.0 -0.6**
	comp=Z,0.6nm,0.5s,baz=28,slow=1.4,SNR=11					
TORD	**Torodi Ar. Bea**	**122.03**	**313**		**PKiKP**	**06 09 38.5 -1.0**
SYO	**Syowa Base**	**122.64**	**205**	‖ *e*Pdiff	**Pdif**	**06 06 12.4 +3.2**
SYO	**Syowa Base**	**122.64**	**205**	‖ *e*pPdiff	pPdif	06 06 24.0 +8.9
BOSA	**Boshof**	**125.55**	**255**	PKP	**PKiKP**	**06 09 45.6 -0.7**
	comp=Z,1.2nm,0.8s,baz=104,slow=8.3,SNR=1.9					
PTGA	**Pitinga**	**143.72**	**39**		**PKiKP**	**06 10 20.3 -3.1**
SAML	**Samuel**	**148.16**	**53**	PKP2	**PKiKP**	**06 10 30.6 -1.9**
SAML	**Samuel**	**148.16**	**53**		**PKiKP**	**06 10 30.6 -1.9**
LPAZ	**La Paz**	**149.09**	**69**	PKPbc	**PKiKP**	**06 10 33.1 -1.9**
	comp=Z,4.9nm,1.0s,baz=8.9,slow=5.2,SNR=7.6					
LPAZ	**La Paz**	**149.09**	**69**		**PKPab**	**06 10 35.4 -2.7**
MNMC	**Minye Minye**	**149.32**	**75**		**PKiKP**	**06 10 34.4 -0.6**
PB11	**IPOC Station P**	**149.56**	**77**	PKPab	**PKPab**	**06 10 38.9 -0.5**
PB08	**IPOC Station P**	**150.15**	**77**		**PKiKP**	**06 10 35.9 -1.0**
PLCA	**Paso Flores**	**151.93**	**120**	PKPbc	**PKiKP**	**06 10 40.0 +0.4**
	comp=Z,2.1nm,0.9s,baz=356,slow=16,SNR=2.4					
PLCA	**Paso Flores**	**151.93**	**120**	PKIKP	**PKiKP**	**06 10 38.3 -1.3**
PLCA	**Paso Flores**	**151.93**	**120**		**PKiKP**	**06 10 38.3 -1.3**

ISK ***13*** *05:57:17.9,39.˚10N×40.˚81E,h1km,ML3.5/22*
DDA ***13*** *05:57:18.4,39.˚07N×40.˚81E,h12km±3km,MW3.6*
ISC 13 05:57:18.5±0.9,**39.09N**±0.˚02×**40.83E**±0.˚02,**h9**km±7km,
n51,σ1s09/80,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BNGB	**Bingl**	**0.15**	**230**	PG		**Pg**	**05 57 21.8**	**-0.1**
BNGB				SG		**Sg**	**05 57 24.4**	**+0.2**
KARO	**Karliova-Bingo**	**0.28**	**38**	PG		**Pg**	**05 57 24.5**	**+0.3**
KARO				SG		**Sb**	**05 57 29.6**	**-1.2**
YEDI	**Yedisu-Bingol**	**0.41**	**328**	PG		**Pg**	**05 57 26.8**	**+0.1**
YEDI				SG		**Sb**	**05 57 33.3**	**-1.3**
VRTB	**Varto-Mus**	**0.49**	**82**	PG		**Pg**	**05 57 28.5**	**+0.3**
VRTB				SG		**Sb**	**05 57 36.9**	**0.0**
VRTB	**Varto-Mus**	**0.49**	**82**	*i* P		**Pg**	**05 57 28.5**	**+0.3**
VRTB				*i* S		**Sb**	**05 57 36.0**	**-0.9**
VRTB				IAML			05 57 40.0	
	comp=E,3μm,0.7s							
VRTB				IAML			05 57 48.0	
	comp=N,2μm,1.4s							
ECAT	**Cat-ERZURUM**	**0.53**	**12**	*i* P		**Pg**	**05 57 29.1**	**+0.2**
ECAT				*i* S		**Sb**	**05 57 37.3**	**-0.7**
ECAT				IAML			05 57 39.0	
	comp=E,1μm,0.4s							
ECAT				IAML			05 57 40.0	
	comp=N,570nm,0.5s							
MUSM	**Mu-Merkez**	**0.65**	**124**	*i* P		**Pg**	**05 57 30.5**	**-0.5**
MUSM				*i* S		**Sg**	**05 57 39.8**	**+0.3**
MUSM				IAML			05 57 40.0	
	comp=E,7μm,0.3s							
HANI	**Diyarbakir_Han**	**0.75**	**207**	*i* P		**Pb**	**05 57 33.0**	**-0.9**
HANI				*i* S		**Sb**	**05 57 43.7**	**-0.6**
HANI				IAML			05 57 48.0	
	comp=N,714nm,0.4s							
HANI				IAML			05 57 49.0	
	comp=E,741nm,0.5s							
EMRE	**Erzurum,Aziyiy**	**0.95**	**7**	*i* P		**Pn**	**05 57 37.8**	**-0.4**
EMRE				IAML			05 57 58.0	
	comp=E,956nm,0.7s							
EMRE				IAML			05 58 09.0	
	comp=N,769nm,0.6s							
KOPT	**Kop Dagi**	**0.96**	**345**	*i* P		**Pn**	**05 57 38.2**	**-0.3**
KOPT				*i* S		**Sn**	**05 57 53.9**	**+1.4**
KOPT				IAML			05 58 02.0	
	comp=E,345nm,0.5s							
KOPT				IAML			05 58 04.0	
	comp=N,371nm,0.6s							
SVAN	**Silvan-Diyarba**	**0.98**	**163**	PG		**Pn**	**05 57 38.1**	**-0.4**
SVAN	**Silvan-Diyarba**	**0.98**	**163**	*i* P		**Pb**	**05 57 37.6**	**-0.1**
SVAN				*i* S		**Sb**	**05 57 50.8**	**0.0**
SVAN				IAML			05 57 53.0	
	comp=N,275nm,0.7s							
SVAN				IAML			05 57 57.0	
	comp=E,629nm,0.4s							
ERZN	**Erzincan**	**0.99**	**300**	PG		**Pb**	**05 57 37.7**	**-0.3**
ERZN				SG		**Sn**	**05 57 52.2**	**-0.8**
TNCL	**Tunceli-Merkez**	**1.00**	**272**	*i* P		**Pg**	**05 57 36.7**	**-1.1**
TNCL				*i* S		**Sb**	**05 57 50.9**	**-0.5**
TNCL				IAML			05 57 53.0	
	comp=E,3μm,0.6s							
TNCL				IAML			05 57 53.0	
	comp=N,3μm,0.4s							
EUZM	**Uzumlu**	**1.07**	**306**	*i* P		**Pg**	**05 57 38.3**	**-0.8**
EUZM				*i* S		**Sb**	**05 57 53.1**	**-0.4**
EUZM				IAML			05 57 59.0	
	comp=N,229nm,0.6s							
GURO	**Guroymak-BITLI**	**1.08**	**119**	PN		**Pg**	**05 57 38.2**	**-1.2**
AKDA	**Akdag**	**1.09**	**22**	*i* P		**Pn**	**05 57 40.4**	**+0.1**
PTK	**Pertek**	**1.14**	**260**	PN		**Pb**	**05 57 39.9**	**-0.6**
PTK				SN		**Sn**	**05 57 56.9**	**+0.3**
KOPR	**Koprukoy-ERZUR**	**1.20**	**41**	PN		**Pn**	**05 57 41.9**	**+0.2**
KOPR				SN		**Sn**	**05 57 59.4**	**+1.2**
BLIS	**Bitlis-Merkez**	**1.21**	**123**	*i* P		**Pg**	**05 57 40.1**	**-1.7**
BLIS				*i* S		**Sg**	**05 57 57.1**	**-0.4**
BLIS				IAML			05 58 03.0	
	comp=E,659nm,0.5s							
BLIS				IAML			05 58 04.0	
	comp=N,984nm,0.5s							
BTMN	**Batman**	**1.25**	**164**	*i* P		**Pn**	**05 57 42.4**	**+0.2**
BTMN				*i* S		**Sn**	**05 57 59.7**	**+0.5**
BTMN				IAML			05 58 01.0	
	comp=N,1μm,0.4s							
BTMN				IAML			05 58 05.0	
	comp=E,694nm,0.5s							
BAYB	**BAYBURT**	**1.25**	**340**	*i* P		**Pn**	**05 57 42.5**	**+0.1**
BAYB				*i* S		**Sn**	**05 58 00.5**	**+1.1**
BAYB				IAML			05 58 09.0	
	comp=E,209nm,1.2s							
BAYB				IAML			05 58 14.0	
	comp=N,166nm,0.6s							
DYBB	**Diyarbakir**	**1.26**	**206**	PN		**Pn**	**05 57 43.3**	**+1.0**
HOMI	**Horasan**	**1.27**	**41**	*i* P		**Pg**	**05 57 42.4**	**-0.5**
HOMI				*i* S		**Sn**	**05 58 01.3**	**+1.4**
HOMI				IAML			05 58 07.0	
	comp=E,783nm,1.2s							
HOMI				IAML			05 58 09.0	
	comp=N,680nm,0.7s							
MLAZ	**Malazgirt-MUS**	**1.34**	**87**	PN		**Pg**	**05 57 44.7**	**+0.4**
SVRC	**Sivrice-ELAZID**	**1.39**	**240**	PN		**Pg**	**05 57 45.5**	**+0.4**
SRTM	**Siirt_Merkez**	**1.39**	**142**	*i* P		**Pg**	**05 57 45.4**	**+0.1**
SRTM				*i* S		**Sg**	**05 58 04.1**	**+0.7**
SRTM				IAML			05 58 06.0	
	comp=E,860nm,0.5s							
SRTM				IAML			05 58 07.0	
	comp=N,1μm,0.8s							
BAYT	**Aydıntepe-Bayb**	**1.41**	**338**	PN		**Pg**	**05 57 46.1**	**+0.6**
EATA	**Eleskirt**	**1.50**	**59**	*i* P		**Pn**	**05 57 46.0**	**+0.1**
EATA				*i* S		**Sg**	**05 58 07.2**	**+0.3**
EATA				IAML			05 58 12.0	
	comp=E,283nm,0.6s							
EATA				IAML			05 58 24.0	
	comp=N,253nm,0.8s							
ELZG	**Elazig**	**1.56**	**248**	*i* P		**Pb**	**05 57 46.9**	**-0.7**
ELZG				*i* S		**Sg**	**05 58 10.2**	**+1.5**
ELZG				IAML			05 58 16.0	
	comp=N,446nm,0.7s							
ELZG				IAML			05 58 18.0	
	comp=E,614nm,0.8s							
TUTA	**Tutak**	**1.57**	**78**	*i* P		**Pn**	**05 57 47.2**	**+0.3**
TUTA				*i* S		**Sn**	**05 58 07.7**	**+0.2**
TUTA				IAML			05 58 16.0	
	comp=N,738nm,0.8s							
REFA	**Refahiye_ERZN**	**1.63**	**281**	*i* P		**Pg**	**05 57 51.8**	**+2.0**
REFA				*i* S		**Sg**	**05 58 17.4**	**+6.4**
REFA				IAML			05 58 26.0	
	comp=N,112nm,0.9s							
MAZI	**Mazidag**	**1.66**	**191**	PN		**Pb**	**05 57 49.1**	**-0.2**
AGRB	**Hanur-Agry**	**1.75**	**73**	PN		**Pb**	**05 57 50.6**	**-0.3**
MARD	**Mardin**	**1.77**	**181**	*i* P		**Pb**	**05 57 50.6**	**-0.7**
MARD				IAML			05 58 17.0	
	comp=E,478nm,0.4s							
MARD				IAML			05 58 18.0	
	comp=N,990nm,0.4s							
KEMA	**Kemaliye**	**1.82**	**276**	*i* P		**Pb**	**05 57 51.5**	**-0.6**
KEMA				*i* S		**Sg**	**05 58 17.1**	**-0.1**
KEMA				IAML			05 58 20.0	
	comp=N,266nm,0.5s							
KEMA				IAML			05 58 22.0	
	comp=E,258nm,0.5s							
AKDM	**Akdamar-Van**	**1.85**	**114**	PN		**Pb**	**05 57 52.1**	**-0.5**
SENK	**Senkaya-Erzuru**	**1.88**	**38**	PN		**Pb**	**05 57 52.3**	**-0.9**
GEVA	**Gevas**	**1.91**	**113**	*i* P		**Pb**	**05 57 53.1**	**-0.5**
GEVA				*i* S		**Sg**	**05 58 20.3**	**+0.3**
GEVA				IAML			05 58 28.0	
	comp=N,155nm,0.9s							
GEVA				IAML			05 58 33.0	
	comp=E,217nm,1.0s							
ARPR	**Arapgir-MALATY**	**1.94**	**271**	PN		**Pb**	**05 57 53.1**	**-1.0**
MALT	**Malatya**	**2.03**	**248**	PN		**Pb**	**05 57 54.7**	**-1.0**
VANB	**Van**	**2.06**	**103**	PN		**Pb**	**05 57 55.6**	**-0.6**
KTUT	**Trabzon**	**2.06**	**337**	PN		**Pb**	**05 57 54.8**	**-1.4**
TVAN	**Van**	**2.09**	**105**	*i* P		**Pb**	**05 57 56.1**	**-0.6**
TVAN				IAML			05 58 29.0	
	comp=N,168nm,0.5s							
TVAN				IAML			05 58 29.0	
	comp=E,142nm,0.6s							
VMUR	**Van-Muradiye**	**2.14**	**92**	*i* P		**Pb**	**05 57 57.9**	**+0.3**
VMUR				IAML			05 58 32.0	
	comp=E,211nm,0.8s							
VMUR				IAML			05 58 32.0	
	comp=N,275nm,0.7s							
HEKM	**Malatya_Hekimh**	**2.25**	**266**	*i* P		**Pb**	**05 57 58.7**	**-0.6**
HEKM				*i* S		**Sg**	**05 58 29.9**	**-0.8**
HEKM				IAML			05 58 37.0	
	comp=E,285nm,0.7s							
HEKM				IAML			05 58 38.0	
	comp=N,305nm,0.5s							
CLDR	**Caldiran**	**2.40**	**88**	PN		**Pn**	**05 57 59.9**	**+1.6**
ESPY	**Espiye-Giresun**	**2.44**	**319**	PN		**Pb**	**05 58 00.4**	**-2.1**
CUZAR	**Zara_SIVAS**	**2.50**	**290**	*i* P		**Pg**	**05 58 05.4**	**-1.0**
CUZAR				*i* S		**Sg**	**05 58 39.4**	**+0.7**
CUKAN	**kangal_SIVAS**	**2.62**	**276**	*i* P		**Pb**	**05 58 05.8**	**0.0**
CUKAN				*i* S		**Sg**	**05 58 41.4**	**-1.3**
CUKAN				IAML			05 58 49.0	
	comp=E,93nm,0.6s							
CUKAN				IAML			05 58 51.0	
	comp=N,84nm,0.6s							
CUSAR	**Sarkisla-SIVAS**	**3.57**	**277**	*i* P		**Pb**	**05 58 20.8**	**-1.2**

SOME ***13*** *06:09:51.3,43.˚35N×82.˚45E,h10km*
BJI ***13*** *06:09:51.5±0.0,43.˚36N×82.˚55E,h6km,ML3.6/8*
IDC ***13*** *06:09:52.4±1.8,43.˚34N×81.˚99E,h0km,mb3.9/2,*
mb1 3.7/7,mb1mx3.5/46,mbtmp3.6/7,ML3.1/5,MS2.4/1,
Ms1 2.4/1,ms1mx2.2/43,Error ellipse: s-maj=25.5km
s-min=13.4km az=120.0
NNC ***13*** *06:09:55.0±1.8,43.˚48N×82.˚28E,h0km,mb4.2,mpv3.8,*
Error ellipse: s-maj=15.7km s-min=6.1km az=138.0
ISC 13 06:09:53.1±1.5,**43.31N**±0.˚05×**82.33E**±0.˚04,**h5**km±10km,
n54,σ1s96/83,11C-10D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.45**	**276**	*e*P		**Pg**	**06 10 21.6**	**+0.7**
	19nm,0.1s							
KTMS				*e*S		**Sg**	**06 10 43.7**	**+4.1**
	1μm,0.5s							
KTMS	**Ketmen**	**1.45**	**276**	P		**Pg**	**06 10 21.6**	**+0.7**
	19nm,0.1s							
KTMS				S		**Sg**	**06 10 43.7**	**+4.1**
	1μm,0.5s							
SHLS	**Shalkode**	**2.10**	**267**	*e*P		**Pn**	**06 10 28.2**	**-0.8**
	328nm,0.2s							
SHLS				*e*S		**Sn**	**06 10 55.0**	**-0.5**
	951nm,0.3s							
SHLS	**Shalkode**	**2.10**	**267**	Pg		**Pn**	**06 10 28.2**	**-0.8**
	328nm,0.2s							
SHLS				Lg		Lg	06 10 55.0	
	951nm,0.3s							
DJR	**Jarkent**	**2.10**	**300**	*e*P		**Pb**	**06 10 32.3**	**+0.5**
	273nm,0.4s							
DJR				*e*S		**Sg**	**06 11 02.0**	**+1.4**
	239nm,0.4s							
DJR	**Jarkent**	**2.10**	**300**	Pg		**Pb**	**06 10 32.3**	**+0.5**
	273nm,0.4s							
DJR				Lg		Lg	06 11 02.0	
	239nm,0.4s							
UZB	**Uzynbulak**	**2.42**	**267**	*e*P		**Pb**	**06 10 36.5**	**-0.7**
	57nm,0.3s							
UZB				*e*S		**Sg**	**06 11 09.1**	**-1.8**
	279nm,0.4s							
UZB	**Uzynbulak**	**2.42**	**267**	Pg		**Pb**	**06 10 36.5**	**-0.7**
	57nm,0.3s							
UZB				Lg		Lg	06 11 09.1	
	279nm,0.4s							
KPKS	**Kokpek**	**2.66**	**275**	*e*P		**Pb**	**06 10 41.1**	**-0.2**
	22nm,0.2s							
KPKS				*e*S		**Sg**	**06 11 17.2**	**-1.4**
	715nm,0.5s							
SATY	**Saty**	**2.88**	**266**	*e*P		**Pb**	**06 10 46.1**	**+1.1**
	28nm,0.3s							
SATY				*e*S		**Sg**	**06 11 25.3**	**-0.3**
	478nm,0.4s							
SATY	**Saty**	**2.88**	**266**	Pg		**Pb**	**06 10 46.1**	**+1.1**
	28nm,0.3s							
SATY				Lg		Lg	06 11 25.3	
	478nm,0.4s							
KAPS	**Kapalarasan**	**2.91**	**314**	*e*P		**Pn**	**06 10 42.7**	**+2.6**
KAPS				*e*S		**Sb**	**06 11 19.8**	**-1.6**
	231nm,0.4s							
KAPS	**Kapalarasan**	**2.91**	**314**	Pg		**Pn**	**06 10 42.7**	**+2.6**
KAPS				Lg		Lg	06 11 19.8	
	231nm,0.4s							
MNBS	**Baschi**	**2.95**	**287**	*e*P		**Pb**	**06 10 45.4**	**-0.8**
	0.4nm,0.3s							
MNBS				*e*S		**Sb**	**06 11 24.7**	**+2.1**
	1.7nm,0.3s							
MNBS	**Baschi**	**2.95**	**287**	Pg		**Pn**	**06 10 42.9**	**+2.2**
	0.4nm,0.3s							
MNBS				Lg		Lg	06 11 20.2	
	18nm,0.4s							
ARXS	**Arharly**	**3.38**	**287**	*e*P		**Pb**	**06 10 52.7**	**-0.9**
	16nm,0.3s							
ARXS				*e*S		**Sb**	**06 11 37.1**	**+2.1**
	115nm,0.6s							
ARXS	**Arharly**	**3.38**	**287**	Pg		**Pb**	**06 10 50.9**	**-2.6**
	38nm,0.3s							
ARXS				Lg		Lg	06 11 35.1	
	109nm,0.6s							
MK31	**Makanchi Array**	**3.49**	**360**	⇑ Pn		**Pn**	**06 10 47.9**	**-0.1**
	0.5nm,0.2s,baz=357,slow=8.3,SNR=534							
MK31				⇓ Pg		**Pb**	**06 10 55.6**	**+0.2**
	8.3nm,0.3s,baz=169,slow=17,SNR=51							
MK31				⇑ Lg		Lg	06 11 44.1	
	137nm,0.6s,baz=154,slow=38,SNR=3.8							
MKAR	**Makanchi Array**	**3.49**	**360**	Pn		**Pn**	**06 10 48.5**	**+0.5**
	0.9nm,0.3s,baz=187,slow=13,SNR=37							
MKAR				Pg		**Pb**	**06 10 56.2**	**+0.9**
	13nm,0.3s,baz=175,slow=20,SNR=49							
MKAR				Sn		**Sn**	**06 11 30.4**	**+0.8**
	10nm,0.3s,baz=183,slow=26,SNR=5.8							
MKAR				Lg		Lg	06 11 46.6	
	28nm,0.3s,baz=183,slow=25,SNR=14							
MKAR				LR		LR	06 11 58.0	
	comp=Z,52nm,18.3s,baz=260,slow=36							
MAKZ	**Makanchi**	**3.51**	**356**	⇑ Pn		**Pn**	**06 10 49.2**	**+0.9**
	1.9nm,0.3s							
MAKZ				⇑ Pg		**Pb**	**06 10 58.0**	**+2.3**
	7.4nm,0.3s							
MAKZ				⇓ Sn		**Sn**	**06 11 30.6**	**+0.4**
	10nm,0.3s							
MAKZ				⇓ Lg		Lg	06 11 41.6	
	40nm,0.4s							
KOTS	**Kotyrbulak**	**3.81**	**271**	*e*P		**Pb**	**06 11 03.2**	**+2.4**
	137nm,0.5s							
KOTS				*e*S		**Sg**	**06 11 55.9**	**+0.4**
	366nm,0.6s							
KOTS	**Kotyrbulak**	**3.81**	**271**	Pg		**Pb**	**06 11 03.2**	**+2.4**
	137nm,0.5s							
KOTS				Lg		Lg	06 11 55.9	
	366nm,0.6s							
MDOK	**Medeo**	**3.86**	**270**	*e*P		**Pg**	**06 11 06.0**	**-1.1**
	23nm,0.4s							
MDOK				*e*S		**Sg**	**06 11 59.2**	**+2.1**
	61nm,0.6s							
MDOK	**Medeo**	**3.86**	**270**	⇑ Pn		**Pn**	**06 10 56.1**	**+2.9**
	4.7nm,0.5s							
MDOK				⇑ Pg		**Pg**	**06 11 05.5**	**-1.6**
	30nm,0.9s							
MDOK				⇓ Lg		Lg	06 11 55.3	
	78nm,0.6s							
MDOK	**Medeo**	**3.86**	**270**	Pg		**Pg**	**06 11 06.0**	**-1.1**
	23nm,0.4s							
MDOK				Lg		Lg	06 11 59.2	
	61nm,0.6s							
CHKK	**Chushkaly**	**3.92**	**280**	*e*P		**Pg**	**06 11 06.0**	**-2.2**
	15nm,0.5s							
CHKK				*e*S		**Sg**	**06 11 59.9**	**+1.0**
	87nm,0.3s							
CHKK	**Chushkaly**	**3.92**	**280**	Pg		**Pg**	**06 11 06.0**	**-2.2**
	15nm,0.5s							
CHKK				Lg		Lg	06 11 59.9	
	87nm,0.3s							
WMQ	**Urumqi**	**3.94**	**81**	*e*Pn		**Pn**	**06 10 53.6**	**-0.6**
WMQ				Sn		**Sn**	**06 11 41.9**	**+1.2**
WMQ				smax		smax		
	comp=N,33nm,1.1s							
WMQ				smax		smax		
	comp=E,60nm,0.9s							
TNSS	**Tian-Shan**	**3.94**	**268**	*e*P		**Pb**	**06 11 04.5**	**+1.2**
	22nm,0.6s							
TNSS				*e*S		**Sg**	**06 11 57.4**	**-2.4**
	110nm,0.5s							
TNSS	**Tian-Shan**	**3.94**	**268**	Pg		**Pb**	**06 11 04.5**	**+1.2**
	22nm,0.6s							
TNSS				Lg		Lg	06 11 57.4	
	110nm,0.5s							
KTBS	**Karatobe**	**4.13**	**278**	*e*P		**Pg**	**06 11 09.6**	**-2.6**
	12nm,0.4s							
KTBS				*e*S		**Sg**	**06 12 06.0**	**+0.4**
	198nm,0.7s							
KTBS	**Karatobe**	**4.13**	**278**	Pg		**Pg**	**06 11 09.6**	**-2.6**
	12nm,0.4s							
KTBS				Lg		Lg	06 12 06.0	
	198nm,0.7s							
IZV	**Izvestkoviy**	**4.19**	**268**	*e*P		**Pg**	**06 11 10.8**	**-2.5**
	27nm,0.6s							
IZV				*e*S		**Sg**	**06 12 08.2**	**+0.6**
	117nm,0.6s							
IZV	**Izvestkoviy**	**4.19**	**268**	Pg		**Pg**	**06 11 10.8**	**-2.5**
	27nm,0.6s							
IZV				Lg		Lg	06 12 08.2	
	117nm,0.6s							
MTBS	**Maitube**	**4.32**	**270**	*e*P		**Pb**	**06 11 11.8**	**+2.4**
	23nm,0.4s							
MTBS				*e*S		**Sg**	**06 12 09.6**	**-2.0**
	116nm,0.4s							
MTBS	**Maitube**	**4.32**	**270**	Pg		**Pb**	**06 11 11.8**	**+2.4**
	23nm,0.4s							
MTBS				Lg		Lg	06 12 09.6	
	116nm,0.4s							
ZSN	**Zaisan**	**4.51**	**22**	*e*P		**Pb**	**06 11 11.2**	**-1.5**
	22nm,0.3s							
ZSN				*e*S		**Sb**	**06 12 08.2**	**+0.7**
	99nm,0.6s							
ZSN	**Zaisan**	**4.51**

0.3nm,0.3s,baz=194,slow=29,SNR=3.7
BVAR Borovoye Array 12.55 325 Pn Pn 06 12 53.2 +1.0
baz=120,slow=10,SNR=1.6
BVAR Lg Lg 06 16 30.1
0.3nm,0.3s,baz=109,slow=26,SNR=3.6
SONM Songino Array 17.42 67 P P 06 14 00.8 +2.6
0.2nm,0.3s,baz=258,slow=12,SNR=5.5
ARCES ARCESS Array B 38.71 332 P P 06 17 17.4 -0.2
1.6nm,0.8s,baz=99,slow=12,SNR=1.7
TORD Torodi Ar. Bea 74.32 273 P P 06 21 29.9 -1.9
0.4nm,0.4s,baz=40,slow=5.0,SNR=8.6

IDC ***13*** *06:17:02.9S 0.5, 27°.63N × 65°.97E, h0km, mb4.7/42, mb1 4.8/45, mb1mx4.8/49, mbtmp4.7/45, ML4.2/3, MS4.8/35, Ms1 4.8/35, ms1mx4.7/41, Error ellipse: s-maj=11.7km s-min=9.6km az=2.0*

MOS ***13*** *06:17:03.6S 1.1, 27°.79N × 65°.97E, h13km, mb5.3/82, MS4.7/23, Error ellipse: s-maj=4.6km s-min=3.1km az=108.4*

BJI ***13*** *06:17:04.0S 0.0, 27°.82N × 66°.10E, h7km, mB5.2/57, mb5.1/65, Ms5.3/73, Ms7 5.2/65*

GCMT ***13*** *06:17:05.2S 0.1, 27°.51N 0°.01 × 65°.88E ± 0°.01, h12km, MW5.3/133, Moment Tensor Solution. s104, c145; s133, c249; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr 0.08 ± .01; Mθθ -0.43 ± .01; Mφφ 0.35 ± .01; Mrθ -0.02 ± .03; Mrφ -0.70 ± .01; Mθr -0.81 ± .08; Best double couple: Mo 1.13000 × 10^17 NP1: φs 100.00000°, δ 46.00000°, λ 174.00000°. NP2: φs 195.00000°, δ 86.00000°, λ 44.00000°. Principal axes: T 1.2140, Plg 33.0000°, Azm 67.0000°; N -0.1660, Plg 46.0000°, Azm 199.0000°; P -1.0470, Plg 26.0000°, Azm 319.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***13*** *06:17:06.2S 2.4, 27°.62N 0°.07 × 65°.90E ± 0°.07, h26km ± 3km, mb5.2/130 Error ellipse: s-maj=11.9km s-min=5.9km az=141.0*

UNK ***13*** *06:17:06.2, 27°.62N × 65°.90E, h26km*

BGR ***13*** *06:17:44.5S 0.0, 32°.92N × 63°.76E, h33km, mb4.4*

ISC 13 06:17:05.5S 0.5, 27°.69N ± 0°.03 × 65°.96E ± 0°.03, h19km ± 1km, h20km; pP-P, n673, σ2s 06/749, mb 5.1/232, MS4.9/88, 53C-28D, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THW	**Thamme Wali**	**7.13**	**43**	⇑P	**Pn**	**06 18 49.3**	**+0.4**
SARP	**Sargodha**	**7.19**	**52**	⇑P	**Pn**	**06 18 49.8**	**+0.1**
KBL	**Kabul**	**7.32**	**20**	P	**Pn**	**06 18 52.4**	**+0.8**
KBL	**Kabul**	**7.32**	**20**	Pn	**Pn**	**06 18 52.4**	**+0.8**
HRA	**Herat**	**7.40**	**335**	Pn	**Pn**	**06 18 54.0**	**+1.3**
AJM	**Ajmer**	**7.83**	**97**	⇑*i*P	**Pn**	**06 18 58.0**	**-0.5**
AJM				*i* x	x	06 20 25.0	
WSAR	**Wadi Sarin**	**7.97**	**238**	Pn	**Pn**	**06 18 57.5**	**-2.8**
	8.6nm,0.3s,baz=100,slow=7.8,SNR=51						
WSAR				Sn	Sn	06 20 18.2	-12
	21nm,0.3s,baz=91,slow=23,SNR=10						
WSAR				LR	LR	06 22 35.4	
	comp=Z,7μm,21.1s,baz=68,slow=42						
WSAR	**Wadi Sarin**	**7.97**	**238**	P	**Pn**	**06 18 59.0**	**-1.4**
	SNR=14						
WSAR				S	Sn	06 20 20.7	-9.3
CEP	**Cherat**	**7.97**	**38**	⇑P	**Pn**	**06 19 00.4**	**-0.1**
BIDO	**Bidbid**	**8.20**	**241**	P	**Pn**	**06 19 02.6**	**-1.0**
	SNR=17						
BIDO				P	**Pn**	**06 19 02.6**	**-1.0**
	SNR=17						
BIDO				P	**Pn**	**06 19 02.6**	**-1.0**
	SNR=17						
BIDO				S	Sn	06 20 23.5	-12
BIDO				S	Sn	06 20 23.5	-12
BIDO				S	Sn	06 20 23.5	-12
SMDO	**Samad**	**8.51**	**239**	P	**Pn**	**06 19 05.7**	**-2.2**
	SNR=16						
SMDO				P	**Pn**	**06 19 05.7**	**-2.2**
	SNR=16						
SMDO				S	Sn	06 20 33.9	-10
SMDO				S	Sn	06 20 33.9	-10
NIL	**Nilore**	**8.64**	**45**	P	**Pn**	**06 19 10.2**	**+0.6**
NIL	**Nilore**	**8.64**	**45**	Pn	**Pn**	**06 19 10.2**	**+0.6**
CHCP	**Chirah Chowk**	**8.65**	**45**	⇑P	**Pn**	**06 19 10.0**	**+0.3**
BANOM	**Banah**	**8.81**	**261**	*i* Pn	**Pn**	**06 19 11.1**	**-0.8**
	SNR=12						
BANOM				Sn	**Sn**	**06 20 43.4**	**-7.4**
BANOM	**Banah**	**8.81**	**261**	P	**Pn**	**06 19 11.5**	**-0.4**
	SNR=37						
BANOM				P	**Pn**	**06 19 11.5**	**-0.4**
	SNR=37						
BANOM				S	**Sn**	**06 20 44.2**	**-6.6**
BANOM				S	**Sn**	**06 20 44.2**	**-6.6**
HOQ	**Hoqain**	**8.81**	**244**	P	**Pn**	**06 19 10.3**	**-1.6**
	SNR=12						
HOQ				P	**Pn**	**06 19 10.3**	**-1.6**
	SNR=12						
JMDO	**Jabal Madar**	**8.88**	**235**	P	**Pn**	**06 19 11.9**	**-0.9**
	SNR=36						
JMDO				P	**Pn**	**06 19 11.9**	**-0.9**
	SNR=36						
JMDO				P	**Pn**	**06 19 11.9**	**-0.9**
	SNR=36						
JMDO				S	**Sn**	**06 20 44.8**	**-7.5**
JMDO				S	**Sn**	**06 20 44.8**	**-7.5**
JMDO				S	**Sn**	**06 20 44.8**	**-7.5**
SHME	**Shamm**	**8.92**	**262**	*i* Pn	**Pn**	**06 19 13.2**	**-0.3**
	SNR=56						
MDH	**Madha**	**8.98**	**257**	*i* Pn	**Pn**	**06 19 13.6**	**-0.6**
	SNR=12						
MDH	**Madha**	**8.98**	**257**	P	**Pn**	**06 19 13.8**	**-0.4**
	SNR=12						
MDH				P	**Pn**	**06 19 13.8**	**-0.4**
	SNR=12						
MDH				S	**Sn**	**06 20 47.2**	**-7.6**
MDH				S	**Sn**	**06 20 47.2**	**-7.6**
MSFE	**Esma-Masafi**	**9.08**	**257**	*i* Pn	**Pn**	**06 19 14.6**	**-1.1**
	SNR=16						
UOSS	**Minazif**	**9.17**	**255**	*i* Pn	**Pn**	**06 19 14.7**	**-2.2**
	SNR=9.2						
UOSS	**Minazif**	**9.17**	**255**	P	**Pn**	**06 19 15.0**	**-1.8**
UOSS				P	**Pn**	**06 19 15.0**	**-1.8**
UOSS				S	**Sn**	**06 20 50.9**	**-8.7**
UOSS				S	**Sn**	**06 20 50.9**	**-8.7**
UOSS	**Minazif**	**9.17**	**255**	Pn	**Pn**	**06 19 14.5**	**-2.4**
SOHO	**SOHO**	**9.20**	**249**	P	**Pn**	**06 19 16.1**	**-1.0**
	SNR=35						
SOHO				P	**Pn**	**06 19 16.1**	**-1.0**
	SNR=35						
SOHO				P	**Pn**	**06 19 16.1**	**-1.0**
	SNR=35						
JMU	**Jammu**	**9.21**	**55**	*e*P	**Pn**	**06 19 17.5**	**+0.2**
JMU				*ex*	x	06 21 48.0	
HATD	**Hatta, Dubai**	**9.27**	**254**	Pn	**Pn**	**06 19 17.4**	**-0.9**
BSY	**Bisya**	**9.34**	**240**	P	**Pn**	**06 19 19.7**	**+0.6**
	SNR=20						
BSY				P	**Pn**	**06 19 19.7**	**+0.6**
	SNR=20						
ASHO	**Ashiyiah**	**9.39**	**254**	*i* Pn	**Pn**	**06 19 19.0**	**-0.9**
	SNR=30						
ASHO	**Ashiyiah**	**9.39**	**254**	P	**Pn**	**06 19 19.2**	**-0.6**
	SNR=30						
ASHO				P	**Pn**	**06 19 19.2**	**-0.6**
	SNR=30						
ARQ	**Araqi**	**9.56**	**245**	P	**Pn**	**06 19 23.0**	**+0.8**
	SNR=25						
NAZ	**Nazwa, Dubai**	**9.62**	**256**	*i* Pn	**Pn**	**06 19 23.8**	**+0.7**
	SNR=25						
NAZ	**Nazwa, Dubai**	**9.62**	**256**	P	**Pn**	**06 19 24.9**	**+1.9**
	SNR=13						
NAZ				P	**Pn**	**06 19 24.9**	**+1.9**
	SNR=13						
BHK	**Bhakra**	**9.83**	**65**	*e*P	**Pn**	**06 19 26.0**	**+0.1**
BHK				*e*S	Sn	06 21 06.8	-8.9
MHTO	**MHTO**	**9.88**	**229**	P	**Pn**	**06 19 27.1**	**+0.6**
	SNR=6.1						
MHTO				P	**Pn**	**06 19 27.1**	**+0.6**
	SNR=6.1						
ALNE	**Al Ain**	**9.88**	**251**	*i* Pn	**Pn**	**06 19 26.7**	**+0.1**
	SNR=33						
NDI	**New Delhi**	**9.98**	**82**	*e*P	**Pn**	**06 19 27.5**	**-0.4**
NDI				*ex*	**Sn**	**06 21 13.0**	**-6.4**
CHGR	**Chuyangaron**	**11.26**	**13**	Pn	**Pn**	**06 19 45.5**	**0.0**
POO	**Poona**	**11.65**	**140**	*ex*	**Sn**	**06 22 07.0**	**+6.6**
GAR	**Garm**	**11.85**	**17**	Pn	**Pn**	**06 19 52.7**	**-0.9**
GEYT	**Alibeck**	**12.15**	**329**	Pn	**Pn**	**06 19 57.8**	**+0.2**
	0.4nm,0.3s,baz=171,slow=12,SNR=19						
GEYT				Lg	Lg	06 23 26.1	
	0.3nm,0.3s,baz=144,slow=16,SNR=1.4						
GEYT				LR	LR	06 25 11.0	
	comp=Z,5μm,18.3s,baz=105,slow=40						
GEYT	**Alibeck**	**12.15**	**329**	Pn	**Pn**	**06 19 58.1**	**+0.4**
GYA0	**ALIBECK ARRAY**	**12.15**	**329**	P	**Pn**	**06 19 58.4**	**+0.8**
GYA0B	**ALIBECK ARRAY**	**12.15**	**329**	Pn	**Pn**	**06 19 58.8**	**+1.2**
PTH	**Pithoragarh**	**12.66**	**78**	*e*P	**Pn**	**06 20 02.8**	**-2.0**
PTH				*ex*	**Sn**	**06 22 24.2**	**-1.1**
LGTI	**Lohaghat**	**12.68**	**79**	*ex*	P	06 20 24.8	+8.8
BTK	**Batken**	**12.98**	**17**	P	**Pn**	**06 20 08.8**	**-0.1**
BTK	**Batken**	**12.98**	**17**		**Pn**	**06 20 08.8**	**-0.1**
LATR	**Latur**	**13.42**	**131**	IAMs_20	IAMs_20	06 25 25.8	
	comp=Z,8μm,12.7s						
JBP	**Jabalpur**	**13.44**	**106**	⇓*e*P	Pn	06 20 05.6	-10
JBP				*e*S	Sn	06 22 22.7	-21
JBP				IAMs_20	IAMs_20	06 26 25.3	
	comp=Z,7μm,7.6s						
NGP	**Nagpur**	**13.58**	**116**	*e*P	**Pn**	**06 20 17.9**	**+0.7**
NGP				IAMs_20	IAMs_20	06 26 26.6	
	comp=Z,14μm,7.6s						
KLRI	**Killari**	**13.69**	**132**	*e*P	**Pn**	**06 20 18.7**	**0.0**
KLRI				IVMs_BB	IVMs_BB	06 26 42.7	
	comp=Z,3μm,10.5s						
SRSP	**Sriramsagar**	**14.32**	**125**	*e*P	**Pn**	**06 20 26.7**	**-0.6**
SRSP				IVMs_BB	IVMs_BB	06 26 51.2	
	comp=Z,3μm,10.9s						
KSH	**Kashi**	**14.43**	**33**	P	Pn	06 20 22.1	-6.8
KSH				sP	P	06 20 31.9	-3.7
KSH				S	Sn	06 22 56.1	-12
KSH				sS	S	06 23 04.8	-23
KSH				SS	**SnSn**	**06 23 12.3**	**-8.9**
KSH				pmax	pmax		
	comp=Z,120nm,0.9s						
KSH				pmax	pmax		
	comp=Z,820nm,3.8s						
KSH				LR	LR		
	comp=Z,38μm,12.8s						
KSH				LR	LR		
	comp=Z,26μm,11.3s						
KSH				LR	LR		
	comp=Z,30μm,12.5s						
ARSB	**Arslanbob**	**14.77**	**21**	P	**Pn**	**06 20 30.7**	**-2.8**
ARSB	**Arslanbob**	**14.77**	**21**		**Pn**	**06 20 30.7**	**-2.8**
IUG	**Iuzhnay**	**14.80**	**12**	*e*P	**Pn**	**06 20 32.9**	**-1.0**
IUG				*e*S	**Sn**	**06 23 18.7**	**+1.4**
IUG				pmax	pmax		
	comp=Z,12nm,1.0s,baz=12						
IUG				MLR	MLR		
	baz=12						
IUG				LR	LR	06 26 11.8	
	comp=Z,173nm,9.9s,baz=12						
IUG	**Iuzhnay**	**14.80**	**12**	*e*P	**Pn**	**06 20 32.9**	**-1.0**
IUG				*e*S	**Sn**	**06 23 18.7**	**+1.4**
IUG				pmax	pmax		
	comp=Z,12nm,1.0s						
IUG				MLR	MLR		
	comp=Z,173nm,10.0s						
PYUN	**Piuthan**	**15.06**	**84**	*e*P	**Pn**	**06 20 34.6**	**-3.0**
RPR	**Rampur**	**15.07**	**123**	*e*P	**Pn**	**06 20 37.9**	**+0.5**
RPR				IVMsBB		06 27 15.4	
	comp=Z,2μm,9.8s						
HYBB	**Hyderabad (bro**	**15.47**	**129**	*e*P	**Pn**	**06 20 42.1**	**-0.7**
HYBB				IVMs_BB	IVMs_BB	06 27 37.1	
	comp=Z,3μm,6.9s						
HYB	**Hyderabad**	**15.47**	**129**	*i* P	**Pn**	**06 20 43.5**	**+0.7**
HYB				*e*S	**Sn**	**06 23 34.0**	**+0.2**
KOLN	**Koldanda**	**15.62**	**86**	*e*P	**Pn**	**06 20 42.0**	**-2.9**
	comp=Z,883nm,1.3s						
BRLS	**Borolday**	**15.63**	**11**	*e*S	**Sn**	**06 23 33.2**	**-4.1**
	baz=11						
AML	**Almayashu**	**15.73**	**22**	P	**Pn**	**06 20 43.9**	**-2.5**
	SNR=94						
DANN	**Dangsing**	**15.73**	**83**	*e*P	**Pn**	**06 20 43.1**	**-3.3**
	comp=Z,629nm,0.9s						
KK31	**Karatay Array**	**15.82**	**12**	*i* P	**Pn**	**06 20 44.4**	**-2.8**
KK31	**Karatay Array**	**15.82**	**12**		**Pn**	**06 20 44.4**	**-2.8**
KKAR	**Karatay Array**	**15.82**	**12**	P	**Pn**	**06 20 44.4**	**-2.8**
KKAR	**Karatay Array**	**15.82**	**12**		**Pn**	**06 20 44.4**	**-2.8**
UCH	**Uchtor**	**16.09**	**23**	P	**Pn**	**06 20 49.0**	**-2.2**
	SNR=77						
EKS2	**Erkin-Say**	**16.23**	**21**	P	**Pn**	**06 20 51.7**	**-0.9**
	SNR=33						
KZA	**Kyzart**	**16.23**	**25**	P	**Pn**	**06 20 53.2**	**+0.3**
	SNR=26						
AAK	**Ala-Archa**	**16.45**	**23**	Pn	**Pn**	**06 20 54.7**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=200,slow=10,SNR=25						
AAK				Sn	**Sn**	**06 23 48.5**	**-9.0**
	comp=Z,0.4nm,0.3s,baz=180,slow=20,SNR=1.1						
AAK				LR	LR	06 28 18.6	
	comp=Z,5μm,19.4s,baz=206,slow=41						
AAK	**Ala-Archa**	**16.45**	**23**	P	**Pn**	**06 20 52.7**	**-2.7**
	SNR=22						
AAK	**Ala-Archa**	**16.45**	**23**	*i* Pn	**Pn**	**06 20 54.7**	**-0.7**
	SNR=25						
AAK	**Ala-Archa**	**16.45**	**23**	⇓*e*P	**Pn**	**06 20 53.6**	**-1.8**
AAK				pmax	pmax		
	comp=Z,70nm,1.7s						
AAK	**Ala-Archa**	**16.45**	**23**	Pn	**Pn**	**06 20 53.3**	**-2.1**
AAK				IAmb	IAmb	06 21 10.2	
	comp=Z,323nm,1.8s						
URV	**Uravakonda**	**16.46**	**138**	*e*P	**Pn**	**06 20 55.4**	**-0.1**
URV				IVMs_BB	IVMs_BB	06 28 37.3	
	comp=Z,1μm,7.8s						
GKN	**Gorkha**	**16.52**	**85**	*e*P	**Pn**	**06 20 52.6**	**-3.8**
	comp=Z,149nm,0.7s						
NJS	**Nagarjunasagar**	**16.59**	**129**	*e*P	**P**	**06 20 58.0**	**-1.5**
NJS				IVMs_BB	IVMs_BB	06 28 17.4	
	comp=Z,3μm,13.6s						
KBK	**Karagaybulak**	**16.62**	**24**	P	**Pn**	**06 20 54.3**	**-3.3**
	SNR=13						
SRLM	**Srisailam**	**16.62**	**131**	*e*P	**Pn**	**06 20 57.5**	**-0.1**
SRLM				IVMs_BB	IVMs_BB	06 29 35.8	
	comp=Z,2μm,6.2s						
ULHL	**Ulahol**	**16.77**	**27**	P	**P**	**06 21 01.8**	**+0.2**
	SNR=13						
BOOM	**Boomskoye usch**	**16.85**	**26**	P	**Pn**	**06 20 58.0**	**-2.5**
BOOM				pmax	pmax		
	comp=Z,103nm,1.1s						
BOOM	**Boomskoye usch**	**16.85**	**26**		**Pn**	**06 20 58.0**	**-2.5**
CHMS	**Chumysh**	**16.86**	**23**	P	**Pn**	**06 20 55.2**	**-5.2**
	SNR=17						
DMN	**Daman**	**16.96**	**86**	*e*P	**Pn**	**06 20 58.6**	**-3.5**
	comp=Z,227nm,0.7s						
USP	**Ospenovka**	**17.01**	**22**	P	**Pn**	**06 21 03.4**	**+1.1**
	SNR=21						
TARG	**Taragay, Kyrgy**	**17.03**	**32**	Pn	**Pn**	**06 21 00.7**	**-2.3**
KDJ	**Kajisay**	**17.07**	**30**	IAmb	IAmb	06 21 23.9	
	comp=Z,151nm,1.0s						
TKM2	**Tokmak 2**	**17.09**	**25**	P	**Pn**	**06 21 01.6**	**-1.9**
	SNR=44						
TKM2	**Tokmak 2**	**17.09**	**25**	P	**Pn**	**06 21 00.7**	**-2.8**
KKN	**Kakani**	**17.10**	**85**	*e*P	**Pn**	**06 21 00.0**	**-3.8**
	comp=Z,61nm,0.6s						
RCLA	**Racherla**	**17.13**	**133**	*e*P	**Pn**	**06 21 04.3**	**+0.3**
RCLA				IVMs_BB	IVMs_BB	06 28 43.9	
	comp=Z,4μm,10.1s						
SGDS	**Sogindy**	**17.22**	**22**	*e*P	**Pn**	**06 21 03.9**	**-1.1**
	comp=Z,70nm,1.3s,baz=22						
SGDS				LR	LR	06 27 50.9	
	comp=Z,764nm,10.2s,baz=22						
SGDS	**Sogindy**	**17.22**	**22**	*e*P	**Pn**	**06 21 03.9**	**-1.1**
SGDS				pmax	pmax		
	comp=Z,70nm,1.3s						
SGDS				MLR	MLR		
	comp=Z,764nm,10.0s						
PKIN	**Phulchoki**	**17.22**	**86**	*e*P	**Pn**	**06 21 01.8**	**-3.6**
	comp=Z,166nm,0.7s						
PKI	**Pulchoki**	**17.24**	**86**	*e*P	**Pn**	**06 21 01.9**	**-3.7**
	comp=Z,196nm,0.8s						
ADKI	**Addanki**	**17.53**	**129**	*e*P	**Pn**	**06 21 08.1**	**-0.8**
ADKI				IVMsBB		06 29 00.2	
	comp=Z,3μm,12.4s						
GUN	**Gumba**	**17.62**	**85**	*e*P	**Pn**	**06 21 07.1**	**-3.3**
	comp=Z,1μm,0.9s						
PVM	**Polavaram**	**17.80**	**122**	*e*P	**P**	**06 21 12.3**	**-0.5**
PVM				IVMs_BB	IVMs_BB	06 28 56.8	
	comp=Z,3μm,10.2s						
AAA	**Alma-Ata**	**17.84**	**27**	*e*P	**Pn**	**06 21 13.5**	**+0.8**
	comp=Z,112nm,1.8s,baz=27						
AAA				LR	LR	06 28 14.2	
	comp=Z,2μm,9.3s,baz=27						
AAA	**Alma-Ata**	**17.84**	**27**	*e*P	**Pn**	**06 21 13.5**	**+0.8**
AAA				pmax	pmax		
	comp=Z,112nm,1.8s						
AAA				MLR	MLR		
	comp=Z,2μm,9.0s						
MDOK	**Medeo**	**17.86**	**27**	*e*P	**Pn**	**06 21 12.7**	**-0.3**
	comp=Z,1μm,1.7s,baz=28						
MDOK				LR	LR	06 28 07.3	
	comp=Z,3μm,9.9s,baz=28						
MDOK	**Medeo**	**17.86**	**27**	*e*P	**Pn**	**06 21 12.7**	**-0.3**
MDOK				pmax	pmax		
	comp=Z,1μm,1.7s						
MDOK				MLR	MLR		
	comp=Z,3μm,10.0s						
PRZ	**Przheval'sk**	**17.90**	**31**	IAmb	IAmb	06 21 33.0	
	comp=Z,285nm,1.1s						
JIRN	**Jiri**	**17.92**	**85**	*e*P	**Pn**	**06 21 10.8**	**-3.3**
	comp=Z,302nm,0.8s						
LKRN	**Lenkeran, Azer**	**18.07**	**312**	P	**Pn**	**06 21 15.4**	**0.0**
KUU	**Kurty**	**18.20**	**25**	*e*P	**Pn**	**06 21 16.3**	**-0.9**
	comp=Z,114nm,1.2s,baz=25						
KUU				LR	LR	06 28 29.0	
	comp=Z,1μm,8.5s,baz=25						
KUU	**Kurty**	**18.20**	**25**	*e*P	**Pn**	**06 21 16.2**	**-0.9**
KUU				pmax	pmax		
	comp=Z,114nm,1.2s						
KUU				MLR	MLR		
	comp=Z,1μm,8.0s						
RAMN	**Ramite**	**18.36**	**88**	*e*P	**P**	**06 21 16.8**	**-2.5**
	comp=Z,254nm,0.7s						
CHKK	**Chushkaly**	**18.42**	**26**	*e*P	**P**	**06 21 18.7**	**-0.9**
	comp=Z,505nm,0.9s,baz=26						
CHKK	**Chushkaly**	**18.42**	**26**	*e*P	**P**	**06 21 18.7**	**-0.9**
CHKK				pmax	pmax		
	comp=Z,505nm,0.9s						
UZB	**Uzynbulak**	**18.70**	**31**	*e*P	**P**	**06 21 23.4**	**+0.5**
	comp=Z,19nm,1.7s,baz=31						
UZB				*e*S	**S**	**06 24 55.3**	**+0.1**
	baz=31						
UZB	**Uzynbulak**	**18.70**	**31**	*e*P	**P**	**06 21 23.4**	**+0.5**
UZB				*e*S	**S**	**06 24 55.3**	**+0.1**
UZB				pmax	pmax		
	comp=Z,19nm,1.7s						
SKHT	**Srikalahasti**	**18.89**	**135**	*e*P	**P**	**06 21 24.5**	**-0.4**
SKHT				IVMs_BB	IVMs_BB	06 31 10.2	
	comp=Z,1μm,5.9s						
RAYN	**Ar Rayn**	**18.91**	**262**	*i* P	**P**	**06 21 23.6**	**-1.6**
	SNR=34						
RAYN	**Ar Rayn**	**18.91**	**262**	P	**P**	**06 21 23.0**	**-2.2**
RAYN				pmax	pmax		
	comp=Z,144nm,1.4s						
RAYN	**Ar Rayn**	**18.91**	**262**	P	**P**	**06 21 23.0**	**-2.2**
SHLS	**Shalkode**	**18.91**	**32**	*e*P	**Pn**	**06 21 26.7**	**+0.9**
	comp=Z,52nm,1.2s,baz=33						
SHLS				LR	LR	06 28 30.1	
	comp=Z,1μm,12.9s,baz=33						
SHLS	**Shalkode**	**18.91**	**32**	*e*P	**Pn**	**06 21 26.7**	**+0.9**
SHLS				pmax	pmax		
	comp=Z,52nm,1.2s						
SHLS				MLR	MLR		
	comp=Z,1μm,13.0s						
ODAN	**Odare**	**19.07**	**88**	*e*P	**P**	**06 21 25.7**	**-1.4**
	comp=Z,356nm,0.8s						
TAPN	**Taplejung**	**19.29**	**86**	*e*P	**P**	**06 21 28.0**	**-1.6**
	comp=Z,266nm,0.9s						
BWNR	**Bhubaneshwar**	**19.55**	**108**	IAML		06 30 34.7	
	comp=Z,108nm,5.1s						
TDK	**Taldyqorghan**	**19.93**	**27**	*e*P	**P**	**06 21 36.1**	**-0.1**
	comp=Z,39nm,0.7s,baz=27						
TDK				*e*S	**S**	**06 25 21.3**	**+1.6**
	baz=27						
TDK	**Taldyqorghan**	**19.93**	**27**	*e*P	**P**	**06 21 36.1**	**-0.1**
TDK				*e*S	**S**	**06 25 21.2**	**+1.6**
TDK				pmax	pmax		
	comp=Z,39nm,0.7s						
SEKA	**Sheki**	**20.47**	**316**	P	**P**	**06 21 41.9**	**-0.2**
GANJ	**Ganja**	**20.71**	**314**	P	**P**	**06 21 44.5**	**-0.2**
OTUK	**Ortayu**	**21.11**	**12**	P	**P**	**06 21 48.0**	**-1.0**
MAK	**Makhachkala**	**21.35**	**320**	*e*P	**P**	**06 21 46.1**	**-5.4**
MAK				*e*S	**S**	**06 25 39.4**	**-8.4**
MAK				pmax	pmax		
	comp=Z,42nm,0.3s						
MAK				MLR	MLR		
	comp=Z,1μm,11.0s						
ABKAR	**Akbulak array**	**22.03**	**349**	P	**P**	**06 22 00.2**	**+1.4**
LSA	**Lhasa**	**22.18**	**79**	P	**P**	**06 22 03.1**	**+2.1**
LSA				S	**S**	**06 26 00.3**	**-4.5**
LSA				LR	LR		
	comp=Z,5μm,15.7s						
LSA				LR	LR		
	comp=Z,10μm,12.5s						
LSA				LR	LR		
	comp=Z,17μm,12.5s						
LSA	**Lhasa**	**22.18**	**79**	P	**P**	**06 22 03.3**	**+2.3**
LSA	**Lhasa**	**22.18**	**79**	P	**P**	**06 22 03.3**	**+2.3**
LSA				pmax	pmax		
	comp=Z,130nm,1.0s						
LSA	**Lhasa**	**22.18**	**79**	P	**P**	**06 22 03.3**	**+2.3**
LSA				IAmb	IAmb	06 22 10.4	
	comp=Z,130nm,1.0s						
TBLG	**Delisi**	**22.30**	**314**	P	**P**	**06 22 04.2**	**+2.5**
TBLG				pmax	pmax		
	comp=Z,178nm,1.3s						
TBLG	**Delisi**	**22.30**	**314**	P	**P**	**06 22 04.2**	**+2.5**
TBLG				IAmb	IAmb	06 22 15.6	
	comp=Z,178nm,1.3s						
KZRT	**Kazreti**	**22.33**	**313**	P	**P**	**06 22 04.4**	**+2.2**
GROC	**Groznyy**	**22.49**	**319**	*e*P	**P**	**06 22 01.6**	**-2.1**
GROC				*e*		06 22 25.5	
GROC				*e*S	**S**	**06 26 11.1**	**+1.6**
GROC				pmax	pmax		
	comp=Z,333nm,1.2s						
BGD	**Bogdanovka**	**22.79**	**312**	P	**P**	**06 22 07.1**	**-0.1**
GUDG	**Gudauri**	**22.86**	**316**	P	**P**	**06 22 09.4**	**+1.5**
MAKZ	**Makanchi**	**22.87**	**29**	P	**P**	**06 22 07.0**	**-0.8**
MAKZ				pmax	pmax		
	comp=Z,214nm,0.9s						
MAKZ	**Makanchi**	**22.87**	**29**	P	**P**	**06 22 07.0**	**-0.8**
AKH	**Akhalkalaki**	**22.93**	**312**	P	**P**	**06 22 09.2**	**+0.5**
MK31	**Makanchi Array**	**22.99**	**30**	*e*P	**P**	**06 22 08.3**	**-0.8**
MK31	**Makanchi Array**	**22.99**	**30**	IAmb	IAmb	06 22 14.3	
	comp=Z,78nm,0.8s						
MKAR	**Makanchi Array**	**22.99**	**30**	P	**P**	**06 22 09.2**	**+0.2**
	comp=Z,53nm,0.7s,baz=211,slow=10.0,SNR=133						
MKAR				LR	LR	06 33 01.8	
	comp=Z,4μm,21.5s,baz=220,slow=42						

comp=Z,791nm,10.7s,baz=32
ZSN Zaisan 24.65 32 *e*P **P 06 22 25.6 +0.7**
ZSN *e*S **S 06 26 48.5 +3.2**
ZSN pmax pmax
comp=Z,46nm,1.4s
ZSN MLR MLR
comp=Z,791nm,11.0s
KVAR Kislovodsk Arr 24.76 317 P **P 06 22 28.5 +2.5**
comp=Z,5.8nm,0.4s,baz=253,slow=20,SNR=4.2
KVAR S **S 06 26 52.7 +5.3**
comp=Z,2.8nm,0.5s,baz=220,slow=19,SNR=1.2
KIV Kislovodsk 24.77 317 *i* P **P 06 22 27.5 +1.4**
SNR=12
KIV Kislovodsk 24.77 317 *d i* P **P 06 22 26.9 +0.8**
KIV *e* 06 22 58.6
KIV *i* S **S 06 26 40.9 -6.6**
KIV pmax pmax
comp=Z,106nm,1.7s
KIV Kislovodsk 24.77 317 P **P 06 22 27.1 +1.1**
KIV IAmb IAmb 06 22 40.5
comp=Z,77nm,0.9s
KURBB Kurchatov Arra 24.82 19 P **P 06 22 27.2 +0.8**
comp=Z,17nm,0.8s,baz=211,slow=8.9,SNR=127
KURBB S **S 06 26 50.2 +2.3**
comp=Z,2.7nm,1.1s,baz=145,slow=30,SNR=1.1
KURK Kurchatov 24.93 19 *c i* P **P 06 22 28.1 +0.8**
KURK pmax pmax
comp=Z,33nm,0.8s
KURK Kurchatov 24.93 19 P **P 06 22 28.2 +0.8**
KURK IAmb IAmb 06 22 55.4
comp=Z,73nm,1.0s
SEM Semipalatinsk 25.17 22 *e*P **P 06 22 31.1 +1.3**
comp=Z,20nm,0.9s,baz=22
SEM *e*S **S 06 26 55.2 +1.2**
baz=22
SEM Semipalatinsk 25.17 22 *e*P **P 06 22 31.0 +1.3**
SEM *e*S **S 06 26 55.1 +1.2**
SEM pmax pmax
comp=Z,20nm,0.9s
MALT Malatya 25.32 302 P **P 06 22 32.6 +1.4**
BVAR Borovoye Array 25.52 6 P **P 06 22 33.9 +1.2**
comp=Z,22nm,0.8s,baz=174,slow=9.4,SNR=62
ASF Jabal al Asfar 25.54 287 P **P 06 22 35.0 +1.8**
comp=Z,14nm,0.9s,baz=10,slow=2.9,SNR=13
ASF S **S 06 27 07.4 +7.3**
comp=Z,0.8nm,0.4s,baz=58,slow=21,SNR=1.3
ASF LR LR 06 34 49.0
comp=Z,2μm,18.5s,baz=54,slow=42
BRVK Borovoye 25.55 6 *c e*P **P 06 22 33.7 +0.8**
BRVK pmax pmax
comp=Z,52nm,1.3s
BRVK Borovoye 25.55 6 P **P 06 22 33.9 +1.1**
BRVK IAmb IAmb 06 22 56.0
comp=Z,70nm,0.9s
SOC Sochi 26.43 314 *e*P **P 06 22 39.8 -1.2**
SOC *e* 06 23 19.4
SOC *e*S **S 06 27 14.4 +0.8**
SOC *e*SS **SnSn 06 28 17.5 +2.5**
SOC pmax pmax
comp=Z,69nm,0.8s
SOC MLR MLR
comp=Z,1μm,13.0s
MMAI Mount Meron Ar 26.85 289 P **P 06 22 46.6 +1.6**
comp=Z,9.1nm,0.6s,baz=80,slow=15,SNR=15
MMAI LR LR 06 35 42.6
comp=Z,2μm,20.1s,baz=70,slow=42
ATD Arta Tunnel 26.99 238 P **P 06 22 51.5 +5.2**
comp=Z,27nm,0.9s,baz=7.8,slow=5.7,SNR=4.4
ATD LR LR 06 34 41.0
comp=Z,1μm,21.2s,baz=55,slow=39
EIL Elat 27.24 282 P **P 06 22 51.9 +3.4**
comp=Z,8.4nm,0.8s,baz=17,slow=5.0,SNR=6.2
EIL LR LR 06 34 56.0
comp=Z,3μm,18.3s,baz=98,slow=39
DGZ Jazzator, Alta 27.46 31 *c i* P **P 06 22 51.9 +1.5**
DGZ pmax pmax
comp=Z,40nm,0.9s
ANN Anapa 28.45 314 *e*P **P 06 22 58.1 -1.0**
ANN *e**PP **pP 06 23 01.3 -4.1**
ANN *e* 06 23 48.3
ANN *e*S **S 06 27 47.4 +2.0**
ANN pmax pmax
comp=Z,38nm,0.9s
ARU Arti 29.21 352 P **P 06 23 07.1 +1.4**
comp=Z,11nm,0.8s,baz=168,slow=7.9,SNR=23
ARU LR LR 06 36 12.6
comp=Z,2μm,19.0s,baz=159,slow=39
ARU Arti 29.21 352 *d i* P **P 06 23 07.5 +1.8**
ARU 06 23 55.7
ARU 06 26 12.7
ARU S **S 06 28 04.1 +7.0**
ARU pmax pmax
comp=Z,61nm,1.7s
ARU MLR MLR
comp=Z,3μm,15.0s
ARU Arti 29.21 352 P **P 06 23 07.4 +1.8**
ARU IAmb IAmb 06 23 13.0
comp=Z,57nm,1.2s
BRTR Keskin Array B 29.29 303 P **P 06 23 06.6 -0.3**
comp=Z,3.9nm,0.8s,baz=108,slow=8.0,SNR=13
BRTR PcP **PcP 06 26 14.2 +0.8**
comp=Z,3.1nm,0.9s,baz=139,slow=5.2,SNR=3.0
BRTR ScP **ScP 06 29 57.8 +3.7**
comp=Z,1.1nm,0.8s,baz=134,slow=3.6,SNR=3.8
BRTR LR LR 06 35 17.9
comp=Z,843nm,18.9s,baz=80,slow=37
BRTR Keskin Array B 29.29 303 *i* P **P 06 23 08.8 +2.0**
BRTR pmax pmax
comp=Z,4.0nm,0.8s
BRTR Keskin Array B 29.29 303 P **P 06 23 05.7 -1.2**
SVE Sverdlovsk 29.37 354 *e*P **P 06 23 08.5 +1.4**
SVE *e*S **S 06 28 00.3 +0.7**
SVE pmax pmax
comp=Z,64nm,1.6s
SVE MLR MLR
comp=Z,2μm,14.0s
ZAA0 Zalesovo Array 29.67 23 IAmb IAmb 06 23 51.3
comp=Z,34nm,0.9s
ZALV Zalesovo Beam 29.67 23 P **P 06 23 10.7 +0.8**
comp=Z,4.5nm,0.4s,baz=226,slow=10,SNR=21
ZALV LR LR 06 36 19.1
comp=Z,4μm,21.2s,baz=224,slow=39
ZALV Zalesovo Beam 29.67 23 P **P 06 23 09.4 -0.4**
VRH Novokhopyorsk 29.77 329 *e*P **P 06 23 10.5 -0.3**
VRH pmax pmax
comp=Z,40nm,1.7s
VRH MLR MLR
comp=Z,1μm,16.0s
GTA Gaotai 30.37 59 *e*P **P 06 23 18.5 +2.1**
GTA pP pP 06 23 22.8 +0.1
GTA sP sP 06 23 25.8 +0.5
GTA pmax pmax
comp=Z,38nm,1.0s
GTA pmax pmax
comp=Z,250nm,5.8s
GTA LR LR
comp=Z,3μm,18.9s
GTA LR LR
comp=Z,3μm,19.9s
GTA LR LR
comp=Z,3μm,17.5s
VORD Divnogorie 30.78 326 *e*P **P 06 23 19.5 -0.1**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 31.00 327 *e*P **P 06 23 21.4 -0.2**
VSR pmax pmax
comp=Z,20nm,0.6s
VSR MLR MLR
comp=Z,2μm,27.0s
VORR Voronezh 31.27 327 P **P 06 23 24.0 +0.1**
VORR pmax pmax
comp=Z,250nm,0.8s
ISP Isparta 31.31 298 P **P 06 23 27.5 +2.8**
ISP pmax pmax
comp=Z,60nm,0.8s
CMAR Chiang Mai Arr 31.62 100 P **P 06 23 27.1 -0.3**
comp=Z,1.1nm,0.4s,baz=302,slow=7.5,SNR=7.1
CMAR LR LR 06 39 07.3
comp=Z,1μm,19.0s,baz=272,slow=42
CMAR Chiang Mai Arr 31.62 100 *i* P **P 06 23 30.2 +2.7**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
ELL Elmali 31.66 296 P **P 06 23 28.9 +1.1**
LPSR Galich'ya Gora 32.00 328 *e*P **P 06 23 30.5 +0.1**
LPSR pmax pmax
comp=Z,70nm,0.9s
LPSR MLR MLR
comp=Z,990nm,21.0s
KMI Kunming 32.96 86 P **P 06 23 40.1 +0.7**
KMI sP sP 06 23 49.1 +0.7
KMI PP **PP 06 24 52.3 -1.7**
KMI S **S 06 28 55.9 -1.1**
KMI sS sS 06 29 08.3 +0.8
KMI SS **SnSn 06 30 58.3 +3.4**
KMI pmax pmax
comp=Z,13nm,1.4s
KMI pmax pmax
comp=Z,99nm,4.6s
KMI LR LR
comp=Z,2μm,19.0s
KMI LR LR
comp=Z,2μm,18.6s
KMI LR LR
comp=Z,2μm,19.0s
KIRV Kirov 32.97 344 P **P 06 23 39.8 +1.0**
comp=Z,26nm,0.7s,baz=110,slow=20,SNR=7.0
KIRV Kirov 32.97 344 ⇓ *e*P **P 06 23 40.1 +1.3**
CD2 Chengdu 33.01 75 ⇑ *i* P **P 06 23 40.4 +0.8**
CD2 S **S 06 28 55.4 -1.9**
CD2 pmax pmax
comp=Z,40nm,1.0s
CD2 pmax pmax
comp=Z,310nm,10.6s
CD2 LR LR
comp=Z,11μm,21.4s
CD2 LR LR
comp=Z,4μm,13.9s
CD2 LR LR
comp=Z,4μm,13.1s
LZH Lanzhou 33.07 66 ⇑ P **P 06 23 41.8 +1.6**
LZH pP pP 06 23 46.8 +0.2
LZH sP sP 06 23 49.3 +0.1
LZH pmax pmax
comp=Z,25nm,1.4s
LZH pmax pmax
comp=Z,100nm,5.5s
LZH LR LR
comp=Z,4μm,14.4s
LZH LR LR
comp=Z,3μm,14.1s
LZH LR LR
comp=Z,3μm,15.6s
TIRR Tirgusor 34.30 309 ⇓ P **P 06 23 50.5 -0.1**
TIRR Tirgusor 34.30 309 ⇓ P **P 06 23 50.5 -0.1**
ICOR Ion Corvin 34.63 308 ⇑ P **P 06 23 53.8 +0.3**
MOS Moscow 34.65 332 *e*P **P 06 23 53.6 +0.1**
MOS *e* 06 25 12.5
MOS *e*S **S 06 29 26.8 +4.8**
MOS pmax pmax
comp=Z,74nm,0.7s
MOS MLR MLR
comp=Z,2μm,17.0s
PRD Provadia 34.68 307 *i* P **P 06 23 57.2 +3.3**
OBN Obninsk 34.69 330 P **P 06 23 54.5 +0.7**
comp=Z,5.1nm,0.4s,baz=162,slow=6.8,SNR=7.6
OBN Obninsk 34.69 330 ⇓ *e*P **P 06 23 54.4 +0.6**
OBN *i* S **S 06 29 24.8 +2.2**
OBN pmax pmax
comp=Z,71nm,1.3s
OBN Obninsk 34.69 330 P **P 06 23 54.2 +0.4**
HARR Harsova 34.70 309 ⇑ P **P 06 23 53.5 -0.5**
HARR Harsova 34.70 309 ⇑ P **P 06 23 53.5 -0.5**
KIS Kishinev 34.84 314 ⇓ *i* P P 06 24 02.0 +6.8
comp=Z,80nm,3.3s
KIS *e*S **S 06 29 27.0 +2.0**
comp=Z,3μm,12.2s
KIS *e*LR LR 06 44 57.0
comp=Z,200nm,14.0s
KIS Kishinev 34.84 314 *d i* P P 06 24 02.0 +6.8
KIS *e* 06 24 12.0
KIS *e*S **S 06 29 27.5 +2.5**
KIS pmax pmax
comp=Z,80nm,3.3s
EZN Ezine 34.84 301 P **P 06 23 56.4 +1.1**
ALN Alexandroupoli 35.21 302 P **P 06 24 00.4 +1.9**
VASR Vaslui 35.38 313 ⇑ P **P 06 24 00.1 +0.2**
SORM Soroca 35.54 315 ⇑ P **P 06 24 01.9 +0.7**
SORM Soroca 35.54 315 ⇑ P **P 06 24 01.9 +0.7**
IDI Anoyia 35.64 293 P **P 06 24 03.0 +0.6**
comp=Z,14nm,0.8s,baz=80,slow=13,SNR=3.9
IDI Anoyia 35.64 293 ⇑ P **P 06 24 01.1 -1.2**
IDI Anoyia 35.64 293 P **P 06 24 02.8 +0.4**
IDI IAmb IAmb 06 24 13.3
comp=Z,39nm,1.1s
ISR Istrita 35.76 310 ⇑ P **P 06 24 03.2 -0.1**
ISR Istrita 35.76 310 ⇑ P **P 06 24 03.2 -0.1**
VRI Vrincioaia 35.85 311 ⇑ P **P 06 24 04.3 +0.4**
VRI Vrincioaia 35.85 311 ⇑ P **P 06 24 04.3 +0.4**
PLOR Plostina 35.89 311 ⇑ P **P 06 24 05.2 +0.8**
PLOR Plostina 35.89 311 ⇑ P **P 06 24 05.2 +0.8**
NEHR Nehoiu 36.02 310 ⇑ P **P 06 24 06.7 +1.2**
AKASG Malin Array Be 36.04 320 P **P 06 24 05.3 -0.2**
comp=Z,11nm,0.7s,baz=114,slow=7.5,SNR=28
AKASG Malin Array Be 36.04 320 *i* P **P 06 24 05.5 0.0**
AKASG pmax pmax
comp=Z,11nm,0.7s
AKASG Malin Array Be 36.04 320 P **P 06 24 04.6 -0.9**
AKBB Malin Array Si 36.04 320 *de*P **P 06 24 05.1 -0.4**
AKBB Malin Array Si 36.04 320 IAmb IAmb 06 24 19.6
comp=Z,38nm,1.0s
KIEV Kiev 36.05 320 P **P 06 24 05.0 -0.5**
TESR Tescani 36.09 312 ⇑ P **P 06 24 06.1 +0.1**
GYA Guiyang 36.15 82 ⇑ *i* P **P 06 24 08.4 +1.5**
GYA S **S 06 29 42.5 -3.4**
GYA pmax pmax
comp=Z,10.0nm,0.6s
GYA pmax pmax
comp=Z,210nm,4.1s
GYA LR LR
comp=Z,1μm,13.0s
GYA LR LR
comp=Z,1μm,16.9s
GYA LR LR
comp=Z,1μm,17.4s
ZAK Zakamensk 36.24 41 *e*P **P 06 24 07.2 -0.1**
ZAK pmax pmax
comp=Z,16nm,1.3s
MLR Muntele Rosu 36.27 310 P **P 06 24 09.5 +1.8**
comp=Z,20nm,0.9s,baz=74,slow=4.2,SNR=21
MLR S **S 06 29 50.9 +3.5**
comp=Z,2.4nm,0.7s,baz=198,slow=11,SNR=1.9
MLR Muntele Rosu 36.27 310 ⇑ P **P 06 24 08.7 +1.0**
MLR Muntele Rosu 36.27 310 ⇑ P **P 06 24 08.7 +1.0**
BIZ Bicaz 36.57 313 ⇑ P **P 06 24 10.6 +0.4**
DOPR Dopca 36.77 311 ⇑ P **P 06 24 11.8 -0.1**
MTUR Matau 36.80 309 ⇓ P **P 06 24 13.0 +0.8**
MTUR Matau 36.80 309 ⇓ P **P 06 24 13.0 +0.8**
VOIR 36.86 310 ⇓ P **P 06 24 12.8 +0.1**
VOIR 36.86 310 ⇓ P **P 06 24 12.8 +0.1**
KMPD K-Podol'skiy 36.87 315 P **P 06 24 12.0 -0.6**
PAIG Paliouri 36.87 300 P **P 06 24 15.0 +2.3**
TLY Talaya 37.00 39 P **P 06 24 15.3 +1.6**
comp=Z,8.5nm,0.7s,baz=237,slow=7.0,SNR=12
TLY Talaya 37.00 39 *c i* P **P 06 24 16.0 +2.3**
TLY pmax pmax
comp=Z,47nm,2.0s
TLY Talaya 37.00 39 P **P 06 24 15.8 +2.1**
MMB Musomiste 37.05 303 *i* P **P 06 24 18.8 +4.5**
HORU Horodok 37.12 316 P **P 06 24 14.4 -0.3**
ARR Arges 37.13 310 ⇑ P **P 06 24 15.1 +0.1**
MLSI Meulaboh, Aceh 37.19 123 P **P 06 24 16.5 +0.8**
comp=Z,81nm,0.9s
XAN Xi'an 37.21 69 P **P 06 24 16.3 +0.6**
XAN pP sP 06 24 24.1 -0.6
XAN PP **PnPn 06 25 42.6 +1.5**
XAN PcP **PcP 06 26 37.4 +1.9**
XAN S **S 06 30 05.9 +4.1**
XAN SS **SnSn 06 32 31.3 -6.0**
XAN ScS **ScS 06 34 34.0 +4.6**
XAN pmax pmax
comp=Z,42nm,1.2s
XAN pmax pmax
comp=Z,140nm,3.9s
XAN LR LR
comp=Z,890nm,11.8s
XAN LR LR
comp=Z,3μm,16.1s
XAN LR LR
comp=Z,4μm,14.2s
XAN Xi'an 37.21 69 P **P 06 24 16.1 +0.3**
XAN pmax pmax
comp=Z,30nm,0.9s
XAN Xi'an 37.21 69 P **P 06 24 16.1 +0.3**
XAN IAmb IAmb 06 24 17.5
comp=Z,30nm,0.9s
SONM Songino Array 37.22 46 P **P 06 24 17.7 +2.0**
comp=Z,10nm,0.9s,baz=251,slow=9.0,SNR=57
SONM PP **PP 06 25 39.0 -1.7**
comp=Z,9.8nm,1.0s,baz=240,slow=12,SNR=2.6
SONM LR LR 06 42 56.0
comp=Z,3μm,18.4s,baz=237,slow=42
SONM Songino Array 37.22 46 P **P 06 24 16.8 +1.0**
SONM pmax pmax
comp=Z,44nm,1.6s
SONM Songino Array 37.22 46 P **P 06 24 16.8 +1.0**
MPEP Malo Peshtene 37.33 306 *i* P **P 06 24 18.3 +1.7**
BURAR Bucovina Array 37.35 313 ⇑ P **P 06 24 17.4 +0.5**
BURAR Bucovina Array 37.35 313 ⇑ P **P 06 24 17.4 +0.5**
BURAR Bucovina Array 37.35 313 P **P 06 24 16.9 +0.1**
BUR08 Bucovina Ar. S 37.37 313 IAmb IAmb 06 24 23.8
comp=Z,28nm,0.9s
VTS Vitosha 37.56 305 ⇓ P **P 06 24 19.0 +0.2**
VTS Vitosha 37.56 305 *i* P **P 06 24 17.9 -0.9**
VTS Vitosha 37.56 305 ⇓ P **P 06 24 19.0 +0.2**
IRK Irkutsk 37.59 39 *e*P **P 06 24 20.0 +1.3**
IRK pmax pmax
comp=Z,43nm,2.0s
ULN Ulaanbaatar 37.65 46 P **P 06 24 20.9 +1.5**
ULN pmax pmax
comp=Z,48nm,1.5s
ULN Ulaanbaatar 37.65 46 P **P 06 24 20.9 +1.5**
ULN IAmb IAmb 06 24 22.4
comp=Z,48nm,1.5s
KLMR Klimovskoe 37.65 339 *e*P **P 06 24 18.5 -0.5**
KLMR *e* 06 25 44.5
KLMR MLR MLR
comp=Z,2μm,15.0s
KLMR Klimovskoe 37.65 339 *e*P **P 06 24 18.6 -0.5**
KLMR *e*PP **PP 06 25 44.5 -0.5**
KLMR LQ LQ 06 36 59.8
KLMR LQ LQ 06 36 59.8
KLMR LR LR 06 40 00.0
KLMR AMP 06 41 50.8
comp=Z,2μm,15.0s
KSV Kosov 37.66 314 P **P 06 24 17.8 -1.6**
ARCR ARCALIA 37.76 312 ⇓ P **P 06 24 21.6 +1.4**
ITM Ithomi 38.07 296 IAmb IAmb 06 24 45.9
comp=Z,32nm,0.7s
BTO Baotou 38.29 59 *e*P **P 06 24 25.8 +0.9**
GZR Gura Zlata 38.41 309 ⇑ P **P 06 24 26.7 +0.9**
TPTI 38.44 124 P **P 06 24 26.9 +0.7**
comp=Z,8.3nm,0.9s
MICGM Minsk 38.50 325 *e*P **P 06 24 26.0 -0.3**
MICGM *e*LR LR 06 42 32.0
MICGM LRM MLR 06 45 34.0
MNK Minsk 38.50 325 *e*P **P 06 24 26.0 -0.3**
HERR Herculane 38.55 308 ⇑ P **P 06 24 27.3 +0.4**
MORS Morshin 38.66 315 P **P 06 24 29.0 +1.3**
KCSI Kotacane, Aceh 38.70 123 P **P 06 24 29.0 +0.5**
comp=Z,26nm,1.0s
LVV L'vov 38.79 316 *e*P **P 06 24 28.2 -0.6**
LVV *e* 06 26 00.1
LVV *e*S **S 06 30 24.3 -1.0**
MDVR Moldovita 39.03 308 ⇑ P **P 06 24 31.4 +0.5**
BZS Buzias 39.26 309 ⇑ P **P 06 24 33.0 +0.2**
BZS Buzias 39.26 309 ⇑ P **P 06 24 33.0 +0.2**
NACGM Naroch 39.26 325 *e*P **P 06 24 31.0 -1.6**
NACGM *e*S **S 06 30 35.0 +2.9**
NACGM *e*SS **SS 06 33 22.0 -3.4**
NACGM *e*SSS SSS 06 35 18.0
NACGM *e*LQ LQ 06 38 45.0
NACGM *e*LR LR 06 41 48.0
NACGM LRM MLR 06 45 40.0
comp=Z,4.4nm,14.0s
SIRR Siria 39.36 310 ⇑ P **P 06 24 34.5 +0.8**
IGT Igoumenitsa 39.41 299 P **P 06 24 34.6 +0.4**
IGT pmax pmax
comp=Z,27nm,1.0s
HHC Hu-ho-hao-te 39.48 58 *e*P **P 06 24 37.3 +2.4**
HHC pP sP 06 24 45.6 +1.7
HHC pmax pmax
comp=Z,32nm,1.3s
HHC pmax pmax
comp=Z,85nm,6.6s
HHC LR LR
comp=Z,680nm,16.7s
HHC LR LR
comp=Z,920nm,18.6s
HHC LR LR
comp=Z,1μm,18.6s
UZH Uzhgorod 39.52 314 ⇓ *i* P **P 06 24 36.0 +1.1**
UZH *e* 06 24 38.7
UZH *e*S **S 06 30 36.8 +0.5**
KWP Kalwaria Pacla 39.55 316 P **P 06 24 35.8 +0.6**
KOLS Kolonicke sedl 39.62 314 *e*P **P 06 24 37.6 +1.8**
KOLS pmax pmax
comp=Z,19nm,0.9s
KOLS Kolonicke sedl 39.62 314 *e*P **P 06 24 37.6 +1.8**
IIGN Ignalina 39.75 325 *e*P **P 06 24 37.3 +0.5**
KMBO Kilima Mbogo 39.77 229 P **P 06 24 40.7 +3.0**
comp=Z,2.7nm,0.8s,baz=36,slow=12,SNR=4.8
KMBO LR LR 06 41 58.2
comp=Z,773nm,19.7s,baz=61,slow=38
KMBO Kilima Mbogo 39.77 229 P **P 06 24 39.8 +2.1**
KMBO pmax pmax
comp=Z,36nm,1.7s
KMBO Kilima Mbogo 39.77 229 P **P 06 24 39.8 +2.1**
ISAL Salakas 39.90 325 *e*P **P 06 24 38.0 +0.1**
IZAR Zarasai 39.92 326 *e*P **P 06 24 38.5 +0.3**
TIY Taiyuan 40.01 63 *e*P **P 06 24 41.3 +2.0**
TIY S **S 06 30 50.8 +6.7**
TIY pmax pmax
comp=Z,29nm,0.8s
TIY pmax pmax
comp=Z,420nm,5.1s
TIY LR LR
comp=Z,1μm,12.0s
TIY LR LR
comp=Z,1μm,14.3s
TIY LR LR
comp=Z,3μm,15.9s
PSI Prapat 40.04 122 P **P 06 24 40.0 +0.2**
comp=Z,12nm,0.8s,baz=359,slow=3.1,SNR=4.3
PSI Prapat 40.04 122 P **P 06 24 40.0 +0.2**
PSI 06 24 40.4
PSI pmax pmax
comp=Z,35nm,0.9s
GSI Gunungsitoli 40.05 125 P P 06 24 44.4 +4.7
GSI Gunungsitoli 40.05 125 P **P 06 24 41.7 +1.9**
RPSI Rantau Prapat 40.11 122 P **P 06 24 40.0 -0.2**
RPSI Rantau Prapat 40.11 122 P **P 06 24 40.4 +0.2**
RPSI IAmb IAmb 06 24 53.0
comp=Z,35nm,0.9s
CRVS Cervenica-Dubn 40.12 314 *e*P **P 06 24 40.9 +0.9**
CRVS pmax pmax
comp=Z,64nm,1.1s
CRVS Cervenica-Dubn 40.12 314 *e*P **P 06 24 40.9 +0.9**
PDG Podgorica 40.46 304 ⇑ P **P 06 24 43.2 +0.4**
TMCR Tamitsa 40.64 342 *e*P **P 06 24 43.5 -0.5**
TMCR pmax pmax
comp=Z,155nm,1.2s
SUW Suwalki 40.78 322 IAmb IAmb 06 24 51.4
comp=Z,60nm,0.8s
PSZ Piszkesteto 40.90 312 ⇑ P **P 06 24 48.0 +1.5**
PSZ Piszkesteto 40.90 312 P **P 06 24 47.6 +1.1**
PSZ pmax pmax
comp=Z,39nm,1.2s
PSZ Piszkesteto 40.90 312 P **P 06 24 47.6 +1.1**
PSZ IAmb IAmb 06 25 05.3
comp=Z,39nm,1.2s
PABE Paberze 40.97 325 *e*P **P 06 24 46.7 -0.1**
NIE Niedzica 40.99 315 P **P 06 24 49.5 +2.3**
QIZ Qiongzhong 41.02 92 P **P 06 24 45.4 -2.3**
QIZ S **S 06 30 58.9 -0.5**
QIZ LR LR
comp=Z,2μm,19.9s
QIZ LR LR
comp=Z,980nm,18.3s
QIZ LR LR
comp=Z,970nm,13.5s
VSU Vasula 41.04 330 *e*P **P 06 24 46.9 -0.4**
VSU Vasula 41.04 330 ⇓ *e*P **P 06 24 47.4 +0.1**
VSU pmax pmax
comp=Z,70nm,0.9s

PBSI **Pulau Batu** 41.50 126 P P 06 24 52.2 +0.5
VYHS **Vyhne** 41.72 313 eP P 06 24 54.2 +1.1
VYHS pmax pmax
comp=Z,17nm,1.3s
VYHS **Vyhne** 41.72 313 eP P 06 24 54.2 +1.1
MNSI **Mandailing Nat** 41.86 124 P P 06 24 57.1 +2.5
comp=Z,2µmcomp=Z,31nm,0.6s
WHN **Wuhan** 42.12 74 P P 06 24 58.3 +1.7
WHN S S 06 31 13.3 -2.0
WHN pmax pmax
comp=Z,96nm,0.8s
WHN LR LR
comp=Z,3µm,11.4s
WHN LR LR
comp=Z,3µm,10.7s
WHN LR LR
comp=Z,3µm,13.8s
TIP **Timpagrande** 42.17 299 ⇓P P 06 24 56.8 -0.2
TIP **Timpagrande** 42.17 299 IAmb IAmb 06 25 11.6
comp=Z,60nm,1.6s
PBUR **Paburge** 42.23 325 eP P 06 24 50.0 -7.2
OKC **Ostrava-Krasne** 42.45 315 eP P 06 24 59.9 +0.8
OKC epP pP 06 25 05.3 -0.3
OKC eS S 06 31 10.3 -10
OKC AMS AMS 06 49 30.0
comp=Z,600nm,15.5s
OKC **Ostrava-Krasne** 42.45 315 eP P 06 24 59.9 +0.8
OKC e 06 25 05.3
OKC eS S 06 31 10.3 -10
OKC MLR MLR
comp=Z,600nm,15.5s
JAVC **Velka Javorina** 42.55 313 eP P 06 25 01.6 +1.7
HVAR **Hvar** 42.58 305 P P 06 24 58.1 -2.1
MODS **Modra-Piesok** 42.71 312 eP P 06 25 01.3 +0.1
MODS pmax pmax
comp=Z,31nm,1.1s
MODS **Modra-Piesok** 42.71 312 eP P 06 25 01.3 +0.1
SLIT **Slitere, Latvi** 42.72 327 eP P 06 25 00.8 -0.3
MORC **Moravsky Berou** 42.82 314 ⇑P P 06 25 02.9 +0.8
MORC **Moravsky Berou** 42.82 314 eP P 06 25 02.3 +0.1
MORC **Moravsky Berou** 42.82 314 ⇑P P 06 25 02.9 +0.8
FIA1 **FINESS Array S** 42.92 333 P P 06 25 02.3 -0.3
FIA1 IAmb IAmb 06 25 16.5
comp=Z,51nm,1.2s
FINES **FINESS Array B** 42.92 333 P P 06 25 02.5 -0.2
comp=Z,7.8nm,0.5s,baz=130,slow=7.9,SNR=21
FINES LR LR 06 46 47.2
comp=Z,538nm,20.1s,baz=126,slow=42
FINES **FINESS Array B** 42.92 333 P P 06 25 01.7 -1.0
BJT **Baijiatuau** 42.95 60 IAmb IAmb 06 25 14.6
comp=Z,31nm,1.0s
BJI **Beijing** 42.96 60 P P 06 25 05.3 +2.0
BJI PcP PcP 06 26 51.9 -1.8
BJI S S 06 31 29.6 +2.1
BJI pmax pmax
comp=Z,25nm,1.2s
BJI LR LR
comp=Z,2µm,18.6s
BJI LR LR
comp=Z,1µm,14.9s
ZIRJ **Zirje** 43.20 305 P P 06 25 04.4 -0.8
VRAC **Vranov** 43.33 314 eP P 06 25 07.1 +0.9
KRUC **Moravsky** 43.41 313 eP P 06 25 07.6 +0.7
NRIK **Noril'sk** 43.55 11 P P 06 25 08.8 +1.1
comp=Z,14nm,0.9s,baz=208,slow=6.6,SNR=23
NRIK LR LR 06 43 45.4
comp=Z,1µm,18.7s,baz=206,slow=37
NRIK **Noril'sk** 43.55 11 iP P 06 25 08.7 +1.1
NRIK pmax pmax
comp=Z,25nm,1.1s
CONA **Conrad Observa** 43.56 312 iP P 06 25 08.9 +0.7
comp=Z,2.2nm,0.6s
CONA iP pP 06 25 14.6 -0.1
comp=Z,8.0nm,0.9s
DUGI **Dugi Otok** 43.65 306 P P 06 25 07.5 -1.4
BOJS **Bojanci** 43.66 308 iP P 06 25 09.9 +1.0
BOJS eS S 06 31 35.3 -2.4
BOJS eSS ScS 06 35 06.8 -0.5
PDSI **Padang** 43.66 125 P P 06 25 09.8 +0.5
comp=Z,4µmcomp=Z,32nm,0.9s
ARSA **Arzberg** 43.69 311 iP P 06 25 10.0 +0.8
comp=Z,7.6nm,0.8s
DPC **Dobruska-Polom** 43.71 315 eP P 06 25 10.4 +1.1
DPC epP pP 06 25 15.7 -0.2
DPC eS S 06 31 33.8 -4.7
DPC AMS AMS 06 46 50.0
comp=Z,700nm,17.3s
DPC **Dobruska-Polom** 43.71 315 eP P 06 25 10.4 +1.1
DPC e 06 25 15.7
DPC eS S 06 31 33.8 -4.7
DPC MLR MLR
comp=Z,700nm,17.3s
OSTC **Ostas** 43.82 315 eP P 06 25 10.6 +0.4
OSTC ex x 06 25 15.9
OSTC eS S 06 31 41.7 +1.7
OSTC AMS AMS 06 48 10.0
comp=Z,800nm,19.6s
NVLJ **Novalja** 43.83 307 P P 06 25 09.2 -1.1
KSP **Ksiaz** 43.84 316 P P 06 25 13.1 +2.8
PERS **Pernice** 43.88 310 eP P 06 25 10.6 -0.2
PERS ePcP PcP 06 27 00.7 +3.9
PERS eS S 06 31 38.1 -3.0
CHVC **Chvalec** 43.93 315 eP P 06 25 12.3 +1.2
CHVC ex x 06 25 17.6
CHVC AMS AMS 06 48 10.0
comp=Z,900nm,19.7s
UPC **Upice** 43.94 315 eP P 06 25 12.4 +1.3
UPC eS S 06 31 22.6 -19
UPC AMS AMS 06 46 50.0
comp=Z,900nm,18.4s
UPC **Upice** 43.94 315 eP P 06 25 12.4 +1.3
UPC MLR MLR
comp=Z,900nm,18.4s
SOKA **Soboth** 43.94 310 iP P 06 25 11.3 0.0
comp=Z,2.5nm,0.7s
TREC **Trest** 44.04 313 eP P 06 25 12.9 +0.9
TREC AMS AMS 06 45 50.0
comp=Z,1µm,22.3s
TREC **Trest** 44.04 313 eP P 06 25 12.9 +0.9
TREC MLR MLR
comp=Z,1µm,22.3s
VAE **Valguarnera** 44.05 296 P P 06 25 14.7 +2.5
comp=Z,8.1nm,0.3s,baz=13,slow=14,SNR=1.7
OBKA **Obir** 44.25 309 eP P 06 25 14.9 +1.1
comp=Z,19nm,0.9s
LVZ **Lovozero** 44.39 344deP P 06 25 15.4 +0.9
LVZ pmax pmax
comp=Z,134nm,1.0s
LVZ **Lovozero** 44.39 344 P P 06 25 15.0 +0.5
MOA **Molln** 44.61 311 ipP pP 06 25 23.3 +0.2
comp=Z,27nm,1.2s
BRJN **Brijuni** 44.66 307 P P 06 25 18.0 +1.1
PRU **Pruhonice** 44.77 314 eP P 06 25 18.3 +0.6
PRU eS S 06 31 46.7 -7.0
PRU AMS AMS 06 49 00.0
comp=Z,700nm,17.4s
PRU **Pruhonice** 44.77 314 eP P 06 25 18.3 +0.6
PRU eS S 06 31 46.7 -7.0
PRU MLR MLR
comp=Z,700nm,17.4s
AQU **L'Aquila** 44.78 303 P P 06 25 21.8 +3.8
AQU pmax pmax
comp=Z,46nm,0.9s
CADS **Cadrg** 44.78 309 iP P 06 25 17.1 -0.9
PVCC **Panska Ves** 44.85 315 AMS AMS 06 51 00.0
comp=Z,700nm,13.3s
PRA **Prague** 44.85 314 AMS AMS 06 49 00.0
comp=Z,300nm,16.0s
BOD **Bodaibo** 44.95 34 eP P 06 25 19.5 +0.5
BOD pmax pmax
comp=Z,34nm,1.8s
NRCA **Norcia** 45.00 304 IAmb IAmb 06 25 43.8
comp=Z,26nm,1.2s
GEC2 **GERESS Array S** 45.13 313 IAmb IAmb 06 25 38.0
comp=Z,20nm,0.9s
GEC2 **GERESS Array S** 45.13 313 eP P 06 25 21.5 +0.8
comp=Z,5.7nm,0.9s,baz=94,slow=8.3
GERES **GERESS Array B** 45.13 313 P P 06 25 20.7 0.0
comp=Z,4.5nm,0.7s,baz=96,slow=6.8,SNR=27
GERES PcP PcP 06 27 01.6 +0.5
comp=Z,3.0nm,0.7s,baz=106,slow=2.1,SNR=2.8
GERES **GERESS Array B** 45.13 313 P P 06 25 20.1 -0.7
KBA **Koelnbreinsper** 45.14 310 iP P 06 25 21.8 +0.8
comp=Z,7.7nm,0.8s,SNR=9.0
KBA **Koelnbreinsper** 45.14 310 P P 06 25 21.7 +0.8

KHC **Kasperske Hory** 45.25 313 eP P 06 25 21.4 -0.2
KHC epP sP 06 25 31.9 +1.2
KHC eS S 06 31 53.8 -7.0
KHC AMS AMS 06 49 20.0
comp=Z,700nm,17.9s
KHC **Kasperske Hory** 45.25 313dP P 06 25 21.6 0.0
KHC pmax pmax
comp=Z,29nm,2.5s
BRG **Berggiesshubel** 45.30 315 eP P 06 25 23.5 +1.5
comp=Z,15nm,1.1s
BRG i 06 25 33.5
comp=Z,46nm,1.3s
BRG S S 06 31 59.0 -2.4
BRG SS ScS 06 35 17.0 -0.6
comp=N,523nm,16.6s
comp=E,766nm,15.2s
comp=Z,1µm,14.4s
BRG **Berggiesshubel** 45.30 315 eP P 06 25 23.5 +1.5
BRG i 06 25 33.5
BRG S S 06 31 59.0 -2.4
BRG SS ScS 06 35 17.0 -0.6
BRG pmax pmax
comp=Z,15nm,1.1s
BRG pmax pmax
comp=Z,46nm,1.3s
BRG MLR MLR
comp=N,523nm,16.6s
BRG MLR MLR
comp=E,766nm,15.2s
BRG MLR MLR
comp=Z,1µm,14.4s
BRG **Berggiesshubel** 45.30 315 eP P 06 25 21.9 0.0
baz=94,slow=8.3
ZOU **Zoufplan** 45.34 309 IAmb IAmb 06 25 33.3
comp=Z,85nm,1.9s
ABTA **Abfaltersbach** 45.67 309 iP P 06 25 24.8 -0.3
comp=Z,7.0nm,0.7s
FBE **Freiberg** 45.68 315 eP P 06 25 25.3 +0.3
comp=Z,13nm,1.1s,baz=94,slow=8.3
CIMO **Cimolais** 45.69 309 P P 06 25 24.0 -1.1
NJ2 **Nanjing** 45.70 71 eP P 06 25 26.3 +0.9
NJ2 sP sP 06 25 34.6 +0.2
NJ2 S S 06 32 07.8 +0.2
NJ2 pmax pmax
comp=Z,32nm,0.9s
NJ2 pmax pmax
comp=Z,490nm,4.7s
NJ2 LR LR
comp=Z,1µm,14.2s
NJ2 LR LR
comp=Z,650nm,9.5s
NJ2 LR LR
comp=Z,2µm,15.2s
CLL **Collm** 45.96 316 iP P 06 25 27.9 +0.7
comp=Z,13nm,1.3s
CLL epP sP 06 25 36.0 -0.3
CLL epcP PcP 06 27 02.0 -1.7
CLL epP PP 06 27 16.0 +1.1
CLL e 06 27 36.0
CLL epPP PPP 06 27 52.0
CLL eS S 06 32 09.0 -1.9
CLL e 06 32 55.0
CLL eSS SS 06 35 48.0 +12
CLL eSSS SSS 06 36 18.0
CLL eSSSS 06 37 06.0
CLL **Collm** 45.96 316 iP P 06 25 27.9 +0.7
CLL eS S 06 32 09.0 -1.9
CLL pmax pmax
comp=Z,13nm,1.3s
CLL **Collm** 45.96 316 eP P 06 25 27.2 +0.1
baz=94,slow=8.3
NKC **Novy Kostel** 46.14 314 eS S 06 32 14.6 +1.1
NKC AMS AMS 06 49 30.0
comp=Z,800nm,21.0s
TANN **Tannenbergstha** 46.16 315 eP P 06 25 29.7 +0.9
baz=94,slow=8.3
HIA **Hailar** 46.17 47⇓eP P 06 25 30.3 +1.4
HIA pmax pmax
comp=Z,28nm,0.7s
WERN **Wernitzgruen** 46.19 314 eP P 06 25 29.9 +0.9
comp=Z,1.9nm,0.9s,baz=94,slow=8.3
CTI **Castel Tesino** 46.21 308 IAmb IAmb 06 25 51.3
comp=Z,78nm,1.8s
ROTZ **Rotzenmuhle** 46.22 314 eP P 06 25 30.5 +1.2
comp=Z,12nm,1.4s,baz=94,slow=8.3
MANZ **Manzenberg** 46.32 314 eP P 06 25 31.3 +1.3
baz=94,slow=8.3
WTTA **Wattenberg** 46.32 310 iP P 06 25 31.6 +1.3
comp=Z,16nm,0.7s,SNR=6.3
WTTA **Wattenberg** 46.32 310 P P 06 25 31.5 +1.3
SQTA **Sankt Quirin** 46.60 310 iP P 06 25 31.7 -0.7
comp=Z,7.7nm,0.5s
MOTA **Moosalm** 46.69 310 iP P 06 25 32.0 -1.1
comp=Z,13nm,0.7s
MOX **Moxa** 46.72 315 eP P 06 25 34.4 +1.2
baz=94,slow=8.3
GRF **Grafenberg Arr** 46.85 313 eP P 06 25 36.5 +2.3
comp=Z,15nm,0.7s,baz=94,slow=8.3
FETA **Feichten** 46.92 310 iP P 06 25 34.3 -0.7
comp=Z,8.9nm,0.8s,SNR=9.3
RETA **Reutte** 46.93 310 iP P 06 25 33.9 -1.0
comp=Z,9.2nm,0.6s,SNR=6.3
FUORN **Ofenpass-Fuorn** 47.21 309 IAmb IAmb 06 25 56.5
comp=Z,15nm,0.8s
UBR **Ueberruh** 47.39 311 eP P 06 25 40.9 +2.4
comp=Z,7.5nm,0.7s,baz=94,slow=8.3
DAVA **Damuels** 47.51 310 iP P 06 25 38.7 -0.8
comp=Z,28nm,0.8s,SNR=5.8
CLZ **Clausthal** 47.67 316 eP P 06 25 41.6 +1.0
baz=94,slow=8.3
KEV **Kevo** 47.67 343 P P 06 25 40.9 +0.6
KEV pmax pmax
comp=Z,69nm,1.3s
KEV **Kevo** 47.67 343 P P 06 25 40.9 +0.6
UBBA **Unterbreizbach** 47.76 315 eP P 06 25 42.9 +1.7
baz=94,slow=8.3
SSE **Sheshan** 47.82 72 P P 06 25 40.8 -1.2
SSE S S 06 32 31.0 -7.0
SSE pmax pmax
comp=Z,14nm,0.7s
SSE pmax pmax
comp=Z,150nm,5.1s
SSE LR LR
comp=Z,2µm,22.3s
SSE LR LR
comp=Z,600nm,14.1s
TUE **Stuetta** 47.83 309 IAmb IAmb 06 25 55.1
comp=Z,17nm,0.9s
GTTG **Gottingen** 47.88 316 eP P 06 25 43.5 +1.3
baz=94,slow=8.3
ARCES **ARCESS Array B** 47.93 342 P P 06 25 43.5 +1.2
comp=Z,24nm,0.8s,baz=131,slow=8.3,SNR=41
ARCES LR LR 06 47 54.3
comp=Z,2µm,19.3s,baz=132,slow=39
ARCES **ARCESS Array B** 47.93 342 P P 06 25 43.3 +1.0
ARE0 **ARCESS Array S** 47.93 342 eP P 06 25 43.5 +1.2
BSEG **Bad Segeberg** 48.04 319 eP P 06 25 42.7 -0.6
comp=Z,4.1nm,0.8s,baz=94,slow=8.3
STU **Stuttgart** 48.08 312 P P 06 25 42.4 -1.3
KTK1 **Kautokeino** 48.25 341 eP P 06 25 45.6 +0.9
KEST **Kesra** 48.26 294 P P 06 25 46.6 +1.2
comp=Z,15nm,0.8s,baz=195,slow=1.7,SNR=16
KEST LR LR 06 49 56.5
comp=Z,958nm,19.0s,baz=12,slow=41
BFO **Black Forest** 48.62 311 P P 06 25 48.4 +0.4
BFO pmax pmax
comp=Z,8.0nm,1.1s
BFO **Black Forest** 48.62 311 P P 06 25 48.4 +0.4
BFO **Black Forest** 48.62 311 eP P 06 25 50.1 +2.1
comp=Z,2.9nm,0.7s,baz=94,slow=8.3
TNS **Taunus Mts** 48.69 314 eP P 06 25 50.3 +1.8
comp=Z,3.7nm,0.8s,baz=94,slow=8.3
HAMF **Hammerfest** 49.12 343 eP P 06 25 52.2 +0.8
OSL **Oslo** 49.16 327 eP P 06 25 49.7 -2.2
NB2 **NORSAR Subarra** 49.24 328 P P 06 25 51.7 -0.8
comp=Z,27nm,1.2s,baz=108,slow=7.9
NB2 **NORSAR Subarra** 49.24 328 P P 06 25 51.7 -0.8
baz=108,slow=7.9
NOA **NORSAR Array B** 49.24 328 P P 06 25 51.3 -1.3
comp=Z,3.7nm,0.7s,baz=108,slow=7.6,SNR=13
NOA LR LR 06 50 09.4
comp=Z,1µm,18.6s,baz=120,slow=40
SENIN **Lac Senin/Sane** 49.25 309 IAmb IAmb 06 26 05.8
comp=Z,15nm,0.9s
IBBN **Ibbenburen** 49.33 317 eP P 06 25 54.6 +1.3
comp=Z,9.8nm,1.0s,baz=94,slow=8.3

ECH **Echery** 49.40 311 IAmb IAmb 06 26 00.7
comp=Z,20nm,1.1s
NBO00 **NORSAR Array S** 49.44 328 eP P 06 25 52.0 -2.1
OPO **Ambohidratompo** 49.45 204 P P 06 25 55.8 +1.0
comp=Z,5.3nm,0.7s,baz=347,slow=12,SNR=3.0
BUG **Bochum--Univer** 49.54 315 eP P 06 25 57.0 +2.1
comp=Z,9.5nm,0.9s,baz=94,slow=8.3
AHRW **Bad Neuenahr-A** 49.59 314 eP P 06 25 57.7 +2.4
comp=Z,5.0nm,0.7s,baz=94,slow=8.3
LPG **La Plagne** 49.62 308 eP P 06 25 54.9 -1.1
LPG pmax pmax
comp=Z,13nm,0.8s
LPL **La Plagne** 49.63 308 eP P 06 25 54.1 -1.9
LPL pmax pmax
comp=Z,26nm,1.0s
KONO **Kongsberg** 49.64 326 eP P 06 25 56.1 +0.6
BNI **Bardonecchia** 49.68 307 IAmb IAmb 06 26 02.1
comp=Z,25nm,0.9s
MOR8 **Moi Rana** 49.72 335 eP P 06 25 55.8 -0.3
KSM **Kuching** 49.78 114 P P 06 25 57.4 +0.2
KSM IAmb IAmb 06 26 01.3
comp=Z,23nm,0.9s
CN2 **Changchun** 49.85 55 eP P 06 25 58.6 +1.2
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,1µm,14.0s
CN2 LR LR
comp=Z,2µm,14.0s
CN2 LR LR
comp=Z,3µm,15.0s
TRO **Tromso** 49.87 340 eP P 06 25 58.1 +1.0
NSS **Namsos** 50.05 333 eP P 06 25 58.6 0.0
WLF **Walferdange** 50.13 313 P P 06 26 01.6 +2.2
WLF pmax pmax
comp=Z,109nm,1.2s
STEI **Steigen** 50.20 338 eP P 06 26 01.0 +1.3
ORIF **Oris-en-Rattie** 50.25 307 eP P 06 26 00.4 -0.1
ORIF pmax pmax
comp=Z,9.0nm,0.8s
MEM **Membach** 50.27 314 P P 06 26 01.7 +1.2
MEM sP sP 06 26 10.4 +0.8
STOK **Stokkvaagen** 50.31 335 eP P 06 25 60.0 -0.6
TBLU **Trondheim** 50.34 331 eP P 06 26 01.1 +0.3
KONS **Konsvik** 50.34 335 eP P 06 26 01.4 +0.6
DOMB **Dombas** 50.51 329 eP P 06 26 02.6 +0.4
LOF **Lofoten** 50.86 337 eP P 06 26 04.9 +0.3
BMRD **Maredsous** 51.05 314 P P 06 26 07.7 +1.4
BMRD sP sP 06 26 17.1 +1.6
BMRD x x 06 26 42.0
VIVF **Saint-Julien-l** 51.10 307 eP P 06 26 06.1 -0.8
VIVF pmax pmax
comp=Z,32nm,1.1s
DOU **Dourbes** 51.15 313 P P 06 26 07.6 +0.5
DOU sP sP 06 26 17.5 +1.2
SSB **Saint Sauveur** 51.18 307 IAmb IAmb 06 26 23.1
comp=Z,28nm,1.2s
INCN **Inchon** 51.27 63 P P 06 26 08.7 +0.4
INCN pmax pmax
comp=Z,85nm,1.3s
INCN **Inchon** 51.27 63 P P 06 26 08.7 +0.4
ZEA **Zeya** 51.33 42 eP P 06 26 10.4 +2.0
ZEA pmax pmax
comp=Z,36nm,1.2s
ZEA MLR MLR
comp=N,800nm,15.0s
ZEA MLR MLR
comp=E,1µm,15.0s
ZEA MLR MLR
comp=Z,2µm,15.0s
MOL **Molde** 51.34 330 eP P 06 26 08.1 -0.1
SNF **Seneffe** 51.37 314 P P 06 26 09.3 +0.6
SNF sP sP 06 26 19.7 +1.9
SNF x x 06 26 43.2
SNF x x 06 27 08.4
BAIF **Baives** 51.40 313 eP P 06 26 09.6 +0.6
BAIF pmax pmax
comp=Z,13nm,0.9s
LOR **Lormes** 51.61 310 eP P 06 26 09.8 -0.9
LOR pmax pmax
comp=Z,21nm,1.3s
AVF **Avril sur Loir** 51.97 309 eP P 06 26 12.4 -0.9
AVF pmax pmax
comp=Z,15nm,1.0s
TJN **Taejon** 52.01 64c iP P 06 26 13.8 0.0
DBJI **Dramaga** 52.07 125 P P 06 26 26.4 +12
KS19 **Wonju Array Si** 52.24 63 P P 06 26 16.4 +0.9
KS19 IAmb IAmb 06 26 25.1
comp=Z,32nm,0.8s
KSAR **Wonju Array Be** 52.26 63 P P 06 26 16.0 +0.4
KSAR **Wonju Array Be** 52.26 63 P P 06 26 16.0 +0.4
KSRS **Korea Array** 52.29 63 P P 06 26 16.4 +0.5
comp=Z,24nm,0.8s,baz=270,slow=7.5,SNR=109
KSRS LR LR 06 51 16.3
comp=Z,950nm,18.5s,baz=278,slow=39
BJO1 **Bjornoya** 52.56 346 eP P 06 26 18.2 +1.0
HOPEN **Hopen** 52.66 349 eP P 06 26 18.5 +0.5
CAF **Calviac** 52.95 307 eP P 06 26 20.4 -0.3
CAF pmax pmax
comp=Z,21nm,1.0s
YAK **Yakutsk** 53.65 32 eP P 06 26 24.9 -0.5
YAK e 06 27 31.6
YAK eS S 06 33 59.1 +1.2
YAK eSSS SSS 06 39 24.5
YAK pmax pmax
comp=Z,45nm,1.4s
YAK pmax pmax
comp=N,13nm,1.3s
YAK pmax pmax
comp=E,26nm,1.5s
YAK smax smax
comp=N,202nm,3.3s
YAK smax smax
comp=E,179nm,2.5s
YAK MLR MLR
comp=Z,2µm,18.0s
YAK MLR MLR
comp=E,1µm,24.0s
MSHR **Mys Shultsa** 54.10 56c iP P 06 26 30.2 +1.1
MSHR pmax pmax
comp=Z,48nm,1.7s
FLN **La Foliniere** 54.48 312 eP P 06 26 31.0 -0.7
FLN pmax pmax
comp=Z,17nm,0.9s
USRK **Ussuriysk Ar.** 54.53 54 P P 06 26 32.8 +0.6
comp=Z,5.6nm,1.0s,baz=255,slow=5.7,SNR=7.0
USRK LR LR 06 53 18.1
comp=Z,3µm,18.1s,baz=267,slow=40
USRK **Ussuriysk Ar.** 54.53 54 P P 06 26 31.6 -0.6
HSPB **Hornsund (broa** 54.68 348 eP P 06 26 33.0 +0.2
ETSF **Etsaut** 55.03 305 eP P 06 26 35.6 -0.4
ETSF pmax pmax
comp=Z,24nm,0.8s
LBWR **Ladybower, Pea** 55.12 318 eP P 06 26 35.8 -0.6
LBWR IAmb IAmb 06 26 39.4
comp=Z,19nm,0.9s
LBWR IAMs_20 IAMs_20 06 57 03.1
comp=Z,673nm,12.3s
SPA0 **Spitsbergen Ar** 55.19 349 IAmb IAmb 06 26 44.1
comp=Z,41nm,1.1s
SPA0 **Spitsbergen Ar** 55.19 349 eP P 06 26 37.1 +0.6
EDMD **Edmundbyers** 55.26 319 eP P 06 26 37.3 0.0
EDMD IAmb IAmb 06 26 42.6
comp=Z,43nm,0.8s
EDMD IAMs_20 IAMs_20 06 57 10.4
comp=Z,883nm,15.1s
SJPF **Ste Jean** 55.49 305 eP P 06 26 39.7 +0.5
SJPF pmax pmax
comp=Z,20nm,1.0s
TIXI **Tiksi** 55.50 20ceP P 06 26 38.5 -0.3
TIXI pmax pmax
comp=Z,10.0nm,0.8s
TIXI **Tiksi** 55.50 20 P P 06 26 38.1 -0.7
TIXI IAmb IAmb 06 26 59.4
comp=Z,18nm,1.1s
KESW **Keswick, Cumbr** 55.93 319 eP P 06 26 42.2 +0.1
KESW IAmb IAmb 06 26 44.0
comp=Z,29nm,1.2s
KESW IAMs_20 IAMs_20 06 56 52.5
comp=Z,1µm,16.2s
MCH1 **Michaelchurch** 55.94 316 eP P 06 26 41.5 -0.7
MCH1 IAmb IAmb 06 26 46.3
comp=Z,40nm,1.2s

ESK	**Eskdalemuir**	**55.98**	**320**	*e*P		**P**	**06 26 41.9**	**-0.5**
ESK				IAMs_20		IAMs_20	06 57 14.9	
comp=Z,1μm,19.0s								
ESK	**Eskdalemuir**	**55.98**	**320**	P		**P**	**06 26 41.9**	**-0.5**
ESK				pmax		pmax		
comp=Z,42nm,1.6s								
ESK	**Eskdalemuir**	**55.98**	**320**	P		**P**	**06 26 41.9**	**-0.5**
ESK				IAmb		IAmb	06 27 18.3	
comp=Z,42nm,1.6s								
FOEL	**Foel Wyfa**	**56.02**	**317**	*e*P		**P**	**06 26 43.0**	**+0.1**
CART	**Cartagena**	**56.19**	**298**	*e*PS		**S**	**06 34 28.3**	**-4.6**
QUIF	**Quistinic**	**56.32**	**311**	*e*P		**P**	**06 26 44.2**	**-0.8**
QUIF				pmax		pmax		
comp=Z,18nm,0.9s								
KBS	**Kingsbay**	**56.34**	**349**	P		**P**	**06 26 45.6**	**+0.9**
KBS				pmax		pmax		
comp=Z,34nm,0.9s								
KBS	**Kingsbay**	**56.34**	**349**	P		**P**	**06 26 45.6**	**+0.9**
KBS	**Kingsbay**	**56.34**	**349**	*e*P		**P**	**06 26 45.4**	**+0.7**
INVG	**Invergeldie, C**	**56.44**	**321**	*e*P		**P**	**06 26 45.1**	**-0.6**
INVG				IAMs_20		IAMs_20	06 59 25.4	
comp=Z,829nm,14.1s								
NEWG	**New Galloway**	**56.57**	**320**	*e*P		**P**	**06 26 46.6**	**0.0**
NEWG				IAmb		IAmb	06 26 50.2	
comp=Z,34nm,1.0s								
NEWG				IAMs_20		IAMs_20	06 57 34.3	
comp=Z,1μm,16.2s								
DYA	**Yadsworthy**	**56.61**	**314**	*e*P		**P**	**06 26 46.7**	**-0.3**
DYA				IAmb		IAmb	06 26 50.0	
comp=Z,45nm,0.8s								
DYA				IAMs_20		IAMs_20	06 58 58.1	
comp=Z,1μm,15.7s								
IOMK	**Kirk Michael**	**56.79**	**319**	*e*P		**P**	**06 26 48.5**	**+0.3**
IOMK				IAmb		IAmb	06 26 51.8	
comp=Z,69nm,1.0s								
IOMK				IAMs_20		IAMs_20	06 58 31.8	
comp=Z,2μm,18.8s								
GAL1	**Galloway**	**56.85**	**319**	*e*P		**P**	**06 26 48.5**	**-0.1**
GAL1				IAmb		IAmb	06 26 50.4	
comp=Z,22nm,1.0s								
GRNR	**Gornyy**	**56.95**	**46**⇑	*i*P		**P**	**06 26 50.6**	**+1.1**
GRNR				*e*S		**S**	**06 34 49.0**	**+6.5**
GRNR				pmax		pmax		
comp=Z,10.0nm,1.2s								
GRNR				smax		smax		
comp=N,3.0nm,0.8s								
GRNR				MLR		MLR		
comp=N,480nm,16.0s								
GRNR				MLR		MLR		
comp=E,1μm,16.0s								
GRNR				MLR		MLR		
comp=Z,2μm,15.0s								
RSBS	**Rosebush, Pemb**	**57.02**	**316**	*e*P		**P**	**06 26 49.6**	**-0.3**
RSBS				IAmb		IAmb	06 26 52.6	
comp=Z,15nm,0.9s								
RSBS				IAMs_20		IAMs_20	06 58 13.1	
comp=Z,970nm,16.9s								
KAC	**Achnashellach**	**57.12**	**322**	*e*P		**P**	**06 26 50.2**	**-0.3**
LAWE	**Loch Awe, Argy**	**57.20**	**321**	*e*P		**P**	**06 26 50.8**	**-0.3**
LAWE				IAmb		IAmb	06 26 52.2	
comp=Z,19nm,0.7s								
LAWE				IAMs_20		IAMs_20	06 58 24.1	
comp=Z,1μm,12.8s								
KPL	**Plockton**	**57.31**	**322**	*e*P		**P**	**06 26 51.4**	**-0.5**
KPL				IAmb		IAmb	06 26 52.8	
comp=Z,16nm,0.8s								
UCM	**Universidad Co**	**57.41**	**302**	*e*PS		**S**	**06 34 50.3**	**+1.3**
GUD	**Guadarrama**	**58.04**	**302**	P		**P**	**06 26 57.4**	**-0.1**
GUD				pmax		pmax		
comp=Z,32nm,1.1s								
ESBB	**Sonseca Array**	**58.07**	**301**	IAmb		IAmb	06 27 16.0	
comp=Z,19nm,1.1s								
ESDC	**Sonseca Array**	**58.07**	**301**	P		**P**	**06 26 56.9**	**-0.7**
comp=Z,4.4nm,0.8s,baz=64,slow=6.9,SNR=27								
ESDC				LR		LR	06 54 01.8	
comp=Z,381nm,20.9s,baz=70,slow=38								
ESDC	**Sonseca Array**	**58.07**	**301**	P		**P**	**06 26 56.2**	**-1.4**
PAB	**San Pablo**	**58.39**	**301**	P		**P**	**06 26 59.3**	**-0.6**
PAB				pmax		pmax		
comp=Z,23nm,1.1s								
PAB	**San Pablo**	**58.39**	**301**	P		**P**	**06 26 59.3**	**-0.6**
PAB				IAmb		IAmb	06 27 20.5	
comp=Z,23nm,1.1s								
PBRG	**Braganca**	**59.73**	**304**	*e*P		**P**	**06 27 09.1**	**0.0**
comp=Z,40nm,1.5s								
INU	**Inuyama**	**59.90**	**63**	P		**P**	**06 27 10.7**	**+0.4**
MVO	**Moncorvo**	**60.07**	**304**	*e*P		**P**	**06 27 11.1**	**-0.4**
comp=Z,33nm,1.4s								
MVO				*e*S		**S**	**06 35 26.7**	**+3.1**
MVO				*e*LQ		LQ	06 42 29.4	
MVO				*e*LR		LR	06 47 40.7	
comp=Z,312nm,20.0s								
MAT	**Matsushiro**	**60.54**	**62**	P		**P**	**06 27 14.5**	**-0.2**
MAT				*e*S		**S**	**06 35 31.4**	**+1.7**
MJAR	**Matsushiro Arr**	**60.54**	**62**	P		**P**	**06 27 15.6**	**+0.9**
comp=Z,5.6nm,0.9s,baz=276,slow=7.2,SNR=9.4								
MJAR				LR		LR	06 56 11.4	
comp=Z,252nm,19.1s,baz=260,slow=39								
MJAR	**Matsushiro Arr**	**60.54**	**62**	P		**P**	**06 27 14.1**	**-0.6**
PVRL	**Vila Real**	**60.55**	**304**	*e*P		**P**	**06 27 14.7**	**-0.1**
comp=Z,43nm,1.8s								
MTE	**Manteigas**	**60.62**	**303**	*e*P		**P**	**06 27 15.3**	**+0.1**
comp=Z,39nm,1.3s								
MTE				*e*S		**S**	**06 35 34.8**	**+4.2**
MTE				*e*LQ		LQ	06 44 48.8	
MTE				*e*LR		LR	06 48 05.9	
comp=Z,247nm,20.0s								
MTE	**Manteigas**	**60.62**	**303**	P		**P**	**06 27 14.9**	**-0.3**
MTE				IAmb		IAmb	06 27 21.0	
comp=Z,26nm,0.9s								
PCBR	**Castelo Branco**	**60.69**	**302**	*e*P		**P**	**06 27 15.8**	**+0.2**
comp=Z,49nm,1.5s								
PCAB	**Cabril**	**60.69**	**304**	*e*P		**P**	**06 27 18.1**	**+2.4**
comp=Z,39nm,1.6s								
PMRV	**Marv??o**	**60.72**	**302**	*e*P		**P**	**06 27 15.4**	**-0.5**
comp=Z,26nm,1.2s								
PMRV				*e*S		**S**	**06 35 33.4**	**+1.6**
PMRV				*e*LQ		LQ	06 44 37.8	
PMRV				*e*LR		LR	06 48 05.2	
comp=Z,426nm,18.0s								
PVIS	**Viseu**	**60.81**	**303**	*e*P		**P**	**06 27 15.4**	**-1.1**
comp=Z,42nm,1.4s								
PGAV	**Gavieira, Arco**	**60.81**	**305**	*e*P		**P**	**06 27 17.1**	**+0.5**
comp=Z,36nm,1.2s								
PGAV				*e*S		**S**	**06 35 41.2**	**+8.0**
PGAV				*e*LQ		LQ	06 45 04.7	
PGAV				*e*LR		LR	06 48 00.1	
comp=Z,343nm,20.0s								
COI	**Coimbra**	**61.31**	**303**	*e*P		**P**	**06 27 19.8**	**0.0**
comp=Z,56nm,1.9s								
COI				*e*S		**S**	**06 35 42.8**	**+3.6**
TOA0	**Torodi Ar. Sit**	**61.35**	**270**	P		**P**	**06 27 20.9**	**+0.4**
TOA0				P		**P**	**06 27 20.9**	**+0.4**
TOA0	**Torodi Ar. Sit**	**61.35**	**270**	P		**P**	**06 27 20.2**	**-0.3**
TOA0				IAmb		IAmb	06 27 26.4	
comp=Z,21nm,0.8s								
TORD	**Torodi Ar. Bea**	**61.35**	**270**	P		**P**	**06 27 20.2**	**-0.2**
comp=Z,26nm,0.9s,baz=59,slow=5.5,SNR=52								
TORD				LR		LR	06 57 54.6	
comp=Z,784nm,18.3s,baz=60,slow=40								
TORD	**Torodi Ar. Bea**	**61.35**	**270**	P		**P**	**06 27 19.8**	**-0.6**
EVO	**Evora**	**61.40**	**301**	*e*P		**P**	**06 27 20.4**	**-0.1**
comp=Z,31nm,1.8s								
PCAS	**Casmilo, Conde**	**61.41**	**303**	*e*S		**S**	**06 35 38.1**	**-2.5**
PBEJ	**Beja**	**61.41**	**300**	*e*P		**P**	**06 27 20.6**	**+0.1**
PMTG	**Montargil**	**61.43**	**301**	*e*P		**P**	**06 27 20.6**	**-0.1**
comp=Z,37nm,1.8s								
PMTG				*e*S		**S**	**06 35 42.9**	**+2.0**
PVAQ	**Vaqueiros**	**61.45**	**300**	*e*P		**P**	**06 27 20.3**	**-0.5**
PVAQ				*e*S		**S**	**06 35 43.7**	**+2.6**
PVAQ				*e*LQ		LQ	06 45 28.4	
PVAQ				*e*LR		LR	06 47 55.5	
comp=Z,207nm,20.0s								
YSS	**Yuzh-Sakhalins**	**61.61**	**49**⇓	*e*P		**P**	**06 27 20.9**	**-0.8**
YSS				*e*			06 28 07.3	
YSS				*e*S		**S**	**06 35 35.9**	**-6.9**
YSS				pmax		pmax		
comp=Z,40nm,1.3s								
YSS				MLR		MLR		
comp=Z,3μm,16.0s								
YSS				MLR		MLR		
comp=E,1μm,14.0s								
PCVE	**Castro Verde**	**61.64**	**300**	*e*P		**P**	**06 27 21.9**	**-0.2**
PBDV	**Barranco-do-Ve**	**61.65**	**299**	*e*S		**S**	**06 35 43.4**	**-0.4**
NOR	**Nord**	**61.71**	**350**	*i*P		**P**	**06 27 22.8**	**+0.9**
comp=E,9.4nm,0.8s								
NOR	**Nord**	**61.71**	**350**	*i*P		**P**	**06 27 22.8**	**+0.9**
NOR				pmax		pmax		
comp=Z,9.0nm,0.8s								
MESJ	**Messejana**	**61.72**	**300**	*e*P		**P**	**06 27 22.0**	**-0.7**
MESJ				AMb		AMB	06 27 22.8	
comp=Z,48nm,1.6s								
MESJ				*e*S		**S**	**06 35 43.7**	**-0.9**
MESJ	**Messejana**	**61.72**	**300**	*e*P		**P**	**06 27 22.0**	**-0.7**
MESJ				*e*S		**S**	**06 35 43.7**	**-0.9**
MESJ	**Messejana**	**61.72**	**300**	*e*P		**P**	**06 27 22.0**	**-0.7**
comp=Z,47nm,1.6s								
PSBE	**So Bento**	**61.75**	**302**	*e*S		**S**	**06 35 49.5**	**+4.5**
PNCL	**Nicolau / Gran**	**61.89**	**300**	*e*P		**P**	**06 27 23.1**	**-0.7**
comp=Z,81nm,1.8s								
PNCL				*e*S		**S**	**06 35 51.5**	**+4.8**
DAG	**Danmarks Havn**	**62.03**	**345**⇑	*i*P		**P**	**06 27 24.2**	**+0.1**
comp=Z,19nm,0.9s								
DAG	**Danmarks Havn**	**62.03**	**345**⇑	*i*P		**P**	**06 27 24.2**	**+0.1**
DAG				pmax		pmax		
comp=Z,19nm,0.9s								
MORF	**Marmelete**	**62.19**	**300**	*e*S		**S**	**06 35 56.1**	**+5.5**
PMAFR	**Mafra**	**62.26**	**302**	*e*P		**P**	**06 27 26.0**	**-0.3**
PMAFR				*e*S		**S**	**06 35 55.1**	**+3.7**
PFVI	**Vila Bisbo**	**62.37**	**299**	*e*P		**P**	**06 27 26.3**	**-0.7**
PFVI				*e*S		**S**	**06 35 53.0**	**+0.2**
EDFI	**Ende, Flores**	**64.93**	**116**	P		**P**	**06 27 41.6**	**-2.7**
comp=Z,21nm,0.8s,comp=Z,21nm,0.8s								
LBTB	**Lobatse**	**65.25**	**220**	P		**P**	**06 27 46.8**	**+0.6**
LBTB				pmax		pmax		
comp=Z,38nm,1.2s								
LBTB	**Lobatse**	**65.25**	**220**	P		**P**	**06 27 46.8**	**+0.6**
TSUM	**Tsumeb**	**66.08**	**231**	P		**P**	**06 27 52.2**	**+0.6**
SOEI	**Soe**	**67.58**	**115**	P		**P**	**06 28 00.0**	**-1.3**
comp=Z,1μmcomp=Z,119nm,0.9s								
SOEI	**Soe**	**67.58**	**115**	P		**P**	**06 27 59.5**	**-1.8**
SUMG	**Summit**	**68.02**	**342**	*i*P		**P**	**06 28 03.7**	**+0.1**
comp=Z,41nm,0.8s								
SUMG	**Summit**	**68.02**	**342**	P		**P**	**06 28 04.3**	**+0.7**
SUMG				pmax		pmax		
comp=Z,54nm,1.5s								
SUMG	**Summit**	**68.02**	**342**	P		**P**	**06 28 04.3**	**+0.7**
BOSA	**Boshof**	**68.23**	**218**	P		**P**	**06 28 05.1**	**0.0**
comp=Z,10nm,0.6s,baz=36,slow=8.5,SNR=40								
BOSA				LR		LR	06 56 05.1	
comp=Z,582nm,21.0s,baz=47,slow=34								
BOSA	**Boshof**	**68.23**	**218**	P		**P**	**06 28 04.4**	**-0.8**
BILL	**Bilibino**	**68.37**	**23***ce*	P		**P**	**06 28 06.1**	**+0.8**
BILL				*e*			06 28 34.1	
BILL				*e*			06 30 34.8	
BILL				pmax		pmax		
comp=Z,6.0nm,0.9s								
BILL				MLR		MLR		
comp=Z,2μm,17.0s								
BILL	**Bilibino**	**68.37**	**23**	P		**P**	**06 28 06.2**	**+0.8**
PETK	**Petropavlovsk-**	**69.35**	**40**	P		**P**	**06 28 11.4**	**-0.3**
comp=Z,2.3nm,0.8s,baz=336,slow=3.3,SNR=6.1								
PETK				LR		LR	07 00 34.6	
comp=Z,1μm,19.2s,baz=290,slow=38								
PETK	**Petropavlovsk-**	**69.35**	**40**	P		**P**	**06 28 09.9**	**-1.8**
DBIC	**Dimbokro**	**69.96**	**267**	P		**P**	**06 28 17.0**	**+0.9**
comp=Z,7.9nm,0.7s,baz=46,slow=8.0,SNR=8.6								
DBIC				LR		LR	06 59 59.7	
comp=Z,331nm,19.8s,baz=37,slow=37								
DBIC	**Dimbokro**	**69.96**	**267**	P		**P**	**06 28 17.5**	**+1.4**
KIC	**Kosan Boka**	**69.99**	**267**	*e*PKIKP		**P**	**06 28 16.3**	**0.0**
comp=Z,20nm,0.7s								
TIC	**Toumodi**	**70.11**	**267**	*e*PKIKP		**P**	**06 28 16.7**	**-0.4**
PMOZ	**Porto Moniz, M**	**70.23**	**297**	*e*S		S	06 37 37.9	+9.3
PMOZ	**Porto Moniz, M**	**70.23**	**297**	*e*LR		LR	06 56 13.8	
comp=Z,214nm,18.0s								
LIC	**Lamto**	**70.31**	**267**	*e*PKIKP		**P**	**06 28 16.9**	**-1.3**
comp=Z,69nm,1.1s								
TULEG	**Thule**	**72.36**	**350**	P		**P**	**06 28 29.4**	**-0.2**
TULEG				IAmb		IAmb	06 28 53.6	
comp=Z,27nm,1.1s								
SFJD	**Kangerlussuaq**	**74.39**	**339**	P		**P**	**06 28 43.7**	**+2.0**
SFJD				pmax		pmax		
comp=Z,20nm,1.1s								
KNRA	**Kununurra**	**74.55**	**117**	P		**P**	**06 28 44.1**	**+0.7**
KNRA				IAmb		IAmb	06 28 52.1	
comp=Z,23nm,0.9s								
MTN	**Manton Dam**	**74.86**	**114**	P		**P**	**06 28 44.9**	**-0.4**
MTN				IAmb		IAmb	06 28 52.6	
comp=Z,15nm,0.8s								
SMY	**Shemya**	**78.52**	**36**	P		**P**	**06 29 02.7**	**-2.6**
SMY				pmax		pmax		
comp=Z,101nm,1.8s								
A36M	**Sachs Harbour**	**80.29**	**4**	P		**P**	**06 29 14.4**	**-0.2**
baz=350								
TOLK	**Toolik Lake Re**	**80.46**	**12**	P		**P**	**06 29 15.9**	**+0.2**
baz=329								
TOLK	**Toolik Lake Re**	**80.46**	**12**	IAmb		IAmb	06 29 46.4	
comp=Z,27nm,1.0s								
WRA	**Warramunga Arr**	**81.33**	**118**	P		**P**	**06 29 21.1**	**0.0**
comp=Z,11nm,1.1s,baz=313,slow=4.9,SNR=6.1								
WRA				LR		LR	07 09 40.9	
comp=Z,259nm,18.9s,baz=275,slow=39								
WRA	**Warramunga Arr**	**81.33**	**118**	P		**P**	**06 29 19.9**	**-1.2**
WRAB	**Tennant Creek**	**81.34**	**118**	*de*P		**P**	**06 29 21.3**	**+0.2**
WRAB				pmax		pmax		
comp=Z,26nm,1.2s								
WRAB	**Tennant Creek**	**81.34**	**118**	P		**P**	**06 29 18.3**	**-2.8**
WRAB				IAmb		IAmb	06 29 32.4	
comp=Z,17nm,0.9s								
WB2	**Warramunga Arr**	**81.34**	**118**	IAmb		IAmb	06 29 44.4	
comp=Z,21nm,1.1s								
IMAR	**Indian Mountai**	**81.81**	**15**	P		**P**	**06 29 22.6**	**-0.3**
BMAR	**Burnt Mountain**	**82.44**	**11**	P		**P**	**06 29 26.8**	**+0.5**
C36M	**Paulatuk**	**82.97**	**4**	P		**P**	**06 29 28.8**	**0.0**
baz=351								
AS31	**Alice Springs**	**83.06**	**121**	P		**P**	**06 29 29.1**	**-1.0**
ASAR	**Alice Springs**	**83.06**	**121**	P		**P**	**06 29 30.0**	**-0.1**
comp=Z,4.5nm,0.8s,baz=307,slow=5.3,SNR=41								
ASAR				LR		LR	07 07 24.5	
comp=Z,498nm,21.1s,baz=298,slow=36								
ASAR	**Alice Springs**	**83.06**	**121**	P		**P**	**06 29 30.0**	**-0.1**
ASAR	**Alice Springs**	**83.06**	**121**	P		**P**	**06 29 29.7**	**-0.4**
INK	**Inuvik**	**83.21**	**7**	IAmb		IAmb	06 29 52.0	
comp=Z,15nm,0.9s								
MDM	**Murphy Dome**	**83.91**	**14**	IAmb		IAmb	06 29 59.9	
comp=Z,13nm,1.0s								
POKR	**Poker Plat Res**	**83.94**	**14**	P		**P**	**06 29 34.5**	**+0.5**
baz=331								
BPAW	**Bear Paw Mtn.**	**84.03**	**15**	IAmb		IAmb	06 30 00.4	
comp=Z,16nm,1.3s								
TCOL	**CIGO, UAF Yank**	**84.06**	**14**	P		**P**	**06 29 34.8**	**+0.2**
baz=330								
COLA	**College**	**84.06**	**14**⇓	*e*P		**P**	**06 29 34.9**	**+0.4**
COLA				pmax		pmax		
comp=Z,7.0nm,1.1s								
ILAR	**Eielson Array**	**84.36**	**14**	P		**P**	**06 29 35.2**	**-0.9**
comp=Z,2.0nm,0.8s,baz=333,slow=4.4,SNR=16								
ILAR				PP		**PP**	**06 32 51.8**	**+1.6**
comp=Z,1.1nm,0.9s,baz=319,slow=4.0,SNR=2.8								
ILAR				LR		LR	07 14 13.9	
comp=Z,515nm,18.1s,baz=316,slow=41								
ILAR	**Eielson Array**	**84.36**	**14**	P		**P**	**06 29 34.8**	**-1.3**
KTH	**Kantishna Hill**	**84.51**	**16**	IAmb		IAmb	06 30 29.1	
comp=Z,13nm,1.2s								
EPYK	**Eagle Plains**	**84.65**	**9**	P		**P**	**06 29 37.4**	**-0.2**
baz=340								
EPYK	**Eagle Plains**	**84.65**	**9**	IAmb		IAmb	06 30 11.2	
comp=Z,25nm,1.5s								
HDA	**Harding Lake**	**84.66**	**14**	P		**P**	**06 29 37.0**	**-0.6**
baz=331								
MCK	**McKinley**	**84.82**	**15**	IAmb		IAmb	06 30 09.2	
comp=Z,34nm,1.5s								
RND	**Reindeer**	**85.12**	**15**	IAmb		IAmb	06 30 05.0	
comp=Z,21nm,1.4s								
COEN	**Coen**	**85.42**	**108**	IAmb		IAmb	06 29 44.1	
comp=Z,31nm,1.6s								
EGAK	**Eagle**	**85.44**	**11**	IAmb		IAmb	06 30 16.4	
comp=Z,14nm,1.1s								
SCRK	**Sand Creek**	**85.65**	**13**	IAmb		IAmb	06 30 05.9	
comp=Z,12nm,1.0s								
GHO	**Glory Hole Cre**	**86.51**	**16**	IAmb		IAmb	06 30 17.4	
comp=Z,22nm,1.1s								
PMR	**Palmer**	**86.62**	**16**	IAmb		IAmb	06 30 10.3	
comp=Z,13nm,1.0s								
PMG	**Port Moresby**	**86.62**	**102***ce*	P		**P**	**06 29 48.7**	**+0.5**
PMG				pmax		pmax		
comp=Z,27nm,1.0s								
PMG	**Port Moresby**	**86.62**	**102**	P		**P**	**06 29 47.2**	**-1.0**
BCAR	**Beaver Creek A**	**86.90**	**12**	P		**P**	**06 29 48.6**	**-0.3**
SCHQ	**Schefferville**	**88.37**	**335**	P		**P**	**06 29 56.5**	**+0.6**
comp=Z,3.8nm,1.0s,baz=90,slow=9.6,SNR=2.8								
SCHQ				LR		LR	07 10 45.1	
comp=Z,758nm,20.9s,baz=32,slow=36								
SCHQ	**Schefferville**	**88.37**	**335**	P		**P**	**06 29 56.4**	**+0.4**
HYT	**Haines Junctio**	**89.75**	**11**	IAmb		IAmb	06 30 26.8	
comp=Z,12nm,1.0s								
YKA	**Yellowknife Ar**	**90.13**	**0**	P		**P**	**06 30 03.7**	**-0.3**
comp=Z,2.1nm,0.9s,baz=351,slow=4.3,SNR=14								
YKA				LR		LR	07 16 49.3	
comp=Z,168nm,18.2s,baz=0.0,slow=40								
YKA	**Yellowknife Ar**	**90.13**	**0**	*i*P		**P**	**06 30 06.5**	**+2.4**
YKA				pmax		pmax		
comp=Z,2.0nm,0.9s								
STKA	**Stephens Creek**	**93.19**	**124**	P		**P**	**06 30 20.2**	**+1.6**
comp=Z,2.3nm,0.8s,baz=338,slow=16,SNR=2.3								
STKA				LR		LR	07 16 29.7	
comp=Z,341nm,18.1s,baz=282,slow=38								
STKA	**Stephens Creek**	**93.19**	**124**	P		**P**	**06 30 19.0**	**+0.3**
STKA				pmax		pmax		
comp=Z,17nm,2.0s								
STKA	**Stephens Creek**	**93.19**	**124**	P		**P**	**06 30 19.0**	**+0.3**
STKA				IAmb		IAmb	06 30 40.3	
comp=Z,17nm,2.0s								
MAW	**Mawson**	**95.03**	**181**	LR		LR	07 07 37.5	
comp=Z,306nm,18.5s,baz=40,slow=32								
DZM	**Mont Dzumac**	**108.80**	**106**	*e*LR		LR	07 07 29.0	
comp=Z,414nm,24.1s								
SNAA	**Sanae**	**109.70**	**198**	PKiKP		**PKiKP**	**06 35 32.1**	**-2.1**
VNA3	**Neumayer Olymp**	**111.48**	**200**	PKiKP		**PKiKP**	**06 35 36.6**	**-0.9**
NVAR	**Mina Array Bea**	**114.11**	**4**	PKP		PKPdf	06 35 46.2	+2.2
comp=Z,0.5nm,0.7s,baz=340,slow=4.8,SNR=2.7								
TXAR	**Lajitas Array**	**122.44**	**349**	PKP		**PKiKP**	**06 36 00.4**	**+0.1**
comp=Z,0.4nm,0.6s,baz=146,slow=2.2,SNR=4.1								
TXAR	**Lajitas Array**	**122.44**	**349**	PKIKP		**PKPdf**	**06 35 58.9**	**-1.2**
TXAR	**Lajitas Array**	**122.44**	**349**			**PKPdf**	**06 35 58.9**	**-1.2**
SAML	**Samuel**	**128.65**	**281**	PKIKP		**PKiKP**	**06 36 13.3**	**+0.5**
SAML	**Samuel**	**128.65**	**281**			**PKiKP**	**06 36 13.3**	**+0.5**
CPUP	**Villa Florida**	**129.85**	**258**	PKP		**PKiKP**	**06 36 14.9**	**0.0**
comp=Z,2.3nm,0.6s,baz=146,slow=3.6,SNR=2.0								
CPUP	**Villa Florida**	**129.85**	**258**	PKIKP		**PKPdf**	**06 36 14.0**	**-0.1**
CPUP	**Villa Florida**	**129.85**	**258**			**PKPdf**	**06 36 14.0**	**-0.1**
ROSC	**El Rosal**	**129.86**	**304**	PKP		**PKiKP**	**06 36 16.2**	**+0.4**
comp=Z,3.7nm,0.5s,baz=233,slow=20,SNR=2.6								
ROSC	**El Rosal**	**129.86**	**304**			**PKPdf**	**06 36 14.6**	**-0.5**
LPAZ	**La Paz**	**136.17**	**275**	PKP		**PKPdf**	**06 36 27.7**	**+0.6**
comp=Z,1.2nm,0.7s,baz=113,slow=7.7,SNR=6.1								
LPAZ	**La Paz**	**136.17**	**275**	PKIKP		**PKPdf**	**06 36 27.4**	**+0.3**
LPAZ	**La Paz**	**136.17**	**275**			**PKPdf**	**06 36 27.4**	**+0.3**
PLCA	**Paso Flores**	**142.13**	**238**	PKP		**PKPdf**	**06 36 37.5**	**+1.0**
comp=Z,3.9nm,1.0s,baz=194,slow=1.7,SNR=4.2								
PLCA	**Paso Flores**	**142.13**	**238**	PKIKP		**PKPdf**	**06 36 35.4**	**-1.2**
PLCA	**Paso Flores**	**142.13**	**238**			**PKPdf**	**06 36 35.4**	**-1.2**
VA03	**San Esteban**	**142.28**	**251**	PKPdf		**PKPdf**	**06 36 35.2**	**-1.9**
LC01	**Cunco**	**143.32**	**241**	PKPdf		**PKPdf**	**06 36 38.5**	**-0.1**
PPT2	**Papeete2**	**145.80**	**81**	*e*LR		LR	07 24 39.0	
comp=Z,325nm,22.8s								
TBI	**Tubuai**	**147.81**	**90**	*e*LR		LR	07 25 34.9	
comp=Z,280nm,25.5s								

WEL 13 06:40:31.3±0.7,36°S±6″×17°9E±1″0, h33km, M3.8/17, ML4.0/17, MLv3.8/17, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.94**	**203**	S	Sn	06 41 24.7	-0.4
WMGZ	**Waiomatatini S**	**2.15**	**199**	P	Pn	06 41 06.0	+1.2
HAZ	**Te Kaha**	**2.31**	**211**	P	Pn	06 41 05.4	-1.5
HAZ				S	Sn	06 41 34.7	+0.6
PKGZ	**Pakihiroa**	**2.31**	**204**	P	Pn	06 41 04.6	-2.5
PUZ	**Puketiti**	**2.42**	**199**	P	Pn	06 41 10.5	+1.9
RUGZ	**Raukumara Rang**	**2.53**	**210**	P	Pn	06 41 08.4	-1.7
RUGZ				S	Sn	06 41 41.0	+1.2
TWAZ	**Tauwhareparae**	**2.60**	**203**	P	Pn	06 41 12.4	+1.3
CNGZ	**Carnagh Statio**	**2.83**	**197**	P	Pn	06 41 15.9	+1.8
TKGZ	**Te Karaka**	**2.89**	**203**	P	Pn	06 41 16.3	+1.4
MWZ	**

KRTS	**Karatas**	**1.62**	**242**	PN	**Pn**	**06 48 12.2**	**+0.8**
HEKM	**Malatya_Hekimh**	**1.65**	**22**	*i* P	Pg	06 48 15.6	+0.3
HEKM				*i* S	Sn	06 48 39.4	+6.2
HEKM				IAML		06 48 42.0	
	comp=N,81nm,0.4s						
CMRD	**Camardi-Nigde**	**1.75**	**281**	PN	**Pb**	**06 48 14.5**	**-0.8**
BNN	**Bunyan**	**1.82**	**326**	PN	**Pg**	**06 48 16.4**	**-2.0**
ELZG	**Elazig**	**1.85**	**51**	*i* P	Pg	06 48 19.2	+0.4
SVRC	**Sivrice-ELAZID**	**1.99**	**58**	PN	**Pg**	**06 48 19.7**	**-1.9**
MERS	**Mersin**	**2.16**	**258**	PN	**Pn**	**06 48 20.0**	**+1.1**

IDC ***13*** *06:54:30.6±1.5, 7°.07S×128°.60E, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.7/31, mbtmp3.9/6, ML3.8/2, Error ellipse: s-maj=110.2km s-min=28.7km az=67.0*

ISC 13 06:54:35.5±1.5, 7°.3S±0°.5×12°.8E±°, h35km, n6, σ1s03/8, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.77**	**156**	Pn	**Pn**	**06 57 49.5**	**+1.1**
	0.6nm,0.3s,baz=336,slow=14,SNR=29						
WRA				Sn	**Sn**	**07 00 18.9**	**-1.4**
	0.8nm,0.3s,baz=334,slow=22,SNR=8.5						
ASAR	**Alice Springs**	**17.06**	**163**	P	**P**	**06 58 33.5**	**+0.6**
	0.2nm,0.3s,baz=330,slow=9.7,SNR=9.6						
ASAR				S	**Sn**	**07 01 39.3**	**-1.0**
	0.2nm,0.3s,baz=323,slow=18,SNR=4.0						
MKAR	**Makanchi Array**	**67.67**	**328**	P	**P**	**07 05 28.8**	**-0.4**
	1.1nm,0.6s,baz=127,slow=7.5,SNR=17						
ZALV	**Zalesovo Beam**	**71.21**	**334**	P	**P**	**07 05 49.9**	**-0.8**
	0.7nm,0.5s,baz=120,slow=8.5,SNR=2.3						
KURBB	**Kurchatov Arra**	**72.00**	**329**	P	**P**	**07 05 55.4**	**-0.3**
	0.5nm,0.5s,baz=131,slow=5.2,SNR=12						
BVAR	**Borovoye Array**	**77.53**	**328**	P	**P**	**07 06 27.6**	**-0.1**
	1.0nm,0.8s,baz=162,slow=5.6,SNR=5.8						

JMA 13 07:16:46.1±0.4, 37°.26N×144°.30E, h29km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.48**	**296**	P	Pn	07 17 26.1	+1.6
JIKH				*e*S	Sn	07 17 55.9	+2.1
JIO	**Ouri**	**2.62**	**298**	P	Pn	07 17 28.4	+1.9
JIO				*e*S	Sn	07 17 59.6	+2.3
JKMT	**Kesennumamotoy**	**2.72**	**306**	P	Pn	07 17 29.1	+1.3
JKMT				S	Sn	07 18 01.3	+1.7
JFK	**Kawauchi**	**2.73**	**273**	P	Pn	07 17 29.5	+1.5
JFK				*e*S	Sn	07 18 01.7	+1.6
OFUJ	**Ofunato**	**2.76**	**312**	*e*S	Sn	07 18 01.8	+1.1
JMK	**Ichinoseki**	**2.96**	**306**	P	Pn	07 17 33.6	+2.5
JMK				S	Sn	07 18 07.8	+2.2
JFT	**Otama**	**3.17**	**276**	P	Pn	07 17 36.9	+2.9
JOM	**Ohasama**	**3.24**	**314**	S	Sn	07 18 14.3	+1.8
JCH	**Churui**	**5.40**	**353**	P	Pn	07 18 03.7	-0.9
JCH				*e*S	Sn	07 19 02.8	-2.9

OSPL ***13*** *07:30:01.6±0.8, 19°.59N×75°.31W, h47km±21km, ML2.7*
SSNC ***13*** *07:30:02.8±0.8, 19°.77N×75°.11W, h50km±7km, MD2.9, ML3.1, MW3.0*

ISC 13 07:30:00.2±1.4, 19°.87N±0°.08×75°.13W±0°.04, h72km±8km, n9, σ1s73/18, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTBY	**Guantanamo Bay**	**0.06**	**19**	*i* P	**Pn**	**07 30 11.2**	**+0.6**
GTBY				*e*S	**Sn**	**07 30 17.2**	**-1.1**
GTMO	**Guantanamo**	**0.21**	**358**	*i* P	**Pn**	**07 30 11.3**	**+0.2**
GTMO				*i* S	**Sn**	**07 30 17.7**	**-1.4**
GTMO				IAML		07 30 18.5	
	comp=E,33μm,0.2s						
GTMO				IAML		07 30 18.6	
	comp=N,33μm,0.2s						
RCC	**Rio Carpintero**	**0.55**	**283**	*i* P	**Pn**	**07 30 14.9**	**+1.3**
RCC				*e*S	**Sn**	**07 30 23.8**	**+0.3**
RCC				IAML		07 30 24.4	
	comp=N,433nm,0.2s						
RCC				IAML		07 30 24.6	
	comp=E,356nm,0.2s						
MOAC	**Moa**	**0.80**	**12**	*i* P	**Pn**	**07 30 17.9**	**+1.4**
MOAC				*i* S	**Sn**	**07 30 28.5**	**0.0**
MOAC				IAML		07 30 29.3	
	comp=E,125nm,0.1s						
MOAC				IAML		07 30 29.4	
	comp=N,120nm,0.2s						
MASC	**Masc**	**0.90**	**70**	*e*P	**Pn**	**07 30 18.0**	**+0.4**
MASC				*e*S	**Sn**	**07 30 30.1**	**-0.3**
MASC				IAML		07 30 32.8	
	comp=E,392nm,0.2s						
MASC				IAML		07 30 33.0	
	comp=N,364nm,0.2s						
LMGC	**Las Mercedes**	**1.77**	**277**	*e*P	**Pn**	**07 30 30.6**	**+1.8**
LMGC				*e*S	**Sn**	**07 30 50.7**	**+0.1**
LMGC				IAML		07 30 53.5	
	comp=N,196nm,0.1s						
LMGC				IAML		07 30 54.3	
	comp=E,183nm,0.1s						
LGNH	**Logne**	**2.74**	**119**	*i* P	**Pn**	**07 30 42.2**	**+0.2**
LGNH				*e*S	**Sn**	**07 31 12.8**	**-1.3**
LGNH				IAML		07 31 26.4	
	comp=Z,22nm,2.1s						
SDDR	**Presa de Saban**	**3.73**	**103**	*i* P	**Pn**	**07 30 56.7**	**+1.2**
SDDR				*e*S	**Sn**	**07 31 38.1**	**-0.3**
SDDR				IAML		07 31 52.7	
	comp=Z,14nm,1.9s						
MGV	**Manicaragua**	**5.05**	**297**	*e*P	**Pn**	**07 31 14.5**	**+1.1**
MGV				*e*S	**Sn**	**07 32 05.2**	**-5.2**

IDC ***13*** *07:37:28.7±1.0, 4°.26S×153°.61E, h0km, mb4.1/11, mb1 4.2/11, mb1mx4.1/30, mbtmp4.1/11, MS3.4/7, Ms1 3.4/7, ms1mx3.0/29, Error ellipse: s-maj=28.7km s-min=15.9km az=126.0*
NEIC ***13*** *07:37:37.4±1.9, 4°.0S±0°.1×153°.3E±0°.1, h52km±8km, mb4.6/19, Error ellipse: s-maj=20.6km s-min=13.4km az=157.0*

ISC 13 07:37:35.4±0.7, 4°.12S±0°.10×153°.42E±0°.09, h35km, n54, σ1s52/44, mb4.3/19, MS3.2/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.25**	**267**		**Pn**	**07 37 56.0**	**-0.4**
KRVT	**Keravat (AS076**	**1.40**	**262**	Pn	**Pn**	**07 37 58.8**	**+0.3**
	68nm,0.3s,baz=10,slow=0.2,SNR=27						
KRVT				Sn	**Sn**	**07 38 19.5**	**+3.8**
	62nm,0.3s,baz=198,slow=16,SNR=6.1						
KRVT				LR	LR	07 38 25.9	
	comp=Z,197nm,19.0s,baz=72,slow=36						
PMG	**Port Moresby**	**8.14**	**229**	Sn	**Sn**	**07 41 00.8**	**-1.1**
	0.8nm,0.3s,baz=128,slow=12,SNR=2.2						
HNR	**Honiara**	**8.36**	**129**	LR	LR	07 42 56.0	
	comp=Z,203nm,21.4s,baz=282,slow=40						
COEN	**Coen**	**14.06**	**225**	P	**P**	**07 41 00.6**	**+1.1**
KWAJ	**Kwajalein Atol**	**19.11**	**48**	P	**P**	**07 41 54.5**	**-0.9**
GUMO	**Guam**	**19.53**	**334**	P	**P**	**07 41 59.3**	**-0.7**
TARA	**Tarawa**	**20.24**	**75**	P	**P**	**07 42 09.7**	**+2.0**
SIJI	**Sorong**	**22.36**	**278**	LR	LR	07 50 26.3	
	comp=Z,63nm,19.4s,baz=94,slow=34						
MTN	**Manton Dam**	**23.66**	**247**	P	**P**	**07 42 44.1**	**+0.2**
WB0	**Warramunga Arr**	**24.21**	**228**	P	**P**	**07 42 48.7**	**-0.2**
WB0				IAmb	IAmb	07 43 02.8	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**24.21**	**228**	P	**P**	**07 42 49.0**	**0.0**
WR0				IAmb	IAmb	07 42 51.3	
	comp=Z,15nm,1.4s						
WB2	**Warramunga Arr**	**24.34**	**228**	P	**P**	**07 42 50.1**	**-0.1**
WB2				IAmb	IAmb	07 42 55.9	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**24.35**	**228**	P	**P**	**07 42 50.1**	**-0.2**
	comp=Z,3.2nm,0.5s,baz=52,slow=9.8,SNR=36						
WRA	**Warramunga Arr**	**24.35**	**228**	P	**P**	**07 42 49.9**	**-0.4**
H11S3	**WAKE ISLAND Hy**	**26.00**	**30**	T	T	08 09 58.3	
	baz=210,slow=74,SNR=2.1						
H11S2	**WAKE ISLAND Hy**	**26.00**	**30**	T	T	08 09 53.3	
	baz=210,slow=74,SNR=28						
H11S1	**WAKE ISLAND Hy**	**26.02**	**30**	T	T	08 09 54.3	
	baz=210,slow=74,SNR=15						
KNRA	**Kununurra**	**26.82**	**243**	P	**P**	**07 43 12.3**	**-0.4**
KNRA				IAmb	IAmb	07 43 26.0	
	comp=Z,45nm,1.4s						
ASAR	**Alice Springs**	**27.06**	**222**	P	**P**	**07 43 14.2**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=53,slow=8.8,SNR=9.4						
ASAR				LR	LR	07 53 05.1	
	comp=Z,69nm,21.2s,baz=9.5,slow=35						
ASAR	**Alice Springs**	**27.06**	**222**	P	**P**	**07 43 17.2**	**+2.3**
H11N1	**WAKE ISLAND Hy**	**27.14**	**29**	T	T	08 11 41.1	
	baz=205						
H11N3	**WAKE ISLAND Hy**	**27.15**	**29**	T	T	08 11 41.2	
	baz=205						
H11N2	**WAKE ISLAND Hy**	**27.15**	**29**	T	T	08 11 45.3	
	baz=205						
STKA	**Stephens Creek**	**29.76**	**201**	P	P	07 43 35.4	-3.4
	comp=Z,1.2nm,0.7s,baz=284,slow=17,SNR=1.2						
STKA				LR	LR	07 55 14.4	
	comp=Z,63nm,20.5s,baz=24,slow=36						
STKA	**Stephens Creek**	**29.76**	**201**	P	**P**	**07 43 36.6**	**-2.1**
FITZ	**Fitzroy Crossi**	**30.52**	**241**	P	**P**	**07 43 44.5**	**-1.1**
	comp=Z,4.6nm,0.6s,baz=58,slow=8.0,SNR=19						
FITZ				LR	LR	07 55 17.1	
	comp=Z,50nm,19.5s,baz=30,slow=35						
FITZ	**Fitzroy Crossi**	**30.52**	**241**	P	**P**	**07 43 44.8**	**-0.8**
FITZ				IAmb	IAmb	07 43 57.9	
	comp=Z,10nm,1.1s						
PSA00	**Pilbara Seismi**	**36.90**	**239**	P	**P**	**07 44 40.1**	**-1.0**
JHJ	**Hachijo jima 2**	**39.22**	**342**	LR	LR	07 58 52.5	
	comp=Z,234nm,18.4s,baz=96,slow=33						
TPUB	**Ta-pu**	**42.02**	**312**	P	**P**	**07 45 21.1**	**-2.6**
TPUB				IAmb	IAmb	07 45 22.1	
	comp=Z,6.3nm,0.7s						
KSRS	**Korea Array**	**47.68**	**332**	P	**P**	**07 46 07.8**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=146,slow=8.8,SNR=6.0						
USRK	**Ussuriysk Ar.**	**51.81**	**340**	P	**P**	**07 46 40.4**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=143,slow=14,SNR=4.1						
USRK	**Ussuriysk Ar.**	**51.81**	**340**	P	**P**	**07 46 37.9**	**-2.0**
PETK	**Petropavlovsk-**	**57.13**	**3**	P	**P**	**07 47 19.4**	**+1.1**
	comp=Z,5.5nm,1.0s,baz=160,slow=4.7,SNR=6.9						
PETK	**Petropavlovsk-**	**57.13**	**3**	P	**P**	**07 47 20.9**	**+2.5**
CMAR	**Chiang Mai Arr**	**58.15**	**295**	LR	LR	08 13 25.6	
	comp=Z,14nm,18.1s,baz=130,slow=37						
SONM	**Songino Array**	**66.08**	**327**	P	**P**	**07 48 18.5**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=141,slow=7.6,SNR=5.6						
SONM	**Songino Array**	**66.08**	**327**	P	**P**	**07 48 18.6**	**-0.5**
IMAR	**Indian Mountai**	**79.54**	**19**	P	**P**	**07 49 39.0**	**+0.7**
MKAR	**Makanchi Array**	**80.22**	**319**	P	**P**	**07 49 42.0**	**-0.5**
	comp=Z,0.8nm,0.9s,baz=106,slow=4.4,SNR=5.5						
MKAR	**Makanchi Array**	**80.22**	**319**	P	**P**	**07 49 40.9**	**-1.6**
ILAR	**Eielson Array**	**81.30**	**22**	P	**P**	**07 49 46.4**	**-1.5**
	comp=Z,2.1nm,1.1s,baz=258,slow=5.2,SNR=10						
ILAR	**Eielson Array**	**81.30**	**22**	P	**P**	**07 49 47.4**	**-0.4**
DOT	**Dot Lake**	**81.86**	**24**	P	**P**	**07 49 51.4**	**+0.6**
BCAR	**Beaver Creek A**	**82.54**	**25**	P	**P**	**07 49 55.0**	**+0.5**
BMAR	**Burnt Mountain**	**83.40**	**20**	P	**P**	**07 49 59.7**	**+0.9**
EGAK	**Eagle**	**83.50**	**23**	P	**P**	**07 49 58.2**	**-1.0**
HYT	**Haines Junctio**	**83.55**	**27**	P	**P**	**07 50 01.1**	**+1.3**
HYT				IAmb	IAmb	07 50 03.1	
	comp=Z,4.6nm,0.9s						
NIL	**Nilore**	**84.10**	**304**	P	**P**	**07 50 02.9**	**-0.2**
NIL				IAmb	IAmb	07 50 03.3	
	comp=Z,7.2nm,0.7s						
EPYK	**Eagle Plains**	**85.81**	**22**	P	**P**	**07 50 10.8**	**-0.1**
EPYK				IAmb	IAmb	07 50 16.4	
	comp=Z,13nm,1.4s						
YKA	**Yellowknife Ar**	**94.54**	**28**	P	**P**	**07 50 51.6**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=263,slow=4.7,SNR=6.5						
TORD	**Torodi Ar. Bea**	**150.67**	**290**	PKPbc	**PKPdf**	**07 57 23.7**	**+4.3**
	comp=Z,2.8nm,0.9s,baz=24,slow=2.1,SNR=10						
TORD	**Torodi Ar. Bea**	**150.67**	**290**		**PKPdf**	**07 57 22.7**	**+3.3**

SSNC ***13*** *07:38:52.5±1.0, 19°.77N×75°.12W, h50km±7km, MD3.3, ML3.8, MW3.4*
OSPL ***13*** *07:38:52.3±1.8, 19°.60N×75°.03W, h0km±160km, ML3.4*
JSN ***13*** *07:38:54.4±1.4, 19°.56N×75°.33W, h0km±103km, MD3.9*

ISC 13 07:38:48.4±1.5, 19°.67N±0°.04×75°.16W±0°.03, h20km±6km, n26, σ1s78/34, 3C-2D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTMO	**Guantanamo**	**0.41**	**2**	*i* P	**Pn**	**07 39 01.1**	**+1.8**
GTMO				*e*S	**Sn**	**07 39 07.4**	**+1.0**
GTMO				IAML		07 39 08.3	
	comp=E,136μm,0.2s						
GTMO				IAML		07 39 08.7	
	comp=N,170μm,0.2s						
RCC	**Rio Carpintero**	**0.60**	**303**	*i* P	**Pn**	**07 39 04.6**	**+2.8**
RCC				*i* S	**Sn**	**07 39 13.7**	**+2.7**
RCC				IAML		07 39 14.1	
	comp=N,2μm,0.2s						
RCC				IAML		07 39 14.4	
	comp=E,2μm,0.1s						
MOAC	**Moa**	**1.01**	**11**	*i* P	**Pg**	**07 39 07.7**	**-0.4**
MOAC				*i* S	**Sb**	**07 39 18.8**	**-1.2**
MOAC				IAML		07 39 24.3	
	comp=E,2μm,0.4s						
MOAC				IAML		07 39 24.4	
	comp=N,1μm,0.3s						
MASC	**Masc**	**1.01**	**60**	*i* P	**Pg**	**07 39 07.8**	**-0.2**
MASC				*i* S	**Sb**	**07 39 19.9**	**-0.2**
MASC				IAML		07 39 22.7	
	comp=E,2μm,0.2s						
MASC				IAML		07 39 22.7	
	comp=N,2μm,0.3s						
LMGC	**Las Mercedes**	**1.78**	**283**	*e*P	**Pb**	**07 39 20.4**	**0.0**
LMGC				*e*S	**Sn**	**07 39 40.3**	**+0.2**
LMGC				IAML		07 39 42.5	
	comp=N,659nm,0.1s						
LMGC				IAML		07 39 42.5	
	comp=E,581nm,0.1s						
CMJ	**Castle Mountai**	**1.91**	**217**	*i* P	**Pg**	**07 39 24.4**	**-0.7**
STH	**Stony Hill**	**2.22**	**225** ↑	*i* P	**Pb**	**07 39 28.0**	**+0.1**
HOJ	**Hope**	**2.24**	**223** ↑	*i* P	**Pb**	**07 39 28.6**	**+0.4**
BBJ	**Bamboo Saint A**	**2.37**	**238** ↓	*i* P	**Pb**	**07 39 30.0**	**-0.4**
CVJ	**Coleyville**	**2.67**	**238**	*i* P	**Pb**	**07 39 34.4**	**-1.2**
LGNH	**Logne**	**2.67**	**115**	*i* P	**Pn**	**07 39 32.3**	**+1.9**
LGNH				*e*S	**Sn**	**07 40 02.2**	**0.0**
LGNH				IAML		07 40 06.2	
	comp=Z,70nm,0.6s						
PCJ	**Portland Cotta**	**2.69**	**225** ↑	*i* P	**Pb**	**07 39 35.6**	**-0.3**
JAKH	**Jacmel**	**2.88**	**119**	*i* P	**Pn**	**07 39 35.4**	**+2.3**
JAKH				*e*S	**Sn**	**07 40 08.4**	**+1.2**
JAKH				IAML		07 40 14.3	
	comp=Z,105nm,0.4s						
MCJ	**Malvern**	**2.96**	**235** ↓	*i* P	**Pb**	**07 39 40.0**	**-0.5**
MCJ				*i* S	**Sn**	**07 40 12.5**	**+3.2**
NEJ	**Negril**	**3.31**	**245**	*i* P	**Pb**	**07 39 44.4**	**-2.2**
SDDR	**Presa de Saban**	**3.72**	**100**	*i* P	**Pn**	**07 39 46.8**	**+2.0**
SDDR				*e*S	**Sn**	**07 40 27.0**	**-1.1**
SDDR				IAML		07 40 29.7	
	comp=Z,136nm,0.4s						
SC01	**Santiago de lo**	**4.18**	**93**	*i* P	**Pn**	**07 39 54.6**	**+3.4**
SC01				*e*S	**Sn**	**07 40 39.9**	**+0.3**
SC01				IAML		07 40 51.2	
	comp=Z,75nm,0.4s						
MGV	**Manicaragua**	**5.12**	**299**	*e*P	**Pn**	**07 40 05.1**	**+1.1**
MGV				*e*S	**Sn**	**07 40 59.8**	**-2.8**
SMLC	**San Martn de**	**10.85**	**174**	*e*P	Pn	07 41 27.7	+4.9
CAPC	**Capurgana**	**11.17**	**191**	*e*P	Pn	07 41 33.1	+6.0
ZARC	**Zaragoza, Cauc**	**12.11**	**179**	*e*P	Pn	07 41 46.7	-5.9
PTBC	**PUERTO BERRIO,**	**13.07**	**177**	*e*P	**P**	**07 42 00.7**	**-2.6**
HELC	**Santa Helena**	**13.40**	**182**	*e*P	**P**	**07 42 04.1**	**-3.2**
CBOC	**Ciudad Bolivar**	**13.74**	**184**	*e*P	**P**	**07 42 09.2**	**-1.8**
GUY2C	**Guyana, Caldas**	**14.36**	**181**	*e*P	**P**	**07 42 17.9**	**-0.1**
RREF	**El Recreo**	**14.68**	**181**	*e*P	**P**	**07 42 21.8**	**0.0**

KRSC ***13*** *07:57:08.9±1.3, 51°.96N×158°.24E, h152km±14km, ML3.8*
IDC ***13*** *07:57:12.2±1.5, 52°.19N×157°.67E, h158km±10km, mb3.1/4, mb1 3.4/4, mb1mx2.9/34, mbtmp3.5/4, Error ellipse: s-maj=36.5km s-min=31.1km az=172.0*

ISC 13 07:57:10.4±0.9, 51°.98N±0°.07×158°.21E±0°.08, h152km±6km, n33, σ1s32/52, mb3.1/4, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAK	**Asacha**	**0.44**	**335**	*i* P	**Pn**	**07 57 31.9**	**+0.1**
ASAK				*e*S	**Sn**	**07 57 47.8**	**-0.4**
RUS	**Russkaya**	**0.49**	**23**	*i* P	**Pn**	**07 57 32.0**	**+0.1**
RUS				*e*S	**Sn**	**07 57 47.4**	**-0.9**
MTVR	**Mutnovka**	**0.50**	**358**	*e*P	**Pn**	**07 57 31.8**	**-0.3**
MTVR				*e*S	**Sn**	**07 57 48.0**	**-0.8**
GRL	**Gorelyy**	**0.58**	**352**	*i* P	**Pn**	**07 57 33.0**	**+0.5**
GRL				*e*S	**Sn**	**07 57 51.1**	**+1.6**
KRMR	**Karymshinskiy**	**0.85**	**357**	*e*P	**Pn**	**07 57 33.9**	**-0.2**
KRMR				*e*S	**Sn**	**07 57 51.9**	**-0.4**
MIPR	**Malaya Ipel'ka**	**0.94**	**289**	*e*P	**Pn**	**07 57 34.2**	**-0.6**
MIPR				*e*S	**Sn**	**07 57 51.6**	**-1.9**
PAU	**Pauzhetka**	**1.01**	**240**	*e*P	**Pn**	**07 57 35.4**	**0.0**
PAU				*e*S	**Sn**	**07 57 54.2**	**-0.2**
PET	**Petropavlovsk**	**1.08**	**15**	*e*P	**Pn**	**07 57 36.3**	**+0.3**
PET				*e*S	**Sn**	**07 57 54.5**	**-1.1**
PETK	**Petropavlovsk-**	**1.17**	**345**	P	**Pn**	**07 57 36.8**	**0.0**
	45nm,0.3s,baz=151,slow=11,SNR=424						
PETK				S	**Sn**	**07 57 57.1**	**-0.1**
	1.3nm,0.3s,baz=210,slow=23,SNR=1.8						
UGLR	**Uglovaya**	**1.29**	**17**	*e*P	**Pn**	**07 57 38.9**	**+0.9**
UGLR				*e*S	**Sn**	**07 57 58.8**	**-0.5**
AVH	**Avacha**	**1.33**	**14**	*e*P	**Pn**	**07 57 39.2**	**+0.8**
AVH				*e*S	**Sn**	**07 57 59.9**	**0.0**
SMAR	**Somma**	**1.33**	**16**	*i* P	**Pn**	**07 57 39.2**	**+0.6**
SMAR				*e*S	**Sn**	**07 57 59.2**	**-1.1**
KOK	**Koryaka**	**1.34**	**11**	*i* P	**Pn**	**07 57 39.4**	**+0.9**
KOK				*e*S	**Sn**	**07 58 01.0**	**+0.8**
SDLR	**Sedlovina**	**1.36**	**17**	*i* P	**Pn**	**07 57 39.3**	**+0.5**
SDLR				*e*S	**Sn**	**07 57 59.5**	**-1.1**
KRER	**Koryakskii**	**1.37**	**14**	*e*P	**Pn**	**07 57 39.5**	**+0.6**
KRER				*e*S	**Sn**	**07 58 00.8**	**0.0**
NLC	**Nalytchevo**	**1.38**	**30**	*e*P	**Pn**	**07 57 38.4**	**-0.4**
NLC				*e*S	**Sn**	**07 57 59.0**	**-1.6**
KRX	**Arik**	**1.41**	**11**	*i* P	**Pn**	**07 57 39.8**	**+0.5**
KRX				*e*S	**Sn**	**07 58 00.6**	**-0.8**
SPN	**Mys Shipunski**	**1.58**	**44**	*e*P	**Pn**	**07 57 41.6**	**+0.8**
SPN				*e*S	**Sn**	**07 58 03.3**	**-1.0**
SKR	**Severo-Kuril's**	**1.84**	**226**	*e*P	**Pn**	**07 57 44.1**	**+0.3**
SKR				*e*S	**Sn**	**07 58 08.0**	**-1.5**
ALID	**Alaid**	**2.00**	**237**	*e*P	**Pn**	**07 57 45.5**	**-0.3**
KII	**Karymskiy**	**2.19**	**20**	*e*P	**Pn**	**07 57 48.5**	**+0.6**
KII				*e*S	**Sn**	**07 58 18.6**	**+1.7**
KZV	**Kizimen**	**3.38**	**21**	*e*P	**Pn**	**07 58 03.6**	**+0.9**
KZV				*e*S	**Sn**	**07 58 40.7**	**-2.6**
TUMD	**Tumrok D**	**3.48**	**21**	*e*S	**Sn**	**07 58 45.5**	**0.0**
TUMR	**Tumrok**	**3.50**	**18**	*e*P	**Pn**	**07 58 05.4**	**+1.1**
KBTR	**Krutoberegovo**	**5.03**	**31**	*e*S	**Sn**	**07 59 17.7**	**-4.0**
BKI	**Bering**	**5.64**	**52**	*e*P	**Pn**	**07 58 32.1**	**0.0**
BKI				*e*S	**Sn**	**07 59 31.9**	**-4.2**
MKAR	**Makanchi Array**	**47.59**	**296**	P	**P**	**08 05 28.8**	**-1.8**
	0.2nm,0.4s,baz=48,slow=7.0,SNR=3.9						
NOA	**NORSAR Array B**	**64.28**	**343**	P	**P**	**08 07 27.8**	**-1.1**
	0.1nm,0.4s,baz=23,slow=7.8,SNR=1.1						
TXAR	**Lajitas Array**	**72.14**	**65**	P	**P**	**08 08 21.0**	**+2.6**
	0.3nm,0.4s,baz=302,slow=5.2,SNR=6.4						
WRA	**Warramunga Arr**	**74.59**	**203**	P	**P**	**08 08 34.1**	**+1.6**
	0.3nm,0.8s,baz=21,slow=6.1,SNR=1.3						
H03N2	**Juan Fernandez**	**135.37**	**89**	T	T	10 47 00.8	
	baz=314,slow=77,SNR=4.1						
H03N1	**Juan Fernandez**	**135.38**	**89**	T	T	10 46 56.5	
	baz=314,slow=77,SNR=4.7						
H03N3	**Juan Fernandez**	**135.38**	**89**	T	T	10 47 11.4	
	baz=314,slow=77,SNR=3.0						

IDC ***13*** *08:05:03.2±1.4, 32°.25N×141°.65E, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.5/32, mbtmp3.6/5, ML2.4/1, MS3.1/4, Ms1 3.1/4, ms1mx2.7/34, Error ellipse: s-maj=34.1km s-min=21.7km az=54.0*
JMA ***13*** *08:05:07.3±0.2, 32°.54N×141°.78E, h55km, M3.6*

ISC 13 08:05:08.3±1.2, 32°.48N±0°.08×141°.84E±0°.10, h39km, n16, σ1s67/17, mb3.7/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.82**	**291**	P	**Pn**	**08 05 36.0**	**-1.0**
JHJ	**Hachijo jima 2**	**1.85**	**291**	Pn	**Pn**	**08 05 35.1**	**-2.3**
	23nm,0.3s,baz=121,slow=18,SNR=5.3						
JHJ				Sn	**Sn**	**08 05 59.6**	**+0.1**
	40nm,0.3s,baz=92,slow=23,SNR=6.2						
BSO1	**Boso 1**	**2.29**	**342**	P	**Pn**	**08 05 42.6**	**-0.3**
BSO1				*e*S	**Sn**	**08 06 08.4**	**-1.2**
JHO	**Hitachi**	**4.25**	**346**	P	**Pn**	**08 06 09.7**	**-0.8**
JAG	**Ashikaga**	**4.40**	**334**	P	**Pn**	**08 06 12.7**	**+0.2**
JFK	**Kawauchi**	**4.94**	**351**	P	**Pn**	**08 06 18.1**	**-1.9**
JFK				*e*S	**Sn**	**08 07 12.5**	**-3.3**
MJAR	**Matsushiro Arr**	**5.04**	**324**	Pn	**Pn**	**08 06 21.4**	**+0.1**
	0.1nm,0.3s,baz=156,slow=12,SNR=4.9						
MJAR				Sn	**Sn**	**08 07 20.7**	**+2.4**
	0.1nm,0.3s,baz=147,slow=35,SNR=2.3						
JFT	**Otama**	**5.18**	**347**	P	**Pn**	**08 06 22.7**	**-0.5**
JFT				*e*S	**Sn**	**08 07 20.4**	**-1.2**
JNU	**Nakatsue**	**9.25**	**277

comp=Z,4.8nm,1.2s
WB0 Warramunga Arr 32.67 266 P **P** **08 42 30.9 -0.3**
WB0 IAmb IAmb 08 42 41.1
comp=Z,7.8nm,1.5s
WB2 Warramunga Arr 32.69 266 P **P** **08 42 30.4 -0.9**
WB2 IAmb IAmb 08 42 30.5
comp=Z,6.0nm,1.2s
WRA Warramunga Arr 32.70 266 P **P** **08 42 29.7 -1.7**
comp=Z,1nm,1.0s,baz=103,slow=7.8,SNR=4.7
WRA Warramunga Arr 32.70 266 P **P** **08 42 31.3 -0.1**
AS31 Alice Springs 32.77 259 P **P** **08 42 31.7 -0.3**
ASAR Alice Springs 32.77 259 P **P** **08 42 31.4 -0.6**
comp=Z,1.9nm,0.8s,baz=86,slow=9.0,SNR=17
ASAR LR LR 08 56 24.3
comp=Z,139nm,18.1s,baz=99,slow=38
ASAR Alice Springs 32.77 259 P **P** **08 42 31.6 -0.5**
MTN Manton Dam 37.30 276 P **P** **08 43 10.0 -1.1**
MTN IAmb IAmb 08 43 20.7
comp=Z,20nm,1.5s
PPT2 Papeete2 38.92 92 *e*LR LR 08 54 18.5
comp=Z,98nm,26.5s
PPT Papeete 38.93 92 LR LR 08 54 47.5
comp=Z,51nm,20.6s,baz=293,slow=29
FITZ Fitzroy Crossi 41.12 266 P **P** **08 43 43.6 +0.5**
FITZ IAmb IAmb 08 43 57.6
comp=Z,20nm,1.4s
TAOE Nuku Hiva Isla 50.15 84 *e*LR LR 08 59 15.0
comp=Z,3µm,28.3s
USRK Ussuriysk Ar. 73.30 333 P **P** **08 47 30.6 +0.6**
comp=Z,3.0nm,0.8s,baz=108,slow=8.3,SNR=4.2
USRK Ussuriysk Ar. 73.30 333 P **P** **08 47 30.7 +0.7**
CMAR Chiang Mai Arr 79.25 295 P **P** **08 48 05.5 +1.2**
comp=Z,1.0nm,0.3s,baz=132,slow=4.7,SNR=4.4
SNAA Sanae 87.42 182 P **P** **08 48 45.5 -0.2**
VNA3 Neumayer Olymp 88.01 180 P **P** **08 48 49.6 +1.2**
VNA2 Neumayer--Watz 88.30 181 P **P** **08 48 51.3 +1.6**
baz=164,slow=3.5
VNA1 Neumayer--Stat 88.59 181 P **P** **08 48 53.7 +2.6**
SONM Songino Array 88.63 323 P **P** **08 48 51.9 +0.2**
comp=Z,0.4nm,0.4s,baz=141,slow=5.0,SNR=4.0
SONM Songino Array 88.63 323 P **P** **08 48 50.6 -1.2**
NVAR Mina Array Bea 89.94 48 P **P** **08 48 58.9 +0.7**
comp=Z,0.5nm,0.7s,baz=229,slow=6.5,SNR=4.3
NVAR Mina Array Bea 89.94 48 P **P** **08 48 58.5 +0.2**
ILAR Eielson Array 91.89 17 P **P** **08 49 08.8 +2.4**
comp=Z,0.5nm,0.8s,baz=226,slow=5.8,SNR=4.2
PV01 Paradox Valley 96.81 52 P **P** **08 49 31.1 +1.2**
ESK Eskdalemuir 145.26 352 **PKPbc** **08 55 35.2 -0.4**
KHC Kasperske Hory 145.88 331 *e*PKP **PKPab** **08 55 38.5 +0.1**
KHC *ex* x 08 55 50.5
GERES GERESS Array B 146.03 331 PKPbc **PKPab** **08 55 38.4 -0.7**
comp=Z,2.2nm,0.8s,baz=29,slow=3.0,SNR=13
GERES GERESS Array B 146.03 331 **PKPab** **08 55 39.0 0.0**

NEIC ***13*** *08:48:27.2±1.6, 57°.42N±0°.05×155°.56W±0°.08, h89km±8km, Error ellipse: s-maj=8.2km s-min=5.3km az=156.0*
AEIC 13 08:48:29±2.1, **57°.44N**±0°.04×**155°.55W**±0°.07, **h79**km±5km, **ML3.0, Error ellipse: s-maj=7.0km s-min=5.0km az=149.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK3	**Peulik 3**	**0.46**	**304**		Pn	08 48 42.0	-0.3
PLK3					Sn	08 48 52.7	+0.6
PLK2	**Peulik 2**	**0.53**	**309**		Pn	08 48 42.5	-0.4
KJL	**Kejulik**	**0.62**	**359**		Pn	08 48 43.1	-0.7
KJL					Sn	08 48 54.4	-0.4
CAHL	**Cahill**	**0.63**	**12**		Pn	08 48 43.2	-0.7
PLK1	**Peulik 1**	**0.68**	**303**		Pn	08 48 43.7	-0.5
PLBL	**Peulik Blue Cr**	**0.73**	**292**		Pn	08 48 44.2	-0.6
PLBL					Sn	08 48 56.6	-0.1
ANCK	**Angle Creek**	**0.77**	**2**		Pn	08 48 44.5	-0.8
ANCK					Sn	08 48 57.5	+0.1
ACHA	**Angle Creek He**	**0.79**	**9**		Pn	08 48 45.2	-0.4
KABU	**Katmai Buttres**	**0.85**	**10**		Pn	08 48 45.6	-0.7
KABU					Sn	08 48 59.4	+0.3
KCG	**Knife Ck. Glac**	**0.91**	**15**		Pn	08 48 46.1	-0.8
PLK5	**Peulik 5**	**0.91**	**309**		Pn	08 48 45.5	-1.3
KAWH	**Katmai**	**1.03**	**23**		Pn	08 48 47.4	-1.0
KAWH					Sn	08 49 02.0	-0.8
KARR	**Katmai Rainbow**	**1.16**	**23**		Pn	08 48 49.2	-0.7
KAHG	**Katmai Hook Gl**	**1.19**	**26**		Pn	08 48 49.8	-0.6
OHAK	**Old Harbor**	**1.25**	**99**		Pn	08 48 50.2	-0.7
OHAK					Sn	08 49 06.8	-0.7
KAHC	**Katmai Hardscr**	**1.25**	**13**		Pn	08 48 50.1	-1.0
KDAK	**Kodiak Island**	**1.64**	**77**		Pn	08 48 55.3	-0.7
KDAK					Sn	08 49 15.5	-0.9
CHGN	**Chignik**	**1.94**	**235**		Pn	08 48 58.9	-1.1
CHGN					Sn	08 49 21.6	-1.9
AUH	**Augustine H**	**2.23**	**29**		Pn	08 49 03.9	-0.1
AU2	**Augustine Isla**	**2.25**	**30**		Pn	08 49 04.1	-0.1
AU22	**Augustine Moun**	**2.26**	**30**		Pn	08 49 02.7	-1.5
VNSG	**Veniaminof 6**	**2.35**	**237**		Pn	08 49 05.2	-0.3
VNSS	**Veniaminof 8**	**2.46**	**242**		Pn	08 49 06.7	-0.5
IVE	**Iliamna Volcan**	**2.91**	**26**		Pn	08 49 12.5	-0.6
ILW	**Iliamna West**	**2.92**	**25**		Pn	08 49 12.9	-0.4
HOM	**Homer**	**3.03**	**41**		Pn	08 49 14.3	-0.3
CNPM	**China Poot**	**3.09**	**45**		Pn	08 49 14.5	-1.0
RED	**Redoubt Volcan**	**3.32**	**25**		Pn	08 49 18.2	-0.5
RDSO	**Redoubt South**	**3.36**	**25**		Pn	08 49 18.6	-0.6
RSO	**Redoubt South**	**3.36**	**24**		Pn	08 49 18.8	-0.5
RDWB	**Redoubt West**	**3.37**	**24**		Pn	08 49 18.8	-0.6
BRLK	**Bradley Lake**	**3.38**	**44**		Pn	08 49 17.8	-1.6
BRSE	**Bradley Lake S**	**3.42**	**45**		Pn	08 49 18.7	-1.2
SDPT	**Sand Point**	**3.44**	**235**		Pn	08 49 19.3	-1.0
CNBA	**Chernabura Isl**	**3.46**	**222**		Pn	08 49 18.8	-1.7
DFR	**Drift River**	**3.50**	**24**		Pn	08 49 20.4	-0.7
SVW2	**Sparrevohn**	**3.67**	**360**		Pn	08 49 21.8	-1.6
SLKM	**Skilak Lake**	**4.13**	**40**		Pn	08 49 28.3	-1.4
SEW	**Seward**	**4.15**	**47**		Pn	08 49 27.9	-1.9
SPU	**Mount Spurr**	**4.16**	**24**		Pn	08 49 29.6	-0.4
SPNN	**North Nagishla**	**4.20**	**19**		Pn	08 49 30.0	-0.7
SPCG	**Spurr Capps Gl**	**4.27**	**24**		Pn	08 49 31.3	-0.3
STLK	**Strandline Lak**	**4.49**	**23**		Pn	08 49 34.2	-0.4
RC01	**Rabbit Creek A**	**4.72**	**37**		Pn	08 49 35.9	-1.7
PWL	**Port Wells**	**5.06**	**44**		Pn	08 49 40.2	-2.0
PMR	**Palmer**	**5.30**	**35**		Pn	08 49 43.2	-1.6
KNK	**Knik Glacier**	**5.39**	**39**		Pn	08 49 43.9	-2.8
TT01	**Tatalina**	**5.49**	**358**		Pn	08 49 47.1	-1.0
TTA	**Tatalina**	**5.52**	**358**		Pn	08 49 46.9	-1.6
HIN	**Hinchinbrook I**	**5.55**	**54**		Pn	08 49 47.2	-1.8
GLI	**Glacier Island**	**5.55**	**48**		Pn	08 49 46.1	-2.9
SML	**Sawmill**	**5.71**	**37**		Pn	08 49 49.0	-2.2
PPLA	**Purkeypile**	**5.73**	**16**	Pn	Pn	08 49 51.5	+0.1
FID	**Port Fidalgo**	**5.74**	**51**		Pn	08 49 48.4	-3.1
JPK	**Jack Peak**	**5.85**	**48**		Pn	08 49 51.4	-1.7
SCM	**Sheep Creek Mo**	**6.07**	**40**		Pn	08 49 53.7	-2.4
WAT6	**Susitna Watana**	**6.47**	**34**		Pn	08 49 59.4	-2.3
WAT2	**Susitna Watana**	**6.54**	**29**		Pn	08 49 59.9	-2.6
TRF	**Thorofare Moun**	**6.57**	**21**		Pn	08 50 00.5	-2.5
RND	**Reindeer**	**6.84**	**26**		Pn	08 50 04.1	-2.5
DHY	**Denali Highway**	**6.96**	**32**		Pn	08 50 05.3	-3.0
BPAW	**Bear Paw Mtn.**	**7.05**	**17**		Pn	08 50 07.3	-2.0
GLB	**Gilahina Butte**	**7.21**	**51**		Pn	08 50 09.5	-2.0
WAX	**Waxell Ridge**	**7.23**	**60**		Pn	08 50 10.2	-1.7
VRDI	**Verde Repeater**	**7.26**	**53**		Pn	08 50 10.5	-1.9
KIAG	**Kiagna River**	**7.62**	**57**		Pn	08 50 15.4	-1.9
WRH	**Wood River Hil**	**7.93**	**24**		Pn	08 50 17.7	-3.6
CCB	**Clear Creek Bu**	**8.15**	**24**		Pn	08 50 20.4	-3.9
RIDG	**Independent Ri**	**8.22**	**35**		Pn	08 50 22.6	-2.8
MDM	**Murphy Dome**	**8.33**	**22**		Pn	08 50 23.1	-3.7
IL31		**8.46**	**26**		Pn	08 50 24.8	-3.7
IM03		**8.62**	**5**		Pn	08 50 28.4	-2.3
PNL	**Peninsula**	**8.74**	**68**		Pn	08 50 30.6	-1.8
YUK3	**Moose Creek**	**8.79**	**54**		Pn	08 50 32.5	-0.9
BC03		**8.86**	**45**		Pn	08 50 33.0	-1.0
DAWY	**Dawson**	**10.30**	**43**		Pn	08 50 52.4	-1.3

IDG 13 09:00:45.0, 51°.25N×37°.32E, M2.5, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Baltic States-Belarus-Northwestern Russia

VLA 13 09:01:34.0, 51°.30N×37°.62E, M1.9, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Baltic States-Belarus-Northwestern Russia

TIR ***13*** *09:11:13.2, 38°.54N×20°.46E, h29km, Md4.1/7*
IDC ***13*** *09:11:14.8±0.8, 38°.75N×20°.59E, h0km, mb4.1/12, mb1 4.1/20, mb1mx3.9/46, mbtmp4.0/20, ML3.7/8, MS3.4/18, Ms1 3.4/18, ms1mx3.2/48, Error ellipse: s-maj=15.5km s-min=13.6km az=14.0*
BJI ***13*** *09:11:14.7±0.0, 39°.11N×20°.46E, h10km, mB5.1/10, mb5.0/16*
MOS ***13*** *09:11:15.2±1.0, 38°.63N×20°.40E, h16km, mb4.6/12, Error ellipse: s-maj=6.9km s-min=3.6km az=86.6*
BEO ***13*** *09:11:16.0±0.8, 38°.60N×20°.36E, h15km±4km, ML3.8/6*
ATH ***13*** *09:11:16.6, 38°.71N×20°.61E, h10km±1km, ML4.0/17, Error ellipse: s-maj=1.8km s-min=0.6km az=195.0*
THE ***13*** *09:11:16.6, 38°.71N×20°.54E, h12km±1km, ML4.0/9, Error ellipse: s-maj=1.1km s-min=0.5km az=120.0*
NEIC ***13*** *09:11:17.1±1.9, 38°.70N±0°.03×20°.52E±0°.05, h14km±4km, Error ellipse: s-maj=5.8km s-min=4.2km az=56.0*
PDG ***13*** *09:11:17.8±0.7, 38°.76N×20°.45E, h19km±1km, ML3.9/13, Error ellipse: s-maj=1.1km s-min=1.4km az=0.0*
ISC 13 09:11:16.9±0.7, **38°.70N**±0°.02×**20°.58E**±0°.02, **h13**km±4km, **n286**, σ1**s46**/342, **mb4.4**/28, **MS3.4**/11, **16C-20D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVGl	**Lefkada island**	**0.10**	**142**	P	**Pg**	**09 11 19.5**	**-0.4**
EVGl				S	**Sg**	**09 11 22.1**	**+0.1**
EVGl	**Lefkada island**	**0.10**	**142**	P	**Pg**	**09 11 19.4**	**-0.4**
MGNA	**Meganis**	**0.17**	**105**	P	**Pg**	**09 11 19.9**	**-1.0**
MGNA				S	**Sg**	**09 11 23.1**	**-0.5**
MGNA				AML	AML	09 11 23.7	
MGNA				AML	AML	09 11 23.7	
FSK	**Fiskardo**	**0.24**	**183**	P	**Pg**	**09 11 22.0**	**-0.1**
FSK				S	**Sg**	**09 11 25.5**	**0.0**
	41µm,0.6s						
FSK	**Fiskardo**	**0.24**	**183**	P	**Pg**	**09 11 22.0**	**-0.1**
FSK				S	**Sg**	**09 11 26.2**	**+0.7**
FSK				AML	AML	09 11 28.6	
	comp=E,78241µm,0.3s						
FSK				AML	AML	09 11 30.3	
	comp=N,91825µm,0.6s						
VSK1	**VASILIKIADES**	**0.29**	**182**	P	**Pg**	**09 11 22.8**	**-0.1**
VSK1				S	**Sg**	**09 11 27.2**	**+0.2**
	comp=N,39µm,0.5s						
AST1	**Astakos**	**0.43**	**111**	P	**Pg**	**09 11 25.5**	**0.0**
AST1				S	**Sb**	**09 11 32.9**	**+0.1**
	comp=N,65µm,0.6s						
KEF5	**Kardakata, Kep**	**0.43**	**191**	P	**Pg**	**09 11 25.2**	**-0.2**
KEF5				S	**Sg**	**09 11 31.8**	**+0.6**
KEF4	**Livadi, Kephal**	**0.46**	**195**	P	**Pg**	**09 11 25.7**	**-0.2**
KEF4				S	**Sg**	**09 11 32.5**	**+0.4**
LXRA	**Lixouri, Kepha**	**0.51**	**192**	P	**Pg**	**09 11 26.8**	**-0.1**
LXRA				S	**Sb**	**09 11 35.0**	**-0.1**
VLS	**Valsamata**	**0.52**	**179**	P	**Pg**	**09 11 26.7**	**-0.5**
VLS				S	**Sb**	**09 11 35.2**	**-0.3**
	comp=N,15µm,0.4s						
VLS	**Valsamata**	**0.52**	**179**	P	**Pg**	**09 11 26.5**	**-0.7**
VLS				S	**Sg**	**09 11 34.7**	**+0.5**
VLS				AML	AML	09 11 39.6	
	comp=E,16414µm,0.3s						
VLS				AML	AML	09 11 41.4	
	comp=N,42875µm,0.5s						
VLS	**Valsamata**	**0.52**	**179**	P	**Pg**	**09 11 26.5**	**-0.7**
VLS				S	**Sb**	**09 11 35.2**	**-0.3**
ARG2	**Argostoli**	**0.53**	**188**	P	**Pg**	**09 11 26.8**	**-0.4**
ARG2				S	**Sg**	**09 11 34.7**	**+0.5**
	comp=N,32µm,0.4s						
ARGA	**Argostoli. Kep**	**0.53**	**188**	P	**Pg**	**09 11 26.9**	**-0.4**
ARGA				S	**Sb**	**09 11 35.4**	**-0.2**
KEF3	**Kipouria, Keph**	**0.53**	**200**	P	**Pg**	**09 11 26.9**	**-0.4**
KEF3				S	**Sg**	**09 11 34.4**	**+0.1**
PVO	**Paravola**	**0.75**	**96**	P	**Pg**	**09 11 31.1**	**-0.3**
PVO				S	**Sb**	**09 11 42.6**	**+0.7**
	comp=N,17µm,0.5s						
PVO	**Paravola**	**0.75**	**96**	P	**Pg**	**09 11 30.9**	**-0.5**
PVO				AML	AML	09 11 47.1	
	comp=N,35356µm,0.5s						
PVO				AML	AML	09 11 48.1	
	comp=E,30964µm,0.5s						
VLMS	**Volimes, Zakyn**	**0.83**	**175**	P	**Pg**	**09 11 31.7**	**-1.2**
VLMS				S	**Sb**	**09 11 44.8**	**+0.6**
VLMS				AML	AML	09 11 54.8	
	comp=E,22735µm,0.5s						
VLMS				AML	AML	09 11 56.7	
	comp=N,31032µm,0.5s						
IGT	**Igoumenitsa**	**0.85**	**347**	*e*Pg	**Pg**	**09 11 32.0**	**-1.4**
IGT				*e*Sg	**Sn**	**09 11 46.9**	**-0.2**
IGT	**Igoumenitsa**	**0.85**	**347**	P	**Pg**	**09 11 31.7**	**-1.7**
IGT				S	**Sb**	**09 11 45.1**	**+0.1**
	comp=N,6µm,0.5s						
IGT	**Igoumenitsa**	**0.85**	**347**	*i* PG	**Pg**	**09 11 31.5**	**-2.0**
IGT				*i* SG	**Sn**	**09 11 46.6**	**-0.4**
IGT	**Igoumenitsa**	**0.85**	**347**	P	**Pg**	**09 11 32.1**	**-1.4**
IGT				S	**Sg**	**09 11 44.4**	**-0.2**
IGT				AML	AML	09 11 50.1	
	comp=N,15012µm,0.4s						
IGT				AML	AML	09 11 51.1	
	comp=E,10649µm,0.6s						
IGT	**Igoumenitsa**	**0.85**	**347**	P	**Pg**	**09 11 32.0**	**-1.4**
IGT				S	**Sb**	**09 11 45.1**	**+0.1**
VTN	**Vitineika**	**0.92**	**148**	P	**Pg**	**09 11 34.5**	**-0.1**
ZAK2	**Zakynthos**	**0.95**	**164**	P	**Pg**	**09 11 34.9**	**-0.3**
RLS	**Riolos of Patr**	**0.95**	**132**	P	**Pg**	**09 11 34.2**	**-1.0**
RLS	**Riolos of Patr**	**0.95**	**132**	P	**Pg**	**09 11 34.2**	**-1.0**
RLS				AML	AML	09 11 56.7	
	comp=N,18385µm,0.7s						
RLS				AML	AML	09 11 57.7	
	comp=E,16311µm,0.7s						
JAN	**Janina**	**0.98**	**12**	P	**Pb**	**09 11 35.0**	**-0.8**
JAN				S	**Sn**	**09 11 49.7**	**-0.5**
	comp=E,7µm,0.7s						
JAN	**Janina**	**0.98**	**12**	P	**Pb**	**09 11 35.0**	**-0.8**
JAN				S	**Sg**	**09 11 48.5**	**-0.1**
JAN				AML	AML	09 11 53.5	
	comp=E,16702µm,0.7s						
JAN				AML	AML	09 11 54.1	
	comp=N,10932µm,0.5s						
JAN	**Janina**	**0.98**	**12**	P	**Pb**	**09 11 35.0**	**-0.8**
JAN				S	**Sn**	**09 11 49.7**	**-0.5**
EVR	**Evrytania**	**0.99**	**77**	P	**Pb**	**09 11 34.4**	**-1.6**
EVR				S	**Sg**	**09 11 48.7**	**-0.1**
EVR				AML	AML	09 12 01.6	
	comp=E,6955µm,0.6s						
EVR				AML	AML	09 12 03.4	
	comp=N,11082µm,0.8s						
KRI1	**kERI**	**1.05**	**170**	P	**Pb**	**09 11 35.9**	**-1.1**
KRI1				S	**Sn**	**09 11 51.8**	**-0.2**
	comp=N,11µm,0.6s						
ANX	**Ano Chora**	**1.06**	**95**	P	**Pb**	**09 11 35.8**	**-1.4**
ANX				AML	AML	09 11 60.0	
	comp=N,36825µm,0.5s						
ANX				AML	AML	09 12 00.1	
	comp=E,22050µm,0.5s						
KASA	**Kassiopi**	**1.16**	**335**	P	**Pb**	**09 11 38.6**	**-0.2**
KEK	**Kerkira**	**1.18**	**329**	P	**Pn**	**09 11 38.3**	**-0.9**
KEK	**Kerkira**	**1.18**	**329**	P	**Pn**	**09 11 38.7**	**-0.5**
KEK				AML	AML	09 12 04.9	
	comp=E,5472µm,0.4s						
KEK				AML	AML	09 12 07.9	
	comp=N,4610µm,0.6s						
SERG	**Sergoula**	**1.20**	**103**	P	**Pn**	**09 11 38.4**	**-1.0**
TRIZ	**Trizonia**	**1.22**	**105**	P	**Pn**	**09 11 38.7**	**-1.0**
MAKR	**Makrakomi, Fth**	**1.25**	**75**	P	**Pn**	**09 11 39.6**	**-0.6**
SRN	**Sarande**	**1.26**	**339**	*i* PN	**Pb**	**09 11 40.8**	**+0.2**
SRN				*i* SN	**Sg**	**09 11 58.7**	**+1.1**
KALE	**Kalithea**	**1.26**	**104**	P	**Pn**	**09 11 39.3**	**-1.1**
KALE				AML	AML	09 12 04.7	
	comp=N,10197µm,0.5s						
KALE				AML	AML	09 12 06.4	
	comp=E,8485µm,1.0s						
KPRO	**Kipourio**	**1.39**	**26**	P	**Pn**	**09 11 42.3**	**+0.1**
KLV	**Kalavryta, Ach**	**1.40**	**117**	P	**Pn**	**09 11 41.5**	**-0.8**
AGG	**Agios Georgios**	**1.41**	**76**	P	**Pn**	**09 11 42.1**	**-0.2**
AGG				AML	AML	09 12 14.1	
	comp=N,6371µm,0.7s						
AGG				AML	AML	09 12 15.0	
	comp=E,8582µm,0.7s						
AGG	**Agios Georgios**	**1.41**	**76**	P	**Pn**	**09 11 42.0**	**-0.3**
AGG						09 12 02.7	
AGG	**Agios Georgios**	**1.41**	**76**	Pn	**Pn**	**09 11 42.0**	**-0.3**
AGG				Sn	**Sg**	**09 12 02.7**	**+0.5**
THL	**Klokotos Trika**	**1.41**	**52**	P	**Pn**	**09 11 42.0**	**-0.3**
THL				AML	AML	09 12 08.7	
	comp=E,6764µm,0.5s						
THL				AML	AML	09 12 09.0	
	comp=N,8307µm,0.6s						
AMT	**Artemida-Makis**	**1.47**	**142**	P	**Pb**	**09 11 43.9**	**-0.2**
AMT				AML	AML	09 12 14.1	
	comp=N,12209µm,0.7s						
AMT				AML	AML	09 12 31.8	
	comp=E,11005µm,1.0s						
PENT	**Pentalofos**	**1.56**	**16**	P	**Pb**	**09 11 45.9**	**+0.2**
AXAR	**Agios Charalam**	**1.63**	**87**	P	**Pb**	**09 11 47.3**	**+0.4**
AXAR				AML	AML	09 12 23.9	
	comp=N,15852µm,0.7s						
AXAR				AML	AML	09 12 25.7	
	comp=E,9829µm,0.6s						
TRIP	**Tripoli**	**1.78**	**131**	P	**Pb**	**09 11 49.0**	**-0.5**
KZN	**Kozani**	**1.85**	**30**	P	**Pb**	**09 11 50.7**	**0.0**
KZN	**Kozani**	**1.85**	**30**	P	**Pb**	**09 11 50.7**	**0.0**
ITM	**Ithomi**	**1.86**	**144**	P	**Pb**	**09 11 50.4**	**-0.4**
ITM				AML	AML	09 12 24.5	
	comp=N,4329µm,0.7s						
ITM				AML	AML	09 12 25.0	
	comp=E,4307µm,0.6s						
ITM	**Ithomi**	**1.86**	**144**	Pn	**Pb**	**09 11 50.2**	**-0.5**
PROD	**Prodromos**	**1.88**	**103**	P	**Pb**	**09 11 50.6**	**-0.5**
LKR	**Lokris**	**1.90**	**91**	P	**Pb**	**09 11 51.3**	**-0.1**
VLO	**Vlora**	**1.95**	**335**	*i* PN	**Pb**	**09 11 52.4**	**0.0**
VLO				*i* SN	**Sg**	**09 12 27.2**	**+7.5**
LOUT	**Loutraki**	**2.02**	**110**	P	**Pb**	**09 11 53.0**	**-0.4**
SCTE	**Santa Cesarea**	**2.13**	**311**	Pn	**Pn**	**09 11 52.2**	**-0.1**
SCTE				Sn	**Sn**	**09 12 18.3**	**-0.3**
SKIA	**Skiathos**	**2.30**	**77**	P	**Pb**	**09 11 56.7**	**-1.6**
MRKA	**Markates**	**2.35**	**89**	P	**Pb**	**09 11 57.8**	**-1.4**
OHR	**Ohrid**	**2.41**	**4**	P	**Pb**	**09 11 59.2**	**-1.1**
THE	**Thessaloniki**	**2.67**	**43**	P	**Pn**	**09 12 01.8**	**+2.2**
PAIG	**Paliouri**	**2.70**	**62**	P	**Pn**	**09 12 02.5**	**+2.4**
TIR	**Tirane**	**2.70**	**349**	*e*Pn	**Pn**	**09 12 01.1**	**+1.0**
TIR	**Tirane**	**2.70**	**349**	*i* PN	**Pn**	**09 12 01.5**	**+1.4**
TIR	**Tirane**	**2.70**	**349**	⇑P	**Pn**	**09 12 01.3**	**+1.2**
TIR	**Tirane**	**2.70**	**349**	P	**Pn**	**09 12 00.4**	**+0.3**
TIR	**Tirane**	**2.70**	**349**	Pn	**Pn**	**09 12 00.4**	**+0.3**
PHP	**Peshkopia**	**2.98**	**358**	*i* PN	**Pn**	**09 12 05.4**	**+1.4**
PHP	**Peshkopia**	**2.98**	**358**	P	**Pn**	**09 12 05.4**	**+1.4**
TIP	**Timpagrande**	**3.02**	**280**	Pn	**Pn**	**09 12 04.3**	**-0.2**
VAY	**Valandovo**	**3.03**	**30**	*e*Pn	**Pn**	**09 12 05.7**	**+1.1**
OUR	**Ouranopolis**	**3.10**	**57**	P	**Pb**	**09 12 08.7**	**-3.2**
SKO	**Skopje**	**3.33**	**11**	*e*Sn	**Sn**	**09 12 49.6**	**+1.3**
SKO	**Skopje**	**3.33**	**11**	P	**Pn**	**09 12 11.8**	**+3.0**
SRS	**Serrai**	**3.35**	**43**	*e*Pn	**Pn**	**09 12 11.0**	**+2.0**
SRS	**Serrai**	**3.35**	**43**	P	**Pn**	**09 12 11.2**	**+2.2**
PUK	**Puka**	**3.38**	**351**	*i* PN	**Pn**	**09 12 09.9**	**+0.4**
ULC	**Ulcinj**	**3.42**	**343**	P	**Pn**	**09 12 10.0**	**+0.1**
ULC	**Ulcinj**	**3.42**	**343**	⇓*i*Pn	**Pn**	**09 12 09.5**	**-0.4**
ULC				*i* Sn	**Sn**	**09 12 49.5**	**+0.8**
MATE	**Matera**	**3.57**	**304**	⇑P	**Pn**	**09 12 13.7**	**+1.7**
DRME	**Dracevica, Mon**	**3.64**	**343**	⇓*i*Pn	**Pn**	**09 12 12.9**	**-0.1**
DRME				*i* Sn	**Sn**	**09 12 55.7**	**-0.1**
DRME	**Dracevica, Mon**	**3.64**	**343**	*e*Pn	**Pn**	**09 12 13.1**	**+0.1**
BCI	**Bajram Curri**	**3.68**	**354**	*i* PN	**Pn**	**09 12 14.4**	**+0.8**
CEL	**Celeste**	**3.70**	**265**	Pn	**Pn**	**09 12 12.8**	**-1.1**
CEL				Sn	**Sn**	**09 12 56.1**	**-1.3**
BUM	**Brajici-Budva**	**3.82**	**341**	⇓*i*Pn	**Pn**	**09 12 15.3**	**-0.2**
BUM				*i* Sn	**Sn**	**09 12 59.8**	**-0.5**
PDG	**Podgorica**	**3.86**	**345**	*e*Pn	**Pn**	**09 12 15.5**	**-0.5**
PDG				*e*Sn	**Sn**	**09 13 00.0**	**-1.2**
PDG	**Podgorica**	**3.86**	**345**	⇓P	**Pn**	**09 12 15.9**	**-0.1**
PDG	**Podgorica**	**3.86**	**345**	Pn	**Pn**	**09 12 14.7**	**-1.3**
PDG				Sn	**Sn**	**09 13 00.1**	**-1.1**
PDG	**Podgorica**	**3.86**	**345**	*e*Pn	**Pn**	**09 12 16.4**	**+0.4**
TTG	**Podgorica**	**3.86**	**345**	⇓*i*Pn	**Pn**	**09 12 16.1**	**+0.1**
TTG				*i* Sn	**Sn**	**09 13 01.0**	**-0.2**
PVY	**Plav**	**3.92**	**353**	⇓*i*Pn	**Pn**	**09 12 17.3**	**+0.4**
PVY				*i* Sn	**Sn**	**09 13 02.6**	**-0.3**
CEME	**Cevo**	**4.04**	**342**	⇑*i*Pn	**Pn**	**09 12 17.9**	**-0.7**
CEME				*i* Sn	**Sn**	**09 13 04.9**	**-1.0**
BOSS	**Bosilegrad**	**4.06**	**20**	*e*Pn	**Pn**	**09 12 19.5**	**+0.7**
HCY	**Herceg Novi**	**4.07**	**338**	P	**Pn**	**09 12 18.6**	**-0.2**
HCY	**Herceg Novi**	**4.07**	**338**	⇓*i*Pn	**Pn**	**09 12 18.0**	**-0.8**
HCY				*i* Sn	**Sn**	**09 13 05.3**	**-1.0**
HCY	**Herceg Novi**	**4.07**	**338**	*e*Pn	**Pn**	**09 12 18.1**	**-0.8**
IVA	**Berane**	**4.20**	**353**	⇑*i*Pn	**Pn**	**09 12 21.2**	**+0.4**
IVA				*i* Sn	**Sn**	**09 13 09.4**	**-0.3**
BARS	**Barje**	**4.22**	**12**	*e*Pn	**Pn**	**09 12 21.7**	**+0.8**
KOME	**Kolasin**	**4.22**	**349**	⇓*i*Pn	**Pn**	**09 12 21.7**	**+0.6**

ZIRJ					Sn	**Sn**	**09 13 53.8**	**-4.9**
MANT	**Manisa**	**6.25**	**89**		Pn	**Pn**	**09 12 48.3**	**-0.8**
MGRS	**Mrkonjic Grad**	**6.28**	**336**	*e*Pn		**Pn**	**09 12 50.0**	**+0.7**
MORI	**Morici**	**6.33**	**326**	*i* Pn		**Pn**	**09 12 49.7**	**-0.2**
MORI					Sn	**Sn**	**09 13 57.8**	**-4.3**
FRGS	**Fruska Gora**	**6.48**	**355**	*e*Pn		Pn	09 12 45.7	-6.3
BLY	**Banja Luka**	**6.55**	**338**	*e*Pn		**Pn**	**09 12 53.9**	**+0.9**
AQU	**L'Aquila**	**6.57**	**306**	P		**Pn**	**09 12 51.9**	**-1.4**
AQU	**L'Aquila**	**6.57**	**306**	Pn		**Pn**	**09 12 51.9**	**-1.4**
DUGI	**Dugi Otok**	**6.72**	**324**	*e*Pn		**Pn**	**09 12 55.8**	**+0.4**
DUGI					Sn	**Sn**	**09 14 07.9**	**-3.8**
GZR	**Gura Zlata**	**6.88**	**13**	⇑P		**Pn**	**09 12 57.8**	**+0.2**
GZR	**Gura Zlata**	**6.88**	**13**	P		**Pn**	**09 12 57.8**	**+0.2**
BZS	**Buzias**	**6.95**	**6**	⇑P		**Pn**	**09 12 58.4**	**-0.1**
BZS	**Buzias**	**6.95**	**6**	P		**Pn**	**09 13 00.5**	**+2.0**
BZS					pmax	pmax		
	comp=Z,10.0nm,1.0s							
NVLJ	**Novalja**	**7.25**	**326**	*e*Pn		**Pn**	**09 13 02.3**	**-0.3**
MOSL	**Moslavina**	**7.47**	**339**	*e*Pn		**Pn**	**09 13 05.6**	**+0.1**
MOSL					Sn	**Sn**	**09 14 26.2**	**-4.0**
VOIR		**7.51**	**25**	⇑P		**Pn**	**09 13 07.9**	**+1.7**
VOIR		**7.51**	**25**	P		**Pn**	**09 13 09.1**	**+2.9**
VOIR					pmax	pmax		
	comp=Z,11nm,1.5s							
MURB	**Monte Urbino**	**7.61**	**309**			**Pn**	**09 13 09.6**	**+2.1**
MORH	**Mrgy, Hungar**	**7.64**	**350**	*e*Pn		**Pn**	**09 13 06.7**	**-1.2**
MLR	**Muntele Rosu**	**7.87**	**29**	Pn		**Pn**	**09 13 11.7**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=236,slow=4.7,SNR=12							
MLR					LR	LR	09 16 55.5	
	comp=Z,419nm,18.3s,baz=118,slow=44							
MLR	**Muntele Rosu**	**7.87**	**29**	⇑P		**Pn**	**09 13 11.4**	**+0.2**
MLR	**Muntele Rosu**	**7.87**	**29**	P		**Pn**	**09 13 13.1**	**+1.9**
MLR	**Muntele Rosu**	**7.87**	**29**			**Pn**	**09 13 13.1**	**+1.9**
RIY	**Rijeka**	**8.02**	**328**	*e*Pn		**Pn**	**09 13 12.8**	**-0.3**
BRJN	**Brijuni**	**8.03**	**323**	*e*Pn		**Pn**	**09 13 12.6**	**-0.5**
BRJN					Sn	**Sn**	**09 14 38.3**	**-5.4**
CRES	**Cresnjev**	**8.07**	**334**	*e*Pn		**Pn**	**09 13 12.8**	**-1.0**
CEY	**Cerknica**	**8.38**	**329**	*e*Pn		**Pn**	**09 13 17.2**	**-0.9**
PLOR	**Plostina**	**8.44**	**30**	⇓P		**Pn**	**09 13 21.5**	**+2.5**
PLOR	**Plostina**	**8.44**	**30**	P		**Pn**	**09 13 21.4**	**+2.5**
VRI	**Vrincioaia**	**8.48**	**30**	⇓P		**Pn**	**09 13 19.9**	**+0.4**
VRI	**Vrincioaia**	**8.48**	**30**	P		**Pn**	**09 13 23.0**	**+3.5**
VRI					pmax	pmax		
	comp=Z,26nm,1.3s							
OSSC	**Osservatorio P**	**8.53**	**307**	Pn		**Pn**	**09 13 20.4**	**+0.3**
VSL	**Villasalto**	**8.74**	**279**			**Pn**	**09 13 23.8**	**+0.7**
SOKA	**Soboth**	**8.95**	**335**	*e*Pn		**Pn**	**09 13 26.0**	**0.0**
	comp=Z,6.2nm,0.5s							
SOKA					*e*Sn	**Sn**	**09 15 04.0**	**-2.7**
	comp=Z,3.3nm,0.5s							
OBKA	**Obir**	**8.98**	**332**	*i* Pn		**Pn**	**09 13 26.9**	**+0.6**
	comp=Z,4.9nm,0.5s							
OBKA					*i* Sn	**Sn**	**09 15 05.9**	**-1.5**
	comp=Z,7.4nm,0.5s							
PSZ	**Piszkesteto**	**9.23**	**357**	P		**Pn**	**09 13 30.1**	**+0.4**
PSZ	**Piszkesteto**	**9.23**	**357**	Pn		**Pn**	**09 13 30.1**	**+0.4**
PRED	**Cave del Predi**	**9.30**	**329**			**Pn**	**09 13 30.1**	**-0.7**
ZOU	**Zoufplan**	**9.64**	**327**			**Pn**	**09 13 34.4**	**-1.1**
CIMO	**Cimolais**	**9.69**	**324**			**Pn**	**09 13 35.6**	**-0.4**
VYHS	**Vyhne**	**9.87**	**353**	*e*P		**Pn**	**09 13 40.5**	**+2.0**
VYHS	**Vyhne**	**9.87**	**353**	*e*PN		**Pn**	**09 13 40.5**	**+2.0**
CTI	**Castel Tesino**	**9.87**	**321**	P		**Pn**	**09 13 37.0**	**-1.6**
CTI	**Castel Tesino**	**9.87**	**321**			**Pn**	**09 13 37.0**	**-1.6**
KBA	**Koelnbreinsper**	**9.91**	**330**	P		**Pn**	**09 13 40.7**	**+1.5**
KBA					pmax	pmax		
	comp=Z,6.0nm,0.7s							
BRTR	**Keskin Array B**	**10.19**	**80**	Pn		**Pn**	**09 13 46.4**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=270,slow=10,SNR=7.7							
BRTR					LR	LR	09 17 53.0	
	comp=Z,155nm,18.1s,baz=260,slow=39							
BRTR	**Keskin Array B**	**10.19**	**80**	P		**Pn**	**09 13 44.9**	**+1.9**
BRTR	**Keskin Array B**	**10.19**	**80**	Pn		**Pn**	**09 13 44.9**	**+1.9**
BR131	**Keskin Array S**	**10.19**	**80**	P		**Pn**	**09 13 43.8**	**+0.8**
BR131	**Keskin Array S**	**10.19**	**80**			**Pn**	**09 13 43.8**	**+0.8**
NIE	**Niedzica**	**10.72**	**359**	P		**Pn**	**09 13 53.0**	**+2.9**
NIE					pmax	pmax		
	comp=Z,5.0nm,1.3s							
WTTA	**Wattenberg**	**10.77**	**325**	*i* Pn		**Pn**	**09 13 55.6**	**+4.6**
	comp=Z,4.4nm,0.6s							
WTTA					*i* Sn	**Sn**	**09 15 52.1**	**+0.7**
	comp=Z,7.5nm,0.6s							
WTTA	**Wattenberg**	**10.77**	**325**	P		**Pn**	**09 13 52.4**	**+1.4**
WTTA					pmax	pmax		
	comp=Z,10.0nm,0.9s							
VRAC	**Vranov**	**10.98**	**346**	LR		LR	09 19 34.7	
	comp=Z,340nm,18.9s,baz=181,slow=46							
MOTA	**Moosalm**	**11.07**	**324**	Pn		**Pn**	**09 13 56.1**	**+1.0**
	comp=Z,5.1nm,0.7s							
DAVOX	**Davos/Dischmat**	**11.26**	**319**	Pn		**Pn**	**09 13 58.6**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=1.0,slow=16,SNR=1.5							
DAVOX					LR	LR	09 18 45.6	
	comp=Z,179nm,18.6s,baz=252,slow=40							
MORC	**Moravsky Berou**	**11.28**	**350**	P		**Pn**	**09 13 58.2**	**+0.3**
MORC	**Moravsky Berou**	**11.28**	**350**	Pn		**Pn**	**09 13 58.2**	**+0.3**
GEC2	**GERESS Array S**	**11.29**	**336**	Pn		**Pn**	**09 13 58.1**	**+0.1**
GERES	**GERESS Array B**	**11.29**	**336**	Pn		**Pn**	**09 13 57.7**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=156,slow=13,SNR=11							
GERES					LR	LR	09 18 55.7	
	comp=Z,185nm,20.7s,baz=150,slow=41							
GERES	**GERESS Array B**	**11.29**	**336**	P		**Pn**	**09 13 57.9**	**-0.1**
GERES	**GERESS Array B**	**11.29**	**336**			**Pn**	**09 13 57.9**	**-0.1**
KHC	**Kasperske Hory**	**11.58**	**336**	⇓*e*P		**Pn**	**09 14 01.7**	**-0.2**
KHC					pmax	pmax		
	comp=Z,5.0nm,0.8s							
KHC	**Kasperske Hory**	**11.58**	**336**			**Pn**	**09 14 01.1**	**-0.8**
WET	**Wettzell**	**11.81**	**335**	P		**Pn**	**09 14 05.5**	**+0.4**
WET					pmax	pmax		
	comp=Z,7.0nm,1.0s							
SENIN	**Lac Senin/Sane**	**12.42**	**312**			**Pn**	**09 14 13.3**	**-0.3**
KSP	**Ksiaz**	**12.51**	**347**	P		**Pn**	**09 14 11.7**	**-2.9**
KSP					pmax	pmax		
	comp=Z,12nm,0.9s							
BRG	**Berggiesshubel**	**13.04**	**341**	*e*(P)		P	09 14 41.6	+9.4
	comp=Z,16nm,1.9s							
CLL	**Collm**	**13.69**	**340**	*e*(PP)		**P**	**09 14 41.0**	**+1.6**
CLL				*e*			09 14 48.0	
ANN	**Anapa**	**13.97**	**59**	*e*P		**Pn**	**09 14 31.8**	**-2.7**
ANN				*e*S		**Sn**	**09 17 06.9**	**-2.5**
ANN					pmax	pmax		
	comp=Z,22nm,0.6s							
ASF	**Jabal al Asfar**	**14.80**	**111**	Pn		**Pn**	**09 14 47.2**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=283,slow=6.7,SNR=1.1							
DOU	**Dourbes**	**16.09**	**320**	sP		sP	09 15 09.8	-1.5
KIV	**Kislovodsk**	**17.40**	**65**	*e*S		**Sn**	**09 18 29.6**	**-3.3**
KIV					pmax	pmax		
	comp=Z,8.0nm,0.6s							
KIV					MLR	MLR		
	comp=Z,41nm,16.0s							
ESDC	**Sonseca Array**	**19.04**	**281**	P		**Pn**	**09 15 39.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=75,slow=12,SNR=9.2							
ESDC					LR	LR	09 23 00.0	
	comp=Z,71nm,21.9s,baz=270,slow=37							
ESDC	**Sonseca Array**	**19.04**	**281**	IAmb		IAmb	09 15 48.5	
	comp=Z,1.7nm,1.1s							
OBN	**Obninsk**	**19.64**	**28**	⇑*e*P		**Pn**	**09 15 45.9**	**-0.6**
OBN				*e*S		**S**	**09 19 22.1**	**-4.2**
OBN					pmax	pmax		
	comp=Z,9.0nm,0.5s							
OBN					MLR	MLR		
	comp=Z,108nm,16.0s							
VSU	**Vasula**	**20.18**	**9**	⇑*i* P		Pn	09 15 52.6	-0.2
VSU					pmax	pmax		
	comp=Z,58nm,1.2s							
MOS	**Moscow**	**20.51**	**28**	*e*P		**P**	**09 15 52.3**	**-2.3**
MDT	**Midelt**	**21.23**	**262**	LR		LR	09 24 49.2	
	comp=Z,75nm,19.4s,baz=71,slow=38							
FINES	**FINESS Array B**	**23.02**	**7**	P		**P**	**09 16 21.2**	**-0.2**
	comp=Z,8.2nm,0.8s,baz=164,slow=9.5,SNR=14							
FINES					LR	LR	09 26 42.2	
	comp=Z,41nm,19.6s,baz=186,slow=40							
FINES	**FINESS Array B**	**23.02**	**7**	*i* P		**P**	**09 16 20.7**	**-0.7**
FINES					pmax	pmax		
	comp=Z,8.0nm,0.8s							
FINES	**FINESS Array B**	**23.02**	**7**	P		**P**	**09 16 20.7**	**-0.7**
FIA1	**FINESS Array S**	**23.02**	**7**	P		**P**	**09 16 21.8**	**+0.4**
EKA	**Eskdalemuir Ar**	**23.03**	**324**	P		**P**	**09 16 21.1**	**-0.5**
	comp=Z,15nm,0.9s,baz=120,slow=10,SNR=35							
ESK	**Eskdalemuir**	**23.04**	**324**	P		**P**	**09 16 21.6**	**-0.1**
ESK					pmax	pmax		
	comp=Z,26nm,1.1s							
ESK	**Eskdalemuir**	**23.04**	**324**	P		**P**	**09 16 21.6**	**-0.1**
ESK					IAmb	IAmb	09 16 24.1	
	comp=Z,26nm,1.1s							
NC405	**NORSAR Array S**	**23.11**	**349**	P		**P**	**09 16 23.2**	**+0.9**
NB2	**NORSAR Subarra**	**23.11**	**348**	P		**P**	**09 16 23.2**	**+0.7**
	comp=Z,20nm,1.2s,baz=158,slow=10							
NOA	**NORSAR Array B**	**23.11**	**348**	P		**P**	**09 16 20.7**	**-1.8**
	comp=Z,6.2nm,0.9s,baz=158,slow=9.8,SNR=6.7							
NOA					LR	LR	09 26 52.6	
	comp=Z,67nm,21.4s,baz=170,slow=41							
NC303	**NORSAR Array S**	**23.27**	**349**	P		**P**	**09 16 25.1**	**+1.2**
KLMR	**Klimovskoe**	**25.14**	**22**	*e*P		**P**	**09 16 39.5**	**-1.9**
KLMR					pmax	pmax		
	comp=Z,11nm,1.1s							
KLMR	**Klimovskoe**	**25.14**	**22**	*e*P		**P**	**09 16 39.6**	**-1.9**
KLMR					AMP		09 16 58.7	
	comp=Z,11nm,1.1s							
TMCR	**Tamitsa**	**27.53**	**17**	*e*P		**P**	**09 17 02.4**	**-0.5**
TMCR					pmax	pmax		
	comp=Z,12nm,0.6s							
GEYT	**Alibeck**	**29.33**	**80**	LR		LR	09 32 39.4	
	comp=Z,38nm,19.1s,baz=155,slow=44							
TORD	**Torodi Ar. Bea**	**30.46**	**218**	P		**P**	**09 17 29.5**	**0.0**
	comp=Z,1.8nm,0.8s,baz=31,slow=8.6,SNR=7.5							
TORD	**Torodi Ar. Bea**	**30.46**	**218**	IAmb		IAmb	09 17 32.5	
	comp=Z,1.4nm,0.8s							
ARCES	**ARCESS Array B**	**31.01**	**3**	P		**P**	**09 17 32.7**	**-1.2**
	comp=Z,3.5nm,0.9s,baz=188,slow=8.8,SNR=5.2							
ARCES					LR	LR	09 31 13.5	
	comp=Z,90nm,19.0s,baz=109,slow=39							
BRVK	**Borovoye**	**36.69**	**50**	⇓*e*P		**P**	**09 18 24.2**	**+0.9**
BRVK					pmax	pmax		
	comp=Z,10.0nm,1.2s							
DBIC	**Dimbokro**	**39.31**	**222**	LR		LR	09 36 03.8	
	comp=Z,67nm,18.6s,baz=22,slow=38							
SPITS	**Spitsbergen Ar**	**39.63**	**359**	LR		LR	09 37 17.1	
	comp=Z,88nm,19.2s,baz=190,slow=40							
KURBB	**Kurchatov Arra**	**41.88**	**54**	P		**P**	**09 19 06.2**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=283,slow=9.3,SNR=5.0							
KURK	**Kurchatov**	**41.93**	**54**	⇓*e*P		**P**	**09 19 06.5**	**-0.6**
KURK					pmax	pmax		
	comp=Z,5.0nm,1.2s							
KURK	**Kurchatov**	**41.93**	**54**	P		**P**	**09 19 06.2**	**-0.9**
KURK	**Kurchatov**	**41.93**	**54**	IAmb		IAmb	09 19 13.0	
	comp=Z,3.2nm,1.1s							
MK31	**Makanchi Array**	**44.99**	**59**	P		**P**	**09 19 31.6**	**-0.3**
MK31					pmax	pmax		
	comp=Z,1.0nm,0.9s							
MK31	**Makanchi Array**	**44.99**	**59**	P		**P**	**09 19 31.6**	**-0.3**
MKAR	**Makanchi Array**	**44.99**	**59**	P		**P**	**09 19 31.6**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=279,slow=7.2,SNR=7.9							
MKAR	**Makanchi Array**	**44.99**	**59**	P		**P**	**09 19 31.9**	**0.0**
MKAR	**Makanchi Array**	**44.99**	**59**	P		**P**	**09 19 31.9**	**0.0**
ZAA0	**Zalesovo Array**	**45.31**	**48**	P		**P**	**09 19 33.4**	**-0.9**
ZAA0					IAmb	IAmb	09 19 35.6	
	comp=Z,4.2nm,0.7s							
ZALV	**Zalesovo Beam**	**45.31**	**48**	P		**P**	**09 19 33.6**	**-0.7**
	comp=Z,2.4nm,0.3s,baz=274,slow=10,SNR=5.6							
ZALV	**Zalesovo Beam**	**45.31**	**48**	*i* P		**P**	**09 19 35.2**	**+0.9**
ZALV					pmax	pmax		
	comp=Z,3.0nm,0.5s							
ZALV	**Zalesovo Beam**	**45.31**	**48**	P		**P**	**09 19 34.6**	**+0.3**
SFJD	**Kangerlussuaq**	**47.80**	**330**	LR		LR	09 40 55.1	
	comp=Z,44nm,20.5s,baz=90,slow=37							
SFJD	**Kangerlussuaq**	**47.80**	**330**	P		**P**	**09 19 53.4**	**-0.2**
SFJD					pmax	pmax		
	comp=Z,6.0nm,0.9s							
SFJD	**Kangerlussuaq**	**47.80**	**330**	P		**P**	**09 19 53.4**	**-0.2**
SFJD					IAmb	IAmb	09 20 02.2	
	comp=Z,5.9nm,0.9s							
WMQ	**Urumqi**	**49.47**	**61**	*e*P		**P**	**09 20 09.3**	**+2.4**
WMQ					pmax	pmax		
	comp=Z,29nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,54nm,3.8s							
SCHQ	**Schefferville**	**58.11**	**317**	P		**P**	**09 21 09.8**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=84,slow=5.3,SNR=2.9							
SCHQ	**Schefferville**	**58.11**	**317**	IAmb		IAmb	09 21 13.0	
	comp=Z,2.9nm,0.8s							
TIXI	**Tiksi**	**59.15**	**21**	⇑*e*P		**P**	**09 21 18.4**	**+1.6**
TIXI					pmax	pmax		
	comp=Z,4.0nm,1.2s							
SONM	**Songino Array**	**60.09**	**51**	P		**P**	**09 21 22.9**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=270,slow=5.9,SNR=6.6							
SONM	**Songino Array**	**60.09**	**51**	P		**P**	**09 21 24.6**	**+0.7**
SONM					pmax	pmax		
	comp=Z,2.0nm,1.1s							
SONM	**Songino Array**	**60.09**	**51**	P		**P**	**09 21 24.6**	**+0.7**
LZH	**Lanzhou**	**63.93**	**64**	*e*P		**P**	**09 21 50.3**	**+0.4**
LZH					pP	sP	09 21 56.3	+0.6
LZH					sP	pP	09 21 59.4	+5.3
LZH					PP	**PP**	**09 24 16.3**	**+6.1**
LZH					pmax	pmax		
	comp=Z,19nm,1.0s							
LZH					pmax	pmax		
	comp=Z,85nm,5.4s							
HHC	**Hu-ho-hao-te**	**66.70**	**56**	*e*P		**P**	**09 22 08.9**	**+1.1**
HHC					pmax	pmax		
	comp=Z,15nm,0.5s							
HHC					pmax	pmax		
	comp=Z,46nm,6.6s							
XAN	**Xi'an**	**68.55**	**63**	P		**P**	**09 22 18.4**	**-1.0**
XAN					pP	sP	09 22 25.8	+0.5
XAN					pmax	pmax		
	comp=Z,7.0nm,1.2s							
BILL	**Bilibino**	**70.50**	**13**	⇑*e*P		**P**	**09 22 33.3**	**+2.5**
BILL				*e*			09 22 55.7	
BILL				*e*			09 25 06.3	
BILL					pmax	pmax		
	comp=Z,5.0nm,1.0s							
BILL					MLR	MLR		
	comp=Z,224nm,23.0s							
YKA	**Yellowknife Ar**	**72.91**	**340**	P		**P**	**09 22 45.7**	**+0.2**
	comp=Z,0.7nm,1.0s,baz=33,slow=5.5,SNR=4.4							
NJ2	**Nanjing**	**76.51**	**60**	*e*P		**P**	**09 23 05.3**	**-1.5**
NJ2					pmax	pmax		
	comp=Z,16nm,0.6s							
DHY	**Denali Highway**	**78.11**	**354**	P		**P**	**09 23 15.8**	**+0.4**
DHY					IAmb	IAmb	09 23 20.0	
	comp=Z,1.8nm,0.8s							
KSRS	**Korea Array**	**78.96**	**51**	P		**P**	**09 23 19.4**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=318,slow=3.3,SNR=5.2							
PETK	**Petropavlovsk-**	**81.31**	**25**	LR		LR	10 07 11.1	
	comp=Z,15nm,18.5s,baz=48,slow=41							
CPUP	**Villa Florida**	**97.33**	**242**	LR		LR	10 09 53.2	
	comp=Z,32nm,18.9s,baz=58,slow=36							
WRA	**Warramunga Arr**	**120.51**	**92**	PKP		**PKPdf**	**09 30 08.1**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=330,slow=1.8,SNR=1.3							
ASAR	**Alice Springs**	**122.18**	**96**	PKP		**PKPdf**	**09 30 11.1**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=323,slow=1.7,SNR=5.2							

DDA ***13*** *09:12:04.4,40.27N×26.30E,h7km±2km, ML2.3*
ISK ***13*** *09:12:04.2,40.29N×26.24E,h7km, ML2.2/11*

ISC 13 09:12:04.7±0.9, 40.28N±0.03×26.28E±0.03, h12km±8km, n25, σ0.66/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GELI	**Tayfur-Gelibol**	**0.19**	**51**	SG	**Sg**	**09 12 12.2**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.19**	**51**	PG	**Pg**	**09 12 08.8**	**-0.2**
GOKA	**anakkale-Gk**	**0.30**	**253**	*i* P	**Pg**	**09 12 10.8**	**0.0**
GOKA				*i* S	**Sg**	**09 12 15.9**	**+1.0**
GOKA				IAML		09 12 16.0	
	comp=E,659nm,0.3s						
LPK	**Lapseki**	**0.38**	**75**	PG	**Pb**	**09 12 12.7**	**-0.7**
ERIK	**Erikli-Kesan**	**0.43**	**24**	PG	**Pg**	**09 12 13.1**	**-0.2**
ERIK	**Erikli-Kesan**	**0.43**	**24**	SG	**Sg**	**09 12 19.5**	**+0.4**
EZN	**Ezine**	**0.45**	**176**	SG	**Sb**	**09 12 20.7**	**-0.5**
EZN	**Ezine**	**0.45**	**176**	PG	**Pg**	**09 12 13.6**	**0.0**
BOZC	**Bozcaada**	**0.47**	**202**	PG	**Pg**	**09 12 13.6**	**-0.3**
BOZC	**Bozcaada**	**0.47**	**202**	*i* P	**Pg**	**09 12 13.7**	**-0.3**
BOZC	**Bozcaada**	**0.47**	**202**	SG	**Sb**	**09 12 20.7**	**-1.0**
ENEZ	**Enez**	**0.47**	**348**	PG	**Pg**	**09 12 13.6**	**-0.4**
BAYC	**CANAKKALE_Bayr**	**0.57**	**159**	*i* P	**Pb**	**09 12 15.9**	**-0.7**
BAYC				*i* S	**Sb**	**09 12 23.8**	**-1.0**
KESN	**Edirne-Kesan**	**0.63**	**29**	*i* P	**Pg**	**09 12 17.2**	**+0.1**
KESN				*i* S	**Sg**	**09 12 25.6**	**+0.2**
ALN	**Alexandroupoli**	**0.65**	**344**	SG	**Sg**	**09 12 26.3**	**+0.5**
ALN	**Alexandroupoli**	**0.65**	**344**	PG	**Pg**	**09 12 17.5**	**+0.2**
RDO	**Rodhopi**	**1.04**	**327**	PG	**Pg**	**09 12 23.9**	**-0.8**
GONE	**Gonen-Balikesi**	**1.10**	**102**	SN	**Sn**	**09 12 42.7**	**+1.7**
GONE	**Gonen-Balikesi**	**1.10**	**102**	PN	**Pn**	**09 12 26.3**	**+0.4**
SIGR	**SIGRI**	**1.11**	**197**	PN	**Pb**	**09 12 25.8**	**0.0**
BALY	**Balya**	**1.16**	**117**	*i* P	**Pn**	**09 12 27.0**	**+0.3**
BALY				*i* S	**Sb**	**09 12 41.5**	**-0.1**
BALY				IAML		09 12 44.0	
	comp=N,61nm,0.7s						
EDC	**Edincik**	**1.21**	**86**	PN	**Pn**	**09 12 28.2**	**+0.8**
DKL	**Dikili**	**1.30**	**158**	PN	**Pg**	**09 12 29.3**	**-0.3**
KDZ	**Kurdzhali**	**1.52**	**335**	PN	**Pn**	**09 12 31.8**	**+0.1**
ARMT	**Armutlu**	**1.99**	**81**	PN	**Pb**	**09 12 39.7**	**-1.2**

THR ***13*** *09:12:25.2±0.5,37.04N×55.12E,h14km±6km, ML4.5*
TEH ***13*** *09:12:27.2,36.86N×55.08E,h8km, ML4.4*
IDC ***13*** *09:12:27.1±0.9,36.80N×55.10E,h0km, mb3.9/15, mb1 4.1/22, mb1mx4.0/43, mbtmp4.0/22, ML3.5/7, MS3.4/11, Ms1 3.3/11, ms1mx3.0/47, Error ellipse: s-maj=17.8km s-min=10.7km az=176.0*
MOS ***13*** *09:12:28.1±1.9,36.95N×55.22E,h10km, mb4.5/18, Error ellipse: s-maj=7.1km s-min=5.2km az=128.1*
NEIC ***13*** *09:12:30.0±2.1,36.85N±0.04×55.12E±0.05,h23km±2km, Error ellipse: s-maj=6.2km s-min=5.7km az=166.0*

ISC 13 09:12:30.1±0.4, 36.90N±0.04×55.16E±0.03, h15km, n203, σ1.88/200, mb4.1/37, MS3.4/7, 13C-11D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.41**	**29**	*e*Pg	**Pg**	**09 12 36.6**	**-1.8**
IMND				*e*Sg	**Sg**	**09 12 43.2**	**-0.9**
SHRO	**Shahrood**	**1.14**	**143**	*e*Pg	**Pb**	**09 12 48.6**	**-3.0**
SHRO				*e*Sg	**Sb**	**09 13 05.7**	**-0.5**
SHRO	**Shahrood**	**1.14**	**143**	*e*Pg	**Pb**	**09 12 48.6**	**-3.0**
SHRO	**Shahrood**	**1.14**	**143**	Pg	**Pb**	**09 12 48.0**	**-3.5**
SHRO				Sg	**Sb**	**09 13 05.0**	**-1.2**
IGLO	**Ghaloghah**	**1.14**	**250**	*e*Pg	**Pb**	**09 12 48.2**	**-3.4**
IGLO				*e*		09 13 18.2	
IANJ	**Anjilo**	**1.75**	**216**	*e*Pg	**Pn**	**09 12 59.9**	**-0.2**
IANJ				*e*		09 13 30.4	
SBZV	**Sabzevar**	**2.04**	**104**	*e*Pn	**Pn**	**09 13 04.6**	**+0.5**
IALA	**Alasht**	**2.06**	**247**	*e*Pn	**Pn**	**09 13 04.4**	**-0.1**
ISFR	**Sfrayin**	**2.28**	**85**	*e*		09 13 50.1	
ISFR				*e*Pn	**Pn**	**09 13 08.4**	**+0.9**
ILAS	**Lasjerd**	**2.33**	**230**	*e*		09 13 53.5	
ILAS				*e*Pg	**Pn**	**09 13 09.4**	**+1.2**
IPRN	**Peran**	**2.36**	**255**	*e*Pn	**Pn**	**09 13 08.9**	**+0.4**
GEYT	**Alibeck**	**2.57**	**65**	Pn	**Pn**	**09 13 12.3**	**+1.0**
	25nm,0.3s,baz=257,slow=14,SNR=140						
GEYT				Lg	Lg	09 13 50.9	
	40nm,0.3s,baz=247,slow=37,SNR=3.2						
GEYT	**Alibeck**	**2.57**	**65**	Pn	**Pn**	**09 13 11.8**	**+0.5**
GYA0B	**ALIBECK ARRAY**	**2.57**	**65**	Pn	**Pn**	**09 13 12.6**	**+1.3**
IKRD	**Kardeh**	**2.69**	**92**	*e*Pn	**Pg**	**09 13 25.6**	**+3.8**
ASHT	**Ashkhabad**	**2.77**	**67**	P	**Pn**	**09 13 16.4**	**+2.4**
ASHT	**Ashkhabad**	**2.77**	**67**	*e*Pn	**Pn**	**09 13 16.4**	**+2.4**
IEMG	**Emamgholi**	**2.84**	**78**	*e*Pn	**Pn**	**09 13 16.3**	**+1.1**
IEMG				*e*		09 14 12.2	
IAKL	**Akhelmad**	**2.90**	**95**	*e*Pn	**Pn**	**09 13 16.9**	**+0.8**
IPAY	**Payeh**	**3.12**	**97**	*e*Pn	**Pn**	**09 13 19.6**	**+0.6**
TNSJ	**Nastanj**	**3.16**	**158**	*e*Pn	**Pn**	**09 13 19.6**	**+0.2**
IVRN	**Varamin**	**3.37**	**237**	*e*Pn	**Pn**	**09 13 22.9**	**+0.6**
IHSB	**Hasanabad**	**3.46**	**246**	*e*Pn	**Pn**	**

WSAR	**Wadi Sarin**	**13.94**	**167**	LR	LR	09 22 16.3		
	comp=Z,102nm,18.2s,baz=6.5,slow=42							
ANN	**Anapa**	**15.54**	**306**	*eP*	**Pn**	**09 16 08.7**	**+0.1**	
ANN				*eS*	**Sn**	**09 19 01.9**	**+1.4**	
ANN				pmax	pmax			
	comp=Z,47nm,1.3s							
RAYN	**Ar Rayn**	**15.71**	**215**	P	**Pn**	**09 16 08.9**	**-2.1**	
RAYN				pmax	pmax			
	comp=Z,21nm,1.2s							
RAYN	**Ar Rayn**	**15.71**	**215**	Pn	**Pn**	**09 16 08.9**	**-2.1**	
RAYN				lAmb	lAmb	09 16 17.8		
	comp=Z,21nm,1.1s							
AAK	**Ala-Archa**	**15.92**	**63**	Pn	**Pn**	**09 16 10.9**	**-2.8**	
	comp=Z,0.5nm,0.3s,baz=215,slow=8.5,SNR=9.9							
AAK				Sn	Sn	09 18 55.5	-15	
	comp=Z,0.4nm,0.3s,baz=254,slow=11,SNR=2.0							
AAK				LR	LR	09 23 50.3		
	comp=Z,162nm,18.6s,baz=256,slow=43							
AAK	**Ala-Archa**	**15.92**	**63**	*eP*	**Pn**	**09 16 11.3**	**-2.5**	
AAK				pmax	pmax			
	comp=Z,8.0nm,1.0s							
AAK	**Ala-Archa**	**15.92**	**63**	Pn	**Pn**	**09 16 11.2**	**-2.5**	
KSH	**Kashi**	**16.57**	**75**	P	**Pn**	**09 16 19.0**	**-3.0**	
KSH				PP	**sP**	**09 16 33.3**	**+2.2**	
KSH				S	**Sn**	**09 19 19.3**	**-6.4**	
KSH				pmax	pmax			
	comp=Z,22nm,1.0s							
KSH				pmax	pmax			
	comp=Z,250nm,4.8s							
BRTR	**Keskin Array B**	**17.12**	**286**	P	**Pn**	**09 16 29.1**	**+0.1**	
	comp=Z,0.1nm,0.3s,baz=104,slow=12,SNR=2.1							
BRTR	**Keskin Array B**	**17.12**	**286**	*ce*	**P**	**09 16 33.2**	**+2.6**	
BRTR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
BRTR	**Keskin Array B**	**17.12**	**286**	P	**Pn**	**09 16 26.6**	**-2.4**	
KDJ	**Kajisay**	**17.76**	**66**	P	**Pn**	**09 16 36.0**	**-1.0**	
KDJ				pmax	pmax			
	comp=Z,9.0nm,1.3s							
KDJ	**Kajisay**	**17.76**	**66**	P	**Pn**	**09 16 36.0**	**-1.0**	
VORD	**Divnogorie**	**18.07**	**326**	*eP*	**Pn**	**09 16 41.9**	**+1.5**	
VORD				pmax	pmax			
	comp=Z,10.0nm,0.4s							
TARG	**Taragay, Kyrgy**	**18.16**	**68**	P	**Pn**	**09 16 40.1**	**-2.0**	
VSR	**Storozhevoye**	**18.30**	**327**	*eP*	**Pn**	**09 16 42.2**	**-1.1**	
VSR				pmax	pmax			
	comp=Z,30nm,0.6s							
EIL	**Elat**	**18.35**	**253**	LR	LR	09 24 52.7		
	comp=Z,86nm,20.2s,baz=73,slow=41							
BRVK	**Borovoye**	**19.31**	**28**	*eP*	**P**	**09 16 54.8**	**+0.3**	
BRVK				pmax	pmax			
	comp=Z,11nm,1.0s							
BRVK	**Borovoye**	**19.31**	**28**		**P**	**09 16 54.4**	**-0.1**	
BRVK				lAmb	lAmb	09 17 00.6		
	comp=Z,14nm,1.1s							
LPSR	**Galich'ya Gora**	**19.41**	**329**	*eP*	**Pn**	**09 16 58.4**	**+1.7**	
LPSR				pmax	pmax			
	comp=Z,80nm,0.8s							
ARU	**Arti**	**19.67**	**6**	P	**P**	**09 16 58.1**	**-0.3**	
	comp=Z,0.0nm,0.3s,baz=176,slow=8.0,SNR=7.7							
ARU				LR	LR	09 25 09.0		
	comp=Z,156nm,20.1s,baz=204,slow=38							
ARU	**Arti**	**19.67**	**6**	*c*	**P**	**09 16 59.8**	**+1.4**	
ARU				S	**S**	**09 20 40.4**	**+0.7**	
ARU				pmax	pmax			
	comp=Z,8.0nm,0.8s							
ARU	**Arti**	**19.67**	**6**		**P**	**09 16 57.3**	**-1.1**	
ARU				lAmb	lAmb	09 17 10.4		
	comp=Z,12nm,1.1s							
SVE	**Sverdlovsk**	**20.27**	**9**	*eP*	Pn	09 17 13.7	+6.8	
ISK	**Istanbul-Kandi**	**20.68**	**290**	P	Pn	09 17 14.0	+2.1	
KURBB	**Kurchatov Arra**	**21.63**	**43**	P	**P**	**09 17 19.3**	**-0.3**	
	comp=Z,1.3nm,0.7s,baz=244,slow=11,SNR=8.7							
KURBB				S	**S**	**09 21 19.0**	**+0.3**	
	comp=Z,0.2nm,0.5s,baz=240,slow=31,SNR=1.0							
KURBB				Lg	Lg	09 24 06.0		
	comp=Z,0.2nm,0.4s,baz=247,slow=28,SNR=0.8							
KURK	**Kurchatov**	**21.73**	**43**	*eP*	**P**	**09 17 24.2**	**+3.5**	
KURK				pmax	pmax			
	comp=Z,16nm,1.7s							
KURK	**Kurchatov**	**21.73**	**43**	P	**P**	**09 17 20.7**	**0.0**	
KURK				lAmb	lAmb	09 17 27.2		
	comp=Z,8.0nm,1.0s							
KIRV	**Kirov**	**22.03**	**352**	P	**P**	**09 17 23.1**	**-0.7**	
	comp=Z,39nm,0.8s,baz=140,slow=3.9,SNR=6.3							
KIRV	**Kirov**	**22.03**	**352**	*eP*	**P**	**09 17 24.4**	**+0.7**	
MAKZ	**Makanchi**	**22.20**	**55**	P	**P**	**09 17 25.9**	**+0.1**	
MAKZ				pmax	pmax			
	comp=Z,14nm,1.4s							
MAKZ	**Makanchi**	**22.20**	**55**	P	**P**	**09 17 25.9**	**+0.1**	
MAKZ				lAmb	lAmb	09 17 30.1		
	comp=Z,14nm,1.4s							
OBN	**Obninsk**	**22.21**	**331**	P	**P**	**09 17 26.6**	**+0.9**	
	comp=Z,4.3nm,0.4s,baz=179,slow=14,SNR=6.1							
OBN	**Obninsk**	**22.21**	**331**	*eP*	**P**	**09 17 26.7**	**+0.9**	
OBN				*e*		09 17 50.8		
OBN				*eS*	**S**	**09 21 28.4**	**-1.2**	
OBN				pmax	pmax			
	comp=Z,42nm,1.3s							
OBN				MLR	MLR			
	comp=Z,59nm,21.0s							
OBN	**Obninsk**	**22.21**	**331**	P	**P**	**09 17 24.8**	**-0.9**	
MOS	**Moscow**	**22.28**	**333**	*eP*	**P**	**09 17 31.7**	**+5.1**	
MOS				*e*		09 21 28.9		
MK31	**Makanchi Array**	**22.40**	**55**	P	**P**	**09 17 27.9**	**-0.1**	
MK31				pmax	pmax			
	comp=Z,11nm,1.5s							
MK31	**Makanchi Array**	**22.40**	**55**	P	**P**	**09 17 27.9**	**-0.1**	
MK31				lAmb	lAmb	09 17 32.3		
	comp=Z,11nm,1.4s							
MKAR	**Makanchi Array**	**22.40**	**55**	P	**P**	**09 17 28.8**	**+0.8**	
	comp=Z,1.5nm,0.5s,baz=245,slow=12,SNR=28							
MKAR				LR	LR	09 27 38.1		
	comp=Z,90nm,21.9s,baz=254,slow=40							
MKAR	**Makanchi Array**	**22.40**	**55**	P	**P**	**09 17 27.9**	**-0.1**	
MKAR	**Makanchi Array**	**22.40**	**55**	P	**P**	**09 17 27.9**	**-0.1**	
VRI	**Vrincioaia**	**23.04**	**302**	P	P	09 17 50.2	+15	
PLOR	**Plostina**	**23.09**	**302**	P	**P**	**09 17 38.3**	**+3.0**	
AKASG	**Malin Array Be**	**23.10**	**315**	P	**P**	**09 17 34.0**	**-1.3**	
	comp=Z,5.4nm,0.7s,baz=119,slow=9.5,SNR=12							
AKASG	**Malin Array Be**	**23.10**	**315**	*ce*	**P**	**09 17 36.0**	**+0.7**	
AKASG				pmax	pmax			
	comp=Z,5.0nm,0.7s							
AKASG	**Malin Array Be**	**23.10**	**315**	P	**P**	**09 17 34.2**	**-1.0**	
AKBB	**Malin Array Si**	**23.10**	**315**	*eP*	**P**	**09 17 35.0**	**-0.3**	
AKBB	**Malin Array Si**	**23.10**	**315**	P	**P**	**09 17 34.2**	**-1.0**	
AKBB				lAmb	lAmb	09 17 42.6		
	comp=Z,14nm,0.7s							
KIEV	**Kiev**	**23.11**	**315**	P	**P**	**09 17 35.0**	**-0.3**	
MLR	**Muntele Rosu**	**23.50**	**301**	P	**P**	**09 17 41.5**	**+2.0**	
KMPD	**K-Podol'skiy**	**23.94**	**308**	P	**P**	**09 17 46.0**	**+2.5**	
DOPR	**Dopca**	**23.98**	**302**	P	**P**	**09 17 47.7**	**+3.8**	
PLD	**Plovdiv**	**24.00**	**292**	P	**P**	**09 17 46.3**	**+2.2**	
VOIR		**24.11**	**300**	P	P	09 17 55.6	+10	
IDI	**Anoyia**	**24.47**	**275**	P	**P**	**09 17 49.4**	**+0.8**	
	comp=Z,4.2nm,0.7s,baz=135,slow=17,SNR=1.7							
IDI	**Anoyia**	**24.47**	**275**	P	**P**	**09 17 48.5**	**-0.1**	
BURAR	**Bucovina Array**	**24.47**	**305**	P	**P**	**09 17 50.2**	**+1.6**	
BURAR	**Bucovina Array**	**24.47**	**305**	P	**P**	**09 17 47.3**	**-1.2**	
BUR08	**Bucovina Ar. S**	**24.49**	**305**	P	**P**	**09 17 48.2**	**-0.5**	
BUR08				lAmb	lAmb	09 18 02.0		
	comp=Z,5.5nm,1.1s							
SRS	**Serrai**	**24.81**	**290**	P	**P**	**09 17 53.6**	**+2.0**	
SRS				pmax	pmax			
	comp=Z,8.0nm,1.0s							
VTS	**Vitosha**	**25.11**	**293**	P	**P**	**09 17 56.6**	**+2.2**	
VTS	**Vitosha**	**25.11**	**293**	P	**P**	**09 17 56.1**	**+1.7**	
VTS				pmax	pmax			
	comp=Z,6.0nm,1.5s							
KLMR	**Klimovskoe**	**25.95**	**342**	*eP*	**P**	**09 18 02.4**	**+0.7**	
KLMR				pmax	pmax			
	comp=Z,11nm,0.9s							
KLMR	**Klimovskoe**	**25.95**	**342**	*eP*	**P**	**09 18 02.4**	**+0.7**	
KLMR				AMP		09 18 18.1		
	comp=Z,11nm,0.9s							
DRGR		**25.95**	**303**	P	**P**	**09 18 04.4**	**+2.4**	
DRGR				pmax	pmax			
	comp=Z,19nm,0.9s							
TRPA	**Tarpa**	**26.34**	**306**	P	P	09 17 51.1	-14	
MDVR	**Moldovita**	**26.36**	**298**	P	**P**	**09 18 07.1**	**+1.5**	
DGZ	**Jazzator, Alta**	**26.52**	**51**	*eP*	**P**	**09 18 11.7**	**+4.5**	
ZALV	**Zalesovo Beam**	**26.63**	**41**	P	**P**	**09 18 08.1**	**+0.2**	
	comp=Z,1.0nm,0.4s,baz=224,slow=8.1,SNR=2.6							
ZALV				LR	LR	09 29 52.1		
	comp=Z,98nm,18.4s,baz=244,slow=39							
CRVS	**Cervenica-Dubn**	**27.22**	**307**	*eP*	**P**	**09 18 19.1**	**+5.8**	
CRVS	**Cervenica-Dubn**	**27.22**	**307**	*eP*	**P**	**09 18 19.1**	**+5.8**	
VRAC	**Vranov**	**30.43**	**306**	LR	LR	09 33 02.6		
	comp=Z,45nm,20.3s,baz=105,slow=41							
FIA1	**FINESS Array S**	**30.58**	**333**	P	**P**	**09 18 41.5**	**-1.5**	
FINES	**FINESS Array B**	**30.58**	**333**	P	**P**	**09 18 41.2**	**-1.8**	
FINES	**FINESS Array B**	**30.58**	**333**	P	**P**	**09 18 41.2**	**-1.8**	
DPC	**Dobruska-Polom**	**30.79**	**308**	P	**P**	**09 18 46.3**	**+1.2**	
DPC				pmax	pmax			
	comp=Z,22nm,1.1s							
GEC2	**GERESS Array S**	**32.26**	**305**	P	**P**	**09 19 00.7**	**+2.7**	
GEC2				pmax	pmax			
	comp=Z,3.0nm,1.5s							
GERES	**GERESS Array B**	**32.26**	**305**	P	**P**	**09 18 57.5**	**-0.5**	
	comp=Z,0.3nm,0.3s,baz=96,slow=8.0,SNR=5.3							
GERES	**GERESS Array B**	**32.26**	**305**	P	**P**	**09 18 58.0**	**-0.1**	
BRG	**Berggiesshubel**	**32.38**	**309**	P	**P**	**09 19 01.2**	**+2.3**	
BRG				pmax	pmax			
	comp=Z,5.0nm,1.1s							
OUL	**Oulu**	**33.10**	**338**	P	**P**	**09 19 04.9**	**-0.1**	
OUL				pmax	pmax			
	comp=Z,14nm,1.4s							
NOA	**NORSAR Array B**	**36.57**	**325**	P	P	09 19 31.8	-3.3	
	comp=Z,2.5nm,1.0s,baz=113,slow=8.2,SNR=3.3							
NRIK	**Noril'sk**	**36.95**	**18**	*eP*	**P**	**09 19 41.6**	**+3.3**	
NRIK				pmax	pmax			
	comp=Z,5.0nm,1.4s							
TLY	**Talaya**	**37.00**	**51**	LR	LR	09 35 57.8		
	comp=Z,99nm,20.7s,baz=272,slow=38							
SSB	**Saint Sauveur**	**38.51**	**299**	P	**P**	**09 19 52.3**	**+0.5**	
SSB				pmax	pmax			
	comp=Z,3.0nm,1.2s							
SONM	**Songino Array**	**38.75**	**57**	LR	LR	09 36 35.3		
	comp=Z,53nm,18.7s,baz=289,slow=37							
KMI	**Kunming**	**42.05**	**92**	P	**P**	**09 20 22.3**	**+0.8**	
KMI				pP	sP	09 20 36.3	+7.5	
KMI				pmax	pmax			
	comp=Z,21nm,1.0s							
CMAR	**Chiang Mai Arr**	**42.48**	**103**	P	**P**	**09 20 24.1**	**-0.8**	
	comp=Z,2.1nm,0.7s,baz=298,slow=8.2,SNR=9.3							
CMAR	**Chiang Mai Arr**	**42.48**	**103**	*ce*	**P**	**09 20 26.5**	**+1.6**	
CMAR				pmax	pmax			
	comp=Z,3.0nm,0.7s							
EKA	**Eskdalemuir Ar**	**43.02**	**315**	P	**P**	**09 20 28.1**	**-0.7**	
	comp=Z,0.6nm,0.5s,baz=94,slow=9.1,SNR=6.7							
XAN	**Xi'an**	**43.40**	**77**	P	**P**	**09 20 33.5**	**+1.3**	
XAN				pP	sP	09 20 42.4	+2.8	
XAN				pmax	pmax			
	comp=Z,10.0nm,1.2s							
ROSF	**Rostrenen**	**43.51**	**304**	P	**P**	**09 20 33.3**	**+0.5**	
ROSF				pmax	pmax			
	comp=Z,11nm,1.1s							
GYA	**Guiyang**	**44.58**	**88**	*eP*	**P**	**09 20 44.9**	**+3.0**	
GYA				pmax	pmax			
	comp=Z,10.0nm,0.6s							
ESDC	**Sonseca Array**	**45.76**	**292**	P	**P**	**09 20 50.0**	**-1.0**	
	comp=Z,1.8nm,0.9s,baz=61,slow=8.7,SNR=9.5							
WHN	**Wuhan**	**48.97**	**79**	P	**P**	**09 21 20.1**	**+4.1**	
TOA0	**Torodi Ar. Sit**	**53.13**	**258**	P	**P**	**09 21 46.1**	**-1.4**	
TOA0				lAmb	lAmb	09 21 50.5		
	comp=Z,3.5nm,1.3s							
TORD	**Torodi Ar. Bea**	**53.13**	**258**	P	**P**	**09 21 46.1**	**-1.4**	
	comp=Z,0.3nm,0.4s,baz=55,slow=7.3,SNR=6.2							
TORD	**Torodi Ar. Bea**	**53.13**	**258**	P	**P**	**09 21 44.3**	**-3.2**	
KSRS	**Korea Array**	**56.56**	**66**	P	**P**	**09 22 11.7**	**-0.4**	
	comp=Z,0.7nm,0.6s,baz=287,slow=6.8,SNR=2.0							
BILL	**Bilibino**	**63.56**	**23**	*eP*	**P**	**09 23 04.3**	**+4.7**	
BILL				*e*		09 25 20.0		
BILL				pmax	pmax			
	comp=Z,4.0nm,1.1s							
BILL				MLR	MLR			
	comp=Z,242nm,27.0s							
ILAR	**Eielson Array**	**77.19**	**9**	P	**P**	**09 24 23.8**	**+0.9**	
	comp=Z,1.0nm,1.1s,baz=339,slow=4.8,SNR=2.6							
YKA	**Yellowknife Ar**	**80.61**	**355**	P	**P**	**09 24 41.2**	**-0.6**	
	comp=Z,0.1nm,0.3s,baz=2.8,slow=6.2,SNR=3.5							
WRA	**Warramunga Arr**	**93.50**	**112**	P	**P**	**09 25 44.3**	**-1.3**	
	comp=Z,0.4nm,0.7s,baz=317,slow=4.5,SNR=1.8							

IDC ***13*** *09:31:25.2±1.1,20.31°S×67.80E, h0km, mb3.9/8, mb1 4.0/8, mb1mx3.7/49, mbtmp3.9/8, MS3.5/3, Ms1 3.4/3, ms1mx2.9/30, Error ellipse: s-maj=34.0km s-min=26.6km az=69.0*

ISC 13 09:31:27.8±1.0, 20.3°S×67.8E±0.2, h15km, n13, σ0.9 41/8, mb4.0/8, MS3.5/3, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**13.37**	**20**	T	T	09 48 12.6	
	baz=200,slow=76,SNR=202						
H08S2	**Diego Garcia H**	**13.38**	**20**	T	T	09 48 13.1	
	baz=200,slow=76,SNR=375						
H08S3	**Diego Garcia H**	**13.39**	**20**	T	T	09 48 16.9	
	baz=200,slow=76,SNR=148						
CMAR	**Chiang Mai Arr**	**49.15**	**40**	P	**P**	**09 40 15.4**	**+0.1**
	3.0nm,0.9s,baz=232,slow=8.4,SNR=9.3						
GEYT	**Ailbeck**	**58.65**	**351**	LR	LR	10 03 51.2	
	comp=Z,38nm,18.7s,baz=190,slow=33						
ASAR	**Alice Springs**	**60.88**	**106**	P	**P**	**09 41 40.5**	**+0.3**
	0.6nm,0.7s,baz=266,slow=6.4,SNR=9.1						
WRA	**Warramunga Arr**	**62.03**	**102**	P	**P**	**09 41 47.5**	**-0.6**
	0.7nm,0.7s,baz=257,slow=6.9,SNR=3.1						
STKA	**Stephens Creek**	**66.14**	**117**	LR	LR	10 06 45.4	
	comp=Z,24nm,19.7s,baz=215,slow=32						
MKAR	**Makanchi Array**	**68.06**	**11**	P	**P**	**09 42 26.6**	**0.0**
	1.3nm,0.8s,baz=202,slow=6.0,SNR=11						
QSPA	**South Pole Qui**	**69.80**	**180**	P	**P**	**09 42 37.5**	**+0.1**
	1.1nm,0.8s,baz=286,slow=1.4,SNR=2.1						
TORD	**Torodi Ar. Bea**	**73.03**	**291**	P	**P**	**09 42 57.5**	**0.0**
	0.5nm,0.7s,baz=93,slow=4.8,SNR=2.6						
ZALV	**Zalesovo Beam**	**75.39**	**10**	P	**P**	**09 43 10.1**	**-0.4**
	2.2nm,0.7s,baz=212,slow=5.9,SNR=6.3						
ZALV				LR	LR	10 14 38.0	
	comp=Z,29nm,18.9s,baz=218,slow=34						
SONM	**Songino Array**	**76.15**	**26**	P	**P**	**09 43 15.5**	**+0.4**
	0.5nm,0.5s,baz=214,slow=7.2,SNR=4.4						

IDC 13 10:11:23.8±4.8, 39.51N×66.96E, h0km, mb3.5/1, mb1 3.5/3, mb1mx3.2/41, mbtmp3.5/3, ML2.9/2, Error ellipse: s-maj=222.4km s-min=26.5km az=151.0, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.34**	**52**	Pn	Pn	10 14 30.8	-3.5
	0.1nm,0.3s,baz=239,slow=17,SNR=3.6						
ZALV	**Zalesovo Beam**	**18.85**	**34**	P	P	10 15 44.8	-0.4
	0.2nm,0.3s,baz=209,slow=12,SNR=2.4						
TORD	**Torodi Ar. Bea**	**62.71**	**265**	P	P	10 21 50.7	0.0
	0.2nm,0.4s,baz=53,slow=6.3,SNR=2.4						

NIED ***13*** *11:13:00,36.50N×141.00E, h5km, Mw3.6 Best double couple: M0 2.82000×10^14 NP1:φs 171.00000°, δ64.00000°, λ-105.00000°. NP2:φs 22.00000°, δ30.00000°, λ-62.00000°.*

JMA 13 11:13:55.5±0.1, 36.45N×140.97E, h16km±2km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JHYU	**Hitachinakayam**	**0.33**	**251**	P	Pg	11 14 02.2	-0.1
JHYU				S	Sb	11 14 07.8	-0.2
JHO	**Hitachi**	**0.36**	**297**	P	Pg	11 14 02.7	-0.2
JHO				S	Sg	11 14 08.2	+0.2
JIHU	**Itakohorinouch**	**0.60**	**217**	P	Pb	11 14 08.2	+0.6
JIHU				S	Sn	11 14 17.8	-1.0
JYT	**Yasato**	**0.67**	**251**	P	Pg	11 14 08.1	-0.4
JYT				S	Sb	11 14 18.1	+0.4
ONAJ	**Iwakimizuishiy**	**0.67**	**348**	P	Pg	11 14 08.1	-0.5
ONAJ				S	Sb	11 14 18.0	+0.2
JSMT	**Sammumatsuo**	**0.91**	**208**	P	Pg	11 14 13.1	-0.1
JSMT				*eS*	Sg	11 14 25.7	+0.6
JFK	**Kawauchi**	**0.92**	**355**	P	Pb	11 14 11.6	-1.5
JFK				*eS*	Sb	11 14 24.8	-0.3
JSB	**Shiboa**	**0.99**	**302**	P	Pb	11 14 14.2	-0.1
JSB				S	Sn	11 14 28.3	-0.1
JFT	**Otama**	**1.18**	**335**	P	Pn	11 14 17.0	-0.4
JFT				S	Sn	11 14 33.0	-0.1
JAG	**Ashikaga**	**1.22**	**269**	P	Pn	11 14 16.8	-1.1
MAT	**Matsushiro**	**2.23**	**273**	P	Pn	11 14 32.6	+0.8
MAT				*eS*	Sb	11 15 02.3	-0.5

ISK ***13*** *11:26:22.1,40.18N×40.27E, h8km, ML2.5/5*
DDA ***13*** *11:26:22.0,40.28N×40.28E, h0km±3km, ML2.0*

ISC 13 11:26:24.5±1.1, 40.26N±0.04×40.23E±0.03, h13km±11km, n13, σ1.34/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BAYB	**BAYBURT**	**0.02**	**82**	*i* P	Pg	11 26 24.1	-2.9
BAYT	**Aydıntepe-Bayb**	**0.15**	**333**	PG	**Pg**	**11 26 27.2**	**-1.1**
KOPT	**Kop Dagi**	**0.31**	**139**	*i* P	**Pg**	**11 26 29.9**	**-1.1**
KOPT				*i* S	**Sg**	**11 26 36.2**	**+0.8**
KOPT				IAML		11 26 37.0	
	comp=N,211nm,0.6s						
KOPT				IAML		11 26 38.0	
	comp=E,187nm,0.3s						
EMRE	**Erzurum,Aziziy**	**0.61**	**111**	*i* P	**Pg**	**11 26 35.5**	**-1.0**
EMRE				*i* S	**Sg**	**11 26 47.8**	**+3.1**
EMRE				IAML		11 26 50.0	
	comp=N,86nm,0.8s						
EMRE				IAML		11 26 55.0	
	comp=E,105nm,0.5s						
KELT	**Kelkit**	**0.76**	**262**	*i* P	**Pg**	**11 26 38.7**	**-0.5**
KELT				*i* S	**Sg**	**11 26 50.0**	**+0.9**
KELT				IAML		11 26 51.0	
	comp=N,105nm,0.2s						
KELT				IAML		11 26 52.0	
	comp=E,50nm,0.4s						
MACK	**Trabzon**	**0.77**	**333**	*i* P	**Pg**	**11 26 39.2**	**-0.3**
MACK				IAML		11 26 53.0	
	comp=E,132nm,0.2s						
MACK				IAML		11 26 54.0	
	comp=N,128nm,0.3s						
KTUT	**Trabzon**	**0.81**	**334**	PG	**Pg**	**11 26 39.8**	**-0.4**
KTUT				SG	**Sg**	**11 26 52.8**	**+1.9**
CHOM	**Cayeli-Rize**	**0.93**	**25**	PG	**Pg**	**11 26 41.3**	**-1.2**
CHOM				SG	**Sg**	**11 26 55.6**	**+0.9**
DDEM	**Demirkent**	**1.32**	**61**	*i* P	Pn	11 26 47.8	-1.0
DDEM				IAML		11 27 08.0	
	comp=N,94nm,0.5s						
DDEM				IAML		11 27 10.0	
	comp=E,50nm,0.3s						
ESPY	**Espiye-Giresun**	**1.32**	**300**	PN	**Pn**	**11 26 48.5**	**-0.2**
ESPY				SN	**Sg**	**11 27 07.5**	**+0.4**
DBAD	**Bademkaya**	**1.35**	**55**	*i* P	Pn	11 26 48.2	-1.0
DBAD				IAML		11 26 56.0	
	comp=E,15nm,0.3s						
DAGI	**Agillar**	**1.52**	**57**	IAML		11 26 51.0	
	comp=N,10nm,0.7s						
DAGI				*i* P	**Pn**	**11 26 51.3**	**-0.3**
DAGI				IAML		11 27 03.0	
	comp=E,16nm,0.9s						
BCA	**Borcka**	**1.59**	**41**	PN	**Pn**	**11 26 52.0**	**-0.4**

IDC ***13*** *11:28:18.4±1.1,34.97S×178.71E, h0km, mb4.4/5, mb1 4.6/6, mb1mx4.1/29, mbtmp4.3/6, ML3.6/1, MS3.9/21, Ms1 3.9/21, ms1mx3.7/37, Error ellipse: s-maj=32.0km s-min=28.0km az=61.0*

GCMT ***13*** *11:28:19.9±0.3, 35.03S±0.03×178.86E±0.03, h18km±1km, MW4.9/75, Moment Tensor Solution. s28,c33; s75,c106; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~2.67±.20; Mθθ 0.95±.13; Mφφ 1.71±.13; Mrθ 1.22±.30; Mrφ 1.35±.07; Mθφ~0.08±.29; Best double couple: M0 2.95700×10^16 NP1:φs 20.00000°, δ41.00000°, λ-118.00000°. NP2: φs 235.00000°, δ55.00000°, λ-68.00000°. Principal axes: T 2.8230, Plg7.0000°, Azm310.0000°; N 0.2630, Plg18.0000°, Azm42.0000°; P -3.0910, Plg70.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***13*** *11:28:22.0±2.8, 35.10S±0.08×178.5E±0.1, h28km±6km Error ellipse: s-maj=16.5km s-min=9.4km az=58.0*

WEL ***13*** *11:28:22.9±0.6, 35.3S×17.8E±., h33km, M4.4/21, ML4.6/21, MLv4.4/21*

ISC 13 11:28:23.0±0.7, 35.09S±0.06×178.60E±0.07, h35km, n139, σ2.02/121, mb4.4/10, MS3.8/22, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**2.48**	**185**	P	**Pn**	**11 28 57.7**	**-3.1**
MXZ	**Matakaoa Point**	**2.48**	**185**		**Pn**	**11 28 59.2**	**-1.4**
MXZ				Sn	**Sn**	**11 29 29.3**	**+0.5**
WMGZ	**Waiomatatini S**	**2.73**	**183**	P	**Pn**	**11 29 03.0**	**-1.3**
WMGZ				S	**Sn**	**11 29 37.4**	**+1.5**
HAZ	**Te Kaha**	**2.74**	**194**	P	**Pn**	**11 29 01.7**	**-2.8**
GRZ	**Great Barrier**	**2.80**	**245**	P	**Pn**	**11 29 04.0**	**-1.4**
PKGZ	**Pakihiroa**	**2.82**	**188**	P	**Pn**	**11 29 03.0**	**-2.6**
PKGZ				S	**Sn**	**11 29 40.1**	**+1.7**
KUZ	**Kuaotunu**	**2.86**	**234**	P	**Pn**	**11 29 04.3**	**-1.8**
RUGZ	**Raukumara Rang**	**2.96**	**194**	P	**Pn**	**11 29 05.9**	**-1.8**
RUGZ				S	**Sn**	**11 29 40.8**	**-1.2**
PUZ	**Puketiti**	**2.98**	**185**	P	**Pn**	**11 29 06.8**	**-1.1**
PUZ				S	**Sn**	**11 29 42.6**	**+0.1**
TWGZ	**Tauwhareparae**

PNHZ	**Pukenui**	**5.17 201**	P	**Pn**	**11 29 36.3**	**-1.7**
TSZ	**Takapari Road**	**5.38 202**	P	**Pn**	**11 29 39.2**	**-1.6**
PRHZ	**Porangahau**	**5.39 196**	P	**Pn**	**11 29 39.1**	**-1.8**
WAZ	**Wanganui**	**5.47 211**	P	**Pn**	**11 29 45.0**	**+3.0**
LREZ	**Lake Rotokare**	**5.49 216**	P	Pn	11 29 48.2	+5.9
DVHZ	**Dannevirke**	**5.54 200**	P	**Pn**	**11 29 40.2**	**-2.8**
KHEZ	**Kahui Hut**	**5.56 220**	P	Pn	11 29 51.9	+8.5
BFZ	**Birch Farm**	**5.88 198**	P	**Pn**	**11 29 44.7**	**-2.9**
BFZ	**Birch Farm**	**5.88 198**	Pn	**Pn**	**11 29 45.4**	**-2.2**
BFZ			Sn	**Sn**	**11 30 50.5**	**-3.3**
TIWZ	**Tintock**	**6.06 200**	P	**Pn**	**11 29 47.6**	**-2.5**
HOWZ	**Holdsworth Sta**	**6.28 202**	P	**Pn**	**11 29 51.5**	**-1.7**
RAO	**Raoul Island**	**6.53 28**	LR	LR	11 31 51.3	
	comp=Z,465nm,18.3s,baz=178,slow=33					
SNZO	**South Karori**	**6.92 205**	Pn	**Pn**	**11 29 59.2**	**-2.7**
BHW	**Baring Head**	**6.95 204**	Pn	**Pn**	**11 29 59.5**	**-2.9**
TUWZ	**Tuamarina**	**7.31 209**	Pn	**Pn**	**11 30 04.9**	**-2.3**
KHZ	**Kahutara**	**8.31 207**	P	**Pn**	**11 30 23.8**	**+2.9**
LTZ	**Lake Taylor**	**9.12 211**	P	**Pn**	**11 30 31.3**	**-0.8**
OXZ	**Oxford**	**9.66 210**	Pn	**Pn**	**11 30 38.1**	**-1.4**
RPZ	**Rata Peaks**	**10.39 212**	Pn	**Pn**	**11 30 50.8**	**+1.3**
	0.5nm,0.3s,baz=258,slow=14,SNR=2.3					
RPZ			Sn	Sn	11 32 37.9	-6.9
	0.3nm,0.3s,baz=3.7,slow=21,SNR=2.6					
RPZ	**Rata Peaks**	**10.39 212**		**Pn**	**11 30 48.7**	**-0.9**
DZM	**Mont Dzumac**	**16.78 317**	LR	LR	11 37 47.0	
	comp=Z,1μm,18.4s,baz=208,slow=34					
DZM	**Mont Dzumac**	**16.78 317**	*e*LR	LR	11 35 55.2	
	comp=Z,2μm,24.1s					
MSVF	**Nonsavu**	**17.30 358**	P	**P**	**11 32 23.6**	**+0.5**
RAR	**Rarotonga**	**23.49 60**	LR	LR	11 44 32.1	
	comp=Z,156nm,18.2s,baz=247,slow=42					
EIDS	**Eidsvold**	**25.60 285**	P	**P**	**11 33 48.4**	**-0.7**
EIDS			IAmb	IAmb	11 34 05.8	
	comp=Z,12nm,1.1s					
TBI	**Tubuai**	**30.11 76**	*e*LQ	LQ	11 40 33.0	
	comp=Z,413nm,28.0s					
TBI			*e*LR	LR	11 41 43.2	
	comp=Z,342nm,30.5s					
TBI	**Tubuai**	**30.11 76**	*e*T	T	12 04 59.3	
	comp=Z,16nm,0.3s					
HNR	**Honiara**	**30.71 322**	LR	LR	11 44 29.6	
	comp=Z,179nm,21.7s,baz=163,slow=32					
STKA	**Stephens Creek**	**30.91 265**	LR	LR	11 46 01.4	
	comp=Z,138nm,18.4s,baz=89,slow=34					
PAE	**Paea**	**33.19 67**	*e*T	T	12 08 52.2	
	comp=Z,1.4nm,0.3s					
PPT2	**Papeete2**	**33.23 67**	*e*LR	LR	11 43 13.4	
	comp=Z,226nm,24.8s					
PPT2	**Papeete2**	**33.23 67**	*e*T	T	12 08 56.4	
	comp=Z,2.2nm,0.2s					
PPT	**Papeete**	**33.24 67**	LR	LR	11 45 23.9	
	comp=Z,77nm,20.5s,baz=254,slow=31					
TVO	**Taravao**	**33.36 67**	*e*T	T	12 09 05.3	
	comp=Z,0.9nm,0.4s					
MEH	**Mehetia**	**34.20 69**	*e*T	T	12 10 08.6	
	comp=Z,8.8nm,0.2s					
COEN	**Coen**	**38.19 294**	P	**P**	**11 35 39.0**	**-0.5**
COEN			IAmb	IAmb	11 35 46.9	
	comp=Z,11nm,1.5s					
PMG	**Port Moresby**	**38.44 304**	LR	LR	11 50 00.7	
	comp=Z,352nm,18.0s,baz=148,slow=34					
AS31	**Alice Springs**	**40.27 274**	P	**P**	**11 35 57.9**	**+1.0**
ASAR	**Alice Springs**	**40.27 274**	P	**P**	**11 35 58.2**	**+1.3**
	comp=Z,5.2nm,0.7s,baz=116,slow=7.5,SNR=45					
ASAR			LR	LR	11 52 48.4	
	comp=Z,323nm,19.0s,baz=122,slow=36					
ASAR	**Alice Springs**	**40.27 274**	P	**P**	**11 35 57.3**	**+0.4**
WB2	**Warramunga Arr**	**41.70 279**	P	**P**	**11 36 09.7**	**+1.2**
WB2			IAmb	IAmb	11 36 12.0	
	comp=Z,6.3nm,0.7s					
WRA	**Warramunga Arr**	**41.70 279**	P	**P**	**11 36 09.9**	**+1.3**
	comp=Z,4.2nm,0.7s,baz=121,slow=7.6,SNR=29					
WRA			LR	LR	11 52 41.0	
	comp=Z,309nm,20.5s,baz=120,slow=35					
WRA	**Warramunga Arr**	**41.70 279**	P	**P**	**11 36 09.7**	**+1.0**
WB0	**Warramunga Arr**	**41.75 280**	P	**P**	**11 36 09.3**	**+0.3**
WB0			IAmb	IAmb	11 36 12.8	
	comp=Z,6.3nm,0.9s					
RKT	**Rikitea**	**41.95 86**	*e*LR	LR	11 47 18.9	
	comp=Z,315nm,26.8s					
FORT	**Forrest**	**42.27 261**	P	**P**	**11 36 14.3**	**+1.2**
VNDA	**Vanda**	**43.16 185**	LR	LR	11 50 48.7	
	comp=Z,86nm,21.5s,baz=26,slow=31					
FITZ	**Fitzroy Crossi**	**49.72 276**	LR	LR	11 58 02.8	
	comp=Z,302nm,19.7s,baz=118,slow=36					
FITZ	**Fitzroy Crossi**	**49.72 276**	P	**P**	**11 37 12.7**	**+0.8**
QSPA	**South Pole Qui**	**55.03 180**	P	**P**	**11 37 52.0**	**+1.2**
	comp=Z,6.8nm,0.8s,baz=8.6,slow=1.2,SNR=35					
QSPA	**South Pole Qui**	**55.03 180**	P	**P**	**11 37 51.5**	**+0.6**
QSPA			IAmb	IAmb	11 38 00.7	
	comp=Z,12nm,0.8s					
BATI	**Baumata**	**55.63 283**	LR	LR	12 02 48.2	
	comp=Z,170nm,18.3s,baz=146,slow=37					
SIJI	**Sorong**	**55.64 297**	LR	LR	12 01 37.2	
	comp=Z,235nm,19.6s,baz=170,slow=36					
MAW	**Mawson**	**66.91 202**	LR	LR	12 08 17.1	
	comp=Z,140nm,18.4s,baz=64,slow=36					
LEM	**Lembang**	**70.55 275**	LR	LR	12 10 07.6	
	comp=Z,106nm,19.3s,baz=146,slow=36					
SNAA	**Sanae**	**73.53 180**	P	**P**	**11 39 53.2**	**+1.4**
SNAA			IAmb	IAmb	11 40 04.8	
	comp=Z,6.4nm,1.2s					
VNA3	**Neumayer Olymp**	**73.80 177**	P	**P**	**11 39 52.4**	**-0.9**
VNA2	**Neumayer--Watz**	**74.19 178**	P	**P**	**11 39 55.2**	**-0.5**
	baz=176,slow=5.2					
VNA1	**Neumayer--Stat**	**74.44 178**	P	**P**	**11 39 55.8**	**-1.3**
H03S2	**Juan Fernandez**	**80.23 124**	T	T	13 08 39.2	
	baz=232,slow=74,SNR=304					
H03S1	**Juan Fernandez**	**80.24 124**	T	T	13 08 38.5	
	baz=232,slow=74,SNR=233					
H03S3	**Juan Fernandez**	**80.25 124**	T	T	13 08 47.0	
	baz=232,slow=74,SNR=245					
H03N3	**Juan Fernandez**	**80.45 124**	T	T	13 08 51.7	
	baz=236,slow=72,SNR=472					
H03N2	**Juan Fernandez**	**80.46 124**	T	T	13 08 50.4	
	baz=236,slow=72,SNR=406					
H03N1	**Juan Fernandez**	**80.47 124**	T	T	13 08 48.7	
	baz=236,slow=72,SNR=589					
MJAR	**Matsushiro Arr**	**80.58 328**	LR	LR	12 10 01.7	
	comp=Z,14nm,20.9s,baz=195,slow=31					
PLCA	**Paso Flores**	**81.36 134**	LR	LR	12 09 14.7	
	comp=Z,52nm,18.1s,baz=270,slow=30					
KSRS	**Korea Array**	**86.16 322**	P	**P**	**11 41 00.5**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=140,slow=5.6,SNR=3.7					
KSRS			LR	LR	12 19 08.2	
	comp=Z,16nm,18.6s,baz=156,slow=35					
PETK	**Petropavlovsk-**	**89.70 348**	LR	LR	12 16 34.4	
	comp=Z,33nm,19.9s,baz=238,slow=32					
CMAR	**Chiang Mai Arr**	**92.31 291**	LR	LR	12 25 38.0	
	comp=Z,30nm,20.5s,baz=115,slow=37					
NVAR	**Mina Array Bea**	**93.61 45**	P	**P**	**11 41 36.8**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=220,slow=8.1,SNR=7.3					
NVAR	**Mina Array Bea**	**93.61 45**	P	**P**	**11 41 36.5**	**+0.8**
ELK	**Elko**	**96.91 44**	LR	LR	12 21 11.8	
	comp=Z,33nm,18.4s,baz=280,slow=33					
FINES	**FINESS Array B**	**148.37 335**	PKPbc	**PKPbc**	**11 48 04.0**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=42,slow=3.1,SNR=5.8					
FINES	**FINESS Array B**	**148.37 335**		**PKPbc**	**11 48 04.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**157.97 188**	PKPab	**PKPab**	**11 48 51.8**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=184,slow=2.1,SNR=1.6					
TORD	**Torodi Ar. Bea**	**157.97 188**		**PKPab**	**11 48 48.3**	**-1.4**

IDC 13 11:40:46.8±6.0, 8°01'S×121°75'E, h553km±13km, mb3.1/1, mb1 2.7/5, mb1mx2.5/42, mbtmp3.5/5, Error ellipse: s-maj=104.9km s-min=86.7km az=54.0, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.89**	**139**	P	P	11 42 01.9	+0.4
	5.0nm,0.3s,baz=313,slow=18,SNR=4.4						
BATI				S	S	11 43 02.4	+0.2
	3.7nm,0.3s,baz=155,slow=22,SNR=1.9						
FITZ	**Fitzroy Crossi**	**10.72**	**160**	P	P	11 43 12.0	-0.1
	0.1nm,0.3s,baz=332,slow=13,SNR=8.3						
WRA	**Warramunga Arr**	**17.01**	**136**	P	P	11 44 15.4	-0.2
	0.2nm,0.3s,baz=316,slow=10,SNR=12						
ASAR	**Alice Springs**	**19.45**	**145**	P	P	11 44 37.5	-0.2
	0.1nm,0.3s,baz=321,slow=8.6,SNR=4.3						
STKA	**Stephens Creek**	**30.08**	**145**	P	P	11 46 11.8	+0.1
	3.3nm,1.0s,baz=294,slow=10.0,SNR=3.0						

*BEO **13** 11:42:42.5±0.7, 44°65'N×21°77'E, h0km, ML1.6/11, Mining explosion.*

BUC 13 11:42:40.8±0.3, 44°60'N×21°72'E, h4km±2km, ml1.8/7, 14C-10D, Error ellipse: s-maj=2.4km s-min=1.2km az=60.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUBS	**Kucevo**	**0.18**	**190**	*e*Pg	Pg	11 42 45.4	+1.0
KUBS				*e*Sg	Sg	11 42 50.2	+3.4
KUBS	**Kucevo**	**0.18**	**190**	*e*Pg	Pg	11 42 45.4	+1.0
KUBS				*e*Sg	Sg	11 42 50.2	+3.4
MDVR	**Moldovita**	**0.19**	**359**	↑P	Pg	11 42 44.4	-0.1
MDVR				↑S	Sg	11 42 46.9	-0.1
MDVR	**Moldovita**	**0.19**	**359**	↑P	Pg	11 42 44.4	-0.1
MDVR				↑S	Sg	11 42 46.9	-0.1
HERR	**Herculane**	**0.57**	**60**	↑P	Pg	11 42 51.8	0.0
HERR				↑S	Sg	11 42 59.6	+0.4
HERR	**Herculane**	**0.57**	**60**	↑P	Pg	11 42 51.8	0.0
HERR				↑S	Sg	11 42 59.6	+0.4
ZAGS	**Zajecar**	**0.86**	**155**	*e*Pg	Pb	11 42 58.8	+0.5
ZAGS				*e*Sg	Sn	11 43 11.7	-1.1
ZAGS	**Zajecar**	**0.86**	**155**	*e*Pg	Pb	11 42 58.8	+0.5
ZAGS				*e*Sg	Sn	11 43 11.7	-1.1
BOVS	**Bovan**	**0.96**	**181**	*e*Pg	Pn	11 43 00.7	-0.3
BOVS				*e*Sg	Sn	11 43 15.4	+0.3
BOVS	**Bovan**	**0.96**	**181**	*e*Pg	Pn	11 43 00.7	-0.3
BOVS				*e*Sg	Sn	11 43 15.5	+0.4
GRUS	**Gruza**	**1.01**	**226**	*e*Pg	Pn	11 43 03.0	+1.3
GRUS				*e*Sg	Sn	11 43 16.3	-0.1
GRUS	**Gruza**	**1.01**	**226**	*e*Pg	Pn	11 43 02.5	+0.8
GRUS				*e*Sg	Sn	11 43 16.9	+0.5
TRUS	**Trudelj**	**1.01**	**249**	*e*Pg	Pn	11 43 02.5	+0.7
TRUS				*e*Sg	Sn	11 43 16.5	+0.1
TRUS	**Trudelj**	**1.01**	**249**	*e*Pg	Pn	11 43 02.3	+0.5
TRUS				*e*Sg	Sn	11 43 16.5	+0.1
BZS	**Buzias**	**1.02**	**356**	↑P	Pg	11 43 00.7	+0.2
BZS				↓S	Sb	11 43 15.3	+0.4
BZS	**Buzias**	**1.02**	**356**	↑P	Pg	11 43 00.7	+0.2
BZS				↓S	Sb	11 43 15.3	+0.4
SRE	**Strehaia**	**1.06**	**86**	↑P	Pg	11 43 00.9	-0.2
SRE				↑S	Sb	11 43 16.1	+0.1
SRE	**Strehaia**	**1.06**	**86**	↑P	Pg	11 43 00.9	-0.2
SRE				↑S	Sb	11 43 16.1	+0.1
GZR	**Gura Zlata**	**1.10**	**43**	↓P	Pg	11 43 01.4	-0.4
GZR				↓S	Sb	11 43 17.5	+0.5
GZR	**Gura Zlata**	**1.10**	**43**	↓P	Pg	11 43 01.4	-0.4
GZR				↓S	Sb	11 43 17.5	+0.5
BLKB	**Belogradchik**	**1.19**	**144**	↓S	Sn	11 43 20.5	-0.4
BLKB	**Belogradchik**	**1.19**	**144**	↓S	Sn	11 43 20.5	-0.4
DIVS	**Divibare**	**1.33**	**249**	*e*Pg	Pb	11 43 08.7	+2.3
DIVS				*e*Sg	Sn	11 43 27.5	+3.0
DIVS	**Divibare**	**1.33**	**249**	*e*Pg	Pb	11 43 08.7	+2.3
DIVS				*e*Sg	Sn	11 43 27.5	+3.0
SELS	**Selova**	**1.44**	**198**	*e*Pg	Pg	11 43 10.5	+2.1
SELS				*e*Sg	Sg	11 43 30.8	+3.7
SELS	**Selova**	**1.44**	**198**	*e*Pg	Pg	11 43 10.5	+2.1
SELS				*e*Sg	Sg	11 43 30.8	+3.7
ZAPS	**Zavoj**	**1.48**	**153**	*e*Pg	Pg	11 43 10.3	+1.2
ZAPS	**Zavoj**	**1.48**	**153**	*e*Pg	Pg	11 43 30.1	+1.9
IVAS	**Ivanjica**	**1.52**	**229**	*e*Pg	Pg	11 43 10.9	+1.0
IVAS				*e*Sg	Sg	11 43 32.1	+2.5
IVAS	**Ivanjica**	**1.52**	**229**	*e*Sg	Sg	11 43 32.1	+2.5
TEKS	**Tekeris**	**1.57**	**269**	*e*Pg	Pg	11 43 10.7	-0.1
LOT	**Lotru**	**1.69**	**59**	↓S	Sb	11 43 34.1	+0.1
LOT	**Lotru**	**1.69**	**59**	↓S	Sb	11 43 34.1	+0.1
BARS	**Barje**	**1.78**	**178**	*e*Pg	Pg	11 43 15.4	+0.5
BARS				*e*Sg	Sg	11 43 40.4	+2.5
BARS	**Barje**	**1.78**	**178**	*e*Pg	Pb	11 43 13.4	-0.6
BARS				*e*Sg	Sg	11 43 39.8	+1.9
BBLS	**Lazići**	**1.82**	**247**	*e*Pg	Pg	11 43 16.2	+0.6
BBLS				*e*Sg	Sg	11 43 42.4	+3.3
BBLS	**Lazići**	**1.82**	**247**	*e*Pg	Pb	11 43 15.0	+0.4
BBLS				*e*Sg	Sg	11 43 40.9	+1.8

*NEIC **13** 11:54:04.1±1.7, 3°57'N±0°10×124°4'E±0°1, h318km±9km, mb4.2/19, Error ellipse: s-maj=16.3km s-min=13.6km az=60.0*
*IDC **13** 11:54:04.8±3.4, 3°54'N×124°28'E, h330km±32km, mb3.5/5, mb1 3.8/6, mb1mx3.1/44, mbtmp4.4/6, Error ellipse: s-maj=76.4km s-min=16.4km az=65.0*

ISC 13 11:54:05.4±0.6, 3°51'N±0°06×124°46'E±0°09, h331km, n35, σ1°49/38, mb4.2/13, 1D, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**3.53**	**10**	↓*i*P	**Pn**	**11 55 05.4**	**-3.2**
KCP				*i* S	**S**	**11 56 04.8**	**+5.4**
TNTI	**Ternate**	**3.98**	**133**	Pn	**Pn**	**11 55 10.8**	**-2.4**
TNTI					**S**	**11 56 04.3**	**-3.3**
LUWI	**Luwuk**	**4.83**	**200**	Pn	**Pn**	**11 55 22.9**	**+0.6**
FAKI	**Fak Fak**	**10.07**	**129**	Pn	**Pn**	**11 56 24.9**	**+0.6**
SBUM	**Sibu**	**12.27**	**265**		**Pn**	**11 56 48.3**	**-2.4**
BATI	**Baumata**	**13.65**	**183**	P	**Pn**	**11 57 07.4**	**+0.3**
	11nm,0.3s,baz=14,slow=1.3,SNR=10						
JAGI	**Jajag, Banyuwa**	**15.72**	**221**	P	**P**	**11 57 28.6**	**-0.4**
MTN	**Manton Dam**	**17.55**	**158**	P	**P**	**11 57 49.7**	**+1.0**
KNRA	**Kununurra**	**19.53**	**168**	P	**P**	**11 58 09.4**	**-0.4**
KNRA				IAmb	IAmb	11 58 19.5	
	comp=Z,28nm,1.4s						
FITZ	**Fitzroy Crossi**	**21.50**	**177**	P	**P**	**11 58 28.3**	**-0.3**
	comp=Z,4.2nm,0.4s,baz=10,slow=9.6,SNR=102						
FITZ	**Fitzroy Crossi**	**21.50**	**177**	P	**P**	**11 58 28.6**	**-0.1**
FITZ				IAmb	IAmb	11 58 30.8	
	comp=Z,6.4nm,0.7s						
WB0	**Warramunga Arr**	**25.11**	**157**	P	**P**	**11 59 01.1**	**-0.2**
WB0				IAmb	IAmb	11 59 01.6	
	comp=Z,5.4nm,0.5s						
WRA	**Warramunga Arr**	**25.25**	**158**	P	**P**	**11 59 02.3**	**-0.2**
	comp=Z,3.4nm,0.3s,baz=335,slow=10,SNR=104						
WRA				ScP	**ScP**	**12 05 33.0**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=340,slow=2.6,SNR=1.6						
WRA	**Warramunga Arr**	**25.25**	**158**	P	**P**	**11 59 01.8**	**-0.8**
WB2	**Warramunga Arr**	**25.25**	**158**	P	**P**	**11 59 02.2**	**-0.3**
WB2				IAmb	IAmb	11 59 03.1	
	comp=Z,6.1nm,0.6s						
PSA00	**Pilbara Seismi**	**25.33**	**190**	P	**P**	**11 59 03.4**	**+0.2**
PSA00				IAmb	IAmb	11 59 22.5	
	comp=Z,20nm,1.2s						
WR0	**Warramunga Arr**	**25.34**	**157**	P	**P**	**11 59 03.2**	**-0.1**
WR0				IAmb	IAmb	11 59 22.0	
	comp=Z,7.2nm,1.3s						
AS31	**Alice Springs**	**28.54**	**162**	P	**P**	**11 59 32.1**	**+0.4**
ASAR	**Alice Springs**	**28.54**	**162**	P	**P**	**11 59 31.9**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=341,slow=7.6,SNR=60						
ASAR	**Alice Springs**	**28.54**	**162**	P	**P**	**11 59 32.1**	**+0.4**
MORW	**Morawa**	**33.38**	**193**	P	**P**	**12 00 13.5**	**-0.3**
MORW				IAmb	IAmb	12 00 32.7	
	comp=Z,18nm,1.2s						
MAJO	**Matsushiro**	**35.23**	**19**	P	**P**	**12 00 29.9**	**+0.5**
MJB9	**Matsu-Tunnel**	**35.23**	**19**	P	**P**	**12 00 30.0**	**+0.5**
NWAO	**Narrogin (SRO)**	**36.88**	**190**	P	**P**	**12 00 43.5**	**+0.1**
NWAO				IAmb	IAmb	12 00 51.6	
	comp=Z,18nm,1.2s						
BBOO	**Buckleboo**	**37.76**	**164**	P	**P**	**12 00 51.3**	**+0.6**
STKA	**Stephens Creek**	**38.78**	**156**	P	**P**	**12 00 60.0**	**+0.9**
	comp=Z,2.3nm,0.4s,baz=352,slow=7.2,SNR=8.6						
STKA	**Stephens Creek**	**38.78**	**156**	P	**P**	**12 01 00.1**	**+0.9**
CAN	**Canberra**	**44.97**	**151**	P	**P**	**12 01 49.9**	**+1.1**
CAN				IAmb	IAmb	12 01 56.6	
	comp=Z,9.0nm,1.1s						
TOO	**Toolangi**	**45.30**	**156**	P	**P**	**12 01 52.8**	**+1.4**
MK31	**Makanchi Array**	**56.46**	**326**	P	**P**	**12 03 12.7**	**-1.0**
MKAR	**Makanchi Array**	**56.46**	**326**	P	**P**	**12 03 12.3**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=122,slow=7.9,SNR=8.6						
MKAR	**Makanchi Array**	**56.46**	**326**	P	**P**	**12 03 12.4**	**-1.3**
KKAR	**Karatay Array**	**61.86**	**318**	P	**P**	**12 03 49.9**	**-0.6**
LBZ	**Lake Benmore**	**62.79**	**145**	P	**P**	**12 03 57.6**	**+1.1**
LBZ				IAmb	IAmb	12 03 59.5	
	comp=Z,18nm,1.4s						
IMAR	**Indian Mountai**	**83.47**	**24**	P	**P**	**12 05 56.2**	**+0.1**

BEO 13 12:02:44.6±1.5, 42°39N×24°08E, h0km, ML1.6/3, Mining explosion., Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VTS	**Vitosha**	**0.67**	**291**	*e*Pg	Pg	12 02 56.4	-1.0
VTS				*e*Sg	Sg	12 03 05.8	-0.2
VTS	**Vitosha**	**0.67**	**291**	*e*Pg	Pg	12 02 56.3	-1.1
VTS				*e*Sg	Sg	12 03 05.6	-0.4
ZAPS	**Zavoj**	**1.39**	**310**	*e*Pg	Pg	12 03 09.5	-1.7
ZAPS				*e*Sg	Sg	12 03 29.0	-0.1
ZAPS	**Zavoj**	**1.39**	**310**	*e*Pg	Pg	12 03 09.3	-1.9
ZAPS				*e*Sg	Sg	12 03 28.8	-0.3
BARS	**Barje**	**1.73**	**285**	*e*Pg	Pn	12 03 16.2	+0.3
BARS				*e*Sg	Sb	12 03 39.7	+0.3
BARS	**Barje**	**1.73**	**285**	*e*Pg	Pn	12 03 16.1	+0.2
BARS				*e*Sg	Sb	12 03 39.7	+0.3
ZAGS	**Zajecar**	**1.97**	**317**	*e*Pn	Pn	12 03 18.7	-0.5

BUC 13 12:03:27.6±0.6, 44°46N×22°01E, h5km, ml1.4/4, 4C-12D, Error ellipse: s-maj=3.6km s-min=1.8km az=1.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDVR	**Moldovita**	**0.38**	**326**	↓P	Pg	12 03 34.7	-0.3
MDVR				↓S	Sg	12 03 40.6	+0.6
MDVR	**Moldovita**	**0.38**	**326**	↓P	Pg	12 03 34.7	-0.3
MDVR				↓S	Sg	12 03 40.6	+0.6
HERR	**Herculane**	**0.51**	**35**	↑P	Pg	12 03 37.7	+0.4
HERR				↑S	Sg	12 03 44.3	+0.3
HERR	**Herculane**	**0.51**	**35**	↑P	Pg	12 03 37.7	+0.4
HERR				↑S	Sg	12 03 44.3	+0.3
GZR	**Gura Zlata**	**1.08**	**30**	↓P	Pg	12 03 48.4	+0.2
GZR				↓S	Sb	12 04 03.4	+0.2
GZR	**Gura Zlata**	**1.08**	**30**	↓P	Pg	12 03 48.4	+0.2
GZR				↓S	Sb	12 04 03.4	+0.2
BZS	**Buzias**	**1.19**	**347**	↓P	Pg	12 03 50.1	-0.2
BZS				↓S	Sn	12 04 06.9	-0.5
BZS	**Buzias**	**1.19**	**347**	↓P	Pg	12 03 50.1	-0.2
BZS				↓S	Sn	12 04 06.9	-0.5

WEL 13 12:04:36.8, 37°S±8°×177°9E±°, h12km, M3.7/16, ML3.9/16, MLv3.7/16, Error ellipse: s-maj=0.0km s-min=0.0km az=8.5, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.56**	**238**	P	Pb	12 04 49.2	+0.6
MXZ				S	Sb	12 04 56.9	+0.4
WMGZ	**Waiomatatini S**	**0.68**	**215**	P	Pn	12 04 51.9	-0.4
WMGZ				S	Sn	12 05 02.0	-0.7
PKGZ	**Pakihiroa**	**0.91**	**226**	P	Pn	12 04 55.0	-0.4
PKGZ				S	Sb	12 05 07.5	+0.9
PUZ	**Puketiti**	**0.96**	**212**	P	Pb	12 04 55.6	+0.2
PUZ				S	Sb	12 05 08.5	+0.5
HAZ	**Te Kaha**	**1.02**	**241**	P	Pg	12 04 56.4	0.0
HAZ				S	Sn	12 05 11.0	-0.1
TWGZ	**Tauwhareparae**	**1.17**	**219**	P	Pb	12 04 58.9	-0.1
TWGZ				S	Sn	12 05 15.2	+0.2
RUGZ	**Raukumara Rang**	**1.20**	**234**	P	Pg	12 04 59.8	-0.1
RUGZ				S	Sn	12 05 16.4	+0.6
CNGZ	**Carnagh Statio**	**1.34**	**204**	P	Pn	12 05 01.3	0.0
TKGZ	**Te Karaka**	**1.44**	**215**	P	Pn	12 05 02.0	-0.7
MWZ	**Matawai**	**1.53**	**225**	P	Pn	12 05 03.5	-0.4
RIGZ	**Rimuhau**	**1.70**	**212**	P	Pn	12 05 04.8	-1.6
URZ	**Urewera**	**1.73**	**234**	P	Pn	12 05 07.0	+0.2
URZ				S	Sn	12 05 28.2	-0.6
PRGZ	**Paritu Road**	**1.84**	**206**	P	Pn	12 05 07.5	-0.8
MARZ	**Manawahe**	**1.91**	**247**	P	Pn	12 05 09.6	+0.4
EDRZ	**Edgecumbe**	**1.91**	**243**	P	Pn	12 05 09.8	+0.5
OPRZ	**Ohinepanea**	**1.96**	**252**	P	Pn	12 05 09.9	+0.1
SNGZ	**Shannon Statio**	**1.96**	**219**	P	Pn	12 05 09.1	-0.7
KNZ	**Kokohu**	**2.01**	**209**	P	Pn	12 05 08.8	-1.6
RTZ	**Ruatahuna**	**2.03**	**228**	P	Pn	12 05 10.9	-0.1
MHGZ	**Mahia Peninsul**	**2.04**	**202**	P	Pn	12 05 09.9	-1.1
MUGZ	**Murupara**	**2.08**	**234**	P	Pn	12 05 11.4	-0.1
TARZ	**Mount Tarawera**	**2.13**	**242**	P	Pn	12 05 13.3	+0.9
TGRZ	**Tauranga**	**2.15**	**257**	P	Pn	12 05 12.8	+0.3
RRRZ	**Republican Roa

ISC 13 12:13:22.2±0.7, 42°23N±0.01×77°03E±0.01, h1km±4km, n173, σ1s58/276, mb4.0/9, 50C-22D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.15**	**131**		*i*	*P*	**Pg**	**12 13 24.6**	**-0.5**
	baz=33								
KDJ					⇓	*i*S	**Sg**	**12 13 26.4**	**-0.6**
	baz=33								
KDJ	**Kajisay**	**0.15**	**131**				**Pg**	**12 13 24.6**	**-0.5**
KDJ						Sg	**Sg**	**12 13 26.4**	**-0.6**
ULHL	**Ulahol**	**0.58**	**272**	⇑	*i*	*P*	**Pg**	**12 13 33.8**	**+0.3**
	baz=73								
ULHL					⇑	*i*S	**Sg**	**12 13 42.2**	**+1.2**
	baz=73								
ULHL	**Ulahol**	**0.58**	**272**		P		**Pg**	**12 13 33.7**	**+0.3**
	1μm,0.2s,SNR=3476								
ULHL					⇑	S	**Sb**	**12 13 42.4**	**-1.9**
	979nm,0.1s								
ANVS	**Anan'yevo**	**0.73**	**40**	⇓	*i*	*P*	**Pg**	**12 13 35.9**	**-0.3**
	baz=38								
ANVS					⇓	*i*S	**Sg**	**12 13 45.5**	**-0.2**
	baz=38								
TARG	**Taragay, Kyrgy**	**0.76**	**130**		Pn		**Pg**	**12 13 35.2**	**-1.6**
TARG							**Sg**	**12 13 44.9**	**-1.9**
TNSS	**Tian-Shan**	**0.81**	**356**		*e*	*P*	**Pb**	**12 13 37.6**	**-1.8**
	baz=54								
TNSS					*e*	S	**Sg**	**12 13 49.2**	**+0.8**
	baz=54								
TNSS	**Tian-Shan**	**0.81**	**356**		*e*	*P*	**Pb**	**12 13 37.6**	**-1.8**
	1μm,0.5s								
TNSS					*e*	S	**Sg**	**12 13 49.1**	**+0.8**
	2μm,0.6s								
TNSS	**Tian-Shan**	**0.81**	**356**		P		**Pb**	**12 13 37.6**	**-1.8**
	1μm,0.5s								
TNSS					S		**Sg**	**12 13 49.1**	**+0.8**
	2μm,0.6s								
TNSS	**Tian-Shan**	**0.81**	**356**		*e*PG		**Pb**	**12 13 37.6**	**-1.8**
TNSS					*e*S		**Sg**	**12 13 49.1**	**+0.8**
BOOM	**Boomskoye usch**	**0.85**	**288**	⇑	*i*	*P*	**Pb**	**12 13 38.4**	**-1.5**
	baz=89								
BOOM					⇑	*i*S	**Sb**	**12 13 50.2**	**-1.6**
	baz=89								
BOOM	**Boomskoye usch**	**0.85**	**288**				**Pb**	**12 13 38.3**	**-1.5**
BOOM							**Sb**	**12 13 50.3**	**-1.6**
IZV	**Izvestkoviy**	**0.86**	**339**		*e*	*P*	**Pb**	**12 13 38.7**	**-1.5**
	baz=38								
IZV					*e*	S	**Sg**	**12 13 50.8**	**+0.8**
	baz=38								
IZV	**Izvestkoviy**	**0.86**	**339**		*e*	*P*	**Pb**	**12 13 38.7**	**-1.5**
	407nm,0.3s								
IZV					*e*	S	**Sg**	**12 13 50.8**	**+0.8**
	2μm,0.6s								
IZV	**Izvestkoviy**	**0.86**	**339**		P		**Pb**	**12 13 38.7**	**-1.5**
	407nm,0.3s								
IZV					S		**Sg**	**12 13 50.7**	**+0.8**
	2μm,0.6s								
IZV	**Izvestkoviy**	**0.86**	**339**		*e*PG		**Pb**	**12 13 38.7**	**-1.5**
IZV					*e*S		**Sg**	**12 13 50.8**	**+0.8**
MDOK	**Medeo**	**0.94**	**1**		*e*	*P*	**Pb**	**12 13 39.5**	**-1.9**
	baz=59								
MDOK					*e*	S	**Sb**	**12 13 52.1**	**-2.3**
	baz=59								
MDOK	**Medeo**	**0.94**	**1**		*e*	*P*	**Pb**	**12 13 39.5**	**-1.9**
	434nm,0.4s								
MDOK					*e*	S	**Sb**	**12 13 52.1**	**-2.3**
	1μm,0.6s								
MDOK	**Medeo**	**0.94**	**1**	⇓		*P*	**Pb**	**12 13 39.6**	**-1.9**
	251nm,0.4s								
MDOK					⇑	S	**Sg**	**12 13 52.3**	**0.0**
	1μm,0.6s								
MDOK	**Medeo**	**0.94**	**1**		*e*PG		**Pb**	**12 13 39.5**	**-1.9**
MDOK					*e*S		**Sb**	**12 13 52.1**	**-2.3**
AAA	**Alma-Ata**	**0.98**	**355**		*e*	*P*	**Pg**	**12 13 41.2**	**+0.1**
	baz=54								
AAA					*e*	S	**Sn**	**12 13 55.1**	**-2.9**
	baz=54								
AAA	**Alma-Ata**	**0.98**	**355**		*e*	*P*	**Pg**	**12 13 41.1**	**+0.1**
	841nm,0.5s								
AAA					*e*	S	**Sn**	**12 13 55.1**	**-2.9**
	2μm,0.4s								
AAA	**Alma-Ata**	**0.98**	**355**		P		**Pg**	**12 13 41.2**	**+0.1**
	991nm,0.3s								
AAA					S		**Sn**	**12 13 55.1**	**-2.9**
	2μm,0.4s								
AAA	**Alma-Ata**	**0.98**	**355**		*e*PG		**Pg**	**12 13 41.2**	**+0.1**
AAA					*e*S		**Sn**	**12 13 55.1**	**-2.9**
KNDC	**Almaty**	**0.99**	**357**	⇓		*P*	**Pn**	**12 13 41.0**	**-2.4**
	449nm,0.5s								
KNDC					⇑	S	**Sn**	**12 13 55.2**	**-2.9**
	937nm,0.4s								
KNDC	**Almaty**	**0.99**	**357**		PG		**Pn**	**12 13 40.9**	**-2.4**
KNDC					S		**Sn**	**12 13 55.1**	**-2.9**
MTBS	**Maitube**	**1.00**	**334**		*e*	*P*	**Pb**	**12 13 41.2**	**-1.3**
	baz=33								
MTBS					*e*	S	**Sg**	**12 13 55.0**	**+0.5**
	baz=33								
MTBS	**Maitube**	**1.00**	**334**		*e*	*P*	**Pb**	**12 13 41.2**	**-1.3**
	475nm,0.3s								
MTBS					*e*	S	**Sg**	**12 13 55.0**	**+0.5**
	2μm,0.5s								
MTBS	**Maitube**	**1.00**	**334**		P		**Pb**	**12 13 41.2**	**-1.3**
	475nm,0.3s								
MTBS					S		**Sg**	**12 13 55.0**	**+0.5**
	2μm,0.5s								
MTBS	**Maitube**	**1.00**	**334**		*e*PG		**Pb**	**12 13 41.2**	**-1.3**
MTBS					*e*S		**Sg**	**12 13 55.0**	**+0.5**
KOTS	**Kotyrbulak**	**1.01**	**3**		*e*	*P*	**Pb**	**12 13 41.1**	**-1.5**
	baz=2.0								
KOTS					*e*	S	**Sg**	**12 13 55.1**	**+0.5**
	baz=2.0								
KOTS	**Kotyrbulak**	**1.01**	**3**		*e*	*P*	**Pb**	**12 13 41.1**	**-1.5**
	2μm,0.4s								
KOTS					*e*	S	**Sg**	**12 13 55.1**	**+0.5**
	3μm,0.4s								
KOTS	**Kotyrbulak**	**1.01**	**3**		P		**Pb**	**12 13 41.1**	**-1.5**
	2μm,0.4s								
KOTS					S		**Sg**	**12 13 55.1**	**+0.5**
	3μm,0.4s								
KOTS	**Kotyrbulak**	**1.01**	**3**		*e*PG		**Pb**	**12 13 41.1**	**-1.5**
KOTS					*e*S		**Sg**	**12 13 55.1**	**+0.5**
PRZ	**Przheval'sk**	**1.05**	**75**	⇑	*i*	*P*	**Pg**	**12 13 41.7**	**-0.6**
	baz=75								
PRZ					⇑	*i*S	**Sn**	**12 13 55.7**	**-4.0**
	baz=75								
PRZ	**Przheval'sk**	**1.05**	**75**		PG		**Pg**	**12 13 42.0**	**-0.3**
PRZ								12 13 56.4	
PRZ	**Przheval'sk**	**1.05**	**75**				**Pg**	**12 13 42.0**	**-0.3**
PRZ						Sn	**Sn**	**12 13 56.4**	**-3.2**
KST	**Kastek**	**1.13**	**316**		*e*	*P*	**Pb**	**12 13 43.5**	**-1.2**
	baz=16								
KST					*e*	S	**Sg**	**12 13 59.3**	**+0.7**
	baz=16								
KST	**Kastek**	**1.13**	**316**		*e*	*P*	**Pb**	**12 13 43.5**	**-1.2**
	199nm,0.4s								
KST					*e*	S	**Sg**	**12 13 59.3**	**+0.7**
	554nm,0.4s								
KST	**Kastek**	**1.13**	**316**		P		**Pb**	**12 13 43.5**	**-1.2**
	199nm,0.4s								
KST					S		**Sg**	**12 13 59.3**	**+0.7**
	554nm,0.4s								
KST	**Kastek**	**1.13**	**316**		*e*PG		**Pb**	**12 13 43.5**	**-1.2**
KST					*e*S		**Sg**	**12 13 59.3**	**+0.7**
TKM2	**Tokmak 2**	**1.27**	**304**	⇑	*i*	*P*	**Pb**	**12 13 46.2**	**-0.8**
	baz=3.0								
TKM2					⇑	*i*S	**Sg**	**12 14 03.7**	**+0.8**
	baz=3.0								
TKM2	**Tokmak 2**	**1.27**	**304**		⇑	*P*	**Pb**	**12 13 46.2**	**-0.8**
	92nm,0.1s,SNR=169								
TKM2					⇑	S	**Sg**	**12 14 04.0**	**+1.1**
	669nm,0.1s								
TKM2	**Tokmak 2**	**1.27**	**304**	⇓		*P*	**Pb**	**12 13 46.1**	**-0.9**
	52nm,0.3s								
TKM2					⇑	S	**Sg**	**12 14 03.3**	**+0.4**
	604nm,0.5s								
TKM2	**Tokmak 2**	**1.27**	**304**		PG		**Pb**	**12 13 46.0**	**-0.9**
TKM2					S		**Sg**	**12 14 03.2**	**+0.4**
SATY	**Saty**	**1.31**	**50**		*e*	*P*	**Pb**	**12 13 46.0**	**-1.8**
	173nm,0.1s								
SATY					*e*	S	**Sg**	**12 14 03.2**	**-1.2**
	2μm,0.2s								
SATY	**Saty**	**1.31**	**50**		P		**Pb**	**12 13 46.0**	**-1.8**
	173nm,0.1s								
SATY					S		**Sg**	**12 14 03.2**	**-1.2**
	2μm,0.2s								
SATY	**Saty**	**1.31**	**50**		*e*PG		**Pb**	**12 13 46.0**	**-1.8**
SATY					*e*S		**Sg**	**12 14 03.3**	**-1.2**
KZA	**Kyzart**	**1.33**	**264**	⇑	*i*	*P*	**Pb**	**12 13 47.1**	**-1.1**
	baz=65								
KZA				⇑	*i*S		**Sg**	**12 14 05.4**	**+0.4**
	baz=65								
DGS	**Degeres**	**1.37**	**318**		*e*	*P*	**Pb**	**12 13 47.8**	**-1.0**
	baz=18								
DGS					*e*	S	**Sg**	**12 14 06.1**	**-0.3**
	baz=18								
DGS	**Degeres**	**1.37**	**318**		*e*	*P*	**Pb**	**12 13 47.8**	**-1.0**
	2.3nm,0.2s								
DGS					*e*	S	**Sg**	**12 14 06.1**	**-0.3**
	1μm,0.5s								
DGS	**Degeres**	**1.37**	**318**		P		**Pb**	**12 13 47.8**	**-1.0**
	2.3nm,0.2s								
DGS					S		**Sg**	**12 14 06.1**	**-0.3**
	1μm,0.5s								
DGS	**Degeres**	**1.37**	**318**		*e*PG		**Pb**	**12 13 47.8**	**-1.0**
DGS					*e*S		**Sg**	**12 14 06.1**	**-0.3**
KTBS	**Karatobe**	**1.51**	**350**		*e*	*P*	**Pb**	**12 13 50.2**	**-0.8**
	392nm,0.4s								
KTBS					*e*	S	**Sg**	**12 14 10.8**	**+0.2**
	2μm,0.5s								
KTBS	**Karatobe**	**1.51**	**350**		P		**Pb**	**12 13 50.2**	**-0.8**
	392nm,0.4s								
KTBS					S		**Sg**	**12 14 10.8**	**+0.2**
	2μm,0.5s								
KTBS	**Karatobe**	**1.51**	**350**		*e*PG		**Pb**	**12 13 50.2**	**-0.8**
KTBS					*e*S		**Sg**	**12 14 10.8**	**+0.2**
KURS	**Kuram**	**1.52**	**33**		*e*	*P*	**Pb**	**12 13 49.8**	**-1.4**
	baz=32								
KURS					*e*	S	**Sb**	**12 14 09.3**	**-1.6**
	baz=32								
KURS	**Kuram**	**1.52**	**33**		*e*	*P*	**Pb**	**12 13 49.8**	**-1.4**
	310nm,0.5s								
KURS					*e*	S	**Sb**	**12 14 09.3**	**-1.6**
	358nm,0.5s								
KURS	**Kuram**	**1.52**	**33**		*e*PG		**Pb**	**12 13 49.8**	**-1.4**
KURS					*e*S		**Sb**	**12 14 09.3**	**-1.6**
KBK	**Karagaybulak**	**1.60**	**286**	⇑	*i*	*P*	**Pb**	**12 13 52.2**	**-0.5**
	baz=86								
KBK				⇑	*i*S		**Sg**	**12 14 14.0**	**+0.4**
	baz=86								
KBK	**Karagaybulak**	**1.60**	**286**		P		**Pb**	**12 13 52.2**	**-0.5**
	137nm,0.2s,SNR=217								
KBK				⇓	S		**Sg**	**12 14 14.4**	**+0.9**
	1μm,0.4s								
CHKK	**Chushkaly**	**1.63**	**359**		*e*	*P*	**Pb**	**12 13 52.3**	**-0.8**
	baz=58								
CHKK					*e*	S	**Sg**	**12 14 14.6**	**+0.1**
	baz=58								
CHKK	**Chushkaly**	**1.63**	**359**		*e*	*P*	**Pb**	**12 13 52.3**	**-0.8**
	228nm,0.1s								
CHKK					*e*	S	**Sg**	**12 14 14.6**	**+0.1**
	1μm,0.4s								
CHKK	**Chushkaly**	**1.63**	**359**		P		**Pb**	**12 13 52.3**	**-0.8**
	228nm,0.1s								
CHKK					S		**Sg**	**12 14 14.6**	**+0.1**
	1μm,0.4s								
CHKK	**Chushkaly**	**1.63**	**359**		*e*PN		**Pb**	**12 13 52.3**	**-0.8**
CHKK					*e*S		**Sg**	**12 14 14.6**	**+0.1**
UZB	**Uzynbulak**	**1.73**	**57**		*e*	*P*	**Pb**	**12 13 53.2**	**-1.7**
	baz=57								
UZB					*e*	S	**Sb**	**12 14 15.7**	**-1.6**
	baz=57								
UZB	**Uzynbulak**	**1.73**	**57**		*e*	*P*	**Pb**	**12 13 53.2**	**-1.7**
	491nm,0.2s								
UZB					*e*	S	**Sb**	**12 14 15.7**	**-1.6**
	1μm,0.4s								
UZB	**Uzynbulak**	**1.73**	**57**		P		**Pb**	**12 13 53.2**	**-1.7**
	491nm,0.2s								
UZB					S		**Sb**	**12 14 15.7**	**-1.6**
	1μm,0.4s								
UZB	**Uzynbulak**	**1.73**	**57**		*e*PN		**Pb**	**12 13 53.2**	**-1.7**
UZB					*e*S		**Sb**	**12 14 15.7**	**-1.6**
KPKS	**Kokpek**	**1.74**	**44**		*e*	*P*	**Pb**	**12 13 53.7**	**-1.3**
	baz=44								
KPKS					*e*	S	**Sg**	**12 14 16.4**	**-1.6**
	baz=44								
KPKS	**Kokpek**	**1.74**	**44**		*e*	*P*	**Pb**	**12 13 53.7**	**-1.3**
	2μm,0.3s								
KPKS					*e*	S	**Sg**	**12 14 16.4**	**-1.6**
	7μm,0.4s								
KPKS	**Kokpek**	**1.74**	**44**		*e*PN		**Pb**	**12 13 53.7**	**-1.3**
KPKS					*e*S		**Sg**	**12 14 16.4**	**-1.6**
KUU	**Kurty**	**1.74**	**343**		*e*	*P*	**Pb**	**12 13 54.3**	**-0.7**
	baz=43								
KUU					*e*	S	**Sg**	**12 14 17.4**	**-0.8**
	baz=43								
KUU	**Kurty**	**1.74**	**343**		*e*	*P*	**Pb**	**12 13 54.3**	**-0.7**
	414nm,0.5s								
KUU					*e*	S	**Sg**	**12 14 17.3**	**-0.8**
	2μm,0.5s								
KUU	**Kurty**	**1.74**	**343**		P		**Pb**	**12 13 54.3**	**-0.7**
	414nm,0.5s								
KUU					S		**Sg**	**12 14 17.3**	**-0.8**
	2μm,0.5s								
KUU	**Kurty**	**1.74**	**343**		*e*PN		**Pb**	**12 13 54.3**	**-0.7**
KUU					*e*S		**Sg**	**12 14 17.3**	**-0.8**
KRBS	**Karabastau**	**1.77**	**326**		*e*	*P*	**Pb**	**12 13 55.0**	**-0.5**
	191nm,0.5s								
KRBS					*e*	S	**Sg**	**12 14 18.7**	**-0.5**
	436nm,0.9s								
KRBS	**Karabastau**	**1.77**	**326**		*e*PN		**Pb**	**12 13 55.1**	**-0.5**
KRBS					*e*S		**Sg**	**12 14 18.7**	**-0.5**
CHMS	**Chumysh**	**1.85**	**295**	⇑	*i*	*P*	**Pb**	**12 13 56.1**	**-0.8**
	baz=95								
CHMS				⇑	*i*S		**Sg**	**12 14 21.3**	**-0.3**
	baz=95								
CHMS	**Chumysh**	**1.85**	**295**	⇑	P		**Pb**	**12 13 56.1**	**-0.8**
	119nm,0.3s,SNR=74								
CHMS				⇑	S		**Sg**	**12 14 21.0**	**-0.7**
	675nm,0.5s								
FRU1	**Bishkek**	**1.87**	**289**	⇑	*i*	*P*	**Pb**	**12 13 56.6**	**-0.6**
	baz=89								
FRU1				⇑	*i*S		**Sg**	**12 14 22.1**	**-0.1**
	baz=89								
FRU1	**Bishkek**	**1.87**	**289**		PN		**Pb**	**12 13 56.9**	**-0.3**
FRU1								12 14 22.5	
FRU1	**Bishkek**	**1.87**	**289**				**Pb**	**12 13 56.9**	**-0.3**
FRU1						Sn	**Sg**	**12 14 22.5**	**+0.3**
UCH	**Uchtor**	**1.87**	**271**	⇑	*i*	*P*	**Pb**	**12 13 56.6**	**-0.8**
	baz=71								
UCH				⇑	*i*S		**Sg**	**12 14 22.1**	**-0.1**
	baz=71								
AAK	**Ala-Archa**	**1.92**	**283**		Pn		**Pb**	**12 13 57.9**	**-0.3**
	101nm,0.3s,baz=105,slow=10,SNR=382								
AAK					Lg		Lg	12 14 23.2	
	48nm,0.3s,baz=156,slow=10.0,SNR=3.7								
AAK	**Ala-Archa**	**1.92**	**283**	⇑	*i*	*P*	**Pb**	**12 13 57.6**	**-0.6**
	baz=83								
AAK				⇑	*i*S		**Sg**	**12 14 23.5**	**-0.4**
	baz=83								
AAK	**Ala-Archa**	**1.92**	**283**	⇓		*P*	**Pb**	**12 13 57.3**	**-0.8**
	220nm,0.3s,SNR=292								
AAK	**Ala-Archa**	**1.92**	**283**	⇑	Pn		**Pb**	**12 13 57.5**	**-0.6**
	124nm,0.4s								
AAK					Lg		Lg	12 14 25.1	
	410nm,0.4s								
AAK	**Ala-Archa**	**1.92**	**283**	*c*	*i*	PN	**Pb**	**12 13 57.6**	**-0.6**
AAK	**Ala-Archa**	**1.92**	**283**				**Pb**	**12 13 57.5**	**-0.7**
AAK					Sn		**Sg**	**12 14 23.4**	**-0.5**
SHLS	**Shalkode**	**2.02**	**62**		*e*	*P*	**Pg**	**12 14 02.9**	**+2.0**
	baz=65								
SHLS					*e*	S	**Sg**	**12 14 32.0**	**+4.9**
	baz=65								
SHLS	**Shalkode**	**2.02**	**62**		*e*	*P*	**Pg**	**12 14 02.9**	**+2.0**
	1μm,0.5s								
SHLS					*e*	S	**Sg**	**12 14 32.0**	**+4.9**
	2μm,0.4s								
SHLS	**Shalkode**	**2.02**	**62**		Pg		**Pg**	**12 14 02.9**	**+2.0**
	1μm,0.5s								
SHLS					Lg		Lg	12 14 32.0	
	2μm,0.4s								
SHLS	**Shalkode**	**2.02**	**62**		*e*PN		**Pg**	**12 14 02.9**	**+2.0**
SHLS					*e*S		**Sg**	**12 14 32.1**	**+4.9**
ARLS	**Aral**	**2.05**	**261**	⇑	*e*	*P*	**Pb**	**12 13 59.0**	**-1.3**
	baz=61								
ARLS				⇑	*i*S		**Sb**	**12 14 26.2**	**-0.1**
	baz=61								
USP	**Ospenovka**	**2.13**	**300**	⇓	*i*	*P*	**Pb**	**12 14 00.6**	**-1.1**
	baz=0.0								
USP				⇓	*i*S		**Sb**	**12 14 28.3**	**-0.4**
	baz=0.0								
USP	**Ospenovka**	**2.13**	**300**	⇑		*P*	**Pb**	**12 14 01.0**	**-0.7**
	606nm,0.4s,SNR=517								
SGDS	**Sogindy**	**2.15**	**306**		Pg		**Pb**	**12 14 01.2**	**-0.7**
	630nm,0.5s								
SGDS					Lg		Lg	12 14 30.1	
	985nm,0.6s								
EKS2	**Erkin-Say**	**2.44**	**281**	⇓	*i*	*P*	**Pb**	**12 14 04.8**	**-2.3**
	baz=81								
EKS2				⇓	*i*S		**Sb**	**12 14 36.0**	**-1.7**
	baz=81								
EKS2	**Erkin-Say**	**2.44**	**281**	⇑		*P*	**Pb**	**12 14 06.2**	**-0.9**
	148nm,0.4s,SNR=167								
AML	**Almayashu**	**2.48**	**269**	⇓	*e*	*P*	**Pb**	**12 14 05.5**	**-2.3**
	baz=69								
AML				⇓	*i*S		**Sb**	**12 14 37.1**	**-1.9**
	baz=69								
AML	**Almayashu**	**2.48**	**269**	⇑		*P*	**Pb**	**12 14 07.3**	**-0.5**
	459nm,0.5s,SNR=409								
KTMS	**Ketmen**	**2.73**	**62**		*e*	*P*	**Pb**	**12 14 09.8**	**-2.1**
	3.1nm,0.3s								
KTMS					*e*	S	**Sb**	**12 14 45.1**	**-0.9**
	1μm,0.5s								
KTMS	**Ketmen**	**2.73**	**62**		Pg		**Pb**	**12 14 10.9**	**-1.0**
	8.5nm,0.1s								
KTMS					Lg		Lg	12 14 46.0	
	1μm,0.5s								
KTMS	**Ketmen**	**2.73**	**62**		*e*PN		**Pb**	**12 14 09.8**	**-2.1**
KTMS					*e*S		**Sb**	**12 14 45.1**	**-0.9**
KSH	**Kashi**	**2.82**	**197**		Pn		**Pg**	**12 14 18.4**	**+2.1**
KSH					Sn		**Sg**	**12 14 58.8**	**+5.9**
KSH					smax		smax		
	comp=N,2μm,0.8s								
KSH					smax		smax		
	comp=E,2μm,0.9s								
MRKS	**Merke**	**2.86**	**282**		*e*	*P*	**Pb**	**12 14 14.8**	**+0.7**
	192nm,0.4s								
MRKS					*e*	S	**Sg**	**12 14 52.6**	**-1.5**
	847nm,0.4s								
MRKS	**Merke**	**2.86**	**282**		*e*PN		**Pb**	**12 14 14.8**	**+0.7**
MRKS					*e*S		**Sg**	**12 14 52.6**	**-1.5**
TDK	**Taldyqorghan**	**2.95**	**19**		*e*	*P*	**Pb**	**12 14 14.4**	**-1.2**
	322nm,0.6s								
TDK					*e*	S	**Sb**	**12 14 52.2**	**+0.1**
	973nm,0.9s								
TDK	**Taldyqorghan**	**2.95**	**19**		*e*PN		**Pb**	**12 14 14.4**	**-1.2**
TDK					*e*S		**Sb**	**12 14 52.2**	**+0.1**
ARSB	**Arslanbob**	**3.16**	**255**	⇑	*e*	*P*	**Pn**	**12 14 14.3**	**+1.1**
	baz=55								
ARSB				⇑	*i*S		**Sb**	**12 14 53.0**	**-5.3**
	baz=55								
ARSB	**Arslanbob**	**3.16**	**255**		PN		Pb	12 14 14.7	-4.5
ARSB	**Arslanbob**	**3.16**	**255**		Pn		Pb	12 14 14.7	-4.5
KAPS	**Kapalarasan**	**3.49**	**28**		*e*	*P*	**Pb**	**12 14 24.0**	**-0.8**
	151nm,0.4s								
KAPS					*e*	S	**Sg**	**12 15 09.5**	**-4.9**
	955nm,0.6s								
KAPS	**Kapalarasan**	**3.49**	**28**		Pg		**Pb**	**12 14 24.0**	**-0.8**
	151nm,0.4s								
KAPS					Lg		Lg	12 15 09.5	
	955nm,0.6s								
KAPS	**Kapalarasan**	**3.49**	**28**		*e*PN		**Pb**	**12 14 24.0**	**-0.8**
KAPS					*e*S		**Sg**	**12 15 09.5**	**-4.9**
KK31	**Karatay Array**	**4.88**	**283**		Pn		**Pn**	**12 14 38.1**	**+1.3**
	1.6nm,0.6s,baz=90,slow=12,SNR=10								
KK31				⇓	Pg		**Pb**	**12 14 51.6**	**+3.0**
	22nm,0.5s,baz=104,slow=16,SNR=35								
KK31				⇑	Lg		Lg	12 15 55.4	
	102nm,0.6s,baz=88,slow=26,SNR=10								
KK31	**Karatay Array**	**4.88**	**283**		PN		**Pn**	**12 14 38.4**	**+1.6**
KK31	**Karatay Array**	**4.88**	**283**				**Pn**	**12 14 38.4**	**+1.6**
KK31							Pn	12 14 41.3	+4.5
KKAR	**Karatay Array**	**4.88**	**283**		PN		**Pn**	**12 14 39.5**	**+2.7**
KKAR	**Karatay Array**	**4.88**	**283**				**Pn**	**12 14 38.8**	**+2.0**
KKAR	**Karatay Array**	**4.88**	**283**		Pn		**Pn**	**12 14 39.5**	**+2.7**
IUG	**Iuzhnay**	**5.20**	**271**		*e*	*P*	Pg	12 14 58.1	-3.8
	27nm,0.7s								
IUG					*e*	S	**Sg**	**12 16 06.8**	**-2.4**
	164nm,0.7s								
BRLS	**Borolday**	**5.37**	**281**		*e*	*P*	**Pg**	**12 15 02.8**	**-2.2**
	6.1nm,0.9s								
BRLS					*e*	S	**Sg**	**12 16 13.3**	**-1.2**
	43nm,0.8s								
MAKZ	**Makanchi**	**5.79**	**36**	⇑	Pn		**Pn**	**12 14 50.1**	**+0.9**
	11nm,0.5s								
MAKZ				⇑	Pg		Pg	12 15 09.3	-3.7
	49nm,0.9s								
MAKZ				⇑	Lg		Lg	12 16 19.9	
	108nm,1.1s								
MAKZ	**Makanchi**	**5.79**	**36**		PN		**Pn**	**12 14 50.1**	**+0.9**
MAKZ								12 15 09.3	
MAKZ	**Makanchi**	**5.79**	**36**				**Pn**	**12 14 50.1**	**+0.9**
MK31	**Makanchi Array**	**5.92**	**38**		Pn		**Pn**	**12 14 52.1**	**+1.0**
	11nm,0.5s,baz=214,slow=14,SNR=175								
MK31				⇓	Pg		Pg	12 15 12.2	-3.3
	20nm,0.5s,baz=216,slow=16,SNR=14								
MK31				⇓	Sn		**Sn**	**12 15 60.0**	**+0.6**
	28nm,0.5s								
MK31				⇑	Lg		Lg	12 16 21.7

comp=Z,5.0nm,1.7s
OBN Obninsk 29.22 310 *eP* **P 12 19 25.8 +0.6**
OBN *e* 12 20 22.0
OBN *eS* S 12 24 25.5 +7.0
OBN pmax pmax
comp=Z,4.0nm,0.7s
OBN MLR MLR
comp=Z,21nm,15.0s
BRTR Keskin Array B 32.59 280 P **P 12 19 55.5 +0.2**
comp=Z,1.1nm,0.6s,baz=90,slow=9.5,SNR=4.6
BRTR Keskin Array B 32.59 280 P **P 12 19 56.2 +0.8**
BRTR Keskin Array B 32.59 280 P **P 12 19 56.2 +0.8**
TIXI Tiksi 38.70 23 *eP* P 12 20 49.3 +2.2
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 38.70 23 P **P 12 20 47.9 +0.7**
TIXI IAmb IAmb 12 20 50.7
comp=Z,4.7nm,1.0s
CLL Collm 43.49 305 *eP* **P 12 21 26.0 -0.9**
CLL *e* 12 21 35.0
CLL *ePPP* 12 23 50.0
CLL Collm 43.49 305 *eP* **P 12 21 26.0 -0.9**
CLL *e* 12 21 35.0
YSS Yuzh-Sakhalins 45.82 61 *eP* **P 12 21 46.9 +1.4**
BILL Bilibino 51.38 29 *eP* P 12 22 29.9 +1.8
BILL *e* 12 24 27.8
BILL pmax pmax
comp=Z,1.0nm,1.0s
BILL MLR MLR
comp=Z,50nm,19.0s
ILAR Eielson Array 67.93 19 P **P 12 24 20.9 -1.3**
comp=Z,1.1nm,0.8s,baz=322,slow=6.2,SNR=13
TORD Torodi Ar. Bea 70.46 270 P **P 12 24 37.1 -1.5**
comp=Z,2.3nm,0.7s,baz=43,slow=6.0,SNR=11
TORD Torodi Ar. Bea 70.46 270 IAmb IAmb 12 24 38.0
comp=Z,1.7nm,0.8s
YKA Yellowknife Ar 75.21 6 P **P 12 25 05.0 -1.0**
comp=Z,0.7nm,0.6s,baz=357,slow=22,SNR=4.7

ROM 13 12:13:55.1±0.2**, 43°399N**×0.001**°**×**12°48E**±0.002**°, h6**km±2km**, ML1.0/4, Error ellipse: s-maj=1.3km s-min=0.5km az=291.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATVO	**AVT- Monte Val**	**0.05**	**252**	P	Pg	12 13 56.7	+0.1
ATVO				S	Sg	12 13 58.0	+0.3
ATPI	**Pietralunga -**	**0.07**	**314**	P	Pg	12 13 57.1	+0.1
ATPI				S	Sg	12 13 58.7	+0.5
PIEI	**Pieia**	**0.14**	**17**	P	Pg	12 13 58.3	+0.2
PIEI				S	Sg	12 14 01.2	+1.1
ATTE	**AVT- Monte Tez**	**0.22**	**204**	P	Pg	12 14 00.4	+0.9
ATTE				S	Sg	12 14 03.6	+1.3
PARC	**Parchiule**	**0.30**	**325**	AML	AML		
PARC	comp=E,31μm,0.1s			AML	AML		
	comp=N,17μm,1.6s						
MPAG	**Monte Paganucc**	**0.31**	**42**	S	Sg	12 14 02.0	-3.3

ATH 13 12:14:41.9, 39°55N×0.008**°**×**22°58E, h28**km±1km**, ML1.6**/7**, Error ellipse: s-maj=2.0km s-min=1.1km az=348.0, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THL	**Klokotos Trika**	**0.44**	**272**	P	Pb	12 14 51.6	+0.3
THL				AML	AML	12 15 05.0	
	comp=N,70μm,0.6s						
THL				AML	AML	12 15 06.6	
	comp=E,76μm,0.4s						
THL	**Klokotos Trika**	**0.44**	**272**	P	Pb	12 14 51.6	+0.4
XOR	**Xorichti**	**0.51**	**111**	P	Pb	12 14 52.7	+0.3
XOR				S	Sb	12 14 59.8	+0.3
NEO	**Neokhori**	**0.55**	**116**	P	Pb	12 14 53.4	+0.3
NEO				S	Sb	12 15 01.0	+0.2
NEO				AML	AML	12 15 02.4	
	comp=E,178μm,0.3s						
NEO				AML	AML	12 15 03.3	
	comp=N,418μm,0.3s						
AGG	**Agios Georgios**	**0.56**	**200**	P	Pb	12 14 52.8	-0.4
AGG				S	Sb	12 15 01.6	+0.6
AGG				AML	AML	12 15 04.3	
	comp=E,184μm,0.3s						
AGG				AML	AML	12 15 04.8	
	comp=N,172μm,0.6s						
MAKR	**Makrakomi, Fth**	**0.64**	**213**	P	Pn	12 14 55.0	-0.1
MAKR				S	Sn	12 15 04.3	0.0
MAKR				AML	AML	12 15 08.7	
	comp=E,218μm,0.3s						
MAKR				AML	AML	12 15 09.4	
	comp=N,224μm,0.5s						
AXAR	**Agios Charalam**	**0.78**	**176**	P	Pn	12 14 57.2	+0.1
AXAR				S	Sn	12 15 09.2	+1.4
AXAR				AML	AML	12 15 11.5	
	comp=E,121μm,0.4s						
AXAR				AML	AML	12 15 16.2	
	comp=N,135μm,0.3s						
SKIA	**Skiathos**	**0.79**	**119**	P	Pn	12 14 57.5	+0.4
SKIA				S	Sn	12 15 08.7	+0.9
EVR	**Evrytania**	**0.87**	**224**	P	Pb	12 14 59.4	+0.9
EVR				AML	AML	12 15 16.1	
	comp=N,47μm,0.3s						
EVR				AML	AML	12 15 20.1	
	comp=E,43μm,0.6s						
MRKA	**Markates**	**1.15**	**137**	P	Pb	12 15 04.0	+0.9
MRKA				S	Sb	12 15 19.9	+2.3
SERG	**Sergoula**	**1.21**	**200**	P	Pb	12 15 04.1	+0.1
SERG				S	Sb	12 15 20.6	+1.3
SERG				AML	AML	12 15 26.1	
	comp=E,41μm,0.5s						
SERG				AML	AML	12 15 28.4	
	comp=N,34μm,0.4s						
KALE	**Kalithea**	**1.21**	**197**	P	Pb	12 15 04.0	-0.1
KALE				S	Sb	12 15 21.3	+2.0
TRIZ	**Trizonia**	**1.25**	**199**	P	Pb	12 15 05.9	+1.2
TRIZ				S	Sb	12 15 22.5	+2.1

NEIC ***13*** *12:20:03.8±2.3, 7.711S±0.108×129.551E±0.107, h146km±9km, mb4.2/9, Error ellipse: s-maj=12.1km s-min=10.5km az=187.0*
IDC ***13*** *12:20:16.5±12.0, 8.127S×129.176E, h166km±89km, mb3.7/1, mb1 3.8/3, mb1mx3.2/24, mbtmp4.2/3, MS2.6/1, Ms1 2.6/1, ms1mx2.2/32, Error ellipse: s-maj=105.3km s-min=85.1km az=83.0*
ISC 13 12:20:03.3±0.7**, 7°13S**±0.007**°**×**129°49E**±0.006**, h139**km**, n23, **σ1**°72/26, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.99**	**115**	Pn	**Pn**	**12 20 38.9**	**+1.2**
SAUI				Sn	**Sn**	**12 21 05.9**	**+2.0**
FAKI	**Fak Fak**	**5.00**	**33**	Pn	**Pn**	**12 21 16.9**	**+0.3**
FAKI				Sn	**Sn**	**12 22 11.8**	**-2.0**
SOEI	**Soe**	**5.79**	**243**	Pn	**Pn**	**12 21 28.6**	**+1.4**
SOEI				Sn	**Sn**	**12 22 33.8**	**+1.1**
MTN	**Manton Dam**	**5.91**	**164**	Pn	**Pn**	**12 21 28.7**	**0.0**
KNRA	**Kununurra**	**8.53**	**185**		**Pn**	**12 22 02.3**	**-1.5**
FITZ	**Fitzroy Crossi**	**11.53**	**199**	Pn	**Pn**	**12 22 41.1**	**-2.8**
WB0	**Warramunga Arr**	**13.44**	**160**		**Pn**	**12 23 05.0**	**-3.6**
WRA	**Warramunga Arr**	**13.58**	**160**	P	**Pn**	**12 23 06.8**	**-3.6**
	0.9nm,0.3s,baz=342,slow=13,SNR=41						
WRA				S	Sn	12 25 27.1	-14
	1.9nm,0.3s,baz=338,slow=20,SNR=5.5						
WB2	**Warramunga Arr**	**13.59**	**160**		**Pn**	**12 23 07.3**	**-3.2**
COEN	**Coen**	**15.06**	**118**		**Pn**	**12 23 29.8**	**+0.6**
COEN				IAmb	IAmb	12 23 33.7	
	comp=Z,6.0nm,0.7s						
JAGI	**Jajag, Banyuwa**	**15.25**	**264**	Pn	**Pn**	**12 23 31.0**	**-0.6**
AS31	**Alice Springs**	**16.98**	**166**	P	**P**	**12 23 51.3**	**-1.0**
AS31				IAmb	IAmb	12 23 54.8	
	comp=Z,2.7nm,0.5s						
ASAR	**Alice Springs**	**16.98**	**166**	P	**P**	**12 23 51.3**	**-1.0**
	comp=Z,1.0nm,0.3s,baz=343,slow=9.3,SNR=35						
ASAR				S	S	12 26 46.0	-16
	comp=Z,0.3nm,0.3s,baz=344,slow=22,SNR=2.2						
ASAR				LR	LR	12 30 47.3	
	comp=Z,24nm,21.8s,baz=294,slow=40						
ASAR	**Alice Springs**	**16.98**	**166**	P	**Pn**	**12 23 52.5**	**-0.1**
PSA00	**Pilbara Seismi**	**17.12**	**212**	P	**Pn**	**12 23 54.5**	**+0.2**
PSA00				IAmb	IAmb	12 23 56.0	
	comp=Z,24nm,1.4s						
CTAO	**Charters Tower**	**20.75**	**130**	P	**P**	**12 24 34.2**	**+1.0**
CTAO				IAmb	IAmb	12 24 34.5	
	comp=Z,16nm,1.4s						
BBOO	**Buckleboo**	**26.27**	**167**	P	**P**	**12 25 26.0**	**+0.2**
STKA	**Stephens Creek**	**27.09**	**157**	P	**P**	**12 25 33.6**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=328,slow=9.5,SNR=3.7						
STKA	**Stephens Creek**	**27.09**	**157**	P	**P**	**12 25 33.4**	**+0.3**
RPSI	**Rantau Prapat**	**32.03**	**287**	P	**P**	**12 26 16.3**	**-0.6**
RPSI				IAmb	IAmb	12 26 17.9	
	comp=Z,16nm,1.2s						
MKAR	**Makanchi Array**	**68.05**	**327**	P	**P**	**12 30 49.4**	**+1.5**
ABKAR	**Akbulak array**	**82.29**	**322**	P	**P**	**12 32 10.9**	**+1.6**
QSPA	**South Pole Qui**	**82.85**	**180**	P	**P**	**12 32 11.2**	**-0.9**

GCG ***13*** *12:26:29.5±0.6, 13.088N×91.145W, h63km±23km, MD4.8*
GCMT ***13*** *12:26:31.7±0.2, 14.105N±0.101°×91.143W±0.102, h74km±1km, MW5.1/106, Moment Tensor Solution. s87,c116; s106,c166; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.45±.11; Mθθ-3.67±.11; Mφφ-0.78±.13; Mrθ1.03±.09; Mθφ2.43±.10; Mφr-0.97±.09; Best double couple: M=4.96100×10¹⁶ NP1:φs295.00000°, δ37.00000°, λ82.00000°. NP2:φs124.00000°, δ53.00000°, λ96.00000°. Principal axes: T 4.6730, Plg81.0000°, Azm60.0000°; N 0.5730, Plg5.0000°, Azm301.0000°; P -5.2490, Plg8.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***13*** *12:26:31.5±0.5, 14.388N×90.182W, h67km±4km, mb4.3/29, mb1 4.4/31, mb1mx4.3/49, mbtmp4.6/31, MS3.8/24, Ms1 3.8/24, ms1mx3.7/31 Error ellipse: s-maj=18.7km s-min=7.9km az=56.0*
UCR ***13*** *12:26:32.8±1.4, 14.113N×91.222W, h26km±7km, ML4.9, mb5.0(NEIC)*
INET ***13*** *12:26:32.1, 13.881N×91.221W, h0km, ML5.4*
NEIC ***13*** *12:26:32.8, 14.117N×91.222W, h69km, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.82; Mθθ-1.88; Mφφ0.06; Mrθ2.52; Mrφ0.80; Mθφ-2.46; Fault plane solution: Mo4.06000×10¹⁶ NP1:φs131.00000°, δ76.24000°, λ102.45000°. NP2:φs268.12000°, δ18.48000°, λ48.62000°. Principal axes: T 4.0484, Plg57.0000°, Azm57.0000°; N 0.0189, Plg12.0000°, Azm308.0000°; P -4.0674, Plg30.0000°, Azm211.0000°;*
NEIC ***13*** *12:26:32.7±1.8, 14.120N±0.103°×91.117W±0.104, h78km±4km, mb5.0/292, Mwr5.0/22, Md5.2(SNET) Error ellipse: s-maj=6.2km s-min=3.8km az=97.0*
SNET ***13*** *12:26:32.1±1.1, 14.106N×91.128W, h29km±6km, ML5.2*
UNK ***13*** *12:26:33.2, 14.121N×91.116W, h83km*
ISC 13 12:26:31.2±0.4**, 14°15N**±0.004**°**×**91°26W**±0.004**°, h72**km±3km**, h72**km**:pP-P, n768,**σ1°27/701**, mb5.0**/137**, 4C-2D, Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.50**	**53**	*eP*	**Pn**	**12 26 45.9**	**+1.4**
RTAL	**Retalhuleu**	**0.57**	**311**	*eP*	**Pn**	**12 26 44.2**	**-0.7**
RTAL				*eS*	**Sn**	**12 26 53.5**	**-1.5**
STG3	**Santiaguito 3,**	**0.64**	**331**	*eP*	**Pn**	**12 26 46.2**	**+0.3**
PCG	**Pacaya**	**0.67**	**69**	*eP*	**Pn**	**12 26 48.1**	**+1.8**
IXG	**Ixpaco**	**0.79**	**88**	*i P*	**Pn**	**12 26 47.8**	**+0.3**
IXG	**Ixpaco**	**0.79**	**88**	*eP*	**Pn**	**12 26 48.6**	**+1.1**
IXG	**Ixpaco**	**0.79**	**88**	*i P*	**Pn**	**12 26 47.8**	**+0.3**
NBG	**Las Nubes**	**0.98**	**64**	*i P*	**Pn**	**12 26 52.4**	**+3.0**
HUEH	**Huehuetenango**	**1.19**	**348**	*i P*	**Pn**	**12 26 48.2**	**+1.8**
HUEH				*eS*	**Sn**	**12 27 12.7**	**+4.4**
HUEH				IAML		12 27 17.2	
	comp=Z,21μm,0.3s						
NUBE	**Las Nubes**	**1.45**	**100**	*eP*	**Pn**	**12 26 57.1**	**+1.3**
NUBE				*eS*	**Sn**	**12 27 15.4**	**+1.1**
NUBE				IAML		12 27 17.3	
	comp=Z,36μm,0.5s						
NUBE	**Las Nubes**	**1.45**	**100**	*eP*	**Pn**	**12 26 57.1**	**+1.3**
NUBE				*eS*	**Sn**	**12 27 15.4**	**+1.1**
NUBE				IAML		12 27 17.3	
	comp=Z,36μm,0.5s						
SBLS	**San Blas**	**1.61**	**101**	*i P*	**Pn**	**12 26 59.7**	**+1.7**
SBLS	**San Blas**	**1.61**	**101**	*i P*	**Pn**	**12 26 59.7**	**+1.7**
SNJE	**San Jose**	**1.62**	**100**	*eP*	**Pn**	**12 26 59.8**	**+1.6**
SNJE	**San Jose**	**1.62**	**100**	*eP*	**Pn**	**12 26 59.8**	**+1.6**
UNIC	**Universidad Ca**	**1.66**	**96**	*eP*	**Pn**	**12 26 59.8**	**+1.3**
UNIC				*eS*	**Sn**	**12 27 21.9**	**+2.7**
UNIC	**Universidad Ca**	**1.66**	**96**	*eP*	**Pn**	**12 26 59.8**	**+1.3**
UNIC				*eS*	**Sn**	**12 27 21.9**	**+2.7**
MRL	**Marmol**	**1.78**	**58**	*i P*	**Pn**	**12 27 02.1**	**+1.9**
MRL	**Marmol**	**1.78**	**58**	*eP*	**Pn**	**12 27 03.0**	**+2.7**
MRL	**Marmol**	**1.78**	**58**	*i P*	**Pn**	**12 27 02.1**	**+1.9**
CEDA	**San Andres**	**1.84**	**101**	*eP*	**Pn**	**12 27 02.6**	**+1.8**
CEDA				*eS*	**Sn**	**12 27 25.4**	**+2.1**
CEDA				IAML		12 27 35.0	
	comp=Z,30μm,0.7s						
CEDA	**San Andres**	**1.84**	**101**	*eP*	**Pn**	**12 27 02.6**	**+1.8**
CEDA				*eS*	**Sn**	**12 27 25.4**	**+2.1**
CEDA				IAML		12 27 35.0	
	comp=Z,30μm,0.7s						
MTO3	**Montecristo**	**1.85**	**82**	*eP*	**Pn**	**12 27 02.2**	**+1.0**
MTO3	**Montecristo**	**1.85**	**82**		**Pn**	**12 27 02.2**	**+1.0**
MTO3				Sn	**Sn**	**12 27 21.4**	**-2.6**
MTO3	**Montecristo**	**1.85**	**82**	*eP*	**Pn**	**12 27 02.2**	**+1.0**
TACO	**Tacachico**	**1.85**	**95**	*i P*	**Pn**	**12 27 02.0**	**+1.0**
TACO				*eS*	**Sn**	**12 27 26.0**	**+2.4**
TACO	**Tacachico**	**1.85**	**95**	*i P*	**Pn**	**12 27 02.0**	**+1.0**
TACO				*eS*	**Sn**	**12 27 26.0**	**+2.4**
ESQI	**Esquipulas**	**1.90**	**77**	*eP*	**Pn**	**12 27 03.1**	**+1.4**
BOQS	**Boqueron**	**1.96**	**102**	*eP*	**Pn**	**12 27 04.2**	**+1.6**
BOQS	**Boqueron**	**1.96**	**102**	*eP*	**Pn**	**12 27 04.2**	**+1.6**
LALI	**Alcalda de L**	**1.99**	**109**	*eP*	**Pn**	**12 27 04.1**	**+1.3**
LALI				*eS*	**Sn**	**12 27 27.8**	**+1.0**
LALI	**Alcalda de L**	**1.99**	**109**	*eP*	**Pn**	**12 27 04.1**	**+1.3**
LALI				*eS*	**Sn**	**12 27 27.8**	**+1.0**
SNET	**Serv Nac Est T**	**2.02**	**103**	*eS*	**Sn**	**12 27 29.7**	**+2.0**
SNET				IAML		12 27 43.3	
	comp=Z,15μm,0.3s						
SNET	**Serv Nac Est T**	**2.02**	**103**		**Pn**	**12 27 04.3**	**+1.0**
SNET	**Serv Nac Est T**	**2.02**	**103**	*eS*	**Sn**	**12 27 29.7**	**+2.0**
SNET				IAML		12 27 43.3	
	comp=Z,15μm,0.3s						
UESS	**Universidad de**	**2.04**	**102**	IAML		12 27 38.4	
	comp=Z,10μm,0.6s						
UESS	**Universidad de**	**2.04**	**102**	IAML		12 27 38.4	
	comp=Z,10μm,0.6s						
OPAM	**Oficina de Pla**	**2.04**	**102**	*eP*	**Pn**	**12 27 04.7**	**+1.1**
OPAM				*eS*	**Sn**	**12 27 31.3**	**+3.0**
OPAM	**Oficina de Pla**	**2.04**	**102**	*eP*	**Pn**	**12 27 04.7**	**+1.1**
OPAM				*eS*	**Sn**	**12 27 31.3**	**+3.0**
AEIL	**Aeropuerto Ilo**	**2.12**	**102**	IAML		12 27 43.4	
	comp=Z,25μm,0.6s						
AEIL	**Aeropuerto Ilo**	**2.12**	**102**	IAML		12 27 43.4	
	comp=Z,25μm,0.6s						
LFRS	**El Faro**	**2.19**	**104**	*eP*	**Pn**	**12 27 07.0**	**+1.3**
LFRS	**El Faro**	**2.19**	**104**	*eP*	**Pn**	**12 27 07.0**	**+1.3**
LLGN	**La Laguna**	**2.24**	**89**	*eP*	**Pn**	**12 27 07.9**	**+1.6**
LLGN	**La Laguna**	**2.24**	**89**	*eP*	**Pn**	**12 27 07.9**	**+1.6**
CCIG	**Comitan**	**2.29**	**338**	Pn	**Pn**	**12 27 09.1**	**+2.1**
TGUH	**Tegucigalpa,Un**	**3.86**	**91**	Pn	**Pn**	**12 27 29.4**	**+0.9**
CRIN	**San Cristobal**	**4.34**	**109**		**Pn**	**12 27 37.6**	**+2.8**
CMIG	**Matias Romero**	**4.56**	**310**	P	**Pn**	**12 27 37.5**	**-0.3**
	comp=Z,69nm,0.3s,baz=139,slow=10,SNR=192						
CMIG				S	**Sn**	**12 28 33.0**	**+3.5**
	comp=Z,292nm,0.3s,baz=106,slow=18,SNR=8.4						
MATN	**Matagalpa**	**5.32**	**103**		**Pn**	**12 27 49.9**	**+1.6**
ACON	**Acoyapa**	**6.31**	**109**	*eP*	**Pn**	**12 28 03.8**	**+2.1**
ACON	**Acoyapa**	**6.31**	**109**		**Pn**	**12 28 02.4**	**+0.6**
GBS3	**Finca Las Img**	**6.58**	**120**	*eP*	**Pn**	**12 28 08.2**	**+2.8**
NY14	**Universidad de**	**6.58**	**121**	*eP*	**Pn**	**12 28 08.3**	**+2.8**
LAPA	**Finca la Perla**	**6.61**	**120**	*eP*	**Pn**	**12 28 09.3**	**+3.5**
GB1A	**Boringuen Arri**	**6.61**	**119**	*eP*	**Pn**	**12 28 08.6**	**+2.7**
BUEV	**Buena Vista**	**6.61**	**120**	*eP*	**Pn**	**12 28 08.3**	**+2.4**
BUAI	**Buenos Aires**	**6.63**	**119**	*eP*	**Pn**	**12 28 08.1**	**+1.9**
GPS1	**Guardaparques**	**6.67**	**120**	*eP*	**Pn**	**12 28 09.1**	**+2.3**
TEIG	**Tepich**	**6.68**	**25**	P	**Pn**	**12 28 07.4**	**+0.7**
	comp=Z,300nm,0.3s,baz=139,slow=1.1,SNR=1047						
TEIG	**Tepich**	**6.68**	**25**	Pn	**Pn**	**12 28 08.3**	**+1.5**
LIM1	**Limonal**	**6.79**	**120**	*eP*	**Pn**	**12 28 11.4**	**+3.0**
GUAB	**Guayabo de Bag**	**6.81**	**119**	*eP*	**Pn**	**12 28 10.9**	**+2.3**
GUAI	**GUAI**	**6.81**	**124**	*eP*	**Pn**	**12 28 11.3**	**+2.7**
HORNC	**Hornillas**	**6.85**	**119**	*eP*	**Pn**	**12 28 11.2**	**+2.1**
COLC	**Colonia**	**6.85**	**120**	*eP*	**Pn**	**12 28 12.7**	**+3.5**
CUI	**Cuipilapa**	**6.89**	**120**	*eP*	**Pn**	**12 28 12.2**	**+2.5**
PLVR	**Palo Verde**	**6.90**	**123**	*eP*	**Pn**	**12 28 12.5**	**+2.6**
ACAL	**Aguas Claras**	**7.01**	**119**	*eP*	**Pn**	**12 28 14.8**	**+3.5**
ACAL				*eS*	**Sn**	**12 29 33.2**	**+3.5**
PTEN	**Parque Tenorio**	**7.01**	**118**	*eP*	**Pn**	**12 28 14.7**	**+3.3**
ESPN	**Las Esperanzas**	**7.05**	**105**	*eP*	**Pn**	**12 28 13.0**	**+1.2**
ESPN	**Las Esperanzas**	**7.05**	**105**	Pn	**Pn**	**12 28 13.0**	**+1.2**
JTS	**Las Juntas de**	**7.26**	**121**	P	**Pn**	**12 28 12.8**	**-1.9**
	comp=Z,1.6nm,0.3s,baz=2.9,slow=14,SNR=4.1						
JTS				S	**Sn**	**12 29 36.6**	**+1.0**
	comp=Z,4.0nm,0.3s,baz=255,slow=20,SNR=0.6						
JTS	**Las Juntas de**	**7.26**	**121**	*eP*	**Pn**	**12 28 17.2**	**+2.5**
JTS	**Las Juntas de**	**7.26**	**121**	Pn	**Pn**	**12 28 17.0**	**+2.3**
ARE1	**Arenal 1**	**7.36**	**119**	*eP*	**Pn**	**12 28 20.6**	**+4.4**
CEDE	**Laguna Cedeo**	**7.36**	**119**	*eP*	**Pn**	**12 28 19.9**	**+3.7**
TLIG	**Tlapa**	**7.81**	**297**	Pn	**Pn**	**12 28 23.8**	**+1.4**
HDC	**Heredia**	**8.11**	**120**	Pn	**Pn**	**12 28 28.6**	**+2.1**
LCR2	**La Lucha 2**	**8.34**	**121**	*eP*	**Pn**	**12 28 32.7**	**+3.0**
EDDO	**Dominical**	**8.72**	**123**	*eP*	**Pn**	**12 28 38.2**	**+3.5**
EDPN	**Palmar Norte**	**9.21**	**123**	*eP*	**Pn**	**12 28 45.6**	**+4.1**
MOIG	**Morelia**	**10.98**	**301**	Pn	**Pn**	**12 29 09.1**	**+3.4**
BCIP	**Isla Barro Col**	**12.23**	**113**	Pn	**Pn**	**12 29 24.2**	**+1.6**
ZAIG	**Zacatecas**	**13.73**	**310**	Pn	**Pn**	**12 29 44.5**	**+1.5**
MTDJ	**Mount Denham**	**13.79**	**71**	Pn	**Pn**	**12 29 44.2**	**+0.7**
PAYG	**Puerto Ayora**	**14.76**	**176**		**P**	**12 30 02.6**	**+2.2**
735A	**Kenedy**	**15.85**	**338**	Pn	**Pn**	**12 30 11.0**	**+1.0**
735A				IAmb	IAmb	12 30 14.2	
	comp=Z,126nm,1.2s						
833A	**Chaparral WMA,**	**16.01**	**333**	P	**P**	**12 30 13.3**	**-0.8**
	baz=150,SNR=5.1						
833A	**Chaparral WMA,**	**16.01**	**333**		**P**	**12 30 13.4**	**-0.8**
SJCC	**San Jacinto, C**	**16.28**	**103**	*eP*	**Pn**	**12 30 14.6**	**-1.0**
HKT	**Hockley**	**16.28**	**346**	Pn	**Pn**	**12 30 15.7**	**+0.3**
060A	**Indiantown**	**16.37**	**37**	P	**P**	**12 30 17.4**	**-0.8**
GTBY	**Guantanamo Bay**	**16.47**	**67**	P	**P**	**12 30 19.7**	**+0.4**
GTBY				IAmb	IAmb	12 30 45.2	
	comp=Z,70nm,1.0s						
CBOC	**Ciudad Bolivar**	**17.11**	**117**	*eP*	**P**	**12 30 28.9**	**+2.2**
553A	**Crawfordville**	**17.16**	**20**	P	**P**	**12 30 29.1**	**+2.2**
656A	**Williston**	**17.16**	**27**	P	**P**	**12 30 27.5**	**+0.5**
PLMC	**San Jos del P**	**17.38**	**120**	*eP*	**P**	**12 30 31.1**	**+1.5**
ZARC	**Zaragoza, Cauc**	**17.40**	**111**	*eP*	**Pn**	**12 30 28.9**	**-0.6**
435B	**Jarrell**	**17.55**	**342**	P	**P**	**12 30 32.8**	**+1.6**
	baz=159						
SMLC	**San Martn de**	**17.65**	**106**	*eP*	**Pn**	**12 30 31.4**	**-1.1**
NATX	**Nacogdoches**	**17.81**	**350**	P	**Pn**	**12 30 34.4**	**+0.2**
	baz=189						
NATX	**Nacogdoches**	**17.81**	**350**	IAmb	IAmb	12 30 52.8	
	comp=Z,150nm,1.3s						
YOTC	**Yotoco, Valle**	**17.84**	**123**	*eP*	**Pn**	**12 30 36.1**	**+1.2**
GUY2C	**Guyana, Caldas**	**17.99**	**118**	*eP*	**Pn**	**12 30 37.9**	**+0.9**
VBMS	**Vicksburg**	**18.00**	**2**	P	**Pn**	**12 30 39.3**	**+2.7**
	baz=182						
VBMS	**Vicksburg**	**18.00**	**2**	P	**Pn**	**12 30 37.9**	**+1.3**
JCT	**Junction City**	**18.06**	**336**	P	**Pn**	**12 30 39.2**	**+1.8**
	baz=152,SNR=11						
PTBC	**PUERTO BERRIO,**	**18.16**	**113**	*eP*	**Pn**	**12 30 39.1**	**+0.4**
RREF	**El Recreo**	**18.17**	**119**	*eP*	**Pn**	**12 30 41.6**	**+2.2**
NORC	**Norcasia**	**18.25**	**116**	*eP*	**Pn**	**12 30 39.9**	**+0.1**
237A	**Washetta, Mont**	**18.25**	**348**	P	**Pn**	**12 30 41.1**	**+1.4**
237A				IAmb	IAmb	12 31 04.2	
	comp=Z,67nm,1.1s						
ANIL	**Santa Ana**	**18.34**	**120**	*eP*	**Pn**	**12 30 43.4**	**+2.3**
TOLC	**Tolima**	**18.36**	**120**	*eP*	**Pn**	**12 30 43.7**	**+2.3**
143A	**Socs Landing,**	**18.47**	**360**	P	**Pn**	**12 30 42.3**	**+0.1**
143A				IAmb	IAmb	12 30 46.9	
	comp=Z,154nm,1.2s						
TIGA	**Tifton**	**18.59**	**21**	P	**Pn**	**12 30 44.5**	**+0.8**
	baz=204						
WHTX	**Lake Whitney,**	**18.65**	**343**	P	**Pn**	**12 30 44.6**	**+0.2**
	baz=161						
WHTX	**Lake Whitney,**	**18.65**	**343**	IAmb	IAmb	12 30 59.0	
	comp=Z,54nm,0.5s						
ORTC	**Ortega, Tolima**	**18.78**	**121**	*eP*	**Pn**	**12 30 47.7**	**+1.4**
PCON	**Cinco Dias**	**18.80**	**127**	*eP*	**Pn**	**12 30 47.2**	**+0.3**
MARP	**Paez Belalcaza**	**18.83**	**125**	*eP*	**Pn**	**12 30 48.8**	**+1.8**
TXAR	**Lajitas Array**	**18.98**	**325**	P	**Pn**	**12 30 48.7**	**+0.2**
	comp=Z,2.5nm,0.3s,baz=148,slow=12,SNR=41						
TXAR				PcP	**PcP**	**12 35 11.8**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=156,slow=3.6,SNR=4.6						
TXAR				ScP	**ScP**	**12 38 42.5**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=157,slow=6.8,SNR=4.5						
TXAR	**Lajitas Array**	**18.98**	**325**	P	**Pn**	**12 30 49.0**	**+0.5**
TX31	**Lajitas Ar. Si**	**18.98**	**325**	P	**Pn**	**12 30 49.1**	**+0.6**
TX31				IAmb	IAmb	12 31 43.5	
	comp=Z,62nm,1.1s						
Z41A	**Richland Creek**	**19.08**	**356**	P	**Pn**	**12 30 49.2**	**-0.3**
	baz=175						
Z41A	**Richland Creek**	**19.08**	**356**	P	**Pn**	**12 30 49.1**	**-0.3**
Z41A				IAmb

W41B **Gary Mavity, V** 20.95 358 P P 12 31 09.2 +0.9
baz=177,SNR=15
W41B **Gary Mavity, V** 20.95 358 IAmb IAmb 12 31 31.1
comp=Z,66nm,1.2s
WHAR **Wooly Hollow** 21.07 358 IAmb IAmb 12 31 42.0
comp=Z,50nm,1.1s
W39A **Magazine** 21.08 354 P P 12 31 10.8 +1.1
baz=173,SNR=7.3
X51A **Calhoun** 21.14 15 IAmb IAmb 12 31 19.7
comp=Z,71nm,0.8s
X34A **Smith Ranch, M** 21.21 345 P P 12 31 12.4 +1.3
X34A IAmb IAmb 12 31 48.1
comp=Z,119nm,1.3s
Z57A **Bowman** 21.34 25 P P 12 31 14.2 +1.7
baz=209
LPAR **Lepanto** 21.38 2 P P 12 31 14.2 +1.4
NHSC **New Hope** 21.40 26 P P 12 31 14.4 +1.4
baz=210
NHSC **New Hope** 21.40 26 P P 12 31 13.6 +0.6
Y55A **Saluda** 21.46 22 P P 12 31 15.8 +2.0
baz=205,SNR=6.8
SWET **Sewanee** 21.52 12 IAmb IAmb 12 31 42.3
comp=Z,46nm,0.8s
HODGE **Hodges** 21.59 21 IAmb IAmb 12 31 33.3
comp=Z,93nm,1.3s
WMOK **Wichita Mounta** 21.60 343 P P 12 31 15.5 +0.2
baz=160,SNR=16
W50A **Signal Mountai** 21.64 13 IAmb IAmb 12 31 35.0
comp=Z,52nm,0.8s
FCAR **Ozark Folk Cen** 21.66 358 IAmb IAmb 12 31 18.6
comp=Z,31nm,0.5s
MNTX **Cornudas Mount** 21.74 326 P P 12 31 18.0 +1.2
baz=140,SNR=38
MNTX **Cornudas Mount** 21.74 326 P P 12 31 17.9 +1.1
MNTX IAmb IAmb 12 31 21.0
comp=Z,96nm,1.7s
LCAR **Lake Charles** 21.83 0 IAmb IAmb 12 31 44.9
comp=Z,37nm,0.7s
X54A **Belton** 21.84 20 P P 12 31 18.7 +0.9
baz=204,SNR=16
JSC **Jenkinsville** 21.99 23 P P 12 31 20.8 +1.3
X55A **Gracelyn & Ava** 22.02 22 P P 12 31 20.8 +1.0
baz=205,SNR=9.7
TUL1 **Leonard** 22.05 350 P P 12 31 21.3 +1.2
baz=168
TUL1 **Leonard** 22.05 350 P 12 31 20.9 +0.8
TUL1 IAmb IAmb 12 31 42.7
comp=Z,34nm,0.8s
CPCT **Cooper Cave** 22.06 15 IAmb IAmb 12 31 40.6
comp=Z,97nm,1.1s
BG3 **Lake Jocassee** 22.07 18 IAmb IAmb 12 31 40.0
comp=Z,68nm,1.2s
Y57A **Sumter** 22.10 25 P P 12 31 21.5 +1.0
baz=209,SNR=6.9
WVT **Waverly** 22.10 7 P P 12 31 21.0 +0.3
baz=189
WVT **Waverly** 22.10 7 P P 12 31 20.9 +0.3
U40A **Yellville** 22.16 357 P P 12 31 22.2 +0.9
baz=176,SNR=39
U40A **Yellville** 22.16 357 IAmb IAmb 12 31 23.1
comp=Z,35nm,0.5s
X56A **White Oak** 22.27 23 P P 12 31 23.9 +1.5
baz=207,SNR=14
PAULI **Pauline** 22.28 21 P P 12 31 22.9 +0.4
PAULI IAmb IAmb 12 31 41.9
comp=Z,113nm,1.3s
CLTN **Cedars of Leba** 22.29 11 IAmb IAmb 12 31 33.2
comp=Z,46nm,1.0s
MSTX **Muleshoe** 22.33 334 P P 12 31 22.7 -0.4
baz=149,SNR=14
W54A **Cherokee Point** 22.39 20 P P 12 31 24.6 +0.8
baz=203,SNR=16
V51A **Loudon** 22.44 15 IAmb IAmb 12 31 54.0
comp=Z,83nm,1.3s
TKL **Tuckaleechee C** 22.45 16 P P 12 31 25.5 +1.2
comp=Z,31nm,0.5s,baz=181,slow=8.9,SNR=74
BIRD **Birdtown, Kers** 22.62 24 P P 12 31 26.3 +0.2
BIRD IAmb IAmb 12 31 49.1
comp=Z,119nm,1.5s
AMTX **Amarillo** 22.69 337 P P 12 31 26.9 -0.1
baz=153
AMTX **Amarillo** 22.69 337 IAmb IAmb 12 31 54.0
comp=Z,62nm,1.0s
Y59A **Loris** 22.72 27 P P 12 31 27.3 +0.1
baz=212
KMSC **Kings Mountain** 22.74 21 P P 12 31 28.3 +0.9
baz=205,SNR=12
KMSC **Kings Mountain** 22.74 21 IAmb IAmb 12 31 47.5
comp=Z,72nm,0.9s
U49A **Red Boiling Sp** 22.80 11 IAmb IAmb 12 31 55.4
comp=Z,67nm,1.0s
T45A **Paducah** 22.90 5 P P 12 31 29.1 +0.2
X58A **Rowland** 23.00 26 P P 12 31 29.9 -0.1
baz=211
X58A **Rowland** 23.00 26 P P 12 31 30.3 +0.3
W56A **Indian Trail** 23.00 23 P P 12 31 30.5 +0.4
baz=207,SNR=16
V54A **Nebo** 23.10 20 P P 12 31 32.1 +0.9
baz=203,SNR=18
W57A **Gilead** 23.25 24 P P 12 31 32.5 +0.1
baz=208,SNR=11
TZTN **Tazewell** 23.34 16 P P 12 31 33.8 +0.5
baz=199,SNR=14
TZTN **Tazewell** 23.34 16 IAmb IAmb 12 32 02.4
comp=Z,58nm,0.8s
V55A **Taylorsville** 23.42 21 P P 12 31 34.8 +0.7
baz=205,SNR=16
V55A **Taylorsville** 23.42 21 IAmb IAmb 12 31 56.9
comp=Z,70nm,1.1s
W58A **Raeford** 23.44 25 P P 12 31 34.6 +0.4
baz=210,SNR=6.3
T50A **Nancy** 23.49 13 IAmb IAmb 12 32 00.2
comp=Z,42nm,0.9s
HSIG 23.49 312 P P 12 31 35.5 +0.7
SRIG **Santa Rosalia** 23.55 307 P P 12 31 36.4 +1.1
SRIG IAmb IAmb 12 32 08.9
comp=Z,51nm,1.3s
X60A **Albert Glenn T** 23.62 28 P P 12 31 36.1 +0.3
baz=214
V56A **Mocksville** 23.64 22 P P 12 31 36.3 +0.3
baz=207,SNR=16
121A **Cookes Peak, D** 23.71 323 P P 12 31 39.4 +2.5
baz=136,SNR=18
121A **Cookes Peak, D** 23.71 323 P P 12 31 38.7 +1.7
121A IAmb IAmb 12 31 42.4
comp=Z,69nm,1.2s
CCM **Cathedral Cave** 23.81 0 P P 12 31 37.7 +0.1
U54A **Nelsons Funny** 23.83 19 P P 12 31 38.4 +0.6
baz=203,SNR=27
V57A **Coltrane Farms** 23.98 23 P P 12 31 39.3 +0.3
baz=208,SNR=22
T53A **Wise** 24.04 17 P P 12 31 40.1 +0.5
baz=201,SNR=6.9
R40A **Maddies Statio** 24.06 358 IAmb IAmb 12 31 42.2
comp=Z,54nm,0.8s
U55A **TA2, Sparta** 24.06 20 P P 12 31 40.4 +0.5
baz=205,SNR=21
W60A **Pink Hill** 24.13 28 P P 12 31 40.8 +0.4
baz=214
U56A **King** 24.16 22 P P 12 31 41.4 +0.7
baz=206,SNR=10
U56A **King** 24.16 22 IAmb IAmb 12 32 07.7
comp=Z,56nm,1.0s
V58A **Windy Hill, Pi** 24.16 25 P P 12 31 40.8 +0.1
baz=210,SNR=27
S51A **Beattyville** 24.37 15 IAmb IAmb 12 32 11.6
comp=Z,91nm,1.2s
WCI **Wyandotte Cave** 24.39 9 P P 12 31 42.6 -0.1
baz=192
WCI **Wyandotte Cave** 24.39 9 P P 12 31 42.5 -0.2
T54A **Tazewell** 24.40 19 P P 12 31 43.4 +0.4
baz=203,SNR=7.0
SLM **Saint Louis** 24.41 2 P P 12 31 43.2 +0.3
V59A **Middlesex** 24.50 26 P P 12 31 43.8 +0.1
baz=212,SNR=12
W61A **Ground Anchor** 24.57 29 P P 12 31 45.7 +1.3
baz=215
U57A **Blanch** 24.62 24 P P 12 31 45.5 +0.6
baz=208,SNR=29
R49A **Shelbyville** 24.64 12 IAmb IAmb 12 32 13.9
comp=Z,57nm,0.9s
OLIL **Olney** 24.65 6 IAmb IAmb 12 32 10.9
comp=Z,68nm,0.9s
ATAH **Atahualpa** 24.70 148 P P 12 31 48.5 +2.3
comp=Z,20nm,0.7s,baz=351,slow=4.2,SNR=11
ATAH LR LR 12 38 55.2
comp=Z,240nm,21.4s,baz=324,slow=30

T55A **Pulaski** 24.71 20 P P 12 31 46.1 +0.4
baz=205
Q44A **Meyer Farm, Va** 24.74 4 IAmb IAmb 12 32 07.7
comp=Z,76nm,1.0s
S53A **Williamson** 24.80 17 P P 12 31 46.8 +0.2
baz=201
R50A **Paris** 24.81 13 IAmb IAmb 12 32 17.1
comp=Z,56nm,1.1s
ANMO **Albuquerque** 24.84 329 P P 12 31 48.2 +1.1
baz=143
ANMO **Albuquerque** 24.84 329 P P 12 31 49.2 +2.1
comp=Z,2.9nm,0.6s,baz=144,slow=12,SNR=15
ANMO **Albuquerque** 24.84 329 P P 12 31 48.1 +1.0
ANMO pP 12 31 49.4 -15
T56A **Rocky Mt** 24.89 22 P P 12 31 47.8 +0.4
baz=206,SNR=5.8
U58A **Oxford** 24.90 25 P P 12 31 47.2 -0.2
baz=203,SNR=7.0
BLA **Blacksburg** 24.92 21 P P 12 31 47.8 +0.1
baz=205
BLA **Blacksburg** 24.92 21 P P 12 31 48.1 +0.4
BLA IAmb IAmb 12 32 19.1
comp=Z,84nm,1.1s
V60A **Jim Taylor Roa** 24.93 28 P P 12 31 46.5 -1.2
baz=214
V60A **Jim Taylor Roa** 24.93 28 P P 12 31 47.3 -0.3
V60A IAmb IAmb 12 32 16.9
comp=Z,49nm,1.1s
MTP **Monte Pirata** 24.99 78 P P 12 31 46.1 -2.3
R32A **Long Quarter,** 25.06 346 P 12 31 48.5 -0.5
T57A **Hurt** 25.15 23 P P 12 31 50.1 +0.4
baz=208,SNR=12
T57A **Hurt** 25.15 23 P P 12 31 49.5 -0.3
T57A IAmb IAmb 12 32 17.9
comp=Z,60nm,1.3s
S54A **Dingess, Beckl** 25.16 19 P P 12 31 49.9 +0.1
baz=203,SNR=5.3
S54A **Dingess, Beckl** 25.16 19 IAmb IAmb 12 32 18.0
comp=Z,34nm,0.8s
U59A **Littleton** 25.18 26 P P 12 31 49.4 -0.6
baz=212
U59A **Littleton** 25.18 26 P P 12 31 50.0 -0.1
V61A **Roper** 25.26 29 P P 12 31 51.0 +0.3
baz=215
P40A **Paris** 25.29 359 IAmb IAmb 12 31 53.2
comp=Z,33nm,0.8s
T58A **Grand View Acr** 25.39 24 P P 12 31 51.7 -0.2
baz=210,SNR=7.0
S55A **Lewisburg** 25.40 20 P P 12 31 52.4 +0.4
baz=205
R53A **Hurricane** 25.46 17 P P 12 31 52.9 +0.4
baz=201
R53A **Hurricane** 25.46 17 P 12 31 53.0 +0.4
R53A IAmb IAmb 12 32 15.3
comp=Z,53nm,1.1s
U60A **Pendleton** 25.56 27 P P 12 31 53.6 +0.2
baz=213,SNR=6.0
R54A **Victor** 25.61 19 P P 12 31 54.2 +0.3
baz=203
S56A **Natural Bridge** 25.64 22 P P 12 31 53.7 -0.4
baz=207
CBKS **Cedar Bluff** 25.69 345 P P 12 31 55.7 +1.1
T25A **Trinidad** 25.73 335 P P 12 31 56.4 +1.2
baz=149
T25A **Trinidad** 25.73 335 P P 12 31 56.6 +1.4
P48A **Milroy** 25.73 10 IAmb IAmb 12 32 29.4
comp=Z,56nm,1.0s
T59A **Double "B" Far** 25.81 26 P P 12 31 55.9 +0.2
baz=212,SNR=15
T59A **Double "B" Far** 25.81 26 IAmb IAmb 12 31 57.5
comp=Z,43nm,0.7s
S57A **Dark Hollow, R** 25.93 23 P P 12 31 57.1 +0.3
baz=208
S57A **Dark Hollow, R** 25.93 23 IAmb IAmb 12 32 56.4
comp=Z,46nm,1.4s
Q52A **Bidwell** 25.96 16 P P 12 31 57.3 +0.3
baz=200,SNR=6.9
R55A **Marlinton** 25.99 20 P P 12 31 57.9 +0.6
baz=205
R55A **Marlinton** 25.99 20 IAmb IAmb 12 32 28.3
comp=Z,69nm,1.1s
Q53A **Leroy** 26.07 17 P P 12 31 58.4 +0.3
baz=202,SNR=6.4
S58A **Poland Farm, P** 26.16 24 P P 12 31 58.8 0.0
baz=210
S58A **Poland Farm, P** 26.16 24 IAmb IAmb 12 32 26.2
comp=Z,64nm,1.4s
T60A **Surry** 26.30 27 P P 12 32 00.4 +0.2
baz=213
T60A **Surry** 26.30 27 P P 12 32 00.3 +0.2
SFIN **Lafayette** 26.38 7 P P 12 32 00.9 +0.1
baz=189
Q54A **Coxs Mills** 26.39 18 P P 12 32 01.4 +0.5
baz=203,SNR=11
Q54A **Coxs Mills** 26.39 18 P P 12 32 01.3 +0.3
Q54A IAmb IAmb 12 32 31.2
comp=Z,42nm,0.9s
214A **Organ Pipe Nat** 26.51 316 P P 12 32 01.9 -0.2
baz=127
O48A **Farmland** 26.55 10 P P 12 32 02.4 0.0
baz=193
R57A **Stanardsville** 26.57 23 P P 12 32 02.9 +0.4
baz=208,SNR=9.3
S59A **Mechanicsville** 26.59 25 P P 12 32 02.6 -0.1
baz=211
N38A **Joe South For** 26.60 357 IAmb IAmb 12 32 06.1
comp=Z,40nm,0.8s
P52A **Corning** 26.62 16 P P 12 32 03.2 +0.2
baz=200
Q55A **Buckhannon** 26.64 20 P P 12 32 03.6 +0.4
baz=205
P53A **Whipple** 26.69 17 P P 12 32 04.0 +0.4
baz=202
W18A **Petrified Fore** 26.71 325 P P 12 32 06.4 +2.4
baz=137
R58A **Rapidan** 26.77 24 P P 12 32 04.4 0.0
baz=209
S60A **Water View** 26.81 26 P P 12 32 05.2 +0.5
baz=213
ACSO **Alum Creek Sta** 26.98 14 P P 12 32 06.1 -0.1
baz=198,SNR=5.9
ACSO **Alum Creek Sta** 26.98 14 P P 12 32 06.5 +0.3
Q56A **Snyder Ridge,** 26.99 21 P P 12 32 07.3 +1.0
baz=206
O51A **Pataskala** 26.99 15 P P 12 32 06.5 +0.2
baz=198
R59A **King George, V** 27.04 25 P P 12 32 06.3 -0.4
baz=211
P54A **Burton** 27.07 19 P P 12 32 07.2 +0.1
baz=203,SNR=5.6
O52A **Adamsville** 27.16 16 P P 12 32 08.1 +0.3
baz=200
O52A **Adamsville** 27.16 16 IAmb IAmb 12 32 33.9
comp=Z,75nm,1.1s
P55A **Rendville** 27.19 20 P P 12 32 08.6 +0.4
baz=205
S61A **Accomac** 27.23 28 P P 12 32 08.9 +0.5
baz=214
Q57A **Strasburg** 27.26 22 P P 12 32 09.5 +0.7
baz=208
S22A **4UR Ranch, Cre** 27.28 332 P P 12 32 10.1 +0.8
baz=145
R60A **Leonardtown, M** 27.32 26 P P 12 32 09.7 +0.5
baz=212
Q58A **Fox Den Farm,** 27.45 23 P P 12 32 10.0 -0.4
baz=209
O53A **New Philadelph** 27.45 17 P P 12 32 10.6 +0.2
baz=201
P56A **Dayton Farm, R** 27.52 21 P P 12 32 11.7 +0.7
baz=207
O54A **Avella** 27.63 18 P P 12 32 11.6 -0.4
baz=203,SNR=8.5
O54A **Avella** 27.63 18 IAmb IAmb 12 32 13.8
comp=Z,23nm,0.5s
MVCO **Mesa Verde** 27.64 329 P P 12 32 13.8 +1.4
baz=142
P57A **Homestead Farm** 27.80 22 P P 12 32 14.4 +0.9
baz=208,SNR=6.9
P57A **Homestead Farm** 27.80 22 P P 12 32 14.6 +1.1
P57A IAmb IAmb 12 32 15.6
comp=Z,19nm,0.6s
L40A **Anamosa** 27.81 0 P P 12 32 14.3 +0.6
L40A IAmb IAmb 12 32 38.4
comp=Z,45nm,1.1s
N52A **McGinn's Farm,** 27.85 16 P P 12 32 14.3 +0.3
baz=200
Y14A **Wickenburg** 27.87 319 P P 12 32 15.9 +1.6

WUAZ **Wupatki** 27.93 323 P P 12 32 17.2 +2.2
baz=134,SNR=12
WUAZ **Wupatki** 27.93 323 P P 12 32 16.8 +1.9
O55A **Ligonier** 27.99 20 P P 12 32 14.6 -0.7
baz=205
P58A **Pank, Wackersv** 28.07 23 P P 12 32 15.7 -0.3
baz=210
N53A **Lisbon** 28.07 17 P P 12 32 16.0 0.0
baz=202
N53A **Lisbon** 28.07 17 IAmb IAmb 12 32 43.9
comp=Z,34nm,1.0s
L44A **Lake County Fo** 28.08 5 P P 12 32 16.0 0.0
baz=187
O56A **Blue Knob Stat** 28.30 21 P P 12 32 18.5 +0.5
baz=206
L48A **N Adams** 28.32 11 IAmb IAmb 12 33 02.5
comp=Z,26nm,0.7s
PV01 **Paradox Valley** 28.40 330 P P 12 32 21.3 +2.1
N54A **Moraine State** 28.46 18 P P 12 32 19.4 -0.1
baz=203,SNR=8.4
N54A **Moraine State** 28.46 18 IAmb IAmb 12 32 20.9
comp=Z,22nm,0.6s
P59A **Jarrettsville** 28.52 24 P P 12 32 20.1 +0.2
baz=211
GLA **Glamis** 28.53 315 P P 12 32 20.9 +0.7
baz=126
GLA **Glamis** 28.53 315 P P 12 32 21.4 +1.2
O57A **Amberson** 28.58 22 P P 12 32 20.3 -0.2
baz=208
N55A **Marion Center** 28.61 20 P P 12 32 21.0 +0.2
baz=205
JFWS **Jewell Farm** 28.68 2 P P 12 32 22.8 +1.5
baz=182
JFWS **Jewell Farm** 28.68 2 IAmb IAmb 12 33 11.7
comp=Z,21nm,0.8s
M53A **WI Miller and** 28.71 17 P P 12 32 21.7 0.0
baz=202
M53A **WI Miller and** 28.71 17 P P 12 32 21.6 0.0
M53A IAmb IAmb 12 32 48.2
comp=Z,32nm,0.9s
L50A **Kingsville** 28.74 13 P P 12 32 22.0 +0.1
baz=197
O58A **Lewisberry** 28.77 23 P P 12 32 22.3 +0.2
baz=210
SSPA **Standing Stone** 28.86 21 P P 12 32 23.2 +0.3
K47A **Vermontville** 28.93 10 P P 12 32 22.5 -1.1
baz=192
N56A **West Decatur** 28.97 21 P P 12 32 23.8 -0.2
baz=206
P60A **Greenville** 29.01 25 P P 12 32 24.2 -0.1
baz=212
M54A **Oil Creek Stat** 29.06 18 P P 12 32 24.5 -0.3
baz=203
N57A **Milroy** 29.09 22 P P 12 32 24.7 -0.3
baz=208
SWSC **Sam W. Stewart** 29.14 314 P P 12 32 27.9 +2.4
baz=124
W13A **Hualapai Mount** 29.17 320 P P 12 32 27.8 +1.7
IKP **In-Ko-Pah, Jac** 29.19 313 P P 12 32 27.7 +1.6
baz=123
O59A **Robesonia** 29.21 24 P P 12 32 26.0 -0.1
baz=211
L53A **Girard** 29.30 17 P P 12 32 26.7 -0.2
baz=202
BC3 **Big Chuckawall** 29.31 316 P P 12 32 29.4 +2.3
baz=126,SNR=11
M55A **Ridgway** 29.31 19 P P 12 32 27.6 +0.7
baz=205
IRM **Iron Mountain** 29.40 317 P P 12 32 27.8 -0.1
baz=127,SNR=10
M56A **Emporium** 29.51 20 P P 12 32 28.7 -0.1
baz=206,SNR=5.4
M56A **Emporium** 29.51 20 IAmb IAmb 12 32 57.8
comp=Z,29nm,1.0s
MONP2 **Monument Peak** 29.55 313 P P 12 32 28.9 -0.5
baz=123
M57A **Sunshine Farm,** 29.75 22 P P 12 32 31.1 +0.3
baz=208,SNR=7.4
M57A **Sunshine Farm,** 29.75 22 IAmb IAmb 12 32 59.1
comp=Z,27nm,0.9s
J48A **Bridge Port** 29.75 11 P P 12 32 30.5 -0.3
baz=194
L54A **Sinclairville** 29.83 18 P P 12 32 31.7 +0.1
baz=204
ECSD **EROS Data Cent** 29.84 352 P P 12 32 31.7 +0.1
baz=169
BELC **Belle Mtn. Jos** 29.88 316 P P 12 32 33.5 +1.2
baz=125
N59A **State Game Lan** 29.90 24 P P 12 32 32.4 +0.2
baz=211
N59A **State Game Lan** 29.90 24 IAmb IAmb 12 32 33.7
comp=Z,12nm,0.6s
J49A **Marlette** 29.93 12 P P 12 32 31.7 -0.8
baz=196
PFO **Pinyon Flats O** 29.97 315 PcP PcP 12 35 35.5 +1.4
comp=Z,1.1nm,0.6s,baz=197,slow=19,SNR=3.6
PFO **Pinyon Flats O** 29.97 315 P P 12 32 34.4 +1.4
M58A **Price's Panora** 30.02 23 P P 12 32 33.2 -0.1
baz=210
L55A **Hinsdale** 30.06 19 P P 12 32 33.6 0.0
baz=205
I46A **Reed City** 30.11 8 P P 12 32 34.2 +0.3
baz=191
GMRC **Granite Mounta** 30.11 317 P P 12 32 35.9 +1.6
baz=127
N60A **Cedar Hill Far** 30.12 25 P P 12 32 34.2 +0.1
baz=212,SNR=5.3
BRNJ **Basking Ridge** 30.19 26 IAmb IAmb 12 33 03.5
comp=Z,34nm,1.0s
WVNY **West Valley, N** 30.21 19 IAmb IAmb 12 33 30.1
comp=Z,41nm,1.2s
BBSR **BB Station** 30.27 49 P P 12 32 36.3 +0.8
BBSR IAmb IAmb 12 33 03.8
comp=Z,36nm,0.9s
L56A **Greenwood** 30.30 20 P P 12 32 36.2 +0.4
baz=207
N61A **South Mountain** 30.36 26 P P 12 32 36.6 +0.4
baz=214
K54A **Basiliko Farm,** 30.36 19 P P 12 32 36.1 -0.2
baz=204
L57A **Andrews Acres** 30.43 21 P P 12 32 36.3 -0.6
baz=208
J52A **Paris** 30.44 16 P P 12 32 36.3 -0.6
baz=201
MURC **Murrieta** 30.48 314 P P 12 32 39.5 +2.1
baz=123
CCUT **Cedar City** 30.49 324 P P 12 32 39.3 +1.6
M59A **Waymart** 30.56 24 P P 12 32 38.1 0.0
baz=211,SNR=7.5
HEC **Hector,Ludlow** 30.59 317 P P 12 32 39.2 +0.7
baz=126
K55A **Perry** 30.67 19 P P 12 32 39.2 +0.2
baz=206
TUQ **Turquoise Moun** 30.68 318 P P 12 32 40.9 +1.6
baz=127
M60A **Port Jervis** 30.70 25 P P 12 32 39.6 +0.3
baz=213
MMNY **Mt. Morris Dam** 30.72 19 IAmb IAmb 12 33 08.4
comp=Z,29nm,1.1s
H46A **Fife Lake** 30.73 8 P P 12 32 39.6 +0.2
baz=191
PAL **Palisades** 30.74 26 P P 12 32 39.5 0.0
baz=214
I51A **Listowel** 30.83 15 P P 12 32 40.2 -0.1
baz=199
L58A **Harry Jones Me** 30.83 23 P P 12 32 40.5 0.0
baz=210
SHPR **Sheep Range** 30.86 320 P P 12 32 42.4 +1.5
K56A **Middlesex** 30.88 20 P P 12 32 40.9 +0.1
baz=207,SNR=6.6
BINY **Binghamton** 30.92 22 P P 12 32 41.1 0.0
baz=210,SNR=6.3
BINY **Binghamton** 30.92 22 IAmb IAmb 12 33 09.3
comp=Z,22nm,0.8s
J54A **Appleton** 30.98 18 P P 12 32 42.0 +0.3
baz=204
SPMN **Marine on St.** 31.00 358 P P 12 32 42.1 +0.3
baz=177
SPMN **Marine on St.** 31.00 358 P P 12 32 41.6 -0.2
M61A **Granite Spring** 31.05 26 P P 12 32 42.4 +0.1
baz=214
WSPT **Westport, CT** 31.12 27 P P 12 32 42.6 -0.3
WSPT IAmb IAmb 12 32 45.5
comp=Z,23nm,0.6s
BFSC **Mount Baldy Ra** 31.15 315 P P 12 32 44.8 +1.4
baz=123
G45A **Suttons Bay** 31.16 8 P P 12 32 43.6 +0.4
baz=190

GSC **Goldstone, Bar** 31.18 317 P P 12 32 44.8 +1.2
baz=126
GSC **Goldstone, Bar** 31.18 317 P P 12 32 45.1 +1.5
K57A **Scipio Center** 31.19 21 P P 12 32 44.0 +0.4
baz=208
J55A **Hilton** 31.23 19 P P 12 32 44.2 +0.4
baz=206
L59A **Walton** 31.27 24 P P 12 32 44.2 0.0
baz=211,SNR=6.1
L59A **Walton** 31.27 24 P P 12 32 44.3 0.0
L59A IAmb IAmb 12 32 47.3
comp=Z,22nm,0.8s
I52A **Shelburne** 31.29 15 P P 12 32 44.4 +0.1
baz=201
FMP **Fort Macarthur** 31.31 313 P P 12 32 45.0 +0.3
baz=122
K22A **Casper** 31.31 338 P P 12 32 45.5 +0.7
baz=150
N63A **Mattituck** 31.33 28 P P 12 32 44.6 -0.1
baz=217
MPU **Maple Canyon** 31.36 329 P P 12 32 46.1 +0.8
L60A **Shokan** 31.42 25 P P 12 32 45.7 +0.1
baz=213,SNR=6.2
KSCT **Kent School, K** 31.51 26 IAmb IAmb 12 32 49.4
comp=Z,29nm,0.8s
K58A **Earlville** 31.53 22 P P 12 32 46.5 -0.1
baz=210,SNR=12
M62A **Hamden** 31.53 27 P P 12 32 46.2 -0.4
baz=216
G47A **Hillman** 31.55 10 P P 12 32 47.5 +0.9
baz=194
J56A **Wolcott** 31.55 20 P P 12 32 46.6 -0.1
baz=207
EDW2 **Edwards Air Fo** 31.73 315 P P 12 32 50.1 +1.6
baz=124
TPNV **Topopah Spring** 31.82 320 P P 12 32 51.0 +1.6
baz=129
K59A **Cooperstown** 31.84 23 P P 12 32 49.0 -0.2
baz=211
FURC **Furnace Creek,** 31.91 319 P P 12 32 50.0 +0.1
baz=127
J57A **Williamstown** 31.97 21 P P 12 32 49.8 -0.5
baz=209,SNR=5.4
J57A **Williamstown** 31.97 21 IAmb IAmb 12 33 19.9
comp=Z,27nm,0.9s
MPMC **Manual Prospec** 32.07 318 P P 12 32 53.2 +1.6
baz=126
DUG **Dugway, Tooele** 32.09 328 P P 12 32 53.3 +1.7
baz=138
PECO **Prince Edward** 32.09 20 P P 12 32 51.3 -0.1
PECO IAmb IAmb 12 33 19.6
comp=Z,20nm,0.9s
I55A **Frankford** 32.13 18 P P 12 32 51.5 -0.2
baz=205,SNR=7.7
J58A **Remsen** 32.18 22 P P 12 32 52.1 -0.2
baz=210,SNR=6.0
J58A **Remsen** 32.18 22 IAmb IAmb 12 33 19.9
comp=Z,13nm,0.8s
H53A **Bobcaygeon** 32.19 17 P P 12 32 52.3 +0.1
baz=203,SNR=11
TRY **Troy** 32.27 25 IAmb IAmb 12 32 54.5
comp=Z,30nm,1.1s
R11A **Troy Canyon, C** 32.32 323 P P 12 32 56.4 +2.6
baz=132,SNR=15
K61A **Williamstown** 32.38 25 P P 12 32 54.4 +0.4
baz=214
DELO **Deloro Mine** 32.42 18 IAmb IAmb 12 33 19.3
comp=Z,34nm,1.2s
L61B **Northampton** 32.45 26 P P 12 32 54.1 -0.5
baz=215
F49A **Sandfield** 32.46 12 P P 12 32 54.0 -0.7
baz=197
ISA **Isabella, Lake** 32.49 316 P P 12 32 56.1 +0.9
I57A **Carthage** 32.55 21 P P 12 32 54.5 -1.0
baz=209
GRAC **Grapevine Rang** 32.55 319 P P 12 32 58.3 +2.7
baz=127,SNR=5.5
J59A **Piesco** 32.56 23 P P 12 32 55.5 -0.1
baz=211
J59A **Piesco** 32.56 23 IAmb IAmb 12 33 25.1
comp=Z,15nm,0.9s
I58A **Old Forge** 32.58 22 P P 12 32 55.6 -0.1
baz=210,SNR=13
H55A **Tweed** 32.59 19 P P 12 32 55.5 -0.2
baz=206
PD31 **Pinedale Array** 32.59 335 P P 12 32 56.8 +0.6
PDAR **Pinedale Array** 32.59 335 P P 12 32 55.8 -0.3
comp=Z,0.8nm,0.6s,baz=142,slow=11,SNR=5.8
PDAR PcP PcP 12 35 40.6 -0.4
comp=Z,1.1nm,0.5s,baz=156,slow=4.0,SNR=5.7
PDAR LR LR 12 49 59.5
comp=Z,62nm,20.3s,baz=148,slow=43
PDAR **Pinedale Array** 32.59 335 P P 12 32 56.7 +0.6
CWC **Cottonwood Cre** 32.68 318 P P 12 32 57.4 +0.5
baz=126
G53A **Haliburton** 32.68 17 P P 12 32 56.3 -0.3
baz=203
J60A **Lant Hill Farm** 32.80 24 P P 12 32 57.4 -0.2
baz=213
E47A **Iron Bridge** 32.90 10 P P 12 32 58.2 -0.2
baz=194
H56A **Elgin** 32.92 20 P P 12 32 58.5 -0.2
baz=207,SNR=6.5
HRV **Adam Dziewonsk** 32.98 27 P P 12 32 59.0 -0.2
baz=217
VES **Vestal, Richgr** 33.01 316 P P 12 33 00.4 +0.9
baz=124
I59A **Olmsteadville** 33.08 23 P P 12 32 59.9 -0.2
baz=212
G54A **Lake Saint Pet** 33.08 17 P P 12 32 59.7 -0.4
baz=204,SNR=6.5
F51A **Arnstein** 33.09 15 P P 12 33 00.2 +0.1
baz=200
NCB **Newcomb** 33.10 23 IAmb IAmb 12 33 30.2
comp=Z,12nm,0.8s
F52A **Sundridge** 33.12 15 P P 12 32 59.7 -0.6
baz=201
E48A **Lockeyer** 33.12 12 P P 12 33 00.1 -0.3
baz=196
K63A **Dunstable** 33.14 27 P P 12 33 01.0 +0.4
baz=217
D46A **Sault St. Mari** 33.20 9 P P 12 32 60.0 -1.1
baz=193
I60A **Shoreham** 33.35 24 P P 12 33 02.3 -0.1
baz=213,SNR=5.9
G55A **Calabogie** 33.36 19 P P 12 33 02.3 -0.2
baz=206
E50A **Wahnapitae** 33.37 13 P P 12 33 01.8 -0.7
baz=199
J62A **Henniker** 33.45 26 P P 12 33 02.9 -0.4
baz=216
H58A **Gabriels** 33.50 22 P P 12 33 03.3 -0.5
baz=211,SNR=6.0
D47A **Chapleau** 33.51 10 P P 12 33 03.0 -0.8
baz=194
LONY **Lake Ozonia** 33.52 22 P P 12 33 03.7 -0.3
baz=210,SNR=7.5
LONY **Lake Ozonia** 33.52 22 IAmb IAmb 12 33 23.9
comp=Z,26nm,1.1s
ALGO **Algonquin Park** 33.60 17 P P 12 33 04.3 -0.3
baz=203,SNR=10
REDW **Red Top Meadow** 33.62 334 IAmb IAmb 12 33 59.9
comp=Z,44nm,1.6s
SNOW **Snow King Moun** 33.66 334 IAmb IAmb 12 33 30.7
comp=Z,14nm,0.8s
EYMN **Ely** 33.70 360 P P 12 33 05.0 -0.4
baz=179
PAGB **Antelope Grade** 33.74 315 P P 12 33 07.5 +1.5
PAGB IAmb IAmb 12 33 11.5
comp=Z,23nm,1.2s
E52A **Mattawa** 33.74 16 P P 12 33 05.4 -0.4
baz=202
E51A **G1948 Merrick** 33.76 15 P P 12 33 05.2 -0.8
baz=201,SNR=7.6
G57A **Newington** 33.80 21 P P 12 33 05.9 -0.4
baz=209
I61A **Oroboro, Fairl** 33.86 25 P P 12 33 06.3 -0.5
baz=214
D48A **Paudash Townsh** 33.86 12 P P 12 33 06.1 -0.7
baz=196
H59A **Cadyville** 33.87 23 P P 12 33 06.5 -0.5
baz=212
NV11 **Mina Array Sit** 33.92 320 P P 12 33 09.3 +1.6
NV11 IAmb IAmb 12 33 13.3
comp=Z,22nm,1.1s
ORIO **Orleans, Innes** 33.93 20 P P 12 33 07.2 -0.2
baz=208
F55A **Otter Lake** 34.00 19 P P 12 33 07.5 -0.5
baz=206
NVAR **Mina Array Bea** 34.01 320 P P 12 33 11.8 +3.3
comp=Z,10nm,0.6s,baz=135,slow=8.1,SNR=104
NVAR PcP PcP 12 35 47.0 +1.9
comp=Z,4.5nm,0.7s,baz=126,slow=3.3,SNR=8.5
NVAR ScP ScP 12 39 25.8 +2.0
comp=Z,1.7nm,0.9s,baz=132,slow=3.6,SNR=5.9
NVAR LR LR 12 48 00.5
comp=Z,253nm,21.2s,baz=144,slow=38
NVAR **Mina Array Bea** 34.01 320 P P 12 33 10.8 +2.2
NVAR ScP 12 39 28.7 +4.9
MDPB **Devils Postpil** 34.02 319 P P 12 33 11.0 +2.3
D49A **Beulah Townshi** 34.04 12 P P 12 33 08.0 -0.4
baz=197
FRNY **Flat Rock** 34.07 23 P P 12 33 08.5 -0.2
FRNY pP 12 33 27.3 +0.9
FRNY IAmb IAmb 12 33 28.7
comp=Z,18nm,1.1s
G58A **Ormstown** 34.17 22 P P 12 33 09.5 0.0
baz=210
I62A **Tamworth** 34.18 26 P P 12 33 09.2 -0.4
baz=216
H60A **Morristown** 34.18 24 P P 12 33 09.0 -0.6
baz=213
LBNH **Lisbon** 34.23 25 P P 12 33 09.8 -0.3
baz=215
AGMN **Agassiz Nation** 34.26 355 P P 12 33 09.9 -0.4
baz=172
D50A **G1947 Best Tow** 34.27 14 P P 12 33 09.5 -0.9
baz=200
KVN **Kaiserville** 34.28 321 IAmb IAmb 12 33 15.8
comp=Z,15nm,1.0s
D51A **Lot 18 Range I** 34.31 14 P P 12 33 10.2 -0.5
baz=201
PTGA **Pitinga** 34.33 113 P P 12 33 10.0 -1.2
comp=Z,19nm,0.8s,baz=304,slow=8.7,SNR=27
PTGA PcP PcP 12 35 46.3 +0.2
comp=Z,7.0nm,0.8s,baz=0.3,slow=5.3,SNR=4.2
PTGA **Pitinga** 34.33 113 P P 12 33 10.3 -1.0
PTGA pP 12 33 10.6 -18
PTGA sP 12 33 29.1 -7.9
PTGA **Pitinga** 34.33 113 eP P 12 33 10.6 -0.7
PTGA **Pitinga** 34.33 113 eP P 12 33 10.6 -0.7
H17A **Grant Village** 34.35 335 P P 12 33 11.9 +0.5
baz=145
RLMT **Red Lodge** 34.45 337 P P 12 33 12.6 +0.4
baz=148
D52A **ZEK Kipawa Sen** 34.45 16 P P 12 33 11.6 -0.3
baz=202
I63A **Otisfield** 34.64 27 P P 12 33 13.6 0.0
baz=217
E55A **Montcerf-Lytto** 34.64 19 P P 12 33 14.1 +0.5
baz=206
D53A **Lac Vacive, Po** 34.73 16 P P 12 33 14.1 -0.3
baz=203,SNR=6.4
G60A **Masonville** 34.77 24 P P 12 33 14.1 -0.6
baz=213
MACA **Macacapuru-AM** 34.85 117 eP P 12 33 14.2 -1.6
MACA **Macacapuru-AM** 34.85 117 eP P 12 33 14.2 -1.6
E56A **St. Veronique** 35.05 20 P P 12 33 17.0 -0.1
baz=208,SNR=6.4
D54A **Lac Fusel, La** 35.09 17 P P 12 33 17.1 -0.4
baz=205,SNR=7.0
D55A **Sainte-Anne-du** 35.33 19 P P 12 33 19.1 -0.4
baz=207,SNR=7.0
E58A **La Victoria** 35.50 22 P P 12 33 20.6 -0.3
baz=211
D56A **ZEC Mazanza, M** 35.58 19 P P 12 33 21.2 -0.5
baz=208
G62A **West of Eustis** 35.60 25 P P 12 33 21.8 -0.1
baz=216,SNR=5.1
F60A **Warwick** 35.65 23 P P 12 33 21.8 -0.5
baz=213,SNR=14
H64A **Troy** 35.71 27 P P 12 33 23.2 +0.4
baz=218
BOZ **Bozeman (W)** 35.77 335 P P 12 33 23.9 +0.5
baz=145
D57A **Chemin Vers le** 35.84 20 P P 12 33 23.6 -0.3
baz=209,SNR=7.8
G63A **Kingsbury** 35.91 26 P P 12 33 24.6 +0.1
baz=217
MFID **Camas Ranch** 35.98 329 IAmb IAmb 12 34 07.0
comp=Z,16nm,1.2s
SAML **Samuel** 36.09 128 P P 12 33 25.4 -1.0
SAML pP pP 12 33 42.6 -1.1
E60A **Ste Agathe de** 36.18 23 P P 12 33 26.5 -0.3
baz=214
H65A **Eastbrook** 36.19 28 P P 12 33 26.8 0.0
baz=220
ULM **Lac du Bonnet** 36.20 355 P P 12 33 26.1 -0.8
comp=Z,5.7nm,0.5s,baz=160,slow=7.9,SNR=6.2
ULM PcP PcP 12 35 51.0 +0.1
comp=Z,4.3nm,0.5s,baz=212,slow=6.3,SNR=3.0
ULM LR LR 12 52 01.9
comp=Z,130nm,18.4s,baz=152,slow=42
ULM **Lac du Bonnet** 36.20 355 IAmb IAmb 12 33 47.7
comp=Z,11nm,0.9s
D58A **Chemin du LacG** 36.26 21 P P 12 33 27.3 -0.1
baz=211
F62A **Pittston Farm,** 36.38 25 P P 12 33 28.1 -0.5
baz=216
G64A **Maxfield** 36.39 27 P P 12 33 28.5 -0.1
baz=219
F63A **Nahmakanta, Br** 36.59 26 P P 12 33 29.9 -0.5
baz=218,SNR=7.8
ORV **Oroville** 36.69 319 P P 12 33 32.9 +1.7
ORV IAmb IAmb 12 33 36.7
comp=Z,19nm,1.5s
LSQQ **Lebel-sur-Quev** 36.74 16 P P 12 33 31.2 -0.4
baz=203
HRY **Holter Researc** 36.76 336 P P 12 33 32.4 +0.5
D60A **Saint Jean D'O** 36.83 23 P P 12 33 31.8 -0.5
baz=214,SNR=6.6
G65A **Princeton** 36.89 28 P P 12 33 32.6 -0.2
baz=220
F64A **Sherman** 37.05 27 P P 12 33 34.1 0.0
baz=219
EGMT **Eagleton** 37.10 339 P P 12 33 35.3 +0.6
baz=149
E62A **Clayton Lake** 37.15 25 P P 12 33 35.5 +0.4
baz=216
E62A **Clayton Lake** 37.15 25 IAmb IAmb 12 33 55.3
comp=Z,32nm,1.4s
MATQ **Matagami** 37.22 15 P P 12 33 34.8 -0.8
baz=202,SNR=16
O03E **Paynes Creek** 37.30 320 P P 12 33 36.8 +0.3
baz=126
D61A **St Aubert, Com** 37.35 24 P P 12 33 36.7 -0.1
baz=215,SNR=7.9
E63A **Oxbow** 37.45 26 P P 12 33 37.3 -0.3
baz=218,SNR=6.0
E63A **Oxbow** 37.45 26 IAmb IAmb 12 34 05.5
comp=Z,20nm,0.8s
E64A **Bridgewater** 37.70 27 P P 12 33 40.0 +0.3
baz=219
MSO **Missoula** 37.71 334 P P 12 33 41.1 +1.1
baz=142
D62A **Allapoint, All** 37.71 25 P P 12 33 39.5 -0.3
baz=217,SNR=6.9
BMO **Blue Mountains** 37.76 329 IAmb IAmb 12 34 19.0
comp=Z,18nm,1.4s
LPAZ **La Paz** 37.90 142 P P 12 33 43.2 +0.8
comp=Z,4.0nm,0.8s,baz=330,slow=7.2,SNR=13
LPAZ LR 12 48 40.8
comp=Z,64nm,20.0s,baz=317,slow=35
LPAZ **La Paz** 37.90 142 P P 12 33 42.8 +0.4
LPAZ IAmb IAmb 12 34 13.7
comp=Z,16nm,1.4s
D63A **Stockholm** 38.07 26 P P 12 33 42.5 -0.3
baz=218,SNR=12
CHGQ **Chibougamau** 38.24 18 P P 12 33 44.5 +0.4
baz=207
N02D **Trinity Center** 38.26 320 P P 12 33 44.6 +0.1
baz=125
M02C **Callahan** 38.59 321 P P 12 33 47.8 +0.4
baz=125
YBH **Yreka Blue Hor** 38.70 321 P P 12 33 49.0 +0.7
comp=Z,3.2nm,0.5s,baz=128,slow=6.6
YBH **Yreka Blue Hor** 38.70 321 IAmb IAmb 12 33 53.2
comp=Z,9.8nm,1.4s
L04D **Klamath Falls** 38.74 322 P P 12 33 49.5 +0.8
baz=127,SNR=6.2
J05D **Fort Rock, OR** 38.78 324 P P 12 33 49.9 +0.9
baz=129
PINE **Pine Mountain** 38.94 325 IAmb IAmb 12 34 29.0
comp=Z,12nm,1.1s
MDP **Montagnes des** 39.06 99 PcP PcP 12 36 01.3 +0.8
comp=Z,13nm,0.8s,baz=319,slow=4.8,SNR=6.7
J04D **Umpqua Nationa** 39.25 324 P P 12 33 54.7 +1.7
baz=128
MNMC **Minye Minye** 39.35 147 P P 12 33 55.2 +1.1
I05D **Terrebonne, OR** 39.51 326 P P 12 33 56.2 +1.2
baz=130
I04A **Tendick Farm,** 39.77 324 P P 12 33 58.3 +1.2
baz=128
K02D **Willamette Mer** 39.84 322 P P 12 33 59.2 +1.4
baz=126
MALB **Monte Alegre** 39.95 111 eP P 12 33 58.5 -0.4
MALB **Monte Alegre** 39.95 111 eP P 12 33 58.5 -0.4
GO01 **Chusmiza** 40.01 147 P P 12 34 01.2 +1.4
GO01 IAmb IAmb 12 34 20.7
comp=Z,14nm,0.8s
G05D **Wamic, OR** 40.09 327 P P 12 34 00.9 +1.2
baz=131
NEW **Newport** 40.19 333 P P 12 34 00.8 +0.2
baz=139
NEW **Newport** 40.19 333 P P 12 34 01.3 +0.8
H04A **Detroit Lake** 40.20 325 P P 12 34 01.6 +0.9
I03D **Drain, OR** 40.24 323 P P 12 34 02.2 +1.3
baz=127
J01E **Myrtle Point** 40.27 322 P P 12 34 02.1 +0.9
baz=126
H04D **Lebanon** 40.40 325 P P 12 34 03.6 +1.3
baz=128
F05D **White Salmon** 40.59 327 P P 12 34 05.5 +1.6
baz=131
LTY **Liberty** 41.11 329 IAmb IAmb 12 34 56.7
comp=Z,38nm,1.8s
B08A **Colville Reser** 41.25 332 P P 12 34 10.2 +0.9
LON **Longmire** 41.34 328 P P 12 34 11.1 +1.0
NPGB **Novo Progresso** 41.38 118 eP P 12 34 09.4 -1.3
NPGB **Novo Progresso** 41.38 118 eP P 12 34 09.4 -1.3
F04D **Rainier, OR** 41.54 326 P P 12 34 13.4 +1.9
baz=130
E04D **Cinebar** 41.61 327 P P 12 34 13.1 +1.0
baz=130
SIV **San Ignacio** 42.27 134 P P 12 34 18.2 +0.2
comp=Z,30nm,0.6s,baz=316,slow=8.1,SNR=141
B06A **Marblemount** 42.38 330 P P 12 34 19.3 +0.9
B06A IAmb IAmb 12 34 20.4
comp=Z,12nm,0.6s
B05A **Bryant** 42.50 330 P P 12 34 19.6 +0.2
baz=132
D03D **Eldon** 42.52 328 P P 12 34 20.2 +0.6
baz=131
LVC **Limon Verde** 42.59 149 P P 12 34 21.9 +1.1
comp=Z,5.0nm,0.7s,baz=261,slow=13,SNR=2.8
LVC **Limon Verde** 42.59 149 IAmb IAmb 12 34 40.6
comp=Z,36nm,1.4s
CLDB **Colider** 43.06 123 eP P 12 34 22.4 -2.0
CLDB **Colider** 43.06 123 eP P 12 34 22.4 -2.0
PTLB **Pontes e Lacer** 43.28 132 eP P 12 34 25.5 -0.6
PTLB **Pontes e Lacer** 43.28 132 eP P 12 34 25.5 -0.6
SCHQ **Schefferville** 44.84 20 P P 12 34 36.6 -1.5
comp=Z,12nm,0.5s,baz=220,slow=6.9,SNR=27
SCHQ LR LR 12 54 21.0
comp=Z,528nm,20.0s,baz=241,slow=38
SCHQ **Schefferville** 44.84 20 P P 12 34 37.1 -0.9
AC02 **Maricunga** 46.06 152 P P 12 34 49.5 +0.9
AC02 IAmb IAmb 12 35 10.1
comp=Z,41nm,1.5s
SALV **Santo Antonio** 46.12 129 eP P 12 34 48.0 -0.7
SALV **Santo Antonio** 46.12 129 eP P 12 34 48.0 -0.7
AC05 **El Transito** 47.30 155 P P 12 34 58.8 +0.9
CO03 **El Pedregal** 48.91 156 P P 12 35 11.0 +0.9
SMTB **Santa Maria do** 48.98 115 eP P 12 35 10.7 -0.3
SMTB **Santa Maria do** 48.98 115 eP P 12 35 10.7 -0.3
ARAG **Araguaiana, MT** 48.99 126 eP P 12 35 09.9 -1.1
ARAG **Araguaiana, MT** 48.99 126 eP P 12 35 09.9 -1.1
AQDB **Aquidauana** 49.05 134 eP P 12 35 10.6 -0.7
AQDB **Aquidauana** 49.05 134 eP P 12 35 10.6 -0.7
CO02 **Combarbal** 49.11 157 P P 12 35 11.8 0.0
CFA **Coronel Fontan** 50.57 154 P P 12 35 23.4 +0.7
comp=Z,7.1nm,0.7s,baz=343,slow=8.0,SNR=12
YKA **Yellowknife Ar** 51.05 346 P P 12 35 25.8 -0.1
comp=Z,5.7nm,0.6s,baz=152,slow=7.9,SNR=43
YKA pP pP 12 35 43.7 -0.6
comp=Z,3.3nm,0.9s,baz=149,slow=8.1,SNR=3.4
YKA PcP PcP 12 36 40.6 -0.2
comp=Z,3.7nm,0.7s,baz=156,slow=4.1,SNR=8.2
YKA LR LR 12 59 45.8
comp=Z,112nm,21.5s,baz=0.0,slow=39
BDFB **Brasilia** 51.99 123 P P 12 35 33.1 -0.6
comp=Z,5.6nm,0.6s,baz=301,slow=7.2,SNR=4.6
BDFB pP pP 12 35 50.0 -2.0
comp=Z,6.4nm,0.9s,baz=294,slow=19,SNR=2.6
BDFB LR LR 12 57 40.5
comp=Z,127nm,21.4s,baz=310,slow=36
BDFB **Brasilia** 51.99 123 P P 12 35 33.4 -0.3
BDFB **Brasilia** 51.99 123 IAmb IAmb 12 36 56.3
comp=Z,32nm,1.5s
CPUP **Villa Florida** 52.03 141 P P 12 35 32.2 -1.5
comp=Z,6.5nm,0.9s,baz=352,slow=11,SNR=6.3
CPUP pP pP 12 35 50.0 -2.0
comp=Z,8.1nm,1.0s,baz=300,slow=8.5,SNR=5.1
CPUP LR LR 12 59 12.6
comp=Z,77nm,18.5s,baz=332,slow=38
CPUP **Villa Florida** 52.03 141 P P 12 35 33.1 -0.6
GO05 **Huala** 52.22 160 P P 12 35 35.3 +0.4
ITRB **Iturama** 52.45 129 eP P 12 35 36.4 -0.6
ITRB **Iturama** 52.45 129 eP P 12 35 36.4 -0.6
DLBC **Dease Lake** 52.81 336 P P 12 35 41.0 +1.8
DLBC IAmb IAmb 12 36 05.6
comp=Z,12nm,0.8s
IPMB **Ipameri, GO** 53.12 126 eP P 12 35 41.3 -0.7
IPMB **Ipameri, GO** 53.12 126 eP P 12 35 41.3 -0.7
RKT **Rikitea** 56.59 230 eT T 13 36 17.3
comp=Z,7.0nm,0.3s
BSCB **Bom Sucesso** 57.48 127 eP P 12 36 13.7 +0.3
BSCB **Bom Sucesso** 57.48 127 eP P 12 36 13.7 +0.3
PLCA **Paso Flores** 57.88 162 P P 12 36 16.5 +0.8
comp=Z,6.3nm,1.1s,baz=321,slow=9.1,SNR=4.5
PLCA pP pP 12 36 34.0 -0.4
comp=Z,9.3nm,1.1s,baz=317,slow=3.9,SNR=6.3
PLCA LR LR 12 55 52.6
comp=Z,77nm,19.2s,baz=335,slow=30
PLCA **Paso Flores** 57.88 162 IAmb IAmb 12 36 17.5
comp=Z,35nm,1.5s
PLCA pP 12 36 34.2 -0.1
PLCA **Paso Flores** 57.88 162 eP P 12 36 16.9 +1.1
PLCA **Paso Flores** 57.88 162 eP P 12 36 16.9 +1.1
RCBR **Riachuelo** 58.39 106 P P 12 36 17.6 -2.2
comp=Z,5.7nm,0.5s,baz=259,slow=3.4,SNR=6.2
SJMB **Sao Joao De Ma** 59.15 122 eP P 12 36 25.1 +0.1
SJMB **Sao Joao De Ma** 59.15 122 eP P 12 36 25.1 +0.1
VAS01 **Vassouras-RJ** 59.21 127 eP P 12 36 26.2 +0.8
VAS01 **Vassouras-RJ** 59.21 127 eP P 12 36 26.2 +0.8
BSFB **Barra de Sao F** 59.49 122 eP P 12 36 27.7 +0.4
BSFB **Barra de Sao F** 59.49 122 eP P 12 36 27.7 +0.4
BCAR **Beaver Creek A** 60.19 336 P P 12 36 32.1 +0.7
INK **Inuvik** 60.50 343 IAmb IAmb 12 36 58.0
comp=Z,8.8nm,0.9s
RES **Resolute Bay** 60.56 359 P P 12 36 32.9 -0.8
RES IAmb IAmb 12 36 34.1
comp=Z,8.2nm,0.8s
EGAK **Eagle** 60.84 338 P P 12 36 36.0 +0.2
MENT **Mentasta** 60.90 335 IAmb IAmb 12 36 38.7
comp=Z,5.3nm,0.5s
A36M **Sachs Harbour** 61.24 349 P P 12 36 37.9 -0.5
baz=142
GHO **Glory Hole Cre** 62.59 333 P P 12 36 48.3 +0.6
GHO IAmb IAmb 12 36 49.6
comp=Z,15nm,1.0s
HDA **Harding Lake** 62.85 336 P P 12 36 49.3 0.0
baz=116,SNR=5.6
HDA **Harding Lake** 62.85 336 IAmb IAmb 12 37 29.2
comp=Z,13nm,1.4s
KDAK **Kodiak Island** 62.97 328 P P 12 36 51.2 +1.0
comp=Z,18nm,0.4s,baz=161,slow=1.0,SNR=43
IL31 62.99 337 P P 12 36 50.2 +0.1
ILAR **Eielson Array** 62.99 337 P P 12 36 50.0 -0.2
comp=Z,2.0nm,0.4s,baz=118,slow=5.6,SNR=68
ILAR LR LR 13 08 03.7
comp=Z,104nm,19.2s,baz=127,slow=40
RND **Reindeer** 63.20 335 P P 12 36 52.6 +0.9
RND IAmb IAmb 12 37 28.4
comp=Z,18nm,1.1s
POKR **Poker Plat Res** 63.35 337 P P 12 36 52.4 -0.2
baz=116
MCK **McKinley** 63.37 335 IAmb IAmb 12 36 54.5
comp=Z,34nm,1.7s
BMAR **Burnt Mountain** 63.40 340 P P 12 36 53.3 +0.3
TCOL **CIGO, UAF Yank** 63.41 337 P P 12 36 52.9 0.0

baz=115
TRF Thorofare Moun 63.81 335 IAmb IAmb 12 37 31.7
comp=Z,14nm,0.9s
PPLA Purkeypile 64.42 334 IAmb IAmb 12 37 43.7
comp=Z,14nm,1.1s
SVW2 Sparrevohn 65.39 331 IAmb IAmb 12 37 07.0
comp=Z,9.5nm,0.5s
PPT Papeete 65.60 243 LR LR 12 57 13.2
comp=Z,194nm,20.0s,baz=71,slow=28
PPT2 Papeete2 65.61 243 *e*S S 12 45 59.2 +11
comp=Z,280nm,26.0s
PPT2 Papeete2 65.61 243 *e*LR LR 12 56 44.9
comp=Z,452nm,28.0s
TOLK Toolik Lake Re 65.63 340 P **P** **12 37 07.8 +0.3**
baz=115,SNR=7.3
SUMG Summit 65.90 15 *i* P **P** **12 37 08.5 -1.0**
comp=Z,14nm,0.5s
SUMG Summit 65.90 15 P **P** **12 37 08.6 -1.0**
SUMG IAmb IAmb 12 37 39.2
comp=Z,14nm,0.9s
IMAR Indian Mountai 66.11 337 P **P** **12 37 09.9 -0.6**
TBI Tubuai 68.04 237 *e*LR LR 12 58 03.4
comp=Z,325nm,29.0s
TBI Tubuai 68.04 237 *e*T T 13 50 34.8
comp=Z,4.3nm,0.3s
RAR Rarotonga 75.87 244 LR LR 13 03 44.7
comp=Z,20nm,19.3s,baz=54,slow=29
ADK Adak 76.20 320 P **P** **12 38 12.2 +0.5**
ESK Eskdalemuir 77.40 36 P **P** **12 38 16.4 -2.0**
ESK IAmb IAmb 12 38 46.5
comp=Z,20nm,1.1s
EKA Eskdalemuir Ar 77.42 36 P **P** **12 38 16.6 -2.0**
comp=Z,3.8nm,0.5s,baz=275,slow=5.6,SNR=3.8
ESDC Sonseca Array 79.06 52 P **P** **12 38 25.9 -2.1**
comp=Z,0.7nm,0.4s,baz=289,slow=5.4,SNR=7.5
ESDC pP **pP** **12 38 45.5 -2.0**
comp=Z,1.7nm,0.8s,baz=278,slow=4.3,SNR=4.2
ESDC LR LR 13 09 58.0
comp=Z,52nm,19.4s,baz=300,slow=33
ESDC Sonseca Array 79.06 52 P **P** **12 38 25.9 -2.1**
ESDC **P** **12 38 26.1 -1.9**
ESDC **pP** **12 38 46.6 -0.9**
SPA0 Spitsbergen Ar 79.80 12 P **P** **12 38 30.7 -0.5**
SPA0 IAmb IAmb 12 40 27.4
comp=Z,34nm,1.3s
SPITS Spitsbergen Ar 79.80 12 P **P** **12 38 30.1 -1.1**
comp=Z,2.4nm,0.6s,baz=197,slow=2.6,SNR=8.4
BILL Bilibino 81.59 338 P **P** **12 38 41.1 +0.2**
BILL IAmb IAmb 12 38 42.9
comp=Z,8.3nm,0.6s
DOU Dourbes 82.98 40 sP sP 12 39 14.5 -1.6
BMRD Maredsous 83.04 40 sP sP 12 39 16.1 -0.3
NB2 NORSAR Subarra 83.67 29 P **P** **12 38 51.2 -0.7**
comp=Z,1.2nm,0.7s,baz=290,slow=5.3
NOA NORSAR Array B 83.67 29 P **P** **12 38 51.0 -0.9**
comp=Z,1.6nm,0.7s,baz=290,slow=5.2,SNR=6.0
NOA LR LR 13 14 26.6
comp=Z,50nm,21.9s,baz=280,slow=34
DBIC Dimbokro 84.92 84 P **P** **12 38 58.2 -1.0**
comp=Z,2.9nm,0.5s,baz=246,slow=5.3,SNR=5.9
DBIC LR LR 13 11 33.2
comp=Z,43nm,19.6s,baz=274,slow=32
DBIC Dimbokro 84.92 84 P **P** **12 38 58.1 -1.0**
DBIC **P** **12 38 58.3 -0.8**
ARCES ARCESS Array B 85.77 18 P **P** **12 39 00.8 -1.5**
comp=Z,2.2nm,0.6s,baz=284,slow=4.8,SNR=18
ARCES LR LR 13 16 32.6
comp=Z,128nm,21.7s,baz=316,slow=35
ARE0 ARCESS Array S 85.77 18 P **P** **12 39 01.2 -1.0**
TUE Stuetta 87.01 43 P **P** **12 39 08.6 -0.5**
TUE IAmb IAmb 12 39 41.9
comp=Z,6.1nm,0.8s
FUORN Ofenpass-Fuorn 87.57 43 P **P** **12 39 10.9 -0.9**
FUORN IAmb IAmb 12 39 38.8
comp=Z,10nm,0.9s
CLL Collm 87.76 38 *e*P **P** **12 39 13.0 +0.7**
CLL *i* pP **pP** **12 39 34.8 +2.7**
CLL *i* (sP) **sP** **12 39 40.5 +0.5**
CLL *e*PS **PS** **12 51 08.0 +7.8**
BRG Berggiesshubel 88.46 38 *e*P pP 12 39 41.4 +5.9
comp=Z,9.4nm,1.5s
KHC Kasperske Hory 88.85 39 *e*pP pP 12 39 41.0 +3.5
GERES GERESS Array B 89.03 40 P **P** **12 39 17.8 -0.7**
TOA0 Torodi Ar. Sit 89.64 77 P **P** **12 39 20.3 -1.6**
TOA0 IAmb IAmb 12 41 45.6
comp=Z,26nm,1.9s
TORD Torodi Ar. Bea 89.64 77 P **P** **12 39 19.4 -2.5**
comp=Z,0.6nm,0.5s,baz=292,slow=5.7,SNR=9.7
TORD LR LR 13 16 33.4
comp=Z,57nm,21.3s,baz=130,slow=34
TORD Torodi Ar. Bea 89.64 77 P **P** **12 39 19.5 -2.4**
FINES FINESS Array B 90.06 25 P **P** **12 39 21.0 -1.8**
comp=Z,1.8nm,0.7s,baz=332,slow=5.3,SNR=4.9
FINES LR LR 13 20 11.9
comp=Z,58nm,20.0s,baz=314,slow=36
TIXI Tiksi 90.26 348 P **P** **12 39 22.5 -1.1**
TIXI IAmb IAmb 12 39 24.9
comp=Z,4.0nm,0.6s
PEA0B Petropavlovsk- 90.93 326 P **P** **12 39 28.1 +0.9**
PETK Petropavlovsk- 90.93 326 P **P** **12 39 28.8 +1.6**
comp=Z,3.9nm,0.7s,baz=78,slow=9.3,SNR=11
PETK LR LR 13 23 01.8
comp=Z,11nm,18.2s,baz=62,slow=37
PETK Petropavlovsk- 90.93 326 P **P** **12 39 28.4 +1.3**
NRIK Noril'sk 96.73 0 LR LR 13 26 44.5
comp=Z,205nm,20.7s,baz=26,slow=37
AKASG Malin Array Be 97.21 34 LR LR 13 23 52.7
comp=Z,25nm,20.3s,baz=275,slow=36
OBN Obninsk 98.22 27 LR LR 13 20 45.9
comp=Z,12nm,21.1s,baz=350,slow=33
DZM Mont Dzumac 106.41 251 *e*LR LR 13 15 51.5
comp=Z,149nm,26.9s
ZALV Zalesovo Beam 112.09 3 PKiKP **PKiKP** **12 44 57.9 -0.5**
comp=Z,1.2nm,0.5s,baz=269,slow=3.2,SNR=6.5
KURK Kurchatov 114.81 7 **PKiKP** **12 45 03.1 -0.5**
KURBB Kurchatov Arra 114.89 7 PKP **PKiKP** **12 45 03.1 -0.7**
comp=Z,2.0nm,0.6s,baz=348,slow=2.0,SNR=18
KURBB PKKPbc **PKKPbc** **12 55 40.1 -2.2**
comp=Z,0.1nm,0.2s,baz=188,slow=3.4,SNR=4.1
KSRS Korea Array 116.83 326 PKP **PKiKP** **12 45 08.6 +0.6**
comp=Z,2.5nm,0.9s,baz=354,slow=1.2,SNR=11
KSAR Wonju Array Be 116.86 326 **PKiKP** **12 45 08.6 +0.6**
SYO Syowa Base 117.08 162⇑ *e*Pdiff **Pdif** **12 41 24.0 +0.1**
SYO Syowa Base 117.08 162⇑ *e*pPdiff pPdif 12 41 44.0 +0.2
MK31 Makanchi Array 119.06 5 PKPdf **PKPdf** **12 45 11.6 -0.4**
MKAR Makanchi Array 119.06 5 PKP **PKPdf** **12 45 11.0 -1.0**
comp=Z,1.6nm,0.7s,baz=344,slow=1.7,SNR=9.7
MKAR pPKP **pPKPdf** **12 45 31.0 -1.7**
comp=Z,0.6nm,0.7s,baz=39,slow=4.7,SNR=2.6
MKAR Makanchi Array 119.06 5 PKPdf **PKPdf** **12 45 11.0 -1.0**
BOSA Boshof 119.76 115 PKP **PKPdf** **12 45 13.2 -0.8**
comp=Z,2.9nm,0.7s,baz=262,slow=3.6,SNR=5.9
BOSA pPKP **pPKPdf** **12 45 34.2 -0.4**
comp=Z,2.6nm,0.8s,baz=221,slow=1.3,SNR=2.6
GEYT Alibeck 120.76 28 PKP **PKPdf** **12 45 14.4 -1.1**
comp=Z,3.2nm,0.7s,baz=299,slow=6.1,SNR=4.3
HHC Hu-ho-hao-te 121.33 340 *e*P **PKPdf** **12 45 14.1 -2.6**
KDJ Kajisay 123.00 10 **PKiKP** **12 45 20.4 +0.3**
TARG Taragay, Kyrgy 123.49 10 PKPdf **PKiKP** **12 45 21.7 +0.3**
MAW Mawson 123.97 168 PKP **PKiKP** **12 45 21.0 +0.1**
comp=Z,1.6nm,0.8s,baz=211,slow=5.9,SNR=1.9
MAW pPKP **pPKPdf** **12 45 40.6 -0.6**
comp=Z,6.3nm,0.9s,baz=263,slow=6.9,SNR=5.4
NJ2 Nanjing 125.75 328 *e*P **PKPdf** **12 45 25.3 +0.1**
NJ2 pmax pmax
comp=Z,17nm,0.8s
LZH Lanzhou 128.04 344 *e*PKP **PKPdf** **12 45 25.9 -3.8**
LZH pPKP pPKPdf 12 45 52.8 +2.4
LZH sPKP 12 46 02.9
LZH LR LR
comp=N,42nm,17.8s
LZH LR LR
comp=E,47nm,18.0s
LZH LR LR
comp=Z,68nm,20.1s
STKA Stephens Creek 128.76 240 PKP **PKPdf** **12 45 31.1 +0.2**
comp=Z,2.0nm,0.7s,baz=46,slow=6.0,SNR=3.6
STKA pPKP **pPKPdf** **12 45 51.5 -0.1**
comp=Z,8.8nm,1.1s,baz=16,slow=5.9,SNR=4.8
STKA Stephens Creek 128.76 240 PKPdf **PKiKP** **12 45 31.9 +0.3**
WHN Wuhan 129.19 331 PKPbc PKiKP 12 45 41.0 +8.5
ENH Enshi 131.53 336 **PKiKP** **12 45 37.2 -0.1**
CD2 Chengdu 132.93 342 PKP **PKPdf** **12 45 37.9 -1.1**
GYA Guiyang 136.04 337 *e*PKP **PKiKP** **12 45 50.1 +3.4**
GYA PP **PP** **12 48 24.0 +0.5**
GYA AMB AMB
comp=Z,180nm,4.5s
WB2 Warramunga Arr 136.12 256 PKPdf **PKiKP** **12 45 46.0 -0.9**
WRA Warramunga Arr 136.13 256 PKP **PKiKP** **12 45 46.1 -0.7**
comp=Z,3.1nm,0.7s,baz=87,slow=2.4,SNR=14
WRA pPKP **pPKPdf** **12 46 05.5 -0.3**
comp=Z,3.3nm,0.7s,baz=81,slow=1.8,SNR=6.4
WRA Warramunga Arr 136.13 256 **PKPdf** **12 45 45.9 +0.7**
AS31 Alice Springs 136.40 251 PKPdf **PKiKP** **12 45 46.7 -0.6**
ASAR Alice Springs 136.40 251 PKhKP PKPpre 12 45 36.2
comp=Z,0.4nm,0.6s,baz=104,slow=3.7,SNR=7.2
ASAR PKP **PKiKP** **12 45 46.8 -0.5**
comp=Z,1.1nm,0.6s,baz=87,slow=1.9,SNR=13
ASAR pPKP pPKPdf 12 46 06.0 -0.2
comp=Z,2.7nm,0.8s,baz=104,slow=1.9,SNR=6.8
SHL Shillong 140.41 356 PKPdf **PKPdf** **12 45 53.0 -0.1**
FITZ Fitzroy Crossi 144.38 259 PKPdf **PKPdf** **12 45 59.5 -0.5**
SRSP Sriramsagar 145.57 18 *e*PKPdf **PKPdf** **12 46 00.5 -1.7**
KLRI Killari 145.82 21 *e*PKPbc **PKPdf** **12 46 01.2 -1.5**
RPR Rampur 145.91 16 *e*PKPab **PKPdf** **12 46 02.2 -0.6**
CM31 Chiang Mai Arr 146.08 342 **PKPbc** **12 46 03.9 -0.1**
CMAR Chiang Mai Arr 146.08 342 PKPbc **PKPbc** **12 46 03.8 -0.2**
comp=Z,24nm,0.6s,baz=338,slow=3.4,SNR=98
KKM Kota Kinabalu 146.16 305 PKPdf **PKPbc** **12 46 04.4 -0.1**
HYBB Hyderabad (bro 147.06 18 *e*PKPbc **PKPdf** **12 46 05.2 +0.4**
HYB Hyderabad 147.06 18 *i* PKP **PKPbc** **12 46 06.0 -0.9**
PVM Polavaram 148.02 13 *e*PKPbc **PKPbc** **12 46 08.3 -1.1**
NJS Nagarjunasagar 148.10 17 *e*PKPbc **PKPdf** **12 46 07.8 +1.4**
SRLM Srisailam 148.41 18 *e*PKPbc **PKPbc** **12 46 09.1 -1.4**
URV Uravakonda 148.94 22 *e*PKPbc **PKPbc** **12 46 10.7 -1.2**
ADKI Addanki 148.96 17 *e*PKPbc **PKPbc** **12 46 11.0 -0.9**
SKHT Srikalahasti 150.88 18 *e*PKPbc **PKPbc** **12 46 15.3 -1.3**

IDC 13 12:31:50.2±8.3, 20.07S×178.50W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/30, mbtmp3.6/3, Error ellipse: s-maj=361.1km s-min=42.1km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ASAR	**Alice Springs**	**44.16**	**256**	P		P	12 40 00.5	-0.5
	0.7nm,0.6s,baz=95,slow=7.8,SNR=7.4							
WRA	**Warramunga Arr**	**44.19**	**262**	P		P	12 40 01.5	+0.2
	0.5nm,0.7s,baz=96,slow=8.1,SNR=16							
ILAR	**Eielson Array**	**88.01**	**13**	P		P	12 44 41.7	0.0
	0.1nm,0.4s,baz=230,slow=7.0,SNR=1.7							

*IDC **13** 12:46:23.3±2.6, 9.66N×127.93E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/44, mbtmp3.6/5, Error ellipse: s-maj=207.5km s-min=21.7km az=66.0*
*MAN **13** 12:46:32.8, 9.27N×126.60E, h106km, MS3.2*
ISC 13 12:46:29.9±1.1, 9.22N±0.07×126.95E±0.10, h35km, n11, σ2§22/14, mb3.6/5, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSLP	**Maasin**	**2.25**	**294**	*e*P		**Pn**	**12 47 05.8**	**+1.2**
MSLP				*e*S		**Sn**	**12 47 28.4**	**-2.7**
BUKP	**Musuan**	**2.29**	**235**	*e*P		**Pn**	**12 47 07.0**	**+1.7**
BUKP				*e*S		**Sn**	**12 47 36.5**	**+4.2**
CGP	**Cagayan de Oro**	**2.35**	**251**⇑	*e*P		**Pn**	**12 47 06.0**	**-0.1**
CGP				*e*S		**Sn**	**12 47 32.5**	**-1.2**
KCP	**Kidapawan**	**2.87**	**220**⇑	*e*P		Pn	12 47 18.7	+5.5
KCP				*i* S		**Sn**	**12 47 43.0**	**-3.5**
TBP	**Tagbilaran**	**3.08**	**279**	*e*P		**Pn**	**12 47 16.6**	**+0.5**
CNP	**Catarman**	**3.96**	**326**	*e*P		**Pn**	**12 47 29.6**	**+1.4**
CNP				*e*S		Sn	12 47 40.0	-33
WRA	**Warramunga Arr**	**29.88**	**166**	P		**P**	**12 52 34.5**	**+0.1**
	0.2nm,0.5s,baz=348,slow=9.3,SNR=1.8							
ASAR	**Alice Springs**	**33.39**	**168**	P		**P**	**12 53 07.0**	**+1.8**
	0.4nm,0.5s,baz=350,slow=7.1,SNR=12							
STKA	**Stephens Creek**	**43.20**	**162**	P		**P**	**12 54 25.3**	**-2.3**
	0.9nm,0.4s,baz=327,slow=17,SNR=1.2							
MKAR	**Makanchi Array**	**53.26**	**323**	P		**P**	**12 55 45.3**	**+0.2**
	0.5nm,0.7s,baz=111,slow=8.2,SNR=5.1							
KURBB	**Kurchatov Arra**	**57.31**	**326**	P		**P**	**12 56 14.6**	**+0.4**
	0.4nm,0.6s,baz=124,slow=7.2,SNR=4.1							

*IDC **13** 12:53:03.0±1.9, 59.99S×26.04W, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.0/22, mbtmp4.1/4, Error ellipse: s-maj=70.2km s-min=32.9km az=4.0*
*NEIC **13** 12:53:15±1.6, 59.8S±0.1×26.3W±0.3, h87km±8km, mb4.6/18, Error ellipse: s-maj=25.8km s-min=12.2km az=56.0*
ISC 13 12:53:16.0±0.8, 59.9S±0.1×26.2W±0.1, h100km, n32, σ1§46/32, mb4.5/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	**Hope Point**	**7.92**	**311**	Pn		**Pn**	**12 55 08.6**	**+0.3**
VNA1	**Neumayer--Stat**	**13.08**	**153**	P		**Pn**	**12 56 15.0**	**-2.6**
VNA3	**Neumayer Olymp**	**13.22**	**156**	P		**Pn**	**12 56 16.6**	**-2.9**
VNA2	**Neumayer--Watz**	**13.48**	**153**	P		**Pn**	**12 56 20.0**	**-2.8**
	baz=313,slow=16							
SNAA	**Sanae**	**15.06**	**151**	P		**Pn**	**12 56 41.5**	**-1.7**
SNAA	**Sanae**	**15.06**	**151**			**Pn**	**12 56 41.7**	**-1.6**
SNAA				IAmb		IAmb	12 56 44.8	
	comp=Z,14nm,0.5s							
PMSA	**Palmer Station**	**18.04**	**238**			**Pn**	**12 57 18.4**	**-1.3**
PMSA				IAmb		IAmb	12 57 27.6	
	comp=Z,51nm,1.4s							
EFI	**East Falkland**	**19.55**	**281**	P		**P**	**12 57 33.8**	**-1.6**
QSPA	**South Pole Qui**	**30.36**	**180**	P		**P**	**12 59 20.6**	**+2.6**
PLCA	**Paso Flores**	**33.35**	**285**	P		**P**	**12 59 44.2**	**-0.2**
	comp=Z,2.4nm,0.7s,baz=169,slow=10,SNR=3.3							
PLCA	**Paso Flores**	**33.35**	**285**	P		**P**	**12 59 44.0**	**-0.3**
BO02	**Sierra Bellavi**	**38.18**	**291**	P		**P**	**13 00 26.1**	**+0.5**
BO02				IAmb		IAmb	13 00 33.9	
	comp=Z,20nm,1.4s							
MT02	**Curacav**	**39.61**	**292**	P		**P**	**13 00 36.7**	**-0.8**
MT02				IAmb		IAmb	13 00 45.8	
	comp=Z,11nm,1.0s							
CPUP	**Villa Florida**	**39.79**	**314**	P		**P**	**13 00 40.2**	**+1.2**
	comp=Z,3.1nm,1.0s,baz=160,slow=15,SNR=3.0							
CPUP	**Villa Florida**	**39.79**	**314**	P		**P**	**13 00 39.4**	**+0.3**
CO03	**El Pedregal**	**41.42**	**294**	P		**P**	**13 00 52.1**	**-0.4**
CO03				IAmb		IAmb	13 00 60.0	
	comp=Z,23nm,1.5s							
VNDA	**Vanda**	**42.76**	**183**	P		**P**	**13 01 06.1**	**+3.4**
AC05	**El Transito**	**42.93**	**296**	P		**P**	**13 01 04.1**	**-0.7**
LVC	**Limon Verde**	**47.74**	**302**	P		**P**	**13 01 43.8**	**+0.7**
LVC				IAmb		IAmb	13 02 02.5	
	comp=Z,6.0nm,0.9s							
PB09	**IPOC Station P**	**48.60**	**302**	P		**P**	**13 01 48.9**	**-0.7**
PB08	**IPOC Station P**	**50.03**	**303**	P		**P**	**13 02 01.6**	**+1.0**
PB08				IAmb		IAmb	13 02 16.8	
	comp=Z,8.2nm,1.1s							
GO01	**Chusmiza**	**50.47**	**304**	P		**P**	**13 02 03.7**	**-0.4**
GO01				IAmb		IAmb	13 02 10.5	
	comp=Z,9.5nm,1.3s							
MNMC	**Minye Minye**	**51.12**	**303**	P		**P**	**13 02 07.8**	**-0.9**
LPAZ	**La Paz**	**53.06**	**307**	P		**P**	**13 02 22.0**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=126,slow=9.0,SNR=4.9							
LPAZ	**La Paz**	**53.06**	**307**	P		**P**	**13 02 22.1**	**-1.5**
LPAZ				IAmb		IAmb	13 02 39.5	
	comp=Z,2.1nm,0.9s							
TOA0	**Torodi Ar. Sit**	**76.17**	**28**	P		**P**	**13 04 53.2**	**+0.3**
TORD	**Torodi Ar. Bea**	**76.17**	**28**	P		**P**	**13 04 53.0**	**0.0**
	comp=Z,1.5nm,0.6s,baz=198,slow=6.0,SNR=18							
TORD	**Torodi Ar. Bea**	**76.17**	**28**	P		**P**	**13 04 52.9**	**0.0**
SONM	**Songino Array**	**150.23**	**92**	PKPbc		**PKiKP**	**13 12 55.5**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=231,slow=0.9,SNR=3.5							
SONM	**Songino Array**	**150.23**	**92**			**PKiKP**	**13 12 55.3**	**+0.2**
DOT	**Dot Lake**	**151.40**	**305**			**PKiKP**	**13 12 56.4**	**-0.5**
ILAR	**Eielson Array**	**152.94**	**306**	PKPbc		**PKiKP**	**13 12 59.4**	**-0.6**
	comp=Z,0.9nm,1.1s,baz=132,slow=1.9,SNR=5.0							

*KRNET **13** 12:54:37.0±0.1, 42.19N×77.07E, h21km, mb3.6*
*SOME **13** 12:54:37.4, 42.20N×77.07E, h10km*
*NNC **13** 12:54:38.4±0.5, 42.28N×77.06E, h0km, mb3.9, mpv3.7, Error ellipse: s-maj=3.2km s-min=2.4km az=167.0*
*KNET **13** 12:54:39.0±0.4, 42.22N×76.95E, h16km±1km, ml2.7, Error ellipse: s-maj=2.7km s-min=2.3km az=35.0*
ISC 13 12:54:37.6±1.0, 42.21N±0.02×77.05E±0.02, h6km±8km, n84, σ1§13/152, 37C-26D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KDJ	**Kajisay**	**0.12**	**129**⇑	*i*P		**Pg**	**12 54 40.3**	**0.0**
	baz=22							
KDJ				⇑*i*S		**Sg**	**12 54 42.4**	**+0.3**
	baz=22							
ULHL	**Ulahol**	**0.60**	**274**	⇓*i*P		**Pg**	**12 54 49.2**	**0.0**
	baz=76							
ULHL				⇓*i*S		**Sg**	**12 54 57.7**	**+0.6**
	baz=76							
ULHL	**Ulahol**	**0.60**	**274**	P		**Pg**	**12 54 49.5**	**+0.3**
	125nm,0.2s,SNR=93							
ULHL				⇑S		**Sg**	**12 54 58.0**	**+0.9**
	135nm,0.1s							
ANVS	**Anan'yevo**	**0.73**	**38**	⇓*i*P		**Pg**	**12 54 51.1**	**-0.6**
	baz=36							
ANVS				⇓*i*S		**Sg**	**12 55 01.6**	**+0.4**
	baz=36							
TARG	**Taragay, Kyrgy**	**0.74**	**130**	⇓*i*P		**Pg**	**12 54 50.6**	**-1.2**
	baz=30							
TARG				⇓*i*S		**Sg**	**12 55 00.5**	**-0.9**
	baz=30							
TNSS	**Tian-Shan**	**0.83**	**355**	*e*P		**Pg**	**12 54 53.4**	**-0.2**
	baz=54							
TNSS				*e*S		**Sg**	**12 55 04.9**	**+0.4**
	baz=54							
TNSS	**Tian-Shan**	**0.83**	**355**	*e*P		**Pg**	**12 54 53.4**	**-0.2**
	44nm,0.2s							
TNSS				*e*S		**Sg**	**12 55 04.9**	**+0.4**
	150nm,0.3s							
TNSS	**Tian-Shan**	**0.83**	**355**	P		**Pg**	**12 54 53.4**	**-0.2**
	66nm,0.3s							
TNSS				S		**Sg**	**12 55 04.9**	**+0.4**
	150nm,0.3s							
BOOM	**Boomskoye usch**	**0.87**	**289**	⇓*i*P		**Pb**	**12 54 53.6**	**-1.6**
	baz=91							
BOOM				⇓*i*S		**Sb**	**12 55 05.8**	**-1.4**
	baz=91							
IZV	**Izvestkoviy**	**0.89**	**339**	*e*P		**Pb**	**12 54 54.4**	**-1.1**
	baz=39							
IZV				*e*S		**Sb**	**12 55 06.6**	**-1.1**
	baz=39							
IZV	**Izvestkoviy**	**0.89**	**339**	*e*P		**Pb**	**12 54 54.4**	**-1.1**
	34nm,0.2s							
IZV				*e*S		**Sb**	**12 55 06.6**	**-1.1**
	167nm,0.1s							
IZV	**Izvestkoviy**	**0.89**	**339**	P		**Pb**	**12 54 54.4**	**-1.1**
	34nm,0.2s							
IZV				S		**Sb**	**12 55 06.6**	**-1.1**
	167nm,0.1s							
MDOK	**Medeo**	**0.95**	**360**	*e*P		**Pb**	**12 54 55.3**	**-1.3**
	baz=59							
MDOK				*e*S		**Sb**	**12 55 07.9**	**-1.7**
	baz=59							
MDOK	**Medeo**	**0.95**	**360**	*e*P		**Pb**	**12 54 55.3**	**-1.3**
	40nm,0.2s							
MDOK				*e*S		**Sb**	**12 55 07.9**	**-1.7**
	59nm,0.3s							
MDOK	**Medeo**	**0.95**	**360**	⇓P		**Pb**	**12 54 55.1**	**-1.5**
	23nm,0.5s							
MDOK				⇓S		**Sb**	**12 55 07.3**	**-2.3**
	38nm,0.4s							
MDOK	**Medeo**	**0.95**	**360**	Pg		**Pb**	**12 54 55.5**	**-1.2**
	32nm,0.2s							
MDOK				Lg		Lg	12 55 08.1	
	89nm,0.3s							
AAA	**Alma-Ata**	**1.00**	**354**	*e*P		**Pb**	**12 54 57.0**	**-0.4**
	baz=54							
AAA				*e*S		**Sg**	**12 55 10.9**	**+1.0**
	baz=54							
AAA	**Alma-Ata**	**1.00**	**354**	*e*P		**Pb**	**12 54 57.0**	**-0.4**
	95nm,0.1s							
AAA				*e*S		**Sg**	**12 55 10.9**	**+1.0**
	96nm,0.2s							
AAA	**Alma-Ata**	**1.00**	**354**	P		**Pb**	**12 54 57.0**	**-0.4**
	174nm,0.2s							
AAA				S		**Sg**	**12 55 11.0**	**+1.1**
	79nm,0.1s							
KNDC	**Almaty**	**1.01**	**356**	⇓P		**Pb**	**12 54 57.0**	**-0.5**
	17nm,0.3s							
KNDC				⇓S		**Sb**	**12 55 09.8**	**-1.3**
	52nm,0.3s							
KOTS	**Kotyrbulak**	**1.03**	**2**	*e*P		**Pb**	**12 54 56.9**	**-0.9**
	baz=2.0							
KOTS				*e*S		**Sb**	**12 55 10.9**	**-0.7**
	baz=2.0							
KOTS	**Kotyrbulak**	**1.03**	**2**	*e*P		**Pb**	**12 54 56.9**	**-0.9**
	171nm,0.2s							
KOTS				*e*S		**Sb**	**12 55 10.9**	**-0.7**
	252nm,0.3s							
KOTS	**Kotyrbulak**	**1.03**	**2**	P		**Pb**	**12 54 56.9**	**-0.9**
	171nm,0.2s							
KOTS				S		**Sb**	**12 55 10.9**	**-0.7**
	252nm,0.3s							
MTBS	**Maitube**	**1.03**	**334**	*e*P		**Pb**	**12 54 56.9**	**-0.9**
	baz=34							
MTBS				*e*S		**Sb**	**12 55 10.7**	**-0.9**
	baz=34							
MTBS	**Maitube**	**1.03**	**334**	*e*P		**Pb**	**12 54 56.9**	**-0.9**
	47nm,0.2s							
MTBS				*e*S		**Sb**	**12 55 10.7**	**-0.9**
	133nm,0.2s							
MTBS	**Maitube**	**1.03**	**334**	P		**Pb**	**12 54 56.9**	**-0.9**
	47nm,0.2s							
MTBS				S		**Sb**	**12 55 10.7**	**-0.9**
	133nm,0.2s							
PRZ	**Przheval'sk**	**1.04**	**74**⇑	*i*P		**Pb**	**12 54 56.4**	**-1.6**
	baz=73							
PRZ				⇑*i*S		**Sb**	**12 55 10.4**	**-1.5**
	baz=73							
KST	**Kastek**	**1.16**	**316**	*e*P		**Pn**	**12 54 59.3**	**-1.1**
	baz=17							
KST				*e*S		**Sb**	**12 55 14.7**	**-0.7**
	baz=17							
KST	**Kastek**	**1.16**	**316**	*e*P		**Pn**	**12 54 59.3**	**-1.1**
	19nm,0.4s							
KST				*e*S		**Sb**	**12 55 14.7**	**-0.7**
	62nm,0.4s							
KST	**Kastek**	**1.16**	**316**	P		**Pn**	**12 54 59.6**	**-0.8**
	23nm,0.2s							
KST				S		**Sb**	**12 55 15.2**	**-0.2**
	60nm,0.3s							
TKM2	**Tokmak 2**	**1.29**	**304**	⇓*i*P		**Pn**	**12 55 00.8**	**-1.5**
	baz=5.0							
TKM2				⇓*i*S		**Sb**	**12 55 18.4**	**-0.8**
	baz=5.0							
TKM2	**Tokmak 2**	**1.29**	**304**	⇓P		**Pn**	**12 55 02.0**	**-0.3**
	24nm,0.2s,SNR=16							
TKM2				⇑S		**Sn**	**12 55 19.6**	**-0.4**
	101nm,0.1s							
TKM2	**Tokmak 2**	**1.29**	**304**	⇓P		**Pn**	**12 55 01.8**	**-0.5**
	5.1nm,0.2s							
TKM2				⇑S		**Sn**	**12 55 19.2**	**-0.8**
	19nm,0.2s							
SATY	**Saty**	**1.31**	**49**	*e*P		**Pn**	**12 55 01.8**	**-0.7**
	28nm,0.1s							
SATY				*e*S		**Sn**	**12 55 19.1**	**-1.3**
	239nm,0.1s							
SATY	**Saty**	**1.31**	**49**	P		**Pn**	**12 55 01.8**	**-0.7**
	28nm,0.1s							
SATY				S		**Sn**	**12 55 19.1**	**-1.3**
	239n

KTBS				S		Sg	12 55 26.6	-0.1	
	108nm,0.4s								
KBK	**Karagaybulak**	**1.62**	**287**	⇑*i*P		Pn	12 55 06.8	0.0	
	baz=87								
KBK				⇑*i*S		Sb	12 55 28.6	-0.1	
	baz=87								
KBK	**Karagaybulak**	**1.62**	**287**	⇑P		Pb	12 55 07.8	-0.2	
	20nm,0.2s,SNR=17								
CHKK	**Chushkaly**	**1.65**	**358**	*e*P		Pb	12 55 08.0	-0.3	
	baz=58								
CHKK				*e*S		Sg	12 55 30.1	-0.3	
	baz=58								
CHKK	**Chushkaly**	**1.65**	**358**	*e*P		Pb	12 55 08.0	-0.3	
	38nm,0.1s								
CHKK				*e*S		Sg	12 55 30.1	-0.3	
	100nm,0.2s								
CHKK	**Chushkaly**	**1.65**	**358**	P		Pb	12 55 08.0	-0.3	
	38nm,0.1s								
CHKK				S		Sg	12 55 30.1	-0.3	
	100nm,0.2s								
UZB	**Uzynbulak**	**1.73**	**56**	*e*P		Pb	12 55 09.0	-0.8	
	baz=56								
UZB				*e*S		Sb	12 55 31.3	-0.6	
	baz=56								
UZB	**Uzynbulak**	**1.73**	**56**	*e*P		Pb	12 55 09.0	-0.8	
	30nm,0.3s								
UZB				*e*S		Sb	12 55 31.2	-0.6	
	91nm,0.3s								
UZB	**Uzynbulak**	**1.73**	**56**	P		Pb	12 55 09.0	-0.8	
	30nm,0.3s								
UZB				S		Sb	12 55 31.2	-0.6	
	91nm,0.3s								
KPKS	**Kokpek**	**1.74**	**43**	*e*P		Pb	12 55 09.4	-0.5	
	baz=43								
KPKS				*e*S		Sb	12 55 32.1	+0.1	
	baz=43								
KPKS	**Kokpek**	**1.74**	**43**	*e*P		Pb	12 55 09.4	-0.5	
	175nm,0.3s								
KPKS				*e*S		Sb	12 55 32.1	+0.1	
	351nm,0.5s								
KUU	**Kurty**	**1.76**	**343**	*e*P		Pb	12 55 10.2	-0.1	
	baz=43								
KUU				*e*S		Sb	12 55 33.4	+0.7	
	baz=43								
KUU	**Kurty**	**1.76**	**343**	*e*P		Pb	12 55 10.2	-0.1	
	40nm,0.2s								
KUU				*e*S		Sb	12 55 33.4	+0.7	
	137nm,0.4s								
KUU	**Kurty**	**1.76**	**343**	P		Pb	12 55 10.2	-0.1	
	40nm,0.2s								
KUU				S		Sb	12 55 33.4	+0.7	
	137nm,0.4s								
CHMS	**Chumysh**	**1.87**	**296**	⇑*i*P		Pn	12 55 10.7	+0.5	
	baz=96								
CHMS				⇑*i*S		Sb	12 55 35.3	-0.6	
	baz=96								
CHMS	**Chumysh**	**1.87**	**296**	⇑P		Pb	12 55 11.9	-0.3	
	12nm,0.2s,SNR=14								
CHMS				⇓S		Sb	12 55 36.9	+1.0	
	40nm,0.2s								
UCH	**Uchtor**	**1.89**	**271**	⇑*i*P		Pn	12 55 11.2	+0.5	
	baz=72								
UCH				⇑*i*S		Sb	12 55 36.3	-0.3	
	baz=72								
UCH	**Uchtor**	**1.89**	**271**	⇑P		Pb	12 55 12.3	-0.3	
	6.8nm,0.2s,SNR=22								
FRU1	**Bishkek**	**1.89**	**289**	⇓*i*P		Pn	12 55 11.2	+0.8	
	baz=90								
FRU1				⇓*i*S		Sb	12 55 36.3	-0.1	
	baz=90								
AAK	**Ala-Archa**	**1.94**	**284**	⇑*i*P		Pn	12 55 11.8	+0.6	
	baz=84								
AAK				⇑*i*S		Sb	12 55 37.4	-0.6	
	baz=84								
AAK	**Ala-Archa**	**1.94**	**284**	⇑P		Pb	12 55 13.5	0.0	
	25nm,0.3s,SNR=14								
AAK				⇑S		Sg	12 55 40.1	+0.1	
	70nm,0.3s								
AAK	**Ala-Archa**	**1.94**	**284**	⇑Pn		Pb	12 55 13.3	-0.1	
	6.4nm,0.3s								
AAK				⇑Lg		Lg	12 55 39.4		
	31nm,0.3s								
SHLS	**Shalkode**	**2.01**	**61**	*e*P		Pg	12 55 18.8	+2.6	
	51nm,0.4s								
SHLS				*e*S		Sg	12 55 49.1	+6.9	
	160nm,0.3s								
SHLS	**Shalkode**	**2.01**	**61**	Pg		Pg	12 55 18.8	+2.6	
	51nm,0.4s								
SHLS				Lg		Lg	12 55 49.1		
	160nm,0.3s								
ARLS	**Aral**	**2.06**	**261**	⇑*e*P		Pn	12 55 13.8	+0.9	
	baz=62								
ARLS				⇑*i*S		Sb	12 55 40.0	-1.4	
	baz=62								
ARXS	**Arharly**	**2.08**	**16**	*e*P		Pb	12 55 15.6	-0.2	
	121nm,0.3s								
ARXS				*e*S		Sb	12 55 43.0	+1.0	
	52nm,0.2s								
ARXS	**Arharly**	**2.08**	**16**	Pg		Pb	12 55 15.6	-0.2	
	121nm,0.3s								
ARXS				Lg		Lg	12 55 43.0		
	52nm,0.2s								
MNBS	**Baschi**	**2.11**	**27**	*e*P		Pb	12 55 16.5	+0.1	
MNBS				*e*S		Sg	12 55 44.8	-0.7	
MNBS	**Baschi**	**2.11**	**27**	Pg		Pb	12 55 16.5	+0.1	
MNBS				Lg		Lg	12 55 44.8		
USP	**Ospenovka**	**2.16**	**300**	⇑*i*P		Pn	12 55 14.8	+0.7	
	baz=1.0								
USP				⇑*i*S		Sb	12 55 42.5	-1.6	
	baz=1.0								
USP	**Ospenovka**	**2.16**	**300**	⇑P		Pb	12 55 16.7	-0.3	
	39nm,0.3s,SNR=46								
SGDS	**Sogindy**	**2.17**	**306**	Pg		Pb	12 55 17.2	-0.2	
	33nm,0.3s								
SGDS				Lg		Lg	12 55 45.2		
	85nm,0.3s								
EKS2	**Erkin-Say**	**2.47**	**282**	⇓*i*P		Pn	12 55 19.3	+0.9	
	baz=82								
EKS2				⇓*i*S		Sn	12 55 50.2	+1.3	
	baz=82								
AML	**Almayashu**	**2.50**	**269**	⇑*i*P		Pn	12 55 19.9	+0.8	
	baz=70								
AML				⇑*i*S		Sn	12 55 51.0	+1.0	
	baz=70								
KTMS	**Ketmen**	**2.72**	**62**	*e*P		Pb	12 55 25.9	-0.8	
	0.8nm,0.2s								
KTMS				*e*S		Sb	12 56 01.3	+0.8	
	52nm,0.5s								
KTMS	**Ketmen**	**2.72**	**62**	Pg		Pb	12 55 26.0	-0.8	
	0.7nm,0.2s								
KTMS				Lg		Lg	12 56 01.4		
	70nm,0.4s								
MRKS	**Merke**	**2.88**	**282**	*e*P		Pb	12 55 30.4	+1.0	
	13nm,0.4s								
MRKS				*e*S		Sb	12 56 07.7	+2.8	
	59nm,0.4s								
KK31	**Karatay Array**	**4.91**	**283**	⇓Pg		Pg	12 56 08.5	-3.0	
	0.8nm,0.4s,baz=99,slow=16,SNR=8.9								
KK31				⇓Lg		Lg	12 57 09.7		
	4.9nm,0.5s,baz=104,slow=28,SNR=16								
MAKZ	**Makanchi**	**5.79**	**36**	⇓Pn		Pn	12 56 05.8	+1.9	
	2.8nm,0.8s								
MAKZ				⇑Lg		Lg	12 57 34.9		
	2.9nm,0.7s								
MK31	**Makanchi Array**	**5.92**	**37**	⇑Pn		Pn	12 56 08.2	+2.5	
	0.3nm,0.2s,baz=212,slow=16,SNR=9.3								
MK31				⇑Pg		Pg	12 56 28.5	-2.4	
	1.4nm,0.5s,baz=218,slow=16,SNR=5.9								
MK31				⇑Lg		Lg	12 57 40.4		
	2.5nm,0.6s,baz=216,slow=29,SNR=4.9								
OTUK	**Ortayu**	**6.89**	**333**	⇑Lg		Lg	12 58 11.1		
	11nm,1.1s								
KURK	**Kurchatov**	**8.58**	**7**	⇑Lg		Lg	12 59 06.3		
	5.1nm,0.9s								

IDC ***13*** *12:56:33.2±6.2, 33.˚72S×179.˚17W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/25, mbtmp3.3/2, MS3.7/1, Ms1 3.7/1, ms1mx2.7/9, Error ellipse: s-maj=282.8km s-min=61.8km az=163.0*

WEL ***13*** *12:56:45.2±1.0, 34˚S±13˚×17˚9W±1˚0, h190km±36km, M4.3/16, mB4.5/1, MLv4.3/16, Mw(mB)3.7/1*

ISC 13 12:56:38.6±1.9**, 33.˚96S**±0.˚10×**178.˚9W**±0.˚2**, h53**km**, n28, σ1§77/32, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.42**	**209**	P	Pn	12 57 46.2	+3.1
WMGZ				S	Sn	12 58 33.9	+0.6
PKGZ	**Pakihiroa**	**4.62**	**211**	P	Pn	12 57 46.8	+0.9
PKGZ				S	Sn	12 58 39.0	+0.8
HAZ	**Te Kaha**	**4.64**	**214**	P	Pn	12 57 48.8	+2.7
PUZ	**Puketiti**	**4.70**	**208**	P	Pn	12 57 48.3	+1.4
PUZ				S	Sn	12 58 39.0	-1.2
RUGZ	**Raukumara Rang**	**4.86**	**214**	P	Pn	12 57 50.9	+1.6
TWGZ	**Tauwhareparae**	**4.90**	**210**	P	Pn	12 57 51.1	+1.3
CNGZ	**Carnagh Statio**	**5.08**	**206**	P	Pn	12 57 53.4	+1.3
GRZ	**Great Barrier**	**5.15**	**242**	P	Pn	12 57 52.7	-0.3
TKGZ	**Te Karaka**	**5.18**	**209**	P	Pn	12 57 55.5	+2.1
KUZ	**Kuaotunu**	**5.19**	**236**	P	Pn	12 57 55.9	+2.3
MWZ	**Matawai**	**5.23**	**212**	P	Pn	12 57 55.1	+0.9
MWZ				S	Sn	12 58 50.3	-2.8
URZ	**Urewera**	**5.36**	**216**	P	Pn	12 57 56.7	+0.7
URZ				S	Sn	12 58 53.3	-3.1
RIGZ	**Rimuhau**	**5.44**	**209**	P	Pn	12 57 58.7	+1.5
SNGZ	**Shannon Statio**	**5.68**	**211**	P	Pn	12 58 01.7	+1.3
MUGZ	**Murupara**	**5.70**	**216**	P	Pn	12 58 01.2	+0.5
RTZ	**Ruatahuna**	**5.71**	**214**	P	Pn	12 58 01.8	+1.0
KNZ	**Kokohu**	**5.75**	**208**	P	Pn	12 58 00.7	-0.6
MKAZ	**Moumakai**	**5.76**	**235**	P	Pn	12 58 04.5	+3.1
WCZ	**Waipu Caves**	**5.88**	**248**	P	Pn	12 58 04.7	+1.6
TOZ	**Tahuroa Road**	**5.89**	**229**	P	Pn	12 58 06.6	+3.3
RAHZ	**Arahi**	**5.90**	**212**	P	Pn	12 58 05.2	+1.8
OUZ	**Omahuta**	**6.30**	**256**	P	Pn	12 58 09.4	+0.5
BKZ	**Black Stump Fm**	**6.37**	**214**	P	Pn	12 58 10.3	+0.4
KWHZ	**Kaweka Forest**	**6.61**	**213**	P	Pn	12 58 12.8	-0.4
ASAR	**Alice Springs**	**42.27**	**271**	P	**P**	13 04 27.0	-0.1
	0.3nm,0.5s,baz=114,slow=7.5,SNR=4.2						
WRA	**Warramunga Arr**	**43.59**	**276**	P	**P**	13 04 37.1	-0.6
	0.3nm,0.6s,baz=118,slow=8.0,SNR=5.7						
VNDA	**Vanda**	**44.48**	**186**	LR	LR	13 20 06.6	
	comp=Z,77nm,18.1s,baz=98,slow=32						
FINES	**FINESS Array B**	**148.17**	**337**	PKPbc	**PKiKP**	13 16 18.6	-0.8
	1.3nm,0.7s,baz=31,slow=5.1,SNR=4.6						

NIED ***13*** *13:09:00, 35.˚80N×141.˚10E, h20km, Mw3.3 Best double couple: M0 1.17000×10^14 NP1:φs47.00000°, δ54.00000°, λ-101.00000°. NP2:φs246.00000°, δ38.00000°, λ-75.00000°.*

JMA 13 13:09:38.9±0.2**, 35.˚78N×141.˚00E, h20**km±1km**, M3.5, 4C-1D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.14**	**236**	⇓P	Pb	13 09 43.2	-0.1
CHOJ				S	Sb	13 09 45.8	-0.4
JIHU	**Itakohorinouch**	**0.43**	**296**	⇑P	Pb	13 09 48.3	+0.6
JIHU				S	Sb	13 09 55.2	+1.5
JSMT	**Sammumatsuo**	**0.47**	**253**	P	Pb	13 09 48.7	+0.2
JSMT				S	Sb	13 09 56.0	+1.1
JHYU	**Hitachinakayam**	**0.65**	**329**	⇑P	Pb	13 09 51.7	+0.1
JHYU				S	Sb	13 10 00.8	+0.5
JCN	**Nagara**	**0.74**	**241**	P	Pn	13 09 54.0	-0.3
JCN				S	Sn	13 10 05.7	+0.7
JYT	**Yasato**	**0.79**	**305**	⇑P	Pb	13 09 53.1	-0.9
JYT				S	Sb	13 10 03.3	-1.0
JHO	**Hitachi**	**0.90**	**337**	⇑P	Pb	13 09 55.0	-0.8
JHO				S	Sb	13 10 06.6	-0.8
BSO4	**Boso 4**	**0.96**	**215**	P	Pn	13 09 57.9	+0.8
BSO2	**Boso 2**	**1.05**	**191**	*e*S	Sn	13 10 13.7	+1.7
BSO3	**Boso 3**	**1.05**	**202**	P	Pn	13 09 58.1	-0.2
BSO1	**Boso 1**	**1.12**	**181**	P	Pn	13 09 58.5	-0.5
MAT	**Matsushiro**	**2.38**	**289**	P	Pn	13 10 16.8	-0.1
MAT				*e*S	Sn	13 10 47.0	+1.5

BGR ***13*** *13:32:39.0±0.0, 32.˚28N×76.˚50E, h50km±2km, mb4.7*

IDC ***13*** *13:32:46.7±0.4, 33.˚23N×75.˚58E, h0km, mb4.8/38, mb1 4.9/43, mb1mx4.8/62, mbtmp4.8/43, ML4.3/5, MS3.8/16, Ms1 3.8/16, ms1mx3.6/34, Error ellipse: s-maj=11.4km s-min=9.7km az=23.0*

NDI ***13*** *13:32:47.4±3.6, 33.˚41N×75.˚54E, h7km±15km, mb5.0, mb5.0(NEIC)*

MOS ***13*** *13:32:50.9±1.1, 33.˚35N×75.˚64E, h36km, mb5.1/65, Error ellipse: s-maj=5.2km s-min=3.0km az=109.6*

BJI ***13*** *13:32:52.0±0.0, 33.˚41N×75.˚75E, h39km, mB4.9/46, mb4.9/57, ML4.9/3, Ms4.3/42, Ms7 4.1/39*

NEIC ***13*** *13:32:52.9±2.3, 33.˚29N±0.˚07×75.˚58E±0.˚08, h43km±5km, mb5.0/87, Error ellipse: s-maj=10.5km s-min=8.5km az=135.0*

UNK ***13*** *13:32:53.0, 33.˚31N×75.˚59E, h46km*

NNC ***13*** *13:32:58.8±5.2, 33.˚72N×75.˚45E, h85km±56km, mb4.7, mpv5.2, Error ellipse: s-maj=44.1km s-min=38.6km az=91.0*

ISC 13 13:32:51.2±0.5**, 33.˚27N**±0.˚03×**75.˚56E**±0.˚03**, h29**km±3km**, h29**km**: pP-P, n531**, σ1§72/542**, mb4.9**/179**, MS3.9**/24**, 56C-22D, Eastern Kashmir**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**0.78**	**225**	*ex*	Pn	13 32 54.5	-12
JMU				*ex*	Pn	13 32 58.0	-8.3
THN	**Thein Dam**	**0.85**	**171**	⇑*i*P	Pn	13 33 06.5	-0.7
THN				*e*S	Sn	13 33 20.5	+1.9
DHRM	**DHARAMSHALA**	**1.19**	**148**	*e*P	Pb	13 33 13.7	+0.3
DHRM				*e*S	Sb	13 33 29.9	+1.4
CHCP	**Chirah Chowk**	**1.96**	**282**	P	Pb	13 33 26.2	0.0
NIL	**Nilore**	**1.97**	**282**	P	Pb	13 33 25.8	-0.6
NIL	**Nilore**	**1.97**	**282**		Pb	13 33 25.8	-0.6
BHK	**Bhakra**	**1.99**	**158**	*e*P	Pb	13 33 27.0	+0.3
BHK				*e*S	Sb	13 33 53.8	+2.8
SMLA	**Simla**	**2.53**	**147**	*e*P	Pn	13 33 32.8	+2.4
SMLA				*i* x	x	13 33 35.0	
SARP	**Sargodha**	**2.79**	**242**	P	Pn	13 33 34.5	+0.6
CEP	**Cherat**	**3.10**	**281**	P	Pn	13 33 40.7	+2.4
THW	**Thamme Wali**	**3.24**	**263**	P	Pn	13 33 42.1	+1.9
DDI	**Dehra Dun**	**3.63**	**143**	*e*P	Pn	13 33 48.0	+2.5
DDI				*e*S	Sn	13 34 30.3	+2.9
NDI	**New Delhi**	**4.79**	**162**	*e*P	Pn	13 34 00.5	-0.9
NDI				*ex*	x	13 34 54.0	
PTH	**Pithoragarh**	**5.44**	**132**	*ex*	Pn	13 34 07.1	-3.4
PTH				*ex*	Sn	13 35 11.8	-0.5
KBL	**Kabul**	**5.57**	**285**	P	Pn	13 34 14.3	+2.0
	SNR=46						
KBL	**Kabul**	**5.57**	**285**	P	Pn	13 34 14.4	+2.1
KBL	**Kabul**	**5.57**	**285**	Pn	Pn	13 34 14.4	+2.1
KSH	**Kashi**	**6.24**	**3**	P	Pn	13 34 20.1	-1.4
KSH				sP	Pb	13 34 33.8	-5.4
KSH				S	Sn	13 35 27.4	-4.5
KSH				*smax*	*smax*		
	comp=N,610nm,1.0s						
KSH				*smax*	*smax*		
	comp=E,1μm,1.0s						
AJM	**Ajmer**	**6.82**	**187**	⇑*i*P	Pn	13 34 30.0	+0.7
AJM				*i* S	Sn	13 35 44.0	-2.0
GAR	**Garm**	**7.12**	**325**	Pn	Pn	13 34 33.9	+0.4
BTK	**Batken**	**7.77**	**332**	P	Pn	13 34 43.7	+1.3
BTK	**Batken**	**7.77**	**332**		Pn	13 34 43.7	+1.3
PYUN	**Piuthan**	**8.21**	**127**	*e*Pn	Pn	13 34 48.6	-0.1
PYUN				*e*Sn	Sn	13 36 19.4	-1.2
	650nm,0.5s						
ARSB	**Arslanbob**	**8.30**	**346**	P	Pn	13 34 50.3	+0.6
ARSB	**Arslanbob**	**8.30**	**346**	Pn	Pn	13 34 50.3	+0.6
DANN	**Dangsing**	**8.59**	**123**	*e*Pn	Pn	13 34 53.6	-0.3
DANN				*e*Sn	Sn	13 36 26.8	-3.1
	584nm,0.7s						
TARG	**Taragay, Kyrgy**	**8.63**	**11**	Pn	Pn	13 34 56.9	+2.4
KZA	**Kyzart**	**8.79**	**358**	P	Pn	13 34 58.3	+1.5
	SNR=18						
KOLN	**Koldanda**	**8.84**	**126**	*e*Pn	Pn	13 34 56.8	-0.4
KOLN				*e*Sn	Sn	13 36 35.0	-0.9
	418nm,0.7s						
KDJ	**Kajisay**	**8.94**	**8**	P	Pn	13 35 00.7	+2.2
KDJ	**Kajisay**	**8.94**	**8**	Pn	Pn	13 35 00.7	+2.2
AML	**Almayashu**	**8.97**	**351**	P	Pn	13 35 00.1	+1.0
	SNR=246						
ULHL	**Ulahol**	**8.97**	**3**	P	Pn	13 35 00.9	+1.8
	SNR=20						
UCH	**Uchtor**	**8.98**	**355**	P	Pn	13 35 00.9	+1.6
	SNR=64						
BOOM	**Boomskoye usch**	**9.21**	**2**	P	Pn	13 35 04.3	+2.1
BOOM	**Boomskoye usch**	**9.21**	**2**	Pn	Pn	13 35 04.3	+2.1
KBK	**Karagaybulak**	**9.38**	**357**	P	Pn	13 35 06.4	+1.8
	SNR=18						
AAK	**Ala-Archa**	**9.39**	**355**	Pn	Pn	13 35 05.5	+0.8
	6.6nm,0.3s,baz=168,slow=8.9,SNR=58						
AAK				Sn	Sn	13 36 47.1	-2.3
	2.2nm,0.3s,baz=333,slow=21,SNR=2.0						
AAK				LR	LR	13 39 01.1	
	comp=Z,1μm,20.0s,baz=176,slow=40						
AAK	**Ala-Archa**	**9.39**	**355**	P	Pn	13 35 06.5	+1.8
	SNR=51						
AAK	**Ala-Archa**	**9.39**	**355**	*i* P	Pn	13 35 06.3	+1.6
	SNR=61						
AAK	**Ala-Archa**	**9.39**	**355**	⇑P	Pn	13 35 06.2	+1.6
	67nm,0.8s						
AAK				⇑S	Sn	13 36 46.6	-2.8
	160nm,1.1s						
AAK	**Ala-Archa**	**9.39**	**355**	P	Pn	13 35 06.2	+1.6
AAK				S	Sn	13 36 46.5	-2.8
AAK	**Ala-Archa**	**9.39**	**355**	Pn	Pn	13 35 06.3	+1.6
GKN	**Gorkha**	**9.41**	**122**	*e*Pn	Pn	13 35 04.5	-0.6
EKS2	**Erkin-Say**	**9.48**	**352**	P	Pn	13 35 09.5	+3.6
	SNR=39						
TKM2	**Tokmak 2**	**9.63**	**0**	P	Pn	13 35 09.9	+1.8
	SNR=104						
TKM2	**Tokmak 2**	**9.63**	**0**	⇑P	Pn	13 35 09.8	+1.6
	50nm,0.6s						
TKM2				⇑S	Sn	13 36 52.5	-3.0
	79nm,0.8s						
TKM2	**Tokmak 2**	**9.63**	**0**	P	Pn	13 35 09.7	+1.6
TKM2				S	Sn	13 36 52.4	-3.0
CHMS	**Chumysh**	**9.73**	**356**	P	Pn	13 35 10.8	+1.5
	SNR=28						
TNSS	**Tian-Shan**	**9.81**	**6**	*e*P	Pn	13 35 11.9	+1.2
	350nm,0.7s,baz=6.2						
TNSS	**Tian-Shan**	**9.81**	**6**	*e*P	Pn	13 35 11.9	+1.2
TNSS				pmax	pmax		
	comp=Z,350nm,0.7s						
MTBS	**Maitube**	**9.87**	**4**	*e*P	Pn	13 35 12.4	+1.3
	comp=Z,242nm,0.6s,baz=3.9						
MTBS				*e*S	Sn	13 37 01.3	+0.3
	baz=3.9						
MTBS	**Maitube**	**9.87**	**4**	*e*P	Pn	13 35 12.4	+1.3
MTBS				*e*S	Sn	13 37 01.3	+0.3
MTBS				pmax	pmax		
	comp=Z,242nm,0.6s						
IUG	**Iuzhnay**	**9.88**	**335**	*e*P	Pn	13 35 11.2	-0.2
	comp=Z,2.3nm,0.6s,baz=335						
IUG				LR	LR	13 38 52.2	
	comp=Z,30nm,9.9s,baz=335						
IUG	**Iuzhnay**	**9.88**	**335**	*e*P	Pn	13 35 11.1	-0.2
IUG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
IUG				MLR	MLR		
	comp=Z,30nm,10.0s						
MDOK	**Medeo**	**9.95**	**6**	*e*P	Pn	13 35 13.5	+1.2
	comp=Z,123nm,1.0s,baz=6.5						
MDOK				LR	LR	13 39 03.5	
	comp=Z,1μm,9.8s,baz=6.5						
MDOK	**Medeo**	**9.95**	**6**	⇓P	Pn	13 35 13.5	+1.2
	comp=Z,16nm,0.6s						
MDOK	**Medeo**	**9.95**	**6**	*e*P	Pn	13 35 13.4	+1.2
MDOK				pmax	pmax		
	comp=Z,123nm,1.0s						
MDOK				MLR	MLR		
	comp=Z,1μm,10.0s						
AAA	**Alma-Ata**	**9.98**	**6**	LR	LR	13 39 03.5	
	comp=Z,652nm,10.1s,baz=5.9						
AAA	**Alma-Ata**	**9.98**	**6**	*e*P	Pn	13 35 21.2	+8.5
AAA				pmax	pmax		
	comp=Z,100nm,0.9s						
DMN	**Daman**	**9.98**	**122**	*e*Pn	Pn	13 35 12.0	-1.0
USP	**Ospenovka**	**10.02**	**356**	P	Pn	13 35 14.2	+1.0
	SNR=11						
SATY	**Saty**	**10.02**	**12**	*e*P	Pn	13 35 15.1	+1.8
	comp=Z,27nm,0.9s,baz=12						
SATY				LR	LR	13 39 13.4	
	comp=Z,201nm,12.1s,baz=12						
SATY	**Saty**	**10.02**	**12**	*e*P	Pn	13 35 15.1	+1.8
SATY				pmax	pmax		
	comp=Z,27nm,0.9s						
SATY				MLR	MLR		
	comp=Z,201nm,12.0s						
BHPL	**Bhopal**	**10.13**	**170**	*e*P	Pn	13 35 14.8	0.0
BHPL				*ex*	Sn	13 37 01.0	-6.4
DZA	**Taraz**	**10.16**	**342**	*e*P	Pn	13 35 16.1	+0.8
	comp=Z,20nm,0.4s,baz=342						
DZA				LR	LR	13 38 52.2	
	comp=Z,277nm,9.7s,baz=342						
DZA	**Taraz**	**10.16**	**342**	*e*P	Pn	13 35 16.0	+0.8
DZA				pmax	pmax		
	comp=Z,20nm,0.4s						
DZA				MLR	MLR		
	comp=Z,277nm,10.0s						
CHM	**Chimkent**	**10.19**	**334**	*e*P	Pn	13 35 16.1	+0.6
	comp=Z,25nm,0.5s,baz=334						
CHM	**Chimkent**	**10.19**	**334**	*e*P	Pn	13 35 16.0	+0.6
CHM				pmax	pmax		
	comp=Z,25nm,0.5s						
SGDS	**Sogindy**	**10.19**	**356**	*e*P	Pn	13 35 16.1	+0.4
	comp=Z,9.2nm,0.6s,baz=356						
SGDS				LR	LR	13 39 03.5	
	comp=Z,436nm,10.4s,baz=356						
SGDS	**Sogindy**	**10.19**	**356**	*e*P	Pn	13 35 16.0	+0.4
SGDS				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SGDS				MLR	MLR		
	comp=Z,436nm,10.0s						
PKIN	**Phulchoki**	**10.21**	**121**	*e*Pn	Pn	13 35 14.6	-1.5
PKIN				*e*Sn	Sn	13 37 06.1	-3.6
	comp=Z,442nm,0.7s						
PKI	**Pulchoki**	**10.22**	**121**	*e*Pn	Pn	13 35 14.7	-1.6
PKI				*e*Sn	Sn	13 37 05.7	-4.4
	comp=Z,382nm,0.7s						
UZB	**Uzynbulak**	**10.23**	**14**	*e*P	Pn	13 35 17.4	+1.2
	comp=Z,29nm,1.4s,baz=15						
UZB				*e*S	Sn	13 37 09.5	-0.5
	baz=15						
UZB				LR	LR	13 39 10.7	
	comp=Z,306nm,11.5s,baz=15						
UZB	**Uzynbulak**	**10.23**	**14**	*e*P	Pn	13 35 17.3

comp=Z,357nm,0.7s
TDK Taldyqorghan 11.92 10 LR LR 13 40 22.9
comp=Z,546nm,11.4s,baz=10.0
TAPN Taplejung 12.04 116 *e*Pn **Pn** **13 35 38.9 -2.2**
TAPN *e*Sn **Sn** **13 37 47.7 -6.9**
comp=Z,187nm,0.8s
ODAN Odare 12.07 119 *e*Pn **Pn** **13 35 40.1 -1.4**
NGP Nagpur 12.46 165 IAmb IAmb 13 35 45.7
comp=Z,97nm,0.7s
NGP *e*P **Pn** **13 35 46.0 -0.7**
BOK Bokaro 13.09 134 *e*P **Pn** **13 35 52.3 -2.9**
LSA Lhasa 13.77 101 P **Pn** **13 36 03.8 -1.1**
LSA pmax pmax
comp=Z,28nm,0.9s
LSA Lhasa 13.77 101 P **Pn** **13 36 05.0 +0.1**
LSA Lhasa 13.77 101 Pn **Pn** **13 36 05.0 +0.1**
WMQ Urumqi 14.16 38 *e*P **Pn** **13 36 07.9 -2.0**
WMQ pP P 13 36 18.0 +0.9
WMQ PP **PnPn** **13 36 23.4 +5.6**
WMQ pmax pmax
comp=Z,18nm,0.6s
WMQ pmax pmax
comp=Z,80nm,4.3s
WMQ LR LR
comp=Z,540nm,9.9s
WMQ LR LR
comp=Z,610nm,12.1s
WMQ LR LR
comp=Z,870nm,18.3s
MAKZ Makanchi 14.38 18 ⇑P **Pn** **13 36 11.1 -1.6**
comp=Z,34nm,0.8s
MAKZ Makanchi 14.38 18 P **Pn** **13 36 11.6 -1.1**
MAKZ Makanchi 14.38 18 **Pn** **13 36 11.6 -1.1**
MK31 Makanchi Array 14.45 19 P **Pn** **13 36 11.7 -2.0**
comp=Z,20nm,0.7s,baz=199,slow=12,SNR=109
MK31 ⇓S **Sn** **13 38 46.1 -6.7**
comp=Z,15nm,0.8s
MK31 Makanchi Array 14.45 19 P **Pn** **13 36 12.6 -1.1**
MK31 Makanchi Array 14.45 19 Pn **Pn** **13 36 12.6 -1.1**
MKAR Makanchi Array 14.45 19 Pn **Pn** **13 36 12.1 -1.6**
comp=Z,1.3nm,0.3s,baz=196,slow=12,SNR=60
MKAR Sn **Sn** **13 38 45.8 -7.0**
comp=Z,0.7nm,0.3s,baz=200,slow=21,SNR=5.3
MKAR Makanchi Array 14.45 19 Pn **Pn** **13 36 11.3 -2.4**
SRSP Sriramsagar 14.50 169 *e*P Pn 13 36 09.5 -5.0
SRSP IVMs_BB IVMs_BB 13 41 50.8
comp=Z,483nm,8.9s
RPR Rampur 14.74 166 *e*P **Pn** **13 36 13.1 -4.6**
RPR IVMsBB 13 42 08.2
comp=Z,560nm,6.3s
GEYT Alibeck 14.93 293 Pn **Pn** **13 36 20.3 +0.1**
comp=Z,0.8nm,0.3s,baz=108,slow=13,SNR=7.2
OTUK Ortayu 15.15 352 ⇑P **Pn** **13 36 20.7 -2.5**
comp=Z,17nm,0.7s
OTUK Ortayu 15.15 352 P **Pn** **13 36 20.6 -2.5**
KLRI Killari 15.17 176 *e*P **Pn** **13 36 17.8 -5.8**
KLRI IVMs_BB IVMs_BB 13 42 36.6
comp=Z,978nm,6.3s
BWNR Bhubaneshwar 15.82 142 *ex* **Pn** **13 36 29.2 -2.7**
ZSN Zaisan 15.82 24 *e*P **Pn** **13 36 31.2 -0.6**
baz=24
ZSN *e*S **Sn** **13 39 24.1 -2.2**
baz=24
ZSN LR LR 13 42 58.0
comp=Z,120nm,9.5s,baz=24
ZSN Zaisan 15.82 24 *e*P **Pn** **13 36 31.2 -0.6**
ZSN *e*S **Sn** **13 39 24.0 -2.2**
ZSN MLR MLR
comp=Z,120nm,10.0s
KAD Karad 15.95 185 *ex* **Pn** **13 36 29.5 -4.1**
HYBB Hyderabad (bro 16.01 170 *e*P **Pn** **13 36 28.5 -6.0**
HYBB IVMs_BB IVMs_BB 13 42 46.1
comp=Z,629nm,8.4s
HYB Hyderabad 16.02 170 *i* P **Pn** **13 36 28.5 -6.0**
HYB *e* 13 39 20.0
HYB *e* 13 39 35.0
HYB Hyderabad 16.02 170 *ex* x 13 36 28.4
HYB IAmb IAmb 13 36 39.1
comp=Z,41nm,0.4s
SHL Shillong 16.15 114 *e*P **Pn** **13 36 34.4 -1.9**
SHL Shillong 16.15 114 P **Pn** **13 36 35.7 -0.6**
SNR=16
PVM Polavaram 16.86 160 *e*P **Pn** **13 36 40.2 -5.0**
PVM IVMs_BB IVMs_BB 13 43 07.5
comp=Z,543nm,15.0s
NJS Nagarjunasagar 16.98 168 *e*P **Pn** **13 36 41.2 -5.5**
NJS IVMs_BB IVMs_BB 13 43 17.5
comp=Z,586nm,9.0s
SRLM Srisailam 17.36 169 *e*P Pn 13 36 43.7 -7.7
SRLM IVMs_BB IVMs_BB 13 42 54.4
comp=Z,484nm,4.6s
SEM Semipalatinsk 17.47 10 *e*P **P** **13 36 53.9 +0.1**
comp=Z,16nm,0.8s,baz=10
SEM *e*S **Sn** **13 40 05.7 -0.7**
baz=10
SEM Semipalatinsk 17.47 10 *e*P **P** **13 36 53.9 +0.1**
SEM *e*S **Sn** **13 40 05.7 -0.7**
SEM pmax pmax
comp=Z,16nm,0.8s
KURBB Kurchatov Arra 17.48 6 Pn **Pn** **13 36 50.0 -2.7**
comp=Z,0.5nm,0.3s,baz=193,slow=11,SNR=124
KURK Kurchatov 17.58 6 ⇑P **Pn** **13 36 50.6 -3.3**
comp=Z,38nm,0.8s
KURK Kurchatov 17.58 6 *c i*P **Pn** **13 36 50.9 -3.0**
KURK pmax pmax
comp=Z,71nm,1.3s
KURK Kurchatov 17.58 6 Pn **Pn** **13 36 50.4 -3.5**
ADKI Addanki 17.80 166 *e*P **Pn** **13 36 52.4 -4.5**
ADKI IVMs_BB IVMs_BB 13 43 45.5
comp=Z,504nm,7.9s
WSAR Wadi Sarin 17.93 240 P **Pn** **13 36 58.5 -0.1**
comp=Z,1.8nm,0.3s,baz=91,slow=12,SNR=12
WSAR Wadi Sarin 17.93 240 P **P** **13 36 58.7 -0.2**
WBK Wadi Bani Khal 18.08 238 P **P** **13 37 01.1 +0.5**
SNR=5.5
BANOM Banah 18.27 251 P **Pn** **13 37 03.4 +0.8**
URV Uravakonda 18.31 175 *e*P **P** **13 36 59.6 -3.5**
URV IVMs_BB IVMs_BB 13 44 05.6
comp=Z,954nm,6.3s
MDH Madha 18.57 250 P **Pn** **13 37 06.9 +0.7**
DGZ Jazzator, Alta 18.63 25 *ce*P **P** **13 37 06.0 -0.6**
MSFE Esma-Masafi 18.65 250 P **Pn** **13 37 09.5 +2.3**
UOSS Minazif 18.82 249 P **Pn** **13 37 10.2 +0.9**
JMDO Jabal Madar 18.85 239 P **Pn** **13 37 11.7 +2.0**
SNR=5.6
ALNE Al Ain 19.63 247 *i* P **Pn** **13 37 20.2 +1.1**
SNR=7.0
AB31 Akbulak array 19.76 329 P **P** **13 37 18.8 0.0**
comp=Z,30nm,0.7s,baz=132,slow=11,SNR=356
AB31 Akbulak array 19.76 329 *e*P **P** **13 37 18.7 0.0**
ABKAR Akbulak array 19.76 329 P **P** **13 37 19.1 +0.4**
SKHT Srikalahasti 19.81 168 *e*P **P** **13 37 19.2 -0.3**
SKHT IVMs_BB IVMs_BB 13 44 55.0
comp=Z,452nm,10.8s
BRVK Borovoye 20.14 351 P **P** **13 37 23.6 +0.8**
BRVK Borovoye 20.14 351 *ce*P **P** **13 37 22.9 +0.1**
BRVK pmax pmax
comp=Z,136nm,0.8s
BRVK Borovoye 20.14 351 P **P** **13 37 22.9 +0.1**
GTA Gaotai 20.45 66 *e*P **P** **13 37 26.8 +0.3**
GTA pP sP 13 37 37.0 -1.9
GTA sP pP 13 37 43.5 +8.5
GTA pmax pmax
comp=Z,27nm,1.1s
GTA pmax pmax
comp=Z,170nm,7.6s
GTA LR LR
comp=Z,260nm,14.4s
GTA LR LR
comp=Z,440nm,12.0s
GTA LR LR
comp=Z,440nm,11.0s
AKTO Aktyubinsk 21.47 328 P **P** **13 37 37.5 +0.2**
comp=Z,185nm,0.7s,baz=128,slow=9.3,SNR=439
AKTO S **S** **13 41 29.1 -4.7**
comp=Z,3.3nm,0.7s,baz=328,slow=22,SNR=2.6
AKTO LR LR 13 45 41.7
comp=Z,92nm,19.4s,baz=142,slow=36
ZAA0 Zalesovo Array 21.69 15 P **P** **13 37 37.6 -1.9**
ZALV Zalesovo Beam 21.69 15 P **P** **13 37 38.3 -1.2**
comp=Z,21nm,0.4s,baz=212,slow=11,SNR=84
ZALV Zalesovo Beam 21.69 15 P **P** **13 37 37.8 -1.8**
LKRN Lenkeran, Azer 22.30 292 P **P** **13 37 48.5 +2.2**
LZH Lanzhou 23.39 75 *e*P **P** **13 37 55.1 -2.7**
LZH pP pP 13 38 03.8 -2.8
LZH sP sP 13 38 10.0 -0.5
LZH PP **PnPn** **13 38 25.3 +0.9**
LZH pmax pmax
comp=Z,22nm,1.1s
LZH pmax pmax
comp=Z,82nm,4.3s
LZH LR LR
comp=Z,380nm,14.1s
LZH LR LR
comp=Z,380nm,15.2s
LZH LR LR
comp=Z,260nm,16.8s
SEKA Sheki 23.86 298 P **P** **13 38 03.8 +1.7**
MNGR Mingechevir, A 23.87 296 P **P** **13 38 04.5 +2.4**
CD2 Chengdu 23.98 88 P **P** **13 38 04.3 +1.0**
CD2 pmax pmax
comp=Z,50nm,0.6s
GANJ Ganja 24.42 296 P **P** **13 38 09.3 +2.0**
NAX Nakhchivan 24.89 292 P **P** **13 38 14.3 +2.7**
KMI Kunming 25.02 102 P **P** **13 38 12.8 -0.3**
GROC Groznyy 25.28 302 *e*P **P** **13 38 15.4 +0.4**
GROC *e* 13 38 52.1
GROC pmax pmax
comp=Z,55nm,0.8s
CHTO Chiang Mai 25.39 119 P **P** **13 38 15.4 -0.8**
CHTO pmax pmax
comp=Z,38nm,1.3s
CHTO Chiang Mai 25.39 119 P **P** **13 38 15.3 -0.8**
CM31 Chiang Mai Arr 25.61 119 P **P** **13 38 19.9 +1.7**
SNR=11
CM31 Chiang Mai Arr 25.61 119 P **P** **13 38 17.2 -1.0**
CMAR Chiang Mai Arr 25.61 119 P **P** **13 38 18.2 0.0**
comp=Z,10nm,0.6s,baz=305,slow=9.7,SNR=51
CMAR ScP **ScP** **13 45 26.9 +0.8**
comp=Z,1.1nm,0.7s,baz=274,slow=4.0,SNR=4.5
SVE Sverdlovsk 25.69 341 *d i*P **P** **13 38 19.4 +0.8**
SVE pmax pmax
comp=Z,56nm,1.1s
SVE MLR MLR
comp=Z,638nm,13.0s
ARU Arti 25.96 338 P **P** **13 38 21.8 +0.8**
comp=Z,25nm,0.8s,baz=156,slow=5.5,SNR=87
ARU LR LR 13 49 08.9
comp=Z,440nm,18.6s,baz=108,slow=38
ARU Arti 25.96 338 *c i*P **P** **13 38 21.8 +0.8**
ARU *PP **sP** **13 38 34.0 0.0**
ARU 13 39 00.3
ARU S **S** **13 42 49.2 -0.3**
ARU SS **SnSn** **13 43 50.1 +2.6**
ARU pmax pmax
comp=Z,84nm,0.9s
ARU MLR MLR
comp=Z,370nm,11.0s
ARU Arti 25.96 338 P **P** **13 38 21.4 +0.4**
KZRT Kazreti 25.97 297 P **P** **13 38 23.5 +2.2**
BGD Bogdanovka 26.55 297 P **P** **13 38 31.4 +4.6**
ZEI Tsey 26.56 300 *e*P **P** **13 38 27.9 +1.1**
ZEI pmax pmax
comp=Z,19nm,1.1s
ZAK Zakamensk 26.59 42 *e*P **P** **13 38 27.3 +0.4**
ZAK pmax pmax
comp=Z,9.0nm,0.8s
AKH Akhalkalaki 26.64 297 P **P** **13 38 30.8 +3.2**
SONM Songino Array 27.36 49 P **P** **13 38 35.1 +1.3**
comp=Z,14nm,0.9s,baz=244,slow=9.7,SNR=48
SONM PcP **PcP** **13 41 52.2 -0.3**
comp=Z,3.3nm,0.7s,baz=236,slow=2.7,SNR=4.9
SONM LR LR 13 50 31.8
comp=Z,294nm,18.7s,baz=292,slow=39
SONM Songino Array 27.36 49 P **P** **13 38 34.6 +0.7**
TLY Talaya 27.44 39 LR LR 13 50 46.8
comp=Z,216nm,21.1s,baz=246,slow=39
KBZ Khabaz 27.45 302 P **P** **13 38 34.5 -0.1**
comp=Z,2.6nm,0.7s,baz=71,slow=7.2,SNR=4.7
KBZ Khabaz 27.45 302 *de*P **P** **13 38 35.0 +0.4**
KBZ pmax pmax
comp=Z,9.0nm,1.1s
KIV Kislovodsk 27.65 302 ⇑ *e*P **P** **13 38 39.2 +2.7**
KIV *e* 13 39 24.1
KIV pmax pmax
comp=Z,4.0nm,0.6s
KIV MLR MLR
comp=Z,71nm,14.0s
XAN Xi'an 27.71 79 P **P** **13 38 40.4 +3.3**
XAN pP sP 13 38 51.6 +1.7
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN pmax pmax
comp=Z,140nm,5.1s
GYA Guiyang 27.75 96 ⇑ *i*P **P** **13 38 40.3 +2.8**
GYA S **S** **13 43 16.9 -1.6**
GYA SS **SnSn** **13 44 32.8 +1.0**
GYA pmax pmax
comp=Z,10.0nm,0.6s
GYA pmax pmax
comp=Z,540nm,4.0s
GYA LR LR
comp=Z,450nm,4.1s
GYA LR LR
comp=Z,370nm,4.8s
GYA LR LR
comp=Z,290nm,4.4s
ULN Ulaanbaatar 27.78 49 P **P** **13 38 37.2 -0.5**
ULN pmax pmax
comp=Z,9.0nm,0.9s
ULN Ulaanbaatar 27.78 49 P **P** **13 38 37.2 -0.5**
RAYN Ar Rayn 28.09 258 *i* P **P** **13 38 41.3 +0.8**
SNR=10.0
RAYN Ar Rayn 28.09 258 P **P** **13 38 40.6 +0.1**
RAYN pmax pmax
comp=Z,8.0nm,0.9s
RAYN Ar Rayn 28.09 258 P **P** **13 38 40.6 +0.1**
HHC Hu-ho-hao-te 29.55 65 *e*P **P** **13 38 55.1 +1.6**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,67nm,6.6s
MALT Malatya 30.40 290 P **P** **13 39 03.6 +2.6**
KIRV Kirov 30.79 333 *i* P **P** **13 39 04.8 +0.8**
ANN Anapa 31.50 303 *e*P **P** **13 39 06.3 -4.2**
ANN *e* *PP **pP** **13 39 20.2 +0.3**
ANN *e*S **S** **13 44 09.4 -7.4**
ANN pmax pmax
comp=Z,28nm,0.7s
WHN Wuhan 32.91 84 P **P** **13 39 24.0 +1.0**
WHN sP **sP** **13 39 35.0 -0.9**
WHN pmax pmax
comp=Z,38nm,0.7s
BR131 Keskin Array S 34.07 293 P **P** **13 39 35.2 +2.0**
SNR=11
BR131 Keskin Array S 34.07 293 P **P** **13 39 34.3 +1.1**
BR131 pmax pmax
comp=Z,14nm,0.7s
BR131 Keskin Array S 34.07 293 P **P** **13 39 34.3 +1.1**
BR131 IAmb IAmb 13 39 36.1
comp=Z,14nm,0.7s
BRTR Keskin Array B 34.07 293 P **P** **13 39 34.7 +1.5**
comp=Z,11nm,0.7s,baz=111,slow=9.2,SNR=51
BRTR PcP **PcP** **13 42 08.5 -1.9**
comp=Z,0.8nm,0.6s,baz=83,slow=5.6,SNR=1.9
BRTR Keskin Array B 34.07 293 P **P** **13 39 34.4 +1.1**
MOS Moscow 34.51 322 *e*P **P** **13 39 35.8 -0.8**
MOS pmax pmax
comp=Z,35nm,0.7s
OBN Obninsk 34.81 321 *i*P **P** **13 39 38.9 -0.3**
OBN *e* 13 40 53.3
OBN pmax pmax
comp=Z,11nm,0.4s
OBN MLR MLR
comp=Z,94nm,16.0s
KLMR Klimovskoe 36.12 331 *e*P **P** **13 39 47.8 -2.6**
KLMR *e* 13 41 10.4
KLMR pmax pmax
comp=Z,45nm,1.4s
KLMR Klimovskoe 36.12 331 *e*P **P** **13 39 47.8 -2.6**
KLMR AMP 13 39 58.6
comp=Z,45nm,1.4s
KLMR *e*PP **PnPn** **13 41 10.5 -1.5**
KLMR LQ LQ 13 52 00.7
KLMR LQ LQ 13 52 00.7
KLMR LR LR 13 54 32.1
NJ2 Nanjing 36.28 80 *e*P **P** **13 39 52.3 +0.2**
NJ2 pmax pmax
comp=Z,14nm,0.6s
NRIK Noril'sk 36.74 7 P **P** **13 39 56.3 +0.7**
comp=Z,6.2nm,0.5s,baz=202,slow=5.8,SNR=20
NRIK LR LR 13 56 40.6
comp=Z,177nm,18.1s,baz=212,slow=39
NRIK Noril'sk 36.74 7 *i* P **P** **13 39 56.0 +0.4**
NRIK pmax pmax
comp=Z,29nm,1.3s
IPM Ipoh 37.21 135 P **P** **13 39 59.7 -0.5**
IPM IAmb IAmb 13 40 05.1
comp=Z,15nm,0.6s
AKASG Malin Array Be 37.89 311 P **P** **13 40 05.0 -0.5**
comp=Z,5.7nm,0.5s,baz=83,slow=7.1,SNR=12
AKASG PP **PnPn** **13 41 36.7 +3.1**
comp=Z,1.2nm,0.4s,baz=89,slow=11,SNR=4.4
AKASG Malin Array Be 37.89 311 *ce*P **P** **13 40 04.9 -0.6**
AKASG pmax pmax
comp=Z,6.0nm,0.5s
AKBB Malin Array Si 37.89 311 *ce*P **P** **13 40 04.8 -0.7**
AKBB Malin Array Si 37.89 311 P **P** **13 40 04.5 -1.0**
CFR Carcaliu 38.10 302 ⇑P **P** **13 40 07.8 +0.4**
CFR Carcaliu 38.10 302 ⇑P **P** **13 40 07.8 +0.4**
TMCR Tamitsa 38.56 335 *e*P **P** **13 40 11.5 +0.5**
TMCR pmax pmax
comp=Z,76nm,1.2s
VRI Vrincioaia 39.11 304 ⇓P **P** **13 40 17.7 +1.8**
VRI Vrincioaia 39.11 304 ⇓P **P** **13 40 17.7 +1.8**
PLOR Plostina 39.16 303 ⇑P **P** **13 40 17.8 +1.4**
PLOR Plostina 39.16 303 ⇑P **P** **13 40 17.8 +1.4**
TESR Tescani 39.18 305 ⇑P **P** **13 40 16.7 +0.2**
GIRR Girov 39.30 305 ⇑P **P** **13 40 17.9 +0.5**
BIZ Bicaz 39.57 305 ⇑P **P** **13 40 20.0 +0.2**
MLR Muntele Rosu 39.65 303 ⇓P **P** **13 40 22.7 +2.1**
MLR Muntele Rosu 39.65 303 ⇓P **P** **13 40 22.7 +2.1**
MLR Muntele Rosu 39.65 303 P **P** **13 40 22.1 +1.5**
MLR IAmb IAmb 13 40 23.2
comp=Z,28nm,0.7s
EZN Ezine 39.68 294 P **P** **13 40 22.5 +1.8**
CN2 Changchun 39.88 60 *e*P **P** **13 40 22.6 +0.3**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,200nm,11.0s
CN2 LR LR
comp=Z,300nm,12.0s
JOSR Joseni 39.97 305 ⇑P P 13 40 31.8 +8.6
DOPR Dopca 40.05 304 ⇑P **P** **13 40 24.6 +0.8**
BURAR Bucovina Array 40.20 306 ⇓P **P** **13 40 25.4 +0.3**
BURAR Bucovina Array 40.20 306 ⇓P **P** **13 40 25.4 +0.3**
BURAR Bucovina Array 40.20 306 P **P** **13 40 25.4 +0.3**
BUR08 Bucovina Ar. S 40.21 306 P **P** **13 40 25.4 +0.2**
MTUR Matau 40.28 302 ⇑P **P** **13 40 26.2 +0.5**
MTUR Matau 40.28 302 ⇑P **P** **13 40 26.2 +0.5**
JOF Joensuu 40.52 331 P **P** **13 40 28.3 +0.9**
JOF pmax pmax
comp=Z,24nm,0.8s
VSU Vasula 41.03 323 *d i*P **P** **13 40 31.6 0.0**
VSU pmax pmax
comp=Z,86nm,0.8s
TWG Pinlang 41.22 93 P **P** **13 40 35.2 +1.5**
PDSI Padang 41.31 140 P **P** **13 40 38.4 +4.0**
comp=Z,11nm,0.8s
BMR Baia Mare 41.36 306 ⇑P **P** **13 40 36.1 +1.6**
BMR Baia Mare 41.36 306 ⇑P **P** **13 40 36.1 +1.6**
IDI Anoyia 41.55 287 ⇑P **P** **13 40 37.5 +1.1**
ZEA Zeya 41.60 45 *e*P **P** **13 40 38.0 +1.6**
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA MLR MLR
comp=E,500nm,14.0s
ZEA MLR MLR
comp=Z,500nm,14.0s
PAIG Paliouri 41.69 295 P **P** **13 40 38.7 +1.4**
PAIG pmax pmax
comp=Z,10.0nm,0.9s
VTS Vitosha 41.73 299 ⇓P **P** **13 40 38.6 +0.8**
VTS Vitosha 41.73 299 ⇓P **P** **13 40 38.6 +0.8**
LVZ Lovozero 41.84 338 *ce*P **P** **13 40 38.4 +0.2**
LVZ pmax pmax
comp=Z,132nm,1.7s
DRGR 41.90 305 ⇑P **P** **13 40 40.1 +1.1**
DRGR 41.90 305 ⇑P **P** **13 40 40.1 +1.1**
KWP Kalwaria Pacla 41.95 309 P **P** **13 40 40.2 +0.9**
KWP pmax pmax
comp=Z,26nm,0.9s
KNT Kendrikon 42.13 296 P **P** **13 40 41.5 +0.6**
KNT pmax pmax
comp=Z,8.0nm,0.7s
HERR Herculane 42.16 302 ⇓P **P** **13 40 41.1 0.0**
UZH Uzhgorod 42.19 308 *e*P **P** **13 40 42.2 +1.0**
UZH *e* 13 40 49.3
KOLS Kolonicke sedl 42.21 308 *e*P **P** **13 40 41.4 0.0**
KOLS pmax pmax
comp=Z,4.0nm,0.9s
KOLS Kolonicke sedl 42.21 308 *e*P **P** **13 40 41.4 0.0**
FIA1 FINESS Array S 42.23 327 IAmb IAmb 13 40 42.5
comp=Z,15nm,0.7s
FINES FINESS Array B 42.24 327 P **P** **13 40 41.8 +0.3**
comp=Z,17nm,0.7s,baz=118,slow=10,SNR=87
FINES LR LR 13 59 57.0
comp=Z,138nm,19.4s,baz=87,slow=39
FINES FINESS Array B 42.24 327 P **P** **13 40 41.7 +0.2**
KSAR Wonju Array Be 42.43 69 P **P** **13 40 44.0 +0.6**
KSAR Wonju Array Be 42.43 69 P **P** **13 40 44.0 +0.6**
KSRS Korea Array 42.46 69 P **P** **13 40 43.0 -0.5**
comp=Z,12nm,0.9s,baz=273,slow=7.6,SNR=52
KSRS LR LR 13 59 46.2
comp=Z,31nm,20.2s,baz=281,slow=38
SUF Sumiainen 42.63 329 P **P** **13 40 45.3 +0.7**
SUF pmax pmax
comp=Z,33nm,0.8s
MDVR Moldovita 42.67 302 ⇑P **P** **13 40 45.9 +0.6**
BZS Buzias 42.69 303 ⇑P **P** **13 40 46.7 +1.3**
BZS Buzias 42.69 303 ⇑P **P** **13 40 46.7 +1.3**
MSF Maaselka 42.73 334 P **P** **13 40 46.1 +0.6**
MSF pmax pmax
comp=Z,26nm,0.8s
MDJ Mudanjiang 42.81 58 P **P** **13 40 47.3 +0.9**
MDJ pmax pmax
comp=Z,46nm,1.0s
MDJ pmax pmax
comp=Z,140nm,4.0s
MDJ Mudanjiang 42.81 58 IAmb IAmb 13 40 48.5
comp=Z,28nm,0.7s
AGG Agios Georgios 42.86 293 P **P** **13 40 46.8 -0.1**
AGG pmax pmax
comp=Z,19nm,0.9s
AGG Agios Georgios 42.86 293 P **P** **13 40 46.8 -0.1**
NIE Niedzica 43.51 309 P **P** **13 40 53.4 +1.4**
NIE pmax pmax
comp=Z,10.0nm,0.9s
PSZ Piszkesteto 43.79 307 ⇓P **P** **13 40 54.2 -0.2**
PSZ Piszkesteto 43.79 307 ⇓P **P** **13 40 54.2 -0.2**
MSHR Mys Shultsa 44.13 61 ⇑ *i*P **P** **13 40 58.9 +1.8**
MSHR pmax pmax
comp=Z,24nm,1.7s
VYHS Vyhne 44.48 307 *e*P **P** **13 41 00.0 +0.2**
VYHS Vyhne 44.48 307 *e*P **P** **13 41 00.0 +0.2**
YAK Yakutsk 44.52 33 P **P** **13 40 59.8 0.0**
comp=Z,16nm,0.7s,baz=60,slow=1.5,SNR=10.0
YAK Yakutsk 44.52 33 *e*P **P** **13 40 59.3 -0.5**
YAK pmax pmax
comp=Z,32nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK Yakutsk 44.52 33 P **P** **13 41 01.4 +1.6**
YAK IAmb IAmb 13 41 01.5
comp=Z,27nm,0.8s
USRK Ussuriysk Ar. 44.56 59 P **P** **13 41 00.3 -0.1**
comp=Z,4.0nm,0.6s,baz=269,slow=7.3,SNR=11
USRK LR LR 14 01 02.7
comp=Z,118nm,19.1s,baz=306,slow=38
USRK Ussuriysk Ar. 44.56 59 P **P** **13 41 01.3 +0.9**
USRK Ussuriysk Ar. 44.56 59 P **P** **13 41 01.3 +0.9**
JAVC Velka Javorina 45.24 308 *e*P **P** **13 41 07.0 +1.1**
MORC Moravsky Berou 45.30 309 ⇑P **P** **13 41 07.0 +0.7**
MORC Moravsky Berou 45.30 309 *e*P **P** **13 41 06.9 +0.6**
MORC Moravsky Berou 45.30 309 ⇑P **P** **13 41 07.0 +0.7**
MORC Moravsky Berou 45.30 309 IAmb IAmb 13 41 07.7
comp=Z,15nm,0.6s

MODS Modra-Piesok 45.52 307 *e*P **P** **13 41 06.9 -1.2**
MODS pmax pmax
comp=Z,6.0nm,1.2s
MODS Modra-Piesok 45.52 307 *e*P **P** **13 41 06.9 -1.2**
ARCES ARCESS Array B 45.55 338 P **P** **13 41 09.0 +1.0**
comp=Z,24nm,0.6s,baz=114,slow=8.3,SNR=192
ARCES LR LR 14 01 30.4
comp=Z,332nm,19.5s,baz=118,slow=38
ARE0 ARCESS Array S 45.55 339 *e*P **P** **13 41 08.3 +0.3**
VRAC Vranov 45.93 309 ⇑P **P** **13 41 12.1 +0.8**
VRAC Vranov 45.93 309 *e*P **P** **13 41 11.9 +0.6**
VRAC Vranov 45.93 309 ⇑P **P** **13 41 12.1 +0.8**
KTK1 Kautokeino 46.07 337 *e*P **P** **13 41 12.6 +0.6**
DPC Dobruska-Polom 46.07 310 *e*P **P** **13 41 13.0 +0.6**
DPC *ex* x 13 41 17.8
DPC Dobruska-Polom 46.07 310 *e*P **P** **13 41 13.0 +0.6**
KRUC Moravsky 46.08 308 *e*P **P** **13 41 12.8 +0.4**
KRUC Moravsky 46.08 308 P **P** **13 41 13.0 +0.6**
KRUC pmax pmax
comp=Z,5.0nm,1.6s
CHVC Chvalec 46.23 310 *e*P **P** **13 41 13.9 +0.2**
UPC Upice 46.27 310 *e*P **P** **13 41 14.3 +0.4**
UPC *ex* x 13 41 19.5
UPC Upice 46.27 310 *e*P **P** **13 41 14.3 +0.4**
CONA Conrad Observa 46.50 307 *e*P **P** **13 41 16.3 +0.4**
comp=Z,9.4nm,0.8s,SNR=10
HAMF Hammerfest 46.59 339 *e*P **P** **13 41 17.2 +1.1**
ARSA Arzberg 46.78 306 *e*P **P** **13 41 18.2 +0.1**
comp=Z,3.9nm,1.0s
GROS Grobnik 46.88 305 *i* P **P** **13 41 19.0 +0.2**
GRNR Gornyy 47.09 49⇑ *i*P **P** **13 41 21.4 +1.0**
GRNR pmax pmax
comp=E,3.0nm,0.7s
GRNR pmax pmax
comp=Z,7.0nm,1.1s
GRNR MLR MLR
comp=N,70nm,10.0s
GRNR MLR MLR
comp=Z,290nm,14.0s
TIP Timpagrande 47.09 295 ⇑P **P** **13 41 20.8 +0.2**
TIP Timpagrande 47.09 295 IAmb IAmb 13 41 27.5
comp=Z,20nm,1.2s
PERS Pernice 47.12 305 *i* P **P** **13 41 21.1 +0.4**
SOKA Soboth 47.17 305 *e*P **P** **13 41 21.7 +0.5**
comp=Z,10nm,0.5s,SNR=9.7
PRU Pruhonice 47.23 310 *e*P **P** **13 41 21.8 +0.3**
PRU *ex* x 13 41 26.8
PRU Pruhonice 47.23 310 *e*P **P** **13 41 21.8 +0.3**
TIXI Tiksi 47.43 20 P **P** **13 41 22.4 -0.3**
comp=Z,11nm,0.8s,baz=238,slow=2.8,SNR=25
TIXI Tiksi 47.43 20*ce*P **P** **13 41 22.3 -0.3**
TIXI pmax pmax
comp=Z,10.0nm,0.8s
TIXI Tiksi 47.43 20 P **P** **13 41 22.3 -0.4**
TIXI IAmb IAmb 13 41 23.5
comp=Z,14nm,1.1s
OBKA Obir 47.52 305 *e*P **P** **13 41 24.4 +0.5**
comp=Z,8.9nm,1.1s
BRG Berggiesshubel 47.56 311 *i* P **P** **13 41 24.4 +0.4**
comp=Z,11nm,0.8s
BRG Berggiesshubel 47.56 311 *i* P **P** **13 41 24.4 +0.4**
BRG pmax pmax
comp=Z,11nm,0.8s
BRG Berggiesshubel 47.56 311 *e*P **P** **13 41 24.6 +0.6**
comp=Z,8.2nm,0.8s,baz=86,slow=7.6
MOA Molln 47.58 307 *e*P **P** **13 41 24.3 +0.1**
comp=Z,6.3nm,0.6s,SNR=6.5
TRO Tromso 47.72 337 *e*P **P** **13 41 25.7 +0.8**
GEC2 GERESS Array S 47.86 308 *e*P **P** **13 41 26.6 +0.1**
comp=Z,2.4nm,0.7s,baz=86,slow=7.6
GERES GERESS Array B 47.86 308 P **P** **13 41 26.6 +0.1**
comp=Z,2.0nm,0.7s,baz=86,slow=6.8,SNR=16
GERES GERESS Array B 47.86 308 P **P** **13 41 26.8 +0.3**
GERES GERESS Array B 47.86 308 P **P** **13 41 26.8 +0.3**
KHC Kasperske Hory 47.92 309 *e*P **P** **13 41 27.5 +0.6**
KHC *ex* x 13 41 32.1
KHC Kasperske Hory 47.92 309*de*P **P** **13 41 27.4 +0.6**
KHC pmax pmax
comp=Z,16nm,2.5s
KHC Kasperske Hory 47.92 309 P **P** **13 41 26.9 0.0**
FBE Freiberg 47.94 311 *e*P **P** **13 41 27.4 +0.5**
comp=Z,9.7nm,0.8s,baz=86,slow=7.6
CADS Cadrg 48.12 305 *i* P **P** **13 41 28.4 -0.1**
MYKA Terra Mystica 48.13 305 *e*P **P** **13 41 28.5 -0.1**
comp=Z,5.5nm,0.9s
CLL Collm 48.13 312⇓ *i*P **P** **13 41 28.6 +0.2**
comp=Z,6.0nm,0.8s
CLL Collm 48.13 312⇓ *i*P **P** **13 41 28.6 +0.2**
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL Collm 48.13 312 *e*P **P** **13 41 28.7 +0.3**
comp=Z,4.2nm,0.7s,baz=86,slow=7.6
CLL *ep*P **sP** **13 41 42.8 +0.8**
PRED Cave del Predi 48.21 305 P **P** **13 41 28.4 -0.7**
N2IH Innhavet 48.28 334 *e*P **P** **13 41 29.5 +0.2**
KBA Koelnbreinsper 48.28 306 *e*P **P** **13 41 29.7 -0.1**
comp=Z,4.2nm,0.6s
MOR8 Moi Rana 48.45 332 *e*P **P** **13 41 30.3 -0.4**
N2TV TVrnvik 48.48 334 *e*P **P** **13 41 31.9 +1.0**
STEI Steigen 48.52 334 *e*P **P** **13 41 32.0 +0.8**
TANN Tannenbergstha 48.54 310 *e*P **P** **13 41 32.2 +0.6**
comp=Z,7.0nm,0.9s,baz=86,slow=7.6
GUNZ Gunzen 48.62 310 *e*P **P** **13 41 33.1 +0.8**
comp=Z,4.1nm,0.8s,baz=86,slow=7.6
ROTZ Rotzenmuhle 48.75 310 *e*P **P** **13 41 34.1 +0.9**
comp=Z,3.5nm,0.9s,baz=86,slow=7.6
MANZ Manzenberg 48.80 310 *e*P **P** **13 41 34.3 +0.7**
baz=86,slow=7.6
STAL STALIGIAL 48.82 305 P **P** **13 41 32.0 -1.8**
NBB30 Finnes 48.88 333 *e*P **P** **13 41 34.6 +0.7**
ABTA Abfaltersbach 48.89 306 *e*P **P** **13 41 34.3 -0.2**
comp=Z,2.6nm,0.5s
NEUB Neuenburg 48.91 312 *e*P **P** **13 41 34.4 0.0**
comp=Z,14nm,0.7s,baz=86,slow=7.6
NC405 NORSAR Array S 48.96 325 P **P** **13 41 34.1 -0.5**
CIMO Cimolais 49.00 305 P **P** **13 41 34.8 -0.4**
CIMO IAmb IAmb 13 41 35.7
comp=Z,10nm,0.7s
NC602 NORSAR Array S 49.01 324 P **P** **13 41 34.5 -0.6**
NC602 NORSAR Array S 49.01 324 *e*P **P** **13 41 34.5 -0.6**
NORES NORESS Array B 49.01 324 P **P** **13 41 36.7 +1.6**
NORES pmax pmax
comp=Z,2.0nm,0.4s
MOX Moxa 49.05 311 P **P** **13 41 36.0 +0.4**
MOX pmax pmax
comp=Z,8.0nm,0.9s
MOX Moxa 49.05 311 *e*P **P** **13 41 35.9 +0.4**
comp=Z,3.9nm,0.7s,baz=86,slow=7.6
LOF Lofoten 49.19 334 *e*P **P** **13 41 36.4 +0.1**
NB2 NORSAR Subarra 49.19 325 P **P** **13 41 35.8 -0.7**
comp=Z,12nm,0.6s,baz=96,slow=7.9
NB2 NORSAR Subarra 49.19 325 P **P** **13 41 35.8 -0.7**
baz=96,slow=7.9
NOA NORSAR Array B 49.19 325 P **P** **13 41 36.2 -0.3**
comp=Z,14nm,0.8s,baz=96,slow=7.5,SNR=41
NOA LR LR 14 04 06.9
comp=Z,80nm,18.5s,baz=75,slow=38
WTTA Wattenberg 49.41 306 *i* P **P** **13 41 37.9 -0.7**
comp=Z,4.8nm,0.5s
WATA Walderalm 49.44 306 *i* P **P** **13 41 38.0 -0.7**
comp=Z,4.7nm,0.6s
BSEG Bad Segeberg 49.63 315 *e*P **P** **13 41 40.7 +0.9**
comp=Z,12nm,0.8s,baz=86,slow=7.6
SQTA Sankt Quirin 49.71 306 *e*P **P** **13 41 39.8 -0.9**
comp=Z,5.6nm,0.4s
KMBO Kilima Mbogo 49.72 234 P **P** **13 41 42.8 +1.5**
comp=Z,1.6nm,0.3s,baz=51,slow=10.0,SNR=6.7
KMBO Kilima Mbogo 49.72 234 P **P** **13 41 43.5 +2.3**
CLZ Clausthal 49.73 312 *e*P **P** **13 41 41.4 +0.7**
baz=86,slow=7.6
MOTA Moosalm 49.76 307 *i* P **P** **13 41 40.3 -0.9**
comp=Z,7.9nm,0.7s
KONO Kongsberg 49.93 323 *e*P **P** **13 41 41.6 -0.5**
RETA Reutte 49.97 307 *i* P **P** **13 41 42.0 -0.7**
comp=Z,4.9nm,0.8s
GTTG Gottingen 50.01 312 *e*P **P** **13 41 43.2 +0.4**
comp=Z,11nm,0.7s,baz=86,slow=7.6
FETA Feichten 50.06 306 *i* P **P** **13 41 42.6 -0.8**
comp=Z,5.2nm,0.5s
UBBA Unterbreizbach 50.06 311 *e*P **P** **13 41 43.4 +0.4**
comp=Z,4.3nm,0.6s,baz=86,slow=7.6
INU Inuyama 50.08 69 IAmb IAmb 13 41 44.5
comp=Z,20nm,0.9s
DOMB Dombas 50.28 326 *e*P **P** **13 41 45.0 +0.3**
UBR Ueberruh 50.38 307 *e*P **P** **13 41 45.2 -0.5**
comp=Z,5.7nm,0.7s,baz=86,slow=7.6
HOMB Homborsund 50.49 321 *e*P **P** **13 41 46.3 0.0**
DAVA Damuels 50.59 307 *e*P **P** **13 41 47.0 -0.5**
comp=Z,22nm,0.5s,SNR=11
SKAR Skarslia 50.60 324 *e*P **P** **13 41 47.9 +0.7**
MAT Matsushiro 50.67 68 P **P** **13 41 47.3 -0.8**
MJAR Matsushiro Arr 50.68 68 P **P** **13 41 48.1 0.0**
comp=Z,24nm,0.8s,baz=283,slow=9.6,SNR=48
MJAR LR LR 14 06 42.5
comp=Z,37nm,18.3s,baz=305,slow=40
MJAR Matsushiro Arr 50.68 68 P **P** **13 41 46.8 -1.3**
HLG Helgoland 51.04 316 *e*P **P** **13 41 50.4 0.0**
comp=Z,112nm,0.8s,baz=86,slow=7.6
HLG *ep*P **sP** **13 42 03.3 -0.8**
TNS Taunus Mts 51.12 311 *e*P **P** **13 41 51.7 +0.5**
comp=Z,3.3nm,0.8s,baz=86,slow=7.6
IBBN Ibbenburen 51.30 313 *e*P **P** **13 41 53.2 +0.8**
comp=Z,14nm,0.9s,baz=86,slow=7.6
SPA0 Spitsbergen Ar 51.48 347 *e*P **P** **13 41 54.6 +1.1**
BUG Bochum–Univer 51.70 312 *e*P **P** **13 41 55.6 +0.1**
comp=Z,9.0nm,0.7s,baz=86,slow=7.6
PGF Pioggiola 52.11 301 *e*P **P** **13 41 58.9 0.0**
PGF pmax pmax
comp=Z,9.0nm,0.9s
ASK Askoy 52.14 324 *e*P **P** **13 41 59.2 +0.6**
SENIN Lac Senin/Sane 52.50 306 IAmb IAmb 13 42 03.6
comp=Z,15nm,0.8s
HINF Hinteralfeld 52.53 308 *e*P **P** **13 42 00.8 -1.0**
HINF pmax pmax
comp=Z,6.0nm,0.6s
KBS Kingsbay 52.58 347*de*P **P** **13 42 01.5 -0.2**
KBS pmax pmax
comp=Z,15nm,0.8s
KBS Kingsbay 52.58 347 P **P** **13 42 01.5 -0.2**
KBS IAmb IAmb 13 42 02.9
comp=Z,15nm,0.8s
KBS Kingsbay 52.58 347 *e*P **P** **13 42 02.2 +0.5**
WLF Walferdange 52.66 310 *e*P **P** **13 42 03.1 +0.4**
comp=Z,7.0nm,0.8s,baz=86,slow=7.6
HAU Haudompre 52.83 308 *e*P **P** **13 42 03.2 -0.8**
HAU pmax pmax
comp=Z,9.0nm,0.6s
SBF Sospel 52.93 303 *e*P **P** **13 42 04.3 -0.6**
SBF pmax pmax
comp=Z,8.0nm,0.6s
LPG La Plagne 53.05 305 *e*P **P** **13 42 05.6 -0.4**
LPG pmax pmax
comp=Z,11nm,0.7s
LPL La Plagne 53.06 305 *e*P **P** **13 42 05.6 -0.4**
LPL pmax pmax
comp=Z,14nm,0.5s
ISO Isola 53.13 303 P **P** **13 42 06.9 +0.6**
ISO pmax pmax
comp=Z,7.0nm,0.8s
BNI Bardonecchia 53.20 304 P **P** **13 42 07.0 +0.1**
BNI pmax pmax
comp=Z,7.0nm,1.1s
CABF La Chapelle 53.27 306 *e*P **P** **13 42 07.2 -0.2**
CABF pmax pmax
comp=Z,15nm,1.1s
BMRD Maredsous 53.44 311 P **P** **13 42 08.5 +0.1**
comp=Z,10nm,0.7s
DOU Dourbes 53.58 311 P **P** **13 42 09.7 +0.2**
DOU Dourbes 53.58 311 P **P** **13 42 09.9 +0.4**
DOU pmax pmax
comp=Z,10.0nm,0.8s
KEST Kesra 53.67 292 P **P** **13 42 10.9 +0.4**
comp=Z,6.1nm,0.6s,baz=303,slow=2.4,SNR=8.9
KEST Kesra 53.67 292 IAmb IAmb 13 42 12.3
comp=Z,12nm,1.1s
BAIF Baives 53.83 311 *e*P **P** **13 42 11.3 0.0**
BAIF pmax pmax
comp=Z,9.0nm,1.0s
MBAR Mbarara 53.95 241*ce*P P 13 42 19.3 +6.5
MBAR pmax pmax
comp=Z,20nm,1.7s
VIVF Saint-Julien-l 54.63 304 *e*P **P** **13 42 17.7 +0.5**
VIVF pmax pmax
comp=Z,9.0nm,1.0s
MA2 Magadan 54.63 37*de*P **P** **13 42 17.8 +0.9**
MA2 pmax pmax
comp=Z,11nm,1.0s
AVF Avril sur Loir 55.07 307 *e*P **P** **13 42 19.4 -0.9**
AVF pmax pmax
comp=Z,9.0nm,0.7s
CAF Calviac 56.40 305 *e*P **P** **13 42 30.7 +0.7**
CAF pmax pmax
comp=Z,8.0nm,0.7s
FLN La Foliniere 57.10 310 *e*P **P** **13 42 33.8 -1.0**
FLN pmax pmax
comp=Z,6.0nm,0.7s
GRR Gorron 57.44 310 *e*P **P** **13 42 36.2 -1.0**
GRR pmax pmax
comp=Z,7.0nm,0.6s
NOR Nord 57.64 350⇑ *i*P **P** **13 42 38.6 +0.5**
comp=Z,4.8nm,0.8s
NOR Nord 57.64 350⇑ *i*P **P** **13 42 38.6 +0.5**
NOR pmax pmax
comp=Z,5.0nm,0.8s
TNTI Ternate 58.31 113 P **P** **13 42 47.0 +3.2**
comp=Z,16nm,0.7s
QUIF Quistinic 59.06 310 *e*P **P** **13 42 47.7 -0.8**
QUIF pmax pmax
comp=Z,7.0nm,0.5s
PEA0B Petropavlovsk- 59.69 44⇑ *i*P **P** **13 42 52.4 -0.4**
PETK Petropavlovsk- 59.69 44 P **P** **13 42 52.6 -0.2**
comp=Z,3.4nm,0.6s,baz=249,slow=3.7,SNR=9.4
PETK LR LR 14 10 44.3
comp=Z,89nm,19.8s,baz=242,slow=38
PETK Petropavlovsk- 59.69 44 P **P** **13 42 52.4 -0.5**
BILL Bilibino 59.87 26*c i*P **P** **13 42 54.7 +0.9**
BILL *e* 13 43 41.4
BILL *e* 13 45 08.4
BILL *eS* **S** **13 51 09.1 +5.8**
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL MLR MLR
comp=Z,186nm,17.0s
ESBB Sonseca Array 62.30 301 P **P** **13 43 11.1 +0.2**
ESBB IAmb IAmb 13 43 12.1
comp=Z,9.6nm,0.9s
ESDC Sonseca Array 62.30 301 P **P** **13 43 10.7 -0.2**
comp=Z,4.9nm,0.7s,baz=58,slow=7.2,SNR=39
ESDC Sonseca Array 62.30 301 P **P** **13 43 10.2 -0.7**
PAB San Pablo 62.63 301 P **P** **13 43 13.1 0.0**
PAB pmax pmax
comp=Z,12nm,1.1s
PAB San Pablo 62.63 301 P **P** **13 43 13.1 0.0**
PAB IAmb IAmb 13 43 14.4
comp=Z,12nm,1.1s
MVO Moncorvo 63.92 304 *e*P **P** **13 43 22.5 +0.9**
comp=Z,20nm,1.1s
PGAV Gavieira, Arco 64.47 305 *e*P **P** **13 43 26.0 +0.7**
MTE Manteigas 64.58 303 *e*P **P** **13 43 26.9 +1.0**
comp=Z,30nm,1.8s
PVIS Viseu 64.70 303 *e*P **P** **13 43 28.3 +1.6**
comp=Z,27nm,1.5s
PCBR Castelo Branco 64.75 302 *e*P **P** **13 43 27.3 +0.4**
PMRV Marv??o 64.85 302 *e*P **P** **13 43 29.6 +2.0**
SUMG Summit 65.30 342⇑ *i*P **P** **13 43 31.4 +1.0**
comp=Z,34nm,0.8s
SUMG Summit 65.30 342⇑ *i*P **P** **13 43 31.4 +1.0**
SUMG pmax pmax
comp=Z,34nm,0.8s
SUMG Summit 65.30 342 P **P** **13 43 30.1 -0.4**
SUMG IAmb IAmb 13 43 33.6
comp=Z,13nm,0.8s
PMTG Montargil 65.59 302 *e*P **P** **13 43 32.7 +0.3**
comp=Z,28nm,1.6s
EVO Evora 65.65 301 *e*P **P** **13 43 33.2 +0.4**
comp=Z,27nm,1.7s
PBEJ Beja 65.75 301 *e*P **P** **13 43 33.7 +0.2**
PVAQ Vaqueiros 65.90 300 *e*P **P** **13 43 34.6 +0.2**
comp=Z,60nm,1.7s
MESJ Messejana 66.08 301 *e*P **P** **13 43 35.2 -0.4**
MESJ Messejana 66.08 301 *e*P **P** **13 43 36.4 +0.8**
PBDV Barranco-do-Ve 66.12 300 *e*P **P** **13 43 37.1 +1.2**
comp=Z,103nm,1.7s
PNCL Nicolau / Gran 66.19 301 *e*P **P** **13 43 37.6 +1.3**
PTEO Sao Teotonio 66.57 300 *e*P **P** **13 43 39.7 +1.0**
TOA0 Torodi Ar. Sit 69.50 273 P **P** **13 43 56.1 -1.4**
TOA0 IAmb IAmb 13 44 02.1
comp=Z,12nm,0.9s
TORD Torodi Ar. Bea 69.50 273 P **P** **13 43 56.3 -1.2**
comp=Z,5.6nm,0.6s,baz=48,slow=5.9,SNR=37
TORD Torodi Ar. Bea 69.50 273 P **P** **13 43 56.4 -1.1**
FITZ Fitzroy Crossi 69.95 129 P **P** **13 43 59.5 -0.5**
comp=Z,2.7nm,0.9s,baz=306,slow=5.3,SNR=9.0
TOLK Toolik Lake Re 73.05 16 P **P** **13 44 18.3 +0.2**
baz=322
A36M Sachs Harbour 74.02 7 P **P** **13 44 23.9 +0.2**
baz=342
IMAR Indian Mountai 74.06 19 P **P** **13 44 24.4 +0.3**
LBTB Lobatse 74.97 226 P **P** **13 44 29.6 -0.3**
LBTB pmax pmax
comp=Z,11nm,1.0s
LBTB Lobatse 74.97 226 P **P** **13 44 29.6 -0.3**
BPAW Bear Paw Mtn. 76.26 19 IAmb IAmb 13 44 38.0
comp=Z,12nm,0.8s
POKR Poker Plat Res 76.38 17 P **P** **13 44 37.9 +0.5**
baz=324
INK Inuvik 76.43 11 P **P** **13 44 38.3 +0.7**
comp=Z,22nm,0.8s,baz=352,slow=7.1,SNR=43
INK Inuvik 76.43 11 IAmb IAmb 13 44 39.0
comp=Z,28nm,0.9s
TCOL CIGO, UAF Yank 76.47 18 P **P** **13 44 38.3 +0.4**
baz=324
COLA College 76.47 18*c i*P **P** **13 44 38.1 +0.2**
COLA pmax pmax
comp=Z,27nm,0.8s
C36M Paulatuk 76.67 7 P **P** **13 44 38.7 -0.2**
baz=343
KTH Kantishna Hill 76.71 19 IAmb IAmb 13 44 41.2
comp=Z,20nm,1.0s
WRH Wood River Hil 76.74 18 IAmb IAmb 13 44 40.1
comp=Z,10nm,0.8s
IL31 76.80 17 IAmb IAmb 13 44 40.4
comp=Z,10nm,0.8s
ILAR Eielson Array 76.80 17 P **P** **13 44 39.7 -0.1**
comp=Z,8.8nm,0.8s,baz=314,slow=4.7,SNR=65
PPLA Purkeypile 76.86 20 IAmb IAmb 13 44 45.4
comp=Z,12nm,1.1s
WB0 Warramunga Arr 77.01 124 IAmb IAmb 13 44 57.5
comp=Z,15nm,0.9s
HDA Harding Lake 77.08 18 P **P** **13 44 41.1 -0.3**
baz=324
HDA Harding Lake 77.08 18 IAmb IAmb 13 44 42.1
comp=Z,9.4nm,0.8s
WRA Warramunga Arr 77.09 124 P **P** **13 44 42.0 0.0**
comp=Z,5.9nm,0.5s,baz=326,slow=5.4,SNR=101
WRA Warramunga Arr 77.09 124 P **P** **13 44 41.7 -0.3**
WRAB Tennant Creek 77.09 124 P **P** **13 44 42.2 +0.2**
WRAB pmax pmax
comp=Z,12nm,0.6s
WRAB Tennant Creek 77.09 124 P **P** **13 44 42.2 +0.2**
WRAB IAmb IAmb 13 44 42.5
comp=Z,12nm,0.6s
WB2 Warramunga Arr 77.10 124 IAmb IAmb 13 44 42.5
comp=Z,14nm,0.5s
WR0 Warramunga Arr 77.24 124 IAmb IAmb 13 44 50.3
comp=Z,24nm,1.4s
RND Reindeer 77.39 19 IAmb IAmb 13 44 43.7
comp=Z,9.3nm,0.9s
EPYK Eagle Plains 77.63 13 P **P** **13 44 44.4 -0.1**
baz=333
EPYK Eagle Plains 77.63 13 IAmb IAmb 13 44 45.3
comp=Z,15nm,1.0s
BOSA Boshof 77.86 224 P **P** **13 44 45.6 -0.7**
comp=Z,7.2nm,0.8s,baz=30,slow=4.3,SNR=9.7
DHY Denali Highway 78.06 18 IAmb IAmb 13 44 48.4
comp=Z,12nm,0.7s
EGAK Eagle 78.13 15 IAmb IAmb 13 44 48.6
comp=Z,16nm,1.3s
RIDG Independent Ri 78.16 17 IAmb IAmb 13 44 48.2
comp=Z,17nm,1.0s
SCRK Sand Creek 78.17 17 IAmb IAmb 13 44 48.4
comp=Z,8.4nm,0.8s
DBIC Dimbokro 78.37 270 P **P** **13 44 48.6 -0.8**
comp=Z,44nm,1.4s,baz=32,slow=5.3,SNR=4.4
DBIC Dimbokro 78.37 270 P **P** **13 44 48.6 -0.8**
DBIC pmax pmax
comp=Z,19nm,1.1s
DBIC Dimbokro 78.37 270 IAmb IAmb 13 44 49.5
comp=Z,20nm,1.1s
DOT Dot Lake 78.42 17 IAmb IAmb 13 44 49.9
comp=Z,9.9nm,0.8s
KIC Kosan Boka 78.44 270 *e*P **P** **13 44 49.1 -0.7**
comp=Z,14nm,0.8s
TIC Toumodi 78.52 270 *e*P **P** **13 44 49.4 -0.9**
LIC Lamto 78.75 270 *e*P **P** **13 44 50.6 -0.9**
comp=Z,37nm,0.7s
SML Sawmill 78.83 20 P **P** **13 44 49.1 -2.1**
ASAR Alice Springs 79.33 127 P **P** **13 44 54.4 -0.1**
comp=Z,3.9nm,0.7s,baz=315,slow=5.4,SNR=49
BCAR Beaver Creek A 79.47 16 P **P** **13 44 55.5 +0.9**
PMG Port Moresby 80.08 108 P **P** **13 44 58.8 +0.2**
comp=Z,12nm,0.7s,baz=347,slow=6.0,SNR=4.7
VRDI Verde Repeater 80.62 18 IAmb IAmb 13 45 02.7
comp=Z,19nm,0.9s
KDAK Kodiak Island 80.70 24 P **P** **13 45 02.0 +0.7**
comp=Z,29nm,0.7s,baz=340,slow=2.7,SNR=17
KDAK Kodiak Island 80.70 24 P **P** **13 45 02.0 +0.7**
KDAK pmax pmax
comp=Z,27nm,0.7s
KDAK Kodiak Island 80.70 24 IAmb IAmb 13 45 03.0
comp=Z,27nm,0.7s
BALM Baldy 81.07 18 IAmb IAmb 13 45 05.2
comp=Z,14nm,0.9s
BARN Barnard Glacie 81.22 17 IAmb IAmb 13 45 06.2
comp=Z,17nm,1.1s
HYT Haines Junctio 82.42 16 IAmb IAmb 13 45 12.4
comp=Z,16nm,0.9s
SUR Sutherland 83.22 224 P **P** **13 45 17.0 +2.0**
comp=Z,5.8nm,0.8s,baz=119,slow=19,SNR=3.1
YKA Yellowknife Ar 84.22 5 P **P** **13 45 19.5 -0.1**
comp=Z,13nm,0.6s,baz=344,slow=4.7,SNR=64
YKA LR LR 14 25 40.9
comp=Z,51nm,20.2s,baz=0.0,slow=38
CTA Charters Tower 85.76 117 P **P** **13 45 28.1 +0.2**
comp=Z,12nm,0.8s,baz=298,slow=5.3,SNR=12
CTAO Charters Tower 85.76 117 P **P** **13 45 27.6 -0.4**
CTAO pmax pmax
comp=Z,13nm,0.9s
CTAO Charters Tower 85.76 117 P **P** **13 45 27.6 -0.4**
CTAO IAmb IAmb 13 45 29.0
comp=Z,13nm,0.8s
DLBC Dease Lake 86.16 13 P **P** **13 45 30.0 +0.5**
comp=Z,5.7nm,0.8s,baz=359,slow=4.5,SNR=9.4
SCHQ Schefferville 86.48 339 P **P** **13 45 29.8 -1.3**
comp=Z,1.4nm,0.5s,baz=47,slow=18,SNR=2.2
SCHQ LR LR 14 24 11.8
comp=Z,60nm,20.5s,baz=51,slow=36
SCHQ Schefferville 86.48 339 IAmb IAmb 13 45 32.6
comp=Z,8.8nm,1.4s
STKA Stephens Creek 89.85 129 P **P** **13 45 46.0 -1.3**
comp=Z,3.2nm,0.7s,baz=328,slow=8.0,SNR=4.8
CHGQ Chibougamau 92.99 341 P **P** **13 46 01.7 0.0**
baz=25
MATQ Matagami 93.97 343 P **P** **13 46 06.6 +0.3**
baz=22
LSQQ Lebel-sur-Quev 94.46 342 P **P** **13 46 08.1 -0.4**
baz=23
ULM Lac du Bonnet 96.50 354 LR LR 14 33 10.0
comp=Z,98nm,19.2s,baz=342,slow=38
PDAR Pinedale Array 104.19 4 PKiKP **PKiKP** **13 51 09.2 -0.2**
comp=Z,0.4nm,0.5s,baz=58,slow=4.3,SNR=4.1
SYO Syowa Base 105.37 193⇑*eX* **Pdif** **13 46 53.0 -3.6**
SNAA Sanae 117.69 200 PKiKP **PKiKP** **13 51 38.3 +4.7**
TXAR Lajitas Array 117.73 359 PKP **PKPdf** **13 51 34.4 -0.7**
comp=Z,0.4nm,0.6s,baz=187,slow=1.0,SNR=4.3
VNA2 Neumayer--Watz 118.81 202 PKiKP **PKPdf** **13 51 35.2 -0.4**
VNA3 Neumayer Olymp 119.61 202 PKiKP **PKPdf** **13 51 36.6 -0.6**
GO01 Chusmiza 145.84 284 **PKPbc** **13 52 29.0 +0.2**
PB11 IPOC Station P 146.26 285 **PKPbc** **13 52 29.7 +0.1**
LVC Limon Verde 147.01 280 PKP2 **PKPbc** **13 52 32.6 +0.6**
LVC Limon Verde 147.01 280 **PKPbc** **13 52 32.6 +0.6**
PLCA Paso Flores 152.06 245 PKPbc **PKiKP** **13 52 44.5 +0.5**
comp=Z,4.7nm,0.7s,baz=258,slow=0.1,SNR=8.3
BO02 Sierra Bellavi 152.14 257 **PKiKP** **13 52 44.6 +0.2**
LC01 Cunco 153.18 249 **PKPbc** **13 52 46.2 0.0**

*NEIC **13** 13:35:19.7±1.5,34°32N±0°01×117°52W±0°02,h14km±4km, Error ellipse: s-maj=2.6km s-min=1.5km az=47.0*
*PAS **13** 13:35:20.0±1.1,34°31N±0°01×117°50W±0°02,h13km±4km, ML3.5/243, Error ellipse: s-maj=2.6km s-min=1.5km az=52.0*
*SCEDC **13** 13:35:20.0,34°31N×117°50W,h13km, ML3.6,ML3.5, ML3.5,ML3.5,ML3.5*
*ANF **13** 13:35:19.0±0.1,34°29N×117°50W,h13km±1km, ML3.5/35,*

Error ellipse: s-maj=1.1km s-min=1.0km az=132.0
ISC 13 13:35:19.8±0.8, 34°30N±0′01×117°50W±0′01, h15km±5km, n126, σ0670/165, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SS2	**San Sevaine**	**0.09**	**182**		**Pg**	**13 35 22.7**	**-0.3**
CSP	**Cedar Springs**	**0.11**	**91**		**Pg**	**13 35 22.8**	**-0.6**
BFSC	**Mount Baldy Ra**	**0.15**	**245**	P	**Pg**	**13 35 23.1**	**-0.7**
	baz=63,SNR=1000						
BFSC				S	**Pb**	**13 35 25.8**	**+1.5**
	baz=63						
BFSC	**Mount Baldy Ra**	**0.15**	**245**		**Pb**	**13 35 25.8**	**+1.5**
SSK	**Sunset Peak**	**0.19**	**241**		**Pg**	**13 35 24.1**	**-0.3**
ADO	**Adelanto Recei**	**0.25**	**12**		**Pg**	**13 35 25.1**	**-0.4**
ADO					**Sg**	**13 35 28.9**	**-0.3**
CLTC	**Calectric**	**0.26**	**144**		**Pg**	**13 35 25.5**	**+0.1**
CFSC	**Central Fire S**	**0.26**	**138**		**Sg**	**13 35 30.0**	**+0.6**
CFSC	**Central Fire S**	**0.26**	**138**		**Pg**	**13 35 25.6**	**+0.1**
HLNC	**Highland**	**0.29**	**128**		**Pg**	**13 35 25.9**	**-0.1**
HLNC					**Sg**	**13 35 30.5**	**+0.3**
VTV	**Victorville**	**0.29**	**28**		**Pg**	**13 35 25.4**	**-0.6**
VTV					**Sg**	**13 35 29.6**	**-0.8**
MLSC	**Mira Loma**	**0.30**	**190**		**Pg**	**13 35 25.9**	**-0.2**
MLSC					**Sg**	**13 35 30.4**	**0.0**
XTL	**Crystal Lake,**	**0.30**	**269**		**Pg**	**13 35 25.9**	**-0.3**
RVR	**Riverside**	**0.32**	**162**		**Sg**	**13 35 30.7**	**-0.4**
PSRC	**Puddingstone R**	**0.33**	**231**		**Sg**	**13 35 31.6**	**+0.2**
PEM	**Pine Mountain**	**0.34**	**247**		**Pg**	**13 35 26.6**	**-0.1**
CHNC	**Chino**	**0.34**	**207**		**Pg**	**13 35 26.8**	**0.0**
CHNC					**Sg**	**13 35 32.0**	**+0.5**
RSBC	**Riverside Bore**	**0.36**	**157**		**Sg**	**13 35 31.6**	**-0.5**
RSBC	**Riverside Bore**	**0.36**	**157**		**Sg**	**13 35 31.7**	**-0.3**
SVD	**Seven Oaks Dam**	**0.38**	**120**		**Sg**	**13 35 33.1**	**+0.2**
JNH	**Juniper Hills**	**0.41**	**291**		**Pg**	**13 35 27.5**	**-0.6**
JNH					**Sg**	**13 35 33.4**	**-0.3**
CFT	**Crafton Hills**	**0.41**	**130**		**Pg**	**13 35 28.1**	**-0.1**
CRNC	**Corona**	**0.43**	**187**		**Pg**	**13 35 28.0**	**-0.4**
CRNC					**Sg**	**13 35 34.0**	**-0.3**
CHFC	**Chilao Flat St**	**0.44**	**274**		**Pg**	**13 35 28.2**	**-0.5**
CHFC					**Sg**	**13 35 34.1**	**-0.6**
MWC	**Mount Wilson**	**0.47**	**261**		**Pg**	**13 35 28.7**	**-0.5**
SBB	**Saddle Back Bu**	**0.47**	**325**		**Sg**	**13 35 34.6**	**-1.0**
BBRC	**Big Bear Solar**	**0.48**	**94**	P	**Pg**	**13 35 29.2**	**-0.2**
	baz=276,SNR=81						
BBRC				S	**Sg**	**13 35 35.8**	**-0.1**
	baz=276						
BBRC	**Big Bear Solar**	**0.48**	**94**		**Pg**	**13 35 29.2**	**-0.2**
BBRC					**Sg**	**13 35 35.8**	**-0.1**
SME	**Santa Rosa Min**	**0.49**	**166**		**Sg**	**13 35 35.7**	**-0.5**
LRRC	**Littlerock Res**	**0.49**	**297**		**Pg**	**13 35 29.1**	**-0.5**
PEC	**Perris**	**0.49**	**146**		**Sg**	**13 35 35.9**	**-0.3**
RHC	**Rose Hills Cem**	**0.52**	**235**		**Pg**	**13 35 30.3**	**+0.2**
RHC					**Sg**	**13 35 37.5**	**+0.3**
CACC	**Caltech Cellar**	**0.54**	**253**		**Pg**	**13 35 30.3**	**-0.3**
GSA	**Caltech--GSA**	**0.55**	**253**		**Sg**	**13 35 38.3**	**+0.3**
HYS	**Haystack Butte**	**0.56**	**354**		**Pg**	**13 35 30.3**	**-0.7**
HYS					**Sg**	**13 35 37.6**	**-0.9**
GVRC	**Garvey Reservo**	**0.57**	**244**		**Sg**	**13 35 39.3**	**+0.6**
GVRC	**Garvey Reservo**	**0.57**	**244**		**Pg**	**13 35 31.0**	**-0.1**
CJV	**Casa Juvan**	**0.58**	**293**		**Pg**	**13 35 30.5**	**-0.8**
CJV					**Sg**	**13 35 38.4**	**-0.7**
PASC	**Pasadena Art C**	**0.58**	**257**	Pg	**Pg**	**13 35 30.9**	**-0.5**
GR2C	**Griffith Obs.**	**0.69**	**255**		**Pg**	**13 35 32.5**	**-0.8**
DECC	**Green Verdugo**	**0.69**	**266**	P	**Pg**	**13 35 32.9**	**-0.5**
	baz=85,SNR=27						
DECC				S	**Sg**	**13 35 42.4**	**-0.2**
	baz=85						
DECC	**Green Verdugo**	**0.69**	**266**		**Pg**	**13 35 32.9**	**-0.5**
RRX	**Edison Barstow**	**0.71**	**36**	P	**Pg**	**13 35 33.0**	**-0.5**
	baz=216,SNR=36						
RRX				S	**Sg**	**13 35 42.8**	**-0.2**
	baz=216						
RRX	**Edison Barstow**	**0.71**	**36**		**Pg**	**13 35 33.1**	**-0.5**
EDW2	**Edwards Air Fo**	**0.71**	**325**	P	**Pg**	**13 35 32.8**	**-0.8**
	baz=144,SNR=325						
EDW2				S	**Sg**	**13 35 41.9**	**-1.2**
	baz=144						
EDW2	**Edwards Air Fo**	**0.71**	**325**		**Pg**	**13 35 32.9**	**-0.8**
EDW2					**Sg**	**13 35 42.0**	**-1.0**
HMTC	**Hemet**	**0.72**	**145**		**Pg**	**13 35 33.0**	**-0.8**
HLLC	**North Hollywoo**	**0.73**	**260**		**Pg**	**13 35 33.5**	**-0.4**
MURC	**Murrieta**	**0.74**	**160**	P	**Pg**	**13 35 33.4**	**-0.9**
	baz=341,SNR=174						
MURC				S	**Sg**	**13 35 43.2**	**-0.9**
	baz=341						
LEOC	**Leona Valley**	**0.74**	**297**		**Pg**	**13 35 33.4**	**-0.9**
IR2C	**Iron Canyon**	**0.75**	**277**		**Pg**	**13 35 33.5**	**-1.0**
DGR	**Domenigoni Val**	**0.77**	**148**		**Pg**	**13 35 33.7**	**-1.0**
POB	**Polly Butte**	**0.78**	**142**		**Pg**	**13 35 34.0**	**-0.9**
BACC	**Bachelor Mtn.**	**0.78**	**151**		**Pg**	**13 35 34.0**	**-1.1**
DJJ	**Donna J Jenkin**	**0.82**	**257**		**Pg**	**13 35 34.7**	**-1.0**
TPO	**Tropico Hills**	**0.83**	**314**		**Pg**	**13 35 35.1**	**-0.9**
FMP	**Fort Macarthur**	**0.89**	**229**	P	**Pg**	**13 35 36.5**	**-0.4**
	baz=48,SNR=18						
FMP				S	**Sg**	**13 35 48.3**	**-0.3**
	baz=48						
FMP	**Fort Macarthur**	**0.89**	**229**		**Pg**	**13 35 36.6**	**-0.3**
OAT	**Oat Mountain**	**0.93**	**273**		**Pg**	**13 35 37.6**	**-0.1**
BLAC	**Blackrock camp**	**0.95**	**104**		**Pg**	**13 35 37.8**	**-0.4**
CRY	**Cary Ranch**	**0.97**	**139**		**Pg**	**13 35 37.5**	**-0.8**
BTPC	**Burnt Peak**	**0.97**	**293**		**Pg**	**13 35 37.5**	**-1.0**
EW2	**E Wide Canyon**	**0.97**	**111**		**Pb**	**13 35 38.1**	**-0.2**
BLCC	**Black Canyon**	**0.98**	**267**		**Pb**	**13 35 38.2**	**-0.2**
DTP	**Desert Tortois**	**1.01**	**344**		**Pb**	**13 35 38.0**	**-0.9**
DNR	**Dunn Ranch,Anz**	**1.03**	**135**		**Pb**	**13 35 38.9**	**-0.4**
ALV	**Alvord Mountai**	**1.04**	**43**		**Pb**	**13 35 38.8**	**-0.7**
SNDA	**J Saunders Pla**	**1.05**	**135**		**Pb**	**13 35 39.3**	**-0.4**
OSI	**Osito Audit: C**	**1.06**	**287**	P	**Pb**	**13 35 39.3**	**-0.5**
	baz=106,SNR=22						
OSI				S	**Sb**	**13 35 53.3**	**-0.3**
	baz=106						
OSI	**Osito Audit: C**	**1.06**	**287**		**Pb**	**13 35 39.3**	**-0.5**
BZNA	**Buzz No.'s Pla**	**1.06**	**139**		**Pb**	**13 35 39.3**	**-0.6**
PLM	**Palomar**	**1.08**	**151**		**Pb**	**13 35 39.2**	**-1.0**
HEC	**Hector,Ludlow**	**1.09**	**61**	P	**Pb**	**13 35 40.1**	**-0.3**
	baz=242,SNR=73						
HEC				S	**Sb**	**13 35 54.5**	**0.0**
	baz=242						
HEC	**Hector,Ludlow**	**1.09**	**61**		**Pb**	**13 35 40.2**	**-0.3**
FRD	**Ford Ranch, An**	**1.09**	**137**		**Pb**	**13 35 39.9**	**-0.6**
FRD	**Ford Ranch, An**	**1.09**	**137**		**Pb**	**13 35 39.8**	**-0.6**
PFO	**Pinyon Flats O**	**1.10**	**128**	P	**Pb**	**13 35 40.1**	**-0.5**
	baz=309,SNR=116						
PFO				S	**Sb**	**13 35 54.4**	**-0.4**
	baz=309						
PFO	**Pinyon Flats O**	**1.10**	**128**		**Pb**	**13 35 40.1**	**-0.5**
PFO	**Pinyon Flats O**	**1.10**	**128**		**Pb**	**13 35 40.1**	**-0.5**
XPFO	**Pion Flat**	**1.10**	**128**		**Pb**	**13 35 40.1**	**-0.6**
THC	**Tehachapi Micr**	**1.14**	**303**		**Pb**	**13 35 40.8**	**-0.4**
GSC	**Goldstone, Bar**	**1.15**	**29**	P	**Pb**	**13 35 40.9**	**-0.4**
	baz=210,SNR=262						
GSC				S	**Sb**	**13 35 56.0**	**-0.2**
	baz=210						
GSC	**Goldstone, Bar**	**1.15**	**29**		**Pb**	**13 35 40.9**	**-0.4**
CIS	**Catalina Islan**	**1.18**	**221**	P	**Pn**	**13 35 40.7**	**-1.0**
	baz=40,SNR=47						
CIS				S	**Sb**	**13 35 57.4**	**+0.5**
	baz=40						
LRMC	**Laurel Mtn Rad**	**1.19**	**353**	P	**Pb**	**13 35 41.4**	**-0.6**
	baz=173,SNR=41						
LRMC				S	**Sg**	**13 35 58.1**	**-0.1**
	baz=173						
LRMC	**Laurel Mtn Rad**	**1.19**	**353**		**Pb**	**13 35 42.1**	**0.0**
BELC	**Belle Mtn. Jos**	**1.28**	**103**	P	**Pn**	**13 35 43.4**	**+0.2**
	baz=284,SNR=209						
BELC				S	**Sn**	**13 36 00.7**	**+0.6**
	baz=284						
BELC	**Belle Mtn. Jos**	**1.28**	**103**		**Pn**	**13 35 43.8**	**+0.6**
WBSM	**Bird Springs**	**1.34**	**337**		**Pb**	**13 35 45.0**	**+0.2**
ARVC	**Arvin**	**1.37**	**307**	P	**Pn**	**13 35 44.0**	**-0.4**
	baz=126,SNR=14						
ARVC				S	**Sn**	**13 36 02.5**	**+0.2**
	baz=126						
109C	**Camp Elliot, M**	**1.45**	**167**	P	**Pn**	**13 35 44.8**	**-0.5**
	baz=347,SNR=16						
109C				S	**Sn**	**13 36 03.5**	**-0.5**
	baz=347						
109C	**Camp Elliot, M**	**1.45**	**167**		**Pn**	**13 35 44.9**	**-0.5**
ISA	**Isabella, Lake**	**1.58**	**330**	P	**Pn**	**13 35 46.8**	**-0.5**
	baz=149,SNR=179						
ISA	**Isabella, Lake**	**1.58**	**330**		**Pn**	**13 35 47.0**	**-0.3**
SCI2	**San Clemente I**	**1.58**	**214**	P	**Pn**	**13 35 46.5**	**-0.7**
	baz=33						
SCI2				S	**Sn**	**13 36 07.6**	**+0.2**
	baz=33						
GMRC	**Granite Mounta**	**1.59**	**72**	P	**Pn**	**13 35 46.6**	**-0.9**
	baz=253						
GMRC				Sb	**Sb**	**13 36 09.9**	**+1.1**
	baz=253						
MONP2	**Monument Peak**	**1.67**	**147**	P	**Pn**	**13 35 48.9**	**+0.3**
	baz=328,SNR=85						
MONP2				Sb	**Sb**	**13 36 11.5**	**+0.3**
	baz=328						
TUQ	**Turquoise Moun**	**1.72**	**48**	Pb	**Pb**	**13 35 50.9**	**-0.2**
	baz=229						
TUQ				Sb	**Sb**	**13 36 14.0**	**+1.4**
	baz=229						
MPMC	**Manual Prospec**	**1.75**	**0**	P	**Pn**	**13 35 49.5**	**-0.3**
	baz=180,SNR=177						
MPMC				Sb	**Sb**	**13 36 15.1**	**+1.4**
	baz=180						
BAR	**Barrett**	**1.76**	**157**		**Pn**	**13 35 50.0**	**+0.4**
SCZ2	**Santa Cruz Isl**	**1.80**	**261**	P	**Pn**	**13 35 49.3**	**-0.9**
	baz=79,SNR=6.9						
BC3	**Big Chuckawall**	**1.81**	**110**	P	**Pn**	**13 35 50.2**	**-0.3**
	baz=292,SNR=74						
SBC	**Santa Barbara**	**1.84**	**275**	Sb	**Sb**	**13 36 17.2**	**+1.3**
	baz=94						
SHOC	**Shoshone, Teco**	**1.88**	**32**	Pb	**Pb**	**13 35 54.0**	**+0.1**
	baz=212						
SHOC				Sb	**Sb**	**13 36 18.8**	**+1.6**
	baz=212						
IRM	**Iron Mountain**	**1.95**	**94**	P	**Pn**	**13 35 51.9**	**-0.5**
	baz=275						
SWSC	**Sam W. Stewart**	**1.96**	**133**	P	**Pn**	**13 35 51.9**	**-0.5**
	baz=314,SNR=20						
SWSC				Sb	**Sb**	**13 36 20.5**	**+1.2**
	baz=314						
SNCC	**San Nicolas Is**	**1.99**	**239**	P	**Pn**	**13 35 51.9**	**-0.9**
	baz=57						
SNCC	**San Nicolas Is**	**1.99**	**239**		**Pn**	**13 35 52.2**	**-0.6**
PKM	**Mcpherson Peak**	**2.00**	**288**	P	**Pn**	**13 35 53.5**	**+0.4**
	baz=106,SNR=20						
PKM				Sb	**Sb**	**13 36 21.6**	**+0.8**
	baz=106						
IKP	**In-Ko-Pah, Jac**	**2.01**	**144**	P	**Pn**	**13 35 53.4**	**+0.1**
	baz=325						
IKP				Pb	**Pb**	**13 35 55.6**	**-0.5**
	baz=325						
IKP				Sb	**Sb**	**13 36 21.8**	**+0.8**
	baz=325						
VES	**Vestal, Richgr**	**2.02**	**320**	P	**Pn**	**13 35 53.3**	**+0.1**
	baz=139,SNR=18						
CWC	**Cottonwood Cre**	**2.19**	**348**	Pb	**Pb**	**13 35 59.1**	**0.0**
	baz=167						
GRAC	**Grapevine Rang**	**2.69**	**2**	P	**Pn**	**13 36 03.4**	**+0.9**
	baz=182,SNR=18						
TPNV	**Topopah Spring**	**2.83**	**21**	P	**Pn**	**13 36 05.2**	**+0.7**
	baz=201,SNR=17						
TPNV	**Topopah Spring**	**2.83**	**21**	Pn	**Pn**	**13 36 05.1**	**+0.5**
SHPR	**Sheep Range**	**2.91**	**40**		**Pn**	**13 36 07.1**	**+1.4**
W13A	**Hualapai Mount**	**3.08**	**74**	Pn	**Pn**	**13 36 08.0**	**-0.1**
PMPB	**Monarch Peak**	**3.31**	**306**	Pn	**Pn**	**13 36 11.1**	**0.0**
OMMB	**Old Mammoth Mi**	**3.52**	**340**		**Pn**	**13 36 16.2**	**+2.0**
MDPB	**Devils Postpil**	**3.56**	**339**		**Pn**	**13 36 16.9**	**+2.2**
Y14A	**Wickenburg**	**3.74**	**94**		**Pn**	**13 36 17.2**	**+0.2**
R11A	**Troy Canyon, C**	**4.32**	**20**		**Pn**	**13 36 26.6**	**+1.5**
LCMT	**Little Creek M**	**4.39**	**51**		**Pn**	**13 36 27.1**	**+1.1**
RYN	**Ryan**	**4.40**	**349**		**Pn**	**13 36 27.0**	**+0.9**
KNB	**Kanab**	**4.67**	**53**		**Pn**	**13 36 31.0**	**+1.1**
KVN	**Kaiserville**	**4.77**	**354**	Pn	**Pn**	**13 36 32.8**	**+1.6**

*IDC **13** 13:41:02.9±1.3, 5°.64N×61°.38E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.6/54, mbtmp3.7/7, MS3.6/24, Ms1 3.6/24, ms1mx3.5/36, Error ellipse: s-maj=39.4km s-min=26.7km az=31.0*
ISC 13 13:41:05.0±1.3, 5°.7N±0°.3×61°.4E±0°.2, h14km, n28, σ1§11/7, mb3.6/7, MS3.6/23, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	**Wadi Sarin**	**17.67**	**352**	LR	LR	13 51 07.0	
	comp=Z,168nm,18.9s,baz=157,slow=34						
OPO	**Ambohidratompo**	**27.86**	**210**	LR	LR	13 55 26.9	
	comp=Z,137nm,18.3s,baz=160,slow=31						
GEYT	**Alibek**	**32.25**	**355**	LR	LR	13 59 56.4	
	comp=Z,64nm,18.5s,baz=200,slow=35						
CMAR	**Chiang Mai Arr**	**38.76**	**68**	P	**P**	**13 48 28.1**	**-1.3**
	0.4nm,0.3s,baz=259,slow=9.1,SNR=1.6						
CMAR				LR	LR	14 03 14.8	
	comp=Z,66nm,21.1s,baz=255,slow=34						
KBZ	**Khabaz**	**41.26**	**340**	LR	LR	14 06 58.6	
	comp=Z,54nm,20.0s,baz=148,slow=38						
BRTR	**Keskin Array B**	**42.13**	**328**	P	**P**	**13 48 56.9**	**-0.3**
	0.9nm,0.7s,baz=142,slow=6.2,SNR=4.1						
BRTR				LR	LR	14 06 58.9	
	comp=Z,52nm,19.4s,baz=144,slow=37						
AKTO	**Aktyubinsk**	**44.71**	**357**	LR	LR	14 08 48.4	
	comp=Z,74nm,19.8s,baz=170,slow=37						
MKAR	**Makanchi Array**	**44.76**	**20**	P	**P**	**13 49 18.6**	**+0.4**
	0.8nm,1.0s,baz=206,slow=6.3,SNR=2.8						
MKAR				LR	LR	14 09 33.9	
	comp=Z,47nm,18.9s,baz=204,slow=38						
KURBB	**Kurchatov Arra**	**47.05**	**15**	P	**P**	**13 49 37.3**	**+1.2**
	0.2nm,0.3s,baz=207,slow=8.3,SNR=2.7						
BOSA	**Boshof**	**48.71**	**224**	LR	LR	14 08 10.8	
	comp=Z,137nm,20.0s,baz=50,slow=33						
MLR	**Muntele Rosu**	**50.21**	**328**	LR	LR	14 11 34.5	
	comp=Z,66nm,21.9s,baz=124,slow=36						
ZALV	**Zalesovo Beam**	**51.77**	**17**	LR	LR	14 12 47.4	
	comp=Z,82nm,20.2s,baz=220,slow=37						
KIRV	**Kirov**	**53.60**	**352**	LR	LR	14 15 23.8	
	comp=Z,82nm,19.3s,baz=173,slow=38						
SONM	**Songino Array**	**56.87**	**35**	LR	LR	14 16 06.8	
	comp=Z,86nm,18.3s,baz=248,slow=37						
VRAC	**Vranov**	**57.57**	**327**	LR	LR	14 18 57.3	
	comp=Z,26nm,18.3s,baz=106,slow=40						
TLY	**Talaya**	**57.63**	**30**	LR	LR	14 15 39.8	
	comp=Z,92nm,21.5s,baz=223,slow=36						
TORD	**Torodi Ar. Bea**	**59.25**	**282**	P	**P**	**13 51 06.3**	**-0.3**
	1.0nm,1.1s,baz=96,slow=8.9,SNR=2.9						
FINES	**FINESS Array B**	**61.56**	**342**	LR	LR	14 19 01.9	
	comp=Z,39nm,21.1s,baz=165,slow=37						
NRIK	**Noril'sk**	**65.88**	**10**	LR	LR	14 22 56.4	
	comp=Z,111nm,19.8s,baz=212,slow=38						
NOA	**NORSAR Array B**	**66.68**	**336**	LR	LR	14 22 44.8	
	comp=Z,27nm,21.2s,baz=110,slow=38						
ARCES	**ARCESS Array B**	**67.95**	**347**	LR	LR	14 24 16.5	
	comp=Z,39nm,18.7s,baz=28,slow=38						
KSRS	**Korea Array**	**67.98**	**52**	LR	LR	14 22 04.5	
	comp=Z,51nm,21.5s,baz=258,slow=36						
USRK	**Ussuriysk Ar.**	**72.18**	**45**	LR	LR	14 25 55.9	
	comp=Z,97nm,19.5s,baz=247,slow=37						
WRA	**Warramunga Arr**	**76.03**	**112**	P	**P**	**13 52 53.8**	**+1.2**
	2.2nm,1.0s,baz=289,slow=4.7,SNR=3.9						
SPITS	**Spitsbergen Ar**	**76.05**	**351**	LR	LR	14 29 41.5	
	comp=Z,43nm,19.9s,baz=90,slow=38						
ASAR	**Alice Springs**	**76.40**	**116**	P	**P**	**13 52 54.8**	**+0.1**
	0.7nm,0.9s,baz=289,slow=5.8,SNR=3.8						
BORG	**Borgarnes**	**81.80**	**335**	LR	LR	14 34 19.8	
	comp=Z,22nm,18.2s,baz=114,slow=39						
PETK	**Petropavlovsk-**	**89.29**	**37**	LR	LR	14 37 10.8	
	comp=Z,49nm,18.4s,baz=242,slow=38						

YARS 13 14:04:43.6±0.0, 59°.56N×123°.04E, h10km, ML1.5/2, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OLMR	**Olekminsk**	**1.53**	**303**	*e*Pg	Pg	14 05 14.6	+1.6
	6.3nm,0.4s						
OLMR				*e*Sg	Sg	14 05 35.4	+2.5
	17nm,0.3s						
ALDR	**Aldan**	**1.55**	**127**	*e*Pg	Pg	14 05 14.9	+1.5
	3.9nm,0.2s						
ALDR				*e*Sg	Sg	14 05 35.4	+1.9
	30nm,0.2s						
ALDR	**Aldan**	**1.55**	**127**	*e*P	Pg	14 05 15.8	+2.4
ALDR				*e*Pg	Pb	14 05 19.6	+7.1
	1.8nm,0.2s						
ALDR				*e*S	Sn	14 05 31.4	-0.1
ALDR				*e*Sg	Sg	14 05 35.5	+2.0
	9.7nm,0.1s						
CLNS	**Chul'man**	**2.90**	**159**	*e*S	Sn	14 06 06.3	+1.4
	7.0nm,0.4s						
CLNS	**Chul'man**	**2.90**	**159**	*e*Sg	Sn	14 06 06.3	+1.5
	5.4nm,0.2s						
TBGR	**Tabaga**	**3.96**	**52**	*e*Sn	Sn	14 06 34.9	+4.2
TBGR				*e*Sg	Sg	14 06 55.1	+4.6
	49nm,0.2s						
TBGR	**Tabaga**	**3.96**	**52**	*e*Sn	Sb	14 06 38.7	-2.5
TBGR				*e*Sg	Sg	14 06 56.6	+6.1
	26nm,0.2s						

*AUST **13** 14:24:10.7±0.4, 30°.83S×138°.67E, h0km, Error ellipse: s-maj=7.3km s-min=3.5km az=35.0*
*IDC **13** 14:24:12.7±2.4, 29°.85S×139°.78E, h0km, mb1 2.9/3, mb1mx2.9/17, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=154.5km s-min=17.1km az=53.0*
ISC 13 14:24:10.4±1.1, 30°.61S±0°.09×138°.74E±0°.06, h10km, n9, σ1§75/12, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRK	**Leigh Creek**	**0.48**	**289**	P	**Pn**	**14 24 20.9**	**-2.5**
	baz=0.5						
LCRK				S	**Sb**	**14 24 28.3**	**+0.2**
	baz=0.5						
STKA	**Stephens Creek**	**2.75**	**118**	P	**Pn**	**14 24 54.9**	**+0.3**
	baz=2.7						
STKA	**Stephens Creek**	**2.75**	**118**	Pn	**Pn**	**14 24 55.1**	**+0.6**
	0.3nm,0.3s,baz=319,slow=12,SNR=1.5						
STKA				Sn	**Sn**	**14 25 27.7**	**-0.1**
	0.8nm,0.3s,baz=319,slow=20,SNR=5.0						
STKA				Lg	Lg	14 25 34.0	
	1.2nm,0.3s,baz=315,slow=19,SNR=6.9						
BBOO	**Buckleboo**	**3.17**	**226**	P	**Pn**	**14 24 59.9**	**-0.5**
	baz=3.0						
INKA	**Innaminka**	**3.35**	**32**	P	**Pb**	**14 25 08.7**	**-1.2**
	baz=3.6						
OOD	**Oodnadatta**	**3.87**	**316**	P	**Pn**	**14 25 13.2**	**+3.2**
	baz=4.0						
CMSA	**Cobar Meteorol**	**6.03**	**101**	P	**Pn**	**14 25 40.8**	**+1.1**
	baz=6.0						
ASAR	**Alice Springs**	**8.15**	**327**	Pn	**Pn**	**14 26 11.4**	**+2.6**
	0.0nm,0.3s,baz=178,slow=8.8,SNR=1.5						
ASAR				Sn	**Sn**	**14 27 40.2**	**-0.8**
	0.0nm,0.3s,baz=151,slow=22,SNR=1.7						
WRA	**Warramunga Arr**	**11.34**	**338**	Pn	**Pn**	**14 26 52.1**	**-0.4**
	0.0nm,0.3s,baz=152,slow=12,SNR=2.5						

IDC 13 15:22:38.1±2.2, 6°.88S×129°.37E, h0km, mb3.4/1, mb1 3.3/3, mb1mx3.2/23, mbtmp3.2/3, ML3.0/2, Error ellipse: s-maj=89.1km s-min=33.6km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.85**	**160**	Pn	Pn	15 25 55.0	-0.9
	0.1nm,0.3s,baz=340,slow=14,SNR=6.7						
WRA				Sn	Sn	15 28 17.2	-13
	0.1nm,0.3s,baz=339,slow=22,SNR=2.2						
ASAR	**Alice Springs**	**17.25**	**166**	P	Pn	15 26 41.2	+0.5
	0.0nm,0.3s,baz=335,slow=11,SNR=6.0						
ASAR				S	Sn	15 29 39.9	-13
	0.0nm,0.3s,baz=341,slow=26,SNR=1.7						
MKAR	**Makanchi Array**	**67.78**	**327**	P	P	15 33 37.9	+0.1
	0.2nm,0.5s,baz=123,slow=5.3,SNR=1.8						

*ISK **13** 16:00:35.5, 38°.67N×43°.18E, h5km, ML4.0/26*
*TEH **13** 16:00:36.1, 38°.68N×43°.19E, h14km, ML3.9*
*NSSP **13** 16:00:36.5, 38°.68N×43°.17E, h1⁰km, Ms3.8*
*DDA **13** 16:00:36.5, 38°.68N×43°.17E, h7km±5km, MW4.0*
*IDC **13** 16:00:40.4±2.3, 38°.62N×43°.20E, h39km±24km, mb3.6/7, mb1 3.5/14, mb1mx3.4/48, mbtmp3.6/14, ML3.3/6, MS2.8/9, Ms1 2.7/9, ms1mx2.5/43, Error ellipse: s-maj=22.3km s-min=15.0km az=147.0*
ISC 13 16:00:37.5±0.8, 38°.66N±0°.02×43°.20E±0°.02, h14km±5km, n123, σ1§47/154, mb3.7/6, MS2.7/4, 5C-11D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	**Van**	**0.16**	**115**	PG	**Pg**	**16 00 41.5**	**-0.1**
VANB				SG	**Sg**	**16 00 45.7**	**+1.4**
VANB	**Van**	**0.16**	**115**	*e*Pg	**Pg**	**16 00 40.9**	**-0.7**
TVAN	**Van**	**0.21**	**130**	↓*i*P	**Pg**	**16 00 41.5**	**-1.0**
TVAN				*i* S	**Sg**	**16 00 45.8**	**+0.1**
TVAN	**Van**	**0.21**	**130**	*e*Pg	**Pg**	**16 00 41.4**	**-1.0**
GEVA	**Gevas**	**0.37**	**198**	↓*i*P	**Pg**	**16 00 44.0**	**-1.0**
GEVA				*i* S	**Sb**	**16 00 51.2**	**-0.4**
GEVA				IAML		16 00 52.0	
	comp=E,10μm,0.4s						
GEVA				IAML		16 00 53.0	
	comp=N,10μm,0.4s						
GEVA	**Gevas**	**0.37**	**198**	*e*Pg	**Pg**	**16 00 44.0**

MUSM IAML 16 01 21.0
comp=E,520nm,0.5s
MUSM IAML 16 01 21.0
comp=N,430nm,0.3s
MUSM Mu-Merkez 1.32 273 *e*Pg **Pn 16 01 00.6 -1.1**
YOVA Hakkari_Yksek 1.37 141 *i* P **Pn 16 01 02.2 -0.3**
YOVA *i* S **Sn 16 01 22.9 +2.4**
YOVA Hakkari_Yksek 1.37 141 *e*Pn **Pn 16 01 02.1 -0.3**
IGDI IGDIR 1.38 29⇓ *i*P **Pn 16 01 02.0 -0.5**
IGDI *i* S **Sg 16 01 23.5 +1.3**
IGDI IAML 16 01 25.0
comp=N,706nm,0.7s
IGDI IAML 16 01 28.0
comp=E,452nm,0.7s
CUKT Cukurca 1.45 167 PN **Pn 16 01 03.8 +0.4**
CUKT Cukurca 1.45 167 *i* P **Pn 16 01 03.4 -0.1**
CUKT *i* S **Sg 16 01 26.2 +2.0**
CUKT IAML 16 01 30.0
comp=N,2µm,0.7s
CUKT IAML 16 01 40.0
comp=E,2µm,0.9s
VRTB Varto-Mus 1.45 291 PN **Pn 16 01 03.8 +0.3**
VRTB Varto-Mus 1.45 291 *i* P **Pn 16 01 03.2 -0.3**
VRTB *i* S Sg 16 01 33.7 +9.4
VNNZ Vanand 1.52 18⇑ *i*P **Pb 16 01 05.1 -0.4**
VNNZ ⇑*i*S **Sg 16 01 26.1 -0.4**
TASB TASBURUN-IGDIR 1.54 31 PN **Pn 16 01 05.3 +0.6**
METS Metsamor 1.63 24 *e*P **Pb 16 01 07.3 -0.2**
METS *e*S **Sg 16 01 29.8 -0.4**
SVAN Silvan-Diyarba 1.66 253 PN **Pn 16 01 07.2 +1.0**
SVAN Silvan-Diyarba 1.66 253 *i* P **Pn 16 01 07.2 +1.0**
SVAN *i* S **Sg 16 01 30.4 -0.4**
KOPR Koprukoy-ERZUR 1.69 322 PN **Pn 16 01 07.4 +0.6**
BTMN Batman 1.70 244 *i* P **Pn 16 01 07.4 +0.5**
BTMN *i* S **Sg 16 01 31.9 -0.5**
BTMN IAML 16 01 34.0
comp=E,2µm,0.5s
BTMN IAML 16 01 34.0
comp=N,2µm,0.8s
HOMI Horasan 1.71 324 *i* P **Pn 16 01 07.8 +0.7**
HOMI *i* S **Sg 16 01 35.0 +2.5**
HOMI IAML 16 01 37.0
comp=N,1µm,0.9s
HOMI IAML 16 01 47.0
comp=E,859nm,0.7s
DIGO Kars 1.75 4 *i* P **Pn 16 01 08.8 +1.1**
DIGO IAML 16 01 37.0
comp=N,403nm,0.5s
DIGO *i* S **Sg 16 01 38.3 +4.2**
DIGO IAML 16 01 39.0
comp=E,467nm,0.8s
ARUZ Aruch 1.76 23⇑ *i*P **Pb 16 01 09.2 -0.4**
ARUZ ⇑*i*S **Sg 16 01 33.0 -1.2**
KARO Karliova-Bingo 1.80 292 PN **Pn 16 01 08.8 +0.5**
IMRD Marand 1.96 88 *e*Pn **Pn 16 01 11.2 +0.7**
IMRD *e* 16 01 44.3
KARS Kars 1.96 357 PN **Pn 16 01 11.1 +0.6**
ECAT Cat-ERZURUM 1.97 299 *i* P **Pb 16 01 12.4 -0.9**
ECAT *i* S **Sg 16 01 42.6 +1.6**
ECAT IAML 16 01 45.0
comp=E,173nm,0.5s
BNGB Bingl 2.00 280 PN **Pn 16 01 11.9 +0.9**
SENK Senkaya-Erzuru 2.01 341 PN **Pn 16 01 12.2 +1.0**
KAPZ Kaputan 2.02 34 *i* P **Pn 16 01 12.1 +0.7**
KAPZ *i* S **Sn 16 01 38.2 +1.7**
AKDA Akdag 2.02 316 *i* P **Pn 16 01 12.3 +0.9**
EAK Akyaka 2.04 9⇓ *i*P **Pb 16 01 15.2 +0.7**
EAK *i* S **Sg 16 01 48.7 +5.3**
EAK IAML 16 02 02.0
comp=N,344nm,1.2s
EAK IAML 16 02 03.0
comp=E,277nm,0.8s
GMRZ Gyumri 2.20 13 *e*P **Pb 16 01 16.0 -1.2**
GMRZ *e*S **Sb 16 01 45.0 +0.7**
EMRE Erzurum,Aziziy 2.20 309 *i* P **Pb 16 01 17.3 0.0**
EMRE *i* S **Sg 16 01 50.8 +2.4**
EMRE IAML 16 01 57.0
comp=N,587nm,0.6s
EMRE IAML 16 02 06.0
comp=E,470nm,0.7s
YEDI Yedisu-Bingol 2.21 291 PN **Pn 16 01 14.5 +0.6**
HANI Diyarbakir_Han 2.21 264 *i* P **Pn 16 01 15.7 +1.8**
HANI *i* S **Sg 16 01 47.2 -1.5**
HANI IAML 16 01 56.0
comp=N,375nm,0.4s
HANI IAML 16 01 58.0
comp=E,290nm,1.3s
MARD Mardin 2.34 236 *i* P **Pn 16 01 16.2 +0.5**
MARD *i* S **Sb 16 01 49.1 +0.8**
MARD IAML 16 01 52.0
comp=N,1µm,0.8s
MARD IAML 16 01 59.0
comp=E,831nm,0.5s
ITBZ Tabriz 2.35 100 *e*Pn **Pn 16 01 17.3 +1.4**
IAZR Azarshahr 2.40 113 *e*Pn **Pn 16 01 18.7 +2.1**
IAZR *e* 16 01 28.1
VADZ Vardenis 2.48 52 *i* P **Pb 16 01 22.6 +0.7**
VADZ *i* S **Sg 16 01 56.2 -1.0**
MAZ Mazidag 2.48 242 PN **Pn 16 01 18.2 +0.5**
DDEM Demirkent 2.49 334 *i* P **Pb 16 01 22.2 +0.1**
DDEM *i* S **Sg 16 01 57.4 -0.2**
DDEM IAML 16 02 04.0
comp=E,143nm,0.6s
DDEM IAML 16 02 12.0
comp=N,232nm,0.6s
DYBB Diyarbakir 2.51 255 PN **Pn 16 01 19.1 +1.1**
DIYA Diyarbakir 2.53 254 *i* P **Pn 16 01 19.6 +1.3**
DIYA *i* S **Sb 16 01 52.8 -1.0**
DIYA IAML 16 02 05.0
comp=E,393nm,0.9s
DIYA IAML 16 02 09.0
comp=N,422nm,1.3s
DAGI Agillar 2.61 338 *i* P **Pb 16 01 23.4 -0.7**
BGD Bogdanovka 2.62 7 P **Pb 16 01 24.2 -0.1**
DBAD Bademkaya 2.62 334 *i* P **Pb 16 01 24.1 -0.2**
MAHB Mahabad 2.74 133 *e*Pn **Pn 16 01 23.8 +2.6**
AKH Akhalkalaki 2.75 5 P **Pb 16 01 27.4 +0.7**
AKH Akhalkalaki 2.75 5 PN **Pn 16 01 22.5 +1.1**
ERZN Erzincan 2.86 290 PN **Pn 16 01 24.0 +1.2**
KZRT Kazreti 2.87 18 P **Pb 16 01 28.4 -0.1**
BAYT Aydıntepe-Bayb 2.93 307 PN **Pn 16 01 25.1 +1.2**
PTK Pertek 2.99 276 PN **Pn 16 01 26.3 +1.7**
BCA Borcka 3.03 337 PN **Pn 16 01 26.7 +1.6**
IHRS Heris 3.03 95 *e*Pn **Pn 16 01 26.7 +1.4**
IHRS *e* 16 01 39.9
SVRC Sivrice-ELAZID 3.07 266 PN **Pn 16 01 26.9 +1.2**
CHOM Cayeli-Rize 3.07 323 PN **Pn 16 01 26.8 +1.2**
BKRG Bakuriani 3.10 4 P **Pb 16 01 34.4 +1.8**
BATM Batumi 3.16 339 P **Pb 16 01 34.1 +0.7**
BTNK Botanikuri 3.25 22 P **Pb 16 01 35.0 -0.1**
DDFL Dedoflistskaro 3.57 38 P **Pg 16 01 43.6 -2.3**
TKB Tkibuli 3.69 358 P **Pb 16 01 40.4 -2.0**
MALT Malatya 3.76 266 PN **Pn 16 01 36.7 +1.5**
ARPR Arapgir-MALATY 3.82 278 PN **Pn 16 01 37.5 +1.4**
ONI Oni 3.93 3 P **Pb 16 01 43.6 -3.0**
ONI Oni 3.93 3 PN **Pn 16 01 38.4 +0.9**
PNSH Pansheti 4.11 15 P **Pb 16 01 46.6 -3.1**
IDHR Dehrash 4.71 146 *e*Pn **Pn 16 01 50.3 +1.9**
KBZ Khabaz 5.07 358 Pn **Pn 16 01 56.6 +3.7**
comp=N,0.0nm,0.3s,baz=225,slow=5.7,SNR=1.3
KBZ LR LR 16 04 38.1
comp=N,67nm,19.7s,baz=146,slow=46
KVAR Kislovodsk Arr 5.30 356 LR LR 16 04 32.0
comp=N,147nm,21.8s,baz=112,slow=43
BRTR Keskin Array B 7.50 281 Pn **Pn 16 02 29.9 +3.2**
comp=N,0.1nm,0.3s,baz=113,slow=14,SNR=3.3
BRTR LR LR 16 06 10.6
comp=N,20nm,21.9s,baz=112,slow=44
ASF Jabal al Asfar 8.27 220 Pn **Pn 16 02 38.4 +1.3**
comp=N,0.2nm,0.3s,baz=253,slow=3.7,SNR=1.6
MMAI Mount Meron Ar 8.47 231 Pn **Pn 16 02 41.1 +1.2**
comp=N,0.7nm,0.3s,baz=66,slow=15,SNR=2.5
EIL Elat 11.27 220 LR LR 16 08 01.7
comp=N,63nm,19.5s,baz=76,slow=39
GEYT Alibeck 11.75 89 Pn **Pn 16 03 24.5 -0.2**
comp=N,0.4nm,0.3s,baz=290,slow=9.0,SNR=1.6
MLR Muntele Rosu 14.51 304 LR LR 16 11 00.9
comp=N,26nm,20.0s,baz=113,slow=43
AKASG Malin Array Be 15.58 325 Pn **Pn 16 04 15.6 -1.0**
comp=N,0.6nm,0.3s,baz=138,slow=11,SNR=2.5
AKTO Aktyubinsk 15.78 37 Pn **Pn 16 04 17.7 -1.5**
comp=N,0.1nm,0.3s,baz=229,slow=8.4,SNR=4.7
KOLS Kolonicke sedl 18.21 311 *e*P **P 16 04 52.8 +2.9**

VYHS Vyhne 20.13 307 *e*P Pn 16 05 17.5 +4.7
ARU Arti 20.49 25 P **P 16 05 15.9 +1.1**
comp=N,1.1nm,0.4s,baz=196,slow=15,SNR=5.2
ARU LR LR 16 14 42.7
comp=N,34nm,20.5s,baz=218,slow=41
KLMR Klimovskoe 22.33 355 *e* **P 16 05 33.6 -1.0**
KLMR AMP 16 05 45.6
comp=Z,16nm,1.4s
FINES FINESS Array B 25.16 341 P **P 16 06 02.3 +0.3**
comp=Z,1.0nm,0.8s,baz=167,slow=9.0,SNR=3.4
FINES LR LR 16 17 21.4
comp=Z,27nm,19.6s,baz=183,slow=40
ATD Arta Tunnel 27.02 181 LR LR 16 19 11.2
comp=Z,35nm,18.8s,baz=35,slow=41
KURBB Kurchatov Arra 27.57 53 P **P 16 06 23.9 +0.1**
comp=Z,1.9nm,0.8s,baz=263,slow=9.0,SNR=14
MKAR Makanchi Array 29.59 61 P **P 16 06 41.9 -0.1**
comp=Z,0.7nm,0.8s,baz=266,slow=6.8,SNR=7.4
NOA NORSAR Array B 29.92 329 LR LR 16 19 07.1
comp=Z,10nm,19.2s,baz=120,slow=37
TORD Torodi Ar. Bea 44.62 247 P **P 16 08 48.3 -1.4**
comp=Z,0.7nm,0.9s,baz=62,slow=6.7,SNR=3.1
CMAR Chiang Mai Arr 52.11 96 P **P 16 09 46.1 -1.3**
comp=Z,1.8nm,0.9s,baz=298,slow=8.1,SNR=9.2
KSRS Korea Array 64.27 62 P **P 16 11 12.2 -0.1**
comp=Z,1.4nm,0.5s,baz=290,slow=6.9,SNR=9.7

*ANF **13** 16:05:18.2±1.8, 43.°52N×128.°34W, h10km, ML3.5/7, Error ellipse: s-maj=24.0km s-min=13.2km az=21.0*
*NEIC **13** 16:05:21.2±2.0, 43.°72N±0.°08×128.°2W±0.°2, h10km±2km, ML3.2/18, Error ellipse: s-maj=23.5km s-min=13.3km az=272.0*
*IDC **13** 16:05:22.5±3.8, 43.°83N×127.°83W, h0km, mb3.5/3, mb1 3.7/7, mb1mx3.4/49, mbtmp3.4/7, ML3.3/4, MS3.1/11, Ms1 3.1/11, ms1mx2.9/27, Error ellipse: s-maj=56.9km s-min=23.9km az=64.0*
ISC 13 16:05:22.0±1.9, 43.°73N±0.°08×128.°2W±0.°1, h11km, n52, σ1§45/44, MS3.1/5, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
J01E	**Myrtle Point**	**3.13**	**99**	P			**Pn**	**16 06 08.9**	**-2.3**
	baz=278,SNR=10								
J01E				S			**Sn**	**16 06 48.1**	**-0.5**
	baz=278								
I02D	**Swisshome**	**3.14**	**82**	P			**Pn**	**16 06 09.7**	**-1.6**
	baz=261,SNR=28								
K02D	**Willamette Mer**	**3.44**	**106**	P			**Pn**	**16 06 12.9**	**-2.8**
	baz=285,SNR=12								
K02D				S			**Sn**	**16 06 55.2**	**-1.2**
	baz=285								
I03D	**Drain, OR**	**3.48**	**89**	P			**Pn**	**16 06 14.2**	**-1.9**
	baz=269,SNR=8.8								
I03D				S			**Sn**	**16 06 58.8**	**+1.4**
	baz=269								
COR	**Corvallis**	**3.59**	**75**	Pn			**Pn**	**16 06 16.6**	**-1.0**
COR				IAML				16 07 10.0	
	60nm,1.9s								
COR				IAML				16 08 06.4	
	56nm,3.1s								
G03D	**McMinnville, O**	**3.80**	**65**	P			**Pn**	**16 06 19.4**	**-1.0**
	baz=247,SNR=16								
KRMB	**Red Mountain**	**3.83**	**124**	Pn			**Pn**	**16 06 18.7**	**-2.3**
KRMB				IAML				16 07 32.5	
	comp=N,21nm,4.1s								
F03A	**Seaside**	**3.94**	**54**				**Pn**	**16 06 21.4**	**-1.0**
H04D	**Lebanon**	**3.98**	**77**	P			**Pn**	**16 06 21.9**	**-1.1**
	baz=258,SNR=5.3								
I04A	**Tendick Farm,**	**4.16**	**87**	P			**Pn**	**16 06 24.8**	**-0.7**
	baz=268,SNR=23								
I04A				S			**Sn**	**16 07 14.8**	**+0.7**
	baz=268								
E03A	**Lebam**	**4.30**	**47**	Pn			**Pn**	**16 06 24.6**	**-2.7**
H04A	**Detroit Lake**	**4.40**	**75**	Pn			**Pn**	**16 06 28.1**	**-0.6**
H04A				IAML				16 07 20.2	
	comp=E,21nm,3.8s								
H04A				IAML				16 08 01.9	
	comp=N,18nm,2.7s								
J04D	**Umpqua Nationa**	**4.43**	**94**	P			**Pn**	**16 06 29.5**	**+0.2**
	baz=276								
YBH	**Yreka Blue Hor**	**4.48**	**115**	Pn			**Pn**	**16 06 30.2**	**+0.3**
	comp=N,0.4nm,0.3s,baz=296,slow=12,SNR=7.5								
YBH				LR			LR	16 07 16.7	
	comp=N,17nm,21.9s,baz=308,slow=26								
YBH				Sn			**Sn**	**16 07 20.9**	**-1.1**
	comp=N,0.2nm,0.3s,baz=57,slow=18,SNR=1.4								
YBH	**Yreka Blue Hor**	**4.48**	**115**	Pn			**Pn**	**16 06 28.3**	**-1.6**
L04D	**Klamath Falls**	**4.55**	**107**	P			**Pn**	**16 06 30.5**	**-0.5**
	baz=288								
L04D				S			**Sn**	**16 07 23.3**	**-0.5**
	baz=288								
F04A	**Amboy**	**4.64**	**60**	Pn			**Pn**	**16 06 31.9**	**-0.1**
F04A				IAML				16 07 32.5	
	comp=E,26nm,1.0s								
F04A				IAML				16 08 34.6	
	comp=N,20nm,3.6s								
NLWA	**Neilton Lookou**	**4.74**	**38**	Pn			**Pn**	**16 06 32.4**	**-1.0**
NLWA				IAML				16 07 35.6	
	comp=N,31nm,3.6s								
K04D	**Chiloquin, OR**	**4.81**	**101**	S			**Sn**	**16 07 30.9**	**+0.7**
	baz=283								
LON	**Longmire**	**5.40**	**54**				**Pn**	**16 06 42.5**	**-0.1**
LTY	**Liberty**	**6.33**	**54**				**Pn**	**16 06 55.2**	**-0.1**
ORV	**Oroville**	**6.50**	**128**				**Pn**	**16 06 57.2**	**-0.4**
B06A	**Marblemount**	**6.66**	**42**	Pn			**Pn**	**16 07 00.2**	**+0.4**
D08A	**Wollman Farm,**	**7.30**	**60**	Pn			**Pn**	**16 07 05.7**	**-2.9**
PNTR	**Pine Nut**	**7.92**	**123**	Pn			**Pn**	**16 07 19.7**	**+2.4**
C09A	**Chrisman Ranch**	**8.02**	**56**	Pn			**Pn**	**16 07 17.9**	**-0.5**
YERR	**Yerington**	**8.21**	**122**				**Pn**	**16 07 23.3**	**+2.1**
WAKR	**Wager**	**8.40**	**125**	Pn			**Pn**	**16 07 26.2**	**+2.4**
BBB	**Bella Bella**	**8.46**	**0**	LR			LR	16 09 39.1	
	comp=N,39nm,20.1s,baz=112,slow=31								
SAO	**San Andreas Ge**	**8.64**	**141**	Pn			**Pn**	**16 07 26.7**	**-0.2**
NEW	**Newport**	**8.92**	**56**	LR			LR	16 10 55.3	
	comp=N,174nm,20.6s,baz=230,slow=38								
NVAR	**Mina Array Bea**	**9.13**	**122**	Pn			**Pn**	**16 07 35.4**	**+1.6**
	comp=N,0.2nm,0.3s,baz=296,slow=14,SNR=12								
NVAR	**Mina Array Bea**	**9.13**	**122**	Pn			**Pn**	**16 07 32.2**	**-1.6**
NV11	**Mina Array Sit**	**9.22**	**122**	Pn			**Pn**	**16 07 35.0**	**0.0**
PMPB	**Monarch Peak**	**9.39**	**141**	Pn			**Pn**	**16 07 36.6**	**-0.6**
ELK	**Elko**	**10.03**	**103**	Pn			**Pn**	**16 07 48.9**	**+2.7**
	comp=N,0.0nm,0.3s,baz=301,slow=8.0,SNR=3.8								
ELK				LR			LR	16 12 00.7	
	comp=N,79nm,18.1s,baz=300,slow=40								
PDAR	**Pinedale Array**	**13.59**	**88**	Pn			**Pn**	**16 08 36.2**	**+1.4**
	comp=N,0.1nm,0.3s,baz=284,slow=12,SNR=4.4								
PDAR				LR			LR	16 14 06.9	
	comp=N,109nm,19.8s,baz=296,slow=39								
PFO	**Pinyon Flats O**	**13.61**	**134**	LR			LR	16 13 43.2	
	comp=N,83nm,18.3s,baz=251,slow=37								
DLBC	**Dease Lake**	**14.77**	**356**	LR			LR	16 13 46.0	
	comp=N,55nm,19.7s,baz=214,slow=34								
YKA	**Yellowknife Ar**	**20.40**	**18**	P			**P**	**16 09 58.8**	**+0.2**
	comp=N,1.4nm,0.8s,baz=208,slow=12,SNR=5.0								
KDAK	**Kodiak Island**	**20.73**	**321**	LR			LR	16 15 54.4	
	comp=N,78nm,18.4s,baz=119,slow=30								
ULM	**Lac du Bonnet**	**22.84**	**62**	P			**P**	**16 10 25.3**	**+0.4**
	comp=N,2.8nm,0.6s,baz=270,slow=7.1,SNR=3.5								
ULM				LR			LR	16 19 30.4	
	comp=N,73nm,18.4s,baz=295,slow=38								
ILAR	**Eielson Array**	**23.57**	**340**	LR			LR	16 18 08.5	
	comp=N,41nm,18.8s,baz=118,slow=32								
TXAR	**Lajitas Array**	**24.25**	**118**	P			**P**	**16 10 39.5**	**+0.4**
	comp=N,0.5nm,0.7s,baz=298,slow=7.1,SNR=5.6								
LPIG	**La Paz**	**24.45**	**137**	LR			LR	16 19 14.2	
	comp=N,36nm,18.7s,baz=310,slow=34								
H11N3	**WAKE ISLAND Hy**	**58.64**	**268**	T			T	17 18 37.0	
	baz=49,slow=75,SNR=241								
H11N2	**WAKE ISLAND Hy**	**58.65**	**268**	T			T	17 18 20.8	
	baz=49,slow=75,SNR=188								
H11N1	**WAKE ISLAND Hy**	**58.66**	**268**	T			T	17 18 35.3	
	baz=49,slow=75,SNR=191								
H11S1	**WAKE ISLAND Hy**	**59.57**	**267**	T			T	17 19 32.4	
	baz=50,slow=75,SNR=220								
H11S2	**WAKE ISLAND Hy**	**59.58**	**267**	T			T	17 19 41.1	
	baz=50,slow=75,SNR=186								
H11S3	**WAKE ISLAND Hy**	**59.59**	**267**	T			T	17 19 33.9	
	baz=50,slow=75,SNR=180								
ESDC	**Sonseca Array**	**82.90**	**40**	LR			LR	16 53 06.3	
	comp=N,20nm,18.4s,baz=325,slow=35								

*IDC **13** 16:15:02.6±1.3, 12.°35N×144.°15E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.5/42, mbtmp3.7/5, Error ellipse: s-maj=56.2km s-min=22.8km az=92.0*
*NEIC **13** 16:15:09.1±1.0, 12.°2N±0.°1×144.°2E±0.°2, h53km±12km, mb4.3/9, Error ellipse: s-maj=26.3km s-min=13.2km az=110.0*
ISC 13 16:15:06.0±0.9, 12.°30N±0.°09×144.°2E±0.°2, h27km, n23, σ1§32/16, mb4.2/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.44**	**27**	Pn			**Pb**	**16 15 32.7**	**+0.6**
JCJ	**Chichijima**	**14.84**	**353**	Pn			**Pn**	**16 18 31.5**	**-2.6**
PMG	**Port Moresby**	**21.76**	**172**	P			**P**	**16 19 55.4**	**-0.3**
PMG				IAmb			IAmb	16 20 00.7	
	comp=Z,17nm,1.4s								
H11S3	**WAKE ISLAND Hy**	**22.53**	**71**	T			T	16 43 42.6	
	baz=238,slow=78,SNR=14								
H11S1	**WAKE ISLAND Hy**	**22.54**	**71**	T			T	16 43 39.8	
	baz=238,slow=78,SNR=7.0								
H11S2	**WAKE ISLAND Hy**	**22.54**	**71**	T			T	16 43 48.3	
	baz=238,slow=78,SNR=11								
H11N1	**WAKE ISLAND Hy**	**23.01**	**68**	T			T	16 44 16.8	
	baz=255,slow=75,SNR=16								
H11N2	**WAKE ISLAND Hy**	**23.02**	**68**	T			T	16 44 21.1	
	baz=255,slow=75,SNR=12								
H11N3	**WAKE ISLAND Hy**	**23.02**	**68**	T			T	16 44 17.3	
	baz=255,slow=75,SNR=15								
YOJ	**Yonaguni jima**	**23.43**	**304**	P			**P**	**16 20 13.9**	**+0.8**
JNU	**Nakatsue**	**24.05**	**332**	P			**P**	**16 20 20.3**	**+1.3**
WB0	**Warramunga Arr**	**33.30**	**197**	P			**P**	**16 21 41.4**	**-0.1**
WB0				IAmb			IAmb	16 21 51.7	
	comp=Z,8.3nm,1.5s								
WR0	**Warramunga Arr**	**33.44**	**197**	P			**P**	**16 21 43.0**	**+0.2**
WR0				IAmb			IAmb	16 22 01.9	
	comp=Z,5.5nm,1.2s								
WB2	**Warramunga Arr**	**33.47**	**197**	P			**P**	**16 21 41.1**	**-2.0**
WB2				IAmb			IAmb	16 21 51.7	
	comp=Z,5.9nm,1.1s								
WRA	**Warramunga Arr**	**33.48**	**197**	P			**P**	**16 21 43.4**	**+0.2**
	comp=Z,0.9nm,0.3s,baz=16,slow=9.5,SNR=8.2								
WRA	**Warramunga Arr**	**33.48**	**197**	P			**P**	**16 21 42.3**	**-0.8**
AS31	**Alice Springs**	**37.13**	**196**	P			**P**	**16 22 12.5**	**-2.1**
ASAR	**Alice Springs**	**37.14**	**196**	P			**P**	**16 22 16.1**	**+1.5**
	comp=Z,0.5nm,0.9s,baz=18,slow=10,SNR=8.0								
MKAR	**Makanchi Array**	**61.97**	**317**	P			**P**	**16 25 24.3**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=94,slow=9.7,SNR=4.5								
KURK	**Kurchatov**	**65.15**	**320**	P			**P**	**16 25 45.1**	**+0.6**
KURK	**Kurchatov**	**65.15**	**320**	IAmb			IAmb	16 25 48.3	
	comp=Z,2.4nm,0.9s								
KURBB	**Kurchatov Arra**	**65.19**	**320**	P			**P**	**16 25 45.1**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=103,slow=6.5,SNR=7.3								
ILAR	**Eielson Array**	**70.01**	**25**	P			**P**	**16 26 15.7**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=254,slow=5.6,SNR=5.0								

*IDC **13** 16:16:24.0±0.7, 29.°28N×86.°35E, h0km, mb4.0/16, mb1 4.2/18, mb1mx3.9/46, mbtmp4.0/18, ML3.8/2, MS3.3/14, Ms1 3.4/14, ms1mx3.1/38, Error ellipse: s-maj=20.8km s-min=15.5km az=53.0*
*BJI **13** 16:16:24.4±0.0, 29.°31N×86.°39E, h9km, mB4.3/3, mb4.2/19, Ms3.9/18, Ms7 3.9/10*
*NEIC **13** 16:16:26.2±2.3, 29.°4N±0.°1×86.°25E±0.°10, h15km±2km, mb4.0/13, Error ellipse: s-maj=16.4km s-min=11.1km az=204.0*
*NDI **13** 16:16:31.4±2.4, 29.°15N×86.°03E, h10km, ML3.3, mb4.0(NEIC)*
ISC 13 16:16:25.5±0.4, 29.°36N±0.°05×86.°24E±0.°05, h10km, n59, σ1§69/52, mb4.2/19, MS3.5/13, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GTK	**Tadong**	**2.91**	**134**	*e*P			**Pb**	**16 17 19.0**	**+1.4**
GTK				IAML				16 18 01.9	
	comp=N,205nm,0.6s								
GTK				IAML				16 18 08.7	
	comp=N,139nm,0.6s								
LSA	**Lhasa**	**4.29**	**84**	Pn			**Pn**	**16 17 32.7**	**+1.3**
BOK	**Bokaro**	**5.55**	**183**	*e*P			**Pn**	**16 17 48.8**	**+0.5**
BOK				*e*S			**Sn**	**16 18 50.3**	**-1.9**
SHL	**Shillong**	**6.27**	**126**	*ex*			**Pn**	**16 17 57.7**	**-0.6**
SHL	**Shillong**	**6.27**	**126**	Pn			**Pn**	**16 17 55.3**	**-3.1**
SMLA	**Simla**	**8.05**	**285**	*e*P			**Pn**	**16 18 25.2**	**+2.7**
DHRM	**DHARAMSHALA**	**9.02**	**291**	*e*P			**Pn**	**16 18 40.0**	**+3.9**
DHRM				*e*S			**Sn**	**16 20 14.8**	**-3.1**
NGP	**Nagpur**	**10.45**	**220**	*e*P			**Pn**	**16 18 56.6**	**+1.2**
NGP				IAmb			IAmb	16 19 00.4	
	comp=Z,13nm,0.5s								
NIL	**Nilore**	**11.88**	**294**	Pn			**Pn**	**16 19 15.2**	**+0.1**
KSH	**Kashi**	**13.20**	**323**	P			**Pn**	**16 19 33.3**	**+0.1**
KSH				S			**Sn**	**16 21 56.1**	**-4.0**
KSH				pmax			pmax		
	comp=Z,31nm,1.2s								
KSH				LR			LR		
	comp=Z,450nm,6.7s								
HYB	**Hyderabad**	**13.82**	**212**	*i* P			**Pn**	**16 19 42.0**	**+0.4**
HYB				*e*S			**Sn**	**16 22 15.0**	**-0.2**
WMQ	**Urumqi**	**14.48**	**4**	smax			smax		
	comp=N,20nm,0.5s								
WMQ				smax			smax		
	comp=E,16nm,0.5s								
WMQ	**Urumqi**	**14.48**	**4**	*e*P			**Pn**	**16 19 50.3**	**-0.3**
WMQ				LR			LR		
	comp=E,240nm,14.7s								
WMQ				LR			LR		
	comp=E,110nm,14.1s								
GTA	**Gaotai**	**15.02**	**45**	*e*P			**P**	**16 20 03.1**	**-0.4**
GTA				pP			pP	16 20 07.4	-0.3
GTA				sP			sP	16 20 10.8	+1.1
GTA				pmax			pmax		
	comp=E,5.0nm,0.9s								
GTA				LR			LR		
	comp=E,220nm,13.1s								
KBL	**Kabul**	**15.48**	**294**	Pn			**Pn**	**16 20 02.5**	**-1.8**
KBL				IAmb			IAmb	16 20 05.8	
	comp=Z,14nm,0.9s								
BOOM	**Boomskoye usch**	**15.52**	**330**				**Pn**	**16 20 01.6**	**-3.0**
CMAR	**Chiang Mai Arr**	**15.88**	**130**	Pn			**Pn**	**16 20 09.2**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=314,slow=9.6,SNR=10								
CMAR				LR			LR	16 27 47.8	
	comp=Z,64nm,18.2s,baz=1.5,slow=43								
AAK	**Ala-Archa**	**16.29**	**328**	LR			LR	16 27 47.3	
	comp=Z,28nm,19.2s,baz=184,slow=42								
BTK	**Batken**	**16.55**	**314**				**Pn**	**16 20 16.8**	**-1.1**
MK31	**Makanchi Array**	**17.68**	**351**	P			**Pn**	**16 20 32.6**	**+0.8**
MK31				IAmb			IAmb	16 20 35.9	
	comp=Z,12nm,1.2s								
MKAR	**Makanchi Array**	**17.68**	**351**	P			**Pn**	**16 20 32.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=163,slow=13,SNR=20								
MKAR	**Makanchi Array**	**17.68**	**351**	P			**Pn**	**16 20 32.6**	**+0.8**
MAKZ	**Makanchi**	**17.74**	**350**	P			**Pn**	**16 20 33.4**	**+0.8**
MAKZ				IAmb			IAmb	16 20 36.6	
	comp=Z,9.6nm,1.1s								

comp=N,200nm,13.0s
CN2 LR LR
comp=E,200nm,13.0s
CN2 LR LR
comp=Z,200nm,15.0s
KSRS Korea Array 35.49 66 P **P 16 23 19.7 -2.6**
comp=Z,0.2nm,0.3s,baz=274,slow=7.5,SNR=5.3
USRK Ussuriysk Ar. 39.01 55 LR LR 16 41 30.3
comp=Z,93nm,20.3s,baz=250,slow=39
NRIK Noril'sk 40.02 1 P **P 16 24 00.8 +0.5**
comp=Z,7.1nm,0.9s,baz=172,slow=7.6,SNR=15
NRIK LR LR 16 42 47.4
comp=Z,82nm,20.4s,baz=206,slow=40
KLMR Klimovskoe 44.09 329 *eP* **P 16 24 33.7 +0.1**
KLMR AMP 16 24 41.9
comp=Z,12nm,1.5s
AKASG Malin Array Be 47.26 313 LR LR 16 48 26.5
comp=Z,34nm,21.5s,baz=50,slow=41
TIXI Tiksi 48.23 17 P 16 25 04.5 -1.5
FINES FINESS Array B 50.47 327 P **P 16 25 24.6 +1.4**
comp=Z,3.0nm,0.9s,baz=132,slow=13,SNR=4.2
FINES LR LR 16 48 38.3
comp=Z,46nm,19.0s,baz=27,slow=38
ARCES ARCESS Array B 52.65 337 P **P 16 25 41.3 +1.8**
comp=Z,2.1nm,0.7s,baz=59,slow=10,SNR=4.7
PETK Petropavlovsk- 56.18 43 LR LR 16 52 17.0
comp=Z,47nm,20.4s,baz=237,slow=38
GERES GERESS Array B 57.37 312 P **P 16 26 15.3 +1.2**
comp=Z,0.5nm,0.6s,baz=91,slow=5.9,SNR=5.3
NOA NORSAR Array B 57.60 326 P **P 16 26 15.7 +0.3**
comp=Z,0.6nm,0.6s,baz=88,slow=6.9,SNR=2.4
NOA LR LR 16 54 59.4
comp=Z,16nm,20.2s,baz=115,slow=40
WRA Warramunga Arr 67.47 131 P **P 16 27 21.9 0.0**
comp=Z,2.3nm,0.7s,baz=325,slow=6.5,SNR=5.7
AS31 Alice Springs 69.86 134 P **P 16 27 36.0 -0.7**
AS31 IAmb IAmb 16 27 42.5
comp=Z,1.7nm,1.3s
ASAR Alice Springs 69.86 134 P **P 16 27 36.5 -0.3**
comp=Z,1.8nm,0.8s,baz=318,slow=6.0,SNR=29
ASAR Alice Springs 69.86 134 P **P 16 27 36.9 +0.1**
KRVT Keravat (AS076 71.29 106 LR LR 16 59 27.4
comp=Z,25nm,21.2s,baz=228,slow=36
ESDC Sonseca Array 72.08 306 P **P 16 27 50.5 +0.3**
comp=Z,1.2nm,0.9s,baz=65,slow=5.1,SNR=5.9
ILAR Eielson Array 77.51 21 P **P 16 28 20.9 -0.2**
comp=Z,1.0nm,0.9s,baz=298,slow=4.1,SNR=6.8
TORD Torodi Ar. Bea 78.99 279 P **P 16 28 30.1 -0.1**
comp=Z,2.0nm,1.1s,baz=59,slow=4.2,SNR=5.1
TORD LR LR 17 06 01.0
comp=Z,46nm,19.4s,baz=135,slow=38
TORD Torodi Ar. Bea 78.99 279 IAmb IAmb 16 28 30.7
comp=Z,2.2nm,1.2s
BOSA Boshof 81.96 231 P **P 16 28 44.9 -1.0**
comp=Z,3.1nm,0.9s,baz=88,slow=6.4,SNR=4.0
BOSA Boshof 81.96 231 IAmb IAmb 16 28 46.0
comp=Z,5.7nm,1.1s
CPUP Villa Florida 147.73 266 PKPbc **PKPbc 16 36 10.7 -0.2**
comp=Z,2.9nm,0.7s,baz=22,slow=7.4,SNR=2.8

*NEIC **13** 16:46:02.3±2.1, 7.°22S±0.°08×129.°35E±0.°06, h184km±14km, mb4.4/10, Error ellipse: s-maj=11.8km s-min=9.1km az=186.0*
*IDC **13** 16:46:03.5±2.1, 7.°35S×129.°41E, h142km±23km, mb3.5/4, mb1 3.9/9, mb1mx3.5/29, mbtmp4.3/9, MS3.2/2, Ms1 3.2/2, ms1mx2.5/23, Error ellipse: s-maj=29.7km s-min=17.0km az=77.0*
*DJA **13** 16:46:05.7±0.2, 7.°5S±2.°×12.°9E±.°, h117km±6km, M4.5/20, mB5.1/9, mb4.6/20, MLv4.5/17, Mw(mB)4.4/9, Mwp5.4/1*
ISC 13 16:46:04.5±0.6, **7.°58S**±0.°06×**129.°42E**±0.°05, **h150**km, **n55,** σ**2**s**44**/61, **mb3.8/5, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.91**	**102**	P		**Pn**	**16 46 37.9**	**-0.6**
SAUI				S		**Sn**	**16 47 03.0**	**-1.6**
SAUI	**Saumlaki**	**1.91**	**102**			**Pn**	**16 46 41.3**	**+2.8**
SAUI					Sn	**Sn**	**16 47 09.6**	**+4.9**
BNDI	**Bandanaira**	**3.08**	**9**	P		**Pn**	**16 46 51.6**	**-1.2**
AAI	**Ambon**	**4.06**	**342**	P		**Pn**	**16 47 04.5**	**-1.0**
MSAI	**Masohi**	**4.24**	**353**	P		**Pn**	**16 47 07.1**	**-0.8**
NLAI	**Namlea**	**4.89**	**332**	P		**Pn**	**16 47 16.2**	**-0.3**
FAKI	**Fak Fak**	**5.42**	**31**	P		**Pn**	**16 47 23.7**	**+0.2**
	0.5nm2μm52nm,1.5s							
FAKI	**Fak Fak**	**5.42**	**31**	Pn		**Pn**	**16 47 19.4**	**-4.1**
FAKI				Sn		Sn	16 48 15.5	-10
MTN	**Manton Dam**	**5.50**	**162**			Pn	16 47 28.1	+3.6
SOEI	**Soe**	**5.53**	**247**	P		**Pn**	**16 47 26.1**	**+1.0**
	1.4nm2μm248nm,0.9s							
SOEI				S		**Sn**	**16 48 30.6**	**+2.5**
	1.4nm2μm248nm,0.9s							
SOEI	**Soe**	**5.53**	**247**			**Pn**	**16 47 26.4**	**+1.3**
SOEI					Sn	**Sn**	**16 48 29.5**	**+1.4**
KMPI	**Kaimana, Papua**	**5.77**	**48**	P		**Pn**	**16 47 27.8**	**-0.4**
	1.4nm183nm,0.7s							
BATI	**Baumata**	**6.26**	**245**	P		**Pn**	**16 47 35.8**	**+1.1**
	42nm,0.3s,baz=102,slow=3.0,SNR=52							
BATI				S		**Sn**	**16 48 42.9**	**-2.3**
	25nm,0.3s,baz=110,slow=23,SNR=17							
BATI	**Baumata**	**6.26**	**245**	P		**Pn**	**16 47 36.3**	**+1.6**
	0.4nm1μm88nm,0.5s							
SIJI	**Sorong**	**6.92**	**16**	P		**Pn**	**16 47 39.6**	**-3.9**
	1.5nm,0.3s,baz=106,slow=22,SNR=8.8							
SIJI				S		Sn	16 48 50.0	-11
	3.6nm,0.3s,baz=100,slow=24,SNR=9.7							
BBSI	**Bau Bau**	**7.12**	**287**	P		**Pn**	**16 47 47.1**	**+1.0**
	0.0nm4.1nm,1.0s							
LBMI	**Labuha**	**7.16**	**344**	P		**Pn**	**16 47 44.8**	**-1.9**
MMRI	**Maumere**	**7.19**	**261**	Pn		**Pn**	**16 47 46.3**	**-0.8**
RKPI	**Ransiki, Papua**	**7.67**	**38**	P		**Pn**	**16 47 54.1**	**+0.6**
	1.9nm13μm179nm,1.3s							
EDFI	**Ende, Flores**	**7.74**	**261**	P		**Pn**	**16 47 56.7**	**+2.2**
	0.1nm9.3nm,0.9s							
KNRA	**Kununurra**	**8.07**	**185**			**Pn**	**16 48 01.1**	**+2.2**
TNTI	**Ternate**	**8.55**	**346**	P		**Pn**	**16 48 06.1**	**+0.9**
	11nm,0.8s							
SRPI	**Serui, Papua**	**8.85**	**50**	P		**Pn**	**16 48 09.6**	**+0.3**
BASI	**Baing, Sumba**	**9.12**	**253**	P		**Pn**	**16 48 15.4**	**+2.5**
	131nm,0.9s							
WSI	**Waingapu**	**9.26**	**256**	P		**Pn**	**16 48 17.1**	**+2.4**
	25μm156nm,0.5s							
KMSI	**Cibinong**	**9.75**	**326**	P		**Pn**	**16 48 22.1**	**+0.9**
	32nm,0.8s							
WAMI	**Wamena**	**9.95**	**69**	P		**Pn**	**16 48 27.1**	**+3.3**
	37nm,0.7s							
WBSI	**Waikabubak, Su**	**10.12**	**258**	P		**Pn**	**16 48 28.8**	**+2.5**
	2μm92nm,1.1s							
MMPI	**Merauke**	**10.89**	**95**	P		**Pn**	**16 48 39.3**	**+3.0**
	190nm,0.8s							
MRSI	**Marisa**	**10.94**	**317**	P		**Pn**	**16 48 36.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**11.08**	**199**	P		**Pn**	**16 48 39.2**	**+0.4**
	1.7nm,0.3s,baz=31,slow=12,SNR=44							
FITZ				S		**Sn**	**16 50 37.0**	**-4.4**
	5.2nm,0.3s,baz=87,slow=17,SNR=11							
FITZ	**Fitzroy Crossi**	**11.08**	**199**			**Pn**	**16 48 40.0**	**+1.1**
WB0	**Warramunga Arr**	**13.04**	**159**			**P**	**16 49 05.2**	**-3.8**
WRAB	**Tennant Creek**	**13.18**	**159**			**P**	**16 49 06.9**	**-3.6**
WRA	**Warramunga Arr**	**13.18**	**159**	P		**Pn**	**16 49 06.6**	**+0.5**
	4.0nm,0.3s,baz=330,slow=14,SNR=107							
WRA				S		**Sn**	**16 51 27.8**	**-4.2**
	4.0nm,0.3s,baz=332,slow=22,SNR=9.6							
WRA	**Warramunga Arr**	**13.18**	**159**			**Pn**	**16 49 04.3**	**-1.7**
WB2	**Warramunga Arr**	**13.19**	**159**			**Pn**	**16 49 06.7**	**+0.6**
WR0	**Warramunga Arr**	**13.27**	**159**			**P**	**16 49 07.9**	**-3.7**
COEN	**Coen**	**14.92**	**116**	P		**P**	**16 49 30.5**	**+0.6**
JAGI	**Jajag, Banyuwa**	**15.14**	**266**			**Pn**	**16 49 27.0**	**-3.8**
JAGI					IAmb	IAmb	16 49 45.0	
	comp=Z,36nm,1.1s							
AS31	**Alice Springs**	**16.56**	**165**			**Pn**	**16 49 51.5**	**+3.4**
AS31					IAmb	IAmb	16 49 58.1	
	comp=Z,7.5nm,0.5s							
ASAR	**Alice Springs**	**16.56**	**165**	P		**Pn**	**16 49 51.7**	**+3.5**
	comp=Z,1.5nm,0.3s,baz=334,slow=9.1,SNR=109							
ASAR				S		**S**	**16 52 49.5**	**-2.8**
	comp=Z,1.2nm,0.3s,baz=327,slow=22,SNR=7.1							
ASAR				LR		LR	16 57 16.9	
	comp=Z,78nm,19.0s,baz=15,slow=40							
ASAR	**Alice Springs**	**16.56**	**165**			**Pn**	**16 49 51.1**	**+2.9**
PSAD1	**Pilbara Seismi**	**16.61**	**213**	Pn		**Pn**	**16 49 50.0**	**+1.2**
PSAD1					IAmb	IAmb	16 49 53.5	
	comp=Z,22nm,1.1s							
PSA00	**Pilbara Seismi**	**16.70**	**213**	Pn		**Pn**	**16 49 52.6**	**+2.7**
PSA00	**Pilbara Seismi**	**16.70**	**213**	Pn		**Pn**	**16 49 52.5**	**+2.7**
PSA00					IAmb	IAmb	16 49 54.1	
	comp=Z,19nm,0.6s							
CTAO	**Charters Tower**	**20.51**	**129**	P		**P**	**16 50 27.5**	**-3.6**
CTAO					IAmb	IAmb	16 50 46.8	
	comp=Z,9.5nm,1.1s							
FORT	**Forrest**	**23.11**	**183**	P		**P**	**16 50 54.0**	**-3.3**
MORW	**Morawa**	**24.82**	**209**	P		**P**	**16 51 16.0**	**+3.2**
BBOO	**Buckleboo**	**25.85**	**167**	P		**P**	**16 51 22.1**	**0.0**
BBOO					IAmb	IAmb	16 51 29.0	
	comp=Z,7.9nm,0.9s							
STKA	**Stephens Creek**			**26.70**	**156**	P	**P**	**16 51 31.8**	**+2.0**
	comp=Z,3.0nm,1.0s,baz=319,slow=11,SNR=2.1							
CMAR	**Chiang Mai Arr**			**39.67**	**311**	P	**P**	**16 53 20.5**	**-1.6**
	comp=Z,1.4nm,0.8s,baz=136,slow=8.2,SNR=8.1							
MKAR	**Makanchi Array**			**68.40**	**327**	P	**P**	**16 56 47.8**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=112,slow=8.3,SNR=9.7							
AAK	**Ala-Archa**			**70.61**	**320**	LR	LR	17 31 10.0	
	comp=Z,12nm,18.1s,baz=222,slow=38							
ZALV	**Zalesovo Beam**			**71.85**	**334**	P	**P**	**16 57 10.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=142,slow=7.2,SNR=2.6							

*MAN **13** 17:07:07.2, 11.°64N×125.°09E, h106km, MS2.9*
*IDC **13** 17:07:07.3±9.7, 11.°56N×125.°13E, h104km±90km, mb3.4/7, mb1 3.6/7, mb1mx3.3/36, mbtmp3.8/7, Error ellipse: s-maj=63.7km s-min=15.6km az=62.0*
*NEIC **13** 17:07:08.2±1.3, 11.°62N±0.°10×125.°2E±0.°2, h117km±5km, mb4.7/16, Error ellipse: s-maj=23.6km s-min=12.8km az=72.0*
ISC 13 17:07:04.7±0.9, **11.°74N**±0.°05×**125.°5E**±0.°1, **h100**km, **n48,** σ**1**s**80**/30, **mb4.4**/15, **5C-2D, Samar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**1.07**	**230**	*eP*		**Pn**	**17 07 26.5**	**+0.5**
CNP	**Catarman**	**1.08**	**315**	*eP*		**Pn**	**17 07 28.5**	**+2.4**
CNP				*eS*		**Sn**	**17 07 44.2**	**+2.0**
MSLP	**Maasin**	**1.69**	**200**	*eP*		**Pn**	**17 07 34.6**	**+1.1**
MSLP				*eS*		**Sn**	**17 07 56.6**	**+1.4**
SCPH	**Surigao**	**1.94**	**179**	*eP*		**Pn**	17 07 38.8	+2.2
LLP	**Lapu-Lapu**	**2.03**	**226**	*eP*		**Pn**	**17 07 37.0**	**-0.7**
LLP				*eS*		**Sn**	**17 07 58.9**	**-3.9**
PVCP	**Virac**	**2.24**	**326**	*eP*		**Pn**	17 07 43.0	+2.6
PVCP				*eS*		Sn	17 07 52.2	-15
TBP	**Tagbilaran**	**2.56**	**218**	*eP*		**Pn**	**17 07 46.1**	**+1.4**
GUIM	**Jordan**	**3.01**	**249**	*eP*		**Pn**	**17 07 53.6**	**+3.0**
CGP	**Cagayan de Oro**	**3.34**	**193**	*eP*		**Pn**	**17 07 56.6**	**+1.4**
CGP				*eS*		**Sn**	**17 08 33.6**	**-0.5**
BUKP	**Musuan**	**3.85**	**186**	*eP*		Pn	17 08 04.7	+2.6
BUKP				*eS*		Sn	17 08 34.2	-12
LQP	**Lukban**	**4.48**	**302**	*eP*		**Pn**	**17 08 11.9**	**+1.2**
LQP				*eS*		Sn	17 08 33.3	-28
POLP	**Polilio Island**	**4.53**	**311**	*eP*		**Pn**	**17 08 13.2**	**+2.1**
CTBH	**Cotabato--PC H**	**4.64**	**195**	*iP*		**Pn**	**17 08 14.2**	**+1.5**
KCP	**Kidapawan**	**4.71**	**184**	*iP*		Pn	17 08 16.3	+2.6
BALP	**Baler**	**5.47**	**317**	*eP*		**Pn**	**17 08 23.2**	**-0.7**
PCPH	**Palayan**	**5.69**	**312**	*eP*		**Pn**	**17 08 27.0**	**+0.2**
APYP	**Conner**	**7.32**	**327**	*eP*		**Pn**	**17 08 50.4**	**+1.4**
YULB	**Yu-li**	**12.24**	**342**	Pn		**P**	**17 09 59.7**	**-4.2**
YOJ	**Yonaguni jima**	**12.86**	**350**	Pn		**P**	**17 10 07.6**	**-3.2**
LUWI	**Luwuk**	**12.97**	**192**	Pn		**Pn**	**17 10 05.8**	**+0.4**
YHNB	**Yeheng**	**13.43**	**344**	P		P	17 10 18.7	+1.5
CMAR	**Chiang Mai Arr**	**26.42**	**288**	P		**P**	**17 12 32.3**	**-0.1**
	1.0nm,0.8s,baz=96,slow=8.5,SNR=6.1							
KNRA	**Kununurra**	**27.44**	**173**	P		**P**	**17 12 40.5**	**-0.8**
KNRA					IAmb	IAmb	17 13 00.1	
	comp=Z,28nm,1.4s							
FITZ	**Fitzroy Crossi**	**29.65**	**180**	P		**P**	**17 13 01.9**	**+1.0**
	comp=Z,3.7nm,0.7s,baz=8.5,slow=7.9,SNR=9.5							
FITZ	**Fitzroy Crossi**	**29.65**	**180**	P		**P**	**17 13 01.6**	**+0.6**
COEN	**Coen**	**31.00**	**145**	P		P	17 13 15.1	+2.1
COEN					IAmb	IAmb	17 13 15.9	
	comp=Z,14nm,1.6s							
WB0	**Warramunga Arr**	**32.52**	**164**	P		P	17 13 27.5	+1.2
WB0					IAmb	IAmb	17 13 43.1	
	comp=Z,17nm,1.6s							
WRA	**Warramunga Arr**	**32.68**	**164**	P		**P**	**17 13 28.1**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=346,slow=9.3,SNR=4.8							
WRA				PcP		**PcP**	**17 16 12.7**	**+1.3**
	comp=Z,0.9nm,1.2s,baz=335,slow=2.4,SNR=1.7							
WRA	**Warramunga Arr**	**32.68**	**164**	P		P	17 13 28.8	+1.2
WB2	**Warramunga Arr**	**32.68**	**164**	P		**P**	**17 13 28.0**	**+0.4**
WB2					IAmb	IAmb	17 14 03.3	
	comp=Z,8.8nm,1.4s							
WR0	**Warramunga Arr**	**32.75**	**164**	P		P	17 13 29.7	+1.4
WR0					IAmb	IAmb	17 13 43.3	
	comp=Z,10nm,1.4s							
AS31	**Alice Springs**	**36.15**	**167**	P		P	17 13 59.2	+1.6
ASAR	**Alice Springs**	**36.15**	**167**	P		P	17 13 59.2	+1.6
	comp=Z,0.7nm,0.4s,baz=354,slow=7.9,SNR=43							
ASAR				PcP		**PcP**	**17 16 22.9**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=347,slow=3.0,SNR=6.6							
SONM	**Songino Array**	**39.37**	**340**	P		P	17 14 27.3	+2.7
	comp=Z,0.3nm,0.4s,baz=157,slow=4.4,SNR=1.9							
SONM	**Songino Array**	**39.37**	**340**	P		P	17 14 26.5	+1.9
NWAO	**Narrogin (SRO)**	**45.10**	**190**	P		**P**	**17 15 10.9**	**-0.2**
NWAO					IAmb	IAmb	17 15 33.4	
	comp=Z,36nm,1.4s							
BBOO	**Buckleboo**	**45.44**	**167**	P		P	17 15 15.6	+1.8
STKA	**Stephens Creek**	**46.05**	**161**	P		P	17 15 20.5	+1.9
	comp=Z,7.nm,1.0s,baz=323,slow=7.3,SNR=3.7							
STKA	**Stephens Creek**	**46.05**	**161**	P		P	17 15 20.3	+1.7
MK31	**Makanchi Array**	**50.38**	**322**	P		P	17 15 54.6	+2.9
MKAR	**Makanchi Array**	**50.38**	**322**	P		P	17 15 53.5	+1.7
	comp=Z,0.3nm,0.5s,baz=120,slow=8.1,SNR=5.8							
MKAR				pP		sP	17 16 18.9	-8.1
	comp=Z,0.3nm,0.6s,baz=115,slow=8.7,SNR=3.8							
MKAR	**Makanchi Array**	**50.38**	**322**	P		P	17 15 53.6	+1.8
KKAR	**Karatay Array**	**56.65**	**314**	P		P	**17 16 38.6**	**+0.9**
JOHN	**Johnston Islan**	**63.00**	**77**	P		P	17 17 24.0	+2.5
ABKAR	**Akbulak array**	**65.24**	**319**	P		P	17 17 37.2	+1.5
NNZ	**Nelson**	**68.76**	**143**	P		P	17 18 00.8	+2.8
NNZ					IAmb	IAmb	17 18 05.1	
	comp=Z,46nm,1.4s							
THZ	**Tophouse**	**68.82**	**144**	P		P	17 18 01.1	+2.6
THZ					IAmb	IAmb	17 18 14.1	
	comp=Z,28nm,1.5s							
SNZO	**South Karori**	**69.60**	**142**	P		P	17 18 05.6	+2.4

*UPP **13** 17:12:26.3±0.1, 67.°08N×20.°90E, h0km, ML2.1, Explosion*
*NAO **13** 17:12:27.0±1.0, 67.°10N×21.°22E, ML2.5*
*HEL **13** 17:12:27.1±0.1, 67.°08N×20.°95E, h0km, ML2.2, ML2.1(UPP), Explosion*
*IDC **13** 17:12:27.8±1.2, 67.°11N×21.°45E, h0km, mb1 3.0/3, mb1mx2.8/40, mbtmp2.9/3, ML2.0/3, Error ellipse: s-maj=21.6km s-min=8.0km az=105.0*
*BER **13** 17:12:28.5±2.6, 67.°08N×21.°20E, h0km, ML1.6, Suspected explosion*
ISC 13 17:12:26.4±0.8, **67.°09N**±0.°02×**20.°93E**±0.°03, **h0**km, **n57,** σ**1**s**03**/76, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.55**	**48**	P		**Pg**	**17 12 37.2**	**+0.2**
MASU	**Masugnsbyn**	**0.55**	**48**	*i* P		**Pg**	**17 12 37.2**	**+0.2**
ERTU	**Ertsjaerv**	**0.73**	**137**	P		**Pg**	**17 12 40.0**	**-0.4**
ERTU	**Ertsjaerv**	**0.73**	**137**	*eP*		**Pg**	**17 12 39.9**	**-0.6**
ERTU				*eS*		**Sg**	**17 12 51.0**	**+1.1**
PAJU	**Pajala**	**0.86**	**94**	P		**Pg**	**17 12 42.4**	**-0.4**
PAJU	**Pajala**	**0.86**	**94**	*i* P		**Pg**	**17 12 42.4**	**-0.4**
KUA	**Kurravaara**	**0.90**	**346**	P		**Pg**	**17 12 43.2**	**-0.4**
KUA				S		**Sg**	**17 12 55.7**	**+0.6**
KUA	**Kurravaara**	**0.90**	**346**	*eP*		**Pg**	**17 12 43.2**	**-0.4**
KUA				*eS*		**Sg**	**17 12 55.7**	**+0.6**
HARU	**Harads**	**0.93**	**179**	P		**Pg**	**17 12 43.6**	**-0.7**
HARU	**Harads**	**0.93**	**179**	*eP*		**Pg**	**17 12 43.6**	**-0.7**
LANU	**Lannavaara**	**1.04**	**22**	P		**Pg**	**17 12 45.7**	**-0.7**
LANU	**Lannavaara**	**1.04**	**22**	*eP*		**Pg**	**17 12 45.7**	**-0.7**
NIKU	**Nikkaluokta**	**1.07**	**318**	P		**Pg**	**17 12 46.3**	**-0.6**
NIKU	**Nikkaluokta**	**1.07**	**318**	*eP*		**Pg**	**17 12 46.3**	**-0.6**
KOVU	**Salmi**	**1.17**	**346**	P		**Pg**	**17 12 48.3**	**-0.6**
KOVU	**Salmi**	**1.17**	**346**	*eP*		**Pg**	**17 12 48.3**	**-0.6**
HEF	**Hetta**	**1.68**	**37**	Pn		Pn	**17 12 57.0**	**-0.1**
HEF				Lg		Lg	17 13 19.4	
HEF	**Hetta**	**1.68**	**37**	*eP*		**Pn**	**17 12 56.8**	**-0.3**
	baz=219							
HEF				MSG			17 13 16.0	
	comp=Z,23nm,0.2s							
HEF				*e*SN		**Sb**	**17 13 19.9**	**0.0**
HEF	**Hetta**	**1.68**	**37**	Pn		**Pn**	**17 12 57.0**	**-0.1**
HEF				Sg		**Sn**	**17 13 19.4**	**+0.1**
TOF	**Tornio**	**1.69**	**125**	*eP*		**Pn**	**17 12 57.1**	**0.0**
TOF				MSG			17 13 16.8	
	comp=Z,33nm,0.2s							
TOF				*e*SN		**Sn**	**17 13 20.2**	**+0.7**
LILU	**Lilltraesk**	**1.87**	**194**	P		**Pn**	**17 12 59.7**	**+0.1**
LILU	**Lilltraesk**	**1.87**	**194**	*eP*		**Pn**	**17 12 59.7**	**+0.1**
KIF	**Kilpisjarvi**	**1.92**	**359**	Pn		**Pb**	**17 13 01.8**	**-0.5**
KIF				Sn		**Sg**	**17 13 28.6**	**+0.5**
KIF	**Kilpisjarvi**	**1.92**	**359**	*e*PB		**Pb**	**17 13 01.8**	**-0.5**
KIF				MSG			17 13 25.4	
	comp=Z,22nm,0.2s							
KIF				*e*SG		**Sg**	**17 13 28.6**	**+0.5**
KIF	**Kilpisjarvi**	**1.92**	**359**	Pn		**Pb**	**17 13 01.8**	**-0.5**
RNF	**Rovaniemi**	**2.07**	**101**	*e*PB		**Pn**	**17 13 03.1**	**+0.7**
RNF				*e*SG		**Sb**	**17 13 31.9**	**+1.0**
KTK1	**Kautokeino**	**2.12**	**23**	*eP*		**Pn**	**17 13 04.0**	**+1.0**
KTK1				*eS*		**Sn**	**17 13 29.0**	**-1.0**
KTK1				IAML			17 13 36.3	
	comp=Z,11nm,0.2s							
I37NO	**I37NO**	**2.17**	**337**	*i*			17 26 10.0	
	baz=160,slow=330,SNR=1.9							
SGF	**Sodankyl**	**2.20**	**78**	*eP*		**Pn**	**17 13 05.1**	**+0.9**
SGF				*e*SG		**Sb**	**17 13 35.5**	**+0.7**
STEI	**Steigen**	**2.34**	**294**	*eP*		**Pn**	**17 13 07.0**	**+0.9**
STEI				*e*S		**Sn**	**17 13 37.1**	**+1.6**
STEI				IAML			17 13 49.6	
	comp=Z,5.6nm,0.5s							
BURU	**Burvik**	**2.53**	**176**	*eP*		**Pn**	**17 13 09.5**	**+0.9**
TRO	**Tromso**	**2.66**	**345**	*eP*		**Pn**	**17 13 11.2**	**+0.8**
TRO				*e*S		**Sn**	**17 13 43.9**	**+0.6**
TRO				IAML			17 13 52.6	
	comp=Z,5.0nm,0.2s							
OUL	**Oulu**	**2.85**	**133**	*eP*		**Pn**	**17 13 13.9**	**+0.8**
ARA0	**ARCESS Array S**	**2.98**	**33**	Pn		**Pn**	**17 13 15.3**	**+0.4**
	baz=208,slow=16							
ARA0				Lg		Lg	17 13 57.1	
	baz=210,slow=28							
ARA0	**ARCESS Array S**	**2.98**	**33**	Pn		**Pn**	**17 13 15.3**	**+0.4**
	baz=208,slow=16							
ARA0				Sg		**Sb**	**17 13 57.1**	**-0.2**
	baz=210,slow=28							
ARCES	**ARCESS Array B**	**2.98**	**33**	Pn		**Pn**	**17 13 15.4**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=211,slow=14,SNR=40							
ARCES				Sn		**Sn**	**17 13 49.7**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=209,slow=20,SNR=2.0							
ARCES				Lg		Lg	17 13 57.1	
	comp=Z,1.0nm,0.3s,baz=213,slow=27,SNR=10							
ARE0	**ARCESS Array S**	**2.98**	**33**	*eP*		**Pn**	**17 13 15.7**	**+0.8**
ARE0				*e*S		**Sn**	**17 13 49.7**	**-1.7**
LOF	**Lofoten**	**3.02**	**294**	*eP*		**Pn**	**17 13 15.8**	**+0.4**
LOF				IAML			17 14 07.5	
	comp=Z,4.4nm,0.2s							
KONS	**Konsvik**	**3.15**	**263**	*eP*		**Pn**	**17 13 19.2**	**+2.0**
KONS				IAML			17 14 15.8	
	comp=Z,6.3nm,0.6s							
OUF	**Merijarvi**	**3.15**	**148**	*eP*		**Pn**	**17 13 18.7**	**+1.4**
OUF				MSG			17 13 59.3	
	comp=Z,4.0nm,0.2s							
UMAU	**Umeaa**	**3.23**	**182**	*eP*		**Pn**	**17 13 18.6**	**+0.4**
VRF	**Varrio**	**3.41**	**75**	*eP*		**Pn**	**17 13 21.3**	**+0.4**
	baz=263							
MSF	**Maaselka**	**3.46**	**106**	*e*PB		**Pn**	**17 13 24.6**	**+3.2**
KU6	**Riekki**	**3.74**	**102**	*eP*		**Pn**	**17 13 26.8**	**+1.5**
HUSU	**Husum**	**3.83**	**192**	*eP*		**Pn**	**17 13 27.6**	**+1.0**
VAF	**Ylistaro**	**4.13**	**169**	*eP*		**Pn**	**17 13 31.7**	**+1.0**
HEMU	**Hemsoen**	**4.60**	**197**	*eP*		**Pn**	**17 13 39.2**	**+2.1**
	baz=18							
APA0	**Apatity Array**	**4.69**	**78**	Pn		**Pn**	**17 13 37.9**	**-0.5**
APA0	**Apatity Array**	**4.69**	**78**	Pn		**Pn**	**17 13 37.9**	**-0.5**
FIA0	**FINESS Array S**	**6.09**	**156**	Pn		**Pn**	**17 13 58.4**	**+0.8**
	baz=344,slow=14							
FIA0				Sn		**Sn**	**17 15 07.8**	**-0.1**
	baz=353,slow=28							
FIA0	**FINESS Array S**	**6.09**	**156**	Pn		**Pn**	**17 13 58.4**	**+0.8**
	baz=344,slow=14							
FINES	**F

IDC ***13*** *17:35:40.7±3.6,24˚.04N×123˚.02E,h0km,mb3.5/2, mb1 3.6/4,mb1mx3.2/39,mbtmp3.5/4,ML3.0/2,MS3.0/1, Ms1 3.0/1,ms1mx2.3/23,Error ellipse: s-maj=103.7km s-min=29.8km az=111.0*

JMA ***13*** *17:35:47.6±0.1,24˚.54N×122˚.83E,h105km±1km,M3.5*

TAP ***13*** *17:35:48.6,24˚.56N×122˚.81E,h95km,ML3.8,C*

ISC 13 17:35:48.8±0.9,24˚.55N±0˚.04×122˚.86E±0˚.02,h97km±6km, n119,σ0ᵌ92/195,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.12**	**141**	P	**Pn**	**17 36 02.3**	**-0.1**
JYNG				S	**Sn**	**17 36 13.1**	**+0.6**
YOJ	**Yonaguni jima**	**0.16**	**122**	P	**Pn**	**17 36 02.4**	**0.0**
	baz=117						
YOJ				*e*S	**Sn**	**17 36 13.0**	**+0.3**
	baz=117						
YOJ	**Yonaguni jima**	**0.16**	**122**	P	**Pn**	**17 36 02.4**	**0.0**
YOJ				*e*S	**Sn**	**17 36 13.0**	**+0.3**
IRIF	**Iriomote-Funau**	**0.82**	**105**	P	**Pn**	**17 36 06.9**	**-0.2**
IRIF				S	**Sn**	**17 36 21.0**	**+0.2**
TWB1	**Santiao Chiao**	**0.92**	**300**	*i* P	**Pn**	**17 36 07.5**	**-0.5**
	baz=300						
TWC	**Suao**	**0.92**	**274**	P	**Pn**	**17 36 07.4**	**-0.7**
	baz=273						
TWC				S	**Sn**	**17 36 21.4**	**-1.3**
	baz=273						
HATJ	**Hateruma jima**	**0.99**	**119**	P	**Pn**	**17 36 09.1**	**+0.2**
HATJ				S	**Sn**	**17 36 24.6**	**+0.7**
ENA	**Nanau**	**1.03**	**264**	P	**Pn**	**17 36 08.8**	**-0.5**
	baz=262						
ENA				*e*S	**Sn**	**17 36 24.5**	**-0.2**
	baz=262						
TIPB	**Shuangxi**	**1.03**	**294**	P	**Pn**	**17 36 08.8**	**-0.5**
	baz=294						
TIPB				S	**Sn**	**17 36 23.4**	**-1.4**
	baz=294						
ILA	**Ilan**	**1.03**	**282**	P	**Pn**	**17 36 09.3**	**0.0**
	baz=281						
ILA				*e*S	**Sn**	**17 36 24.0**	**-0.8**
	baz=281						
JKRS	**Kuro-shima**	**1.09**	**106**	P	**Pn**	**17 36 10.2**	**+0.2**
JKRS				S	**Sn**	**17 36 26.4**	**+0.5**
TWE	**Neicheng**	**1.10**	**279**	P	**Pn**	**17 36 09.7**	**-0.4**
	baz=278						
TWE				*e*S	**Sn**	**17 36 25.2**	**-0.9**
	baz=278						
ENTT	**Nioudou**	**1.18**	**275**	*e*P	**Pn**	**17 36 10.9**	**-0.2**
	baz=273						
JIJ	**Ishigaki jima**	**1.18**	**99**	P	**Pn**	**17 36 10.7**	**-0.3**
JIJ				S	**Sn**	**17 36 26.9**	**-0.9**
NACB	**Ninganchiao**	**1.21**	**252**	*e*P	**Pn**	**17 36 10.4**	**-1.0**
	baz=250						
NACB				*e*S	**Sn**	**17 36 27.2**	**-1.3**
	baz=250						
NDT	**Datong Townshi**	**1.23**	**273**	P	**Pn**	**17 36 11.7**	**+0.1**
	baz=271						
NDT				*e*S	**Sn**	**17 36 28.3**	**-0.5**
	baz=271						
TWA	**Mucha**	**1.24**	**291**	P	**Pn**	**17 36 11.3**	**-0.4**
	baz=290						
TWA				*e*S	**Sn**	**17 36 28.1**	**-0.9**
	baz=290						
TWD	**Chiawan**	**1.24**	**248**	P	**Pn**	**17 36 10.8**	**-0.9**
	baz=246						
TWD				*e*S	**Sn**	**17 36 28.1**	**-1.0**
	baz=246						
NWLT	**Wulai**	**1.26**	**281**	*e*P	**Pn**	**17 36 11.7**	**-0.2**
	baz=280						
HWA	**Hwalien**	**1.28**	**244**	P	**Pn**	**17 36 11.8**	**-0.4**
	baz=241						
HWA				*e*S	**Sn**	**17 36 29.8**	**0.0**
	baz=241						
NHDH	**Xindian Distri**	**1.28**	**289**	*e*P	**Pn**	**17 36 11.9**	**-0.3**
	baz=288						
ETLH	**Xiulin Townshi**	**1.30**	**255**	*e*P	**Pn**	**17 36 11.8**	**-0.8**
	baz=253						
ETLH				*e*S	**Sn**	**17 36 29.8**	**-0.7**
	baz=253						
TAP1	**Taipei**	**1.31**	**292**	*e*P	**Pn**	**17 36 11.9**	**-0.6**
	baz=291						
TAP1				*e*S	**Sn**	**17 36 29.6**	**-0.9**
	baz=291						
TATO	**Taipei**	**1.32**	**289**	*e*P	**Pn**	**17 36 12.2**	**-0.5**
	baz=288						
TATO				*e*S	**Sn**	**17 36 29.9**	**-0.8**
	baz=288						
YM08	**YM08**	**1.32**	**299**	*e*P	**Pn**	**17 36 12.0**	**-0.7**
	baz=299						
JISG	**Ishigakijimahi**	**1.32**	**88**	P	**Pn**	**17 36 12.2**	**-0.5**
JISG				S	**Sn**	**17 36 29.7**	**-1.0**
YM11	**YM11**	**1.32**	**298**	*e*P	**Pn**	**17 36 12.7**	**-0.1**
	baz=298						
YM05	**YM05**	**1.33**	**298**	*e*P	**Pn**	**17 36 12.4**	**-0.5**
	baz=297						
YM05				*e*S	**Sn**	**17 36 30.2**	**-0.8**
	baz=297						
YM10	**YM10**	**1.33**	**297**	*e*P	**Pn**	**17 36 11.6**	**-1.3**
	baz=297						
YM04	**YM04**	**1.35**	**297**	*e*P	**Pn**	**17 36 12.6**	**-0.4**
	baz=296						
YM04				*e*S	**Sn**	**17 36 30.2**	**-1.2**
	baz=296						
NNSB	**Datong**	**1.35**	**265**	*e*P	**Pn**	**17 36 12.6**	**-0.6**
	baz=264						
NNSB				*e*S	**Sn**	**17 36 30.9**	**-0.8**
	baz=264						
NNSH	**Datong**	**1.35**	**265**	*e*P	**Pn**	**17 36 12.7**	**-0.5**
	baz=264						
TWY	**Chenhua**	**1.35**	**303**	P	**Pn**	**17 36 12.9**	**-0.1**
	baz=302						
YM03	**YM03**	**1.35**	**298**	*e*P	**Pn**	**17 36 12.7**	**-0.5**
	baz=298						
YHNB	**Yeheng**	**1.36**	**275**	*e*P	**Pn**	**17 36 13.1**	**-0.1**
	baz=274						
YHNB				*e*S	**Sn**	**17 36 30.8**	**-0.9**
	baz=274						
ANP	**Anpu**	**1.37**	**298**	*e*P	**Pn**	**17 36 12.9**	**-0.5**
	baz=297						
NTST	**Danshui**	**1.42**	**296**	*e*P	**Pn**	**17 36 13.9**	**0.0**
	baz=295						
TWS1	**Kuangyinshan**	**1.42**	**293**	*e*P	**Pn**	**17 36 13.7**	**-0.3**
	baz=293						
TWS1				*e*S	**Sn**	**17 36 31.7**	**-1.3**
	baz=293						
ESL	**Shilin**	**1.49**	**241**	*e*P	**Pn**	**17 36 13.8**	**-1.1**
	baz=239						
ESL				*e*S	**Sn**	**17 36 33.2**	**-1.3**
	baz=239						
WLTB	**Daxi**	**1.49**	**282**	*e*P	**Pn**	**17 36 14.9**	**+0.1**
	baz=281						
WLTB				*e*S	**Sn**	**17 36 35.2**	**+0.7**
	baz=281						
WHF	**Hehuan Shan**	**1.51**	**255**	*e*P	**Pn**	**17 36 14.8**	**-0.6**
	baz=253						
WHF				*e*S	**Sn**	**17 36 34.3**	**-1.2**
	baz=253						
TWT	**Tachien**	**1.56**	**260**	*e*P	**Pn**	**17 36 16.0**	**+0.2**
	baz=258						
TWT				*e*S	**Sn**	**17 36 35.9**	**-0.5**
	baz=258						
EGFH	**Guangfu**	**1.57**	**237**	*e*P	**Pn**	**17 36 15.1**	**-0.8**
	baz=234						
EGFH				*e*S	**Sn**	**17 36 35.5**	**-0.8**
	baz=234						
NCU	**National Centr**	**1.58**	**286**	*e*P	**Pn**	**17 36 15.5**	**-0.3**
	baz=285						
NCU				*e*S	**Sn**	**17 36 36.8**	**+0.4**
	baz=285						
TDCB	**Techi**	**1.58**	**260**	*e*P	**Pn**	**17 36 16.1**	**+0.1**
	baz=258						
TDCB				*e*S	**Sn**	**17 36 35.6**	**-1.0**
	baz=258						
NCUH	**Zhongli**	**1.58**	**286**	*e*P	**Pn**	**17 36 15.7**	**-0.2**
	baz=285						
CHGB	**Renai**	**1.61**	**253**	*e*P	**Pn**	**17 36 16.3**	**-0.2**
	baz=251						
CHGB				*e*S	**Sn**	**17 36 36.6**	**-0.9**
	baz=251						
JTJ	**Tarama**	**1.68**	**86**	P	**Pn**	**17 36 16.8**	**-0.3**
JTJ				S	**Sn**	**17 36 37.9**	**-0.7**
HGSD	**Ruisui**	**1.68**	**232**	*e*P	**Pn**	**17 36 16.4**	**-0.8**
	baz=229						
HGSD				*e*S	**Sn**	**17 36 37.5**	**-1.2**
	baz=229						
NSTT	**Nanjuang**	**1.69**	**273**	*e*P	**Pn**	**17 36 17.0**	**-0.3**
	baz=272						
NSTT				*e*S	**Sn**	**17 36 38.1**	**-0.9**
	baz=272						
NHW	**Xinwu Township**	**1.71**	**286**	*e*P	**Pn**	**17 36 17.3**	**-0.2**
	baz=285						
NHW				*e*S	**Sn**	**17 36 39.0**	**-0.3**
	baz=285						
SBCB	**Hsinchu**	**1.72**	**279**	*e*P	**Pn**	**17 36 17.5**	**-0.2**
	baz=277						
SBCB				*e*S	**Sn**	**17 36 39.8**	**+0.2**
	baz=277						
EHY	**Hungye**	**1.75**	**234**	*e*P	**Pn**	**17 36 17.0**	**-1.0**
	baz=232						
EHY				*e*S	**Sn**	**17 36 38.6**	**-1.6**
	baz=232						
VWDT	**VWDT**	**1.76**	**244**	*e*P	**Pn**	**17 36 18.1**	**-0.1**
	baz=242						
VWDT				*e*S	**Sn**	**17 36 39.8**	**-0.6**
	baz=242						
WHP	**Taichung City**	**1.77**	**262**	*e*P	**Pn**	**17 36 19.1**	**+0.8**
	baz=260						
WHP				*e*S	**Sn**	**17 36 41.1**	**+0.4**
	baz=260						
YULB	**Yu-li**	**1.83**	**232**	*e*P	**Pn**	**17 36 18.3**	**-0.9**
	baz=229						
YULB				*e*S	**Sn**	**17 36 40.9**	**-1.3**
	baz=229						
DPDB	**Guoxing**	**1.84**	**254**	*e*P	**Pn**	**17 36 19.6**	**+0.3**
	baz=252						
DPDB				*e*S	**Sn**	**17 36 43.4**	**+1.0**
	baz=252						
TWF1	**Yuli**	**1.86**	**231**	*e*P	**Pn**	**17 36 18.8**	**-0.7**
	baz=228						
TWF1				*e*S	**Sn**	**17 36 41.3**	**-1.5**
	baz=228						
NMLH	**Miaoli**	**1.88**	**270**	*e*P	**Pn**	**17 36 20.0**	**+0.2**
	baz=269						
SSLB	**Suanglung**	**1.90**	**247**	*e*P	**Pn**	**17 36 19.7**	**-0.3**
	baz=245						
SSLB				*e*S	**Sn**	**17 36 43.0**	**-0.7**
	baz=245						
SMLT	**Sun Moon Lake**	**1.91**	**250**	*e*P	**Pn**	**17 36 20.4**	**+0.2**
	baz=248						
SMLT				*e*S	**Sn**	**17 36 44.9**	**+0.9**
	baz=248						
TWQ1	**Liyutan**	**1.91**	**264**	*e*P	**Pn**	**17 36 20.1**	**0.0**
	baz=263						
NSY	**Sanyi**	**1.92**	**267**	*e*P	**Pn**	**17 36 20.4**	**+0.2**
	baz=265						
TYC	**Yuchr**	**1.94**	**251**	*e*P	**Pn**	**17 36 20.7**	**+0.2**
	baz=249						
TYC				*e*S	**Sn**	**17 36 46.3**	**+1.7**
	baz=249						
FULB	**Fuli**	**1.96**	**227**	*e*P	**Pn**	**17 36 19.9**	**-1.0**
	baz=225						
FULB				*e*S	**Sn**	**17 36 43.8**	**-1.4**
	baz=225						
PTSB	**Yuanli**	**1.97**	**268**	*e*P	**Pn**	**17 36 20.9**	**+0.1**
	baz=266						
CHKT	**Chengkung**	**1.99**	**224**	*e*P	**Pn**	**17 36 19.8**	**-1.3**
	baz=222						
CHKT				*e*S	**Sn**	**17 36 43.4**	**-2.3**
	baz=222						
WHYT	**Xinyi Township**	**2.02**	**246**	*e*P	**Pn**	**17 36 22.3**	**+0.7**
	baz=244						
WHYT				*e*S	**Sn**	**17 36 48.1**	**+1.6**
	baz=244						
TCU	**Taichung**	**2.03**	**259**	*e*P	**Pn**	**17 36 21.9**	**+0.3**
	baz=257						
WDJ	**Dajia District**	**2.03**	**265**	*e*P	**Pn**	**17 36 22.0**	**+0.3**
	baz=263						
WJS	**Zhushan**	**2.08**	**250**	*e*P	**Pn**	**17 36 23.2**	**+0.9**
	baz=248						
WJS				*e*S	**Sn**	**17 36 49.4**	**+1.6**
	baz=248						
WNT	**Mingjian**	**2.10**	**252**	*e*P	**Pn**	**17 36 23.1**	**+0.6**
	baz=250						
WNT				*e*S	**Sn**	**17 36 49.8**	**+1.6**
	baz=250						
JIRB	**Irabujima**	**2.12**	**82**	P	**Pn**	**17 36 22.1**	**-0.7**
JIRB				*e*S	**Sn**	**17 36 48.4**	**-0.4**
ALS	**Alishan**	**2.14**	**242**	*e*P	**Pn**	**17 36 23.9**	**+0.5**
	baz=240						
ALS				*e*S	**Sn**	**17 36 50.7**	**+0.8**
	baz=240						
WCHH	**Zhanghua**	**2.15**	**258**	*e*P	**Pn**	**17 36 23.2**	**0.0**
	baz=256						
ELDTW	**Lidau**	**2.16**	**232**	*e*P	**Pn**	**17 36 22.8**	**-0.7**
	baz=230						
JIKM	**Ikemajima**	**2.20**	**80**	P	**Pn**	**17 36 23.6**	**-0.3**
JIKM				S	**Sn**	**17 36 49.8**	**-0.9**
CHN5	**Tsauling**	**2.21**	**245**	*e*P	**Pn**	**17 36 24.6**	**+0.6**
	baz=243						
CHN5				*e*S	**Sn**	**17 36 52.0**	**+1.0**
	baz=243						
JMJ	**Miyako jima 2**	**2.23**	**83**	*e*P	**Pn**	**17 36 24.4**	**+0.2**
	baz=83						
JMJ				*e*S	**Sn**	**17 36 51.5**	**+0.2**
	baz=83						
JMJ2	**Miyako jima3**	**2.25**	**85**	P	**Pn**	**17 36 24.3**	**-0.3**
JMJ2				S	**Sn**	**17 36 51.0**	**-0.9**
WGK	**Gukeng**	**2.27**	**248**	*e*P	**Pn**	**17 36 26.0**	**+1.2**
	baz=246						
WDLH	**Douliu**	**2.29**	**249**	*e*S	**Sn**	**17 36 54.6**	**+1.9**
	baz=247						
JOGS	**Gusukube**	**2.33**	**84**	P	**Pn**	**17 36 25.5**	**0.0**
JOGS				*e*S	**Sn**	**17 36 52.9**	**-0.7**
STYT	**Tauyuan**	**2.37**	**235**	*e*P	**Pn**	**17 36 26.7**	**+0.6**
	baz=233						
STYT				*e*S	**Sn**	**17 36 55.4**	**+0.6**
	baz=233						
TWGBT	**Beinan**	**2.37**	**224**	*e*P	**Pn**	**17 36 25.1**	**-1.0**
	baz=222						
TWGBT				*e*S	**Sn**	**17 36 53.8**	**-1.0**
	baz=222						
RLNB	**Erlin**	**2.38**	**255**	*e*P	**Pn**	**17 36 26.0**	**-0.1**
	baz=253						
RLNB				*e*S	**Sn**	**17 36 55.8**	**+1.0**
	baz=253						
TWG	**Pinlang**	**2.38**	**224**	*e*P	**Pn**	**17 36 25.2**	**-1.0**
	baz=222						
TWG				*e*S	**Sn**	**17 36 53.8**	**-1.1**
	baz=222						
TTN	**Taitung**	**2.38**	**222**	*e*S	**Sn**	**17 36 54.8**	**-0.1**
	baz=220						
TPUB	**Ta-pu**	**2.39**	**239**	*e*P	**Pn**	**17 36 27.4**	**+1.0**
	baz=237						
TPUB				*e*S	**Sn**	**17 36 57.1**	**+1.9**
	baz=237						
CHN4	**Tsaushan**	**2.39**	**241**	*e*P	**Pn**	**17 36 27.1**	**+0.7**
	baz=239						
CHN4				*e*S	**Sn**	**17 36 56.9**	**+1.7**
	baz=239						
CHN2	**Minshiung**	**2.40**	**246**	*e*P	**Pn**	**17 36 28.1**	**+1.6**
	baz=244						
WTP	**Ta-pu**	**2.43**	**238**	*e*P	**Pn**	**17 36 27.4**	**+0.5**
	baz=236						
WTP				*e*S	**Sn**	**17 36 58.0**	**+1.8**
	baz=236						
TWK	**Hsinying**	**2.52**	**240**	*e*P	**Pn**	**17 36 28.6**	**+0.5**
	baz=238						
TWK				*e*S	**Sn**	**17 36 59.4**	**+1.1**
	baz=238						
CHN1	**Nanshi**	**2.53**	**238**	*e*P	**Pn**	**17 36 28.8**	**+0.5**
	baz=236						
CHN1				*e*S	**Sn**	**17 36 59.1**	**+0.6**
	baz=236						
SNST	**Tainan City**	**2.53**	**239**	*e*P	**Pn**	**17 36 29.2**	**+0.9**
	baz=237						
SGST	**Jiashian**	**2.54**	**236**	*e*P	**Pn**	**17 36 28.8**	**+0.3**
	baz=234						
SGST				*e*S	**Sn**	**17 37 00.1**	**+1.2**
	baz=234						
SLGT	**Liugui**	**2.55**	**233**	*e*P	**Pn**	**17 36 29.6**	**+1.1**
	baz=231						
WLGB	**Puzi**	**2.57**	**246**	*e*P	**Pn**	**17 36 29.3**	**+0.5**
	baz=244						
WLGB				*e*S	**Sn**	**17 37 00.6**	**+1.1**
	baz=244						
WSF	**Szhu**	**2.58**	**250**	*e*P	**Pn**	**17 36 29.0**	**+0.2**
	baz=248						
WSF				*e*S	**Sn**	**17 36 59.6**	**+0.1**
	baz=248						
ECL	**Taimali**	**2.61**	**222**	*e*P	**Pn**	**17 36 28.0**	**-1.3**
	baz=220						
ECL				*e*S	**Sn**	**17 36 58.7**	**-1.7**
	baz=220						
CHN8	**Yiju**	**2.70**	**244**	*e*P	**Pn**	**17 36 31.0**	**+0.5**
	baz=242						
SSD	**Sandimen**	**2.72**	**229**	*e*P	**Pn**	**17 36 31.1**	**+0.3**
	baz=227						
LAY	**Lan-yu**	**2.77**	**206**	*e*P	**Pn**	**17 36 30.1**	**-1.4**
	baz=204						
MASBT	**Mashibuluo**	**2.81**	**227**	*e*P	**Pn**	**17 36 32.5**	**+0.5**
	baz=225						
MASBT				*e*S	**Sn**	**17 37 06.7**	**+1.6**
	baz=225						
TAW	**Tawu**	**2.83**	**220**	*e*P	**Pn**	**17 36 31.4**	**-0.8**
	baz=218						
TAW				*e*S	**Sn**	**17 37 03.8**	**-1.8**
	baz=218						
EAST	**Anshuo**	**2.84**	**221**	*e*P	**Pn**	**17 36 31.3**	**-1.1**
	baz=219						
SSPT	**Xinbi**	**2.94**	**226**	*e*P	**Pn**	**17 36 35.1**	**+1.4**
	baz=224						
SCZT	**Fangliau**	**2.99**	**224**	*e*P	**Pn**	**17 36 35.2**	**+0.9**
	baz=222						
MATB	**Ma-tsu**	**3.08**	**302**	*e*P	**Pn**	**17 36 34.1**	**-1.4**
	baz=301						
VWUC	**VWUC**	**3.13**	**279**	*e*P	**Pn**	**17 36 34.9**	**-1.3**
	baz=277						
PNG	**Penghu**	**3.17**	**253**	*e*P	**Pn**	**17 36 35.5**	**-1.3**
	baz=251						
PHUB	**P'eng-hu**	**3.18**	**252**	*e*P	**Pn**	**17 36 35.6**	**-1.2**
	baz=250						
PHUB				*e*S	**Sn**	**17 37 12.0**	**-1.9**
	baz=250						
WDGT	**Dungji**	**3.20**	**247**	*e*P	**Pn**	**17 36 36.6**	**-0.6**
	baz=245						
KNM	**Kinmen**	**4.04**	**269**	*e*P	**Pn**	**17 36 48.7**	**+0.3**
	baz=267						
KNMB	**Chin-men Tao**	**4.07**	**270**	*e*P	**Pn**	**17 36 47.5**	**-1.5**
	baz=268						
JOW	**Kunigami**	**5.39**	**64**	Pn	**Pn**	**17 37 04.3**	**-2.5**
	0.7nm,0.3s,baz=94,slow=16,SNR=62						
KSRS	**Korea Array**	**13.57**	**17**	Pn	**Pn**	**17 38 59.9**	**+2.6**
	0.2nm,0.3s,baz=194,slow=11,SNR=7.2						
WRA	**Warramunga Arr**	**45.61**	**165**	P	**P**	**17 43 58.5**	**-1.1**
	0.6nm,0.6s,baz=347,slow=8.8,SNR=11						
ASAR	**Alice Springs**	**49.11**	**167**	P	**P**	**17 44 26.1**	**-0.6**
	0.2nm,0.3s,baz=348,slow=6.9,SNR=11						
ASAR				LR	LR	18 05 41.5	
	comp=Z,17nm,20.3s,baz=110,slow=37						

IGQ ***13*** *18:10:42.5±0.0,1˚.5S×3˚.8˚1W,h3km,M4.6*

IDC ***13*** *18:10:45.0±0.9,1˚.12S×80˚.94W,h0km,mb3.9/9, mb1 4.1/13,mb1mx3.9/48,mbtmp4.0/13,ML3.7/4,MS3.1/5, Ms1 3.2/5,ms1mx2.8/31,Error ellipse: s-maj=34.6km s-min=15.9km az=63.0*

NEIC ***13*** *18:10:50.2±2.8, 1˚.20S±0˚.08×80˚.99W±0˚.10,h44km±8km, mb4.4/8,Error ellipse: s-maj=14.6km s-min=10.3km az=66.0*

ISC 13 18:10:46.2±0.6,1˚.16S±0˚.04×80˚.90W±0˚.08,h10km,n97, σ1ᵌ82/86,mb4.1/9,MS2.9/3,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPLP	**Puerto Lpez**	**0.40**	**162**	P	**Pg**	**18 10 53.6**	**-0.5**
PPLP				S	**Sg**	**18 10 59.9**	**+0.5**
AGUAY	**Guayaquil**	**1.30**	**133**	P	**Pn**	**18 11 09.5**	**-0.9**
MORR	**Playas El Morr**	**1.57**	**159**	P	**Pn**	**18 11 13.5**	**-0.7**
COHC	**Cochancay**	**2.09**	**128**	P	**Pn**	**18 11 20.2**	**-1.2**
ILLI	**Illinizas Sur**	**2.22**	**78**	P	**Pn**	**18 11 22.4**	**-1.2**
SAGO	**Sagoatoa**	**2.23**	**90**	P	**Pn**	**18 11 24.5**	**+0.7**
IGUA	**Igualata**	**2.28**	**98**	P	**Pn**	**18 11 25.9**	**+1.3**
BIL2	**Estacion Bilba**	**2.42**	**97**	P	**Pn**	**18 11 28.8**	**+2.7**
BBIL	**Ulba Tungurahu**	**2.43**	**97**	P	**Pn**	**18 11 27.6**	**+1.2**
BMAS	**Trigal station**	**2.44**	**98**	P	**Pn**	**18 11 27.2**	**+0.6**
CAMI	**Rancho Maria**	**2.44**	**79**	P	**Pn**	**18 11 28.0**	**+1.4**
ARRY	**Arrayan**	**2.47**	**98**	P	**Pn**	**18 11 27.9**	**+1.0**
BNAS	**Cotopaxi Volca**	**2.47**	**79**	P	**Pn**	**18 11 28.3**	**+1.2**
RETU	**Refugio**	**2.47**	**97**	P	**Pn**	**18 11 28.3**	**+1.3**
BMOR	**Cotopaxi Volca**	**2.48**	**80**	P	**Pn**	**18 11 27.5**	**+0.3**
RUN5	**Runtun**	**2.49**	**96**	P	**Pn**	**18 11 28.6**	**+1.5**
BPAT	**Tungurahua Vol**	**2.49**	**98**	P	**Pn**	**18 11 28.6**	**+1.3**
PINO	**Pino**	**2.50**	**66**	P	**Pn**	**18 11 27.2**	**-0.3**
BRUN	**Tungurahua Vol**	**2.50**	**96**	P	**Pn**	**18 11 29.0**	**+1.7**
GGPC	**Guagua Pichinc**	**2.50**	**67**	P	**Pn**	**18 11 28.0**	**+0.5**
BULB	**Ulba Tungurahu**	**2.50**	**96**	P	**Pn**	**18 11 28.0**	**+0.6**
BREF	**Cotopaxi Volca**	**2.51**	**79**	P	**Pn**	**18 11 30.3**	**+2.6**
PIS1	**Pisayambo**	**2.52**	**88**	P	**Pn**	**18 11 29.7**	**+2.0**
PISA	**Pisayambo**	**2.52**	**88**	P	**Pn**	**18 11 28.9**	**+1.2**
VCES	**Cotopaxi**	**2.53**	**82**	P	**Pn**	**18 11 28.6**	**+0.7**
PAC1	**Pacto, Paraso**	**2.54**	**56**	*e*P	**Pn**	**18 11 26.9**	**-0.8**
PAC1	**Pacto, Paraso**	**2.54**	**56**	P	**Pn**	**18 11 26.8**	**-0.9**
BTAM	**Cotopaxi Volca**	**2.55**	**79**	P	**Pn**	**18 11 29.3**	**+1.1**
VC1	**Cotopaxi 1**	**2.55**	**78**	P	**Pn**	**18 11 30.2**	**+2.0**
YANA	**Yana**	**2.55**	**66**	P	**Pn**	**18 11 28.3**	**+0.2**
PULU	**Pululahua**	**2.67**	**64**	P	**Pn**	**18 11 29.7**	**0.0**
SANGA	**Volcan Sangay**	**2.68**	**109**	P	**Pn**	**18 11 30.3**	**+0.4**
ANTG	**Antisana-Guama**	**2.73**	**76**	P	**Pn**	**18 11 31.5**	**+1.0**
ANTS	**Antisana-Sarah**	**2.81**	**76**	P	**Pn**	**18 11 33.4**	**+1.6**
CUIC	**Cuicocha-Domo**	**2.93**	**60**	P	**Pn**	**18 11 33.9**	**+0.7**
COTA	**Cotacachi**	**2.96**	**60**	P	**Pn**	**18 11 34.3**	**+0.5**
IMBA	**Imbabura, San**	**3.06**	**62**	P	**Pn**	**18 11 37.0**	**+2.0**
URCU	**Urcuqui**	**3.09**	**59**	P	**Pn**	**18 11 35.7**	**+0.3**
BOSC	**San Juan Bosco**	**3.11**	**129**	P	**Pn**	**18 11 38.7**	**+3.2**
PKYU	**Pakayacu**	**3.34**	**98**	P	**Pn**	**18 11 42.1**	**+3.5**
CONE	**Cono NE Rev Vo**	**3.43**	**72**	P	**Pn**	**18 11 43.1**	**+3.0**
REVS	**Reventador Sur**	**3.44**	**72**	P	**Pn**	**18 11 43.8**	**+3.5**
CHL1	**Volcn Chiles**	**3.54**	**57**	P	**Pn**	**18 11 42.6**	**+0.9**
CHL2	**Volcn Chiles**	**3.56**	**57**	P	**Pn**	**18 11 43.3**	**+1.2**
CASC	**Dorado de Casc**	**3.79**	**70**	P	**Pn**	**18 11 49.6**	**+4.8**
GCUF	**Volcan Galeras**	**4.27**	**56**	*e*P	**Pb**	**18 11 58.5**	**-3.4**
CRUC	**La Cruz**	**4.79**	**56**	*e*P	Pn	18 12 04.0	+5.1
BBAC	**Balboa, Cauca**	**4.83**	**49**	*e*P	**Pn**	**18 11 58.8**	**-0.5**
GR1C	**Gorgona, Isla**	**4.96**	**33**	*e*P	**Pn**	**18 12 03.2**	**+2.4**
SOTA	**Rioblanco**	**5.40**	**53**	*e*P	**Pn**	**18 12 08.4**	**+1.1**
PCON	**Cinco Dias**	**5.68**	**52**	*e*P	**Pn**	**18 12 12.6**	**+1.3**
MALC	**Bahia Malaga**	**6.25**	**35**	*e*P	Pn	18 12 25.5	+6.8
MARP	**Paez Belalcaza**	**6.35**	**51**	*e*P	**Pn**	**18 12 20.0**	**-0.2**
GARC	**Garzon, Huila**	**6.35**	**58**	*e*P	Pn	18 12 25.3	+5.2
ATAH	**Atahualpa**	**6.44**	**157**	Pn	**Pn**	**18 12 23.8**	**+2.3**
	1.2nm,0.3s,baz=15,slow=7.9,SNR=10						
ATAH				Sn	**Sn**	**18 13 38.4**	**+3.1**

	comp=Z,37nm,19.8s,baz=200,slow=40							
LVC	**Limon Verde**	**24.30**	**152**	P	**P**	18 16 05.4	**+0.9**	
	comp=Z,3.4nm,0.5s,baz=50,slow=12,SNR=3.8							
LVC	**Limon Verde**	**24.30**	**152**	P	**P**	18 16 04.7	**+0.2**	
SIV	**San Ignacio**	**24.48**	**128**	P	**P**	18 16 05.6	**-0.2**	
	comp=Z,0.9nm,0.8s,baz=266,slow=18,SNR=2.8							
SIV				LR	LR	18 26 09.7		
	comp=Z,42nm,21.5s,baz=266,slow=38							
MDP	**Montagnes des**	**28.91**	**77**	LR	LR	18 27 38.7		
	comp=Z,60nm,21.9s,baz=314,slow=35							
TXAR	**Lajitas Array**	**37.33**	**326**	P	**P**	18 17 59.5	**+0.4**	
	comp=Z,0.3nm,0.8s,baz=157,slow=9.4,SNR=2.1							
TXAR	**Lajitas Array**	**37.33**	**326**	P	**P**	18 17 58.2	**-0.9**	
BLA	**Blacksburg**	**38.18**	**1**		**P**	18 18 03.7	**-2.4**	
PLCA	**Paso Flores**	**40.49**	**168**	P	**P**	18 18 24.8	**-0.6**	
	comp=Z,5.9nm,1.3s,baz=323,slow=11,SNR=2.0							
ULM	**Lac du Bonnet**	**52.80**	**348**	P	**P**	18 20 00.8	**-0.8**	
	comp=Z,2.8nm,0.6s,baz=152,slow=8.5,SNR=3.7							
ULM	**Lac du Bonnet**	**52.80**	**348**	P	**P**	18 20 00.1	**-1.5**	
ULM				IAmb	IAmb	18 20 05.0		
	comp=Z,6.2nm,1.1s							
YKA	**Yellowknife Ar**	**68.39**	**344**	P	**P**	18 21 47.5	**-0.3**	
	comp=Z,1.0nm,0.8s,baz=132,slow=6.9,SNR=5.6							
DLBC	**Dease Lake**	**70.91**	**335**	P	**P**	18 22 04.6	**+1.0**	
	comp=Z,1.5nm,0.8s,baz=164,slow=1.2,SNR=3.6							
TORD	**Torodi Ar. Bea**	**83.05**	**77**	P	**P**	18 23 13.1	**+0.3**	
	comp=Z,1.2nm,1.0s,baz=212,slow=5.1,SNR=3.6							
TORD	**Torodi Ar. Bea**	**83.05**	**77**	IAmb	IAmb	18 23 17.9		
	comp=Z,1.6nm,1.1s							

IDC 13 18:16:48.9±1.9, 8°30S×124°65E, h0km, mb3.5/1, mb1 3.5/5, mb1mx3.2/35, mbtmp3.3/5, ML3.0/4, Error ellipse: s-maj=54.0km s-min=25.6km az=77.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.13**	**207**	Pn	Pn	18 17 26.6	+0.8
	4.8nm,0.3s,baz=40,slow=3.5,SNR=11						
BATI				Sn	Sn	18 17 43.3	-10
	27nm,0.3s,baz=238,slow=0.2,SNR=38						
FITZ	**Fitzroy Crossi**	**9.78**	**174**	Pn	Pn	18 19 09.2	-1.8
	0.3nm,0.3s,baz=356,slow=9.4,SNR=23						
FITZ				Sn	Sn	18 20 44.3	-17
	1.3nm,0.3s,baz=342,slow=16,SNR=15						
WRA	**Warramunga Ar**	**14.90**	**142**	Pn	Pn	18 20 22.4	+1.4
	0.0nm,0.3s,baz=318,slow=12,SNR=1.3						
ASAR	**Alice Springs**	**17.66**	**151**	P	Pn	18 20 56.7	+0.1
	0.1nm,0.3s,baz=317,slow=12,SNR=5.3						
MKAR	**Makanchi Array**	**66.53**	**330**	P	P	18 27 40.6	-0.1
	0.1nm,0.3s,baz=122,slow=8.0,SNR=4.5						

IDC 13 18:35:29.8±9.3, 19°.25S×177°.96W, h503km±98km, mb2.9/4, mb1 3.1/4, mb1mx2.8/25, mbtmp3.8/4, Error ellipse: s-maj=128.0km s-min=43.1km az=159.0
NEIC 13 18:35:33.3±2.6, 19°.6S±0°.3×178°.1W±0°.2, h549km±7km, mb4.5/7, Error ellipse: s-maj=46.7km s-min=24.4km az=162.0
ISC 13 18:35:33.1±1.3, 18°.6S±0°.4×178°.3W±0°.2, h550km, n17, σ1s59/17, mb4.1/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.57**	**283**		P	18 36 59.0	+7.0
HNR	**Honiara**	**22.96**	**290**	P	**P**	18 39 56.5	**+0.6**
CTA	**Charters Tower**	**33.44**	**262**	P	**P**	18 41 27.9	**+0.9**
	3.3nm,1.0s,baz=107,slow=14,SNR=1.6						
WR0	**Warramunga Arr**	**44.42**	**260**	P	**P**	18 42 57.2	**+1.5**
WR0				IAmb	IAmb	18 44 02.1	
	comp=Z,25nm,1.7s						
WB0	**Warramunga Arr**	**44.58**	**260**	P	**P**	18 42 57.6	**+0.7**
WB0				IAmb	IAmb	18 44 31.2	
	comp=Z,11nm,1.3s						
WB2	**Warramunga Arr**	**44.60**	**260**	P	**P**	18 42 55.3	**-1.7**
WB2				IAmb	IAmb	18 43 23.7	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**44.61**	**260**	P	**P**	18 42 58.6	**+1.5**
	comp=Z,0.5nm,0.6s,baz=96,slow=7.7,SNR=6.1						
AS31	**Alice Springs**	**44.71**	**255**	P	**P**	18 42 58.9	**+1.0**
ASAR	**Alice Springs**	**44.71**	**255**	P	**P**	18 42 59.2	**+1.3**
	comp=Z,1.2nm,0.8s,baz=96,slow=7.6,SNR=16						
ASAR				PcP	**PcP**	18 44 29.4	**+1.0**
	comp=Z,0.3nm,0.9s,baz=112,slow=4.3,SNR=4.2						
ASAR	**Alice Springs**	**44.71**	**255**	P	**P**	18 42 59.5	**+1.6**
NWAO	**Narrogin (SRO)**	**58.98**	**242**	P	**P**	18 44 38.3	**-2.1**
NWAO				IAmb	IAmb	18 46 53.7	
	comp=Z,76nm,1.7s						
NWAO	**Narrogin (SRO)**	**58.98**	**242**	P	**P**	18 44 38.5	**-1.9**
NWAO				IAmb	IAmb	18 46 53.6	
	comp=Z,62nm,1.7s						
TXAR	**Lajitas Array**	**86.27**	**58**	P	**P**	18 47 18.7	**+1.4**
	comp=Z,0.2nm,0.6s,baz=205,slow=6.0,SNR=4.0						
TXAR	**Lajitas Array**	**86.27**	**58**	P	**P**	18 47 18.4	**+1.1**
BRTR	**Keskin Array B**	**145.33**	**314**	PKPbc	**PKiKP**	18 54 12.6	**-0.5**
	comp=Z,0.4nm,0.6s,baz=96,slow=4.3,SNR=2.4						
BRTR	**Keskin Array B**	**145.33**	**314**		**PKiKP**	18 54 11.5	**-1.6**
GERES	**GERESS Array B**	**148.29**	**345**	PKPbc	**PKPab**	18 54 20.4	**-2.4**
	comp=Z,0.1nm,0.3s,baz=44,slow=3.3,SNR=4.0						

NEIC 13 18:47:24.1±2.3, 51°.64N±0°.10×178°.01W±0°.07, h13km±7km, Error ellipse: s-maj=15.0km s-min=4.6km az=161.0
AEIC 13 18:47:22.6±2.4, 51°.6N±0°.1×178°.02W±0°.08, h4km±6km, ML3.8, Error ellipse: s-maj=15.5km s-min=4.8km az=161.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TASE	**Tanaga Southea**	**0.27**	**358**		Pb	18 47 29.4	-0.6
TAPA	**Tanaga Point A**	**0.28**	**28**		Pb	18 47 29.7	-0.5
TAFP	**Tanaga Falls P**	**0.33**	**4**		Pb	18 47 30.3	-0.8
GAEA	**Gareloi East**	**0.50**	**296**		Pb	18 47 33.3	-0.6
GALAA	**Gareloi Lava P**	**0.51**	**293**		Pb	18 47 33.4	-0.7
KIMD	**Kanaga Island**	**0.53**	**68**		Pb	18 47 33.8	-0.6
KIKV	**Kanaga Island**	**0.61**	**59**		Pb	18 47 35.3	-0.6
KICM	**Kanaga Island**	**0.62**	**55**		Pb	18 47 35.6	-0.4
KINC	**Kanaga Island**	**0.66**	**57**		Pb	18 47 36.2	-0.5
KIRH	**Kanaga Island**	**0.67**	**60**		Pb	18 47 36.1	-0.6
ADK	**Adak**	**0.89**	**69**		Pg	18 47 39.5	-0.2
ADK					Sb	18 47 52.2	-0.6
GSSP	**Great Sitkin S**	**1.26**	**65**		Pg	18 47 46.1	-0.6
GSTD	**Great Sitkin T**	**1.26**	**67**		Pg	18 47 45.8	-1.1
GSTD					Sn	18 48 04.4	-0.1
GSMY	**Great Sitkin M**	**1.31**	**68**		Pn	18 47 46.5	-1.1
GSTR	**Great Sitkin T**	**1.33**	**66**		Pn	18 47 47.2	-0.7
CERAA	**Semis' Rag'd T**	**1.47**	**284**		Pn	18 47 49.3	-0.5
CERB	**Semis' Cerberu**	**1.50**	**285**		Pn	18 47 49.8	-0.5
CERB					Sg	18 48 10.9	0.0
CESW	**Semis' Southwe**	**1.54**	**283**		Pn	18 47 50.2	-0.6
CEAP	**Semis' Anvil P**	**1.55**	**287**		Pn	18 47 50.6	-0.3
CETU	**Semis' Tuman**	**1.59**	**285**		Pn	18 47 51.3	-0.2
AMKA	**Amchitka**	**1.69**	**265**		Pn	18 47 52.2	-0.6
AMKA					Sn	18 48 14.0	-0.7
LSPA	**Little Sitkin**	**2.15**	**282**		Pn	18 48 00.2	+1.0
LSPA					Sb	18 48 28.1	-1.0
LSSA	**Little Sitkin**	**2.19**	**281**		Pn	18 48 00.7	+1.0
LSNW	**Little Sitkin**	**2.19**	**282**		Pn	18 47 59.2	-0.5
ATKA	**Atka Island**	**2.45**	**74**		Pn	18 48 03.7	+0.4
ATKA				Sn	Sn	18 48 33.5	-0.2
KOWE	**Korovin West**	**2.46**	**70**		Pn	18 48 03.7	+0.1
KOKL	**Mount Kliuchef**	**2.48**	**71**		Pn	18 48 04.0	+0.2
KOFP	**Korovin Flat P**	**2.53**	**72**		Pn	18 48 05.4	+0.9
KOSE	**Korovin Southe**	**2.58**	**71**		Pn	18 48 05.9	+0.9
SMY	**Shemya**	**4.99**	**287**	Pn	Pn	18 48 39.9	+1.8
NIKH	**Nikolski High**	**5.80**	**72**	Pn	Pn	18 48 51.9	+2.6
NIKH				Sn	Sn	18 49 59.3	+3.1
MSW	**Makushin Switc**	**7.22**	**67**		Pn	18 49 10.6	+1.8
SPIA	**Saint Paul Isl**	**7.22**	**36**	Pn	Pn	18 49 08.3	-0.4
UNV	**Unalaska Valle**	**7.36**	**67**	Pn	Pn	18 49 13.2	+2.5
AKUT	**Akutan**	**7.85**	**66**	Pn	Pn	18 49 19.7	+2.3
CNBA	**Chernabura Isl**	**11.52**	**66**	Pn	Pn	18 50 07.2	-0.5
OHAK	**Old Harbor**	**15.43**	**59**	Pn	Pn	18 50 58.1	-2.6
SVW2	**Sparrevohn**	**15.60**	**44**	Pn	Pn	18 51 02.9	-0.1
KDAK	**Kodiak Island**	**15.91**	**57**	Pn	Pn	18 51 05.6	-1.5
CNPM	**China Poot**	**17.02**	**52**	P	P	18 51 22.4	-0.7
BRLK	**Bradley Lake**	**17.26**	**51**	Pn	Pn	18 51 24.1	-0.1
PPLA	**Purkeypile**	**17.85**	**41**	P	P	18 51 32.3	-0.1
RC01	**Rabbit Creek A**	**18.20**	**47**	P	Pn	18 51 32.5	-3.4
GHO	**Glory Hole Cre**	**18.80**	**46**	P	P	18 51 38.9	-3.9
TRF	**Thorofare Moun**	**18.87**	**40**	P	Pn	18 51 45.3	+1.1
SML	**Sawmill**	**19.08**	**46**	P	P	18 51 45.1	-0.7
SCM	**Sheep Creek Mo**	**19.54**	**46**	P	P	18 51 48.3	-2.6
FID	**Port Fidalgo**	**19.64**	**50**	P	P	18 51 52.4	+0.6
DHY	**Denali Highway**	**19.93**	**43**	P	P	18 51 55.8	+0.5
GLB	**Gilahina Butte**	**21.06**	**49**	P	P	18 52 05.5	-1.9
VRDI	**Verde Repeater**	**21.18**	**49**	P	P	18 52 09.1	+0.2
RIDG	**Independent Ri**	**21.23**	**42**	P	P	18 52 07.1	-2.1
DOT	**Dot Lake**	**21.53**	**43**	P	P	18 52 12.0	-0.4
BMAR	**Burnt Mountain**	**22.81**	**33**	P	P	18 52 26.4	+0.4
JIS	**Juneau Island**	**25.58**	**58**	P	P	18 52 50.5	-1.7

TIR 13 19:07:39.9, 43°.69N×16°.72E, h1km, Md3.6/3
BEO 13 19:07:40.3±0.7, 43°.79N×16°.66E, h0km, ML3.3/9
PRU 13 19:07:41.8±0.0, 43°.84N×17°.09E, h0km
PDG 13 19:07:41.9±0.2, 43°.82N×17°.01E, h0km±11km, ML3.2/14, Error ellipse: s-maj=0.6km s-min=0.4km az=90.0
LDG 13 19:07:41.3±0.2, 43°.75N×16°.76E, h5km, Ml3.2/16, Error ellipse: s-maj=6.4km s-min=3.2km az=27.0
RHSSO 13 19:07:42.9±0.3, 43°.83N×17°.03E, h5km±1km, ML3.3/15
ISC 13 19:07:41.9±1.1, 43°.86N±0°.02×17°.05E±0°.02, h1km±10km, n131, σ1s40/215, 15C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGRS	**Mrkonjic Grad**	**0.56**	**2**	*e*Pg	**Pb**	19 07 54.2	**-0.5**
MGRS				*e*Sg	**Sb**	19 08 02.5	**-0.7**
MAKA	**Makarska**	**0.57**	**182**	*i* Pg	**Pg**	19 07 52.8	**0.0**
MAKA				Sg	**Sg**	19 08 01.1	**+1.0**
HVAR	**Hvar**	**0.81**	**213**	*e*Pg	**Pg**	19 07 56.5	**-0.9**
HVAR				Sg	**Sb**	19 08 09.0	**-1.2**
BLY	**Banja Luka**	**0.90**	**6**	*e*Pg	**Pg**	19 07 59.9	**+0.7**
BLY				*e*Sg	**Sb**	19 08 13.8	**+0.9**
BLY	**Banja Luka**	**0.90**	**6**	*e*Pg	**Pg**	19 07 59.9	**+0.7**
BLY				*e*Sg	**Sb**	19 08 12.3	**-0.6**
MORI	**Morici**	**0.97**	**271**	*e*Pg	**Pg**	19 08 00.4	**-0.1**
MORI				Sg	**Sb**	19 08 15.3	**+0.4**
ZIRJ	**Zirje**	**1.04**	**259**	*i* Pg	**Pg**	19 08 01.2	**-0.6**
ZIRJ				Sg	**Sb**	19 08 17.0	**+0.6**
STON	**Ston**	**1.09**	**154**	*e*Pg	**Pg**	19 08 01.8	**-1.0**
STON				Sg	**Sg**	19 08 16.1	**-0.8**
STON	**Ston**	**1.09**	**154**	*e*Pg	**Pg**	19 08 01.6	**-1.2**
STON				*e*Sg	**Sb**	19 08 17.6	**-0.7**
UDBI	**Udbina**	**1.15**	**306**	*i* Pg	**Pg**	19 08 04.2	**+0.3**
UDBI				Sg	**Sn**	19 08 20.9	**-0.7**
PRIJ	**Prijedor**	**1.15**	**348**	*e*Pg	**Pg**	19 08 03.5	**-0.4**
PRIJ				*e*Sg	**Sb**	19 08 20.2	**+0.2**
MRAK	**Mrakovica**	**1.16**	**355**	*e*Pg	**Pg**	19 08 04.2	**0.0**
MRAK				*e*Sg	**Sb**	19 08 20.8	**+0.2**
DBRK	**Dubrovnik**	**1.43**	**146**	*e*Pn	**Pn**	19 08 08.3	**-0.8**
DBRK				Sg	**Sb**	19 08 28.0	**-0.1**
BRY	**Bratogost**	**1.44**	**131**	⇓*i*Pg	**Pn**	19 08 08.4	**-1.0**
BRY				*i* Sg	**Sn**	19 08 31.0	**+1.9**
BRY	**Bratogost**	**1.44**	**131**	*e*Pg	**Pn**	19 08 08.1	**-1.3**
BRY				*e*Sn	**Sn**	19 08 29.4	**+0.3**
DUGI	**Dugi Otok**	**1.45**	**276**	*e*Pn	**Pn**	19 08 08.7	**-0.6**
DUGI				Sn	**Sn**	19 08 31.1	**+2.0**
TREB	**Trebinje**	**1.48**	**140**	*e*Pg	**Pn**	19 08 08.8	**-1.0**
TREB				*e*Sg	**Sn**	19 08 32.3	**+2.5**
TREB	**Trebinje**	**1.48**	**140**	*e*Pg	**Pn**	19 08 08.5	**-1.3**
TREB				*e*Sg	**Sn**	19 08 29.8	**0.0**
UPM	**Unac-Piva**	**1.50**	**115**	⇓*i*Pg	**Pn**	19 08 09.8	**-0.4**
UPM				*i* Sg	**Sn**	19 08 33.3	**+2.8**
UPM	**Unac-Piva**	**1.50**	**115**	*e*Pg	**Pn**	19 08 09.7	**-0.4**
UPM				*e*Sg	**Sn**	19 08 30.9	**+0.4**
BBLS	**Lazići**	**1.70**	**89**	*e*Pn	**Pb**	19 08 14.0	**-0.1**
BBLS				*e*Sn	**Sg**	19 08 39.7	**+3.1**
BBLS	**Lazići**	**1.70**	**89**	*e*Pn	**Pn**	19 08 12.7	**-0.2**
BBLS				*e*Sn	**Sb**	19 08 36.1	**+0.1**
NVLJ	**Novalja**	**1.72**	**295**	*i* Pn	**Pb**	19 08 14.4	**0.0**
NVLJ				Sn	**Sg**	19 08 39.5	**+2.3**
NKY	**Niksic**	**1.76**	**126**	⇑*i*Pn	**Pb**	19 08 14.6	**-0.5**
NKY				*i* Sn	**Sg**	19 08 40.7	**+2.3**
HCY	**Herceg Novi**	**1.76**	**143**	⇓*i*Pn	**Pn**	19 08 13.8	**+0.2**
HCY				*i* Sn	**Sg**	19 08 40.6	**+2.2**
HCY	**Herceg Novi**	**1.76**	**143**	*e*Pn	**Pn**	19 08 13.1	**-0.5**
HCY				*e*Sn	**Sb**	19 08 37.2	**-0.4**
NKME	**Niksic**	**1.76**	**127**	⇑*i*Pn	**Pn**	19 08 14.2	**+0.5**
NKME				*i* Sn	**Sg**	19 08 40.5	**+2.0**
PLE	**Pljevlja**	**1.78**	**106**	⇓*i*Pn	**Pb**	19 08 14.9	**-0.5**
PLE				*i* Sn	**Sg**	19 08 41.4	**+2.4**
CEME	**Cevo**	**1.89**	**133**	⇑*i*Pn	**Pn**	19 08 16.0	**+0.6**
CEME				*i* Sn	**Sg**	19 08 43.8	**+1.2**
TEKS	**Tekeris**	**1.91**	**68**	*e*Pn	**Pg**	19 08 18.4	**-0.2**
TEKS	**Tekeris**	**1.91**	**68**	*e*Pn	**Pn**	19 08 16.1	**+0.4**
TEKS				*e*Sn	**Sn**	19 08 41.3	**+0.8**
BUM	**Brajici-Budva**	**2.06**	**138**	⇑*i*Pn	**Pn**	19 08 18.7	**+0.9**
BUM				*i* Sn	**Sg**	19 08 47.8	**-0.2**
KOME	**Kolasin**	**2.06**	**118**	⇑*i*Pn	**Pb**	19 08 19.1	**-1.1**
KOME				*i* Sn	**Sg**	19 08 48.1	**+0.1**
BOJS	**Bojanci**	**2.09**	**323**	*i* Pn	**Pn**	19 08 18.6	**+0.5**
BOJS				*e*Sn	**Sg**	19 08 48.5	**-0.6**
	comp=Z,98nm,0.4s						
OZLJ	**Ozalj**	**2.09**	**328**	*e*Pn	**Pn**	19 08 18.7	**+0.6**
OZLJ				Sn	**Sb**	19 08 47.7	**+0.5**
ZAG	**Zagreb**	**2.11**	**339**	*e*Pn	**Pn**	19 08 19.3	**+0.8**
ZAG				Sn	**Sb**	19 08 48.3	**+0.5**
ZAG	**Zagreb**	**2.11**	**339**	*e*Pn	**Pn**	19 08 18.4	**0.0**
ZAG				*e*Sn	**Sn**	19 08 45.8	**+0.4**
DIVS	**Divibare**	**2.14**	**82**	*e*Pn	**Pb**	19 08 21.7	**+0.2**
DIVS	**Divibare**	**2.14**	**82**	*e*Pn	**Pn**	19 08 18.5	**-0.4**
DIVS				*e*Sn	**Sn**	19 08 47.0	**+0.9**
PDG	**Podgorica**	**2.15**	**131**	*e*Pn	**Pb**	19 08 20.9	**-0.8**
PDG				*e*Sn	**Sb**	19 08 49.0	**+0.1**
PDG	**Podgorica**	**2.15**	**131**	⇑*i*P	**Pb**	19 08 20.5	**-1.2**
PDG	**Podgorica**	**2.15**	**131**	*e*Pn	**Pn**	19 08 20.1	**+1.1**
PDG				*e*Sn	**Sn**	19 08 46.4	**+0.1**
TTG	**Podgorica**	**2.15**	**131**	⇑*i*Pn	**Pn**	19 08 20.4	**-1.3**
TTG				*i* Sn	**Sg**	19 08 50.2	**-0.8**
PTJ	**Puntijarka**	**2.19**	**340**	*e*Pn	**Pn**	19 08 19.9	**+0.2**
PTJ				Sn	**Sb**	19 08 49.2	**-0.9**
SJES	**Sjenica**	**2.21**	**105**	*e*Pn	**Pn**	19 08 20.8	**+1.0**
SJES				*e*Sn	**Sg**	19 08 52.7	**0.0**
IVAS	**Ivanjica**	**2.27**	**96**	*e*Pn	**Pb**	19 08 23.0	**-0.7**
CRES	**Cresnjev**	**2.27**	**331**	*e*Pn	**Pn**	19 08 20.4	**-0.3**
CRES				*e*Sn	**Sn**	19 08 50.0	**+0.6**
DRME	**Dracevica, Mon**	**2.29**	**136**	⇓*i*Pn	**Pn**	19 08 21.9	**+1.1**
DRME				*i* Sn	**Sb**	19 08 53.3	**+0.5**
DRME	**Dracevica, Mon**	**2.29**	**136**	*e*Pn	**Pn**	19 08 21.1	**+0.3**
DRME				*e*Sn	**Sn**	19 08 49.5	**-0.1**
IVA	**Berane**	**2.29**	**114**	⇓*i*Pn	**Pn**	19 08 22.2	**+1.2**
IVA				*i* Sn	**Sb**	19 08 53.9	**+0.8**
KALN	**Kalnik**	**2.31**	**350**	*e*Pn	**Pn**	19 08 20.9	**-0.4**
KALN				Sn	**Sn**	19 08 51.4	**+1.0**
RIY	**Rijeka**	**2.35**	**310**	*e*Pn	**Pb**	19 08 23.9	**-1.2**
RIY				Sn	**Sb**	19 08 54.2	**+0.5**
RIY	**Rijeka**	**2.35**	**310**	*e*Pn	**Pn**	19 08 23.0	**+1.3**
RIY				*e*Sn	**Sn**	19 08 51.4	**+0.1**
FRGS	**Fruska Gora**	**2.37**	**56**	*e*Pn	**Pb**	19 08 24.4	**-1.0**
FRGS				*e*Sn	**Sb**	19 08 56.3	**+1.2**
FRGS	**Fruska Gora**	**2.37**	**56**	*e*Pn	**Pn**	19 08 22.1	**+0.2**
FRGS				*e*Sn	**Sn**	19 08 52.2	**+0.6**
TRUS	**Trudelj**	**2.45**	**80**	*e*Pn	**Pb**	19 08 26.3	**-0.4**
PVY	**Plav**	**2.47**	**120**	⇑*i*Pn	**Pn**	19 08 24.7	**+1.2**
PVY				*i* Sn	**Sb**	19 08 57.9	**-0.3**
ULC	**Ulcinj**	**2.48**	**139**	⇑*i*Pn	**Pn**	19 08 24.8	**+1.2**
ULC				*i* Sn	**Sb**	19 08 58.2	**-0.3**
BRJN	**Brijuni**	**2.59**	**295**	*e*Pn	**Pn**	19 08 26.2	**+1.2**
BRJN				Sn	**Sb**	19 08 59.7	**-1.8**
MORH	**Mrgy, Hungar**	**2.62**	**25**	*e*Pn	**Pn**	19 08 26.6	**+1.2**
MORH				*e*Sn	**Sn**	19 08 58.4	**+0.6**
BEHE	**Becsehely**	**2.62**	**356**	*e*Pn	**Pn**	19 08 26.2	**+0.7**
BEHE				*e*Sn	**Sn**	19 08 58.5	**+0.5**
GRUS	**Gruza**	**2.65**	**88**	*e*Pn	**Pn**	19 08 27.6	**+1.8**
GRUS				*e*Sn	**Sb**	19 09 04.4	**+1.2**
BCI	**Bajram Curri**	**2.66**	**123**	*i* PN	**Pb**	19 08 29.8	**-0.6**
BCI				*i* SN	**Sg**	19 09 08.0	**+0.6**
PUK	**Puka**	**2.76**	**130**	*i* PN	**Pb**	19 08 31.2	**-1.0**
PUK				*i* SN	**Sg**	19 09 09.6	**-1.0**
LJU	**Ljubljana**	**2.83**	**322**	*e*Pn	**Pn**	19 08 28.7	**+0.4**
LJU				*e*Sn	**Sn**	19 09 02.9	**-0.2**
SELS	**Selova**	**3.02**	**101**	*e*Pn	**Pn**	19 08 32.1	**+1.1**
AQU	**L'Aquila**	**3.06**	**242**	*e*Pn	**Pn**	19 08 31.8	**+0.2**
AQU				*e*Sn	**Sn**	19 09 08.2	**-0.7**
SOKA	**Soboth**	**3.16**	**334**	*e*Pn	**Pn**	19 08 33.3	**+0.4**
	comp=Z,3.8nm,0.2s,SNR=11						
SOKA				*e*Sn	**Sn**	19 09 09.6	**-1.8**
	comp=Z,6.9nm,0.3s						
OBKA	**Obir**	**3.19**	**327**	*e*Pn	**Pn**	19 08 33.9	**+0.5**
	comp=Z,2.1nm,0.2s						
OBKA				*e*Sn	**Sn**	19 09 13.7	**+1.6**
	comp=Z,34nm,0.7s						
MATE	**Matera**	**3.21**	**185**	⇑P	**Pn**	19 08 34.2	**+0.7**
TIR	**Tirane**	**3.25**	**139**	*e*Pn	**Pn**	19 08 34.7	**+0.6**
TIR	**Tirane**	**3.25**	**139**	⇑P	**Pn**	19 08 34.4	**+0.2**
PHP	**Peshkopia**	**3.31**	**130**	*i* PN	**Pb**	19 08 38.6	**-2.8**
PHP				*i* SN	**Sb**	19 09 23.2	**+1.1**
BOVS	**Bovan**	**3.38**	**92**	*e*Pn	**Pn**	19 08 36.4	**+0.5**
BOVS				*e*Sn	**Sb**	19 09 22.1	**-2.1**
MDVR	**Moldovita**	**3.47**	**73**	⇓P	**Pn**	19 08 36.5	**-0.7**
ARSA	**Arzberg**	**3.56**	**343**	*i* Pn	**Pn**	19 08 38.7	**+0.3**
	comp=Z,13nm,0.3s,SNR=12						
ARSA				*e*Sn	**Sn**	19 09 18.2	**-3.0**
	comp=Z,6.4nm,0.5s						
BARS	**Barje**	**3.63**	**105**	*e*Pn	**Pn**	19 08 41.4	**+2.1**
BARS				*e*Sn	**Sb**	19 09 27.6	**-3.8**
MYKA	**Terra Mystica**	**3.67**	**320**	*e*Pn	**Pn**	19 08 41.6	**+1.6**
	comp=Z,2.0nm,0.3s						
MYKA				*e*Sn	**Sb**	19 09 28.7	**-4.1**
	comp=Z,13nm,0.5s						
BZS	**Buzias**	**3.70**	**60**	⇓P	**Pn**	19 08 39.3	**-0.9**
HERR	**Herculane**	**3.98**	**73**	⇑P	**Pn**	19 08 43.7	**-0.5**
ZAPS	**Zavoj**	**4.10**	**96**	*e*Pn	**Pn**	19 08 48.4	**+2.6**
KBA	**Koelnbreinsper**	**4.15**	**322**	*i* Pn	**Pn**	19 08 47.7	**+1.1**
	comp=Z,2.5nm,0.3s						
KBA				*e*Sn	**Sn**	19 09 35.7	**-0.1**
	comp=Z,3.5nm,0.2s						
CONA	**Conrad Observa**	**4.16**	**349**	*e*Pn	**Pn**	19 08 46.9	**+0.3**
	comp=Z,4.7nm,0.2s,SNR=8.7						
CONA				*e*Sn	**Sn**	19 09 36.0	**0.0**
	comp=Z,8.9nm,0.6s						
ABTA	**Abfaltersbach**	**4.32**	**314**	*i* Pn	**Pn**	19 08 50.1	**+1.3**
	comp=Z,2.6nm,0.2s,SNR=6.7						
ABTA				*e*Sn	**Sn**	19 09 42.4	**+2.5**
	comp=Z,21nm,0.5s						
ZST	**Bratislava**	**4.34**	**0**	*e*PN	**Pn**	19 08 49.2	**+0.1**
ZST				*e*SN	**Sn**	19 09 37.4	**-2.9**
ZST				*e*LG	Lg	19 09 47.1	
STIP	**Stip**	**4.35**	**118**	*i* Pn	**Pn**	19 08 53.1	**+3.8**
GZR	**Gura Zlata**	**4.37**	**67**	⇓P	**Pn**	19 08 48.4	**-1.1**
MOA	**Molln**	**4.44**	**335**	*e*Pn	**Pn**	19 08

KMSI	**Cibinong**	**2.78**	**280**	P	**Pn**	**19 24 16.3 -1.1**
KMSI				S	**Sn**	**19 24 48.0 -1.9**
NLAI	**Namlea**	**3.31**	**173**	P	**Pn**	**19 24 28.6 +3.9**
NLAI				S	**Sn**	**19 24 57.2 -5.8**
AAI	**Ambon**	**4.02**	**158**	P	**Pn**	**19 24 37.0 +2.7**
MSAI	**Masohi**	**4.05**	**147**	P	**Pn**	**19 24 38.4 +3.6**
LUWI	**Luwuk**	**4.10**	**254**	P	**Pn**	**19 24 35.5 +0.1**
LUWI	**Luwuk**	**4.10**	**254**	Pn	**Pn**	**19 24 33.6 -1.8**
LUWI					**Sn**	**19 25 24.1 +2.0**
SIJI	**Sorong**	**4.64**	**102**	P	**Pn**	**19 24 41.3 -1.6**
	4.5nm,0.3s,baz=85,slow=9.3,SNR=32					
SIJI				S	**Sn**	**19 25 34.1 -1.4**
	0.6nm,0.3s,baz=190,slow=23,SNR=1.3					
MRSI	**Marisa**	**4.79**	**275**	P	**Pn**	**19 24 43.5 -1.4**
FAKI	**Fak Fak**	**6.28**	**118**	Pn	**Pn**	**19 25 03.7 -1.5**
TTSI	**Tana Toraja**	**7.56**	**246**	P	**Pn**	**19 25 22.8 +0.1**
	0.1nm546nm24nm,0.6s					
BNSI	**Bone**	**7.96**	**236**	P	**Pn**	**19 25 29.3 +1.1**
	0.1nm670nm19nm,0.8s					
SPSI	**Sidrap Palu**	**8.02**	**240**	P	**Pn**	**19 25 30.0 +1.0**
KAPI	**Kappang**	**8.60**	**234**	P	**Pn**	**19 25 36.9 -0.1**
	1.9nm,0.3s,baz=40,slow=3.0,SNR=6.7					
KAPI				S	**Sn**	**19 27 06.9 -5.5**
	2.1nm,0.3s,baz=148,slow=22,SNR=7.0					
KAPI	**Kappang**	**8.60**	**234**		**Pn**	**19 25 36.6 -0.3**
SAUI	**Saumlaki**	**9.22**	**150**	Pn	Pn	19 25 40.2 -5.1
MTN	**Manton Dam**	**13.56**	**161**	Pn	**Pn**	**19 26 41.2 -3.2**
KNRA	**Kununurra**	**15.78**	**173**	Pn	**Pn**	**19 27 10.9 -2.2**
KNRA				IAmb	IAmb	19 27 17.2
	comp=Z,27nm,1.2s					
FITZ	**Fitzroy Crossi**	**18.09**	**183**	P	**P**	**19 27 42.1 +0.9**
CISI	**Cisompet, Garu**	**20.32**	**248**	P	**P**	**19 28 06.2 +0.7**
WB0	**Warramunga Arr**	**21.11**	**160**	P	**P**	**19 28 12.5 -1.5**
WRA	**Warramunga Arr**	**21.25**	**160**	P	**P**	**19 28 13.3 -2.1**
	comp=Z,1.1nm,0.3s,baz=336,slow=10,SNR=9.5					
WB2	**Warramunga Arr**	**21.25**	**160**		**P**	**19 28 13.7 -1.8**
WR0	**Warramunga Arr**	**21.34**	**159**	P	**P**	**19 28 14.9 -1.4**
COEN	**Coen**	**21.45**	**131**	P	**P**	**19 28 16.9 -0.7**
DLV	**T Lat**	**21.60**	**304**		**P**	**19 28 17.0 -2.4**
DLV				IAmb	IAmb	19 28 22.6
	comp=Z,38nm,1.5s					
GUMO	**Guam**	**22.44**	**53**	P	**P**	**19 28 27.9 -0.4**
YULB	**Yu-li**	**23.77**	**348**	P	**P**	**19 28 40.2 -0.9**
YULB				IAmb	IAmb	19 29 03.0
	comp=Z,17nm,1.1s					
AS31	**Alice Springs**	**24.61**	**164**	P	**P**	**19 28 48.9 +0.1**
ASAR	**Alice Springs**	**24.61**	**164**	P	**P**	**19 28 48.8 0.0**
	comp=Z,1.2nm,0.4s,baz=343,slow=11,SNR=28					
ASAR	**Alice Springs**	**24.61**	**164**	P	**P**	**19 28 48.5 -0.3**
YHNB	**Yeheng**	**24.99**	**348**	P	**P**	**19 28 53.0 +0.8**
YHNB				IAmb	IAmb	19 28 54.1
	comp=Z,15nm,0.9s					
KULM	**Kulim**	**26.54**	**282**	P	**P**	**19 29 06.7 +0.3**
KULM				IAmb	IAmb	19 29 30.3
	comp=Z,30nm,1.4s					
JOW	**Kunigami**	**26.64**	**3**	P	**P**	**19 29 08.2 +1.1**
	comp=Z,0.7nm,0.6s,baz=146,slow=12,SNR=3.6					
JOW	**Kunigami**	**26.64**	**3**	P	**P**	**19 29 07.3 +0.2**
JNU	**Nakatsue**	**33.10**	**6**	P	**P**	**19 30 05.2 +1.0**
STKA	**Stephens Creek**	**34.76**	**157**	P	**P**	**19 30 18.5 -0.1**
STKA				IAmb	IAmb	19 30 52.6
	comp=Z,3.2nm,1.4s					
KSRS	**Korea Array**	**37.21**	**2**	P	**P**	**19 30 40.1 +0.7**
	comp=Z,1.1nm,0.7s,baz=178,slow=9.9,SNR=7.1					
KWAJ	**Kwajalein Atol**	**41.64**	**77**	P	**P**	**19 31 18.7 +2.0**
USRK	**Ussuriysk Ar.**	**44.18**	**5**	P	**P**	**19 31 37.8 +1.1**
	comp=Z,1.5nm,0.7s,baz=214,slow=5.4,SNR=2.7					
USRK	**Ussuriysk Ar.**	**44.18**	**5**	P	**P**	**19 31 37.5 +0.7**
SONM	**Songino Array**	**50.74**	**342**	P	**P**	**19 32 29.0 +1.2**
	comp=Z,2.0nm,0.8s,baz=161,slow=9.0,SNR=7.3					
SONM	**Songino Array**	**50.74**	**342**	P	**P**	**19 32 28.6 +0.8**
MK31	**Makanchi Array**	**60.55**	**326**	P	**P**	**19 33 38.8 +0.8**
MK31				IAmb	IAmb	19 33 40.4
	comp=Z,1.6nm,0.8s					
MKAR	**Makanchi Array**	**60.55**	**326**	P	**P**	**19 33 39.2 +1.2**
	comp=Z,1.8nm,0.4s,baz=120,slow=7.6,SNR=50					
MKAR	**Makanchi Array**	**60.55**	**326**	P	**P**	**19 33 38.8 +0.8**
MAKZ	**Makanchi**	**60.73**	**326**	P	**P**	**19 33 40.0 +0.8**
MAKZ				IAmb	IAmb	19 33 41.6
	comp=Z,2.5nm,0.6s					
KDJ	**Kajisay**	**61.08**	**320**	P	**P**	**19 33 43.6 +1.7**
KDJ				IAmb	IAmb	19 33 44.7
	comp=Z,2.1nm,0.8s					
ARSB	**Arslanbob**	**63.49**	**317**	P	**P**	**19 33 59.5 +1.6**
KBL	**Kabul**	**63.76**	**309**	P	**P**	**19 34 01.1 +1.2**
KBL				IAmb	IAmb	19 34 01.7
	comp=Z,2.3nm,0.8s					
GAR	**Garm**	**64.40**	**314**	P	**P**	**19 34 05.4 +1.4**
KURBB	**Kurchatov Arra**	**64.81**	**328**	P	**P**	**19 34 07.0 +0.8**
	comp=Z,3.3nm,0.9s,baz=128,slow=6.2,SNR=26					
KURK	**Kurchatov**	**64.81**	**328**	P	**P**	**19 34 07.1 +0.9**
KURK				IAmb	IAmb	19 34 08.8
	comp=Z,4.6nm,0.7s					
KKAR	**Karatay Array**	**65.90**	**318**	P	**P**	**19 34 14.2 +0.8**
TIXI	**Tiksi**	**71.47**	**1**	P	**P**	**19 34 47.6 +0.2**
TIXI				IAmb	IAmb	19 34 48.2
	comp=Z,2.0nm,0.4s					
ABKAR	**Akbulak array**	**74.97**	**321**	P	**P**	**19 35 09.7 +1.2**

*MOS **13** 19:30:29.8±1.2,46.10S×13.91W,h10km,mb5.8/19, MS5.5/69,Error ellipse: s-maj=11.8km s-min=7.4km az=79.1*

*IDC **13** 19:30:29.4±0.3,46.03S×13.83W,h0km,mb5.0/27, mb1 5.0/27,mb1mx5.0/29,mbtmp5.0/27,MS5.6/25, Ms1 5.5/25,ms1mx5.5/26,Error ellipse: s-maj=13.2km s-min=10.1km az=177.0*

*NEIC **13** 19:30:29.6±2.2,46.03S±0.08×13.9W±0.1,h6km±2km, mb5.7/157,Ms_20 5.5/791,Mwb5.6/19,Mwc5.9/38,Mww5.8, Mwc5.8(GCMT),Error ellipse: s-maj=11.6km s-min=11.5km az=172.0*

*NEIC **13** 19:30:30.6,46.03S×13.87W,h10km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=1.69; Mθθ=0.37; Mφφ=1.32; Mrθ=1.76; Mθφ=-1.93; Mφr=0.41; Fault plane solution: M0=3.06000×10^17^ NP1:φs=288.64000°, δ65.73000°,λ=-132.24000°. NP2:φs=174.29000°, δ47.55000°,λ=-33.85000°. Principal axes: T 2.9790, Plg11.0000°, Azm48.0000°; N 0.1557, Plg38.0000°, Azm309.0000°; P -3.1347, Plg50.0000°, Azm151.0000°;*

*BJI **13** 19:30:31.0±0.0,46.10S×13.90W,h10km,mB5.8/43, Ms5.9/51,Ms7 5.7/49*

*NEIC **13** 19:30:33,46.01S×14.17W,h16km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=3.18; Mθθ=0.57; Mφφ=2.61; Mrθ=-1.37; Mθφ=-4.18; Mφr=-2.47; Fault plane solution: M0=5.84000×10^17^ NP1:φs=107.00000°, δ52.00000°,λ=-146.00000°. NP2:φs=355.00000°, δ64.00000°,λ=-43.00000°. Principal axes: T 6.0347, Plg7.0000°, Azm54.0000°; N -0.4154, Plg41.0000°, Azm151.0000°; P -5.6192, Plg48.0000°, Azm316.0000°;*

*GCMT **13** 19:30:33.6±0.1,46.23S±0.01×13.62W±0.01,h12km, MW5.8/168,Moment Tensor Solution. s143,c283; s168,c554; Duration: 2s0 Moment tensor: Scale 10^17^ Nm; Mrr=-5.96±.04; Mθθ=2.31±.04; Mφφ=3.65±.04; Mrθ=1.00±.12; Mθφ=-3.71±.04; Mφr=-1.70±.12; Best double couple: M0=6.65600×10^17^ NP1:φs=137.00000°,δ37.00000°, λ=-95.00000°. NP2:φs=323.00000°,δ54.00000°, λ=-86.00000°. Principal axes: T 7.0410, Plg9.0000°, Azm50.0000°; N -0.7720, Plg3.0000°, Azm141.0000°; P -6.2700, Plg81.0000°, Azm252.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **13** 19:30:34,46.26S×13.58W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=6.29; Mθθ=2.37; Mφφ=3.92; Mrθ=-0.67; Mθφ=-3.71; Mφr=-0.39; Fault plane solution: M0=6.68000×10^17^ NP1:φs=328.00000°, δ45.00000°,λ=-79.00000°. NP2:φs=133.00000°,δ46.00000°, λ=-101.00000°. Principal axes: T 6.9361, Plg1.0000°, Azm231.0000°; N -0.5425, Plg8.0000°, Azm141.0000°; P -6.3936, Plg82.0000°, Azm325.0000°;*

*NEIC **13** 19:30:42,45.88S×14.05W,h23km,Moment Tensor Solution. Moment tensor: Scale 10^18^Nm; Mrr=0.83; Mθθ=0.35; Mφφ=0.48; Mrθ=0.24; Mθφ=-0.45; Mφr=0.53; Fault plane solution: M0=1.01000×10^18^ NP1:φs=165.19000°, δ59.02000°,λ=-60.94000°. NP2:φs=298.01000°,δ41.46000°, λ=-128.97000°. Principal axes: T 0.9076, Plg10.0000°, Azm235.0000°; N 0.2081, Plg25.0000°, Azm329.0000°; P -1.1157, Plg63.0000°, Azm125.0000°;*

ISC 13 19:30:31.5±0.4,46.11S±0.04×13.95W±0.04,h13km±2km, h14km:pP-P,n1368,σ2s12/1147,mb5.7/164,MS5.5/473, 31C-38D,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H09W1	**TRISTAN DA CUN**	**9.09**	**8**	T	T	19 42 09.4	
	SNR=32						
TRIS	**Tristan da Cun**	**9.12**	**8**	Pn	**Pn**	**19 32 41.0**	**-1.6**
HOPE	**Hope Point**	**16.53**	**232**	P	**Pn**	**19 34 21.9**	**-0.8**
HOPE				pmax	pmax		
	comp=Z,503nm,1.4s						
HOPE	**Hope Point**	**16.53**	**232**	P	**Pn**	**19 34 21.9**	**-0.8**
VNA1	**Neumayer--Stat**	**24.77**	**175**	P	**P**	**19 35 53.8**	**+1.5**
VNA2	**Neumayer--Watz**	**25.09**	**175**	P	**P**	**19 35 56.0**	**+0.7**
	baz=349,slow=11						
VNA3	**Neumayer Olymp**	**25.29**	**177**	P	**P**	**19 35 57.6**	**+0.5**
SNAA	**Sanae**	**26.18**	**172**	P	**P**	**19 36 05.7**	**+0.4**
SNAA	**Sanae**	**26.18**	**172**	P	**P**	**19 36 05.5**	**+0.3**
	comp=Z,30nm,0.9s,baz=330,slow=7.5,SNR=25						
SNAA				PcP	**PcP**	**19 39 31.3**	**-0.4**
	comp=Z,9.3nm,1.1s,baz=317,slow=3.0,SNR=4.2						
SNAA				LR	LR	19 43 44.6	
	comp=Z,9μm,20.8s,baz=344,slow=30						
SNAA	**Sanae**	**26.18**	**172**	*de*P	**P**	**19 36 05.3**	**0.0**
SNAA				pmax	pmax		
	comp=Z,138nm,2.5s						
SNAA				MLR	MLR		
	comp=Z,3μm,16.0s						
SNAA	**Sanae**	**26.18**	**172**	P	**P**	**19 36 05.6**	**+0.3**
SNAA				IAmb	IAmb	19 36 14.8	
	comp=Z,134nm,1.3s						
SNAA					**PcP**	**19 39 30.5**	**-1.2**
NVL	**N'lazarevskaya**	**27.71**	**162**	*e*P	**P**	**19 36 20.1**	**+1.2**
NVL				*e*S	**S**	**19 41 00.1**	**-0.3**
NVL				pmax	pmax		
	comp=Z,109nm,1.3s						
NVL				MLR	MLR		
	comp=Z,3μm,15.0s						
EFI	**East Falkland**	**29.18**	**243**	*ce*P	**P**	**19 36 34.9**	**+2.7**
EFI				pmax	pmax		
	comp=Z,171nm,1.4s						
EFI				MLR	MLR		
	comp=Z,7μm,16.0s						
EFI	**East Falkland**	**29.18**	**243**	P	**P**	**19 36 32.5**	**+0.4**
EFI				IAmb	IAmb	19 36 37.4	
	comp=Z,218nm,1.4s						
EFI	**East Falkland**	**29.18**	**243**	IAMs_20	IAMs_20	19 45 40.8	
	comp=Z,15μm,22.0s						
SUR	**Sutherland**	**29.95**	**75**	P	**P**	**19 36 38.3**	**-1.2**
	comp=Z,11nm,0.9s,baz=220,slow=6.0,SNR=5.4						
SUR				LR	LR	19 45 38.6	
	comp=Z,33μm,21.1s,baz=234,slow=30						
SUR	**Sutherland**	**29.95**	**75**	P	**P**	**19 36 38.2**	**-1.3**
SHEL	**Horse Pasture**	**30.83**	**16**	P	**P**	**19 36 44.3**	**-2.9**
SHEL				pmax	pmax		
	comp=Z,111nm,1.1s						
SHEL				MLR	MLR		
	comp=Z,10μm,18.0s						
SHEL	**Horse Pasture**	**30.83**	**16**	P	**P**	**19 36 44.3**	**-2.9**
SHEL				IAmb	IAmb	19 37 00.7	
	comp=Z,111nm,1.1s						
SHEL	**Horse Pasture**	**30.83**	**16**	IAMs_20	IAMs_20	19 45 59.8	
	comp=Z,10μm,18.0s						
PMSA	**Palmer Station**	**32.83**	**217**	P	**P**	**19 37 04.3**	**+0.1**
	comp=Z,20nm,0.9s,baz=77,slow=6.1,SNR=3.7						
PMSA				PcP	**PcP**	**19 39 47.6**	**-1.1**
	comp=Z,35nm,1.1s,baz=168,slow=5.8,SNR=4.7						
PMSA				LR	LR	19 47 47.4	
	comp=Z,9μm,21.6s,baz=41,slow=32						
PMSA	**Palmer Station**	**32.83**	**217**	P	**P**	**19 37 05.4**	**+1.2**
PMSA	**Palmer Station**	**32.83**	**217**	IAMs_20	IAMs_20	19 47 25.9	
	comp=Z,9μm,22.0s						
PMSA	**Palmer Station**	**32.83**	**217**	*e*P	**P**	**19 37 06.2**	**+2.0**
PMSA				*e*S	**S**	**19 42 25.8**	**+5.1**
PMSA	**Palmer Station**	**32.83**	**217**	*e*P	**P**	**19 37 06.2**	**+2.0**
PMSA				*e*S	**S**	**19 42 25.8**	**+5.1**
CAM01	**Campos-RJ**	**33.09**	**308**	*e*P	**P**	**19 37 07.9**	**+1.1**
CAM01	**Campos-RJ**	**33.09**	**308**	*e*P	**P**	**19 37 07.9**	**+1.1**
CNLB	**Canela**	**33.30**	**287**	*e*P	**P**	**19 37 10.2**	**+1.4**
CNLB	**Canela**	**33.30**	**287**	*e*P	**P**	**19 37 10.2**	**+1.4**
MAN01	**Angra dos Reis**	**33.57**	**303**	*e*P	**P**	**19 37 12.9**	**+1.7**
MAN01	**Angra dos Reis**	**33.57**	**303**	*e*P	**P**	**19 37 12.9**	**+1.7**
PLTB	**Pedras Altas**	**33.64**	**281**	*e*P	**P**	**19 37 14.1**	**+2.4**
PLTB	**Pedras Altas**	**33.64**	**281**	*e*P	**P**	**19 37 14.1**	**+2.4**
VAS01	**Vassouras-RJ**	**33.73**	**305**	*e*P	**P**	**19 37 14.2**	**+1.7**
VAS01	**Vassouras-RJ**	**33.73**	**305**	*e*P	**P**	**19 37 14.2**	**+1.7**
ESAR	**Angra dos Reis**	**33.73**	**303**	*e*P	**P**	**19 37 14.9**	**+2.5**
ESAR	**Angra dos Reis**	**33.73**	**303**	*e*P	**P**	**19 37 14.9**	**+2.5**
PARB	**Paraibuna**	**34.19**	**301**	*e*P	**P**	**19 37 17.8**	**+1.2**
PARB	**Paraibuna**	**34.19**	**301**	*e*P	**P**	**19 37 17.8**	**+1.2**
CPSB	**Cacapava Do Su**	**34.35**	**283**	*e*P	**P**	**19 37 19.7**	**+1.9**
CPSB	**Cacapava Do Su**	**34.35**	**283**	*e*P	**P**	**19 37 19.7**	**+1.9**
MG01	**Puerto William**	**34.47**	**235**	P	**P**	**19 37 19.1**	**+0.5**
RIB01	**Linhares ES**	**34.47**	**312**	*e*P	**P**	**19 37 20.0**	**+1.1**
RIB01	**Linhares ES**	**34.47**	**312**	*e*P	**P**	**19 37 20.0**	**+1.1**
PET01	**Itanhaem-SP**	**34.48**	**298**	*e*P	**P**	**19 37 20.9**	**+1.9**
PET01	**Itanhaem-SP**	**34.48**	**298**	*e*P	**P**	**19 37 20.9**	**+1.9**
LPA	**La Plata**	**34.85**	**273**	*e*P	**P**	**19 37 13.7**	**-8.4**
LPA				PP	**PnPn**	**19 38 34.2**	**-4.2**
LPA				PPP	PPP	19 38 46.0	
LPA				S	**S**	**19 42 46.6**	**-6.0**
LPA				PSP	PSP	19 43 07.3	
LPA				SS	**SnSn**	**19 45 06.9**	**+0.3**
LPA				SSS	SSS	19 45 25.7	
LPA				SKIKS		19 54 15.6	
USHA	**Ushuaia**	**34.94**	**235**	P	**P**	**19 37 24.8**	**+2.1**
	comp=Z,66nm,0.9s,baz=113,slow=1.3,SNR=6.8						
SYO	**Syowa Base**	**35.01**	**150**	*e*P	**P**	**19 37 21.2**	**-1.9**
SYO	**Syowa Base**	**35.01**	**150**	*i*pP	**P**	**19 37 22.4**	**-0.7**
SYO	**Syowa Base**	**35.01**	**150**	*e*PnPn	PnPn	19 38 35.4	-4.6
SPB	**Sao Paulo**	**35.09**	**298**	*e*P	**P**	**19 37 26.3**	**+2.0**
SPB	**Sao Paulo**	**35.09**	**298**	*e*P	**P**	**19 37 26.3**	**+2.0**
BSFB	**Barra de Sao F**	**35.10**	**312**	*e*P	**P**	**19 37 25.1**	**+0.7**
BSFB	**Barra de Sao F**	**35.10**	**312**	*e*P	**P**	**19 37 25.1**	**+0.7**
VAO	**Valinhos**	**35.25**	**300**	*e*P	**P**	**19 37 26.8**	**+1.1**
VAO	**Valinhos**	**35.25**	**300**	*e*P	**P**	**19 37 26.8**	**+1.1**
BOSA	**Boshof**	**35.30**	**74**	P	**P**	**19 37 24.2**	**-1.9**
	comp=Z,31nm,1.2s,baz=228,slow=8.5,SNR=13						
BOSA				PcP	**PcP**	**19 39 55.4**	**-1.2**
	comp=Z,6.1nm,0.8s,baz=281,slow=6.6,SNR=4.8						
BOSA				LR	LR	19 48 54.4	
	comp=Z,27μm,20.4s,baz=230,slow=31						
BOSA	**Boshof**	**35.30**	**74**	*i*P	**P**	**19 37 25.9**	**-0.3**
BOSA	**Boshof**	**35.30**	**74**	*i*P	**P**	**19 37 25.9**	**-0.3**
BOSA	**Boshof**	**35.30**	**74**	*i*P	**P**	**19 37 25.9**	**-0.3**
BOSA	**Boshof**	**35.30**	**74**	P	**P**	**19 37 24.1**	**-2.1**
BOSA					**PcP**	**19 39 55.1**	**-1.4**
SJMB	**Sao Joao De Ma**	**35.38**	**311**	*e*P	**P**	**19 37 27.7**	**+0.9**
SJMB	**Sao Joao De Ma**	**35.38**	**311**	*e*P	**P**	**19 37 27.7**	**+0.9**
BSCB	**Bom Sucesso**	**35.50**	**304**	*e*P	**P**	**19 37 28.8**	**+0.9**
BSCB	**Bom Sucesso**	**35.50**	**304**	*e*P	**P**	**19 37 28.8**	**+0.9**
ITAB	**Concordia**	**35.52**	**289**	*e*P	**P**	**19 37 30.1**	**+2.2**
ITAB	**Concordia**	**35.52**	**289**	*e*P	**P**	**19 37 30.1**	**+2.2**
NAN01	**Guarapari, ES**	**35.56**	**314**	*e*P	**P**	**19 37 28.8**	**+0.4**
NAN01	**Guarapari, ES**	**35.56**	**314**	*e*P	**P**	**19 37 28.8**	**+0.4**
RCLB	**Rio Claro- Sao**	**36.03**	**300**	*e*P	**P**	**19 37 33.8**	**+1.4**
RCLB	**Rio Claro- Sao**	**36.03**	**300**	*e*P	**P**	**19 37 33.8**	**+1.4**
TRQA	**Tornquist**	**36.08**	**265**	*e*P	**P**	**19 37 33.9**	**+1.2**
TRQA	**Tornquist**	**36.08**	**265**	*e*P	**P**	**19 37 33.9**	**+1.2**
FRTB	**Fartura**	**36.59**	**296**	*e*P	**P**	**19 37 38.1**	**+0.9**
FRTB	**Fartura**	**36.59**	**296**	*e*P	**P**	**19 37 38.1**	**+0.9**
GO10	**Punta Arenas**	**36.77**	**238**	P	**P**	**19 37 41.0**	**+2.6**
GO10				IAMs_20	IAMs_20	19 50 15.9	
	comp=Z,10μm,20.0s						
ITQB	**Itaqui**	**36.97**	**281**	*e*P	**P**	**19 37 42.4**	**+2.1**
ITQB	**Itaqui**	**36.97**	**281**	*e*P	**P**	**19 37 42.4**	**+2.1**
H10S2	**ASCENSION HYDR**	**37.02**	**359**	T	T	20 16 58.6	
	baz=41,slow=74,SNR=184						
H10S3	**ASCENSION HYDR**	**37.03**	**359**	T	T	20 16 49.6	
	baz=179,slow=74,SNR=742						
PTGB	**Pitanga**	**37.20**	**292**	*e*P	**P**	**19 37 44.2**	**+1.7**
PTGB	**Pitanga**	**37.20**	**292**	*e*P	**P**	**19 37 44.2**	**+1.7**
TSUM	**Tsumeb**	**37.32**	**55**	P	**P**	**19 37 41.9**	**-1.7**
	comp=Z,46nm,1.0s,baz=215,slow=8.7,SNR=54						
TSUM	**Tsumeb**	**37.32**	**55**	*i*P	**P**	**19 37 43.4**	**-0.1**
TSUM	**Tsumeb**	**37.32**	**55**	*i*P	**P**	**19 37 43.4**	**-0.1**
TSUM	**Tsumeb**	**37.32**	**55**	*i*P	**P**	**19 37 43.4**	**-0.1**
TSUM	**Tsumeb**	**37.32**	**55**	P	**P**	**19 37 42.0**	**-1.6**
TSUM				IAmb	IAmb	19 37 44.3	
	comp=Z,144nm,1.3s						
BB19B	**Bebedouro**	**37.66**	**300**	*e*P	**P**	**19 37 47.9**	**+1.6**
BB19B	**Bebedouro**	**37.66**	**300**	*e*P	**P**	**19 37 47.9**	**+1.6**
LBTB	**Lobatse**	**37.93**	**70**	P	**P**	**19 37 47.1**	**-1.5**
	comp=Z,40nm,1.1s,baz=223,slow=9.1,SNR=23						
LBTB	**Lobatse**	**37.93**	**70**	*i*P	**P**	**19 37 48.5**	**-0.1**
LBTB	**Lobatse**	**37.93**	**70**	*i*P	**P**	**19 37 48.5**	**-0.1**
LBTB	**Lobatse**	**37.93**	**70**	*i*P	**P**	**19 37 48.5**	**-0.1**
LBTB	**Lobatse**	**37.93**	**70**	P	**P**	**19 37 47.0**	**-1.7**
ASCN	**Ascension**	**38.04**	**359**	P	**P**	**19 37 47.8**	**-1.6**
ASCN				IAmb	IAmb	19 37 56.6	
	comp=Z,225nm,1.2s						
H10N1	**ASCENSION HYDR**	**38.13**	**359**	T	T	20 18 25.0	
	baz=179,slow=79,SNR=29						
H10N3	**ASCENSION HYDR**	**38.13**	**359**	T	T	20 18 11.6	
	baz=179,slow=79,SNR=280						
H10N2	**ASCENSION HYDR**	**38.14**	**359**	T	T	20 18 26.4	
	baz=179,slow=79,SNR=57						
GDU01	**Guandu, BA**	**38.84**	**318**	*e*P	**P**	**19 37 56.7**	**+0.5**
GDU01	**Guandu, BA**	**38.84**	**318**	*e*P	**P**	**19 37 56.7**	**+0.5**
PCMB	**Pacaembu**	**38.93**	**296**	*e*P	**P**	**19 37 57.3**	**+0.3**
PCMB	**Pacaembu**	**38.93**	**296**	*e*P	**P**	**19 37 57.3**	**+0.3**
TRCB	**Terra Rica**	**38.93**	**293**	*e*P	**P**	**19 37 57.9**	**+0.9**
TRCB	**Terra Rica**	**38.93**	**293**	*e*P	**P**	**19 37 57.9**	**+0.9**
CPUP	**Villa Florida**	**39.58**	**285**	P	**P**	**19 38 03.2**	**+0.9**
	comp=Z,24nm,0.9s,baz=118,slow=7.1,SNR=21						
CPUP				LR	LR	19 51 25.9	
	comp=Z,4μm,21.8s,baz=137,slow=32						
CPUP	**Villa Florida**	**39.58**	**285**	P	**P**	**19 38 03.3**	**+0.9**
CPUP	**Villa Florida**	**39.58**	**285**	*e*P	**P**	**19 38 03.3**	**+1.0**
CPUP	**Villa Florida**	**39.58**	**285**	*e*P	**P**	**19 38 03.3**	**+1.0**
NBCP	**Cabaceiras do**	**39.65**	**319**	*e*P	**P**	**19 38 04.8**	**+1.9**
NBCP	**Cabaceiras do**	**39.65**	**319**	*e*P	**P**	**19 38 04.8**	**+1.9**
COYC	**Coyhaique**	**39.71**	**249**	P	**P**	**19 38 04.3**	**+1.1**
COYC	**Coyhaique**	**39.71**	**249**	IAMs_20	IAMs_20	19 53 24.3	
	comp=Z,7μm,20.0s						
ITRB	**Iturama**	**39.80**	**299**	*e*P	**P**	**19 38 06.0**	**+1.8**
ITRB	**Iturama**	**39.80**	**299**	*e*P	**P**	**19 38 06.0**	**+1.8**
IPMB	**Ipameri, GO**	**39.85**	**303**	*e*P	**P**	**19 38 05.5**	**+0.7**
IPMB	**Ipameri, GO**	**39.85**	**303**	*e*P	**P**	**19 38 05.5**	**+0.7**
JANB	**Januaria**	**40.06**	**311**	*e*P	**P**	**19 38 06.5**	**+0.1**
JANB	**Januaria**	**40.06**	**311**	*e*P	**P**	**19 38 06.5**	**+0.1**
PLCA	**Paso Flores**	**40.72**	**257**	P	**P**	**19 38 11.9**	**+0.2**
	comp=Z,12nm,1.0s,baz=121,slow=7.2,SNR=15						
PLCA				LR	LR	19 52 59.7	
	comp=Z,8μm,20.4s,baz=118,slow=33						
PLCA	**Paso Flores**	**40.72**	**257**	*e*P	**P**	**19 38 13.7**	**+2.0**
PLCA	**Paso Flores**	**40.72**	**257**	P	**P**	**19 38 12.8**	**+1.0**
PLCA	**Paso Flores**	**40.72**	**257**	*e*P	**P**	**19 38 12.7**	**+1.0**
PLCA	**Paso Flores**	**40.72**	**257**	*e*P	**P**	**19 38 12.7**	**+1.0**
LL01	**San Ignacio de**	**41.23**	**253**	P	**P**	**19 38 17.9**	**+2.1**
LL01				IAMs_20	IAMs_20	19 52 10.7	
	comp=Z,5μm,22.0s						
BDFB	**Brasilia**	**41.61**	**306**	P	**P**	**19 38 18.6**	**-0.6**
	comp=Z,12nm,0.8s,baz=133,slow=7.9,SNR=9.8						
BDFB				LR	LR	19 52 45.9	
	comp=Z,5μm,18.9s,baz=142,slow=32						
BDFB	**Brasilia**	**41.61**	**306**	P	**P**	**19 38 19.2**	**-0.1**
BDFB				pmax	pmax		
	comp=Z,37nm,1.3s						
BDFB				MLR	MLR		
	comp=Z,7μm,22.0s						
BDFB	**Brasilia**	**41.61**	**306**	P	**P**	**19 38 19.2**	**-0.1**
BDFB				IAMs_20	IAMs_20	19 51 42.6	
	comp=Z,7μm,22.0s						
GO07	**Milladeo Hill,**	**41.74**	**252**	IAMs_20	IAMs_20	19 54 51.2	
	comp=Z,8μm,19.0s						
C2SB	**Chapadao do Su**	**42.03**	**297**	*e*P	**P**	**19 38 24.8**	**+2.2**
C2SB	**Chapadao do Su**	**42.03**	**297**	*e*P	**P**	**19 38 24.8**	**+2.2**
LC01	**Cunco**	**42.48**	**258**	P	**P

LSZ MLR MLR
comp=Z,13µm,20.0s
LSZ Lusaka 46.69 63 P **P** **19 38 58.9 -1.2**
LSZ IAmb IAmb 19 39 07.6
comp=Z,113nm,1.4s
AC05 El Transito 46.91 271 P **P** **19 39 02.1 +0.4**
SMTB Santa Maria do 46.97 312 *eP* **P** **19 39 02.5 +0.3**
SMTB Santa Maria do 46.97 312 *eP* **P** **19 39 02.5 +0.3**
AC02 Maricunga 47.35 274 P **P** **19 39 05.6 0.0**
AC02 IAmb IAmb 19 39 15.0
comp=Z,134nm,1.4s
AC02 IAMs_20 IAMs_20 20 00 12.6
comp=Z,5µm,18.0s
GO03 Copiap 47.65 273 P **P** **19 39 06.6 -0.8**
GO03 IAmb IAmb 19 39 21.4
comp=Z,93nm,1.3s
GO03 IAMs_20 IAMs_20 19 58 12.4
comp=Z,5µm,19.0s
AC04 Llanos de Chal 47.85 271 P **P** **19 39 08.5 -0.4**
AC04 IAmb IAmb 19 39 19.0
comp=Z,112nm,1.4s
NBMO Morrinhos-CE 48.32 324 *eP* **P** **19 39 13.4 +0.9**
NBMO Morrinhos-CE 48.32 324 *eP* **P** **19 39 13.4 +0.9**
PTLB Pontes e Lacer 48.47 294 *eP* **P** **19 39 14.5 +0.7**
PTLB Pontes e Lacer 48.47 294 *eP* **P** **19 39 14.5 +0.7**
GO02 Mina Guanaco 48.73 276 P **P** **19 39 16.2 +0.1**
GO02 IAMs_20 IAMs_20 19 57 43.1
comp=Z,6µm,20.0s
AC01 Pan de Azucar 48.80 274 P **P** **19 39 16.1 -0.2**
AC01 IAMs_20 IAMs_20 19 58 14.0
comp=Z,6µm,20.0s
SIV San Ignacio 49.31 292 P **P** **19 39 20.8 +0.5**
comp=Z,23nm,0.8s,baz=141,slow=7.5,SNR=46
PB15 IPOC Station P 49.92 278 P **P** **19 39 25.5 +0.5**
PB15 IAMs_20 IAMs_20 20 01 51.6
comp=Z,4µm,18.0s
CLDB Colider 49.93 301 *eP* **P** **19 39 24.9 -0.1**
CLDB Colider 49.93 301 *eP* **P** **19 39 24.9 -0.1**
LVC Limon Verde 49.93 279 P **P** **19 39 26.0 +0.6**
comp=Z,19nm,0.9s,baz=136,slow=4.6,SNR=9.9
LVC LR LR 19 58 23.6
comp=Z,3µm,20.6s,baz=136,slow=34
LVC Limon Verde 49.93 279 P **P** **19 39 26.0 +0.6**
LVC Limon Verde 49.93 279 P **P** **19 39 24.6 -0.7**
LVC IAmb IAmb 19 39 34.9
comp=Z,140nm,1.4s
LVC Limon Verde 49.93 279 IAMs_20 IAMs_20 19 59 19.8
comp=Z,5µm,19.0s
LVC Limon Verde 49.93 279 *eP* **P** **19 39 26.2 +0.9**
LVC Limon Verde 49.93 279 *eP* **P** **19 39 26.2 +0.9**
PB06 IPOC Station P 50.32 278 P **P** **19 39 28.5 +0.5**
PB06 IAMs_20 IAMs_20 19 59 57.2
comp=Z,4µm,19.0s
PRPB Paraupebas 50.41 311 *eP* **P** **19 39 28.9 +0.3**
PRPB Paraupebas 50.41 311 *eP* **P** **19 39 28.9 +0.3**
ROSB Rosrio 50.45 319 *eP* **P** **19 39 29.2 +0.3**
ROSB Rosrio 50.45 319 *eP* **P** **19 39 29.2 +0.3**
PB10 IPOC Station P 50.47 276 P **P** **19 39 29.9 +1.0**
PB10 IAmb IAmb 19 39 39.7
comp=Z,73nm,1.1s
PB09 IPOC Station P 50.70 279 P **P** **19 39 31.0 0.0**
PB09 IAMs_20 IAMs_20 19 58 26.3
comp=Z,5µm,21.0s
PB04 IPOC Station P 50.97 278 P **P** **19 39 33.4 +0.4**
VILB Vilhena 51.02 295 *eP* **P** **19 39 34.4 +1.1**
VILB Vilhena 51.02 295 *eP* **P** **19 39 34.4 +1.1**
PB07 IPOC Station P 51.19 279 P **P** **19 39 34.9 +0.3**
PB07 IAmb IAmb 19 39 44.1
comp=Z,127nm,1.1s
PB07 IAMs_20 IAMs_20 19 58 51.3
comp=Z,5µm,20.0s
PB01 IPOC Station P 51.38 280 P **P** **19 39 36.2 +0.2**
PB01 IAMs_20 IAMs_20 20 00 20.2
comp=Z,4µm,19.0s
PB08 IPOC Station P 51.76 281 P **P** **19 39 39.0 -0.1**
PB08 IAMs_20 IAMs_20 20 03 30.1
comp=Z,3µm,20.0s
GO01 Chusmiza 52.11 281 P **P** **19 39 42.2 +0.3**
GO01 IAmb IAmb 19 39 52.1
comp=Z,173nm,1.4s
GO01 IAMs_20 IAMs_20 20 05 09.3
comp=Z,3µm,19.0s
TA01 Diego Aracena 52.18 280 P **P** **19 39 42.5 +0.8**
TA01 IAmb IAmb 19 39 51.9
comp=Z,221nm,1.4s
TA01 IAMs_20 IAMs_20 20 00 31.3
comp=Z,4µm,19.0s
PB11 IPOC Station P 52.37 281 P **P** **19 39 43.6 +0.3**
PB11 IAmb IAmb 19 39 51.4
comp=Z,190nm,1.2s
PB11 IAMs_20 IAMs_20 19 59 06.1
comp=Z,4µm,22.0s
FOMA Nahampoana Res 52.52 88 P **P** **19 39 48.1 +3.8**
FOMA Nahampoana Res 52.52 88 P **P** **19 39 43.6 -0.8**
FOMA IAmb IAmb 19 40 02.2
comp=Z,119nm,1.4s
LIC Lamto 52.70 11 *eP* **P** **19 39 45.1 -0.5**
comp=Z,119nm,0.8s
NPGB Novo Progresso 52.74 304 *eP* **P** **19 39 46.4 +0.4**
NPGB Novo Progresso 52.74 304 *eP* **P** **19 39 46.4 +0.4**
MNMC Minye Minye 52.76 281 P **P** **19 39 46.5 +0.1**
MNMC IAMs_20 IAMs_20 20 02 30.7
comp=Z,3µm,20.0s
PSGCX Pisagua 52.80 280 P **P** **19 39 46.0 -0.5**
PSGCX IAmb IAmb 19 39 54.4
comp=Z,129nm,1.3s
KIC Kosan Boka 52.88 12 *eP* **P** **19 39 46.2 -0.7**
comp=Z,50nm,0.8s
TIC Toumodi 53.12 11 *eP* **P** **19 39 48.0 -0.7**
DBIC Dimbokro 53.17 11 P **P** **19 39 47.4 -1.7**
comp=Z,12nm,0.8s,baz=164,slow=8.2,SNR=8.7
DBIC LR LR 19 56 58.6
comp=Z,5µm,19.5s,baz=162,slow=30
DBIC Dimbokro 53.17 11 P **P** **19 39 48.1 -0.9**
DBIC pmax pmax
comp=Z,71nm,1.3s
DBIC Dimbokro 53.17 11 P **P** **19 39 48.1 -0.9**
PB12 IPOC Station P 53.61 281 P **P** **19 39 51.8 -0.8**
PB12 IAMs_20 IAMs_20 20 00 22.0
comp=Z,3µm,21.0s
LPAZ La Paz 53.75 285 P **P** **19 39 53.4 -0.8**
comp=Z,6.7nm,0.9s,baz=106,slow=6.9,SNR=20
LPAZ LR LR 20 03 22.8
comp=Z,4µm,18.0s,baz=134,slow=37
LPAZ La Paz 53.75 285 *eP* **P** **19 39 53.1 -1.1**
LPAZ La Paz 53.75 285 P **P** **19 39 53.1 -1.1**
LPAZ IAmb IAmb 19 40 01.0
comp=Z,75nm,1.4s
LPAZ La Paz 53.75 285 *eP* **P** **19 39 53.8 -0.4**
LPAZ La Paz 53.75 285 *eP* **P** **19 39 53.8 -0.4**
AP01 Chacalluta 53.79 281 IAMs_20 IAMs_20 20 01 01.8
comp=Z,3µm,21.0s
PAF Port-aux-Franc 53.86 126 P **P** **19 39 54.3 +0.5**
PAF pmax pmax
comp=Z,281nm,1.3s
PAF Port-aux-Franc 53.86 126 P **P** **19 39 54.3 +0.5**
VOI Vohitsoka 54.40 85 P **P** **19 39 59.0 +0.7**
SNR=6.0
ITTB Itaituba 55.14 306 *eP* **P** **19 40 04.2 +0.7**
ITTB Itaituba 55.14 306 *eP* **P** **19 40 04.2 +0.7**
SAML Samuel 55.95 295 P **P** **19 40 10.1 +0.7**
SAML pmax pmax
comp=Z,104nm,1.5s
SAML MLR MLR
comp=Z,6µm,20.0s
SAML Samuel 55.95 295 P **P** **19 40 10.1 +0.7**
SAML IAmb IAmb 19 40 10.7
comp=Z,104nm,1.5s
SAML Samuel 55.95 295 *eP* **P** **19 40 09.8 +0.4**
SAML Samuel 55.95 295 *eP* **P** **19 40 09.8 +0.4**
MALB Monte Alegre 56.41 309 *eP* **P** **19 40 13.6 +0.9**
MALB Monte Alegre 56.41 309 *eP* **P** **19 40 13.6 +0.9**
VNDA Vanda 56.62 179 P **P** **19 40 14.0 +0.6**
comp=Z,17nm,1.0s,baz=206,slow=7.3,SNR=40
VNDA LR LR 20 02 05.4
comp=Z,7µm,21.6s,baz=173,slow=33
VNDA Vanda 56.62 179 P **P** **19 40 14.8 +1.4**
VNDA pmax pmax
comp=Z,124nm,1.4s
VNDA Vanda 56.62 179 P **P** **19 40 14.8 +1.4**
VNDA IAmb IAmb 19 40 22.5
comp=Z,124nm,1.4s
ABPO Ambohimpanom 56.63 83 P **P** **19 40 13.9 -0.6**
ABPO pmax pmax
comp=Z,30nm,1.3s
ABPO MLR MLR
comp=Z,6µm,21.0s
ABPO Ambohimpanom 56.63 83 P **P** **19 40 13.9 -0.6**
MACA Manacapuru-AM 58.97 302 *eP* **P** **19 40 31.2 +0.5**
MACA Manacapuru-AM 58.97 302 *eP* **P** **19 40 31.2 +0.5**
MBAR Mbarara 59.86 54 LR LR 20 03 37.6
comp=Z,13µm,19.5s,baz=226,slow=33
MBAR Mbarara 59.86 54 P **P** **19 40 34.7 -2.4**
MBAR pmax pmax
comp=Z,17nm,1.1s
MBAR MLR MLR
comp=Z,13µm,20.0s
MBAR Mbarara 59.86 54 P **P** **19 40 34.7 -2.4**
CASY Casey 60.16 157 P **P** **19 40 38.4 +0.2**
CASY Casey 60.16 157 IAMs_20 IAMs_20 20 03 03.3
comp=Z,3µm,22.0s
MBO M'Bour 60.28 357 P **P** **19 40 38.9 -0.6**
PTGA Pitinga 60.51 304 P **P** **19 40 42.1 +0.8**
comp=Z,5.7nm,0.7s,baz=151,slow=7.8,SNR=23
PTGA Pitinga 60.51 304 P **P** **19 40 39.4 -1.9**
PTGA Pitinga 60.51 304 *eP* **P** **19 40 41.8 +0.5**
PTGA Pitinga 60.51 304 *eP* **P** **19 40 41.8 +0.5**
TOB4 Torodi Ar. Sit 60.63 18 IAMs_20 IAMs_20 20 00 49.0
comp=Z,5µm,22.0s
TOA3 Torodi Ar. Sit 60.64 18 IAMs_20 IAMs_20 20 01 00.1
comp=Z,5µm,21.0s
TOA0 Torodi Ar. Sit 60.64 18 P **P** **19 40 42.2 +0.2**
SNR=18
TOA0 S **S** **19 48 56.7 -1.3**
TOA0 Torodi Ar. Sit 60.64 18 P **P** **19 40 40.9 -1.2**
TOA0 IAmb IAmb 19 40 49.7
comp=Z,158nm,1.4s
TORD Torodi Ar. Bea 60.64 18 P **P** **19 40 40.4 -1.7**
comp=Z,19nm,0.8s,baz=196,slow=4.5,SNR=44
TORD LR LR 20 01 11.6
comp=Z,5µm,21.8s,baz=180,slow=30
TORD Torodi Ar. Bea 60.64 18 P **P** **19 40 40.9 -1.2**
RER Riviere de l'E 61.11 91 P **P** **19 40 43.4 -2.0**
RER IAmb IAmb 19 40 54.1
comp=Z,107nm,1.0s
MDP Montagnes des 61.48 315 P **P** **19 40 47.5 -0.3**
comp=Z,20nm,0.9s,baz=132,slow=4.3,SNR=4.4
NNA Nana 62.71 281 *eP* **P** **19 40 57.1 +0.9**
NNA pmax pmax
comp=Z,263nm,2.8s
NNA MLR MLR
comp=Z,2µm,18.0s
NNA Nana 62.71 281 P **P** **19 40 55.1 -1.1**
NNA IAmb IAmb 19 41 04.7
comp=Z,69nm,1.3s
NNA Nana 62.71 281 IAMs_20 IAMs_20 20 04 52.5
comp=Z,3µm,20.0s
KIBK Kibwezi 62.80 62 P **P** **19 40 59.6 +2.8**
KMBO Kilima Mbogo 63.27 61 LR LR 20 05 38.6
comp=Z,7µm,21.0s,baz=208,slow=33
KMBO Kilima Mbogo 63.27 61 P **P** **19 41 02.8 +2.6**
KMBO P **P** **19 41 02.8 +2.6**
KMBO Kilima Mbogo 63.27 61 P **P** **19 40 58.4 -1.7**
KMBO pmax pmax
comp=Z,9.0nm,1.4s
KMBO MLR MLR
comp=Z,7µm,19.0s
KMBO Kilima Mbogo 63.27 61 P **P** **19 40 58.4 -1.7**
LODK Lodwar 65.78 56 P **P** **19 41 19.0 +2.6**
SNR=11
ORIV Oritupano 70.48 307 *eP* **P** **19 41 47.1 +1.4**
TRN Trinidad (W) 70.70 310 *eP* **P** **19 41 49.1 +2.2**
MACC Macarena, Meta 71.22 294 *eP* **P** **19 41 49.7 -0.6**
PTGC Puerto Gaitan, 71.73 297 *eP* **P** **19 41 51.2 -2.1**
PUAC Puerto Asis, P 71.75 291 *eP* **P** **19 41 53.0 -0.5**
BBGH Gun Hill 71.83 313 *eP* P 19 41 58.7 +4.8
BBGH Gun Hill 71.83 313 P **P** **19 41 53.0 -0.8**
BBGH IAMs_20 IAMs_20 20 14 34.1
comp=Z,2µm,20.0s
GRGR Grenville 72.07 311 *eP* **P** **19 41 55.8 +0.5**
FURI Furi 72.13 56 P **P** **19 41 55.6 -0.5**
GCMP Grenada, Carri 72.25 311 *eP* **P** **19 41 59.9 +3.6**
GARC Garzon, Huila 72.30 293 *eP* **P** **19 41 56.3 -0.7**
VILC Villavicencio, 72.63 295 *eP* **P** **19 41 59.1 +0.2**
BETC Betania 72.64 293 *eP* **P** **19 41 58.9 0.0**
GCUF Volcan Galeras 72.77 291 *eP* **P** **19 42 01.3 +1.1**
SVB Belmont 72.81 311 *eP* **P** **19 42 00.7 +1.0**
SVB Belmont 72.81 311 P **P** **19 42 00.2 +0.5**
SOTA Rioblanco 72.98 292 *eP* **P** **19 42 01.4 0.0**
PCON Cinco Dias 72.99 292 *eP* **P** **19 42 02.2 +0.6**
PAC1 Pacto, Paraso 73.00 289 *eP* **P** **19 42 02.2 +1.1**
BAUV El Baul 73.01 303 *eP* **P** **19 42 00.7 -0.2**
MCLT Moule a Chique 73.02 312 *eP* P 19 42 19.5 +19
CHIC Chingaza 73.06 296 *eP* **P** **19 42 00.7 -1.1**
PRAC Prado 73.08 294 *eP* **P** **19 42 00.9 -0.6**
MARP Paez Belalcaza 73.09 293 *eP* **P** **19 42 01.3 -0.6**
SLAC Saint Lucia, A 73.15 312 *eP* P 19 42 08.6 +6.9
TAMC Tame, Arauca 73.26 299 *eP* **P** **19 42 02.6 +0.1**
SLBI Saint Lucia, B 73.30 312 *eP* **P** **19 42 05.5 +3.0**
ORTC Ortega, Tolima 73.46 294 *eP* **P** **19 42 02.8 -0.8**
ROSC El Rosal 73.59 295 P **P** **19 42 05.2 +0.4**
comp=Z,6.1nm,0.3s,baz=142,slow=2.1,SNR=22
ROSC LR LR 20 13 45.2
comp=Z,2µm,18.0s,baz=179,slow=35
ROSC El Rosal 73.59 295 *eP* **P** **19 42 04.6 -0.3**
ROSC El Rosal 73.59 295 P **P** **19 42 03.9 -1.0**
ROSC IAmb IAmb 19 42 14.6
comp=Z,188nm,1.4s
MPOM Morne Pois Mar 73.60 312 *eP* **P** **19 42 04.3 0.0**
RUSC La Rusia 73.63 297 *eP* **P** **19 42 03.5 -1.7**
RUSC La Rusia 73.63 297 P **P** **19 42 03.4 -1.8**
BIM Bigot 73.77 312 *eP* **P** **19 42 06.5 +1.2**
ILAM Ilet Lapin Mar 73.88 313 *eP* **P** **19 42 08.6 +2.6**
FDF Fort de France 73.99 312 *eP* **P** **19 42 08.0 +1.3**
FDF Fort de France 73.99 312 P **P** **19 42 06.5 -0.2**
FDF pmax pmax
comp=Z,224nm,1.4s
FDF MLR MLR
comp=Z,600nm,20.0s
FDF Fort de France 73.99 312 P **P** **19 42 06.5 -0.2**
ANIL Santa Ana 74.00 294 *eP* **P** **19 42 06.0 -1.1**
TOLC Tolima 74.02 294 *eP* **P** **19 42 05.1 -2.2**
SPBC San Pablo de B 74.06 296 *eP* **P** **19 42 02.6 -4.7**
YOTC Yotoco, Valle 74.21 293 *eP* **P** **19 42 06.6 -1.6**
RREF El Recreo 74.28 295 *eP* **P** **19 42 08.3 -0.9**
DESE Dese 74.47 55 *eP* **P** **19 42 11.7 +1.8**
DESE *eS* **SKiKP** **19 51 27.7 -8.2**
RPN Rapa Nui 74.48 247 P **P** **19 42 08.7 -0.8**
RPN pmax pmax
comp=Z,234nm,1.5s
RPN Rapa Nui 74.48 247 P **P** **19 42 08.7 -0.8**
NORC Norcasia 74.49 295 *eP* **P** **19 42 07.1 -2.6**
SDV Santo Domingo 74.49 301 *eP* **P** **19 42 09.4 -0.5**
SDV Santo Domingo 74.49 301 P **P** **19 42 09.0 -0.8**
SDV Santo Domingo 74.49 301 IAMs_20 IAMs_20 20 13 51.1
comp=Z,2µm,19.0s
SDV Santo Domingo 74.49 301 *eP* **P** **19 42 10.8 +0.9**
SDV Santo Domingo 74.49 301 *eP* **P** **19 42 10.8 +0.9**
PAMC Pamplona, Colo 74.52 298 *eP* **P** **19 42 10.2 -0.2**
GUY2C Guyana, Caldas 74.54 295 *eP* **P** **19 42 09.1 -1.4**
DLPL La Plaine 74.54 313 *eP* **P** **19 42 11.6 +1.8**
GR1C Gorgona, Isla 74.64 291 *eP* **P** **19 42 11.1 +0.5**
BRRC Barranca, Sant 74.96 297 *eP* **P** **19 42 09.7 -2.7**
PTBC PUERTO BERRIO, 74.99 296 *eP* **P** **19 42 09.6 -2.9**
MAGL Barre de l'ile 75.08 313 *eP* **P** **19 42 17.7 +4.8**
TDBA Terre de Bas, 75.18 313 *eP* **P** **19 42 13.7 +0.2**
CBE Ff, Capester 75.35 313 *eP* **P** **19 42 16.0 +1.5**
HELC Santa Helena 75.39 295 *eP* **P** **19 42 13.1 -2.2**
CBOC Ciudad Bolivar 75.44 295 *eP* **P** **19 42 13.2 -2.2**
PIZC Pizarro, Choco 75.61 293 *eP* **P** **19 42 16.0 -0.2**
ABD La Joyeuse, An 75.63 313 *eP* **P** **19 42 15.8 -0.3**
ZARC Zaragoza, Cauc 75.97 297 *eP* **P** **19 42 16.1 -2.0**
HATO Hato, Curacao 76.14 304 P **P** **19 42 18.9 -0.2**
HATO IAMs_20 IAMs_20 20 12 55.7
comp=Z,3µm,22.0s
MLYT Lee's Yard 76.20 313 *eP* **P** **19 42 20.1 +0.7**
ZGR Zagora 76.25 7 P **P** **19 42 23.0 +3.5**
SNR=8.2
ZGR P **P** **19 42 23.0 +3.5**
SNR=8.2
DBBC Dabeiba 76.45 295 *eP* **P** **19 42 20.1 -1.0**
TTIG Tnine Tigouga, 76.46 5 P **P** **19 42 25.0 +4.3**
SNR=6.6
TTIG P **P** **19 42 25.0 +4.3**
SNR=6.6
SMLC San Martn de 76.50 298 *eP* **P** **19 42 18.1 -3.0**
UREC San Jos de Ur 76.59 296 *eP* **P** **19 42 18.3 -3.4**
ATD Arta Tunnel 76.66 57 P **P** **19 42 25.7 +3.6**
ATD Arta Tunnel 76.66 57 P **P** **19 42 21.8 -0.4**
ANWB Willy Bob 76.79 313 *eP* **P** **19 42 22.7 +0.1**
ANWB Willy Bob 76.79 313 P **P** **19 42 21.3 -1.3**
ANWB IAmb IAmb 19 42 23.1
comp=Z,128nm,1.4s
TZRR Tazzarine 76.91 7 P **P** **19 42 25.0 +1.8**
SNR=7.5
TZRR P **P** **19 42 25.0 +1.8**
SNR=7.5
OUZM OUZ 76.93 6 P **P** **19 42 26.0 +2.7**
SNR=8.6
OUZM P **P** **19 42 26.0 +2.7**
SNR=8.6
SKI Saint Kitts 76.99 312 *eP* **P** **19 42 24.6 +0.8**
SKI Saint Kitts 76.99 312 P **P** **19 42 23.4 -0.4**
SKI pmax pmax
comp=Z,304nm,1.5s
SKI MLR MLR
comp=Z,800nm,21.0s
SKI Saint Kitts 76.99 312 P **P** **19 42 23.4 -0.4**
OUK Oukaimeden 77.15 5 P **P** **19 42 27.0 +2.2**
SNR=8.8
OUK P **P** **19 42 27.0 +2.2**
SNR=8.8
ARGC Ariguani, Magd 77.44 299 *eP* **P** **19 42 25.2 -1.2**
ARF Arif 77.68 9 P **P** **19 42 30.0 +2.5**
SNR=12
ARF P **P** **19 42 30.0 +2.5**
SNR=12
SJCC San Jacinto, C 78.04 298 *eP* **P** **19 42 28.9 -1.0**
CDVI St. Croix 78.39 311 *eP* **P** **19 42 32.3 +0.7**
CDVI St. Croix 78.39 311 P **P** **19 42 29.9 -1.7**
CDVI IAmb IAmb 19 42 38.7
comp=Z,109nm,1.2s
SMRC Santa Marta, M 78.44 300 *eP* **P** **19 42 31.1 -1.0**
PMOZ Porto Moniz, M 78.62 357 *eP* **P** **19 42 35.5 +2.8**
PMOZ Porto Moniz, M 78.62 357 *eSKS* **SKSac** **19 52 48.2 +1.1**
PMOZ Porto Moniz, M 78.62 357 *eLR* LR 20 06 54.2
comp=Z,1µm,20.0s
PMPST Porto Santo, M 78.85 358 *eP* **P** **19 42 36.0 +2.2**
PMPST Porto Santo, M 78.85 358 *eSKS* **SKSac** **19 52 47.5 -1.0**
STVI Saint Thomas 78.99 311 P **P** **19 42 32.9 -1.9**
MDT Midelt 79.01 8 LR LR 20 13 22.1
comp=Z,6µm,18.9s,baz=198,slow=33
MDT Midelt 79.01 8 P **P** **19 42 36.9 +2.1**
SNR=12
MTP Monte Pirata 79.09 311 P **P** **19 42 34.2 -1.3**
CUPR Culebra, Puert 79.12 311 P **P** **19 42 34.1 -1.5**
CUPR IAmb IAmb 19 42 43.5
comp=Z,193nm,1.5s
AVE Averroes 79.26 6 P **P** **19 42 38.6 +2.6**
SNR=5.5
AVE Averroes 79.26 6 *eP* **P** **19 42 37.3 +1.2**
AVE *eS* **S** **19 52 38.9 +3.3**
HUMP Col San Antoni 79.29 310 P **P** **19 42 33.9 -2.6**
CBYP Canovanas 79.40 310 P **P** **19 42 35.6 -1.6**
CBYP IAmb IAmb 19 42 44.0
comp=Z,106nm,1.4s
SJG San Juan 79.42 310 *eP* **P** **19 42 36.1 -1.2**
SJG San Juan 79.42 310 P **P** **19 42 34.7 -2.5**
SJG pmax pmax
comp=Z,113nm,1.5s
SJG MLR MLR
comp=Z,1µm,20.0s
SJG San Juan 79.42 310 P **P** **19 42 34.7 -2.5**
SJG IAmb IAmb 19 42 43.9
comp=Z,113nm,1.4s
ICMP Isla Caja de M 79.44 310 P **P** **19 42 34.7 -2.6**
ICMP IAmb IAmb 19 42 36.4
comp=Z,145nm,1.5s
TDRA Tendrara 79.52 10 P **P** **19 42 40.0 +2.3**
SNR=11
TDRA P **P** **19 42 40.0 +2.3**
SNR=11
GCPR Guaynabo City 79.55 310 P **P** **19 42 34.9 -3.1**
OBIP Obispado Ponce 79.61 310 P **P** **19 42 35.9 -2.4**
OBIP IAmb IAmb 19 42 44.8
comp=Z,66nm,1.2s
IFR Ifrane 79.66 7 *eP* **P** **19 42 40.4 +2.0**
IFR *eS* **S** **19 52 42.4 +2.2**
CRPR Cabo Rojo, PR 79.85 309 P **P** **19 42 37.5 -2.1**
CRPR IAmb IAmb 19 42 39.4
comp=Z,121nm,1.4s
DAMY Dhamar 79.98 57 P P 19 42 45.6 +4.9
RTC Rabat Centre 79.98 6 P **P** **19 42 43.7 +3.7**
SNR=5.8
PAYG Puerto Ayora 80.05 279 IAMs_20 IAMs_20 20 13 28.0
comp=Z,3µm,19.0s
AGPR Aguadilla, PR 80.23 310 P **P** **19 42 41.0 -0.6**
AGPR IAmb IAmb 19 42 52.5
comp=Z,79nm,0.9s
BCIP Isla Barro Col 80.39 294 *eP* **P** **19 42 42.1 -0.6**
BCIP Isla Barro Col 80.39 294 IAMs_20 IAMs_20 20 16 29.6
comp=Z,2µm,20.0s
AKLM AKL 80.76 8 P **P** **19 42 47.0 +2.7**
SNR=18
AKLM P **P** **19 42 47.0 +2.7**
SNR=18
RSA Sarsar 80.95 7 P **P** **19 42 49.0 +3.7**
SNR=9.2
RSA P **P** **19 42 49.0 +3.7**
SNR=9.2
CHEFC Chefchaouen 81.22 7 P **P** **19 42 50.0 +3.3**
SNR=7.3
CHEFC P **P** **19 42 50.0 +3.3**
SNR=7.3
TAF Taforalt 81.22 10 P **P** **19 42 49.0 +2.3**
SNR=8.2
TAF P **P** **19 42 49.0 +2.3**
SNR=8.2
PVLZ Peæn de 81.38 8⇑ *iP* **P** **19 42 45.9 -1.5**
PVLZ *eS* **S** **19 52 58.8 +1.0**
GOG Mont Gurugu 81.56 9 P **P** **19 42 51.0 +2.5**
SNR=8.9
GOG P **P** **19 42 51.0 +2.5**
SNR=8.9
MELI Melilla 81.64 9⇑ *iP* **P** **19 42 48.7 -0.1**
MELI *eS* **S** **19 53 05.3 +4.9**
CEU Ceuta 82.00 7 *eP* **P** **19 42 50.7 +0.1**
CEU *eS* **S** **19 53 10.8 +6.7**
H08S1 Diego Carcia H 82.07 93 T T 21 13 13.3
baz=224,slow=76,SNR=70
H08S2 Diego Garcia H 82.08 93 T T 21 13 14.3
baz=224,slow=76,SNR=64
H08S3 Diego Garcia H 82.09 93 T T 21 13 05.8
baz=224,slow=76,SNR=73
SFS San Fernando 82.50 6 *eP* **P** **19 42 54.3 +1.1**
SFS *eS* S 19 53 20.0 +11
SFS San Fernando 82.50 6 IAMs_20 IAMs_20 20 17 00.3
comp=Z,2µm,20.0s
SDDR Presa de Saban 82.93 307 P **P** **19 42 55.1 -0.9**
SDDR IAMs_20 IAMs_20 20 16 23.5
comp=Z,2µm,22.0s
SC01 Santiago de lo 82.98 307 IAMs_20 IAMs_20 20 15 40.7
comp=Z,2µm,22.0s
PFVI Vila Bisbo 82.99 4 *eP* **P** **19 42 57.9 +2.1**
PFVI Vila Bisbo 82.99 4 *eSKS* **SKSac** **19 53 22.5 +5.7**
PFVI *eSS* SS 19 58 52.3 +13
PBDV Barranco-do-Ve 83.15 5 *eP* **P** **19 42 58.2 +1.5**
comp=Z,122nm,1.9s
PBDV Barranco-do-Ve 83.15 5 *ePP* PP 19 46 09.8 +1.3
PBDV *eSKS* **SKSac** **19 53 22.7 +4.8**
PBDV *eSS* SS 19 59 04.3 +23
MORF Marmelete 83.17 4 *eP* **P** **19 42 55.5 -1.4**
MORF *eS* **S** **19 53 15.1 -1.2**
MORF AMS AMS 20 14 57.0
comp=Z,3µm,27.2s
MORF Marmelete 83.17 4 *eP* **P** **19 42 55.4 -1.4**
MORF *eS* **S** **19 53 15.0 -1.2**
MORF Marmelete 83.17 4 *eP* **P** **19 42 58.1 +1.3**
comp=Z,92nm,1.7s
MORF Marmelete 83.17 4 *eSKS* **SKSac** **19 53 26.3 +8.2**
PVAQ Vaqueiros 83.32 5 *eP* **P** **19 42 58.9 +1.4**
comp=Z,125nm,1.8s
PVAQ Vaqueiros 83.32 5 *eSKS* **SKSac** **19 53 24.1 +5.1**
PVAQ *eSS* SS 19 58 55.9 +12
PVAQ Vaqueiros 83.32 5 *eLR* LR 20 10 55.0
comp=Z,3µm,20.0s
PVAQ Vaqueiros 83.32 5 P **P** **19 42 57.8 +0.3**
PVAQ IAmb IAmb 19 43 14.2
comp=Z,78nm,1.5s
PSMA Santa Maria 83.34 351 *eP* **P** **19 42 58.9 +1.3**
comp=Z,82nm,1.3s
PSMN Pico do Norte, 83.34 351 *eP* **P** **19 42 59.4 +1.8**
comp=Z,99nm,1.1s

PTEO Sao Teotonio 83.41 4 eP P 19 42 59.8 +1.9
comp=Z,85nm,1.6s
PCVE Castro Verde 83.53 5 eP P 19 42 59.8 +1.2
comp=Z,53nm,1.8s
PCVE Castro Verde 83.53 5 eS S 19 53 25.0 +5.3
PCVE eSS SS 19 59 01.4 +15
MESJ Messejana 83.73 5 eP P 19 42 58.2 -1.4
MESJ eS S 19 53 20.9 -0.8
MESJ AMS AMS 20 15 46.8
comp=Z,3µm,17.6s
MESJ Messejana 83.73 5 eP P 19 42 58.2 -1.4
MESJ eS S 19 53 20.8 -0.8
MESJ Messejana 83.73 5 eP P 19 43 00.9 +1.3
comp=Z,66nm,1.8s
HDC Heredia 83.77 291 IAMs_20 IAMs_20 20 20 23.2
comp=Z,1µm,20.0s
SET Setif 83.77 16 P P 19 43 02.0 +2.0
PBEJ Beja 83.94 5 eP P 19 43 01.6 +1.0
comp=Z,84nm,1.8s
HORN Hornachuelos 83.94 7 P P 19 43 02.4 +1.8
SNR=10.0
PNCL Nicolau / Gran 83.98 4 eP P 19 43 02.5 +1.6
comp=Z,82nm,1.8s
PNCL Nicolau / Gran 83.98 4 eS S 19 53 31.5 +7.3
PNCL eSS SS 19 59 12.1 +19
BART Pico Bartolome 84.11 351 eP P 19 43 02.5 +0.8
comp=Z,137nm,1.5s
CART Cartagena 84.13 10⇑ iP P 19 43 10.7 +9.1
CART eS S 19 53 30.5 +4.8
CART Cartagena 84.13 10 P P 19 43 01.6 0.0
CART IAmb IAmb 19 43 07.2
comp=Z,56nm,1.4s
KEST Kesra 84.13 19 P P 19 43 03.2 +1.4
comp=Z,6.9nm,0.9s,baz=124,slow=2.0,SNR=13
KEST LR LR 20 17 04.1
comp=Z,4µm,19.1s,baz=150,slow=33
KEST Kesra 84.13 19 P P 19 43 01.9 +0.1
KEST IAmb IAmb 19 43 11.5
comp=Z,77nm,1.1s
CMLA Cha da Macela 84.14 351 eP P 19 43 03.3 +1.6
comp=Z,53nm,0.6s
CMLA Cha da Macela 84.14 351 P P 19 43 01.2 -0.5
CMLA pmax pmax
comp=Z,129nm,1.4s
CMLA MLR MLR
comp=Z,2µm,22.0s
CMLA Cha da Macela 84.14 351 P P 19 43 01.2 -0.5
CMLA Cha da Macela 84.14 351 IAMs_20 IAMs_20 20 12 07.4
comp=Z,2µm,22.0s
PCALD Caldeiras da R 84.17 351 eP P 19 43 03.9 +2.1
comp=Z,116nm,0.6s
DFRA Djebel Bou Aff 84.19 16 P P 19 43 03.6 +1.4
CKFL Kef-Lekhel 84.22 17 P P 19 43 03.8 +1.5
PSET Sete Cidades 84.22 351 eP P 19 43 04.6 +2.5
comp=Z,163nm,0.8s
EVO Evora 84.43 5 eP P 19 43 03.6 +0.4
EVO eS S 19 53 35.5 +6.8
EVO Evora 84.43 5 eP P 19 43 04.4 +1.3
comp=Z,67nm,1.7s
SESP Santiago Espad 84.47 9 P P 19 43 05.3 +1.7
SNR=5.8
JTS Las Juntas de 84.53 291 dⓘP P 19 43 04.5 +0.2
JTS pmax pmax
comp=Z,115nm,2.4s
JTS MLR MLR
comp=Z,820nm,17.0s
JTS Las Juntas de 84.53 291 P P 19 43 03.0 -1.2
JTS IAmb IAmb 19 43 12.5
comp=Z,73nm,1.4s
JTS Las Juntas de 84.53 291 IAMs_20 IAMs_20 20 19 43.4
comp=Z,2µm,20.0s
LIS Lisbon 84.56 4 eP P 19 43 02.3 -1.5
LIS eS S 19 53 26.3 -3.7
LIS AMS AMS 20 18 07.2
comp=N,2µm,18.7s
LIS Lisbon 84.56 4 eP P 19 43 02.2 -1.5
LIS eS S 19 53 26.2 -3.7
LIS Lisbon 84.56 4 eP P 19 43 06.0 +2.3
CMAH Djebel Manchou 84.58 17 P P 19 43 04.4 +0.4
PMAFR Mafra 84.79 4 eP P 19 43 06.5 +1.5
PMAFR Mafra 84.79 4 eS S 19 53 37.0 +4.7
PMAFR eSS SS 19 59 23.4 +18
GRTK Grand Turk 84.88 308 IAMs_20 IAMs_20 20 20 54.1
comp=Z,2µm,19.0s
PMTG Montargil 84.95 4 eP P 19 43 07.5 +1.7
comp=Z,95nm,1.7s
PMTG Montargil 84.95 4 eS S 19 53 40.6 +6.7
PMTG eSS SS 19 59 24.5 +17
PCAN Candelaria 85.20 349 eP P 19 43 05.8 -1.2
comp=Z,176nm,1.0s
PICO Pico 85.23 349 eP P 19 43 11.5 +4.3
comp=Z,163nm,1.0s
PMAN Manadas 85.31 349 eP P 19 43 12.8 +5.2
comp=Z,112nm,0.9s
CALA Caldeira 85.34 348 eP P 19 43 09.2 +1.4
comp=Z,182nm,0.9s
PMRV Marv??o 85.36 5 eP P 19 43 08.8 +1.0
comp=Z,120nm,2.0s
PMRV Marv??o 85.36 5 eS S 19 53 47.0 +9.1
PMRV eSS SS 19 59 33.5 +20
PMRV Marv??o 85.36 5 eLR LR 20 11 52.1
comp=Z,3µm,22.0s
PSBE So Bento 85.37 4 eP P 19 43 09.6 +1.7
comp=Z,164nm,2.0s
PSBE So Bento 85.37 4 eS S 19 53 43.4 +5.4
PSBE eSS SS 19 59 34.1 +20
PCED Cedros 85.39 348 eP P 19 43 09.7 +1.7
comp=Z,94nm,1.0s
ROSA Rosais 85.42 349 eP P 19 43 12.1 +4.0
comp=Z,106nm,1.2s
ROSA Rosais 85.42 349 P P 19 43 06.7 -1.4
ROSA IAmb IAmb 19 43 23.7
comp=Z,60nm,0.9s
WDD Wied Dalam 85.52 23 P P 19 43 07.9 -0.7
WDD IAMs_20 IAMs_20 20 19 24.0
comp=Z,2µm,20.0s
ESPN Las Esperanzas 85.53 293 P P 19 43 08.3 -0.9
ESPN IAmb IAmb 19 43 25.7
comp=Z,46nm,1.3s
ESPN IAMs_20 IAMs_20 20 20 36.8
comp=Z,2µm,20.0s
PGRA Graciosa 85.69 349 eP P 19 43 09.7 +0.3
comp=Z,71nm,0.6s
SRBC Serra Branca 85.70 349 eP P 19 43 12.8 +3.3
comp=Z,139nm,0.6s
PAB San Pablo 85.71 7 P P 19 43 09.3 -0.3
PAB pmax pmax
comp=Z,32nm,1.1s
PAB MLR MLR
comp=Z,2µm,19.0s
PAB San Pablo 85.71 7 P P 19 43 09.3 -0.3
PAB San Pablo 85.71 7 IAMs_20 IAMs_20 20 19 00.3
comp=Z,2µm,19.0s
PCBR Castelo Branco 85.76 5 eP P 19 43 10.9 +1.1
comp=Z,80nm,1.9s
ES12 SONSECA Array 85.84 8 IAMs_20 IAMs_20 20 17 19.3
comp=Z,2µm,21.0s
ES14 SONSECA Array 85.84 8 IAMs_20 IAMs_20 20 17 18.5
comp=Z,2µm,20.0s
ES13 SONSECA Array 85.85 8 IAMs_20 IAMs_20 20 17 19.5
comp=Z,2µm,20.0s
ES11 SONSECA Array 85.85 8 IAMs_20 IAMs_20 20 17 19.3
comp=Z,2µm,20.0s
GTBY Guantanamo Bay 85.85 304 P P 19 43 10.5 -0.2
GTBY IAmb IAmb 19 43 18.2
comp=Z,69nm,1.3s
GTBY IAMs_20 IAMs_20 20 18 15.9
comp=Z,2µm,22.0s
ES04 SONSECA Array 85.85 8 IAMs_20 IAMs_20 20 17 19.2
comp=Z,2µm,20.0s
ES15 SONSECA Array 85.86 8 IAMs_20 IAMs_20 20 17 18.3
comp=Z,2µm,20.0s
ES05 SONSECA Array 85.86 8 IAMs_20 IAMs_20 20 17 28.3
comp=Z,2µm,20.0s
ES10 SONSECA Array 85.86 8 IAMs_20 IAMs_20 20 17 19.4
comp=Z,2µm,20.0s
ES03 SONSECA Array 85.86 8 IAMs_20 IAMs_20 20 17 19.5
comp=Z,2µm,20.0s
ES01 SONSECA Array 85.87 8 IAMs_20 IAMs_20 20 17 19.6
comp=Z,2µm,20.0s
ESDC Sonseca Array 85.87 8 P P 19 43 10.1 -0.3
ESDC LR LR 20 17 40.1
comp=Z,12nm,1.0s,baz=186,slow=4.8,SNR=54
comp=Z,2µm,19.2s,baz=190,slow=33
ESDC Sonseca Array 85.87 8 P P 19 43 09.9 -0.5
ESBB Sonseca Array 85.87 8 P P 19 43 09.5 -0.9
ESBB IAmb IAmb 19 43 20.9
comp=Z,70nm,1.4s
ESBB IAMs_20 IAMs_20 20 17 18.7
comp=Z,2µm,20.0s
ES06 SONSECA Array 85.87 8 IAMs_20 IAMs_20 20 17 19.7
comp=Z,2µm,20.0s
ES02 SONSECA Array 85.88 8 IAMs_20 IAMs_20 20 17 19.8
comp=Z,2µm,20.0s
ES16 SONSECA Array 85.88 8 IAMs_20 IAMs_20 20 17 19.9
comp=Z,2µm,20.0s
ES09 SONSECA Array 85.88 8 IAMs_20 IAMs_20 20 17 20.9
comp=Z,2µm,20.0s
ES07 SONSECA Array 85.88 8 IAMs_20 IAMs_20 20 17 20.0
comp=Z,2µm,20.0s
ES08 SONSECA Array 85.89 8 IAMs_20 IAMs_20 20 17 21.2
comp=Z,2µm,20.0s
ES17 SONSECA Array 85.89 8 IAMs_20 IAMs_20 20 17 20.3
comp=Z,2µm,20.0s
ES19 SONSECA Array 85.90 8 IAMs_20 IAMs_20 20 17 23.5
comp=Z,2µm,20.0s
ES18 SONSECA Array 85.91 8 IAMs_20 IAMs_20 20 17 21.6
comp=Z,2µm,20.0s
PCAS Casmilo, Conde 85.92 4 eP P 19 43 07.9 -2.7
comp=Z,81nm,1.7s
PCAS Casmilo, Conde 85.92 4 eS S 19 53 44.3 +0.9
PCAS eSS SS 19 59 34.1 +12
ACON Acoyapa 85.92 292 P P 19 43 09.3 -1.9
ACON IAmb IAmb 19 43 19.2
comp=Z,103nm,1.4s
MTDJ Mount Denham 85.94 301 IAMs_20 IAMs_20 20 22 12.3
comp=Z,2µm,18.0s
COI Coimbra 86.08 4 P P 19 43 10.9 -0.4
COI pmax pmax
comp=Z,94nm,1.5s
COI Coimbra 86.08 4 eP P 19 43 13.4 +2.1
comp=Z,90nm,1.7s
COI Coimbra 86.08 4 eS S 19 53 45.7 +0.8
COI eSS SS 19 59 42.3 +18
COI Coimbra 86.08 4 P P 19 43 10.9 -0.4
COI IAmb IAmb 19 43 20.9
comp=Z,94nm,1.4s
COI IAMs_20 IAMs_20 20 15 28.2
comp=Z,2µm,22.0s
MTE Manteigas 86.32 5 eP P 19 43 13.9 +1.3
comp=Z,82nm,1.8s
MTE Manteigas 86.32 5 eS S 19 53 54.6 +7.2
MTE eSS SS 19 59 45.3 +17
MTE Manteigas 86.32 5 eLR LR 20 11 59.9
comp=Z,2µm,22.0s
MTE Manteigas 86.32 5 P P 19 43 11.6 -1.0
MTE IAMs_20 IAMs_20 20 16 10.5
comp=Z,2µm,22.0s
UCM Universidad Co 86.57 8⇑ iP P 19 43 14.0 +0.2
UCM eS S 19 53 52.9 +3.1
H01W2 Cape Leeuwin H 86.77 140 T T 21 20 18.0
baz=213,slow=76,SNR=9.9
H01W1 Cape Leeuwin H 86.78 140 T T 21 20 19.6
baz=213,slow=76,SNR=13
H01W3 Cape Leeuwin H 86.78 140 T T 21 20 15.7
CLTB Caltabellotta 86.82 21 P 19 43 14.5 -0.7
CLTB IAMs_20 IAMs_20 20 28 56.5
comp=Z,2µm,21.0s
VAE Valguarnera 87.03 22 LR LR 20 20 44.7
comp=Z,4µm,18.1s,baz=180,slow=35
MVO Moncorvo 87.11 5 eP P 19 43 18.0 +1.5
comp=Z,98nm,2.1s
MVO Moncorvo 87.11 5 eS S 19 54 00.1 +5.0
MVO eSS SS 19 59 47.2 +7.6
MVO Moncorvo 87.11 5 eLR LR 20 12 30.2
comp=Z,2µm,22.0s
MATN Matagalpa 87.12 292 P P 19 43 16.1 -1.2
MATN IAmb IAmb 19 43 17.8
comp=Z,54nm,1.3s
CORL Corleone 87.14 21 P P 19 43 16.7 +0.1
CORL IAmb IAmb 19 43 34.6
comp=Z,110nm,1.3s
PVRL Vila Real 87.18 5 eP P 19 43 18.3 +1.5
comp=Z,62nm,1.9s
ABTO Aybut 87.48 62 P P 19 43 21.2 +2.3
ABTO P P 19 43 21.2 +2.3
PCAB Cabril 87.60 4 eP P 19 43 18.8 0.0
comp=Z,120nm,2.0s
VSL Villasalto 87.75 18 P P 19 43 18.9 -0.6
VSL IAmb IAmb 19 43 29.4
comp=Z,63nm,1.2s
PBRG Braganca 87.77 5 eP P 19 43 20.8 +1.2
comp=Z,90nm,2.0s
PBRG Braganca 87.77 5 eS S 19 54 07.5 +6.2
PBRG eSS SS 20 00 07.0 +18
PGAV Gavieira, Arco 87.84 4 eP P 19 43 21.5 +1.5
comp=Z,86nm,2.0s
PGAV Gavieira, Arco 87.84 4 eS S 19 54 08.2 +6.1
PGAV eSS SS 20 00 06.0 +16
PGAV Gavieira, Arco 87.84 4 eLR LR 20 11 26.6
comp=Z,2µm,20.0s
PYZ Puysegur Point 88.11 180 P 19 43 21.0 -0.5
PYZ IAmb IAmb 19 43 39.8
comp=Z,54nm,1.1s
RBK Rabkut 88.15 62 P P 19 43 24.4 +2.4
RBK P P 19 43 24.4 +2.4
CEL Celeste 88.16 23 P P 19 43 22.4 +0.8
CEL IAMs_20 IAMs_20 20 22 33.1
comp=Z,2µm,20.0s
WHFO Wadi Hawf 88.20 62 P P 19 43 25.0 +2.8
WHFO P P 19 43 25.0 +2.8
IDI Anoyia 88.27 31 P P 19 43 21.7 -0.5
IDI IAmb IAmb 19 43 36.3
comp=Z,64nm,1.3s
WHZ Wether Hill Ro 88.37 181 P P 19 43 22.7 0.0
WHZ IAmb IAmb 19 43 24.3
comp=Z,56nm,1.5s
CBCY The Bluff, Cay 88.43 301 P P 19 43 21.9 -1.3
PTCN Pitcairn Islan 88.58 235 P P 19 43 23.8 -0.3
DMTO DMTO 88.77 63 P P 19 43 28.2 +3.3
TGUH Tegucigalpa,Un 88.83 292 P P 19 43 25.0 -0.4
TGUH IAmb IAmb 19 43 32.7
comp=Z,52nm,1.1s
TGUH IAMs_20 IAMs_20 20 22 16.4
comp=Z,1µm,20.0s
ITM Ithomi 88.97 28 P P 19 43 25.9 +0.6
ITM IAmb IAmb 19 43 34.6
comp=Z,81nm,1.2s
ITM IAMs_20 IAMs_20 20 24 23.4
comp=Z,2µm,19.0s
ODZ Otahua Downs 89.14 183 P P 19 43 26.2 -0.2
TIP Timpagrande 89.26 23 ⇓P P 19 43 27.6 +0.9
TIP Timpagrande 89.26 23 P P 19 43 26.2 -0.5
TIP IAMs_20 IAMs_20 20 19 40.1
comp=Z,2µm,20.0s
KARP Karpathos 89.33 32 P P 19 43 26.7 -0.5
SANT Santorini 89.44 31 ⇓P P 19 43 35.9 +8.2
SANT Santorini 89.44 31 P P 19 43 25.7 -1.9
SANT IAMs_20 IAMs_20 20 26 02.0
comp=Z,2µm,19.0s
NWAO Narrogin (SRO) 89.81 141 P P 19 43 36.6 +6.9
NWAO P P 19 43 36.6 +6.9
NWAO Narrogin (SRO) 89.81 141 P P 19 43 27.9 -1.8
NWAO pmax pmax
comp=Z,43nm,1.2s
NWAO Narrogin (SRO) 89.81 141 P P 19 43 27.8 -2.0
NWAO IAmb IAmb 19 43 44.0
comp=Z,38nm,1.2s
NWAO Narrogin (SRO) 89.81 141 P P 19 43 27.9 -1.8
NWAO IAmb IAmb 19 43 44.0
comp=Z,43nm,1.2s
TAU Tasmania Unive 89.81 166 P P 19 43 28.4 -1.1
TAU pmax pmax
comp=Z,78nm,1.4s
TAU Tasmania Unive 89.81 166 P P 19 43 28.4 -1.1
TAU IAmb IAmb 19 43 37.1
comp=Z,78nm,1.4s
LBZ Lake Benmore 89.82 183 P P 19 43 29.1 -0.5
LBZ IAmb IAmb 19 43 43.2
comp=Z,117nm,1.5s
SNET Serv Nac Est T 89.83 290 IAMs_20 IAMs_20 20 21 14.0
comp=Z,1µm,20.0s
APE Apeiranthos 90.09 31 ⇓P P 19 43 30.3 -0.4
APE Apeiranthos 90.09 31 ⇓P P 19 43 30.3 -0.4
MQZ McQueen's Vall 90.38 185 P P 19 43 31.4 -0.7
MQZ IAmb IAmb 19 43 46.9
comp=Z,60nm,1.4s
PAOL Paolisi 90.42 21 P P 19 43 31.4 -0.7
PAOL IAMs_20 IAMs_20 20 22 29.8
comp=Z,2µm,19.0s
MTO3 Montecristo 90.44 290 P P 19 43 32.0 -1.0
RPZ Rata Peaks 90.45 184 P P 19 43 31.8 -0.8
RPZ IAmb IAmb 19 43 40.6
comp=Z,114nm,1.5s
DAT Datca 90.53 32 eP P 19 43 33.4 +0.6
SCTE Santa Cesarea 90.57 24 P P 19 43 30.6 -2.2
SCTE IAmb IAmb 19 43 40.5
comp=Z,71nm,1.5s
BBSR BB Station 90.59 319 P P 19 43 31.9 -1.1
BBSR IAmb IAmb 19 43 41.0
comp=Z,51nm,1.4s
FOZ Fox Glacier 90.68 183 P P 19 43 34.2 +0.6
FOZ IAmb IAmb 19 43 41.0
comp=Z,73nm,1.4s
BODT Bodrum 90.73 32 eP P 19 43 34.7 +1.1
AGG Agios Georgios 90.78 27 P P 19 43 34.3 +0.5
AGG pmax pmax
comp=Z,103nm,1.3s
AGG Agios Georgios 90.78 27 P P 19 43 34.3 +0.5
OXZ Oxford 90.79 184 P P 19 43 35.0 +0.9
DALY Dalyan (Mula) 91.01 33 eP P 19 43 37.1 +2.2
TURN Turunc 91.04 33 eP P 19 43 35.3 +0.3
YER Yerkesik 91.16 32 eP P 19 43 37.6 +2.0
INTR Introdacqua 91.18 20 P P 19 43 34.5 -1.2
LEF Lefka 91.22 37 eP P 19 43 37.9 +2.0
CASP Castiglione de 91.23 18 P P 19 43 35.1 -0.6
GCAM G?zelcaml? 91.27 31 eP P 19 43 37.2 +1.2
CSS Mathiatis 91.27 37 P P 19 43 36.8 +0.6
CSS IAmb IAmb 19 43 47.0
comp=Z,72nm,1.2s
LTZ Lake Taylor 91.32 185 P P 19 43 35.7 -1.0
AQU L'Aquila 91.38 20 P P 19 43 34.9 -1.7
AQU pmax pmax
comp=Z,105nm,1.2s
AQU MLR MLR
comp=Z,3µm,19.0s
AQU L'Aquila 91.38 20 P P 19 43 34.9 -1.7
SGRT San Giovanni R 91.40 22 P P 19 43 35.8 -0.9
ELL Elmali 91.43 34 P P 19 43 35.1 -1.9
ELL pmax pmax
comp=Z,305nm,1.4s
ELL MLR MLR
comp=Z,7µm,20.0s
ELL Elmali 91.43 34 P P 19 43 35.1 -1.9
URLA Izmir 91.62 31 eP P 19 43 38.9 +1.1
AYDB Zeytinkoy-Aydi 91.73 32 eP P 19 43 39.8 +1.4
CAF Calviac 91.75 11 eP P 19 43 39.2 +1.0
CAF pmax pmax
comp=Z,78nm,1.7s
NRCA Norcia 91.77 20 P P 19 43 37.2 -1.1
BLCB Balcova 91.81 31 eP P 19 43 39.6 +1.1
KORT Korkueli 91.83 34 eP P 19 43 41.7 +2.8
ANTB Antalya 91.86 34 eP P 19 43 41.5 +2.7
GAZI Gazipasa 91.94 36 eP P 19 43 39.9 +0.6
MURB Monte Urbino 92.04 19 P P 19 43 38.5 -1.1
MURB IAmb IAmb 19 43 57.2
comp=Z,50nm,1.3s
RJF Les Rejaudoux 92.05 11 eP P 19 43 40.6 +1.1
RJF pmax pmax
comp=Z,72nm,1.5s
VIVF Saint-Julien-l 92.07 13 eP P 19 43 40.5 +0.9
VIVF pmax pmax
comp=Z,51nm,1.3s
EREN Erenkoy 92.11 37 eP P 19 43 41.7 +1.7
TIR Tirane 92.15 25 ⇓P P 19 43 48.7 +8.6
TIR Tirane 92.15 25 ⇓P P 19 43 48.7 +8.6
TEKE Tekeli-Mersin 92.19 36 eP P 19 43 41.9 +1.5
BCK Bucak 92.32 34 eP P 19 43 42.7 +1.6
DKL Dikili 92.37 31 eP P 19 43 43.1 +2.0
AKKU Akkuyu-Mersin 92.39 37 eP P 19 43 42.9 +1.6
MSSA Maissana 92.41 17 P P 19 43 41.3 0.0
MSSA IAmb IAmb 19 43 50.9
comp=Z,71nm,1.3s
BERE Bereket-Mersin 92.41 36 eP P 19 43 43.0 +1.4
MANT Manisa 92.45 32 P P 19 43 41.1 -0.8
IKL Isikli 92.51 37 eP P 19 43 43.3 +1.5
KULA Kula-Manisa 92.51 32 eP P 19 43 43.2 +1.3
TEVE Tevekalti-Mers 92.58 36 eP P 19 43 44.5 +2.2
ISP Isparta 92.61 34 IAMs_20 IAMs_20 20 24 23.1
comp=Z,2µm,21.0s
KEBE Keben-Mersin 92.70 37 eP P 19 43 45.3 +2.5
BOZC Bozcaada 92.76 30 eP P 19 43 43.9 +1.0
NNZ Nelson 92.81 186 IAMs_20 IAMs_20 20 19 54.4
comp=Z,2µm,21.0s
EZN Ezine 92.84 30 eP P 19 43 44.5 +1.3
RKT Rikitea 92.84 232 eSKSac SKSac 19 54 14.8 -2.8
comp=Z,451nm,25.0s
RKT eSKSac SKSac 19 54 15.2 -2.4
comp=Z,384nm,27.2s
RKT Rikitea 92.84 232 ePS PS 19 56 00.5 -1.3
comp=Z,1µm,25.8s
RKT eSS SS 20 01 04.0 +2.6
comp=Z,829nm,27.5s
RKT Rikitea 92.84 232 eLR LR 20 13 32.5
comp=Z,5µm,26.5s
DBRK Dubrovnik 92.89 23 P P 19 43 42.2 -1.2
KIZK Mersin 92.91 37 eP P 19 43 45.8 +2.1
HVAR Hvar 92.91 22 P P 19 43 43.5 +1.1
STON Ston 92.96 23 P P 19 43 44.0 +0.3
PDG Podgorica 92.98 24 ⇓P P 19 43 44.8 +1.0
PDG Podgorica 92.98 24 IAMs_20 IAMs_20 20 24 10.5
comp=Z,2µm,20.0s
GADA Gvkgeada 93.02 29 eP P 19 43 45.8 +1.7
SRS Serrai 93.08 27 P P 19 43 46.0 +1.6
SRS pmax pmax
comp=Z,83nm,1.4s
TCF Toulx Ste Croi 93.11 11 eP P 19 43 45.6 +1.2
TCF pmax pmax
comp=Z,80nm,1.7s
BFZ Birch Farm 93.11 188 IAMs_20 IAMs_20 20 19 37.5
comp=Z,2µm,21.0s
SIMA Simav-Kutahya 93.13 32 eP P 19 43 45.9 +1.1
ZIRJ Zirje 93.16 21 P P 19 43 44.4 -0.2
MAKA Makarska 93.16 22 P P 19 43 44.7 0.0
BALB Balikesir 93.22 31 eP P 19 43 45.9 +0.9
GEDZ Gediz 93.25 32 eP P 19 43 47.4 +2.1
SHUT Suhut-Afyon 93.26 33 eP P 19 43 46.7 +1.3
DUGI Dugi Otok 93.33 21 P P 19 43 45.9 +0.5
MORI Morici 93.37 21 P P 19 43 46.2 +0.6
MERS Mersin 93.40 37 eP P 19 43 47.4 +1.4
GELI Tayfur-Gelibol 93.40 30 eP P 19 43 46.7 +0.9
KONT Konya--Tatoy 93.44 35 eP P 19 43 47.4 +1.3
LPK Lapseki 93.47 30 eP P 19 43 46.9 +0.7
MMB Musomiste 93.55 27 iⓘP P 19 43 47.2 +0.6
KKB Krupnik 93.60 27 iⓘP P 19 43 47.8 +1.0
TVSB Tavsanli 93.63 32 eP P 19 43 48.7 +1.6
CCIG Comitan 93.63 290 IAMs_20 IAMs_20 20 23 33.7
comp=Z,2µm,22.0s
ERIK Erikli-Kesan 93.66 30 eP P 19 43 47.9 +0.9
LADK Ladik-KONYA 93.66 35 eP P 19 43 48.0 +0.7
KRBG Karabiga-Canak 93.68 30 eP P 19 43 47.8 +0.7
AVF Avril sur Loir 93.76 12 eP P 19 43 48.2 +0.9
AVF pmax pmax
comp=Z,50nm,1.5s
061Z Ochoppi 93.80 304 IAMs_20 IAMs_20 20 24 14.6
comp=Z,2µm,21.0s
NVLJ Novalja 93.82 20 P P 19 43 46.2 -1.4
EDC Edincik 93.84 31 eP P 19 43 49.1 +1.2
BRJN Brijuni 93.88 19 P P 19 43 48.5 +0.6
RKY Sarkoy-Tekirda 93.90 30 eP P 19 43 49.3 +1.1
BSY Bisya 93.94 61 P P 19 43 50.7 +1.9
SNR=5.7
BSY P P 19 43 50.7 +1.9
SNR=5.7
KCTX Karacabey (Bur 93.94 31 eP P 19 43 49.2 +0.8
RZN Rozhen 93.96 28 iⓘP P 19 43 49.4 +0.7
UDBI Udbina 94.00 21 P P 19 43 48.9 +0.3
TEIG Tepich 94.03 295 IAMs_20 IAMs_20 20 25 11.2
comp=Z,2µm,21.0s
KIZT Kizilcal 94.05 34 eP P 19 43 50.5 +1.4
SULT Sultanhani-AKS 94.12 36 eP P 19 43 51.4 +2.0
CIFT Cifteler, Eski 94.16 33 eP P 19 43 50.8 +1.3
CHBY Cihanbeyli 94.20 35 eP P 19 43 51.3 +1.6
VTS Vitosha 94.33 27 ⇓P P 19 43 51.0 +0.7
VTS Vitosha 94.33 27 iⓘP P 19 43 51.5 +1.2
VTS Vitosha 94.33 27 ⇓P P 19 43 51.0 +0.7
VTS Vitosha 94.33 27 IAMs_20 IAMs_20 20 27 56.3
comp=Z,2µm,19.0s
PLD Plovdiv 94.33 28 iⓘP P 19 43 50.2 +0.1
PLD Plovdiv 94.33 28 P P 19 43 52.0 +1.9
PLD pmax pmax
comp=Z,114nm,1.7s
ARMT Armutlu 94.39 31 eP P 19 43 50.5 +0.1

SVRH Sivrihisar-ESK 94.41 34 eP P 19 43 52.1 +1.5
RIY Rijeka 94.45 20 P P 19 43 51.2 +0.7
CRLT Corlu 94.49 30 eP P 19 43 51.8 +1.0
PGB Panagyurishte 94.56 27 i P P 19 43 51.6 +0.4
SOHO SOHO 94.57 60 P P 19 43 52.5 +0.8
SNR=6.1
SOHO P P 19 43 52.5 +0.8
SNR=6.1
SRCK Saricakaya, Es 94.58 33 eP P 19 43 52.6 +1.3
ADVT Abdulvahap 94.59 32 eP P 19 43 51.8 +0.5
HOQ Hoqain 94.63 61 P P 19 43 52.7 +0.8
HOQ P P 19 43 52.7 +0.8
KULU Kulu 94.64 35 eP P 19 43 53.3 +1.6
TRI Trieste 94.64 19 IAMs_20 IAMs_20 20 22 26.6
comp=Z,2µm,21.0s
DIVS Divibare 94.72 24 IAMs_20 IAMs_20 20 29 15.7
comp=Z,1µm,18.0s
FUORN Ofenpass-Fuorn 94.77 16 P P 19 43 51.1 -1.3
SERE Sereflikochisa 94.78 35 eP P 19 43 54.2 +1.8
BOJS Bojanci 94.80 20 i P P 19 43 53.1 +1.0
BOJS eP PP 19 47 40.7 -0.7
BOJS eSKSac SKSac 19 54 29.5 +2.8
BOJS eS ScS 19 55 08.1 +2.1
BOJS ePS PS 19 56 29.4 +6.2
BOJS eSS SS 20 01 30.6 +0.2
BOJS e 20 02 15.3
BOJS e 20 09 12.7
GRR Gorron 94.81 9 eP P 19 43 51.1 -1.0
GRR pmax pmax
comp=Z,16nm,1.3s
CLF Chambon-Foret 94.82 11 P P 19 43 53.1 +0.9
CLF IAmb IAmb 19 44 02.9
comp=Z,63nm,1.5s
CLF IAMs_20 IAMs_20 20 27 50.4
comp=Z,1µm,18.0s
HATD Hatta, Dubai 94.85 59 P P 19 43 53.9 +0.9
CTKS Kestanelik-??a 94.85 31 eP P 19 43 52.6 +0.1
GULT Gulveren 94.88 32 eP P 19 43 54.2 +1.4
BGKT Bogazkoy 94.90 31 eP P 19 43 53.0 +0.3
KAVV Kandilli-Istan 94.90 31 eP P 19 43 53.6 +0.9
ISK Istanbul-Kandi 94.90 31 eP P 19 43 53.3 +0.6
HRT Hereke 94.91 32 eP P 19 43 54.2 +1.4
CIMO Cimolais 94.92 18 P P 19 43 52.9 +0.1
CIMO IAmb IAmb 19 44 01.6
comp=Z,26nm,1.3s
AFSR Afar-Bala (An 95.01 35 eP P 19 43 54.9 +1.5
SPNC Sapanca-Adapaz 95.03 32 eP P 19 43 54.3 +1.0
KLYT Kilyos 95.06 31 eP P 19 43 54.3 +0.9
ORH Orhaniye 95.09 32 P P 19 43 56.3 +2.7
CADS Cadrg 95.13 19 i P P 19 43 54.4 +0.7
LJU Ljubljana 95.14 19 i P P 19 43 54.8 +1.1
LJU ePP PP 19 47 43.2 -0.9
LJU eSKSac SKSac 19 54 31.1 +2.6
MPEP Malo Peshtene 95.16 27 i P P 19 43 55.3 +1.4
MDUB Mudurnu 95.17 33 eP P 19 43 54.9 +0.8
SILT Sile 95.19 32 eP P 19 43 54.9 +0.9
FLN La Foliniere 95.22 9 eP P 19 43 58.0 +4.0
FLN pmax pmax
comp=Z,76nm,2.2s
FETA Feichten 95.24 17 i P P 19 43 54.3 -0.1
comp=Z,8.1nm,1.1s
ANTO Ankara 95.26 34 P P 19 43 57.7 +3.1
ANTO P P 19 43 57.7 +3.1
LOD Lodumlu 95.27 34 eP P 19 43 56.7 +2.1
ZOU Zoufplan 95.27 18 P P 19 43 54.5 -0.1
ZOU IAMs_20 IAMs_20 20 24 15.2
comp=Z,2µm,19.0s
ZAG Zagreb 95.28 21 P P 19 43 56.2 +1.9
PRED Cave del Predi 95.29 19 P P 19 43 54.8 +0.3
PRED IAmb IAmb 19 44 07.8
comp=Z,26nm,1.3s
DAVA Damuels 95.33 16 i P P 19 43 55.0 +0.2
comp=Z,14nm,1.2s
PTJ Puntijarka 95.35 20 P P 19 43 55.8 +1.0
ABTA Abfaltersbach 95.35 18 i P P 19 43 55.7 +0.9
comp=Z,45nm,1.5s,SNR=12
PLVB Pleven 95.46 27 ⇑P P 19 43 54.1 -1.1
BR131 Keskin Array S 95.47 35 P P 19 43 57.8 +2.2
SNR=19
BR131 P P 19 43 57.8 +2.2
SNR=19
BRTR Keskin Array B 95.47 35 P P 19 43 56.5 +0.9
comp=Z,3.4nm,0.9s,baz=180,slow=8.4,SNR=12
BRTR PP PP 19 47 48.6 +1.6
comp=Z,1.5nm,1.0s,baz=198,slow=7.8,SNR=3.9
BRTR LR LR 20 27 31.5
comp=Z,2µm,18.7s,baz=192,slow=36
BRTR Keskin Array B 95.47 35 P P 19 43 55.0 -0.7
BRTR PP 19 47 47.8 +0.7
MYKA Terra Mystica 95.49 19 i PcP P 19 43 56.5 +1.1
comp=Z,22nm,1.5s,SNR=5.4
SQTA Sankt Quirin 95.53 17 i P P 19 43 55.8 +0.2
comp=Z,16nm,1.3s,SNR=5.5
OBKA Obir 95.58 19 i PcP P 19 43 57.0 +1.2
comp=Z,23nm,1.4s,SNR=7.5
MOTA Moosalm 95.63 17 i P P 19 43 56.1 0.0
comp=Z,19nm,1.5s
WTTA Wattenberg 95.66 17 i P P 19 43 56.6 +0.2
comp=Z,35nm,1.4s,SNR=8.1
WTTA Wattenberg 95.66 17 P P 19 43 56.5 +0.2
KALN Kalnik 95.68 21 P P 19 43 56.0 -0.2
RETA Reutte 95.70 17 i P P 19 43 56.6 +0.3
comp=Z,22nm,2.5s
WATA Walderalm 95.72 17 i P P 19 43 56.6 +0.1
comp=Z,50nm,1.9s,SNR=7.2
SZH Strazhica 95.78 28 i P P 19 43 57.4 +0.7
MDVR Moldovita 95.84 25 ⇑P P 19 43 57.8 +0.8
KBA Koelnbreinsper 95.85 18 i P P 19 43 57.7 +0.5
comp=Z,11nm,1.0s
SOKA Soboth 95.85 20 i PcP P 19 43 58.2 +1.1
comp=Z,38nm,1.3s,SNR=13
KOGS Kog 95.92 20 eP P 19 43 59.0 +1.7
KOGS ePP PP 19 47 50.1 -0.1
KOGS eSKSac SKSac 19 54 35.5 +2.9
HERR Herculane 96.14 25 ⇓P P 19 43 59.2 +0.9
PRD Provadia 96.20 29 i P P 19 43 52.3 -6.3
CANT Cankiri 96.22 34 eP P 19 43 59.6 +0.7
RAZG Razgrad 96.23 28 ⇓P P 19 44 02.7 +3.9
CORM Corum 96.26 35 eP P 19 44 01.2 +2.1
ARSA Arzberg 96.50 20 i PcP P 19 44 01.1 +1.2
comp=Z,30nm,1.4s
BZS Buzias 96.58 24 ⇓P P 19 44 01.2 +0.9
BZS Buzias 96.58 24 ⇓P P 19 44 01.2 +0.9
SGRR Singureni 96.64 28 ⇑P P 19 44 10.0 +9.4
GZR Gura Zlata 96.71 25 ⇓P P 19 44 00.9 -0.1
GZR Gura Zlata 96.71 25 ⇓P P 19 44 00.9 -0.1
MOA Molln 96.78 19 i P P 19 44 01.6 +0.4
comp=Z,22nm,1.5s,SNR=6.7
WLF Walferdange 96.98 13 P P 19 44 10.1 +8.1
LOT Lotru 97.06 26 ⇓P P 19 43 60.0 -2.6
CONA Conrad Observa 97.22 20 i PcP P 19 44 04.5 +1.3
comp=Z,37nm,1.4s,SNR=18
BMRD Maredsous 97.39 12 P Pdif 19 44 11.4 +7.5
comp=Z,11nm,2.3s
656A Willston 97.40 305 IAMs_20 IAMs_20 20 27 19.8
comp=Z,2µm,20.0s
VOIR 97.44 27 ⇓P Pdif 19 44 05.4 +1.1
VOIR 97.44 27 ⇓P Pdif 19 44 05.4 +1.1
BCLA Clavier 97.58 12 P Pdif 19 44 12.0 +7.2
comp=Z,12nm,2.0s
GERES GERESS Array B 97.60 18 P Pdif 19 44 06.0 +1.0
comp=Z,0.3nm,0.4s,baz=198,slow=8.4,SNR=4.7
GERES LR LR 20 25 13.5
comp=Z,3µm,19.7s,baz=209,slow=34
GERES GERESS Array B 97.60 18 P Pdif 19 44 06.0 +1.0
DIKM Dikmen 97.76 35 ⇑P P 19 43 59.3 -6.4
MLR Muntele Rosu 97.77 27 ⇑P Pdif 19 44 06.2 +0.3
MLR Muntele Rosu 97.77 27 ⇑P Pdif 19 44 06.2 +0.3
MLR Muntele Rosu 97.77 27 IAMs_20 IAMs_20 20 31 43.3
comp=Z,2µm,19.0s
KHC Kasperske Hory 97.84 18 eP Pdif 19 44 12.9 +6.9
KHC ex x 19 48 04.0
KHC eSKS SKSac 19 54 32.4 -10
KHC AMS AMS 20 21 30.0
comp=Z,3µm,25.9s
KHC Kasperske Hory 97.84 18 deP P 19 44 05.9 0.0
KHC pmax pmax
comp=Z,29nm,1.8s
KHC MLR MLR
comp=Z,2µm,17.0s
GRF Grafenberg Arr 97.89 16 eP Pdif 19 44 06.5 +0.3
comp=Z,66nm,1.9s,baz=192,slow=4.9
GRF eL L 20 24 32.7
comp=Z,3µm,20.5s

DRGR 97.96 24 ⇑P Pdif 19 44 16.0 +9.3
DRGR 97.96 24 ⇑P Pdif 19 44 16.0 +9.4
MODS Modra-Piesok 97.97 20 eP Pdif 19 44 06.7 +0.1
MODS Modra-Piesok 97.97 20 ePDIFF P 19 44 06.7 +0.2
DOPR Dopca 98.02 27 ⇑P Pdif 19 44 08.3 +1.4
BISRR Bisoca 98.06 28 ⇑P Pdif 19 44 09.2 +2.1
456A Hilliard 98.13 306 IAMs_20 IAMs_20 20 26 38.6
comp=Z,2µm,22.0s
CFR Carcaliu 98.20 29 ⇑P Pdif 19 44 14.6 +7.0
CFR Carcaliu 98.20 29 ⇑P Pdif 19 44 14.6 +7.0
PSZ Piszkesteto 98.21 22 ⇓P Pdif 19 44 09.2 +1.5
PSZ Piszkesteto 98.21 22 ⇓P Pdif 19 44 09.2 +1.5
PSZ Piszkesteto 98.21 22 IAMs_20 IAMs_20 20 26 33.1
comp=Z,1µm,21.0s
PLOR Plostina 98.31 27 ⇑P Pdif 19 44 09.6 +1.4
PLOR Plostina 98.31 27 ⇑P Pdif 19 44 09.6 +1.4
VRI Vrincioaia 98.35 27 ⇓P Pdif 19 44 09.3 +0.9
VRI Vrincioaia 98.35 27 ⇓P Pdif 19 44 09.3 +1.0
KRUC Moravsky 98.41 20 ePDIFF P 19 44 08.4 0.0
KRUC ePP PP 19 48 08.5 -0.8
TREC Trest 98.42 19 AMS AMS 20 22 50.0
comp=Z,2µm,24.4s
VYHS Vyhne 98.47 21 eP Pdif 19 44 10.4 +1.6
VYHS Vyhne 98.47 21 ePDIFF P 19 44 10.4 +1.6
JAVC Velka Javorina 98.52 20 ePDIFF Pdif 19 44 10.2 +1.2
JAVC ePP PP 19 48 10.1 -0.1
257A Skidaway Islan 98.53 308 IAMs_20 IAMs_20 20 30 42.5
comp=Z,1µm,19.0s
NKC Novy Kostel 98.65 17 eP P 19 44 07.4 -2.1
NKC AMS AMS 20 25 50.0
comp=Z,2µm,20.2s
NKC Novy Kostel 98.65 17 eP P 19 44 07.4 -2.1
NKC MLR MLR
comp=Z,2µm,20.2s
VRAC Vranov 98.68 20 ePP PP 19 48 11.3 -0.1
TLIG Tlapa 98.81 286 IAMs_20 IAMs_20 20 23 34.0
comp=Z,2µm,20.0s
GOPC GO Pecny, Ondr 98.84 18 eP P 19 44 02.6 -7.8
GOPC eSKS SKSac 19 54 45.1 -2.5
GOPC AMS AMS 20 25 50.0
comp=Z,2µm,19.7s
GOPC GO Pecny, Ondr 98.84 18 eP P 19 44 02.6 -7.8
GOPC e 19 54 45.1
GOPC MLR MLR
comp=Z,2µm,19.7s
PRU Pruhonice 98.86 18 eP Pdif 19 44 18.1 +7.7
PRU eSKS SKSac 19 54 47.5 -0.1
PRU AMS AMS 20 21 10.0
comp=Z,2µm,23.3s
PRU Pruhonice 98.86 18 eP Pdif 19 44 18.1 +7.7
PRU e 19 54 47.5
PRU MLR MLR
comp=Z,2µm,23.3s
PRA Prague 98.91 18 eP P 19 44 07.4 -3.2
PRA AMS AMS 20 24 20.0
comp=Z,1µm,24.4s
PRA Prague 98.91 18 eP P 19 44 07.4 -3.2
PRA MLR MLR
comp=Z,1µm,24.4s
BIZ Bicaz 99.11 27 ⇑P Pdif 19 44 13.1 +1.5
TRPA Tarpa 99.13 24 ⇓P Pdif 19 44 11.8 +0.2
Y58A Scranton 99.26 310 IAMs_20 IAMs_20 20 30 56.8
comp=Z,1µm,20.0s
STKA Stephens Creek 99.28 159 LR LR 20 27 49.7
comp=Z,2µm,18.4s,baz=174,slow=35
255A Hazlehurst 99.29 307 IAMs_20 IAMs_20 20 26 15.9
comp=Z,1µm,20.0s
MORC Moravsky Berou 99.34 20 ⇑P Pdif 19 44 12.8 +0.1
MORC Moravsky Berou 99.34 20 ePDIFF Pdif 19 44 13.7 +1.0
MORC ePP PP 19 48 14.3 -2.2
MORC Moravsky Berou 99.34 20 ⇑P Pdif 19 44 12.8 +0.1
MORC Moravsky Berou 99.34 20 IAMs_20 IAMs_20 20 26 05.0
comp=Z,1µm,22.0s
CNNC Cliffs of the 99.35 312 IAMs_20 IAMs_20 20 28 41.0
comp=Z,2µm,20.0s
PVCC Panska Ves 99.37 18 eP Pdif 19 44 14.7 +2.0
PVCC AMS AMS 20 25 10.0
comp=Z,3µm,20.7s
PVCC Panska Ves 99.37 18 eP Pdif 19 44 14.7 +2.0
PVCC MLR MLR
comp=Z,3µm,20.7s
BURAR Bucovina Array 99.44 26 ⇑P Pdif 19 44 21.5 +8.3
BURAR Bucovina Array 99.44 26 P Pdif 19 44 11.6 -1.6
BURAR Bucovina Array 99.44 26 Pdif 19 44 11.6 -1.6
UZH Uzhgorod 99.51 23 eP Pdif 19 44 16.4 +3.0
UZH i 19 44 20.2
UZH i 19 54 48.4
UZH eS S 19 55 39.9 -5.3
UZH e 20 06 26.0
OKC Ostrava-Krasne 99.55 20 eP Pdif 19 44 12.3 -1.2
OKC eSKS SKSac 19 54 45.1 -5.9
OKC AMS AMS 20 25 40.0
comp=Z,1µm,19.6s
OKC Ostrava-Krasne 99.55 20 eP Pdif 19 44 12.3 -1.2
OKC e 19 54 45.1
OKC MLR MLR
comp=Z,1µm,19.6s
BRG Berggiesshubel 99.57 17 eP Pdif 19 44 15.8 +2.2
BRG 19 54 55.0
BRG S S 19 55 49.0 +3.4
BRG SS SS 20 02 41.0 +3.5
BRG pmax pmax
comp=Z,20nm,1.8s
BRG MLR MLR
comp=N,2µm,20.5s
BRG MLR MLR
comp=E,1µm,20.4s
BRG MLR MLR
comp=Z,2µm,21.0s
BRG Berggiesshubel 99.57 17 ePDIFF P 19 44 15.8
comp=Z,20nm,1.8s
BRG Berggiesshubel 99.57 17 PP PP 19 48 11.0 -7.1
BRG Berggiesshubel 99.57 17 SKS SKSac 19 54 55.0 +4.0
BRG Berggiesshubel 99.57 17 SDIFF S 19 55 49.0 +3.4
BRG Berggiesshubel 99.57 17 SS SS 20 02 41.0 +3.5
BRG Berggiesshubel 99.57 17
comp=Z,2µm,21.0s
BRG Berggiesshubel 99.57 17
comp=E,1µm,20.4s
BRG Berggiesshubel 99.57 17
comp=N,2µm,20.5s
DPC Dobruska-Polom 99.59 19 eP Pdif 19 44 21.3 +7.5
DPC ex x 19 44 29.6
DPC eSKS 19 54 42.7
DPC AMS AMS 20 26 00.0
comp=N,2µm,20.9s
DPC Dobruska-Polom 99.59 19 eP Pdif 19 44 21.3 +7.5
DPC e 19 44 29.6
DPC MLR MLR
comp=Z,2µm,20.9s
UPC Upice 99.67 19 eSKS 19 54 42.7
UPC AMS AMS 20 26 20.0
comp=Z,2µm,18.5s
UPC Upice 99.67 19 eP Pdif 19 44 23.5 +9.5
UPC MLR MLR
comp=Z,2µm,18.5s
Z56A Williston 99.74 308 IAMs_20 IAMs_20 20 32 19.5
comp=Z,1µm,18.0s
CHVC Chvalec 99.76 19 eP Pdif 19 44 22.7 +8.2
CHVC AMS AMS 20 27 00.0
comp=Z,2µm,19.8s
OSTC Ostas 99.76 19 eP Pdif 19 44 24.6 +10
OSTC eSKS 19 54 42.7
OSTC AMS AMS 20 26 00.0
comp=Z,2µm,20.2s
CLL Collm 99.78 17 ePdif Pdif 19 44 16.0 +1.5
CLL e 19 44 23.0
CLL e 19 44 28.0
CLL ePP PP 19 48 15.0 -4.7
CLL eSKSac SKSac 19 54 53.0 +0.9
CLL eSdif S 19 55 48.0 +0.6
CLL ePS PS 19 57 18.0 +0.7
CLL ePPS PPS 19 58 06.0
CLL eSS SS 20 02 40.0 -0.5
CLL eSSS SSS 20 06 24.0
CLL Lm MLR 20 26 00.0
comp=N,2µm,20.3s
CLL Lm MLR 20 26 00.0
comp=E,1µm,19.6s
CLL Lm MLR 20 26 00.0
comp=Z,2µm,19.4s
CLL Collm 99.78 17 eP Pdif 19 44 16.0 +1.5
CLL e 19 44 23.0
CLL e 19 54 53.0

CLL MLR MLR
comp=Z,2µm,19.4s
TBI Tubuai 99.97 221 ePP PP 19 48 18.5 -1.9
comp=Z,126nm,39.8s
TBI Tubuai 99.97 221 ePS PS 19 57 17.0 -2.2
comp=Z,849nm,33.8s
TBI eSS SS 20 02 45.0 +3.2
comp=Z,1µm,27.8s
TBI eLQ LQ 20 12 39.0
comp=Z,797nm,32.2s
TBI eLR LR 20 16 50.5
comp=Z,4µm,33.5s,baz=154
154A Montrose 100.16 307 IAMs_20 IAMs_20 20 30 47.8
comp=Z,1µm,18.0s
451A Vernon 100.17 304 IAMs_20 IAMs_20 20 28 04.4
comp=Z,2µm,20.0s
BIRD Birdtown, Kers 100.25 310 IAMs_20 IAMs_20 20 29 30.0
comp=Z,1µm,21.0s
352A Blakely 100.34 305 IAMs_20 IAMs_20 20 26 38.8
comp=Z,2µm,22.0s
W57A Gilead 100.38 310 IAMs_20 IAMs_20 20 32 04.6
comp=Z,1µm,20.0s
KWP Kalwaria Pacla 100.54 23 IAMs_20 IAMs_20 20 30 07.5
comp=Z,1µm,20.0s
GOGA Godfrey 100.96 307 IAMs_20 IAMs_20 20 31 21.9
comp=Z,1µm,18.0s
MBWA Marble Bar 101.00 137 IAMs_20 IAMs_20 20 20 50.8
comp=Z,2µm,22.0s
AKH Akhalkalaki 101.05 40 ⇑P Pdif 19 44 22.4 +1.8
LVV L'vov 101.08 24 eP Pdif 19 44 22.0 +1.7
LVV e 19 48 27.2
LVV e 19 54 54.1
LVV eS Sdif 19 55 52.9 -5.3
LVV MLR MLR
comp=N,400nm,18.0s
LVV MLR MLR
comp=E,500nm,18.0s
LVV MLR MLR
comp=Z,900nm,17.0s
PAULI Pauline 101.11 309 IAMs_20 IAMs_20 20 32 22.8
comp=Z,1µm,19.0s
SOC Sochi 101.18 37 eP Pdif 19 44 19.4 -1.5
SOC e 19 48 27.9
ANN Anapa 101.27 35 eP Pdif 19 44 18.4 -2.8
ANN e 19 48 29.5
ANN eS SKSac 19 54 57.4 -2.2
ANN pmax pmax
comp=Z,93nm,1.0s
ESK Eskdalemuir 101.46 6 IAMs_20 IAMs_20 20 31 11.2
comp=Z,1µm,19.0s
V55A Taylorsville 101.56 310 IAMs_20 IAMs_20 20 30 31.8
comp=Z,994nm,21.0s
Y52A Lilburn 101.62 307 IAMs_20 IAMs_20 20 32 07.6
comp=Z,990nm,18.0s
CPNY Central Park 101.74 318 IAMs_20 IAMs_20 20 37 16.0
comp=Z,1µm,20.0s
V53A Saluda 102.28 309 IAMs_20 IAMs_20 20 33 24.9
comp=Z,900nm,19.0s
U54A Nelsons Funny 102.39 310 IAMs_20 IAMs_20 20 30 56.6
comp=Z,1µm,22.0s
W52A Murphy 102.46 308 IAMs_20 IAMs_20 20 30 56.7
comp=Z,969nm,20.0s
G65A Princeton 102.49 324 IAMs_20 IAMs_20 20 34 31.3
comp=Z,840nm,18.0s
X51A Calhoun 102.58 307 IAMs_20 IAMs_20 20 32 45.0
comp=Z,909nm,19.0s
KBZ Khabaz 102.65 38 PP PP 19 48 42.3 +0.8
comp=Z,1.8nm,0.8s,baz=280,slow=2.8,SNR=3.9
KIV Kislovodsk 102.74 38 IAMs_20 IAMs_20 20 30 31.0
comp=Z,1µm,18.0s
346A Big Creek Wild 102.91 302 IAMs_20 IAMs_20 20 30 31.0
comp=Z,1µm,20.0s
FPAL Fort Paine 102.99 306 IAMs_20 IAMs_20 20 33 24.7
comp=Z,932nm,20.0s
CPCT Cooper Cave 103.05 308 IAMs_20 IAMs_20 20 32 38.3
comp=Z,1µm,19.0s
S54A Dingess, Beckl 103.08 311 IAMs_20 IAMs_20 20 30 55.8
comp=Z,1µm,21.0s
AKASG Malin Array Be 103.40 27 Pdiff Pdif 19 44 30.6 +0.1
comp=Z,0.1nm,0.2s,baz=218,slow=4.5,SNR=5.5
AKASG PP PP 19 48 45.2 -1.8
comp=Z,0.2nm,0.3s,baz=214,slow=6.7,SNR=4.9
AKASG Malin Array Be 103.40 27 P Pdif 19 44 29.6 -1.0
AKASG 19 48 43.1
AKASG Malin Array Be 103.40 27 Pdif 19 44 29.6 -1.0
AKASG PP 19 48 43.1 -3.9
AKBB Malin Array Si 103.40 27 IAMs_20 IAMs_20 20 30 42.3
comp=Z,1µm,21.0s
344A Westbrook Farm 103.71 301 IAMs_20 IAMs_20 20 31 21.5
comp=Z,1µm,20.0s
R53A Hurricane 103.81 311 IAMs_20 IAMs_20 20 31 37.2
comp=Z,1µm,20.0s
MAK Makhachkala 104.11 42 eP Pdif 19 44 30.1 -3.8
MAK e 19 55 06.6
MAK ePS PS 19 57 58.1 -5.4
MAK eSS SS 20 03 37.5 -3.2
MAK pmax pmax
comp=Z,113nm,1.0s
VBMS Vicksburg 104.13 302 IAMs_20 IAMs_20 20 30 58.3
comp=Z,984nm,20.0s
S51A Beattyville 104.16 310 IAMs_20 IAMs_20 20 34 09.7
comp=Z,1µm,20.0s
ASAR Alice Springs 104.68 150 Pdiff Pdif 19 44 39.9 +2.6
comp=Z,0.7nm,1.0s,baz=197,slow=4.2,SNR=2.9
ASAR PKiKP PKiKP 19 48 53.5 +0.7
comp=Z,0.8nm,0.6s,baz=197,slow=1.7,SNR=14
ASAR Alice Springs 104.68 150 P Pdif 19 44 36.3 -1.0
ASAR 19 48 54.8
ASAR Alice Springs 104.68 150 Pdif 19 44 36.2 -1.0
ASAR PP 19 48 54.8 -0.9
PLAL Pickwick Lake 104.70 305 IAMs_20 IAMs_20 20 31 43.1
comp=Z,963nm,20.0s
Y45A Yeager Farm, C 104.74 304 IAMs_20 IAMs_20 20 32 05.2
comp=Z,2µm,19.0s
PPT2 Papeete2 104.98 224 ePP PKiKP 19 48 55.3 +1.7
comp=Z,124nm,25.8s
PPT2 eSKSac SKSac 19 55 16.4 -2.4
comp=Z,319nm,24.2s
PPT2 Papeete2 104.98 224 ePS PS 19 58 08.9 -3.7
comp=Z,1µm,27.0s
PPT2 eSS SS 20 03 56.5 +5.0
comp=Z,2µm,26.5s
PPT2 Papeete2 104.98 224 eLQ LQ 20 14 42.4
comp=Z,1µm,28.6s
PPT2 eLR LR 20 18 53.8
comp=Z,7µm,28.5s,baz=150
R50A Paris 105.03 310 IAMs_20 IAMs_20 20 32 10.6
comp=Z,957nm,20.0s
Q51A Peebles 105.06 311 IAMs_20 IAMs_20 20 32 43.2
comp=Z,1µm,22.0s
N53A Lisbon 105.09 314 IAMs_20 IAMs_20 20 32 46.9
comp=Z,923nm,20.0s
OXF Oxford 105.12 304 IAMs_20 IAMs_20 20 30 44.4
comp=Z,2µm,21.0s
KVTX Kingsville 105.38 294 IAMs_20 IAMs_20 20 31 34.8
comp=Z,2µm,22.0s
WVT Waverly 105.38 306 IAMs_20 IAMs_20 20 30 38.2
comp=Z,1µm,22.0s
M53A WI Miller and 105.48 314 IAMs_20 IAMs_20 20 30 56.2
comp=Z,972nm,21.0s
R49A Shelbyville 105.49 309 IAMs_20 IAMs_20 20 35 41.8
comp=Z,829nm,18.0s
ACSO Alum Creek Sta 105.76 312 IAMs_20 IAMs_20 20 33 54.7
comp=Z,888nm,20.0s
HKT Hockley 105.76 297 IAMs_20 IAMs_20 20 32 16.9
comp=Z,1µm,22.0s
MET Memphis--Engin 105.86 304 IAMs_20 IAMs_20 20 31 14.9
comp=Z,2µm,20.0s
X43A Marvell 105.98 303 IAMs_20 IAMs_20 20 31 47.1
comp=Z,2µm,20.0s
CCAR Cane Creek 106.08 302 IAMs_20 IAMs_20 20 30 39.8
comp=Z,2µm,22.0s
HALT Halls 106.08 305 IAMs_20 IAMs_20 20 32 42.7
comp=Z,1µm,20.0s
P49A Miami Univ. Ec 106.15 311 IAMs_20 IAMs_20 20 36 01.2
comp=Z,923nm,19.0s
LNXT Lenox 106.30 305 IAMs_20 IAMs_20 20 35 22.6
comp=Z,1µm,19.0s
GLAT Glass 106.31 305 IAMs_20 IAMs_20 20 35 04.7
comp=Z,1µm,18.0s
MICGM Minsk 106.33 24 e PP 19 49 15.0 +6.3
MICGM eLR LR 20 26 20.0
NACGM Naroch 106.38 23 eP Pdif 19 45 10.0 +26
NACGM ePP PP 19 49 16.0 +7.0
NACGM eSKS SKSac 19 55 26.0 +3.3
NACGM ePS PS 19 58 36.0 +9.2
NACGM eSS SKKPbc 20 04 06.0 +4.9

NACGM eSSS SSS 20 08 18.0
NACGM eLQ LQ 20 23 43.0
NACGM eLR LR 20 29 30.0
NACGM LRM MLR 20 32 38.0
comp=Z,2.0nm,20.0s
FITZ Fitzroy Crossi 106.38 140 IAMs_20 IAMs_20 20 24 43.4
comp=Z,1µm,20.0s
LPAR Lepanto 106.41 304 IAMs_20 IAMs_20 20 31 20.5
comp=Z,1µm,21.0s
HICK Hickman 106.47 306 IAMs_20 IAMs_20 20 31 51.9
comp=Z,945nm,20.0s
T45A Paducah 106.48 306 IAMs_20 IAMs_20 20 31 10.1
comp=Z,1µm,22.0s
GNAR Gosnell 106.51 305 IAMs_20 IAMs_20 20 30 15.0
comp=Z,1µm,22.0s
PEBM Pemiscott Bayo 106.52 305 IAMs_20 IAMs_20 20 30 04.4
comp=Z,1µm,22.0s
HBAR Harrisburg 106.58 304 IAMs_20 IAMs_20 20 31 26.1
comp=Z,1µm,20.0s
PENMO Penman 106.63 305 IAMs_20 IAMs_20 20 35 24.2
comp=Z,979nm,18.0s
PVMO Portageville 106.64 305 IAMs_20 IAMs_20 20 35 14.6
comp=Z,1µm,19.0s
M50A Fremont 106.65 313 IAMs_20 IAMs_20 20 36 09.2
comp=Z,909nm,20.0s
HENM Henderson Moun 106.73 306 IAMs_20 IAMs_20 20 31 49.8
comp=Z,1µm,21.0s
PARMO Parma 106.85 305 IAMs_20 IAMs_20 20 32 03.0
comp=Z,930nm,21.0s
BLO Bloomington 106.85 309 IAMs_20 IAMs_20 20 37 08.9
comp=Z,808nm,18.0s
UALR University of 107.01 303 IAMs_20 IAMs_20 20 32 32.6
comp=Z,2µm,20.0s
X40A Basin Creek Fa 107.10 302 IAMs_20 IAMs_20 20 31 11.9
comp=Z,2µm,22.0s
KONO Kongsberg 107.15 12 IAMs_20 IAMs_20 20 30 56.6
comp=Z,1µm,20.0s
TAOE Nuku Hiva Isla 107.23 237 eSS SS 20 04 23.2 +0.5
comp=Z,1µm,26.0s
TAOE Nuku Hiva Isla 107.23 237 eLR LR 20 20 14.2
comp=Z,5µm,26.3s
OLIL Olney 107.40 308 IAMs_20 IAMs_20 20 32 52.4
comp=Z,1µm,21.0s
Z38A Mt. Pleasant 107.53 300 IAMs_20 IAMs_20 20 34 07.5
comp=Z,912nm,21.0s
MIAR Mount Ida 107.58 302 IAMs_20 IAMs_20 20 31 39.6
comp=Z,1µm,21.0s
AAM Ann Arbor 107.62 313 IAMs_20 IAMs_20 20 36 49.9
comp=Z,1µm,20.0s
FCAR Ozark Folk Cen 107.67 303 IAMs_20 IAMs_20 20 31 33.8
comp=Z,1µm,21.0s
L48A N Adams 107.75 312 IAMs_20 IAMs_20 20 38 02.5
comp=Z,912nm,18.0s
SFIN Lafayette 108.03 310 IAMs_20 IAMs_20 20 34 18.9
comp=Z,1µm,22.0s
W39A Magazine 108.16 302 IAMs_20 IAMs_20 20 31 55.8
comp=Z,2µm,21.0s
WRA Warramunga Arr 108.25 149 PKiKP **PKiKP 19 48 59.6 +0.1**
comp=Z,1.9nm,0.8s,baz=231,slow=1.8,SNR=5.7
WRA PP **PP 19 49 26.4 +4.3**
comp=Z,2.7nm,1.2s,baz=206,slow=5.6,SNR=5.8
WRA Warramunga Arr 108.25 149 **PKiKP 19 48 57.0 -2.5**
WRA **PP 19 49 21.7 -0.4**
WB2 Warramunga Arr 108.26 149 IAMs_20 IAMs_20 20 36 02.0
comp=Z,2µm,20.0s
WR2 Warramunga Arr 108.26 149 IAMs_20 IAMs_20 20 35 51.0
comp=Z,1µm,20.0s
WC1 Warramunga Arr 108.27 149 IAMs_20 IAMs_20 20 36 02.9
comp=Z,2µm,21.0s
WR8 Warramunga Arr 108.30 149 IAMs_20 IAMs_20 20 35 18.1
comp=Z,1µm,20.0s
D53A Lac Vacive, Po 108.31 320 IAMs_20 IAMs_20 20 41 55.6
comp=Z,901nm,21.0s
J48A Bridge Port 108.41 314 IAMs_20 IAMs_20 20 37 21.7
comp=Z,964nm,20.0s
U40A Yellville 108.41 303 IAMs_20 IAMs_20 20 31 33.6
comp=Z,1µm,22.0s
WB0 Warramunga Arr 108.44 149 IAMs_20 IAMs_20 20 36 15.7
comp=Z,1µm,19.0s
SLM Saint Louis 108.51 307 IAMs_20 IAMs_20 20 37 12.0
comp=Z,837nm,18.0s
O44A Mansfield 108.60 309 IAMs_20 IAMs_20 20 38 15.3
comp=Z,852nm,18.0s
CCM Cathedral Cave 108.67 306 IAMs_20 IAMs_20 20 33 07.3
comp=Z,979nm,21.0s
NOA NORSAR Array B 108.73 13 PP **PP 19 49 28.9 +2.7**
comp=Z,4.3nm,1.0s,baz=202,slow=7.1,SNR=4.0
P43A Skaggs, Pawnee 108.82 308 IAMs_20 IAMs_20 20 39 51.0
comp=Z,916nm,20.0s
J47A Sunmer 108.89 313 IAMs_20 IAMs_20 20 37 45.5
comp=Z,945nm,20.0s
HHAR Hobbs 109.00 303 IAMs_20 IAMs_20 20 33 30.0
comp=Z,2µm,20.0s
M44A Midewin, Midew 109.25 310 IAMs_20 IAMs_20 20 38 51.2
comp=Z,784nm,18.0s
I47A Gladwin 109.29 314 IAMs_20 IAMs_20 20 38 05.1
comp=Z,1µm,19.0s
U38A Gravette 109.36 303 IAMs_20 IAMs_20 20 33 52.8
comp=Z,2µm,21.0s
OBN Obninsk 109.50 28 IAMs_20 IAMs_20 20 34 31.6
comp=Z,1µm,20.0s
KBL Kabul 109.60 60 IAMs_20 IAMs_20 20 35 36.0
comp=Z,1µm,20.0s
S39A Bolivar 109.61 304 IAMs_20 IAMs_20 20 33 19.1
comp=Z,1µm,20.0s
L44A Lake County Fo 109.73 311 IAMs_20 IAMs_20 20 35 27.1
comp=Z,1µm,21.0s
TUL1 Leonard 109.83 301 IAMs_20 IAMs_20 20 35 23.3
comp=Z,2µm,20.0s
GLMI Grayling 109.92 314 IAMs_20 IAMs_20 20 29 37.8
comp=Z,1µm,22.0s
SCHQ Schefferville 110.06 331 IAMs_20 IAMs_20 20 29 11.2
comp=Z,879nm,21.0s
P40A Paris 110.14 306 IAMs_20 IAMs_20 20 33 45.2
comp=Z,1000nm,22.0s
MYKOM Kota Tinggi 110.28 110 IAMs_20 IAMs_20 20 25 28.4
comp=Z,2µm,20.0s
N41A Harden Midland 110.30 308 IAMs_20 IAMs_20 20 36 26.1
comp=Z,847nm,19.0s
TXAR Lajitas Array 110.31 291 PKiKP **PKiKP 19 49 02.0 -1.0**
comp=Z,0.5nm,0.9s,baz=116,slow=5.7,SNR=5.3
TXAR PP **PP 19 49 38.0 -0.3**
comp=Z,0.7nm,0.8s,baz=145,slow=4.6,SNR=4.2
TXAR Lajitas Array 110.31 291 **PKiKP 19 49 01.2 -1.9**
TXAR PP 19 49 28.6 -10
K43A Burlington 110.33 311 IAMs_20 IAMs_20 20 35 43.7
comp=Z,1µm,21.0s
MOS Moscow 110.36 28 *i* PKIKP PKiKP 19 49 11.3 +9.2
MOS *e* 19 49 42.7
MOS *e*PPP PPP 19 52 07.1
MOS *e*PS **PS 19 59 08.0 +0.9**
MOS eSS SS 20 05 04.3 -0.7
MOS MLR MLR
comp=N,900nm,19.0s
MOS MLR MLR
comp=Z,1µm,19.0s
MOS MLR MLR
comp=E,1µm,18.0s
IPM Ipoh 110.40 105 IAMs_20 IAMs_20 20 37 29.7
comp=Z,1µm,18.0s
IVI Ivigtut 110.49 343 IAMs_20 IAMs_20 20 23 39.8
comp=Z,2µm,22.0s
G45A Suttons Bay 110.59 314 IAMs_20 IAMs_20 20 32 07.6
comp=Z,820nm,20.0s
BORG Borgarnes 110.67 357 IAMs_20 IAMs_20 20 26 23.8
comp=Z,1µm,22.0s
KULM Kulim 110.74 104 IAMs_20 IAMs_20 20 33 05.8
comp=Z,1µm,20.0s
E46A Sault Ste Mari 110.87 316 IAMs_20 IAMs_20 20 39 14.8
comp=Z,1µm,22.0s
T35A Sooner Cattle 110.94 302 IAMs_20 IAMs_20 20 33 52.6
comp=Z,2µm,21.0s
P38A Dawn 111.05 306 IAMs_20 IAMs_20 20 32 04.1
comp=Z,942nm,22.0s
L40A Anamosa 111.43 309 IAMs_20 IAMs_20 20 37 48.0
comp=Z,736nm,18.0s
I42A Draeger Farm, 111.45 311 IAMs_20 IAMs_20 20 38 49.5
comp=Z,935nm,21.0s
JFWS Jewell Farm 111.49 310 IAMs_20 IAMs_20 20 32 43.5
comp=Z,932nm,21.0s
N38A Joes South For 111.67 307 IAMs_20 IAMs_20 20 34 54.6
comp=Z,1µm,20.0s
U32A Winter Ranch, 112.07 300 IAMs_20 IAMs_20 20 35 39.6
comp=Z,1µm,21.0s
DZM Mont Dzumac 112.14 180 *e*PS PS 19 59 23.7 +0.3
DZM *e*SS SS 20 05 29.2 +2.0
comp=Z,348nm,26.1s
comp=Z,2µm,29.5s
DZM Mont Dzumac 112.14 180 *e*LR LR 20 22 34.9
comp=Z,2µm,34.1s
DZM Mont Dzumac 112.14 180 IAMs_20 IAMs_20 20 32 55.2
comp=Z,1µm,20.0s
SCIA State Center 112.41 308 IAMs_20 IAMs_20 20 39 23.1
comp=Z,1µm,19.0s
KSU1 Kansas State U 112.46 303 IAMs_20 IAMs_20 20 37 08.7
comp=Z,896nm,21.0s
K38A Parkersburg 112.67 308 IAMs_20 IAMs_20 20 37 25.8
comp=Z,930nm,21.0s
AMTX Amarillo 112.72 297 IAMs_20 IAMs_20 20 37 28.1
comp=Z,954nm,21.0s
MSTX Muleshoe 112.81 296 IAMs_20 IAMs_20 20 36 16.3
comp=Z,901nm,21.0s
MNTX Cornudas Mount 112.98 292 IAMs_20 IAMs_20 20 34 26.1
comp=Z,1µm,20.0s
SOEI Soe 112.98 134 IAMs_20 IAMs_20 20 43 05.5
comp=Z,1µm,19.0s
G40A Rib Lake 113.07 312 IAMs_20 IAMs_20 20 37 32.2
comp=Z,1µm,21.0s
N35A Tabor 113.07 305 IAMs_20 IAMs_20 20 33 17.8
comp=Z,883nm,21.0s
EPT El Paso 113.75 292 IAMs_20 IAMs_20 20 37 00.6
comp=Z,888nm,21.0s
I37A Lemond, Waseca 113.92 309 IAMs_20 IAMs_20 20 34 38.0
comp=Z,893nm,21.0s
CBKS Cedar Bluff 114.11 301 IAMs_20 IAMs_20 20 35 40.5
comp=Z,2µm,22.0s
KSM Kuching 114.20 115 IAMs_20 IAMs_20 20 36 52.1
comp=Z,805nm,20.0s
L34A Svendsen Farm, 114.22 306 IAMs_20 IAMs_20 20 39 14.0
comp=Z,1µm,19.0s
PYUN Piuthan 114.26 74 *e*P PKPdf 19 49 08.9 -1.9
comp=Z,25nm,1.0s
KOLN Koldanda 114.45 75 *e*P PKPdf 19 49 10.0 -1.2
comp=Z,17nm,0.7s
E38A The Farm, Brul 114.67 312 IAMs_20 IAMs_20 20 38 20.5
comp=Z,1µm,21.0s
HSIG 114.89 287 IAMs_20 IAMs_20 20 37 10.0
comp=Z,768nm,19.0s
DANN Dangsing 114.94 74 *e*P PKPdf 19 49 11.1 -1.1
comp=Z,31nm,0.8s
KLMR Klimovskoe 115.06 26 *e*PP **PP 19 50 08.6 -2.9**
KLMR AMP 19 50 26.1
comp=Z,40nm,1.5s
KLMR *e*PS **PKKPbc 19 59 47.9 +0.6**
KLMR *e*PS **PKKPbc 19 59 47.9 +0.6**
KLMR *e*PKKPab **PKKPab 19 59 57.0 +7.6**
KLMR eSS **SS 20 06 05.9 -1.4**
KLMR eSS **SS 20 06 05.9 -1.4**
KLMR LQ LQ 20 27 12.4
KLMR LQ LQ 20 27 12.4
KLMR LR LR 20 33 56.0
KLMR AMP 20 39 18.7
comp=Z,1µm,19.7s
121A Cookes Peak, D 115.07 291 IAMs_20 IAMs_20 20 36 38.5
comp=Z,2µm,20.0s
319A Douglas 115.31 290 IAMs_20 IAMs_20 20 35 56.9
comp=Z,1µm,20.0s
ECSD EROS Data Cent 115.50 307 IAMs_20 IAMs_20 20 36 51.8
comp=Z,1µm,22.0s
Y22D IRIS PASSCAL I 115.50 293 IAMs_20 IAMs_20 20 36 11.8
comp=Z,1µm,21.0s
MSVF Nonsavu 115.54 193 IAMs_20 IAMs_20 20 29 15.3
comp=Z,2µm,22.0s
PKIN Phulchoki 115.54 76 *e*P **PKPdf 19 49 11.1 -2.2**
comp=Z,8.5nm,0.7s
PKI Pulchoki 115.54 76 *e*P **PKPdf 19 49 11.2 -2.2**
comp=Z,10.0nm,0.7s
ANMO Albuquerque 115.76 294 ⇑ *i* PKIKP **PKiKP 19 49 13.5 +0.1**
ANMO MLR MLR
comp=Z,1µm,19.0s
T25A Trinidad 115.87 297 IAMs_20 IAMs_20 20 37 13.3
comp=Z,1µm,22.0s
RAMN Ramite 115.95 77 *e*P **PKPdf 19 49 13.9 -0.2**
KSCO Kaye Shedlock' 115.96 300 IAMs_20 IAMs_20 20 37 19.0
comp=Z,1µm,21.0s
K31A O'Neill 115.99 305 IAMs_20 IAMs_20 20 34 35.9
comp=Z,1µm,21.0s
BKB Balikpapan 116.05 123 IAMs_20 IAMs_20 20 28 39.6
comp=Z,1µm,21.0s
GUN Gumba 116.08 76 *e*P **PKPdf 19 49 13.0 -1.5**
KKAR Karatay Array 116.10 54 PKIKP **PKPdf 19 49 12.9 -0.7**
KKAR Karatay Array 116.10 54 **PKPdf 19 49 12.9 -0.7**
JIRN Jiri 116.13 77 *e*P **PKPdf 19 49 14.1 -0.5**
comp=Z,42nm,0.8s
SBUM Sibu 116.15 116 IAMs_20 IAMs_20 20 41 14.9
comp=Z,736nm,19.0s
SFJD Kangerlussuaq 116.18 345 IAMs_20 IAMs_20 20 28 09.1
comp=Z,2µm,22.0s
ODAN Odare 116.43 78 *e*P **PKPdf 19 49 13.7 -1.3**
comp=Z,51nm,1.1s
F33A 5 Mile Ranch, 116.67 309 IAMs_20 IAMs_20 20 39 41.7
comp=Z,919nm,20.0s
OGNE Ogallala 116.83 302 IAMs_20 IAMs_20 20 37 32.7
comp=Z,2µm,22.0s
TUC Tucson 116.89 289 PKIKP **PKPdf 19 49 15.2 -0.3**
TUC MLR MLR
comp=Z,800nm,19.0s
TUC Tucson 116.89 289 PKPdf **PKPdf 19 49 15.2 -0.3**
TUC PP PP 19 50 16.4 -8.6
TUC Tucson 116.89 289 IAMs_20 IAMs_20 20 38 44.7
comp=Z,843nm,19.0s
TAPN Taplejung 116.96 78 *e*P **PKPdf 19 49 14.3 -1.8**
SUSD Miller 117.25 307 IAMs_20 IAMs_20 20 37 54.2
comp=Z,1µm,22.0s
Q24A Divide 117.47 299 IAMs_20 IAMs_20 20 39 01.5
comp=Z,805nm,21.0s
X18A Snowflake 117.73 292 IAMs_20 IAMs_20 20 37 55.0
comp=Z,1µm,20.0s
S22A 4UR Ranch, Cre 117.75 297 PKPdf **PKPdf 19 49 16.9 -0.5**
S22A PP PP 19 50 22.6 -8.6
D32A Dogwood Acres, 117.87 310 IAMs_20 IAMs_20 20 39 48.5
comp=Z,887nm,21.0s
W18A Petrified Fore 117.96 293 IAMs_20 IAMs_20 20 37 42.0
comp=Z,1µm,22.0s
AGMN Agassiz Nation 117.99 312 IAMs_20 IAMs_20 20 40 12.5
comp=Z,994nm,20.0s
214A Organ Pipe Nat 118.00 288 IAMs_20 IAMs_20 20 38 34.2
comp=Z,920nm,20.0s
AAK Ala-Archa 118.09 57 *c* *i* PKIKP **PKiKP 19 49 17.8 +0.1**
AAK pmax pmax
comp=Z,9.0nm,2.5s
AAK MLR MLR
comp=Z,1µm,20.0s
AAK Ala-Archa 118.09 57 PKPdf **PKPdf 19 49 17.0 -0.6**
ILULI Ilulissat 118.23 346 IAMs_20 IAMs_20 20 28 53.3
comp=Z,1µm,22.0s
ISCO Idaho Springs 118.26 299 PKIKP **PKPdf 19 49 17.6 -0.7**
ISCO MLR MLR
comp=Z,1µm,22.0s
ISCO Idaho Springs 118.26 299 PKPdf **PKPdf 19 49 17.6 -0.7**
ISCO PP PP 19 50 26.8 -8.0
ISCO IAMs_20 IAMs_20 20 38 27.6
comp=Z,1µm,22.0s
X16A Lo Mia Camp, P 118.63 291 IAMs_20 IAMs_20 20 36 13.8
comp=Z,1µm,22.0s
SGDS Sogindy 118.67 56 *e*PP **PP 19 50 38.3 +1.1**
baz=56
SGDS Sogindy 118.67 56 *e*PKIKP **PKPdf 19 49 18.5 -0.1**
SGDS *e* 19 50 38.2
SGDS pmax pmax
comp=Z,3.0nm,1.5s
SGDS Sogindy 118.67 56 *e*PKP **PKPdf 19 49 18.6 -0.1**
comp=Z,3.5nm,1.5s,baz=56
SANVU Saraoutou 118.73 181 IAMs_20 IAMs_20 20 35 53.6
comp=Z,2µm,21.0s
ARU Arti 118.76 37 *i* PKIKP **PKiKP 19 49 18.5 +0.2**
ARU 19 50 35.0
ARU 19 56 30.5
ARU SP SP 20 00 21.5 -0.4
ARU SS **SS 20 06 49.0 -6.7**
ARU MLR MLR
comp=Z,2µm,22.0s
CMAR Chiang Mai Arr 118.88 93 PKP **PKPdf 19 49 19.0 -0.7**
comp=Z,4.6nm,0.9s,baz=243,slow=4.0,SNR=14
ARCES ARCESS Array B 118.92 15 PKP **PKiKP 19 49 18.5 +0.2**
comp=Z,3.6nm,0.9s,baz=90,slow=0.4,SNR=4.7
ARCES PP **PP 19 50 42.6 +4.4**
comp=Z,4.9nm,0.9s,baz=356,slow=4.9,SNR=4.5
ARCES ARCESS Array B 118.92 15 PP 19 50 33.0 -5.2
PHWY Pilot Hill 119.08 300 IAMs_20 IAMs_20 20 38 31.2
comp=Z,1µm,21.0s
MPSI Mapaga 119.09 124 PKP **PKiKP 19 49 22.4 +2.1**
CHTO Chiang Mai 119.12 93 IAMs_20 IAMs_20 20 30 22.9
comp=Z,2µm,22.0s
N23A Red Feather La 119.13 300 IAMs_20 IAMs_20 20 39 08.5
comp=Z,2µm,22.0s
ULM Lac du Bonnet 119.21 313 IAMs_20 IAMs_20 20 42 44.6
comp=Z,795nm,20.0s
WUAZ Wupatki 119.26 292 IAMs_20 IAMs_20 20 38 49.4
comp=Z,1µm,21.0s
Y14A Wickenburg 119.35 290 IAMs_20 IAMs_20 20 36 48.0
comp=Z,824nm,21.0s
KDJ Kajisay 119.36 59 PKIKP **PKPdf 19 49 19.4 -0.7**
KDJ MLR MLR
comp=Z,2µm,20.0s
KDJ Kajisay 119.36 59 PKPdf **PKPdf 19 49 19.4 -0.7**
E28A Huff 119.52 308 IAMs_20 IAMs_20 20 39 49.3
comp=Z,1µm,19.0s
SUMG Summit 119.62 352 PKIKP **PKiKP 19 49 20.0 0.0**
SUMG MLR MLR
comp=Z,800nm,20.0s
SUMG Summit 119.62 352 PKPdf **PKiKP 19 49 20.0 0.0**
SUMG IAMs_20 IAMs_20 20 39 15.6
comp=Z,775nm,20.0s
MDND Maddock 119.70 309 IAMs_20 IAMs_20 20 40 01.8
comp=Z,1µm,21.0s
TNSS Tian-Shan 119.77 58 *e*PKP **PKPdf 19 49 21.2 +0.1**
comp=Z,28nm,0.8s,baz=58
TNSS Tian-Shan 119.77 58 *e*PKIKP **PKPdf 19 49 21.2 +0.1**
TNSS pmax pmax
comp=Z,28nm,0.8s
SVE Sverdlovsk 119.89 38 *i* PKIKP **PKiKP 19 49 21.1 +0.6**
SVE pmax pmax
comp=Z,20nm,1.9s
SVE MLR MLR
comp=Z,3µm,22.0s
MDOK Medeo 119.90 58 LR LR 20 38 17.8
comp=Z,878nm,20.9s,baz=58
MDOK Medeo 119.90 58 *e*PKIKP **PKiKP 19 49 21.4 +0.3**
MDOK pmax pmax
comp=Z,36nm,1.8s
MDOK MLR MLR
comp=Z,878nm,21.0s
MDOK Medeo 119.90 58 *e*PKP **PKiKP 19 49 21.5 +0.3**
comp=Z,36nm,1.8s,baz=58
KUU Kurty 119.92 57 *e*PP PP 19 50 44.4 -1.4
baz=57
KUU Kurty 119.92 57 *e*PKIKP **PKPdf 19 49 20.3 -0.6**
KUU *e* 19 50 44.3
KUU pmax pmax
comp=Z,9.0nm,2.0s
KUU Kurty 119.92 57 *e*PKP **PKPdf 19 49 20.4 -0.5**
comp=Z,9.1nm,2.0s,baz=57
RSSD Black Hills 119.94 304 PKIKP **PKPdf 19 49 20.5 -0.7**
RSSD MLR MLR
comp=Z,1µm,22.0s
RSSD Black Hills 119.94 304 **PKPdf 19 49 20.5 -0.7**
RSSD Black Hills 119.94 304 IAMs_20 IAMs_20 20 36 54.6
comp=Z,1µm,22.0s
NLAI Namlea 119.99 134 PKP PKiKP 19 49 30.9 +8.8
PRZ Przheval'sk 120.30 59 PKIKP **PKPdf 19 49 20.7 -1.2**
PRZ MLR MLR
comp=Z,2µm,20.0s
PRZ Przheval'sk 120.30 59 PKPdf **PKPdf 19 49 20.7 -1.2**
RWWY Rawlins 120.37 300 IAMs_20 IAMs_20 20 39 22.3
comp=Z,2µm,22.0s
U15A North Rim 120.40 292 IAMs_20 IAMs_20 20 36 59.7
comp=Z,1µm,22.0s
K22A Casper 120.53 301 IAMs_20 IAMs_20 20 40 57.4
comp=Z,834nm,20.0s
W13A Hualapai Mount 120.64 290 PKPdf **PKPdf 19 49 22.6 -0.3**
W13A PP **PP 19 50 48.4 -2.7**
SATY Saty 120.64 58 LR LR 20 44 20.9
comp=Z,161nm,13.3s,baz=58
SATY Saty 120.64 58 *e*PKIKP **PKPdf 19 49 22.4 -0.1**
SATY *e* 19 50 51.1
SATY pmax pmax
comp=Z,1.0nm,1.5s
SATY Saty 120.64 58 *e*PKP **PKPdf 19 49 22.5 -0.1**
comp=Z,1.4nm,1.5s,baz=58
SATY Saty 120.64 58 *e*PP PP 19 50 51.2 +0.3
baz=58
LSA Lhasa 120.78 78 PKIKP **PKPdf 19 49 22.4 -1.2**
LSA MLR MLR
comp=Z,2µm,22.0s
LSA Lhasa 120.78 78 **PKPdf 19 49 22.4 -1.2**
BAR Barrett 121.01 286 IAMs_20 IAMs_20 20 36 52.1
comp=Z,1µm,20.0s
UZB Uzunbulak 121.06 59 LR LR 20 42 12.5
comp=Z,328nm,16.1s,baz=59
UZB Uzunbulak 121.06 59 *e*PKIKP **PKiKP 19 49 24.1 +0.7**
UZB pmax pmax
comp=Z,4.0nm,1.2s
UZB MLR MLR
comp=Z,329nm,16.0s
UZB Uzunbulak 121.06 59 *e*PKP **PKiKP 19 49 24.2 +0.7**
comp=Z,3.6nm,1.2s,baz=59
RDMU Red Mountain 121.15 298 **PKPdf 19 49 23.1 -0.6**
RDMU PP **PP 19 50 50.3 -4.2**
SHLS Shalkode 121.33 59 *e*PP PP 19 50 58.0 +2.5
baz=59
SHLS Shalkode 121.33 59 *e*PKIKP **PKiKP 19 49 24.4 +0.5**
SHLS *e* 19 50 58.0
SHLS pmax pmax
comp=Z,8.0nm,2.6s
SHLS Shalkode 121.33 59 *e*PKP **PKiKP 19 49 24.4 +0.5**
comp=Z,7.9nm,2.6s,baz=59
TMUT Trail Mountain 121.42 296 **PKPdf 19 49 23.4 -1.0**
109C Camp Elliot, M 121.43 286 IAMs_20 IAMs_20 20 36 44.1
comp=Z,1µm,20.0s
KKM Kota Kinabalu 121.43 117 IAMs_20 IAMs_20 20 44 37.7
comp=Z,802nm,20.0s
XPFO Pion Flat 121.43 287 IAMs_20 IAMs_20 20 37 34.2
comp=Z,822nm,19.0s
PFO Pinyon Flats O 121.44 287 IAMs_20 IAMs_20 20 37 34.2
comp=Z,828nm,19.0s
MSU Marysvale 121.57 294 PKIKP **PKPdf 19 49 23.7 -0.9**
MSU Marysvale 121.57 294 PKPdf **PKPdf 19 49 23.7 -0.9**
MSU PP **PP 19 50 53.2 -4.2**
CCUT Cedar City 121.76 293 PKPdf **PKiKP 19 49 25.7 +0.6**
CCUT PP **PP 19 50 54.4 -4.3**
TDK Taldyqorghan 121.77 56 LR LR 20 44 51.5
comp=Z,731nm,16.7s,baz=57
TDK Taldyqorghan 121.77 56 *e*PKIKP **PKPdf 19 49 23.8 -0.6**
TDK Taldyqorghan 121.77 56 *e*PKP **PKPdf 19 49 23.8 -0.6**
baz=57
BRVK Borovoye 122.04 45 *d* *i* PKIKP **PKPdf 19 49 24.6 -0.1**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BRVK Borovoye 122.04 45 PKPdf **PKiKP 19 49 24.9 0.0**
PMG Port Moresby 122.20 158 ⇓ *i* PKIKP **PKiKP 19 49 27.0 +0.6**
PMG MLR MLR
comp=Z,1µm,19.0s
SHPR Sheep Range 122.31 291 PKPdf **PKPdf 19 49 23.7 -2.2**
SHPR PP **PP 19 50 57.2 -5.2**
PD31 Pinedale Array 122.41 300 **PKPdf 19 49 24.4 -1.6**
PDAR Pinedale Array 122.41 300 PKP **PKPdf 19 49 25.4 -0.7**
comp=Z,1.4nm,0.8s,baz=111,slow=3.3,SNR=11
PDAR Pinedale Array 122.41 300 **PKPdf 19 49 24.4 -1.6**
BW06 Boulder Array 122.42 300 **PKPdf 19 49 24.4 -1.6**
BW06 PP **PP 19 50 57.9 -5.2**
BW06 IAMs_20 IAMs_20 20 40 36.4
comp=Z,1µm,22.0s
DGMT Dagmar 122.56 308 IAMs_20 IAMs_20 20 41 55.6
comp=Z,1µm,22.0s
TCUT Toone Canyon 122.60 297 **PKPdf 19 49 25.9 -0.6**
TCUT PP **PP 19 50 58.2 -6.3**
PSUT Pine Spring 122.65 293 PKPdf **PKPdf 19 49 25.7 -0.9**
GSC Goldstone, Bar 122.67 289 PKIKP **PKPdf 19 49 25.8 -0.8**
GSC MLR MLR
comp=Z,600nm,21.0s
GSC Goldstone, Bar 122.67 289 PKPdf **PKPdf 19 49 25.8 -0.8**
LAO LASA Array 122.68 305 IAMs_20 IAMs_20 20 45 55.1
comp=Z,804nm,18.0s
MWC Mount Wilson 122.86 287 IAMs_20 IAMs_20 20 38 00.1
comp=Z,918nm,20.0s
PASC Pasadena Art C 122.92 287 IAMs_20 IAMs_20 20 40 49.5
comp=Z,854nm,20.0s
DUG Dugway, Tooele 122.95 296 PKIKP **PKPdf 19 49 27.1 +0.1**
DUG MLR MLR
comp=Z,1µm,21.0s
DUG Dugway, Tooele 122.95 296 **PKPdf 19 49 27.1 +0.1**
DUG **PP 19 50 59.0 -7.7**
DUG IAMs_20 IAMs_20 20 42 01.8
comp=Z,1µm,21.0s
HWUT Hardware Ranch 122.98 298 PKPdf **PKPdf 19 49 26.6 -0.5**
TPNV Topopah Spring 123.27 291 PKIKP **PKPdf 19 49 26.7 -1.1**
TPNV MLR MLR
comp=Z,700nm,20.0s

TPNV Topopah Spring 123.27 291 PKPdf **PKPdf** **19 49 26.7 -1.1**
TPNV PP **PP** **19 51 07.0 -1.9**
TPNV IAMs_20 IAMs_20 20 43 49.8
comp=Z,686nm,20.0s
BGU Big Grassy Mou 123.50 296 **PKPdf** **19 49 27.4 -0.7**
BGU PP **PP** **19 51 06.0 -4.4**
SNOW Snow King Moun 123.53 300 IAMs_20 IAMs_20 20 43 02.0
comp=Z,1µm,20.0s
REDW Red Top Meadow 123.53 300 IAMs_20 IAMs_20 20 42 51.0
comp=Z,1µm,20.0s
OSI Osito Audit: C 123.54 287 IAMs_20 IAMs_20 20 41 09.0
comp=Z,847nm,20.0s
RLMT Red Lodge 123.57 302 PKPdf **PKPdf** **19 49 27.8 -0.4**
RLMT PP **PP** **19 51 04.5 -6.3**
RLMT IAMs_20 IAMs_20 20 44 30.8
comp=Z,1µm,21.0s
R11A Troy Canyon, C 123.65 292 PKPdf **PKPdf** **19 49 27.1 -1.4**
R11A IAMs_20 IAMs_20 20 45 24.7
comp=Z,865nm,18.0s
TPAW Teton Pass 123.66 300 PKPdf **PKPdf** **19 49 28.3 -0.1**
TPAW PP **PP** **19 51 06.2 -5.4**
TPAW IAMs_20 IAMs_20 20 43 04.5
comp=Z,1µm,20.0s
FXWY Fox Creek 123.79 300 PKPdf **PKPdf** **19 49 27.2 -1.5**
FXWY PP **PP** **19 51 07.7 -4.7**
FXWY IAMs_20 IAMs_20 20 43 00.9
comp=Z,1µm,20.0s
IMW Indian Meadow 123.88 300 IAMs_20 IAMs_20 20 41 10.3
comp=Z,1µm,21.0s
ISA Isabella, Lake 123.99 288 PKIKP **PKiKP** **19 49 29.3 -0.1**
ISA MLR MLR
comp=Z,1µm,21.0s
ISA Isabella, Lake 123.99 288 PKPdf **PKiKP** **19 49 29.3 -0.1**
ISA IAMs_20 IAMs_20 20 39 03.8
comp=Z,1µm,21.0s
SIJI Sorong 124.09 136 PKP **PKPdf** **19 49 29.2 -0.7**
comp=Z,15nm,0.7s,baz=45,slow=4.2,SNR=6.5
HNR Honiara 124.44 173 IAMs_20 IAMs_20 20 39 33.7
comp=Z,1µm,20.0s
ELK Elko 124.78 295 PKIKP **PKPdf** **19 49 30.2 -0.5**
ELK MLR MLR
comp=Z,2µm,22.0s
ELK Elko 124.78 295 PKPdf **PKPdf** **19 49 30.2 -0.5**
ELK PP **PP** **19 51 14.1 -5.0**
MAKZ Makanchi 124.85 56 PKIKP **PKPdf** **19 49 28.8 -1.5**
MAKZ MLR MLR
comp=Z,2µm,20.0s
MAKZ Makanchi 124.85 56 **PKPdf** **19 49 28.8 -1.5**
MK31 Makanchi Array 125.02 57 PKIKP **PKPdf** **19 49 29.1 -1.5**
MK31 Makanchi Array 125.02 57 PKPdf **PKPdf** **19 49 29.1 -1.5**
MKAR Makanchi Array 125.02 57 PKP **PKPdf** **19 49 30.1 -0.5**
comp=Z,4.0nm,1.0s,baz=276,slow=1.1,SNR=16
MKAR PKKPbc **PKKPbc** **19 59 10.5 +0.6**
comp=Z,0.4nm,0.9s,baz=4.1,slow=1.7,SNR=3.7
MKAR Makanchi Array 125.02 57 PKIKP **PKPdf** **19 49 29.0 -1.6**
MKAR Makanchi Array 125.02 57 PKPdf **PKPdf** **19 49 29.0 -1.6**
KURK Kurchatov 125.05 51⇑ *i*PKIKP **PKiKP** **19 49 30.7 -0.1**
KURK MLR MLR
comp=Z,2µm,23.0s
KURK Kurchatov 125.05 51 PKPdf **PKPdf** **19 49 29.7 -0.7**
PAGB Antelope Grade 125.20 287 IAMs_20 IAMs_20 20 38 29.0
comp=Z,792nm,21.0s
BOZ Bozeman (W) 125.22 302 IAMs_20 IAMs_20 20 44 44.6
comp=Z,951nm,20.0s
NV11 Mina Array Sit 125.36 291 **PKPdf** **19 49 31.3 -0.4**
NV11 **PP** **19 51 20.4 -2.5**
NV11 IAMs_20 IAMs_20 20 43 14.0
comp=Z,952nm,22.0s
EGMT Eagleton 125.42 305 PKPdf **PKPdf** **19 49 30.6 -0.8**
OMMB Old Mammoth Mi 125.45 290 IAMs_20 IAMs_20 20 41 21.5
comp=Z,1µm,20.0s
NVAR Mina Array Bea 125.46 291 PKP **PKPdf** **19 49 32.0 0.0**
comp=Z,1.8nm,0.8s,baz=142,slow=2.2,SNR=13
NVAR Mina Array Bea 125.46 291 **PKPdf** **19 49 32.2 +0.2**
MCMT McKenzie Canyo 125.54 300 **PKPdf** **19 49 30.5 -1.5**
MCMT PP **PP** **19 51 20.4 -3.7**
KVN Kaiserville 125.67 292 PKIKP **PKiKP** **19 49 32.6 -0.2**
KVN MLR MLR
comp=Z,900nm,20.0s
KVN Kaiserville 125.67 292 PKPdf **PKiKP** **19 49 32.6 -0.2**
KVN PP **PP** **19 51 18.5 -6.5**
KVN IAMs_20 IAMs_20 20 44 46.1
comp=Z,878nm,20.0s
DLMT Dillon 125.67 301 IAMs_20 IAMs_20 20 42 08.6
comp=Z,1µm,21.0s
RYN Ryan 125.71 291 IAMs_20 IAMs_20 20 43 37.2
comp=Z,752nm,21.0s
SEM Semipalatinsk 125.78 52 *e*PP **PP** **19 51 26.1 +0.6**
baz=52
SEM Semipalatinsk 125.78 52 *e*PKIKP **PKPdf** **19 49 32.0 -0.2**
SEM *e* 19 51 26.0
SEM pmax pmax
comp=Z,5.0nm,1.7s
SEM Semipalatinsk 125.78 52 *e*PKP **PKPdf** **19 49 32.1 -0.2**
comp=Z,5.0nm,1.7s,baz=52
LRM Limekiln Ridge 125.83 301 **PKiKP** **19 49 32.7 -0.2**
PMPB Monarch Peak 125.85 287 IAMs_20 IAMs_20 20 41 30.1
comp=Z,785nm,19.0s
KMI Kunming 125.92 90 PKP **PKPdf** **19 49 31.4 -1.9**
KMI sPKP 19 49 39.3
KMI PP **PP** **19 51 30.9 +4.2**
KMI SKKS 19 58 17.4
KMI SS **SS** **20 08 29.8 +1.7**
KMI AMB AMB
comp=Z,200nm,5.6s
KMI LR LR
comp=Z,1µm,19.5s
KMI LR LR
comp=Z,550nm,21.2s
KMI LR LR
comp=Z,1µm,22.9s
YERR Yerington 126.37 291 IAMs_20 IAMs_20 20 41 23.8
comp=Z,972nm,20.0s
CMB Columbia Colle 126.60 289 PKIKP **PKPdf** **19 49 32.7 -1.3**
CMB MLR MLR
comp=Z,700nm,20.0s
CMB Columbia Colle 126.60 289 **PKPdf** **19 49 32.7 -1.3**
CMB IAMs_20 IAMs_20 20 43 55.8
comp=Z,686nm,20.0s
MFID Camas Ranch 126.60 297 PKPdf **PKPdf** **19 49 34.1 +0.2**
MFID PP **PP** **19 51 23.4 -7.6**
MFID IAMs_20 IAMs_20 20 45 43.4
comp=Z,878nm,20.0s
PNTR Pine Nut 126.67 291 IAMs_20 IAMs_20 20 43 05.5
comp=Z,1µm,20.0s
WMQ Urumqi 126.68 62 *e*PKP **PKiKP** **19 49 34.5 +0.1**
WMQ LR LR
comp=Z,600nm,22.7s
WMQ LR LR
comp=Z,460nm,20.9s
WMQ LR LR
comp=Z,1µm,23.9s
QIZ Qiongzhong 126.79 101 PKP **PKPdf** **19 49 32.5 -2.3**
QIZ PP **PP** **19 51 31.8 -0.4**
QIZ SS SS 20 08 39.0 +0.6
QIZ LR LR
comp=Z,1µm,18.4s
QIZ LR LR
comp=Z,1µm,17.8s
QIZ LR LR
comp=Z,2µm,19.8s
VCNR Virginia City 126.81 291 IAMs_20 IAMs_20 20 43 32.4
comp=Z,894nm,20.0s
PAHR Pah Rah Range 126.86 292 IAMs_20 IAMs_20 20 40 40.0
comp=Z,1µm,21.0s
ZSN Zaisan 126.86 57 LR LR 20 46 56.7
comp=Z,372nm,15.7s,baz=57
ZSN Zaisan 126.86 57 *e*PKIKP **PKiKP** **19 49 34.4 -0.2**
ZSN *e* 19 51 32.9
ZSN pmax pmax
comp=Z,8.0nm,1.8s
ZSN Zaisan 126.86 57 *e*PKP **PKiKP** **19 49 34.4 -0.2**
comp=Z,8.1nm,1.8s,baz=57
ZSN Zaisan 126.86 57 *e*PP **PP** **19 51 32.9 +0.4**
baz=57
RUBR Rubicon Trail 127.00 291 IAMs_20 IAMs_20 20 47 12.5
comp=Z,634nm,19.0s
TULEG Thule 127.20 346 IAMs_20 IAMs_20 20 34 32.1
comp=Z,1µm,22.0s
MSO Missoula 127.24 302 PKPdf **PKPdf** **19 49 34.6 -0.4**
MSO PP **PP** **19 51 29.4 -5.8**
MSO IAMs_20 IAMs_20 20 46 34.8
comp=Z,1µm,20.0s
AFDM Forest Hills D 127.48 290 PKPdf **PKPdf** **19 49 35.8 +0.2**
AFDM IAMs_20 IAMs_20 20 44 11.1
comp=Z,906nm,20.0s
BEKR Beckworth 127.58 291 IAMs_20 IAMs_20 20 44 13.7
comp=Z,810nm,19.0s
WVOR Wild Horse Val 127.84 295 IAMs_20 IAMs_20 20 42 51.4
comp=Z,793nm,22.0s
JTMT Jette 127.90 303 PKPdf **PKPdf** **19 49 35.0 -1.2**
JTMT PP **PP** **19 51 35.5 -4.0**
JTMT IAMs_20 IAMs_20 20 43 32.3
comp=Z,1µm,21.0s
ORV Oroville 128.16 290 PKIKP **PKPdf** **19 49 36.8 0.0**
ORV 19 51 37.2
ORV MLR MLR
comp=Z,1µm,20.0s
ORV Oroville 128.16 290 **PKPdf** **19 49 36.8 0.0**
ORV PP **PP** **19 51 37.2 -4.0**
ORV IAMs_20 IAMs_20 20 43 50.0
comp=Z,1µm,20.0s
J08A Circle Bar Ran 128.22 296 **PKiKP** **19 49 37.9 +0.3**
J08A IAMs_20 IAMs_20 20 43 28.3
comp=Z,1µm,21.0s
BMO Blue Mountains 128.26 298 PKIKP **PKPdf** **19 49 35.9 -1.1**
BMO MLR MLR
comp=Z,2µm,22.0s
BMO Blue Mountains 128.26 298 PKPdf **PKPdf** **19 49 35.9 -1.1**
MCCM Marconi Confer 128.30 288 IAMs_20 IAMs_20 20 41 21.9
comp=Z,941nm,20.0s
WALA Waterton Lakes 128.33 304 PKPdf **PKPdf** **19 49 35.6 -1.4**
WALA IAMs_20 IAMs_20 20 45 39.6
comp=Z,1µm,20.0s
RABL Rabaul 128.42 162 IAMs_20 IAMs_20 20 41 36.2
comp=Z,1µm,21.0s
GDXM Geysers 128.60 289 IAMs_20 IAMs_20 20 48 37.9
comp=Z,878nm,20.0s
MOD Modoc Plateau 128.62 294 PKPdf **PKPdf** **19 49 37.3 -0.6**
MOD IAMs_20 IAMs_20 20 42 33.1
comp=Z,909nm,20.0s
F10A Beach Ranch, E 128.77 299 IAMs_20 IAMs_20 20 45 18.7
comp=Z,986nm,22.0s
HOPS Hopland Field 128.88 289 IAMs_20 IAMs_20 20 46 04.4
comp=Z,1µm,20.0s
I07A Izee 129.23 296 **PKiKP** **19 49 39.4 -0.2**
I07A PP **PP** **19 51 45.2 -3.1**
I07A IAMs_20 IAMs_20 20 45 16.0
comp=Z,1µm,21.0s
WDC Whiskeytown Da 129.38 291 PKIKP **PKPdf** **19 49 38.7 -0.4**
WDC MLR MLR
comp=Z,900nm,21.0s
WDC Whiskeytown Da 129.38 291 PKPdf **PKPdf** **19 49 38.7 -0.4**
WDC IAMs_20 IAMs_20 20 42 13.2
comp=Z,888nm,21.0s
K05A Summer Lake 129.42 294 PKPdf **PKPdf** **19 49 39.6 +0.2**
K05A IAMs_20 IAMs_20 20 46 07.2
comp=Z,1µm,20.0s
DGZ Jazzator, Alta 129.46 56 *de*PKIKP **PKPdf** **19 49 39.2 0.0**
DGZ MLR MLR
comp=Z,2µm,19.0s
GYA Guiyang 129.49 91 PKP **PKPdf** **19 49 39.9 0.0**
GYA SKKS 19 58 45.0
GYA AMB AMB
comp=Z,160nm,5.3s
GYA LR LR
comp=Z,580nm,16.9s
GYA LR LR
comp=Z,840nm,17.1s
GYA LR LR
comp=Z,1µm,19.4s
G08A Pilot Rock 129.49 298 PKPdf **PKPdf** **19 49 39.6 +0.2**
G08A IAMs_20 IAMs_20 20 47 58.8
comp=Z,719nm,19.0s
E09A Wood Farm, Sta 129.59 300 IAMs_20 IAMs_20 20 47 02.4
comp=Z,858nm,20.0s
NEW Newport 129.82 302 PKIKP **PKPdf** **19 49 39.0 -0.8**
NEW MLR MLR
comp=Z,1µm,21.0s
NEW Newport 129.82 302 **PKPdf** **19 49 39.0 -0.8**
NEW Newport 129.82 302 IAMs_20 IAMs_20 20 48 19.1
comp=Z,1µm,21.0s
KMRM Mail Ridge 129.95 290 IAMs_20 IAMs_20 20 48 23.4
comp=Z,1µm,20.0s
ZAA0 Zalesovo Array 129.95 50 PKPdf **PKPdf** **19 49 38.8 -0.9**
ZAA0 IAMs_20 IAMs_20 20 48 16.1
comp=Z,1µm,20.0s
ZALV Zalesovo Beam 129.95 50 PKP **PKPdf** **19 49 39.4 -0.3**
comp=Z,2.5nm,0.8s,baz=251,slow=4.5,SNR=8.6
ZALV SKKPbc SKKPbc 20 02 48.4 +3.8
comp=Z,0.4nm,0.6s,baz=326,slow=2.1,SNR=4.2
ZALV Zalesovo Beam 129.95 50 PKPdf **PKPdf** **19 49 37.3 -2.4**
YBH Yreka Blue Hor 130.08 292 IAMs_20 IAMs_20 20 42 02.8
comp=Z,1µm,22.0s
E08A Dider Farm, El 130.14 299 IAMs_20 IAMs_20 20 47 27.8
comp=Z,942nm,20.0s
CD2 Chengdu 130.18 85 PKP **PKPdf** **19 49 40.9 -0.1**
C09A Chrisman Ranch 130.28 301 PKPdf **PKPdf** **19 49 39.0 -1.6**
C09A PP **PP** **19 51 48.3 -6.7**
C09A IAMs_20 IAMs_20 20 47 45.5
comp=Z,683nm,20.0s
KHMM Horse Mountain 130.30 291 IAMs_20 IAMs_20 20 47 51.8
comp=Z,814nm,21.0s
D08A Wollman Farm, 130.32 300 PKPdf **PKPdf** **19 49 40.6 -0.1**
D08A IAMs_20 IAMs_20 20 43 24.6
comp=Z,902nm,22.0s
HAWA Hanford 130.38 299 IAMs_20 IAMs_20 20 45 35.2
comp=Z,1µm,21.0s
F07A Phinny Hill Vi 130.38 298 IAMs_20 IAMs_20 20 46 51.3
comp=Z,820nm,20.0s
G06A Carlson Farm, 130.50 297 PKPdf **PKPdf** **19 49 40.4 -0.8**
G06A PP **PP** **19 51 49.2 -7.2**
E07A Sunnyside 130.65 299 IAMs_20 IAMs_20 20 45 42.4
comp=Z,975nm,21.0s
B08A Colville Reser 131.17 301 PKPdf **PKPdf** **19 49 41.7 -0.6**
B08A IAMs_20 IAMs_20 20 46 28.0
comp=Z,909nm,21.0s
LTY Liberty 131.47 299 IAMs_20 IAMs_20 20 44 47.0
comp=Z,1µm,21.0s
RES Resolute Bay 131.56 339 IAMs_20 IAMs_20 20 50 50.9
comp=Z,672nm,20.0s
LON Longmire 131.93 298 PKIKP **PKPdf** **19 49 43.5 -0.3**
LON MLR MLR
comp=Z,1µm,20.0s
LON Longmire 131.93 298 **PKPdf** **19 49 43.5 -0.3**
GTA Gaotai 132.18 73 *e*PKP **PKPdf** **19 49 44.9 +0.2**
GTA LR LR
comp=Z,750nm,23.0s
GTA LR LR
comp=Z,1µm,23.0s
GTA LR LR
comp=Z,1µm,23.8s
B06A Marblemount 132.53 301 IAMs_20 IAMs_20 20 46 11.9
comp=Z,1µm,22.0s
LZH Lanzhou 133.16 79⇑ PKP **PKPdf** **19 49 45.9 -0.8**
LZH sPKP 19 49 55.3
LZH PP **PP** **19 52 18.8 +4.9**
LZH PKS **PKSdf** **19 53 16.8 -6.4**
LZH SKKS 19 59 09.3
LZH SS **SS** **20 09 53.0 -4.2**
LZH AMB AMB
comp=Z,420nm,9.2s
LZH LR LR
comp=Z,640nm,18.4s
LZH LR LR
comp=Z,1µm,19.7s
LZH LR LR
comp=Z,2µm,21.8s
NLWA Neilton Lookou 133.48 298 IAMs_20 IAMs_20 20 47 58.3
comp=Z,1µm,22.0s
LLLB Lillooet 133.64 303 PKPdf **PKPdf** **19 49 45.9 -1.0**
LLLB IAMs_20 IAMs_20 20 50 27.1
comp=Z,798nm,20.0s
ENH Enshi 133.78 89 **PKPdf** **19 49 46.1 -1.7**
YKA Yellowknife Ar 134.10 321 PKP **PKPdf** **19 49 46.8 -0.5**
comp=Z,2.8nm,0.8s,baz=121,slow=1.9,SNR=12
XAN Xi'an 135.54 85 PKP **PKPdf** **19 49 50.8 -0.2**
XAN Xi'an 135.54 85 PKIKP **PKPdf** **19 49 48.6 -2.5**
XAN Xi'an 135.54 85 **PKPdf** **19 49 48.6 -2.5**
XAN Xi'an 135.54 85 IAMs_20 IAMs_20 20 42 54.5
comp=Z,899nm,21.0s
NRIK Noril'sk 136.12 30 PKP **PKPdf** **19 49 50.9 0.0**
comp=Z,2.6nm,0.8s,baz=275,slow=0.9,SNR=7.2
NRIK Noril'sk 136.12 30 *i* PKIKP **PKPdf** **19 49 49.7 -1.2**
WHN Wuhan 137.33 93 PKPbc **PKiKP** **19 50 01.8 +5.6**
WHN PP PP 19 52 49.1 +9.1
WHN PKS **PKSdf** **19 53 36.0 +5.4**
YULB Yu-li 137.52 107 IAMs_20 IAMs_20 20 52 09.3
comp=Z,1µm,18.0s
SSLB Suanglung 137.56 106 IAMs_20 IAMs_20 20 41 02.4
comp=Z,868nm,20.0s
MOY Mondy 138.14 58 *e*PKIKP **PKPdf** **19 49 50.3 -5.0**
MOY pmax pmax
comp=Z,93nm,3.8s
NACB Ninganchiao 138.25 106 IAMs_20 IAMs_20 20 41 57.7
comp=Z,988nm,22.0s
YHNB Yeheng 138.44 105 IAMs_20 IAMs_20 20 43 01.7
comp=Z,998nm,20.0s
TATO Taipei 138.72 105 IAMs_20 IAMs_20 20 40 59.3
comp=Z,912nm,19.0s
ZAK Zakamensk 139.08 60 *e*PKHKP PKPpre 19 49 48.8
ZAK pmax pmax
comp=Z,15nm,1.6s
C36M Paulatuk 139.16 329 IAMs_20 IAMs_20 20 45 05.5
comp=Z,892nm,22.0s
BTO Baotou 139.61 77 *e*PKP **PKPdf** **19 49 58.5 +0.1**
TLY Talaya 139.71 59 *de*PKIKP **PKPdf** **19 49 58.0 -0.1**
TIY Taiyuan 139.90 82 *e*PKP **PKiKP** **19 50 01.3 -0.1**
TIY sPKP 19 50 08.1
TIY PP **PP** **19 52 59.9 +3.9**
TIY AMB AMB
comp=Z,350nm,5.4s
TIY LR LR
comp=Z,690nm,15.7s
TIY LR LR
comp=Z,570nm,14.1s
TIY LR LR
comp=Z,680nm,16.9s
SONM Songino Array 140.14 65 PKP **PKPdf** **19 49 59.0 -0.1**
comp=Z,4.2nm,0.8s,baz=220,slow=4.8,SNR=13
SONM Songino Array 140.14 65 PKPpre 19 49 50.3
SONM PKPdf **PKPdf** **19 49 58.5 -0.7**
IRK Irkutsk 140.25 58 *e*PKIKP **PKPdf** **19 49 56.4 -2.6**
IRK pmax pmax
comp=Z,74nm,1.8s
DLBC Dease Lake 140.51 312 PKPpre PKPpre 19 49 49.9
DLBC PKPdf **PKPdf** **19 49 59.4 0.0**
ULN Ulaanbaatar 140.57 65 PKIKP **PKPdf** **19 49 59.4 -0.6**
ULN Ulaanbaatar 140.57 65 PKPpre PKPpre 19 49 50.0
ULN PKPdf **PKPdf** **19 49 59.4 -0.6**
HHC Hu-ho-hao-te 140.77 78 *e*PKP **PKPdf** **19 50 01.8 +1.3**
HHC PP **PP** **19 53 07.3 +5.9**
HHC AMB AMB
comp=Z,170nm,6.6s
HHC LR LR
comp=Z,310nm,19.2s
HHC LR LR
comp=Z,750nm,18.2s
HHC LR LR
comp=Z,930nm,20.9s
NJ2 Nanjing 141.33 94 *e*PKP **PKPdf** **19 50 01.3 -0.3**
NJ2 PP **PP** **19 53 03.9 -0.8**
NJ2 SS SS 20 11 35.8 +1.8
NJ2 AMB AMB
comp=Z,470nm,4.3s
NJ2 LR LR
comp=Z,1µm,17.1s
NJ2 LR LR
comp=Z,660nm,17.1s
NJ2 LR LR
comp=Z,780nm,18.0s
WRAK Wrangell Islan 141.36 308 IAMs_20 IAMs_20 20 52 17.8
comp=Z,1µm,20.0s
SSE Sheshan 142.39 97 PKP **PKPdf** **19 50 03.0 -0.5**
SSE SS SS 20 11 48.3 +2.1
SSE AMB AMB
comp=Z,200nm,4.5s
SSE LR LR
comp=Z,390nm,20.8s
SSE LR LR
comp=Z,360nm,24.1s
INK Inuvik 142.61 328 PKHKP PKPpre 19 49 57.4
INK MLR MLR
comp=Z,1µm,21.0s
INK Inuvik 142.61 328 PKPpre 19 49 57.4
JIS Juneau Island 142.75 311 **PKPdf** **19 50 00.2 -3.1**
BESE Bessie Mountai 143.04 312 PKPpre 19 49 57.5
BESE PKPdf PKPbc 19 50 01.5 +0.7
BESE IAMs_20 IAMs_20 20 51 43.9
comp=Z,808nm,20.0s
SKAG Skagway 143.38 313 PKPab 19 50 00.8 +0.4
BJT Baijiatuao 143.55 81 PKIKP PKPab 19 50 02.2 +0.4
BJT MLR MLR
comp=Z,900nm,20.0s
BJT Baijiatuao 143.55 81 PKPab 19 50 02.2 +0.4
BJT Baijiatuao 143.55 81 IAMs_20 IAMs_20 20 59 17.7
comp=Z,943nm,20.0s
BJI Beijing 143.56 81 PKP PKPbc 19 50 02.9 +0.2
BJI SS SS 20 12 03.3 +3.5
BJI LR LR
comp=Z,400nm,21.1s
BJI LR LR
comp=Z,740nm,22.6s
BJI LR LR
comp=Z,1µm,24.0s
EPYK Eagle Plains 144.01 325 PKPdf **PKPab** **19 50 02.4 -0.5**
EPYK IAMs_20 IAMs_20 20 57 36.0
comp=Z,709nm,19.0s
JOW Kunigami 144.48 110 PKP **PKPdf** **19 50 07.0 -0.3**
comp=Z,0.7nm,0.7s,baz=153,slow=12,SNR=5.7
JOW Kunigami 144.48 110 **PKPab** **19 50 05.5 -0.2**
HYT Haines Junctio 144.55 315 PKPdf PKPbc 19 50 05.5 +0.2
CIT Chita 145.74 61 *e*PKP2 **PKPbc** **19 50 09.4 +0.1**
CIT pmax pmax
comp=Z,602nm,2.3s
PCA Pinnacle 145.90 314 IAMs_20 IAMs_20 20 59 50.7
comp=Z,730nm,18.0s
EGAK Eagle 146.03 322 PKPdf **PKPdf** **19 50 08.0 -0.8**
EGAK IAMs_20 IAMs_20 20 49 58.4
comp=Z,1µm,22.0s
BCAR Beaver Creek A 146.50 319 PKPdf **PKPdf** **19 50 10.0 +0.3**
BARN Barnard Glacie 146.57 316 **PKPdf** **19 50 10.4 +0.3**
YAH Yahtse 146.64 314 **PKPdf** **19 50 09.2 -1.1**
BOD Bodaibo 146.70 50 *e*PKP2 **PKPbc** **19 50 11.2 -0.7**
BOD pmax pmax
comp=Z,183nm,2.2s
DL2 Dalian 146.82 86 PKPbc **PKPdf** **19 50 11.8 +0.8**
DL2 PP **PP** **19 53 43.3 +5.7**
DL2 SS SS 20 12 42.5 +5.4
DL2 AMB AMB
comp=Z,180nm,7.5s
DL2 LR LR
comp=Z,430nm,19.2s
DL2 LR LR
comp=Z,480nm,21.2s
DL2 LR LR
comp=Z,1µm,22.6s
BMAR Burnt Mountain 146.88 328 PKPdf **PKPdf** **19 50 07.9 -2.3**
BALM Baldy 146.91 316 **PKPdf** **19 50 08.3 -2.3**
BALM IAMs_20 IAMs_20 20 59 15.3
comp=Z,714nm,21.0s
WAX Waxell Ridge 147.19 315 IAMs_20 IAMs_20 20 58 53.6
comp=Z,957nm,19.0s
FYU Fort Yukon 147.35 326 PKPdf **PKPdf** **19 50 10.2 -0.7**
FYU IAMs_20 IAMs_20 20 57 32.7
comp=Z,664nm,21.0s
SCRK Sand Creek 147.36 321 PKPdf **PKPbc** **19 50 12.7 -1.0**
SCRK IAMs_20 IAMs_20 20 57 48.5
comp=Z,741nm,20.0s
VRDI Verde Repeater 147.43 316 PKPdf **PKPdf** **19 50 09.6 -2.0**
VRDI IAMs_20 IAMs_20 20 57 38.0
comp=Z,835nm,22.0s
DOT Dot Lake 147.44 321 **PKPdf** **19 50 11.5 +0.2**
DOT IAMs_20 IAMs_20 20 54 07.1
comp=Z,794nm,22.0s
GLB Gilahina Butte 147.59 317 PKPdf **PKPdf** **19 50 11.3 -0.3**
GLB IAMs_20 IAMs_20 20 49 34.1
comp=Z,953nm,22.0s
PRP Porcupine Dome 147.71 324 PKPdf **PKPdf** **19 50 11.9 +0.1**
PRP IAMs_20 IAMs_20 21 02 21.3
comp=Z,822nm,22.0s
RIDG Independent Ri 147.77 321 **PKPdf** **19 50 12.2 +0.3**
RIDG PKPbc **PKPbc** **19 50 14.5 -0.3**
RIDG IAMs_20 IAMs_20 20 53 56.5
comp=Z,980nm,20.0s
HARP HAARP 148.12 318 **PKPdf** **19 50 11.2 -1.2**
HARP PKPbc **pPKPdf** **19 50 16.6 +0.4**
HARP IAMs_20 IAMs_20 20 55 47.8
comp=Z,735nm,21.0s
TOLK Toolik Lake Re 148.27 331 **PKPbc** **19 50 15.8 -0.1**
TOLK IAMs_20 IAMs_20 21 05 25.7
comp=Z,920nm,21.0s
IL31 148.44 323 PKPdf **PKPdf** **19 50 11.1 -1.7**
IL31 **PKPbc** **19 50 16.3 -0.1**
ILAR Eielson Array 148.44 323 PKP **PKPdf** **19 50 12.8 0.0**
comp=Z,14nm,0.9s,baz=27,slow=1.0,SNR=63

ILAR				PKPbc	**PKPbc**	19 50 16.1	-0.3		
	comp=Z,14nm,0.9s,baz=68,slow=1.2,SNR=66								
ILAR	**Eielson Array**	**148.44**	**323**	PKIKP	**PKPdf**	19 50 11.5	-1.4		
ILAR						19 50 16.5			
ILAR	**Eielson Array**	**148.44**	**323**		**PKPdf**	19 50 11.5	-1.4		
ILAR				PKPbc	**PKPbc**	19 50 16.5	+0.1		
HDA	**Harding Lake**	**148.55**	**322**		**PKPdf**	19 50 11.3	-1.8		
HDA				PKPbc	**PKPbc**	19 50 15.9	-0.8		
HDA				IAMs_20	IAMs_20	20 51 20.9			
	comp=Z,881nm,21.0s								
EYAK	**Cordova Ski Ar**	**148.61**	**315**		**PKPbc**	19 50 17.1	+0.2		
COLA	**College**	**148.82**	**324**	PKP2	**PKPbc**	19 50 16.5	-0.9		
COLA	**College**	**148.82**	**324**	PKPdf	**PKPdf**	19 50 11.7	-1.7		
COLA					**PKPbc**	19 50 16.5	-0.9		
COLA	**College**	**148.82**	**324**	IAMs_20	IAMs_20	20 59 34.0			
	comp=Z,891nm,20.0s								
CCB	**Clear Creek Bu**	**148.85**	**323**		**PKPdf**	19 50 11.6	-1.9		
CCB				PKPbc	**pPKPdf**	19 50 17.2	0.0		
CCB				IAMs_20	IAMs_20	21 01 27.9			
	comp=Z,789nm,19.0s								
FID	**Port Fidalgo**	**148.95**	**315**	PKPdf	**PKPdf**	19 50 12.0	-1.8		
FID					**PKPbc**	19 50 17.9	0.0		
MDM	**Murphy Dome**	**148.95**	**324**		**PKPbc**	19 50 16.8	-1.0		
TIXI	**Tiksi**	**148.97**	**22**[]	*e*PKIKP	**PKPdf**	19 50 15.0	+1.5		
TIXI				MLR	MLR				
	comp=Z,1μm,22.0s								
TIXI	**Tiksi**	**148.97**	**22**	PKPdf	**PKPdf**	19 50 11.1	-2.4		
TIXI					**pPKPdf**	19 50 16.4	-0.8		
WRH	**Wood River Hil**	**149.02**	**323**	PKPdf	**PKPdf**	19 50 10.9	-2.9		
WRH				PKPbc	**pPKPdf**	19 50 17.6	+0.1		
WRH				IAMs_20	IAMs_20	20 58 56.2			
	comp=Z,935nm,22.0s								
HIA	**Hailar**	**149.04**	**67**	PKP2	**PKPbc**	19 50 18.0	-0.5		
HIA	**Hailar**	**149.04**	**67**	PKPdf	**PKPdf**	19 50 12.3	-2.1		
HIA					**PKPbc**	19 50 18.0	-0.5		
SCM	**Sheep Creek Mo**	**149.21**	**318**	PKP2	**PKPbc**	19 50 19.0	+0.4		
SCM	**Sheep Creek Mo**	**149.21**	**318**	PKPdf	**PKPdf**	19 50 13.8	-0.5		
SCM					**PKPbc**	19 50 19.0	+0.4		
SCM				IAMs_20	IAMs_20	21 04 28.4			
	comp=Z,593nm,20.0s								
GLI	**Glacier Island**	**149.23**	**316**	IAMs_20	IAMs_20	20 58 57.6			
	comp=Z,1μm,22.0s								
MCK	**McKinley**	**149.56**	**322**	PKP2	**PKPbc**	19 50 18.9	-0.4		
MCK	**McKinley**	**149.56**	**322**	PKPdf	**PKPdf**	19 50 13.6	-1.2		
MCK				PKPbc	**PKPbc**	19 50 18.9	-0.4		
MCK				IAMs_20	IAMs_20	20 52 15.6			
	comp=Z,923nm,21.0s								
TJN	**Taejon**	**149.59**	**95***d*	*i*PKP2	**PKPbc**	19 50 19.4	-0.8		
RND	**Reindeer**	**149.60**	**321**	PKP2	**PKPbc**	19 50 19.9	+0.4		
RND	**Reindeer**	**149.60**	**321**		**PKPdf**	19 50 14.3	-0.5		
RND				PKPbc	**PKPbc**	19 50 19.9	+0.4		
INCN	**Inchon**	**149.64**	**92**	P	**PKiKP**	19 50 21.0	-0.4		
INCN	**Inchon**	**149.64**	**92**	PKP2	**PKPbc**	19 50 19.8	-0.5		
INCN	**Inchon**	**149.64**	**92**	PKPdf	**PKPdf**	19 50 12.6	-3.1		
INCN					**PKPbc**	19 50 19.8	-0.5		
SML	**Sawmill**	**149.68**	**318**		**PKPdf**	19 50 13.0	-2.1		
SML				PKPab	**pPKPab**	19 50 27.6	-1.1		
SML				IAMs_20	IAMs_20	20 59 43.1			
	comp=Z,938nm,19.0s								
KNK	**Knik Glacier**	**149.81**	**317**		**PKPdf**	19 50 12.6	-2.6		
KNK				PKPbc	**sPKPdf**	19 50 20.2	+0.1		
KNK				PKPab	**pPKPab**	19 50 27.9	-1.3		
KNK				IAMs_20	IAMs_20	21 03 43.3			
	comp=Z,766nm,20.0s								
GHO	**Glory Hole Cre**	**149.97**	**318**	PKPdf	**PKPdf**	19 50 11.9	-3.6		
GHO					**pPKPdf**	19 50 19.7	+0.5		
GHO				PKPab	**PKPab**	19 50 26.8	+0.5		
GHO				IAMs_20	IAMs_20	20 59 49.4			
	comp=Z,880nm,20.0s								
TRF	**Thorofare Moun**	**150.21**	**321**	PKPdf	**PKPdf**	19 50 15.0	-0.9		
TRF				PKPbc	**PKiKP**	19 50 21.7	-0.2		
TRF				PKPab	**PKPab**	19 50 28.0	+0.7		
JNU	**Nakatsue**	**150.22**	**103**	PKP	**PKPdf**	19 50 17.5	+0.7		
	comp=Z,30nm,1.2s,baz=159,slow=7.3,SNR=8.9								
JNU				PKPbc	**sPKPdf**	19 50 21.8	0.0		
	comp=Z,30nm,1.2s,baz=117,slow=7.2,SNR=5.8								
JNU	**Nakatsue**	**150.22**	**103**	PKPdf	**PKPdf**	19 50 13.5	-3.3		
JNU					**pPKPdf**	19 50 20.6	+0.1		
BPAW	**Bear Paw Mtn.**	**150.34**	**323**	PKPdf	**PKPdf**	19 50 15.2	-0.7		
BPAW					**sPKPdf**	19 50 20.5	-0.4		
BPAW				IAMs_20	IAMs_20	20 57 28.0			
	comp=Z,677nm,20.0s								
KTH	**Kantishna Hill**	**150.46**	**322**	PKPdf	**PKPdf**	19 50 15.0	-1.2		
KTH				PKPab	**PKPab**	19 50 28.9	+0.7		
KTH				IAMs_20	IAMs_20	21 00 41.4			
	comp=Z,842nm,22.0s								
RC01	**Rabbit Creek A**	**150.47**	**317**	IAMs_20	IAMs_20	20 59 59.3			
	comp=Z,983nm,22.0s								
KSAR	**Wonju Array Be**	**150.49**	**93**	PKIKP	**PKPbc**	19 50 22.4	+0.1		
KSAR	**Wonju Array Be**	**150.49**	**93**		**PKPdf**	19 50 14.7	-2.2		
KSAR				PKPbc	**PKPbc**	19 50 22.4	+0.1		
SEW	**Seward**	**150.49**	**315**		**PKPbc**	19 50 21.7	+0.2		
SEW				PKPab	**PKPab**	19 50 29.2	+1.0		
SEW				IAMs_20	IAMs_20	21 03 34.0			
	comp=Z,883nm,20.0s								
KSRS	**Korea Array**	**150.52**	**93**	PKP	**PKPdf**	19 50 16.6	-0.4		
	comp=Z,4.8nm,1.0s,baz=223,slow=2.0,SNR=18								
KSRS				PKPbc	**PKiKP**	19 50 23.1	0.0		
	comp=Z,10.0nm,0.8s,baz=267,slow=3.1,SNR=16								
KSRS				PKPab	**PKPab**	19 50 30.1	+0.9		
	comp=Z,29nm,0.8s,baz=259,slow=3.0,SNR=25								
IMAR	**Indian Mountai**	**150.80**	**327**		**PKPdf**	19 50 15.0	-1.5		
IMAR				PKPab	**PKPab**	19 50 30.0	+0.5		
PPLA	**Purkeypile**	**151.19**	**321**	PKPdf	**PKPdf**	19 50 16.5	-0.9		
PPLA				PKPab	**PKPab**	19 50 31.4	0.0		
PPLA				IAMs_20	IAMs_20	21 13 10.9			
	comp=Z,964nm,21.0s								
BRLK	**Bradley Lake**	**151.25**	**314**	PKPdf	**PKPdf**	19 50 15.8	-1.7		
BRLK				PKPab	**PKPab**	19 50 31.1	-0.4		
CN2	**Changchun**	**151.39**	**80**	PKPbc	**PKPdf**	19 50 18.1	-0.1		
CN2				PP	**PP**	19 54 07.6	+3.5		
CN2				SKKS		20 00 53.8			
CN2				SS	**SS**	**20 13 25.6**	**-2.6**		
CN2				AMB	AMB				
	comp=Z,900nm,3.0s								
CN2				LR	LR				
	comp=Z,900nm,20.0s								
CN2				LR	LR				
	comp=Z,700nm,20.0s								
CN2				LR	LR				
	comp=Z,1μm,23.0s								
CNPM	**China Poot**	**151.47**	**314**	IAMs_20	IAMs_20	20 59 51.0			
	comp=Z,938nm,19.0s								
RDOG	**Red Dog Mine**	**152.84**	**335**	IAMs_20	IAMs_20	21 06 10.9			
	comp=Z,985nm,21.0s								
TTA	**Tatalina**	**152.84**	**322**	PKIKP	**PKPdf**	19 50 18.7	-1.1		
TTA	**Tatalina**	**152.84**	**322**	PKPdf	**PKPdf**	19 50 18.7	-1.1		
TTA				PKPbc	**PKiKP**	19 50 27.9	+0.6		
TTA				PKPab	**sPKPbc**	19 50 34.3	+2.3		
YAK	**Yakutsk**	**153.84**	**39**	*e*PKIKP	**PKPdf**	19 50 16.8	-4.4		
YAK				*e*		19 54 13.5			
YAK				pmax	pmax				
	comp=Z,37nm,1.3s								
YAK				pmax	pmax				
	comp=N,10.0nm,1.7s								
YAK				pmax	pmax				
	comp=E,11nm,1.2s								
YAK				pmax	pmax				
	comp=Z,361nm,4.4s								
YAK				pmax	pmax				
	comp=N,163nm,4.3s								
YAK				pmax	pmax				
	comp=E,229nm,4.4s								
YAK	**Yakutsk**	**153.84**	**39**	PKPdf	**PKPdf**	19 50 20.5	-0.7		
YAK				PKPbc	**sPKPdf**	19 50 27.1	+1.0		
YAK				PKPab	**sPKPbc**	19 50 35.5	+1.4		
ZEA	**Zeya**	**154.15**	**59**	*i*PKIKP	**PKPdf**	19 50 21.0	-0.9		
ZEA				pmax	pmax				
	comp=Z,73nm,1.6s								
ZEA				pmax	pmax				
	comp=Z,500nm,6.0s								
MDJ	**Mudanjiang**	**154.48**	**80**	PKPbc	**PKPdf**	19 50 22.0	-0.7		
MDJ				PP	**PP**	19 54 21.1	-0.5		
MDJ				AMB	AMB				
	comp=Z,470nm,4.7s								
MDJ				LR	LR				
	comp=Z,650nm,16.2s								
MDJ				LR	LR				
	comp=Z,810nm,21.1s								
MDJ				LR	LR				
	comp=Z,820nm,21.2s								
MDJ	**Mudanjiang**	**154.48**	**80**		**PKPdf**	19 50 20.6	-2.1		
VLA	**Vladivostok**	**155.61**	**85**[]	*e*PKIKP	**PKPdf**	19 50 23.7	-0.5		
ANM	**Nome**	**155.75**	**330**	IAMs_20	IAMs_20	21 11 43.1			
	comp=Z,1μm,22.0s								
USRK	**Ussuriysk Ar.**	**156.01**	**82**	PKPbc	PKPdf	19 50 32.7	+8.0		
	comp=Z,2.8nm,0.8s,baz=235,slow=8.6,SNR=5.9								
USRK				PKPab	**PKPab**	19 50 52.4	+0.3		
	comp=Z,3.5nm,0.8s,baz=241,slow=4.5,SNR=3.1								
USRK	**Ussuriysk Ar.**	**156.01**	**82**	PKIKP	**PKPdf**	19 50 23.7	-1.1		
USRK						19 50 32.7			
USRK						19 50 52.4			
USRK	**Ussuriysk Ar.**	**156.01**	**82**	PKPdf	**PKPdf**	19 50 23.7	-1.1		
MAT	**Matsushiro**	**157.11**	**105**	*e*PKP	**PKPdf**	19 50 25.4	-1.1		
MJAR	**Matsushiro Arr**	**157.11**	**105**	PKP	**PKPdf**	19 50 24.6	-1.8		
	comp=Z,3.7nm,1.1s,baz=238,slow=4.3,SNR=5.5								
MJAR				PKPab	**PKPab**	19 50 57.5	+0.3		
	comp=Z,5.8nm,1.1s,baz=233,slow=6.1,SNR=4.4								
MJAR	**Matsushiro Arr**	**157.11**	**105**		**PKPab**	19 51 01.0	+3.9		
BILL	**Bilibino**	**158.01**	**360***d*	*i*PKIKP	**PKPdf**	19 50 24.6	-1.9		
BILL				*e*		19 54 45.9			
BILL				pmax	pmax				
	comp=Z,60nm,2.3s								
BILL	**Bilibino**	**158.01**	**360**	PKPdf	**PKPdf**	19 50 24.6	-1.9		
BILL				PKPab	**PKPab**	19 50 59.7	-0.3		
NKL	**Nikolayevsk**	**162.18**	**57**	*e*PKIKP	**PKPdf**	19 50 31.5	-0.1		
NKL				*e*		19 55 08.2			
NKL				*e*PPP	PPP	19 58 48.0			
MA2	**Magadan**	**163.72**	**29***d*	*e*PKIKP	**PKPdf**	19 50 31.0	-1.9		
YSS	**Yuzh-Sakhalins**	**163.96**	**79**	*i*PKIKP	**PKPdf**	19 50 34.4	+0.9		
YSS				*e*		19 51 26.9			
YSS				*e*		19 55 20.6			
YUK	**Yuzh-Kuril'sk**	**165.59**	**91**	*e*PKIKP	**PKPdf**	19 50 34.4	-0.7		
YUK				*i*		19 50 34.7			
YUK				*e*		19 50 41.3			
KUR	**Kuril'sk**	**167.25**	**87**[]	*e*PKIKP	**PKPdf**	19 50 36.0	-0.3		
PETK	**Petropavlovsk-**	**171.15**	**35**	PKP	**PKPdf**	19 50 37.8	-0.7		
	comp=Z,4.0nm,1.0s,baz=225,slow=7.8,SNR=4.8								
PETK				PKPab	**PKPab**	19 51 58.4	+0.2		
	comp=Z,7.6nm,1.1s,baz=66,slow=3.5,SNR=4.1								
PETK	**Petropavlovsk-**	**171.15**	**35**	PKIKP	**PKPdf**	19 50 36.9	-1.6		
PETK						19 51 58.2			
PETK	**Petropavlovsk-**	**171.15**	**35**		**PKPdf**	19 50 36.9	-1.6		
PETK				PKPab	**PKPab**	19 51 58.2	0.0		
PET	**Petropavlovsk**	**171.58**	**32**	*i*PKIKP	**PKPdf**	19 50 35.9	-2.8		
PET				*e*		19 51 56.5			
PET				*e*		19 55 53.4			
PET				*e*PPS	PPS	20 09 48.4			
PET				*e*SS	SS	20 16 52.6	-4.7		
PET				*e*SSS	SSS	20 23 41.2			
PET				pmax	pmax				
	comp=Z,25nm,1.2s								
PET				pmax	pmax				
	comp=Z,300nm,19.9s								
SKR	**Severo-Kuril's**	**171.96**	**52**[]	*e*PKIKP	**PKPdf**	19 50 37.9	-1.0		

*TAP **13** 19:48:19.8,24°.94N×122°.43E,h139km±1km,ML2.9,D*
*JMA **13** 19:48:20.1±0.1,24°.80N×122°.42E,h133km±2km,M1.8*

ISC 13 19:48:20.5±2.0,24°.90N±0°.07×122°.44E±0°.03,
h129km±12km, n48, σ0s47/80, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.43**	**285**	P	**Pn**	**19 48 39.3**	**+0.3**
	baz=280						
TIPB	**Shuangxi**	**0.56**	**278**	P	**Pn**	**19 48 39.9**	**+0.1**
	baz=273						
TIPB				S	**Sn**	**19 48 54.6**	**+0.2**
	baz=273						
TWC	**Suao**	**0.61**	**242**	*e*P	**Pn**	**19 48 39.9**	**-0.1**
	baz=237						
NWF	**Wu-fen Shan**	**0.62**	**286**	*e*P	**Pn**	**19 48 40.4**	**+0.1**
	baz=282						
NWF				*e*S	**Sn**	**19 48 55.5**	**+0.3**
	baz=282						
WFSB	**Wu-fen Shan**	**0.62**	**286**	*e*S	**Sn**	**19 48 55.3**	**+0.3**
	baz=282						
JYNG	**Yonagunijimaku**	**0.64**	**134**	P	**Pn**	**19 48 40.3**	**0.0**
JYNG				S	**Sn**	**19 48 55.6**	**+0.4**
YOJ	**Yonaguni jima**	**0.68**	**130**	P	**Pn**	**19 48 40.9**	**+0.4**
	baz=131						
YOJ				*e*S	**Sn**	**19 48 56.3**	**+0.6**
	baz=131						
YOJ	**Yonaguni jima**	**0.68**	**130**	*e*S	**Sn**	**19 48 55.9**	**+0.3**
TWE	**Neicheng**	**0.73**	**256**	P	**Pn**	**19 48 41.0**	**+0.2**
	baz=252						
TWA	**Mucha**	**0.78**	**276**	P	**Pn**	**19 48 41.1**	**-0.3**
	baz=273						
TWA				*e*S	**Sn**	**19 48 56.5**	**-0.7**
	baz=273						
ENA	**Nanau**	**0.79**	**234**	*e*P	**Pn**	**19 48 41.6**	**+0.2**
	baz=230						
ENA				*e*S	**Sn**	**19 48 57.3**	**0.0**
	baz=230						
ENTT	**Nioudou**	**0.84**	**252**	*e*P	**Pn**	**19 48 41.9**	**+0.1**
	baz=249						
ENTT				*e*S	**Sn**	**19 48 59.0**	**+1.0**
	baz=249						
YM04	**YM04**	**0.86**	**287**	P	**Pn**	**19 48 41.9**	**-0.1**
	baz=284						
YM04				S	**Sn**	**19 48 57.7**	**-0.7**
	baz=284						
NWLT	**Wulai**	**0.86**	**262**	P	**Pn**	**19 48 41.7**	**-0.4**
	baz=259						
NWLT				*e*S	**Sn**	**19 48 58.4**	**0.0**
	baz=259						
TATO	**Taipei**	**0.87**	**275**	*e*P	**Pn**	**19 48 41.7**	**-0.3**
	baz=272						
TATO				*e*S	**Sn**	**19 48 57.2**	**-1.2**
	baz=272						
NDT	**Datong Townshi**	**0.89**	**251**	P	**Pn**	**19 48 42.7**	**+0.4**
	baz=248						
NDT				*e*S	**Sn**	**19 48 59.3**	**+0.5**
	baz=248						
TWS1	**Kuangyinshan**	**0.95**	**283**	*e*S	**Sn**	**19 48 59.6**	**-0.1**
	baz=280						
YHNB	**Yeheng**	**0.99**	**257**	P	**Pn**	**19 48 43.2**	**-0.1**
	baz=254						
YHNB				*e*S	**Sn**	**19 49 00.1**	**-0.5**
	baz=254						
NACB	**Ninganchiao**	**1.05**	**227**	*e*P	**Pn**	**19 48 43.5**	**-0.3**
	baz=225						
NACB				*e*S	**Sn**	**19 49 01.2**	**-0.2**
	baz=225						
NNSB	**Datong**	**1.07**	**244**	*e*P	**Pn**	**19 48 44.3**	**+0.2**
	baz=242						
NNSB				*e*S	**Sn**	**19 49 01.9**	**-0.1**
	baz=242						
NNSH	**Datong**	**1.07**	**244**	*e*P	**Pn**	**19 48 44.2**	**+0.1**
	baz=242						
NNSH				*e*S	**Sn**	**19 49 01.8**	**-0.1**
	baz=242						
NNS	**Nan Shan**	**1.07**	**245**	*e*P	**Pn**	**19 48 44.4**	**+0.3**
	baz=242						
NNS				*e*S	**Sn**	**19 49 02.0**	**0.0**
	baz=242						
WLTB	**Daxi**	**1.08**	**268**	*e*S	**Sn**	**19 49 02.4**	**+0.5**
	baz=265						
ETLH	**Xiulin Townshi**	**1.11**	**232**	*e*P	**Pn**	**19 48 44.2**	**-0.2**
	baz=229						
ETLH				*e*S	**Sn**	**19 49 02.0**	**-0.6**
	baz=229						
TWD	**Chiawan**	**1.12**	**224**	*e*P	**Pn**	**19 48 43.8**	**-0.6**
	baz=221						
TWD				*e*S	**Sn**	**19 49 01.9**	**-0.7**
	baz=221						
IRIF	**Iriomote-Funau**	**1.30**	**115**	P	**Pn**	**19 48 46.2**	**-0.1**
IRIF				*e*S	**Sn**	**19 49 05.5**	**-0.3**
WHF	**Hehuan Shan**	**1.31**	**235**	*e*P	**Pn**	**19 48 46.8**	**-0.1**
	baz=233						
WHF				*e*S	**Sn**	**19 49 06.3**	**-0.5**
	baz=233						
TDCB	**Techi**	**1.33**	**242**	*e*S	**Sn**	**19 49 06.6**	**-0.1**
	baz=239						
NSTT	**Nanjuang**	**1.34**	**259**	*e*S	**Sn**	**19 49 05.7**	**-0.9**
	baz=256						
ESL	**Shilin**	**1.42**	**221**	*e*P	**Pn**	**19 48 47.9**	**+0.3**
	baz=218						
ESL				*e*S	**Sn**	**19 49 07.0**	**-1.2**
	baz=218						
CHGB	**Renai**	**1.42**	**234**	*e*P	**Pn**	**19 48 48.1**	**+0.2**
	baz=232						
CHGB				S	**Sn**	**19 49 08.8**	**+0.1**
	baz=232						
WHP	**Taichung City**	**1.50**	**246**	*e*P	**Pn**	**19 48 48.7**	**+0.2**
	baz=244						
WHP				*e*S	**Sn**	**19 49 09.7**	**-0.1**
	baz=244						
HATJ	**Hateruma jima**	**1.50**	**124**	*e*S	**Sn**	**19 49 09.3**	**-0.4**
JKRS	**Kuro-shima**	**1.57**	**114**	P	**Pn**	**19 48 49.6**	**+0.3**
JKRS				*e*S	**Sn**	**19 49 11.4**	**+0.2**
DPDB	**Guoxing**	**1.63**	**238**	*e*S	**Sn**	**19 49 12.8**	**+0.3**
	baz=236						
JIJ	**Ishigaki jima**	**1.64**	**109**	P	**Pn**	**19 48 50.2**	**+0.2**
JIJ				*e*S	**Sn**	**19 49 11.7**	**-0.9**
VWDT	**VWDT**	**1.64**	**226**	*e*P	**Pn**	**19 48 50.3**	**+0.1**
	baz=224						
VWDT				*e*S	**Sn**	**19 49 12.5**	**-0.3**
	baz=224						
HGSD	**Ruisui**	**1.68**	**214**	*e*S	**Sn**	**19 49 13.4**	**-0.1**
	baz=212						
JISG	**Ishigakijimahi**	**1.73**	**100**	P	**Pn**	**19 48 51.0**	**-0.1**
JISG				*e*S	**Sn**	**19 49 13.7**	**-0.7**
SMLT	**Sun Moon Lake**	**1.73**	**235**	*e*P	**Pn**	**19 48 52.5**	**+1.2**
	baz=232						
SMLT				*e*S	**Sn**	**19 49 15.4**	**+0.7**
	baz=232						
SSLB	**Suanglung**	**1.75**	**231**	*e*S	**Sn**	**19 49 15.5**	**+0.4**
	baz=229						
TYC	**Yuchr**	**1.75**	**236**	*e*S	**Sn**	**19 49 15.1**	**+0.2**
	baz=234						
YULB	**Yu-li**	**1.83**	**215**	*e*P	**Pn**	**19 48 51.5**	**-0.8**
	baz=213						
YULB				*e*S	**Sn**	**19 49 16.6**	**-0.1**
	baz=213						
WHYT	**Xinyi Township**	**1.88**	**231**	*e*P	**Pn**	**19 48 53.4**	**+0.4**
	baz=229						
WHYT				*e*S	**Sn**	**19 49 17.9**	**+0.1**
	baz=229						
FULB	**Fuli**	**1.99**	**212**	*e*P	**Pn**	**19 48 53.9**	**-0.4**
	baz=210						
FULB				*e*S	**Sn**	**19 49 19.8**	**-0.3**
	baz=210						
ALS	**Alishan**	**2.04**	**228**	*e*S	**Sn**	**19 49 22.6**	**+1.1**
	baz=226						
CHN5	**Tsauling**	**2.07**	**232**	*e*P	**Pn**	**19 48 55.6**	**+0.3**
	baz=230						
JTJ	**Tarama**	**2.07**	**97**	P	**Pn**	**19 48 55.4**	**+0.2**
JTJ				*e*S	**Sn**	**19 49 22.2**	**+0.4**

*NEIC **13** 19:49:56.6±0.6,62°.24N±0°.04×151°.16W±0°.08,*
h89km±10km, Error ellipse: s-maj=5.9km s-min=4.9km
az=125.0

AEIC 13 19:49:57±0.8, 62°.25N±0°.03×151°.20W±0°.09, h87km±7km,
ML2.6, Error ellipse: s-maj=6.1km s-min=4.3km
az=117.0, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPLA	**Purkeypile**	**0.80**	**325**	Pn	**Pn**	19 50 14.3	0.0
STLK	**Strandline Lak**	**0.81**	**202**		**Pn**	19 50 14.1	-0.3
STLK					**Sn**	19 50 27.3	0.0
SPCG	**Spurr Capps Gl**	**1.03**	**202**		**Pn**	19 50 16.6	-0.4
SPCG					**Sn**	19 50 31.9	0.0
SPNN	**North Nagishla**	**1.13**	**219**		**Pn**	19 50 18.1	0.0
SPNN					**Sn**	19 50 34.6	+0.5
SPU	**Mount Spurr**	**1.14**	**201**		**Pn**	19 50 17.7	-0.5
GHO	**Glory Hole Cre**	**1.18**	**113**		**Sn**	19 50 34.8	-0.1
GHO	**Glory Hole Cre**	**1.18**	**113**	Pn	**Pn**	19 50 18.0	-0.6
PMR	**Palmer**	**1.18**	**123**	Pn	**Pn**	19 50 17.8	-0.8
PMR				Sn	**Sn**	19 50 33.9	-0.9
TRF	**Thorofare Moun**	**1.28**	**19**		**Sn**	19 50 37.3	+0.1
TRF	**Thorofare Moun**	**1.28**	**19**	Pn	**Pn**	19 50 20.2	+0.3
KTH	**Kantishna Hill**	**1.32**	**5**	Pn	**Pn**	19 50 20.9	+0.6
KTH				Sn	**Sn**	19 50 37.8	-0.1
RC01	**Rabbit Creek A**	**1.36**	**148**		**Pn**	19 50 20.3	-0.4
RC01					**Sn**	19 50 38.8	+0.2
WAT1	**Susitna Watana**	**1.36**	**63**		**Pn**	19 50 20.6	-0.2
WAT2	**Susitna Watana**	**1.41**	**58**		**Pn**	19 50 20.9	-0.6
SML	**Sawmill**	**1.42**	**107**		**Sn**	19 50 40.6	+0.3
SML	**Sawmill**	**1.42**	**107**	Pn	**Pn**	19 50 19.6	-2.1
SML					**Sn**	19 50 39.8	-0.5
KNK	**Knik Glacier**	**1.55**	**122**		**Sn**	19 50 42.4	-0.7
RND	**Reindeer**	**1.59**	**42**	Pn	**Pn**	19 50 21.2	-2.5
RND				Sn	**Sn**	19 50 43.4	-0.6
WAT6	**Susitna Watana**	**1.65**	**77**		**Pn**	19 50 23.9	-0.7
CHUM	**Lake Minchumin**	**1.72**	**343**		**Pn**	19 50 24.9	-0.4
SLKM	**Skilak Lake**	**1.81**	**164**		**Pn**	19 50 26.1	-0.5
BPAW	**Bear Paw Mtn.**	**1.86**	**3**	Pn	**Pn**	19 50 27.2	-0.1
BPAW				Sn	**Sn**	19 50 49.2	-1.1
SCM	**Sheep Creek Mo**	**1.87**	**101**		**Pn**	19 50 26.4	-1.0
RSO	**Redoubt South**	**1.94**	**203**	Pn	**Pn**	19 50 27.1	-1.4
SVW2	**Sparrevohn**	**2.38**	**243**	Pn	**Pn**	19 50 34.3	+0.1
SVW2				Sn	**Sn**	19 51 02.9	+0.3
WRH	**Wood River Hil**	**2.64**	**31**	Pn	**Pn**	19 50 37.7	+0.2
WRH				Sn	**Sn**	19 51 07.2	-1.4

*IDC **13** 19:51:50.1±1.6,0°.32N×129°.56E,h

*THE **13** 19:56:57.2, 40°.44N × 26°.21E, h13km, ML2.6/7, Error ellipse: s-maj=1.0km s-min=0.5km az=78.0*
*BEO **13** 19:56:59.8±0.8, 40°.38N×25°.96E, h11km±8km, ML2.5/3*
ISC 13 19:56:56.9±0.8, **40°.43N**±0°.02×**26°.21E**±0°.02, **h15**km±7km, **n65**, σ0**70**/101, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GELI	**Tayfur-Gelibol**	**0.20**	**98**	PG	**Pg**	**19 57 01.5**	**-0.1**
GELI				SG	**Sg**	**19 57 04.5**	**-0.2**
ENEZ	**Enez**	**0.31**	**352**	P	**Pb**	**19 57 03.7**	**-0.5**
ENEZ				S	**Sb**	**19 57 08.3**	**-0.8**
ENEZ	**Enez**	**0.31**	**352**	PG	**Pg**	**19 57 03.6**	**+0.2**
ENEZ				SG	**Sb**	**19 57 08.5**	**-0.6**
GOKA	**anakkale-Gk**	**0.33**	**225**	*i* P	**Pg**	**19 57 04.0**	**+0.3**
GOKA				*i* S	**Sb**	**19 57 09.6**	**0.0**
GOKA				IAML		19 57 10.0	
	comp=N,2μm,0.7s						
GOKA				IAML		19 57 11.0	
	comp=E,2μm,0.6s						
ERIK	**Erikli-Kesan**	**0.34**	**43**	PG	**Pg**	**19 57 03.7**	**-0.1**
ERIK				SG	**Sg**	**19 57 08.5**	**0.0**
GADA	**Gvkgeada**	**0.34**	**225**	P	**Pb**	**19 57 04.3**	**-0.3**
GADA				S	**Sb**	**19 57 09.9**	**+0.2**
	comp=E,618nm,0.3s						
GADA	**Gvkgeada**	**0.34**	**225**	PG	**Pb**	**19 57 04.3**	**-0.3**
GADA				SG	**Sb**	**19 57 09.6**	**-0.1**
LPK	**Lapseki**	**0.42**	**97**	PG	**Pg**	**19 57 05.6**	**+0.2**
ALN	**Alexandroupoli**	**0.49**	**345**	P	**Pg**	**19 57 06.5**	**0.0**
ALN				S	**Sg**	**19 57 12.8**	**-0.3**
	comp=E,822nm,0.4s						
ALN	**Alexandroupoli**	**0.49**	**345**	P	**Pg**	**19 57 06.5**	**0.0**
ALN				S	**Sg**	**19 57 13.2**	**+0.2**
ALN				AML	AML	19 57 14.3	
	comp=E,2298μm,0.3s						
ALN				AML	AML	19 57 15.1	
	comp=N,966μm,0.4s						
SMTH	**Samothraki Isl**	**0.52**	**275**	P	**Pg**	**19 57 06.9**	**-0.3**
SMTH				S	**Sb**	**19 57 15.0**	**-0.1**
	comp=N,1μm,0.2s						
SMTH	**Samothraki Isl**	**0.52**	**275**	P	**Pg**	**19 57 06.9**	**-0.3**
SMTH				S	**Sg**	**19 57 14.6**	**+0.4**
SMTH				AML	AML	19 57 15.8	
	comp=E,2773μm,0.2s						
SMTH				AML	AML	19 57 18.3	
	comp=N,3254μm,0.1s						
KESN	**Edirne-Kesan**	**0.53**	**42**	*i* P	**Pg**	**19 57 06.7**	**-0.9**
KESN				*i* S	**Sg**	**19 57 14.4**	**-0.3**
KESN				IAML		19 57 15.0	
	comp=N,482nm,0.3s						
KESN				IAML		19 57 22.0	
	comp=E,583nm,0.3s						
BOZC	**Bozcaada**	**0.60**	**192**	PG	**Pg**	**19 57 08.6**	**0.0**
BOZC				SG	**Sb**	**19 57 17.9**	**+0.6**
BOZC	**Bozcaada**	**0.60**	**192**	*i* P	**Pg**	**19 57 08.1**	**-0.5**
BOZC				*i* P	**Pb**	**19 57 08.2**	**-0.8**
BOZC				IAML		19 57 15.0	
	comp=E,698nm,2.0s						
BOZC				*i* S	**Sb**	**19 57 17.6**	**+0.3**
BOZC				*i* S	**Sb**	**19 57 17.8**	**+0.6**
BOZC				IAML		19 57 18.0	
	comp=E,338nm,0.4s						
EZN	**Ezine**	**0.61**	**172**	P	**Pg**	**19 57 08.6**	**-0.2**
EZN				S	**Sb**	**19 57 17.8**	**+0.3**
	comp=E,368nm,0.1s						
EZN	**Ezine**	**0.61**	**172**	PG	**Pb**	**19 57 09.3**	**+0.1**
EZN				SG	**Sb**	**19 57 17.9**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**0.73**	**159**	*i* P	**Pg**	**19 57 10.7**	**-0.5**
BAYC				*i* S	**Sg**	**19 57 20.9**	**+0.1**
BAYC				IAML		19 57 21.0	
	comp=N,310nm,0.3s						
RKY	**Sarkoy-Tekirda**	**0.78**	**70**	PG	**Pg**	**19 57 11.4**	**-0.7**
SART	**Tekirdag**	**0.78**	**70**	*i* P	**Pg**	**19 57 11.3**	**-0.8**
KRBG	**Karabiga-Canak**	**0.83**	**92**	PG	**Pg**	**19 57 12.4**	**-0.6**
RDO	**Rodhopi**	**0.88**	**325**	P	**Pg**	**19 57 13.7**	**-0.3**
RDO				S	**Sb**	**19 57 26.4**	**+0.9**
	comp=N,312nm,0.1s						
RDO	**Rodhopi**	**0.88**	**325**	P	**Pg**	**19 57 13.6**	**-0.3**
RDO				AML	AML	19 57 28.3	
	comp=E,719μm,0.2s						
RDO				AML	AML	19 57 30.0	
	comp=N,509μm,0.1s						
LIA	**Limnos Island**	**0.95**	**236**	P	**Pb**	**19 57 14.9**	**-0.1**
LIA				S	**Sn**	**19 57 28.8**	**-0.1**
	comp=N,372nm,0.5s						
LIA	**Limnos Island**	**0.95**	**236**	P	**Pb**	**19 57 15.0**	**-0.1**
LIA				S	**Sg**	**19 57 26.9**	**-0.7**
LIA				AML	AML	19 57 31.8	
	comp=N,682μm,0.3s						
LIA				AML	AML	19 57 31.9	
	comp=E,567μm,0.2s						
KNL	**Balıkesir**	**1.02**	**98**	*i* P	**Pb**	**19 57 15.5**	**-0.7**
KNL				*i* S	**Sg**	**19 57 29.8**	**-0.1**
KNL				IAML		19 57 33.0	
	comp=N,542nm,0.2s						
KNL				IAML		19 57 34.0	
	comp=E,462nm,0.4s						
THAS	**Thassos island**	**1.15**	**279**	P	**Pb**	**19 57 17.5**	**-0.9**
THAS	**Thassos island**	**1.15**	**279**	P	**Pb**	**19 57 17.6**	**-0.9**
THAS				S	**Sb**	**19 57 32.2**	**-1.1**
THAS				AML	AML	19 57 36.2	
	comp=N,709μm,0.3s						
THAS				AML	AML	19 57 37.1	
	comp=E,501μm,0.4s						
AYVA	**Ayvalik**	**1.18**	**162**	*i* P	**Pb**	**19 57 19.2**	**+0.3**
AYVA				*i* S	**Sg**	**19 57 34.6**	**-0.3**
AYVA				IAML		19 57 36.0	
	comp=E,244nm,0.7s						
AYVA				IAML		19 57 38.0	
	comp=N,313nm,0.4s						
PRK	**Paraskevi**	**1.18**	**178**	P	**Pg**	**19 57 20.1**	**+0.5**
PRK				S	**Sg**	**19 57 35.3**	**+0.3**
PRK				AML	AML	19 57 37.8	
	comp=N,1541μm,0.5s						
PRK				AML	AML	19 57 38.0	
	comp=E,2058μm,0.6s						
SIGR	**SIGRI**	**1.25**	**193**	P	**Pn**	**19 57 19.9**	**+0.2**
SIGR				S	**Sg**	**19 57 37.0**	**-0.1**
	comp=E,490nm,0.3s						
SIGR	**SIGRI**	**1.25**	**193**	P	**Pn**	**19 57 19.9**	**+0.2**
SIGR				S	**Sn**	**19 57 36.6**	**+0.4**
SIGR				AML	AML	19 57 38.2	
	comp=E,1029μm,0.3s						
SIGR				AML	AML	19 57 38.2	
	comp=N,945μm,0.3s						
EDC	**Edincik**	**1.26**	**93**	PN	**Pn**	**19 57 20.0**	**0.0**
BALY	**Balya**	**1.28**	**122**	*i* P	**Pn**	**19 57 20.1**	**-0.1**
EFSA	**Agios Efstrati**	**1.29**	**227**	P	**Pb**	**19 57 20.9**	**0.0**
EFSA				S	**Sb**	**19 57 36.8**	**-0.4**
CRLT	**Corlu**	**1.35**	**58**	PN	**Pb**	**19 57 22.2**	**+0.3**
KAVA	**Kavala**	**1.41**	**294**	P	**Pn**	**19 57 22.1**	**+0.1**
KAVA				S	**Sn**	**19 57 38.6**	**-1.7**
KAVA				AML	AML	19 57 42.8	
	comp=N,282μm,0.5s						
KAVA				AML	AML	19 57 46.3	
	comp=E,272μm,0.4s						
DKL	**Dikili**	**1.46**	**158**	PN	**Pb**	**19 57 23.5**	**-0.2**
EDRB	**Edirne**	**1.47**	**16**	PN	**Pn**	**19 57 22.8**	**-0.1**
KVLA	**Kavala**	**1.48**	**291**	P	**Pn**	**19 57 23.2**	**+0.3**
BALB	**Balikesir**	**1.50**	**121**	PN	**Pb**	**19 57 24.1**	**-0.4**
KIRK	**Kırklareli**	**1.51**	**26**	*i* P	**Pn**	**19 57 22.7**	**-0.7**
STEP	**BALIKESIR_Sava**	**1.56**	**132**	*i* P	**Pn**	**19 57 24.5**	**+0.3**
STEP				*i* S	**Sn**	**19 57 44.1**	**-0.1**
STEP				IAML		19 57 48.0	
	comp=E,122nm,0.3s						
ZEDA	**zmir-Bergama**	**1.60**	**155**	*i* P	**Pn**	**19 57 24.9**	**+0.2**
ZEDA				*i* S	**Sb**	**19 57 46.5**	**+0.2**
ZEDA				IAML		19 57 49.0	
	comp=N,111nm,0.4s						
ZEDA				IAML		19 57 49.0	
	comp=E,89nm,0.3s						
OUR	**Ouranopolis**	**1.71**	**268**	P	**Pn**	**19 57 25.5**	**-0.6**
OUR				AML	AML	19 57 53.7	
	comp=E,365μm,0.5s						
OUR				AML	AML	19 57 55.5	
	comp=N,433μm,0.4s						
DURS	**Dursunbey**	**1.92**	**115**	*i* P	**Pn**	**19 57 29.2**	**+0.1**
PSRA	**Psara**	**1.95**	**195**	P	**Pn**	**19 57 30.2**	**+0.8**
PAIG	**Paliouri**	**2.00**	**256**	P	**Pn**	**19 57 29.2**	**-0.9**
PAIG				AML	AML	19 58 03.6	
	comp=N,76μm,0.5s						
PAIG				AML	AML	19 58 06.4	
	comp=E,52μm,0.4s						
SKY	**Skiros Island**	**2.01**	**220**	P	**Pn**	**19 57 29.8**	**-0.5**
PLD	**Plovdiv**	**2.02**	**326**	*e*Pn	**Pb**	**19 57 34.3**	**+0.9**
PLD				*e*Sn	**Sn**	**19 57 56.9**	**+1.4**
CHOS	**Chios island**	**2.04**	**183**	P	**Pn**	**19 57 31.3**	**+0.5**
URLA	**Izmir**	**2.09**	**172**	*i* P	**Pn**	**19 57 32.0**	**+0.6**
SRS	**Serrai**	**2.10**	**290**	*e*Pn	**Pn**	**19 57 32.7**	**+1.1**
SRS				*e*Sn	**Sn**	**19 57 56.9**	**-0.6**
SRS	**Serrai**	**2.10**	**290**	P	**Pn**	**19 57 31.0**	**-0.6**
SRS				AML	AML	19 58 06.3	
	comp=N,138μm,0.5s						
SRS				AML	AML	19 58 09.6	
	comp=E,180μm,0.4s						
PLG	**Polygyros**	**2.11**	**269**	P	**Pn**	**19 57 30.3**	**-1.4**
PLG				AML	AML	19 58 06.8	
	comp=E,260μm,0.4s						
PLG				AML	AML	19 58 06.8	
	comp=N,170μm,0.7s						
ULDT	**Uludag**	**2.25**	**96**	*i* P	**Pn**	**19 57 33.8**	**-0.1**
ULDT				*i* S	**Sn**	**19 58 01.2**	**-0.3**
DEMI	**Demirci**	**2.38**	**125**	*i* P	**Pn**	**19 57 36.2**	**+0.9**
KYMI	**Kymi, Euboea I**	**2.42**	**223**	P	**Pn**	**19 57 35.4**	**-0.6**
XOR	**Xorichti**	**2.55**	**246**	P	**Pn**	**19 57 36.7**	**-1.1**
VTS	**Vitosha**	**3.13**	**315**	*e*Pn	**Pn**	**19 57 48.5**	**+2.7**
VTS				*e*Sn	**Sn**	**19 58 24.3**	**+1.4**
BOSS	**Bosilegrad**	**3.48**	**308**	*e*Pn	**Pn**	**19 57 51.7**	**+1.2**
ZAPS	**Zavoj**	**3.90**	**318**	*e*Pn	**Pn**	**19 57 58.4**	**+2.1**
BARS	**Barje**	**4.07**	**307**	*e*Pn	**Pn**	**19 58 00.1**	**+1.5**
ZAGS	**Zajecar**	**4.49**	**320**	*e*Pn	**Pn**	**19 58 05.0**	**+0.6**
BOVS	**Bovan**	**4.64**	**315**	*e*Pn	**Pn**	**19 58 07.7**	**+1.3**

*NIC **13** 20:43:49.9±0.0, 34°.60N×33°.12E, h18km±1km, Ml2.9/2*
*ISK **13** 20:43:49.6, 34°.62N×33°.11E, h8km, ML2.2/12*
*GII **13** 20:43:50.8±0.0, 34°.65N×33°.17E, h12km*
*DDA **13** 20:43:58.0, 35°.24N×33°.16E, h7km±3km, ML1.7*
ISC 13 20:43:50.7±1.0, **34°.63N**±0°.03×**33°.13E**±0°.03, **h14**km±7km, **n37**, σ0**77**/50, **4D**, **Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASGA	**Asgata**	**0.18**	**33**	⇓P	**Pb**	**20 43 55.4**	**-0.6**
ASGA				S	**Sg**	**20 43 59.1**	**+1.1**
ASGA				AML	AML	20 43 59.5	
	8.5nm,0.2s						
ASGA				AML	AML	20 43 59.5	
	8.5nm,0.2s						
ASGA				AML	AML	20 43 59.5	
	7.2nm,0.2s						
ASGA				AML	AML	20 43 59.5	
	7.2nm,0.2s						
SZAC	**Souni**	**0.24**	**301**	⇓P	**Pg**	**20 43 55.7**	**-0.2**
SZAC				AML	AML	20 43 59.5	
	5.7nm,0.2s						
SZAC				AML	AML	20 43 59.5	
	5.7nm,0.2s						
SZAC				AML	AML	20 43 59.7	
	9.9nm,0.2s						
SZAC				AML	AML	20 43 59.7	
	9.9nm,0.2s						
SZAC				S	**Sg**	**20 43 59.9**	**+0.5**
CSS	**Mathiatis**	**0.37**	**27**	PG	**Pg**	**20 43 57.8**	**-0.4**
CSS	**Mathiatis**	**0.37**	**27**	Pg	**Pg**	**20 43 57.5**	**-0.7**
CSS				Sg	**Sb**	**20 44 03.5**	**-1.3**
CSS	**Mathiatis**	**0.37**	**27**	⇓P	**Pg**	**20 43 57.9**	**-0.3**
LEF	**Lefka**	**0.52**	**338**	PG	**Pg**	**20 44 00.5**	**-0.6**
LEF				SG	**Sb**	**20 44 08.9**	**-0.3**
LEF	**Lefka**	**0.52**	**338**	*i* P	**Pg**	**20 44 00.7**	**-0.4**
LEF				*i* S	**Sb**	**20 44 09.0**	**-0.1**
MVOU	**Mavrovouni**	**0.56**	**47**	P	**Pg**	**20 44 01.5**	**-0.4**
ALFC	**Alefka**	**0.68**	**320**	⇓P	**Pg**	**20 44 03.5**	**-0.5**
ALFC				S	**Sb**	**20 44 13.8**	**+0.1**
LFK	**Lefkose**	**0.73**	**27**	PG	**Pb**	**20 44 05.2**	**0.0**
LFK				SG	**Sb**	**20 44 14.8**	**-0.3**
AKMS	**Akamas**	**0.76**	**301**	P	**Pg**	**20 44 05.2**	**-0.2**
EREN	**Erenkoy**	**1.24**	**43**	PN	**Pg**	**20 44 14.4**	**-0.2**
EREN				SN	**Sn**	**20 44 32.6**	**+2.4**
EREN	**Erenkoy**	**1.24**	**43**	*i* P	**Pg**	**20 44 14.6**	**0.0**
EREN				IAML		20 44 43.0	
	comp=E,23nm,0.5s						
TEKE	**Tekeli-Mersin**	**1.51**	**360**	PN	**Pn**	**20 44 17.7**	**+0.3**
AKKU	**Akkuyu-Mersin**	**1.56**	**13**	PN	**Pn**	**20 44 18.2**	**+0.1**
AKKU				SN	**Sg**	**20 44 39.7**	**-1.4**
GULN	**MERSIN_Gulnar**	**1.58**	**12**	*i* P	**Pn**	**20 44 18.6**	**+0.2**
IKL	**Isikli**	**1.67**	**16**	PN	**Pn**	**20 44 19.9**	**+0.4**
BERE	**Bereket-Mersin**	**1.71**	**3**	PN	**Pn**	**20 44 20.9**	**+0.6**
GAZI	**Gazipasa**	**1.73**	**338**	PN	**Pn**	**20 44 20.5**	**+0.1**
GAZI	**Gazipasa**	**1.73**	**338**	*i* P	**Pn**	**20 44 20.5**	**+0.1**
TEVE	**Tevekalti-Mers**	**1.82**	**8**	PN	**Pn**	**20 44 21.9**	**+0.2**
KEBE	**Keben-Mersin**	**1.87**	**15**	PN	**Pn**	**20 44 23.0**	**+0.5**
ERMK	**Ermenek**	**2.01**	**355**	*i* P	**Pn**	**20 44 25.1**	**+0.6**
KIZK	**Mersin**	**2.02**	**24**	PN	**Pn**	**20 44 25.3**	**+0.9**
KIZK	**Mersin**	**2.02**	**24**	*i* P	**Pb**	**20 44 26.2**	**-1.1**
MMA0B	**Mount Meron ar**	**2.49**	**130**	Pn	**Pn**	**20 44 30.6**	**-0.3**
MMA0B				Sn	**Sn**	**20 45 00.6**	**-0.5**
GEM	**Giv'at Ha'Em**	**2.54**	**123**	Pn	**Pn**	**20 44 32.2**	**+0.6**
NATI	**Neve Ativ**	**2.56**	**121**	Pn	**Pn**	**20 44 32.7**	**+0.8**
NATI				Sn	**Sn**	**20 45 02.3**	**-0.6**
KERG	**Konya-Eregli**	**2.89**	**16**	*i* P	**Pn**	**20 44 38.7**	**+2.2**
HMDT	**Nahal Hemdat**	**3.11**	**139**	Pn	**Pn**	**20 44 39.7**	**+0.3**
HMDT				Sn	**Sn**	**20 45 17.1**	**+0.8**
DSI	**Dead Sea**	**3.59**	**148**	Pn	**Pn**	**20 44 46.6**	**+0.6**
YTIR	**Yattir**	**3.66**	**152**	Pn	**Pn**	**20 44 48.5**	**+1.4**
KZIT	**Kziot**	**3.87**	**164**	Pn	**Pn**	**20 44 50.4**	**+0.6**
PRNI	**Paran**	**4.55**	**159**	Pn	**Pn**	**20 44 59.5**	**+0.2**
HRFI	**Mount Harif**	**4.86**	**160**	Pn	**Pn**	**20 45 03.4**	**-0.1**
MBRI	**Mt Berech**	**5.06**	**162**	Pn	**Pn**	**20 45 06.7**	**+0.5**
MBRI				Sn	**Sn**	**20 46 05.0**	**+0.5**
EIL	**Elat**	**5.18**	**162**	Pn	**Pn**	**20 45 08.3**	**+0.4**

IDC 13 21:11:35.7±2.3, **6°.47S**×**129°.48E**, **h0**km, **mb3.3**/1, **mb1 3.7**/4, **mb1mx3.3**/37, **mbtmp3.5**/4, **ML3.3**/3, **Error ellipse: s-maj=82.4km s-min=29.9km az=76.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.15**	**198**	Pn	Pn	21 14 32.4	+2.1
	0.1nm,0.3s,baz=12,slow=8.5,SNR=11						
FITZ				Sn	Sn	21 16 35.1	-11
	0.2nm,0.3s,baz=123,slow=23,SNR=1.6						
WRA	**Warramunga Arr**	**14.20**	**161**	Pn	Pn	21 14 58.4	0.0
	0.2nm,0.3s,baz=338,slow=13,SNR=10.0						
WRA				Sn	Sn	21 17 21.3	-15
	0.4nm,0.3s,baz=335,slow=22,SNR=7.8						
ASAR	**Alice Springs**	**17.62**	**166**	P	Pn	21 15 41.1	-1.8
	0.1nm,0.3s,baz=351,slow=11,SNR=10.0						
ASAR				S	Sn	21 18 46.4	-14
	0.1nm,0.3s,baz=316,slow=15,SNR=1.8						
MKAR	**Makanchi Array**	**67.50**	**327**	P	P	21 22 33.7	0.0
	0.1nm,0.3s,baz=121,slow=7.4,SNR=2.5						

IDC 13 21:23:50.6±1.1, **29°.02S**×**74°.74E**, **h0**km, **mb3.7**/5, **mb1 3.8**/5, **mb1mx3.5**/37, **mbtmp3.7**/5, **Error ellipse: s-maj=37.7km s-min=32.6km az=34.0, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**21.36**	**354**	T	T	21 51 02.5	
	baz=175,slow=76,SNR=72						
H08S1	**Diego Carcia H**	**21.37**	**354**	T	T	21 50 59.7	
	baz=175,slow=76,SNR=72						
H08S3	**Diego Garcia H**	**21.38**	**354**	T	T	21 50 57.2	
	baz=175,slow=76,SNR=70						
H01W2	**Cape Leeuwin H**	**33.78**	**110**	T	T	22 05 55.0	
	baz=268,slow=75,SNR=14						
H01W3	**Cape Leeuwin H**	**33.78**	**110**	T	T	22 05 55.1	
	baz=268,slow=75,SNR=19						
H01W1	**Cape Leeuwin H**	**33.79**	**110**	T	T	22 05 52.5	
	baz=268,slow=75,SNR=20						
ASAR	**Alice Springs**	**52.82**	**99**	P	P	21 33 08.6	+0.4
	0.4nm,0.6s,baz=255,slow=5.4,SNR=6.0						
WRA	**Warramunga Arr**	**54.51**	**95**	P	P	21 33 20.2	-0.3
	0.9nm,0.9s,baz=247,slow=7.1,SNR=2.5						
QSPA	**South Pole Qui**	**61.12**	**180**	P	P	21 34 06.3	-0.2
	0.8nm,0.8s,baz=277,slow=1.8,SNR=6.7						
MKAR	**Makanchi Array**	**75.76**	**5**	P	P	21 35 37.7	-0.3
	0.4nm,0.7s,baz=188,slow=4.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**81.97**	**290**	P	P	21 36 13.2	+0.4
	0.8nm,0.9s,baz=117,slow=5.0,SNR=4.1						

RSNC 13 21:42:04.2±1.5, **6°.99N**×**73°.05W**, **h159**km±8km, **ML2.1**,

Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.42**	**199**	*e*P	Pn	21 42 26.2	-0.4
BARC				*e*S	Sn	21 42 42.4	-1.2
BARC				*i*		21 42 45.2	
	comp=Z,17nm,0.3s						
PAMC	**Pamplona, Colo**	**0.49**	**45**	*e*P	Pn	21 42 26.9	-0.3
PAMC				*e*S	Sn	21 42 43.9	-0.7
PAMC				*i*		21 42 46.4	
	comp=Z,19nm,0.6s						
BRRC	**Barranca, Sant**	**0.67**	**280**	*e*P	Pn	21 42 27.6	+0.1
BRRC				*e*S	Sn	21 42 46.0	+0.7
RUSC	**La Rusia**	**1.09**	**182**	*e*P	Pn	21 42 31.0	-0.2
RUSC				*e*S	Sn	21 42 51.4	-0.5
RUSC				*i*		21 42 53.3	
	comp=Z,10nm,0.3s						
TAMC	**Tame, Arauca**	**1.36**	**114**	*e*P	Pn	21 42 32.9	-0.3
TAMC				*i*		21 42 33.1	
	comp=Z,23nm,0.2s						
PTBC	**PUERTO BERRIO,**	**1.47**	**252**	*e*P	Pn	21 42 34.0	-0.1
PTBC				*e*S	Sn	21 42 56.9	-0.3
PTBC				*i*		21 43 00.1	
	comp=Z,7.5nm,0.3s						
SMLC	**San Martn de**	**2.06**	**331**	*e*P	Pn	21 42 40.2	-0.5
SMLC				*e*S	Sn	21 43 07.1	-1.8
SMLC				*i*		21 43 13.2	
	comp=Z,22nm,0.1s						
GUY2C	**Guyana, Caldas**	**2.90**	**233**	*e*P	Pn	21 42 50.6	-0.5
GUY2C				*e*S	Sn	21 43 25.6	-1.7

*NEIC **13** 22:09:36.0±2.1, 22°.65S±0°.05×67°.92W±0°.08, h116km±5km, Error ellipse: s-maj=10.5km s-min=7.4km az=96.0*
*IDC **13** 22:09:36.8±0.7, 22°.65S×67°.98W, h115km±6km, mb3.9/11, mb1 4.0/16, mb1mx3.9/33, mbtmp4.3/16, MS3.3/1, Ms1 3.3/1, ms1mx2.7/24, Error ellipse: s-maj=14.6km s-min=13.6km az=129.0*
*VAO **13** 22:09:37.9±0.5, 22°.43S×68°.29W, h136km±5km, mb4.8*
*SJA **13** 22:09:37.8±0.8, 22°.58S×68°.28W, h139km±6km, ML4.5, MW4.4*
*GUC **13** 22:09:39.3±0.7, 22°.54S×68°.52W, h145km±5km, ML4.9, MW4.9*
ISC 13 22:09:37.6±0.6, **22°.61S**±0°.03×**68°.26W**±0°.04, **h132**km±5km, **n191**, σ1**962**/230, **mb4.4**/19, **9C-8D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.60**	**270**	P	**Pn**	**22 09 58.2**	**+0.3**
	688nm,0.3s,baz=87,slow=5.8,SNR=6252						
LVC				S	**Sn**	**22 10 13.7**	**+0.4**
LVC	**Limon Verde**	**0.60**	**270**	*e*P	**Pn**	**22 09 59.2**	**+1.3**
LVC				*i* S	**Sn**	**22 10 13.9**	**+0.6**
LVC	**Limon Verde**	**0.60**	**270**		**Pn**	**22 09 58.7**	**+0.7**
LVC				Sn	**Sn**	**22 10 13.8**	**+0.4**
LVC	**Limon Verde**	**0.60**	**270**	*i* P	**Pn**	**22 09 59.4**	**+1.4**
LVC				*i* S	**Sn**	**22 10 14.0**	**+0.7**
LVC				IAML		22 10 15.8	
	comp=Z,3μm,1.1s						
LVC	**Limon Verde**	**0.60**	**270**	*e*P	**Pn**	**22 09 59.4**	**+1.4**
LVC	**Limon Verde**	**0.60**	**270**	*e*P	**Pn**	**22 09 59.4**	**+1.4**
PB06	**IPOC Station P**	**1.22**	**265**	⇑P	**Pn**	**22 10 04.2**	**+1.2**
PB06				*e*S	**Sn**	**22 10 23.3**	**+1.0**
PB06	**IPOC Station P**	**1.22**	**265**		**Pn**	**22 10 04.1**	**+1.1**
PB06				Sn	**Sn**	**22 10 24.3**	**+2.0**
PB06	**IPOC Station P**	**1.22**	**265**	*i* P	**Pn**	**22 10 04.2**	**+1.2**
PB06				*i* S	**Sn**	**22 10 23.9**	**+1.6**
PB06				IAML		22 10 25.9	
	comp=Z,6μm,0.7s						
PB09	**IPOC Station P**	**1.22**	**311**	⇓P	**Pn**	**22 10 04.7**	**+1.7**
PB09				*i* S	**Sn**	**22 10 23.6**	**+1.2**
PB09	**IPOC Station P**	**1.22**	**311**		**Pn**	**22 10 03.8**	**+0.7**
PB09				Sn	**Sn**	**22 10 24.0**	**+1.6**
PB09	**IPOC Station P**	**1.22**	**311**	*i* P	**Pn**	**22 10 04.4**	**+1.3**
PB09				*i* S	**Sn**	**22 10 23.8**	**+1.5**
PB09				IAML		22 10 25.9	
	comp=Z,6μm,0.7s						
PB15	**IPOC Station P**	**1.27**	**242**	⇑P	**Pn**	**22 10 05.2**	**+1.6**
PB15				*i* S	**Sn**	**22 10 25.2**	**+1.9**
PB15	**IPOC Station P**	**1.27**	**242**		**Pn**	**22 10 02.9**	**+0.7**
PB15				Sn	**Sn**	**22 10 25.4**	**+2.1**
PB15	**IPOC Station P**	**1.27**	**242**	*i* P	**Pn**	**22 10 05.7**	**+2.1**
PB15				*i* S	**Sn**	**22 10 25.3**	**+2.0**
PB03	**IPOC Station P**	**1.49**	**292**	⇓P	**Pn**	**22 10 07.1**	**+1.1**
PB03				*e*S	**Sn**	**22 10 27.4**	**-0.1**
PB03				IAML		22 10 29.5	
	comp=N,12μm,0.2s						
PB07	**IPOC Station P**	**1.75**	**300**	⇑P	**Pn**	**22 10 09.8**	**+0.9**
PB07				*i* S	**Sn**	**22 10 32.7**	**0.0**
PB07				IAML		22 10 34.7	
	comp=E,27μm,0.4s						
PB07	**IPOC Station P**	**1.75**	**300**		**Pn**	**22 10 09.8**	**+0.9**
PB07				Sn	**Sn**	**22 10 33.2**	**+0.5**
PB04	**IPOC Station P**	**1.77**	**279**	⇑P	**Pn**	**22 10 10.2**	**+1.1**
PB04				*e*S	**Sn**	**22 10 32.9**	**-0.3**
PB04				IAML		22 10 39.4	
	comp=N,11μm,0.7s						
PB04	**IPOC Station P**	**1.77**	**279**		**Pn**	**22

AC04	Llanos de Chal	6.12	204		Pn		Pn	22 11 03.8	-2.0
CYA	Choya	6.22	160	*i*	P		Pn	22 11 08.0	+0.9
CYA				*eS*			Sn	22 12 16.2	-0.8
CYA					IAML			22 12 18.2	
	comp=Z,19nm,1.1s								
LPAZ	La Paz	6.29	1		P		Pn	22 11 09.9	+1.3
	comp=Z,11nm,0.3s,baz=164,slow=6.1,SNR=184								
LPAZ	La Paz	6.29	1		Pn		Pn	22 11 08.2	-0.4
LPAZ	La Paz	6.29	1	*i*	P		Pn	22 11 10.0	+1.3
LPAZ	La Paz	6.29	1	*eP*			Pn	22 11 09.1	+0.4
LPAZ	La Paz	6.29	1	*eP*			Pn	22 11 09.1	+0.4
AC05	El Transito	6.46	196		Pn		Pn	22 11 09.0	-1.5
AGUA	GUANDACOL	6.85	182	*i*	P		Pn	22 11 14.9	-0.8
AGUA				*eS*			Sn	22 12 27.7	-4.7
AGUA					IAML			22 12 35.3	
	comp=Z,64nm,0.4s								
CO01	Juntas del Tor	7.52	192				Pn	22 11 24.2	-0.6
AROD	Rodeo	7.61	188	*i*	P		Pn	22 11 24.8	-1.3
GO04	Tololo Observa	7.87	196		Pn		Pn	22 11 26.6	-2.9
GO04	Tololo Observa	7.87	196	*i*	P		Pn	22 11 26.5	-2.9
ACCO	Cerro Coronel	7.98	185	*i*	P		Pn	22 11 29.8	-1.3
CO03	El Pedregal	8.48	194				Pn	22 11 34.9	-2.7
CO02	Combarbal	8.90	195		Pn		Pn	22 11 40.1	-3.2
CFA	Coronel Fontan	8.96	180		P		Pn	22 11 42.1	-1.8
	comp=Z,2.3nm,0.3s,baz=352,slow=12,SNR=30								
CFA					S		Sn	22 13 16.9	-6.4
	comp=Z,2.3nm,0.3s,baz=155,slow=22,SNR=5.7								
CFA					LR		LR	22 15 59.3	
	comp=Z,198nm,20.5s,baz=0.0,slow=43								
RTLS	Leoncito	9.20	186	*i*	P		Pn	22 11 45.4	-2.1
RTCV	Cerro Valdivia	9.22	182	*i*	P		Pn	22 11 45.3	-2.1
TCA	Tanti	9.29	160	*i*	P		Pn	22 11 46.8	-1.6
SIV	San Ignacio	9.45	47		P		Pn	22 11 47.3	-3.3
	comp=Z,20nm,0.3s,baz=253,slow=9.7,SNR=305								
SIV					S		Sn	22 13 25.8	-10
	comp=Z,3.0nm,0.3s,baz=147,slow=22,SNR=8.8								
VA03	San Esteban	10.32	191				Pn	22 11 59.6	-2.6
ROC1	El Roble	10.61	193		Pn		Pn	22 12 03.2	-3.1
CPUP	Villa Florida	10.62	113		P		Pn	22 12 03.0	-3.2
	comp=Z,0.1nm,0.3s,baz=300,slow=13,SNR=3.4								
CPUP	Villa Florida	10.62	113				Pn	22 11 59.8	-6.4
CPUP	Villa Florida	10.62	113	*eP*			Pn	22 12 08.9	+2.7
CPUP	Villa Florida	10.62	113	*eP*			Pn	22 12 08.9	+2.7
MT02	Curacav	10.91	193		Pn		Pn	22 12 05.5	-4.5
PTLB	Pontes e Lacer	11.18	52	*eP*			Pn	22 12 11.0	-2.7
PTLB	Pontes e Lacer	11.18	52	*eP*			Pn	22 12 11.0	-2.7
AQDB	Aquidauana	11.88	82	*eP*			Pn	22 12 23.6	+0.6
AQDB	Aquidauana	11.88	82	*eP*			Pn	22 12 23.6	+0.6
VILB	Vilhena	12.29	40	*eP*			Pn	22 12 26.6	-1.7
VILB	Vilhena	12.29	40	*eP*			Pn	22 12 26.6	-1.7
BO02	Sierra Bellavi	12.34	190				Pn	22 12 29.4	+0.5
ITQB	Itaqui	12.59	126	*eP*			Pn	22 12 30.9	-1.2
ITQB	Itaqui	12.59	126	*eP*			Pn	22 12 30.9	-1.2
GO05	Huala	12.77	194		Pn		Pn	22 12 34.8	+0.4
NNA	Nana	13.36	321				P	22 12 44.9	-2.2
SALV	Santo Antonio	13.61	63	*eP*			Pn	22 12 45.2	-0.1
SALV	Santo Antonio	13.61	63	*eP*			Pn	22 12 45.2	-0.1
BI02	San Fabin de	14.25	190		Pn		Pn	22 12 51.4	-2.0
TRCB	Terra Rica	14.42	94	*eP*			P	22 12 57.6	-1.2
TRCB	Terra Rica	14.42	94	*eP*			P	22 12 57.6	-1.2
SAML	Samuel	14.43	21				Pn	22 12 53.5	-2.3
SAML	Samuel	14.43	21	*eP*			Pn	22 12 52.6	-3.3
SAML	Samuel	14.43	21	*eP*			Pn	22 12 52.6	-3.3
C2SB	Chapadao do Su	14.93	78	*eP*			Pn	22 13 02.7	+0.7
C2SB	Chapadao do Su	14.93	78	*eP*			Pn	22 13 02.7	+0.7
PTGB	Pitanga	14.99	101	*eP*			Pn	22 13 03.7	+0.9
PTGB	Pitanga	14.99	101	*eP*			Pn	22 13 03.7	+0.9
PCMB	Pacaembu	15.79	90	*eP*			Pn	22 13 12.4	-0.3
PCMB	Pacaembu	15.79	90	*eP*			Pn	22 13 12.4	-0.3
LC01	Cunco	16.53	190		P		Pn	22 13 20.3	-1.3
CLDB	Colider	16.68	48	*eP*			Pn	22 13 22.8	-0.9
CLDB	Colider	16.68	48	*eP*			Pn	22 13 22.8	-0.9
ITRB	Iturama	16.94	83	*eP*			Pn	22 13 27.6	+0.7
ITRB	Iturama	16.94	83	*eP*			Pn	22 13 27.6	+0.7
ARAG	Araguaiana, MT	16.98	69	*eP*			Pn	22 13 27.5	+0.2
ARAG	Araguaiana, MT	16.98	69	*eP*			Pn	22 13 27.5	+0.2
CNLB	Canela	17.01	117	*eP*			Pn	22 13 28.3	+0.7
CNLB	Canela	17.01	117	*eP*			Pn	22 13 28.3	+0.7
FRTB	Fartura	17.23	96	*eP*			Pn	22 13 30.6	+0.3
FRTB	Fartura	17.23	96	*eP*			Pn	22 13 30.6	+0.3
PLCA	Paso Flores	18.17	186		P		P	22 13 39.8	-0.3
	comp=Z,0.2nm,0.3s,baz=3.0,slow=12,SNR=12								
PLCA	Paso Flores	18.17	186		P		Pn	22 13 41.6	+0.1
PLCA					IAmb		IAmb	22 13 48.3	
	comp=Z,15nm,0.9s								
PLCA	Paso Flores	18.17	186	*eP*			Pn	22 13 41.7	+0.2
PLCA	Paso Flores	18.17	186	*eP*			Pn	22 13 41.7	+0.2
IPMB	Ipameri, GO	19.35	80	*eP*			P	22 13 53.6	+0.5
IPMB	Ipameri, GO	19.35	80	*eP*			P	22 13 53.6	+0.5
VAO	Valinhos	19.63	95	*eP*			P	22 13 56.7	+0.6
VAO	Valinhos	19.63	95	*eP*			P	22 13 56.7	+0.6
NPGB	Novo Progresso	19.85	41	*eP*			P	22 13 56.5	-1.9
NPGB	Novo Progresso	19.85	41	*eP*			P	22 13 56.5	-1.9
LL01	San Ignacio de	20.02	189		P		P	22 14 00.7	+0.8
LL01					IAmb		IAmb	22 14 08.9	
	comp=Z,31nm,0.9s								
BDFB	Brasilia	20.33	74		P		P	22 14 03.2	-0.5
	comp=Z,36nm,0.6s,baz=257,slow=12,SNR=44								
BDFB	Brasilia	20.33	74		P		P	22 13 59.1	-4.6
BDFB					IAmb		IAmb	22 14 04.4	
	comp=Z,40nm,0.7s								
MACA	Manacapuru-AM	20.68	22	*eP*			P	22 14 06.3	-1.0
MACA	Manacapuru-AM	20.68	22	*eP*			P	22 14 06.3	-1.0
PARB	Paraibuna	20.85	96	*eP*			P	22 14 09.7	+0.5
PARB	Paraibuna	20.85	96	*eP*			P	22 14 09.7	+0.5
GO07	Milladeo Hill,	20.94	191		P		P	22 14 09.9	+0.1
GO07					IAmb		IAmb	22 14 20.1	
	comp=Z,64nm,0.9s								
PEXB	Peixe	21.70	65	*eP*			P	22 14 16.8	-1.4
PEXB	Peixe	21.70	65	*eP*			P	22 14 16.8	-1.4
COYC	Coyhaique	23.12	187		P		P	22 14 32.9	+0.9
COYC					IAmb		IAmb	22 14 48.1	
	comp=Z,12nm,1.0s								
PTGA	Pitinga	23.20	21		P		P	22 14 31.6	-1.3
	comp=Z,4.4nm,0.3s,baz=197,slow=14,SNR=15								
PTGA	Pitinga	23.20	21		P		P	22 14 31.8	-1.1
PTGA	Pitinga	23.20	21	*eP*			P	22 14 31.9	-1.0
PTGA				*eS*			S	22 18 33.0	-1.8
PTGA	Pitinga	23.20	21	*eP*			P	22 14 31.9	-1.0
PTGA				*eS*			S	22 18 33.0	-1.8
MC01	Montes Claros	23.62	80	*eP*			P	22 14 36.4	-0.6
MC01	Montes Claros	23.62	80	*eP*			P	22 14 36.4	-0.6
JANB	Januaria	23.85	76	*eP*			P	22 14 38.1	-0.9
JANB	Januaria	23.85	76	*eP*			P	22 14 38.1	-0.9
SMTB	Santa Maria do	24.09	59	*eP*			P	22 14 40.7	-0.4
SMTB	Santa Maria do	24.09	59	*eP*			P	22 14 40.7	-0.4
PRPB	Paraiapebas	24.16	50	*eP*			P	22 14 40.8	-1.0
PRPB	Paraiapebas	24.16	50	*eP*			P	22 14 40.8	-1.0
BSFB	Barra de Sao F	25.90	87	*eP*			P	22 14 57.5	0.0
BSFB	Barra de Sao F	25.90	87	*eP*			P	22 14 57.5	0.0
GDU01	Guandu, BA	28.61	77	*eP*			P	22 15 21.3	-0.4
GDU01	Guandu, BA	28.61	77	*eP*			P	22 15 21.3	-0.4
TOSP	Speyside	34.54	13		P		P	22 16 13.5	0.0
GRGR	Grenville	35.13	11		P		P	22 16 17.7	-0.9
RCBR	Riachuelo	35.40	67		P		P	22 16 18.1	-3.0
RCBR					IAmb		IAmb	22 16 33.0	
	comp=Z,21nm,1.1s								
FDF	Fort de France	37.76	11		P		P	22 16 41.5	+0.5
ANWB	Willy Bob	40.53	10		P		P	22 17 04.5	+0.6
CCIG	Comitan	45.17	327		P		P	22 17 43.0	+1.4
CCIG					IAmb		IAmb	22 17 51.0	
	comp=Z,6.8nm,0.6s								
TLIG	Tlapa	49.73	321		P		P	22 18 18.6	+1.8
060A	Indiantown	50.72	346		P		P	22 18 25.1	+1.2
VNA3	Neumayer Olymp	58.84	161		P		P	22 19 23.8	+1.9
VNA2	Neumayer--Watz	59.41	161		P		P	22 19 27.9	+2.0
Y45A	Yeager Farm, C	59.71	340		P		P	22 19 29.6	+1.4
Y45A					IAmb		IAmb	22 19 33.2	
	comp=Z,14nm,0.6s								
SNAA	Sanae	61.04	161		P		P	22 19 38.7	+1.8
SNAA	Sanae	61.04	161		P		P	22 19 36.7	-0.3
SNAA					IAmb		IAmb	22 19 39.6	
	comp=Z,8.5nm,0.9s								
P60A	Greenville	62.48	354		P		P	22 19 47.3	+0.5
P60A					IAmb		IAmb	22 19 48.4	
	comp=Z,14nm,1.1s								
QSPA	South Pole Qui	67.59	180		P		P	22 20 20.8	+1.0
QSPA					IAmb		IAmb	22 20 22.7	
	comp=Z,9.4nm,0.7s								
ANMO	Albuquerque	67.75	327		P		P	22 20 23.9	+2.6
	comp=Z,1.0nm,0.8s,baz=86,slow=6.6,SNR=3.6								
ANMO	Albuquerque	67.75	327		P		P	22 20 21.9	+0.6

DBIC	Dimbokro	68.48	73		P		P	22 20 26.4	+0.4
	comp=Z,5.5nm,0.8s,baz=211,slow=5.8,SNR=3.7								
DBIC	Dimbokro	68.48	73		P		P	22 20 25.3	-0.7
DBIC					IAmb		IAmb	22 20 41.8	
	comp=Z,7.6nm,1.1s								
PV04	Paradox Valley	71.67	327		P		P	22 20 46.8	+1.6
SYO	Syowa Base	75.25	159	*eP*			P	22 21 05.2	-0.3
SYO	Syowa Base	75.25	159	*ePcP*			PcP	22 21 14.6	-3.7
SYO	Syowa Base	75.25	159	*epP*			pP	22 21 38.2	-1.0
PDAR	Pinedale Array	75.37	330		P		P	22 21 07.8	+0.9
	comp=Z,0.3nm,0.5s,baz=139,slow=7.0,SNR=2.7								
ULM	Lac du Bonnet	76.55	342		P		P	22 21 13.3	+0.2
	comp=Z,3.6nm,0.6s,baz=18,slow=1.7,SNR=3.0								
NVAR	Mina Array Bea	76.74	322		P		P	22 21 16.9	+2.2
	comp=Z,0.5nm,0.4s,baz=169,slow=8.8,SNR=3.8								
TOA0	Torodi Ar. Sit	77.16	70		P		P	22 21 16.1	-1.1
TOA0					IAmb		IAmb	22 21 19.9	
	comp=Z,5.1nm,0.6s								
TORD	Torodi Ar. Bea	77.16	70		P		P	22 21 17.6	+0.3
	comp=Z,3.6nm,0.5s,baz=252,slow=5.1,SNR=59								
TORD	Torodi Ar. Bea	77.16	70		P		P	22 21 15.6	-1.7
YBH	Yreka Blue Hor	81.45	322		P		P	22 21 42.2	+2.1
	comp=Z,1.6nm,1.0s,baz=201,slow=5.9,SNR=3.2								
ESDC	Sonseca Array	86.20	44		P		P	22 22 04.8	+0.5
	comp=Z,0.3nm,0.8s,baz=271,slow=7.6,SNR=1.7								
CASY	Casey	91.38	180		P		P	22 22 28.9	+0.7
CASY					IAmb		IAmb	22 22 31.9	
	comp=Z,6.0nm,0.8s								
YKA	Yellowknife Ar	92.43	340		P		P	22 22 34.1	+1.2
	comp=Z,1.0nm,0.7s,baz=131,slow=4.8,SNR=6.6								
ASAR	Alice Springs	129.20	207		PKP		PKiKP	22 28 32.2	+0.6
	comp=Z,1.9nm,0.8s,baz=157,slow=2.4,SNR=14								
WRA	Warramunga Arr	132.30	209		PKP		PKiKP	22 28 38.9	+0.9
	comp=Z,1.5nm,0.7s,baz=162,slow=2.0,SNR=15								
ZALV	Zalesovo Beam	142.69	26		PKP		PKiKP	22 28 56.6	-1.3
	comp=Z,0.4nm,0.4s,baz=318,slow=2.0,SNR=4.1								
MKAR	Makanchi Array	146.16	37		PKPbc		PKPab	22 29 03.4	+0.1
	comp=Z,0.9nm,0.9s,baz=328,slow=4.3,SNR=7.9								
WMQ	Urumqi	150.99	37	*eP*			PKPdf	22 29 09.5	+0.4
WMQ					pmax		pmax		
	comp=Z,54nm,6.1s								
WMQ					LR		LR		
	comp=N,330nm,28.8s								
WMQ					LR		LR		
	comp=E,940nm,29.1s								
WMQ					LR		LR		
	comp=Z,150nm,29.2s								
LZH	Lanzhou	164.92	25	*eP*			PKPdf	22 29 29.0	+2.6
LZH					pPKP		pPKPdf	22 29 54.0	-9.4
LZH					sPKP			22 30 06.8	
NJ2	Nanjing	168.67	328	*eP*			PKPdf	22 29 28.9	-0.2
NJ2					pmax		pmax		
	comp=Z,9.0nm,0.8s								

IDC ***13*** *22:11:41.3±8.2, 12.2°S×166.4°E, h99km±85km, mb3.8/5, mb1 4.0/6, mb1mx3.5/33, mbtmp4.2/6, ML4.1/1, MS3.1/3, Ms1 3.1/3, ms1mx2.8/26, Error ellipse: s-maj=79.1km s-min=57.4km az=125.0*

ISC 13 22:11:39.5±3.4, 12.1°S±0.2°×166.5°E±0.4, h83km, n7, σ0.8, 81/6, mb4.1/4, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	9.96	180	P	Pn	22 14 00.0	+0.1
	1.7nm,0.3s,baz=344,slow=15,SNR=13						
DZM				LR	LR	22 17 34.2	
	comp=Z,120nm,19.0s,baz=44,slow=36						
KRVT	Keravat (AS076	16.24	297	LR	LR	22 22 02.1	
	comp=Z,56nm,18.3s,baz=97,slow=38						
CTA	Charters Tower	21.00	245	P	P	22 16 17.4	+1.0
	3.4nm,0.7s,baz=70,slow=14,SNR=3.8						
STKA	Stephens Creek	30.23	225	P	P	22 17 42.2	-0.2
	4.8nm,0.7s,baz=46,slow=9.6,SNR=9.8						
WRA	Warramunga Arr	31.83	252	P	P	22 17 56.2	-0.6
	1.8nm,0.7s,baz=83,slow=7.8,SNR=5.0						
ASAR	Alice Springs	33.00	245	P	P	22 18 06.2	-0.7
	2.7nm,0.7s,baz=71,slow=9.5,SNR=30						
ASAR				LR	LR	22 31 45.9	
	comp=Z,39nm,18.8s,baz=158,slow=37						
CMAR	Chiang Mai Arr	73.17	294	P	P	22 23 02.1	+0.2
	1.2nm,0.8s,baz=120,slow=5.2,SNR=6.4						

IDC 13 22:51:45.5±4.2, 6.34°S×155.51°E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/38, mbtmp3.7/5, ML2.4/1, Error ellipse: s-maj=100.9km s-min=37.5km az=111.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	8.81	249	Pn	Pn	22 53 56.5	+2.2
	2.1nm,0.3s,baz=29,slow=7.9,SNR=5.6						
WRA	Warramunga Arr	24.61	235	P	P	22 57 06.9	-0.9
	0.8nm,0.4s,baz=57,slow=9.6,SNR=4.7						
ASAR	Alice Springs	26.98	228	P	P	22 57 29.1	-0.2
	0.3nm,0.6s,baz=53,slow=9.6,SNR=1.8						
CMAR	Chiang Mai Arr	60.97	295	P	P	23 02 01.4	+0.2
	0.9nm,0.8s,baz=134,slow=6.0,SNR=5.6						
MKAR	Makanchi Array	83.26	319	P	P	23 04 14.1	0.0
	0.4nm,0.7s,baz=100,slow=6.8,SNR=4.7						

IDC ***13*** *22:59:41.4±1.6, 6.21°S×147.99°E, h65km±14km, mb4.4/20, mb1 4.6/26, mb1mx4.5/38, mbtmp4.8/26, MS3.7/20, Ms1 3.7/20, ms1mx3.7/26, Error ellipse: s-maj=12.7km s-min=10.3km az=95.0*

BJI ***13*** *22:59:41.5±0.0, 5.97°S×147.87°E, h65km, mB5.1/35, mb4.9/44, Ms5.0/10, Ms7 4.8/5*

NEIC ***13*** *22:59:42.1±2.0, 6.28°S±0.06°×147.81°E±0.07°, h69km±5km, mb5.1/99, Error ellipse: s-maj=10.8km s-min=8.3km az=131.0*

DJA ***13*** *22:59:42.4±0.4, 6°S±3°×14°8E±°, h60km±3km, M5.4/73, mB5.7/43, mb5.6/73, MLv6.1/3, Mw(mB)5.3/43, Mwp5.1/2*

GCMT ***13*** *22:59:44.1±0.2, 6.38°S±0.01°×147.92°E±0.01°, h62km±2km, MW5.1/111, Moment Tensor Solution. s53,c69; s111,c179; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.12±.16; Mθθ=5.43±.12; Mϕϕ=-4.31±.14; Mrθ=-0.24±.12; Mrϕ=0.53±.13; Mθϕ=-1.81±.11; Best double couple: M₀5.31100×10¹⁶ NP1:ϕ=316.00000°, δ72.00000°, λ=-17.00000°. NP2:ϕ=51.00000°, δ74.00000°, λ=-161.00000°. Principal axes: T 5.4620, Plg1.0000°, Azm183.0000°; N -0.3030, Plg66.0000°, Azm90.0000°; P -5.1600, Plg24.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 22:59:40.2±0.3, 6.29°S±0.04×147.85°E±0.04, h51km, n289, σ1.9, 44/282, mb5.2/104, MS3.8/21, 4C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	3.17	192	P	Pn	23 00 29.3	+1.6
	634nm,0.3s,baz=17,slow=5.7,SNR=275						
PMG				S	Sn	23 01 04.9	+0.6
	380nm,0.3s,baz=49,slow=24,SNR=9.3						
PMG	Port Moresby	3.17	192		Pn	23 00 29.3	+1.6
PMG					Sn	23 01 06.1	+1.8
KRVT	Keravat (AS076	4.60	65	P	Pn	23 00 48.0	+0.7
	398nm,0.3s,baz=187,slow=0.9,SNR=58						
RABL	Rabaul	4.78	64	Pn	Pn	23 00 52.0	+2.3
MMPI	Merauke	7.71	253	P	Pn	23 01 32.0	+2.1
	5.8nm15µm1µm,0.8s						
JAY	Jayapura	8.04	297	P	Pn	23 01 37.9	+3.4
	14nm,0.3s,baz=168,slow=9.3,SNR=53						
JAY				LR	LR	23 05 10.7	
	comp=Z,1µm,21.9s,baz=84,slow=40						
GENI	Genyem	8.49	295	P	Pn	23 01 44.1	+3.5
	2µm5µm508nm,1.0s						
COEN	Coen	8.90	211	P	Pn	23 01 47.4	+1.2
	baz=8.9,SNR=33						
COEN				S	Sn	23 03 21.8	-3.4
	baz=8.9						
COEN	Coen	8.90	211	Pn	Pn	23 01 47.7	+1.5
COEN					Sn	23 03 22.1	-3.0
SMPI	Sarmi	10.06	295	P	Pn	23 02 04.4	+2.3
	3µm148nm,0.8s						
MTSU	Mount Surprise	12.27	196	P	Pn	23 02 33.7	+1.4
	baz=12,SNR=105						
SRPI	Serui, Papua	12.38	290	P	Pn	23 02 35.3	+1.5
HNR	Honiara	12.39	105	P	Pn	23 02 34.6	+0.6
	12nm,0.3s,baz=176,slow=5.5,SNR=30						
HNR	Honiara	12.39	105	Pn	Pn	23 02 36.1	+2.1

CTA	Charters Tower	13.80	186		P		Pn	23 02 54.7	+1.4
	4.0nm,0.3s,baz=8.1,slow=14,SNR=58								
CTA					LR		LR	23 08 00.4	
	comp=Z,974nm,21.2s,baz=355,slow=36								
CTAO	Charters Tower	13.80	186		Pn		Pn	23 02 55.5	+2.2
FAKI	Fak Fak	15.90	281		P		P	23 03 24.1	+0.5
	1µm135nm,0.8s								
FAKI	Fak Fak	15.90	281				Pn	23 03 21.3	+0.6
FAKI					IAmb		IAmb	23 03 34.1	
	comp=Z,89nm,0.7s								
QIS	Mount Isa	16.28	209		P		P	23 03 26.8	-1.0
	baz=16,SNR=53								
KDU	Kakadu	16.44	246		P		Pn	23 03 28.1	+0.6
	baz=16,SNR=105								
SAUI	Saumlaki	16.50	263		P		Pn	23 03 28.0	-0.4
	comp=Z,12µmcomp=Z,924nm,1.1s								
SAUI	Saumlaki	16.50	263				Pn	23 03 25.0	-3.4
PATS	Pohnpei	16.70	39		Pn		Pn	23 03 29.9	-1.0
PATS					IAmb		IAmb	23 03 39.9	
	comp=Z,61nm,0.8s								
SIJI	Sorong	17.39	287		P		P	23 03 40.2	0.0
	comp=Z,6.4nm,0.3s,baz=122,slow=6.7,SNR=17								
MTN	Manton Dam	17.71	247		P		P	23 03 44.6	+0.9
	baz=18,SNR=36								
MTN	Manton Dam	17.71	247		P		Pn	23 03 42.9	-0.5
MTN					IAmb		IAmb	23 03 49.2	
	comp=Z,87nm,0.5s								
BNDI	Bandanaira	17.95	275		P		P	23 03 47.4	+1.1
	comp=Z,2µmcomp=Z,10µmcomp=Z,876nm,0.8s								
WB0	Warramunga Arr	18.72	223		P		Pn	23 03 55.6	0.0
WR0	Warramunga Arr	18.75	222		P		Pn	23 03 56.2	+0.1
WRAB	Tennant Creek	18.86	223		P		P	23 03 55.3	-1.1
WRAB							Sn	23 07 25.2	-2.7
WC3	Warramunga Arr	18.87	223		P		Pn	23 03 57.2	-0.2
	baz=19								
WB2	Warramunga Arr	18.87	223				Pn	23 03 57.5	0.0
WRA	Warramunga Arr	18.88	223		P		Pn	23 03 57.2	-0.3
	comp=Z,8.4nm,0.3s,baz=48,slow=11,SNR=56								
WRA					S		Sn	23 07 24.6	-3.6
	comp=Z,1.8nm,0.3s,baz=43,slow=21,SNR=14								
WRA	Warramunga Arr	18.88	223		P		P	23 03 56.2	-0.3
MSAI	Masohi	19.07	278		P		Pn	23 04 00.2	+0.3
	comp=Z,879nmcomp=Z,76nm,0.5s								
EIDS	Eidsvold	19.23	171		P		Pn	23 04 01.9	+0.3
	baz=19,SNR=109								
EIDS	Eidsvold	19.23	171				Pn	23 04 01.9	+0.3
AAI	Ambon	19.75	277		P		Pn	23 04 07.1	-0.8
	comp=Z,6µmcomp=Z,916nm,0.7s								
GUMO	Guam	19.97	351		P		P	23 04 09.0	+0.7
GUMO					IAmb		IAmb	23 04 27.5	
	comp=Z,120nm,1.0s								
RMQ	Roma	20.11	178		P		Pn	23 04 12.0	0.0
	baz=20,SNR=195								
QLP	Quilpie	20.47	189		P		Pn	23 04 15.5	-0.9
	baz=20,SNR=155								
NLAI	Namlea	20.89	277		P		Pn	23 04 20.8	-0.7
	comp=Z,4µmcomp=Z,351nm,0.6s								
KNRA	Kununurra	20.91	242		P		P	23 04 19.1	+0.5
	baz=21,SNR=73								
KNRA	Kununurra	20.91	242		P		P	23 04 19.1	+0.5
SANVU	Saraoutou	21.06	117		P		P	23 04 20.4	+0.2
SANVU					IAmb		IAmb	23 04 38.8	
	comp=Z,144nm,1.1s								
LBMI	Labuha	21.06	285		P		P	23 04 24.9	+4.6
	comp=Z,2µmcomp=Z,122nm,0.9s								
TNTI	Ternate	21.61	288		P		P	23 04 28.6	+2.4
	comp=Z,44nm,1.0s								
TNTI	Ternate	21.61	288

baz=29,SNR=15
BBOO Buckleboo 28.58 201 IAmb IAmb 23 05 33.5
comp=Z,34nm,0.9s
CAN Canberra 28.91 178 P **P** **23 05 34.8 +0.3**
CAN IAmb IAmb 23 05 36.4
comp=Z,38nm,0.7s
CNB Canberra Magne 28.92 177 P **P** **23 05 35.8 +1.2**
baz=29,SNR=15
FORT Forrest 30.64 215 P **P** **23 05 49.7 -0.1**
FORT IAmb IAmb 23 06 01.1
comp=Z,28nm,0.7s
ARPS Mount Arapiles 30.83 189 P **P** **23 05 52.7 +1.3**
baz=31,SNR=11
MBWA Marble Bar 30.97 239 P **P** **23 05 53.2 +0.3**
PSA00 Pilbara Seismi 31.05 238 P **P** **23 05 53.7 +0.1**
PSA00 Pilbara Seismi 31.05 238 P **P** **23 05 53.6 +0.1**
PSA00 IAmb IAmb 23 05 54.8
comp=Z,41nm,0.6s
TOO Toolangi 31.21 184 P **P** **23 05 56.0 +1.2**
baz=31,SNR=4.5
TOO Toolangi 31.21 184 P **P** **23 05 54.6 -0.2**
BKB Balikpapan 31.27 278 P **P** **23 05 56.6 +1.0**
WAKE Wake Island 31.45 36 P **P** **23 05 57.1 +0.1**
WAKE IAmb IAmb 23 06 10.3
comp=Z,30nm,0.8s
MSVF Nonsavu 31.60 114 P **P** **23 05 59.6 +1.1**
KBKI Kotabaru 31.70 274 P **P** **23 06 00.3 +0.9**
comp=Z,94nm,0.8s
SPMM Sapulut 33.18 288 P **P** **23 06 13.0 +0.6**
JAGI Jajag, Banyuwa 33.48 264 P **P** **23 06 18.2 +3.3**
comp=Z,114nm,0.6s
KKM Kota Kinabalu 33.86 291 P **P** **23 06 17.0 -1.4**
KKM IAmb IAmb 23 06 25.5
comp=Z,19nm,1.1s
MEEK Meekatharra 34.42 231 P **P** **23 06 24.2 +1.2**
baz=34,SNR=129
MOO Moorlands 36.01 181 P **P** **23 06 38.1 +1.7**
baz=36,SNR=8.6
GIRL Giralia 36.25 240 P **P** **23 06 41.3 +2.5**
baz=36,SNR=9.3
GIRL Giralia 36.25 240 P **P** **23 06 39.0 +0.3**
TAU Tasmania Unive 36.48 181 P **P** **23 06 39.9 -0.5**
TAU IAmb IAmb 23 06 48.9
comp=Z,14nm,0.8s
SBUM Sibu 36.62 283 P **P** **23 06 41.9 -0.1**
SBUM Sibu 36.62 283 P **P** **23 06 44.0 +2.0**
WOJI Wonogiri, Jawa 36.67 265 P **P** **23 06 44.1 +1.7**
comp=Z,126nm,1.5s
UGM Wanagama 37.06 265 P **P** **23 06 45.5 -0.4**
SMRI Semarang 37.15 267 P **P** **23 06 46.5 0.0**
MORW Morawa 37.61 229 P **P** **23 06 51.4 +1.2**
baz=38,SNR=77
KLBR Kellerberrin 37.75 224 P **P** **23 06 52.0 +0.6**
baz=38,SNR=63
BLDU Ballidu 37.94 226 P **P** **23 06 53.8 +0.8**
baz=38,SNR=39
JOW Kunigami 37.99 331 P **P** **23 06 50.7 -2.7**
JOW IAmb IAmb 23 06 51.8
comp=Z,15nm,1.0s
KSM Kuching 38.26 280 P **P** **23 06 56.5 +0.6**
KSM IAmb IAmb 23 07 04.2
comp=Z,26nm,0.8s
KSM Kuching 38.26 280 P **P** **23 06 57.0 +1.1**
NWAO Narrogin (SRO) 38.89 223 P **P** **23 07 01.8 +0.9**
baz=39,SNR=20
NWAO Narrogin (SRO) 38.89 223 P **P** **23 07 01.6 +0.7**
comp=Z,22nm,0.6s,baz=54,slow=7.2,SNR=28
NWAO Narrogin (SRO) 38.89 223 P **P** **23 07 01.2 +0.3**
NWAO IAmb IAmb 23 07 02.5
comp=Z,24nm,0.7s
NWAO Narrogin (SRO) 38.89 223 P **P** **23 07 01.2 +0.3**
NWAO IAmb IAmb 23 07 02.5
comp=Z,19nm,0.7s
MUN Mundaring 39.05 225 P **P** **23 07 03.4 +1.1**
baz=39,SNR=13
NACB Ninganchiao 39.65 321 P **P** **23 07 05.6 -1.7**
NACB IAmb IAmb 23 07 10.9
comp=Z,28nm,1.0s
CISI Cisompet, Garu 39.75 266 P **P** **23 07 08.5 +0.1**
comp=Z,4μmcomp=Z,261nm,0.8s
LEM Lembang 39.96 267 P **P** **23 07 11.2 +0.9**
comp=Z,100nm,0.6s,baz=357,slow=8.7,SNR=17
YHNB Yeheng 40.15 321 P **P** **23 07 11.2 -0.4**
YHNB IAmb IAmb 23 07 19.3
comp=Z,41nm,1.0s
TATO Taipei 40.30 321 P **P** **23 07 12.2 -0.5**
TATO IAmb IAmb 23 07 26.6
comp=Z,62nm,1.0s
AFI Afiamalu 40.42 104 **P** **23 07 13.3 -0.7**
CNJI Cibinong 40.43 266 P **P** **23 07 14.5 +0.5**
comp=Z,4μmcomp=Z,554nm,1.0s
DBJI Dramaga 40.83 267 P **P** **23 07 19.6 +2.3**
comp=Z,8μmcomp=Z,26nm,0.5s
SKJI Sukabumi 41.01 267 P **P** **23 07 19.1 +0.3**
comp=Z,336nm,0.7s
THZ Tophouse 41.77 152 IAmb IAmb 23 07 36.2
comp=Z,16nm,0.7s
LTZ Lake Taylor 42.27 153 P **P** **23 07 29.2 +0.5**
SNZO South Karori 42.30 150 P **P** **23 07 27.4 -1.5**
SNZO IAmb IAmb 23 07 46.5
comp=Z,60nm,1.1s
JNU Nakatsue 42.38 339 IAmb IAmb 23 07 49.0
comp=Z,27nm,0.9s
RPZ Rata Peaks 42.49 155 P **P** **23 07 31.0 +0.5**
RPZ IAmb IAmb 23 07 32.1
comp=Z,20nm,0.6s
BFZ Birch Farm 42.64 148 P **P** **23 07 32.7 +1.0**
BFZ IAmb IAmb 23 07 43.2
comp=Z,32nm,0.9s
MSWZ Moikau Station 42.65 149 P **P** **23 07 31.2 -0.6**
LBZ Lake Benmore 42.69 156 P **P** **23 07 32.4 +0.4**
LBZ IAmb IAmb 23 07 33.0
comp=Z,22nm,0.7s
MLZ Mavora Lakes 42.73 159 P **P** **23 07 32.8 +0.4**
MLZ IAmb IAmb 23 07 39.9
comp=Z,18nm,0.8s
KASI Kota Agung 43.12 269 P **P** **23 07 35.3 -0.7**
comp=Z,1μmcomp=Z,165nm,0.8s
MQZ McQueen's Vall 43.17 154 P **P** **23 07 33.9 -2.1**
MQZ IAmb IAmb 23 07 44.2
comp=Z,26nm,1.1s
MJAR Matsushiro Arr 43.55 349 P **P** **23 07 38.5 -0.6**
comp=Z,5.8nm,0.8s,baz=173,slow=8.5,SNR=16
MJAR LR LR 23 25 01.2
comp=Z,68nm,18.4s,baz=160,slow=35
MJAR Matsushiro Arr 43.55 349 P **P** **23 07 39.7 +0.6**
MAJO Matsushiro 43.55 349 P **P** **23 07 39.7 +0.6**
MAJO IAmb IAmb 23 07 57.5
comp=Z,78nm,1.1s
MAT Matsushiro 43.55 349 P **P** **23 07 38.6 -0.5**
MAT *e*S **S** **23 14 04.8 +0.1**
MJB9 Matsu-Tunnel 43.56 349 IAmb IAmb 23 07 57.5
comp=Z,76nm,1.0s
LWLI Liwa 43.58 269 P **P** **23 07 40.5 +0.6**
comp=Z,6μmcomp=Z,296nm,0.8s
TPRI Tanjung Pinang 43.83 278 P **P** **23 07 44.5 +2.8**
LHSI Lahat 44.21 271 P **P** **23 07 45.4 +0.6**
comp=Z,139nm,1.0s
MNAI Manna 44.73 270 P **P** **23 07 48.5 -0.5**
QIZ Qiongzhong 45.11 305 P **P** **23 07 52.0 +0.2**
QIZ S **S** **23 14 26.3 -1.5**
MASI Maura Aman, Be 45.55 272 P **P** **23 07 56.0 +0.5**
comp=Z,5μmcomp=Z,670nm,0.7s
KRJI Kerinci 46.43 273 P **P** **23 08 03.2 +0.7**
comp=Z,628nm,0.9s
SDSI Sungai Dareh 46.61 275 P **P** **23 08 04.5 +0.7**
comp=Z,2μmcomp=Z,170nm,0.7s
NJ2 Nanjing 47.09 326 *e*P **P** **23 08 07.5 +0.3**
NJ2 pmax pmax
comp=Z,20nm,0.5s
KSRS Korea Array 47.32 338 P **P** **23 08 08.6 -0.3**
comp=Z,1.8nm,0.6s,baz=148,slow=8.6,SNR=9.5
KSRS LR LR 23 26 49.5
comp=Z,86nm,21.0s,baz=154,slow=34
KSAR Wonju Array Be 47.33 338 P **P** **23 08 09.1 +0.2**
PDSI Padang 47.57 275 P **P** **23 08 11.4 +0.1**
comp=Z,53nm,0.7s
IPM Ipoh 47.95 282 P **P** **23 08 14.2 -0.1**
IPM Ipoh 47.95 282 P **P** **23 08 16.0 +1.7**
KULM Kulim 48.50 283 P **P** **23 08 19.2 +0.7**
KULM IAmb IAmb 23 08 26.2
comp=Z,32nm,0.8s
KULM Kulim 48.50 283 P **P** **23 08 19.0 +0.6**
WHN Wuhan 48.69 321 P **P** **23 08 19.8 +0.2**
MNSI Mandailing Nat 48.69 277 P **P** **23 08 20.5 +0.6**
comp=Z,78nm,0.6s

MCQ Macquarie Isla 48.90 171 P **P** **23 08 20.3 -0.6**
RPSI Rantau Prapat 49.66 279 P **P** **23 08 27.2 -0.1**
RPSI IAmb IAmb 23 08 35.0
comp=Z,22nm,0.6s
PSI Prapat 49.67 279 P **P** **23 08 28.0 +0.4**
comp=Z,12nm,0.4s,baz=181,slow=9.1,SNR=9.2
GSI Gunungsitoli 50.75 277 P **P** **23 08 35.7 +0.1**
KCSI Kotacane, Aceh 50.94 280 P **P** **23 08 36.6 -0.4**
comp=Z,60nm,0.7s
GYA Guiyang 51.50 311 *e*P **P** **23 08 40.4 -0.8**
GYA sP sP 23 09 03.9 +2.8
GYA S **S** **23 15 54.4 -3.8**
GYA SS SS 23 19 23.5 -11
GYA pmax pmax
comp=Z,10.0nm,0.5s
GYA pmax pmax
comp=Z,230nm,4.6s
GYA LR LR
comp=Z,230nm,3.9s
GYA LR LR
comp=Z,320nm,4.1s
GYA LR LR
comp=Z,210nm,4.5s
USA0B Ussuriysk Arra 52.25 346 P **P** **23 08 47.0 +0.7**
USA0B IAmb IAmb 23 08 54.2
comp=Z,13nm,1.1s
USRK Ussuriysk Ar. 52.25 346 P **P** **23 08 46.7 +0.5**
comp=Z,3.5nm,0.7s,baz=166,slow=7.7,SNR=7.0
USRK LR LR 23 28 54.1
comp=Z,58nm,21.7s,baz=154,slow=34
USRK Ussuriysk Ar. 52.25 346 P **P** **23 08 47.0 +0.7**
MLSI Meulaboh, Aceh 52.42 280 P **P** **23 08 49.5 +1.4**
comp=Z,173nm,0.7s
KMI Kunming 53.84 307 P **P** **23 08 59.0 +0.4**
KMI sP sP 23 09 21.8 +3.3
KMI pmax pmax
comp=Z,6.0nm,1.1s
CMAR Chiang Mai Arr 54.13 298 P **P** **23 09 01.1 +0.6**
comp=Z,5.5nm,0.7s,baz=121,slow=5.6,SNR=16
CMAR LR LR 23 30 32.9
comp=Z,37nm,20.9s,baz=171,slow=34
XAN Xi'an 54.44 320 P **P** **23 09 02.0 -0.6**
XAN pmax pmax
comp=Z,14nm,1.4s
XAN pmax pmax
comp=Z,130nm,4.7s
XAN Xi'an 54.44 320 P **P** **23 09 01.5 -1.1**
XAN IAmb IAmb 23 09 11.5
comp=Z,12nm,1.2s
XMAS Kiritimati 55.24 83 P **P** **23 09 07.9 -0.8**
CD2 Chengdu 56.08 314 P **P** **23 09 14.8 +0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 57.52 328 *e*P **P** **23 09 27.4 +2.8**
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,40nm,6.6s
LZH Lanzhou 58.98 319 *e*P **P** **23 09 36.9 +2.0**
LZH pP sP 23 09 54.6 +0.1
LZH PP **PP** **23 11 50.9 +5.1**
LZH pmax pmax
comp=Z,17nm,1.1s
LZH pmax pmax
comp=Z,65nm,4.3s
LZH LR LR
comp=Z,140nm,14.0s
LZH LR LR
comp=Z,140nm,14.2s
PEA0B Petropavlovsk- 59.76 7 P **P** **23 09 40.8 +1.0**
PEA0B IAmb IAmb 23 09 58.8
comp=Z,30nm,1.1s
PETK Petropavlovsk- 59.76 7 P **P** **23 09 38.7 -1.0**
comp=Z,12nm,0.8s,baz=171,slow=7.3,SNR=16
PETK Petropavlovsk- 59.76 7 P **P** **23 09 40.4 +0.7**
PPT2 Papeete2 62.01 106 *e*LR LR 23 28 28.2
comp=Z,227nm,26.0s
TBI Tubuai 62.48 113 *e*LR LR 23 28 39.9
comp=Z,277nm,33.8s
SHL Shillong 62.88 303 P **P** **23 10 02.2 +0.6**
SHL IAmb IAmb 23 10 05.2
comp=Z,9.2nm,0.6s
GTA Gaotai 63.50 320 *e*P **P** **23 10 05.8 +0.4**
GTA pmax pmax
comp=Z,4.0nm,0.9s
ULN Ulaanbaatar 64.77 331 P **P** **23 10 14.0 +0.4**
ULN IAmb IAmb 23 10 33.3
comp=Z,13nm,0.8s
SONM Songino Array 65.06 331 P **P** **23 10 15.7 +0.2**
comp=Z,3.1nm,0.6s,baz=152,slow=4.8,SNR=13
SONM LR LR 23 38 21.3
comp=Z,86nm,20.1s,baz=113,slow=36
SONM Songino Array 65.06 331 P **P** **23 10 15.3 -0.2**
LSA Lhasa 65.08 307 P **P** **23 10 16.2 -0.3**
CASY Casey 65.21 196 P **P** **23 10 17.5 +1.6**
MA2 Magadan 65.69 2 LR LR 23 35 43.5
comp=Z,16nm,21.1s,baz=173,slow=33
VNDA Vanda 71.58 177 P **P** **23 10 56.2 +0.7**
comp=Z,4.3nm,0.6s,baz=334,slow=7.2,SNR=31
VNDA LR LR 23 38 07.5
comp=Z,55nm,21.1s,baz=320,slow=32
VNDA Vanda 71.58 177 P **P** **23 10 56.3 +0.7**
WMQ Urumqi 73.56 319 *e*P **P** **23 11 07.3 -0.7**
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ pmax pmax
comp=Z,86nm,3.9s
WMQ LR LR
comp=Z,140nm,4.7s
WMQ LR LR
comp=Z,44nm,5.5s
SDPT Sand Point 74.77 28 P **P** **23 11 13.4 -1.3**
MKAR Makanchi Array 78.25 320 P **P** **23 11 34.0 -0.7**
comp=Z,3.0nm,0.5s,baz=98,slow=8.2,SNR=44
MKAR Makanchi Array 78.25 320 P **P** **23 11 33.6 -1.1**
MAKZ Makanchi 78.46 320 P **P** **23 11 34.9 -1.0**
ZALV Zalesovo Beam 79.70 328 P **P** **23 11 40.5 -2.0**
comp=Z,2.4nm,0.4s,baz=123,slow=5.4,SNR=11
ZALV LR LR 23 47 17.6
comp=Z,58nm,21.0s,baz=142,slow=36
KURK Kurchatov 81.94 323 P **P** **23 11 55.5 +1.0**
KURBB Kurchatov Arra 81.96 323 P **P** **23 11 53.3 -1.3**
comp=Z,1.1nm,0.5s,baz=122,slow=3.9,SNR=15
AAK Ala-Archa 82.14 314 P **P** **23 11 56.0 +0.1**
comp=Z,2.6nm,0.6s,baz=137,slow=6.2,SNR=4.2
MAW Mawson 82.31 203 P **P** **23 11 55.1 -0.9**
comp=Z,4.7nm,0.9s,baz=89,slow=9.4,SNR=2.2
IMAR Indian Mountai 83.46 21 P **P** **23 12 02.3 +0.3**
SML Sawmill 83.54 25 IAmb IAmb 23 12 05.6
comp=Z,19nm,1.0s
QSPA South Pole Qui 83.68 180 P **P** **23 12 03.6 +0.2**
QSPA IAmb IAmb 23 12 12.3
comp=Z,10nm,0.7s
RND Reindeer 84.04 24 IAmb IAmb 23 12 07.0
comp=Z,9.5nm,0.8s
KKAR Karatay Array 85.09 314 P **P** **23 12 10.3 -0.5**
IL31 85.42 23 P **P** **23 12 10.2 -1.7**
ILAR Eielson Array 85.42 23 P **P** **23 12 09.3 -2.6**
comp=Z,2.9nm,0.6s,baz=250,slow=4.6,SNR=30
ILAR LR LR 23 44 14.6
comp=Z,39nm,22.0s,baz=267,slow=31
NRIK Noril'sk 85.81 342 P **P** **23 12 12.6 -1.2**
comp=Z,4.1nm,0.6s,baz=115,slow=3.2,SNR=8.3
NRIK LR LR 23 51 28.2
comp=Z,17nm,18.8s,baz=142,slow=36
DOT Dot Lake 86.09 25 P **P** **23 12 14.1 -1.3**
DOT IAmb IAmb 23 12 18.6
comp=Z,11nm,1.2s
BARN Barnard Glacie 86.19 27 P **P** **23 12 14.1 -2.0**
BARN IAmb IAmb 23 12 18.0
comp=Z,10nm,0.8s
BCAR Beaver Creek A 86.83 25 P **P** **23 12 18.2 -0.9**
BMAR Burnt Mountain 87.36 21 P **P** **23 12 21.9 +0.4**
BRVK Borovoye 87.57 324 P **P** **23 12 21.2 -1.5**
EGAK Eagle 87.69 24 P **P** **23 12 23.5 +0.4**
HYT Haines Junctio 88.05 28 P **P** **23 12 25.2 +0.2**
HYT IAmb IAmb 23 12 28.6
comp=Z,16nm,0.9s
SIT Sitka 88.13 32 P **P** **23 12 24.6 -0.6**
SIT IAmb IAmb 23 12 42.6
comp=Z,18nm,1.2s
SKAG Skagway 88.73 30 P **P** **23 12 26.8 -1.2**
SKAG IAmb IAmb 23 12 38.1
comp=Z,11nm,1.0s
SYO Syowa Base 90.61 200⇑ *e*P **P** **23 12 34.4 -2.3**
SYO Syowa Base 90.61 200⇑ *e*PcP **PcP** **23 12 39.0 +1.2**

SYO Syowa Base 90.61 200⇑ *e*X pP 23 12 51.0 -0.8
SYO Syowa Base 90.61 200⇑ *es*P sP 23 13 06.4 +8.9
ABKAR Akbulak array 93.34 319 P **P** **23 12 47.8 -2.0**
ARU Arti 94.79 326 P **P** **23 12 54.4 -1.9**
AFDM Forest Hills D 94.83 51 P **P** **23 12 56.6 -0.3**
AFDM IAmb IAmb 23 12 59.5
comp=Z,4.9nm,1.1s
RYN Ryan 96.72 52 P **P** **23 13 08.8 +3.2**
NVAR Mina Array Bea 96.88 52 LR LR 23 50 01.5
comp=Z,48nm,21.6s,baz=266,slow=31
YKA Yellowknife Ar 99.03 28 P **Pdif**
comp=Z,0.7nm,0.9s,baz=268,slow=4.2,SNR=3.6
23 13 14.4 -0.9
YKA LR LR 23 55 50.2
comp=Z,29nm,20.0s,baz=0.0,slow=34
VNA3 Neumayer Olymp 101.20 187 Pdiff **Pdif** **23 13 24.7 -0.2**
PDAR Pinedale Array 103.49 48 Pdiff **Pdif** **23 13 34.5 -1.4**
comp=Z,0.6nm,0.5s,baz=245,slow=3.1,SNR=5.1
ARCES ARCESS Array B 106.79 342 PKKPbc PKKPbc 23 29 20.9 -0.1
comp=Z,2.4nm,1.0s,baz=280,slow=5.2,SNR=3.7
TXAR Lajitas Array 109.16 61 PKKP 23 29 25.1
comp=Z,1.1nm,0.7s,baz=79,slow=6.5,SNR=4.2
BOSA Boshof 114.77 235 PKP PKPdf 23 18 16.6 +0.6
comp=Z,1.4nm,0.6s
U40A Yellville 117.19 52 PKPdf **PKiKP** **23 18 20.8 +0.5**
KOLS Kolonicke sedl 117.59 323 *e*PKP **PKiKP** **23 18 21.6 +0.9**
VYHS Vyhne 119.83 323 *e*PKP **PKiKP** **23 18 25.3 +0.2**
DIVS Divibare 120.99 318 PKPdf **PKiKP** **23 18 27.9 +0.3**
PLCA Paso Flores 121.42 146 PKP **PKPdf** **23 18 28.1 -0.3**
comp=Z,2.3nm,0.6s,baz=280,slow=4.0,SNR=6.6
CLL Collm 121.65 328 *i* PKiKP **PKiKP** **23 18 28.5 0.0**
comp=Z,4.0nm,0.7s
CLL LmV 00 13 00.0
comp=Z,100nm,22.0s
CONA Conrad Observa 121.85 324 *i* PKiKP **PKPdf** **23 18 28.6 -0.3**
comp=Z,2.9nm,0.9s
KHC Kasperske Hory 122.53 326 *e*PKPDF **PKiKP** **23 18 30.3 -0.1**
GERES GERESS Array B 122.62 326 PKP **PKPdf** **23 18 29.1 -1.3**
comp=Z,1.6nm,0.6s,baz=352,slow=1.9,SNR=17
GERES GERESS Array B 122.62 326 PKPdf **PKPdf** **23 18 29.3 -1.1**
SOKA Soboth 122.96 323 *e*PKiKP **PKPdf** **23 18 30.5 -0.7**
comp=Z,1.9nm,0.8s
MYKA Terra Mystica 123.81 324 *e*PKiKP **PKPdf** **23 18 32.6 -0.1**
comp=Z,1.4nm,0.5s
ABTA Abfaltersbach 124.41 324 *e*PKiKP **PKPdf** **23 18 33.6 -0.4**
comp=Z,3.3nm,0.7s
WTTA Wattenberg 124.64 325 *e*PKiKP **PKPdf** **23 18 34.3 -0.2**
comp=Z,2.8nm,0.5s
CIMO Cimolais 124.69 324 PKPdf **PKiKP** **23 18 34.6 -0.1**
MOTA Moosalm 124.90 325 *e*PKiKP **PKPdf** **23 18 34.5 -0.4**
comp=Z,3.1nm,0.6s
SQTA Sankt Quirin 124.91 325 *i* PKiKP **PKiKP** **23 18 35.2 0.0**
comp=Z,2.4nm,0.7s
FETA Feichten 125.29 325 *i* PKiKP **PKPdf** **23 18 35.4 -0.3**
comp=Z,5.4nm,1.1s
DAVA Damuels 125.61 326 *e*PKiKP **PKPdf** **23 18 35.9 -0.4**
comp=Z,3.7nm,0.7s
ZCCA Zocca 126.60 322 **PKiKP** **23 18 38.9 +0.3**
BNI Bardonecchia 128.73 325 PKPdf **PKiKP** **23 18 43.2 +0.2**
KEST Kesra 131.99 314 PKP **PKPdf** **23 18 48.6 -0.1**
comp=Z,1.1nm,0.5s,baz=236,slow=0.8,SNR=5.0
YOTC Yotoco, Valle 135.94 91 *e*P **PKPdf** **23 18 54.1 -2.7**
RREF El Recreo 137.00 90 *e*P **PKPdf** **23 18 53.0 -6.4**
GUY2C Guyana, Caldas 137.00 89 *e*P **PKPdf** **23 18 58.4 -0.8**
TOLC Tolima 137.00 90 *e*P **PKiKP** **23 19 00.6 -0.3**
ORTC Ortega, Tolima 137.02 91 *e*P **PKPdf** **23 18 58.4 -0.3**
PRAC Prado 137.36 91 *e*P **PKPdf** **23 18 55.7 -3.6**
LPAZ La Paz 137.92 123 PKP **PKPdf** **23 18 59.3 -1.6**
comp=Z,2.1nm,0.3s,baz=262,slow=4.1,SNR=4.3
PTBC PUERTO BERRIO 137.97 87 *e*P PKPdf 23 18 48.5 -12
RUSC La Rusia 139.31 88 *e*P PKPdf 23 18 54.4 -9.0
RUSC La Rusia 139.31 88 PKPdf **PKPdf** **23 19 01.3 -2.1**
CPUP Villa Florida 139.41 144 PKP **PKPdf** **23 19 02.5 -0.1**
comp=Z,2.7nm,0.8s,baz=303,slow=6.4,SNR=2.3
SOCV Socops 141.57 85 *e*P **PKPdf** **23 19 01.8 -5.1**
HUMP Col San Antoni 145.10 67 **PKPbc** **23 19 12.0 -0.5**
STVI Saint Thomas 145.86 66 **PKPbc** **23 19 14.7 -0.2**
TOA0 Torodi Ar. Sit 145.98 284 **PKPbc** **23 19 15.2 -0.2**
TORD Torodi Ar. Bea 145.98 284 PKPbc **PKPdf** **23 19 14.9 +0.3**
comp=Z,11nm,0.5s,baz=68,slow=3.7,SNR=108
TORD Torodi Ar. Bea 145.98 284 **PKPdf** **23 19 14.4 -0.1**
KIC Kosan Boka 152.75 272 *e*PKiKP **PKiKP** **23 19 32.9 +0.1**
comp=Z,19nm,0.8s
DBIC Dimbokro 152.88 272 PKPbc **PKPbc** **23 19 32.2 -0.6**
comp=Z,6.7nm,0.7s,baz=89,slow=2.1,SNR=8.7
LIC Lamto 153.04 271 *e*PKiKP **PKiKP** **23 19 33.4 0.0**
comp=Z,46nm,0.8s
TIC Toumodi 153.04 272 *e*PKiKP **PKPbc** **23 19 33.3 +0.1**
BDFB Brasilia 153.14 144 PKPbc **PKPbc** **23 19 32.9 -0.5**
comp=Z,11nm,0.5s,baz=185,slow=0.8,SNR=13
BDFB Brasilia 153.14 144 **PKiKP** **23 19 34.1 +0.5**

*IDC **13** 23:07:00.6±4.1, 35°.00N×73°.36E, h0km, mb3.7/2, mb1 3.5/6, mb1mx3.3/41, mbtmp3.4/6, ML2.8/4, Error ellipse: s-maj=88.0km s-min=28.4km az=132.0*
ISC 13 23:07:11.5±0.8, **35°.68N**±0°.08×**73°.0E**±0°.1, **h40**km, **n21**, σ**2**§**21**/22, **1D, Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.96**	**144**	*ex*		Pn	23 08 15.0	+5.2
THN				*ex*		**Sn**	**23 08 58.5**	**+3.5**
DHRM	**DHARAMSHALA**	**4.40**	**140**	*ex*		Pn	23 08 21.2	+5.1
DHRM				*ex*		**Sn**	**23 09 08.6**	**+2.4**
SMLA	**Simla**	**5.74**	**141**	*e*P		Pn	23 08 38.3	+4.1
SMLA				*i* x		x	23 08 38.9	
SMLA				*e*S		**Sn**	**23 09 37.7**	**-1.1**
SMLA				IAML			23 09 42.5	
	comp=E,127nm,0.2s							
SMLA				IAML			23 09 42.7	
	comp=N,126nm,0.2s							
AAK	**Ala-Archa**	**7.05**	**9**	Pn		**Pn**	**23 08 56.4**	**+4.0**
	comp=N,0.3nm,0.3s,baz=159,slow=12,SNR=1.8							
KK31	**Karatay Array**	**7.66**	**346**	Pn		**Pn**	**23 09 02.6**	**+2.1**
	comp=N,0.8nm,0.2s,baz=174,slow=14,SNR=21							
KK31				⇓Sn		**Sn**	**23 10 22.9**	**-3.0**
	comp=N,1.0nm,0.3s,baz=173,slow=24,SNR=3.9							
PYUN	**Piuthan**	**11.38**	**129**	*e*P		**Pn**	**23 09 51.1**	**-0.7**
	comp=N,60nm,0.3s							
DANN	**Dangsing**	**11.72**	**126**	*e*P		**Pn**	**23 09 55.6**	**-0.8**
	comp=N,20nm,0.3s							
KOLN	**Koldanda**	**12.00**	**128**	*e*P		**Pn**	**23 09 59.8**	**-0.4**
	comp=N,12nm,0.3s							
GEYT	**Alibeck**	**12.11**	**285**	Pn		**Pn**	**23 10 03.1**	**+1.6**
	comp=N,0.0nm,0.3s,baz=103,slow=17,SNR=1.5							
GKN	**Gorkha**	**12.53**	**124**	*e*P		**Pn**	**23 10 06.5**	**-0.9**
DMN	**Daman**	**13.10**	**124**	*e*P		**Pn**	**23 10 14.0**	**-1.3**
	comp=N,17nm,0.3s							
KKN	**Kakani**	**13.10**	**123**	*e*P		**Pn**	**23 10 13.7**	**-1.5**
MKAR	**Makanchi Array**	**13.13**	**29**	Pn		**Pn**	**23 10 16.5**	**+1.2**
	comp=N,0.1nm,0.3s,baz=212,slow=16,SNR=4.1							
PKIN	**Phulchoki**	**13.31**	**124**	*e*P		**Pn**	**23 10 16.5**	**-1.7**
	comp=N,21nm,0.4s							
PKI	**Pulchoki**	**13.33**	**124**	*e*P		**Pn**	**23 10 16.2**	**-2.2**
	comp=N,14nm,0.3s							
GUN	**Gumba**	**13.44**	**122**	*e*P		**Pn**	**23 10 17.8**	**-2.1**
	comp=N,8.3nm,0.2s							
JIRN	**Jiri**	**13.81**	**122**	*e*P		**Pn**	**23 10 22.6**	**-2.4**
	comp=N,47nm,0.4s							
RAMN	**Ramite**	**14.54**	**123**	*e*P		**Pn**	**23 10 31.8**	**-3.0**
	comp=N,13nm,0.4s							
KURBB	**Kurchatov Arra**	**15.48**	**13**	Pn		**Pn**	**23 10 47.2**	**+0.4**
	comp=N,0.0nm,0.3s,baz=204,slow=11,SNR=1.4							
ARCES	**ARCESS Array B**	**42.51**	**337**	P		**P**	**23 15 01.7**	**-0.9**
	comp=N,1.0nm,0.7s,baz=108,slow=7.9,SNR=5.7							
TORD	**Torodi Ar. Bea**	**67.29**	**270**	P		**P**	**23 18 00.2**	**-2.3**
	comp=N,0.3nm,0.4s,baz=46,slow=6.2,SNR=4.7							

*IDC **13** 23:23:40.0±1.0, 13°.98N×145°.11E, h0km, mb3.8/9, mb1 4.0/9, mb1mx3.7/36, mbtmp3.8/9, Error ellipse: s-maj=34.8km s-min=18.5km az=81.0*
*NEIC **13** 23:24:02.2±1.4, 14°.02N±0°.10×144°.6E±0°.2, h194km±6km, mb4.5/28, Error ellipse: s-maj=22.7km s-min=12.9km az=75.0*
ISC 13 23:24:02.3±0.5, **14°.04N**±0°.08×**144°.7E**±0°.1, **h200**km, **n49**, σ**1**§**13**/47, **mb4.3**/23, **Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.47**	**161**			**Pn**	**23 24 28.7**	**-0.6**
GUMO					Sn	**Sn**	**23 24 49.1**	**-1.2**
JCJ	**Chichijima**	**13.21**	**350**		Pn	**Pn**	**23 27 01.1**	**-1.3**
H11N1	**WAKE ISLAND Hy**	**21.95**	**72**		T	T	23 52 31.7	
	baz=256,slow=75,SNR=5.8							

H11N2 WAKE ISLAND Hy 21.96 72 T T 23 52 12.7
baz=256,slow=75,SNR=5.4
H11N3 WAKE ISLAND Hy 21.97 72 T T 23 52 15.6
baz=256,slow=75,SNR=5.7
JNU Nakatsue 22.80 329 P **P** **23 28 48.5 +0.6**
9.7nm,0.9s,baz=149,slow=4.7,SNR=5.6
MJAR Matsushiro Arr 23.16 347 P **P** **23 28 51.2 +0.1**
4.3nm,0.8s,baz=174,slow=1.1,SNR=12
MJAR Matsushiro Arr 23.16 347 P **P** **23 28 50.6 -0.4**
MAJO Matsushiro 23.16 347 P **P** **23 28 52.0 +0.9**
MAJO IAmb IAmb 23 28 53.5
comp=Z,11nm,0.8s
YULB Yu-li 24.02 296 P **P** **23 28 58.3 -0.8**
YULB IAmb IAmb 23 29 03.1
comp=Z,6.9nm,1.0s
KSRS Korea Array 27.70 330 P **P** **23 29 32.8 +0.9**
comp=Z,0.9nm,0.4s,baz=144,slow=9.3,SNR=7.0
WB0 Warramunga Arr 35.09 197 P **P** **23 30 36.4 -0.3**
WB2 Warramunga Arr 35.27 197 P **P** **23 30 38.0 -0.3**
WRA Warramunga Arr 35.27 197 P **P** **23 30 38.0 -0.3**
comp=Z,0.8nm,0.6s,baz=18,slow=9.5,SNR=6.2
WRA Warramunga Arr 35.27 197 P **P** **23 30 37.9 -0.3**
BJT Baijiatuan 35.99 321 P **P** **23 30 44.2 0.0**
BJT IAmb IAmb 23 30 46.2
comp=Z,5.5nm,0.5s
ASAR Alice Springs 38.93 196 P **P** **23 31 08.8 -0.2**
comp=Z,0.2nm,0.4s,baz=16,slow=7.8,SNR=5.1
DZM Mont Dzumac 41.73 149 P **P** **23 31 34.8 +2.7**
DZM IAmb IAmb 23 31 35.5
comp=Z,13nm,0.6s
CMAR Chiang Mai Arr 44.08 282 P **P** **23 31 51.7 +0.8**
comp=Z,0.6nm,0.6s,baz=86,slow=5.5,SNR=4.9
ARMA Armidale 44.70 171 P **P** **23 31 56.7 +1.0**
SONM Songino Array 46.28 325 P **P** **23 32 10.5 +2.5**
comp=Z,0.5nm,0.6s,baz=143,slow=11,SNR=2.6
BBOO Buckleboo 47.31 190 P **P** **23 32 16.4 +0.5**
BBOO IAmb IAmb 23 32 24.6
comp=Z,13nm,1.1s
FORT Forrest 47.35 200 P **P** **23 32 16.2 0.0**
FORT IAmb IAmb 23 32 23.0
comp=Z,29nm,1.1s
GSTR Great Sitkin T 49.20 31 P **P** **23 32 30.6 +0.4**
MORW Morawa 51.03 213 P **P** **23 32 41.5 -2.7**
TOO Toolangi 51.34 179 P **P** **23 32 45.6 -0.7**
TOO IAmb IAmb 23 32 53.1
comp=Z,7.6nm,1.1s
OUZ Omahuta 56.12 152 P **P** **23 33 22.2 +1.2**
TAU Tasmania Unive 56.72 178 P **P** **23 33 25.9 +0.9**
URZ Urewera 60.23 151 P **P** **23 33 50.9 +1.4**
QRZ Quartz Range 60.37 156 P **P** **23 33 51.9 +1.5**
BKZ Black Stump Fm 60.67 152 P **P** **23 33 53.1 +0.6**
BKZ IAmb IAmb 23 33 59.8
comp=Z,13nm,1.1s
NNZ Nelson 61.04 156 P **P** **23 33 55.5 +0.7**
MKAR Makanchi Array 61.06 316 P **P** **23 33 56.5 +1.4**
comp=Z,0.5nm,0.4s,baz=91,slow=8.3,SNR=9.2
MKAR Makanchi Array 61.06 316 P **P** **23 33 55.8 +0.7**
MAKZ Makanchi 61.28 316 P **P** **23 33 56.7 +0.1**
THZ Tophouse 61.31 156 P **P** **23 33 57.6 +0.9**
THZ IAmb IAmb 23 34 00.8
comp=Z,6.3nm,1.0s
TUWZ Tuamarina 61.45 155 P **P** **23 33 57.8 +0.3**
SNZO South Karori 61.66 155 P **P** **23 33 59.4 +0.5**
BHW Baring Head 61.81 155 P **P** **23 33 60.0 0.0**
LTZ Lake Taylor 61.94 157 P **P** **23 34 01.8 +0.9**
LTZ IAmb IAmb 23 34 03.5
comp=Z,10nm,0.9s
MSWZ Moikau Station 61.97 154 P **P** **23 34 01.4 +0.3**
RPZ Rata Peaks 62.31 159 P **P** **23 34 03.8 +0.5**
RPZ IAmb IAmb 23 34 08.7
comp=Z,14nm,1.1s
OXZ Oxford 62.33 158 P **P** **23 34 03.4 0.0**
OXZ IAmb IAmb 23 34 04.5
comp=Z,6.7nm,0.7s
DCZ Deep Cove 62.61 162 P **P** **23 34 04.5 -0.7**
DCZ IAmb IAmb 23 34 13.2
comp=Z,16nm,1.2s
MLZ Mavora Lakes 62.81 162 P **P** **23 34 08.2 +1.6**
MLZ IAmb IAmb 23 34 09.4
comp=Z,5.5nm,1.0s
KURK Kurchatov 64.15 320 P **P** **23 34 15.7 +0.4**
ILAR Eielson Array 68.23 25 P **P** **23 34 39.8 -1.2**
comp=Z,0.3nm,0.5s,baz=264,slow=5.6,SNR=2.5
CFA Coronel Fontan 145.14 126 PKP **PKiKP** **23 43 17.9 -2.7**
comp=Z,3.5nm,0.5s,baz=252,slow=2.5,SNR=5.2
LPAZ La Paz 148.24 98 PKPbc **PKPab** **23 43 28.8 -1.2**
comp=Z,2.0nm,0.7s,baz=274,slow=3.1,SNR=8.0

*NEIC **13** 23:32:24.6±2.4, 7.74N±0.06×73.23W±0.08, h52km±11km, mb4.4/7, Error ellipse: s-maj=12.0km s-min=8.3km az=115.0*
*RSNC **13** 23:32:26.2±1.5, 7.75N×73.31W, h23km±3km, ML3.9, Mw3.9, Fault plane solution: NP1:ϕs14.00000°, δ78.00000°, λ-174.00000°.*
*IDC **13** 23:32:27.8±2.2, 7.70N×73.07W, h67km±22km, mb3.3/2, mb1 3.8/6, mb1mx3.4/32, mbtmp3.9/6, MS3.0/6, Ms1 3.1/6, ms1mx2.8/21, Error ellipse: s-maj=36.9km s-min=13.6km az=127.0*

ISC 13 23:32:24.7±0.8, 7.77N±0.02×73.29W±0.03, h46km±9km, n82, σ1ϕ95/108, MS3.3/3, 5C-9D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
OCAC	**Ocana**	**0.47**	**357**	*i*	P	**Pn**		**23 32 35.8**	**+0.3**
OCAC				*e*	Sg	**Sn**		**23 32 43.0**	**-0.2**
OCAC				*i*				23 32 45.0	
	comp=Z,8μm,0.5s								
PAMC	**Pamplona, Colo**	**0.73**	**126**	*i*	P	**Pn**		**23 32 39.8**	**+0.6**
PAMC				*e*	S	**Sn**		**23 32 48.9**	**-0.6**
PAMC				*i*				23 32 51.5	
	comp=Z,10μm,0.2s								
BRRC	**Barranca, Sant**	**0.78**	**212**	*i*	P	**Pn**		**23 32 40.6**	**+1.1**
BRRC				*e*	S	**Sn**		**23 32 50.7**	**+0.6**
BRRC				*i*				23 32 55.5	
	comp=Z,4μm,0.2s								
BARC	**Barichara**	**1.18**	**175**	*i*	P	**Pn**		**23 32 46.7**	**+1.7**
BARC				*e*	S	**Sn**		**23 33 02.2**	**+2.2**
SMLC	**San Martn de**	**1.28**	**323**	*i*	P	**Pn**		**23 32 47.3**	**+1.0**
SMLC				*e*	S	**Sn**		**23 33 04.2**	**+1.9**
ZARC	**Zaragoza, Cauc**	**1.58**	**260**	*i*	P	**Pn**		**23 32 51.8**	**+1.5**
ZARC				*e*	S	**Sn**		**23 33 09.6**	**+0.1**
ZARC				*i*				23 33 21.5	
	comp=Z,865nm,0.7s								
PTBC	**PUERTO BERRIO,**	**1.68**	**223**	*e*	P	**Pn**		**23 32 52.3**	**+0.5**
PTBC				*e*	S	**Sn**		**23 33 13.7**	**+1.5**
PTBC				*i*				23 33 19.7	
	comp=Z,839nm,0.7s								
RUSC	**La Rusia**	**1.88**	**174**	*e*	P	**Pn**		**23 32 55.5**	**+0.7**
RUSC				*e*	S	**Sn**		**23 33 20.0**	**+2.4**
RUSC				*i*				23 33 25.5	
	comp=Z,2μm,0.4s								
RUSC	**La Rusia**	**1.88**	**174**			**Pn**		**23 32 54.6**	**-0.3**
TAMC	**Tame, Arauca**	**1.99**	**132**	*e*	P	**Pn**		**23 32 59.1**	**+3.0**
TAMC				*e*	S	**Sn**		**23 33 22.0**	**+2.2**
TAMC				*i*				23 33 35.2	
	comp=Z,849nm,0.9s								
UREC	**San Jos de Ur**	**2.22**	**270**	*i*	P	**Pn**		**23 33 01.4**	**+2.3**
UREC				*e*	S	**Sn**		**23 33 27.3**	**+1.9**
UREC				*i*				23 33 40.9	
	comp=Z,417nm,0.3s								
SPBC	**San Pablo de B**	**2.24**	**200**	*i*	P	**Pn**		**23 33 01.0**	**+1.5**
SPBC				*e*	S	**Sn**		**23 33 27.6**	**+1.6**
SPBC				*i*				23 33 39.2	
	comp=Z,876nm,0.2s								
ARGC	**Ariguani, Magd**	**2.28**	**336**	*e*	P	**Pn**		**23 33 01.6**	**+1.6**
ARGC				*e*	S	**Sn**		**23 33 29.4**	**+2.5**
ARGC				*i*				23 33 41.0	
	comp=Z,510nm,0.2s								
SOCV	**Socops**	**2.47**	**78**	*i*	P	**Pn**		**23 33 05.2**	**+2.7**
SOCV				*e*	S	**Sn**		**23 33 33.6**	**+2.2**
NORC	**Norcasia**	**2.69**	**216**	*e*	P	**Pn**		**23 33 06.4**	**+0.7**
NORC				*e*	S	**Sn**		**23 33 37.8**	**+0.7**
NORC				*i*				23 33 44.2	
	comp=Z,286nm,0.4s								
HELC	**Santa Helena**	**2.72**	**235**	*e*	P	**Pn**		**23 33 08.7**	**+2.4**
HELC				*e*	S	**Sn**		**23 33 40.6**	**+2.5**
HELC				*i*				23 33 51.3	
	comp=Z,262nm,0.3s								
SJCC	**San Jacinto, C**	**2.82**	**319**	*e*	P	**Pn**		**23 33 10.7**	**+3.3**
SJCC				*e*	S	**Sn**		**23 33 42.3**	**+2.2**
SJCC				*i*				23 33 47.7	
	comp=Z,249nm,0.3s								
SDV	**Santo Domingo**	**2.85**	**67**	P		**Pn**		**23 33 09.9**	**+1.9**
	comp=Z,38nm,0.3s,baz=223,slow=8.2,SNR=16								
SDV				S		**Sn**		**23 33 46.4**	**+5.1**
	comp=Z,60nm,0.3s,baz=228,slow=23,SNR=4.5								
SDV	**Santo Domingo**	**2.85**	**67**	*i*	P	**Pn**		**23 33 11.1**	**+3.1**
SDV				*e*	S	**Sn**		**23 33 44.4**	**+3.2**
SDV	**Santo Domingo**	**2.85**	**67**			**Pn**		**23 33 08.9**	**+0.9**
DBBC	**Dabeiba**	**2.99**	**256**	*e*	P	**Pn**		**23 33 12.6**	**+2.9**
DBBC				*i*				23 34 12.6	
	comp=Z,855nm,0.5s								
ROSC	**El Rosal**	**3.08**	**199**	P		**Pn**		**23 33 14.5**	**+3.2**
	comp=Z,16nm,0.3s,baz=139,slow=2.2,SNR=21								
ROSC				S		**Sn**		**23 33 51.4**	**+4.2**
	comp=Z,63nm,0.3s,baz=348,slow=20,SNR=6.0								
ROSC				LR		LR		23 34 11.6	
	comp=Z,77nm,20.7s,baz=36,slow=34								
ROSC	**El Rosal**	**3.08**	**199**	*i*	P	**Pn**		**23 33 14.5**	**+3.2**
ROSC				*e*	S	**Sn**		**23 33 51.8**	**+4.5**
ROSC				*i*				23 34 12.5	
	comp=Z,319nm,0.5s								
ROSC	**El Rosal**	**3.08**	**199**			**Pn**		**23 33 12.7**	**+1.4**
CHIC	**Chingaza**	**3.15**	**188**	*e*	P	**Pn**		**23 33 14.6**	**+2.3**
CHIC				*i*				23 34 19.1	
	comp=Z,164nm,0.4s								
GUY2C	**Guyana, Caldas**	**3.26**	**219**	*e*	P	**Pn**		**23 33 16.4**	**+2.6**
GUY2C				*e*	S	**Sn**		**23 33 53.9**	**+2.2**
GUY2C				*i*				23 34 16.1	
	comp=Z,242nm,0.5s								
SMRC	**Santa Marta, M**	**3.50**	**345**	*e*	P	**Pn**		**23 33 19.2**	**+2.6**
SMRC				*e*	S	**Sn**		**23 33 59.7**	**+2.9**
SMRC				*i*				23 34 17.1	
	comp=Z,144nm,0.6s								
RREF	**El Recreo**	**3.51**	**216**	*e*	P	**Pn**		**23 33 19.9**	**+2.6**
RREF				*e*	S	**Sn**		**23 33 59.0**	**+1.0**
RREF				*i*				23 34 20.6	
	comp=Z,237nm,0.3s								
VILC	**Villavicencio,**	**3.66**	**186**	*e*	P	**Pn**		**23 33 21.3**	**+2.3**
VILC				*e*	S	**Sn**		**23 34 01.1**	**+0.2**
VILC				*i*				23 34 33.9	
	comp=Z,234nm,0.4s								
TOLC	**Tolima**	**3.75**	**213**	*e*	P	**Pn**		**23 33 22.7**	**+2.2**
TOLC				*e*	S	**Sn**		**23 34 05.3**	**+1.7**
ELOV	**Elorza**	**3.85**	**101**	*e*	P	**Pn**		**23 33 23.9**	**+2.3**
ELOV				*e*	S	**Sn**		**23 34 07.7**	**+2.0**
ANIL	**Santa Ana**	**3.88**	**213**	*e*	P	**Pn**		**23 33 25.2**	**+3.1**
ANIL				*e*	S	**Sn**		**23 34 09.0**	**+2.4**
ANIL				*i*				23 34 14.7	
	comp=Z,604nm,0.4s								
DABV	**Dabajuro**	**4.08**	**40**	*e*	P	**Pn**		**23 33 27.0**	**+2.3**
DABV				*e*	S	**Sn**		**23 34 13.3**	**+2.1**
URIC	**Uribia, Colomb**	**4.11**	**18**	*e*	P	**Pn**		**23 33 25.9**	**+0.9**
URIC				*e*	S	**Sn**		**23 34 12.0**	**+0.1**
URIC				*i*				23 34 36.6	
	comp=Z,154nm,0.7s								
URIC	**Uribia, Colomb**	**4.11**	**18**	Pn		**Pn**		**23 33 25.3**	**+0.2**
ORTC	**Ortega, Tolima**	**4.30**	**207**	*e*	P	**Pn**		**23 33 30.5**	**+2.8**
ORTC				*e*	S	**Sn**		**23 34 17.8**	**+1.1**
ORTC				*i*				23 34 47.4	
	comp=Z,146nm,0.5s								
PRAC	**Prado**	**4.33**	**202**	*e*	P	**Pn**		**23 33 30.5**	**+2.3**
PRAC				*e*	S	**Sn**		**23 34 18.2**	**+0.8**
PRAC				*i*				23 34 46.8	
	comp=Z,282nm,0.4s								
HATO	**Hato, Curacao**	**6.12**	**44**	Pn		**Pn**		**23 33 52.6**	**0.0**
BCIP	**Isla Barro Col**	**6.62**	**283**	Pn		**Pn**		**23 34 01.0**	**+1.4**
PCRV	**Puerto La Cruz**	**8.88**	**74**	P		**Pn**		**23 34 31.4**	**+0.9**
	comp=Z,5.6nm,0.3s,baz=269,slow=2.5,SNR=21								
PLCV	**Puerto La Cruz**	**8.92**	**74**			**Pn**		**23 34 31.4**	**+0.3**
BANI	**BANI**	**10.94**	**15**	Pn		**Pn**		**23 34 58.7**	**-0.1**
SDD	**Santo Domingo**	**11.12**	**17**	Pn		**Pn**		**23 35 01.6**	**+0.4**
MTDJ	**Mount Denham**	**11.18**	**339**	Pn		**Pn**		**23 35 02.6**	**+0.4**
SDDR	**Presa de Saban**	**11.31**	**10**	Pn		**Pn**		**23 35 04.8**	**+0.9**
DR12	**Loma Pena Alta**	**11.59**	**19**	Pn		**Pn**		**23 35 06.6**	**-1.1**
CRPR	**Cabo Rojo, PR**	**11.82**	**30**	Pn		**Pn**		**23 35 09.2**	**-1.6**
MLPR	**Magueyes Islan**	**11.82**	**30**	Pn		**Pn**		**23 35 09.8**	**-1.0**
SC01	**Santiago de lo**	**11.85**	**12**	Pn		**Pn**		**23 35 11.6**	**+0.4**
MPR	**Mayaguez**	**11.98**	**29**	Pn		**Pn**		**23 35 11.4**	**-1.6**
OBIP	**Obispado Ponce**	**12.11**	**32**	Pn		**Pn**		**23 35 14.2**	**-0.5**
GTBY	**Guantanamo Bay**	**12.21**	**352**	Pn		**Pn**		**23 35 17.1**	**+1.0**
AGPR	**Aguadilla, PR**	**12.21**	**29**	Pn		**Pn**		**23 35 15.1**	**-1.1**
GRGR	**Grenville**	**12.25**	**68**	Pn		**Pn**		**23 35 16.4**	**-0.3**
AOPR	**Arecibo Observ**	**12.29**	**31**	Pn		**Pn**		**23 35 16.0**	**-1.2**
SJG	**San Juan**	**12.41**	**33**	LR		LR		23 40 31.9	
	comp=Z,28nm,21.1s,baz=180,slow=39								
EMPR	**Esperanza - Ma**	**12.51**	**31**	Pn		**Pn**		**23 35 21.7**	**+1.5**
HUMP	**Col San Antoni**	**12.60**	**34**	Pn		**Pn**		**23 35 19.4**	**-2.0**
GCPR	**Guaynabo City**	**12.61**	**33**	Pn		**Pn**		**23 35 19.5**	**-2.0**
CBYP	**Canovanas**	**12.70**	**34**	Pn		**Pn**		**23 35 21.0**	**-1.8**
MTP	**Monte Pirata**	**12.73**	**36**	Pn		**Pn**		**23 35 21.2**	**-2.1**
CDVI	**St. Croix**	**12.94**	**39**	Pn		**Pn**		**23 35 25.3**	**-0.7**
CUPR	**Culebra, Puert**	**13.05**	**36**	Pn		**Pn**		**23 35 25.5**	**-2.2**
STVI	**Saint Thomas**	**13.28**	**37**	Pn		**Pn**		**23 35 28.9**	**-1.8**
FDF	**Fort de France**	**13.77**	**59**	Pn		**Pn**		**23 35 35.0**	**-2.4**
ATAH	**Atahualpa**	**15.66**	**199**	LR		LR		23 43 27.6	
	comp=Z,114nm,20.0s,baz=359,slow=42								
PTGA	**Pitinga**	**15.74**	**122**	P		**Pn**		**23 36 00.9**	**-2.7**
	comp=Z,0.5nm,0.3s,baz=308,slow=18,SNR=4.9								
PTGA	**Pitinga**	**15.74**	**122**	Pn		**Pn**		**23 36 01.4**	**-2.2**
PTGA						IAmb	IAmb	23 36 09.9	
	comp=Z,2.5nm,0.7s								
SAML	**Samuel**	**19.42**	**149**	P		**P**		**23 36 46.9**	**-0.5**
SAML						IAmb	IAmb	23 36 51.1	
	comp=Z,3.2nm,0.8s								
LPAZ	**La Paz**	**24.44**	**168**	P		**P**		**23 37 39.1**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=0.0,slow=9.1,SNR=2.7								
LPAZ	**La Paz**	**24.44**	**168**	P		**P**		**23 37 38.8**	**-1.3**
553A	**Crawfordville**	**24.63**	**336**	P		**P**		**23 37 40.1**	**-0.8**
553A						IAmb	IAmb	23 37 50.7	
	comp=Z,66nm,1.1s								
TA01	**Diego Aracena**	**28.32**	**174**	P		**P**		**23 38 13.6**	**-0.7**
TA01						IAmb	IAmb	23 38 28.6	
	comp=Z,51nm,1.1s								
TKL	**Tuckaleechee C**	**29.37**	**342**	LR		LR		23 50 30.2	
	comp=Z,24nm,19.7s,baz=108,slow=37								
T60A	**Surry**	**29.40**	**354**	P		**P**		**23 38 23.3**	**-0.5**
TXAR	**Lajitas Array**	**35.71**	**311**	LR		LR		23 55 49.2	
	comp=Z,62nm,21.8s,baz=0.0,slow=39								
ROC1	**El Roble**	**40.58**	**177**	P		**P**		**23 39 59.1**	**-1.1**
PLCA	**Paso Flores**	**48.33**	**177**	LR		LR		00 02 16.6	
	comp=Z,48nm,19.6s,baz=224,slow=37								
RYN	**Ryan**	**50.94**	**314**	P		**P**		**23 41 20.0**	**-1.9**
RYN						IAmb	IAmb	23 41 23.2	
	comp=Z,8.1nm,1.0s								
YKA	**Yellowknife Ar**	**62.32**	**340**	P		**P**		**23 42 42.7**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=145,slow=7.8,SNR=3.8								
ASAR	**Alice Springs**	**149.51**	**236**	PKPbc		**PKiKP**		**23 52 12.3**	**+1.4**
	comp=Z,0.6nm,0.5s,baz=115,slow=3.7,SNR=6.0								
WRA	**Warramunga Arr**	**150.63**	**243**	PKPbc		**PKiKP**		**23 52 12.8**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=101,slow=2.9,SNR=2.1								

SJA 13 23:37:42.5±0.7, 28.78S×67.20W, h142km±5km, ML3.3, MW3.5, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CYA	**Choya**	**1.27**	**75**	*i*	P	Pn		23 38 10.4	+1.2
CYA				*e*	S	Sn		23 38 29.7	+0.1
CYA					IAML			23 38 30.2	
	comp=Z,240nm,0.7s								
AGUA	**GUANDACOL**	**1.33**	**238**	*i*	P	Pn		23 38 10.7	+0.9
AGUA				*e*	S	Sn		23 38 31.3	+0.6
AGUA					IAML			23 38 33.4	
	comp=Z,684nm,0.3s								
ACDV	**Cuesta del Vie**	**2.17**	**230**	*i*	P	Pn		23 38 20.2	+0.8
ACDV				*e*	S	Sn		23 38 48.6	+0.9
ACDV					IAML			23 38 49.6	
	comp=Z,151nm,0.6s								
AROD	**Rodeo**	**2.42**	**235**	*i*	P	Pn		23 38 24.0	+1.5
AROD				*e*	S	Sn		23 38 54.6	+1.3
ACCO	**Cerro Coronel**	**2.43**	**222**	*i*	P	Pn		23 38 23.8	+1.1
ACCO					IAML			23 38 57.3	
	comp=Z,162nm,0.3s								
AMOG	**MOGNA**	**2.43**	**207**	*i*	P	Pn		23 38 23.4	+1.0
AMOG					IAML			23 38 58.1	
	comp=Z,170nm,0.4s								
RTLL	**Cerro Villicun**	**2.77**	**203**	*i*	P	Pn		23 38 27.5	+0.8
RTLL				*e*	S	Sn		23 39 01.2	+0.3
RTLL					IAML			23 39 04.6	
	comp=Z,226nm,0.3s								
CFA	**Coronel Fontan**	**2.96**	**197**	*i*	P	Pn		23 38 29.9	+0.9
CFA					IAML			23 39 09.3	
	comp=Z,77nm,0.5s								
RTCV	**Cerro Valdivia**	**3.28**	**200**	*i*	P	Pn		23 38 34.2	+0.9
RTCV					IAML			23 39 28.2	
	comp=Z,51nm,0.5s								
TCA	**Tanti**	**3.41**	**139**	*i*	P	Pn		23 38 35.7	+0.8
TCA					IAML			23 39 34.6	
	comp=Z,25nm,0.3s								
ACAN	**Cantantal**	**3.48**	**180**	*i*	P	Pn		23 38 37.3	+1.4
ACAN					IAML			23 39 22.2	
	comp=Z,24nm,0.5s								
RTLS	**Leoncito**	**3.51**	**211**	*i*	P	Pn		23 38 37.7	+1.2
RTLS					IAML			23 39 21.6	
	comp=Z,63nm,0.2s								
MRA	**San Martin**	**3.85**	**161**	*i*	P	Pn		23 38 41.7	+1.1
MRA					IAML			23 39 54.3	
	comp=Z,33nm,0.5s								
ROC1	**El Roble**	**5.32**	**217**	*i*	P	Pn		23 38 59.5	-0.7

*IDC **14** 00:13:30.4±1.7, 15.00S×72.58W, h81km±15km, mb4.1/14, mb1 4.3/20, mb1mx4.2/33, mbtmp4.4/20, MS3.4/5, Ms1 3.4/5, ms1mx3.0/25, Error ellipse: s-maj=18.4km s-min=10.5km az=47.0*
*NEIC **14** 00:13:31.3±2.0, 15.22S±0.06×72.77W±0.08, h104km±5km, mb4.6/184, Error ellipse: s-maj=12.9km s-min=6.0km az=53.0*
*VAO **14** 00:13:34.8±1.4, 14.93S×72.21W, h88km±7km, mb4.7*

ISC 14 00:13:31.6±0.3, 15.23S±0.04×72.73W±0.06, h100km, n316, σ1ϕ44/316, mb4.6/96, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
AP01	**Chacalluta**	**3.87**	**144**	Pn		**Pn**		**00 14 25.9**	**-3.1**
PB12	**IPOC Station P**	**4.08**	**146**	Pn		**Pn**		**00 14 32.8**	**+0.9**
LPAZ	**La Paz**	**4.55**	**104**	P		**Pn**		**00 14 41.4**	**+2.6**
	18nm,0.3s,baz=286,slow=9.9,SNR=330								
LPAZ				S		**Sn**		**00 15 33.2**	**+2.2**
	baz=229,slow=24,SNR=1.5								
LPAZ	**La Paz**	**4.55**	**104**	Pn		**Pn**		**00 14 41.3**	**+2.5**
MNMC	**Minye Minye**	**4.90**	**143**			**Pn**		**00 14 43.6**	**+0.3**
PSGCX	**Pisagua**	**5.01**	**151**			**Pn**		**00 14 44.7**	**+0.2**
PSGCX						Sn		**00 15 40.1**	**-1.2**
NNA	**Nana**	**5.13**	**308**	P		**Pn**		**00 14 45.9**	**-0.3**
	6.8nm,0.3s,baz=142,slow=10,SNR=15								
NNA				S		**Sn**		**00 15 41.9**	**-2.3**
	22nm,0.3s,baz=33,slow=17,SNR=9.8								
NNA				LR		LR		00 17 12.0	
	comp=Z,210nm,21.7s,baz=175,slow=43								
NNA	**Nana**	**5.13**	**308**	Pn		**Pn**		**00 14 46.2**	**0.0**
NNA						Sn		**00 15 42.8**	**-1.4**
PB11	**IPOC Station P**	**5.38**	**147**	Pn		**Pn**		**00 14 49.8**	**+0.2**
GO01	**Chusmiza**	**5.56**	**143**			**Pn**		**00 14 53.4**	**+1.1**
GO01						Sn		**00 15 54.9**	**-0.3**
TA01	**Diego Aracena**	**5.84**	**156**	Pn		**Pn**		**00 14 55.5**	**-0.1**
TA01						Sn		**00 15 59.1**	**-2.1**
PB08	**IPOC Station P**	**5.96**	**146**	Pn		**Pn**		**00 14 58.1**	**+0.4**
PB08						Sn		**00 16 01.6**	**-3.1**
PB01	**IPOC Station P**	**6.55**	**152**			**Pn**		**00 15 04.7**	**-0.8**
PB01						Sn		**00 16 15.7**	**-3.2**
PB07	**IPOC Station P**	**7.00**	**158**			**Pn**		**00 15 12.0**	**+0.3**
PB07						Sn		**00 16 25.4**	**-4.5**
PB09	**IPOC Station P**	**7.32**	**154**			**Pn**		**00 15 17.5**	**+1.5**
PB09						Sn		**00 16 37.1**	**-0.6**
PB04	**IPOC Station P**	**7.48**	**161**	Pn		**Pn**		**00 15 17.6**	**-0.5**
PB04						Sn		**00 16 37.7**	**-3.8**
PB06	**IPOC Station P**	**8.02**	**159**			**Pn**		**00 15 24.7**	**-0.7**
PB06						Sn		**00 16 53.4**	**-1.2**
LVC	**Limon Verde**	**8.18**	**154**	P		**Pn**		**00 15 28.2**	**+0.3**
	1.5nm,0.3s,baz=7.4,slow=8.8,SNR=19								
LVC				S		**Sn**		**00 16 56.1**	**-2.8**
	5.2nm,0.3s,baz=86,slow=22,SNR=18								
LVC	**Limon Verde**	**8.18**	**154**	Pn		**Pn**		**00 15 27.4**	**-0.5**
LVC	**Limon Verde**	**8.18**	**154**	*e*P		**Pn**		**00 15 31.5**	**+3.6**
LVC	**Limon Verde**	**8.18**	**154**	*e*P		**Pn**		**00 15 31.5**	**+3.6**
PB10	**IPOC Station P**	**8.49**	**166**	Pn		**Pn**		**00 15 31.8**	**0.0**
PB15	**IPOC Station P**	**8.51**	**159**			**Pn**		**00 15 33.6**	**+1.3**
ATAH	**Atahualpa**	**9.77**	**325**	P		**Pn**		**00 15 54.4**	**+4.8**
	0.3nm,0.3s,baz=253,slow=6.8,SNR=2.7								
ATAH				S		**Sn**		**00 17 36.4**	**-1.3**
	0.3nm,0.3s,baz=15,slow=20,SNR=1.9								
ATAH				LR		LR		00 20 05.2	
	comp=Z,104nm,18.8s,baz=98,slow=41								
GO02	**Mina Guanaco**	**10.31**	**164**	Pn		**Pn**		**00 15 57.9**	**+1.1**
AC01	**Pan de Azucar**	**11.05**	**170**	Pn		**Pn**		**00 16 05.7**	**-0.8**
SAML	**Samuel**	**11.23**	**57**			**Pn**		00 16 03.3	-5.8
SAML	**Samuel**	**11.23**	**57**	*e*P		Pn		00 16 05.0	-4.1
SAML	**Samuel**	**11.23**	**57**	*e*P		Pn		00 16 05.0	-4.1
SIV	**San Ignacio**	**11.26**	**95**	P		**

PEXB Peixe 23.94 86 eP P 00 18 35.7 -1.0
PEXB Peixe 23.94 86 eP P 00 18 35.7 -1.0
PLTB Pedras Altas 23.99 137 eP P 00 18 40.1 +3.1
PLTB Pedras Altas 23.99 137 eP P 00 18 40.1 +3.1
PRPB Parauapebas 24.23 71 eP P 00 18 37.9 -1.4
PRPB Parauapebas 24.23 71 eP P 00 18 37.9 -1.4
TIJ01 Guaruva-PR 24.38 118 eP P 00 18 42.8 +2.1
TIJ01 Guaruva-PR 24.38 118 eP P 00 18 42.8 +2.1
SMTB Santa Maria do 25.38 78 eP P 00 18 49.5 -0.3
SMTB Santa Maria do 25.38 78 eP P 00 18 49.5 -0.3
PLCA Paso Flores 25.48 176 P P 00 18 53.1 +2.6
comp=Z,7.9nm,0.7s,baz=358,slow=11,SNR=11
PLCA PP PnPn 00 19 31.7 -0.6
comp=Z,5.3nm,0.9s,baz=329,slow=11,SNR=3.8
PLCA Paso Flores 25.48 176 P P 00 18 52.3 +1.8
PET01 Itanhaem-SP 25.56 115 eP P 00 18 52.7 +1.4
PET01 Itanhaem-SP 25.56 115 eP P 00 18 52.7 +1.4
LL01 San Ignacio de 27.06 179 P P 00 19 04.8 +0.3
LL01 IAmb IAmb 00 19 06.7
comp=Z,20nm,0.8s
JANB Januaria 27.43 93 eP P 00 19 08.4 +0.2
JANB Januaria 27.43 93 eP P 00 19 08.4 +0.2
COYC Coyhaique 30.25 179 P P 00 19 34.1 +1.2
ROSB Rosrio 30.74 69 eP P 00 19 36.0 -1.5
ROSB Rosrio 30.74 69 eP P 00 19 36.0 -1.5
GDU01 Guandu, BA 32.12 92 eP P 00 19 50.7 +1.0
GDU01 Guandu, BA 32.12 92 eP P 00 19 50.7 +1.0
GOGA Godfrey 49.44 348 P P 00 22 11.3 -0.2
Y49A Blount Mountai 50.52 345 P P 00 22 18.6 -1.2
FPAL Fort Paine 50.99 346 P P 00 22 21.9 -1.3
FPAL IAmb IAmb 00 22 23.5
comp=Z,7.0nm,0.7s
X48A Hartselle 51.25 345 IAmb IAmb 00 22 25.0
comp=Z,7.6nm,0.7s
V53A Saluda 51.51 350 P P 00 22 26.6 -0.6
TKL Tuckaleechee C 51.68 349 P P 00 22 26.7 -1.6
TKL IAmb IAmb 00 22 28.3
comp=Z,5.9nm,0.9s
SWET Sewanee 51.71 346 IAmb IAmb 00 22 28.2
comp=Z,5.7nm,0.7s
V52A Sevierville 51.82 349 IAmb IAmb 00 22 29.4
comp=Z,8.4nm,0.9s
PLAL Pickwick Lake 52.02 344 P P 00 22 29.5 -1.3
PLAL IAmb IAmb 00 22 30.2
comp=Z,8.5nm,1.1s
T59A Double "B" Far 52.12 355 P P 00 22 30.8 -0.8
WLAR White Oak Lake 52.38 338 P P 00 22 34.8 +1.3
JCT Junction City 52.39 330 P P 00 22 33.7 0.0
JCT IAmb IAmb 00 22 35.0
comp=Z,7.1nm,1.1s
WHTX Lake Whitney, 52.59 333 P P 00 22 35.1 -0.1
T50A Nancy 53.21 348 IAmb IAmb 00 22 39.2
comp=Z,4.9nm,0.8s
MIAR Mount Ida 53.32 339 IAmb IAmb 00 22 41.2
comp=Z,6.7nm,0.9s
TX31 Lajitas Ar. Si 53.43 326 P P 00 22 41.2 -0.3
TX31 IAmb IAmb 00 22 42.4
comp=Z,6.5nm,0.8s
TX32 Lajitas Array 53.43 326 P P 00 22 41.5 0.0
TXAR Lajitas Array 53.43 326 P P 00 22 42.0 +0.5
comp=Z,1.4nm,0.7s,baz=147,slow=8.2,SNR=16
TXAR Lajitas Array 53.43 326 P P 00 22 41.8 +0.2
Z35A Perchaven, San 53.66 334 P P 00 22 41.1 -1.9
LCAR Lake Charles 53.91 342 P P 00 22 43.2 -1.5
LCAR IAmb IAmb 00 22 44.6
comp=Z,6.5nm,1.0s
W39A Magazine 53.98 339 P P 00 22 44.6 -0.7
W39A IAmb IAmb 00 22 46.7
comp=Z,8.1nm,0.9s
X37A Clayton 54.02 337 P P 00 22 44.9 -0.6
X37A IAmb IAmb 00 22 47.1
comp=Z,7.2nm,0.8s
ABTX Abilene, Hawle 54.10 332 P P 00 22 45.0 -1.2
Q56A Snyder Ridge, 54.32 354 P P 00 22 47.3 -0.4
R50A Paris 54.33 349 P P 00 22 46.2 -1.5
R50A IAmb IAmb 00 22 47.5
comp=Z,4.8nm,0.8s
WCI Wyandotte Cave 54.68 347 P P 00 22 48.1 -2.1
U40A Yellville 54.72 340 P P 00 22 49.4 -1.2
U40A IAmb IAmb 00 22 50.7
comp=Z,5.0nm,0.7s
USIN University of 54.74 346 P P 00 22 48.9 -1.8
T42A Van Buren 54.78 342 IAmb IAmb 00 22 50.5
comp=Z,6.8nm,1.1s
S44A Carbondale 54.88 344 P P 00 22 50.5 -1.3
HHAR Hobbs 55.01 339 P P 00 22 51.0 -1.7
HHAR IAmb IAmb 00 22 53.8
comp=Z,6.6nm,1.1s
P53A Whipple 55.03 352 P P 00 22 51.8 -1.0
P53A IAmb IAmb 00 22 53.1
comp=Z,8.4nm,1.1s
W35A Tecumseh 55.09 336 P P 00 22 52.4 -0.9
U38A Gravette 55.31 339 P P 00 22 53.8 -1.1
U38A IAmb IAmb 00 22 55.3
comp=Z,5.0nm,1.0s
TUL1 Leonard 55.35 337 P P 00 22 53.7 -1.4
O56A Blue Knob Stat 55.48 355 P P 00 22 55.0 -1.0
O56A IAmb IAmb 00 22 57.3
comp=Z,7.6nm,0.9s
P49A Miami Univ. Ec 55.61 349 P P 00 22 54.9 -2.1
P49A IAmb IAmb 00 22 56.1
comp=Z,10nm,1.1s
CCM Cathedral Cave 55.78 342 P P 00 22 56.6 -1.6
CLNB Carlsbad 55.86 328 P P 00 22 57.4 -1.6
ACSO Alum Creek Sta 55.99 351 P P 00 22 57.9 -1.7
GDL2 Guadalupe Moun 56.05 328 P P 00 23 00.4 0.0
S39A Bolivar 56.09 340 IAmb IAmb 00 23 00.4
comp=Z,6.8nm,0.8s
MNTX Cornudas Mount 56.20 326 P P 00 23 00.5 -0.9
MNTX IAmb IAmb 00 23 02.2
comp=Z,5.3nm,1.1s
P46A Rosedale 56.21 347 P P 00 22 58.2 -3.0
P46A IAmb IAmb 00 22 58.8
comp=Z,6.4nm,0.7s
R40A Maddies Statio 56.30 342 P P 00 23 00.2 -1.6
R40A IAmb IAmb 00 23 01.6
comp=Z,4.7nm,0.6s
MSTX Muleshoe 56.68 330 P P 00 23 04.3 -0.5
P43A Skaggs, Pawnee 56.79 345 P P 00 23 03.4 -1.9
SFIN Lafayette 56.91 347 P P 00 23 04.9 -1.3
SFIN IAmb IAmb 00 23 10.0
comp=Z,9.5nm,1.0s
U32A Winter Ranch, 57.02 335 P P 00 23 05.3 -1.8
P40A Paris 57.38 342 P P 00 23 08.0 -1.5
HDIL Hopedale 57.59 345 P P 00 23 09.1 -1.8
K58A Earlville 57.77 357 P P 00 23 10.1 -2.1
K58A IAmb IAmb 00 23 13.0
comp=Z,7.0nm,0.9s
L48A N Adams 57.90 350 P P 00 23 11.0 -2.1
319A Douglas 58.12 323 P P 00 23 13.2 -1.8
319A IAmb IAmb 00 23 17.8
comp=Z,5.8nm,0.8s
R32A Long Quarter, 58.66 336 P P 00 23 17.0 -1.5
BNM Barren Site 58.76 327 P P 00 23 18.7 -0.9
L44A Lake County Fo 58.81 347 P P 00 23 18.1 -1.3
ANMO Albuquerque 59.29 328 P P 00 23 21.9 -1.3
ANMO IAmb IAmb 00 23 24.7
comp=Z,4.0nm,0.9s
TUC Tucson 59.68 323 P P 00 23 24.9 -0.8
TUC IAmb IAmb 00 23 27.8
comp=Z,4.7nm,1.1s
T25A Trinidad 60.03 331 P P 00 23 27.1 -1.1
214A Organ Pipe Nat 60.63 321 P P 00 23 30.7 -1.5
214A IAmb IAmb 00 23 34.7
comp=Z,9.8nm,1.1s
G45A Suttons Bay 61.12 350 P P 00 23 34.4 -0.7
W18A Petrified Fore 61.15 326 P P 00 23 34.7 -1.1
W18A IAmb IAmb 00 23 38.8
comp=Z,7.8nm,0.9s
TRQ Mont Tremblant 61.18 359 P P 00 23 32.4 -3.3
X16A Lo Mia Camp, P 61.58 324 P P 00 23 37.1 -1.6
X16A IAmb IAmb 00 23 41.3
comp=Z,12nm,1.1s
E62A Clayton Lake 61.63 3 P P 00 23 35.2 -3.4
S22A 4UR Ranch, Cre 61.67 330 P P 00 23 36.0 -3.4
S22A IAmb IAmb 00 23 41.1
comp=Z,5.2nm,1.0s
113A Mohawk Valley, 61.78 321 P P 00 23 38.0 -1.9
113A IAmb IAmb 00 23 42.2
comp=Z,6.8nm,1.1s
Q24A Divide 61.85 332 P P 00 23 39.5 -1.1
Q24A IAmb IAmb 00 23 42.2
comp=Z,8.8nm,0.9s
MVCO Mesa Verde 62.09 328 P P 00 23 40.7 -1.5
MVCO IAmb IAmb 00 23 43.4
comp=Z,6.5nm,1.0s
D62A Allapoint, All 62.11 3 P P 00 23 40.7 -1.1
Y14A Wickenburg 62.14 323 P P 00 23 41.1 -1.2
Y14A IAmb IAmb 00 23 44.7
comp=Z,8.1nm,1.0s
ECSD EROS Data Cent 62.61 341 P P 00 23 44.4 -0.9
ISCO Idaho Springs 62.73 332 P P 00 23 45.3 -1.2
PV01 Paradox Valley 62.83 329 P P 00 23 45.6 -1.5
PV01 IAmb IAmb 00 23 48.7
comp=Z,7.1nm,0.9s
SPMN Marine on St. 62.87 344 P P 00 23 45.5 -1.3
SPMN IAmb IAmb 00 23 46.8
comp=Z,7.5nm,0.8s
PV15 Paradox Valley 62.95 329 P P 00 23 46.6 -1.3
PV05 Paradox Valley 63.05 328 IAmb IAmb 00 23 45.2
comp=Z,12nm,1.0s
PV03 Paradox Valley 63.06 329 P P 00 23 47.9 -0.7
PV18 Skein Mesa, Pa 63.09 329 P P 00 23 46.8 -2.0
PV22 Blue Mesa, Par 63.25 329 P P 00 23 48.6 -1.2
W13A Hualapai Mount 63.48 323 P P 00 23 50.2 -1.2
U15A North Rim 63.52 325 P P 00 23 51.3 -0.4
U15A IAmb IAmb 00 23 57.0
comp=Z,4.6nm,0.7s
F36A Milaca 63.65 344 P P 00 23 50.3 -1.7
F36A IAmb IAmb 00 23 52.2
comp=Z,7.7nm,0.9s
N23A Red Feather La 63.77 332 P P 00 23 53.1 -0.1
E38A The Farm, Brul 63.84 346 P P 00 23 51.5 -1.8
E38A IAmb IAmb 00 23 53.6
comp=Z,7.4nm,1.1s
109C Camp Elliot, M 63.93 319 P P 00 23 53.1 -1.0
109C IAmb IAmb 00 23 56.7
comp=Z,9.3nm,0.9s
XPFO Pion Flat 64.00 320 P P 00 23 53.0 -1.8
XPFO IAmb IAmb 00 23 57.5
comp=Z,8.2nm,1.1s
PFO Pinyon Flats O 64.00 320 P P 00 23 53.7 -1.0
PFO IAmb IAmb 00 23 57.5
comp=Z,7.0nm,1.1s
O20A White River Ci 64.22 330 P P 00 23 55.2 -1.0
O20A IAmb IAmb 00 23 58.0
comp=Z,7.8nm,0.8s
KNB Kanab 64.24 325 P P 00 23 55.0 -1.3
SRU San Rafael Swe 64.56 328 P P 00 23 58.0 -0.3
MTPU Mount Pierson 64.64 326 P P 00 23 58.7 -0.4
Q16A Castle Valley 64.75 328 P P 00 23 59.7 +0.1
SZCU Shurtz Canyon 64.80 325 P P 00 24 00.1 +0.1
CCUT Cedar City 64.92 325 P P 00 24 00.5 -0.3
P17A Butcher Ranch, 64.95 328 P P 00 24 00.2 -0.6
RWWY Rawlins 64.97 332 P P 00 24 00.2 -0.8
RWWY IAmb IAmb 00 24 02.8
comp=Z,6.6nm,0.9s
MSU Marysvale 64.98 327 P P 00 24 00.7 -0.4
SHPR Sheep Range 65.20 323 P P 00 24 01.9 -0.7
SHPR IAmb IAmb 00 24 05.2
comp=Z,8.8nm,1.0s
GSC Goldstone, Bar 65.35 321 P P 00 24 02.5 -0.9
GSC IAmb IAmb 00 24 06.2
comp=Z,5.8nm,0.8s
K22A Casper 65.44 333 P P 00 24 02.4 -1.6
K22A IAmb IAmb 00 24 05.4
comp=Z,5.9nm,0.8s
RSSD Black Hills 65.61 336 P P 00 24 04.7 -0.4
MPU Maple Canyon 65.81 328 P P 00 24 04.7 -1.8
PSUT Pine Spring 65.90 326 P P 00 24 06.2 -0.9
NLU North Lily Min 65.99 328 P P 00 24 06.6 -1.0
B35A Bob, Littlefor 66.01 345 P P 00 24 05.5 -1.8
B35A IAmb IAmb 00 24 06.8
comp=Z,4.9nm,0.8s
TPNV Topopah Spring 66.14 323 P P 00 24 08.8 +0.3
TPNV IAmb IAmb 00 24 11.6
comp=Z,10nm,0.9s
E28A Huff 66.47 339 P P 00 24 10.3 0.0
AGMN Agassiz Nation 66.52 343 IAmb IAmb 00 24 10.9
comp=Z,9.8nm,0.8s
TCUT Toone Canyon 66.52 329 P P 00 24 10.7 -0.4
DUG Dugway, Tooele 66.55 327 P P 00 24 10.2 -0.9
DUG IAmb IAmb 00 24 13.6
comp=Z,9.6nm,0.9s
ISA Isabella, Lake 66.60 321 P P 00 24 12.3 +0.8
ISA IAmb IAmb 00 24 14.2
comp=Z,7.6nm,0.9s
R11A Troy Canyon, C 66.72 324 P P 00 24 13.0 +0.7
R11A IAmb IAmb 00 24 15.2
comp=Z,7.3nm,1.0s
BW06 Boulder Array 66.89 331 P P 00 24 12.6 -0.8
PD31 Pinedale Array 66.89 331 P P 00 24 12.1 -1.3
PDAR Pinedale Array 66.89 331 P P 00 24 13.6 +0.2
comp=Z,1.8nm,1.0s,baz=134,slow=6.4,SNR=8.0
PDAR PcP PcP 00 24 41.7 +0.5
comp=Z,0.2nm,0.5s,baz=141,slow=5.8,SNR=4.4
PDAR Pinedale Array 66.89 331 P P 00 24 12.8 -0.5
HWUT Hardware Ranch 66.97 329 P P 00 24 13.3 -0.5
HWUT IAmb IAmb 00 24 15.3
comp=Z,5.8nm,1.0s
VNA3 Neumayer Olymp 67.14 162 P P 00 24 16.0 +1.7
BGU Big Grassy Mou 67.20 328 P P 00 24 12.8 -2.4
MDND Maddock 67.23 341 P P 00 24 14.3 -0.7
VNA1 Neumayer--Stat 67.37 161 P P 00 24 17.8 +2.2
AHID Auburn Hatcher 67.62 330 P P 00 24 17.1 -0.8
AHID IAmb IAmb 00 24 19.3
comp=Z,6.2nm,0.9s
HVU Hansel Valley 67.70 329 P P 00 24 17.6 -0.7
VNA2 Neumayer--Watz 67.73 161 P P 00 24 19.7 +1.7
baz=284,slow=7.8
PAGB Antelope Grade 67.75 320 P P 00 24 18.4 -0.2
REDW Red Top Meadow 67.96 331 P P 00 24 18.9 -1.1
SNOW Snow King Moun 67.99 331 P P 00 24 20.1 -0.2
SNOW IAmb IAmb 00 24 22.0
comp=Z,4.3nm,0.7s
TPAW Teton Pass 68.10 331 P P 00 24 19.5 -1.5
OMMB Old Mammoth Mi 68.20 322 P P 00 24 20.0 -1.8
OMMB IAmb IAmb 00 24 24.5
comp=Z,11nm,0.9s
ELK Elko 68.22 326 P P 00 24 21.2 -0.5
FXWY Fox Creek 68.25 331 P P 00 24 20.9 -0.9
NV11 Mina Array Sit 68.25 323 P P 00 24 21.1 -0.8
ULM Lac du Bonnet 68.30 344 P P 00 24 21.1 -0.6
comp=Z,5.1nm,0.6s,baz=151,slow=6.1,SNR=5.3
ULM Lac du Bonnet 68.30 344 IAmb IAmb 00 24 21.7
comp=Z,7.2nm,0.8s
NVAR Mina Array Bea 68.34 323 P P 00 24 22.9 +0.4
comp=Z,2.5nm,0.9s,baz=156,slow=7.1,SNR=5.4
NVAR Mina Array Bea 68.34 323 P P 00 24 22.2 -0.3
PMPB Monarch Peak 68.40 320 P P 00 24 22.8 0.0
IMW Indian Meadow 68.41 331 P P 00 24 21.8 -1.2
IMW IAmb IAmb 00 24 25.4
comp=Z,9.3nm,1.1s
FLWY Flagg Ranch 68.44 332 P P 00 24 22.1 -0.9
RLMT Red Lodge 68.61 333 P P 00 24 23.3 -0.7
RLMT IAmb IAmb 00 24 25.8
comp=Z,8.6nm,1.1s
KVN Kaiserville 68.64 323 P P 00 24 22.7 -1.6
WAKR Walker 69.05 322 P P 00 24 27.0 +0.1
WAKR IAmb IAmb 00 24 30.2
comp=Z,7.1nm,1.1s
DGMT Dagmar 69.32 338 P P 00 24 27.6 -0.6
DGMT IAmb IAmb 00 24 30.0
comp=Z,14nm,0.9s
SNAA Sanae 69.35 161 P P 00 24 29.9 +1.7
SNAA Sanae 69.35 161 P P 00 24 29.0 +0.8
PNTR Pine Nut 69.53 323 P P 00 24 29.5 -0.4
PNTR IAmb IAmb 00 24 33.0
comp=Z,9.8nm,1.0s
VCNR Virginia City 69.70 323 P P 00 24 30.8 -0.1
VCNR IAmb IAmb 00 24 34.5
comp=Z,12nm,0.9s
PAHR Pah Rah Range 69.81 323 P P 00 24 30.4 -1.1
MCMT McKenzie Canyo 70.01 331 P P 00 24 32.9 +0.2
BOZ Bozeman (W) 70.03 332 P P 00 24 33.1 +0.5
AFDM Forest Hills D 70.25 322 P P 00 24 32.5 -1.6
MFID Camas Ranch 70.43 328 P P 00 24 35.5 +0.3
MFID IAmb IAmb 00 24 37.7
comp=Z,14nm,0.9s
ORV Oroville 70.95 322 P P 00 24 37.7 -0.6
ORV IAmb IAmb 00 24 41.3
comp=Z,16nm,1.1s
EGMT Eagleton 71.10 335 IAmb IAmb 00 24 40.5
comp=Z,6.8nm,0.9s
MOD Modoc Plateau 71.79 325 P P 00 24 43.7 +0.2
MOD IAmb IAmb 00 24 46.0
comp=Z,7.0nm,0.8s
MSO Missoula 72.01 332 P P 00 24 45.0 +0.4
JTMT Jette 72.85 332 P P 00 24 48.5 -1.0
F10A Beach Ranch, E 72.95 329 P P 00 24 50.3 +0.1
F10A IAmb IAmb 00 24 55.0
comp=Z,6.6nm,0.9s
YBH Yreka Blue Hor 73.05 323 P P 00 24 51.0 +0.1
PINE Pine Mountain 73.39 326 P P 00 24 52.0 -0.9
PINE IAmb IAmb 00 24 55.9
comp=Z,7.0nm,0.9s
E09A Wood Farm, Sta 73.79 329 P P 00 24 53.8 -1.2
E09A IAmb IAmb 00 24 57.4
comp=Z,7.4nm,1.1s
FFC Flin Flon 73.98 343 P P 00 24 55.8 -0.1
E07A Sunnyside 74.67 328 P P 00 25 00.3 +0.2
E07A IAmb IAmb 00 25 02.9
comp=Z,12nm,1.0s
QSPA South Pole Qui 74.93 180 P P 00 25 01.5 0.0
QSPA IAmb IAmb 00 25 04.5
comp=Z,9.7nm,0.6s
LTY Liberty 75.56 329 P P 00 25 04.6 -0.7
B08A Colville Reser 75.65 330 P P 00 25 05.3 -0.4
TORD Torodi Ar. Bea 78.85 73 P P 00 25 22.9 -1.4
comp=Z,2.2nm,0.9s,baz=252,slow=5.0,SNR=10
TORD Torodi Ar. Bea 78.85 73 P P 00 25 23.2 -1.1
VNDA Vanda 82.35 190 P P 00 25 44.9 +3.0
comp=Z,3.7nm,0.9s,baz=133,slow=3.8,SNR=19
VNDA Vanda 82.35 190 P P 00 25 41.8 0.0
PAB San Pablo 83.72 46 P P 00 25 50.1 +0.5
PAB IAmb IAmb 00 25 50.7
comp=Z,5.6nm,0.9s
ESDC Sonseca Array 84.04 46 P P 00 25 51.7 +0.5
comp=Z,3.2nm,0.8s,baz=256,slow=5.5,SNR=21
ESDC LR LR 01 02 30.8
comp=Z,22nm,18.6s,baz=235,slow=35
ESDC Sonseca Array 84.04 46 P P 00 25 51.8 +0.5
ESDC pP 00 26 20.6 +1.7
ESBB Sonseca Array 84.04 46 P P 00 25 51.1 -0.1
YKA Yellowknife Ar 84.11 342 P P 00 25 51.0 0.0
comp=Z,7.1nm,0.8s,baz=140,slow=5.4,SNR=45
DLBC Dease Lake 87.00 334 P P 00 26 04.6 -0.9
DLBC IAmb IAmb 00 26 07.2
comp=Z,3.4nm,0.8s
BOSA Boshof 89.63 119 P P 00 26 18.6 -0.2
comp=Z,1.3nm,0.8s,baz=240,slow=8.1,SNR=1.6
BOSA LR LR 01 05 45.2
comp=Z,51nm,18.2s,baz=182,slow=35
BOSA Boshof 89.63 119 IAmb IAmb 00 26 18.8
comp=Z,3.5nm,1.1s
SUMG Summit 90.49 10 i P P 00 26 22.6 +0.5
comp=Z,34nm,1.0s
SUMG Summit 90.49 10 P P 00 26 22.5 +0.5
MAW Mawson 91.33 164 P P 00 26 27.1 +1.4
comp=Z,2.9nm,0.7s,baz=229,slow=11,SNR=3.8
ILAR Eielson Array 97.06 335 P P 00 26 51.7 -0.1
comp=Z,0.2nm,0.5s,baz=90,slow=3.6,SNR=3.5
GERES GERESS Array B 98.99 42 P P 00 27 00.8 -0.2
comp=Z,0.1nm,0.3s,baz=321,slow=2.5,SNR=2.8
KBZ Khabaz 118.85 48 PKP PKPdf 00 32 08.6 +0.3
comp=Z,2.1nm,0.8s,baz=288,slow=3.2,SNR=2.8
ASAR Alice Springs 133.39 214 PKP PKPdf 00 32 37.6 +0.7
comp=Z,0.6nm,0.7s,baz=161,slow=3.1,SNR=6.0
ASAR Alice Springs 133.39 214 PKPdf PKPdf 00 32 37.1 +0.2
WRA Warramunga Arr 136.07 218 PKP PKPdf 00 32 42.6 +0.7
comp=Z,2.4nm,0.7s,baz=139,slow=2.0,SNR=8.7
WRA Warramunga Arr 136.07 218 PKPdf 00 32 43.2 +1.3
ZALV Zalesovo Beam 137.55 20 PKP PKPdf 00 32 44.7 +1.1
comp=Z,5.7nm,0.7s,baz=291,slow=3.0,SNR=19
ZALV Zalesovo Beam 137.55 20 PKPdf PKPdf 00 32 43.1 -0.4
MKAR Makanchi Array 142.27 28 PKhKP PKPpre 00 32 48.7
comp=Z,0.6nm,0.7s,baz=327,slow=2.8,SNR=7.6
MKAR PKP PKPdf 00 32 53.5 +1.0
comp=Z,1.0nm,0.8s,baz=8.5,slow=2.9,SNR=7.4
MKAR Makanchi Array 142.27 28 PKPdf PKPdf 00 32 48.3 -4.2
USRK Ussuriysk Ar. 144.29 329 PKP PKPab 00 32 55.0 +0.8
comp=Z,3.8nm,0.9s,baz=53,slow=5.8,SNR=5.6
MJAR Matsushiro Arr 145.24 313 PKPbc PKPbc 00 32 58.2 +0.3
comp=Z,9.3nm,0.9s,baz=92,slow=1.0,SNR=18
MJAR Matsushiro Arr 145.24 313 PKPbc 00 32 58.3 +0.5
SONM Songino Array 147.48 1 PKPbc PKPbc 00 33 04.5 +0.3
comp=Z,5.3nm,0.8s,baz=303,slow=1.8,SNR=26
SONM Songino Array 147.48 1 PKPdf 00 33 03.0 +1.4
KSRS Korea Array 151.27 324 PKP PKPdf 00 33 09.6 +1.9
comp=Z,4.7nm,0.8s,baz=82,slow=1.8,SNR=5.7
KSRS PKPbc PKPbc 00 33 14.6 +0.9
comp=Z,5.4nm,0.8s,baz=18,slow=1.5,SNR=22
KSRS PKPab PKPab 00 33 21.3 -0.7
comp=Z,1.1nm,0.5s,baz=46,slow=3.3,SNR=2.5
LZH Lanzhou 159.00 8 ePKP PKPdf 00 33 18.5 0.0
LZH pPKP pPKPdf 00 33 40.5 -7.1
LZH sPKP 00 33 53.8

TIF **14** *00:28:08.8, 41°.33N×43°.95E, h12km±1km*
DDA **14** *00:28:09.2, 41°.37N×43°.94E, h7km±3km, ML2.8*
ISK **14** *00:28:09.6, 41°.37N×43°.96E, h13km, ML2.8/11*
NORS **14** *00:28:09.8±0.0, 41°.41N×43°.87E, h9km, MPVA3.9*

ISC 14 00:28:09.6±0.9, **41°.34N**±0°.02×**43°.95E**±0°.02, **h9**km±8km,
n54, σ**0°87**/94, **Turkey-Georgia-Armenia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BGD	**Bogdanovka**	**0.27**	**255**	P	**Pg**	**00 28 14.5**	**-0.7**
BGD				S	**Sg**	**00 28 18.7**	**-0.2**
KZRT	**Kazreti**	**0.34**	**81**	P	**Pg**	**00 28 16.7**	**+0.3**
KZRT				S	**Sg**	**00 28 21.4**	**+0.4**
KZRT	**Kazreti**	**0.34**	**81**	*i* P	**Pg**	**00 28 16.7**	**+0.3**
KZRT				*i* S	**Sg**	**00 28 20.9**	**-0.1**
AKH	**Akhalkalaki**	**0.35**	**282**	P	**Pg**	**00 28 16.9**	**+0.3**
AKH				S	**Sg**	**00 28 21.5**	**+0.2**
AKH	**Akhalkalaki**	**0.35**	**282**	PG	**Pg**	**00 28 16.9**	**+0.3**
BKRG	**Bakuriani**	**0.53**	**323**	P	**Pb**	**00 28 20.3**	**-0.9**
BKRG				S	**Sb**	**00 28 28.1**	**-0.9**
EAK	**Akyaka**	**0.70**	**202**	*i* P	**Pg**	**00 28 23.1**	**-0.1**
EAK				*i* S	**Sg**	**00 28 32.1**	**-0.1**
TBLG	**Delisi**	**0.71**	**56**	P	**Pg**	**00 28 23.2**	**-0.1**
TBLG				S	**Sb**	**00 28 33.5**	**-0.7**
TBLG	**Delisi**	**0.71**	**56**	PG	**Pb**	**00 28 23.4**	**-0.8**
TBLG				SG	**Sb**	**00 28 33.4**	**-0.7**
TBLG	**Delisi**	**0.71**	**56**	*i* P	**Pg**	**00 28 23.3**	**-0.1**
TBLG				*i* S	**Sg**	**00 28 32.7**	**0.0**
TBLG				IAML		00 28 34.0	
	comp=E,669nm,0.2s						
TBLG				IAML		00 28 34.0	
	comp=N,508nm,0.4s						
BTNK	**Botanikuri**	**0.73**	**61**	P	**Pg**	**00 28 23.5**	**-0.2**
BTNK				S	**Sb**	**00 28 33.6**	**-1.0**
BTNK	**Botanikuri**	**0.73**	**61**	*i* P	**Pg**	**00 28 23.5**	**-0.2**
BTNK				*i* S	**Sg**	**00 28 32.8**	**-0.4**
BTNK				IAML		00 28 33.0	
	comp=N,521nm,0.1s						
EPOS	**Posof**	**0.93**	**281**	*i* P	**Pg**	**00 28 27.5**	**-0.1**
KARS	**Kars**	**0.97**	**223**	PG	**Pb**	**00 28 28.9**	**+0.3**
DIGO	**Kars**	**1.02**	**205**	*i* P	**Pb**	**00 28 29.0**	**-0.5**
DIGO				*i* S	**Sg**	**00 28 42.3**	**-0.1**
DIGO				IAML		00 28 45.0	
	comp=E,205nm,0.4s						
DIGO				IAML		00 28 51.0	
	comp=N,161nm,0.6s						
TKB	**Tkibuli**	**1.24**	**325**	P	**Pg**	**00 28 33.1**	**-0.3**
TKB				S	**Sn**	**00 28 49.7**	**-0.2**
ONI	**Oni**	**1.31**	**344**	P	**Pb**	**00 28 33.8**	**-0.6**
ONI				S	**Sg**	**00 28 51.7**	**0.0**
ONI	**Oni**	**1.31**	**344**	PN	**Pg**	**00 28 33.9**	**-0.8**
ONI				SN	**Sg**	**00 28 50.9**	**-0.8**
ONI	**Oni**	**1.31**	**344**	*i* Pg	**Pb**	**00 28 33.8**	**-0.6**
ONI				*e*Sg	**Sg**	**00 28 51.7**	**0.0**
TASB	**TASBURUN-IGDIR**	**1.37**	**171**	PN	**Pn**	**00 28 35.3**	**+0.4**
TASB				SN	**Sb**	**00 28 54.1**	**+1.1**
PNSH	**Pansheti**	**1.39**	**21**	P	**Pg**	**00 28 35.6**	**-0.8**
PNSH				S	**Sg**	**00 28 54.0**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.44**	**238**	PN	**Pb**	**00 28 36.6**	**0.0**
ZEI	**Tsey**	**1.45**	**359**	*e*Pg	**Pg**	**00 28 37.0**	**-0.5**
ZEI				*e*Sg	**Sg**	**00 28 57.5**	**+1.1**
IGDI	**IGDIR**	**1.47**	**176**	*i* P	**Pn**	**00 28 36.2**	**-0.1**
IGDI				*i* S	**Sn**	**00 28 54.9**	**-0.8**
LACR	**Lac**	**1.51**	**10**	*i* Pg	**Pb**	**00 28 37.1**	**-0.8**
LACR				*e*Sg	**Sg**	**00 28 58.4**	**+0.1**
DAGI	**Agillar**	**1.56**	**261**	*i* P	**Pn**	**00 28 37.5**	**-0.1**
DAGI				*i* S	**Sb**	**00 28 58.5**	**0.0**
DIGR	**Digorskoe uzhe**	**1.59**	**350**	*e*Pg	**Pg**	**00 28 39.0**	**-1.0**
DIGR				*e*Sg	**Sg**	**00 29 00.9**	**+0.2**
DDFL	**Dedoflistskaro**	**1.64**	**85**	P	**Pg**	**00 28 41.1**	**+0.1**
DDFL	**Dedoflistskaro**	**1.64**	**85**	*i* P	**Pb**	**00 28 39.2**	**-0.8**
DDFL				*i* S	**Sg**	**00 29 04.3**	**+2.1**

BATM	**Batumi**	**1.71**	**280**	P		**Pb**	**00 28 40.9**	**-0.4**
BATM				S		**Sg**	**00 29 03.6**	**-1.2**
BATM	**Batumi**	**1.71**	**280**	PN		**Pb**	**00 28 40.9**	**-0.4**
BATM	**Batumi**	**1.71**	**280**	*i* P		**Pb**	**00 28 40.8**	**-0.4**
DBOC	**Borcka**	**1.72**	**271**	*i* P		**Pb**	**00 28 40.2**	**-1.1**
DBOC				*i* S		**Sb**	**00 29 02.9**	**-0.1**
DBOC				IAML			00 29 04.0	
	comp=E,76nm,0.5s							
DDEM	**Demirkent**	**1.72**	**256**	*i* P		**Pb**	**00 28 41.4**	**0.0**
DDEM				*i* S		**Sb**	**00 29 02.9**	**-0.2**
DDEM				IAML			00 29 04.0	
	comp=N,280nm,0.4s							
DBAD	**Bademkaya**	**1.73**	**260**	*i* P		**Pn**	**00 28 40.2**	**+0.3**
KORR	**Kora**	**1.75**	**3**	*e*Pg		**Pg**	**00 28 43.1**	**-0.1**
KORR				*e*Sg		**Sg**	**00 29 07.8**	**+1.9**
BCA	**Borcka**	**1.75**	**274**	PN		**Pb**	**00 28 40.8**	**-1.1**
LGD	**Lagodekhi**	**1.79**	**73**	P		**Pb**	**00 28 42.1**	**-0.5**
VLKR	**Vladikavkaz**	**1.79**	**17**	*e*Pg		**Pg**	**00 28 44.4**	**+0.3**
VLKR				*e*Pg		**Pb**	**00 28 44.5**	**+1.9**
VLKR				*e*Sg		**Sg**	**00 29 09.1**	**+1.9**
VLKR				*e*Sg		**Sg**	**00 29 09.2**	**+1.9**
EATA	**Eleskirt**	**1.84**	**217**	*i* P		**Pb**	**00 28 43.8**	**+0.1**
EATA				*i* S		**Sb**	**00 29 07.8**	**+0.9**
KMGR	**Komgaron**	**1.85**	**21**	*i* Pg		**Pg**	**00 28 44.8**	**-0.3**
KMGR				*e*Sg		**Sg**	**00 29 10.5**	**+1.3**
ARNR	**Ardon**	**1.86**	**8**	*e*Pg		**Pb**	**00 28 43.7**	**0.0**
ARNR				*e*Sg		**Sg**	**00 29 10.1**	**+0.7**
AGRB	**Hanur-Agry**	**1.90**	**203**	PN		**Pn**	**00 28 45.9**	**+1.0**
LSNR	**Lesken**	**1.94**	**357**	*e*Pg		**Pg**	**00 28 46.2**	**-0.7**
LSNR				*e*Sg		**Sg**	**00 29 13.1**	**+1.0**
STDR	**Stavd-Durt**	**2.03**	**2**	*e*Pg		**Pg**	**00 28 48.9**	**+0.3**
STDR				*e*Sg		**Sg**	**00 29 17.1**	**+2.1**
BTKR	**Batakoyurt**	**2.08**	**12**	*e*Pg		**Pg**	**00 28 49.2**	**-0.3**
BTKR				*e*Sg		**Sg**	**00 29 18.4**	**+1.9**
KOPR	**Koprukoy-ERZUR**	**2.08**	**231**	PN		**Pn**	**00 28 45.9**	**+1.0**
TUTA	**Tutak**	**2.12**	**205**	*i* P		**Pb**	**00 28 47.6**	**-0.7**
BTLR	**Botlikh**	**2.15**	**51**	*e*Pg		**Pb**	**00 28 48.8**	**0.0**
BTLR				*e*Sg		**Sg**	**00 29 17.2**	**-1.6**
CLDR	**Caldiran**	**2.19**	**181**	PN		**Pn**	**00 28 47.4**	**+1.0**
CHOM	**Cayeli-Rize**	**2.42**	**265**	PN		**Pn**	**00 28 50.5**	**+1.2**
DBC	**Dubki**	**2.72**	**51**	*e*Pn		**Pb**	**00 28 58.8**	**+0.3**
DBC				*e*Sn		**Sg**	**00 29 36.1**	**-1.0**
AKT	**Akhty**	**2.85**	**86**	*e*Pn		**Pb**	**00 28 58.3**	**-2.4**
AKT				*e*Sn		**Sb**	**00 29 35.9**	**+0.2**
BAYT	**Aydıntepe-Bayb**	**3.04**	**253**	PN		**Pn**	**00 28 59.5**	**+1.5**

IDC ***14*** *00:33:37.4±2.7,5.°93S×154.°69E,h170km±23km,mb3.3/5, mb1 3.4/7,mb1mx3.2/23,mbtmp3.8/7,Error ellipse: s-maj=32.7km s-min=20.5km az=70.0*

NEIC ***14*** *00:33:38.1±1.7,6.°0S±0.°1×154.°63E±0.°08,h181km±9km, mb4.2/12,Error ellipse: s-maj=18.9km s-min=6.7km az=209.0*

ISC 14 00:33:35.2±0.8,6.°0S±0.°1×154.°8E±0.°1,h150km,n25, σ1s31/25,mb3.6/8,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.21**	**304**	Pn	**Pn**	**00 34 28.1**	**+2.9**
KRVT	**Keravat (AS076**	**3.26**	**301**	P	**Pn**	**00 34 26.5**	**+0.6**
	4.2nm,0.3s,baz=28,slow=21,SNR=1.5						
KRVT				S	Sn	00 34 52.3	-13
	12nm,0.3s,baz=180,slow=3.9,SNR=5.7						
COEN	**Coen**	**13.91**	**235**	Pn	**Pn**	**00 36 46.0**	**-0.1**
DZM	**Mont Dzumac**	**19.52**	**146**	P	**Pn**	**00 37 53.7**	**-0.3**
	0.7nm,0.3s,baz=260,slow=10,SNR=9.2						
DZM	**Mont Dzumac**	**19.52**	**146**	P	**P**	**00 37 53.0**	**+1.9**
DZM				IAmb	IAmb	00 38 11.7	
	comp=Z,7.8nm,1.0s						
WB0	**Warramunga Arr**	**24.10**	**234**	P	**P**	**00 38 36.5**	**-0.6**
WB0				IAmb	IAmb	00 38 52.0	
	comp=Z,4.0nm,1.0s						
WB2	**Warramunga Arr**	**24.23**	**233**	P	**P**	**00 38 37.8**	**-0.5**
WB2				IAmb	IAmb	00 38 40.9	
	comp=Z,4.2nm,0.9s						
WRA	**Warramunga Arr**	**24.24**	**233**	P	**P**	**00 38 39.0**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=58,slow=9.9,SNR=6.9						
WRA	**Warramunga Arr**	**24.24**	**233**	P	**P**	**00 38 37.6**	**-0.8**
ARMA	**Armidale**	**24.46**	**187**	P	**P**	**00 38 41.2**	**+0.8**
ARMA				IAmb	IAmb	00 38 47.0	
	comp=Z,11nm,1.1s						
ASAR	**Alice Springs**	**26.70**	**227**	P	**P**	**00 39 00.3**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=59,slow=9.2,SNR=4.0						
ASAR				PcP	**PcP**	**00 42 20.2**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=72,slow=3.0,SNR=1.9						
ASAR	**Alice Springs**	**26.70**	**227**	P	**P**	**00 38 57.9**	**-2.6**
BFZ	**Birch Farm**	**39.49**	**154**	P	**P**	**00 40 51.7**	**+0.7**
LTZ	**Lake Taylor**	**39.74**	**160**	P	**P**	**00 40 53.6**	**+0.5**
PLWZ	**Palliser**	**39.81**	**156**	P	**P**	**00 40 54.1**	**+0.4**
KHZ	**Kahutara**	**39.87**	**158**	P	**P**	**00 40 53.2**	**-0.9**
SONM	**Songino Array**	**68.42**	**327**	P	**P**	**00 44 21.1**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=154,slow=4.9,SNR=3.3						
SONM	**Songino Array**	**68.42**	**327**	IAmb	IAmb	00 44 21.3	
	comp=Z,0.7nm,0.9s						
IMAR	**Indian Mountai**	**80.87**	**19**	P	**P**	**00 45 32.2**	**+0.2**
MKAR	**Makanchi Array**	**82.56**	**319**	P	**P**	**00 45 41.1**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=97,slow=5.7,SNR=8.3						
MKAR	**Makanchi Array**	**82.56**	**319**	P	**P**	**00 45 40.8**	**-0.6**
MAKZ	**Makanchi**	**82.77**	**319**	P	**P**	**00 45 40.5**	**-2.0**
ZALV	**Zalesovo Beam**	**83.28**	**326**	P	**P**	**00 45 43.5**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=131,slow=4.5,SNR=3.6						
ZALV	**Zalesovo Beam**	**83.28**	**326**	P	**P**	**00 45 42.9**	**-2.0**
TORD	**Torodi Ar. Bea**	**152.59**	**287**	PKPbc	**PKPbc**	**00 53 13.1**	**-1.9**
	comp=Z,0.6nm,0.9s,baz=71,slow=1.5,SNR=6.1						

WEL 14 00:39:57.9,40.°3S±1.°1×175.°7E±1.°0,h16km±3km,M2.0/19, ML2.2/19,MLv2.0/19,Error ellipse: s-maj=0.0km s-min=0.0km az=35.9,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSZ	**Takapari Road**	**0.28**	**138**	P	Pb	00 40 04.9	+0.3
PNHZ	**Pukenui**	**0.38**	**100**	P	Pb	00 40 06.3	+0.1
MOVZ	**Moawhango**	**0.44**	**4**	P	Pb	00 40 07.2	-0.1
BHHZ	**Black Hill Sta**	**0.45**	**37**	P	Pb	00 40 07.3	-0.1
MTVZ	**Mangateitei**	**0.50**	**338**	P	Pb	00 40 08.5	+0.2
POWZ	**Post Office Ro**	**0.54**	**176**	P	Pb	00 40 09.0	0.0
KRHZ	**Kereru**	**0.55**	**68**	P	Pb	00 40 09.2	+0.1
TRVZ	**Turoa**	**0.56**	**347**	P	Pn	00 40 10.6	-0.8
DVHZ	**Dannevirke**	**0.57**	**142**	P	Pb	00 40 09.9	+0.5
WAZ	**Wanganui**	**0.57**	**279**	P	Pb	00 40 09.6	+0.2
TUVZ	**Tukino**	**0.58**	**355**	P	Pb	00 40 10.1	+0.4
WPHZ	**Waipukurau**	**0.60**	**111**	P	Pn	00 40 10.9	-0.8
FWVZ	**Far West T-bar**	**0.61**	**348**	P	Pb	00 40 10.1	-0.1
PKVZ	**Pokaka**	**0.63**	**333**	P	Pb	00 40 10.7	+0.2
NGZ	**Ngauruhoe**	**0.68**	**353**	P	Pb	00 40 12.0	+0.6
KWHZ	**Kaweka Forest**	**0.69**	**52**	P	Pb	00 40 11.8	+0.2
WTVZ	**West Tongariro**	**0.74**	**353**	P	Pg	00 40 12.4	0.0
KRVZ	**Karewarewa**	**0.76**	**356**	P	Pn	00 40 13.6	-0.4
MRZ	**Mangatainoka R**	**0.82**	**187**	P	Pb	00 40 13.6	0.0
KAHZ	**Kahuranaki**	**0.90**	**87**	P	Pn	00 40 16.8	+0.9
BKZ	**Black Stump Fm**	**0.91**	**42**	P	Pg	00 40 15.5	0.0
TIWZ	**Tintock**	**0.93**	**172**	P	Pn	00 40 16.2	-0.1
OGWZ	**Otaki Gorge**	**1.05**	**203**	P	Pb	00 40 17.2	-0.4
NMHZ	**Naumai**	**1.13**	**49**	P	Pg	00 40 21.3	+1.6
KIW	**Kapiti Island**	**1.18**	**211**	P	Pn	00 40 18.7	-1.0
MTHZ	**Maungataniwha**	**1.33**	**42**	P	Pg	00 40 24.3	+0.9
CAW	**Cannon Point**	**1.35**	**201**	P	Pn	00 40 22.0	0.0
DUWZ	**D'Urville Isla**	**1.67**	**235**	P	Pb	00 40 27.3	-0.9
TCW	**Tory Channel**	**1.75**	**218**	P	Pn	00 40 28.1	+0.7
TUWZ	**Tuamarina**	**2.08**	**220**	P	Pn	00 40 30.4	-1.6
BSWZ	**Blackbirch Sta**	**2.33**	**216**	P	Pb	00 40 38.9	-0.5
QRZ	**Quartz Range**	**2.62**	**247**	P	Pn	00 40 40.9	+1.3
THZ	**Tophouse**	**2.86**	**227**	P	Pb	00 40 47.7	-0.9
THZ	**Tophouse**	**2.86**	**227**	P	Pb	00 40 47.7	-0.9
HHSZ	**Highcliff Hill**	**7.10**	**210**	P	Pn	00 41 41.2	+0.2

IDC ***14*** *00:42:25.3±3.9,18.°10S×168.°31E,h0km,mb3.9/4, mb1 4.1/5,mb1mx3.8/28,mbtmp4.0/5,ML4.5/1,MS3.2/3, Ms1 3.3/3,ms1mx2.8/22,Error ellipse: s-maj=90.8km s-min=37.7km az=107.0*

NEIC ***14*** *00:42:32.2±1.6,18.°45S±0.°07×168.°4E±0.°1,h59km±11km, mb4.3/8,Error ellipse: s-maj=17.5km s-min=10.1km az=101.0*

ISC 14 00:42:30.1±0.7,18.°32S±0.°10×168.°3E±0.°1,h37km,n28, σ1s16/27,mb4.1/7,MS3.3/3,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.13**	**205**	Pn	**Pn**	**00 43 31.7**	**+0.8**
	25nm,0.3s,baz=41,slow=19,SNR=223						
DZM				Sn	**Sn**	**00 44 18.2**	**+0.2**
	30nm,0.3s,baz=309,slow=22,SNR=14						
DZM	**Mont Dzumac**	**4.13**	**205**		**Pn**	**00 43 31.4**	**+0.6**
MSVF	**Nonsavu**	**9.26**	**88**	Pn	**Pn**	**00 44 42.7**	**+1.5**
EIDS	**Eidsvold**	**17.48**	**243**		**Pn**	**00 46 32.2**	**+1.1**
CTAO	**Charters Tower**	**20.93**	**262**	P	**P**	**00 47 11.7**	**+1.9**
CTAO				IAmb	IAmb	00 47 30.9	
	comp=Z,6.0nm,0.9s						
THZ	**Tophouse**	**23.69**	**171**	P	**P**	**00 47 36.9**	**-1.6**
THZ				IAmb	IAmb	00 47 50.0	
	comp=Z,10nm,1.1s						
MSWZ	**Moikau Station**	**23.77**	**167**	P	**P**	**00 47 37.4**	**-1.8**
STKA	**Stephens Creek**	**27.64**	**236**	P	**P**	**00 48 16.2**	**+1.8**
	comp=Z,2.1nm,0.9s,baz=74,slow=7.4,SNR=1.8						
STKA	**Stephens Creek**	**27.64**	**236**	P	**P**	**00 48 13.3**	**-1.0**
WRA	**Warramunga Arr**	**32.13**	**262**	P	**P**	**00 48 54.8**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=79,slow=5.9,SNR=1.8						
WRA	**Warramunga Arr**	**32.13**	**262**	P	**P**	**00 48 52.2**	**-2.1**
ASAR	**Alice Springs**	**32.53**	**255**	P	**P**	**00 48 58.2**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=83,slow=8.5,SNR=14						
ASAR				LR	LR	01 01 58.1	
	comp=Z,55nm,19.3s,baz=76,slow=36						
FORT	**Forrest**	**38.48**	**243**	P	**P**	**00 49 46.5**	**-2.3**
FITZ	**Fitzroy Crossi**	**40.49**	**263**	P	**P**	**00 50 06.3**	**+0.6**
FITZ				IAmb	IAmb	00 50 21.9	
	comp=Z,6.3nm,0.9s						
QSPA	**South Pole Qui**	**71.73**	**180**	P	**P**	**00 53 48.2**	**-0.1**
QSPA				IAmb	IAmb	00 53 50.0	
	comp=Z,5.3nm,1.1s						
MA2	**Magadan**	**78.93**	**351**	LR	LR	01 22 42.7	
	comp=Z,16nm,21.8s,baz=100,slow=31						
SONM	**Songino Array**	**85.98**	**323**	P	**P**	**00 55 06.7**	**0.0**
	comp=Z,1.2nm,0.9s,baz=138,slow=3.8,SNR=5.4						
SONM	**Songino Array**	**85.98**	**323**	P	**P**	**00 55 07.2**	**+0.5**
ILAR	**Eielson Array**	**89.61**	**18**	LR	LR	01 29 57.4	
	comp=Z,10nm,19.2s,baz=209,slow=32						
MOA	**Molln**	**143.74**	**330**	*e*PKPdf	**PKPdf**	**01 01 59.8**	**-1.4**
	comp=Z,3.2nm,1.1s						
SOKA	**Soboth**	**144.19**	**328**	*e*PKPdf	**PKPab**	**01 01 59.5**	**-0.4**
	comp=Z,2.8nm,0.9s						
KBA	**Koelnbreinsper**	**144.73**	**330**	*e*PKPdf	**PKPab**	**01 02 01.8**	**-0.3**
	comp=Z,1.4nm,0.5s						
WATA	**Walderalm**	**145.36**	**332**	*e*PKPab	**PKPbc**	**01 02 03.4**	**-0.8**
	comp=Z,2.2nm,0.7s						
ABTA	**Abfaltersbach**	**145.36**	**330**	*e*PKPab	**PKPbc**	**01 02 03.7**	**-0.4**
	comp=Z,5.9nm,0.8s						
WTTA	**Wattenberg**	**145.38**	**332**	*e*PKPab	**PKPab**	**01 02 04.4**	**0.0**
	comp=Z,6.0nm,1.1s						
MOTA	**Moosalm**	**145.56**	**332**	*e*PKPab	**PKPdf**	**01 02 04.4**	**-0.2**
	comp=Z,7.8nm,0.9s						
RETA	**Reutte**	**145.60**	**333**	*e*PKPab	**PKPab**	**01 02 05.1**	**0.0**
	comp=Z,4.1nm,1.2s						
SQTA	**Sankt Quirin**	**145.61**	**332**	*e*PKPab	**PKPdf**	**01 02 04.2**	**-0.4**
	comp=Z,3.9nm,0.6s						

BER 14 01:12:23.7±1.0,76.°49N×8.°24E,h10km,ML1.5, Confirmed Earthquake,Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**1.76**	**69**	*e*P	Pn	01 12 52.3	-1.8
HSPB				*e*S	Sn	01 13 13.1	-3.4
HSPB				IAML		01 13 13.7	
	comp=Z,6.1nm,0.2s						
BRBA	**Barentsburg A**	**2.06**	**37**	*e*P	Pn	01 12 57.4	-0.9
BRBA				*e*S	Sn	01 13 21.2	-2.7
BRBA				IAML		01 13 23.1	
	comp=Z,3.0nm,0.4s						
BRBB	**Barentsburg B**	**2.08**	**36**	*e*P	Pn	01 12 56.3	-2.3
BRBB				*e*S	Sn	01 13 21.5	-3.0
SPA0	**Spitsbergen Ar**	**2.47**	**43**	*e*P	Pn	01 13 02.0	-1.9
SPA0				*e*S	Sn	01 13 30.1	-3.9
SPA0				IAML		01 13 31.6	
	comp=Z,4.7nm,0.8s						
HOPEN	**Hopen**	**3.93**	**82**	*e*P	Pn	01 13 22.0	-1.9
HOPEN				*e*S	Sn	01 14 07.8	-2.1
HOPEN				IAML		01 14 19.2	
	comp=Z,11nm,0.7s						

HEL 14 01:12:45.8,67.°47N×18.°99E,h10km,ML1.1,2C, Confirmed Earthquake,Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKU	**Nikkaluokta**	**0.40**	**2**	*i* P	Pg	01 12 52.9	-0.7
NIKU				*i* S	Sg	01 12 57.8	-1.0
KUA	**Kurravaara**	**0.70**	**46**	*i* P	Pg	01 12 58.2	-1.2
KUA				*i* S	Sg	01 13 07.5	-1.1
DUNU	**Dundret**	**0.71**	**119**	*i* P	Pg	01 12 59.0	-0.4
DUNU				*i* S	Sg	01 13 08.3	-0.4
KOVU	**Salmi**	**0.87**	**30**	*i* P	Pg	01 13 01.1	-1.5
KOVU				*i* S	Sg	01 13 12.1	-1.9
MASU	**Masugnsbyn**	**1.16**	**89**	*e*P	Pb	01 13 06.7	-1.2
MASU				*e*S	Sb	01 13 21.6	-1.4
LANU	**Lannavaara**	**1.28**	**62**	*e*P	Pn	01 13 08.5	-1.2
LANU				*e*S	Sb	01 13 24.6	-1.8
ERTU	**Ertsjaerv**	**1.56**	**125**	*e*PN	Pn	01 13 13.9	+0.4
ERTU				*e*S	Sn	01 13 33.8	0.0
PAJU	**Pajala**	**1.67**	**104**	*e*P	Pn	01 13 15.3	+0.3
KIF	**Kilpisjarvi**	**1.68**	**23**	*e*PG	Pb	01 13 16.6	-0.1
KIF				*e*SG	Sb	01 13 38.7	+0.9
KIF				MSG		01 13 38.8	
	comp=Z,1.4nm,0.1s						
HEF	**Hetta**	**2.00**	**60**	*e*PG	Pb	01 13 21.2	-1.0
HEF				*e*SB	Sb	01 13 45.9	-1.2
HEF				MSG		01 13 47.5	
	comp=Z,0.7nm,0.1s						
TRO	**Tromso**	**2.17**	**359**	*e*SB	Sb	01 13 50.7	-1.2
KTK1	**Kautokeino**	**2.21**	**44**	*e*SG	Sb	01 13 52.8	-0.4
TOF	**Tornio**	**2.54**	**121**	*e*SG	Sb	01 14 03.9	+1.4
TOF				MSG		01 14 04.2	
	comp=Z,0.3nm,0.1s						
SGF	**Sodankyl**	**2.90**	**87**	*e*SG	Sb	01 14 15.2	+2.1

WEL 14 01:14:32.3±0.9,33.°5S±5.°×17.°9E±1.°5,h33km,M4.4/7, ML4.6/7,MLv4.4/7,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.43**	**189**	S	Sn	01 16 30.4	+2.8
WMGZ	**Waiomatatini S**	**4.67**	**187**	P	Pn	01 15 41.6	+1.1
WMGZ				S	Sn	01 16 35.9	+2.4
HAZ	**Te Kaha**	**4.70**	**193**	P	Pn	01 15 39.9	-1.0
HAZ				S	Sn	01 16 39.1	+4.8
PKGZ	**Pakihiroa**	**4.78**	**190**	P	Pn	01 15 43.8	+1.7
PKGZ				S	Sn	01 16 38.6	+2.2
RUGZ	**Raukumara Rang**	**4.93**	**194**	P	Pn	01 15 43.3	-0.8
RUGZ				S	Sn	01 16 40.1	+0.1
PUZ	**Puketiti**	**4.94**	**188**	P	Pn	01 15 40.8	-3.3
PUZ				S	Sn	01 16 39.8	-0.4
MWZ	**Matawai**	**5.31**	**194**	P	Pn	01 15 47.0	-2.3
MWZ				S	Sn	01 16 50.1	+0.7
URZ	**Urewera**	**5.33**	**197**	P	Pn	01 15 48.3	-1.3
URZ				S	Sn	01 16 52.2	+2.3
RIGZ	**Rimuhau**	**5.63**	**191**	P	Pn	01 15 51.9	-1.8
RIGZ				S	Sn	01 16 55.1	-2.1
NMHZ	**Naumai**	**6.20**	**197**	P	Pn	01 16 00.8	-0.8
NMHZ				S	Sn	01 17 10.7	-0.7
BKZ	**Black Stump Fm**	**6.35**	**199**	P	Pn	01 16 00.1	-3.5
BKZ				S	Sn	01 17 11.2	-3.7
HIZ	**Hauiti**	**6.36**	**212**	P	Pn	01 16 08.6	+4.9

VIE 14 01:16:58.6±1.7,45.°45N×15.°04E,h8km,ml1.2/2,Error ellipse: s-maj=9.0km s-min=4.7km az=11.0 40 km W of Karlovac,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZLJ	**Ozalj**	**0.34**	**61**	*e*Pg	Pg	01 17 00.9	-4.5
OZLJ				Sg	Sg	01 17 09.8	-0.2
OBKA	**Obir**	**1.11**	**342**	*e*Pg	Pn	01 17 20.6	0.0
	1.1nm,0.2s						
OBKA				*e*Sg	Sn	01 17 35.6	-0.5
	2.1nm,0.2s						
SOKA	**Soboth**	**1.23**	**360**	*e*Sg	Sb	01 17 38.6	+0.4
	0.2nm,0.1s						
MAKA	**Makarska**	**2.59**	**146**	*e*Pg	Pg	01 17 57.8	+10
MAKA				Sg	Sn	01 18 12.2	-0.1
STON	**Ston**	**3.21**	**142**	*e*Pg	Pg	01 18 01.6	+1.4
STON				Sg	Sn	01 18 19.0	-8.8
DBRK	**Dubrovnik**	**3.57**	**140**	*e*Pg	Pg	01 18 05.2	-1.9
DBRK				Sg	Sn	01 18 24.4	-12

LJU 14 01:17:35.2,46.°11N×14.°82E,h4km,ML0.6,1C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDS	**Vrh nad Dolski**	**0.08**	**265**	*i* Pg	Pg	01 17 37.1	+0.1
VNDS				*i* Sg	Sg	01 17 38.3	+0.2
	comp=Z,24nm,0.1s						
PDKS	**Podkum**	**0.13**	**111**	*i* Pg	Pg	01 17 37.9	+0.1
PDKS				*i* Sg	Sg	01 17 39.8	+0.2
MOZS	**Mozjanca**	**0.32**	**305**	*i* Pg	Pg	01 17 41.5	+0.1
MOZS				*i* Sg	Sg	01 17 46.1	+0.5
	comp=Z,1.0nm,0.1s						
CRNS	**Crni Vrh**	**0.39**	**266**	*i* Pg	Pg	01 17 43.1	+0.4
CRNS				*e*Sg	Sg	01 17 48.1	+0.3
	comp=Z,2.0nm,0.1s						
MORI	**Morici**	**2.33**	**164**	*e*Pg	Pn	01 18 09.3	-5.0
MORI				Sn	Sn	01 18 30.9	-12
ZIRJ	**Zirje**	**2.52**	**166**	*e*Pn	Pn	01 18 09.5	-7.4
ZIRJ				Sn	Sn	01 18 32.1	-16
HVAR	**Hvar**	**3.15**	**158**	Sg	Sg	01 19 24.3	+7.9

NEIC ***14*** *01:22:51.4±2.1,14.°22N±0.°10×52.°13E±0.°08,h10km±2km, mb4.1/8,Error ellipse: s-maj=16.8km s-min=12.7km az=204.0*

OMAN ***14*** *01:22:55.4±0.2,14.°57N×51.°86E,h15km±61km,ml3.8/3, Error ellipse: s-maj=9.3km s-min=2.4km az=247.0*

IDC ***14*** *01:22:56.0±2.0,14.°88N×51.°70E,h0km,mb3.6/7, mb1 3.8/8,mb1mx3.5/34,mbtmp3.7/8,ML4.2/2,MS3.2/9, Ms1 3.2/9,ms1mx2.9/38,Error ellipse: s-maj=42.8km s-min=24.6km az=1.0*

ISC 14 01:22:56.4±1.1,14.°7N±0.°1×51.°8E±0.°1,h15km,n32, σ1s76/32,mb3.8/9,MS3.0/8,Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABTO	**Aybut**	**3.00**	**29**	P	**Pn**	**01 23 43.6**	**+0.1**
	SNR=142						
ABTO				S	**Sn**	**01 24 21.5**	**+2.1**
SOCY	**Socotra**	**3.31**	**139**		Pn	01 23 32.5	-15
SOCY				Sn	Sn	01 23 59.4	-27
RBK	**Rabkut**	**3.62**	**40**	P	**Pn**	**01 23 52.3**	**+0.2**
	SNR=52						
RBK				S	**Sn**	**01 24 36.3**	**+1.6**
WHFO	**Wadi Hawf**	**3.72**	**31**	P	**Pn**	**01 23 53.5**	**+0.1**
	SNR=267						
WHFO				S	**Sn**	**01 24 39.4**	**+2.4**
DMTO	**DMTO**	**4.26**	**45**	P	**Pn**	**01 24 00.8**	**-0.1**
	SNR=42						
DAMY	**Dhamar**	**7.15**	**270**	Pn	**Pn**	**01 24 41.3**	**+0.5**
MHTO	**MHTO**	**8.58**	**42**	P	**Pn**	**01 24 60.0**	**-0.2**
	SNR=9.4						
MHTO				S	**Sn**	**01 26 36.4**	**-0.4**
ATD	**Arta Tunnel**	**9.26**	**251**	Pn	**Pn**	**01 25 09.6**	**+0.1**
	25nm,0.3s,baz=185,slow=2.5,SNR=125						
ATD				LR	LR	01 27 59.5	
	comp=Z,111nm,20.2s,baz=334,slow=33						
ATD	**Arta Tunnel**	**9.26**	**251**		**Pn**	**01 25 08.7**	**-0.8**
ARQ	**Araqi**	**9.68**	**27**	P	**Pn**	**01 25 14.8**	**-0.4**
ARQ				S	**Sn**	**01 27 05.8**	**+2.0**
WBK	**Wadi Bani Khal**	**10.40**	**40**	P	**Pn**	**01 25 24.6**	**-0.5**
	SNR=8.9						
WSAR	**Wadi Sarin**	**10.67**	**36**	Pn	**Pn**	**01 25 27.9**	**-1.0**
	0.2nm,0.3s,baz=268,slow=17,SNR=7.7						
WSAR				Sn	**Sn**	**01 27 23.5**	**-4.7**
	0.4nm,0.3s,baz=251,slow=12,SNR=2.1						
WSAR	**Wadi Sarin**	**10.67**	**36**	P	**Pn**	**01 25 29.2**	**+0.4**
	SNR=6.7						
EIL	**Elat**	**21.50**	**317**	LR	LR	01 34 59.5	
	comp=Z,46nm,20.1s,baz=138,slow=34						
HRA	**Herat**	**21.75**	**24**	P	**P**	**01 27 45.9**	**-1.8**
HRA				IAmb	IAmb	01 27 49.4	
	comp=Z,7.8nm,1.1s						
MMAI	**Mount Meron Ar**	**23.52**	**324**	P	**P**	**01 28 06.2**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=163,slow=24,SNR=3.2	

comp=Z,34nm,22.0s,baz=182,slow=34
SONM Songino Array 26.58 334 P **P 03 07 38.6 +0.5**
1.2nm,0.7s,baz=147,slow=9.5,SNR=5.4
SONM LR LR 03 19 13.9
comp=Z,48nm,19.3s,baz=122,slow=38
MKAR Makanchi Array 39.27 314 P **P 03 09 27.7 -0.7**
0.5nm,0.8s,baz=107,slow=7.8,SNR=4.4
ZALV Zalesovo Beam 40.79 326 P **P 03 09 40.5 -0.4**
0.7nm,0.5s,baz=134,slow=8.3,SNR=2.2
KURBB Kurchatov Arra 42.90 319 P **P 03 09 57.6 -0.6**
0.5nm,0.7s,baz=111,slow=8.6,SNR=6.0
WRA Warramunga Arr 45.79 166 P **P 03 10 20.2 -1.5**
2.3nm,0.8s,baz=346,slow=8.4,SNR=7.0
ASAR Alice Springs 49.30 167 P **P 03 10 49.1 +0.2**
0.6nm,0.8s,baz=351,slow=14,SNR=6.5
YKA Yellowknife Ar 81.57 23 P **P 03 14 16.5 -0.8**
0.8nm,0.8s,baz=311,slow=4.2,SNR=7.1

*IDC **14** 03:08:28.9±0.9,51.°68N×174.°78E,h0km,mb3.9/19, mb1 4.1/21,mb1mx3.9/59,mbtmp3.9/21,ML3.7/2,MS2.9/3, Ms1 2.9/3,ms1mx2.5/42,Error ellipse: s-maj=24.4km s-min=15.8km az=174.0*
*AEIC **14** 03:08:31.1±2.0,51.°51N±0.°08×174.°75E±0.°08,h24km±1km, ML3.7/15,mb4.3/18(NEIC),Error ellipse: s-maj=11.6km s-min=6.2km az=204.0*
*NEIC **14** 03:08:33.2±1.5,51.°62N±0.°04×174.°76E±0.°04,h35km±5km, Error ellipse: s-maj=5.9km s-min=2.9km az=206.0*
ISC 14 03:08:31.7±0.6,51.°59N±0.°09×174.°73E±0.°05,h23km,n69, σ1§**05/63,mb4.2/28,Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.20**	**342**		**Pn**	**03 08 53.1**	**0.0**
SMY					**Sb**	**03 09 10.2**	**+1.2**
LSSA	**Little Sitkin**	**2.38**	**80**		**Pn**	**03 09 08.8**	**-0.5**
LSNW	**Little Sitkin**	**2.38**	**79**		**Pn**	**03 09 09.2**	**-0.1**
LSPA	**Little Sitkin**	**2.42**	**80**		**Pn**	**03 09 09.8**	**0.0**
LSPA					**Sn**	**03 09 40.8**	**+2.1**
AMKA	**Amchitka**	**2.87**	**92**		**Pn**	**03 09 15.9**	**-0.1**
AMKA					**Sn**	**03 09 49.9**	**+0.2**
CESW	**Semis' Southwe**	**3.02**	**82**		**Pn**	**03 09 17.9**	**-0.2**
CEAP	**Semis' Anvil P**	**3.04**	**80**		**Pn**	**03 09 18.2**	**-0.2**
TASE	**Tanaga Southea**	**4.51**	**84**		**Pn**	**03 09 38.5**	**0.0**
KIMD	**Kanaga Island**	**5.01**	**85**		**Pn**	**03 09 45.5**	**+0.2**
ADK	**Adak**	**5.35**	**83**	Pn	**Pn**	**03 09 48.8**	**-1.3**
ATKA	**Atka Island**	**6.88**	**81**		**Pn**	**03 10 11.8**	**+0.7**
PETK	**Petropavlovsk-**	**10.53**	**285**	Pn	**Pn**	**03 11 01.6**	**+0.6**
	0.4nm,0.3s,baz=99,slow=17,SNR=4.2						
PETK				Sn	**Sn**	**03 12 55.6**	**-2.6**
	0.3nm,0.3s,baz=81,slow=30,SNR=5.3						
PETK				LR	LR	03 14 19.0	
	comp=Z,37nm,21.2s,baz=60,slow=33						
MA2	**Magadan**	**15.65**	**310**	LR	LR	03 17 41.4	
	comp=Z,44nm,18.7s,baz=56,slow=35						
TTA	**Tatalina**	**19.27**	**43**	P	**P**	**03 12 53.0**	**-1.5**
KDAK	**Kodiak Island**	**19.75**	**59**	P	**P**	**03 12 58.8**	**-0.8**
	1.5nm,0.3s,baz=238,slow=5.2,SNR=12						
RDOG	**Red Dog Mine**	**19.76**	**25**	P	**P**	**03 12 59.6**	**-0.1**
RDOG				IAmb	IAmb	03 13 01.0	
	comp=Z,9.3nm,0.7s						
IMAR	**Indian Mountai**	**21.45**	**36**	P	**P**	**03 13 18.0**	**0.0**
IL31		**23.69**	**41**	P	**P**	**03 13 41.5**	**+0.2**
ILAR	**Eielson Array**	**23.69**	**41**	P	**P**	**03 13 41.0**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=230,slow=7.7,SNR=6.5						
TOLK	**Toolik Lake Re**	**24.10**	**32**	P	**P**	**03 13 43.6**	**-1.7**
TOLK				IAmb	IAmb	03 13 57.4	
	comp=Z,7.2nm,0.6s						
BMAR	**Burnt Mountain**	**25.37**	**36**	P	**P**	**03 13 56.4**	**-0.4**
TIXI	**Tiksi**	**28.49**	**332**	LR	LR	03 26 16.1	
	comp=Z,39nm,18.0s,baz=259,slow=38						
H11N2	**WAKE ISLAND Hy**	**32.38**	**194**	T	T	03 49 49.8	
	baz=9.8,slow=76,SNR=12						
H11N3	**WAKE ISLAND Hy**	**32.40**	**194**	T	T	03 49 47.1	
	baz=9.8,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**32.40**	**194**	T	T	03 49 47.6	
	baz=9.8,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**33.62**	**194**	T	T	03 51 36.9	
	baz=10,slow=74						
H11S3	**WAKE ISLAND Hy**	**33.63**	**194**	T	T	03 51 33.9	
	baz=10,slow=74						
H11S2	**WAKE ISLAND Hy**	**33.63**	**194**	T	T	03 51 33.2	
	baz=10						
SONM	**Songino Array**	**42.88**	**293**	P	**P**	**03 16 30.4**	**+2.2**
	comp=Z,0.5nm,0.4s,baz=54,slow=7.3,SNR=2.2						
SONM	**Songino Array**	**42.88**	**293**	P	**P**	**03 16 28.0**	**-0.2**
NVAR	**Mina Array Bea**	**47.51**	**79**	P	**P**	**03 17 06.6**	**+1.4**
	comp=Z,0.4nm,0.3s,baz=300,slow=7.2,SNR=2.7						
NVAR	**Mina Array Bea**	**47.51**	**79**	P	**P**	**03 17 04.9**	**-0.3**
SPITS	**Spitsbergen Ar**	**49.82**	**354**	P	**P**	**03 17 21.9**	**-0.2**
	comp=Z,4.0nm,0.4s,baz=58,slow=7.9,SNR=30						
PDAR	**Pinedale Array**	**50.05**	**69**	P	**P**	**03 17 26.1**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=291,slow=7.7,SNR=2.4						
PDAR	**Pinedale Array**	**50.05**	**69**	P	**P**	**03 17 22.9**	**-1.7**
KURK	**Kurchatov**	**55.87**	**310**	P	**P**	**03 18 06.2**	**-0.8**
KURBB	**Kurchatov Arra**	**55.97**	**310**	P	**P**	**03 18 08.3**	**+0.5**
	comp=Z,3.3nm,0.9s,baz=48,slow=7.0,SNR=18						
MKAR	**Makanchi Array**	**56.66**	**305**	P	**P**	**03 18 12.9**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=48,slow=4.3,SNR=7.6						
ARCES	**ARCESS Array B**	**57.10**	**348**	P	**P**	**03 18 15.4**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=34,slow=8.8,SNR=4.8						
MNTX	**Cornudas Mount**	**59.87**	**76**	P	**P**	**03 18 34.2**	**-1.3**
SCHQ	**Schefferville**	**62.25**	**35**	P	**P**	**03 18 50.9**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=352,slow=7.6,SNR=5.7						
SCHQ	**Schefferville**	**62.25**	**35**	IAmb	IAmb	03 18 51.4	
	comp=Z,4.6nm,0.8s						
TX31	**Lajitas Ar. Si**	**62.58**	**77**	P	**P**	**03 18 53.1**	**-0.9**
TX32	**Lajitas Array**	**62.58**	**77**	P	**P**	**03 18 54.1**	**+0.2**
TXAR	**Lajitas Array**	**62.58**	**77**	P	**P**	**03 18 54.1**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=300,slow=4.7,SNR=20						
FINES	**FINESS Array B**	**64.57**	**344**	P	**P**	**03 19 06.5**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=16,slow=7.6,SNR=9.7						
KK31	**Karatay Array**	**65.17**	**309**	P	**P**	**03 19 09.7**	**-1.0**
KK31				IAmb	IAmb	03 19 11.5	
	comp=Z,1.2nm,0.8s						
KKAR	**Karatay Array**	**65.17**	**309**	P	**P**	**03 19 09.4**	**-1.3**
NOA	**NORSAR Array B**	**66.94**	**351**	P	**P**	**03 19 21.5**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=14,slow=6.4,SNR=3.7						
CM31	**Chiang Mai Arr**	**66.96**	**271**	P	**P**	**03 19 22.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**66.96**	**271**	P	**P**	**03 19 24.1**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=49,slow=9.7,SNR=1.6						
EKA	**Eskdalemuir Ar**	**73.43**	**359**	P	**P**	**03 20 02.0**	**+0.5**
	comp=Z,1.3nm,0.7s,baz=7.1,slow=5.1,SNR=7.3						
257A	**Skidaway Islan**	**73.66**	**59**	P	**P**	**03 20 01.7**	**-1.6**
AKASG	**Malin Array Be**	**73.97**	**338**	P	**P**	**03 20 05.0**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=24,slow=6.4,SNR=4.4						
AKASG	**Malin Array Be**	**73.97**	**338**	IAmb	IAmb	03 20 06.2	
	comp=Z,0.7nm,0.9s						
AKBB	**Malin Array Si**	**73.97**	**338**	P	**P**	**03 20 03.5**	**-1.2**
AKBB				IAmb	IAmb	03 20 05.5	
	comp=Z,4.0nm,0.9s						
CLL	**Collm**	**76.31**	**348**	P	**P**	**03 20 17.1**	**-1.2**
KWP	**Kalwaria Pacla**	**76.38**	**342**	P	**P**	**03 20 19.5**	**+0.8**
BURAR	**Bucovina Array**	**77.77**	**339**	P	**P**	**03 20 25.5**	**-1.2**
GERES	**GERESS Array B**	**78.64**	**347**	P	**P**	**03 20 32.2**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=28,slow=6.0,SNR=4.2						
CONA	**Conrad Observa**	**79.22**	**346**	*e*P	**P**	**03 20 35.5**	**+0.9**
	comp=Z,1.9nm,0.9s						
WRA	**Warramunga Arr**	**79.51**	**218**	P	**P**	**03 20 37.0**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=30,slow=5.8,SNR=1.5						
KBA	**Koelnbreinsper**	**80.42**	**347**	*e*PcP	**P**	**03 20 42.7**	**+1.4**
	comp=Z,4.3nm,0.7s						
SOKA	**Soboth**	**80.56**	**346**	*e*PcP	**P**	**03 20 44.1**	**+2.2**
	comp=Z,3.2nm,1.1s						
OBKA	**Obir**	**80.80**	**346**	*i* PcP	**P**	**03 20 45.2**	**+2.0**
	comp=Z,3.4nm,0.6s						
MYKA	**Terra Mystica**	**80.81**	**347**	*e*P	**P**	**03 20 43.9**	**+0.6**
	comp=Z,3.6nm,1.1s						
ABTA	**Abfaltersbach**	**80.85**	**348**	*e*PcP	**P**	**03 20 45.1**	**+1.5**
	comp=Z,2.8nm,1.0s						
BRTR	**Keskin Array B**	**82.93**	**331**	P	**P**	**03 20 55.4**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=73,slow=2.6,SNR=6.0						
ASAR	**Alice Springs**	**83.06**	**217**	P	**P**	**03 20 55.8**	**+0.7**
	comp=Z,0.2nm,0.7s,baz=24,slow=5.5,SNR=1.9						

*IDC **14** 03:17:58.1±1.5,24.°94N×109.°47W,h0km,mb3.2/1, mb1 3.6/5,mb1mx3.5/36,mbtmp3.3/5,ML3.7/3,MS2.9/5, Ms1 2.9/5,ms1mx2.6/15,Error ellipse: s-maj=35.0km s-min=9.9km az=129.0*
ISC 14 03:17:59.6±1.7,24.°8N±0.°2×109.°4W±0.°2,h17km,n10, σ1§**54/7,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.10**	**232**	Pg	**Pn**	**03 18 20.4**	**+0.1**
	19nm,0.3s,baz=340,slow=2.6,SNR=10						
LPIG				Lg	Lg	03 18 34.1	
	88nm,0.3s,baz=41,slow=19,SNR=10.0						
TXAR	**Lajitas Array**	**6.80**	**47**	Pn	**Pn**	**03 19 39.1**	**+0.3**
	0.3nm,0.3s,baz=226,slow=12,SNR=15						
TXAR				Sn	**Sn**	**03 20 54.5**	**-1.3**
	1.1nm,0.3s,baz=232,slow=22,SNR=2.8						
TXAR				Lg	Lg	03 21 31.1	
	1.2nm,0.3s,baz=230,slow=27,SNR=9.8						
ANMO	**Albuquerque**	**10.44**	**13**	Pn	**Pn**	**03 20 29.4**	**+0.7**
	0.1nm,0.3s,baz=212,slow=14,SNR=5.4						
ANMO				Lg	Lg	03 23 21.3	
	0.1nm,0.3s,baz=306,slow=19,SNR=1.5						
CMIG	**Matias Romero**	**15.52**	**117**	LR	LR	03 27 39.1	
	comp=Z,62nm,21.8s,baz=254,slow=37						
NVAR	**Mina Array Bea**	**15.58**	**333**	Pn	**Pn**	**03 21 38.1**	**-0.7**
	baz=150,slow=7.3,SNR=1.1						
PDAR	**Pinedale Array**	**17.94**	**360**	P	**Pn**	**03 22 06.4**	**-2.1**
	0.1nm,0.3s,baz=164,slow=12,SNR=6.0						
PDAR				LR	LR	03 28 26.6	
	comp=Z,29nm,20.6s,baz=272,slow=35						
TEIG	**Tepich**	**19.99**	**99**	LR	LR	03 32 10.4	
	comp=Z,28nm,20.1s,baz=229,slow=42						
NEW	**Newport**	**24.23**	**347**	LR	LR	03 32 16.1	
	comp=Z,30nm,19.4s,baz=225,slow=36						
TKL	**Tuckaleechee C**	**24.55**	**58**	LR	LR	03 32 14.6	
	comp=Z,24nm,18.4s,baz=188,slow=35						
ILAR	**Eielson Array**	**46.72**	**339**	P	**P**	**03 26 28.9**	**+1.4**
	0.2nm,0.8s,baz=144,slow=7.8,SNR=2.1						

*BEO **14** 03:18:08.2±1.2,39.°87N×26.°33E,h15km,ML2.7/4*
*DDA **14** 03:18:14.9,40.°34N×26.°01E,h10km±3km,ML2.5*
*THE **14** 03:18:14.7,40.°37N×25.°91E,h15km,ML2.3/10,Error ellipse: s-maj=0.5km s-min=0.3km az=108.0*
*ATH **14** 03:18:14.1,40.°39N×25.°86E,h27km±2km,ML2.3/8,Error ellipse: s-maj=2.4km s-min=1.1km az=309.0*
ISC 14 03:18:14.4,40.°37N×25.°95E,h11km,ML2.6/24,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.18**	**192**	P	Pg	03 18 19.1	-0.7
GADA				S	Sg	03 18 22.1	+1.0
	2μm,0.2s						
GADA	**Gvkgeada**	**0.18**	**192**	PG	Pb	03 18 19.1	-0.7
GADA				SG	Sg	03 18 21.9	+0.8
SMTH	**Samothraki Isl**	**0.34**	**287**	P	Pg	03 18 20.9	-0.2
SMTH				S	Sg	03 18 25.9	+0.3
	722nm,0.1s						
SMTH	**Samothraki Isl**	**0.34**	**287**	P	Pg	03 18 20.9	-0.2
SMTH				S	Sg	03 18 25.2	-0.4
SMTH				AML	AML	03 18 26.3	
	comp=N,1560μm,0.2s						
SMTH				AML	AML	03 18 29.5	
	comp=E,1250μm,0.1s						
ENEZ	**Enez**	**0.40**	**23**	P	Pg	03 18 22.8	+0.5
ENEZ				S	Sb	03 18 29.5	-0.1
	comp=E,455nm,0.4s						
ENEZ	**Enez**	**0.40**	**23**	PG	Pg	03 18 22.6	+0.3
ENEZ				SG	Sb	03 18 28.9	-0.7
GELI	**Tayfur-Gelibol**	**0.40**	**86**	PG	Pb	03 18 23.1	-0.5
GELI				SG	Sb	03 18 28.8	-0.9
ERIK	**Erikli-Kesan**	**0.52**	**55**	PG	Pg	03 18 24.9	+0.3
ALN	**Alexandroupoli**	**0.53**	**8**	P	Pg	03 18 25.0	+0.2
ALN				S	Sb	03 18 33.0	-0.4
	comp=E,230nm,0.3s						
ALN	**Alexandroupoli**	**0.53**	**8**	P	Pg	03 18 24.9	+0.1
ALN				S	Sg	03 18 32.4	+0.6
ALN				AML	AML	03 18 33.6	
	comp=E,542μm,0.3s						
ALN				AML	AML	03 18 35.1	
	comp=N,369μm,0.3s						
ALN	**Alexandroupoli**	**0.53**	**8**	PG	Pg	03 18 24.9	+0.1
BOZC	**Bozcaada**	**0.53**	**171**	PG	Pg	03 18 25.2	+0.4
BOZC	**Bozcaada**	**0.53**	**171**	*i* P	Pg	03 18 25.0	+0.2
BOZC				*i* P	Pb	03 18 25.1	-0.7
BOZC				*i* S	Sg	03 18 32.1	+0.2
BOZC				*i* S	Sb	03 18 32.3	-1.2
BOZC				IAML		03 18 33.0	
	comp=E,509nm,0.2s						
EZN	**Ezine**	**0.62**	**152**	P	Pg	03 18 26.4	0.0
EZN	**Ezine**	**0.62**	**152**	PG	Pg	03 18 26.7	+0.3
LPK	**Lapseki**	**0.62**	**90**	PG	Pb	03 18 27.1	-0.2
KESN	**Edirne-Kesan**	**0.72**	**51**	*i* P	Pb	03 18 29.0	-0.2
KESN				*i* S	Sb	03 18 38.5	-0.7
KESN				IAML		03 18 41.0	
	comp=N,384nm,0.4s						
KESN				IAML		03 18 41.0	
	comp=E,541nm,0.3s						
LIA	**Limnos Island**	**0.75**	**231**	P	Pg	03 18 28.6	-0.3
LIA				S	Sb	03 18 39.4	-0.4
	comp=E,275nm,0.3s						
LIA	**Limnos Island**	**0.75**	**231**	P	Pg	03 18 28.6	-0.4
LIA				S	Sg	03 18 38.0	-0.8
LIA				AML	AML	03 18 41.4	
	comp=N,467μm,0.3s						
LIA				AML	AML	03 18 41.9	
	comp=E,467μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.78**	**144**	*i* P	Pg	03 18 29.7	+0.2
BAYC				*i* S	Sg	03 18 39.9	+0.3
RDO	**Rodhopi**	**0.83**	**338**	P	Pg	03 18 30.0	-0.5
RDO				S	Sb	03 18 42.1	-0.1
	comp=E,270nm,0.3s						
RDO	**Rodhopi**	**0.83**	**338**	P	Pg	03 18 30.0	-0.6
RDO				S	Sg	03 18 40.9	-0.6
RDO				AML	AML	03 18 43.8	
	comp=E,528μm,0.3s						
RDO				AML	AML	03 18 45.5	
	comp=N,540μm,0.2s						
RDO	**Rodhopi**	**0.83**	**338**	PG	Pb	03 18 30.9	0.0
UKOP	**Uzunkopru-Edir**	**0.92**	**34**	PG	Pb	03 18 32.3	-0.1
THAS	**Thassos island**	**0.97**	**284**	P	Pg	03 18 31.9	-1.1
THAS				S	Sg	03 18 45.5	-0.1
	comp=N,185nm,0.2s						
THAS	**Thassos island**	**0.97**	**284**	P	Pg	03 18 32.0	-1.1
THAS				S	Sg	03 18 44.3	-1.3
THAS				AML	AML	03 18 46.7	
	comp=E,341μm,0.2s						
THAS				AML	AML	03 18 46.9	
	comp=N,379μm,0.2s						
RKY	**Sarkoy-Tekirda**	**0.99**	**71**	PG	Pg	03 18 33.5	+0.1
SART	**Tekirdag**	**0.99**	**71**	*i* P	Pg	03 18 33.0	-0.5
SART				*i* S	Sg	03 18 46.5	+0.1
PRK	**Paraskevi**	**1.15**	**167**	P	Pg	03 18 37.3	+0.8
PRK				S	Sg	03 18 51.7	+0.3
PRK				AML	AML	03 18 54.2	
	comp=E,552μm,0.3s						
PRK				AML	AML	03 18 54.6	
	comp=N,1006μm,0.4s						
SIGR	**SIGRI**	**1.16**	**184**	P	Pb	03 18 35.4	-1.1
SIGR				S	Sb	03 18 51.2	-0.3
	comp=N,420nm,0.5s						
SIGR	**SIGRI**	**1.16**	**184**	P	Pb	03 18 36.0	-0.5
SIGR				S	Sb	03 18 51.3	-0.2
SIGR				AML	AML	03 18 53.0	
	comp=E,569μm,0.5s						
SIGR				AML	AML	03 18 53.6	
	comp=N,1130μm,0.6s						
SIGR	**SIGRI**	**1.16**	**184**	PN	Pb	03 18 36.5	0.0
AYVA	**Ayvalik**	**1.21**	**151**	*i* S	Sb	03 18 52.1	-0.7
KNL	**Balıkesir**	**1.21**	**94**	*i* P	Pn	03 18 37.1	-0.2
KNL				*i* S	Sb	03 18 53.1	+0.1
KNL				IAML		03 18 56.0	
	comp=N,124nm,0.9s						
KAVA	**Kavala**	**1.26**	**300**	P	Pn	03 18 36.7	-1.2
KAVA				S	Sb	03 18 53.7	-0.7
	comp=N,80nm,0.3s						
KAVA	**Kavala**	**1.26**	**300**	P	Pn	03 18 36.3	-1.7
KAVA				S	Sb	03 18 53.6	-0.7
KAVA				AML	AML	03 18 55.1	
	comp=N,173μm,0.4s						
KAVA				AML	AML	03 18 57.8	
	comp=E,141μm,0.2s						
MRMT	**Marmara Adasi**	**1.28**	**79**	PN	Pn	03 18 37.1	-1.2
KDZ	**Kurdzhali**	**1.34**	**343**	PN	Pb	03 18 39.8	+0.2
TKR	**Tekirdag**	**1.36**	**62**	PN	Pg	03 18 40.2	-0.2
GONE	**Gonen-Balikesi**	**1.37**	**103**	PN	Pb	03 18 40.2	+0.2
BALY	**Balya**	**1.43**	**116**	*i* P	Pb	03 18 41.3	+0.2
BALY				*i* S	Sg	03 19 00.5	+0.1
EDC	**Edincik**	**1.46**	**90**	PN	Pn	03 18 41.2	+0.4
DKL	**Dikili**	**1.49**	**150**	PN	Pn	03 18 41.5	+0.3
OUR	**Ouranopolis**	**1.50**	**269**	P	Pn	03 18 39.8	-1.5
OUR	**Ouranopolis**	**1.50**	**269**	PN	Pn	03 18 39.8	-1.5
CRLT	**Corlu**	**1.55**	**60**	PN	Pb	03 18 42.7	-0.5
EDRB	**Edirne**	**1.59**	**22**	P	Pn	03 18 41.6	-1.0
EDRB				S	Sn	03 19 02.8	-0.3
	comp=E,52nm,0.4s						
EDRB	**Edirne**	**1.59**	**22**	PN	Pn	03 18 43.0	+0.4
ZEDA	**zmir-Bergama**	**1.65**	**148**	*i* P	Pb	03 18 44.2	-0.7
ZEDA				*i* S	Sg	03 19 06.6	-0.9
ZEDA				IAML		03 19 09.0	
	comp=N,77nm,0.3s						
BALB	**Balikesir**	**1.65**	**116**	PN	Pn	03 18 43.9	+0.5
KIRK	**Kırklareli**	**1.66**	**31**	*i* P	Pn	03 18 42.1	-1.3
STEP	**BALIKESIR_Sava**	**1.69**	**126**	*i* P	Pn	03 18 43.7	-0.2
PAIG	**Paliouri**	**1.79**	**256**	P	Pn	03 18 43.7	-1.6
KCTX	**Karacabey (Bur**	**1.84**	**92**	PN	Pn	03 18 46.5	+0.5
PLG	**Polygyros**	**1.91**	**271**	P	Pn	03 18 45.7	-1.3
SLVT	**Silivri**	**1.92**	**63**	PN	Pn	03 18 47.9	+0.9
SRS	**Serrai**	**1.94**	**293**	*e*Pn	Pn	03 18 46.6	-0.7
SRS				*e*Sn	Sg	03 19 16.7	0.0
SRS	**Serrai**	**1.94**	**293**	P	Pn	03 18 46.1	-1.2
PLD	**Plovdiv**	**1.97**	**332**	*e*Pn	Pb	03 18 49.6	-0.7
PLD				*e*Sn	Sg	03 19 18.6	+0.9
PLD	**Plovdiv**	**1.97**	**332**	PN	Pn	03 18 48.6	+0.8
CHOS	**Chios island**	**1.98**	**178**	P	Pn	03 18 47.4	-0.6
CHOS	**Chios island**	**1.98**	**178**	PN	Pn	03 18 47.6	-0.4
DURS	**Dursunbey**	**2.09**	**111**	*i* P	Pn	03 18 50.6	+1.2
DURS				*i* S	Sb	03 19 17.1	-1.2
DURS				IAML		03 19 26.0	
	comp=N,22nm,0.3s						
CTKS	**Kestenalik-??a**	**2.12**	**65**	PN	Pn	03 18 50.2	+0.3
HORT	**Hortiatis**	**2.19**	**277**	PN	Pn	03 18 51.7	+0.9
KNT	**Kendrikon**	**2.45**	**290**	P	Pn	03 18 53.5	-0.8
VTS	**Vitosha**	**3.03**	**319**	*e*Pn	Pn	03 19 02.8	+0.3
VTS				*e*Sn	Sb	03 19 45.8	+0.2
STIP	**Stip**	**3.14**	**296**	*i* Pn	Pn	03 19 01.8	-2.1
BOSS	**Bosilegrad**	**3.36**	**310**	*e*Pn	Pn	03 19 07.8	+0.9
ZAPS	**Zavoj**	**3.81**	**321**	*e*Pn	Pn	03 19 14.9	+1.8
ZAPS				*e*Sn	Sb	03 20 04.0	-4.0

*IDC **14** 03:19:47.6±1.7,36.°12N×141.°96E,h0km,mb3.7/4, mb1 3.7/6,mb1mx3.5/45,mbtmp3.7/6,ML3.1/2,MS2.8/3, Ms1 2.8/3,ms1mx2.5/48,Error ellipse: s-maj=37.2km s-min=29.0km az=159.0*
*JMA **14** 03:19:49.8±0.1,36.°15N×141.°93E,h67km±4km,M3.3*
ISC 14 03:19:49.6±1.0,36.°10N±0.°05×141.°98E±0.°08,h23km,n26, σ1§**13/24,mb3.7/4,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.99**	**247**	P	**Pb**	**03 20 08.0**	**-0.1**
JHYU	**Hitachinakayam**	**1.15**	**283**	P	**Pb**	**03 20 09.9**	**-0.9**
JHYU				*e*S	**Sn**	**03 20 24.7**	**-0.6**
JIHU	**Itakohorinouch**	**1.18**	**264**	P	**Pb**	**03 20 11.0**	**-0.4**
JHO	**Hitachi**	**1.25**	**295**	P	**Pb**	**03 20 10.7**	**-1.8**
JFK	**Kawauchi**	**1.55**	**325**	P	**Pn**	**03 20 14.7**	**-1.1**
BSO1	**Boso 1**	**1.66**	**210**	P	**Pb**	**03 20 17.4**	**-1.7**
BSO1				*e*S	**Sb**	**03 20 38.3**	**-1.0**
BSO3	**Boso 3**	**1.76**	**223**	P	**Pb**	**03 20 19.2**	**-1.9**
BSO3				S	**Sn**	**03 20 40.2**	**+0.2**
JFT	**Otama**	**1.94**	**318**	P	**Pn**	**03 20 20.5**	**-0.7**
JMM	**Marumori**	**2.00**	**332**	P	**Pn**	**03 20 20.9**	**-1.2**
JAG	**Ashikaga**	**2.07**	**280**	P	**Pn**	**03 20 22.6**	**-0.3**
MJAR	**Matsushiro Arr**	**3.08**	**279**	Pn	**Pn**	**03 20 37.9**	**+1.0**
	1.0nm,0.3s,baz=84,slow=10,SNR=60						
MJAR				Sn	**Sn**	**03 21 12.9**	**0.0**
	0.6nm,0.3s,baz=113,slow=8.6,SNR=5.8						
MAT	**Matsushiro**	**3.08**	**279**	P	**Pn**	**03 20 37.1**	**+0.3**
MAT				S	**Sn**	**03 21 12.6**	**-0.4**
JHJ	**Hachijo jima 2**	**3.48**	**212**	Pn	**Pn**	**03 20 43.0**	**+0.6**
	12nm,0.3s,baz=332,slow=21,SNR=12						
JHJ				Sn	**Sn**	**03 21 21.8**	**-1.0**
	16nm,0.3s,baz=83,slow=22,SNR=2.1						
JHJ				LR	LR	03 22 21.4	
	comp=Z,87nm,21.2s,baz=100,slow=44						
USRK	**Ussuriysk Ar.**	**11.13**	**320**	LR	LR	03 26 42.2	
	comp=Z,81nm,18.9s,baz=108,slow=37						
KSRS	**Korea Array**	**11.36**	**281**	LR	LR	03 26 56.4	
	comp=Z,35nm,20.6s,baz=70,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.28**	**120**	T	T	03 54 09.5	
	baz=312,

ATPI	**Pietralunga -**	**0.17**	**324**	P	Pg	03 21 31.9	+0.6
ATPI				S	Sg	03 21 35.2	+1.4
ATTE	**AVT- Monte Tez**	**0.18**	**230**	P	Pg	03 21 31.9	+0.5
ATTE				S	Sg	03 21 34.6	+0.7
ATMI	**Monte Miggiano**	**0.20**	**276**	P	Pg	03 21 32.5	+0.7
ATMI				S	Sg	03 21 36.3	+1.8
SSFR	**Montelago di S**	**0.22**	**55**	P	Pg	03 21 32.7	+0.6
SSFR				S	Sg	03 21 36.7	+1.6
PIEI	**Pieia**	**0.22**	**359**	P	Pg	03 21 33.0	+0.7
PIEI				S	Sg	03 21 36.6	+1.3
PIEI				AML	AML		
	comp=E,688μm,0.4s						
PIEI				AML	AML		
	comp=N,634μm,0.4s						
PIEI				AML	AML		
	comp=E,688μm,0.4s						
FRON	**Frontone**	**0.25**	**34**	P	Pg	03 21 33.2	+0.6
FRON				S	Sg	03 21 37.6	+1.6
FRON				AML	AML		
	comp=N,780μm,0.5s						
FRON				AML	AML		
	comp=E,414μm,0.3s						
APEC	**Apecchio**	**0.26**	**341**	P	Pg	03 21 33.7	+0.8
APEC				S	Sb	03 21 38.4	-1.0
ASSB	**Assisi San Ben**	**0.28**	**162**	P	Pg	03 21 33.9	+0.5
ASSB				S	Sb	03 21 38.7	-1.4
ASSB				AML	AML		
	comp=E,476μm,0.2s						
ASSB				AML	AML		
	comp=N,490μm,0.1s						
NARO	**Abbazia di Nar**	**0.30**	**6**	P	Pg	03 21 34.2	+0.6
NARO				S	Sb	03 21 39.4	-1.1
NARO				AML	AML		
	comp=E,184μm,0.3s						
NARO				AML	AML		
	comp=N,177μm,0.7s						
SNTG	**Esanatoglia**	**0.30**	**101**	P	Pg	03 21 34.2	+0.6
SNTG				S	Sb	03 21 39.4	-1.1
SNTG				AML	AML		
	comp=E,364μm,0.4s						
SNTG				AML	AML		
	comp=N,486μm,1.4s						
SNTG				AML	AML		
	comp=E,364μm,0.4s						
ARVD	**Arcevia**	**0.35**	**58**	P	Pg	03 21 35.2	+0.6
ARVD				S	Sb	03 21 41.0	-0.8
ARVD				AML	AML		
	comp=N,122μm,0.7s						
ARVD				AML	AML		
	comp=E,222μm,1.0s						
MPAG	**Monte Paganucc**	**0.35**	**27**	P	Pg	03 21 35.4	+0.6
MPAG				S	Sb	03 21 41.3	-0.9
PE3	**Peglio**	**0.38**	**355**	AML	AML		
	comp=N,305μm,0.5s						
PE3				AML	AML		
	comp=E,254μm,0.4s						
PE3				AML	AML		
	comp=N,306μm,0.5s						
PE3				AML	AML		
	comp=E,254μm,0.4s						
PARC	**Parchiule**	**0.40**	**327**	P	Pb	03 21 36.5	-0.7
PARC				S	Sb	03 21 43.0	-0.4
CESI	**CESI - Serrava**	**0.41**	**139**	P	Pg	03 21 36.2	+0.5
CESI				S	Sb	03 21 43.4	-0.3
CESI				AML	AML		
	comp=N,122μm,0.2s						
CESI				AML	AML		
	comp=E,34μm,0.3s						
CESI				AML	AML		
	comp=N,122μm,0.2s						
EL6	**Elcito**	**0.41**	**88**	P	Pg	03 21 36.3	+0.5
EL6				S	Sb	03 21 43.3	-0.5
CAFI	**Castiglion Fio**	**0.42**	**272**	P	Pg	03 21 36.6	+0.7
CAFI				S	Sb	03 21 43.3	-0.6
CING	**Cingoli**	**0.48**	**82**	P	Pg	03 21 37.6	+0.5
CING				S	Sb	03 21 45.4	-0.4
CING				AML	AML		
	comp=E,75μm,0.5s						
CING				AML	AML		
	comp=N,116μm,0.2s						
CING				AML	AML		
	comp=E,75μm,0.5s						
FDMO	**Fiordimonte**	**0.49**	**124**	P	Pg	03 21 37.5	+0.3
FDMO				S	Sb	03 21 45.5	-0.4
FDMO				AML	AML		
	comp=E,142μm,0.2s						
FDMO				AML	AML		
	comp=N,150μm,0.2s						
MGAB	**Montegabbione**	**0.51**	**218**	P	Pg	03 21 38.1	+0.6
MGAB				S	Sb	03 21 46.4	-0.1
MOMA	**Monte Martano**	**0.51**	**177**	P	Pg	03 21 38.0	+0.4
MOMA				S	Sb	03 21 45.9	-0.7
CRE	**Caprese Michel**	**0.53**	**306**	P	Pg	03 21 38.3	+0.4
CRE				S	Sb	03 21 46.6	-0.6
CSP1	**Cessapalombo**	**0.54**	**114**	P	Pg	03 21 38.4	+0.3
CSP1				S	Sb	03 21 47.3	0.0
NRCA	**Norcia**	**0.64**	**138**	P	Pg	03 21 40.0	0.0
NRCA				S	Sb	03 21 50.3	0.0
NRCA				AML	AML		
	comp=E,136μm,1.3s						
NRCA				AML	AML		
	comp=N,182μm,0.1s						
NRCA				AML	AML		
	comp=E,135μm,1.3s						
NRCA				AML	AML		
	comp=N,181μm,0.1s						
SMA1	**SAN MARTINO**	**0.90**	**139**	P	Pb	03 21 45.5	-0.2
BRJN	**Brijuni**	**1.82**	**28**	*e*Pn	Pn	03 21 58.7	-0.5
BRJN				Sn	Sb	03 22 24.6	+0.5
DUGI	**Dugi Otok**	**1.95**	**69**	*e*Pn	Pn	03 22 01.9	+0.7
DUGI				Sn	Sb	03 22 28.1	+0.1
NVLJ	**Novalja**	**2.10**	**53**	Sn	Sb	03 22 31.6	-0.6
ZIRJ	**Zirje**	**2.29**	**80**	*e*Pn	Pn	03 22 05.7	0.0
ZIRJ				Sn	Sb	03 22 36.9	-0.7
MORI	**Morici**	**2.37**	**75**	*e*Pn	Pn	03 22 08.5	+1.7
MORI				Sn	Sb	03 22 39.3	-0.7
RIY	**Rijeka**	**2.45**	**34**	Sn	Sn	03 22 39.3	+1.2
UDBI	**Udbina**	**2.63**	**61**	*e*Pn	Pn	03 22 12.0	+1.5
UDBI				Sn	Sn	03 22 44.6	+1.9
HVAR	**Hvar**	**2.86**	**91**	*e*Pn	Pn	03 22 14.1	+0.5
HVAR				Sn	Sn	03 22 49.8	+1.5

IDC ***14*** *03:52:42.9±1.8, 15°.78S×173°.14W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.8/36, mbtmp4.0/4, MS3.2/5, Ms1 3.2/5, ms1mx3.1/31, Error ellipse: s-maj=131.7km s-min=28.3km az=151.0*

NEIC ***14*** *03:52:43.2±2.0, 15°.90S±0°.08×173°.0W±0°.1, h10km±1km, mb4.2/6, Error ellipse: s-maj=23.2km s-min=13.3km az=95.0*

ISC 14 03:52:45.6±0.8, 15°.91S±0°.10×173°.0W±0°.1, h26km, n18, σ1°37/12, mb4.1/5, MS3.1/4, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.29**	**30**		**Pn**	**03 53 20.7**	**-1.1**
NIUE	**Niue**	**4.27**	**138**		**Pn**	**03 53 48.7**	**-0.3**
RAR	**Rarotonga**	**13.56**	**115**	LR	LR	03 59 41.9	
	comp=Z,62nm,19.6s,baz=274,slow=30						
DZM	**Mont Dzumac**	**20.42**	**249**	LR	LR	04 04 03.5	
	comp=Z,100nm,19.5s,baz=70,slow=34						
PPT	**Papeete**	**22.44**	**98**	LR	LR	04 05 04.3	
	comp=Z,27nm,19.1s,baz=126,slow=33						
BKZ	**Black Stump Fm**	**24.95**	**200**	P	**P**	**03 58 04.0**	**-2.9**
HNR	**Honiara**	**27.20**	**280**	LR	LR	04 06 19.6	
	comp=Z,53nm,20.1s,baz=127,slow=30						
STKA	**Stephens Creek**	**44.16**	**240**	P	**P**	**04 00 53.2**	**+0.9**
	4.9nm,0.8s,baz=68,slow=5.4,SNR=5.7						
STKA	**Stephens Creek**	**44.16**	**240**	IAmb	IAmb	04 01 54.4	
	comp=Z,8.9nm,2.0s						
WRAB	**Tennant Creek**	**50.14**	**257**	P	**P**	**04 01 38.2**	**-1.0**
WRA	**Warramunga Arr**	**50.15**	**257**	P	**P**	**04 01 38.8**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=91,slow=8.3,SNR=8.0						
AS31	**Alice Springs**	**50.37**	**252**	P	**P**	**04 01 42.4**	**+1.5**
AS31				IAmb	IAmb	04 03 33.9	
	comp=Z,3.8nm,1.6s						
ASAR	**Alice Springs**	**50.37**	**252**	P	**P**	**04 01 40.9**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=87,slow=8.3,SNR=27						
KAPI	**Kappang**	**66.82**	**271**	P	**P**	**04 03 35.9**	**+0.2**
YBH	**Yreka Blue Hor**	**73.74**	**37**	LR	LR	04 29 20.3	
	comp=Z,34nm,18.8s,baz=36,slow=30						
TXAR	**Lajitas Array**	**80.54**	**56**	P	**P**	**04 04 57.6**	**+1.6**
	comp=Z,0.4nm,0.9s,baz=214,slow=7.3,SNR=4.8						

BRTR	**Keskin Array B**	**146.82**	**321**	PKPbc	**PKPab**	**04 12 28.0**	**+0.8**
	comp=Z,1.8nm,0.9s,baz=70,slow=3.2,SNR=1.9						
MMAI	**Mount Meron Ar**	**149.22**	**309**	PKPbc	**PKPbc**	**04 12 32.3**	**-0.1**
	comp=Z,1.6nm,0.6s,baz=83,slow=4.8,SNR=2.3						

NEIC ***14*** *03:58:41.7, 36°.45N×70°.72E, h201km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr2.74; Mθθ-2.18; Mφφ-0.57; Mrθ1.28; Mrφ0.69; Mθφ-1.04; Fault plane solution: M0 3.08000×10^17 NP1:φs119.56000°, δ61.17000°, λ97.93000°. NP2:φs283.46000°, δ29.81000°, λ75.94000°. Principal axes: T 3.2511, Plg73.0000°, Azm49.0000°; N -0.3732, Plg7.0000°, Azm296.0000°; P -2.8780, Plg16.0000°, Azm204.0000°;*

NEIC ***14*** *03:58:41.6±1.7, 36°.45N±0°.05×70°.72E±0°.08, h200km±1km, mb5.4/279, Mwb5.6/38, Mww5.6, Mwc5.6(GCMT) Error ellipse: s-maj=11.3km s-min=8.9km az=81.0*

MOS ***14*** *03:58:41.0±1.0, 36°.48N×70°.79E, h205km, mb5.3/48, Error ellipse: s-maj=3.7km s-min=2.9km az=105.8*

IDC ***14*** *03:58:43.0±0.3, 36°.38N×70°.76E, h213km±2km, mb4.8/44, mb1 4.9/46, mb1mx4.9/47, mbtmp5.4/46, Error ellipse: s-maj=7.3km s-min=5.2km az=176.0*

UNK ***14*** *03:58:42.5, 36°.47N×70°.69E, h207km*

BJI ***14*** *03:58:42.8±0.0, 36°.59N×70°.92E, h208km, mB5.4/58, mb5.4/77*

NNC ***14*** *03:58:43.7±3.1, 36°.86N×70°.44E, h176km±32km, mb5.5, mpv6.7, Error ellipse: s-maj=30.6km s-min=14.5km az=163.0*

GCMT ***14*** *03:58:43.7±0.1, 36°.48N±0°.01×70°.62E±0°.01, h206km, MW5.6/161, Moment Tensor Solution. s123,c222; s161,c344; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr2.00±.03; Mθθ-1.57±.04; Mφφ-0.42±.04; Mrθ2.05±.03; Mθφ0.69±.04; Mφr-1.56±.03; Best double couple: M0 3.22900×10^17 NP1:φs288.00000°, δ19.00000°, λ74.00000°. NP2:φs125.00000°, δ72.00000°, λ96.00000°. Principal axes: T 3.3040, Plg63.0000°, Azm43.0000°; N -0.1500, Plg5.0000°, Azm303.0000°; P -3.1540, Plg26.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***14*** *03:58:45, 36°.47N×70°.81E, h210km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr1.64; Mθθ-1.53; Mφφ-0.10; Mrθ1.79; Mθφ0.76; Mφr-1.50; Fault plane solution: M0 2.93000×10^17 NP1:φs278.00000°, δ20.00000°, λ63.00000°. NP2:φs127.00000°, δ72.00000°, λ100.00000°. Principal axes: T 2.8677, Plg62.0000°, Azm51.0000°; N 0.1127, Plg9.0000°, Azm304.0000°; P -2.9804, Plg26.0000°, Azm209.0000°;*

NEIC ***14*** *03:58:45, 36°.49N×70°.62E, h206km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr1.92; Mθθ-1.49; Mφφ-0.43; Mrθ1.99; Mθφ0.61; Mφr-1.57; Fault plane solution: M0 3.14000×10^17 NP1:φs286.00000°, δ19.00000°, λ72.00000°. NP2:φs125.00000°, δ72.00000°, λ96.00000°. Principal axes: T 3.2380, Plg62.0000°, Azm44.0000°; N -0.2139, Plg6.0000°, Azm303.0000°; P -3.0241, Plg27.0000°, Azm211.0000°;*

BGR ***14*** *03:58:56.6±0.0, 37°.48N×69°.10E, h210km±1km, mb4.8*

ISC 14 03:58:41.9±0.2, 36°.45N±0°.02×70°.73E±0°.02, h205km±1km, h205km:pP-P,n1153,σ1s69/1466, mb5.4/351, 104C-78D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.35**	**216**	P	**Pn**	**03 59 24.3**	**-0.5**
KBL	**Kabul**	**2.35**	**216**	PN	**Pn**	**03 59 24.2**	**-0.5**
KBL					Sn	03 59 55.7	
KBL	**Kabul**	**2.35**	**216**	Pn	**Pn**	**03 59 24.1**	**-0.6**
KBL					Sn	**S**	**03 59 55.7**	**-1.8**
CHGR	**Chuyangaron**	**2.53**	**331**	Pn	**Pn**	**03 59 25.9**	**-0.7**
CHGR					Sn	**S**	**03 59 57.4**	**-3.5**
GAR	**Garm**	**2.56**	**353**	Pn	**Pn**	**03 59 26.7**	**-0.2**
CEP	**Cherat**	**2.79**	**159**	⇑P	**Pn**	**03 59 30.0**	**+0.3**
CHCP	**Chirah Chowk**	**3.48**	**143**	⇑P	**Pn**	**03 59 38.1**	**+0.5**
NIL	**Nilore**	**3.48**	**143**	P	**Pn**	**03 59 38.5**	**+0.8**
NIL	**Nilore**	**3.48**	**143**	PN	**Pn**	**03 59 38.4**	**+0.8**
NIL	**Nilore**	**3.48**	**143**	Pn	**Pn**	**03 59 38.4**	**+0.8**
BTK	**Batken**	**3.60**	**1**	PN	**Pn**	**03 59 39.5**	**+0.5**
BTK	**Batken**	**3.60**	**1**		**Pn**	**03 59 39.5**	**+0.5**
THW	**Thamme Wali**	**3.74**	**167**	⇓P	**Pn**	**03 59 40.9**	**+0.1**
SARP	**Sargodha**	**4.80**	**160**	⇓P	**Pn**	**03 59 53.4**	**-0.3**
TAS	**Tashkent**	**4.99**	**347**	PN	**Pn**	**03 59 56.6**	**+0.3**
TAS	**Tashkent**	**4.99**	**347**	Pn	**Pn**	**03 59 56.6**	**+0.3**
JMU	**Jammu**	**5.07**	**136**	*e*P	Pn	03 59 46.0	-11
JMU				*e*S	S	04 00 42.0	-14
KSH	**Kashi**	**5.15**	**52**	P	**Pn**	**03 59 53.9**	**-4.5**
KSH				S	S	04 00 37.0	-21
KSH				smax	smax		
	comp=N,42μm,0.7s						
KSH				smax	smax		
	comp=E,40μm,1.0s						
IUG	**luzhnay**	**5.71**	**355**	⇓*i*P	**Pn**	**04 00 05.7**	**+0.1**
	2μm,1.5s,baz=354						
IUG				*i* S	**S**	**04 01 08.2**	**-3.4**
	baz=354						
IUG	**luzhnay**	**5.71**	**355**	*d i*PN	**Pn**	**04 00 05.6**	**+0.1**
IUG				*i* S	**S**	**04 01 08.1**	**-3.4**
IUG				pmax	pmax		
	comp=Z,2μm,1.5s						
THN	**Thein Dam**	**5.75**	**133**	*e*P	**Pn**	**04 00 05.5**	**-0.5**
THN				*e*S	**S**	**04 01 09.0**	**-3.2**
CHM	**Chimkent**	**5.92**	**352**	⇓*i*P	Pn	04 00 18.5	+10
	baz=352						
CHM	**Chimkent**	**5.92**	**352**	*d i*PN	Pn	04 00 18.4	+10
AML	**Almayashu**	**6.12**	**21**	P	**Pn**	**04 00 10.6**	**-0.5**
DHRM	**DHARAMSHALA**	**6.23**	**131**	*e*P	**Pn**	**04 00 12.0**	**-0.4**
DHRM				*e*S	**S**	**04 01 21.2**	**-2.7**
DHRM				IAML		04 01 24.9	
	comp=N,18μm,0.4s						
DHRM				IAML		04 01 25.2	
	comp=E,9μm,0.4s						
DZA	**Taraz**	**6.45**	**4**	⇓*i*P	**Pn**	**04 00 14.8**	**-0.2**
	comp=E,5μm,0.5s,baz=3.8						
DZA	**Taraz**	**6.45**	**4**	*d i*PN	**Pn**	**04 00 14.7**	**-0.2**
DZA				pmax	pmax		
	comp=Z,5μm,0.5s						
UCH	**Uchtor**	**6.47**	**26**	P	**Pn**	**04 00 15.3**	**-0.4**
	SNR=3520						
BRLS	**Borolday**	**6.61**	**354**	⇓*e*P	**Pn**	**04 00 13.0**	**-4.1**
	comp=Z,2μm,1.3s,baz=353						
BRLS				*e*S	S	04 01 22.1	-10
	baz=353						
BRLS	**Borolday**	**6.61**	**354**	*de*PN	**Pn**	**04 00 12.9**	**-4.1**
BRLS				pmax	pmax		
	comp=Z,2μm,1.3s						
KZA	**Kyzart**	**6.62**	**31**	P	**Pn**	**04 00 16.6**	**-1.0**
	SNR=620						
EKS2	**Erkin-Say**	**6.63**	**20**	P	**Pn**	**04 00 17.1**	**-0.3**
	SNR=1410						
KK31	**Karatay Array**	**6.64**	**359**	P	**Pn**	**04 00 16.9**	**-0.6**
	comp=Z,2μm,0.5s,baz=178,slow=13						
KK31				⇑S	S	04 01 23.4	-10
	comp=Z,7μm,0.6s,baz=187,slow=21,SNR=16						
KK31	**Karatay Array**	**6.64**	**359**	PN	**Pn**	**04 00 16.9**	**-0.6**
KK31	**Karatay Array**	**6.64**	**359**	Pn	**Pn**	**04 00 16.9**	**-0.6**
AAK	**Ala-Archa**	**6.83**	**24**	P	**Pn**	**04 00 20.0**	**0.0**
	comp=Z,697nm,0.3s,baz=188,slow=6.8,SNR=5026						
AAK				S	**S**	**04 01 34.0**	**-3.8**
	comp=Z,680nm,0.3s,baz=313,slow=23,SNR=38						
AAK	**Ala-Archa**	**6.83**	**24**	P	**Pn**	**04 00 19.8**	**-0.2**
	SNR=504						
AAK	**Ala-Archa**	**6.83**	**24**	*i* P	**Pn**	**04 00 19.8**	**-0.2**
	SNR=587						
AAK	**Ala-Archa**	**6.83**	**24**	⇓P	**Pn**	**04 00 19.8**	**-0.2**
	comp=Z,2μm,0.6s						
AAK				⇑S	**S**	**04 01 34.0**	**-3.8**
	comp=Z,8μm,0.8s						
AAK	**Ala-Archa**	**6.83**	**24**	PN	**Pn**	**04 00 20.0**	**0.0**
BHK	**Bhakra**	**6.89**	**135**	*e*P	**Pn**	**04 00 20.4**	**-0.5**
BHK				*ex*	**S**	**04 01 39.2**	**-0.1**
KBK	**Karagaybulak**	**7.00**	**26**	P	**Pn**	**04 00 22.3**	**+0.1**
	SNR=875						
FRU1	**Bishkek**	**7.03**	**24**	PN	**Pn**	**04 00 22.6**	**+0.1**
FRU1	**Bishkek**	**7.03**	**24**		**Pn**	**04 00 22.6**	**+0.1**
ULHL	**Ulahol**	**7.19**	**35**	P	**Pn**	**04 00 23.8**	**-1.0**
	SNR=576						
HRA	**Herat**	**7.23**	**256**	Pn	**Pn**	**04 00 24.9**	**-0.5**
CHMS	**Chumysh**	**7.23**	**24**	P	**Pn**	**04 00 24.4**	**-0.7**
	SNR=426						
BOOM	**Boomskoye usch**	**7.25**	**32**	PN	**Pn**	**04 00 24.9**	**-0.6**
BOOM	**Boomskoye usch**	**7.25**	**32**		**Pn**	**04 00 24.9**	**-0.6**
USP	**Ospenovka**	**7.40**	**22**	P	**Pn**	**04 00 26.1**	**-1.2**
	SNR=1825						
TKM2	**Tokmak 2**	**7.47**	**29**	P	**Pn**	**04 00 28.1**	**-0.3**
	SNR=891						
TKM2	**Tokmak 2**	**7.47**	**29**	P	**Pn**	**04 00 27.6**	**-0.8**
	comp=Z,13μm,1.1s						
TKM2				S	**S**	**04 01 49.3**	**-3.7**
	comp=Z,3μm,0.8s						
TKM2	**Tokmak 2**	**7.47**	**29**	PN	**Pn**	**04 00 27.6**	**-0.8**
TKM2				S	**S**	**04 01 49.3**	**-3.7**
SMLA	**Simla**	**7.54**	**133**	*e*P	**Pn**	**04 00 28.4**	**-0.9**
SMLA				*e*S	**S**	**04 01 49.6**	**-5.0**
SMLA				IAML		04 01 55.0	
	comp=N,5μm,0.2s						
SMLA				IAML		04 02 00.9	
	comp=E,4μm,1.2s						
KDJ	**Kajisay**	**7.56**	**39**	PN	**Pn**	**04 00 28.3**	**-1.2**
KDJ	**Kajisay**	**7.56**	**39**	Pn	**Pn**	**04 00 28.3**	**-1.2**
SGDS	**Sogindy**	**7.60**	**22**	⇓*i*P	**Pn**	**04 00 28.8**	**-1.2**
	comp=E,737nm,0.6s,baz=22						
SGDS				*i* sP		04 01 17.5	
	baz=22						
SGDS				*e*S	**S**	**04 01 53.2**	**-2.9**
	baz=22						
SGDS	**Sogindy**	**7.60**	**22**	*d i*PN	**Pn**	**04 00 28.8**	**-1.2**
SGDS				*e*S	**S**	**04 01 53.1**	**-2.9**
SGDS				pmax	pmax		
	comp=Z,737nm,0.6s						
TARG	**Taragay, Kyrgy**	**7.62**	**44**	Pn	**Pn**	**04 00 29.5**	**-1.0**
MTBS	**Maitube**	**7.98**	**32**	⇓*i*P	**Pn**	**04 00 34.9**	**0.0**
	baz=32						
MTBS	**Maitube**	**7.98**	**32**	*d i*PN	**Pn**	**04 00 34.9**	**0.0**
TNSS	**Tian-Shan**	**8.13**	**34**	⇓*i*P	**Pn**	**04 00 36.5**	**-0.7**
	baz=34						
TNSS	**Tian-Shan**	**8.13**	**34**	*d i*PN	**Pn**	**04 00 36.5**	**-0.7**
AAA	**Alma-Ata**	**8.25**	**33**	⇓*i*P	**Pn**	**04 00 38.9**	**+0.5**
	comp=Z,5μm,1.0s,baz=34						
AAA				*i* sP		04 01 28.5	
	baz=34						
AAA				*e*S	**S**	**04 02 11.4**	**0.0**
	baz=34						
AAA	**Alma-Ata**	**8.25**	**33**	*d i*PN	**Pn**	**04 00 38.9**	**+0.5**
AAA				*e*S	**S**	**04 02 11.4**	**0.0**
AAA				pmax	pmax		
	comp=Z,5μm,1.0s						
MDOK	**Medeo**	**8.28**	**34**	*i* P	**Pn**	**04 00 38.2**	**-0.6**
	baz=34						
MDOK				*i* sP		04 01 27.7	
	baz=34						
MDOK				*e*S	**S**	**04 02 11.3**	**-0.8**
	baz=34						
MDOK	**Medeo**	**8.28**	**34**	⇓P	**Pn**	**04 00 38.1**	**-0.7**
	comp=Z,3μm,0.7s						
MDOK				⇓S	**S**	**04 02 06.3**	**-5.8**
	comp=Z,1μm,0.8s						
MDOK	**Medeo**	**8.28**	**34**	*i* PN	**Pn**	**04 00 38.2**	**-0.6**
MDOK				*e*S	**S**	**04 02 11.3**	**-0.8**
KNDC	**Almaty**	**8.28**	**33**	⇓P	**Pn**	**04 00 38.3**	**-0.5**
	comp=Z,5μm,0.7s						
KNDC				⇓S	**S**	**04 02 08.7**	**-3.5**
	comp=Z,7μm,1.4s						
KNDC	**Almaty**	**8.28**	**33**	PN	**Pn**	**04 00 38.3**	**-0.5**
PRZ	**Przheval'sk**	**8.45**	**42**	PN	**Pn**	**04 00 41.0**	**-0.1**
PRZ	**Przheval'sk**	**8.45**	**42**	Pn	**Pn**	**04 00 41.0**	**-0.1**
KUU	**Kurty**	**8.58**	**28**	⇓*i*P	**Pn**	**04 00 41.1**	**-1.6**
	comp=Z,1μm,1.5s,baz=28						
KUU				*e*S	**S**	**04 02 17.3**	**-1.9**
	baz=28						
KUU	**Kurty**	**8.58**	**28**	*d i*PN	**Pn**	**04 00 41.0**	**-1.6**
KUU				*e*S	**S**	**04 02 17.2**	**-1.9**
KUU				pmax	pmax		
	comp=Z,1μm,1.5s						
DDI	**Dehra Dun**	**8.65**	**133**	*e*P	**Pn**	**04 00 43.5**	**-0.3**
CHKK	**Chushkaly**	**8.81**	**31**	⇓*i*P	**Pn**	**04 00 44.2**	**-1.3**
	baz=31						
CHKK	**Chushkaly**	**8.81**	**31**	*d i*PN	**Pn**	**04 00 44.2**	**-1.3**
SATY	**Saty**	**8.86**	**39**	⇓*i*P	**Pn**	**04 00 45.2**	**-1.1**
	comp=Z,438nm,1.2s,baz=40						
SATY				*e*S	**S**	**04 02 22.6**	**-3.2**
	baz=40						
SATY	**Saty**	**8.86**	**39**	*d i*PN	**Pn**	**04 00 45.2**	**-1.1**
SATY				pmax	pmax		
	comp=Z,438nm,1.2s						
UZB	**Uzynbulak**	**9.24**	**41**	⇓*i*P	**Pn**	**04 00 50.0**	**-1.3**
	comp=Z,967nm,2.6s,baz=42						
UZB	**Uzynbulak**	**9.24**	**41**	*d i*P	**Pn**	**04 00 49.9**	**-1.3**
UZB				pmax	pmax		
	comp=Z,967nm,2.6s						
KPKS	**Kokpek**	**9.29**	**39**	⇓*i*P	**Pn**	**04 00 50.9**	**-1.0**
	comp=Z,1μm,1.5s,baz=39						
KPKS	**Kokpek**	**9.29**	**39**	*d i*P	**Pn**	**04 00 50.9**	**-1.0**
KPKS				pmax	pmax		
	comp=Z,1μm,1.5s						
NDI	**New Delhi**	**9.48**	**143**	*e*P	**Pn**	**04 00 50.5**	**-3.9**
NDI				*e*S	S	04 02 29.0	-12
SHLS	**Shalkode**	**9.48**	**42**	⇓*i*P	**Pn**	**04 00 56.2**	**+1.8**
	comp=Z,992nm,2.6s,baz=44						
SHLS				*e*S	**S**	**04 02 45.6**	**+4.9**
	baz=44						
SHLS	**Shalkode**	**9.48**	**42**	*d i*P	**Pn**	**04 00 56.2**	**+1.8**
SHLS				*e*S	**S**	**04 02 45.6**	**+4.9**
SHLS				pmax	pmax		
	comp=Z,992nm,2.6s						
ASHT	**Ashkhabad**	**9.96**	**282**	P	**Pn**	**04 00 59.1**	**-1.5**
ASHT	**Ashkhabad**	**9.96**	**282**	Pn	**Pn**	**04 00 59.1**	**-1.5**
GEYT	**Alibeck**	**10.17**	**282**	P	**Pn**	**04 01 01.2**	**-2.1**
	comp=Z,17nm,0.3s,baz=106,slow=11,SNR=262						
GEYT				S	**S**	**04 02 52.6**	**-4.8**
	comp=Z,58nm,0.3s,baz=163,slow=16,SNR=2.3						
GEYT	**ALIBECK ARRAY**	**10.17**	**282**	Pn	**Pn**	**04 01 00.8**	**-2.5**
GYA0	**ALIBECK ARRAY**	**10.17**	**282**	P	**Pn**	**04 01 00.6**	**-2.7**
GYA0B	**ALIBECK ARRAY**	**10.17**	**282**	⇑P	**Pn**	**04 01 00.6**	**-2.7**
GYA0B					S	**S**	**04 02 50.2**	**-7.2**
TDK	**Taldyqorghan**	**10.33**	**32**	*e*P	**Pn**	**04 01 03.9**	**-1.4**
	comp=Z,753nm,0.8s,baz=32						
TDK	**Taldyqorghan**	**10.33**	**32**	*e*P	**Pn**	**04 01 03.9**	**-1.4**
TDK				pmax	pmax		
	comp=Z,753nm,0.8s						
AJM	**Ajmer**	**10.49**	**160**	⇓*i*x	**Pn**	**04 01 06.0**	**-1.5**
AJM

WMQ LR LR
comp=Z,460nm,22.7s
AB31 Akbulak array 15.02 332 P **Pn** **04 02 03.7 -0.3**
comp=Z,81nm,0.3s,baz=143,slow=10,SNR=2400
AB31 ⇑S **S** **04 04 43.0 -7.4**
comp=Z,697nm,0.7s,baz=159,slow=24,SNR=8.2
AB31 Akbulak array 15.02 332 *eP* **Pn** **04 02 02.8 -1.2**
ABKAR Akbulak array 15.02 332 Pn **Pn** **04 02 01.6 -2.4**
DMN Daman 15.03 122 *eP* **Pn** **04 02 03.7 -0.9**
DMN eS **S** **04 04 42.0 -9.5**
KKN Kakani 15.04 121 *eP* **Pn** **04 02 03.5 -1.2**
comp=Z,429nm,0.6s
ZSN Zaisan 15.18 39 *eP* **Pn** **04 02 04.4 -1.7**
baz=39
ZSN *i* sP **sP** **04 03 00.2 -7.2**
baz=39
ZSN eS **S** **04 04 52.0 -2.2**
baz=39
ZSN Zaisan 15.18 39 *eP* **Pn** **04 02 04.3 -1.7**
ZSN eS **S** **04 04 52.0 -2.2**
KURBB Kurchatov Arra 15.24 19 P **Pn** **04 02 04.9 -1.7**
comp=Z,5.9nm,0.3s,baz=208,slow=11,SNR=311
KURBB S **S** **04 04 50.5 -4.9**
baz=247,slow=22,SNR=1.8
KURBB Kurchatov Arra 15.24 19 ⇓P **Pn** **04 02 04.6 -2.0**
comp=Z,303nm,0.8s
KURBB Kurchatov Arra 15.24 19 P **Pn** **04 02 04.6 -2.0**
PKIN Phulchoki 15.25 121 *eP* **Pn** **04 02 06.2 -1.1**
PKI Pulchoki 15.26 121 *eP* **Pn** **04 02 06.5 -1.0**
comp=Z,1μm,0.6s
KURK Kurchatov 15.35 19 P **Pn** **04 02 06.0 -1.9**
comp=Z,313nm,1.2s
KURK Kurchatov 15.35 19*d* iP **Pn** **04 02 06.1 -1.9**
KURK pmax pmax
comp=Z,535nm,1.7s
KURK Kurchatov 15.35 19 Pn **Pn** **04 02 06.3 -1.6**
KURK Kurchatov 15.35 19 **S** **04 04 50.5 -7.4**
GUN Gumba 15.38 119 *eP* **Pn** **04 02 07.9 -1.1**
SEM Semipalatinsk 15.55 23 *eP* **P** **04 02 09.3 -1.4**
comp=Z,200nm,1.0s,baz=23
SEM *i* sP sP 04 03 01.9 -10
baz=23
SEM eS **S** **04 05 01.5 -1.4**
baz=23
SEM Semipalatinsk 15.55 23 *eP* **P** **04 02 09.2 -1.4**
SEM eS **S** **04 05 01.5 -1.4**
SEM pmax pmax
comp=Z,200nm,1.0s
JIRN Jiri 15.75 119 *eP* **P** **04 02 12.5 -0.7**
comp=Z,957nm,0.5s
BANOM Banah 16.19 234 *i* P **P** **04 02 17.3 -0.4**
SNR=150
BANOM Banah 16.19 234 P **P** **04 02 17.6 -0.1**
SNR=148
SHME Shamm 16.20 234 *i* P **P** **04 02 17.7 -0.2**
SNR=46
RAMN Ramite 16.48 121 *eP* **Pn** **04 02 21.6 -0.4**
comp=Z,729nm,0.6s
BRVK Borovoye 16.61 359 ⇓P **Pn** **04 02 22.9 -0.1**
comp=Z,418nm,1.0s
BRVK Borovoye 16.61 359*de* P **Pn** **04 02 22.8 -0.3**
BRVK Borovoye 16.61 359 P **P** **04 02 22.4 +0.4**
MDH Madha 16.62 232 *i* P **P** **04 02 21.3 -1.1**
SNR=40
MDH Madha 16.62 232 P **P** **04 02 21.4 -1.1**
SNR=7.0
MSFE Esma-Masafi 16.67 233 *i* P **P** **04 02 22.6 -0.4**
SNR=55
AKTO Aktyubinsk 16.71 331 P **Pn** **04 02 24.3 -0.1**
comp=Z,49nm,0.3s,baz=140,slow=10,SNR=396
AKTO S **S** **04 05 23.2 -4.0**
comp=Z,10nm,0.3s,baz=74,slow=20,SNR=2.9
AKTO Aktyubinsk 16.71 331 ⇑P **P** **04 02 23.8 +0.6**
comp=Z,410nm,0.8s
AKTO ⇑S **S** **04 05 26.5 -0.7**
comp=Z,755nm,0.8s
WSAR Wadi Sarin 16.82 222 P **Pn** **04 02 25.5 -0.4**
comp=Z,25nm,0.3s,baz=76,slow=9.8,SNR=150
WSAR S **S** **04 05 30.3 +0.6**
baz=114,slow=7.5,SNR=1.4
WSAR Wadi Sarin 16.82 222 P **Pn** **04 02 25.6 -0.2**
SNR=26
BIDO Bidbid 16.87 224 P **Pn** **04 02 26.2 -0.2**
SNR=24
UMQ Umm Al-Quwin 16.88 234 P **Pn** **04 02 28.2 +1.7**
SNR=7.2
UOSS Minazif 16.94 231 P **P** **04 02 24.6 -1.3**
UOSS Minazif 16.94 231 P **P** **04 02 24.8 -1.1**
UOSS Minazif 16.94 231 P **P** **04 02 24.6 -1.3**
TAPN Taplejung 17.02 117 *eP* **Pn** **04 02 28.3 -0.2**
comp=Z,758nm,0.6s
HATD Hatta, Dubai 17.07 231 *i* P **P** **04 02 26.3 -1.1**
SNR=68
HATD Hatta, Dubai 17.07 231 P **P** **04 02 26.5 -0.8**
SNR=26
ODAN Odare 17.09 119 *eP* **Pn** **04 02 29.2 0.0**
comp=Z,908nm,0.6s
WBK Wadi Bani Khal 17.15 220 P **Pn** **04 02 30.2 +0.3**
SNR=36
ASHO Ashiyiah 17.22 231 *i* P **P** **04 02 29.6 +0.6**
SNR=93
ASHO Ashiyiah 17.22 231 P **Pn** **04 02 30.0 -0.6**
SNR=61
NAZ Nazwa, Dubai 17.25 233 *i* P **P** **04 02 29.6 +0.3**
SNR=61
NAZ Nazwa, Dubai 17.25 233 P **Pn** **04 02 30.3 -0.6**
SNR=41
SMDO Samad 17.28 223 P **Pn** **04 02 30.9 -0.5**
SNR=19
HOQ Hoqain 17.28 226 P **P** **04 02 29.8 +0.2**
SNR=14
SOHO SOHO 17.32 229 P **P** **04 02 29.0 -1.1**
SNR=15
FAQ Al Faqa, Dubai 17.47 232 *i* P **P** **04 02 31.9 +0.3**
SNR=26
FAQ Al Faqa, Dubai 17.47 232 P **P** **04 02 32.3 +0.6**
SNR=12
LKRN Lenkeran, Azer 17.54 284 P **Pn** **04 02 34.8 +0.6**
BOM Bombay 17.59 173 *ex* **Pn** **04 02 38.3 +3.4**
BOM *ex* **S** **04 05 50.4 +5.4**
BOM AMS AMS 04 06 00.4
comp=Z,283nm,7.1s
JMDO Jabal Madar 17.80 221 P **Pn** **04 02 36.9 -0.5**
SNR=17
ALNE Al Ain 17.86 230 *i* P **P** **04 02 36.6 +0.6**
SNR=109
ARQ Araqi 17.93 227 P **Pn** **04 02 38.2 -0.8**
SNR=31
AJN Ajban 17.98 233 *i* P **P** **04 02 38.1 +0.8**
SNR=47
AJN Ajban 17.98 233 P **P** **04 02 38.0 +0.8**
SNR=25
BSY Bisya 18.00 224 P **Pn** **04 02 39.1 -0.7**
SNR=35
POO Poona 18.07 170 *eP* **P** **04 02 38.0 -0.3**
comp=Z,70nm,0.2s
POO eS **S** **04 05 52.0 -2.7**
BOK Bokaro 18.16 130 *eP* **P** **04 02 40.1 +0.8**
BOK IAmb IAmb 04 02 45.9
comp=Z,158nm,0.9s
BOK *i* x **S** **04 05 57.0 +0.5**
BOK *i* x S 04 06 08.0 +11
LSA Lhasa 18.37 106 P **Pn** **04 02 44.1 -0.5**
LSA pmax pmax
comp=Z,332nm,1.0s
LSA Lhasa 18.37 106 P **Pn** **04 02 44.1 -0.5**
SRSP Sriramsagar 18.70 157 *eP* **P** **04 02 45.8 +0.7**
SRSP IVmBBB 04 02 50.4
comp=Z,2μm,0.9s
SRSP *es*Pn **sP** **04 03 44.5 -0.1**
SRSP eS **S** **04 06 04.2 -3.0**
SRSP IVMs_BB IVMs_BB 04 09 15.4
comp=Z,1μm,4.8s
SEKA Sheki 18.92 292 P **P** **04 02 48.5 +1.1**
MNGR Mingechevir, A 18.96 290 P **P** **04 02 49.0 +1.3**
MAK Makhachkala 18.98 297*c* iP **P** **04 02 48.6 +0.7**
MAK eS **S** **04 06 14.4 +2.0**
MAK pmax pmax
comp=Z,207nm,1.2s
MAK MLR MLR
comp=Z,2μm,15.0s
MHTO MHTO 19.02 219 P **Pn** **04 02 50.2 -1.4**
SNR=36
KLRI Killari 19.03 163 *eP* **P** **04 02 49.9 +1.1**
KLRI IVmB_BB 04 02 55.0
comp=Z,1μm,2.7s

KLRI *es*P **sP** **04 03 47.5 -0.9**
KLRI eS **S** **04 06 10.8 -3.0**
KLRI IVMs_BB IVMs_BB 04 10 09.7
comp=Z,1μm,4.8s
RPR Rampur 19.08 154 *eP* **P** **04 02 50.0 +0.9**
RPR IVmBBB 04 02 56.0
comp=Z,1μm,1.0s
RPR IVMs_BB IVMs_BB 04 08 50.1
comp=Z,1μm,3.5s
DHUB DHUBRI 19.45 117⇑ iP **P** **04 02 54.6 +1.5**
GANJ Ganja 19.52 290 P **P** **04 02 54.6 +0.8**
ZAA0 Zalesovo Array 20.05 25 P **P** **04 02 58.9 -0.3**
comp=Z,139nm,1.1s
ZAA0 Zalesovo Array 20.05 25 P **P** **04 02 59.7 +0.4**
ZALV Zalesovo Beam 20.05 25 P **P** **04 02 59.9 +0.7**
comp=Z,492nm,0.5s,baz=221,slow=11,SNR=1172
ZALV sP **sP** **04 03 59.5 -1.4**
comp=Z,357nm,0.8s,baz=218,slow=10.0,SNR=2.5
ZALV S **S** **04 06 31.0 -2.0**
comp=Z,106nm,1.0s,baz=216,slow=18,SNR=3.0
ZALV Zalesovo Beam 20.05 25 *i* P **P** **04 02 59.5 +0.3**
ZALV pmax pmax
comp=Z,486nm,0.5s
ZALV Zalesovo Beam 20.05 25 P **P** **04 02 58.4 -0.8**
NAX Nakhchivan 20.11 285 P **P** **04 03 01.6 +1.5**
HYBB Hyderabad (bro 20.18 158 *eP* **P** **04 03 01.9 +0.9**
HYBB IVmB_BB 04 03 11.7
comp=Z,391nm,3.2s
HYBB *ep*P **pP** **04 03 33.4 -1.7**
HYBB *es*Pn **sPn** **04 04 01.5 -0.4**
HYBB eS **S** **04 06 37.5 +1.2**
HYBB IVMs_BB IVMs_BB 04 11 36.0
comp=Z,1μm,3.8s
HYB Hyderabad 20.19 158 *i* P **P** **04 03 02.0 +0.9**
comp=Z,131nm,0.6s
HYB *ep*P **pP** **04 03 31.0 -4.1**
HYB *e* 04 03 50.0
HYB *es*P **sP** **04 04 01.5 +0.5**
HYB eS **S** **04 06 36.0 -0.3**
HYB Hyderabad 20.19 158 *eP* **P** **04 03 01.7 +0.6**
HYB IAmb IAmb 04 03 06.0
comp=Z,106nm,0.8s
GROC Groznyy 20.26 297 *eP* **P** **04 03 03.0 +1.4**
GROC *e**PP **pP** **04 03 37.8 +2.1**
GROC *e**SP **sP** **04 04 05.7 +3.8**
GROC eS **S** **04 06 41.2 +3.9**
GROC *e* 04 07 06.3
GROC pmax pmax
comp=Z,449nm,0.9s
TBLG Delisi 20.82 293 P **P** **04 03 09.0 +1.4**
TBLG pmax pmax
comp=Z,350nm,1.1s
TBLG Delisi 20.82 293 P **P** **04 03 09.0 +1.4**
KZRT Kazreti 21.04 292 P **P** **04 03 11.6 +1.7**
SHL Shillong 21.08 115 *eP* **P** **04 03 10.8 0.0**
SHL Shillong 21.08 115 P **P** **04 03 11.4 +0.6**
SNR=189
NJS Nagarjunasagar 21.23 157 *eP* **P** **04 03 11.6 -0.5**
NJS IVmB_BB 04 03 14.6
comp=Z,728nm,2.1s
NJS *es*Pn sPn 04 04 13.5 -0.8
NJS eS **S** **04 06 54.2 -1.2**
NJS IVMsBB 04 12 28.7
comp=Z,766nm,7.0s
PVM Polavaram 21.42 150 *eP* **P** **04 03 15.6 +1.5**
PVM IVmB_BB 04 03 17.0
comp=Z,985nm,2.0s
PVM *es*P **sP** **04 04 17.5 +3.0**
PVM eS **S** **04 06 58.8 +0.3**
SVE Sverdlovsk 21.48 345*d* eP **S** **04 03 15.0 +0.7**
SVE eS **S** **04 07 01.8 +3.0**
SVE pmax pmax
comp=Z,547nm,1.2s
SRLM Srisailam 21.53 158 *eP* **P** **04 03 15.4 +0.1**
SRLM IVmB_BB 04 03 18.4
comp=Z,724nm,2.3s
SRLM *es*P **sP** **04 04 15.3 -0.4**
SRLM eS **S** **04 06 58.9 -1.4**
ZEI Tsey 21.56 295 *eP* **P** **04 03 14.1 -1.4**
ZEI pmax pmax
comp=Z,73nm,0.7s
ITAN ITANAGAR 21.59 109 *eP* **P** **04 03 16.8 +1.1**
ITAN IAmb IAmb 04 03 19.8
comp=Z,266nm,0.6s
ARU Arti 21.61 341 P **P** **04 03 16.3 +0.7**
comp=Z,94nm,0.6s,baz=158,slow=6.6,SNR=108
ARU S **S** **04 07 05.6 +4.9**
comp=Z,28nm,0.8s,baz=167,slow=22,SNR=2.2
ARU Arti 21.61 341*c* iP **P** **04 03 16.7 +1.1**
ARU *PP **pP** **04 03 51.5 +0.6**
ARU S **S** **04 07 04.4 +3.6**
ARU pmax pmax
comp=Z,793nm,1.9s
ARU Arti 21.61 341 P **P** **04 03 15.2 -0.3**
BGD Bogdanovka 21.63 291 P **P** **04 03 18.6 +2.4**
AGT Agartala 21.66 120⇑ iP **P** **04 03 18.6 +2.1**
AKH Akhalkalaki 21.72 292 ⇓P **P** **04 03 20.0 +2.9**
AKH Akhalkalaki 21.72 292 P **P** **04 03 17.5 +0.4**
AKH pmax pmax
comp=Z,188nm,1.0s
AKH Akhalkalaki 21.72 292 P **P** **04 03 17.5 +0.4**
AKH IAmb IAmb 04 03 58.4
comp=Z,188nm,1.0s
ONI Oni 21.86 295 P **P** **04 03 21.6 +3.2**
KARS Kars 21.99 289 P **P** **04 03 23.5 +3.8**
ADKI Addanki 22.11 156 *eP* **P** **04 03 21.0 +0.1**
ADKI IVmBBB 04 03 24.0
comp=Z,457nm,0.9s
ADKI *es*P **sP** **04 04 22.1 +0.2**
ADKI eS **S** **04 07 11.0 +1.5**
ADKI IVMs_BB IVMs_BB 04 12 15.4
comp=Z,970nm,5.8s
URV Uravakonda 22.20 163 *eP* **P** **04 03 22.1 +0.4**
URV IVmB_BB 04 03 23.9
comp=Z,928nm,3.1s
URV *es*P **sP** **04 04 22.8 -0.2**
URV IVMs_BB IVMs_BB 04 11 14.4
comp=Z,983nm,3.6s
BELO BELONIA 22.21 121⇑ iP **P** **04 03 24.0 +2.3**
DIBR DIBRUGARH 22.34 107 *eP* **P** **04 03 23.8 +0.9**
KBZ Khabaz 22.43 297 P **P** **04 03 24.3 +0.7**
comp=Z,25nm,0.9s,baz=129,slow=8.1,SNR=32
KBZ S **S** **04 07 19.9 +5.7**
comp=Z,62nm,0.9s,baz=199,slow=14,SNR=2.6
KBZ Khabaz 22.43 297*c* iP **P** **04 03 24.1 +0.6**
KBZ pmax pmax
comp=Z,50nm,1.1s
GOF Gofitskoye 22.58 301⇑ *eP* **P** **04 03 26.8 +1.8**
GOF pmax pmax
comp=Z,474nm,1.1s
KVAR Kislovodsk Arr 22.61 298 P **P** **04 03 26.5 +1.2**
comp=Z,8.9nm,0.4s,baz=289,slow=23,SNR=3.5
KVAR pP **pP** **04 04 03.7 +2.1**
comp=Z,92nm,0.8s,baz=244,slow=23,SNR=7.0
KIV Kislovodsk 22.62 298 *i* P **P** **04 03 25.9 +0.5**
SNR=12
KIV Kislovodsk 22.62 298*c* iP **P** **04 03 26.3 +0.9**
KIV *e**PP **pP** **04 04 04.0 +2.3**
KIV *e**SP **sP** **04 04 27.0 -0.5**
KIV eS **S** **04 07 18.4 +0.9**
KIV pmax pmax
comp=Z,79nm,1.0s
KIV Kislovodsk 22.62 298 P **P** **04 03 25.6 +0.2**
SHAO Shalim 22.69 220 *i* P **P** **04 03 26.9 +0.8**
SNR=6.3
SHAO Shalim 22.69 220 P **P** **04 03 27.7 +1.5**
BRDH Bariadhala 22.72 121 P **P** **04 03 28.8 +2.4**
comp=Z,303nm,0.7s,baz=35,slow=2.4,SNR=23
BATM Batumi 23.08 292⇑ P **P** **04 03 27.5 -1.9**
BATM Batumi 23.08 292⇑ P **P** **04 03 27.5 -1.9**
GTA Gaotai 23.09 74⇑ P **P** **04 03 31.5 +1.8**
GTA pP pP 04 04 09.8 +1.9
GTA sP sP 04 04 36.3 +2.2
GTA S **S** **04 07 25.9 +0.7**
GTA SS SS 04 08 29.4 -40
GTA pmax pmax
comp=Z,170nm,0.8s
GTA pmax pmax
comp=Z,2μm,9.6s
GTA LR LR
comp=Z,800nm,10.6s
GTA LR LR
comp=Z,960nm,10.0s
GTA LR LR

comp=Z,940nm,14.1s
BCA Borcka 23.12 291⇑ P **P** **04 03 34.1 +4.2**
LKP Lekhapani 23.13 106 *eP* **P** **04 03 31.8 +1.7**
DMTO DMTO 23.30 221 P **P** **04 03 32.0 +0.4**
WHFO Wadi Hawf 23.77 224 P **P** **04 03 36.0 0.0**
RBK Rabkut 23.87 222 P **P** **04 03 36.9 -0.1**
SKHT Srikalahasti 24.01 158 *eP* **P** **04 03 39.2 +1.1**
SKHT IVmB_BB 04 03 40.6
comp=Z,581nm,2.2s
SKHT *es*P **sP** **04 04 42.6 +0.4**
SKHT IVMs_BB IVMs_BB 04 14 31.7
comp=Z,900nm,4.8s
ABTO Aybut 24.49 224 P **P** **04 03 42.4 -0.1**
SNR=8.7
SOC Sochi 24.70 296 *eP* **P** **04 03 43.8 -0.3**
SOC *e**PP **pP** **04 04 24.6 +0.6**
SOC *e**SP **sP** **04 04 50.1 +1.2**
SOC eS **S** **04 07 49.4 -1.1**
MDRS Chennai 24.80 157 *eP* **P** **04 03 46.6 +1.3**
MDRS *i* x x 04 04 28.4
RAYN Ar Rayn 25.28 246 P **P** **04 03 49.8 +0.1**
RAYN pmax pmax
comp=Z,353nm,1.3s
RAYN Ar Rayn 25.28 246 P **P** **04 03 49.8 +0.1**
VRH Novokhopyorsk 25.39 315 *eP* **P** **04 03 50.4 +0.2**
VRH *e**PP **pP** **04 04 31.2 +0.2**
VRH eS **S** **04 08 01.4 +0.2**
VRH *e**SS **sS** **04 09 08.9 -7.4**
VRH pmax pmax
comp=Z,100nm,1.3s
VRH smax smax
comp=N,880nm,8.4s
MALT Malatya 25.67 284 P **P** **04 03 55.9 +2.8**
KIRV Kirov 26.19 334 P **P** **04 03 58.9 +1.6**
comp=N,279nm,0.5s,baz=125,slow=1.4,SNR=102
KIRV pP **pP** **04 04 39.4 +0.8**
comp=N,232nm,0.8s,baz=130,slow=2.5,SNR=5.1
KIRV Kirov 26.19 334 *i* P **P** **04 03 58.4 +1.1**
MOY Mondy 26.29 45 *eP* **P** **04 04 00.4 +1.9**
MOY pmax pmax
comp=Z,194nm,1.5s
ANN Anapa 26.47 299 *eP* **P** **04 03 58.7 -1.3**
ANN *i* *PP **pP** **04 04 43.7 +2.5**
ANN *e* 04 04 54.5
ANN *e*PPP PPP 04 05 05.8
ANN eS **S** **04 08 20.1 +1.8**
ANN *e*SS SS 04 09 49.2 -29
ANN pmax pmax
comp=Z,107nm,1.0s
LZH Lanzhou 26.63 81⇑ P **P** **04 04 03.8 +2.0**
LZH sP sP 04 05 13.3 +4.9
LZH S **S** **04 08 25.6 +4.1**
LZH sS sS 04 09 38.3 +1.4
LZH pmax pmax
comp=Z,87nm,1.3s
LZH pmax pmax
comp=Z,450nm,5.4s
VORD Divnogorie 26.71 313 *eP* **P** **04 04 02.5 +0.4**
VORD *e**PP **pP** **04 04 43.2 -0.2**
VORD eS **S** **04 08 19.5 -2.6**
VORD *e**SS **sS** **04 09 33.7 -3.8**
VORD pmax pmax
comp=Z,70nm,1.8s
VORD smax smax
comp=N,140nm,5.0s
GAZ Gaziantep 26.77 282 P **P** **04 04 02.6 -0.3**
VSR Storozhevoye 26.88 313 *eP* **P** **04 04 03.6 0.0**
VSR *e**PP **pP** **04 04 44.7 -0.2**
VSR eS **S** **04 08 21.4 -3.3**
VSR *e**SS **sS** **04 09 35.6 -4.6**
VSR pmax pmax
comp=Z,70nm,0.9s
VSR smax smax
comp=N,370nm,6.7s
ZAK Zakamensk 27.18 49 *eP* **P** **04 04 07.5 +1.0**
ZAK pmax pmax
comp=Z,62nm,1.3s
LPSR Galich'ya Gora 27.54 316 *eP* **P** **04 04 09.7 +0.3**
LPSR *e**PP **pP** **04 04 50.3 -0.6**
LPSR eS **S** **04 08 30.9 -4.1**
LPSR *e**SS sS 04 09 40.3 -10
LPSR pmax pmax
comp=Z,150nm,1.0s
LPSR smax smax
comp=N,480nm,7.4s
TLY Talaya 27.83 46 P **P** **04 04 13.9 +1.8**
comp=N,23nm,0.6s,baz=232,slow=11,SNR=12
TLY Talaya 27.83 46*c* iP **P** **04 04 14.2 +2.1**
TLY *e* 04 04 56.5
TLY *e* 04 05 21.2
TLY eS **S** **04 08 41.7 +1.9**
TLY *e* 04 10 14.8
TLY pmax pmax
comp=Z,113nm,0.8s
TLY Talaya 27.83 46 P **P** **04 04 13.6 +1.5**
TLY IAmb IAmb 04 05 00.1
comp=Z,99nm,1.3s
CD2 Chengdu 27.95 92⇑ iP **P** **04 04 15.3 +1.9**
CD2 sP sP 04 05 19.4 -0.9
CD2 S **S** **04 08 41.5 -0.6**
CD2 sS sS 04 09 55.9 -1.8
CD2 SS ScP 04 10 24.1 -20
CD2 PcS **PcS** **04 11 06.0 +0.3**
CD2 pmax pmax
comp=Z,370nm,1.0s
CD2 pmax pmax
comp=Z,740nm,4.8s
ASF Jabal al Asfar 28.18 271 P **P** **04 04 17.4 +1.9**
comp=Z,1.2nm,0.4s,baz=343,slow=1.9,SNR=9.0
IRK Irkutsk 28.39 46 *eP* **P** **04 04 17.8 +0.8**
IRK *e* 04 05 01.8
IRK pmax pmax
comp=Z,166nm,1.4s
SOCY Socotra 28.48 216 P **P** **04 04 16.3 -2.0**
SOCY IAmb IAmb 04 05 07.8
comp=Z,131nm,1.3s
SONM Songino Array 28.54 55 P **P** **04 04 20.1 +1.5**
comp=Z,43nm,0.9s,baz=257,slow=9.7,SNR=144
SONM pP **pP** **04 05 04.6 +3.4**
comp=Z,37nm,0.8s,baz=262,slow=10,SNR=4.6
SONM PcP **PcP** **04 07 24.9 +0.3**
comp=Z,13nm,0.9s,baz=240,slow=5.2,SNR=1.9
SONM ScP **ScP** **04 10 45.7 -0.5**
comp=Z,2.5nm,0.6s,baz=248,slow=4.8,SNR=1.7
SONM Songino Array 28.54 55 P **P** **04 04 19.3 +0.7**
SONM Songino Array 28.54 55 IAmb IAmb 04 05 12.2
comp=Z,76nm,1.1s
BZK Bozkurt 28.83 292⇑ P **P** **04 04 23.0 +2.0**
ULN Ulaanbaatar 28.98 55*c* iP **P** **04 04 23.8 +1.3**
ULN pmax pmax
comp=Z,65nm,1.0s
ULN Ulaanbaatar 28.98 55 P **P** **04 04 23.8 +1.3**
ULN IAmb IAmb 04 05 18.0
comp=Z,74nm,1.0s
MMAI Mount Meron Ar 29.14 274 P **P** **04 04 25.8 +1.9**
comp=Z,3.8nm,0.5s,baz=63,slow=9.8,SNR=12
MMAI pP **pP** **04 05 08.3 +2.7**
comp=Z,9.2nm,0.9s,baz=70,slow=12,SNR=3.5
MMAI PcP **PcP** **04 07 27.4 +1.1**
comp=Z,15nm,0.7s,baz=77,slow=5.9,SNR=8.4
MMAI ScP **ScP** **04 10 47.0 -1.3**
comp=Z,13nm,0.7s,baz=69,slow=4.7,SNR=8.4
BR131 Keskin Array S 29.24 288 P **P** **04 04 26.1 +1.3**
SNR=14
BRTR Keskin Array B 29.24 288 P **P** **04 04 26.0 +1.1**
comp=Z,13nm,0.7s,baz=104,slow=7.9,SNR=61
BRTR pP **pP** **04 05 09.1 +2.5**
comp=Z,56nm,0.9s,baz=102,slow=8.7,SNR=9.2
BRTR ScP **ScP** **04 10 47.1 -1.5**
comp=Z,2.9nm,0.8s,baz=108,slow=6.2,SNR=4.0
BRTR Keskin Array B 29.24 288 *i* P **P** **04 04 25.7 +0.8**
BRTR pmax pmax
comp=Z,13nm,0.7s
BRTR Keskin Array B 29.24 288 P **P** **04 04 25.6 +0.8**
MOS Moscow 29.56 321 *eP* **P** **04 04 26.4 -0.9**
MOS *e**PP **pP** **04 05 08.7 -0.3**
MOS *e* 04 05 31.0
MOS *e* 04 07 27.5
MOS eS **S** **04 09 04.7 -2.0**
MOS pmax pmax
comp=Z,197nm,1.3s
KMI Kunming 29.60 103 smax smax
comp=N,230nm,0.4s
KMI smax smax

comp=E,140nm,0.5s
KMI Kunming 29.60 103 P **P** **04 04 29.4 +1.2**
KMI pP pP 04 05 08.4 -2.8
KMI sP sP 04 05 33.3 -2.1
KMI PP **PP** **04 05 38.3 -1.0**
KMI S **S** **04 09 09.9 +1.5**
KMI sS sS 04 10 21.3 -2.9
KMI ScP **ScP** **04 10 48.3 -1.8**
KMI pmax pmax
comp=E,43nm,0.7s
KMI pmax pmax
comp=E,620nm,3.8s
KMI LR LR
comp=E,510nm,18.1s
KMI LR LR
comp=E,640nm,12.8s
KMI LR LR
comp=E,500nm,17.3s
OBN Obninsk 29.83 320 P **P** **04 04 31.0 +1.3**
comp=E,38nm,0.6s,baz=33,slow=1.4,SNR=43
OBN Obninsk 29.83 320*c iP* **P** **04 04 30.5 +0.8**
OBN *i* *PP **pP** **04 05 10.4 -1.0**
OBN *i* *SP **sP** **04 05 35.7 +0.5**
OBN *eS* **S** **04 09 11.6 +0.7**
OBN pmax pmax
comp=Z,141nm,0.7s
OBN Obninsk 29.83 320 P **P** **04 04 30.7 +1.1**
ANTO Ankara 29.88 288 P **P** **04 04 30.1 -0.3**
ANTO pmax pmax
comp=Z,103nm,1.2s
ANTO Ankara 29.88 288 P **P** **04 04 30.1 -0.3**
ANTO IAmb IAmb 04 05 15.7
comp=Z,103nm,1.2s
BR231 Keskin MP Arra 29.89 288 P **P** **04 04 32.1 +1.5**
BR231 IAmb IAmb 04 05 17.3
comp=Z,73nm,1.1s
CSS Mathiatis 30.29 278 P **P** **04 04 34.8 +0.8**
EIL Elat 30.61 268 P **P** **04 04 37.7 +0.8**
comp=Z,32nm,1.1s,baz=97,slow=2.1,SNR=23
CM31 Chiang Mai Arr 30.62 118 P **P** **04 04 38.2 +1.1**
CM31 IAmb IAmb 04 04 39.6
comp=Z,102nm,1.0s
CMAR Chiang Mai Arr 30.62 118 P **P** **04 04 37.9 +0.8**
comp=Z,47nm,0.8s,baz=298,slow=8.1,SNR=123
CMAR PcP **PcP** **04 07 30.2 0.0**
comp=Z,20nm,0.9s,baz=296,slow=4.5,SNR=6.4
CMAR ScP **ScP** **04 10 51.5 -1.7**
comp=Z,7.2nm,0.9s,baz=294,slow=4.5,SNR=4.5
BTO Baotou 30.84 70 *eP* **P** **04 04 38.8 -0.1**
XAN Xi'an 31.15 83 P **P** **04 04 42.4 +0.8**
XAN pP pP 04 05 26.8 +2.2
XAN PP **sP** **04 05 49.9 +1.2**
XAN PcP **PcP** **04 07 30.6 -0.9**
XAN S **S** **04 09 31.8 -0.3**
XAN pmax pmax
comp=Z,160nm,1.3s
XAN pmax pmax
comp=Z,680nm,7.3s
XAN LR LR
comp=Z,1μm,9.6s
XAN LR LR
comp=Z,720nm,9.4s
XAN LR LR
comp=Z,1μm,14.2s
XAN Xi'an 31.15 83 P **P** **04 04 41.5 -0.1**
XAN pmax pmax
comp=Z,106nm,0.8s
XAN Xi'an 31.15 83 P **P** **04 04 41.5 -0.1**
XAN IAmb IAmb 04 04 43.6
comp=Z,106nm,0.8s
KLMR Klimovskoe 31.42 331*c iP* **P** **04 04 43.8 +0.3**
KLMR *e**PP **pP** **04 05 25.6 +0.1**
KLMR *e**SP **sP** **04 05 47.8 -1.5**
KLMR *eS* **S** **04 09 34.7 -0.8**
KLMR *e**SS **sS** **04 10 51.5 +0.1**
KLMR pmax pmax
comp=Z,134nm,0.7s
KLMR Klimovskoe 31.42 331⇑*iP* **P** **04 04 43.8 +0.3**
KLMR *i* P **P** **04 04 43.8 +0.3**
KLMR ⇓*iP* **P** **04 04 43.8 +0.3**
KLMR AMP 04 04 44.6
comp=Z,134nm,0.7s
KLMR *ep**P* **pP** **04 05 25.6 +0.1**
KLMR *es**P* **sP** **04 05 47.9 -1.4**
KLMR *eS* **S** **04 09 34.8 -0.8**
KLMR *eS* **S** **04 09 34.8 -0.8**
KLMR *es**S* **sS** **04 10 51.6 +0.1**
KLMR *es**S* **sS** **04 10 51.6 +0.1**
ORH Orhaniye 31.85 291 P pP 04 05 26.9 -2.7
HHC Hu-ho-hao-te 31.98 69⇑*iP* **P** **04 04 50.4 +1.5**
HHC sP sP 04 05 54.6 -1.5
HHC PP **PP** **04 06 02.0 -3.4**
HHC S **S** **04 09 46.4 +1.3**
HHC SS SS 04 11 55.5 -15
HHC pmax pmax
comp=Z,25nm,1.3s
HHC pmax pmax
comp=Z,110nm,5.4s
DAMY Dhamar 32.06 234 P **P** **04 04 50.6 +0.6**
GYA Guiyang 32.07 98⇑*iP* **P** **04 04 50.8 +1.0**
GYA pP pP 04 05 30.6 -2.3
GYA sP sP 04 05 54.9 -2.1
GYA PcP **PcP** **04 07 33.9 -0.3**
GYA S **S** **04 09 47.8 +1.0**
GYA ScP **ScP** **04 10 56.0 -2.1**
GYA SS SS 04 11 54.8 -18
GYA pmax pmax
comp=Z,150nm,0.9s
GYA pmax pmax
comp=Z,310nm,4.1s
GYA LR LR
comp=Z,340nm,4.6s
GYA LR LR
comp=Z,470nm,4.5s
GYA LR LR
comp=Z,300nm,4.5s
SLVN Son La 32.53 108 P **P** **04 04 54.7 +0.9**
SLVN IAmb IAmb 04 04 57.0
comp=Z,198nm,1.7s
JURR Jurilovca 32.55 298 ⇓P **P** **04 04 52.9 -0.6**
TLCR 32.59 299 ⇑P **P** **04 04 54.6 +0.6**
TLCR 32.59 299 ⇑P **P** **04 04 54.6 +0.6**
ELL Elmali 32.60 283 P **P** **04 04 55.0 +0.7**
ELL pmax pmax
comp=Z,247nm,0.7s
ELL Elmali 32.60 283 P **P** **04 04 55.0 +0.7**
MILM Milestii Mici 32.65 302 ⇓P **P** **04 04 54.2 -0.3**
KIS Kishinev 32.65 302 *eP* **P** **04 04 54.7 +0.2**
KIS *e* 04 05 36.8
KIS *eS**P* 04 05 59.0
KIS *i* S **S** **04 09 55.5 +0.4**
KIS pmax pmax
comp=Z,100nm,3.0s
ENH Enshi 32.79 89 P **P** **04 04 56.0 +0.1**
AKASG Malin Array Be 32.81 309 P **P** **04 04 56.4 +0.6**
comp=Z,17nm,0.5s,baz=87,slow=7.3,SNR=78
AKASG pP **pP** **04 05 39.2 +1.3**
comp=Z,109nm,1.0s,baz=88,slow=7.6,SNR=6.2
AKASG ScP **ScP** **04 10 58.5 -1.5**
comp=Z,12nm,0.8s,baz=80,slow=3.5,SNR=5.5
AKASG Malin Array Be 32.81 309 *iP* **P** **04 04 56.0 +0.2**
AKASG pmax pmax
comp=Z,21nm,0.6s
AKASG Malin Array Be 32.81 309 P **P** **04 04 56.1 +0.4**
AKBB Malin Array Si 32.81 309*c iP* **P** **04 04 55.7 -0.1**
KIEV Kiev 32.81 309 P **P** **04 04 55.0 -0.8**
TIRR Tirgusor 32.88 297 P **P** **04 04 56.1 -0.3**
TIRR pmax pmax
comp=Z,146nm,1.2s
TIRR Tirgusor 32.88 297 P **P** **04 04 56.1 -0.3**
TIRR IAmb IAmb 04 05 41.4
comp=Z,146nm,1.2s
TOPG Topolog 32.90 298 ⇑P **P** **04 04 57.7 +1.1**
SORM Soroca 33.05 304 ⇑P **P** **04 04 58.6 +0.7**
SORM Soroca 33.05 304 ⇑P **P** **04 04 58.6 +0.7**
CFR Carcaliu 33.07 299 ⇓P **P** **04 04 59.3 +1.2**
CFR Carcaliu 33.07 299 ⇓P **P** **04 04 59.3 +1.2**
TIY Taiyuan 33.10 75 *eP* **P** **04 05 00.3 +1.7**
TIY sP **sP** **04 06 04.8 -1.3**
TIY S **S** **04 10 07.3 +5.0**
TIY pmax pmax
comp=Z,35nm,0.6s
TIY pmax pmax
comp=Z,620nm,3.8s
TIY LR LR
comp=Z,770nm,5.8s
TIY LR LR
comp=Z,760nm,6.2s
TIY LR LR
comp=Z,380nm,6.1s
HARR Harsova 33.22 298 ⇓P **P** **04 05 01.6 +2.2**
HARR Harsova 33.22 298 ⇓P **P** **04 05 01.6 +2.2**
PRD Provadia 33.66 295 *iP* pP 04 05 48.0 +2.6
CIT Chita 33.85 49 *eP* **P** **04 05 05.9 +1.1**
CIT *e* 04 05 50.6
CIT *e* 04 06 11.5
CIT pmax pmax
comp=Z,442nm,1.4s
TMCR Tamitsa 34.00 335 *eP* **P** **04 05 03.5 -2.3**
TMCR *eS* **S** **04 10 14.5 -0.8**
TMCR pmax pmax
comp=Z,200nm,0.6s
VRI Vrincioaia 34.06 300 ⇑P **P** **04 05 09.9 +3.2**
VRI Vrincioaia 34.06 300 ⇑P **P** **04 05 09.9 +3.2**
BISRR Bisoca 34.08 299 ⇓P **P** **04 05 11.1 +4.2**
PLOR Plostina 34.12 300 ⇓P **P** **04 05 09.0 +1.8**
PLOR Plostina 34.12 300 ⇓P **P** **04 05 09.0 +1.8**
TESR Tescani 34.12 301 ⇓P **P** **04 05 08.8 +1.5**
ISR Istrita 34.20 299 ⇑P **P** **04 05 11.9 +4.0**
ISR Istrita 34.20 299 ⇑P **P** **04 05 11.9 +4.0**
NRIK Noril'sk 34.21 11 P **P** **04 05 09.4 +1.8**
comp=Z,275nm,0.8s,baz=202,slow=5.8,SNR=287
NRIK Noril'sk 34.21 11 *iP* **P** **04 05 09.4 +1.8**
NRIK pmax pmax
comp=Z,304nm,0.7s
NEHR Nehoiu 34.37 299 ⇓P P 04 05 24.0 +15
MICGM Minsk 34.38 315⇓*eP* **P** **04 05 10.0 +0.7**
MICGM PM 04 05 11.0
comp=Z,0.4nm,1.5s
MICGM *ep**P* **pP** **04 05 50.0 -1.6**
MICGM *ePP* **sP** **04 06 14.0 -1.2**
MICGM *eS* **S** **04 10 24.0 +2.5**
MICGM *es**S* **sS** **04 11 36.0 -2.0**
MICGM *eSS* SS 04 12 34.0 -23
MICGM *eLR* LR 04 18 32.0
MNK Minsk 34.38 315⇓*eP* **P** **04 05 10.0 +0.7**
MNK *e* 04 05 50.0
MNK *e* 04 06 14.0
MNK *eS* **S** **04 10 24.0 +2.5**
MNK *e* 04 11 36.0
MNK pmax pmax
comp=Z,370nm,1.5s
HORU Horodok 34.41 306 P **P** **04 05 10.8 +1.1**
PRAR RASCA 34.44 303 ⇑P **P** **04 05 14.5 +4.6**
BIZ Bicaz 34.51 302 ⇓P **P** **04 05 12.0 +1.5**
SECR 34.54 298 ⇑P pP 04 05 49.3 -3.9
MLR Muntele Rosu 34.61 299 P **P** **04 05 12.6 +1.0**
comp=Z,53nm,0.8s,baz=81,slow=0.3,SNR=50
MLR pP **pP** **04 05 57.0 +3.1**
comp=Z,140nm,0.9s,baz=60,slow=3.6,SNR=6.2
MLR Muntele Rosu 34.61 299 ⇑P **P** **04 05 14.1 +2.5**
MLR Muntele Rosu 34.61 299 ⇑P **P** **04 05 14.1 +2.5**
MLR Muntele Rosu 34.61 299 P **P** **04 05 13.9 +2.3**
OZUR 34.72 300 ⇑P **P** **04 05 14.3 +1.9**
ELND Elena 34.79 295 ⇑P **P** **04 05 15.6 +2.6**
EZN Ezine 34.82 289 P **P** **04 05 15.3 +2.1**
PUL Pulkovo 34.83 325 *eP* **P** **04 05 14.3 +1.2**
PUL Pulkovo 34.83 325*c iP* **P** **04 05 14.0 +1.0**
PUL pmax pmax
comp=Z,124nm,0.7s
ALN Alexandroupoli 34.88 291 P **P** **04 05 16.4 +2.7**
ALN Alexandroupoli 34.88 291 IAmb IAmb 04 06 00.3
comp=Z,106nm,1.1s
DOPR Dopca 35.00 300 ⇓P **P** **04 05 16.8 +2.1**
NACGM Naroch 35.10 316 *eP* **P** **04 05 16.0 +0.6**
NACGM *eP* **P** **04 05 16.0 +0.6**
NACGM *es**P* **sP** **04 06 20.0 -1.4**
NACGM *ePP* **PnPn** **04 06 40.0 -0.6**
NACGM *ePcP* PcP 04 07 16.0 -26
NACGM *eS* **S** **04 10 32.0 -0.4**
NACGM *es**S* sS 04 11 36.0 -13
NACGM *eSS* **SS** **04 13 08.0 -5.3**
NACGM *eSSS* SSS 04 13 58.0
NACGM *eLQ* LQ 04 15 50.0
NACGM *eLR* LR 04 18 24.0
BURAR Bucovina Array 35.13 303 ⇑P **P** **04 05 17.0 +1.1**
BURAR Bucovina Array 35.13 303 ⇑P **P** **04 05 17.0 +1.1**
BURAR Bucovina Array 35.13 303 P **P** **04 05 16.9 +1.0**
BUR08 Bucovina Ar. S 35.14 303 IAmb IAmb 04 06 29.1
comp=Z,69nm,1.1s
MTUR Matau 35.24 299 ⇓P **P** **04 05 20.0 +3.1**
MTUR Matau 35.24 299 ⇓P **P** **04 05 20.0 +3.1**
VOIR 35.25 299 ⇓P **P** **04 05 18.7 +1.8**
VOIR 35.25 299 ⇓P **P** **04 05 18.7 +1.8**
ATD Arta Tunnel 35.32 232 P **P** **04 05 20.0 +2.1**
IIGN Ignalina 35.51 316 *eP* **P** **04 05 20.6 +1.6**
BOD Bodaibo 35.52 39 *eP* **P** **04 05 19.4 +0.4**
BOD pmax pmax
comp=Z,161nm,1.3s
ARR Arges 35.54 299 ⇑P **P** **04 05 20.9 +1.4**
BJT Baijiatuan 35.57 70 P **P** **04 05 20.1 +0.4**
BJT pmax pmax
comp=Z,16nm,0.8s
BJT Baijiatuan 35.57 70 P **P** **04 05 20.1 +0.4**
BJI Beijing 35.58 70 P **P** **04 05 21.3 +1.6**
BJI PcP **PcP** **04 07 43.8 0.0**
BJI S **S** **04 10 39.8 -0.3**
BJI ScP **ScP** **04 11 08.8 -1.3**
BJI PcS **PcS** **04 11 32.1 +0.9**
BJI pmax pmax
comp=Z,21nm,1.2s
IZAR Zarasai 35.59 317 *eP* **P** **04 05 21.3 +1.7**
ISAL Salakas 35.62 317 *eP* **P** **04 05 21.1 +1.3**
APE Apeiranthos 35.96 285 ⇓P **P** **04 05 23.4 +0.4**
APE Apeiranthos 35.96 285 ⇓P **P** **04 05 23.4 +0.4**
LVV L'vov 36.02 307 *eP* **P** **04 05 24.7 +1.4**
LVV *e* 04 06 08.6
LVV *ePPP* PPP 04 06 51.3
LVV *eS* **S** **04 10 45.6 -1.0**
LVV pmax pmax
comp=Z,170nm,1.5s
MORS Morshin 36.07 306 P **P** **04 05 25.4 +1.7**
PGB Panagyurishte 36.08 294 *iP* **P** **04 05 26.0 +2.0**
VSU Vasula 36.09 322 *eP* **P** **04 05 22.1 -1.6**
VSU Vasula 36.09 322*c iP* **P** **04 05 24.0 +0.2**
VSU pmax pmax
comp=Z,289nm,0.7s
LOT Lotru 36.15 299 ⇑P **P** **04 05 26.4 +1.8**
SANT Santorini 36.17 284 ⇑P **P** **04 05 21.8 -3.1**
SANT Santorini 36.17 284 P **P** **04 05 25.1 +0.2**
SANT IAmb IAmb 04 06 09.1
comp=Z,242nm,1.6s
CJR Cluj-Napoca 36.23 301 ⇓P **P** **04 05 24.6 -0.6**
CJR Cluj-Napoca 36.23 301 ⇓P **P** **04 05 24.6 -0.6**
BMR Baia Mare 36.29 303 ⇑P **P** **04 05 22.3 -3.4**
BMR Baia Mare 36.29 303 ⇑P **P** **04 05 22.3 -3.4**
MPEP Malo Peshtene 36.31 296 *iP* **P** **04 05 28.4 +2.5**
OUR Ouranopolis 36.52 291 P **P** **04 05 30.0 +2.4**
MMB Musomiste 36.52 293 *iP* **P** **04 05 28.8 +1.1**
SRE Strehaia 36.59 298 ⇑P **P** **04 05 27.5 -0.8**
SRE Strehaia 36.59 298 ⇑P **P** **04 05 27.5 -0.8**
WHN Wuhan 36.61 86 ⇑P **P** **04 05 29.9 +1.3**
WHN sP **sP** **04 06 32.6 -3.5**
WHN S **S** **04 11 00.8 +4.8**
WHN sS **sS** **04 12 11.8 -1.3**
WHN pmax pmax
comp=Z,320nm,1.1s
SRS Serrai 36.69 292 P **P** **04 05 32.1 +3.0**
SRS pmax pmax
comp=Z,24nm,1.1s
VTS Vitosha 36.76 295 ⇓P **P** **04 05 31.9 +2.0**
VTS Vitosha 36.76 295 *iP* **P** **04 05 31.4 +1.5**
VTS Vitosha 36.76 295 ⇓P **P** **04 05 31.9 +2.0**
PABE Paberze 36.80 316 *eP* **P** **04 05 30.1 +0.3**
PAIG Paliouri 36.81 290 P **P** **04 05 32.2 +2.0**
DRGR 36.84 302 ⇑P **P** **04 05 32.0 +1.6**
DRGR 36.84 302 ⇑P **P** **04 05 32.0 +1.6**
GZR Gura Zlata 36.85 299 ⇑P **P** **04 05 31.5 +1.0**
KWP Kalwaria Pacla 36.86 306 *eP* **P** **04 05 31.8 +1.3**
KWP *ep**P* **pP** **04 06 15.0 +1.7**
KWP Kalwaria Pacla 36.86 306 P **P** **04 05 32.2 +1.7**
IDI Anoyia 36.90 282 P **P** **04 05 30.8 -0.3**
comp=Z,12nm,0.3s,baz=37,slow=8.3,SNR=28
IDI pP **pP** **04 06 17.1 +3.3**
comp=Z,30nm,0.9s,baz=131,slow=4.9,SNR=2.9
IDI Anoyia 36.90 282 ⇓P **P** **04 05 30.6 -0.5**
IDI Anoyia 36.90 282 P **P** **04 05 30.9 -0.2**
TRPA Tarpa 36.94 304 ⇓P **P** **04 05 32.9 +1.8**
KKB Krupnik 36.96 293 *iP* **P** **04 05 31.6 +0.2**
SUW Suwalki 36.99 314 *eP* **P** **04 05 32.7 +1.2**
SUW Suwalki 36.99 314 P **P** **04 05 32.2 +0.7**
SUW pmax pmax
comp=Z,146nm,1.1s
SUW Suwalki 36.99 314 P **P** **04 05 32.2 +0.7**
SUW IAmb IAmb 04 06 40.3
comp=Z,146nm,1.1s
UZH Uzhgorod 37.11 305⇓*iP* **P** **04 05 34.0 +1.5**
UZH *i* 04 06 17.9
UZH *e* 04 07 11.3
UZH *i* S **S** **04 11 05.0 +1.9**
UZH *i* 04 12 19.3
KOLS Kolonicke sedl 37.13 305 *eP* **P** **04 05 34.2 +1.5**
KOLS pmax pmax
comp=Z,12nm,0.9s
KOLS Kolonicke sedl 37.13 305 *eP* **P** **04 05 34.2 +1.5**
KOLS *ep**P* **pP** **04 06 17.1 +1.5**
HERR Herculane 37.13 298 ⇓P **P** **04 05 32.7 -0.1**
FINES FINESS Array B 37.40 326 P **P** **04 05 35.8 +0.9**
comp=Z,113nm,0.6s,baz=114,slow=9.7,SNR=594
FINES pP **pP** **04 06 19.7 +2.0**
comp=Z,36nm,0.6s,baz=109,slow=11,SNR=3.1
FINES FINESS Array B 37.40 326 P **P** **04 05 35.2 +0.4**
LVZ Lovozero 37.42 338*c iP* **P** **04 05 35.6 +0.6**
LVZ pmax pmax
comp=Z,279nm,0.7s
LVZ Lovozero 37.42 338 P **P** **04 05 35.1 +0.1**
HIA Hailar 37.50 54 P **P** **04 05 36.8 +1.0**
HIA pmax pmax
comp=Z,75nm,1.3s
HIA Hailar 37.50 54 P **P** **04 05 36.8 +1.0**
APA Apatity 37.60 338⇑*iP* **P** **04 05 36.4 0.0**
APA *i* *PP **pP** **04 06 20.0 +0.2**
APA *i* 04 06 42.0
APA pmax pmax
comp=Z,55nm,0.6s
APA MLR MLR
comp=Z,1μm,14.0s
MDVR Moldovita 37.64 298 ⇓P **P** **04 05 38.6 +1.5**
STIP Stip 37.65 293 *iP* **P** **04 05 36.5 -0.7**
CRVS Cervenica-Dubn 37.66 305 *eP* **P** **04 05 38.8 +1.6**
CRVS pmax pmax
comp=Z,38nm,1.5s
CRVS Cervenica-Dubn 37.66 305 *eP* **P** **04 05 38.8 +1.6**
AGG Agios Georgios 38.01 289 IAmb IAmb 04 06 26.4
comp=Z,197nm,1.7s
PBUR Paburge 38.03 317 *eP* **P** **04 05 37.1 -3.0**
SLIT Slitere, Latvi 38.15 319 *eP* **P** **04 05 39.9 -1.1**
BEL Belsk 38.20 310 *eP* **P** **04 05 42.2 +0.6**
BEL *ep**P* **pP** **04 06 27.1 +2.5**
QIZ Qiongzhong 38.41 106 P **P** **04 05 44.0 +0.2**
QIZ S **S** **04 11 19.9 -3.5**
QIZ pmax pmax
comp=Z,44nm,1.7s
QIZ LR LR
comp=Z,320nm,10.8s
QIZ LR LR
comp=Z,320nm,4.5s
QIZ LR LR
comp=Z,270nm,9.9s
QIZ Qiongzhong 38.41 106 IAmb IAmb 04 05 46.6
comp=Z,207nm,1.7s
NIE Niedzica 38.43 306 *eP* **P** **04 05 45.5 +1.8**
NIE *ep**P* **pP** **04 06 28.7 +2.0**
NIE *eS* **S** **04 11 25.5 +2.4**
NIE Niedzica 38.43 306 P **P** **04 05 45.4 +1.8**
PSZ Piszkesteto 38.72 304 IAmb IAmb 04 06 33.4
comp=Z,64nm,1.0s
OJC Ojcow 38.76 307 *eP* **P** **04 05 47.1 +0.8**
OJC *ep**P* **pP** **04 06 31.3 +1.8**
OJC *eS* **S** **04 11 28.6 +0.6**
OJC Ojcow 38.76 307 IAmb IAmb 04 06 58.0
comp=Z,106nm,1.0s
DIVS Divibare 38.94 297 IAmb IAmb 04 06 35.5
comp=Z,159nm,1.2s
LANS Liptovska Anna 38.97 305 *eP* **P** **04 05 49.6 +1.4**
LANS pmax pmax
comp=Z,4.0nm,0.8s
LANS Liptovska Anna 38.97 305 *eP* **P** **04 05 49.6 +1.4**
LANS *ep**P* **pP** **04 06 34.7 +3.3**
VYHS Vyhne 39.41 304 *eP* **P** **04 05 53.3 +1.5**
VYHS pmax pmax
comp=Z,62nm,1.9s
VYHS Vyhne 39.41 304 *eP* **P** **04 05 53.2 +1.5**
VYHS *ep**P* **pP** **04 06 36.9 +1.9**
IGT Igoumenitsa 39.42 290 P **P** **04 05 51.8 -0.2**
IGT pmax pmax
comp=Z,30nm,1.2s
PDG Podgorica 39.70 295 ⇑P **P** **04 05 54.8 +0.6**
NJ2 Nanjing 39.70 82 *eP* **P** **04 05 55.4 +1.1**
NJ2 pmax pmax
comp=Z,46nm,0.7s
MLSI Meulaboh, Aceh 39.79 138 P **P** **04 05 55.7 +0.5**
comp=Z,118nm,0.8s
OKC Ostrava-Krasne 39.82 307 *eP* P 04 05 48.9 -6.2
OKC *eS* **S** **04 11 41.5 -2.3**
OKC Ostrava-Krasne 39.82 307 *eP* P 04 05 48.9 -6.2
OKC *eS* **S** **04 11 41.5 -2.3**
DL2 Dalian 39.93 71 P **P** **04 05 57.5 +1.3**
DL2 pP **pP** **04 06 43.6 +2.8**
DL2 sP **sP** **04 07 07.5 +2.8**
DL2 S **S** **04 11 49.0 +3.3**
DL2 sS **sS** **04 13 04.5 +0.9**
DL2 pmax pmax
comp=Z,57nm,0.6s
DL2 pmax pmax
comp=Z,440nm,4.6s
FURI Furi 39.99 235 P **P** **04 05 58.8 +1.6**
JAVC Velka Javorina 40.16 305⇑*iP* **P** **04 05 59.8 +1.8**
JAVC *ep**P* **pP** **04 06 44.2 +2.7**
JAVC *eS* **S** **04 11 53.0 +4.0**
MORC Moravsky Berou 40.22 307 ⇑P **P** **04 05 59.5 +1.1**
MORC Moravsky Berou 40.22 307⇑*iP* **P** **04 05 59.1 +0.7**
MORC *ep**P* **pP** **04 06 43.7 +1.8**
MORC *eS* **S** **04 11 51.9 +2.1**
MORC Moravsky Berou 40.22 307 ⇑P **P** **04 05 59.5 +1.1**
SMOL Smolenice 40.34 305 *eP* **P** **04 06 00.2 +0.8**
SMOL Smolenice 40.34 305 *eP* **P** **04 06 00.2 +0.8**
GKP Gorka Klasztor 40.44 312 *eP* **P** **04 06 00.7 +0.5**
GKP Gorka Klasztor 40.44 312 P **P** **04 06 01.1 +1.0**
MODS Modra-Piesok 40.45 304 *eP* **P** **04 06 00.6 +0.3**
MODS *e* 04 06 44.5
MODS Modra-Piesok 40.45 304 *eP* **P** **04 06 00.6 +0.3**
MODS *ep**P* **pP** **04 06 44.5 +0.7**
SCTE Santa Cesarea 40.71 292 P **P** **04 06 02.6 +0.1**
KEV Kevo 40.77 338 P **P** **04 06 03.3 +0.8**
KEV pmax pmax
comp=Z,98nm,0.7s
KEV Kevo 40.77 338 P **P** **04 06 03.3 +0.8**
KEV IAmb IAmb 04 06 04.1
comp=Z,98nm,0.7s
SNY Shenyang 40.80 66 ⇑P **P** **04 06 03.3 +0.1**
SNY pP **pP** **04 06 49.8 +1.8**
SNY sP **sP** **04 07 09.6 -2.2**
SNY S **S** **04 11 52.8 -5.7**
SNY pmax pmax
comp=Z,38nm,0.6s
SNY pmax pmax
comp=Z,540nm,4.7s
SNY LR LR
comp=Z,340nm,13.7s
SNY LR LR
comp=Z,420nm,12.3s
SNY LR LR
comp=Z,490nm,11.3s
VRAC Vranov 40.85 306 P **P** **04 06 04.4 +0.8**
comp=Z,18nm,0.8s,baz=90,slow=8.1,SNR=31
VRAC pP **pP** **04 06 49.0 +1.8**
comp=Z,46nm,1.0s,baz=85,slow=8.9,SNR=7.3
VRAC Vranov 40.85 306 ⇓P **P** **04 06 05.4 +1.8**
VRAC Vranov 40.85 306⇑*iP* **P** **04 06 04.5 +0.9**
VRAC *ep**P* **pP** **04 06 49.2 +2.0**
VRAC *eS* **S** **04 12 01.8 +2.7**
VRAC Vranov 40.85 306 ⇓P **P** **04 06 05.4 +1.8**
SOP Sopron 40.98 303 P **P** **04 06 06.1 +1.5**
SOP pmax pmax
comp=Z,34nm,0.8s
DPC Dobruska-Polom 40.99 307 *eP* **P** **04 06 06.0 +1.3**
DPC *ep**P* **pP** **04 06 51.2 +3.0**
DPC *eS* **S** **04 12 01.5 +0.4**

DPC **Dobruska-Polom** **40.99 307** *e*P **P** **04 06 06.0 +1.3**
DPC *e* 04 06 51.2
DPC *e*S **S** **04 12 01.5 +0.4**
KRUC **Moravsky** **40.99 305** ⇑ *i*P **P** **04 06 05.6 +0.9**
KRUC *ep*P **pP** **04 06 50.2 +1.8**
KRUC *e*S **S** **04 12 02.2 +1.0**
KSP **Ksiaz** **40.99 308** *e*P **P** **04 06 05.6 +0.9**
KSP *e*S **S** **04 12 01.9 +0.8**
KSP *e*SS **SS** **04 15 11.2 -0.3**
OSTC **Ostas** **41.05 308** *e*P **P** **04 06 06.0 +0.8**
OSTC *ex* x 04 06 46.1
OSTC *e*S S 04 11 52.4 -10
ARCES **ARCESS Array B** **41.11 338** P **P** **04 06 06.5 +1.2**
comp=Z,155nm,0.6s,baz=111,slow=8.0,SNR=923
ARCES pP **pP** **04 06 50.0 +0.7**
comp=Z,30nm,0.5s,baz=106,slow=8.9,SNR=3.5
ARE0 **ARCESS Array S** **41.11 338** *e*P **P** **04 06 06.6 +1.2**
CHVC **Chvalec** **41.15 308** *e*P **P** **04 06 07.0 +1.0**
CHVC *ex* **pP** **04 06 45.8 -3.8**
KCSI **Kotacane, Aceh** **41.16 136** P **P** **04 06 05.4 -1.0**
comp=Z,51nm,0.6s
UPC **Upice** **41.18 308** *e*P **P** **04 06 07.2 +1.0**
UPC *ep*P **pP** **04 06 47.0 -2.8**
UPC *e*S **S** **04 12 00.7 -3.2**
UPC **Upice** **41.18 308** *e*P **P** **04 06 07.2 +1.0**
UPC *e* 04 06 47.0
UPC *e*S **S** **04 12 00.7 -3.2**
KALN **Kalnik** **41.19 301** P **P** **04 06 06.3 -0.1**
KULM **Kulim** **41.41 131** P **P** **04 06 09.1 +0.6**
KULM lAmb lAmb 04 06 10.5
comp=Z,205nm,1.7s
KULM **Kulim** **41.41 131** P **P** **04 06 09.0 +0.6**
CONA **Conrad Observa** **41.42 304** *e*P **P** **04 06 09.5 +1.1**
comp=Z,26nm,0.8s,SNR=23
CONA *ep*P **pP** **04 06 53.5 +1.5**
comp=Z,152nm,1.2s,SNR=7.1
ZAG **Zagreb** **41.55 301** P **P** **04 06 09.3 0.0**
PTJ **Puntijarka** **41.56 301** P **P** **04 06 08.8 -0.6**
KTK1 **Kautokeino** **41.57 336** *e*P **P** **04 06 09.9 +0.8**
TREC **Trest** **41.58 306** *e*P **P** **04 06 10.6 +1.1**
TREC *ep*P **pP** **04 06 49.4 -3.9**
TREC *e*S **S** **04 12 06.4 -3.4**
TREC **Trest** **41.58 306** *e*P **P** **04 06 10.6 +1.1**
TREC *e*S **S** **04 12 06.4 -3.4**
HVAR **Hvar** **41.61 297** P **P** **04 06 05.8 -4.0**
ARSA **Arzberg** **41.72 303** *e*P **P** **04 06 12.1 +1.5**
comp=Z,11nm,1.2s,SNR=5.5
ARSA *ep*P **pP** **04 06 55.8 +1.5**
comp=Z,38nm,1.2s
ARSA *e*ScP **ScP** **04 11 32.6 -1.0**
comp=Z,16nm,1.1s
DLV **T Lat** **41.80 116** P **P** **04 06 12.5 +0.6**
CN2 **Changchun** **41.82 62** *e*P **P** **04 06 10.8 -0.7**
CN2 *ep*P pP 04 06 54.8 -1.3
CN2 *es*P sP 04 07 17.8 -2.4
CN2 *e*S **S** **04 12 09.8 -3.7**
CN2 *es*S sS 04 13 26.8 -5.0
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,340nm,4.0s
CN2 LR LR
comp=Z,740nm,11.0s
CN2 LR LR
comp=Z,540nm,17.0s
CN2 LR LR
comp=Z,640nm,12.0s
SUJ **Sinuiju** **41.83 68** P **P** **04 06 11.7 +0.1**
UDBI **Udbina** **41.89 299** P **P** **04 06 12.3 +0.2**
BSD **Bornholm Skovb** **41.89 315** *i* P **P** **04 06 11.5 -0.3**
comp=Z,7.6nm,0.4s
BSD **Bornholm Skovb** **41.89 315** *e*P **P** **04 06 11.5 -0.3**
BSD pmax pmax
comp=Z,8.0nm,0.4s
SSE **Sheshan** **41.90 82** P **P** **04 06 13.5 +1.2**
SSE S **S** **04 12 14.4 -0.4**
SSE pmax pmax
comp=Z,31nm,0.8s
SSE pmax pmax
comp=Z,340nm,3.0s
SSE LR LR
comp=Z,320nm,18.8s
SSE LR LR
comp=Z,310nm,17.8s
OZLJ **Ozalj** **41.94 300** P **P** **04 06 13.3 +0.9**
GOPC **GO Pecny, Ondr** **41.99 307** *e*P **P** **04 06 14.1 +1.2**
GOPC *ep*P **pP** **04 06 54.0 -2.6**
GOPC *e*S **S** **04 12 12.4 -3.5**
GOPC **GO Pecny, Ondr** **41.99 307** *e*P **P** **04 06 14.1 +1.2**
GOPC *e* 04 06 54.0
GOPC *e*S **S** **04 12 12.4 -3.5**
PERS **Pernice** **42.06 302** *e*P **P** **04 06 14.3 +0.9**
PERS *ep*P **pP** **04 06 58.7 +1.5**
PERS *e*S **S** **04 12 16.2 -0.8**
PERS *e*ScS **ScS** **04 15 50.5 -2.8**
PERS *e* 04 17 21.9
PVCC **Panska Ves** **42.10 308** *e*P **P** **04 06 14.6 +0.9**
PVCC *ex* x 04 06 29.5
PVCC *ep*P **pP** **04 07 01.5 +4.1**
PVCC **Panska Ves** **42.10 308** *e*P **P** **04 06 14.6 +0.9**
PVCC *e* 04 07 01.5
BOJS **Bojanci** **42.11 300** *i* P **P** **04 06 14.2 +0.4**
SOKA **Soboth** **42.11 302** *e*P **P** **04 06 14.9 +1.0**
comp=Z,27nm,0.7s,SNR=25
SOKA *ep*P **pP** **04 06 59.0 +1.3**
comp=Z,120nm,1.3s,SNR=6.0
ZIRJ **Zirje** **42.11 297** P **P** **04 06 12.8 -1.0**
PRU **Pruhonice** **42.15 307** *e*P **P** **04 06 15.3 +1.2**
PRU *ex* x 04 06 29.0
PRU *e*S **S** **04 12 14.8 -3.3**
PRU **Pruhonice** **42.15 307** *e*P **P** **04 06 15.3 +1.2**
PRU *e*S **S** **04 12 14.8 -3.3**
HAMF **Hammerfest** **42.19 339** *e*P **P** **04 06 15.7 +1.6**
TIP **Timpagrande** **42.20 291** ⇓ P **P** **04 06 15.6 +0.9**
TIP **Timpagrande** **42.20 291** *i* P **P** **04 06 15.3 +0.6**
PRA **Prague** **42.21 307** *e*P **P** **04 06 15.8 +1.2**
PRA *e*S **S** **04 12 17.1 -1.9**
PRA **Prague** **42.21 307** *e*P **P** **04 06 15.8 +1.2**
PRA *e*S **S** **04 12 17.1 -1.9**
ZEA **Zeya** **42.26 47** *e*P **P** **04 06 17.0 +2.1**
ZEA *e**PP **pP** **04 07 03.5 +3.6**
ZEA *e**SP **sP** **04 07 23.0 -0.6**
ZEA *e*PPP PPP 04 08 47.0
ZEA *e*S **S** **04 12 24.0 +4.4**
ZEA *e* 04 13 43.0
ZEA pmax pmax
comp=N,35nm,1.0s
ZEA pmax pmax
comp=E,94nm,1.0s
ZEA pmax pmax
comp=Z,170nm,1.0s
ZEA pmax pmax
comp=Z,200nm,6.0s
ZEA smax smax
comp=E,400nm,13.0s
IPM **Ipoh** **42.27 132** P **P** **04 06 15.9 +0.4**
IPM lAmb lAmb 04 06 16.4
comp=Z,98nm,0.8s
IPM **Ipoh** **42.27 132** P **P** **04 06 16.0 +0.5**
QZH **Quanzhou** **42.34 92** ⇑ *i*P **P** **04 06 14.8 -1.1**
QZH S **S** **04 12 17.5 -3.9**
QZH sS **sS** **04 13 35.5 -4.5**
SGRT **San Giovanni R** **42.39 295** P **P** **04 06 16.6 +0.4**
KNMB **Chin-men Tao** **42.40 93** P **P** **04 06 16.8 +0.4**
KNMB lAmb lAmb 04 06 18.3
comp=Z,84nm,0.8s
OBKA **Obir** **42.46 302** P **P** **04 06 18.6 +1.8**
comp=Z,9.3nm,0.8s,SNR=6.2
OBKA *ep*P **pP** **04 07 01.2 +0.7**
comp=Z,58nm,1.2s
OBKA *e*ScP **ScP** **04 11 35.7 -1.0**
comp=Z,13nm,1.1s
DUGI **Dugi Otok** **42.47 298** P **P** **04 06 16.3 -0.5**
BRG **Berggiesshubel** **42.48 308** *i* P **P** **04 06 17.8 +1.1**
comp=Z,31nm,0.9s
BRG *i* pP **pP** **04 07 02.5 +2.0**
comp=Z,54nm,0.9s
BRG *i* pP **sP** **04 07 28.2 +4.4**
comp=Z,53nm,1.0s
BRG PP **PP** **04 07 57.0 -2.4**
BRG S **S** **04 12 19.0 -3.9**
comp=N,390nm,11.6s
comp=E,255nm,18.6s
comp=Z,295nm,13.7s
BRG **Berggiesshubel** **42.48 308** *i* P **P** **04 06 17.8 +1.1**
BRG *i* *PP **pP** **04 07 02.5 +2.0**
BRG *i* *PP **sP** **04 07 28.2 +4.4**
BRG 04 07 57.0
BRG S **S** **04 12 19.0 -3.9**
BRG pmax pmax
comp=Z,31nm,0.9s
BRG MLR MLR
comp=N,390nm,11.6s
BRG MLR MLR
comp=E,255nm,18.6s
BRG MLR MLR
comp=Z,295nm,13.7s
BRG **Berggiesshubel** **42.48 308** *e*P **P** **04 06 17.8 +1.1**
comp=Z,14nm,0.8s,baz=85,slow=8.0
MOA **Molln** **42.50 304** *e*P **P** **04 06 17.7 +0.7**
comp=Z,20nm,0.7s,SNR=18
MOA *ep*P **pP** **04 07 02.0 +1.1**
comp=Z,76nm,1.4s
NVLJ **Novalja** **42.51 299** P **P** **04 06 15.8 -1.2**
PBCC **Pribram** **42.52 307** *e*P **P** **04 06 17.9 +0.8**
PBCC *ex* x 04 07 01.1
RUE **Ruedersdorf** **42.53 311** *e*P **P** **04 06 15.6 -1.4**
RUE **Ruedersdorf** **42.53 311** *e*P **P** **04 06 17.9 +0.9**
comp=Z,25nm,0.7s,baz=85,slow=8.0
LJU **Ljubljana** **42.54 301** *i* P **P** **04 06 18.5 +1.2**
LJU *ep*P **pP** **04 07 02.9 +1.8**
LJU *e* 04 07 12.9
LJU *es*P **sP** **04 07 26.5 +2.2**
LJU *e*S **S** **04 12 20.9 -3.0**
LJU *e* 04 13 35.9
LJU *e*ScS **ScS** **04 15 53.8 -2.3**
RIY **Rijeka** **42.67 300** P **P** **04 06 18.8 +0.5**
GEC2 **GERESS Array S** **42.78 305** *e*P **P** **04 06 19.8 +0.5**
comp=Z,4.4nm,0.8s,baz=85,slow=8.0
GERES **GERESS Array B** **42.78 305** P **P** **04 06 20.1 +0.8**
comp=Z,3.3nm,0.7s,baz=87,slow=7.7,SNR=37
GERES pP **pP** **04 07 04.9 +1.8**
comp=Z,11nm,0.9s,baz=95,slow=7.2,SNR=6.1
GERES ScP **ScP** **04 11 36.9 -1.1**
comp=Z,7.9nm,1.1s,baz=104,slow=2.2,SNR=3.2
GERES **GERESS Array B** **42.78 305** P **P** **04 06 19.5 +0.2**
RGN **Rugen** **42.79 314** *e*P **P** **04 06 18.9 -0.3**
RGN **Rugen** **42.79 314** *e*P **P** **04 06 19.4 +0.3**
comp=Z,46nm,0.8s,baz=85,slow=8.0
KHC **Kasperske Hory** **42.84 306** *e*P **P** **04 06 20.4 +0.7**
KHC *ep*P **pP** **04 07 05.0 +1.5**
KHC *ex* x 04 09 04.0
KHC *e*S **S** **04 12 25.3 -2.9**
KHC **Kasperske Hory** **42.84 306** *c i*P **P** **04 06 20.9 +1.2**
KHC pmax pmax
comp=Z,20nm,1.0s
FBE **Freiberg** **42.85 308** *e*P **P** **04 06 20.7 +1.0**
comp=Z,24nm,0.8s,baz=85,slow=8.0
GSI **Gunungsitoli** **42.90 138** P **P** **04 06 22.0 +1.5**
comp=Z,1µm,0.7s
GSI **Gunungsitoli** **42.90 138** P **P** **04 06 21.1 +0.6**
PYAG **Pyongyang** **43.03 69** P **P** **04 06 22.0 +0.7**
PYAG S **S** **04 12 35.0 +3.8**
PYAG sS **sS** **04 13 53.0 +3.1**
CLL **Collm** **43.05 309** *i* P **P** **04 06 22.1 +0.8**
comp=Z,156nm,2.4s
CLL *i* pP **pP** **04 07 05.7 +0.5**
CLL *i* sP **sP** **04 07 31.2 +2.8**
comp=Z,58nm,1.1s
CLL *e*PP **PcP** **04 08 12.0 +4.6**
CLL *ep*PP 04 08 43.0
CLL *es*PP 04 09 05.0
CLL *e*ScP **ScP** **04 11 37.0 -1.9**
CLL *e*PcS **PcS** **04 11 56.0 -3.9**
CLL *e*S **S** **04 12 30.0 -1.2**
comp=N,300nm,26.9s
CLL *e*S **S** **04 12 30.0 -1.2**
comp=E,300nm,24.2s
CLL *es*S **sS** **04 13 47.0 -2.9**
CLL *e*SS **SS** **04 15 48.0 -3.5**
CLL *e*SSS SSS 04 17 35.0
CLL *e* 04 18 36.0
CLL Lm MLR 04 27 00.0
comp=Z,400nm,18.0s
CLL **Collm** **43.05 309** *i* P **P** **04 06 22.1 +0.8**
CLL *i* *PP **pP** **04 07 05.7 +0.5**
CLL *i* *SP **sP** **04 07 31.2 +2.8**
CLL *e*S **S** **04 12 30.0 -1.2**
CLL *e**SS **sS** **04 13 47.0 -2.9**
CLL pmax pmax
comp=Z,156nm,2.4s
CLL **Collm** **43.05 309** *e*P **P** **04 06 21.9 +0.6**
comp=Z,12nm,0.8s,baz=85,slow=8.0
MYKA **Terra Mystica** **43.07 302** *e*P **P** **04 06 23.0 +1.4**
comp=Z,13nm,0.7s
MYKA pP **pP** **04 07 06.7 +1.2**
comp=Z,49nm,1.0s
CEL **Celeste** **43.09 290** P **P** **04 06 21.7 -0.1**
CEL lAmb lAmb 04 07 09.0
comp=Z,303nm,1.6s
KBA **Koelnbreinsper** **43.21 303** P **P** **04 06 23.2 +0.3**
comp=Z,6.6nm,0.5s
KBA *ep*P **pP** **04 07 07.5 +0.7**
comp=Z,123nm,1.2s
KGE **Kanggye** **43.22 66** P **P** **04 06 24.5 +1.7**
TRO **Tromso** **43.22 336** *e*P **P** **04 06 23.1 +0.7**
BRJN **Brijuni** **43.25 300** P **P** **04 06 22.1 -0.8**
HJU **Haeju** **43.26 71** P **P** **04 06 23.3 +0.1**
WET **Wettzell** **43.29 306** *e*P **P** **04 06 24.3 +1.0**
baz=85,slow=8.0
WET *ep*P **pP** **04 07 08.2 +0.9**
PAOL **Paolisi** **43.41 294** lAmb lAmb 04 07 11.8
comp=Z,91nm,1.2s
TANN **Tannenbergstha** **43.45 308** *e*P **P** **04 06 25.5 +0.9**
comp=Z,13nm,0.8s,baz=85,slow=8.0
NKC **Novy Kostel** **43.48 307** *e*P P 04 06 19.7 -5.0
NKC **Novy Kostel** **43.48 307** *e*P P 04 06 19.7 -5.0
WERN **Wernitzgruen** **43.52 308** *e*P **P** **04 06 26.3 +1.2**
comp=Z,4.7nm,0.8s,baz=85,slow=8.0
GUNZ **Gunzen** **43.54 308** *e*P **P** **04 06 26.4 +1.1**
comp=Z,9.1nm,0.8s,baz=85,slow=8.0
N2ST **Straumen** **43.62 333** *e*P **P** **04 06 26.6 +1.0**
ROTZ **Rotzenmuhle** **43.67 307** *e*P **P** **04 06 27.4 +1.1**
baz=85,slow=8.0
INTR **Introdacqua** **43.68 295** P **P** **04 06 27.0 +0.4**
INTR lAmb lAmb 04 08 02.1
comp=Z,108nm,1.3s
N2IH **Innhavet** **43.68 333** *e*P **P** **04 06 27.0 +1.0**
MANZ **Manzenberg** **43.71 307** *e*P **P** **04 06 28.0 +1.4**
comp=Z,11nm,0.8s,baz=85,slow=8.0
MOR8 **Moi Rana** **43.75 331** *e*P **P** **04 06 26.8 +0.1**
ABTA **Abfaltersbach** **43.82 302** *e*P **P** **04 06 27.4 -0.2**
comp=Z,6.0nm,0.6s
ABTA *ep*P **pP** **04 07 12.1 +0.5**
comp=Z,30nm,1.1s
ABTA *e*ScP **ScP** **04 11 40.0 -2.2**
comp=Z,11nm,1.2s
NEUB **Neuenburg** **43.83 309** *e*P **P** **04 06 28.6 +1.2**
comp=Z,23nm,0.7s,baz=85,slow=8.0
N2TV **T'rnvik** **43.86 333** *e*P **P** **04 06 28.4 +0.9**
STEI **Steigen** **43.92 333** *e*P **P** **04 06 28.8 +0.8**
CIMO **Cimolais** **43.93 302** lAmb lAmb 04 07 15.8
comp=Z,148nm,1.1s
AQU **L'Aquila** **43.97 296** lAmb lAmb 04 08 13.8
comp=Z,80nm,1.0s
MOX **Moxa** **43.97 308** *e*P **P** **04 06 29.8 +1.1**
comp=Z,8.0nm,0.8s,baz=85,slow=8.0
NBB28 **Valnes** **44.00 332** *e*P **P** **04 06 29.5 +0.9**
NC405 **NORSAR Array S** **44.05 323** lAmb lAmb 04 07 40.6
comp=Z,189nm,1.0s
NBB17 **Glomfjord B'r** **44.10 332** *e*P **P** **04 06 30.3 +0.9**
NC602 **NORSAR Array S** **44.10 323** lAmb lAmb 04 07 56.5
comp=Z,96nm,1.0s
NC602 **NORSAR Array S** **44.10 323** *e*P **P** **04 06 29.4 -0.1**
INCN **Inchon** **44.11 71** P **P** **04 06 30.6 +0.6**
INCN pmax pmax
comp=Z,55nm,1.1s
INCN **Inchon** **44.11 71** P **P** **04 06 30.6 +0.6**
NBB05 **Inndyr** **44.13 332** *e*P **P** **04 06 30.3 +0.7**
YAK **Yakutsk** **44.13 35** P **P** **04 06 30.2 +0.5**
comp=Z,152nm,0.6s,baz=155,slow=0.3,SNR=59
YAK **Yakutsk** **44.13 35** *c i*P **P** **04 06 30.1 +0.5**
YAK *e**PP **pP** **04 07 15.7 +1.0**
YAK *e* 04 07 37.3
YAK *e* 04 08 20.6
YAK *e*PPP PPP 04 09 01.8
YAK *e*S **S** **04 12 44.6 -1.9**
YAK *e*SS **sS** **04 14 03.9 -1.6**
YAK pmax pmax
comp=Z,227nm,0.8s
YAK pmax pmax
comp=E,90nm,1.3s
YAK pmax pmax
comp=N,53nm,1.0s
YAK pmax pmax
comp=Z,86nm,0.8s
YAK pmax pmax
comp=N,16nm,0.6s
YAK pmax pmax
comp=E,33nm,0.6s
YAK smax smax
comp=E,344nm,2.0s
YAK smax smax
comp=N,218nm,1.4s
YAK **Yakutsk** **44.13 35** P **P** **04 06 30.2 +0.5**
HHU **Hamhung** **44.14 68** P **P** **04 06 30.6 +0.5**
NBB30 **Finnes** **44.22 332** *e*P **P** **04 06 31.1 +0.8**
NB201 **NORSAR Array S** **44.25 323** lAmb lAmb 04 07 42.0
comp=Z,255nm,1.3s
WOSN **Wonsan** **44.25 69** P **P** **04 06 31.2 +0.2**
NB2 **NORSAR Subarra** **44.29 323** P **P** **04 06 31.0 -0.1**
comp=Z,37nm,0.5s,baz=98,slow=7.9
NB2 **NORSAR Subarra** **44.29 323** P **P** **04 06 31.0 -0.1**
baz=98,slow=7.9
NOA **NORSAR Array B** **44.29 323** P **P** **04 06 31.2 +0.1**
comp=Z,46nm,0.6s,baz=96,slow=7.8,SNR=197
NOA pP **pP** **04 07 15.9 +0.7**
comp=Z,19nm,0.6s,baz=97,slow=8.1,SNR=3.2
NOA sP **sP** **04 07 39.9 +1.5**
comp=Z,78nm,0.9s,baz=97,slow=8.0,SNR=5.1
GRF **Grafenberg Arr** **44.31 307** P **P** **04 06 33.2 +1.8**
GRF **Grafenberg Arr** **44.31 307** *e*P **P** **04 06 32.4 +1.0**
baz=85,slow=8.0
WTTA **Wattenberg** **44.34 303** *e*P **P** **04 06 32.4 +0.5**
comp=Z,16nm,0.7s,SNR=7.5
WTTA *ep*P **pP** **04 07 16.2 +0.2**
comp=Z,82nm,1.2s
WTTA *e*ScP **ScP** **04 11 42.8 -1.6**
comp=Z,24nm,1.2s
KONS **Konsvik** **44.35 331** *e*P **P** **04 06 31.9 +0.6**
STOK **Stokkvaagen** **44.35 331** *e*P **P** **04 06 32.2 +0.8**
WATA **Walderalm** **44.37 303** *e*P **P** **04 06 31.6 -0.4**
comp=Z,16nm,0.7s,SNR=7.4
WATA pP **pP** **04 07 17.3 +1.1**
comp=Z,56nm,1.0s
WATA *e*ScP **ScP** **04 11 43.0 -1.5**
comp=Z,18nm,1.0s
N2VI **Vinje** **44.41 334** *e*P **P** **04 06 32.2 +0.5**
MNSI **Mandaling Nat** **44.41 136** P **P** **04 06 32.8 +0.3**
comp=Z,2µmcomp=Z,94nm,0.7s
MURB **Monte Urbino** **44.41 297** lAmb lAmb 04 07 44.8
comp=Z,239nm,1.1s
NSS **Namsos** **44.42 328** *e*P **P** **04 06 31.9 -0.1**
VAE **Valguarnera** **44.43 289** P **P** **04 06 35.2 +2.6**
comp=Z,12nm,0.8s,baz=83,slow=12,SNR=7.6
VAE pP **pP** **04 07 19.2 +2.5**
comp=Z,36nm,0.8s,baz=152,slow=3.8,SNR=4.0
NAO01 **NORSAR Array S** **44.43 323** lAmb lAmb 04 07 59.5
comp=Z,177nm,1.2s
OSL **Oslo** **44.44 321** *e*P **P** **04 06 32.7 +0.5**
ASSE **Asse, Remlinge** **44.45 310** *e*P **P** **04 06 33.9 +1.6**
baz=85,slow=8.0
NBO00 **NORSAR Array S** **44.50 323** lAmb lAmb 04 07 43.7
comp=Z,165nm,0.9s
NBO00 **NORSAR Array S** **44.50 323** *e*P **P** **04 06 32.7 0.0**
NC204 **NORSAR Array S** **44.53 323** lAmb lAmb 04 07 44.1
comp=Z,190nm,0.8s
BSEG **Bad Segeberg** **44.56 313** *e*P **P** **04 06 34.4 +1.2**
baz=85,slow=8.0
LOF **Lofoten** **44.59 333** *e*P **P** **04 06 33.1 -0.1**
MDJ **Mudanjiang** **44.62 60** P **P** **04 06 35.3 +1.5**
MDJ pmax pmax
comp=Z,350nm,9.0s
SQTA **Sankt Quirin** **44.63 303** *e*P **P** **04 06 33.9 -0.2**
comp=Z,10nm,0.6s,SNR=9.3
SQTA *ep*P **pP** **04 07 18.3 0.0**
comp=Z,32nm,0.8s
SQTA *e*ScP **ScP** **04 11 46.3 +0.7**
comp=Z,12nm,1.1s
CLZ **Clausthal** **44.66 310** *e*P **P** **04 06 35.4 +1.3**
baz=85,slow=8.0
MOTA **Moosalm** **44.69 303** *e*P **P** **04 06 34.2 -0.3**
comp=Z,18nm,0.7s,SNR=10
MOTA *ep*P **pP** **04 07 18.9 +0.1**
comp=Z,71nm,1.4s
MOTA *e*ScP **ScP** **04 11 45.6 -0.3**
comp=Z,17nm,1.0s
TPUB **Ta-pu** **44.75 93** P **P** **04 06 36.8 +1.6**
TPUB lAmb lAmb 04 06 38.2
comp=Z,191nm,1.6s
NRDL **Niedersach Rie** **44.77 311** *e*P **P** **04 06 36.2 +1.3**
baz=85,slow=8.0
SSLB **Suanglung** **44.78 92** P **P** **04 06 37.1 +1.6**
SSLB lAmb lAmb 04 06 38.5
comp=Z,133nm,0.8s
N2VA **Vr_y** **44.78 333** *e*P **P** **04 06 34.5 -0.3**
WDD **Wied Dalam** **44.83 287** P **P** **04 06 35.3 -0.3**
WDD lAmb lAmb 04 07 22.0
comp=Z,167nm,1.1s
RETA **Reutte** **44.90 304** *e*P **P** **04 06 36.5 +0.4**
comp=Z,5.0nm,0.6s
RETA *ep*P **pP** **04 07 20.5 +0.1**
comp=Z,29nm,0.9s
RETA *e*ScP **ScP** **04 11 45.5 -1.2**
comp=Z,11nm,0.9s
GTTG **Gottingen** **44.93 310** *e*P **P** **04 06 37.5 +1.3**
comp=Z,27nm,0.8s,baz=85,slow=8.0
N2RO **R_st** **44.96 332** *e*P **P** **04 06 35.8 -0.4**
UBBA **Unterbreizbach** **44.98 308** *e*P **P** **04 06 37.2 +0.7**
baz=85,slow=8.0
UBBA *ep*P **pP** **04 07 21.6 +0.9**
TBLU **Trondheim** **44.98 326** *e*P **P** **04 06 36.5 +0.1**
KONO **Kongsberg** **44.99 321** *ce*P **P** **04 06 36.8 +0.3**
KONO pmax pmax
comp=Z,39nm,0.9s
KONO **Kongsberg** **44.99 321** P **P** **04 06 36.7 +0.2**
KONO **Kongsberg** **44.99 321** *e*P **P** **04 06 36.7 +0.2**
FETA **Feichten** **44.99 303** *e*P **P** **04 06 36.7 -0.3**
comp=Z,14nm,0.7s,SNR=9.7
FETA *ep*P **pP** **04 07 21.4 +0.1**
comp=Z,57nm,1.1s
FETA *e*ScP **ScP** **04 11 45.6 -1.5**
comp=Z,14nm,1.0s
TJN **Taejon** **44.99 72** *ce*P **P** **04 06 36.5 -0.4**
HOPEN **Hopen** **44.99 346** *e*P **P** **04 06 38.7 +2.4**
KS19 **Wonju Array Si** **45.04 71** P **P** **04 06 38.2 +0.9**
SKMB **Sankelmark Bun** **45.05 314** *e*P **P** **04 06 38.1 +1.1**
comp=Z,20nm,0.7s,baz=85,slow=8.0
KSAR **Wonju Array Be** **45.07 71** P **P** **04 06 36.7 -0.8**
KSAR **Wonju Array Be** **45.07 71** P **P** **04 06 36.7 -0.8**
KSRS **Korea Array** **45.10 71** P **P** **04 06 37.8 +0.1**
comp=Z,11nm,0.5s,baz=275,slow=7.1,SNR=52
KSRS pP **pP** **04 07 25.1 +1.9**
comp=Z,18nm,1.1s,baz=283,slow=6.6,SNR=2.7
KSRS sP **sP** **04 07 48.0 +1.3**
comp=Z,8.8nm,0.9s,baz=277,slow=6.6,SNR=1.9
KSRS ScP **ScP** **04 11 45.4 -2.1**
comp=Z,4.9nm,0.9s,baz=295,slow=3.6,SNR=4.8
CORL **Corleone** **45.15 290** lAmb lAmb 04 07 46.6
comp=Z,150nm,1.4s
YULB **Yu-li** **45.25 92** lAmb lAmb 04 06 42.4
comp=Z,94nm,0.8s
BJO1 **Bjornoya** **45.25 343** *e*P **P** **04 06 39.6 +1.3**
OSSC **Osservatorio P** **45.27 298** lAmb lAmb 04 07 26.7
comp=Z,144nm,1.5s
ZCCA **Zocca** **45.29 299** lAmb lAmb 04 07 58.3
comp=Z,368nm,1.8s
UBR **Ueberruh** **45.30 304** *e*P **P** **04 06 39.5 +0.2**
comp=Z,18nm,0.7s,baz=85,slow=8.0
CLTB **Caltabellotta** **45.31 289** lAmb lAmb 04 07 26.1
comp=Z,219nm,1.5s
CHJN **Chongjin** **45.35 64** P P 04 06 44.8 +5.1
SALO **Salr** **45.37 301** lAmb lAmb 04 07 27.3
comp=Z,292nm,1.5s
DOMB **Dombas** **45.41 324** *e*P **P** **04 06 40.2 +0.4**
HOMB **Homborsund** **45.51 319** *e*P **P** **04 06 40.7 0.0**
DAVA **Damuels** **45.52 304** *e*P **P** **04 06 41.1 0.0**
comp=Z,54nm,0.8s,SNR=21
DAVA *ep*P **pP** **04 07 26.0 +0.5**
comp=Z,81nm,1.0s
DAVA *e*ScP **ScP** **04 11 45.9 -3.4**
comp=Z,14nm,1.1s
DAVOX **Davos/Dischmat** **45.60 303** P **P** **04 06 41.8 0.0**
comp=Z,17nm,0.7s,baz=100,slow=8.0,SNR=33

DAVOX pP **pP** **04 07 28.4 +2.2**
comp=Z,21nm,0.6s,baz=153,slow=9.6,SNR=3.5
DAVOX ScP **ScP** **04 11 49.0 -0.7**
comp=Z,12nm,1.0s,baz=108,slow=6.4,SNR=3.3
BKNI Bangkinang 45.62 135 IAmb IAmb 04 06 43.0
comp=Z,166nm,0.7s
PRMA PARMA 45.68 300 P **P** **04 06 42.9 +0.8**
SKAR Skarslia 45.68 322 *e*P **P** **04 06 42.9 +0.8**
CASP Castiglione de 45.70 297 P **P** **04 06 41.3 -1.1**
STU Stuttgart 45.75 306 P **P** **04 06 42.4 -0.3**
VLC Villacollemand 45.75 299 IAmb IAmb 04 07 57.5
comp=Z,180nm,1.4s
TOD Tromm 45.88 307 P **P** **04 06 45.1 +1.3**
TIXI Tiksi 45.90 22 P **P** **04 06 44.5 +1.0**
comp=Z,180nm,0.3s,baz=270,slow=4.6,SNR=437
TIXI pP **pP** **04 07 29.9 +1.0**
comp=Z,123nm,1.0s,baz=278,slow=3.9,SNR=2.2
TIXI Tiksi 45.90 22*c e*P **P** **04 06 44.2 +0.7**
TIXI pmax pmax
comp=Z,348nm,0.8s
TIXI Tiksi 45.90 22 P **P** **04 06 43.6 +0.1**
TNS Taunus Mts 46.03 308 P **P** **04 06 47.0 +2.1**
MYKOM Kota Tinggi 46.11 131 P **P** **04 06 47.0 +1.1**
MOL Molde 46.15 325 *e*P **P** **04 06 46.1 +0.6**
MSHR Mys Shultsa 46.16 63*c i*P **P** **04 06 47.0 +1.1**
MSHR pmax pmax
comp=Z,28nm,1.1s
SNART Snartemo 46.20 319 *e*P **P** **04 06 46.7 +0.7**
IBBN Ibbenburen 46.22 311 *e*P **P** **04 06 47.6 +1.4**
comp=Z,26nm,0.8s,baz=85,slow=8.0
LODK Lodwar 46.26 233 P **P** **04 06 48.8 +1.6**
PDSI Padang 46.32 137 P **P** **04 06 47.2 -0.3**
comp=Z,1µmcomp=Z,62nm,0.6s
SLE Schleitheim 46.37 304 P **P** **04 06 48.2 +0.6**
USA0B Ussuriysk Arra 46.38 61 P **P** **04 06 49.3 +1.6**
USA0B pmax pmax
comp=Z,26nm,0.9s
USA0B Ussuriysk Arra 46.38 61 P **P** **04 06 49.3 +1.6**
USRK Ussuriysk Ar. 46.38 61 P **P** **04 06 48.3 +0.6**
comp=Z,6.4nm,0.6s,baz=285,slow=7.1,SNR=14
USRK Ussuriysk Ar. 46.38 61 P **P** **04 06 47.6 0.0**
BFO Black Forest 46.38 305 P **P** **04 06 47.7 +0.1**
BFO pmax pmax
comp=Z,35nm,1.0s
BFO Black Forest 46.38 305 P **P** **04 06 47.7 +0.1**
BFO Black Forest 46.38 305 *e*P **P** **04 06 47.8 +0.1**
baz=85,slow=8.0
AKN Aaknes 46.38 324 *e*P **P** **04 06 47.8 +0.4**
KTD Kalmit 46.39 307 P **P** **04 06 49.1 +1.4**
VLA Vladivostok 46.55 62*c i*P **P** **04 06 49.7 +0.7**
VLA pmax pmax
comp=Z,47nm,0.7s
BLS5 Blasjo 46.58 321 *e*P **P** **04 06 49.9 +0.8**
BUG Bochum--Univer 46.62 310 *e*P **P** **04 06 50.3 +0.9**
comp=Z,16nm,0.8s,baz=85,slow=8.0
AHRW Bad Neuenahr-A 46.86 308 *e*P **P** **04 06 52.9 +1.6**
comp=Z,14nm,0.8s,baz=85,slow=8.0
HSPB Hornsund (broa 47.13 345 *e*P **P** **04 06 54.9 +2.0**
HSPB *e*pP **pP** **04 07 39.9 +1.9**
HSPB Hornsund (broa 47.13 345 *e*P **P** **04 06 54.8 +1.8**
BER Bergen 47.14 322 *e*P **P** **04 06 54.0 +0.7**
ASK Askoy 47.21 322 *e*P **P** **04 06 54.4 +0.6**
FOO Floro 47.29 324 *e*P **P** **04 06 54.8 +0.4**
SUE Sulen 47.42 323 *e*P **P** **04 06 55.7 +0.3**
HINF Hinteralfeld 47.45 305 *e*P **P** **04 06 55.7 -0.2**
HINF pmax pmax
comp=Z,16nm,1.0s
SPA0 Spitsbergen Ar 47.49 347 IAmb IAmb 04 06 58.1
comp=Z,89nm,0.7s
SPA0 Spitsbergen Ar 47.49 347 *e*P **P** **04 06 57.4 +1.6**
SPITS Spitsbergen Ar 47.49 347 P **P** **04 06 57.6 +1.8**
comp=Z,52nm,0.5s,baz=120,slow=12,SNR=197
MEM Membach 47.52 309 P **P** **04 06 55.7 -0.7**
MEM x x 04 07 12.6
MEM pP **pP** **04 07 35.0 -6.1**
MEM sP **sP** **04 08 03.6 -0.5**
MEM Membach 47.52 309 P **P** **04 06 58.3 +1.9**
WLF Walferdange 47.58 307 P **P** **04 06 58.3 +1.5**
WLF x x 04 07 13.6
WLF pP **pP** **04 07 37.0 -4.5**
WLF sP **sP** **04 08 04.1 -0.4**
WLF PcP **PcP** **04 08 23.9 +0.7**
WLF Walferdange 47.58 307 P **P** **04 06 58.6 +1.7**
WLF Walferdange 47.58 307 *e*P **P** **04 06 58.4 +1.5**
comp=Z,21nm,0.8s,baz=85,slow=8.0
VSL Villasalto 47.64 293 P **P** **04 06 58.1 +0.6**
HAU Haudompre 47.74 305 *e*P **P** **04 06 58.1 -0.1**
HAU pmax pmax
comp=Z,12nm,0.9s
BSTI Sart Tilman 47.80 309 P **P** **04 06 59.8 +1.3**
BSTI sP **sP** **04 08 06.2 -0.1**
BSTI PcP **PcP** **04 08 25.3 +1.3**
KRJI Kerinci 47.84 136 P **P** **04 07 03.1 +3.7**
LPG La Plagne 47.99 302 *e*P **P** **04 07 00.7 +0.3**
LPG pmax pmax
comp=Z,28nm,0.7s
LPL La Plagne 48.00 302 *e*P **P** **04 07 00.7 +0.3**
LPL pmax pmax
comp=Z,18nm,0.8s
CABF La Chapelle 48.20 303 *e*P **P** **04 07 02.9 +1.1**
CABF pmax pmax
comp=Z,27nm,1.0s
BMRD Maredsous 48.35 308 P **P** **04 07 03.4 +0.6**
BMRD x x 04 07 16.7
BMRD pP **pP** **04 07 42.2 -5.5**
BMRD sP **sP** **04 08 10.9 +0.2**
BMRD PcP **PcP** **04 08 27.7 +1.7**
DOU Dourbes 48.50 308 P **P** **04 07 04.9 +1.0**
DOU x x 04 07 22.4
DOU pP **pP** **04 07 48.2 -0.6**
DOU sP **sP** **04 08 12.9 +1.1**
FRF La Foret Royal 48.52 299 *e*P **P** **04 07 03.8 -0.3**
FRF pmax pmax
comp=Z,11nm,0.8s
UCC Uccle 48.53 309 P **P** **04 07 03.9 -0.2**
UCC pmax pmax
comp=Z,23nm,1.1s
UCC Uccle 48.53 309 P **P** **04 07 03.9 -0.2**
KBS Kingsbay 48.61 347*c i*P **P** **04 07 05.8 +1.5**
KBS pmax pmax
comp=Z,152nm,0.8s
KBS Kingsbay 48.61 347 P **P** **04 07 04.9 +0.6**
KBS IAmb IAmb 04 07 07.0
comp=Z,142nm,0.8s
KBS Kingsbay 48.61 347 *e*P **P** **04 07 05.8 +1.5**
SNF Seneffe 48.62 309 P **P** **04 07 06.2 +1.4**
SNF x x 04 07 23.1
SNF pP **pP** **04 07 49.1 -0.7**
SNF sP **sP** **04 08 12.0 -0.7**
KMBO Kilima Mbogo 48.64 227 P **P** **04 07 08.4 +2.8**
comp=Z,36nm,0.6s,baz=33,slow=11,SNR=126
KMBO Kilima Mbogo 48.64 227 *i*P **P** **04 07 07.0 +1.4**
SNR=42
KMBO Kilima Mbogo 48.64 227 *i*P **P** **04 07 08.3 +2.7**
KMBO pmax pmax
comp=Z,36nm,0.6s
KMBO Kilima Mbogo 48.64 227 P **P** **04 07 05.9 +0.3**
ORIF Oris-en-Rattie 48.72 301 *e*P **P** **04 07 06.3 +0.5**
ORIF pmax pmax
comp=Z,6.0nm,0.6s
KEST Kesra 48.84 288 P **P** **04 07 08.4 +1.5**
comp=Z,18nm,0.7s,baz=344,slow=1.6,SNR=21
KEST pP **pP** **04 07 54.1 +2.2**
comp=Z,203nm,1.2s,baz=31,slow=1.4,SNR=8.5
KEST Kesra 48.84 288 P **P** **04 07 07.6 +0.8**
KEST Kesra 48.84 288 IAmb IAmb 04 07 55.7
comp=Z,406nm,1.4s
KIBK Kibwezi 49.15 226 P **P** **04 07 10.8 +1.4**
SNR=8.2
JOW Kunigami 49.29 84 P **P** **04 07 10.3 +0.1**
TEY Ternei 49.40 58⇑ *e*P **P** **04 07 09.5 -1.2**
TEY pmax pmax
comp=N,20nm,1.7s
TEY pmax pmax
comp=Z,30nm,1.8s
LOR Lormes 49.55 305 *e*P **P** **04 07 13.0 +1.1**
LOR pmax pmax
comp=Z,33nm,1.9s
SSB Saint Sauveur 49.55 302 P **P** **04 07 12.0 0.0**
SSB pmax pmax
comp=Z,66nm,1.0s
SSB Saint Sauveur 49.55 302 P **P** **04 07 12.0 0.0**
VIVF Saint-Julien-l 49.57 301 *e*P **P** **04 07 11.8 -0.3**
VIVF pmax pmax
comp=Z,16nm,0.7s
AVF Avril sur Loir 49.99 304 *e*P **P** **04 07 15.1 -0.1**
AVF pmax pmax
comp=Z,26nm,0.8s
CMAH Djebel Manchou 50.01 290 P **P** **04 07 17.4 +1.8**
NKL Nikolayevsk 50.30 47 *e*P **P** **04 07 17.1 -0.3**
NKL *e* 04 08 23.9
NKL pmax pmax
comp=N,3.0nm,0.7s
NKL pmax pmax
comp=E,3.0nm,0.7s
NKL pmax pmax
comp=Z,176nm,0.7s
NKL pmax pmax
comp=Z,88nm,2.2s
LRW Lerwick 50.40 322 *e*P **P** **04 07 18.3 +0.3**
LRW IAmb IAmb 04 07 19.0
comp=Z,33nm,0.7s
CLF Chambon-Foret 50.42 306 P **P** **04 07 18.2 -0.2**
CLF IAmb IAmb 04 08 06.6
comp=Z,147nm,1.2s
WACR West Acre 50.47 312 *e*P **P** **04 07 19.4 +0.7**
WACR IAmb IAmb 04 07 20.4
comp=Z,117nm,0.8s
KSM Kuching 50.48 124 P **P** **04 07 19.0 -0.3**
KSM Kuching 50.48 124 P **P** **04 07 20.0 +0.7**
DRUM Mains of Drumt 51.51 318 *e*P **P** **04 07 26.4 0.0**
HPK Haverah Park 51.56 314 *e*P **P** **04 07 26.9 +0.1**
HPK IAmb IAmb 04 07 28.3
comp=Z,61nm,0.6s
EDMD Edmundbyers 51.59 315 *e*P **P** **04 07 26.9 -0.1**
EDMD IAmb IAmb 04 07 28.2
comp=Z,32nm,0.6s
LWLI Liwa 51.70 136 P **P** **04 07 28.4 -0.1**
comp=Z,10µmcomp=Z,130nm,0.7s
LBWR Ladybower, Pea 51.73 313 *e*P **P** **04 07 28.1 0.0**
LBWR IAmb IAmb 04 07 30.6
comp=Z,17nm,0.7s
MLA1 Latheron 51.75 320 *e*P **P** **04 07 28.2 +0.1**
ESY Stoneypath 51.76 317 *e*P **P** **04 07 28.0 -0.3**
MCD Coleburn Disti 51.81 319 *e*P **P** **04 07 28.9 +0.3**
TYV Tymovskoe 51.97 50 *e*P **P** **04 07 30.9 +1.1**
TYV pmax pmax
comp=Z,21nm,0.5s
TYV pmax pmax
comp=Z,700nm,2.8s
BIGH Upper Bighouse 52.01 320 *e*P **P** **04 07 30.1 +0.2**
EBL Broad Law 52.02 317 *e*P **P** **04 07 30.1 -0.1**
FLN La Foliniere 52.02 307 *e*P **P** **04 07 29.9 -0.4**
FLN pmax pmax
comp=Z,24nm,1.2s
EDI Edinburgh 52.07 317 *e*P **P** **04 07 30.4 -0.1**
EKA Eskdalemuir Ar 52.17 316 P **P** **04 07 31.1 -0.2**
comp=Z,9.1nm,0.6s,baz=91,slow=7.3,SNR=64
EKA pP **pP** **04 08 17.4 +0.4**
comp=Z,27nm,0.8s,baz=84,slow=8.6,SNR=4.4
ESK Eskdalemuir 52.20 316 *e*P **P** **04 07 31.2 -0.2**
ESK Eskdalemuir 52.20 316 P **P** **04 07 31.7 +0.2**
ESK pmax pmax
comp=Z,43nm,1.0s
ESK Eskdalemuir 52.20 316 P **P** **04 07 31.7 +0.2**
KESW Keswick, Cumbr 52.29 315 *e*P **P** **04 07 32.0 -0.2**
KESW IAmb IAmb 04 07 33.5
comp=Z,25nm,0.7s
MBAR Mbarara 52.30 234*c e*P **P** **04 07 33.5 +0.5**
MBAR pmax pmax
comp=Z,80nm,0.7s
MBAR Mbarara 52.30 234 P **P** **04 07 33.0 +0.1**
MBAR IAmb IAmb 04 07 34.6
comp=Z,82nm,0.8s
STRD Stroud 52.35 311 *e*P **P** **04 07 32.2 -0.4**
STRD IAmb IAmb 04 07 33.7
comp=Z,27nm,0.7s
KASI Kota Agung 52.37 136 P **P** **04 07 36.7 +3.5**
INVG Invergeldie, C 52.45 317 *e*P **P** **04 07 32.9 -0.4**
INVG IAmb IAmb 04 07 36.2
comp=Z,14nm,0.8s
EAB Aberfoyle 52.66 317 *e*P **P** **04 07 34.5 -0.3**
MONM Monmouth 52.72 312 *e*P **P** **04 07 35.1 -0.2**
MCH1 Michaelchurch 52.80 312 *e*P **P** **04 07 35.5 -0.4**
MCH1 IAmb IAmb 04 07 37.2
comp=Z,54nm,0.7s
PGBU Glenifferbraes 52.81 317 *e*P **P** **04 07 36.1 +0.2**
NEWG New Galloway 52.81 316 *e*P **P** **04 07 36.1 +0.1**
NEWG IAmb IAmb 04 07 37.7
comp=Z,37nm,0.6s
KAC Achnashellach 52.91 319 *e*P **P** **04 07 36.6 -0.1**
YSS Yuzh-Sakhalins 53.03 55*c e*P **P** **04 07 38.2 +0.5**
YSS *e**SP **sP** **04 08 46.6 -0.9**
YSS *e*S **S** **04 14 50.6 -0.7**
YSS pmax pmax
comp=Z,90nm,1.6s
YSS Yuzh-Sakhalins 53.03 55 P **P** **04 07 38.0 +0.4**
KPL Plockton 53.13 319 *e*P **P** **04 07 38.2 -0.1**
KPL IAmb IAmb 04 07 40.3
comp=Z,40nm,1.2s
MAJO Matsushiro 53.17 68*c e*P **P** **04 07 38.5 -0.4**
MAJO pmax pmax
comp=Z,92nm,1.7s
MAJO Matsushiro 53.17 68 P **P** **04 07 39.0 0.0**
MAT Matsushiro 53.17 68 P **P** **04 07 38.1 -0.8**
MAT *e*S **S** **04 14 55.6 +2.0**
MJAR Matsushiro Arr 53.17 68 P **P** **04 07 38.9 -0.1**
comp=Z,22nm,0.9s,baz=283,slow=10.0,SNR=27
MJAR pP **pP** **04 08 27.0 +1.4**
comp=Z,23nm,0.9s,baz=283,slow=9.2,SNR=7.0
MJAR ScP **ScP** **04 12 20.5 -1.5**
comp=Z,1.9nm,0.6s,baz=278,slow=2.9,SNR=3.2
MJAR Matsushiro Arr 53.17 68 P **P** **04 07 39.1 +0.2**
LAWE Loch Awe, Argy 53.22 317 *e*P **P** **04 07 38.8 -0.1**
LAWE IAmb IAmb 04 07 41.6
comp=Z,30nm,1.0s
YLL Llanberis 53.22 313 *e*P **P** **04 07 39.6 +0.6**
WME Myndd Eilian 53.24 314 *e*P **P** **04 07 39.2 +0.1**
WIM Isle of Man 53.28 315 *e*P **P** **04 07 39.4 0.0**
WLF1 Llynfaes 53.32 314 *e*P **P** **04 07 39.7 0.0**
YRC Rhoscolyn 53.43 314 *e*P **P** **04 07 40.4 -0.1**
LEWI Lewis, Hebride 53.61 320 *e*P **P** **04 07 42.2 +0.5**
LEWI IAmb IAmb 04 07 44.1
comp=Z,25nm,0.8s
NOR Nord 53.81 350⇑ *i*P **P** **04 07 44.0 +1.1**
NOR *i* 04 08 49.8
NOR Nord 53.81 350⇑ *i*P **P** **04 07 44.0 +1.1**
NOR *i* 04 08 49.8
RSBS Rosebush, Pemb 53.86 312 *e*P **P** **04 07 43.3 -0.3**
RSBS IAmb IAmb 04 07 44.4
comp=Z,13nm,0.7s
QUIF Quistinic 53.97 307 *e*P **P** **04 07 44.7 +0.2**
QUIF pmax pmax
comp=Z,21nm,1.1s
MA2 Magadan 54.53 38 P **P** **04 07 48.6 +0.2**
comp=Z,18nm,0.4s,baz=263,slow=7.5,SNR=16
MA2 pP **pP** **04 08 39.1 +3.9**
comp=Z,37nm,1.0s,baz=276,slow=9.0,SNR=3.1
MA2 Magadan 54.53 38*c i*P **P** **04 07 48.8 +0.4**
MA2 pmax pmax
comp=Z,112nm,1.5s
MA2 Magadan 54.53 38 P **P** **04 07 48.6 +0.2**
MA2 IAmb IAmb 04 07 50.5
comp=Z,124nm,1.3s
DAG Danmarks Havn 54.71 344⇑ *i*P **P** **04 07 50.5 +1.1**
comp=Z,97nm,0.8s
DAG *i* 04 08 37.5
DAG Danmarks Havn 54.71 344⇑ *i*P **P** **04 07 50.5 +1.1**
DAG *i* 04 08 37.5
DAG pmax pmax
comp=Z,97nm,0.8s
ERM Erimo 54.84 60⇓ *i*P **P** **04 07 51.7 +0.9**
ERM pmax pmax
comp=Z,15nm,0.6s
CART Cartagena 55.94 294 P pP 04 08 43.8 -1.2
CART Cartagena 55.94 294 PS **S** **04 15 29.4 -1.0**
CART Cartagena 55.94 294 P **P** **04 07 57.8 -0.9**
CART IAmb IAmb 04 08 46.5
comp=Z,98nm,1.2s
UCM Universidad Co 56.54 298 P pP 04 08 48.1 -1.3
UCM Universidad Co 56.54 298 PS **S** **04 15 36.5 -1.9**
CTBH Cotabato--PC H 56.67 107⇑ *i*P **P** **04 08 05.4 +1.2**
SCO Scoresbysund 57.01 336⇑ *i*P **P** **04 08 07.5 +1.7**
SCO *i* 04 09 15.1
SCO Scoresbysund 57.01 336⇑ *i*P **P** **04 08 07.5 +1.7**
SCO *i* 04 09 15.1
ESBB Sonseca Array 57.29 298 IAmb IAmb 04 08 56.4
comp=Z,125nm,1.3s
ESDC Sonseca Array 57.29 298 P **P** **04 08 08.2 -0.1**
comp=Z,12nm,0.8s,baz=60,slow=7.2,SNR=86
ESDC pP **pP** **04 08 55.9 +1.0**
comp=Z,32nm,0.8s,baz=56,slow=7.4,SNR=10
ESDC Sonseca Array 57.29 298 P **P** **04 08 08.0 -0.3**
KCP Kidapawan 57.45 107⇑ *i*P **P** **04 08 10.9 +1.1**
PAB San Pablo 57.61 298 P **P** **04 08 11.2 +0.6**
PAB pmax pmax
comp=Z,137nm,1.3s
PAB San Pablo 57.61 298 P **P** **04 08 11.2 +0.6**
PAB IAmb IAmb 04 08 58.8
comp=Z,137nm,1.3s
MPSI Mapaga 57.95 117 P **P** **04 08 14.3 +1.2**
comp=Z,2µmcomp=Z,105nm,1.4s
MELI Melilla 58.28 293 P pP 04 08 59.6 -2.2
MELI Melilla 58.28 293 PS **S** **04 15 57.5 -3.5**
PBRG Braganca 58.42 301 *e*P **P** **04 08 16.7 +0.5**
comp=Z,127nm,1.6s
PBRG *e*pP **pP** **04 09 03.6 +0.8**
BORG Borgarnes 58.54 330 P **P** **04 08 17.9 +1.5**
comp=Z,18nm,0.7s,baz=93,slow=5.8,SNR=22
BORG pP **PcP** **04 09 06.1 +1.6**
comp=Z,18nm,0.9s,baz=171,slow=3.5,SNR=3.2
BORG Borgarnes 58.54 330 P **P** **04 08 17.6 +1.2**
BORG IAmb IAmb 04 09 30.3
comp=Z,125nm,1.6s
BILL Bilibino 58.74 26*c i*P **P** **04 08 19.3 +1.4**
BILL *i* *SP **sP** **04 09 26.5 -2.1**
BILL *e* 04 10 29.8
BILL *e*S **S** **04 16 07.3 +1.2**
BILL *e*SS **SS** **04 20 02.5 +0.5**
BILL pmax pmax
comp=Z,130nm,0.6s
BILL Bilibino 58.74 26 P **P** **04 08 18.7 +0.8**
EMAL Malaga-Limoner 58.78 295 P pP 04 09 07.8 +2.5
EMAL Malaga-Limoner 58.78 295 PS **S** **04 16 01.3 -6.1**
MVO Moncorvo 58.87 300 *e*P **P** **04 08 20.1 +0.8**
comp=Z,151nm,1.9s
MVO *e*pP **PcP** **04 09 06.6 +0.2**
MVO *e*S **S** **04 16 11.5 +2.8**
MVO *i* LQ LQ 04 17 36.1
PVRL Vila Real 59.30 301 *e*pP **pP** **04 09 09.6 +0.6**
PVRL A A 04 09 11.6
comp=Z,129nm,1.5s
MRSI Marisa 59.34 115 P **P** **04 08 23.3 +0.6**
comp=Z,2µmcomp=Z,271nm,1.1s
PVLZ Peæn de 59.35 293 P **PcP** **04 09 06.9 -1.4**
PVLZ Peæn de 59.35 293 PS **S** **04 16 12.4 -2.4**
PCAB Cabril 59.35 301 *e*P **P** **04 08 23.9 +1.4**
comp=Z,272nm,1.4s
PCAB *e*pP **pP** **04 09 10.5 +1.2**
PGAV Gavieira, Arco 59.41 302 *e*P **P** **04 08 24.0 +1.0**
comp=Z,264nm,1.7s
PGAV *e*pP **pP** **04 09 10.5 +0.6**
PGAV *e*S **S** **04 16 18.0 +2.3**
PGAV *i* LQ LQ 04 17 43.8
MTE Manteigas 59.53 300 *e*P **P** **04 08 25.0 +1.2**
comp=Z,285nm,1.6s
MTE *e*pP **pP** **04 09 11.5 +0.8**
MTE *e*S **S** **04 16 17.8 +0.6**
MTE *i* LQ LQ 04 17 44.2
PCBR Castelo Branco 59.71 299 *e*pP **pP** **04 09 12.2 +0.3**
PCBR A A 04 09 15.4
comp=Z,114nm,1.9s
PMRV Marv??o 59.82 299 *e*P **P** **04 08 26.4 +0.7**
comp=Z,175nm,1.6s
PMRV *e*pP **pP** **04 09 13.1 +0.4**
PMRV *e*S **S** **04 16 23.9 +3.1**
PMRV *i* LQ LQ 04 17 49.6
CEU Ceuta 59.83 294 P pP 04 09 08.7 -4.1
CEU Ceuta 59.83 294 PS **S** **04 16 16.0 -5.0**
PTO Porto 59.97 301 *e*pP **pP** **04 09 15.0 +1.3**
PTO A A 04 09 16.2
comp=Z,116nm,1.4s
PEA0B Petropavlovsk- 60.15 44 P **P** **04 08 27.7 -0.1**
PEA0B pmax pmax
comp=Z,105nm,1.5s
PEA0B Petropavlovsk- 60.15 44 P **P** **04 08 27.7 -0.1**
PEA0B IAmb IAmb 04 08 30.7
comp=Z,105nm,1.5s
PETK Petropavlovsk- 60.15 44 P **P** **04 08 27.3 -0.4**
comp=Z,6.3nm,0.5s,baz=252,slow=3.7,SNR=38
PETK pP **pP** **04 09 18.1 +2.5**
comp=Z,9.2nm,0.8s,baz=259,slow=1.5,SNR=3.1
PETK sP **sP** **04 09 41.2 +2.7**
comp=Z,14nm,0.8s,baz=291,slow=2.5,SNR=2.8
PETK Petropavlovsk- 60.15 44 P **P** **04 08 27.0 -0.8**
SKR Severo-Kuril's 60.15 47 *e*P P 04 08 21.6 -6.1
SKR *e* 04 09 32.3
SKR *e*S S 04 16 38.4 +14
SKR pmax pmax
comp=Z,37nm,0.9s
SKR pmax pmax
comp=Z,100nm,6.7s
SKR pmax pmax
comp=Z,100nm,7.4s
SKR MLR MLR
comp=Z,200nm,15.0s
SKR MLR MLR
comp=Z,200nm,16.0s
SFS San Fernando 60.20 295 P pP 04 09 14.3 -1.0
COI Coimbra 60.22 300 P **P** **04 08 28.0 -0.4**
COI pmax pmax
comp=Z,229nm,1.4s
COI Coimbra 60.22 300 *e*P **P** **04 08 29.6 +1.2**
comp=Z,246nm,1.2s
COI *e*pP **pP** **04 09 16.3 +0.9**
COI *e*S **S** **04 16 26.7 +0.9**
COI *i* LQ LQ 04 17 55.9
COI Coimbra 60.22 300 P **P** **04 08 28.0 -0.4**
TTSI Tana Toraja 60.26 120 P **P** **04 08 28.9 -0.1**
comp=Z,1µmcomp=Z,94nm,1.0s
PCAS Casmilo, Conde 60.34 300 *e*PcP **PcP** **04 09 12.4 +0.2**
PCAS A A 04 09 14.8
comp=Z,160nm,1.7s
PCAS *e*S **S** **04 16 26.4 -1.0**
PCAS *i* LQ LQ 04 17 53.9
PMTG Montargil 60.56 299 *e*P **P** **04 08 31.3 +0.6**
comp=Z,103nm,1.6s
PMTG *e*pP **pP** **04 09 18.0 +0.2**
PMTG *e*S **S** **04 16 32.9 +2.8**
PMTG *i* LQ LQ 04 17 57.6
EVO Evora 60.63 298 P pP 04 09 15.9 -2.3
EVO Evora 60.63 298 *e*P **P** **04 08 31.9 +0.7**
comp=Z,166nm,1.6s
EVO *e*pP **pP** **04 09 18.6 +0.3**
IFR Ifrane 60.68 292 P pP 04 09 09.9 -9.1
PET Petropavlovsk 60.72 44*c i*P **P** **04 08 30.6 -0.9**
PET *e**SP **sP** **04 09 38.1 -4.3**
PET *e* 04 10 49.0
PET *e*S **S** **04 16 28.2 -3.5**
PET pmax pmax
comp=Z,300nm,14.2s
PET pmax pmax
comp=Z,83nm,1.1s
PBEJ Beja 60.74 297 *e*P **P** **04 08 32.9 +0.9**
comp=Z,154nm,1.6s
PBEJ *e*pP **pP** **04 09 19.2 +0.2**
KMSI Cibinong 60.77 113 P **P** **04 08 33.7 +1.2**
comp=Z,188nm,0.8s
PSBE So Bento 60.77 299 *e*P **P** **04 08 32.0 -0.2**
comp=Z,265nm,1.8s
PSBE *e*pP **pP** **04 09 19.7 +0.4**
PSBE *e*S **S** **04 16 34.2 +1.3**
PSBE *i* LQ LQ 04 18 02.9
SPSI Sidrap Palu 60.88 120 P **P** **04 08 34.5 +1.4**
comp=Z,25nm,0.6s
PVAQ Vaqueiros 60.90 297 *e*P **P** **04 08 33.6 +0.6**
comp=Z,171nm,1.6s
PVAQ *e*pP **pP** **04 09 20.5 +0.4**
PVAQ *e*S **S** **04 16 36.1 +1.6**
PVAQ *i* LQ LQ 04 18 04.2
PVAQ Vaqueiros 60.90 297 P **P** **04 08 33.1 +0.1**
PVAQ IAmb IAmb 04 09 22.5
comp=Z,155nm,1.4s
LUWI Luwuk 60.98 116 P **P** **04 08 33.3 -0.5**
LUWI IAmb IAmb 04 09 46.8
comp=Z,97nm,1.0s
PCVE Castro Verde 61.03 297 *e*pP **pP** **04 09 21.3 +0.3**
PCVE A A 04 09 23.5
comp=Z,117nm,1.6s
SUMG Summit 61.04 341⇑ *i*P **P** **04 08 35.3 +1.4**
comp=Z,184nm,0.8s
SUMG *i* 04 09 44.4

SUMG	**Summit**	**61.04**	**341**	⇑*i*P		**P**	**04 08 35.3**	**+1.4**
SUMG				*i*			04 09 44.4		
SUMG					pmax	pmax			
	comp=Z,180nm,0.8s								
SUMG	**Summit**	**61.04**	**341**		P	**P**	**04 08 34.4**	**+0.6**
MESJ	**Messejana**	**61.07**	**297**	*e*P		**P**	**04 08 34.3**	**+0.1**
MESJ				*e*pP		**pP**	**04 09 21.4**	**+0.1**
MESJ					AMb	AMB	04 09 24.0		
	comp=Z,124nm,1.8s								
MESJ				*e*S		**S**	**04 16 37.0**	**+0.3**
MESJ	**Messejana**	**61.07**	**297**	*e*P		**P**	**04 08 34.3**	**+0.1**
MESJ				*e*S		**S**	**04 16 36.9**	**+0.3**
MESJ	**Messejana**	**61.07**	**297**	*e*P		**P**	**04 08 34.9**	**+0.7**
	comp=Z,119nm,1.4s								
MESJ				*e*pP		**pP**	**04 09 21.8**	**+0.5**
PBDV	**Barranco-do-Ve**	**61.12**	**297**	*e*P		**P**	**04 08 35.4**	**+0.8**
	comp=Z,184nm,1.6s								
PBDV				*e*pP		**pP**	**04 09 21.8**	**+0.1**
PBDV				*e*S		**S**	**04 16 39.2**	**+1.8**
PBDV				*i* LQ		LQ	04 18 05.1		
PNCL	**Nicolau / Gran**	**61.18**	**298**	*e*P		**P**	**04 08 35.7**	**+0.8**
	comp=Z,152nm,1.5s								
PNCL				*e*pP		**pP**	**04 09 22.8**	**+0.8**
PNCL				*e*S		**S**	**04 16 41.0**	**+3.0**
PNCL				*i* LQ		LQ	04 18 08.9		
PMAFR	**Mafra**	**61.35**	**299**	*e*P		**P**	**04 08 37.3**	**+1.2**
	comp=Z,251nm,1.6s								
PMAFR				*e*pP		**pP**	**04 09 23.7**	**+0.5**
PMAFR				*e*S		**S**	**04 16 44.2**	**+4.0**
PMAFR				*i* LQ		LQ	04 18 09.3		
LIS	**Lisbon**	**61.36**	**299**	*e*pP		**pP**	**04 09 23.4**	**+0.2**
LIS					AMb	AMB	04 09 25.5		
	comp=Z,177nm,1.8s								
LIS				*e*S		**S**	**04 16 40.6**	**+0.3**
LIS	**Lisbon**	**61.36**	**299**	*e*pP		**pP**	**04 09 23.9**	**+0.6**
LIS					A	A	04 09 26.0		
	comp=Z,180nm,1.6s								
BNSI	**Bone**	**61.42**	**120**	P		**P**	**04 08 39.5**	**+2.7**
PTEO	**Sao Teotonio**	**61.56**	**297**	*e*P		**P**	**04 08 38.3**	**+0.8**
	comp=Z,242nm,1.5s								
PTEO				*e*pP		**pP**	**04 09 25.2**	**+0.6**
MORF	**Marmelete**	**61.61**	**297**	*e*pP		**pP**	**04 09 25.0**	**0.0**
MORF					AMb	AMB	04 09 52.0		
	comp=Z,98nm,1.8s								
MORF				*e*S		**S**	**04 16 43.8**	**+0.2**
MORF	**Marmelete**	**61.61**	**297**	*e*pP		**pP**	**04 09 25.5**	**+0.4**
MORF					A	A	04 09 51.2		
	comp=Z,100nm,1.7s								
MORF				*e*S		**S**	**04 16 47.7**	**+4.1**
MORF				*i* LQ		LQ	04 18 10.9		
KAPI	**Kappang**	**61.62**	**121**	P		**P**	**04 08 37.5**	**-0.6**
KAPI					pmax	pmax			
	comp=Z,63nm,1.2s								
KAPI	**Kappang**	**61.62**	**121**	P		**P**	**04 08 37.5**	**-0.6**
KAPI					IAmb	IAmb	04 09 30.7		
	comp=Z,63nm,1.2s								
PFVI	**Vila Bisbo**	**61.81**	**297**	*e*pP		**pP**	**04 09 26.6**	**+0.2**
PFVI					A	A	04 09 28.9		
	comp=Z,252nm,1.6s								
PFVI				*e*S		**S**	**04 16 49.8**	**+3.8**
PFVI				*i* LQ		LQ	04 18 13.6		
VOI	**Vohitsoka**	**62.30**	**205**	P		**P**	**04 08 43.8**	**+1.2**
AVE	**Averroes**	**62.48**	**292**	P		pP	04 09 27.2	-3.9	
AVE	**Averroes**	**62.48**	**292**	PS		**S**	**04 16 54.5**	**-0.1**
TNTI	**Ternate**	**63.17**	**111**	P		**P**	**04 08 48.5**	**+0.1**
	comp=Z,4µmcomp=Z,314nm,1.2s								
TNTI	**Ternate**	**63.17**	**111**	P		**P**	**04 08 48.6**	**+0.2**
BBSI	**Bau Bau**	**63.91**	**119**	P		**P**	**04 08 56.9**	**+3.6**
SANI	**Sanana**	**64.01**	**114**	P		**P**	**04 08 53.4**	**-0.5**
	comp=Z,3µmcomp=Z,225nm,0.8s								
LBMI	**Labuha**	**64.20**	**112**	P		**P**	**04 08 56.0**	**+0.9**
	comp=Z,2µmcomp=Z,198nm,0.8s								
TULEG	**Thule**	**64.45**	**350**	P		**P**	**04 08 56.3**	**+0.5**
WBSI	**Waikabubak, Su**	**64.74**	**125**	P		**P**	**04 08 57.0**	**-1.6**
FOMA	**Nahampoana Res**	**65.08**	**204**	P		**P**	**04 09 01.1**	**+0.6**
FOMA					IAmb	IAmb	04 09 51.1		
	comp=Z,133nm,1.3s								
LSZ	**Lusaka**	**65.27**	**226**	*i* P		**P**	**04 09 03.0**	**+0.9**
LSZ	**Lusaka**	**65.27**	**226**	*i* P		**P**	**04 09 03.0**	**+0.9**
LSZ	**Lusaka**	**65.27**	**226**	*i* P		**P**	**04 09 03.0**	**+0.9**
LSZ	**Lusaka**	**65.27**	**226**	P		**P**	**04 09 02.7**	**+0.6**
LSZ					pmax	pmax			
	comp=Z,24nm,0.7s								
LSZ	**Lusaka**	**65.27**	**226**	P		**P**	**04 09 02.7**	**+0.6**
TOA0	**Torodi Ar. Sit**	**65.50**	**268**	P		**P**	**04 09 02.4**	**-1.2**
TOA0					IAmb	IAmb	04 09 04.3		
	comp=Z,46nm,0.7s								
TORD	**Torodi Ar. Bea**	**65.50**	**268**	P		**P**	**04 09 02.1**	**-1.4**
	comp=Z,44nm,0.5s,baz=48,slow=5.7,SNR=248								
TORD					pP	**pP**	**04 09 51.1**	**-0.4**
	comp=Z,24nm,0.6s,baz=43,slow=5.5,SNR=3.5								
TORD					ScS	SKiKP	04 18 35.1	-15	
	comp=Z,1.0nm,0.9s,baz=46,slow=6.2,SNR=2.0								
TORD					PKPPKP	**P'P'df**	**04 37 39.4**	**-3.1**	
	comp=Z,0.6nm,0.9s,baz=218,slow=1.6,SNR=2.3								
TORD	**Torodi Ar. Bea**	**65.50**	**268**	P		**P**	**04 09 02.0**	**-1.5**
NLAI	**Namlea**	**65.63**	**114**	P		**P**	**04 09 05.1**	**+0.8**
	comp=Z,1µmcomp=Z,173nm,0.8s								
EDFI	**Ende, Flores**	**65.63**	**123**	P		**P**	**04 09 02.2**	**-2.2**
AAI	**Ambon**	**66.74**	**114**	P		**P**	**04 09 14.3**	**+2.9**
MSAI	**Masohi**	**67.05**	**113**	P		**P**	**04 09 13.4**	**0.0**
	comp=Z,602nmcomp=Z,67nm,0.8s								
SFJD	**Kangerlussuaq**	**67.72**	**339**	*i* P		**P**	**04 09 16.9**	**+0.1**
SFJD	**Kangerlussuaq**	**67.72**	**339**	*i* P		**P**	**04 09 16.9**	**+0.1**
SFJD	**Kangerlussuaq**	**67.72**	**339**	P		**P**	**04 09 17.5**	**+0.8**
BATI	**Baumata**	**68.02**	**122**	P		**P**	**04 09 19.3**	**-0.1**
	comp=Z,1µmcomp=Z,126nm,0.7s								
SOEI	**Soe**	**68.11**	**121**	P		**P**	**04 09 19.6**	**-0.5**
	comp=Z,2µmcomp=Z,160nm,0.7s								
SOEI	**Soe**	**68.11**	**121**	P		**P**	**04 09 19.1**	**-1.0**
RDOG	**Red Dog Mine**	**68.38**	**19**		IAmb	IAmb	04 09 22.7		
	comp=Z,63nm,0.9s								
GAMB	**Gambell**	**68.64**	**25**	P		**P**	**04 09 22.3**	**-0.2**
BLWY	**Bulawayo**	**68.94**	**222**	*i* P		**P**	**04 09 25.5**	**+0.5**
BLWY	**Bulawayo**	**68.94**	**222**	*i* P		**P**	**04 09 25.5**	**+0.5**
BLWY	**Bulawayo**	**68.94**	**222**	*i* P		**P**	**04 09 25.5**	**+0.5**
MATP	**Matopo**	**69.23**	**222**	*i* P		**P**	**04 09 27.6**	**+0.8**
MATP	**Matopo**	**69.23**	**222**	*i* P		**P**	**04 09 27.6**	**+0.8**
MATP	**Matopo**	**69.23**	**222**	*i* P		**P**	**04 09 27.6**	**+0.8**
FAKI	**Fak Fak**	**69.26**	**110**	P		**P**	**04 09 27.1**	**0.0**
	comp=Z,3µmcomp=Z,253nm,0.9s								
FAKI	**Fak Fak**	**69.26**	**110**	P		**P**	**04 09 26.7**	**-0.4**
PMOZ	**Porto Moniz, M**	**69.90**	**296**	*e*S		**S**	**04 18 27.6**	**+3.5**
ANM	**Nome**	**70.16**	**22**		IAmb	IAmb	04 09 34.0		
	comp=Z,74nm,0.8s								
TOLK	**Toolik Lake Re**	**71.02**	**15**	P		**P**	**04 09 38.1**	**+1.1**
	baz=327,SNR=140								
A36M	**Sachs Harbour**	**71.27**	**5**	P		**P**	**04 09 39.4**	**+1.1**
	baz=346								
SAUI	**Saumlaki**	**71.89**	**115**	P		**P**	**04 09 45.4**	**+2.4**
SAUI	**Saumlaki**	**71.89**	**115**	P		**P**	**04 09 43.5**	**+0.5**
IMAR	**Indian Mountai**	**72.28**	**18**	P		**P**	**04 09 44.0**	**-0.5**
BMAR	**Burnt Mountain**	**73.04**	**13**	P		**P**	**04 09 50.0**	**+1.0**
SMPI	**Sarmi**	**73.64**	**105**	P		**P**	**04 09 53.6**	**+0.3**
	comp=Z,2µmcomp=Z,143nm,0.7s								
INK	**Inuvik**	**73.99**	**9**	P		**P**	**04 09 55.5**	**+1.1**
	comp=Z,124nm,0.7s,baz=345,slow=5.8,SNR=216								
INK					pP	**pP**	**04 10 45.3**	**+1.3**	
	comp=Z,43nm,0.9s,baz=337,slow=6.5,SNR=1.8								
PSAA1	**Pilbara Seismi**	**74.04**	**133**	P		**P**	**04 09 56.3**	**+0.9**
PSAA1					IAmb	IAmb	04 10 49.2		
	comp=Z,171nm,1.5s								
PSA00	**Pilbara Seismi**	**74.04**	**133**		IAmb	IAmb	04 10 48.3		
	comp=Z,98nm,1.2s								
TTA	**Tatalina**	**74.14**	**20**		IAmb	IAmb	04 09 57.1		
	comp=Z,48nm,0.8s								
PSAD2	**Pilbara Seismi**	**74.14**	**133**	P		**P**	**04 09 55.9**	**-0.2**
PSAD2					IAmb	IAmb	04 10 49.0		
	comp=Z,91nm,1.0s								
MDM	**Murphy Dome**	**74.42**	**16**		IAmb	IAmb	04 09 59.1		
	comp=Z,81nm,1.0s								
POKR	**Poker Plat Res**	**74.47**	**16**	P		**P**	**04 09 58.5**	**+1.2**
	baz=329,SNR=27								
DBIC	**Dimbokro**	**74.48**	**267**	P		**P**	**04 09 57.6**	**-0.6**
	comp=Z,14nm,0.5s,baz=23,slow=6.4,SNR=37								
DBIC					pP	**pP**	**04 10 48.1**	**+0.5**	
	comp=Z,29nm,0.8s,baz=33,slow=8.8,SNR=5.2								
DBIC	**Dimbokro**	**74.48**	**267**	P		**P**	**04 09 57.4**	**-0.7**
DBIC					IAmb	IAmb	04 10 48.0		
	comp=Z,70nm,1.3s								
LBTB	**Lobatse**	**74.50**	**222**	*i* P		**P**	**04 09 59.4**	**+1.3**
LBTB	**Lobatse**	**74.50**	**222**	*i* P		**P**	**04 09 59.4**	**+1.3**
LBTB	**Lobatse**	**74.50**	**222**	*i* P		**P**	**04 09 59.4**	**+1.3**
LBTB	**Lobatse**	**74.50**	**222**	P		**P**	**04 09 58.7**	**+0.6**
LBTB					pmax	pmax			
	comp=Z,111nm,1.4s								
LBTB	**Lobatse**	**74.50**	**222**	P		**P**	**04 09 58.7**	**+0.6**
LBTB					IAmb	IAmb	04 10 50.8		
	comp=Z,111nm,1.4s								
BPAW	**Bear Paw Mtn.**	**74.50**	**18**		IAmb	IAmb	04 09 59.1		
	comp=Z,87nm,1.0s								
KIC	**Kosan Boka**	**74.57**	**267**	*e*P		**P**	**04 09 57.6**	**-1.1**
	comp=Z,43nm,0.5s								
TCOL	**CIGO, UAF Yank**	**74.58**	**16**	P		**P**	**04 09 58.7**	**+0.8**
	baz=329,SNR=52								
COLA	**College**	**74.58**	**16**	*d* *i*P		**P**	**04 09 57.9**	**0.0**
COLA					pmax	pmax			
	comp=Z,199nm,0.9s								
COLA	**College**	**74.58**	**16**	P		**P**	**04 09 58.6**	**+0.7**
TIC	**Toumodi**	**74.62**	**267**	*e*P		**P**	**04 09 57.8**	**-1.2**
TSUM	**Tsumeb**	**74.72**	**232**	*i* P		**P**	**04 10 00.4**	**+0.9**
TSUM	**Tsumeb**	**74.72**	**232**	*i* P		**P**	**04 10 00.4**	**+0.9**
TSUM	**Tsumeb**	**74.72**	**232**	*i* P		**P**	**04 10 00.4**	**+0.9**
TSUM	**Tsumeb**	**74.72**	**232**	P		**P**	**04 10 00.0**	**+0.5**
CCB	**Clear Creek Bu**	**74.79**	**16**		IAmb	IAmb	04 10 00.8		
	comp=Z,218nm,2.0s								
WRH	**Wood River Hil**	**74.87**	**16**		IAmb	IAmb	04 10 02.7		
	comp=Z,53nm,0.9s								
LIC	**Lamto**	**74.88**	**267**	*e*P		**P**	**04 09 59.3**	**-1.2**
	comp=Z,44nm,0.5s								
IL31		**74.88**	**16**	P		**P**	**04 09 59.6**	**0.0**
IL31					IAmb	IAmb	04 10 00.9		
	comp=Z,74nm,1.0s								
ILAR	**Eielson Array**	**74.88**	**16**	P		**P**	**04 09 59.5**	**-0.1**
	comp=Z,50nm,0.9s,baz=318,slow=4.5,SNR=280								
ILAR					pP	**pP**	**04 10 50.1**	**+0.7**	
	comp=Z,17nm,0.9s,baz=347,slow=3.6,SNR=3.3								
ILAR					sP	**sP**	**04 11 16.7**	**+5.1**	
	comp=Z,25nm,0.9s,baz=317,slow=4.9,SNR=3.5								
ILAR					PP	**PP**	**04 12 50.9**	**+1.5**	
	comp=Z,12nm,1.0s,baz=318,slow=7.9,SNR=4.7								
ILAR	**Eielson Array**	**74.88**	**16**			**P**	**04 09 58.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**75.04**	**126**	P		**P**	**04 10 01.1**	**-0.1**
FITZ					IAmb	IAmb	04 10 02.3		
	comp=Z,68nm,1.2s								
MTN	**Manton Dam**	**75.06**	**119**		IAmb	IAmb	04 10 02.6		
	comp=Z,72nm,1.1s								
GENI	**Genyem**	**75.15**	**105**	P		**P**	**04 10 02.3**	**+0.3**
	comp=Z,5µmcomp=Z,382nm,1.0s								
HDA	**Harding Lake**	**75.18**	**16**	P		**P**	**04 10 00.9**	**-0.5**
	baz=329,SNR=33								
HDA	**Harding Lake**	**75.18**	**16**		IAmb	IAmb	04 10 02.1		
	comp=Z,56nm,1.0s								
PPLA	**Purkeypile**	**75.20**	**19**	P		**P**	**04 10 02.1**	**+0.4**
EPYK	**Eagle Plains**	**75.35**	**11**	P		**P**	**04 10 02.8**	**+0.4**
	baz=336								
EPYK	**Eagle Plains**	**75.35**	**11**		IAmb	IAmb	04 10 03.4		
	comp=Z,91nm,1.1s								
KNRA	**Kununurra**	**75.38**	**122**	P		**P**	**04 10 03.4**	**+0.2**
RND	**Reindeer**	**75.61**	**17**		IAmb	IAmb	04 10 04.8		
	comp=Z,73nm,0.8s								
EGAK	**Eagle**	**76.04**	**13**		IAmb	IAmb	04 10 08.2		
	comp=Z,59nm,0.9s								
RIDG	**Independent Ri**	**76.22**	**15**		IAmb	IAmb	04 10 08.7		
	comp=Z,173nm,1.4s								
DOT	**Dot Lake**	**76.47**	**15**		IAmb	IAmb	04 10 10.2		
	comp=Z,59nm,0.8s								
GHO	**Glory Hole Cre**	**76.98**	**18**		IAmb	IAmb	04 10 12.8		
	comp=Z,89nm,0.8s								
SML	**Sawmill**	**77.10**	**18**	P		**P**	**04 10 12.2**	**-0.1**
SML						PcP	04 10 12.6	-10	
RC01	**Rabbit Creek A**	**77.35**	**19**		IAmb	IAmb	04 10 14.8		
	comp=Z,77nm,0.8s								
UNV	**Unalaska Valle**	**77.41**	**31**		IAmb	IAmb	04 13 11.3		
	comp=Z,56nm,1.0s								
BCAR	**Beaver Creek A**	**77.46**	**15**	P		**P**	**04 10 14.7**	**+0.4**
BOSA	**Boshof**	**77.57**	**220**	P		**P**	**04 10 15.7**	**+0.3**
	comp=Z,38nm,0.8s,baz=22,slow=4.2,SNR=28								
BOSA					pP	**pP**	**04 11 06.2**	**+0.2**	
	comp=Z,14nm,0.7s,baz=42,slow=7.6,SNR=2.5								
BOSA					sP	**sP**	**04 11 28.8**	**+1.0**	
	comp=Z,24nm,0.7s,baz=34,slow=6.0,SNR=3.6								
BOSA	**Boshof**	**77.57**	**220**	*i* P		**P**	**04 10 16.1**	**+0.8**
BOSA	**Boshof**	**77.57**	**220**	*i* P		**P**	**04 10 16.1**	**+0.8**
BOSA	**Boshof**	**77.57**	**220**	*i* P		**P**	**04 10 16.1**	**+0.8**
BOSA	**Boshof**	**77.57**	**220**	P		**P**	**04 10 15.9**	**+0.5**
BOSA					pmax	pmax			
	comp=Z,44nm,0.9s								
BOSA	**Boshof**	**77.57**	**220**	P		**P**	**04 10 15.9**	**+0.5**
BOSA					IAmb	IAmb	04 10 18.8		
	comp=Z,44nm,0.8s								
MORW	**Morawa**	**77.85**	**140**		IAmb	IAmb	04 11 10.2		
	comp=Z,108nm,1.4s								
SEW	**Seward**	**78.26**	**19**		IAmb	IAmb	04 10 19.3		
	comp=Z,88nm,1.2s								
CNPM	**China Poot**	**78.26**	**20**		IAmb	IAmb	04 11 55.8		
	comp=Z,138nm,1.6s								
FID	**Port Fidalgo**	**78.47**	**18**		IAmb	IAmb	04 10 21.2		
	comp=Z,90nm,0.8s								
VRDI	**Verde Repeater**	**78.75**	**16**		IAmb	IAmb	04 10 23.5		
	comp=Z,96nm,1.1s								
BALM	**Baldy**	**79.17**	**16**		IAmb	IAmb	04 10 25.8		
	comp=Z,85nm,0.8s								
BARN	**Barnard Glacie**	**79.30**	**15**		IAmb	IAmb	04 10 28.6		
	comp=Z,97nm,0.8s								
KDAK	**Kodiak Island**	**79.32**	**22**	P		**P**	**04 10 25.1**	**+0.6**
KDAK					pmax	pmax			
	comp=Z,198nm,0.8s								
KDAK	**Kodiak Island**	**79.32**	**22**	P		**P**	**04 10 25.1**	**+0.6**
WAX	**Waxell Ridge**	**79.58**	**16**		IAmb	IAmb	04 10 27.8		
	comp=Z,63nm,0.6s								
HYT	**Haines Junctio**	**80.35**	**14**		IAmb	IAmb	04 10 32.5		
	comp=Z,92nm,0.7s								
YKA	**Yellowknife Ar**	**81.30**	**3**	P		**P**	**04 10 35.3**	**+0.3**
	comp=Z,64nm,0.7s,baz=349,slow=4.9,SNR=580								
YKA					pP	**pP**	**04 11 26.3**	**+1.0**	
	comp=Z,31nm,0.8s,baz=349,slow=5.0,SNR=5.3								
YKA					sP	**sP**	**04 11 51.4**	**+4.1**	
	comp=Z,57nm,0.8s,baz=346,slow=4.8,SNR=5.4								
YKA					PKKPbc	**PKKPbc**	**04 29 05.8**	**-2.6**	
	comp=Z,1.4nm,0.7s,baz=175,slow=2.1,SNR=16								
NWAO	**Narrogin (SRO)**	**81.56**	**142**	P		**P**	**04 10 35.6**	**-1.1**
NWAO					pmax	pmax			
	comp=Z,83nm,1.6s								
NWAO	**Narrogin (SRO)**	**81.56**	**142**	P		**P**	**04 10 35.5**	**-1.1**
NWAO					IAmb	IAmb	04 10 37.5		
	comp=Z,83nm,1.6s								
NWAO	**Narrogin (SRO)**	**81.56**	**142**		IAmb	IAmb	04 10 37.5		
	comp=Z,67nm,1.6s								
SKAG	**Skagway**	**82.03**	**13**		IAmb	IAmb	04 10 41.1		
	comp=Z,68nm,0.8s								
SCHQ	**Schefferville**	**82.05**	**337**	P		**P**	**04 10 39.1**	**+0.1**
	comp=Z,11nm,0.7s,baz=39,slow=3.3,SNR=20								
SCHQ					PKKPbc	**PKKPbc**	**04 29 03.8**	**-2.8**	
	comp=Z,1.9nm,0.8s,baz=257,slow=3.0,SNR=3.7								
WB0	**Warramunga Arr**	**82.07**	**122**		IAmb	IAmb	04 10 39.5		
	comp=Z,61nm,0.8s								
WRA	**Warramunga Arr**	**82.15**	**122**	P		**P**	**04 10 39.0**	**-1.0**
	comp=Z,69nm,0.7s,baz=323,slow=4.9,SNR=317								
WRA					pP	**pP**	**04 11 31.4**	**+0.7**	
	comp=Z,11nm,0.6s,baz=320,slow=4.7,SNR=2.6								
WRA	**Warramunga Arr**	**82.15**	**122**	P		**P**	**04 10 38.5**	**-1.5**
WRAB	**Tennant Creek**	**82.15**	**122**	*c* *i*P		**P**	**04 10 38.7**	**-1.3**
WRAB					pmax	pmax			
	comp=Z,103nm,0.8s								
WR0	**Warramunga Arr**	**82.30**	**122**		IAmb	IAmb	04 10 40.6		
	comp=Z,64nm,0.8s								
SUR	**Sutherland**	**82.88**	**221**	P		**P**	**04 10 44.2**	**+0.5**
	comp=Z,28nm,0.8s,baz=21,slow=3.6,SNR=20								
SUR	**Sutherland**	**82.88**	**221**	P		**P**	**04 10 43.6**	**-0.1**
SUR					IAmb	IAmb	04 11 37.1		
	comp=Z,192nm,1.9s								
BESE	**Bessie Mountai**	**82.94**	**13**		IAmb	IAmb	04 10 46.0		
	comp=Z,48nm,0.8s								
DLBC	**Dease Lake**	**83.88**	**11**	P		**P**	**04 10 48.7**	**+0.2**
DLBC					IAmb	IAmb	04 10 50.2		
	comp=Z,50nm,0.8s								
DLBC					pP	**pP**	**04 11 39.8**	**+0.6**	
SIT	**Sitka**	**84.28**	**14**		IAmb	IAmb	04 10 54.1		
	comp=Z,48nm,0.7s								
ASAR	**Alice Springs**	**84.41**	**125**	P		**P**	**04 10 50.5**	**-1.0**
	comp=Z,49nm,0.7s,baz=310,slow=4.9,SNR=348								
ASAR					pP	**pP**	**04 11 42.8**	**+0.1**	
	comp=Z,11nm,0.7s,baz=316,slow=5.2,SNR=3.0								
ASAR					sP	**sP**	**04 12 06.8**	**+2.2**	
	comp=Z,10nm,0.8s,baz=309,slow=4.8,SNR=2.3								
ASAR					PKKPbc	**PKKPbc**	**04 29 02.3**	**+0.7**	
	comp=Z,0.4nm,0.6s,baz=134,slow=3.6,SNR=5.0								
ASAR	**Alice Springs**	**84.41**	**125**	P		**P**	**04 10 50.3**	**-1.1**
COEN	**Coen**	**84.59**	**112**		IAmb	IAmb	04 10 52.6		
	comp=Z,54nm,0.7s								
PMG	**Port Moresby**	**84.80**	**106**	*c* *i*P		**P**	**04 10 53.1**	**-0.5**
PMG					pmax	pmax			
	comp=Z,61nm,0.9s								
PMG	**Port Moresby**	**84.80**	**106**	P		**P**	**04 10 52.5**	**-1.1**
PMG					IAmb	IAmb	04 10 54.3		
	comp=Z,54nm,0.8s								
WRAK	**Wrangell Islan**	**85.43**	**13**	P		**P**	**04 10 56.5**	**+0.5**
WRAK					IAmb	IAmb	04 10 58.3		
	comp=Z,59nm,0.8s								
GBN	**Guysborough**	**87.82**	**329**		IAmb	IAmb	04 12 24.8		
	comp=Z,94nm,1.2s								
CHGQ	**Chibougamau**	**88.64**	**338**	P		**P**	**04 11 11.8**	**+0.2**
	baz=27								
FFC	**Flin Flon**	**88.97**	**356**	P		**P**	**04 11 13.4**	**+0.3**
FFC					pmax	pmax			
	comp=Z,60nm,1.1s								
FFC	**Flin Flon**	**88.97**	**356**	P		**P**	**04 11 13.4**	**+0.3**
FFC					IAmb	IAmb	04 12 27.2		
	comp=Z,60nm,1.1s								
MATQ	**Matagami**	**89.71**	**340**	P		**P**	**04 11 17.2**	**+0.6**
	baz=25,SNR=8.7								
LSQQ	**Lebel-sur-Quev**	**90.16**	**339**	P		**P**	**04 11 18.8**	**0.0**
	baz=26								
D58A	**Chemin du LacG**	**90.66**	**336**	P		**P**	**04 11 20.5**	**-0.6**
	baz=28								
CTAO	**Charters Tower**	**90.72**	**114**	P		**P**	**04 11 21.0**	**-0.7**
CTAO					*PP	**pP**	**04 12 12.4**	**-1.3**	
CTAO					pmax	pmax			
	comp=Z,56nm,0.7s								
CTAO	**Charters Tower**	**90.72**	**114**	P		**P**	**04 11 21.0**	**-0.7**
CTAO					pP	**pP**	**04 12 12.4**	**-1.3**	
VLDQ	**Val d'Or**	**91.15**	**339**	P		**P**	**04 11 23.7**	**+0.3**
VLDQ						**pP**	**04 12 14.5**	**+0.1**	
VLDQ					IAmb	IAmb	04 12 16.9		
	comp=Z,42nm,1.0s								
D56A	**ZEC Mazanza, M**	**91.30**	**337**	P		**P**	**04 11 24.3**	**+0.2**
	baz=27,SNR=5.5								
E58A	**La Victoria**	**91.42**	**336**	P		**P**	**04 11 25.9**	**+1.2**
	baz=28								
D55A	**Sainte-Anne-du**	**91.55**	**338**	P		**P**	**04 11 26.0**	**+0.7**
	baz=27,SNR=8.2								
E56A	**St. Veronique**	**91.83**	**337**	P		**P**	**04 11 26.9**	**+0.4**
	baz=27								
TRQ	**Mont Tremblant**	**91.97**	**337**	P		**P**	**04 11 26.9**	**-0.4**
BBOO	**Buckleboo**	**92.04**	**130**	P		**P**	**04 11 27.4**	**-0.1**
D53A	**Lac Vacive, Po**	**92.16**	**339**	P		**P**	**04 11 28.5**	**+0.4**
	baz=25,SNR=6.3								
E55A	**Montcerf-Lytto**	**92.23**	**338**	P		**P**	**04 11 29.2**	**+0.9**
	baz=26								
D52A	**ZEK Kipawa Sen**	**92.45**	**339**	P		**P**	**04 11 29.8**	**+0.4**
	baz=24,SNR=5.5								
E54A	**Lac Daplat, Po**	**92.59**	**338**	P		**P**	**04 11 30.2**	**+0.2**
	baz=25								
LLLB	**Lillooet**	**92.60**	**8**		IAmb	IAmb	04 11 34.3		
	comp=Z,26nm,0.8s								
D50A	**G1974 Best Tow**	**92.67**	**340**	P		**P**	**04 11 30.4**	**0.0**
	baz=23								
E53A	**Dumoine, Ponti**	**92.78**	**339**	P		**P**	**04 11 31.3**	**+0.3**
	baz=25								
ULM	**Lac du Bonnet**	**92.86**	**351**

F36A				sP	**sP**	**04 13 00.0**	**-2.4**	
F36A				lAmb	lAmb	04 13 02.1		
	comp=Z,24nm,1.4s							
G40A	**Rib Lake**	**96.85**	**347**	P	**P**	**04 11 49.7**	**+0.2**	
G40A					**pP**	**04 12 40.5**	**-0.3**	
G40A				sP	**sP**	**04 13 00.3**	**-2.2**	
G40A				lAmb	lAmb	04 13 03.1		
	comp=Z,31nm,1.2s							
MSO	**Missoula**	**96.99**	**3**	P	**P**	**04 11 50.5**	**+0.3**	
	baz=356							
E28A	**Huff**	**96.99**	**354**	P	**P**	**04 11 50.3**	**+0.1**	
E28A					**pP**	**04 12 41.1**	**-0.2**	
E28A				sP	**sP**	**04 13 01.5**	**-1.5**	
LAO	**LASA Array**	**97.19**	**358**	P	Pdif	04 11 52.5	+1.4	
	baz=2.5,SNR=9.8							
LAO	**LASA Array**	**97.19**	**358**	P	Pdif	04 11 52.4	+1.3	
LAO					pP	04 12 43.1	+0.6	
LAO				lAmb	lAmb	04 12 44.8		
	comp=Z,24nm,1.0s							
I45A	**Fountain**	**97.20**	**343**	P	Pdif	04 11 51.8	+0.6	
F33A	**5 Mile Ranch,**	**97.25**	**351**	P	Pdif	04 11 53.0	+1.7	
F33A					pP	04 12 42.6	0.0	
F33A				sP	sP	04 13 03.2	-1.0	
F33A				lAmb	lAmb	04 13 04.4		
	comp=Z,39nm,1.4s							
SPMN	**Marine on St.**	**97.35**	**348**	P	**P**	**04 11 51.6**	**-0.1**	
SPMN					**pP**	**04 12 43.0**	**-0.1**	
SPMN				sP	**sP**	**04 13 01.8**	**-2.9**	
SPMN				lAmb	lAmb	04 13 04.6		
	comp=Z,17nm,1.2s							
F10A	**Beach Ranch, E**	**97.64**	**6**	lAmb	lAmb	04 13 49.2		
	comp=Z,13nm,1.1s							
LRM	**Limekiln Ridge**	**98.05**	**2**	P	Pdif	04 11 55.7	+0.4	
LRM					pP	04 12 45.9	-0.8	
I40A	**Norwalk**	**98.25**	**346**	P	**P**	**04 11 54.7**	**-1.2**	
I40A				sP	**sP**	**04 13 07.1**	**-1.7**	
BOZ	**Bozeman (W)**	**98.30**	**2**	Pdiff	Pdif	04 11 56.8	+0.6	
	baz=358,SNR=5.9							
BOZ	**Bozeman (W)**	**98.30**	**2**	P	Pdif	04 11 56.4	+0.2	
BOZ				*PP	pP	04 12 47.5	-0.2	
BOZ				pmax	pmax			
	comp=Z,16nm,1.4s							
BOZ	**Bozeman (W)**	**98.30**	**2**	P	Pdif	04 11 56.4	+0.2	
BOZ					pP	04 12 47.5	-0.2	
BOZ				lAmb	lAmb	04 13 11.1		
	comp=Z,16nm,1.4s							
DLMT	**Dillon**	**98.51**	**2**	lAmb	lAmb	04 13 51.0		
	comp=Z,19nm,1.3s							
RLMT	**Red Lodge**	**98.80**	**360**	Pdiff	Pdif	04 11 59.7	+1.2	
RLMT	**Red Lodge**	**98.80**	**360**	P	Pdif	04 11 58.9	+0.4	
RLMT					pP	04 12 49.8	-0.2	
MCMT	**McKenzie Canyo**	**99.03**	**3**	P	**Pdif**	**04 11 59.6**	**-0.1**	
JFWS	**Jewell Farm**	**99.13**	**346**	Pdiff	**Pdif**	**04 12 01.8**	**+2.0**	
	baz=15							
JFWS	**Jewell Farm**	**99.13**	**346**	P	**Pdif**	**04 11 59.2**	**-0.6**	
JFWS				*PP	**pP**	**04 12 51.6**	**+0.5**	
JFWS				pmax	pmax			
	comp=Z,19nm,1.1s							
JFWS	**Jewell Farm**	**99.13**	**346**		**Pdif**	**04 11 59.2**	**-0.6**	
JFWS				pP	**pP**	**04 12 51.6**	**+0.5**	
JFWS				lAmb	lAmb	04 13 12.4		
	comp=Z,18nm,1.1s							
I04A	**Tendick Farm,**	**99.24**	**10**	Pdiff	**Pdif**	**04 12 00.4**	**+0.1**	
	baz=349							
ECSD	**EROS Data Cent**	**99.36**	**351**	Pdiff	**Pdif**	**04 12 01.0**	**+0.2**	
	baz=10							
ECSD	**EROS Data Cent**	**99.36**	**351**	Pdif	**Pdif**	**04 12 00.0**	**-0.8**	
ECSD					**pP**	**04 12 51.9**	**-0.4**	
ECSD				lAmb	lAmb	04 13 14.1		
	comp=Z,19nm,1.1s							
RSSD	**Black Hills**	**99.66**	**356**	Pdiff	**Pdif**	**04 12 05.4**	**+3.0**	
	baz=4.3							
K38A	**Parkersburg**	**99.85**	**348**	Pdif	**Pdif**	**04 12 01.6**	**-1.3**	
L42A	**Oliver, Polo**	**99.89**	**345**	Pdif	**Pdif**	**04 12 04.2**	**+1.0**	
L42A				lAmb	lAmb	04 13 15.9		
	comp=Z,24nm,1.2s							
J05D	**Fort Rock, OR**	**99.89**	**9**	Pdiff	**Pdif**	**04 12 04.4**	**+1.1**	
	baz=350							
L04D	**Klamath Falls**	**100.80**	**10**	Pdiff	**Pdif**	**04 12 09.1**	**+1.7**	
	baz=349							
PDAR	**Pinedale Array**	**101.16**	**0**	P	**Pdif**	**04 12 08.7**	**-0.4**	
	comp=Z,1.4nm,0.8s,baz=46,slow=4.3,SNR=10							
PDAR				PP	**PP**	**04 16 20.0**	**+0.8**	
	comp=Z,0.8nm,0.7s,baz=20,slow=4.7,SNR=4.5							
PDAR				PKiKP	**PKiKP**	**04 16 32.9**	**+0.1**	
	comp=Z,0.5nm,0.5s,baz=108,slow=2.9,SNR=1.8							
PDAR				PKKPbc	**PKKPbc**	**04 28 17.7**	**-0.8**	
	comp=Z,0.5nm,0.5s,baz=123,slow=5.5,SNR=5.8							
PDAR	**Pinedale Array**	**101.16**	**0**		**Pdif**	**04 12 08.3**	**-0.8**	
NVAR	**Mina Array Bea**	**105.02**	**7**	Pdiff	**Pdif**	**04 12 28.1**	**+1.8**	
	comp=Z,0.6nm,0.5s,baz=348,slow=4.0,SNR=5.5							
NVAR				PKKPbc	**PKKPbc**	**04 28 07.3**	**+0.1**	
	comp=Z,1.4nm,0.6s,baz=193,slow=5.6,SNR=6.1							
NVAR	**Mina Array Bea**	**105.02**	**7**		**Pdif**	**04 12 28.9**	**+2.6**	
NVAR					**PKKPbc**	**04 28 09.0**	**+1.9**	
SYO	**Syowa Base**	**107.65**	**191**	⇑*e*Pdiff	**Pdif**	**04 12 37.2**	**+0.5**	
TXAR	**Lajitas Array**	**114.35**	**355**	PKP	PKPdf	04 16 58.1	+0.5	
	comp=Z,0.6nm,0.6s,baz=47,slow=1.5,SNR=7.3							
TXAR				PKKPbc	**PKKPbc**	**04 27 36.9**	**-0.3**	
	comp=Z,1.3nm,0.7s,baz=189,slow=5.5,SNR=14							
TXAR				PKKPab	**PKKPab**	**04 27 44.2**	**-3.6**	
	comp=Z,0.8nm,0.9s,baz=182,slow=6.3,SNR=4.5							
TXAR	**Lajitas Array**	**114.35**	**355**	*i* PKIKP	PKPdf	04 16 58.1	+0.5	
TXAR						04 27 39.2		
TXAR	**Lajitas Array**	**114.35**	**355**	PKKPbc	PKKPbc	04 27 39.1	+2.0	
NVL	**N'lazarevskaya**	**114.84**	**198**	⇑*i*PKIKP	**PKiKP**	**04 16 57.9**	**+1.0**	
NVL				pmax	pmax			
	comp=Z,14nm,0.7s							
SNAA	**Sanae**	**119.28**	**200**	PKPdf	**PKPdf**	**04 17 05.0**	**-0.6**	
SNAA	**Sanae**	**119.28**	**200**	PKP	**PKPdf**	**04 17 04.8**	**-0.7**	
	comp=Z,8.0nm,0.7s,baz=157,slow=2.7,SNR=35							
FOZ	**Fox Glacier**	**119.91**	**124**		**PKPdf**	**04 17 06.9**	**-0.6**	
AFI	**Afiamalu**	**120.18**	**85**	PKIKP	**PKPdf**	**04 17 08.2**	**-0.8**	
AFI	**Afiamalu**	**120.18**	**85**		**PKPdf**	**04 17 08.2**	**-0.8**	
VNA2	**Neumayer--Watz**	**120.27**	**202**	PKPdf	**PKPdf**	**04 17 07.1**	**-0.3**	
VNA1	**Neumayer--Stat**	**120.43**	**202**	PKPdf	**PKPdf**	**04 17 07.6**	**-0.1**	
VNA3	**Neumayer Olymp**	**121.08**	**202**	PKPdf	**PKPdf**	**04 17 08.5**	**-0.5**	
BDFB	**Brasilia**	**122.14**	**274**	PKP	**PKPdf**	**04 17 12.8**	**0.0**	
	comp=Z,2.2nm,0.5s,baz=333,slow=3.2,SNR=6.5							
BDFB				PKKPbc	**PKKPab**	**04 27 10.5**	**+0.1**	
	comp=Z,4.6nm,0.8s,baz=228,slow=7.6,SNR=5.9							
PTGA	**Pitinga**	**122.22**	**296**		**PKPdf**	**04 17 12.9**	**-0.1**	
SMLC	**San Martn de**	**124.14**	**316**	*eP*	**PKPdf**	**04 17 15.5**	**-1.1**	
OCAC	**Ocana**	**124.18**	**315**	*eP*	PKPdf	04 17 07.3	-10	
BRRC	**Barranca, Sant**	**125.33**	**315**	*eP*	**PKPdf**	**04 17 16.9**	**-2.0**	
VNDA	**Vanda**	**125.51**	**165**	PKP	**PKPdf**	**04 17 16.5**	**-0.8**	
	comp=Z,3.2nm,0.7s,baz=288,slow=4.1,SNR=23							
VNDA	**Vanda**	**125.51**	**165**	PKPdf	**PKPdf**	**04 17 16.3**	**-1.0**	
QSPA	**South Pole Qui**	**126.25**	**180**	PKPdf	**PKPdf**	**04 17 17.9**	**-1.1**	
SPBC	**San Pablo de B**	**126.71**	**314**	*eP*	**PKPdf**	**04 17 15.8**	**-5.9**	
HELC	**Santa Helena**	**127.10**	**316**	*eP*	**PKiKP**	**04 17 23.8**	**+0.5**	
NORC	**Norcasia**	**127.24**	**315**	*eP*	**PKPdf**	**04 17 22.3**	**-0.4**	
ROSC	**El Rosal**	**127.51**	**314**	PKP	**PKPdf**	**04 17 23.3**	**-0.3**	
	comp=Z,28nm,0.7s,baz=139,slow=6.7,SNR=14							
ROSC	**El Rosal**	**127.51**	**314**	*eP*	**PKiKP**	**04 17 24.0**	**-0.1**	
CBOC	**Ciudad Bolivar**	**127.64**	**316**	*eP*	**PKPdf**	**04 17 17.6**	**-5.9**	
GUY2C	**Guyana, Caldas**	**127.80**	**315**	*eP*	**PKPdf**	**04 17 24.1**	**-0.1**	
RREF	**El Recreo**	**128.05**	**315**	*eP*	**PKPdf**	**04 17 24.6**	**-0.3**	
PRAC	**Prado**	**128.75**	**314**	*eP*	**PKPdf**	**04 17 24.0**	**-1.5**	
YOTC	**Yotoco, Valle**	**129.37**	**315**	*eP*	**PKPdf**	**04 17 25.2**	**-1.5**	
SAML	**Samuel**	**130.08**	**292**	PKIKP	**PKPdf**	**04 17 28.0**	**+0.1**	
SAML	**Samuel**	**130.08**	**292**		**PKPdf**	**04 17 28.0**	**+0.1**	
CPUP	**Villa Florida**	**134.99**	**268**	PKP	**PKPdf**	**04 17 36.1**	**-0.6**	
	comp=Z,13nm,0.6s,baz=55,slow=2.2,SNR=26							
CPUP				SKP		04 20 48.8		
	comp=Z,4.4nm,0.7s,baz=103,slow=1.9,SNR=3.7							
LPAZ	**La Paz**	**138.42**	**288**	PKP	**PKPdf**	**04 17 44.0**	**-0.2**	
	comp=Z,4.8nm,0.7s,baz=89,slow=3.8,SNR=21							
LPAZ				SKP		04 20 57.7		
	comp=Z,3.8nm,0.9s,baz=58,slow=5.1,SNR=3.3							
LPAZ	**La Paz**	**138.42**	**288**	PKIKP	**PKPdf**	**04 17 44.1**	**-0.1**	
LPAZ	**La Paz**	**138.42**	**288**		**PKPdf**	**04 17 44.1**	**-0.1**	
PMSA	**Palmer Station**	**141.07**	**209**	PKhKP	PKPpre	04 17 42.4		
	comp=Z,19nm,0.6s,baz=126,slow=2.1,SNR=11							
AC02	**Maricunga**	**144.72**	**274**		PKPbc	04 17 54.6	+0.1	
AC02				pPKPdf	pPKPdf	04 18 45.2	-4.2	
AC05	**El Transito**	**146.47**	**272**	PKPbc	**PKPbc**	**04 17 59.3**	**0.0**	
AC05				pPKPdf	**pPKPdf**	**04 18 50.1**	**-1.7**	
CO03	**El Pedregal**	**147.55**	**269**		**PKPbc**	**04 18 01.2**	**-0.9**	
VA03	**San Esteban**	**148.06**	**265**		**PKPdf**	**04 18 00.8**	**+0.8**	
MT05	**Renca**	**148.40**	**264**		**PKiKP**	**04 18 05.3**	**-0.4**	
MT02	**Curacav**	**148.68**	**264**	PKPbc	**PKPbc**	**04 18 04.5**	**-0.4**	
PLCA	**Paso Flores**	**149.61**	**250**	PKP	**PKPdf**	**04 18 02.8**	**+0.6**	
	comp=Z,14nm,0.9s,baz=153,slow=4.4,SNR=12							
PLCA				PKPbc	**PKiKP**	**04 18 07.6**	**-0.3**	
	comp=Z,19nm,0.6s,baz=125,slow=3.0,SNR=18							
PLCA				pPKP	**pPKPbc**	**04 18 59.6**	**-1.3**	
	comp=Z,23nm,0.9s,baz=128,slow=6.8,SNR=4.4							
PLCA				sPKP		04 19 20.4		
	comp=Z,21nm,0.9s,baz=120,slow=2.1,SNR=4.0							
PLCA	**Paso Flores**	**149.61**	**250**		**PKPbc**	**04 18 05.5**	**-1.5**	
BI02	**San Fabin de**	**149.61**	**258**	PKPbc	**PKPbc**	**04 18 06.0**	**-1.2**	
GO05	**Huala**	**149.77**	**262**	PKPbc	**PKPbc**	**04 18 06.3**	**-1.3**	
COYC	**Coyhaique**	**150.72**	**240**		**PKPbc**	**04 18 08.7**	**-0.7**	
LL01	**San Ignacio de**	**151.08**	**247**		**PKPbc**	**04 18 09.4**	**-0.9**	
GO07	**Milladeo Hill,**	**151.99**	**245**		**PKPbc**	**04 18 12.3**	**-0.1**	

IDC ***14*** *03:59:38.9±0.8, 54°.33S×5°.19E, h0km, mb4.6/9, mb1 4.7/10, mb1mx4.5/30, mbtmp4.6/10, ML4.0/1, MS4.4/19, Ms1 4.4/19, ms1mx4.3/22, Error ellipse: s-maj=24.4km s-min=18.5km az=53.0*

NEIC ***14*** *03:59:40.5±2.2, 54°.38S±0°.03×5°.2E±0°.2, h10km±1km, mb4.7/16, Error ellipse: s-maj=21.1km s-min=4.1km az=100.0*

GCMT ***14*** *03:59:43.5±0.2, 54°.41S±0°.02×5°.72E±0°.03, h18km, MW5.2/126, Moment Tensor Solution. s38,c43; s126,c206; Duration: 1s0 Moment tensor: Scale 10¹⁶ Nm; Mrr~6.78±.33; Mθθ3.22±.20; Mφφ3.56±.20; Mrθ2.90±.47; Mθφ~2.50±.09; Mφr~3.05±.48; Best double couple: M○7.60800×10¹⁶ NP1:φs137.00000°, δ28.00000°, λ-90.00000°. NP2:φs317.00000°, δ62.00000°, λ-90.00000°. Principal axes: T 7.1660, Plg17.0000°, Azm47.0000°; N 0.8840, Plg0.0000°, Azm317.0000°; P -8.0500, Plg73.0000°, Azm226.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 03:59:40.6±0.5, 54°.40S±0°.08×5°.2E±0°.1, h10km, n53, σ1s08/34, mb4.7/11, MS4.4/18, 1C-2D, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.37**	**195**	P	**P**	**04 03 44.2**	**+0.1**
VNA2	**Neumayer--Watz**	**17.49**	**194**	P	**Pn**	**04 03 44.5**	**+0.3**
	baz=16,slow=15						
SNAA	**Sanae**	**17.68**	**188**	P	**P**	**04 03 47.1**	**-0.4**
SNAA	**Sanae**	**17.68**	**188**	P	**Pn**	**04 03 45.6**	**-1.1**
	0.5nm,0.3s,baz=6.0,slow=14,SNR=44						
SNAA				S	Sn	04 06 45.3	-18
	0.3nm,0.3s,baz=23,slow=16,SNR=2.4						
SNAA				LR	LR	04 09 24.7	
	comp=Z,2μm,18.3s,baz=9.0,slow=33						
SNAA	**Sanae**	**17.68**	**188**		**P**	**04 03 47.2**	**-0.3**
VNA3	**Neumayer Olymp**	**18.11**	**196**	P	**Pn**	**04 03 51.8**	**-0.1**
SYO	**Syowa Base**	**21.46**	**146**	⇑*e*P	**P**	**04 04 24.9**	**-3.8**
SYO	**Syowa Base**	**21.46**	**146**	⇓*i*P	**P**	**04 04 28.0**	**-0.7**
SYO	**Syowa Base**	**21.46**	**146**	⇓*i*pP	pP	04 04 33.2	+2.7
SUR	**Sutherland**	**24.65**	**33**	LR	LR	04 12 12.3	
	comp=Z,1μm,20.4s,baz=180,slow=31						
BOSA	**Boshof**	**29.61**	**38**	P	**P**	**04 05 45.1**	**-0.8**
	5.8nm,0.9s,baz=205,slow=7.8,SNR=6.3						
BOSA				LR	LR	04 15 18.8	
	comp=Z,1μm,20.8s,baz=184,slow=32						
BOSA	**Boshof**	**29.61**	**38**	lAmb	lAmb	04 05 52.4	
	comp=Z,17nm,1.2s						
MAW	**Mawson**	**29.63**	**139**	P	**P**	**04 05 46.9**	**+1.3**
	comp=Z,12nm,0.9s,baz=272,slow=12,SNR=8.4						
MAW				LR	LR	04 16 19.4	
	comp=Z,172nm,19.2s,baz=258,slow=34						
MAW	**Mawson**	**29.63**	**139**	P	**P**	**04 05 47.2**	**+1.6**
LBTB	**Lobatse**	**33.03**	**35**	P	**P**	**04 06 15.5**	**-0.5**
LBTB				lAmb	lAmb	04 06 23.1	
	comp=Z,8.5nm,1.1s						
PMSA	**Palmer Station**	**34.74**	**225**	LR	LR	04 17 20.4	
	comp=Z,759nm,21.8s,baz=76,slow=30						
QSPA	**South Pole Qui**	**35.84**	**180**	P	**P**	**04 06 40.5**	**+0.5**
	comp=Z,12nm,0.8s,baz=224,slow=3.7,SNR=20						
QSPA				LR	LR	04 20 44.6	
	comp=Z,1μm,19.4s,baz=218,slow=35						
QSPA	**South Pole Qui**	**35.84**	**180**	P	**P**	**04 06 40.1**	**+0.1**
TSUM	**Tsumeb**	**36.40**	**20**	P	**P**	**04 06 44.1**	**-1.1**
TSUM				lAmb	lAmb	04 06 58.6	
	comp=Z,17nm,1.1s						
USHA	**Ushuaia**	**40.80**	**238**	LR	LR	04 20 00.5	
	comp=Z,1μm,20.3s,baz=131,slow=30						
CASY	**Casey**	**47.20**	**148**	P	**P**	**04 08 13.1**	**+0.2**
VNDA	**Vanda**	**47.54**	**173**	P	**P**	**04 08 15.8**	**+0.4**
	comp=Z,11nm,0.9s,baz=219,slow=7.1,SNR=28						
VNDA				LR	LR	04 27 55.7	
	comp=Z,527nm,19.5s,baz=191,slow=36						
VNDA	**Vanda**	**47.54**	**173**	P	**P**	**04 08 16.3**	**+0.9**
ABPO	**Ambohimpanom**	**47.64**	**59**	P	**P**	**04 08 19.0**	**+1.9**
H10S2	**ASCENSIÓN HYDR**	**48.03**	**333**	T	T	05 00 04.6	
	baz=164,slow=7.4,SNR=4.6						
H10S3	**ASCENSION HYDR**	**48.04**	**333**	T	T	05 00 05.5	
	baz=56,slow=74,SNR=24						
PLCA	**Paso Flores**	**50.46**	**253**	P	**P**	**04 08 37.6**	**-0.8**
	comp=Z,3.1nm,0.9s,baz=42,slow=8.9,SNR=2.8						
PLCA				LR	LR	04 27 01.5	
	comp=Z,218nm,22.0s,baz=142,slow=32						
PLCA	**Paso Flores**	**50.46**	**253**	lAmb	lAmb	04 08 40.5	
	comp=Z,27nm,1.5s						
CPUP	**Villa Florida**	**53.14**	**276**	P	**P**	**04 08 57.5**	**-0.9**
	comp=Z,11nm,1.0s,baz=113,slow=5.9,SNR=6.6						
CPUP				LR	LR	04 27 54.1	
	comp=Z,141nm,21.5s,baz=141,slow=32						
CPUP	**Villa Florida**	**53.14**	**276**	P	**P**	**04 08 59.2**	**+0.8**
BO02	**Sierra Bellavi**	**54.74**	**258**	P	**P**	**04 09 09.4**	**-0.7**
CFA	**Coronel Fontan**	**55.59**	**262**	P	**P**	**04 09 16.2**	**0.0**
	comp=Z,2.4nm,0.8s,baz=126,slow=6.3,SNR=4.1						
BDFB	**Brasilia**	**56.32**	**292**	P	**P**	**04 09 21.7**	**0.0**
	comp=Z,7.1nm,0.9s,baz=128,slow=9.7,SNR=7.6						
BDFB				LR	LR	04 28 26.2	
	comp=Z,292nm,21.9s,baz=127,slow=31						
BDFB	**Brasilia**	**56.32**	**292**	P	**P**	**04 09 23.2**	**+1.6**
KMBO	**Kilima Mbogo**	**59.24**	**38**	LR	LR	04 33 58.6	
	comp=Z,597nm,18.2s,baz=158,slow=35						
DBIC	**Dimbokro**	**61.43**	**349**	LR	LR	04 31 28.5	
	comp=Z,262nm,20.3s,baz=76,slow=31						
LPAZ	**La Paz**	**67.23**	**274**	P	**P**	**04 10 36.2**	**+0.4**
	comp=Z,7.7nm,1.0s,baz=121,slow=5.7,SNR=13						
LPAZ				LR	LR	04 36 40.2	
	comp=Z,243nm,21.4s,baz=116,slow=33						
LPAZ	**La Paz**	**67.23**	**274**	P	**P**	**04 10 36.5**	**+0.7**
TORD	**Torodi Ar. Bea**	**67.35**	**356**	LR	LR	04 34 24.0	
	comp=Z,187nm,20.6s,baz=105,slow=31						
SAML	**Samuel**	**70.24**	**283**	P	**P**	**04 10 54.0**	**+0.2**
H01W2	**Cape Leeuwin H**	**72.17**	**125**	T	T	05 30 47.3	
	baz=216,slow=75,SNR=148						
H01W1	**Cape Leeuwin H**	**72.18**	**125**	T	T	05 30 48.3	
	baz=216,slow=75,SNR=392						
H01W3	**Cape Leeuwin H**	**72.18**	**125**	T	T	05 30 48.3	
	baz=216,slow=75,SNR=359						
PTGA	**Pitinga**	**75.19**	**290**	P	**P**	**04 11 23.3**	**+0.1**
ROSC	**El Rosal**	**87.83**	**281**	LR	LR	04 49 51.8	
	comp=Z,395nm,19.1s,baz=142,slow=34						
KEST	**Kesra**	**89.84**	**3**	LR	LR	04 52 23.0	
	comp=Z,139nm,18.0s,baz=256,slow=35						
ESDC	**Sonseca Array**	**94.04**	**353**	LR	LR	04 53 17.9	
	comp=Z,55nm,18.1s,baz=140,slow=34						
BRTR	**Keskin Array B**	**96.89**	**22**	LR	LR	04 56 24.2	
	comp=Z,181nm,21.6s,baz=178,slow=35						
USRK	**Ussuriysk Ar.**	**144.63**	**84**	PKP	**PKPab**	**04 19 13.8**	**-1.4**
	comp=Z,2.0nm,0.8s,baz=254,slow=5.2,SNR=2.8						
C09A	**Chrisman Ranch**	**144.75**	**283**		PKPbc	04 19 15.6	0.0
B08A	**Colville Reser**	**145.65**	**283**		**PKPab**	**04 19 18.9**	**+0.1**
YKA	**Yellowknife Ar**	**148.60**	**309**	PKPbc	**PKPbc**	**04 19 25.6**	**-0.6**
	comp=Z,7.0nm,0.8s,baz=109,slow=2.7,SNR=28						
ILAR	**Eielson Array**	**162.64**	**318**	PKPab	**PKPab**	**04 20 29.3**	**-0.5**
	comp=Z,1.9nm,1.0s,baz=37,slow=3.9,SNR=7.5						

ATH 14 04:05:08.4, 40°.23N×25°.20E, h20km±6km, ML1.0/2, Error ellipse: s-maj=6.8km s-min=1.3km az=124.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.33**	**183**	P	Pb	04 05 15.9	+0.3
LIA				S	Sb	04 05 20.4	0.0
LIA				AML	AML	04 05 21.4	
	comp=N,71μm,0.3s						
LIA				AML	AML	04 05 21.9	
	comp=E,52μm,0.2s						
SMTH	**Samothraki Isl**	**0.35**	**46**	P	Pb	04 05 15.5	-0.5
SMTH				S	Sb	04 05 21.6	+0.5
THAS	**Thassos island**	**0.53**	**316**	P	Pb	04 05 18.5	-0.5
THAS				S	Sb	04 05 27.2	+0.9
THAS				AML	AML	04 05 28.6	
	comp=N,36μm,0.1s						
THAS				AML	AML	04 05 29.3	
	comp=E,40μm,0.2s						
ALN	**Alexandroupoli**	**0.93**	**44**	P	Pn	04 05 26.3	-0.1
OUR	**Ouranopolis**	**0.94**	**277**	P	Pn	04 05 26.6	+0.1

SOME ***14*** *04:44:29.2, 41°.93N×80°.25E, h5km*
NNC ***14*** *04:44:30.9±1.0, 41°.99N×80°.27E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=7.1km s-min=4.3km az=148.0*
KRNET ***14*** *04:44:31.3±0.1, 41°.82N×80°.10E, mb3.3*

ISC 14 04:44:32.4±2.8, 42°.06N±0°.08×80°.19E±0°.06, h5km±14km, n51, σ1s19/86, 19C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.23**	**334**	*eP*	**Pn**	**04 44 53.6**	**-2.7**
	68nm,0.2s						
SHLS				*eS*	**Sb**	**04 45 11.5**	**-0.8**
	241nm,0.2s						
SHLS	**Shalkode**	**1.23**	**334**	P	**Pn**	**04 44 53.6**	**-2.7**
	68nm,0.2s						
SHLS				S	**Sb**	**04 45 11.5**	**-0.8**
	241nm,0.2s						
UZB	**Uzynbulak**	**1.39**	**322**	*eP*	**Pn**	**04 44 58.1**	**-0.5**
	40nm,0.2s						
UZB				*eS*	**Sg**	**04 45 19.3**	**+2.2**
	52nm,0.3s						
UZB	**Uzynbulak**	**1.39**	**322**	P	**Pn**	**04 44 58.1**	**-0.5**
	40nm,0.2s						
UZB				S	**Sg**	**04 45 19.3**	**+2.2**
	52nm,0.3s						
KTMS	**Ketmen**	**1.39**	**5**	*eP*	**Pn**	**04 44 57.6**	**-1.0**
	8.8nm,0.1s						
KTMS				*eS*	**Sg**	**04 45 18.2**	**+1.0**
	59nm,0.3s						
KTMS	**Ketmen**	**1.39**	**5**	P	**Pn**	**04 44 57.6**	**-1.0**
	8.8nm,0.1s						
KTMS				S	**Sg**	**04 45 18.2**	**+1.0**
	59nm,0.3s						
PRZ	**Przheval'sk**	**1.40**	**288**	⇑*eP*	**Pn**	**04 44 57.6**	**-1.1**
	baz=98						
PRZ				⇑*iS*	**Sb**	**04 45 17.3**	**0.0**
	baz=98						
SATY	**Saty**	**1.66**	**308**	*eP*	**Pb**	**04 45 02.8**	**-0.6**
	47nm,0.3s						
SATY				*eS*	**Sg**	**04 45 27.3**	**+1.7**
	126nm,0.3s						
SATY	**Saty**	**1.66**	**308**	P	**Pb**	**04 45 02.8**	**-0.6**
	47nm,0.3s						
SATY				S	**Sg**	**04 45 27.3**	**+1.7**
	126nm,0.3s						
KPKS	**Kokpek**	**1.79**	**322**	*eP*	**Pb**	**04 45 05.2**	**-0.6**
	147nm,0.3s						
KPKS				*eS*	**Sg**	**04 45 31.5**	**+1.5**
	240nm,0.3s						
TARG	**Taragay, Kyrgy**	**1.81**	**260**	⇓*eP*	**Pn**	**04 45 03.3**	**-1.3**
	baz=68						
TARG				⇓*iS*	**Sn**	**04 45 26.7**	**-1.5**
	baz=68						
ANVS	**Anan'yevo**	**2.00**	**292**	⇑*iP*	**Pb**	**04 45 08.7**	**-0.7**
	baz=99						
ANVS				⇑*iS*	**Sb**	**04 45 36.0**	**+1.2**
	baz=99						
KURS	**Kuram**	**2.06**	**315**	*eP*	**Pb**	**04 45 10.1**	**-0.3**
	24nm,0.4s						
KURS				*eS*	**Sg**	**04 45 40.0**	**+1.3**
	19nm,0.4s						
KURS	**Kuram**	**2.06**	**315**	Pg	**Pb**

KUU	**Kurty**	**3.37**	**304**	Pg		**Pb**	**04 45 32.6**	**0.0**
	5.9nm,0.4s							
KUU				Lg		Lg	04 46 18.4	
	25nm,0.4s							
DGS	**Degeres**	**3.47**	**291**	*e*P		**Pb**	**04 45 34.7**	**+0.3**
DGS				*e*S		**Sg**	**04 46 21.6**	**-2.2**
DGS	**Degeres**	**3.47**	**291**	Pg		**Pb**	**04 45 34.7**	**+0.3**
DGS				Lg		Lg	04 46 21.6	
TKM2	**Tokmak 2**	**3.51**	**286**	⇑*i*P		**Pn**	**04 45 29.2**	**+1.4**
	baz=90							
TKM2				⇑*i*S		**Sn**	**04 46 11.5**	**+1.8**
	baz=90							
TKM2	**Tokmak 2**	**3.51**	**286**	⇑Pn		**Pn**	**04 45 29.8**	**+2.1**
	4.3nm,0.4s							
TKM2				⇓Lg		Lg	04 46 21.4	
	9.2nm,0.4s							
KZA	**Kyzart**	**3.68**	**272**	⇓*i*P		**Pn**	**04 45 30.7**	**+0.4**
	baz=76							
KZA				⇓*i*S		**Sn**	**04 46 14.1**	**-0.2**
	baz=76							
KRBS	**Karabastau**	**3.70**	**298**	*e*P		**Pb**	**04 45 39.1**	**+0.8**
	4.9nm,0.3s							
KRBS				*e*S		**Sg**	**04 46 29.2**	**-2.0**
	10nm,0.3s							
KRBS	**Karabastau**	**3.70**	**298**	Pg		**Pb**	**04 45 39.1**	**+0.8**
	4.9nm,0.3s							
KRBS				Lg		Lg	04 46 29.2	
	10nm,0.3s							
KBK	**Karagaybulak**	**3.93**	**281**	⇓*i*P		**Pn**	**04 45 34.6**	**+1.0**
	baz=84							
KBK				⇓*e*S		**Sn**	**04 46 20.7**	**+0.5**
	baz=84							
AAK	**Ala-Archa**	**4.26**	**280**	⇑*i*P		**Pn**	**04 45 39.2**	**+1.1**
	baz=83							
AAK				⇑*i*S		**Sn**	**04 46 28.6**	**+0.3**
	baz=83							
AAK	**Ala-Archa**	**4.26**	**280**	Pg		**Pb**	**04 45 49.4**	**+1.5**
	3.4nm,0.4s							
AAK				Lg		Lg	04 46 46.6	
	7.6nm,0.8s							
EKS2	**Erkin-Say**	**4.79**	**279**	⇑*i*P		**Pn**	**04 45 46.3**	**+1.0**
	baz=82							
EKS2				⇑*i*S		**Sn**	**04 46 41.2**	**-0.1**
	baz=82							
MAKZ	**Makanchi**	**4.92**	**14**	⇑Pn		**Pn**	**04 45 46.1**	**-0.8**
	0.9nm,0.4s							
MAKZ				⇓Sn		**Sn**	**04 46 47.1**	**+2.8**
	0.9nm,0.5s							
MAKZ				⇓Lg		Lg	04 47 04.9	
	1.3nm,0.3s							
MK31	**Makanchi Array**	**4.97**	**17**	⇑Pn		**Pn**	**04 45 48.1**	**+0.4**
	0.2nm,0.3s,baz=200,slow=14,SNR=21							
MK31				⇑Sn		**Sn**	**04 46 45.9**	**+0.3**
	0.8nm,0.3s,baz=188,slow=15,SNR=4.5							
MK31				⇑Lg		Lg	04 47 05.4	
	3.5nm,0.7s,baz=190,slow=28,SNR=3.8							

IDC ***14*** *05:24:25.1±0.8,26°.80N×92°.39E,h0km,mb3.9/14, mb1 4.1/15,mb1mx3.9/48,mbtmp3.9/15,ML4.1/1,MS2.9/1, Ms1 3.1/1,ms1mx2.5/33,Error ellipse: s-maj=33.5km s-min=15.7km az=56.0*

NEIC ***14*** *05:24:27.4±2.5,26°.88N±0°.06×92°.5E±0°.1,h10km±1km, mb4.3/18,Error ellipse: s-maj=16.2km s-min=9.6km az=86.0*

NDI ***14*** *05:24:31.4±3.0,26°.88N×92°.64E,h10km,ML4.5, mb4.3(NEIC)*

BJI ***14*** *05:24:32.2±0.0,27°.10N×92°.76E,h20km,mb4.2/7,ML3.9/2*

ISC 14 05:24:27.7±0.4,26°.94N±0°.04×92°.47E±0°.03,h10km,n69, σ1§67/82,mb4.1/20,Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITAN	**ITANAGAR**	**1.13**	**79**	*e*P	**Pg**	**05 24 50.3**	**+0.8**
ITAN				*e*S	**Sb**	**05 25 04.6**	**+0.4**
ZIRO	**ZIRO**	**1.36**	**64**	*e*P	**Pn**	**05 24 53.9**	**+0.9**
ZIRO				*e*S	**Sb**	**05 25 10.6**	**-0.3**
DIBR	**DIBRUGARH**	**2.23**	**76**	*e*P	**Pb**	**05 25 08.9**	**+0.8**
DIBR				*e*S	**Sb**	**05 25 35.3**	**-0.6**
DIBR				IAML		05 25 38.0	
	comp=E,5μm,0.2s						
DIBR				IAML		05 25 38.6	
	comp=N,9μm,0.1s						
DHUB	**DHUBRI**	**2.40**	**248**	*e*P	**Pg**	**05 25 13.4**	**-0.4**
DHUB				IAML		05 25 57.0	
	comp=N,4μm,0.2s						
LSA	**Lhasa**	**2.99**	**337**	Pn	**Pb**	**05 25 19.9**	**-1.4**
LSA				Sg	**Sg**	**05 26 05.4**	**+1.6**
LSA	**Lhasa**	**2.99**	**337**	Pn	**Pb**	**05 25 20.1**	**-1.2**
LKP	**Lekhapani**	**3.03**	**82**	*ex*	**Sg**	**05 26 02.0**	**-3.1**
AGT	**Agartala**	**3.24**	**200**	*e*S	**Sn**	**05 25 59.6**	**+2.4**
AGT				*ex*	**Sg**	**05 26 11.3**	**-0.5**
AGT				IAML		05 26 17.4	
	comp=E,4μm,0.9s						
AGT				IAML		05 26 18.0	
	comp=N,2μm,0.9s						
BELO	**BELONIA**	**3.79**	**194**	*e*S	**Sn**	**05 26 11.4**	**+0.5**
BELO				*ex*	x	05 26 12.1	
BRDH	**Bariadhala**	**4.31**	**190**	Pn	**Pn**	**05 25 35.3**	**+1.9**
	comp=N,6.5nm,0.3s,baz=127,slow=20,SNR=1.6						
BRDH				Sn	**Sn**	**05 26 23.8**	**0.0**
	comp=N,54nm,0.3s,baz=168,slow=22,SNR=8.7						
RAMN	**Ramite**	**5.24**	**271**	*e*Pn	**Pn**	**05 25 49.6**	**+3.2**
JIRN	**Jiri**	**5.64**	**279**	*e*Sn	**Sn**	**05 26 57.9**	**+0.9**
	comp=N,487nm,0.3s						
GUN	**Gumba**	**5.94**	**281**	*e*Pn	**Pn**	**05 25 59.1**	**+3.0**
GUN				*e*Sn	**Sn**	**05 27 05.2**	**+0.8**
	comp=N,391nm,0.3s						
PKI	**Pulchoki**	**6.32**	**277**	*e*Pn	**Pn**	**05 26 03.9**	**+2.6**
PKI				*e*Sn	**Sn**	**05 27 14.1**	**+0.4**
PKIN	**Phulchoki**	**6.33**	**277**	*e*Pn	**Pn**	**05 26 04.0**	**+2.6**
PKIN				*e*Sn	**Sn**	**05 27 14.2**	**+0.3**
	comp=N,289nm,0.4s						
KKN	**Kakani**	**6.45**	**279**	*e*Pn	**Pn**	**05 26 05.8**	**+2.8**
KKN				*e*Sn	**Sn**	**05 27 17.0**	**+0.1**
	comp=N,436nm,0.5s						
DMN	**Daman**	**6.59**	**277**	*e*Sn	**Sn**	**05 27 19.7**	**-0.6**
GKN	**Gorkha**	**7.04**	**280**	*e*Pn	**Pn**	**05 26 13.8**	**+2.7**
GKN				*e*Sn	**Sn**	**05 27 30.8**	**-0.5**
	comp=N,266nm,0.3s						
DANN	**Dangsing**	**7.86**	**282**	*e*Pn	**Pn**	**05 26 24.4**	**+2.1**
KOLN	**Koldanda**	**7.93**	**278**	*e*Pn	**Pn**	**05 26 25.5**	**+2.1**
KOLN				*e*Sn	**Sn**	**05 27 51.3**	**-2.0**
	comp=N,174nm,0.4s						
PYUN	**Piuthan**	**8.50**	**280**	*e*Sn	**Sn**	**05 28 06.3**	**-0.9**
	comp=N,150nm,0.3s						
CM31	**Chiang Mai Arr**	**10.34**	**143**	Pn	**Pn**	**05 26 55.8**	**-0.4**
CMAR	**Chiang Mai Arr**	**10.34**	**143**	Pn	**Pn**	**05 26 55.5**	**-0.7**
	comp=N,0.4nm,0.3s,baz=319,slow=13,SNR=14						
CMAR				LR	LR	05 32 01.1	
	comp=N,66nm,20.3s,baz=335,slow=44						
GYA	**Guiyang**	**12.70**	**89**	*e*P	**Pn**	**05 27 28.8**	**+0.3**
GTA	**Gaotai**	**13.87**	**24**	*e*P	**Pn**	**05 27 42.3**	**-2.1**
GTA				pmax	pmax		
	comp=N,4.0nm,1.2s						
ENH	**Enshi**	**15.31**	**74**		**P**	**05 28 12.0**	**+3.3**
HYB	**Hyderabad**	**15.99**	**236**	*i* P	**P**	**05 28 18.5**	**+2.1**
HYB				*e*S	**S**	**05 31 18.5**	**-5.8**
WMQ	**Urumqi**	**17.28**	**348**	*e*P	**P**	**05 28 34.8**	**+4.2**
WMQ	**Urumqi**	**17.28**	**348**		**P**	**05 28 32.4**	**+1.7**
WMQ				IAmb	IAmb	05 28 36.2	
	comp=Z,14nm,0.6s						
TARG	**Taragay, Kyrgy**	**19.05**	**324**	P	**P**	**05 28 49.6**	**-0.9**
PRZ	**Przheval'sk**	**19.30**	**327**	P	**Pn**	**05 28 54.9**	**+0.8**
PRZ				IAmb	IAmb	05 28 56.0	
	comp=Z,17nm,0.7s						
KDJ	**Kajisay**	**19.66**	**324**		**P**	**05 28 58.6**	**+1.7**
BOOM	**Boomskoye usch**	**20.57**	**323**	P	**P**	**05 29 08.1**	**+1.3**
BOOM				IAmb	IAmb	05 29 09.5	
	comp=Z,9.1nm,0.9s						
MK31	**Makanchi Array**	**21.39**	**341**	P	**P**	**05 29 14.9**	**-0.5**
MK31				IAmb	IAmb	05 29 16.3	
	comp=Z,10nm,0.7s						
MKAR	**Makanchi Array**	**21.39**	**341**	P	**P**	**05 29 15.6**	**+0.1**
	comp=Z,10.0nm,0.5s,baz=146,slow=13,SNR=137						
MKAR	**Makanchi Array**	**21.39**	**341**	P	**P**	**05 29 15.1**	**-0.3**
AAK	**Ala-Archa**	**21.45**	**321**	P	**P**	**05 29 18.4**	**+2.1**
	comp=Z,4.7nm,0.7s,baz=136,slow=6.9,SNR=7.3						
AAK	**Ala-Archa**	**21.45**	**321**	P	**P**	**05 29 18.3**	**+1.9**
KBL	**Kabul**	**21.49**	**296**	P	**P**	**05 29 17.7**	**+0.9**
KBL				IAmb	IAmb	05 29 29.9	
	comp=Z,14nm,0.7s						
MAKZ	**Makanchi**	**21.50**	**340**	P	**P**	**05 29 16.6**	**0.0**
MAKZ				IAmb	IAmb	05 29 17.4	
	comp=Z,9.0nm,0.6s						
SONM	**Songino Array**	**23.54**	**24**	P	**P**	**05 29 39.2**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=202,slow=15,SNR=2.3						
SONM	**Songino Array**	**23.54**	**24**	P	**P**	**05 29 38.5**	**+0.3**
KURBB	**Kurchatov Arra**	**25.94**	**339**	P	**P**	**05 30 00.2**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=153,slow=9.6,SNR=20						
KURK	**Kurchatov**	**25.99**	**340**	P	**P**	**05 30 00.1**	**-0.4**
KURK				IAmb	IAmb	05 30 03.1	
	comp=Z,4.3nm,0.7s						
ZALV	**Zalesovo Beam**	**27.57**	**350**	P	**P**	**05 30 15.5**	**+0.7**
	comp=Z,0.9nm,0.4s,baz=187,slow=7.1,SNR=3.6						
ABKAR	**Akbulak array**	**33.53**	**320**	P	**P**	**05 31 08.1**	**+0.6**
NRIK	**Noril'sk**	**42.53**	**357**	P	**P**	**05 32 21.7**	**-1.4**
	comp=Z,3.1nm,0.6s,baz=107,slow=3.2,SNR=4.5						
BRTR	**Keskin Array B**	**49.97**	**300**	P	**P**	**05 33 21.1**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=100,slow=8.1,SNR=2.0						
BRTR	**Keskin Array B**	**49.97**	**300**	P	**P**	**05 33 21.7**	**-0.5**
AKASG	**Malin Array Be**	**52.89**	**315**	P	**P**	**05 33 42.5**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=80,slow=6.8,SNR=4.7						
AKASG	**Malin Array Be**	**52.89**	**315**	P	**P**	**05 33 43.5**	**-0.2**
AKBB	**Malin Array Si**	**52.89**	**315**	P	**P**	**05 33 43.2**	**-0.5**
AKBB				IAmb	IAmb	05 33 54.8	
	comp=Z,3.2nm,1.1s						
FINES	**FINESS Array B**	**55.46**	**328**	P	**P**	**05 34 02.6**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=78,slow=8.7,SNR=1.9						
FINES	**FINESS Array B**	**55.46**	**328**	P	**P**	**05 34 03.0**	**+0.7**
WB0	**Warramunga Arr**	**61.70**	**134**	P	**P**	**05 34 44.9**	**-1.5**
WRA	**Warramunga Arr**	**61.79**	**135**	P	**P**	**05 34 45.1**	**-1.8**
	comp=Z,1.5nm,0.6s,baz=324,slow=7.3,SNR=3.7						
WRA	**Warramunga Arr**	**61.79**	**135**	P	**P**	**05 34 44.8**	**-2.2**
WB2	**Warramunga Arr**	**61.80**	**135**	P	**P**	**05 34 45.6**	**-1.4**
NB2	**NORSAR Subarra**	**62.63**	**327**	P	**P**	**05 34 50.9**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=83,slow=6.5						
NOA	**NORSAR Array B**	**62.63**	**327**	P	**P**	**05 34 51.0**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=83,slow=6.4,SNR=3.7						
GERES	**GERESS Array B**	**63.05**	**313**	P	**P**	**05 34 54.4**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=71,slow=6.4,SNR=7.8						
GERES	**GERESS Array B**	**63.05**	**313**	P	**P**	**05 34 54.8**	**-0.4**
ASAR	**Alice Springs**	**64.29**	**138**	P	**P**	**05 35 02.0**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=321,slow=6.5,SNR=17						
ASAR	**Alice Springs**	**64.29**	**138**	P	**P**	**05 35 02.8**	**-0.8**
BMAR	**Burnt Mountain**	**76.80**	**19**	P	**P**	**05 36 22.7**	**+3.4**
ILAR	**Eielson Array**	**77.75**	**22**	P	**P**	**05 36 24.9**	**+0.2**
	comp=Z,0.3nm,0.8s,baz=317,slow=5.2,SNR=2.8						
ILAR	**Eielson Array**	**77.75**	**22**	P	**P**	**05 36 24.1**	**-0.5**
TORD	**Torodi Ar. Bea**	**84.83**	**282**	P	**P**	**05 37 02.8**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=64,slow=4.3,SNR=3.5						
TORD	**Torodi Ar. Bea**	**84.83**	**282**	P	**P**	**05 37 02.5**	**-0.6**

GUC ***14*** *05:49:28.2±0.5,23°.93S×67°.18W,h233km±8km,ML4.3*

IDC ***14*** *05:49:34.8±10.0,23°.20S×66°.46W,h242km±69km,mb3.4/1, mb1 3.3/3,mb1mx3.0/17,mbtmp3.9/3,Error ellipse: s-maj=114.7km s-min=36.4km az=24.0*

ISC 14 05:49:27.3±1.3,23°.85S±0°.07×67°.0W±0°.2,h223km±18km, n16,σ1§25/29,8C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.13**	**305**	*e*P	**Pn**	**05 50 10.0**	**+0.6**
LVC				*e*S	**S**	**05 50 41.9**	**-0.1**
PB15	**IPOC Station P**	**2.33**	**285**	⇑*i*P	**Pn**	**05 50 12.0**	**+0.8**
PB15				*e*S	**S**	**05 50 44.8**	**-0.6**
PB06	**IPOC Station P**	**2.60**	**295**	⇑*i*P	**Pn**	**05 50 15.0**	**+0.9**
PB06				*e*S	**S**	**05 50 49.7**	**-0.8**
PB06				IAML		05 50 52.3	
	comp=E,463nm,0.4s						
GO02	**Mina Guanaco**	**2.68**	**240**	⇑*i*P	**Pn**	**05 50 14.8**	**-0.2**
GO02				*e*S	**S**	**05 50 50.9**	**-1.3**
GO02				IAML		05 50 53.7	
	comp=E,1μm,0.2s						
PB09	**IPOC Station P**	**2.89**	**314**	⇑*i*P	**Pn**	**05 50 18.5**	**+1.3**
PB09				*e*S	**S**	**05 50 57.0**	**+0.9**
PB09				IAML		05 51 00.1	
	comp=N,199nm,0.3s						
PB05	**IPOC Station P**	**3.08**	**288**	⇓*i*P	**Pn**	**05 50 20.1**	**+0.7**
PB05				*e*S	**S**	**05 50 58.7**	**-1.3**
PB03	**IPOC Station P**	**3.09**	**305**	⇑*i*P	**Pn**	**05 50 20.2**	**+0.8**
PB03				*e*S	**S**	**05 50 59.6**	**-0.5**
PB04	**IPOC Station P**	**3.25**	**297**	⇑*i*P	**Pn**	**05 50 22.0**	**+0.7**
PB04				*i* S	**S**	**05 51 02.8**	**-0.7**
PB10	**IPOC Station P**	**3.25**	**275**	⇑*i*P	**Pn**	**05 50 22.0**	**+0.8**
PB10				*e*S	**S**	**05 51 01.5**	**-1.8**
PB07	**IPOC Station P**	**3.38**	**308**	⇑*i*P	**Pn**	**05 50 23.6**	**+0.7**
PB07				*e*S	**S**	**05 51 05.4**	**-0.9**
PB01	**IPOC Station P**	**3.60**	**320**	*e*P	**Pn**	**05 50 26.1**	**+0.7**
PB01				*e*S	**S**	**05 51 09.1**	**-1.8**
PB08	**IPOC Station P**	**4.18**	**331**	*e*P	**Pn**	**05 50 34.1**	**+1.4**
PB08				*e*S	**S**	**05 51 24.0**	**0.0**
LPAZ	**La Paz**	**7.59**	**352**	P	**Pn**	**05 51 16.5**	**+0.5**
	comp=N,0.3nm,0.3s,baz=186,slow=9.2,SNR=9.6						
LPAZ				S	**S**	**05 52 38.7**	**-4.0**
	baz=229,slow=14,SNR=1.1						
BDFB	**Brasilia**	**19.65**	**69**	P	**P**	**05 53 39.1**	**-0.5**
	comp=N,0.4nm,0.3s,baz=232,slow=10,SNR=7.3						
TORD	**Torodi Ar. Bea**	**76.53**	**69**	P	**P**	**06 00 54.1**	**+0.7**
	comp=N,0.6nm,0.4s,baz=261,slow=5.9,SNR=15						
MKAR	**Makanchi Array**	**146.42**	**39**	PKPbc	**PKiKP**	**06 08 45.0**	**+0.3**
	comp=N,0.3nm,0.5s,baz=303,slow=3.9,SNR=5.2						

ANF ***14*** *06:41:12.3±0.2,32°.96N×115°.86W,h17km±1km,ML3.1/20, Error ellipse: s-maj=2.3km s-min=1.5km az=177.0*

PAS ***14*** *06:41:13.8±2.0,32°.975N±0°.010×115°.89W±0°.01, h11km±1km,ML3.2/173,Error ellipse: s-maj=1.4km s-min=1.3km az=174.0*

SCEDC ***14*** *06:41:13.8,32°.98N×115°.89W,h11km,ML3.2,ML3.2, ML3.2,ML3.2,ML3.2*

NEIC 14 06:41:13.8±1.7,32°.981N±0°.009×115°.930W±0°.009, h1km±4km,Error ellipse: s-maj=1.3km s-min=1.1km az=206.0,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWSC	**Sam W. Stewart**	**0.12**	**108**	P	Pg	06 41 15.4	-0.6
	baz=291,SNR=1000						
SWSC				S	Sg	06 41 17.5	-0.1
	baz=291						
SWSC	**Sam W. Stewart**	**0.12**	**108**		Pg	06 41 17.5	+1.5
COK2	**Cook Ranch 2**	**0.21**	**128**		Pg	06 41 17.9	-0.1
COK2					Sg	06 41 21.5	+0.8
WESC	**Westside Schoo**	**0.28**	**143**		Pg	06 41 19.1	0.0
WESC					Sg	06 41 23.7	+1.0
CBKC	**Canebrake**	**0.28**	**253**		Pg	06 41 20.2	+0.9
SALN	**Salton City**	**0.30**	**351**		Pg	06 41 20.2	+0.6
YUH	**Yuha Desert**	**0.33**	**179**		Pg	06 41 19.9	-0.2
YUH					Sg	06 41 24.6	+0.1
IKP	**In-Ko-Pah, Jac**	**0.36**	**205**	P	Pg	06 41 20.8	0.0
	baz=30,SNR=154						
IKP				S	Sg	06 41 26.2	+0.7
	baz=30						
IKP	**In-Ko-Pah, Jac**	**0.36**	**205**		Pg	06 41 20.9	+0.1
IKP					Sg	06 41 26.2	+0.7
SGL	**Mount Signal**	**0.37**	**152**		Pg	06 41 20.5	-0.5
SGL					Sg	06 41 25.7	-0.1
RMX	**La Rumorosa**	**0.40**	**198**		Sg	06 41 28.3	+1.7
MONP2	**Monument Peak**	**0.42**	**258**	P	Pg	06 41 22.5	+0.5
	baz=79,SNR=90						
MONP2				S	Sg	06 41 28.6	+1.2
	baz=79						
MONP2	**Monument Peak**	**0.42**	**258**		Pg	06 41 22.5	+0.6
MONP2					Sg	06 41 28.6	+1.2
SNR	**Schaffner Ranc**	**0.43**	**106**		Pg	06 41 22.1	0.0
SNR					Sg	06 41 29.1	+1.5
DREC	**Desert Rsrch C**	**0.44**	**113**		Pg	06 41 22.4	+0.1
DREC					Sb	06 41 29.9	-1.6
FRK	**Frink**	**0.49**	**30**		Pg	06 41 22.7	-0.5
BORC	**Borrego Spring**	**0.50**	**305**		Pg	06 41 23.7	+0.3
BORC					Sg	06 41 30.9	+1.1
UABX	**UABC, Campus M**	**0.54**	**130**		Pg	06 41 23.8	-0.3
UABX					Sg	06 41 32.0	+0.9
CTCC	**Cactus City**	**0.67**	**356**		Pg	06 41 26.5	-0.2
CTCC					Sg	06 41 36.4	+0.9
COA	**Coachella**	**0.69**	**100**		Pg	06 41 25.8	-1.3
COA					Sg	06 41 35.7	-0.3
BAR	**Barrett**	**0.69**	**245**	Pg	Pg	06 41 26.9	-0.2
BAR	**Barrett**	**0.69**	**245**		Sg	06 41 36.4	+0.4
TKX	**Tecate**	**0.70**	**234**		Pg	06 41 27.3	0.0
TKX					Sg	06 41 36.6	+0.2
HAY	**Hayfield**	**0.75**	**16**		Pg	06 41 27.7	-0.5
FRD	**Ford Ranch, An**	**0.76**	**312**		Pg	06 41 28.1	-0.3
FRD					Sg	06 41 39.3	+1.0
FRD	**Ford Ranch, An**	**0.76**	**312**		Pg	06 41 28.1	-0.3
FRD					Sg	06 41 39.0	+0.7
XPFO	**Pion Flat**	**0.77**	**325**	Pg	Pg	06 41 27.9	-0.6
XPFO	**Pion Flat**	**0.77**	**325**		Pg	06 41 28.0	-0.5
XPFO					Sg	06 41 39.0	+0.5
PFO	**Pinyon Flats O**	**0.77**	**325**	P	Pg	06 41 28.0	-0.5
	baz=143,SNR=45						
PFO				S	Sg	06 41 39.1	+0.5
	baz=143						
PFO	**Pinyon Flats O**	**0.77**	**325**	Pg	Pg	06 41 28.0	-0.6
PFO	**Pinyon Flats O**	**0.77**	**325**		Pg	06 41 28.1	-0.5
PFO					Sg	06 41 39.2	+0.6
CPBX	**Cerro Prieto**	**0.77**	**137**		Pg	06 41 27.4	-1.2
EML	**El Monte Cty P**	**0.78**	**264**		Pg	06 41 28.4	-0.3
EML					Sg	06 41 38.8	+0.1
BC3	**Big Chuckawall**	**0.78**	**31**	P	Pg	06 41 28.0	-0.8
	baz=208,SNR=39						
BC3				S	Sg	06 41 38.2	-0.8
	baz=208						
BC3	**Big Chuckawall**	**0.78**	**31**		Pg	06 41 28.0	-0.8
BZNA	**Buzz No.'s Pla**	**0.80**	**310**		Pg	06 41 28.8	-0.4
BZNA					Sg	06 41 40.2	+0.7
RUN	**Ruthven**	**0.80**	**90**		Pg	06 41 27.2	-1.9
RUN					Sg	06 41 37.9	-1.7
SNDA	**J Saunders Pla**	**0.81**	**315**		Pg	06 41 29.0	-0.3
SNDA					Sg	06 41 40.9	+1.1
DNR	**Dunn Ranch,Anz**	**0.83**	**315**		Pg	06 41 29.4	-0.3
DNR					Sb	06 41 42.3	-0.5
DPP	**Dos Picos Cty**	**0.85**	**271**		Pg	06 41 29.7	-0.4
DPP					Sg	06 41 41.4	+0.2
PLM	**Palomar**	**0.86**	**296**		Pg	06 41 30.0	-0.4
HWB	**Hans Werner Br**	**0.87**	**273**		Pg	06 41 29.9	-0.5
HWB					Sg	06 41 41.8	+0.1
SDRC	**San Diego Road**	**0.89**	**254**		Pg	06 41 30.2	-0.6
SDRC					Sg	06 41 42.2	0.0
CRY	**Cary Ranch**	**0.89**	**311**		Pg	06 41 30.2	-0.8
CRY					Sg	06 41 43.3	+0.8
CBX	**Cerro Bola**	**0.91**	**223**		Pg	06 41 30.7	-0.6
OLP	**Otay Lakes Par**	**0.92**	**246**		Pg	06 41 30.9	-0.6
OLP					Sg	06 41 43.3	-0.1
GLA	**Glamis**	**0.93**	**85**	P	Pg	06 41 29.3	-2.3
	baz=265,SNR=212						
GLA				S	Sg	06 41 40.8	-2.9
	baz=265						
GLA	**Glamis**	**0.93**	**85**		Pg	06 41 29.4	-2.3
GLA	**Glamis**	**0.93**	**85**		Sg	06 41 40.9	-2.8
ESJX	**Sierra Juarez**	**0.97**	**181**		Pg	06 41 31.0	-1.4
ESJX					Sg	06 41 44.0	-1.1
109C	**Camp Elliot, M**	**0.99**	**265**	P	Pg	06 41 32.0	-0.8
	baz=85,SNR=43						
109C				S	Sg	06 41 45.2	-0.5
	baz=85						
109C	**Camp Elliot, M**	**0.99**	**265**	Pg	Pg	06 41 32.1	-0.7
CPE	**Camp Elliot**	**0.99**	**265**		Pg	06 41 32.2	-0.6
CPE					Sg	06 41 45.4	-0.3
BELC	**Belle Mtn. Jos**	**1.02**	**357**	P	Pg	06 41 31.8	-1.6
	baz=175,SNR=65						
BELC				S	Sg	06 41 46.2	-0.4
	baz=175						
EW2	**E Wide Canyon**	**1.04**	**337**		Pg	06 41 33.4	-0.3
EW2					Sg	06 41 47.8	+0.6
TJX	**Tijuana**	**1.06**	**244**		Pg	06 41 32.4	-1.6
POB	**Polly Butte**	**1.09**	**311**		Pg	06 41 33.0	-1.7
POB					Sg	06 41 48.6	-0.3
GORC	**Green Oak Ranc**	**1.10**	**279**		Sg	06 41 48.8	-0.5
BACC	**Bachelor Mtn.**	**1.12**	**304**		Pg	06 41 33.4	-1.9
BACC					Sg	06 41 50.1	+0.2
DGR	**Domenigoni Val**	**1.12**	**307**		Sg	06 41 50.0	+0.1
TPC	**Twentynine Pal**	**1.13**	**355**		Pg	06 41 33.3	-2.1
BLAC	**Blackrock camp**	**1.15**	**341**		Pg	06 41 35.1	-0.7
BLAC					Sg	06 41 51.2	+0.4
HMTC	**Hemet**	**1.16**	**309**		Pg	06 41 35.8	-0.1
HMTC					Sg	06 41 51.0	0.0
MURC	**Murrieta**	**1.23**	**301**	Pn	Pg	06 41 34.9	-2.5
	baz=120,SNR=23						
MURC				Pg	Pb	06 41 36.9	-0.9
	baz=120						
MURC				S	Sg	06 41 53.4	+0.1
	baz=120						
MURC	**Murrieta**	**1.23**	**301**		Pg	06 41 37.1	-0.3
MURC					Sg	06 41 53.4	+0.2
CCX	**Cicese**	**1.27**	**209**		Pg	06 41 37.1	-1.1
CCX					Sg	06 41 54.1	-0.6

s-min=21.5km az=150.0
*NEIC **14** 07:09:38.4±2.8, 15.0S±0.1×173.6W±0.1, h10km±1km, mb4.5/13, Error ellipse: s-maj=24.2km s-min=16.3km az=138.0*

ISC 14 07:09:41.0±0.6, 15°12S±0.1°×173°5W±0.1, h30km, n59, σ1§39/34, mb4.3/14, MS3.6/17, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.08**	**55**	Pn	Pn	07 10 10.6	-3.3
AFI				Sn	Sn	07 10 30.4	-8.4
NIUE	**Niue**	**5.23**	**139**		**Pn**	**07 10 54.7**	**-2.5**
KNTN	**Kanton**	**12.39**	**8**	Pn	**Pn**	**07 12 32.9**	**-2.5**
RAR	**Rarotonga**	**14.40**	**117**	Pn	Pn	07 12 52.9	-10
	0.8nm,0.3s,baz=38,slow=19,SNR=1.7						
RAR				Sn	Sn	07 15 27.5	-14
	0.4nm,0.3s,baz=150,slow=16,SNR=1.4						
RAR	**Rarotonga**	**14.40**	**117**		Pn	07 12 59.5	-3.4
DZM	**Mont Dzumac**	**20.19**	**247**	LR	LR	07 20 45.9	
	comp=Z,190nm,20.9s,baz=48,slow=33						
DZM	**Mont Dzumac**	**20.19**	**247**	eLR	LR	07 19 23.0	
	comp=Z,288nm,26.1s						
PAE	**Paea**	**23.11**	**100**	*e*T	T	07 37 57.7	
	2.5nm,0.3s						
PPT2	**Papeete2**	**23.11**	**99**	eLR	LR	07 20 10.6	
	comp=Z,42nm,23.2s						
PPT2	**Papeete2**	**23.11**	**99**	*e*T	T	07 37 57.8	
	2.8nm,0.3s						
TBI	**Tubuai**	**24.13**	**114**	eLR	LR	07 20 44.3	
	comp=Z,66nm,26.2s						
TBI	**Tubuai**	**24.13**	**114**	*e*T	T	07 39 21.9	
	5.1nm,0.2s						
HNR	**Honiara**	**26.51**	**279**	LR	LR	07 24 29.9	
	comp=Z,55nm,19.0s,baz=189,slow=34						
WHZ	**Wether Hill Ro**	**34.40**	**203**	P	**P**	**07 16 27.1**	**+1.6**
RKT	**Rikitea**	**37.20**	**108**	*e*T	T	07 55 37.1	
	4.9nm,0.4s						
H11N3	**WAKE ISLAND Hy**	**39.60**	**330**	T	T	07 59 35.1	
	baz=150,slow=76,SNR=13						
H11N1	**WAKE ISLAND Hy**	**39.61**	**330**	T	T	07 59 38.7	
	baz=150,slow=76,SNR=15						
H11N2	**WAKE ISLAND Hy**	**39.62**	**330**	T	T	07 59 36.4	
	baz=150,slow=76,SNR=13						
STKA	**Stephens Creek**	**44.07**	**240**	LR	LR	07 34 16.1	
	comp=Z,40nm,18.4s,baz=162,slow=34						
WB0	**Warramunga Arr**	**49.75**	**257**	P	**P**	**07 18 30.3**	**-0.7**
WB2	**Warramunga Arr**	**49.78**	**257**	P	**P**	**07 18 31.1**	**-0.1**
WB2				IAmb	IAmb	07 18 39.5	
	comp=Z,4.1nm,1.1s						
WRA	**Warramunga Arr**	**49.79**	**257**	P	**P**	**07 18 29.8**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=98,slow=5.9,SNR=12						
WRA	**Warramunga Arr**	**49.79**	**257**	P	**P**	**07 18 30.3**	**-1.0**
AS31	**Alice Springs**	**50.08**	**252**	P	**P**	**07 18 32.4**	**-1.2**
ASAR	**Alice Springs**	**50.08**	**252**	P	**P**	**07 18 31.9**	**-1.7**
	comp=Z,3.3nm,0.6s,baz=85,slow=8.1,SNR=58						
ASAR				LR	LR	07 37 48.6	
	comp=Z,100nm,21.8s,baz=95,slow=34						
ASAR	**Alice Springs**	**50.08**	**252**	P	**P**	**07 18 32.0**	**-1.5**
JHJ2	**Mitsune**	**65.45**	**318**	P	**P**	**07 20 21.5**	**+0.3**
PETK	**Petropavlovsk-**	**72.33**	**342**	P	**P**	**07 21 03.6**	**0.0**
	comp=Z,2.0nm,0.9s,baz=147,slow=12,SNR=3.4						
PETK				LR	LR	07 47 08.7	
	comp=Z,8.9nm,21.4s,baz=1.6,slow=31						
PETK	**Petropavlovsk-**	**72.33**	**342**	P	**P**	**07 21 02.3**	**-1.3**
RUBR	**Rubicon Trail**	**73.38**	**41**	P	**P**	**07 21 12.0**	**+1.6**
YBH	**Yreka Blue Hor**	**73.45**	**37**	LR	LR	07 45 21.2	
	comp=Z,45nm,20.6s,baz=236,slow=29						
YBH	**Yreka Blue Hor**	**73.45**	**37**	P	**P**	**07 21 12.4**	**+1.8**
YBH				IAmb	IAmb	07 21 13.5	
	comp=Z,4.1nm,0.8s						
NVAR	**Mina Array Bea**	**74.20**	**42**	P	**P**	**07 21 16.0**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=226,slow=9.9,SNR=12						
NVAR				LR	LR	07 46 42.7	
	comp=Z,58nm,21.3s,baz=293,slow=30						
NVAR	**Mina Array Bea**	**74.20**	**42**	P	**P**	**07 21 17.2**	**+1.9**
QSPA	**South Pole Qui**	**74.92**	**180**	P	**P**	**07 21 19.5**	**+0.5**
QSPA				IAmb	IAmb	07 21 23.5	
	comp=Z,4.6nm,1.1s						
MOD	**Modoc Plateau**	**74.98**	**38**	P	**P**	**07 21 19.5**	**-0.1**
MOD				IAmb	IAmb	07 21 22.0	
	comp=Z,4.1nm,0.8s						
SHPR	**Sheep Range**	**75.25**	**45**	P	**P**	**07 21 22.2**	**+0.8**
PINE	**Pine Mountain**	**75.75**	**36**	P	**P**	**07 21 26.7**	**+2.6**
PINE				IAmb	IAmb	07 21 26.9	
	comp=Z,9.1nm,0.9s						
KSRS	**Korea Array**	**75.87**	**316**	LR	LR	07 49 20.4	
	comp=Z,8.1nm,21.8s,baz=240,slow=32						
MA2	**Magadan**	**79.86**	**342**	LR	LR	07 49 22.3	
	comp=Z,17nm,21.5s,baz=178,slow=30						
NEW	**Newport**	**80.55**	**34**	LR	LR	07 48 51.0	
	comp=Z,26nm,19.6s,baz=225,slow=29						
TXAR	**Lajitas Array**	**80.56**	**56**	P	**P**	**07 21 52.6**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=218,slow=6.4,SNR=6.1						
TXAR	**Lajitas Array**	**80.56**	**56**	P	**P**	**07 21 52.4**	**+1.4**
DLBC	**Dease Lake**	**81.48**	**21**	LR	LR	07 53 02.9	
	comp=Z,37nm,18.3s,baz=126,slow=32						
SNOW	**Snow King Moun**	**81.72**	**41**	P	**P**	**07 21 58.6**	**+1.6**
SNOW				IAmb	IAmb	07 21 59.9	
	comp=Z,4.3nm,0.9s						
PDAR	**Pinedale Array**	**82.14**	**42**	P	**P**	**07 22 00.1**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=222,slow=2.0,SNR=5.7						
PDAR				LR	LR	07 51 20.6	
	comp=Z,28nm,21.7s,baz=220,slow=30						
PDAR	**Pinedale Array**	**82.14**	**42**	P	**P**	**07 21 59.6**	**+0.4**
ILAR	**Eielson Array**	**82.19**	**11**	P	**P**	**07 21 58.0**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=241,slow=6.6,SNR=6.1						
ILAR				LR	LR	07 50 33.6	
	comp=Z,28nm,21.8s,baz=197,slow=30						
ILAR	**Eielson Array**	**82.19**	**11**	P	**P**	**07 21 58.8**	**+0.1**
BMAR	**Burnt Mountain**	**85.00**	**11**	P	**P**	**07 22 14.6**	**+1.5**
H03S2	**Juan Fernandez**	**85.46**	**124**	T	T	08 56 49.4	
	baz=253						
H03S1	**Juan Fernandez**	**85.48**	**124**	T	T	08 56 49.4	
	baz=253						
H03S3	**Juan Fernandez**	**85.48**	**124**	T	T	08 56 48.4	
	baz=253						
YKA	**Yellowknife Ar**	**89.89**	**23**	P	**P**	**07 22 37.6**	**+1.0**
	comp=Z,0.7nm,1.0s,baz=245,slow=5.4,SNR=2.8						
YKA				LR	LR	07 56 01.7	
	comp=Z,27nm,21.3s,baz=0.0,slow=31						
ULM	**Lac du Bonnet**	**93.79**	**39**	LR	LR	07 59 41.2	
	comp=Z,40nm,19.7s,baz=304,slow=32						
GERES	**GERESS Array B**	**145.84**	**351**	PKPbc	**PKPbc**	**07 29 17.7**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=5.2,slow=2.9,SNR=6.6						
GERES	**GERESS Array B**	**145.84**	**351**		**PKPbc**	**07 29 17.9**	**+0.4**
BRTR	**Keskin Array B**	**145.86**	**321**	PKPbc	**PKPbc**	**07 29 18.1**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=109,slow=2.7,SNR=6.4						
BRTR	**Keskin Array B**	**145.86**	**321**		**PKPdf**	**07 29 15.6**	**-1.7**

*IDC **14** 07:11:22.1±1.9, 30.36S×177.46W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.9/22, mbtmp4.1/3, Error ellipse: s-maj=46.6km s-min=30.1km az=114.0*
*NEIC **14** 07:11:30.3±2.4, 29.97S±0.1°×177.5W±0.2, h59km±11km, mb4.4/8, Error ellipse: s-maj=22.0km s-min=10.3km az=61.0*

ISC 14 07:11:27.6±1.5, 30°05S±0.1°×177°3W±0.2, h35km, n23, σ1§49/20, mb4.3/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.95**	**326**	Pn	**Pn**	**07 11 46.0**	**+1.5**
	356nm,0.3s,baz=19,slow=23,SNR=13						
RAO				Sn	**Sn**	**07 11 57.5**	**+0.8**
	5µm,0.3s,baz=104,slow=19,SNR=32						
OUZ	**Omahuta**	**9.23**	**234**	Pn	Pn	07 13 41.5	+3.3
BKZ	**Black Stump Fm**	**10.43**	**208**	Pn	**Pn**	**07 13 55.6**	**+1.0**
MCQ	**Macquarie Isla**	**29.81**	**208**	P	**P**	**07 17 32.8**	**+1.8**
CTAO	**Charters Tower**	**34.33**	**278**	P	**P**	**07 18 11.0**	**-0.1**
CTAO				IAmb	IAmb	07 18 24.9	
	comp=Z,8.3nm,1.1s						
STKA	**Stephens Creek**	**35.13**	**256**	P	**P**	**07 18 16.6**	**-1.3**
	comp=Z,1.3nm,0.4s,baz=100,slow=11,SNR=5.6						
STKA	**Stephens Creek**	**35.13**	**256**	P	**P**	**07 18 18.0**	**+0.1**
AS31	**Alice Springs**	**43.72**	**266**	P	**P**	**07 19 27.9**	**-1.7**
AS31				IAmb	IAmb	07 19 46.1	
	comp=Z,2.4nm,1.4s						
ASAR	**Alice Springs**	**43.72**	**266**	P	**P**	**07 19 28.0**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=96,slow=7.3,SNR=1.0						
ASAR	**Alice Springs**	**43.72**	**266**	P	**P**	**07 19 27.6**	**-2.0**
WR0	**Warramunga Arr**	**44.50**	**272**	P	**P**	**07 19 34.2**	**-1.6**
WR0				IAmb	IAmb	07 19 47.5	
	comp=Z,7.1nm,1.1s						
WB2	**Warramunga Arr**	**44.67**	**271**	P	**P**	**07 19 35.6**	**-1.6**
WB2				IAmb	IAmb	07 19 52.8	
	comp=Z,6.6nm,1.2s						
WRA	**Warramunga Arr**	**44.68**	**271**	P	**P**	**07 19 35.1**	**-2.2**
	comp=Z,2.5nm,0.6s,baz=111,slow=8.1,SNR=26						
WRA	**Warramunga Arr**	**44.68**	**271**	P	**P**	**07 19 34.9**	**-2.4**
WB0	**Warramunga Arr**	**44.70**	**272**	P	**P**	**07 19 36.0**	**-1.5**
WB0				IAmb	IAmb	07 19 36.4	
	comp=Z,12nm,1.4s						
H03S2	**Juan Fernandez**	**80.17**	**123**	T	T	08 53 07.3	
	baz=239,slow=74,SNR=14						
H03S1	**Juan Fernandez**	**80.18**	**123**	T	T	08 53 08.7	
	baz=239,slow=74,SNR=14						
H03S3	**Juan Fernandez**	**80.18**	**123**	T	T	08 53 07.6	
	baz=239,slow=74,SNR=18						
KURBB	**Kurchatov Arra**	**121.27**	**314**	PKP	**PKiKP**	**07 30 16.1**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=110,slow=2.3,SNR=4.8						
FINES	**FINESS Array B**	**145.01**	**341**	PKPbc	**PKPdf**	**07 31 00.3**	**-0.1**
	comp=Z,4.4nm,0.6s,baz=52,slow=4.0,SNR=27						
FINES	**FINESS Array B**	**145.01**	**341**		**PKPdf**	**07 30 59.9**	**-0.5**
AKASG	**Malin Array Be**	**151.37**	**324**	PKPbc	**PKiKP**	**07 31 17.6**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=46,slow=4.1,SNR=4.0						
AKASG	**Malin Array Be**	**151.37**	**324**		**PKiKP**	**07 31 16.7**	**-0.9**

*IDC **14** 07:27:29.1±0.7, 31.52N×104.24E, h0km, mb4.1/16, mb1 4.2/18, mb1mx4.0/53, mbtmp4.0/18, ML4.1/2, MS3.0/3, Ms1 3.0/3, ms1mx2.7/47, Error ellipse: s-maj=23.6km s-min=15.0km az=49.0*
*NEIC **14** 07:27:32.1±2.6, 31.69N±0.08×104.28E±0.01, h10km±1km, mb4.3/22, Error ellipse: s-maj=13.2km s-min=3.3km az=177.0*
*BJI **14** 07:27:33.0±0.0, 31.56N×104.13E, h19km, mb4.2/10, ML4.1/21, Ms3.9/13, Ms7 3.9/12*

ISC 14 07:27:32.0±0.4, 31°58N±0.03×104°27E±0.04, h14km, n69, σ1§65/79, mb4.3/26, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**0.79**	**213**	i/Pg	**Pg**	**07 27 44.8**	**-2.6**
CD2				Sg	**Sg**	**07 27 56.8**	**-1.1**
CD2				smax	smax		
	comp=N,5µm,0.8s						
CD2				smax	smax		
	comp=E,4µm,0.6s						
LZH	**Lanzhou**	**4.51**	**356**	*e*Pn	Pn	07 28 44.8	+4.7
LZH				Pg	**Pb**	**07 28 54.0**	**+2.9**
LZH				Sn	**Sn**	**07 29 35.9**	**+3.4**
LZH				Sg	**Sg**	**07 29 54.5**	**-2.4**
LZH				smax	smax		
	comp=N,220nm,0.9s						
LZH				smax	smax		
	comp=E,250nm,0.9s						
LZH				LR	LR		
	comp=N,2µm,6.5s						
LZH				LR	LR		
	comp=E,2µm,7.1s						
LZH				LR	LR		
	comp=Z,1µm,8.1s						
XAN	**Xi'an**	**4.63**	**57**	Pn	**Pn**	**07 28 41.4**	**-0.2**
XAN				Pg	**Pg**	**07 28 57.6**	**-3.0**
XAN				Sn	**Sn**	**07 29 31.6**	**-3.5**
XAN				Sg	**Sb**	**07 29 53.5**	**+4.9**
XAN				smax	smax		
	comp=N,760nm,1.0s						
XAN				smax	smax		
	comp=E,530nm,1.1s						
XAN				LR	LR		
	comp=E,1µm,5.2s						
XAN				LR	LR		
	comp=Z,1µm,7.3s						
XAN	**Xi'an**	**4.63**	**57**		**Pn**	**07 28 41.1**	**-0.5**
XAN				Sn	**Sn**	**07 29 34.5**	**-0.7**
ENH	**Enshi**	**4.67**	**105**		**Pn**	**07 28 45.8**	**+3.7**
ENH				Sn	**Sn**	**07 29 36.2**	**-0.1**
GYA	**Guiyang**	**5.51**	**157**	Pn	**Pn**	**07 28 53.9**	**0.0**
GYA				Pg	**Pg**	**07 29 15.6**	**-2.1**
GYA				Sn	**Sn**	**07 29 56.0**	**-1.2**
GYA				Sg	**Sg**	**07 30 31.8**	**+2.7**
GYA				smax	smax		
	comp=N,290nm,1.1s						
GYA				smax	smax		
	comp=E,390nm,0.9s						
GYA				LR	LR		
	comp=E,690nm,4.9s						
GYA				LR	LR		
	comp=Z,800nm,4.7s						
KMI	**Kunming**	**6.57**	**192**	Pn	**Pn**	**07 29 07.8**	**-0.6**
KMI				Sn	**Sn**	**07 30 26.3**	**+3.0**
KMI				smax	smax		
	comp=N,43nm,0.8s						
KMI				smax	smax		
	comp=E,47nm,0.7s						
KMI	**Kunming**	**6.57**	**192**	Pn	**Pn**	**07 29 12.7**	**+4.3**
GTA	**Gaotai**	**8.62**	**336**	*e*P	**Pn**	**07 29 38.3**	**+1.9**
GTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GTA				LR	LR		
	comp=N,330nm,9.6s						
GTA				LR	LR		
	comp=E,570nm,12.7s						
GTA				LR	LR		
	comp=Z,430nm,9.6s						
SLVN	**Son La**	**10.21**	**182**		**Pn**	**07 30 01.3**	**+3.1**
CMAR	**Chiang Mai Arr**	**13.92**	**201**	Pn	**Pn**	**07 30 46.7**	**-2.3**
	0.4nm,0.3s,baz=17,slow=12,SNR=2.1						
CMAR				LR	LR	07 36 49.5	
	comp=Z,75nm,18.7s,baz=70,slow=40						
SONM	**Songino Array**	**16.32**	**5**	Pn	**Pn**	**07 31 20.5**	**-0.3**
	0.3nm,0.3s,baz=200,slow=7.3,SNR=6.1						
SONM	**Songino Array**	**16.32**	**5**		**P**	**07 31 22.9**	**-0.9**
ULN	**Ulaanbaatar**	**16.41**	**7**	P	**P**	**07 31 24.4**	**-0.3**
WMQ	**Urumqi**	**17.89**	**318**	*e*P	**Pn**	**07 31 39.3**	**-1.1**
TLY	**Talaya**	**20.09**	**359**	LR	LR	07 40 58.1	
	comp=Z,32nm,18.6s,baz=166,slow=40						
KS19	**Wonju Array Si**	**20.30**	**67**	P	Pn	07 32 09.2	-0.3
KSAR	**Wonju Array Be**	**20.30**	**67**	P	**P**	**07 32 08.0**	**+0.5**
KSRS	**Korea Array**	**20.33**	**67**	P	**P**	**07 32 08.2**	**+0.5**
	6.1nm,0.8s,baz=257,slow=10,SNR=18						
JNU	**Nakatsue**	**22.52**	**79**	LR	LR	07 40 37.5	
	comp=Z,29nm,20.3s,baz=216,slow=35						
MK31	**Makanchi Array**	**22.72**	**318**	P	**P**	**07 32 33.9**	**+0.5**
MK31				IAmb	IAmb	07 32 39.6	
	comp=Z,16nm,1.2s						
MKAR	**Makanchi Array**	**22.72**	**318**	P	**P**	**07 32 34.2**	**+0.8**
	comp=Z,13nm,1.1s,baz=122,slow=12,SNR=30						
MKAR	**Makanchi Array**	**22.72**	**318**	P	**P**	**07 32 33.8**	**+0.4**
MAKZ	**Makanchi**	**22.90**	**318**	P	**P**	**07 32 36.1**	**+0.7**
PRZ	**Przheval'sk**	**23.25**	**305**	P	**P**	**07 32 40.4**	**+1.2**
PRZ				IAmb	IAmb	07 32 54.0	
	comp=Z,11nm,1.1s						
TARG	**Taragay, Kyrgy**	**23.44**	**303**	P	**P**	**07 32 42.8**	**+1.4**
TARG				IAmb	IAmb	07 32 48.4	
	comp=Z,13nm,1.0s						
KDJ	**Kajisay**	**24.00**	**304**	P	**P**	**07 32 47.4**	**+0.9**
BOOM	**Boomskoye usch**	**24.99**	**304**	P	**P**	**07 32 57.8**	**+2.4**
BOOM				IAmb	IAmb	07 33 00.3	
	comp=Z,8.1nm,1.1s						
USRK	**Ussuriysk Ar.**	**25.12**	**52**	P	**P**	**07 32 59.1**	**+2.7**
	comp=Z,1.7nm,0.7s,baz=254,slow=10,SNR=2.8						
ZAA0	**Zalesovo Array**	**26.36**	**334**	P	**P**	**07 33 08.8**	**+1.3**
ZAA0				IAmb	IAmb	07 33 12.1	
	comp=Z,8.4nm,0.9s						
ZALV	**Zalesovo Beam**	**26.36**	**334**	P	**P**	**07 33 07.7**	**+0.2**
	comp=Z,7.6nm,0.9s,baz=141,slow=9.5,SNR=14						
ZALV	**Zalesovo Beam**	**26.36**	**334**	P	**P**	**07 33 07.2**	**-0.4**
KURBB	**Kurchatov Arra**	**26.95**	**322**	P	**P**	**07 33 11.8**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=129,slow=8.5,SNR=13						
KURBB				PcP	**PcP**	**07 36 33.5**	**-0.9**
	comp=Z,0.7nm,0.7s,baz=108,slow=1.9,SNR=6.8						
KURK	**Kurchatov**	**26.95**	**323**	P	**P**	**07 33 14.8**	**+1.9**
KURK				IAmb	IAmb	07 33 17.9	
	comp=Z,7.9nm,1.1s						
KK31	**Karatay Array**	**29.01**	**303**	P	**P**	**07 33 31.6**	**+0.2**
KK31				IAmb	IAmb	07 33 36.2	
	comp=Z,6.3nm,1.2s						
KKAR	**Karatay Array**	**29.01**	**303**	P	**P**	**07 33 31.5**	**0.0**
KKAR				IAmb	IAmb	07 33 36.2	
	comp=Z,6.3nm,1.2s						
KKAR	**Karatay Array**	**29.01**	**303**	P	**P**	**07 33 31.2**	**-0.2**
KBL	**Kabul**	**29.58**	**285**	P	**P**	**07 33 37.3**	**+0.5**
KBL				IAmb	IAmb	07 33 42.0	
	comp=Z,4.0nm,0.9s						
ABKAR	**Akbulak array**	**37.46**	**311**	P	**P**	**07 34 45.1**	**+0.2**
GEYT	**Alibeck**	**38.13**	**293**	P	**P**	**07 34 51.4**	**+0.6**
	comp=Z,1.5nm,0.6s,baz=85,slow=6.4,SNR=2.3						
GEYT	**Alibeck**	**38.13**	**293**	P	**P**	**07 34 51.5**	**+0.6**
ARU	**Arti**	**40.15**	**322**	P	**P**	**07 35 07.1**	**-0.2**
ARU				IAmb	IAmb	07 35 12.2	
	comp=Z,18nm,1.3s						
PETK	**Petropavlovsk-**	**43.76**	**44**	P	**P**	**07 35 36.0**	**-0.9**
	comp=Z,2.3nm,0.9s,baz=248,slow=15,SNR=3.0						
PETK	**Petropavlovsk-**	**43.76**	**44**	P	**P**	**07 35 35.7**	**-1.2**
KLMR	**Klimovskoe**	**50.76**	**325**	*e*P	**P**	**07 36 32.0**	**+0.7**
KLMR				AMP		07 36 35.8	
	comp=Z,15nm,1.3s						
BRTR	**Keskin Array B**	**56.63**	**299**	P	**P**	**07 37 14.1**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=97,slow=4.6,SNR=3.0						
BRTR	**Keskin Array B**	**56.63**	**299**	P	**P**	**07 37 14.0**	**-0.9**
ARCES	**ARCESS Array B**	**56.89**	**336**	P	**P**	**07 37 15.3**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=79,slow=9.6,SNR=2.1						
ARCES	**ARCESS Array B**	**56.89**	**336**	P	**P**	**07 37 15.0**	**-1.0**
AKASG	**Malin Array Be**	**57.16**	**313**	P	**P**	**07 37 17.1**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=66,slow=7.1,SNR=2.9						
AKASG	**Malin Array Be**	**57.16**	**313**	P	**P**	**07 37 16.2**	**-2.0**
FINES	**FINESS Array B**	**57.25**	**326**	P	**P**	**07 37 17.8**	**-0.9**
	comp=Z,2.9nm,0.8s,baz=96,slow=3.8,SNR=4.4						
FINES	**FINESS Array B**	**57.25**	**326**	P	**P**	**07 37 20.4**	**+1.7**
WB0	**Warramunga Arr**	**58.66**	**146**	P	**P**	**07 37 28.6**	**-0.5**
COEN	**Coen**	**58.67**	**134**	P	**P**	**07 37 29.5**	**+0.2**
WRA	**Warramunga Arr**	**58.79**	**147**	P	**P**	**07 37 29.5**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=335,slow=7.4,SNR=11						
WRA	**Warramunga Arr**	**58.79**	**147**	P	**P**	**07 37 28.8**	**-1.2**
WB2	**Warramunga Arr**	**58.80**	**147**	P	**P**	**07 37 29.9**	**-0.2**
WR0	**Warramunga Arr**	**58.90**	**146**	P	**P**	**07 37 30.5**	**-0.2**
ASAR	**Alice Springs**	**61.82**	**149**	P	**P**	**07 37 49.5**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=334,slow=6.6,SNR=13						
ASAR	**Alice Springs**	**61.82**	**149**	P	**P**	**07 37 49.2**	**-1.5**
NOA	**NORSAR Array B**	**64.33**	**327**	P	**P**	**07 38 05.5**	**-1.5**
	comp=Z,4.1nm,1.2s,baz=72,slow=6.6,SNR=4.6						
IMAR	**Indian Mountai**	**66.24**	**26**	P	**P**	**07 38 18.4**	**-0.8**
GERES	**GERESS Array B**	**67.31**	**314**	P	**P**	**07 38 26.0**	**-0.5**
	comp=Z,2.4nm,0.4s,baz=47,slow=4.6,SNR=6.7						
BMAR	**Burnt Mountain**	**68.79**	**23**	P	**P**	**07 38 35.7**	**+0.3**
ILAR	**Eielson Array**	**69.35**	**26**	P	**P**	**07 38 38.3**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=301,slow=6.3,SNR=5.4						
ILAR	**Eielson Array**	**69.35**	**26**	P	**P**	**07 38 38.0**	**-0.9**
BCAR	**Beaver Creek A**	**72.17**	**26**	P	**P**	**07 38 55.8**	**-0.3**
YKA	**Yellowknife Ar**	**81.20**	**17**	P	**P**	**07 39 47.1**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=202,slow=6.0,SNR=4.7						

*NEIC **14** 07:46:14.6±2.5, 40.36N±0.04×125.5W±0.1, h17km±12km, Error ellipse: s-maj=12.9km s-min=6.5km az=86.0*
*NCEDC **14** 07:46:14.8±2.5, 40.25N±0.05×125.42W±0.05, h5km±5km, ML3.3/13, Error ellipse: s-maj=7.1km s-min=4.9km az=170.0*
*ANF **14** 07:46:15.8±1.2, 40.62N×125.26W, h5km, ML3.2/11, Error ellipse: s-maj=11.8km s-min=5.5km az=66.0*

ISC 14 07:46:12.1±2.2, 40°40N±0.05×125°61W±0.09, h11km±12km, n93, σ1§70/101, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.98**	**85**		**Pb**	**07 46 32.1**	**+1.0**
KCTM					**Sn**	**07 46 45.2**	**-0.4**
KSMM	**Slide Mountain**	**1.12**	**100**		**Pg**	**07 46 32.9**	**-0.7**
KMPM	**Mount Pierce**	**1.14**	**88**		**Pg**	**07 46 33.9**	**-0.1**
KMPM					**Sb**	**07 46 48.2**	**-0.5**
JCC	**Jacoby Creek,**	**1.28**	**70**		**Pg**	**07 46 35.0**	**-1.7**
JCC	**Jacoby Creek,**	**1.28**	**70**	Pg	**Pg**	**07 46 34.7**	**-1.9**
KCRM	**Chalk Rock**	**1.37**	**88**		**Pg**	**07 46 37.2**	**-1.2**
KMRM	**Mail Ridge**	**1.47**	**96**		**Pn**	**07 46 39.0**	**+0.5**
KHMM	**Horse Mountain**	**1.51**	**71**		**Pn**	**07 46 38.7**	**-0.6**
KCSM	**Cold Springs**	**1.61**	**84**		**Pn**	**07 46 40.9**	**+0.3**
KBSM	**Bell Springs**	**1.62**	**106**		**Pn**	**07 46 41.0**	**+0.4**
KCPM	**Cahto Peak**	**1.71**	**114**		**Pn**	**07 46 41.1**	**-0.8**
KRMB	**Red Mountain**	**1.71**	**48**		**Pn**	**07 46 40.7**	**-1.3**
KPPM	**Pickett Peak**	**1.72**	**91**		**Pn**	**07 46 42.9**	**+0.8**
KIPM	**Iron Peak**	**1.74**	**109**		**Pn**	**07 46 42.5**	**+0.2**
KFPM	**Farley Peak**	**1.84**	**113**		**Pn**	**07 46 43.6**	**-0.1**
KHBM	**Hayfork Bally**	**1.84**	**81**		**Pn**	**07 46 43.8**	**-0.1**
KOMM	**Orleans Mounta**	**1.86**	**61**		**Pn**	**07 46 43.4**	**-0.6**
GTC	**Three Chop Rid**	**1.87**	**121**		**Pn**	**07 46 43.1**	**-0.9**
KBNM	**Bluenose Ridge**	**1.92**	**104**		**Pn**	**07 46 45.4**	**+0.5**
GNAM	**Navarro Ridge**	**1.94**	**127**		**Pn**	**07 46 43.9**	**-1.1**
KSXB	**Camp Six Broad**	**1.94**	**42**		**Pn**	**07 46 44.1**	**-1.0**
LBPM	**Beegum Peak**	**2.09**	**91**		**Pn

PNTR	Pine Nut	4.82	104	Pn		Pn	07 47 27.3 +2.6
PAHR	Pah Rah Range	4.83	96			Pn	07 47 27.2 +2.3
H04A	Detroit Lake	4.98	29	Pn		Pn	07 47 28.1 +1.3
YERR	Yerington	5.11	104			Pn	07 47 31.1 +2.3
F03A	Seaside	5.73	15	Pn		Pn	07 47 41.0 +3.9
MDPB	Devils Postpil	5.79	116	Pn		Pn	07 47 41.4 +3.3
I07A	Izee	5.84	49			Pn	07 47 41.5 +2.8
OMMB	Old Mammoth Mi	5.85	116	Pn		Pn	07 47 42.6 +3.5
KVN	Kaiserville	5.95	101	Pn		Pn	07 47 42.7 +2.4
F04A	Amboy	6.01	22	Pn		Pn	07 47 44.5 +3.7
G06A	Carlson Farm,	6.07	35	Pn		Pn	07 47 44.4 +2.7
J08A	Circle Bar Ran	6.09	59			Pn	07 47 43.4 +1.2
G08A	Pilot Rock	6.92	43	Pn		Pn	07 47 56.1 +2.7
LON	Longmire	6.93	22	Pn		Pn	07 47 56.9 +3.4
HAWA	Hanford	7.45	34			Pn	07 48 03.0 +2.4
BMO	Blue Mountains	7.57	51	Pn		Pn	07 48 05.3 +2.9
LTY	Liberty	7.73	26	Pn		Pn	07 48 08.0 +3.3
E08A	Dider Farm, El	7.74	36			Pn	07 48 06.9 +2.3
MFID	Camas Ranch	7.90	64	Pn		Pn	07 48 10.8 +3.8
F10A	Beach Ranch, E	8.28	45	Pn		Pn	07 48 17.4 +5.3

IDC ***14*** *07:53:33.8±0.8, 2°.59N×126°.49E, h0km, mb3.9/10, mb1 4.0/10, mb1mx3.8/47, mbtmp3.9/10, Error ellipse: s-maj=62.0km s-min=14.6km az=75.0*
NEIC ***14*** *07:53:42.9±1.6, 2°.7N±0°.1×126°.9E±0°.1, h77km±9km, mb4.2/15, Error ellipse: s-maj=19.7km s-min=12.9km az=64.0*

ISC 14 07:53:41.1±0.6, **2°.73N**±0°.08×**126°.8E**±0°.2, **h55**km, **n33**, σ1**s15**/32, **mb4.1**/13, **1D**, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	2.02	164	Pn	Pn	07 54 14.4	+1.6
KCP	Kidapawan	4.59	338	*e*P	Pn	07 54 48.4	+0.3
LUWI	Luwuk	5.51	227	Pn	Pn	07 55 08.8	+8.1
SBUM	Sibu	14.58	269	P	P	07 57 10.8	+1.1
MTN	Manton Dam	16.05	165	Pn	Pn	07 57 22.3	-1.1
MTN	comp=Z,26nm,1.2s			IAmb	IAmb	07 57 29.1	
KNRA	Kununurra	18.39	174	P	P	07 57 51.2	-0.5
KNRA	comp=Z,41nm,1.5s			IAmb	IAmb	07 58 09.8	
FITZ	Fitzroy Crossi	20.73	183	P	P	07 58 16.0	-1.3
FITZ	comp=Z,2.2nm,0.5s,baz=9.5,slow=12,SNR=7.6			IAmb	IAmb	07 58 27.9	
WB0	comp=Z,7.7nm,1.2s	23.56	162	P	P	07 58 45.6	-1.3
WB0	Warramunga Arr			IAmb	IAmb	07 58 46.5	
WRA	comp=Z,18nm,1.4s	23.71	162	P	P	07 58 47.1	-1.2
WRA	Warramunga Arr	23.71	162	P	P	07 58 46.5	-1.8
WB2	comp=Z,2.3nm,0.6s,baz=340,slow=11,SNR=14	23.71	162	P	P	07 58 47.6	-0.7
WB2	Warramunga Arr			IAmb	IAmb	07 58 57.9	
WR0	comp=Z,7.1nm,0.9s	23.79	162	P	P	07 58 47.7	-1.2
WR0	Warramunga Arr			IAmb	IAmb	07 58 56.6	
AS31	comp=Z,5.9nm,0.9s	27.13	166	P	P	07 59 20.1	+0.8
ASAR	Alice Springs	27.13	166	P	P	07 59 18.4	-0.9
FORT	comp=Z,0.4nm,0.3s,baz=349,slow=7.5,SNR=9.3	41.55	6	P	P	08 01 25.7	+2.4
USRK	Alice Springs	27.13	166	P	P	07 59 21.0	+1.8
SONM	Forrest	33.34	178	P	P	08 00 13.4	-0.6
	Ussuriysk Ar.						
	comp=Z,1.8nm,0.6s,baz=203,slow=5.6,SNR=2.1						
	Ussuriysk Ar.	41.55	6	P	P	08 01 24.5	+1.2
	Korea Array	34.57	2	P	P	08 00 24.9	+0.3
	comp=Z,0.8nm,0.5s,baz=181,slow=10,SNR=5.4						
BBOO	Buckleboo	36.41	167	P	P	08 00 40.7	+0.2
STKA	Stephens Creek	37.17	159	P	P	08 00 45.6	-1.4
	comp=Z,2.9nm,0.8s,baz=341,slow=6.3,SNR=3.6						
STKA	Stephens Creek	37.17	159	P	P	08 00 45.4	-1.6
USRK	Ussuriysk Ar.	41.55	6	P	P	08 01 25.7	+2.4
	comp=Z,1.8nm,0.6s,baz=203,slow=5.6,SNR=2.1						
USRK	Ussuriysk Ar.	41.55	6	P	P	08 01 24.5	+1.2
SONM	Songino Array	48.27	342	P	P	08 02 16.3	-0.6
	comp=Z,0.7nm,0.6s,baz=157,slow=7.8,SNR=2.1						
SONM	Songino Array	48.27	342	P	P	08 02 16.2	-0.6
MK31	Makanchi Array	58.42	326	P	P	08 03 30.4	-0.8
MKAR	Makanchi Array	58.42	326	P	P	08 03 30.8	-0.5
	comp=Z,0.5nm,0.5s,baz=114,slow=8.2,SNR=8.6						
MKAR	Makanchi Array	58.42	326	P	P	08 03 30.6	-0.6
PYZ	Puysegur Point	60.08	149	P	P	08 03 43.1	+0.5
KURBB	Kurchatov Arra	62.62	328	P	P	08 03 59.1	-0.7
	comp=Z,1.8nm,0.8s,baz=125,slow=6.3,SNR=23						
KURK	Kurchatov	62.63	328	P	P	08 03 59.4	-0.4
KURK	comp=Z,3.0nm,0.7s			IAmb	IAmb	08 04 02.7	
NRIK	Noril'sk	71.42	346	P	P	08 04 56.6	+1.3
	comp=Z,1.2nm,0.4s,baz=155,slow=6.8,SNR=4.1						
ABKAR	Akbulak array	72.98	321	P	P	08 05 03.7	-1.3

IDC ***14*** *08:12:11.7±1.7, 1°.54N×128°.42E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/35, mbtmp3.8/5, ML3.8/1, Error ellipse: s-maj=74.4km s-min=25.7km az=61.0*
NEIC ***14*** *08:12:17.1±2.4, 1°.6N±0°.1×128°.63E±0°.05, h35km±2km, mb4.0/9, Error ellipse: s-maj=19.0km s-min=9.0km az=4.0*
DJA ***14*** *08:12:17.0±1.8, 1°N±9°×12°9E±°, h18km±21km, M3.8/8, mb3.9/1, MLv3.8/8*

ISC 14 08:12:17.4±1.2, **1°.6N**±0°.1×**128°.61E**±0°.07, **h35**km, **n25**, σ0**s82**/23, **mb3.9**/8, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	1.47	238	P	Pn	08 12 42.2	+0.8
TNTI	Ternate	1.47	238		Pn	08 12 42.4	+1.0
LBMI	Labuha	2.44	207	P	Pn	08 12 54.8	0.0
SIJI	Sorong	3.58	132	Pn	Pn	08 13 11.5	+1.0
SIJI	7.1nm,0.3s,baz=133,slow=5.7,SNR=37			Sn	Sn	08 13 50.7	-0.9
KMSI	8.7nm,0.3s,baz=193,slow=23,SNR=14 Cibinong	4.73	258	P	Pn	08 13 27.0	+0.6
FAKI	Fak Fak	5.74	141	P	Pn	08 13 40.8	+0.6
FAKI	Fak Fak	5.74	141	Pn	Pn	08 13 41.3	+1.1
MTN	Manton Dam	14.52	170	Pn	Pn	08 15 39.6	-0.9
KNRA	Kununurra	17.12	180	Pn	Pn	08 16 13.2	-0.8
WB0	Warramunga Arr	21.93	165	P	P	08 17 07.4	-0.6
WB0	comp=Z,4.5nm,0.8s			IAmb	IAmb	08 17 12.6	
WRAB	Tennant Creek	22.08	166	P	P	08 17 09.9	+0.3
WRAB	comp=Z,12nm,1.3s			IAmb	IAmb	08 17 25.4	
WRA	Warramunga Arr	22.08	166	P	P	08 17 09.5	-0.2
WRA	comp=Z,1.6nm,0.6s,baz=346,slow=12,SNR=21 Warramunga Arr	22.08	166	P	P	08 17 08.9	-0.8
WB2	Warramunga Arr	22.09	166	P	P	08 17 09.7	0.0
WB2	comp=Z,12nm,1.4s			IAmb	IAmb	08 17 12.0	
WR0	Warramunga Arr	22.15	165	P	P	08 17 10.3	-0.1
WR0	comp=Z,5.4nm,1.4s			IAmb	IAmb	08 17 17.9	
AS31	Alice Springs	25.59	169	P	P	08 17 42.6	-0.9
ASAR	Alice Springs	25.59	169	P	P	08 17 42.8	-0.7
FORT	comp=Z,0.8nm,0.6s,baz=347,slow=11,SNR=16 Forrest	32.15	181	P	P	08 18 43.4	+1.5
STKA	Stephens Creek	35.45	161	P	P	08 19 09.8	-0.7
STKA	comp=Z,1.7nm,0.5s,baz=332,slow=7.7,SNR=5.0 Stephens Creek	35.45	161	P	P	08 19 10.6	0.0
H11N1	WAKE ISLAND Hy	41.55	62	T	T	09 04 27.9	
H11N2	baz=247 WAKE ISLAND Hy	41.57	62	T	T	09 04 33.1	
H11N3	baz=247 WAKE ISLAND Hy	41.57	62	T	T	09 04 29.5	
MKAR	baz=247 Makanchi Array	60.41	325	P	P	08 22 22.4	-1.0
MKAR	comp=Z,0.2nm,0.3s,baz=113,slow=7.9,SNR=2.4 Makanchi Array	60.41	325	P	P	08 22 23.1	-0.3

IDC 14 08:21:13.2±2.8, **19°.96S**×**179°.01W**, **h0**km, **mb3.8**/3, **mb1 4.2**/3, **mb1mx3.7**/24, **mbtmp3.8**/3, **Error ellipse: s-maj=274.0km s-min=35.7km az=161.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	Alice Springs	43.72	256	P	P	08 29 19.9	-0.6
WRA	1.5nm,0.5s,baz=99,slow=8.2,SNR=22 Warramunga Arr	43.73	262	P	P	08 29 20.9	+0.3
TXAR	0.8nm,0.3s,baz=96,slow=7.8,SNR=41 Lajitas Array	87.57	58	P	P	08 34 03.6	0.0
	0.1nm,0.5s,baz=229,slow=4.2,SNR=2.5						

KRNET 14 08:34:58.3±0.1, **41°.40N**×**77°.68E**, **h0**km, **mb2.0**, **4C-4D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARG	Taragay, Kyrgy	0.34	16	⇓*i*P	Pb	08 35 06.8	+0.1
TARG	baz=15			⇓*i*S	Sb	08 35 12.5	0.0
KDJ	Kajisay	0.82	333	⇑*i*P	Pn	08 35 13.9	-0.1
KDJ	baz=34			⇑*i*S	Sn	08 35 25.4	+0.2
PRZ	Przheval'sk	1.21	26	⇓*i*P	Pb	08 35 20.4	-0.3
PRZ	baz=27			⇓*i*S	Sb	08 35 36.8	+0.8
BOOM	baz=27 Boomskoye usch	1.69	311	⇑*e*P	Pb	08 35 27.6	-1.3
BOOM	baz=11			⇑*i*S	Sb	08 35 49.5	-0.4
	baz=11						

NNC 14 08:35:34.9±1.9, **41°.68N**×**78°.16E**, **h0**km, **mb3.4**, **mpv3.1, 2C-2D, Error ellipse: s-maj=16.0km s-min=7.0km az=172.0, Suspected Mining explosion., Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	Shalkode	1.76	33	Pg	Pg	08 36 11.0	+2.3
SHLS	6.1nm,0.1s			Lg	Lg	08 36 37.1	
KST	18nm,0.3s Kastek	2.12	311	Pg	Pb	08 36 14.3	+0.1
KST	4.7nm,0.2s			Lg	Lg	08 36 43.4	
TKM2	9.9nm,0.5s Tokmak 2	2.27	304	⇑Pg	Pn	08 36 15.0	+1.3
TKM2	6.2nm,1.0s			⇑Lg	Lg	08 36 48.2	
KTBS	3.6nm,0.6s Karatobe	2.30	332	Pg	Pb	08 36 17.1	-0.2
KTBS	6.3nm,0.4s			Lg	Lg	08 36 48.1	
KUU	18nm,0.3s Kurty	2.58	329	Pg	Pb	08 36 21.2	-0.8
KUU	5.2nm,0.4s			Lg	Lg	08 36 55.2	
AAK	8.0nm,0.9s Ala-Archa	2.88	291	⇓Pg	Pb	08 36 28.0	+0.7
AAK	1.4nm,0.6s			⇓Lg	Lg	08 37 07.4	
	8.8nm,1.0s						

IDC ***14*** *08:40:54.4±1.0, 1°.89N×99°.43W, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.9/48, mbtmp3.9/13, ML3.4/1, MS3.7/20, Ms1 3.7/20, ms1mx3.6/25, Error ellipse: s-maj=35.9km s-min=15.6km az=47.0*
NEIC ***14*** *08:40:55.8±2.6, 1°.85N±0°.07×99°.40W±0°.10, h10km±1km, mb4.3/26, Error ellipse: s-maj=19.3km s-min=5.5km az=302.0*

ISC 14 08:40:55.8±0.9, **1°.8N**±0°.1×**99°.4W**±0°.1, **h10**km, **n69**, σ0**s99**/49, **mb4.2**/19, **MS3.7**/21, **West of Galapagos Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TLIG	Tlapa	15.65	3		Pn	08 44 37.3	+0.5
CMIG	Matias Romero	15.81	16	LR	LR	08 48 55.0	
JTS	comp=Z,126nm,19.1s,baz=190,slow=30 Las Juntas de	16.66	59	Pn	Pn	08 44 49.0	-0.6
JTS	0.1nm,0.3s,baz=355,slow=11,SNR=3.6			LR	LR	08 49 02.5	
TGUH	comp=Z,598nm,20.3s,baz=312,slow=29 Tegucigalpa,Un	17.09	44	Pn	Pn	08 44 53.6	-1.6
TGUH	comp=Z,19nm,1.1s			IAmb	IAmb	08 44 55.4	
ZAIG	Zacatecas	21.03	352	P	P	08 45 41.9	+1.7
TEIG	Tepich	21.28	30	LR	LR	08 52 35.6	
ATAH	comp=Z,128nm,18.1s,baz=49,slow=33 Atahualpa	22.81	113	P	P	08 46 01.2	+1.7
ATAH	comp=Z,4.3nm,0.7s,baz=290,slow=13,SNR=2.5			LR	LR	08 52 31.2	
ROSC	comp=Z,218nm,21.3s,baz=285,slow=30 El Rosal	25.25	83	P	P	08 46 24.1	+1.3
ROSC	comp=Z,3.6nm,0.5s,baz=130,slow=17,SNR=2.3			LR	LR	08 53 13.3	
ROSC	comp=Z,91nm,20.5s,baz=254,slow=29 El Rosal	25.25	83	P	P	08 46 23.3	+0.5
ROSC	comp=Z,13nm,1.1s			IAmb	IAmb	08 46 37.0	
NNA	Nana	26.32	122	LR	LR	08 54 38.6	
RUSC	comp=Z,186nm,21.3s,baz=288,slow=31 La Rusia	26.59	81	P	P	08 46 37.4	+2.3
TX31	Lajitas Ar. Si	27.64	352	P	P	08 46 43.8	-0.1
TX32	Lajitas Array	27.64	352	P	P	08 46 43.4	-0.5
TX32	comp=Z,4.9nm,1.3s			IAmb	IAmb	08 46 45.3	
TXAR	Lajitas Array	27.64	352	P	P	08 46 43.5	-0.4
TXAR	comp=Z,1.0nm,0.9s,baz=167,slow=12,SNR=8.8			LR	LR	08 56 39.7	
TXAR	comp=Z,274nm,18.2s,baz=0.0,slow=34 Lajitas Array	27.64	352	P	P	08 46 43.0	-1.0
319A	Douglas	30.82	343	P	P	08 47 12.9	+0.7
319A	comp=Z,5.7nm,0.9s			IAmb	IAmb	08 47 22.5	
MSTX	Muleshoe	32.12	355	P	P	08 47 23.2	-0.4
MSTX	comp=Z,5.1nm,0.9s			IAmb	IAmb	08 47 29.8	
BNM	Barren Site	32.84	349	P	P	08 47 30.4	+0.3
U32A	Winter Ranch,	34.38	1	P	P	08 47 41.9	-1.3
LPAZ	La Paz	35.78	121	P	P	08 47 56.2	0.0
LPAZ	comp=Z,2.5nm,1.1s,baz=224,slow=7.6,SNR=3.6			LR	LR	09 00 28.3	
LPAZ	comp=Z,236nm,21.6s,baz=308,slow=33 La Paz	35.78	121	P	P	08 47 56.0	-0.2
LPAZ	comp=Z,5.2nm,1.0s			IAmb	IAmb	08 48 10.8	
LVC	Limon Verde	38.42	131	P	P	08 48 17.5	-0.8
LVC	comp=Z,4.1nm,0.8s,baz=350,slow=18,SNR=2.7 Limon Verde	38.42	131	P	P	08 48 17.7	-0.7
LVC	comp=Z,8.3nm,0.9s			IAmb	IAmb	08 48 26.8	
S51A	Beattyville	38.50	20	P	P	08 48 18.5	+0.2
O44A	Mansfield	39.42	13	P	P	08 48 26.6	+0.6
O44A	comp=Z,11nm,1.2s			IAmb	IAmb	08 48 37.8	
PTGA	Pitinga	39.55	93	P	P	08 48 27.2	-0.2
PTGA	comp=Z,7.1nm,0.8s,baz=279,slow=5.7,SNR=7.7 Pitinga	39.55	93	P	P	08 48 26.3	-1.2
PTGA	comp=Z,8.0nm,0.9s			IAmb	IAmb	08 48 33.8	
MDPB	Devils Postpil	39.94	335	P	P	08 48 29.2	-1.5
MDPB	comp=Z,6.5nm,1.4s			IAmb	IAmb	08 48 31.7	
H03N2	Juan Fernandez	40.06	153	T	T	09 31 23.9	
DUG	baz=330,slow=77,SNR=37 Dugway, Tooele	40.07	344	P	P	08 48 32.2	+0.6
DUG	comp=Z,7.4nm,1.3s			IAmb	IAmb	08 48 44.0	
H03N1	Juan Fernandez	40.07	153	T	T	09 31 26.9	
H03N3	baz=330,slow=77,SNR=71 Juan Fernandez	40.08	153	T	T	09 31 24.5	
NVAR	baz=330,slow=77,SNR=42 Mina Array Bea	40.31	337	P	P	08 48 33.6	-0.2
NVAR	comp=Z,0.3nm,0.7s,baz=156,slow=11,SNR=3.4			LR	LR	09 02 36.8	
NVAR	comp=Z,171nm,20.3s,baz=170,slow=32 Mina Array Bea	40.31	337	P	P	08 48 35.5	+1.8
L44A	Lake County Fo	41.48	13	P	P	08 48 44.1	+1.1
BW06	Boulder Array	41.75	349	P	P	08 48 44.3	-1.2
PD31	Pinedale Array	41.75	349	P	P	08 48 44.5	-1.0
PDAR	Pinedale Array	41.75	349	P	P	08 48 44.8	-0.7
PDAR	comp=Z,1.2nm,0.8s,baz=146,slow=9.0,SNR=9.8			LR	LR	09 04 38.1	
PDAR	comp=Z,69nm,19.9s,baz=161,slow=34 Pinedale Array	41.75	349	P	P	08 48 44.3	-1.2
ECSD	EROS Data Cent	41.79	3	P	P	08 48 46.4	+0.8
SIV	San Ignacio	41.84	117	P	P	08 48 45.2	-1.2
TAOE	comp=Z,0.6nm,0.7s,baz=287,slow=11,SNR=2.9 Nuku Hiva Isla	41.94	255	*e*LR	LR	09 00 30.2	
	comp=Z,240nm,27.0s						

RKT	Rikitea	42.58	232	*e*T	T	09 34 42.8	
REDW	comp=Z,3.6nm,0.3s Red Top Meadow	42.58	348	P	P	08 48 53.7	+1.4
REDW	comp=Z,8.8nm,0.9s			IAmb	IAmb	08 48 54.9	
MCMT	McKenzie Canyo	44.42	346	P	P	08 49 07.8	+0.7
ULM	Lac du Bonnet	48.33	3	P	P	08 49 37.5	+0.1
ULM	comp=Z,2.0nm,0.5s,baz=196,slow=4.1,SNR=1.9			LR	LR	09 09 36.8	
ULM	comp=Z,46nm,18.9s,baz=94,slow=36 Lac du Bonnet	48.33	3	P	P	08 49 36.3	-1.2
CPUP	Villa Florida	49.35	128	LR	LR	09 07 22.8	
PLCA	comp=Z,58nm,20.9s,baz=307,slow=32 Paso Flores	49.88	151	LR	LR	09 05 48.4	
PPT	comp=Z,146nm,21.4s,baz=314,slow=30 Papeete	53.02	246	LR	LR	09 06 33.5	
PPT2	comp=Z,112nm,21.5s,baz=70,slow=29 Papeete2	53.03	246	*e*LR	LR	09 05 41.0	
TBI	comp=Z,171nm,24.5s Tubuai	54.72	240	*e*LR	LR	09 06 28.5	
SCHQ	comp=Z,111nm,27.5s Schefferville	59.13	21	LR	LR	09 16 17.9	
YKA	comp=Z,62nm,18.9s,baz=2.0,slow=36 Yellowknife Ar	61.57	352	P	P	08 51 12.0	-1.0
YKA	comp=Z,0.6nm,1.0s,baz=163,slow=7.3,SNR=3.4			LR	LR	09 17 35.4	
ILAR	comp=Z,147nm,19.1s,baz=0.0,slow=36 Eielson Array	71.43	341	P	P	08 52 16.1	0.0
ILAR	comp=Z,0.7nm,1.0s,baz=144,slow=7.1,SNR=4.7			LR	LR	09 24 19.7	
ESDC	comp=Z,45nm,19.3s,baz=122,slow=36 Sonseca Array	93.06	50	LR	LR	09 33 10.1	
H11S2	comp=Z,24nm,18.0s,baz=355,slow=34 WAKE ISLAND Hy	93.08	289	T	T	10 38 06.4	
H11S1	baz=85,slow=74,SNR=7.3 WAKE ISLAND Hy	93.09	289	T	T	10 37 55.4	
H11S3	baz=85,slow=74,SNR=4.4 WAKE ISLAND Hy	93.10	289	T	T	10 37 53.1	
PETK	baz=85,slow=74,SNR=4.3 Petropavlovsk-	96.25	324	LR	LR	09 29 39.9	
NOA	comp=Z,13nm,21.8s,baz=59,slow=30 NORSAR Array B	98.27	27	LR	LR	09 37 20.9	
ASAR	comp=Z,5.0nm,19.0s,baz=275,slow=34 Alice Springs	124.05	243	PKP	PKiKP	08 59 57.1	+1.4
ASAR	comp=Z,0.2nm,0.6s,baz=82,slow=2.0,SNR=2.1 Alice Springs	124.05	243		PKiKP	08 59 56.2	+0.5
WRA	Warramunga Arr	124.50	247	PKP	PKiKP	08 59 56.5	-0.2
WRA	comp=Z,0.7nm,0.9s,baz=92,slow=2.0,SNR=2.5 Warramunga Arr	124.50	247		PKiKP	08 59 57.2	+0.5
KURK	Kurchatov	127.62	2		PKPdf	09 00 00.7	-0.7
KURBB	Kurchatov Arra	127.71	2	PKP	PKPdf	09 00 00.6	-1.0
MKAR	comp=Z,0.3nm,0.2s,baz=3.4,slow=3.2,SNR=0.8 Makanchi Array	131.55	358	PKP	PKiKP	09 00 09.7	-0.4
	comp=Z,0.5nm,1.0s,baz=11,slow=1.5,SNR=2.7						

IDC ***14*** *08:42:27.1±1.4, 2°.47N×127°.00E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.6/60, mbtmp3.9/6, MS4.1/2, Ms1 4.1/2, ms1mx2.6/43, Error ellipse: s-maj=101.7km s-min=18.8km az=68.0*
DJA ***14*** *08:42:33.0±1.0, 3°N±3°×12°7E±°, h11km±9km, M3.6/6, MLv3.6/6*
NEIC ***14*** *08:42:35.7±1.0, 2°.52N±0°.03×127°.3E±0°.3, h70km±12km, mb4.2/14, Error ellipse: s-maj=46.7km s-min=4.9km az=91.0*

ISC 14 08:42:34.2±0.9, **2°.57N**±0°.09×**127°.1E**±0°.1, **h53**km, **n28**, σ1**s21**/27, **mb4.0**/10, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	1.80	173	P	Pn	08 43 03.4	+0.5
TNTI				S	Sn	08 43 26.3	+1.7
TNTI	Ternate	1.80	173	Pn	Pn	08 43 03.9	+1.0
LBMI	Labuha	3.21	174	P	Pn	08 43 22.7	+0.5
KMSI	Cibinong	3.73	238	P	Pn	08 43 29.4	+0.1
MTN	Manton Dam	15.82	166	P	P	08 46 16.4	-0.1
MTN	comp=Z,51nm,1.5s			IAmb	IAmb	08 46 28.8	
FITZ	Fitzroy Crossi	20.59	184	P	P	08 47 06.6	-2.4
FITZ	comp=Z,2.8nm,0.9s,baz=17,slow=14,SNR=1.2 Fitzroy Crossi	20.59	184	P	P	08 47 08.9	-0.1
FITZ	comp=Z,12nm,1.3s			IAmb	IAmb	08 47 25.2	
YOJ	Yonaguni jima	22.13	350	P	P	08 47 25.5	+0.1
WB0	Warramunga Arr	23.31	163	P	P	08 47 36.1	-1.7
WB0	comp=Z,11nm,1.1s			IAmb	IAmb	08 47 37.0	
WRAB	Tennant Creek	23.46	163	P	P	08 47 37.9	-1.3
WRAB	comp=Z,3.9nm,0.7s			IAmb	IAmb	08 47 38.4	
WRA	Warramunga Arr	23.46	163	P	P	08 47 37.6	-1.6
WRA	comp=Z,1.9nm,0.3s,baz=343,slow=11,SNR=71 Warramunga Arr	23.46	163	P	P	08 47 36.5	-2.8
WB2	Warramunga Arr	23.46	163	P	P	08 47 37.7	-1.5
WR0	Warramunga Arr	23.54	162	P	P	08 47 38.5	-1.4
WR0	comp=Z,4.1nm,0.7s			IAmb	IAmb	08 47 39.1	
AS31	Alice Springs	26.89	166	P	P	08 48 09.8	-0.7
ASAR	Alice Springs	26.90	166	P	P	08 48 09.2	-1.2
ASAR	comp=Z,0.8nm,0.3s,baz=343,slow=7.5,SNR=16 Alice Springs	26.90	166	P	P	08 48 09.9	-0.6
FORT	Forrest	33.17	179	P	P	08 49 04.9	-1.0
MORW	Morawa	33.21	198	P	P	08 49 06.2	0.0
MORW	comp=Z,16nm,1.4s			IAmb	IAmb	08 49 15.5	
BBOO	Buckleboo	36.19	167	P	P	08 49 30.9	-1.0
STKA	Stephens Creek	36.91	159	P	P	08 49 37.6	-0.5
STKA	comp=Z,3.3nm,0.7s,baz=340,slow=6.9,SNR=15 Stephens Creek	36.91	159	P	P	08 49 37.5	-0.5
TLY	Talaya	52.75	342	LR	LR	09 15 04.2	
MKAR	comp=Z,465nm,19.6s,baz=69,slow=37 Makanchi Array	58.74	325	P	P	08 52 27.1	+0.3
KURBB	comp=Z,0.3nm,0.5s,baz=118,slow=7.7,SNR=7.9 Kurchatov Arra	62.93	328	P	P	08 52 55.2	+0.1
KURK	comp=Z,0.4nm,0.6s,baz=131,slow=5.8,SNR=2.7 Kurchatov	62.93	328	P	P	08 52 55.7	+0.5
KURK	comp=Z,3.6nm,1.4s			IAmb	IAmb	08 53 06.4	
ABKAR	Akbulak array	73.30	321	P	P	08 54 01.2	+1.0
FINES	FINESS Array B	93.04	332	LR	LR	09 39 19.8	
	comp=Z,32nm,18.3s,baz=196,slow=37						

BJI ***14*** *08:44:43.5±0.0, 31°.56N×104°.13E, h17km, ML3.3/7*
IDC ***14*** *08:45:08.6±23.0, 29°.42N×108°.63E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/70, mbtmp3.5/3, ML3.5/1, Error ellipse: s-maj=554.8km s-min=48.9km az=119.0*

ISC 14 08:44:53.0±2.7, **31°.01N**±0°.10×**105°.5E**±0°.3, **h10**km, **n5**, σ3**s21**/7, **Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
XAN	Xi'an	4.17	43	Pn	Pn	08 45 54.3	-2.4
XAN				Pg	Pb	08 46 10.6	+4.2
XAN				Sn	Sn	08 46 41.9	-3.5
XAN				Sg	Sg	08 47 08.1	+1.3
XAN				smax	smax		
XAN	comp=N,91nm,1.0s			smax	smax		
GYA	comp=E,78nm,0.7s Guiyang	4.64	167	Pn	Pg	08 46 29.1	+7.1
GYA				Pg	Pb	08 46

ms1mx2.7/35, **Error ellipse: s-maj=343.3km s-min=138.6km az=81.0, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**36.44**	**268**	P	P	08 55 48.2	+1.0
	5.7nm,0.4s,baz=92,slow=10,SNR=21						
PMG	**Port Moresby**	**39.10**	**284**	LR	LR	09 11 17.0	
	comp=Z,297nm,19.1s,baz=34,slow=35						
STKA	**Stephens Creek**	**39.50**	**248**	P	P	08 56 11.6	-1.3
	0.9nm,0.4s,baz=88,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**47.00**	**259**	P	P	08 57 12.8	-0.9
	1.3nm,0.6s,baz=89,slow=9.5,SNR=17						
WRA	**Warramunga Arr**	**47.39**	**264**	P	P	08 57 16.4	-0.3
	1.6nm,0.3s,baz=99,slow=6.9,SNR=48						
FITZ	**Fitzroy Crossi**	**55.81**	**263**	P	P	08 58 20.9	+1.2
	3.6nm,0.8s,baz=104,slow=8.1,SNR=2.2						

IDC ***14*** *08:51:03.8±2.1,48.˚13N×21.˚25E,h0km,mb3.5/1, mb1 3.6/3,mb1mx3.2/36,mbtmp3.6/3,ML3.2/2,Error ellipse: s-maj=27.7km s-min=19.2km az=168.0*

PRU ***14*** *08:51:23.9±0.0,50.˚11N×19.˚04E,h0km*

ISC 14 08:51:22.9±0.8,**50.˚12N**±0.˚03×**19.˚06E**±0.˚02,**h0**km,**n28, σ1s11/47, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.48**	**77**	*e*Pg	**Pg**	**08 51 32.3**	**+0.1**
OJC				*e*Sg	**Sg**	**08 51 38.9**	**+0.5**
OKC	**Ostrava-Krasne**	**0.65**	**245**	*e*PG	**Pg**	**08 51 36.3**	**+0.9**
OKC				*e*SG	**Sg**	**08 51 45.2**	**+1.4**
	comp=Z,79nm,0.4s						
LANS	**Liptovska Anna**	**1.00**	**165**	*e*PG	**Pg**	**08 51 42.7**	**+0.6**
LANS				*e*SG	**Sg**	**08 51 56.2**	**+1.2**
LANS				*e*LG	Lg	08 51 57.4	
MORC	**Moravsky Berou**	**1.04**	**252**	*e*PG	**Pg**	**08 51 43.9**	**+1.1**
MORC				*e*SG	**Sg**	**08 51 56.0**	**-0.2**
NIE	**Niedzica**	**1.06**	**131**	*e*Pg	**Pg**	**08 51 43.2**	**-0.1**
NIE				*e*Sg	**Sg**	**08 51 58.8**	**+1.7**
JAVC	**Velka Javorina**	**1.55**	**216**	*e*PN	**Pn**	**08 51 52.6**	**+0.8**
JAVC				*e*SG	**Sg**	**08 52 09.8**	**-2.9**
STHS	**Stebnicka Huta**	**1.58**	**115**	*e*PN	**Pn**	**08 51 52.6**	**+0.4**
VYHS	**Vyhne**	**1.63**	**185**	*e*PN	**Pn**	**08 51 52.6**	**-0.3**
VYHS				*e*SN	**Sn**	**08 52 14.5**	**-0.1**
DPC	**Dobruska-Polom**	**1.77**	**279**	*e*SG	**Sb**	**08 52 19.8**	**+0.6**
	comp=Z,61nm,0.5s						
VRAC	**Vranov**	**1.79**	**244**	Pn	**Pb**	**08 51 56.8**	**+0.1**
	3.4nm,0.3s,baz=57,slow=12,SNR=14						
VRAC				Sn	**Sg**	**08 52 21.4**	**+0.9**
	9.8nm,0.3s,baz=162,slow=19,SNR=20						
VRAC	**Vranov**	**1.79**	**244**	*e*PN	**Pn**	**08 51 56.1**	**+1.0**
VRAC				*e*SG	**Sn**	**08 52 19.0**	**+0.4**
OSTC	**Ostas**	**1.88**	**285**	*e*PG	**Pn**	**08 51 57.2**	**+0.9**
OSTC				*e*SG	**Sb**	**08 52 22.5**	**+0.5**
	comp=Z,31nm,0.5s						
KECS	**Kecovo**	**1.88**	**150**	*e*PN	**Pn**	**08 51 55.7**	**-0.6**
KECS				*e*SN	**Sn**	**08 52 20.8**	**+0.1**
KECS				*e*LG	Lg	08 52 32.3	
KSP	**Ksiaz**	**1.91**	**293**	*e*Pg	**Pg**	**08 52 00.0**	**+0.5**
KSP				*e*Sg	**Sg**	**08 52 25.5**	**+1.1**
CRVS	**Cervenica-Dubn**	**1.98**	**127**	*e*PN	**Pn**	**08 51 59.8**	**+2.1**
CRVS				*e*LG	Lg	08 52 27.6	
CHVC	**Chvalec**	**1.98**	**285**	*e*PG	**Pn**	**08 51 58.9**	**+1.2**
CHVC				*e*SG	**Sb**	**08 52 26.4**	**+1.3**
	comp=Z,33nm,0.6s						
UPC	**Upice**	**1.99**	**283**	*e*PG	**Pb**	**08 52 00.0**	**0.0**
UPC				*e*SG	**Sb**	**08 52 26.2**	**+0.8**
	comp=Z,27nm,0.7s						
KRUC	**Moravsky**	**2.03**	**240**	*e*PN	**Pn**	**08 51 59.7**	**+1.3**
KRUC				*e*SG	**Sn**	**08 52 26.0**	**+1.6**
MODS	**Modra-Piesok**	**2.10**	**215**	*e*SN	**Sn**	**08 52 24.7**	**-1.4**
MODS				*e*LG	Lg	08 52 32.5	
GOPC	**GO Pecny, Ondr**	**2.77**	**267**	*e*SG	**Sg**	**08 52 51.6**	**-0.1**
	comp=Z,13nm,0.5s						
PRU	**Pruhonice**	**2.92**	**269**	*e*SG	**Sg**	**08 52 56.7**	**+0.2**
	comp=Z,16nm,0.8s						
PBCC	**Pribram**	**3.30**	**264**	*e*SG	**Sg**	**08 53 08.2**	**-0.8**
BRG	**Berggiesshubel**	**3.35**	**285**	PG	**Pg**	**08 52 26.3**	**-0.9**
BRG				SG	**Sg**	**08 53 10.5**	**-0.1**
	11nm,0.5s						
BRG				*e*		08 55 43.0	
KHC	**Kasperske Hory**	**3.70**	**257**	*e*PN	**Pn**	**08 52 22.5**	**+1.2**
KHC				*e*SG	**Sg**	**08 53 21.5**	**-0.2**
	comp=Z,12nm,0.4s						
GERES	**GERESS Array B**	**3.72**	**252**	Pg	**Pg**	**08 52 33.0**	**-1.2**
	0.5nm,0.3s,baz=63,slow=17,SNR=8.8						
GERES				Sn	**Sg**	**08 53 20.3**	**-2.0**
	2.7nm,0.3s,baz=75,slow=31,SNR=12						
CLL	**Collm**	**4.03**	**290**	*e*Pg	**Pg**	**08 52 40.0**	**-0.1**
CLL				*e*Sg	**Sg**	**08 53 33.0**	**+0.7**
	comp=Z,13nm,0.8s						
NKC	**Novy Kostel**	**4.25**	**274**	*e*SG	**Sg**	**08 53 38.5**	**-1.0**
	comp=Z,11nm,0.5s						
FINES	**FINESS Array B**	**12.01**	**16**	Pn	**Pn**	**08 54 12.6**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=196,slow=12,SNR=3.9						

LDG ***14*** *08:52:08.4±0.1,42.˚63N×12.˚46E,h7km,Ml3.1/27,Error ellipse: s-maj=2.8km s-min=1.7km az=168.0*

PRU ***14*** *08:52:08.5±0.0,42.˚63N×12.˚77E,h0km*

PDG ***14*** *08:52:09.6±0.3,42.˚68N×12.˚55E,h15km,ML3.6/13,Error ellipse: s-maj=0.4km s-min=0.4km az=90.0*

ROM ***14*** *08:52:09.1±0.1,42.˚669N±0.˚003×12.˚549E±0.˚004, h7km,ML3.5/87,Mw3.5,Error ellipse: s-maj=0.3km s-min=0.0km az=64.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=1.27; Mθθ=1.49; Mϕϕ=0.22; Mrθ=1.75; Mθϕ=0.02; Mϕr=-0.61; Fault plane solution: M₀=2.31914×10¹⁴ NP1:ϕs=71.00000°, δ=21.00000°, λ=-123.00000°. NP2:ϕs=286.00000°, δ=72.00000°, λ=-78.00000°.*

ISC 14 08:52:09.3±0.9,**42.˚66N**±0.˚02×**12.˚50E**±0.˚02,**h11**km±6km, **n197, σ2s49/247, 7C-7D, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOMA	**Monte Martano**	**0.16**	**19**	P	**Pg**	**08 52 12.7**	**-0.3**
MOMA				S	**Sg**	**08 52 14.8**	**-0.8**
MOMA				AML	AML		
	comp=E,94550μm,0.4s						
MOMA				AML	AML		
	comp=N,55150μm,1.2s						
MOMA				AML	AML		
	comp=E,99200μm,0.4s						
MOMA				AML	AML		
	comp=E,94550μm,0.4s						
MOMA				AML	AML		
	comp=N,55150μm,1.1s						
MOMA				AML	AML		
	comp=N,59750μm,1.1s						
MOMA				AML	AML		
	comp=E,94550μm,0.4s						
MOMA				AML	AML		
	comp=N,55150μm,1.1s						
MOMA				AML	AML		
	comp=N,55150μm,1.2s						
MOMA				AML	AML		
	comp=E,94550μm,0.4s						
MOMA				AML	AML		
	comp=E,99200μm,0.4s						
ARRO	**Arrone**	**0.21**	**111**	P	**Pg**	**08 52 13.7**	**0.0**
ARRO				S	**Sg**	**08 52 16.8**	**0.0**
ARRO				AML	AML		
	comp=E,33150μm,1.1s						
ARRO				AML	AML		
	comp=E,33200μm,1.1s						
ARRO				AML	AML		
	comp=E,33200μm,1.1s						
ARRO				AML	AML		
	comp=N,30500μm,1.0s						
ARRO				AML	AML		
	comp=E,33150μm,1.1s						
MGAB	**Montegabbione**	**0.39**	**312**	P	**Pb**	**08 52 17.8**	**-0.4**
MGAB				S	**Sb**	**08 52 23.9**	**-0.2**
MGAB				AML	AML		
	comp=E,41450μm,1.3s						
MGAB				AML	AML		
	comp=E,44350μm,1.4s						
MGAB				AML	AML		
	comp=N,30700μm,0.2s						
MGAB				AML	AML		
	comp=N,32850μm,0.2s						
MGAB				AML	AML		
	comp=N,30700μm,0.2s						
MGAB				AML	AML		
	comp=E,41450μm,1.3s						
MGAB				AML	AML		
	comp=E,44350μm,1.4s						
MGAB				AML	AML		
	comp=E,44350μm,1.4s						
MGAB				AML	AML		
	comp=N,32850μm,0.2s						
LNSS	**Leonessa**	**0.40**	**97**	P	**Pg**	**08 52 16.9**	**-0.4**
LNSS				S	**Sb**	**08 52 23.0**	**-1.6**
LNSS				AML	AML		
	comp=E,14850μm,1.2s						
LNSS				AML	AML		
	comp=N,20350μm,0.6s						
ASSB	**Assisi San Ben**	**0.40**	**17**	P	**Pg**	**08 52 17.2**	**-0.2**
ASSB				S	**Sb**	**08 52 23.3**	**-1.4**
ASSB				AML	AML		
	comp=N,7490μm,0.9s						
ASSB				AML	AML		
	comp=E,8890μm,0.4s						
CESI	**CESI - Serrava**	**0.46**	**40**	P	**Pg**	**08 52 18.1**	**-0.3**
CESI				S	**Sb**	**08 52 24.8**	**-1.5**
CESI				AML	AML		
	comp=N,3745μm,0.5s						
SACS	**San Casciano d**	**0.48**	**294**	P	**Pb**	**08 52 19.7**	**-0.1**
SACS				S	**Sb**	**08 52 27.3**	**+0.5**
SACS				AML	AML		
	comp=E,7680μm,0.3s						
SACS				AML	AML		
	comp=N,8525μm,1.0s						
SACS				AML	AML		
	comp=E,7760μm,0.3s						
SACS				AML	AML		
	comp=N,8835μm,1.0s						
NRCA	**Norcia**	**0.48**	**68**	P	**Pg**	**08 52 18.4**	**-0.4**
NRCA				S	**Sb**	**08 52 25.6**	**-1.4**
NRCA				AML	AML		
	comp=E,6210μm,1.1s						
NRCA				AML	AML		
	comp=N,6200μm,0.6s						
NRCA				AML	AML		
	comp=N,6700μm,0.6s						
NRCA				AML	AML		
	comp=N,6195μm,0.6s						
NRCA				AML	AML		
	comp=E,6620μm,1.1s						
FEMA	**Monte Fema**	**0.51**	**53**	P	**Pg**	**08 52 19.0**	**-0.3**
FEMA				S	**Sb**	**08 52 26.6**	**-1.1**
ATCC	**AVT- Casa Cast**	**0.54**	**11**	P	**Pg**	**08 52 19.7**	**-0.2**
ATCC				S	**Sb**	**08 52 28.1**	**-0.4**
ATCC				AML	AML		
	comp=E,9825μm,0.4s						
ATTE	**AVT- Monte Tez**	**0.55**	**349**	P	**Pg**	**08 52 20.1**	**-0.1**
FDMO	**Fiordimonte**	**0.57**	**48**	P	**Pg**	**08 52 20.1**	**-0.5**
FDMO				S	**Sb**	**08 52 28.5**	**-1.1**
FDMO				AML	AML		
	comp=E,4990μm,0.3s						
FIAM	**Fiamignano**	**0.60**	**130**	P	**Pg**	**08 52 20.5**	**-0.4**
FIAM				S	**Sb**	**08 52 29.3**	**-1.0**
FIAM				AML	AML		
	comp=N,5310μm,0.9s						
FIAM				AML	AML		
	comp=E,9555μm,0.7s						
MURB	**Monte Urbino**	**0.61**	**2**	P	**Pg**	**08 52 21.1**	**-0.1**
MURB				S	**Sb**	**08 52 30.4**	**-0.2**
MURB				AML	AML		
	comp=N,27850μm,0.3s						
MURB				AML	AML		
	comp=E,26900μm,1.2s						
MURB				AML	AML		
	comp=E,29450μm,1.2s						
SMA1	**SAN MARTINO**	**0.62**	**92**	P	**Pg**	**08 52 20.8**	**-0.5**
SMA1				S	**Sb**	**08 52 30.0**	**-0.8**
SMA1				AML	AML		
	comp=E,9940μm,0.5s						
SMA1				AML	AML		
	comp=N,11450μm,0.4s						
SMA1				AML	AML		
	comp=E,9945μm,0.5s						
MCIV	**Monte Civitell**	**0.62**	**282**	P	**Pb**	**08 52 22.3**	**+0.1**
MCIV				AML	AML		
	comp=N,2760μm,1.2s						
MCIV				AML	AML		
	comp=E,4380μm,0.8s						
MCIV				AML	AML		
	comp=N,2760μm,1.2s						
MTCE	**Montecelio**	**0.66**	**164**	P	**Pg**	**08 52 22.1**	**+0.1**
MTCE				S	**Sb**	**08 52 32.4**	**+0.5**
MTCE				AML	AML		
	comp=N,4490μm,0.6s						
MTCE				AML	AML		
	comp=E,6995μm,0.6s						
FOSV	**Fossato di Vic**	**0.67**	**17**	P	**Pg**	**08 52 21.8**	**-0.5**
FOSV				S	**Sb**	**08 52 31.7**	**-0.6**
FOSV				AML	AML		
	comp=N,3985μm,0.6s						
FOSV				AML	AML		
	comp=E,3840μm,0.6s						
CSP1	**Cessapalombo**	**0.68**	**50**	P	**Pg**	**08 52 21.9**	**-0.6**
CSP1				S	**Sb**	**08 52 31.5**	**-1.1**
CSP1				AML	AML		
	comp=N,8305μm,1.3s						
SNTG	**Esanatoglia**	**0.68**	**28**	P	**Pg**	**08 52 21.8**	**-0.7**
SNTG				S	**Sb**	**08 52 32.1**	**-0.5**
SNTG				AML	AML		
	comp=N,334μm,0.7s						
SNTG				AML	AML		
	comp=E,2705μm,0.7s						
SNTG				AML	AML		
	comp=E,362μm,0.7s						
SNTG				AML	AML		
	comp=N,334μm,0.7s						
SNTG				AML	AML		
	comp=N,2465μm,0.4s						
SNTG				AML	AML		
	comp=N,334μm,0.7s						
SNTG				AML	AML		
	comp=E,362μm,0.8s						
SNTG				AML	AML		
	comp=N,334μm,0.7s						
CAMP	**Campotosto**	**0.68**	**100**	P	**Pg**	**08 52 21.8**	**-0.8**
CAMP				S	**Sb**	**08 52 31.8**	**-0.9**
CAMP				AML	AML		
	comp=E,2625μm,0.6s						
CAMP				AML	AML		
	comp=N,3405μm,0.6s						
TOLF	**Tolfa**	**0.70**	**212**	P	**Pg**	**08 52 23.5**	**+0.7**
TOLF				AML	AML		
	comp=N,4255μm,1.1s						
TOLF				AML	AML		
	comp=E,4765μm,1.2s						
ATFO	**Monte Foce - G**	**0.71**	**4**	P	**Pg**	**08 52 22.9**	**-0.3**
ATFO				AML	AML		
	comp=E,7245μm,1.0s						
ATVO	**AVT- Monte Val**	**0.73**	**355**	P	**Pg**	**08 52 23.1**	**-0.4**
ATVO				S	**Sb**	**08 52 34.1**	**+0.1**
ATVO				AML	AML		
	comp=N,4455μm,0.5s						
AQU	**L'Aquila**	**0.73**	**114**	P	**Pg**	**08 52 23.1**	**-0.4**
AQU				AML	AML		
	comp=N,4590μm,1.4s						
AQU				AML	AML		
	comp=E,3035μm,1.0s						
AQU				AML	AML		
	comp=E,2930μm,1.0s						
AQU				AML	AML		
	comp=N,4460μm,1.4s						
AQU	**L'Aquila**	**0.73**	**114**	*e*Pn	**Pg**	**08 52 23.0**	**-0.4**
CAFI	**Castiglion Fio**	**0.78**	**330**	P	**Pg**	**08 52 24.4**	**0.0**
CAFI				S	**Sb**	**08 52 35.8**	**+0.3**
CAFI				AML	AML		
	comp=E,3690μm,0.4s						
CAFI				AML	AML		
	comp=N,3140μm,0.3s						
CAFI				AML	AML		
	comp=N,3290μm,0.4s						
CAFI				AML	AML		
	comp=E,3795μm,0.4s						
CAFI				AML	AML		
	comp=E,3695μm,0.4s						
CERT	**Cerreto**	**0.79**	**153**	P	**Pg**	**08 52 24.1**	**-0.5**
CERT				S	**Sb**	**08 52 36.2**	**+0.4**
CERT				AML	AML		
	comp=E,10800μm,0.5s						
CERT				AML	AML		
	comp=N,4650μm,0.4s						
CERT				AML	AML		
	comp=E,10850μm,0.5s						
ATPI	**Pietralunga -**	**0.80**	**355**	P	**Pg**	**08 52 24.4**	**-0.4**
ATPI				AML	AML		
	comp=E,4940μm,0.7s						
ATPI				AML	AML		
	comp=N,3680μm,0.6s						
EL6	**Elcito**	**0.81**	**33**	P	**Pg**	**08 52 24.2**	**-0.7**
EL6				AML	AML		
	comp=E,6070μm,1.2s						
EL6				AML	AML		
	comp=N,8170μm,0.7s						
SSFR	**Montelago di S**	**0.81**	**15**	P	**Pg**	**08 52 24.2**	**-0.7**
SSFR				AML	AML		
	comp=E,4900μm,0.2s						
SSFR				AML	AML		
	comp=N,4640μm,0.3s						
SSFR				AML	AML		
	comp=E,5110μm,0.2s						
TERO	**Teramo**	**0.81**	**92**	P	**Pg**	**08 52 23.8**	**-1.2**
TERO				AML	AML		
	comp=E,2265μm,0.4s						
TERO				AML	AML		
	comp=E,936μm,0.4s						
TERO				AML	AML		
	comp=N,2535μm,0.7s						
TERO				AML	AML		
	comp=N,1028μm,0.7s						
TERO				AML	AML		
	comp=N,2530μm,0.7s						
TERO				AML	AML		
	comp=E,2270μm,0.4s						
CDCA	**Citt' di Caste**	**0.83**	**346**	P	**Pg**	**08 52 25.1**	**-0.1**
CDCA				AML	AML		
	comp=N,4505μm,0.6s						
CDCA				AML	AML		
	comp=E,7770μm,0.6s						
CDCA				AML	AML		
	comp=N,12845μm,0.9s						
RMP	**Rome, Mte Porz**	**0.86**	**170**	P	**Pb**	**08 52 26.2**	**0.0**
RMP				AML	AML		
	comp=E,8990μm,0.6s						
RMP				AML	AML		
	comp=N,8250μm,0.4s						
FRON	**Frontone**	**0.88**	**11**	P	**Pg**	**08 52 25.4**	**-0.8**
PIEI	**Pieia**	**0.88**	**2**	P	**Pg**	**08 52 25.8**	**-0.6**
PIEI				AML	AML		
	comp=N,2450μm,0.7s						
CING	**Cingoli**	**0.88**	**35**	P	**Pg**	**08 52 25.5**	**-0.9**
CING				S	**Sb**	**08 52 37.9**	**-0.5**
CING				AML	AML		
	comp=N,3135μm,1.5s						
FAGN	**Fagnano**	**0.89**	**116**	P	**Pg**	**08 52 25.8**	**-0.7**
FAGN				AML	AML		
	comp=N,7880μm,0.5s						
FAGN				AML	AML		
	comp=E,8860μm,0.5s						
FAGN				AML	AML		
	comp=N,10660μm,0.5s						
FAGN				AML	AML		
	comp=E,12000μm,0.5s						
ARVD	**Arcevia**	**0.90**	**21**	P	**Pg**	**08 52 25.8**	**-0.9**
ARVD				AML	AML		
	comp=E,1845μm,0.6s						
ARVD				AML	AML		
	comp=N,1550μm,0.5s						
RDP	**Rocca di Papa**	**0.91**	**170**	P	**Pb**	**08 52 27.1**	**-0.1**
RDP				S	**Sb**	**08 52 40.1**	**+0.8**
OFFI	**Offida**	**0.92**	**72**	P	**Pb**	**08 52 27.1**	**-0.1**
OFFI				AML	AML		
	comp=E,8625μm,0.5s						
PTQR	**Pietraquaria**	**0.92**	**133**	P	**Pg**	**08 52 26.1**	**-1.0**
PTQR				AML	AML		
	comp=N,2100μm,0.5s						
NARO	**Abbazia di Nar**	**0.96**	**3**	P	**Pg**	**08 52 27.0**	**-0.8**
NARO				AML	AML		
	comp=E,1390μm,0.8s						
SSP9	**Sansepolcro**	**0.96**	**344**	P	**Pg**	**08 52 27.7**	**-0.1**
SSP9				AML	AML		
	comp=E,3400μm,1.3s						
SSP9				AML	AML		
	comp=N,2980μm,0.5s						
MPAG	**Monte Paganucc**	**0.99**	**11**	P	**Pg**	**08 52 27.6**	**-0.8**
MPAG				AML	AML		
	comp=N,2330μm,0.7s						
MPAG				AML	AML		
	comp=E,1945μm,0.6s						
PARC	**Parchiule**	**1.01**	**349**	P	**Pg**	**08 52 28.3**	**-0.5**
PARC				AML	AML		
	comp=N,5565μm,0.5s						
VCEL	**Villa Celiera**	**1.02**	**104**	P	**Pg**	**08 52 28.1**	**-0.9**
VCEL				AML	AML		
	comp=E,4155μm,0.6s						
VCEL				AML	AML		
	comp=N,3440μm,1.6s						
PE3	**Peglio**	**1.04**	**360**	P	**Pg**	**08 52 28.9**	**-0.5**
PE3				AML	AML		
	comp=E,4670μm,0.5s						
PE3				AML	AML		
	comp=N,8165μm,0.5s						
CRE	**Caprese Michel**	**1.04**	**338**	P	**Pg**	**08 52 29.0**	**-0.5**
CRE				AML	AML		
	comp=E,1770μm,0.4s						
GUAR	**Guarcino**	**1.05**	**145**	P	**Pg**	**08 52 28.4**	**-1.1**
GUAR				AML	AML		
	comp=N,2985μm,0.8s						
GUAR				AML	AML		
	comp=E,3040μm,0.4s						
GUMA	**Gualdo di Mace**	**1.13**	**68**	P	Pg	08 52 23.2	-7.9
GUMA				S	Sg	08 52 33.4	-12
GUMA				AML	AML		
	comp=N,12950μm,0.6s						
GUMA				AML	AML		
	comp=N,10700μm,0.5s						
GUMA				AML	AML		
	comp=E,17600μm,0.6s						
VVLD	**Villa Vallelon**	**1.14**	**133**	P	**Pn**	**08 52 31.5**	**+0.2**
VVLD				AML	AML		
	comp=E,835μm,0.5s						
VVLD				AML	AML		
	comp=N,1011μm,0.6s						
CPGN	**Carpegna, Ital**	**1.15**	**353**	P	**Pn**	**08 52 31.8**	**+0.3**
CPGN				AML	AML		
	comp=E,2325μm,0.5s						
CPGN				AML	AML		
	comp=N,2730μm,0.5s						
CSNT	**Castellina Chi**	**1.21**	**313**	P	**Pb**	**08 52 32.3**	**+0.1**
CSNT				AML	AML		
	comp=E,288μm,0.7s						
LATB	**Latina**	**1.21**	**163**	P	**Pb**	**08 52 31.1**	**-1.1**
LATB				AML	AML		
	comp=N,357μm,0.9s						
CASP	**Castiglione de**	**1.21**	**277**	P	**Pn**	**08 52 32.1**	**-0.1**
CASP				AML	AML		
	comp=N,362μm,0.4s						
CASP				AML	AML		
	comp=E,405μm,1.5s						
INTR	**Introdacqua**	**1.22**	**121**	AML	AML		
	comp=E,46350μm,1.4s						
INTR				AML	AML		
	comp=N,4230μm,0.9s						
INTR				AML	AML		
	comp=E,3105μm,0.8s						
INTR				AML	AML		
	comp=N,71900μm,1.5s						
GIUL	**Giuliano Di Ro**	**1.23**	**153**	P	**Pb**	**08 52 31.2**	**-1.3**
GIUL				AML	AML		
	comp=N,1665μm,0.5s						
GIUL				AML	AML		
	comp=E,1560μm,0.7s						
ASQU	**Asqua**	**1.25**	**336**	AML	AML		
	comp=E,1175μm,0.5s						
ASQU				AML	AML		
	comp=N,1290μm,0.4s						
TRIF	**Trifonti**	**1.26**	**292**	P	**Pn**	**08 52 33.3**	**+0.4**
TRIF				AML	AML		
	comp=E,838μm,0.4s						
TRIF				AML	AML		
	comp=N,860μm,0.4s						
TRIF				AML	AML		
	comp=E,838μm,0.4s						
OSSC	**Osservatorio P**	**1.26**	**314**	P	**Pn**	**08 52 33.2**	**+0.3**
OSSC				AML	AML		
	comp=E,704μm,0.7s						
OSSC				AML	AML		
	comp=N,678μm,0.7s						
SFI	**Santa Sofia**	**1.34**	**339**	P	**Pn**	**08 52 33.7**	**-0.2**
SFI				AML	AML		

comp=E,1190µm,0.5s
SFI AML AML
comp=N,826µm,1.0s
SFI AML AML
comp=E,1420µm,0.5s
SFI AML AML
comp=N,1073µm,0.9s
RUFI Rufina 1.39 329 AML AML
comp=N,865µm,1.6s
CERA Filignano 1.55 133 P **Pg** **08 52 38.4 -0.6**
CERA AML AML
comp=E,1710µm,0.8s
CERA AML AML
comp=N,1770µm,0.8s
RNI2 Rionero Sannit 1.55 127 AML AML
comp=E,1935µm,1.0s
RNI2 AML AML
comp=N,1930µm,0.8s
RNI2 AML AML
comp=N,1895µm,0.8s
RNI2 AML AML
comp=E,1865µm,1.0s
CRMI Carmignano 1.59 316 AML AML
comp=E,116µm,0.6s
CRMI AML AML
comp=N,100µm,0.6s
CRMI AML AML
comp=N,100µm,0.6s
MIDA Miranda 1.65 127 AML AML
comp=E,919µm,0.6s
MIDA AML AML
comp=N,926µm,0.7s
BRIS BRISIGHELLA 1.66 335 AML AML
comp=E,1575µm,0.6s
BRIS AML AML
comp=N,1800µm,0.5s
MTCR Monte La Croce 1.76 322 AML AML
comp=N,488µm,0.6s
MTCR AML AML
comp=E,398µm,1.1s
TRIV Trivento 1.76 120 AML AML
comp=E,756µm,0.8s
TRIV AML AML
comp=E,772µm,0.8s
TRIV AML AML
comp=N,732µm,0.8s
TRIV AML AML
comp=N,706µm,0.8s
MAIM Mastiano 1.93 311 AML AML
comp=N,276µm,0.7s
MAIM AML AML
comp=E,267µm,0.6s
CARD Cardoso 2.01 314 AML AML
comp=E,259µm,1.6s
CARD AML AML
comp=N,244µm,0.5s
CARD AML AML
comp=E,258µm,1.6s
CIGN Sant'Elia a Pi 2.05 118 AML AML
comp=N,363µm,1.6s
CIGN AML AML
comp=E,314µm,0.7s
CIGN AML AML
comp=N,364µm,1.6s
VLC Villacollemand 2.15 315 AML AML
comp=N,218µm,1.0s
VLC AML AML
comp=N,192µm,1.0s
VLC AML AML
comp=E,144µm,0.8s
VLC AML AML
comp=E,138µm,0.7s
VLC AML AML
comp=E,138µm,0.7s
VLC AML AML
comp=N,219µm,1.0s
SARO Sassorosso 2.16 316 AML AML
comp=E,132µm,0.6s
SARO AML AML
comp=N,146µm,0.5s
PAOL Paolisi 2.24 136 AML AML
comp=E,182µm,1.0s
EQUI Equi 2.28 312 P **Pn** **08 52 48.0 +1.1**
EQUI AML AML
comp=N,196µm,0.4s
EQUI AML AML
comp=E,114µm,0.6s
DUGI Dugi Otok 2.29 54 *i* Pn **Pn** **08 52 48.2 +1.1**
DUGI Sn **Sn** **08 53 16.3 +1.0**
PLMA Palmaria, Port 2.38 307 P **Pn** **08 52 49.3 +1.0**
PLMA AML AML
comp=E,106µm,0.9s
PLMA AML AML
comp=N,103µm,0.5s
PLMA AML AML
comp=N,103µm,0.5s
MRB1 Monte Rocchett 2.40 129 AML AML
comp=E,566µm,1.3s
MRB1 AML AML
comp=N,601µm,0.9s
BRJN Brijuni 2.42 21 *e*Pn **Pn** **08 52 49.1 +0.3**
BRJN Sn **Sn** **08 53 19.6 +1.2**
ZIRJ Zirje 2.51 65 *e*Pn **Pn** **08 52 51.2 +1.2**
ZIRJ Sn **Sn** **08 53 21.7 +1.2**
SERM Sermide 2.51 340 AML AML
comp=E,246µm,0.6s
SERM AML AML
comp=N,234µm,1.6s
NVLJ Novalja 2.57 41 *e*Pn **Pn** **08 52 52.2 +1.5**
NVLJ Sn **Sn** **08 53 23.1 +1.1**
SGRT San Giovanni R 2.57 109 P **Pn** **08 52 52.1 +1.2**
SGRT AML AML
comp=E,308µm,1.0s
SGRT AML AML
comp=N,279µm,0.6s
PGF Pioggiola 2.59 269 *e*P **Pn** **08 52 51.3 +0.1**
PGF *e*Sn **Sn** **08 53 18.9 -3.7**
comp=N,18nm,0.5s
PGF Pioggiola 2.59 269 AML AML
comp=E,71µm,1.2s
PGF AML AML
comp=N,49µm,1.3s
MORI Morici 2.64 62 *e*Pn **Pn** **08 52 53.4 +1.7**
MORI Sn **Sn** **08 53 24.4 +0.7**
MSSA Maissana 2.73 308 AML AML
comp=E,108µm,0.6s
MSSA AML AML
comp=N,140µm,0.5s
HVAR Hvar 2.95 78 *e*Pn **Pn** **08 52 57.8 +1.8**
HVAR Sn **Sn** **08 53 33.5 +2.2**
UDBI Udbina 3.02 51 *e*Pn **Pn** **08 52 59.4 +2.3**
UDBI Sn **Sn** **08 53 35.5 +2.3**
RIY Rijeka 3.03 28 *e*Pn **Pn** **08 52 58.5 +1.4**
RIY Sn **Sn** **08 53 35.0 +1.7**
RIY Rijeka 3.03 28 *e*Pn **Pn** **08 52 57.3 +0.2**
ROVR Rover Verones 3.16 342 P **Pn** **08 52 59.7 +0.6**
ROVR AML AML
comp=N,152µm,0.9s
ROVR AML AML
comp=E,92µm,1.5s
TRI Trieste 3.19 16 AML AML
comp=E,124µm,0.8s
TRI AML AML
comp=E,123µm,0.8s
TRI AML AML
comp=N,136µm,0.7s
MRVN Minervino Murg 3.19 119 AML AML
comp=E,64µm,1.3s
PZUN Potenza 3.19 128 AML AML
comp=E,111µm,1.5s
PZUN AML AML
comp=N,159µm,0.6s
CGRP Cima Grappa 3.26 351 P **Pn** **08 53 00.7 +0.1**
CGRP AML AML
comp=N,338µm,0.7s
CGRP AML AML
comp=E,473µm,0.4s
SALO Salr 3.29 335 AML AML
comp=E,265µm,0.6s
SALO AML AML
comp=N,334µm,1.6s
POLC Polcenigo 3.37 360 AML AML
comp=N,532µm,0.6s
POLC AML AML
comp=E,364µm,0.7s
MAKA Makarska 3.38 78 Sn **Sn** **08 53 43.4 +1.5**
MAKA Makarska 3.38 78 *e*Pn **Pn** **08 53 04.5 +2.6**
MAGA Magasa 3.40 337 P **Pn** **08 53 03.1 +0.8**
MAGA AML AML
comp=E,609µm,0.5s
MAGA AML AML
comp=E,608µm,0.5s
MAGA AML AML
comp=N,485µm,0.5s
SABO M.te Sabotino 3.42 13 P **Pn** **08 53 02.6 +0.1**
SABO AML AML
comp=E,406µm,0.5s
SABO AML AML
comp=N,389µm,1.5s
CTI Castel Tesino 3.45 350 AML AML
comp=N,265µm,1.1s
CTI AML AML
comp=E,354µm,1.1s
OZLJ Ozalj 3.65 35 *e*Pn **Pn** **08 53 07.1 +1.5**
MABI Malga Bissina 3.69 338 AML AML
comp=N,67µm,0.8s
MABI AML AML
comp=E,100µm,0.9s
MABI AML AML
comp=N,67µm,0.8s
MABI AML AML
comp=E,100µm,0.9s
LJU Ljubljana 3.69 23 AML AML
comp=E,313µm,0.9s
LJU AML AML
comp=N,368µm,0.7s
LJU Ljubljana 3.69 23 *e*Pn **Pn** **08 53 07.1 +0.9**
MDI Monti di Nese 3.71 328 AML AML
comp=E,119µm,0.3s
MDI AML AML
comp=N,99µm,1.0s
MGRS Mrkonjic Grad 3.77 61 *e*Pn **Pn** **08 53 08.9 +1.6**
CRES Cresnjev 3.81 33 *e*Pn **Pn** **08 53 09.1 +1.1**
STON Ston 3.83 85 Sn **Sn** **08 53 54.0 +0.8**
STON Ston 3.83 85 *e*Pn **Pn** **08 53 09.3 +1.1**
STON Ston 3.83 85 *e*Pn **Pn** **08 53 09.8 +1.7**
KOSI Kohlern 3.89 348 AML AML
comp=E,282µm,0.7s
KOSI AML AML
comp=N,151µm,1.2s
SBF Sospel 3.89 290 *e*P **Pn** **08 53 10.0 +0.9**
SBF *e*Sn **Sn** **08 53 50.6 -4.2**
comp=N,24nm,0.5s
ACOM Acomizza, Ital 3.96 10 AML AML
comp=E,218µm,0.6s
BLY Banja Luka 3.99 57 *e*Pn **Pb** **08 53 14.8 -4.7**
ZAG Zagreb 4.04 37 AML AML
comp=E,392µm,0.8s
ZAG AML AML
comp=N,298µm,1.6s
MYKA Terra Mystica 4.06 11 *e*Pn **Pn** **08 53 12.2 +0.8**
comp=N,4.1nm,0.4s
MYKA *e*Sn **Sn** **08 54 00.9 +2.1**
comp=N,17nm,0.5s
ABTA Abfaltersbach 4.09 0 *e*Pn **Pn** **08 53 13.1 +1.3**
comp=N,23nm,0.6s,SNR=22
ABTA *e*Sn **Sn** **08 54 02.0 +2.3**
comp=N,20nm,0.4s
PTJ Puntijarka 4.09 36 *e*Pn **Pn** **08 53 14.0 +2.1**
PTJ Sn **Sn** **08 53 59.0 -0.7**
OBKA Obir 4.12 20 *e*Pn **Pn** **08 53 14.6 +2.4**
comp=N,2.5nm,0.1s
DBRK Dubrovnik 4.16 88 *e*Pn **Pn** **08 53 15.4 +2.6**
RISI Rein 4.30 356 AML AML
comp=N,302µm,0.5s
RISI AML AML
comp=E,408µm,0.5s
TREB Trebinje 4.31 87 *e*Pn **Pn** **08 53 17.2 +2.4**
ROSI Rosskopf 4.34 350 AML AML
comp=E,236µm,0.5s
FRF La Foret Royal 4.38 284 *e*P **Pn** **08 53 16.1 +0.4**
FRF *e*Sn **Sn** **08 54 01.7 -5.0**
comp=E,7.4nm,0.5s
SOKA Soboth 4.41 23 *e*Pn **Pn** **08 53 17.1 +1.0**
comp=E,1.8nm,0.2s
SOKA *e*Sn **Sn** **08 54 09.6 +2.1**
comp=E,9.7nm,0.7s
HCY Herceg Novi 4.43 91⇑ *i* Pn **Pn** **08 53 17.0 +0.6**
HCY *i* Sn **Sn** **08 54 08.9 +0.9**
HCY Herceg Novi 4.43 91 *e*Pn **Pn** **08 53 17.2 +0.8**
LMR La Mourre 4.45 281 *e*P **Pn** **08 53 16.8 +0.2**
LMR *e*Sn **Sn** **08 54 03.3 -5.0**
BRY Bratogost 4.45 85⇑ *i* Pn **Pn** **08 53 17.6 +0.8**
BRY *i* Sn **Sn** **08 54 08.8 +0.1**
BRY Bratogost 4.45 85 *e*Pn **Pn** **08 53 19.2 +2.4**
TRAV Traversella 4.46 311 AML AML
comp=E,32µm,0.9s
KBA Koelnbreinsper 4.46 7 *e*Pn **Pn** **08 53 18.5 +1.4**
comp=E,14nm,0.3s,SNR=14
KBA *e*Sn **Sn** **08 54 09.7 +0.7**
comp=E,18nm,0.4s
KALN Kalnik 4.48 38 *e*Pn **Pn** **08 53 18.6 +1.5**
FETA Feichten 4.54 345 *e*Pn **Pn** **08 53 20.1 +2.0**
comp=E,25nm,0.7s,SNR=20
FETA Sn **Sn** **08 54 14.5 +3.5**
comp=E,11nm,0.6s
MBDF Montbardon 4.64 298 *e*P **Pn** **08 53 20.7 +1.2**
MBDF *e*Sn **Sn** **08 54 08.1 -5.3**
comp=E,7.7nm,0.5s
WTTA Wattenberg 4.65 353 *e*Pn **Pn** **08 53 21.8 +2.3**
comp=E,5.4nm,0.2s,SNR=6.5
WTTA *e*Sn **Sn** **08 54 17.4 +3.9**
comp=E,22nm,0.4s
SQTA Sankt Quirin 4.66 349 *e*Pn **Pn** **08 53 21.4 +1.8**
comp=E,16nm,0.4s
SQTA *e*Sn **Sn** **08 54 14.8 +1.1**
comp=E,32nm,0.5s
WATA Walderalm 4.73 352 *e*Pn **Pn** **08 53 23.0 +2.4**
comp=E,9.2nm,0.3s,SNR=10
WATA *e*Sn **Sn** **08 54 18.8 +3.4**
comp=E,35nm,0.6s
UPM Unac-Piva 4.73 81⇓ *i* Pn **Pn** **08 53 21.5 +0.8**
UPM *i* Sn **Sn** **08 54 15.8 +0.1**
UPM Unac-Piva 4.73 81 *e*Pn **Pn** **08 53 22.4 +1.6**
CEME Cevo 4.74 89⇓ *i* Pn **Pn** **08 53 21.6 +0.9**
CEME *i* Sn **Sn** **08 54 16.5 +0.9**
BUM Brajici-Budva 4.74 92⇑ *i* Pn **Pn** **08 53 21.5 +0.8**
BUM *i* Sn **Sn** **08 54 16.3 +0.6**
NKME Niksic 4.75 86⇑ *i* Pn **Pn** **08 53 21.6 +0.7**
NKME *i* Sn **Sn** **08 54 16.6 +0.6**
NKY Niksic 4.79 86⇓ *i* Pn **Pn** **08 53 22.1 +0.7**
NKY *i* Sn **Sn** **08 54 17.2 +0.4**
MOTA Moosalm 4.79 349 *e*Pn **Pn** **08 53 23.9 +2.4**
comp=E,21nm,0.7s
MOTA *e*Sn **Sn** **08 54 20.8 +3.7**
comp=E,40nm,0.6s
DRME Dracevica, Mon 4.97 93⇑ *i* Pn **Pn** **08 53 24.8 +1.0**
DRME *i* Sn **Sn** **08 54 21.5 +0.3**
DRME Dracevica, Mon 4.97 93 *e*Pn **Pn** **08 53 25.7 +1.9**
REMY Saint-Rhmy-en 4.99 311 AML AML
comp=N,76µm,1.2s
REMY AML AML
comp=E,70µm,1.6s
RETA Reutte 4.99 346 *e*Pn **Pn** **08 53 27.1 +3.0**
comp=E,5.5nm,0.4s,SNR=9.2
RETA *e*Sn **Sn** **08 54 25.3 +3.6**
comp=E,13nm,0.5s
DAVA Damuels 4.99 339 *e*Pn **Pn** **08 53 27.4 +3.2**
comp=E,13nm,0.5s,SNR=9.1
DAVA *e*Sn **Sn** **08 54 24.7 +2.7**
comp=E,28nm,0.4s
PDG Podgorica 5.00 90 *e*Pn **Pn** **08 53 26.3 +2.2**
TTG Podgorica 5.00 90⇓ *i* Pn **Pn** **08 53 25.1 +1.0**
TTG *i* Sn **Sn** **08 54 22.2 +0.4**
LPG La Plagne 5.02 306 *e*P **Pn** **08 53 27.1 +2.3**
LPG *e*Sn **Sn** **08 54 18.4 -4.5**
comp=E,5.7nm,0.5s
LPL La Plagne 5.04 307 *e*P **Pn** **08 53 28.5 +3.5**
LPL *e*Sn **Sn** **08 54 17.7 -5.7**
comp=E,6.4nm,0.2s
ULC Ulcinj 5.05 96⇑ *i* Pn **Pn** **08 53 25.9 +1.0**
ULC *i* Sn **Sn** **08 54 23.3 +0.1**
ARSA Arzberg 5.07 24 *e*Pn **Pn** **08 53 25.4 +0.1**
comp=E,4.6nm,0.4s
ARSA *e*Sn **Sn** **08 54 26.1 +2.4**
comp=E,11nm,0.5s
PLE Pljevlja 5.10 80⇓ *i* Pn **Pn** **08 53 26.1 +0.4**
PLE *i* Sn **Sn** **08 54 24.7 +0.2**
KOME Kolasin 5.17 85⇓ *i* Pn **Pn** **08 53 27.6 +1.0**
KOME *i* Sn **Sn** **08 54 26.6 +0.3**
BBLS Lazići 5.18 74 *e*Pn **Pn** **08 53 29.8 +3.0**
SMRF Simiane la Rot 5.22 287 *e*P **Pn** **08 53 29.3 +2.0**
SMRF *e*Sn **Sn** **08 54 21.9 -5.6**
comp=E,3.3nm,0.5s
ORIF Oris-en-Rattie 5.30 298 *e*Pn **Pn** **08 53 25.9 -2.5**
ORIF Oris-en-Rattie 5.30 298 *e*P **Pn** **08 53 31.5 +3.1**
ORIF *e*Sn **Sn** **08 54 23.9 -5.6**
comp=E,7.1nm,0.5s
MOA Molln 5.34 13 *e*Pn **Pn** **08 53 28.2 -0.7**
comp=E,3.4nm,0.2s
MOA *e*Sn **Sn** **08 54 32.4 +1.9**
comp=E,22nm,0.4s
IVA Berane 5.45 85⇓ *i* Pn **Pn** **08 53 31.3 +0.9**
IVA *i* Sn **Sn** **08 54 33.3 +0.2**
PVY Plav 5.50 88⇓ *i* Pn **Pn** **08 53 32.0 +0.7**
PVY *i* Sn **Sn** **08 54 34.2 -0.4**
DIVS Divibare 5.65 73 *e*Pn **Pn** **08 53 32.5 -0.7**
CABF La Chapelle 6.05 313 *e*P **Pn** **08 53 40.7 +2.0**
CABF *e*Sn **Sn** **08 54 41.4 -6.5**
comp=E,4.2nm,0.5s
VIVF Saint-Julien-l 6.08 294 *e*P **Pn** **08 53 40.7 +1.6**
VIVF *e*Sn **Sn** **08 54 42.3 -6.4**
comp=E,1.6nm,0.5s
LASF Ste Croix 6.46 286 *e*P **Pn** **08 53 45.7 +1.4**
LASF *e*Sn **Sn** **08 54 56.5 -1.4**
comp=E,1.9nm,0.5s
HINF Hinteralfeld 6.52 324 *e*P **Pn** **08 53 46.1 +1.0**
HINF *e*Sn **Sn** **08 54 53.0 -6.5**
comp=E,7.2nm,0.4s
KHC Kasperske Hory 6.52 6 *e*PN **Pn** **08 53 46.0 +0.9**
KHC *e*SN **Sn** **08 54 58.0 -1.4**
MODS Modra-Piesok 6.63 29 *e*PN **Pn** **08 53 46.1 -0.5**
CDF Champ du Feu 6.83 329 *e*P **Pn** **08 53 50.7 +1.3**
CDF *e*Sn **Sn** **08 55 00.2 -6.8**
comp=E,8.9nm,0.5s
HAU Haudompre 6.88 323 *e*P **Pn** **08 53 51.3 +1.2**
HAU *e*Sn **Sn** **08 55 01.6 -6.8**
comp=E,10nm,0.3s
STIP Stip 7.26 94 *i* Pn **Pn** **08 53 58.7 +3.5**
VYHS Vyhne 7.34 35 *e*PN **Pn** **08 53 56.2 -0.1**
SMF Signal de Mont 7.35 306 *e*P **Pn** **08 53 58.7 +2.2**
SMF *e*Sn **Sn** **08 55 12.7 -7.2**
comp=E,2.8nm,0.4s
PAGF Fort de Pagny 7.57 323 *e*P **Pn** **08 54 01.5 +2.0**
PAGF *e*Sn **Sn** **08 55 18.1 -7.2**
comp=E,3.9nm,0.3s
SFTF Sexfontaines 7.64 319 *e*P **Pn** **08 54 02.4 +2.0**
baz=139
SFTF *e*Sn **Sn** **08 55 19.3 -7.6**
comp=E,2.9nm,0.4s
LOR Lormes 7.67 310 *e*P **Pn** **08 54 02.6 +1.7**
baz=130
LOR *e*Sn **Sn** **08 55 20.1 -7.6**
comp=E,2.5nm,0.3s
AVF Avril sur Loir 7.71 306 *e*P **Pn** **08 54 04.7 +3.2**
AVF *e*Sn **Sn** **08 55 21.2 -7.6**
comp=E,3.3nm,0.7s
SSF Saint Saulge 7.76 308 *e*P **Pn** **08 54 04.2 +2.1**
SSF *e*Sn **Sn** **08 55 22.4 -7.5**
comp=E,2.2nm,0.4s
MEZF Maizieres J'vi 7.84 321 *e*P **Pn** **08 54 05.8 +2.6**
MEZF *e*Sn **Sn** **08 55 24.3 -7.5**
comp=E,7.6nm,0.5s
CAF Calviac 7.88 290 *e*P **Pn** **08 54 05.5 +1.6**
CAF *e*Sn **Sn** **08 55 25.3 -7.8**
comp=E,3.2nm,0.3s
BGF Bois d'Agland 7.92 303 *e*P **Pn** **08 54 06.3 +2.1**
BGF *e*Sn **Sn** **08 55 26.0 -7.7**
comp=E,4.4nm,0.4s
TCF Toulx Ste Croi 8.21 300 *e*P **Pn** **08 54 10.0 +1.7**
TCF *e*Sn **Sn** **08 55 33.2 -7.7**
comp=E,0.6nm,0.3s
BRG Berggiesshubel 8.28 6 SG **Sg** **08 56 40.1 +5.3**
comp=E,3.3nm,0.8s
RJF Les Rejaudoux 8.35 292 *e*P **Pn** **08 54 12.1 +1.9**
LFF La Frestale 8.81 289 *e*P **Pn** **08 54 19.0 +2.5**
EPF Esparros 8.95 277 *e*P **Pn** **08 54 20.1 +1.7**
BAIF Baives 9.36 325 *e*P **Pn** **08 54 26.5 +2.5**
TORD Torodi Ar. Bea 30.86 201 P **P** **08 58 27.6 +2.1**
comp=E,0.5nm,0.6s,baz=26,slow=10,SNR=2.6

IDC 14 08:55:03.7±26.0, 22°.71S×172°.72W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/29, mbtmp4.0/4, MS3.6/2, Ms1 3.6/2, ms1mx2.8/33, Error ellipse: s-maj=494.1km s-min=158.2km az=77.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.02**	**215**	LR		LR	08 59 27.5	
	comp=Z,320nm,19.4s,baz=158,slow=33							
CTA	**Charters Tower**	**38.21**	**266**	P		P	09 02 26.1	+0.6
	3.1nm,0.5s,baz=98,slow=8.3,SNR=7.8							
STKA	**Stephens Creek**	**41.36**	**247**	P		P	09 02 49.8	-1.8
	1.5nm,0.8s,baz=98,slow=12,SNR=3.8							
ASAR	**Alice Springs**	**48.83**	**258**	P		P	09 03 51.1	-0.2
	0.5nm,0.4s,baz=88,slow=9.8,SNR=12							
WRA	**Warramunga Arr**	**49.19**	**263**	P		P	09 03 54.4	+0.4
	0.8nm,0.3s,baz=99,slow=6.8,SNR=39							
BATI	**Baumata**		**61.87**	**270**	LR	LR	09 31 28.0	
	comp=Z,56nm,19.2s,baz=150,slow=35							

INET ***14*** *08:55:19.4, 11°.71N×86°.52W, h69km, ML3.0*
UCR 14 08:55:19.8±2.0, 11°.66N×86°.48W, h30km±15km, MD3.7, 1C-1D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.17**	**332**	*e*S		Sb	08 55 57.1	+0.7
ACON	**Acoyapa**	**1.32**	**77**⇑ *i*P			Pn	08 55 42.1	-0.1
ACON				*e*S		Sb	08 56 00.1	-0.4
GB1A	**Borinquen Arri**	**1.35**	**128**	*e*P		Pn	08 55 43.2	+0.4
GB1A				*e*S		Sb	08 56 01.7	0.0
BUEV	**Buena Vista**	**1.36**	**129**	*e*P		Pn	08 55 42.9	0.0
MATN	**Matagalpa**	**1.37**	**23**	*e*P		Pn	08 55 42.6	-0.5
MATN				*e*S		Sn	08 55 59.8	-0.4
NY14	**Universidad de**	**1.37**	**137**	*i* P		Pn	08 55 43.6	+0.6
CUI	**Cuipilapa**	**1.64**	**127**⇓ *e*P			Pn	08 55 46.9	+0.2
CUI				*e*S		Sb	08 56 08.7	-1.0
GUAI	**GUAI**	**1.68**	**145**	*i* P		Pn	08 55 47.3	+0.1
PLVR	**Palo Verde**	**1.71**	**139**	*e*P		Pn	08 55 48.3	+0.4
ACAL	**Aguas Claras**	**1.75**	**126**	*i* P		Pn	08 55 47.9	-0.4
JTS	**Las Juntas de**	**2.03**	**132**	*e*P		Pn	08 55 51.8	-0.2
JTS				*e*S		Sn	08 56 15.8	-0.6
ESPN	**Las Esperanzas**	**2.20**	**76**	*e*P		Pn	08 55 54.6	+0.2
DRK0	**Durika**	**3.98**	**127**	*e*P		Pn	08 56 20.8	+1.8

RSNC ***14*** *09:11:27.5±0.9, 6°.82N×73°.15W, h141km±4km, ML3.3, Mw3.5*
IDC ***14*** *09:11:35.0±2.8, 5°.45N×75°.83W, h168km±42km, mb2.4/1, mb1 2.9/1, mb1mx2.7/21, mbtmp2.9/1, Error ellipse: s-maj=96.9km s-min=37.8km az=60.0*
ISC 14 09:11:25.8±0.9, 6°.83N±0°.03×73°.11W±0°.04, h153km±6km, n37, σ1°78/68, 5C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**197**⇑ *i*P			**Pn**	**09 11 46.9**	**0.0**
BARC				*e*S		**Sn**	**09 12 00.8**	**-2.1**
BARC				*i*			09 12 03.2	
	comp=Z,1µm,0.2s							
PAMC	**Pamplona, Colo**	**0.65**	**39**⇑ *e*P			**Pn**	**09 11 49.6**	**+0.7**
PAMC				*e*S		**Sn**	**09 12 06.2**	**-0.3**
PAMC				*i*			09 12 08.9	
	comp=Z,418nm,0.5s							
RUSC	**La Rusia**	**0.93**	**178**⇑ *e*P			**Pn**	**09 11 50.9**	**0.0**
RUSC				*e*S		**Sn**	**09 12 09.1**	**-0.9**
RUSC				*i*			09 12 10.2	
	comp=Z,330nm,0.2s							
TAMC	**Tame, Arauca**	**1.37**	**107**⇑ *e*P			**Pn**	**09 11 55.1**	**+0.9**
TAMC				*e*S		**Sn**	**09 12 16.4**	**+0.4**
TAMC				*i*			09 12 17.2	
	comp=Z,102nm,0.2s							
PTBC	**PUERTO BERRIO,**	**1.37**	**258**⇓ *e*P			**Pn**	**09 11 53.2**	**-1.0**
PTBC				*e*S		**Sn**	**09 12 14.6**	**-1.5**
PTBC				*i*			09 12 16.1	
	comp=Z,252nm,0.3s							
OCAC	**Ocana**	**1.42**	**352**	*e*P		**Pn**	**09 11 54.9**	**0.0**
OCAC				*e*S		**Sn**	**09 12 16.9**	**-0.3**
OCAC				*i*			09 12 20.1	
	comp=Z,300nm,0.2s							
SPBC	**San Pablo de B**	**1.51**	**219**	*e*P		**Pn**	**09 11 55.7**	**-0.1**
SPBC				*e*S		**Sn**	**09 12 17.6**	**-1.2**
SPBC				*i*			09 12 24.6	

	comp=Z,263nm,0.2s							
ZARC	**Zaragoza, Cauc**	**1.86**	**291**	*e*P		**Pn**	**09 11 59.4**	**0.0**
ZARC				*e*S		**Sn**	**09 12 25.1**	**-0.2**
ZARC				*i*			09 12 31.2	
	comp=Z,307nm,0.3s							
NORC	**Norcasia**	**2.16**	**234**⇑	*e*P		**Pn**	**09 12 02.7**	**-0.2**
NORC				*e*S		**Sn**	**09 12 30.5**	**-1.1**
NORC				*i*			09 12 32.3	
	comp=Z,160nm,0.2s							
SMLC	**San Martn de**	**2.18**	**334**	*e*P		**Pn**	**09 12 02.8**	**-0.4**
SMLC				*e*S		**Sn**	**09 12 31.5**	**-0.5**
SMLC				*i*			09 12 43.4	
	comp=Z,217nm,0.1s							
CHIC	**Chingaza**	**2.27**	**196**	*e*P		**Pn**	**09 12 04.9**	**+0.2**
CHIC				*e*S		**Sn**	**09 12 34.0**	**-0.6**
CHIC				*i*			09 12 37.4	
	comp=Z,56nm,0.3s							
ROSC	**El Rosal**	**2.31**	**211**	P		**Pn**	**09 12 06.5**	**+1.2**
	comp=Z,13nm,0.3s,baz=296,slow=21,SNR=37							
ROSC				S		**Sn**	**09 12 33.0**	**-2.5**
	comp=Z,11nm,0.3s,baz=175,slow=21,SNR=8.2							
ROSC	**El Rosal**	**2.31**	**211**	*e*P		**Pn**	**09 12 06.8**	**+1.5**
ROSC				*e*S		**Sn**	**09 12 37.8**	**+2.3**
ROSC				*i*			09 12 41.1	
	comp=Z,104nm,0.4s							
HELC	**Santa Helena**	**2.49**	**255**	*e*P		**Pn**	**09 12 07.6**	**+0.4**
HELC				*e*S		**Sn**	**09 12 38.5**	**-0.7**
HELC				*i*			09 12 46.3	
	comp=Z,76nm,0.5s							
UREC	**San Jos de Ur**	**2.57**	**291**	*e*P		**Pn**	**09 12 06.8**	**-1.1**
UREC				*e*S		**Sn**	**09 12 38.3**	**-2.2**
UREC				*i*			09 12 47.4	
	comp=Z,119nm,0.1s							
GUY2C	**Guyana, Caldas**	**2.75**	**235**	*e*P		**Pn**	**09 12 11.2**	**+0.6**
GUY2C				*e*S		**Sn**	**09 12 45.5**	**+0.3**
GUY2C				*i*			09 12 55.3	
	comp=Z,96nm,0.5s							
VILC	**Villavicencio,**	**2.76**	**192**	*e*P		**Pn**	**09 12 10.8**	**+0.3**
VILC				*e*S		**Sn**	**09 12 44.2**	**-0.7**
VILC				*i*			09 12 50.1	
	comp=Z,97nm,0.3s							
PTGC	**Puerto Gaitan,**	**2.79**	**160**	*e*P		**Pn**	**09 12 09.9**	**-0.7**
PTGC				*e*S		**Sn**	**09 12 43.2**	**-2.2**
PTGC				*i*			09 12 44.8	
	comp=Z,68nm,0.2s							
RREF	**El Recreo**	**2.94**	**229**	*e*P		**Pn**	**09 12 13.7**	**+0.6**
RREF				*e*S		**Sn**	**09 12 52.3**	**+2.7**
RREF				*i*			09 12 58.6	
	comp=Z,83nm,0.5s							
CBOC	**Ciudad Bolivar**	**3.04**	**252**	*e*P		**Pn**	**09 12 14.7**	**+0.7**
CBOC				*e*S		**Sn**	**09 12 49.8**	**-1.4**
CBOC				*i*			09 13 02.3	
	comp=Z,52nm,0.8s							
DBBC	**Dabeiba**	**3.08**	**274**	*e*P		**Pn**	**09 12 14.4**	**-0.1**
TOLC	**Tolima**	**3.13**	**225**	*e*P		**Pn**	**09 12 16.3**	**+1.0**
TOLC				*e*S		**Sn**	**09 12 54.2**	**+0.6**
TOLC				*i*			09 12 57.1	
	comp=Z,142nm,0.8s							
SDV	**Santo Domingo**	**3.19**	**50**	*e*P		**Pn**	**09 12 15.8**	**-0.1**
SDV				*e*S		**Sn**	**09 12 51.8**	**-2.9**
ARGC	**Ariguani, Magd**	**3.21**	**340**	*e*P		**Pn**	**09 12 17.1**	**+1.2**
ARGC				*e*S		**Sn**	**09 12 55.4**	**+0.5**
ARGC				*i*			09 13 03.7	
	comp=Z,28nm,0.3s							
ANIL	**Santa Ana**	**3.26**	**225**	*e*S		**Sn**	**09 12 57.1**	**+0.7**
PRAC	**Prado**	**3.57**	**210**	*e*P		**Pn**	**09 12 20.4**	**-0.1**
PRAC				*e*S		**Sn**	**09 13 02.6**	**-0.5**
PRAC				*i*			09 13 08.8	
	comp=Z,61nm,0.5s							
ORTC	**Ortega, Tolima**	**3.60**	**216**	*e*P		**Pn**	**09 12 21.1**	**+0.1**
ORTC				*e*S		**Sn**	**09 13 04.7**	**+0.9**
ORTC				*i*			09 13 09.8	
	comp=Z,41nm,0.4s							
SJCC	**San Jacinto, C**	**3.67**	**326**	*e*P		**Pn**	**09 12 20.8**	**-1.1**
SJCC				*e*S		**Sn**	**09 13 01.5**	**-4.1**
SJCC				*i*			09 13 16.3	
	comp=Z,37nm,0.4s							
PLMC	**San Jos del P**	**3.69**	**239**	*e*P		**Pn**	**09 12 22.5**	**+0.3**
PLMC				*e*S		**Sn**	**09 13 05.2**	**-0.8**
PLMC				*i*			09 13 12.4	
	comp=Z,95nm,0.2s							
GUVC	**San Jose del G**	**4.28**	**174**	*e*S		**Sn**	**09 13 17.6**	**-2.2**
YOTC	**Yotoco, Valle**	**4.29**	**229**	*e*P		**Pn**	**09 12 29.0**	**-1.0**
YOTC				*e*S		**Sn**	**09 13 14.8**	**-5.2**
SMRC	**Santa Marta, M**	**4.45**	**346**	*e*P		**Pn**	**09 12 31.7**	**-0.3**
SMRC				*e*S		**Sn**	**09 13 20.0**	**-3.5**
SMRC				*i*			09 13 29.2	
	comp=Z,16nm,0.6s							
MACC	**Macarena, Meta**	**4.71**	**189**	*e*P		**Pn**	**09 12 33.5**	**-2.0**
MACC				*e*S		**Sn**	**09 13 24.7**	**-5.2**
MACC				*i*			09 13 30.3	
	comp=Z,12nm,0.4s							
GARC	**Garzon, Huila**	**5.19**	**207**	*e*P		**Pn**	**09 12 40.4**	**-1.6**
GARC				*e*S		**Sn**	**09 13 37.9**	**-3.6**
TXAR	**Lajitas Array**	**36.47**	**312**	PKPbc		**PKPdf**	**09 30 55.8**	**+3.1**
	comp=Z,0.1nm,0.5s,baz=122,slow=9.7,SNR=2.2							
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc		**PKPdf**	**09 30 55.8**	**+3.1**
	comp=Z,0.3nm,0.7s,baz=115,slow=3.7,SNR=4.3							
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc		**PKPdf**	**09 30 58.6**	**+3.9**
	comp=Z,0.5nm,0.7s,baz=108,slow=2.8,SNR=6.7							

IDC 14 09:13:06.7±7.9, 6°56S×128°37E, h252km±85km, mb3.2/2, mb1 3.4/6, mb1mx3.1/35, mbtmp4.0/6, MS3.0/1, Ms1 3.0/1, ms1mx2.3/19, Error ellipse: s-maj=85.4km s-min=20.2km az=48.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**5.90**	**232**	P		Pn	09 14 34.4	+0.7
	9.8nm,0.3s,baz=115,slow=5.1,SNR=4.7							
BATI				S		S	09 15 42.4	-0.9
	7.3nm,0.3s,baz=230,slow=23,SNR=2.1							
FITZ	**Fitzroy Crossi**	**11.78**	**193**	P		P	09 15 49.5	-1.2
	0.1nm,0.3s,baz=53,slow=17,SNR=1.8							
FITZ				S		S	09 17 54.4	-4.6
	0.2nm,0.3s,baz=296,slow=23,SNR=1.1							
WRA	**Warramunga Arr**	**14.52**	**157**	P		Pn	09 16 19.1	-1.9
	0.7nm,0.3s,baz=330,slow=12,SNR=38							
WRA				S		S	09 19 00.9	-0.8
	0.2nm,0.3s,baz=338,slow=22,SNR=1.7							
ASAR	**Alice Springs**	**17.83**	**163**	P		P	09 16 57.5	+0.2
	0.4nm,0.3s,baz=344,slow=11,SNR=40							
MJAR	**Matsushiro Arr**	**43.85**	**11**	LR		LR	09 40 05.3	
	comp=Z,17nm,19.7s,baz=60,slow=37							
MKAR	**Makanchi Array**	**66.97**	**327**	P		P	09 23 32.6	+0.3
	0.3nm,0.4s,baz=123,slow=7.7,SNR=7.4							
ZALV	**Zalesovo Beam**	**70.48**	**334**	P		P	09 23 53.2	-0.5
	0.6nm,0.4s,baz=120,slow=8.5,SNR=1.8							

IDC 14 10:12:07.4±2.8, 30°33S×177°54W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/24, mbtmp3.9/3, Error ellipse: s-maj=57.2km s-min=23.3km az=101.0
NEIC 14 10:12:10.6±1.1, 30°35S±0°08×178°1W±0°2, h14km±6km, mb4.5/13, Error ellipse: s-maj=31.4km s-min=6.8km az=107.0

ISC 14 10:12:14.1±1.2, 30°33S±0°08×178°0W±0°2, h46km, n22, σ1§58/24, mb4.3/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**1.08**	**4**	Pn		**Pn**	**10 12 31.0**	**-1.8**
	2µm,0.3s,baz=102,slow=8.6,SNR=84							
RAO				Sn		Sn	**10 12 46.4**	**-0.2**
	658nm,0.3s,baz=105,slow=23,SNR=4.4							
RAO	**Raoul Island**	**1.08**	**4**			**Pn**	**10 12 31.5**	**-1.3**
RAO	**Raoul Island**	**1.08**	**4**			**Sn**	**10 12 46.6**	**0.0**
BKZ	**Black Stump Fm**	**9.90**	**206**	Pn		**Pn**	**10 14 31.9**	**-1.9**
BKZ				Sn		**Sn**	**10 16 22.3**	**-1.4**
EIDS	**Eidsvold**	**27.73**	**273**	P		**P**	**10 17 57.4**	**-0.9**
EIDS				IAmb		IAmb	10 18 11.0	
	comp=Z,12nm,1.3s							
CAN	**Canberra**	**28.09**	**251**	P		**P**	**10 17 59.7**	**-1.8**
TAU	**Tasmania Unive**	**30.31**	**236**	P		**P**	**10 18 20.1**	**-1.0**
TOO	**Toolangi**	**30.98**	**247**	P		**P**	**10 18 25.9**	**-1.2**
STKA	**Stephens Creek**	**34.49**	**257**	P		**P**	**10 19 01.7**	**+3.9**
	comp=Z,0.9nm,0.3s,baz=72,slow=9.6,SNR=3.2							
STKA	**Stephens Creek**	**34.49**	**257**	P		**P**	**10 18 57.8**	**0.0**
BBOO	**Buckleboo**	**38.98**	**254**	P		**P**	**10 19 36.3**	**+0.3**
BBOO				IAmb		IAmb	10 19 48.5	
	comp=Z,23nm,1.2s							
ASAR	**Alice Springs**	**43.11**	**267**	P		**P**	**10 20 12.1**	**+2.0**
	comp=Z,0.5nm,0.5s,baz=105,slow=6.8,SNR=12							
ASAR	**Alice Springs**	**43.11**	**267**	P		**P**	**10 20 09.1**	**-1.0**
WR0	**Warramunga Arr**	**43.91**	**272**	P		**P**	**10 20 16.3**	**-0.3**
WB2	**Warramunga Arr**	**44.08**	**272**	P		**P**	**10 20 18.9**	**+1.0**
WB2				IAmb		IAmb	10 20 31.5	
	comp=Z,5.5nm,1.1s							
WRA	**Warramunga Arr**	**44.09**	**272**	P		**P**	**10 20 20.5**	**+2.5**
	comp=Z,0.8nm,0.3s,baz=110,slow=8.1,SNR=21							
WRA	**Warramunga Arr**	**44.09**	**272**	P		**P**	**10 20 18.4**	**+0.4**
WB0	**Warramunga Arr**	**44.11**	**272**	P		**P**	**10 20 18.3**	**+0.1**
WB0				IAmb		IAmb	10 20 26.8	
	comp=Z,14nm,1.3s							
CASY	**Casey**	**55.20**	**208**	P		**P**	**10 21 43.1**	**+1.3**
CASY				IAmb		IAmb	10 21 43.5	
	comp=Z,2.5nm,0.6s							
QSPA	**South Pole Qui**	**59.78**	**180**	P		**P**	**10 22 15.9**	**+1.6**
QSPA				IAmb		IAmb	10 22 25.4	
	comp=Z,2.5nm,0.9s							
KAPI	**Kappang**	**63.59**	**280**	P		**P**	**10 22 42.2**	**+1.7**
FINES	**FINESS Array B**	**145.08**	**340**	PKPbc		**PKPbc**	**10 31 44.9**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=54,slow=4.0,SNR=20							

NEIC 14 10:17:01.1±1.1, 11°6S±0°1×162°6E±0°2, h10km±2km, mb4.5/6, Error ellipse: s-maj=31.4km s-min=4.4km az=55.0
IDC 14 10:17:01.6±1.0, 11°46S×162°32E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.9/26, mbtmp3.9/11, ML4.0/2, MS3.3/4, Ms1 3.3/4, ms1mx2.9/32, Error ellipse: s-maj=29.4km s-min=22.0km az=85.0

ISC 14 10:17:06.4±0.7, 11°63S±0°09×162°4E±0°1, h39km, n22, σ1§60/23, mb4.0/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**3.23**	**312**	Pn		**Pn**	**10 17 53.7**	**-0.9**
	50nm,0.3s,baz=175,slow=8.2,SNR=16							
HNR				Sn		**Sn**	**10 18 30.1**	**-1.7**
	39nm,0.3s,baz=22,slow=22,SNR=6.7							
HNR				LR		LR	10 19 07.8	
	comp=Z,218nm,19.7s,baz=106,slow=41							
HNR	**Honiara**	**3.23**	**312**			**Pn**	**10 17 53.4**	**-1.2**
HNR						**Sn**	**10 18 34.0**	**+2.1**
DZM	**Mont Dzumac**	**11.09**	**160**	Pn		**Pn**	**10 19 44.6**	**+1.9**
	0.3nm,0.3s,baz=15,slow=8.7,SNR=25							
DZM				Sn		**Sn**	**10 21 43.5**	**-2.0**
	0.4nm,0.3s,baz=143,slow=20,SNR=1.1							
DZM				LR		LR	10 23 11.6	
	comp=Z,299nm,19.4s,baz=34,slow=33							
DZM	**Mont Dzumac**	**11.09**	**160**	Pn		**Pn**	**10 19 39.2**	**-3.5**
RABL	**Rabaul**	**12.51**	**305**	Pn		**Pn**	**10 20 01.0**	**-1.0**
CTA	**Charters Tower**	**17.62**	**239**	P		**P**	**10 21 12.3**	**+2.5**
	0.1nm,0.3s,baz=62,slow=11,SNR=3.8							
COEN	**Coen**	**18.86**	**261**	P		**Pn**	**10 21 23.4**	**-0.8**
WB0	**Warramunga Arr**	**28.08**	**250**	P		**P**	**10 22 55.6**	**+1.0**
WB0				IAmb		IAmb	10 23 00.7	
	comp=Z,10nm,1.5s							
WRAB	**Tennant Creek**	**28.16**	**249**	P		**P**	**10 22 56.3**	**+0.9**
WRAB				IAmb		IAmb	10 22 59.0	
	comp=Z,16nm,1.5s							
WB2	**Warramunga Arr**	**28.16**	**249**	P		**P**	**10 22 56.4**	**+1.0**
WB2				IAmb		IAmb	10 23 11.9	
	comp=Z,9.1nm,1.2s							
WRA	**Warramunga Arr**	**28.17**	**249**	P		**P**	**10 22 56.3**	**+0.8**
	comp=Z,1.9nm,1.1s,baz=78,slow=9.1,SNR=4.4							
ASAR	**Alice Springs**	**29.58**	**242**	P		**P**	**10 23 08.4**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=77,slow=10.0,SNR=8.9							
PPT	**Papeete**	**46.79**	**103**	LR		LR	10 44 12.0	
	comp=Z,36nm,18.1s,baz=77,slow=35							
KSRS	**Korea Array**	**58.55**	**328**	P		**P**	**10 26 59.4**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=160,slow=4.5,SNR=2.0							
USRK	**Ussuriysk Ar.**	**62.04**	**336**	P		**P**	**10 27 22.4**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=92,slow=5.7,SNR=4.8							
PETK	**Petropavlovsk-**	**64.60**	**357**	LR		LR	10 50 16.4	
	comp=Z,16nm,20.9s,baz=239,slow=31							
CASY	**Casey**	**64.65**	**201**	P		**P**	**10 27 38.8**	**-1.1**
VNDA	**Vanda**	**65.88**	**180**	P		**P**	**10 27 50.2**	**+2.5**
	comp=Z,1.1nm,0.8s,baz=338,slow=4.8,SNR=4.1							
SONM	**Songino Array**	**77.21**	**325**	P		**P**	**10 28 56.0**	**-0.6**
	comp=Z,0.7nm,0.5s,baz=133,slow=6.5,SNR=3.6							
ILAR	**Eielson Array**	**85.14**	**19**	P		**P**	**10 29 38.8**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=233,slow=4.4,SNR=1.6							
NVAR	**Mina Array Bea**	**88.94**	**51**	P		**P**	**10 29 58.5**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=217,slow=6.0,SNR=2.7							
MKAR	**Makanchi Array**	**91.69**	**317**	P		**P**	**10 30 09.4**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=85,slow=6.4,SNR=4.8							

GUC 14 10:28:33.6±0.5, 19°72S×71°09W, h48km±5km, ML3.1
IDC 14 10:28:35.0±2.5, 20°13S×69°64W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.5/20, mbtmp3.9/2, ML2.4/1, MS2.7/1, Ms1 2.8/1, ms1mx2.6/30, Error ellipse: s-maj=72.5km s-min=64.9km az=95.0

ISC 14 10:28:32.0±2.3, 19°73S±0°05×71°1W±0°1, h19km±4km, n12, σ0§73/17, 5C, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSGC	**Pisagua**	**0.89**	**81**⇑	*i*P		**Pn**	**10 28 49.2**	**-0.3**
PSGC				*i* S		**Sg**	**10 29 01.6**	**+0.3**
TA02	**Huaiquique**	**1.02**	**122**	*e*P		**Pg**	**10 28 51.4**	**-0.5**
TA02				*e*S		**Sn**	**10 29 05.3**	**+0.2**
TA02				IAML			10 29 08.6	
	comp=N,1µm,0.6s							
TA01	**Diego Aracena**	**1.17**	**135**⇑	*i*P		**Pb**	**10 28 53.1**	**-0.4**
TA01				*i* S		**Sb**	**10 29 08.2**	**-0.1**
TA01				IAML			10 29 09.1	
	comp=E,500nm,0.5s							
PB12	**IPOC Station P**	**1.31**	**32**	*e*P		**Pb**	**10 28 55.2**	**-0.8**
PB12				*i* S		**Sn**	**10 29 12.0**	**-0.3**
PB12				IAML			10 29 15.1	
	comp=N,514nm,0.5s							
PB11	**IPOC Station P**	**1.32**	**91**⇑	*i*P		**Pb**	**10 28 55.9**	**-0.3**
PB11				*i* S		**Sb**	**10 29 13.6**	**+0.7**
PB11				IAML			10 29 15.9	
	comp=N,682nm,0.5s							
MNMC	**Minye Minye**	**1.50**	**67**⇑	*i*P		**Pb**	**10 28 58.9**	**-0.6**
MNMC				*e*S		**Sb**	**10 29 18.4**	**+0.1**
MNMC				IAML			10 29 25.2	
	comp=E,986nm,0.6s							
GO01	**Chusmiza**	**1.76**	**88**⇑	*i*P		**Pb**	**10 29 02.8**	**-1.1**
GO01				*i* S		**Sb**	**10 29 25.3**	**-0.4**
GO01				IAML			10 29 32.9	
	comp=N,380nm,0.2s							
PB08	**IPOC Station P**	**1.84**	**103**	*e*P		**Pn**	**10 29 03.6**	**+0.8**
PB08				*i* S		**Sn**	**10 29 26.5**	**+0.7**
PB08				IAML			10 29 41.5	
	comp=N,162nm,0.4s							
LPAZ	**La Paz**	**4.42**	**40**	Pn		**Pn**	**10 29 40.0**	**+1.4**
	comp=N,0.2nm,0.3s,baz=180,slow=9.8,SNR=2.3							
LPAZ				LR		LR	10 31 39.8	
	comp=N,99nm,20.3s,baz=220,slow=45							
TORD	**Torodi Ar. Bea**	**78.68**	**72**	P		P	10 40 32.8	-0.7
	comp=N,0.7nm,0.7s,baz=247,slow=5.7,SNR=3.1							
YKA	**Yellowknife Ar**	**88.87**	**341**	P		P	10 41 33.6	+9.2
	comp=N,0.7nm,0.9s,baz=150,slow=5.7,SNR=3.7							
MKAR	**Makanchi Array**	**145.32**	**33**	PKP		PKiKP	10 48 15.6	+3.2
	comp=N,0.2nm,0.6s,baz=316,slow=5.1,SNR=3.7							

DJA 14 10:45:40.1±0.4, 2°N±3°×126°2E±°, h10km, M3.9/9, mB5.1/1, mb4.2/3, MLv3.8/9, Mw(mB)4.4/1, Mwp6.0/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MRSI	**Marisa**	**1.14**	**189**	P		Pb	10 45 57.7	-4.2
MRSI				S		Sg	10 46 17.1	+0.3
KMSI	**Cibinong**	**2.13**	**119**	P		Pn	10 46 15.6	-0.2
KMSI				S		Sb	10 46 44.4	-1.1
APSI	**Ampana**	**2.55**	**190**	P		Pn	10 46 21.3	-0.2
APSI				S		Sn	10 46 54.1	+1.5
MPSI	**Mapaga**	**2.55**	**240**	P		Pn	10 46 21.6	+0.1
LUWI	**Luwuk**	**2.72**	**166**	P		Pn	10 46 23.1	-0.7
LUWI				S		Sn	10 46 58.1	+1.3
TTSI	**Tana Toraja**	**5.16**	**206**	P		Pn	10 46 57.3	-0.2
	0.1nm28nm,0.9s							
SPSI	**Sidrap Palu**	**6.01**	**203**	P		Pn	10 47 09.5	+0.3
	0.1nm11nm,0.7s							
BNSI	**Bone**	**6.30**	**199**	P		Pn	10 47 12.9	-0.2

IDC 14 11:08:13.1±0.6, 11°16S×161°54E, h0km, mb4.7/21, mb1 4.8/24, mb1mx4.6/49, mbtmp4.7/24, ML4.5/3, MS4.9/7, Ms1 4.9/7, ms1mx4.5/45, Error ellipse: s-maj=17.6km s-min=12.9km az=109.0
NEIC 14 11:08:15.5±1.6, 11°14S±0°07×161°47E±0°09, h10km±1km, mb5.0/67, Error ellipse: s-maj=16.8km s-min=10.4km az=59.0
BJI 14 11:08:17.1±0.0, 11°05S×161°92E, h35km, mB5.3/17, mb4.9/23, Ms4.9/1, MS7 4.6/1
GCMT 14 11:08:18.5±0.4, 11°22S±0°02×161°66E±0°02, h13km±2km, MW5.3/54, Moment Tensor Solution. s20,c28; s54,c79; Duration: 1§1 Moment tensor: Scale 10^17 Nm; Mrr-0.04±.05; Mθθ0.44±.06; Mϕϕ-0.40±.06; Mrθ-0.16±.11; Mθϕ0.92±.05; Mϕr-0.66±.20; Best double couple: M0 1.21900×10^17 NP1:ϕs282.00000°, δ56.00000°, λ-1.00000°. NP2:ϕs13.00000°, δ89.00000°, λ-146.00000°. Principal axes: T 1.2360, Plg23.0000°, Azm142.0000°; N -0.0360, Plg56.0000°, Azm14.0000°; P -1.2010, Plg24.0000°, Azm243.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 14 11:08:18.1±0.4, 11°17S±0°05×161°53E±0°06, h28km, n153, σ1§25/150, mb5.0/65, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**2.33**	**318**	Pn		**Pn**	**11 08 54.2**	**-0.3**
	67nm,0.3s,baz=357,slow=4.7,SNR=31							
HNR				Sn		**Sn**	**11 09 22.8**	**+0.6**
	573nm,0.3s,baz=134,slow=14,SNR=6.8							
HNR				LR		LR	11 09 41.0	
	comp=Z,6µm,19.7s,baz=128,slow=38							
HNR	**Honiara**	**2.33**	**318**			**Pn**	**11 08 53.1**	**-1.4**
HNR				Sn		**Sn**	**11 09 20.1**	**-2.1**
KRVT	**Keravat (AS076**	**11.62**	**305**	Pn		**Pn**	**11 11 04.4**	**+2.2**
	baz=191,slow=23,SNR=1.0							
DZM	**Mont Dzumac**	**11.81**	**157**	Pn		**Pn**	**11 11 03.9**	**-1.0**
	1.8nm,0.3s,baz=5.8,slow=9.2,SNR=58							
DZM				LR		LR	11 15 09.7	
	comp=Z,8µm,18.6s,baz=332,slow=35							
DZM	**Mont Dzumac**	**11.81**	**157**	*e*Pn		**Pn**	**11 11 03.7**	**-1.2**
	32nm,0.7s							
DZM				*e*LR		LR	11 13 49.1	
	comp=Z,12µm,24.2s							
DZM	**Mont Dzumac**	**11.81**	**157**	Pn		**Pn**	**11 11 04.2**	**-0.7**
PMG	**Port Moresby**	**14.25**	**276**	Pn		**Pn**	**11 11 40.1**	**+2.0**
	0.4nm,0.3s,baz=78,slow=6.5,SNR=7.7							
PMG				LR		LR	11 16 56.2	
	comp=Z,6µm,18.6s,baz=110,slow=37							
PMG	**Port Moresby**	**14.25**	**276**	Pn		**Pn**	**11 11 37.8**	**-0.3**
CTA	**Charters Tower**	**17.16**	**237**	P		**Pn**	**11 12 15.9**	**-0.1**
	2.4nm,0.3s,baz=63,slow=13,SNR=28							
CTA				LR		LR	11 17 59.4	
	comp=Z,3µm,21.5s,baz=39,slow=34							
CTAO	**Charters Tower**	**17.16**	**237**			**Pn**	**11 12 15.3**	**-0.7**
EIDS	**Eidsvold**	**17.24**	**214**	P		**Pn**	**11 12 17.0**	**0.0**
	baz=18,SNR=12							
EIDS	**Eidsvold**	**17.24**	**214**			**Pn**	**11 12 16.6**	**-0.4**
MSVF	**Nonsavu**	**17.27**	**114**	P		**P**	**11 12 20.0**	**+1.3**
MTSU	**Mount Surprise**	**18.02**	**245**	P		**P**	**11 12 30.2**	**+3.1**
	baz=18,SNR=24							
COEN	**Coen**	**18.13**	**259**	P		**P**	**11 12 31.2**	**+3.0**
	baz=18,SNR=22							
COEN	**Coen**	**18.13**	**259**	P		**P**	**11 12 29.4**	**+1.3**
PATS	**Pohnpei**	**18.18**	**350**	P		**P**	**11 12 28.9**	**+0.3**
PATS				IAmb		IAmb	11 12 32.4	
	comp=Z,167nm,1.3s							
RMQ	**Roma**	**19.42**	**217**	P		**Pn**	**11 12 44.1**	**+0.6**
	baz=20,SNR=172							
MMPI	**Merauke**	**21.01**	**275**	P		**P**	**11 12 57.1**	**-2.5**
	comp=Z,180nm,0.9s							
ARMA	**Armidale**	**21.25**	**204**	P		**P**	**11 13 02.3**	**+0.1**
	baz=22,SNR=9.1							
ARMA	**Armidale**	**21.25**	**204**			**P**	**11 13 02.8**	**+0.6**
JAY	**Jayapura**	**22.38**	**291**	P		**P**	**11 13 15.7**	**+1.3**
	comp=Z,25nm,0.8s,baz=128,slow=5.7,SNR=7.3							
JAY	**Jayapura**	**22.38**	**291**	P		**P**	**11 13 13.1**	**-1.3**
	comp=Z,526nmcomp=Z,25nm,1.2s							
QLP	**Quilpie**	**22.38**	**224**	P		**P**	**11 13 14.7**	**+0.4**
	baz=23,SNR=5.5							
QIS	**Mount Isa**	**23.04**	**243**	P		**P**	**11 13 21.0**	**-0.3**
	baz=23,SNR=20							
SMPI	**Sarmi**	**24.41**	**290**	P		**P**	**11 13 33.8**	**-0.7**
	comp=Z,µmcomp=Z,90nm,0.9s							
CMSA	**Cobar Meteorol**	**25.00**	**213**	P		**P**	**11 13 39.4**	**-0.3**
	baz=25,SNR=11							
YNG	**Young**	**25.96**	**205**	P		**P**	**11 13 50.7**	**+2.4**
	baz=26,SNR=4.9							
RAO	**Raoul Island**	**26.29

PSA00 IAmb IAmb 11 16 14.3
comp=Z,58nm,1.5s
BNSI Bone 41.55 276 P **P** **11 16 05.3 +1.7**
comp=Z,789nmcomp=Z,39nm,1.1s
KMBL Kambalda 41.75 235 P **P** **11 16 05.1 0.0**
baz=42,SNR=7.0
KAPI Kappang 41.78 275 P **P** **11 16 05.4 0.0**
comp=Z,16nm,0.8s,baz=134,slow=10,SNR=6.1
KAPI Kappang 41.78 275 P **P** **11 16 05.2 -0.3**
KAPI IAmb IAmb 11 16 10.0
comp=Z,35nm,1.1s
SPSI Sidrap Palu 41.97 277 P **P** **11 16 10.3 +3.2**
comp=Z,8μmcomp=Z,6μmcomp=Z,22nm,1.6s
MPSI Mapaga 42.92 283 P **P** **11 16 14.0 -0.8**
comp=Z,5μmcomp=Z,30nm,1.1s
MORW Morawa 45.95 240 P **P** **11 16 38.3 -0.6**
MORW IAmb IAmb 11 16 41.3
comp=Z,16nm,0.8s
NWAO Narrogin (SRO) 45.98 235 P **P** **11 16 38.5 -0.6**
comp=Z,22nm,0.8s,baz=62,slow=7.4,SNR=9.2
NWAO Narrogin (SRO) 45.98 235 P **P** **11 16 38.6 -0.5**
PPT2 Papeete2 47.69 104 *e*S **S** **11 23 44.8 -2.5**
comp=Z,432nm,25.4s
PPT2 *e*LQ LQ 11 28 17.0
comp=Z,3μm,25.5s
PPT2 *e*LR LR 11 30 15.8
comp=Z,2μm,25.5s
TBI Tubuai 48.13 111 *e*S **S** **11 23 52.4 -0.9**
comp=Z,296nm,28.5s
TBI *e*LQ LQ 11 28 28.4
comp=Z,2μm,29.0s
TBI *e*LR LR 11 30 25.9
comp=Z,1μm,27.5s
INU Inuyama 51.76 334 P **P** **11 17 23.3 +0.1**
INU IAmb IAmb 11 17 31.9
comp=Z,18nm,1.0s
MJAR Matsushiro Arr 52.30 336 P **P** **11 17 25.6 -1.6**
comp=Z,5nm,0.7s,baz=158,slow=7.4,SNR=9.4
MJAR Matsushiro Arr 52.30 336 P **P** **11 17 26.2 -1.0**
MAJO Matsushiro 52.30 336 P **P** **11 17 26.4 -0.9**
MAT Matsushiro 52.30 336 P **P** **11 17 26.2 -1.1**
JNU Nakatsue 52.86 328 P **P** **11 17 31.1 -0.4**
comp=Z,12nm,0.9s,baz=172,slow=5.1,SNR=5.1
JNU Nakatsue 52.86 328 P **P** **11 17 31.1 -0.4**
JNU IAmb IAmb 11 17 38.0
comp=Z,22nm,1.1s
CNJI Cibinong 53.77 269 P P 11 17 46.6 +8.1
DBJI Dramaga 54.26 270 P P **11 17 38.5 -3.6**
TNG Tangerang 54.42 270 P P 11 17 52.2 +8.9
JKA Kamikawa-asahi 57.66 344 P **P** **11 18 05.3 -0.5**
ASAJ Asahikawa 57.66 344 P **P** **11 18 05.3 -0.5**
comp=Z,18nm,0.9s,baz=237,slow=18,SNR=4.9
KSRS Korea Array 57.74 329 P **P** **11 18 05.4 -1.1**
comp=Z,5.4nm,1.0s,baz=144,slow=7.0,SNR=18
KSAR Wonju Array Be 57.75 329 P **P** **11 18 05.6 -1.0**
NJ2 Nanjing 59.27 318 *e*P **P** **11 18 18.3 +1.0**
USA0B Ussuriysk Arra 61.30 336 P **P** **11 18 31.1 +0.2**
USRK Ussuriysk Ar. 61.30 336 P **P** **11 18 29.8 -1.1**
comp=Z,12nm,0.9s,baz=141,slow=6.1,SNR=18
CN2 Changchun 63.80 332 *e*P **P** **11 18 47.4 -0.3**
PETK Petropavlovsk- 64.11 357 P **P** **11 18 49.3 -0.2**
comp=Z,2.4nm,0.6s,baz=156,slow=7.5,SNR=5.3
PETK Petropavlovsk- 64.11 357 P **P** **11 18 49.7 +0.2**
VNDA Vanda 66.34 180 P **P** **11 19 02.9 -0.8**
comp=Z,4.9nm,1.1s,baz=339,slow=7.6,SNR=9.6
VNDA Vanda 66.34 180 P **P** **11 19 04.2 +0.5**
XAN Xi'an 67.20 314 P **P** **11 19 13.9 +3.9**
XAN pP sP 11 19 21.0 +1.7
XAN pmax pmax
comp=Z,8.0nm,0.9s
XAN pmax pmax
comp=Z,94nm,4.1s
HHC Hu-ho-hao-te 69.31 322 *e*P **P** **11 19 24.3 +1.2**
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,34nm,5.9s
CD2 Chengdu 69.43 309 P **P** **11 19 24.1 +0.1**
CD2 pmax pmax
comp=Z,20nm,0.5s
HIA Hailar 70.50 332 P **P** **11 19 29.9 -0.2**
HIA IAmb IAmb 11 19 39.0
comp=Z,8.1nm,0.6s
LZH Lanzhou 71.82 314 *e*P **P** **11 19 39.8 +1.2**
LZH pP sP 11 19 48.4 +0.4
LZH sP pwP 11 19 51.6 -2.2
LZH pmax pmax
comp=Z,27nm,1.3s
LZH pmax pmax
comp=Z,100nm,5.0s
LZH LR LR
comp=Z,350nm,16.8s
LZH LR LR
comp=Z,260nm,16.3s
ULN Ulaanbaatar 76.02 326 P **P** **11 20 01.9 -1.1**
ULN IAmb IAmb 11 20 12.5
comp=Z,14nm,1.1s
SONM Songino Array 76.37 325 P **P** **11 20 03.8 -1.1**
comp=Z,5.9nm,0.8s,baz=128,slow=5.0,SNR=19
SONM Songino Array 76.37 325 P **P** **11 20 03.7 -1.2**
YAK Yakutsk 77.10 345 P **P** **11 20 07.6 -0.9**
KDAK Kodiak Island 78.27 23 P **P** **11 20 15.0 -0.1**
comp=Z,14nm,0.9s,baz=192,slow=2.8,SNR=4.5
KDAK Kodiak Island 78.27 23 P **P** **11 20 15.1 0.0**
QSPA South Pole Qui 78.83 180 P **P** **11 20 18.5 +0.1**
comp=Z,3.7nm,0.8s,baz=24,slow=5.2,SNR=1.4
QSPA South Pole Qui 78.83 180 P **P** **11 20 18.8 +0.4**
QSPA IAmb IAmb 11 20 34.3
comp=Z,18nm,1.1s
BILL Bilibino 79.08 2 P **P** **11 20 19.3 -0.1**
BILL IAmb IAmb 11 20 22.1
comp=Z,15nm,1.0s
KTH Kantishna Hill 82.85 19 P **P** **11 20 39.1 -0.6**
KTH IAmb IAmb 11 20 40.9
comp=Z,17nm,1.1s
MAW Mawson 83.04 202 P **P** **11 20 40.8 +0.2**
WRH Wood River Hil 84.40 20 P **P** **11 20 47.4 -0.1**
WRH IAmb IAmb 11 20 51.0
comp=Z,12nm,1.0s
HDA Harding Lake 84.74 20 P **P** **11 20 48.9 -0.3**
COLA College 84.74 19 P **P** **11 20 48.7 -0.5**
MENT Mentasta 84.96 22 P **P** **11 20 51.3 +0.9**
MENT IAmb IAmb 11 21 03.5
comp=Z,9.2nm,0.8s
IL31 84.99 20 P **P** **11 20 50.1 -0.3**
IL31 IAmb IAmb 11 21 07.9
comp=Z,10.0nm,1.2s
ILAR Eielson Array 84.99 20 P **P** **11 20 49.8 -0.7**
comp=Z,2.9nm,0.8s,baz=252,slow=4.0,SNR=16
DOT Dot Lake 85.26 21 P **P** **11 20 52.4 +0.5**
SCRK Sand Creek 85.49 21 P **P** **11 20 53.4 +0.2**
SCRK IAmb IAmb 11 20 56.9
comp=Z,10nm,1.0s
WMQ Urumqi 86.28 316 *e*P **P** **11 20 58.5 +1.0**
EGAK Eagle 86.95 21 P **P** **11 21 00.5 +0.3**
BMAR Burnt Mountain 87.38 18 P **P** **11 21 02.9 +0.6**
AFDM Forest Hills D 87.42 50 P **P** **11 21 04.2 +1.1**
AFDM IAmb IAmb 11 21 12.4
comp=Z,11nm,1.2s
MWC Mount Wilson 88.42 55 P **P** **11 21 09.8 +1.6**
MWC IAmb IAmb 11 21 17.4
comp=Z,10nm,0.9s
PAHR Pah Rah Range 88.81 49 P **P** **11 21 11.1 +1.2**
NVAR Mina Array Bea 89.29 51 P **P** **11 21 13.0 +0.8**
comp=Z,1.6nm,0.9s,baz=231,slow=7.9,SNR=9.3
NVAR Mina Array Bea 89.29 51 P **P** **11 21 12.3 +0.1**
EPYK Eagle Plains 89.37 21 P **P** **11 21 12.6 +0.8**
EPYK IAmb IAmb 11 21 15.7
comp=Z,9.9nm,0.9s
NV11 Mina Array Sit 89.40 51 P **P** **11 21 13.0 +0.3**
NV11 IAmb IAmb 11 21 22.2
comp=Z,11nm,1.2s
PFO Pinyon Flats O 89.56 56 P **P** **11 21 14.6 +1.1**
PFO IAmb IAmb 11 21 24.1
comp=Z,16nm,1.5s
XPFO Pion Flat 89.56 56 P **P** **11 21 15.3 +1.8**
XPFO IAmb IAmb 11 21 24.1
comp=Z,16nm,1.5s
KVN Kaiserville 89.60 50 P **P** **11 21 14.7 +1.1**
KVN IAmb IAmb 11 21 17.2
comp=Z,12nm,1.4s
GSC Goldstone, Bar 89.68 54 P **P** **11 21 15.8 +1.8**
GSC IAmb IAmb 11 21 24.1
comp=Z,11nm,1.4s
WVOR Wild Horse Val 90.07 47 P **P** **11 21 17.4 +1.7**
SYO Syowa Base 90.43 198 *e*pP pP 11 21 21.0 -2.7
TPNV Topopah Spring 90.51 53 P **P** **11 21 18.7 +0.8**
TPNV IAmb IAmb 11 21 27.4
comp=Z,7.0nm,0.9s
B08A Colville Reser 91.15 41 P **P** **11 21 21.3 +0.9**
SHPR Sheep Range 91.26 53 P **P** **11 21 22.7 +1.3**
SHPR IAmb IAmb 11 21 31.7
comp=Z,9.1nm,1.2s
BMO Blue Mountains 91.61 45 P **P** **11 21 24.0 +1.3**
W13A Hualapai Mount 91.96 55 P **P** **11 21 26.0 +1.2**
ELK Elko 92.14 49 P **P** **11 21 27.0 +1.5**
ELK IAmb IAmb 11 21 36.6
comp=Z,7.1nm,1.2s
NEW Newport 92.56 41 P **P** **11 21 28.1 +1.1**
comp=Z,1.4nm,0.7s,baz=315,slow=4.5,SNR=3.8
PSUT Pine Spring 92.71 51 P **P** **11 21 28.3 +0.2**
SZCU Shurtz Canyon 93.11 52 P **P** **11 21 30.5 +0.5**
KSH Kashi 93.62 309 P **P** **11 21 34.8 +2.6**
KSH S **S** **11 32 38.1 -1.4**
KSH sS sS 11 32 58.5 +7.3
YKA Yellowknife Ar 97.00 28 P **P** **11 21 44.6 -2.2**
comp=Z,2.0nm,0.9s,baz=251,slow=4.7,SNR=9.6

BGR ***14*** *11:10:48.5±0.0, 11°.85S×92°.92E, h10km, mb5.8, mB_BB6.8, Ms5.8*
MOS ***14*** *11:10:58.9±0.8, 10°.05S×90°.96E, h10km, mb6.3/108, MS6.1/70, Error ellipse: s-maj=6.6km s-min=4.5km az=101.6*
NEIC ***14*** *11:10:59.9, 10°.10S×91°.10E, h6km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr3.61; Mθθ-2.81; Mθφ-0.80; Mrθ-2.18; Mθφ-4.29; Mφr1.29; Fault plane solution: M0 5.96000×10^18 NP1:ϕs19.06000°, δ51.64000°, λ,38.03000°. NP2:ϕs263.17000°, δ61.11000°, λ134.87000°. Principal axes: T 5.5615, Plg51.0000°, Azm226.0000°; N 0.7372, Plg38.0000°, Azm57.0000°; P -6.2988, Plg6.0000°, Azm323.0000°;*
BJI ***14*** *11:10:59.0±0.0, 10°.00S×91°.05E, h5km, mB6.4/76, mb6.0/86, Ms6.6/99, Ms7 6.5/90*
IDC ***14*** *11:10:59.4±0.3, 10°.03S×90°.93E, h0km, mb5.9/54, mb1 5.9/56, mb1mx5.8/59, mbtmp5.8/56, ML4.7/2, MS6.1/29, Ms1 6.1/29, ms1mx5.8/39, Error ellipse: s-maj=9.8km s-min=8.0km az=39.0*
UNK ***14*** *11:10:59.9, 10°.12S×91°.09E, h4km*
NEIC ***14*** *11:10:59.9±1.7, 10°.12S±0°.05×91°.09E±0°.06, h4km±1km, mb6.3/254, Ms_20 6.5/780, Mwb6.5/80, Mww6.5, Mwc6.5(GCMT), Error ellipse: s-maj=11.7km s-min=6.4km az=301.0*
DJA ***14*** *11:11:02.3±0.1, 10°.52S±2°.2×9°.1E±°, h10km, M6.3/127, mB6.7/125, mb6.1/127, Mw(mB)6.5/125, Mwp6.1/92*
GCMT ***14*** *11:11:04.8±0.0, 10°.02S×91°.06E, h13km, MW6.5/175, Moment Tensor Solution. s175,c427; s165,c723; Duration: 4s2 Moment tensor: Scale 1018Nm; Mrr3.39±.02; Mθθ-2.79±.02; Mφφ-0.60±.02; Mrθ-2.56±.07; Mθφ-5.08±.02; Mrφ0.41±.05; Best double couple: M0 6.34000×10^18 NP1:ϕs14.00000°, δ51.00000°, λ30.00000°. NP2:ϕs265.00000°, δ67.00000°, λ137.00000°. Principal axes: T 5.4920, Plg46.0000°, Azm223.0000°; N 1.6920, Plg43.0000°, Azm62.0000°; P -7.1880, Plg10.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***14*** *11:11:05, 10°.05S×91°.03E, h13km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr3.34; Mθθ-2.88; Mφφ-0.47; Mrθ-3.04; Mφφ-5.30; Mφr0.05; Fault plane solution: M0 6.87000×10^18 NP1:ϕs13.00000°, δ50.00000°, λ27.00000°. NP2:ϕs265.00000°, δ70.00000°, λ136.00000°. Principal axes: T 5.7032, Plg45.0000°, Azm221.0000°; N 1.9205, Plg43.0000°, Azm65.0000°; P -7.6237, Plg12.0000°, Azm324.0000°;*
NEIC ***14*** *11:11:06, 9°.96S×91°.06E, h12km, Moment Tensor Solution. Moment tensor: Scale 1018Nm; Mrr3.91; Mθθ-3.04; Mφφ-0.87; Mrθ-0.70; Mφφ-4.64; Mφr3.01; Fault plane solution: M0 6.61000×10^18 NP1:ϕs264.00000°, δ50.00000°, λ,143.00000°. NP2:ϕs20.00000°, δ63.00000°, λ46.00000°. Principal axes: T 6.2854, Plg51.0000°, Azm239.0000°; N 0.6070, Plg38.0000°, Azm43.0000°; P -6.8924, Plg8.0000°, Azm139.0000°;*
ISC 14 11:11:03.3±0.4, 10°.11S±0°.03×91°.04E±0°.03, h23km±2km, h23km:pP-P, n2441, σ1°92/2386, mb6.2/357, MS6.4/507, 146C-23D, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
COCO	**West Island**	**6.05**	**110**		Pn	11 12 26.3	-5.1
COCO				Sn	**Sn**	**11 13 34.6**	**-5.3**
PPSI	**Pulau Pagai**	**11.52**	**51**	P	**Pn**	**11 13 46.6**	**+0.2**
	92μm157μm21μm,1.0s						
SISI	**Saibi**	**11.84**	**43**	P	**Pn**	**11 13 50.0**	**-0.9**
	72μm35μm4μm,1.3s						
KRJI	**Kerinci**	**13.07**	**53**	P	**Pn**	**11 14 07.9**	**+0.2**
	102μm122μm5μm,1.1s						
GSI	**Gunungsitoli**	**13.08**	**30**	P	**Pn**	**11 14 05.7**	**-2.1**
	388μm93μm6μm,1.3s						
GSI	**Gunungsitoli**	**13.08**	**30**	Pn	**Pn**	**11 14 04.9**	**-2.8**
PDSI	**Padang**	**13.09**	**46**	P	**Pn**	**11 14 06.5**	**-1.5**
	49μm25μm2μm,1.1s						
MASI	**Maura Aman, Be**	**13.10**	**59**	P	**Pn**	**11 14 08.3**	**+0.2**
	72μm6μm,1.0s						
MNAI	**Manna**	**13.13**	**65**	P	**Pn**	**11 14 09.2**	**+0.7**
	59μm46μm4μm,1.9s						
MNAI	**Manna**	**13.13**	**65**	Pn	**Pn**	**11 14 06.9**	**-1.6**
MNSI	**Mandailing Nat**	**13.77**	**39**	P	**Pn**	**11 14 15.9**	**-1.4**
	62μm34μm1μm,1.2s						
SDSI	**Sungai Dareh**	**13.78**	**49**	P	**Pn**	**11 14 16.3**	**-1.1**
	49μm3μm,1.1s						
LWLI	**Liwa**	**13.86**	**70**	P	**Pn**	**11 14 19.0**	**+0.4**
	39μm3μm,0.7s						
LHSI	**Lahat**	**13.87**	**64**	P	**Pn**	**11 14 19.0**	**+0.4**
	50μm49μm3μm,1.1s						
KASI	**Kota Agung**	**14.09**	**72**	P	**Pn**	**11 14 21.6**	**0.0**
	30μm15μm1μm,0.7s						
MDSI	**Maura Dua**	**14.18**	**68**	P	**Pn**	**11 14 23.4**	**+0.6**
	31μm30μm2μm,0.8s						
BKNI	**Bangkinang**	**14.37**	**44**	P	**Pn**	**11 14 24.7**	**-0.8**
	61μm66μm5μm,1.2s						
BKNI	**Bangkinang**	**14.37**	**44**	Pn	**Pn**	**11 14 23.7**	**-1.8**
XMIS	**Christmas Isla**	**14.38**	**93**	Pn	**Pn**	**11 14 23.7**	**-2.0**
TPTI		**14.63**	**25**	P	**Pn**	**11 14 27.8**	**-1.1**
	22μm6μm194nm,2.8s						
BLSI	**Bandar Lampung**	**14.84**	**73**	P	**Pn**	**11 14 32.3**	**+0.4**
	27μm15μm698nm,1.2s						
RGRI	**Rengat**	**14.84**	**50**	P	**Pn**	**11 14 31.4**	**-0.5**
	45μm1μm,1.1s						
RPSI	**Rantau Prapat**	**14.95**	**32**	Pn	**Pn**	**11 14 30.7**	**-2.7**
PSI	**Prapat**	**15.04**	**32**	Pn	**Pn**	**11 14 31.4**	**-3.2**
	2.1nm,0.3s,baz=180,slow=8.7,SNR=41						
PSI				Sn	Sn	11 17 08.6	-12
	1.0nm,0.3s,baz=180,slow=19,SNR=1.8						
PSI				LR	LR	11 19 30.4	
	comp=Z,204μm,19.9s,baz=269,slow=34						
KCSI	**Kotacane, Aceh**	**15.12**	**27**	P	**Pn**	**11 14 33.1**	**-2.4**
	48μm20μm758nm,1.1s						
MLSI	**Meulaboh, Aceh**	**15.25**	**21**	P	**Pn**	**11 14 36.3**	**-1.0**
	67μm39μm2μm,1.9s						
PMBI	**Palembang**	**15.39**	**63**	P	**Pn**	**11 14 39.3**	**+0.1**
	41μm3μm,1.3s						
PMBI	**Palembang**	**15.39**	**63**	Pn	**Pn**	**11 14 37.2**	**-2.0**
TSI	**Tuntungan**	**15.46**	**29**	P	**Pn**	**11 14 39.1**	**-1.0**
	45μm42μm1μm,1.1s						
SKJI	**Sukabumi**	**15.65**	**80**	P	**Pn**	**11 14 43.4**	**+0.9**
	32μm33μm2μm,1.7s						
TNG	**Tangerang**	**15.94**	**77**	P	**Pn**	**11 14 46.4**	**+0.2**
	64μm4μm,1.6s						
DBJI	**Dramaga**	**15.94**	**78**	P	**Pn**	**11 14 46.6**	**+0.3**
	30μm2μm,1.6s						
CBJI	**Citeko**	**16.07**	**78**	P	**Pn**	**11 14 47.9**	**0.0**
	20μm49μm2μm,1.3s						
CNJI	**Cibinong**	**16.15**	**81**	P	**Pn**	**11 14 49.7**	**+0.8**
	36μm32μm3μm,1.3s						
LHMI	**Lhok Sumawe**	**16.34**	**21**	P	**Pn**	**11 14 50.1**	**-1.2**
	86μm42μm2μm,1.2s						
LHMI	**Lhok Sumawe**	**16.34**	**21**		**Pn**	**11 14 49.5**	**-1.8**
LHMI				IAmb	IAmb	11 15 38.4	
	comp=Z,3μm,1.4s						
LEM	**Lembang**	**16.72**	**80**	Pn	**Pn**	**11 14 56.6**	**+0.3**
	comp=Z,3.5nm,0.3s,baz=213,slow=8.2,SNR=30						
LEM				Sn	Sn	11 17 50.0	-12
	comp=Z,38nm,0.3s,baz=172,slow=9.1,SNR=4.8						
LEM				LR	LR	11 20 37.3	
	comp=Z,79μm,20.3s,baz=254,slow=34						
LEM	**Lembang**	**16.72**	**80**	P	**P**	**11 14 57.8**	**-0.7**
	comp=Z,22μmcomp=Z,22μmcomp=Z,1μm,1.3s						
CISI	**Cisompet, Garu**	**16.77**	**83**	P	**Pn**	**11 14 55.3**	**-1.6**
	comp=Z,41μmcomp=Z,22μmcomp=Z,1μm,1.5s						
CISI	**Cisompet, Garu**	**16.77**	**83**	Pn	**Pn**	**11 14 54.2**	**-2.7**
CISI				IAmb	IAmb	11 15 22.5	
	comp=Z,3μm,1.3s						
MYKOM	**Kota Tinggi**	**17.39**	**48**	Pn	**Pn**	**11 15 02.4**	**-2.2**
MYKOM	**Kota Tinggi**	**17.39**	**48**	P	**P**	**11 15 06.0**	**+0.2**
IPM	**Ipoh**	**17.58**	**35**	Pn	**Pn**	**11 15 05.0**	**-1.9**
IPM	**Ipoh**	**17.58**	**35**	P	**Pn**	**11 15 07.0**	**0.0**
TPI	**Tanjungpandan**	**18.05**	**67**	P	**P**	**11 15 14.1**	**+1.1**
	comp=Z,43μmcomp=Z,32μmcomp=Z,761nm,0.5s						
KULM	**Kulim**	**18.05**	**32**	P	**Pn**	**11 15 09.8**	**-3.0**
KULM	**Kulim**	**18.05**	**32**	P	**Pn**	**11 15 11.0**	**-1.7**
H08S2	**Diego Garcia H**	**18.49**	**276**	P	**Pn**	**11 15 18.7**	**+0.8**
	baz=76,slow=13,SNR=1080						
H08S2				T	T	11 34 28.5	
	baz=98,slow=74,SNR=193						
H08S3	**Diego Garcia H**	**18.50**	**276**	P	**Pn**	**11 15 19.5**	**+1.5**
	baz=76,slow=13,SNR=720						
H08S3				T	T	11 34 24.7	
	baz=98,slow=74,SNR=190						
H08S1	**Diego Garcia H**	**18.50**	**276**	P	**Pn**	**11 15 18.9**	**+0.8**
	baz=76,slow=13,SNR=277						
H08S1				T	T	11 34 22.5	
	baz=98,slow=74,SNR=169						
DGAR	**Diego Garcia**	**18.56**	**277**	P	**Pn**	**11 15 20.5**	**+1.5**
DGAR				S	**S**	**11 18 55.1**	**+5.9**
DGAR	**Diego Garcia**	**18.56**	**277**	*ce*P	**Pn**	**11 15 20.1**	**+1.1**
DGAR				pmax	pmax		
	comp=Z,2μm,1.7s						
DGAR				MLR	MLR		
	comp=Z,77μm,18.0s						
DGAR	**Diego Garcia**	**18.56**	**277**	P	**Pn**	**11 15 18.9**	**-0.2**
DGAR				IAmb	IAmb	11 15 28.6	
	comp=Z,4μm,1.3s						
UGM	**Wanagama**	**19.37**	**85**	P	**Pn**	**11 15 29.6**	**+0.8**
	comp=Z,46μmcomp=Z,26μmcomp=Z,651nm,0.9s						
UGM	**Wanagama**	**19.37**	**85**	P	**P**	**11 15 27.3**	**-0.3**
UGM				IAmb	IAmb	11 16 12.3	
	comp=Z,3μm,1.5s						
SMRI	**Semarang**	**19.42**	**83**	P	**Pn**	**11 15 30.7**	**+1.3**
	comp=Z,45μmcomp=Z,41μmcomp=Z,2μm,1.2s						
SMRI	**Semarang**	**19.42**	**83**		**P**	**11 15 28.3**	**+0.1**
SMRI				IAmb	IAmb	11 15 38.7	
	comp=Z,2μm,1.2s						
WOJI	**Wonogiri, Jawa**	**19.77**	**85**	P	**Pn**	**11 15 33.1**	**-0.5**
	comp=Z,25μmcomp=Z,18μmcomp=Z,615nm,2.8s						
UWJI	**Ujung Watu**	**20.04**	**81**	P	Pn	11 15 37.6	+0.9
PALK	**Pallekele**	**20.11**	**329**	P	**P**	**11 15 36.4**	**+0.8**
PALK				S	Sn	11 19 30.3	+6.9
GRJI	**Gresik**	**21.44**	**83**	P	**P**	**11 15 52.0**	**+2.0**
	comp=Z,2μmcomp=Z,8μmcomp=Z,722nm,0.9s						
KSM	**Kuching**	**22.37**	**60**	P	**P**	**11 16 00.8**	**+0.7**
KSM				IAmb	IAmb	11 16 18.6	
	comp=Z,2μm,1.4s						
KSM	**Kuching**	**22.37**	**60**	P	**P**	**11 16 03.0**	**+2.9**
JAGI	**Jajag, Banyuwa**	**22.87**	**88**	P	**P**	**11 16 07.0**	**+1.6**
	comp=Z,43μmcomp=Z,30μmcomp=Z,1μm,1.4s						
JAGI	**Jajag, Banyuwa**	**22.87**	**88**	P	**P**	**11 16 05.0**	**-0.3**
KMMI	**Kalianget**	**22.87**	**84**	P	**P**	**11 16 06.9**	**+1.5**
	comp=Z,20μmcomp=Z,1μm,1.4s						
SBUM	**Sibu**	**24.51**	**60**	P	**P**	**11 16 21.6**	**+0.4**
SBUM				IAmb	IAmb	11 16 27.9	
	comp=Z,2μm,1.8s						
SBUM	**Sibu**	**24.51**	**60**	P	**P**	**11 16 23.0**	**+1.8**
GIRL	**Giralia**	**25.46**	**122**	P	**P**	**11 16 31.2**	**+1.5**
	baz=26,SNR=7.4						
GIRL	**Giralia**	**25.46**	**122**	P	**P**	**11 16 29.7**	**0.0**
KBKI	**Kotabaru**	**25.84**	**77**	P	**P**	**11 16 33.5**	**+0.2**
	comp=Z,7μmcomp=Z,493nm,1.4s						
SKHT	**Srikalahasti**	**26.23**	**334**	*e*P	**P**	**11 16 37.0**	**+0.3**
SKHT				IVmB_BB		11 16 46.7	
	comp=Z,5μm,2.3s						
SKHT				*e*S	**S**	**11 21 09.5**	**+1.6**
SKHT				IVMsBB		11 24 00.8	
	comp=Z,6μm,31.1s						
PLAI	**Plampang**	**26.40**	**90**	P	**P**	**11 16 38.1**	**-0.3**
	comp=Z,28μmcomp=Z,18μmcomp=Z,1μm,1.6s						
BKB	**Balikpapan**	**27.17**	**73**	P	**P**	**11 16 49.3**	**+4.0**
	comp=Z,13μmcomp=Z,24μmcomp=Z,1μm,2.1s						
BKB	**Balikpapan**	**27.17**	**73**	P	**P**	**11 16 46.3**	**+1.0**
SMKI	**Samarinda**	**27.74**	**71**	P	**P**	**11 16 52.2**	**+1.8**
	comp=Z,22μmcomp=Z,16μmcomp=Z,408nm,1.3s						
WBSI	**Waikabubak, Su**	**27.93**	**92**	P	**P**	**11 16 52.2**	**0.0**
	comp=Z,29μmcomp=Z,10μmcomp=Z,784nm,1.2s						
DLV	**T Lat**	**27.94**	**39**	P	**P**	**11 16 52.1**	**-0.2**
DLV				IAmb	IAmb	11 17 01.0	
	comp=Z,1μm,1.5s						
DLV				IAMs_20	IAMs_20	11 28 26.8	
	comp=Z,89μm,18.0s						
ADKI	**Addanki**	**28.02**	**337**	*e*P	**P**	**11 16 53.9**	**+1.1**
ADKI				IVmB_BB		11 17 00.4	
	comp=Z,3μm,2.2s						
ADKI				IVMs_BB	IVMs_BB	11 26 21.1	
	comp=Z,11μm,16.2s						
RODM	**Citronelle, R**	**28.28**	**247**	P	**P**	**11 16 55.1**	**-0.1**
RODM				IAMs_20	IAMs_20	11 24 46.9	
	comp=Z,95μm,21.0s						
URV	**Uravakonda**	**28.40**	**331**	*e*P	**P**	**11 16 56.4**	**+0.1**
URV				IVmB_BB		11 17 01.9	
	comp=Z,4μm,3.5s						
URV				*e*S	**S**	**11 21 43.3**	**+1.2**
URV				IVMs_BB	IVMs_BB	11 32 20.3	
	comp=Z,12μm,11.0s						
SRLM	**Srisailam**	**28.69**	**335**	*e*P	**P**	**11 16 58.6**	**-0.2**
SRLM				IVmB_BB		11 17 04.6	
	comp=Z,3μm,3.7s						
SRLM				*e*S	**S**	**11 21 48.1**	**+1.4**
SRLM				IVMs_BB	IVMs_BB	11 35 00.0	
	comp=Z,13μm,12.5s						
PVM	**Polavaram**	**28.74**	**341**	*e*P	**P**	**11 16 59.7**	**+0.5**
PVM				IVmBBB		11 17 07.7	
	comp=Z,3μm,3.5s						
PVM				*e*S	**S**	**11 21 49.1**	**+1.8**
PVM				IVMs_BB	IVMs_BB	11 30 12.7	
	comp=Z,15μm,15.6s						
WSI	**Waingapu**	**28.82**	**92**	P	**P**	**11 16 58.2**	**-1.9**
KAPI	**Kappang**	**28.90**	**82**	P	**P**	**11 16 59.7**	**-1.0**
	comp=Z,75nm,1.0s,baz=245,slow=7.3,SNR=12						
KAPI				LR	LR	11 29 58.2	
	comp=Z,15μm,18.2s,baz=238,slow=39						
KAPI	**Kappang**	**28.90**	**82**	P	**P**	**11 16 60.0**	**-0.8**
KAPI				P	**P**	**11 16 60.0**	**-0.8**
KAPI				S	**S**	**11 21 51.3**	**+1.1**
KAPI				S	**S**	**11 21 51.3**	**+1.1**
KAPI	**Kappang**	**28.90**	**82**	P	**P**	**11 16 59.9**	**-0.8**
KAPI				pmax	pmax		
	comp=Z,381nm,1.3s						
KAPI	**Kappang**	**28.90**	**82**	P	**P**	**11 16 59.9**	**-0.8**
NJS	**Nagarjunasagar**	**28.93**	**336**	*e*P	**P**	**11 17 00.7**	**-0.2**
NJS				IVmB_BB		11 17 07.1	
	comp=Z,3μm,3.5s						
NJS				*e*S	**S**	**11 21 52.1**	**+1.7**
NJS				IVMs_BB	IVMs_BB	11 26 48.1	
	comp=Z,10μm,16.2s						
BASI	**Baing, Sumba**	**29.07**	**93**	P	**P**	**11 17 04.7**	**+2.4**
	comp=Z,16μmcomp=Z,9μmcomp=Z,479nm,1.7s						
SPSI	**Sidrap Palu**	**29.15**	**80**	P	**P**	**11 17 02.0**	**-0.9**
	comp=Z,11μmcomp=Z,8μmcomp=Z,244nm,1.0s						
SPMM	**Sapulut**	**29.30**	**61**	P	**P**	**11 17 07.0**	**+2.7**
BNSI	**Bone**	**29.38**	**81**	P	**P**	**11 17 05.1**	**+0.1**
	comp=Z,12μmcomp=Z,758nm,1.3s						
TTSI	**Tana Toraja**	**29.42**	**78**	P	**P**	**11 17 05.2**	**-0.2

comp=Z,122nm,0.9s
MBWA Marble Bar 29.68 115 P **P** **11 17 08.9 +1.3**
MBWA P **P** **11 17 08.9 +1.3**
MBWA P **P** **11 17 08.9 +1.3**
MBWA S **S** **11 22 05.8 +3.5**
MBWA S **S** **11 22 05.8 +3.5**
MBWA S **S** **11 22 05.8 +3.5**
MBWA Marble Bar 29.68 115 P **P** **11 17 07.4 -0.1**
KKM Kota Kinabalu 29.77 58 P **P** **11 17 07.6 -1.0**
KKM IAMs_20 IAMs_20 11 29 28.8
comp=Z,87µm,21.0s
PSA00 Pilbara Seismi 29.90 116 P **P** **11 17 09.4 -0.2**
HYB Hyderabad 30.01 336 *i* P **P** **11 17 10.5 0.0**
comp=Z,240nm,1.0s
HYB *e*S **S** **11 22 12.0 +4.5**
HYB *e*LR LR
comp=Z,41nm,20.0s
HYBB Hyderabad (bro 30.01 336 *e*P **P** **11 17 10.2 -0.3**
HYBB IVmBBB 11 17 18.2
comp=Z,3µm,3.3s
HYBB *e*S **S** **11 22 08.8 +1.3**
HYBB IVMs_BB IVMs_BB 11 31 21.0
comp=Z,17µm,12.8s
MORW Morawa 30.05 132 P **P** **11 17 11.8 +0.9**
baz=30,SNR=6.0
MORW Morawa 30.05 132 P **P** **11 17 11.1 +0.2**
MORW IAmb IAmb 11 17 19.8
comp=Z,835nm,1.9s
AIS Amsterdam Isla 30.11 202 P **P** **11 17 12.1 +0.9**
AIS IAMs_20 IAMs_20 11 25 33.5
comp=Z,100µm,22.0s
EDFI Ende, Flores 30.26 90 P **P** **11 17 14.5 +1.5**
comp=Z,7µmcomp=Z,4µmcomp=Z,83nm,1.2s
MPSI Mapaga 30.53 72 P **P** **11 17 18.1 +2.9**
comp=Z,8µmcomp=Z,5µmcomp=Z,161nm,1.4s
BWNR Bhubaneshwar 30.65 350 *e*P **P** **11 17 16.5 +0.4**
BWNR IAMs_20 IAMs_20 11 26 26.2
comp=Z,102µm,27.0s
MEEK Meekatharra 30.79 126 P **P** **11 17 18.5 +1.0**
baz=31,SNR=9.9
MMRI Maumere 30.81 90 P **P** **11 17 19.6 +1.9**
comp=Z,12µmcomp=Z,9µmcomp=Z,496nm,1.7s
MMRI Maumere 30.81 90 P **P** **11 17 17.4 -0.3**
MMRI IAmb IAmb 11 17 48.0
comp=Z,1µm,1.5s
RPR Rampur 31.03 338 *e*P **P** **11 17 19.4 0.0**
RPR IVmB_BB 11 17 26.9
comp=Z,2µm,2.4s
RPR *e*S **S** **11 22 25.4 +2.1**
RPR IVMs_BB IVMs_BB 11 33 29.1
comp=Z,8µm,12.8s
BLDU Balliduı 31.41 134 P **P** **11 17 23.3 +0.6**
baz=32,SNR=6.2
KLRI Killari 31.42 333 *e*P **P** **11 17 23.8 +0.8**
KLRI IVmBBB 11 17 30.7
comp=Z,3µm,3.7s
KLRI *e*S **S** **11 22 30.8 +1.2**
KLRI IVMs_BB IVMs_BB 11 26 41.7
comp=Z,7µm,9.6s
SRSP Sriramsagar 31.46 337 *e*P **P** **11 17 23.9 +0.7**
SRSP IVmB_BB 11 17 29.2
comp=Z,2µm,3.7s
SRSP *e*S **S** **11 22 32.0 +2.0**
SRSP IVMs_BB IVMs_BB 11 29 54.0
comp=Z,8µm,16.1s
BBSI Bau Bau 31.56 84 P **P** **11 17 25.6 +1.3**
comp=Z,615nmcomp=Z,49nm,1.1s
LATR Latur 31.75 333 IAMs_20 IAMs_20 11 29 59.3
comp=Z,38µm,14.6s
MUN Mundaring 31.86 137 P **P** **11 17 27.6 +0.8**
baz=32,SNR=12
BATI Baumata 32.11 93 P **P** **11 17 30.1 +1.0**
comp=Z,562nm,1.0s,baz=355,slow=2.2,SNR=23
BATI Baumata 32.11 93 P **P** **11 17 30.5 +1.4**
comp=Z,12µmcomp=Z,6µmcomp=Z,313nm,1.6s
H01W3 Cape Leeuwin H 32.44 143 P **P** **11 17 34.9 +3.3**
baz=291,slow=7.7,SNR=7.9
H01W3 T T 11 51 32.2
baz=315,slow=73,SNR=142
H01W2 Cape Leeuwin H 32.45 143 P **P** **11 17 34.4 +2.8**
baz=291,slow=7.7,SNR=4.1
H01W2 T T 11 51 33.2
baz=315,slow=73,SNR=140
H01W1 Cape Leeuwin H 32.46 143 P **P** **11 17 35.0 +3.3**
baz=291,slow=7.7,SNR=4.4
H01W1 T T 11 51 32.7
baz=315,slow=73,SNR=145
MRSI Marisa 32.50 73 P P 11 17 45.3 +13
BRDH Bariadhala 32.59 1 P **P** **11 17 33.0 -0.2**
comp=Z,54nm,0.5s,baz=222,slow=22,SNR=1.2
KLBR Kellerberrin 32.70 135 P **P** **11 17 34.8 +0.6**
baz=33,SNR=28
SOEI Soe 32.73 92 P **P** **11 17 39.4 +4.7**
SOEI Soe 32.73 92 P **P** **11 17 34.5 -0.2**
SOEI IAmb IAmb 11 18 20.8
comp=Z,672nm,1.1s
LUWI Luwuk 32.81 76 P P 11 17 40.9 +5.6
LUWI Luwuk 32.81 76 P **P** **11 17 34.4 -0.8**
LUWI IAmb IAmb 11 17 54.6
comp=Z,739nm,1.3s
NWAO Narrogin (SRO) 33.13 137 P **P** **11 17 38.1 +0.3**
baz=33,SNR=22
NWAO Narrogin (SRO) 33.13 137 P **P** **11 17 37.6 -0.2**
comp=Z,161nm,0.9s,baz=306,slow=8.3,SNR=15
NWAO Narrogin (SRO) 33.13 137 P **P** **11 17 38.1 +0.3**
NWAO P **P** **11 17 38.1 +0.3**
NWAO Narrogin (SRO) 33.13 137 P **P** **11 17 37.1 -0.8**
NWAO IAmb IAmb 11 17 44.4
comp=Z,1µm,1.6s
NWAO Narrogin (SRO) 33.13 137 P **P** **11 17 37.3 -0.5**
NWAO IAmb IAmb 11 17 44.4
comp=Z,888nm,1.6s
NWAO IAMs_20 IAMs_20 11 27 55.7
comp=Z,9µm,18.0s
NGP Nagpur 33.23 339 *e*P **P** **11 17 38.9 +0.1**
NGP IAmb IAmb 11 17 46.1
comp=Z,87nm,1.8s
NGP IAMs_20 IAMs_20 11 32 07.1
comp=Z,47µm,14.4s
SLVN Son La 33.71 22 P **P** **11 17 43.3 +0.2**
SLVN IAmb IAmb 11 17 48.8
comp=Z,479nm,1.4s
SLVN IAMs_20 IAMs_20 11 30 57.6
comp=Z,65µm,18.0s
BOM Bombay 33.97 328 IAMs_20 IAMs_20 11 33 27.1
comp=Z,104µm,14.2s
QIZ Qiongzhong 34.39 33 P **P** **11 17 48.0 -0.9**
QIZ PP **PP** **11 19 06.3 -0.8**
QIZ S **S** **11 23 17.1 +1.5**
QIZ pmax pmax
comp=Z,72nm,1.6s
QIZ pmax pmax
comp=Z,4µm,4.0s
QIZ LR LR
comp=Z,60µm,16.7s
QIZ LR LR
comp=Z,38µm,16.1s
QIZ LR LR
comp=Z,43µm,16.0s
QIZ Qiongzhong 34.39 33 IAmb IAmb 11 17 57.8
comp=Z,363nm,1.2s
QIZ Qiongzhong 34.39 33 IAMs_20 IAMs_20 11 33 01.4
comp=Z,49µm,18.0s
FITZ Fitzroy Crossi 34.44 107 P **P** **11 17 50.0 +0.6**
baz=34,SNR=15
FITZ Fitzroy Crossi 34.44 107 P **P** **11 17 49.2 -0.2**
comp=Z,40nm,0.9s,baz=305,slow=8.9,SNR=8.9
FITZ PcP **PcP** **11 20 27.6 +2.8**
comp=Z,62nm,0.9s,baz=2.4,slow=2.9,SNR=5.4
FITZ Fitzroy Crossi 34.44 107 P **P** **11 17 49.2 -0.2**
JBP Jabalpur 34.80 342 *e*P **P** **11 17 52.9 +0.5**
JBP *ex* x 11 23 21.2
JBP AMS AMS 11 29 20.4
comp=Z,61µm,21.9s
KMBL Kambalda 35.56 131 P **P** **11 17 59.2 +0.3**
baz=36,SNR=46
RER Riviere de l'E 35.63 248 P **P** **11 17 59.8 +0.1**
SNR=18
RER Riviere de l'E 35.63 248 P **P** **11 18 00.2 +0.4**
RER IAMs_20 IAMs_20 11 28 33.7
comp=Z,55µm,20.0s
SANI Sanana 35.63 79 P **P** **11 18 00.6 +0.8**
comp=Z,6µmcomp=Z,249nm,1.5s
MSEY Mahe Island 35.66 276 P **P** **11 18 00.2 +0.1**
MSEY pmax pmax
comp=Z,246nm,1.1s
MSEY Mahe Island 35.66 276 P **P** **11 18 00.2 +0.1**
KOHI KOHIMA 35.74 5 *e*P **P** **11 17 58.9 -1.7**
KOHI IAmb IAmb 11 18 10.7
comp=Z,4µm,2.5s
KOHI IAMs_20 IAMs_20 11 39 14.8
comp=Z,26µm,14.9s
NLAI Namlea 36.44 82 P **P** **11 18 07.0 +0.4**
comp=Z,4µmcomp=Z,382nm,1.0s
KMI Kunming 36.83 18 P **P** **11 18 11.3 +1.2**
KMI pP pP 11 18 15.6 +0.1
KMI sP sP 11 18 18.1 +0.3
KMI PP **PnPn** **11 19 34.9 +0.5**
KMI S **S** **11 23 55.0 +1.5**
KMI sS sS 11 24 04.1 +1.4
KMI pmax pmax
comp=Z,380nm,1.5s
KMI pmax pmax
comp=Z,4µm,5.0s
KMI LR LR
comp=Z,57µm,15.8s
KMI LR LR
comp=Z,27µm,18.3s
KMI LR LR
comp=Z,65µm,15.5s
KMI Kunming 36.83 18 P **P** **11 18 10.1 0.0**
KMI pmax pmax
comp=Z,688nm,1.4s
KMI MLR MLR
comp=Z,41µm,20.0s
KMI Kunming 36.83 18 P **P** **11 18 10.1 0.0**
KMI IAmb IAmb 11 18 16.5
comp=Z,688nm,1.4s
ODAN Odare 36.92 355 *e*P **P** **11 18 10.1 -0.7**
JAP San Jose, Anti 37.07 57⇑*e*P **P** **11 18 13.9 +1.9**
RAMN Ramite 37.09 353 *e*P **P** **11 18 11.9 -0.4**
KNRA Kununurra 37.15 103 P **P** **11 18 12.8 +0.1**
baz=37,SNR=34
KNRA Kununurra 37.15 103 P **P** **11 18 12.5 -0.2**
GTK Tadong 37.28 356 IAmb IAmb 11 18 19.8
comp=Z,326nm,1.1s
GTK *i* x **PP** **11 19 35.3 -3.8**
CTBH Cotabato--PC H 37.28 64⇑*i*P **P** **11 18 12.8 -1.0**
TAPN Taplejung 37.38 355 *e*P **P** **11 18 14.4 -0.4**
LBMI Labuha 37.46 78 P **P** **11 18 18.6 +3.2**
comp=Z,11µmcomp=Z,692nm,1.7s
LKP Lekhapani 37.51 7 *e*P **P** **11 18 15.0 -0.6**
LKP *e*P **pP** **11 18 16.2 -4.8**
LKP IAmb IAmb 11 18 21.9
comp=Z,330nm,0.9s
LKP IAMs_20 IAMs_20 11 38 56.2
comp=Z,23µm,13.0s
ZIRO ZIRO 37.52 4 *e*P **P** **11 18 15.9 +0.2**
ZIRO IAmb IAmb 11 18 20.3
comp=Z,1µm,1.6s
DIBR DIBRUGARH 37.55 6 *e*P **P** **11 18 15.0 -0.8**
DIBR IAmb IAmb 11 18 19.5
comp=Z,973nm,1.4s
TNTI Ternate 37.73 75 P **P** **11 18 18.8 +1.1**
comp=Z,4µmcomp=Z,10µmcomp=Z,497nm,1.7s
PGP Puerto Galera 37.84 52⇑*e*P **P** **11 18 19.4 +0.9**
JIRN Jiri 37.84 353 *e*P **P** **11 18 18.2 -0.6**
PKI Pulchoki 37.86 352 *e*P **P** **11 18 17.9 -0.9**
comp=Z,2µm,1.7s
PKIN Phulchoki 37.86 352 *e*P **P** **11 18 18.0 -0.8**
comp=Z,1µm,1.7s
DMN Daman 37.94 351 *e*P **P** **11 18 18.9 -0.5**
comp=Z,633nm,1.1s
KCP Kidapawan 37.94 65⇑*i*P **P** **11 18 21.2 +1.7**
KKN Kakani 38.09 352 *e*P **P** **11 18 20.3 -0.4**
comp=Z,1µm,1.3s
GUN Gumba 38.13 353 *e*P **P** **11 18 20.4 -0.8**
TGY Tagaytay City 38.19 51 P **P** **11 18 22.1 +0.5**
comp=Z,1µm,0.9s,baz=175,slow=4.6,SNR=16
TGY Tagaytay City 38.19 51⇑*e*P **P** **11 18 23.7 +2.2**
CGP Cagayan de Oro 38.25 62⇓*e*P **P** **11 18 25.1 +3.1**
WRKA Warakurna 38.34 118 P **P** **11 18 23.6 +0.9**
baz=38,SNR=28
KOLN Koldanda 38.34 349 *e*P **P** **11 18 22.5 -0.3**
GKN Gorkha 38.39 351 *e*P **P** **11 18 22.3 -0.9**
comp=Z,2µm,1.6s
PYUN Piuthan 38.78 349 *e*P **P** **11 18 26.2 -0.3**
DANN Dangsing 38.88 350 *e*P **P** **11 18 26.4 -1.0**
MTN Manton Dam 39.36 98 P **P** **11 18 32.1 +0.8**
baz=39,SNR=15
MTN Manton Dam 39.36 98 P **P** **11 18 31.6 +0.2**
MTN IAmb IAmb 11 18 38.5
comp=Z,1µm,1.9s
GYA Guiyang 39.40 22⇓*i*P **P** **11 18 32.9 +1.3**
GYA PP **PnPn** **11 20 07.6 +2.4**
GYA PcP **PcP** **11 20 44.6 +4.9**
GYA S **S** **11 24 27.8 -4.3**
GYA pmax pmax
comp=Z,50nm,1.2s
GYA pmax pmax
comp=Z,3µm,3.8s
GYA LR LR
comp=Z,34µm,17.1s
GYA LR LR
comp=Z,19µm,15.6s
GYA LR LR
comp=Z,45µm,17.1s
HKC Hong Kong Obse 39.40 35⇑P **P** **11 18 36.0 +4.5**
GZH Guangzhou 39.57 33 P P 11 18 41.3 +8.4
GZH S S 11 24 48.1 +14
GZH pmax pmax
comp=Z,5µm,4.6s
GZH LR LR
comp=Z,56µm,15.2s
GZH LR LR
comp=Z,36µm,14.9s
LSA Lhasa 39.58 0 P **P** **11 18 33.8 +0.3**
LSA S **S** **11 24 36.3 +0.9**
LSA pmax pmax
comp=Z,350nm,1.0s
LSA LR LR
comp=Z,230µm,16.4s
LSA Lhasa 39.58 0 P **P** **11 18 33.1 -0.3**
LSA Lhasa 39.58 0 P **P** **11 18 33.1 -0.3**
LSA Lhasa 39.58 0 P **P** **11 18 33.4 0.0**
LSA P **P** **11 18 33.4 0.0**
LSA P **P** **11 18 33.4 0.0**
LSA S **S** **11 24 35.5 0.0**
LSA S **S** **11 24 35.5 0.0**
LSA S **S** **11 24 35.5 0.0**
LSA Lhasa 39.58 0 P **P** **11 18 33.3 -0.2**
LSA pmax pmax
comp=Z,841nm,1.5s
LSA MLR MLR
comp=Z,54µm,19.0s
LSA Lhasa 39.58 0 P **P** **11 18 33.3 -0.2**
LSA IAmb IAmb 11 18 40.0
comp=Z,841nm,1.5s
LSA IAMs_20 IAMs_20 11 35 33.6
comp=Z,54µm,19.0s
SAUI Saumlaki 39.80 90 P P 11 18 41.8 +6.8
SAUI Saumlaki 39.80 90 P **P** **11 18 35.0 0.0**
SAUI IAmb IAmb 11 18 47.8
comp=Z,969nm,1.1s
FORT Forrest 40.05 126 P **P** **11 18 37.9 +1.0**
baz=40,SNR=64
FORT Forrest 40.05 126 P **P** **11 18 37.3 +0.4**
FORT IAmb IAmb 11 18 52.1
comp=Z,2µm,1.6s
FORT IAMs_20 IAMs_20 11 31 58.0
comp=Z,44µm,21.0s
SBV Sambava 40.35 261 P **P** **11 18 40.0 +0.3**
SNR=30
KDU Kakadu 40.67 98 P **P** **11 18 42.9 +0.7**
baz=41,SNR=10.0
LGTI Lohaghat 40.69 345 *e*P **P** **11 18 42.6 +0.6**
NDI New Delhi 40.82 341 *e*P **P** **11 18 41.5 -1.7**
SIJI Sorong 41.03 80 P **P** **11 18 44.4 -0.9**
comp=Z,138nm,1.2s,baz=251,slow=9.8,SNR=19
FAKI Fak Fak 41.53 83 P **P** **11 18 51.0 +1.7**
comp=Z,8µmcomp=Z,14µmcomp=Z,517nm,1.9s
FAKI Fak Fak 41.53 83 P **P** **11 18 48.8 -0.6**
CD2 Chengdu 42.58 16⇑*i*P **P** **11 18 57.1 -0.5**
CD2 sP pP 11 19 02.0 -1.1
CD2 PP **PP** **11 20 36.8 +0.1**
CD2 S **S** **11 25 22.8 +3.6**
CD2 sS sS 11 25 27.8 -0.4
CD2 pmax pmax
comp=Z,440nm,0.9s
CD2 pmax pmax
comp=Z,5µm,5.9s
CD2 LR LR
comp=Z,44µm,16.1s
CD2 LR LR
comp=Z,65µm,15.9s
CD2 LR LR
comp=Z,58µm,17.3s
PAF Port-aux-Franc 42.79 200 P **P** **11 18 59.3 +0.2**
PAF pmax pmax
comp=Z,2µm,1.4s
PAF Port-aux-Franc 42.79 200 P **P** **11 18 59.3 +0.2**
PAF IAMs_20 IAMs_20 11 32 04.4
comp=Z,74µm,20.0s
KMPI Kaimana, Papua 42.81 84 P P 11 19 07.8 +8.1
WRA Warramunga Arr 42.84 108 P **P** **11 19 00.0 0.0**
comp=Z,91nm,0.8s,baz=276,slow=7.7,SNR=66
WRA PcP **PcP** **11 20 53.1 +2.2**
comp=Z,38nm,0.7s,baz=279,slow=2.5,SNR=8.4
WRA LR LR 11 35 40.3
comp=Z,15µm,21.2s,baz=260,slow=34
WRA PKPPKP **P'P'df** **11 50 53.4 -7.6**
comp=Z,2.5nm,1.1s,baz=65,slow=2.2,SNR=4.6
WRA Warramunga Arr 42.84 108 P **P** **11 18 59.4 -0.5**
WRA Warramunga Arr 42.84 108 P **P** **11 18 59.4 -0.5**
WRAB Tennant Creek 42.84 108*de*P **P** **11 19 00.2 +0.2**
WRAB pmax pmax
comp=Z,177nm,1.0s
WRAB Tennant Creek 42.84 108 P **P** **11 18 59.6 -0.5**
WB2 Warramunga Arr 42.85 108 P **P** **11 19 00.1 +0.1**
SOCY Socotra 42.96 300 P **P** **11 19 03.2 +2.2**
SOCY S **S** **11 25 34.1 +8.7**
SOCY Socotra 42.96 300 P **P** **11 19 01.7 +0.6**
SOCY IAmb IAmb 11 19 10.3
comp=Z,576nm,1.3s
ASAR Alice Springs 43.00 114 P **P** **11 19 01.0 -0.2**
comp=Z,41nm,0.9s,baz=335,slow=9.3,SNR=5.4
ASAR PcP **PcP** **11 20 53.2 +1.7**
comp=Z,43nm,0.7s,baz=290,slow=2.9,SNR=8.6
ASAR LR LR 11 36 49.0
comp=Z,14µm,18.9s,baz=286,slow=36
ASAR P3KPbc 11 48 15.0
comp=Z,2.0nm,1.0s,baz=116,slow=3.8,SNR=8.7
ASAR P3KP 11 50 06.7
comp=Z,0.8nm,1.1s,baz=21,slow=5.4,SNR=4.1
ASAR Alice Springs 43.00 114 P **P** **11 19 01.0 -0.2**
AS31 Alice Springs 43.00 114 P **P** **11 19 00.7 -0.6**
ABPO Ambohimpanom 43.22 253 P **P** **11 19 02.7 -0.5**
ABPO pmax pmax
comp=Z,978nm,1.4s
ABPO Ambohimpanom 43.22 253 P **P** **11 19 02.7 -0.5**
ABPO IAmb IAmb 11 19 06.9
comp=Z,978nm,1.4s
KNMB Chin-men Tao 43.52 37 P **P** **11 19 05.2 -0.1**
KNMB IAMs_20 IAMs_20 11 37 57.3
comp=Z,43µm,18.0s
BHK Bhakra 43.61 342 *e*P **P** **11 19 07.6 +1.7**
BHK *ex* x 11 21 04.4
RKPI Ransiki, Papua 43.71 82 P **P** **11 19 10.2 +3.1**
comp=Z,12µmcomp=Z,758nm,1.6s
ENH Enshi 43.90 23 P **P** **11 19 08.1 -0.2**
ENH IAmb IAmb 11 19 13.1
comp=Z,874nm,1.5s
VOI Vohitsoka 43.97 249 P **P** **11 19 09.1 -0.1**
SNR=63
QZH Quanzhou 44.00 37⇑*i*P **P** **11 19 10.1 +1.0**
QZH S **S** **11 25 44.0 +3.9**
QZH pmax pmax
comp=Z,450nm,2.3s
QZH pmax pmax
comp=Z,6µm,3.2s
QZH LR LR
comp=Z,37µm,16.6s
QZH LR LR
comp=Z,20µm,17.5s
QZH LR LR
comp=Z,37µm,18.9s
TWG Pinlang 44.01 42 P **P** **11 19 10.0 +0.7**
TPUB Ta-pu 44.06 41 P **P** **11 19 10.0 +0.3**
FOMA Nahampoana Res 44.32 245 P **P** **11 19 11.7 -0.1**
SNR=32
FOMA Nahampoana Res 44.32 245 P **P** **11 19 11.6 -0.1**
FOMA IAmb IAmb 11 19 16.0
comp=Z,481nm,1.0s
YULB Yu-li 44.56 41 IAmb IAmb 11 19 26.4
comp=Z,298nm,0.9s
SSLB Suanglung 44.62 41 P **P** **11 19 14.3 +0.2**
SHAO Shalim 44.77 308 *i* P **P** **11 19 15.3 -0.1**
SNR=5.4
SHAO Shalim 44.77 308 *i* P **P** **11 19 15.3 -0.1**
SNR=5.4
THN Thein Dam 44.77 342 *e*P **P** **11 19 16.0 +0.9**
THN *ex* x 11 24 07.0
MHTO MHTO 44.85 314 P **P** **11 19 19.2 +3.2**
SNR=28
MHTO P **P** **11 19 19.2 +3.2**
SNR=28
WBK Wadi Bani Khal 45.22 316 P **P** **11 19 23.5 +4.5**
SNR=28
WBK P **P** **11 19 23.5 +4.5**
SNR=28
WBK P **P** **11 19 23.5 +4.5**
SNR=28
NACB Ninganchiao 45.30 41 IAmb IAmb 11 19 27.4
comp=Z,527nm,1.3s
YHNB Yeheng 45.51 40 P **P** **11 19 21.1 -0.3**
YHNB IAmb IAmb 11 19 30.1
comp=Z,827nm,1.4s
YHNB IAMs_20 IAMs_20 11 37 17.1
comp=Z,45µm,19.0s
RBK Rabkut 45.58 307 P **P** **11 19 24.3 +2.4**
SNR=15
RBK P **P** **11 19 24.3 +2.4**
SNR=15
JMDO Jabal Madar 45.66 315 P **P** **11 19 25.4 +3.0**
SNR=17
JMDO P **P** **11 19 25.4 +3.0**
SNR=17
TATO Taipei 45.80 40 P **P** **11 19 22.2 -1.3**
WSAR Wadi Sarin 45.88 317 LR LR 11 35 31.4
comp=Z,9µm,18.6s,baz=136,slow=32
WSAR Wadi Sarin 45.88 317 P **P** **11 19 26.9 +2.7**
SNR=16
SMDO Samad 46.15 316 P **P** **11 19 29.2 +2.7**
SNR=29
SMDO P **P** **11 19 29.2 +2.7**
SNR=29
WHFO Wadi Hawf 46.15 307 P **P** **11 19 29.9 +3.4**
SNR=9.7
WHFO P **P** **11 19 29.9 +3.4**
SNR=9.7
WHFO P **P** **11 19 29.9 +3.4**
SNR=9.7
WHN Wuhan 46.22 28⇓P **P** **11 19 28.4 +1.7**
WHN S **S** **11 26 17.8 +5.8**
WHN pmax pmax
comp=Z,350nm,0.9s
WHN pmax pmax
comp=Z,9µm,3.1s
WHN LR LR
comp=Z,20µm,12.3s
WHN LR LR
comp=Z,53µm,12.6s
WHN LR LR
comp=Z,67µm,13.6s
ABTO Aybut 46.22 306 P **P** **11 19 29.6 +2.7**
SNR=5.2
ABTO P **P** **11 19 29.6 +2.7**
SNR=5.2
BIDO Bidbid 46.41 316 P **P** **11 19 31.1 +2.8**
SNR=44
BIDO P **P** **11 19 31.1 +2.8**
SNR=44
BIDO P **P** **11 19 31.1 +2.8**
SNR=44
YOJ Yonaguni jima 46.42 42 P **P** **11 19 27.7 -0.7**
YOJ pmax pmax
comp=Z,563nm,1.3s
YOJ MLR MLR
comp=Z,22µm,20.0s
YOJ Yonaguni jima 46.42 42 P **P** **11 19 27.7 -0.7**
YOJ IAmb IAmb 11 19 47.5
comp=Z,563nm,1.3s
BSY Bisya 46.53 315 P **P** **11 19 31.3 +1.9**
SNR=49
BSY P **P** **11 19 31.3 +1.9**
SNR=49
BSY P **P** **11 19 31.3 +1.9**
SNR=49

NIL	**Nilore**	**46.70**	**340**	P	**P**	**11 19 28.7**	**-1.7**
NIL				pmax	pmax		
	comp=Z,314nm,1.1s						
NIL	**Nilore**	**46.70**	**340**	P	**P**	**11 19 28.7**	**-1.7**
NIL				IAmb	IAmb	11 19 55.3	
	comp=Z,314nm,1.1s						
NIL	**Nilore**	**46.70**	**340**	IAMs_20	IAMs_20	11 37 31.1	
	comp=Z,55µm,20.0s						
HOQ	**Hoqain**	**47.00**	**316**	P	**P**	**11 19 34.8**	**+1.8**
	SNR=53						
HOQ				P	**P**	**11 19 34.8**	**+1.8**
	SNR=53						
XAN	**Xi'an**	**47.08**	**20**	P	**P**	**11 19 32.9**	**-0.6**
XAN				pP	pP	11 19 37.4	-1.6
XAN				PP	**PP**	**11 21 18.1**	**-6.4**
XAN				S	**S**	**11 26 18.4**	**-6.0**
XAN				pmax	pmax		
	comp=Z,430nm,1.0s						
XAN				pmax	pmax		
	comp=Z,6µm,3.5s						
XAN				LR	LR		
	comp=Z,29µm,18.6s						
XAN				LR	LR		
	comp=Z,39µm,15.7s						
XAN				LR	LR		
	comp=Z,73µm,16.2s						
XAN	**Xi'an**	**47.08**	**20**	IAMs_20	IAMs_20	11 40 02.6	
	comp=Z,43µm,18.0s						
BBOO	**Buckleboo**	**47.14**	**126**	P	**P**	**11 19 34.0**	**0.0**
	baz=47,SNR=20						
BBOO	**Buckleboo**	**47.14**	**126**	P	**P**	**11 19 33.7**	**-0.4**
BBOO				IAMs_20	IAMs_20	11 36 16.1	
	comp=Z,49µm,19.0s						
ARQ	**Araqi**	**47.39**	**315**	P	**P**	**11 19 38.7**	**+2.7**
	SNR=26						
ARQ				P	**P**	**11 19 38.7**	**+2.7**
	SNR=26						
LZH	**Lanzhou**	**47.51**	**14** ⇑	P	**P**	**11 19 36.5**	**-0.4**
LZH				sP	pP	11 19 40.5	-2.0
LZH				S	**S**	**11 26 28.1**	**-2.6**
LZH				pmax	pmax		
	comp=Z,230nm,1.1s						
LZH				pmax	pmax		
	comp=Z,3µm,6.0s						
LZH				LR	LR		
	comp=Z,27µm,18.4s						
LZH				LR	LR		
	comp=Z,22µm,18.4s						
LZH				LR	LR		
	comp=Z,31µm,17.4s						
WAMI	**Wamena**	**47.68**	**86**	P	P	11 19 43.9	+5.4
	comp=Z,11µmcomp=Z,504nm,0.9s						
QIS	**Mount Isa**	**47.82**	**109**	P	**P**	**11 19 40.0**	**+0.5**
	baz=48,SNR=59						
SOHO	**SOHO**	**47.90**	**316**	P	**P**	**11 19 41.1**	**+1.1**
	SNR=44						
SOHO				P	**P**	**11 19 41.1**	**+1.1**
	SNR=44						
SMPI	**Sarmi**	**48.03**	**84**	P	**P**	**11 19 44.1**	**+2.9**
	comp=Z,8µmcomp=Z,9µmcomp=Z,433nm,1.4s						
ALNE	**Al Ain**	**48.39**	**315**	*i* P	**P**	**11 19 44.8**	**+1.0**
	SNR=22						
ALNE	**Al Ain**	**48.39**	**315**	*i* P	**P**	**11 19 44.8**	**+1.0**
	SNR=22						
ASHO	**Ashiyiah**	**48.59**	**316**	*i* P	**P**	**11 19 46.1**	**+0.7**
	SNR=55						
ASHO	**Ashiyiah**	**48.59**	**316**	*i* P	**P**	**11 19 46.1**	**+0.7**
	SNR=55						
ASHO	**Ashiyiah**	**48.59**	**316**	P	**P**	**11 19 48.3**	**+3.0**
	SNR=51						
ASHO				P	**P**	**11 19 48.3**	**+3.0**
	SNR=51						
ASHO				P	**P**	**11 19 48.3**	**+3.0**
	SNR=51						
HATD	**Hatta, Dubai**	**48.63**	**316**	*i* P	**P**	**11 19 45.8**	**+0.2**
	SNR=34						
HATD	**Hatta, Dubai**	**48.63**	**316**	*i* P	**P**	**11 19 45.8**	**+0.2**
	SNR=34						
HATD	**Hatta, Dubai**	**48.63**	**316**	P	**P**	**11 19 47.0**	**+1.4**
	SNR=44						
HATD				P	**P**	**11 19 47.0**	**+1.4**
	SNR=44						
UOSS	**Minazif**	**48.66**	**316**	*i* P	**P**	**11 19 46.3**	**+0.4**
	SNR=24						
UOSS	**Minazif**	**48.66**	**316**	*i* P	**P**	**11 19 46.3**	**+0.4**
	SNR=24						
UOSS	**Minazif**	**48.66**	**316**	P	**P**	**11 19 48.3**	**+2.5**
UOSS				P	**P**	**11 19 48.3**	**+2.5**
UOSS	**Minazif**	**48.66**	**316**	P	**P**	**11 19 45.3**	**-0.5**
MDH	**Madha**	**48.83**	**317**	*i* P	**P**	**11 19 46.7**	**-0.4**
	SNR=10.0						
MDH	**Madha**	**48.83**	**317**	*i* P	**P**	**11 19 46.7**	**-0.4**
	SNR=10.0						
MDH	**Madha**	**48.83**	**317**	P	**P**	**11 19 49.2**	**+2.1**
	SNR=8.4						
MDH				P	**P**	**11 19 49.2**	**+2.1**
	SNR=8.4						
FAQ	**Al Faqa, Dubai**	**48.95**	**316**	*i* P	**P**	**11 19 49.0**	**+0.9**
	SNR=14						
FAQ	**Al Faqa, Dubai**	**48.95**	**316**	*i* P	**P**	**11 19 49.0**	**+0.9**
	SNR=14						
FAQ	**Al Faqa, Dubai**	**48.95**	**316**	P	**P**	**11 19 51.0**	**+3.0**
	SNR=11						
MSFE	**Esma-Masafi**	**48.96**	**317**	*i* P	**P**	**11 19 48.5**	**+0.3**
	SNR=13						
MSFE	**Esma-Masafi**	**48.96**	**317**	*i* P	**P**	**11 19 48.5**	**+0.3**
	SNR=13						
NAZ	**Nazwa, Dubai**	**49.06**	**316**	*i* P	**P**	**11 19 48.9**	**0.0**
	SNR=30						
NAZ	**Nazwa, Dubai**	**49.06**	**316**	*i* P	**P**	**11 19 48.9**	**0.0**
	SNR=30						
NAZ	**Nazwa, Dubai**	**49.06**	**316**	P	**P**	**11 19 50.0**	**+1.1**
	SNR=29						
KBL	**Kabul**	**49.06**	**336**	P	**P**	**11 19 51.2**	**+2.2**
KBL				P	**P**	**11 19 51.2**	**+2.2**
KBL				P	**P**	**11 19 51.2**	**+2.2**
KBL	**Kabul**	**49.06**	**336**	P	**P**	**11 19 48.2**	**-0.8**
KBL				pmax	pmax		
	comp=Z,187nm,1.1s						
KBL				MLR	MLR		
	comp=Z,27µm,18.0s						
KBL	**Kabul**	**49.06**	**336**	P	**P**	**11 19 48.1**	**-0.8**
KBL				IAMs_20	IAMs_20	11 41 42.1	
	comp=Z,27µm,18.0s						
CRZF	**Crozet Islands**	**49.16**	**215**	P	**P**	**11 19 49.2**	**-0.2**
BANOM	**Banah**	**49.24**	**317**	*i* P	**P**	**11 19 51.2**	**+0.9**
	SNR=7.7						
BANOM	**Banah**	**49.24**	**317**	*i* P	**P**	**11 19 51.2**	**+0.9**
	SNR=7.7						
BANOM	**Banah**	**49.24**	**317**	P	**P**	**11 19 52.9**	**+2.5**
GENI	**Genyem**	**49.34**	**85**	P	**P**	**11 19 52.7**	**+1.4**
	comp=Z,11µmcomp=Z,657nm,1.3s						
SHME	**Shamm**	**49.44**	**317**	*i* P	**P**	**11 19 52.6**	**+0.8**
	SNR=11						
SHME	**Shamm**	**49.44**	**317**	*i* P	**P**	**11 19 52.6**	**+0.8**
	SNR=11						
HTT	**Hallett**	**49.62**	**125**	P	**P**	**11 19 53.8**	**+0.6**
	baz=50,SNR=30						
NJ2	**Nanjing**	**49.65**	**31**	*e*P	**P**	**11 19 54.3**	**+1.0**
NJ2				PcS	**PcS**	**11 25 09.8**	**-1.5**
NJ2				S	**S**	**11 27 03.6**	**+2.9**
NJ2				ScS	**ScS**	**11 29 43.8**	**0.0**
NJ2				pmax	pmax		
	comp=Z,240nm,1.1s						
NJ2				pmax	pmax		
	comp=Z,6µm,5.2s						
NJ2				LR	LR		
	comp=Z,36µm,18.6s						
NJ2				LR	LR		
	comp=Z,42µm,16.7s						
NJ2				LR	LR		
	comp=Z,59µm,16.9s						
JAY	**Jayapura**	**49.89**	**85**	P	**P**	**11 19 56.3**	**+0.8**
	comp=Z,72nm,1.0s,baz=249,slow=4.9,SNR=20						
JAY				PcP	**PcP**	**11 21 18.0**	**+2.1**
	comp=Z,130nm,1.1s,baz=257,slow=4.8,SNR=3.8						
JAY	**Jayapura**	**49.89**	**85**	P	**P**	**11 19 56.6**	**+1.1**
	comp=Z,2µmcomp=Z,134nm,1.0s						
GTA	**Gaotai**	**49.94**	**9**	*e*P	**P**	**11 19 55.1**	**-0.4**
GTA				pP	sP	11 20 05.3	+2.0
GTA				S	**S**	**11 27 00.9**	**-3.9**
GTA				ScS	**ScS**	**11 29 46.9**	**+1.1**
GTA				pmax	pmax		
	comp=Z,220nm,1.1s						
GTA				pmax	pmax		
	comp=Z,4µm,6.9s						
GTA				LR	LR		
	comp=Z,15µm,15.8s						
GTA				LR	LR		
	comp=Z,23µm,15.8s						
GTA				LR	LR		
	comp=Z,19µm,16.2s						
SSE	**Sheshan**	**50.15**	**34**	P	**P**	**11 19 58.3**	**+1.2**
SSE				PP	**PP**	**11 21 51.3**	**-1.3**
SSE				S	**S**	**11 27 11.8**	**+4.1**
SSE				pmax	pmax		
	comp=Z,30nm,1.0s						
SSE				pmax	pmax		
	comp=Z,2µm,4.9s						
SSE				LR	LR		
	comp=Z,7µm,19.7s						
SSE	**Sheshan**	**50.15**	**34**	P	**P**	**11 19 57.4**	**+0.3**
SSE	**Sheshan**	**50.15**	**34**	IAMs_20	IAMs_20	11 42 12.0	
	comp=Z,34µm,19.0s						
COEN	**Coen**	**51.06**	**100**	P	**P**	**11 20 04.8**	**+0.6**
	baz=51,SNR=44						
COEN	**Coen**	**51.06**	**100**	P	**P**	**11 20 03.7**	**-0.5**
KSH	**Kashi**	**51.32**	**345**	P	**P**	**11 20 03.5**	**-2.4**
KSH				S	**S**	**11 27 17.3**	**-6.7**
KSH				pmax	pmax		
	comp=Z,220nm,1.2s						
KSH				pmax	pmax		
	comp=Z,12µm,7.0s						
KSH				LR	LR		
	comp=Z,30µm,12.5s						
KSH				LR	LR		
	comp=Z,48µm,11.8s						
KSH				LR	LR		
	comp=Z,49µm,18.9s						
STKA	**Stephens Creek**	**51.40**	**123**	P	**P**	**11 20 07.0**	**+0.5**
	baz=52,SNR=39						
STKA	**Stephens Creek**	**51.40**	**123**	P	**P**	**11 20 07.1**	**+0.5**
	comp=Z,75nm,1.1s,baz=287,slow=7.8,SNR=32						
STKA				PcP	**PcP**	**11 21 23.1**	**+2.0**
	comp=Z,42nm,0.7s,baz=205,slow=1.7,SNR=6.3						
STKA				LR	LR	11 41 17.5	
	comp=Z,21µm,19.6s,baz=278,slow=35						
STKA	**Stephens Creek**	**51.40**	**123**	P	**P**	**11 20 05.9**	**-0.7**
JOW	**Kunigami**	**51.53**	**44**	P	**P**	**11 20 07.8**	**+0.2**
	comp=Z,17nm,1.1s,baz=179,slow=10,SNR=11						
JOW	**Kunigami**	**51.53**	**44**	P	**P**	**11 20 07.6**	**+0.1**
TIY	**Taiyuan**	**51.62**	**22**	*e*P	**P**	**11 20 09.4**	**+1.2**
TIY				S	**S**	**11 27 28.6**	**+0.5**
TIY				ScS	**ScS**	**11 29 58.6**	**+1.3**
TIY				pmax	pmax		
	comp=Z,78nm,1.1s						
TIY				pmax	pmax		
	comp=Z,3µm,4.4s						
TIY				LR	LR		
	comp=Z,45µm,15.6s						
TIY				LR	LR		
	comp=Z,7µm,11.5s						
TIY				LR	LR		
	comp=Z,43µm,15.4s						
HRA	**Herat**	**52.01**	**330**	P	**P**	**11 20 10.4**	**-0.8**
HRA				IAMs_20	IAMs_20	11 42 28.2	
	comp=Z,26µm,19.0s						
MTSU	**Mount Surprise**	**52.13**	**105**	P	**P**	**11 20 13.8**	**+1.5**
	baz=52,SNR=71						
DAMY	**Dhamar**	**52.35**	**297**	P	**P**	**11 20 15.2**	**+1.0**
	SNR=60						
DAMY	**Dhamar**	**52.35**	**297**	P	**P**	**11 20 13.4**	**-0.8**
DAMY				IAmb	IAmb	11 20 23.8	
	comp=Z,563nm,1.3s						
DAMY				IAMs_20	IAMs_20	11 36 53.4	
	comp=Z,30µm,22.0s						
ATD	**Arta Tunnel**	**52.50**	**293**	*e*P	**P**	**11 20 17.1**	**+2.0**
ATD				*e*S	S	11 27 28.8	-12
ATD	**Arta Tunnel**	**52.50**	**293**	P	**P**	**11 20 17.6**	**+2.5**
	SNR=15						
ATD	**Arta Tunnel**	**52.50**	**293**	*e*P	**P**	**11 20 17.1**	**+2.0**
ATD				*e*S	S	11 27 28.8	-12
ATD	**Arta Tunnel**	**52.50**	**293**	P	**P**	**11 20 14.8**	**-0.3**
ATD				IAmb	IAmb	11 20 24.4	
	comp=Z,525nm,1.2s						
GAR	**Garm**	**52.53**	**340**	P	**P**	**11 20 13.4**	**-1.5**
CHGR	**Chuyangaron**	**52.64**	**338**	P	**P**	**11 20 14.1**	**-1.6**
QLP	**Quilpie**	**52.71**	**116**	P	**P**	**11 20 17.7**	**+1.3**
	baz=53,SNR=25						
ARPS	**Mount Arapiles**	**52.87**	**129**	P	**P**	**11 20 18.2**	**+0.8**
	baz=53,SNR=17						
TARG	**Taragay, Kyrgy**	**53.00**	**348**	IAmb	IAmb	11 20 48.9	
	comp=Z,724nm,1.6s						
KIBK	**Kibwezi**	**53.18**	**275**	*i* P	**P**	**11 20 20.4**	**+0.1**
KIBK	**Kibwezi**	**53.18**	**275**	P	**P**	**11 20 20.3**	**+0.1**
	SNR=94						
BTK	**Batken**	**53.32**	**341**	IAmb	IAmb	11 20 26.8	
	comp=Z,718nm,1.4s						
BTK				IAMs_20	IAMs_20	11 41 41.8	
	comp=Z,28µm,21.0s						
BTO	**Baotou**	**53.43**	**18**	*e*P	**P**	**11 20 22.4**	**+0.9**
KDJ	**Kajisay**	**53.52**	**347**	IAmb	IAmb	11 20 55.4	
	comp=Z,556nm,1.9s						
PRZ	**Przheval'sk**	**53.60**	**348**	IAmb	IAmb	11 20 29.9	
	comp=Z,487nm,1.2s						
PRZ				IAMs_20	IAMs_20	11 42 03.7	
	comp=Z,47µm,21.0s						
WMQ	**Urumqi**	**53.76**	**357**	P	P	11 20 32.5	+8.6
WMQ				sP	pwP	11 20 48.0	+12
WMQ				PP	PP	11 22 36.6	+11
WMQ				ScP	**ScP**	**11 25 25.4**	**-1.0**
WMQ				S	**S**	**11 28 03.4**	**+6.4**
WMQ				sS	sS	11 28 12.9	+6.5
WMQ				ScS	**ScS**	**11 30 17.5**	**+5.5**
WMQ	**Urumqi**	**53.76**	**357**	SS	**SKiKP**	**11 31 39.3**	**+2.2**
WMQ				pmax	pmax		
	comp=Z,150nm,1.5s						
WMQ				pmax	pmax		
	comp=Z,1µm,4.7s						
WMQ				LR	LR		
	comp=N,16µm,26.5s						
WMQ				LR	LR		
	comp=E,12µm,24.9s						
WMQ				LR	LR		
	comp=Z,30µm,22.3s						
WMQ	**Urumqi**	**53.76**	**357**	P	**P**	**11 20 24.9**	**+1.0**
WMQ				S	**S**	**11 27 57.5**	**+0.5**
WMQ				ScS	**ScS**	**11 30 14.1**	**+2.1**
WMQ				SS	**SKiKP**	**11 31 37.4**	**+0.3**
WMQ				pmax	pmax		
	comp=Z,180nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,3µm,4.9s						
WMQ				LR	LR		
	comp=Z,15µm,21.7s						
WMQ				LR	LR		
	comp=Z,12µm,18.5s						
WMQ				LR	LR		
	comp=Z,30µm,21.9s						
WMQ	**Urumqi**	**53.76**	**357**	P	**P**	**11 20 23.5**	**-0.4**
WMQ				pmax	pmax		
	comp=Z,1µm,1.5s						
WMQ				MLR	MLR		
	comp=Z,29µm,22.0s						
WMQ	**Urumqi**	**53.76**	**357**	P	**P**	**11 20 23.5**	**-0.4**
WMQ	**Urumqi**	**53.76**	**357**	IAMs_20	IAMs_20	11 42 52.7	
	comp=Z,29µm,22.0s						
ARSB	**Arslanbob**	**53.82**	**343**	IAMs_20	IAMs_20	11 41 28.9	
	comp=Z,57µm,22.0s						
ULHL	**Ulahol**	**53.84**	**346**	P	**P**	**11 20 26.4**	**+1.8**
	SNR=36						
KZA	**Kyzart**	**53.92**	**345**	P	**P**	**11 20 25.5**	**0.0**
	SNR=85						
CTA	**Charters Tower**	**54.02**	**107**	P	**P**	**11 20 27.2**	**+1.1**
	comp=Z,122nm,0.9s,baz=273,slow=8.7,SNR=21						
CTA				PcP	**PcP**	**11 21 33.5**	**+2.3**
	comp=Z,60nm,0.9s,baz=265,slow=6.6,SNR=2.4						
CTAO	**Charters Tower**	**54.02**	**107**	P	**P**	**11 20 26.4**	**+0.2**
CTAO				pmax	pmax		
	comp=Z,511nm,1.4s						
CTAO				MLR	MLR		
	comp=Z,21µm,18.0s						
CTAO	**Charters Tower**	**54.02**	**107**	P	**P**	**11 20 26.4**	**+0.2**
CTAO				IAmb	IAmb	11 20 33.9	
	comp=Z,511nm,1.4s						
SHLS	**Shalkode**	**54.06**	**350**	*e*P	**P**	**11 20 25.2**	**-0.9**
SHLS				LR	LR	11 41 55.1	
	comp=Z,5µm,15.4s,baz=350						
SHLS	**Shalkode**	**54.06**	**350**	*e*P	**P**	**11 20 25.2**	**-0.9**
SHLS				pmax	pmax		
	comp=Z,219nm,1.1s						
SHLS				MLR	MLR		
	comp=Z,5µm,15.0s						
UZB	**Uzynbulak**	**54.13**	**349**	*e*P	**P**	**11 20 26.1**	**-0.5**
	comp=Z,62nm,1.4s,baz=349						
UZB				*e*S	**S**	**11 28 02.0**	**-0.2**
	comp=Z,1µm,8.0s,baz=349						
UZB				LR	LR	11 42 17.8	
	comp=Z,7µm,16.9s,baz=349						
UZB	**Uzynbulak**	**54.13**	**349**	*e*P	**P**	**11 20 26.1**	**-0.5**
UZB				*e*S	**S**	**11 28 02.0**	**-0.2**
UZB				pmax	pmax		
	comp=Z,62nm,1.4s						
UZB				smax	smax		
	comp=N,1µm,8.0s						
UZB				MLR	MLR		
	comp=Z,7µm,17.0s						
HHC	**Hu-ho-hao-te**	**54.13**	**19** ⇑	*i* P	**P**	**11 20 28.0**	**+1.3**
HHC				pP	pP	11 20 32.3	0.0
HHC				sP	sP	11 20 35.3	+0.8
HHC				S	**S**	**11 28 02.0**	**-0.3**
HHC				SS	**SS**	**11 31 42.3**	**-2.2**
HHC				pmax	pmax		
	comp=Z,45nm,1.1s						
HHC				pmax	pmax		
	comp=Z,2µm,5.7s						
HHC				LR	LR		
	comp=Z,23µm,17.6s						
HHC				LR	LR		
	comp=Z,14µm,17.0s						
HHC				LR	LR		
	comp=Z,26µm,17.1s						
BOOM	**Boomskoye usch**	**54.14**	**346**	IAmb	IAmb	11 20 32.9	
	comp=Z,492nm,1.4s						
SATY	**Saty**	**54.16**	**349**	*e*P	**P**	**11 20 26.8**	**-0.1**
	comp=Z,103nm,1.2s,baz=348						
SATY				*e*S	**S**	**11 28 03.3**	**+0.7**
	comp=Z,882nm,4.9s,baz=348						
SATY				LR	LR	11 42 23.2	
	comp=Z,5µm,15.0s,baz=348						
SATY	**Saty**	**54.16**	**349**	*e*P	**P**	**11 20 26.7**	**-0.1**
SATY				*e*S	**S**	**11 28 03.2**	**+0.7**
SATY				pmax	pmax		
	comp=Z,103nm,1.2s						
SATY				smax	smax		
	comp=N,882nm,4.9s						
SATY				MLR	MLR		
	comp=Z,5µm,15.0s						
KMBO	**Kilima Mbogo**	**54.19**	**276**	P	**P**	**11 20 27.7**	**-0.1**
	comp=Z,76nm,1.0s,baz=73,slow=8.9,SNR=68						
KMBO				LR	LR	11 38 29.6	
	comp=Z,23µm,21.2s,baz=105,slow=30						
KMBO				PKPPKP	**P'P'df**	**11 50 48.9**	**+3.5**
	comp=Z,1.1nm,0.3s,baz=267,slow=2.0,SNR=4.3						
KMBO	**Kilima Mbogo**	**54.19**	**276**	*i* P	**P**	**11 20 29.9**	**+2.1**
KMBO				*i* S	**S**	**11 28 00.7**	**-3.6**
KMBO	**Kilima Mbogo**	**54.19**	**276**	*i* P	**P**	**11 20 26.8**	**-1.0**
	SNR=94						
KMBO	**Kilima Mbogo**	**54.19**	**276**	*i* P	**P**	**11 20 26.8**	**-1.0**
	SNR=94						
KMBO	**Kilima Mbogo**	**54.19**	**276**	*i* P	**P**	**11 20 29.9**	**+2.1**
KMBO				*i* S	**S**	**11 28 00.7**	**-3.6**
KMBO	**Kilima Mbogo**	**54.19**	**276**	P	**P**	**11 20 27.5**	**-0.3**
KMBO				IAmb	IAmb	11 20 31.7	
	comp=Z,427nm,1.3s						
KMBO	**Kilima Mbogo**	**54.19**	**276**	IAMs_20	IAMs_20	11 37 53.7	
	comp=Z,26µm,21.0s						
UCH	**Uchtor**	**54.24**	**345**	P	**P**	**11 20 27.9**	**0.0**
	SNR=120						
AML	**Almayashu**	**54.37**	**344**	P	**P**	**11 20 28.8**	**+0.1**
	SNR=270						
TNSS	**Tian-Shan**	**54.44**	**347**	*e*P	**P**	**11 20 28.6**	**-0.7**
	comp=Z,512nm,0.8s,baz=347						
TNSS				*e*S	**S**	**11 28 07.0**	**0.0**
	baz=347						
TNSS				LR	LR	11 42 31.2	
	comp=Z,14µm,13.8s,baz=347						
TNSS	**Tian-Shan**	**54.44**	**347**	*e*P	**P**	**11 20 28.5**	**-0.7**
TNSS				*e*S	**S**	**11 28 06.9**	**0.0**
TNSS				pmax	pmax		
	comp=Z,512nm,0.8s						
TNSS				MLR	MLR		
	comp=Z,14µm,14.0s						
KPKS	**Kokpek**	**54.50**	**349**	*e*P	**P**	**11 20 28.8**	**-0.5**
	comp=Z,56nm,1.2s,baz=349						
KPKS				*e*S	**S**	**11 28 07.6**	**+0.5**
	baz=349						
KPKS	**Kokpek**	**54.50**	**349**	*e*P	**P**	**11 20 28.8**	**-0.5**
KPKS				*e*S	**S**	**11 28 07.6**	**+0.5**
KPKS				pmax	pmax		
	comp=Z,56nm,1.2s						
MDOK	**Medeo**	**54.54**	**347**	*i* P	**P**	**11 20 29.6**	**0.0**
	comp=Z,4µm,2.8s,baz=347						
MDOK				*e*S	**S**	**11 28 08.4**	**+0.7**
	baz=347						
MDOK				LR	LR	11 41 29.6	
	comp=Z,20µm,15.7s,baz=347						
MDOK	**Medeo**	**54.54**	**347**	*i* P	**P**	**11 20 29.6**	**0.0**
MDOK				*e*S	**S**	**11 28 08.4**	**+0.7**
MDOK				pmax	pmax		
	comp=Z,4µm,2.8s						
MDOK				MLR	MLR		
	comp=Z,20µm,16.0s						
KBK	**Karagaybulak**	**54.54**	**345**	P	**P**	**11 20 30.1**	**+0.4**
	SNR=52						
AAA	**Alma-Ata**	**54.61**	**347**	*e*P	**P**	**11 20 30.0**	**-0.1**
	comp=Z,124nm,0.9s,baz=347						
AAA				*e*S	**S**	**11 28 08.9**	**+0.4**
	baz=347						
AAA				LR	LR	11 41 56.4	
	comp=Z,28µm,18.0s,baz=347						
AAA	**Alma-Ata**	**54.61**	**347**	*e*P	**P**	**11 20 29.9**	**-0.1**
AAA				*e*S	**S**	**11 28 08.9**	**+0.4**
AAA				pmax	pmax		
	comp=Z,124nm,0.9s						
AAA				MLR	MLR		
	comp=Z,28µm,18.0s						
TKM2	**Tokmak 2**	**54.63**	**346**	P	**P**	**11 20 30.2**	**-0.2**
	SNR=127						
AAK	**Ala-Archa**	**54.63**	**345**	P	**P**	**11 20 32.5**	**+2.1**
	SNR=44						
AAK	**Ala-Archa**	**54.63**	**345**	*i* P	**P**	**11 20 29.0**	**-1.3**
	SNR=75						
AAK	**Ala-Archa**	**54.63**	**345**	*i* P	**P**	**11 20 29.0**	**-1.3**
	SNR=75						
AAK	**Ala-Archa**	**54.63**	**345**	*d* *i* P	**P**	**11 20 30.4**	**0.0**
AAK				pmax	pmax		
	comp=Z,164nm,1.7s						
AAK	**Ala-Archa**	**54.63**	**345**	P	**P**	**11 20 30.2**	**-0.1**
AAK				IAmb	IAmb	11 20 41.1	
	comp=Z,431nm,1.4s						
MTBS	**Maitube**	**54.64**	**347**	*e*P	**P**	**11 20 30.1**	**-0.3**
	comp=Z,566nm,0.9s,baz=347						
MTBS				*e*S	**S**	**11 28 09.7**	**+0.7**
	baz=347						
MTBS	**Maitube**	**54.64**	**347**	*e*P	**P**	**11 20 30.0**	**-0.3**
MTBS				*e*S	**S**	**11 28 09.7**	**+0.7**
MTBS				pmax	pmax		
	comp=Z,566nm,0.9s						
CMSA	**Cobar Meteorol**	**54.75**	**121**	P	**P**	**11 20 31.8**	**+0.5**
	baz=55,SNR=38						
FRU1	**Bishkek**	**54.76**	**345**	P	**P**	**11 20 31.1**	**-0.1**
FRU1				pmax	pmax		
	comp=Z,257nm,1.2s						
FRU1				MLR	MLR		
	comp=Z,16µm,18.0s						
FRU1	**Bishkek**	**54.76**	**345**	P	**P**	**11 20 31.1**	**-0.1**
FRU1				IAmb	IAmb	11 21 03.8	
	comp=Z,257nm,1.1s						
EKS2	**Erkin-Say**	**54.84**	**344**	P	**P**	**11 20 32.0**	**+0.2**
	SNR=122						
CHMS	**Chumysh**	**54.91**	**345**	P	**P**	**11 20 32.3**	**+0.1**
	SNR=28						
TAS	**Tashkent**	**54.96**	**340**	P	**P**	**11 20 32.9**	**+0.3**
TAS				pmax	pmax		
	comp=Z,812nm,1.4s						
TAS	**Tashkent**	**54.96**	**340**	P	**P**	**11 20 32.9**	**+0.3**
BJT	**Baijiatuau**	**55.05**	**23**	P	**P**	**11 20 33.8**	**+0.6**
BJT				pmax	pmax		
	comp=Z,672nm,1.2s						
BJT	**Baijiatuau**	**55.05**	**23**	P	**P**	**11 20 33.8**	**+0.6**
BJT				IAmb	IAmb	11 20 39.1	
	comp=Z,672nm,1.2s						
BJI	**Beijing**	**55.07**	**23**	P	**P**	**11 20 34.6**	**+

BJI comp=Z,460nm,1.3s LR LR
BJI comp=Z,9µm,17.2s LR LR
CHKK Chushkaly 55.21 348 comp=Z,18µm,20.6s *e*P **P** **11 20 33.2 -1.1**
CHKK comp=Z,229nm,1.0s,baz=348 *e*S **S** **11 28 15.9 -0.6**
CHKK Chushkaly 55.21 348 baz=348 *e*P **P** **11 20 33.2 -1.1**
CHKK *e*S **S** **11 28 15.8 -0.6**
CHKK comp=Z,229nm,1.0s pmax pmax
USP Ospenovka 55.23 345 SNR=80 P **P** **11 20 34.3 -0.2**
PMG Port Moresby 55.25 94 comp=Z,323nm,1.0s,baz=287,slow=5.3,SNR=63 P **P** **11 20 36.8 +1.5**
PMG Port Moresby 55.25 94*c* comp=Z,583nm,1.0s *i*P **P** **11 20 36.7 +1.5**
PMG pmax pmax
PMG Port Moresby 55.25 94 comp=Z,7µm,14.8s,baz=345 P **P** **11 20 35.5 +0.3**
DESE Dese 55.29 291 SGDS LR LR 11 47 11.8 *e*P **P** **11 20 38.5 +2.7**
DESE *e*S **S** **11 28 25.7 +6.6**
DESE *e* 11 35 25.7
SGDS Sogindy 55.37 346 comp=Z,499nm,2.2s,baz=345 *i*P **P** **11 20 35.2 -0.4**
SGDS comp=Z,7µm,15.0s *e*S **S** **11 28 19.3 +0.6**
KUU Kurty 55.39 347 comp=Z,224nm,1.3s,baz=347 *i*P **P** **11 20 34.8 -0.8**
KUU comp=Z,18µm,16.0s *e*S **S** **11 28 19.3 +0.5**
AAE Adis Abeba 55.39 288 comp=Z,38µm,18.0s *i*P **P** **11 20 36.8 +0.2**
AAE *e*S **S** **11 28 18.2 -2.3**
AAE Adis Abeba 55.39 288 comp=Z,14nm,0.8s,baz=341 *i*P **P** **11 20 36.8 +0.2**
AAE *e*S **S** **11 28 18.2 -2.3**
IUG Iuzhnay 55.46 341 comp=Z,1µm,18.1s,baz=341 *e*P **P** **11 20 36.0 -0.4**
IUG *e*S **S** **11 28 20.2 +0.1**
RAYN Ar Rayn 55.68 308 comp=Z,181nm,1.1s P **P** **11 20 36.5 -1.6**
RAYN pmax pmax
RAYN Ar Rayn 55.68 308 P **P** **11 20 36.5 -1.6**
CHM Chimkent 55.75 341 baz=341 *e*S **S** **11 28 32.2 +8.4**
TOO Toolangi 55.89 129 baz=56,SNR=19 P **P** **11 20 40.8 +1.3**
TOO Toolangi 55.89 129 comp=Z,357nm,1.6s P **P** **11 20 40.1 +0.6**
TOO pmax pmax
TOO Toolangi 55.89 129 comp=Z,357nm,1.6s P **P** **11 20 40.1 +0.6**
TOO IAmb IAmb 11 20 48.5
KK31 Karatay Array 56.18 342 comp=Z,439nm,1.2s *i*P **P** **11 20 40.5 -0.8**
KK31 Karatay Array 56.18 342 IAmb IAmb 11 20 47.0
KKAR Karatay Array 56.18 342 KKAR 11 20 40.8 P **P** **11 20 40.6 -0.7**
KKAR comp=Z,439nm,1.2s pmax pmax
KKAR Karatay Array 56.18 342 P **P** **11 20 40.6 -0.7**
KKAR Karatay Array 56.18 342 P **P** **11 20 40.8 -0.5**
KKAR IAmb IAmb 11 20 47.0
BRLS Boroldav 56.32 341 comp=Z,439nm,1.2s *e*P **P** **11 20 41.0 -1.3**
BRLS comp=Z,42nm,1.2s,baz=341 *e*S **S** **11 28 29.2 -2.1**
BRLS Boroldav 56.32 341 baz=341 *e*P **P** **11 20 41.0 -1.3**
BRLS *e*S **S** **11 28 29.2 -2.1**
BRLS comp=Z,42nm,1.2s pmax pmax
DL2 Dalian 56.48 28 DL2 S **S** **11 28 35.8 +2.3**
DL2 comp=Z,810nm,1.0s pmax pmax
DL2 comp=Z,9µm,6.5s pmax pmax
DL2 comp=Z,22µm,15.2s LR LR
DL2 comp=Z,19µm,14.8s LR LR
DL2 comp=Z,19µm,21.6s LR LR
RMQ Roma 56.72 115 baz=57,SNR=18 P **P** **11 20 47.1 +1.5**
ASHT Ashkhabad 56.73 329 ASHT comp=Z,679nm,1.2s P **P** **11 20 45.5 +0.2**
ASHT comp=Z,16µm,20.0s pmax pmax
ASHT Ashkhabad 56.73 329 ASHT comp=Z,679nm,1.2s P **P** **11 20 45.5 +0.2**
GEYT Alibeck 56.85 329 comp=Z,144nm,0.8s,baz=165,slow=8.6,SNR=154 P **P** **11 20 46.0 -0.3**
GEYT comp=Z,23µm,20.3s,baz=115,slow=37 LR LR 11 45 32.8
GEYT PKP2bc 11 50 49.2
GEYT Alibeck 56.85 329 comp=Z,1.5nm,0.4s,baz=345,slow=4.6,SNR=6.4 P **P** **11 20 46.0 -0.3**
GYA0B ALIBECK ARRAY 56.85 329 GYA0B IAmb IAmb 11 20 58.2 P **P** **11 20 46.0 -0.2**
LODK Lodwar 57.05 281 comp=Z,357nm,0.8s *i*P **P** **11 20 48.6 +0.4**
LODK Lodwar 57.05 281 SNR=122 P **P** **11 20 48.8 +0.6**
MK31 Makanchi Array 57.19 353 *i*P **P** **11 20 47.0 -1.4**
MK31 Makanchi Array 57.19 353 P **P** **11 20 47.1 -1.4**
MKAR Makanchi Array 57.19 353 comp=Z,76nm,0.8s,baz=161,slow=7.7,SNR=139 P **P** **11 20 47.0 -1.4**
MKAR LR LR 11 46 29.0
MKAR comp=Z,22µm,18.3s,baz=174,slow=37 PKP2bc 11 50 46.9
MKAR Makanchi Array 57.19 353 comp=Z,6.2nm,1.2s,baz=0.0,slow=2.7,SNR=6.7 *i*P **P** **11 20 47.0 -1.4**
MKAR comp=Z,76nm,0.8s pmax pmax
MKAR Makanchi Array 57.19 353 P **P** **11 20 46.9 -1.5**
MAKZ Makanchi 57.24 353 P **P** **11 20 47.5 -1.3**
MAKZ comp=Z,506nm,1.3s pmax pmax
MAKZ comp=Z,22µm,18.0s MLR MLR
MAKZ Makanchi 57.24 353 P **P** **11 20 47.5 -1.3**
MAKZ comp=Z,506nm,1.3s IAmb IAmb 11 21 14.3
MAKZ comp=Z,22µm,18.0s IAMs_20 IAMs_20 11 46 50.1
JNU Nakatsue 57.34 40 comp=Z,255nm,1.0s,baz=158,slow=3.2,SNR=37 P **P** **11 20 50.0 +0.2**
JNU Nakatsue 57.34 40 JNU comp=Z,26µm,20.0s IAMs_20 IAMs_20 11 43 57.0 P **P** **11 20 49.7 -0.1**
YNG Young 57.48 124 baz=58,SNR=44 P **P** **11 20 51.8 +1.0**
TJN Taejon 57.51 35*de*P **P** **11 20 51.5 +0.7**
ZSN Zaisan 57.57 355 comp=Z,90nm,0.9s,baz=355 *e*P **P** **11 20 50.7 -0.4**
ZSN *e*S **S** **11 28 48.0 +0.4**
ZSN Zaisan 57.57 355 baz=355 *e*P **P** **11 20 50.7 -0.4**
ZSN *e*S **S** **11 28 48.0 +0.4**
ZSN comp=Z,89nm,0.9s pmax pmax
CASY Casey 57.65 171 P **P** **11 20 51.5 +0.1**
CASY Casey 57.65 171 comp=Z,26µm,19.0s IAMs_20 IAMs_20 11 39 39.8
HJU Haeju 57.84 32 P **P** **11 20 54.0 +0.8**
INCN Inchon 57.91 33 INCN comp=Z,913nm,1.6s P **P** **11 20 53.2 -0.5**
INCN comp=Z,38µm,20.0s pmax pmax
INCN Inchon 57.91 33 P **P** **11 20 53.2 -0.5**
INCN Inchon 57.91 33 comp=Z,38µm,20.0s IAMs_20 IAMs_20 11 45 54.8
CAN Canberra 58.16 125 comp=Z,1µm,1.8s P **P** **11 20 56.2 +0.6**
CAN pmax pmax
CAN Canberra 58.16 125 comp=Z,24µm,19.0s P **P** **11 20 56.2 +0.6**
CAN IAMs_20 IAMs_20 11 43 00.7
MOO Moorlands 58.45 134 baz=59,SNR=11 P **P** **11 20 59.6 +2.1**
CNB Canberra Magne 58.45 125 baz=59,SNR=16 P **P** **11 20 58.4 +0.7**
KSAR Wonju Array Be 58.56 34 P **P** **11 20 58.0 -0.2**
KSAR Wonju Array Be 58.56 34 P **P** **11 20 58.0 -0.2**
KSRS Korea Array 58.59 34 comp=Z,134nm,1.0s,baz=230,slow=6.9,SNR=126 P **P** **11 20 58.2 -0.2**
KSRS comp=Z,17µm,19.1s,baz=226,slow=36 LR LR 11 46 29.1
KSRS comp=Z,0.7nm,0.6s,baz=30,slow=2.5,SNR=7.8 PKPPKP **P'P'df** **11 50 29.2 -4.7**
KSRS comp=Z,1.1nm,0.9s,baz=198,slow=4.7,SNR=5.2 P4KPbc 11 58 09.0
KS19 Wonju Array Si 58.60 34 P **P** **11 20 58.3 -0.2**
PYAG Pyongyang 58.62 31 PYAG pP **pwP** **11 21 16.0 +5.1**
PYAG sP sP 11 21 22.0 +16
PYAG PcP **PcP** **11 21 45.0 -3.6**
PYAG S **S** **11 29 04.0 +2.5**
PYAG PS **PnS** **11 29 28.0 +13**
TAU Tasmania Unive 58.67 134 TAU comp=Z,1µm,1.9s P **P** **11 20 59.0 0.0**
TAU comp=Z,11µm,18.0s pmax pmax
TAU Tasmania Unive 58.67 134 P **P** **11 20 59.0 0.0**
EIDS Eidsvold 58.73 113 baz=59,SNR=30 P **P** **11 21 00.5 +0.8**
EIDS Eidsvold 58.73 113 EIDS comp=Z,429nm,1.6s IAmb IAmb 11 21 08.3 P **P** **11 20 59.4 -0.3**
EIDS comp=Z,23µm,21.0s IAMs_20 IAMs_20 11 44 18.1
SUJ Sinuiju 58.79 30 P **P** **11 20 59.5 -0.2**
SONM Songino Array 59.28 12 comp=Z,143nm,0.9s,baz=196,slow=7.3,SNR=72 P **P** **11 21 03.6 +0.4**
SONM comp=Z,30µm,20.7s,baz=191,slow=37 LR LR 11 47 36.9
SONM comp=Z,3.1nm,1.0s,baz=22,slow=1.9,SNR=5.3 PKPPKP **P'P'df** **11 50 35.8 +4.0**
SONM comp=Z,0.8nm,0.6s,baz=201,slow=7.9,SNR=4.5 P4KPbc 11 58 09.7
SONM Songino Array 59.28 12 P **P** **11 21 03.5 +0.3**
ULN Ulaanbaatar 59.45 12*c* ULN comp=Z,101nm,1.0s *i*P **P** **11 21 03.8 -0.6**
ULN comp=Z,19µm,16.0s MLR MLR
ULN Ulaanbaatar 59.45 12 ULN comp=Z,310nm,1.3s P **P** **11 21 04.2 -0.1**
ULN IAmb IAmb 11 21 09.0
MGCD Mangrove Creek 59.54 123 baz=60,SNR=7.3 P **P** **11 21 07.6 +2.4**
WOSN Wonsan 59.57 32 P **P** **11 21 05.0 -0.1**
ARMA Armidale 59.63 119 comp=Z,723nm,1.8s P **P** **11 21 07.5 +1.4**
ARMA Armidale 59.63 119 baz=60,SNR=20 P **P** **11 21 06.6 +0.5**
ARMA IAmb IAmb 11 21 13.8
DGZ Jazzator, Alta 59.64 357⇓ comp=Z,66nm,1.1s *e*P **P** **11 21 05.8 +0.2**
DGZ pmax pmax
RIV Riverview 59.67 123 baz=60,SNR=8.2 P **P** **11 21 08.6 +2.5**
SNY Shenyang 59.70 28⇑ SNY comp=Z,64nm,1.3s P S **P S** **11 21 05.1 -0.9 11 29 16.8 +1.3**
SNY comp=Z,3µm,4.7s pmax pmax
SNY comp=Z,16µm,19.9s LR LR
SNY comp=Z,6µm,17.1s LR LR
SNY comp=Z,24µm,16.3s LR LR
HHU Hamhung 60.18 32 P **P** **11 21 10.1 +0.8**
MAW Mawson 60.41 192 baz=61,SNR=44 P **P** **11 21 11.0 +0.6**
MAW Mawson 60.41 192 comp=Z,184nm,1.1s,baz=26,slow=7.0,SNR=38 P **P** **11 21 10.8 +0.3**
MAW comp=Z,12µm,18.5s,baz=34,slow=32 LR LR 11 43 46.9
MAW comp=Z,15nm,1.1s,baz=239,slow=6.2,SNR=9.0 PKPPKP **P'P'df** **11 50 35.6 +1.0**
MAW Mawson 60.41 192 P **P** **11 21 10.7 +0.3**
OTUK Ortayu 60.42 346 P **P** **11 21 10.6 -0.2**
KGE Kanggye 60.48 30 P **P** **11 21 12.4 +1.0**
MBAR Mbarara 60.68 275*ce*P **P** **11 21 13.2 -0.4**
MBAR comp=Z,54nm,1.1s pmax pmax
MBAR Mbarara 60.68 275 P **P** **11 21 13.2 -0.4**
MBAR comp=Z,336nm,1.9s IAmb IAmb 11 21 21.4
MBAR comp=Z,23µm,20.0s IAMs_20 IAMs_20 11 43 09.7
KRVT Keravat (AS076 60.71 89 comp=Z,23nm,0.7s,baz=276,slow=11,SNR=1.3 P **P** **11 21 13.6 0.0**
BLWY Bulawayo 60.80 253 *i*P **P** **11 21 14.3 +0.1**
BLWY Bulawayo 60.80 253 *i*P **P** **11 21 14.3 +0.1**
BLWY Bulawayo 60.80 253 *i*P **P** **11 21 14.3 +0.1**
MATP Matopo 60.90 252 *i*P **P** **11 21 15.6 +0.7**
MATP Matopo 60.90 252 *i*P **P** **11 21 15.6 +0.7**
MATP Matopo 60.90 252 *i*P **P** **11 21 15.6 +0.7**
SEM Semipalatinsk 61.00 352 comp=Z,66nm,1.1s,baz=352 *e*P **P** **11 21 13.6 -1.5**
SEM baz=352 *e*S **S** **11 29 31.4 -1.0**
SEM comp=Z,9µm,19.2s,baz=352 LR LR 11 46 52.4
SEM Semipalatinsk 61.00 352 *e*P **P** **11 21 13.5 -1.5**
SEM *e*S **S** **11 29 31.3 -1.0**
SEM comp=Z,66nm,1.1s pmax pmax
SEM comp=Z,9µm,19.0s MLR MLR
ZAK Zakamensk 61.18 9 ZAK comp=Z,90nm,1.7s *e*P **P** **11 21 15.9 -0.2**
LSZ Lusaka 61.36 258 *i*P **P** **11 21 18.3 +0.3**
LSZ Lusaka 61.36 258 *i*P **P** **11 21 18.3 +0.3**
LSZ Lusaka 61.36 258 *i*P **P** **11 21 18.3 +0.3**
LSZ Lusaka 61.36 258 LSZ comp=Z,497nm,1.1s P **P** **11 21 17.8 -0.2**
LSZ Lusaka 61.36 258 P **P** **11 21 17.8 -0.2**
KURBB Kurchatov Arra 61.46 351 comp=Z,164nm,0.8s,baz=180,slow=6.5,SNR=227 P **P** **11 21 17.2 -0.5**
KURBB Kurchatov Arra 61.46 351 P **P** **11 21 17.0 -0.8**
KURK Kurchatov 61.53 351⇑ KURK comp=Z,244nm,1.0s *e*P **P** **11 21 17.2 -1.1**
KURK Kurchatov 61.53 351 P **P** **11 21 17.5 -0.8**
KURK Kurchatov 61.53 351 comp=Z,20µm,19.0s IAMs_20 IAMs_20 11 48 13.7
CN2 Changchun 62.10 28 CN2 *e*P **P** **11 21 20.3 -2.0**
CN2 *e*PP **PP** **11 23 39.3 0.0**
CN2 ScP **ScP** **11 26 00.0 -3.2**
CN2 *e*S **S** **11 29 43.8 -2.3**
CN2 *e*SS **SS** **11 33 48.3 -1.2**
CN2 comp=Z,360nm,1.6s pmax pmax
CN2 comp=Z,5µm,3.5s pmax pmax
CN2 comp=Z,26µm,16.0s LR LR
CN2 comp=Z,20µm,16.0s LR LR
CN2 comp=Z,33µm,16.0s LR LR
MOY Mondy 62.13 7 MOY comp=Z,489nm,2.5s *e*P **P** **11 21 22.2 -0.3**
TLY Talaya 62.50 9 TLY P **P** **11 21 25.4 +0.5**
TLY P **P** **11 21 25.4 +0.5**
TLY P **P** **11 21 25.4 +0.5**
TLY Talaya 62.50 9*c* TLY *e* *i*P **P** **11 21 25.2 +0.4** 11 22 09.3
TLY *e*S **S** **11 29 51.5 +0.6**
TLY *e* 11 31 18.4
TLY *e*SS **SS** **11 34 02.1 +6.7**
TLY comp=Z,636nm,1.5s pmax pmax
TLY comp=Z,39µm,15.0s MLR MLR
TLY Talaya 62.50 9 TLY comp=Z,301nm,1.4s P IAmb **P** IAmb **11 21 25.0 +0.2** 11 21 30.5
TLY comp=Z,20µm,18.0s IAMs_20 IAMs_20 11 51 17.6
INU Inuyama 62.68 41 INU comp=Z,511nm,1.5s P IAmb **P** IAmb **11 21 25.4 -0.9** 11 21 31.2
CHJN Chongjin 62.73 32 P P 11 21 18.5 -8.0
IRK Irkutsk 63.14 9 IRK *e* *e*P **P** **11 21 29.4 +0.3** 11 30 00.6
IRK comp=Z,865nm,2.2s pmax pmax
ITZ Itezhi-Tezhi 63.42 257 ITZ *i* *i*P **P** **11 21 31.1 -0.8** 11 29 58.0
ITZ Lg Lg 11 37 04.5
LBTB Lobatse 63.60 247 LBTB comp=Z,1µm,1.7s *i*P **P** **11 21 33.8 +0.9**
LBTB Lobatse 63.60 247 *i*P **P** **11 21 33.8 +0.9**
LBTB Lobatse 63.60 247 *i*P **P** **11 21 33.8 +0.9**
LBTB Lobatse 63.60 247 P **P** **11 21 32.7 -0.2**
LBTB pmax pmax
LBTB Lobatse 63.60 247 P **P** **11 21 32.7 -0.2**
MSHR Mys Shultsa 63.99 32*c* MSHR comp=Z,834nm,2.5s *i*P **P** **11 21 35.8 +0.9**
BOSA Boshof 64.01 243 comp=Z,283nm,0.8s,baz=95,slow=5.5,SNR=171 P **P** **11 21 35.2 -0.3**
BOSA LR LR 11 43 30.0
BOSA comp=Z,39µm,21.7s,baz=90,slow=30 PKP2bc 11 50 33.9
comp=Z,4.8nm,1.0s,baz=301,slow=6.5,SNR=3.7
BOSA Boshof 64.01 243 *i*P **P** **11 21 36.3 +0.8**
BOSA Boshof 64.01 243 *i*P **P** **11 21 36.3 +0.8**
BOSA Boshof 64.01 243 *i*P **P** **11 21 36.3 +0.8**
BOSA Boshof 64.01 243 P **P** **11 21 34.9 -0.7**
ZAA0 Zalesovo Array 64.03 356 comp=Z,27µm,20.0s IAMs_20 IAMs_20 11 49 31.4
ZALV Zalesovo Beam 64.03 356 comp=Z,366nm,0.9s,baz=188,slow=3.3,SNR=304 P **P** **11 21 34.1 -0.8**
ZALV LR LR 11 49 42.1
ZALV comp=Z,27µm,20.4s,baz=180,slow=36 PKPPKP **P'P'df** **11 50 20.2 -3.6**
comp=Z,1.7nm,0.8s,baz=94,slow=2.2,SNR=5.1
ZALV Zalesovo Beam 64.03 356 P **P** **11 21 34.3 -0.6**
ZALV Zalesovo Beam 64.03 356 P **P** **11 21 34.2 -0.6**
MAJO Matsushiro 64.17 41⇑ MAJO comp=Z,39nm,0.8s *e*P **P** **11 21 35.2 -1.0**
MAJO pmax pmax
MAJO Matsushiro 64.17 41 P **P** **11 21 35.7 -0.6**
MAT Matsushiro 64.17 41 P **P** **11 21 35.0 -1.2**
MAT S **S** **11 30 13.2 +0.9**
MJB9 Matsu-Tunnel 64.17 41 P **P** **11 21 35.7 -0.6**
MJAR Matsushiro Arr 64.17 41 comp=Z,66nm,1.1s,baz=224,slow=5.4,SNR=38 P **P** **11 21 36.3 0.0**
MJAR PKPPKP 11 50 25.9
comp=Z,6.7nm,1.2s,baz=218,slow=0.6,SNR=7.1
MJAR PKP2bc 11 50 30.3
comp=Z,4.9nm,1.1s,baz=345,slow=0.7,SNR=5.9
MJAR PKP2ab 11 50 34.8
comp=Z,10nm,1.2s,baz=170,slow=0.3,SNR=7.6
MJAR LR LR 11 50 41.4
comp=Z,10µm,18.9s,baz=245,slow=37
MJAR Matsushiro Arr 64.17 41 P **P** **11 21 35.1 -1.1**
HIA Hailar 64.28 20 HIA comp=Z,398nm,1.4s P **P** **11 21 36.5 -0.2**
HIA comp=Z,28µm,21.0s pmax pmax
HIA Hailar 64.28 20 P **P** **11 21 36.5 -0.2**
HIA comp=Z,398nm,1.4s IAmb IAmb 11 21 41.6
HIA Hailar 64.28 20 comp=Z,28µm,21.0s IAMs_20 IAMs_20 11 49 11.9
MDJ Mudanjiang 64.67 30 MDJ comp=Z,55nm,1.2s P **P** **11 21 39.5 +0.2**
MDJ PP **PP** **11 24 02.6 +0.7**
MDJ PcS 11 26 14.5
MDJ S **S** **11 30 20.8 +2.7**
MDJ comp=Z,37µm,17.2s pmax pmax
MDJ comp=Z,14µm,19.6s LR LR
MDJ comp=Z,50µm,17.8s LR LR
MDJ Mudanjiang 64.67 30 MDJ comp=Z,359nm,1.2s IAmb IAmb 11 21 46.0
CUKT Cukurca 64.76 319 CIT comp=Z,1µm,2.3s *e*P **P** **11 21 40.1 -0.1**
CIT Chita 64.85 15 CIT *e* *e*P **P** **11 21 40.6 +0.2** 11 22 16.5
CIT pmax pmax
AB31 Akbulak array 65.12 338 ABKAR comp=Z,972nm,1.2s *i*P **P** **11 21 41.8 -0.3**
ABKAR Akbulak array 65.12 338 P **P** **11 21 41.4 -0.8**
ABKAR Akbulak array 65.12 338 ABKAR IAmb IAmb 11 21 47.9 P **P** **11 21 42.3 +0.1**
BRVK Borovoye 65.38 346*c* BRVK comp=Z,42nm,1.0s *i*P **P** **11 21 43.2 -0.5**
BRVK MLR MLR
BRVK Borovoye 65.38 346 comp=Z,32µm,18.0s IAMs_20 IAMs_20 11 49 54.3
comp=Z,33µm,19.0s
USA0B Ussuriysk Arra 65.56 31*c* USA0B comp=Z,19µm,19.0s *i*P **P** **11 21 44.7 -0.4**
USA0B Ussuriysk Arra 65.56 31 P **P** **11 21 45.1 0.0**
USA0B IAMs_20 IAMs_20 11 50 33.5
USRK Ussuriysk Ar. 65.56 31 USRK comp=Z,306nm,0.7s,baz=238,slow=4.6,SNR=100 P **P** **11 21 44.9 -0.2**
USRK PKPPKP 11 50 23.8
comp=Z,1.5nm,0.7s,baz=64,slow=4.4,SNR=7.6
USRK LR LR 11 50 35.1
comp=Z,17µm,20.4s,baz=219,slow=36
SIRT Sirnak 65.66 319 *e*P **P** **11 21 43.7 -2.3**
VANB Van 65.71 321 *e*P **P** **11 21 45.2 -1.1**
CLDR Caldiran 65.71 321 *e*P **P** **11 21 45.5 -1.0**
AKDM Akdamar-Van 65.80 320 *e*P **P** **11 21 46.6 -0.4**
TASB TASBURUN-IGDIR 66.03 322 *e*P **P** **11 21 47.7 -0.6**
MAK Makhachkala 66.07 326*c* MAK *i*P P **P** 11 21 41.0 -7.4
MAK *e*S S 11 30 25.1 -10
MAK *e*SSS SSS 11 37 51.1
MAK comp=Z,351nm,1.0s pmax pmax
MAK comp=Z,11µm,17.0s MLR MLR
LHI Lord Howe Isla 66.08 120 P **P** **11 21 48.3 -0.5**
GURO Guroymak-BITLI 66.53 320 *e*P **P** **11 21 51.2 -0.5**
AGRB Hanur-Agry 66.54 321 *e*P **P** **11 21 51.1 -0.7**
MLAZ Malazgirt-MUS 66.56 321 *e*P **P** **11 21 51.7 -0.1**
AKTO Aktyubinsk 66.81 338 comp=Z,143nm,0.9s,baz=143,slow=5.4,SNR=159 P **P** **11 21 52.5 -0.5**
KZRT Kazreti 66.81 323 P **P** **11 21 53.6 +0.4**
SEAG Tbilisi Sea 66.81 324 P **P** **11 21 56.1 +2.9**
TBLG Delisi 66.83 324 *e*P **P** **11 21 52.2 -1.1**
TBLG Delisi 66.83 324 P **P** **11 21 52.8 -0.5**

TBLG	**Delisi**	**66.83**	**324**	P		**P**		**11 21 52.8**	**-0.5**
EIL	**Elat**	**66.91**	**308**	*e*P		**P**		**11 21 53.3**	**-0.8**
MAZI	**Mazidag**	**66.94**	**318**	*e*P		**P**		**11 21 53.2**	**-1.0**
HRFI	**Mount Harif**	**67.01**	**309**	*e*P		**P**		**11 21 53.9**	**-0.8**
KARS	**Kars**	**67.12**	**322**	*e*P		**P**		**11 21 54.7**	**-0.7**
KARS	**Kars**	**67.12**	**322**	P		**P**		**11 21 56.5**	**+1.1**
GROC	**Groznyy**	**67.17**	**326**	*e*P		**P**		**11 21 54.8**	**-0.6**
GROC				*e*				11 22 23.0	
GROC				*e*				11 24 30.3	
GROC				*e*S		**S**		**11 30 52.9**	**+4.2**
GROC				pmax		pmax			
	comp=Z,372nm,1.1s								
BGD	**Bogdanovka**	**67.20**	**323**	*e*P		**P**		**11 21 53.6**	**-2.4**
BGD	**Bogdanovka**	**67.20**	**323**	P		**P**		**11 21 55.3**	**-0.7**
VRTB	**Varto-Mus**	**67.26**	**320**	*e*P		**P**		**11 21 57.2**	**+0.9**
AKH	**Akhalkalaki**	**67.36**	**323**	*e*P		**P**		**11 21 56.7**	**-0.2**
AKH	**Akhalkalaki**	**67.36**	**323**	P		**P**		**11 21 56.9**	**0.0**
AKH				pmax		pmax			
	comp=Z,295nm,1.5s								
AKH				MLR		MLR			
	comp=Z,8µm,20.0s								
AKH	**Akhalkalaki**	**67.36**	**323**	P		**P**		**11 21 56.9**	**0.0**
AKH				IAmb		IAmb		11 22 30.1	
	comp=Z,295nm,1.5s								
DYBB	**Diyarbakir**	**67.41**	**318**	*e*P		**P**		**11 21 57.2**	**0.0**
SYO	**Syowa Base**	**67.43**	**198**	‖*i*P		**P**		**11 21 55.2**	**-1.4**
SYO	**Syowa Base**	**67.43**	**198**	‖*i*pP		**P**		**11 21 57.4**	**+0.8**
SYO	**Syowa Base**	**67.43**	**198**	‖*i*sP		**P**		**11 21 59.8**	**+3.2**
KOPR	**Koprukoy-ERZUR**	**67.49**	**321**	*e*P		**P**		**11 21 57.1**	**-0.7**
SENK	**Senkaya-Erzuru**	**67.53**	**322**	*e*P		**P**		**11 21 57.3**	**-0.7**
KARO	**Karliova-Bingo**	**67.60**	**320**	*e*P		**P**		**11 21 58.2**	**-0.3**
BNGB	**Bingl**	**67.65**	**320**	*e*P		**P**		**11 21 57.9**	**-0.8**
HNR	**Honiara**	**67.79**	**96**	P		**P**		**11 22 01.3**	**+1.3**
	comp=Z,2µm,0.9s,baz=208,slow=2.4,SNR=36								
HNR	**Honiara**	**67.79**	**96**	P		**P**		**11 21 59.4**	**-0.6**
HNR				pmax		pmax			
	comp=Z,3µm,1.1s								
HNR	**Honiara**	**67.79**	**96**	P		**P**		**11 21 59.4**	**-0.6**
MMLI	**Mount Malkishu**	**67.85**	**311**	*e*P		**P**		**11 21 59.6**	**-0.4**
KZIT	**Kziot**	**67.90**	**309**	*e*P		**P**		**11 21 59.1**	**-1.2**
ZEI	**Tsey**	**67.97**	**324**	*e*P		**P**		**11 21 58.1**	**-2.7**
ZEI				*e*S		**S**		**11 30 58.8**	**0.0**
ZEI				pmax		pmax			
	comp=Z,96nm,0.9s								
ZEI				pmax		pmax			
	comp=Z,1µm,6.2s								
SUR	**Sutherland**	**67.99**	**239**	P		**P**		**11 22 01.9**	**+0.7**
SUR				P		**P**		**11 22 01.9**	**+0.7**
SUR				P		**P**		**11 22 01.9**	**+0.7**
SUR	**Sutherland**	**67.99**	**239**	P		**P**		**11 22 01.4**	**+0.3**
SUR	**Sutherland**	**67.99**	**239**	IAMs_20		IAMs_20		11 46 33.1	
	comp=Z,33µm,18.0s								
YEDI	**Yedisu-Bingol**	**67.99**	**320**	*e*P		**P**		**11 22 00.3**	**-0.6**
SHBL	**Chebaa**	**68.05**	**312**	*e*P		**P**		**11 22 02.0**	**+0.6**
ONI	**Oni**	**68.11**	**324**	*e*P		**P**		**11 22 00.6**	**-0.9**
ONI	**Oni**	**68.11**	**324**	P		**P**		**11 22 01.4**	**-0.1**
SVRC	**Sivrice-ELAZID**	**68.19**	**318**	*e*P		**P**		**11 22 01.9**	**-0.3**
HWQ	**Hawqa**	**68.36**	**313**	*e*P		**P**		**11 21 59.2**	**-4.0**
BHL	**Bhannes**	**68.39**	**313**	*e*P		**P**		**11 22 03.8**	**+0.4**
PTK	**Pertek**	**68.42**	**319**	*e*P		**P**		**11 22 02.5**	**-1.2**
BCA	**Borcka**	**68.50**	**322**	⇑P		**P**		**11 22 03.7**	**-0.2**
BCA	**Borcka**	**68.50**	**322**	*e*P		**P**		**11 22 02.9**	**-1.0**
TEY	**Ternei**	**68.55**	**33**	‖*e*P		**P**		**11 22 03.8**	**-0.2**
TEY				*e*				11 22 07.6	
TEY				*e*				11 31 05.5	
TEY				pmax		pmax			
	comp=N,30nm,1.2s								
TEY				pmax		pmax			
	comp=Z,80nm,1.1s								
TEY				pmax		pmax			
	comp=E,20nm,0.8s								
BATM	**Batumi**	**68.55**	**322**	⇑P		**P**		**11 22 04.9**	**+0.8**
BATM	**Batumi**	**68.55**	**322**	*e*P		**P**		**11 22 03.1**	**-1.1**
BATM	**Batumi**	**68.55**	**322**	P		**P**		**11 22 04.9**	**+0.8**
ERZN	**Erzincan**	**68.60**	**320**	*e*P		**P**		**11 22 04.8**	**+0.1**
MALT	**Malatya**	**68.74**	**318**	*e*P		**P**		**11 22 05.5**	**0.0**
MALT	**Malatya**	**68.74**	**318**	P		**P**		**11 22 05.5**	**0.0**
CHOM	**Cayeli-Rize**	**68.82**	**321**	*e*P		**P**		**11 22 05.1**	**-0.8**
GAZ	**Gaziantep**	**68.94**	**316**	*e*P		**P**		**11 22 06.6**	**-0.2**
GAZ	**Gaziantep**	**68.94**	**316**	P		**P**		**11 22 06.6**	**-0.2**
GAZ				IAmb		IAmb		11 22 17.1	
	comp=Z,199nm,1.0s								
GAZ				IAMs_20		IAMs_20		11 53 24.3	
	comp=Z,20µm,19.0s								
MCQ	**Macquarie Isla**	**69.05**	**145**	P		**P**		**11 22 07.7**	**+0.6**
MCQ				pmax		pmax			
	comp=Z,2µm,2.0s								
MCQ	**Macquarie Isla**	**69.05**	**145**	P		**P**		**11 22 07.7**	**+0.6**
PATS	**Pohnpei**	**69.08**	**79**	P		**P**		**11 22 08.6**	**+0.6**
	baz=69,SNR=5.1								
PATS	**Pohnpei**	**69.08**	**79**	P		**P**		**11 22 06.6**	**-1.4**
KBZ	**Khabaz**	**69.14**	**325**	P		**P**		**11 22 07.2**	**-0.5**
	comp=Z,137nm,0.8s,baz=127,slow=4.7,SNR=105								
KBZ				PKPPKP		**P'P'df**		**11 50 21.4**	**+4.4**
	comp=Z,5.7nm,0.9s,baz=270,slow=4.8,SNR=11								
KBZ				LR		LR		11 53 39.0	
	comp=Z,2µm,20.1s,baz=120,slow=37								
KBZ	**Khabaz**	**69.14**	**325**	*c i*P		**P**		**11 22 07.0**	**-0.7**
ARPR	**Arapgir-MALATY**	**69.22**	**319**	*e*P		**P**		**11 22 08.3**	**-0.3**
TAHT	**Tahtakopru-Hat**	**69.24**	**315**	*e*P		**P**		**11 22 08.3**	**-0.3**
ILIC	**ilic-Erzincan**	**69.27**	**319**	*e*P		**P**		**11 22 07.1**	**-1.7**
KMRS	**Kahramanmaras**	**69.33**	**316**	*e*P		**P**		**11 22 08.4**	**-0.8**
KTUT	**Trabzon**	**69.37**	**321**	‖P		**P**		**11 22 10.0**	**+0.8**
KTUT	**Trabzon**	**69.37**	**321**	*e*P		**P**		**11 22 08.4**	**-0.8**
KIV	**Kislovodsk**	**69.39**	**325**	*i* P		**P**		**11 22 08.1**	**-1.4**
	SNR=66								
KIV	**Kislovodsk**	**69.39**	**325**	*i* P		**P**		**11 22 08.1**	**-1.4**
	SNR=66								
KIV	**Kislovodsk**	**69.39**	**325**	*e*P		**P**		**11 22 08.2**	**-1.4**
KIV	**Kislovodsk**	**69.39**	**325**	*c i*P		**P**		**11 22 08.6**	**-0.9**
KIV				*i*				11 22 32.7	
KIV				*e*				11 24 44.3	
KIV				*e*PPP		PPP		11 26 21.5	
KIV				*i* S		**S**		**11 31 14.1**	**-1.3**
KIV				pmax		pmax			
	comp=Z,301nm,1.0s								
KIV				MLR		MLR			
	comp=Z,7µm,17.0s								
KIV	**Kislovodsk**	**69.39**	**325**	P		**P**		**11 22 08.6**	**-0.9**
YURE	**YUREGIR**	**69.85**	**315**	*e*P		**P**		**11 22 13.2**	**+0.8**
CEYT	**Ceyhan**	**69.86**	**316**	*e*P		**P**		**11 22 12.3**	**-0.1**
GOF	**Gofitskoye**	**69.88**	**326**	⇑*i*P		**P**		**11 22 11.9**	**-0.4**
GOF				*e*S		**S**		**11 31 17.3**	**-3.5**
GOF				pmax		pmax			
	comp=Z,332nm,0.9s								
GOF				smax		smax			
	comp=N,106nm,1.5s								
KRTS	**Karatas**	**69.90**	**315**	*e*P		**P**		**11 22 13.3**	**+0.7**
ESPY	**Espiye-Giresun**	**69.98**	**320**	*e*P		**P**		**11 22 11.8**	**-1.2**
KOZT	**Kozan**	**70.05**	**316**	*e*P		**P**		**11 22 13.1**	**-0.5**
SARI	**SarD1z-Kayseri**	**70.12**	**317**	*e*P		**P**		**11 22 13.9**	**-0.3**
EREN	**Erenkoy**	**70.24**	**313**	*e*P		**P**		**11 22 13.6**	**-1.1**
BOD	**Bodaibo**	**70.26**	**13**	*e*P		**P**		**11 22 14.0**	**-0.3**
BOD				pmax		pmax			
	comp=Z,512nm,1.8s								
ERM	**Erimo**	**70.47**	**39**	⇑*e*P		**P**		**11 22 18.5**	**+2.5**
ERM				pmax		pmax			
	comp=Z,240nm,1.1s								
ERM				MLR		MLR			
	comp=Z,9µm,17.0s								
ERM	**Erimo**	**70.47**	**39**	P		**P**		**11 22 15.1**	**-1.0**
ERM				IAmb		IAmb		11 22 36.7	
	comp=Z,506nm,1.5s								
SVSK	**Karacayir**	**70.54**	**319**	*e*P		**P**		**11 22 16.1**	**-0.3**
CSS	**Mathiatis**	**70.58**	**313**	*e*P		**P**		**11 22 16.0**	**-0.9**
CSS	**Mathiatis**	**70.58**	**313**	P		**P**		**11 22 15.9**	**-1.0**
CSS				IAmb		IAmb		11 22 36.8	
	comp=Z,268nm,1.2s								
CSS				IAMs_20		IAMs_20		11 51 37.6	
	comp=Z,20µm,21.0s								
LFK	**Lefkose**	**70.58**	**313**	*e*P		**P**		**11 22 16.0**	**-0.9**
RSDY	**Resadiye-TOKAT**	**70.58**	**319**	*e*P		**P**		**11 22 16.5**	**-0.3**
ZEA	**Zeya**	**70.63**	**22**	*e*P		**P**		**11 22 14.8**	**-1.9**
ZEA				*e*				11 22 16.2	
ZEA				*e*PPP		PPP		11 26 39.0	
ZEA				*e*S		**S**		**11 31 28.0**	**-1.3**
ZEA				smax		smax			
	comp=Z,3µm,14.0s								
ZEA				smax		smax			
	comp=N,6µm,11.0s								
ZEA				MLR		MLR			
	comp=N,28µm,16.0s								
ZEA				MLR		MLR			
	comp=Z,36µm,16.0s								
ZEA				MLR		MLR			
	comp=E,13µm,14.0s								
MERS	**Mersin**	**70.64**	**315**	*e*P		**P**		**11 22 16.5**	**-0.8**
CMRD	**Camardi-Nigde**	**70.71**	**316**	*e*P		**P**		**11 22 17.1**	**-0.7**
KIZK	**Mersin**	**70.72**	**314**	*e*P		**P**		**11 22 16.4**	**-1.3**
BNN	**Bunyan**	**70.74**	**317**	*e*P		**P**		**11 22 16.9**	**-1.0**
SILI	**Silifke-Mersin**	**70.82**	**314**	*e*P		**P**		**11 22 17.4**	**-0.9**
SOC	**Sochi**	**70.89**	**323**	*e*P		**P**		**11 22 16.3**	**-2.2**
SOC				*e*				11 24 49.9	
SOC				*e*PPP		PPP		11 26 36.0	
SOC				*i* S		**S**		**11 31 29.7**	**-3.0**
SOC				*e*				11 32 18.7	
SOC				*e*SS		**SS**		**11 35 59.0**	**-6.9**
SOC				pmax		pmax			
	comp=Z,217nm,1.0s								
SOC				MLR		MLR			
	comp=Z,8µm,17.0s								
IKL	**Isikli**	**70.93**	**314**	*e*P		**P**		**11 22 17.9**	**-1.0**
LEF	**Lefka**	**70.97**	**313**	*e*P		**P**		**11 22 18.3**	**-0.9**
AKKU	**Akkuyu-Mersin**	**70.98**	**314**	*e*P		**P**		**11 22 18.2**	**-1.1**
KEBE	**Keben-Mersin**	**71.01**	**314**	*e*P		**P**		**11 22 18.7**	**-0.8**
TOKT	**Tokat**	**71.05**	**319**	*e*P		**P**		**11 22 18.8**	**-0.8**
TEVE	**Tevekalti-Mers**	**71.19**	**314**	*e*P		**P**		**11 22 19.9**	**-0.7**
TSUM	**Tsumeb**	**71.21**	**253**	*i* P		**P**		**11 22 20.6**	**-0.6**
TSUM	**Tsumeb**	**71.21**	**253**	*i* P		**P**		**11 22 20.6**	**-0.6**
TSUM	**Tsumeb**	**71.21**	**253**	*i* P		**P**		**11 22 20.6**	**-0.6**
TSUM	**Tsumeb**	**71.21**	**253**	P		**P**		**11 22 20.5**	**-0.6**
TSUM	**Tsumeb**	**71.21**	**253**	IAMs_20		IAMs_20		11 49 29.6	
	comp=Z,30µm,19.0s								
SVE	**Sverdlovsk**	**71.27**	**343**	*de*P		**P**		**11 22 20.2**	**-0.3**
SVE				*e*S		**S**		**11 31 35.7**	**-0.8**
SVE				pmax		pmax			
	comp=Z,472nm,1.1s								
TEKE	**Tekeli-Mersin**	**71.29**	**314**	*e*P		**P**		**11 22 20.1**	**-1.0**
BERE	**Bereket-Mersin**	**71.31**	**314**	*e*P		**P**		**11 22 20.5**	**-0.9**
ASAJ	**Asahikawa**	**71.34**	**37**	P		**P**		**11 22 21.2**	**-0.1**
	comp=Z,141nm,0.9s,baz=253,slow=8.1,SNR=24								
JKA	**Kamikawa-asahi**	**71.34**	**37**	P		**P**		**11 22 20.9**	**-0.3**
YOZ	**Yozgat**	**71.49**	**318**	*e*P		**P**		**11 22 22.3**	**-0.2**
ARU	**Arti**	**71.55**	**342**	P		**P**		**11 22 21.3**	**-1.0**
	comp=Z,72nm,0.9s,baz=151,slow=4.5,SNR=73								
ARU	**Arti**	**71.55**	**342**	*c i*P		**P**		**11 22 21.5**	**-0.8**
ARU								11 24 55.4	
ARU				PPP		PPP		11 26 46.3	
ARU				S		**S**		**11 31 41.8**	**+2.0**
ARU				SSS		SSS		11 39 30.0	
ARU				pmax		pmax			
	comp=Z,334nm,1.8s								
ARU				MLR		MLR			
	comp=Z,18µm,18.0s								
ARU	**Arti**	**71.55**	**342**	P		**P**		**11 22 21.2**	**-1.0**
ARU				IAmb		IAmb		11 22 27.1	
	comp=Z,189nm,0.8s								
ARU				IAMs_20		IAMs_20		11 53 50.1	
	comp=Z,18µm,18.0s								
KVT	**Kavak**	**71.77**	**319**	*e*P		**P**		**11 22 23.0**	**-1.0**
KVT	**Kavak**	**71.77**	**319**	P		**P**		**11 22 23.9**	**-0.1**
GAZI	**Gazipasa**	**71.90**	**313**	*e*P		**P**		**11 22 23.4**	**-1.4**
SULT	**Sultanhani-AKS**	**71.99**	**316**	*e*P		**P**		**11 22 25.1**	**-0.3**
YAYX	**Yaylak**	**72.15**	**316**	*e*P		**P**		**11 22 25.5**	**-0.9**
CORM	**Corum**	**72.22**	**318**	*e*P		**P**		**11 22 25.5**	**-1.3**
GRNR	**Gornyy**	**72.28**	**28**	⇑*i*P		**P**		**11 22 27.1**	**+0.3**
GRNR				*e*S		**S**		**11 31 54.1**	**+5.6**
GRNR				pmax		pmax			
	comp=N,60nm,1.2s								
GRNR				pmax		pmax			
	comp=E,40nm,1.2s								
GRNR				pmax		pmax			
	comp=Z,200nm,1.0s								
GRNR				smax		smax			
	comp=N,6.0nm,1.2s								
GRNR				MLR		MLR			
	comp=E,14µm,16.0s								
SERE	**Sereflikochisa**	**72.32**	**316**	*e*P		**P**		**11 22 26.4**	**-1.0**
DIKM	**Dikmen**	**72.57**	**319**	⇑P		**P**		**11 22 29.3**	**+0.6**
CHBY	**Cihanbeyli**	**72.61**	**316**	*e*P		**P**		**11 22 27.9**	**-1.2**
BRTR	**Keskin Array B**	**72.66**	**317**	P		**P**		**11 22 27.8**	**-1.7**
	comp=E,50nm,0.9s,baz=132,slow=5.2,SNR=124								
BRTR				PKPPKP				11 50 12.4	
	comp=E,0.4nm,0.4s,baz=222,slow=1.7,SNR=5.5								
BRTR				LR		LR		11 53 30.7	
	comp=E,5µm,20.8s,baz=90,slow=35								
BRTR	**Keskin Array B**	**72.66**	**317**	*e*P		**P**		**11 22 27.7**	**-1.7**
BRTR	**Keskin Array B**	**72.66**	**317**	P		**P**		**11 22 27.7**	**-1.8**
BR131	**Keskin Array S**	**72.66**	**317**	P		**P**		**11 22 28.1**	**-1.3**
	SNR=96								
BR131				P		**P**		**11 22 28.1**	**-1.3**
	SNR=96								
BR131	**Keskin Array S**	**72.66**	**317**	*c i*P		**P**		**11 22 27.6**	**-1.8**
BR131	**Keskin Array S**	**72.66**	**317**	P		**P**		**11 22 27.9**	**-1.5**
KONT	**Konya--Tatoy**	**72.67**	**315**	*e*P		**P**		**11 22 29.2**	**-0.2**
KULU	**Kulu**	**72.75**	**316**	*e*P		**P**		**11 22 28.8**	**-1.2**
SEYD	**Seydisehir-KON**	**72.78**	**314**	*e*P		**P**		**11 22 29.4**	**-0.8**
LADK	**Ladik-KONYA**	**72.79**	**315**	*e*P		**P**		**11 22 29.1**	**-1.1**
SNOP	**Sinop**	**72.80**	**320**	*e*P		**P**		**11 22 28.5**	**-1.5**
DZM	**Mont Dzumac**	**72.82**	**110**	P		**P**		**11 22 31.8**	**+1.0**
	comp=E,79nm,1.1s,baz=277,slow=5.8,SNR=15								
DZM	**Mont Dzumac**	**72.82**	**110**	*e*P		**P**		**11 22 31.0**	**+0.2**
	comp=E,391nm,1.6s								
DZM	**Mont Dzumac**	**72.82**	**110**	*e*PP		PP		11 25 10.7	-2.3
	comp=E,2µm,24.6s								
DZM				*e*S		**S**		**11 31 54.3**	**-1.8**
	comp=E,44µm,29.6s								
DZM				*e*SS		**SS**		**11 36 36.5**	**+0.2**
	comp=E,16µm,27.7s								
DZM				*e*LQ		LQ		11 41 39.0	
	comp=E,37µm,27.8s								
DZM				*e*LR		LR		11 44 42.9	
	comp=E,25µm,35.5s								
DZM	**Mont Dzumac**	**72.82**	**110**	P		**P**		**11 22 30.6**	**-0.2**
DZM				IAmb		IAmb		11 22 38.4	
	comp=Z,402nm,1.7s								
PYZ	**Puysegur Point**	**72.83**	**135**	P		**P**		**11 22 30.8**	**+0.5**
AFSR	**Afar-Bala (An**	**72.90**	**317**	*e*P		**P**		**11 22 29.6**	**-1.3**
ANN	**Anapa**	**72.94**	**323**	*e*P		**P**		**11 22 28.3**	**-2.5**
ANN				*i* PPP		PPP		11 26 52.0	
ANN				*e*S		**S**		**11 31 51.5**	**-4.6**
ANN				*e*				11 32 33.3	
ANN				*e*SS		**SS**		**11 36 35.2**	**-2.0**
ANN				pmax		pmax			
	comp=Z,382nm,1.7s								
ANN				MLR		MLR			
	comp=Z,6µm,14.0s								
YSS	**Yuzh-Sakhalins**	**73.09**	**34**	*α i*P		**P**		**11 22 32.1**	**+0.5**
YSS				*e**SP		**pP**		**11 22 35.4**	**-2.0**
YSS				*e*				11 22 36.4	
YSS				*e*				11 25 19.6	
YSS				*e*PPP		PPP		11 27 01.6	
YSS				*e*S		**S**		**11 31 55.8**	**-2.0**
YSS				*e*PPS		PPS		11 32 35.4	
YSS				*e*SS		**SS**		**11 36 39.9**	**+0.4**
YSS				pmax		pmax			
	comp=Z,1µm,2.6s								
YSS				smax		smax			
	comp=N,7µm,10.3s								
YSS				smax		smax			
	comp=E,6µm,15.7s								
YSS	**Yuzh-Sakhalins**	**73.09**	**34**	P		**P**		**11 22 31.0**	**-0.7**
CANT	**Cankiri**	**73.11**	**318**	*e*P		**P**		**11 22 30.7**	**-1.3**
YUK	**Yuzh-Kuril'sk**	**73.24**	**38**	*c i*P		P		11 22 26.0	-6.6
YUK				*i* S		**S**		**11 31 52.9**	**-6.7**
YUK				*e*				11 32 27.4	
YUK				*e*SSS		SSS		11 39 58.2	
YUK				pmax		pmax			
	comp=Z,3µm,1.8s								
YUK				pmax		pmax			
	comp=Z,2µm,1.4s								
YUK				pmax		pmax			
	comp=N,631nm,1.1s								
YUK				pmax		pmax			
	comp=E,595nm,1.2s								
YUK				MLR		MLR			
	comp=E,6µm,17.0s								
YUK				MLR		MLR			
	comp=Z,5µm,17.0s								
YUK				MLR		MLR			
	comp=N,3µm,16.0s								
ILGA	**Ilgaz**	**73.27**	**318**	P		**P**		**11 22 31.9**	**-1.2**
ILGA				IAmb		IAmb		11 22 38.9	
	comp=Z,243nm,1.1s								
ANTO	**Ankara**	**73.30**	**317**	⇑P		**P**		**11 22 32.2**	**-1.0**
ANTO	**Ankara**	**73.30**	**317**	*e*P		**P**		**11 22 31.9**	**-1.2**
ANTO	**Ankara**	**73.30**	**317**	P		**P**		**11 22 32.1**	**-1.0**
ANTO				pmax		pmax			
	comp=Z,205nm,1.1s								
ANTO	**Ankara**	**73.30**	**317**	P		**P**		**11 22 32.1**	**-1.0**
ANTO				IAmb		IAmb		11 23 03.1	
	comp=Z,206nm,1.1s								
LOD	**Lodumlu**	**73.32**	**317**	*e*P		**P**		**11 22 32.0**	**-1.3**
ANTB	**Antalya**	**73.39**	**313**	*e*P		**P**		**11 22 32.3**	**-1.4**
KIZT	**Kizilcal**	**73.44**	**316**	*e*P		**P**		**11 22 32.2**	**-1.9**
BZK	**Bozkurt**	**73.54**	**319**	‖P		**P**		**11 22 34.8**	**+0.4**
KORT	**Korkueli**	**73.66**	**313**	*e*P		**P**		**11 22 35.5**	**+0.1**
BCK	**Bucak**	**73.69**	**314**	*e*P		**P**		**11 22 33.7**	**-1.8**
WHZ	**Wether Hill Ro**	**73.70**	**135**	P		**P**		**11 22 35.5**	**0.0**
WHZ				IAmb		IAmb		11 22 42.5	
	comp=Z,966nm,1.9s								
MLZ	**Mavora Lakes**	**73.80**	**134**	P		**P**		**11 22 36.4**	**+0.4**
MLZ				IAmb		IAmb		11 22 43.0	
	comp=Z,341nm,1.4s								
AKAS	**Kas**	**73.86**	**312**	*e*P		**P**		**11 22 34.5**	**-2.1**
ELL	**Elmali**	**73.86**	**313**	*e*P		**P**		**11 22 35.5**	**-1.1**
ISP	**Isparta**	**73.90**	**314**	*e*P		**P**		**11 22 34.7**	**-2.1**
ISP	**Isparta**	**73.90**	**314**	P		**P**		**11 22 35.4**	**-1.4**
ISP				pmax		pmax			
	comp=Z,101nm,0.9s								
ISP				MLR		MLR			
	comp=Z,12µm,21.0s								
ISP	**Isparta**	**73.90**	**314**	P		**P**		**11 22 35.4**	**-1.4**
AUSIV	**SIVRIHISAR**	**73.94**	**316**	*e*P		**P**		**11 22 35.6**	**-1.4**
SVRH	**Sivrihisar-ESK**	**73.95**	**316**	*e*P		**P**		**11 22 35.7**	**-1.4**
AUMIH	**MIHALICIK**	**74.18**	**316**	*e*P		**P**		**11 22 36.0**	**-2.4**
SHUT	**Suhut-Afyon**	**74.21**	**315**	*e*P		**P**		**11 22 37.5**	**-1.1**
CIFT	**Cifteler, Eski**	**74.23**	**316**	*e*P		**P**		**11 22 37.2**	**-1.4**
YUVA	**Yuva-Kibriscik**	**74.29**	**317**	*e*P		**P**		**11 22 37.5**	**-1.5**
KURC	**Kurucasile-Bar**	**74.29**	**319**	*e*P		**P**		**11 22 37.6**	**-1.2**
FETY	**Fethiye**	**74.41**	**313**	*e*P		**P**		**11 22 38.1**	**-1.6**
WKZ	**Wanaka**	**74.42**	**134**	P		**P**		**11 22 39.4**	**-0.3**
WKZ				IAmb		IAmb		11 23 16.7	
	comp=Z,747nm,1.8s								
VRH	**Novokhopyorsk**	**74.44**	**330**	*e*P		**P**		**11 22 37.6**	**-1.9**
VRH				*e*				11 22 39.6	
VRH				*e*				11 25 27.3	
VRH				*e*S		**SKiKP**		**11 32 05.7**	**+0.9**
VRH				*e*SS		**SS**		**11 36 59.9**	**0.0**
VRH				pmax		pmax			
	comp=Z,280nm,1.0s								
VRH				pmax		pmax			
	comp=Z,440nm,1.5s								
VRH				smax		smax			
	comp=N,4µm,9.4s								
VRH				MLR		MLR			
	comp=Z,12µm,16.0s								
MDUB	**Mudurnu**	**74.66**	**317**	*e*P		**P**		**11 22 39.2**	**-1.9**
DALY	**Dalyan (Mula)**	**74.80**	**313**	*e*P		**P**		**11 22 40.7**	**-1.2**
SRCK	**Saricakaya, Es**	**74.84**	**316**	*e*P		**P**		**11 22 40.7**	**-1.4**
TURN	**Turunc**	**74.86**	**313**	*e*P		**P**		**11 22 42.7**	**+0.5**
BORA	**Eskisehir**	**74.89**	**316**	*e*P		**P**		**11 22 40.9**	**-1.6**
ARG	**Arkhangelos**	**74.93**	**312**	*e*P		**P**		**11 22 41.7**	**-1.0**
FOZ	**Fox Glacier**	**74.98**	**132**	IAmb		IAmb		11 22 49.1	
	comp=Z,460nm,1.9s								
FOZ				IAMs_20		IAMs_20		11 54 49.5	
	comp=Z,15µm,18.0s								
SIM	**Simferopol'**	**75.00**	**322**	*e*P		**P**		**11 22 40.4**	**-2.5**
SIM				*e*S		**S**		**11 32 15.0**	**-4.4**
KUR	**Kuril'sk**	**75.09**	**38**	*c i*P		**P**		**11 22 44.1**	**+0.7**
KUR				*e*				11 22 52.3	
KUR				*e*S		**S**		**11 32 25.1**	**+4.7**
KUR				*e*SS		**SS**		**11 37 09.1**	**-0.9**
KUR				*e*SSS		SSS		11 40 31.5	
KUR				pmax		pmax			
	comp=Z,2µm,1.3s		

GCAM	G?zelcaml?	76.20	313	eP		P	11 22 49.3	-0.6
ARMT	Armutlu	76.28	316	eP		P	11 22 48.3	-2.1
KIRV	Kirov	76.29	339	P		P	11 22 49.0	-1.0
	comp=Z,155nm,1.0s,baz=83,slow=1.6,SNR=61							
KIRV	Kirov	76.29	339	eP		P	11 22 49.3	-0.6
KAVV	Kandilli-Istan	76.37	317	eP		P	11 22 49.1	-1.7
ISK	Istanbul-Kandi	76.37	317	eP		P	11 22 49.2	-1.6
KLYT	Kilyos	76.47	317	eP		P	11 22 49.6	-1.7
KCTX	Karacabey (Bur	76.50	316	eP		P	11 22 50.1	-1.5
BALB	Balikesir	76.56	315	eP		P	11 22 50.4	-1.5
OXZ	Oxford	76.60	132	IAmb		IAmb	11 22 59.8	
	comp=Z,351nm,1.3s							
BGKT	Bogazkoy	76.62	317	eP		P	11 22 50.7	-1.5
LPSR	Galich'ya Gora	76.67	330	eP		P	11 22 50.5	-1.7
LPSR				e			11 22 51.3	
LPSR				e			11 25 44.4	
LPSR				eS		S	11 32 30.3	-7.2
LPSR				eSS		SS	11 37 29.4	-4.2
LPSR				pmax		pmax		
	comp=Z,140nm,0.9s							
LPSR				pmax		pmax		
	comp=Z,590nm,2.6s							
LPSR				smax		smax		
	comp=N,3μm,10.3s							
LPSR				MLR		MLR		
	comp=Z,8μm,17.0s							
LTZ	Lake Taylor	76.79	132	IAmb		IAmb	11 22 59.4	
	comp=Z,235nm,1.3s							
CTKS	Kestanelik-??a	76.82	317	eP		P	11 22 51.3	-2.0
HRKL	Herakleio	76.82	310	eP		P	11 22 53.2	-0.3
EDC	Edincik	76.87	316	eP		P	11 22 52.2	-1.5
URLA	Izmir	76.93	313	eP		P	11 22 53.6	-0.5
NVL	N'lazarevskaya	76.95	200	eP		P	11 22 52.6	-1.0
NVL				eS		S	11 32 40.4	+0.2
NVL				pmax		pmax		
	comp=Z,425nm,1.4s							
NVL				MLR		MLR		
	comp=Z,11μm,14.0s							
SANT	Santorini	76.96	311	⇑P		P	11 22 53.8	-0.6
SANT	Santorini	76.96	311	eP		P	11 22 53.0	-1.3
SANT	Santorini	76.96	311	P		P	11 22 52.9	-1.5
SANT				IAmb		IAmb	11 22 59.9	
	comp=Z,453nm,1.2s							
IDI	Anoyia	76.97	310	⇑P		P	11 22 53.7	-0.7
IDI	Anoyia	76.97	310	eP		P	11 22 53.6	-0.8
IDI	Anoyia	76.97	310	P		P	11 22 53.5	-1.0
IDI				IAmb		IAmb	11 22 56.1	
	comp=Z,269nm,1.0s							
DKL	Dikili	77.00	314	eP		P	11 22 53.6	-0.8
SLVT	Silivri	77.02	316	eP		P	11 22 53.3	-1.2
QRZ	Quartz Range	77.05	130	P		P	11 22 54.3	-0.4
QRZ				IAmb		IAmb	11 23 01.2	
	comp=Z,284nm,1.4s							
QRZ				IAMs_20		IAMs_20	11 56 59.1	
	comp=Z,13μm,19.0s							
CTYL	Yalikoy Yolu	77.07	317	eP		P	11 22 53.2	-1.5
MRMT	Marmara Adasi	77.17	316	eP		P	11 22 52.8	-2.6
APE	Apeiranthos	77.19	312	⇑P		P	11 22 54.3	-1.2
APE	Apeiranthos	77.19	312	eP		P	11 22 54.4	-1.2
APE	Apeiranthos	77.19	312	c iP		P	11 22 54.0	-1.6
APE				pmax		pmax		
	comp=Z,144nm,1.0s							
APE				MLR		MLR		
	comp=Z,4μm,18.0s							
KRBG	Karabiga-Canak	77.28	315	eP		P	11 22 54.3	-1.7
CHOS	Chios island	77.33	313	eP		P	11 22 55.8	-0.6
GVD	Gavdhos	77.41	309	eP		P	11 22 55.9	-0.9
RKY	Sarkoy-Tekirda	77.49	316	eP		P	11 22 55.3	-1.9
LPK	Lapseki	77.65	315	eP		P	11 22 56.9	-1.1
PHSR	Pinarhisar	77.66	317	eP		P	11 22 56.8	-1.2
EZN	Ezine	77.72	315	eP		P	11 22 57.5	-0.9
IMMV	Iera Moni Meta	77.73	310	eP		P	11 22 58.3	-0.3
KHZ	Kahutara	77.74	131	IAmb		IAmb	11 23 04.6	
	comp=Z,472nm,1.6s							
SIGR	SIGRI	77.81	314	eP		P	11 22 57.9	-1.0
GELI	Tayfur-Gelibol	77.86	315	eP		P	11 22 57.8	-1.4
KNDR	Palaiochora Ch	77.87	309	eP		P	11 22 58.6	-0.7
BOZC	Bozcaada	77.92	314	eP		P	11 22 58.5	-1.1
RODP	Rodopos	77.93	310	eP		P	11 22 59.9	+0.2
ERIK	Erikli-Kesan	77.94	315	eP		P	11 22 58.6	-1.0
YAK	Yakutsk	77.95	18	P		P	11 22 58.2	-1.0
	comp=Z,306nm,0.9s,baz=1.6,slow=1.3,SNR=44							
YAK	Yakutsk	77.95	18	eP		P	11 22 58.2	-1.0
YAK				e			11 23 09.1	
YAK				e			11 26 00.8	
YAK				eS		S	11 32 44.2	-6.8
YAK				e*SS		ScS	11 33 31.9	+15
YAK				pmax		pmax		
	comp=Z,433nm,0.9s							
YAK				pmax		pmax		
	comp=N,182nm,1.0s							
YAK				pmax		pmax		
	comp=E,236nm,1.4s							
YAK				pmax		pmax		
	comp=Z,245nm,2.0s							
YAK				pmax		pmax		
	comp=N,176nm,1.7s							
YAK				pmax		pmax		
	comp=E,100nm,1.6s							
YAK				smax		smax		
	comp=N,641nm,2.7s							
YAK				smax		smax		
	comp=E,957nm,3.8s							
YAK				MLR		MLR		
	comp=Z,45μm,17.0s							
YAK				MLR		MLR		
	comp=N,26μm,18.0s							
YAK				MLR		MLR		
	comp=E,20μm,15.0s							
YAK	Yakutsk	77.95	18	P		P	11 22 57.9	-1.3
GADA	Gvkgeada	78.17	315	eP		P	11 22 59.6	-1.3
OUZ	Omahuta	78.19	124	IAMs_20		IAMs_20	11 53 08.8	
	comp=Z,21μm,19.0s							
ENEZ	Enez	78.22	315	eP		P	11 23 00.2	-1.0
EDRB	Edirne	78.28	317	eP		P	11 23 00.6	-0.9
TIRR	Tirgusor	78.32	320	IAmb		IAmb	11 23 06.6	
	comp=Z,278nm,1.1s							
TIRR				IAMs_20		IAMs_20	11 56 48.2	
	comp=Z,16μm,22.0s							
ALN	Alexandroupoli	78.36	315	eP		P	11 23 00.6	-1.3
TLCR		78.39	320	⇑P		P	11 23 01.5	-0.5
PRD	Provadia	78.42	318	i P		P	11 23 00.7	-1.5
KWAJ	Kwajalein Atol	78.50	79	P		P	11 23 02.5	-0.8
KWAJ				pmax		pmax		
	comp=Z,2μm,1.9s							
KWAJ	Kwajalein Atol	78.50	79	P		P	11 23 02.5	-0.8
ICOR	Ion Corvin	78.56	319	⇑P		P	11 23 03.7	+0.7
TLBR	Topalu	78.59	319	⇑P		P	11 23 02.6	-0.5
JMB	Yambol	78.65	317	i P		P	11 23 02.8	-0.7
SNZO	South Karori	78.67	130	P		P	11 23 02.9	-0.8
SNZO				IAmb		IAmb	11 23 10.0	
	comp=Z,290nm,1.4s							
KTHA	Kythira Island	78.71	310	eP		P	11 23 02.8	-1.2
HARR	Harsova	78.73	320	⇑P		P	11 23 03.6	-0.4
HARR	Harsova	78.73	320	P		P	11 23 03.5	-0.4
BHW	Baring Head	78.78	130	P		P	11 23 04.2	-0.2
RDO	Rodhopi	78.81	316	eP		P	11 23 02.9	-1.5
CFR	Carcaliu	78.82	320	⇑P		P	11 23 03.2	-1.1
HIZ	Hauiti	78.97	127	IAMs_20		IAMs_20	11 58 44.1	
	comp=Z,13μm,18.0s							
KDZ	Kurdzhali	79.10	316	eP		P	11 23 04.6	-1.4
MOS	Moscow	79.16	332	eP		P	11 23 04.2	-1.8
MOS				e			11 23 13.1	
MOS				e			11 26 01.2	
MOS				eS		S	11 32 57.5	-6.7
MOS				eSS		SS	11 38 06.1	-4.9
MOS				pmax		pmax		
	comp=Z,527nm,1.1s							
MOS				MLR		MLR		
	comp=Z,10μm,19.0s							
DIM	Dimitrovgrad	79.18	316	i P		P	11 23 05.5	-1.0
MILM	Milestii Mici	79.19	322	⇑P		P	11 23 05.8	-0.6
KIS	Kishinev	79.23	322	ePcP		PcP	11 23 30.0	+15
KIS	Kishinev	79.23	322	c iP		P	11 23 04.7	-1.9
KIS				i S		S	11 32 57.8	-7.5
KIS				e			11 33 47.5	
KIS				pmax		pmax		
	comp=Z,2μm,7.8s							
KIS				smax		smax		
	comp=N,3μm,12.2s							
OBN	Obninsk	79.28	332	P		P	11 23 05.6	-1.0
	comp=N,47nm,0.9s,baz=66,slow=0.4,SNR=57							
OBN	Obninsk	79.28	332	⇑P		P	11 23 06.3	-0.3
OBN	Obninsk	79.28	332	c iP		P	11 23 05.3	-1.3
OBN				e			11 23 14.8	
OBN				e			11 26 10.4	
OBN				eS		S	11 32 59.2	-6.3
OBN				eSS		SS	11 38 10.6	-2.2
OBN				eSSS		SSS	11 41 29.1	
OBN				pmax		pmax		
	comp=Z,475nm,1.7s							
OBN				MLR		MLR		
	comp=Z,11μm,18.0s							
OBN	Obninsk	79.28	332	P		P	11 23 05.6	-1.0
OBN				IAmb		IAmb	11 23 22.0	
	comp=Z,281nm,1.0s							
NRIK	Noril'sk	79.30	359	P		P	11 23 05.8	-0.7
	comp=Z,202nm,0.9s,baz=164,slow=4.4,SNR=147							
NRIK				PKPPKP			11 49 56.7	
	comp=Z,0.6nm,0.4s,baz=347,slow=1.4,SNR=3.7							
VARL	Varlezi	79.32	321	⇑P		P	11 23 06.9	-0.3
LEOM	Leova	79.33	321	⇑P		P	11 23 07.8	+0.7
LEOM	Leova	79.33	321	eP		P	11 23 05.8	-1.4
LEOM	Leova	79.33	321	P		P	11 23 07.8	+0.7
OUR	Ouranopolis	79.58	314	eP		P	11 23 07.6	-1.0
RZN	Rozhen	79.60	316	i P		P	11 23 08.2	-0.8
PAIG	Paliouri	79.63	314	P		P	11 23 07.9	-1.0
PETR	Petresti	79.63	320	⇑P		P	11 23 08.4	-0.4
GRER		79.64	320	⇑P		P	11 23 09.9	+1.0
GHRR		79.67	321	⇑P		P	11 23 09.6	+0.6
VASR	Vaslui	79.69	321	⇑P		P	11 23 08.9	-0.3
ODBI	Odobesti	79.76	320	⇑P		P	11 23 09.9	+0.4
PLD	Plovdiv	79.77	316	i P		P	11 23 09.3	-0.4
PLD	Plovdiv	79.77	316	eP		P	11 23 08.2	-1.5
PLD	Plovdiv	79.77	316	P		P	11 23 08.6	-1.1
PLD				pmax		pmax		
	comp=Z,526nm,1.4s							
ISR	Istrita	79.81	320	⇑P		P	11 23 10.7	+0.8
ISR	Istrita	79.81	320	P		P	11 23 10.6	+0.8
BFZ	Birch Farm	79.87	130	IAmb		IAmb	11 23 16.9	
	comp=Z,902nm,1.6s							
BISRR	Bisoca	79.89	320	⇑P		P	11 23 11.2	+0.9
ITM	Ithomi	79.90	311	eP		P	11 23 08.6	-1.9
QSPA	South Pole Qui	79.91	180	P		P	11 23 10.1	-0.1
	comp=Z,123nm,0.8s,baz=292,slow=2.6,SNR=70							
QSPA	South Pole Qui	79.91	180	P		P	11 23 10.0	-0.1
ZIMR		79.96	318	⇑P		P	11 23 11.2	+0.6
WAKE	Wake Island	79.99	68	P		P	11 23 11.1	-0.2
WAKE				IAmb		IAmb	11 23 16.9	
	comp=Z,606nm,1.2s							
VRI	Vrincioaia	80.01	320	⇓P		P	11 23 10.8	-0.1
VRI	Vrincioaia	80.01	320	eP		P	11 23 10.1	-0.8
VRI	Vrincioaia	80.01	320	P		P	11 23 10.8	-0.1
SORM	Soroca	80.03	323	⇑P		P	11 23 10.1	-0.8
SORM	Soroca	80.03	323	P		P	11 23 10.1	-0.8
PLOR	Plostina	80.05	320	⇑P		P	11 23 11.4	+0.2
PLOR	Plostina	80.05	320	P		P	11 23 11.3	+0.2
SECR		80.08	319	⇑P		P	11 23 11.7	+0.5
IAS	Iasi	80.08	322	⇑P		P	11 23 11.0	-0.2
IAS	Iasi	80.08	322	P		P	11 23 11.0	-0.2
NEHR	Nehoiu	80.10	320	⇑P		P	11 23 12.0	+0.6
SRS	Serrai	80.15	315	P		P	11 23 10.2	-1.6
SRS				pmax		pmax		
	comp=Z,129nm,2.1s							
BKZ	Black Stump Fm	80.19	128	P		P	11 23 11.6	-0.6
BKZ				IAmb		IAmb	11 23 20.0	
	comp=Z,368nm,1.3s							
BKZ				IAMs_20		IAMs_20	12 02 41.4	
	comp=Z,12μm,18.0s							
MMB	Musomiste	80.24	315	i P		P	11 23 10.2	-2.1
COPA	Copaceanca	80.25	318	⇑P		P	11 23 12.2	0.0
AGG	Agios Georgios	80.26	313	eP		P	11 23 10.4	-2.1
AGG	Agios Georgios	80.26	313	IAmb		IAmb	11 23 33.5	
	comp=Z,359nm,1.1s							
HORT	Hortiatis	80.30	314	eP		P	11 23 10.8	-1.9
H11N1	WAKE ISLAND Hy	80.31	68	P		P	11 23 16.1	+3.3
	baz=241,slow=6.9,SNR=6.4							
H11N2	WAKE ISLAND Hy	80.32	68	P		P	11 23 16.0	+3.1
	baz=241,slow=6.9,SNR=5.4							
H11N3	WAKE ISLAND Hy	80.33	68	P		P	11 23 16.9	+4.0
	baz=241,slow=6.9,SNR=8.6							
PLVB	Pleven	80.34	317	⇑P		P	11 23 11.9	-0.8
TESR	Tescani	80.34	321	⇑P		P	11 23 11.8	-0.8
MLR	Muntele Rosu	80.35	320	P		P	11 23 12.0	-0.9
	comp=Z,306nm,1.1s,baz=119,slow=0.5,SNR=142							
MLR	Muntele Rosu	80.35	320	⇓P		P	11 23 12.6	-0.2
MLR	Muntele Rosu	80.35	320	P		P	11 23 12.0	-0.9
HUMR	Humele	80.57	318	⇑P		P	11 23 13.9	0.0
KNT	Kendrikon	80.65	315	eP		P	11 23 12.7	-1.8
AKASG	Malin Array Be	80.73	325	P		P	11 23 13.1	-1.5
	comp=Z,56nm,0.8s,baz=102,slow=4.3,SNR=105							
AKASG				LR		LR	12 03 41.8	
	comp=Z,5μm,18.0s,baz=100,slow=39							
AKASG	Malin Array Be	80.73	325	P		P	11 23 13.2	-1.4
AKASG				pmax		pmax		
	comp=Z,98nm,1.3s							
AKASG	Malin Array Be	80.73	325	P		P	11 23 13.2	-1.4
AKBB	Malin Array Si	80.73	325	c iP		P	11 23 13.1	-1.5
AKBB	Malin Array Si	80.73	325	P		P	11 23 13.1	-1.5
VLAD	Vladila	80.73	318	⇑P		P	11 23 15.0	+0.2
KKB	Krupnik	80.79	315	i P		P	11 23 14.1	-1.1
MTUR	Matau	80.80	319	⇑P		P	11 23 14.7	-0.6
BIZ	Bicaz	80.86	321	⇑P		P	11 23 15.2	-0.2
VOIR		80.90	319	⇑P		P	11 23 15.7	0.0
VOIR		80.90	319	P		P	11 23 15.7	0.0
DOPR	Dopca	80.90	320	⇑P		P	11 23 14.8	-0.9
MPEP	Malo Peshtene	80.92	317	i P		P	11 23 14.4	-1.4
VAY	Valandovo	80.94	315	i P		P	11 23 14.4	-1.5
VAY	Valandovo	80.94	315	P		P	11 23 15.3	-0.7
VAY				pmax		pmax		
	comp=Z,180nm,1.2s							
PRAR	RASCA	80.97	321	⇑P		P	11 23 15.4	-0.6
VTS	Vitosha	80.97	316	⇑P		P	11 23 15.9	-0.5
VTS	Vitosha	80.97	316	i P		P	11 23 16.2	-0.1
VTS	Vitosha	80.97	316	P		P	11 23 14.9	-1.4
VTS				pmax		pmax		
	comp=Z,132nm,1.2s							
ARR	Arges	81.14	319	⇑P		P	11 23 16.5	-0.5
STIP	Stip	81.35	315	i P		P	11 23 15.4	-2.8
KLMR	Klimovskoe	81.50	337	c iP		P	11 23 18.0	-0.4
KLMR				eS		S	11 33 28.6	0.0
KLMR				eSS		SS	11 38 45.9	+0.1
KLMR				pmax		pmax		
	comp=Z,358nm,1.3s							
KLMR				MLR		MLR		
	comp=Z,9μm,17.0s							
KLMR	Klimovskoe	81.50	337	⇑iP		P	11 23 18.1	-0.4
KLMR				⇑i P		P	11 23 18.1	-0.4
KLMR				⇓iP		P	11 23 18.1	-0.4
KLMR				AMP			11 23 29.8	
	comp=Z,358nm,1.3s							
KLMR				eS		S	11 33 28.7	+0.1
KLMR				eS		S	11 33 28.7	+0.1
KLMR				eSS		SS	11 38 45.9	+0.1
KLMR				eSS		SS	11 38 45.9	+0.1
KLMR				LQ		LQ	11 54 03.2	
KLMR				LQ		LQ	11 54 03.2	
KLMR				LR		LR	11 56 13.0	
KLMR				AMP			12 02 24.8	
	comp=Z,9μm,16.8s							
SNAA	Sanae	81.70	199	P		P	11 23 20.4	+0.8
SNAA	Sanae	81.70	199	P		P	11 23 19.9	+0.3
	comp=Z,137nm,1.0s,baz=100,slow=5.3,SNR=111							
SNAA	Sanae	81.70	199	c iP		P	11 23 20.2	+0.6
SNAA				pmax		pmax		
	comp=Z,612nm,1.7s							
SNAA	Sanae	81.70	199	P		P	11 23 19.9	+0.3
SNAA				IAmb		IAmb	11 23 27.7	
	comp=Z,603nm,1.4s							
SNAA				IAMs_20		IAMs_20	11 55 17.8	
	comp=Z,15μm,18.0s							
BURAR	Bucovina Array	81.70	321	⇓P		P	11 23 20.9	+0.8
BURAR	Bucovina Array	81.70	321	P		P	11 23 20.8	+0.8
BURAR	Bucovina Array	81.70	321	P		P	11 23 19.4	-0.6
LOT	Lotru	81.72	319	⇑P		P	11 23 19.1	-1.1
LOT	Lotru	81.72	319	eP		P	11 23 18.7	-1.5
MXZ	Matakaoa Point	81.77	127	P		P	11 23 20.4	-0.2
MXZ				IAmb		IAmb	11 23 33.8	
	comp=Z,382nm,1.5s							
MXZ				IAMs_20		IAMs_20	11 55 28.2	
	comp=Z,12μm,19.0s							
SRE	Strehaia	81.78	318	⇑P		P	11 23 20.9	+0.5
SRE	Strehaia	81.78	318	P		P	11 23 20.9	+0.5
PUNG	Punghina	81.81	318	⇑P		P	11 23 20.5	0.0
IGT	Igoumenitsa	81.89	312	P		P	11 23 20.1	-1.0
IGT				pmax		pmax		
	comp=Z,190nm,1.1s							
SKO	Skopje	81.97	315	i P		P	11 23 20.6	-0.8
OHR	Ohrid	82.11	314	i P		P	11 23 20.3	-1.9
OHR	Ohrid	82.11	314	P		P	11 23 22.0	-0.3
OHR				pmax		pmax		
	comp=Z,113nm,1.1s							
TARA	Tarawa	82.25	87	P		P	11 23 22.9	-0.6
CJR	Cluj-Napoca	82.34	320	⇑P		P	11 23 23.7	+0.4
HERR	Herculane	82.39	318	⇑P		P	11 23 22.8	-0.8
DEV	Deva	82.45	319	⇑P		P	11 23 24.5	+0.6
DEV	Deva	82.45	319	P		P	11 23 24.5	+0.6
SKR	Severo-Kuril's	82.57	36	eP		P	11 23 23.5	-0.8
SKR				ePPP		PPP	11 28 28.7	
SKR				eS		S	11 33 39.7	-0.3
SKR				eSS		SS	11 38 59.5	-2.6
SKR				pmax		pmax		
	comp=Z,2μm,6.4s							
SKR				pmax		pmax		
	comp=Z,5μm,3.4s							
SKR				pmax		pmax		
	comp=Z,308nm,1.2s							
SKR				smax		smax		
	comp=E,10μm,9.3s							
SKR				smax		smax		
	comp=N,5μm,12.1s							
SKR				MLR		MLR		
	comp=Z,5μm,19.0s							
BMR	Baia Mare	82.78	321	⇑P		P	11 23 25.8	+0.3
MDVR	Moldovita	82.81	318	⇑P		P	11 23 25.2	-0.6
TIR	Tirane	82.85	314	P		P	11 23 25.3	-0.7
TIR				pmax		pmax		
	comp=Z,521nm,1.5s							
TIR	Tirane	82.85	314	P		P	11 23 25.3	-0.7
TIR				IAmb		IAmb	11 23 44.3	
	comp=Z,521nm,1.5s							
DRGR		82.93	320	⇓P		P	11 23 26.5	+0.1
BZS	Buzias	83.19	319	⇑P		P	11 23 26.9	-0.8
PVY	Plav	83.22	315	⇑iP		P	11 23 26.5	-1.6
MICGM	Minsk	83.24	328	⇑eP		P	11 23 26.0	-1.7
MICGM				⇑eP		P	11 23 26.0	-1.7
MICGM				PM			11 23 27.0	
	comp=Z,1.0nm,1.0s							
MICGM				PM			11 23 27.0	
	comp=Z,6.8nm,8.0s							
MICGM				ePP		PP	11 26 42.0	+2.5
MICGM				PPM			11 26 44.0	
	comp=Z,5.1nm,12.0s							
MICGM				ePPP		PPP	11 28 34.0	
MICGM				eS		S	11 33 42.0	-4.7
MICGM				SM			11 33 44.0	
	comp=N,8.7nm,14.0s							
MICGM				SM			11 33 44.0	
	comp=E,6.8nm,10.0s							
MICGM				ePS			11 34 36.0	
MICGM				eSS		SS	11 39 06.0	-6.0
MICGM				eSSS		SSS	11 42 24.0	
MICGM				eLQ		LQ	11 51 02.0	
MICGM				LQM			11 54 26.0	
	comp=N,12nm,22.0s							
MICGM				eLR		LR	12 00 42.0	
MICGM				LRM		MLR	12 05 00.0	
	comp=Z,13nm,18.0s							
MICGM				LRM		MLR	12 05 04.0	
	comp=Z,17nm,20.0s							
MICGM				LRM		MLR	12 05 12.0	
	comp=N,5.1nm,18.0s							
MICGM				LRM		MLR	12 06 04.0	
	comp=E,6.9nm,16.0s							
MNK	Minsk	83.24	328	⇑eP		P	11 23 26.0	-1.7
MNK				e			11 23 26.0	
MNK				e			11 26 42.0	
MNK				e			11 28 34.0	
MNK				eS		S	11 33 42.0	-4.7
MNK				e			11 34 36.0	
MNK				e			11 39 06.0	
MNK				pmax		pmax		
	comp=Z,980nm,1.0s							
MNK				pmax		pmax		
	comp=Z,7μm,8.0s							
MNK				pmax		pmax		
	comp=Z,5μm,12.0s							
MNK				smax		smax		
	comp=N,9μm,14.0s							
MNK				smax		smax		
	comp=E,7μm,10.0s							
VNA2	Neumayer--Watz	83.26	199	P		P	11 23 28.7	+1.0
	baz=88,slow=4.8							
LVV	L'vov	83.33	323	eP		P	11 23 28.0	-0.3
LVV				e			11 26 43.3	
LVV				eS		S	11 34 46.2	-1.6
LVV				ePS		PnS	11 34 37.5	-3.6
LVV				eSS		SS	11 39 12.9	-0.5
LVV				eSSS		SSS	11 42 36.1	
LVV				pmax		pmax		
	comp=Z,600nm,1.5s							
LVV				MLR		MLR		
	comp=N,4μm,18.0s							
LVV				MLR		MLR		
	comp=E,4μm,18.0s							
LVV				MLR		MLR		
	comp=Z,6μm,18.0s							
IVA	Berane	83.36	316	⇑iP		P	11 23 27.4	-1.3
SIRR	Siria	83.40	319	⇑P		P	11 23 28.7	-0.1
SCTE	Santa Cesarea	83.43	313	IAmb		IAmb	11 23 30.4	
	comp=Z,255nm,1.2s							
ULC	Ulcinj	83.50	315	⇑iP		P	11 23 28.0	-1.4
TRPA	Tarpa	83.56	321	⇑P		P	11 23 29.6	+0.2
VNA1	Neumayer--Stat	83.60	199	P		P	11 23 30.7	+1.4
KOME	Kolasin	83.61	315	⇑iP		P	11 23 28.6	-1.5
DRME	Dracevica, Mon	83.62	315	⇑iP		P	11 23 29.0	-1.0
DRME	Dracevica, Mon	83.62	315	⇑iP		P	11 23 28.9	-1.0
PDG	Podgorica	83.65	315	⇑P		P	11 23 29.2	-0.9
PDG	Podgorica	83.65	315	IAmb		IAmb	11 23 46.9	
	comp=Z,237nm,1.1s							
PDG	Podgorica	83.65	315	⇑iP		P	11 23 28.9	-1.2
TTG	Podgorica	83.65	315	⇓iP		P	11 23 28.9	-1.2
DIVS	Divibare	83.72	317	IAmb		IAmb	11 23 36.8	
	comp=Z,215nm,1.2s							
DIVS	Divibare	83.72	317	⇑iP		P	11 23 29.7	-0.9
BUM	Brajici-Budva	83.86	315	⇑iP		P	11 23 29.9	-1.4
PLE	Pljevlja	83.86	316	⇑iP		P	11 23 29.8	-1.6
UZH	Uzhgorod	83.90	322	⇑iP		P	11 23 30.0

TMCR pmax pmax
comp=Z,223nm,1.1s
MA2 Magadan 84.12 26 P **P 11 23 31.5 -0.6**
comp=Z,173nm,1.0s,baz=207,slow=3.7,SNR=27
MA2 Magadan 84.12 26*c iP* **P 11 23 31.9 -0.2**
MA2 pmax pmax
comp=Z,668nm,2.5s
MA2 MLR MLR
comp=Z,21µm,20.0s
MA2 Magadan 84.12 26 P **P 11 23 31.6 -0.6**
MA2 IAmb IAmb 11 23 37.2
comp=Z,355nm,1.2s
MA2 IAMs_20 IAMs_20 12 02 24.8
comp=Z,25µm,20.0s
UPM Unac-Piva 84.15 316 *e*P **P 11 23 31.4 -1.5**
MSVF Nonsavu 84.16 107*ce*P **P 11 23 33.9 +0.5**
MSVF pmax pmax
comp=Z,126nm,1.2s
MSVF Nonsavu 84.16 107 P **P 11 23 32.4 -1.0**
MSVF IAmb IAmb 11 23 45.4
comp=Z,147nm,1.1s
MSVF Nonsavu 84.16 107 IAMs_20 IAMs_20 11 58 26.4
comp=Z,11µm,19.0s
TEKS Tekeris 84.19 317⇑*iP* **P 11 23 32.1 -0.8**
HCY Herceg Novi 84.19 315⇑*iP* **P 11 23 31.7 -1.2**
HCY Herceg Novi 84.19 315 *e*P **P 11 23 32.1 -0.8**
FRGS Fruska Gora 84.21 318⇑*iP* **P 11 23 31.7 -1.3**
BRY Bratogost 84.30 315⇓*iP* **P 11 23 32.1 -1.6**
BRY Bratogost 84.30 315 *e*P **P 11 23 32.9 -0.8**
TIP Timpagrande 84.40 311 P **P 11 23 33.3 -0.8**
TIP IAmb IAmb 11 23 38.4
comp=Z,186nm,1.2s
IIGN Ignalina 84.48 329 *e*P **P 11 23 34.2 +0.2**
PEA0B Petropavlovsk- 84.49 34*c iP* **P 11 23 33.4 -0.8**
PEA0B Petropavlovsk- 84.49 34 P **P 11 23 33.4 -0.8**
PEA0B IAmb IAmb 11 23 37.8
comp=Z,365nm,1.6s
PEA0B IAMs_20 IAMs_20 12 01 31.8
comp=Z,13µm,20.0s
PETK Petropavlovsk- 84.49 34 P **P 11 23 33.4 -0.8**
comp=Z,38nm,0.9s,baz=225,slow=3.3,SNR=26
PETK PKPPKP **P'P'df 11 49 53.4 +3.6**
comp=Z,2.2nm,1.0s,baz=90,slow=11,SNR=3.5
PETK LR LR 12 02 03.0
comp=Z,11µm,19.6s,baz=251,slow=36
PETK Petropavlovsk- 84.49 34 P **P 11 23 33.0 -1.2**
DBRK Dubrovnik 84.50 315 P **P 11 23 33.0 -1.5**
CRVS Cervenica-Dubn 84.51 322 *e*P **P 11 23 33.7 -0.7**
CRVS pmax pmax
comp=Z,225nm,1.4s
CRVS Cervenica-Dubn 84.51 322 *e*P **P 11 23 33.6 -0.8**
ISAL Salakas 84.63 329 *e*P **P 11 23 34.6 -0.2**
IZAR Zarasai 84.65 329 *e*P **P 11 23 35.2 +0.3**
PUL Pulkovo 84.65 334 *e*P **P 11 23 34.0 -0.8**
PUL Pulkovo 84.65 334*ce*P **P 11 23 34.9 +0.1**
PUL pmax pmax
comp=Z,125nm,0.6s
PUL MLR MLR
comp=Z,17µm,20.0s
CEL Celeste 84.77 310 P **P 11 23 35.5 -0.5**
CEL IAmb IAmb 11 23 39.6
comp=Z,239nm,1.2s
STON Ston 84.88 315 P **P 11 23 34.5 -1.9**
STON Ston 84.88 315⇑*iP* **P 11 23 34.7 -1.6**
MATE Matera 84.89 313 ⇑P **P 11 23 36.1 -0.4**
KECS Kecovo 84.96 321 *e*P **P 11 23 36.1 -0.5**
KECS pmax pmax
comp=Z,66nm,1.1s
KECS Kecovo 84.96 321 *e*P **P 11 23 36.1 -0.5**
PET Petropavlovsk 84.98 34*c iP* **P 11 23 35.3 -1.3**
PET *e* 11 26 57.1
PET *i* S **S 11 34 00.0 -4.2**
PET *e*PS 11 35 02.0
PET *e*SS **SS 11 39 35.3 -2.4**
PET pmax pmax
comp=Z,4µm,7.1s
PET pmax pmax
comp=Z,2µm,6.8s
PET pmax pmax
comp=Z,370nm,1.9s
PET MLR MLR
comp=Z,11µm,20.0s
PET Petropavlovsk 84.98 34 P **P 11 23 36.2 -0.4**
PSZ Piszkesteto 85.12 320 ⇑P **P 11 23 37.3 -0.3**
WDD Wied Dalam 85.13 308 P **P 11 23 36.9 -0.9**
WDD IAmb IAmb 11 23 44.5
comp=Z,265nm,1.0s
MORH Mrgy, Hungar 85.34 318⇑*iP* **P 11 23 37.3 -1.3**
TIXI Tiksi 85.36 11 P **P 11 23 36.8 -1.3**
TIXI pmax pmax
comp=Z,551nm,1.1s
TIXI MLR MLR
comp=Z,13µm,21.0s
TIXI Tiksi 85.36 11 P **P 11 23 36.8 -1.3**
TIXI IAMs_20 IAMs_20 12 03 07.5
comp=Z,13µm,21.0s
NIE Niedzica 85.41 322 *e*P **P 11 23 38.7 -0.3**
NIE *e*SKSac **SKSac 11 33 59.9 -2.8**
NIE *e*SS **SS 11 39 47.4 +3.0**
NIE *e*L L 12 07 42.7
comp=Z,4µm,18.5s
NIE Niedzica 85.41 322 P **P 11 23 38.9 0.0**
MAKA Makarska 85.48 315 P **P 11 23 38.4 -1.0**
SUW Suwalki 85.51 327 *e*P **P 11 23 37.9 -1.3**
SUW *e*SKSac **SKSac 11 33 59.6 -3.4**
SUW *e*SS **SS 11 39 49.4 +3.9**
SUW *e*L L 12 09 09.5
comp=Z,12µm,16.9s
BUD Budapest 85.53 320 P **P 11 23 39.6 +0.1**
BUD pmax pmax
comp=Z,66nm,2.2s
VSU Vasula 85.64 332 *e*P **P 11 23 39.3 -0.5**
VSU Vasula 85.64 332*c iP* **P 11 23 38.5 -1.3**
VSU pmax pmax
comp=Z,522nm,1.0s
VSU MLR MLR
comp=Z,32µm,23.0s
PABE Paberze 85.71 328 *e*P **P 11 23 39.2 -1.0**
MGRS Mrkonjic Grad 85.79 316 *e*P **P 11 23 40.3 -0.6**
LANS Liptovska Anna 85.83 321 *e*P **P 11 23 40.9 -0.1**
LANS pmax pmax
comp=Z,27nm,1.1s
LANS Liptovska Anna 85.83 321 *e*P **P 11 23 40.9 -0.1**
BLY Banja Luka 85.83 317⇑*iP* **P 11 23 40.1 -1.0**
SGRT San Giovanni R 85.91 313 IAmb IAmb 11 24 00.3
comp=Z,426nm,1.3s
VYHS Vyhne 85.99 321 *e*P **P 11 23 41.4 -0.4**
VYHS pmax pmax
comp=Z,172nm,1.4s
VYHS Vyhne 85.99 321 *e*P **P 11 23 41.4 -0.4**
OJC Ojcow 86.00 322 *e*P **P 11 23 41.4 -0.4**
OJC *e*SKSac **SKSac 11 34 04.4 -1.9**
OJC *e*SS **SS 11 39 58.0 +5.1**
OJC *e*L L 12 06 55.8
comp=Z,10µm,17.8s
OJC Ojcow 86.00 322 P **P 11 23 41.4 -0.4**
BEL Belsk 86.01 324 *e*P **P 11 23 41.5 -0.3**
BEL *e*SKSac **SKSac 11 34 04.1 -2.1**
BEL *e*S **S 11 34 17.9 +3.5**
BEL *e*SS **SS 11 39 54.3 +1.5**
BEL *e*L L 12 08 20.8
comp=Z,11µm,17.8s
ZIRJ Zirje 86.55 315 P **P 11 23 42.9 -1.7**
PAOL Paolisi 86.55 313 P **P 11 23 43.4 -1.4**
MORI Morici 86.57 315 P **P 11 23 42.9 -1.8**
CLTB Caltabellotta 86.61 309 P **P 11 23 44.7 -0.5**
CLTB IAmb IAmb 11 23 46.6
comp=Z,202nm,1.3s
CORL Corleone 86.63 309 P **P 11 23 44.4 -0.9**
CORL IAmb IAmb 11 23 51.6
comp=Z,182nm,1.1s
BEHE Becsehely 86.65 318⇑*iP* **P 11 23 47.1 +2.0**
UDBI Udbina 86.73 316 P **P 11 23 44.5 -1.1**
FUNA Funafuti 86.73 98 P **P 11 23 44.6 -1.6**
KALN Kalnik 86.75 318 P **P 11 23 43.9 -1.7**
JAVC Velka Javorina 86.84 321⇑*iP* **P 11 23 46.4 +0.4**
JAVC *e*SKS **SKSac 11 34 11.3 -0.4**
JAVC *e*SS **SS 11 40 03.5 -1.9**
JAVC *e* 11 52 50.5
OKC Ostrava-Krasne 86.87 322 *e*P **P 11 23 45.6 -0.5**
OKC *ex* x 11 23 57.6
OKC *ex* x 11 34 02.0
OKC AMS AMS 12 09 10.0
comp=Z,5µm,17.1s
OKC Ostrava-Krasne 86.87 322 *e*P **P 11 23 45.6 -0.5**
OKC *e*S **SKSac 11 34 02.0 -10**
OKC MLR MLR
comp=Z,5µm,17.1s
SMOL Smolenice 86.88 320 *e*P **P 11 23 45.8 -0.4**
SMOL pmax pmax
comp=Z,53nm,1.3s
SMOL Smolenice 86.88 320 *e*P **P 11 23 45.8 -0.4**
MODS Modra-Piesok 86.93 320 *e*P **P 11 23 45.1 -1.3**
MODS pmax pmax
comp=Z,232nm,1.3s
MODS Modra-Piesok 86.93 320 *e*P **P 11 23 45.1 -1.3**
ZAG Zagreb 86.97 317 P **P 11 23 46.4 -0.2**
ZAG Zagreb 86.97 317⇑*iP* **P 11 23 47.1 +0.5**
PBUR Paburge 86.97 328 *e*P P 11 23 40.3 -6.1
ZST Bratislava 86.98 320 *e*P **P 11 23 45.4 -1.3**
ZST Bratislava 86.98 320 *e*P **P 11 23 45.4 -1.3**
KOGS Kog 86.98 318 *i* P **P 11 23 45.8 -0.9**
KOGS *e*SKSac **SKSac 11 34 08.2 -4.3**
PTJ Puntijarka 87.00 318 P **P 11 23 46.0 -0.9**
DUGI Dugi Otok 87.05 315 P **P 11 23 45.7 -1.4**
SOP Sopron 87.17 319 P **P 11 23 47.7 +0.1**
SOP pmax pmax
comp=Z,86nm,1.7s
MORC Moravsky Berou 87.22 322⇑P **P 11 23 47.4 -0.4**
MORC Moravsky Berou 87.22 322⇑*iP* **P 11 23 47.3 -0.5**
MORC *e*SKS **SKSac 11 34 11.3 -2.7**
MORC *e*SS **SS 11 40 04.4 -6.4**
MORC *e* 11 52 58.5
OZLJ Ozalj 87.25 317 P **P 11 23 46.8 -1.2**
FIA1 FINESS Array S 87.29 334 P **P 11 23 47.0 -0.8**
FIA1 IAmb IAmb 11 23 52.8
comp=Z,136nm,1.1s
FINES FINESS Array B 87.29 334 P **P 11 23 46.9 -1.0**
comp=Z,53nm,0.9s,baz=107,slow=4.8,SNR=64
FINES LR LR 12 03 31.9
comp=Z,12µm,22.0s,baz=115,slow=36
FINES FINESS Array B 87.29 334 P **P 11 23 47.0 -0.8**
FINES FINESS Array B 87.29 334 P **P 11 23 47.0 -0.8**
INTR Introdacqua 87.30 313 P **P 11 23 47.2 -1.2**
INTR IAmb IAmb 11 23 51.0
comp=Z,167nm,1.3s
CRES Cresnjev 87.32 317⇑*iP* **P 11 23 47.5 -0.9**
NVLJ Novalja 87.35 316 P **P 11 23 47.1 -1.4**
BOJS Bojanci 87.36 317 *i* P **P 11 23 47.7 -0.9**
LVZ Lovozero 87.43 342*d iP* **P 11 23 47.8 -0.7**
LVZ pmax pmax
comp=Z,427nm,1.0s
LVZ MLR MLR
comp=Z,53µm,20.0s
LVZ Lovozero 87.43 342 P **P 11 23 47.7 -0.8**
LVZ IAmb IAmb 11 24 08.3
comp=Z,254nm,1.2s
APA Apatity 87.64 341⇓*iP* **P 11 23 48.2 -1.2**
APA *i* 11 27 10.0
APA *i* PPP PPP 11 29 19.0
APA *i* 11 34 11.0
APA *i* S **S 11 34 29.0 -0.6**
APA *i* PS 11 35 23.0
APA *i* SS **SS 11 40 13.0 -3.0**
APA pmax pmax
comp=Z,43nm,0.7s
VRAC Vranov 87.65 321 P **P 11 23 49.4 -0.5**
comp=Z,28nm,1.1s,baz=107,slow=5.4,SNR=39
VRAC Vranov 87.65 321⇑P **P 11 23 49.3 -0.5**
VRAC Vranov 87.65 321⇑*iP* **P 11 23 49.2 -0.7**
VRAC *e*SKS **SKSac 11 34 15.8 -0.8**
VRAC *e*SS **SS 11 40 13.4 -3.8**
VRAC *e* 11 53 08.1
CONA Conrad Observa 87.69 319 *i* P **P 11 23 49.2 -1.0**
comp=Z,74nm,1.6s,SNR=41
CONA *e*PP **PP 11 27 20.8 +4.9**
comp=Z,26nm,1.4s
CONA SKSac **SKSac 11 34 18.1 +1.1**
comp=Z,23nm,1.9s
KRUC Moravsky 87.70 321⇑*iP* **P 11 23 49.4 -0.7**
KRUC *e*SKS **SKSac 11 34 15.8 -1.0**
KRUC *e*SS **SS 11 40 15.8 -2.0**
KRUC *e* 11 53 06.5
KRUC Moravsky 87.70 321 P **P 11 23 49.6 -0.5**
ARSA Arzberg 87.70 319 *i* P **P 11 23 49.9 -0.3**
comp=Z,128nm,1.1s,SNR=77
ARSA *e*PP **PP 11 27 20.4 +4.4**
comp=Z,25nm,1.4s
AQU L'Aquila 87.75 314 P **P 11 23 50.4 -0.2**
AQU pmax pmax
comp=Z,321nm,1.8s
AQU L'Aquila 87.75 314 IAmb IAmb 11 24 07.3
comp=Z,296nm,1.1s
AQU L'Aquila 87.75 314⇑*iP* **P 11 23 49.8 -0.8**
PERS Pernice 87.79 318 *i* P **P 11 23 50.1 -0.6**
RIY Rijeka 87.83 317 P **P 11 23 49.2 -1.6**
RIY Rijeka 87.83 317⇑*iP* **P 11 23 50.2 -0.6**
SOKA Soboth 87.85 318 *i* P **P 11 23 50.5 -0.5**
comp=Z,161nm,1.2s,SNR=76
SOKA *e*PP **PP 11 27 22.3 +5.0**
comp=Z,18nm,1.7s
SOKA *e*SKSac **SKSac 11 34 19.9 +1.9**
comp=Z,17nm,1.8s
LJU Ljubljana 88.00 317 *i* P **P 11 23 51.1 -0.6**
LJU *e*PP **PP 11 27 17.1 -1.3**
LJU *e*SKSac **SKSac 11 34 16.1 -2.7**
LJU *e*S **S 11 34 35.3 +1.3**
LJU *e* 11 35 35.3
LJU Ljubljana 88.00 317⇑*iP* **P 11 23 51.0 -0.6**
OBKA Obir 88.12 318 *i* P **P 11 23 51.8 -0.5**
comp=Z,96nm,1.6s,SNR=23
OBKA *e*PP **PP 11 27 24.2 +4.7**
comp=Z,54nm,2.4s
DPC Dobruska-Polom 88.15 322 *e*P **P 11 23 52.4 +0.1**
DPC *ex* x 11 23 57.6
DPC *e*SKS **SKSac 11 34 17.7 -1.9**
DPC AMS AMS 12 02 00.0
comp=Z,6µm,19.6s
DPC Dobruska-Polom 88.15 322 *e*P **P 11 23 52.4 +0.1**
DPC *e* 11 23 57.6
DPC *e*S **SKSac 11 34 17.7 -1.9**
DPC MLR MLR
comp=Z,6µm,19.6s
BRJN Brijuni 88.21 316 P **P 11 23 51.4 -1.2**
OSTC Ostas 88.28 322 *e*P **P 11 23 53.0 +0.1**
OSTC *ex* x 11 34 17.7
OSTC AMS AMS 12 10 10.0
comp=Z,9µm,18.2s
KSP Ksiaz 88.32 322 *e*P **P 11 23 53.2 +0.2**
KSP *e*SKSac **SKSac 11 34 19.1 -1.3**
KSP *e*S **S 11 34 39.2 +2.5**
KSP *e*SS **SS 11 40 37.1 +10**
KSP *e*L L 12 09 13.0
comp=Z,7µm,18.6s
KSP Ksiaz 88.32 322 P **P 11 23 53.1 +0.1**
TREC Trest 88.34 321 *e*P **P 11 23 53.7 +0.5**
TREC *e*SKS **SKSac 11 34 25.5 +4.8**
TREC AMS AMS 12 00 00.0
comp=Z,8µm,25.0s
TREC Trest 88.34 321 *e*P **P 11 23 53.7 +0.5**
TREC *e*S **SKSac 11 34 25.5 +4.8**
TREC MLR MLR
comp=Z,8µm,25.0s
CHVC Chvalec 88.38 322 *e*P **P 11 23 53.2 -0.2**
CHVC *e*SKS **SKSac 11 34 25.5 +4.6**
CHVC AMS AMS 12 10 10.0
comp=Z,9µm,17.4s
UPC Upice 88.39 322 *e*P **P 11 23 53.2 -0.1**
UPC AMS AMS 12 10 10.0
comp=Z,8µm,17.7s
UPC Upice 88.39 322 *e*P **P 11 23 53.2 -0.1**
UPC MLR MLR
comp=Z,8µm,17.7s
TRI Trieste 88.42 317 P **P 11 23 52.5 -1.1**
TRI pmax pmax
comp=Z,138nm,1.3s
TRI Trieste 88.42 317 P **P 11 23 52.5 -1.1**
GKP Gorka Klasztor 88.54 325 *e*P **P 11 23 54.0 +0.1**
GKP *e*SKSac **SKSac 11 34 20.3 -1.3**
GKP *e*S **S 11 34 38.5 -0.2**
GKP *e*L L 12 10 35.4
comp=Z,11µm,16.8s
CADS Cadrg 88.58 317 *i* P **P 11 23 53.3 -1.1**
CADS *e*SKSac **SKSac 11 34 19.7 -2.7**
MURB Monte Urbino 88.62 314 IAmb IAmb 11 24 10.3
comp=Z,220nm,1.3s
MOA Molln 88.69 319 *i* P **P 11 23 54.0 -0.9**
comp=Z,43nm,1.2s,SNR=24
MOA *e*PP **PP 11 27 27.5 +3.6**
comp=Z,42nm,1.8s
MYKA Terra Mystica 88.76 318 *i* P **P 11 23 54.6 -0.7**
comp=Z,163nm,1.4s,SNR=43
MYKA PP **PP 11 27 29.6 +5.1**
comp=Z,43nm,1.4s
PRED Cave del Predi 88.76 318 IAmb IAmb 11 23 58.3
comp=Z,401nm,2.0s
GOPC GO Pecny, Ondr 88.96 321 *e*P **P 11 23 55.8 -0.3**
GOPC *ex* x 11 24 01.8
GOPC *e*SKS **SKSac 11 34 22.9 -1.5**
GOPC AMS AMS 12 07 30.0
comp=Z,5µm,18.1s
GOPC GO Pecny, Ondr 88.96 321 *e*P **P 11 23 55.8 -0.3**
GOPC *e* 11 24 01.8
GOPC *e*S **SKSac 11 34 22.9 -1.5**
GOPC MLR MLR
comp=Z,5µm,18.1s
KBA Koelnbreinsper 89.08 318 *i* P **P 11 23 55.6 -1.3**
comp=Z,60nm,1.1s,SNR=31
KBA *e*PP **PP 11 27 31.6 +4.4**
comp=Z,31nm,1.4s
KBA *e*SKSac **SKSac 11 34 27.6 +2.1**
comp=Z,14nm,1.4s
KBA Koelnbreinsper 89.08 318 P **P 11 23 56.1 -0.8**
PRU Pruhonice 89.13 321 *e*P **P 11 23 56.3 -0.6**
PRU *ex* x 11 24 07.9
PRU *ex* x 11 34 41.2
PRU AMS AMS 12 07 50.0
comp=Z,6µm,21.3s
PRU Pruhonice 89.13 321 *e*P **P 11 23 56.3 -0.6**
PRU *e*S **S 11 34 41.2 -3.2**
PRU MLR MLR
comp=Z,6µm,21.3s
KEST Kesra 89.18 306 P **P 11 23 57.7 +0.1**
comp=Z,292nm,1.0s,baz=56,slow=0.7,SNR=116
KEST LR LR 12 03 21.4
comp=Z,3µm,18.6s,baz=58,slow=35
KEST Kesra 89.18 306 P **P 11 23 58.0 +0.4**
KEST IAMs_20 IAMs_20 12 06 07.6
comp=Z,10µm,18.0s
ZOU Zoufplan 89.18 318 IAmb IAmb 11 24 00.5
comp=Z,417nm,1.4s
PRA Prague 89.22 321 *e*P **P 11 23 57.9 +0.6**
PRA *ex* x 11 34 17.7
PRA AMS AMS 12 07 50.0
comp=Z,2µm,19.6s
PRA Prague 89.22 321 *e*P **P 11 23 57.9 +0.6**
PRA *e*S **SKSac 11 34 17.7 -8.1**
PRA MLR MLR
comp=Z,2µm,19.6s
PVCC Panska Ves 89.27 322 *e*P **P 11 23 57.9 +0.4**
PVCC AMS AMS 12 08 00.0
comp=Z,7µm,19.8s
PVCC Panska Ves 89.27 322 *e*P **P 11 23 57.9 +0.4**
PVCC MLR MLR
comp=Z,7µm,19.8s
GEC2 GERESS Array S 89.33 320 IAmb IAmb 11 24 26.0
comp=Z,356nm,1.6s
GEC2 GERESS Array S 89.33 320 *e*P **P 11 23 57.4 -0.6**
comp=Z,105nm,1.1s,baz=104,slow=4.4
GERES GERESS Array B 89.33 320 P **P 11 23 57.3 -0.6**
comp=Z,52nm,1.0s,baz=120,slow=4.8,SNR=164
GERES PKKPbc **PKKPbc 11 41 38.8 +2.9**
comp=Z,1.0nm,0.8s,baz=253,slow=1.4,SNR=5.8
GERES PKPPKP 11 49 43.4
comp=Z,1.2nm,1.1s,baz=303,slow=7.4,SNR=4.3
GERES GERESS Array B 89.33 320 P **P 11 23 57.0 -1.0**
PBCC Pribram 89.38 321 *e*P **P 11 23 57.7 -0.4**
PBCC *ex* x 11 24 09.4
PBCC *e*S S 11 34 36.0 -11
KHC Kasperske Hory 89.49 320 *e*P **P 11 23 57.8 -0.8**
KHC *ex* x 11 24 09.4
KHC *e*S **S 11 34 46.4 -1.5**
KHC AMS AMS 11 57 20.0
comp=Z,13µm,33.0s
KHC Kasperske Hory 89.49 320*c iP* **P 11 23 58.0 -0.7**
KHC pmax pmax
comp=Z,553nm,1.7s
KHC Kasperske Hory 89.49 320 P **P 11 23 57.9 -0.7**
ABTA Abfaltersbach 89.54 318 *i* P **P 11 23 58.0 -0.9**
comp=Z,58nm,1.1s,SNR=30
ABTA *e*PP **PP 11 27 38.0 +7.2**
comp=Z,30nm,1.5s
ABTA SKSac **SKSac 11 34 29.1 +1.0**
comp=Z,19nm,1.9s
OSSC Osservatorio P 89.59 314 IAmb IAmb 11 24 21.0
comp=Z,208nm,1.6s
CASP Castiglione de 89.68 314 P **P 11 23 58.4 -1.2**
CASP IAmb IAmb 11 24 00.8
comp=Z,207nm,1.3s
BRG Berggiesshubel 89.75 322 *i* P **P 11 23 59.5 -0.2**
comp=Z,112nm,1.4s
BRG *i* 11 24 10.3
comp=Z,346nm,2.0s
BRG PP PP 11 27 22.0 -10
BRG SKS **SKSac 11 34 28.0 -0.9**
BRG S **ScS 11 34 54.0 -0.5**
BRG SS **SS 11 40 52.0 +4.5**
BRG *e*PKKP **PKKPdf 11 41 30.4 -0.3**
comp=Z,16nm,1.6s
BRG *e*PKPPKP 11 49 41.8
comp=Z,22nm,1.9s
comp=N,6µm,16.6s
comp=E,6µm,20.0s
comp=Z,7µm,16.6s
BRG Berggiesshubel 89.75 322 *i* P **P 11 23 59.5 -0.2**
BRG 11 34 28.0
BRG S **ScS 11 34 54.0 -0.5**
BRG SS **SS 11 40 52.0 +4.5**
BRG pmax pmax
comp=Z,112nm,1.4s
BRG MLR MLR
comp=N,6µm,16.6s
BRG MLR MLR
comp=E,6µm,20.0s
BRG MLR MLR
comp=Z,7µm,16.6s
BRG Berggiesshubel 89.75 322 *e*P **P 11 23 59.4 -0.2**
comp=Z,36nm,1.1s,baz=104,slow=4.4
WET Wettzell 89.94 320 P **P 11 24 00.1 -0.6**
WET Wettzell 89.94 320 *e*P **P 11 24 00.3 -0.4**
comp=Z,122nm,1.1s,baz=104,slow=4.4
ZCCA Zocca 89.98 315 IAmb IAmb 11 24 22.4
comp=Z,299nm,1.0s
FBE Freiberg 90.12 322 *e*P **P 11 24 01.2 -0.3**
comp=Z,66nm,1.1s,baz=104,slow=4.4
WTTA Wattenberg 90.25 318 *i* P **P 11 24 01.3 -1.1**
comp=Z,176nm,1.6s,SNR=45
WTTA *e*PP PP 11 27 44.9 +8.3
comp=Z,55nm,1.3s
WTTA *e*SKSac **SKSac 11 34 30.0 -2.5**
comp=Z,6.6nm,1.1s
WTTA Wattenberg 90.25 318 P **P 11 24 01.3 -1.1**
RUE Ruedersdorf 90.30 323 *e*P **P 11 24 01.9 -0.3**
RUE Ruedersdorf 90.30 323 *e*P **P 11 24 01.9 -0.3**
comp=Z,92nm,1.0s,baz=104,slow=4.4
WATA Walderalm 90.31 318 *i* P **P 11 24 01.3 -1.3**
comp=Z,87nm,1.4s,SNR=28
WATA *i* PP PP 11 27 45.2 +8.3
comp=Z,42nm,1.3s
BSD Bornholm Skovb 90.41 326 *i* P **P 11 24 01.2 -1.5**
BSD Bornholm Skovb 90.41 326 *i* S **SKSac 11 34 26.6 -5.9**
comp=Z,9µm,16.0s
BSD Bornholm Skovb 90.41 326 *i* P **P 11 24 01.2 -1.5**
BSD *i* S **SKSac 11 34 26.6 -5.9**
BSD MLR MLR
comp=Z,9µm,16.0s
CLL Collm 90.44 322 *i* P **P 11 24 02.2 -0.7**
comp=Z,110nm,1.3s
CLL *i* 11 24 07.1
CLL *i* 11 24 12.5
CLL *e* 11 27 16.0
CLL *e*PP **PP 11 27 36.0 -1.7**
CLL *e*PPP PPP 11 29 30.0
CLL *e*PPPP 11 31 06.0
CLL *e* 11 32 06.0
CLL *e*SKSac **SKSac 11 34 32.0 -0.9**
CLL *e*S **S 11 34 56.0 -0.5**
CLL *e*PS PS 11 36 02.0 -4.4
CLL *e* 11 37 38.0
CLL *e*SS **SS 11 40 56.0 -1.5**
CLL *e* 11 42 06.0
CLL *e*SSS SSS 11 44 35.0

CLL e 11 47 00.0
CLL eSSSS 11 47 30.0
CLL ePKPPKPdf 11 49 41.0
CLL Lmax 11 55 00.0
CLL Collm 90.44 322 *i* P **P 11 24 02.2 -0.7**
CLL *i* 11 24 07.1
CLL *e* 11 34 32.0
CLL eS **S 11 34 56.0 -0.5**
CLL pmax pmax
comp=Z,110nm,1.3s
CLL Collm 90.44 322 *e*P **P 11 24 02.5 -0.4**
comp=Z,49nm,1.1s,baz=104,slow=4.4
NKC Novy Kostel 90.49 321 *e*P **P 11 24 03.1 -0.2**
NKC eSKS **SKSac 11 34 28.1 -5.2**
NKC AMS AMS 11 55 20.0
comp=Z,27µm,46.5s
NKC Novy Kostel 90.49 321 *e*P **P 11 24 03.1 -0.2**
NKC eS **SKSac 11 34 28.1 -5.2**
NKC MLR MLR
comp=Z,27µm,46.5s
ROTZ Rotzenmuhle 90.52 320 *e*P **P 11 24 02.9 -0.5**
comp=Z,41nm,1.2s,baz=104,slow=4.4
SQTA Sankt Quirin 90.52 318 *i* P **P 11 24 02.6 -1.0**
comp=Z,153nm,1.4s,SNR=52
SQTA PP **PP 11 27 45.2 +6.5**
comp=Z,34nm,1.2s
SQTA SKSac **SKSac 11 34 35.6 +1.8**
comp=Z,34nm,1.7s
TANN Tannenbergstha 90.53 321 *e*P **P 11 24 03.1 -0.4**
comp=Z,36nm,1.1s,baz=104,slow=4.4
WERN Wernitzgruen 90.55 321 *e*P **P 11 24 03.2 -0.3**
comp=Z,15nm,1.0s,baz=104,slow=4.4
SALO Salr 90.59 316 IAmb IAmb 11 24 06.2
comp=Z,341nm,1.2s
GUNZ Gunzen 90.60 321 *e*P **P 11 24 03.5 -0.2**
comp=Z,33nm,1.1s,baz=104,slow=4.4
MOTA Moosalm 90.62 318 *i* P **P 11 24 03.1 -1.0**
comp=Z,120nm,1.0s,SNR=49
MOTA *e*PP **PP 11 27 44.8 +5.4**
comp=Z,43nm,1.1s
MOTA eSKSac **SKSac 11 34 31.3 -3.2**
comp=Z,28nm,1.6s
MANZ Manzenberg 90.64 321 *e*P **P 11 24 03.7 -0.3**
comp=Z,56nm,1.0s,baz=104,slow=4.4
FUR Furstenfeldbru 90.71 319 P **P 11 24 04.3 0.0**
FUR Furstenfeldbru 90.71 319 *e*P **P 11 24 03.7 -0.6**
comp=Z,45nm,0.8s,baz=104,slow=4.4
GRC1 Grafenberg Arr 90.76 320 P **P 11 24 04.2 -0.3**
KEV Kevo 90.77 342 P **P 11 24 03.7 -0.4**
KEV pmax pmax
comp=Z,117nm,1.4s
KEV MLR MLR
comp=Z,24µm,20.0s
KEV Kevo 90.77 342 P **P 11 24 03.7 -0.4**
FETA Feichten 90.79 318 *i* P **P 11 24 04.2 -0.7**
comp=Z,135nm,1.1s,SNR=80
FETA PP **PP 11 27 44.1 +3.3**
comp=Z,44nm,1.4s
RETA Reutte 90.88 318 *i* P **P 11 24 04.4 -0.8**
comp=Z,154nm,1.2s,SNR=75
RETA eSKSac **SKSac 11 34 38.4 +2.6**
comp=Z,21nm,2.0s
CMAH Djebel Manchou 90.89 307 P **P 11 24 06.0 +0.5**
MSSA Maissana 90.99 315 P **P 11 24 03.8 -2.0**
FUORN Ofenpass-Fuorn 91.01 317 P **P 11 24 05.4 -0.7**
FUORN IAmb IAmb 11 24 12.2
comp=Z,195nm,1.1s
MOX Moxa 91.11 321 P **P 11 24 05.8 -0.3**
MOX Moxa 91.11 321 *e*P **P 11 24 05.8 -0.3**
comp=Z,31nm,1.0s,baz=104,slow=4.4
MOX *e*L L 12 04 17.7
comp=Z,4µm,18.7s
GRA1 Grafenberg Arr 91.12 320 IAmb IAmb 11 24 12.0
comp=Z,126nm,1.1s
GRF Grafenberg Arr 91.12 320 P **P 11 24 06.4 +0.2**
GRF Grafenberg Arr 91.12 320 *e*P **P 11 24 05.9 -0.3**
comp=Z,80nm,1.1s,baz=104,slow=4.4
GRF *e*L L 12 04 40.1
comp=Z,3µm,19.3s
RGN Rugen 91.13 325 *e*P **P 11 24 02.5 -3.5**
ARCES ARCESS Array B 91.14 341 P **P 11 24 05.6 -0.2**
comp=Z,61nm,0.9s,baz=118,slow=4.5,SNR=66
ARCES LR LR 12 06 01.5
comp=Z,23µm,21.0s,baz=119,slow=36
ARCES ARCESS Array B 91.14 341 P **P 11 24 05.3 -0.5**
ARE0 ARCESS Array S 91.14 341 P **P 11 24 05.4 -0.5**
ARE0 ARCESS Array S 91.14 341 *e*P **P 11 24 06.0 +0.2**
ARE0 eSKSac **SKSac 11 34 36.3 +0.1**
ARE0 eSS **SS 11 41 07.2 +0.4**
ARE0 IVMs_BB IVMs_BB 11 59 47.2
comp=Z,3µm,22.4s
NEUB Neuenburg 91.16 322 *e*P **P 11 24 06.0 -0.3**
comp=Z,64nm,1.0s,baz=104,slow=4.4
DAVOX Davos/Dischmat 91.30 317 P **P 11 24 06.3 -1.0**
comp=Z,79nm,1.0s,baz=151,slow=5.6,SNR=67
UBR Ueberruh 91.36 318 *e*P **P 11 24 06.8 -0.6**
comp=Z,78nm,1.0s,baz=104,slow=4.4
CAEH 'Ain El Ouahch 91.37 307 P **P 11 24 11.1 +3.4**
CKFL Kef-Lekhel 91.40 307 P **P 11 24 08.0 +0.1**
DAVA Damuels 91.42 318 *i* P **P 11 24 07.4 -0.4**
comp=Z,205nm,1.3s,SNR=82
DAVA SKSac **SKSac 11 34 41.7 +2.6**
comp=Z,60nm,1.9s
CASM Ain Smara 91.55 306 P **P 11 24 09.5 +0.9**
CTEI Djebel Teioual 91.58 306 P **P 11 24 09.0 +0.2**
TOC3 Torodi Ar. Sit 91.60 283 IAMs_20 IAMs_20 11 59 40.1
comp=Z,13µm,22.0s
TOC2 Torodi Ar. Sit 91.61 283 IAMs_20 IAMs_20 11 59 40.2
comp=Z,13µm,22.0s
TOB3 Torodi Ar. Sit 91.62 283 IAMs_20 IAMs_20 11 59 39.5
comp=Z,13µm,22.0s
TOC4 Torodi Ar. Sit 91.62 283 IAMs_20 IAMs_20 11 59 39.6
comp=Z,13µm,22.0s
TOA2 Torodi Ar. Sit 91.62 283 IAMs_20 IAMs_20 11 59 39.7
comp=Z,14µm,22.0s
TOC1 Torodi Ar. Sit 91.63 283 IAMs_20 IAMs_20 11 59 39.7
comp=Z,16µm,22.0s
TOA0 Torodi Ar. Sit 91.63 283 P **P 11 24 09.2 -0.1**
SNR=46
TOA0 P **P 11 24 09.2 -0.1**
SNR=46
TOA0 Torodi Ar. Sit 91.63 283 P **P 11 24 08.8 -0.5**
TOA0 IAmb IAmb 11 24 13.3
comp=Z,243nm,1.2s
TOA0 IAMs_20 IAMs_20 11 59 40.8
comp=Z,13µm,22.0s
TOA3 Torodi Ar. Sit 91.63 283 IAMs_20 IAMs_20 11 59 39.8
comp=Z,13µm,22.0s
TORD Torodi Ar. Bea 91.63 283 P **P 11 24 08.7 -0.6**
comp=Z,78nm,1.0s,baz=83,slow=2.0,SNR=146
TORD PKiKP **PKiKP 11 29 02.1 +1.2**
comp=Z,5.1nm,1.0s,baz=56,slow=1.3,SNR=5.4
TORD PKKPbc **PKKPbc 11 41 30.4 +1.7**
comp=Z,0.8nm,0.7s,baz=276,slow=3.2,SNR=4.3
TORD PKPPKP 11 49 39.5
comp=Z,1.9nm,1.1s,baz=311,slow=2.2,SNR=5.2
TORD LR LR 12 01 31.6
comp=Z,10µm,20.3s,baz=85,slow=33
TORD Torodi Ar. Bea 91.63 283 P **P 11 24 08.7 -0.6**
TOB1 Torodi Ar. Sit 91.63 283 IAMs_20 IAMs_20 11 59 40.9
comp=Z,13µm,22.0s
TOB4 Torodi Ar. Sit 91.64 283 IAMs_20 IAMs_20 11 59 41.0
comp=Z,13µm,22.0s
TOB5 Torodi Ar. Sit 91.64 283 IAMs_20 IAMs_20 11 59 41.2
comp=Z,14µm,22.0s
KTK1 Kautokeino 91.64 341 *e*P **P 11 24 07.1 -1.1**
KTK1 eSKSac **SKSac 11 34 38.1 -1.0**
KTK1 eSP **SPn 11 36 16.0 -0.4**
TOC5 Torodi Ar. Sit 91.64 283 IAMs_20 IAMs_20 11 59 40.2
comp=Z,15µm,22.0s
TOC7 Torodi Ar. Sit 91.65 283 IAMs_20 IAMs_20 11 59 40.3
comp=Z,13µm,22.0s
ASSE Asse, Remlinge 92.05 323 *e*P **P 11 24 09.8 -0.5**
comp=Z,45nm,1.2s,baz=104,slow=4.4
DFRA Djebel Bou Aff 92.09 307 P **P 11 24 12.5 +1.4**
UBBA Unterbreizbach 92.15 321 *e*P **P 11 24 10.3 -0.5**
comp=Z,20nm,1.2s,baz=104,slow=4.4
CLZ Clausthal 92.16 322 *e*P **P 11 24 10.1 -0.8**
comp=Z,30nm,1.0s,baz=104,slow=4.4
HAMF Hammerfest 92.18 342 *e*P **P 11 24 10.6 0.0**
HAMF IVmB_BB 11 24 11.3
comp=Z,1µm,2.4s
HAMF eSKSac **SKSac 11 34 40.5 -1.4**
HAMF eSP SPn 11 36 24.0 +1.5
HAMF eSS **SS 11 41 24.0 +2.3**
HAMF IVMs_BB IVMs_BB 12 05 59.3
comp=Z,8µm,20.6s
GTTG Gottingen 92.34 322 *e*P **P 11 24 11.2 -0.5**
comp=Z,19nm,0.8s,baz=104,slow=4.4
SLE Schleitheim 92.44 318 P **P 11 24 11.6 -0.8**
NRDL Niedersach Rie 92.47 323 *e*P **P 11 24 11.9 -0.3**
comp=Z,39nm,1.2s,baz=104,slow=4.4
TOD Tromm 92.63 320 P **P 11 24 13.4 +0.2**
BFO Black Forest 92.67 318 P **P 11 24 12.3 -1.1**
BFO pmax pmax
comp=Z,53nm,1.2s
BFO Black Forest 92.67 318 P **P 11 24 12.2 -1.1**
BFO Black Forest 92.67 318 *e*P **P 11 24 12.6 -0.8**
comp=Z,23nm,1.0s,baz=104,slow=4.4
BSEG Bad Segeberg 92.68 324 *e*P **P 11 24 12.6 -0.6**
comp=Z,13nm,1.0s,baz=104,slow=4.4
FRF La Foret Royal 92.86 314 *e*P **P 11 24 12.7 -1.6**
FRF pmax pmax
comp=Z,170nm,1.7s
SENIN Lac Senin/Sane 92.95 316 IAmb IAmb 11 24 34.1
comp=Z,92nm,1.1s
TNS Taunus Mts 92.99 320 P **P 11 24 14.8 -0.1**
TNS Taunus Mts 92.99 320 *e*P **P 11 24 14.1 -0.7**
comp=Z,21nm,1.1s,baz=104,slow=4.4
KTD Kalmit 93.03 319 P **P 11 24 15.6 +0.5**
BNI Bardonecchia 93.12 315 P **P 11 24 14.3 -1.4**
LANF Langenberg 93.14 319 P **P 11 24 15.0 -0.6**
LPG La Plagne 93.16 316 *e*P **P 11 24 14.9 -1.2**
LPG pmax pmax
comp=Z,56nm,1.4s
LPL La Plagne 93.17 316 *e*P **P 11 24 15.0 -1.1**
LPL pmax pmax
comp=Z,76nm,1.3s
TRO Tromso 93.30 341 *e*P **P 11 24 15.5 -0.3**
TRO IVmB_BB 11 24 16.1
comp=Z,905nm,1.9s
TRO eSKSac **SKSac 11 34 48.7 +0.5**
TRO eSS **SS 11 41 37.4 -0.3**
TRO IVMs_BB IVMs_BB 12 07 05.4
comp=Z,6µm,18.1s
ECH Echery 93.41 318 P **P 11 24 16.0 -0.8**
HINF Hinteralfeld 93.53 318 *e*P **P 11 24 15.8 -1.6**
HINF pmax pmax
comp=Z,67nm,1.8s
AKET Djebel Ketaf 93.59 306 P **P 11 24 18.8 +0.7**
NC602 NORSAR Array S 93.66 331 P **P 11 24 16.8 -0.8**
NC602 NORSAR Array S 93.66 331 *e*P **P 11 24 16.8 -0.8**
NC602 eSKSac **SKSac 11 34 50.2 -0.4**
NC602 eSS **SS 11 41 43.9 +0.7**
NC602 IVMs_BB IVMs_BB 12 01 11.4
comp=Z,5µm,34.0s
NORES NORESS Array B 93.66 331 P **P 11 24 17.6 0.0**
NORES pmax pmax
comp=Z,11nm,0.9s
NC405 NORSAR Array S 93.67 331 P **P 11 24 17.1 -0.6**
SHEL Horse Pasture 93.68 253 P **P 11 24 18.2 -0.6**
SHEL pmax pmax
comp=Z,199nm,1.3s
SHEL Horse Pasture 93.68 253 P **P 11 24 18.2 -0.6**
SHEL IAmb IAmb 11 25 00.5
comp=Z,199nm,1.2s
N2ST Straumen 93.72 338 *e*P **P 11 24 16.7 -1.1**
N2IH Innhavet 93.79 339 *e*P **P 11 24 17.0 -1.0**
MOR8 Moi Rana 93.82 337 *e*P **P 11 24 17.2 -1.1**
MOR8 IVmB_BB 11 24 21.4
comp=Z,2µm,6.7s
MOR8 eSKSac **SKSac 11 34 49.1 -2.2**
MOR8 eSP SP 11 36 40.1 +0.3
MOR8 eSS **SS 11 41 45.4 -0.1**
MOR8 IVMs_BB IVMs_BB 12 10 31.2
comp=Z,4µm,16.5s
IBBN Ibbenburen 93.84 322 *e*P **P 11 24 18.1 -0.5**
comp=Z,24nm,1.1s,baz=104,slow=4.4
BILL Bilibino 93.86 21 *ce*P **P 11 24 17.2 -1.2**
BILL *e* 11 28 02.4
BILL *i* S **SKSac 11 34 46.8 -4.6**
BILL *i* SS **SS 11 41 51.1 +5.3**
BILL pmax pmax
comp=Z,109nm,1.8s
BILL Bilibino 93.86 21 P **P 11 24 18.0 -0.4**
BILL IAmb IAmb 11 24 23.2
comp=Z,201nm,1.8s
BILL IAMs_20 IAMs_20 12 07 00.8
comp=Z,21µm,21.0s
NC303 NORSAR Array S 93.86 332 IAmb IAmb 11 24 45.1
comp=Z,252nm,1.9s
OSL Oslo 93.86 330 *e*P **P 11 24 18.3 -0.2**
OSL IVmB_BB 11 24 19.2
comp=Z,1µm,2.4s
OSL eSKSac **SKSac 11 34 49.4 -2.2**
OSL eSS **SS 11 41 45.6 -0.6**
OSL IVMs_BB IVMs_BB 12 10 14.5
comp=Z,5µm,17.6s
NB2 NORSAR Subarra 93.88 331 P **P 11 24 16.7 -2.0**
comp=Z,49nm,1.4s,baz=98,slow=5.1
NB2 NORSAR Subarra 93.88 331 P **P 11 24 17.5 -1.2**
NB2 NORSAR Subarra 93.88 331 P **P 11 24 16.7 -2.0**
baz=98,slow=5.1
NOA NORSAR Array B 93.88 331 P **P 11 24 17.4 -1.4**
comp=Z,9.5nm,0.9s,baz=100,slow=4.7,SNR=18
NOA LR LR 12 11 32.7
comp=Z,6µm,18.0s,baz=105,slow=39
MUD Monsted U'grnd 93.88 327 *i* P **P 11 24 18.7 0.0**
MUD Monsted U'grnd 93.88 327 *i* P **P 11 24 18.7 0.0**
HAU Haudompre 93.90 318 *e*P **P 11 24 17.8 -1.3**
HAU pmax pmax
comp=Z,105nm,1.6s
AHRW Bad Neuenahr-A 93.91 321 *e*P **P 11 24 18.4 -0.6**
comp=Z,18nm,1.0s,baz=104,slow=4.4
ADJB Djebel Djouab 93.96 306 P **P 11 24 20.5 +0.7**
N2TV TVrnvik 93.96 338 *e*P **P 11 24 18.8 0.0**
BUG Bochum--Univer 93.97 321 *e*P **P 11 24 19.0 -0.2**
comp=Z,21nm,1.1s,baz=104,slow=4.4
GOET G??ttrup 93.98 327 *i* P **P 11 24 20.8 +1.7**
NAO01 NORSAR Array S 93.99 331 *e*P **P 11 24 18.8 -0.4**
STEI Steigen 94.03 338 *e*P **P 11 24 18.7 -0.4**
STEI IVMs_BB IVMs_BB 12 10 59.9
comp=Z,4µm,13.9s
NBB30 Finnes 94.31 337 *e*P **P 11 24 20.4 -0.1**
WLF Walferdange 94.33 320 P **P 11 24 20.2 -0.8**
WLF Walferdange 94.33 320 P **P 11 24 21.8 +0.8**
WLF Walferdange 94.33 320 *e*P **P 11 24 20.4 -0.6**
comp=Z,12nm,1.0s,baz=104,slow=4.4
HOPEN Hopen 94.34 348 *e*P **P 11 24 20.7 +0.3**
HOPEN IVmBBB 11 24 21.0
comp=Z,658nm,2.1s
HOPEN eSKSac **SKSac 11 34 53.8 +0.1**
HOPEN eSS **SS 11 41 53.0 +0.7**
HOPEN IVMs_BB IVMs_BB 12 08 28.0
comp=Z,4µm,17.4s
KONO Kongsberg 94.35 330 *ce*P **P 11 24 20.3 -0.5**
KONO pmax pmax
comp=Z,41nm,1.3s
KONO Kongsberg 94.35 330 P **P 11 24 19.9 -0.9**
KONO Kongsberg 94.35 330 IAMs_20 IAMs_20 12 10 42.5
comp=Z,15µm,19.0s
KONO Kongsberg 94.35 330 *e*P **P 11 24 19.6 -1.2**
KONO IVmB_BB 11 24 24.6
comp=Z,2µm,6.2s
KONO *e*PP **PP 11 28 10.8 +2.5**
KONO eSKSac **SKSac 11 34 54.7 +0.3**
KONO eSS **SS 11 41 52.7 -0.5**
KONO IVMs_BB IVMs_BB 12 10 41.1
comp=Z,5µm,17.9s
ABA Alger-Bouzarea 94.39 306 P **P 11 24 22.0 +0.4**
NSS Namsos 94.39 335 *e*P **P 11 24 20.5 -0.3**
NSS eSKSac **SKSac 11 34 56.6 +2.3**
NSS eSS **SS 11 41 50.1 -3.5**
NSS IVMs_BB IVMs_BB 12 10 26.5
comp=Z,4µm,15.5s
STOK Stokkvaagen 94.42 337 *e*P **P 11 24 20.8 -0.2**
STOK eSKSac **SKSac 11 34 55.9 +1.4**
KONS Konsvik 94.43 337 *e*P **P 11 24 21.1 +0.1**
TRIS Tristan da Cun 94.43 231 IAMs_20 IAMs_20 11 58 07.1
comp=Z,16µm,20.0s
AFI Afiamalu 94.47 105 P **P 11 24 22.1 -0.4**
AFI pmax pmax
comp=Z,150nm,1.3s
AFI Afiamalu 94.47 105 P **P 11 24 22.1 -0.4**
AFI IAmb IAmb 11 24 28.1
comp=Z,150nm,1.2s
VIVF Saint-Julien-l 94.49 315 *e*P **P 11 24 21.0 -0.9**
VIVF pmax pmax
comp=Z,77nm,1.7s
BHOU Houvegnez 94.55 320 P **P 11 24 21.6 -0.4**
MEM Membach 94.60 320 P **P 11 24 21.1 -1.0**
MEM x x 11 24 44.1
HOMB Homborsund 94.62 328 *e*P **P 11 24 22.1 +0.1**
LOF Lofoten 94.70 338 *e*P **P 11 24 21.9 -0.4**
LOF IVmBBB 11 24 27.3
comp=Z,923nm,2.5s
LOF eSKSac **SKSac 11 34 55.6 -0.3**
LOF eSP SP 11 36 50.7 +1.4
LOF eSS **SS 11 41 56.5 -1.2**
LOF IVMs_BB IVMs_BB 12 09 34.5
comp=Z,3µm,17.9s
TBLU Trondheim 94.83 333 *e*P **P 11 24 22.5 -0.4**
TBLU IVmBBB 11 24 23.1
comp=Z,632nm,2.9s
TBLU eSKSac **SKSac 11 34 56.5 -0.3**
TBLU IVMs_BB IVMs_BB 12 11 16.3
comp=Z,5µm,17.6s
BSTI Sart Tilman 94.87 320 P **P 11 24 22.4 -1.1**
BSTI x x 11 24 48.6
N2VA Vr_y 94.89 338 *e*P **P 11 24 22.8 -0.2**
BJO1 Bjornoya 94.96 345 *e*P **P 11 24 22.7 -0.5**
BJO1 eSKSac **SKSac 11 34 56.7 -0.4**
BJO1 eSS **SS 11 42 03.5 +2.4**
BJO1 IVMs_BB IVMs_BB 12 13 11.0
comp=Z,4µm,15.8s
DOMB Dombas 95.11 332 *e*P **P 11 24 24.0 -0.3**
DOMB IVmBBB 11 24 24.7
comp=Z,659nm,2.4s
DOMB eSKSac **SKSac 11 34 56.1 -2.4**
DOMB eSP SP 11 36 56.0 +1.9
DOMB eSS **SS 11 42 01.5 -2.5**
DOMB IVMsBB 12 04 13.0
comp=Z,3µm,29.5s
SKAR Skarslia 95.20 331 *e*P **P 11 24 24.7 0.0**
SKAR IVmB_BB 11 24 25.8
comp=Z,839nm,4.8s
SKAR eSKSac **SKSac 11 34 58.9 -0.2**
SKAR eSS **SS 11 42 05.8 +0.5**
SKAR IVMs_BB IVMs_BB 12 02 09.2
comp=Z,4µm,34.4s
SNART Snartemo 95.30 328 *e*P **P 11 24 25.4 +0.2**
SNART eSKSac **SKSac 11 35 00.5 +1.0**
SNART ePS PS 11 36 59.6 -0.2
SNART eSS **SS 11 42 07.7 +1.0**
BMRD Maredsous 95.32 320 P **P 11 24 24.2 -1.3**
comp=Z,20nm,2.3s
DOU Dourbes 95.40 320 P **P 11 24 24.8 -1.1**
DOU pP **PcP 11 24 27.6 +1.5**
LOR Lormes 95.44 317 *e*P **P 11 24 25.2 -0.9**
LOR pmax pmax
comp=Z,80nm,1.4s
BAIF Baives 95.64 320 *e*P **P 11 24 26.2 -0.7**
BAIF pmax pmax
comp=Z,49nm,1.3s
SNF Seneffe 95.66 320 P **P 11 24 26.3 -0.7**
AVF Avril sur Loir 95.71 316 *e*P **P 11 24 26.1 -1.2**
AVF pmax pmax
comp=Z,70nm,1.8s
EANR 'Ain N'Sour 95.80 305 P **P 11 24 29.1 +1.0**
ODD1 Odda 95.88 330 *e*P **P 11 24 27.7 -0.1**
ODD1 eSKSac **SKSac 11 35 03.3 +0.7**
BLS5 Blasjo 95.88 329 *e*P **P 11 24 27.6 -0.2**
BLS5 eSKSac **SKSac 11 35 03.2 +0.6**
BLS5 IVMs_BB IVMs_BB 11 57 58.5
comp=Z,1µm,21.4s
MOL Molde 95.91 332 *e*P **P 11 24 28.1 +0.2**
MOL eSKSac **SKSac 11 35 02.0 -0.6**
MOL *e*ScS **ScS 11 35 46.4 +1.2**
MOL IVMs_BB IVMs_BB 12 08 30.4
comp=Z,5µm,19.0s
OJGS Djebel Guires 96.02 305 P **P 11 24 30.0 +0.8**
AKN Aaknes 96.09 332 *e*P **P 11 24 29.3 +0.5**
AKN eSKSac **SKSac 11 35 08.7 +5.1**
AKN eSS **SS 11 42 19.6 +1.7**
AKN IVMs_BB IVMs_BB 12 08 35.1
comp=Z,4µm,18.7s
HYA Hoyanger 96.30 331 *e*P **P 11 24 29.0 -0.6**
HYA eSKSac **SKSac 11 35 04.0 -0.6**
HYA eSS **SS 11 42 22.7 +1.9**
CAF Calviac 96.33 314 *e*P **P 11 24 29.6 -0.7**
CAF pmax pmax
comp=Z,100nm,2.2s
KMY Karmoy 96.45 329 *e*P **P 11 24 30.2 -0.2**
KMY eSKSac **SKSac 11 35 05.0 -0.6**
KMY eSP SP 11 37 09.7 +0.8
HSPB Hornsund (broa 96.55 347 *e*P **P 11 24 29.0 -1.5**
HSPB *e*PP **PP 11 28 31.3 +6.4**
HSPB eSKSac **SKSac 11 35 05.7 +0.2**
HSPB eS **ScS 11 35 55.2 +5.1**
HSPB eSS **SS 11 42 27.9 +4.2**
HSPB *e*L L 12 11 28.3
comp=Z,15µm,20.7s
HSPB Hornsund (broa 96.55 347 *e*P **P 11 24 30.0 -0.5**
HSPB IVmB_BB 11 24 32.0
comp=Z,640nm,2.2s
HSPB eSKSac **SKSac 11 35 05.6 +0.2**
HSPB eSS **SS 11 42 28.5 +4.8**
HSPB IVMs_BB IVMs_BB 12 11 37.4
comp=Z,5µm,16.5s
BER Bergen 96.59 330 *e*P **P 11 24 31.6 +0.6**
BER IVmB_BB 11 24 35.2
comp=Z,1µm,5.2s
BER eSKSac **SKSac 11 35 03.3 -2.9**
BER eSS **SS 11 42 26.0 +1.1**
BER IVMs_BB IVMs_BB 12 04 13.5
comp=Z,3µm,29.0s
ASK Askoy 96.67 330 *e*P **P 11 24 31.3 -0.1**
ASK eSKSac **SKSac 11 35 07.3 +0.7**
ASK *e* 11 35 52.3
SPA0 Spitsbergen Ar 96.72 348 *e*P **P 11 24 31.3 0.0**
SPA0 eSKSac **SKSac 11 35 07.2 +0.8**
SPA0 eSP SP 11 37 12.7 +1.6
KIC Kosan Boka 96.76 275 *e*PKP2 **P 11 24 32.3 -0.6**
comp=Z,180nm,1.4s
FOO Floro 96.91 331 *e*P **P 11 24 32.3 -0.1**
FOO eSKSac **SKSac 11 35 08.8 +1.1**
FOO eScS **ScS 11 35 54.7 +1.2**
FOO eSS **SS 11 42 30.5 +1.2**
FOO IVMs_BB IVMs_BB 12 02 43.8
comp=Z,3µm,37.3s
DBIC Dimbokro 96.92 276 P **P 11 24 33.1 -0.5**
comp=Z,30nm,1.0s,baz=80,slow=5.7,SNR=9.3
DBIC LR LR 12 07 23.8
comp=Z,7µm,18.1s,baz=88,slow=35
DBIC Dimbokro 96.92 276 P **P 11 24 32.6 -1.0**
DBIC IAmb IAmb 11 24 38.9
comp=Z,64nm,1.1s
SUE Sulen 96.97 331 *e*P **P 11 24 32.3 -0.4**
SUE IVmB_BB 11 24 38.8
comp=Z,1µm,5.4s
SUE eSKSac **SKSac 11 35 06.5 -1.6**
SUE eSS **SS 11 42 31.1 +0.9**
SUE IVMs_BB IVMs_BB 12 03 01.2
comp=Z,3µm,33.3s
LIC Lamto 97.02 275 *e*PKP2 **P 11 24 33.3 -0.8**
comp=Z,133nm,1.3s
TIC Toumodi 97.08 275 *e*PKP2 **P 11 24 33.6 -0.8**
CART Cartagena 97.69 307 Pdif **P 11 24 33.7 -2.8**
CART Cartagena 97.69 307 PP **PP 11 28 35.0 +0.4**
KBS Kingsbay 97.77 349 *e*P **P 11 24 34.3 -1.7**
KBS pmax pmax
comp=Z,16nm,0.9s
KBS MLR MLR
comp=Z,13µm,21.0s
KBS Kingsbay 97.77 349 IAMs_20 IAMs_20 12 10 37.4
comp=Z,13µm,21.0s
KBS Kingsbay 97.77 349 *e*P **P 11 24 35.5 -0.5**
KBS eSKSac **SKSac 11 35 13.6 +1.9**
KBS ePS PS 11 37 26.0 -0.2
KBS eSS **SS 11 42 39.0 -1.7**
KBS IVMs_BB IVMs_BB 12 02 06.5
comp=Z,3µm,33.9s
MELI Melilla 98.98 304 Pdif **P 11 24 41.8 -0.6**
MELI Melilla 98.98 304 PP **PP 11 28 47.9 +3.3**
UCM Universidad Co 99.71 309 Pdif **Pdif 11 24 44.6 -1.0**
UCM Universidad Co 99.71 309 PP **PP 11 28 51.5 +1.4**
PVLZ Peæn de 100.08 304 Pdif **Pdif 11 24 45.1 -2.2**
PVLZ Peæn de 100.08 304 PP **PP 11 28 52.6 -0.4**
ESDC Sonseca Array 100.21 309 P **Pdif 11 24 46.9 -0.9**
comp=Z,3.8nm,1.0s,baz=63,slow=2.9,SNR=13
ESDC PP **PP 11 28 53.7 -0.3**
comp=Z,24nm,1.1s,baz=81,slow=5.8,SNR=11
ESDC PKKPbc **PKKPbc 11 41 06.4 -0.1**

comp=Z,3.3nm,1.2s,baz=291,slow=3.1,SNR=7.6
ESDC Sonseca Array 100.21 309 Pdif Pdif 11 24 46.4 -1.5
EMAL Malaga-Limoner 100.33 306 Pdif Pdif 11 24 45.7 -2.7
EMAL Malaga-Limoner 100.33 306 PP PP 11 28 56.5 +1.7
IFR Ifrane 100.62 302 Pdif Pdif 11 24 47.8 -2.2
IFR Ifrane 100.62 302 PP PP 11 29 02.8 +5.4
EKA Eskdalemuir Ar 100.62 325 P Pdif 11 24 48.4 -0.9
comp=Z,0.3nm,0.5s,baz=76,slow=17,SNR=3.5
EKA PP **PP 11 28 53.0 -3.5**
comp=Z,5.2nm,0.9s,baz=83,slow=8.5,SNR=3.4
CEU Ceuta 101.02 305 Pdif Pdif 11 24 47.3 -4.1
CEU Ceuta 101.02 305 PP PP 11 28 56.6 -3.5
SFS San Fernando 101.73 305 Pdif Pdif 11 24 52.9 -1.7
SFS San Fernando 101.73 305 PP PP 11 29 10.1 +4.6
GAMB Gambell 102.21 27 IAMs_20 IAMs_20 12 18 14.1
comp=Z,10µm,18.0s
PBRG Braganca 102.44 311 *e*Pdif **Pdif 11 25 01.0 +3.3**
PBRG Braganca 102.44 311 *e*PP **PP 11 29 10.1 -0.7**
PBRG Braganca 102.44 311 *e*SS SS 11 43 45.0 -2.9
AVE Averroes 102.50 302 Pdif Pdif 11 24 57.0 -1.2
AVE Averroes 102.50 302 PP PP 11 29 10.9 -0.5
NOR Nord 102.51 352 *i* P **Pdif 11 24 58.6 +1.5**
NOR Nord 102.51 352 *i* P **Pdif 11 24 58.6 +1.5**
NOR *i* S **SKSac 11 35 33.3 -1.6**
NOR MLR MLR
comp=Z,21µm,22.0s
JMIC Jan Mayen 102.61 341 *e*Pdif **Pdif 11 24 57.0 -0.7**
JMIC *e*SKSac **SKSac 11 35 43.2 +7.6**
JMIC *e*SP SP 11 38 17.4 +2.9
MVO Moncorvo 102.63 310 *e*Pdif **Pdif 11 25 01.8 +3.2**
MVO Moncorvo 102.63 310 *e*PP **PP 11 29 08.9 -3.3**
MVO *e*Sdif Sdif 11 36 40.9 -1.6
MVO *i* LQ LQ 11 38 17.1
MVO *e*SS **SS 11 43 52.5 +1.9**
MVO Moncorvo 102.63 310 *e*LR LR 12 00 43.6
comp=Z,2µm,20.0s
PMRV Marv??o 102.84 308 *e*Pdif **Pdif 11 25 00.5 +1.0**
PMRV Marv??o 102.84 308 *e*PP **PP 11 29 12.9 -0.8**
PMRV *e*Sdif Sdif 11 36 45.3 +1.2
PMRV *i* LQ LQ 11 38 20.9
PMRV *e*SS **SS 11 43 53.2 -0.2**
PMRV Marv??o 102.84 308 *e*LR LR 12 00 08.2
comp=Z,2µm,20.0s
PCBR Castelo Branco 102.92 309 *e*Pdif **Pdif 11 25 00.6 +0.8**
PCBR Castelo Branco 102.92 309 *e*PP **PP 11 29 15.4 +1.1**
MTE Manteigas 102.99 309 *e*Pdif **Pdif 11 25 03.8 +3.6**
MTE Manteigas 102.99 309 *e*PP **PP 11 29 14.7 -0.2**
MTE *e*Sdif Sdif 11 36 45.9 +0.4
MTE *i* LQ LQ 11 38 17.2
MTE *e*SS **SS 11 44 00.3 +4.7**
MTE Manteigas 102.99 309 *e*LR LR 12 00 54.3
comp=Z,3µm,20.0s
PVAQ Vaqueiros 103.00 306 *e*Pdif **Pdif 11 25 03.1 +2.9**
PVAQ Vaqueiros 103.00 306 *e*PP **PKiKP 11 29 13.9 -6.4**
PVAQ *e*SKS **SKSac 11 35 40.9 +2.0**
PVAQ *i* LQ LQ 11 38 30.6
PVAQ *e*SS **SS 11 43 57.9 +2.3**
PVAQ Vaqueiros 103.00 306 *e*LR LR 12 00 33.7
comp=Z,2µm,18.0s
PMSA Palmer Station 103.01 191 IAMs_20 IAMs_20 12 06 42.3
comp=Z,11µm,21.0s
PBEJ Beja 103.14 307 *e*Pdif **Pdif 11 25 02.7 +1.8**
PBEJ Beja 103.14 307 *e*PP **PKiKP 11 29 19.3 -1.3**
PVRL Vila Real 103.16 310 *e*PP **PKiKP 11 29 16.2 -4.3**
PBDV Barranco-do-Ve 103.16 306 *e*Pdif **Pdif 11 25 04.2 +3.2**
PBDV Barranco-do-Ve 103.16 306 *e*PP **PP 11 29 14.9 -1.3**
PBDV *e*SKS **SKSac 11 35 41.5 +1.7**
PBDV *e*Sdif **Sdif 11 36 45.0 -1.9**
PBDV *i* LQ LQ 11 38 19.6
PCVE Castro Verde 103.26 306 *e*Pdif **Pdif 11 25 01.5 +0.1**
PCVE Castro Verde 103.26 306 *e*PP **PP 11 29 15.4 -1.5**
PCVE *e*Sdif Sdif 11 36 47.8 +0.1
PCVE *e*SS **SS 11 43 58.5 -0.8**
EVO Evora 103.28 307 Pdif Pdif 11 25 00.1 -1.4
EVO Evora 103.28 307 PP PP 11 29 14.8 -2.3
EVO Evora 103.28 307 *e*Pdif **Pdif 11 25 01.8 +0.3**
EVO Evora 103.28 307 *e*PP **PP 11 29 16.2 -0.9**
PCAB Cabril 103.40 311 *e*Pdif **Pdif 11 25 05.0 +3.0**
PCAB Cabril 103.40 311 *e*PP **PP 11 29 17.6 -0.3**
MESJ Messejana 103.41 307 *e*P **Pdif 11 25 00.9 -1.1**
MESJ *e*PP **PP 11 29 16.6 -1.5**
MESJ *e*SKSac **SKSac 11 35 41.4 +0.6**
MESJ AMS AMS 12 16 57.2
comp=Z,4µm,27.8s
MESJ Messejana 103.41 307 *e*P **Pdif 11 25 00.9 -1.1**
MESJ *e* 11 29 16.5
MESJ *e* 11 35 41.4
MESJ Messejana 103.41 307 *e*Pdif **Pdif 11 25 02.4 +0.3**
PMTG Montargil 103.47 308 *e*Pdif **Pdif 11 25 03.8 +1.5**
PMTG Montargil 103.47 308 *e*PP **PP 11 29 16.3 -2.1**
PMTG *e*SKS **SKSac 11 35 43.3 +2.3**
PMTG *e*Sdif SKKSac 11 36 52.1 +30
PMTG *i* LQ LQ 11 38 38.2
PMTG *e*SS **SS 11 43 59.5 -2.5**
PGAV Gavieira, Arco 103.59 311 *e*Pdif **Pdif 11 25 06.0 +3.1**
PGAV Gavieira, Arco 103.59 311 *e*PP **PKiKP 11 29 18.3 -3.1**
PGAV *e*Sdif Sdif 11 36 49.9 -0.6
PGAV *i* LQ LQ 11 38 23.2
PGAV *e*SS **SS 11 44 03.2 -0.6**
PGAV Gavieira, Arco 103.59 311 *e*LR LR 12 01 31.0
comp=Z,6µm,20.0s
COI Coimbra 103.65 309 *e*Pdif **Pdif 11 25 03.4 +0.3**
COI Coimbra 103.65 309 *e*PP **PKiKP 11 29 22.4 +1.0**
COI *e*Sdif Sdif 11 36 53.4 +2.6
COI *i* LQ LQ 11 38 25.0
COI *e*SS **SS 11 44 04.1 -0.4**
PNCL Nicolau / Gran 103.67 307 *e*Pdif **Pdif 11 25 00.6 -2.6**
PNCL Nicolau / Gran 103.67 307 *e*PP **PKiKP 11 29 19.1 -2.4**
PNCL *e*SKS **SKSac 11 35 43.5 +1.5**
PNCL *e*Sdif **Sdif 11 36 50.7 -0.4**
PNCL *i* LQ LQ 11 38 40.6
PNCL *e*SS **SS 11 44 01.8 -3.0**
PCAS Casmilo, Conde 103.71 309 *e*Pdif **Pdif 11 25 03.0 -0.4**
PCAS Casmilo, Conde 103.71 309 *e*PP **PKiKP 11 29 18.6 -2.9**
PCAS *e*Sdif Sdif 11 36 50.1 -1.3
PCAS *i* LQ LQ 11 38 25.9
PCAS *e*SS **SS 11 43 58.1 -7.3**
MORF Marmelete 103.73 306 *e*P **Pdif 11 25 02.6 -1.1**
MORF *e*PP **PP 11 29 19.1 -1.5**
MORF *e*SKSac **SKSac 11 35 42.9 +0.4**
MORF AMS AMS 12 21 15.7
comp=N,4µm,16.7s
MORF Marmelete 103.73 306 *e*P **Pdif 11 25 02.5 -1.1**
MORF *e* 11 29 19.0
MORF *e* 11 35 42.8
MORF Marmelete 103.73 306 *e*Pdif **Pdif 11 25 06.5 +2.9**
MORF Marmelete 103.73 306 *e*PP **PKiKP 11 29 19.8 -1.9**
MORF *e*Sdif Sdif 11 36 53.5 +1.7
MORF *i* LQ LQ 11 38 47.5
MORF *e*SS **SS 11 44 05.1 -0.8**
PTEO Sao Teotonio 103.80 306 *e*Pdif **Pdif 11 25 05.2 +1.4**
PTEO Sao Teotonio 103.80 306 *e*PP **PKiKP 11 29 23.6 +1.8**
RAR Rarotonga 103.84 115 PP PP 11 29 26.2 +4.8
comp=N,14nm,0.7s,baz=125,slow=24,SNR=3.8
PFVI Vila Bisbo 103.87 306 *e*Pdif **Pdif 11 25 06.0 +1.9**
PFVI Vila Bisbo 103.87 306 *e*PP **PKiKP 11 29 20.5 -1.4**
PFVI *e*Sdif Sdif 11 36 52.9 +0.1
PFVI *i* LQ LQ 11 38 25.8
PFVI *e*SS **SS 11 44 15.0 +7.3**
PSBE So Bento 103.92 308 *e*Pdif **Pdif 11 25 04.2 -0.1**
PSBE So Bento 103.92 308 *e*PP **PKiKP 11 29 24.5 +2.5**
PSBE *e*Sdif Sdif 11 36 55.8 +2.6
PSBE *i* LQ LQ 11 38 43.7
PSBE *e*SS **SS 11 44 02.3 -6.1**
LIS Lisbon 104.18 307 *e*P **Pdif 11 25 04.6 -0.9**
LIS *e*PP **PKiKP 11 29 22.3 -0.1**
LIS *e*SS SS 11 44 12.9 +1.2
LIS AMS AMS 12 16 51.8
comp=Z,5µm,21.1s
LIS Lisbon 104.18 307 *e*P **Pdif 11 25 04.5 -0.9**
LIS *e* 11 29 22.3
LIS Lisbon 104.18 307 *e*Pdif **Pdif 11 25 05.0 -0.4**
LIS Lisbon 104.18 307 *e*PP **PKiKP 11 29 24.7 +2.3**
PMAFR Mafra 104.29 308 *e*Pdif **Pdif 11 25 06.5 +0.6**
PMAFR Mafra 104.29 308 *e*PP **PKiKP 11 29 25.5 +2.9**
PMAFR *e*Sdif Sdif 11 36 56.9 +0.7
PMAFR *i* LQ LQ 11 38 50.0
PMAFR *e*SS **SS 11 44 09.7 -3.6**
ANM Nome 104.91 26 IAMs_20 IAMs_20 12 18 08.0
comp=Z,14µm,18.0s
ALE Alert 106.77 356 IAMs_20 IAMs_20 12 18 22.6
comp=Z,15µm,19.0s
SCO Scoresbysund 107.07 341 *i* P **Pdif 11 25 22.5 +4.9**
SCO Scoresbysund 107.07 341 *i* P **Pdif 11 25 22.5 +4.9**
BORG Borgarnes 108.56 335 PP PP 11 29 56.7 +1.7
comp=Z,10nm,1.0s,baz=83,slow=1.9,SNR=3.1
CHGN Chignik 109.72 34 IAMs_20 IAMs_20 12 24 30.8
comp=Z,7µm,19.0s
TOLK Toolik Lake Re 109.84 20 Pdiff Pdif 11 25 35.6 +5.6
baz=294
TOLK P **PKiKP 11 29 33.1 +1.0**
baz=294
PMPS Porto Santo 109.97 301 *e*PP PP 11 30 15.8 +9.4
PMPST Porto Santo, M 109.97 302 *e*dif 11 25 33.0
PMPST Porto Santo, M 109.97 302 *e*PP **PP 11 30 12.9 +6.4**
PMPST *e*Sdif Sdif 11 37 52.5 +8.6
PMPST *i* LQ LQ 11 39 46.8
SVW2 Sparrevohn 110.02 28 IAMs_20 IAMs_20 12 23 47.6
comp=Z,9µm,18.0s
FUL Funchal 110.45 301 *e*PP PP 11 30 19.4 +9.5
PMAR Madeira 110.47 301 *e*PP PP 11 30 21.4 +11
PMOZ Porto Moniz, M 110.70 301 *e*Pdif **Pdif 11 25 36.5 +1.8**
PMOZ Porto Moniz, M 110.70 301 *e*PP PP 11 30 20.2 +8.3
PMOZ *e*Sdif Sdif 11 37 55.3 +5.1
PMOZ *i* LQ LQ 11 39 57.3
PMOZ *e*SS **SS 11 45 47.8 +7.0**
PMOZ Porto Moniz, M 110.70 301 *e*LR LR 12 04 18.2
comp=Z,5µm,20.0s
SUMG Summit 110.79 346 *i* P **Pdif 11 25 39.5 +4.9**
SUMG Summit 110.79 346 *i* P **Pdif 11 25 39.5 +4.9**
SUMG *i* S **SKSac 11 36 14.6 +2.1**
SUMG *i* 11 39 40.3
SUMG MLR MLR
comp=Z,18µm,23.0s
PPLA Purkeypile 110.99 26 IAMs_20 IAMs_20 12 24 21.8
comp=Z,12µm,20.0s
BPAW Bear Paw Mtn. 111.07 25 IAMs_20 IAMs_20 12 22 40.9
comp=Z,9µm,20.0s
KTH Kantishna Hill 111.30 25 IAMs_20 IAMs_20 12 26 16.8
comp=Z,9µm,19.0s
COLA College 112.02 23 ⇑ *i*PKIKP **PKiKP 11 29 37.1 +0.8**
COLA College 112.02 23 IAMs_20 IAMs_20 12 23 05.7
comp=Z,11µm,19.0s
MCK McKinley 112.05 25 IAMs_20 IAMs_20 12 22 36.7
comp=Z,10µm,18.0s
WRH Wood River Hil 112.10 24 IAMs_20 IAMs_20 12 24 30.7
comp=Z,9µm,18.0s
CCB Clear Creek Bu 112.14 23 IAMs_20 IAMs_20 12 23 09.4
comp=Z,11µm,19.0s
TBI Tubuai 112.14 120 *e*PP **PP 11 30 21.9 0.0**
comp=Z,1µm,27.5s
TBI Tubuai 112.14 120 *e*PS PS 11 39 53.9 -2.0
comp=Z,5µm,31.2s
TBI *e*SS SS 11 45 58.9 -0.6
comp=Z,12µm,31.0s
TBI Tubuai 112.14 120 *e*LR LR 12 03 01.9
comp=Z,21µm,34.0s,baz=235
RND Reindeer 112.22 25 IAMs_20 IAMs_20 12 19 34.7
comp=Z,9µm,21.0s
FYU Fort Yukon 112.25 21 IAMs_20 IAMs_20 12 23 26.5
comp=Z,12µm,19.0s
KDAK Kodiak Island 112.44 31 PKiKP PKiKP 11 29 35.9 -1.3
comp=Z,8.7nm,1.0s,baz=150,slow=11,SNR=1.9
ILAR Eielson Array 112.44 23 Pdiff Pdif 11 25 42.9 +1.3
comp=Z,0.2nm,0.5s,baz=324,slow=32,SNR=2.4
ILAR PKiKP **PKiKP 11 29 35.1 -2.0**
comp=Z,3.8nm,1.1s,baz=275,slow=9.1,SNR=4.3
ILAR P **PP 11 30 23.5 +0.5**
comp=Z,6.9nm,0.9s,baz=294,slow=8.5,SNR=5.1
ILAR PKKPbc **PKKPbc 11 40 27.0 -2.3**
comp=Z,12nm,1.2s,baz=141,slow=2.3,SNR=12
CNPM China Poot 112.56 29 IAMs_20 IAMs_20 12 26 27.2
comp=Z,10µm,18.0s
HDA Harding Lake 112.57 24 P **PKiKP 11 29 37.4 0.0**
baz=295
HDA Harding Lake 112.57 24 IAMs_20 IAMs_20 12 21 29.3
comp=Z,11µm,19.0s
PRP Porcupine Dome 112.62 22 IAMs_20 IAMs_20 12 27 42.6
comp=Z,9µm,19.0s
BRLK Bradley Lake 112.64 29 IAMs_20 IAMs_20 12 25 51.4
comp=Z,8µm,18.0s
TULEG Thule 112.72 355 IAMs_20 IAMs_20 12 21 13.9
comp=Z,12µm,19.0s
MG01 Puerto William 112.76 193 IAMs_20 IAMs_20 12 16 25.7
comp=Z,12µm,18.0s
PMR Palmer 112.80 27 IAMs_20 IAMs_20 12 27 25.4
comp=Z,8µm,18.0s
GHO Glory Hole Cre 112.82 27 IAMs_20 IAMs_20 12 27 41.0
comp=Z,8µm,18.0s
EFI East Falkland 112.93 200 IAMs_20 IAMs_20 12 11 15.8
comp=Z,9µm,20.0s
O22K Cooper Landing 112.94 28 P **PKiKP 11 29 39.3 +1.2**
baz=291
KIP Kipapa 113.04 71 ⇑ *i*PKIKP **PKiKP 11 29 40.4 +0.9**
SML Sawmill 113.06 26 IAMs_20 IAMs_20 12 25 59.2
comp=Z,9µm,20.0s
KULLO Kullorsuaq 113.09 351 *i* P **Pdif 11 25 47.0 +2.7**
comp=Z,10µm,19.0s
KULLO Kullorsuaq 113.09 351 *i* P **Pdif 11 25 47.0 +2.7**
KULLO MLR MLR
comp=Z,10µm,19.0s
KNK Knik Glacier 113.16 27 IAMs_20 IAMs_20 12 27 45.1
comp=Z,8µm,18.0s
SEW Seward 113.20 28 IAMs_20 IAMs_20 12 24 51.2
comp=Z,10µm,19.0s
SCM Sheep Creek Mo 113.49 26 IAMs_20 IAMs_20 12 26 36.8
comp=Z,11µm,20.0s
RIDG Independent Ri 113.70 24 IAMs_20 IAMs_20 12 23 33.1
comp=Z,8µm,19.0s
SCRK Sand Creek 113.92 23 IAMs_20 IAMs_20 12 22 38.1
comp=Z,12µm,20.0s
GLI Glacier Island 113.98 27 IAMs_20 IAMs_20 12 26 43.8
comp=Z,8µm,20.0s
DOT Dot Lake 114.05 24 IAMs_20 IAMs_20 12 24 11.3
comp=Z,11µm,20.0s
PPT2 Papeete2 114.11 114 *e*PP **PP 11 30 35.1 -1.1**
comp=Z,2µm,25.5s
PPT2 Papeete2 114.11 114 *e*PS PS 11 40 08.6 -5.8
comp=Z,9µm,27.8s
PPT2 *e*SS SS 11 46 23.9 -2.2
comp=Z,14µm,26.5s
PPT2 Papeete2 114.11 114 *e*LQ LQ 11 57 17.9
comp=Z,21µm,30.8s
PPT2 *e*LR LR 12 03 54.7
comp=Z,23µm,26.5s,baz=246
FID Port Fidalgo 114.31 27 IAMs_20 IAMs_20 12 26 51.3
comp=Z,12µm,20.0s
HIN Hinchinbrook I 114.44 27 IAMs_20 IAMs_20 12 26 31.1
comp=Z,11µm,18.0s
EGAK Eagle 114.60 22 IAMs_20 IAMs_20 12 26 02.8
comp=Z,12µm,18.0s
INK Inuvik 115.01 17 PKP PKiKP 11 29 39.9 -2.0
comp=Z,7.8nm,0.6s,baz=296,slow=5.1,SNR=12
INK P **PP 11 30 40.0 -1.0**
comp=Z,13nm,1.2s,baz=308,slow=8.3,SNR=3.1
INK PKKPbc **PKKPbc 11 40 19.3 -1.2**
comp=Z,13nm,1.0s,baz=138,slow=5.3,SNR=5.4
INK Inuvik 115.01 17 IAMs_20 IAMs_20 12 26 57.5
comp=Z,12µm,18.0s
GO10 Punta Arenas 115.15 192 IAMs_20 IAMs_20 12 14 23.4
comp=Z,14µm,20.0s
EPYK Eagle Plains 115.25 19 P **PKiKP 11 29 41.6 -0.8**
baz=306,SNR=19
EPYK Eagle Plains 115.25 19 IAMs_20 IAMs_20 12 22 39.8
comp=Z,11µm,20.0s
RAGM Ragged Mountai 115.27 27 IAMs_20 IAMs_20 12 25 51.9
comp=Z,14µm,20.0s
RES Resolute Bay 115.37 2 PKP PKiKP 11 29 41.3 -1.2
comp=Z,16nm,0.9s,baz=335,slow=3.3,SNR=9.0
RES Resolute Bay 115.37 2 PKPdf 11 29 42.5 +0.1
RES IAMs_20 IAMs_20 12 24 38.7
comp=Z,9µm,20.0s
VRDI Verde Repeater 115.43 26 PKiKP 11 29 42.7 -0.5
WAX Waxell Ridge 116.05 26 IAMs_20 IAMs_20 12 28 28.5
comp=Z,9µm,18.0s
ILULI Ilulissat 116.14 346 *i* P **Pdif 11 25 59.2 +1.3**
ILULI Ilulissat 116.14 346 PKiKP PKiKP 11 29 43.1 -0.9
ILULI Ilulissat 116.14 346 PKiKP 11 29 43.1 -0.9
ILULI IAMs_20 IAMs_20 12 26 38.8
comp=Z,9µm,18.0s
BARN Barnard Glacie 116.27 26 PKiKP 11 29 45.1 +0.3
PSMN Pico do Norte, 116.83 306 *e*PP PP 11 30 53.7 -1.4
PSMN Pico do Norte, 116.83 306 *e*SS SS 11 47 08.3 +7.0
CMLA Cha da Macela 117.09 307 *e*PP PP 11 30 58.4 +1.6
CMLA Cha da Macela 117.09 307 *e*SS SS 11 47 06.9 +2.4
CMLA Cha da Macela 117.09 307 IAMs_20 IAMs_20 12 24 50.2
comp=Z,8µm,19.0s
PSET Sete Cidades 117.23 307 *e*PP PP 11 30 57.7 -0.1
PSET Sete Cidades 117.23 307 *e*SS SS 11 47 04.0 -2.5
SFJD Kangerlussuaq 117.64 344 PKIKP **PKPdf 11 29 46.3 -0.7**
SFJD MLR MLR
comp=Z,8µm,22.0s
SFJD Kangerlussuaq 117.64 344 PKPdf **PKPdf 11 29 46.3 -0.7**
SFJD Kangerlussuaq 117.64 344 IAMs_20 IAMs_20 12 19 37.7
comp=Z,7µm,22.0s
HYT Haines Junctio 118.13 25 IAMs_20 IAMs_20 12 27 37.4
comp=Z,7µm,18.0s
PGRA Graciosa 118.78 309 *e*PP PP 11 31 11.3 +2.8
PGRA Graciosa 118.78 309 *e*SS SS 11 47 24.1 -2.3
PGRA *e*SS **SS 11 47 27.0 +0.6**
ROSA Rosais 119.04 309 *e*PP PP 11 31 12.8 +2.5
ROSA Rosais 119.04 309 *e*SS SS 11 47 29.8 +0.1
SKAG Skagway 119.80 25 IAMs_20 IAMs_20 12 28 48.5
comp=Z,8µm,20.0s
BESE Bessie Mountai 120.50 26 IAMs_20 IAMs_20 12 27 50.2
comp=Z,8µm,19.0s
JIS Juneau Island 120.88 26 IAMs_20 IAMs_20 12 29 49.2
comp=Z,10µm,19.0s
IVI Ivigtut 120.90 338 IAMs_20 IAMs_20 12 22 30.4
comp=Z,8µm,20.0s
SIT Sitka 121.16 28 IAMs_20 IAMs_20 12 28 36.5
comp=Z,8µm,19.0s
COYC Coyhaique 122.53 194 IAMs_20 IAMs_20 12 22 24.0
comp=Z,11µm,18.0s
DLBC Dease Lake 122.61 24 PKP PKPdf 11 29 56.2 -0.7
comp=Z,48nm,1.1s,baz=306,slow=1.8,SNR=17
RKT Rikitea 124.16 127 *e*PS PS 11 41 42.0 -2.2
comp=Z,4µm,30.2s
RKT *e*SS SS 11 48 35.5 +0.5
comp=Z,21µm,31.0s
RKT Rikitea 124.16 127 *e*LR LR 12 08 32.2
comp=Z,9µm,30.5s
YKA Yellowknife Ar 124.52 14 PKP PKPdf 11 29 58.4 -1.9
comp=Z,16nm,1.0s,baz=317,slow=2.1,SNR=31
YKA PP PP 11 31 36.8 -9.4
comp=Z,8.7nm,1.0s,baz=330,slow=7.9,SNR=5.6
YKA PKKPbc **PKKPab 11 39 42.8 +0.5**
comp=Z,5.6nm,0.9s,baz=147,slow=3.9,SNR=13
YKA SKKPbc SKKPbc 11 43 34.3 -1.5
comp=Z,27nm,1.4s,baz=145,slow=4.0,SNR=8.5
BSFB Barra de Sao F 124.52 239 *e*P **PKPdf 11 30 01.3 -0.3**
BSFB Barra de Sao F 124.52 239 *e*P **PKPdf 11 30 01.3 -0.3**
H02N1 VAN INLET T-PH 124.61 30 PKP PKPdf 11 29 59.7 -1.2
SNR=3.5
H02S1 DAWSON INLET TI 124.67 30 PKP PKPdf 11 29 59.5 -1.3
RCBR Riachuelo 124.83 256 PKiKP PKPdf 11 30 02.5 +0.1
RCBR Riachuelo 124.83 256 PKPdf PKPdf 11 30 02.5 +0.1
RCBR Riachuelo 124.83 256 *e*P **PKiKP 11 30 02.7 -0.1**
RCBR Riachuelo 124.83 256 *e*P **PKiKP 11 30 02.7 -0.1**
SJMB Sao Joao De Ma 124.86 239 *e*P **PKPdf 11 30 02.2 -0.1**
SJMB Sao Joao De Ma 124.86 239 *e*P **PKPdf 11 30 02.2 -0.1**
GDU01 Guandu, BA 125.58 245 *e*P **PKPdf 11 30 03.7 -0.1**
GDU01 Guandu, BA 125.58 245 *e*P **PKPdf 11 30 03.7 -0.1**
LL01 San Ignacio de 125.61 195 IAMs_20 IAMs_20 12 19 03.7
comp=Z,11µm,21.0s
TAOE Nuku Hiva Isla 125.68 109 *e*PP PP 11 31 50.8 -5.2
comp=Z,1µm,25.6s
TAOE Nuku Hiva Isla 125.68 109 *e*SS SS 11 48 54.8 -0.7
comp=Z,11µm,27.8s
PLTB Pedras Altas 126.35 218 *e*P **PKPdf 11 30 04.8 -0.1**
PLTB Pedras Altas 126.35 218 *e*P **PKPdf 11 30 04.8 -0.1**
LPA La Plata 126.45 212 *e*PKIKP **PKPdf 11 30 02.7 -2.2**
LPA PP PP 11 31 46.2 -13
LPA PPP PPP 11 34 33.6
LPA SDIFF 11 40 02.7
LPA PS **PS 11 41 55.7 -7.7**
LPA PSP PSP 11 43 32.4
LPA SS **SS 11 49 06.3 +4.1**
PLCA Paso Flores 126.62 197 PKP PKPdf 11 30 04.4 -0.9
comp=Z,12nm,1.1s,baz=162,slow=3.4,SNR=5.7
PLCA PP **PP 11 31 58.9 -1.5**
comp=Z,24nm,1.3s,baz=161,slow=5.2,SNR=2.8
PLCA Paso Flores 126.62 197 PKPdf PKiKP 11 30 05.5 -0.2
BSCB Bom Sucesso 126.70 234 *e*P **PKPdf 11 30 05.9 0.0**
BSCB Bom Sucesso 126.70 234 *e*P **PKPdf 11 30 05.9 0.0**
VAO Valinhos 127.34 231 *e*P **PKiKP 11 30 07.5 -0.1**
VAO Valinhos 127.34 231 *e*P **PKiKP 11 30 07.5 -0.1**
BBB Bella Bella 127.42 29 PKP PKPdf 11 30 06.1 0.0
comp=Z,29nm,1.0s,baz=314,slow=3.4,SNR=6.8
RCLB Rio Claro- Sao 128.09 231 *e*P **PKiKP 11 30 09.3 +0.2**
RCLB Rio Claro- Sao 128.09 231 *e*P **PKiKP 11 30 09.3 +0.2**
FRTB Fartura 129.10 229 *e*P **PKiKP 11 30 10.9 -0.1**
FRTB Fartura 129.10 229 *e*P **PKiKP 11 30 10.9 -0.1**
JANB Januaria 129.18 241 *e*P **PKPdf 11 30 10.5 -0.2**
JANB Januaria 129.18 241 *e*P **PKPdf 11 30 10.5 -0.2**
BI02 San Fabin de 130.59 199 PKPdf PKiKP 11 30 13.8 0.0
BI03 Tigo 130.95 197 IAMs_20 IAMs_20 12 20 25.3
comp=Z,8µm,21.0s
IPMB Ipameri, GO 131.03 235 *e*P **PKPdf 11 30 14.2 0.0**
IPMB Ipameri, GO 131.03 235 *e*P **PKPdf 11 30 14.2 0.0**
PCMB Pacaembu 131.39 229 *e*P **PKiKP 11 30 15.9 +0.2**
PCMB Pacaembu 131.39 229 *e*P **PKiKP 11 30 15.9 +0.2**
TRCB Terra Rica 131.67 227 *e*P **PKiKP 11 30 16.0 -0.2**
TRCB Terra Rica 131.67 227 *e*P **PKiKP 11 30 16.0 -0.2**
ITRB Iturama 131.80 232 *e*P **PKPdf 11 30 15.8 +0.2**
ITRB Iturama 131.80 232 *e*P **PKPdf 11 30 15.8 +0.2**
BDFB Brasilia 132.05 238 PKP PKPdf 11 30 16.1 -0.2
comp=Z,45nm,1.2s,baz=74,slow=2.9,SNR=15
BDFB PP **PP 11 32 38.0 +0.6**
comp=Z,21nm,1.0s,baz=109,slow=5.7,SNR=5.5
SCHQ Schefferville 132.07 343 PKP PKPdf 11 30 14.8 -0.2
comp=Z,15nm,0.9s,baz=35,slow=4.3,SNR=16
SCHQ PP **PP 11 32 32.4 -3.6**
comp=Z,7.3nm,0.9s,baz=55,slow=5.8,SNR=3.6
SCHQ Schefferville 132.07 343 IAMs_20 IAMs_20 12 40 45.9
comp=Z,8µm,18.0s
BO02 Sierra Bellavi 132.13 200 PKPdf PKPdf 11 30 16.4 +0.5
BO02 IAMs_20 IAMs_20 12 24 11.9
comp=Z,12µm,20.0s
GO05 Huala 132.31 199 IAMs_20 IAMs_20 12 18 08.6
comp=Z,9µm,22.0s
CPUP Villa Florida 132.49 220 PKP PKPdf 11 30 16.7 +0.1
comp=Z,12nm,1.0s,baz=58,slow=0.9,SNR=8.0
CPUP PP **PP 11 32 38.0 -1.2**
comp=Z,15nm,1.2s,baz=134,slow=5.8,SNR=5.2
D03D Eldon 132.89 31 P PKiKP 11 30 18.0 +0.1
baz=311,SNR=9.3
B05A Bryant 132.90 30 P PKPdf 11 30 16.4 -0.3
baz=313,SNR=13
MT05 Renca 133.39 201 IAMs_20 IAMs_20 12 25 17.2
comp=Z,8µm,19.0s
ROSB Rosrio 133.52 256 *e*P **PKPdf 11 30 18.4 -0.5**
ROSB Rosrio 133.52 256 *e*P **PKPdf 11 30 18.4 -0.5**
PEL Peldehue 133.59 201 PKiKP PKPdf 11 30 19.0 +0.3
PEL Peldehue 133.59 201 PKPdf 11 30 19.0 +0.3
PEL IAMs_20 IAMs_20 12 25 24.1
comp=Z,7µm,20.0s
MT02 Curacav 133.65 201 IAMs_20 IAMs_20 12 23 30.0
comp=Z,8µm,20.0s
E04D Cinebar 133.80 32 P PKiKP 11 30 19.2 -0.6
baz=311
VA03 San Esteban 133.88 202 IAMs_20 IAMs_20 12 31 40.4
comp=Z,6µm,20.0s
CFA Coronel Fontan 134.01 205 PP PP 11 32 45.9 -2.6
comp=Z,24nm,1.2s,baz=143,slow=7.2,SNR=4.1
LON Longmire 134.07 31 IAMs_20 IAMs_20 12 40 26.3
comp=Z,7µm,19.0s
B08A Colville Reser 134.15 28 PKPdf 11 30 18.9 -0.3
C2SB Chapadao do Su 134.25 231 *e*P **PKiKP 11 30 21.1 -0.4**
C2SB Chapadao do Su 134.25 231 *e*P **PKiKP 11 30 21.1 -0.4**
G03D McMinnville, O 134.30 34 P PKiKP 11 30 20.4 -0.4
baz=309
FFC Flin Flon 134.32 11 PKIKP PKPdf 11 30 18.8 -0.4
FFC Flin Flon 134.32 11 PKPdf PKPdf 11 30 18.8 -0.4
FFC Flin Flon 134.32 11 IAMs_20 IAMs_20 12 35 34.6
comp=Z,10µm,20.0s
SMTB Santa Maria do 134.71 247 *e*P **PKPdf 11 30 21.3 +0.1**
SMTB Santa Maria do 134.71 247 *e*P **PKPdf 11 30 21.3 +0.1**
H04D Lebanon 135.02 34 P PKPdf 11 30 21.5 +0.7
baz=309
C09A Chrisman Ranch 135.05 28 IAMs_20 IAMs_20 12 42 03.8
comp=Z,7µm,19.0s
ARAG Araguaiana, MT 135.15 236 *e*P **PKPdf 11 30 22.1 +0.2**
ARAG Araguaiana, MT 135.15 236 *e*P **PKPdf 11 30 22.1 +0.2**
J01E Myrtle Point 135.18 37 P PKiKP 11 30 22.3 -0.3
baz=307
I03D Drain, OR 135.19 36 P PKPdf 11 30 18.2 -3.0
baz=308
NEW Newport 135.22 27 P PKPpre 11 30 09.7
baz=319
NEW Newport 135.22 27 PKhKP PKPpre 11 30 11.2
comp=Z,7.0nm,1.1s,baz=266,slow=2.5,SNR=4.0
NEW Newport 135.22 27 IAMs_20 IAMs_20 12 32 43.3

comp=Z,8µm,22.0s
H04A Detroit Lake 135.22 34 IAMs_20 IAMs_20 12 43 28.1
comp=Z,6µm,19.0s
G05D Wamic, OR 135.33 33 P PKPpre 11 30 14.8
baz=312
CO02 Combarbal 135.45 202 IAMs_20 IAMs_20 12 21 27.9
comp=Z,11µm,20.0s
K02D Willamette Mer 135.62 37 P PKPpre 11 30 14.0
baz=307
CO03 El Pedregal 135.66 203 PKPdf 11 30 22.8 +0.1
I04A Tendick Farm, 135.66 35 P PKPpre 11 30 14.1
baz=309
I05D Terrebonne, OR 135.91 34 P PKPpre 11 30 14.2
baz=311
J04D Umpqua Nationa 136.18 35 P PKPpre 11 30 16.0
baz=309
GO04 Tololo Observa 136.30 203 IAMs_20 IAMs_20 12 24 12.1
comp=Z,9µm,20.0s
KHMM Horse Mountain 136.64 39 PKPdf 11 30 24.8 +0.6
J05D Fort Rock, OR 136.65 35 P PKPpre 11 30 14.6
baz=310,SNR=7.0
L04D Klamath Falls 136.71 37 P PKPpre 11 30 16.1
baz=308
YBH Yreka Blue Hor 136.76 37 PKhKP PKPpre 11 30 16.4
comp=Z,3.6nm,1.0s,baz=135,slow=7.3,SNR=3.1
YBH PP **PP 11 33 01.3 -5.2**
comp=Z,6.0nm,1.0s,baz=347,slow=2.4,SNR=4.1
K04D Chiloquin, OR 136.77 36 P PKPpre 11 30 16.8
baz=309,SNR=5.8
JTMT Jette 136.84 25 IAMs_20 IAMs_20 12 39 08.9
comp=Z,11µm,20.0s
M02C Callahan 136.88 38 P **PKPdf 11 30 25.3 +0.7**
baz=307
I07A Izee 137.06 33 PKPdf 11 30 25.6 +0.7
I07A IAMs_20 IAMs_20 12 42 17.5
comp=Z,6µm,19.0s
N02D Trinity Center 137.22 38 P PKPpre 11 30 17.7
baz=306,SNR=9.6
M04C Macdoel 137.25 37 P PKPpre 11 30 17.5
baz=308
O02D Mt. Diablo Mer 137.63 39 P PKPpre 11 30 17.0
baz=306
BMO Blue Mountains 137.65 30 IAMs_20 IAMs_20 12 38 51.8
comp=Z,7µm,20.0s
GBN Guysborough 137.68 331 PKPdf **PKPdf 11 30 25.7 -0.1**
MSO Missoula 137.70 26 P PKPpre 11 30 19.2
baz=322,SNR=5.5
J08A Circle Bar Ran 138.10 33 IAMs_20 IAMs_20 12 41 58.0
comp=Z,6µm,20.0s
SALV Santo Antonio 138.13 232 *eP* **PKPdf 11 30 26.5 -0.9**
SALV Santo Antonio 138.13 232 *eP* **PKPdf 11 30 26.5 -0.9**
AC04 Llanos de Chal 138.16 204 IAMs_20 IAMs_20 12 25 29.2
comp=Z,12µm,21.0s
O03E Paynes Creek 138.17 38 P PKPpre 11 30 21.2
baz=307
EGMT Eagleton 138.35 21 P PKPpre 11 30 20.8
baz=328
EGMT Eagleton 138.35 21 PKPdf 11 30 26.9 -0.1
EGMT IAMs_20 IAMs_20 12 39 05.7
comp=Z,9µm,20.0s
GO03 Copiap 138.35 205 IAMs_20 IAMs_20 12 21 33.1
comp=Z,10µm,22.0s
GDXM Geysers 138.41 41 PKPdf 11 30 28.1 +0.7
CHGQ Chibougamau 138.52 346 P PKPpre 11 30 22.8
baz=22
AC02 Maricunga 138.53 207 IAMs_20 IAMs_20 12 28 01.9
comp=Z,8µm,21.0s
D63A Stockholm 139.17 338 P PKPpre 11 30 24.9
baz=32
MATQ Matagami 139.37 349 P PKPpre 11 30 24.3
baz=17
DLMT Dillon 139.44 26 IAMs_20 IAMs_20 12 37 37.7
comp=Z,9µm,21.0s
PQI Presque Isle 139.44 338 IAMs_20 IAMs_20 12 38 25.6
comp=Z,8µm,20.0s
D62A Allapoint, All 139.47 339 P PKPpre 11 30 21.9
baz=31
D62A Allapoint, All 139.47 339 IAMs_20 IAMs_20 12 46 30.1
comp=Z,7µm,19.0s
ULM Lac du Bonnet 139.58 7 PKhKP PKPpre 11 30 21.7
comp=Z,13nm,0.9s,baz=3.3,slow=4.1,SNR=7.7
ULM PP **PP 11 33 21.4 -1.6**
comp=Z,17nm,1.0s,baz=343,slow=4.1,SNR=3.7
ULM Lac du Bonnet 139.58 7 *ce*PKIKP **PKPdf 11 30 28.2 -0.9**
ULM Lac du Bonnet 139.58 7 IAMs_20 IAMs_20 12 39 03.5
comp=Z,7µm,20.0s
E64A Bridgewater 139.58 337 P **PKPdf 11 30 27.8 -1.4**
baz=33
BOZ Bozeman (W) 139.65 25 P PKPpre 11 30 24.8
baz=324,SNR=9.2
BOZ Bozeman (W) 139.65 25 IAMs_20 IAMs_20 12 42 43.4
comp=Z,9µm,19.0s
DGMT Dagmar 139.68 16 P PKPpre 11 30 23.8
baz=336
DGMT Dagmar 139.68 16 IAMs_20 IAMs_20 12 39 58.6
comp=Z,8µm,18.0s
D61A St Aubert, Com 139.75 340 P **PKPdf 11 30 28.7 -0.7**
baz=29
AC01 Pan de Azucar 139.78 206 IAMs_20 IAMs_20 12 21 22.7
comp=Z,9µm,22.0s
E63A Oxbow 139.80 338 P **PKPdf 11 30 27.1 -2.5**
baz=32
E63A Oxbow 139.80 338 IAMs_20 IAMs_20 12 37 29.1
comp=Z,11µm,21.0s
LSQQ Lebel-sur-Quev 139.91 348 P **PKPdf 11 30 27.6 -2.1**
baz=18
E62A Clayton Lake 140.03 339 P **PKPdf 11 30 26.3 -3.7**
baz=30
E62A Clayton Lake 140.03 339 IAMs_20 IAMs_20 12 41 36.0
comp=Z,8µm,20.0s
GO02 Mina Guanaco 140.18 208 IAMs_20 IAMs_20 12 23 37.6
comp=Z,10µm,21.0s
F64A Sherman 140.25 337 P **PKPdf 11 30 29.4 -1.1**
baz=33
F64A Sherman 140.25 337 IAMs_20 IAMs_20 12 37 54.9
comp=Z,9µm,22.0s
D60A Saint Jean D'O 140.25 341 P **PKPdf 11 30 29.6 -0.8**
baz=28
PNTR Pine Nut 140.25 38 PKPdf **PKPdf 11 30 29.7 -1.2**
LATQ La Tuque 140.41 343 P **PKPdf 11 30 29.2 -1.4**
baz=25,SNR=18
LATQ La Tuque 140.41 343 PKPdf 11 30 29.7 -0.9
D59A Saint-Raymond 140.46 342 P **PKPdf 11 30 30.3 -0.5**
baz=27
G65A Princeton 140.49 336 P **PKPdf 11 30 28.0 -2.9**
baz=34
G65A Princeton 140.49 336 IAMs_20 IAMs_20 12 43 56.6
comp=Z,9µm,20.0s
E61A Lac Etchemin 140.53 340 P **PKPdf 11 30 29.8 -1.2**
baz=29,SNR=15
YHH Holmes Hill 140.63 25 PKPdf **PKPdf 11 30 32.2 +0.6**
F63A Nahmakanta, Br 140.66 338 P **PKPdf 11 30 28.4 -2.9**
baz=32
F63A Nahmakanta, Br 140.66 338 IAMs_20 IAMs_20 12 38 25.9
comp=Z,7µm,22.0s
D58A Chemin du LacG 140.70 343 P **PKPdf 11 30 27.0 -4.2**
baz=25,SNR=14
LAO LASA Array 140.70 19 P **PKPdf 11 30 27.9 -3.5**
baz=332
LAO LASA Array 140.70 19 IAMs_20 IAMs_20 12 37 55.7
comp=Z,6µm,20.0s
WAKR Walker 140.71 39 IAMs_20 IAMs_20 12 42 55.8
comp=Z,6µm,19.0s
H66A Whiting 140.73 335 P **PKPdf 11 30 27.6 -3.7**
baz=35
F62A Pittston Farm, 140.81 339 P **PKPdf 11 30 24.8 -6.6**
baz=30
F62A Pittston Farm, 140.81 339 PKPdf 11 30 31.3 -0.1
F62A IAMs_20 IAMs_20 12 42 24.7
comp=Z,10µm,20.0s
EMMW East Machias 140.85 336 IAMs_20 IAMs_20 12 41 11.2
comp=Z,9µm,20.0s
E60A Ste Agathe de 140.90 341 P **PKPdf 11 30 24.2 -7.4**
baz=28,SNR=6.9
VLDQ Val d'Or 140.90 348 PKPdf **PKPdf 11 30 30.8 -0.7**
G64A Maxfield 140.91 337 P **PKPdf 11 30 26.0 -5.7**
baz=32
RLMT Red Lodge 140.99 23 P **PKPdf 11 30 26.3 -5.8**
baz=327,SNR=14
RLMT Red Lodge 140.99 23 IAMs_20 IAMs_20 12 33 39.5
comp=Z,7µm,22.0s
D57A Chemin Vers le 141.06 344 P **PKPdf 11 30 26.3 -5.6**
baz=24,SNR=12
H17A Grant Village 141.07 25 P **PKPdf 11 30 28.2 -4.1**
baz=325
F61A St Evariste 141.10 340 P **PKPdf 11 30 28.0 -4.0**
baz=29
PKME Peaks-Kenny Pk 141.11 338 P **PKPdf 11 30 26.7 -5.3**
baz=32
PKME Peaks-Kenny Pk 141.11 338 IAMs_20 IAMs_20 12 42 23.6
comp=Z,9µm,20.0s
KVN Kaiserville 141.18 37 IAMs_20 IAMs_20 12 42 27.0
comp=Z,5µm,19.0s
H65A Eastbrook 141.18 336 P **PKPdf 11 30 27.8 -4.3**
baz=34
D56A ZEC Mazanza, M 141.26 344 P **PKPdf 11 30 25.8 -6.4**
baz=23,SNR=16
FLWY Flagg Ranch 141.27 25 IAMs_20 IAMs_20 12 40 09.2
comp=Z,7µm,21.0s
IMW Indian Meadow 141.32 26 IAMs_20 IAMs_20 12 43 15.5
comp=Z,10µm,18.0s
MDND Maddock 141.33 11 P **PKPdf 11 30 26.5 -5.9**
baz=343
MDND Maddock 141.33 11 IAMs_20 IAMs_20 12 37 44.0
comp=Z,10µm,22.0s
G63A Kingsbury 141.36 338 P **PKPdf 11 30 26.5 -6.0**
baz=31
F60A Warwick 141.42 341 P **PKPdf 11 30 27.4 -5.2**
baz=27,SNR=6.5
NVAR Mina Array Bea 141.46 38 PKhKP PKPpre 11 30 27.4
comp=Z,14nm,0.7s,baz=283,slow=1.6,SNR=32
NVAR PP **PP 11 33 37.0 +1.3**
comp=Z,11nm,1.1s,baz=301,slow=1.5,SNR=3.0
NVAR Mina Array Bea 141.46 38 PKPpre 11 30 26.1
E58A La Victoria 141.47 343 P **PKPdf 11 30 27.5 -5.2**
baz=25,SNR=12
MDPB Devils Postpil 141.47 40 IAMs_20 IAMs_20 12 43 33.9
comp=Z,6µm,20.0s
D55A Sainte-Anne-du 141.48 345 P **PKPdf 11 30 26.3 -6.4**
baz=22,SNR=15
AGMN Agassiz Nation 141.50 7 P **PKPdf 11 30 26.7 -5.9**
baz=349
AGMN Agassiz Nation 141.50 7 IAMs_20 IAMs_20 12 35 42.4
comp=Z,9µm,21.0s
OMMB Old Mammoth Mi 141.53 40 IAMs_20 IAMs_20 12 43 35.5
comp=Z,8µm,20.0s
NV11 Mina Array Sit 141.54 38 IAMs_20 IAMs_20 12 43 19.7
comp=Z,6µm,21.0s
G62A West of Eustis 141.60 339 P **PKPdf 11 30 25.7 -7.2**
baz=30
H64A Troy 141.61 337 P **PKPdf 11 30 28.5 -4.4**
baz=32
D54A Lac Fusel, La 141.64 346 P **PKPdf 11 30 26.0 -6.9**
baz=20,SNR=11
ELK Elko 141.65 33 PKhKP PKPpre 11 30 29.6
comp=Z,10nm,1.0s,baz=338,slow=2.1,SNR=14
B35A Bob, Littlefor 141.67 5 IAMs_20 IAMs_20 12 40 36.8
comp=Z,8µm,19.0s
E57A Chemin Saint G 141.68 343 P **PKPdf 11 30 28.2 -4.9**
baz=24,SNR=14
PB15 IPOC Station P 141.78 210 IAMs_20 IAMs_20 12 27 20.3
comp=Z,8µm,20.0s
F59A Saint Guilaume 141.79 342 P **PKPdf 11 30 28.4 -4.8**
baz=26
E56A St. Veronique 141.80 344 P **PKPdf 11 30 27.1 -6.2**
baz=22,SNR=16
WVL Waterville 141.84 338 IAMs_20 IAMs_20 12 39 54.0
comp=Z,8µm,19.0s
G61A St-Isidore-de- 141.89 340 P **PKPdf 11 30 28.2 -5.2**
baz=28
D53A Lac Vacive, Po 141.94 347 P **PKPdf 11 30 28.0 -5.5**
baz=18,SNR=6.2
D53A Lac Vacive, Po 141.94 347 IAMs_20 IAMs_20 12 45 48.7
comp=Z,9µm,19.0s
LVC Limon Verde 142.00 211 PKhKP PKPpre 11 30 29.6
LVC PP **PP 11 33 37.3 -1.5**
comp=Z,15nm,1.1s,baz=152,slow=8.0,SNR=4.0
LVC Limon Verde 142.00 211 PKIKP **PKPdf 11 30 31.7 -3.1**
LVC Limon Verde 142.00 211 PKPdf 11 30 31.7 -3.1
LVC Limon Verde 142.00 211 IAMs_20 IAMs_20 12 24 05.3
comp=Z,8µm,21.0s
PB10 IPOC Station P 142.04 208 IAMs_20 IAMs_20 12 26 12.9
comp=Z,7µm,20.0s
SIV San Ignacio 142.12 227 PKhKP PKPpre 11 30 28.3
comp=Z,9,8nm,1.0s,baz=140,slow=2.9,SNR=3.2
SIV PP **PP 11 33 39.1 -0.7**
comp=Z,11nm,1.1s,baz=226,slow=3.8,SNR=3.6
HVU Hansel Valley 142.14 29 PKIKP **PKPdf 11 30 32.5 -1.7**
HVU Hansel Valley 142.14 29 PKPdf **PKPdf 11 30 32.5 -1.7**
E55A Montcerf-Lytto 142.15 345 P **PKPdf 11 30 30.2 -3.7**
baz=21
AHID Auden Hatcher 142.16 27 IAMs_20 IAMs_20 12 41 44.8
comp=Z,8µm,19.0s
D52A ZEK Kipawa Sen 142.18 348 P **PKPdf 11 30 28.5 -5.4**
baz=17,SNR=14
SMMC Simmler 142.22 43 P **PKPdf 11 30 32.0 -2.4**
baz=304
EYMN Ely 142.23 3 P **PKPdf 11 30 29.0 -5.0**
baz=356
EYMN Ely 142.23 3 IAMs_20 IAMs_20 12 42 37.7
comp=Z,8µm,20.0s
PB06 IPOC Station P 142.25 210 IAMs_20 IAMs_20 12 30 16.9
comp=Z,7µm,19.0s
D51A Lot 18 Range I 142.26 349 P **PKPdf 11 30 28.5 -5.5**
baz=15
D50A G1974 Best Tow 142.27 350 P **PKPdf 11 30 28.7 -5.3**
baz=15
E28A Huff 142.31 13 IAMs_20 IAMs_20 12 42 51.1
comp=Z,9µm,19.0s
G60A Masonville 142.32 341 P **PKPdf 11 30 29.4 -4.8**
baz=27
TIN Tinemaha, Big 142.36 40 P **PKPdf 11 30 31.5 -3.2**
baz=308
H62A Milan 142.38 339 P **PKPdf 11 30 29.3 -5.0**
baz=29
H62A Milan 142.38 339 IAMs_20 IAMs_20 12 41 35.1
comp=Z,10µm,19.0s
I64A Boothbay 142.38 337 P **PKPdf 11 30 31.5 -2.8**
baz=32
D49A Beulah Townshi 142.41 352 P **PKPdf 11 30 29.5 -4.8**
baz=12
E54A Lac Daplat, Po 142.44 347 P **PKPdf 11 30 29.4 -5.0**
baz=19,SNR=9.3
VES Vestal, Richgr 142.53 42 P **PKPdf 11 30 29.8 -5.0**
baz=306,SNR=11
D48A Paudash Townsh 142.57 352 P **PKPdf 11 30 29.6 -5.0**
baz=12
PKM Mcpherson Peak 142.58 44 P **PKPdf 11 30 33.4 -1.8**
baz=304
E53A Dumoine, Ponti 142.60 347 P **PKPdf 11 30 29.1 -5.5**
baz=18,SNR=12
I63A Otisfield 142.62 338 P **PKPdf 11 30 29.9 -4.8**
baz=31
I63A Otisfield 142.62 338 IAMs_20 IAMs_20 12 41 30.7
comp=Z,7µm,19.0s
H61A Lyndonville 142.68 340 P **PKPdf 11 30 31.8 -3.0**
baz=28,SNR=8.4
F55A Otter Lake 142.80 345 P **PKPdf 11 30 30.6 -4.4**
baz=21
G58A Ormstown 142.81 342 P **PKPdf 11 30 28.8 -6.2**
baz=25
E51A G1948 Merrick 142.82 349 P **PKPdf 11 30 29.1 -5.9**
baz=15,SNR=9.2
BW06 Boulder Array 142.82 25 P **PKPdf 11 30 31.4 -4.1**
baz=325
BW06 Boulder Array 142.82 25 IAMs_20 IAMs_20 12 42 27.3
comp=Z,9µm,20.0s
PDAR Pinedale Array 142.82 25 PKhKP PKPpre 11 30 30.3
comp=Z,3.2nm,0.5s,baz=0.0,slow=0.1,SNR=22
PDAR Pinedale Array 142.82 25 PKPpre 11 30 29.5
CWC Cottonwood Cre 142.83 40 P **PKPdf 11 30 33.6 -2.0**
baz=308
D47A Chapleau 142.85 353 P **PKPdf 11 30 29.0 -6.1**
baz=9.5
PB09 IPOC Station P 142.85 211 IAMs_20 IAMs_20 12 26 44.8
comp=Z,8µm,22.0s
PB04 IPOC Station P 142.85 210 IAMs_20 IAMs_20 12 22 50.7
comp=Z,7µm,22.0s
HWUT Hardware Ranch 142.85 29 IAMs_20 IAMs_20 12 39 41.4
comp=Z,7µm,22.0s
E52A Mattawa 142.90 348 P **PKPdf 11 30 30.4 -4.8**
baz=17,SNR=14
H60A Morristown 142.91 341 P **PKPdf 11 30 31.2 -4.1**
baz=27
GRAC Grapevine Rang 142.94 39 P **PKPdf 11 30 32.7 -2.9**
baz=309,SNR=13
LBNH Lisbon 142.94 340 P **PKPdf 11 30 30.5 -4.9**
baz=28
LBNH Lisbon 142.94 340 IAMs_20 IAMs_20 12 42 06.8
comp=Z,9µm,19.0s
ORIO Orleans, Innes 142.94 344 P **PKPdf 11 30 29.4 -5.9**
baz=22
FRNY Flat Rock 142.95 342 IAMs_20 IAMs_20 12 43 27.9
comp=Z,7µm,19.0s
ISA Isabella, Lake 143.04 42 P PKPab 11 30 31.8 +0.7
baz=306,SNR=9.5
I62A Tamworth 143.05 339 P PKPab 11 30 30.7 -0.1
baz=30
I62A Tamworth 143.05 339 IAMs_20 IAMs_20 12 46 57.9
comp=Z,8µm,19.0s
ALGO Algonquin Park 143.08 347 P PKPab 11 30 31.0 +0.2
baz=18,SNR=19
D46A Sault St. Mari 143.11 354 P PKPab 11 30 30.0 -0.9
baz=8.0
ARVC Arvin 143.12 43 P PKPbc 11 30 32.9 +0.1
baz=305,SNR=6.4
G57A Newington 143.12 343 P PKPab 11 30 29.9 -1.1
baz=23,SNR=6.2
R11A Troy Canyon, C 143.12 36 P PKPbc 11 30 32.3 -0.6
baz=313
R11A Troy Canyon, C 143.12 36 IAMs_20 IAMs_20 12 36 39.2
comp=Z,6µm,22.0s
VT1 Waterbury 143.13 340 IAMs_20 IAMs_20 12 41 27.2
comp=Z,10µm,20.0s
E50A Wahnapitae 143.14 351 P PKPbc 11 30 31.9 -0.6
baz=13
H59A Cadyville 143.15 342 P PKPab 11 30 31.4 +0.2
baz=26,SNR=9.1
SCZ2 Santa Cruz Isl 143.20 45 P **PKPdf 11 30 34.7 -1.5**
baz=303
PB07 IPOC Station P 143.23 211 IAMs_20 IAMs_20 12 32 04.9
comp=Z,6µm,18.0s
E48A Lockeyer 143.30 352 P PKPab 11 30 30.5 -1.2
baz=11,SNR=17
I61A Oroboro, Fairl 143.31 340 P PKPab 11 30 32.0 +0.2
baz=28
DUG Dugway, Tooele 143.32 31 P PKPab 11 30 32.3 0.0
baz=318,SNR=85
VILB Vilhena 143.38 232 *eP* **PKPdf 11 30 35.5 -1.4**
VILB Vilhena 143.38 232 *eP* **PKPdf 11 30 35.5 -1.4**
G55A Calabogie 143.44 345 P PKPab 11 30 31.0 -1.3
baz=20,SNR=11
MPMC Manual Prospec 143.44 41 P PKPab 11 30 33.1 +0.2
baz=308,SNR=71
LONY Lake Ozonia 143.44 343 P PKPab 11 30 32.0 -0.4
baz=24,SNR=18
LONY Lake Ozonia 143.44 343 IAMs_20 IAMs_20 12 43 15.9
comp=Z,8µm,20.0s
E47A Iron Bridge 143.46 353 P PKPab 11 30 31.9 -0.4
baz=9.3
J63A Strafford 143.47 338 P PKPab 11 30 31.4 -1.1
baz=30
F51A Arnstein 143.48 349 P PKPab 11 30 31.9 -0.5
baz=15,SNR=9.3
OSI Osito Audit: C 143.48 43 P PKPab 11 30 32.0 -0.9
baz=305
F52A Sundridge 143.50 349 P PKPab 11 30 32.1 -0.4
baz=16,SNR=26
H58A Gabriels 143.51 342 P PKPab 11 30 31.5 -1.2
baz=25,SNR=10
E38A The Farm, Brul 143.57 3 IAMs_20 IAMs_20 12 46 25.1
comp=Z,7µm,19.0s
FURC Furnace Creek, 143.58 39 P PKPab 11 30 33.1 0.0
baz=309,SNR=38
PB01 IPOC Station P 143.60 212 IAMs_20 IAMs_20 12 27 06.8
comp=Z,7µm,20.0s
G54A Lake Saint Pet 143.62 347 P PKPab 11 30 32.0 -1.0
baz=18,SNR=15
E46A Sault Ste Mari 143.65 355 IAMs_20 IAMs_20 12 39 00.6
comp=Z,11µm,20.0s
TPNV Topopah Spring 143.65 38 P PKPab 11 30 33.8 +0.1
baz=310,SNR=41
TPNV Topopah Spring 143.65 38 IAMs_20 IAMs_20 12 46 49.6
comp=Z,5µm,20.0s
LRMC Laurel Mtn Rad 143.67 41 P PKPab 11 30 33.6 -0.1
baz=307,SNR=37
MDP Montagnes des 143.68 265 PKP PKPab 11 30 34.4 +0.2
comp=Z,104nm,1.2s,baz=78,slow=4.5,SNR=24
MDP PP **PP 11 33 48.3 -2.0**
comp=Z,38nm,1.1s,baz=84,slow=8.0,SNR=5.1
SNCC San Nicolas Is 143.68 46 P PKPab 11 30 33.9 +0.2
baz=302
RSSD Black Hills 143.69 18 P PKPab 11 30 32.8 -0.8
baz=334
RSSD Black Hills 143.69 18 IAMs_20 IAMs_20 12 39 26.6
comp=Z,10µm,21.0s
I60A Shoreham 143.75 341 P PKPab 11 30 32.8 -0.7
baz=27,SNR=8.4
J62A Henniker 143.78 339 P PKPab 11 30 30.7 -3.0
baz=29
EDW2 Edwards Air Fo 143.82 43 P PKPab 11 30 33.7 -0.5
baz=306,SNR=41
F33A 5 Mile Ranch, 143.85 9 IAMs_20 IAMs_20 12 40 40.6
comp=Z,10µm,20.0s
ITTB Itaituba 143.91 248 *eP* PKPbc 11 30 36.1 +0.4
ITTB Itaituba 143.91 248 *eP* PKPbc 11 30 36.1 +0.4
H56A Elgin 143.94 345 P PKPab 11 30 33.1 -1.1
baz=21,SNR=18
J61A Chester 143.94 340 P PKPab 11 30 34.3 0.0
baz=28,SNR=14
DECC Green Verdugo 143.95 44 P PKPab 11 30 33.8 -0.9
baz=305
I59A Olmsteadville 143.97 341 P PKPab 11 30 33.2 -1.3
baz=26,SNR=20
F49A Sandfield 143.98 352 P PKPab 11 30 33.3 -1.0
baz=12,SNR=13
F48A Evansville 144.00 352 P PKPab 11 30 32.6 -1.8
baz=10
G53A Haliburton 144.00 348 P PKPab 11 30 33.6 -0.9
baz=17,SNR=30
PASC Pasadena Art C 144.10 44 IAMs_20 IAMs_20 12 45 47.0
comp=Z,6µm,20.0s
K22A Casper 144.13 22 P **PKPab 11 30 34.4 -0.9**
baz=330
K22A Casper 144.13 22 IAMs_20 IAMs_20 12 41 34.7
comp=Z,8µm,21.0s
K63A Dunstable 144.15 338 P **PKPab 11 30 34.3 -0.7**
baz=30
MWC Mount Wilson 144.15 43 IAMs_20 IAMs_20 12 45 57.4
comp=Z,7µm,21.0s
F36A Milaca 144.16 5 IAMs_20 IAMs_20 12 36 20.8
comp=Z,11µm,22.0s
PB08 IPOC Station P 144.17 213 IAMs_20 IAMs_20 12 37 32.0
comp=Z,6µm,20.0s
H55A Tweed 144.21 346 P **PKPab 11 30 34.1 -1.1**
baz=20,SNR=23
ACCN Adirondack Com 144.28 341 IAMs_20 IAMs_20 12 42 33.2
comp=Z,8µm,19.0s
FMP Fort Macarthur 144.28 44 P **PKPab 11 30 35.6 -0.3**
baz=304
SHOC Shoshone, Teco 144.31 40 P PKPbc 11 30 36.2 -0.1
baz=309,SNR=90
HRV Adam Dziewonsk 144.31 338 P **PKPab 11 30 34.5 -1.2**
baz=30
HRV Adam Dziewonsk 144.31 338 PKIKP PKPbc 11 30 36.2 +0.2
HRV Adam Dziewonsk 144.31 338 PKPbc 11 30 36.2 +0.2
BCX Boston College 144.31 337 IAMs_20 IAMs_20 12 46 50.6
comp=Z,8µm,19.0s
J60A Lant Hill Farm 144.32 340 P **PKPab 11 30 34.9 -0.9**
baz=27,SNR=24
WES Weston 144.33 337 IAMs_20 IAMs_20 12 40 36.9
comp=Z,7µm,20.0s
GSC Goldstone, Bar 144.34 41 P **PKPab 11 30 36.2 0.0**
baz=308,SNR=134
GSC Goldstone, Bar 144.34 41 IAMs_20 IAMs_20 12 45 43.1
comp=Z,7µm,22.0s
DELO Deloro Mine 144.35 346 IAMs_20 IAMs_20 12 45 04.5
comp=Z,7µm,19.0s
TA01 Diego Aracena 144.35 211 IAMs_20 IAMs_20 12 27 13.7
comp=Z,8µm,20.0s
CIS Catalina Islan 144.37 45 P **PKPab 11 30 35.8 -0.5**
baz=304,SNR=30
I57A Carthage 144.38 343 P **PKPab 11 30 34.6 -1.3**
baz=23,SNR=14
I58A Old Forge 144.41 342 P **PKPab 11 30 35.1 -1.0**
baz=24,SNR=33
BFSC Mount Baldy Ra 144.41 43 P **PKPab 11 30 36.2 -0.4**
baz=306,SNR=51
K62A Royalston 144.42 339 P **PKPab 11 30 35.8 -0.3**
baz=29,SNR=11
F45A CMU Biological 144.43 356 P **PKPab 11 30 34.9 -1.1**
baz=5.7,SNR=22
J59A Piesco 144.47 342 P **PKPab 11 30 35.4 -1.0**
baz=25,SNR=48
J59A Piesco 144.47 342 IAMs_20 IAMs_20 12 41 53.2
comp=Z,7µm,20.0s
F42A Maple Grove Fa 144.47 359 IAMs_20 IAMs_20 12 37 17.1
comp=Z,10µm,22.0s
RRX Edison Barstow 144.48 42 P PKPbc 11 30 36.8 -0.1
baz=307,SNR=14
H53A Bobcaygeon 144.51 347 P **PKPab 11 30 35.3 -1.1**
baz=18,SNR=26
SCI2 San Clemente I 144.51 46 P **PKPab 11 30 36.9 +0.1**
baz=303

L64A	Middleborough baz=32	144.53	336	P		PKPab	11 30 35.1	-1.4		
GO01	Chusmiza comp=Z,9µm,20.0s	144.57	213	IAMs_20	IAMs_20		12 26 22.8			
SHPR	Sheep Range comp=Z,7µm,20.0s	144.60	38	IAMs_20	IAMs_20		12 45 57.8			
I55A	Frankford baz=19,SNR=25	144.65	346	P		PKPab	11 30 35.5	-1.4		
RWWY	Rawlins comp=Z,7µm,19.0s	144.69	24	IAMs_20	IAMs_20		12 48 28.5			
H52A	Wyevale baz=16,SNR=21	144.72	349	P		PKPab	11 30 35.8	-1.3		
SUSD	Miller baz=343,SNR=37	144.72	12	P		PKPab	11 30 36.1	-1.1		
PECO	Prince Edward comp=Z,7µm,22.0s	144.74	345	IAMs_20	IAMs_20		12 42 07.0			
G46A	Petoskey baz=6.9,SNR=15	144.75	355	P		PKPab	11 30 35.8	-1.4		
PB11	IPOC Station P comp=Z,7µm,19.0s	144.75	213	IAMs_20	IAMs_20		12 31 47.3			
M65A	Busby, Falmout baz=32	144.77	336	P		PKPab	11 30 36.4	-1.0		
M65A	Busby, Falmout comp=Z,9µm,18.0s	144.77	336	IAMs_20	IAMs_20		12 48 28.7			
L61B	Northampton baz=28,SNR=20	144.77	339	P		PKPab	11 30 36.3	-1.1		
K61A	Williamstown baz=27,SNR=12	144.78	340	P		PKPab	11 30 36.6	-0.8		
G47A	Hillman baz=8.6,SNR=26	144.79	354	P		PKPab	11 30 36.0	-1.4		
J58A	Remsen baz=24,SNR=30	144.80	343	P		PKPab	11 30 36.3	-1.2		
J58A	Remsen comp=Z,9µm,20.0s	144.80	343	IAMs_20	IAMs_20		12 41 59.8			
QUA2	Belchertown comp=Z,7µm,19.0s	144.80	338	IAMs_20	IAMs_20		12 41 36.4			
TUQ	Turquoise Moun baz=309,SNR=315	144.82	40	P		PKPab	11 30 37.9	-0.1		
SPMN	Marine on St. baz=353	144.86	5	P		PKPab	11 30 36.6	-1.1		
SPMN	Marine on St. comp=Z,9µm,20.0s	144.86	5	IAMs_20	IAMs_20		12 41 30.2			
TRY	Troy comp=Z,9µm,20.0s	144.86	340	IAMs_20	IAMs_20		12 41 19.7			
L63A	North Scituate baz=30,SNR=12	144.89	337	P		PKPab	11 30 36.5	-1.3		
BBRC	Big Bear Solar baz=307,SNR=28	144.90	42	P		PKPab	11 30 37.9	-0.6		
HEC	Hector,Ludlow baz=308,SNR=74	144.94	41	P		PKPbc	11 30 38.5	0.0		
G40A	Rib Lake comp=Z,11µm,22.0s	144.96	2	IAMs_20	IAMs_20		12 37 57.8			
J57A	Williamstown baz=22,SNR=34	144.96	343	P		PKPab	11 30 36.7	-1.3		
J57A	Williamstown comp=Z,9µm,18.0s	144.96	343	IAMs_20	IAMs_20		12 49 05.0			
M64A	Tiverton baz=31,SNR=12	145.00	336	P		PKPab	11 30 37.0	-1.2		
K60A	Five Rivers En baz=26,SNR=11	145.04	340	P		PKPbc	11 30 37.3	-1.0		
G45A	Suttons Bay baz=5.6,SNR=56	145.08	356	P		PKPbc	11 30 37.3	-1.1		
MURC	Murrieta baz=306,SNR=89	145.10	44	P		PKPbc	11 30 38.4	-0.5		
PSGCX	Pisagua comp=Z,10µm,22.0s	145.13	212	IAMs_20	IAMs_20		12 25 25.3			
L62A	Suffield baz=29	145.13	339	P		PKPbc	11 30 37.3	-1.4		
H48A	Harrisville baz=9.6,SNR=12	145.20	353	P		PKPbc	11 30 37.3	-1.5		
H48A	Harrisville comp=Z,7µm,20.0s	145.20	353	IAMs_20	IAMs_20		12 39 50.5			
K59A	Cooperstown baz=25,SNR=17	145.20	342	P		PKPbc	11 30 37.4	-1.6		
GLMI	Grayling baz=7.4	145.21	355	P		PKPbc	11 30 37.9	-1.0		
GLMI	Grayling comp=Z,9µm,21.0s	145.21	355	IAMs_20	IAMs_20		12 38 37.8			
MNMC	Minye Minye comp=Z,7µm,18.0s	145.23	213	IAMs_20	IAMs_20		12 39 13.2			
L61A	Hillsdale 1, H baz=27,SNR=32	145.30	340	P		PKPbc	11 30 38.0	-1.3		
J56A	Wolcott baz=21,SNR=23	145.32	344	P		PKPbc	11 30 38.0	-1.2		
I52A	Shelburne baz=15,SNR=37	145.32	349	P		PKPbc	11 30 38.2	-1.1		
H47A	Mio baz=8.2,SNR=32	145.40	354	P		PKPbc	11 30 38.4	-1.0		
GMRC	Granite Mounta baz=309,SNR=238	145.40	41	P		PKPab	11 30 40.2	+0.1		
I53A	Kortright Cn E baz=16,SNR=11	145.44	348	P		PKPbc	11 30 38.6	-1.0		
M63A	Gales Ferry baz=30,SNR=12	145.45	337	P		PKPbc	11 30 38.7	-1.0		
K58A	Earlville baz=23,SNR=35	145.45	343	P		PKPbc	11 30 38.6	-1.1		
K58A	Earlville comp=Z,9µm,21.0s	145.45	343	IAMs_20	IAMs_20		12 39 38.1			
H45A	Beulah baz=5.0,SNR=30	145.52	356	P		PKPdf	11 30 38.9	-0.9		
O20A	White River Ci baz=325,SNR=560	145.54	27	P		PKPdf	11 30 39.5	-0.7		
O20A	White River Ci comp=Z,8µm,19.0s	145.54	27	IAMs_20	IAMs_20		12 46 11.4			
H46A	Fife Lake baz=6.4,SNR=117	145.55	355	P		PKPdf	11 30 38.7	-1.1		
109C	Camp Elliot, M baz=305,SNR=58	145.57	45	P		PKPdf	11 30 40.2	-0.1		
J55A	Hilton baz=20,SNR=28	145.57	346	P		PKPdf	11 30 38.6	-1.3		
J55A	Hilton comp=Z,9µm,19.0s	145.57	346	IAMs_20	IAMs_20		12 45 29.0			
PFO	Pinyon Flats O baz=306,SNR=87	145.59	43	P		PKPbc	11 30 40.7	+0.1		
PFO	Pinyon Flats O	145.59	43	PKIKP		PKPdf	11 30 40.5	+0.1		
PFO	Pinyon Flats O	145.59	43			PKPdf	11 30 40.5	+0.1		
PFO	Pinyon Flats O comp=Z,5µm,22.0s	145.59	43	IAMs_20	IAMs_20		12 26 23.5			
XPFO	Pion Flat	145.59	43			PKPdf	11 30 40.3	-0.1		
XPFO	Pion Flat comp=Z,5µm,22.0s	145.59	43	IAMs_20	IAMs_20		12 26 23.5			
BELC	Belle Mtn. Jos baz=308,SNR=247	145.66	42	P		PKPbc	11 30 40.8	-0.1		
KSCT	Kent School, K comp=Z,8µm,20.0s	145.69	339	IAMs_20	IAMs_20		12 38 56.8			
PHWY	Pilot Hill comp=Z,9µm,20.0s	145.70	22	IAMs_20	IAMs_20		12 43 40.9			
L60A	Shokan baz=26,SNR=34	145.71	340	P		PKPdf	11 30 39.5	-0.7		
M62A	Hamden baz=29,SNR=35	145.73	338	P		PKPdf	11 30 39.0	-1.2		
K57A	Scipio Center baz=22,SNR=90	145.73	344	P		PKPdf	11 30 39.5	-0.7		
I51A	Listowel baz=14,SNR=36	145.73	350	P		PKPdf	11 30 39.4	-0.8		
I48A	Sherman Twp baz=9.1,SNR=34	145.75	353	P		PKPdf	11 30 39.5	-0.6		
H43A	Windswept, Lux comp=Z,8µm,21.0s	145.75	358	IAMs_20	IAMs_20		12 38 39.0			
J54A	Appleton baz=18,SNR=20	145.76	347	P		PKPdf	11 30 39.3	-0.9		
J54A	Appleton comp=Z,10µm,21.0s	145.76	347	IAMs_20	IAMs_20		12 39 25.9			
L59A	Walton baz=25,SNR=46	145.79	341	P		PKPdf	11 30 39.7	-0.7		
L59A	Walton comp=Z,8µm,19.0s	145.79	341	IAMs_20	IAMs_20		12 46 40.2			
ECSD	EROS Data Cent baz=346,SNR=243	145.85	10	P		PKPdf	11 30 39.8	-0.6		
ECSD	EROS Data Cent comp=Z,9µm,22.0s	145.85	10	IAMs_20	IAMs_20		12 41 34.6			
YLE	Yale comp=Z,9µm,21.0s	145.86	338	IAMs_20	IAMs_20		12 41 28.3			
N23A	Red Feather La baz=329	145.86	23	P		PKPdf	11 30 40.8	-0.1		
N23A	Red Feather La comp=Z,10µm,20.0s	145.86	23	IAMs_20	IAMs_20		12 44 04.5			
I49A	Point Hope baz=11,SNR=13	145.88	352	P		PKPdf	11 30 39.5	-0.9		
I49A	Point Hope comp=Z,11µm,22.0s	145.88	352	IAMs_20	IAMs_20		12 36 35.7			
K56A	Middlesex baz=21,SNR=45	145.98	345	P		PKPdf	11 30 39.9	-0.8		
BAR	Barrett comp=Z,5µm,21.0s	145.99	45	IAMs_20	IAMs_20		12 48 33.1			
I47A	Gladwin baz=7.7,SNR=57	146.00	354	P		PKPdf	11 30 40.5	-0.1		
I37A	Lemond, Waseca	146.00	6	IAMs_20	IAMs_20		12 41 42.6			
	comp=Z,9µm,20.0s									
MONP2	Monument Peak baz=306,SNR=143	146.04	44	P		PKPbc	11 30 42.4	+0.2		
PB12	IPOC Station P comp=Z,8µm,18.0s	146.05	213	IAMs_20	IAMs_20		12 34 30.8			
BINY	Binghamton baz=23,SNR=36	146.07	343	P		PKPdf	11 30 40.4	-0.4		
BINY	Binghamton comp=Z,10µm,20.0s	146.07	343	IAMs_20	IAMs_20		12 44 38.4			
NEE2	Needles Airpor baz=310,SNR=19	146.07	40	P		PKPbc	11 30 41.8	-0.2		
I45A	Fountain baz=4.7,SNR=18	146.12	356	P		PKPdf	11 30 41.0	+0.1		
I45A	Fountain comp=Z,10µm,20.0s	146.12	356	IAMs_20	IAMs_20		12 40 30.8			
IRM	Iron Mountain baz=309,SNR=385	146.12	41	P		PKPbc	11 30 42.2	+0.1		
WSPT	Westport, CT comp=Z,11µm,21.0s	146.13	339	IAMs_20	IAMs_20		12 41 44.3			
K55A	Perry baz=19,SNR=36	146.14	346	P		PKPdf	11 30 40.4	-0.6		
M61A	Granite Spring baz=27,SNR=18	146.16	339	P		PKPdf	11 30 40.2	-0.8		
I46A	Reed City baz=6.1,SNR=68	146.16	355	P		PKPdf	11 30 40.9	0.0		
L58A	Harry Jones Me baz=24,SNR=44	146.17	342	P		PKPdf	11 30 40.7	-0.3		
J52A	Paris baz=15,SNR=16	146.18	349	P		PKPdf	11 30 40.4	-0.6		
BC3	Big Chuckawall baz=308,SNR=200	146.23	42	P		PKPbc	11 30 42.2	-0.4		
AP01	Chacalluta comp=Z,7µm,21.0s	146.25	213	IAMs_20	IAMs_20		12 27 38.3			
W13A	Hualapai Mount comp=Z,9µm,19.0s	146.31	39	IAMs_20	IAMs_20		12 48 09.9			
U15A	North Rim comp=Z,6µm,22.0s	146.34	35	IAMs_20	IAMs_20		12 44 34.4			
N62A	Caumsett State baz=28,SNR=10.0	146.39	339	P		PKPdf	11 30 41.1	-0.2		
IKP	In-Ko-Pah, Jac baz=306,SNR=141	146.39	44	P		PKPdf	11 30 42.2	+0.4		
K54A	Basiliko Farm, baz=18,SNR=39	146.40	346	P		PKPdf	11 30 41.1	-0.3		
SWSC	Sam W. Stewart baz=306,SNR=97	146.43	43	P		PKPdf	11 30 40.3	-1.4		
M60A	Port Jervis baz=26,SNR=37	146.44	340	P		PKPdf	11 30 41.6	+0.1		
PV21	Cone Mtn., Par comp=Z,8µm,18.0s	146.47	29	IAMs_20	IAMs_20		12 47 46.3			
PAL	Palisades baz=27,SNR=17	146.48	339	P		PKPdf	11 30 41.1	-0.4		
PAL	Palisades comp=Z,9µm,18.0s	146.48	339	IAMs_20	IAMs_20		12 47 10.6			
J49A	Marlette baz=10,SNR=15	146.49	352	P		PKPdf	11 30 40.9	-0.6		
L57A	Andrews Acres baz=22,SNR=49	146.50	344	P		PKPdf	11 30 41.2	-0.4		
M59A	Waymart baz=24,SNR=32	146.50	341	P		PKPdf	11 30 41.4	-0.2		
PV23	Carpenter Ridg comp=Z,9µm,19.0s	146.54	29	IAMs_20	IAMs_20		12 47 50.1			
L56A	Greenwood baz=300,SNR=51	146.57	345	P		PKPdf	11 30 40.8	-0.9		
L56A	Greenwood comp=Z,8µm,20.0s	146.57	345	IAMs_20	IAMs_20		12 44 51.4			
WVNY	West Valley, N comp=Z,9µm,18.0s	146.57	346	IAMs_20	IAMs_20		12 47 29.5			
KSPA	Keystone Colle comp=Z,9µm,19.0s	146.59	342	IAMs_20	IAMs_20		12 50 22.3			
PV14	Lion Creek, Pa comp=Z,10µm,21.0s	146.60	29	IAMs_20	IAMs_20		12 46 44.6			
J48A	Bridge Port baz=9.2,SNR=30	146.63	353	P		PKPdf	11 30 41.2	-0.5		
J48A	Bridge Port comp=Z,10µm,20.0s	146.63	353	IAMs_20	IAMs_20		12 44 53.5			
LPAZ	La Paz comp=Z,142nm,1.1s,baz=79,slow=2.6,SNR=112	146.64	218	PKP		PKPdf	11 30 43.0	-0.3		
LPAZ				PKPbc		PKPab	11 30 45.5	-0.4		
	comp=Z,284nm,1.1s,baz=92,slow=3.2,SNR=105									
LPAZ	La Paz	146.64	218	*eP*		PKPbc	11 30 44.1	-0.7		
LPAZ	La Paz	146.64	218			PKPdf	11 30 42.9	-0.3		
PV04	Paradox Valley comp=Z,10µm,20.0s	146.64	29	IAMs_20	IAMs_20		12 46 54.7			
ODNJ	Ogdensburg comp=Z,10µm,20.0s	146.65	340	IAMs_20	IAMs_20		12 43 10.0			
PV20	West Nyswonger comp=Z,8µm,21.0s	146.65	29	IAMs_20	IAMs_20		12 46 56.0			
K52A	Tillsonburg baz=15,SNR=13	146.67	349	P		PKPdf	11 30 41.6	-0.2		
PV19	Morning Glory comp=Z,7µm,20.0s	146.67	29	IAMs_20	IAMs_20		12 46 56.4			
PDMCI	Parker Dam,Lak baz=310,SNR=54	146.67	40	P		PKPbc	11 30 43.0	-0.7		
PV17	East Wray Mesa comp=Z,10µm,19.0s	146.70	29	IAMs_20	IAMs_20		12 47 54.4			
J45A	Montague baz=4.5,SNR=7.1	146.73	357	P		PKPdf	11 30 42.3	+0.4		
J45A	Montague comp=Z,10µm,20.0s	146.73	357	IAMs_20	IAMs_20		12 41 34.9			
PV07	Paradox Valley comp=Z,7µm,20.0s	146.73	29	IAMs_20	IAMs_20		12 45 18.9			
PV11	David Mesa, Pa comp=Z,10µm,20.0s	146.73	29	IAMs_20	IAMs_20		12 46 57.1			
L55A	Hinsdale baz=19,SNR=63	146.75	346	P		PKPdf	11 30 41.1	-0.9		
PV12	Saucer Basin, comp=Z,10µm,20.0s	146.75	29	IAMs_20	IAMs_20		12 47 06.6			
PV18	Skein Mesa, Pa comp=Z,7µm,20.0s	146.75	29	IAMs_20	IAMs_20		12 46 58.7			
PV03	Paradox Valley comp=Z,8µm,20.0s	146.78	29	IAMs_20	IAMs_20		12 47 07.3			
PV05	Paradox Valley comp=Z,8µm,19.0s	146.79	30	IAMs_20	IAMs_20		12 47 59.0			
J47A	Sunmer baz=7.3,SNR=32	146.80	354	P		PKPdf	11 30 42.0	0.0		
J47A	Sunmer comp=Z,10µm,20.0s	146.80	354	IAMs_20	IAMs_20		12 44 06.0			
N61A	South Mountain baz=307,SNR=32	146.84	339	P		PKPdf	11 30 42.5	+0.4		
PV13	Radium Mtn., P comp=Z,8µm,19.0s	146.87	29	IAMs_20	IAMs_20		12 47 58.7			
K51A	Iona Station baz=13,SNR=13	146.87	350	P		PKPdf	11 30 40.9	-1.3		
L54A	Sinclairville baz=17,SNR=22	146.90	347	P		PKPdf	11 30 41.3	-1.0		
ISCO	Idaho Springs baz=329,SNR=157	146.93	24	P		PKPdf	11 30 41.8	-1.0		
ISCO	Idaho Springs	146.93	24	PKP2		PKPdf	11 30 42.5	-0.3		
ISCO	Idaho Springs	146.93	24	PKPdf		PKPdf	11 30 42.5	-0.3		
ISCO	comp=Z,8µm,22.0s			IAMs_20	IAMs_20		12 41 31.8			
M58A	Price's Panora baz=23,SNR=32	146.97	343	P		PKPdf	11 30 42.2	-0.2		
K50A	Casco baz=11	147.00	351	P		PKPdf	11 30 42.8	+0.4		
K50A	Casco	147.00	351			PKPdf	11 30 41.6	-0.7		
K50A	comp=Z,7µm,19.0s			IAMs_20	IAMs_20		12 51 23.2			
N60A	Cedar Hill Far baz=26,SNR=30	147.00	341	P		PKPdf	11 30 41.7	-0.7		
PV01	Paradox Valley comp=Z,6µm,19.0s	147.01	29	IAMs_20	IAMs_20		12 45 28.4			
GLA	Glamis baz=308,SNR=77	147.02	42	P		PKPdf	11 30 43.5	+0.7		
K49A	Clarkson baz=9.9	147.10	353	P		PKPdf	11 30 41.6	-0.9		
ERPA	Erie baz=16,SNR=12	147.16	348	P		PKPdf	11 30 42.5	-0.2		
ERPA	Erie comp=Z,8µm,22.0s	147.16	348	IAMs_20	IAMs_20		12 38 24.9			
K48A	Perry baz=8.7,SNR=41	147.16	353	P		PKPdf	11 30 42.0	-0.6		
N59A	State Game Lan baz=24,SNR=52	147.18	341	P		PKPdf	11 30 41.9	-0.8		
N59A	State Game Lan comp=Z,8µm,20.0s	147.18	341	IAMs_20	IAMs_20		12 46 42.8			
OGNE	Ogallala baz=336	147.19	18	P		PKPdf	11 30 41.4	-1.4		
OGNE	Ogallala comp=Z,7µm,20.0s	147.19	18	IAMs_20	IAMs_20		12 44 46.3			
M57A	Sunshine Farm, baz=22,SNR=61	147.19	343	P		PKPdf	11 30 42.9	+0.1		
M57A	Sunshine Farm, comp=Z,8µm,20.0s	147.19	343	IAMs_20	IAMs_20		12 47 01.1			
JFWS	Jewell Farm baz=358,SNR=128	147.31	2	P		PKPdf	11 30 41.6	-1.3		
M56A	Emporium baz=20,SNR=59	147.34	345	P		PKPdf	11 30 42.3	-0.8		
M56A	Emporium comp=Z,9µm,18.0s	147.34	345	IAMs_20	IAMs_20		12 48 57.8			
L53A	Girard baz=16	147.37	348	P		PKPdf	11 30 42.4	-0.7		
K47A	Vermontville baz=7.1,SNR=69	147.38	355	P		PKPdf	11 30 42.1	-0.9		
M55A	Ridgway baz=19,SNR=28	147.50	346	P		PKPdf	11 30 42.4	-0.9		
M55A	Ridgway comp=Z,10µm,19.0s	147.50	346	IAMs_20	IAMs_20		12 49 29.0			
WUAZ	Wupatki baz=316,SNR=77	147.51	35	P		PKPdf	11 30 43.9	+0.3		
O61A	Allentown baz=27	147.51	339	P		PKPdf	11 30 43.4	+0.1		
N58A	Sunbury baz=23,SNR=37	147.53	343	P		PKPdf	11 30 43.0	-0.4		
N58A	Sunbury comp=Z,7µm,19.0s	147.53	343	IAMs_20	IAMs_20		12 47 47.2			
AAM	Ann Arbor baz=9.7	147.60	353	P		PKPdf	11 30 42.4	-1.0		
AAM	Ann Arbor comp=Z,7µm,19.0s	147.60	353	IAMs_20	IAMs_20		12 45 40.2			
O60A	Telford baz=25,SNR=29	147.60	340	P		PKPdf	11 30 42.5	-1.0		
L34A	Svendsen Farm, comp=Z,9µm,20.0s	147.61	10	IAMs_20	IAMs_20		12 51 45.1			
Y14A	Wickenburg comp=Z,5µm,20.0s	147.62	39	IAMs_20	IAMs_20		12 43 53.8			
M54A	Oil Creek Stat baz=17,SNR=46	147.67	347	P		PKPdf	11 30 42.7	-0.8		
L50A	Kingsville baz=11,SNR=13	147.74	351	P		PKPdf	11 30 43.1	-0.6		
MVCO	Mesa Verde baz=322	147.77	30	P		PKPdf	11 30 43.9	-0.3		
MVCO	Mesa Verde comp=Z,9µm,22.0s	147.77	30	IAMs_20	IAMs_20		12 42 42.7			
BGNE	Belgrade baz=343	147.79	13	P		PKPdf	11 30 42.6	-1.2		
BGNE	Belgrade comp=Z,8µm,21.0s	147.79	13	IAMs_20	IAMs_20		12 43 04.0			
Q24A	Divide baz=329	147.83	24	P		PKPdf	11 30 42.5	-1.8		
Q24A	Divide comp=Z,7µm,20.0s	147.83	24	IAMs_20	IAMs_20		12 45 54.8			
N57A	Milroy baz=21,SNR=48	147.85	344	P		PKPdf	11 30 42.7	-1.2		
O59A	Robesonia baz=24	147.86	341	P		PKPdf	11 30 43.1	-0.8		
N56A	West Decatur baz=20,SNR=23	147.90	345	P		PKPdf	11 30 43.9	0.0		
M53A	WI Miller and baz=15,SNR=9.7	147.95	348	P		PKPdf	11 30 43.4	-0.6		
M52A	Chesterland baz=14,SNR=11	147.99	349	P		PKPdf	11 30 43.8	-0.3		
L44A	Lake County Fo baz=1.9,SNR=29	148.05	359	P		PKPdf	11 30 43.3	-0.8		
L44A	Lake County Fo comp=Z,9µm,21.0s	148.05	359	IAMs_20	IAMs_20		12 40 06.7			
SSPA	Standing Stone baz=21	148.06	344	P		PKPdf	11 30 43.4	-0.8		
SSPA	Standing Stone	148.06	344			PKPdf	11 30 43.6	-0.5		
SSPA	Standing Stone comp=Z,7µm,20.0s	148.06	344	IAMs_20	IAMs_20		12 42 43.9			
SAML	Samuel	148.11	234	*eP*		PKPdf	11 30 46.3	+1.3		
SAML	Samuel	148.11	234	PKIKP		PKPdf	11 30 44.6	-0.5		
SAML	Samuel	148.11	234			PKPdf	11 30 44.5	-0.5		
SCIA	State Center baz=352	148.11	6	P		PKPdf	11 30 43.0	-1.2		
S22A	4UR Ranch, Cre baz=325	148.13	27	P		PKPdf	11 30 43.9	-0.9		
P60A	Greenville baz=25,SNR=38	148.13	340	P		PKPdf	11 30 43.2	-1.1		
P60A	Greenville comp=Z,10µm,21.0s	148.13	340	IAMs_20	IAMs_20		12 41 38.3			
N55A	Marion Center baz=19,SNR=52	148.21	346	P		PKPdf	11 30 43.4	-1.1		
X16A	Lo Mia Camp, P comp=Z,7µm,20.0s	148.25	37	IAMs_20	IAMs_20		12 49 20.0			
O58A	Lewisberry baz=23,SNR=39	148.26	342	P		PKPdf	11 30 43.8	-0.7		
N54A	Moraine State baz=17,SNR=22	148.27	347	P		PKPdf	11 30 43.7	-0.9		
M51A	Elyria baz=13	148.34	350	P		PKPdf	11 30 43.3	-1.3		
O57A	Amberson baz=22,SNR=70	148.38	343	P		PKPdf	11 30 43.8	-1.0		
BBSR	BB Station	148.49	318	PKPdf		PKPdf	11 30 45.0	-0.1		
BBSR	BB Station comp=Z,6µm,20.0s	148.49	318	IAMs_20	IAMs_20		12 39 49.8			
P59A	Jarrettsville baz=24,SNR=31	148.57	341	P		PKPdf	11 30 44.4	-0.7		
O56A	Blue Knob Stat baz=20,SNR=53	148.58	345	P		PKPdf	11 30 44.7	-0.5		
N33A	J Bar K, Exete comp=Z,7µm,20.0s	148.59	12	IAMs_20	IAMs_20		12 51 48.0			
N53A	Lisbon baz=15,SNR=33	148.60	348	P		PKPdf	11 30 44.3	-0.8		
N53A	Lisbon comp=Z,10µm,20.0s	148.60	348	IAMs_20	IAMs_20		12 47 23.8			
W18A	Petrified Fore baz=318,SNR=54	148.72	34	P		PKPdf	11 30 46.1	+0.3		
KSCO	Kaye Shedlock' baz=333,SNR=33	148.74	21	P		PKPdf	11 30 44.5	-1.0		
N52A	McGinn's Farm, baz=14,SNR=21	148.75	349	P		PKPdf	11 30 44.3	-1.0		
N51A	Ashland baz=12,SNR=14	148.77	350	P		PKPdf	11 30 44.8	-0.6		
N51A	Ashland comp=Z,8µm,19.0s	148.77	350	IAMs_20	IAMs_20		12 46 55.2			
N35A	Tabor comp=Z,7µm,19.0s	148.81	10	IAMs_20	IAMs_20		12 50 34.9			
O55A	Ligonier baz=18,SNR=33	148.82	346	P		PKPdf	11 30 44.3	-1.2		
Q60A	Greensboro baz=26	148.93	340	P		PKPdf	11 30 45.3	-0.4		
Q60A	Greensboro comp=Z,11µm,21.0s	148.93	340	IAMs_20	IAMs_20		12 42 00.5			
P58A	Pank, Wackersv baz=22,SNR=52	148.95	342	P		PKPdf	11 30 44.7	-1.0		
N49A	Columbus Grove comp=Z,9µm,22.0s	149.03	353	IAMs_20	IAMs_20		12 40 31.8			
214A	Organ Pipe Nat baz=309,SNR=46	149.03	42	P		PKPdf	11 30 46.0	-0.1		
O54A	Avella baz=16,SNR=38	149.10	347	P		PKPdf	11 30 45.6	-0.3		
P57A	Homestead Farm baz=21,SNR=39	149.16	343	P		PKPdf	11 30 45.8	-0.3		
P57A	Homestead Farm comp=Z,10µm,22.0s	149.16	343	IAMs_20	IAMs_20		12 40 02.3			
PTGA	Pitinga comp=Z,65nm,1.0s,baz=96,slow=2.4,SNR=32	149.20	251	PKP		PKPdf	11 30 46.0	-0.9		
PTGA				PKPbc		PKPbc	11 30 50.6	-0.4		
	comp=Z,253nm,1.1s,baz=107,slow=3.0,SNR=60									
PTGA	Pitinga	149.20	251	PKPdf		PKPdf	11 30 46.0	-0.9		
O53A	New Philadelph baz=15,SNR=40	149.21	348	P

Q57A	Strasburg	149.69	344	P		PKPdf	11 30 46.4	-0.5		baz=21,SNR=46
O48A	Farmland	149.79	354	P		PKPdf	11 30 45.9	-1.1		baz=7.3,SNR=38
SFIN	Lafayette	149.81	357	P		PKPdf	11 30 46.1	-1.0		baz=3.5,SNR=84
CBKS	Cedar Bluff	149.84	17	P		PKPdf	11 30 46.1	-1.1		baz=338,SNR=26
R60A	Leonardtown, M	149.84	340	P		PKPdf	11 30 45.7	-1.4		baz=25
Q56A	Snyder Ridge,	149.90	345	P		PKPdf	11 30 46.5	-0.8		baz=19,SNR=32
Q56A	Snyder Ridge,	149.90	345	IAMs_20	IAMs_20		12 47 27.5			comp=Z,9µm,20.0s
P52A	Corning	149.98	349	P		PKPdf	11 30 45.9	-1.4		baz=13,SNR=46
P53A	Whipple	149.98	348	P		PKPdf	11 30 47.3	-0.1		baz=15,SNR=49
R59A	King George, V	150.08	341	P		PKPdf	11 30 47.3	-0.2		baz=24,SNR=6.7
O44A	Mansfield	150.08	359	IAMs_20	IAMs_20		12 51 51.5			comp=Z,8µm,19.0s
TUC	Tucson	150.09	39	P		PKPdf	11 30 48.3	+0.5		baz=313
TUC	Tucson	150.09	39	PKHKP	PKPpre		11 30 47.8			
TUC	Tucson	150.09	39	PKPdf	PKPdf		11 30 47.8	-0.1		
TUC	Tucson	150.09	39	IAMs_20	IAMs_20		12 49 15.2			comp=Z,5µm,20.0s
CBN	Corbin Frederi	150.16	341	P		PKPdf	11 30 47.0	-0.6		baz=23
CBN	Corbin Frederi	150.16	341	IAMs_20	IAMs_20		12 44 34.7			comp=Z,9µm,19.0s
Q55A	Buckhannon	150.16	346	P		PKPdf	11 30 47.3	-0.4		baz=18,SNR=45
R58A	Rapidan	150.26	342	P		PKPdf	11 30 46.9	-0.9		baz=22,SNR=43
P51A	Williamsport	150.28	351	P		PKPdf	11 30 46.8	-1.0		baz=12,SNR=22
P51A	Williamsport	150.28	351	IAMs_20	IAMs_20		12 48 40.3			comp=Z,9µm,19.0s
KSU1	Kansas State U	150.34	12	P		PKPdf	11 30 46.7	-1.2		baz=345,SNR=23
Q54A	Coxs Mills	150.35	347	P		PKPdf	11 30 46.8	-1.2		baz=16,SNR=54
S60A	Water View	150.38	340	P		PKPdf	11 30 47.2	-0.8		baz=25
R57A	Stanardsville	150.41	343	P		PKPdf	11 30 47.9	-0.2		baz=21,SNR=37
P49A	Miami Univ. Ec	150.46	353	P		PKPdf	11 30 46.5	-1.6		baz=8.4,SNR=28
R58B	Mineral	150.53	342	P		PKPdf	11 30 47.6	-0.6		baz=22,SNR=49
S59A	Mechanicsville	150.53	341	P		PKPdf	11 30 47.7	-0.5		baz=24,SNR=23
ANMO	Albuquerque	150.57	30	P		PKPdf	11 30 48.9	+0.2		baz=323
ANMO	Albuquerque	150.57	30	ce	PKIKP	PKPdf	11 30 48.9	+0.2		
ANMO	Albuquerque	150.57	30	PKPdf		PKPdf	11 30 48.3	-0.3		
ANMO	Albuquerque	150.57	30	IAMs_20	IAMs_20		12 52 31.8			comp=Z,6µm,19.0s
P46A	Rosedale	150.58	357	IAMs_20	IAMs_20		12 49 33.7			comp=Z,10µm,20.0s
Q53A	Leroy	150.61	348	P		PKPdf	11 30 47.1	-1.3		baz=15,SNR=53
Q52A	Bidwell	150.66	349	P		PKPdf	11 30 47.5	-0.9		baz=13,SNR=63
R55A	Marlinton	150.85	346	P		PKPdf	11 30 48.1	-0.7		baz=18,SNR=32
S58A	Poland Farm, P	150.91	342	P		PKPdf	11 30 48.2	-0.6		baz=22,SNR=37
T60A	Surry	150.91	340	P		PKPdf	11 30 48.5	-0.4		baz=25
T60A	Surry	150.91	340			PKPdf	11 30 48.8	-0.1		
Y22D	IRIS PASSCAL I	151.02	32	P		PKPdf	11 30 49.4	0.0		baz=321,SNR=12
Y22D	IRIS PASSCAL I	151.02	32	IAMs_20	IAMs_20		12 45 02.9			comp=Z,10µm,22.0s
S57A	Dark Hollow, R	151.03	343	P		PKPdf	11 30 48.6	-0.5		baz=20,SNR=21
BBGH	Gun Hill	151.05	279	eP		PKPdf	11 30 51.4	+1.8		
R54A	Victor	151.15	347	P		PKPdf	11 30 48.4	-0.9		baz=16,SNR=31
R53A	Hurricane	151.21	349	P		PKPdf	11 30 49.1	-0.2		baz=14,SNR=35
S56A	Natural Bridge	151.28	344	P		PKPdf	11 30 48.5	-0.9		baz=19,SNR=14
Q44A	Meyer Farm, Va	151.33	0	IAMs_20	IAMs_20		12 41 39.6			comp=Z,9µm,22.0s
T59A	Double "B" Far	151.34	341	P		PKPdf	11 30 49.2	-0.3		baz=24,SNR=22
S55A	Lewisburg	151.43	346	P		PKPdf	11 30 48.8	-0.9		baz=18,SNR=19
OLIL	Olney	151.49	359	IAMs_20	IAMs_20		12 42 56.8			comp=Z,8µm,21.0s
U61A	Possum Corner	151.54	338	P		PKPdf	11 30 50.4	+0.6		baz=26
S54A	Dingess, Beckl	151.59	347	P		PKPdf	11 30 49.3	-0.6		baz=16,SNR=9.5
S54A	Dingess, Beckl	151.59	347	IAMs_20	IAMs_20		12 48 01.0			comp=Z,9µm,20.0s
U60A	Pendleton	151.66	340	P		PKPdf	11 30 49.4	-0.6		baz=25,SNR=12
319A	Douglas	151.66	39	IAMs_20	IAMs_20		12 48 29.7			comp=Z,7µm,22.0s
T58A	Grand View Acr	151.67	342	P		PKPdf	11 30 49.1	-0.9		baz=22,SNR=18
121A	Cookes Peak, D	151.72	35	P		PKPdf	11 30 50.7	+0.2		baz=318,SNR=25
121A	Cookes Peak, D	151.72	35	IAMs_20	IAMs_20		12 52 55.8			comp=Z,7µm,18.0s
T57A	Hurt	151.83	343	P		PKPdf	11 30 50.0	-0.2		baz=20,SNR=18
S53A	Williamson	151.87	348	P		PKPdf	11 30 49.4	-0.9		baz=14,SNR=9.1
WCI	Wyandotte Cave	151.90	356	P		PKPdf	11 30 50.0	-0.4		baz=5.5
WCI	Wyandotte Cave	151.90	356	PKIKP		PKPdf	11 30 49.2	-1.1		
WCI	Wyandotte Cave	151.90	356	PKPdf		PKPdf	11 30 49.2	-1.1		
BLA	Blacksburg	151.94	345	P		PKPdf	11 30 50.2	-0.3		baz=18,SNR=13
BLA	Blacksburg	151.94	345	IAMs_20	IAMs_20		12 42 31.5			comp=Z,8µm,20.0s
U59A	Littleton	151.98	341	P		PKPdf	11 30 50.5	0.0		baz=24,SNR=6.4
T56A	Rocky Mt	152.01	345	P		PKPdf	11 30 50.3	-0.2		baz=19,SNR=16
V62A	Hyde County Ai	152.04	337	P		PKPdf	11 30 51.7	+1.1		baz=28
TOSP	Speyside	152.05	275	eP		PKPdf	11 30 51.3	+0.2		
TOSP	Speyside	152.05	275	eP		PKiKP	11 30 58.6	+0.5		
V61A	Roper	152.07	338	P		PKPdf	11 30 51.0	+0.4		baz=27,SNR=8.9
CCM	Cathedral Cave	152.10	4	P		PKPdf	11 30 49.8	-0.8		baz=355
CCM	Cathedral Cave	152.10	4	PKIKP		PKPdf	11 30 49.4	-1.2		
CCM	Cathedral Cave	152.10	4	PKPdf		PKPdf	11 30 49.4	-1.2		
T55A	Pulaski	152.12	346	P		PKPdf	11 30 50.0	-0.7		baz=17,SNR=14
H05N1	Guadeloupe/Mar	152.16	286	PKPbc		PKPbc	11 30 56.5	-1.5		SNR=14
SRIG	Santa Rosalia	152.18	49	IAMs_20	IAMs_20		12 31 38.5			comp=Z,5µm,22.0s
U58A	Oxford	152.18	342	P		PKPdf	11 30 50.3	-0.5		baz=22,SNR=19
ILAM	Ilet Lapin Mar	152.20	282	eP		PKPdf	11 30 44.7	-6.7		
ILAM	Ilet Lapin Mar	152.20	282	eP		PKiKP	11 30 59.1	+0.8		
H05S1	Guadeloupe/Mar	152.20	282	PKPbc		PKPbc	11 30 57.2	-0.8		SNR=7.1
MPOM	Morne Pois Mar	152.22	282	eP		PKPdf	11 30 48.5	-2.9		
MPOM	Morne Pois Mar	152.22	282	eP		PKPbc	11 30 57.4	-0.7		
MVM	Montagne Vaucl	152.24	282	eP		PKiKP	11 31 01.4	+2.9		
USIN	University of	152.24	358	IAMs_20	IAMs_20		12 42 14.8			comp=Z,10µm,21.0s
SLAC	Saint Lucia, A	152.30	281	eP		PKPdf	11 30 49.7	-1.8		
LPMF	Morne Lapointe	152.31	282	eP		PKPbc	11 30 58.4	+0.1		
U32A	Winter Ranch,	152.31	18	IAMs_20	IAMs_20		12 45 17.9			comp=Z,10µm,21.0s
SLPA	Patience	152.33	281	e		PKPdf	11 30 51.4	-0.1		
V60A	Jim Taylor Roa	152.34	339	P		PKPdf	11 30 50.9	-0.1		baz=25,SNR=10
T54A	Tazewell	152.35	347	P		PKPdf	11 30 50.0	-1.2		baz=16,SNR=13
MCLT	Moule a Chique	152.36	280	eP		PKPdf	11 30 44.2	-7.4		
MCLT	Moule a Chique	152.36	280	eP		PKPdf	11 30 45.4	-6.2		
SLBI	Saint Lucia, B	152.37	281	eP		PKPdf	11 30 50.5	-1.1		
SLBI	Saint Lucia, B	152.37	281	eP		PKPdf	11 30 54.3	+2.7		
ZAM	Aeronautique	152.37	282	eP		PKPdf	11 30 52.8	+1.2		
U57A	Blanch	152.38	343	P		PKPdf	11 30 50.5	-0.5		baz=21,SNR=12
TRMF	Trois Ilets	152.39	282	eP		PKiKP	11 30 59.4	+0.6		
BIM	Bigot	152.41	282	eP		PKPdf	11 30 48.3	-3.4		
BIM	Bigot	152.41	282	eP		PKPbc	11 30 58.5	-0.1		
MAGL	Barre de l'ile	152.43	285	eP		PKPdf	11 30 51.6	-0.1		
BAMF	Morne Balai	152.46	283	eP		PKPbc	11 30 58.7	-0.1		
FDF	Fort de France	152.47	282	eP		PKPdf	11 30 51.1	-0.7		
FDF	Fort de France	152.47	282	eP		PKPdf	11 30 52.6	+0.7		
FDF	Fort de France	152.47	282	IAMs_20	IAMs_20		12 49 59.5			comp=Z,5µm,20.0s
GBMF	Grand Be	152.47	283	eP		PKiKP	11 30 59.4	+0.4		
CXM	Morne La Croix	152.47	283	eP		PKiKP	11 30 59.7	+0.5		
DLPL	La Plaine	152.49	284	IAMs_20	IAMs_20		12 34 18.1			comp=Z,5µm,21.0s
PCM	Pelee Case Pet	152.51	283	eP		PKiKP	11 30 59.2	+0.2		
S44A	Carbondale	152.54	1	IAMs_20	IAMs_20		12 45 46.5			comp=Z,10µm,22.0s
ABD	La Joyeuse, An	152.54	286	eP		PKPdf	11 30 47.6	-4.2		
ABD	La Joyeuse, An	152.54	286	eP		PKPbc	11 30 57.0	-1.8		
ANWB	Willy Bob	152.60	289	eP		PKPdf	11 30 50.3	-1.6		
ANWB	Willy Bob	152.60	289	eP		PKPbc	11 30 57.7	-1.2		
ANWB	Willy Bob	152.60	289	IAMs_20	IAMs_20		12 49 05.6			comp=Z,6µm,22.0s
T53A	Wise	152.62	349	P		PKPdf	11 30 50.5	-1.0		baz=14,SNR=14
V59A	Middlesex	152.66	341	P		PKPdf	11 30 51.0	-0.5		baz=23,SNR=12
SVB	Belmont	152.69	279	eP		PKPdf	11 30 50.4	-1.7		
SVB	Belmont	152.69	279	eP		PKiKP	11 30 59.9	+0.5		
SVB	Belmont	152.69	279	IAMs_20	IAMs_20		12 38 03.9			comp=Z,5µm,21.0s
CBE	Ff, Capester	152.72	285	eP		PKPdf	11 30 47.1	-5.1		
CBE	Ff, Capester	152.72	285	eP		PKPbc	11 30 58.9	-0.4		
AMTX	Amarillo	152.74	23	P		PKPdf	11 30 51.8	0.0		baz=332
U56A	King	152.75	345	P		PKPdf	11 30 51.5	-0.2		baz=18
U55A	TA2, Sparta	152.77	346	P		PKPdf	11 30 50.8	-1.0		baz=17,SNR=15
TDBA	Terre de Bas,	152.78	285	eP		PKPdf	11 30 52.2	0.0		
TDBA	Terre de Bas,	152.78	285	eP		PKiKP	11 30 59.5	-0.1		
TRN	Trinidad (W)	152.89	274	eP		PKPdf	11 30 44.8	-7.6		
GCMP	Grenada, Carri	152.90	278	eP		PKPbc	11 30 59.1	-0.6		
V58A	Windy Hill, Pi	152.91	342	P		PKPdf	11 30 51.7	-0.1		baz=22,SNR=6.9
U54A	Nelsons Funny	152.93	347	P		PKPdf	11 30 50.8	-1.2		baz=15
U54A	Nelsons Funny	152.93	347	IAMs_20	IAMs_20		12 44 33.4			comp=Z,8µm,21.0s
T50A	Nancy	152.95	353	IAMs_20	IAMs_20		12 50 06.8			comp=Z,9µm,20.0s
EPT	El Paso	153.01	34	IAMs_20	IAMs_20		12 55 13.8			comp=Z,6µm,20.0s
V57A	Coltrane Farms	153.02	343	P		PKPdf	11 30 51.2	-0.8		baz=20,SNR=12
CNNC	Cliffs of the	153.03	340	P		PKPdf	11 30 51.2	-0.9		baz=24
MSTX	Muleshoe	153.09	26	P		PKPdf	11 30 51.9	-0.5		baz=329,SNR=24
GRGR	Grenville	153.13	277	eP		PKPdf	11 30 51.4	-1.4		
GRGR	Grenville	153.13	277	eP		PKPdf	11 30 53.6	+0.8		
GRGR	Grenville	153.13	277	IAMs_20	IAMs_20		12 43 21.7			comp=Z,4µm,20.0s
W60A	Pink Hill	153.13	339	P		PKPdf	11 30 51.6	-0.6		baz=25
MLYT	Lee's Yard	153.16	287	eP		PKPdf	11 30 37.8	-15		
T45A	Paducah	153.21	359	IAMs_20	IAMs_20		12 43 49.5			comp=Z,10µm,21.0s
TZTN	Tazewell	153.23	350	P		PKPdf	11 30 51.6	-0.8		baz=12,SNR=39
W59A	Clinton	153.28	341	P		PKPdf	11 30 51.8	-0.6		baz=23
V56A	Mocksville	153.29	345	P		PKPdf	11 30 51.6	-0.8		baz=19,SNR=9.0
V55A	Taylorsville	153.43	346	P		PKPdf	11 30 51.9	-0.8		baz=17,SNR=9.5
SKI	Saint Kitts	153.56	289	eP		PKiKP	11 31 03.5	+2.3		
SKI	Saint Kitts	153.56	289	PKP2		PKPab	11 31 14.1	+0.6		
SKI							12 30 53.5			
SKI	Saint Kitts	153.56	289			PKPdf	11 30 53.5	+0.2		
SKI				PKPbc		sPKPdf	11 31 02.2	+0.5		
SKI				PKPab		PKPab	11 31 14.1	+0.6		
HHAR	Hobbs	153.56	9	IAMs_20	IAMs_20		12 50 20.6			comp=Z,8µm,20.0s
TUL1	Leonard	153.58	13	P		PKPdf	11 30 52.0	-0.9		baz=345,SNR=13
U40A	Yellville	153.64	7	P		PKPdf	11 30 51.8	-1.2		baz=351,SNR=40
U40A	Yellville	153.64	7	IAMs_20	IAMs_20		12 45 37.6			comp=Z,8µm,21.0s
OKCFA	Oklahoma City	153.65	16	IAMs_20	IAMs_20		12 54 28.3			comp=Z,6µm,18.0s
X60A	Albert Glenn T	153.66	339	P		PKPdf	11 30 52.6	-0.3		baz=25
W58A	Raeford	153.66	342	P		PKPdf	11 30 51.9	-1.1		baz=22,SNR=7.9
V54A	Nebo	153.67	347	P		PKPdf	11 30 52.2	-0.9		baz=16,SNR=13
MNTX	Cornudas Mount	153.68	33	P		PKPdf	11 30 52.8	-0.3		baz=321,SNR=48
MNTX	Cornudas Mount	153.68	33	IAMs_20	IAMs_20		12 49 47.4			comp=Z,7µm,22.0s
HICK	Hickman	153.69	0	IAMs_20	IAMs_20		12 43 35.0			comp=Z,9µm,22.0s
W57A	Gilead	153.77	343	P		PKPdf	11 30 52.1	-1.0		baz=20,SNR=7.7
X59A	McDuffie Farm,	153.87	340	P		PKPdf	11 30 52.6	-0.7		baz=24
WMOK	Wichita Mounta	153.90	19	P		PKPdf	11 30 52.0	-1.4		baz=338,SNR=32
W56A	Indian Trail	153.94	344	P		PKPdf	11 30 52.4	-1.0		baz=19,SNR=6.1
V53A	Saluda	153.95	349	IAMs_20	IAMs_20		12 42 01.5			comp=Z,10µm,21.0s
GLAT	Glass	153.96	1			PKPdf	11 30 53.4	0.0		
GLAT				PKPbc		sPKPdf	11 31 02.0	+0.4		
GLAT						PKPab	11 31 14.8	+0.3		
WVT	Waverly	154.08	358	P		PKPdf	11 30 52.5	-1.1		baz=2.4
WVT	Waverly	154.08	358	PKIKP		PKPdf	11 30 52.4	-1.1		
WVT	Waverly	154.08	358	PKPdf		PKPdf	11 30 52.4	-1.2		
WVT				PKPbc		sPKPdf	11 31 01.8	0.0		
WVT	Waverly	154.08	358	IAMs_20	IAMs_20		12 43 28.4			comp=Z,9µm,20.0s
LCAR	Lake Charles	154.08	4	IAMs_20	IAMs_20		12 43 00.4			comp=Z,10µm,22.0s
X58A	Rowland	154.13	342	P		PKPdf	11 30 53.4	-0.3		baz=22
X58A	Rowland	154.13	342	IAMs_20	IAMs_20		12 41 24.8			comp=Z,10µm,22.0s
KMSC	Kings Mountain	154.13	346	P		PKPdf	11 30 52.6	-1.1		baz=17,SNR=16
TKL	Tuckaleechee C	154.14	350	PKP		PKPdf	11 30 52.7	-1.0		comp=Z,39nm,1.2s
TKL				PKPbc		pPKPdf	11 31 00.5	+0.6		
TKL				PP		PP	11 34 51.0	+2.2		
TKL	Tuckaleechee C	154.14	350			PKPdf	11 30 53.2	-0.5		comp=Z,26nm,1.1s,baz=35,slow=6.3,SNR=3.6
GNAR	Gosnell	154.25	2	IAMs_20	IAMs_20		12 43 19.7			comp=Z,9µm,22.0s
Y60A	Bolivia	154.26	339	P		PKPdf	11 30 53.6	-0.2		baz=25
Y60A	Bolivia	154.26	339	IAMs_20	IAMs_20		12 41 37.5			comp=Z,10µm,22.0s
BIRD	Birdtown, Kers	154.37	344	IAMs_20	IAMs_20		12 44 24.1			comp=Z,10µm,21.0s
W54A	Cherokee Point	154.38	347	P		PKPdf	11 30 53.2	-0.9		baz=15,SNR=9.8
X57A	Johnson Farm,	154.44	343	P		PKPdf	11 30 52.9	-1.2		baz=20
Y59A	Loris	154.50	340	P		PKPdf	11 30 53.2	-1.0		baz=23
Y59A	Loris	154.50	340	IAMs_20	IAMs_20		12 50 38.7			comp=Z,8µm,19.0s
LPAR	Lepanto	154.60	3	IAMs_20	IAMs_20		12 42 55.0			comp=Z,10µm,22.0s
BG3	Lake Jocassee	154.63	348	IAMs_20	IAMs_20		12 47 17.5			comp=Z,6µm,19.0s
W39A	Magazine	154.65	9	P		PKPdf	11 30 53.4	-1.0		baz=349,SNR=13
X56A	White Oak	154.67	345	P		PKPdf	11 30 53.7	-0.8		baz=18,SNR=9.1
WHAR	Wooly Hollow	154.75	6	IAMs_20	IAMs_20		12 50 08.2			comp=Z,8µm,20.0s
Y58A	Scranton	154.83	342	P		PKPdf	11 30 54.0	-0.7		baz=22,SNR=5.1
Y58A	Scranton	154.83	342	IAMs_20	IAMs_20		12 50 15.4			comp=Z,7µm,20.0s
X55A	Gracelyn & Ava	154.84	346	P		PKPdf	11 30 54.4	-0.3		baz=17,SNR=7.8
W41B	Gary Mavity, V	154.88	6	P		PKPdf	11 30 53.9	-0.8		baz=352,SNR=14
JSC	Jenkinsville	154.93	345	IAMs_20	IAMs_20		12 49 15.7			comp=Z,5µm,20.0s
X54A	Belton	154.94	347	P		PKPdf	11 30 54.3	-0.5		baz=15,SNR=13
Y57A	Sumter	154.94	343	P		PKPdf	11 30 54.3	-0.5		baz=20
NNA	Nana	154.96	209	PKP		PKPdf	11 30 56.0	+0.6		comp=Z,6.3nm,0.5s,baz=76,slow=4.0,SNR=4.9
NNA				PP		PP	11 34 54.5	+0.6		comp=Z,8.5nm,0.7s,baz=125,slow=4.8,SNR=4.2
NNA	Nana	154.96	209	IAMs_20	IAMs_20		12 40 28.4			comp=Z,7µm,18.0s
HDBT	Hernando Brdge	155.05	2	IAMs_20	IAMs_20		12 54 51.1			comp=Z,8µm,20.0s
MET	Memphis--Engin	155.09	2	IAMs_20	IAMs_20		12 49 51.0			comp=Z,9µm,20.0s
PLAL	Pickwick Lake	155.23	358	IAMs_20	IAMs_20		12 53 17.9			comp=Z,6µm,19.0s
Z59A	Georgetown, SC	155.32	340	P		PKPdf	11 30 55.4	+0.1		baz=23
MIAR	Mount Ida	155.32	9	P		PKPdf	11 30 54.6	-0.7		baz=349
MIAR	Mount Ida	155.32	9	IAMs_20	IAMs_20		12 47 45.2			comp=Z,8µm,20.0s
CDVI	St. Croix	155.34	291	eP		PKPdf	11 30 54.4	-1.4		
Z58A	St. Stephen	155.40	341	P		PKPdf	11 30 54.5	-0.9		baz=22,SNR=5.6
Y56A	Pelion	155.41	345	P		PKPdf	11 30 55.1	-0.3		baz=18
Y55A	Saluda	155.41	346	P		PKPdf	11 30 55.0	-0.5		baz=17,SNR=11
X40A	Basin Creek Fa	155.48	8	P		PKPdf	11 30 54.7	-0.9		baz=351,SNR=13
FPAL	Fort Paine	155.49	353	IAMs_20	IAMs_20		12 49 27.0			comp=Z,9µm,19.0s
ABTX	Abilene, Hawle	155.52	22	P		PKPdf	11 30 55.2	-0.5		baz=334,SNR=9.0
X43A	Marvell	155.65	4	P		PKPdf	11 30 55.4	-0.4		baz=355,SNR=7.5
Z35A	Perchaven, San	155.66	17	IAMs_20	IAMs_20		12 50 22.6			comp=Z,8µm,20.0s
Z57A	Bowman	155.71	343	P		PKPdf	11 30 55.2	-0.7		baz=20,SNR=6.2
OXF	Oxford	155.71	1	P		PKPdf	11 30 54.8	-1.1		baz=359,SNR=13
NHSC	New Hope	155.73	342	P		PKPdf	11 30 55.4	-0.5		baz=21
NHSC	New Hope	155.73	342	IAMs_20	IAMs_20		12 56 51.2			comp=Z,8µm,20.0s
SLBS	Sierra La Lagu	155.86	53			PKPdf	11 30 56.5	0.0		
SLBS				PKPab		PKPab	11 31 24.6	+1.4		
SLBS	Sierra La Lagu	155.86	53	IAMs_20	IAMs_20		12 53 38.6			comp=Z,6µm,21.0s
Z56A	Williston	155.86	344	P		PKPdf	11 30 55.9	-0.2		baz=18
Z56A	Williston	155.86	344	IAMs_20	IAMs_20		12 41 28.5			comp=Z,8µm,22.0s
PCRV	Puerto La Cruz	156.06	272	PP	PP		11 34 59.7	-2.3		comp=Z,17nm,1.1s,baz=344,slow=10.0,SNR=4.4
158A	Hollywood	156.08	342	P		PKPdf	11 30 56.8	+0.4		baz=22
GOGA	Godfrey	156.27	349	P		PKPdf	11 30 56.1	-0.5		baz=13,SNR=16
GOGA	Godfrey	156.27	349	IAMs_20	IAMs_20		12 48 32.8			comp=Z,7µm,21.0s
157A	Early Branch	156.37	343	P		PKPdf	11 30 56.8	0.0		baz=20
TXAR	Lajitas Array	156.44	34	PKP		PKPdf	11 30 56.6	-0.5		comp=Z,17nm,0.9s,baz=253,slow=0.7,SNR=112
TXAR				PKPab		PKPab	11 31 25.8	+0.2		comp=Z,20nm,0.8s,baz=169,slow=1.0,SNR=7.3
TXAR				PP	PP		11 35 14.2	+12		comp=Z,10.0nm,1.0s,baz=2.6,slow=2.8,SNR=5.2
TXAR	Lajitas Array	156.44	34	PKIKP		PKPdf	11 30 56.2	-0.9		
TXAR	Lajitas Array	156.44	34	PKPdf		PKPdf	11 30 56.2	-0.9		
SJG	San Juan	156.51	292	PKP		PKPdf	11 30 56.2	-1.1		comp=Z,25nm,0.9s,baz=341,slow=1.6,SNR=7.5
SJG				PP		PP	11 35 03.7	-0.4		comp=Z,4.8nm,0.3s,baz=82,slow=4.6,SNR=3.2
SJG	San Juan	156.51	292	eP		PKPdf	11 30 57.2	-0.1		
SJG	San Juan	156.51	292			PKPdf	11 30 56.7	-0.6		
SJG	San Juan	156.51	292	IAMs_20	IAMs_20		12 38 30.0			comp=Z,8µm,20.0s
Z51A	Franklin	156.65	352	IAMs_20	IAMs_20		12 49 54.6			comp=Z,9µm,19.0s
Z41A	Richland Creek	156.69	8	P		PKPdf	11 30 56.5	-0.7		baz=350,SNR=6.2
Z41A	Richland Creek	156.69	8	IAMs_20	IAMs_20		12 43 48.6			comp=Z,9µm,22.0s
WHTX	Lake Whitney,	156.85	19	P		PKPdf	11 30 56.6	-0.8		baz=338,SNR=9.9
WHTX	Lake Whitney,	156.85	19	IAMs_20	IAMs_20		12 50 29.2			comp=Z,7µm,21.0s
154A	Montrose	156.97	347	IAMs_20	IAMs_20		12 51 27.4			comp=Z,7µm,20.0s
257A	Skidaway Islan	157.04	342	IAMs_20	IAMs_20		12 49 18.8			comp=Z,8µm,19.0s
LRAL	Lakeview Retre	157.12	356	P		PKPdf	11 30 56.9	-0.9		baz=4.8,SNR=29
JCT	Junction City	157.36	25	P		PKPdf	11 30 57.3	-0.8		baz=331,SNR=31
MLPR	Magueyes Islan	157.37	293	PKPdf		PKPdf	11 30 57.6	-0.8		
MLPR				PKPab		PKPab	11 31 28.6	-1.1		
146A	Union	157.58	0	IAMs_20	IAMs_20		12 45 33.1			comp=Z,9µm,22.0s
NATX	Nacogdoches	157.82	13	P		PKPdf	11 30 58.0	-0.7		baz=345,SNR=18
NATX	Nacogdoches	157.82	13			PKPdf	11 30 58.4	-0.2		
NATX						PKPab	11 31 31.3	+0.2		
435B	Jarrell	157.92	20	P		PKPdf	11 30 58.6	-0.2		baz=337,SNR=6.9
435B	Jarrell	157.92	20	IAMs_20	IAMs_20		12 52 17.5			comp=Z,7µm,20.0s
VBMS	Vicksburg	157.96	4	P		PKPdf	11 30 58.3	-0.5		baz=356
VBMS	Vicksburg	157.96	4	IAMs_20	IAMs_20		12 53 12.9			comp=Z,7µm,20.0s
TIGA	Tifton

BETC	**Betania**	**164.68**	**242**	*e*P	**PKPdf**	**11 31 05.9**	**-0.6**
CASC	**Dorado de Casc**	**164.77**	**230**	*e*P	**PKPdf**	**11 31 06.2**	**-0.5**
ORTC	**Ortega, Tolima**	**165.06**	**247**	*e*P	**PKPdf**	**11 31 05.4**	**-1.4**
MARP	**Paez Belalcaza**	**165.20**	**242**	*e*P	**PKPdf**	**11 31 05.9**	**-1.3**
PTBC	**PUERTO BERRIO**	**165.22**	**257**	*e*P	**PKPdf**	**11 31 05.2**	**-1.7**
SMLC	**San Martn de**	**165.25**	**266**	*e*P	**PKPdf**	**11 31 05.7**	**-1.2**
PCON	**Cinco Dias**	**165.32**	**239**	*e*P	**PKPdf**	**11 31 07.6**	**-0.1**
NORC	**Norcasia**	**165.33**	**253**	*e*P	**PKPdf**	**11 31 05.7**	**-1.4**
SOTA	**Rioblanco**	**165.39**	**238**	*e*P	**PKPdf**	**11 31 07.6**	**0.0**
TOLC	**Tolima**	**165.40**	**249**	*e*P	**PKPdf**	**11 31 06.6**	**-0.8**
ANIL	**Santa Ana**	**165.44**	**248**	*e*P	**PKPdf**	**11 31 05.9**	**-1.5**
GCUF	**Volcan Galeras**	**165.46**	**233**	*e*P	**PKPdf**	**11 31 06.9**	**-0.8**
SMRC	**Santa Marta, M**	**165.48**	**275**	*e*P	**PKPdf**	**11 31 06.2**	**-0.9**
ARGC	**Ariguani, Magd**	**165.50**	**270**	*e*P	**PKPdf**	**11 31 06.4**	**-0.7**
RREF	**El Recreo**	**165.55**	**250**	*e*P	**PKPdf**	**11 31 06.9**	**-1.1**
GUY2C	**Guyana, Caldas**	**165.68**	**251**	*e*P	**PKPdf**	**11 31 05.9**	**-2.0**
ZARC	**Zaragoza, Cauc**	**165.82**	**261**	*e*P	**PKPdf**	**11 31 06.4**	**-1.0**
BBAC	**Balboa, Cauca**	**165.85**	**236**	*e*P	**PKPdf**	**11 31 05.9**	**-1.8**
PAC1	**Pacto, Paraso**	**165.93**	**227**	*e*P	**PKPdf**	**11 31 07.1**	**-0.5**
YOTC	**Yotoco, Valle**	**166.08**	**245**	*e*P	**PKPdf**	**11 31 05.9**	**-1.9**
HELC	**Santa Helena**	**166.15**	**255**	*e*P	**PKPdf**	**11 31 06.7**	**-1.4**
MTDJ	**Mount Denham**	**166.30**	**307**	*e*P	**PKPdf**	**11 31 05.7**	**-2.1**
PLMC	**San Jos del P**	**166.41**	**249**	*e*P	**PKPdf**	**11 31 06.2**	**-1.8**
SJCC	**San Jacinto, C**	**166.42**	**270**	*e*P	**PKPdf**	**11 31 07.6**	**-0.3**
CBOC	**Ciudad Bolivar**	**166.50**	**253**	*e*P	**PKPdf**	**11 31 05.7**	**-2.5**
UREC	**San Jos de Ur**	**166.53**	**261**	*e*P	**PKPdf**	**11 31 06.9**	**-1.0**
PIZC	**Pizarro, Choco**	**167.41**	**247**	*e*P	**PKPdf**	**11 31 07.6**	**-1.0**
LCBC	**Los crdobas,**	**167.51**	**265**	*e*P	**PKPdf**	**11 31 06.2**	**-2.5**
CAPC	**Capurgana**	**168.45**	**264**	*e*P	**PKPdf**	**11 31 07.1**	**-2.1**
PAYG	**Puerto Ayora**	**169.20**	**173**	*e*P	**PKPdf**	**11 31 08.6**	**-1.2**
TEIG	**Tepich**	**169.92**	**356**	PKP	**PKPdf**	**11 31 08.6**	**-1.4**
	comp=Z,68nm,1.0s,baz=319,slow=4.6,SNR=14						
TEIG				PP	**PP**	**11 36 18.2**	**+5.4**
	comp=Z,13nm,0.9s,baz=319,slow=2.5,SNR=3.5						
TEIG	**Tepich**	**169.92**	**356**	*e*P	**PKPdf**	**11 31 08.9**	**-1.1**
TEIG	**Tepich**	**169.92**	**356**		**PKPdf**	**11 31 09.0**	**-1.0**
UPA	**Univ. de Panam**	**170.63**	**264**	*e*P	**PKPdf**	**11 31 08.6**	**-2.0**
BCIP	**Isla Barro Col**	**170.95**	**265**	*e*P	**PKPdf**	**11 31 08.1**	**-2.6**
BCIP	**Isla Barro Col**	**170.95**	**265**	PKP2	**PKPab**	**11 32 30.6**	**+1.0**
BCIP						12 31 09.6	
BCIP	**Isla Barro Col**	**170.95**	**265**		**PKPdf**	**11 31 09.6**	**-1.2**
BCIP				PKPab	**PKPab**	**11 32 30.6**	**+1.0**
AZU	**Azuero**	**171.11**	**256**	*e*P	**PKPdf**	**11 31 08.6**	**-2.2**
TGUH	**Tegucigalpa,Un**	**175.75**	**337**	*e*P	**PKPdf**	**11 31 11.3**	**-1.4**
ACON	**Acoyapa**	**175.85**	**297**		**PKPdf**	**11 31 11.1**	**-1.5**
ACON					**PKPab**	**11 32 50.4**	**-0.8**
JTS	**Las Juntas de**	**176.05**	**273**	PP	PP	11 36 49.6	+4.1
	comp=Z,17nm,1.3s,baz=54,slow=4.6,SNR=2.7						
JTS	**Las Juntas de**	**176.05**	**273**	*e*P	**PKPdf**	**11 31 08.4**	**-4.3**

*IDC **14** 11:26:41.4±1.3,23°.92N×121°.66E,h0km,mb3.8/5, mb1 3.8/6,mb1mx3.5/43,mbtmp3.7/6,ML2.6/1,Error ellipse: s-maj=40.0km s-min=26.2km az=53.0*
*JMA **14** 11:26:47.2±0.1,23°.94N×121°.69E,h38km±2km,M3.8*
*TAP **14** 11:26:47.9,23°.99N×121°.70E,h41km,ML4.1,B*
*NEIC **14** 11:26:47.9±2.1,23°.95N±0°.02×121°.67E±0°.05,h44km±8km, mb4.3/11,ML4.1(TAP),Error ellipse: s-maj=6.4km s-min=2.9km az=99.0*

ISC 14 11:26:48.1±0.7,**23°.96N**±0°.02×**121°.75E**±0°.02,**h35**km,**n168,** σ1**s38**/280,**mb4.1**/12,**8C-17D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.13**	**279**	⇑	*i*	P	Pn	11 26 54.9	-0.7
	baz=261								
HWA					*e*	S	Sn	11 27 01.7	+0.1
	baz=261								
TWD	**Chiawan**	**0.18**	**312**	⇑	*i*	P	**Pn**	**11 26 54.9**	**-0.6**
	baz=315								
TWD					*e*	S	**Sn**	**11 27 00.1**	**-1.1**
	baz=315								
NACB	**Ninganchiao**	**0.26**	**328**	⇑	*i*	P	**Pn**	**11 26 55.3**	**-0.5**
	baz=322								
NACB					*i*	S	**Sn**	**11 27 00.6**	**-0.8**
	baz=322								
NACB	**Ninganchiao**	**0.26**	**328**				**Pn**	**11 26 55.2**	**-0.6**
NACB					Sn		**Sn**	**11 27 00.6**	**-0.8**
ESL	**Shilin**	**0.32**	**244**		P		**Pn**	**11 26 56.0**	**-0.3**
	baz=241								
ESL					*e*	S	**Sn**	**11 27 01.6**	**-0.6**
	baz=241								
ETLH	**Xiulin Townshi**	**0.35**	**316**	⇑	*i*	P	**Pn**	**11 26 56.2**	**-0.5**
	baz=309								
ETLH						S	**Sn**	**11 27 01.7**	**-1.2**
	baz=309								
EGFH	**Guangfu**	**0.41**	**226**	⇓	*i*	P	**Pn**	**11 26 57.3**	**-0.2**
	baz=228								
EGFH					*e*	S	**Sn**	**11 27 04.3**	**+0.3**
	baz=228								
ENA	**Nanau**	**0.47**	**359**		*i*	P	**Pn**	**11 26 58.0**	**-0.3**
	baz=9.0								
WHF	**Hehuan Shan**	**0.48**	**293**	⇑	*i*	P	**Pn**	**11 26 58.0**	**-0.9**
	baz=285								
WHF					*e*	S	**Sn**	**11 27 05.2**	**-1.1**
	baz=285								
OWD	**Renai**	**0.52**	**270**		*i*	P	**Pn**	**11 26 58.7**	**-0.5**
	baz=269								
OWD					*e*	S	**Sn**	**11 27 05.7**	**-1.3**
	baz=269								
CHGB	**Renai**	**0.53**	**281**		*i*	P	**Pn**	**11 26 59.0**	**-0.5**
	baz=275								
CHGB						S	**Sn**	**11 27 06.6**	**-0.8**
	baz=275								
HGSD	**Ruisui**	**0.55**	**213**		*i*	P	**Pn**	**11 26 59.8**	**+0.3**
	baz=220								
HGSD					*e*	S	**Sn**	**11 27 08.8**	**+1.4**
	baz=220								
NNSB	**Datong**	**0.58**	**325**	⇓	*i*	P	**Pn**	**11 26 59.2**	**-0.8**
	baz=326								
NNSB					*i*	S	**Sn**	**11 27 06.8**	**-1.5**
	baz=326								
NNSH	**Datong**	**0.58**	**325**		P		**Pn**	**11 26 59.3**	**-0.7**
	baz=326								
NNSH						S	**Sn**	**11 27 06.9**	**-1.4**
	baz=326								
VWDT	**VWDT**	**0.59**	**250**	⇓	*i*	P	**Pn**	**11 26 60.0**	**-0.1**
	baz=238								
VWDT						S	**Sn**	**11 27 08.1**	**-0.3**
	baz=238								
NNS	**Nan Shan**	**0.59**	**325**	⇓	*i*	P	**Pn**	**11 26 59.4**	**-0.8**
	baz=327								
NNS						S	**Sn**	**11 27 07.5**	**-1.2**
	baz=327								
EHY	**Hungye**	**0.59**	**221**	⇓	*i*	P	**Pn**	**11 26 59.1**	**-1.0**
	baz=216								
EHY					*e*	S	**Sn**	**11 27 07.4**	**-1.2**
	baz=216								
TDCB	**Techi**	**0.61**	**299**		*i*	P	**Pn**	**11 27 00.1**	**-0.5**
	baz=295								
TDCB						S	**Sn**	**11 27 07.8**	**-1.5**
	baz=295								
TWC	**Suao**	**0.66**	**8**		*i*	P	**Pn**	**11 27 00.9**	**-0.1**
	baz=20								
TWC					*e*	S	**Sn**	**11 27 10.7**	**+0.5**
	baz=20								
NDT	**Datong Townshi**	**0.68**	**342**	⇓	*i*	P	**Pn**	**11 27 00.7**	**-0.6**
	baz=337								
NDT					*i*	S	**Sn**	**11 27 09.3**	**-1.3**
	baz=337								
YULB	**Yu-li**	**0.70**	**216**	⇓	*i*	P	**Pn**	**11 27 00.5**	**-1.0**
	baz=220								
YULB	**Yu-li**	**0.70**	**216**				**Pn**	**11 27 00.3**	**-1.2**
ENTT	**Nioudou**	**0.70**	**346**	⇓	*i*	P	**Pn**	**11 27 01.1**	**-0.5**
	baz=349								
ENTT					*e*	S	**Sn**	**11 27 10.0**	**-1.3**
	baz=349								
SSLB	**Suanglung**	**0.74**	**257**	⇓	*i*	P	**Pn**	**11 27 01.7**	**-0.5**
	baz=258								
SSLB					*e*	S	**Sn**	**11 27 11.3**	**-1.0**
	baz=258								
SSLB	**Suanglung**	**0.74**	**257**				**Pn**	**11 27 01.7**	**-0.5**
SSLB					Sn		**Sn**	**11 27 10.9**	**-1.4**
DPDB	**Guoxing**	**0.75**	**276**	⇓	*i*	P	**Pn**	**11 27 02.1**	**-0.2**
	baz=271								
DPDB					*e*	S	**Sn**	**11 27 11.8**	**-0.7**
	baz=271								
TWE	**Neicheng**	**0.77**	**355**	⇓	*i*	P	**Pn**	**11 27 02.1**	**-0.3**
	baz=349								
TWE					*e*	S	**Sn**	**11 27 12.3**	**-0.5**
	baz=349								
SMLT	**Sun Moon Lake**	**0.78**	**265**	⇓	*i*	P	**Pn**	**11 27 02.4**	**-0.3**
	baz=262								
SMLT					*e*	S	**Sn**	**11 27 12.9**	**-0.3**
	baz=262								
YHNB	**Yeheng**	**0.79**	**335**	⇓	*i*	P	**Pn**	**11 27 02.3**	**-0.5**
	baz=336								
YHNB						S	**Sn**	**11 27 12.0**	**-1.5**
	baz=336								
YHNB	**Yeheng**	**0.79**	**335**				**Pn**	**11 27 02.4**	**-0.5**
YHNB					Sn		**Sn**	**11 27 12.0**	**-1.5**
WHP	**Taichung City**	**0.80**	**294**		*e*	P	**Pn**	**11 27 02.7**	**-0.2**
	baz=292								
WHP					*e*	S	**Sn**	**11 27 12.9**	**-0.8**
	baz=292								
NSK	**Sanguang**	**0.80**	**334**	⇓	*i*	P	**Pn**	**11 27 02.5**	**-0.5**
	baz=335								
NSK						S	**Sn**	**11 27 12.4**	**-1.3**
	baz=335								
ILA	**Ilan**	**0.81**	**0**		*e*	P	**Pn**	**11 27 03.2**	**+0.2**
	baz=353								
ILA					*e*	S	**Sn**	**11 27 14.2**	**+0.4**
	baz=353								
TYC	**Yuchr**	**0.81**	**267**		P		**Pn**	**11 27 02.8**	**-0.4**
	baz=264								
TYC					*e*	S	**Sn**	**11 27 13.2**	**-0.8**
	baz=264								
NWLT	**Wulai**	**0.85**	**345**	⇓	*i*	P	**Pn**	**11 27 03.2**	**-0.4**
	baz=339								
NWLT					*e*	S	**Sn**	**11 27 13.9**	**-1.0**
	baz=339								
WHYT	**Xinyi Township**	**0.86**	**253**		*i*	P	**Pn**	**11 27 04.1**	**+0.4**
	baz=250								
WHYT					*e*	S	**Sn**	**11 27 15.3**	**+0.2**
	baz=250								
NTC	**Toucheng**	**0.90**	**5**		P		**Pn**	**11 27 04.5**	**+0.3**
	baz=355								
NTC					*e*	S	**Sn**	**11 27 18.4**	**+2.3**
	baz=355								
EGS		**0.90**	**11**		*i*	P	**Pn**	**11 27 05.3**	**+1.0**
	baz=20								
EGS					*e*	S	**Sn**	**11 27 19.2**	**+3.0**
	baz=20								
CHKT	**Chengkung**	**0.92**	**202**		*e*	P	**Pn**	**11 27 04.3**	**-0.3**
	baz=189								
WJS	**Zhushan**	**0.94**	**262**		*e*	P	**Pn**	**11 27 05.4**	**+0.5**
	baz=260								
WJS					*e*	S	**Sn**	**11 27 17.9**	**+0.8**
	baz=260								
NSTT	**Nanjuang**	**0.96**	**315**		*i*	P	**Pn**	**11 27 05.6**	**+0.5**
	baz=314								
NSTT					*e*	S	**Sn**	**11 27 17.2**	**-0.3**
	baz=314								
ALS	**Alishan**	**0.97**	**243**		P		**Pn**	**11 27 05.9**	**+0.4**
	baz=233								
ALS					*e*	S	**Sn**	**11 27 18.6**	**+0.3**
	baz=233								
WNT	**Mingjian**	**0.97**	**266**		P		**Pn**	**11 27 06.2**	**+0.9**
	baz=263								
WNT					*e*	S	**Sn**	**11 27 19.3**	**+1.3**
	baz=263								
TCU	**Taichung**	**1.00**	**281**		*i*	P	**Pn**	**11 27 06.6**	**+1.0**
	baz=279								
TCU					*e*	S	**Sn**	**11 27 20.3**	**+1.8**
	baz=279								
WLTB	**Daxi**	**1.00**	**333**		P		**Pn**	**11 27 06.4**	**+0.7**
	baz=335								
WLTB					*e*	S	**Sn**	**11 27 19.6**	**+1.0**
	baz=335								
NSY	**Sanyi**	**1.01**	**297**		*i*	P	**Pn**	**11 27 06.5**	**+0.6**
	baz=296								
NSY					*e*	S	**Sn**	**11 27 20.7**	**+1.9**
	baz=296								
TIPB	**Shuangxi**	**1.01**	**4**		P		**Pn**	**11 27 06.4**	**+0.4**
	baz=356								
TIPB					*e*	S	**Sn**	**11 27 21.1**	**+2.2**
	baz=356								
ELDTW	**Lidau**	**1.01**	**221**		*i*	P	**Pn**	**11 27 05.3**	**-0.7**
	baz=214								
ELDTW					*e*	S	**Sn**	**11 27 19.0**	**-0.1**
	baz=214								
NHDH	**Xindian Distri**	**1.02**	**349**		*e*	P	**Pn**	**11 27 06.0**	**+0.1**
	baz=342								
NHDH					*e*	S	**Sn**	**11 27 18.9**	**-0.2**
	baz=342								
TWA	**Mucha**	**1.03**	**352**		P		**Pn**	**11 27 06.3**	**+0.2**
	baz=348								
TWA					*e*	S	**Sn**	**11 27 19.6**	**+0.3**
	baz=348								
CHN5	**Tsauling**	**1.04**	**250**	⇑	*i*	P	**Pn**	**11 27 07.1**	**+0.8**
	baz=239								
CHN5					*e*	S	**Sn**	**11 27 21.0**	**+1.3**
	baz=239								
TATO	**Taipei**	**1.04**	**347**		*e*	P	**Pn**	**11 27 06.2**	**-0.1**
	baz=349								
TATO	**Taipei**	**1.04**	**347**				**Pn**	**11 27 06.2**	**-0.1**
TATO					Sn		**Sn**	**11 27 19.5**	**-0.1**
NMLH	**Miaoli**	**1.05**	**304**	⇑	*i*	P	**Pn**	**11 27 06.8**	**+0.5**
	baz=302								
NMLH					*e*	S	**Sn**	**11 27 21.1**	**+1.3**
	baz=302								
PTSB	**Yuanli**	**1.07**	**297**		*e*	P	**Pn**	**11 27 06.3**	**-0.3**
	baz=296								
PTSB					*e*	S	**Sn**	**11 27 21.3**	**+1.0**
	baz=296								
TWB1	**Santiao Chiao**	**1.07**	**12**		*i*	P	**Pn**	**11 27 07.6**	**+0.9**
	baz=14								
TWB1					*e*	S	**Sn**	**11 27 22.4**	**+2.1**
	baz=14								
WDJ	**Dajia District**	**1.08**	**291**	⇑	*i*	P	**Pn**	**11 27 07.4**	**+0.6**
	baz=290								
WDJ					*e*	S	**Sn**	**11 27 22.4**	**+1.9**
	baz=290								
SBCB	**Hsinchu**	**1.08**	**320**		*e*	P	**Pn**	**11 27 06.5**	**-0.3**
	baz=320								
SBCB					*e*	S	**Sn**	**11 27 22.5**	**+1.9**
	baz=320								
WCHH	**Zhanghua**	**1.09**	**277**		*i*	P	**Pn**	**11 27 07.9**	**+1.0**
	baz=275								
WCHH					*e*	S	**Sn**	**11 27 22.6**	**+1.8**
	baz=275								
HSN	**Hsinchu**	**1.10**	**320**		*e*	P	**Pn**	**11 27 07.3**	**+0.2**
	baz=322								
HSN					*e*	S	**Sn**	**11 27 22.3**	**+1.3**
	baz=322								
TAP	**Taipei**	**1.10**	**349**		*e*	P	**Pn**	**11 27 06.8**	**-0.3**
	baz=350								
TAP					*e*	S	**Sn**	**11 27 20.7**	**-0.4**
	baz=350								
NWF	**Wu-fen Shan**	**1.11**	**2**		P		**Pn**	**11 27 07.6**	**+0.3**
	baz=352								
NWF					*e*	S	**Sn**	**11 27 23.9**	**+2.4**
	baz=352								
WFSB	**Wu-fen Shan**	**1.11**	**2**		P		**Pn**	**11 27 07.6**	**+0.4**
	baz=352								
WFSB					*e*	S	**Sn**	**11 27 21.8**	**+0.5**
	baz=352								
WGK	**Gukeng**	**1.12**	**256**		P		**Pn**	**11 27 08.3**	**+1.0**
	baz=254								
WGK					*e*	S	**Sn**	**11 27 23.6**	**+2.2**
	baz=254								
NCUH	**Zhongli**	**1.13**	**333**		*e*	P	**Pn**	**11 27 07.3**	**-0.2**
	baz=333								
NCUH					*e*	S	**Sn**	**11 27 23.0**	**+1.2**
	baz=333								
NCU	**National Centr**	**1.13**	**333**		*e*	P	**Pn**	**11 27 07.9**	**+0.4**
	baz=334								
NCU					*e*	S	**Sn**	**11 27 23.4**	**+1.6**
	baz=334								
WDLH	**Douliu**	**1.14**	**257**		P		**Pn**	**11 27 08.4**	**+0.9**
	baz=255								
WDLH					*e*	S	**Sn**	**11 27 23.8**	**+1.9**
	baz=255								
TWS1	**Kuangyinshan**	**1.18**	**345**		*e*	P	**Pn**	**11 27 08.1**	**0.0**
	baz=355								
TWS1					*e*	S	**Sn**	**11 27 23.2**	**+0.2**
	baz=355								
YM01	**YM01**	**1.20**	**352**		P		**Pn**	**11 27 09.2**	**+0.7**
	baz=354								
JYNG	**Yonagunijimaku**	**1.20**	**66**		P		**Pn**	**11 27 09.3**	**+0.9**
JYNG					*e*	S	**Sn**	**11 27 25.5**	**+2.0**
YM10	**YM10**	**1.21**	**352**		P		**Pn**	**11 27 08.2**	**-0.3**
	baz=353								
YM04	**YM04**	**1.21**	**351**		P		**Pn**	**11 27 08.2**	**-0.4**
	baz=352								
YM04					*e*	S	**Sn**	**11 27 23.8**	**0.0**
	baz=352								
TPUB	**Ta-pu**	**1.21**	**238**	⇓	*i*	P	**Pn**	**11 27 09.8**	**+1.2**
	baz=237								
TPUB					*e*	S	**Sn**	**11 27 26.1**	**+2.2**
	baz=237								
TPUB	**Ta-pu**	**1.21**	**238**				**Pn**	**11 27 09.9**	**+1.2**
	baz=262								
YM05	**YM05**	**1.21**	**352**		*e*	P	**Pn**	**11 27 08.4**	**-0.3**
	baz=353								
YM05					*e*	S	**Sn**	**11 27 23.6**	**-0.3**
	baz=353								
YM11	**YM11**	**1.22**	**353**		P		**Pn**	**11 27 08.4**	**-0.3**
	baz=354								
YM03	**YM03**	**1.23**	**351**		*e*	P	**Pn**	**11 27 08.5**	**-0.5**
	baz=352								
YM03					*e*	S	**Sn**	**11 27 23.9**	**-0.5**
	baz=352								
NTST	**Danshui**	**1.23**	**347**		P		**Pn**	**11 27 08.9**	**0.0**
	baz=355								
NTST					*e*	S	**Sn**	**11 27 26.2**	**+2.0**
	baz=355								
YM08	**YM08**	**1.23**	**353**		P		**Pn**	**11 27 08.2**	**-0.7**
	baz=342								
YM08					*e*	S	**Sn**	**11 27 22.4**	**-2.0**
	baz=342								
ANP	**Anpu**	**1.24**	**351**		*e*	P	**Pn**	**11 27 08.6**	**-0.5**
	baz=352								
WTP	**Ta-pu**	**1.26**	**236**	⇓	*i*	P	**Pn**	**11 27 10.4**	**+1.1**
	baz=235								
WTP					*e*	S	**Sn**	**11 27 25.8**	**+0.8**
	baz=235								
YOJ	**Yonaguni jima**	**1.26**	**66**		*e*	P	**Pn**	**11 27 10.0**	**+0.7**
	baz=69								
YOJ	**Yonaguni jima**	**1.26**	**66**		P		**Pn**	**11 27 10.1**	**+0.9**
YOJ						S	**Sn**	**11 27 26.6**	**+1.7**
YOJ	**Yonaguni jima**	**1.26**	**66**				**Pn**	**11 27 10.1**	**+0.9**
YOJ					Sn		**Sn**	**11 27 26.4**	**+1.4**
RLNB	**Erlin**	**1.27**	**267**		P		**Pn**	**11 27 10.3**	**+0.9**
	baz=276								
RLNB						S	**Sn**	**11 27 27.1**	**+2.0**
	baz=276								
TWGBT	**Beinan**	**1.29**	**209**		*i*	P	**Pn**	**11 27 08.6**	**-1.0**
	baz=208								
TWGBT					*e*	S	**Sn**	**11 27 26.3**	**+0.6**
	baz=208								
TWG	**Pinlang**	**1.29**	**209**		*e*	P	**Pn**	**11 27 08.4**	**-1.3**
	baz=208								
TWG					*e*	S	**Sn**	**11 27 26.5**	**+0.8**
	baz=208								
TWG	**Pinlang**	**1.29**	**209**				**Pn**	**11 27 08.2**	**-1.4**
TWG					Sn		**Sn**	**11 27 22.9**	**-2.8**
CHY	**Chiayi**	**1.29**	**250**		*e*	P	**Pn**	**11 27 10.5**	**+0.8**
	baz=248								
CHY					*e*	S	**Sn**	**11 27 28.6**	**+2.8**
	baz=248								
TTN	**Taitung**	**1.32**	**205**		*e*	P	**Pn**	**11 27 10.3**	**+0.3**
	baz=205								
TTN					*e*	S	**Sn**	**11 27 27.4**	**+1.1**
	baz=205								
TWY	**Chenhua**	**1.32**	**354**		P		**Pn**	**11 27 10.4**	**+0.3**
	baz=343								
TWK	**Hsinying**	**1.34**	**240**		*i*	P	**Pn**	**11 27 11.5**	**+1.1**
	baz=230								
TWK					*e*	S	**Sn**	**11 27 29.3**	**+2.2**
	baz=230								
WTCT	**Ta-ch'eng**	**1.34**	**266**		P		**Pn**	**11 27 11.1**	**+0.7**
	baz=274								
WTCT						S	**Sn**	**11 27 29.1**	**+2.1**
	baz=274								
CHN1	**Nanshi**	**1.36**	**236**		P		**Pn**	**11 27 11.8**	**+1.2**
	baz=235								
CHN1					*e*	S	**Sn**	**11 27 29.5**	**+2.2**
	baz=235								
SNST	**Tainan City**	**1.36**	**238**		*e*	P	**Pn**	**11 27 12.0**	**+1.3**
	baz=237								
SNST					*e*	S	**Sn**	**11 27 29.7**	**+2.3**
	baz=237								
SGST	**Jiashian**	**1.38**	**231**		*e*	P	**Pn**	**11 27 11.5**	**+0.7**
	baz=230								
SGST					*e*	S	**Sn**	**11 27 29.4**	**+1.6**
	baz=230								
SLGT	**Liugui**	**1.39**	**227**		P		**Pn**	**11 27 12.5**	**+1.4**
	baz=227								
SLGT					*e*	S	**Sn**	**11 27 31.4**	**+3.1**
	baz=227								
WMLT	**Mailiao**	**1.40**	**264**		*e*	P	**Pn**	**11 27 12.4**	**+1.2**
	baz=275								
WMLT					*e*	S	**Sn**	**11 27 30.7**	**+2.2**
	baz=275								
WLGB	**Puzi**	**1.41**	**251**		*e*	P	**Pn**	**11 27 12.9**	**+1.6**
	baz=238								
WLGB					*e*	S	**Sn**	**11 27 31.3**	**+2.7**
	baz=238								
WSF	**Szhu**	**1.43**	**258**		*e*	P	**Pn**	**11 27 12.7**	**+1.1**
	baz=256								
WSF					*e*	S	**Sn**	**11 27 32.1**	**+3.0**
	baz=256								
CHN8	**Yiju**	**1.53**	**247**		P		**Pn**	**11 27 14.0**	**+1.0**
	baz=246								
CHN8					*e*	S	**Sn**	**11 27 34.1**	**+2.5**
	baz=246								
ECL	**Taimali**	**1.54**	**208**		*e*	P	**Pn**	**11 27 13.0**	**-0.1**
	baz=201								
ECL					*e*	S	**Sn**	**11 27 30.3**	**-1.5**
	baz=201								
CHN3	**Shinhua**	**1.54**	**236**		*e*	P	**Pn**	**11 27 14.2**	**+1.0**
	baz=236								
CHN3					*e*	S	**Sn**	**11 27 35.7**	**+3.8**
	baz=236								
SSD	**Sandimen**	**1.58**	**221**		*e*	P	**Pn**	**11 27 14.9**	**+1.2**
	baz=222								
SSD					*e*	S	**Sn**	**11 27 35.7**	**+2.8**
	baz=222								
SCLT	**Jiali**	**1.62**	**242**		*e*	P	**Pn**	**11 27 14.6**	**+0.4**
	baz=242								
SCLT					*e*	S	**Sn**	**11 27 36.2**	**+2.3**
	baz=242								
TWM1	**Shoushan**	**1.66**	**227**		P		**Pn**	**11 27 17.3**	**+2.6**
	baz=228								
TWM1					*e*

VCHM					*e*S		Sn	11 27 48.5	-0.9	
	baz=241									
VWUC	**VWUC**	**2.33**	**297**	*e*P			**Pn**	**11 27 22.8**	**-1.2**	
	baz=295									
PTTC	**Pingtan**	**2.37**	**311**	*e*P			**Pn**	**11 27 23.3**	**-1.2**	
	baz=309									
JISG	**Ishigakijimahi**	**2.42**	**74**	P			**Pn**	**11 27 25.9**	**+0.7**	
JISG				*e*S			**Sn**	**11 27 53.8**	**+0.1**	
PTMZ	**Houxiangcun**	**2.62**	**295**	*e*P			**Pn**	**11 27 26.8**	**-1.2**	
	baz=293									
MATB	**Ma-tsu**	**2.73**	**324**	*e*P			**Pn**	**11 27 27.8**	**-1.7**	
	baz=322									
JTJ	**Tarama**	**2.78**	**75**	P			**Pn**	**11 27 31.6**	**+1.4**	
JTJ				S			**Sn**	**11 28 04.4**	**+1.9**	
KNM	**Kinmen**	**3.06**	**279**	*e*P			**Pn**	**11 27 34.9**	**+0.9**	
	baz=277									
KNMB	**Chin-men Tao**	**3.11**	**280**	*e*P			**Pn**	**11 27 33.3**	**-1.4**	
	baz=278									
KNMB	**Chin-men Tao**	**3.11**	**280**				**Pn**	**11 27 33.7**	**-0.9**	
KNMB						Sn	**Sn**	**11 28 07.4**	**-3.2**	
LYJJ	**Jianjiangzhen**	**3.15**	**326**	*e*P			**Pn**	**11 27 34.3**	**-0.9**	
	baz=335									
JIRB	**Irabujima**	**3.24**	**74**	P			**Pn**	**11 27 37.7**	**+1.2**	
JIRB				*e*S			**Sn**	**11 28 15.3**	**+1.4**	
MHZQ	**Yeshan**	**3.26**	**311**	*e*P			**Pn**	**11 27 35.5**	**-1.2**	
	baz=309									
XPSS	**Dashiqiu**	**3.28**	**335**	*e*P			**Pn**	**11 27 35.4**	**-1.6**	
	baz=334									
JIKM	**Ikemajima**	**3.33**	**72**	P			**Pn**	**11 27 39.2**	**+1.4**	
JIKM				*e*S			**Sn**	**11 28 18.0**	**+1.9**	
JMJ	**Miyako jima 2**	**3.35**	**74**	*e*P			**Pn**	**11 27 38.6**	**+0.7**	
	baz=77									
JMJ2	**Miyako jima3**	**3.36**	**76**	P			**Pn**	**11 27 39.9**	**+1.8**	
JMJ2				S			**Sn**	**11 28 19.3**	**+2.5**	
JOGS	**Gusukube**	**3.43**	**76**	P			**Pn**	**11 27 40.5**	**+1.4**	
JOGS				S			**Sn**	**11 28 20.7**	**+2.1**	
ZPLA	**Ao Xicun**	**3.66**	**270**	*e*P			**Pn**	**11 27 41.5**	**-0.7**	
	baz=268									
ZZJH	**Jiuhuzhen**	**3.79**	**279**	*e*P			**Pn**	**11 27 42.8**	**-1.3**	
	baz=276									
JOW	**Kunigami**	**6.56**	**63**	Pn			**Pn**	**11 28 21.6**	**-0.6**	
	0.2nm,0.3s,baz=232,slow=19,SNR=5.5									
JOW						Sn	**Sn**	**11 29 33.9**	**-1.9**	
	0.1nm,0.3s,baz=87,slow=20,SNR=1.2									
JOW	**Kunigami**	**6.56**	**63**				**Pn**	**11 28 21.5**	**-0.6**	
JOW						Sn	**Sn**	**11 29 35.4**	**-0.4**	
KSRS	**Korea Array**	**14.46**	**20**	Pn			**P**	**11 30 13.6**	**-2.9**	
	0.2nm,0.3s,baz=201,slow=11,SNR=6.1									
SBUM	**Sibu**	**23.28**	**205**	P			**P**	**11 31 50.6**	**-2.2**	
MKAR	**Makanchi Array**	**38.86**	**316**	P			**P**	**11 34 08.3**	**-1.7**	
	0.8nm,0.6s,baz=98,slow=9.9,SNR=2.0									
ZALV	**Zalesovo Beam**	**40.72**	**327**	P			**P**	**11 34 22.8**	**-2.4**	
	1.2nm,0.6s,baz=103,slow=9.2,SNR=3.6									
ZALV	**Zalesovo Beam**	**40.72**	**327**	P			**P**	**11 34 23.1**	**-2.2**	
H11S3	**WAKE ISLAND Hy**	**42.11**	**89**	T			T	12 19 53.8		
	baz=285,slow=75,SNR=6.8									
H11S1	**WAKE ISLAND Hy**	**42.12**	**89**	T			T	12 19 56.8		
	baz=285,slow=75,SNR=4.2									
H11S2	**WAKE ISLAND Hy**	**42.13**	**89**	T			T	12 20 01.4		
	baz=285,slow=75,SNR=6.2									
KURK	**Kurchatov**	**42.59**	**320**	P			**P**	**11 34 39.2**	**-1.4**	
KURK						IAmb	IAmb	11 34 40.0		
	comp=Z,4.9nm,1.2s									
KURBB	**Kurchatov Arra**	**42.61**	**320**	P			**P**	**11 34 39.8**	**-1.1**	
	comp=Z,0.5nm,0.6s,baz=110,slow=9.4,SNR=4.0									
WRA	**Warramunga Arr**	**45.33**	**163**	P			**P**	**11 35 01.1**	**-1.8**	
	comp=Z,0.6nm,0.8s,baz=345,slow=8.7,SNR=5.3									
WB2	**Warramunga Arr**	**45.33**	**163**	P			**P**	**11 35 01.2**	**-1.7**	
WB2						IAmb	IAmb	11 35 10.1		
	comp=Z,16nm,1.4s									
WR0	**Warramunga Arr**	**45.40**	**163**	P			**P**	**11 35 01.6**	**-1.9**	
WR0						IAmb	IAmb	11 35 05.6		
	comp=Z,3.2nm,1.0s									
ABKAR	**Akbulak array**	**53.97**	**314**	P			**P**	**11 36 07.5**	**-0.9**	
STKA	**Stephens Creek**	**58.67**	**160**	P			**P**	**11 36 40.8**	**-1.2**	
TTA	**Tatalina**	**65.45**	**30**	P			**P**	**11 37 27.0**	**-0.3**	
TTA						IAmb	IAmb	11 37 30.1		
	comp=Z,3.4nm,1.3s									
PPLA	**Purkeypile**	**67.19**	**30**	P			**P**	**11 37 38.2**	**-0.4**	
BPAW	**Bear Paw Mtn.**	**67.55**	**28**	P			**P**	**11 37 40.8**	**+0.1**	
BPAW						IAmb	IAmb	11 37 58.9		
	comp=Z,3.0nm,1.2s									
RND	**Reindeer**	**68.60**	**29**				**P**	**11 37 46.8**	**-0.6**	
RND						IAmb	IAmb	11 37 56.0		
	comp=Z,8.6nm,1.5s									
BMAR	**Burnt Mountain**	**69.52**	**24**	P			**P**	**11 37 52.9**	**0.0**	
SCM	**Sheep Creek Mo**	**69.61**	**30**	P			**P**	**11 37 53.4**	**-0.3**	
EGAK	**Eagle**	**71.56**	**27**	P			**P**	**11 38 04.9**	**-0.4**	
EGAK						IAmb	IAmb	11 38 16.2		
	comp=Z,5.3nm,1.2s									
YKA	**Yellowknife Ar**	**82.98**	**23**	P			**P**	**11 39 07.8**	**-1.6**	
	comp=Z,0.4nm,0.6s,baz=314,slow=4.7,SNR=6.2									

*IDC **14** 11:33:16.9±0.8, 35.°10N×81.°52E, h0km, mb3.8/13, mb1 4.0/18, mb1mx3.8/48, mbtmp3.8/18, ML3.3/4, Error ellipse: s-maj=22.7km s-min=15.0km az=48.0*
*BJI **14** 11:33:21.0±0.0, 35.°27N×81.°53E, h8km, mb4.0/4, ML4.1/3*
ISC 14 11:33:19.5±0.6, 35.°28N±0.°07×81.°44E±0.°09, h10km, n32, σ1.°98/33, mb3.8/13, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**7.18**	**163**	*e*P		**Pn**	**Pn**	**11 35 05.6**	**+0.7**
	19nm,0.4s								
KOLN	**Koldanda**	**7.71**	**166**	*e*P		**Pn**	**Pn**	**11 35 12.4**	**+0.4**
	18nm,0.4s								
GKN	**Gorkha**	**7.75**	**159**	*e*P		**Pn**	**Pn**	**11 35 14.6**	**+2.1**
	19nm,0.3s								
KKN	**Kakani**	**8.15**	**155**	*e*P		**Pn**	**Pn**	**11 35 20.5**	**+2.4**
DMN	**Daman**	**8.26**	**157**	*e*P		**Pn**	**Pn**	**11 35 21.7**	**+2.0**
GUN	**Gumba**	**8.26**	**152**	*e*P		**Pn**	**Pn**	**11 35 21.9**	**+2.2**
PKIN	**Phulchoki**	**8.39**	**155**	*e*P		**Pn**	**Pn**	**11 35 23.3**	**+1.9**
PKI	**Pulchoki**	**8.40**	**155**	*e*P		**Pn**	**Pn**	**11 35 23.7**	**+2.1**
JIRN	**Jiri**	**8.61**	**151**	*e*P		**Pn**	**Pn**	**11 35 27.2**	**+2.7**
AAK	**Ala-Archa**	**9.12**	**326**	Pn		**Pn**	**Pn**	**11 35 35.6**	**+4.2**
	0.1nm,0.3s,baz=167,slow=12,SNR=1.9								
AAK				Pg				11 36 05.2	
	1.7nm,0.3s,baz=132,slow=7.3,SNR=7.7								
AAK				Lg		Lg	Lg	11 38 01.8	
	0.8nm,0.3s,baz=265,slow=17,SNR=2.6								
RAMN	**Ramite**	**9.40**	**151**	*e*P		**Pn**	**Pn**	**11 35 36.0**	**+0.7**
WMQ	**Urumqi**	**9.80**	**28**	*e*P		**Pn**	**Pn**	**11 35 43.9**	**+3.3**
WMQ				smax		smax	smax		
	comp=N,20nm,0.5s								
WMQ				smax		smax	smax		
	comp=E,14nm,0.7s								
ODAN	**Odare**	**9.82**	**147**	*e*P		**Pn**	**Pn**	**11 35 41.9**	**+0.9**
MKAR	**Makanchi Array**	**11.53**	**3**	Pn		**Pn**	**Pn**	**11 36 06.2**	**+2.1**
	0.4nm,0.3s,baz=182,slow=13,SNR=6.6								
MKAR							Sn	**Sn**	**11 38 09.3**	**-3.6**
	0.2nm,0.3s,baz=189,slow=23,SNR=1.9								
KURBB	**Kurchatov Arra**	**15.48**	**353**	Pn		**Pn**	**Pn**	**11 36 57.7**	**-0.2**
	baz=172,slow=12,SNR=5.6								
LZH	**Lanzhou**	**18.22**	**81**	*e*P		**P**	**P**	**11 37 33.3**	**+0.4**
LZH				pP		pP	pP	11 37 37.8	+0.5
LZH				sP		sP	sP	11 37 39.8	+0.4
LZH				pmax		pmax	pmax		
	comp=Z,18nm,1.0s								
ZALV	**Zalesovo Beam**	**18.82**	**6**	P		**Pn**	**Pn**	**11 37 40.0**	**+0.4**
	0.2nm,0.3s,baz=191,slow=14,SNR=5.0								
GEYT	**Alibeck**	**18.90**	**285**	P			**P**	**11 37 39.0**	**-1.2**
	0.2nm,0.3s,baz=128,slow=9.6,SNR=4.4								
SONM	**Songino Array**	**22.39**	**48**	P			**P**	**11 38 17.7**	**-0.3**
	3.1nm,0.7s,baz=241,slow=11,SNR=10								
AKTO	**Aktyubinsk**	**22.76**	**319**	P			**P**	**11 38 21.1**	**-0.8**
	1.5nm,0.6s,baz=107,slow=8.4,SNR=4.4								
CMAR	**Chiang Mai Arr**	**22.84**	**133**	P			**P**	**11 38 19.1**	**-3.9**
	0.7nm,0.4s,baz=334,slow=10,SNR=1.5								
GYA	**Guiyang**	**23.32**	**105**	*e*P			**P**	**11 38 30.3**	**+2.3**
AKASG	**Malin Array Be**	**40.31**	**309**	P			**P**	**11 40 56.1**	**-0.8**
	0.2nm,0.3s,baz=77,slow=7.9,SNR=5.2								
FINES	**FINESS Array B**	**43.31**	**325**	P			**P**	**11 41 21.5**	**+0.3**
	2.1nm,0.8s,baz=106,slow=20,SNR=2.2								
NOA	**NORSAR Array B**	**50.43**	**324**	P			**P**	**11 42 17.7**	**+0.7**
	1.4nm,0.8s,baz=88,slow=7.5,SNR=5.2								
GERES	**GERESS Array B**	**50.48**	**308**	P			**P**	**11 42 19.2**	**+1.6**
	0.9nm,0.8s,baz=204,slow=2.9,SNR=6.2								
ILAR	**Eielson Array**	**73.36**	**20**	P			**P**	**11 44 50.5**	**-0.6**
	0.5nm,0.7s,baz=310,slow=4.7,SNR=4.2								
TORD	**Torodi Ar. Bea**	**74.22**	**275**	P			**P**	**11 44 57.6**	**+0.5**
	1.2nm,0.9s,baz=43,slow=5.9,SNR=3.5								
WRA	**Warramunga Arr**	**74.37**	**129**	P			**P**	**11 44 56.4**	**-1.3**
	0.9nm,0.9s,baz=326,slow=5.5,SNR=6.7								
ASAR	**Alice Springs**	**76.85**	**132**	P			**P**	**11 45 10.1**	**-1.7**
	0.4nm,0.6s,baz=314,slow=5.6,SNR=7.1								
YKA	**Yellowknife Ar**	**81.71**	**7**	P			**P**	**11 45 37.0**	**-0.8**
	0.5nm,0.6s,baz=340,slow=5.1,SNR=3.0								
BOSA	**Boshof**	**82.73**	**227**	P			**P**	**11 45 42.3**	**-1.5**
	2.1nm,0.8s,baz=63,slow=4.5,SNR=2.3								

IDC 14 12:11:20.7±1.4, 3.°67S×127.°20E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/43, mbtmp3.4/4, ML2.8/1, Error ellipse: s-maj=86.9km s-min=27.4km az=69.0, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.61**	**157**	P		P	P	12 15 28.5	-0.3
	0.0nm,0.3s,baz=333,slow=11,SNR=1.2								
ASAR	**Alice Springs**	**20.90**	**163**	P		P		12 16 04.0	-1.0
	0.5nm,0.6s,baz=343,slow=11,SNR=5.6								
MKAR	**Makanchi Array**	**63.94**	**327**	P		P		12 21 56.5	+0.8
	0.5nm,0.7s,baz=103,slow=7.1,SNR=5.9								
ILAR	**Eielson Array**	**91.55**	**25**	P		P		12 24 28.4	-0.8
	0.4nm,0.5s,baz=270,slow=5.0,SNR=5.6								

DJA 14 12:14:17.1±0.9, 1.°N±9.°×126.°2E±.°, h10km, M3.8/7, MLv3.8/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**0.88**	**185**	P		P	Pg	12 14 32.4	-1.7
KMSI	**Cibinong**	**2.11**	**112**	P		P	Pn	12 14 52.5	0.0
APSI	**Ampana**	**2.29**	**189**	P		P	Pb	12 14 56.7	-1.8
MPSI	**Mapaga**	**2.35**	**244**	P		P	Pn	12 14 55.7	-0.1
LUWI	**Luwuk**	**2.50**	**163**	P		P	Pn	12 14 57.1	-0.8
TTSI	**Tana Toraja**	**4.90**	**207**	P		P	Pn	12 15 32.1	+1.2

IDC 14 12:19:54.0±8.4, 19.°85S×178.°56W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.4/26, mbtmp3.5/2, Error ellipse: s-maj=366.6km s-min=72.7km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.16**	**256**	P		P	P	12 28 04.5	-0.4
	0.4nm,0.6s,baz=104,slow=8.0,SNR=5.3								
WRA	**Warramunga Arr**	**44.17**	**261**	P		P		12 28 05.2	+0.2
	0.5nm,0.9s,baz=97,slow=7.6,SNR=4.7								
BRTR	**Keskin Array B**	**146.01**	**313**	PKPbc		PKPdf		12 39 35.4	-0.1
	0.3nm,0.3s,baz=66,slow=7.0,SNR=2.2								

*IDC **14** 12:58:36.6±4.9, 23.°57S×68.°36W, h0km, mb3.8/1, mb1 3.5/2, mb1mx3.4/23, mbtmp3.5/2, ML3.2/1, Error ellipse: s-maj=154.1km s-min=59.5km az=70.0*
*NEIC **14** 12:58:51.7±1.7, 22.°52S±0.°03×68.°6W±0.°1, h104km±5km, Error ellipse: s-maj=15.3km s-min=4.3km az=94.0*
*GUC **14** 12:58:52.0±0.4, 22.°50S×68.°76W, h112km±3km, ML3.6*
ISC 14 12:58:52.1±0.9, 22.°54S±0.°04×68.°68W±0.°09, h107km±7km, n39, σ0.°97/51, mb4.0/4, 4C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.22**	**251**	Pn		**Pn**	**Pn**	**12 59 07.3**	**-0.4**
LVC				Sn		**Sn**	**Sn**	**12 59 18.2**	**-1.1**
PB06	**IPOC Station P**	**0.84**	**258**	*i* P		**Pn**	**Pn**	**12 59 11.7**	**+0.2**
PB06				*i* S		**Sn**	**Sn**	**12 59 26.7**	**+0.5**
PB06				IAML				12 59 27.9	
	comp=E,2μm,0.3s								
PB06	**IPOC Station P**	**0.84**	**258**	Pn		**Pn**	**Pn**	**12 59 11.5**	**-0.1**
PB06				Sn		**Sn**	**Sn**	**12 59 26.4**	**+0.2**
PB09	**IPOC Station P**	**0.90**	**325**	⇓ *i* P		**Pn**	**Pn**	**12 59 12.5**	**+0.3**
PB09				*i* S		**Sn**	**Sn**	**12 59 27.9**	**+0.6**
PB09				IAML				12 59 31.8	
	comp=N,1μm,0.2s								
PB09	**IPOC Station P**	**0.90**	**325**	Pn		**Pn**	**Pn**	**12 59 12.5**	**+0.3**
PB09				Sn		**Sn**	**Sn**	**12 59 27.6**	**+0.3**
PB15	**IPOC Station P**	**0.99**	**227**	⇑ *i* P		**Pn**	**Pn**	**12 59 13.7**	**+0.6**
PB15				*i* S		**Sn**	**Sn**	**12 59 30.4**	**+1.5**
PB15	**IPOC Station P**	**0.99**	**227**	Pn		**Pn**	**Pn**	**12 59 13.7**	**+0.6**
PB15				Sn		**Sn**	**Sn**	**12 59 30.3**	**+1.3**
PB03	**IPOC Station P**	**1.10**	**296**	⇓ *i* P		**Pn**	**Pn**	**12 59 14.3**	**0.0**
PB03				*i* S		**Sn**	**Sn**	**12 59 30.9**	**-0.1**
PB03				IAML				12 59 31.6	
	comp=E,4μm,0.3s								
PB04	**IPOC Station P**	**1.37**	**278**	⇑ *i* P		**Pn**	**Pn**	**12 59 17.3**	**0.0**
PB04				*i* S		**Sn**	**Sn**	**12 59 36.8**	**+0.3**
PB04				IAML				12 59 39.3	
	comp=N,1μm,0.4s								
PB04	**IPOC Station P**	**1.37**	**278**	Pn		**Pn**	**Pn**	**12 59 17.3**	**0.0**
PB04				Sn		**Sn**	**Sn**	**12 59 36.9**	**+0.5**
PB07	**IPOC Station P**	**1.38**	**306**	⇑ *i* P		**Pn**	**Pn**	**12 59 17.5**	**0.0**
PB07				*i* S		**Sn**	**Sn**	**12 59 36.8**	**+0.2**
PB07				IAML				12 59 39.0	
	comp=N,1μm,0.3s								
PB07	**IPOC Station P**	**1.38**	**306**	Pn		**Pn**	**Pn**	**12 59 17.4**	**0.0**
PB01	**IPOC Station P**	**1.66**	**333**	⇑ *i* P		**Pn**	**Pn**	**12 59 20.7**	**-0.1**
PB01				*i* S		**Sn**	**Sn**	**12 59 42.8**	**+0.2**
PB01				IAML				12 59 44.6	
	comp=N,940nm,0.5s								
PB01	**IPOC Station P**	**1.66**	**333**	Pn		**Pn**	**Pn**	**12 59 20.9**	**0.0**
PB10	**IPOC Station P**	**1.98**	**240**	Pn		**Pn**	**Pn**	**12 59 25.1**	**+0.4**
TA01	**Diego Aracena**	**2.41**	**324**				**Pn**	**12 59 29.3**	**-0.9**
PB08	**IPOC Station P**	**2.42**	**350**				**Pn**	**12 59 31.2**	**+0.4**
GO02	**Mina Guanaco**	**2.74**	**197**				**Pn**	**12 59 35.0**	**+0.1**
GO01	**Chusmiza**	**2.89**	**350**				**Pn**	**12 59 37.0**	**-0.1**
PB11	**IPOC Station P**	**2.91**	**342**				**Pn**	**12 59 36.0**	**-1.0**
PSGCX	**Pisagua**	**3.22**	**335**	Pn			**Pn**	**12 59 38.9**	**-2.2**
MNMC	**Minye Minye**	**3.49**	**346**				**Pn**	**12 59 43.7**	**-1.2**
AC01	**Pan de Azucar**	**4.00**	**206**	Pn			**Pn**	**12 59 50.0**	**-1.3**
PB12	**IPOC Station P**	**4.20**	**338**	Pn			**Pn**	**12 59 54.2**	**+0.1**
AC02	**Maricunga**	**4.30**	**185**	Pn			**Pn**	**12 59 56.0**	**+0.1**
GO03	**Copiapo**	**5.23**	**195**	Pn			**Pn**	**13 00 06.7**	**-1.3**
LPAZ	**La Paz**	**6.24**	**5**	Pn			**Pn**	**13 00 24.4**	**+2.1**
	comp=N,0.2nm,0.3s,baz=180,slow=6.1,SNR=2.4								
LPAZ	**La Paz**	**6.24**	**5**				**Pn**	**13 00 22.8**	**+0.6**
AC05	**El Transito**	**6.43**	**193**	Pn			**Pn**	**13 00 22.9**	**-1.5**
CO01	**Juntas del Tor**	**7.52**	**189**	Pn			**Pn**	**13 00 37.5**	**-1.7**
GO04	**Tololo Observa**	**7.84**	**194**	Pn			**Pn**	**13 00 40.9**	**-2.7**
SNAA	**Sanae**	**61.24**	**161**	P			**P**	**13 08 56.1**	**+0.6**
SNAA				IAmb		IAmb	IAmb	13 08 57.0	
	comp=Z,1.6nm,0.9s								
QSPA	**South Pole Qui**	**67.66**	**180**	P			**P**	**13 09 38.9**	**+1.3**
QSPA				IAmb		IAmb	IAmb	13 09 40.8	
	comp=Z,3.2nm,1.4s								
T25A	**Trinidad**	**68.24**	**330**	P			**P**	**13 09 41.8**	**+0.2**
TPAW	**Teton Pass**	**76.31**	**330**	P			**P**	**13 10 29.0**	**-0.6**
TOA0	**Torodi Ar. Sit**	**77.51**	**70**	P			**P**	**13 10 35.6**	**-1.0**
TOA0				IAmb		IAmb	IAmb	13 10 39.7	
	comp=Z,6.3nm,1.4s								
TORD	**Torodi Ar. Bea**	**77.51**	**70**	P			**P**	**13 10 35.1**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=257,slow=5.2,SNR=5.1								
TORD	**Torodi Ar. Bea**	**77.51**	**70**	P			**P**	**13 10 35.0**	**-1.6**
MKAR	**Makanchi Array**	**146.34**	**37**	PKPbc			**PKPbc**	**13 18 20.4**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=312,slow=2.2,SNR=5.5								

*JMA **14** 13:00:42.7±0.3, 22.°74N×122.°87E, h54km*
*TAP **14** 13:00:44.5, 22.°78N×122.°60E, h108km±2km, ML2.6, D*
ISC 14 13:00:39.2±1.6, 22.°67N±0.°05×122.°90E±0.°03, h15km±12km, n39, σ1.°03/68, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**1.40**	**244**	P		**Pg**	**Pg**	**13 01 06.1**	**-0.1**
	baz=237								
LAY				*e*S			**Sn**	**13 01 22.1**	**-0.2**
	baz=237								
CHKT	**Chengkung**	**1.48**	**287**	*e*S			**Sn**	**13 01 23.3**	**-1.0**
	baz=284								
HGSD	**Ruisui**	**1.59**	**301**	*e*P			**Pb**	**13 01 08.1**	**-0.2**
	baz=304								
HGSD				*e*S			**Sn**	**13 01 25.8**	**-1.2**
	baz=304								
HATJ	**Hateruma jima**	**1.61**	**31**	P			**Pb**	**13 01 08.9**	**+0.3**
HATJ				S			**Sn**	**13 01 26.9**	**-0.6**
TWF1	**Yuli**	**1.63**	**295**	P			**Pb**	**13 01 08.9**	**0.0**
	baz=295								
TWF1				*e*S			**Sn**	**13 01 27.9**	**-0.1**
	baz=295								
YULB	**Yu-li**	**1.65**	**296**	*e*P			**Pb**	**13 01 10.1**	**+0.9**
	baz=296								
YULB				*e*S			**Sb**	**13 01 29.4**	**-0.3**
	baz=296								
EHY	**Hungye**	**1.68**	**300**	*e*S			**Sn**	**13 01 29.5**	**+0.3**
	baz=300								
EGFH	**Guangfu**	**1.68**	**307**	*e*P			**Pg**	**13 01 10.9**	**-0.7**
	baz=309								
EGFH				*e*S			**Sn**	**13 01 29.9**	**+0.6**
	baz=309								
TWGBT	**Beinan**	**1.69**	**275**	P			**Pb**	**13 01 10.6**	**+0.7**
	baz=272								
TWGBT				*e*S			**Sn**	**13 01 29.9**	**+0.4**
	baz=272								
TWG	**Pinlang**	**1.70**	**275**	P			**Pb**	**13 01 10.6**	**+0.5**
	baz=272								
TWG				*e*S			**Sn**	**13 01 30.1**	**+0.4**
	baz=272								
ESL	**Shilin**	**1.77**	**310**	*e*P			**Pb**	**13 01 10.4**	**-0.9**
	baz=315								
ESL				*e*S			**Sn**	**13 01 31.9**	**+0.4**
	baz=315								
JYNG	**Yonagunijimaku**	**1.77**	**1**	P			**Pb**	**13 01 10.7**	**-0.7**
JYNG				S			**Sn**	**13 01 31.0**	**-0.6**
YOJ	**Yonaguni jima**	**1.79**	**3**	*e*P			**Pb**	**13 01 11.6**	**0.0**
	baz=5.0								
YOJ				*e*S			**Sn**	**13 01 32.4**	**+0.5**
	baz=5.0								
YOJ	**Yonaguni jima**	**1.79**	**3**	P			**Pb**	**13 01 11.6**	**0.0**
YOJ				S			**Sn**	**13 01 32.4**	**+0.5**
ECL	**Taimali**	**1.80**	**268**	P			**Pb**	**13 01 11.9**	**+0.1**
	baz=263								
ECL				*e*S			**Sn**	**13 01 31.8**	**-0.5**
	baz=263								
ELDTW	**Lidau**	**1.81**	**287**	P			**Pb**	**13 01 11.6**	**-0.5**
	baz=291								
ELDTW				*e*S			**Sn**	**13 01 31.4**	**-1.3**
	baz=291								
IRIF	**Iriomote-Funau**	**1.82**	**24**	P			**Pb**	**13 01 11.7**	**-0.5**
IRIF				S			**Sn**	**13 01 32.9**	**+0.1**
JKRS	**Kuro-shima**	**1.86**	**33**	P			**Pb**	**13 01 13.3**	**+0.4**
JKRS				S			**Sb**	**13 01 34.9**	**-1.1**
NACB	**Ninganchiao**	**1.92**	**322**	P			**Pn**	**13 01 12.4**	**+1.1**
	baz=328								
NACB				*e*S			**Sn**	**13 01 33.8**	**-1.4**
	baz=328								
VWDT	**VWDT**	**1.95**	**304**	*e*P			**Pb**	**13 01 13.9**	**-0.4**
	baz=306								
VWDT				*e*S			**Sn**	**13 01 35.9**	**+0.1**
	baz=306								
TSEB	**Hengchuen, Pin**	**2.01**	**248**	*e*P			**Pn**	**13 01 13.6**	**+1.2**
	baz=248								
TSEB				*e*S			**Sn**	**13 01 35.1**	**-2.2**
	baz=248								
ETLH	**Xiulin Townshi**	**2.01**	**320**	*e*P			**Pb**	**13 01 14.2**	**-1.3**
	baz=330								
ETLH				*e*S			**Sn**	**13 01 35.9**	**-1.7**
	baz=330								
JIJ	**Ishigaki jima**	**2.04**	**34**	P			**Pb**	**13 01 14.5**	**-1.3**
JIJ				S			**Sn**	**13 01 36.4**	**-1.6**
STYT	**Tauyuan**	**2.04**	**284**	*e*P			**Pb**	**13 01 15.7**	**-0.3**
	baz=284								
MASBT	**Mashibuluo**	**2.10**	**269**	P			**Pb**	**13 01 16.4**	**-0.5**
	baz=257								
MASBT				*e*S			**Sn**	**13 01 35.3**	**-4.2**
	baz=257								
ALS	**Alishan**	**2.10**	**294**

	baz=257							
NSK				*e*S		**Sn**	13 02 08.1	-1.0
	baz=257							
WLTB	**Daxi**	**0.92**	**266**	*e*P		**Pn**	13 01 53.1	-0.2
	baz=269							
WLTB				*e*S		**Sn**	13 02 09.9	0.0
	baz=269							
NNSB	**Datong**	**0.93**	**239**	*e*P		**Pn**	13 01 53.5	-0.1
	baz=246							
NNSB				*e*S		**Sn**	13 02 10.3	-0.1
	baz=246							
NNSH	**Datong**	**0.93**	**239**	*e*P		**Pn**	13 01 53.4	-0.2
	baz=247							
NNSH				*e*S		**Sn**	13 02 10.1	-0.3
	baz=247							
NNS	**Nan Shan**	**0.93**	**240**	*e*P		**Pn**	13 01 53.7	+0.1
	baz=247							
NNS				*e*S		**Sn**	13 02 10.3	-0.1
	baz=247							
NACB	**Ninganchiao**	**0.95**	**219**	*e*P		**Pn**	13 01 53.3	-0.3
	baz=231							
NACB				*e*S		**Sn**	13 02 10.2	-0.4
	baz=231							
ETLH	**Xiulin Townshi**	**1.00**	**225**	*e*P		**Pn**	13 01 53.8	-0.4
	baz=235							
ETLH				*e*S		**Sn**	13 02 11.2	-0.2
	baz=235							
TWD	**Chiawan**	**1.03**	**216**	*e*P		**Pn**	13 01 54.3	0.0
	baz=211							
TWD				*e*S		**Sn**	13 02 11.2	-0.5
	baz=211							
NSTT	**Nanjuang**	**1.18**	**256**	⇑*i*P		**Pn**	13 01 55.1	-0.7
	baz=253							
NSTT				*e*S		**Sn**	13 02 13.2	-1.1
	baz=253							
TWT	**Tachien**	**1.18**	**237**	*e*P		**Pn**	13 01 57.2	+1.1
	baz=235							
TWT				*e*S		**Sn**	13 02 15.3	+0.5
	baz=235							
WHF	**Hehuan Shan**	**1.18**	**230**	*e*P		**Pn**	13 01 57.0	+0.6
	baz=227							
WHF				*e*S		**Sn**	13 02 15.5	+0.2
	baz=227							
TDCB	**Techi**	**1.20**	**237**	*e*P		**Pn**	13 01 56.1	-0.1
	baz=236							
TDCB				*e*S		**Sn**	13 02 15.2	+0.1
	baz=236							
CHGB	**Renai**	**1.30**	**230**	*e*S		**Sn**	13 02 17.5	+0.4
	baz=232							
ESL	**Shilin**	**1.33**	**215**	*e*P		**Pn**	13 01 56.9	-0.5
	baz=222							
WHP	**Taichung City**	**1.35**	**242**	P		**Pn**	13 01 57.5	-0.2
	baz=252							
WHP				*e*S		**Sn**	13 02 17.4	-0.4
	baz=252							
NMLH	**Miaoli**	**1.39**	**255**	*e*P		**Pn**	13 01 57.5	-0.5
	baz=255							
NSY	**Sanyi**	**1.45**	**250**	*e*P		**Pn**	13 01 58.6	-0.1
	baz=252							
NSY				*e*S		**Sn**	13 02 19.6	-0.1
	baz=252							
IRIF	**Iriomote-Funau**	**1.46**	**113**	S		**Sn**	13 02 19.9	+0.2
VWDT	**VWDT**	**1.54**	**222**	*e*P		**Pn**	13 02 00.5	+0.7
	baz=218							
VWDT				*e*S		**Sn**	13 02 21.9	+0.5
	baz=218							
HGSD	**Ruisui**	**1.61**	**208**	*e*S		**Sn**	13 02 23.2	+0.4
	baz=218							
SMLT	**Sun Moon Lake**	**1.61**	**231**	*e*P		**Pn**	13 02 00.7	0.0
	baz=231							
TYC	**Yuchr**	**1.62**	**232**	*e*P		**Pn**	13 02 00.7	-0.1
	baz=233							
TYC				*e*S		**Sn**	13 02 23.3	+0.2
	baz=233							
SSLB	**Suanglung**	**1.63**	**227**	*e*P		**Pn**	13 02 01.1	+0.1
	baz=231							
SSLB				*e*S		**Sn**	13 02 24.2	+0.7
	baz=231							
HATJ	**Hateruma jima**	**1.65**	**121**	*e*S		**Sn**	13 02 24.3	+0.7
WHYT	**Xinyi Township**	**1.76**	**227**	*e*P		**Pn**	13 02 02.4	0.0
	baz=236							
WHYT				*e*S		**Sn**	13 02 25.6	-0.5
	baz=236							
JIJ	**Ishigaki jima**	**1.80**	**107**	P		**Pn**	13 02 02.7	-0.1
JIJ				S		**Sn**	13 02 26.2	-0.6
JISG	**Ishigakijimahi**	**1.90**	**99**	P		**Pn**	13 02 03.5	-0.4
JISG				S		**Sn**	13 02 28.1	-0.7
JTJ	**Tarama**	**2.24**	**96**	P		**Pn**	13 02 08.6	+0.5
JTJ				S		**Sn**	13 02 36.9	+0.5

*BUC **14** 13:21:58.8±0.2, 45°.75N×26°.68E, h96km±2km, ml3.6/44, Error ellipse: s-maj=1.6km s-min=1.4km az=110.0*
*SOF **14** 13:22:00.2, 45°.70N×26°.68E, h51km, MD3.0*
ISC 14 13:21:58.5±1.2**, 45°.75N**±0°.02×**26°.67E**±0°.02**, h102**km±5**km**, n114**, σ0°59/190**, 118C-68D, Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.10**	**353**	⇓P	**Pn**	**13 22 12.7**	**-0.1**
PLOR				⇑S	**Sn**	**13 22 22.3**	**-1.1**
PLOR	**Plostina**	**0.10**	**353**	⇓P	**Pn**	**13 22 12.7**	**-0.1**
PLOR				⇑S	**Sn**	**13 22 22.3**	**-1.1**
VRI	**Vrincioaia**	**0.12**	**21**	⇓P	**Pn**	**13 22 12.8**	**0.0**
VRI				⇓S	**Sn**	**13 22 22.8**	**-0.6**
VRI	**Vrincioaia**	**0.12**	**21**	⇓P	**Pn**	**13 22 12.8**	**0.0**
VRI				⇓S	**Sn**	**13 22 22.8**	**-0.6**
BISRR	**Bisoca**	**0.21**	**172**	⇑P	**Pn**	**13 22 13.6**	**+0.5**
BISRR				⇓S	**Sn**	**13 22 24.0**	**+0.1**
BISRR	**Bisoca**	**0.21**	**172**	⇑P	**Pn**	**13 22 13.6**	**+0.5**
BISRR				⇓S	**Sn**	**13 22 24.0**	**+0.1**
ODBI	**Odobesti**	**0.27**	**88**	⇓P	**Pn**	**13 22 14.0**	**+0.9**
ODBI				⇓S	**Sn**	**13 22 24.0**	**-0.2**
ODBI	**Odobesti**	**0.27**	**88**	⇑P	**Pn**	**13 22 14.0**	**+0.9**
ODBI				⇓S	**Sn**	**13 22 24.0**	**-0.2**
PETR	**Petresti**	**0.40**	**94**	⇓P	**Pn**	**13 22 14.3**	**+0.5**
PETR				⇑S	**Sn**	**13 22 25.4**	**+0.2**
PETR	**Petresti**	**0.40**	**94**	⇓P	**Pn**	**13 22 14.3**	**+0.5**
PETR				⇑S	**Sn**	**13 22 25.4**	**+0.2**
NEHR	**Nehoiu**	**0.42**	**219**	⇑P	**Pn**	**13 22 14.8**	**+0.8**
NEHR				⇑S	**Sn**	**13 22 25.8**	**+0.3**
NEHR	**Nehoiu**	**0.42**	**219**	⇑P	**Pn**	**13 22 14.8**	**+0.8**
NEHR				⇑S	**Sn**	**13 22 25.8**	**+0.3**
MLR	**Muntele Rosu**	**0.57**	**243**	⇑P	**Pn**	**13 22 15.7**	**+0.5**
MLR				⇑S	**Sn**	**13 22 27.3**	**-0.3**
MLR	**Muntele Rosu**	**0.57**	**243**	⇑P	**Pn**	**13 22 15.7**	**+0.5**
MLR				⇑S	**Sn**	**13 22 27.3**	**-0.3**
GHRR		**0.60**	**59**	⇑P	**Pn**	**13 22 15.8**	**+0.6**
GHRR				⇑S	**Sn**	**13 22 27.3**	**-0.5**
GHRR		**0.60**	**59**	⇑P	**Pn**	**13 22 15.8**	**+0.6**
GHRR				⇑S	**Sn**	**13 22 27.3**	**-0.5**
ISR	**Istrita**	**0.64**	**188**	⇑S	**Sn**	**13 22 27.4**	**-1.0**
ISR	**Istrita**	**0.64**	**188**	⇑S	**Sn**	**13 22 27.4**	**-1.0**
OZUR		**0.70**	**299**	⇑P	**Pn**	**13 22 16.1**	**-0.1**
OZUR				⇑S	**Sn**	**13 22 28.3**	**-1.2**
OZUR		**0.70**	**299**	⇑P	**Pn**	**13 22 16.1**	**-0.1**
OZUR				⇑S	**Sn**	**13 22 28.3**	**-1.2**
TUDR		**0.72**	**102**	⇑P	**Pn**	**13 22 16.1**	**-0.1**
TUDR				⇑S	**Sn**	**13 22 29.2**	**-0.4**
TUDR		**0.72**	**102**	⇑P	**Pn**	**13 22 16.1**	**-0.1**
TUDR				⇑S	**Sn**	**13 22 29.2**	**-0.4**
TESR	**Tescani**	**0.76**	**359**	⇓P	**Pn**	**13 22 16.6**	**0.0**
TESR				⇑S	**Sn**	**13 22 29.3**	**-1.0**
TESR	**Tescani**	**0.76**	**359**	⇓P	**Pn**	**13 22 16.6**	**0.0**
TESR				⇑S	**Sn**	**13 22 29.3**	**-1.0**
SECR		**0.83**	**211**	⇓P	**Pn**	**13 22 17.5**	**+0.1**
SECR				⇑S	**Sn**	**13 22 31.6**	**+0.1**
SECR		**0.83**	**211**	⇓P	**Pn**	**13 22 17.5**	**+0.1**
SECR				⇑S	**Sn**	**13 22 31.6**	**+0.1**
VARL	**Varlezi**	**0.84**	**80**	⇑P	**Pn**	**13 22 17.8**	**+0.4**
VARL				⇓S	**Sn**	**13 22 31.6**	**+0.1**
VARL	**Varlezi**	**0.84**	**80**	⇑P	**Pn**	**13 22 17.8**	**+0.4**
VARL				⇓S	**Sn**	**13 22 31.6**	**+0.1**
BIR	**Birlad**	**0.84**	**52**	⇑P	**Pn**	**13 22 18.1**	**+0.7**
BIR				⇑S	**Sn**	**13 22 31.0**	**-0.6**
BIR	**Birlad**	**0.84**	**52**	⇑P	**Pn**	**13 22 18.1**	**+0.7**
BIR				⇑S	**Sn**	**13 22 31.0**	**-0.6**
SCHL	**Schela**	**0.85**	**107**	⇑P	**Pn**	**13 22 17.4**	**-0.1**
SCHL				⇑S	**Sn**	**13 22 31.2**	**-0.6**
SCHL	**Schela**	**0.85**	**107**	⇑P	**Pn**	**13 22 17.4**	**-0.1**
SCHL				⇑S	**Sn**	**13 22 31.2**	**-0.6**
PGOR	**Pogoanele**	**0.88**	**165**	⇓P	**Pn**	**13 22 18.2**	**+0.4**
PGOR				⇑S	**Sn**	**13 22 33.4**	**+1.2**
PGOR	**Pogoanele**	**0.88**	**165**	⇓P	**Pn**	**13 22 18.2**	**+0.4**
PGOR				⇑S	**Sn**	**13 22 33.4**	**+1.2**
DOPR	**Dopca**	**0.92**	**284**	⇑P	**Pn**	**13 22 18.5**	**+0.2**
DOPR				⇑S	**Sn**	**13 22 32.6**	**-0.4**
DOPR	**Dopca**	**0.92**	**284**	⇑P	**Pn**	**13 22 18.5**	**+0.2**
DOPR				⇑S	**Sn**	**13 22 32.6**	**-0.4**
PLAR	**PLOIESTI**	**0.95**	**208**	⇑S	**Sn**	**13 22 33.5**	**-0.1**
PLAR	**PLOIESTI**	**0.95**	**208**	⇑S	**Sn**	**13 22 33.5**	**-0.1**
GISR	**Galati**	**1.02**	**107**	⇑P	**Pn**	**13 22 19.9**	**+0.7**
GISR				⇑S	**Sn**	**13 22 34.9**	**0.0**
GISR	**Galati**	**1.02**	**107**	⇑P	**Pn**	**13 22 19.9**	**+0.7**
GISR				⇑S	**Sn**	**13 22 34.9**	**0.0**
SULR		**1.11**	**195**	⇑P	**Pn**	**13 22 21.0**	**+0.7**
SULR				⇑S	**Sn**	**13 22 37.3**	**+0.6**
SULR		**1.11**	**195**	⇑P	**Pn**	**13 22 21.0**	**+0.7**
SULR				⇓S	**Sn**	**13 22 37.3**	**+0.6**
VOIR		**1.18**	**255**	⇑P	**Pn**	**13 22 21.5**	**+0.3**
VOIR				⇓S	**Sn**	**13 22 37.2**	**-1.0**
VOIR		**1.18**	**255**	⇑P	**Pn**	**13 22 21.5**	**+0.3**
VOIR				⇓S	**Sn**	**13 22 37.2**	**-1.0**
VASR	**Vaslui**	**1.18**	**41**	⇓P	**Pn**	**13 22 21.7**	**+0.6**
VASR				⇓S	**Sn**	**13 22 37.9**	**-0.3**
VASR	**Vaslui**	**1.18**	**41**	⇓P	**Pn**	**13 22 21.7**	**+0.6**
VASR				⇓S	**Sn**	**13 22 37.9**	**-0.3**
CFR	**Carcaliu**	**1.18**	**119**	⇑P	**Pn**	**13 22 21.1**	**0.0**
CFR				⇑S	**Sn**	**13 22 37.7**	**-0.4**
CFR	**Carcaliu**	**1.18**	**119**	⇑P	**Pn**	**13 22 21.1**	**0.0**
CFR				⇑S	**Sn**	**13 22 37.7**	**-0.4**
AMRR	**Amara**	**1.24**	**157**	⇑S	**Sn**	**13 22 39.1**	**-0.1**
AMRR	**Amara**	**1.24**	**157**	⇑S	**Sn**	**13 22 39.1**	**-0.1**
BIZ	**Bicaz**	**1.25**	**342**	⇓P	**Pn**	**13 22 39.7**	**+1.0**
BIZ				⇓S	**Sn**	**13 22 39.7**	**+0.2**
BIZ	**Bicaz**	**1.25**	**342**	⇓P	**Pn**	**13 22 39.7**	**+1.0**
BIZ				⇓S	**Sn**	**13 22 39.7**	**+0.2**
LEHL	**Lehliu**	**1.28**	**175**	⇓S	**Sn**	**13 22 40.5**	**+0.3**
LEHL	**Lehliu**	**1.28**	**175**	⇓S	**Sn**	**13 22 40.5**	**+0.3**
LEOM	**Leova**	**1.31**	**56**	⇓P	**Pn**	**13 22 22.9**	**+0.4**
LEOM				⇑S	**Sn**	**13 22 40.5**	**-0.2**
LEOM	**Leova**	**1.31**	**56**	⇓P	**Pn**	**13 22 22.9**	**+0.4**
LEOM				⇑S	**Sn**	**13 22 40.5**	**-0.2**
INCR	**INCERC-Sediu C**	**1.36**	**195**	⇓S	**Sn**	**13 22 41.9**	**+0.2**
INCR	**INCERC-Sediu C**	**1.36**	**195**	⇓S	**Sn**	**13 22 41.9**	**+0.2**
HARR	**Harsova**	**1.39**	**140**	⇑P	**Pn**	**13 22 23.7**	**+0.2**
HARR	**Harsova**	**1.39**	**140**	⇑P	**Pn**	**13 22 23.7**	**+0.2**
BUC1	**Bucharest**	**1.48**	**198**	⇑S	**Sn**	**13 22 45.0**	**+0.8**
BUC1	**Bucharest**	**1.48**	**198**	⇑S	**Sn**	**13 22 45.0**	**+0.8**
TLBR	**Topalu**	**1.55**	**141**	⇑P	**Pn**	**13 22 25.7**	**+0.2**
TLBR				⇑S	**Sn**	**13 22 44.6**	**-1.3**
TLBR	**Topalu**	**1.55**	**141**	⇑P	**Pn**	**13 22 25.7**	**+0.2**
TLBR				⇑S	**Sn**	**13 22 44.6**	**-1.3**
IAS	**Iasi**	**1.57**	**23**	⇓P	**Pn**	**13 22 25.6**	**-0.1**
IAS				⇑S	**Sn**	**13 22 45.4**	**-0.9**
IAS	**Iasi**	**1.57**	**23**	⇓P	**Pn**	**13 22 25.6**	**-0.1**
IAS				⇑S	**Sn**	**13 22 45.4**	**-0.9**
RASA	**Rasa**	**1.58**	**167**	⇑P	**Pn**	**13 22 25.6**	**-0.2**
RASA				⇑S	**Sn**	**13 22 46.2**	**-0.3**
RASA	**Rasa**	**1.58**	**167**	⇑P	**Pn**	**13 22 25.6**	**-0.2**
RASA				⇑S	**Sn**	**13 22 46.2**	**-0.3**
SGRR	**Singureni**	**1.61**	**198**	⇓P	**Pn**	**13 22 25.9**	**-0.3**
SGRR				⇓S	**Sn**	**13 22 47.3**	**+0.1**
SGRR	**Singureni**	**1.61**	**198**	⇓P	**Pn**	**13 22 25.9**	**-0.3**
SGRR				⇓S	**Sn**	**13 22 47.3**	**+0.1**
TLCR		**1.61**	**110**	⇓P	**Pn**	**13 22 26.6**	**+0.4**
TLCR				⇓S	**Sn**	**13 22 46.3**	**-1.0**
TLCR		**1.61**	**110**	⇓P	**Pn**	**13 22 26.6**	**+0.4**
TLCR				⇓S	**Sn**	**13 22 46.3**	**-1.0**
PRAR	**RASCA**	**1.64**	**349**	⇑P	**Pn**	**13 22 27.3**	**+0.7**
PRAR	**RASCA**	**1.64**	**349**	⇑P	**Pn**	**13 22 27.3**	**+0.7**
MDB	**Medias**	**1.64**	**284**	⇑P	**Pn**	**13 22 26.7**	**+0.1**
MDB	**Medias**	**1.64**	**284**	⇑P	**Pn**	**13 22 26.7**	**+0.1**
HUMR	**Humele**	**1.71**	**225**	⇓P	**Pn**	**13 22 27.8**	**+0.3**
HUMR				⇑S	**Sn**	**13 22 50.0**	**+0.5**
HUMR	**Humele**	**1.71**	**225**	⇓P	**Pn**	**13 22 27.8**	**+0.3**
HUMR				⇑S	**Sn**	**13 22 50.0**	**+0.5**
CVDA	**Cernavoda**	**1.72**	**145**	⇑S	**Sn**	**13 22 49.3**	**-0.3**
CVDA	**Cernavoda**	**1.72**	**145**	⇑S	**Sn**	**13 22 49.3**	**-0.3**
TIRR	**Tirgusor**	**1.79**	**136**	⇑P	**Pn**	**13 22 28.7**	**+0.2**
TIRR	**Tirgusor**	**1.79**	**136**	⇑P	**Pn**	**13 22 28.7**	**+0.2**
ICOR	**Ion Corvin**	**1.82**	**153**	⇑P	**Pn**	**13 22 29.3**	**+0.4**
ICOR				⇑S	**Sn**	**13 22 51.2**	**-0.8**
ICOR	**Ion Corvin**	**1.82**	**153**	⇑P	**Pn**	**13 22 29.3**	**+0.4**
ICOR				⇑S	**Sn**	**13 22 51.2**	**-0.8**
MILM	**Milestii Mici**	**1.89**	**51**	⇓P	**Pn**	**13 22 30.3**	**+0.6**
MILM				⇑S	**Sn**	**13 22 52.3**	**-1.1**
MILM	**Milestii Mici**	**1.89**	**51**	⇓P	**Pn**	**13 22 30.3**	**+0.6**
MILM				⇑S	**Sn**	**13 22 52.3**	**-1.1**
COPA	**Copaceanca**	**1.92**	**213**	⇓S	**Sn**	**13 22 53.2**	**-0.9**
COPA	**Copaceanca**	**1.92**	**213**	⇓S	**Sn**	**13 22 53.2**	**-0.9**
KIS	**Kishinev**	**1.94**	**49**	⇓P	**Pn**	**13 22 30.9**	**+0.6**
KIS				⇑S	**Sn**	**13 22 54.4**	**-0.3**
KIS	**Kishinev**	**1.94**	**49**	⇓P	**Pn**	**13 22 30.9**	**+0.6**
KIS				⇑S	**Sn**	**13 22 54.4**	**-0.3**
BURAR	**Bucovina Array**	**2.11**	**332**	⇑P	**Pn**	**13 22 33.2**	**+0.5**
BURAR				⇑S	**Sn**	**13 23 00.1**	**+1.3**
BURAR	**Bucovina Array**	**2.11**	**332**	⇑P	**Pn**	**13 22 33.2**	**+0.5**
BURAR				⇑S	**Sn**	**13 23 00.1**	**+1.3**
TSCT	**Constanta Port**	**2.13**	**138**	⇓P	**Pn**	**13 22 33.2**	**+0.4**
TSCT				⇓S	**Sn**	**13 22 58.3**	**-0.7**
TSCT	**Constanta Port**	**2.13**	**138**	⇓P	**Pn**	**13 22 33.2**	**+0.4**
TSCT				⇓S	**Sn**	**13 22 58.3**	**-0.7**
EFOR	**EFORIE**	**2.18**	**139**	⇑P	**Pn**	**13 22 33.8**	**+0.3**
EFOR				⇑S	**Sn**	**13 22 59.7**	**-0.5**
EFOR	**EFORIE**	**2.18**	**139**	⇑P	**Pn**	**13 22 33.8**	**+0.3**
EFOR				⇑S	**Sn**	**13 22 59.7**	**-0.5**
RAZG	**Razgrad**	**2.19**	**183**	⇑P	**Pn**	**13 22 33.7**	**+0.1**
RAZG				⇓S	**Sn**	**13 22 59.4**	**-1.1**
RAZG	**Razgrad**	**2.19**	**183**	⇑P	**Pn**	**13 22 33.7**	**+0.1**
RAZG				⇓S	**Sn**	**13 22 59.4**	**-1.1**
TSSL	**Sulina**	**2.23**	**104**	⇓S	**Sn**	**13 23 01.9**	**+0.5**
TSSL	**Sulina**	**2.23**	**104**	⇓S	**Sn**	**13 23 01.9**	**+0.5**
ZIMR		**2.29**	**204**	⇑S	**Sn**	**13 23 02.2**	**-0.6**
ZIMR		**2.29**	**204**	⇑S	**Sn**	**13 23 02.2**	**-0.6**
PSN	**Preselentsi**	**2.34**	**152**	*i*P	**Pn**	**13 22 36.1**	**+0.6**
MANR	**Mangalia**	**2.37**	**144**	⇑P	**Pn**	**13 22 36.8**	**+0.8**
MANR				⇑S	**Sn**	**13 23 04.3**	**-0.3**
MANR	**Mangalia**	**2.37**	**144**	⇑P	**Pn**	**13 22 36.8**	**+0.8**
MANR				⇑S	**Sn**	**13 23 04.3**	**-0.3**
SZH	**Strazhica**	**2.54**	**192**	*i*P	**Pn**	**13 22 38.1**	**-0.1**
PRD	**Provadia**	**2.61**	**168**	*i*P	**Pn**	**13 22 40.0**	**+0.9**
SORM	**Soroca**	**2.65**	**25**	⇑P	**Pn**	**13 22 39.7**	**+0.1**
SORM	**Soroca**	**2.65**	**25**	⇑P	**Pn**	**13 22 39.7**	**+0.1**
ROIA	**ROIAK**	**2.71**	**169**	*i*P	**Pn**	**13 22 41.1**	**+0.7**
HERR	**Herculane**	**3.12**	**255**	⇑P	**Pn**	**13 22 45.2**	**-0.7**
HERR	**Herculane**	**3.12**	**255**	⇑P	**Pn**	**13 22 45.2**	**-0.7**
MDVR	**Moldovita**	**3.63**	**256**	⇓P	**Pn**	**13 22 53.1**	**+0.3**
MDVR	**Moldovita**	**3.63**	**256**	⇓P	**Pn**	**13 22 53.1**	**+0.3**

NNC 14 13:30:17.9±0.6**, 50°.00N×78°.74E, h0km, mb3.5, mpv3.1, 10C-4D, Error ellipse: s-maj=6.3km s-min=3.1km az=68.0, Suspected Mining explosion., Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.63**	**348**	⇑P	Pg	13 30 30.5	+0.4
	19nm,0.4s						
KURBB				⇓S	Sg	13 30 39.5	+1.2
	143nm,0.5s						
KURK	**Kurchatov**	**0.72**	**354**	⇑P	Pg	13 30 31.9	+0.3
	9.5nm,0.5s						
KURK				⇑S	Sg	13 30 41.6	+0.7
	25nm,0.5s						
SEM	**Semipalatinsk**	**1.05**	**67**	P	Pg	13 30 36.2	-1.8
	2.1nm,0.1s						
SEM				S	Sb	13 30 53.6	+0.1
	43nm,0.4s						
MAKZ	**Makanchi**	**3.86**	**145**	⇑Pg	Pb	13 31 27.2	+0.4
	1.2nm,0.7s						
MAKZ				⇑Lg	Lg	13 32 18.8	
	6.6nm,0.8s						
MK31	**Makanchi Array**	**3.99**	**142**	⇑Pn	Pn	13 31 22.5	+2.2
	0.8nm,0.5s,baz=325,slow=9.9,SNR=20						
MK31				⇑Pg	Pb	13 31 31.3	+2.3
	1.2nm,0.5s,baz=325,slow=13,SNR=14						
MK31				⇑Lg	Lg	13 32 27.2	
	4.5nm,0.5s,baz=328,slow=26,SNR=9.8						
OTUK	**Ortayu**	**4.56**	**250**	⇓Pn	Pn	13 31 29.4	+1.4
	1.3nm,0.3s						
OTUK				⇑Lg	Lg	13 32 41.5	
	6.4nm,0.7s						
KAPS	**Kapalarasan**	**4.74**	**175**	Pg	Pb	13 31 42.8	+1.0
	1.4nm,0.2s						
KAPS				Lg	Lg	13 32 46.8	
	6.1nm,0.4s						
ZSN	**Zaisan**	**4.79**	**120**	Pg	Pb	13 31 44.3	+1.6
	5.4nm,0.2s						
ZSN				Lg	Lg	13 32 50.3	
	4.5nm,0.3s						
DJR	**Jarkent**	**5.72**	**172**	Pg	Pb	13 31 58.4	-0.1
	2.7nm,0.2s						
DJR				Lg	Lg	13 33 16.9	
	3.2nm,0.6s						
BRVK	**Borovoye**	**6.10**	**303**	⇓Pn	Pn	13 31 48.0	-1.2
	1.3nm,0.7s						
BRVK				⇑Sn	Sn	13 33 00.1	+0.5
	3.1nm,0.6s						
BRVK				⇓Lg	Lg	13 33 30.8	
	1.6nm,0.5s						

*ARE **14** 13:34:58±0.0, 13°.95S×76°.43W, h47km, ML4.4, mb4.1/7(NEIC), Error ellipse: s-maj=0.0km s-min=0.0km az=90.0*
*NEIC **14** 13:34:59.1±3.4, 13°.94S±0°.08×76°.6W±0°.1, h35km±2km, Error ellipse: s-maj=24.4km s-min=10.3km az=246.0*
*IDC **14** 13:35:07.5±9.2, 13°.35S×75°.78W, h104km±87km, mb3.8/3, mb1 3.8/4, mb1mx3.4/22, mbtmp4.1/4, ML3.7/1, Error ellipse: s-maj=637.0km s-min=27.9km az=28.0*
ISC 14 13:34:57.9±1.0**, 13°.93S**±0°.09×**76°.4W**±0°.1**, h30**km**, n21, σ2s59/23, mb4.2/3, Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.97**	**347**		**Pn**	**13 35 31.6**	**+2.2**
NNA				Sn	**Sn**	**13 35 54.6**	**+1.5**
PB12	**IPOC Station P**	**7.47**	**129**	Pn	**Pn**	**13 36 44.9**	**0.0**
PSGCX	**Pisagua**	**8.24**	**134**	Pn	**Pn**	**13 36 57.0**	**+1.4**
LPAZ	**La Paz**	**8.33**	**107**	P	**Pn**	**13 37 00.7**	**+3.5**
	0.5nm,0.3s,baz=268,slow=7.7,SNR=10						
LPAZ				S	**Sn**	**13 38 30.8**	**+0.2**
	baz=209,slow=7.0,SNR=1.1						
LPAZ	**La Paz**	**8.33**	**107**		**Pn**	**13 37 01.1**	**+3.9**
LPAZ	**La Paz**	**8.33**	**107**	Pn	**Pn**	**13 37 01.0**	**+3.7**
MNMC	**Minye Minye**	**8.33**	**129**	Pn	**Pn**	**13 36 59.9**	**+2.9**
PB11	**IPOC Station P**	**8.68**	**133**	Pn	**Pn**	**13 37 03.8**	**+2.1**
GO01	**Chusmiza**	**8.96**	**131**	Pn	**Pn**	**13 37 09.4**	**+3.7**
PB08	**IPOC Station P**	**9.29**	**133**	Pn	**Pn**	**13 37 12.3**	**+2.1**
PB09	**IPOC Station P**	**10.38**	**140**	Pn	**Pn**	**13 37 28.9**	**+4.0**
SAML	**Samuel**	**13.87**	**71**	P	**P**	**13 38 20.0**	**-0.5**
AC04	**Llanos de Chal**	**15.05**	**162**	P	**P**	**13 38 34.1**	**+0.5**
AC04				IAmb	IAmb	13 38 50.5	
	comp=Z,25nm,1.1s						
CO01	**Juntas del Tor**	**17.00**	**161**	P	**P**	**13 38 55.4**	**-0.1**
ROSC	**El Rosal**	**18.76**	**6**	P	**P**	**13 39 14.3**	**-0.8**
ROSC				IAmb	IAmb	13 39 20.5	
	comp=Z,12nm,1.1s						
RUSC	**La Rusia**	**19.96**	**10**	P	**P**	**13 39 28.7**	**+0.4**
PTGA	**Pitinga**	**20.89**	**53**	P	**P**	**13 39 35.0**	**-2.9**
PTGA				IAmb	IAmb	13 39 39.0	
	comp=Z,7.5nm,1.4s						
TXAR	**Lajitas Array**	**50.42**	**329**	P	**P**	**13 43 53.4**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=150,slow=8.6,SNR=6.5						
DBIC	**Dimbokro**	**73.88**	**79**	P	**P**	**13 46 27.0**	**-3.6**
	comp=Z,3.0nm,0.6s,baz=253,slow=11,SNR=1.9						
TORD	**Torodi Ar. Bea**	**81.89**	**74**	P	**P**	**13 47 12.6**	**-2.6**
	comp=Z,2.1nm,0.8s,baz=256,slow=5.1,SNR=8.3						
TORD	**Torodi Ar. Bea**	**81.89**	**74**	P	**P**	**13 47 12.4**	**-2.7**

BNSI Bone 6.07 199 P Pn 14 05 11.7 +0.4

*BGR **14** 14:26:02.8±0.0,20.4°45S×169.6°1E,h254km±4km*
*BJI **14** 14:26:02.8±0.0,19.4°2S×169.7°9E, h266km, mB5.0/23, mb4.7/38*
*UNK **14** 14:26:05.6, 19.1°4S×169.5°0E,h248km*
*IDC **14** 14:26:06.5±1.1, 19.2°7S×169.5°1E,h260km±9km, mb4.3/22, mb1 4.5/24, mb1mx4.4/29, mbtmp4.9/24, Error ellipse: s-maj=11.8km s-min=9.1km az=139.0*
*NEIC **14** 14:26:07.3±1.4, 19.2°5S±0.1°×169.5°E±0.1°, h269km±5km, mb4.9/91, Error ellipse: s-maj=16.3km s-min=12.2km az=141.0*

ISC 14 14:26:05.5±0.3,**19.20S**±0.05×**169.49E**±0.06,**h250**km, **n349**,σ1$**33**/328,**mb4.9**/78,**13C-6D**,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.04**	**224**	P	**Pn**	**14 27 11.6**	**+1.7**
	9.9nm,0.3s,baz=64,slow=16,SNR=59						
DZM				S	**S**	**14 27 57.9**	**-3.1**
	14nm,0.3s,baz=134,slow=23,SNR=2.0						
MSVF	**Nonsavu**	**8.25**	**81**	Pn	**Pn**	**14 28 04.1**	**+1.9**
HNR	**Honiara**	**13.40**	**315**	P	**Pn**	**14 29 07.8**	**+1.3**
	39nm,0.3s,baz=162,slow=2.4,SNR=46						
HNR	**Honiara**	**13.40**	**315**	P	**Pn**	**14 29 07.3**	**+0.8**
OUZ	**Omahuta**	**16.37**	**168**	P	**Pn**	**14 29 42.7**	**+0.8**
OUZ	**Omahuta**	**16.37**	**168**		**Pn**	**14 29 42.6**	**+0.6**
WCZ	**Waipu Caves**	**17.22**	**167**	P	**Pn**	**14 29 52.8**	**+0.9**
ABAZ	**Army Bay**	**17.96**	**166**	P	**Pn**	**14 30 00.3**	**-0.3**
EIDS	**Eidsvold**	**18.10**	**247**	P	**Pn**	**14 30 02.1**	**-0.3**
EIDS				IAmb	IAmb	14 30 05.7	
	comp=Z,18nm,0.5s						
WIAZ	**Waiheke Island**	**18.22**	**165**	P	**P**	**14 30 02.7**	**+2.3**
WTAZ	**Waiatarua**	**18.22**	**167**	P	**Pn**	**14 30 03.0**	**-0.7**
ETAZ	**East Tamaki Re**	**18.32**	**166**	P	**P**	**14 30 03.7**	**+2.2**
MKAZ	**Moumakai**	**18.52**	**166**	P	**P**	**14 30 05.8**	**+2.1**
TOZ	**Tahuroa Road**	**19.20**	**165**	P	**P**	**14 30 12.8**	**+1.9**
HIZ	**Hauiti**	**19.80**	**167**	P	**P**	**14 30 19.8**	**+2.4**
HAZ	**Te Kaha**	**19.86**	**160**	P	**Pn**	**14 30 21.8**	**-1.1**
RUGZ	**Raukumara Rang**	**20.02**	**161**	P	**P**	**14 30 21.6**	**+1.8**
RUGZ				S	**S**	**14 33 54.2**	**+3.3**
PKGZ	**Pakihiroa**	**20.07**	**160**	P	**P**	**14 30 22.0**	**+1.6**
PKGZ				S	**S**	**14 33 48.0**	**-3.8**
URZ	**Urewera**	**20.12**	**162**	P	**P**	**14 30 22.8**	**+2.0**
MUGZ	**Murupara**	**20.23**	**163**	P	**P**	**14 30 25.3**	**+3.4**
PUZ	**Puketiti**	**20.30**	**160**	P	**P**	**14 30 23.4**	**+0.6**
MWZ	**Matawai**	**20.31**	**162**	P	**P**	**14 30 24.4**	**+1.5**
MWZ				S	**S**	**14 33 58.6**	**+2.6**
MRHZ	**Matea Rd**	**20.47**	**164**	P	**P**	**14 30 26.6**	**+2.0**
MRHZ				S	**S**	**14 33 54.2**	**-4.6**
TKGZ	**Te Karaka**	**20.50**	**161**	P	**P**	**14 30 26.6**	**+1.7**
TKGZ				S	**S**	**14 34 00.3**	**+1.1**
CNGZ	**Carnagh Statio**	**20.66**	**160**	P	**P**	**14 30 27.5**	**+1.0**
SNGZ	**Shannon Statio**	**20.67**	**162**	P	**P**	**14 30 28.5**	**+1.8**
SNGZ				S	**S**	**14 33 57.7**	**-4.5**
RIGZ	**Rimuhau**	**20.72**	**161**	P	**P**	**14 30 27.3**	**0.0**
RIGZ				S	**S**	**14 34 04.7**	**+1.6**
RAHZ	**Arahi**	**20.73**	**163**	P	**P**	**14 30 29.1**	**+1.9**
BKZ	**Black Stump Fm**	**20.80**	**165**	P	**P**	**14 30 29.0**	**+0.9**
BKZ				S	**S**	**14 34 06.5**	**+2.1**
MOVZ	**Moawhango**	**20.86**	**166**	P	**P**	**14 30 30.4**	**+1.7**
BHHZ	**Black Hill Sta**	**21.00**	**166**	P	**P**	**14 30 31.3**	**+1.1**
BHHZ				S	**S**	**14 34 10.0**	**+2.2**
KWHZ	**Kaweka Forest**	**21.03**	**165**	P	**P**	**14 30 30.8**	**+0.4**
KWHZ				S	**S**	**14 34 09.1**	**+0.9**
KRHZ	**Kereru**	**21.23**	**165**	P	**P**	**14 30 33.3**	**+1.0**
CTA	**Charters Tower**	**21.90**	**264**	P	**P**	**14 30 40.0**	**+1.2**
	comp=Z,19nm,0.5s,baz=89,slow=1.1,SNR=45						
CTAO	**Charters Tower**	**21.90**	**264**	P	**P**	**14 30 40.2**	**+1.4**
CTAO				IAmb	IAmb	14 30 42.0	
	comp=Z,31nm,0.7s						
KRVT	**Keravat (AS076**	**22.57**	**309**	P	**P**	**14 30 45.9**	**+0.9**
	comp=Z,31nm,0.6s,baz=52,slow=3.1,SNR=4.8						
THZ	**Tophouse**	**22.68**	**173**	P	**P**	**14 30 47.3**	**+1.6**
THZ				IAmb	IAmb	14 30 49.3	
	comp=Z,22nm,0.7s						
MSWZ	**Moikau Station**	**22.69**	**169**	P	**P**	**14 30 46.2**	**+0.5**
PMG	**Port Moresby**	**23.70**	**291**	P	**P**	**14 30 56.7**	**+1.5**
	comp=Z,71nm,0.7s,baz=86,slow=6.1,SNR=34						
PMG	**Port Moresby**	**23.70**	**291**	P	**P**	**14 30 56.6**	**+1.4**
OXZ	**Oxford**	**24.15**	**175**	P	**P**	**14 30 59.9**	**+0.9**
OXZ				IAmb	IAmb	14 31 03.2	
	comp=Z,47nm,1.2s						
RPZ	**Rata Peaks**	**24.48**	**177**	P	**P**	**14 31 03.3**	**+1.4**
	comp=Z,10nm,0.8s,baz=218,slow=13,SNR=4.5						
RPZ	**Rata Peaks**	**24.48**	**177**	IAmb	IAmb	14 31 11.8	
	comp=Z,6.9nm,0.8s						
STKA	**Stephens Creek**	**28.07**	**238**	P	**P**	**14 31 35.9**	**+1.7**
	comp=Z,15nm,0.7s,baz=73,slow=9.1,SNR=21						
STKA	**Stephens Creek**	**28.07**	**238**	IAmb	IAmb	14 31 37.0	
	comp=Z,3.4nm,0.7s						
WR0	**Warramunga Arr**	**32.90**	**263**	P	**P**	**14 32 16.8**	**0.0**
WR0				IAmb	IAmb	14 32 17.3	
	comp=Z,19nm,0.5s						
WB0	**Warramunga Arr**	**33.06**	**263**	P	**P**	**14 32 18.0**	**-0.1**
WB0				IAmb	IAmb	14 32 18.7	
	comp=Z,26nm,0.6s						
WB2	**Warramunga Arr**	**33.08**	**263**	P	**P**	**14 32 18.1**	**-0.2**
WRAB	**Tennant Creek**	**33.09**	**263**	P	**P**	**14 32 16.7**	**-1.6**
GENI	**Genyem**	**33.09**	**296**	P	**P**	**14 32 18.7**	**+0.4**
	comp=Z,2μmcomp=Z,119nm,0.6s						
WRA	**Warramunga Arr**	**33.09**	**263**	P	**P**	**14 32 18.2**	**-0.2**
	comp=Z,19nm,0.7s,baz=96,slow=8.5,SNR=72						
WRA				PcP	**PcP**	**14 34 55.5**	**-0.1**
	comp=Z,3.9nm,0.9s,baz=92,slow=2.5,SNR=6.7						
WRA				S	**S**	**14 37 16.7**	**-2.1**
	comp=Z,2.5nm,1.1s,baz=89,slow=16,SNR=5.7						
WRA	**Warramunga Arr**	**33.09**	**263**	P	**P**	**14 32 17.2**	**-1.2**
AS31	**Alice Springs**	**33.37**	**256**	P	**P**	**14 32 21.3**	**+0.6**
ASAR	**Alice Springs**	**33.37**	**256**	P	**P**	**14 32 21.1**	**+0.3**
	comp=Z,81nm,0.5s,baz=82,slow=9.0,SNR=1986						
ASAR				PcP	**PcP**	**14 34 56.0**	**-0.4**
	comp=Z,2.2nm,0.8s,baz=100,slow=3.5,SNR=4.9						
ASAR				S	**S**	**14 37 21.7**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=87,slow=17,SNR=5.6						
ASAR				PKiKP	**PKiKP**	**14 42 19.4**	**-2.0**
	comp=Z,0.3nm,0.8s,baz=95,slow=1.5,SNR=4.1						
ASAR	**Alice Springs**	**33.37**	**256**	P	**P**	**14 32 20.8**	**0.0**
ASAR					**PcP**	**14 34 55.7**	**-0.6**
MTN	**Manton Dam**	**37.35**	**274**	P	**P**	**14 32 55.1**	**+0.5**
MTN				IAmb	IAmb	14 32 56.1	
	comp=Z,42nm,0.7s						
KNRA	**Kununurra**	**38.95**	**269**	P	**P**	**14 33 08.5**	**+0.6**
KNRA				IAmb	IAmb	14 33 08.9	
	comp=Z,41nm,0.6s						
FITZ	**Fitzroy Crossi**	**41.48**	**264**	P	**P**	**14 33 29.8**	**+1.2**
FITZ				IAmb	IAmb	14 33 30.6	
	comp=Z,32nm,0.7s						
MORW	**Morawa**	**49.41**	**248**	P	**P**	**14 34 30.2**	**-0.3**
KCP	**Kidapawan**	**50.90**	**297**	*iP*	**P**	**14 34 43.4**	**+1.4**
HMH	**Humu'ula Sheep**	**51.64**	**44**	P	**P**	**14 34 47.5**	**0.0**
MPSI	**Mapaga**	**52.36**	**286**	P	**P**	**14 34 53.6**	**+1.0**
	comp=Z,25nm,0.9s						
VNDA	**Vanda**	**58.48**	**182**	P	**P**	**14 35 34.5**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=18,slow=7.2,SNR=5.8						
CASY	**Casey**	**60.26**	**204**	P	**P**	**14 35 47.4**	**0.0**
KSM	**Kuching**	**61.60**	**283**	P	**P**	**14 35 57.5**	**+0.2**
KSM				IAmb	IAmb	14 35 59.1	
	comp=Z,22nm,0.7s						
DBJI	**Dramaga**	**62.15**	**273**	P	**P**	**14 36 02.4**	**+1.4**
	comp=Z,5μmcomp=Z,69nm,1.1s						
MJAR	**Matsushiro Arr**	**62.83**	**332**	P	**P**	**14 36 04.8**	**-0.1**
	comp=Z,12nm,1.0s,baz=169,slow=7.6,SNR=28						
MJAR	**Matsushiro Arr**	**62.83**	**332**	P	**P**	**14 36 04.6**	**-0.3**
MAJO	**Matsushiro**	**62.83**	**332**	P	**P**	**14 36 04.5**	**-0.4**
MAJO				IAmb	IAmb	14 36 06.1	
	comp=Z,23nm,1.1s						
MAT	**Matsushiro**	**62.83**	**332**	P	**P**	**14 36 04.5**	**-0.4**
MJB9	**Matsu-Tunnel**	**62.83**	**332**	P	**P**	**14 36 04.5**	**-0.4**
MJB9				IAmb	IAmb	14 36 06.1	
	comp=Z,23nm,1.1s						
MDSI	**Maura Dua**	**65.23**	**274**	P	**P**	**14 36 20.8**	**-0.2**
	comp=Z,22nm,1.1s						
KSRS	**Korea Array**	**68.61**	**325**	P	**P**	**14 36 42.2**	**+0.5**
	comp=Z,3.4nm,1.0s,baz=147,slow=6.7,SNR=18						
NJ2	**Nanjing**	**70.34**	**316**	*eP*	**P**	**14 36 54.3**	**+1.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
QSPA	**South Pole Qui**	**70.86**	**180**	P	**P**	**14 36 55.2**	**0.0**
QSPA				IAmb	IAmb	14 36 56.4	
	comp=Z,18nm,1.1s						
SMY	**Shemya**	**71.73**	**3**	P	**P**	**14 37 00.7**	**+0.5**
ADK	**Adak**	**71.80**	**9**	P	**P**	**14 37 00.6**	**-0.1**
ADK				IAmb	IAmb	14 37 07.9	
	comp=Z,20nm,0.9s						
USRK	**Ussuriysk Ar.**	**71.81**	**333**	P	**P**	**14 37 01.6**	**+0.6**
	comp=Z,20nm,1.1s,baz=126,slow=4.9,SNR=13						
PET	**Petropavlovsk**	**72.53**	**353**	P	**P**	**14 37 05.4**	**+0.5**
PET				IAmb	IAmb	14 37 06.9	
	comp=Z,17nm,0.9s						
PEA0B	**Petropavlovsk-**	**72.72**	**353**	IAmb	IAmb	14 37 08.0	
	comp=Z,29nm,0.9s						
PETK	**Petropavlovsk-**	**72.72**	**353**	P	**P**	**14 37 06.8**	**+0.7**
	comp=Z,20nm,0.8s,baz=155,slow=8.9,SNR=33						
NIKH	**Nikolski High**	**74.28**	**13**	P	**P**	**14 37 14.8**	**-0.4**
CN2	**Changchun**	**74.55**	**329**	*eP*	**P**	**14 37 16.4**	**-0.5**
CN2				*eS*	**S**	**14 46 27.9**	**-3.3**
CN2				pmax	pmax		
	comp=Z,20nm,0.8s						
CN2				pmax	pmax		
	comp=Z,230nm,7.0s						
UNV	**Unalaska Valle**	**75.62**	**14**	P	**P**	**14 37 21.5**	**-1.3**
UNV				IAmb	IAmb	14 37 22.7	
	comp=Z,41nm,1.1s						
BJI	**Beijing**	**77.06**	**321**	P	**P**	**14 37 32.0**	**+0.9**
BJI				pmax	pmax		
	comp=Z,12nm,0.9s						
XAN	**Xi'an**	**78.26**	**312**	P	**P**	**14 37 38.8**	**+0.8**
XAN				pmax	pmax		
	comp=Z,17nm,1.2s						
XAN				pmax	pmax		
	comp=Z,340nm,4.7s						
KMI	**Kunming**	**78.45**	**302**	P	**P**	**14 37 40.9**	**+1.4**
KMI				pmax	pmax		
	comp=Z,28nm,1.1s						
MAW	**Mawson**	**78.56**	**202**	P	**P**	**14 37 38.7**	**-0.4**
	comp=Z,3.2nm,0.3s,baz=226,slow=1.6,SNR=17						
MAW	**Mawson**	**78.56**	**202**	IAmb	IAmb	14 37 40.6	
	comp=Z,1.7nm,1.1s						
CMAR	**Chiang Mai Arr**	**78.70**	**294**	P	**P**	**14 37 42.2**	**+1.5**
	comp=Z,5.4nm,0.8s,baz=134,slow=4.2,SNR=27						
CHGN	**Chignik**	**79.93**	**18**	P	**P**	**14 37 46.0**	**-0.3**
HHC	**Hu-ho-hao-te**	**80.34**	**319**	*eP*	**P**	**14 37 49.0**	**-0.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,82nm,5.7s						
CD2	**Chengdu**	**80.40**	**307**	P	**P**	**14 37 49.6**	**0.0**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
OHAK	**Old Harbor**	**82.24**	**19**	P	**P**	**14 37 58.9**	**+0.4**
LZH	**Lanzhou**	**82.88**	**312**	*eP*	**P**	**14 38 04.6**	**+2.0**
LZH				pmax	pmax		
	comp=Z,32nm,1.0s						
LZH				pmax	pmax		
	comp=Z,130nm,5.0s						
SVW2	**Sparrevohn**	**84.79**	**16**	P	**P**	**14 38 12.5**	**+1.1**
SVW2				IAmb	IAmb	14 38 14.5	
	comp=Z,19nm,1.1s						
SYO	**Syowa Base**	**85.04**	**196**	*eP*	**P**	**14 38 11.6**	**-1.1**
SYO	**Syowa Base**	**85.04**	**196**	*ePcP*	**P**	**14 38 13.2**	**+0.5**
SNCC	**San Nicolas Is**	**85.43**	**53**	P	**P**	**14 38 16.4**	**+1.2**
	baz=244						
PKM	**Mcpherson Peak**	**85.94**	**51**	P	**P**	**14 38 18.9**	**+0.9**
	baz=243						
O22K	**Cooper Landing**	**85.96**	**19**	P	**P**	**14 38 17.3**	**+0.1**
	baz=218						
SCI2	**San Clemente I**	**86.05**	**53**	P	**P**	**14 38 18.6**	**+0.3**
	baz=244						
KRMB	**Red Mountain**	**86.22**	**44**	IAmb	IAmb	14 38 20.9	
	comp=Z,31nm,1.0s						
O02D	**Mt. Diablo Mer**	**86.30**	**45**	P	**P**	**14 38 20.9**	**+1.4**
	baz=241,SNR=20						
WDC	**Whiskytown Da**	**86.66**	**45**	IAmb	IAmb	14 38 23.1	
	comp=Z,35nm,1.1s						
N02D	**Trinity Center**	**86.74**	**45**	P	**P**	**14 38 22.8**	**+1.2**
	baz=241,SNR=17						
DECC	**Green Verdugo**	**86.76**	**52**	P	**P**	**14 38 22.1**	**+0.3**
	baz=244						
ARVC	**Arvin**	**86.77**	**51**	P	**P**	**14 38 23.1**	**+1.3**
	baz=244						
PASC	**Pasadena Art C**	**86.84**	**52**	IAmb	IAmb	14 38 23.2	
	comp=Z,23nm,0.8s						
M02C	**Callahan**	**86.84**	**44**	P	**P**	**14 38 23.5**	**+1.4**
	baz=241,SNR=16						
VES	**Vestal, Richgr**	**86.90**	**50**	P	**P**	**14 38 22.8**	**+0.5**
	baz=244,SNR=5.5						
K02D	**Willamette Mer**	**86.95**	**43**	P	**P**	**14 38 23.3**	**+0.8**
	baz=240,SNR=5.6						
AFDM	**Forest Hills D**	**86.96**	**47**	P	**P**	**14 38 21.9**	**-0.7**
ULN	**Ulaanbaatar**	**86.97**	**323**	P	**P**	**14 38 21.9**	**-0.7**
ULN				IAmb	IAmb	14 38 24.3	
	comp=Z,18nm,1.0s						
J01E	**Myrtle Point**	**87.01**	**42**	P	**P**	**14 38 23.9**	**+1.2**
	baz=240						
BILL	**Bilibino**	**87.01**	**359**	P	**P**	**14 38 21.7**	**-0.4**
BILL				IAmb	IAmb	14 38 23.1	
	comp=Z,19nm,1.0s						
PMR	**Palmer**	**87.01**	**18**	P	**P**	**14 38 20.9**	**-1.4**
O03E	**Paynes Creek**	**87.02**	**46**	P	**P**	**14 38 23.7**	**+0.7**
	baz=242,SNR=12						
109C	**Camp Elliot, M**	**87.11**	**54**	P	**P**	**14 38 24.0**	**+0.6**
	baz=245						
BFSC	**Mount Baldy Ra**	**87.26**	**52**	P	**P**	**14 38 24.6**	**+0.3**
	baz=245,SNR=12						
ISA	**Isabella, Lake**	**87.27**	**51**	P	**P**	**14 38 25.0**	**+0.8**
	baz=244,SNR=25						
GTA	**Gaotai**	**87.27**	**313**	*eP*	**P**	**14 38 25.1**	**+0.9**
GTA				pmax	pmax		
	comp=Z,11nm,1.0s						
EDW2	**Edwards Air Fo**	**87.28**	**52**	P	**P**	**14 38 24.8**	**+0.5**
	baz=244,SNR=20						
SONM	**Songino Array**	**87.33**	**323**	P	**P**	**14 38 24.7**	**+0.4**
	comp=Z,10nm,0.9s,baz=136,slow=5.4,SNR=27						
SONM	**Songino Array**	**87.33**	**323**	P	**P**	**14 38 23.8**	**-0.5**
MURC	**Murrieta**	**87.34**	**53**	P	**P**	**14 38 24.9**	**+0.4**
	baz=245,SNR=7.8						
BAR	**Barrett**	**87.35**	**54**	IAmb	IAmb	14 38 26.0	
	comp=Z,14nm,1.0s						
L04D	**Klamath Falls**	**87.60**	**44**	P	**P**	**14 38 26.4**	**+0.7**
	baz=241,SNR=11						
MONP2	**Monument Peak**	**87.63**	**54**	P	**P**	**14 38 26.8**	**+0.7**
	baz=245,SNR=14						
I03D	**Drain, OR**	**87.65**	**42**	P	**P**	**14 38 26.4**	**+0.8**
	baz=241						
MDPB	**Devils Postpil**	**87.69**	**49**	IAmb	IAmb	14 38 28.1	
	comp=Z,28nm,1.1s						
M04C	**Macdoel**	**87.70**	**44**	P	**P**	**14 38 27.0**	**+0.8**
	baz=242,SNR=14						
IKP	**In-Ko-Pah, Jac**	**87.77**	**54**	P	**P**	**14 38 27.5**	**+0.8**
	baz=246,SNR=5.8						
LRMC	**Laurel Mtn Rad**	**87.77**	**51**	P	**P**	**14 38 27.4**	**+0.8**
	baz=245						
BEKR	**Beckworth**	**87.80**	**46**	IAmb	IAmb	14 38 27.9	
	comp=Z,14nm,0.9s						
WAKR	**Walker**	**87.83**	**48**	IAmb	IAmb	14 38 29.0	
	comp=Z,38nm,1.2s						
CWC	**Cottonwood Cre**	**87.89**	**50**	P	**P**	**14 38 27.8**	**+0.6**
	baz=244						
PFO	**Pinyon Flats O**	**87.90**	**53**	P	**P**	**14 38 27.8**	**+0.4**
	baz=245,SNR=8.9						
PFO	**Pinyon Flats O**	**87.90**	**53**	P	**P**	**14 38 26.0**	**-1.3**
PFO				IAmb	IAmb	14 38 28.9	
	comp=Z,18nm,1.1s						
XPFO	**Pion Flat**	**87.90**	**53**	P	**P**	**14 38 26.1**	**-1.2**
XPFO				IAmb	IAmb	14 38 28.9	
	comp=Z,18nm,1.1s						
PNTR	**Pine Nut**	**87.98**	**47**	P	**P**	**14 38 26.4**	**-1.3**
PNTR				IAmb	IAmb	14 38 29.6	
	comp=Z,27nm,1.0s						
TIN	**Tinemaha, Big**	**88.05**	**50**	P	**P**	**14 38 29.4**	**+1.5**
	baz=244						
SWSC	**Sam W. Stewart**	**88.13**	**54**	P	**P**	**14 38 28.8**	**+0.6**
	baz=246,SNR=7.3						
MPMC	**Manual Prospec**	**88.16**	**51**	P	**P**	**14 38 29.1**	**+0.5**
	baz=245,SNR=22						
J04D	**Umpqua Nationa**	**88.22**	**43**	P	**P**	**14 38 29.6**	**+0.9**
	baz=242,SNR=11						
I04A	**Tendick Farm,**	**88.29**	**42**	P	**P**	**14 38 29.3**	**+0.5**
	baz=241						
GSC	**Goldstone, Bar**	**88.34**	**52**	P	**P**	**14 38 30.2**	**+0.8**
	baz=245,SNR=5.9						
PAHR	**Pah Rah Range**	**88.40**	**47**	IAmb	IAmb	14 38 31.4	
	comp=Z,36nm,1.2s						
BELC	**Belle Mtn. Jos**	**88.41**	**53**	P	**P**	**14 38 30.8**	**+1.0**
	baz=246,SNR=11						
H04D	**Lebanon**	**88.43**	**41**	P	**P**	**14 38 30.3**	**+0.9**
	baz=241						
G03D	**McMinnville, O**	**88.44**	**41**	P	**P**	**14 38 30.3**	**+0.9**
	baz=241						
HEC	**Hector,Ludlow**	**88.50**	**52**	P	**P**	**14 38 30.5**	**+0.5**
	baz=245,SNR=8.1						
RYN	**Ryan**	**88.53**	**48**	IAmb	IAmb	14 38 31.9	
	comp=Z,24nm,1.0s						
NVAR	**Mina Array Bea**	**88.59**	**48**	P	**P**	**14 38 30.8**	**+0.2**
	comp=Z,14nm,0.9s,baz=226,slow=7.2,SNR=68						
NVAR	**Mina Array Bea**	**88.59**	**48**	P	**P**	**14 38 30.3**	**-0.3**
GRAC	**Grapevine Rang**	**88.65**	**50**	P	**P**	**14 38 31.5**	**+0.9**
	baz=245,SNR=23						
BC3	**Big Chuckawall**	**88.68**	**54**	P	**P**	**14 38 31.8**	**+0.8**
	baz=246,SNR=12						
FURC	**Furnace Creek,**	**88.79**	**51**	P	**P**	**14 38 32.1**	**+0.8**
	baz=245,SNR=16						
J05D	**Fort Rock, OR**	**88.80**	**43**	P	**P**	**14 38 32.4**	**+1.0**
	baz=242						
H04A	**Detroit Lake**	**88.86**	**42**	P	**P**	**14 38 31.8**	**+0.4**
GLA	**Glamis**	**88.92**	**54**	P	**P**	**14 38 33.3**	**+1.3**
	baz=246,SNR=8.4						
GMRC	**Granite Mounta**	**88.99**	**53**	P	**P**	**14 38 33.0**	**+0.6**
	baz=246,SNR=14						
SHOC	**Shoshone, Teco**	**88.99**	**51**	P	**P**	**14 38 32.8**	**+0.6**
	baz=245						
KVN	**Kaiserville**	**89.01**	**48**	IAmb	IAmb	14 38 34.0	
	comp=Z,27nm,1.0s						
F04D	**Rainier, OR**	**89.02**	**40**	P	**P**	**14 38 33.5**	**+1.4**
	baz=241						
TUQ	**Turquoise Moun**	**89.06**	**52**	P	**P**	**14 38 33.6**	**+0.9**
	baz=246						
SNAA	**Sanae**	**89.21**	**182**	P	**P**	**14 38 31.9**	**-0.8**
SNAA	**Sanae**	**89.21**	**182**	P	**P**	**14 38 32.1**	**-0.7**
SNAA				IAmb	IAmb	14 38 33.0	
	comp=Z,15nm,0.9s						
I05D	**Terrebonne, OR**	**89.23**	**42**	P	**P**	**14 38 34.1**	**+0.9**
	baz=242						
BBB	**Bella Bella**	**89.31**	**33**	P	**P**	**14 38 32.9**	**-0.3**
	comp=Z,14nm,1.0s,baz=197,slow=7.9,SNR=3.7						
IMAR	**Indian Mountai**	**89.33**	**14**	P	**P**	**14 38 31.2**	**-1.9**
SLBS	**Sierra La Lagu**	**89.34**	**65**	P	**P**	**14 38 34.0**	**-0.2**
SLBS				IAmb	IAmb	14 38 36.4	
	comp=Z,20nm,0.9s						
TPNV	**Topopah Spring**	**89.44**	**50**	P	**P**	**14 38 35.2**	**+0.7**
	baz=245,SNR=31						
E04D	**Cinebar**	**89.52**	**40**	P	**P**	**14 38 35.4**	**+1.0**
	baz=241						
113A	**Mohawk Valley,**	**89.62**	**55**	IAmb	IAmb	14 38 37.2	
	comp=Z,20nm,1.1s						
G05D	**Wamic, OR**	**89.66**	**41**	P	**P**	**14 38 35.5**	**+0.3**
	baz=242						
D03D	**Eldon**	**89.68**	**39**	P	**P**	**14 38 36.1**	**+0.9**
	baz=241						
NEE2	**Needles Airpor**	**89.76**	**53**	P	**P**	**14 38 37.0**	**+1.1**
	baz=246						
VNA3	**Neumayer Olymp**	**89.80**	**180**	P	**P**	**14 38 34.6**	**-0.8**
HDA	**Harding Lake**	**89.83**	**17**	P	**P**	**14 38 34.3**	**-1.2**
	baz=221						
HDA	**Harding Lake**	**89.83**	**17**	IAmb	IAmb	14 38 37.5	
	comp=Z,16nm,1.1s						
F05D	**White Salmon**	**89.88**	**41**	P	**P**	**14 38 36.9**	**+0.8**
	baz=242						
TCOL	**CIGO, UAF Yank**	**89.93**	**17**	P	**P**	**14 38 34.8**	**-1.1**
	baz=220						
RIDG	**Independent Ri**	**89.94**	**19**	P	**P**	**14 38 34.4**	**-1.6**
PDMCI	**Parker Dam,Lak**	**89.94**	**54**	P	**P**	**14 38 37.8**	**+1.2**
	baz=247,SNR=13						
214A	**Organ Pipe Nat**	**90.06**	**56**	P	**P**	**14 38 38.5**	**+1.1**
	baz=247						
214A	**Organ Pipe Nat**	**90.06**	**56**	IAmb	IAmb	14 38 39.5	
	comp=Z,25nm,1.1s						
SHPR	**Sheep Range**	**90.06**	**51**	IAmb	IAmb	14 38 39.4	
	comp=Z,20nm,1.0s						
G06A	**Carlson Farm,**	**90.09**	**42**	IAmb	IAmb	14 38 38.7	
	comp=Z,20nm,1.2s						
VNA2	**Neumayer--Watz**	**90.09**	**181**	P	**P**	**14 38 36.3**	**-0.5**
	baz=163,slow=4.4						
ILAR	**Eielson Array**	**90.12**	**17**	P	**P**	**14 38 35.0**	**-1.7**
	comp=Z,6.1nm,0.8s,baz=237,slow=5.5,SNR=42						
HYT	**Haines Junctio**	**90.36**	**23**	IAmb	IAmb	14 38 38.6	
	comp=Z,9.3nm,0.9s						
VNA1	**Neumayer--Stat**	**90.38**	**181**	P	**P**	**14 38 37.5**	**-0.6**
BCAR	**Beaver Creek A**	**90.41**	**20**	P	**P**	**14 38 35.4**	**-2.8**
R11A	**Troy Canyon, C**	**90.50**	**49**	P	**P**	**14 38 39.5**	**+0.1**
	baz=246,SNR=17						
B05A	**Bryant**	**90.62**	**38**	P	**P**	**14 38 40.3**	**+0.8**
	baz=242						
LTY	**Liberty**	**91.00**	**40**	IAmb	IAmb

E62A	**Clayton Lake**	**124.90**	**46**	P		**PKPdf**	**14 44 34.6**	**-1.1**
	baz=279							
ARCES	**ARCESS Array B**	**125.09**	**345**	PKP		**PKPdf**	**14 44 34.6**	**-0.8**
	comp=Z,2.3nm,0.3s,baz=71,slow=2.4,SNR=42							
D62A	**Allapoint, All**	**125.15**	**45**	P		**PKPdf**	**14 44 34.6**	**-1.6**
	baz=280							
KLMR	**Klimovskoe**	**125.61**	**333**	*e*PKPdf		**PKPdf**	**14 44 34.4**	**-2.2**
KLMR				AMP			14 44 39.3	
	comp=Z,13nm,1.4s							
G64A	**Maxfield**	**125.64**	**48**	P		**PKPdf**	**14 44 36.4**	**-0.8**
	baz=279							
D63A	**Stockholm**	**125.79**	**45**	P		**PKPdf**	**14 44 35.9**	**-1.6**
	baz=280							
E64A	**Bridgewater**	**126.09**	**46**	P		**PKPdf**	**14 44 36.6**	**-1.4**
	baz=280							
PTGA	**Pitinga**	**127.60**	**106**	PKPdf		**PKPdf**	**14 44 41.4**	**-0.6**
BDFB	**Brasilia**	**129.40**	**131**	PKP		**PKPdf**	**14 44 44.5**	**-1.0**
	comp=Z,3.0nm,0.5s,baz=259,slow=8.6,SNR=3.6							
FINES	**FINESS Array B**	**130.64**	**338**	PKP		**PKPdf**	**14 44 45.3**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=72,slow=2.4,SNR=7.1							
FINES				SKPbc		**SKPbc**	**14 47 44.5**	**-1.8**
	comp=Z,1.9nm,0.8s,baz=58,slow=4.7,SNR=5.1							
NOA	**NORSAR Array B**	**135.47**	**345**	PKP		**PKPdf**	**14 44 54.0**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=78,slow=4.2,SNR=3.4							
AKASG	**Malin Array Be**	**135.60**	**324**	PKP		**PKPdf**	**14 44 54.9**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=61,slow=1.7,SNR=4.3							
AKASG				SKPbc		**SKPbc**	**14 48 01.9**	**-1.5**
	comp=Z,0.1nm,0.2s,baz=48,slow=3.8,SNR=4.1							
BRTR	**Keskin Array B**	**136.97**	**308**	PKP		**PKPdf**	**14 44 58.1**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=87,slow=2.6,SNR=5.2							
BURAR	**Bucovina Array**	**139.44**	**323**	⇑P		**PKPdf**	**14 45 04.0**	**+0.8**
KOLS	**Kolonicke sedl**	**140.32**	**326**	*e*PKP		**PKPdf**	**14 45 04.9**	**+0.2**
CRVS	**Cervenica-Dubn**	**140.77**	**326**	*e*PKP		**PKPdf**	**14 45 05.9**	**+0.4**
OSTC	**Ostas**	**142.20**	**332**	*e*PKP		**PKPdf**	**14 45 03.8**	**-4.2**
VYHS	**Vyhne**	**142.38**	**328**	*e*PKP		**PKPdf**	**14 45 08.8**	**+0.5**
BZS	**Buzias**	**142.61**	**322**	⇓P		**PKPdf**	**14 45 05.3**	**-3.5**
JAVC	**Velka Javorina**	**142.71**	**329**	*e*PKP		**PKPdf**	**14 45 06.3**	**-2.7**
BRG	**Berggiesshubel**	**142.94**	**334**	*i* PKP		**PKPdf**	**14 45 05.4**	**-3.8**
	comp=Z,6.5nm,1.0s							
BRG	**Berggiesshubel**	**142.94**	**334**	*e*PKPbc		**PKPdf**	**14 45 06.0**	**-3.2**
	baz=37,slow=2.9							
CLL	**Collm**	**142.98**	**335**	*e*PKPpre		PKPpre	14 44 57.0	
CLL				*i* PKPdf			14 45 06.4	
	comp=Z,9.0nm,1.1s							
CLL				*e*PKiKP		**PKPdf**	**14 45 12.0**	**+2.7**
CLL	**Collm**	**142.98**	**335**	*e*PKPbc			14 45 06.4	
	baz=37,slow=2.9							
MDVR	**Moldovita**	**143.02**	**321**	⇓P		PKPab	14 45 06.3	+0.7
FBE	**Freiberg**	**143.14**	**335**	*e*PKPbc		PKPab	14 45 06.9	+1.1
	baz=37,slow=2.9							
KRUC	**Moravsky**	**143.18**	**330**	*e*PKP		PKPab	14 45 06.7	+0.7
VTS	**Vitosha**	**143.19**	**317**	⇑P		PKPab	14 45 07.8	+1.4
VTS	**Vitosha**	**143.19**	**317**	PKPdf		PKPab	14 45 07.7	+1.3
MODS	**Modra-Piesok**	**143.23**	**329**	*e*PKP		**PKPdf**	**14 45 10.6**	**+0.7**
GOPC	**GO Pecny, Ondr**	**143.30**	**332**	*e*PKP		PKPab	14 45 06.2	-0.3
PRU	**Pruhonice**	**143.35**	**333**	*e*PKP		PKPbc	14 45 09.1	+1.2
EKA	**Eskdalemuir Ar**	**143.50**	**353**	PKhKP		PKPpre	14 45 06.4	
	comp=Z,0.6nm,0.3s,baz=10.0,slow=2.4,SNR=14							
PBCC	**Pribram**	**143.81**	**333**	*e*PKP		PKPab	14 45 09.2	+0.7
TANN	**Tannenbergstha**	**143.89**	**335**	*e*PKPbc		PKPab	14 45 09.0	+0.1
	baz=37,slow=2.9							
GTTG	**Gottingen**	**143.92**	**338**	*e*PKPbc		PKPab	14 45 09.0	+0.2
	baz=37,slow=2.9							
FRGS	**Fruska Gora**	**143.92**	**323**	⇑*i*P		PKPab	14 45 09.6	+0.5
MORH	**Mrgy, Hungar**	**143.93**	**325**	⇑*i*P		PKPab	14 45 09.2	+0.2
GUNZ	**Gunzen**	**143.98**	**335**	*e*PKPbc		**PKPab**	**14 45 09.4**	**+0.3**
	baz=37,slow=2.9							
GUNZ				*ep*PKPbc		**pPKPdf**	**14 46 13.8**	**-0.9**
IBBN	**Ibbenburen**	**144.00**	**341**	*e*PKPbc		**PKPab**	**14 45 09.7**	**+0.6**
	baz=37,slow=2.9							
WERN	**Wernitzgruen**	**144.02**	**335**	*e*PKP		**PKPab**	**14 45 09.3**	**0.0**
	baz=37,slow=2.9							
WERN				*e*PKPbc		PKPbc	14 45 09.7	-0.2
	baz=37,slow=2.9							
NKC	**Novy Kostel**	**144.04**	**335**	*e*PKP		**PKPab**	**14 45 09.5**	**+0.1**
MOX	**Moxa**	**144.04**	**336**	*e*PKPbc		**PKPab**	**14 45 09.3**	**0.0**
	baz=37,slow=2.9							
SANT	**Santorini**	**144.13**	**306**	⇓P		**PKPab**	**14 45 09.8**	**-0.3**
CONA	**Conrad Observa**	**144.23**	**329**	*i* PKPdf		**PKPab**	**14 45 10.7**	**+0.5**
	comp=Z,20nm,1.4s,SNR=9.6							
VAY	**Valandovo**	**144.24**	**315**	*i* P		**PKPab**	**14 45 10.0**	**-0.3**
STIP	**Stip**	**144.31**	**316**	*i* P		**PKPab**	**14 45 09.6**	**-1.1**
MANZ	**Manzenberg**	**144.37**	**335**	*e*PKPbc		**PKPab**	**14 45 10.7**	**0.0**
	baz=37,slow=2.9							
KHC	**Kasperske Hory**	**144.41**	**333**	*e*PKP		**PKPab**	**14 45 10.7**	**-0.1**
DIVS	**Divibare**	**144.42**	**321**	⇑*i*P		**PKPab**	**14 45 11.4**	**+0.3**
TEKS	**Tekeris**	**144.44**	**322**	*e*P		**PKPab**	**14 45 10.9**	**-0.2**
ROTZ	**Rotzenmuhle**	**144.50**	**334**	*e*PKPbc		**PKPab**	**14 45 11.0**	**-0.1**
	baz=37,slow=2.9							
UBBA	**Unterbreizbach**	**144.50**	**337**	*e*PKPbc		**PKPab**	**14 45 10.7**	**-0.2**
	baz=37,slow=2.9							
GEC2	**GERESS Array S**	**144.57**	**332**	*e*PKPbc		**PKPab**	**14 45 11.2**	**-0.3**
	baz=37,slow=2.9							
GEC2				*ep*PKPbc		**pPKPdf**	**14 46 15.1**	**-0.7**
GERES	**GERESS Array B**	**144.57**	**332**	PKP		**PKPab**	**14 45 11.3**	**-0.3**
	comp=Z,12nm,0.9s,baz=45,slow=4.0,SNR=66							
GERES	**GERESS Array B**	**144.57**	**332**			**PKPab**	**14 45 11.6**	**+0.1**
SKO	**Skopje**	**144.66**	**317**	*i* P		PKPbc	14 45 12.4	+0.4
WET	**Wettzell**	**144.70**	**333**	*e*PKPbc		PKPbc	14 45 11.8	-0.1
	baz=37,slow=2.9							
ARSA	**Arzberg**	**144.86**	**329**	*i* PKPdf		PKPbc	14 45 12.5	0.0
	comp=Z,9.8nm,0.8s,SNR=7.9							
BUG	**Bochum--Univer**	**144.90**	**341**	*e*PKPbc		PKPbc	14 45 12.4	+0.1
	baz=37,slow=2.9							
BBLS	**Lazići**	**144.90**	**321**	⇑*i*P		PKPbc	14 45 13.2	+0.4
IDI	**Anoyia**	**144.90**	**304**	⇑P		PKPbc	14 45 12.7	-0.3
IDI	**Anoyia**	**144.90**	**304**			PKPbc	14 45 12.9	-0.1
GRF	**Grafenberg Arr**	**144.95**	**335**	*e*PKPbc		PKPbc	14 45 12.4	-0.3
	baz=37,slow=2.9							
MOA	**Molln**	**145.04**	**330**	*i* PKPab		**PKPdf**	**14 45 13.1**	**0.0**
	comp=Z,25nm,1.1s,SNR=13							
RUDO	**Rudo**	**145.07**	**321**	*e*P		**PKPdf**	**14 45 12.6**	**-0.6**
SOKA	**Soboth**	**145.50**	**328**	*i* PKPab		**PKPdf**	**14 45 14.1**	**+0.1**
	comp=Z,5.8nm,0.7s,SNR=6.5							
OHR	**Ohrid**	**145.51**	**316**	*i* P		**PKPdf**	**14 45 14.4**	**+0.4**
BLY	**Banja Luka**	**145.65**	**324**	⇑*i*P		**PKPdf**	**14 45 15.2**	**+1.1**
PDG	**Podgorica**	**145.80**	**319**	*e*P		**PKPdf**	**14 45 14.5**	**+0.1**
CRES	**Cresnjev**	**145.87**	**327**	*i* PKPbc		**PKPdf**	**14 45 15.5**	**+1.0**
CRES	**Cresnjev**	**145.87**	**327**	⇑*i*P		**PKPdf**	**14 45 15.3**	**+0.8**
MGRS	**Mrkonjic Grad**	**145.91**	**324**	*e*P		**PKPbc**	**14 45 16.5**	**+0.7**
BRY	**Bratogost**	**145.97**	**320**	*e*P		**PKPdf**	**14 45 15.4**	**+0.5**
DRME	**Dracevica, Mon**	**145.98**	**319**	⇑*i*P		**PKPdf**	**14 45 15.8**	**+1.0**
TIR	**Tirane**	**146.00**	**317**	⇑P		**PKPbc**	**14 45 16.9**	**+0.8**
MEM	**Membach**	**146.02**	**341**	PKPdf		**PKPdf**	**14 45 15.6**	**+1.0**
KBA	**Koelnbreinsper**	**146.03**	**330**	*e*PKPab		**PKPdf**	**14 45 15.3**	**+0.3**
	comp=Z,8.6nm,0.8s							
BSTI	**Sart Tilman**	**146.18**	**342**	PKPdf		**PKPdf**	**14 45 16.1**	**+1.3**
LJU	**Ljubljana**	**146.19**	**328**	*i* PKPbc		**PKPdf**	**14 45 16.3**	**+1.2**
LJU	**Ljubljana**	**146.19**	**328**	⇑*i*P		**PKPdf**	**14 45 15.7**	**+0.7**
MYKA	**Terra Mystica**	**146.22**	**330**	*e*PKPbc		**PKPdf**	**14 45 15.6**	**+0.5**
	comp=Z,3.6nm,0.5s							
CRNS	**Crni Vrh**	**146.30**	**328**	*i* PKPbc		**PKPdf**	**14 45 16.3**	**+1.1**
STON	**Ston**	**146.49**	**321**	P		**PKPdf**	**14 45 16.7**	**+1.1**
STON	**Ston**	**146.49**	**321**	*e*P		**PKPdf**	**14 45 15.7**	**+0.1**
UDBI	**Udbina**	**146.57**	**325**	P		**PKPdf**	**14 45 17.2**	**+1.5**
SNF	**Seneffe**	**146.61**	**343**	PKPdf		**PKPdf**	**14 45 17.2**	**+1.7**
WATA	**Walderalm**	**146.64**	**332**	*e*PKPab		**PKPdf**	**14 45 17.3**	**+1.4**
	comp=Z,4.9nm,0.5s,SNR=6.7							
BMRD	**Maredsous**	**146.66**	**342**	PKPdf		**PKPdf**	**14 45 17.1**	**+1.5**
ABTA	**Abfaltersbach**	**146.66**	**331**	*e*PKPbc		**PKPdf**	**14 45 16.9**	**+0.9**
	comp=Z,20nm,1.0s							
WTTA	**Wattenberg**	**146.67**	**332**	*e*PKPab		**PKPdf**	**14 45 17.7**	**+1.6**
	comp=Z,13nm,0.9s,SNR=6.5							
WLF	**Walferdange**	**146.80**	**340**	PKPdf		**PKPbc**	**14 45 18.4**	**+0.2**
WLF	**Walferdange**	**146.80**	**340**	*e*PKPbc		**PKPdf**	**14 45 18.1**	**+2.2**
	baz=37,slow=2.9							
MOTA	**Moosalm**	**146.84**	**333**	*e*PKPbc		**PKPdf**	**14 45 17.9**	**+1.6**
	comp=Z,23nm,1.2s,SNR=8.4							
RETA	**Reutte**	**146.88**	**333**	*i* PKPbc		**PKPdf**	**14 45 18.0**	**+1.8**
	comp=Z,4.0nm,0.5s							
SQTA	**Sankt Quirin**	**146.89**	**333**	*e*PKPab		**PKPdf**	**14 45 18.2**	**+1.9**
	comp=Z,8.0nm,0.5s,SNR=7.2							
DOU	**Dourbes**	**146.90**	**342**	PKPdf		**PKPdf**	**14 45 18.2**	**+2.1**
UBR	**Ueberruh**	**147.00**	**334**	*e*PKPbc		**PKPdf**	**14 45 18.2**	**+1.8**
	baz=37,slow=2.9							
MORI	**Morici**	**147.03**	**324**	P		**PKPdf**	**14 45 18.7**	**+2.2**
BFO	**Black Forest**	**147.17**	**337**			**PKPdf**	**14 45 18.9**	**+2.2**
BFO	**Black Forest**	**147.17**	**337**	*e*PKPbc		**PKPdf**	**14 45 18.7**	**+2.1**
	baz=37,slow=2.9							
BFO				*ep*PKPbc		**pPKPdf**	**14 46 21.4**	**+1.1**
ZIRJ	**Zirje**	**147.20**	**324**	P		**PKPdf**	**14 45 19.0**	**+2.3**
FETA	**Feichten**	**147.25**	**333**	*e*PKPab		**PKPdf**	**14 45 19.4**	**+2.4**
	comp=Z,23nm,1.1s,SNR=8.6							
BRJN	**Brijuni**	**147.38**	**327**	P		**PKPdf**	**14 45 19.5**	**+2.5**
DAVA	**Damuels**	**147.40**	**334**	*e*PKPbc		**PKPdf**	**14 45 19.6**	**+2.4**
	comp=Z,11nm,0.9s							
TIP	**Timpagrande**	**149.16**	**316**	⇑P		**PKPbc**	**14 45 25.6**	**+0.9**
TIP	**Timpagrande**	**149.16**	**316**			**PKPbc**	**14 45 24.9**	**+0.2**
INTR	**Introdacqua**	**149.24**	**323**			**PKPbc**	**14 45 24.0**	**-0.8**
AQU	**L'Aquila**	**149.29**	**324**	*e*P		**PKPdf**	**14 45 23.1**	**+2.8**
KEST	**Kesra**	**155.96**	**317**	PKPab		**PKPab**	**14 45 58.6**	**0.0**
	comp=Z,3.6nm,0.9s,baz=2.6,slow=3.4,SNR=3.9							
ESDC	**Sonseca Array**	**158.82**	**346**	PKPab		**PKPab**	**14 46 09.6**	**-1.3**
	comp=Z,0.7nm,0.9s,baz=23,slow=4.1,SNR=5.6							
TORD	**Torodi Ar. Bea**	**166.83**	**245**	PKP		**PKPdf**	**14 45 40.9**	**-1.2**
	comp=Z,3.0nm,1.0s,baz=15,slow=1.7,SNR=9.5							
TORD				PKPab		**pPKPdf**	**14 46 45.6**	**-0.6**
	comp=Z,3.1nm,1.1s,baz=102,slow=4.3,SNR=6.4							

IDC ***14*** *14:26:11.9±0.8,34.64N×26.05E,h0km,mb4.0/16, mb1 4.1/24,mb1mx3.9/50,mbtmp4.0/24,ML3.8/8,MS3.5/2, Ms1 3.5/2,ms1mx2.8/44,Error ellipse: s-maj=18.8km s-min=13.8km az=172.0*

HLW ***14*** *14:26:13.2,34.85N×26.08E,h22km±8km,Md4.2,Ml4.3*

THE ***14*** *14:26:15.7,34.44N×26.46E,h41km±3km,ML3.7/4,Error ellipse: s-maj=4.0km s-min=0.8km az=346.0*

DDA ***14*** *14:26:17.0,34.75N×26.45E,h6km±4km,MW3.9*

MOS ***14*** *14:26:18.1±0.9,34.62N×26.02E,h61km,mb4.1/8,Error ellipse: s-maj=8.9km s-min=5.3km az=81.0*

ISK ***14*** *14:26:19.1,34.79N×26.13E,h63km,ML3.5/17*

ATH ***14*** *14:26:19.7,34.79N×26.11E,h56km±4km,ML3.5/10,Error ellipse: s-maj=4.8km s-min=1.8km az=166.0*

NIC ***14*** *14:26:19.3±0.0,34.36N×26.48E,h64km±8km,Ml3.7/3*

GII ***14*** *14:26:24.0±0.3,34.36N×26.83E,h40km,MD3.3/4*

ISC 14 14:26:16.6±0.5, 34.50N±0.04×26.19E±0.03, h39km±3km, n223,σ1ş78/220, mb3.9/23, 11C-5D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.61**	**2**	P	**Pn**	**14 26 28.7**	**-0.2**
ZKR				S	**Sn**	**14 26 38.5**	**+0.9**
	5μm,0.8s						
ZKR	**Zakros**	**0.61**	**2**	P	**Pn**	**14 26 29.3**	**+0.4**
ZKR				AML	AML	14 26 40.5	
	comp=E,12287μm,0.5s						
ZKR				AML	AML	14 26 45.7	
	comp=N,5946μm,0.4s						
ZKR	**Zakros**	**0.61**	**2**	PG	**Pn**	**14 26 29.5**	**+0.6**
ZKR				SG	**Sn**	**14 26 37.9**	**+0.3**
ZKR	**Zakros**	**0.61**	**2**	⇑P	**Pn**	**14 26 29.5**	**+0.6**
ZKR				AML	AML	14 26 40.1	
	comp=N,12nm,0.5s						
ZKR				AML	AML	14 26 45.0	
	comp=N,5.9nm,0.5s						
STIA	**Sitia Lasithi**	**0.70**	**353**	P	**Pn**	**14 26 30.4**	**+0.3**
STIA				S	**Sn**	**14 26 41.8**	**+2.1**
LAST	**Lasithi**	**0.88**	**318**	P	**Pn**	**14 26 33.8**	**+1.2**
LAST				S	**Sn**	**14 26 48.0**	**+3.7**
	comp=N,2μm,0.6s						
LAST	**Lasithi**	**0.88**	**318**	P	**Pn**	**14 26 33.9**	**+1.2**
LAST				S	**Sn**	**14 26 43.6**	**-0.7**
LAST				AML	AML	14 26 48.9	
	comp=E,6806μm,0.6s						
LAST				AML	AML	14 26 53.0	
	comp=N,6495μm,0.6s						
NPS	**Neapolis**	**0.90**	**328**	P	**Pn**	**14 26 34.0**	**+1.3**
NPS				S	**Sn**	**14 26 48.0**	**+3.5**
	comp=N,5μm,0.6s						
NPS	**Neapolis**	**0.90**	**328**	P	**Pn**	**14 26 34.3**	**+1.6**
NPS				AML	AML	14 26 52.6	
	comp=E,7242μm,0.5s						
NPS				AML	AML	14 26 54.5	
	comp=N,6175μm,0.6s						
NPS	**Neapolis**	**0.90**	**328**	P	**Pn**	**14 26 34.7**	**+2.0**
HRKL	**Herakleio**	**1.21**	**312**	P	**Pn**	**14 26 38.5**	**+1.5**
HRKL	**Herakleio**	**1.21**	**312**	PG	**Pn**	**14 26 38.1**	**+1.1**
KSTL	**Kastelli Herak**	**1.22**	**311**	P	**Pn**	**14 26 35.4**	**-1.7**
IACM	**Heraklion**	**1.22**	**311**	P	**Pn**	**14 26 39.6**	**+2.5**
SIVA	**Sivas**	**1.25**	**295**	P	**Pn**	**14 26 39.2**	**+1.7**
SIVA				S	**Sn**	**14 26 57.6**	**+4.5**
	comp=N,5μm,0.7s						
SIVA	**Sivas**	**1.25**	**295**	P	**Pn**	**14 26 39.9**	**+2.4**
SIVA				AML	AML	14 27 07.0	
	comp=E,7989μm,0.6s						
SIVA				AML	AML	14 27 13.4	
	comp=N,7803μm,0.7s						
KARP	**Karpathos**	**1.31**	**37**	P	**Pn**	**14 26 41.2**	**+2.7**
KARP	**Karpathos**	**1.31**	**37**	P	**Pn**	**14 26 41.1**	**+2.7**
KARP				AML	AML	14 27 11.1	
	comp=E,3538μm,0.7s						
KARP				AML	AML	14 27 12.6	
	comp=N,3347μm,0.6s						
KARP	**Karpathos**	**1.31**	**37**	PN	**Pn**	**14 26 40.5**	**+2.0**
KARP	**Karpathos**	**1.31**	**37**	⇑P	**Pn**	**14 26 41.4**	**+2.9**
KARP				S	**Sn**	**14 26 59.6**	**+4.9**
KARP				AML	AML	14 27 10.7	
	comp=N,3.5nm,0.7s						
KARP				AML	AML	14 27 10.7	
	comp=N,3.5nm,0.7s						
KARP				AML	AML	14 27 12.2	
	comp=N,3.3nm,0.6s						
KARP				AML	AML	14 27 12.2	
	comp=N,3.3nm,0.6s						
IDI	**Anoyia**	**1.33**	**307**	Pn	**Pn**	**14 26 40.2**	**+1.5**
IDI	comp=N,20nm,0.3s,baz=134,slow=11,SNR=148			Sn	**Sn**	**14 26 57.7**	**+2.6**
	comp=N,40nm,0.3s,baz=346,slow=15,SNR=6.8						
IDI	**Anoyia**	**1.33**	**307**	PN	**Pn**	**14 26 40.3**	**+1.6**
GVD	**Gavdhos**	**1.77**	**282**	P	**Pn**	**14 26 46.1**	**+1.4**
GVD				AML	AML	14 27 26.5	
	comp=E,2578μm,0.7s						
GVD				AML	AML	14 27 28.3	
	comp=N,1905μm,0.5s						
GVD	**Gavdhos**	**1.77**	**282**	PN	**Pn**	**14 26 47.1**	**+2.4**
VAM	**Vamos**	**1.87**	**299**	P	**Pn**	**14 26 47.9**	**+1.8**
VAM	**Vamos**	**1.87**	**299**	P	**Pn**	**14 26 48.4**	**+2.3**
VAM				AML	AML	14 27 30.3	
	comp=E,1582μm,0.9s						
VAM				AML	AML	14 27 31.5	
	comp=N,2140μm,0.9s						
VAM	**Vamos**	**1.87**	**299**	P	**Pn**	**14 26 48.4**	**+2.3**
ANAF	**Anafi Island**	**1.88**	**350**	P	**Pn**	**14 26 46.5**	**+0.2**
ANAF	**Anafi Island**	**1.88**	**350**	P	**Pn**	**14 26 46.9**	**+0.6**
SANT	**Santorini**	**1.96**	**342**	P	**Pn**	**14 26 47.9**	**+0.5**
SANT	**Santorini**	**1.96**	**342**	P	**Pn**	**14 26 47.8**	**+0.5**
SANT	**Santorini**	**1.96**	**342**	PN	**Pn**	**14 26 47.6**	**+0.3**
THR6	**Thira Island,**	**1.96**	**341**	P	**Pn**	**14 26 47.6**	**+0.3**
THR6	**Thira Island,**	**1.96**	**341**	P	**Pn**	**14 26 47.6**	**+0.3**
THR9	**Santorini-Faro**	**1.97**	**340**	P	**Pn**	**14 26 47.9**	**+0.4**
THR9	**Santorini-Faro**	**1.97**	**340**	P	**Pn**	**14 26 47.7**	**+0.2**
THR8	**Santorini-Mono**	**1.99**	**343**	P	**Pn**	**14 26 47.8**	**+0.1**
THR8	**Santorini-Mono**	**1.99**	**343**	P	**Pn**	**14 26 47.9**	**+0.2**
SNT3	**Karterados, Sa**	**2.00**	**343**	P	**Pn**	**14 26 49.3**	**+1.5**
SNT1	**Gialos, Santor**	**2.01**	**342**	P	**Pn**	**14 26 48.6**	**+0.6**
SNT1	**Gialos, Santor**	**2.01**	**342**	P	**Pn**	**14 26 48.6**	**+0.6**
THR3	**Thira Island,**	**2.01**	**341**	P	**Pn**	**14 26 48.2**	**+0.2**
THR3	**Thira Island,**	**2.01**	**341**	P	**Pn**	**14 26 48.2**	**+0.2**
THR5	**Thira Island,**	**2.03**	**340**	P	**Pn**	**14 26 48.6**	**+0.3**
THR5	**Thira Island,**	**2.03**	**340**	P	**Pn**	**14 26 48.7**	**+0.3**
SAP3	**Santorini-Thir**	**2.05**	**341**	P	**Pn**	**14 26 49.2**	**+0.7**
SAP3	**Santorini-Thir**	**2.05**	**341**	P	**Pn**	**14 26 49.2**	**+0.7**
IMMV	**Iera Moni Meta**	**2.05**	**298**	P	**Pn**	**14 26 50.5**	**+1.9**
IMMV	**Iera Moni Meta**	**2.05**	**298**	P	**Pn**	**14 26 51.1**	**+2.5**
IMMV				AML	AML	14 27 31.9	
	comp=E,1674μm,0.8s						
IMMV				AML	AML	14 27 34.3	
	comp=N,1817μm,0.5s						
IMMV	**Iera Moni Meta**	**2.05**	**298**	PN	**Pn**	**14 26 50.4**	**+1.9**
KNDR	**Palaiochora Ch**	**2.19**	**290**	PN	**Pn**	**14 26 53.6**	**+3.2**
NISR	**Nisiros**	**2.24**	**20**	P	**Pn**	**14 26 52.1**	**+1.0**
RODP	**Rodopos**	**2.26**	**299**	PN	**Pn**	**14 26 53.2**	**+1.8**
ARG	**Arkhangelos**	**2.33**	**42**	P	**Pn**	**14 26 55.4**	**+3.1**
ARG	**Arkhangelos**	**2.33**	**42**	P	**Pn**	**14 26 55.4**	**+3.0**
ARG				AML	AML	14 27 37.7	
	comp=E,608μm,0.5s						
ARG				AML	AML	14 27 48.3	
	comp=N,577μm,0.7s						
ARG	**Arkhangelos**	**2.33**	**42**	PN	**Pn**	**14 26 54.5**	**+2.1**
ARG	**Arkhangelos**	**2.33**	**42**	P	**Pn**	**14 26 55.2**	**+2.8**
ARG	**Arkhangelos**	**2.33**	**42**	⇑P	**Pn**	**14 26 55.3**	**+2.8**
IOSP	**Ios island**	**2.33**	**342**	P	**Pn**	**14 26 53.0**	**+0.5**
IOSP	**Ios island**	**2.33**	**342**	P	**Pn**	**14 26 53.0**	**+0.5**
AMGA	**Amorgos Island**	**2.34**	**354**	P	**Pn**	**14 26 52.9**	**+0.4**
AMGA	**Amorgos Island**	**2.34**	**354**	P	**Pn**	**14 26 53.2**	**+0.7**
DAT	**Datca**	**2.49**	**27**	PN	**Pn**	**14 26 55.7**	**+1.0**
DAT	**Datca**	**2.49**	**27**	*i* P	**Pn**	**14 26 56.2**	**+1.5**
DAT				*i* S	**Sn**	**14 27 25.0**	**+1.0**
DATC	**Datca-Mugla**	**2.55**	**28**	PN	**Pn**	**14 26 56.6**	**+1.2**
APE	**Apeiranthos**	**2.62**	**348**	P	**Pn**	**14 26 56.8**	**+0.3**
APE	**Apeiranthos**	**2.62**	**348**	P	**Pn**	**14 26 56.8**	**+0.3**
APE	**Apeiranthos**	**2.62**	**348**	PN	**Pn**	**14 26 56.7**	**+0.3**
APE	**Apeiranthos**	**2.62**	**348**	*c* *i*P	**Pn**	**14 26 56.7**	**+0.3**
MHLO	**Agia Marina, M**	**2.62**	**327**	P	**Pn**	**14 26 57.4**	**+0.9**
MHLO	**Agia Marina, M**	**2.62**	**327**	P	**Pn**	**14 26 57.4**	**+0.9**
MHLA	**Plaka, Milos I**	**2.66**	**328**	P	**Pn**	**14 26 57.3**	**+0.3**
BODT	**Bodrum**	**2.71**	**19**	PN	**Pn**	**14 26 58.9**	**+1.2**
ANKY	**Antikythira Is**	**2.73**	**301**	P	**Pn**	**14 26 59.6**	**+1.7**
MRSB	**Marmaris-Mugla**	**2.75**	**36**	PN	**Pn**	**14 26 59.6**	**+1.4**
BDRM	**Kayabasi**	**2.75**	**21**	*i* P	**Pn**	**14 26 59.4**	**+1.2**
BDRM				*i* S	**Sn**	**14 27 33.6**	**+3.4**
BDRM				IAML		14 27 55.0	
	comp=N,48nm,0.8s						
SERI	**Serifos**	**2.99**	**333**	P	**Pn**	**14 27 02.1**	**+0.5**
DALY	**Dalyan (Mula)**	**3.06**	**40**	PN	**Pn**	**14 27 04.6**	**+2.2**
DALY	**Dalyan (Mula)**	**3.06**	**40**	*i* P	**Pn**	**14 27 04.8**	**+2.4**
DALY				*i* S	**Sn**	**14 27 40.4**	**+2.7**
DALY				IAML		14 27 43.0	
	comp=N,90nm,0.6s						
DALY				IAML		14 28 18.0	
	comp=E,43nm,1.4s						
TURN	**Turunc**	**3.07**	**39**	PN	**Pn**	**14 27 00.6**	**-2.0**
TURN	**Turunc**	**3.07**	**39**	*i* P	**Pn**	**14 27 00.7**	**-2.0**
TURN				*i* S	**Sn**	**14 27 32.7**	**-5.4**
TURN				IAML		14 27 37.0	
	comp=E,108nm,0.3s						
TURN				IAML		14 27 37.0	
	comp=N,79nm,0.4s						
KTHA	**Kythira Island**	**3.10**	**305**	P	**Pn**	**14 27 03.5**	**+0.5**
KTHA	**Kythira Island**	**3.10**	**305**	P

SLTI	**Sal'it**	**7.74**	**104**	Pn	**Pn**	**14 28 06.9**	**+0.2**
KZIT	**Kziot**	**7.79**	**115**	Pn	Pn	14 28 07.8	+0.4
MMA0B	**Mount Meron ar**	**7.81**	**98**	Pn	**Pn**	**14 28 08.4**	**+0.6**
MMAI	**Mount Meron Ar**	**7.81**	**98**	Pn	**Pn**	**14 28 08.2**	**+0.4**
	comp=Z,4.0nm,0.3s,baz=270,slow=11,SNR=15						
MMAI				Sn	**Sn**	**14 29 33.6**	**-1.4**
	comp=Z,14nm,0.3s,baz=261,slow=24,SNR=9.8						
AMAZ	**Amatzia**	**7.90**	**110**	Pn	**Pn**	**14 28 09.4**	**+0.4**
BR131	**Keskin Array S**	**7.91**	**47**⇓	*eP*	**Pn**	**14 28 11.5**	**+2.4**
BRTR	**Keskin Array B**	**7.91**	**47**	Pn	**Pn**	**14 28 10.5**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=218,slow=16,SNR=6.8						
BRTR				Sn	**Sn**	**14 29 35.6**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=215,slow=26,SNR=1.6						
BRTR	**Keskin Array B**	**7.91**	**47**	*i* P	**Pn**	**14 28 12.5**	**+3.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TAMRE	**El Minia**	**7.91**	**148**	P	Pn	14 28 10.4	+1.3
	baz=148						
GEM	**Giv'at Ha'Em**	**7.98**	**97**	Pn	**Pn**	**14 28 10.7**	**+0.6**
NATI	**Neve Ativ**	**8.03**	**96**	Pn	**Pn**	**14 28 11.1**	**+0.4**
HMDT	**Nahal Hemdat**	**8.12**	**103**	Pn	**Pn**	**14 28 12.4**	**+0.4**
YTIR	**Yattir**	**8.13**	**110**	Pn	**Pn**	**14 28 12.6**	**+0.5**
YTIR				Sn	Sn	14 29 38.3	-4.5
DSI	**Dead Sea**	**8.25**	**108**	Pn	Pn	14 28 14.0	+0.3
GHAJ	**Ghor Haditha**	**8.50**	**109**	Pn	**Pn**	**14 28 18.3**	**+1.1**
PRNI	**Paran**	**8.52**	**117**	Pn	Pn	14 28 17.8	+0.3
PRNI				Sn	Sn	14 29 47.7	-4.6
ZFRI	**Zfri**	**8.55**	**115**	Pn	Pn	14 28 18.3	+0.5
HRFI	**Mount Harif**	**8.71**	**118**	Pn	Pn	14 28 20.7	+0.6
EIL	**Elat**	**8.85**	**121**	Pn	Pn	14 28 22.6	+0.6
	comp=Z,0.9nm,0.3s,baz=284,slow=3.7,SNR=23						
EIL				Sn	Sn	14 29 55.9	-4.6
	comp=Z,6.1nm,0.3s,baz=38,slow=1.8,SNR=10						
EIL	**Elat**	**8.85**	**121**	Pn	Pn	14 28 22.5	+0.5
EIL				Sn	Sn	14 29 54.9	-5.6
HBST	**Basata**	**8.97**	**124**	P	Pn	14 28 24.7	+1.1
	baz=125						
ASF	**Jabal al Asfar**	**9.25**	**102**	Pn	Pn	14 28 27.2	-0.3
	comp=Z,0.4nm,0.3s,baz=230,slow=3.7,SNR=2.3						
ASF				Sn	**Sn**	**14 30 08.0**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=165,slow=23,SNR=1.6						
HDK1	**Dakhla**	**9.35**	**162**	P	Pn	14 28 30.4	+1.5
	baz=162						
AKRG	**Al Kharijah**	**9.71**	**156**	P	Pn	14 28 35.7	+1.9
	baz=156						
VAE	**Valguarnera**	**10.00**	**291**	Pn	Pn	14 28 30.7	-7.0
	comp=Z,2.0nm,0.3s,baz=95,slow=6.8,SNR=4.2						
VAE				Sn	**Sn**	**14 30 22.1**	**-6.5**
	comp=Z,1.6nm,0.3s,baz=289,slow=23,SNR=3.0						
DBRK	**Dubrovnik**	**10.30**	**325**	*e*Pn	**Pn**	**14 28 38.6**	**-3.1**
DBRK				Sn	Sn	14 30 24.5	-11
STON	**Ston**	**10.66**	**324**	Sn	Sn	14 30 33.0	-12
MAKA	**Makarska**	**11.31**	**324**	Sn	Sn	14 30 47.0	-13
HVAR	**Hvar**	**11.51**	**322**	*e*Pn	Pn	14 28 54.0	-4.3
HVAR				Sn	Sn	14 30 51.6	-14
ZIRJ	**Zirje**	**12.27**	**321**	*e*Pn	Pn	14 29 04.0	-4.6
ZIRJ				Sn	Sn	14 31 09.4	-15
MORI	**Morici**	**12.38**	**322**	*e*Pn	Pn	14 29 05.7	-4.5
MORI				Sn	Sn	14 31 13.6	-13
DUGI	**Dugi Otok**	**12.80**	**321**	*e*Pn	**Pn**	**14 29 12.1**	**-3.9**
DUGI				Sn	Sn	14 31 23.8	-13
UDBI	**Udbina**	**12.84**	**324**	*e*Pn	**Pn**	**14 29 12.8**	**-3.7**
UDBI				Sn	Sn	14 31 26.3	-12
ONI	**Oni**	**15.72**	**54**	P	**P**	**14 29 59.1**	**+0.5**
KIV	**Kislovodsk**	**15.86**	**49**	*e*P	**P**	**14 29 59.5**	**-0.8**
KIV				pmax	pmax		
	comp=Z,18nm,1.0s						
KVAR	**Kislovodsk Arr**	**15.87**	**49**	Pn	**P**	**14 30 01.3**	**+0.9**
	baz=100,slow=21,SNR=2.3						
KBZ	**Khabaz**	**15.88**	**50**	Pn	**P**	**14 30 01.3**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=238,slow=8.9,SNR=30						
KBZ	**Khabaz**	**15.88**	**50**⇓	*e*P	**P**	**14 30 00.0**	**-0.4**
ZEI	**Tsey**	**16.10**	**54**	*e*P	**P**	**14 30 03.4**	**+0.3**
ZEI				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AKASG	**Malin Array Be**	**16.34**	**7**	Pn	**Pn**	**14 30 01.8**	**-1.1**
	comp=Z,2.6nm,0.3s,baz=196,slow=11,SNR=11						
AKASG	**Malin Array Be**	**16.34**	**7**	*i* P	**P**	**14 30 04.6**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKBB	**Malin Array Si**	**16.34**	**7**⇓	*e*P	**P**	**14 30 04.4**	**-1.0**
GERES	**GERESS Array B**	**17.07**	**331**	Pn	**Pn**	**14 30 11.5**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=146,slow=13,SNR=5.3						
GERES				LR	LR	14 36 37.7	
	comp=Z,128nm,18.4s,baz=71,slow=37						
KHC	**Kasperske Hory**	**17.34**	**331**⇑	*e*P	**P**	**14 30 16.1**	**-0.5**
CLL	**Collm**	**19.32**	**334**	*e*P	**Pn**	**14 30 39.0**	**-0.6**
CLL				*e*pP	**P**	**14 30 43.0**	**+4.7**
CLL				*e*sP	**pP**	**14 30 47.0**	**-0.7**
CLL	**Collm**	**19.32**	**334**	*e*P	**Pn**	**14 30 39.0**	**-0.6**
OBN	**Obninsk**	**21.84**	**16**	*e*P	**P**	**14 31 06.6**	**+1.2**
OBN				*e*		14 31 27.9	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ESDC	**Sonseca Array**	**24.54**	**291**	P	**P**	**14 31 32.0**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=79,slow=10.0,SNR=4.7						
MDT	**Midelt**	**25.65**	**275**	LR	LR	14 42 28.3	
	comp=Z,107nm,18.8s,baz=136,slow=38						
GEYT	**Alibeck**	**25.92**	**73**	P	**P**	**14 31 46.6**	**+1.6**
	comp=Z,2.5nm,0.4s,baz=292,slow=7.8,SNR=6.5						
FINES	**FINESS Array B**	**26.96**	**360**	P	**P**	**14 31 52.8**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=166,slow=11,SNR=13						
KLMR	**Klimovskoe**	**27.74**	**14**	*e*P	**P**	**14 31 59.4**	**-1.7**
KLMR				pmax	pmax		
	comp=Z,13nm,1.2s						
KLMR	**Klimovskoe**	**27.74**	**14**	*e*P	**P**	**14 31 59.4**	**-1.7**
KLMR				AMP		14 32 10.7	
	comp=Z,13nm,1.2s						
AKTO	**Aktyubinsk**	**28.09**	**46**	P	**P**	**14 32 05.0**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=291,slow=14,SNR=4.0						
AKTO	**Aktyubinsk**	**28.09**	**46**	P	**P**	**14 32 05.0**	**+0.6**
NOA	**NORSAR Array B**	**28.25**	**345**	P	**P**	**14 32 04.1**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=40,slow=23,SNR=1.4						
EKA	**Eskdalemuir Ar**	**29.07**	**325**	P	**P**	**14 32 12.1**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=120,slow=10.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**30.74**	**232**	P	**P**	**14 32 29.8**	**+1.6**
	comp=Z,0.7nm,0.5s,baz=32,slow=8.6,SNR=8.4						
ARCES	**ARCESS Array B**	**35.09**	**360**	P	**P**	**14 33 04.2**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=178,slow=8.1,SNR=10						
BRVK	**Borovoye**	**36.14**	**45**⇓	*i* P	**P**	**14 33 16.2**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
AAK	**Ala-Archa**	**38.19**	**63**⇑	*e*P	**P**	**14 33 34.5**	**+1.9**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
DBIC	**Dimbokro**	**39.84**	**233**	P	**P**	**14 33 46.5**	**+0.2**
	comp=Z,3.5nm,0.9s,baz=72,slow=9.6,SNR=1.8						
KURK	**Kurchatov**	**40.94**	**50***c*	*i* P	**P**	**14 33 56.5**	**+1.4**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**43.43**	**56**	P	**P**	**14 34 17.1**	**+1.5**
	comp=Z,1.8nm,0.5s,baz=276,slow=6.9,SNR=28						
MKAR	**Makanchi Array**	**43.43**	**56**	*i* P	**P**	**14 34 17.2**	**+1.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**44.85**	**46**	P	**P**	**14 34 27.4**	**+0.6**
	comp=Z,3.8nm,0.4s,baz=265,slow=8.5,SNR=20						
DGZ	**Jazzator, Alta**	**46.62**	**52**⇓	*e*P	**P**	**14 34 42.8**	**+1.8**
DGZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**59.25**	**51**	P	**P**	**14 36 15.4**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=288,slow=9.9,SNR=4.6						
SCHQ	**Schefferville**	**64.23**	**320**	P	**P**	**14 36 47.7**	**+0.3**
	comp=Z,4.0nm,0.5s,baz=129,slow=1.8,SNR=6.0						
BILL	**Bilibino**	**73.49**	**15**	*e*P	**P**	**14 37 42.9**	**-1.7**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**76.70**	**45**	P	**P**	**14 38 04.4**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=329,slow=4.7,SNR=4.3						
YKA	**Yellowknife Ar**	**78.33**	**343**	P	**P**	**14 38 12.6**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=24,slow=4.9,SNR=3.9						
ILAR	**Eielson Array**	**80.91**	**357**	P	**P**	**14 38 26.6**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=338,slow=4.3,SNR=4.3						

*JMA **14** 14:40:44.6±0.2,30.°1N×139.°13E,h444km±4km,M3.9*
*IDC **14** 14:40:45.8±0.8,30.°15N×138.°80E,h416km±7km,mb3.5/21, mb1 3.6/27,mb1mx3.6/35,mbtmp4.3/27,Error ellipse: s-maj=12.4km s-min=9.1km az=90.0*
*NEIC **14** 14:40:46.0±1.6,30.°13N±0.°07×138.°7E±0.°1,h420km±6km, mb4.4/54,Error ellipse: s-maj=15.5km s-min=9.1km az=112.0*
ISC 14 14:40:45.7±0.6,30.°15N±0.°05×138.°87E±0.°06,h419km±6km,

n144,σ1§28/162,mb4.2/45,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHCJ	**Hachijojimakas**	**3.02**	**15**	P	**P**	**14 41 51.7**	**+1.3**
JHCJ				*e*S	**S**	**14 42 43.2**	**+0.2**
JHJ	**Hachijo jima 2**	**3.06**	**14**	P	**P**	**14 41 51.5**	**+0.7**
	66nm,0.3s,baz=77,slow=23,SNR=24						
JHJ				S	**S**	**14 42 42.6**	**-1.1**
	59nm,0.3s,baz=39,slow=23,SNR=6.6						
JHJ2	**Mitsune**	**3.06**	**15**	P	**P**	**14 41 52.0**	**+1.3**
JHJ2				*e*S	**S**	**14 42 43.8**	**+0.2**
JHJ2	**Mitsune**	**3.06**	**15**	P	**P**	**14 41 52.3**	**+1.6**
TK01	**Tokai 1**	**3.77**	**343**	*e*S	**S**	**14 42 57.4**	**+3.5**
JMKN	**Mikurajimanish**	**3.78**	**9**	P	**P**	**14 41 57.8**	**+1.0**
JMKN				*e*S	**S**	**14 42 52.2**	**-2.6**
CBIJ	**Chichi jima**	**4.21**	**135**	P	**P**	**14 42 00.0**	**-0.9**
CBIJ				*e*S	**S**	**14 42 58.4**	**-3.7**
JCJ	**Chichijima**	**4.21**	**135**	P	**P**	**14 42 00.1**	**-0.8**
JTNC	**Tanabenakahech**	**4.59**	**324**	P	**P**	**14 42 06.5**	**+2.1**
JIE	**Ise**	**4.61**	**337**	P	**P**	**14 42 07.5**	**+3.0**
JIE				*e*S	**S**	**14 43 11.8**	**+2.8**
BSO1	**Boso 1**	**4.83**	**21**	P	**P**	**14 42 06.8**	**+0.7**
BSO1				*e*S	**S**	**14 43 10.9**	**-1.0**
JOD2	**Odawara 2**	**5.10**	**2**	P	**P**	**14 42 10.0**	**+0.6**
JOD2				*e*S	**S**	**14 43 17.1**	**-0.8**
INU	**Inuyama**	**5.42**	**344**		**P**	**14 42 13.6**	**+1.1**
JRY	**Ryogami san**	**5.85**	**0**	P	**P**	**14 42 18.0**	**+0.8**
JRY				*e*S	**S**	**14 43 29.1**	**-3.0**
MJAR	**Matsushiro Arr**	**6.40**	**355**	P	**P**	**14 42 23.0**	**+0.1**
	0.8nm,0.3s,baz=100,slow=10,SNR=72						
MJAR				S	**S**	**14 43 40.8**	**-2.0**
	0.1nm,0.3s,baz=50,slow=18,SNR=2.5						
MJAR	**Matsushiro Arr**	**6.40**	**355**	P	**P**	**14 42 22.9**	**-0.1**
MAJO	**Matsushiro**	**6.40**	**355**		**P**	**14 42 23.7**	**+0.7**
MAT	**Matsushiro**	**6.40**	**355**	P	**P**	**14 42 23.1**	**+0.1**
MAT				S	**S**	**14 43 41.4**	**-1.4**
MJB9	**Matsu-Tunnel**	**6.41**	**355**		**P**	**14 42 23.7**	**+0.7**
JHS	**Saijyo**	**6.86**	**316**	P	**P**	**14 42 30.5**	**+2.1**
JHS				*e*S	**S**	**14 43 53.9**	**+2.0**
JNU	**Nakatsue**	**7.43**	**296**	P	**P**	**14 42 35.9**	**+1.1**
	0.6nm,0.3s,baz=10,slow=3.6,SNR=9.2						
JNU	**Nakatsue**	**7.43**	**296**	P	**P**	**14 42 35.6**	**+0.8**
JSJ	**Shimokoshiki**	**8.02**	**283**	P	**P**	**14 42 42.7**	**+1.6**
JMK	**Ichinoseki**	**8.99**	**12**	P	**P**	**14 42 52.0**	**+0.3**
JMK				*e*S	**S**	**14 44 31.7**	**-3.8**
JTU	**Tsushima**	**9.12**	**301**	P	**P**	**14 42 55.2**	**+2.0**
JOT	**Ohata**	**11.35**	**8**	P	**P**	**14 43 19.5**	**+1.9**
KSRS	**Korea Array**	**11.66**	**312**	P	**P**	**14 43 22.1**	**+1.1**
	0.7nm,0.3s,baz=125,slow=11,SNR=56						
KSAR	**Wonju Array Be**	**11.68**	**311**	P	**P**	**14 43 17.9**	**-3.4**
KS19	**Wonju Array Si**	**11.72**	**312**	P	**P**	**14 43 21.8**	**-0.1**
JKB	**Kayabe**	**11.84**	**8**	P	**P**	**14 43 24.7**	**+1.7**
JOSM	**Okushiri--Mats**	**11.92**	**2**	P	**P**	**14 43 25.5**	**+1.6**
ERM	**Erimo**	**12.34**	**15**	P	**P**	**14 43 31.1**	**+2.6**
ASAJ	**Asahikawa**	**14.25**	**11**	P	**P**	**14 43 51.5**	**+2.2**
	1.9nm,0.3s,baz=227,slow=11,SNR=26						
JKA	**Kamikawa-asahi**	**14.25**	**11**	P	**P**	**14 43 51.5**	**+2.2**
JKA	**Kamikawa-asahi**	**14.25**	**11**	P	**P**	**14 43 51.8**	**+2.5**
USA0B	**Ussuriysk Arra**	**15.05**	**341**	P	**P**	**14 43 57.6**	**-0.3**
USA0B				IAmb	IAmb	14 44 02.9	
	comp=Z,40nm,1.9s						
USRK	**Ussuriysk Ar.**	**15.05**	**341**	P	**P**	**14 43 59.0**	**+1.1**
	baz=161,slow=7.8,SNR=12						
USRK	**Ussuriysk Ar.**	**15.05**	**341**	P	**P**	**14 43 57.1**	**-0.9**
YOJ	**Yonaguni jima**	**15.19**	**252**	P	**P**	**14 43 58.4**	**-1.3**
MDJ	**Mudanjiang**	**16.20**	**336**	P	**P**	**14 44 08.7**	**-1.6**
MDJ				IAmb	IAmb	14 44 32.9	
	comp=Z,6.6nm,1.1s						
YHNB	**Yeheng**	**16.46**	**255**	P	**P**	**14 44 11.1**	**-2.3**
NACB	**Ninganchiao**	**16.48**	**253**	P	**P**	**14 44 11.0**	**-2.5**
NACB				IAmb	IAmb	14 44 14.7	
	comp=Z,21nm,0.9s						
YSS	**Yuzh-Sakhalins**	**17.05**	**9**	P	**P**	**14 44 20.8**	**+1.5**
YULB	**Yu-li**	**17.07**	**251**	P	**P**	**14 44 17.9**	**-1.9**
SSLB	**Suanglung**	**17.18**	**253**	P	**P**	**14 44 20.1**	**-0.9**
SSLB				IAmb	IAmb	14 44 30.5	
	comp=Z,58nm,1.6s						
GUMO	**Guam**	**17.39**	**160**	P	**P**	**14 44 24.6**	**+1.4**
TWG	**Pinlang**	**17.52**	**250**	P	**P**	**14 44 25.8**	**+1.2**
XAN	**Xi'an**	**25.63**	**287**	P	**P**	**14 45 39.1**	**-0.6**
XAN				pmax	pmax		
	comp=Z,21nm,0.9s						
XAN	**Xi'an**	**25.63**	**287**	P	**P**	**14 45 38.7**	**-1.0**
XAN				IAmb	IAmb	14 45 39.9	
	comp=Z,13nm,0.7s						
PETK	**Petropavlovsk-**	**26.75**	**26**	P	**P**	**14 45 50.9**	**+1.6**
	comp=Z,1.3nm,0.5s,baz=66,slow=2.2,SNR=8.2						
ULN	**Ulaanbaatar**	**30.11**	**315**	P	**P**	**14 46 18.7**	**-0.5**
ULN				IAmb	IAmb	14 46 20.5	
	comp=Z,8.9nm,1.2s						
SONM	**Songino Array**	**30.50**	**315**	P	**P**	**14 46 22.5**	**0.0**
	comp=Z,1.5nm,0.4s,baz=122,slow=8.4,SNR=7.2						
SONM	**Songino Array**	**30.50**	**315**	P	**P**	**14 46 22.3**	**-0.2**
MA2	**Magadan**	**30.51**	**12**	P	**P**	**14 46 22.5**	**+0.3**
GTA	**Gaotai**	**33.17**	**297**	*e*P	**P**	**14 46 45.3**	**-0.3**
GTA				pmax	pmax		
	comp=Z,15nm,0.9s						
CHTO	**Chiang Mai**	**37.88**	**262**	P	**P**	**14 47 25.0**	**-0.1**
CHTO				IAmb	IAmb	14 47 25.8	
	comp=Z,11nm,0.7s						
CMAR	**Chiang Mai Arr**	**38.03**	**261**	P	**P**	**14 47 26.6**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=57,slow=6.3,SNR=20						
ADK	**Adak**	**39.15**	**43**	P	**P**	**14 47 35.1**	**0.0**
ATKA	**Atka Island**	**40.72**	**44**	P	**P**	**14 47 48.7**	**+0.9**
TIXI	**Tiksi**	**41.91**	**355**	P	**P**	**14 47 57.1**	**+0.1**
SOEI	**Soe**	**42.09**	**202**	P	**P**	**14 47 58.6**	**-0.7**
SOEI				IAmb	IAmb	14 48 04.1	
	comp=Z,25nm,1.1s						
MTN	**Manton Dam**	**43.39**	**191**	P	**P**	**14 48 09.6**	**+0.1**
MTN				IAmb	IAmb	14 48 11.1	
	comp=Z,72nm,1.5s						
KULM	**Kulim**	**43.67**	**243**	P	**P**	**14 48 11.7**	**0.0**
KULM				IAmb	IAmb	14 48 43.3	
	comp=Z,30nm,1.4s						
NIKH	**Nikolski High**	**44.07**	**43**	P	**P**	**14 48 15.4**	**+1.1**
NIKH				IAmb	IAmb	14 49 59.6	
	comp=Z,34nm,1.1s						
TAPN	**Taplejung**	**44.64**	**280**	*e*P	**P**	**14 48 19.7**	**+0.1**
ODAN	**Odare**	**45.05**	**279**	*e*P	**P**	**14 48 22.8**	**+0.1**
ZAA0	**Zalesovo Array**	**45.28**	**318**	P	**P**	**14 48 23.4**	**-0.4**
ZALV	**Zalesovo Beam**	**45.28**	**318**	P	**P**	**14 48 23.6**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=101,slow=8.0,SNR=12						
ZALV				PcP	**PcP**	**14 49 54.8**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=112,slow=2.2,SNR=6.3						
ZALV				ScP	**ScP**	**14 53 05.5**	**-1.6**
	comp=Z,0.2nm,0.4s,baz=98,slow=11,SNR=3.8						
ZALV	**Zalesovo Beam**	**45.28**	**318**	P	**P**	**14 48 22.4**	**-1.3**
ZALV					**PcP**	**14 49 55.1**	**-0.1**
RAMN	**Ramite**	**45.70**	**279**	*e*P	**P**	**14 48 27.9**	**+0.1**
JIRN	**Jiri**	**45.85**	**281**	*e*P	**P**	**14 48 29.4**	**+0.4**
	comp=Z,63nm,0.4s						
GUN	**Gumba**	**46.05**	**281**	*e*P	**P**	**14 48 30.8**	**+0.3**
AKUT	**Akutan**	**46.07**	**42**	P	**P**	**14 48 30.8**	**+1.0**
MK31	**Makanchi Array**	**46.30**	**308**	P	**P**	**14 48 30.4**	**-1.4**
MKAR	**Makanchi Array**	**46.30**	**308**	P	**P**	**14 48 31.6**	**-0.1**
	comp=Z,3.6nm,0.7s,baz=92,slow=9.4,SNR=44						
MKAR				PcP	**PcP**	**14 49 58.5**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=78,slow=4.7,SNR=10						
MKAR				ScP	**ScP**	**14 53 10.7**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=79,slow=6.3,SNR=5.1						
MAKZ	**Makanchi**	**46.52**	**308**	P	**P**	**14 48 32.7**	**-0.7**
PKI	**Pulchoki**	**46.54**	**281**	*e*P	**P**	**14 48 34.1**	**-0.2**
PKIN	**Phulchoki**	**46.55**	**281**	*e*P	**P**	**14 48 34.0**	**-0.3**
	comp=Z,5.3nm,0.4s						
KNRA	**Kununurra**	**46.59**	**193**	P	**P**	**14 48 33.7**	**-0.5**
KNRA				IAmb	IAmb	14 50 22.5	
	comp=Z,54nm,1.4s						
KKN	**Kakani**	**46.59**	**281**	*e*P	**P**	**14 48 34.5**	**0.0**
DMN	**Daman**	**46.79**	**281**	*e*P	**P**	**14 48 35.9**	**-0.2**
	comp=Z,7.7nm,0.3s						
GKN	**Gorkha**	**47.08**	**282**	*e*P	**P**	**14 48 38.3**	**+0.2**
	comp=Z,13nm,0.3s						
DANN	**Dangsing**	**47.72**	**282**	*e*P	**P**	**14 48 43.7**	**+0.5**
	comp=Z,38nm,0.6s						
KOLN	**Koldanda**	**48.02**	**282**	*e*P	**P**	**14 48 45.4**	**0.0**
	comp=Z,48nm,0.8s						
PYUN	**Piuthan**	**48.45**	**282**	*e*P	**P**	**14 48 48.7**	**+0.1**
	comp=Z,102nm,0.4s						
GSI	**Gunungsitoli**	**48.56**	**242**	P	**P**	**14 48 48.9**	**-0.3**
GSI				IAmb	IAmb	14 48 50.2	
	comp=Z,22nm,0.6s						
NRIK	**Noril'sk**	**48.75**	**338**	P	**P**	**14 48 50.4**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=110,slow=12,SNR=3.6						
KURK	**Kurchatov**	**48.78**	**313**	P	**P**	**14 48 49.8**	**-0.6**
KURK				IAmb	IAmb	14 48 50.9	
	comp=Z,7.3nm,0.9s						
WB0	**Warramunga Arr**	**49.81**	**186**	P	**P**	**14 48 58.4**	**-0.1**
WB2	**Warramunga Arr**	**49.99**	**186**	P	**P**	**14 48 60.0**	**+0.2**
WB2				IAmb	IAmb	14 50 06.7	
	comp=Z,23nm,1.6s						
WR0	**Warramunga Arr**	**49.99**	**185**	P	**P**	**14 48 59.8**	**0.0**
WR0				IAmb	IAmb	14 49 17.4	
	comp=Z,36nm,1.8s						
WRA	**Warramunga Arr**	**49.99**	**186**	P	**P**	**14 48 59.8**	**0.0**
	comp=Z,2.0nm,0.5s,baz=2.3,slow=6.1,SNR=57						
WRA				PcP	**PcP**	**14 50 13.2**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=360,slow=3.9,SNR=5.4						
WRA	**Warramunga Arr**	**49.99**	**186**	P	**P**	**14 48 59.6**	**-0.2**
WRA					**PcP**	**14 50 13.4**	**+0.8**
KDJ	**Kajisay**	**50.24**	**302**	P	**P**	**14 49 00.2**	**-1.5**
KDJ				IAmb	IAmb	14 49 02.3	
	comp=Z,4.2nm,0.5s						
ULHL	**Ulahol**	**50.92**	**302**	P	**P**	**14 49 07.1**	**+0.4**
	SNR=6.4						
BOOM	**Boomskoye usch**	**51.11**	**302**	IAmb	IAmb	14 49 09.1	
	comp=Z,5.7nm,0.7s						
TKM2	**Tokmak 2**	**51.30**	**303**	P	**P**	**14 49 10.1**	**+0.6**
	SNR=6.8						
KSH	**Kashi**	**51.54**	**298**	*e*P	**P**	**14 49 13.8**	**+2.6**
KZA	**Kyzart**	**51.68**	**302**	P	**P**	**14 49 13.7**	**+1.2**
	SNR=6.2						
AAK	**Ala-Archa**	**52.15**	**303**	P	**P**	**14 49 15.4**	**-0.2**
UCH	**Uchtor**	**52.20**	**302**	P	**P**	**14 49 16.8**	**+0.5**
	SNR=8.2						
SVW2	**Sparrevohn**	**52.34**	**34**	P	**P**	**14 49 18.8**	**+2.3**
SVW2				IAmb	IAmb	14 51 12.2	
	comp=Z,28nm,1.7s						
AML	**Almayashu**	**52.81**	**302**	P	**P**	**14 49 21.5**	**+0.8**
	SNR=14						
IMAR	**Indian Mountai**	**53.68**	**28**	P	**P**	**14 49 27.3**	**+1.3**
AS31	**Alice Springs**	**53.72**	**186**	P	**P**	**14 49 26.9**	**+0.1**
ASAR	**Alice Springs**	**53.72**	**186**	P	**P**	**14 49 26.9**	**0.0**
	comp=Z,1.9nm,0.5s,baz=359,slow=5.9,SNR=90						
ASAR				PcP	**PcP**	**14 50 27.7**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=1.5,slow=3.9,SNR=2.7						
ASAR	**Alice Springs**	**53.72**	**186**	P	**P**	**14 49 26.5**	**-0.4**
KDAK	**Kodiak Island**	**53.72**	**38**	P	**P**	**14 49 27.5**	**+1.1**
	comp=Z,19nm,1.3s,baz=306,slow=3.2,SNR=9.1						
KDAK	**Kodiak Island**	**53.72**	**38**	P	**P**	**14 49 27.9**	**+1.5**
BRVK	**Borovoye**	**53.90**	**316**	P	**P**	**14 49 26.4**	**-1.4**
PPLA	**Purkeypile**	**54.07**	**32**	P	**P**	**14 49 31.3**	**+2.3**
PPLA				IAmb	IAmb	14 50 31.3	
	comp=Z,20nm,1.4s						
KK31	**Karatay Array**	**54.96**	**304**	IAmb	IAmb	14 49 36.4	
	comp=Z,12nm,0.8s						
KKAR	**Karatay Array**	**54.96**	**304**	P	**P**	**14 49 35.9**	**+0.3**
**K

comp=Z,5.2nm,1.1s
NOA NORSAR Array B 27.03 42 LR LR 15 26 56.2
comp=Z,38nm,20.7s,baz=255,slow=34
CASP Castiglione de 27.42 83 P P 15 17 38.5 +0.6
CASP IAmb IAmb 15 17 44.9
comp=Z,13nm,0.9s
GERES GERESS Array B 27.79 69 P P 15 17 40.7 -0.4
comp=Z,0.2nm,0.4s,baz=306,slow=8.4,SNR=1.9
GERES LR LR 15 28 18.2
comp=Z,163nm,18.2s,baz=270,slow=36
G65A Princeton 27.86 283 P P 15 17 42.1 +0.5
KEST Kesra 29.44 97 LR LR 15 28 30.0
comp=Z,271nm,19.9s,baz=278,slow=34
VRAC Vranov 29.58 67 LR LR 15 29 43.8
comp=Z,231nm,18.2s,baz=265,slow=36
HRV Adam Dziewonsk 31.46 280 P P 15 18 13.5 -0.1
FINES FINESS Array B 34.17 43 P P 15 18 36.7 -0.4
KSPA Keystone Colle 34.72 280 P P 15 18 41.9 -0.2
P60A Greenville 35.37 278 P P 15 18 47.8 +0.2
P60A IAmb IAmb 15 18 50.6
comp=Z,8.3nm,0.9s
MLR Muntele Rosu 36.72 71 LR LR 15 34 55.7
comp=Z,140nm,18.6s,baz=298,slow=38
AKASG Malin Array Be 37.22 62 P P 15 19 02.4 -0.9
comp=Z,0.8nm,0.7s,baz=279,slow=9.0,SNR=5.7
AKASG LR LR 15 35 29.4
comp=Z,67nm,18.2s,baz=285,slow=38
TOA0 Torodi Ar. Sit 40.95 134 P P 15 19 35.2 +0.4
TOA0 IAmb IAmb 15 19 38.0
comp=Z,12nm,1.2s
TORD Torodi Ar. Bea 40.95 134 P P 15 19 35.8 +1.0
comp=Z,6.7nm,0.9s,baz=330,slow=8.0,SNR=21
TORD LR LR 15 35 36.3
comp=Z,248nm,18.1s,baz=290,slow=35
TORD Torodi Ar. Bea 40.95 134 P P 15 19 36.3 +1.4
DBIC Dimbokro 43.75 146 LR LR 15 36 52.4
comp=Z,157nm,18.7s,baz=320,slow=34
BRTR Keskin Array B 44.29 75 P P 15 20 03.3 +1.3
comp=Z,1.4nm,1.0s,baz=271,slow=7.1,SNR=5.4
BRTR LR LR 15 40 37.7
comp=Z,38nm,18.4s,baz=257,slow=39
BRTR Keskin Array B 44.29 75 P P 15 20 02.0 0.0
ULM Lac du Bonnet 44.42 301 LR LR 15 36 33.6
comp=Z,100nm,20.8s,baz=14,slow=33
KBZ Khabaz 48.46 66 LR LR 15 42 07.4
comp=Z,66nm,18.7s,baz=354,slow=38
AKTO Aktyubinsk 54.15 52 LR LR 15 43 34.7
comp=Z,32nm,19.1s,baz=2.7,slow=35
ABKAR Akbulak array 55.83 52 P P 15 21 23.2 -6.0
BOZ Bozeman (W) 55.94 303 P P 15 21 30.4 +0.1
BOZ IAmb IAmb 15 21 34.0
comp=Z,2.5nm,0.9s
BW06 Boulder Array 56.25 299 P P 15 21 30.3 -2.4
BW06 IAmb IAmb 15 21 35.4
comp=Z,4.8nm,1.5s
PDAR Pinedale Array 56.25 299 P P 15 21 32.5 -0.2
comp=Z,2.8nm,1.2s,baz=61,slow=7.3,SNR=6.7
PDAR LR LR 15 44 04.9
comp=Z,137nm,20.2s,baz=45,slow=34
PDAR Pinedale Array 56.25 299 P P 15 21 31.2 -1.5
TPAW Teton Pass 56.70 300 P P 15 21 35.6 -0.3
TPAW IAmb IAmb 15 21 47.6
comp=Z,3.8nm,1.1s
ROSC El Rosal 57.60 239 LR LR 15 43 55.6
comp=Z,43nm,20.8s,baz=82,slow=33
ILAR Eielson Array 59.97 334 P P 15 21 58.6 +0.5
comp=Z,0.8nm,0.9s,baz=36,slow=6.8,SNR=6.5
TXAR Lajitas Array 60.35 283 P P 15 22 01.7 +0.4
comp=Z,0.5nm,0.9s,baz=78,slow=8.4,SNR=4.4
TXAR LR LR 15 47 53.7
comp=Z,230nm,19.8s,baz=0.0,slow=36
IMAR Indian Mountai 61.01 338 P P 15 22 04.2 -0.9
GEYT Alibeck 61.27 64 P P 15 22 07.8 +0.4
comp=Z,1.3nm,0.8s,baz=261,slow=7.2,SNR=2.1
GEYT Alibeck 61.27 64 IAmb IAmb 15 22 10.6
comp=Z,1.5nm,1.0s
NVAR Mina Array Bea 64.17 299 P P 15 22 26.7 -0.3
comp=Z,0.2nm,0.6s,baz=40,slow=4.7,SNR=4.2
NVAR Mina Array Bea 64.17 299 P P 15 22 26.2 -0.8
ZALV Zalesovo Beam 65.09 37 P P 15 22 32.7 +0.3
comp=Z,0.3nm,0.3s,baz=270,slow=6.6,SNR=2.1
MKAR Makanchi Array 69.01 44 P P 15 22 58.4 +0.9
comp=Z,1.0nm,0.7s,baz=326,slow=6.0,SNR=14
MKAR Makanchi Array 69.01 44 P P 15 22 57.3 -0.2
SONM Songino Array 78.26 30 P P 15 23 52.6 +0.7
comp=Z,1.1nm,1.0s,baz=318,slow=3.9,SNR=4.2
SONM Songino Array 78.26 30 IAmb IAmb 15 23 59.5
comp=Z,1.4nm,1.1s
BOSA Boshof 88.28 136 LR LR 16 03 06.9
comp=Z,45nm,18.1s,baz=44,slow=35
VNDA Vanda 148.10 184 PKPbc PKPbc 15 31 35.5 -0.8
comp=Z,2.9nm,0.7s,baz=86,slow=3.8,SNR=16
WRA Warramunga Arr 150.06 36 PKPbc PKPbc 15 31 42.3 -0.7
comp=Z,1.9nm,1.1s,baz=350,slow=3.4,SNR=4.3
WRA PKPab PKPab 15 31 49.9 +1.1
comp=Z,0.8nm,0.8s,baz=219,slow=2.3,SNR=4.8
ASAR Alice Springs 153.16 40 PKPbc PKiKP 15 31 50.5 +0.3
comp=Z,0.5nm,0.7s,baz=331,slow=1.6,SNR=8.5
ASAR PKPab PKPab 15 32 00.5 -1.2
comp=Z,1.5nm,0.8s,baz=323,slow=3.4,SNR=13

*IDC **14** 15:27:25.3±1.4, 10.°17S×90.°91E, h0km, mb4.1/14, mb1 4.1/14, mb1mx3.9/48, mbtmp4.1/14, Error ellipse: s-maj=42.1km s-min=20.6km az=41.0*
*NEIC **14** 15:27:26.7±1.5, 10.°25S±0.°1×91.°1E±0.°2, h10km±2km, mb4.5/9, Error ellipse: s-maj=26.8km s-min=22.2km az=247.0*
ISC 14 15:27:27.3±1.1, 10.°1S±0.°2×91.°1E±0.°2, h10km, n28, σ0.°69/23, mb4.3/16, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	Gunungsitoli	13.02	30	Pn	Pn	15 30 31.6	-0.9
H08S2	Diego Garcia H	18.53	276	T	T	15 50 40.0	
	baz=98,slow=74						
H08S3	Diego Garcia H	18.54	276	T	T	15 50 40.0	
	baz=98,slow=74						
H08S1	Diego Carcia H	18.55	276	T	T	15 50 39.2	
	baz=98,slow=74						
CMAR	Chiang Mai Arr	29.39	15	P	P	15 33 31.6	+0.7
	1.0nm,0.7s,baz=200,slow=8.5,SNR=6.6						
WRA	Warramunga Arr	42.81	108	P	P	15 35 26.1	+0.4
	1.1nm,1.1s,baz=279,slow=10,SNR=4.8						
WRAB	Tennant Creek	42.81	108	P	P	15 35 20.2	-5.6
WRAB				IAmb	IAmb	15 36 27.1	
	comp=Z,12nm,1.1s						
WB2	Warramunga Arr	42.82	108		P	15 35 24.8	-1.0
ASAR	Alice Springs	42.98	114	P	P	15 35 27.6	+0.5
	comp=Z,1.1nm,0.7s,baz=283,slow=7.9,SNR=17						
AS31	Alice Springs	42.98	114	P	P	15 35 26.6	-0.5
KKAR	Karatay Array	56.15	342	P	P	15 37 07.8	+0.6
MKAR	Makanchi Array	57.15	353	P	P	15 37 13.7	-0.5
	comp=Z,0.7nm,0.6s,baz=185,slow=7.9,SNR=4.3						
KSRS	Korea Array	58.53	34	P	P	15 37 24.7	+0.6
	comp=Z,0.8nm,0.5s,baz=231,slow=7.7,SNR=7.5						
SONM	Songino Array	59.23	12	P	P	15 37 29.5	+0.6
	comp=Z,2.2nm,0.8s,baz=187,slow=9.1,SNR=8.9						
SONM	Songino Array	59.23	12	P	P	15 37 27.6	-1.3
KURK	Kurchatov	61.50	351	P	P	15 37 43.9	-0.3
KURK				IAmb	IAmb	15 37 45.6	
	comp=Z,3.8nm,1.1s						
ZALV	Zalesovo Beam	63.99	356	P	P	15 38 01.1	+0.4
	comp=Z,5.7nm,0.9s,baz=177,slow=5.9,SNR=16						
ZALV	Zalesovo Beam	63.99	356	P	P	15 38 00.9	+0.2
ABKAR	Akbulak array	65.10	338	P	P	15 38 08.7	+0.6
USRK	Ussuriysk Ar.	65.50	31	P	P	15 38 11.5	+0.7
	comp=Z,4.0nm,0.6s,baz=235,slow=5.2,SNR=16						
USRK	Ussuriysk Ar.	65.50	31	P	P	15 38 11.9	+1.0
AKTO	Aktyubinsk	66.78	338	P	P	15 38 18.8	-0.1
	comp=Z,2.3nm,0.8s,baz=190,slow=5.6,SNR=4.7						
ARU	Arti	71.53	342	P	P	15 38 48.2	0.0
	comp=Z,0.4nm,0.2s,baz=136,slow=17,SNR=4.7						
ARU	Arti	71.53	342	IAmb	IAmb	15 39 02.7	
	comp=Z,6.9nm,1.4s						
BRTR	Keskin Array B	72.66	317	P	P	15 38 54.8	-0.8
	comp=Z,0.6nm,0.7s,baz=145,slow=7.3,SNR=3.5						
NRIK	Noril'sk	79.25	359	P	P	15 39 32.6	+0.2
	comp=Z,2.4nm,0.6s,baz=162,slow=2.3,SNR=6.2						
AKASG	Malin Array Be	80.72	325	P	P	15 39 40.2	-0.5
	comp=Z,0.3nm,0.4s,baz=99,slow=4.8,SNR=1.9						
FINES	FINESS Array B	87.27	334	P	P	15 40 13.9	0.0
	comp=Z,3.5nm,1.0s,baz=104,slow=16,SNR=4.9						

IDC 14 15:56:18.9±4.4, 24.°80N×95.°28E, h52km±43km, mb3.2/6, mb1 3.4/7, mb1mx3.2/42, mbtmp3.5/7, ML4.1/1, MS2.8/2, Ms1 2.9/2, ms1mx2.5/20, Error ellipse: s-maj=74.2km s-min=19.9km az=52.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	7.17	151	P	Pn	15 58 01.2	0.0
	0.8nm,0.3s,baz=328,slow=13,SNR=13						
CMAR				LR	LR	16 01 15.3	
	comp=Z,31nm,18.5s,baz=305,slow=41						
MKAR	Makanchi Array	24.28	338	P	P	16 01 31.4	+0.1
	1.0nm,0.6s,baz=153,slow=9.2,SNR=15						
KBZ	Khabaz	46.41	308	LR	LR	16 26 48.2	
	comp=Z,27nm,18.6s,baz=162,slow=39						
BRTR	Keskin Array B	53.24	302	P	P	16 05 32.3	-0.2
	0.3nm,0.5s,baz=105,slow=7.2,SNR=2.3						
AKASG	Malin Array Be	56.19	316	P	P	16 05 53.0	-0.4
	0.3nm,0.4s,baz=67,slow=6.3,SNR=2.3						
WRA	Warramunga Arr	58.50	136	P	P	16 06 09.9	-0.2
	0.6nm,1.0s,baz=319,slow=7.6,SNR=2.2						
ASAR	Alice Springs	61.02	139	P	P	16 06 27.4	0.0
	0.4nm,0.9s,baz=321,slow=6.5,SNR=5.6						
TORD	Torodi Ar. Bea	87.77	283	P	P	16 09 03.2	+0.3
	0.2nm,0.6s,baz=56,slow=5.0,SNR=1.0						

*IDC **14** 16:00:45.1±6.9, 18.°00S×178.°16W, h559km±65km, mb3.1/6, mb1 3.3/7, mb1mx3.0/28, mbtmp4.1/7, Error ellipse: s-maj=70.4km s-min=24.9km az=117.0*
ISC 14 16:00:48.1±2.2, 18.°0S±0.°4×178.°2W±0.°4, h600km, n9, σ0.°57/11, mb3.6/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	14.93	252	P	P	16 03 55.3	-0.6
	0.6nm,0.3s,baz=145,slow=20,SNR=12						
STKA	Stephens Creek	38.70	241	P	P	16 07 22.7	+0.4
	1.5nm,0.5s,baz=100,slow=10,SNR=10						
WRA	Warramunga Arr	44.76	260	P	P	16 08 09.7	-0.3
	0.6nm,0.5s,baz=97,slow=7.4,SNR=14						
WRA				PcP	PcP	16 09 39.7	+0.7
	0.3nm,0.6s,baz=90,slow=3.5,SNR=1.8						
ASAR	Alice Springs	44.91	254	P	P	16 08 11.2	+0.1
	3.5nm,0.6s,baz=88,slow=8.7,SNR=73						
ASAR				PcP	PcP	16 09 40.0	+0.6
	0.4nm,0.6s,baz=107,slow=4.2,SNR=6.1						
MJAR	Matsushiro Arr	68.11	323	P	P	16 10 49.8	+0.3
	0.9nm,0.4s,baz=142,slow=5.4,SNR=9.8						
PETK	Petropavlovsk-	73.85	345	P	P	16 11 23.0	+0.4
	1.0nm,0.6s,baz=118,slow=9.4,SNR=6.4						
ILAR	Eielson Array	85.98	13	P	P	16 12 25.2	-0.3
	0.4nm,0.4s,baz=227,slow=4.2,SNR=6.5						
BRTR	Keskin Array B	144.99	315	PKPbc	PKPab	16 19 19.9	-0.5
	0.4nm,0.6s,baz=100,slow=2.1,SNR=2.3						
GERES	GERESS Array B	147.78	345	PKPbc	PKiKP	16 19 27.2	-0.7
	0.7nm,0.6s,baz=352,slow=3.0,SNR=7.5						

*GUC **14** 16:11:30.2±0.6, 30.°37S×71.°27W, h49km±4km, ML3.8*
*SJA **14** 16:11:30.5±0.6, 30.°26S×71.°44W, h32km±2km, ML3.7, MW3.9*
ISC 14 16:11:30.0±1.7, 30.°26S±0.°03×71.°52W±0.°06, h17km±11km, n29, σ1.°38/36, 2C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO04	Tololo Observa	0.63	82	i P	Pg	16 11 42.5	0.0
GO04				i S	Sg	16 11 51.1	+0.1
GO04				IAML		16 11 52.9	
	comp=E,18μm,0.7s						
GO04	Tololo Observa	0.63	82	i P	Pb	16 11 43.0	+0.2
GO04				eS	Sb	16 11 51.8	+0.4
CO02	Combarbal	1.04	155	i P	Pb	16 11 49.3	-0.3
CO02				i S	Sb	16 12 00.3	-2.7
CO01	Juntas del Tor	1.27	77	i P	Pn	16 11 52.2	-1.0
CO01				i S	Sb	16 12 07.1	-2.6
LCO	Las Campanas	1.44	30	eP	Pn	16 11 55.1	-0.5
LCO	Las Campanas	1.44	30	i P	Pn	16 11 55.7	+0.2
LCO				i P	Pb	16 11 56.0	-0.5
LCO				eS	Sb	16 12 15.3	+0.7
AROD	Rodeo	1.78	87	i P	Pn	16 12 00.9	+0.7
AROD				eS	Sn	16 12 23.2	+0.6
AC05	El Transito	1.79	38	i P	Pn	16 12 00.2	0.0
AC05				i S	Sn	16 12 21.4	-1.3
AC05				IAML		16 12 23.1	
	comp=N,579nm,0.3s						
ACDV	Cuesta del Vie	2.08	88	i P	Pn	16 12 05.2	+0.9
AC04	Llanos de Chal	2.09	11	i P	Pn	16 12 04.7	+0.5
AC04				i S	Sn	16 12 30.9	+1.0
AC04				IAML		16 12 45.1	
	comp=E,391nm,0.2s						
ACCO	Cerro Coronel	2.15	99	i P	Pn	16 12 06.6	+1.3
VA03	San Esteban	2.63	162	IAML		16 12 56.8	
	comp=N,1μm,0.4s						
AUSP	Usallata	2.68	137	i P	Pn	16 12 14.2	+1.6
AMOG	MOGNA	2.70	105	i P	Pn	16 12 14.3	+1.6
ROCH	El Roble	2.73	171	eP	Pn	16 12 13.7	+0.3
ROCH				IAML		16 13 09.3	
	comp=E,852nm,0.6s						
ROC1	El Roble	2.74	171	i P	Pn	16 12 14.7	+1.3
AGUA	GUANDACOL	2.74	74	i P	Pn	16 12 15.8	+2.4
RTLL	Cerro Villicun	2.83	113	i P	Pn	16 12 15.3	+0.8
RTLL				IAML		16 13 07.3	
	comp=Z,354nm,0.7s						
GO03	Copiap	2.89	23	i P	Pn	16 12 16.6	+1.3
PEL	Peldehue	2.96	166	i P	Pn	16 12 18.0	+1.8
RTCV	Cerro Valdivia	3.01	123	i P	Pn	16 12 18.1	+1.1
CFA	Coronel Fontan	3.12	116	i P	Pn	16 12 19.5	+1.0
VCA	Vinchina	3.27	63	i P	Pn	16 12 23.1	+2.5
VCA				IAML		16 13 13.6	
	comp=Z,293nm,0.3s						
ACAN	Cantantal	4.22	119	i P	Pn	16 12 34.9	+1.3
GO05	Huala	4.75	184	i P	Pn	16 12 40.1	-0.7
LAMA	Las Malvinas	5.05	158	i P	Pn	16 12 47.5	+2.6
COIS	El Sosneado	5.10	162	i P	Pn	16 12 49.3	+3.7
CYA	Choya	5.31	71	i P	Pn	16 12 48.8	+0.2
CYA				IAML		16 13 23.7	
	comp=Z,29nm,0.5s						
TCA	Tanti	6.05	102	i P	Pn	16 12 57.2	-1.6

*IDC **14** 16:18:36.7±1.5, 2.°25N×96.°04E, h0km, mb3.8/5, mb1 3.8/7, mb1mx3.5/38, mbtmp3.7/7, ML3.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.5/42, Error ellipse: s-maj=30.5km s-min=17.9km az=26.0*
*DJA **14** 16:18:40.3±1.0, 2.°N±4.°×96.°E±.°, h10km, M3.9/9, mb4.2/2, MLv3.7/9*
ISC 14 16:18:40.6±1.1, 2.°31N±0.°06×96.°14E±0.°08, h25km, n18, σ1.°17/18, mb3.8/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TPTI		1.41	48	P	Pn	16 19 03.6	-1.1
TPTI				S	Sn	16 19 20.9	-1.5
GSI	Gunungsitoli	1.75	125	P	Pn	16 19 09.5	+0.1
MLSI	Meulaboh, Aceh	1.96	8	P	Pn	16 19 12.2	-0.2
MLSI				S	Sb	16 19 41.8	+2.0
KCSI	Kotacane, Aceh	2.03	53	P	Pn	16 19 13.5	+0.3
KCSI				S	Sb	16 19 41.3	-0.4
TSI	Tuntungan	2.70	64	P	Pn	16 19 23.4	+1.0
PSI	Prapat	2.82	80	Pn	Pn	16 19 25.1	+0.8
	2.6nm,0.3s,baz=360,slow=6.1,SNR=12						
PSI				Sn	Sn	16 20 00.0	+2.4
	2.5nm,0.3s,baz=359,slow=4.1,SNR=5.9						
PSI				Lg	Lg	16 20 09.7	
	2.5nm,0.3s,baz=180,slow=7.6,SNR=4.1						
MNSI	Mandailing Nat	3.75	114	P	Pn	16 19 38.0	+1.0
RGRI	Rengat	6.73	113	P	Pb	16 20 35.1	-1.9
CMAR	Chiang Mai Arr	16.28	10	Pn	Pn	16 22 28.4	+0.6
	0.1nm,0.3s,baz=201,slow=12,SNR=4.5						
H08S2	Diego Garcia H	25.58	247	T	T	16 50 37.4	
	baz=68,slow=75,SNR=128						
H08S3	Diego Garcia H	25.58	247	T	T	16 50 37.1	
	baz=68,slow=75,SNR=133						
H08S1	Diego Carcia H	25.60	247	T	T	16 50 38.6	
	baz=68,slow=75,SNR=124						
WRA	Warramunga Arr	43.52	122	P	P	16 26 42.2	-0.3
	0.4nm,0.3s,baz=302,slow=8.9,SNR=2.0						
ASAR	Alice Springs	44.90	127	P	P	16 26 54.1	+0.5
	0.3nm,0.9s,baz=300,slow=8.0,SNR=4.3						
KSRS	Korea Array	45.56	36	LR	LR	16 46 11.9	
	comp=Z,28nm,18.2s,baz=224,slow=36						
MKAR	Makanchi Array	45.92	347	P	P	16 27 01.7	+0.4
	1.6nm,0.7s,baz=162,slow=8.0,SNR=21						
SONM	Songino Array	46.21	10	P	P	16 27 03.2	-0.5
	0.6nm,0.5s,baz=187,slow=7.3,SNR=3.5						
ZALV	Zalesovo Beam	52.31	352	P	P	16 27 50.1	0.0
	1.5nm,0.5s,baz=178,slow=7.8,SNR=10						

*SOME **14** 16:20:36.2, 42.°05N×79.°38E, h20km*
*NNC **14** 16:20:38.6±1.5, 42.°20N×79.°27E, h0km, mb3.2, mpv3.2, Error ellipse: s-maj=10.5km s-min=5.9km az=150.0*
*KRNET **14** 16:20:40.8±0.1, 42.°07N×78.°97E, h8km, mb2.4*
ISC 14 16:20:37.5±1.5, 42.°09N±0.°05×79.°25E±0.°05, h10km, n35, σ1.°24/60, 13C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	Przheval'sk	0.74	302	i P	Pg	16 20 51.8	0.0
	baz=15						
PRZ				i S	Sg	16 21 00.5	-1.0
	baz=15						
UZB	Uzunbulak	1.07	351	eP	Pg	16 20 56.8	-1.2
	3.8nm,0.1s						
UZB				eS	Sg	16 21 10.8	-1.1
	8.1nm,0.2s						
UZB	Uzunbulak	1.07	351	P	Pg	16 20 56.8	-1.2
	3.8nm,0.1s						
UZB				S	Sg	16 21 10.8	-1.1
	8.1nm,0.2s						
SHLS	Shalkode	1.07	8	eP	Pb	16 20 58.4	+0.1
	7.4nm,0.1s						
SHLS				eS	Sn	16 21 14.0	+0.2
	18nm,0.2s						
SHLS	Shalkode	1.07	8	P	Pb	16 20 58.4	+0.1
	7.4nm,0.1s						
SHLS				S	Sn	16 21 14.0	+0.2
	18nm,0.2s						
TARG	Taragay, Kyrgy	1.14	252	i P	Pg	16 20 58.9	-0.5
	baz=49						
TARG				i S	Sg	16 21 11.9	-2.3
	baz=49						
SATY	Saty	1.15	327	eP	Pb	16 20 58.8	-0.7
	3.3nm,0.1s						
SATY				eS	Sb	16 21 14.6	0.0
	17nm,0.1s						
SATY	Saty	1.15	327	P	Pb	16 20 58.8	-0.7
	3.3nm,0.1s						
SATY				S	Sb	16 21 14.6	0.0
	17nm,0.1s						
ANVS	Anan'yevo	1.36	301	i P	Pg	16 21 03.7	+0.1
	baz=7.0						
ANVS				i S	Sn	16 21 20.9	0.0
	baz=7.0						
KPKS	Kokpek	1.43	343	eP	Pn	16 21 03.5	-0.2
	8.6nm,0.1s						
KPKS				eS	Sn	16 21 22.2	-0.4
	8.7nm,0.2s						
KDJ	Kajisay	1.54	272	i P	Pb	16 21 05.9	-0.3
	baz=73						
KDJ				i S	Sn	16 21 24.2	-1.1
	baz=73						
MDOK	Medeo	1.94	304	eP	Pb	16 21 13.2	+0.1
	6.2nm,0.1s						
MDOK				eS	Sg	16 21 38.6	-1.3
	9.3nm,0.4s						
MDOK	Medeo	1.94	304	Pn	Pb	16 21 12.5	-0.6
	1.4nm,0.4s						
MDOK				Sn	Sg	16 21 38.7	-1.3
	15nm,0.6s						
MDOK	Medeo	1.94	304	Pg	Pb	16 21 13.2	+0.1
	6.2nm,0.1s						
MDOK				Lg	Lg	16 21 38.6	
	9.3nm,0.4s						
TNSS	Tian-Shan	1.94	300	eP	Pb	16 21 13.7	+0.4
	12nm,0.1s						
TNSS				eS	Sg	16 21 39.7	-0.3
	26nm,0.3s						
TNSS	Tian-Shan	1.94	300	Pg	Pb	16 21 13.6	+0.4
	12nm,0.1s						
TNSS				Lg	Lg	16 21 39.7	
	26nm,0.3s						
ULHL	Ulahol	2.24	275	i P	Pb	16 21 18.4	+0.2
	baz=76						
ULHL				i S	Sb	16 21 45.9	-0.2
	baz=76						
DJR	Jarkent	2.27	10	eP	Pb	16 21 18.2	-0.5
	1.8nm,0.2s						
DJR				eS	Sb	16 21 47.8	+1.0
	6.9nm,0.3s						
DJR	Jarkent	2.27	10	Pg	Pb	16 21 18.2	-0.5
	1.8nm,0.2s						
DJR				Lg	Lg	16 21 47.8	
	6.9nm,0.3s						
MTBS	Maitube	2.33	297	eP	Pb	16 21 20.1	+0.5
	4.0nm,0.2s						
MTBS				eS	Sg	16 21 50.5	-1.7
	13nm,0.3s						
MTBS	Maitube	2.33	297	Pg	Pb	16 21 20.1	+0.5
	4.0nm,0.2s						
MTBS				Lg	Lg	16 21 50.5	
	13nm,0.3s						
CHKK	Chushkaly	2.42	317	eP	Pb	16 21 21.0	-0.1
	4.7nm,0.2s						
CHKK				eS	Sb	16 21 52.6	+1.6
	20nm,0.2s						
CHKK	Chushkaly	2.42	317	Pg	Pb	16 21 21.0	-0.1
	4.7nm,0.2s						
CHKK				Lg	Lg	16 21 52.6	
	20nm,0.2s						
BOOM	Boomskoye usch	2.49	280	eP	Pb	16 21 21.8	-0.6
	baz=82						
BOOM				eS	Sb	16 21 51.5	-1.6
	baz=82						
KST	Kastek	2.61	292	eP	Pb	16 21 24.8	+0.5
	8.0nm,0.3s						
KST				eS	Sg	16 21 59.1	-2.2
	18nm,0.4s						
KST	Kastek	2.61	292	Pg	Pb	16 21 24.8	+0.5
	8.0nm,0.3s						
KST				Lg	Lg	16 21 59.1	
	18nm,0.4s						
KUU	Kurty	2.79	311	eP	Pb	16 21 28.0	+0.5
	1.7nm,0.2s						
KUU				eS	Sb	16 22 04.1	+2.4
	12nm,0.3s						
KUU	Kurty	2.79	311	Pg	Pb	16 21 28.0	+0.5
	1.7nm,0.2s						
KUU				Lg	Lg	16 22 04.1	
	12nm,0.3s						
TKM2	Tokmak 2	2.82	288	i P	Pb	16 21 26.9	-1.2
	baz=90						
TKM2				i S	Sb	16 22 00.0	-2.8
	baz=90						
TKM2	Tokmak 2	2.82	288	Pn	Pb	16 21 29.0	+0.9
	0.7nm,0.4s						
TKM2				Lg	Lg	16 22 04.8	
	2.6nm,0.3s						
KZA	Kyzart	2.98	271	eP	Pb	16 21 28.9	-2.0
	baz=71						
KZA				i S	Sn	16 22 03.8	+2.7
	baz=71						
KAPS	Kapalarasan	3.19	1	eP	Pb	16 21 33.8	-0.6
	0.4nm,0.3s						
KAPS				eS	Sb	16 22 15.1	+1.8
	3.4nm,0.3s						
KAPS	Kapalarasan	3.19	1	Pg	Pb	16 21 33.8	-0.6
	0.4nm,0.3s						
KAPS				Lg	Lg	16 22 15.1	
	3.4nm,0.3s						
UCH	Uchtor	3.52	274	eP	Pn	16 21 36.3	+3.6
	baz=74						
UCH				i S	Sn	16 22 17.1	+2.5
	baz=74						
AAK	Ala-Archa	3.56	280	Pg	Pb	16 21 39.0	-1.7
	1.3nm,0.6s						
AAK				Lg	Lg	16 22 28.1	
	1.8nm,0.7s						

*NEIC **

ISC 14 16:21:06.1±0.7,**67.72N**±0.06×**162.13W**±0.05,**h10**km,**n36,** σ1§**17**/42,**mb3.5**/5,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.45**	**319**		**Pg**	**16 21 13.9**	**-1.0**
RDOG					**Sg**	**16 21 20.7**	**-0.1**
ANM	**Nome**	**3.43**	**204**		**Pn**	**16 21 58.6**	**-1.0**
ANM					**Sn**	**16 22 39.6**	**-0.7**
IM03		**3.74**	**114**		**Pn**	**16 22 03.5**	**-0.3**
IM03					**Sn**	**16 22 48.0**	**+0.2**
IMAR	**Indian Mountai**	**3.74**	**114**		**Pn**	**16 22 03.3**	**-0.6**
PS04	**TAPS Pump Stn4**	**4.84**	**76**		**Pn**	**16 22 20.6**	**+1.6**
PS04					**Sn**	**16 23 16.1**	**+1.0**
TTA	**Tatalina**	**5.45**	**149**		**Pn**	**16 22 26.7**	**-0.6**
TT01	**Tatalina**	**5.47**	**149**		**Pn**	**16 22 26.9**	**-0.6**
BPAW	**Bear Paw Mtn.**	**5.83**	**123**		**Pn**	**16 22 32.5**	**0.0**
NEA2	**Nenana**	**6.15**	**115**		**Pn**	**16 22 37.0**	**0.0**
NEA	**Nenana**	**6.16**	**115**		**Pn**	**16 22 37.2**	**+0.2**
MDM	**Murphy Dome**	**6.24**	**110**		**Pn**	**16 22 38.6**	**+0.5**
PPLA	**Purkeypile**	**6.38**	**135**		**Pn**	**16 22 40.2**	**0.0**
TRF	**Thorofare Moun**	**6.51**	**126**		**Pn**	**16 22 41.8**	**-0.2**
CCB	**Clear Creek Bu**	**6.56**	**111**		**Pn**	**16 22 42.9**	**+0.3**
WRH	**Wood River Hil**	**6.56**	**113**		**Pn**	**16 22 43.0**	**+0.4**
BM03	**Burnt Mountain**	**6.71**	**84**		**Pn**	**16 22 45.1**	**+0.5**
IL31		**6.82**	**109**		**Pn**	**16 22 45.8**	**-0.3**
ILAR	**Eielson Array**	**6.82**	**109**	Pn	**Pn**	**16 22 45.3**	**-0.9**
	3.1nm,0.3s,baz=303,slow=13,SNR=217						
ILAR				Sn	**Sn**	**16 24 01.9**	**-1.9**
	0.7nm,0.3s,baz=222,slow=33,SNR=6.1						
ILAR	**Eielson Array**	**6.82**	**109**		**Pn**	**16 22 45.6**	**-0.6**
RND	**Reindeer**	**7.00**	**122**	Pn	**Pn**	**16 22 47.5**	**-1.0**
HDA	**Harding Lake**	**7.00**	**111**		**Pn**	**16 22 48.9**	**+0.2**
SVW2	**Sparrevohn**	**7.22**	**154**		**Pn**	**16 22 51.4**	**-0.2**
WAT2	**Susitna Watana**	**7.40**	**124**		**Pn**	**16 22 54.5**	**+0.4**
STLK	**Strandline Lak**	**7.64**	**140**		**Pn**	**16 22 57.4**	**-0.1**
DHY	**Denali Highway**	**7.71**	**120**		**Pn**	**16 22 59.1**	**+0.7**
SCRK	**Sand Creek**	**8.32**	**108**		**Pn**	**16 23 06.6**	**-0.1**
BCAR	**Beaver Creek A**	**9.65**	**109**	Pn	**Pn**	**16 23 24.7**	**-0.3**
EPYK	**Eagle Plains**	**9.99**	**86**	Pn	**Pn**	**16 23 27.1**	**-2.4**
INK	**Inuvik**	**10.69**	**74**	Pn	**Pn**	**16 23 37.7**	**-1.3**
	0.3nm,0.3s,baz=293,slow=13,SNR=6.1						
INK				Sn	**Sn**	**16 25 33.6**	**-5.0**
	0.5nm,0.3s,baz=123,slow=27,SNR=5.0						
YKA	**Yellowknife Ar**	**20.23**	**82**	P	**P**	**16 25 40.8**	**-0.1**
	0.8nm,0.5s,baz=301,slow=9.9,SNR=7.4						
RES	**Resolute Bay**	**21.50**	**42**	LR	LR	16 35 44.1	
	comp=Z,24nm,18.1s,baz=224,slow=41						
PDAR	**Pinedale Array**	**37.24**	**105**	P	**P**	**16 28 19.2**	**+1.5**
	0.4nm,0.6s,baz=342,slow=8.7,SNR=3.5						
NVAR	**Mina Array Bea**	**37.97**	**118**	P	**P**	**16 28 25.2**	**+1.3**
	0.6nm,0.6s,baz=341,slow=7.6,SNR=5.4						
ZALV	**Zalesovo Beam**	**48.90**	**314**	P	**P**	**16 29 51.0**	**-0.6**
	0.5nm,0.5s,baz=36,slow=11,SNR=2.0						
ZALV				PcP	**PcP**	**16 31 16.9**	**+1.3**
	3.5nm,0.8s,baz=303,slow=3.5,SNR=13						
TXAR	**Lajitas Array**	**51.34**	**108**	P	**P**	**16 30 11.1**	**+0.7**
	0.8nm,0.7s,baz=338,slow=5.1,SNR=13						
MKAR	**Makanchi Array**	**56.04**	**312**	P	**P**	**16 30 45.5**	**+0.8**
	0.3nm,0.7s,baz=47,slow=8.2,SNR=2.8						

*HLW **14** 16:21:33.0,34˚.54N×26˚.31E,h12km±7km,Md3.7*
*ISK **14** 16:21:34.7,34˚.84N×26˚.20E,h72km,ML2.8/17*
*ATH **14** 16:21:37.0,34˚.89N×26˚.08E,h47km±4km,ML2.5/6,Error ellipse: s-maj=6.6km s-min=2.3km az=163.0*
*DDA **14** 16:21:37.2,34˚.79N×26˚.58E,h11km±3km,ML2.5*
*THE **14** 16:21:38.3,34˚.86N×26˚.10E,h37km,ML2.4/5,Error ellipse: s-maj=1.2km s-min=0.4km az=354.0*

ISC 14 16:21:35.2±1.5,**34.71N**±0.08×**26.21E**±0.03,**h52**km±10km, **n70,** σ1§**10**/80,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.40**	**1**	P	**Pn**	**16 21 45.5**	**0.0**
ZKR				S	**Sn**	**16 21 51.7**	**-1.2**
	525nm,0.4s						
ZKR	**Zakros**	**0.40**	**1**	P	**Pn**	**16 21 45.5**	**0.0**
ZKR				AML	AML	16 21 59.3	
	comp=E,1401μm,0.4s						
ZKR				AML	AML	16 22 00.7	
	comp=N,664μm,0.4s						
ZKR	**Zakros**	**0.40**	**1**	PG	**Pn**	**16 21 45.8**	**+0.3**
ZKR				SG	**Sn**	**16 21 55.0**	**+2.1**
STIA	**Sitia Lasithi**	**0.50**	**349**	P	**Pn**	**16 21 46.7**	**+0.2**
NPS	**Neapolis**	**0.73**	**318**	P	**Pn**	**16 21 49.6**	**+0.1**
NPS				S	**Sn**	**16 21 58.1**	**-1.8**
	comp=N,540nm,0.7s						
NPS	**Neapolis**	**0.73**	**318**	P	**Pn**	**16 21 49.9**	**+0.4**
NPS				AML	AML	16 22 08.3	
	comp=E,806μm,0.7s						
NPS				AML	AML	16 22 10.3	
	comp=N,516μm,0.7s						
LAST	**Lasithi**	**0.75**	**307**	P	**Pn**	**16 21 49.7**	**0.0**
LAST				S	**Sn**	**16 21 58.7**	**-1.6**
	comp=N,160nm,0.6s						
LAST	**Lasithi**	**0.75**	**307**	P	**Pn**	**16 21 49.7**	**0.0**
LAST				AML	AML	16 22 04.6	
	comp=E,534μm,0.7s						
LAST				AML	AML	16 22 06.2	
	comp=N,671μm,0.6s						
HRKL	**Herakleio**	**1.09**	**304**	PG	**Pn**	**16 21 54.6**	**+0.5**
KARP	**Karpathos**	**1.14**	**43**	P	**Pn**	**16 21 57.0**	**+2.1**
KARP				S	**Sn**	**16 22 11.1**	**+1.6**
	comp=N,182nm,0.6s						
KARP	**Karpathos**	**1.14**	**43**	P	**Pn**	**16 21 57.2**	**+2.3**
KARP				AML	AML	16 22 26.9	
	comp=E,436μm,0.7s						
KARP				AML	AML	16 22 28.3	
	comp=N,314μm,0.6s						
KARP	**Karpathos**	**1.14**	**43**	PG	**Pn**	**16 21 55.2**	**+0.3**
SIVA	**Sivas**	**1.19**	**285**	P	**Pn**	**16 21 56.4**	**+0.9**
SIVA	**Sivas**	**1.19**	**285**	P	**Pn**	**16 21 57.0**	**+1.5**
SIVA				AML	AML	16 22 23.4	
	comp=E,839μm,0.7s						
SIVA				AML	AML	16 22 31.0	
	comp=N,778μm,0.6s						
IDI	**Anoyia**	**1.23**	**298**	PN	**Pn**	**16 21 56.3**	**+0.2**
IDI				SN	**Sn**	**16 22 11.7**	**+0.1**
ANAF	**Anafi Island**	**1.68**	**348**	P	**Pn**	**16 22 02.7**	**+0.5**
ANAF	**Anafi Island**	**1.68**	**348**	P	**Pn**	**16 22 02.9**	**+0.7**
ANAF				AML	AML	16 22 41.2	
	comp=E,525μm,0.6s						
ANAF				AML	AML	16 22 42.6	
	comp=N,488μm,0.4s						
GVD	**Gavdhos**	**1.75**	**275**	PN	**Pn**	**16 22 04.5**	**+1.4**
SANT	**Santorini**	**1.76**	**340**	P	**Pn**	**16 22 03.6**	**+0.3**
SANT	**Santorini**	**1.76**	**340**	P	**Pn**	**16 22 03.6**	**+0.3**
SANT	**Santorini**	**1.76**	**340**	PN	**Pn**	**16 22 03.1**	**-0.3**
THR8	**Santorini-Mono**	**1.79**	**341**	P	**Pn**	**16 22 03.6**	**-0.1**
THR3	**Thira Island,**	**1.82**	**339**	P	**Pn**	**16 22 04.2**	**+0.2**
THR3	**Thira Island,**	**1.82**	**339**	P	**Pn**	**16 22 04.2**	**+0.2**
THR5	**Thira Island,**	**1.84**	**338**	P	**Pn**	**16 22 04.6**	**+0.3**
THR5	**Thira Island,**	**1.84**	**338**	P	**Pn**	**16 22 04.4**	**+0.1**
IMMV	**Iera Moni Meta**	**1.97**	**293**	P	**Pn**	**16 22 07.1**	**+0.9**
IMMV	**Iera Moni Meta**	**1.97**	**293**	P	**Pn**	**16 22 06.5**	**+0.3**
IMMV	**Iera Moni Meta**	**1.97**	**293**	PN	**Pn**	**16 22 06.5**	**+0.3**
AMGA	**Amorgos Island**	**2.13**	**353**	P	**Pn**	**16 22 08.9**	**+0.6**
AMGA	**Amorgos Island**	**2.13**	**353**	P	**Pn**	**16 22 08.9**	**+0.6**
KNDR	**Palaiochora Ch**	**2.14**	**285**	PN	**Pn**	**16 22 09.8**	**+1.4**
IOSP	**Ios island**	**2.14**	**340**	P	**Pn**	**16 22 08.7**	**+0.2**
IOSP				S	**Sn**	**16 22 32.7**	**-1.1**
	comp=N,52nm,0.9s						
IOSP	**Ios island**	**2.14**	**340**	P	**Pn**	**16 22 08.6**	**+0.2**
ARG	**Arkhangelos**	**2.17**	**46**	PN	**Pn**	**16 22 08.8**	**0.0**
RODP	**Rodopos**	**2.18**	**293**	PN	**Pn**	**16 22 09.5**	**+0.5**
DAT	**Datca**	**2.30**	**29**	P	**Pn**	**16 22 11.9**	**+1.2**
DAT				S	**Sn**	**16 22 38.8**	**+0.9**
DAT	**Datca**	**2.30**	**29**	PN	**Pn**	**16 22 10.8**	**+0.1**
DAT	**Datca**	**2.30**	**29**	*i* P	**Pn**	**16 22 11.2**	**+0.5**
DAT				*i* S	**Sn**	**16 22 38.8**	**+0.9**
APE	**Apeiranthos**	**2.41**	**347**	P	**Pn**	**16 22 12.6**	**+0.3**
APE	**Apeiranthos**	**2.41**	**347**	P	**Pn**	**16 22 12.5**	**+0.2**
APE	**Apeiranthos**	**2.41**	**347**	PN	**Pn**	**16 22 12.0**	**-0.3**
BODT	**Bodrum**	**2.51**	**21**	PN	**Pn**	**16 22 13.1**	**-0.4**
ANKY	**Antikythira Is**	**2.64**	**297**	P	**Pn**	**16 22 15.6**	**+0.3**
SERI	**Serifos**	**2.81**	**331**	P	**Pn**	**16 22 17.9**	**+0.2**
SERI	**Serifos**	**2.81**	**331**	P	**Pn**	**16 22 17.7**	**0.0**
DALY	**Dalyan (Mula)**	**2.89**	**43**	PN	**Pn**	**16 22 19.0**	**+0.3**
DALY	**Dalyan (Mula)**	**2.89**	**43**	*i* P	**Pn**	**16 22 19.7**	**+1.0**
DALY				*i* S	**Sn**	**16 22 50.8**	**-1.4**
DALY				IAML		16 22 59.0	
	comp=N,28nm,0.4s						
TURN	**Turunc**	**2.90**	**41**	PN	**Pn**	**16 22 15.3**	**-3.6**
YER	**Yerkesik**	**2.94**	**34**	PN	**Pn**	**16 22 18.9**	**-0.6**
KTHA	**Kythira Island**	**3.00**	**302**	PN	**Pn**	**16 22 20.5**	**+0.3**
FETY	**Fethiye**	**3.02**	**50**	PN	**Pn**	**16 22 21.0**	**+0.4**
FETY	**Fethiye**	**3.02**	**50**	*i* P	**Pn**	**16 22 21.3**	**+0.7**
FETY				*i* S	**Sn**	**16 22 53.9**	**-1.7**
AKAS	**Kas**	**3.16**	**60**	PN	**Pn**	**16 22 22.9**	**+0.4**
AKAS	**Kas**	**3.16**	**60**	*i* P	**Pn**	**16 22 22.6**	**+0.1**
AKAS				*i* S	**Sn**	**16 22 59.5**	**+0.5**
AKAS				IAML		16 23 05.0	
	comp=E,11nm,0.3s						
AKAS				IAML		16 23 06.0	
	comp=N,14nm,0.3s						
AYDN	**Tasoluk**	**3.24**	**24**	*i* P	**Pn**	**16 22 25.0**	**+1.5**
SLUM	**Salum**	**3.32**	**195**	P	**Pn**	16 22 20.9	-3.8
	baz=198						
SLUM				S	**Sn**	16 22 55.0	-7.8
	baz=198						
AYDB	**Zeytinkoy-Aydi**	**3.50**	**22**	PN	**Pn**	**16 22 27.2**	**0.0**
TAVA	**DENIZLI_Tavas**	**3.51**	**38**	*i* P	**Pn**	**16 22 29.2**	**+1.9**
TAVA				*i* S	**Sn**	**16 23 10.0**	**+2.3**
ELL	**Elmali**	**3.63**	**55**	PN	**Pn**	**16 22 29.6**	**+0.6**
GOLH	**Golhisar**	**3.71**	**46**	*i* P	**Pn**	**16 22 30.7**	**+0.7**
GOLH				*i* S	**Sn**	**16 23 11.4**	**-1.0**
GOLH				IAML		16 23 17.0	
	comp=E,9.3nm,1.2s						
GOLH				IAML		16 23 21.0	
	comp=N,7.3nm,0.3s						
AKUM	**Antalya-Kumluc**	**3.73**	**63**	*i* P	**Pn**	**16 22 30.6**	**+0.3**
AKUM				IAML		16 23 15.0	
	comp=N,17nm,0.5s						
KORT	**Korkueli**	**4.06**	**55**	PN	**Pn**	**16 22 35.5**	**+0.6**
KEPZ	**Antalya-Kepez**	**4.90**	**62**	*i* P	**Pn**	**16 22 47.1**	**+0.8**
KEPZ				IAML		16 23 42.0	
	comp=E,8.1nm,0.9s						
KEPZ				*i* S	**Sn**	**16 23 42.1**	**+0.4**
KEPZ				IAML		16 23 48.0	
	comp=N,8.0nm,0.4s						
GAZI	**Gazipasa**	**5.21**	**71**	*i* P	**Pn**	**16 22 48.4**	**-2.1**
GAZI				*i* S	**Sn**	**16 23 45.7**	**-3.6**
GAZI				IAML		16 23 49.0	
	comp=E,16nm,0.6s						
GAZI				IAML		16 23 51.0	
	comp=N,11nm,0.5s						
HSAF	**As Saff**	**6.81**	**137**	P	Pn	16 23 08.5	-4.0
	baz=136						
GLL	**Jalalah**	**6.92**	**136**	P	Pn	16 23 10.0	-4.1
	baz=135						
RSH		**7.35**	**119**	P	Pn	16 23 16.6	-3.2
	baz=117						
NBNS	**Bani Suef**	**7.46**	**143**	S	Sn	16 24 34.0	-11
	baz=142						
HFRF	**Wahat Farafira**	**7.75**	**166**	P	Pn	16 23 21.3	-4.1
	baz=166						
HFRF				S	Sn	16 24 41.1	-11
	baz=166						

*UCR **14** 16:34:28.9±0.8,13˚.73N×90˚.70W,h26km±3km,ML4.0, mb4.3(NEIC)*
*SNET **14** 16:34:28.8±0.9,13˚.71N×90˚.72W,h29km±26km,ML4.1*
*INET **14** 16:34:29.3,13˚.66N×90˚.75W,h30km,ML3.1*
*GCG **14** 16:34:29.6±0.7,13˚.71N×90˚.78W,h32km±7km,MD4.0*

ISC 14 16:34:28.4±0.8,**13.71N**±0.07×**90.76W**±0.04,**h60**km±8km, **n83,** σ0§**92**/92,**mb4.2**/4,**5C-6D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IXG	**Ixpaco**	**0.56**	**34**	⇑*i* P	**Pn**	**16 34 41.6**	**+0.3**
PCG	**Pacaya**	**0.70**	**12**	*e*P	**Pn**	**16 34 43.8**	**+0.9**
FUG	**Fuego 3**	**0.74**	**354**	⇓*e*P	**Pn**	**16 34 44.1**	**+0.7**
FUG				*e*S	Sn	16 35 00.7	+6.4
NBG	**Las Nubes**	**0.96**	**25**	⇓*i* P	Pn	16 34 48.3	+2.0
NUBE	**Las Nubes**	**0.97**	**78**	*e*P	**Pn**	**16 34 46.0**	**-0.2**
NUBE				*e*S	**Sn**	**16 34 59.4**	**-0.1**
NUBE				IAML		16 35 01.4	
	comp=Z,2μm,0.2s						
NUBE	**Las Nubes**	**0.97**	**78**	*e*P	**Pn**	**16 34 46.0**	**-0.2**
NUBE				*e*S	**Sn**	**16 34 59.4**	**-0.1**
NUBE				IAML		16 35 01.4	
	comp=Z,2μm,0.2s						
ERG	**Entre ros, C**	**1.07**	**313**	⇑*e*P	Pn	16 34 48.4	+1.0
RTR	**El Retiro**	**1.10**	**80**	*e*P	**Pn**	**16 34 48.4**	**+0.4**
RTR				⇑*e*S	**Sn**	**16 35 02.5**	**+0.1**
RTR	**El Retiro**	**1.10**	**80**	*e*P	**Pn**	**16 34 48.4**	**+0.4**
RTR				⇑*e*S	**Sn**	**16 35 02.5**	**+0.1**
CEVE	**Cerro Verde**	**1.11**	**84**	*e*P	**Pn**	**16 34 46.7**	**-1.4**
CEVE				*e*S	**Sn**	**16 35 02.2**	**-0.7**
CEVE				IAML		16 35 04.1	
	comp=Z,11μm,0.3s						
CEVE	**Cerro Verde**	**1.11**	**84**	*e*P	**Pn**	**16 34 46.7**	**-1.4**
CEVE				*e*S	**Sn**	**16 35 02.2**	**-0.7**
CEVE				IAML		16 35 04.1	
	comp=Z,11μm,0.3s						
SBLS	**San Blas**	**1.11**	**83**	*e*P	**Pn**	**16 34 48.3**	**+0.2**
SBLS	**San Blas**	**1.11**	**83**	*e*P	**Pn**	**16 34 48.3**	**+0.2**
SNJE	**San Jose**	**1.14**	**82**	*e*P	**Pn**	**16 34 48.8**	**+0.4**
SNJE	**San Jose**	**1.14**	**82**	*e*P	**Pn**	**16 34 48.8**	**+0.4**
UNIC	**Universidad Ca**	**1.21**	**77**	*e*P	**Pn**	**16 34 49.2**	**0.0**
UNIC				*e*S	**Sn**	**16 35 05.2**	**+0.3**
UNIC	**Universidad Ca**	**1.21**	**77**	*e*P	**Pn**	**16 34 49.2**	**0.0**
UNIC				*e*S	**Sn**	**16 35 05.2**	**+0.3**
STG3	**Santiaguito 3,**	**1.27**	**322**	*e*P	Pn	16 34 51.3	+1.1
STG3				*e*S	**Sn**	**16 35 06.3**	**-0.1**
CEDA	**San Andres**	**1.33**	**86**	*e*P	**Pn**	**16 34 51.3**	**+0.4**
CEDA				*e*S	**Sn**	**16 35 08.4**	**+0.7**
CEDA				IAML		16 35 16.9	
	comp=Z,3μm,0.2s						
CEDA	**San Andres**	**1.33**	**86**	*e*P	**Pn**	**16 34 51.3**	**+0.4**
CEDA				*e*S	**Sn**	**16 35 08.4**	**+0.7**
CEDA				IAML		16 35 16.9	
	comp=Z,3μm,0.2s						
TACO	**Tacachico**	**1.39**	**79**	⇓*e*P	**Pn**	**16 34 51.7**	**+0.1**
TACO				*e*S	**Sn**	**16 35 10.0**	**+0.8**
TACO	**Tacachico**	**1.39**	**79**	⇓*e*P	**Pn**	**16 34 51.7**	**+0.1**
TACO				*e*S	**Sn**	**16 35 10.0**	**+0.8**
LALI	**Alcalda de L**	**1.42**	**99**	*e*P	**Pn**	**16 34 52.1**	**+0.2**
LALI				*e*S	**Sn**	**16 35 10.1**	**+0.4**
LALI	**Alcalda de L**	**1.42**	**99**	*e*P	**Pn**	**16 34 52.1**	**+0.2**
LALI				*e*S	**Sn**	**16 35 10.1**	**+0.4**
BOQS	**Boqueron**	**1.44**	**89**	*e*P	**Pn**	**16 34 52.9**	**+0.4**
BOQS				*e*S	**Sn**	**16 35 11.3**	**+0.8**
BOQS	**Boqueron**	**1.44**	**89**	*e*P	**Pn**	**16 34 52.9**	**+0.4**
BOQS				*e*S	**Sn**	**16 35 11.3**	**+0.8**
UEES	**Universidad Ev**	**1.48**	**89**	*e*P	**Pn**	**16 34 53.2**	**+0.3**
UEES	**Universidad Ev**	**1.48**	**89**	*e*P	**Pn**	**16 34 53.2**	**+0.3**
SNET	**Serv Nac Est T**	**1.49**	**91**	*e*P	**Pn**	**16 34 53.4**	**+0.4**
SNET				IAML		16 35 15.3	
	comp=Z,2μm,0.2s						
SNET	**Serv Nac Est T**	**1.49**	**91**		**Pn**	**16 34 53.1**	**+0.2**
SNET	**Serv Nac Est T**	**1.49**	**91**	*e*P	**Pn**	**16 34 53.4**	**+0.4**
SNET				IAML		16 35 15.3	
	comp=Z,2μm,0.2s						
OPAM	**Oficina de Pla**	**1.52**	**90**	*e*P	**Pn**	**16 34 53.9**	**+0.5**
OPAM				IAML		16 35 17.7	
	comp=Z,2μm,0.2s						
OPAM	**Oficina de Pla**	**1.52**	**90**	*e*P	**Pn**	**16 34 53.9**	**+0.5**
OPAM				IAML		16 35 17.7	
	comp=Z,2μm,0.2s						
MTO3	**Montecristo**	**1.52**	**63**	⇓*e*P	**Pn**	**16 34 53.8**	**+0.2**
MTO3	**Montecristo**	**1.52**	**63**	*e*P	**Pn**	**16 34 53.8**	**+0.2**
MTO3	**Montecristo**	**1.52**	**63**	⇓*e*P	**Pn**	**16 34 53.8**	**+0.2**
UDBS	**Universidad Do**	**1.56**	**89**	*e*P	**Pn**	**16 34 53.6**	**-0.3**
UDBS	**Universidad Do**	**1.56**	**89**	*e*P	**Pn**	**16 34 53.6**	**-0.3**
ESQI	**Esquipulas**	**1.62**	**58**	*e*P	**Pn**	**16 34 55.0**	**+0.3**
LFRS	**El Faro**	**1.66**	**93**	*e*P	**Pn**	**16 34 55.6**	**+0.3**
LFRS	**El Faro**	**1.66**	**93**	*e*P	**Pn**	**16 34 55.6**	**+0.3**
LBRS	**Las Brisas**	**1.67**	**89**	*e*P	**Pn**	**16 34 56.0**	**+0.6**
LBRS	**Las Brisas**	**1.67**	**89**	*e*P	**Pn**	**16 34 56.0**	**+0.6**
MRL	**Marmol**	**1.72**	**37**	⇑*e*P	**Pn**	**16 34 57.9**	**+1.6**
PAVA	**Las Pavas**	**1.77**	**90**	*e*P	**Pn**	**16 34 57.2**	**+0.3**
PAVA	**Las Pavas**	**1.77**	**90**	*e*P	**Pn**	**16 34 57.2**	**+0.3**
LLGN	**La Laguna**	**1.82**	**75**	*e*P	**Pn**	**16 34 57.5**	**-0.1**
LLGN	**La Laguna**	**1.82**	**75**	*e*P	**Pn**	**16 34 57.5**	**-0.1**
THIG		**1.88**	**310**		**Pn**	**16 34 58.8**	**+0.5**
THIG					**Sn**	**16 35 20.6**	**-0.4**
COEB	**Comit de Eme**	**2.18**	**95**	*e*P	**Pn**	**16 35 02.8**	**+0.4**
COEB	**Comit de Eme**	**2.18**	**95**	*e*P	**Pn**	**16 35 02.8**	**+0.4**
TECA	**Tecapa**	**2.21**	**95**	*e*P	Pn	16 35 03.5	+0.6
TECA	**Tecapa**	**2.21**	**95**	*e*P	Pn	16 35 03.5	+0.6
JUCU	**Jucuar¡n**	**2.49**	**100**	*e*P	Pn	16 35 07.0	+0.5
JUCU				IAML		16 35 50.9	
	comp=Z,564nm,0.3s						
JUCU	**Jucuar¡n**	**2.49**	**100**	*e*P	Pn	16 35 07.0	+0.5
JUCU				IAML		16 35 50.9	
	comp=Z,564nm,0.3s						
FAGO	**Alcalda de S**	**2.58**	**90**	*e*P	**Pn**	**16 35 07.6**	**-0.1**
FAGO	**Alcalda de S**	**2.58**	**90**	*e*P	**Pn**	**16 35 07.6**	**-0.1**
LCND	**La Caada**	**2.82**	**98**	*e*P	Pn	16 35 12.0	+0.9
LCND				IAML		16 35 53.1	
	comp=Z,684nm,0.4s						
LCND	**La Caada**	**2.82**	**98**	*e*P	Pn	16 35 12.0	+0.9
LCND				IAML		16 35 53.1	
	comp=Z,684nm,0.4s						
CNCH	**Conchagua**	**2.88**	**98**	*e*P	**Pn**	**16 35 12.4**	**+0.5**
CNCH	**Conchagua**	**2.88**	**98**	*e*P	**Pn**	**16 35 12.4**	**+0.5**
CCIG	**Comitan**	**2.89**	**333**	Pn	Pn	16 35 14.1	+2.0
PCIG		**3.10**	**310**		**Pn**	**16 35 15.4**	**+0.6**
PCIG					**Sn**	**16 35 48.9**	**-1.7**
PETF	**Flores**	**3.31**	**15**	*e*P	**Pn**	**16 35 18.9**	**+1.2**
TGUH	**Tegucigalpa,Un**	**3.41**	**84**	Pn	**Pn**	**16 35 18.3**	**-0.9**
MATN	**Matagalpa**	**4.77**	**99**	Pn	**Pn**	**16 35 37.7**	**-0.2**
CMIG	**Matias Romero**	**5.21**	**311**		**Pn**	**16 35 44.6**	**+0.8**
CMIG					**Sn**	**16 36 42.0**	**-0.5**
JTS	**Las Juntas de**	**6.62**	**120**	Pn	Pn	16 36 06.1	+3.0
TEIG	**Tepich**	**6.91**	**20**		**Pn**	**16 36 08.8**	**+1.8**
060A	**Indiantown**	**16.45**	**35**	P	**P**	**16 38 17.9**	**+0.9**
833A	**Chaparral WMA,**	**16.62**	**332**	Pn	**Pn**	**16 38 16.0**	**-1.4**
833A				IAmb	IAmb	16 38 17.4	
	comp=Z,11nm,0.4s						
HKT	**Hockley**	**16.83**	**345**	Pn	**Pn**	**16 38 18.3**	**-1.7**
451A	**Vernon**	**17.45**	**15**	Pn	**Pn**	**16 38 24.7**	**-3.0**
451A				IAmb	IAmb	16 38 49.2	
	comp=Z,101nm,1.4s						
346A	**Big Creek Wild**	**17.64**	**4**	P	**P**	**16 38 32.5**	**+2.2**
346A				IAmb	IAmb	16 38 35.7	
	comp=Z,16nm,0.9s						
344A	**Westbrook Farm**	**17.66**	**0**	Pn	**Pn**	**16 38 28.6**	**-1.7**
344A				IAmb	IAmb	16 38 37.4	
	comp=Z,28nm,1.3s						
LGNH	**Logne**	**18.08**	**72**	Pn	**P**	**16 38 32.9**	**-2.3**
154A	**Montrose**	**20.08**	**19**	P	**P**	**16 38 54.9**	**-2.0**
SWET	**Sewanee**	**21.86**	**11**	P	**P**	**16 39 14.2**	**-1.9**
SWET				IAmb	IAmb	16 39 20.4	
	comp=Z,5.7nm,0.7s						
MNTX	**Cornudas Mount**	**22.37**	**326**	P	**P**	**16 39 22.3**	**+0.7**
WVT	**Waverly**	**22.48**	**6**	P	**P**	**16 39 25.1**	**+2.3**
CLTN	**Cedars of Leba**	**22.64**	**9**	P	**P**	**16 39 23.4**	**-1.1**
CLTN				IAmb	IAmb	16 40 21.6	
	comp=Z,15nm,1.6s						
V53A	**Saluda**	**23.01**	**17**	P	**P**	**16 39 28.3**	**-0.1**
V53A				IAmb	IAmb	16 39 52.4	
	comp=Z,12nm,1.4s						
AMTX	**Amarillo**	**23.28**	**337**	P	**P**	**16 39 32.9**	**+1.9**
AMTX				IAmb	IAmb	16 39 34.2	
	comp=Z,14nm,0.9s						

IDC 14 16:39:23.6±2.5,**5.03N**×**125.82E**,**h0**km,**mb3.5**/3, **mb1 3.7**/3,**mb1mx3.3**/30,**mbtmp3.5**/3,**Error ellipse: s-maj=226.9km s-min=26.8km az=65.0,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.19**	**162**	P	P	16 44 59.9	-0.3
	1.4nm,1.1s,baz=341,slow=11,SNR=10						
ASAR	**Alice Springs**	**29.59**	**165**	P	P	16 45 31.1	+0.4
	0.2nm,0.5s,baz=341,slow=11,SNR=10						
MKAR	**Makanchi Array**	**55.98**	**325**	P

DBBC	**Dabeiba**	**3.07**	**274**⇑	*eP*		**Pn**	**16 56 01.1**	**+0.6**
DBBC				*eS*		**Sn**	**16 56 34.9**	**-3.2**
TOLC	**Tolima**	**3.12**	**224**	*eP*		**Pn**	**16 56 02.0**	**+0.6**
TOLC				*eS*		**Sn**	**16 56 40.6**	**+0.8**
ARGC	**Ariguani, Magd**	**3.21**	**340**	*eP*		**Pn**	**16 56 03.4**	**+1.3**
ARGC				*eS*		**Sn**	**16 56 42.0**	**+0.7**
ARGC				*i*			16 56 51.7	
	comp=Z,57nm,0.5s							
SDV	**Santo Domingo**	**3.21**	**50**	P		**Pn**	**16 56 02.9**	**+0.5**
	comp=Z,48nm,0.3s,baz=301,slow=1.1,SNR=14							
SDV				S		**Sn**	**16 56 40.5**	**-1.0**
	comp=Z,14nm,0.3s,baz=57,slow=23,SNR=7.7							
SDV	**Santo Domingo**	**3.21**	**50**	*eP*		**Pn**	**16 56 02.7**	**+0.4**
SDV				*eS*		**Sn**	**16 56 40.5**	**-1.0**
SDV				*i*			16 56 45.4	
	comp=Z,55nm,0.4s							
ANIL	**Santa Ana**	**3.25**	**224**	*eP*		**Pn**	**16 56 04.0**	**+1.0**
ANIL				*eS*		**Sn**	**16 56 42.7**	**+0.1**
PRAC	**Prado**	**3.56**	**210**	*eP*		**Pn**	**16 56 06.5**	**-0.2**
PRAC				*eS*		**Sn**	**16 56 49.2**	**-0.1**
PRAC				*i*			16 56 56.4	
	comp=Z,339nm,0.3s							
ORTC	**Ortega, Tolima**	**3.59**	**216**⇓	*eP*		**Pn**	**16 56 07.5**	**+0.4**
ORTC				*eS*		**Sn**	**16 56 51.1**	**+1.1**
ORTC				*i*			16 56 57.4	
	comp=Z,243nm,0.5s							
SJCC	**San Jacinto, C**	**3.66**	**326**	*eP*		**Pn**	**16 56 07.3**	**-0.8**
SJCC				*eS*		**Sn**	**16 56 48.4**	**-3.3**
SJCC				*i*			16 56 53.3	
	comp=Z,101nm,0.5s							
PLMC	**San Jos del P**	**3.68**	**239**	*eP*		**Pn**	**16 56 09.2**	**+0.9**
PLMC				*i*			16 56 58.6	
	comp=Z,360nm,0.2s							
LCBC	**Los crdobas,**	**3.79**	**302**	*eS*		**Sn**	**16 56 51.1**	**-3.4**
LCBC				*i*			16 56 58.5	
	comp=Z,100nm,0.2s							
YOTC	**Yotoco, Valle**	**4.27**	**229**	*eP*		**Pn**	**16 56 16.1**	**0.0**
YOTC				*eS*		**Sn**	**16 57 05.9**	**-0.2**
GUVC	**San Jose del G**	**4.29**	**173**	*eS*		**Sn**	**16 57 06.2**	**-0.1**
SMRC	**Santa Marta, M**	**4.44**	**346**	*eP*		**Pn**	**16 56 19.1**	**+1.0**
SMRC				*eS*		**Sn**	**16 57 06.7**	**-3.1**
SMRC				*i*			16 57 07.3	
	comp=Z,47nm,0.3s							
CAPC	**Capurgana**	**4.55**	**293**	*eP*		**Pn**	**16 56 18.9**	**-0.7**
CAPC				*eS*		**Sn**	**16 57 08.2**	**-4.3**
CAPC				*i*			16 57 12.1	
	comp=Z,51nm,0.2s							
PIZC	**Pizarro, Choco**	**4.60**	**246**	*eS*		**Sn**	**16 57 13.6**	**+0.1**
PIZC				*i*			16 57 24.7	
	comp=Z,55nm,0.6s							
PTAC	**Punta Ardita,**	**4.66**	**274**	*eP*		**Pn**	**16 56 20.9**	**0.0**
MACC	**Macarena, Meta**	**4.71**	**189**	*eP*		**Pn**	**16 56 20.2**	**-1.5**
MACC				*eS*		**Sn**	**16 57 12.4**	**-3.8**
MACC				*i*			16 57 18.2	
	comp=Z,47nm,0.6s							
BETC	**Betania**	**4.72**	**209**	*eP*		**Pn**	**16 56 21.6**	**-0.3**
BETC				*eS*		**Sn**	**16 57 14.2**	**-2.4**
MARP	**Paez Belalcaza**	**4.86**	**216**	*eP*		**Pn**	**16 56 23.9**	**0.0**
MARP				*eS*		**Sn**	**16 57 20.9**	**+0.8**
MALC	**Bahia Malaga**	**5.04**	**236**	*eP*		**Pn**	**16 56 25.7**	**-0.3**
MALC				*eS*		**Sn**	**16 57 19.1**	**-4.8**
MALC				*i*			16 57 39.8	
	comp=Z,32nm,0.8s							
GARC	**Garzon, Huila**	**5.18**	**207**	*eP*		**Pn**	**16 56 27.4**	**-0.8**
GARC				*eS*		**Sn**	**16 57 23.1**	**-4.6**
GARC				*i*			16 57 30.1	
	comp=Z,79nm,0.2s							
PCON	**Cinco Dias**	**5.54**	**216**	*eP*		**Pn**	**16 56 34.6**	**+1.6**
PCON				*eS*		**Sn**	**16 57 29.4**	**-7.0**
PCON				*i*			16 58 06.9	
	comp=Z,22nm,0.5s							
BBAC	**Balboa, Cauca**	**6.30**	**221**	*eP*		**Pn**	**16 56 43.9**	**+1.0**
BBAC				*eS*		**Sn**	**16 57 53.0**	**-1.3**
BBAC				*i*			16 58 00.8	
	comp=Z,16nm,0.4s							
BBAC				⇑*e*			16 58 05.4	
PCRV	**Puerto La Cruz**	**9.03**	**68**	P		**Pn**	**16 57 19.3**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=207,slow=6.8,SNR=1.6							
TKL	**Tuckaleechee C**	**30.31**	**343**	LR		LR	17 14 36.5	
	comp=Z,16nm,19.9s,baz=99,slow=38							
TXAR	**Lajitas Array**	**36.45**	**312**	P		**P**	**17 02 03.5**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=118,slow=10,SNR=4.9							
PDAR	**Pinedale Array**	**49.07**	**324**	P		**P**	**17 03 36.6**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=121,slow=9.6,SNR=2.2							
YKA	**Yellowknife Ar**	**63.25**	**340**	P		**P**	**17 05 23.7**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=135,slow=6.9,SNR=12							
MKAR	**Makanchi Array**	**122.31**	**20**	PKP		**PKPdf**	**17 13 48.0**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=321,slow=3.7,SNR=2.4							
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc		**PKPbc**	**17 14 42.0**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=116,slow=3.6,SNR=12							
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc		**PKPbc**	**17 14 45.2**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=109,slow=2.6,SNR=8.1							
CMAR	**Chiang Mai Arr**	**153.68**	**17**	PKPbc		**PKPbc**	**17 14 52.8**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=330,slow=1.8,SNR=2.7							

IDC 14 16:57:10.7±8.2, 7.76S×127.80E, h128km±88km, mb3.1/1, mb1 3.3/4, mb1mx3.0/35, mbtmp3.6/4, ML3.5/3, Error ellipse: s-maj=79.0km s-min=27.2km az=32.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**4.75**	**239**	P		Pn	16 58 21.8	+1.3
	1.5nm,0.3s,baz=90,slow=2.0,SNR=1.2							
BATI				S		Sn	16 59 15.0	+0.2
	3.1nm,0.3s,baz=223,slow=23,SNR=7.8							
WRA	**Warramunga Arr**	**13.68**	**153**	P		Pn	17 00 17.5	-2.0
	0.2nm,0.3s,baz=322,slow=15,SNR=8.0							
WRA				S		Sn	17 02 43.1	-7.4
	0.2nm,0.3s,baz=35,slow=30,SNR=6.3							
ASAR	**Alice Springs**	**16.87**	**160**	P		Pn	17 01 00.7	+1.4
	0.2nm,0.3s,baz=339,slow=11,SNR=20							
ASAR				S		Sn	17 04 01.9	-5.6
	0.1nm,0.3s,baz=322,slow=22,SNR=5.0							
MKAR	**Makanchi Array**	**67.68**	**328**	P		P	17 07 54.0	-0.1
	0.3nm,0.6s,baz=145,slow=5.3,SNR=5.7							

MAN 14 17:08:13.8, 17.03N×119.99E, h30km, mb3.8, ML2.5, MS2.1, Philippine Islands region

NIED ***14*** *17:31:00, 39.40N×141.10E, h92km, Mw5.6 Best double couple: M₀2.44000×10¹⁷ NP1:φs19.00000°, δ83.00000°, λ-89.00000°. NP2:φs189.00000°, δ7.00000°, λ-100.00000°.*

KEA ***14*** *17:31:15.1±0.0, 39.80N×140.90E, h96km, mB5.5/1, MS4.9/1*

BJI ***14*** *17:31:38.6±0.0, 39.42N×141.11E, h96km, mB5.8/64, mb5.6/87*

MOS ***14*** *17:31:40.9±0.8, 39.50N×141.06E, h101km, mb5.9/80, MS4.7/21, Error ellipse: s-maj=4.9km s-min=3.6km az=101.4*

NEIC ***14*** *17:31:41.6±1.4, 39.44N±0.05×140.99E±0.09, h92km±1km, mb5.6/605, Mwb5.6/41, Mww5.5, Mwc5.6(GCMT), Error ellipse: s-maj=11.7km s-min=8.2km az=112.0*

UNK ***14*** *17:31:41.6, 39.44N×140.99E, h92km*

NEIC ***14*** *17:31:42.4, 39.49N×140.95E, h92km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-0.89; Mθθ0.15; Mφφ0.74; Mrθ-1.20; Mθφ0.31; Mφr-2.30; Fault plane solution: M₀2.74000×10¹⁷ NP1:φs27.34000°, δ80.63000°, λ-88.81000°. NP2:φs200.05000°, δ9.45000°, λ-97.19000°. Principal axes: T 2.7267, Plg36.0000°, Azm116.0000°; N 0.0216, Plg1.0000°, Azm207.0000°; P -2.7483, Plg54.0000°, Azm299.0000°;*

IDC ***14*** *17:31:42.1±0.4, 39.42N×140.94E, h95km±3km, mb5.0/30, mb1 5.1/33, mb1mx5.1/36, mbtmp5.4/33, MS4.2/36, Ms1 4.2/36, ms1mx4.2/40 Error ellipse: s-maj=9.2km s-min=7.6km az=106.0*

JMA ***14*** *17:31:42.1, 39.40N×141.11E, h94km±1km, M5.5 Broadband fault plane solution: P waves. NP1: φs224.00000°, δ24.00000°, λ-79.00000°. NP2:φs32.00000°, δ66.00000°, λ-95.00000°. Principal axes: T Plg21.0000°, Azm126.0000°; N Plg5.0000°, Azm34.0000°; P Plg68.0000°, Azm293.0000°;*

JMA Felt IV J1.

GCMT ***14*** *17:31:43.6±0.1, 39.45N±0.01×141.07E±0.01, h88km±1km, MW5.6/160, Moment Tensor Solution. s140,c259; s160,c326; Duration: 1s5 Moment tensor: Scale 10¹⁷ Nm; Mrr-1.22±.03; Mθθ-0.06±.03; Mφφ1.28±.03; Mrθ-0.90±.02; Mθφ0.28±.03; Mφr-2.38±.02; Best double couple: M₀2.84900×10¹⁷ NP1:φs182.00000°, δ14.00000°, λ-108.00000°. NP2:φs20.00000°, δ77.00000°, λ-86.00000°. Principal axes: T 2.8930, Plg32.0000°, Azm106.0000°; N -0.0860, Plg4.0000°, Azm199.0000°; P -2.8040, Plg58.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***14*** *17:31:44, 39.47N×141.08E, h96km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-1.10; Mθθ-0.18; Mφφ1.28; Mrθ-0.92; Mθφ0.20; Mφr-2.50; Fault plane solution: M₀2.93000×10¹⁷ NP1:φs173.00000°, δ13.00000°, λ-116.00000°. NP2:φs19.00000°, δ78.00000°, λ-84.00000°. Principal axes: T 2.9995, Plg33.0000°, Azm104.0000°; N -0.1479, Plg6.0000°, Azm198.0000°; P -2.8516, Plg56.0000°, Azm297.0000°;*

BGR ***14*** *17:31:45.4±0.0, 39.74N×141.21E, h98km±2km, mb6.0*

NEIC ***14*** *17:31:45, 39.57N×140.83E, h110km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-1.20; Mθθ0.39; Mφφ0.81; Mrθ-0.23; Mθφ0.26; Mφr-1.69; Fault plane solution: M₀2.02000×10¹⁷ NP1:φs209.00000°, δ17.00000°, λ-72.00000°. NP2:φs11.00000°, δ74.00000°, λ-95.00000°. Principal axes: T 1.8472, Plg29.0000°, Azm105.0000°; N 0.3110, Plg5.0000°, Azm12.0000°; P -2.1583, Plg61.0000°, Azm274.0000°;*

ISC 14 17:31:41.6±0.2, 39.45N±0.02×141.04E±0.02, h95km±1km, h95km:pP-P, n1951, σ1s39/2228, mb5.6/563, 149C-152D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JOM	**Ohasama**	**0.20**	**83**	⇓P		**Pn**	**17 31 55.4**	**+0.2**
JOM				S		**Sn**	**17 32 05.5**	**+0.2**
JSZI	**Iwateshizukuis**	**0.30**	**347**	⇓P		**Pn**	**17 31 56.7**	**+1.1**
JSZI				*eS*		**Sn**	**17 32 07.7**	**+1.7**
JRG	**Rokugo**	**0.32**	**261**	⇑P		**Pn**	**17 31 56.5**	**+0.8**
JRG				S		**Sn**	**17 32 07.4**	**+1.2**
JMK	**Ichinoseki**	**0.52**	**164**	⇓P		**Pn**	**17 31 56.8**	**-0.2**
JMK				S		**Sn**	**17 32 07.7**	**-0.7**
JKZ	**Kuzumaki**	**0.58**	**23**	⇓P		**Pn**	**17 31 58.5**	**+0.9**
JKZ				S		**Sn**	**17 32 10.5**	**+1.0**
OFUJ	**Ofunato**	**0.61**	**127**	⇓P		**Pn**	**17 31 57.7**	**-0.1**
MIYJ	**Miyakonagasawa**	**0.62**	**78**	⇓P		**Pn**	**17 31 58.1**	**+0.3**
JYW	**Yuwa**	**0.65**	**278**	⇑P		**Pn**	**17 31 59.2**	**+1.2**
JKMT	**Kesennumamotoy**	**0.72**	**152**	⇓P		**Pn**	**17 31 58.5**	**-0.2**
JYK	**Kaneyama**	**0.75**	**225**	⇑P		**Pn**	**17 31 59.7**	**+0.7**
JYK				S		**Sn**	**17 32 13.0**	**+1.0**
JAH	**Hinai**	**0.80**	**337**	⇑P		**Pn**	**17 32 01.0**	**+1.5**
JAH				*eS*		**Sn**	**17 32 15.1**	**+2.2**
JOFO	**Osakifurukawao**	**0.85**	**187**	⇓P		**Pn**	**17 32 00.6**	**+0.6**
JKEN	**Kujiedanarisaw**	**0.92**	**34**	⇓P		**Pn**	**17 32 01.3**	**+0.6**
JYYZ	**Yamagatayuza**	**0.96**	**244**	⇑P		**Pn**	**17 32 02.6**	**+1.4**
JANG	**Nango**	**0.99**	**21**	⇓P		**Pn**	**17 32 02.6**	**+1.0**
JANG				S		**Sn**	**17 32 17.7**	**+1.1**
JIO	**Ouri**	**1.02**	**166**	⇓P		**Pn**	**17 32 01.6**	**-0.3**
JIO				S		**Sn**	**17 32 16.0**	**-1.1**
JNTW	**Noshirotokiwa**	**1.06**	**321**	⇑P		**Pn**	**17 32 04.0**	**+1.7**
JOU	**Okura**	**1.12**	**195**	P		**Pn**	**17 32 03.6**	**+0.5**
JOU				*eS*		**Sn**	**17 32 19.8**	**+0.6**
JTB	**Tobi-shima**	**1.18**	**258**	⇑P		**Pn**	**17 32 04.2**	**+0.6**
JIKH	**Ishinomakikobu**	**1.19**	**164**	⇓P		**Pn**	**17 32 03.5**	**-0.3**
JHHS	**Hirosakihyakuz**	**1.31**	**337**	⇑P		**Pn**	**17 32 07.5**	**+2.2**
JTM	**Tenmabayashi**	**1.34**	**1**	⇑P		**Pn**	**17 32 07.2**	**+1.6**
JTM				*eS*		**Sn**	**17 32 25.8**	**+2.1**
JYA	**Atsumi**	**1.34**	**231**	⇑P		**Pn**	**17 32 06.5**	**+0.9**
JYA				*eS*		**Sn**	**17 32 24.8**	**+1.0**
JIW	**Iwasaki**	**1.39**	**326**	⇑P		**Pn**	**17 32 07.9**	**+1.7**
JYS	**Shirataka**	**1.44**	**212**	P		**Pn**	**17 32 07.9**	**+1.0**
JYS				*eS*		**Sn**	**17 32 27.2**	**+1.2**
JARK	**Aomorirokkasho**	**1.58**	**9**	⇑P		**Pn**	**17 32 10.0**	**+1.5**
JOG3	**Oga3**	**1.58**	**288**	⇑P		Pn	17 32 03.3	-5.3
JMM	**Marumori**	**1.59**	**187**	⇓P		**Pn**	**17 32 08.9**	**+0.1**
JSI2	**Shiura 2**	**1.68**	**344**	⇑P		**Pn**	**17 32 11.6**	**+1.8**
JYAR	**Yonezawaarcadi**	**1.69**	**205**	⇑P		**Pn**	**17 32 10.9**	**+0.9**
JAW	**Awa shima**	**1.71**	**235**	⇑P		**Pn**	**17 32 11.3**	**+1.0**
JAW				*eS*		**Sn**	**17 32 33.6**	**+1.6**
JMST	**Minamisoumatoc**	**1.73**	**184**	⇓P		**Pn**	**17 32 10.6**	**+0.1**
JAHD	**Aomorihigashid**	**1.83**	**7**	⇑P		**Pn**	**17 32 13.4**	**+1.7**
JOT	**Ohata**	**1.93**	**0**	⇑P		**Pn**	**17 32 14.9**	**+1.8**
JFT	**Otama**	**2.00**	**196**	⇓P		**Pn**	**17 32 15.2**	**+1.1**
JFK	**Kawauchi**	**2.08**	**184**	⇑P		**Pn**	**17 32 15.4**	**+0.3**
JNS	**Sasagawa**	**2.11**	**220**	⇑P		**Pn**	**17 32 16.5**	**+1.0**
JSR	**Shiriuchi**	**2.13**	**347**	⇑P		**Pn**	**17 32 17.9**	**+2.2**
JFY	**Yanaizu**	**2.29**	**208**	⇑P		**Pn**	**17 32 19.4**	**+1.5**
ONAJ	**Iwakimizuishiy**	**2.35**	**185**	⇑P		**Pn**	**17 32 18.7**	**0.0**
JKB	**Kayabe**	**2.44**	**360**	⇑P		**Pn**	**17 32 21.5**	**+1.8**
JSD	**Sado**	**2.59**	**238**	⇑P		**Pn**	**17 32 22.7**	**+1.0**
JSB	**Shiboa**	**2.63**	**200**	⇑P		**Pn**	**17 32 24.1**	**+1.8**
JIZZ	**Izumozaki**	**2.65**	**224**	⇑P		**Pn**	**17 32 24.6**	**+2.1**
JHK	**Hiroka**	**2.71**	**217**	⇑P		**Pn**	**17 32 24.8**	**+1.4**
JHO	**Hitachi**	**2.86**	**188**	P		**Pn**	**17 32 25.3**	**-0.1**
JNB	**Noboribetsu**	**3.02**	**360**	P		**Pn**	**17 32 28.8**	**+1.4**
ERM	**Erimo**	**3.03**	**31**	*ce*P		**Pn**	**17 32 27.4**	**-0.1**
ERM					pmax	pmax		
	comp=Z,4μm,0.8s							
ERM	**Erimo**	**3.03**	**31**			**Pn**	**17 32 27.4**	**-0.1**
JEM	**Erimo**	**3.03**	**31**	⇑P		**Pn**	**17 32 27.7**	**+0.1**
JKT	**Katashina**	**3.03**	**208**	⇑P		**Pn**	**17 32 29.9**	**+2.2**
JHYU	**Hitachinakayam**	**3.12**	**187**	P		**Pn**	**17 32 28.4**	**-0.5**
JSHD	**Hidakashinhida**	**3.15**	**20**	⇑P		**Pn**	**17 32 30.1**	**+0.9**
JJN	**Nakama**	**3.26**	**225**	⇑P		**Pn**	**17 32 32.7**	**+2.0**
JAG	**Ashikaga**	**3.27**	**203**	P		**Pn**	**17 32 32.4**	**+1.5**
JEW	**Eniwo**	**3.40**	**5**	⇑P		**Pn**	**17 32 33.6**	**+1.8**
JGK	**Kuni**	**3.45**	**214**	⇑P		**Pn**	**17 32 36.0**	**+2.7**
JBT2	**Biratori 2**	**3.47**	**16**	⇑P		**Pn**	**17 32 34.0**	**+0.4**
JIHU	**Itakohorinouch**	**3.50**	**187**	⇓P		**Pn**	**17 32 33.4**	**-0.6**
JHG	**Hegura jima**	**3.60**	**245**	⇑P		**Pn**	**17 32 36.8**	**+1.5**
JCH	**Churui**	**3.62**	**28**	⇑P		**Pn**	**17 32 35.3**	**-0.2**
MJB9	**Matsu-Tunnel**	**3.66**	**219**	Pn		**Pn**	**17 32 37.8**	**+1.6**
MAJO	**Matsushiro**	**3.66**	**219**	*c*P		**Pn**	**17 32 38.1**	**+1.9**
MAJO	**Matsushiro**	**3.66**	**219**	Pn		**Pn**	**17 32 37.9**	**+1.7**
MJAR	**Matsushiro Arr**	**3.66**	**218**	P		**Pn**	**17 32 37.4**	**+1.2**
	comp=Z,14nm,0.3s,baz=26,slow=14,SNR=1240							
MJAR	**Matsushiro Arr**	**3.66**	**218**			**Pn**	**17 32 37.6**	**+1.4**
MAT	**Matsushiro**	**3.66**	**219**	P		**Pn**	**17 32 38.1**	**+1.9**
MAT				*eS*		**Sn**	**17 32 31.3**	**+2.9**
MAT	**Matsushiro**	**3.66**	**219**	P		**Pn**	**17 32 38.1**	**+1.9**
JRY	**Ryogami san**	**3.82**	**207**	P		**Pn**	**17 32 39.5**	**+1.1**
JNG	**Nsakai**	**3.82**	**218**	P		**Pn**	**17 32 40.7**	**+2.3**
JSMT	**Sammumatsuo**	**3.83**	**187**	P		**Pn**	**17 32 37.7**	**-0.7**
JTT	**Ttatey**	**4.08**	**227**	⇑P		**Pn**	**17 32 44.0**	**+2.2**
JAB	**Ashibetsu**	**4.15**	**12**	⇑P		**Pn**	**17 32 43.4**	**+0.7**
JJH	**Hakui**	**4.20**	**234**	⇑P		**Pn**	**17 32 45.2**	**+1.9**
JNT	**Takato**	**4.25**	**214**	P		**Pn**	**17 32 46.0**	**+1.8**
JAR	**Ashorobuto**	**4.36**	**27**	⇑P		**Pn**	**17 32 44.5**	**-1.0**
JGN	**Niukaw**	**4.37**	**224**	⇑P		**Pn**	**17 32 48.6**	**+2.9**
JAK	**Akkeshi**	**4.49**	**37**	⇑P		**Pn**	**17 32 45.7**	**-1.6**
JKK2	**Kamakawa 2**	**4.60**	**16**	⇑P		**Pn**	**17 32 48.9**	**+0.1**
BSO3	**Boso 3**	**4.66**	**185**	P		**Pn**	**17 32 48.4**	**-1.0**
JKHN	**Kushirohamanak**	**4.78**	**39**	⇑P		**Pn**	**17 32 49.9**	**-1.3**
JNY	**Yasuok**	**4.80**	**213**	P		**Pn**	**17 32 53.1**	**+1.4**
ASAJ	**Asahikawa**	**4.81**	**14**	P		**Pn**	**17 32 51.5**	**-0.2**
	comp=Z,104nm,0.3s,baz=230,slow=11,SNR=807							
ASAJ				S		**Sn**	**17 33 49.8**	**+3.8**
	comp=Z,143nm,0.3s,baz=59,slow=27,SNR=3.7							
ASAJ	**Asahikawa**	**4.81**	**14**	⇑P		**Pn**	**17 32 51.4**	**-0.2**
JKA	**Kamikawa-asahi**	**4.81**	**14**			**Pn**	**17 32 51.5**	**-0.1**
JKA						**Sn**	**17 33 49.8**	**+3.8**
JGF	**Kuroka**	**4.83**	**218**	P		**Pn**	**17 32 54.2**	**+2.2**
JMP	**Maruseppu**	**4.87**	**20**	⇑P		**Pn**	**17 32 52.1**	**-0.4**
JKG	**Kaga**	**4.89**	**231**	⇑P		**Pn**	**17 32 55.0**	**+2.3**
JNK	**Nakash**	**4.97**	**33**	⇑P		**Pn**	**17 32 51.9**	**-1.9**
JTKR	**Abashiri--Toko**	**5.00**	**24**	⇑P		**Pn**	**17 32 53.3**	**-0.9**
JYTA	**Yamagatataniai**	**5.15**	**223**	⇓P		**Pn**	**17 32 58.7**	**+2.4**
INU	**Inuyama**	**5.20**	**219**	Pn		**Pn**	**17 32 58.5**	**+1.6**
JNSB	**Nemuroshibetsu**	**5.25**	**33**	⇑P		**Pn**	**17 32 56.0**	**-1.5**
NMR	**Nemuro--Hokkai**	**5.27**	**40**	*c*P		**Pn**	**17 32 55.6**	**-2.2**
NMR				*i*	S	**Sn**	**17 33 51.3**	**-5.9**
NEM2	**Nemuro 2**	**5.27**	**41**	⇑P		**Pn**	**17 32 55.6**	**-2.3**
JICN	**Ichinomiyachia**	**5.32**	**220**	P		**Pn**	**17 33 01.3**	**+2.7**
JFM	**Mihama**	**5.61**	**227**	P		**Pn**	**17 33 05.4**	**+2.9**
GRPR	**Tuman**	**5.76**	**36**	*d*P		**Pn**	**17 33 03.6**	**-0.9**
GRPR				*i*	S	**Sn**	**17 34 04.0**	**-5.1**
GRPR					pmax	pmax		
	comp=E,734nm,0.4s							
GRPR					pmax	pmax		
	comp=Z,2μm,0.4s							
GRPR					pmax	pmax		
	comp=N,622nm,0.4s							
GRPR					pmax	pmax		
	comp=Z,2μm,1.3s							
GRPR					smax	smax		
	comp=N,18μm,0.5s							
GRPR					smax	smax		
	comp=E,12μm,0.5s							
LAGR	**Lagunnoye**	**5.81**	**36**	*d*	P	**Pn**	**17 33 04.2**	**-1.0**
LAGR				*i*	S	**Sn**	**17 34 05.9**	**-4.5**
LAGR					pmax	pmax		
	comp=Z,7μm,1.4s							
LAGR					pmax	pmax		
	comp=N,2μm,0.4s							
LAGR					pmax	pmax		
	comp=Z,3μm,0.4s							
LAGR					pmax	pmax		
	comp=E,1μm,0.3s							
LAGR					smax	smax		
	comp=E,61μm,1.3s							
LAGR					smax	smax		
	comp=N,20μm,1.2s							
LAGR					smax	smax		
	comp=E,25μm,0.7s							
LAGR					smax	smax		
	comp=N,18μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**5.83**	**37**	*c*	P	**Pn**	**17 33 03.9**	**-1.6**
YUK				*i*	S	**Sn**	**17 34 05.1**	**-5.8**
YUK					pmax	pmax		
	comp=N,360nm,0.4s							
YUK					pmax	pmax		
	comp=E,693nm,0.4s							
YUK					pmax	pmax		
	comp=Z,3μm,0.4s							
YUK					pmax	pmax		
	comp=Z,5μm,1.2s							
YUK					smax	smax		
	comp=E,15μm,1.1s							
YUK					smax	smax		
	comp=N,56μm,1.3s							
YUK					smax	smax		
	comp=N,25μm,0.6s							
YUK					smax	smax		
	comp=E,18μm,0.6s							
YUK					MLR	MLR		
	comp=Z,2μm,12.0s							
YUK					MLR	MLR		
	comp=E,3μm,13.0s							
YUK					MLR	MLR		
	comp=N,2μm,11.0s							
JHJ	**Hachijo jima 2**	**6.40**	**189**		P	**Pn**	**17 33 11.0**	**-2.3**
	comp=N,189nm,0.3s,baz=314,slow=16,SNR=131							
JHJ					S	**Sn**	**17 34 19.8**	**-5.1**
	comp=N,566nm,0.3s,baz=222,slow=21,SNR=8.8							
JHJ					LR	LR	17 36 08.4	
	comp=N,2μm,19.6s,baz=326,slow=42							
JHJ2	**Mitsune**	**6.40**	**189**		Pn	**Pn**	**17 33 11.1**	**-2.2**
JKN2	**Miekihoku**	**6.45**	**218**		P	**Pn**	**17 33 14.4**	**+0.4**
TEY	**Ternei**	**6.48**	**331**	⇓	*i*P	**Pn**	**17 33 16.6**	**+2.3**
TEY					*e*S	**Sn**	**17 34 32.1**	**+5.4**
TEY					pmax	pmax		
	comp=Z,5μm,1.6s							
TEY					pmax	pmax		
	comp=N,5μm,1.5s							
TEY					pmax	pmax		
	comp=E,3μm,1.5s							
TEY					smax	smax		
	comp=E,6μm,1.6s							
TEY					smax	smax		
	comp=N,4μm,1.5s							
TEY					MLR	MLR		
	comp=E,2μm,10.0s							
TEY					MLR	MLR		
	comp=N,3μm,13.0s							
TEY					MLR	MLR		
	comp=Z,4μm,10.0s							
JMMH	**Miemihama**	**6.91**	**217**		P	**Pn**	**17 33 20.1**	**-0.2**
YSS	**Yuzh-Sakhalins**	**7.61**	**9**	⇑	*e*P	**Pn**	**17 33 29.3**	**-0.3**
YSS					*e*S	**Sn**	**17 34 51.3**	**-2.8**
YSS					pmax	pmax		
	comp=Z,1μm,3.1s							
YSS					pmax	pmax		
	comp=N,1μm,2.5s							
YSS					pmax	pmax		
	comp=E,500nm,3.7s							
YSS					pmax	pmax		
	comp=Z,770nm,0.7s							
YSS				

TJN	**Taejon**	**11.23**	**258**	*d*	*i*P	**Pn**	**17 34 21.3**	**+2.3**
INCN	**Inchon**	**11.46**	**265**		P	**Pn**	**17 34 23.6**	**+1.4**
INCN	**Inchon**	**11.46**	**265**			**Pn**	**17 34 23.6**	**+1.4**
TYV	**Tymovskoe**	**11.47**	**5**		*e*P	**Pn**	**17 34 22.0**	**-0.1**
TYV					*e*S	**Sn**	**17 36 28.4**	**+0.3**
TYV					pmax	pmax		
	comp=Z,400nm,2.2s							
TYV					pmax	pmax		
	comp=Z,306nm,0.9s							
TYV					smax	smax		
	comp=N,1μm,3.3s							
TYV					smax	smax		
	comp=E,86nm,1.2s							
GRNR	**Gornyy**	**11.78**	**345**	⇑	*i*P	**Pn**	**17 34 25.7**	**-0.6**
GRNR					*e*S	**Sn**	**17 36 35.3**	**-0.3**
GRNR					pmax	pmax		
	comp=N,140nm,0.8s							
GRNR					pmax	pmax		
	comp=E,80nm,0.8s							
GRNR					pmax	pmax		
	comp=Z,180nm,0.8s							
GRNR					smax	smax		
	comp=N,40nm,1.1s							
GRNR					MLR	MLR		
	comp=E,850nm,10.0s							
PYAG	**Pyongyang**	**11.86**	**273**		P	**Pn**	**17 34 30.0**	**+2.6**
PYAG					PP		17 34 42.0	
PYAG					sP		17 34 57.0	
PYAG					S	**Sn**	**17 36 39.0**	**+1.3**
PYAG					SS		17 36 56.0	
HJU	**Haeju**	**12.04**	**268**		P	**Pn**	**17 34 31.9**	**+2.0**
CN2	**Changchun**	**12.45**	**295**		*e*P	**Pn**	**17 34 32.9**	**-2.3**
CN2					*e*sP	P	17 35 00.1	+17
CN2					*e*S	**Sn**	**17 36 49.4**	**-2.6**
CN2					pmax	pmax		
	comp=E,100nm,1.5s							
CN2					pmax	pmax		
	comp=E,1μm,5.0s							
CN2					LR	LR		
	comp=E,2μm,12.0s							
CN2					LR	LR		
	comp=E,1μm,12.0s							
CN2					LR	LR		
	comp=E,2μm,12.0s							
SUJ	**Sinuiju**	**12.75**	**278**		P	**Pn**	**17 34 39.8**	**+0.6**
SNY	**Shenyang**	**13.47**	**286**	⇓	*i*P	**Pn**	**17 34 49.5**	**+0.7**
SNY					pP	P	17 35 03.1	+8.5
SNY					sP		17 35 17.1	
SNY					S	Sn	17 37 07.0	-10
SNY					pmax	pmax		
	comp=E,85nm,2.0s							
SNY					pmax	pmax		
	comp=E,1μm,7.5s							
SNY					LR	LR		
	comp=E,1μm,8.1s							
SNY					LR	LR		
	comp=E,1μm,10.4s							
SNY					LR	LR		
	comp=E,2μm,11.0s							
NKL	**Nikolayevsk**	**13.71**	**359**		*e*P	**Pn**	**17 34 48.2**	**-3.5**
NKL					pmax	pmax		
	comp=Z,198nm,1.3s							
NKL					pmax	pmax		
	comp=N,2.0nm,1.1s							
NKL					pmax	pmax		
	comp=E,3.0nm,1.1s							
OKH	**Okha**	**14.16**	**5**	*d*	*e*P	**Pn**	**17 34 58.2**	**+0.6**
OKH					*e*S	**Sn**	**17 37 33.5**	**+0.1**
OKH					pmax	pmax		
	comp=Z,200nm,13.5s							
OKH					smax	smax		
	comp=E,1μm,11.0s							
OKH					MLR	MLR		
	comp=Z,1μm,13.0s							
OKH					MLR	MLR		
	comp=N,900nm,12.0s							
DL2	**Dalian**	**15.07**	**274**		P	**Pn**	**17 35 10.0**	**+0.7**
DL2					sP	**pP**	**17 35 34.1**	**+4.1**
DL2					S	**Sn**	**17 37 58.1**	**+2.6**
DL2					pmax	pmax		
	comp=N,890nm,1.3s							
DL2					pmax	pmax		
	comp=N,2μm,4.5s							
DL2					LR	LR		
	comp=N,2μm,11.5s							
DL2					LR	LR		
	comp=N,2μm,12.6s							
DL2					LR	LR		
	comp=N,4μm,30.0s							
SKR	**Severo-Kuril's**	**15.45**	**38**		*e*P	**P**	**17 35 15.3**	**-1.1**
SKR					*e*S	**Sn**	**17 38 07.0**	**+2.6**
SKR					pmax	pmax		
	comp=Z,600nm,3.1s							
SKR					pmax	pmax		
	comp=Z,200nm,3.4s							
SKR					pmax	pmax		
	comp=Z,234nm,1.0s							
SKR					MLR	MLR		
	comp=Z,900nm,14.0s							
SKR					MLR	MLR		
	comp=Z,1μm,12.0s							
JOW	**Kunigami**	**16.49**	**224**		P	**Pn**	**17 35 26.8**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=94,slow=14,SNR=10							
JOW	**Kunigami**	**16.49**	**224**			**Pn**	**17 35 27.6**	**+0.4**
ZEA	**Zeya**	**17.10**	**331**		*e*P	**Pn**	**17 35 31.4**	**-3.1**
ZEA					*e*S	Sn	17 38 31.0	-13
ZEA					pmax	pmax		
	comp=N,370nm,1.0s							
ZEA					pmax	pmax		
	comp=E,220nm,1.0s							
ZEA					pmax	pmax		
	comp=Z,600nm,1.0s							
ZEA					pmax	pmax		
	comp=Z,2μm,6.0s							
ZEA					smax	smax		
	comp=E,500nm,6.0s							
ZEA					MLR	MLR		
	comp=Z,2μm,11.0s							
ZEA					MLR	MLR		
	comp=N,2μm,10.0s							
PEA0B	**Petropavlovsk-**	**17.80**	**34**	*d*	*e*P	**P**	**17 35 42.7**	**+0.2**
PEA0B	**Petropavlovsk-**	**17.80**	**34**		P	**P**	**17 35 40.1**	**-2.4**
PETK	**Petropavlovsk-**	**17.80**	**34**		P	**P**	**17 35 40.1**	**-2.4**
	comp=N,0.9nm,0.3s,baz=216,slow=9.1,SNR=31							
PETK					LR	LR	17 42 43.3	
	comp=N,548nm,18.1s,baz=221,slow=37							
PETK	**Petropavlovsk-**	**17.80**	**34**		P	**P**	**17 35 39.6**	**-2.9**
PETK	**Petropavlovsk-**	**17.80**	**34**		P	**P**	**17 35 39.6**	**-2.9**
HIA	**Hailar**	**18.06**	**310**		P	**P**	**17 35 43.4**	**-2.0**
HIA					pmax	pmax		
	comp=Z,104nm,0.9s							
HIA	**Hailar**	**18.06**	**310**		P	**P**	**17 35 43.4**	**-2.0**
PET	**Petropavlovsk**	**18.17**	**36**		*e*P	**Pn**	**17 35 47.0**	**-0.4**
PET					*e*S	**S**	**17 39 02.2**	**-7.0**
PET					pmax	pmax		
	comp=Z,300nm,15.1s							
PET					pmax	pmax		
	comp=Z,96nm,0.8s							
PET					MLR	MLR		
	comp=Z,2μm,13.0s							
PET					MLR	MLR		
	comp=Z,2μm,13.0s							
PET	**Petropavlovsk**	**18.17**	**36**		P	**P**	**17 35 45.9**	**-0.6**
SSE	**Sheshan**	**18.20**	**249**		P	**P**	**17 35 46.5**	**-0.5**
SSE					S	**S**	**17 39 08.4**	**-1.8**
SSE					pmax	pmax		
	comp=Z,63nm,1.8s							
SSE					LR	LR		
	comp=Z,500nm,13.9s							
SSE					LR	LR		
	comp=Z,690nm,12.6s							
SSE	**Sheshan**	**18.20**	**249**		P	**P**	**17 35 46.1**	**-0.9**
SSE					IAmb	IAmb	17 35 50.9	
	comp=Z,759nm,1.4s							
BJI	**Beijing**	**19.12**	**280**		P	**P**	**17 35 55.6**	**-1.4**
BJI					pP	**pP**	**17 36 15.0**	**0.0**
BJI					S	**S**	**17 39 25.9**	**-2.7**
BJI					pmax	pmax		
	comp=Z,250nm,1.5s							
BJI					LR	LR		
	comp=Z,490nm,12.0s							
BJI					LR	LR		
	comp=Z,2μm,12.6s							
BJT	**Baijiatuau**	**19.12**	**280**		P	**P**	**17 35 55.6**	**-1.5**
BJT					pmax	pmax		
	comp=Z,370nm,1.3s							
BJT	**Baijiatuau**	**19.12**	**280**		P	**P**	**17 35 55.6**	**-1.5**
BJT					IAmb	IAmb	17 35 58.0	
	comp=Z,370nm,1.3s							
NJ2	**Nanjing**	**19.43**	**255**		*e*P	**P**	**17 36 00.3**	**-0.1**
NJ2					PP	**PnPn**	**17 36 22.3**	**+2.8**
NJ2					sP	**sP**	**17 36 31.1**	**+0.6**
NJ2					S	**S**	**17 39 31.5**	**-3.5**
NJ2					pmax	pmax		
	comp=Z,370nm,1.0s							
NJ2					pmax	pmax		
	comp=Z,2μm,4.7s							
NJ2					LR	LR		
	comp=Z,1μm,12.7s							
NJ2					LR	LR		
	comp=Z,3μm,11.8s							
NJ2					LR	LR		
	comp=Z,2μm,10.8s							
MA2	**Magadan**	**21.07**	**14**		LR	LR	17 44 18.0	
	comp=Z,675nm,21.9s,baz=198,slow=36							
MA2	**Magadan**	**21.07**	**14**	*d*	*i*P	**P**	**17 36 18.4**	**+0.5**
MA2					pmax	pmax		
	comp=Z,434nm,1.3s							
MA2	**Magadan**	**21.07**	**14**		P	**P**	**17 36 17.5**	**-0.4**
MA2					IAmb	IAmb	17 36 19.8	
	comp=Z,352nm,1.0s							
YOJ	**Yonaguni jima**	**21.32**	**231**		P	**P**	**17 36 18.2**	**-2.7**
YOJ					pmax	pmax		
	comp=Z,286nm,1.5s							
YOJ	**Yonaguni jima**	**21.32**	**231**		P	**P**	**17 36 18.2**	**-2.7**
YOJ					IAmb	IAmb	17 36 35.1	
	comp=Z,286nm,1.5s							
TATO	**Taipei**	**21.89**	**235**		P	**P**	**17 36 25.0**	**-1.8**
TATO					IAmb	IAmb	17 37 14.9	
	comp=Z,229nm,1.1s							
YHNB	**Yeheng**	**22.18**	**234**		P	**P**	**17 36 26.8**	**-3.2**
TIY	**Taiyuan**	**22.39**	**275**		*e*P	**P**	**17 36 33.8**	**+1.6**
TIY					pP	**pP**	**17 36 52.3**	**+1.4**
TIY					S	**S**	**17 40 27.5**	**-4.3**
TIY					pmax	pmax		
	comp=Z,110nm,1.3s							
TIY					pmax	pmax		
	comp=Z,920nm,3.9s							
TIY					LR	LR		
	comp=Z,1μm,11.5s							
TIY					LR	LR		
	comp=Z,1μm,9.3s							
TIY					LR	LR		
	comp=Z,2μm,12.2s							
NACB	**Ninganchiao**	**22.40**	**233**		P	**P**	**17 36 27.5**	**-4.8**
HHC	**Hu-ho-hao-te**	**22.53**	**283**	⇑	*i*P	**P**	**17 36 32.0**	**-1.7**
HHC					pP	pP	17 36 53.0	+0.7
HHC					sP	sP	17 37 04.0	-0.1
HHC					S	**S**	**17 40 27.5**	**-6.6**
HHC					sS	sS	17 41 02.0	-5.1
HHC					pmax	pmax		
	comp=Z,97nm,1.2s							
HHC					pmax	pmax		
	comp=Z,270nm,5.2s							
HHC					LR	LR		
	comp=Z,1μm,17.1s							
HHC					LR	LR		
	comp=Z,870nm,17.3s							
HHC					LR	LR		
	comp=Z,1μm,19.8s							
CIT	**Chita**	**22.78**	**313**		*e*P	**P**	**17 36 32.5**	**-3.5**
CIT					*e*		17 37 02.2	
CIT					*e*		17 37 12.8	
CIT					pmax	pmax		
	comp=Z,554nm,1.3s							
SSLB	**Suanglung**	**23.08**	**233**		P	**P**	**17 36 34.5**	**-4.7**
YULB	**Yu-li**	**23.16**	**232**		P	**P**	**17 36 35.6**	**-4.3**
WHN	**Wuhan**	**23.53**	**256**		P	**P**	**17 36 37.8**	**-5.5**
WHN	**Wuhan**	**23.53**	**256**	⇑	P	**P**	**17 36 41.4**	**-1.9**
WHN					pP	**pP**	**17 37 07.8**	**+4.7**
WHN					S	**S**	**17 40 52.3**	**+2.3**
WHN					pmax	pmax		
	comp=Z,500nm,1.1s							
WHN					LR	LR		
	comp=Z,2μm,11.2s							
WHN					LR	LR		
	comp=Z,4μm,13.2s							
WHN					LR	LR		
	comp=Z,4μm,24.0s							
TPUB	**Ta-pu**	**23.64**	**233**		P	**P**	**17 36 41.8**	**-2.5**
YAK	**Yakutsk**	**23.65**	**347**		LR	LR	17 45 48.4	
	comp=Z,786nm,21.9s,baz=175,slow=36							
YAK	**Yakutsk**	**23.65**	**347**	*c*	*i*P	**P**	**17 36 42.4**	**-1.6**
YAK					*e**PP	**pP**	**17 37 00.2**	**-4.0**
YAK					*e*S	**S**	**17 40 47.3**	**-4.1**
YAK					*e**SS	**sS**	**17 41 25.6**	**-2.0**
YAK					*e*		17 47 38.4	
YAK					pmax	pmax		
	comp=Z,1μm,0.9s							
YAK					pmax	pmax		
	comp=N,540nm,1.1s							
YAK					pmax	pmax		
	comp=E,145nm,1.0s							
YAK					smax	smax		
	comp=E,2μm,1.9s							
YAK					smax	smax		
	comp=N,4μm,1.7s							
YAK	**Yakutsk**	**23.65**	**347**		P	**P**	**17 36 41.9**	**-2.1**
YAK						**S**	**17 40 49.8**	**-1.6**
BTO	**Baotou**	**23.72**	**283**		*e*P	**P**	**17 36 43.4**	**-1.6**
TWG	**Pinlang**	**23.72**	**232**		P	**P**	**17 36 43.0**	**-2.1**
QZH	**Quanzhou**	**23.79**	**239**	⇓	*i*P	**P**	**17 36 45.4**	**-0.2**
QZH					sP	**sP**	**17 37 15.3**	**-2.3**
QZH					S	**S**	**17 40 52.0**	**-2.2**
QZH					pmax	pmax		
	comp=N,110nm,1.6s							
KNMB	**Chin-men Tao**	**24.25**	**239**		P	**P**	**17 36 47.8**	**-1.9**
KNMB					IAmb	IAmb	17 36 51.3	
	comp=Z,571nm,1.7s							
BOD	**Bodaibo**	**25.35**	**325**		*e*P	**P**	**17 36 59.3**	**-0.2**
BOD					pmax	pmax		
	comp=Z,178nm,1.0s							
ULN	**Ulaanbaatar**	**25.82**	**300**		P	**P**	**17 37 03.1**	**-0.9**
ULN	**Ulaanbaatar**	**25.82**	**300**	*d*	*i*P	**P**	**17 37 02.9**	**-1.1**
ULN					pmax	pmax		
	comp=Z,58nm,1.1s							
ULN	**Ulaanbaatar**	**25.82**	**300**		P	**P**	**17 37 02.4**	**-1.6**
GUMO	**Guam**	**25.98**	**171**		P	**P**	**17 37 05.6**	**+0.1**
GUMO					pmax	pmax		
	comp=Z,379nm,1.4s							
GUMO	**Guam**	**25.98**	**171**		P	**P**	**17 37 05.6**	**+0.1**
GUMO					IAmb	IAmb	17 38 00.4	
	comp=Z,379nm,1.4s							
XAN	**Xi'an**	**26.21**	**268**		P	**P**	**17 37 05.6**	**-1.9**
XAN					pP	pP	17 37 28.3	-0.4
XAN					PP	**PnPn**	**17 37 50.0**	**-2.0**
XAN					PcP	**PcP**	**17 40 32.8**	**+0.8**
XAN					S	**S**	**17 41 24.5**	**-8.3**
XAN					pmax	pmax		
	comp=Z,160nm,1.5s							
XAN					pmax	pmax		
	comp=Z,940nm,6.5s							
XAN					LR	LR		
	comp=Z,750nm,14.7s							
XAN					LR	LR		
	comp=Z,2μm,13.1s							
XAN					LR	LR		
	comp=Z,4μm,35.8s							
XAN	**Xi'an**	**26.21**	**268**		P	**P**	**17 37 05.7**	**-1.9**
XAN					pmax	pmax		
	comp=Z,254nm,1.3s							
XAN	**Xi'an**	**26.21**	**268**		P	**P**	**17 37 05.7**	**-1.9**
XAN					IAmb	IAmb	17 37 09.2	
	comp=Z,254nm,1.3s							
SMY	**Shemya**	**26.23**	**49**		P	**P**	**17 37 07.5**	**0.0**
SMY					pmax	pmax		
	comp=Z,301nm,1.1s							
SMY	**Shemya**	**26.23**	**49**		P	**P**	**17 37 07.5**	**0.0**
SMY					IAmb	IAmb	17 37 47.2	
	comp=Z,301nm,1.1s							
SONM	**Songino Array**	**26.26**	**300**		P	**P**	**17 37 06.9**	**-1.1**
	comp=Z,26nm,0.7s,baz=97,slow=7.9,SNR=64							
SONM					pP	**pP**	**17 37 30.1**	**+0.9**
	comp=Z,21nm,0.8s,baz=105,slow=6.8,SNR=4.9							
SONM					PcP	**PcP**	**17 40 31.7**	**-0.3**
	comp=Z,5.0nm,0.8s,baz=97,slow=2.4,SNR=1.9							
SONM					ScP	**ScP**	**17 44 02.9**	**-0.1**
	comp=Z,24nm,1.0s,baz=124,slow=3.0,SNR=20							
SONM	**Songino Array**	**26.26**	**300**		ScP	**ScP**	**17 44 02.5**	**-0.6**
SONM	**Songino Array**	**26.26**	**300**		P	**P**	**17 37 06.2**	**-1.7**
ENH	**Enshi**	**27.35**	**260**		P	**P**	**17 37 16.2**	**-1.6**
ENH					IAmb	IAmb	17 37 22.2	
	comp=Z,174nm,0.8s							
IRK	**Irkutsk**	**28.30**	**309**		*e*P	**P**	**17 37 25.8**	**-0.2**
IRK					pmax	pmax		
	comp=Z,131nm,2.6s							
TLY	**Talaya**	**28.57**	**308**		P	**P**	**17 37 28.5**	**0.0**
	comp=Z,6.2nm,0.4s,baz=187,slow=23,SNR=5.9							
TLY					LR	LR	17 49 02.5	
	comp=Z,1μm,18.7s,baz=107,slow=36							
TLY	**Talaya**	**28.57**	**308**		P	**P**	**17 37 28.6**	**+0.1**
TLY	**Talaya**	**28.57**	**308**	*d*	*i*P	**P**	**17 37 27.8**	**-0.6**
TLY					*e*		17 37 59.9	
TLY					*e*		17 38 30.0	
TLY					pmax	pmax		
	comp=Z,83nm,1.0s							
TLY					MLR	MLR		
	comp=Z,4μm,14.0s							
TLY	**Talaya**	**28.57**	**308**		P	**P**	**17 37 28.0**	**-0.4**
ZAK	**Zakamensk**	**28.59**	**305**		*e*P	**P**	**17 37 27.5**	**-1.2**
ZAK					pmax	pmax		
	comp=Z,28nm,1.3s							
LZH	**Lanzhou**	**29.46**	**275**	⇑	P	**P**	**17 37 36.1**	**-0.5**
LZH					pP	pP	17 37 58.0	0.0
LZH					S	**S**	**17 42 24.0**	**-0.1**
LZH					sS	sS	17 42 56.5	-4.8
LZH					pmax	pmax		
	comp=Z,120nm,1.3s							
LZH					pmax	pmax		
	comp=Z,750nm,5.5s							
LZH					LR	LR		
	comp=Z,2μm,11.4s							
LZH					LR	LR		
	comp=Z,2μm,11.4s							
LZH					LR	LR		
	comp=Z,2μm,11.9s							
PCPH	**Palayan**	**29.52**	**222**	⇓	*e*p	**P**	**17 37 36.4**	**-0.7**
WAKE	**Wake Island**	**29.86**	**125**		P	**P**	**17 37 40.7**	**+0.6**
MOY	**Mondy**	**30.20**	**307**		*e*P	**P**	**17 37 41.9**	**-1.1**
MOY					pmax	pmax		
	comp=Z,134nm,3.6s							
GYA	**Guiyang**	**31.42**	**256**	⇓	*i*P	**P**	**17 37 53.3**	**-0.7**
GYA					PP	**PnPn**	**17 39 01.3**	**+0.8**
GYA					S	**S**	**17 42 50.6**	**-4.3**
GYA					sS	sS	17 43 32.8	+0.6
GYA					pmax	pmax		
	comp=Z,150nm,1.1s							
GYA					pmax	pmax		
	comp=Z,540nm,3.8s							
GYA					LR	LR		
	comp=Z,1μm,11.3s							
GYA					LR	LR		
	comp=Z,1μm,13.0s							
GYA					LR	LR		
	comp=Z,1μm,13.7s							
CD2	**Chengdu**	**31.46**	**266**	⇓	*i*P	**P**	**17 37 52.5**	**-1.7**
CD2					pP	pP	17 38 13.9	-1.8
CD2					sP	sP	17 38 24.3	-2.4
CD2					PP	**PP**	**17 39 05.4**	**-1.4**
CD2					S	**S**	**17 42 53.4**	**-1.9**
CD2					sS	sS	17 43 31.3	-1.3
CD2					pmax	pmax		
	comp=Z,90nm,0.9s							
CD2					pmax	pmax		
	comp=Z,290nm,4.0s							
CD2					LR	LR		
	comp=Z,3μm,12.8s							
CD2					LR	LR		
	comp=Z,2μm,18.5s							
CD2					LR	LR		
	comp=Z,2μm,35.3s							
ADK	**Adak**	**31.60**	**53**		P	**P**	**17 37 55.7**	**+0.6**
ADK					pmax	pmax		
	comp=Z,98nm,1.2s							
ADK	**Adak**	**31.60**	**53**		P	**P**	**17 37 55.7**	**+0.6**
ADK					IAmb	IAmb	17 37 56.7	
	comp=Z,98nm,1.1s							
GTA	**Gaotai**	**31.64**	**283**		*e*P	**P**	**17 37 55.0**	**-0.8**
GTA					pP	pP	17 38 14.8	-2.5
GTA					sP	sP	17 38 27.9	-0.4
GTA					S	**S**	**17 43 00.5**	**+2.3**
GTA					sS	sS	17 43 39.8	+4.3
GTA					ScP	**ScP**	**17 44 20.8**	**+0.6**
GTA					ScS	**ScS**	**17 48 17.0**	**-1.5**
GTA					pmax	pmax		
	comp=Z,350nm,10.7s							
GTA					LR	LR		
	comp=Z,2μm,15.1s							
GTA					LR	LR		
	comp=Z,2μm,23.4s							
GTA					LR	LR		
	comp=Z,3μm,24.4s							
BILL	**Bilibino**	**31.81**	**18**	*d*	*i*P	**P**	**17 37 57.1**	**+0.3**
BILL					*e**PP	**pP**	**17 38 19.6**	**+1.2**
BILL					*e**SP	**sP**	**17 38 31.6**	**+2.1**
BILL					*e*		17 39 06.0	
BILL					*e*		17 40 46.9	
BILL					*i*S	**S**	**17 42 58.3**	**-1.5**
BILL					pmax	pmax		
	comp=Z,70nm,1.2s							
BILL					MLR	MLR		
	comp=Z,838nm,17.0s							
BILL	**Bilibino**	**31.81**	**18**		P	**P**	**17 37 56.6**	**-0.2**
BILL					IAmb	IAmb	17 38 32.9	
	comp=Z,98nm,1.1s							
GSTR	**Great Sitkin T**	**32.01**	**52**		P	**P**	**17 37 57.1**	**-1.7**
TIXI	**Tiksi**	**32.86**	**353**		P	**P**	**17 38 05.2**	**-0.7**
TIXI					pmax	pmax		
	comp=Z,131nm,1.2s							
TIXI	**Tiksi**	**32.86**	**353**		P	**P**	**17 38 05.2**	**-0.7**
TIXI					IAmb	IAmb	17 38 07.2	
	comp=Z,131nm,1.2s							
ATKA	**Atka Island**	**33.16**	**52**		P	**P**	**17 38 08.2**	**-0.5**
QIZ	**Qiongzhong**	**33.73**	**242**		P	**P**	**17 38 13.3**	**-0.7**
QIZ					S	**S**	**17 43 30.5**	**-0.1**
QIZ					sS	**sS**	**17 44 06.8**	**-1.3**
QIZ					LR	LR		
	comp=Z,620nm,10.8s							
QIZ					LR	LR		
	comp=Z,790nm,12.4s							
QIZ					LR	LR		
	comp=Z,970nm,36.3s							
QIZ	**Qiongzhong**	**33.73**	**242**		P	**P**	**17 38 13.3**	**-0.7**
QIZ					IAmb	IAmb	17 38 19.7	
	comp=Z,137nm,1.7s							
CGP	**Cagayan de Oro**	**34.16**	**210**		*e*P	P	17 38 23.1	+5.3
KMI	**Kunming**	**35.11**	**258**		P	**P**	**17 38 26.0**	**-0.2**
KMI					pP	pP	17 38 46.3	-1.6
KMI					sP	sP	17 38 57.8	-1.1
KMI					PP	**PnPn**	**17 39 44.3**	**-2.4**
KMI					S	**S**	**17 43 46.0**	**-6.2**
KMI					SS	**SnSn**	**17 46 15.6**	**-2.7**
KMI					pmax	pmax		
	comp=Z,120nm,2.0s							
KMI					pmax	pmax		
	comp=Z,1μm,4.9s							
KMI					LR	LR		
	comp=Z,1μm,22.1s							
KMI					LR	LR		
	comp=Z,910nm,26.2s							
KMI					LR	LR		
	comp=Z,980nm,13.4s							
KMI	**Kunming**	**35.11**	**258**		P	**P**	**17 38 26.3**	**+0.1**
KMI					pmax	pmax		
	comp=Z,180nm,1.3s							
KMI	**Kunming**	**35.11**	**258**		P	**P**	**17 38 26.3**	**+0.1**
KCP	**Kidapawan**	**35.34**	**208**	⇑	*i*P	**P**	**17 38 28.9**	**+0.9**
KCP					*i*S	**pP**	**17 38 42.9**	**-6.9**
CTBH	**Cotabato--PC H**	**35.46**	**210**	⇑	*i*P	**P**	**17 38 29.9**	**+1.0**
PATS	**Pohnpei**	**36.00**	**150**		P	**P**	**17 38 33.9**	**+0.3**
PATS					IAmb	IAmb	17 38 36.0	
	comp=Z,154nm,1.2s							
SPIA	**Saint Paul Isl**	**36.00**	**44**		P	**P**	**17 38 33.4**	**+0.3**
SPIA					IAmb	IAmb	17 39 08.0	
	comp=Z,154nm,1.2s							
MIDW	**Midway**	**36.03**	**95**		P	**P**	**17 38 34.4**	**+0.7**
SLVN	**Son La**	**36.45**	**251**		P	**P**	**17 38 37.3**	**-0.2**
SLVN					IAmb	IAmb	17 38 42.4	
	comp=Z,93nm,1.2s							
NIKH	**Nikolski High**	**36.45**	**51**		P	**P**	**17 38 36.1**	**-0.9**
GAMB	**Gambell**	**36.83**	**33**		P	**P**	**17 39 39.7**	**-0.4**
GAMB					IAmb	IAmb	17 39 01.9	
	comp=Z,66nm,1.3s							
UNV	**Unalaska Valle**	**37.88**	**50**		P	**P**	**17 38 47.9**	**-1.2**
KWAJ	**Kwajalein Atol**	**38.68**	**135**		P	**P**	**17 38 54.8**	**-1.4**

KWAJ pmax pmax
comp=Z,549nm,1.4s
KWAJ Kwajalein Atol 38.68 135 P P 17 38 54.8 -1.4
DGZ Jazzator, Alta 38.78 303 *d* iP **P 17 38 57.7 +0.8**
DGZ pmax pmax
comp=Z,350nm,1.0s
DGZ MLR MLR
comp=Z,2μm,18.0s
LKP Lekhapani 39.24 266 *e*P **P 17 39 02.3 +1.4**
LKP IAmb IAmb 17 39 05.5
comp=Z,85nm,0.5s
WMQ Urumqi 39.53 294 *e*P **P 17 39 04.0 +0.8**
WMQ sP sP 17 39 37.8 +1.6
WMQ PP **PP 17 40 41.6 +6.1**
WMQ PcP **PcP 17 41 09.9 +1.1**
WMQ ScP **ScP 17 44 51.0 +2.2**
WMQ pmax pmax
comp=Z,40nm,1.7s
WMQ pmax pmax
comp=Z,690nm,3.9s
WMQ LR LR
comp=Z,490nm,15.3s
WMQ LR LR
comp=Z,630nm,19.5s
WMQ LR LR
comp=Z,1μm,23.5s
WMQ Urumqi 39.53 294 P **P 17 39 02.9 -0.3**
WMQ pmax pmax
comp=Z,106nm,1.1s
WMQ Urumqi 39.53 294 P **P 17 39 02.9 -0.3**
WMQ IAmb IAmb 17 39 39.1
comp=Z,106nm,1.1s
FALS False Pass 39.68 48 P **P 17 39 03.4 -0.7**
ANM Nome 39.71 33 P **P 17 39 04.0 -0.3**
ANM pmax pmax
comp=Z,71nm,0.8s
ANM Nome 39.71 33 P **P 17 39 04.0 -0.3**
ANM IAmb IAmb 17 39 07.7
comp=Z,71nm,0.8s
DLV T Lat 39.75 235 P **P 17 39 05.1 -0.3**
DLV IAmb IAmb 17 39 29.2
comp=Z,197nm,1.7s
KKM Kota Kinabalu 40.09 220 P **P 17 39 08.3 +0.3**
KKM IAmb IAmb 17 39 49.8
comp=Z,76nm,1.2s
ZAA0 Zalesovo Array 40.10 310 P **P 17 39 07.1 -0.5**
ZALV Zalesovo Beam 40.10 310 P **P 17 39 07.6 0.0**
comp=Z,118nm,0.5s,baz=86,slow=7.6,SNR=557
ZALV PcP **PcP 17 41 10.2 -0.1**
comp=Z,16nm,0.4s,baz=109,slow=2.7,SNR=8.6
ZALV ScP **ScP 17 44 50.7 0.0**
comp=Z,16nm,0.9s,baz=98,slow=3.0,SNR=7.6
ZALV LR LR 17 55 22.8
comp=Z,506nm,18.7s,baz=82,slow=36
ZALV Zalesovo Beam 40.10 310 *i* P **P 17 39 07.5 -0.1**
ZALV pmax pmax
comp=Z,118nm,0.5s
ZALV Zalesovo Beam 40.10 310 P **P 17 39 06.9 -0.7**
TNTI Ternate 40.47 201 P **P 17 39 10.9 -0.2**
ZIRO ZIRO 40.69 268 *e*P **P 17 39 13.5 +0.5**
ZIRO IAmb IAmb 17 39 22.4
comp=Z,123nm,0.8s
ZSN Zaisan 40.77 300 ⇓ *i* P **P 17 39 14.1 +0.7**
comp=Z,420nm,2.2s,baz=300
ZSN *e*S **S 17 45 17.7 +0.8**
baz=300
ZSN Zaisan 40.77 300 *d* iP **P 17 39 14.0 +0.7**
ZSN *e*S **S 17 45 17.6 +0.8**
ZSN pmax pmax
comp=Z,420nm,2.2s
NRIK Noril'sk 40.96 334 P **P 17 39 14.3 -0.2**
comp=Z,59nm,1.0s,baz=109,slow=8.8,SNR=144
NRIK LR LR 17 57 44.6
comp=Z,704nm,19.3s,baz=106,slow=38
NRIK Noril'sk 40.96 334 *i* P **P 17 39 14.2 -0.3**
SIJI Sorong 41.11 195 P **P 17 39 16.2 -0.1**
comp=Z,12nm,0.4s,baz=349,slow=20,SNR=18
SDPT Sand Point 41.35 47 P **P 17 39 17.1 -0.8**
RDOG Red Dog Mine 41.50 28 P **P 17 39 18.9 -0.1**
PBKT Sadao Pong 41.62 248 P **P 17 39 20.6 +0.1**
LSA Lhasa 41.76 272 P **P 17 39 22.8 +0.8**
LSA LR LR
comp=Z,3μm,21.4s
LSA LR LR
comp=Z,5μm,32.0s
LSA LR LR
comp=Z,9μm,26.3s
LSA Lhasa 41.76 272 P **P 17 39 22.9 +0.8**
LSA Lhasa 41.76 272 P **P 17 39 22.5 +0.4**
LSA pmax pmax
comp=Z,194nm,1.3s
LSA Lhasa 41.76 272 P **P 17 39 22.5 +0.4**
LSA IAmb IAmb 17 39 24.8
comp=Z,194nm,1.3s
JAY Jayapura 41.76 181 P **P 17 39 23.2 +1.6**
JAY pmax pmax
comp=Z,26nm,2.0s
CM31 Chiang Mai Arr 41.88 252 P **P 17 39 23.5 +0.8**
SNR=9.7
CM31 Chiang Mai Arr 41.88 252 P **P 17 39 22.2 -0.5**
CM31 IAmb IAmb 17 39 24.9
comp=Z,94nm,1.4s
CMAR Chiang Mai Arr 41.88 252 P **P 17 39 22.8 +0.1**
comp=Z,12nm,0.9s,baz=46,slow=7.0,SNR=51
CMAR pP **pP 17 39 43.8 -1.1**
comp=Z,8.6nm,0.8s,baz=42,slow=7.1,SNR=3.6
CMAR PcP **PcP 17 41 17.4 +0.7**
comp=Z,12nm,1.0s,baz=1.7,slow=2.1,SNR=4.5
CMAR ScP **ScP 17 44 59.0 +0.6**
comp=Z,6.6nm,1.0s,baz=21,slow=4.1,SNR=8.5
CMAR LR LR 17 56 05.2
comp=Z,298nm,21.5s,baz=89,slow=35
CMAR Chiang Mai Arr 41.88 252 *i* P **P 17 39 23.2 +0.5**
CMAR pmax pmax
comp=Z,12nm,0.9s
CNBA Chernabura Isl 41.89 48 P **P 17 39 22.1 -0.2**
CNBA IAmb IAmb 17 39 59.9
comp=Z,94nm,0.8s
CHGN Chignik 42.47 46 P **P 17 39 27.0 0.0**
MRSI Marisa 42.53 209 P **P 17 39 28.0 +0.1**
comp=Z,1μmcomp=Z,107nm,1.3s
MK31 Makanchi Array 42.62 300 *i* P **P 17 39 28.1 -0.4**
MK31 Makanchi Array 42.62 300 P **P 17 39 28.0 -0.4**
MKAR Makanchi Array 42.62 300 P **P 17 39 28.6 +0.3**
comp=Z,101nm,0.8s,baz=85,slow=10.0,SNR=677
MKAR ScP **ScP 17 45 00.5 -0.5**
comp=Z,3.0nm,0.8s,baz=117,slow=4.2,SNR=3.6
MKAR LR LR 17 58 35.0
comp=Z,318nm,20.1s,baz=72,slow=38
MKAR Makanchi Array 42.62 300 *i* P **P 17 39 28.7 +0.3**
MKAR pmax pmax
comp=Z,102nm,0.8s
MKAR Makanchi Array 42.62 300 P **P 17 39 27.6 -0.8**
MAKZ Makanchi 42.83 300 P **P 17 39 30.1 0.0**
MAKZ Makanchi 42.83 300 P **P 17 39 29.7 -0.4**
FAKI Fak Fak 42.93 193 P **P 17 39 31.9 +0.8**
FAKI IAmb IAmb 17 40 05.6
comp=Z,196nm,1.4s
SEM Semipalatinsk 43.27 305 *i* P **P 17 39 33.3 -0.5**
comp=Z,248nm,2.2s,baz=305
SEM Semipalatinsk 43.27 305 *i* P **P 17 39 33.3 -0.5**
SEM pmax pmax
comp=Z,248nm,2.2s
MPSI Mapaga 43.46 212 P **P 17 39 35.4 0.0**
comp=Z,781nmcomp=Z,28nm,1.8s
TTA Tatalina 43.63 36 P **P 17 39 37.0 +0.7**
TTA pmax pmax
comp=Z,43nm,1.0s
TTA Tatalina 43.63 36 P **P 17 39 37.0 +0.7**
LUWI Luwuk 43.64 207 P **P 17 39 37.0 +0.2**
comp=Z,2μmcomp=Z,125nm,1.4s
LUWI Luwuk 43.64 207 P **P 17 39 36.5 -0.3**
LUWI IAmb IAmb 17 40 15.7
comp=Z,162nm,1.2s
SVW2 Sparrevohn 43.81 39 P **P 17 39 38.6 +0.9**
APSI Ampana 43.92 209 P **P 17 39 39.3 +0.2**
comp=Z,1μmcomp=Z,103nm,1.4s
KURK Kurchatov 44.24 306 P **P 17 39 41.6 +0.3**
KURK P **P 17 39 41.6 +0.3**
KURK Kurchatov 44.24 306 *d* iP **P 17 39 41.2 0.0**
KURK pmax pmax
comp=Z,446nm,1.0s
KURK Kurchatov 44.24 306 P **P 17 39 41.3 0.0**
KURBB Kurchatov Arra 44.31 306 P **P 17 39 42.0 +0.1**
comp=Z,165nm,0.4s,baz=80,slow=8.1,SNR=948
KURBB Kurchatov Arra 44.31 306 P **P 17 39 41.8 -0.1**
RABL Rabaul 44.62 164 P **P 17 39 45.2 +0.6**
RABL IAmb IAmb 17 39 46.5
comp=Z,96nm,0.8s
KRVT Keravat (AS076 44.70 164 LR LR 17 54 18.4
comp=Z,199nm,21.8s,baz=359,slow=30
IMAR Indian Mountai 44.74 32 P **P 17 39 45.6 +0.5**
GTK Tadong 44.86 271 *e*P **P 17 39 46.4 -0.2**
GTK IAmb IAmb 17 39 48.7
comp=Z,58nm,1.0s
SBUM Sibu 45.20 223 P **P 17 39 49.5 +0.3**
SBUM Sibu 45.20 223 P **P 17 39 50.0 +0.7**
OHAK Old Harbor 45.21 44 P **P 17 39 49.2 +0.3**
OHAK IAmb IAmb 17 40 27.8
comp=Z,106nm,1.0s
RSO Redoubt South 45.21 40 P **P 17 39 50.0 +0.9**
SMKI Samarinda 45.30 215 P **P 17 39 54.3 +4.2**
PPLA Purkeypile 45.38 36 P **P 17 39 51.4 +1.1**
PPLA IAmb IAmb 17 40 27.8
comp=Z,137nm,1.1s
SHLS Shalkode 45.49 296 ⇓ *i* P **P 17 39 49.6 -1.9**
comp=Z,385nm,2.3s,baz=295
SHLS *e*S **S 17 46 22.4 -3.9**
baz=295
SHLS Shalkode 45.49 296 *d* iP **P 17 39 49.6 -1.9**
SHLS *e*S **S 17 46 22.3 -3.9**
SHLS pmax pmax
comp=Z,385nm,2.3s
KDAK Kodiak Island 45.53 43 P **P 17 39 51.9 +0.5**
comp=Z,64nm,0.8s,baz=326,slow=3.4,SNR=29
KDAK pP **pP 17 40 15.8 +1.8**
comp=Z,67nm,0.8s,baz=330,slow=2.4,SNR=7.1
KDAK Kodiak Island 45.53 43 P **P 17 39 51.4 0.0**
TAPN Taplejung 45.53 271 *e*P **P 17 39 52.9 +0.7**
TDK Taldyqorghan 45.69 298 *i* P **P 17 39 54.0 +1.0**
comp=Z,810nm,1.4s,baz=298
TDK *e*S **S 17 46 29.9 +1.1**
baz=298
TDK Taldyqorghan 45.69 298 *i* P **P 17 39 53.9 +1.0**
TDK *e*S **S 17 46 29.9 +1.1**
TDK pmax pmax
comp=Z,810nm,1.4s
UZB Uzynbulak 45.80 296 ⇓ *i* P **P 17 39 54.3 +0.4**
comp=Z,190nm,1.2s,baz=295
UZB *e*S **S 17 46 30.7 -0.1**
baz=295
UZB Uzynbulak 45.80 296 *d* iP **P 17 39 54.3 +0.4**
UZB *e*S **S 17 46 30.6 -0.1**
UZB pmax pmax
comp=Z,190nm,1.2s
BPAW Bear Paw Mtn. 45.89 35 P **P 17 39 55.6 +1.5**
BPAW IAmb IAmb 17 40 37.1
comp=Z,196nm,1.7s
KTH Kantishna Hill 45.93 35 P **P 17 39 55.3 +0.7**
KTH IAmb IAmb 17 40 20.9
comp=Z,98nm,0.8s
KPKS Kokpek 45.94 296 ⇓ *i* P **P 17 39 55.5 +0.5**
comp=Z,382nm,1.7s,baz=296
KPKS *e*S **S 17 46 33.4 +0.8**
baz=296
KPKS Kokpek 45.94 296 *d* iP **P 17 39 55.5 +0.5**
KPKS *e*S **S 17 46 33.3 +0.8**
KPKS pmax pmax
comp=Z,382nm,1.7s
ODAN Odare 46.02 271 *e*P **P 17 39 56.4 +0.4**
CNPM China Poot 46.05 41 P **P 17 39 55.6 +0.1**
CNPM IAmb IAmb 17 40 21.6
comp=Z,88nm,0.9s
BKB Balikpapan 46.17 215 P **P 17 39 55.5 -1.4**
BRLK Bradley Lake 46.20 41 P **P 17 39 57.3 +0.6**
BRLK IAmb IAmb 17 40 23.0
comp=Z,79nm,0.8s
TRF Thorofare Moun 46.22 35 P **P 17 39 57.6 +0.6**
SATY Saty 46.26 296 ⇓ *i* P **P 17 39 58.2 +0.7**
comp=Z,264nm,2.1s,baz=295
SATY Saty 46.26 296 *d* iP **P 17 39 58.2 +0.7**
SATY pmax pmax
comp=Z,264nm,2.1s
PRZ Przheval'sk 46.44 295 P **P 17 39 59.9 +0.9**
PRZ pmax pmax
comp=Z,459nm,1.1s
PRZ Przheval'sk 46.44 295 P **P 17 39 59.9 +0.9**
TOLK Toolik Lake Re 46.47 28 P **P 17 40 00.4 +1.7**
baz=268
TOLK Toolik Lake Re 46.47 28 P **P 17 39 59.2 +0.5**
TOLK IAmb IAmb 17 40 25.7
comp=Z,131nm,1.2s
JIRN Jiri 46.56 273 *e*P **P 17 40 01.0 +0.7**
RAMN Ramite 46.59 272 *e*P **P 17 40 00.8 +0.4**
RC01 Rabbit Creek A 46.64 39 P **P 17 40 00.3 +0.2**
RC01 IAmb IAmb 17 40 43.1
comp=Z,116nm,1.2s
GUN Gumba 46.67 273 *e*P **P 17 40 01.9 +0.7**
comp=Z,274nm,0.4s
MCK McKinley 46.81 35 P **P 17 40 02.5 +1.1**
MCK pmax pmax
comp=Z,71nm,0.8s
MCK McKinley 46.81 35 P **P 17 40 02.5 +1.1**
MCK IAmb IAmb 17 40 26.9
comp=Z,71nm,0.8s
RND Reindeer 46.87 35 P **P 17 40 02.6 +0.7**
RND pmax pmax
comp=Z,63nm,0.8s
RND Reindeer 46.87 35 P **P 17 40 02.5 +0.7**
RND IAmb IAmb 17 40 27.1
comp=Z,63nm,0.8s
SEW Seward 46.88 40 P **P 17 40 02.5 +0.5**
SEW IAmb IAmb 17 40 46.8
comp=Z,114nm,0.9s
PMR Palmer 46.88 38 P **P 17 40 01.9 0.0**
PMR pmax pmax
comp=Z,61nm,1.0s
PMR Palmer 46.88 38 P **P 17 40 01.9 0.0**
PMR IAmb IAmb 17 40 27.5
comp=Z,61nm,1.0s
GHO Glory Hole Cre 46.97 38 P **P 17 40 03.1 +0.4**
GHO IAmb IAmb 17 40 38.2
comp=Z,106nm,0.8s
CHKK Chushkaly 47.00 297 ⇓ *i* P **P 17 40 03.7 +0.5**
baz=297
CHKK *e*S **S 17 46 47.3 -0.2**
baz=297
CHKK Chushkaly 47.00 297 *d* iP **P 17 40 03.6 +0.5**
CHKK *e*S **S 17 46 47.3 -0.2**
KSM Kuching 47.04 224 P **P 17 40 03.2 -0.5**
KSM IAmb IAmb 17 40 05.9
comp=Z,167nm,1.4s
KSM Kuching 47.04 224 P **P 17 40 05.0 +1.3**
MDM Murphy Dome 47.05 33 P **P 17 40 04.6 +1.4**
TARG Taragay, Kyrgy 47.10 294 P **P 17 40 04.7 +0.2**
WRH Wood River Hil 47.13 34 P **P 17 40 04.9 +1.1**
WRH IAmb IAmb 17 40 47.9
comp=Z,66nm,1.0s
MDOK Medeo 47.17 296 *i* P **P 17 40 05.6 +0.9**
baz=296
MDOK *e*S **S 17 46 50.4 +0.2**
baz=296
MDOK Medeo 47.17 296 *i* P **P 17 40 05.5 +0.9**
MDOK *e*S **S 17 46 50.4 +0.2**
KKN Kakani 47.20 273 *e*P **P 17 40 05.6 +0.5**
PKI Pulchoki 47.20 273 *e*P **P 17 40 05.4 +0.1**
TCOL CIGO, UAF Yank 47.21 33 P **P 17 40 06.3 +1.9**
baz=273,SNR=5.5
PKIN Phulchoki 47.21 273 *e*P **P 17 40 05.4 +0.1**
comp=Z,107nm,0.4s
COLA College 47.21 33 *c* iP **P 17 40 05.8 +1.4**
COLA pmax pmax
comp=Z,48nm,0.9s
COLA College 47.21 33 P **P 17 40 05.3 +0.9**
COLA IAmb IAmb 17 40 47.9
comp=Z,129nm,0.9s
KNDC Almaty 47.21 296 P **P 17 40 05.4 +0.5**
KNK Knik Glacier 47.22 38 P **P 17 40 05.4 +0.7**
KNK IAmb IAmb 17 40 53.5
comp=Z,82nm,0.9s
SML Sawmill 47.24 38 P **P 17 40 04.3 -0.5**
CCB Clear Creek Bu 47.24 34 P **P 17 40 05.5 +0.8**
AAA Alma-Ata 47.25 296 ⇓ *e*P **P 17 40 06.5 +1.3**
comp=Z,186nm,1.2s,baz=296
AAA Alma-Ata 47.25 296 *de*P **P 17 40 06.5 +1.3**
AAA pmax pmax
comp=Z,186nm,1.2s
TNSS Tian-Shan 47.28 296 ⇓ *i* P **P 17 40 07.0 +1.1**
baz=296
TNSS *e*S **S 17 46 53.1 +0.7**
baz=296
TNSS Tian-Shan 47.28 296 *d* iP **P 17 40 06.9 +1.1**
TNSS *e*S **S 17 46 53.0 +0.7**
POKR Poker Plat Res 47.37 33 P **P 17 40 07.8 +2.1**
baz=274,SNR=45
KDJ Kajisay 47.41 295 P **P 17 40 06.7 +0.1**
KDJ pmax pmax
comp=Z,285nm,1.3s
KDJ Kajisay 47.41 295 P **P 17 40 06.7 +0.1**
DMN Daman 47.42 273 *e*P **P 17 40 07.3 +0.4**
KUU Kurty 47.43 297 ⇓ *i* P **P 17 40 06.6 +0.1**
comp=Z,384nm,1.0s,baz=297
KUU *e*S **S 17 46 53.6 -0.1**
baz=297
KUU Kurty 47.43 297 *d* iP **P 17 40 06.6 +0.1**
KUU *e*S **S 17 46 53.5 -0.1**
KUU pmax pmax
comp=Z,384nm,1.0s
SPSI Sidrap Palu 47.44 209 P **P 17 40 06.5 -0.3**
comp=Z,741nmcomp=Z,52nm,1.3s
DHY Denali Highway 47.56 36 P **P 17 40 07.7 +0.3**
DHY IAmb IAmb 17 40 32.8
comp=Z,66nm,0.8s
GKN Gorkha 47.59 274 *e*P **P 17 40 08.3 +0.2**
MTBS Maitube 47.61 296 ⇓ *i* P **P 17 40 08.1 +0.1**
baz=296
MTBS Maitube 47.61 296 *d* iP **P 17 40 08.9 +0.9**
IL31 47.63 34 P **P 17 40 07.7 0.0**
IL31 IAmb IAmb 17 40 51.1
comp=Z,75nm,0.8s
ILAR Eielson Array 47.63 34 P **P 17 40 08.5 +0.8**
comp=Z,43nm,0.8s,baz=271,slow=6.1,SNR=386
ILAR pP **pP 17 40 32.0 +1.4**
comp=Z,47nm,0.8s,baz=263,slow=5.4,SNR=8.4
ILAR LR LR 18 00 42.7
comp=Z,199nm,21.2s,baz=283,slow=36
ILAR Eielson Array 47.63 34 P **P 17 40 07.9 +0.2**
HDA Harding Lake 47.63 34 P **P 17 40 08.3 +0.6**
baz=275,SNR=42
HDA Harding Lake 47.63 34 P **P 17 40 08.2 +0.5**
HDA IAmb IAmb 17 40 10.0
comp=Z,68nm,1.0s
BNSI Bone 47.71 209 P **P 17 40 08.7 -0.2**
comp=Z,1μmcomp=Z,102nm,1.4s
SCM Sheep Creek Mo 47.71 37 P **P 17 40 09.4 +0.9**
SCM pmax pmax
comp=Z,86nm,0.9s
SCM Sheep Creek Mo 47.71 37 P **P 17 40 09.4 +0.9**
SCM IAmb IAmb 17 40 39.1
comp=Z,86nm,0.9s
TARA Tarawa 47.77 135 P **P 17 40 10.6 +1.2**
BBSI Bau Bau 47.86 205 P **P 17 40 10.3 +0.3**
comp=Z,140nmcomp=Z,9.8nm,1.2s
GLI Glacier Island 47.94 39 P **P 17 40 10.9 +0.8**
GLI IAmb IAmb 17 40 44.8
comp=Z,242nm,1.7s
ULHL Ulahol 48.03 295 P **P 17 40 12.2 +0.8**
SNR=18
DANN Dangsing 48.10 275 *e*P **P 17 40 13.1 +0.9**
comp=Z,981nm,0.8s
BRZS Berezniki 48.12 306 ⇓ *i* P **P 17 40 11.9 +0.2**
comp=Z,332nm,1.3s,baz=306
BRZS Berezniki 48.12 306 *d* iP **P 17 40 11.9 +0.2**
BRZS pmax pmax
comp=Z,332nm,1.3s
PRP Porcupine Dome 48.14 32 P **P 17 40 13.1 +1.3**
PRP IAmb IAmb 17 40 55.3
comp=Z,108nm,0.9s
BOOM Boomskoye usch 48.16 296 P **P 17 40 13.3 +1.0**
BOOM Boomskoye usch 48.16 296 P **P 17 40 13.3 +1.0**
FYU Fort Yukon 48.18 31 P **P 17 40 12.6 +0.7**
TKM2 Tokmak 2 48.26 296 P **P 17 40 14.3 +1.1**
SNR=367
FID Port Fidalgo 48.26 39 P **P 17 40 11.8 -0.9**
FID IAmb IAmb 17 40 57.5
comp=Z,56nm,0.9s
HIN Hinchinbrook I 48.30 39 P **P 17 40 13.3 +0.3**
HIN IAmb IAmb 17 40 48.9
comp=Z,80nm,1.0s
KBKI Kotabaru 48.31 214 P **P 17 40 12.3 -1.2**
comp=Z,542nmcomp=Z,41nm,1.2s
BMAR Burnt Mountain 48.37 30 P **P 17 40 15.0 +1.5**
KAPI Kappang 48.41 209 P **P 17 40 14.5 +0.2**
KAPI pmax pmax
comp=Z,432nm,1.8s
KAPI Kappang 48.41 209 P **P 17 40 14.5 +0.2**
JOHN Johnston Islan 48.43 103 P **P 17 40 15.7 +1.2**
KOLN Koldanda 48.50 274 *e*P **P 17 40 15.8 +0.6**
MID Middleton Isla 48.54 41 P **P 17 40 14.6 -0.1**
MID pmax pmax
comp=Z,271nm,1.0s
MID Middleton Isla 48.54 41 P **P 17 40 14.6 -0.1**
RIDG Independent Ri 48.62 35 P **P 17 40 15.6 +0.2**
RIDG IAmb IAmb 17 40 40.8
comp=Z,46nm,0.8s
EYAK Cordova Ski Ar 48.65 39 P **P 17 40 16.9 +1.3**
EYAK IAmb IAmb 17 40 42.2
comp=Z,102nm,1.0s
HARP HAARP 48.66 37 P **P 17 40 17.2 +1.6**
SGDS Sogindy 48.75 297 ⇓ *i* P **P 17 40 17.2 +0.5**
comp=Z,326nm,2.0s,baz=297
SGDS *e*S **S 17 47 13.0 +0.7**
baz=297
SGDS Sogindy 48.75 297 *d* iP **P 17 40 17.2 +0.5**
SGDS *e*S **S 17 47 13.0 +0.7**
SGDS pmax pmax
comp=Z,326nm,2.0s
BVAR Borovoye Array 48.75 311 P **P 17 40 17.0 +0.5**
comp=Z,96nm,0.8s,baz=78,slow=8.0,SNR=380
BVAR pP **pP 17 40 39.7 +0.3**
comp=Z,48nm,1.0s,baz=77,slow=9.3,SNR=2.8
KZA Kyzart 48.78 295 P **P 17 40 19.0 +1.6**
SNR=112
KBK Karagaybulak 48.80 296 P **P 17 40 18.3 +1.0**
SNR=238
OTUK Ortayu 48.80 304 P **P 17 40 16.6 -0.4**
BRVK Borovoye 48.81 311 P **P 17 40 17.5 +0.6**
BRVK Borovoye 48.81 311 *d* iP **P 17 40 17.3 +0.4**
BRVK *i* *PP **pP 17 40 41.0 +1.2**
BRVK pmax pmax
comp=Z,216nm,1.1s
BRVK Borovoye 48.81 311 P **P 17 40 16.9 -0.1**
PYUN Piuthan 48.81 275 *e*P **P 17 40 18.3 +0.7**
comp=Z,265nm,0.4s
CHMS Chumysh 48.82 297 P **P 17 40 17.8 +0.6**
SNR=61
USP Ospenovka 48.90 297 P **P 17 40 18.5 +0.6**
SNR=68
PMG Port Moresby 48.94 172 *de*P **P 17 40 19.0 +0.8**
PMG pmax pmax
comp=Z,38nm,1.7s
PMG Port Moresby 48.94 172 P **P 17 40 18.3 +0.1**
FRU1 Bishkek 48.96 297 P **P 17 40 18.7 +0.3**
FRU1 pmax pmax
comp=Z,313nm,1.1s
FRU1 Bishkek 48.96 297 P **P 17 40 18.7 +0.3**
SCRK Sand Creek 48.97 34 P **P 17 40 18.5 +0.3**
SCRK IAmb IAmb 17 40 20.1
comp=Z,70nm,0.8s
DOT Dot Lake 48.98 35 P **P 17 40 18.6 +0.4**
DOT IAmb IAmb 17 40 42.9
comp=Z,35nm,0.8s
AAK Ala-Archa 49.12 296 P **P 17 40 20.4 +0.7**
SNR=61
AAK Ala-Archa 49.12 296 *i* P **P 17 40 20.1 +0.4**
SNR=68
AAK Ala-Archa 49.12 296 P **P 17 40 20.2 +0.5**
AAK Ala-Archa 49.12 296 *d* iP **P 17 40 20.1 +0.4**
AAK pmax pmax
comp=Z,225nm,1.5s
AAK Ala-Archa 49.12 296 P **P 17 40 19.6 0.0**
KSH Kashi 49.19 292 P **P 17 40 24.5 +4.3**
KSH pP pP 17 40 46.8 +3.8
KSH S **S 17 47 23.3 +4.6**
KSH ScS **ScS 17 50 04.3 +1.4**
KSH pmax pmax
comp=Z,240nm,1.1s
KSH pmax pmax
comp=Z,1μm,6.1s
KSH LR LR
comp=Z,1μm,14.4s
KSH LR LR
comp=Z,1μm,12.7s
KSH LR LR
comp=Z,2μm,17.7s

RAGM Ragged Mountai 49.20 39 P **P** **17 40 21.1 +1.2**
RAGM IAmb IAmb 17 40 48.8
comp=Z,102nm,1.0s
MENT Mentasta 49.23 36 P **P** **17 40 21.5 +1.4**
MENT IAmb IAmb 17 40 46.2
comp=Z,92nm,0.8s
UCH Uchtor 49.24 296 P **P** **17 40 22.0 +1.0**
SNR=76
GLB Gilahina Butte 49.43 38 P **P** **17 40 22.9 +1.2**
GLB IAmb IAmb 17 40 51.1
comp=Z,55nm,0.9s
EKS2 Erkin-Say 49.60 297 P **P** **17 40 23.9 +0.6**
SNR=106
VRDI Verde Repeater 49.64 38 P **P** **17 40 24.5 +1.1**
VRDI IAmb IAmb 17 40 58.9
comp=Z,85nm,1.2s
KULM Kulim 49.82 238 P **P** **17 40 25.3 +0.2**
KULM IAmb IAmb 17 40 27.3
comp=Z,146nm,1.5s
KULM Kulim 49.82 238 P **P** **17 40 26.0 +0.9**
AML Almayashu 49.85 296 P **P** **17 40 26.8 +1.2**
SNR=179
EGAK Eagle 50.07 33 P **P** **17 40 26.6 +0.3**
EGAK IAmb IAmb 17 41 12.6
comp=Z,68nm,0.8s
WAX Waxell Ridge 50.08 39 P **P** **17 40 27.8 +1.2**
WAX IAmb IAmb 17 41 08.2
comp=Z,70nm,0.9s
BCAR Beaver Creek A 50.08 35 P **P** **17 40 27.9 +1.4**
IPM Ipoh 50.18 237 P **P** **17 40 27.6 -0.2**
IPM IAmb IAmb 17 40 29.4
comp=Z,135nm,1.4s
IPM Ipoh 50.18 237 P **P** **17 40 28.0 +0.2**
BALM Baldy 50.20 38 P **P** **17 40 28.5 +0.9**
BALM Baldy 50.20 38 P **P** **17 40 28.4 +0.9**
BALM IAmb IAmb 17 41 13.4
comp=Z,68nm,1.2s
LGTI Lohaghat 50.27 278 *eP* **P** **17 40 32.1 +3.7**
MYKOM Kota Tinggi 50.49 232 P **P** **17 40 30.7 +0.6**
MYKOM IAmb IAmb 17 40 32.5
comp=Z,155nm,1.5s
MYKOM Kota Tinggi 50.49 232 P **P** **17 40 31.0 +0.9**
BARN Barnard Glacie 50.53 38 P **P** **17 40 31.3 +1.2**
BARN IAmb IAmb 17 41 16.3
comp=Z,36nm,0.8s
MESA MESA 50.57 39 P **P** **17 40 29.6 -0.8**
MESA IAmb IAmb 17 41 04.1
comp=Z,82nm,0.9s
YAH Yahtse 50.63 39 P **P** **17 40 31.6 +0.7**
YAH IAmb IAmb 17 41 13.0
comp=Z,92nm,1.0s
BWNR Bhubaneshwar 50.75 265 *eP* **P** **17 40 31.5 -0.6**
BWNR IAmb IAmb 17 40 34.7
comp=Z,65nm,0.9s
BWNR *i* x x 17 40 54.8
MMRI Maumere 50.92 204 P **P** **17 40 32.6 -0.7**
MMRI IAmb IAmb 17 41 10.9
comp=Z,79nm,0.9s
SOEI Soe 51.37 201 P **P** **17 40 36.0 -0.8**
PCA Pinnacle 51.42 39 P **P** **17 40 36.3 -0.3**
PCA IAmb IAmb 17 41 30.5
comp=Z,55nm,1.1s
EPYK Eagle Plains 51.59 31 P **P** **17 40 39.8 +2.0**
baz=282,SNR=76
EPYK Eagle Plains 51.59 31 P **P** **17 40 38.8 +1.0**
KK31 Karatay Array 51.69 298 *i* P **P** **17 40 39.0 +0.2**
KK31 Karatay Array 51.69 298 P **P** **17 40 38.7 -0.1**
KKAR Karatay Array 51.69 298 P **P** **17 40 38.9 0.0**
KKAR pmax pmax
comp=Z,355nm,1.1s
KKAR Karatay Array 51.69 298 P **P** **17 40 38.9 0.0**
KKAR Karatay Array 51.69 298 P **P** **17 40 38.7 -0.1**
KKAR IAmb IAmb 17 40 40.6
comp=Z,355nm,1.1s
HNR Honiara 51.71 156 P **P** **17 40 39.0 -0.1**
HNR pmax pmax
comp=Z,100nm,0.9s
HNR Honiara 51.71 156 P **P** **17 40 39.0 -0.1**
TPI Tanjungpandan 52.01 224 P **P** **17 40 41.6 +0.2**
comp=Z,1µmcomp=Z,69nm,1.2s
BRLS Borolday 52.18 299 *eP* **P** **17 40 44.0 +1.5**
BRLS *eS* **S** **17 48 02.6 +2.9**
baz=298
BRLS Borolday 52.18 299 *eP* **P** **17 40 44.0 +1.5**
BRLS *eS* **S** **17 48 02.6 +2.9**
BRLS pmax pmax
comp=Z,46nm,0.9s
BHK Bhakra 52.27 282 *eP* **P** **17 40 46.0 +2.7**
BHK *epP* **pP** **17 41 07.4 +1.1**
THN Thein Dam 52.33 284 *eP* **P** **17 40 44.0 +0.3**
INK Inuvik 52.38 28 P **P** **17 40 44.6 +1.1**
INK pmax pmax
comp=Z,68nm,0.9s
INK Inuvik 52.38 28 P **P** **17 40 44.6 +1.1**
INK IAmb IAmb 17 41 10.2
comp=Z,68nm,0.8s
TSI Tuntungan 52.52 238 P **P** **17 40 45.0 -0.3**
comp=Z,71nm,1.4s
HYT Haines Junctio 52.55 38 P **P** **17 40 47.3 +2.2**
BTK Batken 52.64 295 P **P** **17 40 45.6 -0.4**
BTK pmax pmax
comp=Z,237nm,1.4s
BTK Batken 52.64 295 P **P** **17 40 45.6 -0.4**
PSI Prapat 52.81 237 P **P** **17 40 47.4 -0.2**
PSI pmax pmax
comp=Z,34nm,0.9s
MTN Manton Dam 52.84 192 P **P** **17 40 47.6 +0.2**
MTN IAmb IAmb 17 41 25.6
comp=Z,109nm,1.1s
RPSI Rantau Prapat 52.89 237 P **P** **17 40 47.4 -0.6**
KCSI Kotacane, Aceh 53.03 239 P **P** **17 40 46.6 -2.5**
comp=Z,28nm,1.1s
SVE Sverdlovsk 53.16 317 *c iP* **P** **17 40 50.6 +1.2**
SVE *eS* **S** **17 48 13.0 +0.4**
SVE pmax pmax
comp=Z,699nm,1.1s
SVE MLR MLR
comp=Z,1µm,16.0s
COEN Coen 53.16 177 P **P** **17 40 49.5 -0.4**
COEN IAmb IAmb 17 41 26.1
comp=Z,71nm,1.4s
TAS Tashkent 53.20 297 P **P** **17 40 50.7 +0.7**
TAS pmax pmax
comp=Z,261nm,1.0s
TAS Tashkent 53.20 297 P **P** **17 40 50.7 +0.7**
MLSI Meulaboh, Aceh 53.40 241 P **P** **17 40 50.5 -1.2**
comp=Z,109nm,0.8s
GAR Garm 53.43 294 P **P** **17 40 51.6 -0.3**
NIL Nilore 53.62 286 P **P** **17 40 54.4 +1.2**
NIL Nilore 53.62 286 P **P** **17 40 54.2 +1.0**
NIL pmax pmax
comp=Z,425nm,1.0s
NIL Nilore 53.62 286 P **P** **17 40 54.2 +1.0**
TPTI 53.62 239 P **P** **17 40 51.1 -2.2**
comp=Z,5,1nm,1.1s
PMBI Palembang 53.74 227 P **P** **17 40 55.2 +1.0**
SKAG Skagway 53.99 39 P **P** **17 40 57.3 +1.8**
SKAG IAmb IAmb 17 41 21.8
comp=Z,45nm,1.0s
SDSI Sungai Dareh 54.11 232 P **P** **17 40 57.1 +0.2**
comp=Z,4µmcomp=Z,163nm,1.5s
A36M Sachs Harbour 54.14 23 P **P** **17 40 58.2 +1.9**
baz=288,SNR=37
SMRI Semarang 54.24 219 P **P** **17 40 58.5 +0.6**
ARU Arti 54.37 317 *d iP* **P** **17 40 58.8 +0.5**
ARU *PP **pP** **17 41 21.8 +0.3**
ARU 17 41 59.7
ARU S **S** **17 48 29.0 0.0**
ARU 17 50 34.0
ARU SS **SS** **17 52 17.6 +5.8**
ARU pmax pmax
comp=Z,657nm,1.0s
ARU MLR MLR
comp=Z,996nm,15.0s
ARU Arti 54.37 317 P **P** **17 40 58.2 0.0**
CHGR Chuyangaron 54.39 294 P **P** **17 40 59.0 +0.1**
OPA Opana 54.40 90 P **P** **17 41 00.5 +1.6**
OPA pmax pmax
comp=Z,330nm,1.2s
OPA Opana 54.40 90 P **P** **17 41 00.5 +1.6**
BESE Bessie Mountai 54.50 40 P **P** **17 41 00.8 +1.6**
BESE IAmb IAmb 17 41 25.4
comp=Z,63nm,1.1s

KIP Kipapa 54.54 90 *de*P **P** **17 41 02.2 +2.2**
KIP pmax pmax
comp=Z,147nm,1.1s
KIP Kipapa 54.54 90 P **P** **17 41 01.6 +1.6**
PDSI Padang 54.69 233 P **P** **17 40 58.4 -2.7**
comp=Z,8.7nm,0.9s
SIT Sitka 54.77 42 P **P** **17 41 02.8 +1.7**
SIT pmax pmax
comp=Z,240nm,1.7s
SIT Sitka 54.77 42 P **P** **17 41 02.8 +1.7**
GSI Gunungsitoli 54.82 237 P **P** **17 41 01.3 -0.8**
comp=Z,761nm,2.1s
GSI Gunungsitoli 54.82 237 P **P** **17 41 01.5 -0.6**
JIS Juneau Island 54.83 40 P **P** **17 41 03.4 +1.8**
JIS IAmb IAmb 17 41 27.9
comp=Z,75nm,1.0s
UGM Wanagama 54.95 218 P **P** **17 41 02.4 -0.6**
KRJI Kerinci 55.01 231 P **P** **17 41 03.8 +0.3**
comp=Z,5µmcomp=Z,216nm,1.2s
LHSI Lahat 55.19 228 P **P** **17 41 04.8 +0.1**
comp=Z,3µmcomp=Z,162nm,1.1s
MASI Maura Aman, Be 55.38 229 P **P** **17 41 10.5 +4.4**
NGP Nagpur 55.50 270 *eP* **P** **17 41 06.2 -0.7**
NGP IAmb IAmb 17 41 08.1
comp=Z,66nm,1.0s
PVM Polavaram 55.74 264 *eP* **P** **17 41 09.3 +0.6**
PVM IVmB_BB 17 41 10.0
comp=Z,707nm,1.7s
MNAI Manna 55.95 228 P **P** **17 41 09.2 -0.9**
KNRA Kununurra 56.02 194 P **P** **17 41 10.9 +0.4**
KNRA IAmb IAmb 17 41 35.8
comp=Z,56nm,0.8s
KHLH Kahului Airpor 56.06 90 P **P** **17 41 11.9 +1.0**
ABKAR Akbulak array 56.18 309 P **P** **17 41 11.0 -0.3**
ABKAR Akbulak array 56.18 309 P **P** **17 41 11.4 +0.1**
ABKAR IAmb IAmb 17 41 12.9
comp=Z,234nm,0.9s
KBL Kabul 56.31 289 P **P** **17 41 13.0 +0.2**
KBL Kabul 56.31 289 P **P** **17 41 12.3 -0.5**
KBL PKiKP **PKiKP** **17 48 31.1 -6.7**
KBL **S** **17 48 51.7 -4.2**
WRAK Wrangell Islan 56.53 42 P **P** **17 41 16.1 +2.4**
WRAK IAmb IAmb 17 41 42.5
comp=Z,49nm,1.1s
RPR Rampur 56.60 268 *eP* **P** **17 41 14.9 +0.1**
RPR IVmB_BB 17 41 15.7
comp=Z,753nm,1.5s
AKTO Aktyubinsk 56.86 311 P **P** **17 41 15.5 -0.7**
DLBC Dease Lake 56.92 39 P **P** **17 41 18.6 +2.0**
DLBC IAmb IAmb 17 41 43.4
comp=Z,59nm,1.0s
HPAH Hawaii Prepara 57.11 90 P **P** **17 41 19.5 +1.0**
HUH Hualalai 57.20 91 P **P** **17 41 20.1 +0.8**
KHLU Kahalu`u 57.21 91 P **P** **17 41 19.9 +0.7**
SRSP Sriramsagar 57.30 268 *eP* **P** **17 41 19.7 -0.1**
SRSP IVmB_BB 17 41 20.4
comp=Z,1µm,1.4s
POHA Pohakuloa 57.39 90 P **P** **17 41 21.6 +1.0**
MLOA Mauna Loa Obse 57.49 91 P **P** **17 41 22.4 +0.9**
MWH Moku'aweowe 57.50 91 P **P** **17 41 22.6 +0.9**
HMH Humu'ula Sheep 57.52 91 P **P** **17 41 23.1 +1.4**
KHU Kahuku 57.62 91 P **P** **17 41 23.2 +1.0**
KHU pmax pmax
comp=Z,387nm,1.4s
KHU Kahuku 57.62 91 P **P** **17 41 23.2 +1.0**
HOPEN Hopen 57.63 346 *eP* **P** **17 41 22.3 +1.1**
MLH Mauna Loa 57.66 91 P **P** **17 41 24.5 +2.0**
AIN Ainahou 57.67 91 P **P** **17 41 23.9 +1.3**
UWE Uwekahuna 57.77 91 P **P** **17 41 24.8 +1.6**
WRMHI West Rim 57.77 91 P **P** **17 41 24.3 +1.1**
UWB Uwekahuna B 57.78 91 P **P** **17 41 24.1 +0.9**
ADKI Addanki 57.84 264 *eP* **P** **17 41 23.9 +0.4**
ADKI IVmB_BB 17 41 25.2
comp=Z,608nm,1.8s
NJS Nagarjunasagar 57.94 265 *eP* **P** **17 41 24.2 +0.1**
NJS IVmB_BB 17 41 26.1
comp=Z,480nm,4.3s
HYB Hyderabad 58.01 267 *i* P **P** **17 41 24.0 -0.8**
HYB *epP* **pP** **17 41 48.0 -0.2**
HYBB Hyderabad (bro 58.01 267 *eP* **P** **17 41 24.4 -0.4**
HYBB IVmBBB 17 41 26.4
comp=Z,652nm,1.9s
SPA0 Spitsbergen Ar 58.10 348 P **P** **17 41 25.0 +0.5**
SPA0 IAmb IAmb 17 41 41.3
comp=Z,88nm,1.1s
SPA0 Spitsbergen Ar 58.10 348 *eP* **P** **17 41 25.5 +1.0**
SPITS Spitsbergen Ar 58.10 348 P **P** **17 41 25.2 +0.7**
SPITS pmax pmax
comp=Z,7.0nm,0.3s
KIRV Kirov 58.16 322 *i* P **P** **17 41 25.6 +0.5**
KBS Kingsbay 58.23 350 *d iP* **P** **17 41 26.3 +0.9**
KBS pmax pmax
comp=Z,150nm,1.0s
KBS Kingsbay 58.23 350 P **P** **17 41 26.7 +1.3**
KBS Kingsbay 58.23 350 *eP* **P** **17 41 26.7 +1.3**
SRLM Srisailam 58.52 265 *eP* **P** **17 41 28.2 -0.2**
SRLM IVmBBB 17 41 29.9
comp=Z,502nm,2.2s
NOR Nord 58.63 356 ⇓ *iP* **P** **17 41 28.8 +0.7**
comp=Z,130nm,1.0s
NOR Nord 58.63 356 ⇓ *iP* **P** **17 41 28.8 +0.7**
NOR pmax pmax
comp=Z,130nm,1.0s
HSPB Hornsund (broa 59.03 348 *i* P **P** **17 41 32.0 +1.1**
HSPB *epP* **pP** **17 41 55.9 +1.2**
HSPB Hornsund (broa 59.03 348 *eP* **P** **17 41 31.8 +0.9**
FITZ Fitzroy Crossi 59.03 197 P **P** **17 41 32.6 +1.1**
KLRI Killari 59.14 269 *eP* **P** **17 41 32.3 -0.4**
KLRI IVmB_BB 17 41 33.0
comp=Z,1µm,1.6s
WB0 Warramunga Arr 59.23 187 P **P** **17 41 32.2 -0.8**
WB0 IAmb IAmb 17 41 56.5
comp=Z,43nm,0.8s
SKHT Srikalahasti 59.31 262 *eP* **P** **17 41 34.5 +0.8**
SKHT IVmB_BB 17 41 35.3
comp=Z,823nm,2.2s
WRAB Tennant Creek 59.40 187 *d iP* **P** **17 41 34.3 +0.2**
WRAB pmax pmax
comp=Z,37nm,0.9s
WRAB Tennant Creek 59.40 187 P **P** **17 41 33.5 -0.7**
WRAB IAmb IAmb 17 42 13.2
comp=Z,57nm,1.1s
WR0 Warramunga Arr 59.41 187 P **P** **17 41 33.9 -0.3**
WR0 IAmb IAmb 17 42 13.2
comp=Z,71nm,1.1s
WB2 Warramunga Arr 59.41 187 P **P** **17 41 34.0 -0.2**
WB2 IAmb IAmb 17 42 13.3
comp=Z,65nm,1.1s
WRA Warramunga Arr 59.41 187 P **P** **17 41 33.8 -0.5**
comp=Z,24nm,0.7s,baz=5.1,slow=6.9,SNR=223
WRA pP **pP** **17 41 56.9 -0.9**
comp=Z,27nm,0.6s,baz=3.5,slow=7.2,SNR=6.3
WRA LR LR 18 06 57.3
comp=Z,98nm,20.5s,baz=15,slow=36
WRA PKP2bc 18 11 15.7
comp=Z,11nm,1.3s,baz=212,slow=2.3,SNR=10
WRA PKP2ab 18 11 26.8
comp=Z,1.7nm,0.9s,baz=197,slow=2.0,SNR=4.5
WRA Warramunga Arr 59.41 187 P **P** **17 41 33.3 -0.9**
WRA **P'P'bc** **18 11 13.7 +2.3**
CTAO Charters Tower 59.43 174 P **P** **17 41 34.5 +0.2**
CTAO pmax pmax
comp=Z,60nm,1.5s
CTAO Charters Tower 59.43 174 P **P** **17 41 34.5 +0.2**
CTAO IAmb IAmb 17 41 35.8
comp=Z,60nm,1.4s
LVZ Lovozero 59.79 335 *d iP* **P** **17 41 36.2 -0.2**
LVZ pmax pmax
comp=Z,314nm,1.1s
LVZ Lovozero 59.79 335 P **P** **17 41 36.5 +0.1**
BJO1 Bjornoya 60.06 345 *eP* **P** **17 41 38.4 +0.4**
RES Resolute Bay 60.34 15 P **P** **17 41 40.7 +0.7**
RES pmax pmax
comp=Z,83nm,0.9s
RES Resolute Bay 60.34 15 P **P** **17 41 40.6 +0.7**
KNTN Kanton 60.35 122 P **P** **17 41 40.2 -0.6**
APA Apatity 60.37 335 ⇑ *iP* **P** **17 41 38.4 -1.8**
APA *i* *PP **pP** **17 42 03.0 -1.1**
APA *i* 17 42 12.0
APA *i* S **S** **17 49 45.0 -2.2**
APA pmax pmax
comp=Z,89nm,0.8s
URV Uravakonda 60.47 265 *eP* **P** **17 41 41.6 -0.1**
URV IVmB_BB 17 41 42.5

comp=Z,381nm,2.0s
TMCR Tamitsa 60.49 331 *e*P **P** **17 41 40.2 -0.9**
TMCR pmax pmax
comp=Z,347nm,1.1s
BBB Bella Bella 60.55 45 LR LR 18 04 46.2
comp=Z,81nm,21.9s,baz=322,slow=33
KEV Kevo 61.09 339 P **P** **17 41 45.7 +0.7**
KEV pmax pmax
comp=Z,128nm,1.1s
KEV Kevo 61.09 339 P **P** **17 41 45.7 +0.7**
HRA Herat 61.30 292 P **P** **17 41 48.4 +1.0**
HAMF Hammerfest 61.45 340 *eP* **P** **17 41 47.2 -0.3**
KLMR Klimovskoe 61.57 327 *d iP* **P** **17 41 48.6 +0.2**
KLMR *e*PP **pP** **17 42 12.9 +0.7**
KLMR *e* 17 44 01.3
KLMR *eS* **S** **17 50 01.0 -1.6**
KLMR pmax pmax
comp=Z,447nm,1.3s
KLMR Klimovskoe 61.57 327 ⇓ *iP* **P** **17 41 48.7 +0.3**
KLMR ⇑ *iP* **P** **17 41 48.7 +0.3**
KLMR ⇑ *iP* **P** **17 41 48.7 +0.3**
KLMR AMP 17 41 50.1
comp=Z,447nm,1.3s
KLMR *e*pP **pP** **17 42 12.9 +0.7**
KLMR *e*PP **PP** **17 44 01.3 -3.2**
KLMR *eS* **S** **17 50 01.0 -1.6**
KLMR *eS* **S** **17 50 01.0 -1.6**
KLMR LQ LQ 18 04 01.4
KLMR LQ LQ 18 04 01.4
KLMR LR LR 18 09 04.1
ARCES ARCESS Array B 61.64 339 P **P** **17 41 49.2 +0.4**
comp=Z,32nm,0.7s,baz=56,slow=8.1,SNR=116
ARCES pP **pP** **17 42 13.4 +0.6**
comp=Z,28nm,0.9s,baz=39,slow=6.4,SNR=5.1
ARCES LR LR 18 13 58.0
comp=Z,213nm,20.3s,baz=38,slow=41
ARE0 ARCESS Array S 61.64 339 P **P** **17 41 49.4 +0.6**
ARE0 ARCESS Array S 61.64 339 *eP* **P** **17 41 49.5 +0.6**
YKA Yellowknife Ar 61.88 31 P **P** **17 41 51.1 +0.6**
comp=Z,9.6nm,0.9s,baz=297,slow=6.5,SNR=42
YKA pP **pP** **17 42 13.8 -0.5**
comp=Z,39nm,0.9s,baz=300,slow=6.7,SNR=20
ASHT Ashkhabad 62.24 298 P **P** **17 41 54.5 +1.1**
ASHT pmax pmax
comp=Z,984nm,1.9s
ASHT Ashkhabad 62.24 298 P **P** **17 41 54.5 +1.1**
GEYT Alibeck 62.43 298 P **P** **17 41 55.0 +0.3**
comp=Z,125nm,1.1s,baz=45,slow=2.3,SNR=139
GEYT LR LR 18 10 33.8
comp=Z,360nm,21.2s,baz=100,slow=37
GEYT Alibeck 62.43 298 P **P** **17 41 54.8 +0.1**
GYA0B ALIBECK ARRAY 62.43 298 P **P** **17 41 55.2 +0.5**
KTK1 Kautokeino 62.60 339 *eP* **P** **17 41 56.2 +1.0**
TULEG Thule 62.75 8 P **P** **17 41 56.2 +0.1**
AS31 Alice Springs 63.14 187 P **P** **17 41 59.6 +0.2**
ASAR Alice Springs 63.14 187 P **P** **17 41 59.4 +0.1**
comp=Z,16nm,0.7s,baz=1.9,slow=7.3,SNR=198
ASAR pP **pP** **17 42 22.2 -1.0**
comp=Z,15nm,0.8s,baz=13,slow=10,SNR=6.3
ASAR LR LR 18 06 10.5
comp=Z,132nm,21.3s,baz=2.5,slow=33
ASAR PKP2bc 18 11 05.0
comp=Z,2.7nm,1.0s,baz=188,slow=2.6,SNR=8.1
ASAR Alice Springs 63.14 187 P **P** **17 41 59.5 +0.2**
ASAR Alice Springs 63.14 187 P'P'bc 18 11 03.6 +1.4
TRO Tromso 63.34 341 *eP* **P** **17 42 00.4 +0.3**
DAG Danmarks Havn 63.35 355 ⇓ *iP* **P** **17 42 00.4 +0.4**
comp=Z,151nm,1.0s
DAG Danmarks Havn 63.35 355 ⇓ *iP* **P** **17 42 00.4 +0.4**
DAG pmax pmax
comp=Z,150nm,1.0s
PSAD1 Pilbara Seismi 63.75 202 P **P** **17 42 02.7 -0.7**
PSAC1 Pilbara Seismi 63.83 202 P **P** **17 42 03.3 -0.6**
PSAC1 IAmb IAmb 17 42 05.1
comp=Z,179nm,1.9s
PSAC2 Pilbara Seismi 63.83 202 P **P** **17 42 03.2 -0.7**
PSAB2 Pilbara Seismi 63.84 202 P **P** **17 42 03.0 -0.9**
PSAB2 IAmb IAmb 17 43 17.4
comp=Z,139nm,1.8s
PSAA2 Pilbara Seismi 63.85 202 P **P** **17 42 03.0 -1.0**
PSAA2 IAmb IAmb 17 43 17.4
comp=Z,143nm,1.8s
PSA00 Pilbara Seismi 63.86 202 P **P** **17 42 04.0 0.0**
PSA00 Pilbara Seismi 63.86 202 P **P** **17 42 02.8 -1.2**
PSA00 IAmb IAmb 17 43 00.6
comp=Z,92nm,1.6s
PSAB1 Pilbara Seismi 63.86 202 P **P** **17 42 04.2 +0.1**
PSAD2 Pilbara Seismi 63.87 202 P **P** **17 42 03.7 -0.5**
PSAB3 Pilbara Seismi 63.87 202 P **P** **17 42 03.5 -0.7**
PSAC3 Pilbara Seismi 63.91 202 P **P** **17 42 03.8 -0.6**
PSAC3 IAmb IAmb 17 42 28.6
comp=Z,81nm,1.6s
PSAD3 Pilbara Seismi 63.94 202 P **P** **17 42 04.3 -0.3**
PSAD3 IAmb IAmb 17 42 40.8
comp=Z,127nm,1.8s
LLLB Lillooet 64.73 44 P **P** **17 42 10.1 +0.5**
LLLB IAmb IAmb 17 42 35.6
comp=Z,72nm,1.1s
MOS Moscow 65.14 323 *eP* **P** **17 42 09.4 -2.7**
MOS *e*PP **pP** **17 42 35.2 -0.9**
MOS *e* 17 44 32.6
MOS *eS* **S** **17 50 44.9 -2.3**
MOS *e*SS **sS** **17 51 27.6 -0.3**
MOS *eSS* **SS** **17 55 01.5 +1.1**
MOS *eSSS* SSS 17 57 59.7
MOS pmax pmax
comp=Z,584nm,1.3s
EIDS Eidsvold 65.16 170 P **P** **17 42 12.6 +0.1**
N2IH Innhavet 65.29 340 *eP* **P** **17 42 13.3 +0.5**
NLWA Neilton Lookou 65.31 48 P **P** **17 42 14.3 +0.8**
NLWA IAmb IAmb 17 42 40.3
comp=Z,96nm,1.1s
A05A Maple Falls 65.47 46 P **P** **17 42 15.1 +0.8**
N2VI Vinje 65.48 341 *eP* **P** **17 42 14.6 +0.6**
STEI Steigen 65.50 340 *eP* **P** **17 42 14.5 +0.4**
KULLO Kullorsuaq 65.60 5 ⇓ *iP* **P** **17 42 15.0 +0.2**
comp=Z,144nm,1.2s
KULLO Kullorsuaq 65.60 5 ⇓ *iP* **P** **17 42 15.0 +0.2**
KULLO pmax pmax
comp=Z,140nm,1.2s
VRH Novokhopyorsk 65.60 317 *eP* **P** **17 42 14.5 -0.6**
VRH pmax pmax
comp=Z,260nm,0.8s
VRH pmax pmax
comp=Z,330nm,0.9s
VRH MLR MLR
comp=Z,610nm,15.0s
DZM Mont Dzumac 65.65 154 P **P** **17 42 17.1 +1.3**
comp=Z,78nm,1.1s,baz=358,slow=9.8,SNR=13
DZM Mont Dzumac 65.65 154 *eP* **P** **17 42 17.9 +2.1**
comp=Z,269nm,1.3s
DZM *eS* **S** **17 50 55.2 +1.0**
comp=Z,271nm,25.9s
DZM Mont Dzumac 65.65 154 *e*LR LR 18 02 03.9
comp=Z,2µm,36.2s
DZM Mont Dzumac 65.65 154 P **P** **17 42 16.1 +0.4**
DZM IAmb IAmb 17 42 19.1
comp=Z,136nm,1.2s
D03D Eldon 65.69 48 P **P** **17 42 18.0 +2.2**
baz=302,SNR=13
LOF Lofoten 65.78 341 *eP* **P** **17 42 16.3 +0.3**
N2TV TYrnvik 65.79 340 *eP* **P** **17 42 16.6 +0.6**
N2ST Straumen 65.82 340 *eP* **P** **17 42 17.1 +0.8**
B05A Bryant 65.86 47 P **P** **17 42 18.5 +1.7**
baz=303,SNR=7.9
E03A Lebam 65.94 49 P **P** **17 42 18.5 +1.2**
E03A IAmb IAmb 17 42 44.1
comp=Z,137nm,1.1s
PUL Pulkovo 65.97 329 *eP* **P** **17 42 17.9 +0.6**
PUL Pulkovo 65.97 329 *de*P **P** **17 42 17.8 +0.5**
PUL pmax pmax
comp=Z,421nm,1.0s
OBN Obninsk 66.00 322 ⇑ P **P** **17 42 18.5 +1.0**
OBN Obninsk 66.00 322 *d iP* **P** **17 42 17.8 +0.3**
OBN *e*PP **pP** **17 42 40.6 -1.0**
OBN *e* 17 42 50.6
OBN *i* 17 44 44.2
OBN *e*PPP PPP 17 46 19.1
OBN *i* S **S** **17 50 57.4 -0.1**
OBN *i* SS **SS** **17 55 16.1 +2.6**
OBN pmax pmax
comp=Z,560nm,1.4s
OBN Obninsk 66.00 322 P **P** **17 42 17.9 +0.3**
D04E Lakebay 66.06 48 P **P** **17 42 21.1 +3.0**

baz=303
B06A Marblemount 66.06 46 P **P** 17 42 19.5 +1.4
B06A IAmb IAmb 17 42 44.1
comp=Z,84nm,1.2s
N2SV S_rvŸgen 66.10 341 *e*P **P** 17 42 17.8 -0.2
NBB29 Rokland skole 66.16 340 *e*P **P** 17 42 18.9 +0.5
NBB28 Valnes 66.24 340 *e*P **P** 17 42 19.5 +0.5
LPSR Galich'ya Gora 66.27 319 *e*P **P** 17 42 19.5 +0.1
LPSR pmax pmax
comp=Z,340nm,0.9s
LPSR pmax pmax
comp=Z,390nm,0.9s
N2VA Vr_y 66.35 341 *e*P **P** 17 42 19.9 +0.2
NBB05 Inndyr 66.47 340 *e*P **P** 17 42 20.9 +0.5
E04D Cinebar 66.52 48 P **P** 17 42 23.7 +2.6
baz=303,SNR=9.5
FIA1 FINESS Array S 66.55 332 P **P** 17 42 21.1 +0.2
FINES FINESS Array B 66.55 332 P **P** 17 42 21.3 +0.3
comp=Z,144nm,0.8s,baz=29,slow=9.9,SNR=282
FINES LR LR 18 13 28.5
comp=Z,277nm,20.9s,baz=48,slow=38
FINES FINESS Array B 66.55 332 P **P** 17 42 21.0 0.0
MSVF Nonsavu 66.57 141 *c i*P **P** 17 42 23.8 +2.1
MSVF pmax pmax
comp=Z,71nm,1.1s
MSVF Nonsavu 66.57 141 P **P** 17 42 23.1 +1.4
NBB30 Finnes 66.59 340 *e*P **P** 17 42 21.6 +0.4
VORR Voronezh 66.65 318 ⇓*i*P **P** 17 42 21.0 -0.8
VORR pmax pmax
comp=Z,500nm,1.2s
NBB17 Glomfjord BŸr 66.65 340 *e*P **P** 17 42 21.5 -0.1
MAK Makhachkala 66.75 307 *e*P **P** 17 42 20.5 -2.1
MAK *e**PP **pP** 17 42 45.0 -1.6
MAK *e**SP **sP** 17 42 56.6 -0.5
MAK *e* 17 44 50.7
MAK *e*PPP PPP 17 46 29.0
MAK *e*S **S** 17 51 05.2 -1.9
MAK *e**SS **sS** 17 51 49.2 +1.5
MAK *e*SS **SS** 17 55 24.8 -1.1
MAK pmax pmax
comp=Z,238nm,1.2s
LON Longmire 66.85 48 P **P** 17 42 24.5 +1.2
LON pmax pmax
comp=Z,32nm,1.1s
LON Longmire 66.85 48 P **P** 17 42 24.5 +1.2
VSR Storozhevoye 66.93 318 *e*P **P** 17 42 23.6 0.0
VSR pmax pmax
comp=Z,290nm,1.0s
VSR pmax pmax
comp=Z,330nm,0.9s
VSR MLR MLR
comp=Z,1μm,16.0s
F04A Amboy 66.94 49 P **P** 17 42 25.2 +1.4
F04A IAmb IAmb 17 42 50.1
comp=Z,103nm,1.1s
XMAS Kiritimati 66.95 107 P **P** 17 42 26.3 +2.0
MOR8 Moi Rana 67.00 339 *e*P **P** 17 42 23.0 -0.9
VORD Divnogorie 67.01 318 *e*P **P** 17 42 24.0 -0.1
VORD pmax pmax
comp=Z,160nm,0.8s
I02D Swisshome 67.09 51 P **P** 17 42 27.6 +2.8
baz=303
KONS Konsvik 67.11 340 *e*P **P** 17 42 25.0 +0.5
COR Corvallis 67.16 50 P **P** 17 42 24.9 -0.3
COR pmax pmax
comp=Z,182nm,1.2s
COR Corvallis 67.16 50 P **P** 17 42 24.9 -0.3
LTY Liberty 67.22 47 P **P** 17 42 25.2 -0.4
LTY IAmb IAmb 17 42 51.7
comp=Z,131nm,1.4s
STOK Stokkvaagen 67.27 340 *e*P **P** 17 42 25.8 +0.3
B08A Colville Reser 67.35 45 P **P** 17 42 26.7 +0.3
B08A IAmb IAmb 17 42 52.5
comp=Z,106nm,1.4s
H04D Lebanon 67.53 50 P **P** 17 42 29.5 +1.9
baz=304
J01E Myrtle Point 67.56 52 P **P** 17 42 30.1 +2.4
baz=304
I03D Drain, OR 67.62 51 P **P** 17 42 30.4 +2.3
baz=304,SNR=6.4
GROC Groznyy 67.67 308 *e*P **P** 17 42 28.4 0.0
GROC *e* 17 42 52.9
GROC *e**SP **sP** 17 43 01.6 -1.3
GROC pmax pmax
comp=Z,141nm,1.0s
H04A Detroit Lake 67.77 50 P **P** 17 42 29.4 +0.3
H04A IAmb IAmb 17 42 55.4
comp=Z,111nm,1.1s
G05D Wamic, OR 67.97 49 P **P** 17 42 32.6 +2.3
baz=304
K02D Willamette Mer 67.98 52 P **P** 17 42 32.4 +1.8
baz=304
E07A Sunnyside 68.07 47 P **P** 17 42 31.6 +0.6
E07A IAmb IAmb 17 42 57.5
comp=Z,106nm,1.2s
I04A Tendick Farm, 68.13 51 P **P** 17 42 33.1 +1.7
baz=304,SNR=9.1
VSU Vasula 68.23 329 *e*P **P** 17 42 32.0 +0.4
C09A Chrisman Ranch 68.25 46 P **P** 17 42 32.9 +0.9
C09A IAmb IAmb 17 42 58.1
comp=Z,90nm,1.1s
SUMG Summit 68.27 360 ⇓*i*P **P** 17 42 33.5 +1.3
comp=Z,235nm,0.9s
SUMG Summit 68.27 360 ⇓*i*P **P** 17 42 33.5 +1.3
SUMG pmax pmax
comp=Z,240nm,0.9s
SUMG Summit 68.27 360 P **P** 17 42 32.8 +0.6
GOF Gofitskoye 68.28 311 ⇓*i*P **P** 17 42 33.2 +1.0
GOF *e*S **S** 17 51 24.8 -0.6
GOF pmax pmax
comp=Z,442nm,0.8s
D08A Wollman Farm, 68.31 46 P **P** 17 42 33.2 +0.8
D08A IAmb IAmb 17 42 58.6
comp=Z,68nm,1.2s
HAWA Hanford 68.35 47 P **P** 17 42 32.8 +0.1
HAWA pP **PcP** 17 42 57.7 +0.1
HAWA IAmb IAmb 17 42 59.1
comp=Z,101nm,1.4s
G06A Carlson Farm, 68.37 49 P **P** 17 42 33.3 +0.4
G06A IAmb IAmb 17 42 59.4
comp=Z,99nm,1.4s
F07A Phinny Hill Vi 68.41 48 P **P** 17 42 33.2 +0.2
F07A pP **PcP** 17 42 58.3 +0.5
F07A IAmb IAmb 17 42 59.6
comp=Z,117nm,1.3s
I05D Terrebonne, OR 68.46 50 P **P** 17 42 35.5 +2.0
baz=304
E08A Dider Farm, El 68.56 47 P **P** 17 42 34.9 +0.9
E08A IAmb IAmb 17 43 00.3
comp=Z,104nm,1.4s
NEW Newport 68.61 45 P **P** 17 42 36.0 +1.6
baz=306,SNR=28
NEW Newport 68.61 45 LR LR 18 10 06.7
comp=Z,130nm,21.4s,baz=306,slow=34
NEW Newport 68.61 45 P **P** 17 42 35.1 +0.8
NEW **PcP** 17 42 59.0 +0.3
NEW IAmb IAmb 17 43 00.4
comp=Z,77nm,1.1s
J04D Umpqua Nationa 68.62 51 P **P** 17 42 36.6 +1.9
baz=304,SNR=7.3
AFI Afiamalu 68.91 130 P **P** 17 42 36.9 +0.4
AFI pmax pmax
comp=Z,92nm,1.4s
AFI Afiamalu 68.91 130 P **P** 17 42 36.9 +0.4
AFI IAmb IAmb 17 43 16.2
comp=Z,92nm,1.4s
NSS Namsos 68.92 339 *e*P **P** 17 42 35.9 0.0
KHMM Horse Mountain 68.96 54 P **P** 17 42 37.6 +0.9
KHMM IAmb IAmb 17 43 07.7
comp=Z,96nm,1.1s
ZEI Tsey 69.05 309 *e*P **P** 17 42 32.7 -4.7
ZEI pmax pmax
comp=Z,182nm,1.2s
E09A Wood Farm, Sta 69.06 47 P **P** 17 42 37.9 +0.8
E09A **pP** 17 43 02.1 +0.7
E09A IAmb IAmb 17 43 03.5
comp=Z,145nm,1.3s
L04D Klamath Falls 69.08 52 P **P** 17 42 39.3 +1.8
baz=305,SNR=16
YBH Yreka Blue Hor 69.11 53 LR LR 18 07 22.2
comp=Z,111nm,21.3s,baz=311,slow=31
YBH Yreka Blue Hor 69.11 53 P **P** 17 42 38.5 +0.9
YBH **pP** 17 43 02.5 +0.6
KIV Kislovodsk 69.11 310 ⇓P **P** 17 42 38.9 +1.3
KIV Kislovodsk 69.11 310 *i* P **P** 17 42 38.6 +1.0
SNR=216
KIV Kislovodsk 69.11 310 *d i*P **P** 17 42 38.6 +1.0
KIV Kislovodsk 69.11 310 *d*⇓*i*P **P** 17 42 38.5 +1.0
KIV *e* 17 43 02.3
KIV *e* 17 45 12.8
KIV *i*S **S** 17 51 34.5 -1.0
KIV *i*SS **SS** 17 56 01.0 -1.5
KIV pmax pmax
comp=Z,834nm,1.0s
KIV MLR MLR
comp=Z,304nm,23.0s
KIV Kislovodsk 69.11 310 P **P** 17 42 38.2 +0.7
KBZ Khabaz 69.12 310 P **P** 17 42 38.3 +0.9
comp=Z,195nm,0.9s,baz=66,slow=5.2,SNR=230
KBZ LR LR 18 16 35.2
comp=Z,362nm,18.3s,baz=45,slow=39
KBZ Khabaz 69.12 310 *d i*P **P** 17 42 38.2 +0.8
KBZ pmax pmax
comp=Z,359nm,1.0s
J05D Fort Rock, OR 69.12 51 P **P** 17 42 39.8 +2.1
baz=305,SNR=16
TBLG Delisi 69.14 307 P **P** 17 42 37.9 +0.2
TBLG pmax pmax
comp=Z,277nm,1.2s
TBLG Delisi 69.14 307 P **P** 17 42 37.9 +0.2
K04D Chiloquin, OR 69.19 52 P **P** 17 42 40.3 +2.2
baz=305
M02C Callahan 69.21 53 P **P** 17 42 40.6 +2.4
baz=305,SNR=7.7
G08A Pilot Rock 69.31 48 P **P** 17 42 39.6 +0.8
KMRM Mail Ridge 69.34 55 P **P** 17 42 39.8 +0.8
N02D Trinity Center 69.54 53 P **P** 17 42 42.4 +2.2
baz=305,SNR=8.9
KZRT Kazreti 69.55 307 P **P** 17 42 40.6 +0.4
M04C Macdoel 69.62 52 P **P** 17 42 42.8 +2.0
baz=305,SNR=20
K05A Summer Lake 69.65 51 P **P** 17 42 42.3 +1.2
K05A IAmb IAmb 17 43 08.1
comp=Z,144nm,1.1s
SCO Scoresbysund 69.68 354 ⇓*i*P **P** 17 42 41.7 +1.2
comp=Z,145nm,1.3s
SCO Scoresbysund 69.68 354 ⇓*i*P **P** 17 42 41.7 +1.2
SCO pmax pmax
comp=Z,150nm,1.3s
I07A Izee 69.69 49 P **P** 17 42 42.1 +0.9
KCPM Cahto Peak 69.73 55 P **P** 17 42 42.9 +1.5
KCPM IAmb IAmb 17 43 08.2
comp=Z,93nm,1.2s
WALA Waterton Lakes 69.85 43 P **P** 17 42 42.8 +0.7
WALA IAmb IAmb 17 43 08.2
comp=Z,68nm,1.1s
WDC Whiskeytown Da 69.87 54 P **P** 17 42 42.5 +0.4
WDC pmax pmax
comp=Z,55nm,1.2s
WDC Whiskeytown Da 69.87 54 P **P** 17 42 42.5 +0.4
F10A Beach Ranch, E 69.89 47 P **P** 17 42 42.4 0.0
O02D Mt. Diablo Mer 69.95 54 P **P** 17 42 44.7 +2.0
baz=305,SNR=10
WSAR Wadi Sarin 69.98 284 P **P** 17 42 44.3 +1.2
WBK Wadi Bani Khal 70.08 283 P **P** 17 42 45.2 +1.4
SNR=10
AKH Akhalkalaki 70.09 308 ⇑P **P** 17 42 45.5 +1.8
AKH Akhalkalaki 70.09 308 P **P** 17 42 44.2 +0.5
AKH pmax pmax
comp=Z,125nm,1.0s
AKH Akhalkalaki 70.09 308 P **P** 17 42 44.2 +0.5
AKH IAmb IAmb 17 42 46.4
comp=Z,125nm,1.0s
BANOM Banah 70.18 288 *i* P **P** 17 42 44.3 0.0
SNR=8.8
BANOM Banah 70.18 288 P **P** 17 42 45.1 +0.8
BIDO Bidbid 70.19 285 P **P** 17 42 45.3 +0.9
SNR=9.8
ARMA Armidale 70.21 170 P **P** 17 42 44.6 +0.4
IZAR Zarasai 70.22 327 *e*P **P** 17 42 44.9 +0.9
SHME Shamm 70.22 288 *i* P **P** 17 42 44.8 +0.2
SNR=6.0
MICGM Minsk 70.34 325 ⇓*i*P **P** 17 42 45.0 +0.3
MICGM ⇓*i*P **P** 17 42 45.0 +0.3
MICGM PM 17 42 46.0
comp=Z,1.0nm,1.0s
MICGM PM 17 42 47.0
comp=N,0.6nm,1.1s
MICGM PM 17 42 47.0
comp=E,0.7nm,1.2s
MICGM *e*pP **pP** 17 43 09.0 -0.2
MICGM *e*PP **PP** 17 45 16.0 -5.0
MICGM *e*S **S** 17 51 50.0 +0.8
MICGM *e*sS **sS** 17 52 34.0 +3.4
MICGM *e*LR LR 18 15 52.0
MNK Minsk 70.34 325 ⇓*i*P **P** 17 42 45.0 +0.3
MNK *e* 17 43 09.0
MNK *e*S **S** 17 51 50.0 +0.8
MNK *e* 17 52 34.0
MNK pmax pmax
comp=Z,1μm,1.0s
MNK pmax pmax
comp=N,580nm,1.1s
MNK pmax pmax
comp=E,670nm,1.2s
ISAL Salakas 70.39 327 *e*P **P** 17 42 46.0 +1.0
TBLU Trondheim 70.39 339 *e*P **P** 17 42 44.7 -0.3
HOPS Hopland Field 70.45 55 P **P** 17 42 46.4 +0.7
HOPS IAmb IAmb 17 44 16.1
comp=Z,114nm,1.5s
JTMT Jette 70.45 44 P **P** 17 42 45.5 -0.3
JTMT IAmb IAmb 17 43 12.3
comp=Z,101nm,1.1s
MOD Modoc Plateau 70.48 52 P **P** 17 42 46.5 +0.5
IIGN Ignalina 70.50 327 *e*P **P** 17 42 46.8 +1.1
O03E Paynes Creek 70.50 54 P **P** 17 42 47.2 +1.1
baz=306,SNR=12
BMO Blue Mountains 70.52 48 P **P** 17 42 46.2 0.0
BMO pmax pmax
comp=Z,92nm,1.6s
BMO Blue Mountains 70.52 48 P **P** 17 42 46.2 0.0
BMO IAmb IAmb 17 43 12.7
comp=Z,92nm,1.6s
SMDO Samad 70.52 284 P **P** 17 42 47.6 +1.1
SNR=8.8
MDH Madha 70.54 287 P **P** 17 42 46.2 -0.2
MDH Madha 70.54 287 P **P** 17 42 46.3 -0.1
SLIT Siltere, Latvi 70.54 330 *e*P **P** 17 42 45.5 -0.4
NACGM Naroch 70.55 326 *e*P **P** 17 42 46.0 0.0
NACGM *e*P **P** 17 42 46.0 0.0
NACGM *e*P **P** 17 42 47.0 +1.0
comp=Z,1.0nm,1.0s
NACGM *e*pP **pP** 17 43 10.0 -0.5
NACGM *e*sP **sP** 17 43 20.0 -1.0
NACGM *e*PP **PP** 17 45 26.0 +3.2
NACGM *e*S **S** 17 51 49.0 -2.7
NACGM *e*sS **sS** 17 52 30.0 -3.2
NACGM *e*SS SS 17 56 55.0 +31
NACGM *e*SSS SSS 17 59 44.0
NACGM *e*LQ LQ 18 08 28.0
NACGM *e*LR LR 18 15 06.0
MSFE Esma-Masafi 70.60 287 *i* P **P** 17 42 47.5 +0.6
SNR=7.3
J08A Circle Bar Ran 70.72 49 P **P** 17 42 48.7 +1.2
J08A IAmb IAmb 17 43 14.3
comp=Z,74nm,1.2s
GDXM Geysers 70.73 55 P **P** 17 42 48.5 +0.9
HOQ Hoqain 70.77 285 P **P** 17 42 48.7 +0.8
SNR=11
KARS Kars 70.80 307 P **P** 17 42 49.5 +1.5
UOSS Minazif 70.81 287 *i* P **P** 17 42 48.1 0.0
SNR=11
UOSS Minazif 70.81 287 P **P** 17 42 48.6 +0.5
UOSS Minazif 70.81 287 P **P** 17 42 48.4 +0.3
UOSS IAmb IAmb 17 42 49.7
comp=Z,81nm,1.1s
JMDO Jabal Madar 70.88 284 P **P** 17 42 49.4 +0.8
SNR=6.5
FORT Forrest 70.91 192 P **P** 17 42 48.6 +0.3
HATD Hatta, Dubai 70.93 287 *i* P **P** 17 42 49.3 +0.4
SNR=17
HATD Hatta, Dubai 70.93 287 P **P** 17 42 50.0 +1.1
SNR=11
STKA Stephens Creek 70.97 179 P **P** 17 42 48.9 +0.2
comp=Z,8.5nm,0.7s,baz=359,slow=5.8,SNR=17
STKA LR LR 18 15 53.6
comp=Z,146nm,18.5s,baz=8.2,slow=37
STKA Stephens Creek 70.97 179 P **P** 17 42 49.2 +0.5
STKA Stephens Creek 70.97 179 P **P** 17 42 49.2 +0.5
SOHO SOHO 71.03 286 P **P** 17 42 50.0 +0.5
SNR=10
ASHO Ashiyiah 71.07 287 *i* P **P** 17 42 49.8 +0.1
SNR=14
ASHO Ashiyiah 71.07 287 P **P** 17 42 51.0 +1.3
SNR=12
BATM Batumi 71.08 309 ⇑P **P** 17 42 50.6 +1.1
SOC Sochi 71.08 311 *e*P **P** 17 42 48.5 -0.9
SOC *e**PP **pP** 17 43 13.8 +0.1
SOC *e**SP **sP** 17 43 25.3 +1.3
SOC *e*S **S** 17 51 57.7 -0.5
SOC *e*SS **SS** 17 56 36.9 +4.5
SOC pmax pmax
comp=Z,153nm,0.7s
SOC MLR MLR
comp=Z,245nm,16.0s
ORV Oroville 71.11 54 P **P** 17 42 50.5 +0.8
ORV **pP** 17 43 14.2 0.0
WVOR Wild Horse Val 71.17 50 P **P** 17 42 51.1 +0.9
WVOR pmax pmax
comp=Z,56nm,1.2s
WVOR Wild Horse Val 71.17 50 P **P** 17 42 51.1 +0.9
NAZ Nazwa, Dubai 71.19 287 *i* P **P** 17 42 52.0 +1.6
SNR=7.4
NAZ Nazwa, Dubai 71.19 287 P **P** 17 42 51.3 +0.9
SNR=6.6
MSO Missoula 71.20 44 P **P** 17 42 51.4 +1.1
baz=308,SNR=12
MSO Missoula 71.20 44 P **P** 17 42 50.3 0.0
MSO pP **pP** 17 43 15.1 +0.4
BCA Borcka 71.21 308 ⇑P **P** 17 42 51.5 +1.2
ILULI Ilulissat 71.28 5 ⇓*i*P **P** 17 42 50.6 +0.4
comp=Z,87nm,1.1s
ILULI Ilulissat 71.28 5 ⇓*i*P **P** 17 42 50.6 +0.4
ILULI pmax pmax
comp=Z,87nm,1.1s
ILULI Ilulissat 71.28 5 P **P** 17 42 50.5 +0.4
ILULI IAmb IAmb 17 42 52.1
comp=Z,89nm,1.1s
BSY Bisya 71.34 284 P **P** 17 42 52.4 +1.0
SNR=12
PABE Paberze 71.34 328 *e*P **P** 17 42 51.2 +0.5
ARQ Araqi 71.50 285 P **P** 17 42 53.3 +1.0
SNR=14
NC405 NORSAR Array S 71.64 337 P **P** 17 42 52.5 -0.1
BEKR Beckworth 71.64 53 P **P** 17 42 53.5 +0.4
BEKR pP **pP** 17 43 18.0 +0.3
BEKR IAmb IAmb 17 43 19.4
comp=Z,80nm,1.1s
ANN Anapa 71.66 313 *d i*P **P** 17 42 53.0 +0.1
ANN *e**PP **pP** 17 43 19.7 +2.5
ANN *e*S **S** 17 52 04.1 -0.7
ANN *e*SS **SS** 17 56 44.0 +2.8
ANN pmax pmax
comp=Z,456nm,1.4s
ALNE Al Ain 71.66 286 *i* P **P** 17 42 53.4 +0.2
SNR=8.2
NC303 NORSAR Array S 71.66 337 P **P** 17 42 52.6 -0.1
DOMB Dombas 71.69 338 *e*P **P** 17 42 53.5 +0.7
MOL Molde 71.69 339 *e*P **P** 17 42 53.7 +1.0
MHTO MHTO 71.78 282 P **P** 17 42 54.7 +0.7
SNR=22
NC204 NORSAR Array S 71.80 337 P **P** 17 42 54.0 +0.4
AFDM Forest Hills D 71.80 54 P **P** 17 42 54.9 +1.0
PBUR Paburge 71.81 329 *e*P **P** 17 42 53.8 +0.2
NB201 NORSAR Array S 71.82 337 P **P** 17 42 53.9 +0.3
FFC Flin Flon 71.84 33 P **P** 17 42 53.9 +0.1
FFC Flin Flon 71.84 33 P **P** 17 42 53.9 +0.1
NB2 NORSAR Subarra 71.85 337 P **P** 17 42 54.0 +0.2
comp=Z,120nm,0.7s,baz=36,slow=6.5
NB2 NORSAR Subarra 71.85 337 P **P** 17 42 54.0 +0.2
baz=36,slow=6.5
NOA NORSAR Array B 71.85 337 P **P** 17 42 54.2 +0.4
comp=Z,148nm,1.0s,baz=37,slow=6.0,SNR=278
NOA LR LR 18 17 29.9
comp=Z,372nm,21.6s,baz=40,slow=38
NC602 NORSAR Array S 71.99 337 P **P** 17 42 54.5 0.0
NC602 NORSAR Array S 71.99 337 *e*P **P** 17 42 54.6 0.0
NORES NORESS Array B 71.99 337 P **P** 17 42 54.7 +0.1
NORES pmax pmax
comp=Z,11nm,0.4s
NBO00 NORSAR Array S 71.99 337 P **P** 17 42 54.5 -0.1
MORW Morawa 72.03 203 P **P** 17 42 54.6 -0.6
NAO01 NORSAR Array S 72.10 337 P **P** 17 42 55.2 -0.1
AKN Aaknes 72.16 339 *e*P **P** 17 42 56.5 +0.9
AKASG Malin Array Be 72.22 322 P **P** 17 42 56.2 +0.1
comp=Z,38nm,0.4s,baz=44,slow=6.5,SNR=325
AKASG LR LR 18 17 02.9
comp=Z,343nm,18.7s,baz=55,slow=38
AKASG Malin Array Be 72.22 322 P **P** 17 42 55.9 -0.2
AKBB Malin Array Si 72.22 322 *d i*P **P** 17 42 56.0 -0.1
AKBB Malin Array Si 72.22 322 P **P** 17 42 55.9 -0.1
KIEV Kiev 72.23 322 P **P** 17 42 55.0 -1.2
MFID Camas Ranch 72.23 48 P **P** 17 42 56.8 +0.2
MFID IAmb IAmb 17 43 23.2
comp=Z,180nm,1.9s
RUBR Rubicon Trail 72.25 54 P **P** 17 42 57.7 +0.8
RUBR IAmb IAmb 17 43 27.9
comp=Z,74nm,1.0s
PAHR Pah Rah Range 72.34 53 P **P** 17 42 58.3 +1.0
PAHR IAmb IAmb 17 43 23.8
comp=Z,80nm,1.2s
VCNR Virginia City 72.42 53 P **P** 17 42 57.9 +0.1
LHI Lord Howe Isla 72.57 164 P **P** 17 42 59.8 +1.5
PNTR Pine Nut 72.58 54 P **P** 17 43 00.1 +1.3
PNTR IAmb IAmb 17 43 25.6
comp=Z,71nm,1.1s
KTUT Trabzon 72.61 309 ⇑P **P** 17 42 59.4 +0.7
LRM Limekiln Ridge 72.63 45 P **P** 17 42 59.8 +0.8
EGMT Eagleton 72.66 42 P **P** 17 43 00.1 +1.1
baz=310,SNR=8.1
EGMT Eagleton 72.66 42 P **P** 17 42 59.0 +0.1
EGMT IAmb IAmb 17 43 43.3
comp=Z,79nm,1.0s
SUW Suwalki 72.70 327 *i* P **P** 17 42 59.0 +0.1
SUW *e*PcP **PcP** 17 43 15.1 -0.7
SUW *e*pP **pP** 17 43 22.6 -0.9
SUW *e*sP **sP** 17 43 32.8 -1.1
SUW Suwalki 72.70 327 P **P** 17 42 58.5 -0.4
SUW pmax pmax
comp=Z,336nm,1.2s
SUW Suwalki 72.70 327 P **P** 17 42 58.5 -0.4
CMB Columbia Colle 72.71 55 P **P** 17 42 59.9 +0.5
CMB pmax pmax
comp=Z,77nm,1.3s
CMB Columbia Colle 72.71 55 P **P** 17 42 59.9 +0.5
CMB IAmb IAmb 17 43 25.9
comp=Z,77nm,1.2s
SAO San Andreas Ge 72.79 56 P **P** 17 43 00.3 +0.5
SAO pmax pmax
comp=Z,38nm,1.1s
SAO San Andreas Ge 72.79 56 P **P** 17 43 00.3 +0.5
DLMT Dillon 72.84 45 P **P** 17 43 01.5 +1.3
DLMT IAmb IAmb 17 43 32.2
comp=Z,80nm,1.1s
YERR Yerington 72.86 54 P **P** 17 43 01.0 +0.5
YERR IAmb IAmb 17 43 27.2
comp=Z,93nm,1.1s
OSL Oslo 72.87 336 *e*P **P** 17 43 00.8 +1.0
SKAR Skarsila 73.00 338 *e*P **P** 17 43 01.8 +1.1
WAKR Walker 73.03 54 P **P** 17 43 02.9 +1.4
MCMT McKenzie Canyo 73.04 46 P **P** 17 43 02.0 +0.5
FOO Floro 73.17 340 *e*P **P** 17 43 02.6 +1.0
HYA Hoyanger 73.21 339 *e*P **P** 17 43 03.1 +1.3
BOZ Bozeman (W) 73.22 44 P **P** 17 43 03.7 +1.3
baz=310,SNR=50
BOZ Bozeman (W) 73.22 44 P **P** 17 43 03.2 +0.8
BOZ pmax pmax
comp=Z,44nm,1.0s
BOZ Bozeman (W) 73.22 44 P **P** 17 43 03.2 +0.8
SIM Simferopol' 73.41 315 *e*P **P** 17 43 03.3 0.0
SIM *e* 17 43 21.0
SIM *e*S **S** 17 52 25.0 +0.2
KONO Kongsberg 73.44 337 *d i*P **P** 17 43 03.6 +0.4
KONO pmax pmax
comp=Z,131nm,1.1s
KONO Kongsberg 73.44 337 P **P** 17 43 03.4 +0.2
KONO IAmb IAmb 17 43 05.1
comp=Z,119nm,1.1s
KONO Kongsberg 73.44 337 *e*P **P** 17 43 03.7 +0.5
SFJD Kangerlussuaq 73.51 5 ⇓*i*P **P** 17 43 04.1 +0.7
comp=Z,6.1nm,1.1s
SFJD Kangerlussuaq 73.51 5 ⇓*i*P **P** 17 43 04.1 +0.7
SFJD Kangerlussuaq 73.51 5 P **P** 17 43 03.8 +0.3

SFJD IAmb IAmb 17 43 05.4
comp=Z,75nm,1.0s
RYN Ryan 73.53 53 P **P 17 43 05.3 +0.9**
RYN IAmb IAmb 17 43 31.1
comp=Z,86nm,1.4s
KVN Kaiserville 73.53 53 P **P 17 43 05.3 +0.9**
KVN pmax pmax
comp=Z,90nm,1.2s
KVN Kaiserville 73.53 53 P **P 17 43 05.3 +0.9**
KVN IAmb IAmb 17 43 31.1
comp=Z,90nm,1.2s
SUE Sulen 73.70 339 *e*P **P 17 43 05.6 +1.0**
MDPB Devils Postpil 73.78 55 P **P 17 43 06.9 +0.9**
NVAR Mina Array Bea 73.78 53 P **P 17 43 07.6 +1.7**
comp=Z,17nm,0.8s,baz=286,slow=6.0,SNR=110
NVAR pP **pP 17 43 32.2 +1.7**
comp=Z,37nm,1.0s,baz=298,slow=4.7,SNR=5.7
NVAR LR LR 18 11 56.9
comp=Z,43nm,20.8s,baz=289,slow=33
NVAR Mina Array Bea 73.78 53 P **P 17 43 06.5 +0.6**
NVAR **pP 17 43 31.3 +0.8**
QLMT Earthquake Lak 73.82 45 P **P 17 43 06.4 +0.4**
OMMB Old Mammoth Mi 73.84 55 P **P 17 43 07.1 +0.7**
NV11 Mina Array Sit 73.88 53 P **P 17 43 07.3 +0.9**
NV11 IAmb IAmb 17 43 33.1
comp=Z,84nm,1.4s
YHB Horse Butte 74.00 45 P **P 17 43 08.0 +0.9**
ASK Askoy 74.05 339 *e*P **P 17 43 08.2 +1.5**
NIUE Niue 74.07 132 P **P 17 43 08.3 +0.9**
BER Bergen 74.10 339 *e*P **P 17 43 08.0 +1.0**
GCMT Greycliff 74.15 43 P **P 17 43 08.9 +1.1**
YHH Holmes Hill 74.16 45 P **P 17 43 09.1 +1.0**
YMR Madison River 74.18 45 P **P 17 43 08.8 +0.7**
PAGB Antelope Grade 74.19 57 P **P 17 43 08.4 +0.4**
PAGB IAmb IAmb 17 43 34.9
comp=Z,112nm,1.2s
ELK Elko 74.22 50 P **P 17 43 09.5 +1.0**
ELK pmax pmax
comp=Z,19nm,1.0s
ELK Elko 74.22 50 P **P 17 43 09.5 +1.0**
SORM Soroca 74.35 320 P **P 17 43 08.6 -0.1**
YNE Yellowstone No 74.48 44 P **P 17 43 10.4 +0.5**
FRB Frobisher Bay 74.49 13 LR LR 18 20 34.2
comp=Z,86nm,18.7s,baz=347,slow=39
YPP Pitchstone Pla 74.52 45 P **P 17 43 11.6 +1.4**
LKWY Lake 74.55 45 P **P 17 43 11.5 +1.2**
LKWY pmax pmax
comp=Z,67nm,1.1s
LKWY Lake 74.55 45 P **P 17 43 11.5 +1.2**
LKWY IAmb IAmb 17 43 50.3
comp=Z,67nm,1.1s
HORU Horodok 74.55 322 P **P 17 43 10.1 +0.2**
H17A Grant Village 74.56 45 P **P 17 43 13.9 +3.5**
baz=310,SNR=6.8
H17A Grant Village 74.56 45 P **P 17 43 12.7 +2.3**
H17A IAmb IAmb 17 43 42.8
comp=Z,84nm,1.1s
YMP Mirror Lake Pl 74.57 44 P **P 17 43 11.3 +0.9**
BLS5 Blasjo 74.57 338 *e*P **P 17 43 10.8 +1.0**
SMMC Simmler 74.60 57 P **P 17 43 13.0 +2.5**
baz=308
TIN Tinemaha, Big 74.67 55 P **P 17 43 12.8 +1.9**
baz=308
IMW Indian Meadow 74.69 45 P **P 17 43 12.7 +1.5**
FLWY Flagg Ranch 74.70 45 P **P 17 43 12.3 +1.2**
FLWY IAmb IAmb 17 43 39.0
comp=Z,227nm,1.8s
CAN Canberra 74.76 173 P **P 17 43 12.4 +1.3**
CAN pmax pmax
comp=Z,131nm,1.8s
CAN Canberra 74.76 173 P **P 17 43 12.4 +1.3**
CAN IAmb IAmb 17 44 02.4
comp=Z,131nm,1.8s
RLMT Red Lodge 74.80 44 P **P 17 43 13.2 +1.5**
baz=311,SNR=11
RLMT Red Lodge 74.80 44 P **P 17 43 12.1 +0.4**
FXWY Fox Creek 74.81 46 P **P 17 43 12.6 +0.8**
DIKM Dikmen 74.86 312 ⇑P **P 17 43 13.6 +1.8**
VES Vestal, Richgr 74.87 56 P **P 17 43 13.0 +1.0**
baz=308
KIS Kishinev 74.87 319 ⇓*i*P **P 17 43 11.8 0.0**
comp=Z,370nm,5.7s
KIS Kishinev 74.87 319 *e*PcP **PcP 17 43 26.0 +0.7**
KIS *e*pP **pP 17 43 36.0 -0.2**
KIS *e*S **S 17 52 41.0 -0.1**
KIS *e*LR LR 18 00 28.0
comp=Z,200nm,16.5s
KIS Kishinev 74.87 319 *d i*P **P 17 43 11.8 0.0**
KIS *e* 17 43 26.6
KIS *e**PP **pP 17 43 36.4 +0.2**
KIS *e*S **S 17 52 41.2 +0.1**
KIS pmax pmax
comp=Z,370nm,5.7s
KIS MLR MLR
comp=Z,200nm,16.5s
HOMB Homborsund 74.89 336 *e*P **P 17 43 12.5 +0.9**
MILM Milestii Mici 74.93 319 ⇑P **P 17 43 12.4 +0.3**
TPAW Teton Pass 74.94 46 P **P 17 43 13.2 +0.6**
PKM Mcpherson Peak 74.98 57 P **P 17 43 14.8 +1.9**
baz=308,SNR=6.4
KMPD K-Podol'skiy 74.98 321 P **P 17 43 13.0 +0.7**
HVU Hansel Valley 75.01 48 P **P 17 43 13.9 +1.0**
HVU pP **pP 17 43 38.2 +0.6**
MALT Malatya 75.06 307 P **P 17 43 14.5 +1.3**
SNOW Snow King Moun 75.07 46 P **P 17 43 14.1 +0.8**
SNOW pP **pP 17 43 37.8 -0.2**
REDW Red Top Meadow 75.08 46 P **P 17 43 14.3 +0.9**
KMY Karmoy 75.10 338 *e*P **P 17 43 14.3 +1.5**
DGMT Dagmar 75.14 39 P **P 17 43 14.3 +1.0**
baz=313
DGMT Dagmar 75.14 39 P **P 17 43 13.8 +0.5**
CWC Cottonwood Cre 75.14 55 P **P 17 43 15.0 +1.3**
baz=308
BSD Bornholm Skovb 75.18 331 ⇓*i*P **P 17 43 13.7 +0.3**
comp=Z,304nm,1.2s
BSD Bornholm Skovb 75.18 331 ⇓*i*P **P 17 43 13.7 +0.3**
BSD pmax pmax
comp=Z,300nm,1.2s
BORG Borgarnes 75.22 352 P **P 17 43 15.2 +1.8**
BORG pmax pmax
comp=Z,125nm,1.0s
BORG Borgarnes 75.22 352 P **P 17 43 15.2 +1.8**
BORG IAmb IAmb 17 43 17.1
comp=Z,125nm,1.0s
SNART Snartemo 75.24 337 *e*P **P 17 43 15.0 +1.4**
GRAC Grapevine Rang 75.25 54 P **P 17 43 16.2 +2.0**
baz=308,SNR=11
LVV L'vov 75.26 323 *e*P **P 17 43 14.6 +0.6**
LVV *e* 17 43 36.4
LVV *e* 17 46 05.1
LVV *e*PPP PPP 17 47 53.1
LVV *e*S **S 17 52 43.4 -1.9**
LVV *e*PS **PnS 17 53 19.3 -14**
LVV MLR MLR
comp=N,400nm,16.0s
LVV MLR MLR
comp=Z,300nm,15.0s
BEL Belsk 75.27 326 *i*P **P 17 43 15.2 +1.3**
BEL *e*S **S 17 52 46.1 +0.8**
NWAO Narrogin (SRO) 75.32 201 P **P 17 43 14.1 -0.2**
NWAO pmax pmax
comp=Z,79nm,1.4s
NWAO Narrogin (SRO) 75.32 201 P **P 17 43 13.7 -0.6**
NWAO IAmb IAmb 17 43 40.3
comp=Z,97nm,1.4s
NWAO Narrogin (SRO) 75.32 201 P **P 17 43 14.1 -0.2**
NWAO IAmb IAmb 17 43 40.3
comp=Z,78nm,1.4s
AHID Auburn Hatcher 75.33 46 P **P 17 43 15.3 +0.5**
LAO LASA Array 75.34 41 P **P 17 43 16.1 +1.5**
baz=312,SNR=6.0
LAO LASA Array 75.34 41 P **P 17 43 15.1 +0.5**
LAO IAmb IAmb 17 43 41.3
comp=Z,81nm,1.1s
ISA Isabella, Lake 75.37 56 P **P 17 43 15.4 +0.4**
baz=308,SNR=6.5
ISA Isabella, Lake 75.37 56 P **P 17 43 14.9 -0.1**
ISA pmax pmax
comp=Z,44nm,1.4s
ISA Isabella, Lake 75.37 56 P **P 17 43 14.9 -0.1**
IAS Iasi 75.38 320 ⇑P **P 17 43 15.7 +1.0**
BZK Bozkurt 75.38 313 ⇑P **P 17 43 16.2 +1.5**
BGU Big Grassy Mou 75.41 49 P **P 17 43 16.2 +1.0**
SPUT South Promonto 75.50 48 P **P 17 43 16.6 +0.9**

R11A Troy Canyon, C 75.51 52 P **P 17 43 17.5 +1.6**
baz=309,SNR=39
R11A Troy Canyon, C 75.51 52 P **P 17 43 16.6 +0.8**
LEOM Leova 75.52 319 ⇑P **P 17 43 16.4 +0.9**
LEOM Leova 75.52 319 P **P 17 43 16.3 +0.9**
VASR Vaslui 75.64 319 ⇓P **P 17 43 17.6 +1.4**
GOET G??ttrup 75.66 335 *i*P **P 17 43 16.8 +0.8**
comp=Z,465nm,0.9s
GKP Gorka Klasztor 75.69 329 *e*P **P 17 43 17.3 +1.1**
GKP *e*PP **PP 17 46 06.9 +0.5**
GKP *e*S **S 17 52 48.4 -1.4**
MPMC Manual Prospec 75.75 55 P **P 17 43 18.6 +1.4**
baz=309,SNR=28
MORS Morshin 75.81 323 P **P 17 43 18.1 +1.0**
HWUT Hardware Ranch 75.82 48 P **P 17 43 18.6 +1.1**
HWUT IAmb IAmb 17 43 44.5
comp=Z,95nm,1.4s
KSV Kosov 75.83 322 P **P 17 43 16.4 -0.8**
OSI Osito Audit: C 75.86 57 P **P 17 43 18.3 +0.6**
FURC Furnace Creek, 75.89 54 P **P 17 43 19.6 +1.9**
baz=309,SNR=24
PRAR RASCA 75.92 320 ⇑P **P 17 43 18.9 +1.1**
BIR Birlad 75.97 319 ⇑P **P 17 43 20.0 +1.9**
BIR Birlad 75.97 319 P **P 17 43 20.0 +1.9**
TPNV Topopah Spring 75.98 54 P **P 17 43 20.1 +1.6**
baz=309,SNR=51
TPNV Topopah Spring 75.98 54 P **P 17 43 18.6 +0.1**
TPNV pmax pmax
comp=Z,73nm,1.0s
TPNV Topopah Spring 75.98 54 P **P 17 43 18.6 +0.1**
TPNV IAmb IAmb 17 43 52.3
comp=Z,73nm,1.0s
LRMC Laurel Mtn Rad 75.99 56 P **P 17 43 19.9 +1.4**
baz=309,SNR=6.7
DUG Dugway, Tooele 76.00 49 P **P 17 43 20.3 +1.7**
baz=310,SNR=21
DUG Dugway, Tooele 76.00 49 P **P 17 43 19.7 +1.1**
DUG pmax pmax
comp=Z,55nm,1.1s
DUG Dugway, Tooele 76.00 49 P **P 17 43 19.7 +1.1**
KWP Kalwaria Pacla 76.00 324 *i*P **P 17 43 19.4 +1.2**
KWP *e*PcP **PcP 17 43 29.9 -0.3**
KWP Kalwaria Pacla 76.00 324 P **P 17 43 18.9 +0.7**
KWP pmax pmax
comp=Z,399nm,1.0s
KWP Kalwaria Pacla 76.00 324 P **P 17 43 18.9 +0.7**
WAL1 Walls 76.02 342 *e*P **P 17 43 19.0 +1.0**
TLCR 76.09 318 ⇑P **P 17 43 20.0 +1.2**
TLCR 76.09 318 P **P 17 43 19.9 +1.2**
VARL Varlezi 76.11 319 ⇑P **P 17 43 20.6 +1.7**
ILGA Ilgaz 76.13 312 P **P 17 43 20.4 +1.0**
MUD Monsted U'grnd 76.14 335 ⇓*i*P **P 17 43 19.4 +0.6**
comp=Z,142nm,1.1s
MUD Monsted U'grnd 76.14 335 ⇓*i*P **P 17 43 19.4 +0.6**
MUD pmax pmax
comp=Z,140nm,1.1s
EDW2 Edwards Air Fo 76.16 56 P **P 17 43 21.0 +1.5**
baz=309,SNR=18
SNCC San Nicolas Is 76.17 58 P **P 17 43 20.3 +0.8**
SNCC IAmb IAmb 17 43 49.3
comp=Z,74nm,0.9s
BW06 Boulder Array 76.19 46 P **P 17 43 20.7 +1.0**
baz=311,SNR=19
BW06 Boulder Array 76.19 46 P **P 17 43 19.8 +0.1**
PD31 Pinedale Array 76.19 46 P **P 17 43 20.2 +0.5**
PDAR Pinedale Array 76.19 46 P **P 17 43 20.4 +0.7**
comp=Z,11nm,0.7s,baz=273,slow=1.9,SNR=82
PDAR pP **pP 17 43 45.4 +0.9**
comp=Z,14nm,0.7s,baz=306,slow=0.8,SNR=6.6
PDAR Pinedale Array 76.19 46 P **P 17 43 20.2 +0.5**
GIUM Giurgiulesti 76.21 318 ⇑P **P 17 43 21.4 +2.0**
RGN Rugen 76.21 332 *e*P **P 17 43 19.7 +0.5**
RGN Rugen 76.21 332 P **P 17 43 20.1 +0.9**
RGN Rugen 76.21 332 *e*P **P 17 43 20.7 +1.5**
comp=Z,469nm,1.4s,baz=37,slow=5.3
TCUT Toone Canyon 76.22 48 P **P 17 43 21.1 +1.1**
BUR08 Bucovina Ar. S 76.23 321 P **P 17 43 20.1 +0.4**
BUR08 IAmb IAmb 17 43 21.8
comp=Z,117nm,1.0s
BURAR Bucovina Array 76.24 321 ⇑P **P 17 43 21.0 +1.3**
BURAR Bucovina Array 76.24 321 P **P 17 43 19.9 +0.2**
BURAR Bucovina Array 76.24 321 P **P 17 43 19.9 +0.2**
BIZ Bicaz 76.28 320 ⇑P **P 17 43 21.3 +1.5**
TESR Tescani 76.30 320 ⇑P **P 17 43 20.9 +1.0**
CTU Camp Tracy 76.30 48 P **P 17 43 21.4 +1.1**
SCHL Schela 76.39 318 ⇑P **P 17 43 21.1 +0.7**
PSUT Pine Spring 76.45 51 P **P 17 43 22.1 +0.9**
CFR Carcaliu 76.45 318 ⇑P **P 17 43 21.7 +0.9**
PASC Pasadena Art C 76.48 57 P **P 17 43 20.5 -0.7**
GAZ Gaziantep 76.53 307 P **P 17 43 22.8 +1.3**
MWC Mount Wilson 76.53 57 P **P 17 43 22.4 +0.7**
MWC pmax pmax
comp=Z,128nm,1.7s
MWC Mount Wilson 76.53 57 P **P 17 43 22.4 +0.7**
MWC IAmb IAmb 17 43 48.1
comp=Z,128nm,1.7s
JLU Jordanelle 76.53 48 P **P 17 43 22.6 +0.9**
PETR Petresti 76.55 319 ⇑P **P 17 43 23.3 +2.0**
NLU North Lily Min 76.59 49 P **P 17 43 23.0 +1.0**
ODBI Odobesti 76.61 319 ⇓P **P 17 43 23.8 +2.1**
SHOC Shoshone, Teco 76.62 55 P **P 17 43 23.6 +1.6**
baz=309
GSC Goldstone, Bar 76.66 55 P **P 17 43 23.7 +1.4**
baz=309,SNR=7.8
GSC Goldstone, Bar 76.66 55 P **P 17 43 23.3 +1.0**
GSC pmax pmax
comp=Z,53nm,1.3s
GSC Goldstone, Bar 76.66 55 P **P 17 43 23.3 +1.0**
KOLS Kolonicke sedl 76.70 324 *e*P **P 17 43 23.0 +0.8**
KOLS pmax pmax
comp=Z,74nm,1.1s
KOLS Kolonicke sedl 76.70 324 *e*P **P 17 43 23.0 +0.8**
VRI Vrincioaia 76.70 319 ⇑P **P 17 43 23.6 +1.3**
VRI Vrincioaia 76.70 319 P **P 17 43 23.5 +1.3**
PLOR Plostina 76.75 319 ⇑P **P 17 43 23.8 +1.2**
PLOR Plostina 76.75 319 P **P 17 43 23.7 +1.2**
BFSC Mount Baldy Ra 76.78 57 P **P 17 43 24.6 +1.6**
baz=309,SNR=6.7
TIRR Tirgusor 76.80 317 ⇑P **P 17 43 23.2 +0.5**
TIRR Tirgusor 76.80 317 ⇑P **P 17 43 23.2 +0.5**
TIRR Tirgusor 76.80 317 P **P 17 43 23.1 +0.3**
TIRR pmax pmax
comp=Z,307nm,1.1s
TIRR Tirgusor 76.80 317 P **P 17 43 23.1 +0.3**
MPU Maple Canyon 76.81 49 P **P 17 43 24.0 +0.8**
OJC Ojcow 76.88 326 *i*P **P 17 43 24.1 +1.0**
OJC *e*pP **pP 17 43 47.9 +0.1**
OJC *e*sP **sP 17 43 57.9 -0.2**
OJC *e*PP **PP 17 46 17.5 +0.9**
OJC *e*S **S 17 53 02.1 -1.0**
OJC Ojcow 76.88 326 P **P 17 43 23.7 +0.6**
OJC pmax pmax
comp=Z,312nm,1.0s
OJC Ojcow 76.88 326 P **P 17 43 23.7 +0.6**
HARR Harsova 76.89 318 ⇑P **P 17 43 24.8 +1.5**
HARR Harsova 76.89 318 P **P 17 43 24.7 +1.5**
UZH Uzhgorod 76.91 323 ⇑*i*P **P 17 43 22.8 -0.5**
UZH *i* 17 43 30.9
UZH *e* 17 43 49.8
UZH *i* 17 46 18.6
UZH *i*S **S 17 53 01.0 -2.4**
UZH *i* 17 53 33.5
UZH *e* 17 53 49.4
GRER 76.91 319 ⇑P **P 17 43 25.7 +2.3**
TLBR Topalu 76.93 317 ⇑P **P 17 43 24.6 +1.1**
BISRR Bisoca 76.93 319 ⇑P **P 17 43 25.7 +2.1**
SHPR Sheep Range 76.94 53 P **P 17 43 25.0 +1.1**
TRSU Trosnyk 76.98 323 P **P 17 43 25.1 +1.4**
OZUR 77.02 320 ⇑P **P 17 43 26.0 +2.0**
BMR Baia Mare 77.03 322 ⇑P **P 17 43 25.6 +1.6**
ARCR ARCALIA 77.03 321 ⇑P **P 17 43 26.2 +2.1**
BR131 Keskin Array S 77.04 311 P **P 17 43 25.2 +0.8**
SNR=86
BR131 Keskin Array S 77.04 311 *d i*P **P 17 43 24.8 +0.4**
BR131 Keskin Array S 77.04 311 P **P 17 43 24.7 +0.3**
BRTR Keskin Array B 77.04 311 P **P 17 43 24.9 +0.6**
comp=Z,74nm,1.1s,baz=90,slow=4.1,SNR=189
BRTR PP **PP 17 46 16.3 -2.2**
comp=Z,11nm,1.0s,baz=58,slow=7.6,SNR=3.9
BRTR LR LR 18 20 29.0
comp=Z,109nm,18.4s,baz=22,slow=38
BRTR Keskin Array B 77.04 311 P **P 17 43 25.0 +0.6**
BRTR Keskin Array B 77.04 311 P **P 17 43 24.8 +0.4**

CVDA Cernavoda 77.08 317 ⇑P **P 17 43 26.0 +1.6**
CRVS Cervenica-Dubn 77.09 324 *e*P **P 17 43 25.4 +1.0**
CRVS pmax pmax
comp=Z,226nm,1.5s
CRVS Cervenica-Dubn 77.09 324 *e*P **P 17 43 25.4 +1.0**
TUQ Turquoise Moun 77.14 55 P **P 17 43 26.6 +1.6**
baz=309
MANR Mangalia 77.14 317 ⇑P **P 17 43 25.9 +1.2**
TRPA Tarpa 77.15 323 ⇑P **P 17 43 26.3 +1.7**
NEHR Nehoiu 77.23 319 ⇑P **P 17 43 26.9 +1.7**
PGOR Pogoanele 77.23 318 ⇓P **P 17 43 27.5 +2.4**
TCRU Three Creeks R 77.24 50 P **P 17 43 27.1 +1.4**
NIE Niedzica 77.24 325 *i*P **P 17 43 26.7 +1.5**
NIE *e*pP **pP 17 43 50.4 +0.5**
AMRR Amara 77.26 318 ⇑P **P 17 43 27.4 +2.1**
HEC Hector,Ludlow 77.26 55 P **P 17 43 27.4 +1.8**
baz=309
DOPR Dopca 77.31 320 ⇑P **P 17 43 27.5 +1.9**
ISR Istrita 77.31 319 ⇑P **P 17 43 27.7 +2.0**
ISR Istrita 77.31 319 P **P 17 43 27.7 +2.0**
MLR Muntele Rosu 77.36 319 ⇑P **P 17 43 27.3 +1.3**
MLR Muntele Rosu 77.36 319 P **P 17 43 27.1 +1.0**
MLR pmax pmax
comp=Z,185nm,1.3s
MLR Muntele Rosu 77.36 319 P **P 17 43 27.1 +1.0**
MLR IAmb IAmb 17 43 29.1
comp=Z,185nm,1.3s
CCUT Cedar City 77.37 52 P **P 17 43 28.0 +1.5**
ANTO Ankara 77.44 312 ⇑P **P 17 43 28.0 +1.4**
ANTO Ankara 77.44 312 P **P 17 43 27.5 +1.0**
ANTO Ankara 77.44 312 P **P 17 43 27.2 +0.6**
ANTO pmax pmax
comp=Z,184nm,1.0s
ANTO Ankara 77.44 312 P **P 17 43 27.2 +0.6**
SKMB Sankelmark Bun 77.46 334 *e*P **P 17 43 27.1 +0.9**
comp=Z,745nm,1.5s,baz=37,slow=5.3
MSU Marysvale 77.47 50 P **P 17 43 28.1 +1.1**
MSU Marysvale 77.47 50 P **P 17 43 28.1 +1.1**
BR231 Keskin MP Arra 77.47 311 P **P 17 43 27.5 +0.7**
MURC Murrieta 77.48 57 P **P 17 43 28.1 +1.3**
baz=309
SZCU Shurtz Canyon 77.51 51 P **P 17 43 27.9 +0.7**
TMUT Trail Mountain 77.53 49 P **P 17 43 28.4 +1.0**
SECR 77.61 319 ⇑P **P 17 43 29.0 +1.6**
LEHL Lehliu 77.62 318 ⇑P **P 17 43 29.1 +1.7**
RDMU Red Mountain 77.63 47 P **P 17 43 28.7 +0.9**
RUE Ruedersdorf 77.64 330 *e*P **P 17 43 28.0 +0.7**
RUE Ruedersdorf 77.64 330 *e*P **P 17 43 28.0 +0.7**
comp=Z,285nm,1.2s,baz=37,slow=5.3
ULM Lac du Bonnet 77.65 33 P **P 17 43 27.4 0.0**
comp=Z,19nm,0.9s,baz=318,slow=8.0,SNR=11
ULM LR LR 18 22 31.7
comp=Z,70nm,18.4s,baz=315,slow=39
ULM Lac du Bonnet 77.65 33 P **P 17 43 27.2 -0.3**
CJR Cluj-Napoca 77.66 321 ⇑P **P 17 43 29.9 +2.2**
P17A Butcher Ranch, 77.68 49 P **P 17 43 28.3 +0.3**
GMRC Granite Mounta 77.72 55 P **P 17 43 29.5 +1.2**
baz=310,SNR=16
PLAR PLOIESTI 77.72 319 ⇑P **P 17 43 29.9 +2.0**
MDND Maddock 77.76 37 P **P 17 43 29.4 +1.3**
baz=316
MDND Maddock 77.76 37 P **P 17 43 28.7 +0.6**
MDND IAmb IAmb 17 44 11.5
comp=Z,112nm,1.1s
SULR 77.77 318 ⇑P **P 17 43 29.9 +1.8**
MTPU Mount Pierson 77.77 51 P **P 17 43 29.3 +0.5**
BSEG Bad Segeberg 77.78 333 *e*P **P 17 43 28.8 +0.7**
comp=Z,274nm,1.2s,baz=37,slow=5.3
LCMT Little Creek M 77.79 52 P **P 17 43 29.5 +0.8**
LCMT pP **pP 17 43 54.3 +0.9**
Q16A Castle Valley 77.80 49 P **P 17 43 29.4 +0.6**
Q16A pP **pP 17 43 54.3 +0.8**
LANS Liptovska Anna 77.81 325 *e*P **P 17 43 30.2 +1.8**
LANS pmax pmax
comp=Z,60nm,1.0s
LANS Liptovska Anna 77.81 325 *e*P **P 17 43 30.2 +1.8**
KECS Kecovo 77.84 324 *e*P **P 17 43 29.7 +1.2**
KECS pmax pmax
comp=Z,32nm,1.1s
KECS Kecovo 77.84 324 *e*P **P 17 43 29.7 +1.2**
VOIR 77.85 320 ⇑P **P 17 43 30.1 +1.4**
VOIR 77.85 320 P **P 17 43 30.1 +1.4**
OKC Ostrava-Krasne 77.88 326 *e*P **P 17 43 29.9 +1.2**
OKC *ex* x 17 43 54.6
OKC *e*S **S 17 53 06.5 -7.3**
OKC AMS AMS 18 23 20.0
comp=Z,300nm,11.6s
OKC Ostrava-Krasne 77.88 326 *e*P **P 17 43 29.9 +1.2**
OKC *e* 17 43 54.6
OKC *e*S **S 17 53 06.5 -7.3**
OKC MLR MLR
comp=Z,300nm,11.6s
K22A Casper 77.92 44 P **P 17 43 30.1 +0.8**
baz=313,SNR=10
K22A Casper 77.92 44 P **P 17 43 29.8 +0.5**
PFO Pinyon Flats O 77.95 56 P **P 17 43 30.5 +0.9**
baz=310,SNR=12
PFO Pinyon Flats O 77.95 56 P **P 17 43 29.8 +0.2**
PFO pmax pmax
comp=Z,45nm,1.3s
PFO Pinyon Flats O 77.95 56 P **P 17 43 29.8 +0.2**
XPFO Pion Flat 77.95 56 P **P 17 43 29.9 +0.4**
TPFO Pinon Flats 77.95 56 P **P 17 43 30.7 +1.1**
baz=310,SNR=12
MDUB Mudurnu 77.95 313 P **P 17 43 29.5 0.0**
109C Camp Elliot, M 77.98 57 P **P 17 43 30.0 +0.4**
BELC Belle Mtn. Jos 78.00 56 P **P 17 43 30.7 +0.8**
baz=310,SNR=9.2
DRGR 78.03 322 P **P 17 43 30.2 +0.5**
DRGR pmax pmax
comp=Z,48nm,1.9s
KNB Kanab 78.05 52 P **P 17 43 31.0 +0.9**
KNB pmax pmax
comp=Z,81nm,1.2s
KNB Kanab 78.05 52 P **P 17 43 31.0 +0.9**
SRU San Rafael Swe 78.05 49 P **P 17 43 30.6 +0.5**
SRU pmax pmax
comp=Z,59nm,0.9s
SRU San Rafael Swe 78.05 49 P **P 17 43 30.6 +0.5**
PKCU Pink Cliffs 78.08 51 P **P 17 43 32.1 +1.7**
ARR Arges 78.11 320 ⇑P **P 17 43 32.4 +2.2**
OSTC Ostas 78.15 328 *e*P **P 17 43 30.9 +0.7**
OSTC *e*S S 17 53 07.1 -10
OSTC AMS AMS 18 19 10.0
comp=Z,400nm,18.6s
E28A Huff 78.16 38 P **P 17 43 30.5 +0.2**
E28A IAmb IAmb 17 43 56.6
comp=Z,223nm,1.9s
MLA1 Latheron 78.17 342 *e*P **P 17 43 30.9 +0.8**
MORC Moravsky Berou 78.18 326 ⇑P **P 17 43 32.1 +1.6**
MORC Moravsky Berou 78.18 326 ⇓*i*P **P 17 43 31.4 +1.0**
MORC *e*S **S 17 53 16.4 -0.8**
MORC Moravsky Berou 78.18 326 P **P 17 43 30.4 0.0**
MORC pmax pmax
comp=Z,161nm,1.0s
MORC Moravsky Berou 78.18 326 P **P 17 43 30.4 0.0**
CHVC Chvalec 78.19 328 *e*P **P 17 43 31.3 +0.8**
CHVC AMS AMS 18 19 10.0
comp=Z,400nm,21.8s
PRD Provadia 78.19 317 *e*P **P 17 43 31.4 +0.9**
RWWY Rawlins 78.20 45 P **P 17 43 30.8 -0.2**
RWWY IAmb IAmb 17 43 57.3
comp=Z,57nm,1.0s
RSSD Black Hills 78.23 42 P **P 17 43 32.0 +0.9**
baz=314
RSSD Black Hills 78.23 42 P **P 17 43 30.9 -0.1**
RSSD pmax pmax
comp=Z,32nm,0.9s
RSSD Black Hills 78.23 42 P **P 17 43 30.9 -0.1**
DPC Dobruska-Polom 78.26 327 *e*P **P 17 43 31.8 +0.9**
DPC *e*pP **pP 17 43 56.9 +1.3**
DPC AMS AMS 18 24 20.0
comp=Z,500nm,12.6s
DPC Dobruska-Polom 78.26 327 *e*P **P 17 43 31.8 +0.9**
DPC *e* 17 43 56.9
DPC MLR MLR
comp=Z,500nm,12.6s
UPC Upice 78.27 328 *e*P **P 17 43 32.2 +1.3**
UPC *e*S **S 17 53 18.8 +0.7**
UPC AMS AMS 18 19 20.0
comp=Z,400nm,18.0s
UPC Upice 78.27 328 *e*P **P 17 43 32.2 +1.3**
UPC *e*S **S 17 53 18.8 +0.7**

UPC MLR MLR
comp=Z,400nm,18.0s
ORH Orhaniye 78.33 314 P P 17 43 39.3 +7.9
BAR Barrett 78.40 57 P **P** **17 43 32.9 +0.9**
RAZG Razgrad 78.41 318 ⇑P **P** **17 43 32.9 +1.1**
MONP2 Monument Peak 78.43 57 P **P** **17 43 33.6 +1.3**
baz=310,SNR=6.4
IRM Iron Mountain 78.44 55 P **P** **17 43 33.5 +1.4**
baz=310,SNR=18
LOT Lotru 78.48 320 ⇑P **P** **17 43 33.3 +1.1**
HUMR Humele 78.52 319 ⇑P **P** **17 43 33.3 +1.0**
PSZ Piszkesteto 78.53 324 ⇑P **P** **17 43 34.1 +1.7**
PSZ Piszkesteto 78.53 324 P **P** **17 43 32.9 +0.5**
PSZ pmax pmax
comp=Z,212nm,1.2s
PSZ Piszkesteto 78.53 324 P **P** **17 43 32.9 +0.5**
BC3 Big Chuckawall 78.57 56 P **P** **17 43 34.1 +1.1**
baz=310,SNR=13
VYHS Vyhne 78.58 325 *eP* **P** **17 43 33.8 +1.2**
VYHS pmax pmax
comp=Z,87nm,1.1s
VYHS Vyhne 78.58 325 *eP* **P** **17 43 33.8 +1.2**
DEV Deva 78.59 321 ⇑P **P** **17 43 34.2 +1.5**
DEV Deva 78.59 321 P **P** **17 43 34.2 +1.5**
W13A Hualapai Mount 78.63 54 P **P** **17 43 34.6 +1.1**
COPA Copaceanca 78.68 319 ⇑P **P** **17 43 34.0 +0.8**
O20A White River Ci 78.68 47 P **P** **17 43 34.7 +1.1**
baz=312,SNR=13
O20A White River Ci 78.68 47 P **P** **17 43 34.3 +0.7**
O20A IAmb IAmb 17 44 03.4
comp=Z,66nm,1.1s
U15A North Rim 78.75 52 P **P** **17 43 35.4 +1.2**
U15A IAmb IAmb 17 44 07.4
comp=Z,83nm,1.1s
MCD Coleburn Disti 78.78 341 *eP* **P** **17 43 34.2 +0.6**
IKP In-Ko-Pah, Jac 78.78 57 P **P** **17 43 35.6 +1.5**
baz=310,SNR=6.8
SWSC Sam W. Stewart 78.80 57 P **P** **17 43 35.2 +1.1**
baz=310
JAVC Velka Javorina 78.82 326⇓ *iP* **P** **17 43 36.0 +2.0**
JAVC *eS* **S** **17 53 25.1 +1.0**
BRG Berggiesshubel 78.83 329⇓ *iP* **P** **17 43 34.6 +0.7**
comp=Z,121nm,1.2s
BRG pP **pP** **17 43 57.0 -1.7**
BRG *i* PP **PP** **17 46 31.2 -1.6**
comp=Z,38nm,1.3s
BRG S **S** **17 53 24.0 0.0**
BRG SS **SS** **17 58 31.0 +1.7**
comp=N,352nm,16.0s
comp=E,214nm,18.1s
comp=Z,355nm,14.9s
BRG Berggiesshubel 78.83 329⇓ *iP* **P** **17 43 34.6 +0.7**
BRG *PP **pP** **17 43 57.0 -1.7**
BRG *i* 17 46 31.2
BRG S **S** **17 53 24.0 0.0**
BRG SS **SS** **17 58 31.0 +1.7**
BRG pmax pmax
comp=Z,121nm,1.2s
BRG pmax pmax
comp=Z,38nm,1.3s
BRG MLR MLR
comp=N,352nm,16.0s
BRG MLR MLR
comp=E,214nm,18.1s
BRG MLR MLR
comp=Z,355nm,14.9s
BRG Berggiesshubel 78.83 329 *eP* **P** **17 43 34.5 +0.5**
comp=Z,121nm,1.2s,baz=37,slow=5.3
PVCC Panska Ves 78.85 328 *eP* **P** **17 43 35.0 +1.0**
PVCC AMS AMS 18 22 30.0
comp=Z,500nm,15.1s
PVCC Panska Ves 78.85 328 *eP* **P** **17 43 35.0 +1.0**
PVCC MLR MLR
comp=Z,500nm,15.1s
CLL Collm 78.86 330⇓ *iP* **P** **17 43 34.5 +0.4**
comp=Z,203nm,1.1s
CLL *e*(pP) **pP** **17 44 03.0 +4.2**
CLL *e* 17 46 15.0
CLL *e*PP **PP** **17 46 33.0 -0.1**
CLL *e*PPP PPP 17 48 24.0
CLL *e*S **S** **17 53 23.0 -1.3**
CLL *e*SKSac **SKSac** **17 53 38.0 -2.8**
CLL *e*sS **sS** **17 54 06.0 -0.5**
CLL *e*PS **PnS** **17 54 18.0 -0.3**
CLL *e*PPS PPS 17 54 36.0
CLL *e* 17 55 30.0
CLL *e*SS **SS** **17 58 24.0 -5.8**
CLL *e* 18 00 54.0
CLL *e*SSS SSS 18 02 12.0
CLL Collm 78.86 330⇓ *iP* **P** **17 43 34.5 +0.4**
CLL *e*PP **pP** **17 44 03.0 +4.2**
CLL *e*S **S** **17 53 23.0 -1.3**
CLL *e*SS **sS** **17 54 06.0 -0.5**
CLL pmax pmax
comp=Z,203nm,1.1s
CLL Collm 78.86 330 P **P** **17 43 34.1 0.0**
CLL Collm 78.86 330 *eP* **P** **17 43 34.6 +0.6**
comp=Z,203nm,1.1s,baz=37,slow=5.3
SIRR Siria 78.91 322 ⇑P **P** **17 43 35.9 +1.4**
SZH Strazhica 78.92 318 *eP* **P** **17 43 35.0 +0.4**
VRAC Vranov 78.94 327 ⇑P **P** **17 43 36.3 +1.7**
VRAC Vranov 78.94 327⇓ *iP* **P** **17 43 35.7 +1.1**
VRAC *eS* **S** **17 53 24.6 -0.7**
VRAC Vranov 78.94 327 P **P** **17 43 36.3 +1.7**
PDMCI Parker Dam,Lak 78.98 55 P **P** **17 43 36.6 +1.6**
baz=310,SNR=7.8
NRDL Niedersach Rie 79.01 332 *eP* **P** **17 43 35.3 +0.5**
comp=Z,97nm,1.1s,baz=37,slow=5.3
FBE Freiberg 79.03 329 *eP* **P** **17 43 35.8 +0.8**
comp=Z,246nm,1.2s,baz=37,slow=5.3
ASSE Asse, Remlinge 79.09 331 *eP* **P** **17 43 35.9 +0.6**
comp=Z,129nm,1.2s,baz=37,slow=5.3
AGMN Agassiz Nation 79.12 35 P **P** **17 43 35.7 +0.1**
baz=319,SNR=6.7
AGMN Agassiz Nation 79.12 35 P **P** **17 43 35.3 -0.3**
LEWI Lewis, Hebride 79.13 343 *eP* **P** **17 43 36.0 +0.6**
LEWI IAmb IAmb 17 43 37.3
comp=Z,115nm,1.0s
JMB Yambol 79.13 317 *eP* **P** **17 43 36.2 +0.5**
HWQ Hawqa 79.17 306 *eP* **P** **17 43 36.5 +0.2**
MDO Dochfour 79.18 342 *eP* **P** **17 43 36.0 +0.3**
SMOL Smolenice 79.18 326 *eP* **P** **17 43 37.6 +1.7**
SMOL pmax pmax
comp=Z,72nm,1.1s
SMOL Smolenice 79.18 326 *eP* **P** **17 43 37.6 +1.7**
VLAD Vladila 79.19 319 ⇑P **P** **17 43 37.0 +1.1**
KRUC Moravsky 79.21 327⇓ *iP* **P** **17 43 37.0 +0.9**
KRUC *eS* **S** **17 53 28.8 +0.7**
GOPC GO Pecny, Ondr 79.23 328 *eP* **P** **17 43 37.2 +1.0**
GOPC *epP* **pP** **17 44 00.3 -0.6**
GOPC *eS* **S** **17 53 28.8 +0.4**
GOPC AMS AMS 18 23 40.0
comp=Z,400nm,15.6s
GOPC GO Pecny, Ondr 79.23 328 *eP* **P** **17 43 37.2 +1.0**
GOPC *e* 17 44 00.3
GOPC *eS* **S** **17 53 28.8 +0.4**
GOPC MLR MLR
comp=Z,400nm,15.6s
BUD Budapest 79.25 324 P **P** **17 43 37.8 +1.6**
BUD pmax pmax
comp=Z,103nm,1.5s
PRA Prague 79.26 328 *eP* **P** **17 43 37.4 +1.2**
PRA *eS* **S** **17 53 22.3 -6.2**
PRA AMS AMS 18 23 40.0
comp=Z,200nm,14.7s
PRA Prague 79.26 328 *eP* **P** **17 43 37.4 +1.2**
PRA *eS* **S** **17 53 22.3 -6.2**
PRA MLR MLR
comp=Z,200nm,14.7s
PV09 Paradox Valley 79.27 49 P **P** **17 43 38.0 +1.1**
PRU Pruhonice 79.28 328 *eP* **P** **17 43 37.2 +0.8**
PRU *eS* **S** **17 53 25.6 -3.1**
PRU AMS AMS 18 23 00.0
comp=Z,500nm,12.5s
PRU Pruhonice 79.28 328 *eP* **P** **17 43 37.2 +0.8**
PRU *eS* **S** **17 53 25.6 -3.1**
PRU MLR MLR
comp=Z,500nm,12.5s
SRO Srobarova 79.32 325 *eP* **P** **17 43 38.2 +1.6**
SRO pmax pmax
comp=Z,183nm,1.2s
SRO Srobarova 79.32 325 *eP* **P** **17 43 38.2 +1.6**
SRE Strehaia 79.32 320 ⇑P **P** **17 43 38.6 +1.8**
SRE Strehaia 79.32 320 P **P** **17 43 38.5 +1.8**

SRO2 Moca 79.32 325 *eP* **P** **17 43 37.1 +0.5**
SRO2 pmax pmax
comp=Z,70nm,0.8s
SRO2 Moca 79.32 325 *eP* **P** **17 43 37.1 +0.5**
KAC Achnashellach 79.35 342 *eP* **P** **17 43 37.4 +0.8**
MODS Modra-Piesok 79.35 326 *eP* **P** **17 43 37.3 +0.4**
MODS pmax pmax
comp=Z,152nm,1.2s
MODS Modra-Piesok 79.35 326 *eP* **P** **17 43 37.2 +0.4**
GLA Glamis 79.36 56 P **P** **17 43 38.6 +1.4**
baz=310,SNR=9.9
GLA Glamis 79.36 56 P **P** **17 43 38.3 +1.1**
GLA pmax pmax
comp=Z,38nm,0.9s
GLA Glamis 79.36 56 P **P** **17 43 38.2 +1.1**
PV23 Carpenter Ridg 79.37 49 P **P** **17 43 38.0 +0.6**
PV23 IAmb IAmb 17 44 20.3
comp=Z,75nm,1.1s
PV10 Paradox Valley 79.40 49 P **P** **17 43 39.0 +1.3**
PV10 IAmb IAmb 17 44 10.8
comp=Z,128nm,0.9s
BZS Buzias 79.41 322 ⇑P **P** **17 43 38.1 +0.9**
BZS Buzias 79.41 322 P **P** **17 43 37.3 +0.1**
BZS pmax pmax
comp=Z,139nm,1.4s
NEUB Neuenburg 79.41 330 *eP* **P** **17 43 37.9 +0.8**
comp=Z,260nm,1.2s,baz=37,slow=5.3
IVI Ivigtut 79.42 5 P **P** **17 43 37.7 +0.8**
IVI IAmb IAmb 17 43 38.7
comp=Z,106nm,1.3s
PV14 Lion Creek, Pa 79.42 49 P **P** **17 43 38.1 +0.5**
PV14 IAmb IAmb 17 44 10.5
comp=Z,104nm,1.0s
TREC Trest 79.42 327 *eP* **P** **17 43 38.3 +1.1**
TREC *epP* **pP** **17 44 01.5 -0.5**
TREC AMS AMS 18 22 20.0
comp=Z,300nm,12.6s
TREC Trest 79.42 327 *eP* **P** **17 43 38.3 +1.1**
TREC *e* 17 44 01.5
TREC MLR MLR
comp=Z,300nm,12.6s
CLZ Clausthal 79.44 331 *eP* **P** **17 43 37.9 +0.6**
comp=Z,333nm,1.4s,baz=37,slow=5.3
PV22 Blue Mesa, Par 79.44 48 P **P** **17 43 38.7 +0.9**
PV22 IAmb IAmb 17 44 10.1
comp=Z,75nm,1.0s
N23A Red Feather La 79.44 45 P **P** **17 43 39.5 +1.6**
baz=314,SNR=8.6
N23A Red Feather La 79.44 45 P **P** **17 43 38.7 +0.9**
PV20 West Nyswonger 79.47 49 P **P** **17 43 39.0 +1.1**
PV20 IAmb IAmb 17 44 10.7
comp=Z,68nm,0.9s
PV04 Paradox Valley 79.47 49 P **P** **17 43 38.5 +0.6**
PV04 IAmb IAmb 17 44 04.9
comp=Z,91nm,1.3s
PV19 Morning Glory 79.48 49 P **P** **17 43 39.1 +1.1**
PV19 IAmb IAmb 17 44 10.8
comp=Z,77nm,0.8s
PLVB Pleven 79.51 318 ⇑P **P** **17 43 39.0 +1.2**
PV17 East Wray Mesa 79.51 49 P **P** **17 43 39.1 +0.9**
PV17 IAmb IAmb 17 44 08.5
comp=Z,85nm,0.9s
HERR Herculane 79.55 321 ⇑P **P** **17 43 38.7 +0.7**
PV11 David Mesa, Pa 79.55 49 P **P** **17 43 39.4 +1.1**
PV11 IAmb IAmb 17 44 21.2
comp=Z,109nm,1.1s
ZST Bratislava 79.56 326 *eP* **P** **17 43 38.4 +0.4**
ZST pmax pmax
comp=Z,82nm,1.2s
ZST Bratislava 79.56 326 *eP* **P** **17 43 38.4 +0.4**
PV18 Skein Mesa, Pa 79.57 49 P **P** **17 43 39.1 +0.6**
PV05 Paradox Valley 79.57 49 P **P** **17 43 39.6 +1.1**
PV05 IAmb IAmb 17 44 21.4
comp=Z,107nm,1.0s
KPL Plockton 79.58 342 *eP* **P** **17 43 38.7 +0.9**
KPL IAmb IAmb 17 43 40.0
comp=Z,350nm,1.1s
PV12 Saucer Basin, 79.58 49 P **P** **17 43 39.5 +0.9**
PV12 IAmb IAmb 17 44 25.3
comp=Z,74nm,1.0s
PV07 Paradox Valley 79.59 48 P **P** **17 43 39.5 +0.9**
PV03 Paradox Valley 79.60 49 P **P** **17 43 39.3 +0.7**
PV03 IAmb IAmb 17 44 05.5
comp=Z,78nm,1.3s
BHL Bhannes 79.60 305 *eP* **P** **17 43 39.0 +0.4**
PV13 Radium Mtn., P 79.68 49 P **P** **17 43 39.9 +0.8**
PV13 IAmb IAmb 17 44 09.4
comp=Z,66nm,1.0s
PV02 Paradox Valley 79.69 49 P **P** **17 43 40.5 +1.3**
PUNG Punghina 79.73 320 ⇑P **P** **17 43 40.4 +1.4**
PBCC Pribram 79.73 328 *eP* **P** **17 43 39.5 +0.6**
PV15 Paradox Valley 79.75 48 P **P** **17 43 40.7 +1.2**
PV15 pP **pP** **17 44 05.1 +0.7**
TANN Tannenbergstha 79.78 329 *eP* **P** **17 43 39.8 +0.6**
comp=Z,374nm,1.9s,baz=37,slow=5.3
TANN *epP* **pP** **17 44 04.5 +0.5**
GTTG Gottingen 79.83 331 *eP* **P** **17 43 39.9 +0.6**
comp=Z,224nm,1.3s,baz=37,slow=5.3
PV01 Paradox Valley 79.84 49 P **P** **17 43 41.0 +1.0**
PV01 pP **pP** **17 44 05.4 +0.5**
PV01 IAmb IAmb 17 44 06.9
comp=Z,163nm,2.0s
PLN Plauen 79.84 330 *eP* **P** **17 43 40.1 +0.6**
comp=Z,161nm,1.6s,baz=37,slow=5.3
PLN *epP* **pP** **17 44 06.0 +1.8**
GUNZ Gunzen 79.87 329 *eP* **P** **17 43 40.3 +0.6**
comp=Z,133nm,1.3s,baz=37,slow=5.3
ELO Logie Almond 79.89 341 *eP* **P** **17 43 40.3 +0.7**
SHBL Chebaa 79.90 305 *eP* **P** **17 43 40.9 +0.6**
WERN Wernitzgruen 79.91 329 *eP* **P** **17 43 40.6 +0.7**
comp=Z,127nm,1.2s,baz=37,slow=5.3
WUAZ Wupatki 79.91 52 P **P** **17 43 42.4 +2.1**
baz=312
WUAZ Wupatki 79.91 52 P **P** **17 43 41.0 +0.7**
WUAZ IAmb IAmb 17 44 13.5
comp=Z,73nm,1.1s
MOX Moxa 79.92 330 P **P** **17 43 40.6 +0.7**
MOX Moxa 79.92 330 *eP* **P** **17 43 40.5 +0.6**
comp=Z,151nm,1.3s,baz=37,slow=5.3
NKC Novy Kostel 79.92 329 *eP* **P** **17 43 40.6 +0.7**
NKC *eS* **S** **17 53 28.6 -7.1**
NKC AMS AMS 18 24 00.0
comp=Z,500nm,13.3s
NKC Novy Kostel 79.92 329 *eP* **P** **17 43 40.6 +0.7**
NKC *eS* **S** **17 53 28.6 -7.1**
NKC MLR MLR
comp=Z,500nm,13.3s
Y14A Wickenburg 79.94 54 P **P** **17 43 40.9 +0.5**
MDVR Moldovita 79.97 321 ⇑P **P** **17 43 41.2 +0.9**
IBBN Ibbenburen 80.00 333 *eP* **P** **17 43 41.0 +0.8**
comp=Z,309nm,1.3s,baz=37,slow=5.3
INVG Invergeldie, C 80.01 341 *eP* **P** **17 43 40.4 +0.2**
INVG IAmb IAmb 17 43 41.3
comp=Z,58nm,0.9s
ESY Stoneypath 80.10 340 *eP* **P** **17 43 41.3 +0.6**
SOCY Socotra 80.11 278 P **P** **17 43 40.3 -1.2**
ISP Isparta 80.12 311 P **P** **17 43 41.4 +0.1**
ISP pmax pmax
comp=Z,82nm,1.1s
ISP Isparta 80.12 311 P **P** **17 43 41.4 +0.1**
ISP IAmb IAmb 17 43 44.5
comp=Z,82nm,1.1s
SOP Sopron 80.19 326 P **P** **17 43 42.7 +1.3**
SOP pmax pmax
comp=Z,187nm,1.2s
113A Mohawk Valley, 80.22 56 P **P** **17 43 41.8 +0.1**
MANZ Manzenberg 80.25 329 *eP* **P** **17 43 42.3 +0.6**
comp=Z,88nm,1.1s,baz=37,slow=5.3
EAB Aberfoyle 80.30 341 *eP* **P** **17 43 42.6 +0.8**
CONA Conrad Observa 80.31 326 *i P* **P** **17 43 43.4 +1.3**
comp=Z,99nm,1.0s,SNR=76
KHC Kasperske Hory 80.34 328 *eP* **P** **17 43 42.6 +0.4**
KHC *epP* **pP** **17 44 08.5 +1.5**
KHC *ex* x 17 46 26.0
KHC *eS* **S** **17 53 36.2 -3.9**
KHC AMS AMS 18 24 10.0
comp=Z,500nm,13.4s
KHC Kasperske Hory 80.34 328*d iP* **P** **17 43 42.9 +0.7**
KHC pmax pmax
comp=Z,308nm,1.1s
KHC Kasperske Hory 80.34 328 P **P** **17 43 41.9 -0.3**
PGB Panagyurishte 80.34 318 *eP* **P** **17 43 43.2 +0.8**
CSS Mathiatis 80.35 307 P **P** **17 43 42.1 -0.4**
CSS IAmb IAmb 17 43 43.6

comp=Z,84nm,1.1s
MORH Mrgy, Hungar 80.37 324⇓ *iP* **P** **17 43 42.3 0.0**
PLD Plovdiv 80.38 317 *eP* **P** **17 43 42.9 +0.4**
PLD Plovdiv 80.38 317 P **P** **17 43 43.4 +0.9**
PLD pmax pmax
comp=Z,274nm,1.6s
ISCO Idaho Springs 80.38 46 P **P** **17 43 44.3 +1.4**
baz=314,SNR=12
ISCO Idaho Springs 80.38 46 P **P** **17 43 43.1 +0.1**
ISCO pmax pmax
comp=Z,153nm,2.0s
ISCO Idaho Springs 80.38 46 P **P** **17 43 43.1 +0.1**
ISCO IAmb IAmb 17 44 10.1
comp=Z,153nm,1.9s
ROTZ Rotzenmuhle 80.39 329 *eP* **P** **17 43 43.0 +0.6**
comp=Z,247nm,1.5s,baz=37,slow=5.3
UBBA Unterbreizbach 80.40 331 *eP* **P** **17 43 42.9 +0.6**
comp=Z,129nm,1.4s,baz=37,slow=5.3
LAWE Loch Awe, Argy 80.50 342 *eP* **P** **17 43 43.2 +0.4**
LAWE IAmb IAmb 17 43 44.7
comp=Z,220nm,1.4s
MVCO Mesa Verde 80.50 49 P **P** **17 43 45.0 +1.5**
baz=313,SNR=6.0
MVCO Mesa Verde 80.50 49 P **P** **17 43 44.7 +1.1**
MVCO IAmb IAmb 17 44 20.0
comp=Z,87nm,1.4s
GEC2 GERESS Array S 80.51 328 P **P** **17 43 43.3 +0.1**
GEC2 IAmb IAmb 17 43 45.0
comp=Z,76nm,1.1s
GEC2 GERESS Array S 80.51 328 *eP* **P** **17 43 43.5 +0.3**
comp=Z,64nm,1.1s,baz=37,slow=5.3
GERES GERESS Array B 80.51 328 P **P** **17 43 43.6 +0.4**
comp=Z,24nm,0.8s,baz=36,slow=5.0,SNR=182
GERES pP **pP** **17 44 08.0 -0.1**
comp=Z,12nm,0.8s,baz=32,slow=7.8,SNR=5.2
GERES LR LR 18 22 32.8
comp=Z,378nm,18.6s,baz=44,slow=38
GERES GERESS Array B 80.51 328 P **P** **17 43 43.3 +0.1**
ALN Alexandroupoli 80.52 316 P **P** **17 43 43.6 +0.4**
ALN pmax pmax
comp=Z,135nm,1.3s
ALN Alexandroupoli 80.52 316 P **P** **17 43 43.6 +0.4**
ALN IAmb IAmb 17 43 45.2
comp=Z,135nm,1.3s
LEF Lefka 80.52 308 ⇑P **P** **17 43 43.8 +0.4**
SUSD Miller 80.55 39 P **P** **17 43 43.8 +0.5**
SUSD IAmb IAmb 17 44 15.9
comp=Z,91nm,0.8s
X16A Lo Mia Camp, P 80.60 53 P **P** **17 43 44.9 +0.9**
FRGS Fruska Gora 80.61 322⇓ *iP* **P** **17 43 44.1 +0.4**
WET Wettzell 80.61 328 P **P** **17 43 44.5 +0.9**
WET Wettzell 80.61 328 *eP* **P** **17 43 44.0 +0.4**
comp=Z,154nm,1.3s,baz=37,slow=5.3
PGBU Glenifferbraes 80.67 341 *eP* **P** **17 43 44.6 +0.8**
PGBU IAmb IAmb 17 43 45.9
comp=Z,211nm,1.1s
EKA Eskdalemuir Ar 80.76 340 P **P** **17 43 44.5 +0.2**
VTS Vitosha 80.77 319 ⇑P **P** **17 43 46.4 +1.7**
VTS Vitosha 80.77 319 *eP* **P** **17 43 45.9 +1.1**
VTS Vitosha 80.77 319 P **P** **17 43 45.4 +0.6**
VTS pmax pmax
comp=Z,187nm,1.1s
VTS Vitosha 80.77 319 P **P** **17 43 45.4 +0.6**
F33A 5 Mile Ranch, 80.77 37 P **P** **17 43 44.8 +0.2**
ESK Eskdalemuir 80.79 340 P **P** **17 43 45.0 +0.6**
ESK pmax pmax
comp=Z,100nm,1.4s
ESK Eskdalemuir 80.79 340 P **P** **17 43 45.0 +0.6**
ESK IAmb IAmb 17 43 46.5
comp=Z,100nm,1.4s
MANT Manisa 80.80 313 P **P** **17 43 45.2 +0.1**
GRA1 Grafenberg Arr 80.84 330 P **P** **17 43 45.8 +1.0**
GRF Grafenberg Arr 80.84 330 P **P** **17 43 45.8 +1.0**
GRF pmax pmax
comp=Z,325nm,1.2s
GRF Grafenberg Arr 80.84 330 *eP* **P** **17 43 45.7 +1.0**
comp=Z,388nm,1.3s,baz=37,slow=5.3
BUG Bochum--Univer 80.89 333 *eP* **P** **17 43 45.4 +0.4**
comp=Z,184nm,1.2s,baz=37,slow=5.3
ARSA Arzberg 80.98 326 *i P* **P** **17 43 46.6 +1.0**
comp=Z,58nm,1.1s,SNR=35
BEHE Becsehely 81.02 325⇓ *iP* **P** **17 43 49.5 +3.7**
MOA Molln 81.05 327 *i P* **P** **17 43 46.9 +0.9**
comp=Z,66nm,1.1s,SNR=35
S22A 4UR Ranch, Cre 81.11 48 P **P** **17 43 48.6 +1.7**
baz=314,SNR=9.5
S22A 4UR Ranch, Cre 81.11 48 P **P** **17 43 47.4 +0.5**
EZN Ezine 81.12 315 P **P** **17 43 46.8 +0.4**
TEKS Tekeris 81.19 322⇓ *iP* **P** **17 43 47.5 +0.7**
ELL Elmali 81.21 311 P **P** **17 43 47.0 -0.2**
ELL pmax pmax
comp=Z,364nm,1.0s
ELL Elmali 81.21 311 P **P** **17 43 47.0 -0.2**
Q24A Divide 81.22 46 P **P** **17 43 48.7 +1.2**
baz=314
Q24A Divide 81.22 46 P **P** **17 43 47.8 +0.4**
NEWG New Galloway 81.23 341 *eP* **P** **17 43 47.0 +0.3**
NEWG IAmb IAmb 17 43 48.5
comp=Z,74nm,1.2s
MMB Musomiste 81.26 318 *eP* **P** **17 43 48.0 +0.8**
EYMN Ely 81.27 33 P **P** **17 43 47.3 +0.1**
baz=322,SNR=5.1
EYMN Ely 81.27 33 P **P** **17 43 47.1 0.0**
KOGS Kog 81.27 325 *i P* **P** **17 43 47.3 +0.1**
GRC1 Grafenberg Arr 81.27 329 P **P** **17 43 47.9 +0.8**
DIVS Divibare 81.31 321 P **P** **17 43 47.5 0.0**
DIVS IAmb IAmb 17 43 49.4
comp=Z,135nm,1.2s
DIVS Divibare 81.31 321⇓ *iP* **P** **17 43 47.8 +0.3**
214A Organ Pipe Nat 81.36 56 P **P** **17 43 49.5 +1.5**
baz=311,SNR=8.0
214A Organ Pipe Nat 81.36 56 P **P** **17 43 49.0 +1.1**
KKB Krupnik 81.39 318 *eP* **P** **17 43 48.9 +1.0**
KESW Keswick, Cumbr 81.41 340 *eP* **P** **17 43 48.3 +0.6**
KESW IAmb IAmb 17 43 49.8
comp=Z,296nm,1.4s
KALN Kalnik 81.42 325 P **P** **17 43 48.0 0.0**
X18A Snowflake 81.44 52 P **P** **17 43 49.3 +0.8**
TNS Taunus Mts 81.46 331 P **P** **17 43 48.9 +0.7**
TNS Taunus Mts 81.46 331 *eP* **P** **17 43 48.6 +0.4**
comp=Z,150nm,1.4s,baz=37,slow=5.3
OGNE Ogallala 81.52 43 P **P** **17 43 49.7 +1.0**
baz=316
OGNE Ogallala 81.52 43 P **P** **17 43 48.7 0.0**
HPK Haverah Park 81.56 339 *eP* **P** **17 43 49.4 +0.8**
HPK IAmb IAmb 17 43 50.4
comp=Z,389nm,1.6s
GAL1 Galloway 81.58 341 *eP* **P** **17 43 48.6 0.0**
GAL1 IAmb IAmb 17 43 50.3
comp=Z,182nm,1.2s
PERS Pernice 81.63 326 *i P* **P** **17 43 49.8 +0.7**
PERS *epP* **pP** **17 44 14.7 +0.7**
PERS *eS* **S** **17 53 52.1 -1.5**
PERS *e* 17 54 34.7
SOKA Soboth 81.63 326 *i P* **P** **17 43 49.9 +0.7**
comp=Z,174nm,1.1s,SNR=117
LMK Market Rasen 81.63 338 *eP* **P** **17 43 49.4 +0.5**
LMK IAmb IAmb 17 43 50.8
comp=Z,378nm,1.3s
SRS Serrai 81.67 317 P **P** **17 43 49.5 +0.1**
SRS pmax pmax
comp=Z,74nm,1.5s
AHRW Bad Neuenahr-A 81.70 332 *eP* **P** **17 43 50.0 +0.7**
comp=Z,166nm,1.2s,baz=37,slow=5.3
CLGH Cloghs, Cushen 81.73 342 *eP* **P** **17 43 50.0 +0.6**
CLGH IAmb IAmb 17 43 51.4
comp=Z,290nm,1.4s
BBLS Lazići 81.76 322⇓ *iP* **P** **17 43 50.8 +0.9**
PTJ Puntijarka 81.81 325 P **P** **17 43 50.1 0.0**
TOD Tromm 81.83 331 P **P** **17 43 50.8 +0.7**
ZAG Zagreb 81.87 325 P **P** **17 43 50.7 +0.5**
ZAG Zagreb 81.87 325⇓ *iP* **P** **17 43 50.8 +0.5**
RUDO Rudo 81.96 321 *eP* **P** **17 43 50.9 0.0**
OBKA Obir 81.97 326 *i P* **P** **17 43 51.3 +0.3**
comp=Z,29nm,0.8s,SNR=20
OBKA PP **PP** **17 46 55.7 -3.3**
comp=Z,12nm,1.0s
STIP Stip 81.98 319 *i P* **P** **17 43 50.7 -0.3**
K31A O'Neill 81.98 40 P **P** **17 43 50.9 -0.1**
K31A IAmb IAmb 17 44 33.4
comp=Z,178nm,1.3s
BEBN Eben Emael 81.98 333 P **P** **17 43 51.0 +0.3**
comp=Z,133nm,0.0s
BEBN pP **pP** **17 44 15.1 -0.6**
BEBN sP **sP** **17 44 24.9 -1.0**

F36A Milaca 82.01 35 P P 17 43 50.2 -0.9
MEM Membach 82.03 333 ⇓P P 17 43 51.3 +0.2
comp=Z,92nm,1.4s
MEM PcP PcP 17 43 56.2 -0.1
MEM Membach 82.03 333 P P 17 43 51.6 +0.6
FUR Furstenfeldbru 82.03 329 eP P 17 43 51.9 +0.7
comp=Z,231nm,1.2s,baz=37,slow=5.3
KBA Koelnbreinsper 82.04 327 i P P 17 43 51.8 +0.4
comp=Z,126nm,1.1s,SNR=48
KBA PP PP 17 46 56.4 -3.3
comp=Z,71nm,1.3s
KBA Koelnbreinsper 82.04 327 P P 17 43 52.0 +0.6
VAY Valandovo 82.05 318 i P P 17 43 52.2 +0.8
LBWR Ladybower, Pea 82.08 339 eP P 17 43 52.0 +0.7
LBWR IAmb IAmb 17 43 53.2
comp=Z,377nm,1.0s
IOMK Kirk Michael 82.09 340 eP P 17 43 51.7 +0.5
IOMK IAmb IAmb 17 43 53.1
comp=Z,291nm,1.2s
CRES Cresnjev 82.10 325 ⇓i P P 17 43 51.7 +0.1
BLY Banja Luka 82.15 323 ⇓i P P 17 43 52.1 +0.3
PLE Pljevlja 82.17 321 ⇓i P P 17 43 53.1 +1.0
BSTI Sart Tilman 82.20 333 ⇓P P 17 43 52.5 +0.6
BSTI pP pP 17 44 17.2 +0.4
BSTI sP sP 17 44 28.3 +1.2
ECSD EROS Data Cent 82.20 38 P P 17 43 52.6 +0.5
baz=319,SNR=16
ECSD EROS Data Cent 82.20 38 P P 17 43 52.3 +0.2
WIM Isle of Man 82.22 340 eP P 17 43 52.2 +0.3
BHOU Houvegnez 82.24 333 ⇓P P 17 43 52.7 +0.5
comp=Z,62nm,1.3s
BHOU sP sP 17 44 26.6 -0.7
OZLJ Ozalj 82.26 325 P P 17 43 51.7 -0.6
IVA Berane 82.26 321 ⇓i P P 17 43 53.5 +0.9
MYKA Terra Mystica 82.27 326 i P P 17 43 52.4 -0.1
comp=Z,122nm,1.2s,SNR=33
KTD Kalmit 82.34 331 P P 17 43 53.3 +0.5
LJU Ljubljana 82.34 326 i P P 17 43 53.0 +0.2
LJU i PP PP 17 47 05.3 +3.3
LJU Ljubljana 82.34 326 ⇓i P P 17 43 52.8 0.0
STU Stuttgart 82.36 330 P P 17 43 53.3 +0.5
STU Stuttgart 82.36 330 P P 17 43 53.3 +0.5
TUC Tucson 82.41 54 P P 17 43 54.6 +1.1
baz=312
TUC Tucson 82.41 54 P P 17 43 54.5 +1.0
TUC pmax pmax
comp=Z,29nm,1.1s
TUC Tucson 82.41 54 P P 17 43 54.5 +1.0
BCLA Clavier 82.43 333 P P 17 43 52.9 -0.2
comp=Z,70nm,1.4s
BCLA pP pP 17 44 18.0 0.0
BCLA sP sP 17 44 26.2 -2.1
UCC Uccle 82.44 334 ⇓P P 17 43 53.3 +0.1
UCC pP pP 17 44 17.8 -0.2
UCC sP sP 17 44 27.9 -0.4
UCC Uccle 82.44 334 P P 17 43 53.4 +0.3
UCC pmax pmax
comp=Z,98nm,1.4s
UCC Uccle 82.44 334 P P 17 43 53.4 +0.3
UCC IAmb IAmb 17 43 54.6
comp=Z,98nm,1.4s
PVY Plav 82.44 320 ⇓i P P 17 43 53.9 +0.4
BOJS Bojanci 82.44 325 i P P 17 43 53.6 +0.3
MGRS Mrkonjic Grad 82.44 323 eP P 17 43 55.4 +2.0
PRED Cave del Predi 82.45 326 P P 17 43 52.7 -0.7
PRED IAmb IAmb 17 43 54.4
comp=Z,55nm,1.0s
GMM Mts of Mourne 82.46 341 eP P 17 43 53.5 +0.3
KOME Kolasin 82.47 321 ⇓i P P 17 43 53.6 0.0
STNC Stoke 82.49 339 eP P 17 43 53.7 +0.3
STNC IAmb IAmb 17 43 55.4
comp=Z,144nm,1.2s
UPM Unac-Piva 82.50 321 ⇓i P P 17 43 53.8 -0.1
UPM Unac-Piva 82.50 321 eP P 17 43 54.2 +0.3
BGES Gesves 82.54 333 ⇓P P 17 43 53.9 +0.2
comp=Z,68nm,1.1s
CWF Charnwood Fore 82.55 338 eP P 17 43 53.6 -0.1
CWF IAmb IAmb 17 43 55.3
comp=Z,148nm,1.1s
WATA Walderalm 82.58 328 i P P 17 43 54.5 +0.4
comp=Z,97nm,1.3s,SNR=46
WATA i PP PP 17 47 00.1 -4.0
comp=Z,40nm,1.4s
WTTA Wattenberg 82.61 328 i P P 17 43 55.0 +0.6
comp=Z,88nm,1.0s,SNR=44
WTTA ePP PP 17 47 00.6 -3.7
comp=Z,44nm,1.3s
WTTA Wattenberg 82.61 328 P P 17 43 54.9 +0.5
ZOU Zoufplan 82.61 327 P P 17 43 53.8 -0.6
ZOU IAmb IAmb 17 43 55.3
comp=Z,112nm,1.2s
ABTA Abfaltersbach 82.66 327 i P P 17 43 54.0 -0.5
comp=Z,91nm,1.2s,SNR=29
SNF Seneffe 82.71 334 P P 17 43 54.8 +0.3
comp=Z,91nm,1.1s
SNF pP pP 17 44 20.2 +0.8
SNF sP sP 17 44 30.1 +0.4
BMRD Maredsous 82.72 333 ⇓P P 17 43 55.0 +0.3
comp=Z,114nm,1.2s
NKY Niksic 82.75 321 ⇓i P P 17 43 55.3 +0.2
MOTA Moosalm 82.76 328 i P P 17 43 55.6 +0.5
comp=Z,205nm,1.1s,SNR=95
MOTA ePP PP 17 47 03.8 -1.7
comp=Z,22nm,1.2s
WLF Walferdange 82.76 332 P P 17 43 55.4 +0.5
comp=Z,69nm,1.9s
WLF Walferdange 82.76 332 P P 17 43 54.9 0.0
WLF pmax pmax
comp=Z,344nm,2.0s
WLF Walferdange 82.76 332 P P 17 43 54.9 0.0
WLF Walferdange 82.76 332 eP P 17 43 55.7 +0.8
comp=Z,284nm,2.0s,baz=37,slow=5.3
RETA Reutte 82.79 329 i P P 17 43 55.9 +0.7
comp=Z,241nm,1.3s,SNR=90
WME Mynydd Eilian 82.80 340 eP P 17 43 55.3 +0.3
NKME Niksic 82.80 321 ⇓i P P 17 43 55.4 +0.1
SQTA Sankt Quirin 82.82 328 i P P 17 43 55.8 +0.4
comp=Z,104nm,1.2s,SNR=37
SQTA ePP PP 17 47 01.9 -4.1
comp=Z,18nm,1.4s
EIL Elat 82.82 303 LR LR 18 25 52.6
comp=Z,192nm,18.3s,baz=70,slow=39
SPMN Marine on St. 82.83 35 P P 17 43 55.6 +0.3
baz=321
SPMN Marine on St. 82.83 35 P P 17 43 55.0 -0.3
GIVF Givet 82.86 333 eP P 17 43 55.0 -0.4
GIVF pmax pmax
comp=Z,112nm,1.4s
UBR Ueberruh 82.89 329 eP P 17 43 56.0 +0.3
comp=Z,95nm,1.4s,baz=37,slow=5.3
BRY Bratogost 82.90 321 ⇑i P P 17 43 55.7 -0.2
BRY Bratogost 82.90 321 eP P 17 43 55.9 0.0
PDG Podgorica 82.91 321 ⇑P P 17 43 56.9 +1.1
PDG Podgorica 82.91 321 P P 17 43 55.7 0.0
PDG Podgorica 82.91 321 ⇓i P P 17 43 56.1 +0.4
TTG Podgorica 82.91 321 ⇓i P P 17 43 56.1 +0.4
T25A Trinidad 82.91 47 P P 17 43 57.5 +1.3
baz=315,SNR=9.0
T25A Trinidad 82.91 47 P P 17 43 56.5 +0.3
WLF1 Llynfaes 82.92 340 eP P 17 43 56.0 +0.4
WLF1 IAmb IAmb 17 43 57.4
comp=Z,207nm,1.2s
RIY Rijeka 82.92 325 P P 17 43 55.1 -0.6
RIY Rijeka 82.92 325 ⇓i P P 17 43 55.2 -0.6
TRI Trieste 82.94 326 P P 17 43 55.8 -0.1
TRI pmax pmax
comp=Z,123nm,1.1s
TRI Trieste 82.94 326 P P 17 43 55.8 -0.1
TRI IAmb IAmb 17 43 56.7
comp=Z,123nm,1.1s
DOU Dourbes 82.95 333 ⇓P P 17 43 56.1 +0.2
comp=Z,35nm,1.3s
DOU sP sP 17 44 30.7 -0.3
FOEL Foel Wylfa 82.95 339 eP P 17 43 56.7 +0.9
FOEL IAmb IAmb 17 43 57.8
comp=Z,214nm,0.9s
STAL STALIGIAL 82.96 327 P P 17 43 54.8 -1.2
UDBI Udbina 82.97 324 P P 17 43 55.8 -0.3
CEME Cevo 82.98 321 ⇓i P P 17 43 56.2 -0.1
YLL Llanberis 82.99 340 eP P 17 43 56.8 +0.9
YRC Rhoscolyn 83.00 340 eP P 17 43 56.0 0.0
CIMO Cimolais 83.03 327 P P 17 43 55.5 -0.9
CIMO IAmb IAmb 17 43 56.9
comp=Z,92nm,1.2s

BFO Black Forest 83.06 330 P P 17 43 56.7 +0.2
BFO pmax pmax
comp=Z,226nm,1.3s
BFO Black Forest 83.06 330 P P 17 43 56.6 +0.2
BFO Black Forest 83.06 330 eP P 17 43 57.0 +0.5
comp=Z,357nm,1.6s,baz=37,slow=5.3
SCHQ Schefferville 83.10 16 P P 17 43 57.1 +0.6
comp=Z,11nm,0.5s,baz=354,slow=6.3,SNR=17
SCHQ LR LR 18 25 57.5
comp=Z,92nm,18.2s,baz=348,slow=39
SCHQ Schefferville 83.10 16 P P 17 43 56.9 +0.4
BAIF Baives 83.11 334 eP P 17 43 56.3 -0.4
BAIF pmax pmax
comp=Z,63nm,1.2s
OHR Ohrid 83.11 319 i P P 17 43 57.3 +0.4
OHR Ohrid 83.11 319 P P 17 43 57.8 +0.8
OHR pmax pmax
comp=Z,207nm,1.1s
DRME Dracevica, Mon 83.12 321 ⇓i P P 17 43 57.2 +0.3
DRME Dracevica, Mon 83.12 321 ⇓i P P 17 43 57.3 +0.3
TREB Trebinje 83.13 321 eP P 17 43 56.6 -0.3
FETA Feichten 83.17 328 i P P 17 43 57.8 +0.5
comp=Z,116nm,1.1s,SNR=48
D41A Chassel 83.18 32 P P 17 43 57.2 +0.1
D41A IAmb IAmb 17 43 59.2
comp=Z,124nm,1.9s
BUM Brajici-Budva 83.18 321 ⇓i P P 17 43 57.5 +0.2
ELSH Elham, Standar 83.20 336 eP P 17 43 57.5 +0.4
ANMO Albuquerque 83.26 50 P P 17 44 00.1 +2.1
baz=314
ANMO Albuquerque 83.26 50 c i P P 17 43 59.5 +1.5
ANMO pmax pmax
comp=Z,21nm,1.2s
ANMO Albuquerque 83.26 50 P P 17 43 59.3 +1.3
ULC Ulcinj 83.26 320 ⇓i P P 17 43 57.9 +0.2
HCY Herceg Novi 83.27 321 ⇓i P P 17 43 57.5 -0.1
HCY Herceg Novi 83.27 321 eP P 17 43 57.7 +0.1
DBRK Dubrovnik 83.27 321 P P 17 43 57.1 -0.6
DAVA Damuels 83.30 329 i P P 17 43 58.4 +0.5
comp=Z,212nm,1.1s,SNR=61
STON Ston 83.33 322 P P 17 43 57.1 -0.8
STON Ston 83.33 322 ⇓i P P 17 43 57.1 -0.8
MAKA Makarska 83.33 322 P P 17 43 57.3 -0.7
NVLJ Novalja 83.34 324 P P 17 43 57.2 -0.7
TIR Tirane 83.41 320 ⇑P P 17 43 59.4 +1.0
TIR Tirane 83.41 320 P P 17 43 58.5 +0.1
TIR pmax pmax
comp=Z,194nm,1.1s
TIR Tirane 83.41 320 P P 17 43 58.5 +0.1
SLE Schleitheim 83.46 330 P P 17 43 58.9 +0.3
LENM Lemitar 83.49 51 P P 17 44 00.6 +1.4
I37A Lemond, Waseca 83.49 36 P P 17 43 59.2 +0.5
I37A IAmb IAmb 17 44 42.3
comp=Z,183nm,1.5s
MORI Morici 83.50 324 P P 17 43 58.5 -0.3
APE Apeiranthos 83.50 313 ⇑P P 17 43 58.5 -0.5
APE Apeiranthos 83.50 313 d i P P 17 43 57.9 -1.1
APE pmax pmax
comp=Z,74nm,1.0s
CTI Castel Tesino 83.57 327 P P 17 43 57.9 -1.4
CTI pmax pmax
comp=Z,120nm,1.1s
CTI Castel Tesino 83.57 327 P P 17 43 57.9 -1.4
CTI IAmb IAmb 17 43 59.9
comp=Z,120nm,1.1s
BRJN Brijuni 83.58 325 P P 17 43 58.4 -0.7
ECH Echery 83.60 331 P P 17 43 58.9 -0.4
ECH pmax pmax
comp=Z,99nm,1.1s
ECH Echery 83.60 331 P P 17 43 58.9 -0.4
ECH IAmb IAmb 17 44 01.0
comp=Z,99nm,1.1s
KARP Karpathos 83.64 311 P P 17 44 00.2 +0.5
STRD Stroud 83.65 338 eP P 17 43 59.8 +0.4
STRD IAmb IAmb 17 44 01.2
comp=Z,313nm,1.1s
FUORN Ofenpass-Fuorn 83.69 328 P P 17 44 00.4 +0.4
HVAR Hvar 83.69 323 P P 17 43 58.9 -0.9
HMNX Herstmonceux 83.69 336 eP P 17 44 00.8 +1.2
HMNX IAmb IAmb 17 44 01.6
comp=Z,883nm,1.7s
ZIRJ Zirje 83.70 323 P P 17 43 59.1 -0.7
DUGI Dugi Otok 83.70 324 P P 17 43 59.0 -0.8
BNM Barren Site 83.71 51 P P 17 44 00.6 +0.3
COWI Conover 83.71 33 P P 17 43 59.8 -0.1
SWN1 Swindon 83.77 338 eP P 17 44 00.6 +0.6
SWN1 IAmb IAmb 17 44 02.1
comp=Z,318nm,1.2s
MONM Monmouth 83.77 338 eP P 17 44 00.4 +0.4
MONM IAmb IAmb 17 44 01.8
comp=Z,195nm,1.4s
WOL Wolverton 83.78 337 eP P 17 44 00.2 +0.2
WOL IAmb IAmb 17 44 01.4
comp=Z,294nm,1.6s
AGG Agios Georgios 83.85 317 P P 17 43 59.7 -1.0
AGG pmax pmax
comp=Z,95nm,1.1s
AGG Agios Georgios 83.85 317 P P 17 43 59.7 -1.0
AGG IAmb IAmb 17 44 01.1
comp=Z,95nm,1.1s
319A Douglas 83.98 54 P P 17 44 01.9 +0.3
319A IAmb IAmb 17 44 34.6
comp=Z,93nm,0.9s
SANT Santorini 84.04 313 P P 17 43 59.6 -2.1
HAU Haudompre 84.07 331 eP P 17 44 01.2 -0.5
HAU pmax pmax
comp=Z,44nm,0.9s
121A Cookes Peak, D 84.12 52 P P 17 44 04.1 +1.7
baz=314,SNR=11
121A Cookes Peak, D 84.12 52 P P 17 44 03.3 +0.9
121A IAmb IAmb 17 44 35.8
comp=Z,75nm,1.1s
RSBS Rosebush, Pemb 84.21 340 eP P 17 44 02.6 +0.4
RSBS IAmb IAmb 17 44 03.9
comp=Z,166nm,1.4s
E43A Lone Tree Farm 84.37 31 P P 17 44 02.9 -0.3
SALO Salr 84.39 328 P P 17 44 02.6 -0.7
HSIG 84.51 57 P P 17 44 04.6 +0.4
IGT Igoumenitsa 84.52 318 P P 17 44 03.8 -0.3
IGT pmax pmax
comp=Z,132nm,1.4s
I40A Norwalk 84.84 35 P P 17 44 05.8 +0.2
K38A Parkersburg 84.84 37 P P 17 44 06.1 +0.5
MATQ Matagami 84.85 24 P P 17 44 05.5 0.0
baz=331
QRZ Quartz Range 84.90 157 P P 17 44 06.9 +1.3
QRZ IAmb IAmb 17 44 08.9
comp=Z,160nm,1.9s
HTL Hartland 85.00 339 eP P 17 44 06.9 +0.6
HTL IAmb IAmb 17 44 08.3
comp=Z,266nm,1.3s
SENIN Lac Senin/Sane 85.08 330 P P 17 44 06.6 -0.4
SENIN IAmb IAmb 17 44 08.6
comp=Z,69nm,1.1s
D46A Sault St. Mari 85.09 29 P P 17 44 06.7 -0.1
baz=327,SNR=14
SGRT San Giovanni R 85.12 322 P P 17 44 06.4 -0.7
IDI Anoyia 85.14 313 ⇑P P 17 44 07.0 -0.3
IDI Anoyia 85.14 313 P P 17 44 05.4 -1.9
PRMA PARMA 85.17 327 P P 17 44 07.1 -0.1
ZCCA Zocca 85.22 327 P P 17 44 07.2 -0.3
ZCCA IAmb IAmb 17 44 18.3
comp=Z,82nm,1.0s
D47A Chapleau 85.30 29 P P 17 44 07.8 0.0
baz=327,SNR=9.8
DYA Yadsworthy 85.35 338 eP P 17 44 08.2 +0.2
DYA IAmb IAmb 17 44 09.6
comp=Z,258nm,1.4s
ITM Ithomi 85.42 316 P P 17 44 07.8 -0.8
E46A Sault Ste Mari 85.43 30 P P 17 44 07.9 -0.6
NRCA Norcia 85.49 324 P P 17 44 08.7 -0.3
MATE Matera 85.50 321 ⇑P P 17 44 09.5 +0.5
CLF Chambon-Foret 85.52 334 P P 17 44 08.8 0.0
F45A CMU Biological 85.52 31 P P 17 44 09.3 +0.4
baz=326
I42A Draeger Farm, 85.58 34 P P 17 44 09.2 -0.1
H43A Windswept, Lux 85.60 33 P P 17 44 08.8 -0.6
H43A IAmb IAmb 17 44 52.4
comp=Z,42nm,0.8s
LOR Lormes 85.61 332 eP P 17 44 08.9 -0.5
LOR pmax pmax
comp=Z,341nm,1.3s
VLC Villacollemand 85.62 327 P P 17 44 09.3 -0.2
VLC IAmb IAmb 17 44 11.6
comp=Z,61nm,1.1s
D48A Paudash Townsh 85.67 28 P P 17 44 09.3 -0.4
baz=328
LSQQ Lebel-sur-Quev 85.68 24 P P 17 44 10.1 +0.5
baz=332
KSU1 Kansas State U 85.69 41 P P 17 44 10.3 +0.3
baz=319
CHGQ Chibougamau 85.71 22 P P 17 44 09.9 +0.1
baz=333,SNR=9.5
AQU L'Aquila 85.74 324 P P 17 44 10.2 0.0
AQU pmax pmax
comp=Z,120nm,1.1s
AQU L'Aquila 85.74 324 P P 17 44 10.2 0.0
AQU L'Aquila 85.74 324 ⇓i P P 17 44 10.6 +0.4
E47A Iron Bridge 85.74 29 P P 17 44 10.1 +0.1
baz=327,SNR=8.6
D49A Beulah Townshi 85.75 27 P P 17 44 09.9 -0.2
baz=328
OSSC Osservatorio P 85.77 326 P P 17 44 09.8 -0.5
OSSC IAmb IAmb 17 44 11.2
comp=Z,64nm,1.1s
INTR Introdacqua 85.78 323 P P 17 44 10.1 -0.3
INTR IAmb IAmb 17 44 12.8
comp=Z,81nm,1.0s
JFWS Jewell Farm 85.78 35 P P 17 44 10.5 +0.3
baz=323
JFWS Jewell Farm 85.78 35 P P 17 44 10.2 -0.1
JFWS pmax pmax
comp=Z,14nm,0.9s
JFWS Jewell Farm 85.78 35 P P 17 44 10.2 -0.1
FLN La Foliniere 85.79 336 eP P 17 44 09.9 -0.3
FLN pmax pmax
comp=Z,220nm,1.6s
MSSA Maissana 85.86 327 P P 17 44 09.4 -1.3
THZ Tophouse 85.87 157 P P 17 44 10.4 0.0
THZ IAmb IAmb 17 44 45.6
comp=Z,56nm,1.4s
DAMY Dhamar 85.90 285 P P 17 44 13.2 +1.5
SNR=10
DAMY Dhamar 85.90 285 P P 17 44 11.4 -0.3
JSA Saint Aubin 85.94 337 eP P 17 44 11.3 +0.4
JSA IAmb IAmb 17 44 12.6
comp=Z,238nm,1.2s
PPT Papeete 85.97 116 LR LR 18 14 52.8
comp=Z,253nm,21.8s,baz=340,slow=30
PPT2 Papeete2 85.99 116 eS S 17 54 36.9 -1.0
comp=Z,448nm,24.5s
PPT2 Papeete2 85.99 116 eLR LR 18 10 52.6
comp=Z,2um,33.8s,baz=316
PPT2 Papeete2 85.99 116 eT T 19 18 33.2
comp=Z,26nm,0.3s
G45A Suttons Bay 86.00 31 P P 17 44 11.3 0.0
G45A IAmb IAmb 17 44 38.2
comp=Z,34nm,0.8s
LPL La Plagne 86.00 330 eP P 17 44 11.4 -0.2
LPL pmax pmax
comp=Z,99nm,1.1s
LPG La Plagne 86.01 330 eP P 17 44 11.5 -0.2
LPG pmax pmax
comp=Z,109nm,1.1s
L40A Anamosa 86.02 36 P P 17 44 11.4 -0.1
L40A IAmb IAmb 17 44 54.4
comp=Z,52nm,1.1s
PAE Paea 86.04 117 eT T 19 18 35.3
comp=Z,5.6nm,0.3s
N38A Joes South For 86.07 38 P P 17 44 11.9 +0.1
N38A IAmb IAmb 17 44 49.9
comp=Z,49nm,0.8s
AMTX Amarillo 86.07 47 P P 17 44 13.1 +1.1
baz=316
AMTX Amarillo 86.07 47 P P 17 44 12.5 +0.5
AMTX IAmb IAmb 17 44 55.1
comp=Z,40nm,1.0s
G46A Petoskey 86.08 31 P P 17 44 12.4 +0.7
baz=326
MSTX Muleshoe 86.10 48 P P 17 44 13.3 +1.1
baz=316
MSTX Muleshoe 86.10 48 P P 17 44 12.6 +0.4
MSTX IAmb IAmb 17 44 55.4
comp=Z,49nm,1.1s
TIAR Tiarei 86.13 116 eT T 19 18 42.8
comp=Z,11nm,0.3s
E48A Lockeyer 86.13 28 P P 17 44 11.9 0.0
baz=328
MNTX Cornudas Mount 86.16 52 P P 17 44 13.6 +1.2
baz=315,SNR=12
MNTX Cornudas Mount 86.16 52 P P 17 44 12.9 +0.5
AVF Avril sur Loir 86.19 332 eP P 17 44 12.1 -0.1
AVF pmax pmax
comp=Z,320nm,1.2s
PAOL Paolisi 86.23 322 P P 17 44 12.4 -0.3
PAOL IAmb IAmb 17 44 13.5
comp=Z,56nm,1.4s
GRR Gorron 86.24 336 eP P 17 44 12.4 0.0
GRR pmax pmax
comp=Z,216nm,1.2s
TVO Taravao 86.35 116 eT T 19 18 58.9
comp=Z,1.4nm,0.3s
VLDQ Val d'Or 86.35 25 P P 17 44 11.9 -1.1
VLDQ IAmb IAmb 17 44 44.3
comp=Z,30nm,0.8s
D50A G1974 Best Tow 86.38 27 P P 17 44 13.0 -0.1
baz=330
BNI Bardonecchia 86.41 329 P P 17 44 13.4 -0.1
BNI pmax pmax
comp=Z,19nm,0.8s
BNI Bardonecchia 86.41 329 P P 17 44 13.3 -0.1
GDL2 Guadalupe Moun 86.42 51 P P 17 44 14.6 +0.8
F48A Evansville 86.52 29 P P 17 44 14.6 +0.7
baz=328
H46A Fife Lake 86.59 31 P P 17 44 15.7 +1.5
baz=326
G47A Hillman 86.60 30 P P 17 44 15.2 +1.0
baz=327
D51A Lot 18 Range I 86.60 26 P P 17 44 14.3 0.0
baz=330
TIP Timpagrande 86.61 320 ⇑P P 17 44 14.9 +0.3
TIP Timpagrande 86.61 320 P P 17 44 14.2 -0.3
TIP IAmb IAmb 17 44 16.4
comp=Z,132nm,1.6s
E50A Wahnapitae 86.70 27 P P 17 44 14.9 +0.2
baz=329
L42A Oliver, Polo 86.76 35 P P 17 44 14.5 -0.7
F49A Sandfield 86.79 29 P P 17 44 15.8 +0.6
baz=328
P38A Dawn 86.83 39 P P 17 44 15.9 +0.4
P38A IAmb IAmb 17 44 53.9
comp=Z,41nm,1.0s
ORIF Oris-en-Rattie 86.83 330 eP P 17 44 15.1 -0.4
ORIF pmax pmax
comp=Z,57nm,1.5s
D52A ZEK Kipawa Sen 87.03 26 P P 17 44 16.3 0.0
baz=331,SNR=6.1
OXZ Oxford 87.04 158 P P 17 44 17.1 +1.1
SSB Saint Sauveur 87.04 331 P P 17 44 16.6 +0.1
SSB pmax pmax
comp=Z,57nm,1.2s
SSB Saint Sauveur 87.04 331 P P 17 44 16.6 +0.1
SSB IAmb IAmb 17 44 18.3
comp=Z,57nm,1.2s
E51A G1948 Merrick 87.04 27 P P 17 44 16.7 +0.3
baz=330
D53A Lac Vacive, Po 87.18 25 P P 17 44 17.3 +0.3
baz=331,SNR=9.9
D53A Lac Vacive, Po 87.18 25 P P 17 44 16.8 -0.3
MEH Mehetia 87.23 116 eT T 19 20 05.9
comp=Z,179nm,0.3s
VIVF Saint-Julien-l 87.35 331 eP P 17 44 17.8 -0.1
VIVF pmax pmax
comp=Z,112nm,1.4s
QUIF Quistinic 87.38 337 eP P 17 44 17.8 -0.1
QUIF pmax pmax
comp=Z,74nm,1.3s
F51A Arnstein 87.42 27 P P 17 44 18.4 +0.2
baz=330
D54A Lac Fusel, La 87.46 25 P P 17 44 18.2 -0.2
baz=332,SNR=7.8
LBZ Lake Benmore 87.49 160 P P 17 44 19.2 +0.9
LBZ IAmb IAmb 17 44 54.5
comp=Z,82nm,1.2s
E52A Mattawa 87.55 26 P P 17 44 18.7 -0.1
baz=330
P40A Paris 87.62 38 P P 17 44 18.9 -0.4
FRF La Foret Royal 87.66 329 eP P 17 44 21.6 +2.2
FRF pmax pmax
comp=Z,28nm,1.2s

F52A **Sundridge** 87.74 27 P P 17 44 20.3 +0.6
baz=330
CEL **Celeste** 87.74 320 P P 17 44 19.7 -0.3
CEL IAmb IAmb 17 44 21.1
comp=Z,68nm,1.0s
WMOK **Wichita Mounta** 87.80 45 P P 17 44 21.3 +1.1
baz=318,SNR=5.4
E53A **Dumoine, Ponti** 87.80 26 P P 17 44 20.2 +0.2
baz=331
E54A **Lac Daplat, Po** 87.91 25 P P 17 44 20.6 0.0
baz=332,SNR=6.9
D55A **Sainte-Anne-du** 87.95 24 P P 17 44 21.3 +0.6
baz=333,SNR=7.8
M44A **Midewin, Midew** 87.98 35 P P 17 44 20.9 -0.1
M44A IAmb IAmb 17 44 48.5
comp=Z,38nm,1.1s
ALGO **Algonquin Park** 88.04 26 P P 17 44 21.4 +0.2
baz=331
HDIL **Hopedale** 88.09 36 P P 17 44 22.3 +0.8
baz=324
HDIL **Hopedale** 88.09 36 P P 17 44 21.7 +0.2
HDIL IAmb IAmb 17 44 57.0
comp=Z,60nm,1.0s
D56A **ZEC Mazanza, M** 88.15 24 P P 17 44 22.5 +0.8
baz=333,SNR=16
J48A **Bridge Port** 88.19 31 P P 17 44 23.6 +1.6
baz=327,SNR=5.8
J48A **Bridge Port** 88.19 31 P P 17 44 22.7 +0.8
J48A IAmb IAmb 17 44 58.0
comp=Z,56nm,1.1s
K47A **Vermontville** 88.23 32 P P 17 44 23.3 +1.2
baz=326
LPIG **La Paz** 88.24 60 LR LR 18 19 22.4
comp=Z,37nm,18.6s,baz=292,slow=32
J49A **Marlette** 88.40 31 P P 17 44 24.5 +1.6
baz=327
S39A **Bolivar** 88.43 40 P P 17 44 22.7 -0.5
D57A **Chemin Vers le** 88.44 23 P P 17 44 23.8 +0.7
baz=334,SNR=11
R40A **Maddies Statio** 88.48 39 P P 17 44 23.2 -0.2
R40A IAmb IAmb 17 44 56.8
comp=Z,27nm,0.8s
E56A **St. Veronique** 88.51 24 P P 17 44 23.9 +0.6
baz=333,SNR=6.8
G54A **Lake Saint Pet** 88.52 26 P P 17 44 23.9 +0.5
baz=331
W35A **Tecumseh** 88.53 44 P P 17 44 24.3 +0.6
TUL1 **Leonard** 88.53 43 P P 17 44 25.1 +1.4
baz=329
G53A **Haliburton** 88.57 27 P P 17 44 24.5 +0.8
baz=330
D58A **Chemin du LacG** 88.67 22 P P 17 44 24.3 +0.2
baz=334
P43A **Skaggs, Pawnee** 88.72 37 P P 17 44 24.9 +0.4
U38A **Gravette** 88.86 42 P P 17 44 25.3 0.0
ABTX **Abilene, Hawle** 88.88 47 P P 17 44 26.7 +1.3
baz=318
ABTX **Abilene, Hawle** 88.88 47 P P 17 44 25.8 +0.4
ABTX IAmb IAmb 17 44 58.3
comp=Z,49nm,1.1s
TX31 **Lajitas Ar. Si** 88.88 52 P P 17 44 25.7 +0.1
TX31 IAmb IAmb 17 45 02.4
comp=Z,69nm,1.2s
TX32 **Lajitas Array** 88.88 52 P P 17 44 25.9 +0.4
TXAR **Lajitas Array** 88.88 52 P P 17 44 26.5 +0.9
comp=Z,4.1nm,0.8s,baz=289,slow=3.4,SNR=47
TXAR pP **pP** 17 44 51.5 +0.7
comp=Z,7.6nm,0.8s,baz=294,slow=2.7,SNR=6.7
TXAR PKKPbc **PKKPbc** 18 02 05.0 +2.4
comp=Z,0.4nm,0.5s,baz=144,slow=6.3,SNR=4.7
TXAR LR LR 18 18 53.6
comp=Z,41nm,21.5s,baz=0.0,slow=32
TXAR **Lajitas Array** 88.88 52 P P 17 44 25.8 +0.2
I52A **Shelburne** 88.92 28 P P 17 44 26.2 +0.8
baz=329
TRQ **Mont Tremblant** 88.95 24 P P 17 44 26.0 +0.4
ATD **Arta Tunnel** 88.99 284 P P 17 44 28.4 +2.1
ATD **Arta Tunnel** 88.99 284 P P 17 44 26.2 0.0
H53A **Bobcaygeon** 89.06 27 P P 17 44 26.7 +0.7
baz=330
L48A **N Adams** 89.06 32 P P 17 44 26.5 +0.4
L48A IAmb IAmb 17 44 54.1
comp=Z,57nm,0.9s
AAM **Ann Arbor** 89.08 31 P P 17 44 26.2 +0.1
AAM pmax pmax
comp=Z,38nm,1.1s
AAM **Ann Arbor** 89.08 31 P P 17 44 26.2 +0.1
AAM IAmb IAmb 17 44 53.7
comp=Z,38nm,1.1s
G55A **Calabogie** 89.11 26 P P 17 44 26.4 +0.2
baz=332
CCM **Cathedral Cave** 89.17 39 P P 17 44 27.2 +0.6
baz=322
CCM **Cathedral Cave** 89.17 39 P P 17 44 26.7 +0.1
CCM pmax pmax
comp=Z,43nm,1.0s
CCM **Cathedral Cave** 89.17 39 P P 17 44 26.7 +0.1
CCM IAmb IAmb 17 44 54.3
comp=Z,43nm,0.9s
SLM **Saint Louis** 89.19 38 P P 17 44 26.8 +0.1
SLM pmax pmax
comp=Z,52nm,0.9s
SLM **Saint Louis** 89.19 38 P P 17 44 26.8 +0.1
SLM IAmb IAmb 17 45 00.2
comp=Z,52nm,0.8s
E58A **La Victoria** 89.21 23 P P 17 44 27.3 +0.7
baz=334,SNR=5.3
HHAR **Hobbs** 89.21 41 P P 17 44 26.1 -0.8
SFIN **Lafayette** 89.22 35 P P 17 44 27.6 +0.8
baz=325
SFIN **Lafayette** 89.22 35 P P 17 44 26.7 -0.1
SFIN IAmb IAmb 17 44 54.5
comp=Z,32nm,0.9s
ORIO **Orleans, Innes** 89.33 25 P P 17 44 27.6 +0.4
baz=333
ORIO **Orleans, Innes** 89.33 25 P P 17 44 26.9 -0.3
D60A **Saint Jean D'O** 89.40 21 P P 17 44 27.5 -0.1
baz=336,SNR=5.5
N47A **Urbana** 89.42 34 P P 17 44 27.9 +0.2
N47A IAmb IAmb 17 44 55.2
comp=Z,40nm,0.8s
DELO **Deloro Mine** 89.45 27 P P 17 44 27.5 -0.3
DELO IAmb IAmb 17 45 04.0
comp=Z,41nm,1.2s
J52A **Paris** 89.52 29 P P 17 44 29.4 +1.2
baz=329
Q44A **Meyer Farm, Va** 89.55 37 P P 17 44 27.9 -0.4
Q44A IAmb IAmb 17 44 56.2
comp=Z,52nm,1.1s
H55A **Tweed** 89.57 26 P P 17 44 29.0 +0.6
baz=332,SNR=6.3
L50A **Kingsville** 89.64 31 P P 17 44 29.9 +1.1
baz=328
I55A **Frankford** 89.69 27 P P 17 44 29.6 +0.6
baz=331
U40A **Yellville** 89.70 41 P P 17 44 29.6 +0.4
baz=321,SNR=21
U40A **Yellville** 89.70 41 P P 17 44 29.0 -0.2
U40A IAmb IAmb 17 45 02.6
comp=Z,48nm,0.9s
E60A **Ste Agathe de** 89.75 22 P P 17 44 29.7 +0.5
baz=336
X37A **Clayton** 89.76 43 P P 17 44 29.5 0.0
D62A **Allapoint, All** 89.76 20 P P 17 44 30.2 +1.0
baz=337
G57A **Newington** 89.81 25 P P 17 44 29.9 +0.5
baz=333
F59A **Saint Guilaume** 89.83 23 P P 17 44 30.7 +1.2
baz=335
E61A **Lac Etchemin** 89.97 21 P P 17 44 31.2 +1.0
baz=336
TBI **Tubuai** 90.01 121 *eS* S 17 55 14.0 -1.7
comp=Z,410nm,29.0s
TBI **Tubuai** 90.01 121 *e*LR LR 18 12 30.7
comp=Z,1µm,38.2s,baz=311
TBI **Tubuai** 90.01 121 *e*T T 19 23 34.6
comp=Z,126nm,0.3s
N49A **Columbus Grove** 90.02 33 P P 17 44 30.9 +0.3
N49A IAmb IAmb 17 44 58.5
comp=Z,36nm,0.9s
D63A **Stockholm** 90.05 19 P P 17 44 30.7 +0.1
baz=338
E62A **Clayton Lake** 90.06 21 P P 17 44 31.4 +0.8
baz=337
E62A **Clayton Lake** 90.06 21 P P 17 44 30.0 -0.6
G58A **Ormstown** 90.07 24 P P 17 44 31.3 +0.6
baz=334

OLIL **Olney** 90.11 36 P P 17 44 31.3 +0.3
OLIL IAmb IAmb 17 44 59.0
comp=Z,47nm,0.9s
W39A **Magazine** 90.13 42 P P 17 44 31.8 +0.7
baz=321
W39A **Magazine** 90.13 42 P P 17 44 31.1 0.0
O48A **Farmland** 90.16 34 P P 17 44 32.0 +0.7
baz=326,SNR=7.7
F61A **St Evariste** 90.24 22 P P 17 44 32.9 +1.4
baz=336,SNR=5.6
JCT **Junction City** 90.36 49 P P 17 44 33.1 +0.7
baz=318,SNR=9.3
JCT **Junction City** 90.36 49 P P 17 44 32.7 +0.3
JCT pmax pmax
comp=Z,49nm,1.3s
JCT **Junction City** 90.36 49 P P 17 44 32.6 +0.3
JCT IAmb IAmb 17 45 10.3
comp=Z,48nm,1.2s
S44A **Carbondale** 90.41 38 P P 17 44 32.1 -0.3
S44A IAmb IAmb 17 45 00.4
comp=Z,51nm,0.9s
PQI **Presque Isle** 90.41 20 P P 17 44 31.8 -0.4
FCAR **Ozark Folk Cen** 90.44 41 P P 17 44 32.3 -0.3
FCAR IAmb IAmb 17 45 05.9
comp=Z,34nm,1.0s
J55A **Hilton** 90.47 27 P P 17 44 33.4 +0.8
baz=331
MOQ **Mont Orford** 90.47 23 P P 17 44 32.9 +0.2
E63A **Oxbow** 90.54 20 P P 17 44 32.4 -0.5
baz=338
E63A **Oxbow** 90.54 20 P P 17 44 33.2 +0.4
E63A IAmb IAmb 17 44 34.6
comp=Z,47nm,1.3s
O49A **Covington** 90.57 33 P P 17 44 33.1 0.0
O49A IAmb IAmb 17 45 08.8
comp=Z,43nm,1.3s
F62A **Pittston Farm,** 90.60 21 P P 17 44 34.5 +1.3
baz=337
F62A **Pittston Farm,** 90.60 21 P P 17 44 33.5 +0.3
F62A IAmb IAmb 17 45 02.5
comp=Z,54nm,1.4s
I57A **Carthage** 90.62 26 P P 17 44 33.6 +0.3
baz=333
H59A **Cadyville** 90.63 24 P P 17 44 33.9 +0.6
baz=334
M52A **Chesterland** 90.64 30 P P 17 44 32.6 -0.8
M52A IAmb IAmb 17 45 10.2
comp=Z,54nm,0.9s
ERPA **Erie** 90.67 29 P P 17 44 31.8 -1.7
ERPA IAmb IAmb 17 45 01.3
comp=Z,50nm,0.8s
H58A **Gabriels** 90.68 24 P P 17 44 34.3 +0.7
baz=334
E64A **Bridgewater** 90.69 20 P P 17 44 32.9 -0.7
baz=338
P48A **Milroy** 90.70 34 P P 17 44 33.5 -0.3
P48A IAmb IAmb 17 45 17.6
comp=Z,36nm,1.4s
L53A **Girard** 90.71 29 P P 17 44 35.1 +1.3
baz=329,SNR=5.1
G61A **St-Isidore-de-** 90.72 22 P P 17 44 35.2 +1.5
baz=336,SNR=6.2
K54A **Basiliko Farm,** 90.73 28 P P 17 44 34.7 +0.8
baz=330
MIAR **Mount Ida** 90.74 42 P P 17 44 35.0 +1.0
baz=321,SNR=11
MIAR **Mount Ida** 90.74 42 P P 17 44 34.7 +0.7
MIAR pmax pmax
comp=Z,28nm,1.0s
MIAR **Mount Ida** 90.74 42 P P 17 44 34.6 +0.7
MIAR IAmb IAmb 17 45 03.3
comp=Z,28nm,0.9s
LCAR **Lake Charles** 90.78 40 P P 17 44 33.9 -0.3
LCAR IAmb IAmb 17 45 18.6
comp=Z,64nm,1.8s
WHAR **Wooly Hollow** 90.82 41 P P 17 44 34.6 +0.2
WHAR IAmb IAmb 17 45 18.6
comp=Z,61nm,1.2s
K55A **Perry** 90.85 28 P P 17 44 35.3 +0.8
baz=331,SNR=5.8
MMNY **Mt. Morris Dam** 90.91 28 P P 17 44 34.1 -0.5
MMNY IAmb IAmb 17 45 07.8
comp=Z,47nm,1.0s
W41B **Gary Mavity, V** 90.93 41 P P 17 44 35.4 +0.5
baz=322,SNR=5.7
W41B **Gary Mavity, V** 90.93 41 P P 17 44 34.9 0.0
WVNY **West Valley, N** 90.94 28 P P 17 44 34.8 0.0
WVNY IAmb IAmb 17 45 08.3
comp=Z,53nm,0.9s
P49A **Miami Univ. Ec** 90.95 34 P P 17 44 35.9 +1.0
baz=326
P49A **Miami Univ. Ec** 90.95 34 P P 17 44 34.6 -0.3
P49A IAmb IAmb 17 45 10.5
comp=Z,51nm,1.0s
J57A **Williamstown** 90.98 26 P P 17 44 36.0 +1.1
baz=332
J57A **Williamstown** 90.98 26 P P 17 44 35.0 +0.1
J57A IAmb IAmb 17 45 07.6
comp=Z,30nm,1.0s
ALLY **Alegheny Colle** 91.02 30 P P 17 44 35.8 +0.6
H60A **Morristown** 91.02 23 P P 17 44 36.1 +0.9
baz=335
G62A **West of Eustis** 91.06 22 P P 17 44 36.7 +1.3
baz=336
G62A **West of Eustis** 91.06 22 P P 17 44 36.1 +0.7
G62A IAmb IAmb 17 44 37.3
comp=Z,33nm,1.2s
NCB **Newcomb** 91.07 25 P P 17 44 36.0 +0.6
ACSO **Alum Creek Sta** 91.09 32 P P 17 44 35.7 +0.1
ACSO IAmb IAmb 17 45 03.5
comp=Z,40nm,0.8s
K56A **Middlesex** 91.14 27 P P 17 44 36.7 +0.9
baz=331
X40A **Basin Creek Fa** 91.17 42 P P 17 44 37.3 +1.3
baz=321
X40A **Basin Creek Fa** 91.17 42 P P 17 44 36.0 0.0
L55A **Hinsdale** 91.19 28 P P 17 44 37.2 +1.1
baz=331
VT1 **Waterbury** 91.21 24 P P 17 44 36.5 +0.5
VT1 IAmb IAmb 17 45 12.8
comp=Z,21nm,0.9s
J58A **Remsen** 91.26 26 P P 17 44 36.9 +0.6
baz=333,SNR=5.2
J58A **Remsen** 91.26 26 P P 17 44 36.6 +0.3
J58A IAmb IAmb 17 45 08.9
comp=Z,22nm,0.9s
H61A **Lyndonville** 91.28 23 P P 17 44 37.7 +1.4
baz=335,SNR=5.7
M54A **Oil Creek Stat** 91.32 29 P P 17 44 38.0 +1.4
baz=330,SNR=5.3
M54A **Oil Creek Stat** 91.32 29 P P 17 44 37.6 +0.9
M54A IAmb IAmb 17 45 04.3
comp=Z,31nm,0.8s
WCI **Wyandotte Cave** 91.33 35 P P 17 44 37.7 +0.9
baz=325
WCI **Wyandotte Cave** 91.33 35 P P 17 44 36.4 -0.3
WCI pmax pmax
comp=Z,21nm,0.9s
WCI **Wyandotte Cave** 91.33 35 P P 17 44 36.4 -0.3
WCI IAmb IAmb 17 45 19.8
comp=Z,21nm,0.9s
I59A **Olmsteadville** 91.34 24 P P 17 44 37.5 +0.9
K57A **Scipio Center** 91.40 27 P P 17 44 37.7 +0.8
baz=332
G63A **Kingsbury** 91.42 21 P P 17 44 36.8 -0.2
baz=337
J59A **Piesco** 91.43 25 P P 17 44 37.9 +0.8
baz=333,SNR=5.4
J59A **Piesco** 91.43 25 P P 17 44 37.1 0.0
J59A IAmb IAmb 17 45 10.2
comp=Z,22nm,0.9s
H62A **Milan** 91.47 22 P P 17 44 38.6 +1.4
baz=336,SNR=6.7
H62A **Milan** 91.47 22 P P 17 44 37.3 0.0
H62A IAmb IAmb 17 45 05.8
comp=Z,40nm,0.9s
N53A **Lisbon** 91.47 30 P P 17 44 37.9 +0.6
N53A IAmb IAmb 17 45 13.4
comp=Z,38nm,1.1s
I60A **Shoreham** 91.48 24 P P 17 44 38.5 +1.3
baz=334
G64A **Maxfield** 91.53 21 P P 17 44 38.9 +1.5
baz=338
L56A **Greenwood** 91.55 28 P P 17 44 38.5 +0.8
baz=331

L56A **Greenwood** 91.55 28 P P 17 44 38.0 +0.2
L56A IAmb IAmb 17 45 05.6
comp=Z,35nm,0.8s
O52A **Adamsville** 91.66 31 P P 17 44 37.9 -0.3
O52A IAmb IAmb 17 45 38.5
comp=Z,20nm,0.9s
N54A **Moraine State** 91.67 30 P P 17 44 40.2 +2.0
baz=330
N54A **Moraine State** 91.67 30 P P 17 44 38.5 +0.3
N54A IAmb IAmb 17 45 50.6
comp=Z,27nm,0.9s
K58A **Earlville** 91.67 26 P P 17 44 39.3 +1.0
baz=333
K58A **Earlville** 91.67 26 P P 17 44 38.5 +0.3
K58A IAmb IAmb 17 45 11.7
comp=Z,27nm,0.9s
M55A **Ridgway** 91.69 29 P P 17 44 39.9 +1.5
baz=330
M55A **Ridgway** 91.69 29 P P 17 44 38.9 +0.5
M55A IAmb IAmb 17 45 06.6
comp=Z,32nm,0.8s
P51A **Williamsport** 91.69 33 P P 17 44 38.1 -0.3
P51A IAmb IAmb 17 45 06.0
comp=Z,23nm,1.0s
I61A **Oroboro, Fairl** 91.74 23 P P 17 44 39.7 +1.3
baz=335
ACCN **Adirondack Com** 91.77 25 P P 17 44 38.4 -0.2
ACCN IAmb IAmb 17 45 14.6
comp=Z,23nm,1.1s
O53A **New Philadelph** 91.80 31 P P 17 44 41.2 +2.4
baz=329
O53A **New Philadelph** 91.80 31 P P 17 44 38.8 0.0
O53A IAmb IAmb 17 45 54.6
comp=Z,25nm,1.1s
M56A **Emporium** 91.89 28 P P 17 44 40.2 +0.9
baz=331,SNR=5.1
M56A **Emporium** 91.89 28 P P 17 44 39.5 +0.3
M56A IAmb IAmb 17 45 13.3
comp=Z,43nm,0.9s
L57A **Andrews Acres** 91.92 27 P P 17 44 40.3 +0.9
baz=332
K59A **Cooperstown** 91.93 26 P P 17 44 40.4 +1.0
baz=333
Q51A **Peebles** 91.96 33 P P 17 44 39.9 +0.2
Q51A IAmb IAmb 17 45 07.5
comp=Z,32nm,0.9s
T47A **Sharon Grove** 91.98 37 P P 17 44 40.5 +0.8
T47A IAmb IAmb 17 45 07.8
comp=Z,29nm,1.1s
BINY **Binghamton** 92.05 27 P P 17 44 41.0 +1.1
baz=332
BINY **Binghamton** 92.05 27 P P 17 44 41.1 +1.1
BINY IAmb IAmb 17 45 13.4
comp=Z,40nm,1.1s
I63A **Otisfield** 92.12 22 P P 17 44 42.2 +2.0
baz=336
J61A **Chester** 92.16 24 P P 17 44 41.7 +1.2
baz=335
L58A **Harry Jones Me** 92.24 27 P P 17 44 41.8 +1.0
baz=332
WVT **Waverly** 92.34 38 P P 17 44 42.0 +0.7
baz=324
WVT **Waverly** 92.34 38 P P 17 44 41.6 +0.2
WVT pmax pmax
comp=Z,16nm,0.7s
WVT **Waverly** 92.34 38 P P 17 44 41.6 +0.2
WVT IAmb IAmb 17 47 59.5
comp=Z,16nm,0.7s
N56A **West Decatur** 92.35 29 P P 17 44 43.2 +1.8
baz=331
L59A **Walton** 92.38 26 P P 17 44 42.4 +0.9
baz=333
L59A **Walton** 92.38 26 P P 17 44 41.8 +0.2
M57A **Sunshine Farm,** 92.41 28 P P 17 44 42.8 +1.2
baz=332
M57A **Sunshine Farm,** 92.41 28 P P 17 44 42.0 +0.4
K61A **Williamstown** 92.54 25 P P 17 44 43.3 +1.0
baz=334
M58A **Price's Panora** 92.62 27 P P 17 44 43.7 +1.1
baz=332
P54A **Burton** 92.64 31 P P 17 44 43.9 +1.1
baz=329
KSPA **Keystone Colle** 92.70 27 P P 17 44 43.2 +0.3
KSPA IAmb IAmb 17 45 16.3
comp=Z,23nm,0.9s
N57A **Milroy** 92.76 28 P P 17 44 44.5 +1.2
baz=331
M59A **Waymart** 92.83 27 P P 17 44 44.5 +0.9
baz=333
L61A **Hillsdale 1, H** 92.88 25 P P 17 44 43.9 +0.1
baz=334
OXF **Oxford** 92.88 40 P P 17 44 44.7 +0.8
baz=323
OXF **Oxford** 92.88 40 P P 17 44 44.1 +0.2
OXF *PP **pP** 17 45 09.9 +0.7
OXF pmax pmax
comp=Z,60nm,1.1s
OXF **Oxford** 92.88 40 P P 17 44 44.1 +0.2
OXF **pP** 17 45 09.9 +0.7
KEST **Kesra** 92.93 323 P P 17 44 44.1 -0.1
comp=Z,7.9nm,0.9s,baz=313,slow=4.6,SNR=6.2
KEST PP **PP** 17 48 26.8 -0.3
comp=Z,7.2nm,1.1s,baz=0.0,slow=6.7,SNR=4.5
KEST LR LR 18 31 26.8
comp=Z,208nm,18.1s,baz=1.0,slow=39
KEST **Kesra** 92.93 323 P P 17 44 43.2 -1.0
KEST PP 17 48 23.8 -3.3
U49A **Red Boiling Sp** 92.98 36 P P 17 44 44.3 0.0
U49A IAmb IAmb 17 45 12.2
comp=Z,27nm,1.2s
T50A **Nancy** 92.98 35 P P 17 44 44.3 0.0
Q54A **Coxs Mills** 93.03 31 P P 17 44 45.2 +0.7
baz=329
CLTN **Cedars of Leba** 93.07 37 P P 17 44 44.7 0.0
CLTN IAmb IAmb 17 48 22.5
comp=Z,25nm,0.8s
V48A **Smith Brothers** 93.13 37 P P 17 44 45.4 +0.4
V48A IAmb IAmb 17 48 03.6
comp=Z,17nm,0.9s
N59A **State Game Lan** 93.26 27 P P 17 44 46.3 +0.7
baz=332
N59A **State Game Lan** 93.26 27 P P 17 44 45.8 +0.2
N59A IAmb IAmb 17 45 19.3
comp=Z,26nm,1.1s
Y45A **Yeager Farm, C** 93.33 40 P P 17 44 46.1 +0.1
Y45A IAmb IAmb 17 45 14.2
comp=Z,45nm,1.0s
FURI **Furi** 93.81 285 P P 17 44 47.5 -1.4
R55A **Marlinton** 93.92 31 P P 17 44 49.5 +0.8
baz=329
R55A **Marlinton** 93.92 31 P P 17 44 49.0 +0.3
R55A IAmb IAmb 17 45 24.5
comp=Z,28nm,1.2s
TZTN **Tazewell** 93.95 35 P P 17 44 49.8 +1.0
baz=327
TZTN **Tazewell** 93.95 35 P P 17 44 48.4 -0.5
TZTN IAmb IAmb 17 45 26.6
comp=Z,26nm,1.2s
SWET **Sewanee** 93.97 37 P P 17 44 48.6 -0.4
SWET IAmb IAmb 17 47 58.2
comp=Z,28nm,1.1s
PBRG **Braganca** 93.98 336 *e*P P 17 44 49.4 +0.5
comp=Z,55nm,1.6s
PBRG **Braganca** 93.98 336 *e*PP PP 17 48 38.6 +3.6
X48A **Hartselle** 94.08 38 P P 17 44 48.8 -0.6
W50A **Signal Mountai** 94.27 36 P P 17 44 50.5 +0.1
W50A IAmb IAmb 17 48 12.5
comp=Z,20nm,1.2s
PGAV **Gavieira, Arco** 94.30 338 *e*P P 17 44 52.9 +2.5
PGAV **Gavieira, Arco** 94.30 338 *e*PP PP 17 48 40.9 +3.4
PGAV **Gavieira, Arco** 94.30 338 *e*LR LR 18 16 23.2
comp=Z,149nm,22.0s
T54A **Tazewell** 94.36 33 P P 17 44 51.9 +1.1
baz=328
CPCT **Cooper Cave** 94.43 36 P P 17 44 51.0 -0.1
TKL **Tuckaleechee C** 94.59 35 P P 17 44 51.7 -0.1
TKL pmax pmax
comp=Z,13nm,1.0s
TKL **Tuckaleechee C** 94.59 35 P P 17 44 51.7 -0.1
T55A **Pulaski** 94.64 32 P P 17 44 52.9 +0.9
baz=329
MVO **Moncorvo** 94.66 336 *e*P P 17 44 52.6 +0.5
comp=Z,54nm,1.6s
MVO **Moncorvo** 94.66 336 *e*PP PP 17 48 42.4 +2.1
MVO *e*SKS **SKSac** 17 55 23.4 +4.5
MVO **Moncorvo** 94.66 336 *e*LR LR 18 16 48.9

comp=Z,322nm,22.0s
FPAL Fort Paine 94.68 37 P **P** 17 44 51.7 -0.5
FPAL IAmb IAmb 17 47 54.5
comp=Z,32nm,1.0s
U54A Nelsons Funny 94.72 33 **P** 17 44 52.4 0.0
PVRL Vila Real 94.77 337 *e*PcP **PcP** 17 44 53.5 +0.7
PVRL A A 17 44 55.0
comp=Z,49nm,1.6s
ESBB Sonseca Array 95.00 334 P **P** 17 44 53.5 -0.1
ESDC Sonseca Array 95.00 334 P **P** 17 44 53.0 -0.6
comp=Z,7.2nm,1.0s,baz=18,slow=3.2,SNR=37
ESDC pP **pP** 17 45 18.9 -0.1
comp=Z,3.6nm,0.8s,baz=16,slow=4.1,SNR=3.8
ESDC PP **PP** 17 48 42.9 -0.1
comp=Z,2.2nm,1.1s,baz=201,slow=28,SNR=4.6
ESDC LR LR 18 32 13.4
comp=Z,322nm,21.2s,baz=25,slow=38
ESDC Sonseca Array 95.00 334 P **P** 17 44 53.0 -0.6
V53A Saluda 95.01 34 P **P** 17 44 53.6 -0.1
V53A **pP** 17 45 18.4 -0.5
PAB San Pablo 95.24 334 P **P** 17 44 54.4 -0.4
PAB pmax pmax
comp=Z,12nm,1.1s
PAB San Pablo 95.24 334 P **P** 17 44 54.4 -0.4
LRAL Lakeview Retre 95.25 39 P **P** 17 44 55.1 +0.3
baz=325
LRAL Lakeview Retre 95.25 39 P **P** 17 44 54.5 -0.3
LRAL IAmb IAmb 17 47 38.6
comp=Z,12nm,0.7s
MTE Manteigas 95.51 336 *e*P **P** 17 44 56.5 +0.5
comp=Z,33nm,1.9s
MTE *e*pP **pP** 17 45 22.8 +1.4
MTE Manteigas 95.51 336 *e*PP **PP** 17 48 49.6 +2.7
MTE *e*SKS **SKSac** 17 55 21.9 -1.6
MTE *e*S **ScS** 17 56 07.4 +2.0
MTE Manteigas 95.51 336 *e*LR LR 18 17 26.3
comp=Z,286nm,22.0s
BG3 Lake Jocassee 95.52 35 P **P** 17 44 55.3 -0.8
COI Coimbra 95.95 337 *e*P **P** 17 44 57.6 -0.3
COI Coimbra 95.95 337 *e*PP **PP** 17 48 54.5 +4.3
Y52A Lilburn 95.95 36 P **P** 17 44 58.5 +0.4
PCBR Castelo Branco 96.00 336 *e*P **P** 17 45 00.3 +2.2
PCAS Casmilo, Conde 96.12 337 *e*PP **PP** 17 48 51.3 -0.3
PMRV Marv??o 96.35 336 *e*P **P** 17 44 59.9 +0.2
PMRV Marv??o 96.35 336 *e*PP **PP** 17 48 57.4 +4.0
PMRV *e*SKS **SKSac** 17 55 29.3 +1.5
PMRV *e*S **ScS** 17 56 16.3 +4.0
PMRV Marv??o 96.35 336 *e*LR LR 18 17 13.7
comp=Z,323nm,24.0s
250A Grady 96.47 39 P **P** 17 45 00.0 -0.4
250A IAmb IAmb 17 45 28.8
comp=Z,29nm,1.1s
EVO Evora 97.36 336 *e*P **P** 17 45 02.8 -1.5
EVO Evora 97.36 336 *e*PP **PP** 17 49 04.8 +3.7
PMAFR Mafra 97.37 337 *e*S **S** 17 56 22.8 +2.3
PBEJ Beja 97.78 336 *e*PP **PP** 17 49 06.3 +2.0
PNCL Nicolau / Gran 97.91 336 *e*PP **PP** 17 49 09.1 +3.8
PNCL *e*S **S** 17 56 25.9 +0.8
MESJ Messejana 98.06 336 *e*P **P** 17 45 07.3 -0.1
MESJ *e*PP **PP** 17 49 07.2 +0.8
MESJ AMS AMS 18 31 59.5
comp=Z,318nm,20.7s
MESJ Messejana 98.06 336 *e*P **P** 17 45 07.3 -0.1
MESJ *e* 17 49 07.2
MESJ Messejana 98.06 336 *e*P Pdif 17 45 08.4 +0.9
MESJ Messejana 98.06 336 *e*PP **PP** 17 49 10.9 +4.4
PCVE Castro Verde 98.20 336 *e*PP **PP** 17 49 10.7 +3.2
PVAQ Vaqueiros 98.30 335 *e*PP **PP** 17 49 11.9 +3.6
PVAQ Vaqueiros 98.30 335 *e*LR LR 18 18 30.4
comp=Z,330nm,24.0s
PBDV Barranco-do-Ve 98.52 335 *e*P Pdif 17 45 11.6 +2.0
PBDV Barranco-do-Ve 98.52 335 *e*PP **PP** 17 49 12.4 +2.4
PBDV *e*SKS **SKSac** 17 55 43.6 +4.6
MORF Marmelete 98.69 336 *e*PP **PP** 17 49 12.0 +0.7
MORF AMS AMS 18 28 41.1
comp=N,302nm,27.8s
PFVI Vila Bisbo 98.90 336 *e*P Pdif 17 45 15.8 +4.6
PFVI Vila Bisbo 98.90 336 *e*PP **PP** 17 49 17.1 +4.2
KMBO Kilima Mbogo 101.35 278 P **PKiP** 17 45 22.2 -0.6
comp=N,3.0nm,0.9s,baz=27,slow=8.3,SNR=6.0
KMBO pP **pPdif** 17 45 48.0 -0.2
comp=N,4.3nm,1.0s,baz=9.6,slow=6.9,SNR=3.8
KMBO PP **PP** 17 49 31.8 -1.4
comp=N,1.8nm,0.7s,baz=53,slow=20,SNR=4.5
KMBO Kilima Mbogo 101.35 278 P **Pdif** 17 45 23.1 +0.3
KMBO Kilima Mbogo 101.35 278 Pdif **Pdif** 17 45 22.8 0.0
KMBO pP 17 45 48.4 +0.1
KMBO **PP** 17 49 31.1 -2.1
PMOZ Porto Moniz, M 105.31 341 *e*LR LR 18 22 03.7
comp=N,119nm,20.0s
TORD Torodi Ar. Bea 115.41 315 PKP **PKiKP** 17 50 12.0 -0.8
comp=N,1.7nm,0.5s,baz=30,slow=1.8,SNR=23
TORD PP **PP** 17 51 12.6 -1.9
comp=N,20nm,0.9s,baz=20,slow=5.7,SNR=5.7
TORD PKKPab **PKKPab** 18 00 55.9 +1.5
comp=N,0.7nm,0.9s,baz=224,slow=6.2,SNR=3.7
TORD PKKP **PKKPdf** 18 01 09.5 +0.7
comp=N,1.0nm,1.0s,baz=147,slow=1.6,SNR=2.3
TORD Torodi Ar. Bea 115.41 315 **PKiKP** 17 50 11.3 -1.5
TORD PP PP 17 51 04.5 -10
PTBC PUERTO BERRIO 123.69 44 *e*P **PKPdf** 17 50 28.3 -0.5
GUY2C Guyana, Caldas 124.29 46 *e*P **PKiKP** 17 50 30.8 0.0
DBIC Dimbokro 124.32 318 PKP **PKPdf** 17 50 29.8 -0.2
comp=N,5.6nm,0.4s,baz=42,slow=2.2,SNR=14
DBIC PP **PP** 17 52 15.4 0.0
comp=N,23nm,1.1s,baz=2.7,slow=9.6,SNR=4.3
DBIC Dimbokro 124.32 318 PP PP 17 52 11.4 -4.1
TIC Toumodi 124.43 318 *e*PKIKP **PKPdf** 17 50 30.1 -0.1
KIC Kosan Boka 124.52 317 *e*PKIKP **PKPdf** 17 50 30.3 0.0
comp=N,11nm,0.7s
RREF El Recreo 124.57 46 *e*P **PKiKP** 17 50 34.0 +2.5
LBTB Lobatse 124.60 264 PKIKP **PKiKP** 17 50 30.6 0.0
LBTB Lobatse 124.60 264 PKPdf **PKiKP** 17 50 30.6 0.0
YOTC Yotoco, Valle 124.76 47 *e*P **PKiKP** 17 50 31.8 +0.5
LIC Lamto 124.79 317 *e*PKIKP **PKPdf** 17 50 30.7 -0.1
comp=N,19nm,0.7s
TOLC Tolima 124.84 46 *e*P **PKiKP** 17 50 31.6 -0.1
RUSC La Rusia 124.97 43 *e*P **PKPdf** 17 50 31.7 -0.1
ORTC Ortega, Tolima 125.44 46 *e*P **PKPdf** 17 50 30.8 -1.4
PCON Cinco Dias 126.07 49 *e*P **PKPdf** 17 50 33.7 -0.3
SOTA Rioblanco 126.10 49 *e*P **PKiKP** 17 50 36.9 +2.5
VILC Villavicencio, 126.13 45 *e*P **PKPdf** 17 50 33.6 0.0
BOSA Boshof 126.70 261 PKP **PKPdf** 17 50 34.4 +0.2
comp=N,5.3nm,0.9s,baz=68,slow=1.4,SNR=5.5
TSUM Tsumeb 127.61 276 PKPdf **PKPdf** 17 50 35.8 -0.4
SYO Syowa Base 130.22 208 *e*Pdiff **Pdif** 17 47 29.6 +0.2
SNAA Sanae 142.96 198 PKPdf **PKPdf** 17 50 59.5 -3.5
SNAA Sanae 142.96 198 PKHKP PKPpre 17 50 58.2
SNAA Sanae 142.96 198 PKPpre 17 50 58.2
NPGB Novo Progresso 144.53 29 *e*P **PKPdf** 17 51 07.1 -0.3
NPGB Novo Progresso 144.53 29 *e*P **PKPdf** 17 51 07.1 -0.3
VNA2 Neumayer--Watz 144.54 197 PKPdf **PKPdf** 17 51 05.2 -0.5
baz=116,slow=3.1
VNA3 Neumayer Olymp 144.81 196 PKPdf PKPbc 17 51 05.5 0.0
VNA1 Neumayer--Stat 144.94 197 PKPdf **PKPdf** 17 51 06.6 +0.2
PRPB Paraupebas 145.45 19 *e*P **PKPab** 17 51 10.2 +0.8
PRPB Paraupebas 145.45 19 *e*P **PKPab** 17 51 10.2 +0.8
LPAZ La Paz 145.66 56 PKPbc **PKPab** 17 51 10.9 0.0
comp=N,28nm,1.0s,baz=350,slow=5.0,SNR=48
LPAZ La Paz 145.66 56 PKP2 **PKPdf** 17 51 10.1 +0.1
LPAZ La Paz 145.66 56 **PKPdf** 17 51 10.1 +0.1
LPAZ La Paz 145.66 56 *e*P **PKPab** 17 51 11.2 +0.3
LPAZ La Paz 145.66 56 *e*P **PKPab** 17 51 11.2 +0.3
PB12 IPOC Station P 145.87 62 **PKPdf** 17 51 08.9 -0.7
RCBR Riachuelo 146.41 354 PKP2 **PKPbc** 17 51 12.5 +0.4
RCBR Riachuelo 146.41 354 **PKPbc** 17 51 12.5 +0.4
RCBR Riachuelo 146.41 354 *e*P **PKPab** 17 51 13.2 +0.1
RCBR Riachuelo 146.41 354 *e*P **PKPab** 17 51 13.2 +0.1
VILB Vilhena 147.62 41 *e*P **PKPbc** 17 51 14.9 -0.6
VILB Vilhena 147.62 41 *e*P **PKPbc** 17 51 14.9 -0.6
PB08 IPOC Station P 147.72 62 **PKiKP** 17 51 17.5 -0.5
CLDB Colider 147.84 32 *e*P **PKPbc** 17 51 15.3 -0.7
CLDB Colider 147.84 32 *e*P **PKPbc** 17 51 15.3 -0.7
SMTB Santa Maria do 148.58 17 *e*P **PKPbc** 17 51 16.4 -1.6
SMTB Santa Maria do 148.58 17 *e*P **PKPbc** 17 51 16.4 -1.6
LVC Limon Verde 149.53 65 *e*P **PKPdf** 17 51 17.9 +1.9
LVC Limon Verde 149.53 65 *e*P **PKPdf** 17 51 17.9 +1.9
PTLB Pontes e Lacer 150.27 42 *e*P **PKPdf** 17 51 18.6 +1.7
PTLB Pontes e Lacer 150.27 42 *e*P **PKPdf** 17 51 18.6 +1.7
PEXB Peixe 151.53 19 *e*P **PKPdf** 17 51 20.5 +1.6
PEXB Peixe 151.53 19 *e*P **PKPdf** 17 51 20.5 +1.6
AC05 El Transito 152.13 77 **PKiKP** 17 51 26.8 +0.2
SALV Santo Antonio 152.35 37 *e*P **PKPdf** 17 51 21.8 +1.8
SALV Santo Antonio 152.35 37 *e*P **PKPdf** 17 51 21.8 +1.8
GO04 Tololo Observa 152.39 80 PKPdf **PKPdf** 17 51 17.8 -2.3
GO04 **PKPbc** 17 51 26.9 0.0
CO02 Combarbal 152.71 82 **PKPbc** 17 51 27.0 -0.5
CO01 Juntas del Tor 152.83 79 **PKiKP** 17 51 28.9 +0.8
ROC1 El Roble 153.44 86 PKPdf **PKPdf** 17 51 21.7 +0.3
ROC1 **PKiKP** 17 51 29.7 +0.4
MT02 Curacav 153.45 87 **PKiKP** 17 51 29.0 0.0
GO05 Huala 153.47 91 PKPdf **PKPdf** 17 51 20.1 -1.0
GO05 PKPab **PKPab** 17 51 42.3 +0.7
VA03 San Esteban 153.71 85 **PKPbc** 17 51 29.4 -0.2
PEL Peldehue 153.76 86 PKP2 **PKPab** 17 51 43.6 +0.7
PEL Peldehue 153.76 86 **PKiKP** 17 51 30.3 +0.6
PEL PKPab **PKPab** 17 51 43.6 +0.7
ARAG Araguaiana, MT 153.81 29 *e*P **PKPdf** 17 51 24.6 +2.4
ARAG Araguaiana, MT 153.81 29 *e*P **PKPdf** 17 51 24.6 +2.4
BO02 Sierra Bellavi 154.28 90 **PKiKP** 17 51 30.9 +0.1
BO02 PKPab **PKPab** 17 51 46.7 +1.6
BI02 San Fabin de 154.48 94 **PKPbc** 17 51 30.9 -0.2
BI02 PKPab **PKPab** 17 51 46.8 +0.9
LL01 San Ignacio de 154.64 107 PKPdf **PKPdf** 17 51 21.9 -0.5
LL01 PKPbc **PKPbc** 17 51 29.7 -1.3
LL01 PKPab **PKPab** 17 51 46.8 +0.5
COYC Coyhaique 154.95 115 PKPbc **PKPbc** 17 51 30.6 -1.1
COYC PKPab **pPKPdf** 17 51 49.0 -0.2
BDFB Brasilia 154.99 21 PKPab **PKPab** 17 51 49.0 +0.6
comp=N,7.2nm,0.7s,baz=318,slow=4.0,SNR=7.6
BDFB Brasilia 154.99 21 PKP2 **PKPab** 17 51 49.1 +0.7
BDFB Brasilia 154.99 21 PKPbc **PKPbc** 17 51 30.8 -1.9
BDFB PKPab **PKPab** 17 51 49.1 +0.7
CFA Coronel Fontan 155.00 81 PKPab **PKPab** 17 51 48.8 +0.6
comp=N,9.4nm,0.9s,baz=310,slow=5.5,SNR=8.6
JANB Januaria 155.25 12 *e*P **PKPdf** 17 51 25.4 +1.2
JANB Januaria 155.25 12 *e*P **PKPdf** 17 51 25.4 +1.2
PLCA Paso Flores 155.86 103 PKPab **PKPab** 17 51 52.6 +0.8
comp=N,12nm,1.2s,baz=316,slow=4.9,SNR=5.5
PLCA Paso Flores 155.86 103 PKPdf **PKPdf** 17 51 23.9 -0.5
PLCA PKPab **PKPab** 17 51 53.1 +1.3

MAN 14 18:02:46.5, 10.10N×122.11E, h26km, mb4.0, ML2.8, MS2.4, Panay

*IDC **14** 18:33:00.6±1.8, 34.49N×24.88E, h0km, mb3.3/2, mb1 3.4/4, mb1mx3.1/45, mbtmp3.3/4, ML3.6/2, Error ellipse: s-maj=42.0km s-min=13.3km az=96.0*
*ATH **14** 18:33:04.6, 34.73N×24.63E, h27km±1km, ML2.7/7, Error ellipse: s-maj=3.8km s-min=1.3km az=358.0*
*THE **14** 18:33:05.3, 34.70N×24.61E, h18km, ML2.7/5, Error ellipse: s-maj=1.0km s-min=0.5km az=353.0*
ISC 14 18:33:05.1±1.2, 34.70N±0.06×24.62E±0.03, h28km±8km, n33, σ0.78/41, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**0.35**	**27**	P	**Pb**	**18 33 12.7**	**-0.5**
SIVA				S	**Sb**	**18 33 18.4**	**-0.2**
	6μm,0.5s						
SIVA	**Sivas**	**0.35**	**27**	P	**Pb**	**18 33 12.6**	**-0.5**
SIVA				S	**Sb**	**18 33 18.2**	**-0.4**
SIVA				AML	AML	18 33 20.8	
	comp=N,7913μm,0.4s						
SIVA				AML	AML	18 33 25.2	
	comp=E,8577μm,0.4s						
TMBK	**Timbaki Herakl**	**0.39**	**19**	P	**Pb**	**18 33 13.6**	**-0.1**
TMBK				S	**Sb**	**18 33 19.8**	**+0.3**
	comp=E,660nm,0.3s						
GVD	**Gavdhos**	**0.46**	**287**	P	**Pb**	**18 33 14.1**	**-0.7**
GVD				S	**Sb**	**18 33 21.7**	**+0.4**
	comp=E,2μm,0.3s						
GVD	**Gavdhos**	**0.46**	**287**	P	**Pb**	**18 33 14.0**	**-0.7**
GVD				S	**Sb**	**18 33 22.0**	**+0.7**
GVD				AML	AML	18 33 29.6	
	comp=E,3968μm,0.3s						
GVD				AML	AML	18 33 30.7	
	comp=N,3241μm,0.4s						
IDI	**Anoyia**	**0.62**	**21**	Pg	**Pb**	**18 33 16.8**	**-0.8**
	comp=N,30nm,0.3s,baz=202,slow=17,SNR=249						
IDI				Lg	Lg	18 33 26.7	
	comp=N,48nm,0.3s,baz=298,slow=18,SNR=14						
PRNS	**Prines Rethymn**	**0.67**	**352**	P	**Pb**	**18 33 17.6**	**-0.6**
PRNS				S	**Sb**	**18 33 27.7**	**+0.6**
VAM	**Vamos**	**0.78**	**334**	P	**Pb**	**18 33 19.5**	**-0.6**
VAM				S	**Sn**	**18 33 31.3**	**+0.3**
	comp=N,810nm,0.4s						
VAM	**Vamos**	**0.78**	**334**	P	**Pb**	**18 33 19.7**	**-0.5**
VAM				AML	AML	18 33 35.8	
	comp=E,919μm,0.4s						
VAM				AML	AML	18 33 44.3	
	comp=N,909μm,0.3s						
LAST	**Lasithi**	**0.84**	**57**	P	**Pb**	**18 33 20.6**	**-0.6**
LAST				S	**Sn**	**18 33 32.8**	**+0.1**
	comp=N,120nm,0.8s						
LAST	**Lasithi**	**0.84**	**57**	P	**Pb**	**18 33 20.6**	**-0.6**
LAST				AML	AML	18 33 39.9	
	comp=E,475μm,0.7s						
LAST				AML	AML	18 33 40.2	
	comp=N,367μm,0.7s						
IMMV	**Iera Moni Meta**	**0.92**	**326**	P	**Pb**	**18 33 21.7**	**-0.7**
IMMV	**Iera Moni Meta**	**0.92**	**326**	P	**Pb**	**18 33 21.7**	**-0.7**
IMMV				AML	AML	18 33 44.2	
	comp=E,993μm,0.6s						
IMMV				AML	AML	18 33 46.1	
	comp=N,788μm,0.5s						
NPS	**Neapolis**	**0.99**	**55**	P	**Pb**	**18 33 23.1**	**-0.6**
NPS	**Neapolis**	**0.99**	**55**	P	**Pb**	**18 33 23.1**	**-0.6**
NPS				AML	AML	18 33 43.9	
	comp=E,542μm,0.5s						
NPS				AML	AML	18 33 48.1	
	comp=N,376μm,0.5s						
ZKR	**Zakros**	**1.38**	**72**	P	**Pn**	**18 33 28.9**	**+0.4**
ZKR	**Zakros**	**1.38**	**72**	P	**Pb**	**18 33 30.0**	**-0.2**
ANKY	**Antikythira Is**	**1.58**	**318**	P	**Pb**	**18 33 33.5**	**-0.2**
ANAF	**Anafi Island**	**1.90**	**29**	P	**Pn**	**18 33 36.3**	**+0.6**
ANAF	**Anafi Island**	**1.90**	**29**	P	**Pn**	**18 33 36.7**	**+1.0**
ANAF				AML	AML	18 34 12.7	
	comp=E,255μm,0.4s						
ANAF				AML	AML	18 34 19.4	
	comp=N,323μm,0.4s						
MHLO	**Agia Marina, M**	**1.99**	**355**	P	**Pn**	**18 33 38.0**	**+1.1**
KTHA	**Kythira Island**	**2.00**	**321**	P	**Pb**	**18 33 39.2**	**-1.7**
IOSP	**Ios island**	**2.09**	**15**	P	**Pn**	**18 33 38.2**	**-0.1**
IOSP	**Ios island**	**2.09**	**15**	P	**Pn**	**18 33 39.2**	**+1.0**
KARP	**Karpathos**	**2.25**	**67**	P	**Pn**	**18 33 42.3**	**+1.8**
AMGA	**Amorgos Island**	**2.36**	**26**	P	**Pn**	**18 33 42.6**	**+0.6**
VLI	**Veliai**	**2.43**	**326**	P	**Pn**	**18 33 44.5**	**+1.5**
APE	**Apeiranthos**	**2.47**	**17**	P	**Pn**	**18 33 44.0**	**+0.4**
APE	**Apeiranthos**	**2.47**	**17**	P	**Pn**	**18 33 44.3**	**+0.7**
GERES	**GERESS Array B**	**16.28**	**334**	Pn	**P**	**18 36 54.4**	**-0.2**
	comp=N,0.1nm,0.3s,baz=143,slow=13,SNR=5.0						
AKASG	**Malin Array Be**	**16.34**	**10**	Pn	**Pn**	**18 36 53.3**	**+0.9**
	comp=N,0.9nm,0.3s,baz=200,slow=10,SNR=6.6						
TORD	**Torodi Ar. Bea**	**29.85**	**230**	P	**P**	**18 39 09.9**	**-0.2**
	comp=N,0.9nm,1.1s,baz=38,slow=9.4,SNR=2.5						
KURBB	**Kurchatov Arra**	**41.76**	**51**	P	**P**	**18 40 50.5**	**-1.2**
	comp=N,0.1nm,0.4s,baz=272,slow=8.5,SNR=1.9						

*THR **14** 18:40:49.4±0.3, 27.81N×56.73E, h18km±3km, ML3.2*
TEH 14 18:40:49.5, 28.01N×57.02E, h15km, ML3.2, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.61**	**95**	*e*Pg	Pb	18 41 02.2	+0.3
GENO	**Geno**	**0.96**	**231**	*e*		18 41 25.5	
GENO				*e*Pg	Pg	18 41 08.2	+0.1
BNDS	**Bandar-Abbas**	**0.96**	**231**	*e*Pg	Pb	18 41 01.9	-6.0
NGRK	**Negar Kerman**	**1.65**	**351**	*e*Pg	Pg	18 41 22.1	+0.8
NGRK				*e*		18 41 50.1	
CHMN	**Cheshme madani**	**1.91**	**14**	*e*Pn	Pn	18 41 22.3	+0.5
CHMN				*e*		18 42 00.4	
KRBR	**Kerman**	**1.98**	**354**	*e*Pn	Pg	18 41 26.9	-0.7
KRBR				*e*Sg	Sg	18 41 57.8	+4.4
KRBR				IAML		18 41 58.8	
	comp=E,254nm,0.2s						
KRBR				IAML		18 41 59.0	
	comp=N,142nm,0.2s						
KRBR	**Kerman**	**1.98**	**354**	*e*Pn	Pg	18 41 27.0	-0.6
TVBK	**TV Kerman**	**1.99**	**354**	*e*Pg	Pg	18 41 28.0	+0.3
KHGB	**Koh Gabri**	**2.41**	**349**	*e*	Sg	18 42 16.5	+9.5
ZHSF	**Zahedan**	**3.67**	**63**	*e*Pn	Pb	18 41 51.9	-2.2
BSRN	**Basiran**	**4.35**	**24**	*e*Pn	Pb	18 42 00.8	-4.9
BSRN				*e*Sg	Sg	18 43 13.2	+4.0
BSRN				IAML		18 43 18.4	
	comp=N,11nm,0.7s						
BSRN	**Basiran**	**4.35**	**24**	*e*Pn	Pb	18 42 00.8	-4.9
KLNJ	**Kolanjah**	**5.59**	**304**	*e*Pn	Pn	18 42 14.7	+2.2

*INET **14** 18:55:05.3, 11.54N×87.10W, h71km, ML3.3*
UCR 14 18:55:05.6±1.3, 11.36N×87.14W, h35km±648km, MD4.2, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NY14	**Universidad de**	**1.73**	**114**	*i* P		18 55 33.3	+0.1
GBS3	**Finca Las Img**	**1.75**	**109**	*i* P		18 55 33.2	-0.3
LAPC	**Finca la Perla**	**1.78**	**109**	*i* P		18 55 33.8	-0.1
GB1A	**Borinquen Arri**	**1.79**	**107**	*i* P		18 55 34.3	+0.1
GB1A				*i* S		18 55 55.1	-0.7
GPS1	**Guardaparques**	**1.85**	**108**	*e*P		18 55 35.4	+0.4
GUAI	**GUAI**	**1.93**	**124**	*e*P		18 55 35.6	-0.4
LIM1	**Limonal**	**1.97**	**109**	*e*P		18 55 36.6	0.0
COLC	**Colonia**	**2.02**	**110**	*i* P		18 55 37.4	+0.1
PLVR	**Palo Verde**	**2.02**	**119**	*e*P		18 55 37.2	-0.2
CUI	**Cuipilapa**	**2.06**	**109**	*i* P		18 55 38.3	+0.5
CUI				*e*S		18 56 04.2	+1.8
ACAL	**Aguas Claras**	**2.19**	**109**	*i* P		18 55 39.1	-0.5
ACAL				*e*S		18 56 09.4	-2.1
PTEN	**Parque Tenorio**	**2.21**	**107**	*i* P		18 55 39.8	-0.1
JTS	**Las Juntas de**	**2.40**	**116**	*e*P		18 55 42.6	+0.1
ARE1	**Arenal 1**	**2.54**	**110**	*e*P		18 55 44.6	+0.2
CEDE	**Laguna Cedeo**	**2.55**	**110**	*e*P		18 55 44.8	+0.2
LCR2	**La Lucha 2**	**3.48**	**117**	*e*P		18 55 59.2	+1.7
DRK0	**Durika**	**4.36**	**118**	*e*P		18 56 11.3	+1.7

IDC 14 19:00:35.0±1.8, 4.52N×122.50E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.3/35, mbtmp3.6/3, Error ellipse: s-maj=220.9km s-min=25.6km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.96**	**155**	P	P	19 06 18.2	-0.3
	0.6nm,0.3s,baz=332,slow=10,SNR=10						
ASAR	**Alice Springs**	**30.15**	**159**	P	P	19 06 47.2	+0.3
	0.3nm,0.3s,baz=338,slow=7.1,SNR=8.0						
MKAR	**Makanchi Array**	**54.55**	**327**	P	P	19 10 04.8	-0.1
	0.2nm,0.3s,baz=124,slow=7.7,SNR=6.9						

IDC 14 19:51:26.0±2.8, 5.28S×131.85E, h0km, mb4.1/2, mb1 4.1/4, mb1mx3.6/24, mbtmp4.0/4, ML4.0/2, Error ellipse: s-maj=236.1km s-min=24.3km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.78**	**171**	Pn	Pn	19 54 55.2	-1.2
	0.5nm,0.3s,baz=344,slow=13,SNR=25						
WRA					Sn	19 57 26.9	-14
	1.3nm,0.3s,baz=80,slow=23,SNR=9.3						
ASAR	**Alice Springs**	**18.39**	**174**	P	P	19 55 43.0	+0.3
	0.9nm,0.3s,baz=350,slow=10,SNR=82						
ASAR				S	Sn	19 58 52.1	-17
	0.4nm,0.3s,baz=347,slow=24,SNR=6.5						
STKA	**Stephens Creek**	**27.99**	**162**	P	P	19 57 18.6	-0.1
	1.8nm,0.3s,baz=322,slow=11,SNR=4.6						
MKAR	**Makanchi Array**	**67.83**	**326**	P	P	20 02 26.1	0.0
	1.1nm,0.4s,baz=132,slow=7.5,SNR=22						

*IDC **14** 20:07:43.1±1.0, 18.14S×174.57W, h0km, mb4.5/8, mb1 4.6/8, mb1mx4.2/25, mbtmp4.5/8, Error ellipse: s-maj=40.1km s-min=20.8km az=124.0*
*NEIC **14** 20:07:56.2±1.0, 18.3S±0.1×174.68W±0.09, h105km±9km, mb4.7/26, Error ellipse: s-maj=14.8km s-min=12.8km az=197.0*
ISC 14 20:07:58.5±0.5, 18.19S±0.09×174.52W±0.07, h132km, n66, σ1.16/61, mb4.7/21, 3C, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.45**	**102**		**Pn**	**20 09 04.1**	**-0.2**
NIUE					**Sn**	**20 09 52.7**	**-2.6**
AFI	**Afiamalu**	**5.01**	**32**		**Pn**	**20 09 10.8**	**-1.1**
DZM	**Mont Dzumac**	**18.28**	**255**	Pn	**P**	**20 12 01.9**	**-0.4**
WMGZ	**Waiomatatini S**	**20.51**	**196**	P	Pn	20 12 29.4	-0.3
HAZ	**Te Kaha**	**20.62**	**198**	P	**P**	**20 12 28.6**	**+1.2**
PKGZ	**Pakihiroa**	**20.67**	**197**	P	**P**	**20 12 28.5**	**+0.6**
PUZ	**Puketiti**	**20.79**	**196**	P	Pn	20 12 31.3	-1.8
RUGZ	**Raukumara Rang**	**20.85**	**198**	P	**P**	**20 12 31.3**	**+1.3**
OPRZ	**Ohinepanea**	**21.08**	**200**	P	**P**	**20 12 34.6**	**+2.3**
MWZ	**Matawai**	**21.24**	**197**	P	**P**	**20 12 33.7**	**-0.3**
KMRZ	**Kaimai**	**21.29**	**201**	P	**P**	**20 12 37.0**	**+2.4**
URZ	**Urewera**	**21.29**	**198**	P	**P**	**20 12 33.9**	**-0.7**
OMRZ	**Omania**	**21.38**	**200**	P	**P**	**20 12 38.0**	**+2.4**
RAGZ	**Rawiri**	**21.42**	**198**	P	**P**	**20 12 36.4**	**+0.3**
HLRZ	**Highlands Stat**	**21.52**	**200**	P	**P**	**20 12 39.0**	**+1.9**
MUGZ	**Murupara**	**21.59**	**199**	P	**P**	**20 12 38.1**	**+0.3**
SNGZ	**Shannon Statio**	**21.71**	**197**	P	**P**	**20 12 40.2**	**+1.1**
MRHZ	**Matea Rd**	**22.03**	**199**	P	**P**	**20 12 42.4**	**-0.1**
BKZ	**Black Stump Fm**	**22.31**	**199**	P	**P**	**20 12 43.6**	**-1.7**
BFZ	**Birch Farm**	**23.78**	**198**	P	**P**	**20 12 58.2**	**-0.8**
LTZ	**Lake Taylor**	**26.95**	**202**	P	**P**	**20 13 29.6**	**+1.9**
LTZ				IAmb	IAmb	20 13 31.5	
	comp=Z,38nm,1.4s						
RPZ	**Rata Peaks**	**28.20**	**202**	P	**P**	**20 13 39.3**	**+0.5**
	comp=Z,5.5nm,0.4s,baz=326,slow=2.6,SNR=11						
RPZ	**Rata Peaks**	**28.20**	**202**	P	**P**	**20 13 38.8**	**+0.1**
RPZ				IAmb	IAmb	20 13 47.0	
	comp=Z,26nm,1.2s						
EIDS	**Eidsvold**	**32.66**	**251**	P	**P**	**20 14 17.2**	**-1.0**
EIDS				IAmb	IAmb	20 14 23.3	
	comp=Z,12nm,1.1s						
ARMA	**Armidale**	**33.03**	**242**	P	**P**	**20 14 20.8**	**-0.8**
ARMA				IAmb	IAmb	20 14 21.7	
	comp=Z,17nm,1.4s						
CTAO	**Charters Tower**	**37.05**	**261**	P	**P**	**20 14 55.2**	**-0.8**
CTAO				IAmb	IAmb	20 14 57.4	
	comp=Z,8.7nm,0.6s				

comp=Z,1.9nm,0.9s,baz=120,slow=9.1,SNR=7.4
PETK Petropavlovsk- 74.96 343 P P 20 19 26.0 +1.1
NVAR Mina Array Bea 77.11 42 P P 20 19 38.4 +0.6
comp=Z,0.3nm,0.6s,baz=220,slow=8.3,SNR=1.9
H03S2 Juan Fernandez 84.56 124 T T 21 53 06.4
baz=249,slow=75,SNR=88
H03S1 Juan Fernandez 84.57 124 T T 21 53 07.5
baz=249,slow=75,SNR=106
H03S3 Juan Fernandez 84.58 124 T T 21 53 06.2
baz=249,slow=75,SNR=91
MAW Mawson 84.82 199 P P 20 20 18.2 +0.4
comp=Z,3.4nm,0.6s,baz=144,slow=8.9,SNR=18
MAW Mawson 84.82 199 P P 20 20 18.0 +0.2
ILAR Eielson Array 85.38 12 P P 20 20 21.8 +1.2
comp=Z,1.0nm,0.6s,baz=227,slow=6.3,SNR=6.8
SYO Syowa Base 89.66 192 eP P 20 20 40.0 -1.1
SYO Syowa Base 89.66 192 eP cP P cP 20 20 44.0 +1.6
SYO Syowa Base 89.66 192 eP pP pP 20 21 10.0 -4.5
VNA3 Neumayer Olymp 90.19 175 P P 20 20 43.7 +0.1
SNAA Sanae 90.19 177 P P 20 20 42.9 -0.8
SNAA Sanae 90.19 177 P P 20 20 43.3 -0.3
VNA2 Neumayer--Watz 90.67 176 P P 20 20 46.6 +0.7
baz=194,slow=3.3
VNA1 Neumayer--Stat 90.87 175 P P 20 20 47.3 +0.6
CLL Collm 146.42 351 *i* PKPbc PKPab 20 27 25.5 +0.5
BRTR Keskin Array B 147.55 317 PKPbc PKPbc 20 27 27.6 -0.1
comp=Z,0.6nm,0.8s,baz=129,slow=2.1,SNR=3.9
GERES GERESS Array B 148.70 350 PKPbc PKiKP 20 27 32.9 +1.2
comp=Z,0.3nm,0.5s,baz=15,slow=4.1,SNR=2.7

IDC 14 20:10:27.0±1.5, 27°29N×143°73E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.4/28, mbtmp3.6/4, Error ellipse: s-maj=60.7km s-min=34.3km az=91.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	Makanchi Array	51.41	309	P	P	20 19 35.4	+1.7
	0.1nm,0.5s,baz=81,slow=8.9,SNR=1.9						
ASAR	Alice Springs	51.54	192	P	P	20 19 34.7	-0.1
	0.3nm,0.6s,baz=25,slow=8.6,SNR=4.1						
YKA	Yellowknife Ar	71.32	29	P	P	20 21 49.1	+1.0
	0.4nm,0.6s,baz=306,slow=5.3,SNR=2.2						
FINES	FINESS Array B	78.38	334	P	P	20 22 27.2	-1.9
	0.9nm,0.5s,baz=64,slow=6.3,SNR=5.3						

IDC 14 20:30:30.2±1.5, 9°32N×92°44E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/33, mbtmp3.4/5, Error ellipse: s-maj=58.5km s-min=25.5km az=55.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	11.06	34	Pn	Pn	20 33 10.5	+0.7
	baz=220,slow=15,SNR=1.8						
CMAR				Lg	Lg	20 36 32.8	
	0.3nm,0.3s,baz=222,slow=28,SNR=2.3						
MKAR	Makanchi Array	38.33	349	P	P	20 37 52.1	-0.7
	0.1nm,0.4s,baz=170,slow=8.2,SNR=2.2						
WRA	Warramunga Arr	50.47	125	P	P	20 39 30.0	-0.3
	0.6nm,0.6s,baz=308,slow=8.3,SNR=16						
ASAR	Alice Springs	52.13	130	P	P	20 39 42.8	+0.1
	0.1nm,0.3s,baz=305,slow=8.1,SNR=2.1						
GERES	GERESS Array B	75.63	318	P	P	20 42 17.7	+0.4
	0.4nm,0.8s,baz=97,slow=5.6,SNR=3.5						

VAO 14 20:30:43.6±1.0, 24°33S×67°45W, h261km±9km, mb4.5
NEIC 14 20:30:44.2±2.1, 24°07S±0°06×66°89W±0°10, h207km±6km, Error ellipse: s-maj=12.7km s-min=8.8km az=94.0
SJA 14 20:30:44.1±1.4, 24°07S×66°92W, h208km±19km, ML4.3, MW4.1
IDC 14 20:30:44.3±1.0, 24°05S×66°80W, h193km±10km, mb3.4/3, mb1 3.7/10, mb1mx3.5/28, mbtmp4.1/10, Error ellipse: s-maj=16.2km s-min=14.0km az=42.0

ISC 14 20:30:44.3±0.6, 24°11S±0°04×66°95W±0°05, h206km±7km, n94, σ1°32/111, mb4.1/9, 1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YJA	Yavi	2.33	35	*i* P	Pn	20 31 27.3	+0.1
YJA				*i* S	S	20 31 59.9	-0.2
LVC	Limon Verde	2.34	309	P	Pn	20 31 28.2	+1.0
	80nm,0.3s,baz=135,slow=7.0,SNR=454						
LVC				S	S	20 32 00.5	+0.5
	210nm,0.3s,baz=144,slow=23,SNR=68						
LVC	Limon Verde	2.34	309	*i* P	Pn	20 31 28.2	+1.0
LVC				*i* S	S	20 32 00.6	+0.5
LVC				IAML		20 32 02.1	
	comp=Z,446nm,0.3s						
LVC	Limon Verde	2.34	309	*e*P	Pn	20 31 28.4	+1.1
LVC	Limon Verde	2.34	309	*e*P	Pn	20 31 28.4	+1.1
PB15	IPOC Station P	2.48	291		Pn	20 31 29.7	+1.2
PB15					S	20 32 02.8	+0.3
PB15	IPOC Station P	2.48	291	*i* P	Pn	20 31 29.9	+1.3
PB15				⇓*i* S	S	20 32 02.7	+0.3
GO02	Mina Guanaco	2.62	246		Pn	20 31 31.6	+1.4
GO02					S	20 32 07.1	+1.6
PB06	IPOC Station P	2.78	300		Pn	20 31 32.9	+1.0
PB06					S	20 32 08.2	-0.3
PB06	IPOC Station P	2.78	300	*i* P	Pn	20 31 33.0	+1.0
PB06				*i* S	S	20 32 07.8	-0.7
PB06				IAML		20 32 12.6	
	comp=Z,1μm,0.3s						
PB09	IPOC Station P	3.12	317		Pn	20 31 36.8	+0.9
PB09					S	20 32 16.1	+0.4
PB09	IPOC Station P	3.12	317	*i* P	Pn	20 31 37.0	+1.1
PB09				*i* S	S	20 32 15.7	0.0
PB09				IAML		20 32 20.0	
	comp=Z,717nm,0.5s						
PB05	IPOC Station P	3.23	292	*i* P	Pn	20 31 38.0	+0.8
PB05				*i* S	S	20 32 16.3	-1.6
PB05				IAML		20 32 24.4	
	comp=Z,563nm,0.4s						
PB03	IPOC Station P	3.29	308	*i* P	Pn	20 31 38.4	+0.5
PB03				*i* S	S	20 32 17.8	-1.6
PB10	IPOC Station P	3.35	279		Pn	20 31 39.4	+1.0
PB10	IPOC Station P	3.35	279	*i* P	Pn	20 31 39.5	+1.1
PB10				*i* S	S	20 32 19.8	-0.5
PB10				IAML		20 32 22.2	
	comp=Z,566nm,0.6s						
AC02	Maricunga	3.36	215		Pn	20 31 40.5	+1.6
PB04	IPOC Station P	3.43	300		Pn	20 31 40.0	+0.5
PB04	IPOC Station P	3.43	300	*i* P	Pn	20 31 40.2	+0.6
PB04				IAML		20 32 23.3	
	comp=Z,1μm,0.6s						
PB07	IPOC Station P	3.59	311		Pn	20 31 41.7	+0.1
PB07	IPOC Station P	3.59	311	*i* P	Pn	20 31 41.9	+0.3
PB07				*i* S	S	20 32 23.8	-2.1
PB07				IAML		20 32 30.4	
	comp=Z,1μm,0.4s						
PB01	IPOC Station P	3.84	322		Pn	20 31 44.4	-0.2
AC01	Pan de Azucar	3.88	238		Pn	20 31 44.7	-0.1
AC01					S	20 32 30.4	-1.6
PB08	IPOC Station P	4.44	332		Pn	20 31 53.0	+0.7
GO03	Copiap	4.56	220		Pn	20 31 53.1	-0.3
TA01	Diego Aracena	4.62	319		Pn	20 31 54.1	0.0
GO01	Chusmiza	4.88	334		Pn	20 31 57.7	-0.2
PB11	IPOC Station P	5.00	329	Pn	Pn	20 31 57.9	-1.2
AC04	Llanos de Chal	5.51	221	Pn	Pn	20 32 05.2	-0.1
MNMC	Minye Minye	5.53	333		Pn	20 32 05.1	-0.8
AC05	El Transito	5.57	212		Pn	20 32 06.2	0.0
AROD	Rodeo	6.44	200	*i* P	Pn	20 32 19.6	+1.9
ACCO	Cerro Coronel	6.72	196	*i* P	Pn	20 32 22.7	+1.5
ACCO				IAML		20 33 42.1	
	comp=Z,14nm,2.3s						
AMOG	MOGNA	6.94	191	*i* P	Pn	20 32 24.0	+0.1
AMOG				*i* S	S	20 33 37.6	-5.3
AMOG				IAML		20 33 44.6	
	comp=Z,10.0nm,0.6s						
CFA	Coronel Fontan	7.56	188	P	Pn	20 32 32.1	+0.3
	comp=Z,1.1nm,0.3s,baz=35,slow=17,SNR=15						
CFA				S	S	20 33 51.5	-5.9
	comp=Z,3.2nm,0.3s,baz=265,slow=21,SNR=12						
CFA	Coronel Fontan	7.56	188	*i* P	Pn	20 32 32.3	+0.5
CFA				*i* S	S	20 33 53.0	-4.4
CFA				IAML		20 34 48.7	
	comp=Z,8.1nm,3.8s						
LPAZ	La Paz	7.86	352	P	Pn	20 32 36.5	+0.1
	comp=Z,0.9nm,0.3s,baz=155,slow=12,SNR=16						
LPAZ				S	S	20 34 02.8	-2.7
	comp=Z,0.7nm,0.3s,baz=346,slow=12,SNR=6.0						
CPUP	Villa Florida	8.99	106	P	Pn	20 32 49.1	-1.3
	comp=Z,0.2nm,0.3s,baz=290,slow=10,SNR=7.7						
CPUP	Villa Florida	8.99	106	Pn	Pn	20 32 49.2	-1.2
CPUP	Villa Florida	8.99	106	*e*P	Pn	20 32 55.1	+4.7
CPUP	Villa Florida	8.99	106	*e*P	Pn	20 32 55.1	+4.7
VA03	San Esteban	9.19	199	Pn	Pn	20 32 55.0	+2.0
SIV	San Ignacio	9.78	35	P	Pn	20 32 58.6	-2.2
	comp=Z,0.8nm,0.3s,baz=221,slow=14,SNR=13						
SIV				S	S	20 34 35.7	-15
	baz=233,slow=20,SNR=1.3						
MT02	Curacav	9.83	201	Pn	Pn	20 33 00.9	-0.3
PTLB	Pontes e Lacer	11.32	42	*e*P	P	20 33 24.9	-1.1
PTLB	Pontes e Lacer	11.32	42	*e*P	P	20 33 24.9	-1.1
GO05	Huala	11.70	201		Pn	20 33 25.2	+0.1
BI02	San Fabin de	13.06	196	Pn	Pn	20 33 41.9	-0.5
TRCB	Terra Rica	13.21	87	*e*P	P	20 33 47.7	+0.7
TRCB	Terra Rica	13.21	87	*e*P	P	20 33 47.7	+0.7
SALV	Santo Antonio	13.36	54	*e*P	P	20 33 49.4	+0.7
SALV	Santo Antonio	13.36	54	*e*P	P	20 33 49.4	+0.7
C2SB	Chapadao do Su	14.17	71	*e*P	P	20 33 58.1	+0.4
C2SB	Chapadao do Su	14.17	71	*e*P	P	20 33 58.1	+0.4
PCMB	Pacaembu	14.68	83	*e*P	P	20 34 04.8	+1.4
PCMB	Pacaembu	14.68	83	*e*P	P	20 34 04.8	+1.4
SAML	Samuel	15.50	14	P	Pn	20 34 11.5	-0.9
ITRB	Ituirama	16.01	77	*e*P	Pn	20 34 19.7	+1.1
ITRB	Ituirama	16.01	77	*e*P	Pn	20 34 19.7	+1.1
ARAG	Araguaiana, MT	16.50	62	*e*P	Pn	20 34 24.9	+0.5
ARAG	Araguaiana, MT	16.50	62	*e*P	Pn	20 34 24.9	+0.5
PLCA	Paso Flores	16.85	189	P	Pn	20 34 28.9	+0.3
	comp=Z,0.1nm,0.3s,baz=16,slow=11,SNR=4.5						
PLCA	Paso Flores	16.85	189		Pn	20 34 29.3	+0.8
VAO	Valinhos	18.36	91	*e*P	P	20 34 43.5	-0.3
VAO	Valinhos	18.36	91	*e*P	P	20 34 43.5	-0.3
IPMB	Ipameri, GO	18.51	74	*e*P	P	20 34 45.4	-0.1
IPMB	Ipameri, GO	18.51	74	*e*P	P	20 34 45.4	-0.1
BDFB	Brasilia	19.68	68	P	P	20 34 58.0	-0.1
	comp=Z,1.2nm,0.3s,baz=244,slow=11,SNR=26						
BDFB	Brasilia	19.68	68		P	20 34 57.3	-0.8
ITTB	Itaituba	22.41	31	*e*P	P	20 35 25.1	-0.8
ITTB	Itaituba	22.41	31	*e*P	P	20 35 25.1	-0.8
JANB	Januaria	23.12	71	*e*P	P	20 35 31.5	-0.9
JANB	Januaria	23.12	71	*e*P	P	20 35 31.5	-0.9
SMTB	Santa Maria do	23.92	54	*e*P	P	20 35 39.4	-0.2
SMTB	Santa Maria do	23.92	54	*e*P	P	20 35 39.4	-0.2
PTGA	Pitinga	24.20	17	P	P	20 35 41.0	-1.2
PTGA				IAmb	IAmb	20 35 51.7	
	comp=Z,7.0nm,1.4s						
RCBR	Riachuelo	34.93	64	P	P	20 37 16.1	-0.7
SNAA	Sanae	59.24	161	P	P	20 40 25.1	+1.5
SNAA				IAmb	IAmb	20 40 28.0	
	comp=Z,4.3nm,1.2s						
WVT	Waverly	63.08	341	P	P	20 40 50.1	+0.4
WVT				IAmb	IAmb	20 40 51.0	
	comp=Z,3.3nm,0.7s						
TXAR	Lajitas Array	63.79	324	P	P	20 40 57.0	+2.3
	comp=Z,0.4nm,0.7s,baz=162,slow=7.9,SNR=6.0						
TXAR	Lajitas Array	63.79	324	P	P	20 40 55.8	+1.1
CCM	Cathedral Cave	65.91	339	P	P	20 41 08.1	0.0
CCM				IAmb	IAmb	20 41 09.8	
	comp=Z,4.1nm,0.7s						
QSPA	South Pole Qui	66.10	180	P	P	20 41 11.8	+2.7
QSPA				IAmb	IAmb	20 41 12.6	
	comp=Z,3.8nm,0.7s						
TOA0	Torodi Ar. Sit	76.56	69	P	P	20 42 12.0	-0.4
TOA0				IAmb	IAmb	20 42 17.0	
	comp=Z,6.4nm,1.5s						
TORD	Torodi Ar. Bea	76.56	69	P	P	20 42 12.9	+0.5
	comp=Z,1.0nm,0.7s,baz=239,slow=4.8,SNR=15						
TORD	Torodi Ar. Bea	76.56	69	P	P	20 42 12.3	-0.1
YKA	Yellowknife Ar	94.24	340	P	P	20 43 40.1	+0.7
	comp=Z,0.3nm,0.5s,baz=138,slow=4.6,SNR=4.6						
ASAR	Alice Springs	128.38	205	PKP	PKiKP	20 49 28.4	+0.6
	comp=Z,0.9nm,0.8s,baz=136,slow=2.6,SNR=9.0						
ASAR	Alice Springs	128.38	205		PKPdf	20 49 26.3	-0.8
WRA	Warramunga Arr	131.55	207	PKP	PKiKP	20 49 34.6	+0.4
	comp=Z,0.7nm,0.6s,baz=147,slow=1.5,SNR=6.8						
ZALV	Zalesovo Beam	143.47	28	PKP	PKPdf	20 49 53.5	-0.4
	comp=Z,1.0nm,0.6s,baz=315,slow=4.3,SNR=5.5						
ZALV	Zalesovo Beam	143.47	28		PKPdf	20 49 53.4	-0.5
MKAR	Makanchi Array	146.58	40	PKPbc	PKPab	20 50 01.9	-1.1
	comp=Z,1.7nm,0.6s,baz=314,slow=2.5,SNR=21						
MKAR	Makanchi Array	146.58	40		PKPbc	20 50 00.4	-1.0

IDC 14 20:44:55.8±3.8, 17°63S×178°68W, h548km±43km, mb3.3/12, mb1 3.6/13, mb1mx3.4/24, mbtmp4.3/13, Error ellipse: s-maj=23.8km s-min=18.5km az=128.0
NEIC 14 20:44:56.9±1.1, 17°75S±0°1×178°7W±0°1, h565km±7km, mb4.5/43, Error ellipse: s-maj=18.7km s-min=15.4km az=138.0

ISC 14 20:44:55.7±0.5, 17°62S±0°09×178°71W±0°08, h547km, n113, σ0°79/106, mb4.5/32, 13C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	Nonsavu	3.09	267	P	P	20 46 16.5	+5.3
AFI	Afiamalu	7.62	62	P	P	20 46 49.8	0.0
NIUE	Niue	8.47	101	P	P	20 46 59.5	+1.4
DZM	Mont Dzumac	14.65	250	P	P	20 48 02.2	+0.4
	2.8nm,0.3s,baz=332,slow=20,SNR=25						
DZM	Mont Dzumac	14.65	250	P	P	20 48 02.3	+0.5
OUZ	Omahuta	18.82	200	P	P	20 48 43.5	+2.4
OUZ				IAmb	IAmb	20 48 55.1	
	comp=Z,12nm,1.1s						
RPZ	Rata Peaks	27.42	196	P	P	20 49 57.3	-0.4
	comp=Z,5.0nm,0.7s,baz=42,slow=6.2,SNR=2.1						
RPZ	Rata Peaks	27.42	196	P	P	20 49 57.1	-0.7
RPZ				IAmb	IAmb	20 50 12.8	
	comp=Z,14nm,1.1s						
EIDS	Eidsvold	29.10	249	P	P	20 50 12.7	0.0
EIDS				IAmb	IAmb	20 50 13.5	
	comp=Z,16nm,0.9s						
MLZ	Mavora Lakes	29.78	199	P	P	20 50 18.2	-0.1
MLZ				IAmb	IAmb	20 50 34.6	
	comp=Z,12nm,0.9s						
ARMA	Armidale	29.84	239	P	P	20 50 20.0	+0.8
ARMA				IAmb	IAmb	20 50 21.0	
	comp=Z,20nm,0.8s						
WHZ	Wether Hill Ro	30.30	199	P	P	20 50 22.7	0.0
CTAO	Charters Tower	33.21	260	P	P	20 50 48.0	0.0
CTAO				IAmb	IAmb	20 50 48.5	
	comp=Z,11nm,0.7s						
CAN	Canberra	33.66	232	P	P	20 50 51.9	+0.3
CAN				IAmb	IAmb	20 50 59.5	
	comp=Z,5.3nm,0.8s						
PMG	Port Moresby	34.13	279	P	P	20 50 57.0	+1.4
COEN	Coen	36.82	270	P	P	20 51 18.9	+0.9
COEN				IAmb	IAmb	20 51 19.8	
	comp=Z,16nm,0.8s						
TOO	Toolangi	37.13	230	P	P	20 51 20.8	+0.4
TAU	Tasmania Unive	38.27	222	P	P	20 51 29.2	-0.2
TAU				IAmb	IAmb	20 51 44.4	
	comp=Z,14nm,1.1s						
STKA	Stephens Creek	38.52	241	P	P	20 51 32.5	+0.8
	comp=Z,13nm,0.5s,baz=89,slow=10,SNR=75						
STKA	Stephens Creek	38.52	241	P	P	20 51 32.4	+0.7
STKA				IAmb	IAmb	20 51 33.3	
	comp=Z,6.0nm,1.1s						
BBOO	Buckleboo	43.30	241	P	P	20 52 09.6	0.0
WR0	Warramunga Arr	44.21	259	P	P	20 52 16.2	-0.7
WB0	Warramunga Arr	44.37	260	P	P	20 52 17.5	-0.6
WB0				IAmb	IAmb	20 52 18.3	
	comp=Z,11nm,0.8s						
WB2	Warramunga Arr	44.39	259	P	P	20 52 17.6	-0.7
WB2				IAmb	IAmb	20 52 18.6	
	comp=Z,9.5nm,0.6s						
WRA	Warramunga Arr	44.40	259	P	P	20 52 17.6	-0.8
	comp=Z,6.4nm,0.5s,baz=93,slow=6.8,SNR=149						
WRA				PcP	PcP	20 53 49.8	-0.6
	comp=Z,1.8nm,0.7s,baz=96,slow=3.2,SNR=4.0						
AS31	Alice Springs	44.59	254	P	P	20 52 19.4	-0.4
ASAR	Alice Springs	44.59	254	P	P	20 52 19.9	0.0
	comp=Z,59nm,0.4s,baz=89,slow=7.7,SNR=1439						
ASAR				PcP	PcP	20 53 50.3	-0.7
	comp=Z,2.5nm,0.5s,baz=100,slow=4.1,SNR=5.4						
ASAR	Alice Springs	44.59	254	P	P	20 52 19.2	-0.6
FORT	Forrest	49.87	244	P	P	20 52 58.6	-0.7
KNRA	Kununurra	50.23	264	P	P	20 53 02.1	-0.1
KNRA				IAmb	IAmb	20 53 02.3	
	comp=Z,18nm,0.8s						
FAKI	Fak Fak	50.24	281	P	P	20 53 02.3	0.0
FAKI				IAmb	IAmb	20 53 12.2	
	comp=Z,19nm,1.0s						
FITZ	Fitzroy Crossi	52.79	260	P	P	20 53 20.4	-0.2
SOEI	Soe	55.78	270	P	P	20 53 43.3	+1.5
SOEI				IAmb	IAmb	20 53 44.1	
	comp=Z,33nm,0.8s						
MMRI	Maumere	58.01	271	P	P	20 53 56.4	-0.6
MMRI				IAmb	IAmb	20 54 10.4	
	comp=Z,41nm,1.0s						
NWAO	Narrogin (SRO)	59.09	242	P	P	20 54 03.7	-0.3
MORW	Morawa	60.34	246	P	P	20 54 11.6	-0.7
GIRL	Giralia	62.70	253	P	P	20 54 28.1	+0.3
JAGI	Jajag, Banyuwa	65.76	268	P	P	20 54 45.9	-1.5
CASY	Casey	66.28	205	P	P	20 54 49.0	-0.6
MJAR	Matsushiro Arr	67.50	323	P	P	20 54 57.5	-0.2
	comp=Z,1.7nm,0.5s,baz=158,slow=5.7,SNR=10.0						
MJAR	Matsushiro Arr	67.50	323		P	20 54 57.4	-0.2
KKM	Kota Kinabalu	68.39	284	P	P	20 55 03.7	0.0
KKM				IAmb	IAmb	20 55 14.6	
	comp=Z,18nm,1.0s						
UGM	Wanagama	69.37	268	P	P	20 55 08.9	-0.6
SSLB	Suanglung	71.84	303	P	P	20 55 23.0	-0.8
SSLB				IAmb	IAmb	20 55 24.4	
	comp=Z,7.8nm,1.0s						
TPUB	Ta-pu	71.86	302	P	P	20 55 23.3	-0.7
TPUB				IAmb	IAmb	20 55 32.1	
	comp=Z,18nm,1.1s						
CISI	Cisompet, Garu	72.05	268	P	P	20 55 23.5	-1.8
KSM	Kuching	72.36	277	P	P	20 55 27.5	+0.5
KSM				IAmb	IAmb	20 55 28.9	
	comp=Z,20nm,1.1s						
QSPA	South Pole Qui	72.44	180	P	P	20 55 25.8	-0.8
PETK	Petropavlovsk-	73.33	345	P	P	20 55 31.7	+0.1
	comp=Z,1.5nm,0.6s,baz=144,slow=8.3,SNR=4.2						
PETK	Petropavlovsk-	73.33	345	P	P	20 55 31.6	-0.1
KSRS	Korea Array	74.29	318	P	P	20 55 38.3	+0.8
	comp=Z,0.5nm,0.5s,baz=132,slow=6.1,SNR=5.2						
NVAR	Mina Array Bea	79.41	44	P	P	20 56 05.4	-0.3
	comp=Z,0.2nm,0.3s,baz=254,slow=6.5,SNR=8.2						
NVAR	Mina Array Bea	79.41	44	P	P	20 56 05.2	-0.5
IPM	Ipoh	82.10	277	P	P	20 56 19.8	-0.1
IPM				IAmb	IAmb	20 56 21.0	
	comp=Z,5.1nm,0.7s						
TTA	Tatalina	82.24	10	P	P	20 56 19.3	-0.2
SCM	Sheep Creek Mo	83.02	14	P	P	20 56 22.9	-0.7
GLB	Gilahina Butte	83.56	16	P	P	20 56 25.5	-0.7
TRF	Thorofare Moun	83.79	12	P	P	20 56 26.0	-1.4
MAW	Mawson	84.04	200	P	P	20 56 28.0	-0.5
	comp=Z,2.8nm,0.7s,baz=140,slow=4.2,SNR=7.2						
MAW	Mawson	84.04	200	P	P	20 56 28.2	-0.3
GSI	Gunungsitoli	84.40	273	P	P	20 56 31.0	-0.4
GSI				IAmb	IAmb	20 56 33.0	
	comp=Z,11nm,0.6s						
ILAR	Eielson Array	85.67	13	P	P	20 56 35.4	-1.0
	comp=Z,0.5nm,0.5s,baz=220,slow=5.0,SNR=6.7						
TXAR	Lajitas Array	86.08	58	P	P	20 56 40.5	+1.2
	comp=Z,0.6nm,1.0s,baz=230,slow=8.1,SNR=3.7						
PDAR	Pinedale Array	87.34	44	P	P	20 56 45.0	-0.1
	comp=Z,0.4nm,0.5s,baz=247,slow=5.4,SNR=3.8						
PDAR	Pinedale Array	87.34	44	P	P	20 56 44.9	-0.2
CMAR	Chiang Mai Arr	88.52	290	P	P	20 56 52.0	+1.2
	comp=Z,1.8nm,0.9s,baz=95,slow=3.0,SNR=8.7						
SNAA	Sanae	90.89	179	P	P	20 56 59.3	-1.6
VASR	Vaslui	143.71	329	⇑P	PKPbc	21 03 27.9	+0.2
BUR08	Bucovina Ar. S	144.21	332		PKPbc	21 03 29.5	+0.2
BURAR	Bucovina Array	144.22	332	⇑P	PKPbc	21 03 30.0	+0.7
BURAR	Bucovina Array	144.22	332		PKPbc	21 03 29.1	-0.3
BIZ	Bicaz	144.31	330	⇑P	PKPbc	21 03 30.2	+0.7
TESR	Tescani	144.36	329	⇑P	PKPbc	21 03 29.6	-0.1
BR131	Keskin Array S	144.37	315		PKPbc	21 03 29.5	-0.7
BRTR	Keskin Array B	144.37	315	PKP	PKPbc	21 03 29.4	-0.7
	comp=Z,2.9nm,0.8s,baz=115,slow=3.3,SNR=24						
BRTR	Keskin Array B	144.37	315		PKPbc	21 03 29.2	-0.9
CFR	Carcaliu	144.53	327	⇑P	PKPab	21 03 32.5	+1.8
KSP	Ksiaz	144.75	343	*e*PKP	PKPdf	21 03 30.8	+0.5
VRI	Vrincioaia	144.78	329	⇑P	PKPdf	21 03 30.8	+0.2
TRPA	Tarpa	144.96	335	⇑P	PKPdf	21 03 31.4	+0.6
OSTC	Ostas	145.03	343	*e*PKP	PKPdf	21 03 31.5	+0.6
CHVC	Chvalec	145.04	344	*e*PKP	PKPdf	21 03 31.5	+0.6
CHVC				*ex*	x	21 03 46.8	
CLL	Collm	145.12	347	*i* PKPbc	PKPdf	21 03 31.0	+0.1
	comp=Z,8.0nm,0.8s						
CLL				*i* PKPab	PKPbc	21 03 32.4	+0.6
	comp=Z,5.0nm,0.8s						
CLL	Collm	145.12	347		PKPdf	21 03 30.7	-0.3
UPC	Upice	145.13	344	*e*PKP	PKPbc	21 03 32.4	+0.5
DPC	Dobroska-Polom	145.19	343	*e*PKP	PKPdf	21 03 31.9	+0.7
BRG	Berggiesshubel	145.31	346	*i* PKP	PKPdf	21 03 32.1	+0.8
	comp=Z,3.5nm,0.7s						
DOPR	Dopca	145.36	330	⇑P	PKPbc	21 03 33.4	+0.6
MLR	Muntele Rosu	145.43	329	⇓P	PKPdf	21 03 32.6	+0.7
CJR	Cluj-Napoca	145.63	332	⇑P	PKPbc	21 03 33.9	+0.3
DRGR		145.95	333	⇑P	PKPdf	21 03 34.2

MUGZ	**Murupara**	**8.06**	**200**	P	**P**	**20 57 48.8 +1.6**
MUGZ				S	**S**	**20 59 18.8 -2.7**
TLZ	**Tolley Road**	**8.34**	**206**	P	**P**	**20 57 53.6 +3.3**
RATZ	**Rangitukua**	**8.73**	**203**	P	**P**	**20 57 55.2 +0.5**
HIZ	**Hauiti**	**8.77**	**209**	P	P	20 57 59.9 +4.8
HIZ	**Hauiti**	**8.77**	**209**	P	**P**	**20 57 58.2 +3.2**
BKZ	**Black Stump Fm**	**8.78**	**199**	P	**P**	**20 57 55.0 -0.2**
WTVZ	**West Tongariro**	**9.02**	**203**	P	**P**	**20 57 59.3 +1.4**
TWVZ	**Taurewa**	**9.03**	**204**	P	**P**	**20 57 59.4 +1.3**
NGZ	**Ngauruhoe**	**9.07**	**203**	P	**Pn**	**20 57 59.7 +1.2**
NGZ				S	**S**	**20 59 41.8 -1.3**
CKHZ	**Cape Kidnapper**	**9.10**	**195**	P	**Pn**	**20 58 01.2 +2.5**
CKHZ				S	**S**	**20 59 42.4 -0.9**
TUVZ	**Tukino**	**9.14**	**203**	P	**Pn**	**20 57 58.8 -0.5**
TUVZ				S	**S**	**20 59 42.9 -1.5**
FWVZ	**Far West T-bar**	**9.16**	**203**	P	**Pn**	**20 58 00.2 +0.6**
FWVZ				S	**S**	**20 59 41.6 -3.4**
WHVZ	**Whangaehu Hut**	**9.17**	**203**	P	**Pn**	**20 57 59.3 -0.4**
WHVZ				S	**S**	**20 59 43.8 -1.5**
TRVZ	**Turoa**	**9.20**	**203**	P	**Pn**	**20 58 00.7 +0.6**
TRVZ				S	**S**	**20 59 43.8 -2.1**
BHHZ	**Black Hill Sta**	**9.21**	**200**	P	**Pn**	**20 57 59.2 -0.8**
BHHZ				S	**S**	**20 59 41.4 -4.4**
MOVZ	**Moawhango**	**9.23**	**202**	P	**Pn**	**20 58 01.0 +0.8**
MOVZ				S	**S**	**20 59 41.9 -4.4**
PKVZ	**Pokaka**	**9.26**	**204**	P	**Pn**	**20 58 00.9 +0.3**
PKVZ				S	**S**	**20 59 44.9 -2.0**
KRHZ	**Kereru**	**9.26**	**199**	P	**Pn**	**20 58 00.9 +0.3**
KRHZ				S	**S**	**20 59 41.0 -5.9**
KAHZ	**Kahuranaki**	**9.28**	**196**	P	**Pn**	**20 58 01.6 +0.9**
KAHZ				S	**S**	**20 59 41.6 -5.5**
MTVZ	**Mangateitei**	**9.30**	**203**	P	**Pn**	**20 58 03.4 +2.3**
VRZ	**Vera Road**	**9.33**	**207**	P	**Pn**	**20 58 04.6 +3.2**
PNHZ	**Pukenui**	**9.56**	**199**	P	**P**	**20 58 02.7 -1.2**
WPHZ	**Waipukurau**	**9.64**	**197**	P	**Pn**	**20 58 06.7 +1.8**
PKE	**Pukeiti**	**9.71**	**210**	P	Pn	20 58 09.9 +4.1
PREZ	**Palmer Road**	**9.76**	**209**	P	**P**	**20 58 02.8 -3.3**
LREZ	**Lake Rotokare**	**9.76**	**207**	P	**Pn**	**20 58 08.6 +2.3**
KHEZ	**Kahui Hut**	**9.78**	**209**	P	Pn	20 58 11.0 +4.4
PRHZ	**Porangahau**	**9.78**	**196**	P	**Pn**	**20 58 08.3 +1.7**
WAZ	**Wanganui**	**9.80**	**204**	P	**Pn**	**20 58 08.4 +1.6**
DVHZ	**Dannevirke**	**9.93**	**198**	P	**Pn**	**20 58 08.3 0.0**
ANWZ	**Angora Road**	**10.00**	**197**	P	**Pn**	**20 58 10.0 +0.9**
POWZ	**Post Office Ro**	**10.13**	**200**	P	**Pn**	**20 58 11.2 +0.6**
PRWZ	**Pori Road**	**10.22**	**198**	P	**Pn**	**20 58 13.1 +1.4**
BFZ	**Birch Farm**	**10.27**	**197**	P	**Pn**	**20 58 12.4 +0.2**
BFZ	**Birch Farm**	**10.27**	**197**	P	**Pn**	**20 58 12.2 0.0**
MRZ	**Mangatainoka R**	**10.43**	**200**	P	**Pn**	**20 58 13.0 -1.0**
TIWZ	**Tintock**	**10.45**	**198**	P	**Pn**	**20 58 15.7 +1.3**
HOWZ	**Holdsworth Sta**	**10.67**	**200**	P	**P**	**20 58 15.2 -0.9**
TMWZ	**Te Maipa**	**10.76**	**198**	P	**Pn**	**20 58 18.6 +0.7**
KIW	**Kapiti Island**	**10.82**	**202**	P	**Pn**	**20 58 17.4 -1.2**
CAW	**Cannon Point**	**10.99**	**201**	P	**Pn**	**20 58 19.8 -0.8**
TRWZ	**Traveller**	**11.09**	**198**	P	**Pn**	**20 58 21.7 0.0**
PAWZ	**Paruwai Farm**	**11.14**	**199**	P	**Pn**	**20 58 22.2 -0.1**
MSWZ	**Moikau Station**	**11.22**	**199**	P	**Pn**	**20 58 22.9 -0.4**
SNZO	**South Karori**	**11.29**	**202**	P	**Pn**	**20 58 23.5 -0.5**
BHW	**Baring Head**	**11.33**	**201**	P	**Pn**	**20 58 24.0 -0.5**
BHW	**Baring Head**	**11.33**	**201**	P	**Pn**	**20 58 23.3 -1.1**
PLWZ	**Palliser**	**11.36**	**199**	P	**Pn**	**20 58 24.2 -0.8**
PLWZ	**Palliser**	**11.36**	**199**	P	**Pn**	**20 58 24.2 -0.8**
CMWZ	**Cape Campbell**	**11.85**	**202**	P	**Pn**	**20 58 30.7 +0.2**
BSWZ	**Blackbirch Sta**	**11.93**	**204**	P	**Pn**	**20 58 30.5 -0.9**
CTZ	**Chatham Island**	**13.06**	**170**	P	Pn	20 59 07.5 +23
MSVF	**Nonsavu**	**13.26**	**351**	P	**Pn**	**20 58 44.7 -2.5**
RPZ	**Rata Peaks**	**14.70**	**207**	P	**P**	**20 58 59.8 -0.5**
	0.5nm,0.3s,baz=197,slow=24,SNR=2.3					
RPZ				S	**S**	**21 01 33.1 -3.7**
	0.6nm,0.3s,baz=38,slow=13,SNR=2.0					
FOZ	**Fox Glacier**	**15.06**	**210**	P	**P**	**20 59 05.0 +0.9**
DZM	**Mont Dzumac**	**15.12**	**302**	P	**P**	**20 59 05.5 +0.3**
	0.4nm,0.3s,baz=82,slow=18,SNR=3.6					
DZM	**Mont Dzumac**	**15.12**	**302**	P	**P**	**20 59 05.9 +0.7**
DZM				IAmb	IAmb	20 59 15.3
	comp=Z,22nm,1.2s					
AFI	**Afiamalu**	**18.46**	**25**	P	**P**	**20 59 41.0 +0.1**
EIDS	**Eidsvold**	**26.22**	**275**	P	**P**	**21 00 52.0 +0.2**
EIDS				IAmb	IAmb	21 00 53.1
	comp=Z,8.4nm,1.1s					
CTAO	**Charters Tower**	**32.36**	**281**	P	**P**	**21 01 46.5 +1.0**
CTAO				IAmb	IAmb	21 02 05.1
	comp=Z,20nm,1.4s					
STKA	**Stephens Creek**	**32.85**	**258**	P	**P**	**21 01 50.5 +0.9**
	comp=Z,3.7nm,0.5s,baz=105,slow=11,SNR=19					
STKA	**Stephens Creek**	**32.85**	**258**	P	**P**	**21 01 50.7 +1.1**
BBOO	**Buckleboo**	**37.34**	**255**	P	**P**	**21 02 27.3 -0.1**
BBOO				IAmb	IAmb	21 02 44.8
	comp=Z,20nm,1.3s					
RABL	**Rabaul**	**37.46**	**310**	P	**P**	**21 02 28.3 -0.4**
KRVT	**Keravat (AS076**	**37.46**	**309**	P	**P**	**21 02 28.4 -0.3**
	comp=Z,100nm,0.6s,baz=320,slow=2.1,SNR=16					
AS31	**Alice Springs**	**41.53**	**268**	P	**P**	**21 03 01.4 -0.4**
ASAR	**Alice Springs**	**41.54**	**268**	P	**P**	**21 03 01.4 -0.5**
	comp=Z,3.3nm,0.5s,baz=105,slow=7.3,SNR=95					
ASAR	**Alice Springs**	**41.54**	**268**	P	**P**	**21 03 00.9 -0.9**
WR0	**Warramunga Arr**	**42.39**	**274**	P	**P**	**21 03 07.8 -0.8**
WR0				IAmb	IAmb	21 03 25.3
	comp=Z,18nm,1.5s					
WB2	**Warramunga Arr**	**42.56**	**274**	P	**P**	**21 03 09.3 -0.6**
WB2				IAmb	IAmb	21 03 10.1
	comp=Z,11nm,0.6s					
WRA	**Warramunga Arr**	**42.57**	**274**	P	**P**	**21 03 09.7 -0.4**
	comp=Z,7.6nm,0.6s,baz=112,slow=8.0,SNR=94					
WRA	**Warramunga Arr**	**42.57**	**274**	P	**P**	**21 03 09.3 -0.7**
FORT	**Forrest**	**44.42**	**256**	P	**P**	**21 03 23.8 -0.6**
FORT				IAmb	IAmb	21 03 25.2
	comp=Z,16nm,0.8s					
MTN	**Manton Dam**	**48.54**	**281**	P	**P**	**21 03 55.3 -0.8**
MTN				IAmb	IAmb	21 04 10.8
	comp=Z,36nm,1.4s					
FITZ	**Fitzroy Crossi**	**50.81**	**271**	P	**P**	**21 04 12.9 -0.2**
FITZ				IAmb	IAmb	21 04 13.8
	comp=Z,10.0nm,0.9s					
CASY	**Casey**	**53.97**	**208**	P	**P**	**21 04 35.8 +0.7**
MORW	**Morawa**	**54.90**	**254**	P	**P**	**21 04 41.6 -0.8**
MORW				IAmb	IAmb	21 04 42.5
	comp=Z,13nm,1.1s					
QSPA	**South Pole Qui**	**59.21**	**180**	P	**P**	**21 05 14.9 +3.1**
SNAA	**Sanae**	**77.69**	**179**	P	**P**	**21 07 05.9 +1.4**
KSRS	**Korea Array**	**83.74**	**321**	P	**P**	**21 07 37.7 +1.2**
	comp=Z,0.5nm,0.6s,baz=148,slow=5.7,SNR=2.4					
KULM	**Kulim**	**83.77**	**280**	P	**P**	**21 07 37.4 +0.2**
GSI	**Gunungsitoli**	**84.33**	**275**	P	**P**	**21 07 40.5 +0.5**
PETK	**Petropavlovsk-**	**85.93**	**347**	P	**P**	**21 07 46.9 0.0**
	comp=Z,2.5nm,0.9s,baz=154,slow=7.2,SNR=3.2					
PETK	**Petropavlovsk-**	**85.93**	**347**	P	**P**	**21 07 47.1 +0.2**
FINES	**FINESS Array B**	**145.06**	**339**	PKPbc	**PKPab**	**21 14 41.0 -1.0**
	comp=Z,4.6nm,0.7s,baz=74,slow=4.5,SNR=17					
NB2	**NORSAR Subarra**	**148.99**	**350**	PKP	**PKiKP**	**21 14 51.6 -1.5**
	comp=Z,0.8nm,0.6s,baz=14,slow=2.6					
NOA	**NORSAR Array B**	**148.99**	**350**	PKPbc	**PKiKP**	**21 14 51.9 -1.2**
	comp=Z,0.7nm,0.7s,baz=22,slow=4.7,SNR=6.7					
AKASG	**Malin Array Be**	**150.73**	**321**	PKPbc	**PKiKP**	**21 14 56.5 -0.5**
	comp=Z,0.4nm,0.3s,baz=64,slow=2.4,SNR=6.1					
AKASG	**Malin Array Be**	**150.73**	**321**		**PKiKP**	**21 14 55.9 -1.0**
BRTR	**Keskin Array B**	**151.46**	**297**	PKPbc	**PKiKP**	**21 14 58.6 -0.4**
	comp=Z,0.5nm,0.6s,baz=130,slow=5.1,SNR=5.9					
BRTR	**Keskin Array B**	**151.46**	**297**		**PKiKP**	**21 14 58.4 -0.7**

s-min=16.1km az=63.0

GUC **14** *21:42:00.2±0.5, 20.08S×70.83W, h38km±1km, ML3.5*

ISC 14 21:41:58.3±2.6, 20.06S±0.04×70.88W±0.07, h7km±16km, n22, σ0.973/31, mb3.9/4, 1C-3D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TA02	**Huaiquique**	**0.73**	**107**	*eP*		**Pb**	**21 42 13.3**	**-0.2**
TA02				*eS*		**Sb**	**21 42 23.0**	**-0.7**
TA01	**Diego Aracena**	**0.83**	**128**	*eP*		**Pb**	**21 42 15.0**	**-0.1**
TA01				*eS*		**Sb**	**21 42 25.8**	**-0.6**
TA01				IAML			21 42 28.3	
	comp=E,2μm,0.2s							
PSGC	**Pisagua**	**0.85**	**57**	*i* P		**Pb**	**21 42 15.2**	**-0.2**
PSGC				*i* Sg		**Sb**	**21 42 27.0**	**+0.1**
PSGC				IAML			21 42 28.7	
	comp=N,6μm,0.4s							
PB11	**IPOC Station P**	**1.19**	**76**	↓*i* P		**Pn**	**21 42 20.8**	**-0.7**
PB11				*eS*		**Sb**	**21 42 36.5**	**-0.5**
PB11				IAML			21 42 42.5	
	comp=E,3μm,0.4s							
MNMC	**Minye Minye**	**1.52**	**53**	↓*i* P		**Pn**	**21 42 26.7**	**+0.5**
MNMC				*eS*		**Sb**	**21 42 47.2**	**+0.6**
PB12	**IPOC Station P**	**1.53**	**20**	*eP*		**Pn**	**21 42 26.6**	**+0.5**
PB12				*eS*		**Sg**	**21 42 47.4**	**-0.1**
PB12				IAML			21 42 55.4	
	comp=E,2μm,0.4s							
PB02	**IPOC Station P**	**1.56**	**144**	↑*i* P		**Pn**	**21 42 26.7**	**+0.1**
PB02				*eS*		**Sn**	**21 42 46.5**	**-0.6**
PB02				IAML			21 42 53.1	
	comp=E,2μm,0.5s							
PB08	**IPOC Station P**	**1.62**	**93**	*eP*		**Pn**	**21 42 28.1**	**+0.4**
PB08				*i* S		**Sn**	**21 42 49.1**	**+0.1**
PB08				IAML			21 42 53.5	
	comp=N,1μm,0.7s							
GO01	**Chusmiza**	**1.63**	**77**	↓*eP*		**Pn**	**21 42 28.4**	**+0.5**
GO01				*eS*		**Sb**	**21 42 50.0**	**-0.1**
PB01	**IPOC Station P**	**1.63**	**127**	*eP*		**Pn**	**21 42 28.3**	**+0.7**
PB01				*eS*		**Sn**	**21 42 48.9**	**+0.1**
PB01				IAML			21 42 50.8	
	comp=N,782nm,0.7s							
PB07	**IPOC Station P**	**1.90**	**151**	*eP*		**Pn**	**21 42 31.3**	**-0.1**
PB07				IAML			21 43 05.7	
	comp=E,314nm,0.5s							
LVC	**Limon Verde**	**3.13**	**145**	Pn		**Pn**	**21 42 50.0**	**+1.5**
	comp=E,2.8nm,0.3s,baz=357,slow=8.3,SNR=20							
LVC				Sn		**Sn**	**21 43 28.0**	**+1.7**
	comp=E,7.3nm,0.3s,baz=128,slow=13,SNR=5.3							
LVC				Lg		Lg	21 43 36.0	
	comp=E,11nm,0.3s,baz=109,slow=8.2,SNR=11							
LPAZ	**La Paz**	**4.57**	**35**	Pn		Pb	21 43 14.6	-4.6
	comp=E,1.3nm,0.3s,baz=217,slow=8.8,SNR=33							
LPAZ				Lg		Lg	21 44 26.3	
	comp=E,0.8nm,0.3s,baz=119,slow=9.9,SNR=1.4							
LPAZ				LR		LR	21 44 42.1	
	comp=E,60nm,19.9s,baz=210,slow=36							
SIV	**San Ignacio**	**10.17**	**68**	Pn		**Pn**	**21 44 25.0**	**+0.2**
	comp=E,0.9nm,0.3s,baz=272,slow=11,SNR=20							
PLCA	**Paso Flores**	**20.61**	**179**	P		**P**	**21 46 38.7**	**+0.5**
	comp=E,1.9nm,1.0s,baz=254,slow=20,SNR=1.9							
PTGA	**Pitinga**	**21.98**	**30**	P		**P**	**21 46 54.0**	**+1.0**
	comp=E,1.2nm,0.3s,baz=176,slow=19,SNR=2.2							
TXAR	**Lajitas Array**	**58.40**	**326**	P		**P**	**21 51 53.6**	**-1.1**
	comp=E,0.1nm,0.4s,baz=134,slow=9.1,SNR=3.9							
TORD	**Torodi Ar. Bea**	**78.63**	**71**	P		**P**	**21 54 00.0**	**-1.4**
	comp=E,1.5nm,0.8s,baz=244,slow=6.3,SNR=6.9							
YKA	**Yellowknife Ar**	**89.23**	**341**	P		**P**	**21 54 54.7**	**+0.3**
	comp=E,0.6nm,0.7s,baz=137,slow=4.8,SNR=6.2							
RPZ	**Rata Peaks**	**94.93**	**220**	LR		LR	22 29 18.3	
	comp=E,147nm,21.4s,baz=30,slow=30							
ZALV	**Zalesovo Beam**	**141.39**	**23**	PKP		**PKPdf**	**22 01 30.6**	**+0.9**
	comp=E,0.7nm,0.6s,baz=248,slow=0.8,SNR=2.7							
MKAR	**Makanchi Array**	**145.50**	**33**	PKPbc		**PKPab**	**22 01 37.8**	**+0.2**
	comp=E,1.7nm,0.7s,baz=324,slow=3.8,SNR=21							

NEIC **14** *22:07:21.9±1.6, 27.26S±0.08×175.18W±0.1, h46km±9km, mb4.2/14, Error ellipse: s-maj=18.6km s-min=8.3km az=118.0*

IDC **14** *22:07:24.3±1.7, 27.02S×176.87W, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/30, mbtmp4.1/5, ML4.5/1, MS2.8/1, Ms1 2.8/1, ms1mx2.6/25, Error ellipse: s-maj=54.1km s-min=24.7km az=112.0*

ISC 14 22:07:22.7±0.7, 27.19S±0.08×175.8W±0.1, h35km, n67, σ2.582/55, mb4.0/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**2.77**	**221**	Pn		**Pn**	**22 08 05.3**	**+0.8**
	117nm,0.3s,baz=118,slow=12,SNR=6.1							
RAO				LR		LR	22 08 33.6	
	comp=Z,212nm,21.8s,baz=111,slow=29							
RAO				Sn		**Sn**	**22 08 36.8**	**+0.1**
	201nm,0.3s,baz=270,slow=20,SNR=2.6							
RAO	**Raoul Island**	**2.77**	**221**	Pn		**Pn**	**22 08 04.0**	**-0.5**
NIUE	**Niue**	**9.72**	**35**	Pn		**Pn**	**22 09 39.1**	**-0.9**
MSVF	**Nonsavu**	**10.98**	**328**	Pn		**Pn**	**22 09 56.8**	**-0.6**
MXZ	**Matakaoa Point**	**11.47**	**204**	Pn		**Pn**	**22 10 00.9**	**-3.1**
OUZ	**Omahuta**	**12.08**	**226**	Pn		**Pn**	**22 10 10.8**	**-1.6**
HIZ	**Hauiti**	**13.74**	**212**	Pn		**Pn**	**22 10 33.8**	**-1.1**
AFI	**Afiamalu**	**13.74**	**17**	Pn		**Pn**	**22 10 35.3**	**+0.2**
KRVZ	**Karewarewa**	**13.85**	**209**	P		P	22 10 51.7	+7.3
WTVZ	**West Tongariro**	**13.89**	**209**	P		P	22 10 51.6	+6.7
TWVZ	**Taurewa**	**13.92**	**209**	P		P	22 10 52.7	+7.4
NGZ	**Ngauruhoe**	**13.94**	**209**	P		P	22 10 50.5	+5.1
TUVZ	**Tukino**	**13.99**	**208**	P		P	**22 10 49.0**	**+2.9**
BHHZ	**Black Hill Sta**	**14.01**	**207**	P		P	**22 10 48.8**	**+2.6**
KRHZ	**Kereru**	**14.02**	**206**	P		P	22 10 53.1	+6.9
FWVZ	**Far West T-bar**	**14.03**	**209**	P		P	**22 10 49.4**	**+2.9**
WHVZ	**Whangaehu Hut**	**14.03**	**209**	P		P	**22 10 48.9**	**+2.3**
DRZ	**Dome Shelter**	**14.04**	**209**	P		P	**22 10 50.3**	**+3.6**
TRVZ	**Turoa**	**14.06**	**209**	P		P	**22 10 48.9**	**+2.0**
MOVZ	**Moawhango**	**14.07**	**208**	P		P	**22 10 46.6**	**-0.2**
PKVZ	**Pokaka**	**14.14**	**209**	P		P	**22 10 50.5**	**+2.9**
MTVZ	**Mangateitei**	**14.17**	**209**	P		P	**22 10 48.1**	**+0.2**
VRZ	**Vera Road**	**14.27**	**211**	P		P	22 10 59.2	+10
PNHZ	**Pukenui**	**14.32**	**206**	P		P	**22 10 53.1**	**+3.5**
TSZ	**Takapari Road**	**14.54**	**206**	P		P	**22 10 53.4**	**+1.4**
WAZ	**Wanganui**	**14.68**	**209**	P		P	**22 10 54.0**	**+0.4**
POWZ	**Post Office Ro**	**14.90**	**206**	P		P	**22 10 58.6**	**+2.6**
MRZ	**Mangatainoka R**	**15.21**	**206**	P		P	**22 11 02.8**	**+3.4**
HOWZ	**Holdsworth Sta**	**15.43**	**205**	P		P	**22 11 07.3**	**+5.4**
OGWZ	**Otaki Gorge**	**15.50**	**206**	P		P	**22 11 06.0**	**+3.4**
KIW	**Kapiti Island**	**15.64**	**207**	P		P	**22 11 07.5**	**+3.3**
CAW	**Cannon Point**	**15.79**	**206**	P		P	**22 11 11.1**	**+5.3**
RAR	**Rarotonga**	**15.80**	**71**	Pn		**Pn**	**22 11 01.1**	**-1.4**
RAR				IAmb		IAmb	22 11 02.1	
	comp=Z,19nm,1.0s							
MSWZ	**Moikau Station**	**15.98**	**205**	Pn		**Pn**	**22 11 02.4**	**-2.5**
DUWZ	**D'Urville Isla**	**16.01**	**209**	P		P	**22 11 15.1**	**+6.8**
SNZO	**South Karori**	**16.10**	**207**	Pn		**Pn**	**22 11 04.1**	**-2.2**
PLWZ	**Palliser**	**16.11**	**205**	Pn		**Pn**	**22 11 05.2**	**-1.3**
TCW	**Tory Channel**	**16.19**	**208**	P		P	**22 11 17.1**	**+6.8**
TUWZ	**Tuamarina**	**16.52**	**208**	P		P	22 11 22.9	+9.0
TUWZ	**Tuamarina**	**16.52**	**208**	Pn		**Pn**	**22 11 09.2**	**-2.3**
NNZ	**Nelson**	**16.58**	**210**	Pn		**Pn**	**22 11 10.8**	**-1.6**
NNZ				IAmb		IAmb	22 11 26.0	
	comp=Z,23nm,1.1s							
BSWZ	**Blackbirch Sta**	**16.78**	**208**	P		P	22 11 27.8	+11
BSWZ	**Blackbirch Sta**	**16.78**	**208**			**P**	**22 11 15.9**	**-1.0**
DZM	**Mont Dzumac**	**16.91**	**284**	*e*LR		LR	22 15 14.8	
	comp=Z,215nm,23.6s							
DZM	**Mont Dzumac**	**16.91**	**284**	P		**Pn**	**22 11 15.2**	**-1.5**
DZM				IAmb		IAmb	22 11 31.9	
	comp=Z,13nm,1.1s							
THZ	**Tophouse**	**17.23**	**210**			**Pn**	**22 11 19.0**	**-1.6**
KHZ	**Kahutara**	**17.50**	**207**			**Pn**	**22 11 22.5**	**-1.4**
KHZ				IAmb		IAmb	22 11 28.7	
	comp=Z,23nm,1.2s							
LTZ	**Lake Taylor**	**18.34**	**209**			**P**	**22 11 31.4**	**-2.6**
MQZ	**McQueen's Vall**	**18.94**	**207**	P		Pn	22 11 55.9	+15
TBI	**Tubuai**	**24.13**	**87**	*e*LR		LR	22 18 35.9	
	comp=Z,117nm,29.8s							
PPT2	**Papeete2**	**26.03**	**74**	*e*LR		LR	22 19 26.0	
	comp=Z,111nm,26.5s							
AS31	**Alice Springs**	**45.30**	**263**	P		**P**	**22 15 35.7**	**-1.7**
ASAR	**Alice Springs**	**45.30**	**263**	P		**P**	**22 15 36.7**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=98,slow=7.0,SNR=13							
WR0	**Warramunga Arr**	**45.82**	**268**	P		**P**	**22 15 41.0**	**-0.5**
WR0				IAmb		IAmb	22 15 51.7	
	comp=Z,3.8nm,1.1s							
WB2	**Warramunga Arr**	**46.00**	**268**	P		**P**	**22 15 41.3**	**-1.6**
WB2				IAmb		IAmb	22 15 58.0	
	comp=Z,3.0nm,0.9s							
WRA	**Warramunga Arr**	**46.01**	**268**	P		**P**	**22 15 41.9**	**-1.1**
	comp=Z,1.4nm,0.7s,baz=104,slow=8.0,SNR=6.4							
WRA	**Warramunga Arr**	**46.01**	**268**	IAmb		IAmb	22 15 42.8	
	comp=Z,0.1nm,0.8s							
WB0	**Warramunga Arr**	**46.02**	**268**	P		**P**	**22 15 41.9**	**-1.1**
MJAR	**Matsushiro Arr**	**76.75**	**323**	P		**P**	**22 19 14.2**	**+3.7**
	comp=Z,1.3nm,0.9s,baz=170,slow=6.5,SNR=6.2							
KSRS	**Korea Array**	**83.19**	**318**	P		**P**	**22 19 49.2**	**+4.1**
	comp=Z,0.7nm,0.7s,baz=140,slow=5.3,SNR=6.5							
D08A	**Wollman Farm,**	**89.94**	**35**	P		**P**	**22 20 19.7**	**+1.6**
LRM	**Limekiln Ridge**	**92.62**	**39**	P		**P**	**22 20 28.7**	**-2.2**
YNE	**Yellowstone No**	**93.52**	**40**	P		**P**	**22 20 32.2**	**-2.8**
NOA	**NORSAR Array B**	**145.82**	**354**	PKPbc		**PKiKP**	**22 27 03.2**	**+2.0**
	comp=Z,1.0nm,0.9s,baz=330,slow=2.7,SNR=3.8							
AKASG	**Malin Array Be**	**149.76**	**328**	PKPbc		**PKPab**	**22 27 12.3**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=39,slow=3.8,SNR=5.2							
BRTR	**Keskin Array B**	**152.55**	**305**	PKPbc		**PKPab**	**22 27 21.9**	**-4.3**
	comp=Z,0.5nm,0.9s,baz=110,slow=3.8,SNR=2.4							
GERES	**GERESS Array B**	**157.15**	**344**	PKPab		**PKPab**	**22 27 49.7**	**+4.4**
	comp=Z,0.5nm,0.9s,baz=199,slow=2.8,SNR=3.8							

NEIC **14** *22:11:05.6±4.4, 15.85N±0.10×98.41W±0.07, h20km±12km, Error ellipse: s-maj=16.7km s-min=2.6km az=213.0*

MEX **14** *22:11:07.2±0.8, 15.92N×98.39W, h5km±15km, MD4.0*

ISC 14 22:11:03.8±1.5, 15.94N±0.05×98.39W±0.04, h8km±10km, n36, σ1.830/55, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PEIG	**Puerto Escondi**	**1.20**	**87**	*eP*		**Pg**	**22 11 27.2**	**+0.4**
PEIG				*i* S		**Sb**	**22 11 41.6**	**-0.8**
YOIG	**Yosondua**	**1.22**	**41**	*eP*		**Pg**	**22 11 27.3**	**0.0**
YOIG				*eS*		**Sn**	**22 11 43.6**	**-0.6**
TXIG	**Tlaxiaco**	**1.44**	**24**	*eP*		**Pb**	**22 11 30.6**	**-0.4**
TXIG				*eS*		**Sb**	**22 11 49.0**	**-0.6**
TLIG	**Tlapa**	**1.62**	**354**			**Pg**	**22 11 35.5**	**+0.4**
TLIG						**Sg**	**22 11 55.2**	**-0.9**
TLIG	**Tlapa**	**1.62**	**354**	*eP*		**Pb**	**22 11 33.2**	**-0.9**
TLIG				*eS*		**Sb**	**22 11 53.9**	**-1.0**
ACP2	**Acapulco**	**1.71**	**303**	*i* P		**Pb**	**22 11 35.2**	**-0.3**
ACP2				*i* S		**Sn**	**22 11 55.0**	**-1.0**
HMTT	**Tlapaneco**	**1.85**	**355**	*i* P		**Pg**	**22 11 40.4**	**+1.0**
HMTT				*i* S		**Sg**	**22 12 03.3**	**-0.2**
VHO	**Vista Hermosa**	**1.95**	**54**	*eP*		**Pn**	**22 11 37.9**	**+0.6**
VHO				*eS*		**Sn**	**22 12 02.1**	**0.0**
OXBJ	**Oaxaca**	**1.95**	**55**	*eP*		**Pn**	**22 11 37.8**	**+0.3**
OXBJ				*i* S		**Sb**	**22 12 05.2**	**+0.8**
HLIG	**Huajuapan de L**	**1.96**	**17**	*eP*		**Pn**	**22 11 38.2**	**+0.6**
HLIG				*eS*		**Sn**	**22 12 02.7**	**+0.2**
FTIG	**Fresnillo de T**	**1.97**	**7**	*eP*		**Pn**	**22 11 38.3**	**+0.6**
FTIG				*eS*		**Sn**	**22 12 02.6**	**0.0**
CAIG	**El Cayaco**	**2.11**	**302**			**Pn**	**22 11 40.2**	**+0.8**
CAIG	**El Cayaco**	**2.11**	**302**	*eP*		**Pn**	**22 11 40.2**	**+0.8**
HUIG	**Huatulco**	**2.20**	**94**			**Pn**	**22 11 42.0**	**+1.3**
HUIG						**Sn**	**22 12 04.9**	**-3.2**
HUIG	**Huatulco**	**2.20**	**94**	*i* P		**Pn**	**22 11 41.6**	**+0.9**
HUIG				*i* S		**Sn**	**22 12 07.3**	**-0.9**
MEIG	**Mezcala**	**2.30**	**329**			**Pb**	**22 11 44.0**	**-1.6**
MEIG						**Sg**	**22 12 16.4**	**-1.4**
MEIG	**Mezcala**	**2.30**	**329**	*eP*		**Pb**	**22 11 44.0**	**-1.6**
MEIG				*eS*		**Sg**	**22 12 16.4**	**-1.4**
TOIG	**Toxpalan**	**2.49**	**30**	*eP

LVC i S Sn 22 14 37.4 -0.7
LVC Limon Verde 2.40 3 Pn Pn 22 14 09.9 +1.1
LVC Limon Verde 2.40 3 i P Pn 22 14 09.9 +1.1
LVC i S Sn 22 14 35.2 -2.9
LVC IAML 22 14 43.8
comp=Z,5µm,0.4s
PB05 IPOC Station P 2.41 334⇑ i P Pn 22 14 09.1 +0.5
PB05 i S Sn 22 14 36.0 -1.8
PB05 IAML 22 14 46.2
comp=E,25µm,0.5s
PB05 IPOC Station P 2.41 334 i P Pn 22 14 09.1 +0.5
PB05 i S Sn 22 14 38.7 +1.0
PB05 IAML 22 14 43.5
comp=Z,16µm,0.6s
GO03 Copiap 2.77 202⇓ i P Pn 22 14 12.6 -0.8
GO03 i S Sn 22 14 39.9 -6.5
GO03 Copiap 2.77 202 Pn 22 14 13.1 -0.3
PB04 IPOC Station P 2.86 339⇓ i P Pn 22 14 14.5 -0.2
PB04 i S Sn 22 14 41.4 -7.3
PB04 IPOC Station P 2.86 339 Pn 22 14 13.6 -1.1
PB04 IPOC Station P 2.86 339 i P Pn 22 14 14.7 -0.1
PB04 i S Sn 22 14 42.4 -6.2
PB04 IAML 22 15 04.3
comp=Z,11µm,0.5s
PB03 IPOC Station P 3.03 347⇓ i P Pn 22 14 17.1 +0.2
PB03 i S Sn 22 14 52.1 -0.5
PB03 IAML 22 14 53.6
comp=N,21µm,0.5s
PB03 IPOC Station P 3.03 347 i P Pn 22 14 17.2 +0.2
PB03 i S Sn 22 14 52.4 -0.3
PB03 IAML 22 14 56.5
comp=Z,15µm,1.0s
PB09 IPOC Station P 3.22 357 Pn 22 14 20.1 +0.7
PB07 IPOC Station P 3.37 347 Pn 22 14 21.3 -0.3
PB07 IPOC Station P 3.37 347 i P Pn 22 14 21.3 -0.3
PB07 i S Sn 22 14 50.2 -11
PB07 IAML 22 15 06.9
comp=Z,9µm,0.6s
AC04 Llanos de Chal 3.65 209⇓ i P Pn 22 14 22.9 -2.3
AC04 i S Sn 22 15 02.0 -5.3
AC04 Llanos de Chal 3.65 209 Pn Pn 22 14 22.9 -2.3
PB02 IPOC Station P 3.77 348⇓ i P Pn 22 14 26.2 -0.6
PB02 i S Sn 22 15 09.7 -0.6
PB02 IPOC Station P 3.77 348 i P Pn 22 14 26.4 -0.4
PB02 i S Sn 22 15 09.6 -0.7
PB02 IAML 22 15 13.8
comp=Z,10µm,0.5s
VCA Vinchina 3.77 169 i P Pn 22 14 29.0 +2.1
VCA i S Sn 22 15 13.0 +2.5
VCA IAML 22 15 15.0
comp=Z,2µm,0.6s
AC05 El Transito 3.96 196 Pn Pn 22 14 28.5 -0.8
PB01 IPOC Station P 3.98 354⇓ i P Pn 22 14 29.2 -0.4
PB01 i S Sn 22 15 15.1 -0.4
PB01 IPOC Station P 3.98 354 Pn 22 14 29.2 -0.4
PB01 IPOC Station P 3.98 354 i P Pn 22 14 29.3 -0.4
PB01 i S Sn 22 15 00.5 -15
PB01 IAML 22 15 06.5
comp=Z,4µm,0.6s
LCO Las Campanas 4.24 200 Pn Pn 22 14 32.0 -1.3
LCO Sn 22 15 20.1 -1.7
CYA Choya 4.47 140 i P Pn 22 14 37.3 +1.1
CYA IAML 22 15 51.9
comp=Z,230nm,1.7s
AGUA GUANDACOL 4.47 174 i P Pn 22 14 37.3 +1.0
AGUA i S Sn 22 15 29.2 +1.9
AGUA IAML 22 15 31.8
comp=Z,3µm,0.6s
TA01 Diego Aracena 4.56 346 Pn 22 14 35.4 -1.9
PB08 IPOC Station P 4.86 359 Pn Pn 22 14 40.5 -1.4
ACDV Cuesta del Vie 5.13 181 i P Pn 22 14 45.9 +0.7
ACDV IAML 22 16 24.9
comp=Z,561nm,1.0s
AROD Rodeo 5.14 184 i P Pn 22 14 46.3 +0.8
PB11 IPOC Station P 5.27 354 Pn Pn 22 14 44.9 -2.2
GO01 Chusmiza 5.33 358 Pn 22 14 46.9 -1.4
PSGCX Pisagua 5.49 349 Pn 22 14 47.2 -2.9
ACCO Cerro Coronel 5.54 180 i P Pn 22 14 51.1 +0.1
ACCO IAML 22 15 57.6
comp=Z,712nm,0.4s
MNMC Minye Minye 5.88 355 Pn 22 14 53.3 -2.3
AMOG MOGNA 5.92 175 i P Pn 22 14 55.1 -0.7
AMOG i S Sn 22 15 58.8 -3.5
AMOG IAML 22 16 11.4
comp=Z,584nm,0.5s
RTLL Cerro Villicun 6.30 176 i P Pn 22 15 00.6 -0.5
RTLL i S Sn 22 16 07.7 -4.0
RTLL IAML 22 16 12.2
comp=Z,706nm,0.5s
PB12 IPOC Station P 6.49 349 Pn Pn 22 14 59.9 -3.8
CFA Coronel Fontan 6.60 174 P Pn 22 15 04.5 -0.6
comp=Z,130nm,0.3s,baz=353,slow=13,SNR=981
CFA S Sn 22 16 13.5 -5.3
comp=Z,67nm,0.3s,baz=234,slow=20,SNR=11
CFA Coronel Fontan 6.60 174 i P Pn 22 15 04.1 -0.9
AP01 Chacalluta 6.73 349 Pn Pn 22 15 05.4 -1.4
RTLS Leoncito 6.76 182 i P Pn 22 15 06.6 -0.9
RTCV Cerro Valdivia 6.83 176 i P Pn 22 15 07.5 -0.7
AUSP Uspallata 7.18 182 i P Pn 22 15 12.1 -1.1
ACAN Cantantal 7.41 168 i P Pn 22 15 15.1 -1.0
MRA San Martin 7.93 159 i P Pn 22 15 21.2 -2.0
ROC1 El Roble 8.11 192 Pn 22 15 21.5 -4.3
ROC1 El Roble 8.11 192 i P Pn 22 15 20.9 -4.9
PEL Peldehue 8.22 190 Pn Pn 22 15 23.1 -4.0
PEL Peldehue 8.22 190 i P Pn 22 15 23.6 -3.5
MT02 Curacav 8.41 192 Pn Pn 22 15 24.4 -5.2
LPAZ La Paz 8.73 6 P Pn 22 15 34.5 -0.2
comp=Z,8.3nm,0.3s,baz=184,slow=7.2,SNR=145
LPAZ LR LR 22 19 48.1
comp=Z,454nm,20.1s,baz=200,slow=43
LPAZ La Paz 8.73 6 Pn 22 15 34.0 -0.7
GO05 Huala 10.26 193 Pn 22 15 48.0 -6.8
CPUP Villa Florida 10.65 100 P Pn 22 15 57.6 -2.4
comp=Z,1.3nm,0.3s,baz=277,slow=11,SNR=30
SIV San Ignacio 11.68 41 P Pn 22 16 09.9 -4.1
comp=Z,31nm,0.3s,baz=248,slow=10,SNR=258
SIV S Sn 22 18 14.8 -7.7
baz=265,slow=15,SNR=3.3
SIV LR LR 22 21 32.9
comp=Z,284nm,20.8s,baz=268,slow=41
BI02 San Fabin de 11.76 189 Pn Pn 22 16 10.1 -5.0
H03N1 Juan Fernandez 12.02 223 T T 22 28 56.1
baz=43,slow=72,SNR=8.2
H03N2 Juan Fernandez 12.03 224 T T 22 28 33.0
baz=43,slow=72,SNR=5.5
H03N3 Juan Fernandez 12.04 223 T T 22 28 33.2
baz=43,slow=72,SNR=8.5
VA04 Juan Fernndez 12.10 223 Pn Pn 22 16 15.2 -4.4
BI03 Tigo 12.27 195 Pn Pn 22 16 19.4 -2.3
PTLB Pontes e Lacer 13.30 46 eP Pn 22 16 33.0 -2.5
PTLB Pontes e Lacer 13.30 46 eP Pn 22 16 33.0 -2.5
VILB Vilhena 14.62 36 eP Pn 22 16 49.9 -2.7
VILB Vilhena 14.62 36 eP Pn 22 16 49.9 -2.7
NNA Nana 14.92 329 P P 22 16 59.0 -0.5
comp=Z,1.3nm,0.3s,baz=192,slow=9.3,SNR=1.9
NNA S Sn 22 19 38.8 -2.3
comp=Z,1.2nm,0.3s,baz=252,slow=16,SNR=2.8
NNA LR LR 22 21 41.3
comp=Z,106nm,21.1s,baz=156,slow=33
NNA Nana 14.92 329 Pn Pn 22 16 53.1 -3.3
PLTB Pedras Altas 15.15 120 eP Pn 22 16 56.5 -2.7
PLTB Pedras Altas 15.15 120 eP Pn 22 16 56.5 -2.7
TRCB Terra Rica 15.17 85 eP Pn 22 16 57.0 -2.5
TRCB Terra Rica 15.17 85 eP Pn 22 16 57.0 -2.5
SALV Santo Antonio 15.44 57 eP Pn 22 16 59.9 -3.1
SALV Santo Antonio 15.44 57 eP Pn 22 16 59.9 -3.1
PLCA Paso Flores 15.72 184 P Pn 22 17 04.7 -1.7
comp=Z,3.3nm,0.3s,baz=8.1,slow=13,SNR=50
PLCA PcP PcP 22 22 01.1 +0.9
comp=Z,0.3nm,0.3s,baz=66,slow=4.8,SNR=3.0
PLCA Paso Flores 15.72 184 Pn Pn 22 17 04.4 -1.9
PLCA Paso Flores 15.72 184 eP Pn 22 17 03.8 -2.5
PLCA Paso Flores 15.72 184 eP Pn 22 17 03.8 -2.5
C2SB Chapadao do Su 16.27 71 eP Pn 22 17 11.1 -2.2
C2SB Chapadao do Su 16.27 71 eP Pn 22 17 11.1 -2.2
PCMB Pacaembu 16.68 82 eP Pn 22 17 16.1 -2.2
PCMB Pacaembu 16.68 82 eP Pn 22 17 16.1 -2.2
CNLB Canela 16.74 109 eP Pn 22 17 16.3 -2.7
CNLB Canela 16.74 109 eP Pn 22 17 16.3 -2.7
SAML Samuel 16.93 20 P Pn 22 17 18.1 -3.3
LL01 San Ignacio de 17.54 188 P P 22 17 27.0 -1.1
FRTB Fartura 17.85 89 eP P 22 17 30.5 -1.4
FRTB Fartura 17.85 89 eP P 22 17 30.5 -1.4

ITRB Iturama 18.07 77 eP P 22 17 33.5 -0.7
ITRB Iturama 18.07 77 eP P 22 17 33.5 -0.7
TIJ01 Guaruva-PR 18.14 95 eP P 22 17 34.0 -1.2
TIJ01 Guaruva-PR 18.14 95 eP P 22 17 34.0 -1.2
ARAG Araguaiana, MT 18.61 63 eP P 22 17 39.3 -0.9
ARAG Araguaiana, MT 18.61 63 eP P 22 17 39.3 -0.9
CLDB Colider 18.87 44 eP P 22 17 42.0 -1.0
CLDB Colider 18.87 44 eP P 22 17 42.0 -1.0
PET01 Itanhaem-SP 19.80 92 eP P 22 17 52.1 -1.0
PET01 Itanhaem-SP 19.80 92 eP P 22 17 52.1 -1.0
RCLB Rio Claro- Sao 19.86 87 eP P 22 17 52.3 -1.6
RCLB Rio Claro- Sao 19.86 87 eP P 22 17 52.3 -1.6
ATAH Atahualpa 19.91 332 P Pn 22 17 57.6 +0.3
comp=Z,0.6nm,0.3s,baz=145,slow=7.5,SNR=4.5
VAO Valinhos 20.27 89 eP P 22 17 56.7 -1.6
VAO Valinhos 20.27 89 eP P 22 17 56.7 -1.6
IPMB Ipameri, GO 20.59 74 eP P 22 18 00.2 -1.6
IPMB Ipameri, GO 20.59 74 eP P 22 18 00.2 -1.6
COYC Coyhaique 20.65 186 P 22 18 01.8 -0.2
PARB Paraibuna 21.43 90 eP P 22 18 09.9 -0.8
PARB Paraibuna 21.43 90 eP P 22 18 09.9 -0.8
BDFB Brasilia 21.79 69 P P 22 18 13.4 -1.3
comp=Z,15nm,0.5s,baz=234,slow=13,SNR=20
BDFB Brasilia 21.79 69 P P 22 18 12.7 -2.0
BDFB IAmb IAmb 22 18 14.9
comp=Z,37nm,1.1s
BSCB Bom Sucesso 22.69 85 eP P 22 18 21.9 -2.0
BSCB Bom Sucesso 22.69 85 eP P 22 18 21.9 -2.0
MAN01 Angra dos Reis 23.02 90 eP P 22 18 25.8 -1.3
MAN01 Angra dos Reis 23.02 90 eP P 22 18 25.8 -1.3
PEXB Peixe 23.45 61 eP P 22 18 29.4 -1.7
PEXB Peixe 23.45 61 eP P 22 18 29.4 -1.7
VAS01 Vassouras-RJ 23.60 89 eP P 22 18 32.8 +0.3
VAS01 Vassouras-RJ 23.60 89 eP P 22 18 32.8 +0.3
JANB Januaria 25.22 72 eP P 22 18 45.3 -2.0
JANB Januaria 25.22 72 eP P 22 18 45.3 -2.0
PTGA Pitinga 25.69 21 P P 22 18 51.7 +0.2
comp=Z,34nm,1.1s,baz=199,slow=9.4,SNR=22
PTGA pP pP 22 19 15.1 +0.5
comp=Z,35nm,0.6s,baz=209,slow=12,SNR=8.6
PTGA S S 22 23 13.9 +1.1
comp=Z,1.6nm,0.5s,baz=31,slow=20,SNR=1.1
PTGA Pitinga 25.69 21 P P 22 18 51.2 -0.2
PTGA IAmb IAmb 22 18 53.5
comp=Z,25nm,0.9s
PTGA Pitinga 25.69 21 eP P 22 18 51.7 +0.2
PTGA Pitinga 25.69 21 eP P 22 18 51.7 +0.2
SMTB Santa Maria do 26.00 56 eP P 22 18 53.8 -0.5
SMTB Santa Maria do 26.00 56 eP P 22 18 53.8 -0.5
PRPB Parauapebas 26.28 48 eP P 22 18 55.9 -0.9
PRPB Parauapebas 26.28 48 eP P 22 18 55.9 -0.9
PUAC Puerto Asis, P 26.45 343 eP P 22 19 00.1 +1.8
SJMB Sao Joao De Ma 26.58 82 eP P 22 18 59.6 +0.1
SJMB Sao Joao De Ma 26.58 82 eP P 22 18 59.6 +0.1
BSFB Barra de Sao F 26.84 82 eP P 22 19 00.7 -1.1
BSFB Barra de Sao F 26.84 82 eP P 22 19 00.7 -1.1
MALB Monte Alegre 27.09 34 eP P 22 19 03.5 -0.6
MALB Monte Alegre 27.09 34 eP P 22 19 03.5 -0.6
RIB01 Linhares ES 27.10 84 eP P 22 19 03.8 -0.4
RIB01 Linhares ES 27.10 84 eP P 22 19 03.8 -0.4
GCUF Volcan Galeras 27.30 342 eP P 22 19 11.7 +5.2
EFI East Falkland 27.91 165 P P 22 19 09.1 -1.8
BBAC Balboa, Cauca 28.04 342 eP P 22 19 14.7 +2.0
GO10 Punta Arenas 28.14 183 P P 22 19 13.1 +0.1
PRAC Prado 29.12 348 eP P 22 19 22.6 +0.4
VILC Villavicencio, 29.31 350 eP P 22 19 24.3 +0.4
ORTC Ortega, Tolima 29.38 347 eP P 22 19 25.9 +1.5
YOTC Yotoco, Valle 29.69 345 eP P 22 19 28.4 +1.1
USHA Ushuaia 29.78 179 P P 22 19 27.7 +0.2
comp=Z,16nm,0.5s,baz=343,slow=8.1,SNR=2.3
MG01 Puerto William 29.89 178 P P 22 19 27.8 -0.7
GDU01 Guandu, BA 29.92 73 eP P 22 19 27.6 -1.6
GDU01 Guandu, BA 29.92 73 eP P 22 19 27.6 -1.6
TOLC Tolima 30.06 347 eP P 22 19 32.8 +2.1
ROSC El Rosal 30.12 349 LR LR 22 33 04.6
comp=Z,98nm,18.9s,baz=250,slow=39
RREF El Recreo 30.37 348 eP P 22 19 36.0 +2.2
GUY2C Guyana, Caldas 30.69 348 eP P 22 19 37.9 +1.4
NORC Norcasia 30.93 349 eP P 22 19 36.9 -1.2
RUSC La Rusia 30.98 352 eP P 22 19 38.1 -0.9
RUSC La Rusia 30.98 352 P 22 19 37.6 -1.4
CBOC Ciudad Bolivar 31.44 347 eP P 22 19 43.9 +1.2
HELC Santa Helena 31.66 348 eP P 22 19 44.9 0.0
PTBC PUERTO BERRIO, 31.81 350 eP P 22 19 44.4 -1.4
MDP Montagnes des 33.93 30 P P 22 20 04.3 +0.1
comp=Z,36nm,0.8s,baz=196,slow=9.0,SNR=20
SMLC San Martn de 33.97 351 eP P 22 20 01.9 -2.8
HATO Hato, Curacao 36.98 0 P P 22 20 28.5 -1.8
TOSP Speyside 37.04 14 P P 22 20 30.7 -0.1
RCBR Riachuelo 37.04 65 P P 22 20 31.3 +0.2
comp=Z,65nm,0.9s,baz=228,slow=10,SNR=22
RCBR Riachuelo 37.04 65 P P 22 20 31.1 +0.1
RCBR Riachuelo 37.04 65 eP P 22 20 30.7 -0.3
RCBR Riachuelo 37.04 65 eP P 22 20 30.7 -0.3
MLPR Magueyes Islan 42.78 3 P P 22 21 16.8 -1.5
CRPR Cabo Rojo, PR 42.81 3 P P 22 21 17.6 -0.9
OBIP Obispado Ponce 42.87 3 P P 22 21 18.2 -0.8
SJG San Juan 42.97 4 P P 22 21 18.7 -1.1
SJG IAmb IAmb 22 21 18.7
comp=Z,12nm,0.8s
MTP Monte Pirata 42.99 5 P P 22 21 18.1 -1.9
MTP IAmb IAmb 22 21 25.3
comp=Z,12nm,0.9s
ANWB Willy Bob 43.02 10 P P 22 21 19.1 -1.1
CBYP Canovanas 43.14 4 P P 22 21 18.9 -2.4
AOPR Arecibo Observ 43.16 3 P P 22 21 20.2 -1.2
GCPR Guaynabo City 43.17 4 P P 22 21 20.6 -0.8
VNA3 Neumayer Olymp 56.80 161 P P 22 23 04.3 +0.3
VNA1 Neumayer--Stat 57.03 160 P P 22 23 06.2 +0.7
VNA2 Neumayer--Watz 57.39 160 P P 22 23 08.4 +0.3
baz=287,slow=8.5
451A Vernon 57.59 343 P P 22 23 07.8 -2.1
154A Montrose 58.86 346 P P 22 23 17.1 -1.6
SNAA Sanae 59.01 160 P P 22 23 19.5 +0.1
SNAA Sanae 59.01 160 P P 22 23 19.3 -0.1
comp=Z,22nm,0.9s,baz=279,slow=7.3,SNR=73
SNAA Sanae 59.01 160 P P 22 23 19.4 -0.1
Y55A Saluda 59.89 348 P P 22 23 26.2 +0.4
baz=167
X58A Rowland 60.05 350 P P 22 23 27.6 +0.8
baz=170
LRAL Lakeview Retre 60.22 343 P P 22 23 27.7 -0.3
baz=162
X56A White Oak 60.27 349 P P 22 23 28.1 -0.3
baz=168
BIRD Birdtown, Kers 60.32 349 P P 22 23 28.2 -0.5
X55A Gracelyn & Ava 60.36 348 P P 22 23 29.4 +0.4
baz=167
W58A Raeford 60.49 350 P P 22 23 30.9 +1.1
baz=170
Z47A Carrollton 60.67 342 P P 22 23 29.8 -1.3
Z47A IAmb IAmb 22 23 31.2
comp=Z,10nm,1.1s
W57A Gilead 60.74 350 P P 22 23 31.1 -0.5
W57A IAmb IAmb 22 23 48.4
comp=Z,12nm,1.1s
Y49A Blount Mountai 60.84 343 P P 22 23 30.3 -2.0
Y49A IAmb IAmb 22 23 32.9
comp=Z,16nm,1.4s
KMSC Kings Mountain 60.96 348 P P 22 23 34.0 +1.0
baz=168
W54A Cherokee Point 61.06 348 P P 22 23 34.5 +0.8
baz=167
V59A Middlesex 61.08 351 P P 22 23 34.6 +0.8
baz=171
BG3 Lake Jocassee 61.12 347 P P 22 23 32.5 -1.7
BG3 IAmb IAmb 22 23 42.4
comp=Z,11nm,1.5s
X51A Calhoun 61.13 345 P P 22 23 33.5 -0.7
V58A Windy Hill, Pi 61.23 351 P P 22 23 35.3 +0.5
baz=170
V58A Windy Hill, Pi 61.23 351 P P 22 23 33.6 -1.2
V58A IAmb IAmb 22 23 38.0
comp=Z,8.0nm,1.1s
FPAL Fort Paine 61.29 344 P P 22 23 33.5 -1.9
FPAL IAmb IAmb 22 23 36.0
comp=Z,9.7nm,1.2s
V57A Coltrane Farms 61.42 350 P P 22 23 36.8 +0.6
baz=169
V56A Mocksville 61.46 349 P P 22 23 38.2 +1.8
baz=169
X48A Hartselle 61.57 343 P P 22 23 37.5 +0.3
X48A IAmb IAmb 22 23 39.2
comp=Z,9.5nm,1.1s
U59A Littleton 61.60 352 P P 22 23 36.3 -1.0
U59A IAmb IAmb 22 23 45.4
comp=Z,10nm,1.2s
V55A Taylorsville 61.63 349 P P 22 23 39.4 +1.9
baz=168
V55A Taylorsville 61.63 349 P P 22 23 36.6 -1.0
V55A IAmb IAmb 22 23 40.4
comp=Z,9.0nm,1.1s
V54A Nebo 61.69 348 P P 22 23 38.4 +0.4
baz=167
Y45A Yeager Farm, C 61.72 341 P P 22 23 37.5 -0.7
U58A Oxford 61.74 351 P P 22 23 39.9 +1.7
baz=171
V53A Saluda 61.75 347 P P 22 23 38.0 -0.5
U57A Blanch 61.89 351 P P 22 23 40.1 +0.8
baz=170
CPCT Cooper Cave 61.90 346 P P 22 23 39.1 -0.3
CPCT IAmb IAmb 22 23 40.4
comp=Z,6.3nm,1.1s
TKL Tuckaleechee C 61.94 346 P P 22 23 39.3 -0.3
TKL IAmb IAmb 22 23 41.6
comp=Z,6.6nm,0.8s
U56A King 61.97 350 P P 22 23 38.4 -1.4
U56A IAmb IAmb 22 23 43.0
comp=Z,13nm,1.2s
SWET Sewanee 62.01 344 IAmb IAmb 22 23 40.5
comp=Z,7.4nm,0.7s
V52A Sevierville 62.08 347 IAmb IAmb 22 23 42.5
comp=Z,9.8nm,1.1s
T59A Double "B" Far 62.18 352 P P 22 23 40.5 -0.7
T59A IAmb IAmb 22 23 42.8
comp=Z,14nm,1.3s
T58A Grand View Acr 62.28 351 P P 22 23 43.0 +1.1
baz=171
PLAL Pickwick Lake 62.34 342 P P 22 23 41.3 -1.1
PLAL IAmb IAmb 22 23 45.1
comp=Z,5.4nm,0.9s
U54A Nelsons Funny 62.39 348 P P 22 23 43.1 +0.4
baz=167
U54A Nelsons Funny 62.39 348 P P 22 23 41.6 -1.1
U54A IAmb IAmb 22 23 45.2
comp=Z,6.8nm,0.7s
T57A Hurt 62.43 351 P P 22 23 43.6 +0.7
baz=170
JCT Junction City 62.56 330 P P 22 23 45.2 +1.2
baz=149
JCT Junction City 62.56 330 P P 22 23 43.0 -1.0
JCT IAmb IAmb 22 23 48.5
comp=Z,6.0nm,0.7s
T56A Rocky Mt 62.58 350 P P 22 23 44.9 +1.0
baz=169,SNR=5.2
V48A Smith Brothers 62.73 344 P P 22 23 43.0 -2.0
V48A IAmb IAmb 22 23 46.9
comp=Z,10nm,1.2s
X43A Marvell 62.74 340 P P 22 23 44.1 -0.8
TZTN Tazewell 62.75 347 P P 22 23 44.0 -1.1
TZTN IAmb IAmb 22 23 45.3
comp=Z,7.5nm,1.1s
T55A Pulaski 62.79 349 P P 22 23 46.0 +0.7
baz=168
CLTN Cedars of Leba 62.94 344 P P 22 23 46.3 0.0
CLTN IAmb IAmb 22 23 49.7
comp=Z,5.3nm,0.9s
T53A Wise 62.97 348 P P 22 23 46.7 +0.2
baz=167
S57A Dark Hollow, R 63.14 351 P P 22 23 48.5 +0.9
baz=170
R58B Mineral 63.20 352 P P 22 23 48.2 +0.3
baz=171
R58B Mineral 63.20 352 P P 22 23 46.7 -1.3
R58B IAmb IAmb 22 23 49.9
comp=Z,13nm,1.0s
WVT Waverly 63.36 343 P P 22 23 48.7 -0.4
baz=161
WVT Waverly 63.36 343 P P 22 23 48.7 -0.4
WVT IAmb IAmb 22 23 49.4
comp=Z,6.1nm,0.7s
S55A Lewisburg 63.38 350 P P 22 23 49.6 +0.4
baz=169
UALR University of 63.44 339 P P 22 23 48.8 -0.9
UALR IAmb IAmb 22 23 54.7
comp=Z,6.7nm,0.7s
TXAR Lajitas Array 63.46 326 P P 22 23 51.2 +1.3
comp=Z,0.8nm,0.7s,baz=153,slow=8.1,SNR=14
TXAR pP pP 22 24 17.6 +1.6
comp=Z,1.6nm,0.6s,baz=150,slow=8.5,SNR=8.3
TXAR Lajitas Array 63.46 326 P P 22 23 49.8 -0.2
TX31 Lajitas Ar. Si 63.46 326 P P 22 23 48.8 -1.2
TX31 IAmb IAmb 22 24 02.6
comp=Z,9.1nm,1.2s
TX32 Lajitas Array 63.46 326 P P 22 23 49.8 -0.2
T50A Nancy 63.48 346 P P 22 23 48.0 -1.9
S54A Dingess, Beckl 63.54 349 P P 22 23 52.2 +1.9
baz=168
R58A Rapidan 63.55 352 P P 22 23 51.0 +0.7
baz=171
R57A Stanardsville 63.61 352 P P 22 23 51.9 +1.2
baz=171,SNR=9.2
MIAR Mount Ida 63.65 338 P P 22 23 51.7 +0.7
baz=156,SNR=5.3
MIAR Mount Ida 63.65 338 P P 22 23 50.4 -0.6
W41B Gary Mavity, V 63.78 339 P P 22 23 51.1 -0.7
baz=157
W41B Gary Mavity, V 63.78 339 P P 22 23 51.3 -0.5
R55A Marlinton 63.82 350 P P 22 23 54.2 +2.0
baz=169,SNR=5.4
T47A Sharon Grove 63.98 344 IAmb IAmb 22 23 57.7
comp=Z,10nm,1.1s
Q60A Greensboro 64.01 354 P P 22 23 53.2 0.0
W39A Magazine 64.31 338 P P 22 23 56.5 +1.1
baz=156
W39A Magazine 64.31 338 P P 22 23 54.6 -0.7
W39A IAmb IAmb 22 23 59.3
comp=Z,5.7nm,0.8s
Q57A Strasburg 64.32 352 P P 22 23 56.8 +1.5
baz=171
ABTX Abilene, Hawle 64.32 332 P P 22 23 57.4 +1.8
baz=150
X37A Clayton 64.33 336 P P 22 23 54.2 -1.3
X37A IAmb IAmb 22 23 58.4
comp=Z,8.1nm,1.1s
FCAR Ozark Folk Cen 64.39 339 P P 22 23 53.9 -1.9
FCAR IAmb IAmb 22 24 06.2
comp=Z,11nm,1.4s
Q56A Snyder Ridge, 64.43 351 P P 22 23 57.5 +1.4
baz=170
Q56A Snyder Ridge, 64.43 351 P P 22 23 56.1 +0.1
Q55A Buckhannon 64.52 350 P P 22 23 57.9 +1.3
baz=169
P57A Homestead Farm 64.72 352 P P 22 23 59.4 +1.6
baz=171
P57A Homestead Farm 64.72 352 P P 22 23 57.6 -0.3
P57A IAmb IAmb 22 24 00.2
comp=Z,5.9nm,0.7s
P56A Dayton Farm, R 64.84 352 P P 22 24 00.5 +1.8
baz=171
WCI Wyandotte Cave 64.97 345 P P 22 23 59.2 -0.4
baz=163
WCI Wyandotte Cave 64.97 345 P P 22 23 59.2 -0.4
WCI IAmb IAmb 22 23 59.7
comp=Z,5.8nm,0.7s
P55A Reedsville 64.98 351 P P 22 24 00.3 +0.6
baz=170
U40A Yellville 65.06 339 P P 22 24 00.6 +0.4
baz=157
U40A Yellville 65.06 339 P P 22 23 59.6 -0.5
Q51A Peebles 65.10 348 P P 22 23 59.5 -1.0
MCWV Mont Chateau 65.13 351 P P 22 24 02.0 +1.4
baz=170
MCWV Mont Chateau 65.13 351 P P 22 24 01.3 +0.7
MCWV IAmb IAmb 22 24 02.3
comp=Z,4.4nm,0.7s
P54A Burton 65.17 350 P P 22 24 01.6 +0.8
baz=169
QSPA South Pole Qui 65.19 180 P P 22 24 01.6 +0.8
comp=Z,44nm,0.6s,baz=165,slow=0.9,SNR=500
QSPA pP pP 22 24 29.0 +1.6
comp=Z,11nm,0.5s,baz=271,slow=0.7,SNR=2.9
QSPA South Pole Qui 65.19 180 P P 22 24 01.7 +0.8
P53A Whipple 65.20 349 P P 22 24 01.9 +0.9
baz=168
P53A Whipple 65.20 349 P P 22 24 00.5 -0.6
P53A IAmb IAmb 22 24 02.2
comp=Z,9.8nm,1.1s
S44A Carbondale 65.21 342 P P 22 24 00.9 -0.2

S44A IAmb IAmb 22 24 01.7
comp=Z,7.5nm,0.7s
HHAR Hobbs 65.35 338 P P 22 24 01.4 -0.7
O55A Ligonier 65.59 351 P P 22 24 04.4 +0.8
baz=170
U38A Gravette 65.64 338 P P 22 24 03.2 -0.7
O54A Avella 65.72 350 P P 22 24 04.3 -0.1
O54A IAmb IAmb 22 24 10.9
comp=Z,7.1nm,1.1s
P49A Miami Univ. Ec 65.87 347 P P 22 24 03.7 -1.6
N58A Sunbury 65.91 354 P P 22 24 05.2 -0.4
N58A IAmb IAmb 22 24 10.1
comp=Z,8.7nm,1.0s
N57A Milroy 65.92 353 P P 22 24 06.3 +0.7
baz=172
N55A Marion Center 66.11 352 P P 22 24 08.0 +1.0
baz=170
CCM Cathedral Cave 66.12 341 P P 22 24 07.1 +0.2
baz=158
CCM Cathedral Cave 66.12 341 P P 22 24 07.1 +0.2
CCM IAmb IAmb 22 24 09.2
comp=Z,5.7nm,0.8s
N56A West Decatur 66.16 352 P P 22 24 08.1 +0.9
baz=171,SNR=5.2
ACSO Alum Creek Sta 66.20 348 P P 22 24 06.2 -1.2
ACSO IAmb IAmb 22 24 08.2
comp=Z,8.4nm,0.9s
M62A Hamden 66.22 357 P P 22 24 08.7 +1.2
baz=177
MNTX Cornudas Mount 66.23 327 P P 22 24 08.3 +0.5
baz=144
MNTX Cornudas Mount 66.23 327 P P 22 24 06.9 -1.0
N53A Lisbon 66.40 350 P P 22 24 08.5 -0.2
N53A IAmb IAmb 22 24 11.1
comp=Z,8.4nm,1.1s
M58A Price's Panora 66.41 354 P P 22 24 10.0 +1.2
baz=173
O49A Covington 66.42 347 P P 22 24 08.2 -0.6
O49A IAmb IAmb 22 24 09.9
comp=Z,10nm,1.2s
S39A Bolivar 66.42 339 P P 22 24 08.5 -0.5
S39A IAmb IAmb 22 24 12.8
comp=Z,9.2nm,0.8s
N54A Moraine State 66.43 351 P P 22 24 09.8 +0.9
baz=170,SNR=5.6
N54A Moraine State 66.43 351 P P 22 24 07.9 -1.0
N54A IAmb IAmb 22 24 11.7
comp=Z,10nm,1.1s
M57A Sunshine Farm, 66.45 353 P P 22 24 10.2 +1.2
baz=172
M57A Sunshine Farm, 66.45 353 P P 22 24 08.3 -0.7
M57A IAmb IAmb 22 24 18.7
comp=Z,16nm,1.4s
M59A Waymart 66.49 355 P P 22 24 10.6 +1.3
baz=174
KSPA Keystone Colle 66.53 355 P P 22 24 09.0 -0.5
KSPA IAmb IAmb 22 24 12.8
comp=Z,7.5nm,0.9s
L63A North Scituate 66.59 358 P P 22 24 10.9 +1.1
baz=178
R40A Maddies Statio 66.64 340 P P 22 24 09.6 -0.7
R40A IAmb IAmb 22 24 14.0
comp=Z,11nm,0.9s
M56A Emporium 66.71 353 P P 22 24 11.1 +0.5
baz=171
N51A Ashland 66.76 349 P P 22 24 11.3 +0.3
N51A IAmb IAmb 22 24 24.7
comp=Z,8.7nm,0.9s
M55A Ridgway 66.76 352 P P 22 24 11.8 +0.8
baz=171
M55A Ridgway 66.76 352 P P 22 24 10.3 -0.8
M55A IAmb IAmb 22 24 20.3
comp=Z,12nm,1.1s
L60A Shokan 66.84 356 P P 22 24 13.2 +1.6
baz=175
MSTX Muleshoe 66.85 330 P P 22 24 14.2 +2.3
baz=147
MSTX Muleshoe 66.85 330 P P 22 24 10.9 -1.0
MSTX IAmb IAmb 22 24 14.8
comp=Z,8.8nm,0.9s
M54A Oil Creek Stat 66.92 351 P P 22 24 12.5 +0.4
baz=170
L61A Hillsdale 1, H 67.01 356 P P 22 24 13.9 +1.4
baz=176
L58A Harry Jones Me 67.03 354 P P 22 24 14.1 +1.4
baz=174
N49A Columbus Grove 67.10 348 IAmb IAmb 22 24 14.5
comp=Z,18nm,1.3s
L59A Walton 67.10 355 P P 22 24 14.6 +1.4
baz=174
P43A Skaggs, Pawnee 67.11 343 P P 22 24 12.7 -0.5
P43A IAmb IAmb 22 24 15.0
comp=Z,7.0nm,0.7s
ALLY Alegheny Colle 67.13 351 P P 22 24 13.8 +0.5
ALLY IAmb IAmb 22 24 14.9
comp=Z,8.7nm,0.9s
BINY Binghamton 67.19 354 P P 22 24 13.3 -0.4
M52A Chesterland 67.20 350 P P 22 24 11.6 -2.2
L61B Northampton 67.22 357 P P 22 24 15.2 +1.3
baz=177
HRV Adam Dziewonsk 67.23 358 P P 22 24 15.6 +1.7
baz=178
L56A Greenwood 67.28 353 P P 22 24 15.2 +0.9
baz=172
K61A Williamstown 67.47 357 P P 22 24 17.0 +1.6
baz=176
L54A Sinclairville 67.59 352 P P 22 24 17.4 +1.1
baz=170
K59A Cooperstown 67.67 355 P P 22 24 18.0 +1.2
baz=175
P40A Paris 67.72 341 IAmb IAmb 22 24 18.1
comp=Z,8.0nm,0.7s
K58A Earlville 67.72 355 P P 22 24 18.1 +1.1
baz=174
K58A Earlville 67.72 355 IAmb IAmb 22 24 18.9
comp=Z,8.1nm,0.7s
K56A Middlesex 67.81 353 P P 22 24 18.6 +0.9
baz=172
K55A Perry 67.92 353 P P 22 24 19.3 +0.9
baz=172
J60A Lant Hill Farm 68.05 357 P P 22 24 20.6 +1.5
baz=176
J61A Chester 68.11 357 P P 22 24 21.1 +1.7
baz=177
121A Cookes Peak, D 68.12 325 P P 22 24 22.2 +2.2
baz=143
121A Cookes Peak, D 68.12 325 P P 22 24 21.1 +1.1
J58A Remsen 68.28 355 P P 22 24 20.6 +0.1
J59A Piesco 68.33 356 P P 22 24 22.2 +1.3
baz=175
J59A Piesco 68.33 356 IAmb IAmb 22 24 22.6
comp=Z,7.4nm,0.8s
J57A Williamstown 68.39 355 P P 22 24 22.6 +1.4
J57A IAmb IAmb 22 24 24.1
comp=Z,8.8nm,0.7s
I58A Old Forge 68.59 355 P P 22 24 23.6 +1.2
baz=175
I59A Olmsteadville 68.62 356 P P 22 24 23.7 +1.0
baz=176,SNR=6.2
I60A Shoreham 68.64 357 P P 22 24 24.3 +1.6
baz=176,SNR=6.2
J52A Paris 68.73 351 P P 22 24 23.7 +0.4
baz=169,SNR=9.3
I57A Carthage 68.89 355 P P 22 24 25.4 +1.1
baz=174,SNR=6.2
H58A Gabriels 69.26 356 P P 22 24 27.8 +1.2
baz=175,SNR=7.8
I55A Frankford 69.35 353 P P 22 24 27.3 +0.2
baz=172,SNR=6.4
ANMO Albuquerque 69.38 328 P P 22 24 29.8 +2.0
baz=144
ANMO Albuquerque 69.38 328 P P 22 24 29.8 +2.0
LONY Lake Ozonia 69.49 356 P P 22 24 29.0 +1.0
baz=175
I52A Shelburne 69.50 351 P P 22 24 28.5 +0.4
baz=170
LIC Lamto 69.52 73 *eP* P 22 24 28.9 0.0
comp=Z,49nm,0.9s
TUC Tucson 69.55 323 P P 22 24 29.9 +1.2
baz=140
H56A Elgin 69.59 355 P P 22 24 29.5 +1.0
baz=173,SNR=8.1
H55A Tweed 69.63 354 P P 22 24 29.7 +0.9
baz=172
TIC Toumodi 69.73 72 *eP* P 22 24 30.3 +0.1
G63A Kingsbury 69.80 360 P P 22 24 32.6 +2.7
baz=180

H53A Bobcaygeon 69.80 353 P P 22 24 30.5 +0.6
baz=171,SNR=6.8
L40A Anamosa 69.83 343 IAmb IAmb 22 24 31.0
comp=Z,9.1nm,0.8s
KIC Kosan Boka 69.84 73 *eP* P 22 24 31.1 +0.3
comp=Z,30nm,0.7s
DBIC Dimbokro 69.89 72 P P 22 24 31.5 +0.4
comp=Z,21nm,0.8s,baz=225,slow=6.4,SNR=16
DBIC pP **pP 22 24 58.7 +0.7**
comp=Z,11nm,0.6s,baz=217,slow=7.4,SNR=7.9
DBIC LR LR 22 53 20.6
comp=Z,64nm,20.6s,slow=34
DBIC Dimbokro 69.89 72 P P 22 24 31.9 +0.8
G62A West of Eustis 69.91 359 P P 22 24 32.2 +1.6
baz=179
G57A Newington 70.00 356 P P 22 24 31.4 +0.4
baz=175,SNR=9.1
T25A Trinidad 70.22 331 P P 22 24 36.8 +3.9
baz=146
G53A Haliburton 70.35 353 P P 22 24 34.1 +0.9
baz=171,SNR=10.0
ORIO Orleans, Innes 70.38 355 P P 22 24 34.2 +0.9
baz=174
F64A Sherman 70.55 1 P P 22 24 35.6 +1.2
baz=181
G54A Lake Saint Pet 70.56 353 P P 22 24 34.6 +0.1
baz=172
H46A Fife Lake 70.78 348 P P 22 24 35.8 -0.1
baz=165,SNR=7.4
F52A Sundridge 71.10 352 P P 22 24 38.5 +0.8
baz=170,SNR=9.8
ALGO Algonquin Park 71.11 353 P P 22 24 38.3 +0.5
baz=172,SNR=11
F51A Arnstein 71.30 352 P P 22 24 39.4 +0.4
baz=170,SNR=6.4
E62A Clayton Lake 71.30 360 P P 22 24 40.2 +1.2
baz=180,SNR=6.5
BGNE Belgrade 71.39 337 P P 22 24 41.0 +1.3
baz=153
F49A Sandfield 71.43 350 P P 22 24 39.7 0.0
baz=168
E56A St. Veronique 71.43 356 P P 22 24 40.4 +0.7
baz=175
E54A Lac Daplat, Po 71.50 354 P P 22 24 40.5 +0.4
baz=173,SNR=11
D62A Allapoint, All 71.77 360 P P 22 24 43.0 +1.2
baz=180
D57A Chemin Vers le 71.83 357 P P 22 24 43.3 +1.1
baz=176,SNR=9.3
E51A G1948 Merrick 71.84 352 P P 22 24 42.8 +0.6
baz=170,SNR=8.6
D58A Chemin du LacG 71.86 357 P P 22 24 43.6 +1.3
baz=177,SNR=7.1
E50A Wahnapitae 71.89 352 P P 22 24 43.0 +0.5
baz=169
D55A Sainte-Anne-du 71.94 355 P P 22 24 43.2 +0.5
baz=174,SNR=7.9
F45A CMU Biological 71.95 348 P P 22 24 42.6 -0.2
baz=165,SNR=5.7
E48A Lockeyer 72.15 351 P P 22 24 44.3 +0.3
baz=168,SNR=9.1
D52A ZEK Kipawa Sen 72.16 353 P P 22 24 44.9 +0.8
baz=171,SNR=6.9
D53A Lac Vacive, Po 72.19 354 P P 22 24 44.8 +0.5
baz=172,SNR=10
D53A Lac Vacive, Po 72.19 354 IAmb IAmb 22 24 45.3
comp=Z,7.9nm,0.6s
E47A Iron Bridge 72.30 350 P P 22 24 45.4 +0.5
baz=167,SNR=7.5
E46A Sault Ste Mari 72.39 349 IAmb IAmb 22 24 46.3
comp=Z,9.8nm,1.0s
D50A G1974 Best Tow 72.51 352 P P 22 24 46.7 +0.5
baz=170,SNR=6.5
D48A Paudash Townsh 72.78 351 P P 22 24 47.8 0.0
baz=168,SNR=6.6
D49A Beulah Townshi 72.81 351 P P 22 24 48.5 +0.6
baz=169
D46A Sault St. Mari 72.85 349 P P 22 24 48.1 -0.1
baz=166
D47A Chapleau 72.86 350 P P 22 24 48.2 -0.1
baz=167
ECSD EROS Data Cent 72.95 339 P P 22 24 49.4 +0.5
baz=154
BC3 Big Chuckawall 73.16 321 P P 22 24 52.3 +1.8
baz=137
PV05 Paradox Valley 73.16 328 IAmb IAmb 22 24 54.4
comp=Z,5.8nm,0.7s
VLDQ Val d'Or 73.19 354 IAmb IAmb 22 24 53.4
comp=Z,16nm,1.4s
SYO Syowa Base 73.27 159 ⇑ *iP* P 22 24 49.3 -1.2
SYO Syowa Base 73.27 159 ⇓ *iPcP* PcP 22 25 04.6 -1.8
SYO Syowa Base 73.27 159 ⇑ *iPP* pP 22 25 18.0 +0.6
IRM Mt Mountain 73.35 321 P P 22 24 53.7 +2.2
baz=137
VNDA Vanda 73.38 190 P P 22 24 52.4 +1.3
comp=Z,5.0nm,0.9s,baz=125,slow=4.5,SNR=15
VNDA Vanda 73.38 190 P P 22 24 52.7 +1.7
LSQQ Lebel-sur-Quev 74.08 355 P P 22 24 57.9 +2.5
baz=173
GMRC Granite Mounta 74.09 322 P P 22 24 58.4 +2.5
baz=137
O20A White River Ci 74.40 330 P P 22 24 59.8 +2.1
baz=144
TPNV Topopah Spring 76.00 323 P P 22 25 09.4 +2.5
baz=137
DUG Dugway, Tooele 76.62 327 P P 22 25 13.8 +3.5
baz=140
CWC Cottonwood Cre 76.65 321 P P 22 25 12.8 +2.2
baz=136
R11A Troy Canyon, C 76.66 324 P P 22 25 13.0 +2.4
baz=138
AGMN Agassiz Nation 76.85 342 P P 22 25 13.5 +2.3
baz=156
PDAR Pinedale Array 77.10 331 P P 22 25 14.3 +1.3
comp=Z,0.5nm,0.4s,baz=116,slow=6.9,SNR=4.5
PDAR pP **pP 22 25 41.0 +0.8**
comp=Z,2.5nm,0.7s,baz=128,slow=7.5,SNR=5.1
NVAR Mina Array Bea 78.19 323 P P 22 25 20.6 +1.4
comp=Z,1.3nm,0.8s,baz=163,slow=6.6,SNR=8.8
NVAR pP **pP 22 25 48.2 +2.0**
comp=Z,1.7nm,0.6s,baz=156,slow=5.5,SNR=8.5
NVAR sP **sP 22 25 59.8 +2.5**
comp=Z,4.1nm,0.8s,baz=155,slow=6.8,SNR=8.2
KVN Kaiserville 78.52 323 P P 22 25 19.8 -1.2
ULM Lac du Bonnet 78.63 343 P P 22 25 22.8 +1.8
comp=Z,6.4nm,0.9s,baz=179,slow=5.7,SNR=3.0
ULM pP **pP 22 25 48.8 +0.7**
comp=Z,6.3nm,0.5s,baz=157,slow=6.3,SNR=4.5
TORD Torodi Ar. Bea 78.67 70 P P 22 25 22.3 +0.2
comp=Z,28nm,0.8s,baz=263,slow=5.5,SNR=103
TORD pP **pP 22 25 49.5 0.0**
comp=Z,16nm,0.5s,baz=255,slow=5.4,SNR=5.4
TORD sP **sP 22 26 01.6 +0.9**
comp=Z,19nm,0.7s,baz=254,slow=4.6,SNR=4.3
TORD LR LR 22 58 33.5
comp=Z,40nm,20.8s,baz=215,slow=34
TORD Torodi Ar. Bea 78.67 70 P P 22 25 22.3 +0.2
RLMT Red Lodge 78.85 332 P P 22 25 24.5 +1.8
baz=144
TSUM Tsumeb 79.17 106 P P 22 25 26.4 +1.4
TSUM IAmb IAmb 22 25 30.5
comp=Z,11nm,0.8s
SCHQ Schefferville 79.55 1 P P 22 25 27.2 +1.3
comp=Z,2.3nm,0.7s,baz=248,slow=5.4,SNR=2.8
SCHQ pP **pP 22 25 53.3 +0.3**
comp=Z,6.6nm,0.8s,baz=172,slow=3.3,SNR=5.8
SCHQ Schefferville 79.55 1 IAmb IAmb 22 25 29.9
comp=Z,2.2nm,0.8s
MCMT McKenzie Canyo 80.19 330 P P 22 25 29.2 -0.7
DLMT Dillon 80.49 330 P P 22 25 30.9 -0.6
MAW Mawson 81.01 163 P P 22 25 34.6 +0.8
comp=Z,33nm,0.8s,baz=217,slow=6.7,SNR=46
MAW Mawson 81.01 163 IAmb IAmb 22 25 35.6
comp=Z,10nm,1.0s
WVOR Wild Horse Val 81.22 325 P P 22 25 33.9 -1.5
O03E Paynes Creek 81.43 322 P P 22 25 37.5 +1.0
baz=133
MOD Modoc Plateau 81.72 324 P P 22 25 37.0 -1.1
J08A Circle Bar Ran 81.80 326 P P 22 25 37.4 -1.0
BOSA Boshof 81.92 118 P P 22 25 40.0 +0.4
comp=Z,7.4nm,0.9s,baz=265,slow=3.3,SNR=13
BOSA pP **pP 22 26 07.7 +0.6**
comp=Z,6.2nm,0.7s,baz=290,slow=2.5,SNR=2.1
BOSA LR LR 22 58 49.0
comp=Z,42nm,18.5s,baz=202,slow=33
PINE Pine Mountain 83.38 325 P P 22 25 45.6 -1.1
PINE IAmb IAmb 22 25 52.6
comp=Z,6.5nm,1.0s

LBTB Lobatse 83.67 115 P P 22 25 49.3 +0.7
WALA Waterton Lakes 83.91 332 P P 22 25 48.8 -0.4
PTEO Sao Teotonio 84.16 44 *i* LQ LQ 22 26 22.4
FFC Flin Flon 84.31 342 P P 22 25 49.8 -1.1
PBDV Barranco-do-Ve 84.47 45 *eP* P 22 25 49.4 -2.8
PBDV *epP* **pP 22 26 13.4 -6.4**
PBDV *i* LQ LQ 22 26 21.6
PCVE Castro Verde 84.64 44 *i* LQ LQ 22 26 22.9
MESJ Messejana 84.65 44 *i* LQ LQ 22 26 22.9
PVAQ Vaqueiros 84.71 45 *i* LQ LQ 22 26 23.2
C09A Chrisman Ranch 84.91 329 P P 22 25 53.1 -1.0
C09A IAmb IAmb 22 25 59.3
comp=Z,8.4nm,0.9s
PBEJ Beja 84.99 44 *i* LQ LQ 22 26 25.5
EVO Evora 85.20 44 *i* LQ LQ 22 26 25.6
PSBE So Bento 85.31 42 *i* LQ LQ 22 26 26.4
PMTG Montargil 85.39 43 *eP* P 22 25 58.4 +1.7
comp=Z,52nm,1.1s
PMTG *i* LQ LQ 22 26 26.6
PCAS Casmilo, Conde 85.82 42 *i* LQ LQ 22 26 24.5
COI Coimbra 85.97 42 *i* LQ LQ 22 26 29.4
PMRV Marv??o 86.13 43 *eP* P 22 26 03.8 +3.4
comp=Z,21nm,1.1s
PMRV *epP* **pP 22 26 23.6 -4.4**
PMRV *i* LQ LQ 22 26 29.4
PCBR Castelo Branco 86.32 43 *i* LQ LQ 22 26 30.5
MTE Manteigas 86.61 42 *i* LQ LQ 22 26 31.7
PBRG Bragnca 87.94 41 *i* LQ LQ 22 26 40.8
ESDC Sonseca Array 88.42 44 P P 22 26 12.4 +0.9
comp=Z,0.8nm,0.9s,baz=243,slow=4.8,SNR=4.5
ESDC pP **pP 22 26 40.2 +0.9**
comp=Z,5.1nm,0.9s,baz=257,slow=4.3,SNR=13
ESDC Sonseca Array 88.42 44 P P 22 26 13.0 +1.5
CASY Casey 88.99 180 P P 22 26 15.0 +1.3
LSZ Lusaka 90.00 107 P P 22 26 20.7 +1.1
comp=Z,1.5nm,0.8s,baz=281,slow=10,SNR=2.7
LSZ Lusaka 90.00 107 P P 22 26 19.6 0.0
YKA Yellowknife Ar 94.45 341 P P 22 26 39.5 +0.8
comp=Z,2.0nm,0.7s,baz=142,slow=4.6,SNR=14
YKA pP **pP 22 27 06.9 +0.4**
comp=Z,3.6nm,0.7s,baz=140,slow=4.8,SNR=11
YKA sP **sP 22 27 18.5 +1.0**
comp=Z,3.0nm,0.8s,baz=140,slow=5.1,SNR=4.2
RETA Reutte 101.55 43 *ep*Pdiff pPdif 22 27 41.7 +2.6
comp=Z,6.5nm,1.4s
MOTA Moosalm 101.70 43 *ep*Pdiff pPdif 22 27 40.7 +0.7
comp=Z,4.8nm,0.9s
SQTA Sankt Quirin 101.72 43 *i* pPdiff pPdif 22 27 41.6 +1.7
comp=Z,7.3nm,0.8s
WATA Walderalm 101.99 43 *ep*Pdiff pPdif 22 27 42.7 +1.5
comp=Z,2.1nm,0.7s
WTTA Wattenberg 102.00 43 *i* pPdiff pPdif 22 27 42.1 +0.8
comp=Z,4.2nm,0.8s
CLL Collm 104.40 40 *eP*S PS 22 40 59.0 +0.8
CLL *e*(PPS) 22 42 24.0
AKASG Malin Array Be 114.05 44 PKiKP PKPdf 22 31 57.5 -0.1
comp=Z,1.0nm,0.5s,baz=264,slow=2.9,SNR=4.8
BRTR Keskin Array B 114.92 56 PKP PKiKP 22 32 00.0 +0.2
comp=Z,0.6nm,0.6s,baz=329,slow=1.4,SNR=5.3
BRTR pPKP **pPKiKP 22 32 29.5 +0.7**
comp=Z,1.0nm,0.8s,baz=225,slow=1.6,SNR=4.6
KBZ Khabaz 122.38 53 PKP PKiKP 22 32 14.5 +0.5
comp=Z,2.9nm,0.9s,baz=82,slow=1.6,SNR=5.5
KBZ pPKP **pPKPdf 22 32 44.1 +1.3**
comp=Z,5.8nm,0.9s,baz=184,slow=0.2,SNR=5.8
AS31 Alice Springs 126.73 206 PKPdf PKPdf 22 32 23.0 0.0
ASAR Alice Springs 126.73 206 PKP PKPdf 22 32 22.9 -0.1
comp=Z,6.8nm,0.7s,baz=133,slow=1.7,SNR=47
ASAR pPKP **pPKPdf 22 32 52.5 +0.4**
comp=Z,1.6nm,0.7s,baz=132,slow=1.6,SNR=3.1
ASAR Alice Springs 126.73 206 PKPdf PKPdf 22 32 22.4 -0.6
H11S2 WAKE ISLAND Hyl 128.11 274 T T 00 52 48.1
baz=108,slow=75,SNR=92
H11S1 WAKE ISLAND Hyl 128.12 274 T T 00 52 46.7
baz=108,slow=75,SNR=79
H11S3 WAKE ISLAND Hyl 128.13 274 T T 00 52 47.3
baz=108,slow=75,SNR=64
H11N3 WAKE ISLAND Hyl 128.28 276 T T 00 52 55.6
baz=107,slow=74,SNR=17
H11N1 WAKE ISLAND Hyl 128.30 276 T T 00 52 56.8
baz=107,slow=74,SNR=10
H11N2 WAKE ISLAND Hyl 128.30 276 T T 00 52 59.6
baz=107,slow=74,SNR=19
WRA Warramunga Arr 129.85 209 PKP PKiKP 22 32 29.4 -0.4
comp=Z,7.4nm,0.8s,baz=155,slow=1.6,SNR=21
WRA pPKP **pPKPdf 22 32 59.3 +1.2**
comp=Z,1.6nm,0.7s,baz=151,slow=1.8,SNR=2.4
WRA Warramunga Arr 129.85 209 PKPdf 22 32 29.1 0.0
ARU Arti 131.09 36 PKPpre 22 32 24.3
ABKAR Akbulak array 133.77 45 PKPdf PKiKP 22 32 36.5 -0.1
PETK Petropavlovsk- 135.27 321 PKP PKiKP 22 32 39.2 -0.4
comp=Z,1.3nm,0.7s,baz=152,slow=2.9,SNR=4.3
KURK Kurchatov 144.29 36 pPKPdf 22 33 23.4 -0.1
KURK Kurchatov 144.29 36 PKPdf PKPdf 22 32 54.3 -0.2
KURBB Kurchatov Arra 144.30 36 PKP PKPdf 22 32 54.2 -0.3
comp=Z,5.4nm,0.7s,baz=303,slow=3.5,SNR=41
KURBB pPKP **pPKPdf 22 33 23.4 -0.1**
comp=Z,10nm,0.8s,baz=301,slow=3.4,SNR=12
WSI Waingapu 144.34 196 PKP PKPbc 22 32 54.0 -0.2
EKS2 Erkin-Say 144.81 51 P PKPdf 22 32 56.9 +1.0
SNR=6.4
EDFI Ende, Flores 144.84 199 PKP PKPab 22 32 55.4 -0.5
AML Almayashu 144.91 52 P PKPdf 22 32 57.3 +0.9
SNR=6.4
ZALV Zalesovo Beam 145.16 27 PKPbc PKPdf 22 32 56.6 +0.7
comp=Z,17nm,0.8s,baz=297,slow=4.2,SNR=44
ZALV pPKPbc **pPKPdf 22 33 25.1 +0.2**
comp=Z,43nm,0.6s,baz=303,slow=4.4,SNR=15
ZALV SKPbc **SKiKP 22 36 27.6 +0.7**
comp=Z,2.5nm,0.7s,baz=312,slow=3.2,SNR=4.7
ZALV Zalesovo Beam 145.16 27 PKPdf 22 32 56.5 +0.5
AAK Ala-Archa 145.31 50 P PKPab 22 32 58.5 +1.5
SNR=11
CHMS Chumysh 145.38 50 P PKPab 22 32 58.5 +1.4
SNR=8.3
FAKI Fak Fak 145.38 220 PKP PKPab 22 32 58.6 +0.7
FAKI Fak Fak 145.38 220 PKPab 22 32 58.5 +0.7
UCH Uchtor 145.46 51 P PKPab 22 32 59.4 +1.4
SNR=24
KBK Karagaybulak 145.63 50 P PKPab 22 32 59.8 +1.6
SNR=5.0
PLAI Plampang 145.71 192 PKP PKPdf 22 32 56.9 -1.2
TKM2 Tokmak 2 145.99 49 P PKPab 22 32 59.7 +0.1
SNR=7.5
KZA Kyzart 146.03 51 P pPKiKP 22 33 30.9 -0.6
SNR=6.7
GUMO Guam 146.13 257 PKPab PKPab 22 33 00.2 -0.4
NIL Nilore 146.17 66 PKPdf PKPbc 22 32 59.2 -0.3
KSH Kashi 147.31 55 PKPbc PKPbc 22 33 01.8 -0.9
KSH pPKP pPKPdf 22 33 28.3 -0.9
KSH PP **PP 22 36 34.1 +4.8**
KSH SS SS 22 55 26.0 +2.2
SIJI Sorong 147.61 220 PKPbc PKPbc 22 33 04.8 +0.6
comp=Z,22nm,0.8s,baz=6.6,slow=7.0,SNR=6.3
NLAI Namlea 147.83 211 PKP PKPbc 22 33 03.5 -1.2
TARG Taragay, Kyrgy 147.94 50 PKPdf PKPbc 22 33 03.3 -1.4
ASAJ Asahikawa 148.01 315 PKPbc PKPbc 22 33 04.7 +0.5
comp=Z,10nm,0.8s,baz=328,slow=7.1,SNR=5.4
MAKZ Makanchi 148.30 39 PKPbc 22 33 05.7 +0.7
MKAR Makanchi Array 148.49 39 PKP PKPdf 22 33 02.3 +0.5
comp=Z,9.9nm,0.6s,baz=331,slow=1.1,SNR=34
MKAR PKPbc **PKPbc 22 33 06.2 +0.7**
comp=Z,10nm,0.6s,baz=305,slow=2.7,SNR=39
MKAR pPKPbc **pPKPbc 22 33 34.8 +0.7**
comp=Z,36nm,0.9s,baz=309,slow=2.5,SNR=17
HYB Hyderabad 148.92 98 *i* PKP PKPbc 22 33 08.0 +0.6
HYB *e* 22 33 19.5
HYB *ep*PKP **pPKPab 22 33 39.0 -0.9**
KAPI Kappang 148.94 197 PKPbc PKiKP 22 33 08.4 -0.5
comp=Z,19nm,0.8s,baz=218,slow=7.3,SNR=6.3
LWLI Liwa 149.40 166 PKP PKPab 22 33 15.8 +2.1
SPSI Sidrap Palu 149.94 198 PKP PKPab 22 33 17.5 +1.7
LHSI Lahat 150.43 165 PKP PKPbc 22 33 10.4 -0.8
LUWI Luwuk 151.67 206 PKiKP 22 33 15.5 +0.9
PDSI Padang 152.29 157 PKP PKiKP 22 33 18.5 +2.7
WMQ Urumqi 153.32 40 *e*PKPbc PKPdf 22 33 09.0 -0.4
WMQ LR LR
comp=Z,130nm,28.9s
RGRI Rengat 153.43 160 PKP PKPab 22 33 29.6 -0.8
MPSI Mapaga 153.98 201 PKP PKPab 22 33 33.7 +1.0
MJAR Matsushiro Arr 154.01 303 PKPbc PKiKP 22 33 19.1 +0.4
comp=Z,2.8nm,1.0s,baz=154,slow=1.8,SNR=6.6
MJAR pPKPbc **pPKPbc 22 33 48.9 +1.5**
comp=Z,1.8nm,0.9s,baz=130,slow=0.6,SNR=3.0
MJAR Matsushiro Arr 154.01 303 PKiKP 22 33 19.3 +0.6

MAT	**Matsushiro**	**154.01**	**303**	PKP		**PKiKP**	**22 33 18.8**	**+0.1**	
SONM	**Songino Array**	**156.95**	**8**	PKP		**PKPdf**	**22 33 15.4**	**+1.1**	
	comp=Z,0.6nm,0.4s,baz=333,slow=1.7,SNR=5.0								
SONM				pPKP		**PKPab**	**22 33 44.8**	**+0.1**	
	comp=Z,0.7nm,0.6s,baz=312,slow=1.7,SNR=2.2								
SBUM	**Sibu**	**157.53**	**183**	PKPab		**PKPab**	**22 33 49.3**	**+1.5**	
KSRS	**Korea Array**	**160.96**	**315**	PKP		**PKPdf**	**22 33 19.9**	**+0.9**	
	comp=Z,1.4nm,0.8s,baz=58,slow=2.1,SNR=6.7								
KSRS				pPKP		**pPKPdf**	**22 33 49.9**	**+1.7**	
	comp=Z,0.7nm,0.6s,baz=93,slow=2.9,SNR=3.2								
KSAR	**Wonju Array Be**	**160.99**	**315**			**PKPdf**	**22 33 19.8**	**+0.7**	
HHC	**Hu-ho-hao-te**	**164.21**	**358**	*e*PKP		**PKPdf**	**22 33 20.6**	**-1.8**	
LZH	**Lanzhou**	**167.39**	**27**	*e*PKP		**PKPdf**	**22 33 24.6**	**-0.6**	
LZH				pPKP		pPKPdf	22 33 46.6	-7.7	
NJ2	**Nanjing**	**170.14**	**317**	*e*PKP		**PKPdf**	**22 33 27.3**	**+0.5**	

IDC ***14*** *22:13:38.5±0.9,27.25S×176.39W,h0km,mb4.4/12, mb1 4.5/14,mb1mx4.3/42,mbtmp4.4/14,ML4.4/2,MS3.7/10, Ms1 3.7/10,ms1mx3.4/28,Error ellipse: s-maj=29.7km s-min=17.7km az=113.0*

NEIC ***14*** *22:13:45.6±1.6,27.3S±0.1×176.5W±0.2,h49km±7km, mb4.1/6,Error ellipse: s-maj=29.6km s-min=14.0km az=122.0*

ISC 14 22:13:43.8±0.7,27.28S±0.09×176.5W±0.1,h34km,n47, σ0s84/37,mb4.4/13,MS3.8/10,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.33**	**212**	Pn			**Pn**	**22 14 20.9**	**+1.1**
	175nm,0.3s,baz=79,slow=13,SNR=5.8								
RAO				Sn			**Sb**	**22 14 51.9**	**-1.7**
	175nm,0.3s,baz=263,slow=23,SNR=3.6								
RAO	**Raoul Island**	**2.33**	**212**				**Sb**	**22 14 54.0**	**+0.4**
DZM	**Mont Dzumac**	**16.35**	**285**	LR		LR		22 22 55.9	
	comp=Z,333nm,18.4s,baz=64,slow=34								
DZM	**Mont Dzumac**	**16.35**	**285**	*e*Pn			**Pn**	**22 17 30.0**	**-0.9**
	65nm,1.2s								
DZM				*e*LR		LR		22 21 29.6	
	comp=Z,513nm,25.5s								
RAR	**Rarotonga**	**16.39**	**72**	LR		LR		22 22 26.6	
	comp=Z,142nm,20.8s,baz=268,slow=32								
RPZ	**Rata Peaks**	**19.24**	**208**	P			**P**	**22 18 03.7**	**-1.5**
	0.6nm,0.3s,baz=72,slow=9.6,SNR=1.3								
TBI	**Tubuai**	**24.73**	**87**	*e*LR		LR		22 24 48.5	
	comp=Z,240nm,30.2s,baz=267								
TBI	**Tubuai**	**24.73**	**87**	*e*T		T		22 43 54.6	
	6.4nm,0.3s								
PAE	**Paea**	**26.60**	**75**	*e*T		T		22 46 22.3	
	3.2nm,0.3s								
PPT2	**Papeete2**	**26.63**	**74**	*e*LQ		LQ		22 24 34.8	
	177nm,24.8s								
PPT2				*e*LR		LR		22 25 41.5	
	comp=Z,259nm,28.2s,baz=258								
PPT	**Papeete**	**26.64**	**74**	LR		LR		22 29 31.1	
	comp=Z,88nm,18.0s,baz=190,slow=36								
HNR	**Honiara**	**28.46**	**304**	LR		LR		22 29 30.5	
	comp=Z,158nm,18.3s,baz=175,slow=33								
CTA	**Charters Tower**	**34.76**	**274**	P			**P**	**22 20 32.0**	**+0.9**
	7.1nm,0.6s,baz=98,slow=11,SNR=9.3								
STKA	**Stephens Creek**	**36.58**	**253**	P			**P**	**22 20 47.3**	**+0.7**
	1.0nm,0.4s,baz=73,slow=14,SNR=3.4								
STKA				LR		LR		22 33 30.5	
	comp=Z,151nm,19.0s,baz=40,slow=32								
STKA	**Stephens Creek**	**36.58**	**253**	IAmb		IAmb		22 21 02.9	
	comp=Z,0.7nm,1.1s								
ASAR	**Alice Springs**	**44.70**	**263**	P			**P**	**22 21 53.2**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=95,slow=6.6,SNR=35								
ASAR				PcP			**PcP**	**22 23 36.2**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=111,slow=3.7,SNR=2.6								
ASAR				LR		LR		22 39 25.9	
	comp=Z,102nm,18.4s,baz=76,slow=34								
WRA	**Warramunga Arr**	**45.41**	**268**	P			**P**	**22 21 58.7**	**-0.8**
	comp=Z,3.1nm,0.7s,baz=104,slow=8.1,SNR=12								
WRA				PcP			**PcP**	**22 23 38.4**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=111,slow=3.3,SNR=4.8								
WRA	**Warramunga Arr**	**45.41**	**268**	P			**P**	**22 21 58.7**	**-0.8**
CASY	**Casey**	**58.51**	**207**	P			**P**	**22 23 36.5**	**+0.2**
MAW	**Mawson**	**75.68**	**200**	P			**P**	**22 25 26.4**	**+1.2**
	comp=Z,2.1nm,0.7s,baz=153,slow=10,SNR=7.3								
MJAR	**Matsushiro Arr**	**76.47**	**324**	P			**P**	**22 25 30.5**	**+0.4**
	comp=Z,4.7nm,0.8s,baz=167,slow=6.5,SNR=11								
MAT	**Matsushiro**	**76.47**	**324**	P			**P**	**22 25 29.6**	**-0.6**
JNU	**Nakatsue**	**78.14**	**317**	Pn			**Pn**	**22 25 40.0**	**-0.6**
JNU	**Nakatsue**	**78.15**	**317**	P			**P**	**22 25 40.2**	**+0.5**
	comp=Z,7.5nm,0.8s,baz=70,slow=6.9,SNR=4.8								
JKA	**Kamikawa-asahi**	**80.31**	**331**	P			**P**	**22 25 51.8**	**+0.6**
ASAJ	**Asahikawa**	**80.32**	**331**	P			**P**	**22 25 51.8**	**+0.6**
	comp=Z,5.5nm,1.0s,baz=232,slow=19,SNR=2.2								
KSRS	**Korea Array**	**82.86**	**319**	P			**P**	**22 26 06.0**	**+1.2**
	comp=Z,2.9nm,0.8s,baz=138,slow=6.3,SNR=12								
PETK	**Petropavlovsk-**	**83.14**	**345**	P			**P**	**22 26 06.0**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=125,slow=7.6,SNR=8.2								
PLCA	**Paso Flores**	**83.65**	**133**	LR		LR		22 56 40.9	
	comp=Z,50nm,18.3s,baz=128,slow=31								
AFDM	**Forest Hills D**	**83.83**	**40**						
AFDM				IAmb		IAmb		22 26 11.0	
	comp=Z,6.3nm,0.9s								
ANMO	**Albuquerque**	**90.59**	**51**	LR		LR		23 05 13.4	
	comp=Z,30nm,18.2s,baz=292,slow=34								
NEW	**Newport**	**92.07**	**35**	LR		LR		23 01 45.5	
	comp=Z,28nm,18.6s,baz=146,slow=31								
CMAR	**Chiang Mai Arr**	**93.64**	**289**	P			**P**	**22 26 58.9**	**+1.7**
	comp=Z,0.9nm,0.8s,baz=163,slow=4.9,SNR=4.1								
ILAR	**Eielson Array**	**94.60**	**12**	P			**P**	**22 27 00.1**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=195,slow=6.5,SNR=3.1								
JTS	**Las Juntas de**	**96.00**	**82**	LR		LR		23 05 00.0	
	comp=Z,45nm,18.0s,baz=348,slow=32								
MKAR	**Makanchi Array**	**116.76**	**311**	PKP		**PKPdf**	**22 32 23.1**	**-1.3**	
	comp=Z,0.6nm,0.8s,baz=76,slow=5.1,SNR=3.9								
KURK	**Kurchatov**	**119.82**	**315**			**PKiKP**	**22 32 29.5**	**-0.7**	
KURBB	**Kurchatov Arra**	**119.86**	**315**	PKP		**PKPdf**	**22 32 29.5**	**-0.7**	
	comp=Z,0.9nm,0.9s,baz=116,slow=1.8,SNR=5.4								
FINES	**FINESS Array B**	**142.63**	**342**	PKhKP		PKPpre	22 33 08.1		
	comp=Z,1.0nm,0.6s,baz=44,slow=4.8,SNR=1.6								
NB2	**NORSAR Subarra**	**145.80**	**351**	PKP		**PKPab**	**22 33 18.5**	**-0.9**	
	comp=Z,1.2nm,0.8s,baz=9.3,slow=2.9								
NOA	**NORSAR Array B**	**145.84**	**353**	PKPbc		**PKPbc**	**22 33 18.2**	**-0.7**	
	comp=Z,3.3nm,0.9s,baz=15,slow=4.5,SNR=6.6								
AKASG	**Malin Array Be**	**149.51**	**327**	PKPbc		**PKPbc**	**22 33 28.8**	**-0.5**	
	comp=Z,3.9nm,0.7s,baz=39,slow=3.6,SNR=13								
BRTR	**Keskin Array B**	**152.11**	**304**	PKPbc		**PKiKP**	**22 33 36.5**	**+0.3**	
	comp=Z,0.6nm,0.8s,baz=153,slow=1.6,SNR=2.1								
BRTR				PKPab		**pPKPbc**	**22 33 45.5**	**-0.5**	
	comp=Z,1.4nm,0.7s,baz=102,slow=4.0,SNR=7.0								
CSS	**Mathiatis**	**153.41**	**294**			**PKPab**	**22 33 50.3**	**-0.7**	
GERES	**GERESS Array B**	**157.06**	**343**	PKPab		**PKPab**	**22 34 06.4**	**+0.2**	
	comp=Z,0.4nm,0.7s,baz=324,slow=4.1,SNR=2.6								
TORD	**Torodi Ar. Bea**	**165.84**	**173**	PKPab		**PKPab**	**22 34 44.6**	**-0.5**	
	comp=Z,1.8nm,0.9s,baz=206,slow=3.0,SNR=5.5								
TORD	**Torodi Ar. Bea**	**165.84**	**173**			**PKPab**	**22 34 45.2**	**0.0**	

IDC 14 22:21:51.9±1.7,2.24N×149.25E,h0km,mb3.7/4, mb1 3.9/5,mb1mx3.6/34,mbtmp3.8/5,ML3.8/1,MS2.8/1, Ms1 2.8/1,ms1mx2.4/33,Error ellipse: s-maj=62.3km s-min=24.7km az=110.0,Eastern Caroline Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**9.76**	**241**	Pn			Pn	22 24 12.6	-1.1
	0.9nm,0.3s,baz=120,slow=8.1,SNR=6.4								
JAY				Sn			Sn	22 25 55.0	-9.1
	0.1nm,0.3s,baz=224,slow=18,SNR=1.3								
JAY				LR		LR		22 27 36.1	
	comp=Z,53nm,18.1s,baz=293,slow=35								
H11S3	**WAKE ISLAND Hy**	**23.52**	**45**	T		T		22 51 17.6	
	baz=229,slow=76,SNR=390								
H11S2	**WAKE ISLAND Hy**	**23.53**	**45**	T		T		22 51 18.5	
	baz=229,slow=76,SNR=224								
H11S1	**WAKE ISLAND Hy**	**23.54**	**45**	T		T		22 51 29.6	
	baz=229,slow=76,SNR=277								
H11N1	**WAKE ISLAND Hy**	**24.48**	**44**	T		T		22 52 43.5	
	baz=227,slow=76,SNR=145								
H11N2	**WAKE ISLAND Hy**	**24.50**	**44**	T		T		22 52 45.9	
	baz=227,slow=76,SNR=150								
H11N3	**WAKE ISLAND Hy**	**24.50**	**44**	T		T		22 52 35.8	
	baz=227,slow=76,SNR=88								
WRA	**Warramunga Arr**	**26.46**	**213**	P		P		22 27 31.0	+0.1
	2.2nm,0.8s,baz=34,slow=9.5,SNR=6.4								
ASAR	**Alice Springs**	**29.77**	**209**	P		P		22 28 00.6	+0.2
	0.3nm,0.7s,baz=38,slow=6.6,SNR=2.3								
KSRS	**Korea Array**	**40.16**	**333**	P		P		22 29 30.1	+0.3
	1.3nm,0.8s,baz=147,slow=6.3,SNR=5.3								
ILAR	**Eielson Array**	**77.08**	**23**	P		P		22 33 46.3	-0.5
	0.4nm,0.6s,baz=242,slow=5.0,SNR=2.9								
TORD	**Torodi Ar. Bea**	**144.36**	**296**	PKP		PKPdf		22 41 31.7	+0.4
	0.5nm,0.8s,baz=56,slow=3.1,SNR=2.5								

NIED ***14*** *22:22:00,23.70N×121.70E,h5km,Mw4.5 Best double couple: M0 6.74000×10^15 NP1:φs31.00000°,δ54.00000°, λ73.00000°. NP2:φs238.00000°,δ39.00000°,λ112.00000°.*

JMA ***14*** *22:22:42.6±0.1,23.71N×121.65E,h0km,M4.5*

IDC ***14*** *22:22:42.0±0.7,23.62N×121.71E,h0km,mb4.0/16, mb1 4.1/18,mb1mx4.0/40,mbtmp3.9/18,ML3.0/2,MS3.6/22, Ms1 3.6/22,ms1mx3.5/35,Error ellipse: s-maj=19.1km s-min=14.8km az=67.0*

NEIC ***14*** *22:22:42.7±1.6,23.68N±0.02×121.59E±0.05,h6km±4km, mb4.4/36,Mwr4.5/21,ML4.4(TAP),Error ellipse: s-maj=6.8km s-min=3.0km az=106.0*

NEIC ***14*** *22:22:43.1,23.70N×121.59E,h8km,Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr4.59; Mθθ-3.69; Mφφ-0.90; Mrθ0.77; Mrφ-3.22; Mθφ4.05; Fault plane solution: M0 6.71000×10^15 NP1:φs30.77000°, δ65.12000°,λ62.54000°. NP2:φs261.78000°,δ36.39000°, λ134.84000°. Principal axes: T 6.8077, Plg60.0000°, Azm260.0000°; N -0.1924, Plg25.0000°, Azm43.0000°; P -6.6153, Plg16.0000°, Azm141.0000°;*

BJI ***14*** *22:22:43.0±0.0,23.78N×121.58E,h6km,mB4.7/25, mb4.3/27,ML4.5/7,Ms4.6/36,Ms7 4.5/33*

TAP ***14*** *22:22:43.7,23.75N×121.53E,h6km,ML4.6,C*

ISC 14 22:22:42.7±1.0,23.72N±0.01×121.62E±0.02,h2km±6km, n231,σ1s17/313,mb4.2/31,MS3.6/19,1C-15D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.18**	**253**	*i* P			**Pg**	**22 22 46.8**	**+0.6**
	baz=238								
EGFH				*i* S			**Sg**	**22 22 48.6**	**0.0**
	baz=238								
ESL	**Shilin**	**0.19**	**299**	⇓*i* P			**Pg**	**22 22 46.3**	**-0.1**
	baz=305								
ESL				S			**Sg**	**22 22 48.1**	**-0.8**
	baz=305								
HWA	**Hwalien**	**0.26**	**358**	*i* P			**Pb**	**22 22 49.4**	**-0.6**
	baz=5.0								
HWA				S			**Sb**	**22 22 54.1**	**-0.8**
	baz=5.0								
HGSD	**Ruisui**	**0.29**	**218**	⇓*i* P			**Pb**	**22 22 50.6**	**0.0**
	baz=217								
HGSD				S			**Sb**	**22 22 57.4**	**+1.6**
	baz=217								
EHY	**Hungye**	**0.34**	**232**	P			**Pg**	**22 22 50.1**	**+0.8**
	baz=227								
EHY				*e*S			**Sg**	**22 22 54.7**	**+0.9**
	baz=227								
TWD	**Chiawan**	**0.36**	**357**	⇓*i* P			**Pg**	**22 22 50.7**	**+1.1**
	baz=356								
TWD				*e*S			**Sb**	**22 22 56.5**	**-1.4**
	baz=356								
VWDT	**VWDT**	**0.43**	**275**	⇓*i* P			**Pg**	**22 22 51.3**	**+0.2**
	baz=270								
VWDT				S			**Sg**	**22 22 56.7**	**0.0**
	baz=270								
YULB	**Yu-li**	**0.44**	**222**	*e*P			**Pb**	**22 22 52.2**	**-0.9**
	baz=223								
YULB				*e*S			**Sg**	**22 22 58.1**	**+1.3**
	baz=223								
YULB	**Yu-li**	**0.44**	**222**				**Pg**	**22 22 51.9**	**+0.8**
NACB	**Ninganchiao**	**0.45**	**358**	⇓*i* P			**Pg**	**22 22 52.1**	**+0.6**
	baz=354								
NACB				S			**Sb**	**22 22 59.2**	**-1.3**
	baz=354								
NACB	**Ninganchiao**	**0.45**	**358**			Pg	**Pg**	**22 22 52.0**	**+0.6**
OWD	**Renai**	**0.47**	**300**	P			**Pg**	**22 22 51.7**	**+0.1**
	baz=300								
OWD				*e*S			**Sg**	**22 22 57.1**	**-0.6**
	baz=300								
TWF1	**Yuli**	**0.47**	**219**	*i* P			**Pb**	**22 22 53.2**	**-0.5**
	baz=223								
TWF1				*e*S			**Sg**	**22 22 59.4**	**+1.6**
	baz=223								
ETLH	**Xiulin Townshi**	**0.50**	**346**	P			**Pg**	**22 22 52.8**	**+0.5**
	baz=350								
ETLH				*e*S			**Sb**	**22 23 00.8**	**-1.3**
	baz=350								
CHGB	**Renai**	**0.53**	**310**	⇓*i* P			**Pg**	**22 22 53.0**	**+0.1**
	baz=310								
CHGB				*e*S			**Sg**	**22 22 58.9**	**-0.8**
	baz=310								
WHF	**Hehuan Shan**	**0.53**	**323**	⇓*i* P			**Pg**	**22 22 53.0**	**+0.1**
	baz=314								
WHF				*e*S			**Sg**	**22 22 59.7**	**-0.2**
	baz=314								
FULB	**Fuli**	**0.60**	**210**	*e*P			**Pb**	**22 22 56.6**	**+0.7**
	baz=221								
FULB				*e*S			**Sn**	**22 23 06.7**	**-1.8**
	baz=221								
SSLB	**Suanglung**	**0.61**	**276**	⇓*i* P			**Pg**	**22 22 54.3**	**-0.1**
	baz=273								
SSLB				S			**Sg**	**22 23 01.0**	**-1.3**
	baz=273								
SSLB	**Suanglung**	**0.61**	**276**			Pg	**Pg**	**22 22 54.3**	**-0.1**
CHKT	**Chengkung**	**0.66**	**200**	P			**Pb**	**22 22 57.2**	**+0.3**
	baz=195								
CHKT				*e*S			**Sn**	**22 23 10.2**	**+0.3**
	baz=195								
SMLT	**Sun Moon Lake**	**0.67**	**284**	P			**Pg**	**22 22 55.8**	**+0.1**
	baz=282								
SMLT				*e*S			**Sg**	**22 23 04.5**	**0.0**
	baz=282								
TDCB	**Techi**	**0.68**	**322**	P			**Pg**	**22 22 56.0**	**+0.3**
	baz=313								
TDCB				*e*S			**Sg**	**22 23 02.6**	**-1.8**
	baz=313								
WHYT	**Xinyi Township**	**0.70**	**268**	*e*P			**Pg**	**22 22 56.6**	**+0.5**
	baz=256								
WHYT				*e*S			**Sg**	**22 23 05.3**	**+0.1**
	baz=256								
DPDB	**Guoxing**	**0.70**	**296**	⇓*i* P			**Pg**	**22 22 56.6**	**+0.4**
	baz=295								
DPDB				*e*S			**Sg**	**22 23 05.8**	**+0.5**
	baz=295								
ENA	**Nanau**	**0.71**	**9**	*i* P			**Pb**	**22 22 57.3**	**-0.6**
	baz=6.0								
TYC	**Yuchr**	**0.72**	**285**	⇓*i* P			**Pg**	**22 22 56.3**	**-0.1**
	baz=283								
TYC				*e*S			**Sg**	**22 23 04.5**	**-1.3**
	baz=283								
NNSB	**Datong**	**0.74**	**343**	⇓*i* P			**Pg**	**22 22 57.4**	**+0.6**
	baz=345								
NNSB				*e*S			**Sg**	**22 23 05.9**	**-0.5**
	baz=345								
NNSH	**Datong**	**0.74**	**343**	⇑*i* P			**Pg**	**22 22 57.4**	**+0.6**
	baz=345								
NNSH				*e*S			**Sg**	**22 23 06.2**	**-0.2**
	baz=345								
NNS	**Nan Shan**	**0.75**	**343**	⇓*i* P			**Pg**	**22 22 57.6**	**+0.5**
	baz=345								
NNS				*e*S			**Sg**	**22 23 06.7**	**-0.1**
	baz=345								
ELDTW	**Lidau**	**0.76**	**226**	P			**Pg**	**22 22 57.7**	**+0.4**
	baz=222								
ELDTW				*e*S			**Sb**	**22 23 08.9**	**-0.7**
	baz=222								
ALS	**Alishan**	**0.77**	**254**	*e*P			**Pg**	**22 22 58.2**	**+0.7**
	baz=251								
ALS				*e*S			**Sg**	**22 23 08.3**	**+0.8**
	baz=251								
WJS	**Zhushan**	**0.82**	**277**	*e*P			**Pb**	**22 22 60.0**	**+0.3**
	baz=275								
WJS				*e*S			**Sg**	**22 23 09.6**	**+0.6**
	baz=275								
WHP	**Taichung City**	**0.83**	**312**	*e*P			**Pg**	**22 22 58.9**	**+0.4**
	baz=312								
WHP				*e*S			**Sg**	**22 23 09.4**	**+0.1**
	baz=312								
CHN5	**Tsauling**	**0.87**	**262**	P			**Pb**	**22 23 00.5**	**0.0**
	baz=252								
CHN5				*e*S			**Sb**	**22 23 12.7**	**+0.1**
	baz=252								
WNT	**Mingjian**	**0.87**	**281**	P			**Pb**	**22 23 00.4**	**0.0**
	baz=284								
WNT				*e*S			**Sb**	**22 23 13.3**	**+0.8**
	baz=284								
NDT	**Datong Townshi**	**0.88**	**354**	P			**Pb**	**22 23 00.5**	**-0.3**
	baz=345								
NDT				*e*S			**Sb**	**22 23 12.7**	**-0.3**
	baz=345								
TWC	**Suao**	**0.91**	**14**	⇓*i* P			**Pb**	**22 23 01.1**	**-0.1**
	baz=6.0								
TWC				*e*S			**Sn**	**22 23 15.2**	**-1.0**
	baz=6.0								
ENTT	**Nioudou**	**0.92**	**357**	P			**Pb**	**22 23 01.1**	**-0.2**
	baz=349								
ENTT				*e*S			**Sb**	**22 23 14.6**	**+0.6**
	baz=349								
TCU	**Taichung**	**0.96**	**297**	*e*P			**Pb**	**22 23 02.3**	**+0.3**
	baz=295								
TCU				*e*S			**Sb**	**22 23 15.9**	**+0.8**
	baz=295								
STYT	**Tauyuan**	**0.96**	**235**	P			**Pb**	**22 23 01.7**	**-0.4**
	baz=226								
STYT				*e*S			**Sb**	**22 23 15.5**	**+0.1**
	baz=226								
WGK	**Gukeng**	**0.96**	**268**	*i* P			**Pb**	**22 23 02.5**	**+0.3**
	baz=266								
WGK				*e*S			**Sn**	**22 23 16.4**	**-1.1**
	baz=266								
YHNB	**Yeheng**	**0.97**	**347**	*i* P			**Pb**	**22 23 02.1**	**-0.2**
	baz=337								
YHNB				*e*S			**Sg**	**22 23 14.4**	**+0.5**
	baz=337								
YHNB	**Yeheng**	**0.97**	**347**				**Pb**	**22 23 01.9**	**-0.4**
NSK	**Sanguang**	**0.98**	**346**	⇓*i* P			**Pb**	**22 23 02.1**	**-0.3**
	baz=336								
NSK				*e*S			**Sg**	**22 23 14.5**	**+0.3**
	baz=336								
WDLH	**Douliu**	**0.99**	**268**	*i* P			**Pb**	**22 23 03.0**	**+0.5**
	baz=266								
WDLH				*e*S			**Sb**	**22 23 16.4**	**+0.5**
	baz=266								
TWQ1	**Liyutan**	**0.99**	**309**	*e*P			**Pb**	**22 23 02.5**	**-0.1**
	baz=316								
TWQ1				*e*S			**Sb**	**22 23 15.4**	**-0.7**
	baz=316								
TPUB	**Ta-pu**	**1.00**	**245**	*e*P			**Pb**	**22 23 02.4**	**-0.2**
	baz=251								
TPUB				*e*S			**Sg**	**22 23 15.0**	**+0.3**
	baz=251								
TPUB	**Ta-pu**	**1.00**	**245**				**Pb**	**22 23 02.6**	**-0.1**
TWE	**Neicheng**	**1.00**	**3**	*i* P			**Pb**	**22 23 02.7**	**0.0**
	baz=3.0								
TWE				*e*S			**Sb**	**22 23 16.4**	**+0.1**
	baz=3.0								
TWGBT	**Beinan**	**1.02**	**209**	*e*P			**Pg**	**22 23 02.1**	**-0.2**
	baz=218								
TWGBT				*e*S			**Sb**	**22 23 16.8**	**-0.2**
	baz=218								
TWG	**Pinlang**	**1.02**	**209**	*e*P			**Pg**	**22 23 01.9**	**-0.4**
	baz=218								
TWG				*e*S			**Sb**	**22 23 17.5**	**+0.5**
	baz=218								
TWG	**Pinlang**	**1.02**	**209**				**Pg**	**22 23 01.0**	**-1.4**
WCHH	**Zhanghua**	**1.03**	**291**	*e*P			**Pb**	**22 23 03.5**	**+0.3**
	baz=288								
WCHH				*e*S			**Sn**	**22 23 18.9**	**-0.2**
	baz=288								
WTP	**Ta-pu**	**1.03**	**243**	*e*P			**Pb**	**22 23 03.3**	**0.0**
	baz=248								
WTP				*e*S			**Sg**	**22 23 16.1**	**+0.1**
	baz=248								
ILA	**Ilan**	**1.05**	**7**	*e*P			**Pg**	**22 23 02.4**	**-0.5**
	baz=9.0								
TTN	**Taitung**	**1.05**	**204**	*e*P			**Pn**	**22 23 04.4**	**-0.1**
	baz=201								
NWLT	**Wulai**	**1.06**	**354**	P			**Pb**	**22 23 03.5**	**-0.2**
	baz=353								
NWLT				*e*S			**Sg**	**22 23 16.8**	**+0.1**
	baz=353								
CHN2	**Minshiung**	**1.06**	**260**	*e*P			**Pn**	**22 23 04.2**	**-0.3**
	baz=258								
CHN2				*e*S			**Sn**	**22 23 20.1**	**+0.2**
	baz=258								
NSTT	**Nanjuang**	**1.07**	**328**	P			**Pb**	**22 23 03.9**	**0.0**
	baz=327								
NSTT				*e*S			**Sg**	**22 23 16.9**	**-0.1**
	baz=327								
WDJ	**Dajia District**	**1.09**	**305**	P			**Pn**	**22 23 05.3**	**+0.4**
	baz=303								
WDJ				*e*S			**Sn**	**22 23 20.5**	**-0.1**
	baz=303								
PTSB	**Yuanli**	**1.10**	**311**	P			**Pn**	**22 23 05.5**	**+0.4**
	baz=308								
PTSB				*e*S			**Sn**	**22 23 21.2**	**+0.3**
	baz=308								
NMLH	**Miaoli**	**1.11**	**317**	*e*P			**Pn**	**22 23 05.5**	**+0.3**
	baz=315								
NMLH				*e*S			**Sb**	**22 23 19.1**	**-0.4**
	baz=315								
CHY	**Chiayi**	**1.11**	**259**	*e*P			**Pn**	**22 23 05.0**	**-0.3**
	baz=257								
CHY				*e*S			**Sn**	**22 23 21.2**	**0.0**
	baz=257								
TWK	**Hsinying**	**1.13**	**247**	P			**Pb**	**22 23 05.0**	**+0.1**
	baz=245								
TWK				*e*S			**Sn**	**22 23 21.0**	**-0.6**
	baz=245					

NCUH					*e*S		Sn	22 23 27.6	+1.7		
	baz=346										
NCU	**National Centr**	**1.30**	**343**		P		**Pb**	**22 23 08.8**	**+0.8**		
	baz=339										
NCU					*e*S		Sn	22 23 27.6	+1.7		
	baz=339										
TAP	**Taipei**	**1.32**	**356**		*e*P		**Pn**	**22 23 08.1**	**0.0**		
	baz=352										
TAP					*e*S		Sn	22 23 26.8	+0.5		
	baz=352										
SSD	**Sandimen**	**1.33**	**223**		P		**Pb**	**22 23 08.3**	**0.0**		
	baz=216										
SSD					*e*S		Sg	22 23 24.3	-1.0		
	baz=216										
TWB1	**Santiao Chiao**	**1.33**	**15**		*e*P		**Pb**	**22 23 08.8**	**+0.4**		
	baz=353										
TWB1					*e*S		Sn	22 23 27.9	+1.4		
	baz=353										
CHN8	**Yiju**	**1.34**	**254**		P		**Pb**	**22 23 08.7**	**+0.1**		
	baz=253										
CHN8					*e*S		Sn	22 23 27.6	+0.8		
	baz=253										
NWF	**Wu-fen Shan**	**1.35**	**6**		P		**Pg**	**22 23 08.8**	**+0.2**		
	baz=3.0										
NWF					*e*S		Sg	22 23 25.1	-1.2		
	baz=3.0										
WFSB	**Wu-fen Shan**	**1.35**	**6**		P		**Pn**	**22 23 08.7**	**+0.1**		
	baz=3.0										
WFSB					*e*S		Sb	22 23 26.6	0.0		
	baz=3.0										
TWS1	**Kuangyinshan**	**1.39**	**353**		P		**Pg**	**22 23 10.2**	**+0.9**		
	baz=349										
TWS1					*e*S		Sn	22 23 31.0	+3.1		
	baz=349										
SCLT	**Jiali**	**1.41**	**248**		*e*P		**Pg**	**22 23 10.1**	**+0.3**		
	baz=248										
SCLT					*e*S		Sn	22 23 29.7	+1.1		
	baz=248										
TWM1	**Shoushan**	**1.41**	**231**		P		**Pg**	**22 23 11.9**	**+2.1**		
	baz=227										
JYNG	**Yonagunijimaku**	**1.42**	**59**		P		**Pg**	**22 23 10.1**	**+0.2**		
JYNG					S		Sn	22 23 28.7	0.0		
MASBT	**Mashibuluo**	**1.43**	**220**		*e*P		**Pn**	**22 23 09.0**	**-0.6**		
	baz=205										
YM04	**YM04**	**1.43**	**357**		P		**Pn**	**22 23 09.1**	**-0.5**		
	baz=357										
YM10	**YM10**	**1.43**	**358**		*e*P		**Pg**	**22 23 12.1**	**+1.9**		
	baz=358										
SGLT	**Jiouru**	**1.43**	**226**		*e*P		**Pg**	**22 23 12.7**	**+2.6**		
	baz=223										
NTST	**Danshui**	**1.45**	**354**		*e*P		**Pn**	**22 23 10.0**	**+0.1**		
	baz=350										
NTST					*e*S		Sn	22 23 31.4	+2.0		
	baz=350										
YM03	**YM03**	**1.45**	**357**		P		**Pn**	**22 23 09.9**	**-0.2**		
	baz=357										
YM08	**YM08**	**1.46**	**359**		P		**Pn**	**22 23 09.3**	**-0.8**		
	baz=358										
ANP	**Anpu**	**1.46**	**357**		*e*P		**Pn**	**22 23 10.3**	**+0.1**		
	baz=357										
YOJ	**Yonaguni jima**	**1.47**	**60**		*e*P		**Pb**	**22 23 10.8**	**0.0**		
	baz=61										
YOJ	**Yonaguni jima**	**1.47**	**60**		P		**Pb**	**22 23 11.0**	**+0.2**		
YOJ					S		**Sg**	**22 23 30.3**	**+0.2**		
YOJ	**Yonaguni jima**	**1.47**	**60**				**Pn**	**22 23 10.5**	**+0.3**		
TAW	**Tawu**	**1.51**	**206**		*e*P		**Pn**	**22 23 09.9**	**-0.8**		
	baz=192										
SNJT	**Kaohsiung City**	**1.52**	**231**		*e*P		**Pg**	**22 23 13.0**	**+1.1**		
	baz=228										
TWY	**Chenhua**	**1.55**	**359**		*e*P		**Pb**	**22 23 11.8**	**-0.2**		
	baz=359										
SSPT	**Xinbi**	**1.56**	**218**		*e*P		**Pg**	**22 23 14.5**	**+1.8**		
	baz=206										
SCZT	**Fangliau**	**1.62**	**215**		*e*P		**Pg**	**22 23 14.0**	**+0.1**		
	baz=216										
SCZT					*e*S		Sb	22 23 34.4	0.0		
	baz=216										
LAY	**Lan-yu**	**1.68**	**182**		*e*P		**Pn**	**22 23 10.9**	**-2.1**		
	baz=172										
WLCH	**Liuqiu**	**1.78**	**220**		*e*P		**Pg**	**22 23 19.0**	**+2.2**		
	baz=218										
WDGT	**Dungji**	**1.85**	**256**		*e*P		**Pn**	**22 23 15.1**	**-0.3**		
	baz=252										
PHUB	**P'eng-hu**	**1.89**	**264**		*e*P		**Pn**	**22 23 15.4**	**-0.5**		
	baz=260										
HEN	**Hengchun**	**1.89**	**206**		*e*P		**Pg**	**22 23 18.9**	**0.0**		
	baz=197										
PNG	**Penghu**	**1.90**	**266**		*e*P		**Pn**	**22 23 16.1**	**0.0**		
	baz=262										
TWKBT	**Hengchun**	**1.92**	**203**		*e*P		**Pb**	**22 23 18.0**	**-0.4**		
	baz=195										
TWK1	**Hengchun**	**1.92**	**203**		*e*P		**Pn**	**22 23 16.4**	**0.0**		
	baz=195										
PCYT	**Pengchaiyu**	**1.95**	**12**		*e*P		**Pb**	**22 23 18.1**	**-0.8**		
	baz=352										
IRIF	**Iriomote-Funau**	**2.03**	**72**		P		**Pn**	**22 23 18.7**	**+0.8**		
IRIF					S		Sn	22 23 44.6	+0.8		
HATJ	**Hateruma jima**	**2.03**	**80**		P		**Pn**	**22 23 18.6**	**+0.7**		
HATJ					S		Sn	22 23 44.3	+0.4		
VCHM	**Qimei**	**2.07**	**256**		*e*P		**Pn**	**22 23 19.0**	**+0.6**		
	baz=252										
JKRS	**Kuro-shima**	**2.25**	**76**		P		**Pn**	**22 23 22.5**	**+1.6**		
JKRS					*e*S		Sn	22 23 50.3	+1.0		
VWUC	**VWUC**	**2.34**	**303**		*e*P		**Pn**	**22 23 21.5**	**-0.7**		
	baz=300										
JIJ	**Ishigaki jima**	**2.40**	**74**		P		**Pn**	**22 23 23.8**	**+0.8**		
JIJ					*e*S		Sn	22 23 53.8	+0.9		
PTTC	**Pingtan**	**2.44**	**317**		*e*P		**Pn**	**22 23 23.1**	**-0.5**		
	baz=314										
JISG	**Ishigakijimahi**	**2.61**	**70**		P		**Pn**	**22 23 26.0**	**+0.1**		
JISG					S		Sn	22 23 57.9	-0.2		
PTMZ	**Houxiangcun**	**2.63**	**301**		*e*P		**Pn**	**22 23 25.1**	**-1.0**		
	baz=298										
MATB	**Ma-tsu**	**2.86**	**328**		*e*P		**Pn**	**22 23 28.3**	**-1.0**		
	baz=324										
JTJ	**Tarama**	**2.96**	**71**		P		**Pn**	**22 23 32.0**	**+1.2**		
JTJ					*e*S		Sn	22 24 08.4	+1.5		
QZH	**Quanzhou**	**3.01**	**294**	⇓	*i* P	n	**Pn**	**22 23 31.3**	**-0.1**		
QZH						Sn	**Sn**	**22 24 05.6**	**-2.5**		
QZH						smax	smax				
	comp=N,770nm,1.3s										
QZH						smax	smax				
	comp=E,460nm,1.2s										
KNMB	**Chin-men Tao**	**3.04**	**285**		*e*P		**Pn**	**22 23 31.0**	**-0.8**		
	baz=268										
KNMB	**Chin-men Tao**	**3.04**	**285**		Pn		**Pn**	**22 23 30.8**	**-1.0**		
LYJJ	**Jianjiangzhen**	**3.28**	**330**		*e*P		**Pn**	**22 23 35.1**	**0.0**		
	baz=326										
MHZQ	**Yeshan**	**3.33**	**316**		*e*P		**Pn**	**22 23 36.2**	**+0.4**		
	baz=312										
JIRB	**Irabujima**	**3.43**	**71**		P		**Pn**	**22 23 37.2**	**+0.1**		
JIRB					*e*S		Sn	22 24 19.0	+0.6		
JIKM	**Ikemajima**	**3.52**	**69**		P		**Pn**	**22 23 41.2**	**+2.7**		
JIKM					*e*S		Sn	22 24 22.5	+1.8		
JMJ2	**Miyako jima3**	**3.54**	**73**		P		**Pn**	**22 23 40.5**	**+1.8**		
JMJ2					*e*S		Sn	22 24 22.9	+1.8		
ZPLA	**Ao Xicun**	**3.54**	**274**		*e*P		**Pn**	**22 23 38.6**	**-0.1**		
	baz=271										
JOW	**Kunigami**	**6.78**	**61**		Pn		**Pn**	**22 24 23.2**	**0.0**		
	0.8nm,0.3s,baz=2.6,slow=15,SNR=14										
JOW						Sn	**Sn**	**22 25 41.2**	**+0.2**		
	0.3nm,0.3s,baz=223,slow=18,SNR=1.8										
JOW	**Kunigami**	**6.78**	**61**		Pn		**Pn**	**22 24 23.0**	**-0.2**		
NJ2	**Nanjing**	**8.65**	**344**		*e*P		**Pn**	**22 24 50.3**	**+1.4**		
NJ2					S		**Sn**	**22 26 23.8**	**-3.2**		
NJ2						pmax	pmax				
	comp=Z,36nm,0.8s										
NJ2						smax	smax				
	comp=N,160nm,1.1s										
NJ2						smax	smax				
	comp=E,180nm,1.2s										
NJ2						LR	LR				
	comp=N,3μm,9.2s										
NJ2						LR	LR				
	comp=E,3μm,6.1s										
NJ2						LR	LR				
	comp=Z,4μm,8.4s										
TGY	**Tagaytay City**	**9.59**	**184**			LR	LR	22 29 18.4			
	comp=Z,336nm,20.7s,baz=310,slow=42										
QIZ	**Qiongzhong**	**11.92**	**249**		P		**Pn**	**22 25 32.9**	**-0.8**		
QIZ					S		**Sn**	**22 27 45.6**	**-1.7**		
QIZ						LR	LR				
	comp=N,620nm,8.8s										
QIZ						LR	LR				
	comp=E,670nm,12.6s										
QIZ						LR	LR				
	comp=Z,570nm,7.9s										

GYA	**Guiyang**	**13.82**	**284**		*e*P		**Pn**	**22 26 01.8**	**+2.0**		
GYA						PP	P	22 26 15.3	+6.9		
GYA						S	**Sn**	**22 28 39.3**	**+5.3**		
GYA						pmax	pmax				
	comp=Z,10.0nm,1.0s										
GYA						pmax	pmax				
	comp=Z,120nm,3.6s										
GYA						LR	LR				
	comp=N,970nm,4.8s										
GYA						LR	LR				
	comp=E,2μm,11.2s										
GYA						LR	LR				
	comp=Z,2μm,10.7s										
KSAR	**Wonju Array Be**	**14.70**	**20**		Pn		Pn	22 26 06.0	-5.7		
KSRS	**Korea Array**	**14.72**	**20**		Pn		**P**	**22 26 16.0**	**-2.2**		
	0.6nm,0.3s,baz=200,slow=12,SNR=19										
KSRS						LR	LR	22 32 38.3			
	comp=Z,122nm,18.7s,baz=204,slow=40										
KS19	**Wonju Array Si**	**14.75**	**20**				**Pn**	**22 26 11.7**	**-0.6**		
XAN	**Xi'an**	**15.13**	**316**				**Pn**	**22 26 18.5**	**+0.9**		
XAN						IAmb	IAmb	22 26 25.7			
	comp=Z,10nm,1.2s										
DAV	**Davao City (W)**	**16.99**	**166**		LR		LR	22 33 10.7			
	comp=Z,271nm,19.7s,baz=358,slow=37										
KMI	**Kunming**	**17.25**	**279**		P		**Pn**	**22 26 42.9**	**-2.1**		
KMI					sP		sP	22 26 49.5	+2.4		
KMI					SS		**S**	**22 30 15.4**	**+8.4**		
KMI						pmax	pmax				
	comp=Z,6.0nm,1.1s										
KMI						LR	LR				
	comp=Z,370nm,10.3s										
KMI						LR	LR				
	comp=Z,2μm,9.5s										
KMI						LR	LR				
	comp=Z,2μm,10.2s										
HHC	**Hu-ho-hao-te**	**19.05**	**336**		*e*P		**Pn**	**22 27 06.8**	**-0.2**		
HHC					S		**Sn**	**22 30 35.6**	**-5.3**		
HHC					SS		**SnSn**	**22 31 00.8**	**+5.7**		
HHC						pmax	pmax				
	comp=Z,11nm,1.1s										
HHC						pmax	pmax				
	comp=Z,140nm,5.6s										
HHC						LR	LR				
	comp=Z,430nm,9.6s										
HHC						LR	LR				
	comp=Z,130nm,7.1s										
HHC						LR	LR				
	comp=Z,290nm,10.9s										
MJAR	**Matsushiro Arr**	**19.18**	**44**		P		**Pn**	**22 27 08.8**	**+0.3**		
	comp=Z,0.0nm,0.3s,baz=233,slow=9.5,SNR=3.2										
MJAR						LR	LR	22 35 34.6			
	comp=Z,115nm,19.6s,baz=245,slow=40										
MJAR	**Matsushiro Arr**	**19.18**	**44**		P		**P**	**22 27 07.2**	**-0.4**		
LZH	**Lanzhou**	**19.69**	**313**		*e*P		**Pn**	**22 27 15.6**	**+0.8**		
LZH					pP		sP	22 27 19.4	+5.5		
LZH					sP		pP	22 27 21.9	+8.2		
LZH					PP		**PnPn**	**22 27 31.8**	**+3.5**		
LZH						pmax	pmax				
	comp=Z,16nm,1.1s										
LZH						pmax	pmax				
	comp=Z,73nm,5.4s										
LZH						LR	LR				
	comp=Z,480nm,9.8s										
LZH						LR	LR				
	comp=Z,1μm,10.3s										
LZH						LR	LR				
	comp=Z,1μm,10.8s										
CMAR	**Chiang Mai Arr**	**21.78**	**260**		P		**P**	**22 27 37.9**	**+1.9**		
	comp=Z,2.7nm,1.1s,baz=59,slow=8.3,SNR=8.4										
CMAR						LR	LR	22 36 43.4			
	comp=Z,199nm,21.6s,baz=115,slow=38										
USRK	**Ussuriysk Ar.**	**22.13**	**20**		P		**P**	**22 27 41.1**	**+1.6**		
	comp=Z,0.9nm,0.5s,baz=189,slow=9.7,SNR=4.0										
USRK	**Ussuriysk Ar.**	**22.13**	**20**		P		**P**	**22 27 39.7**	**+0.2**		
SBUM	**Sibu**	**23.02**	**205**		P		**P**	**22 27 49.2**	**0.0**		
GTA	**Gaotai**	**24.19**	**315**		*e*P		**P**	**22 27 58.0**	**-2.7**		
GTA					pP		sP	22 28 02.3	+1.1		
GTA					sP		pP	22 28 05.6	+4.5		
GTA						pmax	pmax				
	comp=Z,3.0nm,0.6s										
GTA						pmax	pmax				
	comp=Z,64nm,5.2s										
GTA						LR	LR				
	comp=Z,270nm,14.4s										
GTA						LR	LR				
	comp=Z,760nm,11.7s										
GTA						LR	LR				
	comp=Z,720nm,12.4s										
ULN	**Ulaanbaatar**	**26.74**	**338**		P		**P**	**22 28 23.7**	**-0.1**		
ULN						IAmb	IAmb	22 28 28.9			
	comp=Z,3.9nm,0.8s										
SONM	**Songino Array**	**26.95**	**337**		P		**P**	**22 28 26.1**	**+0.5**		
	comp=Z,2.3nm,0.8s,baz=142,slow=7.2,SNR=8.8										
SONM						LR	LR	22 40 16.6			
	comp=Z,313nm,18.2s,baz=136,slow=39										
SONM	**Songino Array**	**26.95**	**337**		P		**P**	**22 28 25.4**	**-0.2**		
KAPI	**Kappang**	**28.62**	**184**		LR		LR	22 40 59.1			
	comp=Z,71nm,19.3s,baz=356,slow=38										
WMQ	**Urumqi**	**34.26**	**314**		*e*P		**P**	**22 29 32.0**	**+1.8**		
MK31	**Makanchi Array**	**38.94**	**316**		P		**P**	**22 30 10.7**	**+0.7**		
MKAR	**Makanchi Array**	**38.94**	**316**		P		**P**	**22 30 10.5**	**+0.4**		
	comp=Z,3.7nm,0.9s,baz=110,slow=9.4,SNR=20										
MKAR						LR	LR	22 47 27.6			
	comp=Z,156nm,19.8s,baz=93,slow=38										
MAKZ	**Makanchi**	**39.15**	**316**		P		**P**	**22 30 11.7**	**-0.1**		
MAKZ						IAmb	IAmb	22 30 16.9			
	comp=Z,4.8nm,0.9s										
PETK	**Petropavlovsk-**	**40.03**	**34**		LR		LR	22 47 42.1			
	comp=Z,25nm,18.4s,baz=238,slow=37										
ZAA0	**Zalesovo Array**	**40.85**	**327**		P		**P**	**22 30 25.7**	**0.0**		
ZALV	**Zalesovo Beam**	**40.85**	**327**		P		**P**	**22 30 26.0**	**+0.3**		
	comp=Z,2.1nm,0.6s,baz=112,slow=8.9,SNR=9.2										
ZALV						LR	LR	22 47 14.4			
	comp=Z,91nm,21.4s,baz=151,slow=36										
ZALV	**Zalesovo Beam**	**40.85**	**327**		P		**P**	**22 30 25.0**	**-0.7**		
KDJ	**Kajisay**	**41.05**	**308**		P		**P**	**22 30 27.2**	**-0.6**		
KDJ						IAmb	IAmb	22 30 31.1			
	comp=Z,7.4nm,0.8s										
H11N1	**WAKE ISLAND Hy**	**42.12**	**86**		T		T	23 15 34.9			
	baz=282,slow=75,SNR=151										
H11N2	**WAKE ISLAND Hy**	**42.12**	**86**		T		T	23 15 34.8			
	baz=282,slow=75,SNR=139										
H11N3	**WAKE ISLAND Hy**	**42.14**	**86**		T		T	23 15 36.3			
	baz=282,slow=75,SNR=145										
H11S3	**WAKE ISLAND Hy**	**42.24**	**88**		T		T	23 15 43.3			
	baz=284,slow=74,SNR=257										
H11S1	**WAKE ISLAND Hy**	**42.25**	**88**		T		T	23 15 44.9			
	baz=284,slow=74,SNR=252										
H11S2	**WAKE ISLAND Hy**	**42.26**	**88**		T		T	23 15 41.4			
	baz=284,slow=74,SNR=247										
KURK	**Kurchatov**	**42.70**	**320**		P		**P**	**22 30 41.0**	**+0.1**		
KURBB	**Kurchatov Arra**	**42.72**	**320**		P		**P**	**22 30 41.7**	**+0.7**		
	comp=Z,1.2nm,0.6s,baz=110,slow=9.3,SNR=7.9										
WB0	**Warramunga Arr**	**44.98**	**163**		P		**P**	**22 30 59.8**	**+0.2**		
WB0						IAmb	IAmb	22 31 13.3			
	comp=Z,3.8nm,1.0s										
PSA00	**Pilbara Seismi**	**45.05**	**182**		P		**P**	**22 30 59.8**	**-0.3**		
WRA	**Warramunga Arr**	**45.14**	**163**		P		**P**	**22 30 59.0**	**-1.8**		
	comp=Z,2.4nm,0.7s,baz=345,slow=8.6,SNR=16										
WRA	**Warramunga Arr**	**45.14**	**163**		IAmb		IAmb	22 31 02.6			
	comp=Z,0.2nm,0.9s										
KK31	**Karatay Array**	**46.06**	**308**		P		**P**	**22 31 08.6**	**+0.5**		
KKAR	**Karatay Array**	**46.06**	**308**		P		**P**	**22 31 07.5**	**-0.5**		
KKAR	**Karatay Array**	**46.06**	**308**		IAmb		IAmb	22 31 17.6			
	comp=Z,1.8nm,0.9s										
KBL	**Kabul**	**46.72**	**296**		P		**P**	**22 31 13.5**	**0.0**		
KBL						IAmb	IAmb	22 31 22.4			
	comp=Z,5.1nm,1.0s										
BRVK	**Borovoye**	**48.35**	**321**		P		**P**	**22 31 25.7**	**+0.1**		
BRVK						IAmb	IAmb	22 31 32.0			
	comp=Z,2.9nm,0.8s										
ASAR	**Alice Springs**	**48.59**	**165**		P		**P**	**22 31 26.3**	**-1.5**		
	comp=Z,1.3nm,0.8s,baz=343,slow=6.0,SNR=12										
ASAR						LR	LR	22 53 37.4			
	comp=Z,41nm,18.2s,baz=37,slow=38										
ASAR	**Alice Springs**	**48.59**	**165**		P		**P**	**22 31 28.5**	**+0.7**		
NRIK	**Noril'sk**	**49.95**	**345**		LR		LR	22 53 40.3			
	comp=Z,66nm,21.0s,baz=144,slow=37										
MORW	**Morawa**	**52.76**	**186**		P		**P**	**22 31 56.9**	**-2.3**		
MORW						IAmb	IAmb	22 32 01.0			
	comp=Z,8.0nm,1.1s										
ABKAR	**Akbulak array**	**54.05**	**315**				**P**	**22 32 08.9**	**+0.4**		
GEYT	**Alibeck**	**55.37**	**301**		P		**P**	**22 32 19.2**	**+0.8**		
	comp=Z,2.0nm,0.8s,baz=41,slow=3.1,SNR=3.1										
GEYT						LR	LR	23 00 10.3			
	comp=Z,87nm,18.9s,baz=50,slow=40										

GEYT	**Alibeck**	**55.37**	**301**		IAmb		IAmb	22 32 25.6			
	comp=Z,2.2nm,0.8s										
NWAO	**Narrogin (SRO)**	**56.48**	**184**		P		**P**	**22 32 24.4**	**-1.8**		
NWAO	**Narrogin (SRO)**	**56.48**	**184**		P		**P**	**22 32 23.6**	**-2.6**		
NWAO					IAmb		IAmb	22 32 26.7			
	comp=Z,12nm,1.0s										
STKA	**Stephens Creek**	**58.49**	**160**		P		**P**	**22 32 39.5**	**-0.9**		
	comp=Z,1.5nm,0.4s,baz=335,slow=9.2,SNR=5.4										
STKA					LR		LR	23 03 12.2			
	comp=Z,48nm,18.4s,baz=211,slow=42										
STKA	**Stephens Creek**	**58.49**	**160**		IAmb		IAmb	22 32 43.5			
	comp=Z,0.8nm,0.8s										
KBZ	**Khabaz**	**66.08**	**309**		LR		LR	23 06 53.0			
	comp=Z,48nm,18.9s,baz=60,slow=40										
IMAR	**Indian Mountai**	**66.42**	**26**		P		**P**	**22 33 32.7**	**-0.3**		
BPAW	**Bear Paw Mtn.**	**67.81**	**28**		P		**P**	**22 33 41.5**	**-0.4**		
BPAW					IAmb		IAmb	22 33 47.8			
	comp=Z,2.4nm,0.7s										
MCK	**McKinley**	**68.77**	**29**		P		**P**	**22 33 47.8**	**-0.1**		
MCK					IAmb		IAmb	22 34 04.1			
	comp=Z,2.6nm,0.8s										
MDM	**Murphy Dome**	**68.84**	**27**		P		**P**	**22 33 48.2**	**-0.2**		
MDM					IAmb		IAmb	22 33 59.0			
	comp=Z,3.6nm,1.0s										
RAYN	**Ar Rayn**	**68.86**	**287**		P		**P**	**22 33 48.1**	**-1.2**		
RND	**Reindeer**	**68.86**	**29**		P		**P**	**22 33 47.3**	**-1.3**		
SML	**Sawmill**	**69.41**	**30**		P		**P**	**22 33 52.1**	**+0.1**		
ILAR	**Eielson Array**	**69.44**	**27**		P		**P**	**22 33 51.7**	**-0.3**		
	comp=Z,0.6nm,0.6s,baz=285,slow=5.4,SNR=7.6										
BMAR	**Burnt Mountain**	**69.79**	**24**		P		**P**	**22 33 54.4**	**+0.2**		
ARCES	**ARCESS Array B**	**70.11**	**338**		LR		LR	23 09 41.5			
	comp=Z,31nm,19.6s,baz=190,slow=40										
RIDG	**Independent Ri**	**70.54**	**28**		P		**P**	**22 33 58.9**	**0.0**		
RIDG					IAmb		IAmb	22 34 13.5			
	comp=Z,5.3nm,1.1s										
SCRK	**Sand Creek**	**70.85**	**28**		P		**P**	**22 34 01.2**	**+0.3**		
SCRK					IAmb		IAmb	22 34 05.8			
	comp=Z,2.6nm,0.9s										
DOT	**Dot Lake**	**70.91**	**28**		P		**P**	**22 33 59.7**	**-1.4**		
FINES	**FINESS Array B**	**72.04**	**330**		P		**P**	**22 34 08.5**	**+0.6**		
	comp=Z,2.9nm,0.9s,baz=52,slow=9.0,SNR=1.9										
FINES					LR		LR	23 08 36.0			
	comp=Z,116nm,18.1s,baz=74,slow=38										
BCAR	**Beaver Creek A**	**72.05**	**28**		P		**P**	**22 34 08.6**	**+0.5**		
INK	**Inuvik**	**73.50**	**22**		P		**P**	**22 34 17.3**	**+0.8**		
INK					IAmb		IAmb	22 34 21.6			
	comp=Z,4.1nm,0.9s										
BRTR	**Keskin Array B**	**73.76**	**307**		P		**P**	**22 34 19.4**	**+0.6**		
	comp=Z,0.5nm,0.5s,baz=92,slow=3.3,SNR=1.2										
BRTR					LR		LR	23 11 12.1			
	comp=Z,21nm,18.5s,baz=28,slow=39										
KWP	**Kalwaria Pacla**	**77.78**	**319**		P		**P**	**22 34 40.9**	**-0.5**		
NOA	**NORSAR Array B**	**78.82**	**332**		P		**P**	**22 34 47.0**	**0.0**		
	comp=Z,0.5nm,0.7s,baz=63,slow=4.9,SNR=1.4										
NOA					LR		LR	23 12 13.8			
	comp=Z,75nm,19.1s,baz=60,slow=38										
VYHS	**Vyhne**	**80.57**	**319**		*e*P		**P**	**22 34 56.8**	**+0.1**		
YKA	**Yellowknife Ar**	**83.24**	**23**		P		**P**	**22 35 09.9**	**-0.5**		
	comp=Z,1.2nm,0.6s,baz=309,slow=4.5,SNR=8.4										
KHC	**Kasperske Hory**	**83.38**	**321**		P		**P**	**22 35 10.9**	**-0.6**		
GEC2	**GERESS Array S**	**83.45**	**321**		P		**P**	**22 35 10.8**	**-1.2**		
GEC2					IAmb		IAmb	22 35 15.6			
	comp=Z,1.8nm,0.9s										
GERES	**GERESS Array B**	**83.45**	**321**		P		**P**	**22 35 11.9**	**0.0**		
	comp=Z,0.4nm,0.6s,baz=27,slow=4.5,SNR=2.5										
GERES					LR		LR	23 15 40.3			
	comp=Z,47nm,18.9s,baz=95,slow=38										
GERES	**GERESS Array B**	**83.45**	**321**		P		**P**	**22

SSLB	**Suanglung** baz=275	0.57 277	⇓ *i* P	Pg	22 25 44.8	-0.3
SSLB	baz=275		*eS*	Sg	22 25 51.9	-0.6
SMLT	**Sun Moon Lake** baz=283	0.63 285	P	Pg	22 25 46.1	-0.2
SMLT	baz=283		*eS*	Sg	22 25 53.8	-0.8
TDCB	**Techi** baz=314	0.65 325	P	Pg	22 25 46.8	+0.2
TDCB	baz=314		*eS*	Sb	22 25 56.4	-1.0
CHKT	**Chengkung** baz=193	0.65 197	*eP*	Pb	22 25 48.7	+0.8
CHKT	baz=193		*eS*	Sn	22 25 59.7	-0.7
WHYT	**Xinyi Township** baz=265	0.66 268	P	Pg	22 25 46.8	0.0
DPDB	**Guoxing** baz=297	0.67 298	*i* P	Pg	22 25 47.1	+0.1
DPDB	baz=297		*eS*	Sg	22 25 56.5	+0.9
TYC	**Yuchr** baz=285	0.68 286	P	Pg	22 25 46.9	-0.3
TYC	baz=285		*eS*	Sg	22 25 56.1	+0.1
ENA	**Nanau** baz=359	0.72 13	*eP*	Pg	22 25 48.1	+0.1
ENA	baz=359		*eS*	Sb	22 25 59.6	+0.4
NNSB	**Datong** baz=345	0.72 346	P	Pg	22 25 48.0	0.0
NNSB	baz=345		*eS*	Sg	22 25 57.5	+0.1
NNSH	**Datong** baz=345	0.72 346	P	Pg	22 25 47.9	-0.1
NNSH	baz=345		*eS*	Sg	22 25 57.3	-0.2
ALS	**Alishan** baz=252	0.73 253	P	Pg	22 25 48.6	+0.4
ALS	baz=252		*eS*	Sb	22 26 00.2	+0.4
ELDTW	**Lidau** baz=223	0.73 224	P	Pg	22 25 47.7	-0.6
ELDTW	baz=223		*eS*	Sb	22 25 59.3	-0.4
NNS	**Nan Shan** baz=345	0.74 346	P	Pg	22 25 48.2	-0.1
NNS	baz=345		*eS*	Sg	22 25 57.3	-0.6
WJS	**Zhushan** baz=275	0.78 277	P	Pb	22 25 50.4	+0.3
WHP	**Taichung City** baz=312	0.79 314	*eP*	Pg	22 25 49.3	-0.1
WNT	**Mingjian** baz=286	0.82 281	P	Pb	22 25 51.1	+0.2
WNT	baz=286		*eS*	Sn	22 26 03.8	-1.0
CHN5	**Tsauling** baz=252	0.83 261	*eP*	Pg	22 25 50.6	+0.6
CHN5	baz=252		*eS*	Sb	22 26 02.4	0.0
NDT	**Datong Townshi** baz=345	0.88 357	P	Pg	22 25 51.1	+0.1
NDT	baz=345		*eS*	Sg	22 26 02.1	-0.3
ENTT	**Nioudou** baz=349	0.91 360	P	Pg	22 25 51.8	+0.2
ENTT	baz=349		*eS*	Sg	22 26 04.2	+0.6
TWC	**Suao** baz=4.0	0.92 16	P	Pg	22 25 52.0	+0.2
TWC	baz=4.0		*eS*	Sb	22 26 04.5	-0.4
TCU	**Taichung** baz=296	0.92 298	*eP*	Pb	22 25 52.5	0.0
WGK	**Gukeng** baz=265	0.92 268	*eP*	Pg	22 25 51.9	0.0
STYT	**Tauyuan** baz=228	0.93 233	P	Pg	22 25 51.9	-0.1
STYT	baz=228		*eS*	Sg	22 26 04.5	+0.4
WDLH	**Douliu** baz=267	0.95 268	P	Pb	22 25 53.4	+0.5
WDLH	baz=267		*eS*	Sn	22 26 07.9	+0.1
TWQ1	**Liyutan** baz=308	0.96 311	*eP*	Pb	22 25 53.7	+0.5
YHNB	**Yeheng** baz=335	0.96 349	P	Pg	22 25 52.5	-0.1
YHNB	baz=335		*eS*	Sg	22 26 04.6	-0.4
TPUB	**Ta-pu** baz=254	0.96 244	P	Pb	22 25 53.2	0.0
TPUB	baz=254		*eS*	Sb	22 26 07.1	+1.0
WCHH	**Zhanghua** baz=288	0.99 291	*eP*	Pb	22 25 53.9	+0.2
WTP	**Ta-pu** baz=227	1.00 242	*eP*	Pb	22 25 54.2	+0.4
TWE	**Neicheng** baz=3.0	1.00 5	*eP*	Pg	22 25 53.5	+0.2
TWGBT	**Beinan** baz=204	1.01 207	*eP*	Pg	22 25 52.8	-0.7
TWG	**Pinlang** baz=204	1.01 207	*eP*	Pg	22 25 53.2	-0.3
NSY	**Sanyi** baz=312	1.01 313	*eP*	Pn	22 25 55.2	+0.3
CHN2	**Minshiung** baz=257	1.02 259	*eP*	Pn	22 25 55.0	0.0
NSTT	**Nanjuang** baz=319	1.04 330	P	Pg	22 25 54.3	+0.1
NSTT	baz=319		*eS*	Sg	22 26 07.6	-0.1
NWLT	**Wulai** baz=353	1.05 357	*eP*	Pg	22 25 53.2	-1.2
WDJ	**Dajia District** baz=303	1.05 306	*eP*	Pn	22 25 56.2	+0.8
PTSB	**Yuanli** baz=308	1.07 313	*eP*	Pn	22 25 56.2	+0.5
PTSB	baz=308		*eS*	Sn	22 26 11.7	+0.9
CHY	**Chiayi** baz=255	1.07 258	*eP*	Pn	22 25 55.6	-0.1
NMLH	**Miaoli** baz=316	1.08 319	*eP*	Pn	22 25 56.4	+0.6
NMLH	baz=316		*eS*	Sb	22 26 10.2	+0.7
TWK	**Hsinying** baz=229	1.09 246	*eP*	Pb	22 25 55.7	+0.3
CHN1	**Nanshi** baz=239	1.10 241	*eP*	Pn	22 25 55.9	-0.1
SNST	**Tainan City** baz=241	1.10 243	*eP*	Pn	22 25 56.2	+0.1
SGST	**Jiashian** baz=233	1.11 235	*eP*	Pg	22 25 55.0	-0.4
SLGT	**Liugui** baz=228	1.12 230	*eP*	Pb	22 25 56.1	+0.2
RLNB	**Erlin** baz=277	1.12 279	*eP*	Pb	22 25 56.1	+0.2
RLNB	baz=277		*eS*	Sn	22 26 11.5	-0.6
WLTB	**Daxi** baz=352	1.16 346	*eP*	Pn	22 25 57.4	+0.5
EGS	baz=357	1.17 16	*eP*	Pn	22 25 57.7	+0.7
WLGB	**Puzi** baz=256	1.19 258	*eP*	Pn	22 25 57.7	+0.4
SBCB	**Hsinchu** baz=330	1.19 334	*eP*	Pn	22 25 58.3	+0.9
NHDH	**Xindian Distri** baz=354	1.23 358	*eP*	Pn	22 25 58.0	+0.1
TATO	**Taipei** baz=352	1.25 357	*eP*	Pg	22 25 57.7	-0.4
TWA	**Mucha** baz=357	1.25 1	*eP*	Pg	22 25 58.2	+0.1
ECL	**Taimali** baz=192	1.26 207	*eP*	Pg	22 25 57.6	-0.6
TIPB	**Shuangxi** baz=7.0	1.27 11	*eP*	Pg	22 25 58.2	-0.2
NCUH	**Zhongli** baz=358	1.29 344	*eP*	Pg	22 25 59.5	+0.6
SSD	**Sandimen** baz=226	1.30 222	*eP*	Pg	22 25 59.3	+0.3
NWF	**Wu-fen Shan** baz=4.0	1.36 8	*eP*	Pg	22 26 00.7	+0.5
WFSB	**Wu-fen Shan** baz=4.0	1.36 8	*eP*	Pg	22 26 00.3	+0.2
JYNG	**Yonagunijimaku**	1.45 60	*S*	Sg	22 26 21.3	+0.5
YOJ	**Yonaguni jima**	1.51 61	*eS*	Sb	22 26 22.4	+0.5
IRIF	**Iriomote-Funau**	2.07 72	*eS*	Sn	22 26 36.1	+0.6
JIJ	**Ishigaki jima**	2.44 74	P	Sn	22 26 43.3	-1.3
JISG	**Ishigakijimahi**	2.65 70	P	Sn	22 26 48.3	-1.5

NAO **14** *22:26:41.2±1.1, 72°.34N×14°.22E, ML3.0*
BER **14** *22:26:43.9±3.5, 72°.35N×14°.00E, h17km±17km, ML2.2, ML2.8(HEL), Confirmed Earthquake*
IDC **14** *22:26:43.7±3.6, 72°.21N×14°.69E, h0km, mb1 3.3/3, mb1mx3.0/34, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=36.3km s-min=22.7km az=170.0*
HEL **14** *22:26:44.6, 72°.29N×14°.74E, h10km, ML2.8, Confirmed Earthquake*
UPP **14** *22:26:48.4±2.8, 71°.99N×14°.70E, h0km, ML2.4, Suspected explosion*

ISC 14 22:26:37.6±2.8, **72°.4N**±0°.1×**13°.81E**±0°.09, **h10**km, **n73**, σ3°.38/115, **Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TRO	**Tromso**	**3.26**	**147**	Pn	Pn	**Pn**	**22 27 32.2**	**+3.6**
TRO				Sn	Sn	**Sn**	**22 28 06.0**	**-1.3**
TRO	**Tromso**	**3.26**	**147**	*eP*	Pn	**Pn**	**22 27 32.0**	**+3.4**
TRO				*eS*	Sn	**Sn**	**22 28 06.3**	**-1.0**
TRO	**Tromso**	**3.26**	**147**	*eP*	Pn	**Pn**	**22 27 31.8**	**+3.2**
TRO				*eS*	Sn	**Sn**	**22 28 06.0**	**-1.3**
TRO				IAML			22 28 08.7	
	comp=Z,26nm,0.3s							
HAMF	**Hammerfest**	**3.61**	**115**	Pn	Pn	**Pn**	**22 27 35.3**	**+1.9**
HAMF				Sn	Sn	**Sn**	**22 28 13.0**	**-3.1**
HAMF	**Hammerfest**	**3.61**	**115**	*eP*	Pn	**Pn**	**22 27 35.4**	**+1.9**
HAMF				*eS*	Sn	**Sn**	**22 28 13.2**	**-2.9**
HAMF				IAML			22 28 17.2	
	comp=Z,9.6nm,0.4s							
KIF	**Kilpisjarvi**	**4.13**	**142**	Pn	Pn	**Pn**	**22 27 44.3**	**+3.7**
KIF				Sn	Sn	**Sn**	**22 28 28.1**	**-0.8**
KIF	**Kilpisjarvi**	**4.13**	**142**	*eP*	Pn	**Pn**	**22 27 44.0**	**+3.3**
KIF				*eS*	Sn	**Sn**	**22 28 27.8**	**-1.2**
KIF				MSN			22 28 29.8	
	comp=Z,10nm,0.1s							
KIF	**Kilpisjarvi**	**4.13**	**142**	*eP*	Pn	**Pn**	**22 27 43.9**	**+3.3**
KIF				*eS*	Sn	**Sn**	**22 28 27.8**	**-1.2**
KIF				MSN			22 28 29.8	
	comp=Z,10nm,0.1s							
LOF	**Lofoten**	**4.30**	**181**	Pn	Pn	**Pn**	**22 27 44.4**	**+1.4**
LOF				Sn	Sn	**Sn**	**22 28 31.5**	**-1.6**
LOF	**Lofoten**	**4.30**	**181**	*eP*	Pn	**Pn**	**22 27 45.1**	**+2.1**
LOF				*e*			22 28 29.6	
LOF				*eS*	Sn	**Sn**	**22 28 30.8**	**-2.3**
LOF				IAML			22 28 32.9	
	comp=Z,8.7nm,0.2s							
STEI	**Steigen**	**4.53**	**173**	Pn	Pn	**Pn**	**22 27 48.8**	**+2.7**
STEI				Sn	Sn	**Sn**	**22 28 37.2**	**-1.5**
STEI	**Steigen**	**4.53**	**173**	*eP*	Pn	**Pn**	**22 27 48.8**	**+2.7**
STEI				*eS*	Sn	**Sn**	**22 28 35.9**	**-2.9**
STEI				IAML			22 28 40.1	
	comp=Z,8.8nm,0.6s							
KTK1	**Kautokeino**	**4.63**	**133**	*eP*	Pn	**Pn**	**22 27 51.1**	**+3.7**
KTK1				*eS*	Sn	**Sn**	**22 28 40.6**	**-0.5**
KTK1	**Kautokeino**	**4.63**	**133**	*eP*	Pn	**Pn**	**22 27 50.4**	**+3.0**
KTK1				*eS*	Sn	**Sn**	**22 28 38.1**	**-3.0**
KTK1				IAML			22 28 44.1	
	comp=Z,5.0nm,0.2s							
HSPB	**Hornsund (broa**	**4.64**	**5**	*eP*	Pn		22 27 51.6	+4.1
KOVU	**Salmi**	**4.72**	**150**	P	Pn	**Pn**	**22 27 53.3**	**+4.5**
KOVU				S	Sn	**Sn**	**22 28 42.8**	**-0.7**
KOVU	**Salmi**	**4.72**	**150**	*eP*	Pn	**Pn**	**22 27 53.3**	**+4.5**
KOVU				*eS*	Sn	**Sn**	**22 28 42.8**	**-0.7**
ARA0	**ARCESS Array S** baz=318,slow=14	**4.79**	**121**	Pn	Pn	**Pn**	**22 27 52.4**	**+2.7**
ARA0	baz=303,slow=22			Sn	Sn	**Sn**	**22 28 43.5**	**-1.7**
ARA0	**ARCESS Array S** baz=318,slow=14	**4.79**	**121**	Pn	Pn	**Pn**	**22 27 52.4**	**+2.7**
ARA0	baz=303,slow=22			Sn	Sn	**Sn**	**22 28 43.5**	**-1.7**
ARCES	**ARCESS Array B** comp=Z,0.6nm,0.3s,baz=318,slow=12,SNR=27	**4.79**	**121**	Pn	Pn	**Pn**	**22 27 52.5**	**+2.8**
ARCES				Sn	Sn	**Sn**	**22 28 44.3**	**-0.9**
	comp=Z,2.4nm,0.3s,baz=310,slow=20,SNR=17							
ARE0	**ARCESS Array S**	**4.79**	**121**	*eP*	Pn	**Pn**	**22 27 52.9**	**+3.2**
ARE0				*eS*	Sn	**Sn**	**22 28 43.5**	**-1.7**
ARE0	**ARCESS Array S**	**4.79**	**121**	*eP*	Pn	**Pn**	**22 27 53.8**	**+4.1**
ARE0				*eS*	Sn	**Sn**	**22 28 43.7**	**-1.5**
ARE0				IAML			22 28 47.1	
	comp=Z,5.6nm,0.5s							
NIKU	**Nikkaluokta**	**4.90**	**156**	P	Pn	**Pn**	**22 27 55.5**	**+4.4**
NIKU				S	Sn	**Sn**	**22 28 47.4**	**-0.5**
NIKU	**Nikkaluokta**	**4.90**	**156**	*eP*	Pn	**Pn**	**22 27 55.5**	**+4.4**
NIKU				*eS*	Sn	**Sn**	**22 28 47.4**	**-0.5**
KUA	**Kurravaara**	**5.00**	**150**	P	Pn	**Pn**	**22 27 56.9**	**+4.3**
KUA				S	Sn	**Sn**	**22 28 49.0**	**-1.3**
KUA	**Kurravaara**	**5.00**	**150**	*eP*	Pn	**Pn**	**22 27 56.9**	**+4.3**
KUA				*eS*	Sn	**Sn**	**22 28 49.0**	**-1.3**
KEV	**Kevo**	**5.05**	**115**	*eP*	Pn	**Pn**	**22 27 55.9**	**+2.7**
KEV				*eS*	Sn	**Sn**	**22 28 48.6**	**-2.9**
KEV	**Kevo**	**5.05**	**115**	*eP*	Pn	**Pn**	**22 27 55.9**	**+2.7**
KEV				*eS*	Sn	**Sn**	**22 28 48.6**	**-2.9**
HOPEN	**Hopen**	**5.09**	**31**	*eP*	Pn		22 27 56.4	+2.7
HOPEN				*eS*	Sn		22 28 51.2	-1.3
HOPEN				IAML			22 28 58.2	
	comp=Z,11nm,0.5s							
LANU	**Lannavaara**	**5.18**	**144**	P	Pn	**Pn**	**22 27 59.1**	**+4.0**
LANU	**Lannavaara**	**5.18**	**144**	*eP*	Pn	**Pn**	**22 27 59.1**	**+4.0**
LANU				*eS*	Sn	**Sn**	**22 28 53.7**	**-1.1**
LANU	**Lannavaara**	**5.18**	**144**	*eP*	Pn	**Pn**	**22 27 59.1**	**+4.0**
LANU				*eS*	Sn	**Sn**	**22 28 53.7**	**-1.1**
HEF	**Hetta**	**5.21**	**136**	Pn	Pn	**Pn**	**22 27 58.7**	**+3.3**
HEF				Sn	Sn	**Sn**	**22 28 53.8**	**-1.6**
HEF	**Hetta**	**5.21**	**136**	*eP*	Pn	**Pn**	**22 27 58.8**	**+3.4**
HEF				*eS*	Sn	**Sn**	**22 28 53.5**	**-1.9**
HEF				MSN			22 28 58.1	
	comp=Z,3.8nm,0.2s							
HEF	**Hetta**	**5.21**	**136**	*eP*	Pn	**Pn**	**22 27 58.8**	**+3.4**
HEF				*eS*	Sn	**Sn**	**22 28 53.5**	**-1.9**
HEF				MSN			22 28 58.1	
	comp=Z,3.8nm,0.2s							
MASU	**Masugnsbyn**	**5.72**	**147**	P	Pn	**Pn**	**22 28 06.9**	**+4.5**
MASU	**Masugnsbyn**	**5.72**	**147**	*eP*	Pn	**Pn**	**22 28 06.9**	**+4.5**
DUNU	**Dundret**	**5.81**	**153**	P	Pn	**Pn**	**22 28 07.9**	**+4.2**
DUNU	**Dundret**	**5.81**	**153**	*eP*	Pn	**Pn**	**22 28 07.9**	**+4.2**
SPA0	**Spitsbergen Ar** baz=181,slow=16	**5.83**	**5**	Pn	Pn		22 28 09.1	+5.1
SPA0	**Spitsbergen Ar** baz=181,slow=16	**5.83**	**5**	Pn	Pn		22 28 09.1	+5.1
SPA0				IAML			22 29 08.5	
	comp=Z,5.7nm,0.8s							
KONS	**Konsvik**	**5.95**	**183**	*eP*	Pn	**Pn**	**22 28 08.1**	**+2.6**
KONS				*eS*	Sn	**Sn**	**22 29 10.2**	**-3.4**
KONS				IAML			22 29 15.3	
	comp=Z,12nm,0.7s							
STOK	**Stokkvaagen**	**6.12**	**183**	*eP*	Pn	**Pn**	**22 28 10.0**	**+2.2**
STOK				*eS*	Sn	**Sn**	**22 29 13.5**	**-4.2**
MOR8	**Moi Rana**	**6.28**	**178**	*eP*	Pn	**Pn**	**22 28 11.6**	**+1.5**
MOR8				*eS*	Sn	**Sn**	**22 29 15.0**	**-6.8**
MOR8				IAML			22 29 21.8	
	comp=Z,6.0nm,0.2s							
PAJU	**Pajala**	**6.30**	**145**	P	Pn	**Pn**	**22 28 14.6**	**+4.2**
PAJU	**Pajala**	**6.30**	**145**	*eP*	Pn	**Pn**	**22 28 14.6**	**+4.2**
KBS	**Kingsbay**	**6.57**	**357**	Pn	Pn		22 28 19.3	+5.3
KBS	**Kingsbay**	**6.57**	**357**	*eP*	Pn		22 28 18.7	+4.8
KBS				*eS*	Sn		22 29 27.8	-0.9
KBS				IAML			22 29 42.4	
	comp=Z,4.5nm,0.6s							
ERTU	**Ertsjaerv**	**6.58**	**149**	P	Pn	**Pn**	**22 28 18.2**	**+4.0**
ERTU	**Ertsjaerv**	**6.58**	**149**	*eP*	Pn	**Pn**	**22 28 18.2**	**+4.0**
SGF	**Sodankyl**	**6.63**	**133**	*eP*	Pn	**Pn**	**22 28 17.7**	**+2.9**
SGF				*eS*	Sn	**Sn**	**22 29 26.8**	**-3.5**
SGF	**Sodankyl**	**6.63**	**133**	*eP*	Pn	**Pn**	**22 28 17.7**	**+2.9**
SGF				*eS*	Sn	**Sn**	**22 29 26.8**	**-3.5**
HARU	**Harads**	**6.77**	**155**	P	Pn	**Pn**	**22 28 20.7**	**+3.9**
HARU	**Harads**	**6.77**	**155**	*eP*	Pn	**Pn**	**22 28 20.7**	**+3.9**
VRF	**Varrio**	**7.13**	**123**	*eP*	Pn	**Pn**	**22 28 24.0**	**+2.3**
VRF				*eS*	Sn	**Sn**	**22 29 38.2**	**-4.4**
VRF				MSN			22 29 41.1	
	comp=Z,1.9nm,0.2s							
VRF	**Varrio**	**7.13**	**123**	*eP*	Pn	**Pn**	**22 28 24.0**	**+2.3**
VRF				*eS*	Sn	**Sn**	**22 29 38.2**	**-4.4**
VRF				MSN			22 29 41.1	
	comp=Z,1.9nm,0.2s							
LILU	**Lilltraesk**	**7.48**	**160**	P	Pn	**Pn**	**22 28 29.8**	**+3.3**
LILU	**Lilltraesk**	**7.48**	**160**	*eP*	Pn	**Pn**	**22 28 29.8**	**+3.3**
NSS	**Namsos**	**7.95**	**186**	*eP*	Pn	**Pn**	**22 28 36.5**	**+3.5**
APA0	**Apatity Array** baz=321,slow=11	**8.12**	**117**	Pn	Pn	**Pn**	**22 28 36.9**	**+1.6**
APA0	baz=311,slow=22			Sn	Sn	**Sn**	**22 29 59.6**	**-7.4**
APA0	**Apatity Array** baz=321,slow=11	**8.12**	**117**	Pn	Pn	**Pn**	**22 28 36.9**	**+1.6**
APA0	baz=311,slow=22			Sn	Sn	**Sn**	**22 29 59.6**	**-7.4**
LVZ	**Lovozero**	**8.38**	**112**	*eP*	Pn	**Pn**	**22 28 40.9**	**+2.0**
LVZ				*eS*	Sn	**Sn**	**22 30 08.7**	**-4.6**
LVZ	**Lovozero**	**8.38**	**112**	*eP*	Pn	**Pn**	**22 28 40.9**	**+2.0**
LVZ				*eS*	Sn	**Sn**	**22 30 08.7**	**-4.6**
NB2	**NORSAR Subarra** baz=354,slow=11	**11.47**	**186**	Pn	Pn	**Pn**	**22 29 23.9**	**+2.7**
NB2	**NORSAR Subarra** baz=354,slow=11	**11.47**	**186**	Pn	Pn	**Pn**	**22 29 23.9**	**+2.7**
NOA	**NORSAR Array B** comp=Z,0.0nm,0.3s,baz=3.9,slow=14,SNR=2.2	**11.47**	**186**	Pn	Pn	**Pn**	**22 29 24.8**	**+3.6**
NRA0	**NORESS Array S** baz=359,slow=11	**11.76**	**185**	Pn	Pn	**Pn**	**22 29 27.9**	**+2.8**
NRA0	**NORESS Array S** baz=359,slow=11	**11.76**	**185**	Pn	Pn	**Pn**	**22 29 27.9**	**+2.8**
FIA0	**FINESS Array S** baz=350,slow=12	**11.98**	**151**	Pn	Pn	**Pn**	**22 29 30.7**	**+2.7**
FIA0	baz=347,slow=28			Sn	Sn	**Sn**	**22 31 33.7**	**-7.9**
FIA0	**FINESS Array S** baz=350,slow=12	**11.98**	**151**	Pn	Pn	**Pn**	**22 29 30.7**	**+2.7**
FIA0	baz=347,slow=28			Sn	Sn	**Sn**	**22 31 33.7**	**-7.9**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=343,slow=13,SNR=5.0	**11.98**	**151**	Pn	Pn	**Pn**	**22 29 30.8**	**+2.7**
FINES	comp=Z,0.4nm,0.3s,baz=349,slow=22,SNR=10			Sn	Sn	**Sn**	**22 31 35.2**	**-6.4**
HFS	**Hagfors** baz=4.3,slow=11	**12.34**	**180**	Pn	Pn	**Pn**	**22 29 35.4**	**+2.4**
HFS	baz=14,slow=22			Sn	Sn	**Sn**	**22 31 49.2**	**-1.0**
HFS	**Hagfors** baz=4.3,slow=11	**12.34**	**180**	Pn	Pn	**Pn**	**22 29 35.4**	**+2.4**
HFS	baz=14,slow=22			Sn	Sn	**Sn**	**22 31 49.2**	**-1.0**

UCR 14 23:03:41.1±1.9, **10°.25N×83°.24W, h11**km±6km, **MD3.8, 2C, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CVTR	**Volcan Turrial**	**0.56**	**246**	*eP*	Pg		23 03 52.0	-0.2
CVTR				*eS*	Sg		23 04 00.2	+0.6
HDC	**Heredia**	**0.90**	**254**	*eP*	Pg		23 03 58.9	-0.1
HDC				*eS*	Sg		23 04 08.9	-0.3
LCR2	**La Lucha 2**	**0.91**	**236**	*eP*	Pg		23 03 57.6	-1.0
DRK0	**Durika**	**0.98**	**180**	*eP*	Pg		23 03 59.0	-1.2
DRK0				*eS*	Sg		23 04 11.9	-1.1
EDLM	**Las Mercedes**	**1.03**	**200**	*eS*	Sg		23 04 13.4	-0.9
EDDO	**Dominical**	**1.17**	**212**	*eP*	Pg		23 04 03.6	0.0
EDDO				*eS*	Sn		23 04 19.6	+0.3
SRA1	**San Ramn**	**1.23**	**262**	*eS*	Sb		23 04 19.6	-0.8
EDPN	**Palmar Norte**	**1.30**	**189**	*eS*	Sg		23 04 23.9	+0.8
FORC	**Fortuna**	**1.42**	**279**	*i* P	Pn		23 04 06.1	-0.8
FORC				*i* S	Sn		23 04 25.5	-0.1
CEDE	**Laguna Cedeo**	**1.46**	**279**	*i* P	Pn		23 04 06.8	-0.6
CEDE				*i* S	Sb		23 04 27.1	+0.3
ARE1	**Arenal 1**	**1.47**	**278**	*eP*	Pn		23 04 06.9	-0.6
ARE1				*eS*	Sb		23 04 27.2	0.0
CASO	**Castillo**	**1.48**	**277**	*i* P	Pn		23 04 07.2	-0.5
BRU2	**Volcan**	**1.55**	**159**	*eS*	Sn		23 04 28.8	-0.1
JTS	**Las Juntas de**	**1.69**	**271**	⇑ *iP*	Pn		23 04 10.2	-0.3
JTS				*eS*	Sb		23 04 33.5	+0.1
ACAL	**Aguas Claras**	**1.81**	**282**	*i* P	Pn		23 04 11.7	-0.5
CUI	**Cuipilapa**	**1.94**	**282**	*eP*	Pn		23 04 13.9	-0.1
CUI				*eS*	Sb		23 04 40.3	-0.3
LIM1	**Limonal**	**2.03**	**283**	*i* P	Pn		23 04 15.0	-0.2
PLVR	**Palo Verde**	**2.08**	**273**	*eP*	Pn		23 04 16.2	+0.1
ACON	**Acoyapa**	**2.55**	**312**	*eP*	Pn		23 04 21.4	-1.0

WEL **14** *23:22:48.0, 36°.8°×17°.8E, h246km±6km, M4.0/60, MLv4.0/60, Error ellipse: s-maj=0.0km s-min=0.0km az=5.4*
NEIC **14** *23:22:51.1±2.1, 36°.4S±0°.1×177°.5E±0°.1, h222km±12km, Error ellipse: s-maj=18.9km s-min=12.9km az=152.0*
IDC **14** *23:22:53.5±9.3, 36°.38S×177°.25E, h221km±71km, mb3.3/4, mb1 3.5/5, mb1mx3.3/35, mbtmp3.9/5, MS3.3/1, Ms1 3.3/1, ms1mx2.7/16, Error ellipse: s-maj=75.0km s-min=18.9km az=53.0*

ISC 14 23:22:51.8±0.9, **36°.41S**±0°.07×**177°.73E**±0°.07, **h235**km±6km, **n161**, σ1°39/177, **mb3.7**/7, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**1.19**	**201**	P	Pn	**Pn**	**23 23 26.4**	**+0.1**
MXZ	**Matakaoa Point**	**1.24**	**158**	P	Pn	**Pn**	**23 23 24.5**	**-2.1**
MXZ				S	S	**S**	**23 23 50.7**	**-3.4**
MXZ	**Matakaoa Point**	**1.24**	**158**			**Pn**	**23 23 24.7**	**-2.0**
MXZ				S	S	**S**	**23 23 52.0**	**-2.1**
HAZ	**Te Kaha**	**1.34**	**178**	P	Pn	**Pn**	**23 23 25.9**	**-1.5**
HAZ				S	S	**S**	**23 23 53.9**	**-1.5**
WMGZ	**Waiomatatini S**	**1.51**	**159**	P	Pn	**Pn**	**23 23 27.3**	**-1.4**
WMGZ				S	S	**S**	**23 23 55.8**	**-1.9**
RUGZ	**Raukumara Rang**	**1.55**	**181**	P	Pn	**Pn**	**23 23 27.4**	**-1.8**
WHRZ	**Whale Island**	**1.56**	**202**	P	Pn	**Pn**	**23 23 27.7**	**-1.5**
KUZ	**Kuaotunu**	**1.65**	**258**	P	Pn	**Pn**	**23 23 28.8**	**-1.0**
OPRZ	**Ohinepanea**	**1.71**	**213**	P	Pn	**Pn**	**23 23 30.2**	**-0.2**
PUZ	**Puketiti**	**1.71**	**166**	P	Pn	**Pn**	**23 23 29.0**	**-1.3**
PUZ				S	S	**S**	**23 24 00.1**	**-0.6**
TGRZ	**Tauranga**	**1.76**	**221**	P	Pn	**Pn**	**23 23 31.1**	**+0.3**
MARZ	**Manawahe**	**1.78**	**208**	P	Pn	**Pn**	**23 23 30.8**	**-0.2**
GRZ	**Great Barrier**	**1.84**	**274**	P	Pn	**Pn**	**23 23 30.0**	**-1.5**
EDZ	**Edgecumbe**	**1.86**	**205**	P	Pn	**Pn**	**23 23 31.3**	**+0.5**
URZ	**Urewera**	**1.91**	**195**	P	Pn	**Pn**	**23 23 31.5**	**-0.5**
URZ				S	S	**S**	**23 24 03.8**	**0.0**
MWZ	**Matawai**	**1.92**	**185**	P	Pn	**Pn**	**23 23 31.6**	**-0.6**
MWZ				S	S	**S**	**23 24 04.2**	**0.0**
KARZ	**Kaharoa**	**1.99**	**216**	P	Pn	**Pn**	**23 23 33.7**	**+0.8**
OMRZ	**Omania**	**2.00**	**212**	P	Pn	**Pn**	**23 23 33.7**	**+0.6**
KMRZ	**Kaimai**	**2.02**	**224**	P	Pn	**Pn**	**23 23 34.2**	**+1.0**
TKGZ	**Te Karaka**	**2.02**	**177**	P	Pn	**Pn**	**23 23 32.6**	**-0.5**
TKGZ				S	S	**S**	**23 24 05.2**	**-0.6**
TARZ	**Mount Tarawera**	**2.06**	**208**	P	Pn	**Pn**	**23 23 35.0**	**+1.3**
NGRZ	**Ngongotaha**

BKZ	**Black Stump Fm**	**2.92 199**	P		**Pn**	**23 23 42.2**	**-0.2**
BKZ	**Black Stump Fm**	**2.92 199**			**Pn**	**23 23 42.2**	**-0.2**
RITZ	**Rihia Road**	**2.96 209**	P		**Pn**	**23 23 44.1**	**+1.3**
HIZ	**Hauiti**	**3.10 227**	P		Pn	23 23 46.8	+2.4
HIZ	**Hauiti**	**3.10 227**			**Pn**	**23 23 43.2**	**-1.2**
MCHZ	**McNeill Hill**	**3.13 195**	P		**Pn**	**23 23 45.3**	**+0.6**
KRVZ	**Karewarewa**	**3.14 211**	P		**Pn**	**23 23 46.1**	**+1.1**
KWHZ	**Kaweka Forest**	**3.18 199**	P		**Pn**	**23 23 45.4**	**+0.1**
WTVZ	**West Tongariro**	**3.18 211**	P		**Pn**	**23 23 46.3**	**+0.9**
TWVZ	**Taurewa**	**3.21 214**	P		**Pn**	**23 23 46.9**	**+1.1**
NGZ	**Ngauruhoe**	**3.23 211**	P		**Pn**	**23 23 47.1**	**+1.0**
CKHZ	**Cape Kidnapper**	**3.28 189**	P		**Pn**	**23 23 46.5**	**+0.1**
TUVZ	**Tukino**	**3.29 209**	P		**Pn**	**23 23 47.1**	**+0.4**
FWVZ	**Far West T-bar**	**3.32 211**	P		**Pn**	**23 23 47.6**	**+0.5**
WHVZ	**Whangaehu Hut**	**3.33 210**	P		**Pn**	**23 23 47.5**	**+0.3**
BHHZ	**Black Hill Sta**	**3.34 203**	P		**Pn**	**23 23 46.9**	**-0.2**
TRVZ	**Turoa**	**3.35 210**	P		**Pn**	**23 23 47.9**	**+0.4**
MOVZ	**Moawhango**	**3.37 207**	P		**Pn**	**23 23 47.3**	**-0.2**
KRHZ	**Kereru**	**3.40 198**	P		**Pn**	**23 23 47.4**	**-0.4**
PKVZ	**Pokaka**	**3.43 213**	P		**Pn**	**23 23 49.1**	**+0.8**
KAHZ	**Kahuranaki**	**3.44 191**	P		**Pn**	**23 23 48.4**	**+0.1**
MTVZ	**Mangateitei**	**3.46 210**	P		**Pn**	**23 23 49.2**	**+0.6**
OUZ	**Omahuta**	**3.56 288**	Pn		**Pn**	**23 23 47.0**	**-2.8**
VRZ	**Vera Road**	**3.58 220**	P		**Pn**	**23 23 51.6**	**+1.7**
PXZ	**Pawanui**	**3.67 190**	P		**Pn**	**23 23 50.5**	**-0.5**
PNHZ	**Pukenui**	**3.69 199**	P		**Pn**	**23 23 50.7**	**-0.6**
WPHZ	**Waipukurau**	**3.78 195**	P		**Pn**	**23 23 51.8**	**-0.5**
TSZ	**Takapari Road**	**3.89 200**	P		**Pn**	**23 23 53.0**	**-0.6**
PRHZ	**Porangahau**	**3.94 192**	P		**Pn**	**23 23 53.9**	**-0.3**
WAZ	**Wanganui**	**3.97 212**	P		**Pn**	**23 23 54.9**	**+0.4**
PKE	**Pukeiti**	**4.06 226**	P		Pn	23 23 58.2	+2.7
DVHZ	**Dannevirke**	**4.07 197**	P		**Pn**	**23 23 55.0**	**-0.7**
KHEZ	**Kahui Hut**	**4.11 224**	P		**Pn**	**23 23 58.7**	**+2.5**
ANWZ	**Angora Road**	**4.16 193**	P		**Pn**	**23 23 56.4**	**-0.3**
POWZ	**Post Office Ro**	**4.26 201**	P		**Pn**	**23 23 57.5**	**-0.5**
PRWZ	**Pori Road**	**4.36 198**	P		**Pn**	**23 23 58.6**	**-0.5**
BFZ	**Birch Farm**	**4.42 195**	P		**Pn**	**23 23 58.9**	**-0.9**
BFZ	**Birch Farm**	**4.42 195**			**Pn**	**23 23 59.4**	**-0.5**
BFZ				S	**S**	**23 24 54.6**	**+0.8**
MRZ	**Mangatainoka R**	**4.56 201**	P		**Pn**	**23 24 00.5**	**-1.1**
TIWZ	**Tintock**	**4.59 198**	P		**Pn**	**23 24 01.5**	**-0.5**
CPWZ	**Castlepoint**	**4.64 194**	P		**Pn**	**23 24 02.4**	**-0.2**
HOWZ	**Holdsworth Sta**	**4.80 200**	P		**Pn**	**23 24 03.1**	**-1.4**
OGWZ	**Otaki Gorge**	**4.83 204**	P		**Pn**	**23 24 03.7**	**-1.2**
TMWZ	**Te Maipa**	**4.90 196**	P		**Pn**	**23 24 04.8**	**-1.0**
KIW	**Kapiti Island**	**4.96 206**	P		**Pn**	**23 24 05.0**	**-1.5**
CAW	**Cannon Point**	**5.12 203**	P		**Pn**	**23 24 07.0**	**-1.6**
TRWZ	**Traveller**	**5.22 197**	P		**Pn**	**23 24 08.6**	**-1.2**
PAWZ	**Paruwai Farm**	**5.27 199**	P		**Pn**	**23 24 08.9**	**-1.6**
DUWZ	**D'Urville Isla**	**5.32 213**	P		**Pn**	**23 24 09.2**	**-1.5**
MSWZ	**Moikau Station**	**5.35 200**	P		**Pn**	**23 24 09.8**	**-1.6**
MSWZ	**Moikau Station**	**5.35 200**	Pn		**Pn**	**23 24 10.1**	**-1.3**
MSWZ				S	**S**	**23 25 13.3**	**-1.5**
WEL	**Wellington**	**5.38 204**	P		**Pn**	**23 24 10.2**	**-1.5**
SNZO	**South Karori**	**5.43 205**	Pn		**Pn**	**23 24 10.8**	**-1.5**
SNZO				S	**S**	**23 25 15.5**	**-0.9**
BHW	**Baring Head**	**5.46 203**	P		**Pn**	**23 24 10.9**	**-1.8**
BHW	**Baring Head**	**5.46 203**			**Pn**	**23 24 10.8**	**-1.9**
BHW					**S**	**23 25 16.4**	**-0.7**
TCW	**Tory Channel**	**5.49 208**	P		**Pn**	**23 24 11.3**	**-1.9**
PLWZ	**Palliser**	**5.50 200**	P		**Pn**	**23 24 11.3**	**-2.0**
PLWZ	**Palliser**	**5.50 200**	Pn		**Pn**	**23 24 11.6**	**-1.6**
PLWZ				S	**S**	**23 25 17.9**	**-0.1**
TUWZ	**Tuamarina**	**5.81 209**	P		**Pn**	**23 24 15.2**	**-1.9**
TUWZ	**Tuamarina**	**5.81 209**			**Pn**	**23 24 15.2**	**-1.9**
TUWZ				S	**S**	**23 25 23.3**	**-1.8**
NNZ	**Nelson**	**5.87 214**	P		**Pn**	**23 24 16.2**	**-1.7**
NNZ	**Nelson**	**5.87 214**	Pn		**Pn**	**23 24 16.4**	**-1.6**
NNZ				S	**S**	**23 25 25.5**	**-1.0**
CMWZ	**Cape Campbell**	**5.99 206**	Pn		**Pn**	**23 24 19.3**	**-0.1**
QRZ	**Quartz Range**	**6.00 221**	P		**Pn**	**23 24 17.5**	**-1.9**
QRZ	**Quartz Range**	**6.00 221**	Pn		**Pn**	**23 24 18.9**	**-0.6**
BSWZ	**Blackbirch Sta**	**6.08 208**	P		**Pn**	**23 24 19.0**	**-1.6**
BSWZ	**Blackbirch Sta**	**6.08 208**	Pn		**Pn**	**23 24 19.9**	**-0.6**
BSWZ				S	**S**	**23 25 30.7**	**-0.6**
THZ	**Tophouse**	**6.52 214**	P		**Pn**	**23 24 24.8**	**-1.4**
THZ	**Tophouse**	**6.52 214**	Pn		**Pn**	**23 24 25.7**	**-0.5**
THZ				S	**S**	**23 25 42.6**	**+1.0**
KHZ	**Kahutara**	**6.81 207**	P		**Pn**	**23 24 27.8**	**-2.0**
KHZ	**Kahutara**	**6.81 207**			**Pn**	**23 24 28.2**	**-1.6**
KHZ				S	**S**	**23 25 47.3**	**-0.9**
GVZ	**Greta Valley S**	**7.47 207**	P		**Pn**	**23 24 36.1**	**-2.1**
LTZ	**Lake Taylor**	**7.62 212**	P		**Pn**	**23 24 38.0**	**-2.2**
LTZ	**Lake Taylor**	**7.62 212**	Pn		**Pn**	**23 24 39.0**	**-1.1**
INZ	**Inchbonnie**	**7.95 216**	P		**Pn**	**23 24 42.8**	**-1.4**
OXZ	**Oxford**	**8.17 211**	Pn		**Pn**	**23 24 45.9**	**-1.2**
OXZ				S	**S**	**23 26 16.4**	**-3.3**
MQZ	**McQueen's Vall**	**8.25 207**	P		**Pn**	**23 24 45.4**	**-2.7**
MQZ	**McQueen's Vall**	**8.25 207**	Pn		**Pn**	**23 24 45.9**	**-2.2**
AKCZ	**Akaroa Harbour**	**8.31 205**	P		**Pn**	**23 24 47.1**	**-1.7**
RPZ	**Rata Peaks**	**8.90 213**	P		**Pn**	**23 24 55.5**	**-1.0**
	0.5nm,0.3s,baz=14,slow=18,SNR=1.9						
RPZ				S	**S**	**23 26 33.5**	**-3.5**
	2.1nm,0.3s,baz=27,slow=17,SNR=8.4						
FOZ	**Fox Glacier**	**9.34 218**	Pn		**Pn**	**23 25 00.8**	**-1.2**
LBZ	**Lake Benmore**	**9.82 213**	Pn		**Pn**	**23 25 05.2**	**-2.9**
ODZ	**Otahua Downs**	**10.15 210**	P		**Pn**	**23 25 11.4**	**-1.0**
ODZ	**Otahua Downs**	**10.15 210**	Pn		**Pn**	**23 25 11.3**	**-1.0**
WKZ	**Wanaka**	**10.69 216**	Pn		**Pn**	**23 25 17.0**	**-2.2**
WHZ	**Wether Hill Ro**	**11.99 215**	P		**P**	**23 25 39.0**	**+0.1**
PYZ	**Puysegur Point**	**12.79 217**	Pn		**Pn**	**23 25 43.4**	**-2.0**
LHI	**Lord Howe Isla**	**16.23 282**	P		**P**	**23 26 23.2**	**-2.8**
RAR	**Rarotonga**	**24.78 58**	LR		LR	23 40 08.7	
	comp=Z,59nm,18.1s,baz=316,slow=41						
TBI	**Tubuai**	**31.13 74**	*e*LR		LR	23 29 42.0	
	comp=Z,198nm,28.5s						
COEN	**Coen**	**38.12 297**	P		**P**	**23 29 46.9**	**-1.6**
COEN			IAmb		IAmb	23 29 48.3	
	comp=Z,9.6nm,1.1s						
AS31	**Alice Springs**	**39.69 276**	P		**P**	**23 30 00.4**	**-1.1**
ASAR	**Alice Springs**	**39.69 276**	P		**P**	**23 30 01.4**	**0.0**
	comp=Z,1.6nm,0.6s,baz=118,slow=8.0,SNR=23						
ASAR	**Alice Springs**	**39.69 276**	P		**P**	**23 30 00.2**	**-1.3**
WB2	**Warramunga Arr**	**41.23 281**	P		**P**	**23 30 12.5**	**-1.6**
WB2			IAmb		IAmb	23 30 14.5	
	comp=Z,7.5nm,1.0s						
WRA	**Warramunga Arr**	**41.24 281**	P		**P**	**23 30 13.7**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=121,slow=7.8,SNR=6.0						
WRA	**Warramunga Arr**	**41.24 281**	IAmb		IAmb	23 30 18.8	
	comp=Z,0.2nm,1.1s						
WB0	**Warramunga Arr**	**41.30 282**	P		**P**	**23 30 13.1**	**-1.5**
WB0			IAmb		IAmb	23 30 19.5	
	comp=Z,4.1nm,1.1s						
VNDA	**Vanda**	**41.78 185**	P		**P**	**23 30 21.2**	**+3.5**
	comp=Z,0.6nm,0.5s,baz=3.7,slow=8.7,SNR=6.6						
VNDA	**Vanda**	**41.78 185**	P		**P**	**23 30 19.6**	**+1.9**
QSPA	**South Pole Qui**	**53.71 180**	P		**P**	**23 31 53.0**	**+3.7**
	comp=Z,0.7nm,0.6s,baz=276,slow=3.1,SNR=7.9						
QSPA	**South Pole Qui**	**53.71 180**	P		**P**	**23 31 52.7**	**+3.3**
FINES	**FINESS Array B**	**149.25 333**	PKPbc		**PKiKP**	**23 42 14.0**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=44,slow=4.2,SNR=1.1						
TORD	**Torodi Ar. Bea**	**156.56 190**	PKPab		**PKPab**	**23 42 49.2**	**+0.2**
	comp=Z,0.2nm,0.7s,baz=165,slow=3.2,SNR=4.6						

JMA 14 23:26:41.2±0.1, 24°88N×123°37E, h30km, M1.4, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.53 218**		P	Pb	23 26 51.7	-0.4
YOJ				*e*S	Sb	23 26 59.4	-0.1
JYNG	**Yonagunijimaku**	**0.58 222**		P	Pb	23 26 52.4	-0.5
JYNG				*e*S	Sb	23 27 00.1	-0.7
IRIF	**Iriomote-Funau**	**0.63 149**		P	Pb	23 26 53.3	-0.5
IRIF				*e*S	Sb	23 27 02.2	-0.2
JKRS	**Kuro-shima**	**0.86 138**		P	Pn	23 26 57.3	0.0
JKRS				S	Sn	23 27 08.9	0.0
JIJ	**Ishigaki jima**	**0.87 126**		P	Pn	23 26 57.3	-0.1
JIJ				*e*S	Sn	23 27 07.9	-1.2
JISG	**Ishigakijimahi**	**0.90 109**		P	Pn	23 26 57.8	-0.1
JISG				*e*S	Sn	23 27 09.2	-0.7
HATJ	**Hateruma jima**	**0.91 154**		*e*S	Sn	23 27 09.7	-0.3

TAP 14 23:26:47.3, 24°46N×121°54E, h9km, ML1.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDT	**Datong Townshi**	**0.15 350**		*i* P	Pg	23 26 51.0	+0.4
	baz=351						
NDT				S	Sg	23 26 53.5	+0.7
	baz=351						
NNSB	**Datong**	**0.15 259**		P	Pg	23 26 50.9	+0.3
	baz=257						
NNSB				*e*S	Sg	23 26 53.1	+0.2
	baz=257						
NNSH	**Datong**	**0.15 259**		P	Pg	23 26 51.0	+0.4
	baz=258						
NNSH				*e*S	Sg	23 26 53.1	+0.2
	baz=258						
NNS	**Nan Shan**	**0.15 264**		*i* P	Pg	23 26 51.1	+0.3
	baz=261						
NNS				S	Sg	23 26 53.5	+0.3
	baz=261						
ENTT	**Nioudou**	**0.18 7**		P	Pg	23 26 51.4	+0.2
	baz=6.0						
YHNB	**Yeheng**	**0.26 325**		*e*P	Pg	23 26 53.4	+0.8
	baz=325						
YHNB				*e*S	Sg	23 26 57.2	+1.1
	baz=325						
NSK	**Sanguang**	**0.27 323**		*e*S	Sg	23 26 57.5	+0.9
	baz=324						

IDC 14 23:27:35.6±4.7, 20°08N×124°43E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.2/59, mbtmp3.5/4, ML3.8/1, Error ellipse: s-maj=100.2km s-min=59.8km az=176.0
JMA 14 23:28:08.4±0.1, 23°75N×121°60E, h0km, M3.0
TAP 14 23:28:09.3, 23°77N×121°53E, h6km, ML3.7, D
ISC 14 23:28:09.4±1.0, 23°74N±0°02×121°57E±0°02, h6km±7km, n85, σ0°79/141, 2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.14 300**		*i*P	**Pg**	**23 28 11.8**	**-0.6**
	baz=298						
ESL				*e*S	**Sg**	**23 28 13.5**	**-0.9**
	baz=298						
EGFH	**Guangfu**	**0.15 241**		P	**Pg**	**23 28 12.6**	**+0.1**
	baz=234						
EGFH				S	**Sg**	**23 28 14.8**	**+0.4**
	baz=234						
HWA	**Hwalien**	**0.24 8**		*e*P	**Pg**	**23 28 14.8**	**+0.7**
	baz=5.0						
HWA				*e*S	**Sg**	**23 28 19.9**	**+2.6**
	baz=5.0						
HGSD	**Ruisui**	**0.28 208**		P	**Pb**	**23 28 16.2**	**-0.7**
	baz=210						
EHY	**Hungye**	**0.33 224**		P	**Pg**	**23 28 15.8**	**0.0**
	baz=226						
EHY				*e*S	**Sg**	**23 28 21.3**	**+1.2**
	baz=226						
TWD	**Chiawan**	**0.34 4**		*e*P	**Pg**	**23 28 16.0**	**0.0**
	baz=1.0						
VWDT	**VWDT**	**0.39 272**		P	**Pg**	**23 28 16.9**	**-0.2**
	baz=268						
VWDT				*e*S	**Sg**	**23 28 21.5**	**-0.7**
	baz=268						
OWD	**Renai**	**0.42 301**		*e*P	**Pg**	**23 28 17.1**	**-0.5**
	baz=299						
YULB	**Yu-li**	**0.43 216**		P	**Pg**	**23 28 18.2**	**+0.5**
	baz=225						
YULB				*e*S	**Sg**	**23 28 23.9**	**+0.6**
	baz=225						
NACB	**Ninganchiao**	**0.43 3**		P	**Pg**	**23 28 17.2**	**-0.6**
	baz=353						
NACB				*e*S	**Sg**	**23 28 23.8**	**+0.3**
	baz=353						
TWF1	**Yuli**	**0.46 213**		*e*P	**Pg**	**23 28 18.8**	**+0.4**
	baz=221						
TWF1				*e*S	**Sb**	**23 28 25.7**	**-1.4**
	baz=221						
ETLH	**Xiulin Townshi**	**0.47 350**		P	**Pg**	**23 28 17.9**	**-0.7**
	baz=349						
ETLH				*e*S	**Sg**	**23 28 25.2**	**+0.4**
	baz=349						
CHGB	**Renai**	**0.48 311**		P	**Pg**	**23 28 18.4**	**-0.4**
	baz=309						
CHGB				*e*S	**Sg**	**23 28 24.7**	**-0.4**
	baz=309						
WHF	**Hehuan Shan**	**0.49 325**		*i* P	**Pg**	**23 28 18.4**	**-0.5**
	baz=312						
WHF				*e*S	**Sg**	**23 28 26.3**	**+0.9**
	baz=312						
SSLB	**Suanglung**	**0.57 275**		*i* P	**Pg**	**23 28 20.0**	**-0.3**
	baz=272						
SSLB				*e*S	**Sg**	**23 28 26.8**	**-0.9**
	baz=272						
TWT	**Tachien**	**0.62 325**		*e*P	**Pg**	**23 28 21.4**	**-0.1**
	baz=312						
TWT				*e*S	**Sg**	**23 28 28.9**	**-0.7**
	baz=312						
SMLT	**Sun Moon Lake**	**0.63 283**		*e*P	**Pg**	**23 28 21.4**	**-0.2**
	baz=281						
TDCB	**Techi**	**0.63 324**		*e*P	**Pg**	**23 28 21.3**	**-0.4**
	baz=312						
TDCB				*e*S	**Sg**	**23 28 29.3**	**-0.6**
	baz=312						
DPDB	**Guoxing**	**0.66 296**		*i*P	**Pg**	**23 28 22.0**	**-0.1**
	baz=294						
DPDB				*e*S	**Sg**	**23 28 30.9**	**+0.3**
	baz=294						
WHYT	**Xinyi Township**	**0.66 266**		*e*P	**Pb**	**23 28 22.8**	**-0.6**
	baz=254						
WHYT				*e*S	**Sb**	**23 28 32.0**	**-0.8**
	baz=254						
CHKT	**Chengkung**	**0.67 196**		*e*P	**Pb**	**23 28 22.9**	**-0.5**
	baz=196						
CHKT				*e*S	**Sb**	**23 28 33.5**	**+0.5**
	baz=196						
TYC	**Yuchr**	**0.67 284**		P	**Pg**	**23 28 21.8**	**-0.5**
	baz=282						
ENA	**Nanau**	**0.70 13**		*e*P	**Pg**	**23 28 22.6**	**-0.4**
	baz=359						
ENA				*e*S	**Sb**	**23 28 33.5**	**-0.5**
	baz=359						
NNSB	**Datong**	**0.70 346**		P	**Pg**	**23 28 22.7**	**-0.3**
	baz=344						
NNSB				*e*S	**Sg**	**23 28 33.1**	**+0.9**
	baz=344						
NNSH	**Datong**	**0.70 346**		*i* P	**Pg**	**23 28 22.6**	**-0.4**
	baz=344						
NNSH				*e*S	**Sg**	**23 28 33.0**	**+0.8**
	baz=344						
NNS	**Nan Shan**	**0.72 346**		*e*P	**Pg**	**23 28 22.9**	**-0.4**
	baz=344						
NNS				*e*S	**Sb**	**23 28 33.8**	**+0.9**
	baz=344						
ALS	**Alishan**	**0.74 252**		*e*P	**Pg**	**23 28 23.8**	**+0.2**
	baz=250						
ALS				*e*S	**Sb**	**23 28 34.3**	**-1.1**
	baz=250						
ELDTW	**Lidau**	**0.75 223**		*e*P	**Pg**	**23 28 23.3**	**-0.5**
	baz=222						
ELDTW				*e*S	**Sg**	**23 28 34.3**	**+0.8**
	baz=222						
WJS	**Zhushan**	**0.78 276**		*e*P	**Pb**	**23 28 25.5**	**+0.2**
	baz=274						
WJS				*e*S	**Sn**	**23 28 37.5**	**-1.4**
	baz=274						
WHP	**Taichung City**	**0.78 313**		P	**Pg**	**23 28 24.3**	**-0.2**
	baz=311						
WHP				*e*S	**Sb**	**23 28 35.6**	**-0.9**
	baz=311						
WNT	**Mingjian**	**0.82 280**		*e*P	**Pb**	**23 28 26.2**	**0.0**
	baz=277						
WNT				*e*S	**Sn**	**23 28 38.9**	**-1.2**
	baz=277						
CHN5	**Tsauling**	**0.83 260**		P	**Pb**	**23 28 26.0**	**-0.4**
	baz=249						
CHN5				*e*S	**Sb**	**23 28 38.3**	**+0.5**
	baz=249						
NDT	**Datong Townshi**	**0.86 357**		P	**Pg**	**23 28 25.8**	**-0.1**
	baz=345						
NDT				*e*S	**Sg**	**23 28 37.4**	**+0.3**
	baz=345						
ENTT	**Nioudou**	**0.90 360**		*e*P	**Pg**	**23 28 26.3**	**-0.3**
	baz=349						
ENTT				*e*S	**Sb**	**23 28 39.5**	**-0.2**
	baz=349						
TWC	**Suao**	**0.90 16**		*e*P	**Pg**	**23 28 26.7**	**-0.1**
	baz=6.0						
TWC				*e*S	**Sg**	**23 28 38.1**	**-0.3**
	baz=6.0						
TCU	**Taichung**	**0.91 297**		*e*P	**Pb**	**23 28 28.0**	**+0.3**
	baz=294						
WGK	**Gukeng**	**0.93 267**		*e*P	**Pb**	**23 28 28.2**	**+0.3**
	baz=265						
WGK				*e*S	**Sn**	**23 28 42.3**	**-0.4**
	baz=265						
YHNB	**Yeheng**	**0.94 349**		P	**Pg**	**23 28 27.3**	**-0.2**
	baz=334						
YHNB				*e*S	**Sb**	**23 28 40.6**	**-0.5**
	baz=334						
STYT	**Tauyuan**	**0.94 233**		*e*P	**Pb**	**23 28 27.8**	**-0.4**
	baz=225						
STYT				*e*S	**Sb**	**23 28 41.1**	**+0.1**
	baz=225						
WDLH	**Douliu**	**0.95 267**		*e*P	**Pb**	**23 28 28.5**	**+0.2**
	baz=265						
WDLH				*e*S	**Sn**	**23 28 42.5**	**-0.7**
	baz=265						
NSK	**Sanguang**	**0.95 348**		P	**Pg**	**23 28 27.4**	**-0.3**
	baz=335						
NSK				*e*S	**Sg**	**23 28 39.5**	**-0.6**
	baz=335						
TPUB	**Ta-pu**	**0.97 243**		P	**Pb**	**23 28 28.4**	**-0.3**
	baz=250						
TPUB				*e*S	**Sn**	**23 28 43.2**	**-0.6**
	baz=250						
TWE	**Neicheng**	**0.98 5**		*e*P	**Pg**	**23 28 28.1**	**-0.1**
	baz=3.0						
TWE				*e*S	**Sb**	**23 28 42.4**	**+0.3**
	baz=3.0						
WCHH	**Zhanghua**	**0.98 290**		*e*P	**Pb**	**23 28 28.9**	**0.0**
	baz=287						
WCHH				*e*S	**Sn**	**23 28 43.9**	**-0.3**
	baz=287						
NSY	**Sanyi**	**1.00 312**		*e*P	**Pn**	**23 28 29.7**	**-0.4**
	baz=312						
WTP	**Ta-pu**	**1.01 241**		P	**Pb**	**23 28 29.1**	**-0.3**
	baz=248						
WTP				*e*S	**Sb**	**23 28 43.4**	**+0.5**
	baz=248						
TWGBT	**Beinan**	**1.02 206**		*e*P	**Pg**	**23 28 27.5**	**-1.6**
	baz=205						
TWG	**Pinlang**	**1.02 207**		*e*P	**Pg**	**23 28 28.9**	**-0.2**
	baz=205						
NSTT	**Nanjuang**	**1.03 330**		*e*P	**Pg**	**23 28 29.1**	**-0.1**
	baz=316						
NWLT	**Wulai**	**1.03 357**		*e*P	**Pg**	**23 28 28.8**	**-0.5**
	baz=353						
NWLT				*e*S	**Sn**	**23 28 44.6**	**-0.8**
	baz=353						
WDJ	**Dajia District**	**1.04 306**		P	**Pn**	**23 28 30.4**	**-0.2**
	baz=302						
WDJ				*e*S	**Sb**	**23 28 43.8**	**-0.1**
	baz=302						
PTSB	**Yuanli**	**1.06 312**		*e*P	**Pn**	**23 28 30.9**	**+0.1**
	baz=308						
PTSB				*e*S	**Sn**	**23 28 45.8**	**-0.2**
	baz=308						
NMLH	**Miaoli**	**1.06 318**		*e*P	**Pn**	**23 28 31.1**	**+0.1**
	baz=314						
NMLH				*e*S	**Sn**	**23 28 45.4**	**-0.7**
	baz=314						
CHY	**Chiayi**	**1.08 257**		*e*P	**Pb**	**23 28 30.4**	**-0.1**
	baz=256						
CHY				*e*S	**Sn**	**23 28 46.8**	**+0.4**
	baz=256						
TWK	**Hsinying**	**1.10 245**		*e*P	**Pb**	**23 28 30.9**	**0.0**
	baz=244						
TWK				*e*S	**Sn**	**23 28 47.1**	**+0.1**
	baz=244						
CHN1	**Nanshi**	**1.10 240**		*e*P	**Pn**	**23 28 31.2**	**-0.4**
	baz=241						
CHN1				*e*S	**Sb**	**23 28 45.4**	**-0.3**
	baz=241						
SNST	**Tainan City**	**1.11 242**		*e*P	**Pn**	**23 28 31.9**	**+0.3**
	baz=243						
SNST				*e*S	**Sn**	**23 28 47.1**	**-0.2**
	baz=243						
RLNB	**Erlin**	**1.12 278**		*e*P	**Pg**	**23 28 30.6**	**-0.3**
	baz=276						
RLNB				*e*S	**Sn**	**23 28 47.1**	**-0.3**
	baz=276						
SGST	**Jiashian**	**1.12 234**		*e*P	**Pg**	**23 28 30.6**	**-0.4**
	baz=235						
SGST				*e*S	**Sn**	**23 28 47.8**	**+0.4**
	baz=235						
SLGT	**Liugui**	**1.13 229**		*e*P	**Pg**	**23 28 30.7**	**-0.4**
	baz=215						
NTC	**Toucheng**	**1.13 12**		*e*P	**Pn**	**23 28 32.0**	**+0.1**
	baz=354						
WLTB	**Daxi**	**1.14 345**		*e*P	**Pb**	**23 28 31.5**	**-0.2**
	baz=354						
EGS		**1.15 17**		*e*P	**Pb**	**23 28 31.6**	**-0.2**
SBCB	**Hsinchu**	**1.18 333**		*e*P	**Pn**	**23 28 33.4**	**+0.9**
	baz=339						
HSN	**Hsinchu**	**1.19 333**		*e*P	**Pn**	**23 28 33.4**	**+0.7**
	baz=340						
HSN				*e*S	**Sn**	**23 28 50.0**	**+0.7**
	baz=340						
WLGB	**Puzi**	**1.19 258**		*e*P	**Pn**	**23 28 32.8**	**+0.1**
	baz=255						
NHDH	**Xindian Distri**	**1.22 358**		*e*P	**Pn**	**23 28 34.4**	**+1.3**
	baz=356						
TATO	**Taipei**	**1.23 357**		*e*P	**Pg**	**23 28 32.3**	**-0.7**
	baz=354						
TWA	**Mucha**	**1.23 1**		*e*P	**Pg**	**23 28 32.6**	**-0.5**
	baz=358						
TIPB	**Shuangxi**	**1.25 11**		*e*P	**Pg**	**23 28 32.3**	**-1.1**
	baz=355						
NCUH	**Zhongli**	**1.27 344**		*e*P	**Pg**	**23 28 33.8**	**-0.1**
	baz=359						
TWB1	**Santiao Chiao**	**1.32 17**		*e*P	**Pg**	**23 28 34.7**	**0.0**
	baz=358						
NWF	**Wu-fen Shan**	**1.34 8**		*e*P	**Pg**	**23 28 36.0**	**+0.9**
	baz=6.0						
WFSB	**Wu-fen Shan**	**1.34 8**		*e*P	**Pn**	**23 28 34.4**	**-0.4**
	baz=6.0						
JYNG	**Yonagunijimaku

WSAR Wadi Sarin 6.70 127 Pn **Pn** **23 35 46.0 +0.9**
comp=E,0.6nm,0.3s,baz=328,slow=8.8,SNR=13
WSAR Sn **Sn** **23 36 59.8 -1.0**
comp=E,0.3nm,0.3s,baz=319,slow=20,SNR=2.2
GEYT Alibeck 11.36 22 Pn **Pn** **23 36 48.2 -0.8**
comp=E,0.2nm,0.3s,baz=250,slow=17,SNR=3.6
KBZ Khabaz 18.14 336 P **Pn** **23 38 19.1 +0.7**
comp=E,0.1nm,0.3s,baz=159,slow=7.9,SNR=3.7
BRTR Keskin Array B 20.11 312 P **P** **23 38 40.4 -0.1**
comp=E,0.4nm,0.7s,baz=136,slow=9.6,SNR=2.8
IDI Anoyia 25.07 295 P **P** **23 39 32.2 +1.2**
comp=E,2.8nm,0.9s,baz=63,slow=11,SNR=1.9
BVAR Borovoye Array 28.70 22 P **P** **23 40 02.3 -1.2**
comp=E,0.4nm,0.4s,baz=227,slow=5.7,SNR=4.5
KURBB Kurchatov Arra 30.29 33 P **P** **23 40 19.0 +1.5**
comp=E,0.2nm,0.6s,baz=233,slow=9.0,SNR=2.6
ZALV Zalesovo Beam 35.38 33 P **P** **23 41 01.1 -0.9**
comp=E,0.5nm,0.4s,baz=254,slow=10,SNR=2.5
FINES FINESS Array B 38.44 340 P **P** **23 41 27.4 -0.5**
comp=E,1.6nm,0.7s,baz=147,slow=8.1,SNR=7.0
SONM Songino Array 46.01 49 P **P** **23 42 29.8 -0.2**
comp=E,0.2nm,0.4s,baz=248,slow=7.6,SNR=2.2
TORD Torodi Ar. Bea 49.71 264 P **P** **23 43 00.3 +1.4**
comp=E,0.3nm,0.6s,baz=57,slow=7.5,SNR=6.4

IDC ***14*** *23:41:11.7±0.6,2˚.64N×126˚.50E, h0km, mb4.2/23, mb1 4.3/23,mb1mx4.1/54,mbtmp4.2/23,MS3.4/5, Ms1 3.4/5,ms1mx2.8/41, Error ellipse: s-maj=28.4km s-min=12.5km az=74.0*
DJA ***14*** *23:41:18.8±0.3,3˚N±3˚×12˚7E±˚, h55km±4km, M4.5/13, mB5.0/5,mb4.8/11,MLv4.4/13,Mw(mB)4.3/5*
NEIC ***14*** *23:41:19.9±1.3,2˚.63N±0˚.05×126˚.63E±0˚.08, h72km±8km, mb4.4/28, Error ellipse: s-maj=11.8km s-min=5.1km az=114.0*
BJI ***14*** *23:41:19.0±0.0,2˚.93N×126˚.62E, h56km, mB4.9/11, mb4.7/19*
ISC 14 23:41:19.5±0.4,2˚.69N±0˚.06×126˚.68E±0˚.07,h63km,n96,
σ1§16/93,mb4.4/34,1C-1D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.03**	**160**	P	**Pn**	**23 41 52.4**	**+1.0**
TNTI	**Ternate**	**2.03**	**160**	Pn	**Pn**	**23 41 50.5**	**-0.9**
LBMI	**Labuha**	**3.41**	**166**	P	**Pn**	**23 42 12.7**	**+2.5**
KMSI	**Cibinong**	**3.42**	**232**	P	**Pn**	**23 42 12.2**	**+1.9**
KCP	**Kidapawan**	**4.57**	**340**	ǁ *i*P	**Pn**	**23 42 26.6**	**+0.4**
CTBH	**Cotabato--PC H**	**5.11**	**332**	ǁ *i*P	**Pn**	**23 42 32.6**	**-0.9**
MRSI	**Marisa** 0.8nm2µm194nm,0.6s	**5.22**	**245**	P	**Pn**	**23 42 35.0**	**0.0**
LUWI	**Luwuk** 0.7nm2µm118nm,0.6s	**5.38**	**227**	P	**Pn**	**23 42 40.4**	**+3.1**
LUWI	**Luwuk**	**5.38**	**227**	Pn	**Pn**	**23 42 37.3**	**0.0**
SIJI	**Sorong** 3.8nm,0.3s,baz=332,slow=23,SNR=6.8	**5.79**	**128**	Pn	**Pn**	**23 42 44.1**	**+1.2**
APSI	**Ampana** 0.4nm1µm106nm,0.6s	**6.17**	**235**	P	**Pn**	**23 42 50.8**	**+2.8**
MPSI	**Mapaga** 0.2nm538nm43nm,0.7s	**7.17**	**251**	P	**Pn**	**23 43 04.0**	**+2.3**
FAKI	**Fak Fak**	**7.88**	**135**	Pn	**Pn**	**23 43 11.8**	**+0.4**
TTSI	**Tana Toraja** 25nm,1.2s	**8.91**	**230**	P	**Pn**	**23 43 28.4**	**+2.8**
KAPI	**Kappang**	**10.32**	**222**	Pn	**Pn**	**23 43 43.3**	**-1.5**
KKM	**Kota Kinabalu**	**10.95**	**288**	Pn	**Pn**	**23 43 53.9**	**+0.4**
SBUM	**Sibu**	**14.44**	**269**	Pn	**Pn**	**23 44 41.8**	**+1.1**
JAY	**Jayapura** comp=Z,129nm,21.4s,baz=114,slow=35	**14.95**	**110**	LR	LR	23 49 57.1	
MTN	**Manton Dam**	**16.06**	**164**	Pn	**Pn**	**23 44 58.9**	**-2.5**
MTN	comp=Z,46nm,1.3s			IAmb	IAmb	23 45 14.9	
KNRA	**Kununurra**	**18.37**	**174**	P	**P**	**23 45 28.3**	**-0.9**
KNRA	comp=Z,18nm,0.7s			IAmb	IAmb	23 45 30.6	
TPI	**Tanjungpandan** comp=Z,37nm,1.5s	**19.77**	**254**	P	**Pn**	**23 45 45.6**	**-1.1**
FITZ	**Fitzroy Crossi** comp=Z,4.9nm,0.5s,baz=15,slow=9.3,SNR=27	**20.68**	**183**	P	**P**	**23 45 53.8**	**-0.6**
FITZ	**Fitzroy Crossi** comp=Z,24nm,1.4s	**20.68**	**183**	IAmb	IAmb	23 46 03.3	
YULB	**Yu-li**	**21.23**	**346**	P	**P**	**23 45 56.1**	**-4.2**
YULB	comp=Z,21nm,1.1s			IAmb	IAmb	23 46 13.3	
COEN	**Coen**	**23.27**	**136**	P	**P**	**23 46 20.6**	**-1.2**
WB0	**Warramunga Arr**	**23.57**	**162**	P	**P**	**23 46 23.6**	**-1.0**
WB0	comp=Z,15nm,0.8s			IAmb	IAmb	23 46 30.8	
PMG	**Port Moresby** comp=Z,155nm,19.0s,baz=272,slow=39	**23.69**	**121**	LR	LR	23 56 42.8	
WRAB	**Tennant Creek**	**23.71**	**162**	P	**P**	**23 46 25.0**	**-0.9**
WRA	**Warramunga Arr** comp=Z,9.1nm,0.5s,baz=340,slow=11,SNR=17	**23.72**	**162**	P	**P**	**23 46 25.3**	**-0.6**
WRA	**Warramunga Arr**	**23.72**	**162**	P	**P**	**23 46 25.2**	**-0.8**
WB2	**Warramunga Arr**	**23.72**	**162**	P	**P**	**23 46 25.2**	**-0.7**
WB2	comp=Z,18nm,0.8s			IAmb	IAmb	23 46 36.4	
AS31	**Alice Springs**	**27.13**	**165**	P	**P**	**23 46 55.7**	**-1.1**
ASAR	**Alice Springs** comp=Z,0.9nm,0.3s,baz=349,slow=7.3,SNR=27	**27.13**	**165**	P	**P**	**23 46 56.5**	**-0.3**
ASAR	**Alice Springs**	**27.13**	**165**	P	**P**	**23 46 56.1**	**-0.8**
CMAR	**Chiang Mai Arr** comp=Z,1.0nm,0.6s,baz=124,slow=6.8,SNR=4.7	**31.36**	**302**	P	**P**	**23 47 34.5**	**+0.1**
CMAR	comp=Z,27nm,20.2s,baz=184,slow=38			LR	LR	00 00 45.2	
CHTO	**Chiang Mai** comp=Z,6.0nm,1.1s	**31.52**	**303**	P	**P**	**23 47 35.4**	**-0.4**
CHTO				IAmb	IAmb	23 47 38.7	
KSRS	**Korea Array** comp=Z,2.2nm,0.6s,baz=178,slow=10.0,SNR=12	**34.61**	**2**	P	**P**	**23 48 03.5**	**+1.0**
XAN	**Xi'an**	**35.32**	**334**	P	**P**	**23 48 07.6**	**-1.1**
XAN	comp=Z,8.0nm,0.8s			pmax	pmax		
XAN	**Xi'an**	**35.32**	**334**	P	**P**	**23 48 08.3**	**-0.4**
MJAR	**Matsushiro Arr** comp=Z,0.7nm,0.6s,baz=184,slow=9.2,SNR=2.5	**35.33**	**16**	P	**P**	**23 48 10.5**	**+1.7**
STKA	**Stephens Creek** comp=Z,2.3nm,0.3s,baz=332,slow=11,SNR=14	**37.19**	**159**	P	**P**	**23 48 24.9**	**+0.3**
STKA	**Stephens Creek**	**37.19**	**159**	P	**P**	**23 48 23.7**	**-1.0**
LZH	**Lanzhou**	**39.37**	**330**	*e*P	**P**	**23 48 42.4**	**-0.8**
LZH				pP	pwP	23 49 00.1	-0.6
LZH				PP	**PP**	**23 50 15.9**	**+1.3**
LZH	comp=Z,25nm,1.1s			pmax	pmax		
LZH	comp=Z,110nm,5.4s			pmax	pmax		
HHC	**Hu-ho-hao-te**	**40.36**	**342**	*e*P	**P**	**23 48 52.8**	**+1.5**
HHC	comp=Z,10.0nm,1.1s			pmax	pmax		
HHC	comp=Z,49nm,5.4s			pmax	pmax		
USA0B	**Ussuriysk Arra**	**41.60**	**6**	P	**P**	**23 49 00.9**	**-0.3**
USRK	**Ussuriysk Ar.** comp=Z,4.7nm,0.7s,baz=197,slow=6.6,SNR=12	**41.60**	**6**	P	**P**	**23 49 02.5**	**+1.3**
USRK	**Ussuriysk Ar.**	**41.60**	**6**	P	**P**	**23 49 00.7**	**-0.5**
ODAN	**Odare**	**44.63**	**306**	*e*P	**P**	**23 49 25.7**	**-0.6**
RAMN	**Ramite**	**45.31**	**306**	*e*P	**P**	**23 49 31.5**	**-0.2**
DZM	**Mont Dzumac** comp=Z,57nm,18.4s,baz=189,slow=36	**45.99**	**124**	LR	LR	00 08 39.3	
GUN	**Gumba** comp=Z,23nm,0.6s	**46.29**	**307**	*e*P	**P**	**23 49 39.0**	**-0.6**
PKIN	**Phulchoki**	**46.54**	**306**	*e*P	**P**	**23 49 41.2**	**-0.2**
KOLN	**Koldanda**	**48.07**	**306**	*e*P	**P**	**23 49 52.7**	**-0.6**
DANN	**Dangsing** comp=Z,22nm,0.6s	**48.18**	**306**	*e*P	**P**	**23 49 53.1**	**-1.1**
SONM	**Songino Array** comp=Z,1.9nm,0.7s,baz=152,slow=8.7,SNR=7.9	**48.26**	**342**	P	**P**	**23 49 54.6**	**+0.3**
SONM	comp=Z,32nm,19.1s,baz=106,slow=39			LR	LR	00 12 49.2	
SONM	**Songino Array**	**48.26**	**342**	P	**P**	**23 49 53.8**	**-0.5**
PYUN	**Piuthan** comp=Z,16nm,0.6s	**48.70**	**306**	*e*P	**P**	**23 49 57.4**	**-0.7**
WMQ	**Urumqi**	**53.54**	**326**	*e*P	**P**	**23 50 35.4**	**+1.4**
PETK	**Petropavlovsk-** comp=Z,0.9nm,0.5s,baz=178,slow=2.3,SNR=4.2	**56.41**	**22**	P	**P**	**23 50 55.7**	**+1.4**
MK31	**Makanchi Array**	**58.37**	**326**	P	**P**	**23 51 08.5**	**+0.1**
MKAR	**Makanchi Array** comp=Z,1.7nm,0.5s,baz=120,slow=8.5,SNR=32	**58.37**	**326**	P	**P**	**23 51 08.6**	**+0.2**
MKAR	**Makanchi Array**	**58.37**	**326**	P	**P**	**23 51 08.2**	**-0.2**
MAKZ	**Makanchi**	**58.56**	**326**	P	**P**	**23 51 09.2**	**-0.4**
MAKZ	comp=Z,1.9nm,0.6s			IAmb	IAmb	23 51 11.6	
ZALV	**Zalesovo Beam** comp=Z,0.7nm,0.3s,baz=140,slow=8.3,SNR=5.2	**61.48**	**333**	P	**P**	**23 51 29.2**	**-0.3**
ZALV	**Zalesovo Beam**	**61.48**	**333**	P	**P**	**23 51 28.0**	**-1.5**
KBL	**Kabul**	**62.11**	**308**	P	**P**	**23 51 32.9**	**-1.5**
KBL	comp=Z,2.7nm,0.6s			IAmb	IAmb	23 51 37.0	
KURBB	**Kurchatov Arra** comp=Z,5.5nm,0.8s,baz=125,slow=6.3,SNR=48	**62.58**	**328**	P	**P**	**23 51 37.2**	**+0.3**
KURK	**Kurchatov**	**62.58**	**328**	P	**P**	**23 51 37.1**	**+0.1**
BTK	**Batken**	**62.60**	**314**	P	**P**	**23 51 37.3**	**-0.1**
BTK	comp=Z,4.0nm,1.1s			IAmb	IAmb	23 51 49.7	
KK31	**Karatay Array**	**63.95**	**317**	P	**P**	**23 51 45.5**	**-0.7**
KKAR	**Karatay Array**	**63.95**	**317**	P	**P**	**23 51 45.0**	**-1.2**
KKAR	**Karatay Array**	**63.95**	**317**	P	**P**	**23 51 45.2**	**-1.0**
KKAR	comp=Z,1.7nm,0.7s			IAmb	IAmb	23 51 48.0	
BVAR	**Borovoye Array** comp=Z,0.9nm,0.4s,baz=120,slow=6.7,SNR=13	**68.16**	**327**	P	**P**	**23 52 13.6**	**+0.6**
NRIK	**Noril'sk** comp=Z,3.5nm,0.4s,baz=124,slow=6.6,SNR=12	**71.42**	**346**	P	**P**	**23 52 33.1**	**+0.4**
ABKAR	**Akbulak array**	**72.92**	**321**	P	**P**	**23 52 41.9**	**-0.1**
AKTO	**Aktyubinsk** comp=Z,1.7nm,0.6s,baz=91,slow=8.8,SNR=2.2	**74.44**	**322**	P	**P**	**23 52 50.9**	**0.0**
ARU	**Arti** comp=Z,1.5nm,0.6s,baz=134,slow=5.1,SNR=8.0	**75.78**	**328**	P	**P**	**23 52 58.4**	**-0.1**
ARU	**Arti**	**75.78**	**328**	P	**P**	**23 52 58.0**	**-0.5**
ARU	comp=Z,4.4nm,0.8s			IAmb	IAmb	23 53 01.8	
IMAR	**Indian Mountai**	**83.31**	**24**	P	**P**	**23 53 39.4**	**+0.2**
PPLA	**Purkeypile**	**83.57**	**27**	P	**P**	**23 53 41.5**	**+0.7**
ILAR	**Eielson Array** comp=Z,0.2nm,0.6s,baz=251,slow=4.7,SNR=2.4	**86.06**	**25**	P	**P**	**23 53 54.0**	**+0.9**
ILAR	**Eielson Array**	**86.06**	**25**	P	**P**	**23 53 52.6**	**-0.5**
BMAR	**Burnt Mountain**	**87.05**	**23**	P	**P**	**23 53 56.9**	**-1.0**
SCRK	**Sand Creek**	**87.31**	**26**	P	**P**	**23 53 59.3**	**-0.1**
SCRK	comp=Z,2.3nm,1.1s			IAmb	IAmb	23 54 15.7	
GLB	**Gilahina Butte**	**87.42**	**29**	P	**P**	**23 53 60.0**	**+0.1**
MENT	**Mentasta**	**87.44**	**27**	P	**P**	**23 53 59.5**	**-0.4**
MENT	comp=Z,1.7nm,0.9s			IAmb	IAmb	23 54 10.2	
VRDI	**Verde Repeater**	**87.60**	**29**	P	**P**	**23 54 00.9**	**0.0**
BCAR	**Beaver Creek A**	**88.32**	**27**	P	**P**	**23 54 04.2**	**+0.1**
ASF	**Jabal al Asfar** comp=Z,2.0nm,0.7s,baz=49,slow=5.9,SNR=5.8	**88.40**	**302**	P	**P**	**23 54 06.2**	**+1.1**
MMAI	**Mount Meron Ar** comp=Z,1.3nm,0.6s,baz=76,slow=8.0,SNR=5.4	**89.62**	**303**	P	**P**	**23 54 11.6**	**+0.7**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.9s,baz=131,slow=3.8,SNR=5.4	**90.64**	**310**	P	**P**	**23 54 15.4**	**-0.1**
ARCES	**ARCESS Array B** comp=Z,2.3nm,0.8s,baz=82,slow=5.3,SNR=5.2	**91.40**	**340**	P	**P**	**23 54 19.5**	**+1.2**
FINES	**FINESS Array B** comp=Z,2.0nm,0.8s,baz=97,slow=9.8,SNR=4.0	**92.72**	**332**	P	**P**	**23 54 25.5**	**+1.1**
FINES	**FINESS Array B**	**92.72**	**332**	P	**P**	**23 54 23.4**	**-1.1**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.7s,baz=341,slow=1.4,SNR=5.1	**122.27**	**53**	PKP	**PKiKP**	**00 00 09.7**	**+1.3**
TORD	**Torodi Ar. Bea** comp=Z,1.4nm,0.8s,baz=57,slow=2.2,SNR=6.7	**123.18**	**288**	PKP	**PKiKP**	**00 00 11.0**	**+0.7**

NEIC ***14*** *23:42:45.7±1.8,28˚.63S±0˚.08×177˚.43W±0˚.10, h117km±2km, mb4.5/87, Error ellipse: s-maj=14.5km s-min=9.2km az=130.0*
IDC ***14*** *23:42:45.9±0.4,28˚.56S×177˚.51W, h105km±3km, mb4.0/12, mb1 4.2/13,mb1mx3.9/43,mbtmp4.3/13,MS3.4/6, Ms1 3.3/6, ms1mx3.0/30, Error ellipse: s-maj=14.9km s-min=9.9km az=121.0*
ISC 14 23:42:45.3±0.5,28.73S±0˚.06×177˚.41W±0˚.07,
h113km±3km,h113km;pP-P,n184,σ1§57/165,mb4.5/44,2C,
Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** comp=Z,155nm,20.3s,baz=70,slow=4.5	**0.69**	**220**	LR	LR	23 42 49.4	
RAO	4µm,0.3s,baz=89,slow=6.9,SNR=199			P	**Pn**	**23 43 04.7**	**+0.8**
RAO	5µm,0.3s,baz=162,slow=22,SNR=24			S	**Sn**	**23 43 19.4**	**+1.6**
RAO	**Raoul Island**	**0.69**	**220**	Pn	**Pn**	**23 43 04.9**	**+1.0**
RIZ	**Raoul Island**	**0.69**	**221**	P	**Pn**	**23 43 04.5**	**+0.7**
RIZ				S	**Sn**	**23 43 20.6**	**+2.7**
GLKZ	**Green Lake**	**0.70**	**220**	P	**Pn**	**23 43 04.1**	**+0.1**
GLKZ				S	**Sn**	**23 43 19.9**	**+1.9**
MXZ	**Matakaoa Point**	**9.52**	**201**	S	Sn	23 46 36.4	-7.9
MXZ	**Matakaoa Point**	**9.52**	**201**	Pn	**Pn**	**23 44 59.9**	**+0.6**
WMGZ	**Waiomatatini S**	**9.72**	**200**	P	Pn	23 44 47.5	-15
WMGZ				S	**Sn**	**23 46 44.8**	**-4.5**
HAZ	**Te Kaha**	**9.87**	**203**	P	Pn	23 44 57.5	-6.5
HAZ				S	**Sn**	**23 46 48.2**	**-4.5**
PKGZ	**Pakihiroa**	**9.89**	**201**	P	Pn	23 44 57.3	-7.0
PKGZ				S	Sn	23 46 40.0	-13
PUZ	**Puketiti**	**10.00**	**200**	P	Pn	23 44 57.3	-8.5
PUZ				S	**Sn**	**23 46 49.0**	**-7.2**
OUZ	**Omahuta**	**10.01**	**227**	Pn	**Pn**	**23 45 06.3**	**+0.3**
RUGZ	**Raukumara Rang**	**10.09**	**203**	P	Pn	23 45 02.1	-5.0
RUGZ				S	**Sn**	**23 46 52.8**	**-5.6**
MWZ	**Matawai**	**10.47**	**202**	P	Pn	23 45 03.0	-9.2
MWZ				S	**Sn**	**23 47 00.9**	**-6.7**
RAGZ	**Rawiri**	**10.66**	**203**	S	**Sn**	**23 47 06.9**	**-5.2**
BKZ	**Black Stump Fm**	**11.58**	**204**	Pn	**Pn**	**23 45 27.2**	**+0.1**
HIZ	**Hauiti**	**11.69**	**211**	Pn	**Pn**	**23 45 27.9**	**-0.7**
MSVF	**Nonsavu**	**11.71**	**338**	Pn	Pn	23 45 23.1	-5.9
NIUE	**Niue**	**11.79**	**37**	Pn	**Pn**	**23 45 25.9**	**-4.0**
PXZ	**Pawanui**	**12.23**	**201**	S	Sn	23 47 37.6	-12
DVHZ	**Dannevirke**	**12.70**	**203**	S	Sn	23 47 49.7	-12
ANWZ	**Angora Road**	**12.74**	**202**	S	Sn	23 47 48.1	-14
POWZ	**Post Office Ro**	**12.92**	**204**	S	Sn	23 47 58.2	-8.6
BFZ	**Birch Farm**	**13.02**	**202**	P	Pn	23 45 36.6	-9.3
BFZ				S	Sn	23 47 58.1	-11
BFZ	**Birch Farm**	**13.02**	**202**	Pn	**Pn**	**23 45 47.6**	**+1.6**
MRZ	**Mangatainoka R**	**13.22**	**204**	S	Sn	23 47 60.0	-14
HOWZ	**Holdsworth Sta**	**13.46**	**204**	S	Sn	23 48 04.9	-15
TMWZ	**Te Maipa**	**13.52**	**202**	P	Pn	23 45 43.3	-9.1
TMWZ				S	Sn	23 48 06.6	-15
KIW	**Kapiti Island**	**13.65**	**205**	S	Sn	23 48 10.5	-14
TRWZ	**Traveller**	**13.84**	**202**	S	Sn	23 48 15.2	-14
MSWZ	**Moikau Station**	**14.01**	**203**	Pn	**Pn**	**23 45 57.9**	**-0.9**
SNZO	**South Karori**	**14.11**	**205**	Pn	**Pn**	**23 45 58.8**	**-1.2**
BHW	**Baring Head**	**14.14**	**204**	Pn	**Pn**	**23 46 00.8**	**+0.4**
PLWZ	**Palliser**	**14.14**	**203**	Pn	**Pn**	**23 46 01.8**	**+1.2**
TUWZ	**Tuamarina**	**14.51**	**207**	Pn	**Pn**	**23 46 03.0**	**-2.2**
NNZ	**Nelson**	**14.56**	**209**	Pn	**Pn**	**23 46 05.8**	**0.0**
QRZ	**Quartz Range**	**14.62**	**212**	Pn	**Pn**	**23 46 06.6**	**0.0**
CMWZ	**Cape Campbell**	**14.68**	**205**	Pn	**Pn**	**23 46 08.0**	**+0.7**
BSWZ	**Blackbirch Sta**	**14.78**	**206**	Pn	**Pn**	**23 46 08.9**	**+0.4**
THZ	**Tophouse**	**15.21**	**209**	Pn	**Pn**	**23 46 14.0**	**-0.1**
KHZ	**Kahutara**	**15.51**	**206**	Pn	**Pn**	**23 46 18.0**	**+0.3**
AFI	**Afiamalu**	**15.64**	**21**	Pn	**Pn**	**23 46 14.6**	**-5.1**
AFI	comp=Z,43nm,1.1s			IAmb	IAmb	23 46 18.0	
DZM	**Mont Dzumac** comp=Z,0.8nm,0.3s,baz=165,slow=12,SNR=9.9	**16.02**	**291**	P	**P**	**23 46 27.1**	**+1.4**
DZM	comp=Z,101nm,18.4s,baz=240,slow=33			LR	LR	23 51 33.9	
DZM	**Mont Dzumac** comp=Z,91nm,1.3s	**16.02**	**291**	*e*Pn	**P**	**23 46 28.0**	**+2.4**
DZM	comp=Z,459nm,30.9s			*e*LR	LR	23 50 03.0	
DZM	**Mont Dzumac**	**16.02**	**291**		**Pn**	**23 46 23.3**	**-1.0**
DZM	comp=Z,26nm,0.9s			IAmb	IAmb	23 46 31.5	
LTZ	**Lake Taylor**	**16.32**	**208**	Pn	**Pn**	**23 46 24.8**	**-3.1**
OXZ	**Oxford**	**16.86**	**207**		**Pn**	**23 46 34.3**	**-0.2**
MQZ	**McQueen's Vall**	**16.95**	**205**		**P**	**23 46 36.3**	**+0.8**
RPZ	**Rata Peaks** comp=Z,0.6nm,0.3s,baz=22,slow=21,SNR=1.3	**17.59**	**209**	S	Sn	23 49 40.8	-19
RPZ	**Rata Peaks**	**17.59**	**209**	P	**Pn**	**23 46 43.6**	**+0.4**
RAR	**Rarotonga** comp=Z,0.8nm,0.3s,baz=252,slow=9.6,SNR=2.3	**17.64**	**69**	P	**Pn**	**23 46 44.5**	**+0.5**
RAR	comp=Z,5.0nm,0.3s,baz=81,slow=19,SNR=5.9			S	Sn	23 49 43.3	-18
RAR	comp=Z,81nm,19.4s,baz=268,slow=33			LR	LR	23 52 34.0	
RAR	**Rarotonga**	**17.64**	**69**	P	**P**	**23 46 43.0**	**-0.4**
FOZ	**Fox Glacier** comp=Z,37nm,1.2s	**17.99**	**211**	P	**P**	**23 46 47.1**	**+0.1**
FOZ				IAmb	IAmb	23 46 56.1	
LBZ	**Lake Benmore**	**18.50**	**209**	P	**P**	**23 46 53.3**	**+0.7**
ODZ	**Otahua Downs**	**18.85**	**207**	S	S	23 50 09.4	-15
ODZ	**Otahua Downs**	**18.85**	**207**	P	**Pn**	**23 46 58.2**	**0.0**
WKZ	**Wanaka** comp=Z,24nm,1.0s	**19.36**	**210**	P	**P**	**23 47 03.3**	**+1.2**
WKZ				IAmb	IAmb	23 47 13.7	
MLZ	**Mavora Lakes**	**20.18**	**211**	P	**P**	**23 47 09.4**	**-1.5**
MLZ				IAmb	IAmb	23 47 13.4	
LHI	**Lord Howe Isla** comp=Z,25nm,1.2s	**20.54**	**256**	P	**P**	**23 47 13.5**	**-1.3**
WHZ	**Wether Hill Ro**	**20.66**	**210**	P	**P**	**23 47 16.4**	**+0.4**
TBI	**Tubuai** comp=Z,183nm,32.8s	**25.64**	**84**	*e*LQ	LQ	23 53 14.1	
TBI	comp=Z,215nm,34.2s			*e*LR	LR	23 54 13.7	
TBI	**Tubuai** comp=Z,33nm,0.4s	**25.64**	**84**	*e*T	T	00 14 22.0	
PAE	**Paea** comp=Z,19nm,0.3s	**27.78**	**73**	*e*T	T	00 16 44.2	
PPT2	**Papeete2** comp=Z,306nm,32.8s	**27.82**	**73**	*e*LR	LR	23 55 11.3	
PPT2	**Papeete2** comp=Z,9.2nm,0.3s	**27.82**	**73**	*e*T	T	00 16 47.2	
PPT	**Papeete** comp=Z,36nm,19.8s,baz=184,slow=30	**27.82**	**73**	LR	LR	23 56 28.7	
TVO	**Taravao** comp=Z,2.8nm,0.3s	**28.00**	**73**	*e*T	T	00 17 01.1	
CTA	**Charters Tower** comp=Z,3.4nm,0.6s,baz=114,slow=5.4,SNR=2.6	**34.09**	**276**	P	**P**	**23 49 20.1**	**+0.8**
CTA	comp=Z,11nm,0.8s,baz=95,slow=14,SNR=4.9			pP	**pwP**	**23 49 45.0**	**-1.4**
STKA	**Stephens Creek** comp=Z,2.2nm,0.8s,baz=74,slow=11,SNR=1.7	**35.39**	**255**	P	**P**	**23 49 31.6**	**+1.2**
STKA	comp=Z,5.0nm,0.9s,baz=85,slow=11,SNR=3.0			pP	**pP**	**23 49 55.8**	**+0.9**
STKA	comp=Z,93nm,19.4s,baz=177,slow=31			LR	LR	00 01 09.4	
TAOE	**Nuku Hiva Isla** comp=Z,1µm,24.9s	**40.19**	**68**	*e*LR	LR	00 01 07.6	
AS31	**Alice Springs**	**43.74**	**265**	P	**P**	**23 50 40.3**	**+0.5**
ASAR	**Alice Springs** comp=Z,1.2nm,0.6s,baz=97,slow=7.3,SNR=8.5	**43.74**	**265**	P	**P**	**23 50 40.0**	**+0.2**
ASAR	comp=Z,4.4nm,0.7s,baz=107,slow=7.9,SNR=11			pP	**pP**	**23 51 05.0**	**-0.1**
ASAR	**Alice Springs**	**43.74**	**265**	P	**P**	**23 50 39.3**	**-0.5**
WB2	**Warramunga Arr**	**44.57**	**270**	P	**P**	**23 50 46.2**	**-0.2**
WB2	comp=Z,12nm,1.0s			IAmb	IAmb	23 50 47.3	
WRA	**Warramunga Arr** comp=Z,4.2nm,0.8s,baz=111,slow=7.2,SNR=4.1	**44.58**	**270**	P	**P**	**23 50 47.2**	**+0.7**
WRA	comp=Z,5.7nm,0.6s,baz=107,slow=7.8,SNR=5.7			pP	**pP**	**23 51 12.0**	**+0.1**
WB0	**Warramunga Arr**	**44.60**	**270**	P	**P**	**23 50 46.6**	**0.0**
WB0	comp=Z,12nm,1.1s			IAmb	IAmb	23 50 55.6	
FORT	**Forrest**	**47.00**	**253**	P	**P**	**23 51 04.3**	**-1.0**
FORT	comp=Z,10nm,0.8s			IAmb	IAmb	23 51 06.8	
VNDA	**Vanda**	**49.81**	**186**	P	**P**	**23 51 26.8**	**+0.6**
KNRA	**Kununurra**	**51.12**	**273**	P	**P**	**23 51 35.5**	**-1.4**
FITZ	**Fitzroy Crossi** comp=Z,3.2nm,0.9s,baz=129,slow=6.5,SNR=1.7	**52.90**	**268**	P	**P**	**23 51 50.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**52.90**	**268**	P	**P**	**23 51 49.7**	**-0.4**
CASY	**Casey**	**56.86**	**207**	P	**P**	**23 52 19.4**	**+1.5**
CASY	comp=Z,6.7nm,0.8s			IAmb	IAmb	23 52 28.9	
QSPA	**South Pole Qui** comp=Z,4.6nm,0.7s,baz=26,slow=1.0,SNR=38	**61.38**	**180**	P	**P**	**23 52 52.3**	**+3.1**
QSPA	**South Pole Qui**	**61.38**	**180**	P	**P**	**23 52 52.4**	**+3.1**
MJAR	**Matsushiro Arr** comp=Z,0.4nm,0.5s,baz=132,slow=4.8,SNR=1.8	**77.17**	**325**	P	**P**	**23 54 26.8**	**+0.2**
SYO	**Syowa Base**	**78.86**	**193**	ǁ *e*P	**P**	**23 54 36.2**	**+0.7**
SYO	**Syowa Base**	**78.86**	**193**	ǁ *e*P	P	23 54 46.8	+11
SNAA	**Sanae**	**79.81**	**178**	P	**P**	**23 54 42.0**	**+1.2**
SNAA	comp=Z,6.4nm,1.1s			IAmb	IAmb	23 54 55.8	
ADK	**Adak**	**80.26**	**0**	P	**P**	**23 54 43.5**	**+0.3**
H03S2	**Juan Fernandez** baz=242,slow=74,SNR=9.7	**80.95**	**124**	T	T	01 22 57.6	
H03S1	**Juan Fernandez** baz=242,slow=74,SNR=9.8	**80.97**	**124**	T	T	01 22 59.3	
H03S3	**Juan Fernandez** baz=242,slow=74,SNR=13	**80.97**	**124**	T	T	01 22 58.1	
NIKH	**Nikolski High**	**81.69**	**5**	P	**P**	**23 54 50.4**	**-0.3**
PLCA	**Paso Flores** comp=Z,6.9nm,0.9s,baz=212,slow=5.1,SNR=8.1	**83.27**	**133**	P	**P**	**23 55 02.3**	**+2.7**
PLCA	**Paso Flores**	**83.27**	**133**	P	**P**	**23 55 02.1**	**+2.5**
PLCA	comp=Z,6.5nm,0.8s			IAmb	IAmb	23 55 03.2	
KSRS	**Korea Array** comp=Z,29nm,18.4s,baz=189,slow=34	**83.42**	**319**	LR	LR	00 30 08.5	
PFO	**Pinyon Flats O**	**84.69**

KNB	**Kanab**	**89.14**	**46**	P	**P**	**23 55 28.1**	**-0.2**
WUAZ	**Wupatki**	**89.17**	**48**	P	**P**	**23 55 28.0**	**-0.5**
SZCU	**Shurtz Canyon**	**89.32**	**46**	P	**P**	**23 55 29.3**	**+0.1**
PSUT	**Pine Spring**	**89.42**	**45**	P	**P**	**23 55 29.7**	**+0.1**
X18A	**Snowflake**	**89.53**	**50**	P	**P**	**23 55 30.7**	**+0.5**
PKCU	**Pink Cliffs**	**89.72**	**46**	P	**P**	**23 55 30.5**	**-0.8**
I07A	**Izee**	**89.72**	**38**	P	**P**	**23 55 31.0**	**+0.2**
I07A				IAmb	IAmb	23 55 39.7	
	comp=Z,4.1nm,1.2s						
W18A	**Petrified Fore**	**90.01**	**49**	P	**P**	**23 55 32.5**	**0.0**
W18A				IAmb	IAmb	23 55 36.7	
	comp=Z,5.1nm,0.9s						
MTPU	**Mount Pierson**	**90.16**	**46**	P	**P**	**23 55 33.1**	**-0.2**
MSU	**Marysvale**	**90.45**	**45**	P	**P**	**23 55 34.4**	**-0.1**
F07A	**Phinny Hill Vi**	**90.71**	**36**	P	**P**	**23 55 34.3**	**-0.9**
G08A	**Pilot Rock**	**90.81**	**37**	P	**P**	**23 55 35.4**	**-0.5**
G08A				IAmb	IAmb	23 55 38.7	
	comp=Z,5.3nm,0.9s						
TX31	**Lajitas Ar. Si**	**91.05**	**57**	P	**P**	**23 55 37.2**	**-0.1**
TX32	**Lajitas Array**	**91.05**	**57**	P	**P**	**23 55 37.4**	**+0.1**
TX32				IAmb	IAmb	23 55 41.1	
	comp=Z,3.6nm,1.1s						
TXAR	**Lajitas Array**	**91.05**	**57**	P	**P**	**23 55 39.0**	**+1.7**
	comp=Z,2.2nm,1.0s,baz=213,slow=6.7,SNR=13						
TXAR				pP	**pP**	**23 56 06.9**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=224,slow=5.2,SNR=3.6						
TXAR				LR	LR	00 31 56.4	
	comp=Z,15nm,18.2s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**91.05**	**57**	P	**P**	**23 55 36.9**	**-0.4**
MNTX	**Cornudas Mount**	**91.09**	**54**	P	**P**	**23 55 37.2**	**-0.1**
MNTX				IAmb	IAmb	23 55 40.2	
	comp=Z,4.7nm,1.1s						
HAWA	**Hanford**	**91.25**	**36**	P	**P**	**23 55 38.0**	**+0.3**
MFID	**Camas Ranch**	**91.31**	**40**	P	**P**	**23 55 38.1**	**-0.1**
MFID				IAmb	IAmb	23 55 40.8	
	comp=Z,2.8nm,0.9s						
Q16A	**Castle Valley**	**91.32**	**46**	P	**P**	**23 55 37.7**	**-0.7**
BMO	**Blue Mountains**	**91.41**	**38**	P	**P**	**23 55 37.9**	**-0.7**
SRU	**San Rafael Swe**	**91.84**	**46**	P	**P**	**23 55 39.5**	**-1.3**
ANMO	**Albuquerque**	**92.13**	**51**	P	**P**	**23 55 42.2**	**-0.1**
ANMO				IAmb	IAmb	23 55 45.3	
	comp=Z,3.0nm,1.0s						
F10A	**Beach Ranch, E**	**92.18**	**37**	P	**P**	**23 55 42.4**	**+0.2**
F10A				IAmb	IAmb	23 55 43.9	
	comp=Z,4.8nm,1.1s						
FXWY	**Fox Creek**	**94.20**	**42**		pwP	23 56 24.6	+0.6
PDAR	**Pinedale Array**	**94.56**	**43**	P	**P**	**23 55 54.4**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=184,slow=4.5,SNR=4.2						
PDAR				pP	**pP**	**23 56 22.4**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=217,slow=3.7,SNR=4.0						
PDAR	**Pinedale Array**	**94.56**	**43**		pP	23 56 24.2	+2.5
MKAR	**Makanchi Array**	**117.09**	**311**	PKP	**PKiKP**	**00 01 17.1**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=184,slow=4.2,SNR=2.6						
KURK	**Kurchatov**	**120.26**	**314**		**PKiKP**	**00 01 22.8**	**-0.1**
KURBB	**Kurchatov Arra**	**120.30**	**314**	PKP	**PKiKP**	**00 01 22.8**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=100,slow=1.8,SNR=4.1						
BVAR	**Borovoye Array**	**125.56**	**317**	PKP	**PKiKP**	**00 01 33.5**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=51,slow=2.8,SNR=3.7						
H10S3	**ASCENSION HYDR**	**139.00**	**153**	T	T	02 38 05.8	
	baz=16,slow=74,SNR=17						
H10S2	**ASCENSION HYDR**	**139.00**	**153**	T	T	02 37 51.6	
	baz=204,slow=74,SNR=7.7						
H10N3	**ASCENSION HYDR**	**140.08**	**153**	T	T	02 39 02.3	
	baz=203,slow=76,SNR=29						
H10N1	**ASCENSION HYDR**	**140.08**	**153**	T	T	02 39 04.0	
	baz=203,slow=76,SNR=34						
H10N2	**ASCENSION HYDR**	**140.10**	**153**	T	T	02 39 03.7	
	baz=203,slow=76,SNR=37						
FINES	**FINESS Array B**	**143.74**	**341**	PKhKP	PKPpre	00 02 04.3	
	comp=Z,2.3nm,0.7s,baz=50,slow=3.0,SNR=8.1						
NB2	**NORSAR Subarra**	**147.17**	**352**	PKP	**PKPbc**	**00 02 15.2**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**147.17**	**352**	PKPbc	**PKPbc**	**00 02 14.8**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=15,slow=4.5,SNR=8.4						
NOA				pPKPbc	**pPKPbc**	**00 02 43.5**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=14,slow=4.5,SNR=2.4						
HFS	**Hagfors**	**147.70**	**350**	PKPbc	**PKPbc**	**00 02 15.9**	**-0.2**
	comp=Z,4.2nm,0.7s,baz=20,slow=1.7,SNR=8.5						
HFS				pPKPbc	**pPKPdf**	**00 02 42.9**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=354,slow=4.5,SNR=3.6						
AKASG	**Malin Array Be**	**150.26**	**325**	PKPbc	**PKiKP**	**00 02 23.0**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=45,slow=2.8,SNR=7.4						
ASF	**Jabal al Asfar**	**150.30**	**285**	PKPbc	**PKiKP**	**00 02 25.6**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=98,slow=7.1,SNR=1.9						
MMAI	**Mount Meron Ar**	**151.58**	**287**	PKPbc	**PKiKP**	**00 02 27.7**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=88,slow=4.6,SNR=5.0						
BRTR	**Keskin Array B**	**152.22**	**301**	PKPbc	**PKiKP**	**00 02 28.9**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=48,slow=1.2,SNR=4.3						
BRTR				PKPab	**PKPab**	**00 02 37.5**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=147,slow=4.3,SNR=7.4						
BRTR	**Keskin Array B**	**152.22**	**301**		**PKPbc**	**00 02 25.6**	**-2.4**
BRTR					**PKPab**	**00 02 37.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**164.48**	**177**	PKP	**PKPdf**	**00 02 37.6**	**+1.2**
	comp=Z,0.4nm,0.8s,baz=17,slow=1.8,SNR=4.6						
TORD				PKPab	**PKPab**	**00 03 32.8**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=184,slow=3.9,SNR=3.7						
TORD				pPKPab	**pPKPab**	**00 03 59.9**	**0.0**
	comp=Z,1.6nm,0.8s,baz=172,slow=4.2,SNR=3.9						
TORD	**Torodi Ar. Bea**	**164.48**	**177**		**PKPdf**	**00 02 37.4**	**+1.0**
TORD				pPKPdf	**pPKPdf**	**00 03 07.3**	**+1.0**
ESDC	**Sonseca Array**	**167.81**	**25**	PKPab	**PKPab**	**00 03 46.1**	**+0.4**
	comp=Z,0.7nm,1.0s,baz=308,slow=6.3,SNR=4.1						
ESDC	**Sonseca Array**	**167.81**	**25**	PKPdf	**PKPdf**	**00 02 38.5**	**+0.1**

*IDC **14** 23:51:11.2±11.0, 27°.13N×52°.98E, h0km, mb3.5/6, mb1 3.6/6, mb1mx3.3/61, mbtmp3.6/6, Error ellipse: s-maj=206.2km s-min=41.4km az=176.0*
*TEH **14** 23:51:16.3, 27°.54N×52°.88E, h9km, ML3.3*
ISC 14 23:51:16.6±2.0, 27°.4N±0°.2×52°.85E±0°.10, h20km±13km, n19, σ1§02/19, mb3.6/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LMD1	**Lamerd**	**0.28**	**96**	*e*Pg	**Pb**	**23 51 22.6**	**-0.4**
LMD1				*e*		23 51 38.3	
JHRM	**Jahrom**	**1.30**	**30**	*e*Pg	**Pn**	**23 51 38.0**	**-1.8**
JHRM				*e*		23 52 04.6	
LAR1	**LAR**	**1.39**	**77**	*e*Pg	**Pb**	**23 51 42.6**	**+0.7**
LAR1				*e*		23 52 20.0	
SHI	**Shiraz**	**2.28**	**353**	*e*Pn	**Pn**	**23 51 55.0**	**+1.7**
SHI				*e*		23 52 37.6	
KLNJ	**Kolanjah**	**3.79**	**343**	*e*Pn	**Pn**	**23 52 14.7**	**+0.5**
IMEH	**Mehriz**	**4.29**	**21**	*e*Pn	**Pn**	**23 52 22.0**	**+1.0**
TVBK	**TV Kerman**	**4.31**	**52**	*e*Pn	**Pn**	**23 52 22.9**	**+1.5**
TVBK				*e*		23 52 23.6	
KHGB	**Koh Gabri**	**4.37**	**46**	*e*Pn	**Pn**	**23 52 22.7**	**+0.6**
KHGB				*e*		23 53 20.4	
IRAM	**Ramesheh**	**4.44**	**355**	*e*Pn	**Pn**	**23 52 22.9**	**-0.2**
ISAD	**Sadrabad**	**4.59**	**9**	*e*Pn	**Pn**	**23 52 25.9**	**+0.8**
CHMN	**Cheshme madani**	**4.81**	**58**	*e*Pn	**Pn**	**23 52 29.8**	**+1.5**
CHMN				*e*		23 52 32.2	
IBAF	**Bafgh**	**4.83**	**29**	*e*Pn	**Pn**	**23 52 28.6**	**+0.3**
ICHK	**Chekchek**	**5.04**	**15**	*e*Pn	**Pn**	**23 52 32.0**	**+0.7**
BRTR	**Keskin Array B**	**20.15**	**313**	P	**P**	**23 55 50.6**	**+0.9**
	0.3nm,0.7s,baz=129,slow=12,SNR=2.6						
AKTO	**Aktyubinsk**	**23.37**	**8**	P	**P**	**23 56 23.5**	**-0.3**
	0.8nm,0.4s,baz=190,slow=11,SNR=2.4						
BVAR	**Borovoye Array**	**28.76**	**22**	P	**P**	**23 57 12.0**	**-0.7**
	0.3nm,0.4s,baz=226,slow=7.8,SNR=4.0						
ZALV	**Zalesovo Beam**	**35.43**	**33**	P	**P**	**23 58 10.2**	**-1.0**
	0.7nm,0.6s,baz=242,slow=9.2,SNR=1.9						
FINES	**FINESS Array B**	**38.50**	**340**	P	**P**	**23 58 36.7**	**-0.5**
	0.7nm,0.5s,baz=148,slow=11,SNR=6.3						
HFS	**Hagfors**	**42.18**	**332**	P	**P**	**23 59 07.3**	**-0.4**
	1.0nm,0.5s,baz=127,slow=17,SNR=1.8						

*NEIC **14** 23:55:41.3±1.4, 25°.3S±0°.2×179°.99E±0°.09, h509km±13km, mb4.3/19, Error ellipse: s-maj=22.2km s-min=11.2km az=177.0*
*IDC **14** 23:55:47.2±21.0, 25°.10S×179°.78E, h570km±246km, mb3.4/5, mb1 3.6/5, mb1mx3.0/42, mbtmp4.4/5, Error ellipse: s-maj=148.1km s-min=52.1km az=52.0*
ISC 14 23:55:41.9±1.6, 25°.4S±0°.1×179°.9E±0°.2, h500km, n29, σ1§09/28, mb4.2/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.78**	**347**	P	**P**	**23 57 36.4**	**+0.1**
DZM	**Mont Dzumac**	**12.71**	**282**	P	**P**	**23 58 29.0**	**+0.9**
HIZ	**Hauiti**	**13.77**	**197**	P	**P**	**23 58 41.5**	**+2.4**
BFZ	**Birch Farm**	**15.57**	**190**	P	**P**	**23 58 55.2**	**-2.6**
QRZ	**Quartz Range**	**16.58**	**200**	P	**P**	**23 59 07.9**	**-0.5**
NNZ	**Nelson**	**16.70**	**197**	P	**P**	**23 59 08.2**	**-1.5**
NNZ				IAmb	IAmb	23 59 08.4	
	comp=Z,9.5nm,0.9s						
BSWZ	**Blackbirch Sta**	**17.04**	**195**	P	**P**	**23 59 11.6**	**-1.5**
THZ	**Tophouse**	**17.34**	**198**	P	**P**	**23 59 14.6**	**-1.4**
KHZ	**Kahutara**	**17.79**	**195**	P	**P**	**23 59 19.4**	**-0.7**
KHZ				IAmb	IAmb	23 59 36.8	
	comp=Z,7.4nm,1.0s						
LTZ	**Lake Taylor**	**18.46**	**198**	P	**P**	**23 59 25.7**	**-0.6**
LTZ				IAmb	IAmb	23 59 39.4	
	comp=Z,5.9nm,1.1s						
MLZ	**Mavora Lakes**	**22.08**	**202**	P	**P**	**23 59 58.6**	**-0.6**
ARMA	**Armidale**	**25.41**	**252**	P	**P**	**00 00 29.5**	**+0.3**
EIDS	**Eidsvold**	**25.97**	**264**	P	**P**	**00 00 33.9**	**-0.2**
EIDS				IAmb	IAmb	00 00 43.8	
	comp=Z,5.8nm,1.1s						
CTA	**Charters Tower**	**31.37**	**273**	P	**P**	**00 01 22.1**	**+0.8**
	comp=Z,7.8nm,0.5s,baz=98,slow=11,SNR=12						
CTAO	**Charters Tower**	**31.37**	**273**	P	**P**	**00 01 21.8**	**+0.5**
CTAO				IAmb	IAmb	00 01 22.8	
	comp=Z,7.7nm,0.6s						
TOO	**Toolangi**	**31.56**	**239**	P	**P**	**00 01 22.6**	**0.0**
STKA	**Stephens Creek**	**34.07**	**250**	P	**P**	**00 01 44.9**	**+0.8**
	comp=Z,2.1nm,0.4s,baz=85,slow=12,SNR=10						
STKA	**Stephens Creek**	**34.07**	**250**	P	**P**	**00 01 44.8**	**+0.7**
COEN	**Coen**	**36.24**	**281**	P	**P**	**00 02 00.9**	**-1.4**
COEN				IAmb	IAmb	00 02 09.6	
	comp=Z,12nm,1.1s						
BBOO	**Buckleboo**	**38.76**	**249**	P	**P**	**00 02 22.7**	**-0.1**
AS31	**Alice Springs**	**41.68**	**262**	P	**P**	**00 02 47.0**	**+0.5**
ASAR	**Alice Springs**	**41.68**	**262**	P	**P**	**00 02 46.6**	**+0.2**
	comp=Z,2.2nm,0.3s,baz=96,slow=8.5,SNR=103						
WB2	**Warramunga Arr**	**42.18**	**268**	P	**P**	**00 02 49.7**	**-0.7**
WB2				IAmb	IAmb	00 02 50.8	
	comp=Z,5.6nm,0.6s						
WB0	**Warramunga Arr**	**42.19**	**268**	P	**P**	**00 02 49.8**	**-0.7**
WB0				IAmb	IAmb	00 02 51.1	
	comp=Z,6.4nm,0.8s						
WRA	**Warramunga Arr**	**42.19**	**268**	P	**P**	**00 02 50.4**	**-0.1**
	comp=Z,2.7nm,0.4s,baz=103,slow=7.8,SNR=24						
WRA	**Warramunga Arr**	**42.19**	**268**	IAmb	IAmb	00 02 50.8	
	comp=Z,0.3nm,0.6s						
FORT	**Forrest**	**45.69**	**251**	P	**P**	**00 03 16.4**	**-1.1**
FORT				IAmb	IAmb	00 03 26.1	
	comp=Z,10nm,0.9s						
KNRA	**Kununurra**	**48.56**	**271**	P	**P**	**00 03 39.0**	**-0.3**
KNRA				IAmb	IAmb	00 03 44.8	
	comp=Z,13nm,1.0s						
QSPA	**South Pole Qui**	**64.72**	**180**	P	**P**	**00 05 31.3**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=36,slow=14,SNR=11						

UPA 14 23:56:13.5±3.1, 9°.48N×84°.29W, h6km±13km, MW3.6, 1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HDC	**Heredia**	**0.55**	**18**	*i*P	**Pb**	**23 56 25.0**	**-0.5**
HDC				*e*S	Sb	23 56 33.5	-0.2
JTS	**Las Juntas de**	**1.04**	**321**	*e*P	Pg	23 56 32.9	-0.5
JTS				*e*S	Sb	23 56 47.9	+0.1
JTS	**Las Juntas de**	**1.04**	**321**	pP	Pg	23 56 33.0	-0.5
DRK0	**Durika**	**1.05**	**102**	*e*P	Pg	23 56 31.4	-2.3
DRK0				*e*S	Sb	23 56 48.4	+0.1
RGM0	**Gandoca**	**1.66**	**86**	*e*P	Pb	23 56 44.2	-0.2
RGM0				*e*S	Sb	23 57 06.2	+0.5
BRU2	**Volcan**	**1.72**	**113**	*e*P	Pn	23 56 43.2	-0.9
BRU2				*e*S	Sn	23 57 04.6	-1.7
BCO2	**Palmira**	**1.89**	**113**	*e*P	Pn	23 56 46.3	-0.2
BCO2				*e*S	Sn	23 57 10.3	-0.4
DVD	**David**	**2.09**	**120**	*e*P	Pn	23 56 48.9	-0.1
DVD				*e*S	Sn	23 57 12.8	-2.5
CHGR2	**Aguacate**	**2.18**	**104**	*e*P	Pn	23 56 49.0	-1.3
CHGR2				*e*S	Sn	23 57 16.7	-1.0
CHIR3	**Chiriqui UPA,**	**2.21**	**119**	*e*P	Pn	23 56 49.7	-1.0
CHIR3				*e*S	Sn	23 57 19.8	+1.4
GMAL	**Guarumal, Vera**	**3.47**	**119**	*e*P	Pn	23 57 07.6	-0.4
GMAL				*e*S	Sn	23 57 51.9	+2.5
BCIP	**Isla Barro Col**	**4.40**	**94**	*e*P	Pn	23 57 20.1	-0.8
BCIP				*e*S	Sn	23 58 08.8	-3.7
SJCC	**San Jacinto, C**	**8.99**	**87**	*e*P	Pn	23 58 27.1	+3.2
SJCC				*e*S	Sn	00 00 03.2	-2.4

*JMA **15** 00:01:58.4, 24°.0N×122°.46E, h43km±2km, M2.0*
*TAP **15** 00:01:58.6, 24°.08N×122°.45E, h29km, ML2.7, D*
ISC 15 00:01:58.5±1.0, 24°.10N±0°.03×122°.45E±0°.02, h29km±11km, n58, σ0§67/93, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.57**	**52**	P	**Pb**	**00 02 10.0**	**0.0**
JYNG				S	**Sb**	**00 02 18.5**	**+0.7**
YOJ	**Yonaguni jima**	**0.62**	**55**	*i* P	**Pb**	**00 02 10.8**	**-0.1**
	baz=52						
YOJ				*i* S	**Sb**	**00 02 19.6**	**+0.3**
	baz=52						
YOJ	**Yonaguni jima**	**0.62**	**55**	P	**Pb**	**00 02 10.7**	**-0.1**
YOJ				*e*S	**Sb**	**00 02 19.7**	**+0.4**
ENA	**Nanau**	**0.73**	**297**	*i* P	**Pb**	**00 02 12.5**	**-0.1**
	baz=297						
ENA				S	**Sb**	**00 02 22.2**	**0.0**
	baz=297						
TWC	**Suao**	**0.75**	**313**	*i* P	**Pb**	**00 02 12.5**	**-0.5**
	baz=313						
TWC				*e*S	**Sb**	**00 02 21.9**	**-0.9**
	baz=313						
TWD	**Chiawan**	**0.78**	**268**	P	**Pb**	**00 02 13.1**	**-0.5**
	baz=269						
TWD				S	**Sb**	**00 02 23.8**	**-0.1**
	baz=269						
NACB	**Ninganchiao**	**0.79**	**275**	P	**Pb**	**00 02 13.4**	**-0.3**
	baz=276						
NACB				S	**Sb**	**00 02 24.3**	**+0.3**
	baz=276						
EGS		**0.88**	**327**	P	**Pn**	**00 02 15.1**	**+0.2**
	baz=328						
EGS				S	**Sb**	**00 02 26.5**	**0.0**
	baz=328						
ETLH	**Xiulin Townshi**	**0.89**	**277**	*i* P	**Pn**	**00 02 14.8**	**-0.4**
	baz=277						
ETLH				*e*S	**Sb**	**00 02 26.8**	**-0.3**
	baz=277						
ILA	**Ilan**	**0.92**	**316**	*e*P	**Pn**	**00 02 15.3**	**-0.1**
	baz=316						
NTC	**Toucheng**	**0.94**	**323**	*e*P	**Pn**	**00 02 15.4**	**-0.3**
	baz=323						
TWE	**Neicheng**	**0.94**	**311**	*i* P	**Pn**	**00 02 15.8**	**+0.1**
	baz=311						
ENTT	**Nioudou**	**0.97**	**304**	*i* P	**Pn**	**00 02 16.4**	**+0.2**
	baz=304						
ENTT				*e*S	**Sn**	**00 02 29.8**	**+0.9**
	baz=304						
ESL	**Shilin**	**0.98**	**253**	*e*P	**Pn**	**00 02 15.9**	**-0.3**
	baz=253						
ESL				*e*S	**Sn**	**00 02 28.5**	**-0.6**
	baz=253						
NDT	**Datong Townshi**	**0.99**	**300**	*i* P	**Pn**	**00 02 16.6**	**+0.1**
	baz=301						
NDT				*e*S	**Sn**	**00 02 29.4**	**-0.1**
	baz=301						
TWB1	**Santiao Chiao**	**0.99**	**335**	*e*P	**Pn**	**00 02 16.1**	**-0.4**
	baz=335						
NNSB	**Datong**	**1.03**	**289**	*i* P	**Pn**	**00 02 16.9**	**-0.1**
	baz=289						
NNSB				S	**Sn**	**00 02 30.7**	**+0.1**
	baz=289						
NNSH	**Datong**	**1.03**	**289**	P	**Pn**	**00 02 16.9**	**-0.1**
	baz=289						
NNSH				S	**Sn**	**00 02 30.6**	**+0.1**
	baz=289						
EGFH	**Guangfu**	**1.03**	**245**	*e*P	**Pn**	**00 02 16.7**	**-0.3**
	baz=246						
EGFH				S	**Sn**	**00 02 30.2**	**-0.3**
	baz=246						
TIPB	**Shuangxi**	**1.04**	**327**	*i* P	**Pn**	**00 02 17.2**	**+0.1**
	baz=327						
TIPB				*e*S	**Sn**	**00 02 30.9**	**+0.2**
	baz=327						
NNS	**Nan Shan**	**1.04**	**289**	P	**Pn**	**00 02 17.1**	**-0.1**
	baz=289						
NNS				S	**Sn**	**00 02 30.7**	**-0.1**
	baz=289						
WHF	**Hehuan Shan**	**1.09**	**272**	P	**Pn**	**00 02 17.8**	**-0.3**
	baz=273						
WHF				*e*S	**Sn**	**00 02 32.0**	**-0.4**
	baz=273						
NWLT	**Wulai**	**1.09**	**308**	P	**Pn**	**00 02 18.2**	**+0.4**
	baz=308						
NWLT				S	**Sn**	**00 02 32.3**	**+0.2**
	baz=308						
HGSD	**Ruisui**	**1.12**	**237**	P	**Pn**	**00 02 18.1**	**-0.2**
	baz=238						
HGSD				*e*S	**Sn**	**00 02 32.3**	**-0.4**
	baz=238						
YHNB	**Yeheng**	**1.13**	**300**	*e*P	**Pn**	**00 02 18.9**	**+0.4**
	baz=300						
NWF	**Wu-fen Shan**	**1.14**	**328**	*e*P	**Pn**	**00 02 18.6**	**0.0**
	baz=328						
WFSB	**Wu-fen Shan**	**1.14**	**328**	*e*P	**Pn**	**00 02 18.6**	**+0.1**
	baz=328						
NSK	**Sanguang**	**1.15**	**300**	P	**Pn**	**00 02 18.9**	**+0.2**
	baz=300						
NSK				*e*S	**Sn**	**00 02 33.0**	**-0.5**
	baz=300						
CHGB	**Renai**	**1.17**	**268**	*e*P	**Pn**	**00 02 19.3**	**+0.2**
	baz=268						
CHGB				*e*S	**Sn**	**00 02 33.7**	**-0.5**
	baz=268						
TWT	**Tachien**	**1.18**	**278**	*e*S	**Sn**	**00 02 34.4**	**+0.1**
	baz=277						
TWA	**Mucha**	**1.18**	**318**	*e*P	**Pn**	**00 02 19.7**	**+0.6**
	baz=318						
TWA				*e*S	**Sn**	**00 02 34.4**	**+0.3**
	baz=318						
IRIF	**Iriomote-Funau**	**1.19**	**79**	P	**Pn**	**00 02 19.3**	**+0.2**
IRIF				S	**Sn**	**00 02 34.4**	**+0.1**
TDCB	**Techi**	**1.19**	**277**	P	**Pn**	**00 02 19.2**	**-0.1**
	baz=278						
TDCB				S	**Sn**	**00 02 34.6**	**-0.1**
	baz=278						
EHY	**Hungye**	**1.20**	**240**	*e*P	**Pn**	**00 02 19.3**	**+0.1**
	baz=240						
EHY				*e*S	**Sn**	**00 02 34.0**	**-0.5**
	baz=240						
TATO	**Taipei**	**1.23**	**315**	*e*S	**Sn**	**00 02 35.9**	**+0.4**
	baz=315						
VWDT	**VWDT**	**1.25**	**254**	*e*P	**Pn**	**00 02 20.6**	**+0.7**
	baz=254						
VWDT				S	**Sn**	**00 02 35.9**	**+0.1**
	baz=254						
YULB	**Yu-li**	**1.27**	**236**	P	**Pn**	**00 02 20.2**	**-0.1**
	baz=236						
YULB				S	**Sn**	**00 02 36.1**	**-0.4**
	baz=236						
TWF1	**Yuli**	**1.30**	**235**	P	**Pn**	**00 02 20.8**	**+0.2**
	baz=235						
TWF1				*e*S	**Sn**	**00 02 36.4**	**-0.7**
	baz=235						
WHP	**Taichung City**	**1.39**	**277**	*e*P	**Pn**	**00 02 23.1**	**+1.2**
	baz=277						
WHP				*e*S	**Sn**	**00 02 39.7**	**+0.4**
	baz=277						
DPDB	**Guoxing**	**1.40**	**267**	S	**Sn**	**00 02 39.6**	**0.0**
	baz=267						
SSLB	**Suanglung**	**1.41**	**257**	*e*P	**Pn**	**00 02 22.7**	**+0.5**
	baz=257						
SSLB				S	**Sn**	**00 02 39.7**	**-0.1**
	baz=257						
NSTT	**Nanjuang**	**1.42**	**292**	*e*P	**Pn**	**00 02 22.1**	**-0.3**
	baz=292						
NSTT				S	**Sn**	**00 02 40.4**	**+0.2**
	baz=292						
SMLT	**Sun Moon Lake**	**1.44**	**262**	*e*P	**Pn**	**00 02 23.5**	**+0.8**
	baz=261						
WHYT	**Xinyi Township**	**1.52**	**255**	*e*P	**Pn**	**00 02 25.4**	**+1.7**
	baz=255						
JIJ	**Ishigaki jima**	**1.56**	**80**	P	**Pn**	**00 02 24.2**	**-0.1**
JIJ				S	**Sn**	**00 02 42.9**	**-0.7**
ELDTW	**Lidau**	**1.60**	**236**	*e*P	**Pn**	**00 02 24.7**	**-0.2**
	baz=235						
ELDTW				*e*S	**Sn**	**00 02 43.8**	**-0.8**
	baz=235						
CHN5	**Tsauling**	**1.70**	**253**	*e*P	**Pn**	**00 02 28.1**	**+1.9**
	baz=253						
JISG	**Ishigakijimahi**	**1.76**	**74**	P	**Pn**	**00 02 26.9**	**-0.1**
JISG				S	**Sn**	**00 02 48.0**	**-0.5**
TWGBT	**Beinan**	**1.80**	**225**	*e*P	**Pn**	**00 02 27.5**	**0.0**
	baz=225						
TWG	**Pinlang**	**1.80**	**225**	*e*P	**Pn**	**00 02 27.6**	**0.0**
	baz=225						
WDLH	**Douliu**	**1.80**	**257**	*e*P	**Pn**	**00 02 28.6**	**+1.1**
	baz=257						
TPUB	**Ta-pu**	**1.85**	**245**	*e*P	**Pn**	**00 02 29.4**	**+1.1**
	baz=244						
WTP	**Ta-pu**	**1.89**	**244**	*e*P	**Pn**	**00 02 31.1**	**+2.3**
	baz=243						
TWK	**Hsinying**	**1.98**	**246**	*e*P	**Pn**	**00 02 31.5**	**+1.3**
	baz=245						
CHN1	**Nanshi**	**1.99**	**243**	*e*P	**Pn**	**00 02 32.8**	**+2.6**
	baz=243				

LEM	**Lembang**	**15.40 246**	LR	LR	00 17 21.1	
	comp=Z,125nm,18.5s,baz=47,slow=43					
FITZ	**Fitzroy Crossi**	**17.79 168**	P	**P**	**00 10 13.2**	**0.0**
	0.1nm,0.3s,baz=53,slow=12,SNR=3.9					
FITZ			LR	LR	00 18 11.5	
	comp=Z,107nm,18.3s,baz=358,slow=41					
FITZ	**Fitzroy Crossi**	**17.79 168**		**Pn**	**00 10 12.6**	**-0.1**
PDSI	**Padang**	**21.31 269**	P	**P**	**00 10 53.0**	**+1.2**
	11nm,0.9s					
IPM	**Ipoh**	**21.33 284**	P	**P**	**00 10 53.6**	**+1.6**
IPM			IAmb	IAmb	00 10 58.2	
	comp=Z,23nm,0.9s					
IPM	**Ipoh**	**21.33 284**	P	**P**	**00 10 54.0**	**+2.0**
KULM	**Kulim**	**21.89 286**	P	**P**	**00 11 00.5**	**+2.5**
WB0	**Warramunga Arr**	**22.70 148**	P	**P**	**00 11 06.1**	**-0.5**
WRA	**Warramunga Arr**	**22.81 148**	P	**P**	**00 11 07.1**	**-0.7**
	comp=Z,4.4nm,0.6s,baz=327,slow=11,SNR=12					
WRA	**Warramunga Arr**	**22.81 148**	P	**P**	**00 11 04.8**	**-3.0**
WB2	**Warramunga Arr**	**22.82 148**	P	**P**	**00 11 07.0**	**-0.8**
TPUB	**Ta-pu**	**23.80 357**	P	**P**	**00 11 18.6**	**+1.1**
TPUB			IAmb	IAmb	00 11 28.9	
	comp=Z,14nm,0.8s					
YULB	**Yu-li**	**23.87 359**	P	**P**	**00 11 17.5**	**-0.6**
YULB			IAmb	IAmb	00 11 30.2	
	comp=Z,15nm,1.1s					
GSI	**Gunungsitoli**	**24.27 275**	P	**P**	**00 11 23.2**	**+1.2**
GSI			IAmb	IAmb	00 11 28.8	
	comp=Z,17nm,0.6s					
ASAR	**Alice Springs**	**25.76 154**	P	**P**	**00 11 35.4**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=333,slow=9.4,SNR=13					
ASAR			PcP	**PcP**	**00 15 04.8**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=341,slow=2.1,SNR=4.8					
ASAR			LR	LR	00 22 03.3	
	comp=Z,92nm,18.4s,baz=328,slow=37					
ASAR	**Alice Springs**	**25.76 154**	P	**P**	**00 11 35.5**	**0.0**
CMAR	**Chiang Mai Arr**	**29.37 311**	LR	LR	00 24 33.8	
	comp=Z,33nm,19.8s,baz=120,slow=38					
GYA	**Guiyang**	**30.61 333**	*e*P	P	00 12 24.3	+5.5
GYA			pmax	pmax		
	comp=Z,10.0nm,0.5s					
KMI	**Kunming**	**31.53 326**	P	**P**	**00 12 29.8**	**+2.7**
KMI			pmax	pmax		
	comp=Z,9.0nm,0.9s					
NJ2	**Nanjing**	**32.61 355**	*e*P	**P**	**00 12 36.3**	**+0.1**
NJ2			pmax	pmax		
	comp=Z,9.0nm,0.7s					
CD2	**Chengdu**	**35.72 333**	P	**P**	**00 13 04.3**	**+1.0**
CD2			pmax	pmax		
	comp=Z,30nm,0.5s					
STKA	**Stephens Creek**	**36.30 151**	LR	LR	00 28 38.5	
	comp=Z,117nm,18.8s,baz=211,slow=37					
KSRS	**Korea Array**	**38.31 8**	P	**P**	**00 13 24.8**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=187,slow=9.0,SNR=2.7					
MAT	**Matsushiro**	**40.00 21**	P	**P**	**00 13 37.8**	**-1.5**
MJAR	**Matsushiro Arr**	**40.00 21**	P	**P**	**00 13 36.1**	**-3.2**
	comp=Z,2.8nm,0.8s,baz=196,slow=8.9,SNR=12					
MJAR			LR	LR	00 28 10.6	
	comp=Z,16nm,21.6s,baz=220,slow=33					
MJAR	**Matsushiro Arr**	**40.00 21**	IAmb	IAmb	00 13 38.7	
	comp=Z,1.1nm,0.8s					
LZH	**Lanzhou**	**40.15 337**	*e*P	**P**	**00 13 41.6**	**+0.9**
LZH			pP	sP	00 13 56.3	+2.2
LZH			sP	pP	00 14 04.8	+15
LZH			*e*PP	**PnPn**	**00 15 19.8**	**+2.6**
LZH			pmax	pmax		
	comp=Z,20nm,1.3s					
LZH			pmax	pmax		
	comp=Z,110nm,5.2s					
LZH			LR	LR		
	comp=N,240nm,13.2s					
LZH			LR	LR		
	comp=E,250nm,13.0s					
LZH			LR	LR		
	comp=Z,370nm,16.5s					
HHC	**Hu-ho-hao-te**	**42.30 348**	*e*P	**P**	**00 13 59.3**	**+1.0**
HHC			pmax	pmax		
	comp=Z,7.0nm,1.0s					
HHC			pmax	pmax		
	comp=Z,55nm,5.2s					
ODAN	**Odare**	**42.91 312**	*e*P	**P**	**00 14 04.4**	**+0.8**
	comp=Z,12nm,0.8s					
TAPN	**Taplejung**	**42.95 313**	*e*P	**P**	**00 14 04.2**	**+0.2**
	comp=Z,25nm,1.0s					
RAMN	**Ramite**	**43.54 312**	*e*P	**P**	**00 14 10.2**	**+1.4**
	comp=Z,17nm,0.8s					
JIRN	**Jiri**	**44.24 312**	*e*P	**P**	**00 14 15.3**	**+0.8**
GUN	**Gumba**	**44.60 312**	*e*P	**P**	**00 14 17.8**	**+0.4**
	comp=Z,40nm,0.8s					
GTA	**Gaotai**	**44.62 336**	*e*P	**P**	**00 14 18.0**	**+0.9**
GTA			pP	pP	00 14 22.3	-4.4
GTA			sP	sP	00 14 25.4	-5.1
GTA			pmax	pmax		
	comp=Z,7.0nm,1.2s					
PKI	**Pulchoki**	**44.77 312**	*e*P	**P**	**00 14 19.1**	**+0.4**
PKIN	**Phulchoki**	**44.78 312**	*e*P	**P**	**00 14 19.0**	**+0.3**
	comp=Z,9.5nm,0.6s					
DMN	**Daman**	**45.02 311**	*e*P	**P**	**00 14 21.6**	**+1.0**
	comp=Z,21nm,1.0s					
GKN	**Gorkha**	**45.58 312**	*e*P	**P**	**00 14 25.1**	**+0.2**
KOLN	**Koldanda**	**46.24 311**	*e*P	**P**	**00 14 30.5**	**+0.3**
	comp=Z,28nm,1.0s					
DANN	**Dangsing**	**46.42 311**	*e*P	**P**	**00 14 31.8**	**+0.1**
	comp=Z,38nm,0.9s					
PYUN	**Piuthan**	**46.87 311**	*e*P	**P**	**00 14 36.0**	**+0.9**
	comp=Z,26nm,0.7s					
ULN	**Ulaanbaatar**	**49.96 347**	P	**P**	**00 14 58.3**	**-0.2**
ULN			IAmb	IAmb	00 15 00.5	
	comp=Z,11nm,1.1s					
SONM	**Songino Array**	**50.08 347**	P	**P**	**00 14 59.0**	**-0.4**
	comp=Z,5.8nm,1.0s,baz=164,slow=7.4,SNR=19					
SONM	**Songino Array**	**50.08 347**	P	**P**	**00 14 59.5**	**+0.1**
WMQ	**Urumqi**	**53.69 330**	*e*P	**P**	**00 15 27.1**	**+0.8**
WMQ			pmax	pmax		
	comp=Z,14nm,0.9s					
WMQ			pmax	pmax		
	comp=Z,140nm,5.5s					
MK31	**Makanchi Array**	**58.50 329**	P	**P**	**00 16 01.0**	**+0.4**
MK31			IAmb	IAmb	00 16 02.0	
	comp=Z,4.5nm,1.0s					
MKAR	**Makanchi Array**	**58.50 329**	P	**P**	**00 16 00.8**	**+0.2**
	comp=Z,3.4nm,0.7s,baz=126,slow=8.2,SNR=26					
MAKZ	**Makanchi**	**58.67 329**	P	**P**	**00 16 02.0**	**+0.3**
MAKZ			IAmb	IAmb	00 16 02.5	
	comp=Z,3.5nm,0.9s					
KBL	**Kabul**	**60.40 311**	P	**P**	**00 16 14.7**	**+0.5**
WKZ	**Wanaka**	**60.63 143**	P	**P**	**00 16 13.5**	**-1.8**
PETK	**Petropavlovsk-**	**61.34 24**	P	**P**	**00 16 18.6**	**-1.3**
	comp=Z,0.9nm,0.5s,baz=179,slow=3.1,SNR=5.2					
ZAA0	**Zalesovo Array**	**62.37 336**	P	**P**	**00 16 25.8**	**-1.0**
ZALV	**Zalesovo Beam**	**62.37 336**	P	**P**	**00 16 26.1**	**-0.7**
	comp=Z,14nm,1.0s,baz=122,slow=5.4,SNR=36					
ZALV			LR	LR	00 45 38.6	
	comp=Z,23nm,18.4s,baz=222,slow=38					
ZALV	**Zalesovo Beam**	**62.37 336**	P	**P**	**00 16 24.6**	**-2.2**
KURBB	**Kurchatov Arra**	**62.88 331**	P	**P**	**00 16 29.8**	**-0.6**
	baz=131,slow=5.9					
KURK	**Kurchatov**	**62.90 331**	P	**P**	**00 16 29.8**	**-0.7**
KURK	**Kurchatov**	**62.90 331**	IAmb	IAmb	00 16 32.5	
	comp=Z,30nm,1.1s					
KK31	**Karatay Array**	**63.19 320**	P	**P**	**00 16 32.8**	**+0.2**
KK31			IAmb	IAmb	00 16 35.2	
	comp=Z,3.0nm,0.8s					
KKAR	**Karatay Array**	**63.19 320**	P	**P**	**00 16 32.2**	**-0.4**
BRVK	**Borovoye**	**68.45 329**	P	**P**	**00 17 05.5**	**-0.8**
BRVK			IAmb	IAmb	00 17 08.0	
	comp=Z,13nm,1.1s					
GEYT	**Alibeck**	**69.85 311**	P	**P**	**00 17 14.9**	**-0.5**
GYA0B	**ALIBECK ARRAY**	**69.85 311**	P	**P**	**00 17 13.2**	**-2.2**
GYA0B			IAmb	IAmb	00 17 17.5	
	comp=Z,6.6nm,0.7s					
ABKAR	**Akbulak array**	**72.47 323**	P	**P**	**00 17 30.0**	**-0.9**
GSTR	**Great Sitkin T**	**73.77 35**	P	**P**	**00 17 36.2**	**-2.3**
AKTO	**Aktyubinsk**	**74.06 323**	P	**P**	**00 17 39.9**	**-0.4**
	comp=Z,1.0nm,0.4s,baz=108,slow=9.8,SNR=4.5					
ARU	**Arti**	**76.02 329**	P	**P**	**00 17 50.3**	**-1.1**
ARU			IAmb	IAmb	00 17 52.3	
	comp=Z,5.7nm,1.0s					
BCAR	**Beaver Creek A**	**93.48 27**	P	**P**	**00 19 17.7**	**-2.0**
TORD	**Torodi Ar. Bea**	**119.38 285**	PKP	**PKPdf**	**00 24 53.4**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=66,slow=2.4,SNR=1.6					

*NNC **15** 00:07:17.1±4.5,36°.96N×71°.31E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=35.3km s-min=32.4km az=146.0*
*IDC **15** 00:07:18.3±9.9,36°.66N×71°.55E,h100km±73km,mb3.2/2,*

mb1 3.3/5,mb1mx3.0/46,mbtmp3.7/5,ML3.2/3,Error ellipse: s-maj=97.6km s-min=62.9km az=143.0
ISC 15 00:07:17.6±2.4,**36.7N**±0.2×**71.3E**±0.1,**h100**km,**n9,**
σ1s38/13,2C-4D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.44**	**355**	⇓P	**Pn**	**00 08 50.3**	**+0.5**
	5.3nm,0.4s,baz=178,slow=13,SNR=54						
KK31				⇓S	**Sn**	**00 10 02.1**	**+0.2**
	1.0nm,0.3s,baz=181,slow=25,SNR=3.9						
AAK	**Ala-Archa**	**6.45**	**22**	P	**Pn**	**00 08 49.5**	**-0.5**
	1.3nm,0.3s,baz=212,slow=16,SNR=5.6						
AAK				S	**Sn**	**00 10 02.0**	**-0.2**
	0.7nm,0.3s,baz=151,slow=23,SNR=1.4						
AAK	**Ala-Archa**	**6.45**	**22**	⇑P	**Pn**	**00 08 49.9**	**-0.2**
	2.1nm,0.5s						
AAK				⇓S	**Sn**	**00 10 01.3**	**-1.0**
	3.1nm,0.6s						
TKM2	**Tokmak 2**	**7.07**	**27**	⇓P	**Pn**	**00 08 57.5**	**-1.0**
	2.2nm,0.9s						
TKM2				⇑S	**Sn**	**00 10 19.0**	**+1.6**
	2.7nm,0.8s						
GEYT	**Alibeck**	**10.55**	**281**	S	**Sn**	**00 11 39.8**	**-2.1**
	0.4nm,0.3s,baz=103,slow=25,SNR=2.2						
KURBB	**Kurchatov Arra**	**14.89**	**18**	P	**P**	**00 10 44.6**	**-1.2**
	0.1nm,0.3s,baz=210,slow=10,SNR=8.8						
ZALV	**Zalesovo Beam**	**19.66**	**24**	P	**P**	**00 11 37.6**	**-0.7**
	0.2nm,0.3s,baz=204,slow=10,SNR=4.3						
FINES	**FINESS Array B**	**37.46**	**326**	P	**P**	**00 14 23.2**	**+2.3**
	1.4nm,0.8s,baz=124,slow=11,SNR=1.6						
NOA	**NORSAR Array B**	**44.37**	**323**	P	**P**	**00 15 19.1**	**+1.5**
	0.2nm,0.4s,baz=98,slow=9.6,SNR=1.3						

*NNC **15** 00:12:34.3±3.7,38°.34N×72°.38E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=28.2km s-min=21.2km az=173.0*
ISC 15 00:12:32.9±4.6,**38.1N**±0.3×**72.4E**±0.1,**h10**km,**n9,**
σ0s86/12,4C-2D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.11**	**13**	P	**Pn**	**00 13 37.1**	**+0.9**
	SNR=47						
UCH	**Uchtor**	**4.39**	**21**	P	**Pn**	**00 13 40.7**	**+0.6**
	SNR=10						
KZA	**Kyzart**	**4.50**	**28**	P	**Pn**	**00 13 41.2**	**-0.3**
	SNR=7.2						
EKS2	**Erkin-Say**	**4.64**	**12**	P	**Pn**	**00 13 44.6**	**+1.4**
	SNR=5.5						
AAK	**Ala-Archa**	**4.77**	**19**	⇑Pn	**Pn**	**00 13 45.0**	**-0.1**
	1.4nm,0.3s						
AAK				⇓Sn	**Sn**	**00 14 40.7**	**+0.3**
	4.8nm,0.4s						
ULHL	**Ulahol**	**5.04**	**34**	P	**Pn**	**00 13 48.5**	**-0.3**
	SNR=6.0						
KK31	**Karatay Array**	**5.17**	**344**	⇑Pn	**Pn**	**00 13 50.6**	**+0.2**
	3.4nm,0.3s,baz=158,slow=13,SNR=155						
KK31				⇑Sn	**Sn**	**00 14 48.7**	**-1.5**
	9.7nm,0.3s,baz=168,slow=23,SNR=31						
CHMS	**Chumysh**	**5.17**	**19**	P	**Pn**	**00 13 51.2**	**+0.8**
	SNR=5.7						
TKM2	**Tokmak 2**	**5.36**	**26**	⇓Pn	**Pn**	**00 13 52.5**	**-0.6**
	1.8nm,0.8s						
TKM2				⇑Sn	**Sn**	**00 14 54.9**	**-0.1**
	2.2nm,0.6s						

*TAP **15** 00:38:26.8,24°.80N×122°.02E,h9km,ML3.2,B*
*JMA **15** 00:38:28.1±0.1,24°.77N×121°.98E,h20km,M2.9*
ISC 15 00:38:27.7±0.8,**24.79N**±0.02×**122.02E**±0.02,**h13**km±5km,
n59,σ0s63/90,4C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.10**	**304**	*i* P	**Pg**	**00 38 29.7**	**-0.9**
	baz=303						
EGS				S	**Sg**	**00 38 31.8**	**-1.0**
	baz=303						
NTC	**Toucheng**	**0.19**	**290**	⇑*i* P	**Pg**	**00 38 31.4**	**-0.5**
	baz=287						
NTC				*e*S	**Sg**	**00 38 34.6**	**-0.2**
	baz=287						
TWB1	**Santiao Chiao**	**0.22**	**352**	P	**Pg**	**00 38 31.7**	**-0.8**
	baz=355						
TWB1				S	**Sg**	**00 38 34.5**	**-1.2**
	baz=355						
TWC	**Suao**	**0.24**	**222**	⇑*i* P	**Pg**	**00 38 32.5**	**-0.3**
	baz=216						
TWC				S	**Sg**	**00 38 35.5**	**-0.7**
	baz=216						
ILA	**Ilan**	**0.25**	**265**	*i* P	**Pg**	**00 38 32.6**	**-0.4**
	baz=261						
ILA				S	**Sb**	**00 38 36.9**	**-1.5**
	baz=261						
TIPB	**Shuangxi**	**0.26**	**315**	⇑*i* P	**Pg**	**00 38 32.6**	**-0.5**
	baz=314						
TIPB				*e*S	**Sg**	**00 38 36.0**	**-0.7**
	baz=314						
TWE	**Neicheng**	**0.33**	**258**	*i* P	**Pg**	**00 38 34.0**	**-0.5**
	baz=254						
NWF	**Wu-fen Shan**	**0.36**	**322**	⇑*i* P	**Pg**	**00 38 34.7**	**-0.2**
	baz=321						
NWF				S	**Sg**	**00 38 40.0**	**+0.2**
	baz=321						
WFSB	**Wu-fen Shan**	**0.36**	**322**	P	**Pg**	**00 38 34.7**	**-0.2**
	baz=321						
WFSB				S	**Sg**	**00 38 40.0**	**+0.3**
	baz=321						
ENA	**Nanau**	**0.44**	**216**	P	**Pg**	**00 38 36.2**	**-0.2**
	baz=213						
ENA				*e*S	**Sg**	**00 38 42.1**	**-0.3**
	baz=213						
ENTT	**Nioudou**	**0.44**	**251**	*i* P	**Pg**	**00 38 36.2**	**-0.2**
	baz=248						
ENTT				*e*S	**Sb**	**00 38 44.2**	**+0.3**
	baz=248						
TWA	**Mucha**	**0.44**	**296**	P	**Pg**	**00 38 36.4**	**-0.2**
	baz=294						
TWA				*e*S	**Sg**	**00 38 42.0**	**-0.5**
	baz=294						
NWLT	**Wulai**	**0.47**	**269**	P	**Pg**	**00 38 36.6**	**-0.4**
	baz=267						
NHDH	**Xindian Distri**	**0.48**	**291**	*e*P	**Pg**	**00 38 37.1**	**-0.1**
	baz=290						
NDT	**Datong Townshi**	**0.50**	**248**	P	**Pg**	**00 38 37.3**	**-0.3**
	baz=246						
NDT				*e*S	**Sn**	**00 38 46.6**	**-2.6**
	baz=246						
TATO	**Taipei**	**0.52**	**291**	*e*P	**Pg**	**00 38 37.5**	**-0.4**
	baz=290						
YM08	**YM08**	**0.56**	**315**	*e*P	**Pg**	**00 38 38.5**	**-0.2**
	baz=315						
YM04	**YM04**	**0.57**	**310**	*e*P	**Pg**	**00 38 38.9**	**0.0**
	baz=309						
YM03	**YM03**	**0.59**	**312**	*e*P	**Pg**	**00 38 39.3**	**+0.1**
	baz=311						
YHNB	**Yeheng**	**0.60**	**259**	*e*P	**Pg**	**00 38 38.9**	**-0.6**
	baz=257						
YHNB				*e*S	**Sb**	**00 38 48.2**	**-0.4**
	baz=257						
ANP	**Anpu**	**0.60**	**311**	*e*P	**Pg**	**00 38 39.4**	**-0.2**
	baz=310						
NSK	**Sanguang**	**0.61**	**260**	*i* P	**Pg**	**00 38 39.1**	**-0.6**
	baz=257						
NSK				*e*S	**Sb**	**00 38 48.3**	**-0.7**
	baz=257						
TWY	**Chenhua**	**0.62**	**322**	*e*P	**Pg**	**00 38 39.9**	**+0.1**
	baz=321						
TWS1	**Kuangyinshan**	**0.63**	**300**	*e*P	**Pg**	**00 38 39.7**	**-0.3**
	baz=299						
NTST	**Danshui**	**0.64**	**306**	*e*P	**Pg**	**00 38 40.6**	**+0.4**
	baz=305						
NNSB	**Datong**	**0.69**	**239**	*e*P	**Pg**	**00 38 40.9**	**-0.2**
	baz=237						
NNSB				*e*S	**Sb**	**00 38 50.9**	**-0.2**
	baz=237						
NNSH	**Datong**	**0.69**	**239**	P	**Pg**	**00 38 40.7**	**-0.3**
	baz=237						
NNSH				*e*S	**Sb**	**00 38 50.6**	**-0.4**
	baz=237						
NNS	**Nan Shan**	**0.69**	**240**	P	**Pg**	**00 38 40.8**	**-0.3**
	baz=237						
NNS				*e*S	**Sb**	**00 38 50.5**	**-0.6**
	baz=237						
WLTB	**Daxi**	**0.70**	**275**	*e*P	**Pb**	**00 38 42.2**	**+0.3**
	baz=274						
WLTB				*e*S	**Sb**	**00 38 51.5**	**+0.1**
	baz=274						
NACB	**Ninganchiao**	**0.73**	**213**	P	**Pg**	**00 38 42.0**	**+0.1**
	baz=211						
NACB				S	**Sb**	**00 38 51.5**	**-0.6**
	baz=211						
ETLH	**Xiulin Townshi**	**0.76**	**221**	P	**Pg**	**00 38 42.2**	**-0.3**
	baz=219						
ETLH				*e*S	**Sb**	**00 38 53.4**	**+0.1**
	baz=219						
TWD	**Chiawan**	**0.81**	**209**	P	**Pg**	**00 38 43.1**	**-0.2**
	baz=207						
TWD				*e*S	**Sg**	**00 38 53.8**	**-0.1**
	baz=207						
JYNG	**Yonagunijimaku**	**0.90**	**112**	P	**Pb**	**00 38 45.1**	**-0.2**
JYNG				S	**Sb**	**00 38 57.3**	**0.0**
TWT	**Tachien**	**0.94**	**236**	*e*P	**Pb**	**00 38 46.2**	**+0.2**
	baz=234						
WHF	**Hehuan Shan**	**0.94**	**227**	P	**Pg**	**00 38 45.5**	**-0.5**
	baz=225						
WHF				*e*S	**Sn**	**00 38 59.0**	**-1.7**
	baz=225						
NSTT	**Nanjuang**	**0.94**	**261**	*e*P	**Pb**	**00 38 46.1**	**+0.2**
	baz=259						
NSTT				*e*S	**Sn**	**00 38 59.6**	**-0.5**
	baz=259						
TDCB	**Techi**	**0.95**	**236**	*e*P	**Pb**	**00 38 46.4**	**+0.2**
	baz=235						
YOJ	**Yonaguni jima**	**0.96**	**110**	*e*P	**Pb**	**00 38 45.8**	**-0.3**
	baz=110						
YOJ				*e*S	**Sb**	**00 38 58.9**	**+0.1**
	baz=110						
YOJ	**Yonaguni jima**	**0.96**	**110**	P	**Pb**	**00 38 46.0**	**-0.2**
YOJ				*e*S	**Sb**	**00 38 58.8**	**+0.1**
CHGB	**Renai**	**1.06**	**227**	P	**Pg**	**00 38 47.5**	**-0.7**
	baz=226						
CHGB				*e*S	**Sn**	**00 39 02.7**	**-0.7**
	baz=226						
WHP	**Taichung City**	**1.10**	**243**	*e*P	**Pn**	**00 38 49.2**	**+0.1**
	baz=241						
ESL	**Shilin**	**1.11**	**209**	P	**Pb**	**00 38 48.6**	**-0.2**
	baz=208						
NSY	**Sanyi**	**1.21**	**252**	*e*P	**Pg**	**00 38 51.6**	**+0.6**
	baz=251						
TWQ1	**Liyutan**	**1.22**	**249**	*e*P	**Pg**	**00 38 51.5**	**+0.3**
	baz=248						
DPDB	**Guoxing**	**1.25**	**233**	*e*P	**Pb**	**00 38 51.2**	**-0.1**
	baz=232						
VWDT	**VWDT**	**1.31**	**218**	P	**Pb**	**00 38 52.4**	**+0.2**
	baz=217						
VWDT				*e*S	**Sg**	**00 39 09.2**	**-0.7**
	baz=217						
SMLT	**Sun Moon Lake**	**1.36**	**229**	P	**Pb**	**00 38 53.4**	**+0.1**
	baz=227						
TYC	**Yuchr**	**1.38**	**231**	*e*P	**Pb**	**00 38 53.5**	**+0.1**
	baz=229						
SSLB	**Suanglung**	**1.40**	**225**	*e*P	**Pn**	**00 38 52.7**	**-0.3**
	baz=223						
SSLB				*e*S	**Sg**	**00 39 11.4**	**-1.3**
	baz=223						
HGSD	**Ruisui**	**1.40**	**203**	*e*P	**Pb**	**00 38 54.7**	**+0.9**
	baz=202						
EHY	**Hungye**	**1.43**	**207**	*e*P	**Pn**	**00 38 53.4**	**-0.1**
	baz=205						
YULB	**Yu-li**	**1.54**	**206**	*e*P	**Pn**	**00 38 56.0**	**+1.0**
	baz=205						
TWF1	**Yuli**	**1.58**	**205**	*e*P	**Pn**	**00 38 55.7**	**+0.2**
	baz=204						
IRIF	**Iriomote-Funau**	**1.62**	**106**	P	**Pn**	**00 38 56.4**	**+0.4**
IRIF				*e*S	**Sn**	**00 39 17.7**	**+0.9**
JIJ	**Ishigaki jima**	**1.98**	**102**	P	**Pn**	**00 39 01.6**	**+0.7**
JIJ				*e*S	**Sn**	**00 39 26.0**	**+0.4**
TWGBT	**Beinan**	**2.14**	**204**	*e*P	**Pn**	**00 39 04.2**	**+0.9**
	baz=203						
MATB	**Ma-tsu**	**2.32**	**306**	*e*P	**Pn**	**00 39 06.2**	**+0.5**
	baz=305						
MASBT	**Mashibuluo**	**2.51**	**211**	*e*P	**Pn**	**00 39 09.9**	**+1.6**
	baz=210						
PNG	**Penghu**	**2.56**	**242**	*e*P	**Pn**	**00 39 09.4**	**+0.5**
	baz=241						

*TEH **15** 00:46:48.4,38°.57N×44°.91E,h10km,ML2.7*
*DDA **15** 00:46:49.5,38°.53N×45°.02E,h5km±5km,ML2.0*
*ISK **15** 00:46:49.5,38°.60N×44°.88E,h2km,ML2.3/7*
ISC 15 00:46:49.3±1.1,**38.50N**±0.03×**44.94E**±0.02,**h11**km±13km,
n22,σ1s11/29,Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMRD	**Marand**	**0.64**	**70**	*e*Pg	**Pg**	**00 47 01.3**	**-0.4**
IMRD				*e*Sg	**Sg**	**00 47 09.9**	**-0.3**
IMRD				*e*		00 47 13.0	
ITBZ	**Tabriz**	**0.99**	**105**	*e*Sg	**Sb**	**00 47 22.6**	**+0.9**
ITBZ				*e*Pg	**Pg**	**00 47 07.7**	**-0.7**
ITBZ				*e*		00 47 23.5	
CLDR	**Caldiran**	**1.02**	**309**	PG	**Pg**	**00 47 08.1**	**-1.0**
CLDR				SG	**Sb**	**00 47 21.9**	**-0.9**
CLDR	**Caldiran**	**1.02**	**309**	*i* P	**Pg**	**00 47 07.9**	**-1.2**
YOVA	**Hakkari_Yksek**	**1.04**	**209**	*i* P	**Pg**	**00 47 08.4**	**-1.1**
IAZR	**Azarshahr**	**1.16**	**135**	*e*Pg	**Pb**	**00 47 11.6**	**0.0**
IAZR				*e*		00 47 18.8	
VMUR	**Van-Muradiye**	**1.17**	**295**	*i* P	**Pb**	**00 47 11.1**	**-0.7**
VMUR				IAML		00 47 37.0	
	comp=N,31nm,0.3s						
TVAN	**Van**	**1.20**	**272**	*i* P	**Pn**	**00 47 13.3**	**+1.0**
VANB	**Van**	**1.22**	**275**	PN	**Pg**	**00 47 12.8**	**+0.1**
HAKT	**HAKKARI**	**1.35**	**226**	*i* P	**Pg**	**00 47 15.1**	**-0.2**
HAKT				*i* S	**Sg**	**00 47 33.4**	**+0.5**
DYDN	**Diyadin**	**1.43**	**317**	*i* P	**Pg**	**00 47 17.9**	**+1.2**
DYDN				*i* S	**Sg**	**00 47 39.2**	**+3.9**
DYDN				IAML		00 47 45.0	
	comp=N,49nm,0.7s						
IGDI	**IGDIR**	**1.52**	**334**	*i* P	**Pn**	**00 47 16.6**	**0.0**
IGDI				*i* S	**Sb**	**00 47 36.7**	**-0.3**
AKDM	**Akdamar-Van**	**1.55**	**264**	PN	**Pg**	**00 47 18.4**	**-0.6**
AKDM				SN	**Sg**	**00 47 39.6**	**+0.5**
TASB	**TASBURUN-IGDIR**	**1.58**	**340**	PN	**Pg**	**00 47 17.9**	**-0.7**
CUKT	**Cukurca**	**1.63**	**220**	PN	**Pg**	**00 47 20.6**	**-0.1**
CUKT	**Cukurca**	**1.63**	**220**	*i* P	**Pg**	**00 47 20.9**	**+0.2**
CUKT				IAML		00 47 49.0	
	comp=E,17nm,0.6s						
CUKT				IAML		00 47 55.0	
	comp=N,18nm,0.7s						
**AHA

EBER	**Berja**	**3.65**	**277**	P	**Pn**	**00 50 28.3**	**+0.2**
	0.5nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**00 51 08.3**	**-2.8**
	0.8nm,0.4s,SNR=7.9						
ECHE	**Chera**	**3.66**	**327**	P	**Pn**	**00 50 29.3**	**+1.2**
	0.1nm,0.1s,SNR=7.9						
ECHE				S	**Sn**	**00 51 09.2**	**-1.9**
	0.2nm,0.0s,SNR=7.9						
SESP	**Santiago Espad**	**3.68**	**296**	P	**Pn**	**00 50 29.2**	**+0.7**
	0.8nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**00 51 12.4**	**+0.6**
	2.2nm,0.2s,SNR=7.9						
EQES	**Quesada**	**3.96**	**290**	P	**Pn**	**00 50 33.9**	**+1.7**
	0.3nm,0.1s,SNR=7.9						
EQES				S	**Sn**	**00 51 17.3**	**-1.2**
	1.6nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**4.14**	**337**	P	**Pn**	**00 50 36.5**	**+1.6**
	1.5nm,0.1s,SNR=18						
EMOS				S	**Sn**	**00 51 21.6**	**-1.7**
	0.3nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**4.81**	**355**	P	**Pn**	**00 50 44.3**	**+0.4**
	0.5nm,0.2s,SNR=7.9						
EPOB				S	**Sn**	**00 51 37.1**	**-2.3**
	0.7nm,0.4s,SNR=7.9						

IDC ***15*** *01:28:17.5±2.6,9.°40N×127.°14E,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.5/39,mbtmp3.8/4,MS3.0/1,Ms1 3.0/1, ms1mx2.4/26,Error ellipse: s-maj=246.6km s-min=25.3km az=68.0*

MAN ***15*** *01:28:21.3,9.°25N×126.°85E,h8km,MS4.4*

ISC 15 01:28:23.4±1.3,9.°39N±0.°09×127.°0E±0.°1,h41km,n10, σ2§93/12,mb3.7/4,1C-2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BIPH	**Bislig**	**1.37**	**209**	*eP*	Pn	01 28 41.3	-4.7
BIPH				*eS*	**Sn**	**01 28 57.4**	**-5.6**
BUKP	**Musuan**	**2.46**	**232**	*eP*	**Pn**	**01 29 00.1**	**-0.9**
BUKP				*eS*	**Sn**	**01 29 30.4**	**+0.4**
CGP	**Cagayan de Oro**	**2.49**	**246**	*eP*	**Pn**	**01 29 01.3**	**-0.1**
CGP				*eS*	**Sn**	**01 29 29.3**	**-1.3**
DAV	**Davao City (W)**	**2.72**	**212**	Lg	Lg	01 29 44.3	
	55nm,0.3s,baz=75,slow=16,SNR=2.1						
DAV				LR	LR	01 30 12.3	
	comp=Z,256nm,19.9s,baz=359,slow=41						
KCP	**Kidapawan**	**3.05**	**219**	*eP*	Pn	01 29 14.5	+5.3
KCP				*i* S	**Sn**	**01 29 49.3**	**+4.8**
DDMP	**Don Marcelino,**	**3.52**	**202**	*eP*	**Pn**	**01 29 14.8**	**-0.9**
DDMP				*eS*	**Sn**	**01 30 00.3**	**+4.3**
WRA	**Warramunga Arr**	**30.02**	**166**	P	**P**	**01 34 27.6**	**-1.0**
	0.5nm,0.5s,baz=348,slow=9.6,SNR=1.9						
ASAR	**Alice Springs**	**33.53**	**169**	P	**P**	**01 34 59.5**	**0.0**
	0.2nm,0.3s,baz=347,slow=6.6,SNR=4.4						
MKAR	**Makanchi Array**	**53.18**	**323**	P	**P**	**01 37 37.8**	**+0.3**
	0.6nm,0.6s,baz=126,slow=7.9,SNR=7.3						
FINES	**FINESS Array B**	**87.02**	**332**	P	**P**	**01 41 04.9**	**+0.6**
	1.4nm,0.9s,baz=90,slow=5.6,SNR=5.1						

IDC ***15*** *01:30:51.1±7.3,27.°66N×53.°23E,h0km,mb3.4/3, mb1 3.6/3,mb1mx3.2/33,mbtmp3.5/3,Error ellipse: s-maj=143.6km s-min=55.9km az=114.0*

TEH ***15*** *01:30:54.9,27.°46N×53.°03E,h20km,ML3.1*

ISC 15 01:30:55.1±1.1,27.°47N±0.°09×52.°96E±0.°08,h20km,n14, σ1§54/14,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LMD1	**Lamerd**	**0.22**	**125**	*ePg*	**Pb**	**01 30 59.4**	**-1.2**
JHRM	**Jahrom**	**1.17**	**28**	*ePg*	**Pn**	**01 31 16.7**	**+0.3**
JHRM				*e*		01 31 41.8	
LAR1	**LAR**	**1.27**	**81**	*ePg*	**Pb**	**01 31 18.4**	**0.0**
LAR1				*e*		01 31 44.9	
SHI	**Shiraz**	**2.20**	**350**	*ePn*	**Pb**	**01 31 32.8**	**-1.5**
SHI				*e*		01 32 14.8	
KLNJ	**Kolanjah**	**3.73**	**342**	*ePn*	**Pn**	**01 31 54.4**	**+2.6**
NGRK	**Negar Kerman**	**3.96**	**56**	*ePn*	**Pn**	**01 31 55.8**	**+0.7**
IMEH	**Mehriz**	**4.17**	**20**	*ePn*	**Pn**	**01 31 59.7**	**+2.0**
TVBK	**TV Kerman**	**4.17**	**52**	*ePn*	**Pn**	**01 31 59.8**	**+1.8**
KHGB	**Koh Gabri**	**4.23**	**46**	*ePn*	**Pn**	**01 31 59.7**	**+1.1**
ISAD	**Sadrabad**	**4.47**	**8**	*ePn*	**Pn**	**01 32 03.3**	**+1.3**
IBAF	**Bafgh**	**4.69**	**28**	*ePn*	**Pn**	**01 32 05.9**	**+1.0**
BRTR	**Keskin Array B**	**20.16**	**312**	P	**P**	**01 35 27.7**	**-0.6**
	0.9nm,0.7s,baz=112,slow=11,SNR=2.3						
FINES	**FINESS Array B**	**38.45**	**340**	P	**P**	**01 38 13.5**	**-1.7**
	3.6nm,1.1s,baz=136,slow=10.0,SNR=3.5						
TORD	**Torodi Ar. Bea**	**49.81**	**264**	P	**P**	**01 39 47.9**	**+1.0**
	0.5nm,0.9s,baz=54,slow=7.3,SNR=2.2						

IDC ***15*** *02:09:59.0±1.2,21.°67N×121.°29E,h0km,mb3.7/7, mb1 3.8/8,mb1mx3.5/45,mbtmp3.7/8,ML3.5/1,MS3.1/7, Ms1 3.1/7,ms1mx2.7/48,Error ellipse: s-maj=74.4km s-min=20.4km az=66.0*

JMA ***15*** *02:10:00.6±0.2,21.°99N×121.°55E,h11km,M3.8*

NEIC ***15*** *02:10:00.6±2.0,21.°97N±0.°07×121.°6E±0.°1,h10km±1km, mb4.1/9,ML4.6(TAP),Error ellipse: s-maj=20.0km s-min=9.3km az=61.0*

TAP ***15*** *02:10:01.1,21.°95N×121.°37E,h9km,ML3.7,D*

ISC 15 02:10:02.1±0.9,22.°00N±0.°04×121.°48E±0.°03,h18km±4km, n99,σ1§27/109,mb3.6/9,MS3.1/6,1C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LAY	**Lan-yu**	**0.08**	**59**	*iP*	**Pg**	**02 10 06.2**	**+0.6**
	baz=62						
LAY				S	**Sg**	**02 10 09.5**	**+1.6**
	baz=62						
TSEB	**Hengchuen, Pin**	**0.55**	**260**	P	**Pg**	**02 10 12.6**	**-0.4**
	baz=263						
TSEB				*eS*	**Sb**	**02 10 21.5**	**+0.9**
	baz=263						
TWKBT	**Hengchun**	**0.62**	**265**	*i* P	**Pg**	**02 10 13.3**	**-1.1**
	baz=267						
TWKBT				*eS*	**Sg**	**02 10 20.9**	**-1.8**
	baz=267						
TWK1	**Hengchun**	**0.63**	**265**	*eP*	**Pg**	**02 10 13.2**	**-1.3**
	baz=267						
TWK1				*eS*	**Sg**	**02 10 21.9**	**-1.0**
	baz=267						
TAW	**Tawu**	**0.65**	**304**	*i* P	**Pg**	**02 10 14.0**	**-0.9**
	baz=315						
TAW				*eS*	**Sg**	**02 10 23.1**	**-0.5**
	baz=315						
HEN	**Hengchun**	**0.69**	**271**	P	**Pg**	**02 10 14.4**	**-1.2**
	baz=275						
HEN				*eS*	**Sg**	**02 10 24.1**	**-0.7**
	baz=275						
ECL	**Taimali**	**0.77**	**321**	*eP*	**Pg**	**02 10 16.1**	**-1.0**
	baz=332						
ECL				*eS*	**Sg**	**02 10 26.5**	**-0.9**
	baz=332						
SCZT	**Fangliau**	**0.88**	**295**	P	**Pg**	**02 10 17.9**	**-1.3**
	baz=316						
TWGBT	**Beinan**	**0.89**	**336**	P	**Pg**	**02 10 18.1**	**-1.4**
	baz=327						
TWG	**Pinlang**	**0.90**	**335**	*eP*	**Pg**	**02 10 18.4**	**-1.2**
	baz=327						
TWG				*eS*	**Sb**	**02 10 32.0**	**+1.1**
	baz=327						
TWG	**Pinlang**	**0.90**	**335**		**Pg**	**02 10 18.3**	**-1.3**
SSPT	**Xinbi**	**0.97**	**300**	*eP*	**Pg**	**02 10 20.3**	**-0.7**
	baz=319						
SSPT				*eS*	**Sg**	**02 10 32.1**	**-1.7**
	baz=319						
MASBT	**Mashibuluo**	**0.99**	**308**	P	**Pg**	**02 10 19.5**	**-1.8**
	baz=328						
MASBT				*eS*	**Sg**	**02 10 31.9**	**-2.5**
	baz=328						
WLCH	**Liuqiu**	**1.08**	**289**	*eP*	**Pn**	**02 10 23.5**	**+1.2**
	baz=314						
SSD	**Sandimen**	**1.08**	**314**	*eP*	**Pn**	**02 10 22.8**	**+0.4**
	baz=333						
SSD				*eS*	**Sb**	**02 10 34.9**	**-1.2**
	baz=333						
SGLT	**Jiouru**	**1.17**	**309**	*eP*	**Pn**	**02 10 23.7**	**+0.2**
	baz=332						
SLGT	**Liugui**	**1.25**	**322**	*eP*	**Pb**	**02 10 25.6**	**+0.3**
	baz=338						
SLGT				*eS*	**Sb**	**02 10 42.1**	**+1.1**
	baz=338						
ELDTW	**Lidau**	**1.26**	**340**	*eP*	**Pb**	**02 10 25.5**	**+0.1**
	baz=349						
ELDTW				*eS*	**Sb**	**02 10 41.2**	**-0.1**
	baz=349						
TWM1	**Shoushan**	**1.28**	**310**	*eP*	**Pg**	**02 10 26.8**	**+0.1**
	baz=333						
TWM1				*eS*	**Sn**	**02 10 43.7**	**+2.0**
	baz=333						
TWF1	**Yuli**	**1.36**	**353**	*eP*	**Pb**	**02 10 26.6**	**-0.4**
	baz=11						
SGST	**Jiashian**	**1.36**	**323**	*eP*	**Pb**	**02 10 27.0**	**-0.1**
	baz=331						
YULB	**Yu-li**	**1.40**	**353**	P	**Pn**	**02 10 27.0**	**+0.3**
	baz=347						
YULB				*eS*	**Sb**	**02 10 46.3**	**+1.1**
	baz=347						
YULB	**Yu-li**	**1.40**	**353**		**Pn**	**02 10 26.2**	**-0.5**
CHN1	**Nanshi**	**1.47**	**324**	P	**Pb**	**02 10 29.3**	**+0.4**
	baz=334						
WTP	**Ta-pu**	**1.48**	**327**	P	**Pb**	**02 10 29.2**	**+0.2**
	baz=348						
HGSD	**Ruisui**	**1.49**	**358**	*eP*	**Pb**	**02 10 28.8**	**-0.4**
	baz=15						
EHY	**Hungye**	**1.51**	**355**	*eP*	**Pb**	**02 10 28.9**	**-0.6**
	baz=11						
TPUB	**Ta-pu**	**1.51**	**329**	P	**Pb**	**02 10 29.7**	**+0.1**
	baz=348						
TPUB	**Ta-pu**	**1.51**	**329**		**Pb**	**02 10 29.8**	**+0.1**
SNST	**Tainan City**	**1.52**	**323**	*eP*	**Pb**	**02 10 30.4**	**+0.7**
	baz=333						
TWK	**Hsinying**	**1.56**	**324**	P	**Pb**	**02 10 30.6**	**+0.2**
	baz=335						
ALS	**Alishan**	**1.63**	**338**	*eP*	**Pb**	**02 10 31.8**	**0.0**
	baz=357						
CHN5	**Tsauling**	**1.75**	**335**	*eP*	**Pb**	**02 10 34.2**	**+0.4**
	baz=343						
CHN5				*eS*	**Sg**	**02 10 58.2**	**-0.5**
	baz=343						
VWDT	**VWDT**	**1.77**	**350**	*eP*	**Pb**	**02 10 33.6**	**-0.5**
	baz=357						
CHY	**Chiayi**	**1.78**	**327**	*eP*	**Pn**	**02 10 32.7**	**+0.7**
	baz=337						
WHYT	**Xinyi Township**	**1.79**	**341**	P	**Pb**	**02 10 34.0**	**-0.3**
	baz=348						
WHYT				*eS*	**Sb**	**02 10 58.2**	**+1.9**
	baz=348						
SSLB	**Suanglung**	**1.84**	**345**	*eP*	**Pb**	**02 10 34.3**	**-1.0**
	baz=354						
SSLB	**Suanglung**	**1.84**	**345**		**Pn**	**02 10 33.5**	**+0.6**
WDLH	**Douliu**	**1.89**	**333**	*eP*	**Pb**	**02 10 35.5**	**-0.6**
	baz=343						
SMLT	**Sun Moon Lake**	**1.95**	**344**	*eP*	**Pb**	**02 10 37.1**	**-0.1**
	baz=4.0						
WNT	**Mingjian**	**2.01**	**339**	*eP*	**Pn**	**02 10 36.0**	**+0.9**
	baz=348						
CHGB	**Renai**	**2.07**	**352**	*eP*	**Pb**	**02 10 37.7**	**-1.6**
	baz=13						
DPDB	**Guoxing**	**2.09**	**346**	*eP*	**Pb**	**02 10 37.9**	**-1.6**
	baz=354						
WHF	**Hehuan Shan**	**2.15**	**355**	*eP*	**Pb**	**02 10 39.1**	**-1.6**
	baz=3.0						
WHF				*eS*	**Sn**	**02 11 05.2**	**+1.4**
	baz=3.0						
NACB	**Ninganchiao**	**2.17**	**3**	*eP*	**Pn**	**02 10 36.6**	**-0.7**
	baz=21						
NACB	**Ninganchiao**	**2.17**	**3**		**Pn**	**02 10 36.7**	**-0.6**
ETLH	**Xiulin Townshi**	**2.20**	**0**	*eP*	**Pb**	**02 10 39.7**	**-1.7**
	baz=2.0						
PHUB	**P'eng-hu**	**2.32**	**311**	*eS*	**Sn**	**02 11 06.3**	**-1.1**
	baz=320						
WHP	**Taichung City**	**2.32**	**348**	*eP*	**Pb**	**02 10 42.5**	**-0.9**
	baz=356						
WHP				*eS*	**Sb**	**02 11 13.8**	**+1.9**
	baz=356						
PNG	**Penghu**	**2.36**	**312**	*eP*	**Pn**	**02 10 39.7**	**-0.3**
	baz=320						
PNG				*eS*	**Sn**	**02 11 07.8**	**-0.8**
	baz=320						
NNSH	**Datong**	**2.42**	**358**	*eP*	**Pb**	**02 10 43.9**	**-1.2**
	baz=13						
TWQ1	**Liyutan**	**2.43**	**345**	*eP*	**Pn**	**02 10 42.4**	**+1.5**
	baz=353						
NDT	**Datong Townshi**	**2.59**	**1**	*eP*	**Pb**	**02 10 45.5**	**-2.5**
	baz=8.0						
ENTT	**Nioudou**	**2.63**	**2**	*eP*	**Pb**	**02 10 46.4**	**-2.3**
	baz=9.0						
NSTT	**Nanjuang**	**2.66**	**351**	*eP*	**Pb**	**02 10 47.7**	**-1.5**
	baz=343						
YHNB	**Yeheng**	**2.66**	**358**	*eP*	**Pb**	**02 10 47.3**	**-2.0**
	baz=17						
YHNB	**Yeheng**	**2.66**	**358**		**Pb**	**02 10 46.7**	**-2.6**
NSK	**Sanguang**	**2.67**	**358**	*eP*	**Pn**	**02 10 46.5**	**+2.3**
	baz=16						
NWLT	**Wulai**	**2.77**	**0**	*eP*	**Pn**	**02 10 48.1**	**+2.5**
	baz=8.0						
JYNG	**Yonagunijimaku**	**2.79**	**29**	S	**Sn**	**02 11 20.4**	**+1.4**
YOJ	**Yonaguni jima**	**2.83**	**30**	P	**Pn**	**02 10 48.0**	**+1.6**
HATJ	**Hateruma jima**	**2.96**	**46**	P	**Pn**	**02 10 48.7**	**+0.5**
HATJ				*eS*	**Sn**	**02 11 22.7**	**-0.7**
IRIF	**Iriomote-Funau**	**3.11**	**41**	P	**Pn**	**02 10 50.6**	**+0.3**
IRIF				*eS*	**Sn**	**02 11 26.3**	**-0.8**
JKRS	**Kuro-shima**	**3.22**	**46**	P	**Pn**	**02 10 52.3**	**+0.5**
JKRS				*eS*	**Sn**	**02 11 29.5**	**-0.3**
JIJ	**Ishigaki jima**	**3.40**	**46**	P	**Pn**	**02 10 54.5**	**+0.3**
JIJ				S	**Sn**	**02 11 32.8**	**-1.3**
JISG	**Ishigakijimahi**	**3.66**	**45**	P	**Pn**	**02 10 58.1**	**+0.3**
JISG				*eS*	**Sn**	**02 11 39.5**	**-1.1**
JIRB	**Irabujima**	**4.41**	**50**	*eS*	**Sn**	**02 11 58.4**	**-0.6**
JMJ2	**Miyako jima3**	**4.47**	**52**	*eS*	**Sn**	**02 12 00.4**	**-0.1**
JNU	**Nakatsue**	**13.86**	**35**	LR	LR	02 19 19.4	
	comp=Z,30nm,18.2s,baz=174,slow=39						
XAN	**Xi'an**	**16.32**	**320**	Pn	**Pn**	**02 13 50.6**	**+0.3**
XAN				IAmb	IAmb	02 14 18.1	
	comp=Z,25nm,1.8s						
KSRS	**Korea Array**	**16.38**	**18**	Pn	**P**	**02 13 55.6**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=192,slow=11,SNR=2.7						
MAJO	**Matsushiro**	**20.52**	**41**	P	**P**	**02 14 36.9**	**-2.6**
MAJO				IAmb	IAmb	02 15 07.5	
	comp=Z,31nm,1.9s						
MJB9	**Matsu-Tunnel**	**20.52**	**41**	P	**P**	**02 14 37.1**	**-2.3**
CMAR	**Chiang Mai Arr**	**21.43**	**265**	LR	LR	02 24 20.1	
	comp=Z,38nm,18.2s,baz=172,slow=41						
ASAJ	**Asahikawa**	**28.13**	**33**	LR	LR	02 26 45.5	
	comp=Z,17nm,18.2s,baz=56,slow=35						
SONM	**Songino Array**	**28.48**	**338**	LR	LR	02 28 08.3	
	comp=Z,32nm,19.1s,baz=222,slow=38						
MK31	**Makanchi Array**	**40.11**	**318**	P	**P**	**02 17 38.4**	**+1.7**
MK31				IAmb	IAmb	02 17 48.7	
	comp=Z,7.0nm,2.0s						
MKAR	**Makanchi Array**	**40.11**	**318**	P	**P**	**02 17 37.7**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=106,slow=9.0,SNR=3.7						
ZAA0	**Zalesovo Array**	**42.23**	**328**	P	**P**	**02 17 54.0**	**0.0**
ZALV	**Zalesovo Beam**	**42.23**	**328**	P	**P**	**02 17 54.3**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=113,slow=8.8,SNR=4.9						
H11N1	**WAKE ISLAND Hy**	**42.38**	**84**	T	T	03 03 08.3	
	baz=282,slow=75,SNR=20						
H11N2	**WAKE ISLAND Hy**	**42.38**	**84**	T	T	03 03 07.8	
	baz=282,slow=75,SNR=24						
H11N3	**WAKE ISLAND Hy**	**42.40**	**84**	T	T	03 03 14.9	
	baz=282,slow=75,SNR=23						
H11S3	**WAKE ISLAND Hy**	**42.45**	**86**	T	T	03 03 12.4	
	baz=282,slow=75,SNR=59						
H11S1	**WAKE ISLAND Hy**	**42.45**	**86**	T	T	03 03 05.0	
	baz=282,slow=75,SNR=65						
H11S2	**WAKE ISLAND Hy**	**42.46**	**86**	T	T	03 03 05.6	
	baz=282,slow=75,SNR=52						
WRA	**Warramunga Arr**	**43.54**	**162**	P	**P**	**02 18 01.7**	**-3.2**
	comp=Z,0.8nm,0.7s,baz=343,slow=8.5,SNR=2.6						
WRA	**Warramunga Arr**	**43.54**	**162**	P	**P**	**02 18 04.2**	**-0.8**
NIL	**Nilore**	**43.85**	**296**	P	**P**	**02 18 09.8**	**+2.3**
KURK	**Kurchatov**	**43.95**	**321**	P	**P**	**02 18 09.1**	**+1.2**
KURK	**Kurchatov**	**43.95**	**321**	IAmb	IAmb	02 18 21.9	
	comp=Z,4.8nm,1.5s						
KURBB	**Kurchatov Arra**	**43.96**	**321**	P	**P**	**02 18 09.1**	**+1.1**
	comp=Z,0.6nm,0.6s,baz=114,slow=8.2,SNR=6.8						
ASAR	**Alice Springs**	**46.97**	**164**	P	**P**	**02 18 30.2**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=347,slow=7.0,SNR=6.0						
FINES	**FINESS Array B**	**73.46**	**330**	P	**P**	**02 21 33.6**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=58,slow=7.0,SNR=1.1						
AKASG	**Malin Array Be**	**74.68**	**319**	P	**P**	**02 21 42.0**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=64,slow=6.3,SNR=1.6						
AKASG	**Malin Array Be**	**74.68**	**319**	IAmb	IAmb	02 21 43.4	
	comp=Z,0.6nm,0.7s						
MMAI	**Mount Meron Ar**	**75.21**	**300**	LR	LR	03 00 14.7	
	comp=Z,26nm,19.1s,baz=150,slow=40						
NOA	**NORSAR Array B**	**80.28**	**332**	LR	LR	03 01 41.7	
	comp=Z,11nm,18.5s,baz=60,slow=38						
VRAC	**Vranov**	**82.79**	**320**	LR	LR	03 03 27.4	
	comp=Z,14nm,18.4s,baz=54,slow=39						

IDC ***15*** *02:21:13.2±0.9,54.°48S×55.°54W,h0km,mb4.0/7, mb1 4.1/9,mb1mx3.9/21,mbtmp4.1/9,ML4.0/2,MS3.4/9, Ms1 3.4/9,ms1mx3.2/23,Error ellipse: s-maj=29.8km s-min=19.7km az=64.0*

NEIC ***15*** *02:21:14.6±2.7,54.°52S±0.°10×55.°7W±0.°2,h14km±3km, mb4.4/12,Error ellipse: s-maj=14.7km s-min=11.4km az=214.0*

ISC 15 02:21:14.4±0.6,54.°41S±0.°09×55.°62W±0.°07,h10km,n33, σ1§23/23,mb4.0/8,MS3.4/7,Falkland Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EFI	**East Falkland**	**3.11**	**331**	Pn	**Pb**	**02 22 07.9**	**-1.9**
MG01	**Puerto William**	**6.99**	**261**	Pn	**Pn**	**02 22 57.1**	**+0.4**
USHA	**Ushuaia**	**7.46**	**262**	Pn	**Pn**	**02 23 01.5**	**-1.6**
	5.4nm,0.3s,baz=47,slow=7.5,SNR=56						
USHA				Sn	**Sn**	**02 24 28.1**	**+0.5**
	4.5nm,0.3s,baz=315,slow=20,SNR=2.9						
GO10	**Punta Arenas**	**9.23**	**272**		**Pn**	**02 23 25.6**	**-1.9**
HOPE	**Hope Point**	**11.16**	**97**	Pn	**Pn**	**02 23 52.8**	**-1.0**
PMSA	**Palmer Station**	**11.22**	**199**	LR	LR	02 27 16.9	
	comp=Z,184nm,18.1s,baz=36,slow=33						
PLCA	**Paso Flores**	**16.94**	**318**	P	**Pn**	**02 25 13.1**	**+1.6**
	0.1nm,0.3s,baz=144,slow=13,SNR=2.3						
PLCA				LR	LR	02 31 13.9	
	comp=Z,102nm,18.4s,baz=146,slow=35						
PLCA	**Paso Flores**	**16.94**	**318**	IAmb	IAmb	02 25 23.0	
	comp=Z,7.0nm,1.1s						
VA03	**San Esteban**	**24.09**	**328**	P	**P**	**02 26 29.7**	**-0.3**
CFA	**Coronel Fontan**	**24.52**	**333**	P	**P**	**02 26 35.0**	**+1.1**
	comp=Z,1.0nm,0.3s,baz=131,slow=15,SNR=2.4						
CFA				LR	LR	02 38 15.4	
	comp=Z,129nm,19.1s,baz=204,slow=42						
CO02	**Combarbal**	**25.68**	**328**	P	**P**	**02 26 44.8**	**+0.3**
CO01	**Juntas del Tor**	**26.56**	**331**	P	**P**	**02 26 51.2**	**-1.4**
SNAA	**Sanae**	**28.17**	**148**	P	**P**	**02 27 06.5**	**0.0**
	comp=Z,0.8nm,0.8s,baz=264,slow=9.2,SNR=2.0						
SNAA				LR	LR	02 36 17.9	
	comp=Z,34nm,19.1s,baz=247,slow=32						
SNAA	**Sanae**	**28.17**	**148**	IAmb	IAmb	02 27 58.6	
	comp=Z,15nm,1.8s						
LVC	**Limon Verde**	**33.30**	**337**	LR	LR	02 44 25.8	
	comp=Z,53nm,19.4s,baz=221,slow=42						
QSPA	**South Pole Qui**	**35.84**	**180**	P	**P**	**02 28 14.5**	**+0.6**
	comp=Z,3.6nm,1.3s,baz=166,slow=4.3,SNR=2.2						
QSPA	**South Pole Qui**	**35.84**	**180**	IAmb	IAmb	02 28 18.7	
	comp=Z,16nm,1.6s						
SIV	**San Ignacio**	**38.57**	**352**	P	**P**	**02 28 38.9**	**+1.5**
	comp=Z,1.3nm,0.5s,baz=205,slow=7.4,SNR=12						
SIV				LR	LR	02 46 28.2	
	comp=Z,53nm,18.3s,baz=273,slow=39						
BDFB	**Brasilia**	**39.14**	**12**	P	**P**	**02 28 42.9**	**+0.7**
	comp=Z,2.4nm,0.5s,baz=142,slow=5.7,SNR=3.7						
BDFB				LR	LR	02 46 17.2	
	comp=Z,49nm,19.0s,baz=144,slow=38						
NNA	**Nana**	**45.53**	**330**	LR	LR	02 48 35.3	
	comp=Z,50nm,21.4s,baz=168,slow=36						
SAML	**Samuel**	**45.74**	**350**	P	**P**	**02 29 37.9**	**+2.1**
SAML				IAmb	IAmb	02 29 39.4	
	comp=Z,9.8nm,1.6s						
H10N3	**ASCENSION HYDR**	**56.89**	**51**	T	T	03 32 42.6	
	baz=207,slow=76,SNR=52						
H10N1	**ASCENSION HYDR**	**56.89**	**51**	T	T	03 32 43.0	
	baz=207,slow=76,SNR=71						
H10N2	**ASCENSION HYDR**	**56.91**	**51**	T	T	03 32 44.0	
	baz=207,slow=76,SNR=57						
BOSA	**Boshof**	**62.09**	**101**	P	**P**	**02 31 34.4**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=238,slow=7.1,SNR=5.1						
TSUM	**Tsumeb**	**64.85**	**88**	P	**P**	**02 31 53.2**	**-0.5**
LBTB	**Lobatse**	**65.03**	**98**	P	**P**	**02 31 54.8**	**0.0**
TORD	**Torodi Ar. Bea**	**82.87**	**56**	P	**P**	**02 33 38.3**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=206,slow=4.1,SNR=6.2						
TORD	**Torodi Ar. Bea**	**82.87**	**56**	IAmb	IAmb	02 33 46.7	
	comp=Z,1.3nm,0.8s						
TXAR	**Lajitas Array**	**93.11**	**319**	LR	LR	03 12 53.5	
	comp=Z,32nm,18.2s,baz=0.0,slow=33						
MKAR	**Makanchi Array**	**152.57**	**89**	PKPbc	**PKPbc**	**02 41 10.1**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=226,slow=2.5,SNR=6.6						
MKAR	**Makanchi Array**	**152.57**	**89**		**PKPbc**	**02 41 10.2**	**+0.1**
ZALV	**Zalesovo Beam**	**157.04**	**75**	PKPab	**PKPab**	**02 41 41.5**	**+1.9**
	comp=Z,0.7nm,0.5s,baz=304,slow=3.3,SNR=3.6						

SJA ***15*** *02:31:50.9±0.8,32.°64S×71.°65W,h14km±6km,ML3.8, MW4.0*

NEIC ***15*** *02:31:54.1±1.9,32.°62S±0.°05×71.°4W±0.°1,h40km±58km, Error ellipse: s-maj=16.2km s-min=6.7km az=96.0*

GUC ***15*** *02:31:54.4±0.6,32.°65S×71.°46W,h40km±4km,ML4.0*

IDC ***15*** *02:31:56.8±3.5,32.°61S×71.°57W,h61km±29km,mb3.4/3, mb1 3.5/5,mb1mx3.4/24,mbtmp3.6/5,ML3.6/3,MS3.2/2, Ms1 3.3/2,ms1mx2.7/14,Error ellipse: s-maj=33.8km s-min=20.1km az=126.0*

**ISC 15 02:31:56.7±1.3,32.°67S±0.°03×71.°65W±0.°05,h29km±9km, n69

comp=Z,17nm,0.3s,baz=30,slow=18,SNR=5.6
CFA Coronel Fontan 3.08 71 *i* P **Pn 02 32 41.8 +2.4**
CFA IAML 02 33 32.0
comp=Z,165nm,0.8s
AROD Rodeo 3.11 37 *i* P **Pn 02 32 42.8 +2.8**
ACDV Cuesta del Vie 3.29 42 *i* P **Pn 02 32 45.3 +2.8**
ACDV IAML 02 33 37.3
comp=Z,193nm,0.9s
EDS3 Malargue 3.61 150 *i* P **Pb 02 32 52.9 -3.1**
AC05 El Transito 4.00 18 Pn 02 32 52.8 +0.6
BI02 San Fabin de 4.00 176 Pn 02 32 54.2 +2.0
AGUA GUANDACOL 4.17 41 *i* P **Pn 02 32 57.0 +2.5**
AGUA IAML 02 34 12.5
comp=Z,162nm,1.1s
BI03 Tigo 4.32 195 Pn **Pn 02 32 57.9 +1.5**
AC04 Llanos de Chal 4.47 6 Pn 02 32 58.0 -0.6
MRA San Martin 5.01 89 *i* P **Pn 02 33 06.4 +0.3**
MRA IAML 02 34 43.8
comp=Z,72nm,0.7s
GO03 Copiap 5.20 14 Pn **Pn 02 33 09.1 +0.4**
TCA Tanti 6.13 79 *i* P **Pn 02 33 21.3 -0.2**
TCA IAML 02 35 16.5
comp=Z,50nm,2.1s
H03N1 Juan Fernandez 6.15 261 T T 02 39 50.5
baz=89,slow=74,SNR=1010
H03N3 Juan Fernandez 6.16 261 T T 02 39 49.6
baz=89,slow=74,SNR=1994
H03N2 Juan Fernandez 6.17 261 T T 02 39 50.5
baz=89,slow=74,SNR=1492
H03S1 Juan Fernandez 6.19 257 T T 02 39 45.0
baz=81,slow=75,SNR=259
H03S3 Juan Fernandez 6.20 257 T T 02 39 46.3
baz=81,slow=75,SNR=241
AC02 Maricunga 6.21 21 Pn 02 33 22.1 -0.7
H03S2 Juan Fernandez 6.21 257 T T 02 39 47.7
baz=81,slow=75,SNR=629
AC01 Pan de Azucar 6.56 8 Pn **Pn 02 33 27.0 -0.3**
CYA Choya 6.57 52 *i* P **Pn 02 33 26.7 -0.6**
CYA IAML 02 35 28.1
comp=Z,22nm,0.9s
GO02 Mina Guanaco 7.69 14 Pn **Pn 02 33 41.7 -1.4**
PLCA Paso Flores 8.10 174 P **Pn 02 33 51.4 +3.0**
comp=Z,0.1nm,0.3s,baz=346,slow=12,SNR=1.8
LPAZ La Paz 16.61 12 LR LR 02 41 38.9
comp=Z,59nm,21.0s,baz=172,slow=35
SIV San Ignacio 19.17 33 P **Pn 02 36 15.1 0.0**
comp=Z,0.1nm,0.3s,baz=203,slow=13,SNR=3.8
RPN Rapa Nui 33.02 270 LR LR 02 48 27.4
comp=Z,63nm,19.4s,baz=350,slow=30
QSPA South Pole Qui 57.57 180 P **P 02 41 41.4 +1.9**
comp=Z,1.5nm,1.0s,baz=146,slow=2.2,SNR=2.9
TXAR Lajitas Array 68.74 330 P **P 02 42 54.5 +0.6**
comp=Z,0.4nm,0.6s,baz=152,slow=8.6,SNR=7.3
TORD Torodi Ar. Bea 83.45 70 P **P 02 44 17.0 -0.9**
comp=Z,0.4nm,0.8s,baz=251,slow=4.2,SNR=4.6
H11S2 WAKE ISLAND Hyl 26.11 270 T T 05 09 50.6
baz=118,slow=75,SNR=61
H11S1 WAKE ISLAND Hyl 26.12 270 T T 05 09 50.4
baz=118,slow=75,SNR=69
H11S3 WAKE ISLAND Hyl 26.13 270 T T 05 09 51.2
baz=118,slow=75,SNR=59
H11N3 WAKE ISLAND Hyl 26.49 271 T T 05 10 19.8
baz=117
H11N1 WAKE ISLAND Hyl 26.50 271 T T 05 10 21.3
baz=117
H11N2 WAKE ISLAND Hyl 26.51 271 T T 05 10 20.8
baz=117
KURBB Kurchatov Arra 151.67 42 PKPbc **PKPbc 02 51 43.7 -0.1**
comp=Z,0.9nm,0.5s,baz=303,slow=2.9,SNR=14
KURBB PKPab **PKPab 02 51 52.6 0.0**
comp=Z,0.5nm,0.3s,baz=296,slow=3.0,SNR=7.6
ZALV Zalesovo Beam 152.92 31 PKPbc **PKPbc 02 51 45.5 -1.1**
comp=Z,1.1nm,0.6s,baz=295,slow=3.4,SNR=5.4
ZALV PKPab **PKPab 02 51 55.6 -2.2**
comp=Z,1.6nm,0.6s,baz=305,slow=5.1,SNR=4.1
MKAR Makanchi Array 155.63 47 PKPab **PKPab 02 52 09.0 -0.6**
comp=Z,0.2nm,0.5s,baz=321,slow=4.2,SNR=2.3

*ATH **15** 02:33:55.5,38˚.16N×20˚.17E,h26km,ML3.0/7,Error ellipse: s-maj=2.3km s-min=0.8km az=71.0*
*THE **15** 02:33:56.6,38˚.19N×20˚.17E,h12km,ML2.8/7,Error ellipse: s-maj=1.1km s-min=0.5km az=69.0*
*BEO **15** 02:34:06.6±1.2,39˚.02N×20˚.56E,h0km,ML3.0/5*
ISC 15 02:33:54.8±1.1,38˚.17N±0˚.03×20˚.06E±0˚.04,h17km±6km, n89,σ1°21/139,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KEF3	**Kipouria, Keph**	**0.23**	**82**	P		**Pb**	**02 34 01.2**	**+0.7**
KEF3				S		**Sg**	**02 34 03.8**	**+0.1**
KEF3	**Kipouria, Keph**	**0.23**	**82**	P		**Pb**	**02 34 01.2**	**+0.7**
KEF3				S		**Sg**	**02 34 03.8**	**+0.1**
KEF4	**Livadi, Kephal**	**0.30**	**73**	P		**Pb**	**02 34 01.9**	**+0.1**
KEF4				S		**Sg**	**02 34 05.1**	**-0.6**
KEF4	**Livadi, Kephal**	**0.30**	**73**	P		**Pb**	**02 34 01.9**	**+0.1**
KEF4				S		**Sg**	**02 34 05.1**	**-0.6**
ARGA	**Argostoli. Kep**	**0.33**	**89**	P		**Pg**	**02 34 02.1**	**+0.3**
ARGA				S		**Sg**	**02 34 05.7**	**-0.9**
ARGA	**Argostoli. Kep**	**0.33**	**89**	P		**Pg**	**02 34 02.1**	**+0.3**
ARGA				S		**Sg**	**02 34 05.7**	**-0.9**
ARG2	**Argostoli**	**0.34**	**88**	P		**Pg**	**02 34 02.1**	**+0.2**
ARG2				S		**Sg**	**02 34 05.4**	**-1.3**
	8µm,0.3s							
KEF5	**Kardakata, Kep**	**0.34**	**71**	P		**Pg**	**02 34 02.3**	**+0.3**
KEF5				S		**Sg**	**02 34 06.2**	**-0.6**
KEF5	**Kardakata, Kep**	**0.34**	**71**	P		**Pg**	**02 34 02.3**	**+0.3**
KEF5				S		**Sg**	**02 34 06.2**	**-0.6**
VLS	**Valsamata**	**0.42**	**89**	P		**Pg**	**02 34 03.1**	**-0.2**
VLS				S		**Sg**	**02 34 08.1**	**-1.0**
	6µm,0.2s							
VLS	**Valsamata**	**0.42**	**89**	P		**Pg**	**02 34 03.1**	**-0.2**
VLS				S		**Sg**	**02 34 07.9**	**-1.2**
VLS				AML	AML		02 34 08.5	
	comp=E,8341µm,0.2s							
VLS				AML	AML		02 34 08.9	
	comp=N,14105µm,0.3s							
VLS	**Valsamata**	**0.42**	**89**	P		**Pg**	**02 34 03.1**	**-0.2**
VLS				S		**Sg**	**02 34 07.9**	**-1.2**
VLS				AML	AML		02 34 08.5	
	comp=E,8341µm,0.2s							
VLS				AML	AML		02 34 08.9	
	comp=N,14105µm,0.3s							
VSK1	**VASILIKIADES**	**0.47**	**59**	P		**Pg**	**02 34 04.2**	**0.0**
VSK1				S		**Sg**	**02 34 09.6**	**-0.9**
	comp=N,2µm,0.4s							
FSK	**Fiskardo**	**0.49**	**54**	P		**Pg**	**02 34 04.4**	**-0.2**
FSK				S		**Sb**	**02 34 11.3**	**-0.6**
FSK	**Fiskardo**	**0.49**	**54**	P		**Pg**	**02 34 04.4**	**-0.2**
FSK				S		**Sb**	**02 34 11.3**	**-0.6**
VLMS	**Volimes, Zakyn**	**0.56**	**121**	P		**Pg**	**02 34 05.9**	**0.0**
VLMS				S		**Sg**	**02 34 13.6**	**+0.2**
VLMS				AML	AML		02 34 14.8	
	comp=E,4087µm,0.4s							
VLMS				AML	AML		02 34 19.6	
	comp=N,6502µm,0.5s							
VLMS	**Volimes, Zakyn**	**0.56**	**121**	P		**Pg**	**02 34 05.9**	**0.0**
VLMS				S		**Sg**	**02 34 13.6**	**+0.2**
VLMS				AML	AML		02 34 14.8	
	comp=E,4087µm,0.4s							
VLMS				AML	AML		02 34 19.6	
	comp=N,6502µm,0.5s							
EVGI	**Lefkada island**	**0.65**	**46**	P		**Pg**	**02 34 07.5**	**-0.1**
EVGI				S		**Sg**	**02 34 15.9**	**-0.4**
EVGI	**Lefkada island**	**0.65**	**46**	P		**Pg**	**02 34 07.5**	**-0.1**
EVGI				S		**Sb**	**02 34 16.5**	**0.0**
EVGI	**Lefkada island**	**0.65**	**46**	P		**Pg**	**02 34 07.5**	**-0.1**
EVGI				S		**Sb**	**02 34 16.5**	**0.0**
LKD2	**Lefkada island**	**0.78**	**37**	P		**Pg**	**02 34 09.9**	**-0.1**
LKD2				S		**Sb**	**02 34 20.5**	**+0.4**
	comp=N,1µm,0.3s							
LKD2	**Lefkada island**	**0.78**	**37**	P		**Pg**	**02 34 10.3**	**+0.3**
LKD2				S		**Sb**	**02 34 21.1**	**+0.9**
LKD2				AML	AML		02 34 23.7	
	comp=N,2581µm,0.3s							
LKD2				AML	AML		02 34 25.7	
	comp=E,1938µm,0.2s							
LKD2	**Lefkada island**	**0.78**	**37**	P		**Pg**	**02 34 10.3**	**+0.3**
LKD2				S		**Sb**	**02 34 21.1**	**+0.9**
LKD2				AML	AML		02 34 23.7	
	comp=N,2581µm,0.3s							
LKD2				AML	AML		02 34 25.7	
	comp=E,1938µm,0.2s							
KRI1	**kERI**	**0.79**	**130**	P		**Pg**	**02 34 10.4**	**+0.3**

RLS	**Riolos of Patr**	**1.12**	**95**	P		**Pb**	**02 34 15.0**	**-0.6**
RLS				S		**Sn**	**02 34 30.8**	**+0.2**
	comp=E,298nm,0.7s							
RLS	**Riolos of Patr**	**1.12**	**95**	P		**Pb**	**02 34 14.8**	**-0.8**
RLS	**Riolos of Patr**	**1.12**	**95**	P		**Pb**	**02 34 14.8**	**-0.8**
PVO	**Paravola**	**1.24**	**68**	P		**Pb**	**02 34 17.9**	**+0.2**
PVO				S		**Sg**	**02 34 33.8**	**-1.0**
PVO				AML	AML		02 34 37.0	
	comp=N,2120µm,0.4s							
PVO				AML	AML		02 34 37.3	
	comp=E,1996µm,0.4s							
PVO	**Paravola**	**1.24**	**68**	P		**Pb**	**02 34 17.9**	**+0.2**
PVO				S		**Sg**	**02 34 33.8**	**-1.0**
PVO				AML	AML		02 34 37.0	
	comp=N,2120µm,0.4s							
PVO				AML	AML		02 34 37.3	
	comp=E,1996µm,0.4s							
DRO	**Drossia**	**1.32**	**99**	P		**Pn**	**02 34 18.3**	**-0.1**
DRO				S		**Sg**	**02 34 37.0**	**-0.5**
DRO				AML	AML		02 34 38.7	
	comp=N,1189µm,1.1s							
DRO				AML	AML		02 34 40.8	
	comp=E,282µm,0.6s							
DRO	**Drossia**	**1.32**	**99**	P		**Pn**	**02 34 18.3**	**-0.1**
DRO				S		**Sg**	**02 34 37.0**	**-0.5**
DRO				AML	AML		02 34 38.7	
	comp=N,1189µm,1.1s							
DRO				AML	AML		02 34 40.8	
	comp=E,282µm,0.6s							
IGT	**Igoumenitsa**	**1.38**	**9**	P		**Pn**	**02 34 20.2**	**+1.0**
IGT				S		**Sb**	**02 34 39.0**	**+1.6**
	comp=E,190nm,0.4s							
IGT	**Igoumenitsa**	**1.38**	**9**	P		**Pn**	**02 34 20.2**	**+1.0**
IGT				S		**Sn**	**02 34 39.4**	**+2.4**
IGT	**Igoumenitsa**	**1.38**	**9**	P		**Pn**	**02 34 20.2**	**+1.0**
IGT				S		**Sn**	**02 34 39.4**	**+2.4**
AMT	**Artemida-Makis**	**1.45**	**115**	P		**Pn**	**02 34 21.0**	**+0.8**
AMT				S		**Sn**	**02 34 38.8**	**-0.1**
AMT	**Artemida-Makis**	**1.45**	**115**	P		**Pn**	**02 34 21.0**	**+0.8**
AMT				S		**Sn**	**02 34 38.8**	**-0.1**
ANX	**Ano Chora**	**1.52**	**73**	P		**Pn**	**02 34 22.3**	**+1.0**
ANX				S		**Sn**	**02 34 40.2**	**-0.5**
ANX				AML	AML		02 34 47.0	
	comp=E,784µm,0.4s							
ANX				AML	AML		02 34 47.6	
	comp=N,1116µm,1.0s							
ANX	**Ano Chora**	**1.52**	**73**	P		**Pn**	**02 34 22.3**	**+1.0**
ANX				S		**Sn**	**02 34 40.2**	**-0.5**
ANX				AML	AML		02 34 47.0	
	comp=E,784µm,0.4s							
ANX				AML	AML		02 34 47.6	
	comp=N,1116µm,1.0s							
KEK	**Kerkira**	**1.55**	**353**	P		**Pn**	**02 34 23.3**	**+1.6**
KEK	**Kerkira**	**1.55**	**353**	P		**Pn**	**02 34 23.3**	**+1.6**
KEK	**Kerkira**	**1.55**	**353**	P		**Pn**	**02 34 23.3**	**+1.6**
EVR	**Evrytania**	**1.56**	**61**	P		**Pn**	**02 34 22.3**	**+0.5**
EVR	**Evrytania**	**1.56**	**61**	P		**Pn**	**02 34 23.2**	**+1.3**
EVR	**Evrytania**	**1.56**	**61**	P		**Pn**	**02 34 23.2**	**+1.3**
SERG	**Sergoula**	**1.59**	**81**	P		**Pn**	**02 34 22.9**	**+0.7**
SERG				S		**Sb**	**02 34 43.7**	**+0.1**
SERG				AML	AML		02 34 47.8	
	comp=N,851µm,0.5s							
SERG				AML	AML		02 34 48.0	
	comp=E,507µm,0.4s							
SERG	**Sergoula**	**1.59**	**81**	P		**Pn**	**02 34 22.9**	**+0.7**
SERG				S		**Sb**	**02 34 43.7**	**+0.1**
SERG				AML	AML		02 34 47.8	
	comp=N,851µm,0.5s							
SERG				AML	AML		02 34 48.0	
	comp=E,507µm,0.4s							
TRIZ	**Trizonia**	**1.60**	**82**	P		**Pn**	**02 34 22.9**	**+0.7**
TRIZ	**Trizonia**	**1.60**	**82**	P		**Pn**	**02 34 23.0**	**+0.8**
TRIZ	**Trizonia**	**1.60**	**82**	P		**Pn**	**02 34 23.0**	**+0.8**
JAN	**Janina**	**1.61**	**22**	P		**Pn**	**02 34 23.8**	**+1.4**
JAN	**Janina**	**1.61**	**22**	P		**Pn**	**02 34 23.8**	**+1.4**
KALE	**Kalithea**	**1.65**	**82**	P		**Pn**	**02 34 23.6**	**+0.5**
KALE	**Kalithea**	**1.65**	**82**	P		**Pn**	**02 34 23.6**	**+0.5**
KALE	**Kalithea**	**1.65**	**82**	P		**Pn**	**02 34 23.6**	**+0.5**
ITM	**Ithomi**	**1.78**	**123**	P		**Pn**	**02 34 25.2**	**+0.4**
ITM				S		**Sn**	**02 34 48.1**	**+1.1**
	comp=E,115nm,0.5s							
ITM	**Ithomi**	**1.78**	**123**	P		**Pn**	**02 34 25.2**	**+0.4**
ITM				S		**Sn**	**02 34 47.2**	**+0.2**
ITM	**Ithomi**	**1.78**	**123**	P		**Pn**	**02 34 25.2**	**+0.4**
ITM				S		**Sn**	**02 34 47.2**	**+0.2**
GUR	**Goura**	**1.82**	**97**	P		**Pn**	**02 34 26.3**	**+0.9**
GUR				S		**Sn**	**02 34 48.0**	**0.0**
GUR	**Goura**	**1.82**	**97**	P		**Pn**	**02 34 26.3**	**+0.9**
GUR				S		**Sn**	**02 34 48.0**	**0.0**
MAKR	**Makrakomi, Fth**	**1.83**	**62**	P		**Pn**	**02 34 26.8**	**+1.3**
MAKR	**Makrakomi, Fth**	**1.83**	**62**	P		**Pn**	**02 34 27.5**	**+2.1**
MAKR	**Makrakomi, Fth**	**1.83**	**62**	P		**Pn**	**02 34 27.5**	**+2.1**
PYL	**PYLOS**	**1.85**	**133**	P		**Pn**	**02 34 26.0**	**+0.3**
PYL	**PYLOS**	**1.85**	**133**	P		**Pn**	**02 34 26.0**	**+0.3**
TRIP	**Tripoli**	**1.87**	**109**	P		**Pn**	**02 34 27.0**	**+1.0**
TRIP	**Tripoli**	**1.87**	**109**	P		**Pn**	**02 34 27.5**	**+1.6**
TRIP	**Tripoli**	**1.87**	**109**	P		**Pn**	**02 34 27.5**	**+1.6**
AGG	**Agios Georgios**	**1.97**	**64**	P		**Pn**	**02 34 28.3**	**+0.9**
AGG	**Agios Georgios**	**1.97**	**64**	P		**Pn**	**02 34 28.8**	**+1.3**
AGG	**Agios Georgios**	**1.97**	**64**	P		**Pn**	**02 34 28.8**	**+1.3**
VLX	**Vlachokerasia**	**2.01**	**113**	P		**Pn**	**02 34 27.9**	**0.0**
VLX	**Vlachokerasia**	**2.01**	**113**	P		**Pn**	**02 34 27.9**	**0.0**
PROD	**Prodromos**	**2.24**	**87**	P		**Pn**	**02 34 31.8**	**+0.7**
PROD	**Prodromos**	**2.24**	**87**	P		**Pn**	**02 34 30.9**	**-0.2**
PROD	**Prodromos**	**2.24**	**87**	P		**Pn**	**02 34 30.9**	**-0.2**
DBRK	**Dubrovnik**	**4.72**	**343**	*e*Pn		**Pn**	**02 35 06.5**	**+1.3**
DBRK				Sn		**Sn**	**02 35 56.8**	**-2.8**
BARS	**Barje**	**4.83**	**16**	*e*Pn		**Pn**	**02 35 07.3**	**+0.6**
STON	**Ston**	**5.03**	**340**	*e*Pn		**Pn**	**02 35 09.8**	**+0.4**
STON				Sn		**Sn**	**02 36 04.8**	**-2.2**
VTS	**Vitosha**	**5.06**	**28**	*e*Pn		**Pn**	**02 35 10.5**	**+0.5**
VTS				*e*Sn		Sn	02 35 57.7	-10
SJES	**Sjenica**	**5.09**	**359**	*e*Pn		**Pn**	**02 35 11.9**	**+1.6**
SJES				*e*Sn		**Sn**	**02 36 02.4**	**-6.3**
IVAS	**Ivanjica**	**5.40**	**1**	*e*Pn		**Pn**	**02 35 15.9**	**+1.3**
IVAS				*e*Sn		Sn	02 36 08.8	-7.6
MAKA	**Makarska**	**5.61**	**337**	*e*Pn		**Pn**	**02 35 18.5**	**+1.2**
MAKA				Sn		**Sn**	**02 36 18.5**	**-2.8**
HVAR	**Hvar**	**5.71**	**332**	*e*Pn		**Pn**	**02 35 20.0**	**+1.3**
HVAR				Sn		**Sn**	**02 36 21.1**	**-2.6**
DIVS	**Divibare**	**5.92**	**360**	*e*Pn		**Pn**	**02 35 24.2**	**+2.5**
DIVS				*e*Sn		Sn	02 36 21.4	-7.8
TRUS	**Trudelj**	**6.05**	**2**	*e*Sn		Sn	02 36 23.2	-9.1
ZIRJ	**Zirje**	**6.42**	**330**	*e*Pn		**Pn**	**02 35 29.5**	**+1.1**
ZIRJ				Sn		**Sn**	**02 36 39.2**	**-2.0**
MORI	**Morici**	**6.57**	**331**	*e*Pn		**Pn**	**02 35 32.5**	**+2.0**
MORI				Sn		**Sn**	**02 36 43.3**	**-1.7**
DUGI	**Dugi Otok**	**6.93**	**329**	*e*Pn		**Pn**	**02 35 37.7**	**+2.2**
DUGI				Sn		**Sn**	**02 36 52.2**	**-1.8**
UDBI	**Udbina**	**7.12**	**334**	*e*Pn		**Pn**	**02 35 40.7**	**+2.5**
UDBI				Sn		**Sn**	**02 36 57.1**	**-1.7**

*IDC **15** 02:41:47.1±1.0,9˚.75N×58˚.18E,h0km,mb3.8/14, mb1 3.9/14,mb1mx3.7/61,mbtmp3.8/14,MS3.4/3, Ms1 3.4/3,ms1mx2.7/36,Error ellipse: s-maj=30.3km s-min=16.9km az=120.0*
*NEIC **15** 02:41:48.3±1.7,9.7N±0˚.1×58˚.25E±0˚.06,h10km±1km, mb4.2/22,Error ellipse: s-maj=20.3km s-min=9.9km az=179.0*
ISC 15 02:41:48.1±0.7,9˚.7N±0˚.1×58˚.3E±0˚.1,h10km,n41, σ1°06/34,mb4.2/21,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
WSAR	**Wadi Sarin**	**13.48**	**1**	LR		LR	02 49 21.2	
	comp=Z,122nm,18.7s,baz=201,slow=34							
KMBO	**Kilima Mbogo**	**23.54**	**244**	P		**P**	**02 46 58.7**	**-0.3**
	2.3nm,0.8s,baz=46,slow=14,SNR=6.5							
KMBO	**Kilima Mbogo**	**23.54**	**244**	P		**P**	**02 46 57.7**	**-1.3**
HRA	**Herat**	**24.86**	**8**	P		**P**	**02 47 10.3**	**-0.8**
HRA				IAmb		IAmb	02 47 44.8	
	comp=Z,3.9nm,0.7s							
KBL	**Kabul**	**26.63**	**20**	P		**P**	**02 47 25.9**	**-1.3**
KBL				IAmb		IAmb	02 47 33.3	
	comp=Z,6.6nm,1.2s							
GEYT	**Alibeck**	**28.12**	**360**	P		**P**	**02 47 40.1**	**-0.2**
GYA0B	**ALIBECK ARRAY**	**28.12**	**360**	P		**P**	**02 47 40.9**	**+0.6**
GYA0B				IAmb		IAmb	02 48 27.6	
	comp=Z,3.1nm,0.8s							
GAR	**Garm**	**31.12**	**18**	P		**P**	**02 48 04.7**	**-2.3**
BTK	**Batken**	**32.24**	**18**	P		**P**	**02 48 18.0**	**+1.2**

KK31	**Karatay Array**	**34.97**	**16**	P		**P**	**02 48 41.4**	**+1.0**
KK31				IAmb		IAmb	02 48 44.9	
	comp=Z,4.0nm,0.9s							
KKAR	**Karatay Array**	**34.97**	**16**	P		**P**	**02 48 41.6**	**+1.2**
AAK	**Ala-Archa**	**35.77**	**21**	P		**P**	**02 48 47.3**	**-0.2**
TARG	**Taragay, Kyrgy**	**36.26**	**25**	P		**P**	**02 48 53.2**	**+1.2**
BRTR	**Keskin Array B**	**37.11**	**328**	P		**P**	**02 48 59.1**	**+0.2**
	comp=Z,0.8nm,0.8s,baz=151,slow=9.0,SNR=6.2							
BR131	**Keskin Array S**	**37.11**	**328**	P		**P**	**02 48 59.8**	**+0.8**
ABKAR	**Akbulak array**	**39.47**	**2**	P		**P**	**02 49 18.9**	**+0.3**
AKTO	**Aktyubinsk**	**40.63**	**360**	P		**P**	**02 49 28.2**	**0.0**
	comp=Z,2.2nm,0.8s,baz=181,slow=11							
MAKZ	**Makanchi**	**42.13**	**24**	P		**P**	**02 49 41.2**	**+0.6**
MAKZ				IAmb		IAmb	02 49 52.9	
	comp=Z,8.9nm,1.9s							
MK31	**Makanchi Array**	**42.25**	**25**	P		**P**	**02 49 42.4**	**+0.9**
MKAR	**Makanchi Array**	**42.25**	**25**	P		**P**	**02 49 42.3**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=216,slow=6.0,SNR=6.5							
COCO	**West Island**	**44.04**	**119**	P		**P**	**02 49 55.1**	**-1.3**
KURBB	**Kurchatov Arra**	**44.11**	**18**	P		**P**	**02 49 57.5**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=216,slow=8.1,SNR=7.3							
KURK	**Kurchatov**	**44.22**	**18**	P		**P**	**02 49 57.5**	**+0.2**
KURK	**Kurchatov**	**44.22**	**18**	IAmb		IAmb	02 50 33.2	
	comp=Z,7.4nm,1.9s							
ARU	**Arti**	**46.63**	**0**	P		**P**	**02 50 16.6**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=236,slow=4.3,SNR=4.0							
LBTB	**Lobatse**	**46.95**	**222**	P		**P**	**02 50 21.2**	**+1.7**
	comp=Z,2.9nm,0.9s,baz=50,slow=8.2,SNR=4.1							
LBTB	**Lobatse**	**46.95**	**222**	IAmb		IAmb	02 50 25.2	
	comp=Z,56nm,1.9s							
ZAA0	**Zalesovo Array**	**48.99**	**20**	P		**P**	**02 50 35.1**	**+0.4**
ZAA0				IAmb		IAmb	02 50 37.5	
	comp=Z,2.4nm,0.8s							
ZALV	**Zalesovo Beam**	**48.99**	**20**	P		**P**	**02 50 35.0**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=231,slow=8.8,SNR=6.1							
ZALV				LR		LR	03 12 24.1	
	comp=Z,23nm,19.0s,baz=206,slow=38							
BOSA	**Boshof**	**49.67**	**219**	P		**P**	**02 50 40.1**	**-0.4**
	comp=Z,5.6nm,1.0s,baz=20,slow=12,SNR=3.8							
LEM	**Lembang**	**51.81**	**107**	LR		LR	03 08 16.5	
	comp=Z,86nm,21.2s,baz=104,slow=31							
TORD	**Torodi Ar. Bea**	**55.49**	**279**	P		**P**	**02 51 24.8**	**+1.1**
	comp=Z,0.5nm,1.1s,baz=103,slow=7.1,SNR=1.8							
FINES	**FINESS Array B**	**56.81**	**342**	P		**P**	**02 51 30.4**	**-2.0**
	comp=Z,1.6nm,0.8s,baz=153,slow=8.8,SNR=5.2							
ESDC	**Sonseca Array**	**62.58**	**310**	P		**P**	**02 52 10.6**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=88,slow=6.1,SNR=2.1							
ARCES	**ARCESS Array B**	**63.39**	**348**	P		**P**	**02 52 17.7**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=146,slow=5.8,SNR=3.9							
H01W3	**Cape Leeuwin H**	**68.91**	**133**	T		T	04 08 43.7	
	baz=300,slow=74							
H01W2	**Cape Leeuwin H**	**68.91**	**133**	T		T	04 08 29.9	
	baz=300,slow=74							
H01W1	**Cape Leeuwin H**	**68.93**	**133**	T		T	04 08 43.2	
	baz=300							
ASAR	**Alice Springs**	**80.92**	**116**	P		**P**	**02 54 03.9**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=294,slow=5.5,SNR=2.6							
TXAR	**Lajitas Array**	**137.49**	**336**	PKP		**PKPdf**	**03 01 13.7**	**+0.6**
	comp=Z,0.3nm,0.9s,baz=126,slow=1.2,SNR=4.9							
TXAR	**Lajitas Array**	**137.49**	**336**			**PKPdf**	**03 01 14.4**	**+1.3**

*IDC **15** 03:36:20.8±6.0,21˚.59N×143˚.17E,h294km±59km,mb3.2/8, mb1 3.4/8,mb1mx3.1/42,mbtmp3.8/8,Error ellipse: s-maj=34.0km s-min=13.8km az=85.0*
ISC 15 03:36:22.5±0.9,21˚.6N±0˚.2×143˚.1E±0˚.3,h311km,n9, σ0°66/10,mb3.4/7,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KSRS	**Korea Array**	**20.58**	**324**	P		**P**	**03 40 37.6**	**-0.8**
	2.0nm,0.6s,baz=145,slow=9.0,SNR=13							
WRA	**Warramunga Arr**	**42.14**	**192**	P		**P**	**03 43 45.5**	**+0.2**
	1.0nm,0.3s,baz=11,slow=7.9,SNR=14							
ASAR	**Alice Springs**	**45.85**	**192**	P		**P**	**03 44 14.6**	**+0.1**
	0.7nm,0.9s,baz=14,slow=13,SNR=6.9							
MKAR	**Makanchi Array**	**54.74**	**313**	P		**P**	**03 45 21.0**	**+0.5**
	0.5nm,0.6s,baz=98,slow=7.0,SNR=5.0							
MKAR				PcP		**PcP**	**03 46 18.8**	**+0.1**
	0.2nm,0.5s,baz=83,slow=4.5,SNR=2.2							
ILAR	**Eielson Array**	**62.18**	**27**	P		**P**	**03 46 10.8**	**-0.3**
	0.5nm,0.7s,baz=263,slow=5.3,SNR=5.7							
YKA	**Yellowknife Ar**	**76.59**	**28**	P		**P**	**03 47 39.4**	**+0.6**
	0.3nm,0.4s,baz=292,slow=5.9,SNR=5.8							
ARCES	**ARCESS Array B**	**79.02**	**341**	P		**P**	**03 47 52.7**	**+0.7**
	1.4nm,0.5s,baz=72,slow=8.6,SNR=10							
FINES	**FINESS Array B**	**83.27**	**334**	P		**P**	**03 48 13.8**	**-0.5**
	1.1nm,0.5s,baz=76,slow=5.2,SN

ASAR			PcP	**PcP**	**04 35 21.4**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=185,slow=2.1,SNR=4.6					
ASAR			LR	LR	04 41 35.4	
	comp=Z,111nm,18.5s,baz=184,slow=35					
WRA	**Warramunga Arr**	**29.97 27**	P	**P**	**04 32 29.7**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=199,slow=8.7,SNR=2.3					
VNDA	**Vanda**	**33.90 165**	P	**P**	**04 33 03.6**	**+0.7**
	comp=Z,2.4nm,0.8s,baz=302,slow=8.7,SNR=11					
VNDA			LR	LR	04 45 25.8	
	comp=Z,86nm,19.3s,baz=297,slow=34					
VNDA	**Vanda**	**33.90 165**	P	**P**	**04 33 02.9**	**0.0**
VNDA			IAmb	IAmb	04 33 05.0	
	comp=Z,5.2nm,1.1s					
MAW	**Mawson**	**34.85 214**	P	**P**	**04 33 11.5**	**+0.3**
	comp=Z,2.5nm,0.6s,baz=98,slow=8.3,SNR=9.0					
MAW			LR	LR	04 44 35.1	
	comp=Z,65nm,19.2s,baz=59,slow=32					
MAW	**Mawson**	**34.85 214**	IAmb	IAmb	04 33 12.2	
	comp=Z,0.6nm,0.7s					
QSPA	**South Pole Qui**	**42.39 180**	P	**P**	**04 34 15.2**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=357,slow=4.6,SNR=19					
QSPA			PcP	**PcP**	**04 36 07.4**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=296,slow=1.9,SNR=6.1					
QSPA	**South Pole Qui**	**42.39 180**	P	**P**	**04 34 15.4**	**+0.6**
DZM	**Mont Dzumac**	**44.80 72**	P	**P**	**04 34 35.2**	**+0.7**
SNAA	**Sanae**	**54.34 199**	P	**P**	**04 35 46.8**	**+0.2**
SNAA	**Sanae**	**54.34 199**	P	**P**	**04 35 46.8**	**+0.2**
	comp=Z,3.2nm,0.9s,baz=141,slow=8.7,SNR=14					
SNAA	**Sanae**	**54.34 199**	P	**P**	**04 35 46.8**	**+0.2**
SNAA			IAmb	IAmb	04 35 47.6	
	comp=Z,4.3nm,0.9s					
VNA2	**Neumayer--Watz**	**55.88 198**	P	**P**	**04 35 57.7**	**0.0**
	baz=125,slow=6.9					
VNA3	**Neumayer Olymp**	**56.10 197**	P	**P**	**04 35 59.0**	**-0.3**
PDAR	**Pinedale Array**	**145.03 79**	PKPbc	**PKPab**	**04 45 57.1**	**0.0**
	comp=Z,1.0nm,0.6s,baz=222,slow=2.0,SNR=9.8					
YKA	**Yellowknife Ar**	**146.46 43**	PKPbc	**PKPbc**	**04 46 00.3**	**-0.3**
	comp=Z,4.1nm,0.8s,baz=265,slow=3.2,SNR=39					

NEIC ***15*** *04:30:25.9±1.4,36.18N±0.02×118.15W±0.02,h4km±6km, Error ellipse: s-maj=2.4km s-min=1.8km az=143.0*
ANF ***15*** *04:30:25.1±0.1,36.19N×118.14W,h3km±2km,ML3.0/26, Error ellipse: s-maj=1.3km s-min=1.1km az=132.0*
SCEDC ***15*** *04:30:26.0,36.19N×118.14W,h3km,ML3.1,ML3.0,ML3.0, ML3.0,ML3.0*
PAS ***15*** *04:30:26.0±1.4,36.19N±0.01×118.14W±0.02,h3km±7km, ML3.0/142, Error ellipse: s-maj=2.3km s-min=1.6km az=136.0*

ISC 15 04:30:25.8±1.0,36.18N±0.01×118.14W±0.02,h5km±10km, n96,σ0s77/136,Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFS	**McCloud Flat S**	**0.24**	**106**		**Pg**	**04 30 30.7**	**+0.3**
CWC	**Cottonwood Cre**	**0.26**	**10**	P	**Pg**	**04 30 30.3**	**-0.6**
	baz=191						
CWC				S	**Sg**	**04 30 34.1**	**-0.4**
	baz=191						
CWC	**Cottonwood Cre**	**0.26**	**10**		**Pg**	**04 30 30.6**	**-0.3**
CWC					**Sg**	**04 30 34.1**	**-0.4**
RVCM	**Rose Valley Ce**	**0.27**	**131**		**Pg**	**04 30 31.3**	**+0.3**
WCHM	**Chimney Peak**	**0.30**	**170**		**Pg**	**04 30 32.0**	**+0.2**
JRC2	**Joshua Ridge**	**0.33**	**127**		**Sg**	**04 30 37.5**	**+0.8**
CGO	**Cerro Gordo**	**0.46**	**36**		**Pg**	**04 30 34.4**	**-0.2**
CGO					**Sg**	**04 30 40.8**	**+0.1**
WORM	**Onyx Ranch**	**0.49**	**190**		**Pg**	**04 30 35.3**	**+0.1**
SPG2	**Springville 2**	**0.51**	**272**		**Pg**	**04 30 35.5**	**-0.1**
SPG2					**Sg**	**04 30 42.2**	**+0.1**
WHFM	**Hanning Flat**	**0.51**	**199**		**Pg**	**04 30 35.8**	**+0.1**
WHFM					**Sg**	**04 30 43.2**	**+0.9**
MPMC	**Manual Prospec**	**0.54**	**103**	P	**Pg**	**04 30 35.9**	**-0.3**
	baz=284,SNR=86						
MPMC				S	**Sg**	**04 30 43.5**	**+0.3**
	baz=284						
MPMC	**Manual Prospec**	**0.54**	**103**		**Pg**	**04 30 36.1**	**-0.1**
MPMC					**Sg**	**04 30 43.6**	**+0.3**
WASM	**Alta Sierra Ca**	**0.56**	**218**		**Pg**	**04 30 36.7**	**+0.2**
WASM					**Sg**	**04 30 44.5**	**+0.7**
CLC	**China Lake**	**0.57**	**130**		**Pg**	**04 30 36.9**	**+0.1**
CLC					**Sg**	**04 30 45.0**	**+0.8**
ISA	**Isabella, Lake**	**0.58**	**208**	P	**Pg**	**04 30 37.1**	**0.0**
	baz=27,SNR=143						
ISA				S	**Sg**	**04 30 45.3**	**+0.7**
	baz=27						
ISA	**Isabella, Lake**	**0.58**	**208**		**Pg**	**04 30 37.1**	**0.0**
ISA					**Sg**	**04 30 45.2**	**+0.6**
ISA	**Isabella, Lake**	**0.58**	**208**	Pg	**Pg**	**04 30 36.6**	**-0.4**
WBSM	**Bird Springs**	**0.64**	**180**		**Pg**	**04 30 38.3**	**+0.1**
WBSM					**Sg**	**04 30 47.0**	**+0.5**
LRMC	**Laurel Mtn Rad**	**0.79**	**152**	P	**Pg**	**04 30 40.8**	**-0.2**
	baz=333,SNR=108						
LRMC				S	**Sg**	**04 30 51.5**	**+0.2**
	baz=333						
LRMC	**Laurel Mtn Rad**	**0.79**	**152**		**Sg**	**04 30 51.5**	**+0.2**
WOFM	**Oak Flat**	**0.80**	**216**		**Pg**	**04 30 41.0**	**-0.1**
VES	**Vestal, Richgr**	**0.84**	**246**	P	**Pg**	**04 30 41.9**	**0.0**
	baz=65,SNR=45						
VES				S	**Sg**	**04 30 52.9**	**+0.1**
	baz=65						
VES	**Vestal, Richgr**	**0.84**	**246**		**Pg**	**04 30 41.9**	**0.0**
VES					**Sg**	**04 30 52.9**	**+0.1**
TIN	**Tinemaha, Big**	**0.87**	**355**	P	**Pg**	**04 30 42.2**	**-0.4**
	baz=175,SNR=16						
TIN				S	**Sg**	**04 30 54.2**	**+0.2**
	baz=175						
TIN	**Tinemaha, Big**	**0.87**	**355**		**Pg**	**04 30 42.2**	**-0.4**
TIN					**Sg**	**04 30 53.8**	**-0.1**
RCTC	**Rector, Farmer**	**0.90**	**278**		**Pg**	**04 30 42.6**	**-0.5**
CCCA	**Chr Cany lake**	**0.91**	**136**		**Pg**	**04 30 43.2**	**0.0**
DTP	**Desert Tortois**	**0.94**	**165**		**Pg**	**04 30 43.6**	**-0.3**
DTP					**Sg**	**04 30 56.2**	**+0.1**
VOG	**Valley Oaks Go**	**1.01**	**278**	P	**Pg**	**04 30 44.8**	**-0.4**
	baz=97						
VOG				S	**Sg**	**04 30 57.6**	**-0.8**
	baz=97						
VOG	**Valley Oaks Go**	**1.01**	**278**		**Pg**	**04 30 44.7**	**-0.6**
GRAC	**Grapevine Rang**	**1.02**	**37**	P	**Pg**	**04 30 44.8**	**-0.6**
	baz=218,SNR=93						
GRAC	**Grapevine Rang**	**1.02**	**37**		**Pg**	**04 30 44.9**	**-0.6**
CCAC	**Calif City Air**	**1.03**	**174**		**Pg**	**04 30 45.3**	**-0.3**
CCAC					**Sg**	**04 30 59.0**	**+0.1**
TEJ	**El Tejon**	**1.05**	**205**		**Sg**	**04 30 59.3**	**-0.2**
FURC	**Furnace Creek,**	**1.07**	**74**	P	**Pg**	**04 30 45.9**	**-0.4**
	baz=255,SNR=158						
FURC				S	**Sg**	**04 31 00.2**	**0.0**
	baz=255						
FURC	**Furnace Creek,**	**1.07**	**74**		**Pg**	**04 30 46.0**	**-0.4**
FURC					**Sg**	**04 30 60.0**	**-0.2**
BAKC	**Calstate**	**1.15**	**224**		**Pg**	**04 30 47.7**	**-0.1**
ARVC	**Arvin**	**1.19**	**208**	P	**Pg**	**04 30 48.3**	**-0.4**
	baz=28,SNR=48						
ARVC				S	**Sb**	**04 31 04.6**	**-0.1**
	baz=28						
TJR	**Tejon Ranch**	**1.25**	**203**		**Pg**	**04 30 49.1**	**-0.7**
TPO	**Tropico Hills**	**1.30**	**183**		**Pg**	**04 30 50.1**	**-0.7**
TPO					**Sg**	**04 31 07.7**	**+0.1**
EDW2	**Edwards Air Fo**	**1.30**	**175**	P	**Pg**	**04 30 49.9**	**-0.9**
	baz=355,SNR=16						
EDW2				S	**Sg**	**04 31 07.0**	**-0.7**
	baz=355						
EDW2	**Edwards Air Fo**	**1.30**	**175**		**Pg**	**04 30 49.9**	**-0.9**
EDW2					**Sg**	**04 31 06.7**	**-1.0**
THC	**Tehachapi Micr**	**1.34**	**199**		**Pn**	**04 30 50.3**	**-1.1**
GSC	**Goldstone, Bar**	**1.40**	**129**	P	**Pn**	**04 30 50.9**	**-1.1**
	baz=310,SNR=42						
GSC				S	**Sb**	**04 31 11.0**	**+0.4**
	baz=310						
GSC	**Goldstone, Bar**	**1.40**	**129**		**Pn**	**04 30 50.4**	**-1.7**
AMDNV	**Amargosa**	**1.52**	**79**		**Pn**	**04 30 52.5**	**-1.2**
SHOC	**Shoshone, Teco**	**1.54**	**100**	Pg	**Pb**	**04 30 54.7**	**-0.1**
	baz=282,SNR=37						
SHOC				S	**Sg**	**04 31 15.5**	**+0.3**
	baz=282						
OMMB	**Old Mammoth Mi**	**1.59**	**334**	Pn	**Pn**	**04 30 54.6**	**-0.4**
MCSM	**Casa Diablo Ho**	**1.59**	**338**		**Pn**	**04 30 55.3**	**+0.3**
MDPB	**Devils Postpil**	**1.63**	**333**		**Pn**	**04 30 55.6**	**+0.1**
OSI	**Osito Audit: C**	**1.64**	**197**	Pg	**Pb**	**04 30 56.6**	**+0.1**
	baz=17						
OSI				S	**Sg**	**04 31 18.7**	**+0.4**
	baz=17						
ALV	**Alvord Mountai**	**1.66**	**132**		**Pb**	**04 30 56.9**	**-0.1**
TPNV	**Topopah Spring**	**1.70**	**63**	Pn	**Pn**	**04 30 55.7**	**-0.8**
	baz=244,SNR=85						
TPNV				Pg	**Pb**	**04 30 57.3**	**-0.4**
	baz=244						
TPNV				S	**Sn**	**04 31 19.3**	**+0.6**
	baz=244						
TPNV	**Topopah Spring**	**1.70**	**63**	Pn	**Pn**	**04 30 55.6**	**-0.8**
SMMC	**Simmler**	**1.74**	**241**	P	**Pn**	**04 30 55.5**	**-1.3**
	baz=59						
SMMC				S	**Sb**	**04 31 20.0**	**-0.5**
	baz=59						
PAGB	**Antelope Grade**	**1.77**	**256**		**Pn**	**04 30 57.8**	**+0.6**
MMIM	**Miami Mountain**	**1.79**	**314**		**Pn**	**04 30 58.1**	**+0.6**
PKM	**Mcpherson Peak**	**1.88**	**227**	P	**Pn**	**04 30 59.3**	**+0.4**
	baz=46,SNR=6.6						
PKM				S	**Sb**	**04 31 24.3**	**-0.3**
	baz=46						
DECC	**Green Verdugo**	**1.93**	**185**	Sb	**Sg**	**04 31 28.0**	**+0.1**
	baz=4.6						
TUQ	**Turquoise Moun**	**1.95**	**112**	Pn	**Pn**	**04 30 58.6**	**-1.1**
	baz=294						
TUQ				Pg	**Pb**	**04 31 02.1**	**+0.2**
	baz=294,SNR=22						
TUQ				Sb	**Sg**	**04 31 28.6**	**+0.2**
	baz=294						
TUQ	**Turquoise Moun**	**1.95**	**112**		**Pb**	**04 31 02.1**	**+0.2**
MWC	**Mount Wilson**	**1.95**	**178**		**Pn**	**04 31 00.2**	**+0.4**
BFSC	**Mount Baldy Ra**	**1.98**	**168**	S	**Sb**	**04 31 27.0**	**-0.4**
	baz=349						
HEC	**Hector,Ludlow**	**2.00**	**132**	Pb	**Pb**	**04 31 02.3**	**-0.4**
	baz=313,SNR=23						
HEC				Sb	**Sg**	**04 31 29.3**	**-0.6**
	baz=313						
PASC	**Pasadena Art C**	**2.01**	**181**	Pn	**Pn**	**04 30 59.6**	**-0.8**
PMPB	**Monarch Peak**	**2.15**	**272**		**Pn**	**04 31 01.5**	**-1.0**
SBC	**Santa Barbara**	**2.16**	**217**	Pb	**Pb**	**04 31 05.4**	**-0.1**
	baz=36						
NV11	**Mina Array Sit**	**2.25**	**360**	Pn	**Pn**	**04 31 04.7**	**+0.9**
NVAR	**Mina Array Bea**	**2.25**	**357**	Pn	**Pn**	**04 31 04.7**	**+0.8**
GMRC	**Granite Mounta**	**2.46**	**124**	Pn	**Pn**	**04 31 04.8**	**-1.9**
	baz=306,SNR=6.6						
GMRC				Pb	**Pb**	**04 31 10.8**	**+0.3**
	baz=306						
GMRC				Sb	**Sg**	**04 31 43.6**	**-1.2**
	baz=306						
RYN	**Ryan**	**2.46**	**353**	Pn	**Pn**	**04 31 08.4**	**+1.6**
GATR	**Gnd/Air Tx Cnt**	**2.52**	**231**		**Pn**	**04 31 08.3**	**+0.7**
WAKR	**Walker**	**2.54**	**336**	Pn	**Pn**	**04 31 07.7**	**-0.2**
CMB	**Columbia Colle**	**2.58**	**316**	Pn	**Pn**	**04 31 08.5**	**+0.2**
MURC	**Murrieta**	**2.69**	**163**	Sb	**Sg**	**04 31 50.4**	**-1.8**
	baz=344						
SAO	**San Andreas Ge**	**2.73**	**283**	Pn	**Pn**	**04 31 09.9**	**-0.5**
KVN	**Kaiserville**	**2.87**	**1**	Pn	**Pn**	**04 31 11.6**	**-0.8**
PFO	**Pinyon Flats O**	**2.91**	**151**	P	**Pn**	**04 31 12.3**	**-0.7**
	baz=332						
PFO				Sb	**Sg**	**04 31 57.2**	**-2.2**
	baz=332						
PFO	**Pinyon Flats O**	**2.91**	**151**	Pn	**Pn**	**04 31 11.8**	**-1.1**
XPFO	**Pion Flat**	**2.91**	**151**	Pn	**Pn**	**04 31 12.1**	**-0.9**
YERR	**Yerington**	**2.93**	**343**	Pn	**Pn**	**04 31 12.6**	**-0.7**
R11A	**Troy Canyon, C**	**2.97**	**43**	Pb	**Pb**	**04 31 19.5**	**+0.1**
	baz=224,SNR=28						
R11A				Sb	**Sb**	**04 31 58.8**	**+2.7**
	baz=224						
R11A	**Troy Canyon, C**	**2.97**	**43**	Pn	**Pn**	**04 31 13.7**	**-0.2**
PNTR	**Pine Nut**	**3.13**	**339**	Pn	**Pn**	**04 31 14.2**	**-1.8**
RUBR	**Rubicon Trail**	**3.28**	**331**	Pn	**Pn**	**04 31 18.7**	**+0.5**
VCNR	**Virginia City**	**3.33**	**339**	Pn	**Pn**	**04 31 18.3**	**-0.5**
AFDM	**Forest Hills D**	**3.56**	**322**	Pn	**Pn**	**04 31 22.5**	**+0.7**
MONP2	**Monument Peak**	**3.57**	**156**	Sb	**Sb**	**04 32 16.9**	**+3.4**
	baz=337						
W13A	**Hualapai Mount**	**3.63**	**106**	Pn	**Pn**	**04 31 23.1**	**+0.2**
CCUT	**Cedar City**	**4.07**	**69**	Pn	**Pn**	**04 31 28.8**	**-0.1**
BEKR	**Beckworth**	**4.08**	**335**	Pn	**Pn**	**04 31 28.6**	**-0.5**
PSUT	**Pine Spring**	**4.14**	**54**	Pn	**Pn**	**04 31 29.3**	**-0.7**
Y14A	**Wickenburg**	**4.77**	**117**	Pn	**Pn**	**04 31 39.9**	**+1.5**
ELK	**Elko**	**5.09**	**26**	Pn	**Pn**	**04 31 41.5**	**-1.5**
TCRU	**Three Creeks R**	**5.14**	**60**	Pn	**Pn**	**04 31 43.3**	**-0.4**
MSU	**Marysvale**	**5.29**	**62**	Pn	**Pn**	**04 31 45.3**	**-0.4**

IDC ***15*** *04:31:57.0±0.7,41.37N×131.94E,h538km±7km, mb3.2/12, mb1 3.4/17,mb1mx3.1/43,mbtmp4.0/17, Error ellipse: s-maj=12.9km s-min=12.0km az=69.0*
BJI ***15*** *04:31:56.5±0.0,41.46N×131.90E,h550km,mB4.4/7, mb4.4/10*
NEIC ***15*** *04:31:57.1±1.1,41.39N±0.06×131.9E±0.1,h541km±8km, mb4.0/29, Error ellipse: s-maj=16.0km s-min=8.8km az=76.0*
JMA ***15*** *04:31:58.0±0.4,41.29N×132.66E,h564km, M3.8*

ISC 15 04:31:57.0±0.5,41.32N±0.08×132.16E±0.06,h550km,n85, σ1s66/90,mb3.8/23,1D,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USA0B	**Ussuriysk Arra**	**2.88**	**358**	P	**P**	**04 33 10.2**	**-0.8**
USA0B					**S**	**04 34 10.2**	**-1.6**
USRK	**Ussuriysk Ar.**	**2.88**	**358**	P	**P**	**04 33 10.5**	**-0.6**
	baz=185,slow=5.6,SNR=62						
USRK				S	**S**	**04 34 09.9**	**-1.9**
	baz=197,slow=12,SNR=13						
USRK	**Ussuriysk Ar.**	**2.88**	**358**	P	**P**	**04 33 10.1**	**-0.9**
USRK					**S**	**04 34 09.8**	**-2.0**
MDJ	**Mudanjiang**	**3.80**	**331**	P	**P**	**04 33 15.6**	**-1.6**
KS19	**Wonju Array Si**	**5.06**	**222**	P	**P**	**04 33 26.3**	**-1.1**
KSRS	**Korea Array**	**5.07**	**222**	P	**P**	**04 33 27.2**	**-0.1**
	1.0nm,0.3s,baz=37,slow=8.9,SNR=30						
KSAR	**Wonju Array Be**	**5.09**	**222**	P	**P**	**04 33 26.6**	**-1.0**
CN2	**Changchun**	**5.54**	**299**	*eP*	**P**	**04 33 29.8**	**-1.5**
JSD	**Sado**	**5.74**	**123**	P	**P**	**04 33 32.5**	**-0.7**
JHST	**Hiyamasetana**	**5.87**	**77**	P	**P**	**04 33 34.0**	**-0.2**
JOMM	**Oshimamatsumae**	**5.90**	**85**	P	**P**	**04 33 34.0**	**-0.6**
JIW	**Iwasaki**	**5.99**	**94**	P	**P**	**04 33 33.0**	**-2.4**
JSH	**Shimam**	**6.03**	**75**	P	**P**	**04 33 34.6**	**-1.1**
JHS	**Saijyo**	**6.36**	**173**	P	**P**	**04 33 39.5**	**+0.5**
JSK	**Shakotan**	**6.49**	**69**	P	**P**	**04 33 39.0**	**-0.9**
JKB	**Kayabe**	**6.68**	**82**	P	**P**	**04 33 40.2**	**-1.5**
JOT	**Onata**	**6.69**	**87**	P	**P**	**04 33 41.6**	**-0.3**
JHK	**Hiroka**	**6.69**	**125**	P	**P**	**04 33 41.5**	**-0.6**
MJAR	**Matsushiro Arr**	**6.71**	**133**	P	**P**	**04 33 42.3**	**+0.1**
	0.1nm,0.3s,baz=305,slow=10.0,SNR=7.8						
MJAR	**Matsushiro Arr**	**6.71**	**133**	P	**P**	**04 33 43.2**	**+1.0**
JNG	**Nsakai**	**6.75**	**135**	P	**P**	**04 33 41.7**	**-1.0**
JRG	**Rokugo**	**6.75**	**104**	P	**P**	**04 33 41.5**	**-1.0**
JMK	**Ichinoseki**	**7.33**	**106**	P	**P**	**04 33 46.5**	**-1.6**
JMK				S	**S**	**04 35 14.2**	**-5.0**
JFT	**Otama**	**7.38**	**118**	P	**P**	**04 33 48.4**	**-0.2**
JHR	**Hokuryu**	**7.47**	**68**	P	**P**	**04 33 49.1**	**-0.2**
JMM	**Marumori**	**7.50**	**115**	P	**P**	**04 33 48.5**	**-1.3**
JMM				S	**S**	**04 35 17.3**	**-5.0**
JFK	**Kawauchi**	**7.82**	**117**	P	**P**	**04 33 51.4**	**-1.6**
ASAJ	**Asahikawa**	**8.18**	**67**	P	**P**	**04 33 55.7**	**-0.6**
	6.4nm,0.3s,baz=238,slow=15,SNR=30						
JKA	**Kamikawa-asahi**	**8.18**	**67**	P	**P**	**04 33 55.7**	**-0.6**
ERM	**Erimo**	**8.26**	**82**	P	**P**	**04 33 56.7**	**-0.4**
JCH	**Churui**	**8.45**	**77**	P	**P**	**04 33 57.6**	**-1.4**
JCH				S	**S**	**04 35 34.1**	**-5.2**
JTKR	**Abashiri--Toko**	**9.06**	**69**	P	**P**	**04 34 04.6**	**-0.5**
YSS	**Yuzh-Sakhalins**	**9.47**	**50**	P	**P**	**04 34 10.0**	**+0.8**
NEM2	**Nemuro 2**	**10.27**	**74**	P	**P**	**04 34 16.7**	**-0.7**
BJT	**Baijiatuan**	**12.21**	**269**	P	**P**	**04 34 35.2**	**-2.5**
HHC	**Hu-ho-hao-te**	**15.54**	**275**	*eP*	**P**	**04 35 09.3**	**-2.7**
HHC				pmax	pmax		
	comp=Z,14nm,1.1s						
HHC				pmax	pmax		
	comp=Z,53nm,5.1s						
SONM	**Songino Array**	**19.42**	**298**	P	**P**	**04 35 47.9**	**+0.2**
	0.3nm,0.3s,baz=99,slow=8.6,SNR=8.0						
SONM	**Songino Array**	**19.42**	**298**	P	**P**	**04 35 46.4**	**-1.3**
XAN	**Xi'an**	**19.74**	**256**	P	**P**	**04 35 49.3**	**-1.4**
LZH	**Lanzhou**	**22.65**	**266**	||P	**P**	**04 36 16.0**	**-1.0**
LZH				sP	sP	04 38 40.8	-1.2
LZH				pmax	pmax		
	comp=Z,21nm,1.0s						
WMQ	**Urumqi**	**32.55**	**290**	*eP*	**P**	**04 37 42.8**	**-0.3**
MKAR	**Makanchi Array**	**35.76**	**296**	P	**P**	**04 38 08.9**	**-1.0**
	0.3nm,0.7s,baz=98,slow=8.0,SNR=3.8						
KURK	**Kurchatov**	**37.60**	**303**	P	**P**	**04 38 23.3**	**-1.5**
KURK				IAmb	IAmb	04 38 24.4	
	comp=Z,2.7nm,0.6s						
KURBB	**Kurchatov Arra**	**37.67**	**303**	P	**P**	**04 38 24.1**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=84,slow=8.5,SNR=13						
KKAR	**Karatay Array**	**44.78**	**294**	P	**P**	**04 39 21.8**	**0.0**
IMAR	**Indian Mountai**	**46.79**	**33**	P	**P**	**04 39 38.0**	**+1.3**
BPAW	**Bear Paw Mtn.**	**48.23**	**35**	P	**P**	**04 39 48.4**	**+0.8**
COLA	**College**	**49.41**	**34**	P	**P**	**04 39 56.2**	**+0.1**
IL31		**49.83**	**34**	P	**P**	**04 40 00.5**	**+1.2**
ILAR	**Eielson Array**	**49.83**	**34**	P	**P**	**04 40 00.2**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=288,slow=8.1,SNR=28						
ILAR	**Eielson Array**	**49.83**	**34**	P	**P**	**04 40 00.0**	**+0.7**
HDA	**Harding Lake**	**49.89**	**34**	P	**P**	**04 40 01.0**	**+1.2**
BMAR	**Burnt Mountain**	**50.14**	**30**	P	**P**	**04 40 02.6**	**+1.0**
SCRK	**Sand Creek**	**51.26**	**34**	P	**P**	**04 40 11.2**	**+1.3**
SCRK				IAmb	IAmb	04 40 11.7	
	comp=Z,4.8nm,0.6s						
EGAK	**Eagle**	**52.20**	**33**	P	**P**	**04 40 17.5**	**+1.1**
BCAR	**Beaver Creek A**	**52.47**	**35**	P	**P**	**04 40 20.4**	**+1.9**
EPYK	**Eagle Plains**	**53.42**	**30**	P	**P**	**04 40 26.2**	**+1.0**
HYT	**Haines Junctio**	**55.17**	**37**	IAmb	IAmb	04 40 41.2	
	comp=Z,8.7nm,0.9s						
ARCES	**ARCESS Array B**	**57.33**	**336**	P	**P**	**04 40 52.1**	**-0.1**
	comp=Z,2.1nm,0.9s,baz=66,slow=8.9,SNR=9.7						
WRA	**Warramunga Arr**	**60.98**	**178**	P	**P**	**04 41 17.9**	**+0.6**
	comp=Z,0.8nm,1.0s,baz=353,slow=7.0,SNR=1.7						
KIP	**Kipapa**	**61.26**	**86**	P	**P**	**04 41 20.4**	**+1.2**
FINES	**FINESS Array B**	**61.54**	**328**	P	**P**	**04 41 19.9**	**-0.5**
	comp=Z,2.7nm,0.7s,baz=82,slow=6.4,SNR=18						
FINES	**FINESS Array B**	**61.54**	**328**	P	**P**	**04 41 18.6**	**-1.8**
YKA	**Yellowknife Ar**	**63.60**	**28**	P	**P**	**04 41 34.8**	**+1.1**
	comp=Z,2.8nm,0.8s,baz=310,slow=5.7,SNR=26						
ASAR	**Alice Springs**	**64.67**	**178**	P	**P**	**04 41 42.0**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=357,slow=7.5,SNR=7.9						
NOA	**NORSAR Array B**	**67.29**	**333**	P	**P**	**04 41 56.7**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=49,slow=5.5,SNR=3.4						
SFJD	**Kangerlussuaq**	**71.99**	**1**	P	**P**	**04 42 21.4**	**-3.3**
STKA	**Stephens Creek**	**73.35**	**172**	P	**P**	**04 42 35.1**	**+2.2**
	comp=Z,0.9nm,0.5s,baz=350,slow=6.1,SNR=3.3						
STKA	**Stephens Creek**	**73.35**	**172**	IAmb	IAmb	04 43 35.5	
	comp=Z,7.7nm,1.9s						
ARMA	**Armidale**	**73.61**	**163**	P	**P**	**04 42 37.3**	**+2.7**
FFC	**Flin Flon**	**73.75**	**29**	P	**P**	**04 42 35.8**	**+0.8**
FFC					**P**	**04 42 36.4**	**+1.4**
FFC				IAmb	IAmb	04 42 37.0	
	comp=Z,3.3nm,0.8s						
BMO	**Blue Mountains**	**74.08**	**44**	P	**P**	**04 42 38.0**	**+0.8**
BMO				IAmb	IAmb	04 45 14.8	
	comp=Z,12nm,1.9s						
J08A	**Circle Bar Ran**	**74.47**	**46**	P	**P**	**04 42 41.6**	**+2.2**
J08A				IAmb	IAmb	04 42 43.7	
	comp=Z,8.0nm,1.4s						
MFID	**Camas Ranch**	**75.83**	**44**	P	**P**	**04 42 47.5**	**+0.5**
MFID				IAmb	IAmb	04 42 50.2	
	comp=Z,4.3nm,0.9s						
DLMT	**Dillon**	**76.11**	**41**	P	**P**	**04 42 50.1**	**+1.5**
MCMT	**McKenzie Canyo**	**76.37**	**42**	P	**P**	**04 42 51.7**	**+1.6**
BOZ	**Bozeman (W)**	**76.42**	**40**	P	**P**	**04 42 52.3**	**+2.0**
BOZ				IAmb	IAmb	04 42 53.3	
	comp=Z,3.0nm,0.8s						
NVAR	**Mina Array Bea**	**77.92**	**49**	P	**P**	**04 43 01.0**	**+2.3**
	comp=Z,1.4nm,0.6s,baz=300,slow=5.3,SNR=17						
NVAR	**Mina Array Bea**	**77.92**	**49**	P	**P**	**04 43 00.8**	**+2.2**
HWUT	**Hardware Ranch**	**79.34**	**43**	P	**P**	**04 43 07.7**	**+1.7**
PDAR	**Pinedale Array**	**79.50**	**41**	P	**P**	**04 43 08.5**	**+1.5**
	comp=Z,2.3nm,0.7s,baz=320,slow=0.9,SNR=22						
PDAR	**Pinedale Array**	**79.50**	**41**	P	**P**	**04 43 08.4**	**+1.4**
MSU	**Marysvale**	**81.26**	**46**	P	**P**	**04 43 18.8**	**+2.6**
U15A	**North Rim**	**82.71**	**47**	P	**P**	**04 43 25.8**	**+2.1**
U15A				IAmb	IAmb	04 43 27.4	
	comp=Z,4.2nm,0.8s						
TXAR	**Lajitas Array**	**92.80**	**46**	P	**P**	**04 44 13.6**	**+2.3**
	comp=Z,0.3nm,0.6s,baz=279,slow=2.4,SNR=4.7						

IDC ***15*** *04:

	comp=Z,42nm,0.6s								
KOLN	**Koldanda**	**58.42**	**295**	*e*P		**P**		**04 47 49.9**	**-1.1**
	comp=Z,17nm,0.7s								
PYUN	**Piuthan**	**58.98**	**295**	*e*P		**P**		**04 47 53.0**	**-1.9**
	comp=Z,25nm,0.7s								
MK31	**Makanchi Array**	**61.96**	**317**	P		**P**		**04 48 14.1**	**-0.6**
MKAR	**Makanchi Array**	**61.96**	**317**	P		**P**		**04 48 14.4**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=95,slow=9.3,SNR=15								
MKAR	**Makanchi Array**	**61.96**	**317**	P		**P**		**04 48 14.2**	**-0.5**
MAKZ	**Makanchi**	**62.18**	**317**	P		**P**		**04 48 14.8**	**-1.4**
MAKZ				IAmb		IAmb		04 48 19.1	
	comp=Z,4.5nm,0.7s								
ZALV	**Zalesovo Beam**	**62.30**	**325**	P		**P**		**04 48 17.7**	**+0.9**
	comp=Z,1.8nm,0.4s,baz=125,slow=7.6,SNR=6.3								
ZALV				PcP		**PcP**		**04 48 55.2**	**-1.2**
	comp=Z,1.9nm,0.6s,baz=113,slow=3.7,SNR=5.2								
ZALV	**Zalesovo Beam**	**62.30**	**325**			**PcP**		**04 48 54.9**	**-1.5**
KURK	**Kurchatov**	**65.15**	**320**	P		**P**		**04 48 35.0**	**-0.6**
NRIK	**Noril'sk**	**67.15**	**341**	LR		LR		05 18 42.5	
	comp=Z,21nm,21.4s,baz=68,slow=36								
NIL	**Nilore**	**67.47**	**301**	P		**P**		**04 48 50.7**	**-0.2**
BPAW	**Bear Paw Mtn.**	**68.17**	**25**	P		**P**		**04 48 55.3**	**+0.6**
WRH	**Wood River Hil**	**69.48**	**25**	P		**P**		**04 49 03.5**	**+0.7**
WRH				IAmb		IAmb		04 49 05.7	
	comp=Z,4.7nm,0.9s								
KKAR	**Karatay Array**	**69.80**	**312**	P		**P**		**04 49 04.2**	**-1.0**
GAR	**Garm**	**69.86**	**307**	P		**P**		**04 49 05.1**	**-0.7**
HDA	**Harding Lake**	**69.95**	**26**	P		**P**		**04 49 07.4**	**+1.7**
IL31		**70.06**	**25**	P		**P**		**04 49 05.1**	**-1.3**
ILAR	**Eielson Array**	**70.06**	**25**	P		**P**		**04 49 04.8**	**-1.6**
	comp=Z,2.2nm,0.7s,baz=253,slow=5.2,SNR=20								
ILAR				LR		LR		05 22 27.3	
	comp=Z,8.8nm,18.0s,baz=282,slow=38								
ILAR	**Eielson Array**	**70.06**	**25**	P		**P**		**04 49 04.7**	**-1.7**
BRVK	**Borovoye**	**70.60**	**322**	P		**P**		**04 49 09.5**	**-0.4**
BRVK				IAmb		IAmb		04 49 13.2	
	comp=Z,5.8nm,0.8s								
KBL	**Kabul**	**70.95**	**302**	P		**P**		**04 49 12.8**	**+0.1**
KBL				IAmb		IAmb		04 49 15.1	
	comp=Z,4.2nm,0.7s								
DOT	**Dot Lake**	**71.02**	**27**	P		**P**		**04 49 12.3**	**0.0**
DOT				IAmb		IAmb		04 49 16.2	
	comp=Z,6.0nm,0.8s								
BMAR	**Burnt Mountain**	**71.59**	**23**	P		**P**		**04 49 16.0**	**+0.3**
BCAR	**Beaver Creek A**	**71.94**	**27**	P		**P**		**04 49 17.6**	**-0.3**
INK	**Inuvik**	**75.85**	**22**	P		**P**		**04 49 41.0**	**+0.5**
ABKAR	**Akbulak array**	**77.05**	**318**	P		**P**		**04 49 46.6**	**-1.2**
GEYT	**Alibeck**	**79.48**	**307**	P		**P**		**04 50 01.6**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=98,slow=2.1,SNR=3.8								
GEYT				LR		LR		05 30 18.4	
	comp=Z,14nm,19.2s,baz=45,slow=40								
GEYT	**Alibeck**	**79.48**	**307**	P		**P**		**04 50 00.2**	**-1.4**
CASY	**Casey**	**82.16**	**193**	P		**P**		**04 50 14.6**	**-0.4**
CASY				IAmb		IAmb		04 53 15.4	
	comp=Z,5.5nm,1.0s								
YKA	**Yellowknife Ar**	**84.35**	**27**	P		**P**		**04 50 26.6**	**+0.1**
	comp=Z,3.7nm,0.8s,baz=282,slow=5.0,SNR=17								
YKA				LR		LR		05 27 24.6	
	comp=Z,19nm,20.1s,baz=0.0,slow=35								
B08A	**Colville Reser**	**85.22**	**42**	P		**P**		**04 50 31.6**	**+0.2**
B08A				IAmb		IAmb		04 50 35.6	
	comp=Z,6.1nm,1.1s								
C09A	**Chrisman Ranch**	**86.05**	**42**	P		**P**		**04 50 34.9**	**-0.6**
NEW	**Newport**	**86.68**	**41**	P		**P**		**04 50 38.8**	**+0.2**
J08A	**Circle Bar Ran**	**86.97**	**46**	P		**P**		**04 50 40.8**	**+0.6**
BMO	**Blue Mountains**	**87.42**	**45**	IAmb		IAmb		04 50 46.6	
	comp=Z,2.7nm,0.8s								
ARCES	**ARCESS Array B**	**88.12**	**342**	P		**P**		**04 50 46.7**	**+1.6**
	comp=Z,4.8nm,1.0s,baz=52,slow=7.9,SNR=7.6								
ARCES				LR		LR		05 34 24.8	
	comp=Z,18nm,18.6s,baz=130,slow=38								
NVAR	**Mina Array Bea**	**88.29**	**51**	P		**P**		**04 50 48.3**	**+1.6**
	comp=Z,2.3nm,0.6s,baz=267,slow=5.3,SNR=25								
NVAR	**Mina Array Bea**	**88.29**	**51**	P		**P**		**04 50 47.9**	**+1.1**
NVAR						**PcP**		**04 50 48.2**	**-0.3**
KVN	**Kaiserville**	**88.29**	**51**	IAmb		IAmb		04 50 48.8	
	comp=Z,4.4nm,1.0s								
NV11	**Mina Array Sit**	**88.40**	**51**	IAmb		IAmb		04 50 49.9	
	comp=Z,2.0nm,0.8s								
MFID	**Camas Ranch**	**88.82**	**46**	IAmb		IAmb		04 50 57.2	
	comp=Z,3.7nm,1.0s								
KBZ	**Khabaz**	**89.60**	**315**	P		**P**		**04 50 53.4**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=103,slow=6.8,SNR=3.9								
TPNV	**Topopah Spring**	**90.25**	**52**	IAmb		IAmb		04 51 03.6	
	comp=Z,3.0nm,0.8s								
FINES	**FINESS Array B**	**92.06**	**335**	P		**P**		**04 51 01.5**	**-2.0**
	comp=Z,2.2nm,0.5s,baz=76,slow=3.9,SNR=14								
FFC	**Flin Flon**	**93.30**	**32**	P		**P**		**04 51 10.0**	**+0.5**
PDAR	**Pinedale Array**	**93.39**	**45**	LR		LR		05 26 14.0	
	comp=Z,17nm,20.4s,baz=310,slow=31								
NOA	**NORSAR Array B**	**98.03**	**339**	LR		LR		05 38 12.1	
	comp=Z,12nm,21.5s,baz=35,slow=37								
TORD	**Torodi Ar. Bea**	**135.02**	**303**	PKP		**PKiKP**		**04 57 15.8**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=18,slow=2.4,SNR=4.8								
DBIC	**Dimbokro**	**143.90**	**300**	PKP		PKPbc		04 57 28.5	-0.3
	comp=Z,2.4nm,0.5s,baz=31,slow=6.3,SNR=5.2								

BJI ***15*** *04:46:18.0±0.0,8°.60S×113°.00E,h138km,mB4.9/25, mb4.8/37*

NEIC ***15*** *04:46:19.6±1.5,8°.48S±0°.08×113°.04E±0°.07,h135km±3km, mb4.5/39,Error ellipse: s-maj=12.6km s-min=9.1km az=199.0*

DJA ***15*** *04:46:19.8±0.1,9°.S±2°×11°.3E±°,h115km±2km,M4.9/36, mb4.8/36,mB5.4/6,MLv5.0/20,Mw(mB)4.8/6,Mwp5.5/1*

IDC ***15*** *04:46:20.4±2.7,8°.42S×113°.14E,h136km±24km,mb4.3/20, mb1 4.3/23,mb1mx4.2/36,mbtmp4.7/23,MS2.7/1, Ms1 2.7/1,ms1mx2.3/34,Error ellipse: s-maj=16.2km s-min=9.7km az=77.0*

ISC 15 04:46:19.8±0.7,8°.60S±0°.05×113°.04E±0°.04,h136km±6km, n144,σ1§24/149,mb4.5/38,1C,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.11**	**83**	P	**Pn**	**04 46 44.1**	**-0.2**
JAGI				S	**Sn**	**04 47 01.4**	**-1.6**
JAGI	**Jajag, Banyuwa**	**1.11**	**83**		**Pn**	**04 46 44.1**	**-0.2**
GRJI	**Gresik**	**1.77**	**342**	P	**Pn**	**04 46 52.1**	**+0.7**
GRJI				S	**Sn**	**04 47 16.4**	**+0.8**
KMMI	**Kalianget**	**1.80**	**31**	P	**Pn**	**04 46 52.6**	**+0.8**
KMMI				S	**Sn**	**04 47 16.8**	**+0.6**
DNP	**Denpasar**	**2.15**	**92**	P	**Pn**	**04 46 56.9**	**+0.9**
DNP				S	**Sn**	**04 47 23.3**	**-0.4**
SRBI	**Singaraja**	**2.21**	**77**	P	**Pn**	**04 46 56.9**	**+0.2**
SRBI				S	**Sn**	**04 47 25.2**	**+0.1**
WOJI	**Wonogiri, Jawa**	**2.23**	**290**	P	**Pn**	**04 46 56.7**	**-0.2**
WOJI				S	**Sn**	**04 47 24.4**	**-1.0**
UGM	**Wanagama**	**2.58**	**285**	P	**Pn**	**04 47 01.1**	**-0.3**
UGM				S	**Sn**	**04 47 31.9**	**-1.4**
UGM	**Wanagama**	**2.58**	**285**		**Pn**	**04 47 00.5**	**-0.8**
SMRI	**Semarang**	**3.00**	**301**	P	**Pn**	**04 47 07.1**	**+0.4**
SMRI				S	**Sn**	**04 47 42.9**	**0.0**
SMRI	**Semarang**	**3.00**	**301**		**Pn**	**04 47 06.5**	**-0.2**
UWJI	**Ujung Watu**	**3.00**	**316**	P	**Pn**	**04 47 07.3**	**+0.6**
PLAI	**Plampang**	**4.69**	**93**	P	**Pn**	**04 47 29.4**	**+0.5**
CISI	**Cisompet, Garu**	**5.28**	**281**	P	**Pn**	**04 47 35.7**	**-1.1**
	2.9nm11µm264nm,0.7s						
CISI	**Cisompet, Garu**	**5.28**	**281**	Pn	**Pn**	**04 47 35.9**	**-0.9**
LEM	**Lembang**	**5.65**	**288**	P	**Pn**	**04 47 41.1**	**-0.9**
	0.3nm33nm,0.6s						
CNJI	**Cibinong**	**5.99**	**282**	P	**Pn**	**04 47 46.6**	**+0.3**
	1.1nm108nm,1.0s						
KBKI	**Kotabaru**	**6.12**	**31**	P	**Pn**	**04 47 50.0**	**+1.9**
	0.7nm2µm210nm,0.6s						
WBSI	**Waikabubak, Su**	**6.36**	**100**	P	**Pn**	**04 47 52.6**	**+1.3**
	1.2nm90nm,0.8s						
TNG	**Tangerang**	**6.78**	**290**	P	**Pn**	**04 47 57.6**	**+0.6**
	4.2nm497nm,0.5s						
XMIS	**Christmas Isla**	**7.52**	**255**	Pn	**Pn**	**04 48 03.4**	**-3.5**
KAPI	**Kappang**	**7.56**	**62**	P	**Pn**	**04 48 08.8**	**+1.4**
	2.8nm,0.3s,baz=254,slow=5.7,SNR=12						
KAPI				LR	LR	04 52 00.5	
	comp=Z,53nm,20.8s,baz=204,slow=46						
KAPI	**Kappang**	**7.56**	**62**	Pn	**Pn**	**04 48 07.4**	**0.0**
BASI	**Baing, Sumba**	**7.61**	**103**	P	**Pn**	**04 48 09.0**	**+0.9**
	1.1nm295nm,1.6s						
TPI	**Tanjungpandan**	**7.90**	**317**	P	**Pn**	**04 48 13.6**	**+1.6**
SPSI	**Sidrap Palu**	**8.12**	**56**	P	**Pn**	**04 48 15.4**	**+0.4**
	44nm,1.1s						
BNSI	**Bone**	**8.17**	**60**	P	**Pn**	**04 48 18.5**	**+2.9**
	50nm,0.8s						
BKB	**Balikpapan**	**8.24**	**28**	P	**Pn**	**04 48 19.7**	**+3.1**
EDFI	**Ende, Flores**	**8.56**	**92**	P	**Pn**	**04 48 18.7**	**-2.2**
TTSI	**Tana Toraja**	**8.72**	**51**	P	**Pn**	**04 48 26.2**	**+3.2**
	28nm,0.8s						
KASI	**Kota Agung**	**9.01**	**289**	P	**Pn**	**04 48 27.5**	**+0.6**
	26nm,0.4s						
MMRI	**Maumere**	**9.10**	**91**	P	**Pn**	**04 48 29.1**	**+1.0**
	47nm,0.5s						
LWLI	**Liwa**	**9.60**	**291**	P	**Pn**	**04 48 35.9**	**+1.0**
BATI	**Baumata**	**10.61**	**99**	P	**Pn**	**04 48 46.2**	**-2.0**
	9.3nm,0.3s,baz=279,slow=4.4,SNR=7.3						
BATI				S	Sn	04 50 36.3	-9.1
	14nm,0.3s,baz=38,slow=22,SNR=6.8						
BATI	**Baumata**	**10.61**	**99**	P	**Pn**	**04 48 46.1**	**-2.1**
	41nm,1.8s						
MNAI	**Manna**	**10.87**	**292**	P	**Pn**	**04 48 50.6**	**-1.1**
	350nm,2.5s						
MNAI	**Manna**	**10.87**	**292**	Pn	**Pn**	**04 48 50.2**	**-1.5**
SOEI	**Soe**	**11.15**	**97**	P	**Pn**	**04 48 53.9**	**-1.6**
	60nm,1.2s						
SOEI	**Soe**	**11.15**	**97**	Pn	**Pn**	**04 48 54.6**	**-0.9**
MPSI	**Mapaga**	**11.21**	**38**	P	P	04 48 59.4	-5.5
	16nm,0.8s						
MRSI	**Marisa**	**12.65**	**45**	P	**P**	**04 49 18.4**	**-2.6**
	924nm121nm,0.9s						
KMSI	**Cibinong**	**14.21**	**51**	P	**P**	**04 49 38.5**	**+0.1**
SANI	**Sanana**	**14.44**	**64**	P	**P**	**04 49 39.5**	**-1.4**
	59nm,1.0s						
PSA00	**Pilbara Seismi**	**14.47**	**154**	Pn	**Pn**	**04 49 38.9**	**+0.6**
FITZ	**Fitzroy Crossi**	**15.46**	**129**	P	**Pn**	**04 49 51.3**	**+0.6**
	0.7nm,0.3s,baz=318,slow=9.5,SNR=17						
FITZ				S	Sn	04 52 31.1	-11
	1.0nm,0.3s,baz=188,slow=23,SNR=7.8						
FITZ	**Fitzroy Crossi**	**15.46**	**129**		**Pn**	**04 49 51.7**	**+1.0**
LBMI	**Labuha**	**16.44**	**62**	P	**P**	**04 50 04.8**	**+1.8**
	113nm,0.7s						
MTN	**Manton Dam**	**18.27**	**105**	P	**P**	**04 50 22.6**	**-0.6**
SIJI	**Sorong**	**19.71**	**68**	P	**P**	**04 50 39.3**	**+0.4**
	4.8nm,0.3s,baz=232,slow=11,SNR=6.6						
TPTI		**19.72**	**306**	P	**Pn**	**04 50 41.6**	**-0.2**
	3.6nm,0.9s						
FAKI	**Fak Fak**	**19.92**	**75**	P	**Pn**	**04 50 42.9**	**-1.3**
	32nm,1.0s						
FAKI	**Fak Fak**	**19.92**	**75**	P	**P**	**04 50 41.1**	**0.0**
FAKI				IAmb	IAmb	04 50 45.0	
	comp=Z,44nm,1.2s						
MORW	**Morawa**	**20.55**	**172**	P	**P**	**04 50 50.5**	**+2.8**
MORW				IAmb	IAmb	04 50 52.1	
	comp=Z,18nm,0.8s						
WB0	**Warramunga Arr**	**23.46**	**121**	P	**P**	**04 51 17.7**	**+0.4**
WB0				IAmb	IAmb	04 51 18.0	
	comp=Z,12nm,0.5s						
WRA	**Warramunga Arr**	**23.49**	**121**	P	**P**	**04 51 17.9**	**+0.4**
	comp=Z,3.4nm,0.4s,baz=299,slow=12,SNR=75						
WRA	**Warramunga Arr**	**23.49**	**121**	P	**P**	**04 51 17.9**	**+0.4**
WB2	**Warramunga Arr**	**23.50**	**121**	P	**P**	**04 51 18.3**	**+0.8**
WB2				IAmb	IAmb	04 51 18.9	
	comp=Z,15nm,0.8s						
WR0	**Warramunga Arr**	**23.66**	**121**	P	**P**	**04 51 19.0**	**-0.1**
WR0				IAmb	IAmb	04 51 20.8	
	comp=Z,17nm,0.7s						
ASAR	**Alice Springs**	**24.97**	**129**	P	**P**	**04 51 31.6**	**+0.7**
	comp=Z,12nm,0.5s,baz=303,slow=8.7,SNR=235						
ASAR				S	**S**	**04 55 43.6**	**-1.2**
	comp=Z,0.6nm,0.9s,baz=306,slow=18,SNR=4.4						
ASAR				ScP	**ScP**	**04 58 28.9**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=331,slow=2.2,SNR=7.7						
AS31	**Alice Springs**	**24.97**	**129**	P	**P**	**04 51 31.8**	**+0.8**
FORT	**Forrest**	**26.14**	**150**	P	**P**	**04 51 42.2**	**+0.8**
CMAR	**Chiang Mai Arr**	**30.27**	**333**	P	**P**	**04 52 18.8**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=167,slow=8.6,SNR=10						
BBOO	**Buckleboo**	**32.16**	**142**	P	**P**	**04 52 35.5**	**+0.9**
KMI	**Kunming**	**34.99**	**344**	P	**P**	**04 53 01.6**	**+2.1**
KMI				pmax	pmax		
	comp=Z,11nm,2.0s						
STKA	**Stephens Creek**	**35.21**	**135**	P	**P**	**04 53 02.6**	**+1.5**
	comp=Z,16nm,0.4s,baz=308,slow=9.8,SNR=61						
STKA	**Stephens Creek**	**35.21**	**135**	P	**P**	**04 53 01.8**	**+0.7**
STKA				IAmb	IAmb	04 53 03.5	
	comp=Z,5.7nm,0.8s						
H08S2	**Diego Garcia H**	**40.14**	**268**	T	T	05 36 01.8	
	baz=94,slow=75,SNR=5.0						
H08S3	**Diego Garcia H**	**40.15**	**268**	T	T	05 36 04.9	
	baz=94,slow=75,SNR=4.2						
H08S1	**Diego Garcia H**	**40.15**	**268**	T	T	05 36 04.1	
	baz=94,slow=75,SNR=3.8						
CD2	**Chengdu**	**40.28**	**348**	P	**P**	**04 53 43.8**	**+0.1**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
NJ2	**Nanjing**	**40.81**	**8**	*e*P	**P**	**04 53 48.8**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,16nm,0.6s						
XAN	**Xi'an**	**42.59**	**355**	P	**P**	**04 54 04.0**	**+1.5**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ODAN	**Odare**	**43.15**	**326**	*e*P	**P**	**04 54 06.9**	**-0.5**
	comp=Z,44nm,0.7s						
TAPN	**Taplejung**	**43.35**	**326**	*e*P	**P**	**04 54 08.9**	**-0.2**
	comp=Z,32nm,0.8s						
RAMN	**Ramite**	**43.66**	**325**	*e*P	**P**	**04 54 11.3**	**-0.2**
JIRN	**Jiri**	**44.44**	**325**	*e*P	**P**	**04 54 17.4**	**-0.4**
	comp=Z,74nm,0.6s						
GUN	**Gumba**	**44.81**	**325**	*e*P	**P**	**04 54 20.3**	**-0.4**
	comp=Z,37nm,0.6s						
PKI	**Pulchoki**	**44.82**	**324**	*e*P	**P**	**04 54 19.7**	**-1.1**
PKIN	**Phulchoki**	**44.83**	**324**	*e*P	**P**	**04 54 19.8**	**-1.0**
JNU	**Nakatsue**	**44.84**	**21**	P	**P**	**04 54 19.0**	**-1.5**
	comp=Z,12nm,1.1s,baz=208,slow=1.9,SNR=4.6						
JNU	**Nakatsue**	**44.84**	**21**	IAmb	IAmb	04 54 33.0	
	comp=Z,26nm,1.4s						
DMN	**Daman**	**45.02**	**324**	*e*P	**P**	**04 54 21.6**	**-0.7**
	comp=Z,30nm,0.6s						
LZH	**Lanzhou**	**45.29**	**350**	⇑P	**P**	**04 54 25.0**	**+0.9**
LZH				pP	pP	04 54 55.3	+0.1
LZH				sP	sP	04 55 10.6	+0.1
LZH				PP	**PP**	**04 56 14.0**	**+1.0**
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
LZH				pmax	pmax		
	comp=Z,110nm,5.6s						
GKN	**Gorkha**	**45.59**	**324**	*e*P	**P**	**04 54 25.9**	**-0.8**
KOLN	**Koldanda**	**46.03**	**323**	*e*P	**P**	**04 54 29.2**	**-1.0**
DANN	**Dangsing**	**46.37**	**323**	*e*P	**P**	**04 54 31.9**	**-1.0**
	comp=Z,45nm,0.6s						
PYUN	**Piuthan**	**46.64**	**323**	*e*P	**P**	**04 54 34.6**	**-0.3**
KSAR	**Wonju Array Be**	**47.87**	**16**	P	**P**	**04 54 43.4**	**-0.6**
KSRS	**Korea Array**	**47.89**	**16**	P	**P**	**04 54 44.1**	**0.0**
	comp=Z,2.5nm,0.5s,baz=196,slow=7.9,SNR=8.9						
BJI	**Beijing**	**48.48**	**3**	P	**P**	**04 54 48.3**	**-0.4**
BJI				pmax	pmax		
	comp=Z,13nm,0.5s						
HHC	**Hu-ho-hao-te**	**49.23**	**359**	*e*P	**P**	**04 54 55.6**	**+1.1**
HHC				pmax	pmax		
	comp=Z,9.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,69nm,5.4s						
INU	**Inuyama**	**49.23**	**26**	P	**P**	**04 54 52.7**	**-1.8**
MAJO	**Matsushiro**	**50.75**	**26**	P	**P**	**04 55 03.6**	**-2.4**
MAT	**Matsushiro**	**50.75**	**26**	P	**P**	**04 55 03.6**	**-2.4**
MJAR	**Matsushiro Arr**	**50.75**	**26**	P	**P**	**04 55 04.1**	**-1.9**
	comp=Z,16nm,0.8s,baz=205,slow=8.5,SNR=62						
MJAR	**Matsushiro Arr**	**50.75**	**26**	P	**P**	**04 55 04.1**	**-1.9**
MJB9	**Matsu-Tunnel**	**50.76**	**26**	P	**P**	**04 55 04.3**	**-1.7**
USRK	**Ussuriysk Ar.**	**55.29**	**17**	P	**P**	**04 55 38.3**	**-0.7**
	comp=Z,15nm,0.8s,baz=197,slow=5.2,SNR=27						
USRK	**Ussuriysk Ar.**	**55.29**	**17**	P	**P**	**04 55 38.1**	**-1.0**
ULN	**Ulaanbaatar**	**56.47**	**355**	P	**P**	**04 55 47.4**	**-0.2**
SONM	**Songino Array**	**56.50**	**355**	P	**P**	**04 55 47.5**	**-0.3**
	comp=Z,10nm,0.4s,baz=173,slow=8.6,SNR=29						
SONM	**Songino Array**	**56.50**	**355**	P	**P**	**04 55 47.5**	**-0.3**
NIL	**Nilore**	**56.50**	**320**	P	**P**	**04 55 45.4**	**-2.6**
WMQ	**Urumqi**	**57.02**	**338**	*e*P	**P**	**04 55 51.9**	**+0.4**
WMQ				pmax	pmax		
	comp=Z,16nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,13nm,4.5s						
ASAJ	**Asahikawa**	**58.91**	**25**	P	**P**	**04 56 03.8**	**-0.8**
	comp=Z,13nm,0.7s,baz=240,slow=10,SNR=19						
KSH	**Kashi**	**58.92**	**327**	*e*P	**P**	**04 56 07.4**	**+2.5**
MK31	**Makanchi Array**	**61.58**	**336**	P	**P**	**04 56 21.9**	**-0.8**
MKAR	**Makanchi Array**	**61.58**	**336**	P	**P**	**04 56 22.1**	**-0.7**
	comp=Z,9.1nm,0.4s,baz=149,slow=7.5,SNR=195						
MKAR	**Makanchi Array**	**61.58**	**336**	P	**P**	**04 56 21.6**	**-1.1**
MAKZ	**Makanchi**	**61.72**	**336**	P	**P**	**04 56 22.9**	**-0.7**
MAKZ				IAmb	IAmb	04 56 23.6	
	comp=Z,3.6nm,0.7s						
AAK	**Ala-Archa**	**61.94**	**329**	P	**P**	**04 56 24.1**	**-1.2**
AAK				IAmb	IAmb	04 56 26.6	
	comp=Z,6.2nm,1.1s						
KK31	**Karatay Array**	**64.37**	**327**	P	**P**	**04 56 40.7**	**-0.5**
KK31				IAmb	IAmb	04 57 03.4	
	comp=Z,9.6nm,1.8s						
KKAR	**Karatay Array**	**64.37**	**327**	P	**P**	**04 56 41.2**	**0.0**
KKAR	**Karatay Array**	**64.37**	**327**	IAmb	IAmb	04 57 03.4	
	comp=Z,9.6nm,1.8s						
KURK	**Kurchatov**	**66.18**	**337**	P	**P**	**04 56 51.9**	**-0.8**
KURK				IAmb	IAmb	04 56 52.6	
	comp=Z,5.6nm,0.7s						
ZAA0	**Zalesovo Array**	**66.72**	**342**	P	**P**	**04 56 54.9**	**-1.1**
ZAA0				IAmb	IAmb	04 56 55.5	
	comp=Z,10.0nm,0.9s						
ZALV	**Zalesovo Beam**	**66.72**	**342**	P	**P**	**04 56 54.8**	**-1.2**
	comp=Z,7.8nm,0.4s,baz=151,slow=5.0,SNR=42						
MAW	**Mawson**	**67.67**	**199**	P	**P**	**04 57 03.4**	**+1.6**
	comp=Z,5.0nm,0.8s,baz=14,slow=7.8,SNR=8.7						
MAW	**Mawson**	**67.67**	**199**	P	**P**	**04 57 02.0**	**+0.2**
MAW				IAmb	IAmb	04 58 37.3	
	comp=Z,2.6nm,0.4s						
GEYT	**Alibeck**	**69.00**	**316**	P	**P**	**04 57 10.2**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=119,slow=5.1,SNR=2.9						
GEYT	**Alibeck**	**69.00**	**316**	P	**P**	**04 57 09.6**	**-1.1**
YAK	**Yakutsk**	**71.60**	**8**	P	**P**	**04 57 24.9**	**-1.1**
	comp=Z,5.7nm,0.4s,baz=61,slow=1.8,SNR=4.0						
YAK	**Yakutsk**	**71.60**	**8**	P	**P**	**04 57 24.7**	**-1.3**
PETK	**Petropavlovsk-**	**72.21**	**26**	P	**P**	**04 57 29.3**	**-0.6**
	comp=Z,3.0nm,0.6s,baz=176,slow=2.6,SNR=9.4						
VNDA	**Vanda**	**73.34**	**170**	P	**P**	**04 57 37.6**	**+1.5**
	comp=Z,2.5nm,0.4s,baz=315,slow=6.2,SNR=23						
VNDA	**Vanda**	**73.34**	**170**	P	**P**	**04 57 36.8**	**+0.6**
ABKAR	**Akbulak array**	**73.93**	**327**	P	**P**	**04 57 39.2**	**-0.8**
KMBO	**Kilima Mbogo**	**75.78**	**271**	P	**P**	**04 57 53.7**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=39,slow=3.3,SNR=3.9						
ARU	**Arti**	**78.72**	**333**	P	**P**	**04 58 05.0**	**-1.9**
NRIK	**Noril'sk**	**79.75**	**351**	P	**P**	**04 58 11.7**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=108,slow=2.6,SNR=5.5						
TIXI	**Tiksi**	**80.77**	**5**	P	**P**	**04 58 16.4**	**-1.3**
TIXI				IAmb	IAmb	04 58 16.9	
	comp=Z,7.7nm,0.8s						
QSPA	**South Pole Qui**	**81.39**	**180**	P	**P**	**04 58 21.5**	**+0.2**
BOSA	**Boshof**	**84.00**	**242**	P	**P**	**04 58 36.7**	**+1.1**
	comp=Z,2.1nm,0.5s,baz=118,slow=4.6,SNR=8.4						
SNAA	**Sanae**	**89.75**	**197**	P	**P**	**04 59 04.5**	**+2.0**
SNAA	**Sanae**	**89.75**	**197**	P	**P**	**04 59 03.5**	**+1.0**
VNA2	**Neumayer--Watz**	**91.39**	**196**	P	**P**	**04 59 11.7**	**+1.7**
	baz=103,slow=4.5						
VNA3	**Neumayer Olymp**	**91.85**	**196**	P	**P**	**04 59 13.8**	**+1.6**
YKA	**Yellowknife Ar**	**116.17**	**22**	PKP	**PKiKP**	**05 04 46.9**	**+0.3**
	comp=Z,0.6nm,1.0s,baz=316,slow=1.2,SNR=6.3						
PDAR	**Pinedale Array**	**129.54**	**40**	SKPbc	SKPab	05 08 21.8	-0.2
	comp=Z,0.6nm,0.7s,baz=191,slow=1.2,SNR=6.4						
ULM	**Lac du Bonnet**	**132.04**	**25**	SKPbc	**SKPbc**	**05 08 31.0**	**-0.1**
	comp=Z,5.2nm,0.6s,baz=329,slow=5.5,SNR=4.7						
TXAR	**Lajitas Array**	**139.88**	**54**	SKPbc	**SKiKP**	**05 08 57.4**	**-1.4**
	comp=Z,0.1nm,0.4s,baz=264,slow=1.6,SNR=4.2						
CPUP	**Villa Florida**	**144.03**	**195**	PKP	**PKPdf**	**05 05 39.9**	**-0.2**
	comp=Z,8.1nm,0.6s,baz=154,slow=2.4,SNR=22						
CPUP	**Villa Florida**	**144.03**	**195**	PKPdf	**PKPdf**	**05 05 40.0**	**-0.1**
BDFB	**Brasilia**	**149.46**	**218**	PKPbc	**PKiKP**	**05 05 55.6**	**+0.4**
	comp=Z,2.7nm,0.6s,baz=208,slow=2.3,SNR=5.0						
BDFB				PK

SCM	**Sheep Creek Mo**	**12.11**	**40**	Pn		**Pn**	**05 32 31.7**	**-2.0**
TRF	**Thorofare Moun**	**12.20**	**30**	Pn		**Pn**	**05 32 34.4**	**-0.6**
BPAW	**Bear Paw Mtn.**	**12.51**	**27**	Pn		**Pn**	**05 32 38.8**	**-0.2**
GLB	**Gilahina Butte**	**13.33**	**45**	Pn		**Pn**	**05 32 49.4**	**-0.8**
RIDG	**Independent Ri**	**14.18**	**36**	Pn		**Pn**	**05 33 01.0**	**-0.8**
ILAR	**Eielson Array**	**14.19**	**30**	Pn		**Pn**	**05 32 59.6**	**-2.3**
	0.0nm,0.3s,baz=220,slow=13,SNR=1.8							
ILAR	**Eielson Array**	**14.19**	**30**	Pn		**Pn**	**05 33 02.9**	**+0.9**
INK	**Inuvik**	**20.57**	**32**	LR		LR	05 43 04.8	
	comp=Z,46nm,18.7s,baz=243,slow=40							
YKA	**Yellowknife Ar**	**26.93**	**51**	P		**P**	**05 35 23.6**	**+2.0**
	0.5nm,0.9s,baz=268,slow=7.7,SNR=2.8							
H11N2	**WAKE ISLAND Hy**	**40.55**	**225**	T		T	06 21 03.6	
	baz=26,slow=75,SNR=7.2							
H11N3	**WAKE ISLAND Hy**	**40.55**	**225**	T		T	06 21 06.3	
	baz=26,slow=75,SNR=6.1							
H11N1	**WAKE ISLAND Hy**	**40.56**	**225**	T		T	06 21 03.0	
	baz=26,slow=75,SNR=6.4							
H11S1	**WAKE ISLAND Hy**	**41.72**	**225**	T		T	06 22 36.2	
	baz=25,slow=76,SNR=13							
H11S2	**WAKE ISLAND Hy**	**41.73**	**225**	T		T	06 22 27.8	
	baz=25,slow=76,SNR=8.7							
H11S3	**WAKE ISLAND Hy**	**41.74**	**225**	T		T	06 22 39.6	
	baz=25,slow=76,SNR=5.8							
TXAR	**Lajitas Array**	**49.39**	**94**	P		**P**	**05 38 31.6**	**+1.3**
	0.1nm,0.4s,baz=306,slow=7.7,SNR=2.0							

NEIC ***15*** *05:52:54.5±1.3,51.65N±0.09×176.57E±0.08, h28km±13km, Error ellipse: s-maj=14.5km s-min=5.1km az=204.0*

AEIC 15 05:52:53±1.8,**51.7N**±0.1×**176.63E**±0.08,**h15**km±5km, **ML3.4**/23**, Error ellipse: s-maj=16.9km s-min=3.6km az=201.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**1.20**	**75**		Pn	05 53 15.3	0.0
LSNW	**Little Sitkin**	**1.21**	**74**		Pn	05 53 15.3	-0.1
LSNW					Sb	05 53 31.1	+0.1
LSPA	**Little Sitkin**	**1.24**	**75**		Pn	05 53 15.9	+0.1
LSPA					Sn	05 53 32.6	+0.3
AMKA	**Amchitka**	**1.69**	**99**		Pn	05 53 22.5	+0.5
AMKA					Sn	05 53 43.1	-0.3
CESW	**Semis' Southwe**	**1.83**	**81**		Pn	05 53 24.7	+0.7
CESW					Sn	05 53 47.5	+0.6
CEAP	**Semis' Anvil P**	**1.86**	**78**		Pn	05 53 25.0	+0.7
SMY	**Shemya**	**1.89**	**305**	Pn	Pn	05 53 24.2	-0.5
SMY					Pb	05 53 24.4	-2.8
SMY					Sn	05 53 47.0	-1.3
SMY					Sb	05 53 47.2	-3.3
CERAA	**Semis' Rag'd T**	**1.91**	**81**		Pn	05 53 25.7	+0.7
TASE	**Tanaga Southea**	**3.32**	**85**		Pn	05 53 45.5	+1.1
TAFP	**Tanaga Falls P**	**3.35**	**84**		Pn	05 53 46.0	+1.1
TAPA	**Tanaga Point A**	**3.46**	**85**		Pn	05 53 47.3	+1.1
KIMD	**Kanaga Island**	**3.81**	**86**		Pn	05 53 52.3	+1.1
KICM	**Kanaga Island**	**3.84**	**84**		Pn	05 53 52.8	+1.3
KIKV	**Kanaga Island**	**3.85**	**84**		Pn	05 53 53.0	+1.2
ADK	**Adak**	**4.16**	**84**		Pn	05 53 57.3	+1.5
ADK					Sn	05 54 46.0	+1.9
GSMY	**Great Sitkin M**	**4.55**	**82**		Pn	05 54 02.4	+1.2
GSTR	**Great Sitkin T**	**4.55**	**82**	Pn	Pn	05 54 04.3	+3.0
ATKA	**Atka Island**	**5.70**	**81**		Pn	05 54 18.8	+1.7
BCAR	**Beaver Creek A**	**24.68**	**46**	P	P	05 58 13.8	+0.8

IDC ***15*** *05:58:08.2±1.3,55.52S×26.80W, h0km, mb4.1/2, mb1 4.2/2, mb1mx3.8/15, mbtmp4.1/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/26, Error ellipse: s-maj=104.5km s-min=32.6km az=103.0*

NEIC ***15*** *05:58:09.6±1.3,55.6S±0.1×26.8W±0.2, h10km±1km, mb4.4/8, Error ellipse: s-maj=26.4km s-min=18.1km az=26.0*

ISC 15 05:58:11.9±0.9,**55.6S**±0.1×**26.9W**±0.1,**h25**km,**n19**, σ0**89**/14,**mb4.3**/5,**MS3.5**/6,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.68**	**280**		Pn	**05 59 34.9**	**+0.4**
HOPE					Sn	**06 00 37.6**	**-1.3**
SNAA	**Sanae**	**19.09**	**157**	P	**P**	**06 02 30.8**	**-1.6**
QSPA	**South Pole Qui**	**34.65**	**180**	P	**P**	**06 04 59.4**	**+0.5**
QSPA				IAmb	IAmb	06 05 19.2	
	comp=Z,7.5nm,1.2s						
CPUP	**Villa Florida**	**36.64**	**310**	LR	LR	06 21 01.8	
	comp=Z,59nm,18.9s,baz=198,slow=38						
CPUP	**Villa Florida**	**36.64**	**310**	P	**P**	**06 05 17.3**	**+1.2**
CPUP				IAmb	IAmb	06 05 24.3	
	comp=Z,20nm,1.4s						
CO02	**Combarbal**	**39.31**	**290**	P	**P**	**06 05 38.9**	**+0.1**
LVC	**Limon Verde**	**45.22**	**299**	LR	LR	06 28 50.2	
	comp=Z,22nm,18.1s,baz=161,slow=41						
BOSA	**Boshof**	**45.71**	**76**	LR	LR	06 22 24.1	
	comp=Z,133nm,18.3s,baz=220,slow=32						
PB01	**IPOC Station P**	**46.82**	**300**	P	**P**	**06 06 39.0**	**-0.6**
VNDA	**Vanda**	**47.03**	**183**	P	**P**	**06 06 41.1**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=176,slow=4.3,SNR=6.4						
VNDA	**Vanda**	**47.03**	**183**	P	**P**	**06 06 41.1**	**+0.7**
VNDA				IAmb	IAmb	06 06 48.0	
	comp=Z,1.6nm,0.8s						
RCBR	**Riachuelo**	**50.15**	**348**	LR	LR	06 26 19.8	
	comp=Z,19nm,18.4s,baz=166,slow=34						
DBIC	**Dimbokro**	**64.69**	**24**	LR	LR	06 30 59.3	
	comp=Z,48nm,18.8s,baz=137,slow=30						
TOA0	**Torodi Ar. Sit**	**72.59**	**29**	P	**P**	**06 09 36.5**	**-0.3**
TOA0				IAmb	IAmb	06 09 50.1	
	comp=Z,2.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**72.59**	**29**	P	**P**	**06 09 36.4**	**-0.3**
	comp=Z,1.6nm,0.5s,baz=199,slow=6.5,SNR=24						
TORD	**Torodi Ar. Bea**	**72.59**	**29**	P	**P**	**06 09 36.2**	**-0.5**
STKA	**Stephens Creek**	**92.32**	**170**	LR	LR	06 51 56.7	
	comp=Z,64nm,18.6s,baz=206,slow=35						
ILAR	**Eielson Array**	**149.93**	**312**	PKPbc	**PKiKP**	**06 17 58.4**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=123,slow=2.0,SNR=6.4						
ILAR	**Eielson Array**	**149.93**	**312**		**PKiKP**	**06 17 59.7**	**+0.4**

INET ***15*** *06:23:11.1, 12.85N×88.61W, h4km, ML3.4*

SNET ***15*** *06:23:12.8±1.6, 12.87N×88.62W, h52km±16km, ML3.8*

UCR ***15*** *06:23:13.5±1.6, 12.92N×88.62W, h55km±13km, ML3.7*

ISC 15 06:23:12.2±2.3,**12.8N**±0.1×**88.61W**±0.04,**h50**km±21km, **n49**, σ0**66**/79,**2D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALJI	**Alcalda de J**	**0.54**	**4**	*e*P	**Pn**	**06 23 24.1**	**+0.2**
ALJI				*e*S	**Sn**	**06 23 32.8**	**+0.5**
ALJI				IAML		06 23 32.9	
	comp=Z,8μm,0.2s						
ALJI	**Alcalda de J**	**0.54**	**4**	*e*P	**Pn**	**06 23 24.1**	**+0.2**
ALJI				*e*S	**Sn**	**06 23 32.8**	**+0.5**
ALJI				IAML		06 23 32.9	
	comp=Z,8μm,0.2s						
COEB	**Comit de Eme**	**0.71**	**6**	*e*P	**Pn**	**06 23 26.1**	**-0.2**
COEB				*e*S	**Sn**	**06 23 36.1**	**-0.2**
COEB	**Comit de Eme**	**0.71**	**6**	*e*P	**Pn**	**06 23 26.1**	**-0.2**
COEB				*e*S	**Sn**	**06 23 36.1**	**-0.2**
TECA	**Tecapa**	**0.71**	**8**	*e*P	**Pn**	**06 23 26.2**	**-0.1**
TECA	**Tecapa**	**0.71**	**8**	*e*P	**Pn**	**06 23 26.2**	**-0.1**
UESV	**Universidad de**	**0.86**	**348**	*e*P	**Pn**	**06 23 28.0**	**-0.2**
UESV				*e*S	**Sn**	**06 23 39.9**	**+0.1**
UESV	**Universidad de**	**0.86**	**348**	*e*P	**Pn**	**06 23 28.0**	**-0.2**
UESV				*e*S	**Sn**	**06 23 39.9**	**+0.1**
LCND	**La Caada**	**0.87**	**53**	*e*P	**Pn**	**06 23 28.3**	**0.0**
LCND				*e*S	**Sn**	**06 23 40.2**	**+0.3**
LCND				IAML		06 23 42.0	
	comp=Z,5μm,0.3s						
LCND	**La Caada**	**0.87**	**53**	*e*P	**Pn**	**06 23 28.3**	**0.0**
LCND				*e*S	**Sn**	**06 23 40.2**	**+0.3**
LCND				IAML		06 23 42.0	
	comp=Z,5μm,0.3s						
LFRS	**El Faro**	**0.94**	**332**	||*i*P	**Pn**	**06 23 29.1**	**-0.2**
LFRS	**El Faro**	**0.94**	**332**	||*i*P	**Pn**	**06 23 29.1**	**-0.2**
PAVA	**Las Pavas**	**0.97**	**341**	*e*P	**Pn**	**06 23 29.8**	**+0.1**
PAVA				*e*S	**Sn**	**06 23 43.4**	**+0.8**
PAVA	**Las Pavas**	**0.97**	**341**	*e*P	**Pn**	**06 23 29.8**	**+0.1**
PAVA				*e*S	**Sn**	**06 23 43.4**	**+0.8**
LALI	**Alcalda de L**	**0.98**	**315**	*e*P	**Pn**	**06 23 29.5**	**-0.2**
LALI				*e*S	**Sn**	**06 23 40.6**	**-2.0**
LALI	**Alcalda de L**	**0.98**	**315**	*e*P	**Pn**	**06 23 29.5**	**-0.2**
LALI				*e*S	**Sn**	**06 23 40.6**	**-2.0**
FAGO	**Alcalda de S**	**1.03**	**28**	*e*P	**Pn**	**06 23 29.9**	**-0.4**
FAGO				*e*S	**Sn**	**06 23 43.2**	**-0.4**
FAGO				IAML		06 23 47.0	
	comp=Z,389nm,0.3s						
FAGO	**Alcalda de S**	**1.03**	**28**	*e*P	**Pn**	**06 23 29.9**	**-0.4**
FAGO				*e*S	**Sn**	**06 23 43.2**	**-0.4**
FAGO				IAML		06 23 47.0	
	comp=Z,389nm,0.3s						
AEIL	**Aeropuerto Ilo**	**1.03**	**331**	*e*P	**Pn**	**06 23 30.5**	**0.0**
AEIL				*e*S	**Sn**	**06 23 44.2**	**+0.4**
AEIL				IAML		06 23 46.0	
	comp=Z,4μm,0.3s						
AEIL	**Aeropuerto Ilo**	**1.03**	**331**	*e*P	**Pn**	**06 23 30.5**	**0.0**
AEIL				*e*S	**Sn**	**06 23 44.2**	**+0.4**
AEIL				IAML		06 23 46.0	
	comp=Z,4μm,0.3s						
LBRS	**Las Brisas**	**1.04**	**336**	*e*P	**Pn**	**06 23 30.7**	**+0.2**
LBRS	**Las Brisas**	**1.04**	**336**	*e*P	**Pn**	**06 23 30.7**	**+0.2**
UDBS	**Universidad Do**	**1.06**	**330**	*e*P	**Pn**	**06 23 30.8**	**-0.1**
UDBS				*e*S	**Sn**	**06 23 44.3**	**-0.4**
UDBS				IAML		06 23 47.0	
	comp=Z,3μm,0.3s						
UDBS	**Universidad Do**	**1.06**	**330**	*e*P	**Pn**	**06 23 30.8**	**-0.1**
UDBS				*e*S	**Sn**	**06 23 44.3**	**-0.4**
UDBS				IAML		06 23 47.0	
	comp=Z,3μm,0.3s						
SNET	**Serv Nac Est T**	**1.08**	**326**	*e*P	**Pn**	**06 23 31.0**	**-0.2**
SNET				*e*S	**Sn**	**06 23 44.3**	**-0.8**
SNET				IAML		06 23 46.2	
	comp=Z,2μm,0.2s						
SNET	**Serv Nac Est T**	**1.08**	**326**	*e*P	**Pn**	**06 23 31.0**	**-0.2**
SNET				*e*S	**Sn**	**06 23 44.3**	**-0.8**
SNET				IAML		06 23 46.2	
	comp=Z,2μm,0.2s						
OPAM	**Oficina de Pla**	**1.08**	**328**	*e*P	**Pn**	**06 23 31.1**	**-0.1**
OPAM				*e*S	**Sn**	**06 23 44.9**	**-0.3**
OPAM				IAML		06 23 47.1	
	comp=Z,3μm,0.1s						
OPAM	**Oficina de Pla**	**1.08**	**328**	*e*P	**Pn**	**06 23 31.1**	**-0.1**
OPAM				*e*S	**Sn**	**06 23 44.9**	**-0.3**
OPAM				IAML		06 23 47.1	
	comp=Z,3μm,0.1s						
UESS	**Universidad de**	**1.09**	**328**	*e*P	**Pn**	**06 23 31.3**	**0.0**
UESS				*e*S	**Sn**	**06 23 45.4**	**+0.1**
UESS				IAML		06 23 46.7	
	comp=Z,3μm,0.2s						
UESS	**Universidad de**	**1.09**	**328**	*e*P	**Pn**	**06 23 31.3**	**0.0**
UESS				*e*S	**Sn**	**06 23 45.4**	**+0.1**
UESS				IAML		06 23 46.7	
	comp=Z,3μm,0.2s						
UEES	**Universidad Ev**	**1.11**	**326**	*e*P	**Pn**	**06 23 31.4**	**-0.1**
UEES				*e*S	**Sn**	**06 23 45.9**	**+0.1**
UEES				IAML		06 23 50.0	
	comp=Z,2μm,0.3s						
UEES	**Universidad Ev**	**1.11**	**326**	*e*P	**Pn**	**06 23 31.4**	**-0.1**
UEES				*e*S	**Sn**	**06 23 45.9**	**+0.1**
UEES				IAML		06 23 50.0	
	comp=Z,2μm,0.3s						
BOQS	**Boqueron**	**1.15**	**325**	*e*P	**Pn**	**06 23 32.2**	**+0.1**
BOQS	**Boqueron**	**1.15**	**325**	*e*P	**Pn**	**06 23 32.2**	**+0.1**
CEDA	**San Andres**	**1.27**	**323**	*e*P	**Pn**	**06 23 33.6**	**0.0**
CEDA	**San Andres**	**1.27**	**323**	*e*P	**Pn**	**06 23 33.6**	**0.0**
TACO	**Tacachico**	**1.38**	**328**	*e*P	**Pn**	**06 23 34.9**	**-0.2**
TACO	**Tacachico**	**1.38**	**328**	*e*P	**Pn**	**06 23 34.9**	**-0.2**
LLGN	**La Laguna**	**1.41**	**347**	*e*P	**Pn**	**06 23 35.3**	**-0.3**
LLGN	**La Laguna**	**1.41**	**347**	*e*P	**Pn**	**06 23 35.3**	**-0.3**
CEVE	**Cerro Verde**	**1.43**	**316**	*e*P	**Pn**	**06 23 35.0**	**-1.0**
CEVE				*e*S	**Sn**	**06 23 56.6**	**+2.8**
CEVE				IAML		06 23 57.5	
	comp=Z,2μm,0.3s						
CEVE	**Cerro Verde**	**1.43**	**316**	*e*P	**Pn**	**06 23 35.0**	**-1.0**
CEVE				*e*S	**Sn**	**06 23 56.6**	**+2.8**
CEVE				IAML		06 23 57.5	
	comp=Z,2μm,0.3s						
SBLS	**San Blas**	**1.44**	**317**	*e*P	**Pn**	**06 23 36.9**	**+0.8**
SBLS	**San Blas**	**1.44**	**317**	*e*P	**Pn**	**06 23 36.9**	**+0.8**
NUBE	**Las Nubes**	**1.59**	**314**	*e*P	**Pn**	**06 23 38.4**	**+0.2**
NUBE				*e*S	**Sn**	**06 23 57.3**	**-0.3**
NUBE	**Las Nubes**	**1.59**	**314**	*e*P	**Pn**	**06 23 38.4**	**+0.2**
NUBE				*e*S	**Sn**	**06 23 57.3**	**-0.3**
MTO3	**Montecristo**	**1.76**	**336**	*e*P	**Pn**	**06 23 40.4**	**-0.1**
MTO3				IAML		06 24 09.3	
	comp=Z,124nm,0.6s						
MTO3	**Montecristo**	**1.76**	**336**	*e*P	**Pn**	**06 23 40.4**	**-0.1**
MTO3				IAML		06 24 09.3	
	comp=Z,124nm,0.6s						
ESQI	**Esquipulas**	**1.90**	**338**	*e*P	**Pn**	**06 23 42.6**	**+0.3**

IDC 15 06:47:00.9±7.6,**2.20S**×**148.01E**,**h0**km,**mb3.7**/3, **mb1 4.0**/3,**mb1mx3.5**/31,**mbtmp3.7**/3**, Error ellipse: s-maj=307.8km s-min=25.2km az=103.0, Admiralty Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.12**	**216**	P	P	06 51 57.4	-0.9
	0.4nm,0.3s,baz=45,slow=9.5,SNR=7.0						
ASAR	**Alice Springs**	**25.34**	**211**	P	P	06 52 30.4	+0.6
	0.5nm,0.4s,baz=47,slow=8.3,SNR=7.9						
MJAR	**Matsushiro Arr**	**39.61**	**348**	P	P	06 54 34.0	-0.3
	2.2nm,0.4s,baz=178,slow=9.8,SNR=14						

IDC ***15*** *06:48:42.0±6.3, 16.38N×98.45W, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.6/31, mbtmp3.3/6, ML3.1/3, MS3.3/7, Ms1 3.3/7, ms1mx2.9/30, Error ellipse: s-maj=119.2km s-min=27.9km az=15.0*

NEIC ***15*** *06:48:43.7±3.0, 16.53N±0.06×98.75W±0.06, h1km±7km, Error ellipse: s-maj=11.2km s-min=6.0km az=45.0*

MEX ***15*** *06:48:46.6±0.6, 16.47N×98.65W, h16km±6km, MD4.1*

ISC 15 06:48:42.4±1.5,**16.49N**±0.04×**98.67W**±0.03,**h3**km±9km, **n84**, σ1**79**/96,**mb3.8**/14,**MS3.1**/5,**Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**1.07**	**5**		**Pg**	**06 49 03.7**	**+0.8**
TLIG					**Sg**	**06 49 17.9**	**+1.0**
TLIG	**Tlapa**	**1.07**	**5**	*e*P	**Pg**	**06 49 03.7**	**+0.8**
TLIG				*e*S	**Sg**	**06 49 16.9**	**+0.1**
YOIG	**Yosondua**	**1.14**	**71**	*e*P	**Pb**	**06 49 04.3**	**-0.5**
YOIG				*i* S	**Sg**	**06 49 18.3**	**-0.6**
TXIG	**Tlaxiaco**	**1.15**	**49**	*e*P	**Pb**	**06 49 04.4**	**-0.7**
TXIG				*e*S	**Sg**	**06 49 18.2**	**-1.1**
ACP2	**Acapulco**	**1.23**	**288**		**Pb**	**06 49 05.4**	**-0.8**
ACP2					**Sb**	**06 49 20.6**	**-1.9**
ACP2	**Acapulco**	**1.23**	**288**	*i* P	**Pb**	**06 49 05.4**	**-0.8**
ACP2				*e*S	**Sb**	**06 49 20.6**	**-1.9**
HMTT	**Tlapaneco**	**1.30**	**5**		**Pn**	**06 49 07.2**	**-0.4**
HMTT					**Sb**	**06 49 23.0**	**-1.8**
HMTT	**Tlapaneco**	**1.30**	**5**	*e*P	**Pn**	**06 49 07.2**	**-0.4**
HMTT				*e*S	**Sb**	**06 49 23.0**	**-1.8**
FTIG	**Fresnillo de T**	**1.50**	**20**	*e*P	**Pn**	**06 49 09.9**	**-0.4**
FTIG				*e*S	**Sn**	**06 49 28.2**	**-2.3**
PEIG	**Puerto Escondi**	**1.54**	**108**	*e*P	**Pn**	**06 49 09.7**	**-1.1**
PEIG				*i* S	**Sn**	**06 49 28.1**	**-3.2**
HLIG	**Huajuapan de L**	**1.57**	**32**	*e*P	**Pn**	**06 49 10.6**	**-0.7**
HLIG				*e*S	**Sn**	**06 49 29.4**	**-2.9**
CAIG	**El Cayaco**	**1.63**	**290**		**Pn**	**06 49 11.9**	**0.0**
CAIG					**Sn**	**06 49 31.3**	**-2.1**
CAIG	**El Cayaco**	**1.63**	**290**	*e*P	**Pn**	**06 49 11.9**	**0.0**
CAIG				*e*S	**Sn**	**06 49 31.3**	**-2.1**
MEIG	**Mezcala**	**1.69**	**328**		**Pb**	**06 49 13.7**	**-0.5**
MEIG					**Sn**	**06 49 34.0**	**-1.2**
MEIG	**Mezcala**	**1.69**	**328**	*e*P	**Pb**	**06 49 13.7**	**-0.5**
MEIG				*e*S	**Sn**	**06 49 33.1**	**-2.1**
PLIG	**Platanillo**	**2.05**	**337**		**Pn**	**06 49 18.8**	**+0.9**
PLIG					**Sg**	**06 49 47.5**	**-0.8**
PLIG	**Platanillo**	**2.05**	**337**	*e*P	**Pn**	**06 49 18.8**	**+0.9**
PLIG				*i* S	**Sn**	**06 49 42.8**	**-1.2**
ARIG	**Puente Sto Nin**	**2.40**	**318**		**Pb**	**06 49 24.3**	**-1.9**
ARIG					**Sb**	**06 49 55.8**	**-0.4**
ARIG	**Puente Sto Nin**	**2.40**	**318**	*e*P	**Pb**	**06 49 24.3**	**-1.9**
ARIG				*e*S	**Sn**	**06 49 49.8**	**-2.6**
PHPU	**Puebla**	**2.58**	**11**	*i* P	**Pn**	**06 49 25.8**	**+0.4**
PHPU				*i* S	**Sn**	**06 49 54.8**	**-2.6**
UNM	**Universidad Na**	**2.86**	**350**		**Pb**	**06 49 34.1**	**-0.2**
ZIIG	**Zihuatanejo**	**2.90**	**293**		**Pn**	**06 49 29.2**	**-0.2**
ZIIG					**Sn**	**06 50 02.4**	**-2.3**
ZIIG	**Zihuatanejo**	**2.90**	**293**	*e*P	**Pn**	**06 49 29.2**	**-0.2**
ZIIG				*i* S	**Sn**	**06 50 03.1**	**-1.6**
CMIG	**Matias Romero**	**3.67**	**80**	Pn	**Pn**	**06 49 39.3**	**-0.8**
	0.6nm,0.3s,baz=257,slow=12,SNR=20						
CMIG				Sn	**Sn**	**06 50 19.1**	**-5.0**
	7.3nm,0.3s,baz=1.3,slow=18,SNR=11						
CMIG				Lg	Lg	06 50 37.7	
	24nm,0.3s,baz=6.0,slow=15,SNR=13						
CCIG	**Comitan**	**6.27**	**91**	Pn	**Pn**	**06 50 19.1**	**+3.1**
CCIG				Sn	**Sn**	**06 51 27.9**	**-0.4**
ZAIG	**Zacatecas**	**7.25**	**330**		LR	06 52 37.7	
TEIG	**Tepich**	**10.54**	**68**	Sn	Sn	06 53 01.5	-12
	0.6nm,0.3s,baz=319,slow=14,SNR=7.6						
TXAR	**Lajitas Array**	**13.58**	**341**	Pn	**P**	**06 52 02.3**	**-3.1**
	0.0nm,0.3s,baz=155,slow=20,SNR=1.7						
TXAR				LR	LR	06 57 39.2	
	comp=Z,109nm,18.8s,baz=0.0,slow=39						
HDC	**Heredia**	**15.56**	**113**		**S**	**06 55 37.6**	**+5.6**
342A	**Flagon Creek P**	**15.90**	**20**	Pn	**P**	**06 52 29.8**	**-1.2**
342A				IAmb	IAmb	06 52 37.8	
	comp=Z,10nm,0.8s						
ABTX	**Abilene, Hawle**	**16.09**	**357**	Pn	**P**	**06 52 33.1**	**0.0**
ABTX				IAmb	IAmb	06 52 35.2	
	comp=Z,10nm,0.8s						
MNTX	**Cornudas Mount**	**16.32**	**339**		**P**	**06 52 36.3**	**+0.6**
Z35A	**Perchaven, San**	**16.82**	**4**	Pn	**P**	**06 52 40.0**	**-1.1**
FSCY	**Frank Sound, G**	**16.88**	**78**	Pn	**Pn**	**06 52 40.8**	**+1.0**
Z38A	**Mt. Pleasant**	**17.02**	**11**	P	**P**	**06 52 43.9**	**+0.5**
143A	**Socs Landing,**	**17.43**	**21**	P	**P**	**06 52 47.8**	**-0.1**
Z41A	**Richland Creek**	**17.52**	**17**	P	**P**	**06 52 48.4**	**-0.5**
Z41A				IAmb	IAmb	06 52 50.7	
	comp=Z,9.8nm,0.8s						
319A	**Douglas**	**17.69**	**329**	P	**P**	**06 52 51.3**	**+0.3**
WLAR	**White Oak Lake**	**17.84**	**15**	P	**P**	**06 52 53.9**	**+1.4**
WLAR				IAmb	IAmb	06 53 01.9	
	comp=Z,9.4nm,1.1s						
121A	**Cookes Peak, D**	**17.98**	**334**	P	**P**	**06 52 54.9**	**+0.7**
X37A	**Clayton**	**18.26**	**9**	P	**Pn**	**06 52 56.8**	**-0.1**
MIAR	**Mount Ida**	**18.55**	**13**	P	**P**	**06 52 59.2**	**-1.0**
W35A	**Tecumseh**	**18.65**	**5**	P	**Pn**	**06 53 01.7**	**0.0**
ANMO	**Albuquerque**	**19.66**	**341**	P	**Pn**	**06 53 15.1**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=156,slow=11,SNR=8.0						
ANMO				LR	LR	07 01 33.5	
	comp=Z,149nm,18.3s,baz=159,slow=39						
ANMO	**Albuquerque**	**19.66**	**341**	P	**Pn**	**06 53 14.4**	**+0.4**
HHAR	**Hobbs**	**20.16**	**11**	P	**P**	**06 53 18.5**	**+0.6**
HHAR				IAmb	IAmb	06 53 22.8	
	comp=Z,3.6nm,0.9s						
FCAR	**Ozark Folk Cen**	**20.18**	**16**	P	**P**	**06 53 17.4**	**-0.8**
FCAR				IAmb	IAmb	06 53 28.1	
	comp=Z,9.2nm,1.3s						
U38A	**Gravette**	**20.23**	**10**	P	Pn	06 53 20.8	+0.2
HBAR	**Harrisburg**	**20.29**	**19**	P	Pn	06 53 21.8	+0.6
U40A	**Yellville**	**20.45**	**14**	P	Pn	06 53 23.2	0.0
LCAR	**Lake Charles**	**20.61**	**18**		Sn	06 57 23.4	+5.4
X18A	**Snowflake**	**20.62**	**333**	P	Pn	06 53 26.2	+0.9
X18A				IAmb	IAmb	06 53 27.0	
	comp=Z,4.7nm,1.1s						
PLAL	**Pickwick Lake**	**20.71**	**25**	P	**P**	**06 53 24.6**	**+0.7**
PLAL				IAmb	IAmb	06 53 27.9	
	comp=Z,4.7nm,0.9s						
T25A	**Trinidad**	**21.19**	**347**	P	**P**	**06 53 32.0**	**+2.8**
T25A				IAmb	IAmb	06 53 34.9	
	comp=Z,7.2nm,1.1s						
X16A	**Lo Mia Camp, P**	**21.21**	**330**	P	**P**	**06 53 32.7**	**+3.2**
X16A				IAmb	IAmb	06 53 33.4	
	comp=Z,3.7nm,0.8s						
UTMT	**University of**	**21.61**	**22**	P	**P**	**06 53 35.7**	**+2.1**
Y14A	**Wickenburg**	**21.64**	**326**	P	**P**	**06 53 36.2**	**+2.3**
Y14A				IAmb	IAmb	06 53 37.6	
	comp=Z,3.7nm,0.9s						
Y14A					**S**	**06 57 32.7**	**-1.6**
S39A	**Bolivar**	**21.64**	**12**	P	**P**	**06 53 36.1**	**+2.3**
S39A				IAmb	IAmb	06 53 37.1	
	comp=Z,4.2nm,0.9s						
WVT	**Waverly**	**21.81**	**24**	P	**P**	**06 53 36.9**	**+1.2**
WVT				IAmb	IAmb	06 53 37.5	
	comp=Z,4.5nm,0.9s						
WUAZ	**Wupatki**	**22.08**	**331**	P	**P**	**06 53 41.3**	**+2.4**
WUAZ				IAmb	IAmb	06 53 44.6	
	comp=Z,6.4nm,1.1s

WRA	**Warramunga Arr**	**45.27**	**265**	P	**P**	**07 03 21.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**53.69**	**264**	P	**P**	**07 04 26.6**	**+1.4**
VNDA	**Vanda**	**54.74**	**186**	P	**P**	**07 04 32.6**	**+0.7**
VNDA				IAmb	IAmb	07 04 33.4	
	comp=Z,1.5nm,0.5s						
AKASG	**Malin Array Be**	**146.38**	**330**	PKPbc	**PKPbc**	**07 14 42.9**	**+0.9**
	comp=Z,2.5nm,0.4s,baz=41,slow=4.3,SNR=19						

SJA ***15*** *07:08:28.0±1.1, 27°.35S×68°.10W, h146km±17km, ML3.9, MW3.8*
NEIC ***15*** *07:08:28.1±2.8, 27°.33S±0°.06×68°.6W±0°.2, h174km±16km, Error ellipse: s-maj=28.7km s-min=8.1km az=93.0*
GUC ***15*** *07:08:29.6±0.5, 27°.28S×68°.45W, h143km±9km, ML4.3*

ISC 15 07:08:26.8±1.0, 27°.31S±0°.04×68°.25W±0°.05, h157km±13km, n51, σ1§42/70, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AC02	**Maricunga**	**0.92**	**301**	Pn		**Pn**	**07 08 52.3**	**+0.1**
GO03	**Copiap**	**1.79**	**261**	⇑*i*P		**Pn**	**07 09 00.6**	**+0.7**
GO03				*i* S		**Sn**	**07 09 23.9**	**-1.5**
GO03				IAML			07 09 25.3	
	comp=E,4μm,0.2s							
GO03	**Copiap**	**1.79**	**261**			**Pn**	**07 09 00.7**	**+0.7**
GO03				Sn		**Sn**	**07 09 24.2**	**-1.2**
AGUA	**GUANDACOL**	**2.18**	**186**	*i* P		**Pn**	**07 09 05.7**	**+1.2**
AGUA				*e*S		**Sn**	**07 09 33.1**	**-0.5**
AGUA				IAML			07 09 36.4	
	comp=Z,622nm,0.4s							
AC05	**El Transito**	**2.34**	**229**	*i* P		**Pn**	**07 09 07.9**	**+1.4**
AC05				*i* S		**Sn**	**07 09 37.3**	**+0.2**
AC05				IAML			07 09 38.4	
	comp=E,1μm,0.2s							
AC05	**El Transito**	**2.34**	**229**	Pn		**Pn**	**07 09 07.9**	**+1.4**
AC05				Sn		**Sn**	**07 09 37.4**	**+0.2**
AC01	**Pan de Azucar**	**2.40**	**298**	⇑*i*P		**Pn**	**07 09 07.8**	**+0.7**
AC01				*i* S		**Sn**	**07 09 36.4**	**-1.7**
AC01	**Pan de Azucar**	**2.40**	**298**	Pn		**Pn**	**07 09 07.7**	**+0.7**
CYA	**Choya**	**2.44**	**118**	*i* P		**Pn**	**07 09 08.0**	**+0.4**
CYA				*e*S		**Sn**	**07 09 36.2**	**-2.8**
CYA				IAML			07 09 38.1	
	comp=Z,125nm,0.5s							
GO02	**Mina Guanaco**	**2.46**	**330**	⇑*i*P		**Pn**	**07 09 09.9**	**+1.8**
GO02				*i* S		**Sn**	**07 09 40.2**	**+0.4**
GO02				IAML			07 09 43.9	
	comp=E,1μm,0.5s							
GO02	**Mina Guanaco**	**2.46**	**330**	Pn		**Pn**	**07 09 10.1**	**+2.0**
AC04	**Llanos de Chal**	**2.66**	**250**	⇑*i*P		**Pn**	**07 09 11.0**	**+0.9**
AC04				*i* S		**Sn**	**07 09 42.6**	**-1.0**
AC04				IAML			07 09 47.8	
	comp=E,1μm,0.5s							
AC04	**Llanos de Chal**	**2.66**	**250**	Pn		**Pn**	**07 09 11.1**	**+1.0**
ACDV	**Cuesta del Vie**	**2.95**	**195**	*i* P		**Pn**	**07 09 16.1**	**+2.2**
ACDV				*e*S		**Sn**	**07 09 52.4**	**+1.9**
ACDV				IAML			07 09 54.0	
	comp=Z,198nm,0.4s							
AROD	**Rodeo**	**3.04**	**200**	*i* P		**Pn**	**07 09 17.6**	**+2.3**
AROD				*e*S		**Sn**	**07 09 54.0**	**+1.2**
CO01	**Juntas del Tor**	**3.11**	**211**			**Pn**	**07 09 18.1**	**+2.1**
ACCO	**Cerro Coronel**	**3.34**	**192**	*i* P		**Pn**	**07 09 21.0**	**+2.0**
ACCO				*e*S		**Sn**	**07 10 00.8**	**+1.2**
ACCO				IAML			07 10 02.2	
	comp=Z,379nm,0.4s							
GO04	**Tololo Observa**	**3.62**	**218**	Pn		**Pn**	**07 09 23.2**	**+0.7**
GO04	**Tololo Observa**	**3.62**	**218**	*i* P		**Pn**	**07 09 23.1**	**+0.5**
GO04				*e*S		**Sn**	**07 10 00.7**	**+0.7**
RTLL	**Cerro Villicun**	**4.01**	**183**	*i* P		**Pn**	**07 09 28.9**	**+1.6**
RTLL				IAML			07 10 16.9	
	comp=Z,354nm,0.4s							
CO03	**El Pedregal**	**4.11**	**211**			**Pn**	**07 09 29.5**	**+0.7**
PB15	**IPOC Station P**	**4.23**	**345**			**Pn**	**07 09 33.3**	**+2.8**
PB10	**IPOC Station P**	**4.32**	**331**	⇑*i*P		**Pn**	**07 09 32.5**	**+1.1**
PB10				*i* S		**Sn**	**07 10 20.5**	**-1.2**
PB10				IAML			07 10 34.6	
	comp=N,151nm,0.3s							
PB10	**IPOC Station P**	**4.32**	**331**	Pn		**Pn**	**07 09 33.0**	**+1.5**
RTCV	**Cerro Valdivia**	**4.54**	**183**	*i* P		**Pn**	**07 09 35.9**	**+1.6**
RTCV				IAML			07 10 28.7	
	comp=Z,78nm,0.4s							
CO02	**Combarbal**	**4.56**	**211**	Pn		**Pn**	**07 09 34.8**	**+0.2**
RTLS	**Leoncito**	**4.56**	**191**	*i* P		**Pn**	**07 09 36.7**	**+1.9**
RTLS				IAML			07 10 32.0	
	comp=Z,94nm,0.4s							
LVC	**Limon Verde**	**4.72**	**353**	Pn		**Pn**	**07 09 39.4**	**+2.3**
PB06	**IPOC Station P**	**4.74**	**345**	Pn		**Pn**	**07 09 39.3**	**+2.2**
AUSP	**Uspallata**	**4.99**	**191**	*i* P		**Pn**	**07 09 42.1**	**+1.7**
TCA	**Tanti**	**5.12**	**142**	*i* P		**Pn**	**07 09 42.7**	**+0.7**
TCA				IAML			07 10 56.2	
	comp=Z,45nm,0.4s							
PB04	**IPOC Station P**	**5.25**	**340**	Pn		**Pn**	**07 09 44.8**	**+1.0**
PB04						**Sn**	**07 10 43.4**	**-0.6**
MRA	**San Martin**	**5.54**	**157**	*i* P		**Pn**	**07 09 48.6**	**+1.1**
MRA				IAML			07 10 52.9	
	comp=Z,55nm,0.4s							
PB09	**IPOC Station P**	**5.57**	**350**			**Pn**	**07 09 50.3**	**+2.3**
PB07	**IPOC Station P**	**5.76**	**345**			**Pn**	**07 09 51.5**	**+1.0**
VA03	**San Esteban**	**5.79**	**200**			**Pn**	**07 09 51.5**	**+0.7**
ROC1	**El Roble**	**6.13**	**202**			**Pn**	**07 09 54.6**	**-0.9**
ROC1	**El Roble**	**6.13**	**202**	*i* P		**Pn**	**07 09 54.8**	**-0.7**
PEL	**Peldehue**	**6.18**	**199**			**Pn**	**07 09 55.8**	**-0.1**
PB01	**IPOC Station P**	**6.34**	**349**			**Pn**	**07 09 59.2**	**+0.9**
MT05	**Renca**	**6.43**	**199**			**Pn**	**07 09 59.4**	**+0.1**
MT05				Sn		**Sn**	**07 11 11.3**	**-0.5**
MT02	**Curacav**	**6.43**	**202**			**Pn**	**07 09 57.9**	**-1.4**
MT01	**Popeta**	**7.02**	**201**	Pn		**Pn**	**07 10 06.4**	**-0.7**
MT01				Sn		**Sn**	**07 11 22.8**	**-3.2**
PB08	**IPOC Station P**	**7.19**	**353**	Pn		**Pn**	**07 10 10.7**	**+0.9**
PB11	**IPOC Station P**	**7.63**	**350**	Pn		**Pn**	**07 10 19.4**	**0.0**
GO01	**Chusmiza**	**7.66**	**353**	Pn		**Pn**	**07 10 15.7**	**-0.4**
GO01						**Sn**	**07 11 41.8**	**-0.3**
BO02	**Sierra Bellavi**	**7.76**	**196**			**Pn**	**07 10 16.7**	**-0.4**
BO02				Sn		**Sn**	**07 11 41.9**	**-1.9**
PSGCX	**Pisagua**	**7.87**	**347**	Pn		**Pn**	**07 10 19.0**	**+0.4**
MNMC	**Minye Minye**	**8.24**	**351**	Pn		**Pn**	**07 10 23.8**	**+0.1**
GO05	**Huala**	**8.29**	**201**	Pn		**Pn**	**07 10 21.2**	**-2.9**
BBGH	**Gun Hill**	**41.09**	**13**	P		**P**	**07 15 55.7**	**+0.3**

RSNC 15 07:20:14.0±1.0, 6°.82N×73°.14W, h145km±5km, ML2.9, Mw4.1, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BARC	**Barichara**	**0.23**	**192**	*e*P		Pn	07 20 33.6	-0.5
BARC				*e*S		Sn	07 20 48.9	-0.5
BARC				*i*			07 20 50.1	
	comp=Z,117nm,0.3s							
PAMC	**Pamplona, Colo**	**0.68**	**40**	⇓*e*P		Pn	07 20 36.5	+0.1
PAMC				*e*S		Sn	07 20 53.7	+0.3
PAMC				*i*			07 20 55.6	
	comp=Z,119nm,0.5s							
RUSC	**La Rusia**	**0.92**	**177**	*e*P		Pn	07 20 37.6	-0.7
RUSC				*e*S		Sn	07 20 56.4	-0.2
RUSC				*i*			07 20 57.3	
	comp=Z,49nm,0.2s							
PTBC	**PUERTO BERRIO,**	**1.34**	**258**	*e*P		Pn	07 20 40.2	-1.4
PTBC				*e*S		Sn	07 21 01.5	-1.1
PTBC				*i*			07 21 08.4	
	comp=Z,140nm,0.4s							
OCAC	**Ocana**	**1.42**	**353**	*e*P		Pn	07 20 41.6	-0.9
OCAC				*e*S		Sn	07 21 04.2	-0.3
OCAC				*i*			07 21 06.9	
	comp=Z,68nm,0.2s							
SPBC	**San Pablo de B**	**1.49**	**219**	⇑*e*P		Pn	07 20 42.5	-0.6
SPBC				*e*S		Sn	07 21 04.7	-0.8
SPBC				*i*			07 21 11.3	
	comp=Z,72nm,0.1s							
ZARC	**Zaragoza, Cauc**	**1.84**	**292**	*e*P		Pn	07 20 46.4	-0.5
ZARC				*e*S		Sn	07 21 11.9	-0.2
ZARC				*i*			07 21 17.2	
	comp=Z,96nm,0.6s							
NORC	**Norcasia**	**2.13**	**234**	*i* P		Pn	07 20 49.7	-0.7
NORC				*e*S		Sn	07 21 17.8	-0.6
NORC				*i*			07 21 25.7	
	comp=Z,66nm,0.2s							
SMLC	**San Martn de**	**2.18**	**335**	*e*P		Pn	07 20 50.1	-0.9
SMLC				*e*S		Sn	07 21 18.7	-0.7
SMLC				*i*			07 21 21.8	
	comp=Z,63nm,0.1s							
CHIC	**Chingaza**	**2.25**	**195**	*e*P		Pn	07 20 51.6	-0.7
CHIC				*e*S		Sn	07 21 21.1	-0.6
CHIC				*i*			07 21 30.7	
	comp=Z,32nm,0.4s							
ROSC	**El Rosal**	**2.29**	**211**	*e*P		Pn	07 20 53.4	+0.7
ROSC				*e*			07 20 58.5	
ROSC				*e*S		Sn	07 21 23.9	+1.4
ROSC				*i*			07 21 26.9	
	comp=Z,64nm,0.5s							
HELC	**Santa Helena**	**2.46**	**255**	*e*P		Pn	07 20 54.5	-0.3
HELC				*e*S		Sn	07 21 25.1	-0.9
HELC				*i*			07 21 32.6	
	comp=Z,39nm,0.7s							
UREC	**San Jos de Ur**	**2.55**	**291**	*e*P		Pn	07 20 53.7	-1.8
UREC				*e*S		Sn	07 21 24.9	-2.7
UREC				*i*			07 21 27.1	
	comp=Z,61nm,0.1s							
GUY2C	**Guyana, Caldas**	**2.73**	**235**	*e*P		Pn	07 20 58.9	+0.7
GUY2C				*e*S		Sn	07 21 33.1	+0.9
GUY2C				*i*			07 21 40.1	
	comp=Z,30nm,0.3s							
VILC	**Villavicencio,**	**2.75**	**192**	*e*P		Pn	07 20 57.8	-0.3
VILC				*e*S		Sn	07 21 31.9	-0.3
VILC				*i*			07 21 36.6	
	comp=Z,51nm,0.6s							
PTGC	**Puerto Gaitan,**	**2.79**	**159**	*e*P		Pn	07 20 56.7	-1.8
PTGC				*e*S		Sn	07 21 29.0	-3.9
PTGC				*i*			07 21 32.5	
	comp=Z,33nm,0.2s							
RREF	**El Recreo**	**2.91**	**229**	*e*P		Pn	07 21 01.1	+0.4
RREF				*e*S		Sn	07 21 40.4	+3.9
RREF				*i*			07 21 43.6	
	comp=Z,36nm,0.4s							
CBOC	**Ciudad Bolivar**	**3.01**	**252**	*e*P		Pn	07 21 01.4	-0.1
CBOC				*e*S		Sn	07 21 38.8	+0.6
CBOC				*i*			07 21 52.5	
	comp=Z,12nm,0.7s							
TOLC	**Tolima**	**3.11**	**225**	*e*P		Pn	07 21 02.8	-0.1
TOLC				*e*S		Sn	07 21 41.3	+0.7
TOLC				*i*			07 21 46.2	
	comp=Z,70nm,0.7s							
ARGC	**Ariguani, Magd**	**3.21**	**340**	*e*P		Pn	07 21 03.8	-0.2
PRAC	**Prado**	**3.54**	**210**	*e*P		Pn	07 21 07.2	-1.0
PRAC				*e*S		Sn	07 21 49.4	-0.9
PRAC				*i*			07 21 53.1	
	comp=Z,53nm,0.4s							
ORTC	**Ortega, Tolima**	**3.57**	**216**	*e*P		Pn	07 21 07.7	-1.0
ORTC				*e*S		Sn	07 21 51.1	+0.2
ORTC				*i*			07 21 56.9	
	comp=Z,18nm,0.7s							
PLMC	**San Jos del P**	**3.66**	**239**	*e*P		Pn	07 21 09.2	-0.6
PLMC				*e*S		Sn	07 21 54.5	+1.5
PLMC				*i*			07 21 57.0	
	comp=Z,26nm,0.2s							
SJCC	**San Jacinto, C**	**3.67**	**327**	*e*P		Pn	07 21 07.4	-2.4
SJCC				*e*S		Sn	07 21 48.2	-5.0
SJCC				*i*			07 21 53.2	
	comp=Z,17nm,0.4s							
YOTC	**Yotoco, Valle**	**4.26**	**229**	*e*P		Pn	07 21 16.1	-1.6

IDC ***15*** *07:36:44.9±1.1, 49°.05S×121°.38E, h0km, mb4.3/6, mb1 4.4/6, mb1mx4.0/30, mbtmp4.3/6, MS3.9/11, Ms1 3.9/11, ms1mx3.8/15, Error ellipse: s-maj=61.5km s-min=18.1km az=108.0*
NEIC ***15*** *07:36:46.6±0.8, 49°.1S±0°.1×121°.3E±0°.2, h10km±1km, mb4.4/15, Error ellipse: s-maj=27.4km s-min=17.5km az=111.0*
GCMT ***15*** *07:36:47.7±0.2, 49°.10S±0°.01×121°.52E±0°.03, h16km±1km, MW5.0/95, Moment Tensor Solution. s30,c33; s95,c142; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.05±.12; Mθθ-1.43±.11; Mφφ1.48±.14; Mrθ-1.38±.34; Mθφ-2.72±.08; Mφr1.16±.35; Best double couple: Mo3.52500×10^16 NP1:φs17.00000°, δ64.00000°, λ9.00000°. NP2: φs283.00000°, δ82.00000°, λ154.00000°. Principal axes: T 3.8620, Plg24.0000°, Azm237.0000°; N -0.6720, Plg63.0000°, Azm88.0000°; P -3.1890, Plg12.0000°, Azm332.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 15 07:36:46.9±0.7, 49°.07S±0°.09×121°.4E±0°.1, h13km, n42, σ0§96/28, mb4.4/7, MS4.0/12, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H01W1	**Cape Leeuwin H**	**15.14**	**337**	T		T	07 56 07.8	
	baz=161,slow=74,SNR=603							
H01W2	**Cape Leeuwin H**	**15.14**	**337**	T		T	07 55 54.4	
	baz=161,slow=74,SNR=480							
H01W3	**Cape Leeuwin H**	**15.15**	**337**	T		T	07 56 03.2	
	baz=161,slow=74,SNR=408							
NWAO	**Narrogin (SRO)**	**16.42**	**348**	LR		LR	07 45 45.6	
	comp=Z,172nm,20.9s,baz=162,slow=33							
NWAO	**Narrogin (SRO)**	**16.42**	**348**	Pn		**Pn**	**07 40 36.6**	**-0.3**
NWAO				IAmb		IAmb	07 40 41.1	
	comp=Z,21nm,1.1s							
CASY	**Casey**	**18.15**	**194**	P		**P**	**07 40 58.5**	**-0.1**
TAU	**Tasmania Unive**	**19.00**	**81**	P		**Pn**	**07 41 08.6**	**-0.2**
TAU				IAmb		IAmb	07 41 20.0	
	comp=Z,26nm,1.1s							
MORW	**Morawa**	**20.39**	**346**	P		**P**	**07 41 22.6**	**-0.7**
MORW				IAmb		IAmb	07 41 25.4	
	comp=Z,16nm,1.4s							
TOO	**Toolangi**	**20.88**	**66**	P		**P**	**07 41 29.8**	**+1.2**
STKA	**Stephens Creek**	**22.94**	**49**	LR		LR	07 49 07.6	
	comp=Z,558nm,20.6s,baz=203,slow=32							
STKA	**Stephens Creek**	**22.94**	**49**	P		**P**	**07 41 52.5**	**+1.8**
MCQ	**Macquarie Isla**	**23.67**	**118**	P		**P**	**07 41 56.7**	**-1.0**
ASAR	**Alice Springs**	**27.21**	**26**	P		**P**	**07 42 30.0**	**-0.3**
	comp=Z,2.8nm,0.9s,baz=191,slow=9.6,SNR=11							
ASAR				LR		LR	07 51 52.2	
	comp=Z,307nm,21.8s,baz=196,slow=33							
PSA00	**Pilbara Seismi**	**27.46**	**357**	P		**P**	**07 42 33.0**	**+0.4**
ARMA	**Armidale**	**29.52**	**62**	P		**P**	**07 42 52.1**	**+1.1**
WRA	**Warramunga Arr**	**30.87**	**24**	P		**P**	**07 43 01.7**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=196,slow=10,SNR=2.8							
WRA				LR		LR	07 54 20.5	
	comp=Z,147nm,21.3s,baz=185,slow=34							
WRA	**Warramunga Arr**	**30.87**	**24**	P		**P**	**07 43 00.8**	**-2.0**
WB0	**Warramunga Arr**	**31.05**	**24**	P		**P**	**07 43 05.7**	**+1.3**
WB0				IAmb		IAmb	07 43 07.1	
	comp=Z,14nm,1.4s							
VNDA	**Vanda**	**32.43**	**165**	P		**P**	**07 43 16.2**	**+0.2**
	comp=Z,4.4nm,0.8s,baz=309,slow=7.8,SNR=20							
VNDA				LR		LR	07 55 26.7	
	comp=Z,444nm,19.3s,baz=318,slow=35							
VNDA	**Vanda**	**32.43**	**165**	P		**P**	**07 43 16.2**	**+0.2**
VNDA				IAmb		IAmb	07 43 19.1	
	comp=Z,4.5nm,0.8s							
MAW	**Mawson**	**34.16**	**216**	P		**P**	**07 43 31.5**	**+0.3**
	comp=Z,5.6nm,1.0s,baz=68,slow=11,SNR=6.5							
MAW				LR		LR	07 54 25.4	
	comp=Z,186nm,19.7s,baz=74,slow=31							
MAW	**Mawson**	**34.16**	**216**	P		**P**	**07 43 31.5**	**+0.3**
QSPA	**South Pole Qui**	**41.06**	**180**	P		**P**	**07 44 29.7**	**0.0**
	comp=Z,2.6nm,0.6s,baz=320,slow=1.3,SNR=27							
QSPA	**South Pole Qui**	**41.06**	**180**	P		**P**	**07 44 30.1**	**+0.3**
QSPA				IAmb		IAmb	07 44 39.8	
	comp=Z,4.4nm,0.9s							
DZM	**Mont Dzumac**	**44.58**	**69**	*e*S		**S**	**07 51 33.0**	**-1.2**
	comp=Z,93nm,26.3s							
DZM				*e*LR		LR	07 57 45.0	
	comp=Z,298nm,22.1s							
HNR	**Honiara**	**50.95**	**52**	LR		LR	08 06 00.0	
	comp=Z,224nm,18.0s,baz=196,slow=34							
SNAA	**Sanae**	**53.30**	**199**	P		**P**	**07 46 04.7**	**-0.3**
SNAA	**Sanae**	**53.30**	**199**	P		**P**	**07 46 04.8**	**-0.1**
	comp=Z,5.8nm,1.0s,baz=149,slow=12,SNR=12							
SNAA	**Sanae**	**53.30**	**199**			**P**	**07 46 05.4**	**+0.4**
SNAA				IAmb		IAmb	07 46 15.2	
	comp=Z,7.9nm,1.0s							
VNA2	**Neumayer--Watz**	**54.83**	**198**	P		**P**	**07 46 15.7**	**-0.3**
VNA3	**Neumayer Olymp**	**55.03**	**197**	P		**P**	**07 46 17.0**	**-0.5**
VNA1	**Neumayer--Stat**	**55.22**	**198**	P		**P**	**07 46 16.8**	**-2.0**
H08S2	**Diego Garcia H**	**58.11**	**298**	T		T	08 49 31.5	
	baz=144,slow=76,SNR=35							
H08S1	**Diego Garcia H**	**58.12**	**298**	T		T	08 49 36.8	
	baz=144,slow=76,SNR=30							
H08S3	**Diego Garcia H**	**58.13**	**298**	T		T	08 49 43.1	
	baz=144,slow=76,SNR=37							
CMAR	**Chiang Mai Arr**	**70.12**	**337**	LR		LR	08 18 25.5	
	comp=Z,24nm,19.7s,baz=192,slow=36							
BOSA	**Boshof**	**72.70**	**246**	LR		LR	08 13 19.7	
	comp=Z,121nm,20.2s,baz=175,slow=30							
PPT2	**Papeete2**	**76.31**	**101**	*e*LR		LR	08 12 02.0	
	comp=Z,90nm,27.8s							
PPT	**Papeete**	**76.33**	**101**	LR		LR	08 17 23.2	
	comp=Z,68nm,19.7s,baz=238,slow=32							
PLCA	**Paso Flores**	**89.96**	**171**	LR		LR	08 27 25.9	
	comp=Z,47nm,19.6s,baz=160,slow=34							
PDAR	**Pinedale Array**	**144.58**	**81**	PKP		**PKPdf**	**07 56 23.9**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=280,slow=5.4,SNR=3.5							
YKA	**Yellowknife Ar**	**146.93**	**45**	PKPbc		**PKPbc**	**07 56 28.1**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=300,slow=5.5,SNR=8.5							

DDA ***15*** *07:39:07.4, 34°.85N×26°.60E, h14km±4km, MW3.8*
ISK ***15*** *07:39:10.1, 35°.08N×26°.70E, h5km, ML3.6/21*
NIC ***15*** *07:39:10.6±0.0, 35°.05N×26°.69E, h2km±4km, Ml3.3/4*
IDC ***15*** *07:39:10.3±1.4, 35°.05N×26°.74E, h0km, mb3.9/5, mb1 3.8/6, mb1mx3.5/51, mbtmp3.7/6, ML2.5/1, MS2.8/7, Ms1 2.8/7, ms1mx2.5/36, Error ellipse: s-maj=38.0km s-min=16.3km az=165.0*
ATH ***15*** *07:39:11.2, 35°.10N×26°.68E, h16km±2km, ML3.6/7, Error ellipse: s-maj=3.1km s-min=1.2km az=340.0*
THE ***15*** *07:39:11.0, 34°.95N×26°.64E, h3km±1km, ML3.6/5, Error ellipse: s-maj=1.8km s-min=0.8km az=188.0*

ISC 15 07:39:11.4±1.1, 35°.06N±0°.04×26°.69E±0°.02, h6km±8km, n107, σ1§05/136, mb3.9/5, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZKR	**Zakros**	**0.39**	**279**	P		**Pg**	**07 39 18.8**	**-0.2**
ZKR				S		**Sg**	**07 39 24.9**	**+0.8**
	10μm,0.2s							
ZKR	**Zakros**	**0.39**	**279**	P		**Pg**	**07 39 18.8**	**-0.2**
ZKR				S		**Sg**	**07 39 25.1**	**+1.0**
ZKR				AML		AML	07 39 26.9	
	comp=N,13576μm,0.3s							
ZKR				AML		AML	07 39 27.1	
	comp=E,24772μm,0.2s							
ZKR	**Zakros**	**0.39**	**279**	P		**Pg**	**07 39 18.8**	**-0.2**
ZKR				S		**Sg**	**07 39 25.1**	**+1.0**
ZKR				AML		AML	07 39 26.9	
	comp=N,13576μm,0.3s							
ZKR				AML		AML	07 39 27.1	
	comp=E,24772μm,0.2s							
ZKR	**Zakros**	**0.39**	**279**	PG		**Pg**	**07 39 18.8**	**-0.2**
ZKR				SG		**Sb**	**07 39 25.8**	**-1.2**
ZKR	**Zakros**	**0.39**	**279**	P		**Pg**	**07 39 18.8**	**-0.2**
ZKR				S		**Sb**	**07 39 25.8**	**-1.2**
ZKR				AML		AML	07 39 26.4	
	comp=E,14nm,0.2s							
ZKR				AML		AML	07 39 26.4	
	comp=E,14nm,0.2s							
ZKR				AML		AML	07 39 26.6	
	comp=E,25nm,0.2s							
ZKR				AML		AML	07 39 26.6	
	comp=E,25nm,0.2s							
STIA	**Sitia Lasithi**	**0.51**	**287**	P		**Pg**	**07 39 21.0**	**-0.2**
STIA				S		**Sb**	**07 39 29.3**	**-1.1**
KARP	**Karpathos**	**0.62**	**38**	P		**Pg**	**07 39 22.4**	**-1.0**
KARP				S		**Sg**	**07 39 31.6**	**0.0**
KARP				AML		AML	07 39 36.8	
	comp=E,7429μm,0.5s							
KARP				AML		AML	07 39 38.6	
	comp=N,7946μm,0.6s							
KARP	**Karpathos**	**0.62**	**38**	P		**Pg**	**07 39 22.4**	**-1.0**
KARP				S		**Sg**	**07 39 31.6**	**0.0**
KARP				AML		AML	07 39 36.8	
	comp=E,7429μm,0.5s							
KARP				AML		AML	07 39 38.6	
	comp=N,7946μm,0.6s							
KARP	**Karpathos**	**0.62**	**38**	PG		**Pg**	**07 39 22.5**	**-1.0**
KARP				SG		**Sg**	**07 39 32.2**	**+0.6**
KARP	**Karpathos**	**0.62**	**38**	P		**Pg**	**07 39 22.6**	**-0.9**
KARP				S		**Sb**	**07 39 33.5**	**-0.2**
KARP				AML		AML	07 39 36.2	
	comp=N,7.6nm,0.5s							
KARP				AML		AML	07 39 36.2	
	comp=N,7.6nm,0.5s							
KARP				AML		AML	07 39 36.3	
	comp=N,9.4nm,0.4s							
KARP				AML		AML	07 39 36.3	
	comp=N,9.4nm,0.4s							
NPS	**Neapolis**	**0.90**	**283**	P		**Pg**	**07 39 28.2**	**-0.5**
NPS				S		**Sb**	**07 39 42.0**	**+0.2**
	comp=N,10μm,0.5s							
NPS	**Neapolis**	**0.90**	**283**	P		**Pg**	**07 39 28.3**	**-0.5**
NPS				S		**Sb**	**07 39 41.6**	**-0.2**
NPS				AML		AML	07 39 45.6	
	comp=E,15092μm,0.4s							
NPS				AML		AML	07 39 45.8	
	comp=N,8239μm,0.6s							
NPS	**Neapolis**	**0.90**	**283**	P		**Pg**	**07 39 28.3**	**-0.5**
NPS				S		**Sb**	**07 39 41.6**	**-0.2**
NPS				AML		AML	07 39 45.6	
	comp=E,15092μm,0.4s							
NPS				AML		AML	07 39 45.8	
	comp=N,8239μm,0.6s							
LAST	**Lasithi**	**1.00**	**276**	P		**Pg**	**07 39 29.3**	**-1.2**
LAST				S		**Sg**	**07 39 43.8**	**+0.3**
	comp=N,978nm,0.6s							
LAST	**Lasithi**	**1.00**	**276**

comp=E,105nm,0.8s
DATC Datca-Mugla 1.87 25 PN **Pn** **07 39 44.3 +0.3**
IOSP Ios island 2.01 326 P **Pn** **07 39 45.4 -0.5**
IOSP S **Sn** **07 40 11.5 +0.1**
comp=E,872nm,0.6s
IOSP Ios island 2.01 326 P **Pn** **07 39 45.7 -0.2**
IOSP S **Sn** **07 40 11.5 +0.1**
IOSP AML AML 07 40 16.0
comp=N,1358µm,0.8s
IOSP AML AML 07 40 19.4
comp=E,2134µm,0.6s
IOSP Ios island 2.01 326 P **Pn** **07 39 45.7 -0.2**
IOSP S **Sn** **07 40 11.5 +0.1**
IOSP AML AML 07 40 16.0
comp=N,1358µm,0.8s
IOSP AML AML 07 40 19.4
comp=E,2134µm,0.6s
BODT Bodrum 2.06 14 PN **Pn** **07 39 46.9 +0.3**
BDRM Kayabasi 2.10 17 *i* P **Pn** **07 39 46.8 -0.3**
BDRM *i* S **Sn** **07 40 14.1 +0.7**
BDRM IAML 07 40 26.0
comp=E,86nm,0.5s
BDRM IAML 07 40 29.0
comp=N,91nm,0.5s
GVD Gavdhos 2.15 265 P **Pb** **07 39 49.4 -1.3**
GVD Gavdhos 2.15 265 P **Pb** **07 39 49.4 -1.3**
GVD Gavdhos 2.15 265 PN **Pn** **07 39 48.7 +1.0**
APE Apeiranthos 2.21 335 P **Pn** **07 39 47.9 -0.8**
APE Apeiranthos 2.21 335 P **Pn** **07 39 48.3 -0.5**
APE Apeiranthos 2.21 335 P **Pn** **07 39 48.3 -0.5**
APE Apeiranthos 2.21 335 PN **Pn** **07 39 49.2 +0.5**
APE Apeiranthos 2.21 335 P **Pn** **07 39 48.1 -0.6**
IMMV Iera Moni Meta 2.25 281 PN **Pn** **07 39 50.2 +1.0**
DALY Dalyan (Mula) 2.37 42 PN **Pn** **07 39 51.5 +0.7**
DALY Dalyan (Mula) 2.37 42 *i* P **Pn** **07 39 52.1 +1.3**
DALY *i* S **Sg** **07 40 32.5 +4.9**
DALY IAML 07 40 33.0
comp=E,126nm,1.0s
DALY IAML 07 40 41.0
comp=N,182nm,1.1s
TURN Turunc 2.39 40 PN **Pn** **07 39 47.9 -3.1**
TURN Turunc 2.39 40 *i* P **Pn** **07 39 49.2 -1.9**
TURN *i* S **Sn** **07 40 19.2 -1.3**
TURN IAML 07 40 29.0
comp=E,131nm,0.6s
TURN IAML 07 40 36.0
comp=N,150nm,0.5s
YER Yerkesik 2.44 31 PN **Pn** **07 39 52.3 +0.4**
RODP Rodopos 2.45 283 PN **Pn** **07 39 52.9 +1.0**
KNDR Palaiochora Ch 2.47 275 PN **Pn** **07 39 53.9 +1.8**
MHLO Agia Marina, M 2.47 312 P **Pn** **07 39 53.1 +0.9**
MHLO Agia Marina, M 2.47 312 P **Pn** **07 39 53.6 +1.4**
MHLO Agia Marina, M 2.47 312 P **Pn** **07 39 53.6 +1.4**
FETY Fethiye 2.50 50 PN **Pn** **07 39 53.2 +0.5**
FETY Fethiye 2.50 50 *i* P **Pn** **07 39 52.9 +0.2**
FETY IAML 07 40 44.0
comp=E,42nm,0.7s
FETY IAML 07 40 51.0
comp=N,62nm,1.4s
KSL Kastellorizon 2.60 64 P **Pn** **07 39 54.0 +0.1**
KSL Kastellorizon 2.60 64 P **Pn** **07 39 54.0 +0.1**
KSL Kastellorizon 2.60 64 P **Pn** **07 39 53.7 -0.2**
KSL AML AML 07 40 53.4
comp=N,0.2nm,1.3s
KSL AML AML 07 41 05.7
comp=N,0.4nm,1.5s
SMG Samos 2.65 3 P **Pn** **07 39 55.5 +0.9**
SMG Samos 2.65 3 P **Pn** **07 39 55.5 +0.9**
AKAS Kas 2.65 63 PN **Pn** **07 39 55.4 +0.6**
AKAS Kas 2.65 63 *i* P **Pn** **07 39 54.5 -0.3**
AKAS IAML 07 40 58.0
comp=N,89nm,0.8s
AKAS IAML 07 41 03.0
comp=E,67nm,1.3s
GCAM G?zelcaml? 2.67 9 PN **Pn** **07 39 55.9 +0.9**
ANKY Antikythira Is 2.88 287 P **Pn** **07 39 58.6 +0.8**
ANKY Antikythira Is 2.88 287 P **Pn** **07 39 58.6 +0.8**
ANKY Antikythira Is 2.88 287 P **Pn** **07 39 58.6 +0.8**
TAVA DENİZLİ_Tavas 3.00 36 *i* P **Pn** **07 40 00.5 +0.9**
TAVA *i* S **Sg** **07 40 49.8 +1.9**
TAVA IAML 07 40 53.0
comp=N,85nm,0.6s
TAVA IAML 07 41 00.0
comp=E,66nm,0.7s
AYDB Zeytinkoy-Aydi 3.04 18 PN **Pn** **07 40 00.8 +0.6**
ELL Elmali 3.11 56 PN **Pn** **07 40 01.9 +0.8**
GOLH Golhisar 3.18 46 *i* P **Pn** **07 40 03.3 +1.2**
GOLH IAML 07 41 21.0
comp=N,115nm,1.6s
GOLH IAML 07 42 04.0
comp=E,24nm,4.2s
KTHA Kythira Island 3.19 293 P **Pn** **07 40 00.6 -1.4**
KTHA Kythira Island 3.19 293 P **Pn** **07 40 02.4 +0.4**
KTHA Kythira Island 3.19 293 P **Pn** **07 40 02.4 +0.4**
KTHA Kythira Island 3.19 293 PN **Pn** **07 40 02.9 +0.9**
AKUM Antalya-Kumluc 3.23 66 *i* P **Pn** **07 40 03.0 +0.4**
AKUM IAML 07 40 52.0
comp=E,36nm,0.6s
AKUM IAML 07 41 23.0
comp=N,25nm,0.6s
URLA Izmir 3.30 359 PN **Pn** **07 40 04.2 +0.6**
URLA Izmir 3.30 359 *i* P **Pn** **07 40 04.6 +1.0**
URLA IAML 07 41 20.0
comp=N,36nm,0.8s
URLA IAML 07 41 27.0
comp=E,34nm,1.0s
CHOS Chios Island 3.36 351 PN **Pn** **07 40 05.6 +1.1**
KORT Korkueli 3.55 56 PN **Pn** **07 40 07.9 +0.8**
KORT Korkueli 3.55 56 *i* P **Pn** **07 40 10.4 +3.3**
KORT *i* S **Sb** **07 40 56.3 -1.7**
KORT IAML 07 41 02.0
comp=E,74nm,0.6s
KORT IAML 07 41 03.0
comp=N,48nm,1.4s
MANT Manisa 3.74 23 *i* P **Pn** **07 40 10.4 +0.6**
MANT *i* S **Sb** **07 41 01.0 -2.7**
MANT IAML 07 41 15.0
comp=N,14nm,1.1s
MANT IAML 07 41 24.0
comp=E,20nm,1.1s
KHAL Karahalli 4.00 33 *i* P **Pn** **07 40 13.3 0.0**
KHAL IAML 07 41 28.0
comp=N,12nm,1.0s
KHAL IAML 07 41 42.0
comp=E,14nm,1.0s
ISP Isparta 4.14 47 PN **Pn** **07 40 16.6 +1.3**
KEPZ Antalya-Kepez 4.39 64 *i* P **Pn** **07 40 19.7 +1.1**
KEPZ *i* S **Sn** **07 41 12.3 +2.2**
KEPZ IAML 07 41 21.0
comp=N,24nm,0.7s
KEPZ IAML 07 41 25.0
comp=E,22nm,0.8s
ITM Ithomi 4.40 300 PN **Pn** **07 40 20.8 +2.1**
AKMS Akamas 4.63 89 P **Pn** **07 40 21.5 -0.5**
AKMS AML AML 07 41 18.9
comp=E,0.7nm,0.7s
AKMS AML AML 07 41 24.9
comp=E,0.6nm,0.6s
ALFC Alefka 4.85 87 P **Pn** **07 40 25.6 +0.7**
AGG Agios Georgios 5.27 320 PN **Pn** **07 40 33.3 +2.6**
ASGA Asgata 5.40 91 P **Pn** **07 40 33.0 +0.6**
BRTR Keskin Array B 7.23 48 Pn **Pn** **07 40 58.5 +0.8**
comp=E,0.1nm,0.3s,baz=233,slow=14,SNR=3.0
BRTR LR LR 07 44 33.7
comp=E,141nm,19.3s,baz=162,slow=45
ASF Jabal al Asfar 8.99 106 LR LR 07 45 43.3
comp=E,231nm,19.6s,baz=285,slow=44
MLR Muntele Rosu 10.44 357 LR LR 07 46 35.9
comp=E,21nm,19.9s,baz=292,slow=43
KEST Kesra 14.17 278 LR LR 07 49 42.9
comp=E,44nm,18.0s,baz=261,slow=44
KBZ Khabaz 15.21 50 LR LR 07 50 25.6
comp=E,19nm,21.8s,baz=200,slow=44
ESDC Sonseca Array 24.73 290 P **P** **07 44 33.9 +0.4**
comp=E,0.6nm,0.5s,baz=83,slow=9.5,SNR=5.3
ESDC LR LR 07 54 07.4
comp=E,11nm,19.4s,baz=220,slow=36
EKA Eskdalemuir Ar 28.85 324 P **P** **07 45 10.9 +0.5**
comp=E,0.7nm,0.7s,baz=129,slow=12,SNR=3.7
TORD Torodi Ar. Bea 31.40 232 P **P** **07 45 33.3 0.0**
comp=E,1.2nm,0.6s,baz=41,slow=7.7,SNR=6.7
MKAR Makanchi Array 42.79 57 P **P** **07 47 09.6 -0.1**
comp=E,1.6nm,0.7s,baz=276,slow=6.9,SNR=15
ZALV Zalesovo Beam 44.17 46 P **P** **07 47 19.9 -0.9**
comp=E,2.5nm,0.6s,baz=261,slow=8.7,SNR=7.8
KSRS Korea Array 77.35 53 LR LR 08 27 55.0
comp=E,11nm,18.3s,baz=185,slow=38

WEL 15 07:52:02.5±0.6, 32°S±5′×17°9E±1°0, h33km, M4.4/13, mB4.5/3, ML4.8/13, MLv4.5/13, Mw(mB)3.6/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.83**	**48**	S	Sn	07 53 43.1	0.0
MXZ	**Matakaoa Point**	**5.70**	**184**	P	Pn	07 53 25.7	+0.9
HAZ	**Te Kaha**	**5.94**	**188**	P	Pn	07 53 30.0	+1.9
HAZ				S	Sn	07 54 36.4	+1.5
WMGZ	**Waiomatatini S**	**5.95**	**183**	P	Pn	07 53 31.3	+3.0
PKGZ	**Pakihiroa**	**6.04**	**185**	P	Pn	07 53 30.7	+1.1
PKGZ				S	Sn	07 54 38.0	+0.4
RUGZ	**Raukumara Rang**	**6.16**	**188**	P	Pn	07 53 31.9	+0.7
RUGZ				S	Sn	07 54 41.4	+0.8
PUZ	**Puketiti**	**6.21**	**184**	P	Pn	07 53 33.8	+1.9
PUZ				S	Sn	07 54 41.2	-0.6
URZ	**Urewera**	**6.53**	**192**	P	Pn	07 53 36.1	-0.1
URZ				S	Sn	07 54 49.5	0.0
MWZ	**Matawai**	**6.54**	**189**	P	Pn	07 53 35.6	-0.9
MWZ				S	Sn	07 54 50.7	+0.8
TKGZ	**Te Karaka**	**6.61**	**187**	P	Pn	07 53 37.0	-0.3
TKGZ				S	Sn	07 54 51.3	-0.2
RAGZ	**Rawiri**	**6.71**	**189**	P	Pn	07 53 39.5	+0.6
MUGZ	**Murupara**	**6.80**	**194**	P	Pn	07 53 40.7	+0.6
RTZ	**Ruatahuna**	**6.90**	**192**	P	Pn	07 53 41.1	-0.3
TLZ	**Tolley Road**	**6.98**	**202**	P	Pn	07 53 45.9	+3.3
SNGZ	**Shannon Statio**	**7.00**	**189**	P	Pn	07 53 42.7	-0.1
MTHZ	**Maungataniwha**	**7.16**	**192**	P	Pn	07 53 44.5	-0.4
MRHZ	**Matea Rd**	**7.22**	**195**	P	Pn	07 53 43.9	-2.0
NMHZ	**Naumai**	**7.40**	**192**	P	Pn	07 53 47.0	-1.2
BKZ	**Black Stump Fm**	**7.53**	**194**	P	Pn	07 53 47.9	-2.1
KRHZ	**Kereru**	**8.01**	**194**	P	Pn	07 53 53.1	-3.5
KAHZ	**Kahuranaki**	**8.07**	**191**	P	Pn	07 53 54.5	-2.9

KRNET 15 07:55:54.9±0.1, 42°48N×78°99E, h13km, mb2.6, 10C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**0.44**	**271**	⇓*i*	P	07 56 03.2	-0.5
PRZ	baz=71			⇓*i*	S	07 56 09.4	-0.2
ANVS	**Anan'yevo**	**1.02**	**288**	⇑*i*	P	07 56 14.3	-0.3
ANVS	baz=88			⇑*i*	S	07 56 27.7	-0.4
TARG	**Taragay, Kyrgy**	**1.16**	**230**	⇑*i*	P	07 56 16.3	-0.7
TARG	baz=30			⇑*i*	S	07 56 31.9	-0.1
KDJ	**Kajisay**	**1.39**	**256**	⇑*i*	P	07 56 21.0	+0.2
KDJ	baz=56			⇑*i*	S	07 56 39.6	0.0
ULHL	**Ulahol**	**2.05**	**264**	⇑*i*	P	07 56 31.8	-0.3
ULHL	baz=64			⇑*i*	S	07 56 58.7	+1.1
BOOM	**Boomskoye usch**	**2.26**	**271**	⇑*i*	P	07 56 34.2	-1.4
BOOM	baz=71			⇑*e*	S	07 57 03.3	-0.2

*BJI **15** 07:59:20.5±0.0, 20°50S×177°60W, h479km, mB4.8/18, mb4.8/26*
*IDC **15** 07:59:22.5±2.0, 20°31S×177°67W, h481km±20km, mb3.9/14, mb1 4.2/14, mb1mx4.1/21, mbtmp4.7/14, Error ellipse: s-maj=17.2km s-min=12.6km az=122.0*
*NEIC **15** 07:59:23.9±1.6, 20°41S±0°10×177°6W±0°1, h504km±5km, mb4.4/140, Error ellipse: s-maj=16.2km s-min=13.2km az=124.0*

ISC 15 07:59:23.7±0.3, 20°39S±0°05×177°63W±0°06, h500km, n405, σ1$26/420, mb4.5/89, 26C-7D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.86**	**302**	P	**P**	**08 00 51.4**	**+1.7**
NIUE	**Niue**	**7.37**	**81**	P	**P**	**08 01 12.7**	**-1.0**
NIUE				S	**S**	**08 02 47.7**	**+3.9**
AFI	**Afiamalu**	**8.53**	**42**	P	**P**	**08 01 22.5**	**-3.4**
AFI				S	S	08 02 57.3	-8.7
RIZ	**Raoul Island**	**8.83**	**182**	S	**S**	**08 03 07.6**	**-3.6**
GLKZ	**Green Lake**	**8.84**	**182**	P	**P**	**08 01 26.7**	**-2.1**
GLKZ				S	S	08 02 59.7	-12
FUNA	**Funafuti**	**12.18**	**345**	P	**P**	**08 02 05.2**	**+0.9**
DZM	**Mont Dzumac**	**14.94**	**261**	P	**P**	**08 02 33.6**	**+0.1**
OUZ	**Omahuta**	**16.68**	**206**	P	**P**	**08 02 51.0**	**-0.4**
OUZ	**Omahuta**	**16.68**	**206**	P	**P**	**08 02 50.6**	**-0.7**
WCZ	**Waipu Caves**	**17.02**	**203**	P	**P**	**08 02 54.5**	**-0.3**
KUZ	**Kuaotunu**	**17.30**	**198**	P	**P**	**08 02 55.3**	**-2.2**
MXZ	**Matakaoa Point**	**17.48**	**191**	P	**P**	**08 02 58.0**	**-1.2**
MXZ				S	S	08 06 09.2	+14
WIAZ	**Waiheke Island**	**17.53**	**200**	P	**P**	**08 03 00.6**	**+1.0**
WMGZ	**Waiomatatini S**	**17.71**	**190**	P	**P**	**08 02 58.8**	**-2.4**
WMGZ				S	S	08 06 15.4	+16
HAZ	**Te Kaha**	**17.76**	**192**	P	**P**	**08 03 00.6**	**-1.1**
HAZ				S	S	08 06 17.1	+17
MKAZ	**Moumakai**	**17.81**	**199**	P	**P**	**08 03 03.2**	**+1.1**
PKGZ	**Pakihiroa**	**17.84**	**191**	P	**P**	**08 03 03.2**	**+0.7**
PKGZ				S	S	08 06 17.1	+16
PUZ	**Puketiti**	**17.98**	**191**	P	**P**	**08 03 03.2**	**-0.6**
PUZ				S	**S**	**08 06 13.6**	**+10**
RUGZ	**Raukumara Rang**	**17.99**	**192**	P	**P**	**08 03 02.4**	**-1.6**
OPRZ	**Ohinepanea**	**18.12**	**195**	P	**P**	**08 03 04.6**	**-0.4**
MARZ	**Manawahe**	**18.22**	**195**	P	**P**	**08 03 05.3**	**-0.7**
KMRZ	**Kaimai**	**18.27**	**196**	P	**P**	**08 03 07.3**	**+0.8**
TOZ	**Tahuroa Road**	**18.29**	**198**	P	**P**	**08 03 06.7**	**+0.2**
MWZ	**Matawai**	**18.37**	**192**	P	**P**	**08 03 04.6**	**-2.8**
MWZ				S	S	08 06 29.9	+20
URZ	**Urewera**	**18.39**	**193**	P	**P**	**08 03 03.7**	**-3.8**
URZ				S	S	08 06 28.1	+18
CNGZ	**Carnagh Statio**	**18.39**	**190**	P	**P**	**08 03 07.0**	**-0.6**
TKGZ	**Te Karaka**	**18.41**	**191**	P	**P**	**08 03 06.5**	**-1.2**
KNTN	**Kanton**	**18.43**	**19**	P	**P**	**08 03 07.2**	**-0.9**
NGRZ	**Ngongotaha**	**18.45**	**196**	P	**P**	**08 03 08.7**	**+0.5**
TARZ	**Mount Tarawera**	**18.50**	**195**	P	**P**	**08 03 08.5**	**-0.1**
UTU	**Utuhina**	**18.52**	**195**	P	**P**	**08 03 09.3**	**+0.5**
RAGZ	**Rawiri**	**18.55**	**192**	P	**P**	**08 03 07.8**	**-1.3**
RAGZ				S	S	08 06 33.1	+20
HLRZ	**Highlands Stat**	**18.55**	**195**	P	**P**	**08 03 08.5**	**-0.6**
RRRZ	**Republican Roa**	**18.60**	**195**	P	**P**	**08 03 08.5**	**-1.0**
HSRZ	**Hossack Road**	**18.64**	**195**	P	**P**	**08 03 09.9**	**+0.1**
MUGZ	**Murupara**	**18.67**	**194**	P	**P**	**08 03 07.0**	**-3.1**
MUGZ				S	S	08 06 37.6	+23
RIGZ	**Rimuhau**	**18.69**	**191**	P	**P**	**08 03 07.7**	**-2.6**
HRRZ	**Handcock Road**	**18.70**	**195**	P	**P**	**08 03 09.2**	**-1.2**
GRRZ	**Galatos Road**	**18.70**	**195**	P	**P**	**08 03 10.0**	**-0.5**
RTZ	**Ruatahuna**	**18.76**	**193**	P	**P**	**08 03 08.9**	**-2.1**
PRRZ	**Plateau Road**	**18.78**	**195**	P	**P**	**08 03 09.8**	**-1.3**
TLZ	**Tolley Road**	**18.84**	**197**	P	**P**	**08 03 12.0**	**+0.4**
SNGZ	**Shannon Statio**	**18.84**	**192**	P	**P**	**08 03 12.0**	**+0.3**
ALRZ	**Allen Road**	**18.85**	**195**	P	**P**	**08 03 10.6**	**-1.1**
WPRZ	**Whakapapataran**	**18.85**	**195**	P	**P**	**08 03 11.1**	**-0.7**
PRGZ	**Paritu Road**	**18.88**	**191**	P	**P**	**08 03 11.1**	**-0.9**
KUTZ	**Kaahu Road**	**18.91**	**196**	P	**P**	**08 03 11.9**	**-0.4**
KNZ	**Kokohu**	**19.01**	**191**	P	**P**	**08 03 11.7**	**-1.4**
MTHZ	**Maungataniwha**	**19.01**	**193**	P	**P**	**08 03 11.3**	**-1.9**
MRHZ	**Matea Rd**	**19.09**	**194**	P	**P**	**08 03 11.5**	**-2.5**
MHGZ	**Mahia Peninsul**	**19.10**	**191**	P	**P**	**08 03 14.1**	**+0.1**
WHHZ	**Waihua**	**19.15**	**192**	P	**P**	**08 03 13.4**	**-1.0**
HIZ	**Hauiti**	**19.20**	**198**	P	**P**	**08 03 15.9**	**+1.0**
HIZ	**Hauiti**	**19.20**	**198**	P	**P**	**08 03 15.7**	**+0.8**
NMHZ	**Naumai**	**19.26**	**193**	P	**P**	**08 03 13.9**	**-1.6**
RATZ	**Rangitukua**	**19.28**	**196**	P	**P**	**08 03 14.4**	**-1.3**
RITZ	**Rihia Road**	**19.36**	**195**	P	**P**	**08 03 15.1**	**-1.4**
ARHZ	**Aropaoanui**	**19.38**	**193**	P	**P**	**08 03 16.4**	**-0.1**
BKZ	**Black Stump Fm**	**19.39**	**194**	P	**P**	**08 03 12.8**	**-3.9**
BKZ	**Black Stump Fm**	**19.39**	**194**	P	**P**	**08 03 13.7**	**-3.1**
KATZ	**Kakaramea**	**19.40**	**196**	P	**P**	**08 03 16.4**	**-0.5**
TWVZ	**Taurewa**	**19.56**	**196**	P	**P**	**08 03 16.8**	**-1.6**
WTVZ	**West Tongariro**	**19.56**	**196**	P	**P**	**08 03 16.4**	**-1.9**
MCHZ	**McNeill Hill**	**19.61**	**193**	P	**P**	**08 03 16.9**	**-1.8**
NGZ	**Ngauruhoe**	**19.61**	**196**	P	**P**	**08 03 17.6**	**-1.3**
KWHZ	**Kaweka Forest**	**19.65**	**194**	P	**P**	**08 03 17.0**	**-2.2**
TUVZ	**Tukino**	**19.69**	**196**	P	**P**	**08 03 17.3**	**-2.2**
FWVZ	**Far West T-bar**	**19.70**	**196**	P	**P**	**08 03 17.7**	**-2.1**
WHVZ	**Whangaehu Hut**	**19.72**	**196**	P	**P**	**08 03 18.1**	**-1.8**
TRVZ	**Turoa**	**19.74**	**196**	P	**P**	**08 03 18.1**	**-2.1**
PKVZ	**Pokaka**	**19.79**	**196**	P	**P**	**08 03 18.6**	**-1.7**
MOVZ	**Moawhango**	**19.79**	**195**	P	**P**	**08 03 18.0**	**-2.4**
VRZ	**Vera Road**	**19.79**	**198**	P	**P**	**08 03 19.9**	**-0.4**
BHHZ	**Black Hill Sta**	**19.80**	**195**	P	**P**	**08 03 16.8**	**-3.7**
MTVZ	**Mangateitei**	**19.84**	**196**	P	**P**	**08 03 19.6**	**-1.2**
KRHZ	**Kereru**	**19.87**	**194**	P	**P**	**08 03 18.7**	**-2.4**
KAHZ	**Kahuranaki**	**19.91**	**193**	P	**P**	**08 03 20.4**	**-1.0**
PKE	**Pukeiti**	**20.09**	**199**	P	**P**	**08 03 24.4**	**+1.4**
PXZ	**Pawanui**	**20.14**	**192**	P	**P**	**08 03 21.6**	**-1.9**
KHEZ	**Kahui Hut**	**20.17**	**199**	P	**P**	**08 03 25.6**	**+1.7**
PNHZ	**Pukenui**	**20.17**	**194**	P	**P**	**08 03 21.5**	**-2.3**
PREZ	**Palmer Road**	**20.17**	**199**	P	**P**	**08 03 25.7**	**+1.8**
NBEZ	**Newall Road No**	**20.19**	**199**	P	**P**	**08 03 26.2**	**+2.2**
LREZ	**Lake Rotokare**	**20.21**	**198**	P	**P**	**08 03 24.8**	**+0.7**
WPHZ	**Waipukurau**	**20.26**	**193**	P	**P**	**08 03 23.6**	**-1.0**
WAZ	**Wanganui**	**20.32**	**197**	P	**P**	**08 03 23.8**	**-1.3**
NMEZ	**Namu Road**	**20.32**	**199**	P	**P**	**08 03 26.9**	**+1.8**
TSZ	**Takapari Road**	**20.36**	**194**	P	**P**	**08 03 24.0**	**-1.6**
PRHZ	**Porangahau**	**20.41**	**193**	P	**P**	**08 03 25.1**	**-0.9**
DVHZ	**Dannevirke**	**20.55**	**194**	P	**P**	**08 03 25.5**	**-1.7**
ANWZ	**Angora Road**	**20.63**	**193**	P	**P**	**08 03 26.2**	**-1.8**
POWZ	**Post Office Ro**	**20.73**	**194**	P	**P**	**08 03 28.1**	**-0.7**
PRWZ	**Pori Road**	**20.83**	**194**	P	**P**	**08 03 28.9**	**-0.9**
BFZ	**Birch Farm**	**20.90**	**193**	P	**P**	**08 03 28.0**	**-2.3**
BFZ	**Birch Farm**	**20.90**	**193**	P	**P**	**08 03 28.0**	**-2.3**
MRZ	**Mangatainoka R**	**21.02**	**195**	P	**P**	**08 03 28.3**	**-3.2**
TIWZ	**Tintock**	**21.07**	**194**	P	**P**	**08 03 30.1**	**-1.8**
HOWZ	**Holdsworth Sta**	**21.27**	**194**	P	**P**	**08 03 31.2**	**-2.5**
OGWZ	**Otaki Gorge**	**21.27**	**195**	P	**P**	**08 03 31.2**	**-2.6**
KIW	**Kapiti Island**	**21.38**	**196**	P	**P**	**08 03 32.4**	**-2.3**
TMWZ	**Te Maipa**	**21.38**	**194**	P	**P**	**08 03 32.5**	**-2.2**
CAW	**Cannon Point**	**21.57**	**195**	P	**P**	**08 03 34.0**	**-2.5**
TRWZ	**Traveller**	**21.70**	**194**	P	**P**	**08 03 36.5**	**-1.1**
PAWZ	**Paruwai Farm**	**21.75**	**194**	P	**P**	**08 03 36.4**	**-1.7**
MSWZ	**Moikau Station**	**21.82**	**195**	P	**P**	**08 03 36.5**	**-2.1**
MSWZ	**Moikau Station**	**21.82**	**195**	P	**P**	**08 03 36.6**	**-2.0**
SNZO	**South Karori**	**21.85**	**196**	P	**P**	**08 03 37.1**	**-1.8**
TCW	**Tory Channel**	**21.87**	**197**	P	**P**	**08 03 37.6**	**-1.6**
BHW	**Baring Head**	**21.90**	**195**	P	**P**	**08 03 38.5**	**-0.9**
BHW	**Baring Head**	**21.90**	**195**	P	**P**	**08 03 37.6**	**-1.8**
PLWZ	**Palliser**	**21.96**	**194**	P	**P**	**08 03 38.0**	**-2.0**
PLWZ	**Palliser**	**21.96**	**194**	P	**P**	**08 03 38.1**	**-1.9**
EIDS	**Eidsvold**	**29.21**	**254**	P	**P**	**08 04 44.3**	**-0.1**
ARMA	**Armidale**	**29.43**	**244**	P	**P**	**08 04 47.1**	**+0.8**
ARMA				IAmb	IAmb	08 04 47.3	
	comp=Z,11nm,0.5s						
CTAO	**Charters Tower**	**33.84**	**264**	P	**P**	**08 05 24.5**	**+0.3**
PMG	**Port Moresby**	**35.65**	**283**	P	**P**	**08 05 39.7**	**+0.4**
TOO	**Toolangi**	**36.24**	**234**	P	**P**	**08 05 44.4**	**+0.4**
TOO				IAmb	IAmb	08 05 46.5	
	comp=Z,32nm,1.5s						
TAU	**Tasmania Unive**	**36.95**	**225**	P	**P**	**08 05 49.7**	**0.0**
TAU				IAmb	IAmb	08 06 01.5	
	comp=Z,16nm,1.1s						
COEN	**Coen**	**37.92**	**273**	P	**P**	**08 05 58.1**	**+0.1**
COEN				IAmb	IAmb	08 05 59.3	
	comp=Z,30nm,1.2s						
STKA	**Stephens Creek**	**38.15**	**244**	P	**P**	**08 05 59.9**	**+0.2**
	comp=Z,5.4nm,0.4s,baz=92,slow=11,SNR=49						
STKA				ScP	**ScP**	**08 11 05.1**	**+3.2**
	comp=Z,4.7nm,1.0s,baz=23,slow=1.8,SNR=4.8						
STKA	**Stephens Creek**	**38.15**	**244**	P	**P**	**08 05 59.9**	**+0.2**
MCQ	**Macquarie Isla**	**38.42**	**202**	P	**P**	**08 06 00.6**	**-0.9**
BBOO	**Buckleboo**	**42.91**	**243**	P	**P**	**08 06 37.3**	**-0.4**
BBOO				IAmb	IAmb	08 06 37.8	
	comp=Z,45nm,1.5s						
WR0	**Warramunga Arr**	**44.77**	**262**	P	**P**	**08 06 51.5**	**-0.9**
AS31	**Alice Springs**	**44.88**	**257**	P	**P**	**08 06 53.0**	**-0.3**
AS31				IAmb	IAmb	08 06 54.3	
	comp=Z,18nm,0.5s						
ASAR	**Alice Springs**	**44.88**	**257**	P	**P**	**08 06 52.9**	**-0.4**
	comp=Z,64nm,0.7s,baz=91,slow=7.8,SNR=949						
ASAR				PcP	**PcP**	**08 08 24.1**	**-0.3**
	comp=Z,3.0nm,0.6s,baz=89,slow=4.3,SNR=5.0						
ASAR				ScP	**ScP**	**08 11 31.4**	**+2.4**
	comp=Z,1.3nm,0.8s,baz=97,slow=4.5,SNR=4.6						
ASAR				S	**S**	**08 12 51.9**	**-2.4**
	comp=Z,9.8nm,0.9s,baz=93,slow=16,SNR=32						
ASAR	**Alice Springs**	**44.88**	**257**	P	**P**	**08 06 52.3**	**-1.0**
WB0	**Warramunga Arr**	**44.94**	**262**	P	**P**	**08 06 52.9**	**-0.9**
WB2	**Warramunga Arr**	**44.95**	**262**	P	**P**	**08 06 53.0**	**-0.8**
WRAB	**Tennant Creek**	**44.95**	**262**	P	**P**	**08 06 53.0**	**-0.9**
WRA	**Warramunga Arr**	**44.96**	**262**	P	**P**	**08 06 53.0**	**-1.0**
	comp=Z,27nm,0.7s,baz=97,slow=7.6,SNR=357						
WRA				S	**S**	**08 12 53.9**	**-1.5**
	comp=Z,1.8nm,0.8s,baz=94,slow=14,SNR=5.8						
WRA	**Warramunga Arr**	**44.96**	**262**	P	**P**	**08 06 53.2**	**-0.7**
MTN	**Manton Dam**	**49.51**	**270**	P	**P**	**08 07 27.6**	**-0.6**
FORT	**Forrest**	**49.66**	**247**	P	**P**	**08 07 28.4**	**-0.7**
FORT				IAmb	IAmb	08 07 29.2	
	comp=Z,39nm,1.2s						
KNRA	**Kununurra**	**51.01**	**266**	P	**P**	**08 07 39.0**	**-0.3**
FITZ	**Fitzroy Crossi**	**53.38**	**262**	P	**P**	**08 07 56.3**	**0.0**
FITZ				IAmb	IAmb	08 07 56.7	
	comp=Z,18nm,0.7s						
SOEI	**Soe**	**56.84**	**272**	P	**P**	**08 08 19.5**	**-1.3**
	comp=Z,176nm,0.9s						
SOEI	**Soe**	**56.84**	**272**	P	**P**	**08 08 21.1**	**+0.4**
SANI	**Sanana**	**57.90**	**281**	P	**P**	**08 08 26.7**	**-1.2**
	comp=Z,µmcomp=Z,62nm,1.1s						
PSA00	**Pilbara Seismi**	**58.03**	**257**	P	**P**	**08 08 27.9**	**-0.8**
PSA00				IAmb	IAmb	08 08 28.8	
	comp=Z,26nm,1.0s						
PSA00	**Pilbara Seismi**	**58.03**	**257**	P	**P**	**08 08 27.4**	**-1.3**
PSA00				IAmb	IAmb	08 08 28.0	
	comp=Z,14nm,1.0s						
VNDA	**Vanda**	**58.05**	**185**	P	**P**	**08 08 29.2**	**+1.4**
	comp=Z,3.4nm,0.7s,baz=356,slow=6.6,SNR=15						
VNDA				ScP	**ScP**	**08 12 27.1**

KSM	Kuching	73.74	278	P	P	08 10 07.6	+0.7	
	comp=Z,47nm,1.5s							
KSM	Kuching	73.74	278	P	P	08 10 08.0	+1.1	
NACB	Ninganchiao	73.90	304	P	P	08 10 07.3	-0.3	
SSLB	Suanglung	74.20	303	P	P	08 10 08.6	-0.8	
SSLB				IAmb	IAmb	08 10 14.8		
	comp=Z,47nm,1.5s							
PEA0B	Petropavlovsk-	76.25	345	P	P	08 10 20.8	+0.6	
PEA0B				IAmb	IAmb	08 10 21.1		
	comp=Z,12nm,1.1s							
PETK	Petropavlovsk-	76.25	345	P	P	08 10 20.0	-0.1	
	comp=Z,7.4nm,0.9s,baz=127,slow=9.4,SNR=9.1							
PETK	Petropavlovsk-	76.25	345	P	P	08 10 19.8	-0.3	
KASI	Kota Agung	76.74	269	P	P	08 10 24.0	+0.2	
	comp=Z,82nm,0.9s							
KSRS	Korea Array	77.03	318	P	P	08 10 25.5	+0.7	
	comp=Z,4.5nm,0.9s,baz=142,slow=6.7,SNR=19							
KSAR	Wonju Array Be	77.05	318	P	P	08 10 25.5	+0.6	
MDSI	Maura Dua	77.39	270	P	P	08 10 26.2	-1.1	
	comp=Z,30nm,0.9s							
USA0B	Ussuriysk Arra	79.06	326	P	P	08 10 36.5	+0.9	
USA0B				IAmb	IAmb	08 10 37.7		
	comp=Z,26nm,1.0s							
USRK	Ussuriysk Ar.	79.06	326	P	P	08 10 37.0	+1.4	
	comp=Z,16nm,0.8s,baz=145,slow=3.4,SNR=26							
USRK	Ussuriysk Ar.	79.06	326	P	P	08 10 36.1	+0.5	
CMB	Columbia Colle	79.14	43	P	P	08 10 37.2	+0.9	
AFDM	Forest Hills D	79.32	42	P	P	08 10 37.9	+0.7	
ORV	Oroville	79.36	41	P	P	08 10 37.2	-0.1	
WAKR	Walker	80.03	43	P	P	08 10 40.6	-0.5	
WAKR				IAmb	IAmb	08 10 43.3		
	comp=Z,9.9nm,1.1s							
NJ2	Nanjing	80.07	310	*e*P	P	08 10 42.1	+0.9	
NJ2				pmax	pmax			
	comp=Z,13nm,0.5s							
GLA	Glamis	80.09	49	P	P	08 10 42.3	+0.9	
BEKR	Beckworth	80.25	41	P	P	08 10 42.6	+0.3	
PNTR	Pine Nut	80.27	42	P	P	08 10 42.5	+0.1	
PNTR				IAmb	IAmb	08 10 44.3		
	comp=Z,9.9nm,0.9s							
YERR	Yerington	80.43	42	P	P	08 10 43.6	+0.4	
MDJ	Mudanjiang	80.62	325	P	P	08 10 44.9	+1.1	
MDJ				pmax	pmax			
	comp=Z,27nm,0.8s							
MDJ				pmax	pmax			
	comp=Z,110nm,3.6s							
MDJ	Mudanjiang	80.62	325	P	P	08 10 45.0	+1.2	
MDJ				IAmb	IAmb	08 10 45.9		
	comp=Z,21nm,0.9s							
113A	Mohawk Valley,	80.70	50	P	P	08 10 45.6	+1.1	
NVAR	Mina Array Bea	80.70	43	P	P	08 10 45.6	+1.0	
	comp=Z,2.9nm,0.8s,baz=227,slow=9.1,SNR=18							
NVAR	Mina Array Bea	80.70	43	P	P	08 10 45.3	+0.6	
PAHR	Pah Rah Range	80.76	42	P	P	08 10 45.0	+0.2	
NV11	Mina Array Sit	80.80	43	P	P	08 10 45.6	+0.5	
KVN	Kaiserville	81.19	43	P	P	08 10 46.9	-0.2	
TPNV	Topopah Spring	81.22	45	P	P	08 10 48.1	+0.9	
MOD	Modoc Plateau	81.51	39	P	P	08 10 48.8	+0.2	
K05A	Summer Lake	81.66	39	P	P	08 10 50.3	+0.8	
K05A				IAmb	IAmb	08 10 51.6		
	comp=Z,15nm,1.1s							
MAW	Mawson	81.79	200	P	P	08 10 50.0	+0.6	
	comp=Z,1.0nm,0.5s,baz=135,slow=3.2,SNR=6.7							
MAW	Mawson	81.79	200	IAmb	IAmb	08 10 50.4		
	comp=Z,1.5nm,1.4s							
W13A	Hualapai Mount	81.83	48	P	P	08 10 50.9	+0.3	
Y14A	Wickenburg	81.85	49	P	P	08 10 50.1	-0.3	
Y14A				IAmb	IAmb	08 10 52.5		
	comp=Z,6.4nm,0.8s							
PINE	Pine Mountain	82.28	38	P	P	08 10 52.1	-0.5	
PINE				IAmb	IAmb	08 10 54.9		
	comp=Z,14nm,1.0s							
R11A	Troy Canyon, C	82.43	44	P	P	08 10 53.3	-0.1	
TUC	Tucson	82.64	52	P	P	08 10 54.4	-0.1	
TUC				IAmb	IAmb	08 10 57.3		
	comp=Z,6.7nm,0.9s							
WVOR	Wild Horse Val	82.82	40	P	P	08 10 54.4	-0.9	
X16A	Lo Mia Camp, P	83.21	50	P	P	08 10 58.7	+1.2	
LCMT	Little Creek M	83.28	47	P	P	08 10 58.5	+0.8	
I07A	Izee	83.28	38	P	P	08 10 57.8	+0.3	
I07A				IAmb	IAmb	08 10 59.6		
	comp=Z,8.2nm,1.0s							
319A	Douglas	83.30	53	P	P	08 10 59.7	+1.8	
319A				IAmb	IAmb	08 11 00.7		
	comp=Z,11nm,0.9s							
IPM	Ipoh	83.46	277	P	P	08 10 58.5	-0.5	
IPM	Ipoh	83.46	277	P	P	08 11 00.0	+1.0	
J08A	Circle Bar Ran	83.46	39	P	P	08 10 59.1	+0.7	
J08A				IAmb	IAmb	08 11 00.3		
	comp=Z,8.8nm,1.3s							
CCUT	Cedar City	83.48	46	P	P	08 10 58.2	-0.6	
MNSI	Mandailing Nat	83.51	273	P	P	08 10 58.7	-0.5	
	comp=Z,2µmcomp=Z,21nm,0.8s							
KNB	Kanab	83.57	47	P	P	08 11 00.2	+1.0	
U15A	North Rim	83.63	48	P	P	08 10 59.7	0.0	
U15A				IAmb	IAmb	08 11 02.0		
	comp=Z,8.2nm,0.8s							
SZCU	Shurtz Canyon	83.69	46	P	P	08 11 00.6	+0.8	
WUAZ	Wupatki	83.81	49	P	P	08 11 00.6	+0.1	
ELK	Elko	83.96	43	P	P	08 11 02.0	+0.8	
KULM	Kulim	84.10	278	P	P	08 11 03.0	+0.9	
G08A	Pilot Rock	84.32	37	P	P	08 11 03.8	+1.1	
G08A				IAmb	IAmb	08 11 04.4		
	comp=Z,6.1nm,1.0s							
MTPU	Mount Pierson	84.53	46	P	P	08 11 06.0	+1.9	
HAWA	Hanford	84.65	36	P	P	08 11 05.8	+1.7	
HAWA				IAmb	IAmb	08 11 06.0		
	comp=Z,7.2nm,1.2s							
E08A	Dider Farm, El	84.97	36	P	P	08 11 06.5	+0.9	
BMO	Blue Mountains	85.01	38	P	P	08 11 06.2	+0.1	
MFID	Camas Ranch	85.08	40	P	P	08 11 06.5	+0.1	
D08A	Wollman Farm,	85.39	36	P	P	08 11 07.3	-0.4	
E09A	Wood Farm, Sta	85.50	37	P	P	08 11 08.4	+0.2	
E09A				IAmb	IAmb	08 11 10.3		
	comp=Z,7.6nm,1.0s							
GSI	Gunungsitoli	85.57	273	P	P	08 11 09.9	+0.5	
GSI	Gunungsitoli	85.57	273	P	P	08 11 09.8	+0.5	
F10A	Beach Ranch, E	85.70	37	P	P	08 11 09.1	-0.3	
F10A				IAmb	IAmb	08 11 10.6		
	comp=Z,12nm,0.9s							
TMUT	Trail Mountain	85.83	45	P	P	08 11 10.8	+0.4	
B08A	Colville Reser	85.94	35	P	P	08 11 10.1	-0.3	
LLLB	Lillooet	86.01	32	P	P	08 11 10.2	-0.5	
LLLB				IAmb	IAmb	08 11 11.6		
	comp=Z,4.0nm,0.8s							
BJT	Baijiatuan	86.05	315	P	P	08 11 11.1	+0.1	
BJT				IAmb	IAmb	08 11 12.0		
	comp=Z,7.4nm,1.0s							
BJI	Beijing	86.05	315	P	P	08 11 11.3	+0.3	
BJI				pmax	pmax			
	comp=Z,8.0nm,0.8s							
BARN	Barnard Glacie	86.17	17	P	P	08 11 11.0	-0.3	
BARN				IAmb	IAmb	08 11 12.0		
	comp=Z,9.6nm,1.0s							
C09A	Chrisman Ranch	86.18	36	P	P	08 11 11.2	-0.3	
C09A				IAmb	IAmb	08 11 12.9		
	comp=Z,5.6nm,0.9s							
SRU	San Rafael Swe	86.19	46	P	P	08 11 11.9	-0.1	
P17A	Butcher Ranch,	86.23	46	P	P	08 11 14.3	+2.2	
KTH	Kantishna Hill	86.24	12	P	P	08 11 10.3	-1.1	
KTH				IAmb	IAmb	08 11 11.1		
	comp=Z,6.0nm,1.0s							
ENH	Enshi	86.26	304	P	P	08 11 10.9	-1.4	
TRF	Thorofare Moun	86.27	12	P	P	08 11 11.0	-0.7	
TRF				IAmb	IAmb	08 11 12.1		
	comp=Z,8.4nm,0.8s							
MNTX	Cornudas Mount	86.40	54	P	P	08 11 13.3	+0.4	
MNTX				IAmb	IAmb	08 11 15.0		
	comp=Z,4.9nm,0.9s							
RND	Reindeer	86.51	13	P	P	08 11 12.3	-0.4	
RND				IAmb	IAmb	08 11 13.3		
	comp=Z,12nm,0.9s							
PV05	Paradox Valley	86.66	47	P	P	08 11 14.7	+0.4	
TX31	Lajitas Ar. Si	86.70	57	P	P	08 11 14.3	-0.2	
TX31				IAmb	IAmb	08 11 16.7		
	comp=Z,12nm,0.9s							
TX32	Lajitas Array	86.70	57	P	P	08 11 14.3	-0.2	
TXAR	Lajitas Array	86.70	57	P	P	08 11 15.6	+1.1	
	comp=Z,2.3nm,0.7s,baz=221,slow=6.4,SNR=32							
MCK	McKinley	86.79	12	P	P	08 11 13.7	-0.3	
MCK				IAmb	IAmb	08 11 14.3		
	comp=Z,11nm,1.0s							
ANMO	Albuquerque	87.06	51	P	P	08 11 16.1	-0.1	
WRH	Wood River Hil	87.62	12	P	P	08 11 16.8	-1.0	
WRH				IAmb	IAmb	08 11 18.1		
	comp=Z,7.4nm,0.8s							
MCMT	McKenzie Canyo	87.64	40	P	P	08 11 18.9	+0.2	
HDA	Harding Lake	87.79	13	P	P	08 11 18.3	-0.4	
HDA				IAmb	IAmb	08 11 18.9		
	comp=Z,4.5nm,0.7s							
BCAR	Beaver Creek A	87.82	15	P	P	08 11 18.6	-0.2	
CCB	Clear Creek Bu	87.83	12	P	P	08 11 17.8	-0.9	
CCB				IAmb	IAmb	08 11 18.7		
	comp=Z,6.0nm,0.9s							
IMAR	Indian Mountai	87.99	10	P	P	08 11 19.0	-0.5	
COLA	College	88.02	12	P	P	08 11 19.1	-0.5	
COLA				IAmb	IAmb	08 11 19.7		
	comp=Z,9.2nm,0.8s							
DLMT	Dillon	88.08	40	P	P	08 11 20.6	-0.1	
DLMT				IAmb	IAmb	08 11 22.5		
	comp=Z,9.7nm,1.4s							
S22A	4UR Ranch, Cre	88.08	49	P	P	08 11 21.6	+0.5	
S22A				IAmb	IAmb	08 11 23.9		
	comp=Z,3.7nm,1.0s							
IL31		88.13	13	P	P	08 11 19.1	-1.0	
IL31				IAmb	IAmb	08 11 20.2		
	comp=Z,6.7nm,1.2s							
ILAR	Eielson Array	88.13	13	P	P	08 11 19.2	-1.0	
	comp=Z,1.9nm,0.6s,baz=216,slow=5.3,SNR=16							
ILAR	Eielson Array	88.13	13	P	P	08 11 19.1	-1.1	
SNOW	Snow King Moun	88.23	42	P	P	08 11 21.7	+0.2	
SNOW				IAmb	IAmb	08 11 23.3		
	comp=Z,6.7nm,1.1s							
VNA3	Neumayer Olymp	88.23	176	P	P	08 11 20.4	-0.4	
IMW	Indian Meadow	88.33	42	P	P	08 11 21.4	-0.7	
IMW				IAmb	IAmb	08 11 23.4		
	comp=Z,3.4nm,0.8s							
XAN	Xi'an	88.34	307	P	P	08 11 22.9	+0.9	
XAN				pmax	pmax			
	comp=Z,32nm,1.0s							
XAN				pmax	pmax			
	comp=Z,140nm,4.3s							
XAN	Xi'an	88.34	307	P	P	08 11 21.9	-0.1	
QLMT	Earthquake Lak	88.51	41	P	P	08 11 23.2	+0.5	
FLWY	Flagg Ranch	88.58	42	P	P	08 11 22.5	-0.6	
FLWY				IAmb	IAmb	08 11 25.2		
	comp=Z,6.2nm,0.9s							
YHB	Horse Butte	88.61	41	P	P	08 11 21.9	-1.3	
BW06	Boulder Array	88.64	43	P	P	08 11 22.9	-0.5	
PD31	Pinedale Array	88.64	43	P	P	08 11 22.9	-0.5	
PDAR	Pinedale Array	88.64	43	P	P	08 11 23.5	+0.1	
	comp=Z,1.8nm,0.8s,baz=222,slow=2.0,SNR=14							
PDAR	Pinedale Array	88.64	43	P	P	08 11 22.9	-0.5	
VNA2	Neumayer--Watz	88.68	177	P	P	08 11 23.0	0.0	
	baz=206,slow=2.6							
YMR	Madison River	88.71	41	P	P	08 11 23.2	-0.5	
BOZ	Bozeman (W)	88.78	40	P	P	08 11 24.7	+0.8	
BOZ				IAmb	IAmb	08 11 25.8		
	comp=Z,5.8nm,0.9s							
H17A	Grant Village	88.81	41	P	P	08 11 25.2	+1.0	
H17A				IAmb	IAmb	08 11 27.1		
	comp=Z,4.9nm,0.9s							
MSTX	Muleshoe	89.37	53	P	P	08 11 26.1	-0.8	
MSTX				IAmb	IAmb	08 11 28.1		
	comp=Z,5.0nm,0.9s							
EGAK	Eagle	89.41	15	P	P	08 11 25.2	-0.9	
EGAK				IAmb	IAmb	08 11 27.6		
	comp=Z,10nm,1.1s							
YNE	Yellowstone No	89.47	41	P	P	08 11 27.1	-0.2	
HHC	Hu-ho-hao-te	89.52	314	*e*P	P	08 11 27.0	-0.4	
HHC				pmax	pmax			
	comp=Z,6.0nm,1.1s							
HHC				pmax	pmax			
	comp=Z,33nm,5.3s							
CMAR	Chiang Mai Arr	90.40	289	P	P	08 11 33.2	+1.4	
	comp=Z,12nm,1.0s,baz=119,slow=2.7,SNR=32							
EPYK	Eagle Plains	91.78	15	P	P	08 11 36.7	-0.5	
RSSD	Black Hills	92.83	44	P	P	08 11 42.5	-0.3	
RSSD				IAmb	IAmb	08 11 43.1		
	comp=Z,4.8nm,1.1s							
LZH	Lanzhou	92.97	307	⇓P	P	08 11 44.6	+1.1	
LZH				PP	PP	08 15 38.8	+3.6	
LZH				pmax	pmax			
	comp=Z,19nm,1.4s							
LZH				pmax	pmax			
	comp=Z,75nm,5.3s							
N35A	Tabor	97.27	49		pP	08 13 54.5	+0.5	
ZALV	Zalesovo Beam	110.62	321	PKiKP	PKiKP	08 16 57.1	-1.7	
	comp=Z,1.4nm,0.5s,baz=182,slow=2.4,SNR=5.9							
MKAR	Makanchi Array	111.37	313	PKiKP	PKiKP	08 16 59.2	-1.3	
	comp=Z,1.2nm,0.6s,baz=85,slow=0.5,SNR=15							
MKAR	Makanchi Array	111.37	313		PKiKP	08 16 58.9	-1.6	
KKAR	Karatay Array	119.44	309		PKPdf	08 17 14.8	-1.4	
SUMG	Summit	122.96	14	PKPdf	PKPdf	08 17 22.3	-0.3	
ARU	Arti	125.30	326	PKPdf	PKPdf	08 17 26.4	-0.5	
ABKAR	Akbulak array	126.24	317		PKPdf	08 17 28.0	-1.0	
ARCES	ARCESS Array B	128.87	350	PKP	PKPdf	08 17 33.1	-0.3	
	comp=Z,3.6nm,0.8s,baz=22,slow=1.3,SNR=4.8							
GEYT	Alibeck	129.01	303	SKPbc	SKPbc	08 20 10.3	+1.5	
	comp=Z,0.9nm,0.5s,baz=355,slow=1.8,SNR=4.1							
NOA	NORSAR Array B	138.91	353	SKPbc	SKPbc	08 20 41.6	+1.5	
	comp=Z,0.8nm,0.8s,baz=7.2,slow=2.2,SNR=3.5							
AKASG	Malin Array Be	143.08	331	PKhKP	PKPpre	08 17 56.7		
	comp=Z,4.6nm,0.5s,baz=41,slow=4.6,SNR=32							
AKBB	Malin Array Si	143.08	331		PKPpre	08 17 56.8		
SORM	Soroca	145.28	329	⇓P	PKPdf	08 18 03.5	-0.5	
GAZ	Gaziantep	145.42	306		PKPbc	08 18 06.5	+0.6	
BSEG	Bad Segeberg	145.96	352	*e*PKPbc	PKPbc	08 18 06.5	-0.2	
	baz=14,slow=2.4							
ILGA	Ilgaz	146.35	315		PKPbc	08 18 09.3	+0.7	
BR131	Keskin Array S	147.02	313		PKPbc	08 18 09.7	-0.6	
BRTR	Keskin Array B	147.02	313	PKPbc	PKPbc	08 18 09.8	-0.6	
	comp=Z,4.5nm,0.8s,baz=133,slow=4.5,SNR=24							
BRTR	Keskin Array B	147.02	313		PKPbc	08 18 09.5	-0.8	
BUR08	Bucovina Ar. S	147.12	331		PKPbc	08 18 10.8	+0.4	
BURAR	Bucovina Array	147.13	331	⇓P	PKPbc	08 18 10.4	0.0	
BURAR	Bucovina Array	147.13	331		PKPdf	08 18 07.9	+0.6	
BURAR				PKPbc	PKPbc	08 18 10.9	+0.6	
OJC	Ojcow	147.18	339	*e*PKP	PKPbc	08 18 09.9	-0.4	
OJC	Ojcow	147.18	339		PKPbc	08 18 10.3	0.0	
BIZ	Bicaz	147.21	329	⇑P	PKPbc	08 18 10.5	+0.1	
TESR	Tescani	147.25	328	⇑P	PKPbc	08 18 10.5	-0.1	
RETH	Rethem/Aller,	147.25	352	*e*PKPbc	PKPbc	08 18 11.0	+0.7	
	baz=14,slow=2.4							
KOLS	Kolonicke sedl	147.35	335	*e*PKP	PKPbc	08 18 11.0	+0.2	
KOLS				*e*		08 18 14.5		
CFR	Carcaliu	147.39	325	⇑P	PKPbc	08 18 10.4	-0.5	
NRDL	Niedersach Rie	147.39	351	*e*PKPbc	PKPbc	08 18 10.3	-0.3	
	baz=14,slow=2.4							
VRI	Vrincioaia	147.66	327	⇓P	PKPbc	08 18 11.0	-0.6	
ASSE	Asse, Remlinge	147.66	350	*e*PKPbc	PKPbc	08 18 11.3	-0.1	
	baz=14,slow=2.4							
KSP	Ksiaz	147.68	343	*e*PKP	PKPbc	08 18 11.8	+0.3	
CRVS	Cervenica-Dubn	147.69	336	*e*PKP	PKPbc	08 18 11.9	+0.3	
PLOR	Plostina	147.71	327	⇑P	PKPbc	08 18 11.0	-0.8	
HARR	Harsova	147.82	325	⇑P	PKPbc	08 18 12.4	+0.3	
IBBN	Ibbenburen	147.86	354	*e*PKPbc	PKPbc	08 18 11.9	0.0	
	baz=14,slow=2.4							
TRPA	Tarpa	147.89	334	⇑P	PKPbc	08 18 11.7	-0.4	
OSTC	Ostas	147.96	343	⇑*e*PKP	PKPbc	08 18 12.8	+0.5	
OSTC				*ex*	x	08 18 21.0		
CHVC	Chvalec	147.97	343	⇑*e*PKP	PKPbc	08 18 12.4	+0.1	
CLZ	Clausthal	147.99	351	*e*PKPbc	PKPbc	08 18 12.1	-0.2	
	baz=14,slow=2.4							
CLL	Collm	148.03	347	⇓*i*PKPbc	PKPbc	08 18 12.2	-0.2	
	comp=Z,22nm,0.8s							
CLL	Collm	148.03	347		PKPbc	08 18 12.2	-0.2	
CLL	Collm	148.03	347	*e*PKPbc	PKPbc	08 18 12.2	-0.2	
	baz=14,slow=2.4							
UPC	Upice	148.06	343	⇑*e*PKP	PKPbc	08 18 12.8	+0.3	
DPC	Dobruska-Polom	148.12	343	⇑*e*PKP	PKPbc	08 18 12.8	+0.1	
DPC				*e*PKPAB	PKPab	08 18 18.1	+0.7	
LANS	Liptovska Anna	148.20	339	*e*PKP	PKPbc	08 18 13.8	+0.8	
BRG	Berggiesshubel	148.23	346	*e*PKP	PKPdf	08 18 08.9	0.0	
	comp=Z,2.8nm,1.0s							
BRG	Berggiesshubel	148.23	346	*i* PKP	PKPbc	08 18 13.0	0.0	
	comp=Z,13nm,0.9s							
BRG	Berggiesshubel	148.23	346	*e*PKP	PKPab	08 18 17.5	-0.2	
	comp=Z,6.6nm,1.0s							
BRG	Berggiesshubel	148.23	346	*e*PKPbc	PKPbc	08 18 12.9	0.0	
	baz=14,slow=2.4							
DOPR	Dopca	148.25	329	⇓P	PKPbc	08 18 12.8	-0.4	
MORC	Moravsky Berou	148.28	341	⇑P	PKPbc	08 18 13.1	-0.1	
MORC	Moravsky Berou	148.28	341	*e*PKP	PKPbc	08 18 12.8	-0.3	
MORC	Moravsky Berou	148.28	341		PKPbc	08 18 13.1	-0.1	
MLR	Muntele Rosu	148.31	328	⇑P	PKPbc	08 18 12.7	-0.7	
MLR	Muntele Rosu	148.31	328		PKPbc	08 18 12.8	-0.7	
FBE	Freiberg	148.32	347	*e*PKPbc	PKPbc	08 18 13.4	+0.3	
	baz=14,slow=2.4							
GTTG	Gottingen	148.34	351	*e*PKPbc	PKPbc	08 18 13.2	0.0	
	baz=14,slow=2.4							
NEUB	Neuenburg	148.36	349	*e*PKPbc	PKPbc	08 18 13.3	+0.1	
	baz=14,slow=2.4							
PVCC	Panska Ves	148.41	345	⇑*e*PKP	PKPbc	08 18 13.7	+0.3	
BUG	Bochum--Univer	148.77	354	*e*PKPbc	PKPbc	08 18 13.9	-0.3	
	baz=14,slow=2.4							
VOIR		148.80	328	⇑P	PKPbc	08 18 13.7	-0.9	
PRA	Prague	148.87	345	⇑*e*PKP	PKPbc	08 18 14.1	-0.4	
DRGR		148.87	332	⇑P	PKPbc	08 18 13.9	-0.9	
PRU	Pruhonice	148.91	345	⇑*e*PKP	PKPbc	08 18 14.2	-0.4	
PRU				*e*PKPAB	PKPab	08 18 19.8	-0.8	
GOPC	GO Pecny, Ondr	148.92	344	⇑*e*PKP	PKPbc	08 18 14.9	+0.2	
MOX	Moxa	148.93	349	*e*PKPbc	PKPbc	08 18 14.3	-0.3	
	baz=14,slow=2.4							
PLN	Plauen	148.98	348	*e*PKPbc	PKPbc	08 18 14.8	0.0	
	baz=14,slow=2.4							
VRAC	Vranov	148.98	342	*e*PKP	PKPbc	08 18 15.0	+0.2	
VYHS	Vyhne	148.98	339	*e*PKP	PKPbc	08 18 15.0	+0.1	
VYHS				*e*		08 18 20.8		
TANN	Tannenbergstha	148.98	347	*e*PKPbc	PKPbc	08 18 14.6	-0.3	
	baz=14,slow=2.4							
JAVC	Velka Javorina	149.05	340	*e*PKP	PKiKP	08 18 16.4	+0.4	
ARR	Arges	149.05	329	⇑P	PKPbc	08 18 15.0	-0.2	
GUNZ	Gunzen	149.06	348	*e*PKPbc	PKPbc	08 18 15.1	+0.1	
	baz=14,slow=2.4							
CSS	Mathiatis	149.12	305		PKPbc	08 18 15.0	-0.7	
WERN	Wernitzgruen	149.12	347	*e*PKPbc	PKPbc	08 18 15.4	+0.2	
	baz=14,slow=2.4							
KRUC	Moravsky	149.26	342	*e*PKP	PKPbc	08 18 15.2	-0.3	
PBCC	Pribram	149.33	345	⇑*e*PKP	PKPbc	08 18 15.3	-0.4	
PBCC				*e*PKPAB	PKPab	08 18 20.9	-1.4	
MANZ	Manzenberg	149.46	348	*e*PKPbc	PKPbc	08 18 16.1	+0.1	
	baz=14,slow=2.4							
MODS	Modra-Piesok	149.60	340	*e*PKP	PKPbc	08 18 15.9	-0.5	
ROTZ	Rotzenmuhle	149.65	347	*e*PKPbc	PKPbc	08 18 16.3	-0.2	
	baz=14,slow=2.4							
MEM	Membach	149.70	355	PKiKP	PKPbc	08 18 15.8	-0.7	
SIRR	Siria	149.73	333	⇓P	PKPbc	08 18 16.6	-0.1	
BSTI	Sart Tilman	149.76	356	PKiKP	PKPbc	08 18 16.7	+0.1	
TNS	Taunus Mts	149.84	352	*e*PKPbc	PKPbc	08 18 16.6	-0.3	
	baz=14,slow=2.4							
SNF	Seneffe	149.90	358	PKiKP	PKPbc	08 18 16.8	-0.1	
GRF	Grafenberg Arr	149.92	348	*e*PKPbc	PKPbc	08 18 17.0	-0.1	
	baz=14,slow=2.4							
KHC	Kasperske Hory	149.94	345	⇑*e*PKP	PKPbc	08 18 16.8	-0.4	
KHC				*e*PKPAB	PKPab	08 18 25.1	+0.2	
KHC	Kasperske Hory	149.94	345	PKPdf	PKPdf	08 18 11.3	-0.4	
KHC				PKPbc	PKPbc	08 18 17.7	+0.5	
KHC				PKPab	PKPab	08 18 25.2	+0.3	
ISP	Isparta	150.05	312		PKPbc	08 18 16.9	-1.0	
BMRD	Maredsous	150.09	357	PKiKP	PKPbc	08 18 17.2	-0.2	
WET	Wettzell	150.09	346	*e*PKPbc	PKPbc	08 18 17.3	-0.3	
	baz=14,slow=2.4							
GEC2	GERESS Array S	150.18	345	PKPdf	PKPdf	08 18 11.2	-1.0	
GEC2					PKPbc	08 18 17.6	-0.2	
GEC2	GERESS Array S	150.18	345	*e*PKPbc	PKPbc	08 18 17.7	-0.2	
	baz=14,slow=2.4							
GERES	GERESS Array B	150.18	345	PKP	PKPdf	08 18 11.5	-0.7	
	comp=Z,1.0nm,0.9s,baz=116,slow=2.3,SNR=4.0							
GERES				PKPbc	PKPbc	08 18 17.5	-0.3	
	comp=Z,5.3nm,0.8s,baz=42,slow=2.2,SNR=32							
GERES	GERESS Array B	150.18	345		PKPbc	08 18 17.3	-0.5	
BZS	Buzias	150.26	332	⇑P	PKPbc	08 18 17.3	-0.7	
DOU	Dourbes	150.30	357	PK

CMIG	**Matias Romero**	**0.60**	**296**		**Pn**	**08 38 50.3**	**+1.1**
CMIG					**Sn**	**08 39 05.0**	**+0.1**
CMIG	**Matias Romero**	**0.60**	**296**	*eP*	**Pn**	**08 38 50.3**	**+1.1**
CMIG				*eS*	**Sn**	**08 39 05.0**	**+0.1**
TGIG		**1.15**	**92**		**Pn**	**08 38 54.4**	**+0.8**
TGIG					**Sn**	**08 39 11.8**	**-1.0**
TGIG		**1.15**	**92**	*eP*	**Pn**	**08 38 54.4**	**+0.8**
TGIG				*eS*	**Sn**	**08 39 11.8**	**-1.0**
PCIG		**1.53**	**136**		**Pn**	**08 38 59.1**	**+1.5**
PCIG					**Sn**	**08 39 20.7**	**+0.9**
PCIG		**1.53**	**136**	*eP*	**Pn**	**08 38 59.1**	**+1.5**
PCIG				*eS*	**Sn**	**08 39 20.7**	**+0.9**
HUIG	**Huatulco**	**2.01**	**239**		**Pn**	**08 39 03.2**	**+0.1**
HUIG					**Sn**	**08 39 27.8**	**-1.8**
HUIG	**Huatulco**	**2.01**	**239**	*eP*	**Pn**	**08 39 03.2**	**+0.1**
HUIG				*eS*	**Sn**	**08 39 27.8**	**-1.8**
CCIG	**Comitan**	**2.16**	**104**		**Pn**	**08 39 06.3**	**+1.2**
CCIG					**Sn**	**08 39 33.2**	**+0.1**
CCIG	**Comitan**	**2.16**	**104**	*eP*	**Pn**	**08 39 06.3**	**+1.2**
CCIG				*eS*	**Sn**	**08 39 32.6**	**-0.5**
VHO	**Vista Hermosa**	**2.33**	**277**	*eP*	**Pn**	**08 39 10.0**	**+2.8**
VHO				*eS*	**Sn**	**08 39 38.7**	**+2.0**
PEIG	**Puerto Escondi**	**2.84**	**254**	*eP*	**Pn**	**08 39 13.6**	**+0.2**
PEIG				*eS*	**Sn**	**08 39 46.7**	**-1.3**
TOIG	**Toxpalan**	**2.91**	**296**	*eP*	**Pn**	**08 39 16.4**	**+2.0**
TOIG				*eS*	**Sn**	**08 39 48.7**	**-1.1**
YOIG	**Yosondua**	**3.09**	**271**	*eP*	**Pn**	**08 39 19.1**	**+2.2**
YOIG				*i S*	**Sn**	**08 39 55.2**	**+1.0**
MTO3	**Montecristo**	**5.35**	**116**	Pn	**Pn**	**08 39 48.5**	**+1.8**
MTO3					**Sn**	**08 40 47.3**	**-0.2**
TEIG	**Tepich**	**6.66**	**58**	Pn	**Pn**	**08 40 03.0**	**-0.9**
KVTX	**Kingsville**	**11.17**	**343**	Pn	**Pn**	**08 41 02.4**	**-1.8**

IDC 15 08:43:23.4±1.9, 3°78'S×144°70'E, h0km, mb3.2/2, mb1 3.6/3, mb1mx3.3/28, mbtmp3.3/3, ML3.6/1, Error ellipse: s-maj=112.8km s-min=29.7km az=117.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.97**	**211**	P	Pn	08 47 48.0	+0.9
	0.2nm,0.3s,baz=32,slow=11,SNR=16						
ASAR	**Alice Springs**	**22.35**	**207**	P	P	08 48 21.9	-1.2
	0.3nm,0.6s,baz=48,slow=7.9,SNR=5.7						
ILAR	**Eielson Array**	**84.37**	**24**	P	P	08 55 57.4	+0.1
	0.2nm,0.5s,baz=240,slow=4.3,SNR=4.3						

*THE **15** 09:21:56.7, 38°03N×20°15E, h16km±1km, ML2.6/5, Error ellipse: s-maj=2.0km s-min=0.6km az=91.0*
*ATH **15** 09:21:56.1, 38°01N×20°16E, h23km±4km, ML2.6/3, Error ellipse: s-maj=6.1km s-min=1.8km az=73.0*
ISC 15 09:21:55.7±1.3, 38°00N±0°05×20°11E±0°06, h20km±3km, n33, σ0°59/53, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.28**	**43**	P	**Pb**	**09 22 02.1**	**0.0**
KEF3				S	**Sb**	**09 22 06.3**	**-0.1**
KEF3	**Kipouria, Keph**	**0.28**	**43**	P	**Pb**	**09 22 02.1**	**0.0**
KEF3				S	**Sb**	**09 22 06.3**	**-0.1**
ARGA	**Argostoli. Kep**	**0.34**	**59**	P	**Pb**	**09 22 03.1**	**+0.1**
ARGA				S	**Sb**	**09 22 07.5**	**-0.5**
ARGA	**Argostoli. Kep**	**0.34**	**59**	P	**Pb**	**09 22 03.1**	**+0.1**
ARGA				S	**Sb**	**09 22 07.5**	**-0.5**
ARG2	**Argostoli**	**0.35**	**59**	P	**Pb**	**09 22 03.2**	**+0.1**
ARG2				S	**Sb**	**09 22 07.9**	**-0.3**
	4µm,0.2s						
KEF4	**Livadi, Kephal**	**0.36**	**44**	P	**Pb**	**09 22 03.3**	**0.0**
KEF4				S	**Sb**	**09 22 09.2**	**+0.8**
KEF4	**Livadi, Kephal**	**0.36**	**44**	P	**Pb**	**09 22 03.3**	**0.0**
KEF4				S	**Sb**	**09 22 09.2**	**+0.8**
KEF5	**Kardakata, Kep**	**0.40**	**46**	P	**Pb**	**09 22 04.0**	**0.0**
KEF5				S	**Sb**	**09 22 09.4**	**-0.1**
KEF5	**Kardakata, Kep**	**0.40**	**46**	P	**Pb**	**09 22 04.0**	**0.0**
KEF5				S	**Sb**	**09 22 09.4**	**-0.1**
VLS	**Valsamata**	**0.42**	**65**	P	**Pb**	**09 22 04.2**	**-0.2**
VLS				S	**Sb**	**09 22 10.1**	**-0.1**
	1µm,0.2s						
VLS	**Valsamata**	**0.42**	**65**	P	**Pb**	**09 22 04.2**	**-0.2**
VLS				S	**Sb**	**09 22 10.1**	**-0.1**
VLS				AML	AML	09 22 11.1	
	comp=E,2292µm,0.2s						
VLS				AML	AML	09 22 11.4	
	comp=N,3062µm,0.2s						
VLS	**Valsamata**	**0.42**	**65**	P	**Pb**	**09 22 04.2**	**-0.2**
VLS				S	**Sb**	**09 22 10.1**	**-0.1**
VLS				AML	AML	09 22 11.1	
	comp=E,2292µm,0.2s						
VLS				AML	AML	09 22 11.4	
	comp=N,3062µm,0.2s						
VLMS	**Volimes, Zakyn**	**0.46**	**106**	P	**Pb**	**09 22 04.8**	**-0.2**
VLMS				S	**Sb**	**09 22 11.3**	**0.0**
VLMS				AML	AML	09 22 14.7	
	comp=E,2039µm,0.3s						
VLMS				AML	AML	09 22 17.0	
	comp=N,3081µm,0.4s						
VLMS	**Volimes, Zakyn**	**0.46**	**106**	P	**Pb**	**09 22 04.8**	**-0.2**
VLMS				S	**Sb**	**09 22 11.3**	**0.0**
VLMS				AML	AML	09 22 14.7	
	comp=E,2039µm,0.3s						
VLMS				AML	AML	09 22 17.0	
	comp=N,3081µm,0.4s						
VSK1	**VASILIKIADES**	**0.54**	**41**	P	**Pb**	**09 22 06.6**	**0.0**
VSK1				S	**Sb**	**09 22 13.8**	**-0.3**
	comp=N,728nm,0.3s						
FSK	**Fiskardo**	**0.58**	**38**	P	**Pb**	**09 22 07.0**	**-0.3**
FSK				S	**Sb**	**09 22 15.3**	**+0.2**
FSK				AML	AML	09 22 20.5	
	comp=E,729µm,0.4s						
FSK				AML	AML	09 22 23.3	
	comp=N,537µm,0.6s						
FSK	**Fiskardo**	**0.58**	**38**	P	**Pb**	**09 22 07.0**	**-0.3**
FSK				S	**Sb**	**09 22 15.3**	**+0.2**
FSK				AML	AML	09 22 20.5	
	comp=E,729µm,0.4s						
FSK				AML	AML	09 22 23.3	
	comp=N,537µm,0.6s						
KRI1	**kERI**	**0.66**	**121**	P	**Pb**	**09 22 08.6**	**+0.1**
KRI1				S	**Sn**	**09 22 18.9**	**-0.7**
	comp=N,610nm,0.3s						
EVGI	**Lefkada island**	**0.76**	**35**	P	**Pb**	**09 22 10.3**	**+0.1**
EVGI	**Lefkada island**	**0.76**	**35**	P	**Pb**	**09 22 10.3**	**+0.1**
EVGI	**Lefkada island**	**0.76**	**35**	P	**Pb**	**09 22 10.3**	**+0.1**
LKD2	**Lefkada island**	**0.90**	**29**	P	**Pb**	**09 22 12.8**	**+0.1**
LKD2				S	**Sn**	**09 22 25.1**	**-0.5**
	comp=N,308nm,0.5s						
LKD2	**Lefkada island**	**0.90**	**29**	P	**Pb**	**09 22 12.8**	**+0.1**
LKD2	**Lefkada island**	**0.90**	**29**	P	**Pb**	**09 22 12.8**	**+0.1**
IGT	**Igoumenitsa**	**1.54**	**7**	P	**Pn**	**09 22 22.4**	**+0.4**
KLV	**Kalavryta, Ach**	**1.61**	**88**	P	**Pb**	**09 22 25.0**	**+0.1**
STON	**Ston**	**5.20**	**340**	Sn	**Sn**	**09 24 10.9**	**-0.7**
MAKA	**Makarska**	**5.78**	**337**	Sn	**Sn**	**09 24 25.1**	**-0.8**
HVAR	**Hvar**	**5.87**	**333**	Sn	**Sn**	**09 24 27.7**	**-0.5**
ZIRJ	**Zirje**	**6.58**	**330**	Sn	**Sn**	**09 24 44.5**	**-1.2**
MORI	**Morici**	**6.74**	**332**	*e*Pn	**Pn**	**09 23 35.0**	**+1.6**
MORI				Sn	**Sn**	**09 24 47.9**	**-1.7**
DUGI	**Dugi Otok**	**7.10**	**329**	Sn	**Sn**	**09 24 56.1**	**-2.3**
UDBI	**Udbina**	**7.29**	**335**	Sn	**Sn**	**09 25 02.9**	**-0.4**

*NCEDC **15** 09:21:55.9±2.5, 41°72N±0°07×127°0W±0°1, h10km±2km, Md3.2/22, Error ellipse: s-maj=15.9km s-min=11.5km az=259.0*
*NEIC **15** 09:21:56.9±2.1, 41°68N±0°06×126°9W±0°1, h11km±9km, Error ellipse: s-maj=15.9km s-min=9.3km az=84.0*
*ANF **15** 09:21:59.9±1.1, 41°83N×126°52W, h10km, ML3.2/5, Error ellipse: s-maj=12.2km s-min=6.2km az=92.0*
ISC 15 09:21:56.2±2.4, 41°73N±0°06×126°8W±0°1, h11km, n61, σ1§45/67, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRMB	**Red Mountain**	**2.21**	**94**		**Pn**	**09 22 32.6**	**-0.2**
KSXB	**Camp Six Broad**	**2.22**	**86**		**Pn**	**09 22 32.7**	**-0.3**
JCC	**Jacoby Creek,**	**2.31**	**112**		**Pn**	**09 22 33.6**	**-0.5**
JCC	**Jacoby Creek,**	**2.31**	**112**	Pn	**Pn**	**09 22 33.5**	**-0.5**
KHMM	**Horse Mountain**	**2.49**	**109**	Pn	**Pn**	**09 22 37.6**	**+0.8**
KSMM	**Slide Mountain**	**2.54**	**127**		**Pn**	**09 22 37.0**	**-0.5**
K02D	**Willamette Mer**	**2.55**	**67**	P	**Pn**	**09 22 36.9**	**-0.6**
	baz=250,SNR=52						
K02D				S	**Sn**	**09 23 08.4**	**-0.1**
	baz=250						
J01E	**Myrtle Point**	**2.58**	**55**	P	**Pn**	**09 22 36.9**	**-1.0**
	baz=239,SNR=23						
J01E				S	**Sn**	**09 23 06.8**	**-2.5**
	baz=239						
KOMM	**Orleans Mounta**	**2.58**	**99**		**Pn**	**09 22 39.2**	**+1.1**
KTRM	**Thompson Ridge**	**2.59**	**85**		**Pn**	**09 22 38.0**	**-0.2**
KCRM	**Chalk Rock**	**2.63**	**119**		**Pn**	**09 22 38.6**	**-0.1**
KMRM	**Mail Ridge**	**2.81**	**121**		**Pn**	**09 22 41.3**	**+0.2**
M02C	**Callahan**	**3.01**	**95**	P	**Pn**	**09 22 44.6**	**+0.7**
	baz=277,SNR=40						
M02C	**Callahan**	**3.01**	**95**		**Pn**	**09 22 44.7**	**+0.9**
YBH	**Yreka Blue Hor**	**3.09**	**89**	Pn	**Pn**	**09 22 46.5**	**+1.5**
LGPM	**Granite Peak**	**3.13**	**104**		**Pn**	**09 22 46.3**	**+0.7**
N02D	**Trinity Center**	**3.20**	**102**	P	**Pn**	**09 22 47.1**	**+0.7**
	baz=284,SNR=11						
N02D	**Trinity Center**	**3.20**	**102**		**Pn**	**09 22 47.2**	**+0.7**
LBKM	**Bonanza King**	**3.21**	**100**		**Pn**	**09 22 47.6**	**+1.0**
I02D	**Swisshome**	**3.23**	**42**	P	**Pn**	**09 22 46.5**	**-0.3**
	baz=225,SNR=81						
I02D				S	**Sn**	**09 23 23.0**	**-2.3**
	baz=225						
I03D	**Drain, OR**	**3.24**	**51**	P	**Pn**	**09 22 46.2**	**-0.7**
	baz=235						
I03D				S	**Sn**	**09 23 23.5**	**-1.9**
	baz=235						
B040	**Montague**	**3.31**	**87**		**Pn**	**09 22 49.2**	**+1.3**
L04D	**Klamath Falls**	**3.42**	**80**	P	**Pn**	**09 22 50.5**	**+1.0**
	baz=264,SNR=29						
L04D	**Klamath Falls**	**3.42**	**80**		**Pn**	**09 22 50.9**	**+1.4**
O02D	**Mt. Diablo Mer**	**3.44**	**116**	P	**Pn**	**09 22 50.6**	**+0.8**
	baz=297						
WDC	**Whiskeytown Da**	**3.44**	**108**	Pn	**Pn**	**09 22 51.3**	**+1.6**
LHEM	**Herd Peak**	**3.46**	**90**		**Pn**	**09 22 52.1**	**+1.9**
LGBM	**Gray Butte**	**3.51**	**95**		**Pn**	**09 22 53.0**	**+2.1**
LMPM	**Military Pass**	**3.52**	**92**		**Pn**	**09 22 53.9**	**+3.0**
M03C	**McCloud**	**3.57**	**96**		**Pn**	**09 22 54.3**	**+2.7**
GVV	**Valley View**	**3.72**	**120**		**Pn**	**09 22 54.4**	**+0.7**
LBFM	**Black Fox Moun**	**3.74**	**94**		**Pn**	**09 22 56.7**	**+2.7**
M04C	**Macdoel**	**3.74**	**88**	P	**Pn**	**09 22 55.5**	**+1.6**
	baz=271,SNR=10						
M04C	**Macdoel**	**3.74**	**88**		**Pn**	**09 22 55.6**	**+1.6**
LGMM	**Garner Mountai**	**3.75**	**90**		**Pn**	**09 22 56.0**	**+1.9**
J04D	**Umpqua Nationa**	**3.81**	**65**	P	**Pn**	**09 22 55.8**	**+0.9**
	baz=249						
COR	**Corvallis**	**3.85**	**41**	Pn	**Pn**	**09 22 55.8**	**+0.5**
HOPS	**Hopland Field**	**3.97**	**132**	Pn	**Pn**	**09 22 57.7**	**+0.7**
O03E	**Paynes Creek**	**4.07**	**109**	P	**Pn**	**09 23 00.3**	**+1.8**
	baz=292						
O03E	**Paynes Creek**	**4.07**	**109**		**Pn**	**09 23 00.4**	**+1.9**
H04D	**Lebanon**	**4.10**	**46**	P	**Pn**	**09 22 59.2**	**+0.5**
	baz=230,SNR=12						
H04D				S	**Sn**	**09 23 46.6**	**0.0**
	baz=230						
G03D	**McMinnville, O**	**4.34**	**36**	P	**Pn**	**09 23 03.1**	**+1.0**
	baz=219						
G03D				S	**Sn**	**09 23 51.2**	**-1.4**
	baz=219						
J05D	**Fort Rock, OR**	**4.42**	**68**	P	**Pn**	**09 23 05.0**	**+1.6**
	baz=252						
H04A	**Detroit Lake**	**4.50**	**48**		**Pn**	**09 23 05.0**	**+0.7**
K05A	**Summer Lake**	**4.53**	**75**	Pn	**Pn**	**09 23 05.5**	**+0.7**
PINE	**Pine Mountain**	**4.81**	**63**		**Pn**	**09 23 09.6**	**+1.0**
F04A	**Amboy**	**5.28**	**36**		**Pn**	**09 23 16.2**	**+1.3**
G05D	**Wamic, OR**	**5.33**	**47**	P	**Pn**	**09 23 16.9**	**+1.1**
	baz=232						
F05D	**White Salmon**	**5.69**	**41**	P	**Pn**	**09 23 22.2**	**+1.6**
	baz=226						
G06A	**Carlson Farm,**	**5.71**	**50**	Pn	**Pn**	**09 23 22.2**	**+1.3**
E04D	**Cinebar**	**5.72**	**31**	P	**Pn**	**09 23 23.1**	**+2.1**
	baz=215,SNR=6.1						
I07A	**Izee**	**5.88**	**64**		**Pn**	**09 23 23.6**	**+0.3**
PNTR	**Pine Nut**	**6.12**	**113**	Pn	**Pn**	**09 23 29.5**	**+2.7**
LON	**Longmire**	**6.18**	**34**		**Pn**	**09 23 29.0**	**+1.7**
G08A	**Pilot Rock**	**6.74**	**56**		**Pn**	**09 23 37.3**	**+2.1**
HAWA	**Hanford**	**7.03**	**46**	Pn	**Pn**	**09 23 39.9**	**+1.0**
LTY	**Liberty**	**7.07**	**37**		**Pn**	**09 23 41.3**	**+1.7**
BMO	**Blue Mountains**	**7.62**	**63**		**Pn**	**09 23 48.9**	**+1.7**
F10A	**Beach Ranch, E**	**8.14**	**55**	Pn	**Pn**	**09 23 56.5**	**+2.2**
B08A	**Colville Reser**	**8.49**	**36**	Pn	**Pn**	**09 24 00.9**	**+1.9**
BAR	**Barrett**	**12.13**	**135**	Pn	**Pn**	**09 24 47.5**	**-1.4**

*IDC **15** 10:08:03.0±2.3, 32°45N×105°11E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/43, mbtmp3.4/4, Error ellipse: s-maj=387.2km s-min=22.6km az=53.0*
*BJI **15** 10:08:05.5±0.0, 32°56N×105°16E, h21km, mB3.8/1, mb3.9/4, ML3.7/20, Ms3.4/8, Ms7 3.2/7*
ISC 15 10:08:04.6±0.7, 32°53N±0°04×105°14E±0°05, h15km, n9, σ1§84/18, mb3.5/4, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.00**	**217**	Pn	**Pn**	**10 08 38.6**	**+0.7**
CD2				Pg	**Pb**	**10 08 41.3**	**+0.6**
CD2				Sn	**Sb**	**10 09 05.9**	**+0.5**
CD2				Sg	**Sg**	**10 09 08.6**	**-0.3**
CD2				smax	smax		
	comp=N,2µm,0.8s						
CD2				smax	smax		
	comp=E,1µm,0.6s						
XAN	**Xi'an**	**3.50**	**64**	Pn	**Pn**	**10 08 58.9**	**+0.3**
XAN				Pg	**Pb**	**10 09 07.5**	**+1.2**
XAN				Sn	**Sn**	**10 09 38.5**	**-1.3**
XAN				Sg	**Sb**	**10 09 50.9**	**+2.1**
XAN				smax	smax		
	comp=N,330nm,1.0s						
XAN				smax	smax		
	comp=E,340nm,0.9s						
XAN				LR	LR		
	comp=Z,230nm,5.9s						
LZH	**Lanzhou**	**3.71**	**344**	Pn	**Pn**	**10 09 04.1**	**+2.6**
LZH				Pg	**Pg**	**10 09 14.3**	**-1.3**
LZH				Sg	**Sg**	**10 10 00.6**	**-3.1**
LZH				smax	smax		
	comp=N,260nm,1.2s						
LZH				smax	smax		
	comp=E,460nm,1.0s						
LZH				LR	LR		
	comp=N,410nm,5.4s						
LZH				LR	LR		
	comp=Z,420nm,6.2s						
GYA	**Guiyang**	**6.19**	**167**	*e*Pg	**Pb**	**10 09 54.0**	**+1.8**
GYA				Sg	**Sg**	**10 11 19.3**	**-4.1**
GYA				smax	smax		
	comp=N,40nm,0.7s						
GYA				smax	smax		
	comp=E,60nm,0.9s						
GYA				LR	LR		
	comp=E,250nm,4.1s						
GYA				LR	LR		
	comp=Z,150nm,3.8s						
GTA	**Gaotai**	**8.11**	**329**	*e*P	**Pn**	**10 10 02.4**	**+0.5**
GTA				pP	Pb	10 10 06.6	-18
GTA				sP		10 10 10.1	
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
GTA				smax	smax		
	comp=N,10.0nm,0.9s						
GTA				smax	smax		
	comp=E,7.0nm,1.1s						
MKAR	**Makanchi Array**	**22.53**	**316**	P	**P**	**10 13 05.0**	**+1.2**
	0.9nm,0.7s,baz=113,slow=11,SNR=5.7						
KURBB	**Kurchatov Arra**	**26.67**	**321**	P	**P**	**10 13 43.7**	**+1.0**
	0.4nm,0.6s,baz=131,slow=9.4,SNR=4.5						
WRA	**Warramunga Arr**	**59.18**	**148**	P	**P**	**10 18 05.1**	**0.0**
	0.4nm,0.6s,baz=340,slow=7.3,SNR=4.8						
ASAR	**Alice Springs**	**62.27**	**150**	P	**P**	**10 18 27.0**	**+0.9**
	0.2nm,0.5s,baz=328,slow=6.4,SNR=5.5						

*DJA **15** 10:15:26.8±0.3, 9°S±8°×11°8E±°, h110km±7km, M4.4/13, mb4.7/5, MLv4.3/13*
*NEIC **15** 10:15:26.6±1.7, 8°.6S±0°.1×118°.41E±0°.07, h121km±12km, mb4.2/15, Error ellipse: s-maj=20.2km s-min=10.1km az=179.0*
*IDC **15** 10:15:31.9±3.7, 8°.93S×118°.65E, h140km±26km, mb3.3/2, mb1 3.5/5, mb1mx3.1/38, mbtmp3.9/5, Error ellipse: s-maj=55.2km s-min=30.1km az=16.0*
ISC 15 10:15:27.6±0.8, 8°61S±0°10×118°37E±0°05, h152km, n42, σ2§35/47, mb4.4/5, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.62**	**250**	P	**Pn**	**10 15 46.8**	**-3.1**
PLAI				S	**Sn**	**10 15 59.4**	**-7.4**
WBSI	**Waikabubak, Su**	**1.43**	**135**	P	**Pn**	**10 15 53.5**	**-3.2**
WBSI				S	**Sn**	**10 16 13.4**	**-5.6**
WSI	**Waingapu**	**2.17**	**119**	P	**Pn**	**10 16 02.5**	**-2.4**
BASI	**Baing, Sumba**	**2.70**	**126**	P	**Pn**	**10 16 09.4**	**-1.9**
BASI				S	**Sn**	**10 16 42.3**	**-2.8**
SRBI	**Singaraja**	**3.17**	**279**	P	**Pn**	**10 16 15.3**	**-1.9**
EDFI	**Ende, Flores**	**3.29**	**93**	P	**Pn**	**10 16 17.4**	**-1.4**
MMRI	**Maumere**	**3.82**	**91**	P	**Pn**	**10 16 24.5**	**-1.2**
MMRI	**Maumere**	**3.82**	**91**		**Pn**	**10 16 25.0**	**-0.7**
JAGI	**Jajag, Banyuwa**	**4.17**	**272**	P	**Pn**	**10 16 27.8**	**-2.4**
JAGI	**Jajag, Banyuwa**	**4.17**	**272**		**Pn**	**10 16 27.8**	**-2.4**
BATI	**Baumata**	**5.46**	**107**	P	**Pn**	**10 16 46.1**	**-1.2**
	41nm,0.3s,baz=302,slow=4.9,SNR=28						
BATI				S	**Sn**	**10 17 46.3**	**-3.1**
	17nm,0.3s,baz=305,slow=22,SNR=4.0						
BATI	**Baumata**	**5.46**	**107**	P	**Pn**	**10 16 46.0**	**-1.2**
	0.3nm55nm,0.6s						
SOEI	**Soe**	**5.93**	**101**	P	**Pn**	**10 16 52.5**	**-1.1**
	0.4nm65nm,0.6s						
SOEI	**Soe**	**5.93**	**101**		**Pn**	**10 16 52.5**	**-1.1**
UGM	**Wanagama**	**7.80**	**275**	P	**Pn**	**10 17 17.1**	**-1.3**
UGM	**Wanagama**	**7.80**	**275**	Pn	**Pn**	**10 17 21.4**	**+3.0**
FITZ	**Fitzroy Crossi**	**11.78**	**144**	P	**Pn**	**10 18 10.5**	**-0.6**
	0.2nm,0.3s,baz=332,slow=13,SNR=0.9						
FITZ				S	Sn	10 20 11.8	-10
	1.3nm,0.3s,baz=165,slow=22,SNR=9.8						
FITZ	**Fitzroy Crossi**	**11.78**	**144**		**Pn**	**10 18 09.9**	**-1.2**
KNRA	**Kununurra**	**12.35**	**126**	Pn	**Pn**	**10 18 16.8**	**-1.6**
XMIS	**Christmas Isla**	**12.68**	**261**	Pn	**P**	**10 18 27.8**	**-0.3**
PSA00	**Pilbara Seismi**	**12.96**	**174**	Pn	**Pn**	**10 18 26.7**	**+0.3**
MTN	**Manton Dam**	**13.22**	**110**		**Pn**	**10 18 27.7**	**-2.0**
FAKI	**Fak Fak**	**14.92**	**69**	Pn	**P**	**10 18 50.9**	**-2.1**
WB0	**Warramunga Arr**	**19.06**	**127**	P	**Pn**	**10 19 39.3**	**-1.6**
WB0				IAmb	IAmb	10 19 48.7	
	comp=Z,3.9nm,0.8s						
WRA	**Warramunga Arr**	**19.12**	**128**	P	**Pn**	**10 19 39.8**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=302,slow=12,SNR=12						
WRA				S	**S**	**10 23 06.3**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=309,slow=21,SNR=3.5						
WRA	**Warramunga Arr**	**19.12**	**128**	P	**Pn**	**10 19 39.4**	**-2.2**
WRAB	**Tennant Creek**	**19.12**	**128**	P	**Pn**	**10 19 41.3**	**-0.3**
WRAB				IAmb	IAmb	10 19 50.3	
	comp=Z,13nm,1.0s						
WB2	**Warramunga Arr**	**19.13**	**128**	P	**Pn**	**10 19 40.1**	**-1.6**
WB2				IAmb	IAmb	10 19 48.1	
	comp=Z,7.7nm,1.1s						
WR0	**Warramunga Arr**	**19.29**	**128**	P	**Pn**	**10 19 41.6**	**-1.9**
WR0				IAmb	IAmb	10 19 48.0	
	comp=Z,12nm,1.2s						
MORW	**Morawa**	**20.46**	**186**	P	**P**	**10 19 54.6**	**+1.1**
MORW				IAmb	IAmb	10 20 01.7	
	comp=Z,16nm,1.5s						
AS31	**Alice Springs**	**21.10**	**137**	P	**P**	**10 20 00.4**	**0.0**
ASAR	**Alice Springs**	**21.10**	**137**	P	**P**	**10 20 01.2**	**+0.8**
	comp=Z,1.3nm,0.5s,baz=311,slow=9.3,SNR=30						
ASAR	**Alice Springs**	**21.10**	**137**	P	**P**	**10 20 01.4**	**+1.0**
FORT	**Forrest**	**23.84**	**159**	P	**P**	**10 20 29.5**	**+2.6**
FORT				IAmb	IAmb	10 20 30.3	
	comp=Z,13nm,0.7s						
NWAO	**Narrogin (SRO)**	**24.22**	**182**	P	**P**	**10 20 31.9**	**+1.6**
NWAO				IAmb	IAmb	10 20 44.7	
	comp=Z,30nm,1.5s						
NWAO	**Narrogin (SRO)**	**24.22**	**182**	P	**P**	**10 20 32.1**	**+1.8**
NWAO				IAmb	IAmb	10 20 44.8	
	comp=Z,34nm,1.4s						
COEN	**Coen**	**24.89**	**105**	P	**P**	**10 20 39.0**	**+2.4**
COEN				IAmb	IAmb	10 20 55.3	
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**31.64**	**140**	P	**P**	**10 21 38.2**	**+1.7**
	comp=Z,0.8nm,0.4s,baz=303,slow=8.3,SNR=4.4						
STKA	**Stephens Creek**	**31.64**	**140**	P	**P**	**10 21 38.2**	**+1.7**
TARA	**Tarawa**	**55.26**	**82**	P	**P**	**10 24 47.4**	**+1.8**
BKZ	**Black Stump Fm**	**60.03**	**130**	P	**P**	**10 25 20.6**	**+2.0**
VNDA	**Vanda**	**72.46**	**171**	P	**P**	**10 26 39.9**	**+2.9**

IDC 15 10:31:04.8±1.9, 5°19S×152°70E, h0km, mb3.3/3, mb1 3.6/3, mb1mx3.4/32, mbtmp3.3/3, Error ellipse: s-maj=37.7km s-min=21.3km az=84.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.11**	**322**	Pn	**Pn**	**10 31 28.5**	**+0.9**
	279nm,0.3s,baz=172,slow=1.9,SNR=52						
KRVT				Sn	Sb	10 31 42.7	+0.8
	110nm,0.3s,baz=36,slow=22,SNR=11						
WRA	**Warramunga Arr**	**23.12**	**229**	P	P	10 36 12.7	0.0
	0.4nm,0.5s,baz=53,slow=9.8,SNR=6.0						
ASAR	**Alice Springs**	**25.80**	**223**	P	P	10 36 37.5	-0.3
	0.2nm,0.5s,baz=55,slow=9.5,SNR=5.9						
ILAR	**Eielson Array**	**82.55**	**22**	P	P	10 43 29.3	-0.1
	0.4nm,0.7s,baz=235,slow=5.7,SNR=4.1						

*MAN **15** 10:34:03.1, 3°88N×127°68E, h86km, MS4.8*
*IDC **15** 10:34:05.9±3.4, 4°02N×127°94E, h140km±35km, mb3.6/8, mb1 3.7/9, mb1mx3.4/37, mbtmp4.1/9, Error ellipse

JNU	Nakatsue	29.03	5	P		P	10 39 51.5	-1.3
KSRS	Korea Array	33.23	360	P		P	10 40 29.8	+0.2
	comp=Z,1.5nm,0.6s,baz=175,slow=9.7,SNR=6.9							
MJAR	Matsushiro Arr	33.64	15	P		P	10 40 32.4	-0.8
BBOO	Buckleboo	37.45	169	P		P	10 41 05.8	0.0
STKA	Stephens Creek	37.99	161	P		P	10 41 10.4	0.0
	comp=Z,3.0nm,0.7s,baz=338,slow=9.0,SNR=6.7							
STKA	Stephens Creek	37.99	161	P		P	10 41 10.2	-0.2
ASAJ	Asahikawa	41.90	16	P		P	10 41 43.3	+0.7
	comp=Z,1.0nm,0.4s,baz=264,slow=9.2,SNR=5.1							
JKA	Kamikawa-asahi	41.90	16	P		P	10 41 43.3	+0.7
PEA0B	Petropavlovsk-	54.62	21	P		P	10 43 20.7	+0.4
PETK	Petropavlovsk-	54.62	21	P		P	10 43 20.4	+0.1
	comp=Z,1.8nm,0.5s,baz=160,slow=3.6,SNR=4.4							
PETK	Petropavlovsk-	54.62	21	P		P	10 43 20.6	+0.4
MK31	Makanchi Array	58.05	325	P		P	10 43 43.6	-1.2
MK31				IAmb		IAmb	10 43 51.0	
	comp=Z,2.6nm,1.2s							
MKAR	Makanchi Array	58.05	325	P		P	10 43 43.6	-1.1
	comp=Z,0.9nm,0.4s,baz=117,slow=8.0,SNR=12							
MKAR	Makanchi Array	58.05	325	P		P	10 43 43.5	-1.2
CASY	Casey	71.31	187	P		P	10 45 10.5	0.0
CASY				IAmb		IAmb	10 45 22.4	
	comp=Z,5.8nm,1.1s							
UNV	Unalaska Valle	72.39	34	P		P	10 45 17.6	+0.4
UNV				IAmb		IAmb	10 45 32.6	
	comp=Z,12nm,1.3s							
TTA	Tatalina	80.00	27	P		P	10 45 60.0	-0.3
IMAR	Indian Mountai	81.50	24	P		P	10 46 07.4	-0.7
TOLK	Toolik Lake Re	83.45	21	P		P	10 46 18.7	+0.4

NEIC ***15*** *11:18:29.4±1.9,6.°52S±0.°08×155.°39E±0.°08,h35km±1km, mb4.7/62, Error ellipse: s-maj=14.3km s-min=11.5km az=216.0*

IDC ***15*** *11:18:35.4±1.4,6.°58S×155.°37E,h97km±12km,mb4.1/21, mb1 4.2/25,mb1mx4.1/39,mbtmp4.4/25,MS3.3/9, Ms1 3.4/9,ms1mx3.0/31,Error ellipse: s-maj=12.2km s-min=9.4km az=54.0*

ISC 15 11:18:35.8±0.3,6.°59S±0.°05×155.°38E±0.°05,h100km,n140, σ1§03/140,mb4.6/50,1C-2D,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	Rabaul	3.99	306			Pn	11 19 32.5	-2.4
KRVT	Keravat (AS076	4.03	304	P		Pn	11 19 34.5	-1.0
	10.0nm,0.3s,baz=152,slow=1.2,SNR=11							
KRVT				S		Sn	11 20 21.9	+0.1
	32nm,0.3s,baz=238,slow=8.2,SNR=3.8							
HNR	Honiara	5.33	122	P		Pn	11 19 52.7	-0.4
	15nm,0.3s,baz=265,slow=5.5,SNR=4.9							
HNR				S		Sn	11 20 53.1	-0.2
	baz=224,slow=12,SNR=1.9							
HNR				LR		LR	11 21 37.4	
	comp=Z,190nm,19.1s,baz=261,slow=34							
HNR	Honiara	5.33	122	Pn		Pn	11 19 52.2	-0.9
PMG	Port Moresby	8.61	250	P		Pn	11 20 37.5	-0.2
	14nm,0.3s,baz=32,slow=6.2,SNR=35							
PMG				S		Sn	11 22 12.2	-0.8
	0.6nm,0.3s,baz=4.9,slow=6.4,SNR=2.3							
PMG				LR		LR	11 23 47.2	
	comp=Z,190nm,20.5s,baz=82,slow=36							
PMG	Port Moresby	8.61	250			Pn	11 20 36.0	-1.7
PATS	Pohnpei	13.65	12	Pn		Pn	11 21 42.0	-3.4
COEN	Coen	14.06	238			Pn	11 21 51.7	+1.0
CTA	Charters Tower	16.08	213	P		P	11 22 17.5	-0.2
	0.3nm,0.3s,baz=43,slow=13,SNR=5.3							
CTAO	Charters Tower	16.08	213			P	11 22 18.6	+0.9
DZM	Mont Dzumac	18.74	146	P		Pn	11 22 48.1	-0.5
DZM				IAmb		IAmb	11 22 49.3	
	comp=Z,31nm,0.7s							
EIDS	Eidsvold	19.12	192	P		Pn	11 22 52.0	-1.0
FAKI	Fak Fak	23.33	278	P		P	11 23 35.0	-0.5
FAKI				IAmb		IAmb	11 23 52.7	
	comp=Z,26nm,0.8s							
ARMA	Armidale	23.97	188	P		P	11 23 42.3	+1.1
ARMA				IAmb		IAmb	11 24 00.4	
	comp=Z,48nm,1.5s							
WR0	Warramunga Arr	24.20	235	P		P	11 23 43.9	+0.6
WR0				IAmb		IAmb	11 23 44.7	
	comp=Z,21nm,0.8s							
WB0	Warramunga Arr	24.23	235	P		P	11 23 44.1	+0.6
WB0				IAmb		IAmb	11 23 44.8	
	comp=Z,16nm,0.6s							
WRAB	Tennant Creek	24.35	235	P		P	11 23 45.2	+0.6
WRAB				IAmb		IAmb	11 23 45.8	
	comp=Z,20nm,0.7s							
WB2	Warramunga Arr	24.35	235	P		P	11 23 45.1	+0.5
WB2				IAmb		IAmb	11 23 46.0	
	comp=Z,17nm,0.7s							
WRA	Warramunga Arr	24.36	235	P		P	11 23 45.0	+0.3
	comp=Z,17nm,0.5s,baz=58,slow=9.3,SNR=107							
WRA				PcP		PcP	11 27 22.3	+0.4
	comp=Z,0.6nm,0.5s,baz=62,slow=2.4,SNR=5.0							
WRA	Warramunga Arr	24.36	235	P		P	11 23 44.5	-0.2
MTN	Manton Dam	24.68	254			P	11 23 48.2	+0.5
MTN				IAmb		IAmb	11 23 48.5	
	comp=Z,21nm,1.0s							
SIJI	Sorong	24.71	282	P		P	11 23 47.9	-0.1
	comp=Z,7.2nm,0.3s,baz=126,slow=21,SNR=5.6							
AS31	Alice Springs	26.72	228	P		P	11 24 05.4	-0.7
ASAR	Alice Springs	26.73	228	P		P	11 24 05.8	-0.3
	comp=Z,4.9nm,0.5s,baz=60,slow=9.1,SNR=111							
ASAR				PcP		PcP	11 27 25.4	-1.9
	comp=Z,0.5nm,0.7s,baz=66,slow=1.6,SNR=2.9							
ASAR				LR		LR	11 34 27.6	
	comp=Z,74nm,18.8s,baz=333,slow=36							
ASAR	Alice Springs	26.73	228	P		P	11 24 06.0	-0.1
H11S3	WAKE ISLAND Hy	27.31	24	T		T	11 52 27.4	
	baz=204,slow=75,SNR=33							
H11S2	WAKE ISLAND Hy	27.31	24	T		T	11 52 27.8	
	baz=204,slow=75,SNR=32							
H11S1	WAKE ISLAND Hy	27.32	24	T		T	11 52 34.8	
	baz=204,slow=75,SNR=23							
KNRA	Kununurra	27.60	249	P		P	11 24 13.7	-0.3
KNRA				IAmb		IAmb	11 24 26.3	
	comp=Z,34nm,1.4s							
STKA	Stephens Creek	28.26	205	P		P	11 24 19.6	-0.1
	comp=Z,3.5nm,0.7s,baz=36,slow=13,SNR=7.6							
STKA				LR		LR	11 34 57.6	
	comp=Z,126nm,19.1s,baz=27,slow=35							
STKA	Stephens Creek	28.26	205	P		P	11 24 19.6	-0.1
FITZ	Fitzroy Crossi	31.16	246	P		P	11 24 45.2	-0.4
FITZ				IAmb		IAmb	11 24 45.7	
	comp=Z,8.1nm,0.7s							
BBOO	Buckleboo	31.68	212	P		P	11 24 49.0	-1.0
MMRI	Maumere	32.91	264	P		P	11 25 00.8	0.0
FORT	Forrest	35.14	223	P		P	11 25 20.0	0.0
HIZ	Hauiti	36.35	154	P		P	11 25 32.6	+2.4
TAU	Tasmania Unive	36.87	190	P		P	11 25 35.6	+1.1
BKZ	Black Stump Fm	37.61	153	P		P	11 25 41.1	+0.1
BKZ				IAmb		IAmb	11 25 41.5	
	comp=Z,7.3nm,0.7s							
NNZ	Nelson	38.04	158	P		P	11 25 45.3	+0.8
THZ	Tophouse	38.34	159	P		P	11 25 47.5	+0.4
THZ				IAmb		IAmb	11 25 47.9	
	comp=Z,21nm,1.0s							
TUWZ	Tuamarina	38.44	157	P		P	11 25 48.8	+1.1
SNZO	South Karori	38.63	156	P		P	11 25 49.9	+0.5
BFZ	Birch Farm	38.74	154	P		P	11 25 50.5	+0.1
BHW	Baring Head	38.78	156	P		P	11 25 51.1	+0.4
MSWZ	Moikau Station	38.94	156	P		P	11 25 51.6	-0.4
PLWZ	Palliser	39.07	156	P		P	11 25 53.1	0.0
RPZ	Rata Peaks	39.46	162	P		P	11 25 56.5	+0.1
	comp=Z,8.7nm,0.7s,baz=11,slow=2.4,SNR=7.0							
RPZ	Rata Peaks	39.46	162	P		P	11 25 57.3	+1.0
RPZ				IAmb		IAmb	11 26 05.5	
	comp=Z,7.4nm,0.7s							
KKM	Kota Kinabalu	41.05	287	P		P	11 26 09.4	-0.5
KKM				IAmb		IAmb	11 26 26.9	
	comp=Z,15nm,0.9s							
MORW	Morawa	43.30	234	P		P	11 26 27.7	-0.3
MORW				IAmb		IAmb	11 26 38.2	
	comp=Z,18nm,1.5s							
NWAO	Narrogin (SRO)	44.05	228	P		P	11 26 33.4	-0.6
NWAO				IAmb		IAmb	11 26 43.2	
	comp=Z,36nm,1.5s							
YULB	Yu-li	44.68	313	P		P	11 26 39.0	-0.1
YULB				IAmb		IAmb	11 26 56.5	
	comp=Z,31nm,1.4s							
KSM	Kuching	45.69	279	P		P	11 26 47.5	+0.3
KSM				IAmb		IAmb	11 26 48.0	
	comp=Z,9.1nm,0.6s							
MJAR	Matsushiro Arr	45.82	341	P		P	11 26 48.0	+0.1
	comp=Z,0.6nm,0.6s,baz=151,slow=1.1,SNR=4.8							
MJAR	Matsushiro Arr	45.82	341	P		P	11 26 48.3	+0.5
JNU	Nakatsue	45.84	331	P		P	11 26 47.5	-0.6
	comp=Z,2.9nm,0.7s,baz=70,slow=6.0,SNR=1.7							
JNU	Nakatsue	45.84	331	P		P	11 26 47.5	-0.6
JNU				IAmb		IAmb	11 27 01.1	
	comp=Z,16nm,1.3s							
CISI	Cisompet, Garu	47.19	266	P		P	11 26 57.7	-1.3
KSRS	Korea Array	50.76	332	P		P	11 27 25.3	-0.4
	comp=Z,1.2nm,0.8s,baz=153,slow=8.3,SNR=8.2							
NJ2	Nanjing	51.85	320	*eP*		P	11 27 36.5	+2.5
NJ2				pmax		pmax		
	comp=Z,12nm,0.7s							
IPM	Ipoh	55.36	280	P		P	11 27 59.6	-0.4
IPM				IAmb		IAmb	11 28 03.8	
	comp=Z,14nm,1.3s							
KULM	Kulim	55.88	281	P		P	11 28 03.4	-0.4
KULM				IAmb		IAmb	11 28 13.7	
	comp=Z,12nm,1.2s							
PET	Petropavlovsk	59.45	2	P		P	11 28 29.8	+1.8
PEA0B	Petropavlovsk-	59.50	2	P		P	11 28 30.3	+2.0
PETK	Petropavlovsk-	59.50	2	P		P	11 28 29.0	+0.6
	comp=Z,9.9nm,0.7s,baz=166,slow=8.0,SNR=24							
PETK	Petropavlovsk-	59.50	2	P		P	11 28 29.4	+1.1
CMAR	Chiang Mai Arr	60.95	295	P		P	11 28 39.4	+0.4
	comp=Z,2.1nm,0.6s,baz=123,slow=5.9,SNR=12							
HHC	Hu-ho-hao-te	61.99	323	*eP*		P	11 28 46.8	+1.1
HHC				pmax		pmax		
	comp=Z,13nm,1.1s							
HHC				pmax		pmax		
	comp=Z,50nm,5.8s							
LZH	Lanzhou	64.29	315	||P		P	11 29 02.9	+1.9
LZH				pP		pP	11 29 28.0	+2.0
LZH				sP		sP	11 29 39.6	+2.6
LZH				PP		PP	11 31 28.3	+4.5
LZH				pmax		pmax		
	comp=Z,23nm,1.3s							
LZH				pmax		pmax		
	comp=Z,76nm,7.2s							
MA2	Magadan	66.05	357	P		P	11 29 11.7	0.0
	comp=Z,9.4nm,0.7s,baz=166,slow=12							
MA2				LR		LR	11 52 03.2	
	comp=Z,11nm,21.3s,baz=142,slow=30							
MA2	Magadan	66.05	357	P		P	11 29 12.4	+0.7
UNV	Unalaska Valle	68.20	23	P		P	11 29 25.8	+0.4
UNV				IAmb		IAmb	11 29 34.4	
	comp=Z,11nm,1.1s							
SONM	Songino Array	69.20	327	P		P	11 29 32.4	+0.4
	comp=Z,1.2nm,0.7s,baz=111,slow=7.9,SNR=3.9							
SONM	Songino Array	69.20	327	P		P	11 29 32.2	+0.2
VNDA	Vanda	70.98	179	P		P	11 29 42.2	+0.1
	comp=Z,1.9nm,0.8s,baz=282,slow=5.9,SNR=5.9							
KDAK	Kodiak Island	76.64	26	LR		LR	11 58 01.6	
	comp=Z,20nm,20.4s,baz=164,slow=31							
ANM	Nome	76.73	16	P		P	11 30 18.0	+2.1
ANM				IAmb		IAmb	11 30 31.4	
	comp=Z,18nm,1.2s							
TTA	Tatalina	78.51	21	P		P	11 30 26.9	+1.0
WMQ	Urumqi	78.79	317	*eP*		P	11 30 29.6	+1.8
RC01	Rabbit Creek A	79.74	24	P		P	11 30 33.2	+0.7
RC01				IAmb		IAmb	11 30 33.6	
	comp=Z,12nm,1.2s							
PMR	Palmer	80.27	24	P		P	11 30 35.9	+0.6
SML	Sawmill	80.70	24	P		P	11 30 38.7	+0.9
SML				IAmb		IAmb	11 30 40.7	
	comp=Z,9.5nm,1.1s							
TRF	Thorofare Moun	80.88	22	P		P	11 30 38.9	+0.1
TRF				IAmb		IAmb	11 30 41.0	
	comp=Z,5.8nm,0.8s							
IMAR	Indian Mountai	81.22	19	P		P	11 30 41.4	+1.0
RND	Reindeer	81.39	22	P		P	11 30 41.8	+0.4
MCK	McKinley	81.54	22	P		P	11 30 42.6	+0.5
MCK				IAmb		IAmb	11 30 42.8	
	comp=Z,6.8nm,0.8s							
DHY	Denali Highway	81.77	23	P		P	11 30 44.1	+0.7
GLB	Gilahina Butte	82.36	25	P		P	11 30 48.0	+1.4
GLB				IAmb		IAmb	11 31 06.8	
	comp=Z,6.4nm,1.1s							
CCB	Clear Creek Bu	82.46	21	P		P	11 30 46.6	-0.2
IL31		82.86	21	P		P	11 30 48.5	-0.3
ILAR	Eielson Array	82.86	21	P		P	11 30 48.5	-0.5
	comp=Z,1.0nm,0.6s,baz=248,slow=5.0,SNR=14							
ILAR				LR		LR	12 01 47.6	
	comp=Z,24nm,21.3s,baz=202,slow=31							
ILAR	Eielson Array	82.86	21	P		P	11 30 49.1	+0.1
DOT	Dot Lake	83.34	23	P		P	11 30 52.0	+0.6
MK31	Makanchi Array	83.35	319	P		P	11 30 51.6	-0.3
MKAR	Makanchi Array	83.35	319	P		P	11 30 51.6	-0.3
	comp=Z,2.3nm,0.8s,baz=110,slow=5.7,SNR=11							
MKAR	Makanchi Array	83.35	319	P		P	11 30 52.1	+0.2
QSPA	South Pole Qui	83.39	180	P		P	11 30 52.3	+0.5
SCRK	Sand Creek	83.53	23	P		P	11 30 53.2	+0.6
BCAR	Beaver Creek A	83.97	24	P		P	11 30 56.7	+2.0
ZALV	Zalesovo Beam	84.06	326	P		P	11 30 53.8	-1.4
	comp=Z,1.3nm,0.6s,baz=82,slow=4.1,SNR=5.4							
ZALV	Zalesovo Beam	84.06	326	P		P	11 30 53.6	-1.6
TOLK	Toolik Lake Re	84.12	18	P		P	11 30 56.9	+1.5
TOLK				IAmb		IAmb	11 30 57.7	
	comp=Z,4.0nm,0.8s							
MAW	Mawson	84.92	203	P		P	11 30 59.7	+0.3
	comp=Z,4.6nm,0.6s,baz=114,slow=5.5,SNR=18							
MAW	Mawson	84.92	203	P		P	11 31 00.3	+0.9
EGAK	Eagle	85.00	23	P		P	11 31 01.3	+1.5
EGAK				IAmb		IAmb	11 31 05.1	
	comp=Z,6.1nm,1.3s							
BMAR	Burnt Mountain	85.04	20	P		P	11 31 01.6	+1.5
EPYK	Eagle Plains	87.34	22	P		P	11 31 12.8	+1.4
YBH	Yreka Blue Hor	88.33	48	LR		LR	12 03 58.5	
	comp=Z,26nm,20.6s,baz=270,slow=31							
INK	Inuvik	89.20	21	P		P	11 31 19.6	-0.4
	comp=Z,1.3nm,0.5s,baz=245,slow=6.7,SNR=6.2							
INK	Inuvik	89.20	21	P		P	11 31 20.0	0.0
INK				IAmb		IAmb	11 31 21.6	
	comp=Z,5.4nm,1.2s							
NVAR	Mina Array Bea	91.17	52	P		P	11 31 30.5	+0.3
	comp=Z,0.8nm,0.8s,baz=260,slow=8.9,SNR=5.3							
NVAR	Mina Array Bea	91.17	52	P		P	11 31 29.6	-0.6
SYO	Syowa Base	92.83	199	||*eX*	P	11 31 35.6	-1.3
ELK	Elko	93.78	50	LR		LR	12 06 48.5	
	comp=Z,16nm,20.9s,baz=254,slow=31							
YKA	Yellowknife Ar	95.80	28	P		P	11 31 50.8	+0.2
	comp=Z,1.7nm,0.9s,baz=263,slow=4.3,SNR=12							
PDAR	Pinedale Array	98.14	48	P		Pdif	11 32 02.1	+0.1
	comp=Z,0.3nm,0.7s,baz=217,slow=4.4,SNR=2.3							
ARCES	ARCESS Array B	109.31	343	PKiKP		PKiKP	11 36 52.7	-1.2
	comp=Z,3.0nm,0.9s,baz=69,slow=3.1,SNR=4.9							
FINES	FINESS Array B	113.72	336	PKiKP		PKiKP	11 37 01.7	-0.7
	comp=Z,1.5nm,0.8s,baz=76,slow=5.9,SNR=6.4							
NB2	NORSAR Subarra	119.44	341	PKPdf		PKiKP	11 37 12.9	-0.7
	comp=Z,0.6nm,0.6s,baz=41,slow=1.8							
NOA	NORSAR Array B	119.44	341	PKP		PKiKP	11 37 13.2	-0.3
	comp=Z,0.8nm,0.6s,baz=47,slow=1.8,SNR=5.4							
Q54A	Coxs Mills	120.13	48	PKPdf		PKiKP	11 37 15.4	-0.1
BOSA	Boshof	120.57	231	PKPdf		PKiKP	11 37 19.0	+2.1
R55A	Marlinton	120.88	49	PKPdf		PKiKP	11 37 17.2	+0.1
BURAR	Bucovina Array	121.16	323	PKPdf		PKiKP	11 37 18.6	+1.2
O56A	Blue Knob Stat	121.39	46	PKPdf		PKiKP	11 37 18.1	+0.1
BIRD	Birdtown, Kers	121.63	53	PKPdf		PKiKP	11 37 18.4	-0.1
W57A	Gilead	121.87	53	PKPdf		PKiKP	11 37 19.0	0.0
CLL	Collm	125.64	332	||*i*	PKPdf	PKiKP	11 37 26.1	+0.1
	comp=Z,3.0nm,0.6s							
CLL	Collm	125.64	332	PKPdf		PKiKP	11 37 26.5	+0.5
GERES	GERESS Array B	125.90	329	PKP		PKiKP	11 37 27.9	-0.9
	comp=Z,1.0nm,0.6s,baz=48,slow=2.0,SNR=8.9							
GERES	GERESS Array B	126.90	329	PKPdf		PKiKP	11 37 28.9	+0.2
LPAZ	La Paz	131.32	118	PKP		PKiKP	11 37 38.5	-0.7
	comp=Z,0.6nm,0.5s,baz=342,slow=3.2,SNR=2.1							
LPAZ	La Paz	131.32	118			PKiKP	11 37 39.8	+0.6
CPUP	Villa Florida	134.42	137	PKP		PKiKP	11 37 43.3	-1.2
	comp=Z,4.9nm,1.2s,baz=34,slow=3.6,SNR=1.9							
CPUP	Villa Florida	134.42	137			PKiKP	11 37 44.5	0.0
BDFB	Brasilia	147.99	134	PKPbc		PKPbc	11 38 10.2	-0.7
	comp=Z,3.8nm,0.5s,baz=167,slow=3.0,SNR=6.1							
BDFB	Brasilia	147.99	134	PKPbc		PKPbc	11 38 10.6	-0.2
TOA0	Tordi Ar. Sit	153.28	286	PKPbc		PKPbc	11 38 21.8	-1.5
TORD	Tordi Ar. Bea	153.28	286	PKP		PKPdf	11 38 15.3	-0.4
	comp=Z,1.3nm,1.0s,baz=218,slow=28,SNR=3.7							
TORD				PKPbc		PKiKP	11 38 22.7	-0.8
	comp=Z,2.0nm,0.7s,baz=78,slow=2.2,SNR=9.6							
TORD	Tordi Ar. Bea	153.28	286			PKPbc	11 38 21.7	-1.6

DJA ***15*** *11:35:18.5±0.2,2.°5S±2.°×10.°1E±°,h50km±2km,M4.8/30, mb4.9/30,mB5.3/10,MLv5.1/23,Mw(mB)4.7/10,Mwp5.3/1*

BJI ***15*** *11:35:18.5±0.0,2.°24S×100.°50E,h65km,mB4.9/20, mb4.8/27,Ms4.4/4,Ms7 4.2/1*

KLM ***15*** *11:35:18.0,2.°48S×100.°55E,h59km,mb4.7*

IDC ***15*** *11:35:19.9±1.8,2.°20S×100.°86E,h71km±16km,mb4.2/28, mb1 4.3/31,mb1mx4.2/40,mbtmp4.5/31,MS3.4/18, Ms1 3.4/18,ms1mx3.3/35,Error ellipse: s-maj=15.6km s-min=9.2km az=51.0*

NEIC ***15*** *11:35:20.0±2.6,2.°24S±0.°06×100.°68E±0.°07,h72km±5km, mb4.8/62, Error ellipse: s-maj=10.9km s-min=6.9km az=52.0*

UNK ***15*** *11:35:20.0,2.°24S×100.°68E,h72km*

ISC 15 11:35:19.3±0.8,2.°30S±0.°04×100.°66E±0.°04,h67km±6km, n253,σ1§38/249,mb4.7/64,10C-3D,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PPSI	Pulau Pagai	0.80	235	P		Pn	11 35 34.7	-0.4
PPSI				S		Sn	11 35 45.2	-1.6
KRJI	Kerinci	0.83	75	P		Pn	11 35 34.3	-1.3
KRJI				S		Sn	11 35 46.5	-1.2
PDSI	Padang	1.40	352	P		Pn	11 35 42.5	-0.4
PDSI				S		Sn	11 36 00.6	+0.1
SDSI	Sungai Dareh	1.56	29	P		Pn	11 35 45.3	+0.3
SDSI				S		Sn	11 36 04.7	+0.3
MASI	Maura Aman, Be	1.78	118	P		Pn	11 35 47.0	-1.0
MASI				S		Sn	11 36 07.4	-2.4
SISI	Saibi	1.85	302	P		Pn	11 35 48.9	+0.1
SISI				S		Sn	11 36 10.9	-0.4
RGRI	Rengat	2.56	41	P		Pn	11 35 57.1	-1.4
BKNI	Bangkinang	2.64	8	P		Pn	11 36 00.4	+0.8
BKNI	Bangkinang	2.64	8	Pn		Pn	11 35 59.9	+0.3
BKNI						Sn	11 36 32.5	+2.0
MNAI	Manna	3.07	132	P		Pn	11 36 05.3	-0.1
MNAI	Manna	3.07	132			Pn	11 36 05.4	-0.1
MNAI						Sn	11 36 38.5	-2.6
LHSI	Lahat	3.23	118	P		Pn	11 36 07.9	+0.2
MNSI	Mandailing Nat	3.26	341	P		Pn	11 36 08.1	0.0
PMBI	Palembang	4.15	99	P		Pn	11 36 31.9	+12
PMBI	Palembang	4.15	99	Pn		Pn	11 36 19.3	-0.9
LWLI	Liwa	4.33	129	P		Pn	11 36 22.5	-0.3
GSI	Gunungsitoli	4.73	319	P		Pn	11 36 27.9	-0.2
GSI	Gunungsitoli	4.73	319	Pn		Pn	11 36 27.5	-0.7
GSI						Sn	11 37 19.9	-1.8
KASI	Kota Agung	4.99	130	P		Pn	11 36 30.5	-1.1
MYKOM	Kota Tinggi	5.17	38	Pn		Pn	11 36 34.5	+0.4
MYKOM	Kota Tinggi	5.17	38	P		Pn	11 36 35.0	+0.9
RPSI	Rantau Prapat	5.26	341			Pn	11 36 38.6	+3.2
RPSI	Rantau Prapat	5.26	341			Pn	11 36 35.3	-0.1
RPSI						Sn	11 37 28.6	-6.1
PSI	Prapat	5.36	341	P		Pn	11 36 35.3	-1.6
	4.2nm,0.3s,baz=180,slow=13,SNR=9.0							
PSI				S		Sn	11 37 28.6	-8.7
	3.3nm,0.3s,baz=180,slow=9.9,SNR=2.4							
PSI				LR		LR	11 38 55.9	
	comp=Z,395nm,21.4s,baz=90,slow=41							
BLSI	Bandar Lampung	5.49	124	P		Pn	11 36 38.3	-0.3
	0.9nm208nm,1.0s							
TSI	Tuntungan	6.13	340	P		Pn	11 36 59.2	+12
KCSI	Kotacane, Aceh	6.47	333	P		Pn	11 36 52.9	+0.9
	0.9nm36nm,0.8s							
TPTI		6.53	328	P		Pn	11 36 51.7	-1.1
	0.1nm9.3nm,1.0s							
IPM	Ipoh	6.75	3	Pn		Pn	11 36 58.3	+2.5
IPM	Ipoh	6.75	3	P		Pn	11 36 59.0	+3.2
KULM	Kulim	7.54	360	Pn		Pn	11 37 08.3	+1.7
KULM	Kulim	7.54	360	P		Pn	11 37 09.0	+2.3
MLSI	Meulaboh, Aceh	7.79	327	P		Pn	11 37 22.7	+13
CNJI	Cibinong	8.14	128	P		Pn	11 37 11.7	-3.1
	68nm,1.0s							
LEM	Lembang	8.26	123	P		Pn	11 37 15.9	-0.7
	4.0nm,0.3s,baz=285,slow=20,SNR=3.6							
LEM				S		Sn	11 38 52.0	+3.5
	4.1nm,0.3s,baz=359,slow=20,SNR=1.4							
LEM				LR		LR	11 40 53.6	
	comp=Z,620

NWAO	Narrogin (SRO)	34.20	155	P		P	11 41 59.3	+0.8
DANN	Dangsing	34.53	333	*e*P		P	11 42 02.9	+1.2
	comp=Z,57nm,0.5s							
PYUN	Piuthan	34.68	332	*e*P		P	11 42 04.4	+1.5
H01W3	Cape Leeuwin H	34.76	160	T		T	12 18 36.8	
	baz=337,slow=76,SNR=12							
H01W2	Cape Leeuwin H	34.77	160	T		T	12 18 43.0	
	baz=337,slow=76,SNR=12							
H01W1	Cape Leeuwin H	34.77	160	T		T	12 18 45.6	
	baz=337,slow=76,SNR=10							
WRKA	Warakurna	34.94	133	P		P	11 42 06.6	+1.6
	baz=35,SNR=3.3							
XAN	Xi'an	36.98	11	P		P	11 42 21.9	-0.4
XAN				pP		pP	11 42 36.0	-2.8
XAN				pmax		pmax		
	comp=Z,9.0nm,0.7s							
WB0	Warramunga Arr	37.25	120	P		P	11 42 23.6	-1.2
WB0				IAmb		IAmb	11 42 23.9	
	comp=Z,21nm,1.1s							
WRA	Warramunga Arr	37.27	121	P		P	11 42 23.6	-1.4
	comp=Z,12nm,0.8s,baz=297,slow=9.4,SNR=15							
WRA	Warramunga Arr	37.27	121	P		P	11 42 24.3	-0.6
WRAB	Tennant Creek	37.27	120	P		P	11 42 24.2	-0.8
WRAB				IAmb		IAmb	11 42 24.3	
	comp=Z,23nm,1.1s							
WB2	Warramunga Arr	37.28	121	P		P	11 42 24.1	-0.9
WB2				IAmb		IAmb	11 42 24.3	
	comp=Z,24nm,1.1s							
WR0	Warramunga Arr	37.45	120	P		P	11 42 25.2	-1.3
NJ2	Nanjing	38.28	25	*e*P		P	11 42 35.0	+1.8
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
AS31	Alice Springs	38.54	126	P		P	11 42 35.2	-0.4
ASAR	Alice Springs	38.54	126	P		P	11 42 34.9	-0.8
	comp=Z,19nm,0.9s,baz=298,slow=7.5,SNR=114							
ASAR				PcP		PcP	11 44 46.8	-0.5
	comp=Z,1.0nm,0.7s,baz=302,slow=3.2,SNR=3.0							
ASAR				S		S	11 48 22.6	-4.3
	comp=Z,2.7nm,0.7s,baz=292,slow=15,SNR=14							
ASAR				LR		LR	12 00 14.7	
	comp=Z,66nm,20.2s,baz=299,slow=39							
ASAR	Alice Springs	38.54	126	P		P	11 42 34.5	-1.1
GTA	Gaotai	41.52	359	*e*P		P	11 43 08.3	+8.1
GTA				pP		pP	11 43 12.8	-4.0
GTA				sP		sP	11 43 15.9	-8.6
GTA				pmax		pmax		
	comp=Z,4.0nm,0.4s							
GTA				smax		smax		
	comp=N,9.0nm,0.6s							
GTA				smax		smax		
	comp=E,11nm,0.7s							
HHC	Hu-ho-hao-te	44.09	12	*e*P		P	11 43 22.8	+1.9
HHC				pmax		pmax		
	comp=E,18nm,1.1s							
HHC				pmax		pmax		
	comp=E,35nm,5.3s							
NIL	Nilore	44.12	327	P		P	11 43 21.4	+0.2
BJI	Beijing	44.47	17	P		P	11 43 23.9	+0.1
BJI				pmax		pmax		
	comp=E,5.0nm,0.8s							
KSAR	Wonju Array Be	46.92	30	P		P	11 43 42.6	-0.6
KSRS	Korea Array	46.95	30	P		P	11 43 42.1	-1.3
	comp=E,1.6nm,0.9s,baz=224,slow=8.3,SNR=8.3							
KSRS				LR		LR	12 05 07.0	
	comp=E,31nm,18.2s,baz=224,slow=38							
HTT	Hallett	47.31	135	P		P	11 43 46.7	+0.2
	baz=47,SNR=6.7							
WMQ	Urumqi	47.37	347	*e*P		P	11 43 48.5	+1.8
WMQ				pP		pP	11 44 04.4	+0.6
WMQ				pmax		pmax		
	comp=E,18nm,1.1s							
WMQ				pmax		pmax		
	comp=E,62nm,4.5s							
WMQ	Urumqi	47.37	347	P		P	11 43 47.4	+0.7
KSH	Kashi	47.39	334	*e*P		P	11 43 47.4	+0.4
CTA	Charters Tower	47.87	115	P		P	11 43 49.5	-1.5
	comp=E,1.9nm,0.6s,baz=291,slow=10.0,SNR=6.2							
QLP	Quilpie	48.24	124	P		P	11 43 53.7	+0.1
	baz=48,SNR=9.0							
STKA	Stephens Creek	48.45	132	P		P	11 43 55.4	+0.1
	baz=48,SNR=7.6							
STKA	Stephens Creek	48.45	132	P		P	11 43 55.2	0.0
	comp=E,7.5nm,0.7s,baz=306,slow=8.0,SNR=18							
STKA				LR		LR	12 06 34.0	
	comp=E,46nm,20.2s,baz=25,slow=39							
STKA	Stephens Creek	48.45	132	P		P	11 43 54.5	-0.8
STKA				IAmb		IAmb	11 44 10.4	
	comp=Z,6.2nm,0.8s							
TARG	Taragay, Kyrgy	48.49	337	P		P	11 43 57.4	+1.5
TARG				IAmb		IAmb	11 44 12.9	
	comp=Z,8.7nm,0.8s							
KDJ	Kajisay	49.08	337	P		P	11 44 01.5	+1.4
CHGR	Chuyangaron	50.05	328	P		P	11 44 06.8	-0.6
SONM	Songino Array	50.18	5	P		P	11 44 07.4	-0.9
	comp=Z,2.6nm,0.6s,baz=168,slow=7.6,SNR=6.3							
SONM	Songino Array	50.18	5	P		P	11 44 08.3	0.0
BTK	Batken	50.24	330	P		P	11 44 09.7	+0.9
BTK				IAmb		IAmb	11 44 25.4	
	comp=Z,6.0nm,0.7s							
ULN	Ulaanbaatar	50.27	6	P		P	11 44 09.5	+0.5
AAK	Ala-Archa	50.59	335	P		P	11 44 11.0	-0.6
AAK				IAmb		IAmb	11 44 28.2	
	comp=Z,6.7nm,0.8s							
CMSA	Cobar Meteorol	51.41	129	P		P	11 44 18.0	+0.4
	baz=51,SNR=15							
MK31	Makanchi Array	51.50	344	P		P	11 44 18.5	+0.4
MK31				IAmb		IAmb	11 44 19.1	
	comp=Z,9.6nm,0.7s							
MKAR	Makanchi Array	51.50	344	P		P	11 44 18.4	+0.3
	comp=Z,13nm,0.7s,baz=148,slow=8.1,SNR=96							
MKAR	Makanchi Array	51.50	344	P		P	11 44 18.2	+0.1
MAKZ	Makanchi	51.60	344	P		P	11 44 19.3	+0.5
MAKZ				IAmb		IAmb	11 44 20.2	
	comp=Z,6.2nm,0.9s							
RMQ	Roma	51.99	122	P		P	11 44 22.1	0.0
	baz=52,SNR=4.0							
MAT	Matsushiro	52.10	38	P		P	11 44 21.9	-0.8
MJAR	Matsushiro Arr	52.10	38	P		P	11 44 21.7	-1.0
	comp=Z,1.2nm,0.8s,baz=224,slow=7.6,SNR=3.0							
MJAR				LR		LR	12 07 38.2	
	comp=Z,22nm,19.4s,baz=235,slow=37							
MJAR	Matsushiro Arr	52.10	38	P		P	11 44 21.4	-1.3
KK31	Karatay Array	52.73	332	P		P	11 44 27.8	+0.6
KKAR	Karatay Array	52.73	332	P		P	11 44 27.2	0.0
KKAR	Karatay Array	52.73	332	P		P	11 44 27.9	+0.7
KKAR				IAmb		IAmb	11 44 42.9	
	comp=Z,3.8nm,1.1s							
EIDS	Eidsvold	53.63	120	P		P	11 44 33.5	-0.7
	baz=54,SNR=4.2							
EIDS	Eidsvold	53.63	120	P		P	11 44 33.5	-0.7
EIDS				IAmb		IAmb	11 44 35.7	
	comp=Z,10nm,0.8s							
TLY	Talaya	53.84	2	P		P	11 44 34.7	-0.6
	comp=Z,0.7nm,0.3s,baz=274,slow=14,SNR=3.4							
TLY	Talaya	53.84	2	P		P	11 44 34.4	-0.9
USRK	Ussuriysk Ar.	54.12	27	P		P	11 44 36.6	-0.7
	comp=Z,3.4nm,0.7s,baz=227,slow=4.8,SNR=6.5							
USRK				LR		LR	12 09 34.6	
	comp=Z,57nm,18.1s,baz=225,slow=38							
KURK	Kurchatov	56.09	343	P		P	11 44 50.9	-0.5
KURK				IAmb		IAmb	11 44 53.0	
	comp=Z,12nm,0.9s							
GEYT	Alibeck	56.10	320	P		P	11 44 52.1	+0.3
	comp=Z,4.9nm,0.8s,baz=120,slow=8.8,SNR=9.0							
GEYT				LR		LR	12 11 58.9	
	comp=Z,18nm,18.9s,baz=235,slow=39							
GEYT	Alibeck	56.10	320	P		P	11 44 52.5	+0.6
GYA0B	ALIBECK ARRAY	56.10	320	P		P	11 44 52.2	+0.3
GYA0B				IAmb		IAmb	11 44 53.5	
	comp=Z,8.6nm,1.0s							
ZAA0	Zalesovo Array	57.59	349	P		P	11 45 01.8	-0.2
ZALV	Zalesovo Beam	57.59	349	P		P	11 45 01.9	-0.1
	comp=Z,23nm,0.8s,baz=171,slow=5.6,SNR=72							
ZALV				LR		LR	12 11 42.7	
	comp=Z,30nm,21.3s,baz=180,slow=38							
ZALV	Zalesovo Beam	57.59	349	P		P	11 45 01.7	-0.3
BRVK	Borovoye	60.76	340	P		P	11 45 24.6	+0.6
BRVK				IAmb		IAmb	11 45 38.8	
	comp=Z,4.9nm,0.8s							
ABKAR	Akbulak array	62.22	331	P		P	11 45 33.4	-0.4
KMBO	Kilima Mbogo	63.39	270	P		P	11 45 44.3	+1.7
	comp=Z,3.1nm,0.8s,baz=64,slow=9.4,SNR=10							
KMBO	Kilima Mbogo	63.39	270	P		P	11 45 43.3	+0.7
TBLG	Delisi	66.89	318	P		P	11 46 05.5	+1.0
ARU	Arti	67.75	336	P		P	11 46 09.8	+0.1
ARU				IAmb		IAmb	11 46 25.1	
	comp=Z,8.1nm,1.0s							
KBZ	Khabaz	68.97	319	P		P	11 46 18.3	+0.9
	comp=Z,8.2nm,0.8s,baz=121,slow=6.1,SNR=18							
KIV	Kislovodsk	69.20	319	P		P	11 46 19.8	+0.7
KIV				IAmb		IAmb	11 46 21.6	
	comp=Z,11nm,1.1s							
MAW	Mawson	70.16	194	P		P	11 46 26.5	+2.2
	comp=Z,1.5nm,0.7s,baz=356,slow=7.4,SNR=6.7							
MAW	Mawson	70.16	194	P		P	11 46 26.7	+2.4
GAZ	Gaziantep	70.57	311	P		P	11 46 29.2	+1.6
GAZ				IAmb		IAmb	11 46 30.1	
	comp=Z,19nm,1.1s							
NRIK	Noril'sk	72.06	355	P		P	11 46 35.0	-0.8
	comp=Z,2.8nm,0.5s,baz=172,slow=5.2,SNR=5.2							
PETK	Petropavlovsk-	72.79	32	LR		LR	12 18 28.1	
	comp=Z,12nm,21.7s,baz=239,slow=36							
BR131	Keskin Array S	74.01	312	P		P	11 46 48.2	0.0
BRTR	Keskin Array B	74.01	312	P		P	11 46 48.1	0.0
	comp=Z,3.2nm,0.7s,baz=142,slow=6.6,SNR=19							
BRTR				LR		LR	12 22 45.6	
	comp=Z,17nm,18.1s,baz=163,slow=38							
BRTR	Keskin Array B	74.01	312	P		P	11 46 48.0	-0.2
ANTO	Ankara	74.68	312	P		P	11 46 52.6	+0.6
ANTO				IAmb		IAmb	11 46 59.2	
	comp=Z,6.6nm,0.7s							
TIXI	Tiksi	76.05	9	P		P	11 46 59.5	+0.4
TIXI				IAmb		IAmb	11 47 00.6	
	comp=Z,10.0nm,1.3s							
BOSA	Boshof	76.09	241	P		P	11 47 01.6	+1.2
	comp=Z,6.8nm,0.8s,baz=86,slow=6.1,SNR=7.4							
BOSA				LR		LR	12 15 02.7	
	comp=Z,28nm,22.0s,baz=153,slow=31							
BOSA	Boshof	76.09	241	P		P	11 47 00.9	+0.6
BOSA				IAmb		IAmb	11 47 03.1	
	comp=Z,15nm,1.1s							
OBN	Obninsk	77.40	328	P		P	11 47 07.5	+0.6
BKZ	Black Stump Fm	77.57	129	P		P	11 47 08.1	-0.3
BKZ				IAmb		IAmb	11 47 24.0	
	comp=Z,14nm,0.8s							
KLMR	Klimovskoe	78.39	334	*e*P		P	11 47 02.9	-9.4
KLMR				AMP			11 47 05.2	
	comp=Z,15nm,1.4s							
SORM	Soroca	80.00	320	⇑P		P	11 47 21.9	+0.6
AKASG	Malin Array Be	80.13	322	P		P	11 47 22.0	0.0
	comp=Z,1.8nm,0.7s,baz=86,slow=5.0,SNR=6.0							
AKASG				LR		LR	12 26 59.5	
	comp=Z,13nm,21.7s,baz=55,slow=39							
AKASG	Malin Array Be	80.13	322	P		P	11 47 21.4	-0.6
VRI	Vrincioaia	80.52	317	⇑P		P	11 47 24.9	+0.6
TESR	Tescani	80.72	318	⇑P		P	11 47 26.8	+1.4
MLR	Muntele Rosu	80.97	317	⇑P		P	11 47 28.0	+1.1
MLR	Muntele Rosu	80.97	317	P		P	11 47 27.7	+0.8
MLR				IAmb		IAmb	11 47 29.2	
	comp=Z,11nm,1.0s							
DOPR	Dopca	81.46	317	⇑P		P	11 47 29.4	+0.1
PLVB	Pleven	81.47	314	⇑P		P	11 47 30.1	+0.8
VOIR		81.58	316	⇑P		P	11 47 30.1	0.0
BURAR	Bucovina Array	81.92	319	⇑P		P	11 47 33.5	+1.7
BURAR	Bucovina Array	81.92	319	P		P	11 47 33.1	+1.3
BUR08	Bucovina Ar. S	81.94	319	P		P	11 47 33.6	+1.7
BUR08				IAmb		IAmb	11 47 34.6	
	comp=Z,6.6nm,0.9s							
VTS	Vitosha	82.32	313	⇓P		P	11 47 34.5	+0.5
VTS	Vitosha	82.32	313	P		P	11 47 34.2	+0.1
DRGR		83.44	317	⇑P		P	11 47 40.0	+0.4
BZS	Buzias	83.98	316	⇓P		P	11 47 43.5	+1.1
KOLS	Kolonicke sedl	84.11	320	*e*P		P	11 47 44.9	+1.9
SUW	Suwalki	84.51	325	P		P	11 47 45.3	+0.5
FINES	FINESS Array B	84.69	332	P		P	11 47 44.8	-0.8
	comp=Z,2.6nm,0.9s,baz=107,slow=5.0,SNR=7.7							
FINES				LR		LR	12 29 04.3	
	comp=Z,23nm,20.4s,baz=166,slow=38							
FINES	FINESS Array B	84.69	332	P		P	11 47 47.3	+1.7
LANS	Liptovska Anna	85.97	319	*e*P		P	11 47 56.4	+4.1
ARCES	ARCESS Array B	86.98	340	P		P	11 47 57.1	+0.3
	comp=Z,1.9nm,0.7s,baz=109,slow=5.0,SNR=12							
MORC	Moravsky Berou	87.30	320	⇑P		P	11 47 57.7	-1.1
MORC	Moravsky Berou	87.30	320	P		P	11 48 00.0	+1.3
MORC				IAmb		IAmb	11 48 01.2	
	comp=Z,5.6nm,1.2s							
GEC2	GERESS Array S	89.71	319	P		P	11 48 11.4	+1.2
GEC2				IAmb		IAmb	11 48 12.7	
	comp=Z,13nm,1.5s							
GERES	GERESS Array B	89.71	319	P		P	11 48 11.1	+0.8
	comp=Z,2.4nm,1.0s,baz=72,slow=4.3,SNR=13							
ABTA	Abfaltersbach	90.39	317	*e*P		P	11 48 13.6	+0.1
	comp=Z,5.5nm,1.1s							
CIMO	Cimolais	90.42	316	P		P	11 48 14.7	+1.2
CTI	Castel Tesino	90.95	316	P		P	11 48 17.1	+0.9
WTTA	Wattenberg	91.01	317	*e*PcP		P	11 48 16.8	+0.3
	comp=Z,9.6nm,1.2s							
WATA	Walderalm	91.06	317	*e*PcP		P	11 48 17.4	+0.7
	comp=Z,3.8nm,0.9s							
SQTA	Sankt Quirin	91.30	317	*e*PcP		P	11 48 18.7	+1.0
	comp=Z,7.9nm,1.1s							
MOTA	Moosalm	91.38	317	*e*PcP		P	11 48 19.0	+0.8
	comp=Z,3.4nm,1.0s							
NOA	NORSAR Array B	91.73	331	P		P	11 48 19.3	0.0
	comp=Z,1.4nm,1.0s,baz=119,slow=5.6,SNR=3.3							
NOA				LR		LR	12 35 30.8	
	comp=Z,12nm,18.7s,baz=70,slow=39							
FUORN	Ofenpass-Fuorn	91.93	316	P		P	11 48 22.2	+1.3
KEST	Kesra	92.40	306	P		P	11 48 23.6	+0.5
	comp=Z,6.9nm,1.1s,baz=77,slow=14,SNR=4.0							
KEST	Kesra	92.40	306	P		P	11 48 25.1	+2.0
IMAR	Indian Mountai	98.42	23	P		P	11 48 49.3	-0.3
NVAR	Mina Array Bea	129.41	40	SKPbc		SKPbc	11 57 37.4	+0.3
	comp=Z,0.7nm,0.8s,baz=274,slow=5.2,SNR=5.2							
PDAR	Pinedale Array	131.52	30	PKP		PKPdf	11 54 24.6	-0.4
	comp=Z,0.1nm,0.3s,baz=50,slow=1.4,SNR=1.9							
PDAR				SKPbc		SKPbc	11 57 42.5	-2.1
	comp=Z,1.0nm,0.8s,baz=11,slow=1.8,SNR=8.6							
PDAR	Pinedale Array	131.52	30			PKPdf	11 54 23.7	-1.2
MONP2	Monument Peak	133.81	45	P		PKiKP	11 54 30.7	-0.1
	baz=304							
BDFB	Brasilia	144.26	239	PKP		PKPdf	11 54 48.6	-0.2
	comp=Z,4.2nm,0.6s,baz=129,slow=3.3,SNR=6.8							
BDFB	Brasilia	144.26	239			PKPdf	11 54 48.0	-0.8
CPUP	Villa Florida	144.46	215	PKP		PKPdf	11 54 48.4	-0.4
	comp=Z,12nm,0.8s,baz=111,slow=3.0,SNR=14							
TX31	Lajitas Ar. Si	144.53	38			PKPbc	11 54 47.9	+0.2
TX32	Lajitas Array	144.53	38			PKPbc	11 54 47.9	+0.2
TXAR	Lajitas Array	144.53	38	PKP		PKPbc	11 54 48.3	+0.6
	comp=Z,4.0nm,0.8s,baz=288,slow=0.9,SNR=41							
TXAR	Lajitas Array	144.53	38	PKPdf		PKPbc	11 54 47.9	+0.2
S57A	Dark Hollow, R	144.71	359	P		PKPbc	11 54 48.0	+0.2
	baz=0.6							
S56A	Natural Bridge	144.80	0	P		PKPab	11 54 47.9	-0.2
	baz=360							
S58A	Poland Farm, P	144.84	358	P		PKPdf	11 54 48.7	-0.4
	baz=2.2							
Z35A	Perchaven, San	144.87	27			PKPab	11 54 48.2	-0.2
W41B	Gary Mavity, V	145.16	19	P		PKPab	11 54 49.5	0.0
	baz=337							
MIAR	Mount Ida	145.28	21	P		PKPab	11 54 49.9	0.0
	baz=334							
MIAR	Mount Ida	145.28	21			PKPbc	11 54 49.3	-0.5
T55A	Pulaski	145.33	2	P		PKPbc	11 54 49.3	-0.6
	baz=357							
T54A	Tazewell	145.35	3	P		PKPbc	11 54 49.5	-0.5
	baz=356							
T53A	Wise	145.37	5	P		PKPbc	11 54 49.8	-0.3
	baz=354							
WVT	Waverly	145.44	12	P		PKPdf	11 54 49.8	-0.3
	baz=345							
WVT	Waverly	145.44	12			PKPdf	11 54 49.3	-0.9
T56A	Rocky Mt	145.44	1	P		PKPdf	11 54 49.8	-0.4
	baz=359							
U49A	Red Boiling Sp	145.44	9			PKPdf	11 54 49.2	-1.0
T59A	Double "B" Far	145.46	357	P		PKPdf	11 54 50.1	0.0
	baz=3.1							
T57A	Hurt	145.47	360	P		PKPab	11 54 50.4	-0.1
	baz=0.1							
T58A	Grand View Acr	145.52	359	P		PKPdf	11 54 50.2	-0.1
	baz=1.4							
X40A	Basin Creek Fa	145.60	20	P		PKPab	11 54 51.5	+0.5
	baz=336							
TZTN	Tazewell	145.71	6	P		PKPdf	11 54 50.7	+0.1
	baz=352							
TZTN	Tazewell	145.71	6			PKPdf	11 54 50.1	-0.6
CLTN	Cedars of Leba	145.76	10			PKPdf	11 54 50.4	-0.3
JCT	Junction City	145.93	33	P		PKPbc	11 54 52.1	+0.1
	baz=322							
JCT	Junction City	145.93	33	PKPdf		PKPbc	11 54 52.1	+0.1
U55A	TA2, Sparta	145.93	2	P		PKPbc	11 54 52.1	+0.2
	baz=357							
V48A	Smith Brothers	146.01	11			PKPdf	11 54 50.9	-0.3
U57A	Blanch	146.04	360	P		PKPdf	11 54 51.5	+0.3
	baz=360							
PLAL	Pickwick Lake	146.49	13			PKPdf	11 54 52.4	+0.4
CPCT	Cooper Cave	146.67	8			PKPbc	11 54 53.9	0.0
X48A	Hartselle	147.22	12			PKPdf	11 54 54.3	+1.0
X54A	Belton	147.80	5	P		PKPbc	11 54 56.7	-0.4
	baz=354							
Y49A	Blount Mountai	147.92	11			PKPbc	11 54 56.4	-1.1
Z57A	Bowman	149.14	2	P		PKPbc	11 55 00.7	0.0
	baz=357							
656A	Willston	152.91	6	PKPdf		PKPdf	11 55 03.9	+1.6

IDC 15 11:35:51.6±1.0, 4.86S×151.28E, h104km±20km, mb3.2/2, mb1 3.5/3, mb1mx3.1/35, mbtmp3.7/3, Error ellipse: s-maj=141.4km s-min=15.6km az=132.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	Keravat (AS076	0.92	53	P	Pn	11 36 11.6	+0.1
	25nm,0.3s,baz=249,slow=2.0,SNR=49						
KRVT				S	Sn	11 36 27.1	+0.6
	148nm,0.3s,baz=343,slow=22,SNR=18						
PMG	Port Moresby	6.10	222	P	Pn	11 37 20.1	+0.8
	4.0nm,0.3s,baz=45,slow=5.4,SNR=12						
PMG				S	Sn	11 38 28.5	+0.9
	4.6nm,0.3s,baz=11,slow=18,SNR=11						
WRA	Warramunga Arr	22.29	226	P	P	11 40 40.2	-0.3
	1.7nm,0.5s,baz=51,slow=10,SNR=4.6						
ASAR	Alice Springs	25.11	220	P	P	11 41 06.5	-0.4
	0.5nm,0.9s,baz=52,slow=8.5,SNR=8.3						
TORD	Torodi Ar. Bea	148.89	287	PKPbc	PKPbc	11 55 28.2	-0.1
	0.3nm,0.5s,baz=99,slow=3.4,SNR=1.8						

JMA 15 11:50:00.1, 32.66N×130.03E, h13km±2km, M-0.1, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NGSJ	Nagasakinomoza	0.20	262	P	Pg	11 50 04.6	+0.1
NGSJ				*e*S	Sg	11 50 07.5	0.0
JHD	Hondo	0.21	155	*e*S	Sg	11 50 08.0	0.0

JMA 15 11:51:39.6, 36.31N×139.19E, h15km±1km, M1.4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAG	Ashikaga	0.24	62	P	Pg	11 51 44.9	0.0
JAG				S	Sg	11 51 48.2	-0.3
JRY	Ryogami san	0.37	219	P	Pg	11 51 47.2	0.0
JRY				S	Sg	11 51 52.4	0.0
JKT	Katashina	0.46	6	P	Pg	11 51 48.6	-0.2
JKT				S	Sg	11 51 54.9	-0.1
JHU	Hanno	0.46	171	P	Pg	11 51 48.6	-0.2
JHU				S	Sg	11 51 54.6	-0.5
JGK	Kuni	0.51	300	P	Pg	11 51 49.6	-0.1
JGK				*e*S	Sg	11 51 56.6	0.0
MAT	Matsushiro	0.83	287	P	Pg	11 51 53.9	-1.8
MAT				S	Sg	11 52 04.6	-1.9
MAT	Matsushiro	0.83	287	P	Pg	11 51 53.9	-1.8
MAT				S	Sg	11 52 04.6	-1.9

IDC 15 11:52:03.8±3.5, 9.66N×126.56E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/34, mbtmp3.6/3, Error ellipse: s-maj=271.1km s-min=26.9km az=66.0
MAN 15 11:52:05.6, 10.32N×125.81E, h81km, MS4.0
ISC 15 11:52:06.2±1.4, 10.26N±0.05×125.91E±0.08, h53km±16km, n18, σ1s85/25, mb3.8/3, 1C-4D, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	Surigao	0.63	221	⇓*i*P	Pn	11 52 18.1	-1.2
SCPH				*i* S	Sn	11 52 27.7	-1.0
MSLP	Maasin	1.05	263	*e*P	Pn	11 52 24.6	-0.1
MSLP				*e*S	Sn	11 52 39.7	+1.4
OCLP	Ormoc	1.50	302	*e*P	Pn	11 52 31.2	+0.3
OCLP				*e*S	Sn	11 52 51.5	+2.1
LLP	Lapu-Lapu	1.92	272	*e*P	Pn	11 52 37.1	+0.6
LLP				*e*S	Sn	11 53 00.8	+1.3
BIPH	Bislig	2.11	168	⇑*i*P	Sn	11 53 04.3	+0.2
CGP	Cagayan de Oro	2.16	214	⇓*e*P	Pn	11 52 40.6	+0.8
CGP				*e*S	Sn	11 53 06.1	+0.7
BUKP	Musuan	2.51	200	*e*P	Pn	11 52 45.3	+0.6
BUKP				*e*S	Sn	11 53 15.9	+1.8
CNP	Catarman	2.55	331	*e*P	Pn	11 52 44.0	-1.2
CNP				*e*S	Sn	11 53 18.8	+3.8
DCPH	Dipolog City	3.03	237	⇓*e*P	Pn	11 52 52.2	+0.5
DCPH				*e*S	Sn	11 53 26.1	-0.7
KCP	Kidapawan	3.33	194	⇓*e*P	Pn	11 52 57.5	+1.6
KCP

PB08					IAML			12 13 21.6	
	comp=N,1µm,0.4s								
PB08	**IPOC Station P**	**1.79**	**104**			**Pn**		**12 12 56.5**	**+1.1**
PB01	**IPOC Station P**	**1.94**	**133**	⇑	*i* P	**Pn**		**12 12 58.1**	**+0.9**
PB01					*i* S	**Sn**		**12 13 21.6**	**+0.1**
PB01	**IPOC Station P**	**1.94**	**133**			**Pn**		**12 12 58.3**	**+1.1**
PB07	**IPOC Station P**	**2.26**	**153**			**Pn**		**12 13 02.1**	**+0.5**
PB03	**IPOC Station P**	**2.60**	**153**	⇑	*i* P	**Pn**		**12 13 06.9**	**+0.6**
PB03					IAML			12 13 56.9	
	comp=E,374nm,0.4s								
PB09	**IPOC Station P**	**2.64**	**142**	⇑	*i* P	**Pn**		**12 13 08.6**	**+1.6**
PB09					*e*S	**Sn**		**12 13 40.4**	**+1.3**
PB09					IAML			12 13 57.4	
	comp=N,1µm,0.6s								
PB09	**IPOC Station P**	**2.64**	**142**			**Pn**		**12 13 08.6**	**+1.6**
PB04	**IPOC Station P**	**2.72**	**163**			**Pn**		**12 13 08.6**	**+0.6**
PB06	**IPOC Station P**	**3.26**	**156**			**Pn**		**12 13 15.4**	**0.0**
LVC	**Limon Verde**	**3.48**	**146**	Pn		**Pn**		**12 13 20.2**	**+1.6**
	comp=N,6.1nm,0.3s,baz=336,slow=8.7,SNR=41								
LVC					Sn	**Sn**		**12 14 02.2**	**+2.2**
	comp=N,20nm,0.3s,baz=93,slow=2.3,SNR=5.7								
LVC					Lg	Lg		12 14 11.9	
	comp=N,12nm,0.3s,baz=5.2,slow=20,SNR=8.0								
LVC	**Limon Verde**	**3.48**	**146**			**Pn**		**12 13 20.3**	**+1.7**
PB15	**IPOC Station P**	**3.75**	**158**			**Pn**		**12 13 22.4**	**+0.1**
PB10	**IPOC Station P**	**3.80**	**174**	Pn		**Pn**		**12 13 22.2**	**-0.5**
GO02	**Mina Guanaco**	**5.57**	**167**	Pn		**Pn**		**12 13 49.2**	**+1.8**
AC01	**Pan de Azucar**	**6.41**	**177**	Pn		**Pn**		**12 13 56.8**	**-1.8**
AC02	**Maricunga**	**7.29**	**167**	Pn		**Pn**		**12 14 12.2**	**+1.0**
SIV	**San Ignacio**	**10.16**	**70**	Pn		**Pn**		**12 14 49.1**	**-0.9**
	comp=N,0.4nm,0.3s,baz=248,slow=13,SNR=11								
CFA	**Coronel Fontan**	**12.10**	**169**	Sn		Sn		12 17 51.5	+20
	comp=N,0.1nm,0.3s,baz=40,slow=23,SNR=1.7								
H03N1	**Juan Fernandez**	**15.38**	**206**	Pn		**Pn**		**12 16 00.8**	**-0.1**
	baz=325,slow=74								
H03N1					T	T		12 31 52.8	
	baz=32,slow=72,SNR=70								
H03N2	**Juan Fernandez**	**15.39**	**206**	Pn		**Pn**		**12 16 00.7**	**-0.3**
	baz=325								
H03N2					T	T		12 31 51.2	
	baz=32,slow=72,SNR=20								
H03N3	**Juan Fernandez**	**15.40**	**206**	Pn		**Pn**		**12 16 00.8**	**-0.4**
	baz=325,slow=74								
H03N3					T	T		12 31 49.6	
	baz=32,slow=72,SNR=17								
H03S3	**Juan Fernandez**	**15.71**	**205**	Pn		**Pn**		**12 16 04.0**	**-1.3**
	baz=222								
H03S1	**Juan Fernandez**	**15.73**	**205**	Pn		**Pn**		**12 16 04.1**	**-1.4**
	baz=222								
H03S2	**Juan Fernandez**	**15.73**	**205**	Pn		**Pn**		**12 16 02.9**	**-2.7**
	baz=222								
PTGA	**Pitinga**	**21.75**	**31**	P		**P**		**12 17 14.5**	**-1.3**
	comp=N,2.0nm,0.3s,baz=21,slow=14,SNR=7.7								
PTGA	**Pitinga**	**21.75**	**31**	P		**P**		**12 17 15.2**	**-0.6**
PTGA					IAmb	IAmb		12 17 23.1	
	comp=Z,5.6nm,1.1s								
BDFB	**Brasilia**	**22.27**	**83**	P		**P**		**12 17 20.3**	**-1.3**
	comp=Z,1.1nm,0.4s,baz=254,slow=7.4,SNR=1.8								
BDFB	**Brasilia**	**22.27**	**83**	P		**P**		**12 17 20.7**	**-0.9**
BDFB					IAmb	IAmb		12 17 30.3	
	comp=Z,8.7nm,1.1s								
RCBR	**Riachuelo**	**36.81**	**73**	LR		LR		12 33 49.2	
	comp=Z,444nm,19.6s,baz=354,slow=35								
TXAR	**Lajitas Array**	**58.06**	**326**	P		**P**		**12 22 18.8**	**+1.2**
	comp=Z,0.2nm,0.9s,baz=151,slow=11,SNR=1.9								
TXAR	**Lajitas Array**	**58.06**	**326**	P		**P**		**12 22 18.7**	**+1.1**
TORD	**Torodi Ar. Bea**	**78.63**	**72**	P		**P**		**12 24 26.0**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=239,slow=4.9,SNR=5.6								
TORD	**Torodi Ar. Bea**	**78.63**	**72**	P		**P**		**12 24 25.6**	**-1.1**
YKA	**Yellowknife Ar**	**88.87**	**341**	P		**P**		**12 25 19.5**	**+1.5**
	comp=Z,1.1nm,1.1s,baz=143,slow=4.8,SNR=5.3								
H11S2	**WAKE ISLAND Hyl**	**25.69**	**279**	T		T		14 50 49.2	
	baz=101,slow=74,SNR=5.9								
H11S1	**WAKE ISLAND Hyl**	**25.69**	**279**	T		T		14 50 49.7	
	baz=101,slow=74,SNR=4.8								
H11S3	**WAKE ISLAND Hyl**	**25.70**	**279**	T		T		14 50 47.6	
	baz=101,slow=74,SNR=8.0								
H11N3	**WAKE ISLAND Hyl**	**25.73**	**281**	T		T		14 50 45.3	
	baz=102,slow=74								
H11N2	**WAKE ISLAND Hyl**	**25.74**	**281**	T		T		14 50 46.6	
	baz=102,slow=74								
H11N1	**WAKE ISLAND Hyl**	**25.75**	**281**	T		T		14 50 53.9	
	baz=102								
MKAR	**Makanchi Array**	**145.28**	**33**	PKPbc		**PKPbc**		**12 32 00.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=293,slow=4.4,SNR=2.0								
MKAR	**Makanchi Array**	**145.28**	**33**			**PKPdf**		**12 32 03.0**	**+1.0**

*SJA **15** 12:18:08.4±0.4, 19°.20S×71°.72W, h10km, ML4.4, MW4.1*
*IDC **15** 12:18:20.7±1.1, 19°.50S×70°.85W, h0km, mb3.7/7, mb1 4.0/10, mb1mx3.9/33, mbtmp3.8/10, ML3.9/3, MS3.3/6, Ms1 3.3/6, ms1mx3.1/24, Error ellipse: s-maj=31.0km s-min=22.0km az=40.0*
*VAO **15** 12:18:20.8±1.9, 19°.65S×71°.53W, h52km±10km, mb4.3*
*NEIC **15** 12:18:22.4±2.1, 19°.75S±0°.02×71°.02W±0°.06, h20km±5km, mb4.4/4, ML4.2(GUC), Error ellipse: s-maj=8.4km s-min=2.5km az=98.0*
*GUC **15** 12:18:24.1±0.7, 19°.72S×70°.89W, h39km±1km, ML4.2*
ISC 15 12:18:20.8±1.4, 19°.69S±0°.03×71°.01W±0°.05, h10km±9km, n117, σ1⅛63/126, mb4.2/8, 7C-4D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.84**	**84**	⇓ *i* P	**Pb**	**12 18 37.9**	**+0.3**
PSGC				*i* S	**Sb**	**12 18 48.4**	**-0.7**
PSGCX	**Pisagua**	**0.84**	**84**		**Pb**	**12 18 37.9**	**+0.3**
PSGCX				Sn	**Sb**	**12 18 48.8**	**-0.3**
TA02	**Huaiquique**	**1.01**	**125**	⇑ *i* P	**Pn**	**12 18 41.0**	**-0.1**
TA02				*e*S	**Sb**	**12 18 53.1**	**-0.6**
TA01	**Diego Aracena**	**1.17**	**138**	⇑ *i* P	**Pn**	**12 18 43.4**	**+0.1**
TA01				*i* S	**Sg**	**12 18 57.9**	**-0.5**
TA01	**Diego Aracena**	**1.17**	**138**		**Pb**	**12 18 43.2**	**+0.2**
TA01				Sn	**Sb**	**12 18 58.7**	**+0.4**
PB12	**IPOC Station P**	**1.25**	**31**	⇑ *i* P	**Pn**	**12 18 45.5**	**+1.0**
PB12				*i* S	**Sn**	**12 19 01.9**	**+0.4**
PB12	**IPOC Station P**	**1.25**	**31**		**Pn**	**12 18 45.5**	**+1.0**
PB12				Sn	**Sn**	**12 19 02.4**	**+0.8**
PB11	**IPOC Station P**	**1.28**	**93**	⇓ *i* P	**Pn**	**12 18 45.2**	**+0.2**
PB11				*i* S	**Sg**	**12 19 00.7**	**-1.3**
PB11	**IPOC Station P**	**1.28**	**93**	Pn	**Pn**	**12 18 45.1**	**+0.2**
PB11				Sn	**Sb**	**12 19 01.3**	**-0.4**
MNMC	**Minye Minye**	**1.45**	**68**	⇓ *i* P	**Pg**	**12 18 48.4**	**-0.2**
MNMC				*i* S	**Sg**	**12 19 06.8**	**-0.6**
MNMC	**Minye Minye**	**1.45**	**68**		**Pg**	**12 18 48.4**	**-0.2**
MNMC				Sn	**Sg**	**12 19 07.8**	**+0.3**
AP01	**Chacalluta**	**1.46**	**26**	⇓ *i* P	**Pg**	**12 18 49.3**	**+0.5**
AP01				*e*S	**Sg**	**12 19 08.1**	**+0.3**
AP01	**Chacalluta**	**1.46**	**26**		**Pg**	**12 18 48.7**	**-0.1**
AP01				Sn	**Sg**	**12 19 08.7**	**+0.9**
GO01	**Chusmiza**	**1.71**	**89**	⇑ *i* P	**Pb**	**12 18 52.4**	**-0.3**
GO01				*i* S	**Sb**	**12 19 14.1**	**-0.5**
GO01	**Chusmiza**	**1.71**	**89**		**Pb**	**12 18 52.4**	**-0.3**
PB08	**IPOC Station P**	**1.80**	**105**	⇑ *i* P	**Pb**	**12 18 53.3**	**-0.9**
PB08				*i* S	**Sb**	**12 19 16.0**	**-1.0**
PB08				IAML		12 19 20.9	
	comp=E,2µm,0.4s						
PB08	**IPOC Station P**	**1.80**	**105**	Pn	**Pb**	**12 18 53.3**	**-0.9**
PB01	**IPOC Station P**	**1.96**	**133**	⇑ *i* P	**Pn**	**12 18 55.1**	**+0.8**
PB01				*i* S	**Sn**	**12 19 18.5**	**-0.5**
PB01				IAML		12 19 27.6	
	comp=E,3µm,0.5s						
PB01	**IPOC Station P**	**1.96**	**133**		**Pn**	**12 18 54.8**	**+0.6**
PB07	**IPOC Station P**	**2.28**	**153**		**Pn**	**12 18 59.1**	**+0.4**
PB03	**IPOC Station P**	**2.62**	**154**	*e*P	**Pn**	**12 19 03.8**	**+0.4**
PB03				*i* S	**Sn**	**12 19 35.3**	**-0.1**
PB09	**IPOC Station P**	**2.67**	**142**	⇑ *i* P	**Pn**	**12 19 05.5**	**+1.4**
PB09				IAML		12 19 52.0	
	comp=E,2µm,0.6s						
PB09	**IPOC Station P**	**2.67**	**142**		**Pn**	**12 19 05.1**	**+1.0**
PB09	**IPOC Station P**	**2.67**	**142**	*i* P	**Pn**	**12 19 05.5**	**+1.4**
PB09				*e*S	**Sg**	**12 19 47.7**	**+1.1**
PB09				IAML		12 19 53.1	
	comp=Z,2µm,0.8s						
PB04	**IPOC Station P**	**2.75**	**163**	*e*P	**Pn**	**12 19 05.0**	**-0.2**
PB04				IAML		12 19 54.3	
	comp=E,1µm,0.4s						
PB04	**IPOC Station P**	**2.75**	**163**		**Pn**	**12 19 04.9**	**-0.3**
PB04	**IPOC Station P**	**2.75**	**163**	*i* P	**Pn**	**12 19 05.1**	**0.0**
PB04				*e*S	**Sg**	**12 19 47.4**	**-1.8**
PB04				IAML		12 19 57.1	
	comp=Z,914nm,0.5s						
PB05	**IPOC Station P**	**3.23**	**167**	*i* P	**Pn**	**12 19 11.2**	**-0.6**
PB05				IAML		12 20 14.5	
	comp=Z,411nm,0.5s						
PB06	**IPOC Station P**	**3.28**	**156**	Pn	**Pn**	**12 19 12.4**	**-0.1**
PB06	**IPOC Station P**	**3.28**	**156**	*i* P	**Pn**	**12 19 13.6**	**+1.0**
PB06				*e*S	**Sb**	**12 20 01.4**	**+1.9**
PB06				IAML		12 20 14.8	
	comp=Z,978nm,0.7s						
LVC	**Limon Verde**	**3.50**	**146**	Pn	**Pn**	**12 19 17.9**	**+2.2**
	comp=Z,12nm,0.3s,baz=352,slow=10,SNR=36						
LVC				Sn	**Sb**	**12 20 08.0**	**+2.1**
	comp=Z,45nm,0.3s,baz=208,slow=11,SNR=8.0						
LVC	**Limon Verde**	**3.50**	**146**	Pn	**Pn**	**12 19 16.8**	**+1.1**
LVC	**Limon Verde**	**3.50**	**146**	*i* P	**Pn**	**12 19 17.4**	**+1.8**
LVC				IAML		12 20 28.1	
	comp=Z,195nm,0.6s						
LVC	**Limon Verde**	**3.50**	**146**	*e*P	**Pn**	**12 19 17.5**	**+1.8**
LVC	**Limon Verde**	**3.50**	**146**	*e*P	**Pn**	**12 19 17.5**	**+1.8**
PB15	**IPOC Station P**	**3.78**	**158**		**Pn**	**12 19 19.3**	**-0.1**
PB15	**IPOC Station P**	**3.78**	**158**	*i* P	**Pn**	**12 19 20.8**	**+1.4**
PB15				IAML		12 20 33.0	
	comp=Z,658nm,1.3s						
PB10	**IPOC Station P**	**3.83**	**174**	Pn	**Pn**	**12 19 18.8**	**-1.0**
PB10	**IPOC Station P**	**3.83**	**174**	*i* P	**Pn**	**12 19 18.9**	**-1.0**
PB10				IAML		12 20 39.4	
	comp=Z,140nm,0.9s						
LPAZ	**La Paz**	**4.36**	**39**	Pn	**Pb**	**12 19 34.7**	**-3.2**
	comp=Z,1.8nm,0.3s,baz=203,slow=7.7,SNR=32						
LPAZ				Lg	Lg	12 20 39.0	
	comp=Z,1.3nm,0.3s,baz=285,slow=3.6,SNR=1.0						
LPAZ	**La Paz**	**4.36**	**39**		**Pn**	**12 19 31.8**	**+4.1**
GO02	**Mina Guanaco**	**5.60**	**167**	Pn	**Pn**	**12 19 44.5**	**0.0**
YJA	**Yavi**	**5.70**	**117**	*i* P	**Pn**	**12 19 48.9**	**+2.9**
AC01	**Pan de Azucar**	**6.43**	**177**	Pn	**Pn**	**12 19 54.5**	**-1.2**
AC02	**Maricunga**	**7.32**	**167**	Pn	**Pn**	**12 20 08.1**	**-0.1**
AC04	**Llanos de Chal**	**8.47**	**180**	Pn	**Pn**	**12 20 21.2**	**-2.5**
NNA	**Nana**	**9.49**	**323**	LR	LR	12 24 05.5	
	comp=Z,105nm,19.8s,baz=156,slow=36						
SIV	**San Ignacio**	**10.15**	**70**	Pn	**Pn**	**12 20 46.4**	**-0.5**
	comp=Z,4.2nm,0.3s,baz=268,slow=9.8,SNR=46						
PTLB	**Pontes e Lacer**	**12.08**	**71**	*e*P	**Pn**	**12 21 15.8**	**+2.6**
PTLB	**Pontes e Lacer**	**12.08**	**71**	*e*P	**Pn**	**12 21 15.8**	**+2.6**
CFA	**Coronel Fontan**	**12.12**	**169**	Pn	**Pn**	**12 21 18.1**	**+4.4**
	comp=Z,0.2nm,0.3s,baz=336,slow=20,SNR=1.7						
CFA				Sn	Sn	12 23 45.4	+16
	baz=179,slow=23,SNR=2.2						
CFA				LR	LR	12 26 21.2	
	comp=Z,161nm,20.4s,baz=340,slow=39						
VILB	**Vilhena**	**12.35**	**59**	*e*P	**Pn**	**12 21 19.5**	**+2.7**
VILB	**Vilhena**	**12.35**	**59**	*e*P	**Pn**	**12 21 19.5**	**+2.7**
VA03	**San Esteban**	**13.02**	**178**	Pn	**Pn**	**12 21 22.4**	**-3.7**
CPUP	**Villa Florida**	**14.22**	**120**	LR	LR	12 28 20.1	
	comp=Z,122nm,20.6s,baz=300,slow=42						
ATAH	**Atahualpa**	**14.39**	**329**	LR	LR	12 27 30.6	
	comp=Z,97nm,19.4s,baz=89,slow=38						
AQDB	**Aquidauana**	**14.41**	**96**	*e*P	**Pn**	**12 21 47.4**	**+2.4**
AQDB	**Aquidauana**	**14.41**	**96**	*e*P	**Pn**	**12 21 47.4**	**+2.4**
SALV	**Santo Antonio**	**15.07**	**78**	*e*P	**P**	**12 21 58.0**	**-1.3**
SALV	**Santo Antonio**	**15.07**	**78**	*e*P	**P**	**12 21 58.0**	**-1.3**
H03N1	**Juan Fernandez**	**15.40**	**206**	Pn	**Pn**	**12 21 58.5**	**+0.5**
	baz=110,slow=13,SNR=11						
H03N1					T	T		12 37 45.6	
	baz=33,slow=72,SNR=34								
H03N2	**Juan Fernandez**	**15.41**	**206**	Pn	**Pn**	**12 21 58.4**	**+0.4**
	baz=110,slow=13,SNR=6.5								
H03N2					T	T		12 37 46.1	
	baz=33,slow=72,SNR=25								
H03N3	**Juan Fernandez**	**15.42**	**206**	Pn	**Pn**	**12 21 58.4**	**+0.2**
	baz=110,slow=13,SNR=8.9								
H03N3					T	T		12 37 44.3	
	baz=33,slow=72,SNR=30								
H03S3	**Juan Fernandez**	**15.73**	**205**	Pn	**Pn**	**12 22 01.6**	**-0.7**
	baz=77								
H03S1	**Juan Fernandez**	**15.75**	**205**	Pn	**Pn**	**12 22 02.1**	**-0.4**
	baz=77								
H03S2	**Juan Fernandez**	**15.75**	**205**	Pn	**Pn**	**12 22 01.2**	**-1.3**
	baz=77								
ARAG	**Araguaiana, MT**	**18.71**	**81**	*e*P	**Pn**	**12 22 41.6**	**+1.6**
ARAG	**Araguaiana, MT**	**18.71**	**81**	*e*P	**Pn**	**12 22 41.6**	**+1.6**
NPGB	**Novo Progresso**	**19.72**	**53**	*e*P	**P**	**12 22 50.3**	**-0.5**
NPGB	**Novo Progresso**	**19.72**	**53**	*e*P	**P**	**12 22 50.3**	**-0.5**
FRTB	**Fartura**	**20.28**	**104**	*e*P	Pn	12 22 58.8	0.0
FRTB	**Fartura**	**20.28**	**104**	*e*P	Pn	12 22 58.8	0.0
BB19B	**Bebedouro**	**21.12**	**98**	*e*P	**P**	**12 23 05.0**	**-1.0**
BB19B	**Bebedouro**	**21.12**	**98**	*e*P	**P**	**12 23 05.0**	**-1.0**
IPMB	**Ipameri, GO**	**21.64**	**89**	*e*P	**P**	**12 23 11.2**	**-0.4**
IPMB	**Ipameri, GO**	**21.64**	**89**	*e*P	**P**	**12 23 11.2**	**-0.4**
PTGA	**Pitinga**	**21.73**	**31**	P	**P**	**12 23 11.5**	**-1.0**
	comp=Z,3.2nm,0.3s,baz=214,slow=22,SNR=11								
PTGA					LR	LR		12 32 52.3	
	comp=Z,130nm,18.8s,baz=212,slow=41								
PTGA	**Pitinga**	**21.73**	**31**	P	**P**	**12 23 11.7**	**-0.7**
PTGA					IAmb	IAmb		12 23 12.8	
	comp=Z,16nm,1.4s								
PTGA	**Pitinga**	**21.73**	**31**	*e*P	**P**	**12 23 09.9**	**-2.6**
PTGA	**Pitinga**	**21.73**	**31**	*e*P	**P**	**12 23 09.9**	**-2.6**
BDFB	**Brasilia**	**22.27**	**83**	P	**P**	**12 23 18.6**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=250,slow=11,SNR=2.2								
BDFB	**Brasilia**	**22.27**	**83**	P	**P**	**12 23 16.5**	**-2.0**
BDFB					IAmb	IAmb		12 23 26.2	
	comp=Z,21nm,1.4s								
PRAC	**Prado**	**23.57**	**350**	*e*P	**P**	**12 23 36.4**	**+4.6**
ORTC	**Ortega, Tolima**	**23.82**	**349**	*e*P	**P**	**12 23 36.1**	**+1.9**
YOTC	**Yotoco, Valle**	**24.11**	**347**	*e*P	**P**	**12 23 35.6**	**-1.4**
TOLC	**Tolima**	**24.50**	**350**	*e*P	**P**	**12 23 45.4**	**+4.6**
RREF	**El Recreo**	**24.81**	**350**	*e*P	**P**	**12 23 48.0**	**+3.9**
SMTB	**Santa Maria do**	**25.09**	**68**	*e*P	**P**	**12 23 44.9**	**-1.0**
SMTB	**Santa Maria do**	**25.09**	**68**	*e*P	**P**	**12 23 44.9**	**-1.0**
GUY2C	**Guyana, Caldas**	**25.13**	**350**	*e*P	**P**	**12 23 50.2**	**+3.5**
NORC	**Norcasia**	**25.38**	**351**	*e*P	**P**	**12 23 50.6**	**+2.0**
RUSC	**La Rusia**	**25.51**	**355**	*e*P	**P**	**12 23 52.1**	**+1.9**
JANB	**Januaria**	**25.88**	**84**	*e*P	**P**	**12 23 51.9**	**-1.3**
JANB	**Januaria**	**25.88**	**84**	*e*P	**P**	**12 23 51.9**	**-1.3**
HELC	**Santa Helena**	**26.10**	**350**	*e*P	**P**	**12 23 51.2**	**-4.3**
PTBC	**PUERTO BERRIO,**	**26.29**	**352**	*e*P	**P**	**12 23 56.2**	**-0.5**
SMLC	**San Martn de**	**28.48**	**354**	*e*P	**P**	**12 24 15.3**	**-1.0**
SJCC	**San Jacinto, C**	**29.69**	**352**	*e*P	P	12 24 18.2	-9.0
HODGE	**Hodges**	**54.68**	**349**	P	**P**	**12 27 48.0**	**-2.1**
HODGE					IAmb	IAmb		12 27 48.8	
	comp=Z,4.9nm,1.1s								
TXAR	**Lajitas Array**	**58.03**	**326**	P	**P**	**12 28 15.7**	**+1.4**
	comp=Z,0.1nm,0.4s,baz=152,slow=10,SNR=2.1								
TXAR	**Lajitas Array**	**58.03**	**326**	P	**P**	**12 28 14.0**	**-0.3**
PDAR	**Pinedale Array**	**71.58**	**331**	P	**P**	**12 29 43.2**	**+0.7**
	comp=Z,0.1nm,0.5s,baz=143,slow=5.3,SNR=1.6								
PDAR	**Pinedale Array**	**71.58**	**331**	P	**P**	**12 29 42.7**	**+0.2**
NVAR	**Mina Array Bea**	**72.87**	**323**	P	**P**	**12 29 51.2**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=161,slow=9.0,SNR=2.0								
NVAR	**Mina Array Bea**	**72.87**	**323**	P	**P**	**12 29 50.0**	**-0.4**
TORD	**Torodi Ar. Bea**	**78.63**	**72**	P	**P**	**12 30 22.8**	**-0.8**
	comp=Z,3.0nm,0.9s,baz=256,slow=5.2,SNR=15								
TORD					LR	LR		13 03 30.8	
	comp=Z,40nm,21.0s,baz=250,slow=35								
TORD	**Torodi Ar. Bea**	**78.63**	**72**	P	**P**	**12 30 22.1**	**-1.5**
YKA	**Yellowknife Ar**	**88.85**	**341**	P	**P**	**12 31 16.1**	**+1.3**
	comp=Z,1.5nm,1.0s,baz=138,slow=5.1,SNR=12								
H11S2	**WAKE ISLAND Hyl**	**25.67**	**279**	T	T			14 56 50.1	
	baz=101,slow=75,SNR=3.0								
H11S1	**WAKE ISLAND Hyl**	**25.68**	**279**	T	T			14 56 47.6	
	baz=101,slow=75,SNR=3.9								
H11S3	**WAKE ISLAND Hyl**	**25.69**	**279**	T	T			14 56 46.3	
	baz=101,slow=75,SNR=3.9								
H11N3	**WAKE ISLAND Hyl**	**25.72**	**281**	T	T			14 57 00.0	
	baz=102								
H11N2	**WAKE ISLAND Hyl**	**25.73**	**281**	T	T			14 56 43.4	
	baz=102								
H11N1	**WAKE ISLAND Hyl**	**25.73**	**281**	T	T			14 56 57.6	
	baz=102								
ZALV	**Zalesovo Beam**	**141.11**	**23**	PKP	**PKPdf**	**12 37 51.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=316,slow=4.0,SNR=1.4								
ZALV	**Zalesovo Beam**	**141.11**	**23**		**PKPdf**	**12 37 48.8**	**-2.5**
MKAR	**Makanchi Array**	**145.26**	**33**	PKPbc	**PKPab**	**12 37 59.0**	**+0.3**
	comp=Z,1.2nm,0.9s,baz=323,slow=3.8,SNR=5.8								

IDC 15 12:21:40.1±8.0, 7°.38S×154°.49E, h92km±69km, mb3.1/3, mb1 3.5/4, mb1mx3.1/33, mbtmp3.5/4, ML3.7/1, Error ellipse: s-maj=68.9km s-min=25.9km az=116.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.92**	**321**	P	Pn	12 22 37.4	-0.7
	5.6nm,0.3s,baz=158,slow=11,SNR=10.0						
KRVT				S	Sn	12 23 24.0	+1.0
	1.1nm,0.3s,baz=104,slow=18,SNR=1.6						

WRA	**Warramunga Arr**	**23.19**	**235**	P		P		12 26 38.4	-0.8
	0.8nm,0.7s,baz=58,slow=9.1,SNR=3.4								
ASAR	**Alice Springs**	**25.55**	**228**	P		P		12 27 01.0	+0.4
	0.3nm,0.7s,baz=60,slow=9.5,SNR=8.5								
ILAR	**Eielson Array**	**83.91**	**22**	P		P		12 33 59.7	+0.1
	0.5nm,0.9s,baz=252,slow=4.6,SNR=4.3								

*NEIC **15** 12:24:12.8±1.4, 61°.27N±0°.02×148°.09W±0°.03, h28km±9km, Error ellipse: s-maj=2.8km s-min=1.2km az=148.0*
AEIC 15 12:24:13±1.4, 61°.25N±0°.02×148°.12W±0°.03, h20km±6km, ML3.1/102, Error ellipse: s-maj=3.1km s-min=1.7km az=144.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNK	**Knik Glacier**	**0.23**	**315**		Pb	12 24 19.3	+0.6
KNK					Sb	12 24 24.3	+1.7
PWL	**Port Wells**	**0.41**	**195**		Pb	12 24 21.5	0.0
PWL					Sb	12 24 28.1	+0.8
SML	**Sawmill**	**0.56**	**350**		Pb	12 24 23.3	-1.0
SML					Sb	12 24 31.6	-0.4
PMR	**Palmer**	**0.59**	**305**		Pb	12 24 23.6	-1.1
GLI	**Glacier Island**	**0.62**	**127**		Pb	12 24 24.1	-1.1
GLI					Sb	12 24 33.6	+0.1
GHO	**Glory Hole Cre**	**0.65**	**324**		Pb	12 24 24.6	-1.1
GHO					Sb	12 24 34.0	-0.4
SCM	**Sheep Creek Mo**	**0.69**	**33**		Pb	12 24 25.2	-1.3
SCM					Sb	12 24 35.2	-0.4
JPK	**Jack Peak**	**0.76**	**104**		Pb	12 24 26.3	-1.3
RC01	**Rabbit Creek A**	**0.80**	**259**		Pb	12 24 27.2	-1.0
RC01					Sb	12 24 38.3	-0.3
VMT	**TAPS Tl Valdez**	**0.87**	**101**		Pb	12 24 27.9	-1.4
FID	**Port Fidalgo**	**0.94**	**122**		Pb	12 24 28.6	-2.1
FID					Sb	12 24 41.5	-1.3
FIS	**Fire Island**	**1.02**	**265**		Pb	12 24 31.4	-0.6
HIN	**Hinchinbrook I**	**1.17**	**137**		Pn	12 24 33.3	-0.9
SLKM	**Skilak Lake**	**1.27**	**235**		Pn	12 24 34.5	-1.2
SEW	**Seward**	**1.33**	**210**		Pn	12 24 34.9	-1.4
SEW	**Seward**	**1.33**	**210**		Sn	12 24 52.7	-0.7
WAT6	**Susitna Watana**	**1.34**	**7**		Pn	12 24 34.7	-2.1
EYAK	**Cordova Ski Ar**	**1.36**	**120**		Pn	12 24 35.7	-1.0
PS12	**TAPS Pump St12**	**1.45**	**80**		Pn	12 24 36.2	-1.8
PS11	**TAPS Pump St11**	**1.51**	**56**		Pn	12 24 38.2	-0.7
CAPN	**Captain Cook N**	**1.56**	**253**		Pn	12 24 40.1	+0.7
**WA

WB0	**Warramunga Arr**	**26.48**	**160**	P	P	12 57 08.4	+8.4
WRA	**Warramunga Arr**	**26.63**	**160**	P	P	12 57 08.5	+7.2
	0.3nm,0.3s,baz=342,slow=11,SNR=2.1						
WRA	**Warramunga Arr**	**26.63**	**160**	P	P	12 57 07.8	+6.5
ASAR	**Alice Springs**	**29.98**	**164**	P	P	12 57 36.9	+5.7
	0.5nm,1.1s,baz=344,slow=8.4,SNR=4.4						
ASAR				PcP	**PcP**	**13 00 35.7**	**+3.0**
	0.2nm,0.3s,baz=343,slow=2.7,SNR=6.1						
ASAR	**Alice Springs**	**29.98**	**164**	P	P	12 57 37.5	+6.3
KS19	**Wonju Array Si**	**32.25**	**4**	P	P	12 57 56.4	+5.4
KS19				IAmb	IAmb	12 58 08.7	
	comp=Z,6.4nm,1.2s						
MJAR	**Matsushiro Arr**	**33.46**	**19**	P	**P**	**12 57 58.7**	**-2.9**
PETK	**Petropavlovsk-**	**54.74**	**24**	P	**P**	**13 00 52.4**	**+0.9**
OXZ	**Oxford**	**64.30**	**144**	P	**P**	**13 01 54.9**	**-2.6**
TTA	**Tatalina**	**80.37**	**27**	P	**P**	**13 03 34.2**	**+1.1**
TTA				IAmb	IAmb	13 03 34.9	
	comp=Z,6.2nm,1.3s						
IMAR	**Indian Mountai**	**81.70**	**24**	P	**P**	**13 03 41.0**	**+0.9**
PPLA	**Purkeypile**	**82.11**	**27**	P	**P**	**13 03 43.5**	**+1.0**
PPLA				IAmb	IAmb	13 03 55.7	
	comp=Z,6.3nm,1.3s						
BPAW	**Bear Paw Mtn.**	**82.72**	**26**	P	**P**	**13 03 46.2**	**+0.7**
BPAW				IAmb	IAmb	13 03 52.0	
	comp=Z,5.1nm,1.5s						
TOLK	**Toolik Lake Re**	**83.51**	**22**	P	P	13 03 50.9	+1.4
RND	**Reindeer**	**83.65**	**27**	P	**P**	**13 03 50.5**	**+0.2**
RND				IAmb	IAmb	13 03 50.8	
	comp=Z,7.7nm,1.4s						
SCM	**Sheep Creek Mo**	**84.34**	**28**	P	P	13 03 55.6	+1.8
SCM				IAmb	IAmb	13 03 56.5	
	comp=Z,10nm,1.4s						
HDA	**Harding Lake**	**84.50**	**26**	P	**P**	**13 03 54.6**	**+0.1**
ILAR	**Eielson Array**	**84.52**	**25**	P	**P**	**13 03 53.9**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=253,slow=4.4,SNR=12						
ILAR	**Eielson Array**	**84.52**	**25**	P	**P**	**13 03 54.0**	**-0.6**

KRSC 15 13:08:29.2±1.8,**50°29N**×**157°08E,h43**km±23km,**ML3.6, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.73**	**303**	*eP*	Pn	13 08 43.4	+0.4
SKR				*eS*	Sn	13 08 53.4	+0.4
ALID	**Alaid**	**1.13**	**301**	*eP*	Pn	13 08 49.6	+0.9
ALID				*eS*	Sn	13 09 04.1	+0.9
PAU	**Pauzhetka**	**1.19**	**352**	*eP*	Pn	13 08 51.0	+1.7
PAU				*eS*	Sn	13 09 06.6	+2.3
MIPR	**Malaya Ipel'ka**	**2.00**	**354**	*eP*	Pn	13 09 03.2	+2.7
ASAK	**Asacha**	**2.16**	**14**	*eP*	Pn	13 09 05.7	+3.0
ASAK				*eS*	Sn	13 09 32.9	+4.6
MTVR	**Mutnovka**	**2.31**	**17**	*eP*	Pn	13 09 08.2	+3.5
MTVR				*eS*	Sn	13 09 34.8	+2.9
RUS	**Russkaya**	**2.33**	**22**	*eP*	Pn	13 09 06.4	+1.5
RUS				*eS*	Sn	13 09 33.1	+0.8
GRL	**Gorelyy**	**2.35**	**15**	*eP*	Pn	13 09 08.2	+2.8
GRL				*eS*	Sn	13 09 36.8	+3.8
KRMR	**Karymshinskiy**	**2.63**	**14**	S	Sn	13 09 43.1	+3.4
APC	**Apacha**	**2.64**	**1**	P	Pn	13 09 13.1	+3.9
PET	**Petropavlovsk**	**2.91**	**19**	*eP*	Pn	13 09 15.9	+3.0
PET				*eS*	Sn	13 09 49.7	+3.1
DALK	**Dalny**	**2.94**	**20**	*eP*	Pn	13 09 15.9	+2.6
DALK				*eS*	Sn	13 09 49.9	+2.6
UGLR	**Uglovaya**	**3.12**	**20**	*eP*	Pn	13 09 20.5	+4.6
UGLR				*eS*	Sn	13 09 57.7	+5.8
AVH	**Avacha**	**3.15**	**18**	*eP*	Pn	13 09 20.5	+4.2
AVH				*eS*	Sn	13 09 58.4	+5.7
KOK	**Koryaka**	**3.16**	**17**	*eP*	Pn	13 09 20.7	+4.3
KOK				*eS*	Sn	13 09 58.0	+5.1
SMAR	**Somma**	**3.17**	**19**	*eP*	Pn	13 09 20.6	+4.0
SMAR				*eS*	Sn	13 09 58.8	+5.6
KRER	**Koryakskii**	**3.19**	**18**	*eP*	Pn	13 09 21.2	+4.2
KRER				*eS*	Sn	13 09 58.6	+4.7
SDLR	**Sedlovina**	**3.20**	**20**	*eP*	Pn	13 09 19.8	+2.8
SDLR				*eS*	Sn	13 09 56.9	+3.0
KRX	**Arik**	**3.23**	**17**	*eP*	Pn	13 09 21.3	+3.9
SPN	**Mys Shipunski**	**3.36**	**32**	*eP*	Pn	13 09 21.9	+2.9
SPN				*eS*	Sn	13 09 59.7	+2.1
TUMR	**Tumrok**	**5.34**	**19**	P	Pn	13 09 51.3	+5.0
KBTR	**Krutoberegovo**	**6.86**	**28**	P	Pn	13 10 09.8	+2.8

*MEX **15** 13:12:36.8±0.7,14°.64N×92°.54W,h74km±11km,MD3.2*
*GCG **15** 13:12:37.5±0.3,15°.40N×92°.29W,h50km±54km,MD3.6*

ISC 15 13:12:38.1±3.2,**14°8N**±0°.5×**92°6W**±0°.3,**h60**km±21km,**n6,** σ0**98**/11,**1C,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.31**	**68**	*eP*	**Pn**	**13 12 47.9**	**-0.3**
THIG				*eS*	**Sn**	**13 12 55.9**	**+0.3**
STG3	**Santiaguito 3,**	**0.97**	**95**	*eP*	**Pn**	**13 12 54.3**	**-1.5**
STG3				*eS*	**Sn**	**13 13 09.5**	**+0.6**
PCIG		**1.10**	**325**	*eP*	**Pn**	**13 12 57.2**	**-0.3**
PCIG				*eS*	**Sn**	**13 13 12.9**	**+1.0**
FUG	**Fuego 3**	**1.70**	**101**	*eP*	**Pn**	**13 13 05.3**	**-0.4**
FUG				*eS*	**Sn**	**13 13 26.8**	**+0.3**
IXG	**Ixpaco**	**2.15**	**106**	*eP*	**Pn**	**13 13 11.8**	**+0.1**
IXG				*eS*	**Sn**	**13 13 38.7**	**+1.3**
CMIG	**Matias Romero**	**3.19**	**316**	*eP*	**Pn**	**13 13 25.1**	**-0.8**

IDC 15 13:17:56.2±2.6,**1°97S**×**134°61E,h0**km,**mb3.3**/2, **mb1 3.7**/4,**mb1mx3.4**/30,**mbtmp3.5**/4,**ML3.3**/2,**Error ellipse: s-maj=70.7km s-min=28.1km az=68.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**3.52**	**288**	Pn	Pn	13 18 51.8	-0.4
	10.0nm,0.3s,baz=112,slow=19,SNR=43						
SIJI				Sn	Sn	13 19 30.1	-4.5
	19nm,0.3s,baz=161,slow=24,SNR=17						
WRA	**Warramunga Arr**	**17.86**	**181**	P	P	13 22 07.2	+0.1
	0.1nm,0.3s,baz=0.4,slow=12,SNR=2.3						
ASAR	**Alice Springs**	**21.58**	**182**	P	P	13 22 47.1	-0.6
	0.6nm,0.8s,baz=11,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**66.74**	**324**	P	P	13 28 49.7	+0.2
	0.3nm,0.3s,baz=102,slow=7.7,SNR=3.0						

*IDC **15** 13:50:36.6±0.9,2°.36S×138°.27E,h0km,mb4.0/6, mb1 4.1/9,mb1mx3.8/35,mbtmp3.9/9,ML3.8/3,MS3.0/1, Ms1 3.0/1,ms1mx2.4/36,Error ellipse: s-maj=23.9km s-min=20.2km az=82.0*
*DJA **15** 13:50:42.5±0.6,2°S±5°×13°9E±°,h23km±7km,M3.7/6, mb4.2/1,MLv3.5/6*
*NEIC **15** 13:50:43.8±1.8,2°.60S±0°.06×138°.42E±0°.08,h52km±9km, mb4.3/9,Error ellipse: s-maj=11.4km s-min=8.4km az=96.0*

ISC 15 13:50:41.5±0.6,**2°43S**±0°.08×**138°44E**±0°.04,**h32**km,**n29,** σ1**38**/31,**mb4.1**/7,**Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMPI	**Sarmi**	**0.51**	**32**	P	**Pb**	**13 50 50.7**	**-1.5**
GENI	**Genyem**	**1.74**	**96**	P	**Pn**	**13 51 10.4**	**+1.0**
GENI				S	**Sn**	**13 51 32.3**	**+1.8**
SRPI	**Serui, Papua**	**2.27**	**284**	P	**Pb**	**13 51 19.6**	**-2.1**
JAY	**Jayapura**	**2.27**	**92**	Pn	**Pn**	**13 51 18.5**	**+1.7**
	7.3nm,0.3s,baz=237,slow=11,SNR=26						
JAY				Sn	**Sb**	**13 51 48.3**	**-1.1**
	8.9nm,0.3s,baz=125,slow=22,SNR=7.8						
JAY				LR	LR	13 52 30.5	
	comp=Z,265nm,18.1s,baz=179,slow=47						
JAY	**Jayapura**	**2.27**	**92**	P	**Pn**	**13 51 17.9**	**+1.1**
JAY				S	**Sn**	**13 51 44.3**	**+0.6**
FAKI	**Fak Fak**	**6.20**	**265**	P	**Pn**	**13 52 13.8**	**+2.9**
FAKI	**Fak Fak**	**6.20**	**265**	Pn	**Pn**	**13 52 13.0**	**+2.1**
COEN	**Coen**	**12.38**	**158**	Pn	**Pn**	**13 53 35.9**	**+0.3**
MTN	**Manton Dam**	**12.63**	**215**	Pn	**Pn**	**13 53 38.3**	**-0.7**
KNRA	**Kununurra**	**16.26**	**215**	Pn	**Pn**	**13 54 25.7**	**-1.9**
WB0	**Warramunga Arr**	**17.68**	**193**	P	**Pn**	**13 54 44.0**	**-1.5**
WB0				IAmb	IAmb	13 55 42.6	
	comp=Z,40nm,1.9s						
WR0	**Warramunga Arr**	**17.84**	**192**	P	**Pn**	**13 54 46.8**	**-0.6**
WB2	**Warramunga Arr**	**17.86**	**193**	P	**Pn**	**13 54 47.2**	**-0.5**
WB2				IAmb	IAmb	13 55 16.0	
	comp=Z,50nm,1.9s						
WRA	**Warramunga Arr**	**17.86**	**193**	P	**Pn**	**13 54 46.4**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=16,slow=12,SNR=18						
WRA	**Warramunga Arr**	**17.86**	**193**	P	**Pn**	**13 54 45.8**	**-2.0**
FITZ	**Fitzroy Crossi**	**20.00**	**218**	P	**P**	**13 55 10.8**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=37,slow=12,SNR=1.7						
AS31	**Alice Springs**	**21.57**	**191**	P	**P**	**13 55 27.8**	**-0.7**
ASAR	**Alice Springs**	**21.57**	**191**	P	**P**	**13 55 28.4**	**-0.1**
	comp=Z,4.3nm,0.8s,baz=13,slow=10,SNR=43						
ASAR	**Alice Springs**	**21.57**	**191**	P	**P**	**13 55 28.0**	**-0.5**
MKAR	**Makanchi Array**	**69.40**	**322**	P	**P**	**14 01 46.2**	**-0.2**
	comp=Z,1.4nm,0.9s,baz=119,slow=7.3,SNR=7.8						
MKAR	**Makanchi Array**	**69.40**	**322**	P	**P**	**14 01 46.8**	**+0.4**
KURK	**Kurchatov**	**73.33**	**325**	P	**P**	**14 02 09.0**	**-1.0**
KURK	**Kurchatov**	**73.33**	**325**	IAmb	IAmb	14 02 21.5	
	comp=Z,12nm,2.0s						
KURBB	**Kurchatov Arra**	**73.34**	**325**	P	**P**	**14 02 09.0**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=113,slow=5.0,SNR=5.8						
KKAR	**Karatay Array**	**75.74**	**316**	P	**P**	**14 02 26.0**	**+1.8**
VNDA	**Vanda**	**76.08**	**175**	P	**P**	**14 02 26.1**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=315,slow=4.5,SNR=6.0						
VNDA	**Vanda**	**76.08**	**175**	P	**P**	**14 02 27.1**	**+1.6**
VNDA				IAmb	IAmb	14 02 28.1	
	comp=Z,2.0nm,0.7s						
ILAR	**Eielson Array**	**85.69**	**24**	P	**P**	**14 03 17.1**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=266,slow=4.6,SNR=6.1						
AKTO	**Aktyubinsk**	**85.76**	**321**	P	**P**	**14 03 16.6**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=140,slow=7.9,SNR=1.9						

*KRSC **15** 13:56:15.6±1.5,51°.85N×160°.13E,h54km±22km,ML4.6*
*BJI **15** 13:56:18.1±0.0,52°.21N×159°.96E,h56km,mB4.8/16, mb4.5/21,Ms4.2/3,Ms7 3.9/3*
*MOS **15** 13:56:19.2±0.9,51°.97N×159°.88E,h54km,mb4.5/24,Error ellipse: s-maj=7.6km s-min=3.3km az=94.7*
*NEIC **15** 13:56:21.7±1.5,52°.04N±0°.10×159°.8E±0°.1,h57km±7km, mb4.6/78,Error ellipse: s-maj=14.5km s-min=9.8km az=197.0*
*IDC **15** 13:56:21.4±2.3,51°.88N×159°.74E,h61km±18km,mb3.7/20, mb1 3.9/22,mb1mx3.8/51,mbtmp4.0/22,MS3.2/6, Ms1 3.2/6,ms1mx2.8/40,Error ellipse: s-maj=17.9km s-min=12.7km az=163.0*

ISC 15 13:56:20.0±0.9,**51°93N**±0°.05×**159°99E**±0°.04,**h47**km±7km, **n281,**σ1**912**/301,**mb4.5**/80,**MS3.1**/7,**2C-2D,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**1.04**	**300**	*eP*	**Pn**	**13 56 35.8**	**-2.3**
RUS				*eS*	**Sn**	**13 56 50.3**	**-1.2**
RUS	**Russkaya**	**1.04**	**300**	PN	**Pn**	**13 56 35.8**	**-2.3**
RUS				S	**Sn**	**13 56 50.3**	**-1.2**
SPN	**Mys Shipunski**	**1.17**	**1**	*eP*	**Pn**	**13 56 38.3**	**-1.7**
SPN				*eS*	**Sn**	**13 56 55.4**	**+0.7**
SPN	**Mys Shipunski**	**1.17**	**1**	PN	**Pn**	**13 56 38.3**	**-1.7**
SPN				S	**Sn**	**13 56 55.4**	**+0.7**
MTVR	**Mutnovka**	**1.24**	**297**	*eP*	**Pn**	**13 56 39.6**	**-1.5**
MTVR				*eS*	**Sn**	**13 56 55.8**	**-0.9**
MTVR	**Mutnovka**	**1.24**	**297**	PN	**Pn**	**13 56 39.6**	**-1.5**
MTVR				S	**Sn**	**13 56 55.8**	**-0.9**
NLC	**Nalytchevo**	**1.30**	**343**	*eP*	**Pn**	**13 56 41.0**	**-0.7**
NLC				*eS*	**Sn**	**13 56 57.7**	**-0.3**
NLC	**Nalytchevo**	**1.30**	**343**	PN	**Pn**	**13 56 41.0**	**-0.7**
NLC				S	**Sn**	**13 56 57.7**	**-0.3**
GRL	**Gorelyy**	**1.33**	**299**	*i* P	**Pn**	**13 56 41.5**	**-0.8**
GRL				*eS*	**Sn**	**13 56 59.6**	**+0.7**
GRL	**Gorelyy**	**1.33**	**299**	PN	**Pn**	**13 56 41.5**	**-0.8**
GRL				S	**Sn**	**13 56 59.6**	**+0.7**
DALK	**Dalny**	**1.33**	**326**	*eP*	**Pn**	**13 56 41.2**	**-1.0**
DALK				*eS*	**Sn**	**13 56 58.6**	**-0.2**
DALK	**Dalny**	**1.33**	**326**	PN	**Pn**	**13 56 41.2**	**-1.0**
DALK				S	**Sn**	**13 56 58.6**	**-0.2**
ASAK	**Asacha**	**1.36**	**290**	*eP*	**Pn**	**13 56 41.6**	**-1.1**
ASAK				*eS*	**Sn**	**13 57 00.2**	**+0.6**
ASAK	**Asacha**	**1.36**	**290**	PN	**Pn**	**13 56 41.6**	**-1.1**
ASAK				S	**Sn**	**13 57 00.2**	**+0.6**
PET	**Petropavlovsk**	**1.36**	**324**	*i* PN	**Pn**	**13 56 41.4**	**-1.2**
PET				*eS*	**Sn**	**13 56 58.6**	**-0.9**
PET				pmax	pmax		
	comp=Z,875nm,0.4s						
PET				smax	smax		
	comp=E,2μm,2.8s						
PET				smax	smax		
	comp=E,400nm,3.2s						
PET				smax	smax		
	comp=N,2μm,2.8s						
PET				smax	smax		
	comp=N,3μm,0.5s						
PET				smax	smax		
	comp=N,400nm,2.8s						
PET				smax	smax		
	comp=E,2μm,0.5s						
PET	**Petropavlovsk**	**1.36**	**324**		**Pn**	**13 56 41.1**	**-1.5**
KRMR	**Karymshinskiy**	**1.45**	**309**	*eP*	**Pn**	**13 56 43.2**	**-0.6**
KRMR				*eS*	**Sn**	**13 57 02.0**	**+0.4**
KRMR	**Karymshinskiy**	**1.45**	**309**	PN	**Pn**	**13 56 43.2**	**-0.6**
KRMR				S	**Sn**	**13 57 02.0**	**+0.4**
UGLR	**Uglovaya**	**1.46**	**331**	*eP*	**Pn**	**13 56 43.3**	**-0.8**
UGLR	**Uglovaya**	**1.46**	**331**	PN	**Pn**	**13 56 43.3**	**-0.8**
SDLR	**Sedlovina**	**1.51**	**334**	*eP*	**Pn**	**13 56 43.5**	**-1.2**
SDLR	**Sedlovina**	**1.51**	**334**	PN	**Pn**	**13 56 43.5**	**-1.2**
SMAR	**Somma**	**1.52**	**332**	*i* P	**Pn**	**13 56 43.9**	**-1.0**
SMAR	**Somma**	**1.52**	**332**	PN	**Pn**	**13 56 43.9**	**-1.0**
AVH	**Avacha**	**1.54**	**331**	*eP*	**Pn**	**13 56 44.6**	**-0.5**
AVH	**Avacha**	**1.54**	**331**	PN	**Pn**	**13 56 44.6**	**-0.5**
KRER	**Koryakskii**	**1.57**	**332**	*eP*	**Pn**	**13 56 45.1**	**-0.5**
KRER	**Koryakskii**	**1.57**	**332**	PN	**Pn**	**13 56 45.1**	**-0.5**
KOK	**Koryaka**	**1.59**	**329**	*eP*	**Pn**	**13 56 45.1**	**-0.7**
KOK	**Koryaka**	**1.59**	**329**	PN	**Pn**	**13 56 45.1**	**-0.7**
KRX	**Arik**	**1.65**	**331**	*i* P	**Pn**	**13 56 45.8**	**-0.8**
KRX	**Arik**	**1.65**	**331**	PN	**Pn**	**13 56 45.8**	**-0.8**
PEA0B	**Petropavlovsk-**	**1.83**	**311**	*d* PN	**Pn**	**13 56 48.5**	**-0.4**
PEA0B	**Petropavlovsk-**	**1.83**	**311**		**Pn**	**13 56 48.6**	**-0.4**
PETK	**Petropavlovsk-**	**1.83**	**311**	P	**Pn**	**13 56 48.9**	**-0.1**
	comp=E,137nm,0.3s,baz=108,slow=20,SNR=1868						
PETK				S	**Sn**	**13 57 11.4**	**+0.5**
	comp=E,114nm,0.3s,baz=121,slow=16,SNR=5.1						
PETK				LR	LR	13 57 20.0	
	comp=E,116nm,19.4s,baz=80,slow=33						
PETK	**Petropavlovsk-**	**1.83**	**311**	Pn	**Pn**	**13 56 48.4**	**-0.6**
APC	**Apacha**	**2.00**	**301**	*eP*	**Pn**	**13 56 51.7**	**+0.4**
APC				*eS*	**Sn**	**13 57 16.5**	**+1.5**
APC	**Apacha**	**2.00**	**301**	PN	**Pn**	**13 56 51.7**	**+0.4**
APC				S	**Sn**	**13 57 16.5**	**+1.5**
MIPR	**Malaya Ipel'ka**	**2.02**	**281**	*i* P	**Pn**	**13 56 52.1**	**+0.5**
MIPR	**Malaya Ipel'ka**	**2.02**	**281**	PN	**Pn**	**13 56 52.1**	**+0.5**
PAU	**Pauzhetka**	**2.03**	**258**	*eP*	**Pn**	**13 56 51.3**	**-0.4**
PAU	**Pauzhetka**	**2.03**	**258**	PN	**Pn**	**13 56 51.3**	**-0.4**
KII	**Karymskiy**	**2.13**	**351**	*eP*	**Pn**	**13 56 53.4**	**+0.2**
KII	**Karymskiy**	**2.13**	**351**	PN	**Pn**	**13 56 53.4**	**+0.2**
SKR	**Severo-Kuril's**	**2.73**	**244**	*eP*	**Pn**	**13 57 00.5**	**-0.8**
SKR				*eS*	**Sn**	**13 57 32.5**	**-0.6**
SKR	**Severo-Kuril's**	**2.73**	**244**	*e*PN	**Pn**	**13 57 00.7**	**-0.6**
SKR				*eS*	**Sn**	**13 57 31.7**	**-1.4**
SKR				pmax	pmax		
	comp=Z,58nm,0.4s						
SKR				smax	smax		
	comp=E,703nm,0.8s						
SKR				smax	smax		
	comp=N,1μm,0.7s						
SKR				MLR	MLR		
	comp=E,600nm,13.0s						
SKR				MLR	MLR		
	comp=Z,500nm,13.0s						
SKR				MLR	MLR		
	comp=N,500nm,12.0s						
SKR				MLR	MLR		
	comp=E,400nm,13.0s						
SKR				MLR	MLR		
	comp=Z,200nm,13.0s						
SKR				MLR	MLR		
	comp=N,100nm,12.0s						
ALID	**Alaid**	**2.98**	**251**	*eP*	**Pn**	**13 57 04.5**	**-0.3**
ALID	**Alaid**	**2.98**	**251**	PN	**Pn**	**13 57 04.5**	**-0.3**
KZV	**Kizimen**	**3.19**	**3**	*eP*	**Pn**	**13 57 07.8**	**0.0**
KZV	**Kizimen**	**3.19**	**3**	PN	**Pn**	**13 57 07.8**	**0.0**
TUMD	**Tumrok D**	**3.29**	**4**	*eP*	**Pn**	**13 57 08.4**	**-0.6**
TUMD				*eS*	**Sn**	**13 57 46.8**	**0.0**
TUMR	**Tumrok**	**3.36**	**2**	*i* P	**Pn**	**13 57 10.5**	**+0.4**
TUMR	**Tumrok**	**3.36**	**2**	PN	**Pn**	**13 57 10.5**	**+0.4**
KMNR	**Kamenistaya**	**3.83**	**2**	*i* P	**Pn**	**13 57 17.5**	**+0.9**
KMNR	**Kamenistaya**	**3.83**	**2**	PN	**Pn**	**13 57 17.5**	**+0.9**
KIRR	**Kirishev**	**4.04**	**3**	*eP*	**Pn**	**13 57 21.0**	**+1.6**
KIRR	**Kirishev**	**4.04**	**3**	PN	**Pn**	**13 57 21.0**	**+1.6**
BZGR	**Bezymyannyi-Gr**	**4.04**	**6**	*eP*	**Pn**	**13 57 20.1**	**+0.7**
BZGR	**Bezymyannyi-Gr**	**4.04**	**6**	PN	**Pn**	**13 57 20.1**	**+0.7**
KPT	**Kopyto**	**4.04**	**2**	*eP*	**Pn**	**13 57 20.2**	**+0.8**
KPT	**Kopyto**	**4.04**	**2**	PN	**Pn**	**13 57 20.2**	**+0.8**
BZWR	**Bezymyannyi-We**	**4.05**	**4**	*eP*	**Pn**	**13 57 21.0**	**+1.4**
BZWR	**Bezymyannyi-We**	**4.05**	**4**	PN	**Pn**	**13 57 21.0**	**+1.4**
ESO	**Esso**	**4.07**	**350**	*eP*	**Pn**	**13 57 20.4**	**+0.6**
ESO	**Esso**	**4.07**	**350**	PN	**Pn**	**13 57 20.4**	**+0.6**
ZLN	**Zelenaya**	**4.12**	**6**	*eP*	**Pn**	**13 57 20.9**	**+0.4**
ZLN	**Zelenaya**	**4.12**	**6**	PN	**Pn**	**13 57 20.9**	**+0.4**
KOZ	**Kozyrevsk**	**4.13**	**359**	*eP*	**Pn**	**13 57 21.2**	**+0.6**
KOZ	**Kozyrevsk**	**4.13**	**359**	PN	**Pn**	**13 57 21.2**	**+0.6**
CIRR	**Tsirk**	**4.22**	**6**	*eP*	**Pn**	**13 57 23.4**	**+1.6**
CIRR	**Tsirk**	**4.22**	**6**	PN	**Pn**	**13 57 23.4**	**+1.6**
KRSR	**Krestovskiy**	**4.31**	**4**	*eP*	**Pn**	**13 57 24.1**	**+1.1**
KRSR	**Krestovskiy**	**4.31**	**4**	PN	**Pn**	**13 57 24.1**	**+1.1**
SRDR	**Sredinnyy**	**4.40**	**358**	*eP*	**Pn**	**13 57 24.3**	**+0.1**
SRDR	**Sredinnyy**	**4.40**	**358**	PN	**Pn**	**13 57 24.3**	**+0.1**
KLY	**Klyuchi**	**4.41**	**5**	*eP*	**Pn**	**13 57 25.5**	**+1.2**
KLY	**Klyuchi**	**4.41**	**5**	PN	**Pn**	**13 57 25.5**	**+1.2**
KBTR	**Krutoberegovo**	**4.60**	**20**	*eP*	**Pn**	**13 57 25.9**	**-1.0**
KBTR				*eS*	**Sn**	**13 58 19.9**	**+0.9**
KBTR	**Krutoberegovo**	**4.60**	**20**	PN	**Pn**	**13 57 25.9**	**-1.0**
KBTR				S	**Sn**	**13 58 19.9**	**+0.9**
KBG	**Krutoberegovo**	**4.62**	**19**	*eP*	**Pn**	**13 57 26.7**	**-0.5**
KBG	**Krutoberegovo**	**4.62**	**19**	PN	**Pn**	**13 57 26.7**	**-0.5**
SRKR	**Sorokina**	**4.78**	**8**	*eP*	**Pn**	**13 57 30.9**	**+1.4**
SRKR	**Sorokina**	**4.78**	**8**	PN	**Pn**	**13 57 30.9**	**+1.4**
BKI	**Bering**	**4.84**	**45**	*eP*	**Pn**	**13 57 28.4**	**-1.9**
BKI				*eS*	**Sn**	**13 58 19.3**	**-5.7**
BKI	**Bering**	**4.84**	**45**	PN	**Pn**	**13 57 28.4**	**-1.9**
SMY	**Shemya**	**8.68**	**79**	*eP*	**Pn**	**13 58 22.5**	**-0.4**
SMY	**Shemya**	**8.68**	**79**	Pn	**Pn**	**13 58 22.5**	**-0.4**
MA2	**Magadan**	**9.25**	**330**	P	**Pn**	**13 58 30.2**	**-0.4**
	comp=N,0.2nm,0.3s,baz=139,slow=19,SNR=1.2						
MA2				LR	LR	14 02 39.7	
	comp=N,148nm,19.0s,baz=140,slow=41						
KUR	**Kuril'sk**	**10.45**	**235**	PN	**Pn**	**13 58 48.9**	**+1.8**
YSS	**Yuzh-Sakhalins**	**12.26**	**253**	*e*PN	**Pn**	**13 59 14.2**	**+2.4**
YUK	**Yuzh-Kuril'sk**	**12.31**	**236**	*i* PN	**Pn**	**13 59 12.9**	**+0.4**
NMR	**Nemuro--Hokkai**	**12.86**	**234**	*e*PN	Pn	13 59 14.9	-5.0
JKA	**Kamikawa-asahi**	**13.99**	**243**		**Pn**	**13 59 34.8**	**-0.6**
ASAJ	**Asahikawa**	**13.99**	**243**	P	**Pn**	**13 59 34.8**	**-0.7**
	comp=N,0.4nm,0.3s,baz=77,slow=16,SNR=10						
ERM	**Erimo**	**15.14**	**236**	*i* P	**Pn**	**13 59 50.4**	**-0.2**
ERM	**Erimo**	**15.14**	**236**	Pn	**Pn**	**13 59 47.8**	**-2.8**
ERM				IAmb	IAmb	14 00 18.9	
	comp=Z,27nm,1.1s						
BILL	**Bilibino**	**16.45**	**8**	*i* P	**Pn**	**14 00 06.9**	**-0.3**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,74nm,13.0s						
BILL	**Bilibino**	**16.45**	**8**	Pn	**Pn**	**14 00 06.7**	**-0.5**
YAK	**Yakutsk**	**19.17**	**314**	*i* P	**P**	**14 00 37.5**	**-1.8**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.7s						
YAK				MLR	MLR		
	comp=Z,56nm,11.9s						
UNV	**Unalaska Valle**	**20.20**	**71**	P	**P**	**14 00 52.3**	**+1.7**
MJA0	**Matsu Arr-Jizo**	**21.77**	**234**	*e*P	**P**	**14 01 08.2**	**+0.6**
MJA0				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MJB9	**Matsu-Tunnel**	**21.79**	**234**	P	**P**	**14 01 08.8**	**+1.0**
MAJO	**Matsushiro**	**21.79**	**234**	P	**P**	**14 01 08.9**	**+1.1**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
**MAJ

NRIK pmax pmax
comp=Z,2.0nm,1.0s
LZH Lanzhou 42.28 271 *e*P **P** **14 04 08.0 -0.9**
LZH pP pP 14 04 22.3 +1.8
LZH sP sP 14 04 29.1 +3.5
LZH *e*PP **PP** **14 05 49.5 +2.2**
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,75nm,5.2s
LZH LR LR
comp=Z,280nm,13.7s
LZH LR LR
comp=Z,280nm,13.5s
LZH LR LR
comp=Z,360nm,16.6s
ZALV Zalesovo Beam 43.36 304 P **P** **14 04 14.4 -2.8**
comp=Z,0.6nm,0.3s,baz=62,slow=6.9,SNR=4.3
ZALV Zalesovo Beam 43.36 304 *e*P **P** **14 04 15.3 -2.0**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
YKA Yellowknife Ar 44.07 42 P **P** **14 04 24.1 +1.2**
comp=Z,0.6nm,0.5s,baz=294,slow=8.0,SNR=4.7
DGZ Jazzator, Alta 44.13 297 *i* P **P** **14 04 21.8 -2.0**
DGZ pmax pmax
comp=Z,1.0nm,0.9s
RES Resolute Bay 44.43 22 P **P** **14 04 26.9 +1.2**
comp=Z,6.6nm,1.1s,baz=320,slow=6.0,SNR=11
RES Resolute Bay 44.43 22 P **P** **14 04 26.8 +1.2**
RES pmax pmax
comp=Z,5.0nm,0.8s
RES Resolute Bay 44.43 22 P **P** **14 04 26.8 +1.2**
WMQ Urumqi 47.30 290 *e*P **P** **14 04 50.8 +2.1**
SPA0 Spitsbergen Ar 48.27 351 P **P** **14 04 56.1 +0.4**
SPA0 Spitsbergen Ar 48.27 351 *e*P **P** **14 04 56.5 +0.7**
SPITS Spitsbergen Ar 48.27 351 P **P** **14 04 56.1 +0.4**
SPITS pmax pmax
comp=Z,9.0nm,0.4s
KURK Kurchatov 48.30 303 *i* P **P** **14 04 54.4 -1.8**
KURK pmax pmax
comp=Z,2.0nm,0.5s
KURK Kurchatov 48.30 303 P **P** **14 04 54.6 -1.6**
KURK IAmb IAmb 14 04 55.5
comp=Z,4.5nm,0.3s
MK31 Makanchi Array 48.61 297 P **P** **14 04 56.6 -2.2**
MK31 pmax pmax
comp=Z,1.0nm,0.5s
MK31 Makanchi Array 48.61 297 P **P** **14 04 56.5 -2.2**
MKAR Makanchi Array 48.61 297 P **P** **14 04 56.9 -1.9**
comp=Z,1.1nm,0.5s,baz=54,slow=6.9,SNR=16
MKAR Makanchi Array 48.61 297 P **P** **14 04 56.5 -2.2**
KMI Kunming 50.56 261 P **P** **14 05 13.8 -0.3**
KMI pmax pmax
comp=Z,9.0nm,0.6s
BRVK Borovoye 51.09 309 *i* P **P** **14 05 15.6 -1.9**
BRVK pmax pmax
comp=Z,1.0nm,0.5s
BRVK Borovoye 51.09 309 P **P** **14 05 15.3 -2.2**
BRVK IAmb IAmb 14 05 16.5
comp=Z,1.9nm,0.5s
LVZ Lovozero 53.75 337 P **P** **14 05 36.7 -0.2**
LVZ pmax pmax
comp=Z,93nm,2.0s
LVZ Lovozero 53.75 337 P **P** **14 05 36.7 -0.2**
KEV Kevo 53.90 342 P **P** **14 05 37.3 -0.7**
KEV pmax pmax
comp=Z,97nm,1.8s
KEV Kevo 53.90 342 P **P** **14 05 37.3 -0.7**
ARU Arti 54.21 318 *c i*P **P** **14 05 39.9 -0.5**
ARU *PP **pP** **14 05 54.1 +1.5**
ARU 14 07 40.1
ARU S **S** **14 13 12.5 -1.4**
ARU SS **SKiKP** **14 16 49.1 +2.3**
ARU pmax pmax
comp=Z,4.0nm,1.1s
ARCES ARCESS Array B 54.37 342 P **P** **14 05 40.9 -0.5**
comp=Z,3.1nm,0.6s,baz=49,slow=8.1,SNR=10
ARCES ARCESS Array B 54.37 342 *e*P **P** **14 05 41.3 -0.1**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 54.37 342 P **P** **14 05 41.4 -0.1**
ARE0 ARCESS Array S 54.37 342 P **P** **14 05 41.4 0.0**
ARE0 ARCESS Array S 54.37 342 *e*P **P** **14 05 41.5 0.0**
SUMG Summit 55.12 7 P **P** **14 05 47.0 -0.3**
SUMG pmax pmax
comp=Z,6.0nm,1.0s
SUMG Summit 55.12 7 P **P** **14 05 47.0 -0.3**
SUMG IAmb IAmb 14 05 49.0
comp=Z,6.0nm,1.0s
KTK1 Kautokeino 55.25 343 *e*P **P** **14 05 47.7 0.0**
TRO Tromso 55.46 345 *e*P **P** **14 05 49.2 0.0**
WAKR Walker 55.50 70 P **P** **14 05 51.8 +1.5**
WAKR IAmb IAmb 14 06 03.2
comp=Z,15nm,1.5s
NVAR Mina Array Bea 56.21 69 P **P** **14 05 56.9 +1.6**
comp=Z,0.4nm,0.5s,baz=45,slow=15,SNR=5.5
NVAR Mina Array Bea 56.21 69 P **P** **14 05 57.0 +1.6**
NV11 Mina Array Sit 56.29 69 P **P** **14 05 58.0 +2.1**
NV11 IAmb IAmb 14 06 52.5
comp=Z,11nm,1.8s
MSF Maaselka 56.66 338 P **P** **14 05 59.5 +1.6**
MSF pmax pmax
comp=Z,20nm,0.7s
KK31 Karatay Array 57.40 300 P **P** **14 06 00.9 -2.6**
KK31 pmax pmax
comp=Z,3.0nm,1.4s
KK31 Karatay Array 57.40 300 P **P** **14 06 00.9 -2.6**
KKAR Karatay Array 57.40 300 P **P** **14 06 01.2 -2.3**
KKAR pmax pmax
comp=Z,3.0nm,1.4s
KKAR Karatay Array 57.40 300 P **P** **14 06 01.0 -2.4**
KKAR Karatay Array 57.40 300 P **P** **14 06 01.2 -2.3**
KKAR IAmb IAmb 14 06 02.9
comp=Z,3.1nm,1.4s
LOF Lofoten 57.67 346 *e*P **P** **14 06 05.2 +0.3**
OUL Oulu 58.07 339 P **P** **14 06 08.9 +1.1**
OUL pmax pmax
comp=Z,25nm,0.6s
PDAR Pinedale Array 58.15 60 P **P** **14 06 10.0 +0.9**
comp=Z,1.2nm,0.7s,baz=311,slow=3.2,SNR=7.9
PDAR Pinedale Array 58.15 60 P **P** **14 06 10.5 +1.5**
ABKAR Akbulak array 58.50 311 P **P** **14 06 10.1 -1.0**
KONS Konsvik 59.24 345 *e*P **P** **14 06 15.9 0.0**
MOR8 Moi Rana 59.33 344 *e*P **P** **14 06 15.3 -1.3**
RSSD Black Hills 60.11 56 P **P** **14 06 23.8 +1.2**
RSSD pmax pmax
comp=Z,5.0nm,0.7s
RSSD Black Hills 60.11 56 P **P** **14 06 23.8 +1.2**
RSSD IAmb IAmb 14 06 24.9
comp=Z,4.5nm,0.7s
RWWY Rawlins 60.16 60 P **P** **14 06 23.6 +0.6**
RWWY IAmb IAmb 14 06 25.7
comp=Z,5.0nm,0.8s
FIA1 FINESS Array S 61.16 337 P **P** **14 06 28.9 -0.2**
FIA1 IAmb IAmb 14 07 17.9
comp=Z,18nm,1.4s
FINES FINESS Array B 61.16 337 P **P** **14 06 29.3 +0.2**
comp=Z,4.9nm,0.5s,baz=33,slow=7.3,SNR=46
FINES FINESS Array B 61.16 337 P **P** **14 06 28.8 -0.3**
OBN Obninsk 63.46 328 *i* P **P** **14 06 43.8 -0.8**
OBN *i* 14 07 22.5
OBN pmax pmax
comp=Z,4.0nm,0.8s
NC303 NORSAR Array S 64.44 344 P **P** **14 06 51.2 +0.3**
NC303 NORSAR Array S 64.44 344 *e*P **P** **14 06 51.0 0.0**
NC405 NORSAR Array S 64.48 344 P **P** **14 06 51.5 +0.2**
NC204 NORSAR Array S 64.50 344 P **P** **14 06 51.4 0.0**
NB201 NORSAR Array S 64.62 344 P **P** **14 06 52.4 +0.2**
NB2 NORSAR Subarra 64.64 344 P **P** **14 06 52.6 +0.3**
comp=Z,0.6nm,0.4s,baz=22,slow=6.9
NB2 NORSAR Subarra 64.64 344 P **P** **14 06 52.6 +0.3**
baz=22,slow=6.9
NOA NORSAR Array B 64.64 344 P **P** **14 06 52.3 0.0**
comp=Z,0.3nm,0.4s,baz=25,slow=6.4,SNR=5.5
NOA LR LR 14 37 27.9
comp=Z,14nm,20.8s,baz=70,slow=38
NOA NORSAR Array B 64.64 344 *e*P **P** **14 06 52.8 +0.5**
AKASG Malin Array Be 69.58 329 P **P** **14 07 23.3 -0.4**
comp=Z,5.8nm,0.4s,baz=30,slow=6.8,SNR=22
AKASG LR LR 14 42 44.7
comp=Z,26nm,18.3s,baz=305,slow=40
AKASG Malin Array Be 69.58 329 P **P** **14 07 22.3 -1.4**
AKBB Malin Array Si 69.58 329 P **P** **14 07 22.7 -1.0**
AKBB pmax pmax
comp=Z,7.0nm,0.8s
AKBB Malin Array Si 69.58 329 P **P** **14 07 22.7 -1.0**
AKBB IAmb IAmb 14 07 23.9
comp=Z,7.0nm,0.8s
R40A Maddies Statio 70.36 53 P **P** **14 07 28.9 +0.1**
R40A IAmb IAmb 14 09 22.0
comp=Z,7.7nm,1.4s
TX31 Lajitas Ar. Si 71.16 66 P **P** **14 07 35.2 +1.3**
TX31 IAmb IAmb 14 08 28.2
comp=Z,24nm,1.8s
TX32 Lajitas Array 71.16 66 P **P** **14 07 35.3 +1.5**
TX32 IAmb IAmb 14 08 28.2
comp=Z,11nm,2.0s
TXAR Lajitas Array 71.16 66 P **P** **14 07 34.8 +1.0**
comp=Z,0.3nm,0.4s,baz=301,slow=5.0,SNR=6.9
TXAR Lajitas Array 71.16 66 P **P** **14 07 35.1 +1.2**
U40A Yellville 71.58 54 P **P** **14 07 36.3 +0.1**
TRQ Mont Tremblant 71.59 37 P **P** **14 07 36.0 -0.2**
P46A Rosedale 71.74 49 P **P** **14 07 37.8 +0.8**
P46A IAmb IAmb 14 07 38.0
comp=Z,9.4nm,1.1s
DELO Deloro Mine 71.86 39 P **P** **14 07 37.6 -0.1**
DELO IAmb IAmb 14 10 16.0
comp=Z,18nm,1.6s
EKA Eskdalemuir Ar 72.19 350 P **P** **14 07 40.0 +0.5**
FCAR Ozark Folk Cen 72.31 54 P **P** **14 07 40.6 +0.1**
FCAR IAmb IAmb 14 09 13.5
comp=Z,4.7nm,0.8s
N51A Ashland 72.86 45 P **P** **14 07 44.2 +0.5**
M53A WI Miller and 73.16 43 P **P** **14 07 46.1 +0.5**
M53A IAmb IAmb 14 07 46.7
comp=Z,8.2nm,0.8s
J56A Wolcott 73.20 40 P **P** **14 07 45.8 +0.1**
MOQ Mont Orford 73.21 36 P **P** **14 07 46.1 +0.3**
KOLS Kolonicke sedl 73.25 332 *e*P **P** **14 07 46.7 +0.8**
KOLS pmax pmax
comp=Z,3.0nm,1.1s
KOLS Kolonicke sedl 73.25 332 *e*P **P** **14 07 46.7 +0.8**
CLL Collm 73.42 339 *i* P **P** **14 07 47.2 +0.4**
comp=Z,3.0nm,0.8s
CLL Collm 73.42 339 *i* P **P** **14 07 47.2 +0.4**
CLL pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 73.42 339 P **P** **14 07 47.2 +0.4**
BUR08 Bucovina Ar. S 73.53 330 P **P** **14 07 47.9 +0.2**
M54A Oil Creek Stat 73.53 43 P **P** **14 07 48.2 +0.5**
BURAR Bucovina Array 73.55 330 P **P** **14 07 47.8 0.0**
BURAR Bucovina Array 73.55 330 P **P** **14 07 47.8 0.0**
BRG Berggiesshubel 73.61 338 *e*(P) **P** **14 07 48.3 +0.3**
comp=Z,1.3nm,0.8s
BRG *e* 14 09 11.4
comp=Z,2.3nm,0.9s
BRG Berggiesshubel 73.61 338 *e*P **P** **14 07 48.3 +0.3**
BRG pmax pmax
comp=Z,1.0nm,0.8s
N53A Lisbon 73.62 44 P **P** **14 07 48.9 +0.7**
N53A IAmb IAmb 14 10 26.9
comp=Z,7.5nm,0.6s
O52A Adamsville 73.75 45 P **P** **14 07 49.0 0.0**
O52A IAmb IAmb 14 07 50.5
comp=Z,9.6nm,0.8s
MORC Moravsky Berou 73.76 336 P **P** **14 07 48.9 -0.1**
MORC pmax pmax
comp=Z,2.0nm,0.8s
MORC Moravsky Berou 73.76 336 P **P** **14 07 48.9 -0.1**
N54A Moraine State 73.85 43 P **P** **14 07 49.9 +0.3**
O53A New Philadelph 73.91 44 P **P** **14 07 50.3 +0.3**
O53A IAmb IAmb 14 08 06.7
comp=Z,35nm,1.9s
M55A Ridgway 73.94 42 P **P** **14 07 50.8 +0.7**
M55A IAmb IAmb 14 08 03.0
comp=Z,35nm,1.8s
M56A Emporium 74.17 42 P **P** **14 07 52.0 +0.5**
H62A Milan 74.24 35 P **P** **14 07 52.9 +1.1**
VYHS Vyhne 74.60 334 *e*P **P** **14 07 54.7 +0.9**
VYHS pmax pmax
comp=Z,5.0nm,1.4s
VYHS Vyhne 74.60 334 *e*P **P** **14 07 54.7 +0.9**
PBCC Pribram 74.71 338 *e*P **P** **14 07 55.0 +0.6**
M57A Sunshine Farm, 74.72 41 P **P** **14 07 55.3 +0.7**
L59A Walton 74.83 39 P **P** **14 07 55.5 +0.2**
T50A Nancy 74.93 49 P **P** **14 07 56.7 +0.8**
SSPA Standing Stone 75.00 42 P **P** **14 07 57.0 +0.8**
SSPA IAmb IAmb 14 07 57.8
comp=Z,19nm,1.4s
O56A Blue Knob Stat 75.02 43 P **P** **14 07 57.4 +0.9**
O56A IAmb IAmb 14 09 19.6
comp=Z,32nm,1.9s
PLAL Pickwick Lake 75.03 52 P **P** **14 07 56.6 +0.1**
PLAL IAmb IAmb 14 08 10.7
comp=Z,4.6nm,1.1s
MLR Muntele Rosu 75.20 328 P **P** **14 07 56.7 -0.8**
MLR pmax pmax
comp=Z,4.0nm,0.7s
MLR Muntele Rosu 75.20 328 P **P** **14 07 56.7 -0.8**
MLR IAmb IAmb 14 07 59.9
comp=Z,3.6nm,0.7s
KHC Kasperske Hory 75.33 338 *e*P **P** **14 07 59.4 +1.4**
KHC Kasperske Hory 75.33 338 *e*P **P** **14 07 59.4 +1.4**
GEC2 GERESS Array S 75.56 338 P **P** **14 07 59.7 +0.2**
GERES GERESS Array B 75.56 338 P **P** **14 07 59.6 +0.1**
comp=Z,1.0nm,0.6s,baz=34,slow=5.1,SNR=11
GERES LR LR 14 49 02.7
comp=Z,18nm,18.5s,baz=94,slow=42
GERES GERESS Array B 75.56 338 *e*P **P** **14 08 00.3 +0.8**
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES GERESS Array B 75.56 338 P **P** **14 07 59.7 +0.2**
N59A State Game Lan 75.62 40 P **P** **14 07 59.9 +0.1**
BRTR Keskin Array B 77.47 320 P **P** **14 08 10.3 -0.2**
comp=Z,1.1nm,0.6s,baz=60,slow=3.0,SNR=7.3
BRTR Keskin Array B 77.47 320 P **P** **14 08 10.2 -0.3**
DIVS Divibare 78.30 332 P **P** **14 08 15.3 +0.4**
DIVS IAmb IAmb 14 08 15.6
comp=Z,3.4nm,0.6s
VTS Vitosha 78.65 329 P **P** **14 08 17.5 +0.6**
VTS pmax pmax
comp=Z,3.0nm,0.6s
VTS Vitosha 78.65 329 P **P** **14 08 17.5 +0.6**
VTS IAmb IAmb 14 08 18.2
comp=Z,3.0nm,0.6s
CTI Castel Tesino 78.67 338 P **P** **14 08 17.5 +0.5**
CTI pmax pmax
comp=Z,16nm,1.4s
CTI Castel Tesino 78.67 338 P **P** **14 08 17.5 +0.5**
CTI IAmb IAmb 14 11 08.5
comp=Z,16nm,1.4s
ESDC Sonseca Array 87.70 348 P **P** **14 09 03.8 +0.2**
comp=Z,0.4nm,0.7s,baz=347,slow=5.3,SNR=2.0
DGAR Diego Garcia 94.26 264 *ce*P P 14 09 40.8 +6.6
DGAR pmax pmax
comp=Z,123nm,1.0s
H03N2 Juan Fernandez 134.26 90 T T 16 44 31.8
baz=314,slow=77,SNR=7.5
H03N1 Juan Fernandez 134.28 90 T T 16 44 33.2
baz=314,slow=77,SNR=11
H03N3 Juan Fernandez 134.28 90 T T 16 44 32.6
baz=314,slow=77,SNR=8.2

*UPP **15** 14:00:07.1±1.3,55.00N×15.17E,h0km,ML2.5,Suspected explosion*
ISC 15 14:00:08.2±1.5,**54.99N**±0.04×**15.2E**±0.1,**h11**km±10km,
n12,σ1s**20**/19,**1C**,**Baltic Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSD	**Bornholm Skovb**	**0.20**	**310**	*i*P	**Pg**	**14 00 12.3**	**-0.1**
BSD				*i* S	**Sg**	**14 00 15.1**	**-0.2**
BLEU	**Blekinge**	**1.37**	**15**	P	**Pn**	**14 00 32.5**	**-0.6**
BLEU				S	**Sn**	**14 00 48.2**	**-3.1**
VXJU	**Vaexsjoe**	**1.94**	**356**	P	**Pn**	**14 00 41.0**	**-0.1**
VXJU				S	**Sn**	**14 01 06.0**	**+0.5**
OSKU	**Oskarshamn**	**2.27**	**13**	P	**Pn**	**14 00 45.5**	**-0.1**
OSKU				S	**Sb**	**14 01 18.1**	**+0.8**
GNOU	**Gnosjoe**	**2.44**	**342**	P	**Pn**	**14 00 48.2**	**+0.2**
GNOU				S	**Sn**	**14 01 18.2**	**+0.5**
FABU	**Falkenberg**	**2.45**	**327**	P	**Pn**	**14 00 48.5**	**+0.5**
ASPU	**Aespoe**	**2.56**	**17**	P	**Pn**	**14 00 49.8**	**+0.2**
ASPU				S	**Sn**	**14 01 21.9**	**+1.2**
EKSU	**Eksjoe**	**2.59**	**1**	P	**Pn**	**14 00 50.3**	**+0.3**
BRG	**Berggiesshubel**	**4.19**	**191**	PG	**Pn**	**14 01 11.7**	**-0.2**
BRG				SG	**Sn**	**14 01 58.7**	**-2.2**
	1.5nm,0.3s						
MORC	**Moravsky Berou**	**5.42**	**164**	*e*PN	**Pn**	**14 01 29.4**	**+0.5**
VRAC	**Vranov**	**5.75**	**171**	*e*PN	**Pn**	**14 01 34.7**	**+1.2**
KRUC	**Moravsky**	**5.98**	**172**	*e*PN	**Pn**	**14 01 38.0**	**+1.4**

*DJA **15** 14:00:08.7±0.2,6.2S×13.0E±1°,h177km±3km,M4.7/42, mb5.0/42,mB5.2/25,MLv5.2/15,Mw(mB)4.5/25*
*NEIC **15** 14:00:08.3±1.8,6.14S×0.02×130.16E±0.08,h169km±5km, mb4.9/78,Error ellipse: s-maj=10.8km s-min=3.3km az=84.0*
*IDC **15** 14:00:08.1±1.2,6.14S×130.14E,h165km±11km,mb4.2/24, mb1 4.2/32,mb1mx4.2/43,mbtmp4.7/32,MS3.1/5, Ms1 3.1/5,ms1mx2.7/33,Error ellipse: s-maj=10.5km s-min=8.4km az=88.0*
ISC 15 14:00:10.6±0.3,**6.17S**±0.04×**130.17E**±0.04,**h200**km,**n219**, σ1s**90**/220,**mb4.7**/65,**2C**-**2D**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.66**	**351**	P	**Pn**	**14 00 42.2**	**-3.6**
BNDI				S	**Sn**	**14 01 08.0**	**-5.2**
SAUI	**Saumlaki**	**2.12**	**148**	P	**Pn**	**14 00 47.3**	**-3.1**
SAUI	**Saumlaki**	**2.12**	**148**	Pn	**Pn**	**14 00 47.1**	**-3.3**
MSAI	**Maoshi**	**3.06**	**336**	P	**Pn**	**14 00 56.4**	**-4.7**
AAI	**Ambon**	**3.15**	**321**	P	**Pn**	**14 00 59.1**	**-3.0**
FAKI	**Fak Fak**	**3.84**	**33**	P	Pn	14 01 04.8	-5.7
FAKI	**Fak Fak**	**3.84**	**33**	Pn	**Pn**	**14 01 05.8**	**-4.7**
NLAI	**Namlea**	**4.22**	**313**	P	**Pn**	**14 01 14.2**	**-1.0**
KMPI	**Kaimana, Papua**	**4.32**	**55**	P	**Pn**	**14 01 12.7**	**-3.7**
SIJI	**Sorong**	**5.38**	**12**	P	**Pn**	**14 01 25.6**	**-4.3**
	35nm,0.3s,baz=180,slow=20,SNR=363						
SIJI				S	Sn	14 02 22.3	-10
	181nm,0.3s,baz=256,slow=23,SNR=27						
SANI	**Sanana**	**5.84**	**314**	P	**Pn**	**14 01 34.3**	**-1.6**
	0.3nm928nm84nm,0.9s						
MTN	**Manton Dam**	**6.70**	**172**	Pn	**Pn**	**14 01 44.0**	**-3.0**
SOEI	**Soe**	**6.84**	**238**	P	**Pn**	**14 01 48.4**	**-0.5**
	4.2nm4μm384nm,0.7s						
SOEI	**Soe**	**6.84**	**238**	Pn	**Pn**	**14 01 46.6**	**-2.4**
SRPI	**Serui, Papua**	**7.41**	**55**	P	**Pn**	**14 01 54.1**	**-2.2**
	0.0nm57nm1.1nm,0.5s						
TNTI	**Ternate**	**7.44**	**338**	Pn	**Pn**	**14 01 53.0**	**-3.7**
BATI	**Baumata**	**7.58**	**238**	P	**Pn**	**14 01 56.8**	**-1.7**
	67nm,0.3s,baz=122,slow=3.9,SNR=61						
BATI				S	**Sn**	**14 03 17.8**	**-6.5**
	165nm,0.3s,baz=56,slow=7.9,SNR=15						
BATI	**Baumata**	**7.58**	**238**	P	**Pn**	**14 01 56.6**	**-1.9**
	1.7nm3μm256nm,0.6s						
MMRI	**Maumere**	**8.23**	**252**	P	**Pn**	**14 02 07.1**	**+0.1**
	2μm143nm,0.5s						
MMRI	**Maumere**	**8.23**	**252**	Pn	**Pn**	**14 02 06.4**	**-0.5**
EDFI	**Ende, Flores**	**8.79**	**253**	P	**Pn**	**14 02 14.9**	**+0.7**
	869nm99nm,0.7s						
LUWI	**Luwuk**	**8.97**	**304**	Pn	**Pn**	**14 02 13.9**	**-2.6**
KNRA	**Kununurra**	**9.55**	**188**	Pn	**Pn**	**14 02 20.8**	**-3.2**
APSI	**Ampana**	**9.98**	**301**	P	Pn	14 02 37.3	+7.7
BNSI	**Bone**	**10.17**	**279**	P	**Pn**	**14 02 33.8**	**+1.7**
	54nm,0.8s						
WSI	**Waingapu**	**10.37**	**250**	P	**Pn**	**14 02 32.2**	**-2.5**
	343μm706nm,0.5s						
KAPI	**Kappang**	**10.43**	**276**	P	**Pn**	**14 02 34.1**	**-1.3**
	0.4nm,0.3s,baz=127,slow=20,SNR=2.0						
KAPI	**Kappang**	**10.43**	**276**	Pn	**Pn**	**14 02 34.0**	**-1.4**
MRSI	**Marisa**	**10.54**	**309**	P	**Pn**	**14 02 36.9**	**0.0**
	1μm156nm,0.8s						
SPSI	**Sidrap Palu**	**10.59**	**281**	P	**Pn**	**14 02 38.2**	**+0.7**
	560nm60nm,0.7s						
TTSI	**Tana Toraja**	**10.77**	**286**	P	**P**	**14 02 46.1**	**-0.5**
JAY	**Jayapura**	**11.12**	**71**	P	**Pn**	**14 02 44.3**	**-0.1**
	1.4nm,0.3s,baz=217,slow=14,SNR=4.9						
JAY				S	**Sn**	**14 04 42.9**	**-5.7**
	0.8nm,0.3s,baz=340,slow=17,SNR=3.5						
WBSI	**Waikabubak, Su**	**11.21**	**251**	P	**Pn**	**14 02 43.6**	**-2.0**
	2μm265nm,0.6s						
MPSI	**Mapaga**	**12.12**	**302**	P	**P**	**14 02 58.2**	**-3.4**
	23nm,0.7s						
PLAI	**Plampang**	**12.56**	**257**	P	**Pn**	**14 03 00.9**	**-1.8**
	2μm244nm,0.9s						
FITZ	**Fitzroy Crossi**	**12.65**	**200**	P	**Pn**	**14 03 01.1**	**-2.6**
	6.0nm,0.3s,baz=24,slow=9.9,SNR=79						
FITZ				S	Sn	14 05 11.0	-14
	14nm,0.3s,baz=71,slow=19,SNR=9.8						
FITZ				LR	LR	14 08 47.3	
	comp=Z,47nm,20.0s,baz=20,slow=41						
FITZ	**Fitzroy Crossi**	**12.65**	**200**	Pn	**Pn**	**14 03 00.6**	**-3.2**
KCP	**Kidapawan**	**14.04**	**339**	*e*P	**P**	**14 03 22.3**	**-0.7**
WB0	**Warrmunnga Arr**	**14.13**	**163**	Pn	**Pn**	**14 03 19.5**	**-2.7**
KBKI	**Kotabaru**	**14.24**	**281**	P	**Pn**	**14 03 22.3**	**-1.3**
	2μm78nm,1.1s						
WRAB	**Tennant Creek**	**14.27**	**164**	Pn	**Pn**	**14 03 21.4**	**-2.6**
WRA	**Warramunga Arr**	**14.28**	**164**	P	**Pn**	**14 03 21.6**	**-2.5**
	1.6nm,0.3s,baz=346,slow=13,SNR=48						
WRA				S	S	14 05 51.9	-11
	8.4nm,0.3s,baz=341,slow=20,SNR=7.9						
WRA	**Warramunga Arr**	**14.28**	**164**	Pn	**Pn**	**14 03 20.5**	**-3.6**
WB2	**Warramunga Arr**	**14.28**	**164**	Pn	**Pn**	**14 03 21.0**	**-3.1**
WR0	**Warramunga Arr**	**14.35**	**163**	Pn	**Pn**	**14 03 22.1**	**-2.8**
COEN	**Coen**	**14.96**	**122**	Pn	**Pn**	**14 03 30.5**	**-1.9**
JAGI	**Jajag, Banyuwa**	**16.05**	**261**	P	**Pn**	**14 03 46.0**	**+0.4**
	130nm,0.7s						
JAGI	**Jajag, Banyuwa**	**16.05**	**261**		**P**	**14 03 42.7**	**-2.5**
KMMI	**Kalianget**	**16.11**	**266**	P	**Pn**	**14 03 48.0**	**+1.5**
	186nm,0.8s						
PMG	**Port Moresby**	**17.14**	**102**	P	**Pn**	**14 03 58.3**	**-0.4**
	4.5nm,0.3s,baz=300,slow=3.7,SNR=23						
PMG				S	**S**	**14 07 01.1**	**-4.4**
	2.3nm,0.3s,baz=235,slow=18,SNR=8.4						
PMG	**Port Moresby**	**17.14**	**102**		**P**	**14 03 55.2**	**-2.0**
GRJI	**Gresik**	**17.59**	**267**	P	**Pn**	**14 04 03.7**	**-0.2**
	2μm222nm,0.7s						
AS31	**Alice Springs**	**17.76**	**169**		**Pn**	**14 04 05.0**	**-1.0**
ASAR	**Alice Springs**	**17.76**	**169**	P	**Pn**	**14 04 05.0**	**-1.0**
	2.9nm,0.3s,baz=350,slow=11,SNR=174						
ASAR				S	**S**	**14 07 14.8**	**-3.2**
	3.5nm,0.3s,baz=339,slow=16,SNR=5.4						
ASAR				LR	LR	14 11 34.5	
	comp=Z,82nm,21.1s,baz=349,slow=39						
ASAR				ScP	**ScP**	**14 11 51.4**	**+3.3**
	baz=347,slow=2.2,SNR=4.8						
ASAR	**Alice Springs**	**17.76**	**169**		**Pn**	**14 04 04.7**	**-1.3**
PSA00	**Pilbara Seismi**	**18.28**	**212**	P	**Pn**	**14 04 10.1**	**-1.9**
PSA00				IAmb	IAmb	14 04 12.8	
	comp=Z,62nm,0.8s						
PSA00	**Pilbara Seismi**	**18.28**	**212**	P	**P**	**14 04 09.1**	**-0.4**
PSA00				IAmb	IAmb	14 04 12.6	
	comp=Z,25nm,0.8s						
KKM	**Kota Kinabalu**	**18.47**	**311**		**Pn**	**14 04 11.9**	**-2.5**
KKM				IAmb	IAmb	14 04 13.5	
	comp=Z,72nm,1.0s						
UGM	**Wanagama**	**19.57**	**264**	P	**P**	**14 04 21.8**	**-1.8**
SBUM	**Sibu**	**19.86**	**295**	P	**P**	**14 04 27.0**	**+0.3**
SBUM				IAmb	IAmb	14 04 30.2	
	comp=Z,35nm,0.8s						
SBUM	**Sibu**	**19.86**	**295**	P	**Pn**	**14 04 28.0**	**-2.9**
CTA	**Charters Tower**	**20.87**	**133**	P	**P**	**14 04 38.5**	**+1.1**
	comp=Z,24nm,0.7s,baz=306,slow=12,SNR=36						
CTAO	**Charters Tower**	**20.87**	**133**		**P**	**14 04 37.6**	**+0.3**
CTAO				IAmb	IAmb	14 04 41.1	
	comp=Z,55nm,1.1s						
KSM	**Kuching**	**21.23**	**290**	P	**P**	**14 04 40.5**	**-0.7**
KSM				IAmb	IAmb	14 04 44.6	
	comp=Z,29nm,0.9s						
KSM	**Kuching**	**21.23**	**290**	P	**P**	**14 04 42.0**	**+0.8**
KRVT	**Keravat (AS076**	**21.85**	**86**	P	**P**	**14 04 47.5**	**0.0**
	comp=Z,110nm,0.8s,baz=322,slow=2.6,SNR=15						
RABL	**Rabaul**	**22.00**	**86**	P	**P**	**14 04 48.4**	**-0.6**
CISI	**Cisompet, Garu**	**22.23**	**265**	P	**P**	**14 04 50.3**	**-1.0**
	comp=Z,256nm,0.9s						
CISI	**Cisompet, Garu**	**22.23**	**265**	P	**P**	**14 04 49.7**	**-1.6**
LEM	**Lembang**	**22.41**	**267**	P	**P**	**14 04 53.7**	**+0.7**
	comp=Z,61nm,0.6s,baz=25,slow=10,SNR=16						
GIRL	**Giralia**	**22.46**	**222**	P		**14 04 53.8**	**+0.7**
CNJI	**Cibinong**	**22.90**	**266**	P	**P**	**14 04 56.9**	**-0.4**
	comp=Z,4μmcomp=Z,519nm,1.1s						
CBJI	**Citeko**	**23.18**	**268**	P	P	14 05 07.6	+7.9
GUMO	**Guam**	**24.46**	**37**	P	**P**	**14 05 10.5**	**-0.9**
FORT	**Forrest**	**24.56**	**184**	P	**P**	**14 05 13.1**	**+1.0**
FORT				IAmb	IAmb	14 06 10.8	
	comp=Z,29nm,0.7s						
XMIS	**Christmas Isla**	**24.62**	**258**	P	**P**	**14 05 11.7**	**-1.2**
KASI	**Kota Agung**	**25.54**	**270**	P	**P**	**14 05 19.5**	**-1.7**
	comp=Z,33nm,1.8s						
MORW	**Morawa**	**26.40**	**209**	P		**14 05 29.1**	**+0.4**
MORW				IAmb	IAmb	14 05 37.6	
	comp=Z,18nm,1.1s						

BBOO Buckleboo 27.07 169 P **P** **14 05 35.0 +0.3**
BBOO IAmb IAmb 14 05 58.0
comp=Z,57nm,1.6s
MYKOM Kota Tinggi 27.44 286 P **P** **14 05 37.6 -0.6**
MYKOM IAmb IAmb 14 05 42.9
comp=Z,19nm,1.2s
MYKOM Kota Tinggi 27.44 286 P **P** **14 05 41.0 +2.8**
EIDS Eidsvold 27.66 136 P **P** **14 05 39.8 -0.2**
EIDS IAmb IAmb 14 06 30.8
comp=Z,16nm,1.2s
STKA Stephens Creek 27.72 159 P **P** **14 05 40.9 +0.4**
comp=Z,3.4nm,0.5s,baz=329,slow=9.4,SNR=12
STKA LR LR 14 18 08.8
comp=Z,97nm,18.3s,baz=27,slow=39
STKA Stephens Creek 27.72 159 P **P** **14 05 40.3 -0.2**
NWAO Narrogin (SRO) 29.22 203 P **P** **14 05 54.8 +1.1**
comp=Z,9.5nm,0.5s,baz=44,slow=7.3,SNR=17
NWAO Narrogin (SRO) 29.22 203 P **P** **14 05 54.5 +0.8**
NWAO IAmb IAmb 14 07 00.3
comp=Z,47nm,1.4s
HNR Honiara 29.68 98 LR LR 14 20 06.1
comp=Z,31nm,18.4s,baz=90,slow=40
IPM Ipoh 30.96 289 P **P** **14 06 07.3 -2.0**
IPM Ipoh 30.96 289 P **P** **14 06 12.0 +2.7**
MNSI Mandailing Nat 31.31 282 P **P** **14 06 11.9 -0.5**
comp=Z,37nm,0.7s
ARMA Armidale 31.45 143 P **P** **14 06 14.4 +0.9**
ARMA IAmb IAmb 14 06 17.5
comp=Z,44nm,1.6s
KULM Kulim 31.59 291 P **P** **14 06 13.9 -0.9**
KULM IAmb IAmb 14 06 17.7
comp=Z,15nm,0.7s
KULM Kulim 31.59 291 P **P** **14 06 15.0 +0.2**
RPSI Rantau Prapat 32.42 285 P **P** **14 06 20.9 -1.1**
RPSI Rantau Prapat 32.42 285 P **P** **14 06 21.1 -0.9**
PSI Prapat 32.44 285 P **P** **14 06 21.1 -1.3**
comp=Z,33nm,0.9s,baz=180,slow=19,SNR=6.3
GSI Gunungsitoli 33.37 282 P **P** **14 06 28.4 -2.0**
CAN Canberra 33.80 152 P **P** **14 06 35.6 +1.8**
CAN IAmb IAmb 14 07 52.1
comp=Z,61nm,1.5s
TOO Toolangi 34.23 158 P **P** **14 06 40.0 +2.6**
SLVN Son La 37.56 317 P **P** **14 07 06.5 +0.5**
SLVN IAmb IAmb 14 07 09.1
comp=Z,30nm,1.9s
DZM Mont Dzumac 38.43 118 P **P** **14 07 12.9 -0.4**
DZM IAmb IAmb 14 07 39.0
comp=Z,21nm,1.3s
JNU Nakatsue 39.08 1 P **P** **14 07 19.1 +0.6**
comp=Z,5.5nm,0.8s,baz=133,slow=4.5,SNR=2.1
JNU Nakatsue 39.08 1 P **P** **14 07 18.9 +0.5**
CM31 Chiang Mai Arr 39.33 309 P **P** **14 07 21.3 +0.6**
CM31 IAmb IAmb 14 07 22.9
comp=Z,14nm,0.9s
CMAR Chiang Mai Arr 39.33 309 P **P** **14 07 21.9 +1.2**
comp=Z,8.1nm,0.6s,baz=135,slow=7.3,SNR=35
CMAR ScP **S** **14 12 59.4 -7.6**
comp=Z,2.1nm,1.0s,baz=171,slow=2.9,SNR=6.7
CMAR LR LR 14 24 26.9
comp=Z,15nm,20.8s,baz=185,slow=37
NJ2 Nanjing 39.51 345 *eP* **P** **14 07 23.3 +1.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.7s
GYA Guiyang 39.64 326 *eP* P 14 07 27.0 +3.7
GYA pmax pmax
comp=Z,10.0nm,0.5s
MJAR Matsushiro Arr 43.15 9 P **P** **14 07 51.0 -0.5**
comp=Z,8.1nm,0.7s,baz=188,slow=9.7,SNR=39
MJAR Matsushiro Arr 43.15 9 P **P** **14 07 49.7 -1.8**
MAJO Matsushiro 43.15 9 P **P** **14 07 50.6 -0.9**
MAT Matsushiro 43.15 9 P **P** **14 07 51.0 -0.5**
MJB9 Matsu-Tunnel 43.16 9 P **P** **14 07 50.8 -0.8**
MJB9 IAmb IAmb 14 07 51.7
comp=Z,12nm,0.7s
KSAR Wonju Array Be 43.44 357 P **P** **14 07 53.5 -0.2**
KSRS Korea Array 43.45 357 P **P** **14 07 55.0 +1.1**
comp=Z,1.2nm,0.6s,baz=174,slow=8.8,SNR=9.4
KSRS ScP **ScP** **14 13 13.0 +2.2**
comp=Z,0.7nm,0.9s,baz=178,slow=3.7,SNR=5.8
BJI Beijing 47.76 345 P **P** **14 08 27.9 +0.4**
BJI pmax pmax
comp=Z,7.0nm,0.7s
LZH Lanzhou 48.76 331 ⇑P **P** **14 08 37.6 +2.1**
LZH pP pP 14 09 16.3 -1.7
LZH sP sP 14 09 35.4 -4.3
LZH PP **PP** **14 10 33.8 +3.0**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,120nm,6.0s
HHC Hu-ho-hao-te 49.81 342 *eP* **P** **14 08 44.6 +1.3**
HHC pmax pmax
comp=Z,6.0nm,1.1s
HHC pmax pmax
comp=Z,62nm,5.7s
USA0B Ussuriysk Arra 50.16 2 P **P** **14 08 46.0 +0.3**
USA0B IAmb IAmb 14 09 54.7
comp=Z,38nm,1.9s
USRK Ussuriysk Ar. 50.16 2 P **P** **14 08 45.8 0.0**
comp=Z,3.1nm,0.6s,baz=190,slow=7.9,SNR=8.9
USRK Ussuriysk Ar. 50.16 2 P **P** **14 08 46.4 +0.6**
QRZ Quartz Range 51.17 139 P **P** **14 08 55.5 +2.2**
QRZ IAmb IAmb 14 09 59.6
comp=Z,62nm,1.4s
WKZ Wanaka 51.24 145 P **P** **14 08 55.7 +1.8**
ASAJ Asahikawa 51.30 11 P **P** **14 08 54.9 +0.7**
comp=Z,3.1nm,0.6s,baz=219,slow=11,SNR=7.8
JKA Kamikawa-asahi 51.30 11 P **P** **14 08 54.9 +0.7**
WHZ Wether Hill Ro 51.30 147 P **P** **14 08 55.6 +1.3**
LBZ Lake Benmore 51.66 144 P **P** **14 08 58.4 +1.5**
RPZ Rata Peaks 51.79 143 P **P** **14 08 59.0 +1.0**
comp=Z,6.6nm,0.6s,baz=357,slow=3.1,SNR=1.9
RPZ Rata Peaks 51.79 143 P **P** **14 08 58.6 +0.6**
THZ Tophouse 51.89 140 P **P** **14 08 59.6 +0.8**
THZ IAmb IAmb 14 09 24.5
comp=Z,37nm,1.4s
TUWZ Tuamarina 52.39 139 P **P** **14 09 02.4 -0.1**
BSWZ Blackbirch Sta 52.49 139 P **P** **14 09 02.6 -0.6**
KHZ Kahutara 52.63 140 P **P** **14 09 05.0 +0.9**
KHZ IAmb IAmb 14 10 08.6
comp=Z,49nm,1.5s
CMWZ Cape Campbell 52.73 139 P **P** **14 09 05.7 +0.8**
ODAN Odare 52.84 310 *eP* **P** **14 09 07.1 +0.8**
comp=Z,36nm,0.7s
TAPN Taplejung 52.87 311 *eP* **P** **14 09 07.3 +0.8**
comp=Z,25nm,0.5s
BHW Baring Head 52.99 138 P **P** **14 09 06.4 -0.4**
BKZ Black Stump Fm 53.06 135 P **P** **14 09 08.2 +0.7**
BKZ IAmb IAmb 14 10 22.7
comp=Z,47nm,1.7s
GTA Gaotai 53.33 331 *eP* **P** **14 09 11.1 +1.6**
GTA pmax pmax
comp=Z,5.0nm,0.6s
RAMN Ramite 53.49 310 *eP* **P** **14 09 12.1 +1.1**
comp=Z,81nm,0.6s
YSS Yuzh-Sakhalins 54.06 11 P **P** **14 09 14.2 -0.2**
YSS IAmb IAmb 14 09 36.1
comp=Z,30nm,1.3s
JIRN Jiri 54.17 311 *eP* **P** **14 09 16.9 +0.8**
comp=Z,23nm,0.4s
GUN Gumba 54.54 311 *eP* **P** **14 09 19.5 +0.8**
comp=Z,58nm,0.7s
PKI Pulchoki 54.72 310 *eP* **P** **14 09 20.4 +0.5**
comp=Z,17nm,0.6s
PKIN Phulchoki 54.73 310 *eP* **P** **14 09 20.4 +0.4**
comp=Z,20nm,0.7s
KKN Kakani 54.93 310 *eP* **P** **14 09 22.2 +0.9**
DMN Daman 54.97 310 *eP* **P** **14 09 22.5 +0.8**
GKN Gorkha 55.53 310 *eP* **P** **14 09 26.4 +0.9**
comp=Z,35nm,0.4s
KOLN Koldanda 56.20 309 *eP* **P** **14 09 31.4 +1.0**
comp=Z,52nm,0.9s
DANN Dangsing 56.37 310 *eP* **P** **14 09 32.5 +0.9**
comp=Z,37nm,0.8s
PYUN Piuthan 56.84 309 *eP* **P** **14 09 36.1 +1.3**
comp=Z,98nm,0.9s
AFI Afiamalu 57.57 102 P **P** **14 09 41.1 +1.1**
SONM Songino Array 57.71 341 P **P** **14 09 42.7 +2.2**
comp=Z,1.0nm,0.4s,baz=162,slow=7.4,SNR=2.8
SONM Songino Array 57.71 341 P **P** **14 09 42.2 +1.7**
CASY Casey 61.54 189 P **P** **14 10 07.5 +1.4**
CASY IAmb IAmb 14 10 31.1
comp=Z,50nm,2.0s
WMQ Urumqi 62.80 327 *eP* **P** **14 10 17.4 +2.4**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,29nm,6.1s
WMQ LR LR
comp=Z,110nm,21.1s
WMQ LR LR
comp=Z,170nm,21.1s
WMQ LR LR
comp=Z,94nm,22.9s
PEA0B Petropavlovsk- 63.49 18 P **P** **14 10 20.7 +1.4**
PEA0B IAmb IAmb 14 10 24.9
comp=Z,32nm,1.4s
PETK Petropavlovsk- 63.49 18 P **P** **14 10 20.9 +1.7**
comp=Z,7.2nm,0.6s,baz=190,slow=7.2,SNR=9.9
PETK Petropavlovsk- 63.49 18 P **P** **14 10 20.8 +1.5**
PET Petropavlovsk 63.72 19 P **P** **14 10 21.9 +1.2**
PET IAmb IAmb 14 11 45.8
comp=Z,39nm,1.5s
MK31 Makanchi Array 67.63 327 P **P** **14 10 47.0 +1.1**
MKAR Makanchi Array 67.63 327 P **P** **14 10 47.9 +1.9**
comp=Z,11nm,0.6s,baz=113,slow=8.9,SNR=90
MKAR Makanchi Array 67.63 327 P **P** **14 10 47.3 +1.4**
MAKZ Makanchi 67.81 326 P **P** **14 10 48.4 +1.4**
MAKZ IAmb IAmb 14 10 49.4
comp=Z,8.4nm,0.6s
YAK Yakutsk 68.00 360 P **P** **14 10 49.1 +1.3**
comp=Z,5.9nm,0.3s,baz=311,slow=0.6,SNR=9.6
YAK Yakutsk 68.00 360 P **P** **14 10 48.9 +1.1**
YAK IAmb IAmb 14 10 49.7
comp=Z,22nm,0.7s
BOOM Boomskoye usch 69.02 320 P **P** **14 10 55.9 +1.1**
KZA Kyzart 69.26 319 P **P** **14 10 59.4 +2.8**
SNR=6.2
TKM2 Tokmak 2 69.45 320 P **P** **14 10 59.8 +2.2**
SNR=6.3
UCH Uchtor 69.81 319 P **P** **14 11 02.7 +2.7**
SNR=8.3
AAK Ala-Archa 70.02 320 P **P** **14 11 02.5 +1.5**
AML Almayashu 70.30 319 P **P** **14 11 05.3 +2.4**
SNR=8.0
USP Ospenovka 70.32 320 P **P** **14 11 04.6 +1.9**
SNR=7.0
KBL Kabul 70.36 310 P **P** **14 11 04.0 +0.7**
ARSB Arslanbob 70.39 318 P **P** **14 11 04.8 +1.6**
ARSB IAmb IAmb 14 11 06.1
comp=Z,14nm,0.7s
ZAA0 Zalesovo Array 70.92 334 P **P** **14 11 06.0 +0.1**
ZALV Zalesovo Beam 70.92 334 P **P** **14 11 06.1 +0.3**
comp=Z,2.7nm,0.6s,baz=138,slow=5.1,SNR=11
ZALV Zalesovo Beam 70.92 334 P **P** **14 11 05.5 -0.4**
GAR Garm 71.20 315 P **P** **14 11 09.0 +0.8**
GAR IAmb IAmb 14 11 10.4
comp=Z,15nm,0.8s
CHGR Chuyangaron 71.89 314 P **P** **14 11 13.1 +1.0**
CHGR IAmb IAmb 14 11 14.5
comp=Z,17nm,0.7s
KURK Kurchatov 71.90 328 P **P** **14 11 12.1 +0.3**
KK31 Karatay Array 72.83 319 P **P** **14 11 18.6 +1.1**
KKAR Karatay Array 72.83 319 P **P** **14 11 18.4 +0.8**
KKAR Karatay Array 72.83 319 P **P** **14 11 18.6 +1.0**
KKAR IAmb IAmb 14 11 20.1
comp=Z,6.4nm,1.0s
VNDA Vanda 73.25 173 P **P** **14 11 22.5 +3.1**
comp=Z,1.6nm,0.8s,baz=319,slow=6.5,SNR=5.0
GSTR Great Sitkin T 73.83 31 P **P** **14 11 24.1 +0.9**
ATKA Atka Island 74.86 32 P **P** **14 11 30.1 +1.0**
MAW Mawson 75.78 201 P **P** **14 11 36.1 +2.1**
comp=Z,2.3nm,0.6s,baz=108,slow=2.8,SNR=8.4
MAW Mawson 75.78 201 P **P** **14 11 35.8 +1.7**
BRVK Borovoye 77.53 328 P **P** **14 11 44.2 +0.1**
UNV Unalaska Vale 79.72 33 P **P** **14 11 57.3 +1.3**
UNV IAmb IAmb 14 13 36.9
comp=Z,26nm,1.5s
GEYT Alibeck 79.81 310 P **P** **14 11 57.5 +0.5**
comp=Z,1.7nm,0.7s,baz=112,slow=12,SNR=3.8
GEYT Alibeck 79.81 310 IAmb IAmb 14 11 59.6
comp=Z,1.8nm,0.9s
NRIK Noril'sk 80.80 346 P **P** **14 12 02.9 +1.4**
comp=Z,2.1nm,0.7s,baz=158,slow=5.4,SNR=2.8
ABKAR Akbulak array 81.97 321 P **P** **14 12 08.6 +0.5**
SYO Syowa Base 84.49 201‖ *eP* **P** **14 12 20.4 -0.2**
SYO Syowa Base 84.49 201‖ *e*PcP **PcP** **14 12 26.0 +2.2**
TTA Tatalina 88.18 26 P **P** **14 12 40.0 +1.3**
TTA IAmb IAmb 14 12 41.8
comp=Z,9.5nm,1.1s
KDAK Kodiak Island 88.43 32 P **P** **14 12 41.1 +1.3**
comp=Z,6.3nm,0.9s,baz=204,slow=1.9,SNR=4.0
RND Reindeer 91.44 26 P **P** **14 12 53.5 -0.4**
RND IAmb IAmb 14 12 54.8
comp=Z,7.3nm,1.0s
WRH Wood River Hil 91.97 25 P **P** **14 12 55.9 -0.3**
CCB Clear Creek Bu 92.12 25 P **P** **14 12 56.2 -0.7**
CCB IAmb IAmb 14 12 57.2
comp=Z,5.0nm,0.8s
HDA Harding Lake 92.45 26 P **P** **14 12 57.5 -0.9**
IL31 92.53 25 P **P** **14 12 57.5 -1.2**
IL31 IAmb IAmb 14 14 38.9
comp=Z,17nm,1.9s
ILAR Eielson Array 92.53 25 P **P** **14 12 58.1 -0.6**
comp=Z,2.0nm,0.7s,baz=271,slow=4.3,SNR=19
ILAR Eielson Array 92.53 25 P **P** **14 12 57.2 -1.6**
BMAR Burnt Mountain 93.83 23 P **P** **14 13 05.9 +1.1**
BCAR Beaver Creek A 94.57 27 P **P** **14 13 09.0 +0.8**
YKA Yellowknife Ar 106.94 26 PKiKP **PKiKP** **14 18 13.1 +1.0**
comp=Z,0.5nm,0.6s,baz=269,slow=1.5,SNR=4.8
NVAR Mina Array Bea 110.65 51 PKiKP **PKiKP** **14 18 22.4 +2.2**
comp=Z,0.2nm,0.6s,baz=207,slow=3.7,SNR=1.8
TXAR Lajitas Array 124.36 59 PKP **PKiKP** **14 18 47.8 +1.0**
comp=Z,0.4nm,0.7s,baz=228,slow=1.9,SNR=5.4
JCT Junction City 127.30 56 **PKiKP** **14 18 52.1 -0.5**
TORD Torodi Ar. Bea 128.81 282 SKPbc SKPbc 14 21 59.5
comp=Z,1.9nm,0.7s,baz=73,slow=3.4,SNR=9.4
TORD Torodi Ar. Bea 128.81 282 SKPbc 14 21 59.9
S39A Bolivar 129.59 45 **PKiKP** **14 18 56.7 -0.3**
DBIC Dimbokro 135.31 273 SKPbc **SKPab** **14 22 22.1 -2.3**
comp=Z,5.0nm,0.9s,baz=88,slow=5.1,SNR=3.8
JTS Las Juntas de 145.02 81 **PKiKP** **14 19 26.7 -2.4**
PB11 IPOC Station P 147.68 143 **PKPab** **14 19 34.4 -1.0**
GO01 Chusmiza 148.02 144 **PKPab** **14 19 36.4 -0.8**
LPAZ La Paz 151.26 141 **PKiKP** **14 19 44.3 +1.7**

PRE ***15*** *14:16:23.7±1.1,27.02S×26.80E,h2km,ML4.0*
NEIC ***15*** *14:16:25.9±1.4,26.99S±0.05×26.8E±0.1,h5km±1km, mb4.9/34, Error ellipse: s-maj=16.1km s-min=9.0km az=100.0*
IDC ***15*** *14:16:25.4±0.5,26.92S×26.73E,h0km,mb4.5/19, mb1 4.6/25,mb1mx4.5/32,mbtmp4.5/25,ML4.8/5,MS3.1/1, Ms1 3.1/1,ms1mx2.5/29,Error ellipse: s-maj=16.4km s-min=11.7km az=78.0*
BJI ***15*** *14:16:25.0±0.0,27.00S×26.80E,h10km,mB5.2/10, mb5.1/12,Ms5.0/1,Ms7 4.7/1*
ISC 15 14:16:24.6±1.3,26.95S±0.03×26.73E±0.03,h2km±8km, n240,σ1§84/261,mb4.7/49,16C-2D,South Africa

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WDLM	**Western Deep L**	**0.81**	**50**	*eP*	**Pg**	**14 16 39.8**		**-0.4**
WDLM				*eS*	**Sg**	**14 16 50.0**		**-0.8**
WDLM				AML	AML	14 16 58.3		
comp=Z,4μm,0.3s								
KLOF	**Kloof**	**0.99**	**53**	*eP*	**Pg**	**14 16 42.4**		**-1.2**
KLOF				*eS*	**Sg**	**14 16 55.5**		**-1.0**
KLOF				AML	AML	14 17 08.0		
comp=Z,2μm,0.2s								
KSR	**Koster**	**1.10**	**8**	*eP*	**Pg**	**14 16 45.8**		**+0.1**
KSR				*eS*	**Sn**	**14 17 02.3**		**-0.8**
KSR				AML	AML	14 17 08.0		
comp=Z,2μm,0.8s								
ERPM	**east rand prop**	**1.48**	**66**	*eP*	**Pn**	**14 16 52.1**		**-0.4**
ERPM				*eS*	**Sg**	**14 17 13.1**		**+0.7**
ERPM				AML	AML	14 17 27.6		
comp=Z,866nm,0.7s								
SLR	**Silverton**	**1.85**	**49**	*eP*	**Pn**	**14 16 57.1**		**-0.4**
SLR				*eS*	**Sb**	**14 17 21.4**		**-1.4**
SLR				AML	AML	14 17 24.3		
comp=Z,2μm,0.4s								
BOSA	**Boshof**	**2.11**	**218**	Pn	**Pb**	**14 17 02.3**		**-1.3**
comp=Z,198nm,0.3s,baz=38,slow=12,SNR=2224								
BOSA				Lg	Lg	14 17 29.0		
comp=Z,642nm,0.3s,baz=318,slow=15,SNR=23								
BOSA	**Boshof**	**2.11**	**218**	*eP*	**Pn**	**14 17 01.1**		**+0.1**
BOSA				*eS*	**Sn**	**14 17 27.8**		**-0.1**
BOSA				AML	AML	14 17 32.8		
comp=Z,2μm,0.4s								
BOSA	**Boshof**	**2.11**	**218**	*i* P	**Pb**	**14 17 02.7**		**-1.0**
BOSA				*i* S	**Sn**	**14 17 26.4**		**-1.5**
BOSA	**Boshof**	**2.11**	**218**	*i* P	**Pb**	**14 17 02.7**		**-1.0**
BOSA				*i* S	**Sn**	**14 17 26.4**		**-1.5**
BOSA	**Boshof**	**2.11**	**218**	*i* P	**Pb**	**14 17 02.7**		**-1.0**
BOSA				*i* S	**Sn**	**14 17 26.4**		**-1.5**
BOSA	**Boshof**	**2.11**	**218**		**Pb**	**14 17 02.2**		**-1.4**
LBTB	**Lobatse**	**2.18**	**332**	Pn	**Pb**	**14 17 04.3**		**-0.4**
comp=Z,122nm,0.3s,baz=154,slow=14,SNR=612								
LBTB				Lg	Lg	14 17 32.0		
comp=Z,269nm,0.3s,baz=230,slow=23,SNR=43								
LBTB	**Lobatse**	**2.18**	**332**	*eP*	**Pb**	**14 17 03.5**		**-1.3**
LBTB				*eS*	**Sb**	**14 17 32.2**		**0.0**
LBTB				AML	AML	14 17 49.6		
comp=Z,1μm,0.9s								
LBTB	**Lobatse**	**2.18**	**332**	*i* P	**Pb**	**14 17 04.5**		**-0.3**
LBTB				*i* S	**Sn**	**14 17 30.0**		**+0.5**
LBTB	**Lobatse**	**2.18**	**332**	*i* P	**Pb**	**14 17 04.5**		**-0.3**
LBTB				*i* S	**Sn**	**14 17 30.0**		**+0.5**
LBTB	**Lobatse**	**2.18**	**332**	*i* P	**Pb**	**14 17 04.5**		**-0.3**
LBTB				*i* S	**Sn**	**14 17 30.0**		**+0.5**
LBTB	**Lobatse**	**2.18**	**332**		**Pb**	**14 17 04.1**		**-0.6**
HVD	**Gariep Dam**	**3.80**	**196**	*eP*	**Pn**	**14 17 23.6**		**-0.7**
HVD				*eS*	**Sn**	**14 18 06.7**		**-3.0**
HVD				AML	AML	14 18 43.1		
comp=Z,602nm,0.5s								
HAGI	**HAGI**	**4.08**	**79**	*eP*	**Pn**	**14 17 28.1**		**-0.1**
HAGI				AML	AML	14 17 48.3		
comp=Z,166nm,0.3s								
MMAL	**MMAL**	**4.11**	**78**	*eP*	**Pn**	**14 17 27.5**		**-1.0**
MMAL				AML	AML	14 17 53.6		
comp=Z,58nm,0.5s								
MAGG	**Maguga Dam**	**4.16**	**79**	*eP*	**Pn**	**14 17 28.1**		**-1.1**
MAGG				AML	AML	14 17 53.3		
comp=Z,111nm,0.4s								
KSD	**Kokstad**	**4.29**	**147**	*eP*	**Pn**	**14 17 28.6**		**-2.4**
KSD				*eS*	**Sn**	**14 18 17.2**		**-4.6**
KSD				AML	AML	14 18 37.2		
comp=Z,891nm,1.0s								
PKA	**Prieska**	**4.43**	**231**	*eP*	**Pn**	**14 17 32.1**		**-0.7**
PKA				*eS*	**Sn**	**14 18 23.3**		**-1.7**
PKA				AML	AML	14 18 45.9		
comp=Z,330nm,0.6s								
POGA	**Pongola**	**4.46**	**96**	*eP*	**Pn**	**14 17 32.2**		**-1.0**
POGA				*eS*	**Sn**	**14 18 21.4**		**-4.3**
POGA				AML	AML	14 18 49.3		
comp=Z,3μm,0.7s								
UPI	**Upington**	**5.05**	**253**	*eP*	**Pn**	**14 17 42.1**		**+0.6**
UPI				*eS*	**Sn**	**14 18 39.6**		**-0.9**
UPI				AML	AML	14 19 10.1		
comp=Z,326nm,0.5s								
KEIM	**Keimoes**	**5.39**	**250**	*eP*	**Pn**	**14 17 46.2**		**+0.1**
KEIM				*eS*	**Sn**	**14 18 46.5**		**-2.3**
KEIM				AML	AML	14 19 23.1		
comp=Z,597nm,0.5s								
MOPA	**Mopani**	**5.44**	**52**	*eP*	**Pn**	**14 17 45.9**		**-0.9**
MOPA				*eS*	**Sn**	**14 18 46.7**		**-3.2**
MOPA				AML	AML	14 19 17.5		
comp=Z,194nm,0.5s								
MSNA	**Messina**	**5.48**	**34**	*eP*	**Pn**	**14 17 47.1**		**-0.2**
MSNA				*eS*	**Sn**	**14 18 46.3**		**-4.6**
MSNA				AML	AML	14 19 24.5		
comp=Z,226nm,0.8s								
AUGR	**Augrabies**	**5.89**	**252**	*eP*	**Pn**	**14 17 52.8**		**-0.2**
AUGR				*eS*	**Sn**	**14 18 59.6**		**-1.5**
AUGR				AML	AML	14 19 39.7		
comp=Z,570nm,0.5s								
MATP	**Matopo**	**6.69**	**14**	Pn	**Pn**	**14 18 04.5**		**+0.4**
comp=Z,10nm,0.3s,baz=195,slow=13,SNR=168								
MATP				Sn	**Sn**	**14 19 17.8**		**-3.3**
comp=Z,9.6nm,0.3s,baz=138,slow=14,SNR=3.5								
MATP				Lg	Lg	14 19 48.8		
comp=Z,31nm,0.3s,baz=288,slow=20,SNR=10								
MATP	**Matopo**	**6.69**	**14**	*i* P	**Pn**	**14 18 05.3**		**+1.2**
MATP				*i* S	**Sn**	**14 19 15.1**		**-5.9**
MATP	**Matopo**	**6.69**	**14**	*i* P	**Pn**	**14 18 05.3**		**+1.2**
MATP				*i* S	**Sn**	**14 19 15.1**		**-5.9**
MATP	**Matopo**	**6.69**	**14**	*i* P	**Pn**	**14 18 05.3**		**+1.2**
MATP				*i* S	**Sn**	**14 19 15.1**		**-5.9**
BLWY	**Bulawayo**	**6.99**	**15**	*i* P	**Pn**	**14 18 08.7**		**+0.5**
BLWY				*i* S	**Sn**	**14 19 22.2**		**-6.2**
BLWY	**Bulawayo**	**6.99**	**15**	*i* P	**Pn**	**14 18 08.7**		**+0.5**
BLWY				*i* S	**Sn**	**14 19 22.2**		**-6.2**
BLWY	**Bulawayo**	**6.99**	**15**	*i* P	**Pn**	**14 18 08.7**		**+0.5**
BLWY				*i* S	**Sn**	**14 19 22.2**		**-6.2**
BUFB	**Buffelsbos**	**7.38**	**193**	*eS*	**Sn**	**14 19 32.2**		**-5.4**
BUFB				AML	AML	14 20 32.6		
comp=Z,159nm,0.5s								
SUR	**Sutherland**	**7.47**	**222**	Pn	**Pn**	**14 18 15.7**		**+0.9**
comp=Z,23nm,0.3s,baz=61,slow=16,SNR=81								
SUR				Sn	**Sn**	**14 19 36.3**		**-3.8**
comp=Z,27nm,0.3s,baz=342,slow=14,SNR=6.6								
SUR				Lg	Lg	14 20 14.4		
comp=Z,35nm,0.3s,baz=317,slow=19,SNR=3.8								
SUR	**Sutherland**	**7.47**	**222**	*eP*	**Pn**	**14 18 14.4**		**-0.3**
SUR				*eS*	**Sn**	**14 19 35.1**		**-5.0**
SUR				AML	AML	14 19 53.5		
comp=N,133nm,0.5s								
CVNA	**Calvinia**	**7.58**	**232**	*eP*	**Pn**	**14 18 15.9**		**-0.3**
CVNA				*eS*	**Sn**	**14 19 38.1**		**-4.6**
CVNA				AML	AML	14 20 25.6		
comp=Z,420nm,0.6s								
KOMG	**Komaggas**	**8.62**	**249**	*eP*	**Pn**	**14 18 30.6**		**+0.2**
KOMG				*eS*	**Sn**	**14 20 03.9**		**-4.4**
KOMG				AML	AML	14 20 54.8		
comp=Z,363nm,0.7s								
TSUM	**Tsumeb**	**11.41**	**311**	Pn	**Pn**	**14 19 08.5**		**-0.3**
comp=Z,4.0nm,0.3s,baz=144,slow=12,SNR=49								
TSUM				Sn	**Sn**	**14 21 09.9**		**-7.0**
comp=Z,2.0nm,0.3s,baz=50,slow=21,SNR=4.1								
TSUM				Lg	Lg	14 22 13.2		
comp=Z,4.1nm,0.3s,baz=230,slow=14,SNR=4.3								
TSUM				LR	LR	14 24 02.5		
comp=Z,85nm,18.1s,baz=140,slow=40								
TSUM	**Tsumeb**	**11.41**	**311**	*eP*	**Pn**	**14 19 09.8**		**+1.1**
TSUM	**Tsumeb**	**11.41**	**311**	*i* P	**Pn**	**14 19 08.0**		**-0.7**
TSUM				*i* S	Sn	14 21 04.2		-13
TSUM	**Tsumeb**	**11.41**	**311**	*i* P	**Pn**	**14 19 08.0**		**-0.7**
TSUM				*i* S	Sn	14 21 04.2		-13
TSUM	**Tsumeb**	**11.41**	**311**	Pn	**Pn**	**14 19 08.3**		**-0.5**
LSZ	**Lusaka**	**11.69**	**7**	Pn	**Pn**	**14 19 11.7**		**-1.0**
comp=Z,3.2nm,0.3s,baz=188,slow=12,SNR=47								
LSZ				Sn	**Sn**	**14 21 15.9**		**-8.0**
comp=Z,1.7nm,0.3s,baz=274,slow=10,SNR=5.2								
LSZ				Lg	Lg	14 22 26.1		
comp=Z,1.2nm,0.3s,baz=93,slow=24,SNR=8.7								
LSZ	**Lusaka**	**11.69**	**7**	*i* P	**Pn**	**14 19 11.0**		**-1.7**
LSZ				*i* S	Sn	14 21 09.7		-14
LSZ	**Lusaka**	**11.69**	**7**	*i* P	**Pn**	**14 19 11.0**		**-1.7**
LSZ				*i* S	Sn	14 21 09.7		-14
LSZ	**Lusaka**	**11.69**	**7**	*i* P	**Pn**	**14 19 11.0**		**-1.7**
LSZ				*i* S	Sn	14 21 09.7		-14
LSZ	**Lusaka**	**11.69**	**7**	Pn	**Pn**	**14 19 11.3**		**-1.4**
ABPO	**Ambohimpanom**	**20.44**	**72**	P	Pn	14 21 05.1		-0.6
OPO	**Ambohidratompo**	**20.61**	**70**	P	Pn	14 21 05.7		-1.9
comp=Z,10.0nm,0.9s,baz=235,slow=8.1,SNR=6.8								
MBAR	**Mbarara**	**26.48**	**9**	P	**P**	**14 22 04.8**		**+1.2**
comp=Z,5.1nm,0.2s,baz=156,slow=4.3,SNR=4.4								
MBAR				Lg	Lg	14 30 09.7		
comp=Z,2.1nm,0.3s,baz=90,slow=20,SNR=1.6								
MBAR	**Mbarara**	**26.48**	**9**	P	**P**	**14 22 04.7**		**+1.2**
KMBO	**Kilima Mbogo**	**27.59**	**23**	Lg	Lg	14 30 47.4		
comp=Z,0.8nm,0.4s,baz=266,slow=20,SNR=3.9								
SYO	**Syowa Base**	**42.77**	**173**‖	*eP*	**P**	**14 24 23.0**		**-0.1**
SYO	**Syowa Base**	**42.77**	**173**‖	*es*P	sP	14 24 27.4		+2.7
KIC	**Kosan Boka**	**45.00**	**313**	*eP*	**P**	**14 24 42.5**		**+0.8**
comp=Z,24nm,0.9s								
LIC	**Lamto**	**45.08**	**312**	*eP*	**P**	**14 24 41.5**		**-0.9**

TORD	**Torodi Ar. Bea**	**46.69**	**325**	P		**P**		**14 24 55.5**	**+0.5**
	comp=Z,7.5nm,0.7s,baz=138,slow=6.6,SNR=37								
TORD	**Torodi Ar. Bea**	**46.69**	**325**	P		**P**		**14 24 54.8**	**-0.2**
SNAA	**Sanae**	**47.68**	**192**	P		**P**		**14 25 03.6**	**+1.4**
SNAA	**Sanae**	**47.68**	**192**	P		**P**		**14 25 03.2**	**+1.0**
VNA1	**Neumayer--Stat**	**48.03**	**195**	P		**P**		**14 25 06.7**	**+1.9**
VNA2	**Neumayer--Watz**	**48.04**	**194**	P		**P**		**14 25 06.0**	**+1.1**
	baz=30,slow=7.1								
VNA3	**Neumayer Olymp**	**48.78**	**195**	P		**P**		**14 25 11.4**	**+0.8**
CASY	**Casey**	**63.18**	**153**	P		**P**		**14 26 54.8**	**+1.0**
QSPA	**South Pole Qui**	**63.24**	**180**	P		**P**		**14 26 54.8**	**+0.4**
ISP	**Isparta**	**64.53**	**3**	P		**P**		**14 27 05.1**	**+2.1**
BRTR	**Keskin Array B**	**66.64**	**6**	P		**P**		**14 27 17.9**	**+1.2**
	comp=Z,2.2nm,0.8s,baz=179,slow=8.3,SNR=15								
BRTR	**Keskin Array B**	**66.64**	**6**	P		**P**		**14 27 18.1**	**+1.4**
BR131	**Keskin Array S**	**66.64**	**6**	P		**P**		**14 27 18.1**	**+1.4**
BDFB	**Brasilia**	**69.69**	**262**	P		**P**		**14 27 37.4**	**+1.0**
	comp=Z,16nm,0.9s,baz=115,slow=6.5,SNR=17								
BDFB	**Brasilia**	**69.69**	**262**	P		**P**		**14 27 37.7**	**+1.3**
GEYT	**Alibeck**	**70.94**	**26**	P		**P**		**14 27 44.3**	**+0.9**
	comp=Z,1.7nm,0.9s,baz=183,slow=2.7,SNR=4.2								
GEYT	**Alibeck**	**70.94**	**26**	IAmb		IAmb		14 27 45.3	
	comp=Z,2.5nm,1.1s								
MDVR	**Moldovita**	**71.53**	**356**	⇑P		**P**		**14 27 48.9**	**+2.0**
ISR	**Istrita**	**71.72**	**360**	⇑P		**P**		**14 27 50.8**	**+2.8**
CFR	**Carcaliu**	**71.79**	**1**	⇑P		**P**		**14 27 49.9**	**+1.6**
ARR	**Arges**	**71.99**	**358**	⇑P		**P**		**14 27 51.3**	**+1.7**
VOIR		**72.05**	**359**	⇑P		**P**		**14 27 51.3**	**+1.2**
MLR	**Muntele Rosu**	**72.09**	**359**	⇑P		**P**		**14 27 52.1**	**+1.7**
MLR	**Muntele Rosu**	**72.09**	**359**	P		**P**		**14 27 52.0**	**+1.7**
MLR				IAmb		IAmb		14 27 53.0	
	comp=Z,7.5nm,0.8s								
LOT	**Lotru**	**72.10**	**358**	⇑P		**P**		**14 27 51.9**	**+1.5**
ESDC	**Sonseca Array**	**72.19**	**336**	P		**P**		**14 27 52.2**	**+1.3**
	comp=Z,6.1nm,0.8s,baz=154,slow=5.6,SNR=36								
ESDC	**Sonseca Array**	**72.19**	**336**	P		**P**		**14 27 51.7**	**+0.8**
ESBB	**Sonseca Array**	**72.19**	**336**	P		**P**		**14 27 52.1**	**+1.1**
ESBB				IAmb		IAmb		14 27 53.2	
	comp=Z,7.8nm,1.0s								
PAB	**San Pablo**	**72.22**	**335**	P		**P**		**14 27 52.2**	**+1.1**
PAB				IAmb		IAmb		14 27 53.4	
	comp=Z,12nm,1.1s								
BZS	**Buzias**	**72.37**	**356**	⇑P		**P**		**14 27 53.3**	**+1.5**
VNDA	**Vanda**	**72.40**	**171**	P		**P**		**14 27 53.0**	**+1.2**
	comp=Z,1.2nm,0.5s,baz=253,slow=9.0,SNR=4.0								
PLOR	**Plostina**	**72.45**	**360**	⇓P		**P**		**14 27 53.9**	**+1.6**
VRI	**Vrincioaia**	**72.47**	**0**	⇑P		**P**		**14 27 54.3**	**+1.9**
DRGR		**72.48**	**357**	⇑P		**P**		**14 27 59.8**	**+1.3**
SOKA	**Soboth**	**74.04**	**352**	*e*P		**P**		**14 28 04.3**	**+2.5**
	comp=Z,10nm,1.3s								
BURAR	**Bucovina Array**	**74.23**	**359**	⇑P		**P**		**14 28 04.9**	**+2.1**
BURAR	**Bucovina Array**	**74.23**	**359**	P		**P**		**14 28 05.0**	**+2.1**
BUR08	**Bucovina Ar. S**	**74.26**	**359**	P		**P**		**14 28 05.0**	**+1.9**
ABTA	**Abfaltersbach**	**74.47**	**350**	*e*P		**P**		**14 28 05.5**	**+1.3**
	comp=Z,3.7nm,0.7s								
KBA	**Koelnbreinsper**	**74.67**	**351**	*e*P		**P**		**14 28 07.8**	**+2.3**
	comp=Z,11nm,1.4s								
SORM	**Soroca**	**74.75**	**1**	⇑P		**P**		**14 28 06.7**	**+1.0**
PSZ	**Piszkesteto**	**74.77**	**355**	⇑P		**P**		**14 28 06.9**	**+0.9**
PSZ	**Piszkesteto**	**74.77**	**355**	P		**P**		**14 28 06.5**	**+0.6**
PSZ				IAmb		IAmb		14 28 08.3	
	comp=Z,7.5nm,0.9s								
TRPA	**Tarpa**	**74.83**	**357**	⇑P		**P**		**14 28 08.3**	**+2.2**
FETA	**Feichten**	**75.03**	**349**	*e*P		**P**		**14 28 07.6**	**0.0**
	comp=Z,8.1nm,1.2s								
WTTA	**Wattenberg**	**75.11**	**349**	*e*P		**P**		**14 28 10.0**	**+1.9**
	comp=Z,5.6nm,0.9s								
SQTA	**Sankt Quirin**	**75.14**	**349**	*e*P		**P**		**14 28 09.7**	**+1.5**
	comp=Z,9.0nm,1.1s								
CONA	**Conrad Observa**	**75.17**	**352**	*e*P		**P**		**14 28 10.1**	**+1.8**
	comp=Z,13nm,1.1s								
WATA	**Walderalm**	**75.19**	**349**	*e*P		**P**		**14 28 10.2**	**+1.6**
	comp=Z,5.1nm,1.0s								
MOTA	**Moosalm**	**75.28**	**349**	*e*P		**P**		**14 28 09.7**	**+0.6**
	comp=Z,7.9nm,1.0s								
MOA	**Molln**	**75.29**	**351**	*e*P		**P**		**14 28 11.1**	**+2.2**
	comp=Z,7.3nm,1.2s								
RETA	**Reutte**	**75.47**	**349**	*e*P		**P**		**14 28 11.5**	**+1.4**
	comp=Z,8.3nm,1.3s								
GEC2	**GERESS Array S**	**76.34**	**351**	P		**P**		**14 28 16.8**	**+1.7**
GERES	**GERESS Array B**	**76.34**	**351**	P		**P**		**14 28 16.2**	**+1.2**
	comp=Z,3.1nm,1.0s,baz=144,slow=4.8,SNR=14								
GERES	**GERESS Array B**	**76.34**	**351**	P		**P**		**14 28 16.1**	**+1.1**
KHC	**Kasperske Hory**	**76.64**	**351**	*e*P		**P**		**14 28 18.1**	**+1.5**
KHC	**Kasperske Hory**	**76.64**	**351**	P		**P**		**14 28 17.6**	**+1.0**
MORC	**Moravsky Berou**	**76.82**	**354**	⇑P		**P**		**14 28 18.5**	**+0.9**
MORC	**Moravsky Berou**	**76.82**	**354**	P		**P**		**14 28 18.5**	**+0.9**
MORC				IAmb		IAmb		14 28 20.2	
	comp=Z,8.2nm,1.4s								
GAR	**Garm**	**77.22**	**33**	P		**P**		**14 28 21.4**	**+1.1**
AKASG	**Malin Array Be**	**77.34**	**2**	P		**P**		**14 28 21.3**	**+0.9**
	comp=Z,3.9nm,0.6s,baz=184,slow=5.2,SNR=22								
AKASG	**Malin Array Be**	**77.34**	**2**	P		**P**		**14 28 20.7**	**+0.3**
AKBB	**Malin Array Si**	**77.34**	**2**	P		**P**		**14 28 21.3**	**+0.9**
AKBB				IAmb		IAmb		14 28 22.1	
	comp=Z,9.8nm,1.1s								
DPC	**Dobruska-Polom**	**77.51**	**353**	*e*P		**P**		**14 28 23.2**	**+1.7**
GRA1	**Grafenberg Arr**	**77.53**	**350**	P		**P**		**14 28 23.2**	**+1.6**
UPC	**Upice**	**77.69**	**353**	*e*P		**P**		**14 28 24.5**	**+2.0**
OSTC	**Ostas**	**77.72**	**353**	*e*P		**P**		**14 28 24.7**	**+2.1**
CHVC	**Chvalec**	**77.77**	**353**	*e*P		**P**		**14 28 25.2**	**+2.3**
BRG	**Berggiesshubel**	**78.30**	**352**	*e*P		**P**		**14 28 27.9**	**+2.1**
	comp=Z,4.6nm,1.1s								
CLL	**Collm**	**78.85**	**351**	*e*P		**P**		**14 28 30.0**	**+1.2**
	comp=Z,4.0nm,1.2s								
BCLA	**Clavier**	**79.33**	**346**	pP		pP		14 28 33.5	+0.9
BMRD	**Maredsous**	**79.34**	**346**	pP		pP		14 28 33.5	+0.9
KK31	**Karatay Array**	**80.50**	**31**	P		**P**		**14 28 39.0**	**+0.9**
KK31				IAmb		IAmb		14 28 40.8	
	comp=Z,14nm,1.0s								
KKAR	**Karatay Array**	**80.50**	**31**	P		**P**		**14 28 38.8**	**+0.8**
KKAR	**Karatay Array**	**80.50**	**31**	P		**P**		**14 28 38.9**	**+0.8**
KKAR				IAmb		IAmb		14 28 40.8	
	comp=Z,14nm,1.0s								
KSH	**Kashi**	**80.50**	**36**	*e*P		**P**		**14 28 39.3**	**+1.0**
ABKAR	**Akbulak array**	**81.44**	**21**	P		**P**		**14 28 43.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**83.29**	**66**	P		**P**		**14 28 54.3**	**+1.0**
	comp=Z,2.9nm,1.0s,baz=251,slow=4.8,SNR=7.3								
SAML	**Samuel**	**85.92**	**262**	P		**P**		**14 29 07.4**	**+0.6**
SAML				IAmb		IAmb		14 29 09.4	
	comp=Z,16nm,1.4s								
PTGA	**Pitinga**	**86.72**	**271**	P		**P**		**14 29 11.5**	**+0.8**
PTGA				IAmb		IAmb		14 29 13.4	
	comp=Z,11nm,1.2s								
LPAZ	**La Paz**	**86.96**	**253**	P		**P**		**14 29 13.5**	**+0.9**
	comp=Z,5.7nm,0.8s,baz=119,slow=5.1,SNR=23								
LPAZ	**La Paz**	**86.96**	**253**	P		**P**		**14 29 13.0**	**+0.4**
LPAZ				IAmb		IAmb		14 29 14.3	
	comp=Z,10.0nm,1.1s								
SBUM	**Sibu**	**87.08**	**86**	P		**P**		**14 29 12.1**	**-0.3**
SBUM				IAmb		IAmb		14 29 14.9	
	comp=Z,4.0nm,0.9s								
ARU	**Arti**	**87.33**	**17**	P		**P**		**14 29 13.7**	**+1.1**
ARU				IAmb		IAmb		14 29 15.4	
	comp=Z,5.8nm,0.9s								
FINES	**FINESS Array B**	**88.08**	**360**	P		**P**		**14 29 17.6**	**+1.5**
	comp=Z,8.2nm,0.9s,baz=147,slow=4.7,SNR=16								
FINES	**FINESS Array B**	**88.08**	**360**	P		**P**		**14 29 17.3**	**+1.3**
KLMR	**Klimovskoe**	**88.11**	**6**	*e*P		**P**		**14 29 15.7**	**-0.5**
KLMR				AMP				14 29 20.3	
	comp=Z,13nm,1.4s								
NOA	**NORSAR Array B**	**88.58**	**353**	P		**P**		**14 29 20.8**	**+2.3**
	comp=Z,1.6nm,0.9s,baz=178,slow=4.4,SNR=3.8								
WSI	**Waingapu**	**88.83**	**100**	P		P		14 29 28.9	+8.1
MKAR	**Makanchi Array**	**88.89**	**35**	P		**P**		**14 29 20.6**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=215,slow=3.8,SNR=5.7								
MKAR	**Makanchi Array**	**88.89**	**35**	P		**P**		**14 29 20.1**	**-0.2**
WMQ	**Urumqi**	**89.86**	**39**	*e*P		**P**		**14 29 27.4**	**+2.4**
WMQ				pmax		pmax			
	comp=Z,13nm,0.7s								
WMQ				pmax		pmax			
	comp=Z,48nm,5.9s								
CD2	**Chengdu**	**93.34**	**57**	P		**P**		**14 29 41.8**	**+0.4**
CD2				pmax		pmax			
	comp=Z,30nm,0.5s								
ASAR	**Alice Springs**	**93.54**	**119**	P		**P**		**14 29 43.9**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=230,slow=5.0,SNR=20								
STKA	**Stephens Creek**	**94.73**	**129**	P		**P**		**14 29 49.0**	**+1.0**
	comp=Z,3.1nm,0.9s,baz=243,slow=7.9,SNR=4.7								
STKA	**Stephens Creek**	**94.73**	**129**	IAmb		IAmb		14 31 01.0	
	comp=Z,7.0nm,1.9s								
LZH	**Lanzhou**	**95.92**	**53**	*e*P		**P**		**14 29 54.5**	**+1.2**
LZH				pP		pP		14 29 56.3	+1.8
LZH				*e*PP		**PP**		**14 33 49.6**	**+3.8**
LZH				pmax		pmax			
	comp=Z,18nm,1.4s								
LZH				pmax		pmax			
	comp=Z,82nm,6.5s								
LZH				LR		LR			
	comp=Z,170nm,17.2s								
LZH				LR		LR			
	comp=Z,170nm,17.0s								
LZH				LR		LR			
	comp=Z,250nm,19.6s								
U49A	**Red Boiling Sp**	**122.84**	**298**			**PKiKP**		**14 35 23.3**	**+0.7**
CCM	**Cathedral Cave**	**127.39**	**299**			**PKiKP**		**14 35 31.5**	**-0.1**
FCAR	**Ozark Folk Cen**	**127.79**	**296**			**PKiKP**		**14 35 32.3**	**-0.2**
U40A	**Yellville**	**128.44**	**296**			**PKiKP**		**14 35 34.1**	**+0.3**
S39A	**Bolivar**	**128.98**	**298**	PKPdf		**PKiKP**		**14 35 34.8**	**-0.1**
P38A	**Dawn**	**129.32**	**300**	PKPdf		**PKiKP**		**14 35 35.0**	**-0.5**
YKA	**Yellowknife Ar**	**136.29**	**335**	PKP		**PKiKP**		**14 35 48.0**	**-0.8**
	comp=Z,2.4nm,1.1s,baz=51,slow=1.2,SNR=9.1								
TXAR	**Lajitas Array**	**136.45**	**285**	PKhKP	PKPpre			14 35 39.9	
	comp=Z,0.3nm,0.6s,baz=105,slow=3.8,SNR=5.1								
TXAR				PKP	pPKPdf			14 35 51.1	+1.2
	comp=Z,1.3nm,0.8s,baz=122,slow=2.6,SNR=10								
TXAR	**Lajitas Array**	**136.45**	**285**	PKPdf		**PKiKP**		**14 35 49.0**	**-1.4**
RWWY	**Rawlins**	**139.69**	**304**			**PKiKP**		**14 35 55.5**	**-1.3**
PDAR	**Pinedale Array**	**141.27**	**306**	PKhKP	PKPpre			14 35 52.3	
	comp=Z,0.6nm,0.6s,baz=125,slow=7.4,SNR=5.5								
PDAR				PKP	**PKPdf**			**14 35 56.7**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=124,slow=4.5,SNR=3.2								
ILAR	**Eielson Array**	**141.95**	**356**	PKhKP	PKPpre			14 35 52.3	
	comp=Z,1.3nm,0.7s,baz=316,slow=3.0,SNR=8.5								
ILAR	**Eielson Array**	**141.35**	**356**		PKPpre			14 35 52.0	
DOT	**Dot Lake**	**142.81**	**353**		PKPpre			14 35 55.4	
TCUT	**Toone Canyon**	**142.90**	**303**	PKPpre	PKPpre			14 35 56.1	
MPU	**Maple Canyon**	**143.23**	**302**	PKPpre	PKPpre			14 35 57.9	
WUAZ	**Wupatki**	**143.39**	**294**	PKPdf	**PKPdf**			**14 36 00.6**	**-0.5**
X16A	**Lo Mia Camp, P**	**143.46**	**292**		**PKPdf**			**14 36 01.1**	**-0.2**
MSU	**Marysvale**	**143.83**	**299**	PKPdf	**PKPdf**			**14 36 01.6**	**-0.3**
MTPU	**Mount Pierson**	**143.88**	**298**		**PKPdf**			**14 36 01.9**	**-0.3**
TCRU	**Three Creeks R**	**144.03**	**299**		**PKPdf**			**14 36 02.4**	**+0.1**
PKCU	**Pink Cliffs**	**144.04**	**297**		**PKPdf**			**14 36 02.0**	**-0.4**
U15A	**North Rim**	**144.09**	**296**	PKPdf	**PKPdf**			**14 36 02.5**	**0.0**
DUG	**Dugway, Tooele**	**144.10**	**302**	PKPdf	**PKPdf**			**14 36 01.6**	**-0.6**
BGU	**Big Grassy Mou**	**144.14**	**303**	PKPdf	**PKPdf**			**14 36 01.3**	**-0.9**
KNB	**Kanab**	**144.48**	**297**	PKPdf	**PKPdf**			**14 36 03.0**	**0.0**
214A	**Organ Pipe Nat**	**144.56**	**288**	PKPdf	**PKPdf**			**14 36 03.5**	**+0.4**
DLBC	**Dease Lake**	**144.56**	**339**	PKP	**PKPdf**			**14 36 01.3**	**-1.0**
	comp=Z,10nm,0.6s,baz=340,slow=0.9,SNR=21								
DLBC	**Dease Lake**	**144.56**	**339**	PKPdf	**PKPdf**			**14 36 02.7**	**+0.4**
SZCU	**Shurtz Canyon**	**144.64**	**298**		**PKPdf**			**14 36 03.9**	**+0.6**
Y14A	**Wickenburg**	**144.76**	**291**		**PKPdf**			**14 36 04.1**	**+0.7**
NEW	**Newport**	**144.78**	**317**	PKP	**PKPdf**			**14 36 02.1**	**-0.9**
	comp=Z,2.2nm,0.7s,baz=65,slow=4.9,SNR=5.3								
LCMT	**Little Creek M**	**144.81**	**297**		**PKPdf**			**14 36 04.2**	**+0.7**
CCUT	**Cedar City**	**144.86**	**298**	PKPdf	**PKiKP**			**14 36 04.8**	**-2.7**
SML	**Sawmill**	**144.99**	**356**		**PKPdf**			**14 36 03.6**	**+0.6**
BARN	**Barnard Glacie**	**145.00**	**350**		**PKPdf**			**14 36 03.9**	**+0.8**
GHO	**Glory Hole Cre**	**145.06**	**356**		**PKPdf**			**14 36 03.7**	**+0.6**
VRDI	**Verde Repeater**	**145.09**	**352**		**PKPdf**			**14 36 04.1**	**+0.8**
PSUT	**Pine Spring**	**145.13**	**299**		**PKPdf**			**14 36 04.5**	**+0.4**
PMR	**Palmer**	**145.25**	**357**		**PKPdf**			**14 36 04.2**	**+1.0**
KNK	**Knik Glacier**	**145.39**	**356**		**PKiKP**			**14 36 04.9**	**-2.6**
113A	**Mohawk Valley,**	**145.39**	**289**		**PKiKP**			**14 36 05.7**	**-2.7**
MFID	**Camas Ranch**	**145.60**	**308**		**PKPab**			**14 36 06.0**	**+0.9**
C09A	**Chrisman Ranch**	**145.68**	**317**		**PKPab**			**14 36 05.8**	**+0.7**
F10A	**Beach Ranch, E**	**145.73**	**313**		**PKPab**			**14 36 06.1**	**+0.6**
RC01	**Rabbit Creek A**	**145.78**	**357**		**PKiKP**			**14 36 06.1**	**-2.2**
ELK	**Elko**	**145.82**	**304**	PKPbc	**PKiKP**			**14 36 07.4**	**-2.0**
GLI	**Glacier Island**	**145.82**	**355**		**PKiKP**			**14 36 06.2**	**-2.3**
B08A	**Colville Reser**	**146.07**	**318**	PKPbc	**PKPab**			**14 36 07.0**	**+0.3**
E09A	**Wood Farm, Sta**	**146.12**	**315**	PKPbc	**PKiKP**			**14 36 07.3**	**-2.1**
BMO	**Blue Mountains**	**146.17**	**311**		**PKPab**			**14 36 06.9**	**-0.3**
D08A	**Wollman Farm,**	**146.39**	**316**		**PKPab**			**14 36 07.6**	**-0.3**
RSO	**Redoubt South**	**146.49**	**360**		**PKPab**			**14 36 08.0**	**0.0**
R11A	**Troy Canyon, C**	**146.50**	**299**		**PKPab**			**14 36 08.4**	**-0.4**
SEW	**Seward**	**146.75**	**357**	PKPbc	**PKiKP**			**14 36 08.7**	**-1.6**
HAWA	**Hanford**	**147.04**	**315**	PKPbc	**PKPab**			**14 36 09.9**	**-0.5**
E07A	**Sunnyside**	**147.18**	**315**	PKPbc	**PKiKP**			**14 36 10.6**	**-1.1**
TPNV	**Topopah Spring**	**147.22**	**297**	PKPbc	**PKiKP**			**14 36 11.5**	**-0.7**
LTY	**Liberty**	**147.38**	**317**		**PKPab**			**14 36 10.7**	**-1.1**
J08A	**Circle Bar Ran**	**147.46**	**309**		**PKPab**			**14 36 11.3**	**-1.0**
XPFO	**Pion Flat**	**147.64**	**291**		**PKPab**			**14 36 12.8**	**-0.5**
PFO	**Pinyon Flats O**	**147.64**	**291**		**PKPab**			**14 36 12.7**	**-0.7**
GSC	**Goldstone, Bar**	**147.83**	**294**		**PKPbc**			**14 36 11.5**	**0.0**
WVOR	**Wild Horse Val**	**147.86**	**308**	PKPbc	**PKPbc**			**14 36 11.0**	**-0.5**
I07A	**Izee**	**147.91**	**311**		**PKiKP**			**14 36 12.1**	**-1.3**
LON	**Longmire**	**148.30**	**317**		**PKiKP**			**14 36 13.2**	**-0.9**
KVN	**Kaiserville**	**148.32**	**301**		**PKiKP**			**14 36 14.3**	**-0.2**
NV11	**Mina Array Sit**	**148.48**	**300**		**PKiKP**			**14 36 14.8**	**0.0**
NVAR	**Mina Array Bea**	**148.60**	**300**	PKPbc	**PKPab**			**14 36 16.3**	**-0.9**
	comp=Z,6.5nm,0.7s,baz=79,slow=4.1,SNR=64								
NVAR	**Mina Array Bea**	**148.60**	**300**		**PKiKP**			**14 36 14.0**	**-1.1**
ISA	**Isabella, Lake**	**149.15**	**295**		**PKiKP**			**14 36 16.5**	**+0.3**
MOD	**Modoc Plateau**	**149.20**	**307**		**PKiKP**			**14 36 15.8**	**-0.4**
K05A	**Summer Lake**	**149.34**	**309**		**PKiKP**			**14 36 16.9**	**+0.3**
H04A	**Detroit Lake**	**149.45**	**314**		**PKiKP**			**14 36 16.4**	**-0.1**
AFDM	**Forest Hills D**	**150.52**	**302**		**PKiKP**			**14 36 19.6**	**+0.8**
YBH	**Yreka Blue Hor**	**150.95**	**308**	PKPbc	**PKiKP**			**14 36 20.1**	**+0.3**
	comp=Z,2.6nm,0.8s,baz=137,slow=4.8,SNR=4.5								

*BEO **15** 14:25:50.4±1.4,44°.21N×16°.42E, h0km, ML2.4/3*
*RHSSO **15** 14:25:57.1±0.5, 43°.80N×16°.82E, h4km±3km, ML2.3/10*

ISC 15 14:25:56.9±1.2, **43°.91N**±0°.02×**16°.90E**±0°.02, **h4km**±10km, **n30**, σ1**98**/58, **1C**, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID			Time		Res
				Op		ISC	h	m s	ISC
MGRS	**Mrkonjic Grad**	**0.52**	**15**	*e*Pg		**Pb**	**14 26 08.6**		**-0.1**
MGRS				*e*Sg		**Sn**	**14 26 18.1**		**-2.4**
MAKA	**Makarska**	**0.63**	**172**	*e*Pg		**Pg**	**14 26 08.1**		**-0.9**
MAKA				Sg		**Sg**	**14 26 15.4**		**-1.7**
HVAR	**Hvar**	**0.80**	**204**	*e*Pg		**Pb**	**14 26 12.2**		**-1.2**
HVAR				Sg		**Sb**	**14 26 23.8**		**-0.8**
BLY	**Banja Luka**	**0.86**	**14**	i*e*Pg		**Pn**	**14 26 15.1**		**-0.7**
BLY				*e*Sg		**Sn**	**14 26 28.2**		**-0.7**
MORI	**Morici**	**0.86**	**267**	*e*Pg		**Pn**	**14 26 15.9**		**+0.1**
MORI				Sg		**Sn**	**14 26 30.1**		**+1.2**
ZIRJ	**Zirje**	**0.95**	**255**	*e*Pg		**Pn**	**14 26 16.5**		**-0.4**
ZIRJ				Sg		**Sn**	**14 26 31.8**		**+0.9**
UDBI	**Udbina**	**1.02**	**307**	*e*Pg		**Pn**	**14 26 19.9**		**+1.8**
UDBI				Sg		**Sn**	**14 26 36.4**		**+3.4**
DUGI	**Dugi Otok**	**1.33**	**274**	*e*Pn		**Pn**	**14 26 24.6**		**+2.3**
DUGI				Sg		**Sn**	**14 26 45.0**		**+4.5**
DBRK	**Dubrovnik**	**1.54**	**143**	*e*Pn		**Pn**	**14 26 24.2**		**-0.9**
DBRK				Sn		**Sn**	**14 26 45.5**		**-0.1**
BRY	**Bratogost**	**1.56**	**130**	*e*Pn		**Pn**	**14 26 25.2**		**-0.4**
BRY				*e*Sn		**Sn**	**14 26 46.1**		**-0.3**
TREB	**Trebinje**	**1.60**	**138**	*e*Pn		**Pn**	**14 26 24.9**		**-1.0**
TREB				*e*Sn		**Sn**	**14 26 46.6**		**-0.4**
NVLJ	**Novalja**	**1.60**	**295**	*e*Pn		**Pg**	**14 26 29.7**		**+2.2**
NVLJ				Sn		**Sg**	**14 26 52.9**		**+4.7**
UPM	**Unac-Piva**	**1.62**	**115**	*e*Pn		**Pn**	**14 26 26.5**		**+0.1**
UPM				*e*Sn		**Sn**	**14 26 48.4**		**+0.6**
BBLS	**Lazići**	**1.81**	**91**	*e*Pg		**Pn**	**14 26 29.2**		**+0.3**
BBLS				*e*Sg		**Sg**	**14 26 58.9**		**+3.9**
BBLS	**Lazići**	**1.81**	**91**	*e*Pn		**Pn**	**14 26 29.2**		**+0.3**
BBLS				*e*Sn		**Sn**	**14 26 53.5**		**+1.1**
HCY	**Herceg Novi**	**1.87**	**141**	*e*Pn		**Pn**	**14 26 29.6**		**-0.1**
HCY				*e*Sn		**Sn**	**14 26 52.3**		**-1.5**
OZLJ	**Ozalj**	**1.98**	**330**	*e*Pn		**Pg**	**14 26 34.7**		**-0.2**
OZLJ				Sn		**Sg**	**14 27 03.4**		**+2.8**
PTJ	**Puntijarka**	**2.10**	**342**	*e*Pn		**Pg**	**14 26 37.1**		**-0.1**
PTJ				Sn		**Sg**	**14 27 06.1**		**+1.7**
CRES	**Cresnjev**	**2.17**	**332**	*e*Pn		**Pb**	**14 26 34.8**		**-2.0**
CRES				*e*Sn		**Sg**	**14 27 03.3**		**-3.3**
RIY	**Rijeka**	**2.23**	**310**	*e*Pn		**Pg**	**14 26 38.6**		**-1.0**
RIY				Sn		**Sg**	**14 27 08.4**		**-0.1**
DIVS	**Divibare**	**2.24**	**84**	*e*Pg		**Pb**	**14 26 37.7**		**-0.2**
DIVS				*e*Sg		**Sg**	**14 27 12.3**		**+3.5**
DIVS	**Divibare**	**2.24**	**84**	*e*Pn		**Pn**	**14 26 36.1**		**+1.3**
DIVS				*e*Sn		**Sn**	**14 27 04.3**		**+1.4**
KALN	**Kalnik**	**2.24**	**352**	*e*Pn		**Pg**	**14 26 37.7**		**-2.1**
KALN				Sn		**Sg**	**14 27 08.3**		**-0.6**
PDG	**Podgorica**	**2.27**	**130**	*e*Pn		**Pn**	**14 26 35.4**		**+0.2**
PDG				*e*Sn		**Sn**	**14 27 03.4**		**-0.2**
SJES	**Sjenica**	**2.33**	**105**	*e*Pg		**Pb**	**14 26 39.4**		**0.0**
SJES				*e*Sg		**Sg**	**14 27 18.0**		**+6.4**
DRME	**Dracevica, Mon**	**2.40**	**135**	*e*Pn		**Pn**	**14 26 36.6**		**-0.4**
DRME				*e*Sn		**Sn**	**14 27 06.5**		**-0.4**
FRGS	**Fruska Gora**	**2.42**	**58**	*e*Sn		**Sb**	**14 27 11.1**		**-0.2**
BRJN	**Brijuni**	**2.47**	**295**	*e*Pn		**Pg**	**14 26 42.0**		**-2.2**
BRJN				Sn		**Sg**	**14 27 14.0**		**-2.1**
MORH	**Mrgy, Hungar**	**2.61**	**28**	*e*Pn		**Pb**	**14 26 42.0**		**-2.2**
MORH				*e*Sn		**Sb**	**14 27 15.6**		**-1.1**
GRUS	**Gruza**	**2.76**	**89**	*e*Pg		**Pb**	**14 26 45.4**		**-1.3**

*IDC **15** 14:32:29.3±1.1, 53°.36N×160°.58W, h0km, mb3.9/12, mb1 4.1/15, mb1mx3.9/58, mbtmp3.9/15, ML3.8/3, Error ellipse: s-maj=24.8km s-min=18.0km az=37.0*
*NEIC **15** 14:32:30.1±1.6, 53°.29N±0°.07×160°.52W±0°.08, h10km±1km, mb4.4/35, Error ellipse: s-maj=12.2km s-min

DUG	**Dugway, Tooele**	**34.55**	**93**	P	**P**		**14 39 19.5**	**+0.5**
DUG				IAmb	IAmb	14 39 21.0		
	comp=Z,3.4nm,1.0s							
TPNV	**Topopah Spring**	**34.61**	**100**	P	**P**		**14 39 20.6**	**+1.0**
TPNV				IAmb	IAmb	14 39 21.7		
	comp=Z,4.2nm,0.8s							
PDAR	**Pinedale Array**	**34.96**	**87**	P	**P**		**14 39 23.1**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=281,slow=1.9,SNR=4.8							
PDAR	**Pinedale Array**	**34.96**	**87**	P	**P**		**14 39 22.8**	**+0.2**
PSUT	**Pine Spring**	**34.98**	**96**	P	**P**		**14 39 22.9**	**0.0**
CCUT	**Cedar City**	**35.92**	**97**	P	**P**		**14 39 31.9**	**+1.0**
MSU	**Marysvale**	**36.00**	**94**	P	**P**		**14 39 31.7**	**+0.1**
KNB	**Kanab**	**36.60**	**97**	P	**P**		**14 39 36.9**	**+0.2**
O20A	**White River Ci**	**37.33**	**89**	P	**P**		**14 39 43.2**	**+0.3**
O20A				IAmb	IAmb	14 39 44.2		
	comp=Z,4.7nm,0.8s							
RSSD	**Black Hills**	**37.47**	**81**	P	**P**		**14 39 44.0**	**0.0**
PV02	**Paradox Valley**	**38.26**	**92**	P	**P**		**14 39 50.9**	**+0.1**
PV01	**Paradox Valley**	**38.41**	**92**	P	**P**		**14 39 52.4**	**+0.4**
H11N2	**WAKE ISLAND Hy**	**41.87**	**229**	T	T	15 26 26.7		
	baz=26,slow=76,SNR=5.7							
H11N3	**WAKE ISLAND Hy**	**41.88**	**229**	T	T	15 26 29.5		
	baz=26,slow=76,SNR=4.4							
H11N1	**WAKE ISLAND Hy**	**41.89**	**229**	T	T	15 26 22.1		
	baz=26,slow=76,SNR=3.3							
121A	**Cookes Peak, D**	**42.68**	**97**	P	**P**		**14 40 27.1**	**-0.2**
H11S1	**WAKE ISLAND Hy**	**43.03**	**229**	T	T	15 28 00.6		
	baz=26,slow=75,SNR=8.4							
H11S2	**WAKE ISLAND Hy**	**43.04**	**229**	T	T	15 28 00.6		
	baz=26,slow=75,SNR=5.6							
H11S3	**WAKE ISLAND Hy**	**43.04**	**229**	T	T	15 28 00.6		
	baz=26,slow=75,SNR=3.7							
P40A	**Paris**	**47.35**	**78**	P	**P**		**14 41 04.0**	**-0.1**
TX31	**Lajitas Ar. Si**	**47.43**	**97**	P	**P**		**14 41 05.3**	**+0.3**
TX32	**Lajitas Array**	**47.43**	**97**	P	**P**		**14 41 05.4**	**+0.4**
TXAR	**Lajitas Array**	**47.43**	**97**	P	**P**		**14 41 05.6**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=300,slow=5.4,SNR=58							
TXAR				PcP	**PcP**		**14 42 34.7**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=198,slow=0.8,SNR=5.3							
TXAR	**Lajitas Array**	**47.43**	**97**	P	**P**		**14 41 05.2**	**+0.2**
NRIK	**Noril'sk**	**48.05**	**334**	P	**P**		**14 41 10.2**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=46,slow=6.7,SNR=3.5							
JCT	**Junction City**	**48.91**	**93**	P	**P**		**14 41 15.8**	**-0.5**
Q51A	**Peebles**	**52.73**	**73**	P	**P**		**14 41 43.9**	**-1.0**
L56A	**Greenwood**	**53.88**	**66**	P	**P**		**14 41 52.3**	**-1.1**
HHC	**Hu-ho-hao-te**	**57.47**	**296**	*e*P	**P**		**14 42 20.8**	**+1.6**
HHC				pmax	pmax			
	comp=Z,17nm,1.2s							
HHC				pmax	pmax			
	comp=Z,30nm,5.7s							
LZH	**Lanzhou**	**65.08**	**297**	*e*P	**P**		**14 43 09.0**	**-1.8**
LZH				pP	pP	14 43 12.3	-7.3	
LZH				sP	sP	14 43 13.8	-9.1	
LZH				*e*PP	**PP**		**14 45 34.3**	**+0.5**
LZH				pmax	pmax			
	comp=Z,18nm,1.3s							
LZH				pmax	pmax			
	comp=Z,52nm,7.6s							
FINES	**FINESS Array B**	**65.47**	**357**	P	**P**		**14 43 13.3**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=359,slow=5.6,SNR=1.4							
BRVK	**Borovoye**	**65.86**	**329**	P	**P**		**14 43 16.4**	**+1.0**
BRVK				IAmb	IAmb	14 43 26.0		
	comp=Z,5.3nm,1.4s							
MKAR	**Makanchi Array**	**66.86**	**318**	P	**P**		**14 43 21.9**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=28,slow=6.5,SNR=2.7							
MKAR	**Makanchi Array**	**66.86**	**318**	P	**P**		**14 43 21.7**	**-0.3**
WMQ	**Urumqi**	**67.00**	**313**	*e*P	**P**		**14 43 25.8**	**+2.9**
WMQ				pmax	pmax			
	comp=Z,10.0nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,63nm,4.1s							
CD2	**Chengdu**	**69.06**	**294**	P	**P**		**14 43 34.6**	**-1.4**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
ABKAR	**Akbulak array**	**72.22**	**333**	P	**P**		**14 43 56.0**	**+1.1**
AKASG	**Malin Array Be**	**76.03**	**354**	P	**P**		**14 44 17.5**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=9.6,slow=6.0,SNR=3.5							
GERES	**GERESS Array B**	**78.09**	**4**	P	**P**		**14 44 29.1**	**+0.3**
BURAR	**Bucovina Array**	**79.33**	**356**	P	**P**		**14 44 36.9**	**+1.2**
ESDC	**Sonseca Array**	**85.19**	**18**	P	**P**		**14 45 06.3**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=338,slow=4.0,SNR=3.2							
BRTR	**Keskin Array B**	**86.53**	**349**	P	**P**		**14 45 14.1**	**+0.9**
	comp=Z,0.9nm,0.8s,baz=26,slow=3.1,SNR=6.6							
BRTR	**Keskin Array B**	**86.53**	**349**	P	**P**		**14 45 13.6**	**+0.5**

VAO ***15*** *14:35:43.8±0.6,21°.17S×68°.58W,h73km±6km, mb4.4*
NEIC ***15*** *14:35:44.9±3.4,21°.69S±0°.05×68°.25W±0°.07,h112km±7km, Error ellipse: s-maj=9.1km s-min=6.7km az=78.0*
IDC ***15*** *14:35:45.6±0.8,21°.71S×68°.11W,h108km±10km,mb3.5/7, mb1 3.7/10,mb1mx3.6/25,mbtmp3.9/10,Error ellipse: s-maj=21.4km s-min=12.8km az=104.0*
GUC ***15*** *14:35:45.8±0.6,21°.65S×68°.55W,h132km±6km,ML3.8*
ISC 15 14:35:46.7±0.6,21°.55S±0°.04×68°.33W±0°.05,h109km±7km, n79,σ2^{s}14/86,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.89**	**254**		**Pn**	**14 36 06.7**	**-0.2**
PB09				Sn	**Sn**	**14 36 22.7**	**+0.7**
LVC	**Limon Verde**	**1.18**	**207**	P	**Pn**	**14 36 09.4**	**-0.8**
	120nm,0.3s,baz=17,slow=7.3,SNR=684						
LVC				S	**Sn**	**14 36 26.4**	**-1.5**
	145nm,0.3s,baz=126,slow=22,SNR=58						
LVC	**Limon Verde**	**1.18**	**207**	Pn	**Pn**	**14 36 09.3**	**-0.8**
LVC				Sn	**Sn**	**14 36 26.1**	**-1.8**
LVC	**Limon Verde**	**1.18**	**207**	*e*P	**Pn**	**14 36 09.4**	**-0.8**
LVC				*e*S	**Sn**	**14 36 26.8**	**-1.2**
LVC	**Limon Verde**	**1.18**	**207**	*e*P	**Pn**	**14 36 09.4**	**-0.8**
LVC				*e*S	**Sn**	**14 36 26.8**	**-1.2**
PB01	**IPOC Station P**	**1.20**	**295**	*e*P	**Pn**	**14 36 10.0**	**0.0**
PB01				*i* S	**Sn**	**14 36 28.4**	**+0.7**
PB01				IAML		14 36 29.4	
	comp=N,2μm,0.3s						
PB01	**IPOC Station P**	**1.20**	**295**		**Pn**	**14 36 09.9**	**-0.1**
PB03	**IPOC Station P**	**1.42**	**249**	*e*P	**Pn**	**14 36 11.5**	**-1.1**
PB03				*i* S	**Sn**	**14 36 30.8**	**-1.5**
PB07	**IPOC Station P**	**1.46**	**263**	*e*P	**Pn**	**14 36 12.2**	**-1.0**
PB07				*i* S	**Sn**	**14 36 32.4**	**-0.9**
PB07	**IPOC Station P**	**1.46**	**263**		**Pn**	**14 36 11.9**	**-1.2**
PB02	**IPOC Station P**	**1.48**	**279**	*e*P	**Pn**	**14 36 12.6**	**-0.7**
PB02				*i* S	**Sn**	**14 36 32.9**	**-0.7**
PB02				IAML		14 36 34.2	
	comp=N,2μm,0.2s						
PB08	**IPOC Station P**	**1.60**	**331**	*e*P	**Pn**	**14 36 16.9**	**+1.8**
PB08				*i* S	**Sn**	**14 36 39.8**	**+3.1**
PB08				IAML		14 36 43.6	
	comp=E,736nm,0.6s						
PB08	**IPOC Station P**	**1.60**	**331**	Pn	**Pn**	**14 36 16.9**	**+1.8**
PB06	**IPOC Station P**	**1.63**	**225**	*e*P	**Pn**	**14 36 13.9**	**-1.2**
PB06				*i* S	**Sn**	**14 36 35.0**	**-1.8**
PB06				IAML		14 36 36.2	
	comp=E,1μm,0.5s						
PB06	**IPOC Station P**	**1.63**	**225**	Pn	**Pn**	**14 36 13.8**	**-1.4**
PB04	**IPOC Station P**	**1.86**	**245**		**Pn**	**14 36 16.2**	**-1.9**
PB15	**IPOC Station P**	**1.96**	**213**		**Pn**	**14 36 18.0**	**-1.3**
TA01	**Diego Aracena**	**1.99**	**299**	*e*P	**Pn**	**14 36 18.9**	**-0.6**
TA01				*i* S	**Sn**	**14 36 43.7**	**-0.9**
TA01	**Diego Aracena**	**1.99**	**299**		**Pn**	**14 36 18.9**	**-0.6**
GO01	**Chusmiza**	**2.04**	**336**	*e*P	**Pn**	**14 36 22.0**	**+1.3**
GO01	**Chusmiza**	**2.04**	**336**		**Pn**	**14 36 21.9**	**+1.2**
PB11	**IPOC Station P**	**2.17**	**325**	*e*P	**Pn**	**14 36 22.3**	**+0.2**
PB11				*i* S	**Sn**	**14 36 50.1**	**+1.0**
PB11	**IPOC Station P**	**2.17**	**325**	Pn	**Pn**	**14 36 22.2**	**+0.2**
PSGCX	**Pisagua**	**2.57**	**319**		**Pn**	**14 36 26.3**	**-0.9**
MNMC	**Minye Minye**	**2.69**	**333**		**Pn**	**14 36 29.5**	**+0.7**
PB10	**IPOC Station P**	**2.84**	**226**	Pn	**Pn**	**14 36 28.5**	**-2.1**
PB12	**IPOC Station P**	**3.48**	**327**	Pn	**Pn**	**14 36 37.5**	**-1.6**
GO02	**Mina Guanaco**	**3.78**	**198**	Pn	**Pn**	**14 36 41.0**	**-2.3**
AC01	**Pan de Azucar**	**5.03**	**204**	Pn	**Pn**	**14 36 55.5**	**-4.4**
LPAZ	**La Paz**	**5.24**	**2**	P	**Pn**	**14 37 05.9**	**+2.6**
	comp=E,1.9nm,0.3s,baz=174,slow=6.3,SNR=60						
LPAZ				S	**Sn**	**14 38 04.0**	**+1.1**
	comp=E,0.1nm,0.3s,baz=138,slow=7.5,SNR=1.5						
LPAZ	**La Paz**	**5.24**	**2**		**Pn**	**14 37 05.4**	**+2.1**
AC02	**Maricunga**	**5.31**	**188**	Pn	**Pn**	**14 37 01.6**	**-2.5**
GO03	**Copiap**	**6.26**	**196**	Pn	Pn	14 37 11.7	-5.0
AC04	**Llanos de Chal**	**7.08**	**200**	Pn	Pn	14 37 21.0	-6.6
AC05	**El Transito**	**7.46**	**193**	Pn	Pn	14 37 27.7	-5.3
CO01	**Juntas del Tor**	**8.54**	**190**	Pn	**Pn**	**14 37 43.2**	**-4.5**
SIV	**San Ignacio**	**8.82**	**52**	P	**Pn**	**14 37 49.1**	**-2.2**
	comp=E,4.1nm,0.3s,baz=248,slow=10,SNR=46						
SIV				S	**Sn**	**14 39 21.3**	**-7.7**
	comp=E,0.1nm,0.3s,baz=301,slow=19,SNR=1.1						
GO04	**Tololo Observa**	**8.87**	**194**	Pn	Pn	14 37 47.3	-4.8
CFA	**Coronel Fontan**	**10.01**	**180**	P	Pn	14 38 02.4	-5.1
	comp=E,0.4nm,0.3s,baz=325,slow=12,SNR=10						
CFA				S	Sn	14 39 45.3	-13
	comp=E,0.2nm,0.3s,baz=330,slow=20,SNR=1.8						
PTLB	**Pontes e Lacer**	**10.62**	**57**	*e*P	**Pn**	**14 38 12.2**	**-3.6**
PTLB	**Pontes e Lacer**	**10.62**	**57**	*e*P	**Pn**	**14 38 12.2**	**-3.6**
VILB	**Vilhena**	**11.54**	**44**	*e*P	**Pn**	**14 38 24.9**	**-3.3**
VILB	**Vilhena**	**11.54**	**44**	*e*P	**Pn**	**14 38 24.9**	**-3.3**
AQDB	**Aquidauana**	**11.84**	**87**	*e*P	**Pn**	**14 38 32.9**	**+0.7**
AQDB	**Aquidauana**	**11.84**	**87**	*e*P	**Pn**	**14 38 32.9**	**+0.7**
TRCB	**Terra Rica**	**14.59**	**98**	*e*P	**P**	**14 39 10.8**	**-0.6**
TRCB	**Terra Rica**	**14.59**	**98**	*e*P	**P**	**14 39 10.8**	**-0.6**
PCMB	**Pacaembu**	**15.88**	**93**	*e*P	**P**	**14 39 26.2**	**+0.6**
PCMB	**Pacaembu**	**15.88**	**93**	*e*P	**P**	**14 39 26.2**	**+0.6**
CLDB	**Colider**	**16.03**	**50**	*e*P	**Pn**	**14 39 25.0**	**-1.0**
CLDB	**Colider**	**16.03**	**50**	*e*P	**Pn**	**14 39 25.0**	**-1.0**
PLTB	**Pedras Altas**	**16.61**	**131**	*e*P	**P**	**14 39 38.0**	**+4.3**
PLTB	**Pedras Altas**	**16.61**	**131**	*e*P	**P**	**14 39 38.0**	**+4.3**
ARAG	**Araguaiana, MT**	**16.69**	**72**	*e*P	**Pn**	**14 39 34.0**	**-0.1**
ARAG	**Araguaiana, MT**	**16.69**	**72**	*e*P	**Pn**	**14 39 34.0**	**-0.1**
ITRB	**Iturama**	**16.92**	**87**	*e*P	**P**	**14 39 37.3**	**+0.2**
ITRB	**Iturama**	**16.92**	**87**	*e*P	**P**	**14 39 37.3**	**+0.2**
CNLB	**Canela**	**17.56**	**120**	*e*P	**Pn**	**14 39 48.5**	**+3.9**
CNLB	**Canela**	**17.56**	**120**	*e*P	**Pn**	**14 39 48.5**	**+3.9**
NPGB	**Novo Progresso**	**19.11**	**43**	*e*P	**P**	**14 39 59.1**	**-2.1**
NPGB	**Novo Progresso**	**19.11**	**43**	*e*P	**P**	**14 39 59.1**	**-2.1**
MALB	**Monte Alegre**	**23.89**	**37**	*e*P	**P**	**14 40 49.4**	**-1.1**
MALB	**Monte Alegre**	**23.89**	**37**	*e*P	**P**	**14 40 49.4**	**-1.1**
ROSC	**El Rosal**	**26.88**	**347**	P	**P**	**14 41 20.2**	**+2.3**
	comp=E,11nm,0.3s,baz=149,slow=18,SNR=3.0						
ROSC	**El Rosal**	**26.88**	**347**	IAmb	IAmb	14 41 21.1	
	comp=Z,15nm,0.3s						
PMSA	**Palmer Station**	**43.30**	**177**	*e*P	**P**	**14 43 40.7**	**+3.5**
PMSA	**Palmer Station**	**43.30**	**177**	*e*P	**P**	**14 43 40.7**	**+3.5**
TXAR	**Lajitas Array**	**60.98**	**325**	P	**P**	**14 45 47.7**	**-1.0**
	comp=Z,0.2nm,0.7s,baz=131,slow=9.7,SNR=2.5						
DBIC	**Dimbokro**	**68.23**	**73**	P	**P**	**14 46 34.3**	**-1.8**
	comp=Z,3.4nm,0.6s,baz=220,slow=4.5,SNR=6.1						
DBIC	**Dimbokro**	**68.23**	**73**	IAmb	IAmb	14 46 41.4	
	comp=Z,11nm,1.1s						
PDAR	**Pinedale Array**	**74.43**	**330**	P	**P**	**14 47 14.4**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=146,slow=8.3,SNR=2.7						
NVAR	**Mina Array Bea**	**75.87**	**322**	P	**P**	**14 47 21.3**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=184,slow=5.1,SNR=2.7						
SCHQ	**Schefferville**	**76.08**	**1**	P	**P**	**14 47 23.2**	**+1.2**
	comp=Z,1.8nm,0.5s,baz=238,slow=7.1,SNR=1.8						
SCHQ	**Schefferville**	**76.08**	**1**	IAmb	IAmb	14 47 27.1	
	comp=Z,4.2nm,1.1s						
TOA0	**Torodi Ar. Sit**	**76.86**	**70**	P	**P**	**14 47 24.8**	**-2.4**
TORD	**Torodi Ar. Bea**	**76.86**	**70**	P	**P**	**14 47 25.2**	**-2.0**
	comp=Z,1.1nm,0.5s,baz=255,slow=5.5,SNR=20						
TORD	**Torodi Ar. Bea**	**76.86**	**70**	P	**P**	**14 47 25.0**	**-2.3**
YKA	**Yellowknife Ar**	**91.42**	**340**	P	**P**	**14 48 38.8**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=142,slow=4.6,SNR=4.6						
MKAR	**Makanchi Array**	**145.35**	**36**	PKPbc	**PKPdf**	**14 55 10.5**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=329,slow=4.5,SNR=3.6						

BJI ***15*** *14:49:22.1±0.0,52°.61N×159°.14E,h100km, mB4.7/16, mb4.5/21*
KRSC ***15*** *14:49:26.4±1.1,52°.24N×158°.82E,h84km±12km, ML4.9*
MOS ***15*** *14:49:27.6±1.0,52°.39N×158°.40E,h105km, mb4.6/58, Error ellipse: s-maj=8.0km s-min=3.3km az=76.0*
MOS Felt (II-III) at Petropavlovsk-Kamchatskiy.
UNK ***15*** *14:49:28.8,52°.45N×158°.29E,h101km*
IDC ***15*** *14:49:28.8±0.6,52°.43N×158°.33E,h101km±3km, mb3.9/24, mb1 4.1/28,mb1mx4.0/40,mbtmp4.3/28,MS2.8/6, Ms1 2.9/6,ms1mx2.6/43,Error ellipse: s-maj=11.0km s-min=9.3km az=158.0*
NEIC ***15*** *14:49:28.7±1.5,52°.42N±0°.07×158°.3E±0°.1,h101km±3km, mb4.6/210,Error ellipse: s-maj=10.3km s-min=9.1km az=134.0*
ISC 15 14:49:27.5±0.4,52°.33N±0°.04×158°.60E±0°.04,h93km±3km, h93km:pP-P,n577,σ1^{s}44/618,mb4.6/187,4C-3D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RUS	**Russkaya**	**0.12**	**332**	*i* P	**Pn**	**14 49 40.5**	**0.0**
RUS				*e*S	**Sn**	**14 49 49.7**	**-0.5**
RUS	**Russkaya**	**0.12**	**332**	PN	**Pn**	**14 49 40.5**	**0.0**
RUS				S	**Sn**	**14 49 49.7**	**-0.5**
GRL	**Gorelyy**	**0.39**	**305**	*i* P	**Pn**	**14 49 42.4**	**+0.5**
GRL	**Gorelyy**	**0.39**	**305**	PN	**Pn**	**14 49 42.4**	**+0.5**
ASAK	**Asacha**	**0.43**	**277**	*i* P	**Pn**	**14 49 42.7**	**+0.6**
ASAK	**Asacha**	**0.43**	**277**	PN	**Pn**	**14 49 42.7**	**+0.6**
KRMR	**Karymshinskiy**	**0.58**	**330**	*e*P	**Pn**	**14 49 44.0**	**+0.9**
KRMR				*e*S	**Sn**	**14 49 55.7**	**+1.0**
KRMR	**Karymshinskiy**	**0.58**	**330**	PN	**Pn**	**14 49 44.0**	**+0.9**
KRMR				S	**Sn**	**14 49 55.7**	**+1.0**
PET	**Petropavlovsk**	**0.69**	**3**	*i* P	**Pn**	**14 49 43.8**	**-0.3**
PET				*e*S	**Sn**	**14 49 56.4**	**-0.2**
PET				pmax	pmax		
	comp=Z,5μm,0.4s						
PET				pmax	pmax		
	comp=Z,4μm,0.4s						
PET				smax	smax		
	comp=E,2μm,1.9s						
PET				smax	smax		
	comp=N,18μm,0.6s						
PET				smax	smax		
	comp=N,2μm,1.5s						
PET				smax	smax		
	comp=N,23μm,0.5s						
PET				smax	smax		
	comp=E,11μm,0.9s						
PET				smax	smax		
	comp=E,12μm,0.5s						
PET	**Petropavlovsk**	**0.69**	**3**		**Pn**	**14 49 44.2**	**+0.1**
DALK	**Dalny**	**0.71**	**8**	*e*P	**Pn**	**14 49 44.7**	**+0.4**
DALK				*e*S	**Sn**	**14 49 57.1**	**+0.3**
DALK	**Dalny**	**0.71**	**8**	PN	**Pn**	**14 49 44.7**	**+0.4**
DALK				S	**Sn**	**14 49 57.1**	**+0.3**
UGLR	**Uglovaya**	**0.89**	**9**	*i* P	**Pn**	**14 49 47.3**	**+1.0**
UGLR				*e*S	**Sn**	**14 50 01.1**	**+0.8**
UGLR	**Uglovaya**	**0.89**	**9**	PN	**Pn**	**14 49 47.3**	**+1.0**
UGLR				S	**Sn**	**14 50 01.1**	**+0.8**
AVH	**Avacha**	**0.94**	**5**	*i* P	**Pn**	**14 49 48.1**	**+1.3**
AVH				*e*S	**Sn**	**14 50 03.1**	**+1.9**
AVH	**Avacha**	**0.94**	**5**	PN	**Pn**	**14 49 48.1**	**+1.3**
AVH				S	**Sn**	**14 50 03.1**	**+1.9**
SMAR	**Somma**	**0.94**	**7**	*i* P	**Pn**	**14 49 47.7**	**+0.8**
SMAR				*e*S	**Sn**	**14 50 02.0**	**+0.5**
SMAR	**Somma**	**0.94**	**7**	PN	**Pn**	**14 49 47.7**	**+0.8**
SMAR				S	**Sn**	**14 50 02.0**	**+0.5**
PEA0B	**Petropavlovsk-**	**0.95**	**325**	PN	**Pn**	**14 49 47.7**	**+0.9**
PEA0B	**Petropavlovsk-**	**0.95**	**325**	Pn	**Pn**	**14 49 47.6**	**+0.9**
PETK	**Petropavlovsk-**	**0.95**	**325**	P	**Pn**	**14 49 47.8**	**+1.0**
	comp=E,420nm,0.3s,baz=117,slow=17						
PETK				S	**Sn**	**14 50 02.0**	**+0.6**
	comp=E,316nm,0.3s,baz=116,slow=26,SNR=17						
PETK	**Petropavlovsk-**	**0.95**	**325**	Pn	**Pn**	**14 49 47.4**	**+0.6**
NLC	**Nalytchevo**	**0.95**	**28**	*e*P	**Pn**	**14 49 46.6**	**-0.2**
NLC				*e*S	**Sn**	**14 50 00.4**	**-0.9**
NLC	**Nalytchevo**	**0.95**	**28**	PN	**Pn**	**14 49 46.6**	**-0.2**
NLC				S	**Sn**	**14 50 00.4**	**-0.9**
KOK	**Koryaka**	**0.96**	**1**	*i* P	**Pn**	**14 49 48.3**	**+1.3**
KOK				*e*S	**Sn**	**14 50 03.5**	**+1.8**
KOK	**Koryaka**	**0.96**	**1**	PN	**Pn**	**14 49 48.3**	**+1.3**
KOK				S	**Sn**	**14 50 03.5**	**+1.8**
SDLR	**Sedlovina**	**0.96**	**10**	*i* P	**Pn**	**14 49 47.7**	**+0.6**
SDLR				*e*S	**Sn**	**14 50 01.4**	**-0.4**
SDLR	**Sedlovina**	**0.96**	**10**	PN	**Pn**	**14 49 47.7**	**+0.6**
SDLR				S	**Sn**	**14 50 01.4**	**-0.4**
KRER	**Koryakskii**	**0.98**	**5**	*e*P	**Pn**	**14 49 48.5**	**+1.2**
KRER				*e*S	**Sn**	**14 50 03.7**	**+1.5**
KRER	**Koryakskii**	**0.98**	**5**	PN	**Pn**	**14 49 48.5**	**+1.2**
KRER				S	**Sn**	**14 50 03.7**	**+1.5**
KRX	**Arik**	**1.03**	**2**	*i* P	**Pn**	**14 49 48.9**	**+1.1**
KRX				*e*S	**Sn**	**14 50 04.2**	**+1.1**
KRX	**Arik**	**1.03**	**2**	PN	**Pn**	**14 49 48.9**	**+1.1**
KRX				S	**Sn**	**14 50 04.2**	**+1.1**
MIPR	**Malaya Ipel'ka**	**1.13**	**268**	*i* P	**Pn**	**14 49 50.2**	**+1.3**
MIPR				*e*S	**Sn**	**14 50 07.0**	**+2.0**
MIPR	**Malaya Ipel'ka**	**1.13**	**268**	PN	**Pn**	**14 49 50.2**	**+1.3**
MIPR				S	**Sn**	**14 50 07.0**	**+2.0**
SPN	**Mys Shipunski**	**1.16**	**48**	*e*P	**Pn**	**14 49 49.7**	**+0.6**
SPN				*e*S	**Sn**	**14 50 05.2**	**-0.2**
SPN	**Mys Shipunski**	**1.16**	**48**	PN	**Pn**	**14 49 49.7**	**+0.6**
SPN				S	**Sn**	**14 50 05.2**	**-0.2**
PAU	**Pauzhetka**	**1.41**	**233**	*e*P	**Pn**	**14 49 53.3**	**+1.1**
PAU				*e*S	**Sn**	**14 50 12.1**	**+1.3**
PAU	**Pauzhetka**	**1.41**	**233**	PN	**Pn**	**14 49 53.3**	**+1.1**
PAU				S	**Sn**	**14 50 12.1**	**+1.3**
KII	**Karymskiy**	**1.78**	**16**	*e*P	**Pn**	**14 49 59.4**	**+2.4**
KII				*e*S	**Sn**	**14 50 22.4**	**+3.0**
KII	**Karymskiy**	**1.78**	**16**	PN	**Pn**	**14 49 59.4**	**+2.4**
KII				S	**Sn**	**14 50 22.4**	**+3.0**
SKR	**Severo-Kuril's**	**2.27**	**224**	*e*P	**Pn**	**14 50 04.3**	**+1.0**
SKR				*e*S	**Sn**	**14 50 31.3**	**+0.7**
SKR	**Severo-Kuril's**	**2.27**	**224**	*e*PN	**Pn**	**14 50 04.2**	**+1.0**
SKR				*e*S	**Sn**	**14 50 31.3**	**+0.7**
SKR				pmax	pmax		
	comp=Z,87nm,0.5s						
SKR				smax	smax		
	comp=E,687nm,0.5s						
SKR				smax	smax		
	comp=N,750nm,0.8s						
SKR				MLR	MLR		
	comp=Z,100nm,13.0s						
SKR				MLR	MLR		
	comp=N,200nm,14.0s						
SKR				MLR	MLR		
	comp=E,100nm,12.0s						
ALID	**Alaid**	**2.40**	**234**	*i* P	**Pn**	**14 50 06.1**	**+0.9**
ALID				*e*S	**Sn**	**14 50 36.6**	**+2.6**
ALID	**Alaid**	**2.40**	**234**	PN	**Pn**	**14 50 06.1**	**+0.9**
ALID				S	**Sn**	**14 50 36.6**	**+2.6**
KZV	**Kizimen**	**2.96**	**19**	*e*P	**Pn**	**14 50 14.6**	**+2.0**
KZV	**Kizimen**	**2.96**	**19**	PN	**Pn**	**14 50 14.6**	**+2.0**
TUMD	**Tumrok D**	**3.07**	**20**	*e*P	**Pn**	**14 50 15.8**	**+1.9**
TUMR	**Tumrok**	**3.10**	**17**	*i* P	**Pn**	**14 50 16.8**	**+2.4**
TUMR	**Tumrok**	**3.10**	**17**	PN	**Pn**	**14 50 15.8**	**+1.4**
KMNR	**Kamenistaya**	**3.56**	**15**	*i* P	**Pn**	**14 50 23.5**	**+2.8**
KMNR	**Kamenistaya**	**3.56**	**15**	PN	**Pn**	**14 50 23.5**	**+2.8**
KPT	**Kopyto**	**3.77**	**14**	*e*P	**Pn**	**14 50 25.2**	**+1.8**
KPT	**Kopyto**	**3.77**	**14**	PN	**Pn**	**14 50 25.2**	**+1.8**
KIRR	**Kirishev**	**3.77**	**15**	*e*P	**Pn**	**14 50 25.7**	**+2.2**
KIRR	**Kirishev**	**3.77**	**15**	PN	**Pn**	**14 50 25.7**	**+2.2**
BZWR	**Bezymyannyi-We**	**3.81**	**16**	*e*P	**Pn**	**14 50 26.9**	**+2.9**
BZWR	**Bezymyannyi-We**	**3.81**	**16**	PN	**Pn**	**14 50 26.9**	**+2.9**
KOZ	**Kozyrevsk**	**3.81**	**11**	*e*P	**Pn**	**14 50 25.6**	**+1.7**
KOZ	**Kozyrevsk**	**3.81**	**11**	PN	**Pn**	**14 50 25.6**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**3.82**	**18**	*e*P	**Pn**	**14 50 27.1**	**+3.0**
BZGR	**Bezymyannyi-Gr**	**3.82**	**18**	PN	**Pn**	**14 50 27.1**	**+3.0**
ZLN	**Zelenaya**	**3.91**	**18**	*e*P	**Pn**	**14 50 28.6**	**+3.2**
ZLN	**Zelenaya**	**3.91**	**18**	PN	**Pn**	**14 50 28.6**	**+3.2**
LGNR	**Loginova**	**3.95**	**17**	*e*P	**

CNBA IAmb IAmb 14 54 43.0
comp=Z,28nm,0.7s
TTA Tatalina 25.94 48 P **P** **14 54 50.8 0.0**
TTA pmax pmax
comp=Z,9.0nm,1.4s
TTA Tatalina 25.94 48 P **P** **14 54 50.8 0.0**
KS19 Wonju Array Si 26.08 248 P **P** **14 54 51.5 -0.8**
KSRS Korea Array 26.09 247 P **P** **14 54 52.0 -0.3**
comp=Z,1.7nm,1.0s,baz=50,slow=10,SNR=5.9
KSRS LR LR 15 04 06.1
comp=Z,10nm,20.5s,baz=105,slow=34
KSRS Korea Array 26.09 247 *eP* **P** **14 54 53.5 +1.3**
KSRS pmax pmax
comp=Z,2.0nm,1.0s
SVW2 Sparrevohn 26.12 52 P **P** **14 54 53.6 +1.2**
SVW2 IAmb IAmb 14 55 48.8
comp=Z,19nm,1.5s
IMAR Indian Mountai 27.18 41 P **P** **14 55 02.5 +0.7**
PPLA Purkeypile 27.69 48 P **P** **14 55 07.9 +1.3**
PPLA IAmb IAmb 14 55 45.5
comp=Z,22nm,1.5s
OHAK Old Harbor 27.70 61 P **P** **14 55 06.3 -0.2**
JNU Nakatsue 27.72 237 P **P** **14 55 06.9 -0.1**
comp=Z,5.7nm,0.8s,baz=27,slow=6.8,SNR=2.5
JNU Nakatsue 27.72 237 P **P** **14 55 07.1 +0.1**
JNU IAmb IAmb 14 55 18.0
comp=Z,18nm,1.2s
KDAK Kodiak Island 27.97 59 P **P** **14 55 08.9 0.0**
comp=Z,7.2nm,0.7s,baz=6.3,slow=3.2,SNR=12
KDAK Kodiak Island 27.97 59 P **P** **14 55 08.8 -0.1**
BPAW Bear Paw Mtn. 28.23 46 P **P** **14 55 11.8 +0.6**
KTH Kantishna Hill 28.25 47 P **P** **14 55 12.5 +1.0**
KTH IAmb IAmb 14 55 35.6
comp=Z,35nm,2.0s
CNPM China Poot 28.40 55 P **P** **14 55 12.8 0.0**
TRF Thorofare Moun 28.54 47 P **P** **14 55 14.9 +0.7**
TRF IAmb IAmb 14 56 08.6
comp=Z,17nm,1.6s
BRLK Bradley Lake 28.54 55 P **P** **14 55 15.4 +1.4**
BRLK IAmb IAmb 14 55 43.3
comp=Z,42nm,1.6s
RC01 Rabbit Creek A 28.95 52 P **P** **14 55 17.9 +0.2**
RC01 IAmb IAmb 14 55 20.7
comp=Z,12nm,1.0s
TOLK Toolik Lake Re 29.12 36 P **P** **14 55 19.9 +0.8**
baz=263
TOLK Toolik Lake Re 29.12 36 P **P** **14 55 19.0 -0.1**
RND Reindeer 29.19 47 P **P** **14 55 19.4 -0.4**
RND pmax pmax
comp=Z,3.0nm,0.7s
RND Reindeer 29.19 47 P **P** **14 55 19.4 -0.4**
PMR Palmer 29.19 51 P **P** **14 55 20.4 +0.7**
PMR pmax pmax
comp=Z,27nm,1.8s
PMR Palmer 29.19 51 P **P** **14 55 20.4 +0.7**
PMR IAmb IAmb 14 56 16.4
comp=Z,27nm,1.8s
SEW Seward 29.21 54 P **P** **14 55 19.6 -0.3**
SEW IAmb IAmb 14 55 21.1
comp=Z,22nm,1.1s
GHO Glory Hole Cre 29.27 50 P **P** **14 55 20.9 +0.4**
WRH Wood River Hil 29.49 45 P **P** **14 55 23.3 +0.9**
KNK Knik Glacier 29.53 51 P **P** **14 55 22.9 +0.1**
SML Sawmill 29.55 50 P **P** **14 55 23.2 +0.3**
SML IAmb IAmb 14 55 24.8
comp=Z,20nm,1.0s
CCB Clear Creek Bu 29.61 45 P **P** **14 55 24.0 +0.6**
DHY Denali Highway 29.87 48 P **P** **14 55 26.0 +0.1**
DHY IAmb IAmb 14 55 27.2
comp=Z,18nm,1.6s
HDA Harding Lake 29.98 45 P **P** **14 55 27.0 +0.3**
baz=273,SNR=6.3
HDA Harding Lake 29.98 45 P **P** **14 55 26.7 0.0**
HDA IAmb IAmb 14 55 27.9
comp=Z,4.7nm,0.6s
IL31 30.00 44 P **P** **14 55 27.1 +0.3**
ILAR Eielson Array 30.00 44 P **P** **14 55 27.1 +0.3**
comp=Z,2.6nm,0.7s,baz=261,slow=7.5,SNR=38
ILAR Eielson Array 30.00 44 P **P** **14 55 26.6 -0.2**
GLI Glacier Island 30.25 52 P **P** **14 55 29.8 +0.6**
PRP Porcupine Dome 30.55 43 P **P** **14 55 31.7 -0.2**
FID Port Fidalgo 30.57 52 P **P** **14 55 31.9 0.0**
HIN Hinchinbrook I 30.62 53 P **P** **14 55 32.5 +0.1**
MID Middleton Isla 30.88 55 P **P** **14 55 35.4 +0.8**
MID pmax pmax
comp=Z,225nm,1.3s
MID Middleton Isla 30.88 55 P **P** **14 55 35.4 +0.8**
BMAR Burnt Mountain 30.91 39 P **P** **14 55 35.2 +0.4**
RIDG Independent Ri 30.95 46 P **P** **14 55 35.0 -0.3**
RIDG IAmb IAmb 14 55 58.9
comp=Z,18nm,1.7s
EYAK Cordova Ski Ar 30.96 52 P **P** **14 55 35.9 +0.5**
DOT Dot Lake 31.31 46 P **P** **14 55 37.9 -0.5**
SCRK Sand Creek 31.31 46 P **P** **14 55 38.0 -0.6**
BJI Beijing 31.38 264 P **P** **14 55 39.6 +0.3**
BJI pmax pmax
comp=Z,5.0nm,0.7s
RAGM Ragged Mountai 31.51 53 P **P** **14 55 41.1 +0.8**
RAGM IAmb IAmb 14 56 04.3
comp=Z,15nm,1.0s
MENT Mentasta 31.55 48 P **P** **14 55 41.7 +1.2**
MENT IAmb IAmb 14 56 44.0
comp=Z,15nm,1.7s
GLB Gilahina Butte 31.73 50 P **P** **14 55 43.1 +0.9**
GLB IAmb IAmb 14 56 45.0
comp=Z,39nm,2.0s
VRDI Verde Repeater 31.94 51 P **P** **14 55 45.2 +0.9**
VRDI IAmb IAmb 14 55 47.3
comp=Z,27nm,1.7s
WAX Waxell Ridge 32.39 52 P **P** **14 55 49.4 +1.5**
BCAR Beaver Creek A 32.40 47 P **P** **14 55 49.4 +1.3**
EGAK Eagle 32.44 44 P **P** **14 55 48.2 -0.1**
BARN Barnard Glacie 32.83 51 P **P** **14 55 53.5 +1.6**
YAH Yahtse 32.94 52 P **P** **14 55 54.8 +1.9**
H11N2 WAKE ISLAND Hy 33.17 166 T T 15 31 09.3
baz=351,slow=76,SNR=716
H11N3 WAKE ISLAND Hy 33.19 166 T T 15 31 09.5
baz=351,slow=76,SNR=851
H11N1 WAKE ISLAND Hy 33.19 166 T T 15 31 09.6
baz=351,slow=76,SNR=672
HHC Hu-ho-hao-te 33.72 269 *eP* **P** **14 55 59.5 -0.4**
HHC pmax pmax
comp=Z,13nm,1.0s
HHC pmax pmax
comp=Z,57nm,6.0s
PCA Pinnacle 33.73 52 P **P** **14 56 00.8 +1.2**
EPYK Eagle Plains 34.07 41 P **P** **14 56 03.8 +1.3**
baz=278
H11S1 WAKE ISLAND Hy 34.35 166 T T 15 32 40.5
baz=351,slow=76,SNR=206
H11S3 WAKE ISLAND Hy 34.36 166 T T 15 32 38.0
baz=351,slow=76,SNR=459
H11S2 WAKE ISLAND Hy 34.37 166 T T 15 32 38.5
baz=351,slow=76,SNR=147
HYT Haines Junctio 34.85 50 P **P** **14 56 11.3 +1.8**
HYT IAmb IAmb 14 56 18.2
comp=Z,6.8nm,1.2s
INK Inuvik 35.02 37 P **P** **14 56 11.4 +0.8**
comp=Z,1.2nm,0.4s,baz=298,slow=8.3,SNR=12
INK Inuvik 35.02 37 P **P** **14 56 11.8 +1.2**
INK pmax pmax
comp=Z,3.0nm,1.0s
INK Inuvik 35.02 37 P **P** **14 56 11.8 +1.2**
NJ2 Nanjing 35.15 251 *eP* **P** **14 56 11.3 -0.8**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
SKAG Skagway 36.30 52 P **P** **14 56 24.2 +2.6**
SKAG IAmb IAmb 14 57 16.5
comp=Z,22nm,1.6s
JIS Juneau Island 37.16 54 P **P** **14 56 30.9 +2.1**
A36M Sachs Harbour 37.24 30 P **P** **14 56 31.7 +2.2**
baz=280
DLBC Dease Lake 39.23 52 P **P** **14 56 48.8 +2.4**
DLBC IAmb IAmb 14 58 09.6
comp=Z,21nm,1.9s
LZH Lanzhou 41.42 269 *eP* **P** **14 57 02.1 -2.7**
LZH pP pP 14 57 25.8 -0.9
LZH sP sP 14 57 38.3 +1.0
LZH *e*PP **PP** **14 58 41.3 -0.7**
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,72nm,5.4s
LZH LR LR
comp=Z,200nm,13.3s
LZH LR LR
comp=Z,200nm,13.5s
LZH LR LR
comp=Z,280nm,16.7s
ZALV Zalesovo Beam 42.42 303 P **P** **14 57 10.5 -2.1**
comp=Z,0.6nm,0.3s,baz=60,slow=6.2,SNR=3.1
ZALV PcP **PcP** **14 59 03.9 +0.1**
comp=Z,1.0nm,0.4s,baz=90,slow=3.0,SNR=5.8
ZALV LR LR 15 14 37.6
comp=Z,21nm,19.3s,baz=80,slow=36
ZALV Zalesovo Beam 42.42 303 P **P** **14 57 10.5 -2.1**
ZALV 14 59 03.6
DGZ Jazzator, Alta 43.19 296 *i* P **P** **14 57 18.0 -1.0**
DGZ pmax pmax
comp=Z,3.0nm,1.1s
YKA Yellowknife Ar 44.34 42 P **P** **14 57 28.9 +1.1**
comp=Z,1.5nm,0.7s,baz=297,slow=7.8,SNR=11
RES Resolute Bay 44.37 21 P **P** **14 57 28.7 +0.8**
RES pmax pmax
comp=Z,12nm,1.5s
RES Resolute Bay 44.37 21 P **P** **14 57 28.6 +0.8**
RES IAmb IAmb 14 57 30.1
comp=Z,12nm,1.5s
WMQ Urumqi 46.36 289 *e*P **P** **14 57 44.6 +0.4**
GYA Guiyang 46.44 257 *e*P **P** **14 57 45.1 +0.1**
GYA pmax pmax
comp=Z,10.0nm,0.7s
KURK Kurchatov 47.36 302 P **P** **14 57 49.5 -2.3**
KURK pmax pmax
comp=Z,8.0nm,0.3s
KURK Kurchatov 47.36 302 P **P** **14 57 49.5 -2.3**
MK31 Makanchi Array 47.66 295 P **P** **14 57 51.8 -2.4**
MK31 pmax pmax
comp=Z,3.0nm,0.4s
MK31 Makanchi Array 47.66 295 P **P** **14 57 51.8 -2.4**
MK31 IAmb IAmb 14 57 52.6
comp=Z,3.1nm,0.4s
MKAR Makanchi Array 47.66 295 P **P** **14 57 52.1 -2.1**
comp=Z,3.0nm,0.4s,baz=56,slow=6.8,SNR=86
MKAR Makanchi Array 47.66 295 P **P** **14 57 51.9 -2.3**
SPAQ Spitsbergen Ar 47.73 350 P **P** **14 57 53.6 -0.7**
SPITS Spitsbergen Ar 47.73 350 P **P** **14 57 53.6 -0.7**
SPITS pmax pmax
comp=Z,4.0nm,0.3s
MAKZ Makanchi 47.83 296 P **P** **14 57 53.0 -2.4**
MAKZ pmax pmax
comp=Z,21nm,2.0s
MAKZ Makanchi 47.83 296 P **P** **14 57 53.0 -2.4**
MAKZ IAmb IAmb 14 57 53.5
comp=Z,21nm,2.0s
TULEG Thule 47.91 13 P **P** **14 57 55.8 +0.2**
NLWA Neilton Lookou 47.98 63 P **P** **14 57 58.4 +1.7**
NLWA IAmb IAmb 14 58 14.4
comp=Z,14nm,1.1s
D03D Eldon 48.32 63 P **P** **14 58 01.5 +2.3**
baz=307
B05A Bryant 48.43 61 P **P** **14 58 01.9 +1.9**
baz=307
LTY Liberty 49.80 62 P **P** **14 58 11.4 +0.8**
LTY IAmb IAmb 14 58 12.2
comp=Z,2.7nm,0.6s
B08A Colville Reser 49.85 60 P **P** **14 58 11.9 +1.0**
B08A IAmb IAmb 14 58 13.2
comp=Z,5.1nm,0.8s
BRVK Borovoye 50.18 308 *i* P **P** **14 58 10.9 -2.4**
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BRVK Borovoye 50.18 308 P **P** **14 58 10.6 -2.7**
BRVK IAmb IAmb 14 58 11.5
comp=Z,3.7nm,0.8s
I03D Drain, OR 50.53 67 P **P** **14 58 18.3 +2.3**
baz=309
J01E Myrtle Point 50.53 68 P **P** **14 58 18.6 +2.6**
baz=309
I04A Tendick Farm, 50.99 66 P **P** **14 58 21.5 +1.9**
baz=310
F07A Phinny Hill Vi 51.05 63 P **P** **14 58 21.5 +1.6**
NEW Newport 51.07 59 P **P** **14 58 21.4 +1.3**
baz=309
NEW Newport 51.07 59 P **P** **14 58 20.8 +0.7**
NEW pmax pmax
comp=Z,4.0nm,1.0s
NEW Newport 51.07 59 P **P** **14 58 20.8 +0.7**
KULLO Kullorsuaq 51.12 12⇑ *i*P **P** **14 58 20.5 +0.5**
comp=Z,14nm,0.8s
KULLO Kullorsuaq 51.12 12⇑ *i*P **P** **14 58 20.5 +0.5**
KULLO pmax pmax
comp=Z,14nm,0.8s
I05D Terrebonne, OR 51.25 65 P **P** **14 58 23.4 +1.9**
baz=310
J04D Umpqua Nationa 51.52 67 P **P** **14 58 26.0 +2.3**
baz=310
G08A Pilot Rock 51.96 63 P **P** **14 58 27.9 +1.1**
G08A IAmb IAmb 14 59 10.3
comp=Z,9.8nm,1.9s
J05D Fort Rock, OR 51.98 66 P **P** **14 58 29.6 +2.6**
baz=310,SNR=7.0
L04D Klamath Falls 52.06 68 P **P** **14 58 30.2 +2.5**
baz=310
YBH Yreka Blue Hor 52.14 68 P **P** **14 58 30.6 +2.4**
YBH pmax pmax
comp=Z,5.0nm,0.8s
YBH Yreka Blue Hor 52.14 68 P **P** **14 58 30.6 +2.4**
YBH IAmb IAmb 14 58 31.8
comp=Z,4.6nm,0.8s
WALA Waterton Lakes 52.24 56 P **P** **14 58 30.0 +1.2**
WALA IAmb IAmb 14 58 30.6
comp=Z,4.6nm,0.6s
M02C Callahan 52.28 69 P **P** **14 58 32.2 +3.0**
baz=311
K05A Summer Lake 52.53 66 P **P** **14 58 33.7 +2.5**
K05A IAmb IAmb 14 59 32.9
comp=Z,11nm,1.3s
N02D Trinity Center 52.64 69 P **P** **14 58 34.7 +2.8**
baz=311
BMO Blue Mountains 53.14 62 P **P** **14 58 36.9 +1.4**
BMO pmax pmax
comp=Z,2.0nm,0.7s
BMO Blue Mountains 53.14 62 P **P** **14 58 36.9 +1.4**
ARU Arti 53.34 317 *c* *i*P **P** **14 58 34.8 -1.9**
ARU *PP **pP** **14 58 56.5 -3.0**
ARU S **S** **15 06 01.2 +0.2**
ARU SS **SS** **15 09 40.7 -0.5**
ARU pmax pmax
comp=Z,4.0nm,0.5s
ARU Arti 53.34 317 P **P** **14 58 34.3 -2.4**
MOD Modoc Plateau 53.40 67 P **P** **14 58 39.5 +1.9**
KDJ Kajisay 53.43 294 P **P** **14 58 36.0 -1.8**
KDJ pmax pmax
comp=Z,8.0nm,0.8s
KDJ Kajisay 53.43 294 P **P** **14 58 36.0 -1.8**
KDJ IAmb IAmb 15 00 12.5
comp=Z,7.5nm,0.8s
O03E Paynes Creek 53.60 69 P **P** **14 58 40.9 +1.9**
baz=312
MSO Missoula 53.65 58 P **P** **14 58 40.6 +1.3**
baz=311
ARCES ARCESS Array B 53.72 341 P **P** **14 58 37.7 -1.6**
comp=Z,2.0nm,0.8s,baz=40,slow=8.1,SNR=6.7
ARCES PcP **PcP** **14 59 44.9 +0.7**
comp=Z,2.3nm,0.7s,baz=23,slow=4.0,SNR=3.8
ARCES LR LR 15 26 38.5
comp=Z,11nm,18.4s,baz=308,slow=42
ARCES ARCESS Array B 53.72 341 *e*P **P** **14 58 37.9 -1.4**
ARCES pmax pmax
comp=Z,2.0nm,0.8s
WVOR Wild Horse Val 53.98 65 P **P** **14 58 43.8 +2.0**
WVOR pmax pmax
comp=Z,4.0nm,0.9s
WVOR Wild Horse Val 53.98 65 P **P** **14 58 43.8 +2.0**
WVOR IAmb IAmb 14 58 44.9
comp=Z,4.2nm,0.8s
ORV Oroville 54.27 70 P **P** **14 58 44.5 +0.8**
ORV pmax pmax
comp=Z,27nm,1.9s
ORV Oroville 54.27 70 P **P** **14 58 44.5 +0.8**
BEKR Beckworth 54.71 69 P **P** **14 58 49.4 +2.2**
BEKR IAmb IAmb 14 58 50.6
comp=Z,5.5nm,0.8s
SUMG Summit 54.82 6⇓ *i*P **P** **14 58 48.1 +0.4**
comp=Z,46nm,0.6s
SUMG Summit 54.82 6⇓ *i*P **P** **14 58 48.1 +0.4**
SUMG pmax pmax
comp=Z,47nm,0.6s
SUMG Summit 54.82 6 P **P** **14 58 48.2 +0.4**
MFID Camas Ranch 54.88 63 P **P** **14 58 49.7 +1.5**
MFID IAmb IAmb 15 00 42.5
comp=Z,7.1nm,1.7s
LRM Limekiln Ridge 55.09 58 P **P** **14 58 51.1 +1.2**
PAHR Pah Rah Range 55.38 68 P **P** **14 58 53.7 +1.8**
PAHR IAmb IAmb 14 58 54.9
comp=Z,6.4nm,1.1s
MCMT McKenzie Canyo 55.54 60 P **P** **14 58 54.2 +1.0**
BOZ Bozeman (W) 55.67 58 P **P** **14 58 55.7 +1.8**
baz=312,SNR=6.6
PNTR Pine Nut 55.67 69 P **P** **14 58 56.1 +2.0**
PNTR IAmb IAmb 14 58 57.8
comp=Z,6.4nm,0.7s
YERR Yerington 55.95 69 P **P** **14 58 57.9 +1.8**
YERR IAmb IAmb 14 58 59.2
comp=Z,5.4nm,0.8s
WAKR Walker 56.16 69 P **P** **14 58 59.7 +2.2**
WAKR IAmb IAmb 14 59 00.5
comp=Z,5.1nm,0.7s
QLMT Earthquake Lak 56.29 59 P **P** **14 59 00.2 +1.8**
KK31 Karatay Array 56.46 299 P **P** **14 58 56.8 -2.6**
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KK31 Karatay Array 56.46 299 P **P** **14 58 56.8 -2.6**
KK31 IAmb IAmb 14 58 57.9
comp=Z,2.6nm,0.6s
KKAR Karatay Array 56.46 299 P **P** **14 58 57.0 -2.4**
KKAR Karatay Array 56.46 299 P **P** **14 58 57.0 -2.4**
KKAR Karatay Array 56.46 299 P **P** **14 58 56.6 -2.8**
KKAR IAmb IAmb 14 58 57.9
comp=Z,2.6nm,0.6s
YHB Horse Butte 56.47 59 P **P** **14 59 01.5 +1.8**
KVN Kaiserville 56.55 68 P **P** **14 59 02.2 +1.9**
KVN pmax pmax
comp=Z,4.0nm,0.7s
KVN Kaiserville 56.55 68 P **P** **14 59 02.2 +1.9**
KVN IAmb IAmb 14 59 03.1
comp=Z,4.2nm,0.7s
RYN Ryan 56.60 69 P **P** **14 59 02.4 +1.7**
RYN IAmb IAmb 14 59 03.7
comp=Z,4.2nm,0.8s
YHH Holmes Hill 56.62 59 P **P** **14 59 02.4 +1.5**
NVAR Mina Array Bea 56.86 69 P **P** **14 59 04.8 +2.3**
comp=Z,3.7nm,0.7s,baz=303,slow=7.2,SNR=30
NVAR Mina Array Bea 56.86 69 P **P** **14 59 04.5 +1.9**
NV11 Mina Array Sit 56.94 69 P **P** **14 59 05.0 +1.9**
ELK Elko 57.00 65 P **P** **14 59 05.0 +1.4**
ELK pmax pmax
comp=Z,2.0nm,0.7s
ELK Elko 57.00 65 P **P** **14 59 05.0 +1.4**
CMAR Chiang Mai Arr 57.13 257 P **P** **14 59 04.8 +0.4**
comp=Z,0.9nm,0.6s,baz=23,slow=6.8,SNR=5.7
CMAR LR LR 15 25 23.7
comp=Z,26nm,18.2s,baz=184,slow=38
CMAR Chiang Mai Arr 57.13 257 *eP* **P** **14 59 06.0 +1.6**
CMAR pmax pmax
comp=Z,1.0nm,0.6s
IMW Indian Meadow 57.18 59 P **P** **14 59 06.8 +1.9**
RLMT Red Lodge 57.22 57 P **P** **14 59 07.3 +2.3**
baz=314
RLMT Red Lodge 57.22 57 P **P** **14 59 06.8 +1.8**
RLMT IAmb IAmb 14 59 08.1
comp=Z,5.6nm,0.9s
FXWY Fox Creek 57.31 60 P **P** **14 59 07.3 +1.6**
TAPN Taplejung 57.35 273 *eP* **P** **14 59 05.3 -0.9**
comp=Z,9.3nm,0.5s
ABKAR Akbulak array 57.59 310 P **P** **14 59 04.8 -2.5**
AHID Auburn Hatcher 57.87 60 P **P** **14 59 11.3 +1.7**
AHID IAmb IAmb 14 59 12.6
comp=Z,8.3nm,1.1s
ODAN Odare 57.90 273 *eP* **P** **14 59 10.4 +0.4**
comp=Z,4.9nm,0.5s
GUN Gumba 58.06 275 *eP* **P** **14 59 09.4 -1.9**
BGU Big Grassy Mou 58.10 63 P **P** **14 59 12.8 +1.6**
RAMN Ramite 58.32 274 *eP* **P** **14 59 11.6 -1.4**
comp=Z,18nm,0.5s
CWC Cottonwood Cre 58.36 70 P **P** **14 59 15.0 +1.9**
baz=315
GRAC Grapevine Rang 58.39 69 P **P** **14 59 13.9 +0.8**
baz=315
HWUT Hardware Ranch 58.42 62 P **P** **14 59 15.2 +1.8**
HWUT IAmb IAmb 14 59 16.6
comp=Z,4.0nm,0.6s
R11A Troy Canyon, C 58.46 67 P **P** **14 59 15.6 +1.8**
baz=314
R11A Troy Canyon, C 58.46 67 P **P** **14 59 15.1 +1.4**
KKN Kakani 58.52 276 *eP* **P** **14 59 13.1 -1.2**
comp=Z,13nm,0.5s
PKI Pulchoki 58.60 275 *eP* **P** **14 59 14.1 -0.9**
ISA Isabella, Lake 58.68 71 P **P** **14 59 16.4 +1.3**
baz=315
BW06 Boulder Array 58.69 59 P **P** **14 59 17.3 +1.9**
baz=314,SNR=7.7
BW06 Boulder Array 58.69 59 P **P** **14 59 16.8 +1.4**
BW06 IAmb IAmb 14 59 18.0
comp=Z,5.3nm,0.8s
PD31 Pinedale Array 58.69 59 P **P** **14 59 16.7 +1.4**
PD31 IAmb IAmb 14 59 18.0
comp=Z,4.9nm,0.8s
PDAR Pinedale Array 58.69 59 P **P** **14 59 17.1 +1.8**
comp=Z,3.2nm,0.6s,baz=317,slow=2.7,SNR=32
PDAR pP **pwP** **14 59 40.0 -0.3**
comp=Z,1.5nm,0.7s,baz=325,slow=3.5,SNR=3.9
PDAR Pinedale Array 58.69 59 P **P** **14 59 16.8 +1.4**
DUG Dugway, Tooele 58.72 64 P **P** **14 59 17.7 +2.3**
baz=314
DUG Dugway, Tooele 58.72 64 P **P** **14 59 17.3 +1.8**
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG Dugway, Tooele 58.72 64 P **P** **14 59 17.3 +1.8**
DUG IAmb IAmb 14 59 18.6
comp=Z,3.4nm,0.8s
SFJD Kangerlussuaq 58.97 13 P **P** **14 59 16.9 +0.4**
SFJD pmax pmax
comp=Z,28nm,1.7s
SFJD Kangerlussuaq 58.97 13 P **P** **14 59 16.9 +0.4**
MPMC Manual Prospec 58.97 70 P **P** **14 59 19.2 +1.9**
baz=315,SNR=5.3
FURC Furnace Creek, 59.05 69 P **P** **14 59 19.8 +2.3**
baz=315,SNR=7.9
TPNV Topopah Spring 59.06 69 P **P** **14 59 19.9 +2.1**
baz=315,SNR=6.1
TPNV Topopah Spring 59.06 69 P **P** **14 59 19.4 +1.5**
TPNV pmax pmax
comp=Z,6.0nm,1.0s
TPNV Topopah Spring 59.06 69 P **P** **14 59 19.4 +1.5**
TPNV IAmb IAmb 14 59 20.8
comp=Z,5.8nm,0.9s
PSUT Pine Spring 59.30 66 P **P** **14 59 21.0 +1.4**
GAR Garm 59.39 295 P **P** **14 59 18.1 -2.0**
GAR **PcP** **15 00 06.4 -0.6**
MPU Maple Canyon 59.49 63 P **P** **14 59 22.8 +1.9**
EDW2 Edwards Air Fo 59.51 71 P **P** **14 59 22.7 +1.8**
baz=315
KOLN Koldanda 59.56 277 *e*P **P** **14 59 19.2 -2.3**
SNCC San Nicolas Is 59.77 74 P **P** **14 59 23.6 +1.0**
GSC Goldstone, Bar 59.90 70 P **P** **14 59 25.5 +1.9**
baz=315
BFSC Mount Baldy Ra 60.16 72 P **P** **14 59 25.0 -0.4**
baz=316
RDMU Red Mountain 60.22 61 P **P** **14 59 27.5 +1.6**
TMUT Trail Mountain 60.23 63 P **P** **14 59 27.7 +1.6**
MSU Marysvale 60.25 65 P **P** **14 59 27.3 +1.2**
MSU Marysvale 60.25 65 P **P** **14 59 27.3 +1.2**
CCUT Cedar City 60.27 66 P **P** **14 59 28.1 +1.9**
K22A Casper 60.36 58 P **P** **14 59 28.0 +1.3**
K22A IAmb IAmb 14 59 28.5
comp=Z,7.1nm,1.2s
SZCU Shurtz Canyon 60.39 66 P **P** **14 59 29.2 +2.1**
FIA1 FINESS Array S 60.45 336 P **P** **14 59 26.0 -0.8**
FINES FINESS Array B 60.45 336 P **P** **14 59 26.2 -0.5**
comp=Z,1.2nm,0.4s,baz=42,slow=6.6,SNR=21
FINES FINESS Array B 60.45 336 P **P** **14 59 25.1 -1.7**
RSSD Black Hills 60.59 55 P **P** **14 59 29.9 +1.7**
baz=316
RSSD Black Hills 60.59 55 P **P** **14 59 29.5 +1.2**
RSSD pmax pmax
comp=Z,9.0nm,0.7s
RSSD Black Hills 60.59 55 P **P** **14 59 29.5 +1.2**
LCMT Little Creek M 60.72 67 P **P** **14 59 30.4 +1.2**
SRU San Rafael Swe 60.74 63 P **P** **14 59 30.9 +1.5**
SRU pmax pmax
comp=Z,8.0nm,0.8s
SRU San Rafael Swe 60.74 63 P **P** **14 59 30.9 +1.5**
MURC Murrieta 60.88 72 P **P** **14 59 32.0 +1.7**
baz=316

GMRC Granite Mounta 60.93 70 P P 14 59 32.5 +1.9
baz=316,SNR=5.1
PKCU Pink Cliffs 60.94 66 P P 14 59 33.0 +2.1
KNB Kanab 60.95 66 P P 14 59 32.7 +1.9
KNB Kanab 60.95 66 P P 14 59 32.7 +1.9
O20A White River Ci 61.25 61 P P 14 59 34.6 +1.8
baz=316
O20A White River Ci 61.25 61 P P 14 59 33.8 +1.0
O20A IAmb IAmb 14 59 35.3
comp=Z,4.1nm,0.8s
BELC Belle Mtn. Jos 61.29 71 P P 14 59 34.4 +1.3
baz=316
PFO Pinyon Flats O 61.30 71 P P 14 59 34.3 +1.1
PFO pmax pmax
comp=Z,9.0nm,1.5s
PFO Pinyon Flats O 61.30 71 P P 14 59 34.3 +1.1
PFO IAmb IAmb 15 00 37.7
comp=Z,8.7nm,1.5s
XPFO Pion Flat 61.30 71 P P 14 59 34.2 +1.0
XPFO IAmb IAmb 15 00 37.7
comp=Z,8.3nm,1.4s
NIL Nilore 61.51 289 P P 14 59 33.3 -1.2
NIL pmax pmax
comp=Z,5.0nm,0.7s
NIL Nilore 61.51 289 P P 14 59 33.3 -1.2
NIL IAmb IAmb 15 00 15.7
comp=Z,4.9nm,0.7s
IRM Iron Mountain 61.67 70 P P 14 59 37.7 +2.1
baz=316
BC3 Big Chuckawall 61.85 71 P P 14 59 38.5 +1.6
baz=316
N23A Red Feather La 61.92 59 P P 14 59 39.3 +1.9
baz=316
PV09 Paradox Valley 61.94 63 P P 14 59 38.5 +0.9
PV21 Cone Mtn., Par 61.98 63 P P 14 59 39.0 +1.2
PV23 Carpenter Ridg 62.04 63 P P 14 59 39.6 +1.4
PV23 IAmb IAmb 14 59 42.0
comp=Z,4.5nm,0.7s
PV10 Paradox Valley 62.08 63 P P 14 59 40.3 +1.9
PV14 Lion Creek, Pa 62.09 63 P P 14 59 39.2 +0.7
PV14 IAmb IAmb 14 59 41.0
comp=Z,9.8nm,1.3s
PV22 Blue Mesa, Par 62.10 62 P P 14 59 39.5 +0.9
PV22 IAmb IAmb 14 59 41.1
comp=Z,4.2nm,0.7s
PV04 Paradox Valley 62.14 63 P P 14 59 40.2 +1.4
PV04 IAmb IAmb 14 59 41.5
comp=Z,7.4nm,0.8s
PV20 West Nyswonger 62.14 63 P P 14 59 40.2 +1.3
PV20 IAmb IAmb 14 59 41.4
comp=Z,7.1nm,0.8s
PV19 Morning Glory 62.16 63 P P 14 59 40.3 +1.3
PV19 IAmb IAmb 14 59 41.5
comp=Z,6.7nm,0.9s
PV17 East Wray Mesa 62.19 63 P P 14 59 40.6 +1.4
PV11 David Mesa, Pa 62.22 63 P P 14 59 40.4 +1.0
PV11 IAmb IAmb 14 59 43.1
comp=Z,7.0nm,0.6s
PV18 Skein Mesa, Pa 62.24 63 P P 14 59 40.7 +1.2
PV18 IAmb IAmb 14 59 42.7
comp=Z,6.6nm,1.0s
PV07 Paradox Valley 62.25 62 P P 14 59 41.0 +1.5
PV12 Saucer Basin, 62.25 63 P P 14 59 40.6 +1.0
PV12 IAmb IAmb 14 59 44.1
comp=Z,4.5nm,0.8s
PV05 Paradox Valley 62.26 63 P P 14 59 41.2 +1.6
PV03 Paradox Valley 62.27 63 P P 14 59 40.6 +0.9
PV03 IAmb IAmb 14 59 42.3
comp=Z,6.0nm,1.0s
PV13 Radium Mtn., P 62.35 63 P P 14 59 41.8 +1.5
PV13 IAmb IAmb 14 59 42.9
comp=Z,6.2nm,0.7s
PV02 Paradox Valley 62.36 63 P P 14 59 41.9 +1.6
PV02 IAmb IAmb 15 01 34.1
comp=Z,10nm,1.5s
WUAZ Wupatki 62.84 66 P P 14 59 46.1 +2.6
baz=317
WUAZ Wupatki 62.84 66 P P 14 59 45.3 +1.8
WUAZ IAmb IAmb 14 59 46.7
comp=Z,6.4nm,1.2s
ISCO Idaho Springs 62.89 59 P P 14 59 46.1 +2.2
baz=317
ISCO Idaho Springs 62.89 59 P P 14 59 45.3 +1.4
ISCO pmax pmax
comp=Z,6.0nm,1.3s
ISCO Idaho Springs 62.89 59 P P 14 59 45.3 +1.4
Y14A Wickenburg 63.06 69 P P 14 59 46.5 +1.7
MVCO Mesa Verde 63.21 63 P P 14 59 48.2 +2.1
baz=317
MVCO Mesa Verde 63.21 63 P P 14 59 47.2 +1.2
X16A Lo Mia Camp, P 63.60 67 P P 14 59 50.5 +2.0
EYMN Ely 63.64 45 P P 14 59 48.7 +0.3
S22A 4UR Ranch, Cre 63.73 62 P P 14 59 51.5 +2.0
baz=317,SNR=6.0
NC303 NORSAR Array S 63.81 343 P P 14 59 48.2 -1.1
NC405 NORSAR Array S 63.85 343 P P 14 59 48.7 -0.9
NC204 NORSAR Array S 63.87 343 P P 14 59 48.9 -0.8
NB201 NORSAR Array S 63.99 343 P P 14 59 49.6 -0.9
NB2 NORSAR Subarra 64.01 343 P P 14 59 49.5 -1.1
comp=Z,2.5nm,0.4s,baz=23,slow=6.9
NOA NORSAR Array B 64.01 343 P P 14 59 50.2 -0.4
comp=Z,4.2nm,0.6s,baz=20,slow=6.7,SNR=37
NOA LR LR 15 32 00.7
comp=Z,5.2nm,18.1s,baz=255,slow=40
W18A Petrified Fore 64.05 66 P P 14 59 52.2 +0.7
NBO00 NORSAR Array S 64.10 343 P P 14 59 50.2 -0.9
NORES NORESS Array B 64.24 343 P P 14 59 51.3 -0.7
NORES pmax pmax
comp=Z,1.0nm,0.2s
NC602 NORSAR Array S 64.24 343 P P 14 59 51.2 -0.9
NAO01 NORSAR Array S 64.25 343 P P 14 59 51.2 -0.9
X18A Snowflake 64.36 66 P P 14 59 55.4 +1.9
X18A IAmb IAmb 14 59 56.7
comp=Z,6.7nm,0.9s
ECSD EROS Data Cent 64.51 51 P P 14 59 54.8 +0.7
baz=319,SNR=5.5
ECSD EROS Data Cent 64.51 51 P P 14 59 54.5 +0.3
ECSD IAmb IAmb 14 59 55.6
comp=Z,4.5nm,0.9s
214A Organ Pipe Nat 64.61 70 P P 14 59 56.3 +1.3
baz=318
214A Organ Pipe Nat 64.61 70 P P 14 59 56.2 +1.3
214A IAmb IAmb 14 59 57.8
comp=Z,9.8nm,1.2s
KONO Kongsberg 65.60 343 P P 15 00 00.5 -0.4
KONO pmax pmax
comp=Z,23nm,1.4s
KONO Kongsberg 65.60 343 P P 15 00 00.5 -0.4
ANMO Albuquerque 66.00 64 P P 15 00 05.7 +1.6
baz=318
ANMO Albuquerque 66.00 64 P P 15 00 05.5 +1.4
ANMO pmax pmax
comp=Z,3.0nm,0.9s
ANMO Albuquerque 66.00 64 P P 15 00 05.5 +1.4
LENM Lemitar 66.29 65 P P 15 00 07.2 +1.2
319A Douglas 67.07 68 P P 15 00 12.1 +1.3
319A IAmb IAmb 15 00 13.7
comp=Z,9.2nm,1.0s
AKASG Malin Array Be 68.79 328 P P 15 00 19.2 -1.9
comp=Z,1.9nm,0.3s,baz=30,slow=6.5,SNR=9.3
AKASG Malin Array Be 68.79 328 P P 15 00 19.3 -1.9
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 68.79 328 P P 15 00 19.3 -1.8
AKBB Malin Array Si 68.79 328 P P 15 00 19.1 -2.1
AKBB pmax pmax
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 68.79 328 P P 15 00 19.1 -2.1
MNTX Cornudas Mount 69.02 65 P P 15 00 24.9 +1.9
baz=320,SNR=5.0
MNTX Cornudas Mount 69.02 65 P P 15 00 24.4 +1.4
GDL2 Guadalupe Moun 69.21 64 P P 15 00 25.7 +1.4
MCD Coleburn Disti 69.44 350 eP P 15 00 25.0 -0.1
KBZ Khabaz 69.46 316 P P 15 00 24.2 -1.2
comp=Z,0.9nm,0.5s,baz=32,slow=7.9,SNR=4.0
MDO Dochfour 69.70 350 eP P 15 00 26.6 -0.1
KAC Achnashellach 69.74 351 eP P 15 00 26.8 -0.1
KPL Plockton 69.93 351 eP P 15 00 27.9 -0.1
KPL IAmb IAmb 15 00 28.6
comp=Z,11nm,0.5s
DRUM Mains of Drumt 70.01 349 eP P 15 00 28.2 -0.4
D54A Lac Fusel, La 70.22 37 P P 15 00 28.0 -2.1
baz=328
WMOK Wichita Mounta 70.28 59 P P 15 00 31.6 +0.9
baz=321
WMOK Wichita Mounta 70.28 59 P P 15 00 31.3 +0.6
WMOK pmax pmax
comp=Z,16nm,1.6s
WMOK Wichita Mounta 70.28 59 P P 15 00 31.2 +0.6
WMOK IAmb IAmb 15 01 56.6
comp=Z,16nm,1.6s
HDIL Hopedale 70.40 49 P P 15 00 29.2 -2.0
baz=323
ELO Logie Almond 70.59 350 eP P 15 00 31.9 -0.2
INVG Invergeldie, C 70.67 350 eP P 15 00 32.0 -0.6
INVG IAmb IAmb 15 00 32.9
comp=Z,7.8nm,0.6s
R40A Maddies Statio 70.79 52 P P 15 00 33.5 -0.2
EAB Aberfoyle 70.93 350 eP P 15 00 33.9 -0.3
LAWE Loch Awe, Argy 70.97 351 eP P 15 00 34.3 -0.1
LAWE IAmb IAmb 15 00 34.8
comp=Z,16nm,0.5s
D56A ZEC Mazanza, M 71.00 35 P P 15 00 35.0 +0.2
baz=329
ESY Stoneypath 71.00 349 eP P 15 00 34.3 -0.4
D57A Chemin Vers le 71.33 35 P P 15 00 37.2 +0.4
baz=329
ESK Eskdalemuir 71.66 349 eP P 15 00 38.5 -0.2
ESK IAmb IAmb 15 00 39.1
comp=Z,14nm,0.6s
ESK Eskdalemuir 71.66 349 P P 15 00 38.4 -0.2
ESK pmax pmax
comp=Z,14nm,0.6s
ESK Eskdalemuir 71.66 349 P P 15 00 38.4 -0.2
TRQ Mont Tremblant 71.77 36 P P 15 00 39.6 0.0
TX31 Lajitas Ar. Si 71.78 66 P P 15 00 41.0 +1.1
TX31 IAmb IAmb 15 00 42.3
comp=Z,16nm,0.9s
TX32 Lajitas Array 71.78 66 P P 15 00 40.9 +1.0
TXAR Lajitas Array 71.78 66 P P 15 00 41.5 +1.7
comp=Z,4.4nm,0.6s,baz=296,slow=5.2,SNR=68
TXAR pP pwP 15 01 05.3 -0.9
comp=Z,1.2nm,0.5s,baz=297,slow=5.0,SNR=4.7
TXAR Lajitas Array 71.78 66 P P 15 00 41.1 +1.2
TXAR Lajitas Array 71.78 66 P P 15 00 41.0 +1.2
NEWG New Galloway 71.97 350 eP P 15 00 39.8 -0.6
NEWG IAmb IAmb 15 00 40.2
comp=Z,6.7nm,0.7s
U40A Yellville 72.03 54 P P 15 00 41.4 +0.2
baz=323,SNR=6.7
U40A Yellville 72.03 54 P P 15 00 41.0 -0.3
U40A IAmb IAmb 15 00 42.0
comp=Z,6.6nm,0.9s
KESW Keswick, Cumbr 72.37 349 eP P 15 00 43.0 +0.1
KESW IAmb IAmb 15 00 43.5
comp=Z,32nm,0.7s
S44A Carbondale 72.71 50 P P 15 00 45.5 +0.4
S44A IAmb IAmb 15 00 46.4
comp=Z,7.0nm,0.7s
CLL Collm 72.73 338 i P P 15 00 44.5 -0.6
comp=Z,4.0nm,0.7s
CLL es P sP 15 01 22.0 +2.9
CLL Collm 72.73 338 i P P 15 00 44.5 -0.6
CLL pmax pmax
comp=Z,4.0nm,0.7s
CLL Collm 72.73 338 P P 15 00 44.3 -0.7
BUR08 Bucovina Ar. S 72.75 329 P P 15 00 43.9 -1.5
FCAR Ozark Folk Cen 72.76 53 P P 15 00 45.4 -0.1
BURAR Bucovina Array 72.77 329 P P 15 00 44.1 -1.4
HPK Haverah Park 72.80 348 eP P 15 00 45.5 +0.1
HPK IAmb IAmb 15 00 45.8
comp=Z,24nm,0.6s
BRG Berggiesshubel 72.92 337 e(P) P 15 00 45.7 -0.5
comp=Z,1.3nm,0.6s
BRG Berggiesshubel 72.92 337 eP P 15 00 45.7 -0.5
BRG pmax pmax
comp=Z,1.0nm,0.6s
WIM Isle of Man 72.98 350 eP P 15 00 46.4 -0.1
MIAR Mount Ida 73.10 55 P P 15 00 48.4 +0.8
baz=323
MIAR Mount Ida 73.10 55 P P 15 00 48.2 +0.7
MIAR pmax pmax
comp=Z,3.0nm,0.7s
MIAR Mount Ida 73.10 55 P P 15 00 48.2 +0.7
W41B Gary Mavity, V 73.27 54 P P 15 00 49.0 +0.5
baz=323
W41B Gary Mavity, V 73.27 54 P P 15 00 48.6 +0.1
W41B IAmb IAmb 15 00 53.2
comp=Z,9.8nm,1.4s
LBWR Ladybower, Pea 73.36 348 eP P 15 00 48.4 -0.3
LBWR IAmb IAmb 15 00 49.0
comp=Z,18nm,0.6s
MOQ Mont Orford 73.38 35 P P 15 00 49.2 +0.2
PRU Pruhonice 73.60 337 eP P 15 00 49.8 -0.4
PRU Pruhonice 73.60 337 eP P 15 00 49.8 -0.4
GOPC GO Pecny, Ondr 73.61 337 eP P 15 00 50.1 -0.2
GOPC GO Pecny, Ondr 73.61 337 eP P 15 00 50.1 -0.2
WME Myndd Eilian 73.67 349 eP P 15 00 50.3 -0.3
VYHS Vyhne 73.86 333 eP P 15 00 51.9 +0.1
VYHS Vyhne 73.86 333 eP P 15 00 51.9 +0.1
CWF Charnwood Fore 73.95 347 eP P 15 00 51.8 -0.4
CWF IAmb IAmb 15 00 52.9
comp=Z,10nm,0.5s
PBCC Pribram 74.01 337 eP P 15 00 52.3 -0.3
FOEL Foel Wylfa 74.05 349 eP P 15 00 52.5 -0.2
FOEL IAmb IAmb 15 00 53.1
comp=Z,9.7nm,0.6s
O52A Adamsville 74.06 44 P P 15 00 53.4 +0.3
baz=327
L56A Greenwood 74.12 40 P P 15 00 53.3 -0.2
KHC Kasperske Hory 74.63 337 eP P 15 00 55.5 -0.8
KHC Kasperske Hory 74.63 337 eP P 15 00 55.5 -0.8
KHC Kasperske Hory 74.63 337 P P 15 00 55.8 -0.4
WVT Waverly 74.64 50 P P 15 00 56.9 +0.5
baz=325
WVT Waverly 74.64 50 P P 15 00 57.0 +0.5
WVT pmax pmax
comp=Z,3.0nm,0.8s
WVT Waverly 74.64 50 P P 15 00 57.0 +0.5
MEM Membach 74.84 342 P P 15 00 57.7 +0.3
comp=Z,11nm,0.8s
N56A West Decatur 74.86 41 P P 15 00 58.1 +0.4
baz=328
GEC2 GERESS Array S 74.86 337 P P 15 00 57.1 -0.6
GEC2 IAmb IAmb 15 00 58.0
comp=Z,3.0nm,0.5s
GERES GERESS Array B 74.86 337 P P 15 00 57.5 -0.2
comp=Z,2.2nm,0.5s,baz=36,slow=6.3,SNR=25
GERES GERESS Array B 74.86 337 P P 15 00 57.2 -0.6
M57A Sunshine Farm, 74.97 40 P P 15 00 58.7 +0.4
baz=329
M57A Sunshine Farm, 74.97 40 P P 15 00 58.2 -0.1
M57A IAmb IAmb 15 00 59.1
comp=Z,6.8nm,0.7s
WB2 Warramunga Arr 75.01 204 P P 15 00 59.9 +1.2
WB2 IAmb IAmb 15 01 32.9
comp=Z,22nm,1.4s
WRA Warramunga Arr 75.01 204 P P 15 00 58.4 -0.2
comp=Z,1.1nm,0.8s,baz=20,slow=6.1,SNR=5.8
WRA pP pP 15 01 22.4 -0.1
comp=Z,0.6nm,0.7s,baz=16,slow=5.8,SNR=1.2
WRA Warramunga Arr 75.01 204 eP P 15 01 02.0 +3.4
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 75.01 204 P P 15 00 59.3 +0.7
RSBS Rosebush, Pemb 75.15 349 eP P 15 00 59.0 -0.1
RSBS IAmb IAmb 15 01 00.1
comp=Z,12nm,0.8s
CONA Conrad Observa 75.17 335 eP P 15 00 60.0 +0.5
comp=Z,2.6nm,0.7s
SSPA Standing Stone 75.26 41 P P 15 01 00.3 +0.3
baz=328
SSPA Standing Stone 75.26 41 P P 15 01 00.1 +0.1
SSPA IAmb IAmb 15 01 54.7
comp=Z,12nm,1.3s
N57A Milroy 75.30 41 P P 15 01 00.2 0.0
baz=328
O56A Blue Knob Stat 75.30 42 P P 15 01 00.7 +0.4
baz=328
O56A Blue Knob Stat 75.30 42 P P 15 01 00.6 +0.3
CLTN Cedars of Leba 75.38 49 P P 15 01 01.9 +1.2
P55A Reedsville 75.42 43 P P 15 01 00.9 -0.1
baz=328
GIVF Givet 75.55 343 eP P 15 01 01.6 +0.1
GIVF pmax pmax
comp=Z,11nm,1.1s
DOU Dourbes 75.59 343 P P 15 01 01.7 0.0
BAIF Baives 75.70 343 eP P 15 01 01.9 -0.4
BAIF pmax pmax
comp=Z,6.0nm,0.7s
SWET Sewanee 76.28 50 P P 15 01 05.8 -0.1
SWET IAmb IAmb 15 01 06.8
comp=Z,4.3nm,0.7s
DYA Yadsworthy 76.55 349 eP P 15 01 07.1 0.0
DYA IAmb IAmb 15 01 07.6
comp=Z,26nm,0.7s
SOKA Soboth 76.55 335 eP P 15 01 06.8 -0.5
comp=Z,5.0nm,0.7s
KBA Koelnbreinsper 76.60 336 eP P 15 01 08.5 +0.7
comp=Z,10nm,0.6s,SNR=14
BRTR Keskin Array B 76.62 319 P P 15 01 06.5 -1.4
comp=Z,0.7nm,0.5s,baz=48,slow=3.0,SNR=4.2
BRTR Keskin Array B 76.62 319 eP P 15 01 07.4 -0.5
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 76.62 319 P P 15 01 06.4 -1.5
CDF Champ du Feu 76.70 341 eP P 15 01 07.5 -0.6
CDF pmax pmax
comp=Z,8.0nm,1.0s
WATA Walderalm 76.78 338 eP P 15 01 08.7 0.0
comp=Z,1.8nm,0.4s
OBKA Obir 76.83 335 eP P 15 01 09.2 +0.3
comp=Z,8.6nm,0.9s
WTTA Wattenberg 76.83 338 eP P 15 01 09.4 +0.4
comp=Z,2.7nm,0.5s
MOTA Moosalm 76.88 338 eP P 15 01 09.6 +0.3
comp=Z,3.6nm,0.7s
Z47A Carrollton 76.91 52 P P 15 01 09.7 +0.3
Z47A IAmb IAmb 15 01 10.6
comp=Z,7.3nm,0.7s
SQTA Sankt Quirin 76.98 338 eP P 15 01 10.4 +0.6
comp=Z,4.0nm,0.8s
FPAL Fort Paine 76.98 50 P P 15 01 10.5 +0.6
FPAL IAmb IAmb 15 03 20.6
comp=Z,8.5nm,1.3s
ABTA Abfaltersbach 77.11 337 eP P 15 01 10.6 +0.1
comp=Z,4.5nm,0.7s,SNR=5.0
PRED Cave del Predi 77.14 336 P P 15 01 09.9 -0.7
PRED IAmb IAmb 15 01 19.2
comp=Z,20nm,1.5s
ZOU Zoufplan 77.18 336 P P 15 01 09.9 -1.1
ZOU IAmb IAmb 15 01 40.5
comp=Z,9.3nm,1.1s
HAU Haudompre 77.27 341 eP P 15 01 10.9 -0.4
HAU pmax pmax
comp=Z,5.0nm,0.6s
FETA Feichten 77.27 338 eP P 15 01 12.0 +0.5
comp=Z,3.4nm,0.6s
DIVS Divibare 77.53 331 P P 15 01 11.9 -1.0
FLN La Foliniere 77.72 346 eP P 15 01 13.3 -0.4
FLN pmax pmax
comp=Z,5.0nm,0.5s
FUORN Ofenpass-Fuorn 77.76 338 P P 15 01 14.6 +0.3
LDF La Druitiere 77.83 346 eP P 15 01 13.6 -0.7
LDF pmax pmax
comp=Z,5.0nm,0.6s
CTI Castel Tesino 77.97 337 P P 15 01 14.6 -0.7
CTI pmax pmax
comp=Z,5.0nm,0.6s
CTI Castel Tesino 77.97 337 P P 15 01 14.6 -0.7
CTI IAmb IAmb 15 01 15.2
comp=Z,5.1nm,0.6s
GRR Gorron 78.14 346 eP P 15 01 15.7 -0.3
GRR pmax pmax
comp=Z,10.0nm,0.6s
SGMF Saint Gilles 78.51 347 eP P 15 01 17.8 -0.3
SGMF pmax pmax
comp=Z,14nm,0.7s
ROSF Rostrenen 78.52 348 eP P 15 01 18.0 -0.2
ROSF pmax pmax
comp=Z,64nm,1.5s
AS31 Alice Springs 78.69 203 P P 15 01 20.6 +1.3
ASAR Alice Springs 78.69 203 P P 15 01 20.6 +1.3
comp=Z,1.0nm,0.6s,baz=14,slow=5.1,SNR=26
ASAR pP pP 15 01 43.9 +0.5
comp=Z,0.6nm,0.6s,baz=15,slow=5.0,SNR=3.0
SSF Saint Saulge 78.71 343 eP P 15 01 18.8 -0.4
SSF pmax pmax
comp=Z,9.0nm,0.7s
QUIF Quistinic 78.92 348 eP P 15 01 20.4 +0.1
QUIF pmax pmax
comp=Z,72nm,1.7s
AVF Avril sur Loir 79.00 343 eP P 15 01 20.5 -0.3
AVF pmax pmax
comp=Z,14nm,0.7s
SMF Signal de Mont 79.06 343 eP P 15 01 20.8 -0.3
SMF pmax pmax
comp=Z,5.0nm,0.7s
BGF Bois d'Agland 79.32 343 eP P 15 01 23.1 +0.5
BGF pmax pmax
comp=Z,6.0nm,0.5s
LPL La Plagne 79.57 340 eP P 15 01 24.5 +0.3
LPL pmax pmax
comp=Z,7.0nm,0.6s
LPG La Plagne 79.59 340 eP P 15 01 24.7 +0.3
LPG pmax pmax
comp=Z,6.0nm,0.6s
TCF Toulx Ste Croi 79.69 344 eP P 15 01 24.5 -0.1
TCF pmax pmax
comp=Z,10.0nm,0.7s
MFF Saint Martin d 79.77 345 eP P 15 01 25.0 0.0
MFF pmax pmax
comp=Z,9.0nm,0.6s
ORIF Oris-en-Rattie 80.32 341 eP P 15 01 28.4 +0.3
ORIF pmax pmax
comp=Z,16nm,1.2s
VIVF Saint-Julien-l 80.62 342 eP P 15 01 29.8 +0.2
VIVF pmax pmax
comp=Z,122nm,2.6s
NRCA Norcia 80.62 335 P P 15 01 28.5 -1.2
RJF Les Rejaudoux 80.76 344 eP P 15 01 30.6 +0.2
RJF pmax pmax
comp=Z,8.0nm,0.7s
CAF Calviac 81.04 343 eP P 15 01 32.3 +0.4
CAF pmax pmax
comp=Z,10.0nm,0.5s
LFF La Frestale 81.25 344 eP P 15 01 33.3 +0.4
LFF pmax pmax
comp=Z,15nm,0.6s
MTLF Montolieu 82.54 343 eP P 15 01 40.2 +0.4
MTLF pmax pmax
comp=Z,6.0nm,0.8s
EPF Esparros 83.17 344 eP P 15 01 43.7 +0.6
EPF pmax pmax
comp=Z,5.0nm,0.5s
ETSF Etsaut 83.45 345 eP P 15 01 44.8 +0.3
ETSF pmax pmax
comp=Z,6.0nm,0.6s
ESDC Sonseca Array 87.12 347 P P 15 02 02.2 -0.6
comp=Z,3.0nm,1.0s,baz=2,slow=4.5,SNR=12
ESDC Sonseca Array 87.12 347 P P 15 02 02.2 -0.6
KEST Kesra 88.28 335 P P 15 02 08.1 -0.4
comp=Z,4.4nm,0.8s,baz=296,slow=5.5,SNR=4.8
KEST Kesra 88.28 335 P P 15 02 08.1 -0.4
KEST IAmb IAmb 15 02 13.5
comp=Z,10nm,1.2s
H03N2 Juan Fernandez 135.11 89 T T 17 39 02.1
baz=314,slow=77,SNR=624
H03N1 Juan Fernandez 135.13 89 T T 17 39 03.4
baz=314,slow=77,SNR=408
H03N3 Juan Fernandez 135.13 89 T T 17 39 01.3
baz=314,slow=77,SNR=625
PLCA Paso Flores 144.91 91 PKPbc PKPdf 15 08 53.4 +0.3
comp=Z,4.6nm,0.7s,baz=296,slow=3.9,SNR=13
PLCA Paso Flores 144.91 91 ePKIKP PKPdf 15 08 53.5 +0.4
PLCA pmax pmax
comp=Z,5.0nm,0.7s

NIED ***15*** *15:01:00,31.°20N×142.°10E,h5km,Mw3.6 Best double couple: M0 3.34000×10^14 NP1:ϕ=24.00000°,δ=61.00000°,λ=97.00000°. NP2:ϕ=189.00000°,δ=30.00000°,λ=77.00000°.*
JMA ***15*** *15:01:53.6±0.3,31.°25N×142.°06E,h32km,M3.8*
IDC ***15*** *15:01:55.7±1.1,30.°86N×140.°52E,h0km,mb3.5/5, mb1 3.6/7,mb1mx3.5/30,mbtmp3.5/7,ML2.2/2,MS2.8/2, Ms1 2.8/2,ms1mx2.4/30,Error ellipse: s-maj=44.2km s-min=17.6km az=89.0*
ISC 15 15:01:54.4±1.1,**31.°22N**±0.°07×**141.°9E**±0.°2,**h24**km,**n15,**
α=2ˢ19/17,mb3.6/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**2.18**	**305**	P	**Pn**	**15 02 31.0**	**+1.8**
JHJ	**Hachijo jima 2**	**2.59**	**317**	Pn	**Pn**	**15 02 34.8**	**-0.1**
	1.4nm,0.3s,baz=62,slow=22,SNR=8.1						

JHJ			Sn		Sn	15 03 00.7	-4.9
	7.8nm,0.3s,baz=155,slow=23,SNR=6.4						
BSO1	**Boso 1**	**3.50 348**	P		**Pn**	**15 02 47.9**	**+1.0**
CBIJ	**Chichi jima**	**4.12 176**	P		**Pn**	**15 02 56.6**	**+0.7**
CBIJ			*e*S		**Sn**	**15 03 39.9**	**-3.4**
JHU	**Hanno**	**5.10 336**	P		**Pn**	**15 03 11.5**	**+2.2**
JRY	**Ryogami san**	**5.39 333**	P		**Pn**	**15 03 15.8**	**+2.5**
JHO	**Hitachi**	**5.48 349**	P		**Pn**	**15 03 14.7**	**+0.1**
JHO			S		**Sn**	**15 04 14.1**	**-2.8**
JAG	**Ashikaga**	**5.57 339**	P		**Pn**	**15 03 16.9**	**+1.2**
JAG			*e*S		**Sn**	**15 04 18.4**	**-0.6**
MJAR	**Matsushiro Arr**	**6.12 331**	Pn		**Pn**	**15 03 25.5**	**+2.2**
	0.1nm,0.3s,baz=130,slow=31,SNR=16						
MJAR			Sn		**Sn**	**15 04 32.6**	**0.0**
	0.0nm,0.3s,baz=173,slow=34,SNR=1.1						
MJAR			LR		LR	15 05 42.2	
	comp=Z,38nm,18.8s,baz=230,slow=38						
PETK	**Petropavlovsk-**	**24.71 23**	P		P	15 07 26.3	+13
	1.5nm,0.6s,baz=226,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**47.72 307**	P		**P**	**15 10 29.2**	**0.0**
	0.5nm,0.9s,baz=84,slow=10,SNR=2.6						
WRA	**Warramunga Arr**	**51.38 189**	P		**P**	**15 10 58.0**	**+0.7**
	0.4nm,0.5s,baz=5.5,slow=7.6,SNR=11						
ILAR	**Eielson Array**	**54.26 30**	P		P	15 11 29.3	+11
	0.2nm,0.9s,baz=240,slow=7.1,SNR=1.8						
ASAR	**Alice Springs**	**55.11 189**	P		**P**	**15 11 25.9**	**+1.2**
	0.4nm,0.4s,baz=3.5,slow=5.3,SNR=20						
AKASG	**Malin Array Be**	**79.15 323**	LR		LR	15 51 09.9	
	comp=Z,12nm,20.6s,baz=340,slow=38						

IDC ***15*** *15:25:08.6±1.8, 10°.25S×124°.79E, h0km, mb3.7/1, mb1 3.8/4, mb1mx3.5/31, mbtmp3.6/4, ML3.5/3, MS3.0/3, Ms1 3.0/3, ms1mx2.5/33, Error ellipse: s-maj=32.5km s-min=14.8km az=12.0*

DJA ***15*** *15:25:12.9±0.6, 10°.5±4°×12°.5E±°, h12km±4km, M4.1/6, mb4.4/2, MLv4.0/6*

ISC 15 15:25:09.8±1.0, 10°.43S±0°.08×124°.73E±0°.09, h10km, n11, σ2s03/14, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SOEI	**Soe**	**0.81**	**326**	P		**Pg**		**15 25 25.2**	**-0.2**
BATI	**Baumata**	**1.07**	**282**	Pg		**Pg**		**15 25 30.4**	**0.0**
	136nm,0.3s,baz=106,slow=3.6,SNR=72								
BATI				Lg		Lg		15 25 44.8	
	122nm,0.3s,baz=120,slow=16,SNR=7.0								
BATI	**Baumata**	**1.07**	**282**	P		**Pg**		**15 25 30.3**	**-0.1**
MMRI	**Maumere**	**3.04**	**306**	P		**Pn**		**15 25 59.2**	**+1.3**
MMRI				S		**Sn**		**15 26 33.1**	**-1.3**
EDFI	**Ende, Flores**	**3.43**	**299**	P		**Pn**		**15 26 03.9**	**+0.5**
EDFI				S		**Sn**		**15 26 42.5**	**-1.8**
KAPI	**Kappang**	**7.30**	**317**	LR		LR		15 29 54.3	
	comp=Z,77nm,20.9s,baz=182,slow=40								
FITZ	**Fitzroy Crossi**	**7.68**	**174**	Pn		**Pn**		**15 27 04.4**	**+2.7**
	1.1nm,0.3s,baz=356,slow=12,SNR=24								
FITZ				Sn		**Sn**		**15 28 27.0**	**-1.8**
	1.9nm,0.3s,baz=30,slow=20,SNR=19								
FITZ				LR		LR		15 30 25.0	
	comp=Z,86nm,18.1s,baz=344,slow=40								
WRA	**Warramunga Arr**	**13.24**	**137**	Pn		**Pn**		**15 28 19.0**	**+1.0**
	0.2nm,0.3s,baz=310,slow=15,SNR=8.7								
WRA				Sn		**Sn**		**15 30 44.9**	**-0.5**
	0.5nm,0.3s,baz=309,slow=24,SNR=5.5								
ASAR	**Alice Springs**	**15.81**	**148**	Pn		**Pn**		**15 28 54.2**	**+1.6**
	0.1nm,0.3s,baz=318,slow=10,SNR=18								
ASAR				Sn		**Sn**		**15 31 43.1**	**-4.9**
	0.1nm,0.3s,baz=313,slow=21,SNR=6.9								
STKA	**Stephens Creek**	**26.44**	**146**	LR		LR		15 41 00.7	
	comp=Z,47nm,19.2s,baz=7.7,slow=36								
MKAR	**Makanchi Array**	**68.40**	**330**	P		**P**		**15 36 11.2**	**-0.5**
	0.4nm,0.5s,baz=132,slow=6.7,SNR=5.4								

IDC ***15*** *15:50:44.5±1.2, 37°.90N×139°.74E, h145km±12km, mb3.1/2, mb1 3.1/6, mb1mx2.9/45, mbtmp3.5/6, Error ellipse: s-maj=24.9km s-min=11.5km az=101.0*

JMA ***15*** *15:50:47.0±0.1, 37°.92N×139°.25E, h155km±1km, M3.2*

ISC 15 15:50:46.6±1.1, 37°.93N±0°.05×139°.26E±0°.06, h157km±8km, n30, σ1s65/38, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JNS	**Sasagawa**	**0.12**	**159**	P		**Pn**		**15 51 07.6**	**-0.1**
JAW	**Awa shima**	**0.52**	**359**	P		**Pn**		**15 51 09.2**	**+0.3**
JAW				*e*S		**Sn**		**15 51 26.6**	**+0.6**
JIZZ	**Izumozaki**	**0.59**	**228**	P		**Pn**		**15 51 10.0**	**+0.7**
JFY	**Yanaizu**	**0.63**	**146**	P		**Pn**		**15 51 09.7**	**+0.1**
JYS	**Shirataka**	**0.70**	**65**	P		**Pn**		**15 51 10.4**	**+0.5**
JYS				*e*S		**Sn**		**15 51 28.3**	**+0.6**
JHK	**Hiroka**	**0.71**	**196**	P		**Pn**		**15 51 10.1**	**+0.1**
JHK				S		**Sn**		**15 51 28.1**	**+0.3**
JYA	**Atsumi**	**0.75**	**28**	P		**Pn**		**15 51 10.8**	**+0.6**
JYA				*e*S		**Sn**		**15 51 29.0**	**+0.6**
JSD	**Sado**	**0.80**	**278**	P		**Pn**		**15 51 10.6**	**+0.1**
JSD				S		**Sn**		**15 51 28.3**	**-0.5**
JFT	**Otama**	**0.95**	**115**	P		**Pn**		**15 51 12.1**	**+0.4**
JFT				*e*S		**Sn**		**15 51 31.8**	**+1.0**
JYK	**Kaneyama**	**1.31**	**41**	P		**Pn**		**15 51 15.3**	**+0.5**
JYK				*e*S		**Sn**		**15 51 37.5**	**+1.0**
JAG	**Ashikaga**	**1.51**	**174**	P		**Pn**		**15 51 17.2**	**+0.3**
JSZ	**Suzu**	**1.58**	**253**	P		**Pn**		**15 51 17.6**	**+0.1**
JSZ				S		**Sn**		**15 51 41.8**	**+0.5**
MAT	**Matsushiro**	**1.62**	**212**	P		**Pn**		**15 51 18.5**	**+0.4**
MAT				S		**Sn**		**15 51 42.7**	**+0.5**
MAT	**Matsushiro**	**1.62**	**212**	P		**Pn**		**15 51 18.4**	**+0.4**
MAT				*e*S		**Sn**		**15 51 41.8**	**-0.4**
MJAR	**Matsushiro Arr**	**1.62**	**212**	P		**Pn**		**15 51 17.5**	**-0.6**
	2.5nm,0.3s,baz=35,slow=8.7,SNR=272								
MJAR				S		**Sn**		**15 51 42.7**	**+0.5**
	0.2nm,0.3s,baz=325,slow=31,SNR=7.0								
JMK	**Ichinoseki**	**1.84**	**56**	P		**Pn**		**15 51 20.9**	**+0.5**
JRY	**Ryogami san**	**1.93**	**189**	P		**Pn**		**15 51 22.2**	**+0.7**
JRY				S		**Sn**		**15 51 49.7**	**+1.4**
JOM	**Ohasama**	**2.21**	**45**	P		**Pn**		**15 51 25.5**	**+0.9**
JHJ	**Hachijo jima 2**	**4.82**	**175**	P		**Pn**		**15 51 55.8**	**-2.0**
	12nm,0.3s,baz=90,slow=21,SNR=9.2								
JHJ				S		**Sn**		**15 52 49.2**	**-4.2**
	5.2nm,0.3s,baz=30,slow=16,SNR=2.8								
ASAJ	**Asahikawa**	**6.67**	**21**	P		**Pn**		**15 52 20.3**	**-2.0**
	0.4nm,0.3s,baz=220,slow=12,SNR=9.8								
ASAJ				S		**Sn**		**15 53 30.7**	**-6.6**
	0.2nm,0.3s,baz=288,slow=20,SNR=1.3								
USRK	**Ussuriysk Ar.**	**8.33**	**321**	P		**Pn**		**15 52 46.3**	**+2.0**
	baz=140,slow=13,SNR=5.1								
KSRS	**Korea Array**	**9.00**	**270**	P		**Pn**		**15 52 55.9**	**+2.7**
	0.1nm,0.3s,baz=91,slow=14,SNR=5.3								
H11N2	**WAKE ISLAND Hy**	**30.08**	**119**	T		T		16 27 40.3	
	baz=316,slow=75,SNR=4.0								
H11N1	**WAKE ISLAND Hy**	**30.09**	**119**	T		T		16 27 41.7	
	baz=316,slow=75,SNR=4.4								
H11N3	**WAKE ISLAND Hy**	**30.10**	**119**	T		T		16 27 41.3	
	baz=316,slow=75,SNR=3.8								
H11S1	**WAKE ISLAND Hy**	**30.79**	**121**	T		T		16 28 36.3	
	baz=317								
H11S3	**WAKE ISLAND Hy**	**30.79**	**121**	T		T		16 28 33.0	
	baz=317								
H11S2	**WAKE ISLAND Hy**	**30.80**	**121**	T		T		16 28 38.9	
	baz=317								
WRA	**Warramunga Arr**	**57.75**	**185**	P		**P**		**16 00 19.9**	**-1.3**
	1.3nm,1.1s,baz=2.8,slow=7.5,SNR=4.9								
ASAR	**Alice Springs**	**61.48**	**186**	P		**P**		**16 00 46.2**	**-0.4**
	0.2nm,0.8s,baz=352,slow=5.7,SNR=1.5								

IDC ***15*** *15:56:02.5±1.1, 56°.33S×27°.78W, h0km, mb4.1/3, mb1 4.1/3, mb1mx3.9/19, mbtmp4.1/3, Error ellipse: s-maj=61.9km s-min=35.5km az=70.0*

NEIC ***15*** *15:56:18.6±0.7, 56°.2S±0°.1×27°.5W±0°.3, h123km±7km, mb4.6/15, Error ellipse: s-maj=26.6km s-min=12.9km az=47.0*

ISC 15 15:56:17.3±0.7, 56°.1S±0°.2×27°.3W±0°.1, h112km, n29, σ0s87/29, mb4.6/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
HOPE	**Hope Point**	**5.59**	**286**	Pn		**Pn**		**15 57 38.2**	**+0.3**
SNAA	**Sanae**	**18.68**	**156**			**Pn**		**16 00 28.4**	**+0.4**
QSPA	**South Pole Qui**	**34.11**	**180**	P		**P**		**16 02 52.6**	**+1.7**
QSPA				IAmb		IAmb		16 03 26.0	
	comp=Z,18nm,1.9s								
MAW	**Mawson**	**40.11**	**143**	P		**P**		**16 03 39.2**	**-2.0**
	comp=Z,1.4nm,0.8s,baz=240,slow=8.1,SNR=1.7								

AC05	**El Transito**	**40.81**	**294**	P		**P**	**16 03 47.2**	**-0.5**
AC04	**Llanos de Chal**	**41.74**	**293**	P		**P**	**16 03 54.4**	**-0.7**
GO02	**Mina Guanaco**	**43.49**	**298**	P		**P**	**16 04 09.3**	**-0.4**
LVC	**Limon Verde**	**45.30**	**300**	P		**P**	**16 04 21.7**	**-2.5**
LVC				IAmb		IAmb	16 05 23.0	
	comp=Z,14nm,1.2s							
PB07	**IPOC Station P**	**46.52**	**300**	P		**P**	**16 04 33.2**	**-0.3**
PB01	**IPOC Station P**	**46.91**	**301**	P		**P**	**16 04 35.9**	**-0.6**
PB01				IAmb		IAmb	16 06 09.4	
	comp=Z,23nm,1.6s							
GO01	**Chusmiza**	**47.95**	**302**	P		**P**	**16 04 44.9**	**-0.1**
GO01				IAmb		IAmb	16 05 27.9	
	comp=Z,36nm,2.0s							
PSGCX	**Pisagua**	**48.45**	**301**	P		**P**	**16 04 47.9**	**-0.5**
MNMC	**Minye Minye**	**48.60**	**302**	P		**P**	**16 04 49.6**	**-0.2**
LPAZ	**La Paz**	**50.39**	**305**	P		**P**	**16 05 03.8**	**+0.1**
LPAZ				IAmb		IAmb	16 05 16.0	
	comp=Z,10.0nm,1.9s							
TOA0	**Torodi Ar. Sit**	**73.16**	**30**	P		**P**	**16 07 36.5**	**+0.9**
TOA0				IAmb		IAmb	16 09 16.8	
	comp=Z,18nm,1.8s							
TORD	**Torodi Ar. Bea**	**73.16**	**30**	P		**P**	**16 07 36.8**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=200,slow=6.4,SNR=7.2							
TORD	**Torodi Ar. Bea**	**73.16**	**30**	P		**P**	**16 07 36.3**	**+0.8**
ASAR	**Alice Springs**	**98.92**	**163**	P		**P**	**16 09 44.6**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=185,slow=3.9,SNR=7.0							
INK	**Inuvik**	**145.84**	**321**	PKPbc		**PKPbc**	**16 15 41.8**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=114,slow=1.2,SNR=9.3							
INK	**Inuvik**	**145.84**	**321**			**PKPdf**	**16 15 41.3**	**+0.4**
BCAR	**Beaver Creek A**	**147.51**	**310**			**PKPbc**	**16 15 46.4**	**-0.4**
RIDG	**Independent Ri**	**149.02**	**310**			**PKPbc**	**16 15 50.9**	**+0.2**
BMAR	**Burnt Mountain**	**149.72**	**317**			**PKPbc**	**16 15 52.3**	**0.0**
IL31		**150.14**	**312**			**PKPbc**	**16 15 53.3**	**0.0**
ILAR	**Eielson Array**	**150.14**	**312**	PKPbc		**PKPbc**	**16 15 52.4**	**-0.9**
	comp=Z,3.2nm,0.7s,baz=130,slow=3.8,SNR=33							
ILAR	**Eielson Array**	**150.14**	**312**			**PKPbc**	**16 15 52.7**	**-0.6**
SONM	**Songino Array**	**150.79**	**87**	PKPbc		**PKPbc**	**16 15 55.8**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=214,slow=2.6,SNR=5.1							
SONM	**Songino Array**	**150.79**	**87**			**PKPbc**	**16 15 55.5**	**-0.1**
BPAW	**Bear Paw Mtn.**	**151.75**	**309**			**PKPbc**	**16 15 56.7**	**-0.5**

WEL 15 16:21:40.1±0.5, 32°.5S±5°×17°.9E±1°.1, h33km, M4.2/14, mB4.8/9, ML4.6/14, MLv4.3/14, Mw(mB)4.1/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
GLKZ	**Green Lake**	**3.56**	**40**	S		S	Sn	16 23 15.5	+1.4
MXZ	**Matakaoa Point**	**5.60**	**189**	P		P	Pn	16 23 01.3	+0.3
MXZ				S		S	Sn	16 24 07.0	+2.8
WMGZ	**Waiomatatini S**	**5.84**	**188**	P		P	Pn	16 23 04.9	+0.6
WMGZ				S		S	Sn	16 24 12.3	+2.2
HAZ	**Te Kaha**	**5.88**	**193**	P		P	Pn	16 23 05.3	+0.4
HAZ				S		S	Sn	16 24 12.7	+1.7
PKGZ	**Pakihiroa**	**5.95**	**191**	P		P	Pn	16 23 05.7	-0.2
PKGZ				S		S	Sn	16 24 13.1	+0.1
RUGZ	**Raukumara Rang**	**6.10**	**193**	P		P	Pn	16 23 09.3	+1.3
RUGZ				S		S	Sn	16 24 17.2	+0.5
PUZ	**Puketiti**	**6.11**	**189**	P		P	Pn	16 23 05.7	-2.3
PUZ				S		S	Sn	16 24 15.3	-1.5
TWGZ	**Tauwhareparae**	**6.25**	**191**	P		P	Pn	16 23 10.3	+0.2
TWGZ				S		S	Sn	16 24 22.4	+2.1
OPRZ	**Ohinepanea**	**6.27**	**202**	P		P	Pn	16 23 12.9	+2.7
MARZ	**Manawahe**	**6.37**	**200**	P		P	Pn	16 23 13.5	+1.9
MWZ	**Matawai**	**6.49**	**194**	P		P	Pn	16 23 11.3	-2.0
URZ	**Urewera**	**6.50**	**197**	P		P	Pn	16 23 14.1	+0.6
URZ				S		S	Sn	16 24 26.7	+0.2
CNGZ	**Carnagh Statio**	**6.52**	**189**	P		P	Pn	16 23 13.5	-0.1
TKGZ	**Te Karaka**	**6.53**	**191**	P		P	Pn	16 23 11.7	-2.1
RAGZ	**Rawiri**	**6.66**	**194**	P		P	Pn	16 23 15.8	+0.1
MUGZ	**Murupara**	**6.80**	**198**	P		P	Pn	16 23 15.7	-1.8
RIGZ	**Rimuhau**	**6.80**	**191**	P		P	Pn	16 23 15.9	-1.7
RTZ	**Ruatahuna**	**6.88**	**196**	P		P	Pn	16 23 19.9	+1.3
SNGZ	**Shannon Statio**	**6.95**	**194**	P		P	Pn	16 23 18.3	-1.4
TLZ	**Tolley Road**	**7.06**	**206**	P		P	Pn	16 23 26.2	+5.1
KNZ	**Kokohu**	**7.13**	**191**	P		P	Pn	16 23 19.6	-4.4
MTHZ	**Maungataniwha**	**7.13**	**197**	P		P	Pn	16 23 22.4	+0.2
RAHZ	**Arahi**	**7.14**	**195**	P		P	Pn	16 23 20.2	-2.0
NMHZ	**Naumai**	**7.38**	**196**	P		P	Pn	16 23 24.2	-1.3
BKZ	**Black Stump Fm**	**7.52**	**198**	P		P	Pn	16 23 26.1	-1.4
FWVZ	**Far West T-bar**	**7.88**	**203**	P		P	Pn	16 23 33.0	+0.5
BHHZ	**Black Hill Sta**	**7.94**	**199**	P		P	Pn	16 23 32.1	-1.1
MOVZ	**Moawhango**	**7.95**	**201**	P		P	Pn	16 23 31.6	-1.8
KRHZ	**Kereru**	**8.00**	**197**	P		P	Pn	16 23 31.5	-2.6
KAHZ	**Kahuranaki**	**8.03**	**194**	P		P	Pn	16 23 33.2	-1.2
TSZ	**Takapari Road**	**8.50**	**198**	P		P	Pn	16 23 37.5	-3.4

WEL 15 16:36:26.0±0.6, 33°S±12°×17°9E±2°8, h334km±14km, M3.9/10, mB4.2/2, ML4.1/8, MLv3.9/10, Mw(mB)3.3/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
GLKZ	**Green Lake**	**4.47**	**33**	S		S	S	16 38 38.8	+0.8
WMGZ	**Waiomatatini S**	**4.80**	**189**	P		P	Pn	16 37 43.2	+0.6
WMGZ				S		S	S	16 38 45.9	+1.6
HAZ	**Te Kaha**	**4.84**	**195**	P		P	Pn	16 37 42.6	-0.4
HAZ				S		S	S	16 38 44.5	-0.7
PKGZ	**Pakihiroa**	**4.92**	**192**	P		P	Pn	16 37 44.0	+0.1
PKGZ				S		S	S	16 38 45.1	-1.8
PUZ	**Puketiti**	**5.07**	**190**	P		P	Pn	16 37 45.8	+0.3
PUZ				S		S	S	16 38 50.2	+0.4
RUGZ	**Raukumara Rang**	**5.07**	**195**	P		P	Pn	16 37 45.2	-0.5
RUGZ				S		S	S	16 38 49.6	-0.4
TWGZ	**Tauwhareparae**	**5.21**	**192**	P		P	Pn	16 37 45.9	-1.4
TWGZ				S		S	S	16 38 54.1	+1.2
MWZ	**Matawai**	**5.45**	**195**	P		P	Pn	16 37 51.1	+1.1
MWZ				S		S	S	16 38 58.4	+0.6
URZ	**Urewera**	**5.49**	**199**	P		P	Pn	16 37 50.4	+0.1
URZ				S		S	S	16 39 00.6	+2.3
TKGZ	**Te Karaka**	**5.49**	**192**	P		P	Pn	16 37 50.6	+0.2
TKGZ				S		S	S	16 39 00.0	+1.5
RIGZ	**Rimuhau**	**5.77**	**192**	P		P	Pn	16 37 52.7	-0.9
RIGZ				S		S	S	16 39 05.0	+0.7
MUGZ	**Murupara**	**5.78**	**200**	P		P	Pn	16 37 54.1	+0.4
RAHZ	**Arahi**	**6.11**	**197**	P		P	Pn	16 37 57.7	+0.2

AEIC 15 16:40:30±1.0, 56°.49N±0°.08×149°.0W±0°.1, h11km±7km, ML3.3/96, Error ellipse: s-maj=12.4km s-min=7.9km az=160.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KDAK	**Kodiak Island**	**2.35**	**305**				Pn	16 41 04.6	-3.8
KDAK							Sn	16 41 30.8	-6.3
OHAK	**Old Harbor**	**2.47**	**289**				Pn	16 41 05.8	-4.3
OHAK							Sn	16 41 32.6	-7.5
CNPM	**China Poot**	**3.27**	**340**				Pn	16 41 17.2	-3.9
CNPM							Sn	16 41 45.2	-4.8
MID	**Middleton Isla**	**3.27**	**25**				Pn	16 41 16.8	-4.3
BRSE	**Bradley Lake S**	**3.39**	**345**				Pn	16 41 18.8	-4.0
BRSE							Sn	16 41 57.8	-5.2
BRLK	**Bradley Lake**	**3.44**	**344**				Pn	16 41 19.1	-4.3
HOM	**Homer**	**3.48**	**337**				Pn	16 41 20.1	-3.8
SEW	**Seward**	**3.64**	**356**				Pn	16 41 21.8	-4.3
SEW							Sn	16 42 02.5	-6.4
AU22	**Augustine Moun**	**3.71**	**323**				Pn	16 41 23.3	-3.8
AUJK	**Augustine Jueg**	**3.71**	**323**				Pn	16 41 24.1	-3.0
AUP	**Augustine Pinn**	**3.72**	**323**				Pn	16 41 24.0	-3.4
CAHL	**Cahill**	**3.76**	**297**				Pn	16 41 24.2	-3.7
KCG	**Knife Ck. Glac**	**3.78**	**301**				Pn	16 41 24.8	-3.3
KABU	**Katmai Buttres**	**3.84**	**300**				Pn	16 41 25.8	-3.2
KAHC	**Katmai Hardscr**	**3.89**	**306**				Pn	16 41 26.6	-3.1
O22K	**Cooper Landing**	**4.02**	**355**				Pn	16 41 27.7	-3.7
SLKM	**Skilak Lake**	**4.08**	**351**				Pn	16 41 28.0	-4.3
SLKM							Sn	16 42 13.7	-6.4
IVE	**Iliamna Volcan**	**4.13**	**331**				Pn	16 41 29.0	-4.0
HIN	**Hinchinbrook I**	**4.13**	**17**				Pn	16 41 29.1	-3.8
HIN							Sn	16 42 14.9	-6.4
PWL	**Port Wells**	**4.40**	**4**				Pn	16 41 32.6	-4.0
RED	**Redoubt Volcan**	**4.41**	**335**				Pn	16 41 32.5	-4.4
EYAK	**Cordova Ski Ar**	**4.42**	**21**				Pn	16 41 33.3	-3.5
RDSO	**Redoubt South**	**4.44**	**335**				Pn	16 41 32.9	-4.3
RSO	**Redoubt South**	**4.45**	**335**				Pn	16 41 33.5	-3.9
FID	**Port Fidalgo**	**4.47**	**16**				Pn	16 41 33.8	-3.8
RDWB	**Redoubt West**	**4.49**	**335**				Pn	16 41 33.5	-4.5
GLI	**Glacier Island**	**4.52**	**12**				Pn	16 41 34.3	-3.9
RAGM	**Ragged Mountai**	**4.52**	**28**				Pn	16 41 34.8	-3.6
RDJH	**Redoubt Jeurge**	**4.57**	**336**				Pn	16 41 34.7	-4.4

RC01	**Rabbit Creek A**	**4.63**	**356**			Pn	16 41 35.9	-3.9
GOAT	**Goat Mountain**	**4.68**	**27**			Pn	16 41 37.0	-3.4
FIS	**Fire Island**	**4.71**	**353**			Pn	16 41 37.4	-3.5
BGLC	**Bering Glacier**	**4.73**	**37**			Pn	16 41 37.6	-3.5
JPK	**Jack Peak**	**4.75**	**14**			Pn	16 41 37.9	-3.6
GRIN	**Grindle Hills**	**4.84**	**36**			Pn	16 41 39.2	-3.5
KNK	**Knik Glacier**	**4.95**	**3**			Pn	16 41 40.5	-3.7
KHIT	**Khitrov Hills**	**4.98**	**35**			Pn	16 41 40.7	-4.0
SPCR	**Spurr Chakacha**	**5.01**	**342**			Pn	16 41 41.2	-3.9
SPCG	**Spurr Capps Gl**	**5.07**	**343**			Pn	16 41 42.1	-3.7
SPBG	**Spurr Blockage**	**5.10**	**341**			Pn	16 41 42.8	-3.4
WAX	**Waxell Ridge**	**5.12**	**37**			Pn	16 41 42.5	-4.0
PMR	**Palmer**	**5.12**	**359**			Pn	16 41 42.9	-3.6
CHGN	**Chignik**	**5.23**	**272**			Pn	16 41 44.2	-3.8
STLK	**Strandline Lak**	**5.24**	**345**			Pn	16 41 44.4	-3.7
MESA	**MESA**	**5.24**	**42**			Pn	16 41 44.7	-3.6
SPNN	**North Nagishla**	**5.25**	**340**			Pn	16 41 44.7	-3.8
GHO	**Glory Hole Cre**	**5.30**	**0**			Pn	16 41 45.5	-3.5
SML	**Sawmill**	**5.35**	**3**			Pn	16 41 46.5	-3.1
YAH	**Yahtse**	**5.44**	**41**			Pn	16 41 47.4	-3.8
CHX	**Chaix Hills**	**5.49**	**46**			Pn	16 41 48.1	-3.5
RKAV	**Rock Avalanche**	**5.55**	**43**			Pn	16 41 48.9	-3.6
VRDI	**Verde Repeater**	**5.56**	**29**			Pn	16 41 48.9	-3.8
KIAG	**Kiagna River**	**5.63**	**35**			Pn	16 41 50.0	-3.7
GLB	**Gilahina Butte**	**5.65**	**26**			Pn	16 41 50.1	-3.7
VNHG	**Veniaminof 1**	**5.66**	**272**			Pn	16 41 50.2	-3.8
BALM	**Baldy**	**5.73**	**34**			Pn	16 41 51.2	-3.7
SVW2	**Sparrevohn**	**5.75**	**326**			Pn	16 41 51.5	-3.6
PCA	**Pinnacle**	**5.86**	**48**			Pn	16 41 52.9	-3.8
BARN	**Barnard Glacie**	**5.96**	**37**			Pn	16 41 54.7	-3.6
PNL	**Peninsula**	**6.01**	**54**			Pn	16 41 54.8	-4.0
CNBA	**Chernabura Isl**	**6.22**	**259**			Pn	16 41 56.5	-5.1
WAT2	**Suestna Watana**	**6.50**	**2**			Pn	16 42 01.7	-3.8
SDPT	**Sand Point**	**6.55**	**265**			Pn	16 42 01.9	-4.2
DHY	**Denali Highway**	**6.66**	**6**			Pn	16 42 04.6	-3.1
YUK2	**White River**	**6.77**	**35**			Pn	16 42 05.8	-3.4
YUK3	**Moose Creek**	**6.88**	**36**			Pn	16 42 07.7	-3.1
RND	**Reindeer**	**6.94**	**1**			Pn	16 42 08.3	-3.3
YUK7	**Dusty Glacier**	**6.98**	**50**			Pn	16 42 08.8	-3.5
TRF	**Thorofare Moun**	**7.02**	**355**			Pn	16 42 09.6	-3.1
YUK6	**Outpost Mounta**	**7.11**	**47**			Pn	16 42 10.8	-3.3
YUK1	**Sand Pete Hill**	**7.14**	**34**			Pn	16 42 10.3	-4.1
KTH	**Kantishna Hill**	**7.15**	**353**			Pn	16 42

EYAK	**Cordova Ski Ar**	**3.90**	**28**		Pn	16 52 37.3	-4.4
FID	**Port Fidalgo**	**3.91**	**22**		Pn	16 52 36.9	-4.8
GLI	**Glacier Island**	**3.92**	**18**		Pn	16 52 37.2	-4.6
RC01	**Rabbit Creek A**	**3.92**	**358**		Pn	16 52 37.5	-4.5
FIS	**Fire Island**	**3.99**	**355**		Pn	16 52 39.4	-3.5
RAGM	**Ragged Mountai**	**4.09**	**36**		Pn	16 52 40.1	-4.1
JPK	**Jack Peak**	**4.17**	**20**		Pn	16 52 41.4	-4.0
GOAT	**Goat Mountain**	**4.22**	**34**		Pn	16 52 42.2	-3.8
KNK	**Knik Glacier**	**4.28**	**7**		Pn	16 52 42.5	-4.4
SPCG	**Spurr Capps Gl**	**4.32**	**344**		Pn	16 52 43.8	-3.7
BERG	**Berg Lake**	**4.42**	**41**		Pn	16 52 44.7	-4.1
PMR	**Palmer**	**4.43**	**2**		Pn	16 52 44.9	-3.9
GRIN	**Grindle Hills**	**4.48**	**43**		Pn	16 52 46.0	-3.7
SPNN	**North Nagishla**	**4.50**	**340**		Pn	16 52 45.9	-4.2
GHO	**Glory Hole Cre**	**4.62**	**4**		Pn	16 52 47.7	-3.8
KHIT	**Khitrov Hills**	**4.62**	**42**		Pn	16 52 47.6	-4.0
WAX	**Waxell Ridge**	**4.77**	**44**		Pn	16 52 49.9	-3.7
PS12	**TAPS Pump St12**	**4.86**	**26**		Pn	16 52 51.0	-3.7
MESA	**MESA**	**4.96**	**50**		Pn	16 52 52.0	-4.4
VRDI	**Verde Repeater**	**5.12**	**35**		Pn	16 52 54.5	-4.0
YAH	**Yahtse**	**5.15**	**48**		Pn	16 52 55.0	-4.0
GLB	**Gilahina Butte**	**5.18**	**32**		Pn	16 52 55.5	-3.7
KIAG	**Kiagna River**	**5.27**	**42**		Pn	16 52 56.6	-3.9
RKAV	**Rock Avalanche**	**5.28**	**50**		Pn	16 52 56.2	-4.5
BALM	**Baldy**	**5.35**	**41**		Pn	16 52 57.8	-3.8
WAT6	**Susitna Watana**	**5.49**	**9**		Pn	16 52 59.7	-3.9
BARN	**Barnard Glacie**	**5.61**	**43**		Pn	16 53 01.6	-3.7
PCA	**Pinnacle**	**5.65**	**55**		Pn	16 53 02.1	-3.6
WAT2	**Susitna Watana**	**5.82**	**4**		Pn	16 53 04.6	-3.5
PNL	**Peninsula**	**5.87**	**61**		Pn	16 53 04.9	-3.9
DHY	**Denali Highway**	**6.01**	**9**		Pn	16 53 06.4	-4.3
CNBA	**Chernabura Isl**	**6.12**	**252**		Pn	16 53 08.3	-3.8
RND	**Reindeer**	**6.26**	**3**		Pn	16 53 10.0	-4.0
TRF	**Thorofare Moun**	**6.30**	**357**	Pn	Pn	16 53 10.8	-3.9
YUK2	**White River**	**6.39**	**40**		Pn	16 53 11.8	-4.1
YUK3	**Moose Creek**	**6.52**	**41**		Pn	16 53 14.0	-3.7
TT01	**Tatalina**	**6.60**	**333**		Pn	16 53 13.8	-4.9
YUK4	**Talbot Arm**	**6.96**	**49**		Pn	16 53 22.4	-1.4
RIDG	**Independent Ri**	**6.97**	**17**		Pn	16 53 20.3	-3.5
BPAW	**Bear Paw Mtn.**	**6.98**	**355**	Pn	Pn	16 53 19.0	-4.9
DOT	**Dot Lake**	**7.03**	**20**		Pn	16 53 22.7	-1.8
BCAR	**Beaver Creek A**	**7.05**	**30**	Pn	Pn	16 53 22.1	-2.8
HYT	**Haines Junctio**	**7.20**	**54**	Pn	Pn	16 53 24.5	-2.5
SCRK	**Sand Creek**	**7.34**	**19**	Pn	Pn	16 53 26.3	-2.6
HDA	**Harding Lake**	**7.36**	**9**	Pn	Pn	16 53 26.5	-2.6
CCB	**Clear Creek Bu**	**7.54**	**6**		Pn	16 53 29.0	-2.5
IL31		**7.72**	**8**		Pn	16 53 30.7	-3.3
ILAR	**Eielson Array**	**7.72**	**8**	Pn	Pn	16 53 30.8	-3.3

NIED ***15*** *17:40:00, 37.°10N×141.°40E, h5km, Mw3.7 Best double couple: M₀3.70000×10¹⁴ NP1:φs190.00000°, δ70.00000°, λ-99.00000°. NP2:φs34.00000°, δ22.00000°, λ-68.00000°.*

IDC ***15*** *17:40:20.3±0.9, 37.°07N×141.°39E, h0km, mb3.8/12, mb1 3.8/17, mb1mx3.7/49, mbtmp3.7/17, ML3.2/4, MS2.6/3, Ms1 2.6/3, ms1mx2.3/33, Error ellipse: s-maj=21.2km s-min=16.5km az=93.0*

NEIC ***15*** *17:40:22.1±1.8, 37.°10N±0.°05×141.°6E±0.°1, h15km±5km, mb4.6/6, Error ellipse: s-maj=12.2km s-min=7.3km az=82.0*

JMA ***15*** *17:40:23.1±0.1, 37.°13N×141.°37E, h26km±1km, M3.8*

ISC 15 17:40:22.6±1.7**, 37.12N**±0.°04×**141.38E**±0.°07**, h15**km±10**km, n50**,σ1°**20/55, mb3.9**/14**, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.46**	**268**	P	**Pb**	**17 40 32.3**	**-0.1**
ONAJ				S	**Sb**	**17 40 38.7**	**-0.4**
JFK	**Kawauchi**	**0.47**	**302**	P	**Pb**	**17 40 32.2**	**-0.3**
JFK				S	**Sg**	**17 40 38.8**	**+0.5**
JMST	**Minamisoumatoc**	**0.72**	**327**	P	**Pg**	**17 40 36.4**	**-0.1**
JMST				S	**Sg**	**17 40 46.1**	**+0.1**
JHO	**Hitachi**	**0.82**	**232**	P	**Pg**	**17 40 37.9**	**-0.7**
JHO				*e*S	**Sb**	**17 40 49.0**	**-0.5**
JMM	**Marumori**	**0.88**	**328**	P	**Pb**	**17 40 39.1**	**-0.4**
JMM				S	**Sb**	**17 40 50.6**	**-0.4**
JFT	**Otama**	**0.92**	**296**	P	**Pg**	**17 40 40.4**	**0.0**
JFT				S	**Sg**	**17 40 52.7**	**+0.3**
JSB	**Shiboa**	**1.18**	**263**	P	**Pg**	**17 40 44.8**	**-0.4**
JSB				S	**Sg**	**17 41 00.7**	**+0.1**
JIO	**Ouri**	**1.33**	**359**	P	**Pn**	**17 40 46.0**	**-0.6**
JIO				*e*S	**Sn**	**17 41 03.2**	**-0.8**
JFY	**Yanaizu**	**1.36**	**283**	P	**Pb**	**17 40 47.5**	**-0.3**
JFY				S	**Sg**	**17 41 05.9**	**-0.7**
JOU	**Okura**	**1.36**	**336**	P	**Pb**	**17 40 47.4**	**-0.4**
JOU				S	**Sb**	**17 41 06.0**	**+0.9**
MJAR	**Matsushiro Arr**	**2.61**	**258**	Pn	**Pn**	**17 41 05.3**	**+1.1**
	1.4nm,0.3s,baz=84,slow=26,SNR=124						
MJAR				Sn	**Sb**	**17 41 38.4**	**-2.5**
	1.4nm,0.3s,baz=89,slow=18,SNR=2.9						
MJAR				LR	LR	17 42 20.7	
	comp=Z,89nm,20.6s,baz=95,slow=47						
MJAR	**Matsushiro Arr**	**2.61**	**258**		**Pn**	**17 41 04.6**	**+0.4**
MAJO	**Matsushiro**	**2.61**	**258**		**Pn**	**17 41 05.8**	**+1.6**
MAT	**Matsushiro**	**2.61**	**258**	P	**Pn**	**17 41 05.8**	**+1.6**
MAT				S	**Sb**	**17 41 40.3**	**-0.5**
MJB9	**Matsu-Tunnel**	**2.61**	**258**		**Pn**	**17 41 05.7**	**+1.5**
INU	**Inuyama**	**3.94**	**245**		**Pn**	**17 41 24.4**	**+1.9**
JHJ	**Hachijo jima 2**	**4.20**	**199**	Pn	**Pn**	**17 41 26.2**	**+0.1**
	4.6nm,0.3s,baz=345,slow=18,SNR=11						
JHJ				Sn	**Sn**	**17 42 15.3**	**+0.4**
	4.8nm,0.3s,baz=52,slow=19,SNR=1.1						
ASAJ	**Asahikawa**	**7.05**	**7**	Pn	**Pn**	**17 42 05.0**	**-0.2**
	0.8nm,0.3s,baz=207,slow=5.2,SNR=12						
ASAJ				Sn	**Sn**	**17 43 22.2**	**-2.7**
	0.3nm,0.3s,baz=219,slow=13,SNR=2.6						
JKA	**Kamikawa-asahi**	**7.05**	**7**		**Pn**	**17 42 05.0**	**-0.2**
JKA					**Sn**	**17 43 22.2**	**-2.7**
USRK	**Ussuriysk Ar.**	**10.04**	**318**	Pn	**Pn**	**17 42 47.7**	**+1.5**
	baz=143,slow=13,SNR=2.7						
USRK				LR	LR	17 46 55.3	
	comp=Z,45nm,19.0s,baz=146,slow=39						
KSRS	**Korea Array**	**10.72**	**276**	Pn	**Pn**	**17 42 56.7**	**+1.2**
	0.1nm,0.3s,baz=87,slow=14,SNR=3.5						
KSRS				LR	LR	17 47 04.2	
	comp=Z,29nm,18.4s,baz=162,slow=38						
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**17 46 09.1**	**-1.2**
	1.0nm,0.4s,baz=111,slow=7.9,SNR=2.5						
SONM	**Songino Array**	**27.71**	**304**	P	**P**	**17 46 11.2**	**+1.0**
H11N2	**WAKE ISLAND Hy**	**28.22**	**121**	T	T	18 15 45.2	
	baz=314,slow=75,SNR=276						
H11N1	**WAKE ISLAND Hy**	**28.23**	**121**	T	T	18 15 44.8	
	baz=314,slow=75,SNR=301						
H11N3	**WAKE ISLAND Hy**	**28.24**	**121**	T	T	18 15 47.3	
	baz=314,slow=75,SNR=247						
H11S1	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	18 16 38.0	
	baz=316,slow=76,SNR=106						
H11S3	**WAKE ISLAND Hy**	**28.93**	**123**	T	T	18 16 37.2	
	baz=316,slow=76,SNR=94						
H11S2	**WAKE ISLAND Hy**	**28.95**	**123**	T	T	18 16 38.9	
	baz=316,slow=76,SNR=92						
ZALV	**Zalesovo Beam**	**41.83**	**312**	P	**P**	**17 48 11.3**	**-0.3**
	0.4nm,0.5s,baz=94,slow=6.5,SNR=2.3						
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**17 48 28.4**	**-1.3**
	0.3nm,0.5s,baz=83,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**44.05**	**302**	P	**P**	**17 48 27.6**	**-2.0**
KURBB	**Kurchatov Arra**	**45.92**	**308**	P	**P**	**17 48 44.2**	**-0.2**
	2.0nm,0.6s,baz=84,slow=7.9,SNR=9.8						
KDAK	**Kodiak Island**	**47.05**	**42**	P	**P**	**17 48 53.9**	**+0.7**
	2.6nm,0.7s,baz=297,slow=11,SNR=1.4						
IL31		**49.44**	**32**	P	**P**	**17 49 10.3**	**-1.2**
IL31				IAmb	IAmb	17 49 12.5	
	comp=Z,4.8nm,1.1s						
ILAR	**Eielson Array**	**49.44**	**32**	P	**P**	**17 49 09.9**	**-1.7**
WR0	**Warramunga Arr**	**57.14**	**188**	P	**P**	**17 50 08.9**	**+0.3**
WB2	**Warramunga Arr**	**57.14**	**188**	P	**P**	**17 50 07.6**	**-1.1**
WB2				IAmb	IAmb	17 50 18.7	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**57.14**	**188**	P	**P**	**17 50 09.1**	**+0.4**
	comp=Z,1.2nm,0.9s,baz=5.9,slow=6.9,SNR=6.3						
AS31	**Alice Springs**	**60.87**	**188**	P	**P**	**17 50 32.2**	**-2.3**
ASAR	**Alice Springs**	**60.87**	**188**	P	**P**	**17 50 32.4**	**-2.1**
	comp=Z,0.2nm,0.7s,baz=9.7,slow=9.8,SNR=5.7						
ARCES	**ARCESS Array B**	**63.90**	**339**	P	**P**	**17 50 54.7**	**+0.4**
	comp=Z,3.0nm,0.9s,baz=34,slow=9.0,SNR=3.8						
FINES	**FINESS Array B**	**68.72**	**332**	P	**P**	**17 51 26.6**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=8.5,slow=11,SNR=1.6						
AKASG	**Malin Array Be**	**74.21**	**322**	P	**P**	**17 51 59.4**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=48,slow=5.4,SNR=2.0						
AKASG	**Malin Array Be**	**74.21**	**322**	IAmb	IAmb	17 52 04.5	
	comp=Z,0.5nm,0.9s						
GERES	**GERESS Array B**	**82.62**	**328**	P	**P**	**17 52 46.8**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=22,slow=5.5,SNR=2.3						
TXAR	**Lajitas Array**	**90.09**	**52**	P	**P**	**17 53 23.7**	**+1.4**
	comp=Z,0.2nm,0.7s,baz=309,slow=4.3,SNR=2.2						
H03N2	**Juan Fernandez**	**147.06**	**96**	T	T	20 44 20.9	
	baz=291,slow=76,SNR=26						
H03N3	**Juan Fernandez**	**147.07**	**96**	T	T	20 44 23.1	
	baz=291,slow=76,SNR=28						
H03N1	**Juan Fernandez**	**147.08**	**96**	T	T	20 44 28.6	
	baz=291,slow=76,SNR=28						

IDC ***15*** *17:49:33.1±30.0, 31.°58S×179.°99W, h331km±278km, mb3.6/4, mb1 3.7/4, mb1mx3.2/33, mbtmp4.3/4, Error ellipse: s-maj=143.2km s-min=22.4km az=56.0*

ISC 15 17:49:26.4±2.3**, 32.9S**±0.°1×**178.7W**±0.°3**, h350**km**, n32, σ1°76**/34**, mb3.7/4, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**5.45**	**205**	P	**Pn**	**17 50 51.9**	**+1.1**
WMGZ				S	**S**	**17 52 01.4**	**+2.2**
PKGZ	**Pakihiroa**	**5.63**	**207**	P	**Pn**	**17 50 49.3**	**-3.7**
HAZ	**Te Kaha**	**5.63**	**210**	P	**Pn**	**17 50 49.0**	**-3.9**
HAZ				S	**S**	**17 52 04.0**	**+0.9**
PUZ	**Puketiti**	**5.73**	**205**	P	**Pn**	**17 50 50.8**	**-3.2**
RUGZ	**Raukumara Rang**	**5.86**	**209**	P	**Pn**	**17 50 53.1**	**-2.4**
CNGZ	**Carnagh Statio**	**6.12**	**203**	P	**Pn**	**17 50 58.0**	**-0.4**
TKGZ	**Te Karaka**	**6.20**	**206**	P	**Pn**	**17 50 58.8**	**-0.5**
TKGZ				S	**S**	**17 52 14.3**	**-0.5**
MWZ	**Matawai**	**6.23**	**208**	P	**Pn**	**17 50 55.4**	**-4.3**
MWZ				S	**S**	**17 52 14.1**	**-1.5**
OPRZ	**Ohinepanea**	**6.27**	**217**	P	**Pn**	**17 50 59.7**	**-0.5**
URZ	**Urewera**	**6.34**	**211**	P	**Pn**	**17 50 59.5**	**-1.6**
RAGZ	**Rawiri**	**6.42**	**208**	P	**Pn**	**17 51 02.2**	**+0.3**
RIGZ	**Rimuhau**	**6.47**	**205**	P	**Pn**	**17 51 02.0**	**-0.5**
MUGZ	**Murupara**	**6.67**	**212**	P	**Pn**	**17 51 04.4**	**-0.4**
SNGZ	**Shannon Statio**	**6.69**	**208**	P	**Pn**	**17 51 05.1**	**0.0**
RTZ	**Ruatahuna**	**6.70**	**210**	P	**Pn**	**17 51 04.2**	**-1.0**
KNZ	**Kokohu**	**6.78**	**205**	P	**Pn**	**17 51 06.6**	**+0.6**
MHGZ	**Mahia Peninsul**	**6.82**	**203**	P	**Pn**	**17 51 08.1**	**+1.5**
RAHZ	**Arahi**	**6.91**	**208**	P	**Pn**	**17 51 07.5**	**-0.1**
MTHZ	**Maungataniwha**	**6.96**	**210**	P	**Pn**	**17 51 08.4**	**+0.3**
MRHZ	**Matea Rd**	**7.12**	**212**	P	**Pn**	**17 51 08.4**	**-1.8**
BKZ	**Black Stump Fm**	**7.37**	**211**	P	**Pn**	**17 51 12.5**	**-0.5**
MCHZ	**McNeill Hill**	**7.52**	**208**	P	**Pn**	**17 51 15.2**	**+0.5**
HIZ	**Hauiti**	**7.67**	**221**	P	**Pn**	**17 51 18.2**	**+1.7**
KAHZ	**Kahuranaki**	**7.75**	**206**	P	**Pn**	**17 51 18.5**	**+1.0**
KRHZ	**Kereru**	**7.82**	**209**	P	**Pn**	**17 51 17.8**	**-0.5**
BHHZ	**Black Hill Sta**	**7.82**	**211**	P	**Pn**	**17 51 17.4**	**-0.9**
STKA	**Stephens Creek**	**33.41**	**261**	P	**P**	**17 55 35.0**	**+1.6**
	1.0nm,0.6s,baz=103,slow=11,SNR=3.6						
ASAR	**Alice Springs**	**42.44**	**270**	P	**P**	**17 56 47.9**	**-0.4**
	2.0nm,0.5s,baz=108,slow=7.5,SNR=65						
WRA	**Warramunga Arr**	**43.66**	**275**	P	**P**	**17 56 56.2**	**-1.7**
	2.3nm,0.3s,baz=111,slow=8.0,SNR=48						
QSPA	**South Pole Qui**	**57.22**	**180**	P	P	17 58 55.4	+17
	3.9nm,0.5s,baz=357,slow=1.7,SNR=34						
FINES	**FINESS Array B**	**147.25**	**338**	PKPbc	**PKPab**	**18 08 31.8**	**+0.9**
	1.3nm,0.8s,baz=66,slow=4.6,SNR=6.8						
TORD	**Torodi Ar. Bea**	**160.34**	**181**	PKPab	PKPab	18 09 41.1	+14
	0.3nm,0.3s,baz=162,slow=4.3,SNR=4.7						

IDC ***15*** *17:56:33.2±1.6, 24.°27S×66.°82W, h165km±20km, mb3.3/1, mb1 3.3/5, mb1mx3.1/25, mbtmp3.7/5, Error ellipse: s-maj=31.3km s-min=14.7km az=86.0*

GUC ***15*** *17:56:36.1±0.6, 24.°16S×67.°56W, h223km±12km, ML4.1*

ISC 15 17:56:33.8±1.1**, 24.22S**±0.°06×**67.1W**±0.°1**, h192**km±14**km, n20**,σ1°**55/34, 5C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.33**	**313**	P	**Pn**	**17 57 17.4**	**+1.7**
	23nm,0.3s,baz=140,slow=8.6,SNR=132						
LVC				S	**S**	**17 57 48.5**	**+0.2**
	25nm,0.3s,baz=132,slow=4.2,SNR=6.1						
LVC	**Limon Verde**	**2.33**	**313**	*e*P	**Pn**	**17 57 17.5**	**+1.7**
LVC				*i*S	**S**	**17 57 48.9**	**+0.6**
PB15	**IPOC Station P**	**2.43**	**294**	⇑*i*P	**Pn**	**17 57 18.4**	**+1.7**
PB15				*i*S	**S**	**17 57 50.0**	**+0.2**
GO02	**Mina Guanaco**	**2.48**	**247**	⇑*i*P	**Pn**	**17 57 18.9**	**+1.6**
GO02				*i*S	**S**	**17 57 52.3**	**+1.2**
GO02				IAML		17 57 54.4	
	comp=E,585nm,0.1s						
PB06	**IPOC Station P**	**2.75**	**303**	⇑*i*P	**Pn**	**17 57 21.9**	**+1.6**
PB06				*i*S	**S**	**17 57 56.4**	**-0.1**
PB06				IAML		17 57 58.8	
	comp=N,659nm,0.2s						
PB09	**IPOC Station P**	**3.14**	**320**	⇑*i*P	**Pn**	**17 57 27.1**	**+2.2**
PB09				*i*S	**S**	**17 58 05.5**	**+0.7**
PB09				AMP		17 58 07.6	
	comp=N,210nm,0.5s						
PB05	**IPOC Station P**	**3.19**	**295**	⇑*e*P	**Pn**	**17 57 26.4**	**+1.0**
PB05				*e*S	**S**	**17 58 04.1**	**-1.6**
PB05				IAML		17 58 10.3	
	comp=E,182nm,0.3s						
PB10	**IPOC Station P**	**3.27**	**282**	⇓*e*P	**Pn**	**17 57 27.8**	**+1.4**
PB10				*i*S	**S**	**17 58 06.1**	**-1.2**
PB10				IAML		17 58 11.0	
	comp=E,173nm,0.5s						
PB03	**IPOC Station P**	**3.29**	**311**	*e*P	**Pn**	**17 57 27.9**	**+1.2**
PB03				*e*S	**S**	**17 58 06.4**	**-1.6**
PB03				IAML		17 58 08.8	
	comp=E,394nm,0.3s						
PB04	**IPOC Station P**	**3.40**	**303**	*e*P	**Pn**	**17 57 29.2**	**+1.1**
PB04				*e*S	**S**	**17 58 09.0**	**-1.5**
PB04				IAML		17 58 14.4	
	comp=E,306nm,0.4s						
PB07	**IPOC Station P**	**3.60**	**313**	*e*P	**Pn**	**17 57 31.4**	**+0.9**
PB07				*e*S	**S**	**17 58 12.7**	**-2.1**
PB07				IAML		17 58 14.9	
	comp=N,302nm,0.3s						
AC01	**Pan de Azucar**	**3.73**	**238**	*e*P	**Pn**	**17 57 32.2**	**+0.3**
AC01				*i*S	**S**	**17 58 15.8**	**-1.8**
AC01				IAML		17 58 16.5	
	comp=E,223nm,0.4s						
PB02	**IPOC Station P**	**3.90**	**317**	*e*P	**Pn**	**17 57 34.6**	**+0.5**
PB02				*e*S	**S**	**17 58 18.8**	**-2.5**
CFA	**Coronel Fontan**	**7.43**	**188**	P	**Pn**	**17 58 20.2**	**+0.6**
	comp=E,1.2nm,0.3s,baz=34,slow=15,SNR=12						
CFA				S	**S**	**17 59 40.5**	**-3.0**
	comp=E,1.4nm,0.3s,baz=229,slow=17,SNR=7.5						
LPAZ	**La Paz**	**7.96**	**353**	P	**Pn**	**17 58 28.2**	**+1.1**
	comp=E,0.5nm,0.3s,baz=170,slow=7.3,SNR=17						
LPAZ				S	**S**	**17 59 55.4**	**-1.7**
	baz=313,slow=14,SNR=1.0						
SIV	**San Ignacio**	**9.94**	**36**	P	**Pn**	**17 58 50.2**	**-2.2**
	comp=E,0.2nm,0.3s,baz=215,slow=16,SNR=3.8						
TORD	**Torodi Ar. Bea**	**76.70**	**69**	P	**P**	**18 08 05.3**	**+1.2**
	comp=E,0.3nm,0.3s,baz=255,slow=4.9,SNR=7.3						
ASAR	**Alice Springs**	**128.23**	**205**	PKP	**PKiKP**	**18 15 19.7**	**+1.2**
	comp=E,0.9nm,1.1s,baz=143,slow=1.5,SNR=2.8						
ZALV	**Zalesovo Beam**	**143.62**	**28**	PKhKP	PKPpre	18 15 44.6	
	comp=E,0.3nm,0.3s,baz=296,slow=4.6,SNR=2.0						
MKAR	**Makanchi Array**	**146.73**	**40**	PKPbc	**PKiKP**	**18 15 55.2**	**-0.2**
	comp=E,0.5nm,0.5s,baz=321,slow=3.0,SNR=6.8						

NIED ***15*** *18:19:00, 36.°60N×141.°90E, h20km, Mw5.6 Best double couple: M₀2.58000×10¹⁷ NP1:φs12.00000°, δ48.00000°, λ-87.00000°. NP2:φs187.00000°, δ42.00000°, λ-94.00000°.*

BJI ***15*** *18:19:10.3±0.0, 36.°71N×141.°67E, h5km, mB5.6/72, mb5.6/83, Ms5.8/99, Ms7 5.8/87*

IDC ***15*** *18:19:12.0±0.3, 36.°62N×141.°70E, h0km, mb5.3/44, mb1 5.3/51, mb1mx5.3/52, mbtmp5.3/51, ML4.2/6, MS5.2/35, Ms1 5.2/35, ms1mx5.0/44, Error ellipse: s-maj=10.0km s-min=8.5km az=108.0*

KEA ***15*** *18:19:13.5±0.0, 36.°70N×142.°00E, h20km, mB5.2/1, MS5.3/1*

MOS ***15*** *18:19:13.8±0.9, 36.°67N×141.°71E, h20km, mb5.8/110, MS5.5/69, Error ellipse: s-maj=6.2km s-min=3.2km az=115.1*

BGR ***15*** *18:19:13.8±0.0, 36.°14N×141.°74E, h45km±1km, mb6.0, mB_BB6.2, Ms5.6*

JMA ***15*** *18:19:13.3±0.2, 36.°62N×141.°80E, h37km±4km, MS5.7*

JMA Felt III J1.

NEIC ***15*** *18:19:14.5±1.6, 36.°60N±0.°05×141.°72E±0.°07, h16km±2km, mb5.7/423, Ms_20 5.3/668, Mwb5.4/70, Mww5.5, Mwc5.6(GCMT), Error ellipse: s-maj=8.8km s-min=6.9km az=121.0*

NEIC ***15*** *18:19:14.7, 36.°62N×141.°74E, h19km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-1.92; Mθθ0.33; Mφφ1.59; Mrθ0.02; Mrφ0.30; Mθφ0.15; Fault plane solution: M₀1.81000×10¹⁷ NP1:φs13.11000°, δ42.64000°, λ-89.47000°. NP2:φs192.39000°, δ47.37000°, λ-90.49000°. Principal axes: T 1.6620, Plg2.0000°, Azm283.0000°; N 0.2627, Plg0.0000°, Azm193.0000°; P -1.9247, Plg88.0000°, Azm94.0000°;*

UNK ***15*** *18:19:15.6, 36.°64N×141.°78E, h23km*

GCMT ***15*** *18:19:17.0±0.1, 36.°64N±0.°01×141.°71E±0.°01, h20km, MW5.6/165, Moment Tensor Solution. s143,c272; s165,c354; Duration: 1s5 Moment tensor: Scale 10¹⁷ Nm; Mrr-3.24±.03; Mθθ0.31±.02; Mφφ2.93±.03; Mrθ0.20±.05; Mθφ0.61±.02; Mrφ0.22±.05; Best double couple: M₀3.16600×10¹⁷ NP1:φs10.00000°, δ43.00000°, λ-94.00000°. NP2:φs195.00000°, δ47.00000°, λ-87.00000°. Principal axes: T 3.0750, Plg2.0000°, Azm283.0000°; N 0.1860, Plg3.0000°, Azm13.0000°; P -3.2570, Plg87.0000°, Azm150.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***15*** *18:19:17, 36.°64N×142.°03E, h24km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-2.71; Mθθ0.61; Mφφ2.11; Mrθ-0.07; Mrφ0.24; Mθφ-0.84; Fault plane solution: M₀2.62000×10¹⁷ NP1:φs190.00000°, δ35.00000°, λ-88.00000°. NP2:φs8.00000°, δ55.00000°, λ-91.00000°. Principal axes: T 2.2867, Plg10.0000°, Azm98.0000°; N 0.5720, Plg1.0000°, Azm8.0000°; P -2.8586, Plg80.0000°, Azm272.0000°;*

NEIC ***15*** *18:19:18, 36.°63N×141.°76E, h19km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-3.31; Mθθ0.32; Mφφ3.00; Mrθ0.02; Mrφ0.64; Mθφ-0.39; Fault plane solution: M₀3.25000×10¹⁷ NP1:φs194.00000°, δ42.00000°, λ-87.00000°. NP2:φs11.00000°, δ48.00000°, λ-92.00000°. Principal axes: T 3.1648, Plg3.0000°, Azm103.0000°; N 0.1732, Plg2.0000°, Azm13.0000°; P -3.3380, Plg86.0000°, Azm255.0000°;*

ISC 15 18:19:15.7±0.3**, 36.61N**±0.°03×**141.78E**±0.°03**, h27**km±1km**, h27km:pP-P, n1772,σ1°56/1544, mb5.7/447, MS5.3/462, 41C-158D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.93**	**302**	⇑P	**Pn**	**18 19 30.2**	**-2.8**
JHO	**Hitachi**	**0.97**	**270**	⇑P	**Pn**	**18 19 30.7**	**-2.9**
JHYU	**Hitachinakayam**	**1.00**	**255**	P	**Pn**	**18 19 31.5**	**-2.4**
JHYU				*e*S	**Sb**	**18 19 45.1**	**-2.0**
JFK	**Kawauchi**	**1.04**	**316**	⇑P	**Pn**	**18 19 31.8**	**-2.9**
JMST	**Minamisoumatoc**	**1.32**	**328**	P	**Pn**	**18 19 35.8**	**-2.6**
JFT	**Otama**	**1.47**	**309**	⇑P	**Pn**	**18 19 39.0**	**-1.4**
JMM	**Marumori**	**1.48**	**328**	⇑P	**Pn**	**18 19 38.2**	**-2.4**
JMM				*e*S	**Sn**	**18 19 56.6**	**-2.4**
JFY	**Yanaizu**	**1.84**	**296**	P	**Pn**	**18 19 44.7**	**-0.9**
JIO	**Ouri**	**1.87**	**350**	P	**Pn**	**18 19 43.6**	**-2.4**
JAG	**Ashikaga**	**1.88**	**265**	⇑P	**Pn**	**18 19 44.2**	**-1.9**
JOU	**Okura**	**1.96**	**333**	P	**Pn**	**18 19 46.2**	**-1.1**
JOU				*e*S	**Sn**	**18 20 09.9**	**-1.1**
JKT	**Katashina**	**2.04**	**275**	P	**Pn**	**18 19 47.2**	**-1.2**
JKT				*e*S	**Sn**	**18 20 11.5**	**-1.5**
BSO1	**Boso 1**	**2.06**	**199**	P	**Pn**	**18 19 47.9**	**-0.2**
BSO3	**Boso 3**	**2.08**	**210**	P	**Pn**	**18 19 49.0**	**+0.4**
JYS	**Shirataka**	**2.11**	**320**	P	**Pn**	**18 19 48.3**	**-0.9**
MJAR	**Matsushiro Arr**	**2.87**	**270

YSS					MLR	MLR			
	comp=Z,20μm,14.0s								
YSS					MLR	MLR			
	comp=N,14μm,16.0s								
YSS	**Yuzh-Sakhalins**	**10.36**	**4**		**Pn**	**Pn**	**18 21 41.7**	**-0.8**	
USA0B	**Ussuriysk Arra**	**10.63 318**		*i* P	**Pn**	**Pn**	**18 21 45.6**	**-0.6**	
USA0B	**Ussuriysk Arra**	**10.63 318**			**Pn**	**Pn**	**18 21 47.6**	**+1.4**	
USRK	**Ussuriysk Ar.**	**10.63 318**		Pn	**Pn**	**Pn**	**18 21 45.2**	**-1.0**	
	baz=133,slow=13,SNR=42								
USRK					LR	LR	18 25 41.2		
	comp=N,25μm,18.9s,baz=121,slow=37								
USRK	**Ussuriysk Ar.**	**10.63 318**		P	**Pn**	**Pn**	**18 21 47.3**	**+1.1**	
USRK	**Ussuriysk Ar.**	**10.63 318**			**Pn**	**Pn**	**18 21 47.2**	**+1.1**	
CHJN	**Chongjin**	**10.64 303**		P	**Pn**	**Pn**	**18 21 48.8**	**+2.5**	
KSRS	**Korea Array**	**11.11 278**		Pn	**Pn**	**Pn**	**18 21 53.1**	**+0.4**	
	comp=N,0.3nm,0.3s,baz=94,slow=14,SNR=74								
KSRS					LR	LR	18 26 09.8		
	comp=N,20μm,19.4s,baz=81,slow=38								
KSAR	**Wonju Array Be**	**11.14 278**		P	**Pn**	**Pn**	**18 21 54.7**	**+1.5**	
KSAR	**Wonju Array Be**	**11.14 278**			**Pn**	**Pn**	**18 21 54.7**	**+1.5**	
KS19	**Wonju Array Si**	**11.15 279**			**Pn**	**Pn**	**18 21 57.2**	**+3.8**	
TJN	**Taejon**	**11.61 273**		*ce*P	**Pn**	**Pn**	**18 21 58.1**	**-1.5**	
WOSN	**Wonsan**	**11.63 287**		P	**Pn**	**Pn**	**18 22 02.5**	**+2.7**	
HHU	**Hamhung**	**11.68 291**		P	**Pn**	**Pn**	**18 22 02.9**	**+2.4**	
MDJ	**Mudanjiang**	**12.22 315**		P	**Pn**	**Pn**	**18 22 08.9**	**+0.9**	
MDJ					pP	P	18 22 16.1	-4.0	
MDJ					pmax	pmax			
	comp=N,120nm,1.3s								
MDJ					pmax	pmax			
	comp=N,2μm,4.5s								
MDJ					LR	LR			
	comp=N,18μm,15.7s								
MDJ					LR	LR			
	comp=N,13μm,12.8s								
MDJ					LR	LR			
	comp=N,29μm,16.4s								
MDJ	**Mudanjiang**	**12.22 315**		Pn	**Pn**	**Pn**	**18 22 08.6**	**+0.6**	
UGL	**Uglegorsk**	**12.46**	**1**	*e*P	**P**	**P**	**18 22 22.9**	**+0.2**	
UGL					pmax	pmax			
	comp=Z,110nm,1.0s								
UGL					pmax	pmax			
	comp=Z,500nm,2.4s								
UGL					MLR	MLR			
	comp=Z,14μm,14.0s								
UGL					MLR	MLR			
	comp=N,16μm,14.0s								
KGE	**Kanggye**	**12.60 295**		P	**Pn**	**Pn**	**18 22 15.0**	**+1.9**	
HJU	**Haeju**	**12.86 281**		P	**Pn**	**Pn**	**18 22 20.7**	**+4.0**	
PYAG	**Pyongyang**	**12.90 286**		P	**Pn**	**Pn**	**18 22 20.0**	**+2.8**	
PYAG					pP	**P**	**18 22 25.0**	**-2.7**	
PYAG					PP	**PnPn**	**18 22 31.0**	**+6.0**	
PYAG					S	**Sn**	**18 24 46.0**	**+6.2**	
PYAG					sS		18 24 51.0		
SUJ	**Sinuiju**	**14.00 290**		P	**Pn**	**Pn**	**18 22 33.5**	**+1.2**	
TYV	**Tymovskoe**	**14.26**	**2**	*e*P	**P**	**P**	**18 22 42.7**	**0.0**	
TYV					pmax	pmax			
	comp=Z,500nm,4.5s								
TYV					pmax	pmax			
	comp=Z,80nm,1.4s								
TYV					MLR	MLR			
	comp=E,12μm,13.0s								
TYV					MLR	MLR			
	comp=Z,12μm,14.0s								
CN2	**Changchun**	**14.38 305**		*e*P	**Pn**	**Pn**	**18 22 36.8**	**-0.7**	
CN2				*e*S	**Sn**	**Sn**	**18 25 20.4**	**+4.4**	
CN2					pmax	pmax			
	comp=Z,20nm,1.0s								
CN2					pmax	pmax			
	comp=Z,2μm,6.0s								
CN2					LR	LR			
	comp=Z,15μm,15.0s								
CN2					LR	LR			
	comp=Z,27μm,15.0s								
CN2					LR	LR			
	comp=Z,30μm,15.0s								
GRNR	**Gornyy**	**14.67 346**		⇑*i*P	**Pn**	**Pn**	**18 22 38.1**	**-3.2**	
GRNR				*e*S	**Sn**	**Sn**	**18 25 21.6**	**-1.2**	
GRNR					pmax	pmax			
	comp=E,9.0nm,1.0s								
GRNR					pmax	pmax			
	comp=Z,20nm,1.0s								
GRNR					pmax	pmax			
	comp=N,20nm,1.1s								
GRNR					smax	smax			
	comp=N,9.0nm,0.9s								
GRNR					MLR	MLR			
	comp=N,9μm,15.0s								
GRNR					MLR	MLR			
	comp=E,5μm,15.0s								
GRNR					MLR	MLR			
	comp=Z,15μm,15.0s								
SNY	**Shenyang**	**15.03 296**		⇑P	**Pn**	**Pn**	**18 22 45.8**	**-0.4**	
SNY					pmax	pmax			
	comp=Z,58nm,1.5s								
SNY					pmax	pmax			
	comp=Z,590nm,2.7s								
SNY					LR	LR			
	comp=Z,19μm,12.7s								
SNY					LR	LR			
	comp=Z,28μm,15.1s								
SNY					LR	LR			
	comp=Z,36μm,15.1s								
JOW	**Kunigami**	**15.05 233**		Pn	**Pn**	**Pn**	**18 22 45.8**	**-0.9**	
	comp=Z,0.1nm,0.3s,baz=77,slow=23,SNR=4.5								
JOW	**Kunigami**	**15.05 233**		P	**Pn**	**Pn**	**18 22 48.0**	**+1.4**	
DL2	**Dalian**	**16.10 284**		P	**Pn**	**Pn**	**18 23 00.0**	**-0.1**	
DL2				S	**Sn**	**Sn**	**18 25 58.3**	**+0.5**	
DL2					pmax	pmax			
	comp=Z,120nm,1.0s								
DL2					pmax	pmax			
	comp=Z,2μm,7.1s								
DL2					LR	LR			
	comp=Z,7μm,13.9s								
DL2					LR	LR			
	comp=Z,20μm,15.2s								
DL2					LR	LR			
	comp=Z,25μm,16.3s								
NKL	**Nikolayevsk**	**16.55 358**		*e*P	**Pn**	**Pn**	**18 23 02.4**	**-3.4**	
NKL				*e*S	**Sn**	**Sn**	**18 26 03.8**	**-4.8**	
NKL					pmax	pmax			
	comp=Z,121nm,1.4s								
NKL					pmax	pmax			
	comp=N,3.0nm,1.0s								
NKL					pmax	pmax			
	comp=E,1.0nm,1.3s								
OKH	**Okha**	**16.96**	**2**	*c i*P	**Pn**	**Pn**	**18 23 10.5**	**-0.3**	
OKH				*i* S	**Sn**	**Sn**	**18 26 14.6**	**-3.8**	
OKH					pmax	pmax			
	comp=Z,600nm,13.7s								
OKH					smax	smax			
	comp=E,600nm,10.0s								
OKH					MLR	MLR			
	comp=E,17μm,16.0s								
OKH					MLR	MLR			
	comp=N,20μm,15.0s								
OKH					MLR	MLR			
	comp=Z,12μm,16.0s								
SKR	**Severo-Kuril's**	**17.43**	**32**	*e*P	**Pn**	**Pn**	**18 23 15.8**	**-1.0**	
SKR				*e*S	**Sn**	**Sn**	**18 26 29.2**	**-0.7**	
SKR					pmax	pmax			
	comp=Z,800nm,3.3s								
SKR					pmax	pmax			
	comp=Z,300nm,3.5s								
SKR					pmax	pmax			
	comp=Z,139nm,1.0s								
SKR					MLR	MLR			
	comp=Z,4μm,16.0s								
SKR					MLR	MLR			
	comp=Z,4μm,16.0s								
SSE	**Sheshan**	**17.96 258**		P	**P**	**P**	**18 23 25.8**	**+2.0**	
SSE				S	**S**	**S**	**18 26 47.4**	**-1.2**	
SSE					pmax	pmax			
	comp=Z,40nm,0.9s								
SSE					pmax	pmax			
	comp=Z,420nm,3.5s								
SSE					LR	LR			
	comp=Z,3μm,18.6s								
SSE					LR	LR			
	comp=Z,8μm,16.0s								
JISG	**Ishigakijimahi**	**19.19 236**		P	**P**	**P**	**18 23 35.5**	**-1.9**	
JIJ	**Ishigaki jima**	**19.46 236**		P	**P**	**P**	**18 23 38.1**	**-2.2**	
NJ2	**Nanjing**	**19.46 263**		*e*P	**P**	**P**	**18 23 38.8**	**-1.5**	
NJ2				pP	**Pn**	**Pn**	**18 23 41.9**	**+0.3**	
NJ2				sP	**pP**	**pP**	**18 23 48.3**	**+1.0**	
NJ2				S	**S**	**S**	**18 27 13.9**	**-4.8**	
NJ2					pmax	pmax			
	comp=Z,35nm,0.9s								
NJ2					pmax	pmax			
	comp=Z,2μm,4.2s								
NJ2					LR	LR			
	comp=Z,11μm,12.3s								
NJ2					LR	LR			
	comp=Z,24μm,14.2s								
NJ2					LR	LR			
	comp=Z,25μm,14.2s								
TIA	**Tai'an**	**19.84 276**		⇑P	**P**	**P**	**18 23 42.8**	**-1.6**	
TIA					pmax	pmax			
	comp=Z,130nm,1.4s								
TIA					LR	LR			
	comp=Z,9μm,16.5s								
TIA					LR	LR			
	comp=Z,14μm,15.1s								
TIA					LR	LR			
	comp=Z,15μm,14.1s								
ZEA	**Zeya**	**19.89 334**		*e*P	**P**	**P**	**18 23 42.6**	**-2.2**	
ZEA				*e*S	**S**	**P**	**18 27 21.0**	**-6.1**	
ZEA					pmax	pmax			
	comp=N,220nm,1.4s								
ZEA					pmax	pmax			
	comp=E,170nm,1.6s								
ZEA					pmax	pmax			
	comp=Z,440nm,1.6s								
ZEA					pmax	pmax			
	comp=Z,1μm,10.0s								
ZEA					smax	smax			
	comp=E,3μm,6.0s								
ZEA					MLR	MLR			
	comp=Z,22μm,15.0s								
ZEA					MLR	MLR			
	comp=E,11μm,16.0s								
ZEA					MLR	MLR			
	comp=N,13μm,14.0s								
PEA0B	**Petropavlovsk-**	**19.91**	**29**	*de*P	**P**	**P**	**18 23 45.9**	**+0.8**	
PEA0B	**Petropavlovsk-**	**19.91**	**29**	Pn	**Pn**	**Pn**	**18 23 46.8**	**0.0**	
PETK	**Petropavlovsk-**	**19.91**	**29**	P	**P**	**P**	**18 23 46.0**	**+0.9**	
	comp=N,1.6nm,0.3s,baz=212,slow=6.4,SNR=52								
PETK					PcP	**PcP**	**18 28 02.7**	**+1.5**	
	comp=N,0.3nm,0.3s,baz=203,slow=3.0,SNR=4.1								
PETK					LR	LR	18 31 32.0		
	comp=N,4μm,19.5s,baz=216,slow=37								
PETK	**Petropavlovsk-**	**19.91**	**29**	P	**P**	**P**	**18 23 46.0**	**+0.9**	
YOJ	**Yonaguni jima**	**20.16 238**		P	**P**	**P**	**18 23 45.4**	**-2.6**	
YOJ					pmax	pmax			
	comp=Z,166nm,1.0s								
YOJ					MLR	MLR			
	comp=Z,10μm,19.0s								
YOJ	**Yonaguni jima**	**20.16 238**		P	**P**	**P**	**18 23 45.4**	**-2.6**	
YOJ				IAMs_20	IAMs_20	IAMs_20	18 32 02.0		
	comp=Z,10μm,19.0s								
PET	**Petropavlovsk**	**20.23**	**30**	*e*P	**P**	**P**	**18 23 49.4**	**+0.9**	
PET				*e*S	**S**	**S**	**18 27 29.8**	**-4.2**	
PET					pmax	pmax			
	comp=Z,198nm,1.3s								
PET					pmax	pmax			
	comp=Z,1μm,12.6s								
PET					pmax	pmax			
	comp=Z,1μm,11.8s								
PET					MLR	MLR			
	comp=Z,7μm,20.0s								
PET	**Petropavlovsk**	**20.23**	**30**	P	Pn		18 23 50.0	-0.5	
PET				IAmb	IAmb		18 23 57.6		
	comp=Z,266nm,1.1s								
BJI	**Beijing**	**20.35 287**		P	**P**		**18 23 47.5**	**-2.5**	
BJI				sP	**pP**		**18 23 57.6**	**+0.6**	
BJI				S	**S**		**18 27 37.4**	**+0.7**	
BJI					pmax	pmax			
	comp=Z,74nm,0.9s								
BJI					LR	LR			
	comp=Z,6μm,11.8s								
BJT	**Baijiatuau**	**20.36 287**		P	**P**		**18 23 47.9**	**-2.2**	
BJT					pmax	pmax			
	comp=Z,110nm,0.8s								
BJT					MLR	MLR			
	comp=Z,6μm,21.0s								
BJT	**Baijiatuau**	**20.36 287**		P	**P**		**18 23 47.9**	**-2.2**	
HIA	**Hailar**	**20.41 315**		P	**P**		**18 23 48.4**	**-2.2**	
HIA					pmax	pmax			
	comp=Z,40nm,0.8s								
HIA					MLR	MLR			
	comp=Z,13μm,18.0s								
HIA	**Hailar**	**20.41 315**		P	**P**		**18 23 48.4**	**-2.2**	
HIA	**Hailar**	**20.41 315**		IAMs_20	IAMs_20		18 31 54.5		
	comp=Z,13μm,18.0s								
TATO	**Taipei**	**20.89 242**		IAMs_20	IAMs_20		18 33 13.4		
	comp=Z,8μm,19.0s								
YHNB	**Yeheng**	**21.16 241**		P	**P**		**18 23 57.0**	**-1.9**	
NACB	**Ninganchiao**	**21.32 240**		P	**P**		**18 23 57.9**	**-2.6**	
NACB				IAMs_20	IAMs_20		18 33 02.0		
	comp=Z,9μm,19.0s								
SSLB	**Suanglung**	**22.02 240**		P	**P**		**18 24 05.1**	**-3.0**	
SSLB				IAMs_20	IAMs_20		18 33 35.4		
	comp=Z,8μm,19.0s								
YULB	**Yu-li**	**22.04 239**		P	**P**		**18 24 05.6**	**-2.7**	
TPUB	**Ta-pu**	**22.56 240**		P	**P**		**18 24 11.2**	**-2.7**	
TPUB				IAMs_20	IAMs_20		18 34 02.8		
	comp=Z,10μm,19.0s								
TWG	**Pinlang**	**22.57 238**		P	**P**		**18 24 13.2**	**-0.7**	
QZH	**Quanzhou**	**23.01 246**		*e*P	**P**		**18 24 15.3**	**-3.2**	
QZH				sP	**sP**		**18 24 27.1**	**-1.5**	
QZH				S	**S**		**18 28 19.8**	**-7.6**	
QZH				sS	**pS**		**18 28 30.5**	**-5.4**	
QZH					pmax	pmax			
	comp=Z,110nm,1.7s								
QZH					pmax	pmax			
	comp=Z,840nm,9.3s								
QZH					LR	LR			
	comp=Z,5μm,14.2s								
QZH					LR	LR			
	comp=Z,5μm,12.8s								
QZH					LR	LR			
	comp=Z,10μm,13.8s								
GUMO	**Guam**	**23.09 172**		P	**P**		**18 24 19.2**	**-0.2**	
GUMO					pmax	pmax			
	comp=Z,441nm,1.0s								
GUMO	**Guam**	**23.09 172**		P	**P**		**18 24 19.2**	**-0.2**	
TIY	**Taiyuan**	**23.37 282**		*e*P	**P**		**18 24 20.0**	**-2.2**	
TIY				S	**S**		**18 28 28.1**	**-5.5**	
TIY					pmax	pmax			
	comp=Z,48nm,0.9s								
TIY					pmax	pmax			
	comp=Z,850nm,5.9s								
TIY					LR	LR			
	comp=Z,10μm,13.6s								
TIY					LR	LR			
	comp=Z,23μm,14.1s								
TIY					LR	LR			
	comp=Z,26μm,14.6s								
KNMB	**Chin-men Tao**	**23.44 245**		IAMs_20	IAMs_20		18 34 26.9		
	comp=Z,7μm,18.0s								
WHN	**Wuhan**	**23.60 263**		⇑P	**P**		**18 24 22.5**	**-1.8**	
WHN				pP	**pP**		**18 24 30.5**	**-1.0**	
WHN				S	**S**		**18 28 31.0**	**-6.1**	
WHN					pmax	pmax			
	comp=Z,370nm,1.0s								
WHN					LR	LR			
	comp=Z,9μm,14.1s								
WHN					LR	LR			
	comp=Z,45μm,14.0s								
WHN					LR	LR			
	comp=Z,48μm,14.4s								
MA2	**Magadan**	**23.71**	**11**	P	**P**		**18 24 25.3**	**+0.1**	
	comp=Z,60nm,0.9s,baz=196,slow=8.8,SNR=28								
MA2					LR	LR	18 34 35.7		
	comp=Z,4μm,18.8s,baz=207,slow=39								
MA2	**Magadan**	**23.71**	**11**	*ce*P	**P**		**18 24 23.9**	**-1.2**	
MA2					pmax	pmax			
	comp=Z,329nm,1.7s								
MA2					MLR	MLR			
	comp=Z,3μm,18.0s								
MA2	**Magadan**	**23.71**	**11**	P	**P**		**18 24 25.6**	**+0.5**	
MA2				IAmb	IAmb		18 24 34.1		
	comp=Z,165nm,0.9s								
HHC	**Hu-ho-hao-te**	**23.89 289**		⇓*i*P	**P**		**18 24 24.9**	**-2.3**	
HHC				pP	pP		18 24 33.8	-0.7	
HHC				S	**S**		**18 28 37.0**	**-4.8**	
HHC				sS	pS		18 28 47.4	-2.5	
HHC					pmax	pmax			
	comp=Z,400nm,5.6s								
HHC					LR	LR			
	comp=Z,7μm,14.2s								
HHC					LR	LR			
	comp=Z,3μm,15.4s								
HHC					LR	LR			
	comp=Z,5μm,14.9s								
BTO	**Baotou**	**25.06 289**		*e*P	**P**		**18 24 35.8**	**-2.1**	
CIT	**Chita**	**25.18 317**		*e*P	**P**		**18 24 38.4**	**-0.4**	
CIT				*e*			18 25 11.4		
CIT				*e*			18 25 28.7		
CIT				*e*S	**S**		**18 29 02.7**	**+0.4**	
CIT					pmax	pmax			
	comp=Z,663nm,2.1s								
APYP	**Conner**	**26.02 230**		*e*P	**P**		**18 24 44.0**	**-2.6**	
ABRA	**Dolores**	**26.51 230**		*e*P	**P**		**18 24 49.4**	**-1.6**	
YAK	**Yakutsk**	**26.55 347**		P	**P**		**18 24 50.6**	**-0.3**	
	comp=Z,133nm,0.8s,baz=156,slow=4.0,SNR=87								
YAK					LR	LR	18 35 36.4		
	comp=Z,9μm,18.7s,baz=166,slow=37								
YAK	**Yakutsk**	**26.55 347**	*d*	*i*P	**P**		**18 24 50.4**	**-0.5**	
YAK				*e**PP	**pwP**		**18 25 00.0**	**-0.4**	
YAK				*e*			18 25 32.0		
YAK				*e*			18 28 12.7		
YAK				*e*S	**S**		**18 29 23.0**	**-0.5**	
YAK				*e*			18 35 45.2		
YAK					pmax	pmax			
	comp=Z,234nm,0.9s								
YAK					pmax	pmax			
	comp=N,164nm,1.1s								
YAK					pmax	pmax			
	comp=E,48nm,1.2s								
YAK					pmax	pmax			
	comp=Z,258nm,1.5s								
YAK					pmax	pmax			
	comp=N,161nm,1.0s								
YAK					pmax	pmax			
	comp=E,149nm,1.5s								
YAK					smax	smax			
	comp=N,3μm,4.0s								
YAK					smax	smax			
	comp=E,2μm,3.8s								
YAK					MLR	MLR			
	comp=Z,16μm,15.0s								
YAK					MLR	MLR			
	comp=N,14μm,15.0s								
YAK					MLR	MLR			
	comp=E,6μm,16.0s								
YAK	**Yakutsk**	**26.55 347**		P	**P**		**18 24 51.0**	**+0.1**	
YAK				IAmb	IAmb		18 24 58.4		
	comp=Z,216nm,0.8s								
YAK				IAMs_20	IAMs_20		18 35 26.2		
	comp=Z,10μm,18.0s								
XAN	**Xi'an**	**26.86 274**		P	**P**		**18 24 52.8**	**-1.4**	
XAN				sP	pwP		18 25 02.3	-1.3	
XAN				PP	**PnPn**		**18 25 38.1**	**+1.7**	
XAN				PcP	**PcP**		**18 28 17.0**	**+0.8**	
XAN				S	**S**		**18 29 24.0**	**-5.2**	
XAN				SS	**SnSn**		**18 30 36.8**	**+2.1**	
XAN				pmax	pmax				
	comp=Z,66nm,1.6s								
XAN				pmax	pmax				
	comp=Z,550nm,6.1s								
XAN				LR	LR				
	comp=Z,5μm,13.7s								
XAN				LR	LR				
	comp=Z,12μm,13.2s								
XAN				LR	LR				
	comp=Z,18μm,12.7s								
XAN	**Xi'an**	**26.86 274**		IAMs_20	IAMs_20		18 36 02.6		
	comp=Z,7μm,18.0s								
BALP	**Baler**	**27.47 226**		*e*P	**P**		**18 24 57.5**	**-2.2**	
ENH	**Enshi**	**27.59 266**		IAMs_20	IAMs_20		18 37 39.1		
	comp=Z,9μm,19.0s								
SMPP	**San Manuel, Pa**	**27.68 228**		*e*P	**P**		**18 24 58.2**	**-3.4**	
H11N2	**WAKE ISLAND Hy**	**27.68 121**		T	T		18 54 13.7		
	baz=313,slow=75,SNR=542								
H11N1	**WAKE ISLAND Hy**	**27.69 121**		T	T		18 54 18.6		
	baz=313,slow=75,SNR=488								
H11N3	**WAKE ISLAND Hy**	**27.70 121**		T	T		18 54 15.0		
	baz=313,slow=75,SNR=479								
WAKE	**Wake Island**	**27.82 122**		IAMs_20	IAMs_20		18 34 20.4		
	comp=Z,7μm,20.0s								
PVCP	**Virac**	**27.83 219**		*e*P	**P**		**18 25 00.5**	**-2.4**	
ULN	**Ulaanbaatar**	**27.84 305**		*de*P	**P**		**18 25 02.3**	**-0.6**	
ULN					pmax	pmax			
	comp=Z,191nm,1.3s								
ULN	**Ulaanbaatar**	**27.84 305**		P	**P**		**18 25 03.2**	**+0.2**	
ULN				IAmb	IAmb		18 25 16.2		
	comp=Z,213nm,1.1s								
ULN	**Ulaanbaatar**	**27.84 305**		IAMs_20	IAMs_20		18 36 25.4		
	comp=Z,7μm,19.0s								
GZH	**Guangzhou**	**27.98 249**		P	**P**		**18 25 00.1**	**-4.2**	
GZH				S	**S**		**18 29 37.8**	**-9.1**	
GZH				LR	LR				
	comp=Z,9μm,15.4s								
GZH				LR	LR				
	comp=Z,7μm,17.7s								
BOD	**Bodaibo**	**28.04 328**		*e*P	**P**		**18 25 03.6**	**-0.8**	
BOD					pmax	pmax			
	comp=Z,251nm,1.5s								
SONM	**Songino Array**	**28.26 305**		P	**P**		**18 25 06.2**	**-0.5**	
	comp=Z,82nm,0.8s,baz=105,slow=8.0,SNR=205								
SONM					LR	LR	18 36 50.6		
	comp=Z,5μm,18.5s,baz=91,slow=38								
SONM	**Songino Array**	**28.26 305**		P	**P**		**18 25 07.0**	**+0.3**	
H11S1	**WAKE ISLAND Hy**	**28.39 123**		T	T		18 55 00.7		
	baz=314,slow=76,SNR=521								
H11S3	**WAKE ISLAND Hy**	**28.39 123**		T	T		18 55 19.2		
	baz=314,slow=76,SNR=413								
H11S2	**WAKE ISLAND Hy**	**28.40 123**		T	T		18 55 14.8		
	baz=314,slow=76,SNR=540								
CNP	**Catarman**	**28.51 217**		*e*P	**P**		**18 25 09.1**	**+0.1**	
TGY	**Tagaytay City**	**29.15 225**		P	**P**		**18 25 14.0**	**-0.7**	
	comp=Z,112nm,0.3s,baz=230,slow=3.8,SNR=4.2								
TGY	**Tagaytay City**	**29.15 225**		P	**P**		**18 25 14.0**	**-0.7**	
BOAC	**Boac**	**29.16 223**		*e*P	**P**		**18 25 13.3**	**-1.5**	
PGP	**Puerto Galera**	**29.62 224**		⇑*e*P	**P**		**18 25 19.2**	**+0.3**	
LZH	**Lanzhou**	**30.43 281**		⇑P	**P**		**18 25 26.3**	**+0.2**	
LZH				pP	pP		18 25 30.3	-3.2	
LZH				sP	sP		18 25 36.6	+0.2	
LZH				S	**S**		**18 30 20.9**	**-4.6**	
LZH				sS	pS		18 30 31.1	-3.0	
LZH				SS	**ScP**		**18 32 04.9**	**-0.9**	
LZH				pmax	pmax				
	comp=Z,120nm,1.0s								
LZH				pmax	pmax				
	comp=Z,760nm,5.4s								
LZH				LR	LR				
	comp=Z,14μm,12.5s								
LZH				LR	LR				
	comp=Z,18μm,14.1s								
LZH				LR	LR				
	comp=Z,19μm,16.3s								
IRK	**Irkutsk**	**30.60 313**		*e*P	**P**		**18 25 26.8**	**-0.4**	
IRK				*e*			18 26 32.4		
IRK					pmax	pmax			
	comp=Z,115nm,3.3s								
ZAK	**Zakamensk**	**30.76 309**		*e*P	**P**		**18 25 28.1**	**-0.7**	
ZAK					pmax	pmax			
	comp=Z,50nm,1.2s								
TLY	**Talaya**	**30.83 311**		P	**P**		**18 25 29.7**	**+0.4**	
	comp=Z,23nm,0.8s,baz=112,slow=7.3,SNR=38								
TLY					LR	LR	18 38 32.4		
	comp=Z,7μm,18.9s,baz=108,slow=38								
TLY	**Talaya**	**30.83 311**	*d*	*i*P	**P**		**18 25 28.7**	**-0.6**	
TLY				*e*PPP	PPP		18 26 34.1		
TLY				*e*S	**S**		**18 30 27.4**	**-3.8**	
TLY				*e*SSS	SSS		18 32 30.4		
TLY				pmax	pmax				
	comp=Z,120nm,0.9s								
TLY					MLR	MLR			
	comp=Z,36μm,14.0s								
TLY	**Talaya**	**30.83 311**		P	**P**		**18 25 30.2**	**+1.0**	
TLY				IAMs_20	IAMs_20		18 38 20.5		
	comp=Z,7μm,19.0s								
GUIM	**Jordan**	**31.15 219**		*e*P	**P**		**18 25 31.0**	**-1.3**	
BUSP	**Coron**	**31.27 224**		*e*P	**P**		**

comp=Z,10µm,15.7s
CNOP Candoni, Negro 31.81 218 *e*P **P 18 25 35.4 -2.7**
CD2 Chengdu 31.97 271⇑ *i*P **P 18 25 39.1 -0.5**
CD2 sP sP 18 25 49.6 -0.3
CD2 PP **PnPn 18 26 46.9 +1.9**
CD2 S **S 18 30 47.3 -2.2**
CD2 sS sS 18 31 01.6 -0.4
CD2 pmax pmax
comp=Z,90nm,1.1s
CD2 pmax pmax
comp=Z,300nm,4.0s
CD2 LR LR
comp=Z,15µm,12.9s
CD2 LR LR
comp=Z,15µm,13.7s
CD2 LR LR
comp=Z,24µm,14.3s
CGP Cagayan de Oro 32.05 213⇓ *e*P **P 18 25 41.1 +0.9**
BUKP Musuan 32.40 212 *e*P **P 18 25 41.9 -1.6**
MOY Mondy 32.44 311 *e*P **P 18 25 43.6 +0.1**
MOY pmax pmax
comp=Z,142nm,2.2s
DAV Davao City (W) 32.92 211 IAMs_20 IAMs_20 18 38 41.2
comp=Z,4µm,19.0s
ADK Adak 32.94 49 P **P 18 25 45.4 -2.3**
ADK pmax pmax
comp=Z,27nm,0.8s
ADK MLR MLR
comp=Z,3µm,20.0s
ADK Adak 32.94 49 P **P 18 25 45.4 -2.3**
GTA Gaotai 32.97 288 *e*P **P 18 25 47.6 -0.7**
GTA pP pP 18 25 54.8 -1.0
GTA sP sP 18 25 58.4 -0.3
GTA PcP **PcP 18 28 33.0 +1.0**
GTA S **S 18 30 59.9 -5.1**
GTA SS **SnSn 18 33 03.6 +0.2**
GTA pmax pmax
comp=Z,16nm,1.0s
GTA pmax pmax
comp=Z,260nm,7.2s
GTA LR LR
comp=Z,6µm,14.8s
GTA LR LR
comp=Z,6µm,13.4s
GTA LR LR
comp=Z,6µm,14.4s
QIZ Qiongzhong 33.03 247 P **P 18 25 49.0 +0.1**
QIZ PP **PP 18 27 03.8 +0.1**
QIZ S **S 18 31 07.3 +1.4**
QIZ pmax pmax
comp=Z,390nm,3.7s
QIZ LR LR
comp=Z,5µm,16.5s
QIZ LR LR
comp=Z,4µm,14.5s
QIZ LR LR
comp=Z,6µm,14.5s
QIZ Qiongzhong 33.03 247 IAmb IAmb 18 25 51.4
comp=Z,77nm,1.1s
KCP Kidapawan 33.17 211⇑ *e*P **P 18 25 49.9 -0.3**
PATS Pohnpei 33.27 149 IAMs_20 IAMs_20 18 37 21.0
comp=Z,4µm,20.0s
CTBH Cotabato--PC H 33.34 213⇑ *i*P **P 18 25 51.5 -0.1**
DDMP Don Marcelino, 33.74 210 *e*P **P 18 25 53.0 -2.0**
BILL Bilibino 34.35 16 *de*P **P 18 25 59.9 +0.1**
BILL pmax pmax
comp=Z,124nm,1.7s
BILL MLR MLR
comp=Z,4µm,21.0s
BILL Bilibino 34.35 16 P **P 18 25 59.8 0.0**
BILL IAmb IAmb 18 26 13.0
comp=Z,94nm,1.3s
KMI Kunming 35.19 262 P **P 18 26 06.9 -1.0**
KMI pP pP 18 26 14.6 -0.8
KMI sP sP 18 26 17.9 -0.4
KMI S **S 18 31 37.3 -2.5**
KMI pmax pmax
comp=Z,140nm,1.3s
KMI pmax pmax
comp=Z,430nm,3.6s
KMI LR LR
comp=Z,7µm,14.8s
KMI LR LR
comp=Z,10µm,18.0s
KMI LR LR
comp=Z,9µm,15.4s
KMI Kunming 35.19 262 IAmb IAmb 18 26 08.6
comp=Z,172nm,1.2s
BATP Bataraza 35.23 224 *e*P **P 18 26 08.9 +0.9**
TIXI Tiksi 35.74 353 P **P 18 26 12.0 +0.2**
TIXI pmax pmax
comp=Z,44nm,1.2s
TIXI MLR MLR
comp=Z,7µm,19.0s
TIXI Tiksi 35.74 353 P **P 18 26 12.0 +0.2**
TIXI IAMs_20 IAMs_20 18 41 40.4
comp=Z,7µm,19.0s
SLVN Son La 36.21 256 P **P 18 26 15.1 -1.3**
SLVN IAmb IAmb 18 26 18.0
comp=Z,115nm,1.2s
KWAJ Kwajalein Atol 36.29 133 IAMs_20 IAMs_20 18 41 50.1
comp=Z,3µm,18.0s
NIKH Nikolski High 37.83 48 P **P 18 26 30.8 +1.0**
NIKH IAmb IAmb 18 26 38.1
comp=Z,109nm,0.7s
NIKH IAMs_20 IAMs_20 18 39 28.1
comp=Z,4µm,21.0s
TNTI Ternate 38.08 204 P **P 18 26 32.4 +0.2**
comp=Z,4µmcomp=Z,248nm,2.0s
TNTI Ternate 38.08 204 P **P 18 26 32.6 +0.4**
MNI Manado 38.34 208 P **P 18 26 35.2 +0.7**
MNI pmax pmax
comp=Z,205nm,0.7s
KKM Kota Kinabalu 38.38 224 IAMs_20 IAMs_20 18 44 18.1
comp=Z,3µm,20.0s
SMPI Sarmi 38.51 185 P **P 18 26 37.5 +1.7**
comp=Z,2µmcomp=Z,134nm,1.5s
SIJI Sorong 38.55 197 P **P 18 26 36.3 +0.1**
comp=Z,18nm,0.5s,baz=350,slow=13,SNR=9.5
DLV T Lat 38.71 239 IAmb IAmb 18 26 40.1
comp=Z,168nm,1.1s
JAY Jayapura 38.94 182 P **P 18 26 40.1 +0.7**
comp=Z,54nm,1.1s,baz=317,slow=4.9,SNR=19
JAY Jayapura 38.94 182 P **P 18 26 40.5 +1.0**
comp=Z,883nmcomp=Z,45nm,1.4s
GENI Genyem 39.03 183 P **P 18 26 41.4 +1.2**
comp=Z,2µmcomp=Z,3µmcomp=Z,240nm,0.9s
KMSI Cibinong 39.47 209 P **P 18 26 44.3 +0.4**
comp=Z,4µmcomp=Z,457nm,0.8s
FAKI Fak Fak 40.32 195 P **P 18 26 51.3 +0.4**
comp=Z,2µmcomp=Z,2µmcomp=Z,76nm,0.7s
FAKI Fak Fak 40.32 195 P **P 18 26 52.0 +1.0**
FAKI IAmb IAmb 18 26 53.6
comp=Z,208nm,1.5s
FAKI IAMs_20 IAMs_20 18 40 51.4
comp=Z,4µm,20.0s
MRSI Marisa 40.38 212 P **P 18 26 52.4 +0.9**
comp=Z,2µmcomp=Z,6µmcomp=Z,472nm,1.3s
DGZ Jazzator, Alta 40.88 306 *d* iP **P 18 26 56.3 +0.8**
DGZ pmax pmax
comp=Z,265nm,1.0s
SANI Sanana 41.18 204 P **P 18 26 57.7 -0.3**
comp=Z,4µmcomp=Z,311nm,0.9s
ZIRO ZIRO 41.26 271 *e*P **P 18 26 59.5 +0.6**
ZIRO IAmb IAmb 18 27 02.4
comp=Z,149nm,0.9s
WMQ Urumqi 41.29 297 P **P 18 26 59.9 +1.1**
WMQ S **S 18 33 14.3 +2.9**
WMQ sS sS 18 33 25.3 +1.3
WMQ SS **SS 18 36 12.9 -2.2**
WMQ pmax pmax
comp=Z,93nm,1.7s
WMQ pmax pmax
comp=Z,520nm,4.9s
WMQ LR LR
comp=Z,3µm,20.3s
WMQ LR LR
comp=Z,4µm,16.9s
WMQ LR LR
comp=Z,4µm,22.1s
MPSI Mapaga 41.40 214 P **P 18 26 59.8 -0.1**
comp=Z,2µmcomp=Z,89nm,1.6s
LUWI Luwuk 41.42 209 P **P 18 26 58.9 -1.1**
comp=Z,3µmcomp=Z,227nm,1.4s
LUWI Luwuk 41.42 209 P **P 18 26 59.9 -0.1**
LUWI IAmb IAmb 18 27 13.5
comp=Z,154nm,0.8s
CHTO Chiang Mai 41.48 257 IAMs_20 IAMs_20 18 45 48.2
comp=Z,5µm,18.0s
MSAI Masohi 41.52 200 P **P 18 27 00.8 0.0**
comp=Z,1µmcomp=Z,39nm,1.5s
CM31 Chiang Mai Arr 41.68 256 P **P 18 27 02.9 +0.7**
SNR=12
CM31 Chiang Mai Arr 41.68 256 P **P 18 27 02.9 +0.7**
CMAR Chiang Mai Arr 41.68 256 P **P 18 27 02.5 +0.3**
comp=Z,19nm,0.8s,baz=47,slow=6.4,SNR=84
CMAR LR LR 18 46 34.6
comp=Z,4µm,18.6s,baz=94,slow=40
RABL Rabaul 41.73 164 P **P 18 27 02.6 0.0**
APSI Ampana 41.76 211 P **P 18 27 02.4 -0.4**
comp=Z,4µmcomp=Z,351nm,1.4s
KRVT Keravat (AS076 41.82 165 P **P 18 27 04.0 +0.7**
comp=Z,19nm,0.7s,baz=161,slow=19,SNR=4.6
NLAI Namlea 41.95 202 P **P 18 27 03.8 -0.5**
comp=Z,3µmcomp=Z,125nm,1.8s
AAI Ambon 42.05 200 P **P 18 27 05.4 +0.3**
comp=Z,5µmcomp=Z,304nm,1.6s
ZAA0 Zalesovo Array 42.41 313 P **P 18 27 08.1 +0.3**
ZAA0 IAmb IAmb 18 27 20.3
comp=Z,215nm,1.2s
ZALV Zalesovo Beam 42.41 313 P **P 18 27 07.6 -0.2**
comp=Z,43nm,0.5s,baz=95,slow=7.3,SNR=165
ZALV PcP **PcP 18 29 00.9 +0.4**
comp=Z,28nm,0.8s,baz=94,slow=3.4,SNR=6.0
ZALV LR LR 18 45 31.6
comp=Z,5µm,19.4s,baz=88,slow=37
ZALV Zalesovo Beam 42.41 313 P **P 18 27 07.9 +0.2**
LSA Lhasa 42.54 276 *i* P **P 18 27 10.9 +1.2**
SNR=22
LSA Lhasa 42.54 276 P **P 18 27 11.2 +1.5**
LSA Lhasa 42.54 276 P **P 18 27 10.8 +1.1**
LSA pmax pmax
comp=Z,75nm,1.0s
LSA MLR MLR
comp=Z,4µm,18.0s
LSA Lhasa 42.54 276 P **P 18 27 10.8 +1.1**
LSA IAMs_20 IAMs_20 18 46 12.8
comp=Z,4µm,18.0s
ZSN Zaisan 42.76 303⇓ *i* P **P 18 27 11.3 +0.5**
comp=Z,247nm,2.0s,baz=303
ZSN *e*S **S 18 33 36.1 +3.3**
baz=303
ZSN LR LR 18 45 42.0
comp=Z,2µm,12.0s,baz=303
ZSN Zaisan 42.76 303 *d* iP **P 18 27 11.2 +0.5**
ZSN *e*S **S 18 33 36.1 +3.3**
ZSN pmax pmax
comp=Z,247nm,2.0s
ZSN MLR MLR
comp=Z,2µm,12.0s
SDPT Sand Point 42.89 45 P **P 18 27 11.3 -0.2**
SMKI Samarinda 43.35 217 P **P 18 27 17.6 +1.8**
comp=Z,12µmcomp=Z,269nm,1.4s
CNBA Chernabura Isl 43.39 46 P **P 18 27 16.2 +0.5**
CNBA IAmb IAmb 18 27 24.6
comp=Z,80nm,0.8s
SBUM Sibu 43.58 226 P **P 18 27 19.0 +1.4**
NRIK Noril'sk 43.77 335 P **P 18 27 18.4 -0.1**
comp=Z,30nm,1.0s,baz=123,slow=6.7,SNR=54
NRIK PcP **PcP 18 29 05.8 +1.0**
comp=Z,26nm,0.8s,baz=142,slow=9.2,SNR=3.6
NRIK LR LR 18 48 53.9
comp=Z,5µm,18.4s,baz=103,slow=41
NRIK Noril'sk 43.77 335 *e*P **P 18 27 18.1 -0.4**
NRIK pmax pmax
comp=Z,88nm,1.4s
BKB Balikpapan 44.21 217 IAMs_20 IAMs_20 18 47 55.3
comp=Z,3µm,18.0s
TTSI Tana Toraja 44.45 212 P **P 18 27 23.7 -0.9**
comp=Z,2µmcomp=Z,67nm,1.8s
MK31 Makanchi Array 44.59 303 *i* P **P 18 27 25.3 -0.2**
MK31 Makanchi Array 44.59 303 IAmb IAmb 18 27 38.3
comp=Z,99nm,1.0s
MKAR Makanchi Array 44.59 303 P **P 18 27 25.1 -0.4**
comp=Z,37nm,0.7s,baz=87,slow=8.2,SNR=249
MKAR LR LR 18 46 18.4
comp=Z,4µm,19.0s,baz=86,slow=36
MKAR Makanchi Array 44.59 303 P **P 18 27 25.3 -0.2**
MKAR Makanchi Array 44.59 303 P **P 18 27 25.3 -0.2**
MAKZ Makanchi 44.80 303 P **P 18 27 26.9 -0.2**
MAKZ Makanchi 44.80 303 P **P 18 27 26.9 -0.2**
MAKZ IAmb IAmb 18 27 40.1
comp=Z,133nm,1.1s
MAKZ IAMs_20 IAMs_20 18 46 14.2
comp=Z,4µm,20.0s
BRDH Bariadhala 45.26 267 P **P 18 27 30.4 -0.5**
comp=Z,111nm,0.4s,baz=78,slow=10.0,SNR=4.7
SPSI Sidrap Palu 45.30 212 P **P 18 27 30.2 -1.1**
comp=Z,2µmcomp=Z,129nm,1.3s
TARA Tarawa 45.38 133 IAMs_20 IAMs_20 18 42 35.1
comp=Z,3µm,19.0s
SEM Semipalatinsk 45.43 308 *i* P **P 18 27 31.5 -0.8**
comp=Z,127nm,2.7s,baz=308
SEM *e*S **S 18 34 13.7 +1.6**
baz=308
SEM LR LR 18 46 53.4
comp=Z,5µm,14.8s,baz=308
SEM Semipalatinsk 45.43 308 *i* P **P 18 27 31.5 -0.8**
SEM *e*S **S 18 34 13.6 +1.6**
SEM pmax pmax
comp=Z,127nm,2.7s
SEM MLR MLR
comp=Z,5µm,15.0s
KSM Kuching 45.48 227 P **P 18 27 33.3 +0.5**
KSM IAmb IAmb 18 27 48.6
comp=Z,80nm,0.8s
KSM Kuching 45.48 227 P **P 18 27 34.0 +1.2**
BNSI Bone 45.55 211 P **P 18 27 34.0 +0.7**
comp=Z,6µmcomp=Z,393nm,1.4s
GTK Tadong 45.56 274 *e*P **P 18 27 33.5 -0.1**
GTK IAmb IAmb 18 27 39.8
comp=Z,36nm,0.9s
GTK IAMs_20 IAMs_20 18 49 00.1
comp=Z,6µm,14.2s
BBSI Bau Bau 45.58 207 P **P 18 27 35.1 +1.6**
comp=Z,217nmcomp=Z,18nm,1.1s
TTA Tatalina 45.60 35 P **P 18 27 34.9 +1.6**
TTA pmax pmax
comp=Z,47nm,1.0s
TTA Tatalina 45.60 35 P **P 18 27 34.9 +1.6**
SVW2 Sparrevohn 45.68 37 P **P 18 27 36.2 +2.3**
SVW2 IAmb IAmb 18 27 44.1
comp=Z,103nm,0.8s
PMG Port Moresby 46.05 173 *ce*P **P 18 27 37.1 -0.1**
PMG pmax pmax
comp=Z,65nm,1.1s
KAPI Kappang 46.25 211 LR LR 18 47 26.7
comp=Z,838nm,18.7s,baz=51,slow=37
KAPI Kappang 46.25 211 P **P 18 27 39.4 +0.6**
KAPI pmax pmax
comp=Z,530nm,1.5s
KAPI Kappang 46.25 211 P **P 18 27 39.4 +0.6**
TAPN Taplejung 46.26 275 *e*P **P 18 27 39.5 +0.2**
KBKI Kotabaru 46.34 217 P **P 18 27 39.3 -0.2**
comp=Z,656nmcomp=Z,72nm,0.8s
KURK Kurchatov 46.42 308 P **P 18 27 40.0 +0.1**
KURK Kurchatov 46.42 308 *ce*P **P 18 27 39.4 -0.5**
KURK pmax pmax
comp=Z,194nm,1.3s
KURK Kurchatov 46.42 308 P **P 18 27 39.3 -0.5**
KURBB Kurchatov Arra 46.49 308 P **P 18 27 39.8 -0.6**
comp=Z,69nm,0.9s,baz=83,slow=8.1,SNR=420
KURBB Kurchatov Arra 46.49 308 P **P 18 27 40.0 -0.4**
ODAN Odare 46.73 274 *e*P **P 18 27 43.2 +0.3**
comp=Z,392nm,1.0s
IMAR Indian Mountai 46.87 30 P **P 18 27 43.8 +0.7**
KDAK Kodiak Island 47.22 42 P **P 18 27 46.7 +0.7**
comp=Z,35nm,0.7s,baz=274,slow=4.4,SNR=38
KDAK Kodiak Island 47.22 42 P **P 18 27 46.8 +0.9**
KDAK IAmb IAmb 18 27 54.5
comp=Z,92nm,0.8s
KDAK Kodiak Island 47.22 42 IAMs_20 IAMs_20 18 46 47.0
comp=Z,3µm,21.0s
JOHN Johnston Islan 47.25 101 IAMs_20 IAMs_20 18 44 09.1
comp=Z,3µm,21.0s
SHLS Shalkode 47.29 298⇓ *i* P **P 18 27 44.6 -2.3**
comp=Z,183nm,2.5s,baz=298
SHLS *e*S **S 18 34 36.8 -2.1**
baz=298
SHLS LR LR 18 48 14.1
comp=Z,3µm,12.6s,baz=298
SHLS Shalkode 47.29 298 *d* iP **P 18 27 44.6 -2.3**
SHLS *e*S **S 18 34 36.7 -2.1**
SHLS pmax pmax
comp=Z,183nm,2.5s
SHLS MLR MLR
comp=Z,3µm,13.0s
RAMN Ramite 47.33 275 *e*P **P 18 27 47.8 +0.2**
comp=Z,369nm,0.8s
PPLA Purkeypile 47.35 35 P **P 18 27 49.5 +2.5**
PPLA IAmb IAmb 18 27 59.3
comp=Z,109nm,1.0s
JIRN Jiri 47.35 276 *e*P **P 18 27 48.5 +0.6**
comp=Z,1µm,1.1s
GUN Gumba 47.49 276 *e*P **P 18 27 49.3 +0.4**
TDK Taldyqorghan 47.60 301 *i* P **P 18 27 49.2 0.0**
comp=Z,347nm,2.9s,baz=300
TDK *e*S **S 18 34 45.3 +2.5**
baz=300
TDK LR LR 18 48 18.1
comp=Z,7µm,14.3s,baz=300
TDK Taldyqorghan 47.60 301 *i* P **P 18 27 49.1 0.0**
TDK *e*S **S 18 34 45.3 +2.5**
TDK pmax pmax
comp=Z,347nm,2.9s
TDK MLR MLR
comp=Z,7µm,14.0s
UZB Uzynbulak 47.61 298⇓ *i* P **P 18 27 49.4 -0.1**
comp=Z,119nm,2.8s,baz=298
UZB *e*S **S 18 34 45.7 +2.4**
baz=298
UZB LR LR 18 49 12.4
comp=Z,2µm,14.8s,baz=298
UZB Uzynbulak 47.61 298 *d* iP **P 18 27 49.3 -0.1**
UZB *e*S **S 18 34 45.7 +2.4**
UZB pmax pmax
comp=Z,119nm,2.8s
UZB MLR MLR
comp=Z,2µm,15.0s
KPKS Kokpek 47.77 299⇓ *i* P **P 18 27 50.8 +0.1**
comp=Z,158nm,2.4s,baz=298
KPKS *e*S **S 18 34 47.7 +2.2**
baz=298
KPKS Kokpek 47.77 299 *d* iP **P 18 27 50.7 +0.1**
KPKS *e*S **S 18 34 47.6 +2.1**
KPKS pmax pmax
comp=Z,158nm,2.4s
CNPM China Poot 47.84 39 P **P 18 27 50.6 -0.2**
BRLK Bradley Lake 48.01 39 IAmb IAmb 18 28 01.6
comp=Z,38nm,0.8s
PKI Pulchoki 48.01 276 *e*P **P 18 27 52.9 -0.1**
comp=Z,357nm,1.1s
PKIN Phulchoki 48.02 276 *e*P **P 18 27 53.0 +0.1**
comp=Z,98nm,0.6s
KKN Kakani 48.02 276 *e*P **P 18 27 53.2 +0.3**
SATY Saty 48.07 298⇓ *i* P **P 18 27 53.4 +0.5**
comp=Z,8.0nm,0.6s,baz=298
SATY *e*S **S 18 34 52.4 +2.6**
baz=298
SATY LR LR 18 49 29.6
comp=Z,973nm,12.1s,baz=298
SATY Saty 48.07 298 *d* iP **P 18 27 53.4 +0.5**
SATY *e*S **S 18 34 52.4 +2.6**
SATY pmax pmax
comp=Z,8.0nm,0.6s
SATY MLR MLR
comp=Z,973nm,12.0s
PRZ Przheval'sk 48.22 298 IAMs_20 IAMs_20 18 50 51.2
comp=Z,3µm,21.0s
DMN Daman 48.24 276 *e*P **P 18 27 54.7 +0.1**
GKN Gorkha 48.44 277 *e*P **P 18 27 56.4 +0.3**
comp=Z,1µm,1.2s
RC01 Rabbit Creek A 48.52 37 IAmb IAmb 18 28 04.7
comp=Z,85nm,0.9s
O22K Cooper Landing 48.55 38 P **P 18 27 56.7 +0.5**
baz=273
MMRI Maumere 48.61 206 P **P 18 27 57.4 +0.2**
comp=Z,2µmcomp=Z,4µmcomp=Z,156nm,0.9s
SEW Seward 48.71 38 IAmb IAmb 18 28 07.8
comp=Z,102nm,1.1s
SEW IAMs_20 IAMs_20 18 50 29.2
comp=Z,2µm,18.0s
TOLK Toolik Lake Re 48.71 27 P **P 18 27 59.0 +1.5**
baz=266
TOLK Toolik Lake Re 48.71 27 IAmb IAmb 18 28 07.3
comp=Z,73nm,1.0s
PMR Palmer 48.79 36 IAmb IAmb 18 28 06.7
comp=Z,86nm,1.0s
CHKK Chushkaly 48.86 300⇓ *i* P **P 18 27 59.2 +0.2**
baz=299
CHKK *e*S **S 18 35 03.7 +2.9**
baz=299
CHKK Chushkaly 48.86 300 *d* iP **P 18 27 59.1 +0.2**
CHKK *e*S **S 18 35 03.6 +2.9**
KULM Kulim 48.86 240 P **P 18 28 00.1 +0.9**
KULM IAmb IAmb 18 28 12.7
comp=Z,116nm,1.2s
KULM IAMs_20 IAMs_20 18 50 17.2
comp=Z,2µm,18.0s
KULM Kulim 48.86 240 P **P 18 28 01.0 +1.8**
RND Reindeer 48.86 34 IAmb IAmb 18 28 07.6
comp=Z,92nm,0.9s
GHO Glory Hole Cre 48.88 36 IAmb IAmb 18 28 08.0
comp=Z,111nm,1.0s
EDFI Ende, Flores 48.91 207 P **P 18 27 59.0 -0.6**
comp=Z,1µmcomp=Z,78nm,0.8s
SOEI Soe 48.97 203 P **P 18 28 00.4 +0.3**
comp=Z,5µmcomp=Z,408nm,1.0s
DANN Dangsing 49.00 278 *e*P **P 18 28 01.1 +0.6**
comp=Z,1µm,0.9s
MDOK Medeo 49.00 299 *i* P **P 18 28 00.8 +0.6**
baz=298
MDOK *e*S **S 18 35 05.7 +2.7**
baz=298
MDOK LR LR 18 49 22.9
comp=Z,7µm,13.5s,baz=298
MDOK Medeo 49.00 299 *i* P **P 18 28 00.7 +0.6**
MDOK *e*S **S 18 35 05.7 +2.7**
MDOK MLR MLR
comp=Z,7µm,13.0s
KNDC Almaty 49.04 299 P **P 18 28 01.7 +1.3**
AAA Alma-Ata 49.08 299 *e*P **P 18 28 01.9 +1.1**
comp=Z,52nm,1.2s,baz=298
AAA *e*S **S 18 35 07.5 +3.6**
baz=298
AAA LR LR 18 49 19.6
comp=Z,8µm,18.3s,baz=298
AAA Alma-Ata 49.08 299 *e*P **P 18 28 01.8 +1.1**
AAA *e*S **S 18 35 07.5 +3.6**
AAA pmax pmax
comp=Z,52nm,1.2s
AAA MLR MLR
comp=Z,8µm,18.0s
TNSS Tian-Shan 49.10 299 *e*P **P 18 28 02.1 +0.8**
baz=298
TNSS Tian-Shan 49.10 299 *e*P **P 18 28 02.1 +0.8**
MDM Murphy Dome 49.12 32 IAmb IAmb 18 28 10.4
comp=Z,85nm,1.0s
KNK Knik Glacier 49.12 37 IAmb IAmb 18 28 10.4
comp=Z,68nm,0.9s
SML Sawmill 49.16 36 IAmb IAmb 18 28 20.2
comp=Z,89nm,0.8s
IPM Ipoh 49.18 239 IAMs_20 IAMs_20 18 50 54.6
comp=Z,2µm,18.0s
IPM Ipoh 49.18 239 P **P 18 28 02.0 +0.4**
KDJ Kajisay 49.19 297 IAmb IAmb 18 28 18.1
comp=Z,61nm,0.8s
KDJ IAMs_20 IAMs_20 18 52 13.7
comp=Z,3µm,19.0s
MYKOM Kota Tinggi 49.25 234 IAmb IAmb 18 28 13.1
comp=Z,77nm,1.2s
MYKOM Kota Tinggi 49.25 234 P **P 18 28 04.0 +1.9**
TCOL CIGO, UAF Yank 49.27 32 P **P 18 28 03.2 +1.5**
baz=271
COLA College 49.28 32 *d* iP **P 18 28 03.0 +1.3**
COLA pmax pmax
comp=Z,82nm,1.8s
KUU Kurty 49.30 300⇓ *i* P **P 18 28 02.2 -0.2**
comp=Z,128nm,1.6s,baz=300
KUU *e*S **S 18 35 08.7 +1.7**
baz=300
KUU LR LR 18 49 32.2
comp=Z,4µm,14.0s,baz=300
KUU Kurty 49.30 300 *d* iP **P 18 28 02.1 -0.2**
KUU *e*S **S 18 35 08.6 +1.6**
KUU pmax pmax
comp=Z,128nm,1.6s
KUU MLR MLR
comp=Z,4µm,14.0s

KOLN **Koldanda** 49.37 277 *e*P **P** 18 28 03.6 +0.3
comp=Z,950nm,1.2s
MTBS **Maitube** 49.45 299 *e*P **P** 18 28 05.1 +1.6
baz=299
MTBS **Maitube** 49.45 299 *e*P **P** 18 28 05.0 +1.6
POKR **Poker Plat Res** 49.45 32 P **P** 18 28 04.9 +1.8
baz=271
BATI **Baumata** 49.59 204 LR LR 18 49 14.7
comp=Z,1μm,20.5s,baz=44,slow=36
BATI **Baumata** 49.59 204 P **P** 18 28 05.5 +0.8
comp=Z,3μmcomp=Z,236nm,1.1s
HDA **Harding Lake** 49.68 33 P **P** 18 28 05.2 +0.3
baz=272
HDA **Harding Lake** 49.68 33 IAmb IAmb 18 28 13.5
comp=Z,62nm,1.0s
IL31 49.69 32 IAmb IAmb 18 28 14.2
comp=Z,59nm,0.8s
ILAR **Eielson Array** 49.69 32 P **P** 18 28 05.0 0.0
comp=Z,14nm,0.8s,baz=266,slow=5.7,SNR=68
ILAR LR LR 18 50 56.6
comp=Z,973nm,19.9s,baz=280,slow=38
ILAR **Eielson Array** 49.69 32 P **P** 18 28 05.0 0.0
ILAR **Eielson Array** 49.69 32 P **P** 18 28 05.5 +0.5
PYUN **Piuthan** 49.72 278 *e*P **P** 18 28 06.1 +0.2
GLI **Glacier Island** 49.82 37 IAmb IAmb 18 28 18.0
comp=Z,52nm,0.8s
ULHL **Ulahol** 49.82 298 P **P** 18 28 08.6 +2.1
SNR=5.4
BOOM **Boomskoye usch** 49.97 298 IAmb IAmb 18 28 21.0
comp=Z,77nm,0.8s
TKM2 **Tokmak 2** 50.09 299 P **P** 18 28 09.8 +1.2
SNR=13
TKM2 **Tokmak 2** 50.09 299 P **P** 18 28 08.3 -0.2
FID **Port Fidalgo** 50.13 37 IAmb IAmb 18 28 10.9
comp=Z,129nm,1.5s
HIN **Hinchinbrook I** 50.15 38 IAmb IAmb 18 28 18.0
comp=Z,76nm,0.9s
BRZS **Berezniki** 50.30 308 ⇓ *i*P **P** 18 28 09.5 -0.3
comp=Z,109nm,1.4s,baz=308
BRZS LR LR 18 50 09.3
comp=Z,2μm,12.1s,baz=308
BRZS **Berezniki** 50.30 308 *d i*P **P** 18 28 09.4 -0.3
BRZS pmax pmax
comp=Z,109nm,1.4s
BRZS MLR MLR
comp=Z,2μm,12.0s
COEN **Coen** 50.31 178 IAmb IAmb 18 28 22.6
comp=Z,145nm,1.1s
FYU **Fort Yukon** 50.33 30 IAmb IAmb 18 28 26.2
comp=Z,122nm,1.2s
TPI **Tanjungpandan** 50.44 227 P **P** 18 28 11.8 +0.7
comp=Z,2μmcomp=Z,90nm,1.3s
EYAK **Cordova Ski Ar** 50.51 38 IAmb IAmb 18 28 20.4
comp=Z,73nm,1.1s
PLAI **Plampang** 50.51 211 P **P** 18 28 10.9 -0.8
comp=Z,2μmcomp=Z,178nm,1.0s
BMAR **Burnt Mountain** 50.56 29 P **P** 18 28 13.1 +1.5
KZA **Kyzart** 50.58 298 P **P** 18 28 14.0 +1.5
SNR=14
WBSI **Waikabubak, Su** 50.60 209 P P 18 28 22.6 +10
SGDS **Sogindy** 50.62 300 ⇓ *i*P **P** 18 28 12.6 +0.2
comp=Z,102nm,2.9s,baz=300
SGDS *e*S **S** 18 35 28.2 +2.8
baz=300
SGDS LR LR 18 50 23.8
comp=Z,2μm,12.1s,baz=300
SGDS **Sogindy** 50.62 300 *d i*P **P** 18 28 12.6 +0.2
SGDS *e*S **S** 18 35 28.2 +2.8
SGDS pmax pmax
comp=Z,102nm,2.9s
SGDS MLR MLR
comp=Z,2μm,12.0s
KBK **Karagaybulak** 50.62 299 P **P** 18 28 13.0 +0.4
SNR=46
KMMI **Kalianget** 50.66 217 P **P** 18 28 13.8 +1.0
comp=Z,173nm,1.1s
CHMS **Chumysh** 50.66 299 P **P** 18 28 12.8 +0.2
SNR=26
USP **Ospenovka** 50.76 300 P **P** 18 28 13.8 +0.4
SNR=35
KSH **Kashi** 50.85 295 P **P** 18 28 18.0 +3.8
KSH pP sP 18 28 26.5 +1.7
KSH S **S** 18 35 33.1 +4.3
KSH pmax pmax
comp=Z,130nm,1.1s
KSH pmax pmax
comp=Z,1μm,8.4s
KSH LR LR
comp=Z,22μm,15.5s
KSH LR LR
comp=Z,14μm,13.5s
KSH LR LR
comp=Z,25μm,16.9s
OTUK **Ortayu** 50.91 306 P **P** 18 28 14.2 -0.2
AAK **Ala-Archa** 50.95 299 P **P** 18 28 15.5 +0.5
comp=Z,10nm,0.4s,baz=91,slow=4.9,SNR=3.4
AAK **Ala-Archa** 50.95 299 P **P** 18 28 15.4 +0.4
SNR=16
AAK **Ala-Archa** 50.95 299 *i* P **P** 18 28 15.5 +0.5
SNR=17
AAK **Ala-Archa** 50.95 299 P **P** 18 28 15.7 +0.8
AAK P **P** 18 28 15.7 +0.8
AAK **Ala-Archa** 50.95 299 *de*P **P** 18 28 15.1 +0.1
AAK pmax pmax
comp=Z,44nm,1.3s
AAK **Ala-Archa** 50.95 299 P **P** 18 28 15.6 +0.5
AAK IAmb IAmb 18 28 28.1
comp=Z,51nm,0.8s
SCRK **Sand Creek** 51.00 33 IAmb IAmb 18 28 24.0
comp=Z,84nm,1.1s
UCH **Uchtor** 51.06 298 P **P** 18 28 17.0 +0.9
SNR=11
BVAR **Borovoye Array** 51.07 313 P **P** 18 28 15.5 -0.1
comp=Z,17nm,0.5s,baz=78,slow=7.7,SNR=114
BVAR PcP **PcP** 18 29 31.8 +0.7
comp=Z,17nm,0.5s,baz=93,slow=4.4,SNR=6.8
BRVK **Borovoye** 51.13 313 P **P** 18 28 16.3 +0.4
BRVK P **P** 18 28 16.3 +0.4
BRVK **Borovoye** 51.13 313 *de*P **P** 18 28 15.6 -0.4
BRVK pmax pmax
comp=Z,79nm,1.3s
BRVK **Borovoye** 51.13 313 P **P** 18 28 15.8 -0.1
BRVK IAmb IAmb 18 28 28.9
comp=Z,97nm,0.9s
BWNR **Bhubaneshwar** 51.14 267 *e*P **P** 18 28 17.1 +0.6
BWNR IAmb IAmb 18 28 18.8
comp=Z,30nm,0.7s
BWNR *i* pP **sP** 18 28 28.7 +1.6
GRJI **Gresik** 51.27 219 P **P** 18 28 16.8 -0.6
comp=Z,2μmcomp=Z,257nm,0.9s
EKS2 **Erkin-Say** 51.45 299 P **P** 18 28 18.8 +0.1
SNR=18
DNP **Denpasar** 51.50 214 P **P** 18 28 18.3 -0.8
comp=Z,18μmcomp=Z,314nm,1.4s
LHMI **Lhok Sumawe** 51.54 244 P P 18 28 32.5 +13
TSI **Tuntungan** 51.59 241 P P 18 28 30.2 +10
AML **Almayashu** 51.66 298 P **P** 18 28 21.1 +0.5
SNR=79
JAGI **Jajag, Banyuwa** 51.81 216 P **P** 18 28 19.7 -1.7
comp=Z,87nm,1.2s
JAGI **Jajag, Banyuwa** 51.81 216 IAmb IAmb 18 28 40.9
comp=Z,83nm,1.0s
PSI **Prapat** 51.83 240 LR LR 18 50 02.8
comp=Z,1μm,21.1s,baz=89,slow=36
RGRI **Rengat** 51.85 234 P P 18 28 33.7 +12
RPSI **Rantau Prapat** 51.91 240 IAmb IAmb 18 28 37.6
comp=Z,52nm,0.8s
WAX **Waxell Ridge** 51.94 38 IAmb IAmb 18 28 37.1
comp=Z,63nm,1.0s
BCAR **Beaver Creek A** 52.08 34 P **P** 18 28 25.0 +2.1
KCSI **Kotacane, Aceh** 52.13 241 P **P** 18 28 21.3 -2.6
comp=Z,57nm,1.2s
MESA **MESA** 52.43 38 IAmb IAmb 18 28 35.6
comp=Z,86nm,1.3s
SMRI **Semarang** 52.43 221 P **P** 18 28 27.1 +1.0
comp=Z,193nm,1.9s
MLSI **Meulaboh, Aceh** 52.59 243 P P 18 28 38.6 +11
MNSI **Mandailing Nat** 52.83 237 P **P** 18 28 29.0 -0.1
comp=Z,1μmcomp=Z,62nm,1.6s
WOJI **Wonogiri, Jawa** 52.85 220 P P 18 28 41.3 +12
SDSI **Sungai Dareh** 52.88 234 P **P** 18 28 29.8 +0.4
comp=Z,3μmcomp=Z,162nm,1.8s
DZA **Taraz** 53.09 300 *e*P **P** 18 28 31.9 +1.1
comp=Z,23nm,1.0s,baz=300
DZA *e*S **S** 18 36 02.8 +3.5
baz=300
DZA LR LR 18 51 47.2
comp=Z,2μm,14.0s,baz=300
DZA **Taraz** 53.09 300 *e*P **P** 18 28 31.8 +1.1
DZA *e*S **S** 18 36 02.8 +3.5
DZA pmax pmax
comp=Z,23nm,1.0s
DZA MLR MLR
comp=Z,2μm,14.0s
UGM **Wanagama** 53.12 220 P **P** 18 28 30.5 -0.7
comp=Z,605nm,1.3s
PCA **Pinnacle** 53.28 38 IAMs_20 IAMs_20 18 48 50.6
comp=Z,2μm,20.0s
PDSI **Padang** 53.50 235 P **P** 18 28 33.5 -0.5
comp=Z,17nm,1.3s
BHK **Bhakra** 53.50 285 *e*P **P** 18 28 34.8 +0.9
BHK *ep*P **sP** 18 28 46.2 +1.7
KK31 **Karatay Array** 53.59 300 *i* P **P** 18 28 34.1 -0.3
KK31 **Karatay Array** 53.59 300 IAmb IAmb 18 28 47.4
comp=Z,130nm,1.0s
KKAR **Karatay Array** 53.59 300 P **P** 18 28 34.8 +0.4
KKAR **Karatay Array** 53.59 300 P **P** 18 28 34.8 +0.4
KKAR **Karatay Array** 53.59 300 IAmb IAmb 18 28 47.4
comp=Z,130nm,1.0s
THN **Thein Dam** 53.63 286 *ex* P 18 28 42.0 +7.2
KRJI **Kerinci** 53.73 233 P **P** 18 28 35.5 -0.3
comp=Z,9μmcomp=Z,395nm,2.1s
EPYK **Eagle Plains** 53.75 30 P **P** 18 28 37.2 +1.9
baz=279
LHSI **Lahat** 53.77 230 P **P** 18 28 36.3 +0.4
comp=Z,4μmcomp=Z,246nm,1.4s
LEM **Lembang** 53.77 224 LR LR 18 51 50.8
comp=Z,2μm,20.1s,baz=8,5,slow=36
LEM **Lembang** 53.77 224 P **P** 18 28 36.1 0.0
comp=Z,2μmcomp=Z,162nm,1.4s
GSI **Gunungsitoli** 53.84 240 P **P** 18 28 36.5 0.0
comp=Z,31μmcomp=Z,3μm,1.2s
CBJI **Citeko** 53.87 225 P P 18 28 53.4 +17
BLSI **Bandar Lampung** 53.95 227 P **P** 18 28 37.3 0.0
KIP **Kipapa** 53.98 89 *ce*P **P** 18 28 37.2 -0.3
KIP pmax pmax
comp=Z,112nm,1.7s
DBJI **Dramaga** 54.03 225 P **P** 18 28 38.6 +0.7
comp=Z,11μmcomp=Z,88nm,1.4s
MASI **Maura Aman, Be** 54.04 232 P **P** 18 28 37.5 -0.5
comp=Z,328nm,1.1s
NDI **New Delhi** 54.04 281 *e*P **P** 18 28 37.0 -0.9
NDI *ep*P **sP** 18 28 48.0 -0.5
BRLS **Borolday** 54.08 301 *e*S **S** 18 36 17.3 +4.6
baz=300
CISI **Cisompet, Garu** 54.26 223 P P 18 28 49.6 +10
LWLI **Liwa** 54.38 229 P **P** 18 28 40.3 -0.2
HYT **Haines Junctio** 54.46 36 IAmb IAmb 18 28 51.6
comp=Z,107nm,1.1s
CHM **Chimkent** 54.48 300 *e*P **P** 18 28 42.2 +1.2
comp=Z,12nm,0.8s,baz=300
CHM *e*S **S** 18 36 21.8 +3.6
baz=300
CHM LR LR 18 52 53.3
comp=Z,892nm,14.0s,baz=300
CHM **Chimkent** 54.48 300 *e*P **P** 18 28 42.1 +1.2
CHM *e*S **S** 18 36 21.7 +3.6
CHM pmax pmax
comp=Z,12nm,0.8s
CHM MLR MLR
comp=Z,892nm,14.0s
KASI **Kota Agung** 54.52 228 P **P** 18 28 40.1 -1.3
INK **Inuvik** 54.63 27 P **P** 18 28 42.2 +0.7
comp=Z,16nm,0.7s,baz=280,slow=7.1,SNR=53
INK **Inuvik** 54.63 27 IAmb IAmb 18 28 51.3
comp=Z,64nm,1.2s
INK IAMs_20 IAMs_20 18 54 44.8
comp=Z,2μm,19.0s
SISI **Saibi** 54.72 236 P P 18 28 54.9 +12
NIL **Nilore** 55.03 289 P **P** 18 28 46.0 +1.0
NIL **Nilore** 55.03 289 P **P** 18 28 45.5 +0.5
NIL pmax pmax
comp=Z,241nm,1.0s
NIL **Nilore** 55.03 289 P **P** 18 28 45.5 +0.5
SVE **Sverdlovsk** 55.66 319 *c i*P **P** 18 28 49.7 +0.6
SVE *e*S **S** 18 36 34.5 +1.1
SVE pmax pmax
comp=Z,227nm,1.0s
SVE MLR MLR
comp=Z,8μm,16.0s
SVE MLR MLR
comp=E,7μm,16.0s
PVM **Polavaram** 56.11 267 *e*P **P** 18 28 53.5 +0.7
PVM IVmB_BB 18 29 05.9
comp=Z,573nm,2.4s
PVM IVMs_BB IVMs_BB 18 56 31.8
comp=Z,497nm,18.3s
NGP **Nagpur** 56.14 272 *e*P **P** 18 28 53.0 -0.1
NGP IAmb IAmb 18 28 54.4
comp=Z,109nm,1.1s
NGP *i* pP **sP** 18 29 04.4 +0.6
FITZ **Fitzroy Crossi** 56.51 198 LR LR 18 53 34.3
comp=Z,464nm,18.3s,baz=82,slow=36
A36M **Sachs Harbour** 56.54 22 P **P** 18 28 56.7 +1.5
baz=286
CTAO **Charters Tower** 56.55 175 P **P** 18 28 56.3 +0.4
CTAO pmax pmax
comp=Z,36nm,1.0s
CTAO **Charters Tower** 56.55 175 P **P** 18 28 56.3 +0.4
WRAB **Tennant Creek** 56.67 188 *d i*P **P** 18 28 56.4 -0.3
WRAB pmax pmax
comp=Z,233nm,1.2s
WRAB **Tennant Creek** 56.67 188 P **P** 18 28 56.7 -0.1
WRA **Warramunga Arr** 56.69 188 P **P** 18 28 56.3 -0.5
comp=Z,101nm,0.9s,baz=5.9,slow=7.3,SNR=69
WRA LR LR 18 53 10.1
comp=Z,1μm,19.8s,baz=5.0,slow=36
WRA **Warramunga Arr** 56.69 188 *i* P **P** 18 28 55.7 -1.1
WRA pmax pmax
comp=Z,101nm,0.9s
WRA **Warramunga Arr** 56.69 188 P **P** 18 28 55.8 -1.0
ARU **Arti** 56.87 319 P **P** 18 28 57.8 0.0
comp=Z,7.7nm,0.4s,baz=71,slow=4.6,SNR=97
ARU **Arti** 56.87 319 *d i*P **P** 18 28 57.8 0.0
ARU 18 29 53.0
ARU 18 31 01.8
ARU S **S** 18 36 53.8 +4.3
ARU 18 38 46.7
ARU SS **SS** 18 40 42.8 +5.5
ARU pmax pmax
comp=Z,102nm,0.9s
ARU MLR MLR
comp=Z,6μm,17.0s
ARU **Arti** 56.87 319 P **P** 18 28 57.6 -0.2
SANVU **Saraoutou** 57.07 150 P **P** 18 29 00.4 +0.8
RPR **Rampur** 57.13 270 *e*P **P** 18 28 59.7 -0.5
RPR IVmB_BB 18 29 01.0
comp=Z,706nm,2.4s
KBL **Kabul** 57.84 291 P **P** 18 29 05.6 +0.3
KBL **Kabul** 57.84 291 IAMs_20 IAMs_20 18 55 32.3
comp=Z,3μm,18.0s
SRSP **Sriramsagar** 57.85 271 *e*P **P** 18 29 05.4 +0.1
SRSP IVmB_BB 18 29 17.7
comp=Z,1μm,1.3s
SRSP IVMs_BB IVMs_BB 18 57 42.8
comp=Z,531nm,18.2s
ADKI **Addanki** 58.20 267 *e*P **P** 18 29 08.6 +0.8
ADKI IVmB_BB 18 29 22.3
comp=Z,511nm,2.4s
ADKI IVMs_BB IVMs_BB 18 57 05.6
comp=Z,459nm,12.4s
NJS **Nagarjunasagar** 58.35 268 *e*P **P** 18 29 09.0 +0.3
NJS IVMsBB 18 55 36.8
comp=Z,314nm,4.9s
NJS IVMsBB 18 59 17.8
comp=Z,456nm,18.6s
KNTN **Kanton** 58.36 122 IAMs_20 IAMs_20 18 50 20.4
comp=Z,3μm,19.0s
ABKAR **Akbulak array** 58.44 310 P **P** 18 29 08.5 -0.4
HYB **Hyderabad** 58.49 269 *i* P **P** 18 29 10.0 +0.2
comp=Z,120nm,1.0s
HYB *es*P **pP** 18 29 18.0 +0.3
HYB *e*PcP **PcP** 18 29 57.0 -3.2
HYB *e* 18 30 10.5
HYB *e*S **S** 18 37 20.0 +8.2
HYBB **Hyderabad (bro** 58.49 269 *e*P **P** 18 29 09.3 -0.5
HYBB IVmBBB 18 29 11.0
comp=Z,560nm,1.2s
HYBB IVMs_BB IVMs_BB 18 57 32.3
comp=Z,525nm,5.9s
DLBC **Dease Lake** 58.78 38 P **P** 18 29 12.6 +1.4
comp=Z,11nm,0.9s,baz=296,slow=3.8,SNR=16
SRLM **Srisailam** 58.93 267 *e*P **P** 18 29 12.8 0.0
SRLM IVmB_BB 18 29 13.3
comp=Z,372nm,1.9s
SRLM IVMs_BB IVMs_BB 18 57 48.2
comp=Z,612nm,17.0s
AKTO **Aktyubinsk** 59.17 312 P **P** 18 29 13.9 -0.2
comp=Z,27nm,0.8s,baz=81,slow=6.6,SNR=46
SKHT **Srikalahasti** 59.58 265 *e*P **P** 18 29 18.1 +0.8
SKHT IVmB_BB 18 29 18.8
comp=Z,762nm,2.4s
SKHT IVMs_BB IVMs_BB 18 57 45.3
comp=Z,307nm,4.8s
KLRI **Killari** 59.71 271 *e*P **P** 18 29 18.2 -0.1
KLRI IVmB_BB 18 29 19.5
comp=Z,812nm,0.5s
KLRI IVMs_BB IVMs_BB 18 57 45.4
comp=Z,864nm,15.9s
AS31 **Alice Springs** 60.41 188 P **P** 18 29 22.6 -0.2
ASAR **Alice Springs** 60.41 188 P **P** 18 29 22.9 +0.2
comp=Z,41nm,0.8s,baz=11,slow=7.6,SNR=221
ASAR PKP2bc 18 58 54.5
comp=Z,1.9nm,0.7s,baz=175,slow=1.2,SNR=12
ASAR **Alice Springs** 60.41 188 P **P** 18 29 23.0 +0.2
ASAR **Alice Springs** 60.41 188 P **P** 18 29 22.7 0.0
ALE **Alert** 60.51 4 IAMs_20 IAMs_20 18 56 41.1
comp=Z,2μm,20.0s
KIRV **Kirov** 60.76 323 P **P** 18 29 25.2 +0.4
comp=Z,56nm,0.5s,baz=76,slow=2.7,SNR=62
KIRV **Kirov** 60.76 323 *e*P **P** 18 29 25.0 +0.3
URV **Uravakonda** 60.87 267 *e*P **P** 18 29 26.3 +0.1
URV IVmBBB 18 29 43.1
comp=Z,403nm,2.3s
URV IVMs_BB IVMs_BB 18 58 58.2
comp=Z,464nm,15.9s
SPA0 **Spitsbergen Ar** 60.99 349 *e*P **P** 18 29 26.9 +0.8
SPITS **Spitsbergen Ar** 60.99 349 P **P** 18 29 26.6 +0.5
comp=Z,11nm,0.8s,baz=55,slow=7.2,SNR=8.6
KBS **Kingsbay** 61.12 350 *de*P **P** 18 29 27.9 +0.9
KBS pmax pmax
comp=Z,62nm,0.7s
KBS **Kingsbay** 61.12 350 P **P** 18 29 28.3 +1.3
KBS IAmb IAmb 18 29 29.3
comp=Z,69nm,0.9s
KBS **Kingsbay** 61.12 350 *e*P **P** 18 29 28.0 +1.1
PSA00 **Pilbara Seismi** 61.47 203 P **P** 18 29 29.9 -0.1
PSA00 **Pilbara Seismi** 61.47 203 P **P** 18 29 30.2 +0.2
PSA00 IAmb IAmb 18 29 41.1
comp=Z,31nm,0.8s
NOR **Nord** 61.49 356 ⇓ *i*P **P** 18 29 29.8 +0.4
comp=Z,38nm,1.4s
comp=Z,2μm,21.0s
NOR **Nord** 61.49 356 ⇓ *i*P **P** 18 29 29.8 +0.4
NOR pmax pmax
comp=Z,38nm,1.4s
NOR MLR MLR
comp=Z,2μm,21.0s
HSPB **Hornsund (broa** 61.92 348 *i* P **P** 18 29 33.5 +1.1
HSPB *eL* L 19 00 40.0
comp=Z,3μm,18.1s
HSPB **Hornsund (broa** 61.92 348 *e*P **P** 18 29 33.5 +1.1
KAD **Karad** 62.06 271 ⇓ *i*P **P** 18 29 32.9 -1.3
EIDS **Eidsvold** 62.27 170 IAmb IAmb 18 29 47.7
comp=Z,90nm,1.3s
LVZ **Lovozero** 62.62 336 *ce*P **P** 18 29 35.3 -1.9
LVZ pmax pmax
comp=Z,125nm,1.7s
LVZ MLR MLR
comp=Z,13μm,17.0s
LVZ **Lovozero** 62.62 336 P **P** 18 29 37.4 +0.2
LVZ IAmb IAmb 18 29 50.5
comp=Z,39nm,1.0s
DZM **Mont Dzumac** 62.84 154 *e*P **P** 18 29 41.3 +2.0
comp=Z,211nm,1.1s
DZM *e*S **S** 18 38 05.2 -1.9
comp=Z,3μm,26.8s
DZM *e*LQ LQ 18 45 25.7
comp=Z,4μm,33.6s
DZM *e*LR LR 18 48 13.5
comp=Z,4μm,20.9s
RES **Resolute Bay** 62.94 14 P **P** 18 29 39.4 +0.2
RES pmax pmax
comp=Z,41nm,1.0s
RES MLR MLR
comp=Z,800nm,22.0s
RES **Resolute Bay** 62.94 14 P **P** 18 29 39.4 +0.2
RES IAmb IAmb 18 29 40.5
comp=Z,41nm,0.9s
HRA **Herat** 62.95 294 IAMs_20 IAMs_20 18 57 40.6
comp=Z,2μm,19.0s
APA **Apatity** 63.19 336 ⇓ *i*P **P** 18 29 39.0 -2.0
APA pmax pmax
comp=Z,26nm,0.8s
TMCR **Tamitsa** 63.26 332 *e*P **P** 18 29 41.0 -0.4
TMCR pmax pmax
comp=Z,117nm,1.3s
KEV **Kevo** 63.94 339 P **P** 18 29 46.2 +0.4
KEV pmax pmax
comp=Z,82nm,1.2s
KEV MLR MLR
comp=Z,2μm,20.0s
KEV **Kevo** 63.94 339 P **P** 18 29 46.2 +0.4
KEV IAmb IAmb 18 29 47.1
comp=Z,82nm,1.2s
KEV IAMs_20 IAMs_20 19 00 38.0
comp=Z,2μm,20.0s
MSVF **Nonsavu** 63.99 141 P **P** 18 29 49.6 +2.6
MSVF pmax pmax
comp=Z,174nm,1.2s
MSVF MLR MLR
comp=Z,2μm,19.0s
MSVF **Nonsavu** 63.99 141 P **P** 18 29 49.5 +2.6
MSVF **Nonsavu** 63.99 141 IAMs_20 IAMs_20 18 53 51.1
comp=Z,2μm,19.0s
YKA **Yellowknife Ar** 64.03 30 P **P** 18 29 47.2 +0.6
comp=Z,17nm,0.8s,baz=296,slow=6.6,SNR=75
YKA LR LR 18 56 55.1
comp=Z,568nm,21.3s,baz=0.0,slow=35
YKA PKPPKP 18 58 38.5
comp=Z,2.2nm,1.1s,baz=127,slow=2.6,SNR=5.9
YKA PKP2ab 18 58 49.9
comp=Z,4.5nm,1.1s,baz=117,slow=3.2,SNR=9.7
KLMR **Klimovskoe** 64.27 328 *d i*P **P** 18 29 48.3 +0.1
KLMR *e* 18 32 09.4
KLMR *eS* **S** 18 38 26.0 +2.1
KLMR *eSS* **SS** 18 42 36.0 +3.1
KLMR pmax pmax
comp=Z,77nm,1.0s
KLMR MLR MLR
comp=Z,3μm,14.0s
KLMR **Klimovskoe** 64.27 328 ⇓ *i*P **P** 18 29 48.3 +0.1
KLMR *i* P **P** 18 29 48.3 +0.1
KLMR *i* P **P** 18 29 48.3 +0.1
KLMR AMP 18 29 49.0
comp=Z,77nm,1.0s
KLMR *ePP* **PP** 18 32 09.4 +0.2
KLMR *eS* **S** 18 38 26.0 +2.1
KLMR *eS* **S** 18 38 26.0 +2.1
KLMR *eSS* **SS** 18 42 36.0 +3.1
KLMR *eSS* **SS** 18 42 36.0 +3.1
KLMR LQ LQ 18 52 36.8
KLMR LQ LQ 18 52 36.8
KLMR LR LR 18 57 32.3
KLMR AMP 19 00 45.9
comp=Z,3μm,13.7s
GEYT **Alibeck** 64.30 299 P **P** 18 29 49.2 +0.4
comp=Z,23nm,0.9s,baz=35,slow=3.6,SNR=63
GEYT LR LR 18 59 08.6
comp=Z,1μm,18.2s,baz=40,slow=37
GEYT **Alibeck** 64.30 299 P **P** 18 29 49.5 +0.7
GYA0B **ALIBECK ARRAY** 64.30 299 P **P** 18 29 49.8 +1.0
GYA0B IAmb IAmb 18 30 02.3
comp=Z,106nm,1.2s
GYA0B IAMs_20 IAMs_20 19 00 50.9
comp=Z,2μm,19.0s
ARCES **ARCESS Array B** 64.49 340 P **P** 18 29 50.2 +0.7
comp=Z,23nm,0.8s,baz=57,slow=8.5,SNR=30
ARCES LR LR 19 01 43.6
comp=Z,2μm,18.2s,baz=44,slow=40
ARCES **ARCESS Array B** 64.49 340 P **P** 18 29 50.4 +0.9
ARE0 **ARCESS Array S** 64.49 340 P **P** 18 29 50.4 +0.9
ARE0 **ARCESS Array S** 64.49 340 *e*P **P** 18 29 50.1 +0.6
KTK1 **Kautokeino** 65.45 340 *e*P **P** 18 29 56.4 +0.7
TULEG **Thule** 65.48 8 P **P** 18 29 56.3 +0.5
TULEG IAmb IAmb 18 29 56.6
comp=Z,57nm,1.0s
TULEG IAMs_20 IAMs_20 19 00 47.8

comp=Z,2µm,19.0s
TRO Tromso 66.21 341 *e*P **P 18 30 00.8 +0.2**
DAG Danmarks Havn 66.22 355⇓*i*P **P 18 30 00.8 +0.2**
comp=Z,620nm,14.0s
DAG Danmarks Havn 66.22 355⇓*i*P **P 18 30 00.8 +0.2**
DAG MLR MLR
comp=Z,640nm,14.0s
LLLB Lillooet 66.36 44 IAmb IAmb 18 30 11.0
comp=Z,52nm,1.1s
A04D Lummi Island 66.81 46 P **P 18 30 06.5 +1.7**
baz=300
D03D Eldon 67.17 47 P **P 18 30 09.3 +2.2**
baz=300,SNR=31
B05A Bryant 67.39 46 P **P 18 30 10.1 +1.6**
baz=300,SNR=9.8
D04E Lakebay 67.54 47 P **P 18 30 12.1 +2.7**
baz=300,SNR=5.5
B06A Marblemount 67.62 46 IAmb IAmb 18 30 12.8
comp=Z,72nm,1.3s
MOS Moscow 67.76 324 *e*P **P 18 30 09.1 -1.6**
MOS *e* 18 30 22.5
MOS *e* 18 30 35.3
MOS *e* 18 32 38.4
MOS *e*S **S 18 39 06.3 -0.3**
MOS *e*SS **SS 18 43 25.5 -1.8**
MOS pmax pmax
comp=Z,155nm,1.1s
MOS MLR MLR
comp=E,2µm,15.0s
MOS MLR MLR
comp=Z,3µm,15.0s
MOS MLR MLR
comp=N,3µm,16.0s
F04D Rainier, OR 67.94 48 P **P 18 30 14.1 +2.0**
baz=300
E04D Cinebar 67.97 48 P **P 18 30 14.1 +1.9**
baz=300,SNR=43
VRH Novokhopyorsk 68.09 318 *e*P **P 18 30 12.1 -0.7**
VRH *e**SP **sP 18 30 23.6 0.0**
VRH *e*S **S 18 39 05.5 -5.1**
VRH pmax pmax
comp=Z,90nm,1.0s
VRH smax smax
comp=E,310nm,7.6s
VRH MLR MLR
comp=Z,6µm,16.0s
STKA Stephens Creek 68.13 180 P **P 18 30 13.1 0.0**
comp=Z,18nm,0.9s,baz=340,slow=7.5,SNR=30
STKA LR LR 18 58 58.4
comp=Z,1µm,21.8s,baz=359,slow=35
N2IH Innhavet 68.15 341 *e*P **P 18 30 13.4 +0.4**
G03D McMinnville, O 68.23 49 P **P 18 30 15.9 +2.0**
baz=300,SNR=5.7
C06D Leavenworth 68.26 46 P **P 18 30 15.8 +1.8**
baz=301
FORT Forrest 68.26 193 P **P 18 30 14.5 +0.5**
STEI Steigen 68.36 341 *e*P **P 18 30 14.6 +0.4**
KULLO Kullorsuaq 68.37 5⇓*i*P **P 18 30 14.4 +0.2**
comp=Z,42nm,1.0s
KULLO *i* 18 30 27.8
comp=Z,4µm,17.0s
KULLO Kullorsuaq 68.37 5⇓*i*P **P 18 30 14.4 +0.2**
KULLO *i* 18 30 27.8
KULLO pmax pmax
comp=Z,43nm,1.0s
KULLO MLR MLR
comp=Z,4µm,17.0s
I02D Swisshome 68.43 51 P **P 18 30 16.9 +1.8**
baz=300
COR Corvallis 68.52 50 P **P 18 30 17.4 +1.7**
COR pmax pmax
comp=Z,134nm,1.0s
COR Corvallis 68.52 50 P **P 18 30 17.4 +1.7**
OBN Obninsk 68.61 323 P **P 18 30 15.9 0.0**
comp=Z,12nm,0.7s,baz=31,slow=2.5,SNR=39
OBN Obninsk 68.61 323⇑P **P 18 30 16.6 +0.6**
OBN Obninsk 68.61 323*d*iP **P 18 30 15.8 -0.2**
OBN *i* 18 30 26.4
OBN *i* 18 30 41.0
OBN *i*S **S 18 39 15.6 -1.1**
OBN pmax pmax
comp=Z,100nm,1.2s
OBN MLR MLR
comp=Z,5µm,16.0s
N2TV Tvrnvik 68.66 341 *e*P **P 18 30 16.6 +0.5**
PUL Pulkovo 68.70 330 *e*P **P 18 30 16.6 +0.1**
PUL Pulkovo 68.70 330*ce*P **P 18 30 17.4 +0.9**
PUL pmax pmax
comp=Z,132nm,1.2s
PUL MLR MLR
comp=Z,5µm,16.0s
LTY Liberty 68.73 46 IAmb IAmb 18 30 26.2
comp=Z,39nm,0.8s
LPSR Galich'ya Gora 68.81 320 *e*P **P 18 30 16.7 -0.6**
LPSR *e**SP **sP 18 30 28.5 +0.4**
LPSR *e*S **S 18 39 16.9 -2.3**
LPSR pmax pmax
comp=Z,110nm,1.0s
LPSR smax smax
comp=E,320nm,7.8s
LPSR MLR MLR
comp=Z,10µm,15.0s
J01E Myrtle Point 68.86 51 P **P 18 30 19.9 +2.1**
baz=301,SNR=6.1
H04D Lebanon 68.90 50 P **P 18 30 20.1 +2.1**
baz=301,SNR=11
B08A Colville Reser 68.93 45 IAmb IAmb 18 30 27.9
comp=Z,74nm,1.2s
I03D Drain, OR 68.95 51 P **P 18 30 20.3 +2.0**
baz=301,SNR=18
MAK Makhachkala 68.95 308 *e*P P 18 30 13.0 -5.3
MAK *e*S **S 18 39 14.3 -6.8**
MAK pmax pmax
comp=Z,104nm,1.5s
MAK MLR MLR
comp=Z,4µm,14.0s
F05D White Salmon 68.98 48 P **P 18 30 20.2 +1.6**
baz=301,SNR=6.3
NBB28 Valnes 69.11 341 *e*P **P 18 30 19.6 +0.7**
VORR Voronezh 69.17 319 *e*P **P 18 30 18.0 -1.6**
VORR pmax pmax
comp=Z,250nm,1.4s
N2VA Vr_y 69.22 341 *e*P **P 18 30 19.8 +0.3**
K02D Willamette Mer 69.26 52 P **P 18 30 22.2 +1.7**
baz=301,SNR=13
BBOO Buckleboo 69.27 185 P **P 18 30 20.9 +0.6**
FINES FINESS Array B 69.32 332 P **P 18 30 20.5 +0.1**
comp=Z,46nm,0.8s,baz=64,slow=8.7,SNR=120
FINES LR LR 19 05 53.7
comp=Z,2µm,18.8s,baz=44,slow=40
FINES FINESS Array B 69.32 332 P **P 18 30 20.2 -0.1**
NBB05 Inndyr 69.33 341 *e*P **P 18 30 21.0 +0.7**
G05D Wamic, OR 69.40 49 P **P 18 30 22.8 +1.7**
baz=302,SNR=20
VSR Storozhevoye 69.44 319 *e*P **P 18 30 20.8 -0.5**
VSR *e**SP **sP 18 30 32.3 +0.2**
VSR *e*S **S 18 39 23.5 -3.2**
VSR pmax pmax
comp=Z,170nm,1.8s
VSR smax smax
comp=N,290nm,8.7s
VSR MLR MLR
comp=Z,9µm,16.0s
NBB30 Finnes 69.46 341 *e*P **P 18 30 21.5 +0.5**
I04A Tendick Farm, 69.48 50 P **P 18 30 23.0 +1.3**
baz=301,SNR=39
VORD Divnogorie 69.51 319 *e*P **P 18 30 21.3 -0.4**
VORD *e**SP **sP 18 30 32.7 +0.2**
VORD *e*S **S 18 39 20.7 -6.8**
VORD pmax pmax
comp=Z,110nm,1.4s
VORD smax smax
comp=E,180nm,7.3s
VORD MLR MLR
comp=Z,3µm,14.0s
MORW Morawa 69.67 204 P **P 18 30 22.6 -0.2**
MORW IAmb IAmb 18 30 34.5
comp=Z,87nm,1.0s
G06A Carlson Farm, 69.81 48 IAmb IAmb 18 30 33.8
comp=Z,78nm,1.1s
HAWA Hanford 69.85 47 P **P 18 30 24.7 +0.8**
HAWA IAmb IAmb 18 30 33.3
comp=Z,46nm,0.9s
D08A Wollman Farm, 69.85 46 IAmb IAmb 18 30 33.0
comp=Z,62nm,1.0s
I05D Terrebonne, OR 69.86 49 P **P 18 30 25.5 +1.4**
baz=302,SNR=21
MOR8 Moi Rana 69.86 340 *e*P **P 18 30 22.6 -1.0**
GROC Groznyy 69.89 309 *e*P **P 18 30 22.9 -1.3**
GROC *e* 18 30 44.6
GROC *e* 18 32 57.9
GROC pmax pmax
comp=Z,43nm,0.8s
J04D Umpqua Nationa 69.96 51 P **P 18 30 26.7 +1.8**
baz=302,SNR=12
KONS Konsvik 69.98 341 *e*P **P 18 30 24.9 +0.6**
E08A Dider Farm, El 70.08 47 IAmb IAmb 18 30 35.0
comp=Z,49nm,0.8s
KHMM Horse Mountain 70.16 53 IAmb IAmb 18 30 36.8
comp=Z,118nm,1.2s
NEW Newport 70.23 44 P **P 18 30 27.1 +0.8**
baz=303,SNR=43
NEW Newport 70.23 44 IAmb IAmb 18 30 35.9
comp=Z,51nm,1.0s
YBH Yreka Blue Hor 70.37 52 IAmb IAmb 18 30 37.2
comp=Z,55nm,1.1s
L04D Klamath Falls 70.37 52 P **P 18 30 28.8 +1.5**
baz=302,SNR=27
M02C Callahan 70.46 53 P **P 18 30 29.8 +1.9**
baz=302,SNR=13
J05D Fort Rock, OR 70.47 50 P **P 18 30 29.8 +1.8**
baz=302,SNR=43
K04D Chiloquin, OR 70.50 51 P **P 18 30 30.0 +1.9**
baz=302
GOF Gofitskoye 70.59 312⇓*i*P **P 18 30 28.9 +0.4**
GOF *e*S **S 18 39 38.0 -2.4**
GOF pmax pmax
comp=Z,145nm,1.0s
N02D Trinity Center 70.77 53 P **P 18 30 31.6 +1.8**
baz=302,SNR=16
KCPM Cahto Peak 70.88 54 IAmb IAmb 18 30 40.2
comp=Z,64nm,0.9s
M04C Macdoel 70.90 52 P **P 18 30 32.2 +1.7**
baz=302,SNR=28
VSU Vasula 70.97 330 *e*P **P 18 30 30.4 0.0**
WDC Whiskeytown Da 71.09 53 P **P 18 30 34.2 +2.7**
WDC pmax pmax
comp=Z,36nm,0.9s
WDC Whiskeytown Da 71.09 53 P **P 18 30 34.2 +2.7**
WDC IAmb IAmb 18 30 41.7
comp=Z,36nm,0.9s
SUMG Summit 71.11 0⇓*i*P **P 18 30 32.8 +1.2**
comp=Z,168nm,1.1s
comp=Z,7µm,18.0s
SUMG Summit 71.11 0⇓*i*P **P 18 30 32.8 +1.2**
SUMG pmax pmax
comp=Z,170nm,1.1s
SUMG MLR MLR
comp=Z,7µm,18.0s
SUMG Summit 71.11 0 IAmb IAmb 18 30 40.9
comp=Z,96nm,1.3s
O02D Mt. Diablo Mer 71.14 54 P **P 18 30 33.8 +1.8**
baz=302,SNR=16
ZEI Tsey 71.29 310 *e*P **P 18 30 30.4 -2.6**
ZEI pmax pmax
comp=Z,19nm,0.6s
WBK Wadi Bani Khal 71.33 285 P **P 18 30 34.6 +1.3**
SNR=5.8
WBK P **P 18 30 34.6 +1.3**
SNR=5.8
TBLG Delisi 71.34 308 IAmb IAmb 18 30 34.2
comp=Z,54nm,1.1s
KBZ Khabaz 71.40 311 P **P 18 30 33.9 +0.5**
comp=Z,44nm,0.9s,baz=58,slow=4.0,SNR=84
KBZ LR LR 19 07 16.0
comp=Z,1µm,18.1s,baz=50,slow=40
KBZ Khabaz 71.40 311*de*P **P 18 30 33.8 +0.5**
KBZ pmax pmax
comp=Z,90nm,1.1s
KIV Kislovodsk 71.40 311⇓P **P 18 30 34.3 +0.7**
KIV Kislovodsk 71.40 311 *i* P **P 18 30 34.1 +0.6**
SNR=47
KIV Kislovodsk 71.40 311 P **P 18 30 34.8 +1.3**
KIV P **P 18 30 34.8 +1.3**
KIV Kislovodsk 71.40 311*de*P **P 18 30 33.5 0.0**
KIV *i* 18 30 46.0
KIV *e* 18 33 14.4
KIV *e*S **S 18 39 53.8 +3.7**
KIV *e*SS **SS 18 44 26.5 +2.4**
KIV pmax pmax
comp=Z,176nm,1.3s
KIV MLR MLR
comp=Z,3µm,16.0s
KIV Kislovodsk 71.40 311 P **P 18 30 34.9 +1.3**
KIV IAMs_20 IAMs_20 19 06 01.4
comp=Z,2µm,18.0s
BIDO Bidbid 71.50 286 P **P 18 30 35.9 +1.6**
SNR=13
BIDO P **P 18 30 35.9 +1.6**
SNR=13
HOPS Hopland Field 71.59 55 IAMs_20 IAMs_20 18 55 48.9
comp=Z,2µm,20.0s
BANOM Banah 71.62 289 *i* P **P 18 30 35.9 +0.8**
SNR=12
BANOM Banah 71.62 289 P **P 18 30 36.0 +0.9**
SNR=6.7
BANOM P **P 18 30 36.0 +0.9**
SNR=6.7
SHME Shamm 71.67 289 *i* P **P 18 30 35.5 +0.1**
SNR=14
ONI Oni 71.68 310 P **P 18 30 36.1 +0.9**
O03E Paynes Creek 71.72 53 P **P 18 30 36.4 +0.9**
baz=303,SNR=27
KZRT Kazreti 71.74 308 P **P 18 30 36.2 +0.7**
NSS Namsos 71.78 340 *e*P **P 18 30 35.2 0.0**
MOD Modoc Plateau 71.80 51 IAmb IAmb 18 30 45.4
comp=Z,67nm,1.1s
SMDO Samad 71.81 285 P **P 18 30 37.0 +0.8**
SNR=9.1
SMDO P **P 18 30 37.0 +0.8**
SNR=9.1
GDXM Geysers 71.87 55 IAMs_20 IAMs_20 18 55 57.4
comp=Z,2µm,20.0s
MDH Madha 71.95 288 P **P 18 30 37.9 +0.9**
MDH P **P 18 30 37.9 +0.9**
BMO Blue Mountains 72.00 47 IAmb IAmb 18 30 46.5
comp=Z,64nm,0.8s
MSFE Esma-Masafi 72.03 288 *i* P **P 18 30 39.0 +1.5**
SNR=10
HOQ Hoqain 72.10 286 P **P 18 30 38.5 +0.6**
SNR=13
HOQ P **P 18 30 38.5 +0.6**
SNR=13
JTMT Jette 72.10 43 IAmb IAmb 18 30 47.1
comp=Z,68nm,1.0s
J08A Circle Bar Ran 72.13 49 IAmb IAmb 18 30 47.6
comp=Z,72nm,1.0s
JMDO Jabal Madar 72.14 285 P **P 18 30 38.8 +0.6**
SNR=5.2
JMDO P **P 18 30 38.8 +0.6**
SNR=5.2
UOSS Minazif 72.22 288 *i* P **P 18 30 38.0 -0.6**
SNR=10
UOSS Minazif 72.22 288 P **P 18 30 39.3 +0.7**
UOSS P **P 18 30 39.3 +0.7**
UOSS Minazif 72.22 288 P **P 18 30 38.8 +0.2**
UOSS IAmb IAmb 18 30 51.8
comp=Z,71nm,0.9s
AKH Akhalkalaki 72.30 309⇓P **P 18 30 40.2 +1.1**
AKH Akhalkalaki 72.30 309 P **P 18 30 40.0 +0.9**
ORV Oroville 72.31 54 IAmb IAmb 18 30 48.2
comp=Z,55nm,1.0s
HATD Hatta, Dubai 72.34 288 *i* P **P 18 30 39.5 +0.1**
SNR=22
HATD Hatta, Dubai 72.34 288 P **P 18 30 40.5 +1.2**
SNR=11
HATD P **P 18 30 40.5 +1.2**
SNR=11
SOHO SOHO 72.40 287 P **P 18 30 40.5 +0.8**
SNR=14
SOHO P **P 18 30 40.5 +0.8**
SNR=14
ASHO Ashiyiah 72.47 288 *i* P **P 18 30 40.3 +0.1**
SNR=10
ASHO Ashiyiah 72.47 288 P **P 18 30 40.8 +0.6**
SNR=8.0
ASHO P **P 18 30 40.8 +0.6**
SNR=8.0
SCO Scoresbysund 72.56 354⇓*i*P **P 18 30 41.0 +1.2**
comp=Z,38nm,1.1s
comp=Z,990nm,16.0s
SCO Scoresbysund 72.56 354⇓*i*P **P 18 30 41.0 +1.2**
SCO pmax pmax
comp=Z,38nm,1.1s
SCO MLR MLR
comp=Z,1µm,16.0s
NAZ Nazwa, Dubai 72.61 288 P **P 18 30 40.9 0.0**
BSY Bisya 72.64 286 P **P 18 30 41.9 +0.7**
SNR=11
BSY P **P 18 30 41.9 +0.7**
SNR=11
MSO Missoula 72.82 44 P **P 18 30 42.8 +0.8**
baz=305,SNR=22
ARQ Araqi 72.84 287 P **P 18 30 43.1 +0.7**
SNR=9.4
ARQ P **P 18 30 43.1 +0.7**
SNR=9.4
BEKR Beckworth 72.88 53 IAmb IAmb 18 30 52.1
comp=Z,72nm,0.9s
NWAO Narrogin (SRO) 72.89 201 P **P 18 30 42.5 +0.4**
NWAO pmax pmax
comp=Z,131nm,1.0s
NWAO Narrogin (SRO) 72.89 201 P **P 18 30 42.5 +0.4**
NWAO Narrogin (SRO) 72.89 201 IAmb IAmb 18 30 53.9
comp=Z,105nm,1.0s
IZAR Zarasai 72.92 328 *e*P **P 18 30 43.9 +1.7**
AFDM Forest Hills D 72.99 54 IAMs_20 IAMs_20 19 08 07.0
comp=Z,968nm,18.0s
KARS Kars 72.99 308 P **P 18 30 44.8 +1.7**
MHTO MHTO 72.99 284 P **P 18 30 43.8 +0.5**
SNR=9.8
MHTO P **P 18 30 43.8 +0.5**
SNR=9.8
MNK Minsk 73.01 326⇑*e*P **P 18 30 44.0 +1.2**
MNK *e* 18 30 56.0
MNK *e*S **S 18 40 10.0 +2.1**
MNK *e* 18 44 50.0
MNK pmax pmax
comp=Z,500nm,2.0s
ALNE Al Ain 73.04 288 *i* P **P 18 30 43.5 0.0**
SNR=12
ISAL Salakas 73.09 328 *e*P **P 18 30 43.9 +0.7**
IIGN Ignalina 73.19 327 *e*P **P 18 30 44.1 +0.2**
NACGM Naroch 73.24 327 *e*P **P 18 30 43.0 -1.1**
NACGM *e*P **P 18 30 43.0 -1.1**
NACGM PM 18 30 45.0
comp=Z,0.3nm,1.0s
NACGM *e*PcP **sP 18 30 56.0 +1.0**
NACGM *e*PPP PPP 18 35 28.0
NACGM *e*S **S 18 40 08.0 -2.5**
NACGM *e*PS **PnS 18 40 48.0 +4.0**
NACGM *e*SS SS 18 44 40.0 -11
NACGM *e*SSS SSS 18 47 52.0
NACGM *e*LQ LQ 18 58 08.0
NACGM *e*LR LR 19 03 14.0
NACGM LRM MLR 19 07 04.0
comp=Z,16nm,16.0s
TBLU Trondheim 73.25 339 *e*P **P 18 30 43.8 -0.3**
SLIT Slitere, Latvi 73.29 331 *e*P **P 18 30 43.5 -0.9**
BATM Batumi 73.31 310⇓P **P 18 30 45.3 +0.4**
BATM Batumi 73.31 310 P **P 18 30 45.6 +0.8**
SOC Sochi 73.40 312 *e*P **P 18 30 44.1 -1.2**
SOC *e*PPP PPP 18 35 12.9
SOC *e*S **SKiKP 18 40 14.6 +0.3**
SOC *e*SS **SS 18 44 54.4 +0.1**
SOC pmax pmax
comp=Z,68nm,1.0s
SOC MLR MLR
comp=Z,3µm,18.0s
RUBR Rubicon Trail 73.46 54 IAMs_20 IAMs_20 19 08 16.4
comp=Z,1µm,18.0s
PAHR Pah Rah Range 73.59 53 IAmb IAmb 18 30 56.5
comp=Z,76nm,1.0s
MFID Camas Ranch 73.69 48 IAmb IAmb 18 30 56.6
comp=Z,49nm,0.9s
PNTR Pine Nut 73.80 53 IAmb IAmb 18 30 58.2
comp=Z,68nm,1.1s
PNTR IAMs_20 IAMs_20 19 08 22.3
comp=Z,1µm,18.0s
CMB Columbia Colle 73.88 55 IAmb IAmb 18 30 58.2
comp=Z,110nm,1.2s
FFC Flin Flon 73.90 33 P **P 18 30 48.8 +0.8**
FFC pmax pmax
comp=Z,89nm,0.9s
FFC MLR MLR
comp=Z,700nm,20.0s
FFC Flin Flon 73.90 33 P **P 18 30 48.8 +0.8**
FFC IAmb IAmb 18 30 57.3
comp=Z,89nm,0.8s
ANN Anapa 74.03 314 *e*P **P 18 30 47.9 -1.1**
ANN *e**PP **pP 18 30 51.5 -5.5**
ANN *e* 18 31 00.6
ANN *e* 18 33 35.5
ANN *e*S **S 18 40 18.9 -0.9**
ANN *e*SS **SS 18 45 04.4 +0.5**
ANN pmax pmax
comp=Z,414nm,1.8s
ANN pmax pmax
comp=Z,176nm,1.5s
ANN pmax pmax
comp=N,44nm,1.6s
ANN pmax pmax
comp=E,39nm,1.4s
PABE Paberze 74.05 328 *e*P **P 18 30 48.9 0.0**
ILULI Ilulissat 74.06 5⇓*i*P **P 18 30 49.4 +0.7**
comp=E,53nm,1.0s
comp=Z,2µm,17.0s
ILULI Ilulissat 74.06 5⇓*i*P **P 18 30 49.4 +0.7**
ILULI pmax pmax
comp=Z,53nm,1.0s
ILULI MLR MLR
comp=Z,2µm,17.0s
ILULI Ilulissat 74.06 5 IAmb IAmb 18 30 50.1
comp=Z,50nm,1.0s
YERR Yerington 74.09 53 IAmb IAmb 18 30 59.7
comp=Z,132nm,1.1s
YERR IAMs_20 IAMs_20 19 08 49.0
comp=Z,1µm,18.0s
WAKR Walker 74.23 54 IAMs_20 IAMs_20 19 09 03.8
comp=Z,1µm,18.0s
EGMT Eagleton 74.39 41 P **P 18 30 52.2 +1.1**
baz=308,SNR=24
EGMT Eagleton 74.39 41 IAmb IAmb 18 31 00.8
comp=Z,80nm,0.9s
DLMT Dillon 74.43 45 IAmb IAmb 18 31 01.4
comp=Z,102nm,0.9s
PBUR Paburge 74.54 330 *e*P **P 18 30 51.4 -0.3**
DOMB Dombas 74.54 339 *e*P **P 18 30 52.5 +0.8**
MOL Molde 74.55 340 *e*P **P 18 30 52.6 +0.9**
PMPB Monarch Peak 74.62 56 IAmb IAmb 18 31 11.4
comp=Z,62nm,1.0s
PMPB IAMs_20 IAMs_20 19 08 01.2
comp=Z,1µm,18.0s
NB2 NORSAR Subarra 74.69 337 P **P 18 30 52.3 -0.3**
comp=Z,154nm,1.1s,baz=39,slow=5.9
NB2 NORSAR Subarra 74.69 337 P **P 18 30 52.3 -0.3**
baz=39,slow=5.9
NOA NORSAR Array B 74.69 337 P **P 18 30 52.6 0.0**
comp=Z,46nm,0.8s,baz=39,slow=5.8,SNR=159
NOA LR LR 19 07 16.2
comp=Z,4µm,18.5s,baz=45,slow=39
RYN Ryan 74.75 53 IAmb IAmb 18 31 03.6
comp=Z,79nm,1.1s
RYN IAMs_20 IAMs_20 19 09 26.5
comp=Z,970nm,18.0s
KVN Kaiserville 74.78 53 IAmb IAmb 18 31 03.8
comp=Z,128nm,1.1s
AKASG Malin Array Be 74.81 323 P **P 18 30 53.2 -0.2**
comp=Z,31nm,0.5s,baz=46,slow=6.1,SNR=237
AKASG LR LR 19 06 10.1
comp=Z,2µm,20.5s,baz=60,slow=38
AKASG Malin Array Be 74.81 323 *i* P **P 18 30 53.0 -0.4**
AKASG pmax pmax
comp=Z,31nm,0.4s
AKASG Malin Array Be 74.81 323 P **P 18 30 53.5 +0.1**
AKBB Malin Array Si 74.81 323 P **P 18 30 52.1 -1.3**
AKBB pmax pmax
comp=Z,90nm,0.8s
AKBB MLR MLR
comp=Z,4µm,18.0s
AKBB Malin Array Si 74.81 323 P **P 18 30 52.1 -1.3**
AKBB IAmb IAmb 18 31 06.5
comp=Z,90nm,0.8s
NORES NORESS Array B 74.82 337 P **P 18 30 57.8 +4.5**
NORES pmax pmax
comp=Z,2.0nm,0.4s
BOZ Bozeman (W) 74.84 44 P **P 18 30 55.0 +1.1**
baz=307,SNR=70
BOZ Bozeman (W) 74.84 44 IAmb IAmb 18 31 03.2

	comp=Z,80nm,0.8s										
KTUT	**Trabzon**	74.86	310	⇓	P		P		18 30 53.9	+0.1	
NVAR	**Mina Array Bea**	75.01	53		P		P		18 30 56.4	+1.3	
	comp=Z,17nm,0.6s,baz=287,slow=6.2,SNR=158										
NVAR					LR		LR		18 58 45.4		
	comp=Z,585nm,20.6s,baz=295,slow=32										
NVAR	**Mina Array Bea**	75.01	53		P		P		18 30 56.8	+1.7	
AKN	**Aaknes**	75.02	340	*e*	P		P		18 30 55.5	+1.1	
PAGB	**Antelope Grade**	75.26	56		IAMs_20		IAMs_20		18 57 09.2		
	comp=Z,1µm,21.0s										
SUW	**Suwalki**	75.40	328	*i*	P		P		18 30 56.9	+0.2	
SUW				*e*	PcP		PcP		18 31 09.4	-0.4	
SUW				*e*	L		L		19 06 56.7		
	comp=Z,6µm,18.5s										
VOG	**Valley Oaks Go**	75.50	56		P		P		18 30 58.6	+1.0	
	baz=305										
SMMC	**Simmler**	75.67	57		P		P		18 31 00.3	+1.7	
	baz=305										
OSL	**Oslo**	75.70	337	*e*	P		P		18 30 59.2	+0.8	
TIN	**Tinemaha, Big**	75.84	54		P		P		18 31 01.4	+1.7	
	baz=305,SNR=6.0										
SKAR	**Skarslia**	75.85	338	*e*	P		P		18 31 00.4	+1.1	
VES	**Vestal, Richgr**	75.97	56		P		P		18 31 01.2	+0.8	
	baz=305,SNR=30										
FOO	**Floro**	76.03	340	*e*	P		P		18 31 00.9	+0.7	
PKM	**Mcpherson Peak**	76.03	57		P		P		18 31 02.7	+1.8	
	baz=305,SNR=8.8										
HYA	**Hoyanger**	76.07	340	*e*	P		P		18 31 01.3	+0.9	
H17A	**Grant Village**	76.16	45		P		P		18 31 04.9	+3.3	
	baz=308,SNR=14										
H17A	**Grant Village**	76.16	45		IAMs_20		IAMs_20		19 04 51.2		
	comp=Z,1µm,19.0s										
IMW	**Indian Meadow**	76.26	45		IAmb		IAmb		18 31 12.9		
	comp=Z,83nm,0.9s										
KONO	**Kongsberg**	76.28	337	*ce*	P		P		18 31 02.5	+0.9	
KONO					pmax		pmax				
	comp=Z,70nm,1.7s										
KONO	**Kongsberg**	76.28	337		P		P		18 31 01.2	-0.4	
KONO					IAmb		IAmb		18 31 15.7		
	comp=Z,78nm,1.2s										
KONO	**Kongsberg**	76.28	337	*e*	P		P		18 31 02.1	+0.5	
SFJD	**Kangerlussuaq**	76.28	5	⇓	*i* P		P		18 31 01.9	+0.4	
	comp=Z,4.1nm,1.1s										
	comp=Z,100nm,21.0s										
SFJD	**Kangerlussuaq**	76.28	5	⇓	*i* P		P		18 31 01.9	+0.4	
SFJD					pmax		pmax				
	comp=Z,4.0nm,1.1s										
SFJD					MLR		MLR				
	comp=Z,120nm,21.0s										
SFJD	**Kangerlussuaq**	76.28	5		P		P		18 31 01.5	0.0	
SFJD					IAmb		IAmb		18 31 03.0		
	comp=Z,56nm,1.1s										
SFJD	**Kangerlussuaq**	76.28	5		IAMs_20		IAMs_20		19 04 49.1		
	comp=Z,2µm,21.0s										
CWC	**Cottonwood Cre**	76.29	55		P		P		18 31 03.6	+1.2	
	baz=306										
SBC	**Santa Barbara**	76.35	57		P		P		18 31 04.5	+1.9	
	baz=305										
FXWY	**Fox Creek**	76.37	46		IAmb		IAmb		18 31 13.5		
	comp=Z,55nm,1.0s										
GRAC	**Grapevine Rang**	76.44	54		P		P		18 31 04.8	+1.7	
	baz=306										
RLMT	**Red Lodge**	76.45	44		P		P		18 31 04.8	+1.7	
	baz=309,SNR=22										
RLMT	**Red Lodge**	76.45	44		IAmb		IAmb		18 31 12.8		
	comp=Z,68nm,1.2s										
ISA	**Isabella, Lake**	76.48	56		P		P		18 31 04.0	+0.6	
	baz=306,SNR=12										
ISA	**Isabella, Lake**	76.48	56		IAMs_20		IAMs_20		19 09 02.6		
	comp=Z,1µm,18.0s										
TPAW	**Teton Pass**	76.50	46		IAmb		IAmb		18 31 14.1		
	comp=Z,36nm,0.8s										
ARVC	**Arvin**	76.56	56		P		P		18 31 04.7	+1.0	
	baz=305,SNR=7.9										
SUE	**Sulen**	76.56	340	*e*	P		P		18 31 04.1	+0.9	
SNOW	**Snow King Moun**	76.63	46		IAmb		IAmb		18 31 14.9		
	comp=Z,61nm,0.9s										
REDW	**Red Top Meadow**	76.64	46		IAmb		IAmb		18 31 14.8		
	comp=Z,71nm,1.1s										
SCZ2	**Santa Cruz Isl**	76.66	58		P		P		18 31 05.7	+1.4	
	baz=305										
R11A	**Troy Canyon, C**	76.79	52		P		P		18 31 06.5	+1.3	
	baz=306,SNR=103										
R11A	**Troy Canyon, C**	76.79	52		IAmb		IAmb		18 31 15.3		
	comp=Z,98nm,1.1s										
AHID	**Auburn Hatcher**	76.86	46		IAmb		IAmb		18 31 15.4		
	comp=Z,52nm,1.0s										
SORM	**Soroca**	76.90	321	⇓	P		P		18 31 05.4	0.0	
SORM	**Soroca**	76.90	321		P		P		18 31 05.2	-0.2	
MPMC	**Manual Prospec**	76.91	55		P		P		18 31 06.9	+1.0	
	baz=306,SNR=40										
ASK	**Askoy**	76.91	340	*e*	P		P		18 31 05.9	+0.7	
OSI	**Osito Audit: C**	76.92	57		P		P		18 31 07.3	+1.4	
	baz=306										
OSI	**Osito Audit: C**	76.92	57		IAmb		IAmb		18 31 15.7		
	comp=Z,61nm,0.9s										
OSI					IAMs_20		IAMs_20		18 58 30.3		
	comp=Z,2µm,21.0s										
BER	**Bergen**	76.95	339	*e*	P		P		18 31 06.6	+1.2	
DGMT	**Dagmar**	76.98	39		P		P		18 31 06.7	+0.8	
	baz=311										
FURC	**Furnace Creek,**	77.08	54		P		P		18 31 08.2	+1.6	
	baz=306,SNR=30										
LAO	**LASA Array**	77.10	41		P		P		18 31 08.0	+1.4	
	baz=310,SNR=8.1										
LAO	**LASA Array**	77.10	41		IAMs_20		IAMs_20		19 02 54.8		
	comp=Z,1µm,19.0s										
HORU	**Horodok**	77.15	323		P		P		18 31 07.0	+0.2	
SNCC	**San Nicolas Is**	77.17	58		P		P		18 31 07.9	+0.7	
	baz=306										
TPNV	**Topopah Spring**	77.19	53		P		P		18 31 08.6	+1.1	
	baz=306,SNR=32										
TPNV	**Topopah Spring**	77.19	53		IAmb		IAmb		18 31 17.3		
	comp=Z,110nm,1.1s										
EDW2	**Edwards Air Fo**	77.26	56		P		P		18 31 09.0	+1.3	
	baz=306,SNR=29										
HWUT	**Hardware Ranch**	77.30	47		IAmb		IAmb		18 31 18.4		
	comp=Z,17nm,1.1s										
DECC	**Green Verdugo**	77.39	57		P		P		18 31 09.3	+0.8	
	baz=306										
KIS	**Kishinev**	77.40	320	⇓	*i* P		P		18 31 08.0	-0.2	
	comp=Z,250nm,3.5s										
KIS	**Kishinev**	77.40	320	*e*	PcP		PcP		18 31 17.0	-1.6	
KIS				*i*	S		S		18 40 55.6	-1.3	
	comp=Z,200nm,8.0s										
KIS				*e*	LQ		LQ		19 00 24.0		
KIS				*e*	LR		LR		19 06 08.0		
	comp=Z,3µm,16.0s										
KIS	**Kishinev**	77.40	320	*d*	*i* P		P		18 31 08.0	-0.2	
KIS				*e*					18 31 17.5		
KIS				*i*	S		S		18 40 55.6	-1.3	
KIS					pmax		pmax				
	comp=Z,250nm,3.5s										
KIS					smax		smax				
	comp=N,200nm,8.0s										
KIS					MLR		MLR				
	comp=Z,3µm,16.0s										
KIS					MLR		MLR				
	comp=N,900nm,15.0s										
KIS					MLR		MLR				
	comp=E,2µm,15.6s										
DUG	**Dugway, Tooele**	77.41	49		P		P		18 31 10.1	+1.5	
	baz=308,SNR=55										
DUG	**Dugway, Tooele**	77.41	49		IAmb		IAmb		18 31 18.8		
	comp=Z,99nm,0.9s										
BLS5	**Blasjo**	77.42	338	*e*	P		P		18 31 09.1	+1.0	
MILM	**Milestii Mici**	77.46	320	⇓	P		P		18 31 08.5	-0.1	
PASC	**Pasadena Art C**	77.54	57		IAMs_20		IAMs_20		18 58 26.7		
	comp=Z,1µm,21.0s										
MWC	**Mount Wilson**	77.60	57		IAmb		IAmb		18 31 19.5		
	comp=Z,57nm,1.2s										
MWC					IAMs_20		IAMs_20		18 57 34.1		
	comp=Z,2µm,22.0s										
HOMB	**Homborsund**	77.72	337	*e*	P		P		18 31 10.3	+0.6	
FMP	**Fort Macarthur**	77.74	57		P		P		18 31 11.6	+1.3	
	baz=306										
BW06	**Boulder Array**	77.75	46		P		P		18 31 11.2	+0.6	
	baz=309,SNR=45										
PDAR	**Pinedale Array**	77.75	46		P		P		18 31 11.4	+0.8	
	comp=Z,9.4nm,0.7s,baz=275,slow=1.8,SNR=61										
PDAR	**Pinedale Array**	77.75	46		P		P		18 31 11.2	+0.6	
SHOC	**Shoshone, Teco**	77.79	54		P		P		18 31 12.0	+1.4	
	baz=306,SNR=8.5										
GSC	**Goldstone, Bar**	77.80	55		P		P		18 31 12.1	+1.3	
	baz=306,SNR=9.6										
CIS	**Catalina Islan**	77.83	57		P		P		18 31 12.3	+1.3	
	baz=306										
BFSC	**Mount Baldy Ra**	77.86	56		P		P		18 31 12.1	+0.9	
	baz=306,SNR=12										
LVV	**L'vov**	77.89	324	*c*	*i* P		P		18 31 11.3	+0.4	
LVV				*e*					18 31 23.9		
LVV				*e*					18 34 07.0		
LVV				*e*	S		S		18 41 02.2	0.0	
LVV				*e*	PS		PnS		18 41 43.3	-0.9	
LVV				*e*	SSS		SSS		18 49 19.9		
LVV					pmax		pmax				
	comp=Z,200nm,1.4s										
RRX	**Edison Barstow**	77.92	56		P		P		18 31 13.4	+2.0	
	baz=306										
IAS	**Iasi**	77.92	321	⇓	P		P		18 31 11.6	+0.5	
IAS	**Iasi**	77.92	321		P		P		18 31 11.7	+0.5	
BSD	**Bornholm Skovb**	77.95	332	⇓	*i* P		P		18 31 11.3	+0.2	
	comp=Z,121nm,1.1s										
BSD					*i*				18 31 24.0		
	comp=Z,3µm,15.0s										
BSD	**Bornholm Skovb**	77.95	332	⇓	*i* P		P		18 31 11.3	+0.2	
BSD					*i*				18 31 24.0		
BSD					pmax		pmax				
	comp=Z,120nm,1.1s										
BSD					MLR		MLR				
	comp=Z,3µm,15.0s										
BEL	**Belsk**	77.96	327	*i*	P		P		18 31 12.4	+1.1	
BEL				*e*	S		S		18 41 06.0	+3.2	
BEL				*e*	L		L		19 15 09.2		
	comp=Z,3µm,16.1s										
SNART	**Snartemo**	78.07	337	*e*	P		P		18 31 12.9	+1.2	
BORG	**Borgarnes**	78.10	353		P		P		18 31 13.4	+1.6	
BORG					pmax		pmax				
	comp=Z,74nm,1.2s										
BORG					MLR		MLR				
	comp=Z,1µm,18.0s										
BORG	**Borgarnes**	78.10	353		P		P		18 31 13.4	+1.6	
BORG					IAmb		IAmb		18 31 15.1		
	comp=Z,74nm,1.2s										
BORG	**Borgarnes**	78.10	353		IAMs_20		IAMs_20		19 07 46.2		
	comp=Z,1µm,18.0s										
SHPR	**Sheep Range**	78.16	53		IAmb		IAmb		18 31 23.1		
	comp=Z,83nm,1.1s										
VASR	**Vaslui**	78.17	320	⇓	P		P		18 31 13.3	+0.8	
TUQ	**Turquoise Moun**	78.30	55		P		P		18 31 15.2	+1.5	
	baz=307										
HEC	**Hector,Ludlow**	78.39	55		P		P		18 31 15.5	+1.5	
	baz=307,SNR=12										
GKP	**Gorka Klasztor**	78.42	330	*i*	P		P		18 31 14.3	+0.6	
GKP				*e*	S		S		18 41 08.2	+0.6	
GKP				*e*	L		L		19 10 51.6		
	comp=Z,4µm,16.7s										
GKP	**Gorka Klasztor**	78.42	330		P		P		18 31 14.8	+1.1	
KSV	**Kosov**	78.42	323		P		P		18 31 14.0	+0.1	
MORS	**Morshin**	78.43	324		P		P		18 31 15.0	+1.1	
ILGA	**Ilgaz**	78.47	313		IAMs_20		IAMs_20		19 12 08.4		
	comp=Z,1µm,19.0s										
GOET	**G??ttrup**	78.48	336	*i*	P		P		18 31 15.1	+1.1	
	comp=Z,274nm,0.9s										
PRAR	**RASCA**	78.49	321	⇑	P		P		18 31 14.9	+0.6	
BIR	**Birlad**	78.50	320	⇓	P		P		18 31 15.9	+1.5	
MURC	**Murrieta**	78.54	57		P		P		18 31 16.0	+1.1	
	baz=306,SNR=5.9										
VARL	**Varlezi**	78.63	319	⇓	P		P		18 31 15.8	+0.7	
KWP	**Kalwaria Pacla**	78.64	325	*i*	P		P		18 31 16.2	+1.1	
KWP				*e*	S		S		18 41 12.4	+2.1	
KWP				*e*	SKSac		SKSac		18 41 26.6	-1.7	
KWP				*e*	L		L		19 09 14.3		
	comp=Z,6µm,17.2s										
KWP	**Kalwaria Pacla**	78.64	325		P		P		18 31 15.9	+0.8	
GAZ	**Gaziantep**	78.72	308		IAmb		IAmb		18 31 30.3		
	comp=Z,118nm,1.0s										
GHRR		78.75	320	⇓	P		P		18 31 17.2	+1.5	
BUR08	**Bucovina Ar. S**	78.81	322		IAmb		IAmb		18 31 30.2		
	comp=Z,56nm,1.0s										
BURAR	**Bucovina Array**	78.82	322	⇓	P		P		18 31 17.0	+0.7	
BURAR	**Bucovina Array**	78.82	322		P		P		18 31 16.3	+0.1	
BURAR	**Bucovina Array**	78.82	322		P		P		18 31 16.6	+0.3	
BIZ	**Bicaz**	78.84	321	⇓	P		P		18 31 17.1	+0.9	
TESR	**Tescani**	78.84	320	⇓	P		P		18 31 16.7	+0.4	
GMRC	**Granite Mounta**	78.86	55		P		P		18 31 18.1	+1.4	
	baz=307,SNR=20										
SCHL	**Schela**	78.91	319	⇓	P		P		18 31 17.7	+1.1	
CFR	**Carcaliu**	78.96	319	⇑	P		P		18 31 16.9	+0.1	
MUD	**Monsted U'grnd**	78.96	335	⇓	*i* P		P		18 31 17.3	+0.7	
	comp=Z,76nm,1.1s										
MUD					*i*				18 31 30.1		
	comp=Z,5µm,17.0s										
MUD	**Monsted U'grnd**	78.96	335	⇓	*i* P		P		18 31 17.3	+0.7	
MUD					*i*				18 31 30.1		
MUD					pmax		pmax				
	comp=Z,76nm,1.1s										
MUD					MLR		MLR				
	comp=Z,5µm,17.0s										
RGN	**Rugen**	78.98	332	*e*	P		P		18 31 17.3	+0.5	
RGN	**Rugen**	78.98	332	*e*	P		P		18 31 18.0	+1.2	
	comp=Z,277nm,1.5s,baz=38,slow=5.1										
109C	**Camp Elliot, M**	79.02	57		P		P		18 31 18.7	+1.3	
	baz=307										
109C	**Camp Elliot, M**	79.02	57		IAmb		IAmb		18 31 27.2		
	comp=Z,61nm,1.1s										
109C					IAMs_20		IAMs_20		18 59 06.0		
	comp=Z,1µm,19.0s										
PFO	**Pinyon Flats O**	79.03	56		P		P		18 31 18.8	+1.1	
	baz=307,SNR=7.1										
PFO	**Pinyon Flats O**	79.03	56		P		P		18 31 19.0	+1.3	
PFO					pmax		pmax				
	comp=Z,88nm,1.3s										
PFO					MLR		MLR				
	comp=Z,2µm,20.0s										
PFO	**Pinyon Flats O**	79.03	56		P		P		18 31 18.9	+1.3	
PFO					IAmb		IAmb		18 31 27.4		
	comp=Z,88nm,1.3s										
PFO	**Pinyon Flats O**	79.03	56		IAMs_20		IAMs_20		19 03 59.1		
	comp=Z,2µm,20.0s										
XPFO	**Pion Flat**	79.03	56		P		P		18 31 18.8	+1.1	
XPFO					IAmb		IAmb		18 31 27.4		
	comp=Z,88nm,1.3s										
XPFO	**Pion Flat**	79.03	56		IAMs_20		IAMs_20		19 01 46.1		
	comp=Z,2µm,20.0s										
TPFO	**Pinon Flats**	79.04	56		P		P		18 31 18.8	+1.1	
	baz=307,SNR=7.0										
PETR	**Petresti**	79.07	320	⇓	P		P		18 31 19.1	+1.6	
BELC	**Belle Mtn. Jos**	79.11	56		P		P		18 31 18.9	+0.8	
	baz=307,SNR=16										
ODBI	**Odobesti**	79.14	320	⇓	P		P		18 31 19.7	+1.9	
VRI	**Vrincioaia**	79.24	320	⇓	P		P		18 31 19.4	+0.9	
VRI	**Vrincioaia**	79.24	320		P		P		18 31 19.3	+0.9	
TIRR	**Tirgusor**	79.28	318	⇓	P		P		18 31 19.1	+0.5	
TIRR	**Tirgusor**	79.28	318		P		P		18 31 19.5	+0.9	
TIRR	**Tirgusor**	79.28	318		IAmb		IAmb		18 31 32.3		
	comp=Z,114nm,1.0s										
PLOR	**Plostina**	79.29	320	⇓	P		P		18 31 19.6	+0.8	
PLOR	**Plostina**	79.29	320		P		P		18 31 19.5	+0.8	
KOLS	**Kolonicke sedl**	79.33	324	*e*	P		P		18 31 19.7	+0.8	
KOLS				*e*					18 31 32.8		
KOLS					pmax		pmax				
	comp=Z,50nm,1.3s										
KOLS	**Kolonicke sedl**	79.33	324	*e*	P		P		18 31 19.7	+0.8	
KOLS				*e*					18 31 32.8		
BR131	**Keskin Array S**	79.35	312		P		P		18 31 19.8	+0.5	
	SNR=42										
BR131					P		P		18 31 19.8	+0.5	
	SNR=42										
BR131	**Keskin Array S**	79.35	312		IAmb		IAmb		18 31 33.1		
	comp=Z,64nm,1.1s										
BRTR	**Keskin Array B**	79.35	312		P		P		18 31 19.8	+0.5	
	comp=Z,23nm,1.0s,baz=102,slow=4.0,SNR=105										
BRTR					LR		LR		19 12 27.9		
	comp=Z,1µm,18.8s,baz=20,slow=40										
BRTR	**Keskin Array B**	79.35	312	*i*	P		P		18 31 19.7	+0.5	
BRTR					pmax		pmax				
	comp=Z,24nm,0.9s										
HARR	**Harsova**	79.39	318	⇓	P		P		18 31 19.6	+0.4	
TLBR	**Topalu**	79.42	318	⇓	P		P		18 31 20.3	+0.9	
GRER		79.43	319	⇓	P		P		18 31 21.0	+1.5	
BAR	**Barrett**	79.44	57		IAMs_20		IAMs_20		19 01 41.0		
	comp=Z,1µm,21.0s										
MONP2	**Monument Peak**	79.48	57		P		P		18 31 21.3	+1.1	
	baz=307,SNR=9.1										
UZH	**Uzhgorod**	79.54	324	*e*	P		P		18 31 19.5	-0.5	
UZH				*e*					18 31 32.5		
UZH				*e*					18 34 28.7		
UZH				*e*	S		S		18 41 19.5	-0.2	
UZH				*e*					18 42 16.9		
UZH					MLR		MLR				
	comp=N,900nm,16.0s										
UZH					MLR		MLR				
	comp=E,2µm,16.0s										
UZH					MLR		MLR				
	comp=Z,1µm,16.0s										
K22A	**Casper**	79.55	44		P		P		18 31 21.3	+0.9	
	baz=311,SNR=20										
OJC	**Ojcow**	79.55	326	*i*	P		P		18 31 20.8	+0.8	
OJC				*e*	PP		PP		18 34 20.4	+0.3	
OJC				*e*	S		S		18 41 21.5	+1.6	
OJC				*e*	SKSac		SKSac		18 41 34.0	-0.8	
OJC				*e*	L		L		19 11 22.3		
	comp=Z,4µm,18.1s										
OJC	**Ojcow**	79.55	326		P		P		18 31 20.6	+0.6	
OJC	**Ojcow**	79.55	326		IAmb		IAmb		18 31 22.2		
	comp=Z,123nm,1.0s										
OZUR		79.57	321	⇓	P		P		18 31 21.6	+1.4	
IRM	**Iron Mountain**	79.58	55		P		P		18 31 21.8	+1.3	
	baz=307,SNR=23										
TRSU	**Trosnyk**	79.60	323		P		P		18 31 21.8	+1.5	
ARCR	**ARCALIA**	79.61	322	⇓	P		P		18 31 22.1	+1.7	
BMR	**Baia Mare**	79.63	323	⇓	P		P		18 31 21.8	+1.3	
MDND	**Maddock**	79.67	37		P		P		18 31 21.7	+0.9	
	baz=314										
MDND	**Maddock**	79.67	37		IAmb		IAmb		18 31 29.7		
	comp=Z,95nm,0.8s										
MDND					IAMs_20		IAMs_20		19 04 46.4		
	comp=Z,1µm,20.0s										
BC3	**Big Chuckawall**	79.67	56		P		P		18 31 22.3	+1.1	
	baz=307,SNR=25										
ULM	**Lac du Bonnet**	79.69	33		P		P		18 31 21.2	+0.4	
	comp=Z,18nm,0.5s,baz=312,slow=6.3,SNR=15										
CRVS	**Cervenica-Dubn**	79.74	325	*e*	P		P		18 31 22.0	+0.9	
CRVS				*e*					18 31 34.3		
CRVS					pmax		pmax				
	comp=Z,105nm,1.2s										
CRVS	**Cervenica-Dubn**	79.74	325	*e*	P		P		18 31 22.0	+0.9	
CRVS				*e*					18 31 34.3		
PGOR	**Pogoanele**	79.75	319	⇓	P		P		18 31 22.6	+1.5	
NEHR	**Nehoiu**	79.76	320	⇓	P		P		18 31 23.0	+1.7	
AMRR	**Amara**	79.76	319	⇓	P		P		18 31 22.4	+1.2	
ANTO	**Ankara**	79.77	312	⇓	P		P		18 31 22.1	+0.6	
ANTO	**Ankara**	79.77	312		P		P		18 31 22.6	+1.2	
ANTO	**Ankara**	79.77	312		P		P		18 31 21.1	-0.4	
ANTO					pmax		pmax				
	comp=Z,74nm,1.0s										
ANTO	**Ankara**	79.77	312		P		P		18 31 21.1	-0.4	
ANTO					IAmb		IAmb		18 31 35.5		
	comp=Z,74nm,1.0s										
TRPA	**Tarpa**	79.77	324	⇓	P		P		18 31 22.4	+1.2	
ISR	**Istrita**	79.84	319	⇓	P		P		18 31 23.2	+1.5	
ICOR	**Ion Corvin**	79.84	318	⇓	P		P		18 31 23.0	+1.3	
IKP	**In-Ko-Pah, Jac**	79.84	57		P		P		18 31 23.0	+1.0	
	baz=307,SNR=24										
DOPR	**Dopca**	79.86	321	⇓	P		P		18 31 23.2	+1.4	
SWSC	**Sam W. Stewart**	79.87	57		P		P		18 31 23.0	+0.9	
	baz=307,SNR=8.3										
MLR	**Muntele Rosu**	79.90	320	⇓	P		P		18 31 22.6	+0.5	
MLR	**Muntele Rosu**	79.90	320		P		P		18 31 22.8	+0.6	
MLR					pmax		pmax				
	comp=Z,43nm,1.6s										
NIE	**Niedzica**	79.90	326	*i*	P		P		18 31 23.4	+1.4	
NIE				*e*	PP		PP		18 34 23.1	+0.1	
NIE				*e*	S		S		18 41 25.6	+1.9	
NIE				*e*	L		L		19 12 48.4		
	comp=Z,3µm,17.2s										
RSSD	**Black Hills**	79.95	42		P		P		18 31 23.1	+0.5	
	baz=312										
RSSD	**Black Hills**	79.95	42		P		P		18 31 23.5	+0.9	
RSSD					pmax		pmax				
	comp=Z,33nm,0.8s										
RSSD					MLR		MLR				
	comp=Z,600nm,20.0s										
RSSD	**Black Hills**	79.95	42		P		P		18 31 23.5	+0.9	
U15A	**North Rim**	80.04	52		IAmb		IAmb		18 31 33.1		
	comp=Z,

UPC eS S 18 41 31.2 -3.7
UPC MLR MLR
comp=Z,5µm,16.4s
PV12 Saucer Basin, 81.01 49 IAmb IAmb 18 31 40.7
comp=Z,113nm,0.9s
N23A Red Feather La 81.02 45 P P **18 31 30.1 +1.6**
baz=311,SNR=22
PV03 Paradox Valley 81.03 49 IAmb IAmb 18 31 38.6
comp=Z,106nm,1.0s
PV07 Paradox Valley 81.03 49 IAmb IAmb 18 31 38.6
comp=Z,99nm,1.3s
MLA1 Latheron 81.04 342 eP P **18 31 28.3 +0.5**
HUMR Humele 81.05 320 ⇓P P **18 31 27.5 -0.8**
SOCY Socotra 81.09 279 P P **18 31 27.4 -1.5**
PV13 Radium Mtn., P 81.10 49 IAMs_20 IAMs_20 19 13 15.7
comp=Z,1µm,20.0s
AGMN Agassiz Nation 81.11 35 P P **18 31 28.3 -0.2**
baz=317,SNR=18
AGMN Agassiz Nation 81.11 35 IAMs_20 IAMs_20 19 05 49.5
comp=Z,1µm,20.0s
Y14A Wickenburg 81.12 54 IAmb IAmb 18 31 38.7
comp=Z,68nm,1.1s
Y14A IAMs_20 IAMs_20 19 12 28.7
comp=Z,919nm,20.0s
PV02 Paradox Valley 81.12 49 IAMs_20 IAMs_20 19 04 09.8
comp=Z,1µm,18.0s
PSZ Piszkesteto 81.17 325 ⇓P P **18 31 30.0 +1.1**
WUAZ Wupatki 81.19 52 P P **18 31 30.8 +1.5**
baz=309,SNR=18
WUAZ Wupatki 81.19 52 IAmb IAmb 18 31 39.6
comp=Z,99nm,1.0s
WUAZ IAMs_20 IAMs_20 19 13 30.8
comp=Z,1µm,18.0s
PV15 Paradox Valley 81.19 49 IAmb IAmb 18 31 40.4
comp=Z,64nm,0.9s
VYHS Vyhne 81.24 326 eP P **18 31 30.2 +1.0**
VYHS e 18 31 42.9
VYHS pmax pmax
comp=Z,75nm,1.2s
VYHS Vyhne 81.24 326 eP P **18 31 30.2 +1.0**
VYHS e 18 31 42.9
PV01 Paradox Valley 81.27 49 IAmb IAmb 18 31 39.9
comp=Z,88nm,0.9s
113A Mohawk Valley, 81.33 56 IAmb IAmb 18 31 39.7
comp=Z,55nm,1.1s
113A IAMs_20 IAMs_20 19 05 22.8
comp=Z,1µm,19.0s
D32A Dogwood Acres, 81.42 36 IAMs_20 IAMs_20 19 07 30.5
comp=Z,1µm,21.0s
JAVC Velka Javorina 81.49 326 ⇓iP P **18 31 32.3 +1.7**
SIRR Siria 81.51 323 ⇓P P **18 31 31.8 +1.1**
BRG Berggiesshubel 81.56 330 i P P **18 31 31.3 +0.5**
comp=Z,73nm,1.2s
BRG i sP **sP** **18 31 43.7 +2.2**
comp=Z,84nm,1.2s
BRG PP **PP** **18 34 35.0 -1.6**
BRG S **S** **18 41 41.0 +0.1**
BRG SS **SS** **18 47 00.0 +3.2**
comp=N,5µm,14.7s
comp=E,3µm,15.1s
comp=Z,6µm,14.6s
BRG Berggiesshubel 81.56 330 i P P **18 31 31.3 +0.5**
BRG i *SP **sP** **18 31 43.7 +2.2**
BRG 18 34 35.0
BRG S **S** **18 41 41.0 +0.1**
BRG SS **SS** **18 47 00.0 +3.2**
BRG pmax pmax
comp=Z,73nm,1.2s
BRG pmax pmax
comp=N,85nm,1.2s
BRG MLR MLR
comp=N,5µm,14.7s
BRG MLR MLR
comp=E,3µm,15.1s
BRG MLR MLR
comp=Z,6µm,14.6s
BRG Berggiesshubel 81.56 330 eP P **18 31 31.3 +0.5**
comp=Z,458nm,2.5s,baz=38,slow=5.1
BRG epP **sP** **18 31 44.1 +2.5**
PVCC Panska Ves 81.57 329 eP P **18 31 31.2 +0.3**
PVCC epP **sP** **18 31 40.4 -1.4**
PVCC eS S **18 41 42.1 +1.1**
PVCC AMS AMS 19 10 40.0
comp=Z,5µm,16.5s
PVCC Panska Ves 81.57 329 eP P **18 31 31.2 +0.3**
PVCC e 18 31 40.4
PVCC eS S **18 41 42.1 +1.1**
PVCC MLR MLR
comp=Z,5µm,16.5s
CLL Collm 81.61 330 ⇓iP P **18 31 31.4 +0.4**
comp=Z,100nm,1.1s
CLL ePmax 18 31 35.0
CLL i pP pP **18 31 39.7 +0.5**
CLL i sP **sP** **18 31 44.2 +2.5**
comp=Z,104nm,1.1s
CLL ePP PP **18 34 32.0 -5.0**
CLL esPP 18 34 47.0
CLL ePPP PPP 18 36 24.0
CLL eS S **18 41 41.0 -0.3**
CLL e 18 42 12.0
CLL ePS PnS **18 42 34.0 +3.4**
CLL eSS SS 18 47 18.0 +21
CLL eSSS SSS 18 50 30.0
CLL e 18 52 30.0
CLL eSSSS 18 53 18.0
CLL Lmax 19 12 00.0
CLL Collm 81.61 330 ⇓iP P **18 31 31.4 +0.4**
CLL i *PP pP **18 31 39.7 +0.5**
CLL eS S **18 41 41.0 -0.3**
CLL pmax pmax
comp=Z,100nm,1.1s
CLL Collm 81.61 330 IAmb IAmb 18 31 32.6
comp=Z,70nm,0.9s
CLL Collm 81.61 330 eP P **18 31 31.4 +0.4**
comp=Z,100nm,1.1s,baz=38,slow=5.1
VRAC Vranov 81.63 327 ⇓P P **18 31 32.3 +1.1**
VRAC Vranov 81.63 327 ⇓iP P **18 31 32.1 +0.9**
VRAC Vranov 81.63 327 eS S **18 41 40.9 -0.8**
VRAC Vranov 81.63 327 P P **18 31 32.3 +1.1**
VLAD Vladila 81.72 320 ⇓P P **18 31 32.1 +0.3**
BHL Bhannes 81.73 306 eP P **18 31 32.2 +0.1**
FBE Freiberg 81.77 330 eP P **18 31 32.5 +0.6**
comp=Z,119nm,1.1s,baz=38,slow=5.1
FBE epP **sP** **18 31 45.4 +2.8**
NRDL Niedersach Rie 81.79 333 eP P **18 31 32.4 +0.5**
comp=Z,205nm,2.1s,baz=38,slow=5.1
X16A Lo Mia Camp, P 81.83 53 IAmb IAmb 18 31 43.2
comp=Z,68nm,1.0s
X16A IAMs_20 IAMs_20 19 12 38.5
comp=Z,1µm,21.0s
SMOL Smolenice 81.86 326 eP P **18 31 33.7 +1.3**
SMOL e 18 31 46.4
SMOL pmax pmax
comp=Z,35nm,1.1s
SMOL Smolenice 81.86 326 eP P **18 31 33.7 +1.3**
SMOL e 18 31 46.4
ASSE Asse, Remlinge 81.87 332 eP P **18 31 32.8 +0.6**
comp=Z,62nm,1.3s,baz=38,slow=5.1
ASSE epP **sP** **18 31 45.8 +2.8**
SRE Strehaia 81.87 321 ⇓P P **18 31 34.1 +1.5**
BUD Budapest 81.89 325 P P **18 31 34.0 +1.4**
BUD pmax pmax
comp=Z,52nm,1.1s
KRUC Moravsky 81.90 327 ⇓iP P **18 31 33.3 +0.7**
KRUC Moravsky 81.90 327 eS S **18 41 41.8 -2.7**
KRUC Moravsky 81.90 327 P P **18 31 33.5 +0.9**
MVCO Mesa Verde 81.91 49 P P **18 31 34.7 +1.5**
baz=310,SNR=22
MVCO Mesa Verde 81.91 49 IAmb IAmb 18 31 42.7
comp=Z,90nm,1.0s
BKZ Black Stump Fm 81.92 153 IAmb IAmb 18 31 46.2
comp=Z,70nm,1.2s
BKZ IAMs_20 IAMs_20 19 02 50.4
comp=Z,2µm,21.0s
ISCO Idaho Springs 81.94 46 P P **18 31 34.7 +1.3**
baz=312,SNR=27
GOPC GO Pecny, Ondr 81.95 329 eP P **18 31 33.5 +0.6**
GOPC epP **pP** **18 31 40.6 -0.5**
GOPC eS S **18 41 44.3 -0.7**
GOPC AMS AMS 19 10 50.0
comp=Z,5µm,17.5s
GOPC GO Pecny, Ondr 81.95 329 eP P **18 31 33.5 +0.6**
GOPC e 18 31 40.6
GOPC eS S **18 41 44.3 -0.7**
GOPC MLR MLR
comp=Z,5µm,17.5s
SRO Srobarova 81.97 325 eP P **18 31 34.2 +1.2**
SRO e 18 31 47.1
SRO pmax pmax
comp=Z,68nm,1.2s
SRO Srobarova 81.97 325 eP P **18 31 34.2 +1.2**
SRO e 18 31 47.1
SRO2 Moca 81.98 325 eP P **18 31 33.0 0.0**
SRO2 pmax pmax
comp=Z,37nm,0.9s
SRO2 Moca 81.98 325 eP P **18 31 33.0 0.0**
PRA Prague 81.98 329 eP P **18 31 33.6 +0.6**
PRA epP **sP** **18 31 42.6 -1.3**
PRA eS S **18 41 46.5 +1.3**
PRA AMS AMS 19 11 00.0
comp=Z,3µm,16.6s
PRA Prague 81.98 329 eP P **18 31 33.6 +0.6**
PRA e 18 31 42.6
PRA eS S **18 41 46.5 +1.3**
PRA MLR MLR
comp=Z,3µm,16.6s
PRU Pruhonice 81.99 329 eP P **18 31 33.5 +0.4**
PRU epP **pP** **18 31 40.5 -0.8**
PRU eS S 18 41 35.5 -10
PRU AMS AMS 19 10 50.0
comp=Z,5µm,16.4s
PRU Pruhonice 81.99 329 eP P **18 31 33.5 +0.4**
PRU e 18 31 40.5
PRU eS S 18 41 35.5 -10
PRU MLR MLR
comp=Z,5µm,16.4s
BZS Buzias 82.00 322 ⇓P P **18 31 32.9 -0.2**
BZS Buzias 82.00 322 P P **18 31 33.1 -0.1**
BZS pmax pmax
comp=Z,59nm,1.8s
SHBL Chebaa 82.02 306 eP P **18 31 34.3 +0.6**
PLVB Pleven 82.03 319 ⇓P P **18 31 33.9 +0.5**
MODS Modra-Piesok 82.03 326 eP P **18 31 33.6 +0.3**
MODS e 18 31 46.1
MODS pmax pmax
comp=Z,81nm,1.2s
MODS Modra-Piesok 82.03 326 eP P **18 31 33.6 +0.3**
MODS e 18 31 46.1
HERR Herculane 82.12 321 ⇓P P **18 31 34.0 +0.2**
TREC Trest 82.12 328 eP P **18 31 34.1 +0.3**
TREC epP **sP** **18 31 43.1 -1.6**
TREC eS S **18 41 46.5 -0.3**
TREC AMS AMS 19 11 10.0
comp=Z,5µm,16.5s
TREC Trest 82.12 328 eP P **18 31 34.1 +0.3**
TREC e 18 31 43.1
TREC eS S **18 41 46.5 -0.3**
TREC MLR MLR
comp=Z,5µm,16.5s
NEUB Neuenburg 82.17 331 eP P **18 31 34.2 +0.2**
comp=Z,326nm,1.9s,baz=38,slow=5.1
IVI Ivigtut 82.19 5 IAmb IAmb 18 31 43.2
comp=Z,39nm,0.9s
IVI IAMs_20 IAMs_20 19 08 19.0
comp=Z,1µm,20.0s
CLZ Clausthal 82.21 332 eP P **18 31 34.7 +0.5**
comp=Z,168nm,1.5s,baz=38,slow=5.1
KAC Achnashellach 82.23 343 eP P **18 31 34.7 +0.5**
ZST Bratislava 82.24 326 eP P **18 31 34.8 +0.4**
ZST e 18 31 47.9
ZST Bratislava 82.24 326 eP P **18 31 34.8 +0.4**
ZST e 18 31 47.9
SUSD Miller 82.38 39 P P **18 31 35.8 +0.5**
baz=315
BANR Banloc 82.40 322 ⇑P P **18 31 36.7 +1.4**
ISP Isparta 82.44 312 IAmb IAmb 18 31 50.4
comp=Z,98nm,1.2s
ISP Isparta 82.44 312 IAMs_20 IAMs_20 19 14 49.2
comp=Z,1µm,19.0s
PBCC Pribram 82.45 329 eP P **18 31 35.6 +0.1**
PBCC ex x 18 31 44.5
KPL Plockton 82.46 343 eP P **18 31 36.0 +0.7**
KPL IAmb IAmb 18 31 37.1
comp=Z,82nm,1.0s
KPL IAMs_20 IAMs_20 19 20 45.4
comp=Z,1µm,15.0s
214A Organ Pipe Nat 82.47 56 P P **18 31 37.1 +1.1**
baz=309,SNR=9.1
214A Organ Pipe Nat 82.47 56 IAMs_20 IAMs_20 19 11 08.6
comp=Z,1µm,20.0s
W18A Petrified Fore 82.48 52 P P **18 31 37.5 +1.3**
baz=310
W18A Petrified Fore 82.48 52 IAMs_20 IAMs_20 19 13 10.4
comp=Z,1µm,21.0s
TANN Tannenbergstha 82.52 330 eP P **18 31 36.2 +0.3**
comp=Z,121nm,1.5s,baz=38,slow=5.1
TANN epP **sP** **18 31 49.2 +2.5**
MDVR Moldovita 82.54 322 ⇓P P **18 31 36.4 +0.2**
CSS Mathiatis 82.55 308 IAmb IAmb 18 31 52.6
comp=Z,62nm,0.9s
CSS IAMs_20 IAMs_20 19 12 06.7
comp=Z,2µm,19.0s
S22A 4UR Ranch, Cre 82.57 48 P P **18 31 38.4 +1.6**
baz=311,SNR=12
S22A 4UR Ranch, Cre 82.57 48 IAmb IAmb 18 31 47.3
comp=Z,86nm,1.2s
S22A IAMs_20 IAMs_20 19 14 19.6
comp=Z,1µm,20.0s
PLN Plauen 82.58 330 eP P **18 31 36.6 +0.4**
comp=Z,54nm,1.4s,baz=38,slow=5.1
GTTG Gottingen 82.60 332 eP P **18 31 36.8 +0.6**
comp=Z,78nm,1.2s,baz=38,slow=5.1
GTTG epP **sP** **18 31 49.6 +2.6**
GUNZ Gunzen 82.61 330 eP P **18 31 36.8 +0.4**
comp=Z,64nm,1.2s,baz=38,slow=5.1
WERN Wernitzgruen 82.65 330 eP P **18 31 37.1 +0.5**
comp=Z,70nm,1.2s,baz=38,slow=5.1
NKC Novy Kostel 82.67 330 P P **18 31 37.4 +0.8**
MOX Moxa 82.67 331 eP P **18 31 36.9 +0.3**
comp=Z,60nm,1.3s,baz=38,slow=5.1
MOX epP **sP** **18 31 49.9 +2.5**
MOX eL L 19 17 14.8
comp=Z,2µm,18.1s
F33A 5 Mile Ranch, 82.70 37 IAMs_20 IAMs_20 19 06 47.0
comp=Z,1µm,20.0s
X18A Snowflake 82.72 52 IAmb IAmb 18 31 47.6
comp=Z,41nm,1.1s
X18A IAMs_20 IAMs_20 19 12 50.8
comp=Z,1µm,20.0s
Q24A Divide 82.76 46 P P **18 31 38.7 +1.0**
baz=312,SNR=12
IBBN Ibbenburen 82.80 334 eP P **18 31 37.5 +0.3**
comp=Z,114nm,1.1s,baz=38,slow=5.1
PGB Panagyurishte 82.85 319 eP P **18 31 39.1 +1.3**
SOP Sopron 82.87 326 P P **18 31 38.8 +1.1**
SOP pmax pmax
comp=Z,98nm,1.4s
PLD Plovdiv 82.87 318 P P **18 31 39.3 +1.5**
PLD pmax pmax
comp=Z,196nm,2.2s
INVG Invergeldie, C 82.88 342 eP P **18 31 38.3 +0.7**
INVG IAmb IAmb 18 31 40.8
comp=Z,32nm,0.6s
INVG IAMs_20 IAMs_20 19 13 19.9
comp=Z,3µm,15.0s
ESY Stoneypath 82.96 341 eP P **18 31 38.4 +0.4**
ALN Alexandroupoli 82.97 317 IAmb IAmb 18 31 40.3
comp=Z,116nm,1.3s
CONA Conrad Observa 82.99 327 eP P **18 31 39.6 +1.1**
comp=Z,62nm,1.1s,SNR=47
MANZ Manzenberg 82.99 330 eP P **18 31 38.8 +0.4**
baz=38,slow=5.1
MORH Mrgy, Hungar 83.00 324 ⇓iP P **18 31 38.3 -0.1**
THZ Tophouse 83.03 157 P P **18 31 37.3 -1.1**
KHC Kasperske Hory 83.06 329 eP P **18 31 38.9 +0.2**
KHC ex x 18 31 52.2
KHC ex x 18 31 56.5
KHC ePP **PP** **18 34 47.0 -2.0**
KHC eS S **18 41 53.1 -3.3**
KHC AMS AMS 19 11 40.0
comp=Z,6µm,17.5s
KHC Kasperske Hory 83.06 329 eP P **18 31 38.9 +0.2**
KHC e 18 31 52.2
KHC e 18 34 47.0
KHC eS S **18 41 53.1 -3.3**
KHC MLR MLR
comp=Z,6µm,17.5s
ROTZ Rotzenmuhle 83.13 330 eP P **18 31 39.4 +0.4**
comp=Z,105nm,1.4s,baz=38,slow=5.1
RZN Rozhen 83.15 318 eP P **18 31 40.8 +1.3**
UBBA Unterbreizbach 83.17 332 eP P **18 31 39.1 0.0**
baz=38,slow=5.1
EAB Aberfoyle 83.17 342 eP P **18 31 39.8 +0.7**
OGNE Ogallala 83.19 43 P P **18 31 40.3 +0.7**
baz=314,SNR=9.0
EBL Broad Law 83.20 341 eP P **18 31 40.1 +0.9**
FRGS Fruska Gora 83.21 323 ⇓iP P **18 31 39.9 +0.3**
GEC2 GERESS Array S 83.22 328 IAmb IAmb 18 31 53.4
comp=Z,47nm,1.1s
GEC2 GERESS Array S 83.22 328 eP P **18 31 39.8 +0.1**
comp=Z,54nm,1.2s,baz=38,slow=5.1
GEC2 epP **sP** **18 31 52.7 +2.3**
GERES GERESS Array B 83.22 328 P P **18 31 39.6 -0.1**
comp=Z,14nm,0.6s,baz=38,slow=5.7,SNR=139
GERES PKKPbc **PKKPbc** **18 49 59.1 -0.3**
comp=Z,0.9nm,0.8s,baz=259,slow=1.4,SNR=7.2
GERES PKPPKP 18 58 08.7
comp=Z,0.4nm,0.7s,baz=207,slow=2.4,SNR=3.5
GERES LR LR 19 11 53.6
comp=Z,2µm,18.6s,baz=40,slow=38
GERES GERESS Array B 83.22 328 P P **18 31 39.4 -0.3**
GERES GERESS Array B 83.22 328 P P **18 31 39.4 -0.3**
VTS Vitosha 83.29 319 ⇓P P **18 31 41.3 +1.1**
VTS Vitosha 83.29 319 eP P **18 31 41.3 +1.1**
VTS Vitosha 83.29 319 IAmb IAmb 18 31 54.6
comp=Z,42nm,0.9s
EYMN Ely 83.33 33 P P **18 31 40.2 +0.1**
baz=320,SNR=5.8
EYMN Ely 83.33 33 IAmb IAmb 18 31 48.5
comp=Z,58nm,0.9s
EYMN Ely 83.33 33 IAMs_20 IAMs_20 19 15 50.6
comp=Z,799nm,18.0s
WET Wettzell 83.34 329 P P **18 31 40.8 +0.7**
WET Wettzell 83.34 329 eP P **18 31 40.6 +0.5**
comp=Z,65nm,1.2s,baz=38,slow=5.1
PGBU Glenifferbraes 83.54 342 eP P **18 31 41.5 +0.5**
PGBU IAmb IAmb 18 31 44.2
comp=Z,92nm,0.9s
GRF Grafenberg Arr 83.58 330 P P **18 31 42.5 +1.2**
GRF Grafenberg Arr 83.58 330 eP P **18 31 42.6 +1.2**
comp=Z,506nm,1.9s,baz=38,slow=5.1
GRF eL L 19 11 53.3
comp=Z,2µm,18.0s
TUC Tucson 83.59 54 P P **18 31 43.0 +1.1**
baz=310
TUC Tucson 83.59 54 P P **18 31 42.9 +1.1**
TUC pmax pmax
comp=Z,54nm,1.3s
TUC MLR MLR
comp=Z,2µm,18.0s
TUC Tucson 83.59 54 P P **18 31 42.9 +1.0**
TUC IAmb IAmb 18 31 56.0
comp=Z,54nm,1.3s
TUC Tucson 83.59 54 IAMs_20 IAMs_20 19 11 28.0
comp=Z,2µm,18.0s
ESK Eskdalemuir 83.65 341 eP P **18 31 41.8 +0.3**
ESK IAmb IAmb 18 31 44.0
comp=Z,28nm,0.9s
ESK IAMs_20 IAMs_20 19 14 53.8
comp=Z,3µm,17.0s
ESK Eskdalemuir 83.65 341 P P **18 31 42.4 +0.8**
ESK pmax pmax
comp=Z,26nm,0.9s
ESK MLR MLR
comp=Z,2µm,19.0s
ESK Eskdalemuir 83.65 341 P P **18 31 42.4 +0.8**
ARSA Arzberg 83.65 326 eP P **18 31 42.3 +0.5**
comp=Z,35nm,1.1s,SNR=25
ARSA PP **PP** **18 34 54.1 +0.2**
comp=Z,9.3nm,1.8s
BEHE Becsehely 83.68 325 ⇓iP P **18 31 44.5 +2.6**
BUG Bochum-Univer 83.68 333 eP P **18 31 42.0 +0.2**
comp=Z,52nm,1.2s,baz=38,slow=5.1
MOA Molln 83.75 327 eP P **18 31 42.8 +0.5**
comp=Z,35nm,1.0s,SNR=29
MOA ePP **PP** **18 34 54.1 -0.6**
comp=Z,23nm,1.3s
MMB Musomiste 83.75 318 eP P **18 31 43.4 +1.0**
TEKS Tekeris 83.79 323 eP P **18 31 43.2 +0.6**
KHZ Kahutara 83.83 157 IAmb IAmb 18 31 53.6
comp=Z,71nm,1.0s
DIVS Divibare 83.89 322 ⇓iP P **18 31 43.4 +0.2**
KKB Krupnik 83.90 319 eP P **18 31 44.4 +1.2**
KOGS Kog 83.93 326 ⇓eP P **18 31 43.0 -0.2**
F36A Milaca 83.99 35 IAMs_20 IAMs_20 19 07 34.2
comp=Z,874nm,20.0s
ECSD EROS Data Cent 84.07 38 P P **18 31 44.3 +0.3**
baz=317,SNR=24
ECSD EROS Data Cent 84.07 38 IAmb IAmb 18 31 52.4
comp=Z,46nm,0.8s
KALN Kalnik 84.08 325 P P **18 31 43.4 -0.6**
SRS Serrai 84.15 318 P P **18 31 44.4 -0.1**
SRS pmax pmax
comp=Z,107nm,1.3s
KSCO Kaye Shedlock' 84.18 45 P P **18 31 45.7 +0.9**
baz=313,SNR=6.9
KSCO Kaye Shedlock' 84.18 45 IAmb IAmb 18 31 54.4
comp=Z,92nm,1.2s
PPT Papeete 84.18 117 LR LR 19 03 10.7
comp=Z,1µm,20.2s,baz=335,slow=31
PPT2 Papeete2 84.20 117 eS S **18 42 03.8 -4.8**
comp=Z,3µm,31.2s
PPT2 Papeete2 84.20 117 eLQ LQ 18 53 47.8
comp=Z,671nm,29.5s
PPT2 eLR LR 18 57 49.4
comp=Z,2µm,21.5s,baz=308
PPT2 Papeete2 84.20 117 eT T 20 04 30.4
comp=Z,4.1nm,0.3s
TNS Taunus Mts 84.23 332 P P **18 31 45.4 +0.6**
TNS Taunus Mts 84.23 332 eP P **18 31 45.2 +0.5**
comp=Z,56nm,1.3s,baz=38,slow=5.1
PAE Paea 84.24 117 eT T 20 04 33.0
comp=Z,1.0nm,0.3s
KESW Keswick, Cumbr 84.27 340 eP P **18 31 45.3 +0.5**
KESW IAmb IAmb 18 31 46.9
comp=Z,354nm,1.9s
KESW IAMs_20 IAMs_20 19 12 43.2
comp=Z,4µm,20.5s
SOKA Soboth 84.31 326 eP P **18 31 45.6 +0.3**
comp=Z,68nm,1.1s,SNR=40
E38A The Farm, Brul 84.33 34 IAMs_20 IAMs_20 19 13 28.0
comp=Z,856nm,19.0s
TIAR Tiarei 84.34 117 eT T 20 04 40.5
comp=Z,4.2nm,0.3s
BBLS Lazići 84.35 322 ⇓iP P **18 31 46.2 +0.7**
T25A Trinidad 84.41 47 P P **18 31 47.4 +1.3**
baz=312,SNR=16
HPK Haverah Park 84.42 339 eP P **18 31 45.8 +0.3**
HPK IAMs_20 IAMs_20 19 15 43.8
comp=Z,3µm,16.2s
GAL1 Galloway 84.45 341 eP P **18 31 45.2 -0.5**
GAL1 IAmb IAmb 18 31 48.0
comp=Z,73nm,1.0s
GAL1 IAMs_20 IAMs_20 19 13 11.2
comp=Z,2µm,17.8s
PTJ Puntijarka 84.47 325 P P **18 31 44.7 -1.3**
AHRW Bad Neuenahr-A 84.49 333 eP P **18 31 46.5 +0.6**
comp=Z,184nm,1.8s,baz=38,slow=5.1
STIP Stip 84.50 319 iP P **18 31 45.6 -0.5**
ZAG Zagreb 84.52 325 P P **18 31 45.9 -0.3**
RUDO Rudo 84.55 322 eP P **18 31 46.5 +0.1**
VAY Valandovo 84.56 319 iP P **18 31 46.9 +0.5**
VAY Valandovo 84.56 319 P P **18 31 47.1 +0.6**
VAY pmax pmax
comp=Z,191nm,1.1s
ANMO Albuquerque 84.63 50 P P **18 31 48.5 +1.3**
baz=312
ANMO Albuquerque 84.63 50 deP P **18 31 48.2 +1.0**
ANMO pmax pmax
comp=Z,42nm,1.3s
ANMO Albuquerque 84.63 50 P P **18 31 49.0 +1.8**
ANMO IAmb IAmb 18 31 57.6
comp=Z,74nm,1.1s
ANMO Albuquerque 84.63 50 IAMs_20 IAMs_20 19 12 46.4
comp=Z,1µm,20.0s
OBKA Obir 84.65 326 iP P **18 31 47.0 0.0**
comp=Z,11nm,0.9s
OBKA ePP **PP** **18 35 01.5 -0.6**
comp=Z,9.8nm,1.1s
SKO Skopje 84.69 320 iP P **18 31 48.3 +1.1**
SKO Skopje 84.69 320 P P **18 31 49.2 +2.1**
SKO pmax pmax
comp=Z,192nm,1.9s
KBA Koelnbreinsper 84.74 327 eP P **18 31 47.5 0.0**
comp=Z,34nm,1.0s,SNR=20
KBA Koelnbreinsper 84.74 327 P P **18 31 47.8 +0.3**

PLE Pljevlja 84.75 322 ⇑*i*P P 18 31 47.0 -0.6
CRES Cresnjev 84.76 326 ⇓*i*P P 18 31 47.0 -0.5
FUR Furstenfeldbru 84.76 329 P P 18 31 48.2 +0.8
FUR Furstenfeldbru 84.76 329 *e*P P 18 31 47.8 +0.4
comp=Z,115nm,1.1s,baz=38,slow=5.1
BLY Banja Luka 84.77 324 ⇓*i*P P 18 31 47.6 +0.1
BEBN Eben Emael 84.78 334 ⇓P P 18 31 47.7 +0.3
BEBN x x 18 32 00.4
SPMN Marine on St. 84.80 35 P P 18 31 48.0 +0.3
baz=319,SNR=6.3
SPMN Marine on St. 84.80 35 IAMs_20 IAMs_20 19 07 59.7
comp=Z,986nm,20.0s
MEM Membach 84.82 333 P P 18 31 47.6 0.0
comp=Z,36nm,1.2s
MEM PcP PcP 18 31 49.6 -1.4
MEM sP pP 18 31 56.0 +0.1
MEM x x 18 32 00.8
MEM Membach 84.82 333 P P 18 31 48.4 +0.8
IVA Berane 84.83 321 ⇓*i*P P 18 31 47.5 -0.4
OZLJ Ozalj 84.92 325 P P 18 31 47.7 -0.5
Y22D IRIS PASSCAL I 84.92 51 P P 18 31 49.1 +0.5
baz=311
LBWR Ladybower, Pea 84.94 339 *e*P P 18 31 48.3 +0.2
LBWR IAmb IAmb 18 31 50.1
comp=Z,204nm,1.0s
LBWR IAMs_20 IAMs_20 19 16 01.2
comp=Z,2µm,16.1s
BGNE Belgrade 84.95 41 P P 18 31 48.2 -0.3
baz=316
IOMK Kirk Michael 84.95 341 *e*P P 18 31 48.5 +0.3
IOMK IAmb IAmb 18 31 49.5
comp=Z,190nm,1.1s
IOMK IAMs_20 IAMs_20 19 14 22.2
comp=Z,5µm,16.4s
MYKA Terra Mystica 84.96 327 *e*P P 18 31 48.1 -0.3
comp=Z,22nm,1.0s,SNR=12
BSTI Sart Tilman 85.00 334 ⇓P P 18 31 48.8 +0.3
BSTI x x 18 32 01.8
PVY Plav 85.00 321 ⇓*i*P P 18 31 49.2 +0.3
LJU Ljubljana 85.02 326 ⇓*i*P P 18 31 48.5 -0.2
LJU *i* 18 32 01.4
LJU *e*SKSac SKSac 18 42 13.1 +1.6
LJU *i* 18 42 16.5
LJU *e* 18 43 08.8
LJU Ljubljana 85.02 326 ⇓*i*P P 18 31 48.3 -0.4
BHOU Houvegnez 85.03 333 ⇓P P 18 31 49.1 +0.4
BHOU sP pP 18 31 57.4 +0.4
BHOU x x 18 32 01.4
KOME Kolasin 85.04 321 ⇓*i*P P 18 31 48.8 -0.2
MGRS Mrkonjic Grad 85.07 324 *e*P P 18 31 51.0 +2.0
UPM Unac-Piva 85.08 322 ⇑*i*P P 18 31 48.3 -1.0
UPM Unac-Piva 85.08 322 *e*P P 18 31 49.1 -0.2
WIM Isle of Man 85.08 341 *e*P P 18 31 49.4 +0.5
KTD Kalmit 85.11 332 P P 18 31 50.2 +1.1
STU Stuttgart 85.12 331 P P 18 31 50.0 +0.8
319A Douglas 85.17 54 IAmb IAmb 18 31 59.9
comp=Z,69nm,1.1s
BCLA Clavier 85.23 334 ⇓P P 18 31 49.8 +0.1
comp=Z,53nm,1.6s
BCLA sP pP 18 31 58.0 +0.1
BCLA x x 18 32 03.1
UCC Uccle 85.24 334 P P 18 31 49.7 0.0
UCC sP pP 18 31 58.2 +0.2
UCC x x 18 32 02.7
D41A Chassel 85.28 32 IAMs_20 IAMs_20 19 08 43.0
comp=Z,943nm,21.0s
WATA Walderalm 85.29 329 *e*P P 18 31 50.1 -0.1
comp=Z,25nm,1.1s,SNR=16
WTTA Wattenberg 85.33 329 *e*P P 18 31 50.6 +0.1
comp=Z,18nm,1.1s,SNR=11
GMM Mts of Mourne 85.33 342 *e*P P 18 31 50.2 +0.1
BGES Gesves 85.33 334 P P 18 31 50.2 +0.1
comp=Z,50nm,1.3s
BGES sP pP 18 31 58.6 +0.1
BGES x x 18 32 02.7
STNC Stoke 85.35 339 *e*P P 18 31 50.7 +0.5
STNC IAMs_20 IAMs_20 19 14 35.1
comp=Z,3µm,16.2s
ABTA Abfaltersbach 85.36 328 *e*P P 18 31 49.7 -0.9
comp=Z,21nm,1.1s,SNR=7.2
ABTA *e*PP PP 18 35 02.9 -4.9
comp=Z,16nm,1.8s
NKME Niksic 85.38 322 ⇓*i*P P 18 31 50.6 0.0
121A Cookes Peak, D 85.38 53 P P 18 31 52.3 +1.2
baz=311,SNR=9.4
CWF Charnwood Fore 85.40 339 *e*P P 18 31 50.2 -0.2
CWF IAmb IAmb 18 31 52.0
comp=Z,100nm,1.2s
CWF IAMs_20 IAMs_20 19 16 45.7
comp=Z,3µm,15.1s
I37A Lemond, Waseca 85.43 36 IAMs_20 IAMs_20 19 10 02.3
comp=Z,1µm,20.0s
MEH Mehetia 85.47 116 *e*T T 20 06 04.9
comp=Z,38nm,0.3s
PDG Podgorica 85.47 321 ⇓P P 18 31 51.4 +0.4
PDG Podgorica 85.47 321 ⇓*i*P P 18 31 51.2 +0.2
TTG Podgorica 85.47 321 ⇓*i*P P 18 31 51.2 +0.2
MOTA Moosalm 85.48 329 *i*P P 18 31 51.2 0.0
comp=Z,35nm,1.1s,SNR=22
MOTA PP PP 18 35 09.4 +0.5
comp=Z,12nm,1.1s
BRY Bratogost 85.49 322 ⇓*i*P P 18 31 50.5 -0.8
BRY Bratogost 85.49 322 *e*P P 18 31 51.0 -0.3
LANF Langenberg 85.49 332 P P 18 31 51.7 +0.7
SNF Seneffe 85.51 334 P P 18 31 51.3 +0.2
SNF pP pP 18 31 57.2 -2.1
SNF sP sP 18 31 59.7 -2.1
SNF x x 18 32 02.0
RETA Reutte 85.51 329 *e*P P 18 31 51.6 +0.3
comp=Z,57nm,1.0s,SNR=24
BMRD Maredsous 85.51 334 P P 18 31 50.8 -0.2
comp=Z,78nm,1.6s
BMRD pP pP 18 31 56.7 -2.6
BMRD x x 18 32 04.1
SQTA Sankt Quirin 85.54 329 *e*P P 18 31 51.5 0.0
comp=Z,18nm,1.1s,SNR=13
WLF Walferdange 85.55 333 P P 18 31 52.0 +0.7
WLF pP pP 18 31 57.4 -2.1
WLF x x 18 32 04.7
WLF Walferdange 85.55 333 P P 18 31 52.6 +1.3
WLF Walferdange 85.55 333 *e*P P 18 31 52.2 +0.9
baz=38,slow=5.1
CEME Cevo 85.56 321 ⇓*i*P P 18 31 51.5 -0.1
HSIG 85.56 57 IAMs_20 IAMs_20 19 05 33.6
comp=Z,1µm,20.0s
UDBI Udbina 85.61 325 P P 18 31 51.6 -0.2
UBR Ueberruh 85.63 330 *e*P P 18 31 51.7 -0.1
comp=Z,49nm,1.4s,baz=38,slow=5.1
OHR Ohrid 85.64 319 *i*P P 18 31 52.0 +0.1
OHR Ohrid 85.64 319 P P 18 31 52.8 +0.8
OHR pmax pmax
comp=Z,125nm,1.2s
STAL STALIGIAL 85.65 327 IAmb IAmb 18 32 04.3
comp=Z,35nm,0.9s
WME Myndd Eilian 85.66 340 *e*P P 18 31 51.9 +0.1
SCHQ Schefferville 85.66 16 P P 18 31 52.0 +0.2
comp=Z,22nm,0.8s,baz=356,slow=5.3,SNR=21
SCHQ LR LR 19 12 03.8
comp=Z,900nm,20.7s,baz=346,slow=37
SCHQ Schefferville 85.66 16 IAmb IAmb 18 31 53.3
comp=Z,45nm,1.1s
SCHQ IAMs_20 IAMs_20 19 11 52.1
comp=Z,1µm,21.0s
GIVF Givet 85.66 334 *e*P P 18 31 51.2 -0.6
GIVF pmax pmax
comp=Z,160nm,1.8s
DRME Dracevica, Mon 85.69 321 ⇓*i*P P 18 31 52.0 -0.1
DRME Dracevica, Mon 85.69 321 ⇓*i*P P 18 31 52.0 -0.1
WPS Cemaes, Angles 85.71 341 *e*P P 18 31 51.8 -0.2
WPS IAmb IAmb 18 31 53.6
comp=Z,129nm,1.6s
WPS IAMs_20 IAMs_20 19 13 56.4
comp=Z,2µm,17.5s
TREB Trebinje 85.72 322 *e*P P 18 31 51.1 -1.2
DOU Dourbes 85.75 334 ⇓P P 18 31 52.5 +0.3
comp=Z,34nm,1.9s
DOU x x 18 32 05.6
BUM Brajici-Budva 85.75 321 ⇓*i*P P 18 31 52.4 -0.1
SRIG Santa Rosalia 85.76 59 IAMs_20 IAMs_20 19 13 02.9
comp=Z,2µm,18.0s
WLF1 Llynfaes 85.78 340 *e*P P 18 31 52.5 +0.2
WLF1 IAmb IAmb 18 31 53.6
comp=Z,175nm,1.1s
WLF1 IAMs_20 IAMs_20 19 13 28.3
comp=Z,5µm,19.0s
TAOE Nuku Hiva Isla 85.78 104 *e*LR LR 18 58 33.9
comp=Z,3µm,21.8s,baz=307
N33A J Bar K, Exete 85.80 41 IAMs_20 IAMs_20 19 13 55.5
comp=Z,843nm,18.0s
FOEL Foel Wylfa 85.81 340 *e*P P 18 31 53.2 +0.7
FOEL IAmb IAmb 18 31 54.5
comp=Z,170nm,0.9s
FOEL IAMs_20 IAMs_20 19 15 22.0
comp=Z,3µm,15.1s
BFO Black Forest 85.81 331 P P 18 31 53.1 +0.4
BFO pmax pmax
comp=Z,72nm,0.9s
BFO MLR MLR
comp=Z,2µm,20.0s
BFO Black Forest 85.81 331 P P 18 31 53.1 +0.4
BFO IAmb IAmb 18 31 54.3
comp=Z,72nm,0.9s
BFO Black Forest 85.81 331 *e*P P 18 31 52.8 +0.2
comp=Z,109nm,1.1s,baz=38,slow=5.1
ULC Ulcinj 85.82 321 ⇓*i*P P 18 31 52.7 -0.1
HCY Herceg Novi 85.84 322 ⇓*i*P P 18 31 52.6 -0.3
HCY Herceg Novi 85.84 322 *e*P P 18 31 52.8 -0.1
YLL Llanberis 85.85 340 *e*P P 18 31 53.5 +0.8
YRC Rhoscolyn 85.86 340 *e*P P 18 31 52.6 -0.1
APE Apeiranthos 85.88 314 P P 18 31 53.3 0.0
APE pmax pmax
comp=Z,89nm,1.1s
FETA Feichten 85.90 329 *e*P P 18 31 53.3 0.0
comp=Z,26nm,1.1s,SNR=11
CBKS Cedar Bluff 85.94 44 P P 18 31 53.5 +0.1
baz=315
CBKS Cedar Bluff 85.94 44 IAMs_20 IAMs_20 19 16 36.3
comp=Z,1µm,18.0s
MAKA Makarska 85.94 323 P P 18 31 52.2 -1.1
G40A Rib Lake 85.96 34 IAMs_20 IAMs_20 19 15 02.2
comp=Z,798nm,19.0s
KARP Karpathos 85.97 312 IAMs_20 IAMs_20 19 16 07.3
comp=Z,2µm,19.0s
NVLJ Novalja 85.99 325 P P 18 31 52.8 -0.8
ELSH Elham, Standar 86.02 336 *e*P P 18 31 53.5 -0.1
ELSH IAMs_20 IAMs_20 19 14 12.8
comp=Z,5µm,17.9s
DAVA Damuels 86.03 329 *e*PcP P 18 31 54.1 +0.1
comp=Z,53nm,1.0s,SNR=18
CDF Champ du Feu 86.16 332 *e*P P 18 31 53.9 -0.5
CDF pmax pmax
comp=Z,84nm,1.2s
SLE Schleitheim 86.21 331 P P 18 31 54.5 -0.1
BRJN Brijuni 86.24 326 P P 18 31 54.0 -0.8
ECH Echery 86.36 332 P P 18 31 55.6 +0.2
ECH Echery 86.36 332 IAmb IAmb 18 31 56.8
comp=Z,47nm,1.0s
SANT Santorini 86.41 314 ⇓P P 18 31 55.6 -0.2
SANT Santorini 86.41 314 IAMs_20 IAMs_20 19 14 46.9
comp=Z,900nm,19.0s
FUORN Ofenpass-Fuorn 86.41 329 IAmb IAmb 18 32 10.0
comp=Z,60nm,0.9s
STRD Stroud 86.49 339 *e*P P 18 31 56.4 +0.5
STRD IAmb IAmb 18 31 57.6
comp=Z,259nm,0.9s
MCH1 Michaelchurch 86.54 339 *e*P P 18 31 56.2 +0.1
MCH1 IAmb IAmb 18 31 57.7
comp=Z,96nm,0.9s
MCH1 IAMs_20 IAMs_20 19 15 44.2
comp=Z,3µm,16.7s
SWN1 Swindon 86.62 338 *e*P P 18 31 57.2 +0.7
SWN1 IAmb IAmb 18 31 58.4
comp=Z,209nm,1.0s
SWN1 IAMs_20 IAMs_20 19 12 30.1
comp=Z,3µm,23.8s
N35A Tabor 86.65 40 IAMs_20 IAMs_20 19 14 11.0
comp=Z,813nm,19.0s
MOF Molkenrain 86.67 331 P P 18 31 57.2 +0.2
EPT El Paso 86.70 52 IAMs_20 IAMs_20 19 11 16.3
comp=Z,1µm,20.0s
OLDB Oldbury-Upon-S 86.71 339 *e*P P 18 31 56.5 -0.4
OLDB IAmb IAmb 18 31 57.7
comp=Z,44nm,0.9s
OLDB IAMs_20 IAMs_20 19 17 06.0
comp=Z,3µm,17.5s
K38A Parkersburg 86.76 37 IAMs_20 IAMs_20 19 09 56.8
comp=Z,782nm,19.0s
HINF Hinteralfeld 86.81 331 *e*P P 18 31 56.6 -1.0
HINF pmax pmax
comp=Z,59nm,1.6s
I40A Norwalk 86.83 35 IAMs_20 IAMs_20 19 09 13.3
comp=Z,967nm,20.0s
HAU Haudompre 86.84 332 *e*P P 18 31 56.9 -0.8
HAU pmax pmax
comp=Z,45nm,1.2s
IGT Igoumenitsa 87.03 319 P P 18 31 58.7 -0.1
IGT pmax pmax
comp=Z,60nm,1.5s
RSBS Rosebush, Pemb 87.07 340 *e*P P 18 31 58.2 -0.5
RSBS IAmb IAmb 18 32 00.2
comp=Z,69nm,1.1s
RSBS IAMs_20 IAMs_20 19 15 30.4
comp=Z,3µm,16.9s
SCIA State Center 87.10 38 P P 18 31 59.8 +0.7
baz=319
LOMF Lomont 87.20 331 P P 18 32 00.2 +0.6
MATQ Matagami 87.20 24 P P 18 31 59.4 0.0
baz=329,SNR=14
D46A Sault St. Mari 87.28 29 P P 18 32 00.1 +0.2
baz=325,SNR=17
KSU1 Kansas State U 87.43 42 P P 18 32 01.0 +0.2
baz=317
MNTX Cornudas Mount 87.46 52 P P 18 32 01.9 +0.9
baz=312,SNR=18
IDI Anoyia 87.49 313 ⇓P P 18 32 00.7 -0.5
IDI Anoyia 87.49 313 IAMs_20 IAMs_20 19 15 59.6
comp=Z,909nm,18.0s
D47A Chapleau 87.51 29 P P 18 32 01.1 +0.2
baz=326,SNR=14
MSTX Muleshoe 87.54 49 P P 18 32 01.9 +0.4
baz=314
AMTX Amarillo 87.56 47 P P 18 32 02.7 +1.1
baz=314
E46A Sault Ste Mari 87.59 30 IAMs_20 IAMs_20 19 18 07.2
comp=Z,913nm,19.0s
I42A Draeger Farm, 87.61 34 IAmb IAmb 18 32 10.1
comp=Z,48nm,0.8s
I42A IAMs_20 IAMs_20 19 09 39.8
comp=Z,942nm,20.0s
F45A CMU Biological 87.66 31 P P 18 32 02.1 +0.5
baz=324
JFWS Jewell Farm 87.75 35 P P 18 32 02.2 0.0
baz=321,SNR=7.0
JFWS Jewell Farm 87.75 35 IAmb IAmb 18 32 10.4
comp=Z,32nm,0.8s
JFWS Jewell Farm 87.75 35 IAMs_20 IAMs_20 19 09 16.8
comp=Z,1µm,21.0s
ITM Ithomi 87.85 316 IAMs_20 IAMs_20 19 15 58.1
comp=Z,858nm,18.0s
D48A Paudash Townsh 87.91 28 P P 18 32 02.7 -0.1
baz=326,SNR=12
N38A Joes South For 87.93 38 IAMs_20 IAMs_20 19 18 46.6
comp=Z,747nm,18.0s
E47A Iron Bridge 87.93 29 P P 18 32 03.3 +0.3
baz=325,SNR=8.6
L40A Anamosa 87.95 37 IAMs_20 IAMs_20 19 09 58.0
comp=Z,929nm,20.0s
D49A Beulah Townshi 87.99 28 P P 18 32 03.3 +0.1
baz=327,SNR=9.3
LSQQ Lebel-sur-Quev 88.02 24 P P 18 32 03.6 +0.3
baz=330
TBI Tubuai 88.06 121 *e*S S 18 42 40.5 -5.5
comp=Z,1µm,35.5s
TBI Tubuai 88.06 121 *e*LQ LQ 18 55 35.3
comp=Z,808nm,31.8s
TBI *e*LR LR 18 59 38.6
comp=Z,2µm,22.0s,baz=303
TBI Tubuai 88.06 121 *e*T T 20 09 20.4
comp=Z,46nm,0.3s
U32A Winter Ranch, 88.07 45 IAMs_20 IAMs_20 19 18 02.9
comp=Z,1µm,20.0s
MATE Matera 88.08 321 ⇓P P 18 32 03.8 +0.1
CABF La Chapelle 88.10 331 *e*P P 18 32 05.0 +1.1
CABF pmax pmax
comp=Z,79nm,2.0s
CHGQ Chibougamau 88.11 22 P P 18 32 03.9 +0.1
baz=332,SNR=27
G45A Suttons Bay 88.11 31 P P 18 32 04.6 +0.7
baz=324
G46A Petoskey 88.22 31 P P 18 32 04.9 +0.5
baz=324
H45A Beulah 88.29 32 P P 18 32 05.4 +0.7
baz=324
E48A Lockeyer 88.34 29 P P 18 32 05.2 +0.3
baz=326,SNR=8.2
AQU L'Aquila 88.38 324 P P 18 32 06.6 +1.3
AQU pmax pmax
comp=Z,117nm,1.1s
AQU L'Aquila 88.38 324 ⇓*i*P P 18 32 05.6 +0.3
LOR Lormes 88.39 333 *e*P P 18 32 04.6 -0.6
LOR pmax pmax
comp=Z,113nm,1.5s
INTR Introdacqua 88.41 324 IAmb IAmb 18 32 19.8
comp=Z,48nm,0.8s
OSSC Osservatorio P 88.45 326 IAmb IAmb 18 32 18.5
comp=Z,77nm,1.4s
FLN La Foliniere 88.61 336 *e*P P 18 32 05.7 -0.4
FLN pmax pmax
comp=Z,78nm,1.4s
D50A G1974 Best Tow 88.64 27 P P 18 32 06.2 -0.1
baz=328,SNR=13
I45A Fountain 88.67 32 P P 18 32 07.7 +1.2
baz=323
VLDQ Val d'Or 88.68 25 IAmb IAmb 18 32 14.8
comp=Z,56nm,1.0s
VLDQ IAMs_20 IAMs_20 19 14 46.0
comp=Z,1µm,20.0s
F48A Evansville 88.71 29 P P 18 32 07.1 +0.5
baz=326,SNR=7.6
H46A Fife Lake 88.71 32 P P 18 32 07.5 +0.8
baz=324
GLMI Grayling 88.72 31 P P 18 32 07.8 +1.1
baz=324
GLMI Grayling 88.72 31 IAMs_20 IAMs_20 19 17 30.1
comp=Z,1µm,19.0s
L42A Oliver, Polo 88.73 36 IAMs_20 IAMs_20 19 09 22.7
comp=Z,874nm,21.0s
LPL La Plagne 88.75 330 *e*P P 18 32 06.9 -0.2
LPL pmax pmax
comp=Z,21nm,1.0s
G47A Hillman 88.75 30 P P 18 32 07.6 +0.7
baz=325,SNR=5.7
LPG La Plagne 88.75 330 *e*P P 18 32 06.7 -0.6
LPG pmax pmax
comp=Z,192nm,2.1s
K43A Burlington 88.80 34 IAMs_20 IAMs_20 19 10 36.4
comp=Z,969nm,20.0s
D51A Lot 18 Range I 88.88 27 P P 18 32 07.3 -0.2
baz=328,SNR=5.7
SMF Signal de Mont 88.92 333 *e*P P 18 32 07.3 -0.4
SMF pmax pmax
comp=Z,126nm,1.6s
E50A Wahnapitae 88.94 28 P P 18 32 07.9 +0.2
baz=327
F49A Sandfield 88.99 29 P P 18 32 08.3 +0.4
baz=326,SNR=6.8
T35A Sooner Cattle 89.07 43 IAmb IAmb 18 32 18.1
comp=Z,60nm,1.1s
T35A IAMs_20 IAMs_20 19 20 10.3
comp=Z,796nm,20.0s
H47A Mio 89.08 31 P P 18 32 09.5 +1.1
baz=325
I46A Reed City 89.09 32 P P 18 32 09.5 +1.0
baz=324
J45A Montague 89.09 33 P P 18 32 09.0 +0.5
baz=323
BNI Bardonecchia 89.15 330 IAmb IAmb 18 32 10.9
comp=Z,51nm,1.5s
TIP Timpagrande 89.16 320 ⇓P P 18 32 09.3 +0.3
TIP Timpagrande 89.16 320 IAmb IAmb 18 32 22.7
comp=Z,92nm,1.5s
N41A Harden Midland 89.17 37 IAMs_20 IAMs_20 19 09 57.3
comp=Z,928nm,21.0s
E51A G1948 Merrick 89.31 27 P P 18 32 09.6 +0.2
baz=328,SNR=17
D52A ZEK Kipawa Sen 89.32 26 P P 18 32 09.7 +0.2
baz=329,SNR=12
H48A Harrisville 89.36 30 P P 18 32 10.9 +1.1
baz=325,SNR=6.6
H48A Harrisville 89.36 30 IAMs_20 IAMs_20 19 18 42.7
comp=Z,1µm,18.0s
BGF Bois d'Agland 89.36 333 *e*P P 18 32 09.3 -0.4
BGF pmax pmax
comp=Z,60nm,1.5s
WMOK Wichita Mounta 89.36 46 P P 18 32 10.7 +0.7
baz=316,SNR=17
WMOK Wichita Mounta 89.36 46 IAMs_20 IAMs_20 19 18 24.2
comp=Z,812nm,19.0s
L44A Lake County Fo 89.41 35 P P 18 32 10.6 +0.6
baz=322
L44A Lake County Fo 89.41 35 IAMs_20 IAMs_20 19 10 53.5
comp=Z,1µm,19.0s
I47A Gladwin 89.42 31 P P 18 32 11.3 +1.3
baz=324
I47A Gladwin 89.42 31 IAMs_20 IAMs_20 19 18 23.6
comp=Z,997nm,19.0s
P40A Paris 89.47 39 IAmb IAmb 18 32 19.9
comp=Z,82nm,1.2s
D53A Lac Vacive, Po 89.48 26 P P 18 32 10.6 +0.3
baz=329,SNR=15
D53A Lac Vacive, Po 89.48 26 IAmb IAmb 18 32 18.8
comp=Z,34nm,0.9s
ORIF Oris-en-Rattie 89.58 330 *e*P P 18 32 10.8 -0.1
ORIF pmax pmax
comp=Z,17nm,1.0s
I48A Sherman Twp 89.62 31 P P 18 32 12.1 +1.2
baz=325
OKCFA Oklahoma City 89.64 45 IAMs_20 IAMs_20 19 18 09.4
comp=Z,959nm,22.0s
F51A Arnstein 89.66 28 P P 18 32 11.0 -0.1
baz=328,SNR=12
SLBS Sierra La Lagu 89.66 61 P P 18 32 14.0 +2.3
SLBS IAmb IAmb 18 32 14.4
comp=Z,58nm,1.5s
D54A Lac Fusel, La 89.78 25 P P 18 32 11.0 -0.6
baz=330,SNR=11
TCF Toulx Ste Croi 89.82 333 *e*P P 18 32 11.6 -0.3
TCF pmax pmax
comp=Z,63nm,1.6s
E52A Mattawa 89.82 27 P P 18 32 11.5 -0.4
baz=329,SNR=7.8
ROSF Rostrenen 89.87 338 *e*P P 18 32 11.9 -0.2
ROSF pmax pmax
comp=Z,53nm,1.1s
J47A Sunmer 89.92 32 P P 18 32 13.5 +1.1
baz=324
J47A Sunmer 89.92 32 IAmb IAmb 18 32 22.2
comp=Z,55nm,1.1s
J47A IAMs_20 IAMs_20 19 10 46.0
comp=Z,785nm,20.0s
M44A Midewin, Midew 89.97 35 IAmb IAmb 18 32 13.8
comp=Z,38nm,0.9s
M44A IAMs_20 IAMs_20 19 11 18.4
comp=Z,876nm,20.0s
F52A Sundridge 90.00 27 P P 18 32 13.2 +0.5
baz=328,SNR=12
HDIL Hopedale 90.03 36 P P 18 32 13.5 +0.5
baz=321
HDIL Hopedale 90.03 36 IAMs_20 IAMs_20 19 11 21.2
comp=Z,986nm,21.0s
E53A Dumoine, Ponti 90.10 26 P P 18 32 13.0 -0.1
baz=329,SNR=8.4
VIVF Saint-Julien-l 90.11 331 *e*P P 18 32 13.6 +0.3
VIVF pmax pmax
comp=Z,30nm,1.2s
TX31 Lajitas Ar. Si 90.14 53 IAmb IAmb 18 32 23.6
comp=Z,75nm,1.1s
TXAR Lajitas Array 90.14 53 P P 18 32 14.8 +0.9
comp=Z,6.1nm,0.5s,baz=303,slow=3.1,SNR=88
TXAR PKKPbc PKKPbc 18 49 45.7 +3.2
comp=Z,0.5nm,0.5s,baz=151,slow=6.2,SNR=11
TXAR Lajitas Array 90.14 53 P P 18 32 14.6 +0.7
TXAR Lajitas Array 90.14 53 P P 18 32 14.6 +0.7
I49A Point Hope 90.19 30 P P 18 32 14.5 +0.9
baz=326
I49A Point Hope 90.19 30 IAmb IAmb 18 32 15.5
comp=Z,82nm,1.3s
I49A IAMs_20 IAMs_20 19 19 24.7
comp=Z,958nm,19.0s
TUL1 Leonard 90.20 43 P P 18 32 14.5 +0.7
baz=317,SNR=8.0
TUL1 Leonard 90.20 43 IAMs_20 IAMs_20 19 20 32.2
comp=Z,749nm,18.0s
QUIF Quistinic 90.21 337 *e*P P 18 32 14.1 +0.5
QUIF pmax pmax
comp=Z,17nm,0.8s
E54A Lac Daplat, Po 90.22 26 P P 18 32 13.3 -0.4
baz=330,SNR=11

ATD	**Arta Tunnel** comp=Z,971nm,19.0s	90.26	284	IAMs_20	IAMs_20	19 18 32.0		
L46A	**Eue Claire** comp=Z,770nm,20.0s	90.27	34	IAMs_20	IAMs_20	19 18 31.2		
D55A	**Sainte-Anne-du** baz=331,SNR=8.5	90.30	24	P	P	18 32 14.4	+0.4	
R40A	**Maddies Statio** comp=Z,77nm,1.4s	90.30	40	IAmb	IAmb	18 32 23.4		
J48A	**Bridge Port** baz=325,SNR=6.3	90.31	31	P	P	18 32 15.4	+1.1	
J48A	**Bridge Port** comp=Z,837nm,19.0s	90.31	31	IAMs_20	IAMs_20	19 18 30.2		
ALGO	**Algonquin Park** baz=329,SNR=9.3	90.32	27	P	P	18 32 14.3	+0.1	
ABTX	**Abilene, Hawle** baz=315,SNR=5.9	90.35	48	P	P	18 32 15.4	+0.8	
ABTX	**Abilene, Hawle** comp=Z,933nm,21.0s	90.35	48	IAMs_20	IAMs_20	19 15 21.7		
MFF	**Saint Martin d**	90.38	335	*e*P	P	18 32 14.4	-0.1	
MFF	comp=Z,76nm,1.2s			pmax	pmax			
D56A	**ZEC Mazanza, M** baz=332,SNR=21	90.50	24	P	P	18 32 15.7	+0.6	
J49A	**Marlette** baz=326,SNR=5.9	90.53	31	P	P	18 32 16.3	+1.0	
U38A	**Gravette** comp=Z,31nm,0.8s	90.58	42	IAmb	IAmb	18 32 24.1		
U38A	comp=Z,856nm,20.0s			IAMs_20	IAMs_20	19 16 16.1		
P43A	**Skaggs, Pawnee** comp=Z,792nm,21.0s	90.64	37	IAMs_20	IAMs_20	19 09 40.2		
O44A	**Mansfield** comp=Z,852nm,22.0s	90.74	36	IAMs_20	IAMs_20	19 10 10.9		
H52A	**Wyevale** baz=328	90.76	28	P	P	18 32 16.9	+0.7	
G54A	**Lake Saint Pet** baz=329,SNR=11	90.79	27	P	P	18 32 16.5	0.0	
D57A	**Chemin Vers le** baz=332,SNR=16	90.81	24	P	P	18 32 17.3	+0.8	
G53A	**Haliburton** baz=329,SNR=7.1	90.83	27	P	P	18 32 17.1	+0.6	
E56A	**St. Veronique** baz=331,SNR=6.0	90.86	24	P	P	18 32 16.9	+0.2	
K49A	**Clarkson** baz=325	90.88	32	P	P	18 32 18.0	+1.1	
RJF	**Les Rejaudoux**	90.91	333	*e*P	P	18 32 16.9	-0.1	
RJF	comp=Z,40nm,1.0s			pmax	pmax			
HHAR	**Hobbs** comp=Z,30nm,0.9s	90.94	42	IAmb	IAmb	18 32 25.5		
HHAR	comp=Z,959nm,20.0s			IAMs_20	IAMs_20	19 16 26.5		
CCM	**Cathedral Cave** baz=320	91.00	39	P	P	18 32 17.9	+0.3	
CCM	**Cathedral Cave**	91.00	39	P	P	18 32 17.2	-0.3	
CCM	comp=Z,71nm,1.4s			pmax	pmax			
CCM	comp=Z,800nm,18.0s			MLR	MLR			
CCM	**Cathedral Cave**	91.00	39	P	P	18 32 17.2	-0.3	
CCM	comp=Z,70nm,1.4s			IAmb	IAmb	18 32 26.8		
CCM	**Cathedral Cave** comp=Z,790nm,18.0s	91.00	39	IAMs_20	IAMs_20	19 18 29.1		
I51A	**Listowel** baz=327	91.02	29	P	P	18 32 18.5	+1.0	
F55A	**Otter Lake** baz=330	91.03	26	P	P	18 32 17.3	-0.2	
CAF	**Calviac**	91.04	333	*e*P	P	18 32 17.8	+0.2	
CAF	comp=Z,49nm,1.2s			pmax	pmax			
D58A	**Chemin du LacG** baz=333,SNR=5.2	91.06	23	P	P	18 32 18.1	+0.4	
SLM	**Saint Louis** comp=Z,753nm,20.0s	91.06	38	IAMs_20	IAMs_20	19 17 00.8		
I52A	**Shelburne** baz=328	91.13	29	P	P	18 32 18.9	+0.9	
L48A	**N Adams** comp=Z,905nm,22.0s	91.14	33	IAMs_20	IAMs_20	19 11 21.2		
AAM	**Ann Arbor** baz=325	91.19	32	P	P	18 32 19.1	+0.8	
SFIN	**Lafayette** baz=323	91.21	35	P	P	18 32 19.1	+0.7	
SFIN	**Lafayette** comp=Z,1µm,21.0s	91.21	35	IAMs_20	IAMs_20	19 11 12.1		
K50A	**Casco** comp=Z,1µm,19.0s	91.23	31	IAMs_20	IAMs_20	19 20 21.4		
E57A	**Chemin Saint G** baz=332,SNR=11	91.27	24	P	P	18 32 19.2	+0.6	
H53A	**Bobcaygeon** baz=329,SNR=6.3	91.31	28	P	P	18 32 19.4	+0.5	
G55A	**Calabogie** baz=330,SNR=8.6	91.40	26	P	P	18 32 19.5	+0.2	
N47A	**Urbana** comp=Z,869nm,21.0s	91.45	34	IAMs_20	IAMs_20	19 12 47.4		
Q44A	**Meyer Farm, Va** comp=Z,888nm,22.0s	91.46	37	IAMs_20	IAMs_20	19 10 03.9		
U40A	**Yellville** baz=319,SNR=33	91.46	41	P	P	18 32 20.1	+0.3	
U40A	**Yellville** comp=Z,816nm,21.0s	91.46	41	IAMs_20	IAMs_20	19 12 52.3		
I53A	**Kortright Cn E** baz=328	91.56	29	P	P	18 32 20.6	+0.6	
E58A	**La Victoria** baz=333	91.58	23	P	P	18 32 20.4	+0.4	
ORIO	**Orleans, Innes** baz=331	91.65	25	P	P	18 32 20.4	+0.1	
J52A	**Paris** baz=327	91.71	29	P	P	18 32 21.2	+0.5	
DELO	**Deloro Mine** comp=Z,29nm,1.2s	91.71	27	IAmb	IAmb	18 32 34.6		
DELO	comp=Z,872nm,18.0s			IAMs_20	IAMs_20	19 21 28.9		
L50A	**Kingsville** baz=326	91.75	32	P	P	18 32 21.5	+0.5	
P46A	**Rosedale** comp=Z,1µm,21.0s	91.76	36	IAMs_20	IAMs_20	19 11 05.8		
JCT	**Junction City** baz=315,SNR=9.3	91.77	49	P	P	18 32 21.8	+0.5	
JCT	**Junction City** comp=Z,994nm,20.0s	91.77	49	IAMs_20	IAMs_20	19 13 22.3		
D61A	**St Aubert, Com** baz=335	91.78	21	P	P	18 32 21.5	+0.6	
D60A	**Saint Jean D'O** baz=334	91.83	22	P	P	18 32 21.5	+0.4	
W39A	**Magazine** baz=319,SNR=8.8	91.83	43	P	P	18 32 21.7	+0.3	
W39A	**Magazine** comp=Z,1µm,19.0s	91.83	43	IAMs_20	IAMs_20	19 17 30.3		
H55A	**Tweed** baz=330,SNR=5.8	91.84	27	P	P	18 32 21.6	+0.3	
T42A	**Van Buren** comp=Z,24nm,0.8s	91.87	40	IAmb	IAmb	18 32 30.7		
I55A	**Frankford** baz=329	91.95	27	P	P	18 32 22.0	+0.2	
K52A	**Tillsonburg** baz=327	92.00	30	P	P	18 32 21.7	-0.4	
N49A	**Columbus Grove** comp=Z,19nm,0.9s	92.08	33	IAmb	IAmb	18 32 23.8		
WHTX	**Lake Whitney,** baz=316,SNR=6.5	92.10	47	P	P	18 32 23.7	+1.0	
WHTX	**Lake Whitney,** comp=Z,962nm,18.0s	92.10	47	IAMs_20	IAMs_20	19 19 44.8		
G57A	**Newington** baz=331	92.14	25	P	P	18 32 22.8	+0.2	
H56A	**Elgin** baz=330	92.14	26	P	P	18 32 23.2	+0.6	
E60A	**Ste Agathe de** baz=334	92.16	22	P	P	18 32 23.1	+0.4	
M50A	**Fremont** comp=Z,1µm,20.0s	92.18	32	IAMs_20	IAMs_20	19 20 52.7		
O48A	**Farmland** baz=324,SNR=6.1	92.19	34	P	P	18 32 23.1	+0.1	
FCAR	**Ozark Folk Cen** comp=Z,44nm,1.1s	92.20	41	IAmb	IAmb	18 32 31.9		
D62A	**Allapoint, All** baz=336	92.22	21	P	P	18 32 23.0	0.0	
D62A	**Allapoint, All** comp=Z,2µm,20.0s	92.22	21	IAMs_20	IAMs_20	19 18 27.8		
S44A	**Carbondale** comp=Z,745nm,18.0s	92.28	38	IAMs_20	IAMs_20	19 20 25.9		
MTLF	**Montolieu**	92.33	332	*e*P	P	18 32 23.5	-0.1	
MTLF	comp=Z,30nm,1.2s			pmax	pmax			
F60A	**Warwick** baz=334	92.36	23	P	P	18 32 24.1	+0.4	
E61A	**Lac Etchemin** baz=335	92.39	22	P	P	18 32 24.6	+0.7	
J54A	**Appleton** comp=Z,909nm,20.0s	92.40	28	IAMs_20	IAMs_20	19 19 08.1		
G58A	**Ormstown** baz=332	92.41	24	P	P	18 32 24.0	+0.2	
MIAR	**Mount Ida** baz=319,SNR=21	92.43	43	P	P	18 32 24.7	+0.5	
MIAR	**Mount Ida** comp=Z,1µm,21.0s	92.43	43	IAMs_20	IAMs_20	19 17 52.2		
BLO	**Bloomington** comp=Z,1µm,20.0s	92.44	36	IAMs_20	IAMs_20	19 11 58.7		
PECO	**Prince Edward**	92.44	27	P	P	18 32 24.2	+0.1	
PECO	comp=Z,944nm,19.0s			IAMs_20	IAMs_20	19 20 36.2		
E62A	**Clayton Lake** baz=335	92.50	21	P	P	18 32 24.5	+0.2	
D63A	**Stockholm** baz=336	92.52	20	P	P	18 32 23.7	-0.6	
WHAR	**Woolly Hollow** comp=Z,1µm,21.0s	92.56	42	IAMs_20	IAMs_20	19 17 53.6		
Z38A	**Mt. Pleasant** comp=Z,1µm,18.0s	92.60	45	IAMs_20	IAMs_20	19 19 22.8		
F61A	**St Evariste** baz=334,SNR=6.2	92.65	22	P	P	18 32 26.0	+1.0	
W41B	**Gary Mavity, V** baz=320,SNR=8.9	92.67	42	P	P	18 32 25.4	+0.1	
W41B	**Gary Mavity, V** comp=Z,29nm,1.1s	92.67	42	IAmb	IAmb	18 32 39.0		
W41B	comp=Z,1µm,18.0s			IAMs_20	IAMs_20	19 17 56.5		
LONY	**Lake Ozonia** baz=332	92.70	25	P	P	18 32 24.9	-0.4	
P48A	**Milroy** comp=Z,1µm,20.0s	92.71	35	IAMs_20	IAMs_20	19 13 03.9		
J55A	**Hilton** baz=329	92.72	28	P	P	18 32 24.9	-0.4	
J55A	**Hilton** comp=Z,1µm,19.0s	92.72	28	IAMs_20	IAMs_20	19 19 50.5		
M52A	**Chesterland** baz=327	92.78	31	P	P	18 32 26.6	+0.9	
M52A	**Chesterland** comp=Z,1µm,19.0s	92.78	31	IAMs_20	IAMs_20	19 21 41.4		
PARMO	**Parma** comp=Z,854nm,21.0s	92.83	39	IAMs_20	IAMs_20	19 12 22.5		
FRNY	**Flat Rock** comp=Z,1µm,18.0s	92.84	24	IAMs_20	IAMs_20	19 21 01.6		
ERPA	**Erie** baz=328	92.85	30	P	P	18 32 26.5	+0.5	
ERPA	**Erie** comp=Z,799nm,20.0s	92.85	30	IAMs_20	IAMs_20	19 18 32.2		
N51A	**Ashland** comp=Z,1µm,20.0s	92.87	32	IAMs_20	IAMs_20	19 21 58.8		
X40A	**Basin Creek Fa** baz=319	92.88	42	P	P	18 32 27.4	+1.2	
X40A	**Basin Creek Fa** comp=Z,1µm,20.0s	92.88	42	IAMs_20	IAMs_20	19 18 22.0		
L53A	**Girard** baz=328	92.88	30	P	P	18 32 26.5	+0.4	
PQI	**Presque Isle** comp=Z,32nm,1.0s	92.88	20	IAmb	IAmb	18 32 27.3		
PQI	comp=Z,1µm,18.0s			IAMs_20	IAMs_20	19 20 25.3		
435B	**Jarrell** baz=316	92.89	48	P	P	18 32 27.7	+1.3	
435B	**Jarrell** comp=Z,1µm,18.0s	92.89	48	IAMs_20	IAMs_20	19 21 13.9		
I57A	**Carthage** baz=331	92.92	26	P	P	18 32 27.0	+0.7	
HENM	**Henderson Moun** comp=Z,879nm,20.0s	92.94	39	IAMs_20	IAMs_20	19 18 17.2		
K54A	**Basiliko Farm,** baz=329	92.94	29	P	P	18 32 27.3	+0.8	
P49A	**Miami Univ. Ec** baz=328	92.97	34	P	P	18 32 27.1	+0.5	
P49A	**Miami Univ. Ec** comp=Z,906nm,20.0s	92.97	34	IAMs_20	IAMs_20	19 13 32.8		
H59A	**Cadyville** baz=332	92.97	25	P	P	18 32 27.0	+0.5	
E63A	**Oxbow** baz=336	93.00	20	P	P	18 32 27.4	+0.8	
E63A	**Oxbow** comp=Z,43nm,1.1s	93.00	20	IAmb	IAmb	18 32 35.3		
E63A	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	19 18 59.4		
H58A	**Gabriels** baz=332	93.01	25	P	P	18 32 27.0	+0.3	
L54A	**Sinclairville** baz=328	93.02	29	P	P	18 32 27.4	+0.6	
F62A	**Pittston Farm,** baz=335,SNR=7.4	93.03	22	P	P	18 32 27.8	+1.0	
F62A	**Pittston Farm,** comp=Z,1µm,20.0s	93.03	22	IAMs_20	IAMs_20	19 18 45.3		
237A	**Whetta, Mont** comp=Z,759nm,21.0s	93.05	46	IAMs_20	IAMs_20	19 14 60.0		
PVMO	**Portageville** comp=Z,850nm,21.0s	93.05	39	IAMs_20	IAMs_20	19 12 28.4		
J56A	**Wolcott** baz=330	93.06	27	P	P	18 32 27.1	+0.2	
J56A	**Wolcott** comp=Z,944nm,19.0s	93.06	27	IAMs_20	IAMs_20	19 20 56.6		
PENMO	**Penman** comp=Z,949nm,22.0s	93.06	39	IAMs_20	IAMs_20	19 12 16.6		
K55A	**Perry** baz=329	93.08	28	P	P	18 32 26.8	-0.3	
G61A	**St-Isidore-de-** baz=334	93.11	23	P	P	18 32 26.9	-0.3	
MMNY	**Mt. Morris Dam** comp=Z,1µm,19.0s	93.14	28	IAMs_20	IAMs_20	19 19 47.7		
M53A	**WI Miller and** baz=327	93.14	31	P	P	18 32 28.0	+0.6	
M53A	**WI Miller and** comp=Z,1µm,20.0s	93.14	31	IAMs_20	IAMs_20	19 21 44.0		
WVNY	**West Valley, N** comp=Z,1µm,20.0s	93.15	29	IAMs_20	IAMs_20	19 19 43.0		
E64A	**Bridgewater** baz=337	93.16	20	P	P	18 32 27.2	-0.1	
ACSO	**Alum Creek Sta** baz=326	93.17	33	P	P	18 32 28.5	+1.0	
ACSO	**Alum Creek Sta** comp=Z,804nm,20.0s	93.17	33	IAMs_20	IAMs_20	19 12 46.0		
ALLY	**Alegheny Colle** comp=Z,946nm,18.0s	93.18	30	IAMs_20	IAMs_20	19 21 48.0		
HICK	**Hickman** comp=Z,1µm,18.0s	93.19	39	IAMs_20	IAMs_20	19 18 16.0		
HBAR	**Harrisburg** comp=Z,845nm,20.0s	93.22	40	IAMs_20	IAMs_20	19 19 35.0		
J57A	**Williamstown** baz=330	93.26	27	P	P	18 32 28.2	+0.3	
J57A	**Williamstown** comp=Z,23nm,1.1s	93.26	27	IAmb	IAmb	18 32 38.9		
J57A	comp=Z,808nm,19.0s			IAMs_20	IAMs_20	19 21 05.8		
WCI	**Wyandotte Cave** baz=323	93.30	36	P	P	18 32 28.7	+0.6	
WCI	**Wyandotte Cave**	93.30	36	P	P	18 32 28.0	-0.1	
WCI	comp=Z,14nm,0.9s			pmax	pmax			
WCI	comp=Z,1µm,19.0s			MLR	MLR			
WCI	**Wyandotte Cave**	93.30	36	P	P	18 32 28.0	-0.1	
WCI	**Wyandotte Cave** comp=Z,982nm,19.0s	93.30	36	IAMs_20	IAMs_20	19 22 55.5		
EPF	**Esparros**	93.30	333	*e*P	P	18 32 30.7	+2.6	
EPF	comp=Z,18nm,1.4s			pmax	pmax			
WLAR	**White Oak Lake** comp=Z,851nm,19.0s	93.33	43	IAMs_20	IAMs_20	19 19 42.9		
LPAR	**Lepanto** comp=Z,684nm,19.0s	93.37	40	IAMs_20	IAMs_20	19 19 50.9		
H60A	**Morristown** baz=333	93.38	24	P	P	18 32 29.4	+1.0	
NCB	**Newcomb** comp=Z,1µm,18.0s	93.39	25	IAMs_20	IAMs_20	19 21 18.1		
LNXT	**Lenox** comp=Z,837nm,20.0s	93.40	39	IAMs_20	IAMs_20	19 20 22.6		
O51A	**Pataskala** baz=326	93.41	32	P	P	18 32 28.7	+0.1	
F63A	**Nahmakanta, Br** baz=336	93.46	21	P	P	18 32 30.4	+1.7	
F63A	**Nahmakanta, Br** comp=Z,1µm,19.0s	93.46	21	IAMs_20	IAMs_20	19 19 20.6		
G62A	**West of Eustis** baz=335	93.47	22	P	P	18 32 30.2	+1.4	
G62A	**West of Eustis** comp=Z,1µm,20.0s	93.47	22	IAMs_20	IAMs_20	19 18 55.1		
M54A	**Oil Creek Stat** baz=328	93.50	30	P	P	18 32 29.9	+0.8	
M54A	**Oil Creek Stat** comp=Z,26nm,1.1s	93.50	30	IAmb	IAmb	18 32 42.4		
M54A	comp=Z,890nm,21.0s			IAMs_20	IAMs_20	19 18 41.3		
F64A	**Sherman** baz=336	93.53	21	P	P	18 32 29.8	+0.8	
F64A	**Sherman** comp=Z,948nm,18.0s	93.53	21	IAMs_20	IAMs_20	19 21 16.4		
833A	**Chaparral WMA,** baz=315	93.54	51	P	P	18 32 30.1	+0.7	
833A	**Chaparral WMA,** comp=Z,1µm,20.0s	93.54	51	IAMs_20	IAMs_20	19 15 13.3		
J58A	**Remsen** baz=331	93.56	26	P	P	18 32 30.4	+1.1	
J58A	**Remsen** comp=Z,992nm,18.0s	93.56	26	IAMs_20	IAMs_20	19 22 58.6		
N53A	**Lisbon** baz=327	93.61	31	P	P	18 32 30.4	+0.8	
N53A	**Lisbon** comp=Z,1µm,19.0s	93.61	31	IAMs_20	IAMs_20	19 22 22.3		
HALT	**Halls** comp=Z,696nm,18.0s	93.63	39	IAMs_20	IAMs_20	19 21 01.5		
H61A	**Lyndonville** baz=334	93.65	23	P	P	18 32 30.1	+0.5	
J59A	**Piesco** baz=332	93.74	26	P	P	18 32 30.6	+0.4	
J59A	**Piesco** comp=Z,1µm,19.0s	93.74	26	IAMs_20	IAMs_20	19 21 07.4		
P51A	**Williamsport** baz=326	93.76	33	P	P	18 32 30.7	+0.5	
P51A	**Williamsport** comp=Z,894nm,20.0s	93.76	33	IAMs_20	IAMs_20	19 22 01.4		
O52A	**Adamsville** baz=326	93.76	32	P	P	18 32 31.0	+0.7	
O52A	**Adamsville** comp=Z,1µm,19.0s	93.76	32	IAMs_20	IAMs_20	19 22 15.5		
R49A	**Shelbyville** comp=Z,1µm,21.0s	93.77	35	IAMs_20	IAMs_20	19 12 42.0		
L56A	**Greenwood** baz=329	93.78	28	P	P	18 32 31.1	+0.7	
L56A	**Greenwood** comp=Z,850nm,22.0s	93.78	28	IAMs_20	IAMs_20	19 14 13.7		
PKME	**Peaks-Kenny Pk** baz=336	93.80	21	P	P	18 32 31.1	+0.9	
PKME	**Peaks-Kenny Pk** comp=Z,1µm,20.0s	93.80	21	IAMs_20	IAMs_20	19 19 13.8		
I60A	**Shoreham** baz=332	93.82	25	P	P	18 32 31.5	+1.2	
Z41A	**Richland Creek** comp=Z,931nm,21.0s	93.82	43	IAMs_20	IAMs_20	19 16 51.0		
N54A	**Moraine State** baz=328	93.82	30	P	P	18 32 31.3	+0.8	
N54A	**Moraine State** comp=Z,1µm,18.0s	93.82	30	IAMs_20	IAMs_20	19 22 09.0		
G63A	**Kingsbury** baz=335	93.84	22	P	P	18 32 31.8	+1.3	
H62A	**Milan** baz=334,SNR=5.0	93.86	23	P	P	18 32 32.1	+1.4	
H62A	**Milan** comp=Z,895nm,19.0s	93.86	23	IAMs_20	IAMs_20	19 19 52.4		
M55A	**Ridgway** baz=328	93.89	29	P	P	18 32 31.8	+1.0	
M55A	**Ridgway** comp=Z,1µm,20.0s	93.89	29	IAMs_20	IAMs_20	19 20 32.6		
NATX	**Nacogdoches** comp=Z,1µm,20.0s	93.89	45	IAMs_20	IAMs_20	19 16 50.1		
T47A	**Sharon Grove** comp=Z,763nm,21.0s	93.89	37	IAMs_20	IAMs_20	19 15 04.4		
X43A	**Marvell** comp=Z,882nm,18.0s	93.90	41	IAMs_20	IAMs_20	19 19 53.0		
LBNH	**Lisbon** comp=Z,1µm,20.0s	93.91	24	IAMs_20	IAMs_20	19 18 29.9		
O53A	**New Philadelph** baz=327	93.92	32	P	P	18 32 31.5	+0.6	
O53A	**New Philadelph** comp=Z,1µm,20.0s	93.92	32	IAMs_20	IAMs_20	19 22 30.5		
MET	**Memphis--Engin** comp=Z,771nm,18.0s	93.93	40	IAMs_20	IAMs_20	19 23 04.7		
K58A	**Earlville** baz=331	93.95	27	P	P	18 32 31.8	+0.7	
K58A	**Earlville** comp=Z,800nm,22.0s	93.95	27	IAMs_20	IAMs_20	19 13 41.0		
G64A	**Maxfield** baz=336	93.97	21	P	P	18 32 31.7	+0.7	
Q51A	**Peebles** comp=Z,25nm,0.9s	94.00	34	IAmb	IAmb	18 32 40.0		
P52A	**Corning** baz=326	94.03	32	P	P	18 32 31.3	-0.2	
P52A	**Corning** comp=Z,1µm,19.0s	94.03	32	IAMs_20	IAMs_20	19 23 08.8		
M56A	**Emporium** baz=329	94.10	29	P	P	18 32 32.3	+0.5	
M56A	**Emporium** comp=Z,981nm,22.0s	94.10	29	IAMs_20	IAMs_20	19 13 49.2		
H63A	**New Sharon** baz=335	94.13	22	P	P	18 32 33.7	+1.9	
L57A	**Andrews Acres** baz=330	94.17	28	P	P	18 32 32.6	+0.5	
R50A	**Paris** comp=Z,1µm,20.0s	94.17	35	IAMs_20	IAMs_20	19 13 48.5		
WVT	**Waverly** baz=322	94.22	38	P	P	18 32 32.9	+0.5	
WVT	**Waverly**	94.22	38	P	P	18 32 31.7	-0.7	
WVT	comp=Z,8.0nm,0.9s			pmax	pmax			
WVT	comp=Z,700nm,19.0s			MLR	MLR			
WVT	**Waverly**	94.22	38	P	P	18 32 31.7	-0.7	
K59A	**Cooperstown** baz=331	94.22	26	P	P	18 32 32.7	+0.3	
HNH	**Hanover** comp=Z,1µm,20.0s	94.28	24	IAMs_20	IAMs_20	19 20 00.5		
BINY	**Binghamton** comp=Z,1µm,19.0s	94.31	27	IAMs_20	IAMs_20	19 21 51.8		
O54A	**Avella** baz=327	94.32	31	P	P	18 32 33.8	+1.0	
O54A	**Avella** comp=Z,1µm,22.0s	94.32	31	IAMs_20	IAMs_20	19 13 15.2		
G65A	**Princeton** baz=337	94.36	20	P	P	18 32 34.1	+1.3	
G65A	**Princeton** comp=Z,874nm,19.0s	94.36	20	IAMs_20	IAMs_20	19 18 44.4		
N55A	**Marion Center** baz=328	94.38	30	P	P	18 32 34.1	+0.9	
H64A	**Troy** baz=336	94.39	22	P	P	18 32 34.3	+1.3	
I62A	**Tamworth** comp=Z,1µm,20.0s	94.43	23	IAMs_20	IAMs_20	19 18 42.5		
P53A	**Whipple** baz=327	94.48	32	P	P	18 32 34.4	+0.8	
P53A	**Whipple** comp=Z,1µm,19.0s	94.48	32	IAMs_20	IAMs_20	19 22 54.4		
L58A	**Harry Jones Me** baz=331	94.50	27	P	P	18 32 34.6	+1.0	
J61A	**Chester** baz=333	94.51	24	P	P	18 32 35.0	+1.4	
I63A	**Otisfield** baz=334	94.51	23	P	P	18 32 35.3	+1.7	
Q52A	**Bidwell** baz=326	94.53	33	P	P	18 32 34.2	+0.4	
N56A	**West Decatur** baz=329	94.54	29	P	P	18 32 34.8	+1.0	
H65A	**Eastbrook** baz=336	94.62	21	P	P	18 32 35.2	+1.2	
M57A	**Sunshine Farm,** baz=330	94.63	28	P	P	18 32 35.0	+0.7	
M57A	**Sunshine Farm,** comp=Z,18nm,0.9s	94.63	28	IAmb	IAmb	18 32 43.1		
M57A	comp=Z,820nm,20.0s			IAMs_20	IAMs_20	19 20 35.3		
L59A	**Walton** baz=331	94.67	27	P	P	18 32 35.4	+1.0	
OXF	**Oxford** baz=321	94.68	40	P	P	18 32 34.7	+0.1	
OXF	**Oxford** comp=Z,701nm,18.0s	94.68	40	IAMs_20	IAMs_20	19 23 33.4		
O55A	**Ligonier** baz=328	94.74	30	P	P	18 32 34.8	0.0	
P54A	**Burton** baz=327	94.77	31	P	P	18 32 35.5	+0.6	
H66A	**Whiting** baz=337	94.81	20	P	P	18 32 35.0	+0.1	
EMMW	**East Machias** comp=Z,1µm,19.0s	94.83	20	IAMs_20	IAMs_20	19 21 19.1		
M58A	**Price's Panora** baz=330	94.86	28	P	P	18 32 35.8	+0.6	
U49A	**Red Boiling Sp** comp=Z,884nm,20.0s	94.91	37	IAMs_20	IAMs_20	19 19 27.4		
Q53A	**Leroy** baz=326,SNR=5.9	94.94	33	P	P	18 32 36.6	+0.9	

SSPA	Standing Stone	94.94	29	P	P	18 32 35.8	+0.2	
	baz=329							
SSPA	Standing Stone	94.94	29	IAMs_20	IAMs_20	19 21 29.5		
	comp=Z,1µm,18.0s							
T50A	Nancy	94.95	36	IAmb	IAmb	18 32 37.8		
	comp=Z,14nm,0.7s							
KSPA	Keystone Colle	94.95	27	IAMs_20	IAMs_20	19 22 21.7		
	comp=Z,1µm,19.0s							
N57A	Milroy	94.97	29	P	P	18 32 36.5	+0.7	
	baz=329							
MCWV	Mont Chateau	94.98	31	P	P	18 32 36.2	+0.4	
	baz=328							
CLTN	Cedars of Leba	94.98	37	IAMs_20	IAMs_20	19 11 50.3		
	comp=Z,854nm,22.0s							
O56A	Blue Knob Stat	94.99	30	P	P	18 32 36.6	+0.7	
	baz=329							
O56A	Blue Knob Stat	94.99	30	IAMs_20	IAMs_20	19 19 43.7		
	comp=Z,934nm,20.0s							
PLAL	Pickwick Lake	94.99	39	IAMs_20	IAMs_20	19 20 43.7		
	comp=Z,761nm,21.0s							
KVTX	Kingsville	95.03	50	IAMs_20	IAMs_20	19 20 43.6		
	comp=Z,906nm,19.0s							
S51A	Beattyville	95.03	35	IAMs_20	IAMs_20	19 14 16.2		
	comp=Z,1µm,20.0s							
M59A	Waymart	95.09	27	P	P	18 32 37.3	+1.0	
	baz=331							
Y45A	Yeager Farm, C	95.11	41	IAMs_20	IAMs_20	19 22 18.9		
	comp=Z,1µm,19.0s							
P55A	Reedsville	95.12	31	P	P	18 32 37.1	+0.6	
	baz=328							
Q54A	Coxs Mills	95.13	32	P	P	18 32 37.1	+0.6	
	baz=327							
Q54A	Coxs Mills	95.13	32	IAmb	IAmb	18 32 50.6		
	comp=Z,33nm,1.2s							
R53A	Hurricane	95.19	33	IAMs_20	IAMs_20	19 23 50.5		
	comp=Z,1µm,21.0s							
K62A	Royalston	95.22	24	IAMs_20	IAMs_20	19 19 35.5		
	comp=Z,991nm,19.0s							
N58A	Sunbury	95.22	28	P	P	18 32 36.3	-0.6	
	baz=330							
N58A	Sunbury	95.22	28	IAMs_20	IAMs_20	19 14 46.8		
	comp=Z,933nm,22.0s							
O57A	Amberson	95.41	29	P	P	18 32 38.9	+1.1	
	baz=329							
Q55A	Buckhannon	95.44	31	P	P	18 32 38.7	+0.7	
	baz=328							
441A	DeRidder	95.48	45	IAMs_20	IAMs_20	19 17 08.2		
	comp=Z,988nm,20.0s							
342A	Flagon Creek P	95.50	44	IAMs_20	IAMs_20	19 20 25.6		
	comp=Z,932nm,18.0s							
N59A	State Game Lan	95.51	28	P	P	18 32 38.9	+0.6	
	baz=331							
N59A	State Game Lan	95.51	28	IAMs_20	IAMs_20	19 22 50.4		
	comp=Z,1µm,20.0s							
QUA2	Belchertown	95.52	25	IAMs_20	IAMs_20	19 24 23.6		
	comp=Z,1µm,19.0s							
P56A	Dayton Farm, R	95.53	30	P	P	18 32 39.2	+0.9	
	baz=328							
KEST	Kesra	95.53	323	P	P	18 32 38.5	-0.1	
	comp=Z,8.3nm,1.0s,baz=358,slow=7.0,SNR=5.2							
KEST				LR	LR	19 20 55.9		
	comp=Z,3µm,18.1s,baz=343,slow=39							
HRV	Adam Dziewonsk	95.58	24	IAMs_20	IAMs_20	19 20 38.1		
	comp=Z,1µm,20.0s							
KSCT	Kent School, K	95.63	26	IAMs_20	IAMs_20	19 22 37.4		
	comp=Z,1µm,18.0s							
R54A	Victor	95.74	33	P	P	18 32 39.7	+0.4	
	baz=327							
WES	Weston	95.77	24	IAMs_20	IAMs_20	19 21 02.1		
	comp=Z,1µm,20.0s							
Q56A	Snyder Ridge,	95.78	31	IAMs_20	IAMs_20	19 14 12.7		
	comp=Z,1µm,21.0s							
ODNJ	Ogdensburg	95.79	27	IAMs_20	IAMs_20	19 24 19.3		
	comp=Z,1µm,18.0s							
VBMS	Vicksburg	95.86	42	IAMs_20	IAMs_20	19 20 17.9		
	comp=Z,995nm,19.0s							
P57A	Homestead Farm	95.88	30	IAMs_20	IAMs_20	19 22 05.3		
	comp=Z,996nm,19.0s							
S54A	Dingess, Beckl	95.91	33	P	P	18 32 40.9	+0.7	
	baz=327							
S54A	Dingess, Beckl	95.91	33	IAMs_20	IAMs_20	19 23 57.5		
	comp=Z,1µm,19.0s							
X48A	Hartselle	95.93	39	IAMs_20	IAMs_20	19 21 17.6		
	comp=Z,722nm,19.0s							
TZTN	Tazewell	95.94	35	P	P	18 32 40.9	+0.5	
	baz=325							
TZTN	Tazewell	95.94	35	IAMs_20	IAMs_20	19 14 09.4		
	comp=Z,1µm,21.0s							
R55A	Marlinton	96.03	32	P	P	18 32 41.5	+0.8	
	baz=327							
R55A	Marlinton	96.03	32	IAMs_20	IAMs_20	19 23 33.4		
	comp=Z,877nm,19.0s							
T53A	Wise	96.05	34	P	P	18 32 41.9	+1.0	
	baz=326							
BRYW	Bryant College	96.12	24	IAMs_20	IAMs_20	19 20 27.3		
	comp=Z,1µm,19.0s							
P58A	Pank, Wackersv	96.16	29	P	P	18 32 41.8	+0.6	
	baz=329							
BRNJ	Basking Ridge	96.16	27	IAMs_20	IAMs_20	19 17 58.5		
	comp=Z,785nm,20.0s							
V51A	Loudon	96.17	36	IAMs_20	IAMs_20	19 22 49.8		
	comp=Z,939nm,18.0s							
W50A	Signal Mountai	96.19	37	IAMs_20	IAMs_20	19 12 38.3		
	comp=Z,837nm,22.0s							
146A	Union	96.32	41	IAMs_20	IAMs_20	19 25 01.9		
	comp=Z,936nm,18.0s							
CPCT	Cooper Cave	96.37	36	IAMs_20	IAMs_20	19 15 26.0		
	comp=Z,710nm,20.0s							
Z47A	Carrollton	96.40	40	IAMs_20	IAMs_20	19 20 55.9		
	comp=Z,949nm,18.0s							
T54A	Tazewell	96.41	34	P	P	18 32 43.2	+0.6	
	baz=326							
TKL	Tuckaleechee C	96.56	36	IAMs_20	IAMs_20	19 22 24.8		
	comp=Z,1µm,20.0s							
FPAL	Fort Paine	96.58	38	IAMs_20	IAMs_20	19 16 39.5		
	comp=Z,766nm,20.0s							
T55A	Pulaski	96.71	33	P	P	18 32 44.6	+0.7	
	baz=327							
Y49A	Blount Mountai	96.72	39	IAMs_20	IAMs_20	19 25 11.5		
	comp=Z,984nm,19.0s							
M65A	Busby, Falmout	96.73	24	IAMs_20	IAMs_20	19 21 44.5		
	comp=Z,1µm,20.0s							
U54A	Nelsons Funny	96.75	34	P	P	18 32 44.4	+0.4	
	baz=326							
U54A	Nelsons Funny	96.75	34	IAMs_20	IAMs_20	19 24 14.7		
	comp=Z,1µm,20.0s							
X51A	Calhoun	96.92	37	IAMs_20	IAMs_20	19 14 45.7		
	comp=Z,722nm,20.0s							
W52A	Murphy	96.94	36	IAMs_20	IAMs_20	19 22 17.1		
	comp=Z,760nm,20.0s							
S57A	Dark Hollow, R	96.96	31	IAMs_20	IAMs_20	19 14 49.0		
	comp=Z,939nm,21.0s							
P61A	Hammonton	96.96	28	IAMs_20	IAMs_20	19 25 04.8		
	comp=Z,964nm,18.0s							
UCM	Universidad Co	96.98	334	Pdif	P	18 32 43.5	-1.5	
UCM	Universidad Co	96.98	334	PP	PP	18 36 42.5	+2.8	
V53A	Saluda	97.00	35	IAMs_20	IAMs_20	19 14 42.4		
	comp=Z,1µm,22.0s							
346A	Big Creek Wild	97.07	42	IAMs_20	IAMs_20	19 21 07.9		
	comp=Z,845nm,18.0s							
U55A	TA2, Sparta	97.11	34	P	Pdif	18 32 46.0	+0.2	
	baz=327							
Q60A	Greensboro	97.14	29	IAMs_20	IAMs_20	19 23 57.8		
	comp=Z,1µm,18.0s							
CBN	Corbin Frederi	97.23	30	IAMs_20	IAMs_20	19 22 46.1		
	comp=Z,899nm,19.0s							
R58B	Mineral	97.23	31	IAMs_20	IAMs_20	19 23 01.2		
	comp=Z,960nm,19.0s							
S58A	Poland Farm, P	97.46	31	IAMs_20	IAMs_20	19 15 13.3		
	comp=Z,1µm,22.0s							
T57A	Hurt	97.47	32	IAMs_20	IAMs_20	19 25 31.8		
	comp=Z,709nm,19.0s							
U56A	King	97.53	33	IAMs_20	IAMs_20	19 22 27.4		
	comp=Z,1µm,20.0s							
W54A	Cherokee Point	97.77	35	P	Pdif	18 32 49.2	+0.5	
	baz=326							
Z51A	Franklin	97.77	38	IAMs_20	IAMs_20	19 21 05.2		
	comp=Z,721nm,19.0s							
ESDC	Sonseca Array	97.80	334	P	P	18 32 48.5	-0.2	
	comp=Z,3.1nm,0.8s,baz=16,slow=3.8,SNR=18							
ESDC				PP	PP	18 36 45.2	-0.8	
	comp=Z,2.7nm,0.9s,baz=26,slow=5.8,SNR=5.0							
ESDC				LR	LR	19 21 34.6		
	comp=Z,3µm,20.4s,baz=35,slow=38							
ESDC	Sonseca Array	97.80	334	P	P	18 32 48.4	-0.3	
Y52A	Lilburn	97.88	37	IAMs_20	IAMs_20	19 26 11.9		
	comp=Z,1µm,18.0s							
PAB	San Pablo	98.05	334	P	P	18 32 48.9	-1.0	
PAB					pmax	pmax		
	comp=Z,8.0nm,1.1s							
PAB					MLR	MLR		
	comp=Z,4µm,20.0s							
PAB	San Pablo	98.05	334	P	P	18 32 48.9	-1.0	
KMSC	Kings Mountain	98.11	34	P	Pdif	18 32 50.2	0.0	
	baz=326							
X54A	Belton	98.12	36	P	Pdif	18 32 50.5	+0.3	
	baz=326							
T59A	Double "B" Far	98.21	31	IAMs_20	IAMs_20	19 15 35.2		
	comp=Z,1µm,22.0s							
250A	Grady	98.29	40	IAMs_20	IAMs_20	19 26 26.0		
	comp=Z,875nm,18.0s							
RKT	Rikitea	98.32	112	*e*LR	LR	19 04 33.6		
	comp=Z,2µm,22.8s							
T60A	Surry	98.40	30	IAMs_20	IAMs_20	19 26 11.2		
	comp=Z,892nm,18.0s							
HODGE	Hodges	98.44	36	IAMs_20	IAMs_20	19 22 22.6		
	comp=Z,679nm,20.0s							
152A	Waverly Hall	98.52	38	IAMs_20	IAMs_20	19 20 22.0		
	comp=Z,665nm,20.0s							
CART	Cartagena	98.53	331	Pdif	Pdif	18 32 54.0	+2.1	
CART	Cartagena	98.53	331	PP	PP	18 36 57.4	+5.8	
GOGA	Godfrey	98.53	37	IAMs_20	IAMs_20	19 14 24.3		
	comp=Z,801nm,22.0s							
V58A	Windy Hill, Pi	98.55	33	IAMs_20	IAMs_20	19 25 11.6		
	comp=Z,922nm,19.0s							
U59A	Littleton	98.64	31	IAMs_20	IAMs_20	19 15 49.6		
	comp=Z,1µm,22.0s							
W57A	Gilead	98.71	34	IAMs_20	IAMs_20	19 23 12.5		
	comp=Z,1µm,20.0s							
BIRD	Birdtown, Kers	98.92	34	IAMs_20	IAMs_20	19 25 46.3		
	comp=Z,1µm,19.0s							
U61A	Possum Corner	99.21	30	IAMs_20	IAMs_20	19 25 31.7		
	comp=Z,1µm,18.0s							
154A	Montrose	99.36	37	IAMs_20	IAMs_20	19 27 02.3		
	comp=Z,1µm,18.0s							
V60A	Jim Taylor Roa	99.36	31	IAMs_20	IAMs_20	19 16 20.8		
	comp=Z,1µm,22.0s							
X58A	Rowland	99.50	33	IAMs_20	IAMs_20	19 18 27.5		
	comp=Z,1µm,20.0s							
CNNC	Cliffs of the	99.55	32	IAMs_20	IAMs_20	19 24 42.7		
	comp=Z,983nm,19.0s							
Z56A	Williston	99.60	36	IAMs_20	IAMs_20	19 25 32.4		
	comp=Z,1µm,19.0s							
V61A	Roper	99.63	31	IAMs_20	IAMs_20	19 25 36.6		
	comp=Z,1µm,20.0s							
UNM	Universidad Na	99.99	57	IAMs_20	IAMs_20	19 14 15.8		
	comp=Z,1µm,19.0s							
TIGA	Tifton	100.08	38	IAMs_20	IAMs_20	19 22 36.2		
	comp=Z,707nm,19.0s							
Y59A	Loris	100.18	33	IAMs_20	IAMs_20	19 23 03.6		
	comp=Z,1µm,21.0s							
EVO	Evora	100.19	336	PP	PP	18 37 12.6	+8.4	
255A	Hazlehurst	100.23	37	IAMs_20	IAMs_20	19 15 13.4		
	comp=Z,844nm,22.0s							
NHSC	New Hope	100.33	35	IAMs_20	IAMs_20	19 26 42.7		
	comp=Z,1µm,19.0s							
Y60A	Bolivia	100.46	33	IAMs_20	IAMs_20	19 17 19.8		
	comp=Z,864nm,21.0s							
EMAL	Malaga-Limoner	100.55	333	Pdif	Pdif	18 33 04.0	+3.1	
EMAL	Malaga-Limoner	100.55	333	PP	PP	18 37 10.0	+3.1	
553A	Crawfordville	100.66	39	IAMs_20	IAMs_20	19 24 47.8		
	comp=Z,831nm,18.0s							
257A	Skidaway Islan	100.88	36	IAMs_20	IAMs_20	19 24 48.3		
	comp=Z,1µm,20.0s							
MESJ	Messejana	100.89	336	*e*Pdif	Pdif	18 33 02.6	+0.2	
MESJ				*e*PP	PP	18 37 10.4	+1.0	
MESJ					AMS	AMS	19 24 19.0	
	comp=Z,3µm,16.8s							
MESJ	Messejana	100.89	336	*e*P	Pdif	18 33 02.6	+0.2	
MESJ				*e*		18 37 10.4		
MELI	Melilla	101.29	331	PP	PP	18 37 19.7	+7.2	
456A	Hilliard	101.43	37	IAMs_20	IAMs_20	19 26 42.0		
	comp=Z,716nm,20.0s							
MORF	Marmelete	101.52	336	*e*PP	PP	18 37 15.1	+0.9	
MORF					AMS	AMS	19 25 03.9	
	comp=Z,2µm,21.4s							
TLIG	Tlapa	101.64	58	IAMs_20	IAMs_20	19 22 01.5		
	comp=Z,858nm,18.0s							
656A	Willston	102.29	39	IAMs_20	IAMs_20	19 18 36.8		
	comp=Z,729nm,21.0s							
KMBO	Kilima Mbogo	102.32	278	*i* P	Pdif	18 33 10.1	+0.6	
KMBO					pmax	pmax		
	comp=Z,1.0nm,0.5s							
KMBO	Kilima Mbogo	102.32	278		IAMs_20	IAMs_20	19 27 05.2	
	comp=Z,886nm,18.0s							
IFR	Ifrane	103.70	332	PP	PKiKP	18 37 31.8	-1.5	
AVE	Averroes	104.73	334	PP	PKiKP	18 37 38.2	+3.2	
060A	Indiantown	105.29	38	IAMs_20	IAMs_20	19 30 47.3		
	comp=Z,1µm,18.0s							
061Z	Ochoppi	105.98	39	IAMs_20	IAMs_20	19 28 36.6		
	comp=Z,1µm,20.0s							
TEIG	Tepich	106.32	49	IAMs_20	IAMs_20	19 26 24.7		
	comp=Z,614nm,20.0s							
CCIG	Comitan	106.84	54	IAMs_20	IAMs_20	19 19 04.0		
	comp=Z,1µm,20.0s							
MBAR	Mbara	107.16	282	IAMs_20	IAMs_20	19 25 32.2		
	comp=Z,913nm,20.0s							
MTO3	Montecristo	110.03	53	IAMs_20	IAMs_20	19 22 44.3		
	comp=Z,568nm,18.0s							
SNET	Serv Nac Est T	110.64	54	IAMs_20	IAMs_20	19 22 58.6		
	comp=Z,577nm,18.0s							
TGUH	Tegucigalpa,Un	111.62	52	IAMs_20	IAMs_20	19 20 16.4		
	comp=Z,584nm,22.0s							
VNDA	Vanda	114.53	175	PKiKP	PKiKP	18 37 52.9	+0.9	
	comp=Z,1.9nm,0.8s,baz=325,slow=2.6,SNR=5.7							
TORD	Torodi Ar. Bea	117.84	315	PKP	PKPdf	18 37 59.5	-0.7	
	comp=Z,2.9nm,1.0s,baz=29,slow=2.0,SNR=18							
TORD				PP	PP	18 39 08.4	-4.6	
	comp=Z,12nm,1.2s,baz=25,slow=5.8,SNR=5.7							
TORD				PKKPbc	PKKPbc	18 48 21.9	+2.2	
	comp=Z,0.9nm,0.8s,baz=235,slow=4.0,SNR=3.6							
MAW	Mawson	119.29	206	PKP	PKPdf	18 38 01.2	-0.1	
	comp=Z,4.8nm,0.7s,baz=328,slow=1.5,SNR=14							
MAW	Mawson	119.29	206	PKPdf	PKiKP	18 38 02.4	+1.1	
SJG	San Juan	119.51	31	IAMs_20	IAMs_20	19 32 45.4		
	comp=Z,517nm,20.0s							
SMRT	St. Maarten	120.78	28	IAMs_20	IAMs_20	19 33 39.6		
	comp=Z,575nm,20.0s							
SKI	Saint Kitts	121.56	28	IAMs_20	IAMs_20	19 35 07.3		
	comp=Z,577nm,20.0s							
ANWB	Willy Bob	121.60	27	IAMs_20	IAMs_20	19 30 16.3		
	comp=Z,685nm,21.0s							
SMLC	San Martn de	123.67	44	*e*P	PKPdf	18 38 11.4	-0.1	
ZARC	Zaragoza, Cauc	124.28	46	*e*P	PKPdf	18 38 09.6	-3.1	
OCAC	Ocana	124.55	44	*e*P	PKiKP	18 38 14.3	+0.7	
LBTB	Lobatse	124.88	263	PKiKP	PKiKP	18 38 14.2	+0.3	
LBTB	Lobatse	124.88	263	PKPdf	PKiKP	18 38 14.2	+0.3	
BRRC	Barranca, Sant	125.25	45	*e*P	PKiKP	18 38 15.0	+0.1	
PTBC	PUERTO BERRIO	125.28	46	*e*P	PKPdf	18 38 14.5	-0.1	
SDV	Santo Domingo	125.46	41	IAMs_20	IAMs_20	19 40 35.9		
	comp=Z,897nm,20.0s							
MCLT	Moule a Chique	125.55	27	IAMs_20	IAMs_20	19 28 07.0		
	comp=Z,972nm,21.0s							
PAMC	Pamplona, Colo	125.63	44	*e*P	PKPdf	18 38 15.2	-0.7	
GUY2C	Guyana, Caldas	125.81	48	*i* P	PKPdf	18 38 16.3	+0.2	
NORC	Norcasia	125.83	47	*e*P	PKPdf	18 38 11.2	-4.5	
BARC	Barichara	125.97	45	*e*P	PKPdf	18 38 15.2	-1.0	
RREF	El Recreo	126.07	48	*e*P	PKiKP	18 38 18.3	+1.0	
YOTC	Yotoco, Valle	126.19	50	*e*P	PKPdf	18 38 16.1	-0.4	
SPBC	San Pablo de B	126.22	46	*e*P	PKPdf	18 38 16.6	+0.1	
TOLC	Tolima	126.34	48	*e*P	PKiKP	18 38 17.4	-0.1	
QSPA	South Pole Qui	126.36	180			PKPdf	18 38 15.0	0.0
RUSC	La Rusia	126.60	45	*e*P	PKiKP	18 38 18.3	+0.2	
RUSC	La Rusia	126.60	45	PKPdf	PKiKP	18 38 19.1	+0.9	
ROSC	El Rosal	126.73	47	PKP	PKiKP	18 38 18.4	+0.1	
	comp=Z,18nm,0.5s,baz=93,slow=21,SNR=7.1							
ROSC	El Rosal	126.73	47	*e*P	PKiKP	18 38 19.1	+0.8	
BOSA	Boshof	126.78	259	PKP	PKiKP	18 38 17.8	+0.2	
	comp=Z.7.6nm,0.8s,baz=329,slow=1.7,SNR=10							
DBIC	Dimbokro	126.80	317	PKP	PKPdf	18 38 16.9	-0.6	
	comp=Z,6.7nm,0.9s,baz=344,slow=3.2,SNR=5.1							
TIC	Tsumodi	126.91	317	*e*PKP1	PKiKP	18 38 18.1	-0.1	
ORTC	Ortega, Tolima	126.92	49	*i* P	PKPdf	18 38 17.6	-0.2	
KIC	Kosan Boka	126.99	317	*e*PKP1	PKPdf	18 38 17.1	-0.7	
	comp=Z,45nm,1.2s							
BBAC	Balboa, Cauca	127.15	52	*e*P	PKPdf	18 38 18.0	-0.4	
CHIC	Chingaza	127.25	47	*e*P	PKPdf	18 38 19.1	+0.2	
LIC	Lamto	127.26	317	*e*PKP1	PKPdf	18 38 17.2	-1.2	
	comp=Z,55nm,1.1s							
PRAC	Prado	127.29	49	*e*P	PKPdf	18 38 18.6	+0.1	
MARP	Paez Belalcaza	127.32	50	*e*P	PKPdf	18 38 18.0	-0.9	
PAC1	Pacto, Paraso	127.48	55	*e*P	PKPdf	18 38 18.1	-0.9	
VILC	Villavicencio,	127.68	47	*e*P	PKPdf	18 38 17.9	-1.4	
BETC	Betania	127.77	50	*e*P	PKiKP	18 38 20.6	+0.7	
SYO	Syowa Base	127.96	207	*e*X	PKPdf	18 38 15.7	-2.2	
SYO	Syowa Base	127.96	207	*e*X	PKPdf	18 38 17.0	-0.9	
SYO	Syowa Base	127.96	207	*i* X	PKiKP	18 38 29.6	+11	
GARC	Garzon, Huila	128.12	50	*e*P	PKiKP	18 38 21.1	+0.1	
MDP	Montagnes des	136.37	21	PKP	PKiKP	18 38 36.7	-0.6	
	comp=Z,10nm,0.9s,baz=240,slow=2.5,SNR=4.9							
NVL	N'lazarevskaya	137.01	202	*e*PKHKP	PKPpre	18 38 23.6		
NVL				pmax	pmax			
	comp=Z,5.0nm,0.6s							
SNAA	Sanae	140.43	197	PKPdf	PKPdf	18 38 33.6	-7.7	
VNA2	Neumayer--Watz	141.99	196	PKPdf	PKPdf	18 38 38.4	-5.6	
VNA3	Neumayer Olymp	142.23	195	PKPdf	PKPdf	18 38 40.0	-4.5	
VNA1	Neumayer--Stat	142.39	196	PKPdf	PKPdf	18 38 42.0	-2.7	
SAML	Samuel	144.34	46	IAMs_20	IAMs_20	19 52 57.8		
	comp=Z,575nm,19.0s							
LPAZ	La Paz	146.65	61	PKPbc	PKPab	18 38 56.8	-0.5	
	comp=Z,53nm,0.6s,baz=338,slow=3.7,SNR=162							
H03N2	Juan Fernandez	146.69	97	T	T	21 23 09.2		
	baz=291,slow=76,SNR=484							
H03N3	Juan Fernandez	146.70	97	T	T	21 23 10.4		
	baz=291,slow=76,SNR=598							
H03N1	Juan Fernandez	146.70	97	T	T	21 23 10.4		
	baz=291,slow=76,SNR=595							
RCBR	Riachuelo	149.29	355	PKPbc	PKPbc	18 39 02.9	+0.3	
	comp=Z,33nm,0.9s,baz=342,slow=2.7,SNR=16							
RCBR	Riachuelo	149.29	355	PKP2	PKiKP	18 39 03.5	-0.3	
RCBR	Riachuelo	149.29	355		PKiKP	18 39 03.5	-0.3	
RCBR	Riachuelo	149.29	355	*e*P	PKPbc	18 39 02.7	+0.1	
RCBR	Riachuelo	149.29	355	*e*P	PKPbc	18 39 02.7	+0.1	
LVC	Limon Verde	150.04	71	PKIKP	PKiKP	18 39 06.8	+1.3	
LVC	Limon Verde	150.04	71		PKiKP	18 39 06.8	+1.3	
LVC	Limon Verde	150.04	71	*e*P	PKiKP	18 39 05.9	+0.5	
LVC	Limon Verde	150.04	71	*e*P	PKiKP	18 39 05.9	+0.5	
SIV	San Ignacio	151.13	51	PKPbc	PKiKP	18 39 07.6	+0.1	
	baz=311,slow=1.5							
PTLB	Pontes e Lacer	151.88	47	*e*P	PKPbc	18 39 08.7	+0.1	
PTLB	Pontes e Lacer	151.88	47	*e*P	PKPbc	18 39 08.7	+0.1	
MT02	Curacav	152.88	93		PKiKP	18 39 11.1	+0.5	
VA03	San Esteban	153.21	91	IAMs_20	IAMs_20	19 59 02.4		
	comp=Z,563nm,18.0s							
PEXB	Peixe	153.97	23	*e*P	PKPbc	18 39 12.8	-0.5	
PEXB	Peixe	153.97	23	*e*P	PKPbc	18 39 12.8	-0.5	
PLCA	Paso Flores	154.51	109	PKPbc	PKiKP	18 39 15.2	+1.4	
	comp=Z,3.6nm,0.8s,baz=218,slow=3.8,SNR=5.1							
ARAG	Araguaiana, MT	155.92	34	*e*P	PKPdf	18 39 13.7	+5.8	
ARAG	Araguaiana, MT	155.92	34	*e*P	PKPdf	18 39 13.7	+5.8	

IDC ***15*** *18:44:47.7±0.9, 36°.63N×141°.86E, h0km, mb3.7/9, mb1 3.8/13, mb1mx3.6/46, mbtmp3.6/13, ML2.7/4, Error ellipse: s-maj=22.1km s-min=20.3km az=60.0*
JMA ***15*** *18:44:49.8±0.4, 36°.66N×141°.79E, h32km±5km, M3.8*
ISC 15 18:44:50.1±0.8, 36°.65N±0°.05×141°.85E±0°.07, h19km, n33, σ1§28/27, mb3.6/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	Iwakimizuishiy	0.96	299	P	Pb	18 45 06.5	-1.6
JHO	Hitachi	1.03	268	P	Pb	18 45 07.4	-1.9
JFK	Kawauchi	1.06	313	P	Pb	18 45 08.0	-1.9
JHYU	Hitachinakayam	1.06	254	P	Pb	18 45 08.1	-1.8
JMM	Marumori	1.48	326	P	Pn	18 45 14.3	-1.4
JFT	Otama	1.49	306	P	Pn	18 45 15.2	-0.7
JIO	Ouri	1.85	348	P	Pn	18 45 19.8	-1.0
JFY	Yanaizu	1.88	295	P	Pn	18 45 21.1	-0.1
JOU	Okura	1.96	332	*e*S	Sn	18 45 45.0	-1.4
MJAR	Matsushiro Arr	2.93	269	Pn	Pn	18 45 35.8	+0.1
	1.4nm,0.3s,baz=98,slow=8.9,SNR=47						
MJAR				Sn	Sn	18 46 11.9	+1.5
	1.5nm,0.3s,baz=46,slow=37,SNR=4.3		

H11S1	**WAKE ISLAND Hy**	**28.52**	**123**	T	T	19 33 28.7		
	baz=315,slow=76,SNR=10							
H11S3	**WAKE ISLAND Hy**	**28.52**	**123**	T	T	19 33 23.9		
	baz=315,slow=76,SNR=11							
H11S2	**WAKE ISLAND Hy**	**28.53**	**123**	T	T	19 33 24.9		
	baz=315,slow=76,SNR=7.3							
ZALV	**Zalesovo Beam**	**42.29**	**313**	P	**P**	**19 05 21.8**	**+1.4**	
	0.7nm,0.5s,baz=111,slow=6.3,SNR=2.6							
MKAR	**Makanchi Array**	**44.46**	**302**	P	**P**	**19 05 39.0**	**+0.9**	
	0.4nm,0.7s,baz=90,slow=7.8,SNR=3.0							
WRA	**Warramunga Arr**	**56.73**	**188**	P	**P**	**19 07 10.1**	**-0.7**	
	1.5nm,1.0s,baz=5.0,slow=7.5,SNR=2.8							
ASAR	**Alice Springs**	**60.46**	**188**	P	**P**	**19 07 36.0**	**-0.7**	
	0.2nm,0.4s,baz=5.9,slow=6.0,SNR=5.1							

*IDC **15** 19:07:18.5±0.8,25°.47N×109°.73W,h0km,mb4.0/7,*
mb1 4.3/12,mb1mx4.0/33,mbtmp4.0/12,ML3.7/5,MS4.1/10,
Ms1 4.1/10,ms1mx3.8/43,Error ellipse: s-maj=21.3km
s-min=10.5km az=110.0
*NEIC **15** 19:07:20.5±3.0,25°.59N±0°.02×109°.88W±0°.09,h10km±1km,*
mb4.3/29,Md4.5/10(MEX),Error ellipse: s-maj=13.3km
s-min=4.3km az=267.0
*MEX **15** 19:07:21.5±0.7,25°.60N×109°.88W,h10km,MD4.3*
*ANF **15** 19:07:27.6±1.5,26°.21N×109°.65W,h5km,Error ellipse:*
s-maj=14.8km s-min=9.8km az=159.0

ISC 15 19:07:20.3±0.6,25°.60N±0°.04×109°.83W±0°.04,h10km,
n161,σ2ϑ55/152,mb4.3/14,MS4.1/6,Gulf of California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TSIG	**Topolobambo**	**0.71**	**90**	*eP*		**Pb**	**19 07 33.6**	**-1.1**
TSIG				*i* S		**Sb**	**19 07 44.1**	**-0.4**
LPIG	**La Paz**	**1.56**	**196**	Pn		**Pn**	**19 07 45.2**	**-2.9**
	17nm,0.3s,baz=347,slow=1.0,SNR=40							
LPIG				Lg		Lg	19 08 04.9	
	114nm,0.3s,baz=246,slow=7.4,SNR=12							
LPIG	**La Paz**	**1.56**	**196**			**Pn**	**19 07 45.7**	**-2.4**
LPIG	**La Paz**	**1.56**	**196**	*eP*		**Pn**	**19 07 45.7**	**-2.4**
LPIG				*i* S		**Sn**	**19 08 03.5**	**-4.8**
SLBS	**Sierra La Lagu**	**1.91**	**183**	Pn		**Pn**	**19 07 51.2**	**-1.9**
GUYB	**Guaymas**	**2.47**	**338**	*eP*		**Pn**	**19 07 58.6**	**-2.0**
GUYB				*i* S		**Sn**	**19 08 27.2**	**-3.7**
SSIG	**Sanalona**	**2.55**	**107**	*i* P		**Pn**	**19 08 00.9**	**-0.9**
SSIG				*i* S		**Sn**	**19 08 31.0**	**-2.0**
SRIG	**Santa Rosalia**	**2.76**	**309**			**Pn**	**19 08 01.5**	**-3.1**
SRIG	**Santa Rosalia**	**2.76**	**309**	*i* P		**Pn**	**19 08 02.6**	**-2.0**
SRIG				*i* S		**Sn**	**19 08 34.4**	**-3.6**
HSIG		**3.55**	**344**	Pn		**Pn**	**19 08 13.4**	**-2.1**
HSIG		**3.55**	**344**	*eP*		**Pn**	**19 08 13.8**	**-1.7**
HSIG				*eS*		**Sn**	**19 08 54.1**	**-3.4**
PDIG	**Papasquiaro**	**4.05**	**97**	*eP*		**Pn**	**19 08 23.5**	**+1.0**
PDIG				*eS*		**Sn**	**19 09 09.4**	**-0.8**
NZIG	**Nacozari, Sono**	**4.76**	**3**	*eP*		**Pn**	**19 08 31.5**	**-0.8**
NZIG				*i* S		**Sn**	**19 09 35.0**	**+7.4**
CGIG		**5.02**	**19**			**Pn**	**19 08 39.0**	**+3.2**
CGIG		**5.02**	**19**	*eP*		**Pn**	**19 08 39.0**	**+3.2**
CGIG				*eS*		**Sn**	**19 09 33.2**	**-0.8**
319A	**Douglas**	**5.77**	**5**	Pn		**Pn**	**19 08 45.2**	**-1.0**
TX31	**Lajitas Ar. Si**	**6.61**	**54**			**Pn**	**19 08 56.7**	**-1.0**
TX32	**Lajitas Array**	**6.61**	**54**			**Pn**	**19 08 56.3**	**-1.4**
TXAR	**Lajitas Array**	**6.61**	**54**	Pn		**Pn**	**19 08 56.6**	**-1.1**
	0.6nm,0.3s,baz=224,slow=13,SNR=24							
TXAR				Lg		Lg	19 10 46.2	
	6.5nm,0.3s,baz=240,slow=27,SNR=11							
TXAR	**Lajitas Array**	**6.61**	**54**	Pn		**Pn**	**19 08 56.4**	**-1.3**
TUC	**Tucson**	**6.74**	**353**	P		**Pn**	**19 08 58.9**	**-0.5**
	baz=170							
TUC				Sn		**Sn**	**19 10 13.2**	**-3.0**
	baz=170							
TUC				Sg		**Sg**	**19 10 49.2**	**-7.4**
	baz=170							
TUC	**Tucson**	**6.74**	**353**	Pn		**Pn**	**19 08 58.9**	**-0.5**
TUC	**Tucson**	**6.74**	**353**	*i* P		**Pn**	**19 08 58.8**	**-0.5**
214A	**Organ Pipe Nat**	**6.85**	**338**	P		**Pn**	**19 09 01.7**	**+0.8**
	baz=154,SNR=7.5							
214A				Sg		**Sg**	**19 10 57.2**	**-3.0**
	baz=154							
214A	**Organ Pipe Nat**	**6.85**	**338**	Pn		**Pn**	**19 09 01.8**	**+0.8**
214A	**Organ Pipe Nat**	**6.85**	**338**	*eP*		**Pn**	**19 09 01.2**	**+0.3**
121A	**Cookes Peak, D**	**7.13**	**14**	P		**Pn**	**19 09 05.2**	**+0.3**
	baz=195,SNR=41							
121A				Sn		**Sn**	**19 10 22.4**	**-3.7**
	baz=195							
121A				Sg		**Sg**	**19 11 04.0**	**-5.3**
	baz=195							
121A	**Cookes Peak, D**	**7.13**	**14**	Pn		**Pn**	**19 09 04.5**	**-0.4**
121A	**Cookes Peak, D**	**7.13**	**14**	*eP*		**Pn**	**19 09 01.2**	**-3.7**
ZAIG	**Zacatecas**	**7.20**	**112**	Pn		**Pn**	**19 09 04.1**	**-1.9**
MNTX	**Cornudas Mount**	**7.22**	**32**	P		**Pn**	**19 09 06.2**	**+0.2**
	baz=215							
MNTX				Sn		**Sn**	**19 10 22.6**	**-5.5**
	baz=215							
MNTX				Sg		**Sg**	**19 11 04.7**	**-7.4**
	baz=215							
MNTX	**Cornudas Mount**	**7.22**	**32**	Pn		**Pn**	**19 09 06.4**	**+0.5**
MNTX	**Cornudas Mount**	**7.22**	**32**	*eP*		**Pn**	**19 09 06.2**	**+0.2**
113A	**Mohawk Valley,**	**7.93**	**335**	Pn		**Pn**	**19 09 15.5**	**-0.1**
GLA	**Glamis**	**8.61**	**331**	P		**Pn**	**19 09 25.9**	**+0.9**
	baz=145,SNR=5.4							
GLA	**Glamis**	**8.61**	**331**			**Pn**	**19 09 24.7**	**-0.4**
Y14A	**Wickenburg**	**8.75**	**342**			**Pn**	**19 09 28.2**	**+1.2**
Y22D	**IRIS PASSCAL I**	**8.81**	**16**	Sg		**Sg**	**19 12 00.3**	**-2.8**
	baz=197							
LENM	**Lemitar**	**8.88**	**15**			**Pn**	**19 09 27.7**	**-1.2**
X16A	**Lo Mia Camp, P**	**8.90**	**351**			**Pn**	**19 09 30.4**	**+1.3**
X18A	**Snowflake**	**8.90**	**359**			**Pn**	**19 09 29.3**	**+0.1**
MONP2	**Monument Peak**	**9.27**	**323**	P		**Pn**	**19 09 38.6**	**+4.3**
	baz=137,SNR=6.3							
IRM	**Iron Mountain**	**9.69**	**333**	P		**Pn**	**19 09 41.7**	**+1.8**
	baz=148,SNR=8.7							
ANMO	**Albuquerque**	**9.76**	**17**	P		**Pn**	**19 09 44.3**	**+3.3**
	baz=198							
ANMO	**Albuquerque**	**9.76**	**17**	Pn		**Pn**	**19 09 43.4**	**+2.5**
	0.2nm,0.3s,baz=203,slow=12,SNR=12							
ANMO				Lg		Lg	19 12 24.1	
	1.4nm,0.3s,baz=340,slow=17,SNR=7.8							
ANMO				LR		LR	19 13 53.5	
	comp=Z,1μm,19.2s,baz=206,slow=40							
ANMO	**Albuquerque**	**9.76**	**17**	Pn		**Pn**	**19 09 44.0**	**+3.1**
WUAZ	**Wupatki**	**9.97**	**353**	P		**Pn**	**19 09 47.6**	**+3.7**
	baz=170							
WUAZ	**Wupatki**	**9.97**	**353**	Pn		**Pn**	**19 09 45.5**	**+1.7**
W13A	**Hualapai Mount**	**10.09**	**341**	Pn		**Pn**	**19 09 48.1**	**+2.5**
JCT	**Junction City**	**10.10**	**59**	P		**Pn**	**19 09 45.8**	**+0.4**
	baz=246							
GMRC	**Granite Mounta**	**10.45**	**333**	P		**Pn**	**19 09 53.3**	**+3.0**
	baz=147							
U15A	**North Rim**	**11.00**	**350**	Pn		**Pn**	**19 10 00.8**	**+2.8**
MVCO	**Mesa Verde**	**11.63**	**5**	P		**Pn**	**19 10 09.7**	**+3.1**
	baz=185,SNR=6.1							
MVCO	**Mesa Verde**	**11.63**	**5**	Pn		**Pn**	**19 10 06.5**	**-0.1**
EDW2	**Edwards Air Fo**	**11.63**	**325**	P		**Pn**	**19 10 10.8**	**+4.3**
	baz=138							
SHOC	**Shoshone, Teco**	**11.66**	**333**	P		**Pn**	**19 10 11.1**	**+4.3**
	baz=148							
LCMT	**Little Creek M**	**11.74**	**346**			**Pn**	**19 10 06.8**	**-1.3**
SHPR	**Sheep Range**	**11.79**	**338**	Pn		**Pn**	**19 10 10.1**	**+1.3**
ARVC	**Arvin**	**12.26**	**323**	P		**Pn**	**19 10 19.3**	**+4.3**
	baz=136							
CCUT	**Cedar City**	**12.29**	**347**	Pn		**Pn**	**19 10 18.7**	**+3.1**
MPMC	**Manual Prospec**	**12.32**	**330**	P		Pn	19 10 20.8	+4.7
	baz=144,SNR=8.6							
FURC	**Furnace Creek,**	**12.39**	**333**	P		**Pn**	**19 10 20.6**	**+3.9**
	baz=147							
ISA	**Isabella, Lake**	**12.48**	**325**	P		**Pn**	**19 10 21.9**	**+3.7**
	baz=139,SNR=5.7							
TPNV	**Topopah Spring**	**12.57**	**336**	P		Pn	19 10 24.6	+5.2
	baz=151,SNR=7.1							
PKM	**Mcpherson Peak**	**12.65**	**319**	P		Pn	19 10 25.8	+5.2
	baz=132							
CWC	**Cottonwood Cre**	**12.91**	**329**	P		**Pn**	**19 10 28.2**	**+4.2**
	baz=143							
VES	**Vestal, Richgr**	**12.94**	**324**	P		**Pn**	**19 10 27.9**	**+3.7**
	baz=138,SNR=6.7							
WMOK	**Wichita Mounta**	**13.19**	**44**	P		**Pn**	**19 10 29.4**	**+1.7**
	baz=231							
Q16A	**Castle Valley**	**13.32**	**355**			**Pn**	**19 10 33.4**	**+3.7**
R11A	**Troy Canyon, C**	**13.61**	**340**	P		**Pn**	**19 10 37.3**	**+3.7**
	baz=156,SNR=7.6							
O20A	**White River Ci**	**14.55**	**5**	P		**Pn**	**19 10 49.1**	**+2.5**
	baz=185,SNR=7.2							
ISCO	**Idaho Springs**	**14.59**	**13**	P		**P**	**19 10 50.3**	**-3.4**
	baz=195							
NVAR	**Mina Array Bea**	**14.66**	**333**	Pn		**P**	**19 10 51.9**	**-2.5**
	0.1nm,0.3s,baz=157,slow=15,SNR=12							
DUG	**Dugway, Tooele**	**14.77**	**351**	P		**Pn**	**19 10 51.0**	**+1.6**
	baz=168							
ELK	**Elko**	**15.76**	**345**	Pn		**P**	**19 11 06.8**	**+0.2**
	0.1nm,0.3s,baz=171,slow=10,SNR=14							
ELK				Lg		Lg	19 15 41.0	
	0.1nm,0.3s,baz=235,slow=21,SNR=5							
ELK				LR		LR	19 17 22.8	
	comp=Z,905nm,18.5s,baz=202,slow=38							
PNTR	**Pine Nut**	**15.77**	**331**	Pn		**Pn**	**19 11 00.3**	**-2.4**
PAHR	**Pah Rah Range**	**16.19**	**333**	P		**P**	**19 11 11.8**	**+0.5**
CMIG	**Matias Romero**	**16.28**	**118**	Pn		**P**	**19 11 11.8**	**-0.4**
	baz=333,slow=14,SNR=2.0							
MIAR	**Mount Ida**	**16.63**	**54**	P		**P**	**19 11 16.9**	**+0.8**
	baz=243							
BEKR	**Beckworth**	**16.74**	**331**	P		**P**	**19 11 17.5**	**+0.1**
BEKR					IAmb	IAmb	19 11 36.4	
	comp=Z,26nm,1.1s							
W39A	**Magazine**	**16.80**	**52**	P		**P**	**19 11 17.5**	**-0.4**
	baz=241,SNR=6.0							
BW06	**Boulder Array**	**17.12**	**1**	P		**P**	**19 11 21.2**	**-0.5**
	baz=180,SNR=13							
BW06	**Boulder Array**	**17.12**	**1**	P		**Pn**	**19 11 20.1**	**+0.1**
PDAR	**Pinedale Array**	**17.12**	**1**	P		**P**	**19 11 21.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=172,slow=12,SNR=23							
PDAR				Lg		Lg	19 16 23.0	
	comp=Z,0.1nm,0.3s,baz=334,slow=9.9,SNR=3.3							
PDAR				LR		LR	19 18 16.5	
	comp=Z,1μm,18.9s,baz=235,slow=38							
PDAR	**Pinedale Array**	**17.12**	**1**	P		**P**	**19 11 21.0**	**-0.7**
X40A	**Basin Creek Fa**	**17.15**	**55**	P		**P**	**19 11 24.9**	**+3.1**
	baz=245							
K22A	**Casper**	**17.22**	**8**	P		**P**	**19 11 25.8**	**+3.1**
	baz=190							
O03E	**Paynes Creek**	**17.74**	**329**	P		**P**	**19 11 31.4**	**+3.1**
	baz=141,SNR=5.5							
W41B	**Gary Mavity, V**	**17.89**	**54**	P		**P**	**19 11 30.6**	**+0.6**
	baz=244,SNR=6.5							
FXWY	**Fox Creek**	**18.02**	**357**			**P**	**19 11 32.3**	**+0.7**
U40A	**Yellville**	**18.05**	**50**	P		**P**	**19 11 31.6**	**-0.1**
	baz=239,SNR=10							
N02D	**Trinity Center**	**18.70**	**328**	P		**Pn**	**19 11 41.9**	**+2.6**
	baz=140							
M04C	**Macdoel**	**18.95**	**331**	P		**Pn**	**19 11 46.7**	**+4.4**
	baz=143,SNR=13							
J08A	**Circle Bar Ran**	**19.07**	**340**	P		**Pn**	**19 11 43.8**	**0.0**
J08A					IAmb	IAmb	19 11 54.4	
	comp=Z,28nm,1.4s							
YBH	**Yreka Blue Hor**	**19.30**	**330**	LR		LR	19 18 17.3	
	comp=Z,332nm,21.6s,baz=330,slow=34							
MCMT	**McKenzie Canyo**	**19.34**	**353**	P		**Pn**	**19 11 49.1**	**+1.9**
K05A	**Summer Lake**	**19.35**	**335**	P		**Pn**	**19 11 47.7**	**+0.4**
K05A					IAmb	IAmb	19 11 57.2	
	comp=Z,17nm,1.0s							
RLMT	**Red Lodge**	**19.48**	**1**	P		**Pn**	**19 11 51.6**	**+2.8**
	baz=181							
RLMT	**Red Lodge**	**19.48**	**1**	P		**P**	**19 11 47.4**	**-0.2**
R40A	**Maddies Statio**	**19.50**	**45**	P		**Pn**	**19 11 48.0**	**-0.9**
R40A					IAmb	IAmb	19 11 59.3	
	comp=Z,14nm,0.9s							
L04D	**Klamath Falls**	**19.51**	**331**	P		**Pn**	**19 11 53.2**	**+4.2**
	baz=143							
K04D	**Chiloquin, OR**	**19.61**	**333**	P		**Pn**	**19 11 54.1**	**+3.9**
	baz=145							
J05D	**Fort Rock, OR**	**19.96**	**335**	P		Pn	19 11 55.4	+1.0
	baz=147,SNR=20							
BOZ	**Bozeman (W)**	**20.00**	**356**	P		Pn	19 11 56.0	+1.1
	baz=175,SNR=7.5							
CCM	**Cathedral Cave**	**20.04**	**47**	P		Pn	19 11 56.3	+1.1
	baz=238							
CCM	**Cathedral Cave**	**20.04**	**47**	P		Pn	19 11 54.6	-0.6
CCM					IAmb	IAmb	19 12 05.5	
	comp=Z,15nm,1.1s							
I07A	**Izee**	**20.05**	**339**	IAmb		IAmb	19 12 00.3	
	comp=Z,15nm,0.9s							
J04D	**Umpqua Nationa**	**20.26**	**333**	P		Pn	19 12 01.5	+3.4
	baz=145							
P40A	**Paris**	**20.38**	**43**	P		Pn	19 11 58.7	-0.6
TEIG	**Tepich**	**20.55**	**101**	LR		LR	19 21 00.2	
	comp=Z,339nm,21.5s,baz=322,slow=40							
I04A	**Tendick Farm,**	**20.85**	**334**	P		Pn	19 12 05.6	+0.8
	baz=145							
I05D	**Terrebonne, OR**	**20.90**	**336**	P		Pn	19 12 05.0	-0.4
	baz=149							
PLAL	**Pickwick Lake**	**20.94**	**58**	IAmb		IAmb	19 12 14.0	
	comp=Z,27nm,1.2s							
J01E	**Myrtle Point**	**20.98**	**330**	P		**P**	**19 12 09.4**	**+5.7**
	baz=141,SNR=5.1							
ECSD	**EROS Data Cent**	**21.05**	**27**	P		**P**	**19 12 05.9**	**+1.4**
	baz=215,SNR=8.0							
ECSD	**EROS Data Cent**	**21.05**	**27**	P		**P**	**19 12 02.7**	**-1.7**
LRAL	**Lakeview Retre**	**21.21**	**64**	P		**P**	**19 12 08.1**	**+1.9**
	baz=257,SNR=6.8							
LRAL	**Lakeview Retre**	**21.21**	**64**	P		**P**	**19 12 06.4**	**+0.1**
LRAL					IAmb	IAmb	19 12 20.2	
	comp=Z,15nm,0.9s							
MSO	**Missoula**	**21.44**	**352**	P		**P**	**19 12 10.3**	**+1.6**
	baz=169,SNR=11							
MSO	**Missoula**	**21.44**	**352**	P		**P**	**19 12 09.6**	**+0.9**
MSO					IAmb	IAmb	19 12 16.3	
	comp=Z,12nm,1.1s							
WVT	**Waverly**	**21.55**	**56**	P		**P**	**19 12 13.5**	**+3.6**
	baz=248							
WVT	**Waverly**	**21.55**	**56**	P		**P**	**19 12 11.5**	**+1.6**
WVT					IAmb	IAmb	19 12 26.0	
	comp=Z,12nm,0.8s							
X48A	**Hartselle**	**21.57**	**61**	P		**P**	**19 12 11.8**	**+1.7**
X48A					IAmb	IAmb	19 12 21.6	
	comp=Z,12nm,0.8s							
G03D	**McMinnville, O**	**22.36**	**334**	P		**P**	**19 12 19.8**	**+1.3**
	baz=146							
EGMT	**Eagleton**	**22.38**	**0**	P		**P**	**19 12 19.9**	**+1.2**
	baz=180							
NEW	**Newport**	**23.34**	**348**	P		**P**	**19 12 30.1**	**+1.4**
	baz=162							
NEW	**Newport**	**23.34**	**348**	P		**P**	**19 12 29.4**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=154,slow=12,SNR=9.1							
NEW				LR		LR	19 21 53.8	
	comp=Z,707nm,18.4s,baz=211,slow=37							
NEW	**Newport**	**23.34**	**348**	P		**P**	**19 12 29.3**	**+0.6**
NEW					IAmb	IAmb	19 12 34.1	
	comp=Z,15nm,1.4s							
WALA	**Waterton Lakes**	**23.63**	**353**	P		**P**	**19 12 31.5**	**-0.2**
WALA					IAmb	IAmb	19 12 44.9	
	comp=Z,8.8nm,0.9s							
B08A	**Colville Reser**	**23.91**	**344**	P		**P**	**19 12 33.6**	**-0.7**
B08A					IAmb	IAmb	19 12 38.4	
	comp=Z,15nm,1.1s							
GOGA	**Godfrey**	**24.18**	**65**	P		**P**	**19 12 38.0**	**+1.1**
	baz=259							
GOGA	**Godfrey**	**24.18**	**65**	P		**P**	**19 12 36.0**	**-0.9**
GOGA					IAmb	IAmb	19 12 52.2	
	comp=Z,15nm,1.2s							
TKL	**Tuckaleechee C**	**24.49**	**60**	P		**P**	**19 12 39.5**	**-0.3**
	comp=Z,3.9nm,0.9s,baz=203,slow=12,SNR=4.3							
TKL				LR		LR	19 22 35.9	
	comp=Z,1μm,19.9s,baz=314,slow=38							
TZTN	**Tazewell**	**24.93**	**58**	P		P	19 12 51.5	+7.7
	baz=252							
AGMN	**Agassiz Nation**	**25.17**	**22**	P		**P**	**19 12 47.2**	**+1.4**
	baz=211							
O48A	**Farmland**	**25.23**	**49**	P		P	19 12 53.7	+7.3
	baz=243							
X54A	**Belton**	**25.31**	**63**	P		**P**	**19 12 50.0**	**+2.8**
	baz=258							
W54A	**Cherokee Point**	**25.59**	**62**	P		**P**	**19 12 54.3**	**+4.6**
	baz=257							
Y55A	**Saluda**	**25.60**	**64**	P		P	19 12 57.7	+7.9
	baz=260							
T53A	**Wise**	**25.84**	**57**	P		**P**	**19 12 55.6**	**+3.5**
	baz=253							
X55A	**Gracelyn & Ava**	**25.89**	**63**	P		**P**	**19 12 55.3**	**+2.8**
	baz=259							
157A	**Early Branch**	**26.09**	**68**	P		**P**	**19 12 57.9**	**+3.6**
	baz=263							
V55A	**Taylorsville**	**26.55**	**61**	P		P	19 13 07.3	+8.9
	baz=256							
T54A	**Tazewell**	**26.60**	**58**	P		P	19 13 07.2	+8.2
	baz=254							
W57A	**Gilead**	**27.35**	**63**	P		P	19 13 14.3	+8.7
	baz=259							
BBB	**Bella Bella**	**29.95**	**337**	LR		LR	19 27 27.8	
	comp=Z,308nm,18.4s,baz=242,slow=40							
YKA	**Yellowknife Ar**	**37.02**	**356**	P		**P**	**19 14 29.1**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=175,slow=8.5,SNR=10							
YKA				LR		LR	19 30 19.9	
	comp=Z,470nm,21.3s,baz=0.0,slow=37							
ILAR	**Eielson Array**	**45.80**	**339**	P		**P**	**19 15 43.2**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=146,slow=7.2,SNR=18							
ILAR				LR		LR	19 36 46.0	
	comp=Z,53nm,21.2s,baz=32,slow=38							
ILAR	**Eielson Array**	**45.80**	**339**	P		**P**	**19 15 42.2**	**+0.2**
TRF	**Thorofare Moun**	**46.16**	**336**	P		**P**	**19 15 45.3**	**+0.2**
PPLA	**Purkeypile**	**46.56**	**335**	P		**P**	**19 15 48.7**	**+0.6**
BPAW	**Bear Paw Mtn.**	**46.79**	**337**	P		**P**	**19 15 50.8**	**+1.0**
BMAR	**Burnt Mountain**	**46.94**	**342**	P		**P**	**19 15 52.5**	**+1.6**
IMAR	**Indian Mountai**	**48.83**	**338**	P		**P**	**19 16 07.3**	**+1.8**
H03N2	**Juan Fernandez**	**65.66**	**152**	T		T	20 29 41.5	
	baz=331,slow=77,SNR=353							
H03N1	**Juan Fernandez**	**65.67**	**152**	T		T	20 29 36.9	
	baz=331,slow=77,SNR=860							
H03N3	**Juan Fernandez**	**65.68**	**152**	T		T	20 29 37.4	
	baz=331,slow=77,SNR=776							
NRIK	**Noril'sk**	**84.49**	**354**	P		**P**	**19 19 53.7**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=78,slow=1.3,SNR=4.0							
ESDC	**Sonseca Array**	**85.25**	**48**	P		**P**	**19 19 59.1**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=306,slow=6.2,SNR=2.3							
FINES	**FINESS Array B**	**86.25**	**20**	P		**P**	**19 20 02.5**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=250,slow=5.7,SNR=3.3							
ASAR	**Alice Springs**	**122.55**	**257**	PKP		**PKiKP**	**19 26 17.8**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=74,slow=2.4,SNR=2.4							

*SOME **15** 19:10:34.9,43°.22N×78°.30E,h15km*
*NNC **15** 19:10:35.5±0.5,43°.17N×78°.36E,h0km,mb2.7,mpv2.6,*
Error ellipse: s-maj=5.5km s-min=2.9km az=179.0

ISC 15 19:10:34.2±0.9,43°.21N±0°.04×78°.37E±0°.04,h11km±8km,
n9,σ0ϑ66/17,8C-4D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SATY	**Saty**	**0.15**	**170**	⇑*i*P		**Pg**	**19 10 37.8**	**+0.1**
	8.6nm,0.1s							
SATY				⇑*e*S		**Sg**	**19 10 40.1**	**-0.1**
	189nm,0.1s							
SATY	**Saty**	**0.15**	**170**	P		**Pg**	**19 10 37.8**	**+0.1**
	8.6nm,0.1s							
SATY				S		**Sg**	**19 10 40.1**	**-0.1**
	189nm,0.1s							
KURS	**Kuram**	**0.32**	**333**	⇑*i*P		**Pg**	**19 10 40.9**	**+0.2**
	0.7nm,0.1s							
KURS				⇑*e*S		**Sg**	**19 10 45.4**	**+0.4**
	3.6nm,0.2s							
KPKS	**Kokpek**	**0.35**	**41**	⇓*e*P		**Pb**	**19 10 42.5**	**0.0**
	5.4nm,0.1s							
KPKS				⇓*e*S		**Sb**	**19 10 48.1**	**0.0**
	12nm,0.2s							
UZB	**Uzynbulak**	**0.48**	**97**	⇑*i*P		**Pb**	**19 10 44.8**	**0.0**
	1.9nm,0.1s							
UZB				⇓*i*S		**Sb**	**19 10 51.9**	**-0.1**
	6.9nm,0.1s							
UZB	**Uzynbulak**	**0.48**	**97**	P		**Pb**	**19 10 44.7**	**-0.1**
	1.3nm,0.1s							
UZB				S		**Sb**	**19 10 51.9**	**-0.1**
	6.9nm,0.1s							
MDOK	**Medeo**	**0.97**	**268**	⇑P		**Pn**	**19 10 54.3**	**+0.3**
	17nm,1.3s							
MDOK				⇓S		**Sb**	**19 11 07.5**	**+1.5**
	12nm,1.5s							
KTBS	**Karatobe**	**1.33**	**293**	*eP*		**Pn**	**19 10 58.6**	**-0.2**
	0.2nm,0.2s							
KTBS				*eS*		**Sg**	**19 11 15.4**	**-1.7**
	1.3nm,0.3s							
TKM2	**Tokmak 2**	**2.05**	**263**	⇑Pg		**Pb**	**19 11 11.2**	**-0.5**
	2.7nm,1.2s							
TKM2				⇑Lg		Lg	19 11 38.3	
	1.4nm,0.6s							

*IDC **15** 19:39:50.6±1.5,11°.76S×162°.07E,h0km,mb3.8/5,*
mb1 4.1/6,mb1mx3.8/24,mbtmp3.9/6,ML4.7/1,Error
ellipse: s-maj=46.3km s-min=28.4km az=130.0

ISC 15 19:39:56.9±1.1,11°.6S±0°.2×161°.8E±0°.2,h35km,n9,
σ0ϑ94/10,mb3.6/5,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**2.84**	**319**	Pn

GOKA IAML 19 47 17.0
comp=E,12µm,0.6s
EFSA Agios Efstrati 0.70 191 P **Pb** **19 47 08.7 -0.2**
EFSA AML AML 19 47 24.8
comp=E,17649µm,0.7s
EFSA AML AML 19 47 28.9
comp=N,14294µm,0.8s
EFSA Agios Efstrati 0.70 191 P **Pb** **19 47 08.7 -0.2**
EFSA AML AML 19 47 24.8
comp=E,17649µm,0.7s
EFSA AML AML 19 47 28.9
comp=N,14294µm,0.8s
BOZC Bozcaada 0.78 119 PG **Pg** **19 47 09.9 -0.1**
BOZC Bozcaada 0.78 119 *i* P **Pg** **19 47 09.6 -0.4**
BOZC *i* P **Pg** **19 47 09.9 -0.1**
BOZC *i* S **Sg** **19 47 19.9 -0.3**
BOZC IAML 19 47 22.0
comp=N,7µm,1.0s
BOZC IAML 19 47 22.0
comp=E,6µm,0.6s
BOZC IAML 19 47 22.0
comp=N,8µm,0.9s
BOZC IAML 19 47 22.0
comp=E,5µm,0.5s
ENEZ Enez 0.91 55 PG **Pg** **19 47 11.8 -0.7**
OUR Ouranopolis 0.91 277 P **Pg** **19 47 11.8 -0.7**
OUR Ouranopolis 0.91 277 P **Pg** **19 47 12.0 -0.5**
OUR AML AML 19 47 27.3
comp=E,6855µm,0.6s
OUR AML AML 19 47 27.3
comp=N,8000µm,0.8s
OUR Ouranopolis 0.91 277 P **Pg** **19 47 12.0 -0.5**
OUR AML AML 19 47 27.3
comp=E,6855µm,0.6s
OUR AML AML 19 47 27.3
comp=N,8000µm,0.8s
OUR Ouranopolis 0.91 277 PG **Pg** **19 47 11.8 -0.7**
OUR SG **Sn** **19 47 25.1 -1.5**
KAVA Kavala 0.92 327 P **Pg** **19 47 11.8 -0.8**
KAVA S **Sb** **19 47 24.8 -0.1**
comp=N,3µm,0.4s
KAVA Kavala 0.92 327 P **Pn** **19 47 12.7 -0.9**
KAVA S **Sb** **19 47 24.8 -0.1**
KAVA AML AML 19 47 25.8
comp=N,8313µm,0.6s
KAVA AML AML 19 47 26.5
comp=E,8257µm,0.1s
KAVA Kavala 0.92 327 P **Pn** **19 47 12.7 -0.9**
KAVA S **Sb** **19 47 24.8 -0.1**
KAVA AML AML 19 47 25.8
comp=N,8313µm,0.6s
KAVA AML AML 19 47 26.5
comp=E,8257µm,0.1s
KVLA Kavala 0.93 320 P **Pb** **19 47 12.7 -0.2**
KVLA S **Sb** **19 47 25.1 -0.1**
KVLA AML AML 19 47 26.2
comp=N,15573µm,0.6s
KVLA AML AML 19 47 26.5
comp=E,6006µm,0.6s
KVLA Kavala 0.93 320 P **Pb** **19 47 12.7 -0.2**
KVLA S **Sb** **19 47 25.1 -0.1**
KVLA AML AML 19 47 26.2
comp=N,15573µm,0.6s
KVLA AML AML 19 47 26.5
comp=E,6006µm,0.6s
ALN Alexandroupoli 0.95 45 P **Pg** **19 47 12.2 -1.0**
ALN S **Sb** **19 47 26.0 +0.2**
comp=E,6µm,0.4s
ALN Alexandroupoli 0.95 45 P **Pg** **19 47 12.2 -1.0**
ALN S **Sn** **19 47 26.6 -0.9**
ALN AML AML 19 47 28.4
comp=N,12133µm,0.5s
ALN AML AML 19 47 29.2
comp=E,11144µm,0.4s
ALN Alexandroupoli 0.95 45 P **Pg** **19 47 12.2 -1.0**
ALN S **Sn** **19 47 26.6 -0.9**
ALN AML AML 19 47 28.4
comp=N,12133µm,0.5s
ALN AML AML 19 47 29.2
comp=E,11144µm,0.4s
ALN Alexandroupoli 0.95 45 PG **Pg** **19 47 12.3 -1.0**
RDO Rodhopi 0.96 17 P **Pg** **19 47 12.3 -1.2**
RDO S **Sb** **19 47 26.3 +0.1**
comp=E,4µm,0.8s
RDO Rodhopi 0.96 17 P **Pg** **19 47 12.3 -1.2**
RDO S **Sb** **19 47 26.3 +0.1**
RDO AML AML 19 47 27.0
comp=N,9528µm,0.7s
RDO AML AML 19 47 30.2
comp=E,4360µm,0.3s
RDO Rodhopi 0.96 17 P **Pg** **19 47 12.3 -1.2**
RDO S **Sb** **19 47 26.3 +0.1**
RDO AML AML 19 47 27.0
comp=N,9528µm,0.7s
RDO AML AML 19 47 30.2
comp=E,4360µm,0.3s
RDO Rodhopi 0.96 17 PG **Pg** **19 47 12.1 -1.4**
EZN Ezine 0.97 114 PG **Pg** **19 47 13.1 -0.6**
GELI Tayfur-Gelibol 1.01 80 PG **Pb** **19 47 13.4 -1.0**
ERIK Erikli-Kesan 1.12 66 PN **Pb** **19 47 14.8 -1.4**
SIGR SIGRI 1.14 152 P **Pb** **19 47 15.6 -1.0**
SIGR S **Sg** **19 47 31.6 -0.1**
comp=E,6µm,0.6s
SIGR SIGRI 1.14 152 P **Pb** **19 47 16.2 -0.3**
SIGR AML AML 19 47 33.1
comp=N,17338µm,0.7s
SIGR AML AML 19 47 36.3
comp=E,7291µm,0.5s
SIGR SIGRI 1.14 152 P **Pb** **19 47 16.2 -0.3**
SIGR AML AML 19 47 33.1
comp=N,17338µm,0.7s
SIGR AML AML 19 47 36.3
comp=E,7291µm,0.5s
SIGR SIGRI 1.14 152 PN **Pb** **19 47 15.8 -0.8**
LPK Lapseki 1.23 83 PN **Pn** **19 47 16.8 -1.1**
PRK Paraskevi 1.30 139 P **Pg** **19 47 19.5 -0.3**
PRK AML AML 19 47 40.2
comp=E,10756µm,1.0s
PRK AML AML 19 47 47.2
comp=N,10313µm,1.1s
PRK Paraskevi 1.30 139 P **Pg** **19 47 19.5 -0.3**
PRK AML AML 19 47 40.2
comp=E,10756µm,1.0s
PRK AML AML 19 47 47.2
comp=N,10313µm,1.1s
KESN Edirne-Kesan 1.30 62 *i* P **Pn** **19 47 17.2 -2.0**
KESN IAML 19 47 39.0
comp=E,2µm,0.2s
KESN IAML 19 47 43.0
comp=N,2µm,0.3s
PLG Polygyros 1.32 277 P **Pn** **19 47 17.7 -1.5**
PLG Polygyros 1.32 277 P **Pn** **19 47 18.4 -0.8**
PLG AML AML 19 47 44.4
comp=E,1970µm,0.9s
PLG AML AML 19 47 45.2
comp=N,2496µm,0.7s
PLG Polygyros 1.32 277 P **Pn** **19 47 18.4 -0.8**
PLG AML AML 19 47 44.4
comp=E,1970µm,0.9s
PLG AML AML 19 47 45.2
comp=N,2496µm,0.7s
SKY Skiros Island 1.43 200 P **Pn** **19 47 19.4 -1.2**
SKY Skiros Island 1.43 200 P **Pn** **19 47 19.4 -1.2**
SKY AML AML 19 47 48.3
comp=E,3533µm,0.6s
SKY AML AML 19 48 04.3
comp=N,2216µm,1.0s
SKY Skiros Island 1.43 200 P **Pn** **19 47 19.4 -1.2**
SKY AML AML 19 47 48.3
comp=E,3533µm,0.6s
SKY AML AML 19 48 04.3
comp=N,2216µm,1.0s
UKOP Uzunkopru-Edir 1.44 51 PN **Pn** **19 47 19.2 -1.5**
KDZ Kurdzhali 1.44 8 *i* Pg **Pn** **19 47 19.4 -1.4**
KDZ Kurdzhali 1.44 8 PN **Pn** **19 47 18.8 -2.0**
ALNA Alonissos 1.47 223 P **Pn** **19 47 20.2 -0.9**
ALNA Alonissos 1.47 223 P **Pn** **19 47 20.2 -0.9**
AYVA Ayvalik 1.49 127 *i* P **Pn** **19 47 21.5 0.0**
AYVA IAML 19 47 45.0
comp=E,2µm,1.0s
AYVA IAML 19 47 46.0
comp=N,3µm,0.6s
SRS Serrai 1.49 307 *e*Pg **Pn** **19 47 20.5 -1.0**
SRS *e*Sg **Sn** **19 47 39.7 -1.2**
SRS Serrai 1.49 307 P **Pn** **19 47 20.1 -1.4**
SRS Serrai 1.49 307 P **Pn** **19 47 20.7 -0.8**
SRS AML AML 19 47 39.5
comp=E,2962µm,0.6s
SRS AML AML 19 47 47.0
comp=N,1532µm,0.4s
SRS Serrai 1.49 307 P **Pn** **19 47 20.7 -0.8**
SRS AML AML 19 47 39.5
comp=E,2962µm,0.6s
SRS AML AML 19 47 47.0
comp=N,1532µm,0.4s
RZN Rozhen 1.50 347 *i* P **Pn** **19 47 21.4 -0.4**
RKY Sarkoy-Tekirda 1.60 73 PN **Pn** **19 47 21.9 -1.2**
SART Tekirdag 1.60 73 *i* P **Pn** **19 47 21.7 -1.4**
SART IAML 19 47 54.0
comp=E,558nm,0.5s
HORT Hortiatis 1.62 284 P **Pn** **19 47 21.9 -1.5**
HORT Hortiatis 1.62 284 P **Pn** **19 47 22.5 -0.8**
HORT AML AML 19 47 51.4
comp=E,1023µm,0.5s
HORT AML AML 19 48 00.9
comp=N,1047µm,0.8s
HORT Hortiatis 1.62 284 P **Pn** **19 47 22.5 -0.8**
HORT AML AML 19 47 51.4
comp=E,1023µm,0.5s
HORT AML AML 19 48 00.9
comp=N,1047µm,0.8s
HORT Hortiatis 1.62 284 PN **Pn** **19 47 22.2 -1.2**
SKIA Skiathos 1.69 232 P **Pn** **19 47 22.8 -1.4**
SKIA AML AML 19 47 59.1
comp=E,2431µm,1.0s
SKIA AML AML 19 48 01.2
comp=N,1942µm,1.1s
SKIA Skiathos 1.69 232 P **Pn** **19 47 22.8 -1.4**
SKIA AML AML 19 47 59.1
comp=E,2431µm,1.0s
SKIA AML AML 19 48 01.2
comp=N,1942µm,1.1s
PSRA Psara 1.71 169 P **Pn** **19 47 24.5 0.0**
PSRA Psara 1.71 169 P **Pn** **19 47 24.5 0.0**
THE Thessaloniki 1.73 284 P **Pn** **19 47 23.8 -0.9**
THE Thessaloniki 1.73 284 P **Pn** **19 47 23.9 -0.8**
THE AML AML 19 47 59.6
comp=N,552µm,0.7s
THE AML AML 19 48 09.5
comp=E,500µm,0.9s
THE Thessaloniki 1.73 284 P **Pn** **19 47 23.9 -0.8**
THE AML AML 19 47 59.6
comp=N,552µm,0.7s
THE AML AML 19 48 09.5
comp=E,500µm,0.9s
MMB Musomiste 1.75 322 *i* P **Pn** **19 47 24.2 -0.8**
XOR Xorichti 1.75 241 P **Pn** **19 47 23.6 -1.4**
XOR Xorichti 1.75 241 P **Pn** **19 47 23.6 -1.4**
XOR Xorichti 1.75 241 P **Pn** **19 47 23.6 -1.4**
NEO Neokhori 1.76 239 P **Pn** **19 47 23.6 -1.5**
NEO Neokhori 1.76 239 P **Pn** **19 47 23.4 -1.7**
NEO AML AML 19 48 01.6
comp=E,891µm,0.6s
NEO AML AML 19 48 22.2
comp=N,867µm,1.3s
NEO Neokhori 1.76 239 P **Pn** **19 47 23.4 -1.7**
NEO AML AML 19 48 01.6
comp=E,891µm,0.6s
NEO AML AML 19 48 22.2
comp=N,867µm,1.3s
DKL Dikili 1.77 130 PN **Pn** **19 47 24.7 -0.6**
KYMI Kymi, Euboea I 1.79 208 P **Pn** **19 47 24.2 -1.4**
KYMI Kymi, Euboea I 1.79 208 P **Pn** **19 47 24.2 -1.4**
KYMI AML AML 19 48 01.1
comp=N,1358µm,1.3s
KYMI AML AML 19 48 01.1
comp=E,1084µm,0.8s
KYMI Kymi, Euboea I 1.79 208 P **Pn** **19 47 24.2 -1.4**
KYMI AML AML 19 48 01.1
comp=N,1358µm,1.3s
KYMI AML AML 19 48 01.1
comp=E,1084µm,0.8s
KNL Balıkesir 1.81 88 *i* P **Pn** **19 47 25.4 -0.4**
KNL IAML 19 47 53.0
comp=E,2µm,0.8s
KNL IAML 19 47 53.0
comp=N,2µm,0.5s
MRMT Marmara Adasi 1.89 78 PN **Pn** **19 47 25.7 -1.4**
PLD Plovdiv 1.91 350 *e*Pn **Pg** **19 47 30.7 -0.9**
PLD *e*Sn **Sg** **19 47 56.7 +0.4**
PLD Plovdiv 1.91 350 PN **Pn** **19 47 25.7 -1.6**
ZEDA zmir-Bergama 1.94 130 *i* P **Pn** **19 47 27.7 +0.1**
ZEDA IAML 19 47 59.0
comp=E,458nm,0.4s
ZEDA IAML 19 48 00.0
comp=N,985nm,0.5s
GONE Gonen-Balikesi 1.94 94 PN **Pn** **19 47 26.9 -0.7**
BALY Balya 1.95 104 *i* P **Pn** **19 47 27.8 0.0**
BALY *i* S **Sb** **19 47 54.0 -0.6**
BALY IAML 19 47 58.0
comp=N,1µm,0.7s
BALY IAML 19 48 04.0
comp=E,1µm,0.6s
MRKA Markates 1.95 219 P **Pn** **19 47 26.5 -1.3**
MRKA Markates 1.95 219 P **Pn** **19 47 26.5 -1.3**
MRKA AML AML 19 48 04.9
comp=N,1187µm,1.2s
MRKA AML AML 19 48 17.1
comp=E,1226µm,0.7s
MRKA Markates 1.95 219 P **Pn** **19 47 26.5 -1.3**
MRKA AML AML 19 48 04.9
comp=N,1187µm,1.2s
MRKA AML AML 19 48 17.1
comp=E,1226µm,0.7s
KRBN Karaburun 1.95 146 PN **Pn** **19 47 27.3 -0.5**
TKR Tekirdag 1.96 66 PN **Pn** **19 47 26.8 -1.1**
CHOS Chios island 1.96 159 P **Pn** **19 47 27.1 -0.9**
CHOS Chios island 1.96 159 P **Pn** **19 47 27.8 -0.2**
CHOS AML AML 19 48 04.0
comp=E,2816µm,0.8s
CHOS AML AML 19 48 08.3
comp=N,2547µm,0.7s
CHOS Chios island 1.96 159 P **Pn** **19 47 27.8 -0.2**
CHOS AML AML 19 48 04.0
comp=E,2816µm,0.8s
CHOS AML AML 19 48 08.3
comp=N,2547µm,0.7s
CHOS Chios island 1.96 159 PN **Pn** **19 47 27.9 -0.2**
KNT Kendrikon 1.96 299 P **Pn** **19 47 26.9 -1.1**
KNT Kendrikon 1.96 299 P **Pn** **19 47 27.9 -0.1**
KNT AML AML 19 48 02.6
comp=N,1423µm,0.4s
KNT AML AML 19 48 03.6
comp=E,1134µm,0.7s
KNT Kendrikon 1.96 299 P **Pn** **19 47 27.9 -0.1**
KNT AML AML 19 48 02.6
comp=N,1423µm,0.4s
KNT AML AML 19 48 03.6
comp=E,1134µm,0.7s
KNT Kendrikon 1.96 299 PN **Pn** **19 47 27.3 -0.7**
EDRB Edirne 2.01 36 PN **Pn** **19 47 27.4 -1.3**
EDC Edincik 2.07 86 PN **Pn** **19 47 28.7 -0.7**
STEP BALIKESIR_Sava 2.14 112 *i* P **Pn** **19 47 30.7 +0.3**
STEP IAML 19 48 10.0
comp=E,2µm,0.7s
STEP IAML 19 48 10.0
comp=N,2µm,0.8s
CRLT Corlu 2.15 64 PN **Pn** **19 47 29.6 -1.0**
BALB Balikesir 2.17 105 PN **Pn** **19 47 30.1 -0.6**
URLA Izmir 2.17 149 PN **Pn** **19 47 30.6 -0.2**
URLA Izmir 2.17 149 *i* P **Pn** **19 47 31.0 +0.2**
URLA *i* S **Sn** **19 47 55.6 -2.0**
URLA IAML 19 48 15.0
comp=E,246nm,1.2s
URLA IAML 19 48 18.0
comp=N,258nm,1.0s
VAY Valandovo 2.26 300 *i* Pn **Pn** **19 47 32.0 0.0**
KARY Karystos 2.26 195 P **Pn** **19 47 31.0 -1.1**
KARY Karystos 2.26 195 P **Pn** **19 47 31.0 -1.1**
KARY AML AML 19 48 19.4
comp=N,359µm,1.1s
KARY AML AML 19 48 31.8
comp=E,386µm,1.2s
KARY Karystos 2.26 195 P **Pn** **19 47 31.0 -1.1**
KARY AML AML 19 48 19.4
comp=N,359µm,1.1s
KARY AML AML 19 48 31.8
comp=E,386µm,1.2s
PHSR Pinarhisar 2.27 51 PN **Pn** **19 47 31.4 -0.8**
BOTS Marmara Eregli 2.27 69 PN **Pn** **19 47 31.2 -1.0**
KKB Krupnik 2.27 317 *i* P **Pn** **19 47 31.8 -0.5**
LKR Lokris 2.30 228 P **Pn** **19 47 31.5 -1.1**
LKR Lokris 2.30 228 P **Pn** **19 47 31.5 -1.1**
LKR AML AML 19 48 19.6
comp=E,354µm,1.0s
LKR AML AML 19 48 22.9
comp=N,454µm,0.7s
LKR Lokris 2.30 228 P **Pn** **19 47 31.5 -1.1**
LKR AML AML 19 48 19.6
comp=E,354µm,1.0s
LKR AML AML 19 48 22.9
comp=N,454µm,0.7s
DION Dionisos Attik 2.35 204 P **Pn** **19 47 32.3 -1.0**
DION Dionisos Attik 2.35 204 P **Pn** **19 47 32.3 -1.0**
DION Dionisos Attik 2.35 204 P **Pn** **19 47 32.3 -1.0**
PTL Penteli 2.40 205 P **Pn** **19 47 32.8 -1.2**
PTL Penteli 2.40 205 P **Pn** **19 47 32.8 -1.2**
PTL Penteli 2.40 205 P **Pn** **19 47 32.8 -1.2**
AXAR Agios Charalam 2.43 234 P **Pn** **19 47 33.2 -1.1**
AXAR Agios Charalam 2.43 234 P **Pn** **19 47 33.7 -0.6**
AXAR Agios Charalam 2.43 234 P **Pn** **19 47 33.7 -0.6**
KCTX Karacabey (Bur 2.44 88 PN **Pn** **19 47 33.6 -1.0**
AKS Akhisar 2.45 122 PN **Pn** **19 47 34.2 -0.4**
VIL2 Platees 2.49 217 P **Pn** **19 47 34.5 -0.8**
VIL2 Platees 2.49 217 P **Pn** **19 47 34.5 -0.8**
AGG Agios Georgios 2.50 242 P **Pn** **19 47 33.9 -1.5**
AGG Agios Georgios 2.50 242 P **Pn** **19 47 34.6 -0.8**
AGG Agios Georgios 2.50 242 P **Pn** **19 47 34.6 -0.8**
AGG Agios Georgios 2.50 242 PN **Pn** **19 47 34.1 -1.3**
ATHU Athens Univers 2.50 206 P **Pn** **19 47 33.9 -1.5**
ATHU Athens Univers 2.50 206 P **Pn** **19 47 33.9 -1.5**
VILL Villia 2.51 216 P **Pn** **19 47 34.5 -1.1**
THL Klokotos Trika 2.51 256 P **Pn** **19 47 34.3 -1.2**
THL Klokotos Trika 2.51 256 P **Pn** **19 47 35.0 -0.5**
THL Klokotos Trika 2.51 256 P **Pn** **19 47 35.0 -0.5**
SLVT Silivri 2.52 66 PN **Pn** **19 47 34.3 -1.3**
DGB zmir 2.55 148 *i* P **Pn** **19 47 36.8 +0.9**
DGB IAML 19 48 21.0
comp=N,179nm,0.5s
DGB IAML 19 48 21.0
comp=E,92nm,0.6s
VLY Voula,Athens 2.60 205 P **Pn** **19 47 35.8 -0.9**
VLY Voula,Athens 2.60 205 P **Pn** **19 47 35.8 -0.9**
VLY Voula,Athens 2.60 205 P **Pn** **19 47 35.8 -0.9**
KZN Kozani 2.60 273 P **Pn** **19 47 36.5 -0.3**
KZN Kozani 2.60 273 P **Pn** **19 47 36.7 -0.1**
KZN Kozani 2.60 273 P **Pn** **19 47 36.7 -0.1**
GOMA Golmarmara-Man 2.61 125 PN **Pn** **19 47 36.6 -0.3**
DURS Dursunbey 2.62 103 *i* P **Pn** **19 47 37.0 -0.1**
DURS IAML 19 48 17.0
comp=N,623nm,0.8s
DURS IAML 19 48 19.0
comp=E,478nm,0.3s
MAKR Makrakomi, Fth 2.64 244 P **Pn** **19 47 36.4 -0.9**
MAKR Makrakomi, Fth 2.64 244 P **Pn** **19 47 37.0 -0.3**
MAKR AML AML 19 48 16.7
comp=N,454µm,0.8s
MAKR AML AML 19 48 32.1
comp=E,730µm,1.6s
MAKR Makrakomi, Fth 2.64 244 P **Pn** **19 47 37.0 -0.3**
MAKR AML AML 19 48 16.7
comp=N,454µm,0.8s
MAKR AML AML 19 48 32.1
comp=E,730µm,1.6s
CTYL Yalikoy Yolu 2.68 61 PN **Pn** **19 47 36.5 -1.3**
STIP Stip 2.69 304 *i* Pn **Pn** **19 47 36.4 -1.6**
DST Dursunbey 2.73 102 PN **Pn** **19 47 37.9 -0.6**
CTKS Kestanelik-??a 2.73 67 PN **Pn** **19 47 38.0 -0.5**
VTS Vitosha 2.80 329 *e*Pn **Pn** **19 47 40.0 +0.4**
VTS *e*Sn **Sn** **19 48 14.7 +1.4**
VTS Vitosha 2.80 329 ⇓P **Pn** **19 47 40.1 +0.4**
VTS ⇑S **Sn** **19 48 14.9 +1.6**
VTS Vitosha 2.80 329 *i* P **Pn** **19 47 40.3 +0.7**
LOUT Loutraki 2.81 218 P **Pn** **19 47 38.6 -1.0**
LOUT Loutraki 2.81 218 P **Pn** **19 47 38.7 -1.0**
LOUT Loutraki 2.81 218 P **Pn** **19 47 38.7 -1.0**
AVCI Avcilar-stanb 2.81 73 PN **Pn** **19 47 38.8 -0.9**
SMG Samos 2.83 152 P **Pn** **19 47 40.0 +0.1**
SMG Samos 2.83 152 P **Pn** **19 47 40.0 +0.1**
ARMT Armutlu 2.84 82 PN **Pn** **19 47 39.6 -0.5**
MDNY Mudanya-Bursa 2.85 86 PN **Pn** **19 47 39.7 -0.4**
ORLT Orhaneli 2.87 92 PN **Pn** **19 47 39.5 -0.9**
BGKT Bogazkoy 2.90 70 PN **Pn** **19 47 40.5 -0.4**
EVR Evrytania 2.91 244 P **Pn** **19 47 40.5 -0.5**
EVR Evrytania 2.91 244 P **Pn** **19 47 40.5 -0.5**
KALE Kalithea 2.98 233 P **Pn** **19 47 41.1 -0.8**
KALE Kalithea 2.98 233 P **Pn** **19 47 41.1 -0.8**
KALE Kalithea 2.98 233 P **Pn** **19 47 41.1 -0.8**
DEMI Demirci 2.98 112 *i* P **Pn** **19 47 40.1 -2.0**
DEMI IAML 19 48 32.0
comp=N,462nm,0.8s
DEMI IAML 19 48 34.0
comp=E,287nm,0.6s
GCAM G?zelcaml? 2.99 147 PN **Pn** **19 47 41.8 -0.3**
GCAM G?zelcaml? 2.99 147 *i* P **Pn** **19 47 42.2 +0.1**
GCAM IAML 19 48 34.0
comp=N,190nm,0.8s
GCAM IAML 19 48 46.0
comp=E,102nm,0.9s
ANX Ano Chora 3.00 238 P **Pn** **19 47 41.4 -0.9**
ANX Ano Chora 3.00 238 P **Pn** **19 47 41.8 -0.4**
ANX Ano Chora 3.00 238 P **Pn** **19 47 41.8 -0.4**
SERG Sergoula 3.02 234 P **Pn** **19 47 41.8 -0.7**
SERG Sergoula 3.02 234 P **Pn** **19 47 41.8 -0.7**
SERG Sergoula 3.02 234 P **Pn** **19 47 41.8 -0.7**
TRIZ Trizonia 3.04 233 P **Pn** **19 47 41.9 -0.8**
TRIZ Trizonia 3.04 233 P **Pn** **19 47 41.9 -0.8**
TRIZ Trizonia 3.04 233 P **Pn** **19 47 41.9 -0.8**
BOSS Bosilegrad 3.04 319 *e*Pn **Pn** **19 47 43.3 +0.5**
BOSS *e*Sn **Sn** **19 48 18.5 -0.6**
ULDT Uludag 3.04 90 *i* P **Pn** **19 47 41.7 -1.3**
ULDT IAML 19 48 34.0
comp=E,386nm,0.6s
ULDT IAML 19 48 39.0
comp=N,361nm,0.9s
ISK Istanbul-Kandi 3.08 73 PN **Pn** **19 47 42.4 -0.9**
KAVV Kandilli-Istan 3.08 73 PN **Pn** **19 47 42.4 -0.9**
GEMT Gemlik 3.08 85 PN **Pn** **19 47 42.6 -0.7**
IGD Bursa 3.09 88 *i* P **Pn** **19 47 41.8 -1.6**
IGD IAML 19 48 36.0
comp=E,130nm,0.4s
IGD IAML 19 48 38.0
comp=N,126nm,0.6s
DID Didima 3.10 210 P **Pn** **19 47 42.6 -1.1**
DID Didima 3.10 210 P **Pn** **19 47 42.6 -1.1**
DID Didima 3.10 210 P **Pn** **19 47 42.6 -1.1**
SERI Serifos 3.10 190 P **Pn** **19 47 42.4 -1.3**
SERI Serifos 3.10 190 P **Pn** **19 47 42.4 -1.3**
AYDB Zeytinkoy-Aydi 3.11 136 PN **Pn** **19 47 43.8 -0.1**
KLYT Kilyos 3.12 70 PN **Pn** **19 47 43.1 -0.7**
MANT Manisa 3.15 122 *i* P **Pn** **19 47 44.4 -0.1**
MANT IAML 19 48 34.0
comp=E,316nm,0.6s
MANT IAML 19 48 34.0
comp=N,266nm,0.7s
SMAA Simav-Kutahya 3.15 110 PN **Pn** **19 47 43.9 -0.5**
NEST Nestorio 3.15 275 P **Pn** **19 47 45.0 +0.5**
NEST Nestorio 3.15 275 P **Pn** **19 47 45.0 +0.5**
SIMA Simav-Kutahya 3.16 110 PN **Pn** **19 47 44.0 -0.5**
APE Apeiranthos 3.16 175 P **Pn** **19 47 43.9 -0.6**
APE Apeiranthos 3.16 175 P **Pn** **19 47 43.9 -0.6**
APE Apeiranthos 3.16 175 P **Pn** **19 47 43.9 -0.6**
APE Apeiranthos 3.16 175 ⇓P **Pn** **19 47 44.3 -0.2**
GUR Goura 3.17 225 P **Pn** **19 47 44.0 -0.7**
GUR Goura 3.17 225 P **Pn** **19 47 44.0 -0.7**
GUR Goura 3.17 225 P **Pn** **19 47 44.0 -0.7**
PLVB Pleven 3.19 353 ⇑P **Pn** **19 47 44.8 0.0**
PLVB ⇑S **Sn** **19 48 24.3 +1.6**
KLV Kalavryta, Ach 3.20 228 P **Pn** **19 47 44.1 -0.9**
KLV Kalavryta, Ach 3.20 228 P **Pn** **19 47 44.1 -0.9**
KLV Kalavryta, Ach 3.20 228 P **Pn** **19 47 44.1 -0.9**
KULA Kula-Manisa 3.20 121 PN **Pn** **19 47 44.7 -0.4**
ROIA ROIAK 3.31 29 *i* P **Pn** **19 47 46.9 +0.4**
SKO Skopje 3.31 303 *i* Pn **Pn** **19 47 47.0 +0.4**
USAK Uak-Merkez 3.34 116 *i* P **Pn** **19 47 47.0 0.0**
USAK IAML 19 48 45.0
comp=N,97nm,0.9s
USAK IAML 19 48 48.0
comp=E,140nm,0.8s
SHAP Saphane-Kutahy 3.35 110 PN **Pn** **19 47 46.8 -0.4**
TVSB Tavsanli 3.40 102 PN **Pn** **19 47 47.7 -0.1**
ZIMR 3.43 2 ⇑P **Pn** **19 47 49.4 +1.2**

AMGA Amorgos Island 3.44 170 P Pn 19 47 47.4 -0.8
AMGA Amorgos Island 3.44 170 P Pn 19 47 47.4 -0.8
AMGA Amorgos Island 3.44 170 P Pn 19 47 47.4 -0.8
GEDZ Gediz 3.48 108 PN Pn 19 47 48.2 -0.7
HRT Hereke 3.48 79 PN Pn 19 47 48.4 -0.5
RAZG Razgrad 3.49 16 ⇓P Pn 19 47 48.9 0.0
RAZG ⇑S Sn 19 48 31.8 +1.7
IOSP Ios island 3.50 178 P Pn 19 47 48.4 -0.7
IOSP Ios island 3.50 178 P Pn 19 47 48.0 -1.0
IOSP Ios island 3.50 178 P Pn 19 47 48.0 -1.0
ADVT Abdulvahap 3.50 85 PN Pn 19 47 48.6 -0.5
TRIP Tripoli 3.52 221 P Pn 19 47 48.9 -0.5
TRIP Tripoli 3.52 221 P Pn 19 47 49.2 -0.2
TRIP Tripoli 3.52 221 P Pn 19 47 49.2 -0.2
DRO Drossia 3.52 231 P Pn 19 47 49.6 +0.3
DRO Drossia 3.52 231 P Pn 19 47 49.6 +0.3
SILT Sile 3.53 73 PN Pn 19 47 48.5 -1.0
ZAPS Zavoj 3.59 329 *e*Pn **Pn 19 47 52.0 +1.7**
BARS Barje 3.61 317 *e*Pn **Pn 19 47 50.8 +0.2**
BARS *e*Sn **Sn 19 48 31.7 -1.5**
BDRM Kayabasi 3.62 150 *i* P **Pn 19 47 51.4 +0.6**
BDRM IAML 19 49 03.0
comp=N,44nm,0.5s
BDRM IAML 19 49 06.0
comp=E,43nm,0.8s
AUBOZ BOZOYUK 3.75 93 *i* P **Pn 19 47 52.6 0.0**
AUBOZ IAML 19 48 57.0
comp=E,188nm,0.8s
AUBOZ IAML 19 49 02.0
comp=N,349nm,0.6s
IGT Igoumenitsa 3.78 261 *e*Pn **Pn 19 47 53.3 +0.3**
KHAL Karahalli 3.83 118 *i* P **Pn 19 47 53.5 -0.2**
KHAL IAML 19 49 04.0
comp=N,89nm,0.9s
KHAL IAML 19 49 10.0
comp=E,66nm,0.6s
COPA Copaceanca 3.91 1 ⇓P Pn 19 47 54.4 -0.2
KAND Kocaeli-Kandir 3.92 76 *i* P **Pn 19 47 53.0 -1.9**
KAND IAML 19 49 14.0
comp=N,115nm,0.7s
KAND IAML 19 49 20.0
comp=E,103nm,0.8s
GEYV SAKARYA_Geyve 3.93 85 *i* P **Pn 19 47 54.8 -0.2**
GEYV IAML 19 49 17.0
comp=N,210nm,0.9s
GEYV IAML 19 49 19.0
comp=E,149nm,0.7s
DAT Datca 3.97 151 *i* P **Pn 19 47 55.6 -0.1**
TAVA DENIZLI_Tavas 4.02 132 *i* P **Pn 19 47 56.4 0.0**
TAVA IAML 19 49 18.0
comp=N,26nm,0.8s
TAVA IAML 19 49 22.0
comp=E,33nm,1.3s
SRCK Saricakaya, Es 4.19 91 *i* P **Pn 19 47 58.0 -0.6**
SRCK IAML 19 49 13.0
comp=N,263nm,0.9s
SRCK IAML 19 49 20.0
comp=E,99nm,0.8s
ZAGS Zajecar 4.20 330 *e*Pn **Pn 19 47 58.3 -0.4**
RASA Rasa 4.25 20 ⇓P Pn 19 47 59.3 -0.1
SELS Selova 4.26 316 *e*Pn **Pn 19 47 59.0 -0.5**
SELS *e*Sn **Sn 19 48 48.2 -0.9**
BOVS Bovan 4.28 324 *e*Pn **Pn 19 47 59.9 +0.2**
BOVS *e*Sn **Sn 19 48 47.9 -1.6**
TURN Turunc 4.30 140 *i* P **Pn 19 47 58.8 -1.3**
TURN IAML 19 49 15.0
comp=E,38nm,0.7s
TURN IAML 19 49 29.0
comp=N,28nm,0.9s
HUMR Humele 4.30 358 ⇑P Pn 19 47 59.6 -0.5
ICOR Ion Corvin 4.35 26 ⇑P Pn 19 48 00.7 -0.1
DALY Dalyan (Mula) 4.37 140 *i* P **Pn 19 48 01.7 +0.8**
DALY IAML 19 49 32.0
comp=E,44nm,1.9s
DALY IAML 19 49 38.0
comp=N,52nm,1.2s
SAHE Sakarya_HENDEK 4.38 80 *i* P **Pn 19 48 00.7 -0.5**
SAHE IAML 19 49 20.0
comp=N,75nm,0.8s
SAHE IAML 19 49 28.0
comp=E,49nm,0.9s
MANR Mangalia 4.40 34 ⇑P Pn 19 48 01.1 -0.4
LEHL Lehliu 4.42 16 ⇑P Pn 19 48 01.9 +0.2
SULR 4.52 10 ⇑P Pn 19 48 03.9 +0.8
CVDA Cernavoda 4.62 26 ⇓P Pn 19 48 03.1 -1.4
SRE Strehaia 4.67 343 ⇑P Pn 19 48 05.0 -0.1
AMRR Amara 4.67 19 ⇑P Pn 19 48 05.8 +0.7
TLBR Topalu 4.81 25 ⇑P Pn 19 48 07.4 +0.3
SECR 4.85 8 ⇓P Pn 19 48 08.4 +0.7
TIRR Tirgusor 4.87 29 ⇓P Pn 19 48 07.5 -0.4
HARR Harsova 4.91 24 ⇑P Pn 19 48 08.1 -0.3
DRME Dracevica, Mon 4.92 295 *e*Pn **Pn 19 48 10.7 +2.1**
SJES Sjenica 4.93 310 *e*Pn **Pn 19 48 08.4 -0.4**
IDI Anoyia 4.93 183 Pn **Pn 19 48 08.2 -0.7**
comp=E,0.4nm,0.3s,baz=56,slow=23,SNR=2.3
GRUS Gruza 4.94 319 *e*Pn **Pn 19 48 08.8 0.0**
PDG Podgorica 4.97 298 *e*Pg **Pb 19 48 20.3 -1.4**
PDG Podgorica 4.97 298 ⇑P Pn 19 48 10.7 +1.5
PDG Podgorica 4.97 298 *e*Pn **Pn 19 48 11.2 +2.0**
ISR Istrita 5.00 11 ⇑P Pn 19 48 10.5 +0.8
MTUR Matau 5.00 359 ⇑P Pn 19 48 09.5 -0.3
IVAS Ivanjica 5.02 313 *e*Pn **Pn 19 48 09.7 -0.4**
HERR Herculane 5.08 337 ⇑P Pn 19 48 10.1 -0.6
ARR Arges 5.16 356 ⇓P Pn 19 48 11.7 -0.2
VOIR 5.21 359 ⇑P Pn 19 48 12.6 0.0
MDVR Moldovita 5.22 332 ⇑P Pn 19 48 12.6 -0.2
NEHR Nehoiu 5.27 9 ⇓P Pn 19 48 14.4 +1.1
MLR Muntele Rosu 5.29 6 Pn **Pn 19 48 14.7 +0.9**
comp=E,2.2nm,0.3s,baz=222,slow=4.3,SNR=103
MLR Lg Lg 19 49 40.5
baz=335,slow=22,SNR=3.1
MLR Muntele Rosu 5.29 6 ⇑P Pn 19 48 14.8 +0.9
TRUS Trudelj 5.33 320 *e*Pn **Pn 19 48 13.6 -0.7**
CFR Carcaliu 5.41 23 ⇓P Pn 19 48 14.8 -0.5
BISRR Bisoca 5.44 12 ⇑P Pn 19 48 17.9 +2.1
DIVS Divibare 5.46 317 *e*Pn **Pn 19 48 15.4 -0.6**
HCY Herceg Novi 5.49 296 *e*Pn **Pn 19 48 19.8 +3.3**
RUDO Rudo 5.49 310 *e*Pn Pn 19 48 22.5 +6.0
UPM Unac-Piva 5.55 304 *e*Pn **Pn 19 48 18.6 +1.2**
BBLS Lazići 5.62 312 *e*Pn **Pn 19 48 16.7 -1.6**
BBLS Lazići 5.62 312 *e*Pn **Pn 19 48 22.3 +4.0**
TLCR 5.64 27 ⇑P Pn 19 48 18.1 -0.4
BRY Bratogost 5.64 300 *e*Pn **Pn 19 48 21.0 +2.3**
TUDR 5.67 18 ⇑P Pn 19 48 20.4 +1.5
TREB Trebinje 5.69 298 *e*Pn **Pn 19 48 17.6 -1.6**
TREB Trebinje 5.69 298 *e*Pn **Pn 19 48 21.4 +2.2**
PETR Petresti 5.70 15 ⇑P Pn 19 48 20.1 +0.8
ODBI Odobesti 5.71 13 ⇑P Pn 19 48 19.4 0.0
PLOR Plostina 5.73 10 ⇓P Pn 19 48 20.8 +1.1
DOPR Dopca 5.74 2 ⇑P Pn 19 48 20.9 +0.7
VRI Vrincioaia 5.75 11 ⇓P Pn 19 48 20.8 +0.7
OZUR 5.89 4 ⇑P Pn 19 48 22.7 +0.8
DEV Deva 5.89 344 ⇑P Pn 19 48 22.8 +0.9
MDB Medias 5.94 355 ⇑P Pn 19 48 24.1 +1.4
BZS Buzias 5.99 335 ⇑P Pn 19 48 22.8 -0.5
VARL Varlezi 6.00 18 ⇑P Pn 19 48 24.5 +1.1
GHRR 6.06 15 ⇑P Pn 19 48 24.2 0.0
BIR Birlad 6.30 16 ⇑P Pn 19 48 27.5 -0.1
FRGS Fruska Gora 6.31 323 *e*Pn **Pn 19 48 26.4 -1.4**
TESR Tescani 6.38 9 ⇓P Pn 19 48 29.1 +0.5
BRTR Keskin Array B 6.53 92 Pn **Pn 19 48 30.7 -0.1**
comp=E,0.9nm,0.3s,baz=268,slow=12,SNR=40
BRTR Lg Lg 19 50 18.6
baz=243,slow=38,SNR=1.9
CJR Cluj-Napoca 6.59 351 ⇓P Pn 19 48 32.6 +1.0
LEOM Leova 6.64 19 ⇓P Pn 19 48 32.1 0.0
VASR Vaslui 6.69 16 ⇓P Pn 19 48 33.1 +0.1
BIZ Bicaz 6.75 5 ⇑P Pn 19 48 34.7 +1.0
PRAR RASCA 7.18 6 ⇑P Pn 19 48 40.9 +1.3
MILM Milestii Mici 7.20 20 ⇑P Pn 19 48 39.6 -0.2
MORH Mrgy, Hungar 7.65 324 *e*Pn **Pn 19 48 44.6 -1.4**
KOLS Kolonicke sedl 8.95 348 *e*SG **Sg 19 51 45.7 +3.9**
CRES Cresnjev 9.05 311 *e*Pn **Pn 19 49 05.7 +0.5**
VYHS Vyhne 9.43 333 *e*PN **Pn 19 49 11.3 +0.9**
CONA Conrad Observa 10.20 322 *e*Pn Pn 19 49 27.3 +6.2
comp=E,2.8nm,0.8s
AKASG Malin Array Be 10.86 14 Pn **Pn 19 49 28.6 -1.4**
comp=E,0.8nm,0.3s,baz=196,slow=13,SNR=7.9
AKASG Lg Lg 19 52 39.0
baz=146,slow=35,SNR=1.9
MMAI Mount Meron Ar 10.92 128 Pn **Pn 19 49 28.6 -2.4**
comp=E,0.1nm,0.3s,baz=286,slow=27,SNR=1.8

KBA Koelnbreinsper 10.96 313 *e*Pn **Pn 19 49 34.0 +2.4**
comp=E,3.1nm,1.1s
ABTA Abfaltersbach 11.26 310 *e*Pn **Pn 19 49 36.6 +1.0**
comp=E,4.2nm,0.8s
GERES GERESS Array B 11.87 320 Pn **Pn 19 49 45.0 +1.1**
comp=E,0.1nm,0.3s,baz=114,slow=14,SNR=2.1
WTTA Wattenberg 12.04 310 *e*Pn Pn 19 49 50.8 +4.4
comp=E,0.8nm,0.4s
WATA Walderalm 12.11 310 Pn P 19 49 54.3 -5.9
comp=E,0.8nm,0.6s
SQTA Sankt Quirin 12.27 309 *e*Pn **Pn 19 49 53.4 +3.9**
comp=E,2.3nm,0.5s
MOTA Moosalm 12.40 310 *e*Pn **Pn 19 49 54.5 +3.3**
comp=E,1.1nm,0.5s
FETA Feichten 12.46 308 *e*Pn **Pn 19 49 54.0 +1.9**
comp=E,4.8nm,1.2s
DAVOX Davos/Dischmat 12.88 306 Pn **Pn 19 49 58.4 +0.6**
comp=E,0.2nm,0.3s,baz=132,slow=16,SNR=8.3
FINES FINESS Array B 21.25 1 P **P 19 51 40.9 +0.2**
comp=E,2.0nm,0.8s,baz=156,slow=19,SNR=5.0
ESDC Sonseca Array 22.30 278 P **P 19 51 54.5 +2.4**
comp=E,0.3nm,0.6s,baz=74,slow=13,SNR=4.7
KLMR Klimovskoe 22.48 19 *e* **P 19 51 51.4 -2.3**
KLMR AMP 19 51 54.4
comp=Z,19nm,1.4s
NOA NORSAR Array B 22.55 342 P **P 19 51 53.4 -1.1**
comp=Z,0.5nm,0.8s,baz=157,slow=11,SNR=3.5
EKA Eskdalemuir Ar 24.08 318 P **P 19 52 09.4 -0.5**
comp=Z,0.2nm,0.4s,baz=132,slow=8.0,SNR=1.4
GEYT Alibeck 25.60 84 P **P 19 52 22.7 -1.3**
comp=Z,0.8nm,0.5s,baz=311,slow=11,SNR=4.2
TORD Torodi Ar. Bea 33.95 224 P **P 19 53 38.6 +0.4**
comp=Z,0.5nm,0.5s,baz=36,slow=9.0,SNR=5.0
MKAR Makanchi Array 41.15 61 P **P 19 54 39.5 +0.6**
comp=Z,1.4nm,0.8s,baz=282,slow=6.7,SNR=7.7
ZALV Zalesovo Beam 41.62 50 P **P 19 54 42.9 +0.3**
comp=Z,1.0nm,0.6s,baz=279,slow=10,SNR=3.7
CMAR Chiang Mai Arr 66.08 86 P **P 19 57 42.0 0.0**
comp=Z,0.6nm,0.7s,baz=306,slow=7.7,SNR=3.1
ASAR Alice Springs 118.83 98 PKP **PKiKP 20 05 46.0 +2.6**
comp=Z,0.3nm,0.8s,baz=308,slow=1.5,SNR=4.2

IDC ***15*** *19:49:09.5± 1.7,2˜.32S× 138˚.92E, h0km, mb3.2/2, mb1 3.4/3, mb1mx3.2/22, mbtmp3.2/3, ML3.3/1, Error ellipse: s-maj=32.2km s-min=15.6km az=2.0*
DJA ***15*** *19:49:12.1± 0.7,2˜.5± 11˚× 13˚.9E± ˚, h17km± 7km, M2.9/5, MLv2.9/5*
ISC 15 19:49:06.6±1.7,**1˜.7S**±0˜.1×**138˚.93E**±0˜.0**5**,**h10**km,**n8,** σ1§**84**/10,**Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.39**	**215**	P		P	**Pn**	**19 49 19.3**	**+1.1**
SMPI				S		S	**Sg**	**19 49 20.4**	**+1.1**
GENI	**Genyem**	**1.54**	**127**	P		P	**Pb**	**19 49 35.5**	**+0.3**
GENI				S		S	**Sn**	**19 49 54.1**	**-0.1**
JAY	**Jayapura**	**1.96**	**115**	Pg		Pn	**Pn**	**19 49 41.2**	**+1.2**
	6.4nm,0.3s,baz=223,slow=11,SNR=44								
JAY				Lg		Lg		19 50 07.3	
	7.6nm,0.3s,baz=248,slow=19,SNR=7.3								
JAY	**Jayapura**	**1.96**	**115**	P		P	**Pb**	**19 49 42.2**	**-0.3**
JAY				S		S	**Sn**	**19 50 06.2**	**+1.5**
SRPI	**Serui, Papua**	**2.69**	**266**	P		P	**Pb**	**19 49 55.4**	**+0.4**
WRA	**Warramunga Arr**	**18.71**	**194**	P		P	**P**	**19 53 23.5**	**-1.9**
	0.1nm,0.3s,baz=18,slow=12,SNR=4.7								
ASAR	**Alice Springs**	**22.40**	**192**	P		P	**P**	**19 54 01.8**	**-3.7**
	0.5nm,0.8s,baz=24,slow=10.0,SNR=3.0								
MKAR	**Makanchi Array**	**69.11**	**322**	P		P		20 00 21.1	+8.1
	0.2nm,0.6s,baz=123,slow=7.1,SNR=1.6								

NIED ***15*** *20:14:00, 37˚.10N× 141˚.20E, h56km, Mw5.6 Best double couple: M0 3.32000× 10^17 NP1:φ=19.00000°, δ=72.00000°, λ=88.00000°. NP2:φ=207.00000°, δ=18.00000°, λ=97.00000°.*
KEA ***15*** *20:14:46.6± 0.0, 37˚.10N× 141˚.80E, h75km, mB5.7/1, MS5.5/1*
BJI ***15*** *20:14:49.0± 0.0, 37˚.10N× 141˚.01E, h56km, mB5.6/63, mb5.5/85, Ms5.4/98, Ms7 5.2/90*
BGR ***15*** *20:14:49.1± 0.0, 36˚.79N× 141˚.40E, h50km± 1km, mb6.1, mB_BB6.3*
MOS ***15*** *20:14:49.3± 0.9, 37˚.23N× 141˚.08E, h42km, mb6.1/112, MS5.1/60, Error ellipse: s-maj=5.3km s-min=3.0km az=108.6*
UNK ***15*** *20:14:50.6, 37˚.11N× 141˚.08E, h40km*
JMA ***15*** *20:14:50.6± 0.1, 37˚.07N× 141˚.16E, h52km± 1km, M5.8 Broadband fault plane solution: P waves. NP1: φ=199.00000°, δ=36.00000°, λ=102.00000°. NP2:φ=5.00000°, δ=55.00000°, λ=82.00000°. Principal axes: T Plg=78.0000°, Azm=246.0000°; N Plg=7.0000°, Azm=10.0000°; P Plg=10.0000°, Azm=101.0000°;*
JMA Felt IV J1.
NEIC ***15*** *20:14:50.6± 1.7, 37˚.10N± 0˚.06× 141˚.11E± 0˚.09, h45km± 1km, mb5.7/292, Ms_20 5.0/518, Mwb5.6/68, Mww5.6, Mwc5.7(GCMT) Error ellipse: s-maj=12.9km s-min=9.3km az=114.0*
NEIC ***15*** *20:14:50.9, 37˚.13N× 141˚.08E, h45km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 2.87; Mθθ -1.19; Mφφ -1.68; Mrθ 0.85; Mφθ -0.47; Mφr 2.16; Fault plane solution: M0 3.44000× 10^17 NP1:φ=211.56000°, δ=23.24000°, λ=96.47000°. NP2:φ=24.52000°, δ=66.92000°, λ=87.23000°. Principal axes: T 3.8033, Plg=68.0000°, Azm=289.0000°; N -0.9240, Plg=3.0000°, Azm=26.0000°; P -2.8793, Plg=22.0000°, Azm=117.0000°;*
IDC ***15*** *20:14:51.3± 1.4, 37˚.10N× 141˚.02E, h50km± 12km, mb5.4/51, mb1 5.4/57, mb1mx5.4/59, mbtmp5.6/57, ML4.5/5, MS4.9/36, Ms1 4.9/36, ms1mx4.8/40 Error ellipse: s-maj=10.6km s-min=9.2km az=111.0*
GCMT ***15*** *20:14:53.6± 0.1, 37˚.12N± 0˚.01× 141˚.21E± 0˚.01, h53km, MW5.7/161, Moment Tensor Solution. s144,c290; s161,c339; Duration: 1§7 Moment tensor: Scale 10^17 Nm; Mrr 3.22±.04; Mθθ -0.51±.03; Mφφ -2.71±.03; Mrθ 0.82±.03; Mφθ -1.28±.03; Mφr 2.22±.03; Best double couple: M0 4.02800× 10^17 NP1:φ=207.00000°, δ=27.00000°, λ=95.00000°. NP2:φ=22.00000°, δ=63.00000°, λ=88.00000°. Principal axes: T 3.9930, Plg=72.0000°, Azm=287.0000°; N 0.0710, Plg=2.0000°, Azm=23.0000°; P -4.0640, Plg=18.0000°, Azm=114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***15*** *20:14:54, 37˚.08N× 141˚.28E, h59km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 3.28; Mθθ -0.41; Mφφ -2.87; Mrθ 0.72; Mφθ -1.50; Mφr 2.03; Fault plane solution: M0 4.06000× 10^17 NP1:φ=209.00000°, δ=29.00000°, λ=96.00000°. NP2:φ=22.00000°, δ=61.00000°, λ=87.00000°. Principal axes: T 3.9062, Plg=74.0000°, Azm=283.0000°; N 0.2890, Plg=3.0000°, Azm=24.0000°; P -4.1952, Plg=16.0000°, Azm=115.0000°;*
NEIC ***15*** *20:14:55, 37˚.01N× 141˚.33E, h60km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr 2.56; Mθθ -0.79; Mφφ -1.77; Mrθ 0.24; Mφθ -0.77; Mφr 2.44; Fault plane solution: M0 3.43000× 10^17 NP1:φ=217.00000°, δ=24.00000°, λ=112.00000°. NP2:φ=13.00000°, δ=68.00000°, λ=81.00000°. Principal axes: T 3.6555, Plg=66.0000°, Azm=267.0000°; N -0.5188, Plg=9.0000°, Azm=17.0000°; P -3.1367, Plg=23.0000°, Azm=110.0000°;*
ISC 15 20:14:51.3±0.3,**37˚.07N**±0˚.03×**141˚.15E**±0˚.03,**h54**km±2km, **h54**km:**pP-P,n1861,σ1§51**/1734,**mb5.8**/420,**MS5.0**/382, **191C-68D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.28**	**276**	⇓P		P	**Pn**	**20 14 59.8**	**-0.9**
ONAJ				S		S	**Sn**	**20 15 06.3**	**-1.1**
JFK	**Kawauchi**	**0.37**	**323**	⇓P		P	**Pn**	**20 15 00.5**	**-0.9**
JFK				S		S	**Sn**	**20 15 07.3**	**-1.4**
JHO	**Hitachi**	**0.66**	**225**	⇓P		P	**Pn**	**20 15 03.6**	**-1.0**
JHO				S		S	**Sn**	**20 15 12.7**	**-1.6**
JMST	**Minamisoumatoc**	**0.68**	**342**	⇓P		P	**Pn**	**20 15 03.9**	**-1.1**
JFT	**Otama**	**0.79**	**305**	⇓P		P	**Pn**	**20 15 06.6**	**+0.3**
JFT				S		S	**Sn**	**20 15 17.8**	**+0.5**
JMM	**Marumori**	**0.84**	**340**	⇓P		P	**Pn**	**20 15 06.3**	**-0.7**
JMM				S		S	**Sn**	**20 15 17.7**	**-0.8**
JHYU	**Hitachinakayam**	**0.86**	**212**	⇓P		P	**Pn**	**20 15 06.0**	**-1.2**
JSB	**Shiboa**	**0.99**	**264**	⇓P		P	**Pn**	**20 15 09.0**	**0.0**

JYAR Yonezawaarcadi 1.16 317 P Pn 20 15 10.9 -0.3
JYAR S Sn **20 15 26.1 0.0**
JFY Yanaizu 1.20 287 ⇓P Pn 20 15 11.6 -0.2
JIKH Ishinomakikobu 1.26 11 ⇑P Pn 20 15 11.5 -1.1
JOU Okura 1.35 344 ⇓P Pn 20 15 13.4 -0.4
JOU S Sn **20 15 30.5 -0.1**
JIO Ouri 1.39 6 ⇑P Pn 20 15 13.4 -0.9
JIO S Sn **20 15 30.3 -1.2**
JYS Shirataka 1.43 323 ⇓P Pn 20 15 15.0 +0.1
JYS S Sn **20 15 33.5 +0.8**
JAG Ashikaga 1.51 245 ⇓P Pn 20 15 15.6 -0.3
JOFO Osakifurukawao 1.54 353 ⇓P Pn 20 15 16.2 -0.1
JKT Katashina 1.55 259 ⇓P Pn 20 15 17.0 +0.4
JNS Sasagawa 1.64 298 P Pn 20 15 17.1 -0.6
JHK Hiroka 1.71 277 ⇓P Pn 20 15 19.0 +0.3
JKMT Kesennumamotoy 1.75 8 P Pn 20 15 18.6 -0.7
JMK Ichinoseki 1.88 2 P Pn 20 15 20.2 -0.7
JYA Atsumi 1.90 324 ⇓P Pn 20 15 21.5 +0.3
JYK Kaneyama 1.94 342 ⇓P Pn 20 15 22.1 +0.2
JIZZ Izumozaki 2.00 284 ⇓P Pn 20 15 23.5 +0.9
OFUJ Ofunato 2.04 11 ⇓P Pn 20 15 22.5 -0.8
JGK Kuni 2.08 257 ⇓P Pn 20 15 24.7 +1.0
JRY Ryogami san 2.10 240 P Pn 20 15 23.7 -0.3
JYYZ Yamagatayuza 2.17 334 ⇓P Pn 20 15 25.8 +0.9
JRG Rokugo 2.35 350 ⇓P Pn 20 15 28.1 +0.6
JJN Nakama 2.39 272 ⇓P Pn 20 15 28.8 +0.9
JOM Ohasama 2.40 3 ⇓P Pn 20 15 27.8 -0.3
MJAR Matsushiro Arr 2.42 258 P **Pn 20 15 28.8 +0.4**
68nm,0.3s,baz=81,slow=15,SNR=2373
MJAR LR LR 20 16 45.6
comp=Z,52µm,21.6s,baz=80,slow=50
MJAR Matsushiro Arr 2.42 258 Pn 20 15 26.7 -1.6
MAJO Matsushiro 2.42 258 *d* **iP Pn 20 15 29.0 +0.6**
MAJO Matsushiro 2.42 258 Pn **Pn 20 15 28.7 +0.3**
MAT Matsushiro 2.42 258 P **Pn 20 15 29.3 +0.9**
MAT S Sn **20 15 59.1 +2.3**
MJB9 Matsu-Tunnel 2.42 258 Pn **Pn 20 15 29.5 +1.0**
JTB Tobi-shima 2.46 330 ⇓P Pn 20 15 29.1 +0.2
JSD Sado 2.49 294 ⇓P Pn 20 15 28.6 -0.7
JNG Nsakai 2.54 256 ⇓P Pn 20 15 31.0 +0.9
MIYJ Miyakonagasawa 2.56 12 ⇓P Pn 20 15 29.4 -0.8
JYW Yuwa 2.57 344 ⇓P Pn 20 15 31.4 +1.0
JYN Shimob 2.63 234 ⇓P Pn 20 15 31.7 +0.4
JSZI Iwateshizukuis 2.67 357 ⇓P Pn 20 15 32.2 +0.4
JKZ Kuzumaki 2.91 3 ⇓P Pn 20 15 35.1 0.0
JTH Tanohata 2.92 11 ⇓P Pn 20 15 34.6 -0.6
JTT Tatsey 3.10 262 ⇓P Pn 20 15 39.5 +1.9
SHZ3 Shizuyoka 3 3.11 231 P Pn 20 15 39.0 +1.1
JAH Hinai 3.14 353 ⇓P Pn 20 15 39.2 +1.0
JKEN Kujiedanarisaw 3.16 8 ⇓P Pn 20 15 38.1 -0.4
JNY Yasuok 3.16 238 ⇓P Pn 20 15 40.3 +1.7
JGN Niukaw 3.20 256 ⇓P Pn 20 15 40.5 +1.4
JOG3 Oga3 3.27 331 P Pn 20 15 37.0 -3.0
JNTW Noshirotokiwa 3.29 347 P Pn 20 15 41.2 +1.0
JANG Nango 3.31 5 ⇓P Pn 20 15 40.0 -0.5
JHHS Hirosakihyakuz 3.63 350 P Pn 20 15 46.5 +1.6
JIW Iwasaki 3.63 346 ⇓P Pn 20 15 45.6 +0.7
JTM Tenmabayashi 3.71 359 ⇓P Pn 20 15 46.8 +0.8
INU Inuyama 3.76 244 Pn **Pn 20 15 48.1 +1.4**
JSI2 Shiura 2 4.02 352 P Pn 20 15 51.5 +1.2
JHJ Hachijo jima 2 4.10 196 P Pn 20 15 51.2 -0.2
598nm,0.3s,baz=327,slow=17,SNR=123
JHJ S Sn **20 16 38.1 0.0**
1µm,0.3s,baz=65,slow=24,SNR=12
JHJ2 Mitsune 4.10 196 Pn Pn 20 15 51.3 -0.1
JWT Wachi 4.98 251 ⇓P Pn 20 16 05.2 +1.7
JKY Yasaka 5.09 255 ⇓P Pn 20 16 06.9 +2.0
ERM Erimo 5.17 17 *ce* **P Pn 20 16 05.4 -0.6**
ERM pmax pmax
comp=Z,956nm,1.0s
ERM Erimo 5.17 17 Pn Pn 20 16 05.5 -0.6
JAD Aida 6.05 251 P Pn 20 16 19.6 +1.5
JHS Saijyo 6.83 255 P Pn 20 16 31.0 +2.2
ASAJ Asahikawa 7.12 8 P Pn 20 16 31.9 -0.9
comp=Z,30nm,0.3s,baz=218,slow=11,SNR=233
ASAJ S Sn **20 17 49.7 -2.6**
comp=Z,39nm,0.3s,baz=56,slow=34,SNR=2.4
JKA Kamikawa-asahi 7.12 8 Pn **Pn 20 16 31.9 -0.9**
JKA Sn **20 17 49.7 -2.6**
NMR Nemuro--Hokkai 7.20 28 *e*P **Pn 20 16 30.5 -3.3**
NMR *e*S **Sn 20 17 48.5 -5.6**
GRPR Tuman 7.75 26 *e*P **Pn 20 16 39.5 -1.9**
GRPR *i* S **Sn 20 18 02.3 -5.5**
GRPR pmax pmax
comp=N,271nm,0.3s
GRPR pmax pmax
comp=Z,950nm,0.3s
GRPR MLR MLR
comp=Z,13µm,19.0s
LAGR Lagunnoye 7.81 25 *e*P **Pn 20 16 40.5 -1.7**
LAGR *i* S **Sn 20 18 04.1 -5.1**
LAGR pmax pmax
comp=Z,2µm,0.3s
LAGR pmax pmax
comp=E,1µm,0.4s
YUK Yuzh-Kuril'sk 7.82 26 *c* **iP Pn 20 16 40.5 -1.8**
TEY Ternei 8.66 338 ‖ *e*P **Pn 20 16 55.5 +1.7**
TEY *e*S **Sn 20 18 33.3 +3.3**
TEY pmax pmax
comp=N,50nm,0.8s
TEY pmax pmax
comp=Z,50nm,0.8s
TEY pmax pmax
comp=E,30nm,0.7s
TEY pmax pmax
comp=Z,800nm,1.1s
TEY pmax pmax
comp=N,820nm,0.9s
TEY pmax pmax
comp=E,430nm,0.9s
TEY pmax pmax
comp=Z,750nm,0.9s
TEY MLR MLR
comp=E,5µm,22.0s
TEY MLR MLR
comp=N,9µm,16.0s
JNU Nakatsue 9.29 248 P **Pn 20 17 03.2 +0.6**
comp=N,4.2nm,0.3s,baz=83,slow=8.2,SNR=62
JNU LR LR 20 21 18.0
comp=N,10µm,19.6s,baz=71,slow=42
JNU Nakatsue 9.29 248 Pn **Pn 20 17 02.6 +0.1**
VLA Vladivostok 9.32 313 *c* **iP Pn 20 17 05.3 +2.5**
VLA pmax pmax
comp=Z,45nm,3.7s
VLA MLR MLR
comp=Z,9µm,15.0s
MSHR Mys Shultsa 9.45 309 *ce* **P Pn 20 17 04.7 +0.1**
MSHR pmax pmax
comp=Z,127nm,0.9s
MSHR MLR MLR
comp=Z,6µm,16.0s
KUR Kuril'sk 9.59 30 *e*P **Pn 20 17 04.8 -1.8**
KUR *e*S **Sn 20 18 47.0 -5.8**
KUR pmax pmax
comp=Z,463nm,0.6s
KUR pmax pmax
comp=N,329nm,0.5s
KUR pmax pmax
comp=E,149nm,0.3s
KUR pmax pmax
comp=Z,917nm,1.2s
KUR MLR MLR
comp=Z,6µm,21.0s
KUR MLR MLR
comp=E,3µm,11.0s
KUR MLR MLR
comp=N,5µm,17.0s
YSS Yuzh-Sakhalins 9.95 6 *e*P **Pn 20 17 10.0 -1.4**
YSS *e*S **Sn 20 19 00.6 -0.8**
YSS pmax pmax
comp=Z,210nm,0.8s
YSS MLR MLR
comp=N,3µm,14.0s
YSS MLR MLR
comp=Z,5µm,14.0s
YSS Yuzh-Sakhalins 9.95 6 Pn **Pn 20 17 10.2 -1.2**
USA0B Ussuriysk Arra 9.95 319 *c* **iP Pn 20 17 12.2 +0.7**
USA0B Ussuriysk Arra 9.95 319 Pn **Pn 20 17 13.7 +2.2**
USRK Ussuriysk Ar. 9.95 319 P **Pn 20 17 12.4 +0.9**
baz=131,slow=12,SNR=301
USRK LR LR 20 20 48.8
comp=Z,17µm,19.5s,baz=128,slow=36
USRK Ussuriysk Ar. 9.95 319 P **Pn 20 17 12.6 +1.1**

USRK	**Ussuriysk Ar.**	**9.95**	**319**			**Pn**	**20 17 12.6**	**+1.1**
CHJN	**Chongjin**	**9.97**	**302**		P	**Pn**	**20 17 14.4**	**+2.7**
KSRS	**Korea Array**	**10.55**	**276**		P	**Pn**	**20 17 22.6**	**+2.9**
	comp=Z,11nm,0.3s,baz=89,slow=12,SNR=169								
KSRS					LR	LR	20 21 11.0		
	comp=Z,16μm,20.2s,baz=82,slow=36								
KSRS					ScP	**ScP**	**20 26 48.6**	**+0.7**	
	comp=Z,0.2nm,0.3s,baz=108,slow=0.8,SNR=9.9								
KSAR	**Wonju Array Be**	**10.58**	**276**		P	**Pn**	**20 17 22.2**	**+2.1**
KSAR	**Wonju Array Be**	**10.58**	**276**			**Pn**	**20 17 22.2**	**+2.1**
KS19	**Wonju Array Si**	**10.59**	**276**			**Pn**	**20 17 22.9**	**+2.6**
WOSN	**Wonsan**	**11.02**	**285**		P	**Pn**	**20 17 29.9**	**+3.9**
HHU	**Hamhung**	**11.05**	**289**		P	**Pn**	**20 17 29.5**	**+3.0**
TJN	**Taejon**	**11.09**	**271**	*ce*	P	**Pn**	**20 17 29.4**	**+2.4**
MDJ	**Mudanjiang**	**11.54**	**314**		P	**Pn**	**20 17 34.3**	**+1.1**
MDJ					sP		20 17 46.3		
MDJ					S	**Sn**	**20 19 46.4**	**+5.9**
MDJ					pmax	pmax			
	comp=Z,4μm,4.5s								
MDJ					LR	LR			
	comp=Z,10μm,17.8s								
MDJ					LR	LR			
	comp=Z,8μm,21.4s								
MDJ					LR	LR			
	comp=Z,18μm,22.8s								
MDJ	**Mudanjiang**	**11.54**	**314**			**Pn**	**20 17 36.2**	**+3.0**
INCN	**Inchon**	**11.57**	**276**		P	Pn	20 17 38.6	+4.9
INCN					P	Pn	20 17 38.6	+4.9
INCN	**Inchon**	**11.57**	**276**		P	**Pn**	**20 17 37.1**	**+3.3**
INCN	**Inchon**	**11.57**	**276**		Pn	**Pn**	**20 17 37.1**	**+3.3**
KGE	**Kanggye**	**11.95**	**293**		P	**Pn**	**20 17 40.9**	**+2.1**
UGL	**Uglegorsk**	**12.02**	**3**	*e*	P	**Pn**	**20 17 40.0**	**+0.4**
UGL					S	**Sn**	**20 19 49.6**	**-2.4**
UGL					pmax	pmax			
	comp=Z,217nm,0.8s								
UGL					pmax	pmax			
	comp=Z,500nm,2.0s								
UGL					smax	smax			
	comp=N,1μm,6.7s								
UGL					MLR	MLR			
	comp=Z,6μm,16.0s								
HJU	**Haeju**	**12.28**	**279**		P	**Pn**	**20 17 47.7**	**+4.4**
PYAG	**Pyongyang**	**12.29**	**284**		P	**Pn**	**20 17 47.0**	**+3.5**
PYAG					pP	**P**	**20 17 56.0**	**+1.9**
PYAG					S	Sn	20 20 09.0	+10
PYAG					SS	**S**	**20 20 27.0**	**+2.5**
SUJ	**Sinuiju**	**13.38**	**288**		P	**Pn**	**20 17 59.3**	**+1.0**
CN2	**Changchun**	**13.71**	**304**	*e*	P	**Pn**	**20 18 02.4**	**-0.4**
CN2				*e*	S	**Sn**	**20 20 36.1**	**+2.8**
CN2					pmax	pmax			
	comp=Z,100nm,1.3s								
CN2					pmax	pmax			
	comp=Z,1μm,4.0s								
CN2					LR	LR			
	comp=Z,4μm,14.0s								
CN2					LR	LR			
	comp=Z,7μm,14.0s								
CN2					LR	LR			
	comp=Z,9μm,16.0s								
TYV	**Tymovskoe**	**13.83**	**4**	*e*	P	**Pn**	**20 18 02.7**	**-1.6**
TYV				*e*	S	**Sn**	**20 20 36.2**	**+0.1**
TYV					pmax	pmax			
	comp=Z,100nm,1.1s								
TYV					pmax	pmax			
	comp=Z,400nm,3.3s								
TYV					smax	smax			
	comp=E,40nm,1.1s								
TYV					smax	smax			
	comp=E,700nm,5.5s								
TYV					MLR	MLR			
	comp=N,4μm,15.0s								
TYV					MLR	MLR			
	comp=Z,4μm,15.0s								
GRNR	**Gornyy**	**14.10**	**348**	⇑*i*	P	**Pn**	**20 18 05.8**	**-2.3**
GRNR				*e*	S	**Sn**	**20 20 42.2**	**-0.7**
GRNR					pmax	pmax			
	comp=N,20nm,0.7s								
GRNR					pmax	pmax			
	comp=Z,30nm,1.1s								
GRNR					smax	smax			
	comp=N,20nm,0.7s								
SNY	**Shenyang**	**14.38**	**295**	⇑	P	**Pn**	**20 18 11.8**	**+0.1**
SNY					pmax	pmax			
	comp=N,79nm,1.1s								
SNY					pmax	pmax			
	comp=N,1μm,2.7s								
SNY					LR	LR			
	comp=N,6μm,18.0s								
SNY					LR	LR			
	comp=N,5μm,24.9s								
SNY					LR	LR			
	comp=N,14μm,16.7s								
JOW	**Kunigami**	**14.94**	**231**		P	**Pn**	**20 18 19.3**	**+0.1**
	comp=N,0.2nm,0.3s,baz=89,slow=20,SNR=3.1								
JOW	**Kunigami**	**14.94**	**231**		P	**P**	**20 18 22.1**	**-1.5**
DL2	**Dalian**	**15.50**	**283**		P	**Pn**	**20 18 26.5**	**+0.2**
DL2					pP	**pP**	**20 18 37.4**	**-4.4**
DL2					S	**Sn**	**20 21 19.5**	**+2.5**
DL2					pmax	pmax			
	comp=N,610nm,1.0s								
DL2					pmax	pmax			
	comp=N,2μm,5.6s								
DL2					LR	LR			
	comp=N,2μm,14.3s								
DL2					LR	LR			
	comp=N,7μm,18.2s								
DL2					LR	LR			
	comp=N,9μm,18.5s								
NKL	**Nikolayevsk**	**16.08**	**359**	*e*	P	Pn	20 18 23.4	-10	
NKL					pmax	pmax			
	comp=Z,72nm,1.3s								
NKL					pmax	pmax			
	comp=N,2.0nm,1.7s								
NKL					pmax	pmax			
	comp=E,1.0nm,1.1s								
OKH	**Okha**	**16.52**	**4**	*de*	P	Pn	20 18 31.1	-8.0	
OKH				*e*	S	Sn	20 21 29.3	-12	
OKH					smax	smax			
	comp=E,600nm,8.3s								
OKH					MLR	MLR			
	comp=Z,2μm,16.0s								
SKR	**Severo-Kuril's**	**17.32**	**34**	*e*	P	**Pn**	**20 18 47.9**	**-1.1**
SKR				*e*	S	**Sn**	**20 22 03.2**	**+2.5**
SKR					pmax	pmax			
	comp=Z,116nm,0.9s								
SKR					pmax	pmax			
	comp=Z,100nm,2.8s								
SKR					pmax	pmax			
	comp=Z,600nm,2.4s								
SKR					MLR	MLR			
	comp=Z,2μm,18.0s								
SKR					MLR	MLR			
	comp=Z,2μm,16.0s								
SSE	**Sheshan**	**17.57**	**256**		P	**Pn**	**20 18 51.5**	**-0.8**
SSE					S	**Sn**	**20 22 06.9**	**-0.2**
SSE					pmax	pmax			
	comp=Z,38nm,1.3s								
SSE					pmax	pmax			
	comp=Z,900nm,4.6s								
SSE					LR	LR			
	comp=Z,2μm,24.2s								
SSE					LR	LR			
	comp=Z,3μm,21.2s								
SSE					LR	LR			
	comp=Z,5μm,20.7s								
NJ2	**Nanjing**	**19.02**	**261**	⇑*i*	P	**P**	**20 19 06.9**	**-1.8**
NJ2					S	**S**	**20 22 39.0**	**-2.7**
NJ2					pmax	pmax			
	comp=Z,100nm,1.1s								
NJ2					LR	LR			
	comp=Z,3μm,17.0s								
NJ2					LR	LR			
	comp=Z,8μm,16.6s								
NJ2					LR	LR			
	comp=Z,10μm,18.9s								
ZEA	**Zeya**	**19.25**	**334**	*e*	P	**P**	**20 19 07.8**	**-3.2**
ZEA				*e*	S	S	20 22 35.0	-11	
ZEA					pmax	pmax			
	comp=Z,600nm,8.0s								
ZEA					pmax	pmax			
	comp=N,400nm,7.0s								
ZEA					pmax	pmax			
	comp=N,360nm,0.8s								
ZEA					pmax	pmax			
	comp=E,170nm,0.8s								
ZEA					pmax	pmax			
	comp=Z,550nm,1.0s								
ZEA					smax	smax			
	comp=N,600nm,5.0s								
ZEA					smax	smax			
	comp=E,500nm,5.0s								
ZEA					MLR	MLR			
	comp=N,3μm,16.0s								
ZEA					MLR	MLR			
	comp=E,2μm,16.0s								
ZEA					MLR	MLR			
	comp=Z,8μm,16.0s								
TIA	**Tai'an**	**19.29**	**275**	⇑	P	**P**	**20 19 09.3**	**-2.3**
TIA					S	**S**	**20 22 43.6**	**-3.6**
TIA					pmax	pmax			
	comp=Z,180nm,1.5s								
TIA					LR	LR			
	comp=Z,3μm,13.5s								
TIA					LR	LR			
	comp=Z,5μm,15.1s								
TIA					LR	LR			
	comp=Z,6μm,23.0s								
HIA	**Hailar**	**19.73**	**315**		P	**P**	**20 19 14.4**	**-1.9**
HIA					pmax	pmax			
	comp=Z,129nm,1.1s								
HIA	**Hailar**	**19.73**	**315**		P	**P**	**20 19 14.4**	**-1.9**
BJI	**Beijing**	**19.74**	**286**		P	**P**	**20 19 13.8**	**-2.6**
BJI					sP	**pP**	**20 19 29.5**	**+0.9**
BJI					S	S	20 22 44.0	-12
BJI					sS	**Sn**	**20 23 01.3**	**+2.0**
BJI					pmax	pmax			
	comp=Z,220nm,1.6s								
BJI					pmax	pmax			
	comp=Z,740nm,3.0s								
BJI					LR	LR			
	comp=Z,1μm,14.3s								
BJT	**Baijiatuan**	**19.74**	**286**		P	**P**	**20 19 15.3**	**-1.2**
BJT					pmax	pmax			
	comp=Z,193nm,1.0s								
BJT	**Baijiatuan**	**19.74**	**286**		P	**P**	**20 19 15.3**	**-1.2**
PEA0B	**Petropavlovsk-**	**19.76**	**31**	*i*	P	**Pn**	**20 19 17.5**	**-1.0**
PEA0B	**Petropavlovsk-**	**19.76**	**31**		P	**Pn**	**20 19 18.0**	**-0.5**
PETK	**Petropavlovsk-**	**19.76**	**31**		P	**Pn**	**20 19 17.7**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=208,slow=8.4,SNR=35								
PETK					LR	LR	20 27 10.9		
	comp=Z,953nm,21.3s,baz=221,slow=37								
PETK	**Petropavlovsk-**	**19.76**	**31**		P	**P**	**20 19 16.7**	**+0.1**
PET	**Petropavlovsk**	**20.09**	**32**	*e*	P	**P**	**20 19 20.9**	**+0.7**
PET				*e*	S	**S**	**20 22 59.7**	**-3.1**
PET					pmax	pmax			
	comp=Z,105nm,1.1s								
PET					MLR	MLR			
	comp=Z,4μm,20.0s								
PET	**Petropavlovsk**	**20.09**	**32**		P	**P**	**20 19 20.8**	**+0.6**
PET					IAmb	IAmb	20 19 50.4		
	comp=Z,401nm,1.7s								
TATO	**Taipei**	**20.67**	**240**		P	**P**	**20 19 23.8**	**-2.9**
NACB	**Ninganchiao**	**21.13**	**238**		P	**P**	**20 19 27.9**	**-3.7**
TWG	**Pinlang**	**22.39**	**236**		IAmb	IAmb	20 19 49.6		
	comp=Z,329nm,0.7s								
TWG					IAMs_20	IAMs_20	20 29 56.3		
	comp=Z,7μm,20.0s								
QZH	**Quanzhou**	**22.74**	**244**		P	**P**	**20 19 46.5**	**-2.3**
QZH					LR	LR			
	comp=Z,3μm,20.3s								
QZH					LR	LR			
	comp=Z,2μm,19.9s								
QZH					LR	LR			
	comp=Z,3μm,19.8s								
TIY	**Taiyuan**	**22.79**	**280**	*e*	P	**P**	**20 19 46.3**	**-3.1**
TIY					S	**S**	**20 23 45.8**	**-8.7**
TIY					sS	Sn	20 24 09.3	-3.3
TIY					SS	**SnSn**	**20 24 36.1**	**+7.1**
TIY					pmax	pmax			
	comp=Z,310nm,1.0s								
TIY					pmax	pmax			
	comp=Z,1μm,4.2s								
TIY					LR	LR			
	comp=Z,2μm,12.3s								
TIY					LR	LR			
	comp=Z,6μm,13.3s								
TIY					LR	LR			
	comp=Z,7μm,14.8s								
WHN	**Wuhan**	**23.16**	**262**	⇓	P	**P**	**20 19 50.9**	**-2.1**
WHN					sP	**pP**	**20 20 05.8**	**+0.1**
WHN					S	**S**	**20 23 59.5**	**-1.0**
WHN					pmax	pmax			
	comp=Z,460nm,1.5s								
WHN					LR	LR			
	comp=Z,5μm,12.4s								
WHN					LR	LR			
	comp=Z,8μm,12.8s								
WHN					LR	LR			
	comp=Z,18μm,20.1s								
KNMB	**Chin-men Tao**	**23.18**	**244**		P	**P**	**20 19 50.6**	**-2.7**
HHC	**Hu-ho-hao-te**	**23.26**	**288**	⇑*i*	P	**P**	**20 19 52.1**	**-2.0**
HHC					pP	pP	20 20 01.3	-5.5
HHC					S	**S**	**20 23 58.3**	**-4.0**
HHC					pmax	pmax			
	comp=Z,41nm,1.6s								
HHC					pmax	pmax			
	comp=Z,330nm,5.9s								
HHC					LR	LR			
	comp=Z,1μm,13.5s								
HHC					LR	LR			
	comp=Z,960nm,14.1s								
HHC					LR	LR			
	comp=Z,1μm,16.7s								
MA2	**Magadan**	**23.36**	**12**		P	**P**	**20 19 55.2**	**+0.5**
	comp=Z,334nm,1.0s,baz=196,slow=8.9,SNR=58								
MA2					LR	LR	20 28 52.9		
	comp=Z,2μm,21.9s,baz=185,slow=36								
MA2	**Magadan**	**23.36**	**12**	*i*	P	**P**	**20 19 55.6**	**+0.9**
MA2					MLR	MLR			
	comp=Z,1μm,17.0s								
MA2	**Magadan**	**23.36**	**12**		P	**P**	**20 19 55.0**	**+0.3**
BTO	**Baotou**	**24.44**	**288**	*e*	P	**P**	**20 20 04.3**	**-0.6**
CIT	**Chita**	**24.50**	**316**	*e*	P	**P**	**20 20 02.2**	**-3.2**
CIT				*e*			20 20 13.2		
CIT				*e*			20 20 38.3		
CIT				*e*			20 20 46.4		
CIT					pmax	pmax			
	comp=Z,1μm,1.4s								
SGCP	**Mt. Cagua**	**25.18**	**227**	*e*	P	**P**	**20 20 09.8**	**-1.8**
CVP	**Callao Caves**	**25.73**	**227**	⇓*e*	P	**P**	**20 20 16.7**	**0.0**
APYP	**Conner**	**25.95**	**228**	*e*	P	**P**	**20 20 16.4**	**-2.3**
YAK	**Yakutsk**	**25.99**	**348**		P	**P**	**20 20 17.8**	**-0.7**
	comp=Z,168nm,0.5s,baz=152,slow=2.3,SNR=95								
YAK					LR	LR	20 30 47.4		
	comp=Z,4μm,20.2s,baz=162,slow=37								
YAK	**Yakutsk**	**25.99**	**348**	*c i*	P	**P**	**20 20 17.5**	**-1.1**
YAK				*e*	*PP	**sP**	**20 20 37.9**	**-0.7**
YAK				*e*			20 20 58.2		
YAK				*e*			20 23 40.2		
YAK				*e*	S	**S**	**20 24 42.8**	**-2.3**
YAK				*e*			20 31 05.8		
YAK					pmax	pmax			
	comp=Z,431nm,1.0s								
YAK					pmax	pmax			
	comp=N,220nm,1.2s								
YAK					pmax	pmax			
	comp=E,126nm,1.2s								
YAK					pmax	pmax			
	comp=Z,278nm,1.2s								
YAK					pmax	pmax			
	comp=E,106nm,1.1s								
YAK					pmax	pmax			
	comp=N,236nm,1.1s								
YAK					smax	smax			
	comp=E,1μm,3.2s								
YAK					smax	smax			
	comp=N,1μm,2.3s								
YAK	**Yakutsk**	**25.99**	**348**		P	**P**	**20 20 18.1**	**-0.5**
XAN	**Xi'an**	**26.33**	**273**		P	**P**	**20 20 19.8**	**-2.3**
XAN					pP	pP	20 20 33.5	-2.3
XAN					PP	**PnPn**	**20 21 01.9**	**-1.7**
XAN					PcP	**PcP**	**20 23 48.5**	**+1.6**
XAN					S	**S**	**20 24 45.8**	**-5.5**
XAN					SS	**SnSn**	**20 25 51.0**	**-4.5**
XAN					pmax	pmax			
	comp=N,82nm,1.5s								
XAN					pmax	pmax			
	comp=N,2μm,7.3s								
XAN					LR	LR			
	comp=N,4μm,17.2s								
XAN					LR	LR			
	comp=N,2μm,16.7s								
XAN					LR	LR			
	comp=N,5μm,21.1s								
XAN	**Xi'an**	**26.33**	**273**		P	**P**	**20 20 21.2**	**-0.9**
XAN					pmax	pmax			
	comp=Z,96nm,0.7s								
XAN					MLR	MLR			
	comp=Z,4μm,21.0s								
XAN	**Xi'an**	**26.33**	**273**		P	**P**	**20 20 21.2**	**-0.9**
XAN					IAmb	IAmb	20 20 26.2		
	comp=Z,96nm,0.7s								
XAN	**Xi'an**	**26.33**	**273**		IAMs_20	IAMs_20	20 30 12.8		
	comp=Z,4μm,21.0s								
ABRA	**Dolores**	**26.43**	**228**	*e*	P	**P**	**20 20 22.6**	**-0.4**
ENH	**Enshi**	**27.13**	**265**		IAmb	IAmb	20 20 31.6		
	comp=Z,261nm,0.9s								
ENH					IAMs_20	IAMs_20	20 31 16.0		
	comp=Z,5μm,22.0s								
ULN	**Ulaanbaatar**	**27.16**	**304**		P	**P**	**20 20 29.1**	**-0.4**
ULN					P	**P**	**20 20 29.1**	**-0.4**
ULN	**Ulaanbaatar**	**27.16**	**304**	*ce*	P	**P**	**20 20 26.8**	**-2.8**
ULN					pmax	pmax			
	comp=Z,510nm,1.3s								
ULN	**Ulaanbaatar**	**27.16**	**304**		P	**P**	**20 20 29.5**	**-0.1**
ULN	**Ulaanbaatar**	**27.16**	**304**		IAMs_20	IAMs_20	20 31 41.4		
	comp=Z,5μm,18.0s								
BOD	**Bodaibo**	**27.38**	**328**	*e*	P	**P**	**20 20 30.1**	**-1.1**
BOD					pmax	pmax			
	comp=Z,279nm,1.0s								
BALP	**Baler**	**27.44**	**224**	*e*	P	**P**	**20 20 31.9**	**-0.2**
SONM	**Songino Array**	**27.59**	**304**		P	**P**	**20 20 32.4**	**-1.0**
	comp=Z,59nm,0.6s,baz=106,slow=7.5,SNR=82								
SONM					PcP	**PcP**	**20 23 50.4**	**+0.6**	
	comp=Z,10.0nm,0.6s,baz=112,slow=2.1,SNR=5.1								
SONM					ScP	**ScP**	**20 27 27.0**	**+1.2**	
	comp=Z,10nm,1.1s,baz=158,slow=0.8,SNR=6.8								
SONM					LR	LR	20 32 06.6		
	comp=Z,4μm,18.1s,baz=98,slow=38								
SONM	**Songino Array**	**27.59**	**304**		P	**P**	**20 20 32.7**	**-0.7**
SONM					pmax	pmax			
	comp=Z,98nm,1.0s								
SONM	**Songino Array**	**27.59**	**304**		P	**P**	**20 20 32.7**	**-0.7**
GZH	**Guangzhou**	**27.69**	**248**		P	**P**	**20 20 30.0**	**-4.3**
GZH					S	**S**	**20 25 03.6**	**-9.1**
GZH					pmax	pmax			
	comp=Z,1μm,4.9s								
PVCP	**Virac**	**27.88**	**217**	*e*	P	**P**	**20 20 35.1**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**28.35**	**120**		T	T	20 50 55.1		
	baz=314,slow=75,SNR=802								
H11N1	**WAKE ISLAND Hy**	**28.36**	**121**		T	T	20 50 54.8		
	baz=314,slow=75,SNR=1206								
H11N3	**WAKE ISLAND Hy**	**28.37**	**120**		T	T	20 50 56.1		
	baz=314,slow=75,SNR=2964								
H11S1	**WAKE ISLAND Hy**	**29.06**	**123**		T	T	20 51 43.0		
	baz=315,slow=76,SNR=1102								
H11S3	**WAKE ISLAND Hy**	**29.06**	**123**		T	T	20 51 39.7		
	baz=315,slow=76,SNR=1100								
H11S2	**WAKE ISLAND Hy**	**29.07**	**123**		T	T	20 51 39.3		
	baz=315,slow=76,SNR=583								
TGY	**Tagaytay City**	**29.13**	**224**		P	**P**	**20 20 46.2**	**-1.0**
	comp=Z,162nm,0.3s,baz=161,slow=9.1,SNR=5.1								
PGP	**Puerto Galera**	**29.61**	**223**	⇑*e*	P	**P**	**20 20 51.1**	**-0.3**
LUBP	**Lubang**	**29.81**	**224**	*e*	P	**P**	**20 20 48.5**	**-4.7**
LZH	**Lanzhou**	**29.85**	**280**	⇑	P	**P**	**20 20 52.6**	**-1.1**
LZH					sP	sP	20 21 11.3	-2.5
LZH					PP	**PnPn**	**20 21 52.0**	**+0.6**
LZH					PcP	**PcP**	**20 23 57.3**	**+1.6**
LZH					S	**S**	**20 25 43.1**	**-3.8**
LZH					sS	sS	20 26 03.8	-6.2
LZH					pmax	pmax			
	comp=Z,490nm,1.0s								
LZH					pmax	pmax			
	comp=Z,1μm,4.6s								
LZH					LR	LR			
	comp=Z,4μm,13.0s								
LZH					LR	LR			
	comp=Z,8μm,13.6s								
LZH					LR	LR			
	comp=Z,10μm,15.7s								
IRK	**Irkutsk**	**29.92**	**312**	*e*	P	**P**	**20 20 52.4**	**-1.5**
IRK				*e*			20 23 54.8		
IRK					pmax	pmax			
	comp=Z,122nm,3.0s								
ZAK	**Zakamensk**	**30.08**	**308**	*e*	P	**P**	**20 20 54.2**	**-1.2**
ZAK				*e*			20 23 55.8		
ZAK					pmax	pmax			
	comp=Z,68nm,1.1s								
ZAK					pmax	pmax			
	comp=Z,28nm,1.3s								
TLY	**Talaya**	**30.15**	**311**		P	**P**	**20 20 55.4**	**-0.5**
	comp=Z,74nm,0.7s,baz=135,slow=6.6,SNR=36								
TLY	**Talaya**	**30.15**	**311**		P	**P**	**20 20 56.7**	**+0.8**
TLY					P	**P**	**20 20 56.7**	**+0.8**
TLY					P	**P**	**20 20 56.7**	**+0.8**
TLY	**Talaya**	**30.15**	**311**	*c i*	P	**P**	**20 20 54.4**	**-1.5**
TLY				*e*			20 21 47.7		
TLY				*e*			20 22 09.1		
TLY				*e*			20 23 54.2		
TLY				*e*	S	**S**	**20 25 46.9**	**-4.0**	
TLY					pmax	pmax			
	comp=Z,260nm,0.8s								
TLY					MLR	MLR			
	comp=Z,13μm,18.0s								
TLY	**Talaya**	**30.15**	**311**		P	**P**	**20 20 54.8**	**-1.2**
TLY					IAmb	IAmb	20 20 57.2		
	comp=Z,109nm,0.9s								
SJMP	**San Jose**	**30.39**	**221**	*e*	P	**P**	**20 20 54.6**	**-3.6**
MSLP	**Maasin**	**30.59**	**213**	*e*	P	**P**	**20 20 59.3**	**-0.8**
GYA	**Guiyang**	**31.02**	**260**	⇑*i*	P	**P**	**20 21 02.6**	**-1.4**
GYA					S	S	20 25 56.1	-9.2	
GYA					pmax	pmax			
	comp=Z,190nm,1.2s								
GYA					pmax	pmax			
	comp=Z,580nm,3.9s								
GYA					LR	LR			
	comp=Z,3μm,16.7s								
GYA					LR	LR			
	comp=Z,4μm,21.6s								
GYA					LR	LR			
	comp=Z,6μm,23.7s								
GUIM	**Jordan**	**31.20**	**217**	*e*	P	**P**	**20 21 02.1**	**-3.4**
BUSP	**Coron**	**31.26**	**222**	*e*	P	**P**	**20 21 05.5**	**-0.4**
CD2	**Chengdu**	**31.46**	**270**	⇑*i*	P	**P**	**20 21 06.1**	**-1.7**
CD2					sP	pP	20 21 22.3	+0.8	
CD2					PP	**PnPn**	**20 22 15.3**	**+3.0**
CD2					S	**S**	**20 26 07.9**	**-4.1**
CD2					sS	sS	20 26 31.1	-4.0	
CD2					pmax	pmax			
	comp=Z,140nm,1.2s								
CD2					pmax	pmax			
	comp=Z,730nm,5.4s								
CD2					LR	LR			
	comp=Z,5μm,15.3s								
CD2					LR	LR			
	comp=Z,7μm,16.5s								
CD2					LR	LR			
	comp=Z,9μm,16.5s								
MOY	**Mondy**	**31.75**	**310**	*e*	P	**P**	**20 21 08.6**	**-1.6**
MOY				*e*			20 22 15.7		
MOY					pmax	pmax			
	comp=Z,93nm,3.4s								
CNOP	**Candoni, Negro**	**31.87**	**216**	*e*	P	**P**	**20 21 09.0**	**-2.4**
ENPP	**El Nido**	**32.34**	**223**	*e*	P	**P**	**20 21 13.4**	**-2.1**
GTA	**Gaotai**	**32.35**	**287**	*e*	P	**P**	**20 21 14.3**	**-1.3**
GTA					pP	pP	20 21 23.9	-5.4	
GTA					PP	**PnPn**	**20 22 25.0**	**+1.3**
GTA					PcP	**PcP**	**20 24 03.3**	**+1.0**
GTA					S	**S**	**20 26 27.6**	**+1.7**
GTA					ScP	**ScP**	**20 27 41.6**	**+0.2**
GTA					PcS	**PcS**	**20 27 47.8**	**+0.4**
GTA					ScS	**ScS**	**20 31 39.6**	**-1.1**
GTA					pmax	pmax			
	comp=Z,16nm,0.8s								
GTA					pmax	pmax			
	comp=Z,570nm,7.6s								
GTA					LR	LR			
	comp=Z,2μm,15.8s								
GTA					LR	LR			
	comp=Z,3μm,22.0s								
GTA					LR	LR			
	comp=Z,4μm,23.4s								
BUKP	**Musuan**	**32.53**	**211**	*e*	P	**P**	**20 21 16.4**	**-0.9**
QIZ	**Qiongzhong**	**32.75**	**245**		P	**P**	**20 21 18.6**	**-0.5**
QIZ					PP	**PP**	**20 22 33.3**	**-0

QIZ pmax pmax
comp=Z,24nm,1.5s
QIZ pmax pmax
comp=Z,430nm,2.9s
QIZ LR LR
comp=Z,2μm,19.0s
QIZ LR LR
comp=Z,730nm,13.9s
QIZ LR LR
comp=Z,2μm,19.1s
KCP Kidapawan 33.31 210⇑ *i*P **P 20 21 24.0 -0.1**
CTBH Cotabato--PC H 33.47 212⇑ *i*P **P 20 21 25.9 +0.6**
DDMP Don Marcelino, 33.90 208 *e*P **P 20 21 26.4 -2.6**
PATS Pohnpei 33.92 148 IAMs_20 IAMs_20 20 32 01.3
comp=Z,4μm,22.0s
SKMP Bagumbayan, Su 33.98 211 *e*P **P 20 21 31.1 +1.4**
BILL Bilibino 34.05 17 *i* P **P 20 21 28.7 -1.2**
BILL pmax pmax
comp=Z,112nm,1.2s
BILL MLR MLR
comp=Z,1μm,16.0s
ATKA Atka Island 34.59 50 P **P 20 21 34.8 +0.2**
ATKA IAmb IAmb 20 21 49.9
comp=Z,118nm,1.1s
ATKA IAMs_20 IAMs_20 20 32 50.1
comp=Z,3μm,22.0s
KMI Kunming 34.76 261 P **P 20 21 35.8 -1.0**
KMI pP pP 20 21 47.1 -3.5
KMI sP sP 20 21 51.1 -5.9
KMI PP **PnPn 20 22 55.1 +0.9**
KMI S **S 20 26 58.8 -4.8**
KMI pmax pmax
comp=Z,250nm,1.3s
KMI pmax pmax
comp=Z,700nm,3.1s
KMI LR LR
comp=Z,3μm,19.3s
KMI LR LR
comp=Z,5μm,21.2s
KMI LR LR
comp=Z,6μm,23.0s
BATP Bataraza 35.22 223 *e*P **P 20 21 40.1 -0.3**
TIXI Tiksi 35.23 353 P **P 20 21 39.1 -0.8**
TIXI pmax pmax
comp=Z,93nm,0.9s
TIXI MLR MLR
comp=Z,2μm,20.0s
TIXI Tiksi 35.23 353 P **P 20 21 39.1 -0.8**
TIXI IAmb IAmb 20 21 40.8
comp=Z,93nm,0.9s
TIXI IAMs_20 IAMs_20 20 36 43.6
comp=Z,2μm,20.0s
MIDW Midway 35.80 92 IAMs_20 IAMs_20 20 32 52.1
comp=Z,4μm,21.0s
SLVN Son La 35.84 255 P **P 20 21 45.7 -0.1**
SLVN IAmb IAmb 20 21 47.3
comp=Z,144nm,1.3s
KWAJ Kwajalein Atol 36.97 133 IAMs_20 IAMs_20 20 34 03.9
comp=Z,3μm,20.0s
SPIA Saint Paul Isl 37.68 42 P **P 20 22 02.6 +1.6**
NIKH Nikolski High 37.91 49 P **P 20 22 03.8 +0.7**
NIKH IAmb IAmb 20 22 19.1
comp=Z,264nm,1.7s
NIKH IAMs_20 IAMs_20 20 34 55.9
comp=Z,3μm,21.0s
TNTI Ternate 38.30 203 P **P 20 22 07.1 +0.4**
comp=Z,3μmcomp=Z,45nm,1.1s
TNTI Ternate 38.30 203 P **P 20 22 07.6 +0.9**
TNTI IAmb IAmb 20 22 09.8
comp=Z,200nm,1.5s
MNI Manado 38.52 207 P **P 20 22 09.3 +0.8**
MNI pmax pmax
comp=Z,150nm,1.0s
GAMB Gambell 38.79 31 P **P 20 22 11.9 +1.7**
SMPI Sarmi 38.93 184 P **P 20 22 13.2 +1.3**
comp=Z,922nmcomp=Z,60nm,1.6s
JAY Jayapura 39.39 181 LR LR 20 36 02.4
comp=Z,1μm,20.6s,baz=356,slow=32
JAY Jayapura 39.39 181 P **P 20 22 17.3 +1.5**
comp=Z,611nmcomp=Z,20nm,1.1s
JAY Jayapura 39.39 181 P **P 20 22 18.3 +2.5**
JAY pmax pmax
comp=Z,32nm,0.9s
GENI Genyem 39.47 182 P **P 20 22 18.2 +1.7**
comp=Z,2μmcomp=Z,122nm,1.0s
KMSI Cibinong 39.64 208 P **P 20 22 18.1 +0.3**
DGZ Jazzator, Alta 40.20 306*c* *i*P **P 20 22 23.0 +0.6**
DGZ pmax pmax
comp=Z,1μm,0.9s
MRSI Marisa 40.52 210 P **P 20 22 25.1 0.0**
comp=Z,4μmcomp=Z,201nm,1.8s
WMQ Urumqi 40.63 297 P **P 20 22 26.8 +0.8**
WMQ pP pP 20 22 36.9 -3.2
WMQ sP sP 20 22 44.5 -2.0
WMQ PP **PnPn 20 24 06.6 +2.0**
WMQ S **S 20 28 35.1 +3.2**
WMQ sS sS 20 28 52.4 -3.1
WMQ pmax pmax
comp=Z,390nm,1.1s
WMQ pmax pmax
comp=Z,350nm,4.5s
WMQ LR LR
comp=Z,950nm,16.7s
WMQ LR LR
comp=Z,2μm,19.1s
WMQ LR LR
comp=Z,5μm,25.5s
FAKI Fak Fak 40.64 194 P **P 20 22 27.5 +1.3**
comp=Z,1μmcomp=Z,73nm,0.7s
FAKI Fak Fak 40.64 194 IAMs_20 IAMs_20 20 36 03.4
comp=Z,2μm,22.0s
ZIRO ZIRO 40.74 271 *e*P **P 20 22 27.8 +0.6**
ZIRO IAmb IAmb 20 22 29.8
comp=Z,307nm,0.8s
ZIRO *i* x x 20 38 35.9
CHTO Chiang Mai 41.10 255 IAMs_20 IAMs_20 20 40 28.5
comp=Z,3μm,20.0s
CM31 Chiang Mai Arr 41.30 255 P **P 20 22 33.1 +1.4**
SNR=11
CM31 P **P 20 22 33.1 +1.4**
SNR=11
CM31 Chiang Mai Arr 41.30 255 P **P 20 22 32.0 +0.3**
CM31 IAmb IAmb 20 22 33.2
comp=Z,149nm,1.6s
CMAR Chiang Mai Arr 41.30 255 P **P 20 22 31.4 -0.2**
comp=Z,10nm,0.7s,baz=41,slow=8.9,SNR=46
CMAR PcP **PcP 20 24 29.9 +0.5**
comp=Z,27nm,1.2s,baz=10,slow=2.0,SNR=7.7
CMAR LR LR 20 41 50.8
comp=Z,3μm,18.3s,baz=105,slow=39
SANI Sanana 41.40 203 P P 20 22 46.9 +15
MPSI Mapaga 41.50 213 P **P 20 22 33.4 +0.1**
comp=Z,2μmcomp=Z,33nm,1.3s
ZAA0 Zalesovo Array 41.73 312 P **P 20 22 35.1 +0.4**
ZALV Zalesovo Beam 41.73 312 P **P 20 22 34.3 -0.4**
comp=Z,320nm,0.7s,baz=94,slow=6.5,SNR=496
ZALV PcP **PcP 20 24 30.3 0.0**
comp=Z,34nm,0.7s,baz=81,slow=3.8,SNR=4.4
ZALV ScP **ScP 20 28 17.0 +1.1**
comp=Z,9.2nm,0.9s,baz=83,slow=6.1,SNR=4.0
ZALV LR LR 20 40 38.1
comp=Z,4μm,18.3s,baz=83,slow=37
ZALV Zalesovo Beam 41.73 312 P **P 20 22 35.1 +0.4**
MSAI Masohi 41.79 198 P **P 20 22 37.6 +2.0**
comp=Z,505nmcomp=Z,28nm,1.1s
APSI Ampana 41.90 210 P **P 20 22 37.1 +0.6**
comp=Z,2μmcomp=Z,86nm,1.2s
LSA Lhasa 41.99 275 P **P 20 22 38.7 +0.9**
LSA Lhasa 41.99 275 P **P 20 22 38.9 +1.1**
LSA P **P 20 22 38.9 +1.1**
LSA P **P 20 22 38.9 +1.1**
LSA Lhasa 41.99 275 IAMs_20 IAMs_20 20 41 57.2
comp=Z,2μm,18.0s
ZSN Zaisan 42.09 303⇑ *i*P **P 20 22 38.4 +0.6**
comp=Z,366nm,1.2s,baz=302
ZSN *e*S **S 20 28 55.8 +2.5**
baz=302
ZSN Zaisan 42.09 303*c* *i*P **P 20 22 38.4 +0.6**
ZSN *e*S **S 20 28 55.7 +2.5**
ZSN pmax pmax
comp=Z,366nm,1.2s
NLAI Namlea 42.19 201 P **P 20 22 39.9 +1.1**
comp=Z,2μmcomp=Z,33nm,0.6s
AAI Ambon 42.31 199 P **P 20 22 41.4 +1.6**
comp=Z,2μmcomp=Z,205nm,0.7s
AAI Ambon 42.31 199 P **P 20 22 41.8 +2.0**
AAI pmax pmax
comp=Z,202nm,0.7s
KRVT Keravat (AS076 42.40 164 LR LR 20 38 54.7
comp=Z,718nm,20.3s,baz=349,slow=34
SDPT Sand Point 42.92 46 P **P 20 22 44.2 -0.2**
NRIK Noril'sk 43.14 335 P **P 20 22 45.5 -0.5**
comp=Z,93nm,1.0s,baz=111,slow=9.0,SNR=152
NRIK PcP **PcP 20 24 35.4 +0.7**
comp=Z,60nm,1.1s,baz=137,slow=7.7,SNR=4.4
NRIK LR LR 20 42 15.8
comp=Z,4μm,18.6s,baz=113,slow=38
NRIK Noril'sk 43.14 335⇑ *e*P **P 20 22 45.3 -0.7**
SMKI Samarinda 43.42 216 P **P 20 22 50.4 +1.6**
comp=Z,218nm,1.5s
CNBA Chernabura Isl 43.44 46 IAMs_20 IAMs_20 20 38 52.0
comp=Z,2μm,22.0s
SBUM Sibu 43.54 225 P **P 20 22 50.5 +0.7**
SBUM Sibu 43.54 225 P **P 20 22 51.0 +1.2**
MK31 Makanchi Array 43.92 302 IAmb IAmb 20 22 53.9
comp=Z,248nm,1.0s
MKAR Makanchi Array 43.92 302 P **P 20 22 52.4 -0.2**
comp=Z,145nm,0.8s,baz=87,slow=9.6,SNR=682
MKAR LR LR 20 42 55.0
comp=Z,482nm,20.8s,baz=78,slow=38
MKAR Makanchi Array 43.92 302 *i* P **P 20 22 52.4 -0.2**
MKAR pmax pmax
comp=Z,147nm,0.8s
MKAR Makanchi Array 43.92 302 P **P 20 22 52.8 +0.2**
MAKZ Makanchi 44.13 302 P **P 20 22 54.5 +0.2**
MAKZ pmax pmax
comp=Z,267nm,1.0s
MAKZ MLR MLR
comp=Z,3μm,22.0s
MAKZ Makanchi 44.13 302 P **P 20 22 54.5 +0.2**
MAKZ IAMs_20 IAMs_20 20 41 30.4
comp=Z,3μm,22.0s
SEM Semipalatinsk 44.75 307 *i* P **P 20 22 58.6 -0.9**
comp=Z,281nm,1.6s,baz=307
SEM Semipalatinsk 44.75 307 *i* P **P 20 22 58.5 -0.9**
SEM pmax pmax
comp=Z,281nm,1.6s
KSM Kuching 45.43 226 IAmb IAmb 20 23 07.5
comp=Z,142nm,1.2s
KSM Kuching 45.43 226 P **P 20 23 06.0 +1.1**
SPSI Sidrap Palu 45.43 211 P **P 20 23 05.5 +0.6**
comp=Z,1μmcomp=Z,34nm,1.4s
TTA Tatalina 45.51 35 P **P 20 23 06.0 +0.9**
TTA pmax pmax
comp=Z,20nm,1.0s
TTA Tatalina 45.51 35 P **P 20 23 06.0 +0.9**
BNSI Bone 45.69 210 P **P 20 23 07.5 +0.6**
comp=Z,2μmcomp=Z,64nm,0.8s
TAPN Taplejung 45.73 274 *e*P **P 20 23 07.9 +0.3**
KURK Kurchatov 45.74 308 P **P 20 23 06.7 -0.3**
KURK P **P 20 23 06.7 -0.3**
KURK P **P 20 23 06.7 -0.3**
KURK Kurchatov 45.74 308*ce*P **P 20 23 06.4 -0.6**
KURK pmax pmax
comp=Z,736nm,1.0s
KURK Kurchatov 45.74 308 P **P 20 23 06.9 -0.1**
BBSI Bau Bau 45.76 206 P **P 20 23 08.3 +0.8**
comp=Z,150nmcomp=Z,12nm,1.1s
KURBB Kurchatov Arra 45.81 308 P **P 20 23 07.1 -0.4**
comp=Z,264nm,0.8s,baz=87,slow=8.2,SNR=517
KURBB S **S 20 29 45.9 -1.4**
comp=Z,4.2nm,1.1s,baz=89,slow=11,SNR=3.9
ODAN Odare 46.20 273 *e*P **P 20 23 11.3 +0.1**
comp=Z,1μm,1.3s
KAPI Kappang 46.39 210 P **P 20 23 13.3 +0.9**
KAPI pmax pmax
comp=Z,143nm,1.1s
KAPI Kappang 46.39 210 P **P 20 23 13.3 +0.9**
KAPI IAmb IAmb 20 23 16.2
comp=Z,143nm,1.1s
KBKI Kotabaru 46.41 216 P **P 20 23 10.4 -2.2**
comp=Z,678nmcomp=Z,34nm,0.9s
PMG Port Moresby 46.58 172 LR LR 20 42 37.6
comp=Z,242nm,20.3s,baz=342,slow=36
PMG Port Moresby 46.58 172 *i* P **P 20 23 14.9 +1.1**
SHLS Shalkode 46.63 298⇑ *i*P **P 20 23 11.7 -2.6**
comp=Z,232nm,1.5s,baz=297
SHLS *e*S **S 20 29 56.8 -2.9**
baz=297
SHLS Shalkode 46.63 298*c* *i*P **P 20 23 11.6 -2.6**
SHLS *e*S **S 20 29 56.7 -2.9**
SHLS pmax pmax
comp=Z,232nm,1.5s
SHLS MLR MLR
comp=Z,738nm,13.0s
IMAR Indian Mountai 46.73 31 P **P 20 23 15.9 +1.4**
RAMN Ramite 46.79 274 *e*P **P 20 23 16.1 +0.2**
comp=Z,744nm,0.8s
JIRN Jiri 46.80 275 *e*P **P 20 23 16.5 +0.4**
comp=Z,2μm,1.0s
OHAK Old Harbor 46.87 43 IAMs_20 IAMs_20 20 42 57.5
comp=Z,2μm,20.0s
TDK Taldyqorghan 46.93 300 *i* P **P 20 23 16.7 +0.3**
comp=Z,428nm,1.6s,baz=300
TDK *e*S **S 20 30 05.6 +2.0**
baz=300
TDK LR LR 20 43 19.6
comp=Z,4μm,17.4s,baz=300
TDK Taldyqorghan 46.93 300 *i* P **P 20 23 16.7 +0.3**
TDK *e*S **S 20 30 05.6 +2.0**
TDK pmax pmax
comp=Z,428nm,1.6s
TDK MLR MLR
comp=Z,4μm,17.0s
GUN Gumba 46.94 275 *e*P **P 20 23 17.5 +0.4**
comp=Z,1μm,0.9s
UZB Uzynbulak 46.95 298⇑ *i*P **P 20 23 16.5 -0.3**
comp=Z,216nm,1.7s,baz=298
UZB *e*S **S 20 30 05.6 +1.4**
baz=298
UZB LR LR 20 43 24.0
comp=Z,502nm,13.6s,baz=298
UZB Uzynbulak 46.95 298*c* *i*P **P 20 23 16.4 -0.3**
UZB *e*S **S 20 30 05.5 +1.4**
UZB pmax pmax
comp=Z,216nm,1.7s
UZB MLR MLR
comp=Z,502nm,14.0s
KPKS Kokpek 47.10 298⇑ *i*P **P 20 23 17.8 -0.1**
comp=Z,274nm,1.7s,baz=298
KPKS *e*S **S 20 30 07.9 +1.6**
baz=298
KPKS LR LR 20 43 29.7
comp=Z,3μm,17.2s,baz=298
KPKS Kokpek 47.10 298*c* *i*P **P 20 23 17.8 -0.1**
KPKS *e*S **S 20 30 07.9 +1.6**
KPKS pmax pmax
comp=Z,274nm,1.7s
KPKS MLR MLR
comp=Z,3μm,17.0s
KDAK Kodiak Island 47.21 42 P **P 20 23 19.3 +0.9**
KDAK pmax pmax
comp=Z,63nm,0.7s
KDAK MLR MLR
comp=Z,2μm,20.0s
KDAK Kodiak Island 47.21 42 P **P 20 23 19.3 +0.9**
KDAK IAmb IAmb 20 23 35.6
comp=Z,63nm,0.7s
KDAK Kodiak Island 47.21 42 IAMs_20 IAMs_20 20 44 12.5
comp=Z,2μm,20.0s
PPLA Purkeypile 47.26 35 IAmb IAmb 20 23 38.1
comp=Z,175nm,1.6s
SATY Saty 47.40 298⇑ *i*P **P 20 23 20.3 0.0**
comp=Z,186nm,1.9s,baz=298
SATY *e*S **S 20 30 12.3 +1.6**
baz=298
SATY LR LR 20 43 58.0
comp=Z,1μm,19.7s,baz=298
SATY Saty 47.40 298*c* *i*P **P 20 23 20.3 0.0**
SATY *e*S **S 20 30 12.2 +1.6**
SATY pmax pmax
comp=Z,186nm,1.9s
SATY MLR MLR
comp=Z,1μm,20.0s
PKI Pulchoki 47.47 275 *e*P **P 20 23 21.0 -0.2**
comp=Z,346nm,0.9s
KKN Kakani 47.47 276 *e*P **P 20 23 21.3 +0.2**
comp=Z,828nm,0.8s
PKIN Phulchoki 47.47 275 *e*P **P 20 23 21.0 -0.2**
comp=Z,498nm,1.2s
DMN Daman 47.69 276 *e*P **P 20 23 22.8 -0.1**
GKN Gorkha 47.89 276 *e*P **P 20 23 24.5 +0.2**
comp=Z,3μm,1.2s
CHKK Chushkaly 48.20 299⇑ *i*P **P 20 23 26.1 -0.2**
baz=299
CHKK Chushkaly 48.20 299*c* *i*P **P 20 23 26.1 -0.2**
MDOK Medeo 48.34 298 *i* P **P 20 23 28.0 +0.4**
baz=298
MDOK *e*S **S 20 30 25.2 +1.4**
baz=298
MDOK LR LR 20 44 30.1
comp=Z,3μm,16.2s,baz=298
MDOK Medeo 48.34 298 *i* P **P 20 23 27.9 +0.4**
MDOK *e*S **S 20 30 25.2 +1.4**
MDOK MLR MLR
comp=Z,3μm,16.0s
AAA Alma-Ata 48.42 298 *e*P **P 20 23 28.8 +0.7**
comp=Z,537nm,2.4s,baz=298
AAA *e*S **S 20 30 27.3 +2.5**
baz=298
AAA LR LR 20 44 18.2
comp=Z,3μm,17.5s,baz=298
AAA Alma-Ata 48.42 298 *i* P **P 20 23 28.7 +0.7**
AAA *e*S **S 20 30 28.7 +3.9**
AAA pmax pmax
comp=Z,600nm,2.2s
DANN Dangsing 48.44 277 *e*P **P 20 23 29.2 +0.5**
comp=Z,1μm,0.8s
TNSS Tian-Shan 48.44 298⇑ *i*P **P 20 23 29.4 +0.8**
baz=298
TNSS LR LR 20 44 26.3
comp=Z,2μm,13.9s,baz=298
TNSS Tian-Shan 48.44 298*c* *i*P **P 20 23 29.3 +0.7**
TNSS MLR MLR
comp=Z,2μm,14.0s
RC01 Rabbit Creek A 48.46 37 IAmb IAmb 20 23 46.5
comp=Z,77nm,1.0s
O22K Cooper Landing 48.50 38 P **P 20 23 29.9 +1.6**
baz=274
TOLK Tolik Lake Re 48.53 27 P **P 20 23 29.6 +1.1**
baz=267,SNR=8.4
KUU Kurty 48.64 299⇑ *i*P **P 20 23 29.3 -0.4**
comp=Z,412nm,1.9s,baz=299
KUU *e*S **S 20 30 29.2 +1.3**
baz=299
KUU LR LR 20 44 40.7
comp=Z,1μm,14.2s,baz=299
KUU Kurty 48.64 299*c* *i*P **P 20 23 29.2 -0.4**
KUU *e*S **S 20 30 29.1 +1.3**
KUU pmax pmax
comp=Z,411nm,1.9s
KUU MLR MLR
comp=Z,1μm,14.0s
KULM Kulim 48.65 239 IAmb IAmb 20 23 32.1
comp=Z,170nm,1.4s
KULM Kulim 48.65 239 P **P 20 23 31.0 +0.9**
SEW Seward 48.66 39 IAmb IAmb 20 24 15.6
comp=Z,50nm,0.9s
SEW IAMs_20 IAMs_20 20 45 30.7
comp=Z,1μm,20.0s
PMR Palmer 48.72 37 IAmb IAmb 20 23 48.4
comp=Z,57nm,0.9s
RND Reindeer 48.76 34 IAmb IAmb 20 23 33.9
comp=Z,85nm,1.2s
MTBS Maitube 48.78 298 *e*P **P 20 23 31.3 +0.4**
baz=298
MTBS Maitube 48.78 298 *e*P **P 20 23 31.3 +0.4**
MMRI Maumere 48.80 205 P **P 20 23 30.7 -0.4**
comp=Z,2μmcomp=Z,95nm,0.8s
MMRI Maumere 48.80 205 P **P 20 23 32.7 +1.6**
GHO Glory Hole Cre 48.81 36 IAmb IAmb 20 23 54.7
comp=Z,83nm,0.8s
KOLN Koldanda 48.82 277 *e*P **P 20 23 31.6 +0.1**
comp=Z,2μm,1.3s
IPM Ipoh 48.98 238 IAmb IAmb 20 23 33.9
comp=Z,108nm,1.1s
IPM Ipoh 48.98 238 P **P 20 23 33.0 +0.4**
MDM Murphy Dome 48.99 32 IAmb IAmb 20 23 35.9
comp=Z,71nm,1.1s
KNK Knik Glacier 49.05 37 IAmb IAmb 20 23 51.4
comp=Z,49nm,0.8s
WRH Wood River Hil 49.07 33 IAmb IAmb 20 24 58.0
comp=Z,99nm,1.2s
SML Sawmill 49.09 36 IAmb IAmb 20 23 48.2
comp=Z,65nm,0.7s
EDFI Ende, Flores 49.10 206 P **P 20 23 32.2 -1.3**
comp=Z,869nmcomp=Z,45nm,1.4s
MYKOM Kota Tinggi 49.12 233 P **P 20 23 35.0 +1.4**
TCOL CIGO, UAF Yank 49.15 32 P **P 20 23 34.4 +1.2**
baz=272
PYUN Piuthan 49.16 277 *e*P **P 20 23 34.4 +0.3**
COLA College 49.16 32*c* *i*P **P 20 23 33.9 +0.6**
COLA pmax pmax
comp=Z,59nm,1.5s
SOEI Soe 49.20 202 P **P 20 23 34.5 +0.2**
comp=Z,164nm,1.1s
POKR Poker Plat Res 49.33 32 P **P 20 23 36.2 +1.6**
baz=272,SNR=49
TKM2 Tokmak 2 49.43 298 P **P 20 23 36.8 +0.8**
SNR=87
TKM2 Tokmak 2 49.43 298 *i* P **P 20 23 35.8 -0.2**
TKM2 pmax pmax
comp=Z,229nm,1.2s
DHY Denali Highway 49.45 35 IAmb IAmb 20 23 53.7
comp=Z,138nm,1.6s
HNR Honiara 49.51 155 LR LR 20 41 40.1
comp=Z,1μm,21.9s,baz=320,slow=32
HNR Honiara 49.51 155 IAMs_20 IAMs_20 20 41 51.4
comp=Z,2μm,22.0s
HDA Harding Lake 49.56 33 P **P 20 23 36.6 +0.2**
baz=273,SNR=45
HDA Harding Lake 49.56 33 IAmb IAmb 20 23 58.1
comp=Z,60nm,0.9s
IL31 49.57 32 IAmb IAmb 20 23 38.7
comp=Z,54nm,0.9s
ILAR Eielson Array 49.57 32 P **P 20 23 36.9 +0.4**
comp=Z,43nm,0.9s,baz=270,slow=6.0,SNR=247
ILAR Eielson Array 49.57 32 P **P 20 23 37.3 +0.8**
ILAR Eielson Array 49.57 32 P **P 20 23 37.3 +0.8**
BRZS Berezniki 49.62 308 *i* P **P 20 23 36.5 -0.6**
comp=Z,257nm,1.6s,baz=308
BRZS Berezniki 49.62 308 *i* P **P 20 23 36.5 -0.6**
BRZS pmax pmax
comp=Z,257nm,1.6s
GLI Glacier Island 49.76 37 IAmb IAmb 20 24 03.6
comp=Z,49nm,1.0s
BATI Baumata 49.81 203 P **P 20 23 38.6 -0.3**
comp=Z,104nm,1.0s
KZA Kyzart 49.92 297 P **P 20 23 41.2 +1.3**
SNR=43
SGDS Sogindy 49.95 299⇑ *i*P **P 20 23 39.8 0.0**
comp=Z,162nm,2.0s,baz=299
SGDS *e*S **S 20 30 48.0 +1.7**
baz=299
SGDS LR LR 20 45 38.7
comp=Z,507nm,12.9s,baz=299
SGDS Sogindy 49.95 299*c* *i*P **P 20 23 39.7 0.0**
SGDS *e*S **S 20 30 48.0 +1.7**
SGDS pmax pmax
comp=Z,162nm,2.0s
SGDS MLR MLR
comp=Z,507nm,13.0s
KBK Karagaybulak 49.96 298 P **P 20 23 40.2 +0.2**
SNR=117
CHMS Chumysh 50.00 299 P **P 20 23 40.2 +0.1**
SNR=37
FID Port Fidalgo 50.07 38 IAmb IAmb 20 23 59.1
comp=Z,49nm,1.0s
USP Ospenovka 50.10 299 P **P 20 23 41.0 +0.2**
SNR=45
HIN Hinchinbrook I 50.10 38 IAmb IAmb 20 23 58.1
comp=Z,89nm,1.2s
FYU Fort Yukon 50.18 30 IAmb IAmb 20 23 45.0
comp=Z,181nm,1.4s
KSH Kashi 50.20 294 P **P 20 23 45.4 +3.6**
KSH pP pP 20 23 58.5 +2.2
KSH S **S 20 30 54.4 +4.4**
KSH pmax pmax
comp=Z,280nm,1.2s
KSH LR LR
comp=Z,9μm,18.0s
KSH LR LR
comp=Z,7μm,17.1s
KSH LR LR
comp=Z,10μm,16.9s
AAK Ala-Archa 50.28 298 P **P 20 23 42.5 +0.1**
comp=Z,58nm,0.9s,baz=93,slow=5.0,SNR=42
AAK Ala-Archa 50.28 298 P **P 20 23 42.3 -0.1**
SNR=32

AAK Ala-Archa 50.28 298 i P P 20 23 42.3 -0.1
SNR=34
AAK Ala-Archa 50.28 298 P P 20 23 42.5 +0.1
AAK P P 20 23 42.5 +0.1
AAK P P 20 23 42.5 +0.1
AAK Ala-Archa 50.28 298ceP P 20 23 42.4 -0.1
AAK pmax pmax
comp=Z,143nm,1.7s
AAK Ala-Archa 50.28 298 P P 20 23 42.6 +0.1
AAK IAmb IAmb 20 23 49.6
comp=Z,79nm,0.8s
BVAR Borovoye Array 50.39 312 P P 20 23 42.7 -0.2
comp=Z,118nm,0.9s,baz=79,slow=7.7,SNR=322
BVAR PcP PcP 20 25 00.8 +0.2
comp=Z,31nm,0.6s,baz=101,slow=4.6,SNR=4.8
BVAR S S 20 30 54.2 +2.2
comp=Z,5.3nm,0.9s,baz=42,slow=16,SNR=5.4
TPI Tanjungpandan 50.39 226 P P 20 23 43.7 +0.4
comp=Z,1µmcomp=Z,78nm,1.0s
UCH Uchtor 50.39 298 P P 20 23 44.2 +0.6
SNR=31
BMAR Burnt Mountain 50.40 29 P P 20 23 45.2 +2.4
BRVK Borovoye 50.45 312 P P 20 23 43.2 -0.1
BRVK P P 20 23 43.2 -0.1
BRVK P P 20 23 43.2 -0.1
BRVK Borovoye 50.45 312ceP P 20 23 43.1 -0.1
BRVK pmax pmax
comp=Z,264nm,1.3s
BRVK Borovoye 50.45 312 P P 20 23 43.6 +0.3
EYAK Cordova Ski Ar 50.45 38 P P 20 23 44.7 +1.5
EYAK IAmb IAmb 20 24 00.8
comp=Z,98nm,1.3s
EYAK IAMs_20 IAMs_20 20 45 05.5
comp=Z,1µm,21.0s
RIDG Independent Ri 50.53 34 IAmb IAmb 20 25 04.3
comp=Z,91nm,1.1s
MTN Manton Dam 50.54 193 P P 20 23 44.5 +0.2
PLAI Plampang 50.65 210 P P 20 23 45.2 +0.1
comp=Z,60nm,0.8s
BWNR Bhubaneshwar 50.66 267 eP P 20 23 45.7 +0.4
BWNR IAmb IAmb 20 23 48.5
comp=Z,425nm,1.9s
KMMI Kalianget 50.73 216 P P 20 23 46.5 +0.7
comp=Z,117nm,1.3s
EKS2 Erkin-Say 50.78 299 P P 20 23 46.2 +0.1
SNR=34
COEN Coen 50.79 177 P P 20 23 47.4 +1.2
DOT Dot Lake 50.89 34 IAmb IAmb 20 24 04.1
comp=Z,40nm,0.8s
SCRK Sand Creek 50.89 33 IAmb IAmb 20 23 49.6
comp=Z,121nm,1.2s
RAGM Ragged Mountai 51.00 38 IAMs_20 IAMs_20 20 43 54.4
comp=Z,1µm,22.0s
AML Almayashu 51.00 298 P P 20 23 48.9 +0.8
SNR=23
MENT Mentasta 51.12 35 IAmb IAmb 20 24 18.4
comp=Z,73nm,1.0s
GLB Gilahina Butte 51.27 37 IAmb IAmb 20 24 08.0
comp=Z,203nm,2.0s
LHMI Lhok Sumawe 51.29 243 P P 20 23 50.7 +0.6
comp=Z,212nm,1.5s
LHMI Lhok Sumawe 51.29 243 P P 20 23 51.6 +1.5
GRJI Gresik 51.32 218 P P 20 23 52.3 +2.1
comp=Z,2µmcomp=Z,166nm,1.0s
TSI Tuntungan 51.38 240 P P 20 23 51.4 +0.7
comp=Z,111nm,0.9s
RPSI Rantau Prapat 51.71 239 IAmb IAmb 20 23 55.8
comp=Z,43nm,0.7s
WAX Waxell Ridge 51.88 38 IAmb IAmb 20 24 13.7
comp=Z,73nm,1.1s
JAGI Jajag, Banyuwa 51.89 215 P P 20 23 56.6 +2.1
comp=Z,82nm,1.1s
KCSI Kotacane, Aceh 51.91 241 P P 20 23 52.1 -2.6
comp=Z,33nm,1.3s
KCSI pP pP 20 24 05.1 -4.1
comp=Z,33nm,1.3s
BCAR Beaver Creek A 51.98 34 P P 20 23 56.5 +1.9
MESA MESA 52.37 38 IAMs_20 IAMs_20 20 43 17.6
comp=Z,1µm,22.0s
DZA Taraz 52.42 299 eP P 20 23 58.4 +0.1
comp=Z,159nm,1.0s,baz=299
DZA LR LR 20 46 59.3
comp=Z,461nm,14.2s,baz=299
DZA Taraz 52.42 299 eP P 20 23 58.3 +0.1
DZA pmax pmax
comp=Z,159nm,1.0s
DZA MLR MLR
comp=Z,461nm,14.0s
YAH Yahtse 52.44 38 IAmb IAmb 20 24 50.0
comp=Z,164nm,1.6s
YAH IAMs_20 IAMs_20 20 44 38.4
comp=Z,1µm,20.0s
SMRI Semarang 52.46 220 P P 20 24 00.9 +2.2
comp=Z,124nm,1.2s
MNSI Mandailing Nat 52.66 237 P P 20 23 59.4 -0.8
comp=Z,1µmcomp=Z,56nm,1.3s
SDSI Sungai Dareh 52.74 233 P P 20 24 01.3 +0.5
comp=Z,2µmcomp=Z,140nm,1.3s
BHK Bhakra 52.90 284 eP P 20 24 03.1 +1.2
KKAR Karatay Array 52.92 300 P P 20 24 01.8 -0.1
KKAR Karatay Array 52.92 300 P P 20 24 01.8 -0.1
KKAR Karatay Array 52.92 300 IAmb IAmb 20 24 04.7
comp=Z,197nm,1.1s
UGM Wanagama 53.15 219 P P 20 24 04.5 +0.7
comp=Z,376nm,1.3s
PDSI Padang 53.35 234 P P 20 24 05.1 -0.3
comp=Z,8.5nm,0.7s
BRLS Borolday 53.41 300 eP P 20 24 07.0 +1.4
baz=300
BRLS eS S 20 31 38.4 +4.6
baz=300
BRLS Borolday 53.41 300 eP P 20 24 06.9 +1.4
BRLS eS S 20 31 38.4 +4.6
NDI New Delhi 53.46 281 eP P 20 24 03.0 -3.0
EPYK Eagle Plains 53.60 30 P P 20 24 08.1 +1.6
baz=280,SNR=74
KRJI Kerinci 53.61 232 P P 20 24 08.5 +1.2
comp=Z,5µmcomp=Z,215nm,1.7s
GSI Gunungsitoli 53.64 239 P P 20 24 07.6 +0.1
comp=Z,31µmcomp=Z,3µm,1.4s
LHSI Lahat 53.68 229 P P 20 24 08.2 +0.5
comp=Z,3µmcomp=Z,164nm,1.4s
KNRA Kununurra 53.75 195 P P 20 24 08.8 +0.7
KNRA IAmb IAmb 20 24 23.8
comp=Z,76nm,0.8s
LEM Lembang 53.76 223 P P 20 24 08.9 +0.4
LEM pmax pmax
comp=Z,191nm,1.3s
CHM Chimkent 53.81 299 eP P 20 24 08.8 +0.3
comp=Z,176nm,1.3s,baz=299
CHM eS S 20 31 41.3 +2.0
baz=299
CHM LR LR 20 48 07.0
comp=Z,369nm,16.9s,baz=299
CHM Chimkent 53.81 299 eP P 20 24 08.8 +0.3
CHM eS S 20 31 41.3 +2.0
CHM pmax pmax
comp=Z,176nm,1.3s
CHM MLR MLR
comp=Z,369nm,17.0s
BLSI Bandar Lampung 53.90 226 P P 20 24 09.6 +0.3
comp=Z,98nm,0.7s
MASI Maura Aman, Be 53.93 231 P P 20 24 11.2 +1.6
comp=Z,83µmcomp=Z,422nm,1.3s
DBJI Dramaga 54.01 224 P P 20 24 11.5 +1.4
comp=Z,82nm,1.4s
LWLI Liwa 54.31 228 P P 20 24 13.6 +1.2
comp=Z,125nm,0.8s
TAS Tashkent 54.38 298 P P 20 24 13.3 +0.7
TAS pmax pmax
comp=Z,209nm,1.1s
HYT Haines Junctio 54.39 37 IAmb IAmb 20 25 00.6
comp=Z,94nm,1.0s
NIL Nilore 54.40 288 P P 20 24 13.4 +0.5
NIL Nilore 54.40 288 P P 20 24 13.7 +0.8
NIL pmax pmax
comp=Z,277nm,1.0s
NIL Nilore 54.40 288 P P 20 24 13.7 +0.8
INK Inuvik 54.45 27 P P 20 24 13.7 +1.1
comp=Z,35nm,1.0s,baz=301,slow=6.5,SNR=7.2
INK Inuvik 54.45 27 P P 20 24 13.7 +1.1
INK pmax pmax
comp=Z,38nm,0.9s
INK MLR MLR
comp=Z,700nm,21.0s
KASI Kota Agung 54.46 227 P P 20 24 12.4 -0.9
comp=Z,54nm,1.2s

SISI Saibi 54.56 235 P P 20 24 14.9 +0.8
comp=Z,65nm,0.9s
SVE Sverdlovsk 54.98 319d iP P 20 24 16.9 +0.3
SVE eS S 20 31 54.8 +0.4
SVE pmax pmax
comp=Z,684nm,1.1s
SVE MLR MLR
comp=Z,3µm,17.0s
NGP Nagpur 55.62 272 eP P 20 24 21.4 -0.4
NGP IAmb IAmb 20 24 24.8
comp=Z,89nm,0.5s
PVM Polavaram 55.63 266 eP P 20 24 22.4 +0.5
PVM IVmB_BB 20 24 23.1
comp=Z,1µm,1.4s
PVM IVMs_BB IVMs_BB 20 47 14.3
comp=Z,480nm,29.3s
ARU Arti 56.19 318 P P 20 24 25.2 -0.1
comp=Z,401nm,1.1s,baz=73,slow=4.6,SNR=476
ARU S S 20 32 11.5 +0.9
comp=Z,1.8nm,0.8s,baz=333,slow=22,SNR=6.2
ARU Arti 56.19 318c iP P 20 24 25.2 -0.1
ARU *PP pP 20 24 40.5 +0.5
ARU 20 25 22.0
ARU 20 26 27.1
ARU PPP PPP 20 27 43.9
ARU S S 20 32 11.3 +0.7
ARU *SS pS 20 32 30.5 +3.0
ARU 20 34 06.6
ARU SS SS 20 36 02.3 +5.2
ARU pmax pmax
comp=Z,699nm,0.9s
ARU MLR MLR
comp=Z,3µm,18.0s
ARU Arti 56.19 318 P P 20 24 25.4 0.0
A36M Sachs Harbour 56.30 22 P P 20 24 27.1 +1.2
baz=286,SNR=80
AJM Ajmer 56.50 280⇑iP P 20 24 27.0 -1.1
RPR Rampur 56.62 269 eP P 20 24 29.2 +0.2
RPR IVmB_BB 20 24 29.6
comp=Z,1µm,1.3s
WB0 Warramunga Arr 56.89 188 IAmb IAmb 20 24 45.7
comp=Z,68nm,0.9s
WC1 Warramunga Arr 57.05 188 IAMs_20 IAMs_20 20 46 05.2
comp=Z,913nm,21.0s
CTA Charters Tower 57.06 174 LR LR 20 47 37.5
comp=Z,557nm,21.0s,baz=350,slow=34
CTA Charters Tower 57.06 174 P P 20 24 34.5 +2.7
CTA pmax pmax
comp=Z,35nm,1.4s
CTAO Charters Tower 57.06 174 P P 20 24 34.5 +2.7
CTAO pmax pmax
comp=Z,33nm,1.4s
WRAB Tennant Creek 57.06 188 P P 20 24 31.7 -0.2
WRAB pmax pmax
comp=Z,106nm,1.2s
WRAB MLR MLR
comp=Z,1µm,22.0s
WRAB Tennant Creek 57.06 188 P P 20 24 31.7 -0.2
WRAB IAmb IAmb 20 24 48.8
comp=Z,106nm,1.2s
WRAB Tennant Creek 57.06 188 IAMs_20 IAMs_20 20 46 03.3
comp=Z,1µm,22.0s
WB2 Warramunga Arr 57.07 188 IAmb IAmb 20 24 48.9
comp=Z,172nm,1.4s
WB2 IAMs_20 IAMs_20 20 46 03.6
comp=Z,989nm,22.0s
WRA Warramunga Arr 57.07 188 P P 20 24 31.5 -0.5
comp=Z,12nm,0.5s,baz=4.7,slow=7.6,SNR=25
WRA LR LR 20 46 37.1
comp=Z,553nm,21.9s,baz=5.0,slow=33
WRA Warramunga Arr 57.07 188 P 20 24 31.8 -0.2
KBL Kabul 57.20 291 P P 20 24 32.7 -0.4
KBL Kabul 57.20 291 P P 20 24 32.5 -0.7
KBL pmax pmax
comp=Z,271nm,1.1s
KBL Kabul 57.20 291 P 20 24 33.5 +0.3
KBL IAMs_20 IAMs_20 20 50 29.9
comp=Z,2µm,22.0s
SRSP Sriramsagar 57.35 270 eP P 20 24 34.1 0.0
SRSP IVmB_BB 20 24 34.8
comp=Z,2µm,1.3s
SRSP IVMs_BB IVMs_BB 20 51 45.2
comp=Z,301nm,4.8s
ADKI Addanki 57.73 266 eP P 20 24 37.5 +0.8
ADKI IVmB_BB 20 24 38.2
comp=Z,654nm,2.2s
ADKI IVMs_BB IVMs_BB 20 48 05.5
comp=Z,392nm,21.9s
ABKAR Akbulak array 57.75 310 P P 20 24 36.3 -0.2
NJS Nagarjunasagar 57.86 267 eP P 20 24 37.8 +0.1
NJS IVmBBB 20 24 38.5
comp=Z,685nm,1.4s
NJS IVMs_BB IVMs_BB 20 48 47.8
comp=Z,437nm,27.7s
HYB Hyderabad 57.99 268 i P P 20 24 38.5 -0.2
comp=Z,280nm,1.0s
HYB ePcP PcP 20 25 27.0 -3.3
HYB e 20 25 44.0
HYB eS S 20 32 32.0 -3.4
HYBB Hyderabad (bro 57.99 268 eP P 20 24 38.7 0.0
HYBB IVmB_BB 20 24 39.2
comp=Z,1µm,1.1s
HYBB IVMs_BB IVMs_BB 20 51 26.7
comp=Z,340nm,4.1s
SRLM Srisailam 58.45 267 eP P 20 24 41.6 -0.2
SRLM IVmBBB 20 24 42.3
comp=Z,857nm,1.4s
SRLM IVMs_BB IVMs_BB 20 47 45.6
comp=Z,516nm,4.3s
AKTO Aktyubinsk 58.49 312 P P 20 24 41.0 -0.6
comp=Z,130nm,0.9s,baz=77,slow=7.3,SNR=152
AKTO S S 20 32 40.3 -0.7
comp=Z,2.8nm,0.8s,baz=340,slow=23,SNR=5.5
DLBC Dease Lake 58.73 38 IAmb IAmb 20 24 47.5
comp=Z,69nm,1.1s
SKHT Srikalahasti 59.12 264 eP P 20 24 47.3 +0.8
SKHT IVmB_BB 20 24 47.9
comp=Z,1µm,1.5s
SKHT IVMs_BB IVMs_BB 20 51 45.5
comp=Z,348nm,5.6s
KLRI Killari 59.20 270 eP P 20 24 46.8 -0.3
KLRI IVmB_BB 20 24 47.2
comp=Z,3µm,1.3s
KLRI IVMs_BB IVMs_BB 20 51 40.0
comp=Z,443nm,3.9s
HOPEN Hopen 59.95 346 eP P 20 24 52.3 +1.0
ALE Alert 60.08 3 IAMs_20 IAMs_20 20 52 58.0
comp=Z,972nm,19.0s
KIRV Kirov 60.09 323 P P 20 24 52.6 +0.1
comp=Z,294nm,0.4s,baz=66,slow=2.3,SNR=271
KIRV Kirov 60.09 323⇑eP P 20 24 52.5 0.0
URV Uravakonda 60.39 267 eP P 20 24 55.2 -0.1
URV IVmB_BB 20 24 55.9
comp=Z,926nm,1.7s
URV IVMs_BB IVMs_BB 20 52 54.5
comp=Z,355nm,9.3s
SPA0 Spitsbergen Ar 60.44 349 IAmb IAmb 20 24 56.5
comp=Z,136nm,1.3s
SPA0 Spitsbergen Ar 60.44 349 eP P 20 24 55.2 +0.5
SPITS Spitsbergen Ar 60.44 349 P P 20 24 54.6 -0.2
comp=Z,39nm,1.0s,baz=77,slow=7.8,SNR=21
KBS Kingsbay 60.58 350ceP P 20 24 56.7 +1.1
KBS pmax pmax
comp=Z,199nm,1.3s
KBS Kingsbay 60.58 350 P P 20 24 57.3 +1.7
KBS Kingsbay 60.58 350 eP P 20 24 56.4 +0.8
ASAR Alice Springs 60.80 188 P P 20 24 57.5 -0.3
comp=Z,5.9nm,0.6s,baz=2.8,slow=6.4,SNR=44
ASAR LR LR 20 49 04.3
comp=Z,455nm,21.7s,baz=353,slow=34
ASAR PKPKPKP 20 54 20.9
comp=Z,3.8nm,1.1s,baz=176,slow=2.9,SNR=6.8
ASAR Alice Springs 60.80 188 P P 20 24 58.0 +0.3
ASAR Alice Springs 60.80 188 P P 20 24 58.0 +0.3
NOR Nord 61.00 356⇑iP P 20 24 58.3 -0.1
comp=Z,41nm,0.9s
NOR Nord 61.00 356⇑iP P 20 24 58.3 -0.1
NOR pmax pmax
comp=Z,41nm,0.9s
POO Poona 61.16 272 i P P 20 24 57.0 -3.5
HSPB Hornsund (broa 61.36 348 eP P 20 25 01.3 +0.4
HSPB esP sP 20 25 21.2 -0.6
HSPB ePcP PcP 20 25 43.4 +0.7
HSPB eL L 20 53 49.3
comp=Z,1µm,20.2s
HSPB Hornsund (broa 61.36 348 eP P 20 25 01.3 +0.4

LVZ Lovozero 61.99 336ceP P 20 25 04.1 -1.2
LVZ pmax pmax
comp=Z,369nm,1.3s
LVZ Lovozero 61.99 336 P P 20 25 05.1 -0.2
PALK Pallekele 62.17 257 P P 20 25 08.2 +0.9
PALK P P 20 25 08.2 +0.9
APA Apatity 62.56 336⇓iP P 20 25 07.6 -1.5
APA pmax pmax
comp=Z,95nm,1.1s
TMCR Tamitsa 62.61 331 eP P 20 25 07.2 -2.2
TMCR pmax pmax
comp=Z,535nm,1.4s
RES Resolute Bay 62.62 14 P P 20 25 09.5 +0.1
RES pmax pmax
comp=Z,82nm,1.2s
RES MLR MLR
comp=Z,600nm,22.0s
RES Resolute Bay 62.62 14 P P 20 25 09.5 +0.1
RES IAmb IAmb 20 25 11.6
comp=Z,82nm,1.1s
EIDS Eidsvold 62.81 170 P P 20 25 12.2 +1.1
EIDS IAMs_20 IAMs_20 20 50 54.5
comp=Z,1µm,22.0s
KEV Kevo 63.33 339 P P 20 25 14.6 +0.5
KEV pmax pmax
comp=Z,150nm,1.2s
KEV Kevo 63.33 339 P P 20 25 14.6 +0.5
ASHT Ashkhabad 63.44 299 IAMs_20 IAMs_20 20 55 23.5
comp=Z,1µm,21.0s
DZM Mont Dzumac 63.48 154 eP P 20 25 17.5 +1.7
comp=Z,152nm,1.4s
DZM eS S 20 33 41.7 -3.4
comp=Z,2µm,37.0s
DZM Mont Dzumac 63.48 154 eLR LR 20 44 17.6
comp=Z,3µm,21.3s
DZM Mont Dzumac 63.48 154 P P 20 25 18.2 +2.4
DZM IAmb IAmb 20 25 35.4
comp=Z,146nm,1.4s
KLMR Klimovskoe 63.61 328c iP P 20 25 15.6 -0.5
KLMR e 20 27 35.3
KLMR eS S 20 33 44.5 -1.1
KLMR pmax pmax
comp=Z,474nm,1.4s
KLMR MLR MLR
comp=Z,720nm,16.0s
KLMR Klimovskoe 63.61 328⇑iP P 20 25 15.7 -0.4
KLMR ⇓iP P 20 25 15.7 -0.4
KLMR ⇓iP P 20 25 15.7 -0.4
KLMR AMP 20 25 17.4
comp=Z,474nm,1.4s
KLMR ePP PP 20 27 35.4 -0.6
KLMR eS S 20 33 44.6 -1.1
KLMR eS S 20 33 44.6 -1.1
KLMR LQ LQ 20 47 19.6
KLMR LQ LQ 20 47 19.6
KLMR LR LR 20 52 29.5
KLMR AMP 20 55 04.1
comp=Z,720nm,16.4s
GEYT Alibeck 63.63 299 P P 20 25 16.9 +0.1
comp=Z,237nm,1.1s,baz=46,slow=4.3,SNR=250
GEYT LR LR 20 55 50.6
comp=Z,815nm,18.2s,baz=40,slow=39
GEYT Alibeck 63.63 299 P P 20 25 17.1 +0.4
GYA0B ALIBECK ARRAY 63.63 299 IAMs_20 IAMs_20 20 55 29.7
comp=Z,1µm,20.0s
HAMF Hammerfest 63.71 341 eP P 20 25 16.4 -0.2
YKA Yellowknife Ar 63.88 30 P P 20 25 18.3 +0.4
comp=Z,35nm,1.0s,baz=293,slow=6.3,SNR=76
YKA PKPKP 20 54 12.3
comp=Z,3.6nm,1.1s,baz=123,slow=2.8,SNR=9.3
YKA LR LR 20 56 37.2
comp=Z,250nm,18.9s,baz=0.0,slow=39
ARCES ARCESS Array B 63.88 339 P P 20 25 17.9 0.0
comp=Z,42nm,0.8s,baz=55,slow=7.8,SNR=88
ARCES LR LR 20 55 34.6
comp=Z,1µm,21.5s,baz=42,slow=38
ARCES ARCESS Array B 63.88 339 P P 20 25 18.2 +0.3
ARCES ARCESS Array B 63.88 339 P P 20 25 18.2 +0.3
ARE0 ARCESS Array S 63.89 339 eP P 20 25 18.0 +0.1
KTK1 Kautokeino 64.85 339 eP P 20 25 24.6 +0.5
MSF Maaselka 64.92 335 P P 20 25 24.9 +0.2
MSF pmax pmax
comp=Z,133nm,1.2s
TRO Tromso 65.61 341 eP P 20 25 29.0 0.0
DAG Danmarks Havn 65.72 355⇑iP P 20 25 29.3 -0.3
comp=Z,91nm,0.9s
DAG Danmarks Havn 65.72 355⇑iP P 20 25 29.3 -0.3
DAG pmax pmax
comp=Z,91nm,0.9s
JOF Joensuu 65.83 332 P P 20 25 30.5 -0.1
JOF pmax pmax
comp=Z,85nm,1.4s
OUL Oulu 66.47 335 P P 20 25 34.6 0.0
OUL pmax pmax
comp=Z,159nm,1.1s
MOS Moscow 67.09 323 eP P 20 25 35.7 -3.0
MOS e 20 26 04.9
MOS e 20 28 05.3
MOS eS S 20 34 27.3 -1.1
MOS e 20 34 50.5
MOS eSS SS 20 38 52.1 +4.8
MOS pmax pmax
comp=Z,546nm,1.4s
MOS MLR MLR
comp=Z,700nm,16.0s
D03D Eldon 67.23 47 P P 20 25 41.4 +1.6
baz=300,SNR=12
VRH Novokhopyorsk 67.41 318 eP P 20 25 39.7 -1.1
VRH eS S 20 34 27.7 -4.7
VRH pmax pmax
comp=Z,320nm,1.0s
VRH pmax pmax
comp=Z,400nm,1.0s
VRH smax smax
comp=E,120nm,7.0s
VRH MLR MLR
comp=Z,3µm,17.0s
B05A Bryant 67.44 46 P P 20 25 43.8 +2.8
baz=301,SNR=9.9
N2IH Innhavet 67.55 341 eP P 20 25 41.5 +0.1
STEI Steigen 67.76 341 eP P 20 25 42.4 -0.3
SUF Sumiainen 67.85 333 P P 20 25 43.2 -0.2
SUF pmax pmax
comp=Z,167nm,1.1s
OBN Obninsk 67.94 323 P P 20 25 43.7 -0.3
comp=Z,38nm,0.9s,baz=47,slow=2.0,SNR=102
OBN Obninsk 67.94 323c iP P 20 25 43.6 -0.5
OBN i S S 20 34 40.5 +1.9
OBN pmax pmax
comp=Z,373nm,1.2s
OBN MLR MLR
comp=Z,1µm,17.0s
OBN Obninsk 67.94 323 P P 20 25 44.2 +0.2
OBN IAMs_20 IAMs_20 20 57 37.4
comp=Z,1µm,18.0s
KULLO Kullorsuaq 67.96 5⇑iP P 20 25 43.4 -0.5
comp=Z,42nm,1.1s
KULLO Kullorsuaq 67.96 5⇑iP P 20 25 43.4 -0.5
KULLO pmax pmax
comp=Z,42nm,1.1s
E04D Cinebar 68.04 48 P P 20 25 48.3 +3.4
baz=301,SNR=11
PUL Pulkovo 68.05 329 eP P 20 25 42.4 -2.3
PUL Pulkovo 68.05 329ceP P 20 25 45.6 +0.9
PUL pmax pmax
comp=Z,457nm,1.3s
N2TV T¥rnvik 68.05 340 eP P 20 25 44.6 +0.1
LOF Lofoten 68.06 341 eP P 20 25 44.1 -0.5
N2ST Straumen 68.08 340 eP P 20 25 45.1 +0.4
LPSR Galich'ya Gora 68.14 320 eP P 20 25 44.6 -0.8
LPSR eS S 20 34 37.2 -3.9
LPSR pmax pmax
comp=Z,340nm,1.0s
LPSR smax smax
comp=N,50nm,8.8s
LPSR MLR MLR
comp=Z,5µm,17.0s
MAK Makhachkala 68.27 308 eP P 20 25 45.3 -1.1
MAK eS S 20 34 42.1 -0.8
MAK pmax pmax
comp=Z,211nm,1.4s
MAK MLR MLR
comp=Z,1µm,15.0s
G03D McMinnville, O 68.31 49 P P 20 25 49.0 +2.4
baz=301

N2SV S_rvYgen 68.37 341 eP P 20 25 46.2 -0.3
NBB29 Rokland skole 68.41 340 eP P 20 25 47.5 +0.7
VORR Voronezh 68.49 319 eP P 20 25 46.0 -1.6
VORR pmax pmax
comp=Z,550nm,1.2s
NBB28 Valnes 68.50 340 eP P 20 25 47.5 +0.1
I02D Swisshome 68.53 50 P P 20 25 51.3 +3.4
baz=301
STKA Stephens Creek 68.59 180 P P 20 25 49.1 +0.8
comp=Z,15nm,0.9s,baz=349,slow=9.2,SNR=16
STKA Stephens Creek 68.59 180 P P 20 25 49.1 +0.8
FORT Forrest 68.60 192 P P 20 25 49.1 +0.7
FORT IAmb IAmb 20 25 51.1
comp=Z,96nm,0.8s
COR Corvallis 68.61 50 P P 20 25 49.8 +1.3
COR pmax pmax
comp=Z,142nm,1.3s
COR Corvallis 68.61 50 P P 20 25 49.8 +1.3
COR IAmb IAmb 20 25 53.2
comp=Z,142nm,1.3s
N2VA Vr y 68.62 341 eP P 20 25 47.8 -0.3
FINES FINESS Array B 68.68 332 P P 20 25 48.4 -0.2
comp=Z,100nm,0.8s,baz=49,slow=8.8,SNR=187
FINES LR LR 20 58 20.0
comp=Z,2μm,19.7s,baz=52,slow=38
FINES FINESS Array B 68.68 332 P P 20 25 48.7 +0.1
NBB05 Inndyr 68.73 340 eP P 20 25 48.7 -0.1
VSR Storozhevoye 68.76 319 eP P 20 25 48.7 -0.6
VSR eS S 20 34 43.8 -4.8
VSR pmax pmax
comp=Z,290nm,0.9s
VSR pmax pmax
comp=Z,520nm,1.2s
VSR smax smax
comp=N,150nm,7.7s
VSR MLR MLR
comp=Z,3μm,17.0s
LTY Liberty 68.78 46 P P 20 25 50.6 +0.9
VORD Divnogorie 68.83 318 eP P 20 25 49.0 -0.7
VORD pmax pmax
comp=Z,330nm,1.3s
NBB30 Finnes 68.86 340 eP P 20 25 49.5 -0.1
VAF Ylistaro 68.87 335 P P 20 25 49.9 +0.1
VAF pmax pmax
comp=Z,132nm,1.2s
NBB17 Glomfjord BYr 68.91 340 eP P 20 25 50.1 +0.1
J01E Myrtle Point 68.96 51 P P 20 25 53.6 +2.9
baz=302
H04D Lebanon 68.99 50 P P 20 25 53.8 +2.9
baz=302,SNR=6.1
F05D White Salmon 69.04 48 P P 20 25 53.4 +2.2
baz=302
I03D Drain, OR 69.05 51 P P 20 25 53.4 +2.2
baz=302,SNR=18
GROC Groznyy 69.21 309 eP P 20 25 51.6 -0.7
GROC e 20 26 15.5
GROC e 20 28 24.4
GROC pmax pmax
comp=Z,189nm,1.3s
H04A Detroit Lake 69.24 49 IAmb IAmb 20 25 56.3
comp=Z,76nm,1.3s
MOR8 Moi Rana 69.25 340 eP P 20 25 50.8 -1.3
SEKA Sheki 69.37 306 P P 20 25 52.6 -0.8
KONS Konsvik 69.37 340 eP P 20 25 53.1 +0.3
K02D Willamette Mer 69.37 52 P P 20 25 55.7 +2.3
baz=302,SNR=12
NBB40 Tonnes 69.39 340 eP P 20 25 52.7 -0.2
G05D Wamic, OR 69.47 48 P P 20 25 56.4 +2.6
baz=302
STOK Stokkvaagen 69.53 340 eP P 20 25 53.8 +0.1
I04A Tendick Farm, 69.57 50 P P 20 25 56.2 +1.7
baz=302,SNR=17
LKRN Lenkeran, Azer 69.64 304 P P 20 25 54.4 -0.5
MNGR Mingechevir, A 69.67 306 P P 20 25 55.1 0.0
BBOO Buckleboo 69.69 185 P P 20 25 55.4 +0.3
MORW Morawa 69.89 203 P P 20 25 55.1 -1.3
MORW IAmb IAmb 20 25 58.1
comp=Z,70nm,1.2s
GOF Gofitskoye 69.91 312⇑ iP P 20 25 56.6 +0.1
GOF eS S 20 35 03.0 +0.7
GOF pmax pmax
comp=Z,721nm,1.4s
GOF smax smax
comp=N,36nm,1.0s
I05D Terrebonne, OR 69.94 49 P P 20 25 58.2 +1.4
baz=303,SNR=12
J04D Umpqua Nationa 70.05 51 P P 20 25 59.5 +1.8
baz=302,SNR=8.8
JMIC Jan Mayen 70.07 350 eP P 20 25 58.3 +1.3
GANJ Ganja 70.23 306 P P 20 25 58.3 -0.3
NEW Newport 70.25 44 P P 20 25 59.8 +1.2
baz=304,SNR=33
NEW Newport 70.25 44 P P 20 25 59.8 +1.2
NEW pmax pmax
comp=Z,42nm,1.0s
VSU Vasula 70.31 329 eP P 20 25 58.8 0.0
VSU ePP PP 20 28 30.0 -4.3
PINE Pine Mountain 70.47 50 IAmb IAmb 20 26 04.6
comp=Z,118nm,1.2s
L04D Klamath Falls 70.48 52 P P 20 26 02.2 +1.9
baz=303,SNR=23
J05D Fort Rock, OR 70.57 50 P P 20 26 02.8 +2.0
baz=303,SNR=22
M02C Callahan 70.58 53 P P 20 26 03.0 +2.2
baz=303,SNR=9.6
K04D Chiloquin, OR 70.61 51 P P 20 26 03.7 +2.7
baz=303
ZEI Tsey 70.61 309 eP P 20 25 56.3 -4.8
ZEI pmax pmax
comp=Z,137nm,1.3s
SUMG Summit 70.64 360⇑ iP P 20 26 01.9 +0.8
comp=Z,314nm,1.0s
SUMG Summit 70.64 360⇑ iP P 20 26 01.9 +0.8
SUMG pmax pmax
comp=Z,310nm,1.0s
SUMG Summit 70.64 360 IAmb IAmb 20 26 04.9
comp=Z,126nm,1.0s
WSAR Wadi Sarin 70.65 285 P P 20 26 02.0 +0.5
comp=Z,104nm,1.1s,baz=84,slow=6.7,SNR=31
WSAR Wadi Sarin 70.65 285 P P 20 26 01.9 +0.5
SNR=14
TBLG Delisi 70.66 308 P P 20 26 01.2 0.0
KVAR Kislovodsk Arr 70.72 311 P P 20 26 01.9 +0.3
comp=Z,298nm,1.2s
KBZ Khabaz 70.72 311 P P 20 26 01.6 +0.1
comp=Z,172nm,1.0s,baz=57,slow=3.9,SNR=237
KBZ LR LR 21 01 50.4
comp=Z,2μm,18.2s,baz=54,slow=40
KBZ Khabaz 70.72 311 ceP P 20 26 01.5 +0.1
KBZ pmax pmax
comp=Z,324nm,1.1s
KIV Kislovodsk 70.72 311 ⇓P P 20 26 02.0 +0.4
KIV Kislovodsk 70.72 311 iP P 20 26 02.0 +0.4
SNR=211
KIV Kislovodsk 70.72 311 P P 20 26 02.3 +0.7
KIV P P 20 26 02.3 +0.7
KIV Kislovodsk 70.72 311 ceP P 20 26 01.7 +0.1
KIV e 20 26 22.5
KIV e 20 28 41.7
KIV eS S 20 35 11.4 -0.6
KIV pmax pmax
comp=Z,611nm,1.1s
KIV MLR MLR
comp=Z,1μm,23.0s
KIV Kislovodsk 70.72 311 P P 20 26 02.1 +0.5
KIV IAMs_20 IAMs_20 21 02 53.7
comp=Z,1μm,19.0s
WBK Wadi Bani Khal 70.73 284 P P 20 26 02.4 +0.5
SNR=15
WBK P P 20 26 02.4 +0.5
SNR=15
BIDO Bidbid 70.89 285 P P 20 26 03.8 +0.9
SNR=44
N02D Trinity Center 70.90 53 P P 20 26 04.8 +2.0
baz=303,SNR=8.1
BANOM Banah 71.00 288 iP P 20 26 03.8 +0.3
SNR=31
BANOM Banah 71.00 288 P P 20 26 04.2 +0.7
SNR=8.2
BANOM P P 20 26 04.2 +0.7
SNR=8.2
ONI Oni 71.00 309 P P 20 26 03.8 +0.5
M04C Macdoel 71.01 52 P P 20 26 05.5 +2.0
baz=303,SNR=16
SHME Shamm 71.05 289 iP P 20 26 04.0 +0.1
SNR=38

KZRT Kazreti 71.06 308 P P 20 26 03.4 -0.3
K05A Summer Lake 71.08 50 IAmb IAmb 20 26 09.1
comp=Z,107nm,1.3s
NSS Namsos 71.17 339 eP P 20 26 03.7 -0.2
SMDO Samad 71.20 285 P P 20 26 05.8 +1.0
SNR=31
O02D Mt. Diablo Mer 71.28 54 P P 20 26 07.3 +2.2
baz=303
MDH Madha 71.33 288 iP P 20 26 06.7 +1.1
SNR=5.0
MDH Madha 71.33 288 P P 20 26 05.0 -0.5
MSFE Esma-Masafi 71.41 288 iP P 20 26 05.9 -0.1
SNR=24
HOQ Hoqain 71.48 286 P P 20 26 06.9 +0.5
SNR=47
JMDO Jabal Madar 71.53 284 P P 20 26 06.9 +0.1
SNR=15
JMDO P P 20 26 06.9 +0.1
SNR=15
WALA Waterton Lakes 71.55 42 IAmb IAmb 20 26 10.7
comp=Z,69nm,1.2s
NAX Nakhchivan 71.56 305 P P 20 26 06.7 -0.1
UOSS Minazif 71.59 288 iP P 20 26 06.6 -0.5
SNR=31
UOSS Minazif 71.59 288 P P 20 26 07.0 -0.1
UOSS P P 20 26 07.0 -0.1
UOSS Minazif 71.59 288 P P 20 26 07.1 -0.1
UOSS Minazif 71.59 288 IAMs_20 IAMs_20 21 01 25.2
comp=Z,721nm,20.0s
AKH Akhalkalaki 71.62 308 ⇓P P 20 26 07.9 +0.7
AKH Akhalkalaki 71.62 308 P P 20 26 07.9 +0.7
AKH Akhalkalaki 71.62 308 IAMs_20 IAMs_20 21 00 26.5
comp=Z,1μm,21.0s
BGD Bogdanovka 71.63 308 P P 20 26 07.0 -0.3
UMQ Umm Al-Quwin 71.69 288 iP P 20 26 08.5 +0.9
SNR=6.8
UMQ Umm Al-Quwin 71.69 288 P P 20 26 09.6 +2.0
SNR=6.0
UMQ P P 20 26 09.6 +2.0
SNR=6.0
HATD Hatta, Dubai 71.72 288 iP P 20 26 07.8 -0.1
SNR=46
HATD Hatta, Dubai 71.72 288 P P 20 26 07.8 -0.1
SNR=25
HATD P P 20 26 07.8 -0.1
SNR=25
SOHO SOHO 71.78 287 P P 20 26 08.2 0.0
SNR=29
O03E Paynes Creek 71.84 53 P P 20 26 10.0 +1.5
baz=304,SNR=24
ASHO Ashiyiah 71.85 287 iP P 20 26 08.6 -0.1
SNR=70
ASHO Ashiyiah 71.85 287 P P 20 26 08.8 +0.1
SNR=27
ASHO P P 20 26 08.8 +0.1
SNR=27
NAZ Nazwa, Dubai 71.98 288 iP P 20 26 09.4 0.0
SNR=17
NAZ Nazwa, Dubai 71.98 288 P P 20 26 10.0 +0.6
SNR=10
NAZ P P 20 26 10.0 +0.6
SNR=10
BSY Bisya 72.03 285 P P 20 26 10.2 +0.4
SNR=32
SCO Scoresbysund 72.05 354⇑ iP P 20 26 09.8 +0.8
comp=Z,62nm,1.0s
SCO Scoresbysund 72.05 354⇑ iP P 20 26 09.8 +0.8
SCO pmax pmax
comp=Z,62nm,1.0s
FAQ Al Faqa, Dubai 72.17 288 iP P 20 26 10.3 -0.2
SNR=8.0
FAQ Al Faqa, Dubai 72.17 288 P P 20 26 10.6 0.0
SNR=7.2
ARQ Araqi 72.23 286 P P 20 26 11.1 +0.2
SNR=35
ARQ P P 20 26 11.1 +0.2
SNR=35
IZAR Zarasai 72.26 327 eP P 20 26 10.9 +0.4
KARS Kars 72.31 308 P P 20 26 12.1 +0.8
MNK Minsk 72.34 326⇑ eP P 20 26 12.0 +0.9
MNK e 20 26 30.0
MNK eS S 20 35 32.0 +1.9
MNK e 20 40 08.0
MNK pmax pmax
comp=Z,870nm,1.5s
MNK MLR MLR
comp=Z,3μm,16.0s
MHTO MHTO 72.39 283 P P 20 26 13.0 +1.0
SNR=35
MHTO P P 20 26 13.0 +1.0
SNR=35
CAN Canberra 72.40 173 P P 20 26 14.4 +2.9
CAN pmax pmax
comp=Z,57nm,1.7s
ALNE Al Ain 72.42 287 iP P 20 26 12.2 +0.1
SNR=26
ISAL Salakas 72.43 327 eP P 20 26 12.3 +0.8
IIGN Ignalina 72.53 327 eP P 20 26 12.9 +0.8
NACGM Naroch 72.58 327 eP P 20 26 12.0 -0.4
NACGM eP P 20 26 12.0 -0.4
NACGM PM 20 26 14.0
comp=Z,0.7nm,1.0s
NACGM ePcP PcP 20 26 30.0 +0.2
NACGM ePP PP 20 28 48.0 -5.8
NACGM ePPP PPP 20 30 42.0
NACGM eS S 20 35 32.0 -0.8
NACGM eSS SS 20 40 36.0 +24
NACGM eSSS SSS 20 43 34.0
NACGM eLQ LQ 20 51 45.0
NACGM eLR LR 20 56 46.0
NACGM LRM MLR 21 01 55.0
comp=Z,5.0nm,18.0s
BATM Batumi 72.63 309 ⇑P P 20 26 13.0 0.0
BATM Batumi 72.63 309 P P 20 26 13.0 0.0
TBLU Trondheim 72.64 339 eP P 20 26 12.5 -0.1
SLIT Slitere, Latvi 72.64 330 eP P 20 26 12.3 -0.4
SOC Sochi 72.71 312 ciP P 20 26 12.8 -0.7
SOC e*SP pP 20 26 29.1 +0.4
SOC eS S 20 35 34.7 0.0
SOC pmax pmax
comp=Z,211nm,1.1s
SOC MLR MLR
comp=Z,2μm,19.0s
AJN Ajban 72.73 288 iP P 20 26 13.5 -0.3
SNR=7.2
AJN Ajban 72.73 288 P P 20 26 13.6 -0.3
SNR=9.3
AJN P P 20 26 13.6 -0.3
SNR=9.3
MSO Missoula 72.84 44 P P 20 26 16.1 +1.8
baz=306,SNR=20
NWAO Narrogin (SRO) 73.13 201 P P 20 26 15.2 -0.7
NWAO pmax pmax
comp=Z,148nm,1.6s
NWAO Narrogin (SRO) 73.13 201 P P 20 26 15.2 -0.7
NWAO IAmb IAmb 20 26 18.5
comp=Z,148nm,1.6s
NWAO Narrogin (SRO) 73.13 201 IAmb IAmb 20 26 18.5
comp=Z,119nm,1.6s
ANN Anapa 73.35 314 eP P 20 26 16.5 -0.7
ANN e 20 26 26.8
ANN eS S 20 35 40.6 -1.3
ANN e 20 36 20.7
ANN eSS SS 20 40 19.6 -4.3
ANN pmax pmax
comp=Z,727nm,1.5s
ANN pmax pmax
comp=Z,335nm,1.2s
ANN pmax pmax
comp=N,68nm,1.3s
ANN pmax pmax
comp=E,74nm,1.3s
PABE Paberze 73.39 328 eP P 20 26 17.6 +0.3
ILULI Ilulissat 73.64 5⇑ iP P 20 26 18.6 +0.1
comp=E,93nm,1.2s
ILULI Ilulissat 73.64 5⇑ iP P 20 26 18.6 +0.1
ILULI pmax pmax
comp=Z,93nm,1.2s
ILULI Ilulissat 73.64 5 IAMs_20 IAMs_20 21 01 04.2
comp=Z,746nm,20.0s
FFC Flin Flon 73.79 33 P P 20 26 20.2 +0.6
FFC pmax pmax
comp=Z,134nm,1.3s
FFC MLR MLR
comp=Z,400nm,19.0s
FFC Flin Flon 73.79 33 P P 20 26 20.2 +0.6

FFC IAmb IAmb 20 26 22.3
comp=Z,134nm,1.2s
PBUR Paburge 73.89 329 eP P 20 26 20.2 +0.1
DOMB Dombas 73.93 339 eP P 20 26 20.5 +0.1
MOL Molde 73.94 340 eP P 20 26 20.7 +0.4
HFS Hagfors 73.97 336 P P 20 26 20.3 -0.3
comp=Z,56nm,0.9s,baz=47,slow=6.5,SNR=112
NB2 NORSAR Subarra 74.07 337 P P 20 26 20.9 -0.3
comp=Z,226nm,1.2s,baz=40,slow=6.2
NB2 NORSAR Subarra 74.07 337 P P 20 26 17.2 -4.0
NB2 pmax pmax
comp=Z,363nm,1.2s
NB2 NORSAR Subarra 74.07 337 P P 20 26 20.9 -0.3
baz=40,slow=6.2
NOA NORSAR Array B 74.07 337 P P 20 26 21.0 -0.3
comp=Z,68nm,0.9s,baz=43,slow=5.5,SNR=146
NOA LR LR 21 02 07.2
comp=Z,2μm,19.5s,baz=35,slow=38
AKASG Malin Array Be 74.14 322 P P 20 26 21.2 -0.5
comp=Z,33nm,0.3s,baz=45,slow=6.3,SNR=391
AKASG LR LR 21 01 50.5
comp=Z,3μm,18.9s,baz=45,slow=38
AKASG Malin Array Be 74.14 322 P P 20 26 21.1 -0.5
AKBB Malin Array Si 74.14 322 ceP P 20 26 21.1 -0.6
KTUT Trabzon 74.18 310 ⇑P P 20 26 22.0 -0.1
NC602 NORSAR Array S 74.20 337 IAmb IAmb 20 26 23.2
comp=Z,197nm,1.3s
NC602 NORSAR Array S 74.20 337 eP P 20 26 21.5 -0.4
NORES NORESS Array B 74.20 337 P P 20 26 22.2 +0.3
WAKR Walker 74.36 53 IAmb IAmb 20 26 43.1
comp=Z,106nm,1.9s
EGMT Eagleton 74.38 41 P P 20 26 24.7 +1.4
baz=308,SNR=41
EGMT Eagleton 74.38 41 IAmb IAmb 20 26 26.6
comp=Z,120nm,1.1s
AKN Aaknes 74.41 340 eP P 20 26 24.6 +1.4
DLMT Dillon 74.46 45 IAmb IAmb 20 26 27.5
comp=Z,80nm,1.1s
SUW Suwalki 74.74 327 eP P 20 26 24.8 -0.3
SUW eL L 21 01 58.6
comp=Z,2μm,19.9s
SUW Suwalki 74.74 327 P P 20 26 25.0 -0.1
SUW pmax pmax
comp=Z,315nm,1.1s
BOZ Bozeman (W) 74.86 44 P P 20 26 27.6 +1.3
baz=308,SNR=70
KVN Kaiserville 74.90 52 IAmb IAmb 20 26 31.2
comp=Z,87nm,1.4s
OSL Oslo 75.08 337 eP P 20 26 27.2 +0.3
NVAR Mina Array Bea 75.13 53 P P 20 26 29.6 +1.5
comp=Z,20nm,1.0s,baz=284,slow=5.5,SNR=61
NVAR LR LR 20 52 44.1
comp=Z,297nm,21.3s,baz=288,slow=30
SKAR Skarslia 75.24 338 eP P 20 26 28.6 +0.6
FOO Floro 75.43 340 eP P 20 26 29.2 +0.3
HYA Hoyanger 75.46 339 eP P 20 26 29.9 +0.8
KONO Kongsberg 75.66 337 ceP P 20 26 30.2 -0.1
KONO pmax pmax
comp=Z,110nm,1.7s
KONO Kongsberg 75.66 337 P P 20 26 30.3 0.0
KONO IAmb IAmb 20 26 31.8
comp=Z,57nm,1.0s
KONO Kongsberg 75.66 337 eP P 20 26 30.3 0.0
SMMC Simmler 75.83 56 P P 20 26 35.4 +3.6
baz=306
SFJD Kangerlussuaq 75.86 5 P P 20 26 32.4 +1.0
comp=Z,37nm,1.0s,baz=352,slow=6.0,SNR=13
SFJD Kangerlussuaq 75.86 5 iP P 20 26 29.0 -2.3
comp=Z,5.1nm,1.2s
SFJD Kangerlussuaq 75.86 5 IAMs_20 IAMs_20 21 03 37.8
comp=Z,576nm,20.0s
SHAO Shalim 75.88 282 P P 20 26 32.3 0.0
SUE Sulen 75.95 340 eP P 20 26 32.5 +0.5
TIN Tinemaha, Big 75.98 54 P P 20 26 35.7 +2.9
baz=306
VES Vestal, Richgr 76.13 56 P P 20 26 34.7 +1.3
baz=306,SNR=28
H17A Grant Village 76.19 45 P P 20 26 37.5 +3.5
baz=309,SNR=13
H17A Grant Village 76.19 45 IAmb IAmb 20 26 39.5
comp=Z,116nm,1.2s
PKM Mcpherson Peak 76.20 57 P P 20 26 36.9 +2.8
baz=306
SORM Soroca 76.23 321 ⇑P P 20 26 33.3 -0.5
SORM Soroca 76.23 321 P P 20 26 33.2 -0.5
ASK Askoy 76.30 339 eP P 20 26 34.9 +0.9
BER Bergen 76.34 339 P P 20 26 35.0 +0.8
BER pmax pmax
comp=Z,128nm,1.1s
BER Bergen 76.34 339 eP P 20 26 34.9 +0.8
KVT Kavak 76.39 311 P P 20 26 35.6 +0.7
CWC Cottonwood Cre 76.44 55 P P 20 26 37.0 +1.6
baz=306
RLMT Red Lodge 76.46 43 P P 20 26 37.2 +1.7
baz=309,SNR=26
HORU Horodok 76.48 322 P P 20 26 35.4 +0.2
GRAC Grapevine Rang 76.58 54 P P 20 26 35.9 -0.1
baz=306,SNR=5.8
MALT Malatya 76.58 308 P P 20 26 36.9 +0.8
ISA Isabella, Lake 76.64 55 P P 20 26 37.7 +1.3
baz=306,SNR=7.7
REDW Red Top Meadow 76.68 45 IAmb IAmb 20 26 41.4
comp=Z,73nm,1.3s
ARVC Arvin 76.72 56 P P 20 26 38.8 +2.0
baz=306
KIS Kishinev 76.73 319⇑ iP P 20 26 36.0 -0.6
comp=Z,360nm,1.8s
KIS Kishinev 76.73 319 iPcP PcP 20 26 54.0 +6.2
KIS Kishinev 76.73 319 iPP PP 20 29 41.0 +12
KIS Kishinev 76.73 319 ⇑P P 20 26 36.6 0.0
KIS Kishinev 76.73 319 ciP P 20 26 36.0 -0.6
KIS i 20 26 54.0
KIS iPPP PPP 20 31 25.9
KIS iS S 20 36 11.7 -7.6
KIS e 20 37 04.3
KIS pmax pmax
comp=Z,360nm,1.8s
KIS MLR MLR
comp=Z,1μm,16.5s
MILM Milestii Mici 76.78 319 ⇑P P 20 26 36.3 -0.6
FRB Frobisher Bay 76.78 13 P P 20 26 37.0 +0.4
FRB pmax pmax
comp=Z,140nm,1.5s
BLS5 Blasjo 76.80 338 eP P 20 26 37.6 +0.7
KMPD K-Podol'skiy 76.89 322 P P 20 26 37.0 -0.5
R11A Troy Canyon, C 76.90 52 P P 20 26 39.5 +1.5
baz=307,SNR=111
R11A Troy Canyon, C 76.90 52 IAmb IAmb 20 26 42.6
comp=Z,83nm,1.4s
DGMT Dagmar 76.94 38 P P 20 26 39.1 +1.3
baz=312,SNR=13
DGMT Dagmar 76.94 38 IAmb IAmb 20 26 40.9
comp=Z,144nm,1.2s
MPMC Manual Prospec 77.05 55 P P 20 26 40.3 +1.3
baz=307,SNR=29
LAO LASA Array 77.08 41 P P 20 26 39.8 +1.1
baz=311,SNR=8.5
LAO LASA Array 77.08 41 IAmb IAmb 20 26 42.5
comp=Z,112nm,1.1s
HOMB Homborsund 77.10 336 eP P 20 26 38.4 -0.1
FURC Furnace Creek, 77.21 54 P P 20 26 41.8 +2.2
baz=307,SNR=24
LVV L'vov 77.22 324 diP P 20 26 39.5 +0.1
LVV e 20 29 34.0
LVV eS S 20 36 24.5 -0.2
LVV e 20 36 46.2
LVV ePS 20 37 01.8
LVV eSS SS 20 41 32.0 +10
LVV pmax pmax
comp=Z,700nm,1.3s
LVV MLR MLR
comp=N,1μm,18.0s
LVV MLR MLR
comp=E,2μm,18.0s
LVV MLR MLR
comp=Z,2μm,18.0s
IAS Iasi 77.25 320 ⇑P P 20 26 39.6 +0.1
IAS Iasi 77.25 320 P P 20 26 39.6 +0.1
IAS pmax pmax
comp=Z,122nm,1.1s
RBK Rabkut 77.28 282 P P 20 26 39.6 -0.7
SNR=5.1
RBK P P 20 26 39.6 -0.7
SNR=5.1
BEL Belsk 77.30 327 iP P 20 26 40.3 +0.6

BEL *e*PP **PP** **20 29 33.9 +0.1**
BEL *e*L L 21 01 58.5
comp=Z,1µm,21.9s
BEL Belsk 77.30 327 P **P** **20 26 40.6 +0.9**
BEL pmax pmax
comp=Z,578nm,1.2s
BSD Bornholm Skovb 77.31 332⇑ *i*P **P** **20 26 39.5 -0.2**
comp=Z,224nm,1.1s
BSD Bornholm Skovb 77.31 332⇑ *i*P **P** **20 26 39.5 -0.2**
BSD pmax pmax
comp=Z,220nm,1.1s
TPNV Topopah Spring 77.32 53 P **P** **20 26 42.3 +1.9**
baz=307,SNR=16
TPNV Topopah Spring 77.32 53 IAmb IAmb 20 27 05.2
comp=Z,59nm,1.1s
KMY Karmoy 77.33 338 *e*P **P** **20 26 40.7 +1.0**
HWUT Hardware Ranch 77.36 47 IAmb IAmb 20 26 44.6
comp=Z,89nm,1.2s
LEOM Leova 77.37 319⇑P **P** **20 26 40.3 +0.1**
LEOM Leova 77.37 319 P **P** **20 26 40.3 +0.1**
WHFO Wadi Hawf 77.39 283 P **P** **20 26 40.0 -0.8**
SNR=6.2
WHFO P **P** **20 26 40.0 -0.8**
SNR=6.2
EDW2 Edwards Air Fo 77.42 56 P **P** **20 26 43.4 +2.6**
baz=307,SNR=7.9
SNART Snartemo 77.45 337 *e*P **P** **20 26 40.9 +0.4**
DUG Dugway, Tooele 77.49 49 P **P** **20 26 43.0 +1.8**
baz=308,SNR=60
DUG Dugway, Tooele 77.49 49 P **P** **20 26 42.9 +1.7**
DUG pmax pmax
comp=Z,57nm,1.3s
DUG Dugway, Tooele 77.49 49 IAmb IAmb 20 26 45.8
comp=Z,87nm,1.4s
VASR Vaslui 77.49 320⇑P **P** **20 26 41.4 +0.4**
BORG Borgarnes 77.58 352 P **P** **20 26 42.6 +1.6**
comp=Z,76nm,1.1s,baz=30,slow=3.8,SNR=13
BORG Borgarnes 77.58 352 P **P** **20 26 40.0 -1.1**
BORG IAmb IAmb 20 26 45.3
comp=Z,84nm,1.1s
KSV Kosov 77.75 322 P **P** **20 26 42.4 0.0**
MORS Morshin 77.76 323 P **P** **20 26 42.9 +0.5**
GKP Gorka Klasztor 77.77 329 *i* P **P** **20 26 42.5 +0.2**
GKP *e*PP **PP** **20 29 37.3 -0.3**
GKP *e*L L 21 03 31.1
comp=Z,3µm,19.7s
GKP Gorka Klasztor 77.77 329 P **P** **20 26 42.7 +0.4**
GKP pmax pmax
comp=Z,128nm,1.3s
BW06 Boulder Array 77.79 45 P **P** **20 26 44.0 +1.0**
baz=310,SNR=24
PDAR Pinedale Array 77.79 45 P **P** **20 26 43.6 +0.7**
comp=Z,14nm,0.8s,baz=282,slow=2.3,SNR=67
PDAR LR LR 20 57 09.2
comp=Z,341nm,21.6s,baz=328,slow=33
ILGA Ilgaz 77.79 312 IAMs_20 IAMs_20 21 07 16.7
comp=Z,860nm,21.0s
PRAR RASCA 77.81 321⇓P **P** **20 26 42.6 -0.2**
BIR Birlad 77.83 319⇑P **P** **20 26 43.6 +0.7**
BIR Birlad 77.83 319 P **P** **20 26 43.5 +0.7**
GOET G??ttrup 77.85 335 *i* P **P** **20 26 42.4 -0.3**
comp=Z,393nm,0.9s
TLCR 77.91 318⇑P **P** **20 26 43.2 -0.1**
TLCR 77.91 318 P **P** **20 26 43.1 -0.1**
SHOC Shoshone, Teco 77.93 54 P **P** **20 26 45.9 +2.2**
baz=307,SNR=7.9
GSC Goldstone, Bar 77.95 55 P **P** **20 26 46.0 +2.1**
baz=307,SNR=12
VARL Varlezi 77.95 319⇑P **P** **20 26 43.7 +0.3**
KWP Kalwaria Pacla 77.97 324 *i* P **P** **20 26 44.3 +0.7**
KWP *e*S **S** **20 36 32.1 -0.7**
KWP *e*L L 21 04 29.9
comp=Z,2µm,18.6s
KWP Kalwaria Pacla 77.97 324 P **P** **20 26 44.4 +0.8**
KWP pmax pmax
comp=Z,541nm,1.3s
CIS Catalina Islan 78.01 57 P **P** **20 26 46.1 +2.0**
baz=307
BFSC Mount Baldy Ra 78.02 56 P **P** **20 26 46.6 +2.3**
baz=307,SNR=10
ABTO Aybut 78.08 283 P **P** **20 26 44.3 -0.4**
SNR=5.3
ABTO P **P** **20 26 44.3 -0.4**
SNR=5.3
BUR08 Bucovina Ar. S 78.14 322 IAmb IAmb 20 26 46.4
comp=Z,121nm,1.1s
BURAR Bucovina Array 78.15 322⇑P **P** **20 26 45.0 +0.3**
BURAR Bucovina Array 78.15 322 P **P** **20 26 45.0 +0.3**
BURAR Bucovina Array 78.15 322 P **P** **20 26 44.4 -0.3**
BIZ Bicaz 78.16 321⇓P **P** **20 26 45.1 +0.4**
TESR Tescani 78.17 320⇑P **P** **20 26 44.9 +0.2**
TUDR 78.25 319⇑P **P** **20 26 45.7 +0.5**
CFR Carcaliu 78.28 318⇑P **P** **20 26 45.2 0.0**
CFR Carcaliu 78.28 318 P **P** **20 26 45.3 0.0**
CFR pmax pmax
comp=Z,82nm,1.2s
LRW Lerwick 78.30 342 *e*P **P** **20 26 45.2 +0.1**
MUD Monsted U'grnd 78.33 335⇑ *i*P **P** **20 26 45.5 +0.2**
comp=Z,152nm,1.2s
MUD Monsted U'grnd 78.33 335⇑ *i*P **P** **20 26 45.5 +0.2**
MUD pmax pmax
comp=Z,150nm,1.2s
RGN Rugen 78.34 332 *e*P **P** **20 26 44.5 -1.0**
RGN *e*PP **PP** **20 29 40.8 -1.5**
RGN Rugen 78.34 332 *e*P **P** **20 26 46.4 +1.0**
comp=Z,375nm,1.4s,baz=38,slow=5.2
PETR Petresti 78.39 319⇑P **P** **20 26 47.3 +1.4**
TUQ Turquoise Moun 78.44 54 P **P** **20 26 49.1 +2.5**
baz=308,SNR=5.7
ODBI Odobesti 78.46 319⇑P **P** **20 26 47.4 +1.1**
HEC Hector,Ludlow 78.54 55 P **P** **20 26 49.3 +2.2**
baz=307,SNR=23
VRI Vrincioaia 78.56 320⇑P **P** **20 26 47.3 +0.4**
VRI Vrincioaia 78.56 320 P **P** **20 26 47.4 +0.4**
VRI pmax pmax
comp=Z,175nm,1.4s
TIRR Tirgusor 78.60 318⇑P **P** **20 26 46.8 -0.3**
PLOR Plostina 78.61 320⇑P **P** **20 26 47.7 +0.4**
PLOR Plostina 78.61 320 P **P** **20 26 47.6 +0.4**
KOLS Kolonicke sedl 78.67 324 *e*P **P** **20 26 47.9 +0.5**
KOLS pmax pmax
comp=Z,97nm,1.2s
KOLS Kolonicke sedl 78.67 324 *e*P **P** **20 26 47.9 +0.5**
BR131 Keskin Array S 78.67 311 P **P** **20 26 48.0 +0.2**
SNR=69
BR131 P **P** **20 26 48.0 +0.2**
SNR=69
BR131 Keskin Array S 78.67 311 *c i*P **P** **20 26 47.6 -0.2**
BR131 Keskin Array S 78.67 311 IAmb IAmb 20 26 49.3
comp=Z,116nm,1.2s
BRTR Keskin Array B 78.67 311 P **P** **20 26 47.7 -0.1**
comp=Z,43nm,1.0s,baz=94,slow=3.7,SNR=187
BRTR PP **PP** **20 29 45.5 -0.3**
comp=Z,8.8nm,0.9s,baz=72,slow=6.8,SNR=5.2
BRTR LR LR 21 06 16.1
comp=Z,498nm,18.9s,baz=34,slow=39
BRTR Keskin Array B 78.67 311 P **P** **20 26 47.4 -0.4**
MURC Murrieta 78.71 56 P **P** **20 26 49.9 +1.9**
baz=307
EFOR EFORIE 78.73 317⇑P **P** **20 26 48.4 +0.6**
TLBR Topalu 78.74 318⇓P **P** **20 26 48.1 +0.3**
GRER 78.76 319⇑P **P** **20 26 49.0 +1.1**
UZH Uzhgorod 78.87 324 *e*P **P** **20 26 48.0 -0.5**
UZH *e* 20 26 58.1
UZH *e* 20 27 08.3
UZH *e* 20 29 51.1
UZH *e*S **S** **20 36 38.1 -4.3**
UZH *e* 20 37 37.1
UZH *e* 20 41 53.7
OJC Ojcow 78.89 326 *i* P **P** **20 26 49.0 +0.4**
OJC *e*PP **PP** **20 29 46.7 -0.4**
OJC *e*S **S** **20 36 41.0 -1.5**
OJC *e*L L 21 05 22.6
comp=Z,1µm,21.4s
OZUR 78.89 320⇑P **P** **20 26 49.8 +1.0**
TRSU Trosnyk 78.92 323 P **P** **20 26 49.7 +0.9**
ARCR ARCALIA 78.94 322⇑P **P** **20 26 50.2 +1.2**
BMR Baia Mare 78.96 322⇑P **P** **20 26 50.0 +1.0**
GMRC Granite Mounta 79.01 55 P **P** **20 26 51.5 +1.8**
baz=308,SNR=18
PGOR Pogoanele 79.07 319⇓P **P** **20 26 50.7 +1.0**
CRVS Cervenica-Dubn 79.07 324 *e*P **P** **20 26 50.3 +0.7**
CRVS pmax pmax
comp=Z,275nm,1.4s
CRVS Cervenica-Dubn 79.07 324 *e*P **P** **20 26 50.3 +0.7**

AMRR Amara 79.08 318⇓P **P** **20 26 50.5 +0.7**
NEHR Nehoiu 79.08 319⇓P **P** **20 26 50.2 +0.5**
ANTO Ankara 79.08 312⇓P **P** **20 26 50.3 +0.3**
ANTO Ankara 79.08 312 P **P** **20 26 49.9 -0.1**
ANTO pmax pmax
comp=Z,171nm,1.2s
ANTO Ankara 79.08 312 P **P** **20 26 49.9 -0.1**
ANTO IAmb IAmb 20 26 51.7
comp=Z,170nm,1.1s
ISR Istrita 79.16 319⇓P **P** **20 26 51.0 +0.8**
ISR Istrita 79.16 319 P **P** **20 26 51.2 +1.0**
ISR pmax pmax
comp=Z,228nm,1.4s
ICOR Ion Corvin 79.16 318⇑P **P** **20 26 51.0 +0.8**
DOPR Dopca 79.18 320⇓P **P** **20 26 51.0 +0.7**
PFO Pinyon Flats O 79.19 56 P **P** **20 26 53.0 +2.2**
baz=308
PFO Pinyon Flats O 79.19 56 P **P** **20 26 52.5 +1.8**
PFO pmax pmax
comp=Z,46nm,1.2s
PFO MLR MLR
comp=Z,2µm,21.0s
PFO Pinyon Flats O 79.19 56 P **P** **20 26 52.5 +1.8**
XPFO Pion Flat 79.20 56 P **P** **20 26 52.4 +1.6**
109C Camp Elliot, M 79.20 57 P **P** **20 26 53.0 +2.4**
baz=307
TPFO Pinon Flats 79.20 56 P **P** **20 26 52.8 +2.0**
baz=308,SNR=12
MLR Muntele Rosu 79.22 320 P **P** **20 26 50.7 0.0**
comp=Z,17nm,0.5s,baz=30,slow=4.2,SNR=51
MLR Muntele Rosu 79.22 320⇑P **P** **20 26 50.5 -0.1**
MLR Muntele Rosu 79.22 320 IAmb IAmb 20 26 52.4
comp=Z,193nm,1.5s
NIE Niedzica 79.24 325 *i* P **P** **20 26 51.5 +0.9**
NIE *e*PP **PP** **20 29 51.5 +1.4**
NIE *e*S **S** **20 36 46.6 +0.2**
NIE *e*L L 21 05 10.4
comp=Z,886nm,16.7s
NIE Niedzica 79.24 325 P **P** **20 26 51.6 +1.0**
NIE pmax pmax
comp=Z,81nm,1.4s
BELC Belle Mtn. Jos 79.26 56 P **P** **20 26 52.7 +1.6**
baz=308,SNR=11
RASA Rasa 79.44 318⇑P **P** **20 26 51.6 -0.1**
LEHL Lehliu 79.44 318⇑P **P** **20 26 52.2 +0.5**
SECR 79.46 319⇑P **P** **20 26 52.5 +0.7**
K22A Casper 79.57 44 P **P** **20 26 54.4 +1.7**
baz=311,SNR=9.7
CJR Cluj-Napoca 79.57 322⇑P **P** **20 26 53.2 +0.7**
CJR Cluj-Napoca 79.57 322 P **P** **20 26 53.2 +0.7**
ULM Lac du Bonnet 79.59 33 P **P** **20 26 52.4 0.0**
comp=Z,48nm,1.0s,baz=309,slow=6.8,SNR=25
ULM LR LR 21 03 22.1
comp=Z,376nm,20.6s,baz=339,slow=37
ULM Lac du Bonnet 79.59 33*c i*P **P** **20 26 51.7 -0.7**
ULM Lac du Bonnet 79.59 33 IAmb IAmb 20 26 54.7
comp=Z,92nm,1.2s
MDND Maddock 79.60 37 P **P** **20 26 54.6 +2.0**
baz=315,SNR=7.7
MDND Maddock 79.60 37 IAMs_20 IAMs_20 21 00 18.7
comp=Z,755nm,21.0s
SULR 79.61 319⇑P **P** **20 26 53.2 +0.6**
SKMB Sankelmark Bun 79.62 334 *e*P **P** **20 26 52.8 +0.3**
baz=38,slow=5.2
MONP2 Monument Peak 79.65 57 P **P** **20 26 55.4 +2.0**
baz=308,SNR=11
VOIR 79.72 320⇑P **P** **20 26 53.5 +0.2**
VOIR 79.72 320 P **P** **20 26 53.6 +0.3**
VOIR pmax pmax
comp=Z,49nm,1.2s
IRM Iron Mountain 79.73 55 P **P** **20 26 55.1 +1.5**
baz=308,SNR=23
RUE Ruedersdorf 79.75 330 *e*P **P** **20 26 53.6 +0.4**
RUE Ruedersdorf 79.75 330 *e*P **P** **20 26 53.4 +0.2**
comp=Z,296nm,1.4s,baz=38,slow=5.2
LANS Liptovska Anna 79.81 325 *e*P **P** **20 26 54.9 +1.2**
LANS pmax pmax
comp=Z,97nm,1.3s
LANS Liptovska Anna 79.81 325 *e*P **P** **20 26 54.9 +1.2**
RWWY Rawlins 79.82 45 IAMs_20 IAMs_20 20 57 12.0
comp=Z,527nm,21.0s
KECS Kecovo 79.82 324 *e*P **P** **20 26 54.2 +0.5**
KECS pmax pmax
comp=Z,48nm,1.4s
KECS Kecovo 79.82 324 *e*P **P** **20 26 54.2 +0.5**
BC3 Big Chuckawall 79.83 56 P **P** **20 26 55.5 +1.3**
baz=308,SNR=11
MTUR Matau 79.85 320⇑P **P** **20 26 55.1 +1.1**
OKC Ostrava-Krasne 79.90 327 *e*P **P** **20 26 53.9 -0.2**
OKC *e*PCP **PcP** **20 27 02.7 +1.2**
OKC *e*S **S** **20 36 49.9 -3.4**
OKC AMS AMS 21 05 00.0
comp=Z,1µm,15.7s
OKC Ostrava-Krasne 79.90 327 *e*P **P** **20 26 53.9 -0.2**
OKC *e* 20 27 02.7
OKC *e*S **S** **20 36 49.9 -3.4**
OKC MLR MLR
comp=Z,1µm,15.7s
BSEG Bad Segeberg 79.93 333 *e*P **P** **20 26 54.3 +0.2**
comp=Z,212nm,1.2s,baz=38,slow=5.2
RSSD Black Hills 79.94 42 P **P** **20 26 55.5 +0.8**
baz=313
DRGR 79.95 322⇑P **P** **20 26 54.7 +0.1**
DRGR 79.95 322 P **P** **20 26 55.0 +0.4**
DRGR pmax pmax
comp=Z,167nm,1.7s
KSP Ksiaz 79.96 328 *i* P **P** **20 26 54.9 +0.5**
KSP *e*PP **PP** **20 29 55.8 -0.1**
KSP *e*L L 21 05 21.5
comp=Z,2µm,19.9s
KSP Ksiaz 79.96 328 P **P** **20 26 54.9 +0.5**
KSP pmax pmax
comp=Z,174nm,1.3s
E28A Huff 79.97 38 IAMs_20 IAMs_20 20 51 29.4
comp=Z,656nm,18.0s
ARR Arges 79.98 320⇓P **P** **20 26 55.8 +1.1**
IKP In-Ko-Pah, Jac 80.01 57 P **P** **20 26 56.9 +1.8**
baz=308,SNR=13
NEF NEVSHA 80.01 317 *e*P **P** **20 26 55.2 +0.4**
SWSC Sam W. Stewart 80.04 56 P **P** **20 26 57.1 +2.0**
baz=308,SNR=12
OSTC Ostas 80.20 328 *e*P **P** **20 26 56.1 +0.3**
OSTC *e*S **S** **20 36 49.9 -6.6**
OSTC AMS AMS 21 05 30.0
comp=Z,2µm,18.8s
MORC Moravsky Berou 80.21 327⇑P **P** **20 26 56.3 +0.4**
MORC Moravsky Berou 80.21 327⇑ *i*P **P** **20 26 56.3 +0.4**
MORC *e*S **S** **20 36 53.9 -2.8**
MORC Moravsky Berou 80.21 327 P **P** **20 26 56.4 +0.5**
MORC pmax pmax
comp=Z,147nm,1.2s
RAZG Razgrad 80.22 318⇑P **P** **20 26 56.3 +0.4**
O20A White River Ci 80.24 47 P **P** **20 26 57.6 +1.3**
baz=311,SNR=14
CHVC Chvalec 80.25 328 *e*P **P** **20 26 56.4 +0.4**
CHVC *e*S **S** **20 36 49.9 -7.1**
CHVC AMS AMS 21 05 30.0
comp=Z,2µm,19.2s
PDMCI Parker Dam,Lak 80.29 54 P **P** **20 26 57.8 +1.3**
baz=308,SNR=12
DPC Dobruska-Polom 80.31 328 *e*P **P** **20 26 56.8 +0.4**
DPC *e*pP **pP** **20 27 12.7 +1.0**
DPC *e*S **S** **20 36 54.4 -3.3**
DPC AMS AMS 21 05 30.0
comp=Z,2µm,18.7s
DPC Dobruska-Polom 80.31 328 *e*P **P** **20 26 56.8 +0.4**
DPC *e* 20 27 12.7
DPC *e*S **S** **20 36 54.4 -3.3**
DPC MLR MLR
comp=Z,2µm,18.7s
UPC Upice 80.33 328 *e*P **P** **20 26 56.5 +0.1**
UPC *e*S **S** **20 36 49.9 -7.9**
UPC AMS AMS 21 05 40.0
comp=Z,2µm,17.9s
UPC Upice 80.33 328 *e*P **P** **20 26 56.5 +0.1**
UPC *e*S **S** **20 36 49.9 -7.9**
UPC MLR MLR
comp=Z,2µm,17.9s
HUMR Humele 80.38 319⇑P **P** **20 26 56.2 -0.6**
BIGH Upper Bighouse 80.42 342 *e*P **P** **20 26 57.0 +0.3**
BIGH IAmb IAmb 20 26 58.4
comp=Z,130nm,1.1s
BIGH IAMs_20 IAMs_20 20 56 17.7
comp=Z,1µm,37.3s
MLA1 Latheron 80.45 342 *e*P **P** **20 26 58.4 +1.5**

DEV Deva 80.50 321⇓P **P** **20 26 58.0 +0.6**
DEV Deva 80.50 321 P **P** **20 26 58.0 +0.6**
DEV pmax pmax
comp=Z,97nm,1.3s
PSZ Piszkesteto 80.50 324⇑P **P** **20 26 58.2 +0.7**
PSZ Piszkesteto 80.50 324 P **P** **20 26 58.3 +0.8**
PSZ pmax pmax
comp=Z,211nm,1.5s
COPA Copaceanca 80.52 319⇑P **P** **20 26 57.3 -0.2**
SOCY Socotra 80.53 278 P **P** **20 26 56.5 -1.7**
VYHS Vyhne 80.57 325 *e*P **P** **20 26 58.4 +0.6**
VYHS pmax pmax
comp=Z,196nm,1.4s
VYHS Vyhne 80.57 325 *e*P **P** **20 26 58.4 +0.6**
HLG Helgoland 80.59 334 *e*P **P** **20 26 57.6 -0.1**
baz=38,slow=5.2
GLA Glamis 80.61 56 P **P** **20 26 59.9 +1.6**
baz=308,SNR=16
SZH Strazhica 80.73 318 *e*P **P** **20 26 58.9 +0.2**
ZIMR 80.77 319⇑P **P** **20 26 59.4 +0.6**
PV21 Cone Mtn., Par 80.83 48 IAmb IAmb 20 27 03.3
comp=Z,108nm,1.2s
JAVC Velka Javorina 80.83 326⇑ *i*P **P** **20 27 00.6 +1.4**
SIRR Siria 80.84 322⇑P **P** **20 26 59.7 +0.4**
PV23 Carpenter Ridg 80.87 48 IAmb IAmb 20 27 03.7
comp=Z,167nm,1.2s
BRG Berggiesshubel 80.91 329⇑ *i*P **P** **20 26 59.8 +0.3**
comp=Z,151nm,1.3s
BRG *i* pP **pP** **20 27 15.2 +0.4**
comp=Z,44nm,1.1s
BRG sP **sP** **20 27 21.0 +0.2**
BRG PP **PP** **20 30 03.0 -0.8**
BRG S **S** **20 37 04.0 +0.2**
BRG SS **SS** **20 42 18.0 +0.6**
comp=N,1µm,15.1s
comp=E,920nm,16.3s
comp=Z,2µm,17.2s
BRG Berggiesshubel 80.91 329⇑ *i*P **P** **20 26 59.8 +0.3**
BRG *i* *PP **pP** **20 27 15.2 +0.4**
BRG 20 30 03.0
BRG S **S** **20 37 04.0 +0.2**
BRG SS **SS** **20 42 18.0 +0.6**
BRG pmax pmax
comp=Z,151nm,1.3s
BRG pmax pmax
comp=Z,44nm,1.1s
BRG MLR MLR
comp=N,1µm,15.1s
BRG MLR MLR
comp=E,920nm,16.3s
BRG MLR MLR
comp=Z,2µm,17.2s
BRG Berggiesshubel 80.91 329 *e*P **P** **20 26 59.5 0.0**
comp=Z,150nm,1.3s,baz=38,slow=5.2
PVCC Panska Ves 80.92 329 *e*P **P** **20 26 59.8 +0.3**
PVCC *e*S S 20 36 52.2 -12
PVCC AMS AMS 21 05 50.0
comp=Z,2µm,17.9s
PVCC Panska Ves 80.92 329 *e*P **P** **20 26 59.8 +0.3**
PVCC MLR MLR
comp=Z,2µm,17.9s
CLL Collm 80.96 330⇑ *i*P **P** **20 26 59.5 -0.2**
comp=Z,228nm,1.2s
CLL *e*Pmax 20 27 02.0
CLL *e*PcP **PcP** **20 27 05.0 -1.1**
CLL *e*sP **pP** **20 27 15.0 -0.1**
CLL *e*PP **PP** **20 30 05.0 +0.8**
CLL *e*S **S** **20 37 03.0 -1.3**
CLL *e*sS **pS** **20 37 26.0 +2.4**
CLL *e*PPS PPS 20 38 15.0
CLL *e*SS SS 20 42 30.0 +12
CLL *e*SSS SSS 20 45 54.0
CLL *e* 20 47 00.0
CLL *e*SSSS 20 48 06.0
CLL LmV 21 07 00.0
comp=Z,1µm,19.4s
CLL Lmax 21 07 00.0
CLL Collm 80.96 330⇑ *i*P **P** **20 26 59.5 -0.2**
CLL *e**SP **pP** **20 27 15.0 -0.1**
CLL *e*S **S** **20 37 03.0 -1.3**
CLL pmax pmax
comp=Z,228nm,1.2s
CLL MLR MLR
comp=Z,1µm,19.4s
CLL Collm 80.96 330 *e*P **P** **20 26 59.6 -0.2**
comp=Z,228nm,1.2s,baz=38,slow=5.2
PV20 West Nyswonger 80.97 48 IAmb IAmb 20 27 04.0
comp=Z,140nm,1.2s
VRAC Vranov 80.97 327 P **P** **20 27 00.6 +0.6**
comp=Z,152nm,1.2s,baz=49,slow=5.2,SNR=132
VRAC PP **PP** **20 30 05.2 +0.8**
comp=Z,17nm,1.1s,baz=34,slow=10,SNR=3.4
VRAC Vranov 80.97 327⇑P **P** **20 27 00.7 +0.8**
VRAC Vranov 80.97 327⇑ *i*P **P** **20 27 00.5 +0.6**
VRAC Vranov 80.97 327 *e*S **S** **20 37 02.3 -2.3**
PV04 Paradox Valley 80.97 48 IAmb IAmb 20 27 04.9
comp=Z,82nm,0.8s
AGMN Agassiz Nation 81.02 35 P **P** **20 27 00.3 +0.2**
baz=317,SNR=17
AGMN Agassiz Nation 81.02 35 IAMs_20 IAMs_20 21 01 56.0
comp=Z,685nm,21.0s
VLAD Vladila 81.04 319⇑P **P** **20 27 00.1 -0.3**
BHL Bhannes 81.05 306 *e*P **P** **20 27 00.5 -0.2**
N23A Red Feather La 81.06 45 P **P** **20 27 03.1 +2.2**
baz=312,SNR=16
PV03 Paradox Valley 81.10 48 IAmb IAmb 20 27 06.1
comp=Z,134nm,1.3s
FBE Freiberg 81.11 330 *e*P **P** **20 27 00.9 +0.3**
comp=Z,311nm,1.3s,baz=38,slow=5.2
NRDL Niedersach Rie 81.15 332 *e*P **P** **20 27 00.7 +0.1**
comp=Z,123nm,1.4s,baz=38,slow=5.2
RCY Rachaya 81.19 305 *e*P **P** **20 27 01.8 +0.3**
SMOL Smolenice 81.19 326 *e*P **P** **20 27 02.2 +1.1**
SMOL pmax pmax
comp=Z,82nm,1.2s
SMOL Smolenice 81.19 326 *e*P **P** **20 27 02.2 +1.1**
PV02 Paradox Valley 81.20 48 IAmb IAmb 20 27 06.0
comp=Z,107nm,1.3s
ASSE Asse, Remlinge 81.22 332 *e*P **P** **20 27 01.1 0.0**
comp=Z,127nm,1.3s,baz=38,slow=5.2
BUD Budapest 81.22 324 P **P** **20 27 01.9 +0.7**
BUD pmax pmax
comp=Z,97nm,1.3s
RETH Rethem/Aller, 81.23 333 *e*P **P** **20 27 01.3 +0.2**
baz=38,slow=5.2
KRUC Moravsky 81.24 327⇑ *i*P **P** **20 27 01.7 +0.4**
KRUC Moravsky 81.24 327 P **P** **20 27 01.9 +0.6**
KRUC pmax pmax
comp=Z,134nm,1.4s
QRWL Qaraoun 81.25 305 *e*P **P** **20 27 02.0 +0.2**
GOPC GO Pecny, Ondr 81.29 328 *e*P **P** **20 27 02.0 +0.4**
GOPC *ex* x 20 27 11.4
GOPC *e*S S 20 36 58.5 -9.4
GOPC AMS AMS 21 05 40.0
comp=Z,2µm,18.9s
GOPC GO Pecny, Ondr 81.29 328 *e*P **P** **20 27 02.0 +0.4**
GOPC *e* 20 27 11.4
GOPC *e*S S 20 36 58.5 -9.4
GOPC MLR MLR
comp=Z,2µm,18.9s
WUAZ Wupatki 81.30 52 P **P** **20 27 04.3 +2.2**
baz=310,SNR=19
SRO Srobarova 81.31 325 *e*P **P** **20 27 02.5 +0.8**
SRO pmax pmax
comp=Z,180nm,1.3s
SRO Srobarova 81.31 325 *e*P **P** **20 27 02.5 +0.8**
ASF Jabal al Asfar 81.31 304 P **P** **20 27 02.7 +0.6**
comp=Z,33nm,1.1s,baz=2.0,slow=0.8,SNR=46
SRO2 Moca 81.31 325 *e*P **P** **20 27 01.4 -0.3**
SRO2 pmax pmax
comp=Z,79nm,1.1s
SRO2 Moca 81.31 325 *e*P **P** **20 27 01.4 -0.3**
PRA Prague 81.32 328 *e*P **P** **20 27 02.1 +0.4**
PRA *e*S S 20 36 58.9 -9.2
PRA AMS AMS 21 05 50.0
comp=Z,1µm,19.6s
PRA Prague 81.32 328 *e*P **P** **20 27 02.1 +0.4**
PRA *e*S S 20 36 58.9 -9.2
PRA MLR MLR
comp=Z,1µm,19.6s
BZS Buzias 81.32 322⇑P **P** **20 27 01.8 0.0**
BZS Buzias 81.32 322 P **P** **20 27 01.8 0.0**
BZS pmax pmax
comp=Z,121nm,1.4s
PRU Pruhonice 81.34 328 *e*P **P** **20 27 02.0 +0.2**

PRU ex x 20 27 11.4
PRU eS **S** **20 37 07.5 -0.8**
PRU AMS AMS 21 05 50.0
comp=Z,2µm,18.2s
PRU Pruhonice 81.34 328 eP **P** **20 27 02.0 +0.2**
PRU e 20 27 11.4
PRU eS **S** **20 37 07.5 -0.8**
PRU MLR MLR
comp=Z,2µm,18.2s
SHBL Chebaa 81.34 305 eP **P** **20 27 02.4 +0.1**
D32A Dogwood Acres, 81.34 36 IAMs_20 IAMs_20 21 00 44.5
comp=Z,630nm,22.0s
PLVB Pleven 81.35 319 ⇑P **P** **20 27 02.1 +0.1**
MODS Modra-Piesok 81.36 326 eP **P** **20 27 02.0 0.0**
MODS pmax pmax
comp=Z,193nm,1.3s
MODS Modra-Piesok 81.36 326 eP **P** **20 27 02.0 0.0**
LEWI Lewis, Hebride 81.42 343 eP **P** **20 27 01.7 -0.4**
LEWI IAmb IAmb 20 27 03.8
comp=Z,84nm,1.0s
HERR Herculane 81.44 321 ⇑P **P** **20 27 02.5 +0.1**
TREC Trest 81.46 327 eP **P** **20 27 02.3 -0.2**
TREC ePCP **PcP** **20 27 08.1 -0.3**
TREC eS **S** **20 37 05.7 -4.0**
TREC AMS AMS 21 06 10.0
comp=Z,1µm,18.7s
TREC Trest 81.46 327 eP **P** **20 27 02.3 -0.2**
TREC eS **S** **20 37 05.7 -4.0**
TREC MLR MLR
comp=Z,1µm,18.7s
113A Mohawk Valley, 81.49 55 IAMs_20 IAMs_20 20 55 53.2
comp=Z,936nm,21.0s
NEUB Neuenburg 81.52 331 eP **P** **20 27 03.0 +0.3**
comp=Z,294nm,1.3s,baz=38,slow=5.2
CLZ Clausthal 81.56 332 eP **P** **20 27 03.2 +0.2**
comp=Z,263nm,1.3s,baz=38,slow=5.2
ZST Bratislava 81.58 326 eP **P** **20 27 03.0 -0.1**
ZST pmax pmax
comp=Z,190nm,1.6s
ZST Bratislava 81.58 326 eP **P** **20 27 03.0 -0.1**
PUNG Punghina 81.61 320 ⇑P **P** **20 27 03.5 +0.2**
KAC Achnashellach 81.64 342 eP **P** **20 27 03.8 +0.5**
BANR Banloc 81.73 322 ⇑P **P** **20 27 04.5 +0.6**
ISP Isparta 81.75 312 P **P** **20 27 03.9 -0.5**
ISP pmax pmax
comp=Z,89nm,1.1s
ISP Isparta 81.75 312 IAmb IAmb 20 27 06.2
comp=Z,114nm,1.1s
ISP Isparta 81.75 312 IAMs_20 IAMs_20 21 09 39.5
comp=Z,808nm,20.0s
MMAI Mount Meron Ar 81.77 305 P **P** **20 27 05.0 +0.5**
comp=Z,83nm,1.0s,baz=44,slow=6.1,SNR=72
MMAI PP **PP** **20 30 12.1 +0.5**
comp=Z,2.2nm,0.4s,baz=54,slow=4.2,SNR=4.9
IVI Ivigtut 81.77 5 IAmb IAmb 20 27 05.6
comp=Z,64nm,1.2s
IVI IAMs_20 IAMs_20 21 03 20.1
comp=Z,744nm,20.0s
PBCC Pribram 81.80 328 eP **P** **20 27 04.3 0.0**
TANN Tannenbergstha 81.87 330 eP **P** **20 27 04.7 +0.1**
comp=Z,240nm,1.5s,baz=38,slow=5.2
KPL Plockton 81.87 343 eP **P** **20 27 05.1 +0.7**
KPL IAmb IAmb 20 27 07.4
comp=Z,387nm,1.2s
KPL IAMs_20 IAMs_20 21 00 37.6
comp=Z,909nm,26.5s
MDVR Moldovita 81.87 321 ⇑P **P** **20 27 04.5 -0.3**
CSS Mathiatis 81.87 308 IAmb IAmb 20 27 07.8
comp=Z,102nm,1.1s
PLN Plauen 81.93 330 eP **P** **20 27 05.1 +0.1**
comp=Z,159nm,1.6s,baz=38,slow=5.2
GTTG Gottingen 81.95 332 eP **P** **20 27 05.1 +0.1**
comp=Z,184nm,1.3s,baz=38,slow=5.2
GTTG eSP **sP** **20 27 25.1 -1.2**
GUNZ Gunzen 81.96 330 eP **P** **20 27 05.2 +0.1**
comp=Z,153nm,1.4s,baz=38,slow=5.2
ISCO Idaho Springs 81.97 46 P **P** **20 27 07.2 +1.5**
baz=312,SNR=18
ISCO Idaho Springs 81.97 46 P **P** **20 27 07.2 +1.5**
ISCO pmax pmax
comp=Z,29nm,1.6s
MVCO Mesa Verde 81.99 49 P **P** **20 27 07.8 +2.0**
baz=311,SNR=23
WERN Wernitzgruen 82.00 330 eP **P** **20 27 05.6 +0.2**
comp=Z,183nm,1.4s,baz=38,slow=5.2
MOX Moxa 82.03 330 P **P** **20 27 05.7 +0.3**
MOX pmax pmax
comp=Z,85nm,1.6s
MOX Moxa 82.03 330 eP **P** **20 27 05.5 0.0**
comp=Z,161nm,1.4s,baz=38,slow=5.2
MOX eSP **sP** **20 27 25.5 -1.3**
IBBN Ibbenburen 82.16 333 eP **P** **20 27 06.4 +0.4**
comp=Z,247nm,1.2s,baz=38,slow=5.2
PLD Plovdiv 82.19 318 P **P** **20 27 07.2 +0.8**
PLD pmax pmax
comp=Z,190nm,2.2s
SOP Sopron 82.20 326 P **P** **20 27 07.4 +1.0**
SOP pmax pmax
comp=Z,151nm,1.4s
ALN Alexandroupoli 82.28 316 IAMs_20 IAMs_20 21 08 10.3
comp=Z,919nm,20.0s
MORH Mrgy, Hungar 82.33 324 ⇑*i*P **P** **20 27 06.5 -0.6**
CONA Conrad Observa 82.33 326 *i* P **P** **20 27 07.8 +0.6**
comp=Z,30nm,0.8s,SNR=90
CONA ePP **PP** **20 30 11.9 -3.8**
comp=Z,5.0nm,0.8s
SUSD Miller 82.34 39 P **P** **20 27 08.1 +0.9**
baz=316
MANZ Manzenberg 82.34 330 eP **P** **20 27 07.1 0.0**
comp=Z,113nm,1.3s,baz=38,slow=5.2
MANZ eSP **sP** **20 27 27.5 -1.0**
ESY Stoneypath 82.36 340 eP **P** **20 27 07.2 +0.2**
KHC Kasperske Hory 82.40 328 eP **P** **20 27 07.2 -0.3**
KHC ex x 20 27 17.0
KHC epP **pP** **20 27 24.0 +1.2**
KHC eS **S** **20 37 15.0 -4.4**
KHC AMS AMS 21 06 40.0
comp=Z,2µm,20.0s
KHC Kasperske Hory 82.40 328 eP **P** **20 27 07.2 -0.3**
KHC e 20 27 17.0
KHC e 20 27 24.0
KHC eS **S** **20 37 15.0 -4.4**
KHC MLR MLR
comp=Z,2µm,20.0s
KHC Kasperske Hory 82.40 328 IAmb IAmb 20 27 09.2
comp=Z,60nm,1.1s
KHC IAMs_20 IAMs_20 21 06 54.7
comp=Z,845nm,20.0s
RZN Rozhen 82.47 317 eP **P** **20 27 08.6 +0.4**
ROTZ Rotzenmuhle 82.47 329 eP **P** **20 27 07.8 0.0**
comp=Z,176nm,1.4s,baz=38,slow=5.2
UBBA Unterbreizbach 82.52 331 eP **P** **20 27 07.9 0.0**
comp=Z,111nm,1.5s,baz=38,slow=5.2
FRGS Fruska Gora 82.54 322 ⇑*i*P **P** **20 27 08.2 0.0**
GEC2 GERESS Array S 82.57 328 IAmb IAmb 20 27 09.7
comp=Z,105nm,1.2s
GEC2 GERESS Array S 82.57 328 eP **P** **20 27 08.1 -0.3**
comp=Z,119nm,1.3s,baz=38,slow=5.2
GEC2 eSP **sP** **20 27 28.7 -1.1**
GERES GERESS Array B 82.57 328 P **P** **20 27 08.3 -0.1**
comp=Z,32nm,0.9s,baz=44,slow=4.1,SNR=162
GERES PP **PP** **20 30 19.3 +1.7**
comp=Z,4.7nm,0.9s,baz=28,slow=6.0,SNR=4.6
GERES PKKPbc **PKKPbc** **20 45 33.8 +0.9**
comp=Z,0.5nm,0.7s,baz=224,slow=3.7,SNR=6.7
GERES LR LR 21 07 19.6
comp=Z,1µm,18.7s,baz=46,slow=38
GERES GERESS Array B 82.57 328 P **P** **20 27 08.4 0.0**
GERES GERESS Array B 82.57 328 P **P** **20 27 08.4 0.0**
EAB Aberfoyle 82.57 341 eP **P** **20 27 08.5 +0.4**
W18A Petrified Fore 82.58 51 P **P** **20 27 10.9 +2.0**
baz=311
EBL Broad Law 82.60 341 eP **P** **20 27 08.5 +0.2**
VTS Vitosha 82.61 319 ⇑P **P** **20 27 09.2 +0.3**
VTS Vitosha 82.61 319 eP **P** **20 27 09.3 +0.5**
VTS Vitosha 82.61 319 P **P** **20 27 09.5 +0.7**
VTS pmax pmax
comp=Z,94nm,1.3s
VTS Vitosha 82.61 319 IAmb IAmb 20 27 10.9
comp=Z,60nm,0.9s
F33A 5 Mile Ranch, 82.63 36 IAMs_20 IAMs_20 21 02 09.6
comp=Z,650nm,20.0s
214A Organ Pipe Nat 82.63 55 P **P** **20 27 11.1 +2.1**
baz=309,SNR=8.5
214A Organ Pipe Nat 82.63 55 IAMs_20 IAMs_20 20 56 36.3
comp=Z,1µm,22.0s
S22A 4UR Ranch, Cre 82.64 48 P **P** **20 27 11.2 +2.0**
baz=312,SNR=18
WET Wettzell 82.68 329 P **P** **20 27 09.3 +0.4**
WET pmax pmax
comp=Z,97nm,1.6s
WET Wettzell 82.68 329 eP **P** **20 27 08.8 -0.1**
comp=Z,156nm,1.3s,baz=38,slow=5.2
LAWE Loch Awe, Argy 82.78 342 eP **P** **20 27 09.6 +0.4**
LAWE IAmb IAmb 20 27 10.7
comp=Z,84nm,1.2s
LAWE IAMs_20 IAMs_20 21 00 41.8
comp=Z,921nm,23.2s
Q24A Divide 82.80 46 P **P** **20 27 11.0 +0.9**
baz=313,SNR=11
GRF Grafenberg Arr 82.93 330 eP **P** **20 27 10.3 +0.1**
comp=Z,379nm,1.3s,baz=38,slow=5.2
GRF esP **sP** **20 27 30.8 -0.8**
PGBU Glenifferbraes 82.95 341 eP **P** **20 27 10.5 +0.4**
PGBU IAmb IAmb 20 27 12.8
comp=Z,173nm,1.0s
ARSA Arzberg 82.99 326 *i* P **P** **20 27 10.7 +0.2**
comp=Z,19nm,0.8s,SNR=38
BEHE Becsehely 83.01 325 ⇑*i*P **P** **20 27 13.3 +2.7**
EKA Eskdalemuir Ar 83.02 340 P **P** **20 27 10.2 -0.3**
EKA pmax pmax
comp=Z,11nm,1.1s
BUG Bochum--Univer 83.04 333 P **P** **20 27 10.6 0.0**
BUG pmax pmax
comp=Z,87nm,1.4s
BUG Bochum--Univer 83.04 333 eP **P** **20 27 10.6 0.0**
comp=Z,114nm,1.3s,baz=38,slow=5.2
ESK Eskdalemuir 83.05 340 eP **P** **20 27 10.9 +0.2**
ESK IAmb IAmb 20 27 12.1
comp=Z,48nm,0.9s
ESK IAMs_20 IAMs_20 21 01 10.9
comp=Z,2µm,29.6s
ESK Eskdalemuir 83.05 340 P **P** **20 27 11.2 +0.5**
ESK pmax pmax
comp=Z,74nm,1.1s
ESK MLR MLR
comp=Z,1µm,20.0s
ESK Eskdalemuir 83.05 340 P **P** **20 27 11.2 +0.5**
ESK IAmb IAmb 20 27 14.0
comp=Z,74nm,1.1s
MMB Musomiste 83.07 318 eP **P** **20 27 11.4 +0.3**
MOA Molln 83.09 327 eP **P** **20 27 11.1 +0.1**
comp=Z,26nm,1.1s,SNR=55
MOA ePP **PP** **20 30 22.7 +0.9**
comp=Z,5.8nm,0.9s
TEKS Tekeris 83.12 322 ⇑*i*P **P** **20 27 11.4 +0.1**
OGNE Ogallala 83.19 43 P **P** **20 27 13.2 +1.4**
baz=314,SNR=8.7
DIVS Divibare 83.22 322 ⇑*i*P **P** **20 27 11.6 -0.3**
EYMN Ely 83.22 33 P **P** **20 27 12.4 +0.7**
baz=320,SNR=7.0
EYMN Ely 83.22 33 IAmb IAmb 20 27 14.0
comp=Z,107nm,1.1s
EYMN Ely 83.22 33 IAMs_20 IAMs_20 21 05 40.9
comp=Z,709nm,21.0s
KKB Krupnik 83.22 318 eP **P** **20 27 12.2 +0.4**
KOGS Kog 83.27 325 ⇑*i*P **P** **20 27 11.4 -0.5**
KALN Kalnik 83.41 325 P **P** **20 27 12.4 -0.3**
SRS Serrai 83.47 318 P **P** **20 27 12.8 -0.3**
SRS pmax pmax
comp=Z,121nm,1.4s
NEWG New Galloway 83.50 341 eP **P** **20 27 13.1 +0.2**
NEWG IAmb IAmb 20 27 15.2
comp=Z,50nm,1.0s
NEWG IAMs_20 IAMs_20 21 00 52.3
comp=Z,1µm,29.5s
TNS Taunus Mts 83.59 332 eP **P** **20 27 13.6 0.0**
comp=Z,110nm,1.4s,baz=38,slow=5.2
PERS Pernice 83.64 326 ⇑*i*P **P** **20 27 13.8 -0.1**
PERS ePP **PP** **20 30 28.6 +2.2**
PERS eS **S** **20 37 31.8 -0.3**
SOKA Soboth 83.64 326 *i* P **P** **20 27 13.9 -0.1**
comp=Z,269nm,1.3s,SNR=127
KESW Keswick, Cumbr 83.67 340 eP **P** **20 27 14.2 +0.4**
KESW IAmb IAmb 20 27 15.6
comp=Z,110nm,0.9s
KESW IAMs_20 IAMs_20 21 02 15.0
comp=Z,1µm,25.9s
BBLS Lazići 83.68 322 ⇑*i*P **P** **20 27 14.5 +0.3**
TUC Tucson 83.73 54 P **P** **20 27 16.6 +1.9**
baz=310
TUC Tucson 83.73 54 P **P** **20 27 15.0 +0.3**
TUC pmax pmax
comp=Z,35nm,1.2s
TUC MLR MLR
comp=Z,800nm,21.0s
TUC Tucson 83.73 54 P **P** **20 27 15.0 +0.3**
TUC Tucson 83.73 54 IAMs_20 IAMs_20 20 57 30.3
comp=Z,812nm,21.0s
HPK Haverah Park 83.81 339 eP **P** **20 27 14.9 +0.4**
HPK IAmb IAmb 20 27 16.1
comp=Z,101nm,1.0s
HPK IAMs_20 IAMs_20 21 04 55.7
comp=Z,2µm,23.4s
STIP Stip 83.82 319 *i* P **P** **20 27 13.9 -1.0**
AHRW Bad Neuenahr-A 83.85 333 eP **P** **20 27 14.8 0.0**
comp=Z,126nm,1.3s,baz=38,slow=5.2
AHRW esP **sP** **20 27 35.0 -1.1**
GAL1 Galloway 83.85 341 eP **P** **20 27 14.8 +0.1**
GAL1 IAmb IAmb 20 27 16.2
comp=Z,69nm,0.8s
GAL1 IAMs_20 IAMs_20 21 01 45.8
comp=Z,1µm,23.9s
ZAG Zagreb 83.86 325 P **P** **20 27 14.7 -0.2**
ZAG Zagreb 83.86 325 ⇑*i*P **P** **20 27 15.1 +0.1**
RUDO Rudo 83.88 322 eP **P** **20 27 14.2 -0.9**
VAY Valandovo 83.88 318 *i* P **P** **20 27 15.3 +0.2**
F36A Milaca 83.90 35 IAMs_20 IAMs_20 21 02 58.3
comp=Z,707nm,22.0s
TOD Tromm 83.95 331 P **P** **20 27 15.7 +0.3**
OBKA Obir 83.99 326 eP **P** **20 27 14.7 -1.0**
comp=Z,11nm,0.7s,SNR=9.0
SKO Skopje 84.01 319 *i* P **P** **20 27 16.7 +0.9**
SKO Skopje 84.01 319 P **P** **20 27 17.1 +1.2**
SKO pmax pmax
comp=Z,240nm,1.5s
CLGH Cloghs, Cushen 84.01 342 eP **P** **20 27 15.7 +0.1**
CLGH IAmb IAmb 20 27 17.3
comp=Z,117nm,0.9s
ECSD EROS Data Cent 84.02 38 P **P** **20 27 16.2 +0.3**
baz=317,SNR=46
ECSD EROS Data Cent 84.02 38 IAmb IAmb 20 27 18.4
comp=Z,72nm,1.2s
PLE Pljevlja 84.08 321 ⇑*i*P **P** **20 27 16.5 +0.2**
KBA Koelnbreinsper 84.08 327 *i* P **P** **20 27 15.9 -0.4**
comp=Z,14nm,0.7s,SNR=38
KBA ePP **PP** **20 30 30.0 -0.1**
comp=Z,18nm,1.1s
KBA Koelnbreinsper 84.08 327 P **P** **20 27 16.3 0.0**
KBA pmax pmax
comp=Z,63nm,0.9s
BLY Banja Luka 84.10 324 ⇑*i*P **P** **20 27 16.0 -0.3**
FUR Furstenfeldbru 84.11 329 P **P** **20 27 16.8 +0.5**
FUR pmax pmax
comp=Z,216nm,1.3s
FUR Furstenfeldbru 84.11 329 eP **P** **20 27 16.2 -0.1**
comp=Z,230nm,1.1s,baz=38,slow=5.2
BEBN Eben Emael 84.14 333 P **P** **20 27 16.0 -0.3**
IVA Berane 84.16 321 ⇑*i*P **P** **20 27 16.9 +0.2**
EIL Elat 84.18 303 P **P** **20 27 17.0 +0.1**
comp=Z,180nm,1.1s,baz=33,slow=2.0,SNR=105
MEM Membach 84.18 333 ⇑P **P** **20 27 16.2 -0.3**
MEM PcP **PcP** **20 27 20.1 -0.2**
MEM sP **pP** **20 27 32.0 +0.1**
MEM x 20 27 36.1
MEM Membach 84.18 333 P **P** **20 27 16.5 0.0**
KSCO Kaye Shedlock' 84.20 45 P **P** **20 27 19.0 +2.0**
baz=314,SNR=6.8
WACR West Acre 84.20 337 eP **P** **20 27 16.6 0.0**
WACR IAmb IAmb 20 27 17.7
comp=Z,235nm,1.0s
WACR IAMs_20 IAMs_20 21 04 52.6
comp=Z,2µm,25.1s
OZLJ Ozalj 84.25 325 P **P** **20 27 16.4 -0.5**
MYKA Terra Mystica 84.30 327 eP **P** **20 27 16.2 -1.1**
comp=Z,36nm,0.9s,SNR=22
LBWR Ladybower, Pea 84.32 339 eP **P** **20 27 17.4 +0.2**
LBWR IAmb IAmb 20 27 18.8
comp=Z,331nm,1.1s
LBWR IAMs_20 IAMs_20 21 05 10.4
comp=Z,2µm,24.3s
PVY Plav 84.32 321 ⇑*i*P **P** **20 27 17.0 -0.6**
IOMK Kirk Michael 84.35 341 eP **P** **20 27 17.5 +0.2**
IOMK IAmb IAmb 20 27 18.8
comp=Z,410nm,1.3s
IOMK IAMs_20 IAMs_20 21 07 00.1
comp=Z,3µm,20.4s
LJU Ljubljana 84.35 326 ⇑*i*P **P** **20 27 16.9 -0.6**
LJU ePP **PP** **20 30 34.3 +2.1**
LJU eS **S** **20 37 36.1 -3.0**
LJU *e* 20 37 59.5
LJU *e* 20 43 26.2
LJU Ljubljana 84.35 326 ⇑*i*P **P** **20 27 17.0 -0.5**
BSTI Sart Tilman 84.36 333 ⇑P **P** **20 27 17.4 0.0**
comp=Z,19nm,2.2s
KOME Kolasin 84.36 321 ⇑*i*P **P** **20 27 17.2 -0.5**
BHOU Houvegnez 84.39 333 P **P** **20 27 17.3 -0.3**
comp=Z,63nm,1.5s
BHOU sP **pP** **20 27 33.4 +0.3**
BHOU x x 20 27 40.6
MGRS Mrkonjic Grad 84.40 323 ⇑*i*P **P** **20 27 18.9 +1.1**
UPM Unac-Piva 84.41 322 ⇑*i*P **P** **20 27 17.3 -0.8**
UPM Unac-Piva 84.41 322 eP **P** **20 27 17.6 -0.5**
KTD Kalmit 84.46 331 P **P** **20 27 18.1 +0.1**
T25A Trinidad 84.47 47 P **P** **20 27 20.1 +1.6**
baz=313,SNR=14
STU Stuttgart 84.47 330 P **P** **20 27 18.4 +0.4**
STU Stuttgart 84.47 330 eSP sP 20 27 37.7 -1.8
WIM Isle of Man 84.48 341 eP **P** **20 27 18.3 +0.3**
BCLA Clavier 84.59 333 ⇑P **P** **20 27 18.2 -0.4**
comp=Z,75nm,1.6s
UCC Uccle 84.61 334 P **P** **20 27 18.4 -0.3**
UCC PcP **PcP** **20 27 21.2 -0.9**
WATA Walderalm 84.64 328 *i* P **P** **20 27 18.7 -0.4**
comp=Z,33nm,1.1s,SNR=32
ZOU Zoufplan 84.65 327 IAmb IAmb 20 27 19.4
comp=Z,108nm,1.3s
NKY Niksic 84.65 321 ⇑*i*P **P** **20 27 18.6 -0.6**
WTTA Wattenberg 84.67 328 *i* P **P** **20 27 19.0 -0.3**
comp=Z,36nm,1.0s,SNR=16
WTTA PP **PP** **20 30 29.4 -5.5**
comp=Z,5.9nm,0.8s
BGES Gesves 84.70 334 ⇑P **P** **20 27 18.7 -0.5**
comp=Z,74nm,1.5s
BGES x x 20 27 39.1
ABTA Abfaltersbach 84.70 327 eP **P** **20 27 18.0 -1.4**
comp=Z,70nm,1.2s,SNR=29
NKME Niksic 84.70 321 ⇑*i*P **P** **20 27 18.9 -0.5**
SPMN Marine on St. 84.72 35 P **P** **20 27 20.7 +1.4**
baz=320,SNR=8.0
ANMO Albuquerque 84.72 50 P **P** **20 27 22.6 +2.7**
baz=312
ANMO Albuquerque 84.72 50 *ce*P **P** **20 27 21.2 +1.4**
ANMO pmax pmax
comp=Z,60nm,1.2s
ANMO Albuquerque 84.72 50 P **P** **20 27 18.7 -1.1**
ANMO IAmb IAmb 20 27 24.3
comp=Z,58nm,1.1s
GMM Mts of Mourne 84.73 341 eP **P** **20 27 19.4 +0.2**
CWF Charnwood Fore 84.78 338 eP **P** **20 27 19.4 -0.1**
CWF IAmb IAmb 20 27 20.7
comp=Z,162nm,1.3s
CWF IAMs_20 IAMs_20 21 06 28.5
comp=Z,3µm,23.7s
PDG Podgorica 84.80 321 ⇓⇓P **P** **20 27 19.6 -0.2**
PDG Podgorica 84.80 321 ⇑*i*P **P** **20 27 19.6 -0.2**
TTG Podgorica 84.80 321 ⇑*i*P **P** **20 27 19.6 -0.2**
BRY Bratogost 84.81 322 ⇑*i*P **P** **20 27 19.4 -0.7**
BRY Bratogost 84.81 322 ⇑*i*P **P** **20 27 19.3 -0.8**
MOTA Moosalm 84.83 328 *i* P **P** **20 27 19.7 -0.4**
comp=Z,132nm,1.4s,SNR=43
MOTA ePP **PP** **20 30 30.6 -5.5**
comp=Z,5.8nm,0.9s
PPT Papeete 84.84 116 LR LR 20 59 00.7
comp=Z,956nm,19.5s,baz=331,slow=31
PPT2 Papeete2 84.85 116 eS **S** **20 37 39.0 -5.8**
comp=Z,788nm,26.8s
PPT2 Papeete2 84.85 116 *e*LR LR 20 53 53.5
comp=Z,5µm,30.0s,baz=313
PPT2 Papeete2 84.85 116 *e*T T 22 00 57.7
comp=Z,12nm,0.3s
RETA Reutte 84.86 329 *i* P **P** **20 27 20.1 0.0**
comp=Z,193nm,1.3s,SNR=70
SNF Seneffe 84.88 334 ⇑P **P** **20 27 19.4 -0.6**
SNF PcP **PcP** **20 27 22.1 -1.2**
SNF sP **pP** **20 27 35.8 +0.3**
BMRD Maredsous 84.88 334 ⇑P **P** **20 27 19.7 -0.3**
BMRD x x 20 27 40.2
SQTA Sankt Quirin 84.88 328 eP **P** **20 27 20.0 -0.3**
comp=Z,40nm,1.0s,SNR=22
CEME Cevo 84.88 321 ⇑*i*P **P** **20 27 19.8 -0.5**
PAE Paea 84.90 116 *e*T T 22 01 00.3
comp=Z,2.2nm,0.3s
WLF Walferdange 84.91 333 ⇑P **P** **20 27 19.9 -0.3**
comp=Z,101nm,1.8s
WLF x x 20 27 40.9
WLF Walferdange 84.91 333 eP **P** **20 27 20.6 +0.4**
comp=Z,279nm,1.6s,baz=38,slow=5.2
WLF esP **sP** **20 27 40.9 -0.7**
RIY Rijeka 84.92 325 P **P** **20 27 19.2 -1.1**
RIY Rijeka 84.92 325 ⇑*i*P **P** **20 27 19.3 -1.1**
BGNE Belgrade 84.93 40 P **P** **20 27 21.8 +1.3**
baz=316
TRI Trieste 84.95 326 P **P** **20 27 19.4 -1.1**
TRI pmax pmax
comp=Z,76nm,1.2s
OHR Ohrid 84.96 319 *i* P **P** **20 27 20.6 -0.2**
OHR Ohrid 84.96 319 P **P** **20 27 20.7 0.0**
OHR pmax pmax
comp=Z,252nm,1.1s
UBR Ueberruh 84.97 329 eP **P** **20 27 20.5 -0.2**
comp=Z,66nm,1.2s,baz=38,slow=5.2
TIAR Tiarei 85.00 116 *e*T T 22 01 07.8
comp=Z,6.1nm,0.3s
DRME Dracevica, Mon 85.01 321 ⇑*i*P **P** **20 27 20.9 0.0**
DRME Dracevica, Mon 85.01 321 ⇑*i*P **P** **20 27 21.0 0.0**
Y22D IRIS PASSCAL I 85.02 51 IAMs_20 IAMs_20 21 00 11.2
comp=Z,611nm,20.0s
GIVF Givet 85.03 333 eP **P** **20 27 19.8 -1.0**
GIVF pmax pmax
comp=Z,183nm,1.6s
TREB Trebinje 85.04 322 ⇑*i*P **P** **20 27 20.0 -1.0**
WME Myndd Eilian 85.05 340 eP **P** **20 27 20.7 -0.1**
CIMO Cimolais 85.07 327 P **P** **20 27 20.1 -1.0**
CIMO IAmb IAmb 20 27 21.1
comp=Z,49nm,1.1s
BUM Brajici-Budva 85.08 321 ⇑*i*P **P** **20 27 20.8 -0.5**
DOU Dourbes 85.11 334 ⇑P **P** **20 27 20.9 -0.4**
comp=Z,56nm,1.7s
DOU sP **pP** **20 27 36.6 -0.1**
DOU x x 20 27 40.9
ULC Ulcinj 85.15 321 ⇑*i*P **P** **20 27 21.2 -0.4**
BFO Black Forest 85.17 331 P **P** **20 27 21.8 +0.2**
BFO pmax pmax
comp=Z,202nm,1.1s
BFO MLR MLR
comp=Z,700nm,19.0s
BFO Black Forest 85.17 331 P **P** **20 27 21.8 +0.2**
BFO IAMs_20 IAMs_20 21 11 31.8
comp=Z,748nm,19.0s
BFO Black Forest 85.17 331 eP **P** **20 27 21.5 -0.1**
comp=Z,263nm,1.2s,baz=38,slow=5.2
HCY Herceg Novi 85.17 321 ⇑*i*P **P** **20 27 21.1 -0.6**
HCY Herceg Novi 85.17 321 ⇑*i*P **P** **20 27 20.8 -0.9**
WLF1 Llynfaes 85.17 340 eP **P** **20 27 20.9 -0.5**
WLF1 IAmb IAmb 20 27 23.0
comp=Z,506nm,1.3s
WLF1 IAMs_20 IAMs_20 21 08 44.9
comp=Z,2µm,20.7s
DBRK Dubrovnik 85.18 322 P **P** **20 27 20.6 -1.2**
FOEL Foel Wylfa 85.20 339 eP **P** **20 27 22.1 +0.5**
FOEL IAMs_20 IAMs_20 21 09 39.7
comp=Z,1µm,16.6s
APE Apeiranthos 85.20 314 ⇑P **P** **20 27 20.2 -1.8**
APE Apeiranthos 85.20 314 *c* *i*P **P** **20 27 20.2 -1.8**
TVO Taravao 85.21 116 *e*T T 22 01 24.4
comp=Z,1.4nm,0.3s
FETA Feichten 85.24 328 *i* P **P** **20 27 21.8 -0.4**
comp=Z,58nm,1.1s,SNR=32
FETA ePP **PP** **20 30 34.2 -5.4**
comp=Z,3.4nm,0.8s
YLL Llanberis 85.25 340 eP **P** **20 27 22.2 +0.4**
YRC Rhoscolyn 85.26 340 eP **P** **20 27 22.0 +0.1**
MAKA Makarska 85.27 323 P **P** **20 27 20.6 -1.6**
BAIF Baives 85.28 334 eP **P** **20 27 21.2 -0.9**

BAIF pmax pmax
comp=Z,95nm,1.3s
319A Douglas 85.31 54 IAMs_20 IAMs_20 20 58 41.1
comp=Z,952nm,22.0s
NVLJ Novalja 85.33 325 P **P** **20 27 21.1 -1.3**
I37A Lemond, Waseca 85.36 36 IAMs_20 IAMs_20 21 03 15.8
comp=Z,647nm,21.0s
SCHQ Schefferville 85.36 16 P **P** **20 27 23.6 +1.2**
comp=Z,52nm,1.0s,baz=349,slow=5.7,SNR=26
SCHQ LR LR 21 07 00.5
comp=Z,605nm,21.5s,baz=334,slow=37
SCHQ Schefferville 85.36 16 IAmb IAmb 20 27 25.4
comp=Z,57nm,0.9s
SCHQ IAMs_20 IAMs_20 21 06 48.3
comp=Z,699nm,21.0s
DAVA Damuels 85.38 329 *e*P **P** **20 27 22.5 -0.3**
comp=Z,117nm,1.1s,SNR=40
ELSH Elham, Standar 85.40 336 *e*P **P** **20 27 22.0 -0.6**
ELSH IAmb IAmb 20 27 24.3
comp=Z,234nm,1.0s
ELSH IAMs_20 IAMs_20 21 09 02.0
comp=Z,3µm,19.2s
121A Cookes Peak, D 85.50 52 P **P** **20 27 25.5 +1.8**
baz=312,SNR=19
SLE Schleitheim 85.56 330 P **P** **20 27 23.1 -0.5**
CTI Castel Tesino 85.62 327 IAmb IAmb 20 27 24.1
comp=Z,60nm,1.1s
HVAR Hvar 85.63 323 P **P** **20 27 22.6 -1.3**
ZIRJ Zirje 85.66 324 P **P** **20 27 22.8 -1.3**
COWI Conover 85.67 32 IAMs_20 IAMs_20 21 07 14.7
comp=Z,662nm,21.0s
DUGI Dugi Otok 85.68 324 P **P** **20 27 23.4 -0.8**
ECH Echery 85.72 331 P **P** **20 27 24.2 -0.1**
ECH pmax pmax
comp=Z,105nm,1.2s
SANT Santorini 85.72 313 ⇑P **P** **20 27 22.9 -1.7**
HSIG 85.73 57 IAMs_20 IAMs_20 20 58 51.7
comp=Z,651nm,20.0s
N33A J Bar K, Exete 85.78 41 IAMs_20 IAMs_20 21 05 57.4
comp=Z,506nm,22.0s
DAVOX Davos/Dischmat 85.79 329 P **P** **20 27 24.8 -0.1**
comp=Z,92nm,1.2s,baz=19,slow=1.2,SNR=44
DAVOX PP **PP** **20 30 41.2 -2.8**
comp=Z,11nm,1.0s,baz=166,slow=0.5,SNR=3.9
STRD Stroud 85.88 338 *e*P **P** **20 27 25.3 +0.3**
STRD IAMs_20 IAMs_20 21 07 12.9
comp=Z,2µm,22.5s
HMNX Herstmonceux 85.90 336 *e*P **P** **20 27 25.6 +0.6**
HMNX IAmb IAmb 20 27 26.9
comp=Z,422nm,1.0s
HMNX IAMs_20 IAMs_20 21 09 53.9
comp=Z,2µm,22.8s
MCH1 Michaelchurch 85.93 339 *e*P **P** **20 27 25.3 0.0**
MCH1 IAmb IAmb 20 27 26.7
comp=Z,172nm,1.1s
MCH1 IAMs_20 IAMs_20 21 05 02.1
comp=Z,2µm,30.3s
CBKS Cedar Bluff 85.95 43 P **P** **20 27 27.0 +1.3**
baz=316
SRIG Santa Rosalia 85.95 59 IAMs_20 IAMs_20 20 58 29.7
comp=Z,889nm,21.0s
SWN1 Swindon 86.00 338 *e*P **P** **20 27 26.0 +0.4**
SWN1 IAmb IAmb 20 27 27.2
comp=Z,530nm,1.2s
SWN1 IAMs_20 IAMs_20 21 07 17.4
comp=Z,3µm,22.1s
MOF Molkenrain 86.02 331 P **P** **20 27 25.6 -0.3**
MEH Mehetia 86.13 116 *e*T T 22 02 32.5
comp=Z,88nm,0.3s
RSBS Rosebush, Pemb 86.47 340 *e*P **P** **20 27 27.7 -0.2**
RSBS IAmb IAmb 20 27 29.1
comp=Z,169nm,1.2s
K38A Parkersburg 86.69 37 IAMs_20 IAMs_20 21 04 34.3
comp=Z,555nm,20.0s
I40A Norwalk 86.74 35 IAMs_20 IAMs_20 21 04 47.3
comp=Z,645nm,22.0s
IDI Anoyia 86.81 313 P **P** **20 27 29.4 -0.5**
comp=Z,151nm,1.1s,baz=51,slow=5.0,SNR=48
IDI Anoyia 86.81 313 ⇑P **P** **20 27 28.4 -1.6**
IDI Anoyia 86.81 313 P **P** **20 27 28.9 -1.0**
IDI IAMs_20 IAMs_20 21 10 59.3
comp=Z,579nm,20.0s
MATQ Matagami 86.98 24 P **P** **20 27 31.1 +0.6**
baz=330,SNR=15
SCIA State Center 87.04 37 P **P** **20 27 33.1 +2.1**
baz=320
SCIA State Center 87.04 37 IAMs_20 IAMs_20 21 02 30.5
comp=Z,539nm,21.0s
D46A Sault St. Mari 87.12 29 P **P** **20 27 31.8 +0.5**
baz=326,SNR=17
ITM Ithomi 87.17 316 IAMs_20 IAMs_20 21 11 46.8
comp=Z,595nm,19.0s
SENIN Lac Senin/Sane 87.17 330 IAmb IAmb 20 27 32.9
comp=Z,71nm,1.4s
ZCCA Zocca 87.25 327 IAmb IAmb 20 27 42.2
comp=Z,58nm,1.0s
HTL Hartland 87.25 339 *e*P **P** **20 27 31.9 +0.2**
HTL IAmb IAmb 20 27 33.3
comp=Z,108nm,1.1s
HTL IAMs_20 IAMs_20 21 04 01.1
comp=Z,2µm,24.6s
D47A Chapleau 87.34 29 P **P** **20 27 33.2 +0.9**
baz=326,SNR=14
MATE Matera 87.40 321 ⇓P **P** **20 27 31.4 -1.3**
KSU1 Kansas State U 87.42 41 P **P** **20 27 33.1 +0.3**
baz=318
I42A Draeger Farm, 87.51 34 IAMs_20 IAMs_20 21 06 06.5
comp=Z,583nm,20.0s
F45A CMU Biological 87.52 31 P **P** **20 27 34.2 +1.1**
baz=325
H43A Windswept, Lux 87.55 33 IAMs_20 IAMs_20 21 08 12.5
comp=Z,552nm,22.0s
MNTX Cornudas Mount 87.57 51 P **P** **20 27 34.4 +0.7**
baz=313,SNR=19
MSTX Muleshoe 87.61 48 P **P** **20 27 35.4 +1.4**
baz=314,SNR=10.0
AMTX Amarillo 87.62 47 P **P** **20 27 35.3 +1.3**
baz=315
JFWS Jewell Farm 87.67 35 P **P** **20 27 34.7 +0.8**
baz=321,SNR=5.8
JFWS Jewell Farm 87.67 35 IAMs_20 IAMs_20 21 05 13.0
comp=Z,752nm,22.0s
AQU L'Aquila 87.71 324 P **P** **20 27 35.0 +0.8**
AQU pmax pmax
comp=Z,134nm,1.1s
AQU MLR MLR
comp=Z,2µm,19.0s
AQU L'Aquila 87.71 324 P **P** **20 27 35.0 +0.8**
AQU L'Aquila 87.71 324 ⇑P **P** **20 27 34.0 -0.2**
D48A Paudash Townsh 87.73 28 P **P** **20 27 34.4 +0.3**
baz=327,SNR=11
INTR Introdacqua 87.74 324 P **P** **20 27 33.1 -1.3**
INTR IAmb IAmb 20 27 35.7
comp=Z,82nm,1.1s
LOR Lormes 87.75 332 P **P** **20 27 34.0 -0.2**
LOR pmax pmax
comp=Z,96nm,1.3s
E47A Iron Bridge 87.78 29 P **P** **20 27 35.1 +0.8**
baz=326,SNR=9.8
OSSC Osservatorio P 87.78 326 IAmb IAmb 20 27 34.9
comp=Z,69nm,1.2s
LSQQ Lebel-sur-Quev 87.81 24 P **P** **20 27 34.8 +0.4**
baz=330
D49A Beulah Townshi 87.82 27 P **P** **20 27 35.2 +0.6**
baz=327,SNR=11
CHGQ Chibougamau 87.87 22 P **P** **20 27 35.3 +0.5**
baz=332,SNR=33
L40A Anamosa 87.88 36 IAmb IAmb 20 27 37.3
comp=Z,82nm,1.1s
L40A IAMs_20 IAMs_20 21 04 42.5
comp=Z,624nm,22.0s
G45A Suttons Bay 87.98 31 P **P** **20 27 36.6 +1.2**
baz=324
G46A Petoskey 88.08 31 P **P** **20 27 37.3 +1.5**
baz=325
LPL La Plagne 88.09 330 *e*P **P** **20 27 35.1 -1.1**
LPL pmax pmax
comp=Z,22nm,0.9s
LPG La Plagne 88.10 330 *e*P **P** **20 27 35.2 -1.1**
LPG pmax pmax
comp=Z,21nm,0.8s
JSA Saint Aubin 88.16 337 *e*P **P** **20 27 36.1 +0.1**
JSA IAmb IAmb 20 27 37.3
comp=Z,212nm,1.2s
JSA IAMs_20 IAMs_20 21 11 27.3
comp=Z,2µm,18.5s
H45A Beulah 88.16 32 P **P** **20 27 37.9 +1.7**
baz=324
E48A Lockeyer 88.18 28 P **P** **20 27 36.5 +0.2**
baz=327,SNR=9.6
D50A G1974 Best Tow 88.46 27 P **P** **20 27 37.6 0.0**
baz=328,SNR=21
VLDQ Val d'Or 88.47 25 IAMs_20 IAMs_20 21 12 11.9
comp=Z,575nm,20.0s
TIP Timpagrande 88.48 320 ⇑P **P** **20 27 37.6 -0.4**
BNI Bardonecchia 88.50 330 P **P** **20 27 37.9 -0.1**
BNI pmax pmax
comp=Z,61nm,1.5s
BNI MLR MLR
comp=Z,1µm,22.0s
BNI Bardonecchia 88.50 330 P **P** **20 27 37.9 -0.1**
BNI IAmb IAmb 20 27 40.5
comp=Z,61nm,1.5s
F48A Evansville 88.55 29 P **P** **20 27 38.8 +0.7**
baz=327,SNR=8.2
I45A Fountain 88.56 32 P **P** **20 27 39.9 +1.8**
baz=324
H46A Fife Lake 88.58 31 P **P** **20 27 39.6 +1.4**
baz=325,SNR=5.1
GLMI Grayling 88.59 31 P **P** **20 27 40.2 +2.0**
baz=325
GLMI Grayling 88.59 31 IAMs_20 IAMs_20 21 04 11.8
comp=Z,846nm,22.0s
G47A Hillman 88.61 30 P **P** **20 27 39.6 +1.3**
baz=326,SNR=7.0
L42A Oliver, Polo 88.65 35 IAMs_20 IAMs_20 21 04 48.9
comp=Z,538nm,21.0s
D51A Lot 18 Range I 88.69 26 P **P** **20 27 39.5 +0.9**
baz=329,SNR=12
K43A Burlington 88.71 34 IAMs_20 IAMs_20 21 06 32.3
comp=Z,532nm,20.0s
TBI Tubuai 88.73 121 *e*S **S** **20 38 16.8 -5.1**
comp=Z,449nm,27.2s
TBI Tubuai 88.73 121 *e*LR LR 20 55 25.0
comp=Z,3µm,35.0s
TBI Tubuai 88.73 121 *e*T T 22 05 49.2
comp=Z,193nm,0.3s
E50A Wahnapitae 88.76 28 P **P** **20 27 39.7 +0.7**
baz=328,SNR=12
F49A Sandfield 88.83 29 P **P** **20 27 39.9 +0.5**
baz=327,SNR=11
H47A Mio 88.94 31 P **P** **20 27 42.1 +2.2**
baz=326
I46A Reed City 88.96 32 P **P** **20 27 42.3 +2.3**
baz=325
J45A Montague 88.97 33 IAMs_20 IAMs_20 21 09 15.2
comp=Z,546nm,21.0s
N41A Harden Midland 89.10 37 IAMs_20 IAMs_20 21 06 08.0
comp=Z,617nm,22.0s
E51A G1948 Merrick 89.12 27 P **P** **20 27 41.3 +0.5**
baz=329,SNR=24
D52A ZEL Kipawa Sen 89.13 26 P **P** **20 27 40.9 +0.2**
baz=330,SNR=24
H48A Harrisville 89.21 30 P **P** **20 27 43.0 +1.9**
baz=326
D53A Lac Vacive, Po 89.28 25 P **P** **20 27 41.9 +0.4**
baz=330,SNR=26
D53A Lac Vacive, Po 89.28 25 IAmb IAmb 20 27 43.2
comp=Z,55nm,1.0s
D53A IAMs_20 IAMs_20 21 14 25.8
comp=Z,671nm,19.0s
I47A Gladwin 89.29 31 P **P** **20 27 43.8 +2.3**
baz=325,SNR=6.3
L44A Lake County Fo 89.31 34 IAMs_20 IAMs_20 21 06 49.3
comp=Z,763nm,22.0s
WMOK Wichita Mounta 89.40 45 P **P** **20 27 43.8 +1.5**
baz=316,SNR=30
P40A Paris 89.43 38 IAmb IAmb 20 27 45.2
comp=Z,82nm,1.2s
P40A IAMs_20 IAMs_20 21 06 23.8
comp=Z,486nm,22.0s
I48A Sherman Twp 89.48 30 P **P** **20 27 44.6 +2.2**
baz=326,SNR=5.5
F51A Arnstein 89.49 27 P **P** **20 27 42.8 +0.3**
baz=328,SNR=18
D54A Lac Fusel, La 89.58 25 P **P** **20 27 43.0 +0.1**
baz=331,SNR=22
E52A Mattawa 89.64 26 P **P** **20 27 43.4 +0.3**
baz=329,SNR=11
ATD Arta Tunnel 89.66 284 P **P** **20 27 43.6 -0.2**
comp=Z,29nm,1.0s,baz=71,slow=4.2,SNR=8.0
F52A Sundridge 89.82 27 P **P** **20 27 45.0 +1.0**
baz=329,SNR=22
SLBS Sierra La Lagu 89.87 60 P **P** **20 27 44.4 -0.3**
M44A Midewin, Midew 89.88 35 IAMs_20 IAMs_20 21 06 33.4
comp=Z,689nm,22.0s
E53A Dumoine, Ponti 89.90 26 P **P** **20 27 44.9 +0.6**
baz=330,SNR=18
HDIL Hopedale 89.96 36 P **P** **20 27 46.2 +1.5**
baz=322,SNR=6.6
HDIL Hopedale 89.96 36 IAMs_20 IAMs_20 21 07 28.7
comp=Z,507nm,21.0s
E54A Lac Daplat, Po 90.02 25 P **P** **20 27 44.9 0.0**
baz=330,SNR=21
I49A Point Hope 90.04 30 P **P** **20 27 47.1 +2.0**
baz=326
D55A Sainte-Anne-du 90.08 24 P **P** **20 27 45.8 +0.6**
baz=332,SNR=20
ALGO Algonquin Park 90.13 26 P **P** **20 27 46.4 +0.9**
baz=330,SNR=22
J48A Bridge Port 90.18 31 P **P** **20 27 46.7 +1.0**
baz=326,SNR=10
S39A Bolivar 90.19 40 IAMs_20 IAMs_20 21 05 35.0
comp=Z,506nm,22.0s
TUL1 Leonard 90.21 43 P **P** **20 27 46.5 +0.5**
baz=318,SNR=9.7
TUL1 Leonard 90.21 43 P **P** **20 27 45.4 -0.6**
TUL1 IAmb IAmb 20 27 48.2
comp=Z,29nm,0.8s
TX32 Lajitas Array 90.26 52 IAmb IAmb 20 27 49.7
comp=Z,39nm,1.2s
TXAR Lajitas Array 90.26 52 P **P** **20 27 47.5 +0.9**
comp=Z,18nm,0.9s,baz=293,slow=2.9,SNR=45
TXAR PKKPbc **PKKPbc** **20 45 16.2 +2.0**
comp=Z,0.3nm,0.6s,baz=142,slow=6.6,SNR=4.0
TXAR PKP2bc 20 52 44.8
comp=Z,0.4nm,0.9s,baz=155,slow=4.1,SNR=3.5
TXAR LR LR 21 01 60.0
comp=Z,576nm,21.9s,baz=0.0,slow=31
TXAR Lajitas Array 90.26 52 P **P** **20 27 47.6 +1.1**
TXAR Lajitas Array 90.26 52 P **P** **20 27 47.6 +1.1**
R40A Maddies Statio 90.27 39 P **P** **20 27 45.7 -0.5**
R40A IAmb IAmb 20 27 48.1
comp=Z,57nm,1.4s
R40A IAMs_20 IAMs_20 21 02 49.1
comp=Z,447nm,22.0s
D56A ZEC Mazanza, M 90.29 24 P **P** **20 27 46.6 +0.4**
baz=332,SNR=44
E55A Montcerf-Lytto 90.39 25 P **P** **20 27 47.8 +1.2**
baz=331
J49A Marlette 90.40 31 P **P** **20 27 47.5 +0.8**
baz=326,SNR=5.5
ABTX Abilene, Hawle 90.42 47 P **P** **20 27 47.7 +0.7**
baz=316,SNR=22
P43A Skaggs, Pawnee 90.57 37 IAMs_20 IAMs_20 21 07 01.9
comp=Z,559nm,21.0s
U38A Bravette 90.57 42 IAMs_20 IAMs_20 21 09 00.4
comp=Z,429nm,21.0s
H52A Wyevale 90.59 28 P **P** **20 27 48.0 +0.4**
baz=328,SNR=12
D57A Chemin Vers le 90.59 23 P **P** **20 27 48.1 +0.5**
baz=333,SNR=48
G54A Lake Saint Pet 90.60 26 P **P** **20 27 47.5 -0.2**
baz=330,SNR=22
E56A St. Veronique 90.64 24 P **P** **20 27 47.9 +0.1**
baz=332,SNR=17
G53A Haliburton 90.65 27 P **P** **20 27 48.3 +0.4**
baz=329,SNR=18
O44A Mansfield 90.67 36 IAMs_20 IAMs_20 21 06 52.3
comp=Z,490nm,20.0s
F55A Otter Lake 90.83 25 P **P** **20 27 48.6 -0.1**
baz=331,SNR=7.0
D58A Chemin du LacG 90.83 22 P **P** **20 27 48.8 +0.1**
baz=334,SNR=12
I51A Listowel 90.87 29 P **P** **20 27 49.7 +0.7**
baz=328,SNR=8.9
CCM Cathedral Cave 90.96 39 P **P** **20 27 49.7 +0.2**
baz=321
CCM Cathedral Cave 90.96 39 IAMs_20 IAMs_20 21 11 53.4
comp=Z,432nm,20.0s
I52A Shelburne 90.97 28 P **P** **20 27 50.1 +0.7**
baz=328,SNR=10
L48A N Adams 91.03 32 IAMs_20 IAMs_20 21 13 00.6
comp=Z,500nm,22.0s
E57A Chemin Saint G 91.05 24 P **P** **20 27 50.2 +0.4**
baz=333,SNR=26
AAM Ann Arbor 91.06 32 P **P** **20 27 52.1 +2.3**
baz=326
AAM Ann Arbor 91.06 32 IAMs_20 IAMs_20 21 14 29.3
comp=Z,422nm,20.0s
K50A Casco 91.09 31 IAMs_20 IAMs_20 21 07 31.1
comp=Z,607nm,21.0s
SFIN Lafayette 91.12 35 P **P** **20 27 50.5 +0.4**
baz=324,SNR=6.2
SFIN Lafayette 91.12 35 IAMs_20 IAMs_20 21 07 21.2
comp=Z,560nm,21.0s
H53A Bobcaygeon 91.13 27 P **P** **20 27 50.5 +0.3**
baz=329,SNR=18
G55A Calabogie 91.21 26 P **P** **20 27 50.3 -0.2**
baz=331,SNR=21
Z35A Perchaven, San 91.29 46 IAMs_20 IAMs_20 21 03 33.8
comp=Z,564nm,22.0s
N47A Urbana 91.34 34 IAMs_20 IAMs_20 21 08 44.1
comp=Z,604nm,21.0s
E58A La Victoria 91.36 23 P **P** **20 27 51.4 +0.2**
baz=333,SNR=13
Q44A Meyer Farm, Va 91.39 37 IAMs_20 IAMs_20 21 04 47.6
comp=Z,507nm,21.0s
U40A Yellville 91.44 41 P **P** **20 27 51.7 -0.1**
baz=320,SNR=37
U40A Yellville 91.44 41 IAMs_20 IAMs_20 21 09 11.3
comp=Z,477nm,20.0s
ORIO Orleans, Innes 91.45 25 P **P** **20 27 51.5 0.0**
baz=332,SNR=13
DELO Deloro Mine 91.53 27 IAmb IAmb 20 27 54.5
comp=Z,50nm,1.1s
DELO IAMs_20 IAMs_20 21 14 00.4
comp=Z,552nm,21.0s
D61A St Aubert, Com 91.53 21 P **P** **20 27 52.4 +0.5**
baz=336,SNR=5.2
J52A Paris 91.56 29 P **P** **20 27 53.1 +1.0**
baz=328,SNR=6.9
D60A Saint Jean D'O 91.58 21 P **P** **20 27 52.2 +0.1**
baz=335,SNR=10
K51A Iona Station 91.59 30 P **P** **20 27 53.3 +1.1**
baz=327
L50A Kingsville 91.62 31 P **P** **20 27 52.8 +0.3**
baz=326
H55A Tweed 91.66 26 P **P** **20 27 52.8 +0.3**
baz=330,SNR=17
P46A Rosedale 91.68 35 IAMs_20 IAMs_20 21 06 52.0
comp=Z,603nm,22.0s
I55A Frankford 91.77 27 P **P** **20 27 52.4 -0.6**
baz=330,SNR=13
W39A Magazine 91.83 42 P **P** **20 27 53.7 +0.2**
baz=319,SNR=10
W39A Magazine 91.83 42 IAMs_20 IAMs_20 21 12 22.7
comp=Z,427nm,20.0s
T42A Van Buren 91.83 39 IAMs_20 IAMs_20 21 04 13.6
comp=Z,439nm,22.0s
JCT Junction City 91.85 49 P **P** **20 27 54.3 +0.5**
baz=316,SNR=7.1
JCT Junction City 91.85 49 IAMs_20 IAMs_20 21 02 15.3
comp=Z,515nm,22.0s
K52A Tillsonburg 91.85 29 P **P** **20 27 55.2 +1.7**
baz=328
E60A Ste Agathe de 91.92 22 P **P** **20 27 53.6 -0.1**
baz=335,SNR=9.4
G57A Newington 91.93 25 P **P** **20 27 54.0 +0.2**
baz=332,SNR=17
H56A Elgin 91.94 26 P **P** **20 27 54.0 +0.1**
baz=331,SNR=8.3
D62A Allapoint, All 91.96 20 P **P** **20 27 54.4 +0.5**
baz=336,SNR=9.5
D62A Allapoint, All 91.96 20 IAmb IAmb 20 27 56.0
comp=Z,37nm,1.1s
D62A IAMs_20 IAMs_20 21 13 22.3
comp=Z,593nm,20.0s
OLIL Olney 91.97 36 IAMs_20 IAMs_20 21 07 54.6
comp=Z,502nm,22.0s
F59A Saint Guilaume 91.98 23 P **P** **20 27 54.5 +0.6**
baz=334,SNR=7.6
O48A Farmland 92.09 34 P **P** **20 27 54.7 +0.1**
baz=325,SNR=6.7
F60A Warwick 92.13 22 P **P** **20 27 55.1 +0.4**
baz=334,SNR=5.5
E61A Lac Etchemin 92.15 21 P **P** **20 27 54.1 -0.7**
baz=335,SNR=6.2
WHTX Lake Whitney, 92.15 47 P **P** **20 27 55.8 +0.7**
baz=317,SNR=10
WHTX Lake Whitney, 92.15 47 IAMs_20 IAMs_20 21 07 00.7
comp=Z,459nm,21.0s
FCAR Ozark Folk Cen 92.18 41 IAMs_20 IAMs_20 21 09 22.8
comp=Z,597nm,22.0s
G58A Ormstown 92.20 24 P **P** **20 27 55.1 +0.1**
baz=333,SNR=8.9
J54A Appleton 92.23 28 P **P** **20 27 57.3 +2.1**
baz=329
J54A Appleton 92.23 28 IAMs_20 IAMs_20 21 15 18.0
comp=Z,673nm,20.0s
S44A Carbondale 92.23 38 IAMs_20 IAMs_20 21 14 43.9
comp=Z,528nm,21.0s
E62A Clayton Lake 92.25 21 P **P** **20 27 55.3 0.0**
baz=336,SNR=6.7
E62A Clayton Lake 92.25 21 IAMs_20 IAMs_20 21 13 53.0
comp=Z,485nm,20.0s
D63A Stockholm 92.26 20 P **P** **20 27 55.2 0.0**
baz=337,SNR=7.5
H06N1 SOCORRO T-PHAS 92.26 64 T T 22 10 46.4
SNR=19
BLO Bloomington 92.35 35 IAMs_20 IAMs_20 21 07 02.8
comp=Z,603nm,21.0s
F61A St Evariste 92.41 22 P **P** **20 27 56.7 +0.7**
baz=335,SNR=20
MIAR Mount Ida 92.43 42 P **P** **20 27 56.8 +0.5**
baz=319,SNR=27
MIAR Mount Ida 92.43 42 P **P** **20 27 57.6 +1.3**
MIAR pmax pmax
comp=Z,61nm,1.2s
MIAR Mount Ida 92.43 42 IAmb IAmb 20 27 59.2
comp=Z,58nm,1.1s
MIAR IAMs_20 IAMs_20 21 07 04.7
comp=Z,431nm,22.0s
LONY Lake Ozonia 92.49 25 P **P** **20 27 56.2 -0.2**
baz=332,SNR=7.4
LONY Lake Ozonia 92.49 25 IAMs_20 IAMs_20 21 12 39.7
comp=Z,498nm,22.0s
O49A Covington 92.51 33 IAMs_20 IAMs_20 21 09 10.8
comp=Z,525nm,21.0s
J55A Hilton 92.54 27 P **P** **20 27 56.8 +0.1**
baz=330,SNR=6.4
J55A Hilton 92.54 27 IAMs_20 IAMs_20 21 15 32.3
comp=Z,706nm,20.0s
WHAR Wooly Hollow 92.55 41 IAmb IAmb 20 27 59.2
comp=Z,47nm,1.0s
P48A Milroy 92.62 34 IAMs_20 IAMs_20 21 08 38.8
comp=Z,606nm,20.0s
PQI Presque Isle 92.62 20 IAmb IAmb 20 27 58.8
comp=Z,33nm,1.0s
PQI IAMs_20 IAMs_20 21 15 37.6
comp=Z,721nm,19.0s
FRNY Flat Rock 92.63 24 IAMs_20 IAMs_20 21 15 54.2
comp=Z,688nm,19.0s
M52A Chesterland 92.64 31 P **P** **20 27 57.7 +0.5**
baz=327
M52A Chesterland 92.64 31 IAMs_20 IAMs_20 21 11 27.1
comp=Z,483nm,21.0s
W41B Gary Mavity, V 92.66 41 P **P** **20 27 57.3 0.0**
baz=320,SNR=10
ERPA Erie 92.70 29 P **P** **20 27 58.1 +0.7**
baz=328
ERPA Erie 92.70 29 IAMs_20 IAMs_20 21 13 36.5
comp=Z,558nm,21.0s
I57A Carthage 92.73 26 P **P** **20 27 57.4 -0.1**
baz=332,SNR=6.3
L53A Girard 92.73 30 P **P** **20 27 58.2 +0.6**
baz=328
E63A Oxbow 92.74 20 P **P** **20 27 57.7 +0.2**
baz=337,SNR=7.3
E63A Oxbow 92.74 20 IAMs_20 IAMs_20 21 16 08.8
comp=Z,500nm,18.0s
N51A Ashland 92.74 31 P **P** **20 27 57.8 +0.1**
baz=327
H59A Cadyville 92.76 24 P **P** **20 27 58.3 +0.7**
baz=333,SNR=6.9
K54A Basiliko Farm, 92.78 28 P **P** **20 27 58.2 +0.4**
baz=329
USIN University of 92.78 37 IAMs_20 IAMs_20 21 08 30.4
comp=Z,540nm,22.0s
F62A Pittston Farm, 92.78 21 P **P** **20 27 58.7 +0.9**
baz=336,SNR=9.2
F62A Pittston Farm, 92.78 21 IAMs_20 IAMs_20 21 12 59.1
comp=Z,553nm,20.0s

PARMO Parma 92.79 39 IAMs_20 IAMs_20 21 04 29.8
comp=Z,426nm,20.0s
G60A Masonville 92.79 23 P P 20 27 59.3 +1.5
baz=334
H58A Gabriels 92.81 25 P P 20 27 58.5 +0.6
baz=333,SNR=11
L54A Sinclairville 92.86 29 P P 20 27 58.6 +0.4
baz=329
P49A Miami Univ. Ec 92.87 34 P P 20 27 58.4 +0.2
baz=325,SNR=7.9
P49A Miami Univ. Ec 92.87 34 IAMs_20 IAMs_20 21 08 46.6
comp=Z,669nm,22.0s
X40A Basin Creek Fa 92.87 42 P P 20 27 58.7 +0.4
baz=320,SNR=13
G61A St-Isidore-de- 92.88 22 P P 20 27 59.1 +0.9
baz=334,SNR=12
J56A Wolcott 92.88 27 P P 20 27 58.4 +0.2
baz=331,SNR=9.0
J56A Wolcott 92.88 27 IAMs_20 IAMs_20 21 16 07.1
comp=Z,614nm,19.0s
HENM Henderson Moun 92.89 38 IAMs_20 IAMs_20 21 13 09.4
comp=Z,537nm,19.0s
E64A Bridgewater 92.90 20 P P 20 27 57.8 -0.4
baz=337,SNR=5.6
K55A Perry 92.91 28 P P 20 27 58.2 -0.2
baz=330,SNR=7.2
UALR University of 92.92 41 IAMs_20 IAMs_20 21 08 03.4
comp=Z,456nm,20.0s
435B Jarrell 92.96 47 P P 20 28 00.6 +1.8
baz=317
MMNY Mt. Morris Dam 92.97 28 IAMs_20 IAMs_20 21 15 48.5
comp=Z,479nm,20.0s
M53A WI Miller and 93.00 30 P P 20 27 59.5 +0.7
baz=328
PENMO Penman 93.02 39 IAMs_20 IAMs_20 21 15 26.9
comp=Z,514nm,21.0s
ALLY Alegheny Colle 93.03 30 IAMs_20 IAMs_20 21 16 41.4
comp=Z,465nm,20.0s
ACSO Alum Creek Sta 93.06 32 P P 20 28 00.5 +1.4
baz=326
ACSO Alum Creek Sta 93.06 32 IAMs_20 IAMs_20 21 14 19.6
comp=Z,387nm,20.0s
T45A Paducah 93.06 38 IAMs_20 IAMs_20 21 15 35.9
comp=Z,548nm,22.0s
J57A Williamstown 93.07 26 P P 20 27 59.0 -0.1
baz=331,SNR=9.4
J57A Williamstown 93.07 26 IAMs_20 IAMs_20 21 15 11.1
comp=Z,688nm,20.0s
HICK Hickman 93.15 38 IAMs_20 IAMs_20 21 04 43.3
comp=Z,445nm,22.0s
H60A Morristown 93.16 24 P P 20 28 00.8 +1.3
baz=334,SNR=7.3
I58A Old Forge 93.18 25 P P 20 28 00.8 +1.1
baz=332
NCB Newcomb 93.19 25 IAmb IAmb 20 28 01.7
comp=Z,26nm,1.1s
F63A Nahmakanta, Br 93.21 21 P P 20 28 00.7 +1.0
baz=336
F63A Nahmakanta, Br 93.21 21 IAMs_20 IAMs_20 21 12 50.3
comp=Z,602nm,21.0s
K56A Middlesex 93.21 27 P P 20 28 01.2 +1.3
baz=330
WCI Wyandotte Cave 93.22 36 P P 20 28 01.3 +1.4
baz=324
WCI Wyandotte Cave 93.22 36 IAMs_20 IAMs_20 21 06 22.8
comp=Z,666nm,22.0s
G62A West of Eustis 93.23 22 P P 20 28 01.7 +1.9
baz=335,SNR=9.3
G62A West of Eustis 93.23 22 IAMs_20 IAMs_20 21 10 23.1
comp=Z,587nm,22.0s
L55A Hinsdale 93.24 28 P P 20 28 01.4 +1.4
baz=330
F64A Sherman 93.27 20 P P 20 28 01.1 +1.1
baz=337
F64A Sherman 93.27 20 IAmb IAmb 20 28 02.6
comp=Z,37nm,1.3s
F64A IAMs_20 IAMs_20 21 14 09.9
comp=Z,614nm,20.0s
O51A Pataskala 93.29 32 P P 20 28 01.7 +1.5
baz=326
LPAR Lepanto 93.34 40 IAMs_20 IAMs_20 21 14 37.5
comp=Z,420nm,19.0s
M54A Oil Creek Stat 93.34 29 P P 20 28 00.8 +0.3
baz=329
VT1 Waterbury 93.35 24 IAMs_20 IAMs_20 21 11 28.5
comp=Z,650nm,22.0s
LNXT Lenox 93.36 39 IAMs_20 IAMs_20 20 59 51.0
comp=Z,532nm,21.0s
J58A Remsen 93.36 26 P P 20 28 01.9 +1.4
baz=332,SNR=8.7
J58A Remsen 93.36 26 IAmb IAmb 20 28 03.0
comp=Z,43nm,1.2s
J58A IAMs_20 IAMs_20 21 15 43.8
comp=Z,708nm,20.0s
H61A Lyndonville 93.43 23 P P 20 28 02.8 +2.0
baz=334,SNR=11
I59A Olmsteadville 93.46 25 P P 20 28 02.4 +1.5
baz=333,SNR=5.8
N53A Lisbon 93.47 31 P P 20 28 02.2 +1.2
baz=328
N53A Lisbon 93.47 31 IAMs_20 IAMs_20 21 13 28.0
comp=Z,621nm,22.0s
K57A Scipio Center 93.48 27 P P 20 28 02.3 +1.3
baz=331
J59A Piesco 93.54 25 P P 20 28 02.7 +1.4
baz=332,SNR=9.3
J59A Piesco 93.54 25 IAMs_20 IAMs_20 21 11 28.4
comp=Z,477nm,21.0s
PKME Peaks-Kenny Pk 93.56 21 P P 20 28 03.2 +2.0
baz=336,SNR=7.0
PKME Peaks-Kenny Pk 93.56 21 IAMs_20 IAMs_20 21 09 40.5
comp=Z,618nm,22.0s
HALT Halls 93.59 39 IAMs_20 IAMs_20 21 13 34.9
comp=Z,482nm,22.0s
G63A Kingsbury 93.60 21 P P 20 28 03.5 +2.0
baz=336,SNR=7.7
I60A Shoreham 93.61 24 P P 20 28 02.6 +1.0
baz=333,SNR=8.6
L56A Greenwood 93.61 28 P P 20 28 02.9 +1.2
baz=330
L56A Greenwood 93.61 28 IAMs_20 IAMs_20 21 16 27.5
comp=Z,659nm,20.0s
H62A Milan 93.63 23 P P 20 28 03.4 +1.7
baz=335,SNR=11
H62A Milan 93.63 23 IAMs_20 IAMs_20 21 11 06.6
comp=Z,432nm,21.0s
833A Chaparral WMA, 93.64 50 P P 20 28 02.9 +0.9
baz=316,SNR=7.0
O52A Adamsville 93.64 32 P P 20 28 02.7 +0.9
baz=327
P51A Williamsport 93.64 33 P P 20 28 02.9 +1.1
baz=326
P51A Williamsport 93.64 33 IAMs_20 IAMs_20 21 10 06.8
comp=Z,506nm,22.0s
N54A Moraine State 93.68 30 P P 20 28 02.7 +0.7
baz=328,SNR=5.5
N54A Moraine State 93.68 30 IAMs_20 IAMs_20 21 17 20.5
comp=Z,444nm,20.0s
R49A Shelbyville 93.68 35 IAMs_20 IAMs_20 21 08 50.0
comp=Z,699nm,21.0s
LBNH Lisbon 93.69 23 P P 20 28 03.3 +1.3
baz=334
LBNH Lisbon 93.69 23 IAMs_20 IAMs_20 21 09 59.3
comp=Z,573nm,22.0s
G64A Maxfield 93.72 21 P P 20 28 02.7 +0.7
baz=337,SNR=11
M55A Ridgway 93.73 29 P P 20 28 03.1 +0.9
baz=329
K58A Earlville 93.76 26 P P 20 28 02.8 +0.4
baz=332,SNR=7.3
O53A New Philadelph 93.78 31 P P 20 28 02.5 0.0
baz=328,SNR=5.4
O53A New Philadelph 93.78 31 IAMs_20 IAMs_20 21 12 16.4
comp=Z,639nm,21.0s
T47A Sharon Grove 93.83 37 IAMs_20 IAMs_20 21 11 12.1
comp=Z,486nm,22.0s
I61A Oroboro, Fairl 93.88 23 P P 20 28 04.1 +1.2
baz=334
H63A New Sharon 93.89 22 P P 20 28 03.7 +0.9
baz=336,SNR=5.5
P52A Corning 93.92 32 P P 20 28 02.8 -0.2
baz=327,SNR=5.8
P52A Corning 93.92 32 IAMs_20 IAMs_20 21 09 30.9
comp=Z,500nm,22.0s
NATX Nacogdoches 93.92 45 IAMs_20 IAMs_20 21 06 12.5
comp=Z,610nm,22.0s
M56A Emporium 93.94 29 P P 20 28 03.8 +0.6
baz=330
M56A Emporium 93.94 29 IAMs_20 IAMs_20 21 12 59.3
comp=Z,434nm,20.0s
L57A Andrews Acres 93.99 27 P P 20 28 03.8 +0.4
baz=331
K59A Cooperstown 94.03 26 P P 20 28 04.0 +0.5
baz=332,SNR=9.2
HNH Hanover 94.06 24 IAMs_20 IAMs_20 21 11 49.0
comp=Z,652nm,22.0s
R50A Paris 94.07 34 IAMs_20 IAMs_20 21 09 32.3
comp=Z,551nm,20.0s
WVL Waterville 94.09 22 IAMs_20 IAMs_20 21 13 27.6
comp=Z,632nm,20.0s
G65A Princeton 94.10 20 P P 20 28 04.3 +0.6
baz=338,SNR=5.4
G65A Princeton 94.10 20 IAMs_20 IAMs_20 21 16 49.8
comp=Z,520nm,18.0s
J60A Lant Hill Farm 94.10 25 P P 20 28 04.8 +1.0
baz=333
BINY Binghamton 94.13 27 P P 20 28 04.3 +0.2
baz=331
BINY Binghamton 94.13 27 IAMs_20 IAMs_20 21 15 47.3
comp=Z,630nm,20.0s
H64A Troy 94.14 21 P P 20 28 04.3 +0.3
baz=336
WVT Waverly 94.16 38 P P 20 28 04.5 +0.3
baz=323
O54A Avella 94.18 31 P P 20 28 05.3 +1.0
baz=328
O54A Avella 94.18 31 IAMs_20 IAMs_20 21 13 49.9
comp=Z,692nm,20.0s
I62A Tamworth 94.20 23 P P 20 28 04.5 +0.2
baz=335
I62A Tamworth 94.20 23 IAMs_20 IAMs_20 21 11 12.9
comp=Z,471nm,22.0s
N55A Marion Center 94.23 29 P P 20 28 04.7 +0.2
baz=329
I63A Otisfield 94.28 22 P P 20 28 06.1 +1.5
baz=335,SNR=8.1
I63A Otisfield 94.28 22 IAmb IAmb 20 28 08.0
comp=Z,52nm,1.1s
I63A IAMs_20 IAMs_20 21 15 05.8
comp=Z,500nm,20.0s
J61A Chester 94.29 24 P P 20 28 05.4 +0.6
baz=334
L58A Harry Jones Me 94.32 27 P P 20 28 06.1 +1.3
baz=331
P53A Whipple 94.35 32 P P 20 28 06.6 +1.5
baz=327
P53A Whipple 94.35 32 IAMs_20 IAMs_20 21 13 53.5
comp=Z,449nm,20.0s
H65A Eastbrook 94.37 21 P P 20 28 06.6 +1.5
baz=337
N56A West Decatur 94.38 29 P P 20 28 06.9 +1.7
baz=330
Q52A Bidwell 94.42 33 P P 20 28 06.7 +1.3
baz=327
M57A Sunshine Farm, 94.47 28 P P 20 28 07.2 +1.7
baz=330,SNR=7.2
M57A Sunshine Farm, 94.47 28 IAmb IAmb 20 28 10.2
comp=Z,21nm,1.0s
M57A IAMs_20 IAMs_20 21 16 36.1
comp=Z,683nm,19.0s
TRY Troy 94.47 25 IAMs_20 IAMs_20 21 18 25.1
comp=Z,561nm,18.0s
L59A Walton 94.48 26 P P 20 28 07.1 +1.4
baz=332,SNR=5.1
L59A Walton 94.48 26 IAmb IAmb 20 28 08.3
comp=Z,36nm,1.2s
L59A IAMs_20 IAMs_20 21 17 31.3
comp=Z,461nm,19.0s
EMMW East Machias 94.58 20 IAMs_20 IAMs_20 21 17 15.6
comp=Z,548nm,18.0s
O55A Ligonier 94.59 30 P P 20 28 07.5 +1.3
baz=329
P54A Burton 94.63 31 P P 20 28 07.6 +1.2
baz=328,SNR=7.1
J62A Henniker 94.64 24 P P 20 28 06.7 +0.3
baz=334
OXF Oxford 94.65 40 P P 20 28 07.5 +1.0
baz=322
K61A Williamstown 94.66 25 P P 20 28 08.4 +1.9
baz=333
M58A Price's Panora 94.68 27 P P 20 28 08.1 +1.5
baz=331
KSPA Keystone Colle 94.77 27 IAMs_20 IAMs_20 21 16 18.2
comp=Z,712nm,20.0s
SSPA Standing Stone 94.78 29 P P 20 28 07.9 +0.9
baz=330
SSPA Standing Stone 94.78 29 IAMs_20 IAMs_20 21 17 09.8
comp=Z,492nm,20.0s
N57A Milroy 94.81 28 P P 20 28 08.3 +1.2
baz=330,SNR=7.5
Q53A Leroy 94.82 32 P P 20 28 08.8 +1.6
baz=327,SNR=8.2
J63A Strafford 94.82 23 P P 20 28 09.0 +1.9
baz=335
O56A Blue Knob Stat 94.83 29 P P 20 28 08.5 +1.1
baz=329
U49A Red Boiling Sp 94.84 36 IAMs_20 IAMs_20 21 14 31.9
comp=Z,490nm,20.0s
MCWV Mont Chateau 94.84 31 P P 20 28 09.0 +1.7
baz=328
KEST Kesra 94.86 323 P P 20 28 07.2 -0.4
comp=Z,45nm,1.2s,baz=268,slow=1.0,SNR=13
KEST LR LR 21 14 42.8
comp=Z,656nm,21.8s,baz=358,slow=38
KEST Kesra 94.86 323 IAmb IAmb 20 28 08.7
comp=Z,68nm,1.3s
T50A Nancy 94.87 35 IAMs_20 IAMs_20 21 08 39.5
comp=Z,435nm,21.0s
M59A Waymart 94.91 27 P P 20 28 08.4 +0.8
baz=332
CLTN Cedars of Leba 94.92 37 IAMs_20 IAMs_20 21 11 55.0
comp=Z,507nm,22.0s
S51A Beattyville 94.93 34 IAMs_20 IAMs_20 21 09 51.0
comp=Z,523nm,20.0s
L60A Shokan 94.94 26 P P 20 28 08.8 +1.1
baz=332
V48A Smith Brothers 94.97 37 IAMs_20 IAMs_20 21 15 07.3
comp=Z,424nm,20.0s
P55A Reedsville 94.98 31 P P 20 28 09.6 +1.6
baz=328
L61A Hillsdale 1, H 94.99 25 P P 20 28 09.6 +1.6
baz=333
143A Socs Landing, 95.00 42 IAMs_20 IAMs_20 21 11 39.8
comp=Z,444nm,19.0s
K62A Royalston 95.01 24 IAMs_20 IAMs_20 21 11 55.2
comp=Z,668nm,22.0s
Q54A Coxs Mills 95.01 32 P P 20 28 09.4 +1.3
baz=328,SNR=7.5
Q54A Coxs Mills 95.01 32 IAMs_20 IAMs_20 21 14 22.0
comp=Z,605nm,21.0s
N58A Sunbury 95.05 28 IAMs_20 IAMs_20 21 12 21.6
comp=Z,594nm,21.0s
R53A Hurricane 95.08 33 P P 20 28 10.1 +1.6
baz=327
Y45A Yeager Farm, C 95.08 40 IAMs_20 IAMs_20 21 10 58.7
comp=Z,378nm,20.0s
Q55A Buckhannon 95.31 31 P P 20 28 11.1 +1.6
baz=328
QUA2 Belchertown 95.31 24 IAMs_20 IAMs_20 21 12 04.3
comp=Z,440nm,20.0s
N59A State Game Lan 95.33 27 P P 20 28 10.9 +1.3
baz=331
N59A State Game Lan 95.33 27 IAMs_20 IAMs_20 21 16 27.1
comp=Z,686nm,19.0s
HRV Adam Dziewonsk 95.37 24 P P 20 28 11.1 +1.5
baz=334
HRV Adam Dziewonsk 95.37 24 IAMs_20 IAMs_20 21 13 11.7
comp=Z,578nm,21.0s
P56A Dayton Farm, R 95.38 30 P P 20 28 11.3 +1.5
baz=329
ZAIG Zacatecas 95.50 56 IAmb IAmb 20 28 15.0
comp=Z,24nm,1.1s
S53A Williamson 95.55 33 P P 20 28 12.2 +1.6
baz=327
WES Weston 95.55 24 IAMs_20 IAMs_20 21 15 18.6
comp=Z,573nm,20.0s
ODNJ Ogdensburg 95.61 26 IAMs_20 IAMs_20 21 16 09.2
comp=Z,581nm,19.0s
R54A Victor 95.62 32 P P 20 28 11.9 +1.0
baz=328,SNR=6.4
Q56A Snyder Ridge, 95.64 30 P P 20 28 12.3 +1.3
baz=329
Q56A Snyder Ridge, 95.64 30 IAMs_20 IAMs_20 21 10 22.4
comp=Z,450nm,20.0s
M61A Granite Spring 95.70 26 P P 20 28 13.8 +2.6
baz=333
S54A Dingess, Beckl 95.80 33 P P 20 28 12.7 +0.9
baz=327
S54A Dingess, Beckl 95.80 33 IAmb IAmb 20 28 13.6
comp=Z,21nm,1.3s
S54A IAMs_20 IAMs_20 21 10 01.9
comp=Z,506nm,22.0s
SWET Sewanee 95.82 37 IAMs_20 IAMs_20 21 12 21.8
comp=Z,548nm,22.0s
TZTN Tazewell 95.85 35 P P 20 28 13.3 +1.3
baz=326,SNR=5.7
TZTN Tazewell 95.85 35 IAmb IAmb 20 28 14.5
comp=Z,29nm,1.2s
TZTN IAMs_20 IAMs_20 21 09 45.5
comp=Z,688nm,22.0s
R55A Marlinton 95.90 31 P P 20 28 13.5 +1.3
baz=328,SNR=7.1
R55A Marlinton 95.90 31 IAmb IAmb 20 28 14.7
comp=Z,28nm,1.2s
R55A IAMs_20 IAMs_20 21 13 52.4
comp=Z,459nm,20.0s
BRYW Bryant College 95.90 24 IAMs_20 IAMs_20 21 13 25.9
comp=Z,506nm,20.0s
MVL Millersville 95.92 28 IAMs_20 IAMs_20 21 17 31.6
comp=Z,564nm,19.0s
PAL Palisades 95.92 26 IAMs_20 IAMs_20 21 18 36.5
comp=Z,626nm,19.0s
T53A Wise 95.95 34 P P 20 28 13.8 +1.3
baz=326
BRNJ Basking Ridge 95.97 27 IAMs_20 IAMs_20 21 15 39.0
comp=Z,585nm,20.0s
WSPT Westport, CT 95.97 25 IAMs_20 IAMs_20 21 19 30.9
comp=Z,535nm,18.0s
V51A Loudon 96.09 36 IAMs_20 IAMs_20 21 08 13.0
comp=Z,508nm,22.0s
W50A Signal Mountai 96.13 37 IAMs_20 IAMs_20 21 12 40.0
comp=Z,689nm,21.0s
S55A Lewisburg 96.17 32 P P 20 28 13.0 -0.5
baz=328
PBRG Braganca 96.19 336 eP P 20 28 13.2 -0.3
comp=Z,49nm,1.3s
PBRG Braganca 96.19 336 ePP PP 20 32 08.3 +2.3
CPCT Cooper Cave 96.30 36 IAMs_20 IAMs_20 21 10 39.4
comp=Z,457nm,22.0s
T54A Tazewell 96.30 33 P P 20 28 15.3 +1.2
baz=327,SNR=6.1
344A Westbrook Farm 96.33 43 IAMs_20 IAMs_20 21 07 42.9
comp=Z,509nm,21.0s
V52A Sevierville 96.41 35 IAMs_20 IAMs_20 21 07 48.2
comp=Z,645nm,22.0s
TKL Tuckaleechee C 96.48 35 P P 20 28 14.6 -0.2
TKL pmax pmax
comp=Z,9.0nm,0.9s
TKL MLR MLR
comp=Z,500nm,22.0s
TKL Tuckaleechee C 96.48 35 P P 20 28 14.6 -0.2
TKL IAMs_20 IAMs_20 21 14 08.1
comp=Z,527nm,22.0s
M65A Busby, Falmout 96.51 23 IAMs_20 IAMs_20 21 14 15.0
comp=Z,654nm,22.0s
FPAL Fort Paine 96.52 37 IAMs_20 IAMs_20 21 11 04.4
comp=Z,568nm,21.0s
PGAV Gavieira, Arco 96.53 338 eP P 20 28 16.6 +1.5
comp=Z,39nm,2.0s
PGAV Gavieira, Arco 96.53 338 ePP PP 20 32 12.0 +3.4
PGAV Gavieira, Arco 96.53 338 eLR LR 20 59 04.3
comp=Z,838nm,22.0s
R57A Stanardsville 96.54 30 P P 20 28 16.2 +1.1
baz=329
T55A Pulaski 96.60 33 P P 20 28 16.3 +0.9
baz=328,SNR=6.9
U54A Nelsons Funny 96.65 34 P P 20 28 16.9 +1.2
baz=327
U54A Nelsons Funny 96.65 34 IAMs_20 IAMs_20 21 11 49.6
comp=Z,696nm,21.0s
Y49A Blount Mountai 96.67 38 IAMs_20 IAMs_20 21 10 47.6
comp=Z,613nm,21.0s
BLA Blacksburg 96.68 32 P P 20 28 16.9 +1.1
baz=328
BLA Blacksburg 96.68 32 P P 20 28 13.6 -2.2
BLA pmax pmax
comp=Z,24nm,1.3s
BLA MLR MLR
comp=Z,500nm,21.0s
BLA Blacksburg 96.68 32 P P 20 28 13.6 -2.2
BLA IAmb IAmb 20 28 18.1
comp=Z,24nm,1.2s
BLA IAMs_20 IAMs_20 21 11 25.1
comp=Z,542nm,21.0s
P61A Hammonton 96.78 27 IAMs_20 IAMs_20 21 14 27.4
comp=Z,660nm,20.0s
S57A Dark Hollow, R 96.83 31 IAMs_20 IAMs_20 21 11 08.9
comp=Z,464nm,22.0s
X51A Calhoun 96.86 37 IAMs_20 IAMs_20 21 15 15.2
comp=Z,561nm,22.0s
MVO Moncorvo 96.86 336 eP P 20 28 16.4 -0.2
comp=Z,45nm,1.3s
MVO Moncorvo 96.86 336 ePP PP 20 32 13.3 +2.1
MVO Moncorvo 96.86 336 eLR LR 21 00 15.6
comp=Z,1µm,20.0s
W52A Murphy 96.87 36 IAMs_20 IAMs_20 21 11 20.5
comp=Z,429nm,20.0s
V53A Saluda 96.91 35 IAMs_20 IAMs_20 21 10 39.5
comp=Z,557nm,21.0s
PVRL Vila Real 96.98 337 eP P 20 28 17.6 +0.5
comp=Z,44nm,1.4s
PVRL Vila Real 96.98 337 ePP PP 20 32 16.2 +4.1
U55A TA2, Sparta 97.00 33 P Pdif 20 28 17.9 +0.5
baz=327
CBN Corbin Frederi 97.08 30 IAMs_20 IAMs_20 21 13 00.5
comp=Z,412nm,20.0s
R58B Mineral 97.09 30 IAMs_20 IAMs_20 21 11 15.7
comp=Z,509nm,21.0s
ESBB Sonseca Array 97.16 334 IAmb IAmb 20 28 18.9
comp=Z,21nm,1.2s
ESDC Sonseca Array 97.16 334 P Pdif 20 28 18.0 0.0
comp=Z,10.0nm,1.1s,baz=22,slow=3.3,SNR=26
ESDC PP PP 20 32 10.9 -2.6
comp=Z,5.6nm,1.0s,baz=19,slow=6.6,SNR=6.2
ESDC LR LR 21 16 12.1
comp=Z,1µm,21.5s,baz=20,slow=38
ESDC Sonseca Array 97.16 334 P P 20 28 17.7 -0.2
S58A Poland Farm, P 97.32 30 IAMs_20 IAMs_20 21 18 51.9
comp=Z,523nm,19.0s
T57A Hurt 97.35 32 P Pdif 20 28 19.6 +0.8
baz=329
T57A Hurt 97.35 32 IAMs_20 IAMs_20 21 14 25.8
comp=Z,620nm,20.0s
BG3 Lake Jocassee 97.41 35 IAMs_20 IAMs_20 21 10 41.9
comp=Z,418nm,21.0s
U56A King 97.42 33 IAMs_20 IAMs_20 21 11 22.8
comp=Z,423nm,21.0s
V55A Taylorsville 97.47 34 IAMs_20 IAMs_20 21 11 41.3
comp=Z,679nm,20.0s
W54A Cherokee Point 97.68 35 P Pdif 20 28 21.4 +1.1
baz=327
Z51A Franklin 97.72 38 IAMs_20 IAMs_20 21 15 38.2
comp=Z,483nm,21.0s
MTE Manteigas 97.72 336 eP Pdif 20 28 20.8 +0.3
comp=Z,34nm,1.3s
MTE Manteigas 97.72 336 ePP PP 20 32 18.9 +1.1
MTE eSKS SKKSac 20 39 25.3 +3.5
MTE Manteigas 97.72 336 eLR LR 21 00 45.0
comp=Z,1µm,20.0s
MTE Manteigas 97.72 336 IAmb IAmb 20 28 21.6
comp=Z,26nm,1.2s
U57A Blanch 97.80 32 P Pdif 20 28 21.8 +1.0
baz=329
Y52A Lilburn 97.81 37 IAMs_20 IAMs_20 21 16 11.5
comp=Z,451nm,20.0s
V56A Mocksville 97.83 33 P Pdif 20 28 21.8 +0.8
baz=328
KMSC Kings Mountain 98.02 34 P Pdif 20 28 22.7 +0.9
baz=327
X54A Belton 98.04 35 P Pdif 20 28 22.7 +0.7
baz=326
PAULI Pauline 98.07 34 IAMs_20 IAMs_20 21 10 21.1
comp=Z,637nm,21.0s
V57A Coltrane Farms 98.07 32 P Pdif 20 28 23.0 +1.0
baz=328
T59A Double "B" Far 98.07 30 IAMs_20 IAMs_20 21 11 54.8
comp=Z,453nm,21.0s
U58A Oxford 98.16 31 P Pdif 20 28 23.4 +1.0
baz=329
COI Coimbra 98.17 337 ePP PP 20 32 22.5 +1.4
PCBR Castelo Branco 98.21 336 eP Pdif 20 28 22.7 +0.1
comp=Z,17nm,1.3s
PCBR Castelo Branco 98.21 336 ePP PP 20 32 22.0 +0.6
250A Grady 98.25 39 IAMs_20 IAMs_20 21 13 25.5

	comp=Z,403nm,21.0s								
T60A	**Surry**	**98.25**	**30**		IAMs_20	IAMs_20	21 12 10.6		
	comp=Z,525nm,21.0s								
PCAS	**Casmilo, Conde**	**98.34**	**337**	*e*PP		**PP**	**20 32 22.2**	**-0.3**	
HODGE	**Hodges**	**98.35**	**35**		IAMs_20	IAMs_20	21 09 33.8		
	comp=Z,744nm,22.0s								
V58A	**Windy Hill, Pi**	**98.43**	**32**		IAMs_20	IAMs_20	21 12 57.5		
	comp=Z,580nm,20.0s								
GOGA	**Godfrey**	**98.47**	**36**		IAMs_20	IAMs_20	21 17 40.8		
	comp=Z,405nm,20.0s								
152A	**Waverly Hall**	**98.47**	**38**		IAMs_20	IAMs_20	21 11 41.0		
	comp=Z,551nm,20.0s								
U59A	**Littleton**	**98.51**	**31**		IAMs_20	IAMs_20	21 12 20.4		
	comp=Z,573nm,20.0s								
PMRV	**Marv??o**	**98.55**	**336**	*e*P		**P**	**20 28 24.1**	**0.0**	
	comp=Z,31nm,1.3s								
PMRV	**Marv??o**	**98.55**	**336**	*e*SKS		**SKKSac**	**20 39 28.8**	**+1.1**	
PMRV	**Marv??o**	**98.55**	**336**	*e*LR		LR	21 01 43.8		
	comp=Z,966nm,24.0s								
W57A	**Gilead**	**98.60**	**33**	P		Pdif	20 28 25.5	+1.2	
	baz=328								
W57A	**Gilead**	**98.60**	**33**		IAMs_20	IAMs_20	21 11 50.0		
	comp=Z,644nm,19.0s								
X56A	**White Oak**	**98.69**	**34**	P		Pdif	20 28 25.9	+1.1	
	baz=327								
JSC	**Jenkinsville**	**98.77**	**34**		IAMs_20	IAMs_20	21 12 07.6		
	comp=Z,424nm,21.0s								
Y55A	**Saluda**	**98.78**	**35**	P		Pdif	20 28 26.6	+1.4	
	baz=327								
BIRD	**Birdtown, Kers**	**98.82**	**34**		IAMs_20	IAMs_20	21 11 32.0		
	comp=Z,744nm,22.0s								
PSBE	**So Bento**	**98.92**	**337**	*e*P		Pdif	20 28 26.1	+0.3	
RKT	**Rikitea**	**98.96**	**112**	*e*LR		LR	21 00 19.9		
	comp=Z,3µm,26.0s								
PMTG	**Montargil**	**99.15**	**336**	*e*PP		**PP**	**20 32 30.6**	**+2.0**	
V60A	**Jim Taylor Roa**	**99.23**	**31**		IAMs_20	IAMs_20	21 12 41.5		
	comp=Z,666nm,20.0s								
154A	**Montrose**	**99.29**	**37**		IAMs_20	IAMs_20	21 10 10.8		
	comp=Z,503nm,22.0s								
352A	**Blakely**	**99.33**	**39**		IAMs_20	IAMs_20	21 14 10.9		
	comp=Z,463nm,21.0s								
X58A	**Rowland**	**99.39**	**33**		IAMs_20	IAMs_20	21 13 25.9		
	comp=Z,586nm,21.0s								
CNNC	**Cliffs of the**	**99.42**	**32**		IAMs_20	IAMs_20	21 15 28.7		
	comp=Z,486nm,20.0s								
V61A	**Roper**	**99.49**	**30**		IAMs_20	IAMs_20	21 12 48.3		
	comp=Z,641nm,21.0s								
EVO	**Evora**	**99.57**	**336**	*e*P		**Pdif**	**20 28 28.4**	**-0.3**	
	comp=Z,26nm,1.5s								
EVO	**Evora**	**99.57**	**336**	*e*PP		**PP**	**20 32 31.8**	**-0.1**	
451A	**Vernon**	**99.61**	**40**		IAMs_20	IAMs_20	21 11 40.5		
	comp=Z,416nm,21.0s								
Y58A	**Scranton**	**99.80**	**33**		IAMs_20	IAMs_20	21 11 05.8		
	comp=Z,685nm,20.0s								
PBEJ	**Beja**	**99.98**	**336**	*e*P		**Pdif**	**20 28 30.9**	**+0.4**	
	comp=Z,29nm,1.4s								
PBEJ	**Beja**	**99.98**	**336**	*e*PP		**PP**	**20 32 37.1**	**+2.1**	
TIGA	**Tifton**	**100.02**	**38**		IAMs_20	IAMs_20	21 17 16.2		
	comp=Z,499nm,21.0s								
Y59A	**Loris**	**100.07**	**33**		IAMs_20	IAMs_20	21 10 55.0		
	comp=Z,718nm,21.0s								
PNCL	**Nicolau / Gran**	**100.12**	**336**	*e*PP		**PP**	**20 32 38.5**	**+2.5**	
255A	**Hazlehurst**	**100.16**	**37**		IAMs_20	IAMs_20	21 08 51.8		
	comp=Z,533nm,21.0s								
NHSC	**New Hope**	**100.24**	**34**		IAMs_20	IAMs_20	21 10 54.6		
	comp=Z,728nm,21.0s								
MESJ	**Messejana**	**100.26**	**336**	*e*Pdif		**Pdif**	**20 28 31.7**	**0.0**	
MESJ				*e*PP		**PP**	**20 32 37.8**	**+0.7**	
MESJ					AMS	AMS	21 19 27.0		
	comp=Z,1µm,23.7s								
MESJ	**Messejana**	**100.26**	**336**	*e*P		**Pdif**	**20 28 31.7**	**0.0**	
MESJ				*e*			20 32 37.7		
MESJ	**Messejana**	**100.26**	**336**	*e*P		**Pdif**	**20 28 32.2**	**+0.4**	
	comp=Z,26nm,1.7s								
MESJ	**Messejana**	**100.26**	**336**	*e*PP		**PP**	**20 32 39.1**	**+2.0**	
Y60A	**Bolivia**	**100.34**	**32**		IAMs_20	IAMs_20	21 14 15.1		
	comp=Z,588nm,21.0s								
PCVE	**Castro Verde**	**100.39**	**336**	*e*P		**Pdif**	**20 28 33.0**	**+0.7**	
	comp=Z,47nm,1.4s								
PCVE	**Castro Verde**	**100.39**	**336**	*e*PP		PKiKP	20 32 41.1	-18	
PVAQ	**Vaqueiros**	**100.49**	**335**	*e*LR		LR	21 03 07.5		
	comp=Z,2µm,20.0s								
553A	**Crawfordville**	**100.62**	**39**		IAMs_20	IAMs_20	21 17 11.2		
	comp=Z,591nm,22.0s								
PBDV	**Barranco-do-Ve**	**100.71**	**335**	*e*PP		**PP**	**20 32 42.4**	**+1.8**	
257A	**Skidaway Islan**	**100.80**	**36**		IAMs_20	IAMs_20	21 09 57.6		
	comp=Z,628nm,21.0s								
MORF	**Marmelete**	**100.89**	**336**	*e*Pdif		**Pdif**	**20 28 34.5**	**-0.2**	
MORF					AMS	AMS	21 19 53.2		
	comp=Z,1µm,13.9s								
MORF	**Marmelete**	**100.89**	**336**	*e*P		**Pdif**	**20 28 34.4**	**-0.2**	
PFVI	**Vila Bisbo**	**101.11**	**336**	*e*PP		**PP**	**20 32 45.5**	**+2.0**	
456A	**Hilliard**	**101.37**	**37**		IAMs_20	IAMs_20	21 23 55.8		
	comp=Z,503nm,20.0s								
KMBO	**Kilima Mbogo**	**101.76**	**278**	P		**Pdif**	**20 28 38.8**	**-0.3**	
	comp=Z,1.3nm,0.5s,baz=18,slow=4.9,SNR=5.1								
KMBO				PP		**PP**	**20 32 48.9**	**-1.3**	
	comp=Z,7.2nm,1.0s,baz=29,slow=9.7,SNR=8.4								
656A	**Willston**	**102.24**	**38**		IAMs_20	IAMs_20	21 16 22.9		
	comp=Z,661nm,22.0s								
MDT	**Midelt**	**103.47**	**331**	Pdiff		**Pdif**	**20 28 46.0**	**-0.3**	
	comp=Z,4.8nm,1.1s,baz=123,slow=3.9,SNR=4.0								
MDT				PP		**PP**	**20 32 56.9**	**-4.7**	
	comp=Z,6.1nm,0.9s,baz=45,slow=9.4,SNR=6.8								
061Z	**Ochoppi**	**105.94**	**39**		IAMs_20	IAMs_20	21 21 02.0		
	comp=Z,573nm,21.0s								
BBSR	**BB Station**	**106.81**	**23**		IAMs_20	IAMs_20	21 20 33.6		
	comp=Z,342nm,19.0s								
PMOZ	**Porto Moniz, M**	**107.58**	**341**	*e*PP		**PP**	**20 33 35.6**	**+3.9**	
PMOZ	**Porto Moniz, M**	**107.58**	**341**	*e*LR		LR	21 06 47.9		
	comp=Z,466nm,20.0s								
VNDA	**Vanda**	**115.03**	**175**	PKP		**PKPdf**	**20 33 25.1**	**+0.3**	
	comp=Z,1.0nm,0.7s,baz=270,slow=7.0,SNR=3.2								
TOC2	**Torodi Ar. Sit**	**117.13**	**315**		IAMs_20	IAMs_20	21 30 49.4		
	comp=Z,469nm,20.0s								
TOC3	**Torodi Ar. Sit**	**117.15**	**315**		IAMs_20	IAMs_20	21 30 59.8		
	comp=Z,471nm,20.0s								
TOA2	**Torodi Ar. Sit**	**117.15**	**315**		IAMs_20	IAMs_20	21 30 59.9		
	comp=Z,521nm,20.0s								
TOA0	**Torodi Ar. Sit**	**117.15**	**315**	PKPdf		**PKPdf**	**20 33 30.0**	**-0.9**	
TOA0					IAMs_20	IAMs_20	21 30 60.0		
	comp=Z,501nm,20.0s								
TORD	**Torodi Ar. Bea**	**117.15**	**315**	PKP		**PKPdf**	**20 33 30.2**	**-0.7**	
	comp=Z,2.1nm,0.3s,baz=54,slow=2.7,SNR=71								
TORD				PP		**PP**	**20 34 36.3**	**-4.4**	
	comp=Z,55nm,1.2s,baz=34,slow=7.6,SNR=10.0								
TORD				PKKPbc		**PKKPbc**	**20 43 57.5**	**+3.5**	
	comp=Z,2.2nm,1.1s,baz=233,slow=2.8,SNR=4.5								
TORD	**Torodi Ar. Bea**	**117.15**	**315**			**PKPdf**	**20 33 30.3**	**-0.5**	
TOB3	**Torodi Ar. Sit**	**117.16**	**315**		IAMs_20	IAMs_20	21 31 00.1		
	comp=Z,485nm,20.0s								
TOA3	**Torodi Ar. Sit**	**117.16**	**315**		IAMs_20	IAMs_20	21 31 00.1		
	comp=Z,500nm,20.0s								
TOC4	**Torodi Ar. Sit**	**117.17**	**315**		IAMs_20	IAMs_20	21 31 00.5		
	comp=Z,492nm,20.0s								
LSZ	**Lusaka**	**117.28**	**271**	PKIKP		**PKiKP**	**20 33 31.5**	**+0.4**	
LSZ	**Lusaka**	**117.28**	**271**			**PKiKP**	**20 33 31.5**	**+0.4**	
MAW	**Mawson**	**119.48**	**206**	PKP		**PKiKP**	**20 33 34.2**	**+0.6**	
	comp=Z,3.2nm,0.9s,baz=341,slow=0.8,SNR=4.8								
SKI	**Saint Kitts**	**121.38**	**27**		IAMs_20	IAMs_20	21 17 24.9		
	comp=Z,407nm,22.0s								
UREC	**San Jos de Ur**	**123.72**	**45**	*e*P		**PKiKP**	**20 33 44.4**	**+0.6**	
LBTB	**Lobatse**	**124.43**	**263**	PKIKP		**PKiKP**	**20 33 45.3**	**+0.4**	
LBTB	**Lobatse**	**124.43**	**263**	PKPdf		**PKiKP**	**20 33 45.3**	**+0.4**	
OCAC	**Ocana**	**124.56**	**43**	*e*P		**PKiKP**	**20 33 46.4**	**+0.7**	
CBOC	**Ciudad Bolivar**	**124.97**	**47**	*e*P		**PKiKP**	**20 33 46.5**	**0.0**	
BRRC	**Barranca, Sant**	**125.28**	**44**	*e*P		**PKPdf**	**20 33 46.5**	**0.0**	
PTBC	**PUERTO BERRIO**	**125.32**	**45**	*e*P		**PKPdf**	**20 33 45.9**	**-0.7**	
SDV	**Santo Domingo**	**125.43**	**40**	*e*P		**PKiKP**	**20 33 47.8**	**+0.4**	
SDV	**Santo Domingo**	**125.43**	**40**	PKPdf		**PKiKP**	**20 33 48.3**	**+0.9**	
SDV	**Santo Domingo**	**125.43**	**40**		IAMs_20	IAMs_20	21 33 08.6		
	comp=Z,392nm,21.0s								
SOCV	**Socops**	**125.83**	**40**	*e*P		**PKPdf**	**20 33 47.7**	**+0.1**	
GUY2C	**Guyana, Caldas**	**125.87**	**47**	*e*P		**PKPdf**	**20 33 48.4**	**+0.2**	
NORC	**Norcasia**	**125.88**	**46**	*e*P		**PKiKP**	**20 33 48.3**	**+0.1**	
BARC	**Barichara**	**125.99**	**44**	*e*P		**PKiKP**	**20 33 49.0**	**+0.4**	
DBIC	**Dimbokro**	**126.12**	**317**	PKP		**PKPdf**	**20 33 47.7**	**-0.4**	
	comp=Z,16nm,0.8s,baz=30,slow=4.1,SNR=13								
DBIC				PP		**PP**	**20 35 36.5**	**-5.1**	
	comp=Z,37nm,1.1s,baz=8.5,slow=8.3,SNR=7.4								
DBIC	**Dimbokro**	**126.12**	**317**	PKIKP		**PKPdf**	**20 33 47.9**	**-0.2**	
DBIC	**Dimbokro**	**126.12**	**317**	PKPdf		**PKPdf**	**20 33 47.9**	**-0.2**	
RREF	**El Recreo**	**126.14**	**47**	*e*P		**PKiKP**	**20 33 52.3**	**+3.0**	
TIC	**Toumodi**	**126.23**	**317**	*e*PKIKP		**PKPdf**	**20 33 46.5**	**-1.9**	
SPBC	**San Pablo de B**	**126.27**	**45**	*e*P		**PKPdf**	**20 33 48.6**	**+0.1**	
YOTC	**Yotoco, Valle**	**126.27**	**49**	*e*P		**PKiKP**	**20 33 49.2**	**+0.2**	

KIC	**Kosan Boka**	**126.31**	**316**	*e*PKIKP		**PKPdf**	**20 33 47.0**	**-1.5**	
	comp=Z,125nm,1.4s								
BOSA	**Boshof**	**126.38**	**259**	PKP		**PKiKP**	**20 33 48.8**	**0.0**	
	comp=Z,17nm,1.0s,baz=61,slow=1.9,SNR=9.9								
TOLC	**Tolima**	**126.40**	**47**	*e*P		**PKiKP**	**20 33 50.4**	**+0.8**	
LIC	**Lamto**	**126.58**	**316**	*e*PKIKP		**PKPdf**	**20 33 46.9**	**-2.1**	
	comp=Z,144nm,1.6s								
RUSC	**La Rusia**	**126.63**	**44**	*e*P		**PKPdf**	**20 33 49.5**	**-0.2**	
RUSC	**La Rusia**	**126.63**	**44**	PKPdf		**PKPdf**	**20 33 49.7**	**0.0**	
ROSC	**El Rosal**	**126.78**	**46**	PKP		**PKiKP**	**20 33 51.6**	**+1.2**	
	comp=Z,39nm,0.9s,baz=74,slow=2.0,SNR=18								
ROSC	**El Rosal**	**126.78**	**46**	*e*P		**PKiKP**	**20 33 50.7**	**+0.3**	
QSPA	**South Pole Qui**	**126.82**	**180**			**PKPdf**	**20 33 47.8**	**-0.1**	
TAMC	**Tame, Arauca**	**126.89**	**43**	*e*P		**PKPdf**	**20 33 49.5**	**-0.2**	
ORTC	**Ortega, Tolima**	**126.99**	**48**	*e*P		**PKPdf**	**20 33 49.0**	**-0.9**	
CHIC	**Chingaza**	**127.29**	**46**	*e*P		**PKiKP**	**20 33 51.9**	**+0.5**	
PRAC	**Prado**	**127.36**	**48**	*e*P		**PKiKP**	**20 33 51.6**	**+0.5**	
VILC	**Villavicencio,**	**127.73**	**46**	*e*P		**PKPdf**	**20 33 51.5**	**+0.1**	
BETC	**Betania**	**127.85**	**49**	*e*P		**PKiKP**	**20 33 51.9**	**-0.2**	
TSUM	**Tsumeb**	**127.89**	**274**	PKPdf		**PKiKP**	**20 33 51.8**	**-0.2**	
SYO	**Syowa Base**	**128.15**	**207**	*i*PKPdf		**PKPdf**	**20 33 50.0**	**-0.2**	
SYO	**Syowa Base**	**128.15**	**207**	*i*PKiKP		**PKiKP**	**20 33 53.0**	**+2.2**	
GARC	**Garzon, Huila**	**128.21**	**49**	*e*P		**PKiKP**	**20 33 53.4**	**+0.4**	
GUVC	**San Jose del G**	**129.62**	**46**	*e*P		**PKPdf**	**20 33 54.1**	**-0.8**	
NVL	**N'lazarevskaya**	**137.25**	**202**	*e*PKIKP		**PKiKP**	**20 34 08.7**	**-0.5**	
NVL				pmax		pmax			
	comp=Z,5.0nm,0.6s								
PTGA	**Pitinga**	**138.91**	**33**	*e*P		**PKiKP**	**20 34 13.6**	**-0.8**	
PTGA	**Pitinga**	**138.91**	**33**	*e*P		**PKiKP**	**20 34 13.6**	**-0.8**	
SNAA	**Sanae**	**140.72**	**197**	PKPdf		**PKPdf**	**20 34 06.2**	**-7.6**	
MACA	**Manacapuru-AM**	**140.73**	**36**	*e*P		**PKPdf**	**20 34 16.8**	**+1.3**	
MACA	**Manacapuru-AM**	**140.73**	**36**	*e*P		**PKPdf**	**20 34 16.8**	**+1.3**	
MALB	**Monte Alegre**	**142.18**	**26**	*e*P		**PKPdf**	**20 34 19.3**	**+1.2**	
MALB	**Monte Alegre**	**142.18**	**26**	*e*P		**PKPdf**	**20 34 19.3**	**+1.2**	
VNA2	**Neumayer--Watz**	**142.30**	**196**	PKPdf		**PKPdf**	**20 34 12.3**	**-4.2**	
VNA3	**Neumayer Olymp**	**142.55**	**195**	PKPdf		**PKPdf**	**20 34 12.9**	**-4.1**	
VNA1	**Neumayer--Stat**	**142.69**	**196**	PKPdf		**PKPdf**	**20 34 13.7**	**-3.4**	
ITTB	**Itaituba**	**143.95**	**29**	*e*P		**PKPdf**	**20 34 21.0**	**-0.2**	
ITTB	**Itaituba**	**143.95**	**29**	*e*P		**PKPdf**	**20 34 21.0**	**-0.2**	
SAML	**Samuel**	**144.37**	**44**	*e*P		**PKPab**	**20 34 19.8**	**-0.2**	
SAML	**Samuel**	**144.37**	**44**	PKIKP		**PKPdf**	**20 34 21.1**	**-0.8**	
SAML				MLR		MLR			
	comp=Z,400nm,20.0s								
SAML	**Samuel**	**144.37**	**44**	PKPdf		PKPbc	20 34 21.1	+0.8	
SAML				IAMs_20		IAMs_20	21 52 05.3		
	comp=Z,356nm,20.0s								
SAML	**Samuel**	**144.37**	**44**	*e*P		**PKPdf**	**20 34 21.9**	**0.0**	
SAML	**Samuel**	**144.37**	**44**	*e*P		**PKPdf**	**20 34 21.9**	**0.0**	
ROSB	**Rosrio**	**145.64**	**9**	*e*P		**PKPab**	**20 34 24.8**	**+0.1**	
ROSB	**Rosrio**	**145.64**	**9**	*e*P		**PKPab**	**20 34 24.8**	**+0.1**	
NPGB	**Novo Progresso**	**146.54**	**31**	*e*P		**PKPbc**	**20 34 27.0**	**-0.2**	
NPGB	**Novo Progresso**	**146.54**	**31**	*e*P		**PKPbc**	**20 34 27.0**	**-0.2**	
LPAZ	**La Paz**	**146.85**	**59**	PKPbc		**PKPbc**	**20 34 28.7**	**0.0**	
	comp=Z,60nm,0.7s,baz=357,slow=3.8,SNR=141								
LPAZ	**La Paz**	**146.85**	**59**			**PKPab**	**20 34 29.6**	**-0.5**	
LPAZ	**La Paz**	**146.85**	**59**	*e*P		**PKPbc**	**20 34 28.0**	**-0.7**	
LPAZ	**La Paz**	**146.85**	**59**	*e*P		**PKPbc**	**20 34 28.0**	**-0.7**	
H03N2	**Juan Fernandez**	**147.24**	**96**	T		T	23 19 26.6		
	baz=291,slow=76,SNR=765								
H03N3	**Juan Fernandez**	**147.25**	**96**	T		T	23 19 33.2		
	baz=291,slow=76,SNR=734								
H03N1	**Juan Fernandez**	**147.25**	**96**	T		T	23 19 29.9		
	baz=291,slow=76,SNR=818								
PRPB	**Parauapebas**	**147.65**	**21**	*e*P		**PKPbc**	**20 34 29.5**	**-0.8**	
PRPB	**Parauapebas**	**147.65**	**21**	*e*P		**PKPbc**	**20 34 29.5**	**-0.8**	
PMSA	**Palmer Station**	**148.48**	**160**	*e*P		**PKPdf**	**20 34 28.6**	**+1.4**	
PMSA	**Palmer Station**	**148.48**	**160**	*e*P		**PKPdf**	**20 34 28.6**	**+1.4**	
RCBR	**Riachuelo**	**148.78**	**354**	PKP2		**PKPbc**	**20 34 33.7**	**+0.4**	
RCBR	**Riachuelo**	**148.78**	**354**			**PKPbc**	**20 34 33.6**	**+0.4**	
RCBR	**Riachuelo**	**148.78**	**354**	*e*P		**PKPdf**	**20 34 28.9**	**-0.5**	
RCBR	**Riachuelo**	**148.78**	**354**	*e*P		**PKPdf**	**20 34 28.9**	**-0.5**	
PB10	**IPOC Station P**	**149.63**	**73**			**PKPbc**	**20 34 33.8**	**-1.3**	
CLDB	**Colider**	**149.77**	**35**	*e*P		**PKPdf**	**20 34 30.8**	**-0.1**	
CLDB	**Colider**	**149.77**	**35**	*e*P		**PKPdf**	**20 34 30.8**	**-0.1**	
LVC	**Limon Verde**	**150.36**	**69**	PKIKP		**PKiKP**	**20 34 39.7**	**+1.6**	
LVC	**Limon Verde**	**150.36**	**69**			**PKiKP**	**20 34 39.7**	**+1.6**	
LVC	**Limon Verde**	**150.36**	**69**	*e*P		**PKPdf**	**20 34 31.1**	**-1.0**	
LVC	**Limon Verde**	**150.36**	**69**	*e*P		**PKPdf**	**20 34 31.1**	**-1.0**	
SMTB	**Santa Maria do**	**150.82**	**18**	*e*P		**PKPdf**	**20 34 33.6**	**+1.0**	
SMTB	**Santa Maria do**	**150.82**	**18**	*e*P		**PKPdf**	**20 34 33.6**	**+1.0**	
AC01	**Pan de Azucar**	**150.98**	**77**			**PKiKP**	**20 34 40.1**	**+1.3**	
AC04	**Llanos de Chal**	**151.57**	**81**			**PKiKP**	**20 34 41.2**	**+1.2**	
PTLB	**Pontes e Lacer**	**151.93**	**45**	*e*P		**PKPdf**	**20 34 35.6**	**+1.5**	
PTLB	**Pontes e Lacer**	**151.93**	**45**	*e*P		**PKPdf**	**20 34 35.6**	**+1.5**	
GO05	**Huala**	**153.25**	**96**			**PKPbc**	**20 34 43.1**	**0.0**	
PEXB	**Peixe**	**153.73**	**21**	*e*P		**PKPdf**	**20 34 36.0**	**-0.8**	
PEXB	**Peixe**	**153.73**	**21**	*e*P		**PKPdf**	**20 34 36.0**	**-0.8**	
SALV	**Santo Antonio**	**154.16**	**40**	*e*P		**PKPdf**	**20 34 38.5**	**+1.1**	
SALV	**Santo Antonio**	**154.16**	**40**	*e*P		**PKPdf**	**20 34 38.5**	**+1.1**	
PLCA	**Paso Flores**	**155.13**	**108**	PKP		**PKPdf**	**20 34 38.5**	**+0.3**	
	comp=Z,2.9nm,1.0s,baz=19,slow=1.3,SNR=3.3								
BDFB	**Brasilia**	**157.16**	**23**	PKP		**PKPdf**	**20 34 42.7**	**+1.1**	
	comp=Z,10nm,1.1s,baz=39,slow=3.7,SNR=8.6								
BDFB				PKPab		**PKPab**	**20 35 14.2**	**+2.0**	
	comp=Z,22nm,1.0s,baz=344,slow=3.3,SNR=11								
IPMB	**Ipameri, GO**	**159.27**	**26**	*e*P		**PKPdf**	**20 34 45.2**	**+1.2**	
IPMB	**Ipameri, GO**	**159.27**	**26**	*e*P		**PKPdf**	**20 34 45.2**	**+1.2**	
CPUP	**Villa Florida**	**161.01**	**61**	PKP		**PKPdf**	**20 34 46.6**	**+1.0**	
	comp=Z,6.0nm,1.1s,baz=1.8,slow=3.3,SNR=3.5								
CPUP				PKPab		**PKPab**	**20 35 29.9**	**+1.1**	
	comp=Z,8.6nm,1.0s,baz=343,slow=5.2,SNR=6.1								
CPUP	**Villa Florida**	**161.01**	**61**	*e*P		**PKPdf**	**20 34 47.4**	**+1.8**	
CPUP	**Villa Florida**	**161.01**	**61**	*e*P		**PKPdf**	**20 34 47.4**	**+1.8**	
PCMB	**Pacaembu**	**161.20**	**38**	*e*P		**PKPdf**	**20 34 47.0**	**+1.0**	
PCMB	**Pacaembu**	**161.20**	**38**	*e*P		**PKPdf**	**20 34 47.0**	**+1.0**	
TRCB	**Terra Rica**	**161.45**	**44**	*e*P		**PKPdf**	**20 34 47.7**	**+1.4**	
TRCB	**Terra Rica**	**161.45**	**44**	*e*P		**PKPdf**	**20 34 47.7**	**+1.4**	
SJMB	**Sao Joao De Ma**	**161.58**	**7**	*e*P		**PKPdf**	**20 34 47.7**	**+1.3**	
SJMB	**Sao Joao De Ma**	**161.58**	**7**	*e*P		**PKPdf**	**20 34 47.7**	**+1.3**	
BSFB	**Barra de Sao F**	**161.74**	**6**	*e*P		**PKPdf**	**20 34 48.3**	**+1.7**	
BSFB	**Barra de Sao F**	**161.74**	**6**	*e*P		**PKPdf**	**20 34 48.3**	**+1.7**	
BB19B	**Bebedouro**	**161.97**	**30**	*e*P		**PKPdf**	**20 34 48.3**	**+1.5**	
BB19B	**Bebedouro**	**161.97**	**30**	*e*P		**PKPdf**	**20 34 48.3**	**+1.5**	
RIB01	**Linhares ES**	**162.25**	**5**	*e*P		**PKPdf**	**20 34 48.7**	**+1.6**	
RIB01	**Linhares ES**	**162.25**	**5**	*e*P		**PKPdf**	**20 34 48.7**	**+1.6**	
BSCB	**Bom Sucesso**	**163.17**	**19**	*e*P		**PKPdf**	**20 34 49.5**	**+1.4**	
BSCB	**Bom Sucesso**	**163.17**	**19**	*e*P		**PKPdf**	**20 34 49.5**	**+1.4**	
PTGB	**Pitanga**	**163.28**	**46**	*e*P		**PKPdf**	**20 34 49.5**	**+1.4**	
PTGB	**Pitanga**	**163.28**	**46**	*e*P		**PKPdf**	**20 34 49.5**	**+1.4**	
ITAB	**Concordia**	**165.09**	**53**	*e*P		**PKPdf**	**20 34 49.6**	**+0.1**	
ITAB	**Concordia**	**165.09**	**53**	*e*P		**PKPdf**	**20 34 49.6**	**+0.1**	
CNLB	**Canela**	**167.32**	**56**	*e*P		**PKPdf**	**20 34 52.2**	**+0.9**	
CNLB	**Canela**	**167.32**	**56**	*e*P		**PKPdf**	**20 34 52.2**	**+0.9**	

*IDC **15** 20:30:26.5±2.0, 9°.16S×124°.97E, h0km, mb3.4/1, mb1 3.6/3, mb1mx3.3/34, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=195.7km s-min=33.2km az=57.0*
*DJA **15** 20:30:33.1±0.5, 10°.5±4°×12°.3E±°, h28km±6km, M3.9/8, mb4.3/2, MLv3.7/8*

ISC 15 20:30:29.2±0.8, 10°.54S±0°.06×123°.41E±0°.05, h29km, n11, σ2s25/14, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
BATI	**Baumata**	**0.41**	**36**	P	Pn	20 30 41.0			+1.8
SOEI	**Soe**	**1.15**	**47**	P	**Pb**	**20 30 51.2**			**+0.7**
SOEI				S	**Sb**	**20 31 04.7**			**-0.4**
MMRI	**Maumere**	**2.22**	**328**	P	**Pn**	**20 31 03.8**			**-0.3**
EDFI	**Ende, Flores**	**2.46**	**316**	P	**Pn**	**20 31 07.4**			**-0.1**
EDFI				S	**Sn**	**20 31 35.5**			**-1.2**
BASI	**Baing, Sumba**	**2.81**	**276**	P	**Pb**	**20 31 17.0**			**-1.7**
WBSI	**Waikabubak, Su**	**4.06**	**282**	P	**Pn**	**20 31 32.8**			**+3.4**
BBSI	**Bau Bau**	**5.09**	**350**	P	**Pn**	**20 31 45.0**			**+1.4**
PLAI	**Plampang**	**5.81**	**287**	P	**Pn**	**20 31 56.6**			**+3.1**
	0.2nm36nm,0.9s								
WRA	**Warramunga Arr**	**14.08**	**133**	Pn	**Pn**	**20 33 48.2**			**+1.4**
	0.2nm,0.3s,baz=316,slow=13,SNR=2.1								
WRA				Sn	**Sn**	**20 36 18.4**			**-3.7**
	0.9nm,0.3s,baz=309,slow=23,SNR=8.4								
ASAR	**Alice Springs**	**16.44**	**144**	Pn	**P**	**20 34 21.8**			**+1.3**
	0.2nm,0.3s,baz=322,slow=14,SNR=10								
ASAR				Sn	**Sn**	**20 37 16.7**			**-3.0**
	0.4nm,0.3s,baz=322,slow=24,SNR=7.1								
MKAR	**Makanchi Array**	**67.86**	**331**	P	**P**	**20 41 24.0**			**-0.8**
	0.2nm,0.5s,baz=138,slow=6.9,SNR=5.0								

*NEIC **15** 20:34:28.0±1.8, 7°.45S±0°.09×157°.2E±0°.1, h10km±1km, mb4.4/10, Error ellipse: s-maj=21.9km s-min=10.3km az=51.0*

*IDC **15** 20:34:37.0±12.0, 7°.33S×156°.71E, h62km±78km, mb3.8/6, mb1 4.1/8, mb1mx3.7/28, mbtmp4.2/8, ML3.1/2, Error ellipse: s-maj=134.9km s-min=29.1km az=103.0*

**ISC

RIDG	Independent Ri	6.77	37		Pn	20 41 22.3	-0.3
MDM	Murphy Dome	6.91	21		Pn	20 41 24.3	-0.1
IL31		7.03	26		Pn	20 41 24.9	-1.0
PCA	Pinnacle	7.19	72		Pn	20 41 28.7	+0.4
SCRK	Sand Creek	7.21	38		Pn	20 41 27.9	-0.7
IM03		7.38	1		Pn	20 41 31.3	+0.7
YUK3	Moose Creek	7.45	59		Pn	20 41 32.5	+0.5
PNL	Peninsula	7.59	76		Pn	20 41 34.0	+0.3

SOME 15 20:42:50.8, 42°27N × 81°00E, h10km, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.44**	**309**	*eP*	Pn	20 43 13.3	-3.8
	2.6nm,0.2s						
SHLS				*eS*	Sn	20 43 29.4	-6.7
	11nm,0.4s						
KPKS	**Kokpek**	**2.08**	**306**	*eP*	Pb	20 43 28.8	+0.1
	5.4nm,0.2s						
KPKS				*eS*	Sg	20 43 56.3	-1.4
	6.8nm,0.5s						
DJR	**Jarkent**	**2.25**	**337**	*eP*	Pb	20 43 32.1	+0.6
	0.8nm,0.2s						
DJR				*eS*	Sg	20 44 01.8	-1.2
	1.1nm,0.3s						

IDC 15 20:48:07.8±0.8, 12°.14N × 143°.86E, h0km, mb4.2/14, mb1 4.3/14, mb1mx4.0/42, mbtmp4.2/14, Error ellipse: s-maj=26.2km s-min=19.9km az=95.0
NEIC 15 20:48:13.5±2.8, 12°.1N±0°.1 × 143°.9E±0°.1, h43km±9km, mb4.6/13, Error ellipse: s-maj=21.2km s-min=15.3km az=104.0

ISC 15 20:48:11.7±0.7, 12°.1N±0°.1 × 143°.9E±0°.1, h26km, n37, σ1§17/32, mb4.4/18, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.73**	**33**		**Pb**	**20 48 42.0**	**-0.8**
PATS	**Pohnpei**	**15.16**	**109**	Pn	**Pn**	**20 51 43.5**	**-0.8**
PATS				IAmb	IAmb	20 51 57.9	
	comp=Z,48nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**23.34**	**68**	T	T	21 17 45.9	
	baz=255,slow=75,SNR=5.5						
H11N2	**WAKE ISLAND Hy**	**23.36**	**68**	T	T	21 17 54.6	
	baz=255,slow=75,SNR=3.4						
H11N3	**WAKE ISLAND Hy**	**23.36**	**68**	T	T	21 17 55.6	
	baz=255,slow=75,SNR=4.7						
JNU	**Nakatsue**	**24.05**	**332**	P	**P**	**20 53 24.4**	**-0.5**
	comp=Z,5.3nm,0.7s,baz=86,slow=10,SNR=6.1						
JNU	**Nakatsue**	**24.05**	**332**	IAmb	IAmb	20 53 30.2	
	comp=Z,29nm,1.5s						
KSRS	**Korea Array**	**28.99**	**333**	P	**P**	**20 54 09.1**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=145,slow=8.8,SNR=4.7						
WRA	**Warramunga Arr**	**33.23**	**197**	P	**P**	**20 54 45.9**	**-1.0**
	comp=Z,1.8nm,0.9s,baz=19,slow=9.7,SNR=4.6						
WRA	**Warramunga Arr**	**33.23**	**197**	IAmb	IAmb	20 54 46.9	
	comp=Z,0.5nm,1.3s						
ASAR	**Alice Springs**	**36.90**	**195**	P	**P**	**20 55 18.9**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=19,slow=12,SNR=4.9						
CMAR	**Chiang Mai Arr**	**43.72**	**284**	P	**P**	**20 56 15.8**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=76,slow=6.8,SNR=4.3						
SONM	**Songino Array**	**47.38**	**326**	P	**P**	**20 56 44.3**	**+0.4**
	comp=Z,1.5nm,0.5s,baz=151,slow=6.9,SNR=6.8						
SONM	**Songino Array**	**47.38**	**326**	IAmb	IAmb	20 56 45.5	
	comp=Z,1.8nm,0.6s						
MKAR	**Makanchi Array**	**61.88**	**317**	P	**P**	**20 58 29.1**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=90,slow=9.5,SNR=11						
MKAR	**Makanchi Array**	**61.88**	**317**	P	**P**	**20 58 28.8**	**-0.2**
MAKZ	**Makanchi**	**62.09**	**317**	P	**P**	**20 58 30.4**	**-0.1**
ZAA0	**Zalesovo Array**	**62.25**	**325**	P	**P**	**20 58 28.9**	**-2.4**
ZAA0				IAmb	IAmb	20 58 31.2	
	comp=Z,2.3nm,0.5s						
ZALV	**Zalesovo Beam**	**62.25**	**325**	P	**P**	**20 58 30.9**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=100,slow=8.2,SNR=8.4						
ZALV				PcP	**PcP**	**20 59 10.4**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=126,slow=3.1,SNR=4.3						
ZALV	**Zalesovo Beam**	**62.25**	**325**	P	**P**	**20 58 29.1**	**-2.3**
KURK	**Kurchatov**	**65.08**	**320**	P	**P**	**20 58 48.2**	**-1.8**
ILAR	**Eielson Array**	**70.28**	**25**	P	**P**	**20 59 22.0**	**-0.6**
	comp=Z,1.3nm,0.5s,baz=248,slow=5.8,SNR=21						
ILAR	**Eielson Array**	**70.28**	**25**	P	**P**	**20 59 21.5**	**-1.1**
BRVK	**Borovoye**	**70.54**	**322**	P	**P**	**20 59 24.7**	**+0.3**
DOT	**Dot Lake**	**71.25**	**27**	P	**P**	**20 59 28.8**	**+0.3**
DOT				IAmb	IAmb	20 59 29.7	
	comp=Z,3.7nm,0.7s						
BMAR	**Burnt Mountain**	**71.80**	**23**	P	**P**	**20 59 33.5**	**+1.7**
BARN	**Barnard Glacie**	**71.94**	**30**	P	**P**	**20 59 34.4**	**+1.4**
BARN				IAmb	IAmb	20 59 35.1	
	comp=Z,5.4nm,1.0s						
INK	**Inuvik**	**76.06**	**22**	P	**P**	**20 59 57.4**	**+0.7**
	comp=Z,5.6nm,0.9s,baz=258,slow=5.5,SNR=21						
INK	**Inuvik**	**76.06**	**22**	P	**P**	**20 59 57.6**	**+0.9**
INK				IAmb	IAmb	20 59 58.1	
	comp=Z,6.5nm,0.9s						
ABKAR	**Akbulak array**	**76.98**	**318**	P	**P**	**21 00 01.6**	**-0.6**
YKA	**Yellowknife Ar**	**84.58**	**27**	P	**P**	**21 00 44.0**	**+1.4**
	comp=Z,1.1nm,0.4s,baz=284,slow=4.8,SNR=8.2						
RES	**Resolute Bay**	**86.17**	**13**	P	**P**	**21 00 51.7**	**+1.4**
RES				IAmb	IAmb	21 00 52.2	
	comp=Z,3.5nm,0.8s						
ARCES	**ARCESS Array B**	**88.17**	**342**	P	**P**	**21 00 59.6**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=60,slow=7.2,SNR=4.7						
NVAR	**Mina Array Bea**	**88.57**	**51**	P	**P**	**21 01 03.8**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=261,slow=6.4,SNR=7.7						
NVAR	**Mina Array Bea**	**88.57**	**51**	P	**P**	**21 01 04.9**	**+2.0**
NV11	**Mina Array Sit**	**88.68**	**51**	P	**P**	**21 01 01.8**	**-1.6**
FINES	**FINESS Array B**	**92.07**	**335**	P	**P**	**21 01 17.1**	**-1.3**
	comp=Z,2.0nm,0.7s,baz=63,slow=5.2,SNR=15						

IDC 15 20:51:39.2±1.3, 2°.39N × 84°.45W, h0km, mb3.9/9, mb1 4.2/11, mb1mx4.0/32, mbtmp3.9/11, ML3.9/2, MS3.8/4, Ms1 3.8/4, ms1mx3.3/32, Error ellipse: s-maj=57.9km s-min=20.4km az=50.0

ISC 15 20:51:43.4±1.0, 2°.1N±0°.1 × 84°.7W±0°.1, h35km, n28, σ1§65/23, mb4.0/9, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAC1	**Pacto, Paraso**	**6.17**	**107**	*eP*	**Pn**	**20 53 09.6**	**-2.7**
GCUF	**Volcan Galeras**	**7.39**	**97**	*eP*	**Pn**	**20 53 28.1**	**-1.2**
BBAC	**Balboa, Cauca**	**7.43**	**91**	*eP*	**Pn**	**20 53 27.2**	**-2.4**
PNME	**Penonome**	**7.66**	**34**	*eP*	**Pn**	**20 53 32.5**	**-0.1**
SOTA	**Rioblanco**	**8.07**	**90**	*eP*	**Pn**	**20 53 39.5**	**+0.9**
JTS	**Las Juntas de**	**8.11**	**358**	Pn	**Pn**	**20 53 37.0**	**-1.8**
	3.3nm,0.3s,baz=260,slow=6.5,SNR=18						
JTS				LR	LR	20 55 58.9	
	comp=Z,841nm,20.7s,baz=252,slow=33						
PCON	**Cinco Dias**	**8.28**	**88**	*eP*	**Pn**	**20 53 45.7**	**+4.1**
ORTC	**Ortega, Tolima**	**9.59**	**79**	*eP*	**Pn**	**20 53 58.0**	**-1.1**
TOLC	**Tolima**	**9.66**	**75**	*eP*	**Pn**	**20 54 01.5**	**+1.2**
RREF	**El Recreo**	**9.70**	**73**	*eP*	**Pn**	**20 54 01.5**	**+0.2**
GUY2C	**Guyana, Caldas**	**9.79**	**71**	*eP*	**Pn**	**20 54 00.7**	**-1.6**
ATAH	**Atahualpa**	**11.14**	**146**	LR	LR	20 58 14.0	
	comp=Z,300nm,19.9s,baz=294,slow=35						
CHIC	**Chingaza**	**11.21**	**77**	*eP*	**Pn**	**20 54 23.6**	**+1.9**
CMIG	**Matias Romero**	**17.94**	**327**	P	**P**	**20 55 51.0**	**+0.4**
	0.2nm,0.3s,baz=144,slow=6.9,SNR=4.7						
TEIG	**Tepich**	**18.33**	**349**	LR	LR	21 02 19.7	
	comp=Z,303nm,20.0s,baz=229,slow=35						
LPAZ	**La Paz**	**24.54**	**139**	P	**P**	**20 57 02.6**	**+1.9**
	6.1nm,1.2s,baz=334,slow=7.9,SNR=8.7						
SIV	**San Ignacio**	**29.47**	**128**	LR	LR	21 09 56.0	
	comp=Z,244nm,18.2s,baz=271,slow=37						
TXAR	**Lajitas Array**	**32.53**	**328**	P	**P**	**20 58 12.3**	**+0.9**
	0.4nm,0.8s,baz=139,slow=12,SNR=3.9						
TXAR				PcP	**PcP**	**21 00 59.2**	**+1.6**
	0.2nm,0.7s,baz=116,slow=4.1,SNR=2.4						
H03N2	**Juan Fernandez**	**35.79**	**172**	T	T	21 36 41.6	
	baz=351,slow=76,SNR=17						
H03N1	**Juan Fernandez**	**35.80**	**172**	T	T	21 36 42.4	
	baz=351,slow=76,SNR=31						
H03N3	**Juan Fernandez**	**35.81**	**172**	T	T	21 36 41.3	
	baz=351,slow=76,SNR=31						
PDAR	**Pinedale Array**	**46.17**	**335**	P	**P**	**21 00 04.0**	**-1.0**
	0.4nm,0.6s,baz=131,slow=10,SNR=4.8						
NVAR	**Mina Array Bea**	**47.44**	**324**	P	**P**	**21 00 15.1**	**+0.1**
	1.4nm,0.9s,baz=129,slow=7.8,SNR=6.8						
YKA	**Yellowknife Ar**	**64.23**	**345**	P	**P**	**21 02 14.2**	**-0.4**
	2.1nm,0.8s,baz=146,slow=6.8,SNR=12						
INK	**Inuvik**	**73.81**	**343**	P	**P**	**21 03 13.7**	**-0.3**
	3.2nm,1.1s,baz=122,slow=7.1,SNR=7.0						
ILAR	**Eielson Array**	**76.52**	**337**	P	**P**	**21 03 29.7**	**0.0**
	1.7nm,0.9s,baz=138,slow=4.2,SNR=13						
ESDC	**Sonseca Array**	**81.50**	**50**	P	**P**	**21 03 57.5**	**-0.1**
	1.2nm,1.0s,baz=260,slow=6.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**85.99**	**77**	P	**P**	**21 04 19.9**	**-1.1**
	0.4nm,0.8s,baz=278,slow=6.4,SNR=2.1						

IDC 15 20:53:33.8±3.9, 36°.32N × 142°.26E, h0km, mb3.7/3, mb1 3.6/8, mb1mx3.4/45, mbtmp3.6/8, ML3.0/3, Error ellipse: s-maj=62.9km s-min=32.3km az=110.0
JMA 15 20:53:40.7±0.2, 36°.60N × 141°.68E, h39km±4km, M3.2

ISC 15 20:53:39.5±1.5, 36°.54N±0°.06 × 141°.83E±0°.09, h19km, n23, σ1§87/26, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**1.00**	**305**	P	**Pn**	**20 53 57.0**	**-1.6**
JHO	**Hitachi**	**1.02**	**275**	P	**Pn**	**20 53 56.9**	**-1.9**
JHO				S	**Sb**	**20 54 08.7**	**-2.8**
JHYU	**Hitachinakayam**	**1.02**	**259**	P	**Pn**	**20 53 57.6**	**-1.2**
JHYU				S	**Sb**	**20 54 09.7**	**-1.9**
JFK	**Kawauchi**	**1.13**	**318**	P	**Pn**	**20 53 58.7**	**-1.6**
JFT	**Otama**	**1.55**	**310**	P	**Pn**	**20 54 05.4**	**-0.6**
JMM	**Marumori**	**1.56**	**328**	P	**Pn**	**20 54 04.5**	**-1.8**
JFY	**Yanaizu**	**1.91**	**298**	P	**Pn**	**20 54 11.0**	**-0.1**
JAG	**Ashikaga**	**1.92**	**267**	P	**Pn**	**20 54 10.4**	**-0.8**
JIO	**Ouri**	**1.95**	**349**	P	**Pn**	**20 54 10.0**	**-1.6**
JOU	**Okura**	**2.05**	**333**	P	**Pn**	**20 54 12.7**	**-0.2**
JOU				*eS*	**Sn**	**20 54 35.9**	**-2.1**
JKT	**Katashina**	**2.09**	**277**	S	**Sn**	**20 54 37.3**	**-1.8**
MJAR	**Matsushiro Arr**	**2.92**	**271**	Pn	**Pn**	**20 54 25.4**	**+0.5**
	0.9nm,0.3s,baz=98,slow=8.8,SNR=169						
MJAR				Sn	**Sn**	**20 55 02.3**	**+2.8**
	0.6nm,0.3s,baz=302,slow=7.2,SNR=3.3						
MAT	**Matsushiro**	**2.92**	**271**	P	**Pn**	**20 54 25.7**	**+0.8**
MAT				S	**Sn**	**20 55 01.1**	**+1.6**
JHJ	**Hachijo jima 2**	**3.80**	**207**	Pn	**Pn**	**20 54 34.3**	**-2.7**
	2.0nm,0.3s,baz=250,slow=21,SNR=1.6						
JHJ				Sn	**Sn**	**20 55 20.2**	**-1.0**
	6.7nm,0.3s,baz=58,slow=21,SNR=1.8						
ASAJ	**Asahikawa**	**7.59**	**4**	Pn	**Pn**	**20 55 29.2**	**+0.2**
	0.3nm,0.3s,baz=192,slow=19,SNR=1.7						
USRK	**Ussuriysk Ar.**	**10.72**	**319**	Pn	**Pn**	**20 56 15.8**	**+4.0**
	baz=128,slow=13,SNR=5.2						
KSRS	**Korea Array**	**11.16**	**279**	Pn	**Pn**	**20 56 20.9**	**+2.9**
	baz=92,slow=13,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**27.61**	**121**	T	T	21 28 39.2	
	baz=313,slow=75,SNR=9.0						
H11N1	**WAKE ISLAND Hy**	**27.61**	**121**	T	T	21 28 43.5	
	baz=313,slow=75,SNR=7.8						
H11N3	**WAKE ISLAND Hy**	**27.62**	**121**	T	T	21 28 41.0	
	baz=313,slow=75,SNR=8.1						
SONM	**Songino Array**	**28.34**	**305**	P	**P**	**20 59 32.8**	**+0.6**
	0.8nm,0.6s,baz=120,slow=8.7,SNR=2.4						
ZALV	**Zalesovo Beam**	**42.50**	**313**	P	**P**	**21 01 32.8**	**-0.5**
	0.7nm,0.6s,baz=96,slow=10,SNR=2.4						
MKAR	**Makanchi Array**	**44.67**	**303**	P	**P**	**21 01 51.1**	**+0.1**
	0.5nm,0.8s,baz=83,slow=11,SNR=3.6						

JMA 15 21:29:26.4, 35°.97N × 137°.30E, h9km±1km, M3.1, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.25**	**3**	P	Pg	21 29 31.7	+0.1
JGN				S	Sg	21 29 35.4	+0.4
JYTA	**Yamagatataniai**	**0.59**	**231**	P	Pg	21 29 37.6	-0.3
JYTA				*eS*	Sg	21 29 45.4	-0.2
JTT	**Ttatey**	**0.63**	**2**	P	Pg	21 29 38.9	+0.2
MAT	**Matsushiro**	**0.93**	**52**	P	Pg	21 29 44.3	0.0
MAT				S	Sg	21 29 56.5	+0.1

IDC 15 21:56:01.3±6.8, 35°.45S × 178°.14E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/25, mbtmp3.8/2, Error ellipse: s-maj=330.5km s-min=60.8km az=168.0
WEL 15 21:56:06.2, 37°.S±6°.× 17°.8E±°, h5km, M3.5/19, ML3.6/19, MLv3.5/19, Error ellipse: s-maj=0.0km s-min=0.0km az=177.5

ISC 15 21:56:01.1±1.2, 36°.81S±0°.06 × 178°.13E±0°.06, h10km, n96, σ1§39/100, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.76**	**169**	P	**Pb**	**21 56 18.2**	**+1.7**
MXZ				S	**Sg**	**21 56 27.0**	**+1.2**
HAZ	**Te Kaha**	**0.98**	**196**	P	**Pg**	**21 56 20.2**	**+0.2**
WMGZ	**Waiomatatini S**	**1.03**	**167**	P	**Pn**	**21 56 23.2**	**+1.5**
WMGZ				S	**Sg**	**21 56 35.4**	**+1.0**
PKGZ	**Pakihiroa**	**1.07**	**182**	P	**Pg**	**21 56 22.9**	**+1.1**
RUGZ	**Raukumara Rang**	**1.20**	**197**	P	**Pb**	**21 56 23.5**	**-0.7**
PUZ	**Puketiti**	**1.26**	**175**	P	**Pn**	**21 56 25.5**	**+0.7**
PUZ				S	**Sb**	**21 56 40.5**	**-0.8**
WHRZ	**Whale Island**	**1.39**	**221**	P	**Pn**	**21 56 27.1**	**+0.6**
MWZ	**Matawai**	**1.59**	**197**	P	**Pn**	**21 56 28.9**	**-0.5**
OPRZ	**Ohinepanea**	**1.62**	**230**	P	**Pn**	**21 56 30.3**	**+0.5**
TKGZ	**Te Karaka**	**1.64**	**188**	P	**Pn**	**21 56 30.3**	**+0.3**
TKGZ				S	**Sn**	**21 56 49.5**	**-1.6**
MARZ	**Manawahe**	**1.64**	**224**	P	**Pn**	**21 56 30.5**	**+0.3**
URZ	**Urewera**	**1.65**	**209**	P	**Pn**	**21 56 29.8**	**-0.4**
CNGZ	**Carnagh Statio**	**1.67**	**178**	P	**Pn**	**21 56 30.8**	**+0.4**
EDRZ	**Edgecumbe**	**1.70**	**220**	P	**Pn**	**21 56 31.0**	**+0.1**
TGRZ	**Tauranga**	**1.75**	**238**	P	**Pb**	**21 56 32.8**	**-0.4**
RAGZ	**Rawiri**	**1.77**	**198**	P	**Pn**	**21 56 32.5**	**+0.6**
MKRZ	**Makatiti**	**1.87**	**224**	P	**Pb**	**21 56 34.7**	**-0.7**
OMRZ	**Omania**	**1.90**	**227**	P	**Pn**	**21 56 34.8**	**+1.1**
RIGZ	**Rimuhau**	**1.91**	**189**	P	**Pn**	**21 56 33.0**	**-0.8**
TARZ	**Mount Tarawera**	**1.92**	**222**	P	**Pn**	**21 56 34.9**	**+1.0**
KARZ	**Kaharoa**	**1.92**	**231**	P	**Pn**	**21 56 35.0**	**+1.0**
KUZ	**Kuaotunu**	**1.93**	**271**	P	**Pg**	**21 56 37.4**	**-0.8**
MUGZ	**Murupara**	**1.98**	**213**	P	**Pn**	**21 56 34.5**	**-0.2**
RRRZ	**Republican Roa**	**1.99**	**220**	P	**Pn**	**21 56 34.1**	**-0.8**
NGRZ	**Ngongotaha**	**2.01**	**230**	P	**Pn**	**21 56 36.7**	**+1.5**
HLRZ	**Highlands Stat**	**2.01**	**224**	P	**Pn**	**21 56 35.9**	**+0.7**
RTZ	**Ruatahuna**	**2.02**	**206**	P	**Pn**	**21 56 34.6**	**-0.7**
KMRZ	**Kaimai**	**2.02**	**239**	P	**Pn**	**21 56 36.6**	**+1.3**
UTU	**Utuhina**	**2.05**	**228**	P	**Pb**	**21 56 37.6**	**-0.9**
SNGZ	**Shannon Statio**	**2.06**	**197**	P	**Pn**	**21 56 36.6**	**+0.8**
PRGZ	**Paritu Road**	**2.11**	**185**	P	**Pn**	**21 56 36.3**	**-0.3**
PRRZ	**Plateau Road**	**2.17**	**219**	P	**Pn**	**21 56 37.7**	**+0.3**
GRRZ	**Galatos Road**	**2.22**	**226**	P	**Pn**	**21 56 39.1**	**+1.1**
GRZ	**Great Barrier**	**2.22**	**284**	P	**Pb**	**21 56 42.5**	**+1.2**
KNZ	**Kokohu**	**2.23**	**189**	P	**Pn**	**21 56 37.1**	**-1.1**
ALRZ	**Allen Road**	**2.25**	**218**	P	**Pn**	**21 56 39.0**	**+0.6**
RAHZ	**Arahi**	**2.25**	**201**	P	**Pn**	**21 56 39.3**	**+0.8**
MTHZ	**Maungataniwha**	**2.27**	**206**	P	**Pn**	**21 56 38.5**	**-0.3**
TOZ	**Tahuroa Road**	**2.29**	**246**	P	**Pn**	**21 56 40.6**	**+1.7**
MHGZ	**Mahia Peninsul**	**2.34**	**184**	P	**Pn**	**21 56 38.9**	**-0.8**
WHHZ	**Waihua**	**2.37**	**197**	P	**Pn**	**21 56 40.4**	**+0.3**
MKAZ	**Moumakai**	**2.39**	**262**	P	**Pb**	**21 56 43.6**	**-0.7**
WIAZ	**Waiheke Island**	**2.40**	**270**	P	**Pb**	**21 56 44.2**	**-0.2**
MRHZ	**Matea Rd**	**2.43**	**213**	P	**Pn**	**21 56 40.8**	**-0.1**
KUTZ	**Kaiutu Road**	**2.48**	**227**	P	**Pn**	**21 56 42.7**	**+1.1**
NMHZ	**Naumai**	**2.51**	**204**	P	**Pn**	**21 56 42.8**	**+0.7**
TLZ	**Tolley Road**	**2.55**	**233**	P	**Pn**	**21 56 44.4**	**+1.8**
ETAZ	**East Tamaki Re**	**2.57**	**266**	P	**Pb**	**21 56 46.6**	**-0.7**
MBAZ	**Motutapu North**	**2.59**	**270**	P	**Pb**	**21 56 47.2**	**-0.5**
ARHZ	**Aropaoanui**	**2.60**	**200**	P	**Pn**	**21 56 43.3**	**0.0**
KBAZ	**Karaka Road Bo**	**2.61**	**263**	P	**Pb**	**21 56 47.3**	**-0.7**
ABAZ	**Army Bay**	**2.66**	**274**	P	**Pb**	**21 56 48.5**	**-0.3**
BKZ	**Black Stump Fm**	**2.68**	**208**	P	**Pn**	**21 56 44.7**	**+0.3**
EPAZ	**Eden Park BICE**	**2.71**	**268**	P	**Pb**	**21 56 49.1**	**-0.7**
HBAZ	**Herne Bay Bore**	**2.72**	**268**	P	**Pb**	**21 56 49.4**	**-0.5**
RATZ	**Rangitukua**	**2.77**	**222**	P	**Pn**	**21 56 47.8**	**+2.2**
AWAZ	**Awhitu Peninsu**	**2.80**	**264**	P	**Pb**	**21 56 49.9**	**-1.4**
RITZ	**Rihia Road**	**2.81**	**219**	P	**Pn**	**21 56 47.7**	**+1.5**
RVAZ	**Riverhead Bore**	**2.85**	**270**	P	**Pb**	**21 56 51.0**	**-1.1**
WTAZ	**Waiatarua**	**2.85**	**267**	P	**Pb**	**21 56 50.9**	**-1.2**
MCHZ	**McNeill Hill**	**2.86**	**203**	P	**Pn**	**21 56 46.7**	**-0.1**
KATZ	**Kakaramea**	**2.89**	**221**	P	**Pn**	**21 56 49.8**	**+2.2**
KWHZ	**Kaweka Forest**	**2.93**	**207**	P	**Pn**	**21 56 47.6**	**-0.3**
KRVZ	**Karewarewa**	**3.01**	**220**	P	**Pn**	**21 56 50.6**	**+1.6**
WTVZ	**West Tongariro**	**3.05**	**220**	P	**Pn**	**21 56 51.0**	**+1.5**
NGZ	**Ngauruhoe**	**3.09**	**219**	P	**Pn**	**21 56 51.4**	**+1.3**
TWVZ	**Taurewa**	**3.10**	**223**	P	**Pn**	**21 56 51.9**	**+1.7**
HIZ	**Hauiti**	**3.10**	**236**	P	**Pn**	**21 56 52.3**	**+2.1**
BHHZ	**Black Hill Sta**	**3.13**	**211**	P	**Pn**	**21 56 50.3**	**-0.2**
KAHZ	**Kahuranaki**	**3.13**	**198**	P	**Pn**	**21 56 49.3**	**-1.4**
KRHZ	**Kereru**	**3.15**	**206**	P	**Pn**	**21 56 49.7**	**-1.1**
FWVZ	**Far West T-bar**	**3.17**	**219**	P	**Pn**	**21 56 52.2**	**+0.9**
WCZ	**Waipu Caves**	**3.17**	**285**	P	**Pb**	**21 56 56.0**	**-1.6**
WHVZ	**Whangaehu Hut**	**3.18**	**218**	P	**Pn**	**21 56 52.1**	**+0.8**
MOVZ	**Moawhango**	**3.19**	**215**	P	**Pn**	**21 56 51.4**	**-0.1**
TRVZ	**Turoa**	**3.21**	**219**	P	**Pn**	**21 56 52.9**	**+1.1**
PXZ	**Pawanui**	**3.36**	**197**	P	**Pn**	**21 56 51.5**	**-2.2**
PNHZ	**Pukenui**	**3.44**	**205**	P	**Pn**	**21 56 53.1**	**-1.8**
WPHZ	**Waipukurau**	**3.50**	**202**	P	**Pn**	**21 56 53.6**	**-2.1**
VRZ	**Vera Road**	**3.52**	**228**	P	**Pn**	**21 56 58.1**	**+2.2**
PRHZ	**Porangahau**	**3.64**	**198**	P	**Pn**	**21 56 55.2**	**-2.4**
TSZ	**Takapari Road**	**3.66**	**207**	P	**Pn**	**21 56 56.0**	**-1.9**
DVHZ	**Dannevirke**	**3.80**	**203**	P	**Pn**	**21 56 56.9**	**-2.9**
WAZ	**Wanganui**	**3.84**	**219**	P	**Pn**	**21 57 01.4**	**+1.2**
ANWZ	**Angora Road**	**3.86**	**199**	P	**Pn**	**21 56 57.9**	**-2.7**
LREZ	**Lake Rotokare**	**3.95**	**227**	P	**Pn**	**21 57 04.9**	**+3.1**
OUZ	**Omahuta**	**4.00**	**292**	P	**Pb**	**21 57 08.3**	**-3.5**
POWZ	**Post Office Ro**	**4.02**	**207**	P	**Pn**	**21 57 00.4**	**-2.4**
PRWZ	**Pori Road**	**4.10**	**204**	P	**Pn**	**21 57 01.6**	**-2.2**
TIWZ	**Tintock**	**4.33**	**203**	P	**Pn**	**21 57 03.9**	**-3.1**
DUWZ	**D'Urville Isla**	**5.16**	**218**	P	**Pn**	**21 57 16.3**	**-2.1**
QRZ	**Quartz Range**	**5.93**	**226**	P	**Pn**	**21 57 27.2**	**-1.8**
CTZ	**Chatham Island**	**7.99**	**151**	P	**Pn**	**21 57 55.4**	**-1.9**
ASAR	**Alice Springs**	**40.05**	**276**	P	**P**	**22 03 36.5**	**-0.1**
	0.9nm,0.6s,baz=122,slow=8.2,SNR=14						
WRA	**Warramunga Arr**	**41.64**	**282**	P	**P**	**22 03 50.4**	**+0.6**
	0.8nm,0.5s,baz=121,slow=7.9,SNR=7.3						
FINES	**FINESS Array B**	**149.75**	**333**	PKPbc	**PKPdf**	**22 15 48.5**	**+2.9**
	2.0nm,1.0s,baz=48,slow=2.1,SNR=4.5						

NNC 15 21:57:14.2±0.3, 42°.78N × 70°.21E, h0km, mpv1.7, Error ellipse: s-maj=3.4km s-min=1.3km az=123.0
KRNET 15 21:57:24.5±0.1, 42°.56N × 70°.45E, mb2.5

ISC 15 21:57:14.1±2.4, 42°.91N±0°.07 × 70°.1E±0°.1, h10km, n14, σ0§59/28, 18C-9D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK08	**Karatay Array**	**0.38**	**59**	⇑P	**Pg**	**21 57 22.0**	**+0.4**
KK08				⇑S	**Sg**	**21 57 27.5**	**+0.8**
KK07	**Karatay Array**	**0.38**	**62**	⇓P	**Pg**	**21 57 21.9**	**+0.3**
KK07				⇑S	**Sg**	**21 57 27.5**	**+0.8**
KK03	**Karatay Array**	**0.39**	**60**	⇑P	**Pg**	**21 57 22.0**	**+0.3**
KK03				⇑S	**Sg**	**21 57 27.6**	**+0.7**
KK01	**Karatay Array**	**0.39**	**60**	⇑P	**Pg**	**21 57 21.8**	**-0.1**
KK01				⇑S	**Sg**	**21 57 27.6**	**+0.6**
KK02	**Karatay Array**	**0.39**	**60**	⇓P	**Pg**	**21

BRLS					*e*S		**Sb**	**22 00 37.6**	**+0.8**
	14nm,0.2s								
BRLS	**Borolday**	**2.44**	**305**		Pg		**Pb**	**22 00 06.3**	**+0.1**
	1.6nm,0.2s								
BRLS					Lg	Lg		22 00 37.6	
	14nm,0.2s								
TKM2	**Tokmak 2**	**2.58**	**60**	⇑	*i*P		**Pb**	**22 00 06.8**	**-1.9**
	baz=60								
TKM2				⇑	*i*S		**Sb**	**22 00 38.9**	**-2.0**
	baz=60								
TKM2	**Tokmak 2**	**2.58**	**60**	⇓	Pg		**Pb**	**22 00 09.1**	**+0.4**
	11nm,1.3s								
TKM2				⇑	Lg	Lg		22 00 42.9	
	7.4nm,0.7s								
DGS	**Degeres**	**2.85**	**55**		*e*P		**Pb**	**22 00 13.2**	**-0.1**
	1.6nm,0.6s								
DGS					*e*S		**Sb**	**22 00 49.3**	**+0.6**
	7.1nm,0.6s								
DGS	**Degeres**	**2.85**	**55**		Pg		**Pb**	**22 00 13.2**	**-0.1**
	1.6nm,0.6s								
DGS					Lg	Lg		22 00 49.3	
	7.1nm,0.6s								
KST	**Kastek**	**2.88**	**60**		*e*P		**Pb**	**22 00 14.4**	**+0.8**
	3.9nm,0.7s								
KST					*e*S		**Sg**	**22 00 51.6**	**-2.4**
	9.0nm,0.5s								
KST	**Kastek**	**2.88**	**60**		Pg		**Pb**	**22 00 14.5**	**+0.8**
	3.9nm,0.7s								
KST					Lg	Lg		22 00 51.7	
	9.0nm,0.5s								
KUU	**Kurty**	**3.57**	**50**		*e*P		**Pb**	**22 00 26.0**	**+0.6**
	0.9nm,0.5s								
KUU					*e*S		**Sb**	**22 01 11.4**	**+2.3**
	2.6nm,0.3s								
KUU	**Kurty**	**3.57**	**50**		Pg		**Pb**	**22 00 26.0**	**+0.6**
	0.9nm,0.5s								
KUU					Lg	Lg		22 01 11.4	
	3.7nm,0.6s								
KTBS	**Karatobe**	**3.67**	**55**		*e*P		**Pb**	**22 00 27.8**	**+0.7**
	0.6nm,0.5s								
KTBS					*e*S		**Sb**	**22 01 14.5**	**+2.5**
	4.1nm,0.6s								
KTBS	**Karatobe**	**3.67**	**55**		Pg		**Pb**	**22 00 27.8**	**+0.7**
	0.6nm,0.5s								
KTBS					Lg	Lg		22 01 14.5	
	4.1nm,0.6s								

IDC ***15*** *22:27:36.7±0.7,5°32′S×141°61′E, h0km, mb4.1/8, mb1 4.4/14, mb1mx4.2/28, mbtmp4.3/14, ML4.2/4, MS3.1/3, Ms1 3.1/3, ms1mx2.8/23, Error ellipse: s-maj=23.9km s-min=17.0km az=75.0*
NEIC ***15*** *22:27:42.0±1.3,5°41′S±0°07′×141°46′E±0°09′, h38km±5km, mb4.6/30, Error ellipse: s-maj=13.0km s-min=8.8km az=63.0*
DJA ***15*** *22:27:45.2±0.3,5°S±4′×14°1′E±°, h121km±11km, M4.7/6, mb4.5/6, mB4.9/1, MLv4.8/6, Mw(mB)4.2/1*
ISC 15 22:27:41.9±0.4,5°51′S±0°05×141°52′E±0°07, h35km, n80, σ1§21/81, mb4.6/23, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JAY	**Jayapura**	**3.09**	**345**	Pn		**Pn**	**22 28 26.1**	**-2.1**
	13nm,0.3s,baz=176,slow=5.1,SNR=9.8							
JAY				Sn		**Sn**	**22 29 02.1**	**-1.9**
	15nm,0.3s,baz=12,slow=19,SNR=5.3							
JAY	**Jayapura**	**3.09**	**345**	P		**Pn**	**22 28 29.4**	**+1.2**
JAY				S		**Sn**	**22 29 05.4**	**+1.4**
MMPI	**Merauke**	**3.14**	**201**	P		Pn	22 28 35.1	+6.2
GENI	**Genyem**	**3.20**	**335**	P		**Pn**	**22 28 30.6**	**+0.9**
GENI				S		**Sn**	**22 29 07.8**	**+1.2**
SMPI	**Sarmi**	**4.48**	**321**	P		**Pn**	**22 28 49.0**	**+1.6**
PMG	**Port Moresby**	**6.80**	**125**	Pn		**Pn**	**22 29 19.9**	**+0.7**
	1.6nm,0.3s,baz=266,slow=18,SNR=2.0							
PMG				LR		LR	22 33 10.7	
	comp=Z,76nm,20.0s,baz=358,slow=49							
PMG	**Port Moresby**	**6.80**	**125**			**Pn**	**22 29 20.7**	**+1.5**
COEN	**Coen**	**8.55**	**169**	Pn		**Pn**	**22 29 45.7**	**+2.4**
FAKI	**Fak Fak**	**9.59**	**285**	P		**Pn**	**22 29 57.9**	**+0.3**
	30nm,1.7s							
FAKI	**Fak Fak**	**9.59**	**285**	Pn		**Pn**	**22 29 56.9**	**-0.7**
SIJI	**Sorong**	**11.22**	**294**	Pn		**Pn**	**22 30 19.2**	**-0.8**
	1.1nm,0.3s,baz=270,slow=24,SNR=3.3							
MTN	**Manton Dam**	**12.57**	**234**	Pn		**Pn**	**22 30 38.8**	**+0.5**
WB0	**Warramunga Arr**	**15.77**	**205**	P		**Pn**	**22 31 20.9**	**-0.6**
WR0	**Warramunga Arr**	**15.88**	**205**	Pn		**Pn**	**22 31 22.9**	**0.0**
WB2	**Warramunga Arr**	**15.95**	**205**			**Pn**	**22 31 23.4**	**-0.3**
WRA	**Warramunga Arr**	**15.95**	**205**	Pn		**Pn**	**22 31 23.4**	**-0.5**
	1.0nm,0.3s,baz=19,slow=10,SNR=20							
WRA				Sn		**Sn**	**22 34 17.6**	**-2.1**
	1.0nm,0.3s,baz=50,slow=20,SNR=4.8							
WRA	**Warramunga Arr**	**15.95**	**205**	P		**Pn**	**22 31 22.5**	**-1.3**
KNRA	**Kununurra**	**16.09**	**230**			**Pn**	**22 31 24.5**	**-1.0**
KNRA				IAmb		IAmb	22 31 43.7	
	comp=Z,34nm,0.9s							
SOEI	**Soe**	**17.60**	**255**			**Pn**	**22 31 45.2**	**+0.5**
SOEI				IAmb		IAmb	22 32 04.7	
	comp=Z,44nm,0.8s							
HNR	**Honiara**	**18.68**	**103**	P		**P**	**22 31 56.2**	**-1.1**
	comp=Z,15nm,0.3s,baz=338,slow=5.4,SNR=1.6							
HNR	**Honiara**	**18.68**	**103**	P		**P**	**22 31 55.7**	**-1.5**
AS31	**Alice Springs**	**19.48**	**201**	P		**Pn**	**22 32 07.8**	**+0.5**
ASAR	**Alice Springs**	**19.48**	**201**	P		**Pn**	**22 32 09.2**	**+1.8**
	comp=Z,1.3nm,0.3s,baz=29,slow=9.2,SNR=82							
ASAR				S		**S**	**22 35 42.9**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=25,slow=25,SNR=5.1							
ASAR				LR		LR	22 40 06.0	
	comp=Z,161nm,21.0s,baz=14,slow=38							
ASAR	**Alice Springs**	**19.48**	**201**	P		**P**	**22 32 06.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**19.92**	**230**	P		**Pn**	**22 32 12.4**	**-0.2**
	comp=Z,21nm,1.0s,baz=41,slow=9.8,SNR=14							
FITZ	**Fitzroy Crossi**	**19.92**	**230**	P		**P**	**22 32 10.9**	**+0.1**
FITZ				IAmb		IAmb	22 32 15.6	
	comp=Z,22nm,1.0s							
KAPI	**Kappang**	**21.68**	**270**	LR		LR	22 43 33.0	
	comp=Z,41nm,18.6s,baz=94,slow=44							
KAPI	**Kappang**	**21.68**	**270**	P		**P**	**22 32 28.2**	**-1.6**
STKA	**Stephens Creek**	**26.23**	**180**	P		**P**	**22 33 14.8**	**+1.1**
	comp=Z,1.1nm,0.4s,baz=112,slow=24,SNR=3.5							
STKA	**Stephens Creek**	**26.23**	**180**	P		**P**	**22 33 14.4**	**+0.8**
KSRS	**Korea Array**	**44.59**	**345**	P		**P**	**22 35 49.7**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=156,slow=8.2,SNR=2.1							
TUWZ	**Tuamarina**	**45.99**	**146**	P		**P**	**22 36 02.9**	**+1.0**
LTZ	**Lake Taylor**	**46.02**	**148**	P		**P**	**22 36 03.1**	**+1.0**
BKZ	**Black Stump Fm**	**46.04**	**142**	P		**P**	**22 36 03.0**	**+0.7**
BKZ				IAmb		IAmb	22 36 06.6	
	comp=Z,9.4nm,0.9s							
LBZ	**Lake Benmore**	**46.15**	**152**	P		**P**	**22 36 04.3**	**+1.2**
GYA	**Guiyang**	**46.37**	**315**	*e*P		**P**	**22 36 05.8**	**+0.6**
GYA				pmax		pmax		
	comp=Z,10.0nm,1.0s							
KHZ	**Kahutara**	**46.44**	**147**	P		**P**	**22 36 06.1**	**+0.8**
KHZ				IAmb		IAmb	22 36 13.4	
	comp=Z,16nm,1.1s							
BHW	**Baring Head**	**46.50**	**145**	P		**P**	**22 36 07.5**	**+1.7**
BFZ	**Birch Farm**	**46.83**	**144**	P		**P**	**22 36 10.7**	**+2.3**
CMAR	**Chiang Mai Arr**	**48.26**	**301**	P		**P**	**22 36 19.0**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=104,slow=5.9,SNR=4.9							
HHC	**Hu-ho-hao-te**	**53.70**	**332**	*e*P		**P**	**22 37 01.4**	**+0.9**
HHC				pmax		pmax		
	comp=Z,9.0nm,1.2s							
HHC				pmax		pmax		
	comp=Z,28nm,5.4s							
LZH	**Lanzhou**	**54.39**	**322**	*e*P		**P**	**22 37 08.3**	**+2.5**
LZH				pP		sP	22 37 19.5	-1.4
LZH				sP		pP	22 37 24.1	+7.5
LZH				*e*PP		**PP**	**22 39 12.4**	**+4.2**
LZH				pmax		pmax		
	comp=Z,20nm,1.3s							
LZH				pmax		pmax		
	comp=Z,75nm,6.5s							
LZH				LR		LR		
	comp=N,240nm,15.0s							
LZH				LR		LR		
	comp=E,250nm,15.2s							
LZH				LR		LR		
	comp=Z,370nm,18.0s							
WMQ	**Urumqi**	**68.93**	**321**	*e*P		**P**	**22 38 44.8**	**+1.2**
WMQ				pmax		pmax		
	comp=Z,14nm,1.5s							
WMQ				pmax		pmax		
	comp=Z,50nm,6.3s							
MK31	**Makanchi Array**	**73.70**	**322**	P		**P**	**22 39 11.4**	**-0.9**
MKAR	**Makanchi Array**	**73.70**	**322**	P		**P**	**22 39 12.6**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=110,slow=7.6,SNR=26							
MKAR	**Makanchi Array**	**73.70**	**322**	P		**P**	**22 39 10.9**	**-1.4**
MAKZ	**Makanchi**	**73.90**	**322**	P		**P**	**22 39 13.7**	**+0.3**
MAKZ				IAmb		IAmb	22 39 14.5	
	comp=Z,5.9nm,0.9s							
NIL	**Nilore**	**75.23**	**307**	P		**P**	**22 39 21.3**	**-0.1**
NIL				IAmb		IAmb	22 39 22.8	
	comp=Z,7.6nm,0.6s							
ZALV	**Zalesovo Beam**	**75.75**	**329**	P		**P**	**22 39 23.0**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=108,slow=4.8,SNR=3.5							
ZALV	**Zalesovo Beam**	**75.75**	**329**	P		**P**	**22 39 22.6**	**-1.4**
CNBA	**Chernabura Isl**	**77.31**	**31**	P		**P**	**22 39 32.1**	**-0.6**
CNBA				IAmb		IAmb	22 39 45.3	
	comp=Z,4.4nm,1.0s							
KURK	**Kurchatov**	**77.61**	**325**	P		**P**	**22 39 33.4**	**-1.0**
KURK				IAmb		IAmb	22 39 45.6	
	comp=Z,4.4nm,1.1s							
KKAR	**Karatay Array**	**80.08**	**315**	P		**P**	**22 39 48.4**	**+0.1**
NRIK	**Noril'sk**	**83.19**	**343**	P		**P**	**22 40 03.5**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=100,slow=5.5,SNR=5.1							
IMAR	**Indian Mountai**	**85.02**	**22**	P		**P**	**22 40 12.8**	**-0.7**
RND	**Reindeer**	**85.95**	**25**	P		**P**	**22 40 17.1**	**-1.1**
WRH	**Wood River Hil**	**86.63**	**24**	P		**P**	**22 40 20.2**	**-1.3**
WRH				IAmb		IAmb	22 40 21.1	
	comp=Z,4.1nm,1.0s							
CCB	**Clear Creek Bu**	**86.81**	**24**	P		**P**	**22 40 21.0**	**-1.4**
CCB				IAmb		IAmb	22 40 21.4	
	comp=Z,5.9nm,0.8s							
IL31		**87.22**	**24**	IAmb		IAmb	22 40 23.0	
	comp=Z,2.8nm,0.8s							
ILAR	**Eielson Array**	**87.22**	**24**	P		**P**	**22 40 22.5**	**-1.9**
	comp=Z,2.4nm,0.7s,baz=257,slow=4.9,SNR=20							
RIDG	**Independent Ri**	**87.75**	**25**	IAmb		IAmb	22 40 38.8	
	comp=Z,5.9nm,1.0s							
DOT	**Dot Lake**	**88.06**	**25**	P		**P**	**22 40 27.7**	**-0.7**
DOT				IAmb		IAmb	22 40 28.7	
	comp=Z,3.9nm,0.9s							
ABKAR	**Akbulak array**	**88.66**	**320**	P		**P**	**22 40 30.5**	**-1.1**
BCAR	**Beaver Creek A**	**88.89**	**26**	P		**P**	**22 40 32.2**	**-0.2**
BMAR	**Burnt Mountain**	**88.94**	**22**	P		**P**	**22 40 32.2**	**-0.3**
EGAK	**Eagle**	**89.58**	**25**	P		**P**	**22 40 34.9**	**-0.6**
EGAK				IAmb		IAmb	22 40 36.5	
	comp=Z,3.2nm,0.8s							
GERES	**GERESS Array B**	**118.35**	**324**	PKP		**PKPdf**	**22 46 25.8**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=35,slow=3.6,SNR=1.9							
GERES	**GERESS Array B**	**118.35**	**324**			**PKPdf**	**22 46 25.1**	**-0.8**
PLCA	**Paso Flores**	**125.38**	**150**	PKP		**PKiKP**	**22 46 41.1**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=263,slow=3.7,SNR=3.9							
PLCA	**Paso Flores**	**125.38**	**150**			**PKPdf**	**22 46 39.5**	**-0.2**
SCHQ	**Schefferville**	**125.78**	**20**	PKP		**PKiKP**	**22 46 40.3**	**0.0**
	comp=Z,1.2nm,0.6s,baz=91,slow=19,SNR=3.5							
SCHQ	**Schefferville**	**125.78**	**20**			**PKPdf**	**22 46 38.6**	**-1.3**
TORD	**Torodi Ar. Bea**	**139.68**	**284**	PKP		**PKPdf**	**22 47 07.6**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=91,slow=2.2,SNR=1.9							
TORD	**Torodi Ar. Bea**	**139.68**	**284**			**PKPdf**	**22 47 05.5**	**-1.6**
LPAZ	**La Paz**	**143.54**	**127**	PKP		**PKPdf**	**22 47 14.0**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=262,slow=8.3,SNR=5.1							
LPAZ	**La Paz**	**143.54**	**127**			PKPbc	22 47 12.6	+0.5
ROSC	**El Rosal**	**144.31**	**89**	PKP		**PKPdf**	**22 47 15.1**	**-0.9**
	comp=Z,14nm,0.6s,baz=171,slow=8.4,SNR=10							
ROSC	**El Rosal**	**144.31**	**89**			**PKPab**	**22 47 13.9**	**0.0**
DBIC	**Dimbokro**	**146.55**	**274**	PKPbc		**PKPbc**	**22 47 20.2**	**-0.5**
	comp=Z,4.1nm,0.8s,baz=111,slow=3.5,SNR=6.2							
DBIC	**Dimbokro**	**146.55**	**274**			**PKPdf**	**22 47 19.4**	**+0.2**

KRNET ***15*** *23:15:31.7±0.1,39°66N×78°07E, mb3.2*
NNC ***15*** *23:15:32.5±2.4,39°95N×77°21E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=18.1km s-min=15.5km az=92.0*
SOME ***15*** *23:15:32.5, 40°00N×77°52E, h5km*
ISC 15 23:15:26.4±2.8,39°8N±0°1×77°35E±0°05, h10km, n32, σ1§29/52, 15C-9D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.98**	**10**	⇓	*i*P	**Pg**	**23 16 05.6**	**+1.2**
	baz=54							
TARG				⇓	*i*S	**Sg**	**23 16 30.1**	**0.0**
	baz=54							
KDJ	**Kajisay**	**2.35**	**357**	⇑	*i*P	**Pg**	**23 16 11.7**	**+0.2**
	baz=45							
KDJ				⇑	*i*S	**Sg**	**23 16 41.6**	**-0.5**
	baz=45							
ULHL	**Ulahol**	**2.61**	**342**	⇓	*e*P	**Pg**	**23 16 17.2**	**+0.9**
	baz=32							
ULHL				⇓	*i*S	**Sg**	**23 16 50.6**	**+0.5**
	baz=32							
KZA	**Kyzart**	**2.80**	**326**	⇓	*i*P	**Pg**	**23 16 21.6**	**+1.6**
	baz=19							
KZA				⇓	*i*S	**Sg**	**23 16 57.9**	**+1.6**
	baz=19							
PRZ	**Przheval'sk**	**2.82**	**16**	⇓	*i*P	**Pb**	**23 16 16.0**	**-0.9**
	baz=5.0							
PRZ				⇓	*i*S	**Sn**	**23 16 47.9**	**+2.1**
	baz=5.0							
BOOM	**Boomskoye usch**	**2.91**	**339**	⇑	*i*P	**Pg**	**23 16 21.8**	**-0.4**
	baz=31							
BOOM				⇑	*i*S	**Sg**	**23 16 58.3**	**-1.7**
	baz=31							
ARLS	**Aral**	**3.10**	**313**	⇑	*e*P	**Pg**	**23 16 26.1**	**+0.3**
	baz=9.0							
ARLS				⇑	*i*S	**Sg**	**23 17 06.1**	**+0.1**
	baz=9.0							
UCH	**Uchtor**	**3.26**	**320**	⇑	*e*P	**Pg**	**23 16 28.4**	**-0.4**
	baz=15							
UCH				⇑	*i*S	**Sg**	**23 17 10.1**	**-0.9**
	baz=15							
TNSS	**Tian-Shan**	**3.27**	**355**		*e*P	**Pg**	**23 16 29.9**	**+0.8**
	5.6nm,0.5s							
TNSS					*e*S	**Sg**	**23 17 11.3**	**-0.2**
	13nm,0.4s							
TNSS	**Tian-Shan**	**3.27**	**355**	Pg		**Pg**	**23 16 29.9**	**+0.8**
	5.6nm,0.5s							
TNSS				Lg		Lg	23 17 11.1	
	13nm,0.4s							
IZV	**Izvestkoviy**	**3.30**	**351**		*e*P	**Pg**	**23 16 30.5**	**+0.8**
	4.2nm,0.4s							
IZV					*e*S	**Sg**	**23 17 12.2**	**-0.3**
	16nm,0.4s							
IZV	**Izvestkoviy**	**3.30**	**351**	Pg		**Pg**	**23 16 30.5**	**+0.8**
	4.2nm,0.4s							
IZV				Lg		Lg	23 17 12.2	
	16nm,0.4s							
SATY	**Saty**	**3.37**	**13**		*e*P	**Pg**	**23 16 30.9**	**-0.1**
	2.5nm,0.4s							
SATY					*e*S	**Sg**	**23 17 12.4**	**-2.3**
	12nm,0.6s							
SATY	**Saty**	**3.37**	**13**	Pg		**Pg**	**23 16 30.7**	**-0.3**
	2.5nm,0.4s							
SATY				Lg		Lg	23 17 12.4	
	12nm,0.6s							
MDOK	**Medeo**	**3.39**	**356**		*e*P	**Pg**	**23 16 31.7**	**+0.3**
	3.2nm,0.3s							
MDOK					*e*S	**Sg**	**23 17 14.2**	**-1.1**
	11nm,0.5s							
MDOK	**Medeo**	**3.39**	**356**	⇑	Pg	**Pg**	**23 16 30.7**	**-0.6**
	8.3nm,1.3s							
MDOK				⇑	Lg	Lg	23 17 13.3	
	8.0nm,0.5s							
MDOK	**Medeo**	**3.39**	**356**	Pg		**Pg**	**23 16 32.0**	**+0.7**
	3.2nm,0.3s							
MDOK				Lg		Lg	23 17 14.4	
	11nm,0.5s							
TKM2	**Tokmak 2**	**3.41**	**338**	⇑	Pg	**Pg**	**23 16 30.7**	**-0.9**
	6.5nm,1.4s							
TKM2				⇓	Lg	Lg	23 17 15.0	
	2.8nm,0.7s							
MTBS	**Maitube**	**3.42**	**349**		*e*P	**Pg**	**23 16 32.6**	**+0.7**
	2.1nm,0.1s							
MTBS					*e*S	**Sg**	**23 17 15.7**	**-0.5**
	4.0nm,0.1s							
MTBS	**Maitube**	**3.42**	**349**	Pg		**Pg**	**23 16 32.7**	**+0.8**
	2.1nm,0.1s							
MTBS				Lg		Lg	23 17 15.7	
KST	**Kastek**	**3.43**	**343**		*e*P	**Pg**	**23 16 33.4**	**+1.3**
	3.2nm,0.3s							
KST					*e*S	**Sg**	**23 17 16.7**	**+0.3**
	3.6nm,0.3s							
KST	**Kastek**	**3.43**	**343**	Pg		**Pg**	**23 16 33.2**	**+1.1**
	3.2nm,0.3s							
KST				Lg		Lg	23 17 16.6	
	3.6nm,0.3s							
KOTS	**Kotyrbulak**	**3.46**	**357**		*e*P	**Pg**	**23 16 33.1**	**+0.5**
	5.9nm,0.2s							
KOTS					*e*S	**Sg**	**23 17 16.5**	**-1.0**
	30nm,0.5s							
KOTS	**Kotyrbulak**	**3.46**	**357**	Pg		**Pg**	**23 16 33.1**	**+0.5**
	5.9nm,0.2s							
KOTS				Lg		Lg	23 17 16.5	
	30nm,0.5s							
AAK	**Ala-Archa**	**3.58**	**324**	⇑	Pg	**Pb**	**23 16 31.1**	**+1.2**
	1.7nm,0.6s							
AAK				⇑	Lg	Lg	23 17 21.2	
	5.6nm,0.8s							
AML	**Almayashu**	**3.63**	**312**	⇑	*e*P	**Pg**	**23 16 34.1**	**-1.9**
	baz=8.0							
AML				⇑	*e*S	**Sg**	**23 17 19.9**	**-3.2**
	baz=8.0							
SHLS	**Shalkode**	**3.73**	**24**		*e*P	**Pg**	**23 16 39.2**	**+1.4**
	2.3nm,0.2s							
SHLS					*e*S	**Sg**	**23 17 27.2**	**+1.0**
	8.6nm,0.6s							
KPKS	**Kokpek**	**3.82**	**15**		*e*P	**Pg**	**23 16 38.0**	**-1.5**
	2.8nm,0.6s							
KPKS					*e*S	**Sg**	**23 17 24.9**	**-4.1**
	6.5nm,0.5s							
CHKK	**Chushkaly**	**4.08**	**356**		*e*P	**Pg**	**23 16 44.1**	**-0.5**
	0.9nm,0.1s							
CHKK					*e*S	**Sg**	**23 17 35.4**	**-2.1**
	5.5nm,0.3s							
CHKK	**Chushkaly**	**4.08**	**356**	Pg		**Pg**	**23 16 44.1**	**-0.5**
	0.9nm,0.1s							
CHKK				Lg		Lg	23 17 35.3	
	5.5nm,0.3s							
KUU	**Kurty**	**4.18**	**350**		*e*P	**Pg**	**23 16 46.1**	**-0.4**
	1.2nm,0.3s							
KUU					*e*S	**Sg**	**23 17 38.8**	**-1.9**
	8.0nm,0.5s							
KUU	**Kurty**	**4.18**	**350**	Pg		**Pg**	**23 16 46.1**	**-0.4**
	1.2nm,0.3s							
KUU				Lg		Lg	23 17 38.8	
	8.0nm,0.5s							

IDC ***15*** *23:24:43.2±1.4,30°51N×50°27E, h0km, mb3.7/9, mb1 3.9/13, mb1mx3.7/45, mbtmp3.7/13, ML3.2/4, MS3.0/6, Ms1 3.0/6, ms1mx2.6/47, Error ellipse: s-maj=28.5km s-min=20.5km az=169.0*
TEH ***15*** *23:24:45.4, 30°65N×50°35E, h10km, ML4.1*
THR ***15*** *23:24:46.9±0.3, 30°71N×50°47E, h18km±4km, ML3.9*
DSN ***15*** *23:24:49.5±1.3, 30°09N×50°33E, h10km, ML4.6/5, Error ellipse: s-maj=40.9km s-min=9.9km az=38.0*
ISC 15 23:24:46.8±0.7,30°52N±0°06×50°33E±0°06, h25km, n68, σ1§34/69, mb3.7/8, MS3.0/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KLNJ	**Kolanjah**	**1.19**	**66**	*e*			23 25 33.3	
KLNJ				*e*Pg		**Pn**	**23 25 06.6**	**-1.5**
IBRJ	**Brojen**	**1.59**	**30**	*e*Pg		**Pn**	**23 25 14.3**	**+0.7**
AHWZ	**Ahwaz**	**1.66**	**299**	*e*Pg		**Pn**	**23 25 15.5**	**+1.2**
JHBN	**Jahan bin**	**1.73**	**9**	*e*Pn		**Pn**	**23 25 15.2**	**-0.3**
AHBU	**AHRAM**	**1.85**	**153**	*e*Pn		**Pb**	**23 25 21.5**	**+1.5**
ROKH	**ROKH**	**1.91**	**18**	*e*Pn		**Pn**	**23 25 18.8**	**+0.8**
ROKH				*e*			23 25 51.3	
SHGR	**Shooshtar-Gavs**	**2.05**	**321**	*e*Pn		**Pn**	**23 25 21.8**	**+2.1**
SHGR				*e*Sg		**Sb**	**23 25 49.6**	**+1.2**
SHGR	**Shooshtar-Gavs**	**2.05**	**321**	*e*Pn		**Pn**	**23 25 21.8**	**+2.1**
SHI	**Shiraz**	**2.09**	**114**	*e*Pn		**Pb**	**23 25 23.5**	**-0.5**
SHI				*e*			23 26 01.9	
IRAM	**Rameshe'h**	**2.17**	**53**	*e*Pn		**Pn**	**23 25 23.5**	**+1.9**
IPIR	**Pirpir**	**2.21**	**12**	*e*Pn		**Pn**	**23 25 23.0**	**+0.9**
IGAR	**Gharneh**	**2.38**	**38**	*e*Pn		**Pn**	**23 25 25.6**	**+1.2**
IZEF	**Zefreh**	**2.91**	**35**	*e*Pn		**Pn**	**23 25 32.8**	**+1.0**
IKLH	**Kolahrood**	**2.98**	**21**	*e*Pn		**Pn**	**23 25 34.1**	**+1.4**
ISAD	**Sadrabad**	**3.19**	**63**	*e*Pn		**Pn**	**23 25 37.7**	**+2.1**
KHMZ	**Khomeyn**	**3.22**	**354**	*e*Pn		**Pn**	**23 25 36.4**	**+0.4**
KHMZ				*e*Sg		**Sb**	**23 26 22.2**	**-0.1**
KHMZ	**Khomeyn**	**3.22**	**354**	*e*Pn		**Pn**	**23 25 36.4**	**+0.4**
BMDN	**Meydan**	**3.39**	**338**	*e*Pn		**Pn**	**23 25 39.3**	**+1.0**
IMEH	**Mehriz**	**3.78**	**76**	*e*Pn		**Pn**	**23 25 46.1**	**+2.4**
ICHK	**Chekchek**	**3.88**	**63**	*e*Pn		**Pn**	**23 25 46.9**	**+1.8**
ANAR	**Anarak**	**3.93**	**47**	*e*Pn		**Pn**	**23 25 47.1**	**+1.5**
HSAM	**Samen**	**3.96**	**339**	*e*Pn		**Pn**	**23 25 46.2**	**+0.1**
ASAO	**Ashtian**	**4.02**	**356**	*e*Pn		**Pn**	**23 25 47.5**	**+0.5**
ASAO	**Ashtian**	**4.02**	**356**	*e*Pn		**Pn**	**23 25 47.5**	**+0.5**
YZKH	**Yazd**	**4.09**	**62**	IAML			23 26 44.4	
	comp=N,54nm,0.6s							
YZKH				IAML			23 26 47.6	
	comp=E,56nm,0.4s							
IKOM	**Komasi**	**4.35**	**327**	*e*Pn		**Pn**	**23 25 51.9**	**+0.4**

Ms1 2.5/1, ms1mx2.0/40, Error ellipse: s-maj=119.5km s-min=54.8km az=62.0
*THE **15** 23:25:35.8, 35°.83N×23°.07E, h4km, ML3.1/6, Error ellipse: s-maj=1.3km s-min=0.4km az=63.0*
*ISK **15** 23:25:35.9, 35°.91N×23°.25E, h14km, ML3.2/15*
*ATH **15** 23:25:36.6, 35°.93N×23°.27E, h20km±1km, ML3.0/17, Error ellipse: s-maj=2.1km s-min=0.8km az=231.0*

ISC 15 23:25:36.5±0.9, **35°.88N**±0°.03×**23°.20E**±0°.03, **h21**km±2km, **n168**, σ1**9**30/194, **mb3.3**/3, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANKY	**Antikythira Is**	**0.09**	**100**	P		**Pb**	**23 25 40.0**	**-0.5**
ANKY				S		**Sb**	**23 25 42.8**	**-0.5**
	15μm,0.4s							
ANKY	**Antikythira Is**	**0.09**	**100**	P		**Pb**	**23 25 40.0**	**-0.5**
ANKY				S		**Sb**	**23 25 42.8**	**-0.5**
ANKY				AML	AML		23 25 43.8	
	comp=E,43308μm,0.5s							
ANKY				AML	AML		23 25 43.9	
	comp=N,18216μm,0.2s							
ANKY	**Antikythira Is**	**0.09**	**100**	P		**Pb**	**23 25 40.0**	**-0.5**
ANKY				S		**Sb**	**23 25 42.8**	**-0.5**
ANKY				AML	AML		23 25 43.8	
	comp=E,43308μm,0.5s							
ANKY				AML	AML		23 25 43.9	
	comp=N,18216μm,0.2s							
KTHA	**Kythira Island**	**0.39**	**344**	P		**Pb**	**23 25 44.0**	**-0.6**
KTHA				S		**Sb**	**23 25 50.5**	**+0.4**
KTHA	**Kythira Island**	**0.39**	**344**	P		**Pb**	**23 25 44.0**	**-0.6**
KTHA				S		**Sb**	**23 25 50.5**	**+0.4**
KTHA				AML	AML		23 25 51.0	
	comp=N,7217μm,0.4s							
KTHA				AML	AML		23 25 51.3	
	comp=E,12486μm,0.3s							
KTHA	**Kythira Island**	**0.39**	**344**	P		**Pb**	**23 25 44.0**	**-0.6**
KTHA				S		**Sb**	**23 25 50.5**	**+0.4**
KTHA				AML	AML		23 25 51.0	
	comp=N,7217μm,0.4s							
KTHA				AML	AML		23 25 51.3	
	comp=E,12486μm,0.3s							
KTHA	**Kythira Island**	**0.39**	**344**	PG		**Pb**	**23 25 44.1**	**-0.6**
KTHA				SG		**Sb**	**23 25 49.9**	**-0.2**
RODP	**Rodopos**	**0.56**	**125**	P		**Pb**	**23 25 47.9**	**+0.2**
RODP				S		**Sn**	**23 25 57.0**	**-0.8**
	comp=E,1μm,0.5s							
RODP	**Rodopos**	**0.56**	**125**	PG		**Pb**	**23 25 47.4**	**-0.3**
KNDR	**Palaiochora Ch**	**0.76**	**148**	P		**Pb**	**23 25 49.6**	**-1.4**
KNDR				S		**Sb**	**23 26 00.6**	**-0.3**
	comp=E,1μm,0.3s							
KNDR	**Palaiochora Ch**	**0.76**	**148**	PG		**Pb**	**23 25 50.3**	**-0.7**
KNDR				SG		**Sb**	**23 26 01.1**	**+0.2**
IMMV	**Iera Moni Meta**	**0.77**	**123**	P		**Pn**	**23 25 51.3**	**-0.7**
IMMV				S		**Sn**	**23 26 03.7**	**+0.8**
	comp=E,3μm,0.5s							
IMMV	**Iera Moni Meta**	**0.77**	**123**	P		**Pn**	**23 25 51.3**	**-0.7**
IMMV				S		**Sn**	**23 26 01.9**	**-1.0**
IMMV				AML	AML		23 26 05.8	
	comp=E,5063μm,0.3s							
IMMV				AML	AML		23 26 06.2	
	comp=N,4986μm,0.6s							
IMMV	**Iera Moni Meta**	**0.77**	**123**	P		**Pn**	**23 25 51.3**	**-0.7**
IMMV				S		**Sn**	**23 26 01.9**	**-1.0**
IMMV				AML	AML		23 26 05.8	
	comp=E,5063μm,0.3s							
IMMV				AML	AML		23 26 06.2	
	comp=N,4986μm,0.6s							
IMMV	**Iera Moni Meta**	**0.77**	**123**	PG		**Pn**	**23 25 51.4**	**-0.7**
CHAN	**Chania**	**0.78**	**117**	P		**Pn**	**23 25 51.8**	**-0.4**
MNVA	**Monemvasia**	**0.81**	**351**	P		**Pb**	**23 25 51.9**	**0.0**
MNVA				S		**Sb**	**23 26 02.7**	**+0.2**
MNVA	**Monemvasia**	**0.81**	**351**	P		**Pb**	**23 25 51.9**	**0.0**
MNVA				S		**Sb**	**23 26 02.7**	**+0.2**
VLI	**Veliai**	**0.86**	**346**	P		**Pb**	**23 25 52.3**	**-0.4**
VLI				S		**Sb**	**23 26 04.0**	**+0.2**
VLI	**Veliai**	**0.86**	**346**	P		**Pb**	**23 25 52.3**	**-0.4**
VLI				S		**Sb**	**23 26 03.7**	**-0.1**
VLI				AML	AML		23 26 04.9	
	comp=N,2362μm,0.4s							
VLI				AML	AML		23 26 05.3	
	comp=E,2831μm,0.6s							
VLI	**Veliai**	**0.86**	**346**	P		**Pb**	**23 25 52.3**	**-0.4**
VLI				S		**Sb**	**23 26 03.7**	**-0.1**
VLI				AML	AML		23 26 04.9	
	comp=N,2362μm,0.4s							
VLI				AML	AML		23 26 05.3	
	comp=E,2831μm,0.6s							
VAM	**Vamos**	**0.94**	**120**	P		**Pn**	**23 25 54.6**	**+0.1**
VAM				S		**Sn**	**23 26 08.7**	**+1.4**
	comp=E,4μm,0.3s							
VAM	**Vamos**	**0.94**	**120**	P		**Pn**	**23 25 54.7**	**+0.1**
VAM				S		**Sn**	**23 26 07.8**	**+0.5**
VAM				AML	AML		23 26 13.5	
	comp=N,4127μm,0.3s							
VAM				AML	AML		23 26 13.9	
	comp=E,3249μm,0.3s							
VAM	**Vamos**	**0.94**	**120**	P		**Pn**	**23 25 54.7**	**+0.1**
VAM				S		**Sn**	**23 26 07.8**	**+0.5**
VAM				AML	AML		23 26 13.5	
	comp=N,4127μm,0.3s							
VAM				AML	AML		23 26 13.9	
	comp=E,3249μm,0.3s							
MHLO	**Agia Marina, M**	**1.26**	**50**	P		**Pb**	**23 26 01.1**	**+1.5**
MHLO	**Agia Marina, M**	**1.26**	**50**	P		**Pb**	**23 25 59.7**	**+0.1**
MHLO				AML	AML		23 26 28.8	
	comp=N,2724μm,0.4s							
MHLO				AML	AML		23 26 30.1	
	comp=E,1954μm,0.4s							
MHLO	**Agia Marina, M**	**1.26**	**50**	P		**Pb**	**23 25 59.7**	**+0.1**
MHLO				AML	AML		23 26 28.8	
	comp=N,2724μm,0.4s							
MHLO				AML	AML		23 26 30.1	
	comp=E,1954μm,0.4s							
GVD	**Gavdhos**	**1.27**	**145**	P		**Pb**	**23 25 59.7**	**0.0**
GVD				S		**Sb**	**23 26 18.1**	**+2.5**
	comp=E,638nm,0.5s							
GVD	**Gavdhos**	**1.27**	**145**	P		**Pb**	**23 26 00.2**	**+0.5**
GVD				AML	AML		23 26 26.1	
	comp=E,1265μm,0.7s							
GVD				AML	AML		23 26 26.3	
	comp=N,1262μm,0.3s							
GVD	**Gavdhos**	**1.27**	**145**	P		**Pb**	**23 26 00.2**	**+0.5**
GVD				AML	AML		23 26 26.1	
	comp=E,1265μm,0.7s							
GVD				AML	AML		23 26 26.3	
	comp=N,1262μm,0.3s							
GVD	**Gavdhos**	**1.27**	**145**	PN		**Pb**	**23 25 59.9**	**+0.2**
MHLA	**Plaka, Milos I**	**1.31**	**49**	P		**Pb**	**23 26 01.1**	**+0.6**
MHLA				AML	AML		23 26 31.9	
	comp=N,678μm,0.7s							
MHLA				AML	AML		23 26 35.4	
	comp=E,770μm,0.9s							
MHLA	**Plaka, Milos I**	**1.31**	**49**	P		**Pb**	**23 26 01.1**	**+0.6**
MHLA				AML	AML		23 26 31.9	
	comp=N,678μm,0.7s							
MHLA				AML	AML		23 26 35.4	
	comp=E,770μm,0.9s							
YDRA	**Hydra**	**1.48**	**8**	P		**Pb**	**23 26 03.5**	**+0.2**
YDRA	**Hydra**	**1.48**	**8**	P		**Pb**	**23 26 03.5**	**+0.2**
KRND	**KRANIDI**	**1.50**	**359**	P		**Pb**	**23 26 03.5**	**-0.1**
KRND				S		**Sb**	**23 26 24.6**	**+2.4**
KRND	**KRANIDI**	**1.50**	**359**	P		**Pb**	**23 26 03.9**	**+0.3**
KRND				AML	AML		23 26 29.7	
	comp=E,666μm,0.4s							
KRND				AML	AML		23 26 31.9	
	comp=N,650μm,0.4s							
KRND	**KRANIDI**	**1.50**	**359**	P		**Pb**	**23 26 03.9**	**+0.3**
KRND				AML	AML		23 26 29.7	
	comp=E,666μm,0.4s							
KRND				AML	AML		23 26 31.9	
	comp=N,650μm,0.4s							
IDI	**Anoyia**	**1.50**	**113**	Pn		**Pb**	**23 26 04.5**	**+0.8**
	comp=N,3.9nm,0.3s,baz=263,slow=11,SNR=56							
IDI				Sn		**Sb**	**23 26 23.0**	**+0.7**
	comp=N,16nm,0.3s,baz=50,slow=9.7,SNR=8.1							
IDI	**Anoyia**	**1.50**	**113**	PN		**Pb**	**23 26 02.7**	**-1.0**
PYL	**PYLOS**	**1.55**	**311**	P		**Pn**	**23 26 03.0**	**+0.2**
PYL	**PYLOS**	**1.55**	**311**	P		**Pn**	**23 26 03.6**	**+0.8**
PYL	**PYLOS**	**1.55**	**311**	P		**Pn**	**23 26 03.6**	**+0.8**
SIVA	**Sivas**	**1.57**	**123**	P		**Pb**	**23 26 05.6**	**+0.7**
SIVA				AML	AML		23 26 39.5	
	comp=N,962μm,0.5s							
SIVA				AML	AML		23 26 44.8	
	comp=E,1338μm,0.7s							
SIVA	**Sivas**	**1.57**	**123**	P		**Pb**	**23 26 05.6**	**+0.7**
SIVA				AML	AML		23 26 39.5	
	comp=N,962μm,0.5s							
SIVA				AML	AML		23 26 44.8	
	comp=E,1338μm,0.7s							
DID	**Didima**	**1.62**	**1**	P		**Pb**	**23 26 05.3**	**-0.4**
DID	**Didima**	**1.62**	**1**	P		**Pb**	**23 26 05.3**	**-0.4**
DID	**Didima**	**1.62**	**1**	P		**Pb**	**23 26 05.3**	**-0.4**
VLX	**Vlachokerasia**	**1.62**	**336**	P		**Pb**	**23 26 06.0**	**+0.2**
VLX	**Vlachokerasia**	**1.62**	**336**	P		**Pb**	**23 26 06.0**	**+0.2**
SERI	**Serifos**	**1.65**	**39**	P		**Pn**	**23 26 04.7**	**+0.5**
SERI	**Serifos**	**1.65**	**39**	P		**Pn**	**23 26 04.7**	**+0.5**
SERI	**Serifos**	**1.65**	**39**	P		**Pn**	**23 26 04.7**	**+0.5**
ITM	**Ithomi**	**1.65**	**322**	P		**Pn**	**23 26 04.7**	**+0.5**
ITM	**Ithomi**	**1.65**	**322**	P		**Pb**	**23 26 06.3**	**+0.1**
ITM				AML	AML		23 26 35.5	
	comp=N,318μm,0.6s							
ITM				AML	AML		23 26 41.4	
	comp=E,309μm,0.8s							
ITM	**Ithomi**	**1.65**	**322**	P		**Pb**	**23 26 06.3**	**+0.1**
ITM				AML	AML		23 26 35.5	
	comp=N,318μm,0.6s							
ITM				AML	AML		23 26 41.4	
	comp=E,309μm,0.8s							
ITM	**Ithomi**	**1.65**	**322**	PN		**Pb**	**23 26 05.5**	**-0.7**
HRKL	**Herakleio**	**1.65**	**110**	PN		**Pb**	**23 26 05.2**	**-1.0**
TRIP	**Tripoli**	**1.80**	**336**	P		**Pb**	**23 26 09.3**	**+0.5**
TRIP	**Tripoli**	**1.80**	**336**	P		**Pb**	**23 26 09.3**	**+0.5**
THR5	**Thira Island,**	**1.82**	**72**	P		**Pb**	**23 26 07.9**	**-1.2**
THR5	**Thira Island,**	**1.82**	**72**	P		**Pb**	**23 26 07.9**	**-1.2**
THR5	**Thira Island,**	**1.82**	**72**	P		**Pb**	**23 26 07.9**	**-1.2**
SAP3	**Santorini-Thir**	**1.82**	**72**	P		**Pb**	**23 26 08.1**	**-1.1**
SAP3	**Santorini-Thir**	**1.82**	**72**	P		**Pb**	**23 26 08.1**	**-1.1**
THR6	**Thira Island,**	**1.84**	**74**	P		**Pb**	**23 26 08.6**	**-0.9**
THR6	**Thira Island,**	**1.84**	**74**	P		**Pb**	**23 26 08.6**	**-0.9**
THR6	**Thira Island,**	**1.84**	**74**	P		**Pb**	**23 26 08.6**	**-0.9**
THR3	**Thira Island,**	**1.86**	**73**	P		**Pb**	**23 26 08.5**	**-1.3**
THR3	**Thira Island,**	**1.86**	**73**	P		**Pb**	**23 26 08.5**	**-1.3**
THR3	**Thira Island,**	**1.86**	**73**	P		**Pb**	**23 26 08.5**	**-1.3**
CMBO	**Columbo, Santo**	**1.88**	**71**	P		**Pb**	**23 26 09.2**	**-1.0**
CMBO				AML	AML		23 26 44.1	
	comp=N,1121μm,0.6s							
CMBO				AML	AML		23 26 45.1	
	comp=E,1279μm,0.6s							
CMBO	**Columbo, Santo**	**1.88**	**71**	P		**Pb**	**23 26 09.2**	**-1.0**
CMBO				AML	AML		23 26 44.1	
	comp=N,1121μm,0.6s							
CMBO				AML	AML		23 26 45.1	
	comp=E,1279μm,0.6s							
SNT1	**Gialos, Santor**	**1.88**	**73**	P		**Pb**	**23 26 09.1**	**-1.0**
SNT1	**Gialos, Santor**	**1.88**	**73**	P		**Pb**	**23 26 09.1**	**-1.0**
IOSP	**Ios island**	**1.89**	**63**	P		**Pb**	**23 26 08.7**	**-1.5**
IOSP	**Ios island**	**1.89**	**63**	P		**Pb**	**23 26 08.7**	**-1.5**
IOSP				AML	AML		23 26 41.7	
	comp=N,554μm,0.3s							
IOSP				AML	AML		23 26 42.2	
	comp=E,366μm,0.3s							
IOSP	**Ios island**	**1.89**	**63**	P		**Pb**	**23 26 08.7**	**-1.5**
IOSP				AML	AML		23 26 41.7	
	comp=N,554μm,0.3s							
IOSP				AML	AML		23 26 42.2	
	comp=E,366μm,0.3s							
SANT	**Santorini**	**1.90**	**74**	P		**Pb**	**23 26 09.4**	**-1.0**
SANT	**Santorini**	**1.90**	**74**	P		**Pb**	**23 26 09.4**	**-1.0**
SANT	**Santorini**	**1.90**	**74**	PN		**Pn**	**23 26 08.2**	**+0.6**
LAST	**Lasithi**	**2.00**	**110**	P		**Pb**	**23 26 10.8**	**-1.3**
LAST	**Lasithi**	**2.00**	**110**	P		**Pb**	**23 26 11.1**	**-1.0**
LAST				AML	AML		23 26 44.0	
	comp=N,480μm,0.7s							
LAST				AML	AML		23 26 51.2	
	comp=E,394μm,0.6s							
LAST	**Lasithi**	**2.00**	**110**	P		**Pb**	**23 26 11.1**	**-1.0**
LAST				AML	AML		23 26 44.0	
	comp=N,480μm,0.7s							
LAST				AML	AML		23 26 51.2	
	comp=E,394μm,0.6s							
VLY	**Voula,Athens**	**2.02**	**14**	P		**Pb**	**23 26 10.7**	**-1.9**
VLY	**Voula,Athens**	**2.02**	**14**	P		**Pn**	**23 26 10.4**	**+1.0**
VLY	**Voula,Athens**	**2.02**	**14**	P		**Pn**	**23 26 10.4**	**+1.0**
AMT	**Artemida-Makis**	**2.04**	**324**	P		**Pb**	**23 26 12.6**	**-0.1**
AMT	**Artemida-Makis**	**2.04**	**324**	P		**Pb**	**23 26 12.6**	**-0.1**
NPS	**Neapolis**	**2.06**	**107**	P		**Pb**	**23 26 11.5**	**-1.7**
NPS	**Neapolis**	**2.06**	**107**	P		**Pb**	**23 26 11.5**	**-1.7**
NPS				AML	AML		23 26 49.7	
	comp=E,455μm,0.3s							
NPS				AML	AML		23 26 49.9	
	comp=N,315μm,0.4s							
NPS	**Neapolis**	**2.06**	**107**	P		**Pb**	**23 26 11.5**	**-1.7**
NPS				AML	AML		23 26 49.7	
	comp=E,455μm,0.3s							
NPS				AML	AML		23 26 49.9	
	comp=N,315μm,0.4s							
ATHU	**Athens Univers**	**2.13**	**13**	P		**Pb**	**23 26 12.5**	**-1.9**
ATHU	**Athens Univers**	**2.13**	**13**	P		**Pb**	**23 26 12.5**	**-1.9**
ATHU	**Athens Univers**	**2.13**	**13**	P		**Pb**	**23 26 12.5**	**-1.9**
ANAF	**Anafi Island**	**2.14**	**76**	P		**Pb**	**23 26 12.7**	**-1.8**
ANAF	**Anafi Island**	**2.14**	**76**	P		**Pb**	**23 26 12.7**	**-1.8**
ANAF	**Anafi Island**	**2.14**	**76**	P		**Pb**	**23 26 12.7**	**-1.8**
GUR	**Goura**	**2.16**	**342**	P		**Pb**	**23 26 13.8**	**-1.1**
GUR	**Goura**	**2.16**	**342**	P		**Pb**	**23 26 13.8**	**-1.1**
APE	**Apeiranthos**	**2.22**	**57**	P		**Pn**	**23 26 13.1**	**+1.0**
APE	**Apeiranthos**	**2.22**	**57**	P		**Pn**	**23 26 13.1**	**+1.0**
APE				AML	AML		23 26 53.5	
	comp=E,145μm,0.4s							
APE				AML	AML		23 26 54.0	
	comp=N,154μm,0.3s							
APE	**Apeiranthos**	**2.22**	**57**	P		**Pn**	**23 26 13.1**	**+1.0**
APE				AML	AML		23 26 53.5	
	comp=E,145μm,0.4s							
APE				AML	AML		23 26 54.0	
	comp=N,154μm,0.3s							
APE	**Apeiranthos**	**2.22**	**57**	PN		**Pn**	**23 26 13.1**	**+1.0**
PTL	**Penteli**	**2.23**	**14**	P		**Pn**	**23 26 13.3**	**+1.1**
PTL	**Penteli**	**2.23**	**14**	P		**Pn**	**23 26 13.3**	**+1.1**
PTL	**Penteli**	**2.23**	**14**	P		**Pn**	**23 26 13.3**	**+1.1**
DION	**Dionisos Attik**	**2.27**	**15**	P		**Pn**	**23 26 14.0**	**+1.2**
DION	**Dionisos Attik**	**2.27**	**15**	P		**Pn**	**23 26 14.0**	**+1.2**
DION	**Dionisos Attik**	**2.27**	**15**	P		**Pn**	**23 26 14.0**	**+1.2**
VILL	**Villia**	**2.28**	**2**	P		**Pn**	**23 26 14.4**	**+1.5**
KLV	**Kalavryta, Ach**	**2.31**	**339**	P		**Pb**	**23 26 16.6**	**-1.0**
KLV	**Kalavryta, Ach**	**2.31**	**339**	P		**Pb**	**23 26 16.6**	**-1.0**
KLV				AML	AML		23 26 52.8	
	comp=E,112μm,0.5s							
KLV				AML	AML		23 26 54.7	
	comp=N,122μm,0.8s							
KLV	**Kalavryta, Ach**	**2.31**	**339**	P		**Pb**	**23 26 16.6**	**-1.0**
KLV				AML	AML		23 26 52.8	
	comp=E,112μm,0.5s							
KLV				AML	AML		23 26 54.7	
	comp=N,122μm,0.8s							
VIL2	**Platees**	**2.33**	**1**	P		**Pn**	**23 26 14.4**	**+0.9**
VIL2	**Platees**	**2.33**	**1**	P		**Pn**	**23 26 14.4**	**+0.9**
KARY	**Karystos**	**2.37**	**24**	P		**Pn**	**23 26 15.0**	**+1.0**
KARY	**Karystos**	**2.37**	**24**	P		**Pn**	**23 26 15.0**	**+1.0**
KARY	**Karystos**	**2.37**	**24**	P		**Pn**	**23 26 15.0**	**+1.0**
AMGA	**Amorgos Island**	**2.37**	**66**	P		**Pn**	**23 26 15.4**	**+1.2**
AMGA	**Amorgos Island**	**2.37**	**66**	P		**Pn**	**23 26 15.4**	**+1.2**
AMGA	**Amorgos Island**	**2.37**	**66**	P		**Pn**	**23 26 15.4**	**+1.2**
DRO	**Drossia**	**2.38**	**330**	P		**Pb**	**23 26 18.1**	**-0.6**
DRO	**Drossia**	**2.38**	**330**	P		**Pb**	**23 26 18.1**	**-0.6**
DRO	**Drossia**	**2.38**	**330**	P		**Pb**	**23 26 18.1**	**-0.6**
ZKR	**Zakros**	**2.58**	**106**	P		**Pb**	**23 26 19.2**	**-2.9**
ZKR	**Zakros**	**2.58**	**106**	P		**Pb**	**23 26 19.2**	**-2.9**
ZKR	**Zakros**	**2.58**	**106**	P		**Pb**	**23 26 19.2**	**-2.9**
ZKR	**Zakros**	**2.58**	**106**	PN		**Pn**	**23 26 18.5**	**+1.5**
TRIZ	**Trizonia**	**2.64**	**340**	P		**Pb**	**23 26 21.0**	**-2.0**
TRIZ	**Trizonia**	**2.64**	**340**	P		**Pb**	**23 26 21.0**	**-2.0**
TRIZ	**Trizonia**	**2.64**	**340**	P		**Pb**	**23 26 21.0**	**-2.0**
KALE	**Kalithea**	**2.64**	**342**	P		**Pb**	**23 26 21.1**	**-2.0**
KALE	**Kalithea**	**2.64**	**342**	P		**Pb**	**23 26 21.1**	**-2.0**
KALE	**Kalithea**	**2.64**	**342**	P		**Pb**	**23 26 21.1**	**-2.0**
MRKA	**Markates**	**2.84**	**6**	P		**Pn**	**23 26 22.2**	**+1.7**
MRKA	**Markates**	**2.84**	**6**	P		**Pn**	**23 26 22.3**	**+1.7**
MRKA	**Markates**	**2.84**	**6**	P		**Pn**	**23 26 22.3**	**+1.7**
ANX	**Ano Chora**	**2.89**	**340**	P		**Pn**	**23 26 24.2**	**+2.8**
AXAR	**Agios Charalam**	**2.91**	**352**	P		**Pn**	**23 26 24.2**	**+2.6**
AXAR	**Agios Charalam**	**2.91**	**352**	P		**Pn**	**23 26 24.2**	**+2.6**
AXAR	**Agios Charalam**	**2.91**	**352**	P		**Pn**	**23 26 24.2**	**+2.6**
AGG	**Agios Georgios**	**3.21**	**348**	PN		**Pn**	**23 26 27.5**	**+1.8**
KARP	**Karpathos**	**3.24**	**95**	P		**Pn**	**23 26 27.4**	**+1.3**
KARP	**Karpathos**	**3.24**	**95**	P		**Pn**	**23 26 27.4**	**+1.3**
KARP	**Karpathos**	**3.24**	**95**	P		**Pn**	**23 26 27.4**	**+1.3**
KARP	**Karpathos**	**3.24**	**95**	PN		**Pn**	**23 26 27.3**	**+1.1**
CHOS	**Chios island**	**3.39**	**42**	PN		**Pn**	**23 26 29.6**	**+1.5**
BODT	**Bodrum**	**3.52**	**69**	PN		**Pn**	**23 26 30.8**	**+0.9**
DAT	**Datca**	**3.64**	**75**	PN		**Pn**	**23 26 32.1**	**+0.5**
URLA	**Izmir**	**3.67**	**47**	PN		**Pn**	**23 26 32.9**	**+0.8**
SIGR	**SIGRI**	**3.94**	**32**	PN		**Pn**	**23 26 36.8**	**+1.2**
ARG	**Arkhangelos**	**4.01**	**84**	PN		**Pn**	**23 26 37.6**	**+1.0**
TURN	**Turunc**	**4.47**	**76**	PN		**Pn**	**23 26 40.1**	**-2.9**
OUR	**Ouranopolis**	**4.49**	**8**	PN		**Pn**	**23 26 45.2**	**+2.0**
DALY	**Dalyan (Mula)**	**4.50**	**76**	PN		**Pn**	**23 26 45.1**	**+1.7**
HORT	**Hortiatis**	**4.71**	**359**	PN		**Pn**	**23 26 48.7**	**+2.4**
KNT	**Kendrikon**	**5.28**	**358**	PN		**Pn**	**23 26 56.7**	**+2.6**
DBRK	**Dubrovnik**	**7.83**	**332**	*e*Pn		**Pn**	**23 27 28.2**	**-0.8**
DBRK				Sn		**Sn**	**23 28 53.6**	**-3.4**
MAKA	**Makarska**	**8.80**	**329**	*e*Pn		**Pn**	**23 27 43.0**	**+0.7**
MAKA				Sn		**Sn**	**23 29 17.6**	**-3.2**
HVAR	**Hvar**	**8.96**	**326**	Sn		**Sn**	**23 29 21.0**	**-3.7**
BRTR	**Keskin Array B**	**9.11**	**62**	Pn		Pn	23 27 52.6	+5.8
	comp=N,0.1nm,0.3s,baz=226,slow=9.3,SNR=6.4							
ZIRJ	**Zirje**	**9.69**	**325**	*e*Pn		**Pn**	**23 27 54.0**	**-0.7**
ZIRJ				Sn		**Sn**	**23 29 41.0**	**-1.8**
MORI	**Morici**	**9.83**	**326**	*e*Pn		**Pn**	**23 27 56.8**	**+0.3**
MORI				Sn		**Sn**	**23 29 44.2**	**-1.9**
KEST	**Kesra**	**11.25**	**273**	LR		LR	23 34 19.8	
	comp=N,23nm,19.7s,baz=216,slow=41							
KURBB	**Kurchatov Arra**	**41.92**	**52**	P		**P**	**23 33 26.3**	**+1.0**
	comp=N,0.2nm,0.3s,baz=277,slow=7.8,SNR=4.3							
MKAR	**Makanchi Array**	**44.72**	**57**	P		**P**	**23 33 48.1**	**+0.1**
	comp=N,0.1nm,0.3s,baz=270,slow=7.9,SNR=5.1							
ZALV	**Zalesovo Beam**	**45.67**	**47**	P		**P**	**23 33 58.3**	**+2.9**
	comp=N,1.3nm,0.8s,baz=265,slow=14,SNR=3.5							

*THR **15** 23:40:09.1±0.3, 30°.77N×50°.55E, h14km±6km, ML3.2*
*TEH **15** 23:40:11.1, 30°.78N×50°.51E, h10km, ML2.7*

ISC 15 23:40:08.2±2.7, **30°.4N**±0°.2×**50°.24E**±0°.09, **h25**km, **n13**, σ1**9**28/14, **Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KLNJ	**Kolanjah**	**1.30**	**64**	*e*Pg		**Pn**	**23 40 29.5**	**-1.6**
KLNJ				*e*			23 40 54.6	
JHBN	**Jahan bin**	**1.83**	**11**	*e*Pn		**Pn**	**23 40 38.4**	**+0.1**
JHBN				*e*			23 41 10.9	
ROKH	**ROKH**	**2.02**	**19**	*e*Pn		**Pn**	**23 40 42.0**	**+1.1**
ROKH				*e*Sg		**Sb**	**23 41 08.1**	**-1.2**
ROKH				*e*			23 41 09.9	
SHGR	**Shooshtar-Gavs**	**2.07**	**324**	*e*Pn		**Pb**	**23 40 44.5**	**-0.7**
SHGR				*e*Sg		**Sb**	**23 41 12.1**	**+1.6**
SHGR				IAML			23 41 13.3	
	comp=E,134nm,0.4s							
SHGR				IAML			23 41 14.3	
	comp=N,177nm,0.4s							
IRAM	**Ramesheh**	**2.29**	**53**	*e*Pn		**Pn**	**23 40 46.1**	**+1.5**
IRAM				*e*			23 41 20.8	
IPIR	**Pirpir**	**2.31**	**14**	*e*Pn		**Pn**	**23 40 46.0**	**+1.0**
IPIR				*e*			23 41 19.4	
IGAR	**Gharneh**	**2.49**	**38**	*e*Pn		**Pn**	**23 40 48.7**	**+1.3**
IZEF	**Zefreh**	**3.03**	**35**	*e*Pn		**Pn**	**23 40 56.0**	**+1.1**
IZEF				*e*			23 41 05.9	
ISAD	**Sadrabad**	**3.30**	**63**	*e*		Pb	23 41 13.4	+7.2
KHMZ	**Khomeyn**	**3.30**	**356**	*e*Pn		**Pn**	**23 40 58.4**	**-0.2**
ANAR	**Anarak**	**4.04**	**46**	*e*Pn		**Pn**	**23 41 10.2**	**+1.5**
ANAR				*e*			23 41 22.4	
ASAO	**Ashtian**	**4.10**	**358**	*e*Pn		**Pn**	**23 41 09.3**	**-0.3**
GHVR	**GHOM**	**4.13**	**12**	*e*Pn		**Pn**	**23 41 08.5**	**-1.3**

*UPA **16** 00:35:49.5±1.1, 9°.25N×83°.70W, h0km±22km, MW4.2*
*UCR **16** 00:35:49.5±1.7, 9°.28N×83°.89W, h44km±4km, MD3.6*

ISC 16 00:35:50.1±1.3, **9°.30N**±0°.06×**83°.88W**±0°.06, **h44**km±8km, **n29**, σ0**9**64/46, **4C-5D**, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res

21nm,0.3s,baz=47,slow=22,SNR=7.6
CBIJ Chichi jima 3.74 141 P **Pn 01 27 26.4 -0.4**
CBIJ *eS* **S 01 28 20.2 -2.3**
TTO1 TONANKAI O.B.S 4.28 328 P **Pn 01 27 33.0 +1.6**
BSO1 Boso 1 4.77 14 P **Pn 01 27 37.1 +1.0**
BSO3 Boso 3 4.83 10 P **Pn 01 27 38.3 +1.3**
BSO3 *eS* **S 01 28 40.7 -0.8**
JIE Ise 4.96 332 P **Pn 01 27 40.1 +1.4**
BSO4 Boso 4 4.99 8 *eS* **S 01 28 44.1 -0.7**
JNY Yasuok 5.49 346 P **Pn 01 27 45.6 +1.1**
JHU Hanno 5.81 358 P **Pn 01 27 47.3 -0.5**
JRY Ryogami san 5.99 355 P **Pn 01 27 50.2 +0.4**
JYT Yasato 6.20 5 P **Pn 01 27 52.2 +0.1**
JAG Ashikaga 6.38 359 P **Pn 01 27 52.9 -1.1**
MJAR Matsushiro Arr 6.59 351 P **Pn 01 27 55.4 -1.0**
0.6nm,0.3s,baz=172,slow=11,SNR=12
JHS Saijyo 7.34 314 P **P 01 28 06.3 +0.6**
MKAR Makanchi Array 46.83 308 P **P 01 34 09.5 -0.9**
0.3nm,0.4s,baz=87,slow=11,SNR=6.5
WRA Warramunga Arr 49.94 186 P **P 01 34 33.5 -0.5**
0.4nm,0.3s,baz=1.1,slow=7.3,SNR=2.2
ASAR Alice Springs 53.66 186 P **P 01 35 02.5 +1.3**
0.3nm,0.3s,baz=18,slow=12,SNR=5.8
AKTO Aktyubinsk 62.31 314 P **P 01 35 59.5 -0.7**
0.7nm,0.5s,baz=75,slow=11,SNR=3.9
FINES FINESS Array B 74.28 333 P **P 01 37 13.0 -0.4**
2.0nm,0.9s,baz=67,slow=5.0,SNR=5.6
AKASG Malin Array Be 78.88 323 P **P 01 37 38.0 -1.0**
0.3nm,0.4s,baz=49,slow=5.7,SNR=3.0
NOA NORSAR Array B 80.02 337 P **P 01 37 44.1 -0.9**
0.2nm,0.5s,baz=37,slow=5.2,SNR=1.0
NVAR Mina Array Bea 80.52 51 P **P 01 37 51.3 +3.0**
0.2nm,0.3s,baz=272,slow=5.2,SNR=2.2
BRTR Keskin Array B 82.31 312 P **P 01 37 57.8 +0.3**
0.7nm,0.7s,baz=81,slow=3.9,SNR=5.4

*IDC **16** 01:34:50.2±1.9,31.38N×60.30E,h0km,mb3.4/5, mb1 3.5/7,mb1mx3.3/42,mbtmp3.4/7,ML3.3/2,MS2.7/5, Ms1 2.7/5,ms1mx2.4/40,Error ellipse: s-maj=35.7km s-min=22.8km az=136.0*
*TEH **16** 01:34:51.5,31.74N×60.23E,h6km,ML3.9*
*THR **16** 01:34:52.9±0.3,31.71N×60.14E,h18km±2km, ML4.0*
ISC 16 01:34:53.7±0.7,31.70N±0.03×60.21E±0.05,h15km,n47, σ1§67/47,mb3.3/5,MS2.5/3,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NHDN	**Nehbandan**	**0.33**	**204**	*e*Pg		**Pg**	**01 34 59.7**	**-1.0**
NHDN				*e*Sg		**Sb**	**01 35 05.3**	**-1.4**
NHDN				*e*			01 35 06.8	
BSRN	**Basiran**	**0.96**	**286**	*e*Pg		**Pb**	**01 35 09.9**	**-2.3**
BSRN	**Basiran**	**0.96**	**286**	*e*Pg		**Pb**	**01 35 09.9**	**-2.3**
IDAH	**Dahanechah**	**1.08**	**344**	*e*Pg		**Pb**	**01 35 12.9**	**-1.3**
IDAH				*e*			01 35 17.1	
IKOO	**Kooshah**	**1.25**	**306**	*e*Pg		**Pn**	**01 35 15.0**	**-1.9**
IKOO				*e*			01 35 19.7	
IMON	**Monand**	**1.56**	**343**	*e*Pg		**Pb**	**01 35 21.2**	**-1.2**
IMON				*e*			01 35 24.3	
ITEG	**Tejag**	**1.72**	**314**	*e*Pn		**Pb**	**01 35 23.3**	**-1.8**
ITEG				*e*			01 35 26.9	
SHRT	**Shahrakht**	**1.94**	**2**	*e*Pn		**Pb**	**01 35 26.9**	**-2.0**
SHRT				*e*Sg		**Sg**	**01 35 54.0**	**-2.2**
SHRT	**Shahrakht**	**1.94**	**2**	*e*Pn		**Pb**	**01 35 26.9**	**-2.0**
AFRZ	**Afriz**	**2.00**	**330**	*e*Pn		**Pb**	**01 35 27.7**	**-2.1**
ZHSF	**Zahedan**	**2.14**	**167**	*e*Pn		**Pb**	**01 35 30.2**	**-2.0**
ZHSF	**Zahedan**	**2.14**	**167**	*e*Pn		**Pb**	**01 35 30.2**	**-2.0**
SZD1	**Zahaedan-tmp**	**2.28**	**165**	*e*Pn		**Pb**	**01 35 32.2**	**-2.4**
CHMN	**Cheshme madani**	**2.94**	**232**	*e*Pn		**Pn**	**01 35 41.1**	**+0.9**
CHMN				*e*			01 36 32.5	
TABS	**Tabas**	**3.25**	**308**	*e*P		**Pn**	**01 35 44.5**	**+0.2**
TABS	**Tabas**	**3.25**	**308**	*e*Pn		**Pn**	**01 35 44.8**	**+0.5**
TPRV	**Parvadeh(Tabas**	**3.27**	**295**	*e*Pn		**Pn**	**01 35 44.8**	**+0.4**
TVBK	**TV Kerman**	**3.42**	**241**	*e*Pn		**Pn**	**01 35 49.2**	**+2.4**
KRBR	**Kerman**	**3.42**	**241**	*e*Pn		**Pn**	**01 35 47.2**	**+0.4**
KRBR				*e*Sg		**Sb**	**01 36 38.3**	**+2.5**
KRBR				IAML			01 36 56.1	
comp=N,237nm,0.8s								
KRBR	**Kerman**	**3.42**	**241**	*e*Pn		**Pn**	**01 35 47.2**	**+0.4**
KHGB	**Koh Gabri**	**3.47**	**249**	*e*Pn		**Pn**	**01 35 49.4**	**+2.1**
KHGB				*e*			01 36 49.0	
NGRK	**Negar Kerman**	**3.63**	**237**	*e*Pn		**Pn**	**01 35 51.8**	**+2.1**
NGRK				*e*			01 36 54.1	
TNSJ	**Nastanj**	**3.78**	**308**	*e*Pn		**Pn**	**01 35 52.7**	**+1.2**
IBAF	**Bafgh**	**3.96**	**270**	*e*Pn		**Pn**	**01 35 55.7**	**+1.6**
JRKH	**Jarkhoshk**	**4.20**	**2**	*e*Pn		**Pn**	**01 35 58.6**	**+1.3**
KHNJ	**Kahnooj**	**4.33**	**211**	*e*Pn		**Pn**	**01 36 01.0**	**+2.0**
IMYA	**Miami**	**4.63**	**359**	*e*Pn		**Pn**	**01 36 03.8**	**+0.5**
IMEH	**Mehriz**	**4.79**	**268**	*e*Pn		**Pn**	**01 36 08.0**	**+2.5**
YZKH	**Yazd**	**4.82**	**280**	*e*Pn		**Pn**	**01 36 06.1**	**+0.3**
YZKH				IAML			01 37 29.6	
comp=E,83nm,0.5s								
YZKH				IAML			01 37 32.4	
comp=N,84nm,0.6s								
YZKH	**Yazd**	**4.82**	**280**	*e*Pn		**Pn**	**01 36 06.1**	**+0.3**
IPAY	**Payeh**	**4.85**	**348**	*e*Pn		**Pn**	**01 36 07.9**	**+1.6**
IAKL	**Akhelmad**	**5.04**	**347**	*e*Pn		**Pn**	**01 36 10.8**	**+1.8**
IKRD	**Kardeh**	**5.26**	**345**	*e*Pn		**Pn**	**01 36 11.2**	**-0.7**
ISAD	**Sadrabad**	**5.56**	**274**	*e*Pn		**Pn**	**01 36 17.7**	**+1.5**
ISFR	**Sfrayin**	**5.65**	**342**	*e*Pn		**Pn**	**01 36 19.3**	**+2.0**
ANAR	**Anarak**	**5.68**	**287**	*e*Pn		**Pn**	**01 36 18.7**	**+1.1**
GEYT	**Alibeck**	**6.45**	**345**	Pn		**Pn**	**01 36 30.6**	**+2.5**
comp=N,0.4nm,0.3s,baz=170,slow=17,SNR=5.3								
GEYT				Lg		Lg	01 38 26.5	
comp=N,0.1nm,0.3s,baz=159,slow=26,SNR=2.0								
GEYT				LR		LR	01 39 35.5	
comp=N,113nm,20.9s,baz=170,slow=42								
IZEF	**Zefreh**	**6.78**	**282**	*e*Pn		**Pn**	**01 36 34.4**	**+1.5**
AKTO	**Aktyubinsk**	**18.79**	**356**	P		**Pn**	**01 39 14.0**	**+1.2**
comp=N,0.1nm,0.3s,baz=184,slow=14,SNR=2.4								
AKTO				LR		LR	01 47 44.0	
comp=N,23nm,19.9s,baz=156,slow=40								
EIL	**Elat**	**21.81**	**271**	LR		LR	01 49 30.4	
comp=N,20nm,20.1s,baz=86,slow=40								
BVAR	**Borovoye Array**	**22.56**	**16**	P		**P**	**01 39 54.1**	**+1.0**
comp=N,0.6nm,0.5s,baz=219,slow=16,SNR=2.0								
MKAR	**Makanchi Array**	**22.68**	**42**	P		**P**	**01 39 56.1**	**+1.5**
comp=N,0.6nm,0.8s,baz=224,slow=12,SNR=2.9								
KURBB	**Kurchatov Arra**	**23.29**	**30**	P		**P**	**01 40 02.5**	**+1.8**
comp=N,0.5nm,0.5s,baz=228,slow=9.4,SNR=7.9								
KIRV	**Kirov**	**27.87**	**348**	LR		LR	01 54 28.3	
comp=N,16nm,19.1s,baz=181,slow=42								
OBN	**Obninsk**	**28.76**	**331**	LR		LR	01 54 42.6	
comp=N,7.4nm,18.7s,baz=156,slow=41								
GERES	**GERESS Array B**	**38.73**	**310**	P		**P**	**01 42 17.9**	**+0.6**
comp=N,0.2nm,0.5s,baz=98,slow=8.8,SNR=3.6								
TORD	**Torodi Ar. Bea**	**56.51**	**265**	P		**P**	**01 44 34.8**	**-0.9**
comp=N,1.4nm,0.6s,baz=59,slow=6.7,SNR=11								

*IDC **16** 01:55:45.9±0.7,56.69S×141.02W,h0km,mb4.2/9, mb1 4.4/9,mb1mx4.3/28,mbtmp4.2/9,MS4.5/15, Ms1 4.5/15,ms1mx4.4/17,Error ellipse: s-maj=28.7km s-min=18.8km az=175.0*
*NEIC **16** 01:55:45.9,56.86S×140.94W,h24km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.17; Mθθ=1.53; Mφφ=1.37; Mrθ=0.10; Mrφ=1.44; Mθφ=0.04; Fault plane solution: M₀2.05000×10¹⁷ NP1:φ=293.00000°, δ=90.00000°,λ=-3.00000°. NP2:φ=23.00000°,δ=87.00000°, λ=-180.00000°. Principal axes: T 2.1298, Plg3.0000°, Azm22.0000°; N -0.1679, Plg87.0000°, Azm204.0000°; P -1.9619, Plg0.0000°, Azm112.0000°;*
*NEIC **16** 01:55:47.2±1.0,56.9S±0.2×140.9W±0.2,h10km±1km, mb5.2/26,Ms_20 5.0/198,Mwb5.4/21,Mwc5.5/9(GCMT) Error ellipse: s-maj=27.5km s-min=20.8km az=356.0*
*NEIC **16** 01:55:47.6,56.87S×140.94W,h5km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.04; Mθθ=1.07; Mφφ=1.11; Mrθ=0.18; Mrφ=0.88; Mθφ=0.47; Fault plane solution: M₀1.49000×10¹⁷ NP1:φ=25.53000°, δ=89.43000°,λ=-160.53000°. NP2:φ=295.33000°, δ=70.53000°,λ=-0.61000°. Principal axes: T 1.4555, Plg13.0000°, Azm159.0000°; N 0.0609, Plg71.0000°, Azm27.0000°; P -1.5164, Plg14.0000°, Azm252.0000°;*
*GCMT **16** 01:55:52.2±0.1,57.08S±0.01×141.03W±0.01,h22km, MW5.5/142,Moment Tensor Solution. s130,c224; s142,c266; Duration: 1§3 Moment tensor: Scale 10¹⁷ Nm; Mrr=0.23±.02; Mθθ=1.41±.03; Mφφ=-1.18±.02; Mrθ=0.04±.04; Mθφ=1.32±.02; Mφr=0.18±.03; Best double couple: M₀1.86000×10¹⁷ NP1:φ=292.00000°,δ85.00000°, λ=-4.00000°. NP2:φ=22.00000°,δ86.00000°,λ=-175.00000°. Principal axes: T 1.9650, Plg1.0000°, Azm157.0000°; N -0.2090, Plg83.0000°, Azm61.0000°; P -1.7550, Plg7.0000°, Azm247.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 01:55:47.4±0.5,56.84S±0.09×140.91W±0.09,h10km, n191,σ1§24/63,mb5.0/21,MS5.0/120,1C-1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
VNDA	**Vanda**	**28.34**	**203**	P		**P**	**02 01 43.3**	**+2.4**
VNDA	0.5nm,0.8s,baz=64,slow=4.8,SNR=1.9			LR		LR	02 10 06.4	
comp=Z,670nm,19.5s,baz=79,slow=30								
BKZ	**Black Stump Fm**	**32.86**	**284**	IAMs_20		IAMs_20	02 12 33.8	
comp=Z,2μm,18.0s								
QSPA	**South Pole Qui**	**33.32**	**180**	P		**P**	**02 02 26.4**	**+1.4**
comp=Z,20nm,1.1s,baz=80,slow=3.2,SNR=23								
QSPA	**South Pole Qui**	**33.32**	**180**	P		**P**	**02 02 26.2**	**+1.2**
QSPA				IAmb		IAmb	02 02 28.1	
comp=Z,60nm,1.4s								
QSPA	**South Pole Qui**	**33.32**	**180**	IAMs_20		IAMs_20	02 13 08.9	
comp=Z,2μm,21.0s								
RKT	**Rikitea**	**33.96**	**10**	*e*LQ		LQ	02 10 06.9	
comp=Z,3μm,29.2s								
RKT				*e*LR		LR	02 11 29.7	
comp=Z,4μm,26.5s								
RKT	**Rikitea**	**33.96**	**10**	*e*T		T	02 38 12.4	
comp=Z,8.8nm,0.3s								
TBI	**Tubuai**	**34.03**	**346**	*e*S		**S**	**02 07 57.8**	**+1.3**
comp=Z,541nm,29.5s								
TBI				*e*LR		LR	02 11 25.0	
comp=Z,5μm,29.2s,baz=175								
TBI	**Tubuai**	**34.03**	**346**	*e*T		T	02 38 11.7	
comp=Z,90nm,0.3s								
GO10	**Punta Arenas**	**38.66**	**115**	P		**P**	**02 03 11.3**	**+0.6**
MEH	**Mehetia**	**39.27**	**349**	*e*T		T	02 44 49.0	
comp=Z,18nm,0.3s								
MG01	**Puerto William**	**39.33**	**119**	P		**P**	**02 03 16.6**	**+0.3**
MG01				IAmb		IAmb	02 03 18.4	
comp=Z,78nm,1.2s								
TVO	**Taravao**	**39.49**	**347**	*e*T		T	02 45 06.1	
comp=Z,2.1nm,0.3s								
PAE	**Paea**	**39.65**	**347**	*e*T		T	02 45 17.8	
comp=Z,2.1nm,0.3s								
PPT2	**Papeete2**	**39.72**	**347**	*e*S		**S**	**02 09 23.9**	**+0.4**
comp=Z,640nm,26.2s								
PPT2				*e*LR		LR	02 13 59.8	
comp=Z,5μm,28.2s,baz=179								
PPT2	**Papeete2**	**39.72**	**347**	*e*T		T	02 45 22.0	
comp=Z,3.5nm,0.3s								
PPT	**Papeete**	**39.74**	**347**	LR		LR	02 15 27.6	
comp=Z,1μm,19.5s,baz=190,slow=30								
COYC	**Coyhaique**	**42.77**	**105**	P		**P**	**02 03 44.6**	**0.0**
EFI	**East Falkland**	**45.87**	**121**	P		**P**	**02 04 09.0**	**-0.4**
EFI				IAmb		IAmb	02 04 10.2	
comp=Z,41nm,0.9s								
PLCA	**Paso Flores**	**46.89**	**101**	P		**P**	**02 04 17.5**	**-0.1**
comp=Z,4.1nm,1.0s,baz=221,slow=13,SNR=4.1								
H03S2	**Juan Fernandez**	**47.32**	**88**	T		T	02 55 22.7	
baz=219,slow=74,SNR=267								
H03S1	**Juan Fernandez**	**47.33**	**88**	T		T	02 55 24.1	
baz=219,slow=74,SNR=275								
H03S3	**Juan Fernandez**	**47.34**	**88**	T		T	02 55 23.2	
baz=219,slow=74,SNR=305								
LC01	**Cunco**	**47.48**	**99**	P		**P**	**02 04 25.3**	**+3.2**
LC01				IAmb		IAmb	02 04 27.5	
comp=Z,17nm,1.1s								
H03N3	**Juan Fernandez**	**47.61**	**88**	T		T	02 55 42.2	
baz=222,slow=72,SNR=650								
H03N2	**Juan Fernandez**	**47.62**	**88**	T		T	02 55 27.4	
baz=222,slow=72,SNR=886								
H03N1	**Juan Fernandez**	**47.62**	**88**	T		T	02 55 30.9	
baz=222,slow=72,SNR=846								
VNA3	**Neumayer Olymp**	**47.68**	**161**	P		**P**	**02 04 22.5**	**-0.8**
TAOE	**Nuku Hiva Isla**	**47.87**	**1**	*e*S		**S**	**02 11 21.9**	**-0.6**
comp=Z,542nm,24.9s								
TAOE				*e*LR		LR	02 17 56.0	
comp=Z,3μm,27.9s								
VNA2	**Neumayer--Watz**	**48.35**	**161**	P		**P**	**02 04 28.4**	**-0.1**
MT02				IAmb		IAmb	02 05 46.4	
comp=Z,32nm,1.3s								
MT05	**Renca**	**52.15**	**95**	P		**P**	**02 04 57.7**	**-0.2**
PEL	**Peldehue**	**52.37**	**94**	P		**P**	**02 04 59.5**	**+0.1**
PEL				IAmb		IAmb	02 05 04.0	
comp=Z,36nm,1.0s								
SYO	**Syowa Base**	**54.46**	**180**	i/*e*P		**P**	**02 05 13.0**	**-1.2**
SYO	**Syowa Base**	**54.46**	**180**	i/*e*pP		pP	02 05 15.4	-0.7
MAW	**Mawson**	**54.63**	**191**	P		**P**	**02 05 16.3**	**+0.9**
comp=Z,1.8nm,0.7s,baz=181,slow=6.0,SNR=2.6								
MAW				LR		LR	02 25 40.9	
comp=Z,812nm,20.7s,baz=158,slow=33								
MAW	**Mawson**	**54.63**	**191**	P		**P**	**02 05 14.5**	**-1.0**
AC05	**El Transito**	**55.89**	**91**	P		**P**	**02 05 25.5**	**+0.2**
STKA	**Stephens Creek**	**57.30**	**261**	P		**P**	**02 05 35.6**	**+0.5**
comp=Z,2.4nm,0.7s,baz=168,slow=8.3,SNR=3.1								
STKA				LR		LR	02 25 14.3	
comp=Z,592nm,20.7s,baz=133,slow=31								
AC02	**Maricunga**	**58.09**	**91**	P		**P**	**02 05 40.9**	**-0.4**
AC02				IAmb		IAmb	02 05 48.4	
comp=Z,19nm,1.3s								
PB15	**IPOC Station P**	**60.77**	**88**	P		**P**	**02 05 58.7**	**-0.9**
PB15				IAmb		IAmb	02 06 02.9	
comp=Z,15nm,1.0s								
PB06	**IPOC Station P**	**61.12**	**88**	P		**P**	**02 06 01.4**	**-0.4**
PB06				IAmb		IAmb	02 06 06.1	
comp=Z,16nm,0.9s								
LVC	**Limon Verde**	**61.56**	**88**	P		**P**	**02 06 04.5**	**-0.6**
LVC				IAmb		IAmb	02 06 10.0	
comp=Z,16nm,0.8s								
PB07	**IPOC Station P**	**61.73**	**87**	P		**P**	**02 06 06.2**	**+0.2**
PB01	**IPOC Station P**	**62.50**	**87**	P		**P**	**02 06 10.9**	**-0.2**
PSGCX	**Pisagua**	**63.32**	**85**	P		**P**	**02 06 16.6**	**+0.1**
PSGCX				IAmb		IAmb	02 07 31.3	
comp=Z,32nm,1.4s								
PB11	**IPOC Station P**	**63.44**	**86**	P		**P**	**02 06 17.5**	**+0.1**
PB11				IAmb		IAmb	02 06 21.9	
comp=Z,15nm,0.9s								
MNMC	**Minye Minye**	**63.98**	**85**	P		**P**	**02 06 21.7**	**+0.6**
CTA	**Charters Tower**	**64.04**	**273**	LR		LR	02 29 48.8	
comp=Z,367nm,21.5s,baz=130,slow=32								
CPUP	**Villa Florida**	**64.93**	**100**	P		**P**	**02 06 27.8**	**+0.9**
comp=Z,8.7nm,1.2s,baz=229,slow=7.1,SNR=3.8								
CPUP				LR		LR	02 30 23.0	
comp=Z,387nm,18.1s,baz=224,slow=32								
CPUP	**Villa Florida**	**64.93**	**100**	P		**P**	**02 06 26.5**	**-0.4**
CPUP				IAmb		IAmb	02 06 31.0	
comp=Z,27nm,1.4s								
LPAZ	**La Paz**	**67.10**	**85**	P		**P**	**02 06 43.0**	**+1.2**
comp=Z,4.8nm,0.9s,baz=204,slow=6.0,SNR=18								
LPAZ				LR		LR	02 29 39.8	
comp=Z,135nm,20.9s,baz=205,slow=30								
LPAZ	**La Paz**	**67.10**	**85**	P		**P**	**02 06 41.6**	**-0.1**
ASAR	**Alice Springs**	**67.93**	**260**	P		**P**	**02 06 45.3**	**-1.0**
H01W1	**Cape Leeuwin H**	**68.94**	**238**	T		T	03 22 36.8	
baz=145,slow=76,SNR=382								
H01W2	**Cape Leeuwin H**	**68.95**	**238**	T		T	03 22 35.8	
baz=145,slow=76,SNR=389								
H01W3	**Cape Leeuwin H**	**68.96**	**238**	T		T	03 22 38.1	
baz=145,slow=76,SNR=366								
NWAO	**Narrogin (SRO)**	**69.08**	**242**	LR		LR	02 29 33.2	
comp=Z,578nm,21.8s,baz=146,slow=29								
WRA	**Warramunga Arr**	**70.70**	**263**	P		**P**	**02 07 02.7**	**-0.7**
comp=Z,1.2nm,0.7s,baz=134,slow=5.3,SNR=2.6								
WRA				LR		LR	02 34 00.5	
comp=Z,493nm,21.0s,baz=120,slow=32								
SAML	**Samuel**	**75.85**	**85**	P		**P**	**02 07 33.2**	**-0.6**
BDFB	**Brasilia**	**78.64**	**101**	LR		LR	02 39 29.5	
comp=Z,320nm,18.6s,baz=235,slow=33								
ROSC	**El Rosal**	**81.51**	**68**	LR		LR	02 38 50.7	
comp=Z,84nm,18.0s,baz=206,slow=32								
ROSC	**El Rosal**	**81.51**	**68**			**P**	**02 08 05.6**	**+0.2**
MMRI	**Maumere**	**86.57**	**260**	IAMs_20		IAMs_20	02 43 23.9	
comp=Z,486nm,20.0s								
KAPI	**Kappang**	**90.93**	**259**	IAMs_20		IAMs_20	02 44 54.5	
comp=Z,585nm,22.0s								
TXAR	**Lajitas Array**	**91.44**	**32**	LR		LR	02 41 21.0	
comp=Z,157nm,20.6s,baz=0.0,slow=30								
319A	**Douglas**	**91.87**	**27**	IAMs_20		IAMs_20	02 39 58.4	
comp=Z,427nm,21.0s								
OSI	**Osito Audit: C**	**93.02**	**18**	IAMs_20		IAMs_20	02 40 56.9	
comp=Z,592nm,20.0s								
Y14A	**Wickenburg**	**93.47**	**23**	IAMs_20		IAMs_20	02 42 31.8	
comp=Z,357nm,18.0s								
GSC	**Goldstone, Bar**	**94.03**	**20**	IAMs_20		IAMs_20	02 41 33.7	
comp=Z,435nm,22.0s								
BOSA	**Boshof**	**94.08**	**168**	LR		LR	02 49 06.1	
comp=Z,321nm,18.4s,baz=184,slow=34								
ISA	**Isabella, Lake**	**94.08**	**18**	IAMs_20		IAMs_20	02 42 11.2	
comp=Z,628nm,21.0s								
X16A	**Lo Mia Camp, P**	**94.27**	**24**	IAMs_20		IAMs_20	02 42 46.1	
comp=Z,398nm,19.0s								
SVB	**Belmont**	**95.42**	**74**	IAMs_20		IAMs_20	03 00 02.9	
comp=Z,540nm,18.0s								
MDPB	**Devils Postpil**	**95.91**	**17**	IAMs_20		IAMs_20	02 41 41.4	
comp=Z,547nm,22.0s								
MSTX	**Muleshoe**	**96.05**	**31**	IAMs_20		IAMs_20	02 45 11.2	
comp=Z,384nm,18.0s								
CMB	**Columbia Colle**	**96.09**	**16**	IAMs_20		IAMs_20	02 41 51.3	
comp=Z,539nm,22.0s								
NVAR	**Mina Array Bea**	**96.81**	**18**	LR		LR	02 43 00.3	
comp=Z,465nm,21.9s,baz=198,slow=29								
NV11	**Mina Array Sit**	**96.84**	**18**	IAMs_20		IAMs_20	02 42 15.1	
comp=Z,529nm,22.0s								
AFDM	**Forest Hills D**	**96.90**	**16**	IAMs_20		IAMs_20	02 42 23.6	
comp=Z,444nm,22.0s								
RYN	**Ryan**	**96.97**	**17**	IAMs_20		IAMs_20	02 42 39.5	
comp=Z,516nm,22.0s								
ORV	**Oroville**	**97.42**	**15**	IAMs_20		IAMs_20	02 42 26.4	
comp=Z,383nm,22.0s								
VCNR	**Virginia City**	**97.44**	**16**	IAMs_20		IAMs_20	02 42 47.0	
comp=Z,562nm,22.0s								
KVN	**Kaiserville**	**97.45**	**18**	IAMs_20		IAMs_20	02 42 56.2	
comp=Z,585nm,22.0s								
PAHR	**Pah Rah Range**	**97.88**	**17**	IAMs_20		IAMs_20	02 43 01.8	
comp=Z,606nm,22.0s								
BEKR	**Beckworth**	**97.89**	**16**	IAMs_20		IAMs_20	02 43 26.4	
comp=Z,383nm,20.0s								
WDC	**Whiskeytown Da**	**98.28**	**14**	IAMs_20		IAMs_20	02 43 13.3	
comp=Z,507nm,20.0s								
S22A	**4UR Ranch, Cre**	**98.53**	**27**	IAMs_20		IAMs_20	02 45 28.0	
comp=Z,359nm,18.0s								
SDCO	**Great Sand Dun**	**98.87**	**28**	IAMs_20		IAMs_20	02 45 46.8	
comp=Z,365nm,19.0s								
KRMB	**Red Mountain**	**99.04**	**13**	IAMs_20		IAMs_20	02 43 18.7	
comp=Z,539nm,21.0s								
YBH	**Yreka Blue Hor**	**99.39**	**14**	IAMs_20		IAMs_20	02 43 38.7	
comp=Z,545nm,20.0s								
DUG	**Dugway, Tooele**	**99.54**	**21**	IAMs_20		IAMs_20	02 45 42.5	
comp=Z,362nm,18.0s								
MOD	**Modoc Plateau**	**99.89**	**15**	IAMs_20		IAMs_20	02 44 48.9	
comp=Z,350nm,20.0s								
PMBI	**Palembang**	**100.58**	**248**	IAMs_20		IAMs_20	02 57 43.1	
comp=Z,353nm,19.0s								
WVOR	**Wild Horse Val**	**100.67**	**17**	IAMs_20		IAMs_20	02 45 01.4	
comp=Z,428nm,21.0s								
H10S3	**ASCENSION HYDR**	**101.06**	**126**	T		T	04 03 20.0	
baz=15,slow=74,SNR=23								
H10S2	**ASCENSION HYDR**	**101.07**	**126**	T		T	04 03 03.7	
baz=205,slow=74,SNR=12								
J08A	**Circle Bar Ran**	**101.59**	**17**	IAMs_20		IAMs_20	02 45 40.0	
comp=Z,422nm,20.0s								
MFID	**Camas Ranch**	**102.09**	**18**	IAMs_20		IAMs_20	02 45 57.0	
comp=Z,454nm,21.0s								
H10N3	**ASCENSION HYDR**	**102.12**	**125**	T		T	04 04 17.4	
baz=206,slow=75,SNR=58								
H10N1	**ASCENSION HYDR**	**102.13**	**125**	T		T	04 04 23.1	
baz=206,slow=75,SNR=59								
H10N2	**ASCENSION HYDR**	**102.14**	**125**	T		T	04 04 18.2	
baz=206,slow=75,SNR=68								
H04A	**Detroit Lake**	**102.36**	**14**	IAMs_20		IAMs_20	02 45 08.3	
comp=Z,354nm,20.0s								
HLID	**Hailey**	**102.48**	**19**	IAMs_20		IAMs_20	02 46 35.4	
comp=Z,483nm,20.0s								
BW06	**Boulder Array**	**102.68**	**23**	IAMs_20		IAMs_20	02 47 16.8	
comp=Z,407nm,21.0s								
BMO	**Blue Mountains**	**103.24**	**17**	IAMs_20		IAMs_20	02 47 16.4	
comp=Z,344nm,20.0s								
F04A	**Amboy**	**103.56**	**13**	IAMs_20		IAMs_20	02 46 14.0	
comp=Z,356nm,20.0s								
BGNE	**Belgrade**	**104.30**	**32**	IAMs_20		IAMs_20	02 48 58.5	
comp=Z,368nm,20.0s								
F10A	**Beach

	comp=Z,319nm,18.0s							
ILAR	**Eielson Array**	**121.37**	**357**	PKP		**PKiKP**	**02 14 38.6**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=235,slow=2.4,SNR=6.3							
ILAR	**Eielson Array**	**121.37**	**357**			**PKiKP**	**02 14 39.1**	**-0.2**
COLA	**College**	**121.50**	**357**	IAMs_20	IAMs_20		02 58 42.7	
	comp=Z,327nm,19.0s							
ANM	**Nome**	**122.51**	**348**	IAMs_20	IAMs_20		02 56 08.0	
	comp=Z,373nm,22.0s							
GAMB	**Gambell**	**122.59**	**344**	IAMs_20	IAMs_20		03 01 51.3	
	comp=Z,265nm,20.0s							
IMAR	**Indian Mountai**	**122.88**	**354**			**PKiKP**	**02 14 41.5**	**-0.7**
EPYK	**Eagle Plains**	**122.93**	**2**	IAMs_20	IAMs_20		02 59 14.1	
	comp=Z,356nm,19.0s							
FYU	**Fort Yukon**	**123.13**	**358**	IAMs_20	IAMs_20		03 00 55.3	
	comp=Z,311nm,19.0s							
INK	**Inuvik**	**124.95**	**3**	IAMs_20	IAMs_20		02 59 10.6	
	comp=Z,366nm,20.0s							
ATD	**Arta Tunnel**	**134.70**	**185**	IAMs_20	IAMs_20		03 10 40.9	
	comp=Z,253nm,20.0s							
DAMY	**Dhamar**	**137.63**	**188**	IAMs_20	IAMs_20		03 07 48.4	
	comp=Z,338nm,21.0s							
TULEG	**Thule**	**140.58**	**21**	IAMs_20	IAMs_20		03 11 09.8	
	comp=Z,294nm,20.0s							
SUMG	**Summit**	**146.34**	**32**	*i* P		**PKiKP**	**02 15 35.0**	**+4.9**
	comp=Z,22nm,0.9s							
ESDC	**Sonseca Array**	**147.27**	**103**	PKPbc		**PKPbc**	**02 15 29.5**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=284,slow=2.6,SNR=9.0							
ESDC	**Sonseca Array**	**147.27**	**103**			**PKPbc**	**02 15 29.9**	**-0.3**
ES07	**SONSECA Array**	**147.28**	**103**	IAMs_20	IAMs_20		03 09 06.4	
	comp=Z,199nm,19.0s							
MK31	**Makanchi Array**	**151.92**	**268**	PKPdf		**PKPbc**	**02 15 37.1**	**-4.4**
MK31						**pPKPab**	**02 15 51.0**	**-1.8**
MKAR	**Makanchi Array**	**151.92**	**268**	PKPbc		**PKiKP**	**02 15 40.8**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=169,slow=2.5,SNR=5.9							
MKAR				PKPab		**PKPab**	**02 15 50.3**	**-0.6**
	comp=Z,3.6nm,0.9s,baz=101,slow=3.8,SNR=12							
MKAR	**Makanchi Array**	**151.92**	**268**			**PKiKP**	**02 15 42.0**	**+0.1**
MKAR						**pPKPab**	**02 15 51.4**	**-1.4**
WDD	**Wied Dalam**	**153.27**	**131**	IAMs_20	IAMs_20		03 26 39.6	
	comp=Z,280nm,21.0s							
ZALV	**Zalesovo Beam**	**154.24**	**283**	PKPab		**PKPab**	**02 16 01.4**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=112,slow=4.0,SNR=4.5							
CORL	**Corleone**	**154.49**	**127**	IAMs_20	IAMs_20		03 10 31.1	
	comp=Z,267nm,20.0s							
TAS	**Tashkent**	**155.13**	**244**	IAMs_20	IAMs_20		03 22 44.6	
	comp=Z,191nm,18.0s							
CEL	**Celeste**	**155.91**	**131**	IAMs_20	IAMs_20		03 17 40.4	
	comp=Z,245nm,22.0s							
IDI	**Anoyia**	**156.40**	**150**	IAMs_20	IAMs_20		03 35 31.4	
	comp=Z,204nm,20.0s							
TIP	**Timpagrande**	**157.04**	**131**	IAMs_20	IAMs_20		03 32 15.5	
	comp=Z,264nm,22.0s							
ITM	**Ithomi**	**157.24**	**142**	IAMs_20	IAMs_20		03 12 09.0	
	comp=Z,184nm,20.0s							
SANT	**Santorini**	**157.57**	**150**	IAMs_20	IAMs_20		03 26 53.5	
	comp=Z,160nm,20.0s							
PAOL	**Paolisi**	**157.61**	**124**	IAMs_20	IAMs_20		03 34 06.9	
	comp=Z,261nm,22.0s							
CSS	**Mathiatis**	**157.78**	**167**	IAMs_20	IAMs_20		03 27 06.2	
	comp=Z,205nm,20.0s							
SENIN	**Lac Senin/Sane**	**157.85**	**105**	IAMs_20	IAMs_20		03 31 34.0	
	comp=Z,225nm,21.0s							
OSSC	**Osservatorio P**	**157.94**	**115**	IAMs_20	IAMs_20		03 37 06.2	
	comp=Z,228nm,20.0s							
SCTE	**Santa Cesarea**	**158.50**	**132**	IAMs_20	IAMs_20		03 32 18.9	
	comp=Z,210nm,21.0s							
UCC	**Uccle**	**158.80**	**92**	IAMs_20	IAMs_20		03 31 14.4	
	comp=Z,193nm,22.0s							
SALO	**Salr**	**159.05**	**110**	IAMs_20	IAMs_20		03 36 34.6	
	comp=Z,236nm,20.0s							
BRTR	**Keskin Array B**	**162.51**	**166**	PKPab		**PKPab**	**02 16 35.6**	**-1.1**
	comp=Z,1.5nm,1.1s,baz=190,slow=6.3,SNR=5.7							
BRTR	**Keskin Array B**	**162.51**	**166**			**PKPab**	**02 16 35.2**	**-1.5**
CLL	**Collm**	**163.78**	**99**	*e*PP		PP	02 20 28.0	-0.2
CLL				*e*			02 23 42.0	
CLL				*e*			02 27 48.0	
CLL				*e*			02 29 36.0	
CLL				*e*PSKS			02 30 54.0	
CLL				*e*PPS		PPS	02 34 06.0	
CLL				*e*SS		SS	02 40 58.0	+1.5
CLL				*e*SSS		SSS	02 47 17.0	
CLL				*e*SSSS			02 51 44.0	
CLL				*e*			02 53 30.0	
ABKAR	**Akbulak array**	**165.38**	**248**			**PKPab**	**02 16 48.5**	**-0.5**
MLR	**Muntele Rosu**	**166.00**	**139**			**PKPab**	**02 16 51.3**	**-0.7**

*JMA **16** 02:01:27.6±0.2, 43.°11N×147.°08E, h56km±5km, M3.1*
*SKHL **16** 02:01:28.8±0.6, 43.°00N×146.°98E, h57km±2km, mb4.0/4*
*MOS **16** 02:01:29.9±0.6, 43.°23N×146.°84E, h57km, mb4.5/3, Error ellipse: s-maj=22.6km s-min=12.9km az=112.1*

ISC 16 02:01:30.8±1.8, 43.°17N±0.°08×146.°90E±0.°08, h49km±15km, n28, σ0.°77/45, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.87**	**284**	P	**Pn**	**02 01 45.8**	**-0.9**
NEM2				*e*S	**Sn**	**02 01 58.9**	**+0.5**
NMR	**Nemuro--Hokkai**	**0.88**	**284**	*i* P	**Pn**	**02 01 45.9**	**-1.0**
NMR				*i* S	**Sn**	**02 01 59.0**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.88**	**284**	⇑*i* PN	**Pn**	**02 01 45.9**	**-1.0**
NMR				*i* S	**Sn**	**02 01 59.0**	**+0.3**
YUK	**Yuzh-Kuril'sk**	**1.15**	**319**	*i* P	**Pn**	**02 01 50.1**	**-0.4**
YUK				AMB	AMB	02 01 51.0	
	40nm,0.2s						
YUK				*i* S	**Sn**	**02 02 06.0**	**+0.9**
YUK				A	A	02 02 08.0	
	460nm,0.4s						
YUK				A	A	02 02 08.0	
	570nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.15**	**319**	*d* iPN	**Pn**	**02 01 50.1**	**-0.4**
YUK				*i* S	**Sn**	**02 02 05.8**	**+0.7**
YUK				pmax	pmax		
	comp=Z,395nm,0.2s						
YUK				pmax	pmax		
	comp=N,88nm,0.3s						
YUK				pmax	pmax		
	comp=E,86nm,0.1s						
YUK				smax	smax		
	comp=N,458nm,0.8s						
YUK				smax	smax		
	comp=E,572nm,0.4s						
GRPR	**Tuman**	**1.16**	**316**	*e*P	**Pn**	**02 01 50.3**	**-0.4**
GRPR				AMB	AMB	02 01 51.0	
	comp=E,20nm,0.2s						
GRPR				*e*S	**Sn**	**02 02 06.5**	**+1.0**
GRPR				A	A	02 02 09.7	
	comp=E,540nm,0.4s						
GRPR				A	A	02 02 09.7	
	comp=E,340nm,0.4s						
GRPR	**Tuman**	**1.16**	**316**	*e*PN	**Pn**	**02 01 50.3**	**-0.4**
GRPR				*e*S	**Sn**	**02 02 05.8**	**+0.3**
GRPR				pmax	pmax		
	comp=N,192nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,189nm,0.2s						
GRPR				pmax	pmax		
	comp=E,94nm,0.3s						
GRPR				smax	smax		
	comp=E,335nm,0.6s						
GRPR				smax	smax		
	comp=N,540nm,0.5s						
LAGR	**Lagunnoye**	**1.20**	**318**	*e*P	**Pn**	**02 01 50.4**	**-0.8**
LAGR				AMB	AMB	02 01 51.0	
	comp=N,20nm,0.2s						
LAGR				*e*S	**Sn**	**02 02 07.1**	**+0.7**
LAGR				A	A	02 02 11.0	
	comp=N,750nm,0.6s						
LAGR				A	A	02 02 11.0	
	comp=N,810nm,0.6s						
LAGR	**Lagunnoye**	**1.20**	**318**	*e*PN	**Pn**	**02 01 50.4**	**-0.8**
LAGR				*e*S	**Sn**	**02 02 07.1**	**+0.7**
LAGR				pmax	pmax		
	comp=E,79nm,0.2s						
LAGR				pmax	pmax		
	comp=Z,130nm,0.2s						
LAGR				pmax	pmax		
	comp=N,87nm,0.1s						
LAGR				smax	smax		
	comp=N,746nm,0.6s						
LAGR				smax	smax		
	comp=E,810nm,0.5s						
JKHN	**Kushirohamanak**	**1.28**	**267**	P	**Pn**	**02 01 51.6**	**-0.6**
JKHN				*e*S	**Sn**	**02 02 09.5**	**+1.3**
JRA	**Rausu**	**1.51**	**301**	P	**Pn**	**02 01 55.1**	**-0.2**
JRA				*e*S	**Sn**	**02 02 15.0**	**+1.2**
JNSB	**Nemuroshibetsu**	**1.51**	**294**	P	**Pn**	**02 01 55.0**	**-0.4**
JNSB				*e*S	**Sn**	**02 02 15.3**	**+1.4**
JAK	**Akkeshi**	**1.62**	**265**	P	**Pn**	**02 01 56.0**	**-1.0**
JAK				*e*S	**Sn**	**02 02 16.8**	**+0.1**
JNK	**Nakash**	**1.65**	**285**	P	**Pn**	**02 01 56.6**	**-0.7**
JNK				*e*S	**Sn**	**02 02 17.5**	**+0.2**
KUR	**Kuril'sk**	**2.18**	**18**	*e*P	**Pn**	**02 02 04.6**	**0.0**
KUR				AMB	AMB	02 02 06.5	
	comp=E,40nm,0.4s						
KUR				*e*S	**Sn**	**02 02 30.9**	**+0.6**
KUR	**Kuril'sk**	**2.18**	**18**	*e*PN	**Pn**	**02 02 04.4**	**-0.2**
KUR				*e*S	**Sn**	**02 02 31.5**	**+1.2**
KUR				pmax	pmax		
	comp=Z,44nm,0.1s						
KUR				smax	smax		
	comp=N,40nm,0.2s						
KUR				smax	smax		
	comp=E,44nm,0.1s						
JOB	**Onbets**	**2.27**	**264**	*e*S	**Sn**	**02 02 33.7**	**+1.3**
JAR	**Ashorobuto**	**2.29**	**274**	P	**Pn**	**02 02 05.9**	**-0.2**
JAR				*e*S	**Sn**	**02 02 34.5**	**+1.3**
JCH	**Churui**	**2.66**	**259**	P	**Pn**	**02 02 10.8**	**-0.3**
ERM	**Erimo**	**3.00**	**249**	*i* PN	**Pn**	**02 02 16.3**	**+0.6**
JKK2	**Kamakawa 2**	**3.10**	**285**	P	**Pn**	**02 02 18.4**	**+1.1**
YSS	**Yuzh-Sakhalins**	**4.79**	**324**	*e*PN	**Pn**	**02 02 39.6**	**-0.8**
BILL	**Bilibino**	**26.97**	**16**	*e*P	**P**	**02 07 07.5**	**+0.1**
BILL	**Bilibino**	**26.97**	**16**	*e*P	**P**	**02 07 07.1**	**-0.3**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s						
OBN	**Obninsk**	**65.68**	**324**	*e*P	**P**	**02 12 09.1**	**-0.6**
OBN	**Obninsk**	**65.68**	**324**	*e*P	**P**	**02 12 09.1**	**-0.6**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KIV	**Kislovodsk**	**70.02**	**312**	*e*P	**P**	**02 12 37.4**	**+0.1**
KIV	**Kislovodsk**	**70.02**	**312**	*e*P	**P**	**02 12 37.4**	**+0.1**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						

*IDC **16** 02:14:60.0±4.5, 9.°67S×125.°80E, h88km±51km, mb3.3/1, mb1 3.5/5, mb1mx3.2/44, mbtmp3.6/5, ML3.7/4, Error ellipse: s-maj=53.9km s-min=15.9km az=38.0*
*DJA **16** 02:15:00.9±1.0, 9.°5±3.°×12.°5E±.°, h10km, M3.3/5, MLv3.3/5*

ISC 16 02:14:55.9±1.4, 9.°4S±0.°1×125.°90E±0.°08, h35km, n8, σ2.°9/14, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.65**	**258**	P	**Pn**	**02 15 23.0**	**+0.6**
SOEI				*e*S	**Sn**	**02 15 40.8**	**-1.7**
BATI	**Baumata**	**2.34**	**250**	P	**Pn**	**02 15 34.2**	**+2.4**
	16nm,0.3s,baz=108,slow=4.8,SNR=6.3						
BATI				S	**Sn**	**02 16 01.4**	**+2.0**
	17nm,0.3s,baz=34,slow=15,SNR=4.1						
BATI	**Baumata**	**2.34**	**250**	P	**Pn**	**02 15 33.7**	**+1.8**
BATI				S	**Sn**	**02 15 58.7**	**-0.8**
EDFI	**Ende, Flores**	**4.22**	**279**	P	**Pn**	**02 15 58.3**	**+0.5**
EDFI				S	**Sn**	**02 16 43.1**	**-2.8**
FITZ	**Fitzroy Crossi**	**8.62**	**182**	P	**Pn**	**02 16 59.6**	**+1.4**
	1.0nm,0.3s,baz=360,slow=10,SNR=27						
FITZ				S	**Sn**	**02 18 30.4**	**-4.0**
	1.1nm,0.3s,baz=287,slow=20,SNR=2.3						
WRA	**Warramunga Arr**	**13.26**	**143**	P	**Pn**	**02 18 03.7**	**+2.0**
	0.4nm,0.3s,baz=312,slow=14,SNR=7.0						
WRA				S	**Sn**	**02 20 26.4**	**-1.5**
	0.5nm,0.3s,baz=337,slow=20,SNR=4.8						
ASAR	**Alice Springs**	**16.09**	**153**	P	**Pn**	**02 18 40.6**	**+1.0**
	0.2nm,0.3s,baz=318,slow=11,SNR=7.6						
MKAR	**Makanchi Array**	**68.13**	**329**	P	**P**	**02 25 51.4**	**-0.9**
	0.4nm,0.6s,baz=120,slow=7.9,SNR=5.2						

MAN 16 02:22:35.1, 4.°07N×124.°65E, h38km, MS4.2, 1C, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**2.28**	**27**	*e*P	Pn	02 23 10.5	+0.3
DDMP				*e*S	Sn	02 23 38.4	+1.3
SKMP	**Bagumbayan, Su**	**2.44**	**357**	*e*P	Pn	02 23 13.3	+0.9
SKMP				*e*S	Sn	02 23 41.8	+0.8
KCP	**Kidapawan**	**2.95**	**8**⇑	*e*P	Pn	02 23 22.2	+2.6
BUKP	**Musuan**	**3.81**	**6**	*e*P	Pn	02 23 32.4	+1.1
BUKP				*e*S	Sn	02 24 17.5	+2.7

*ISN **16** 03:09:18.3±1.3, 32.°30N×47.°85E, h16km±7km, ML2.4*
*TEH **16** 03:09:29.4, 32.°43N×47.°82E, h8km, ML2.5*

ISC 16 03:09:23.2±1.6, 32.°2N±0.°1×47.°55E±0.°07, h10km, n11, σ1.°76/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.37**	**10**	*e*Pg	**Pg**	**03 09 49.9**	**+0.5**
IKFM				*e*		03 10 11.8	
IKMR	**Kamar-syah**	**1.51**	**27**	*e*Pg	**Pg**	**03 09 53.1**	**+1.0**
IKMR				*e*		03 10 16.5	
IBDR	**Badra**	**1.66**	**305**	*e*Pg	**Pn**	**03 09 50.7**	**-1.6**
IBDR				AML	AML	03 09 57.1	
	comp=E,29nm,0.4s						
IBDR				AML	AML	03 10 04.1	
	comp=N,60nm,0.5s						
IBDR				*e*Sg	**Sn**	**03 10 15.4**	**+1.8**
IDOB	**Doab**	**1.69**	**18**	*e*Pg	**Pg**	**03 09 56.1**	**+0.5**
IDOB				*e*		03 10 33.6	
BMDN	**Meydan**	**1.83**	**35**	*e*Pg	**Pb**	**03 09 58.2**	**+1.2**
BMDN				*e*		03 10 32.4	
IKOM	**Komasi**	**1.99**	**359**	*e*		03 10 03.0	
IKOM				*e*Pg	**Pb**	**03 10 01.0**	**+1.4**
HSAM	**Samen**	**2.21**	**23**	*e*Pn	**Pb**	**03 10 04.1**	**+0.6**
HSAM				*e*		03 10 45.3	
JHBN	**Jahan bin**	**2.64**	**88**	*e*Pn	**Pb**	**03 10 11.5**	**+0.7**
JHBN				*e*		03 11 05.5	
IDHR	**Dehrash**	**2.70**	**339**	*e*Pn	**Pb**	**03 10 13.8**	**+2.1**
IDHR				*e*		03 10 52.5	
BHD	**Baghdad**	**2.89**	**293**	*e*Pn	**Pn**	**03 10 09.0**	**-0.2**
BHD				*e*Sn	**Sn**	**03 10 44.0**	**0.0**
IKRK	**Kirkuk**	**4.18**	**321**	*e*Pn	**Pn**	**03 10 24.0**	**-3.1**
IKRK				*e*Sn	**Sn**	**03 11 13.0**	**-3.0**

*IDC **16** 03:22:34.0±4.8, 68.°36N×162.°12W, h0km, mb3.3/2, mb1 4.1/3, mb1mx3.4/30, mbtmp3.7/3, ML4.1/1, Error ellipse: s-maj=80.9km s-min=56.8km az=38.0*
*AEIC **16** 03:22:35.3±1.1, 67.°69N±0.°08×162.°3W±0.°2, h14km±7km, ML3.1/28, Error ellipse: s-maj=11.8km s-min=7.8km az=161.0*
*NEIC **16** 03:22:36.5±1.0, 67.°71N±0.°03×162.°3W±0.°2, h24km±8km, Error ellipse: s-maj=10.8km s-min=2.4km az=106.0*

ISC 16 03:22:35.0±0.9, 67.°71N±0.°06×162.°12W±0.°06, h10km, n36, σ0.°99/41, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**0.46**	**320**		**Pg**	**03 22 43.8**	**-0.2**
RDOG					**Sb**	**03 22 50.4**	**-1.5**
ANM	**Nome**	**3.42**	**204**		**Pn**	**03 23 28.2**	**-0.2**
ANM					**Sn**	**03 24 08.4**	**-0.5**
IM03		**3.73**	**114**		**Pn**	**03 23 33.1**	**+0.6**
IMAR	**Indian Mountai**	**3.73**	**114**	Pn	**Pn**	**03 23 32.5**	**0.0**
PS05	**TAPS Pump Stn5**	**4.54**	**96**		**Pn**	**03 23 43.5**	**-0.1**
TOLK	**Toolik Lake Re**	**4.78**	**73**		**Pn**	**03 23 48.9**	**+1.9**
TOLK					**Sn**	**03 24 41.5**	**-0.8**
PS04	**TAPS Pump Stn4**	**4.84**	**76**		**Pn**	**03 23 49.8**	**+2.0**
PS06	**TAPS Pump Stn6**	**5.24**	**105**		**Pn**	**03 23 53.9**	**+0.7**
TTA	**Tatalina**	**5.44**	**149**		**Pn**	**03 23 56.6**	**+0.5**
BPAW	**Bear Paw Mtn.**	**5.82**	**123**		**Pn**	**03 24 02.1**	**+0.9**
MDM	**Murphy Dome**	**6.23**	**110**		**Pn**	**03 24 07.9**	**+1.0**
PPLA	**Purkeypile**	**6.37**	**135**		**Pn**	**03 24 10.0**	**+1.1**
COLA	**College**	**6.42**	**110**		**Pn**	**03 24 10.6**	**+1.2**
TRF	**Thorofare Moun**	**6.50**	**126**		**Pn**	**03 24 11.5**	**+0.8**
CCB	**Clear Creek Bu**	**6.56**	**111**		**Pn**	**03 24 12.2**	**+0.9**
WRH	**Wood River Hil**	**6.56**	**113**		**Pn**	**03 24 12.1**	**+0.8**
FYU	**Fort Yukon**	**6.68**	**92**	Pn	**Pn**	**03 24 13.7**	**+0.7**
BMAR	**Burnt Mountain**	**6.71**	**84**	Pn	**Pn**	**03 24 13.7**	**+0.1**
MCK	**McKinley**	**6.74**	**120**	Pn	**Pn**	**03 24 14.2**	**+0.3**
IL31		**6.82**	**108**		**Pn**	**03 24 15.2**	**+0.3**
ILAR	**Eielson Array**	**6.82**	**108**	Pn	**Pn**	**03 24 15.2**	**+0.3**
	3.1nm,0.3s,baz=305,slow=14,SNR=209						
ILAR				Sn	**Sn**	**03 25 29.6**	**-2.9**
	baz=308,slow=26,SNR=2.0						
ILAR	**Eielson Array**	**6.82**	**108**	Pn	**Pn**	**03 24 15.4**	**+0.5**
ILAR					**Sn**	**03 25 31.2**	**-1.3**
RND	**Reindeer**	**6.99**	**122**		**Pn**	**03 24 18.2**	**+0.9**
HDA	**Harding Lake**	**7.00**	**111**		**Pn**	**03 24 18.2**	**+0.8**
SVW2	**Sparrevohn**	**7.21**	**154**		**Pn**	**03 24 20.6**	**+0.3**
STLK	**Strandline Lak**	**7.63**	**140**		**Pn**	**03 24 27.1**	**+0.9**
DHY	**Denali Highway**	**7.70**	**120**		**Pn**	**03 24 27.8**	**+0.7**
RIDG	**Independent Ri**	**8.14**	**111**		**Pn**	**03 24 33.6**	**+0.5**
PMR	**Palmer**	**8.28**	**132**	Pn	**Pn**	**03 24 36.2**	**+1.3**
SCRK	**Sand Creek**	**8.31**	**108**		**Pn**	**03 24 36.0**	**+0.6**
DOT	**Dot Lake**	**8.47**	**110**	Pn	**Pn**	**03 24 37.9**	**+0.2**
SCM	**Sheep Creek Mo**	**8.62**	**126**	Pn	**Pn**	**03 24 40.3**	**+0.6**
BCAR	**Beaver Creek A**	**9.65**	**109**	Pn	**Pn**	**03 24 54.0**	**+0.3**
EPYK	**Eagle Plains**	**9.98**	**86**	Pn	**Pn**	**03 24 58.8**	**+0.5**
YKA	**Yellowknife Ar**	**20.23**	**82**	P	**P**	**03 27 09.4**	**-0.4**
	0.5nm,0.5s,baz=302,slow=11,SNR=5.7						
TXAR	**Lajitas Array**	**51.33**	**108**	P	**P**	**03 31 40.6**	**+1.4**
	0.6nm,0.9s,baz=335,slow=5.5,SNR=4.0						

*IDC **16** 03:23:42.3±3.9, 36.°28N×71.°18E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/30, mbtmp3.7/4, ML3.3/2, Error ellipse: s-maj=107.0km s-min=26.3km az=144.0*
*NNC **16** 03:23:56.1±2.2, 36.°81N×71.°00E, h97km±46km, mb3.5, mpv4.0, Error ellipse: s-maj=19.0km s-min=17.7km az=64.0*

ISC 16 03:23:55.2±3.0, 36.°7N±0.°2×71.°1E±0.°1, h100km, n25, σ1.°04/24, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.77**	**20**	P	**Pn**	**03 25 19.3**	**+0.5**
	SNR=28						
UCH	**Uchtor**	**6.11**	**25**	P	**Pn**	**03 25 23.6**	**+0.2**
	SNR=9.7						
MRKS	**Merke**	**6.24**	**15**	Lg	Lg	03 26 32.8	
	6.4nm,0.2s						
KZA	**Kyzart**	**6.26**	**30**	P	**Pn**	**03 25 25.6**	**+0.2**
	SNR=8.2						
EKS2	**Erkin-Say**	**6.29**	**19**	P	**Pn**	**03 25 26.5**	**+0.9**
	SNR=14						
BRLS	**Borolday**	**6.37**	**352**	Lg	Lg	03 26 28.4	
	7.0nm,0.2s						
KK31	**Karatay Array**	**6.38**	**356**	⇓P	**Pn**	**03 25 26.9**	**+0.3**
	1.5nm,0.3s,baz=187,slow=15,SNR=23						
KK31				⇑S	**Sn**	**03 26 36.7**	**-1.4**
	1.8nm,0.3s,baz=188,slow=24,SNR=5.5						
AAK	**Ala-Archa**	**6.47**	**23**	P	**Pn**	**03 25 28.8**	**+0.7**
	SNR=16						
AAK	**Ala-Archa**	**6.47**	**23**	⇑P	**Pn**	**03 25 28.5**	**+0.5**
	11nm,0.5s						
AAK				⇑S	**Sn**	**03 26 40.5**	**-0.1**
	5.9nm,0.6s						
CHMS	**Chumysh**	**6.88**	**23**	P	**Pn**	**03 25 33.9**	**+0.4**
	SNR=9.5						
USP	**Ospenovka**	**7.05**	**21**	P	**Pn**	**03 25 35.9**	**+0.2**
	SNR=12						
TKM2	**Tokmak 2**	**7.11**	**28**	P	**Pn**	**03 25 37.2**	**+0.5**
	SNR=8.9						
TKM2	**Tokmak 2**	**7.11**	**28**	⇑P	**Pn**	**03 25 36.9**	**+0.2**
	7.9nm,0.8s						
TKM2				⇑S	**Sn**	**03 26 57.4**	**+1.3**
	2.2nm,0.6s						
SGDS	**Sogindy**	**7.26**	**21**	P	**Pn**	**03 25 38.2**	**-0.4**
	13nm,0.5s						
DGS	**Degeres**	**7.45**	**28**	P	**Pn**	**03 25 41.4**	**+0.2**
	7.6nm,0.8s						
MTBS	**Maitube**	**7.62**	**31**	P	**Pn**	**03 25 44.0**	**+0.5**
	11nm,0.7s						
KRBS	**Karabastau**	**7.81**	**26**	P	**Pn**	**03 25 45.7**	**-0.4**
	3.0nm,0.7s						
KUU	**Kurty**	**8.22**	**28**	P	**Pn**	**03 25 51.0**	**-0.6**
	3.2nm,0.4s						
GEYT	**Alibeck**	**10.37**	**281**	Pn	Pn	03 26 15.1	-5.8
	0.4nm,0.3s,baz=96,slow=12,SNR=1.6						
MK31	**Makanchi Array**	**13.09**	**36**	P	**Pn**	**03 26 55.5**	**-1.6**
	0.8nm,0.6s,baz=222,slow=15,SNR=7.0						
MKAR	**Makanchi Array**	**13.09**	**36**	Pn	**Pn**	**03 26 55.2**	**-1.9**
	0.1nm,0.3s,baz=222,slow=14,SNR=8.2						
AB01	**Akbulak array**	**14.91**	**331**	⇓P	**Pn**	**03 27 19.3**	**-1.3**
	1.4nm,1.1s						
AKTO	**Aktyubinsk**	**16.61**	**330**	⇑P	**Pn**	**03 27 44.5**	**+2.8**
	1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**19.70**	**25**	P	**P**	**03 28 16.3**	**0.0**
	2.8nm,0.3s,baz=216,slow=11,SNR=12						
TORD	**Torodi Ar. Bea**	**65.76**	**269**	P	P	03 34 30.0	+0.2
	0.2nm,0.4s,baz=46,slow=7.6,SNR=6.3						

*NIED **16** 04:02:00, 30.°60N×138.°00E, h520km, Mw4.6 Best double couple: M0 7.80000×10^15 NP1: ϕs 43.00000°, δ54.00000°, λ-113.00000°. NP2: ϕs 259.00000°, δ42.00000°, λ-62.00000°.*
*JMA **16** 04:02:34.3±0.3, 30.°60N×137.°97E, h500km±4km, M4.3*
*BJI **16** 04:02:35.4±0.0, 30.°53N×137.°78E, h500km, mB4.6/3.5, mb5.0/55*
*MOS **16** 04:02:35.8±0.8, 30.°63N×137.°56E, h481km, mb4.4/52, Error ellipse: s-maj=8.3km s-min=4.8km az=110.2*
*IDC **16** 04:02:36.7±0.6, 30.°66N×137.°65E, h480km±6km, mb3.7/23, mb1 4.0/29, mb1mx3.9/36, mbtmp4.7/29, Error ellipse: s-maj=10.6km s-min=9.1km az=92.0*
*NEIC **16** 04:02:36.1±1.1, 30.°62N±0.°06×137.°7E±0.°1, h472km±4km, mb4.4/124, Error ellipse: s-maj=13.1km s-min=8.3km az=77.0*

ISC 16 04:02:36.5±0.4, 30.°63N±0.°04×137.°76E±0.°04, h480km±3km, h480km:pP-P, n362, σ1.°15/410, mb4.3/118, 43C-5D, Southeast of Honshu

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

KSRS ScP **ScP** **04 13 02.7 0.0**
0.1nm,0.3s,baz=141,slow=2.5,SNR=4.8
KSAR Wonju Array Be 10.64 312 P **P** **04 05 00.3 -0.1**
KSAR Wonju Array Be 10.64 312 P **P** **04 05 00.3 -0.1**
KS19 Wonju Array Si 10.69 313 P **P** **04 05 00.5 -0.4**
JOSM Okushiri--Mats 11.52 6 P **P** **04 05 09.6 -0.1**
JKB Kayabe 11.54 12 P **P** **04 05 10.2 +0.2**
JKB *e*S **S** **04 07 13.5 -3.0**
ERM Erimo 12.17 19 *ce*P **P** **04 05 17.8 +1.1**
ERM pmax pmax
comp=Z,89nm,1.0s
ERM Erimo 12.17 19 P **P** **04 05 17.3 +0.6**
ERM **S** **04 07 28.9 +0.2**
MSHR Mys Shultsa 13.05 338 *ce*P **P** **04 05 25.7 -0.4**
MSHR pmax pmax
comp=Z,7.0nm,0.4s
VLA Vladivostok 13.32 341 *c i*P **P** **04 05 29.2 +0.2**
VLA pmax pmax
comp=Z,182nm,1.0s
ASAJ Asahikawa 14.00 15 P **P** **04 05 37.5 +1.3**
comp=Z,8.9nm,0.3s,baz=221,slow=13,SNR=72
JKA Kamikawa-asahi 14.00 15 P **P** **04 05 37.5 +1.3**
USA0B Ussuriysk Arra 14.30 343 *c i*P **P** **04 05 39.4 +0.1**
USA0B Ussuriysk Arra 14.30 343 P **P** **04 05 39.5 +0.2**
USRK Ussuriysk Ar. 14.30 343 P **P** **04 05 39.5 +0.1**
baz=167,slow=11,SNR=365
USRK S **S** **04 08 07.8 -2.4**
baz=165,slow=23,SNR=7.1
TEY Ternei 14.41 357 ⇑ *i*P **P** **04 05 40.5 -0.1**
TEY pmax pmax
comp=Z,80nm,0.8s
TEY pmax pmax
comp=N,60nm,0.7s
TEY pmax pmax
comp=E,10.0nm,0.7s
YOJ Yonaguni jima 14.44 248 P **P** **04 05 39.9 -1.3**
YOJ Yonaguni jima 14.44 248 P **P** **04 05 39.9 -1.3**
MDJ Mudanjiang 15.38 338 P **P** **04 05 50.8 +0.1**
MDJ S **S** **04 08 32.0 +0.8**
MDJ pmax pmax
comp=E,34nm,0.7s
MDJ pmax pmax
comp=E,110nm,4.0s
MDJ Mudanjiang 15.38 338 P **P** **04 05 51.0 +0.2**
DL2 Dalian 15.60 306 P **P** **04 05 53.3 +0.1**
DL2 S **S** **04 08 36.4 +0.8**
DL2 pmax pmax
comp=E,17nm,0.8s
YHNB Yeheng 15.67 252 P **P** **04 05 52.2 -2.1**
NACB Ninganchiao 15.72 250 P **P** **04 05 51.9 -2.7**
YULB Yu-li 16.33 248 P **P** **04 05 59.0 -2.2**
CN2 Changchun 16.38 327 *e*P **P** **04 06 00.6 -0.7**
CN2 pmax pmax
comp=E,40nm,0.9s
SSLB Suanglung 16.42 250 P **P** **04 06 00.6 -1.5**
KUR Kuril'sk 16.60 26 *i*P **P** **04 06 05.3 +1.7**
YSS Yuzh-Sakhalins 16.76 12 ⇓ *i*P **P** **04 06 05.7 +0.5**
YSS Yuzh-Sakhalins 16.76 12 P **P** **04 06 05.8 +0.6**
TPUB Ta-pu 16.91 249 P **P** **04 06 06.2 -1.1**
GUMO Guam 18.18 157 P **P** **04 06 20.3 +0.6**
GUMO pmax pmax
comp=Z,343nm,0.9s
GUMO Guam 18.18 157 P **P** **04 06 20.3 +0.6**
KNMB Chin-men Tao 18.23 255 P **P** **04 06 18.6 -1.5**
BJT Baijiatuau 19.91 304 P **P** **04 06 34.7 -0.6**
BJT pmax pmax
comp=Z,6.0nm,0.8s
BJT Baijiatuau 19.91 304 P **P** **04 06 34.6 -0.6**
BJT IAmb IAmb 04 06 40.7
comp=Z,5.8nm,0.8s
GRNR Gornyy 20.15 358 ⇑ *i*P **P** **04 06 38.2 +1.0**
GRNR *e*S **S** **04 09 53.3 +0.2**
GRNR pmax pmax
comp=N,30nm,0.9s
GRNR pmax pmax
comp=Z,40nm,0.7s
GRNR smax smax
comp=N,1.0nm,1.0s
GRNR MLR MLR
comp=E,60nm,16.0s
GRNR MLR MLR
comp=N,20nm,11.0s
GRNR MLR MLR
comp=Z,20nm,11.0s
WHN Wuhan 20.15 276 ⇑ P **P** **04 06 38.8 +1.3**
WHN pmax pmax
comp=Z,50nm,0.6s
TYV Tymovskoe 20.54 9 *e*P **P** **04 06 42.2 +1.4**
TYV *e*S **S** **04 09 59.7 +0.3**
TYV pmax pmax
comp=Z,25nm,0.8s
TYV pmax pmax
comp=Z,200nm,3.1s
TYV smax smax
comp=E,200nm,5.0s
ENH Enshi 24.35 276 P **P** **04 07 14.6 -0.8**
XAN Xi'an 24.56 286 P **P** **04 07 16.8 -0.5**
XAN pmax pmax
comp=Z,39nm,0.8s
XAN Xi'an 24.56 286 P **P** **04 07 16.8 -0.5**
GYA Guiyang 27.58 269 ⇑ *i*P **P** **04 07 43.8 -0.3**
GYA S **S** **04 11 56.0 +4.8**
GYA SS SS 04 14 09.1 -25
GYA pmax pmax
comp=Z,30nm,0.6s
GYA pmax pmax
comp=Z,90nm,4.2s
QIZ Qiongzhong 27.76 252 P **P** **04 07 46.0 +0.4**
QIZ IAmb IAmb 04 07 47.2
comp=Z,15nm,1.0s
ULN Ulaanbaatar 29.09 315 *ce*P **P** **04 07 57.1 0.0**
ULN pmax pmax
comp=Z,3.0nm,0.6s
ULN Ulaanbaatar 29.09 315 P **P** **04 07 57.0 -0.1**
SONM Songino Array 29.48 315 P **P** **04 07 59.9 -0.6**
comp=Z,1.8nm,0.5s,baz=125,slow=6.5,SNR=5.7
SONM pP **pP** **04 09 23.4 +0.2**
comp=Z,3.9nm,1.0s,baz=130,slow=11,SNR=4.3
SONM PcP **PcP** **04 10 51.2 0.0**
comp=Z,1.9nm,0.7s,baz=71,slow=2.5,SNR=4.9
SONM Songino Array 29.48 315 P **P** **04 08 00.7 +0.2**
SONM **PcP** **04 10 51.5 +0.3**
MA2 Magadan 30.25 13 *i*P **P** **04 08 07.5 +0.7**
MA2 pmax pmax
comp=Z,25nm,1.4s
KMI Kunming 31.35 269 P **P** **04 08 16.4 -0.7**
KMI pmax pmax
comp=Z,17nm,0.9s
KMI Kunming 31.35 269 P **P** **04 08 16.0 -1.1**
KMI pmax pmax
comp=Z,12nm,0.6s
KMI Kunming 31.35 269 P **P** **04 08 16.0 -1.1**
KMI IAmb IAmb 04 08 19.8
comp=Z,12nm,0.6s
SLVN Son La 31.70 261 P **P** **04 08 20.0 0.0**
YAK Yakutsk 31.85 353 *e*P **P** **04 08 18.2 -2.3**
YAK *e**PP **pP** **04 09 42.2 -1.9**
YAK *e* 04 10 53.1
YAK *e*S **S** **04 12 54.1 -2.0**
YAK *e**SS **sS** **04 15 34.7 +5.9**
YAK *e* 04 17 49.7
YAK pmax pmax
comp=Z,8.0nm,0.9s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK smax smax
comp=N,64nm,1.3s
YAK smax smax
comp=E,41nm,1.4s
GTA Gaotai 32.09 296 ⇓ P **P** **04 08 22.6 -0.5**
GTA pP pP 04 09 51.5 +4.7
GTA sP sP 04 10 49.8 +7.4
GTA S **S** **04 12 58.9 -1.9**
GTA pmax pmax
comp=E,18nm,1.0s
GTA pmax pmax
comp=E,72nm,5.9s
DLV T Lat 32.85 242 P **P** **04 08 30.4 +0.5**
SANI Sanana 34.38 201 P **P** **04 08 40.9 -1.7**
APSI Ampana 34.91 209 P **P** **04 08 46.3 -0.8**
comp=E,43nm,1.0s
CHTO Chiang Mai 36.99 261 P **P** **04 09 04.2 -0.2**
CHTO pmax pmax
comp=Z,35nm,0.9s
CHTO Chiang Mai 36.99 261 P **P** **04 09 04.2 -0.2**
SBUM Sibu 37.00 226 P **P** **04 09 06.0 +1.5**
CM31 Chiang Mai Arr 37.15 260 P **P** **04 09 05.9 +0.1**
CMAR Chiang Mai Arr 37.15 260 P **P** **04 09 06.0 +0.3**
comp=Z,11nm,0.7s,baz=55,slow=6.8,SNR=52
CMAR Chiang Mai Arr 37.15 260 *ce*P **P** **04 09 06.0 +0.3**
CMAR pmax pmax
comp=Z,11nm,0.7s
KSM Kuching 38.95 227 P **P** **04 09 21.2 +0.7**
KSM Kuching 38.95 227 P **P** **04 09 22.0 +1.5**
BILL Bilibino 41.01 16 *e*P **P** **04 09 37.7 +1.4**
BILL *e**PP **pP** **04 11 05.6 +1.4**
BILL *e* 04 11 25.1
BILL *e**SP **sP** **04 11 59.6 +0.9**
BILL pmax pmax
comp=Z,11nm,1.0s
BILL Bilibino 41.01 16 P **P** **04 09 37.5 +1.2**
BILL IAmb IAmb 04 09 38.3
comp=Z,9.4nm,1.0s
TIXI Tiksi 41.36 356 P **P** **04 09 38.9 -0.1**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
TIXI Tiksi 41.36 356 P **P** **04 09 38.9 -0.1**
WMQ Urumqi 41.38 303 *e*P **P** **04 09 40.6 +0.9**
WMQ pmax pmax
comp=Z,23nm,1.1s
WMQ pmax pmax
comp=Z,70nm,5.7s
WMQ Urumqi 41.38 303 P **P** **04 09 39.7 -0.1**
WMQ pmax pmax
comp=Z,15nm,0.6s
WMQ Urumqi 41.38 303 P **P** **04 09 39.6 -0.1**
WMQ IAmb IAmb 04 09 45.9
comp=Z,15nm,0.6s
DGZ Jazzator, Alta 42.02 312 *e*P **P** **04 09 44.4 -0.5**
DGZ pmax pmax
comp=Z,10.0nm,0.9s
KULM Kulim 43.03 242 P **P** **04 09 52.9 -0.1**
KULM Kulim 43.03 242 P **P** **04 09 54.0 +1.0**
IPM Ipoh 43.27 240 P **P** **04 09 54.4 -0.6**
IPM Ipoh 43.27 240 P **P** **04 09 55.0 0.0**
TAPN Taplejung 43.61 279 *e*P **P** **04 09 57.6 -0.2**
comp=Z,12nm,0.5s
MTN Manton Dam 43.69 189 P **P** **04 09 57.3 -0.7**
ODAN Odare 44.03 278 *e*P **P** **04 10 00.8 -0.2**
comp=Z,40nm,0.7s
ZALV Zalesovo Beam 44.28 317 P **P** **04 10 01.5 -0.7**
comp=Z,1.6nm,0.4s,baz=111,slow=8.3,SNR=5.2
ZALV PcP **PcP** **04 11 35.7 -0.7**
comp=Z,3.9nm,0.6s,baz=116,slow=3.2,SNR=12
ZALV ScP **ScP** **04 14 40.5 -1.6**
comp=Z,0.6nm,0.3s,baz=97,slow=3.4,SNR=3.8
NIKH Nikolski High 44.39 44 P **P** **04 10 03.1 0.0**
NIKH IAmb IAmb 04 10 06.0
comp=Z,24nm,1.2s
COEN Coen 44.63 172 P **P** **04 10 06.1 +0.7**
COEN IAmb IAmb 04 10 17.3
comp=Z,18nm,1.2s
RAMN Ramite 44.67 279 *e*P **P** **04 10 05.9 -0.1**
comp=Z,66nm,0.8s
JIRN Jiri 44.82 280 *e*P **P** **04 10 07.6 +0.3**
comp=Z,124nm,0.5s
GUN Gumba 45.01 280 *e*P **P** **04 10 08.9 +0.2**
comp=Z,92nm,0.7s
MK31 Makanchi Array 45.24 307 P **P** **04 10 09.5 -0.4**
MK31 pmax pmax
comp=Z,7.0nm,0.7s
MK31 Makanchi Array 45.24 307 P **P** **04 10 09.5 -0.4**
MK31 IAmb IAmb 04 10 10.4
comp=Z,6.6nm,0.7s
MKAR Makanchi Array 45.24 307 P **P** **04 10 09.6 -0.3**
comp=Z,5.1nm,0.5s,baz=93,slow=9.7,SNR=71
MKAR PcP **pP** **04 11 39.5 -0.4**
comp=Z,4.5nm,0.7s,baz=80,slow=5.6,SNR=13
MKAR ScP **ScP** **04 14 45.5 -0.9**
comp=Z,1.7nm,0.8s,baz=78,slow=4.5,SNR=8.0
MAKZ Makanchi 45.46 307 P **P** **04 10 10.9 -0.7**
MAKZ pmax pmax
comp=Z,7.0nm,0.7s
MAKZ Makanchi 45.46 307 P **P** **04 10 10.9 -0.7**
MAKZ IAmb IAmb 04 10 12.9
comp=Z,7.2nm,0.7s
PKI Pulchoki 45.51 280 *e*P **P** **04 10 11.9 -0.6**
comp=Z,28nm,0.9s
PKIN Phulchoki 45.51 280 *e*P **P** **04 10 12.1 -0.4**
comp=Z,20nm,0.8s
KKN Kakani 45.55 280 *e*P **P** **04 10 12.7 -0.1**
comp=Z,67nm,0.9s
DMN Daman 45.75 280 *e*P **P** **04 10 14.0 -0.3**
comp=Z,19nm,0.6s
PSI Prapat 45.95 241 P **P** **04 10 15.6 -0.2**
PSI pmax pmax
comp=Z,15nm,0.8s
RPSI Rantau Prapat 46.02 241 P **P** **04 10 15.6 -0.6**
RPSI IAmb IAmb 04 10 16.4
comp=Z,15nm,0.8s
GKN Gorkha 46.04 281 *e*P **P** **04 10 16.2 -0.2**
BKNI Bangkinang 46.06 236 P **P** **04 10 16.8 +0.3**
UGM Wanagama 46.38 219 P **P** **04 10 18.5 -0.4**
DANN Dangsing 46.68 281 *e*P **P** **04 10 21.7 +0.3**
comp=Z,64nm,0.6s
KNRA Kununurra 46.84 192 P **P** **04 10 22.5 +0.2**
KOLN Koldanda 46.98 281 *e*P **P** **04 10 23.6 0.0**
comp=Z,94nm,0.8s
LEM Lembang 47.12 223 P **P** **04 10 23.8 -1.0**
comp=Z,37nm,0.8s
LHSI Lahat 47.35 230 P **P** **04 10 27.4 +1.1**
comp=Z,5μmcomp=Z,77nm,0.8s
PYUN Piuthan 47.40 281 *e*P **P** **04 10 27.1 +0.3**
comp=Z,142nm,0.5s
KURK Kurchatov 47.74 313 *ce*P **P** **04 10 28.0 -0.8**
KURK pmax pmax
comp=Z,20nm,1.0s
KURK Kurchatov 47.74 313 P **P** **04 10 28.3 -0.4**
KURK IAmb IAmb 04 10 29.0
comp=Z,21nm,1.1s
GSI Gunungsitoli 47.94 240 P **P** **04 10 30.8 0.0**
NRIK Noril'sk 47.95 338 P **P** **04 10 28.9 -1.1**
comp=Z,3.9nm,0.4s,baz=120,slow=8.0,SNR=4.7
NRIK Noril'sk 47.95 338 ⇑ *e*P **P** **04 10 29.5 -0.5**
NRIK pmax pmax
comp=Z,3.0nm,0.5s
KDJ Kajisay 49.17 301 P **P** **04 10 40.0 +0.2**
KDJ pmax pmax
comp=Z,11nm,1.1s
KDJ Kajisay 49.17 301 P **P** **04 10 40.0 +0.2**
KDJ IAmb IAmb 04 10 41.7
comp=Z,11nm,1.1s
FITZ Fitzroy Crossi 49.83 195 P **P** **04 10 44.6 0.0**
ULHL Ulahol 49.85 301 P **P** **04 10 44.6 -0.2**
SNR=6.2
CNBA Chernabura Isl 50.02 42 P **P** **04 10 45.9 +0.3**
BOOM Boomskoye usch 50.04 302 P **P** **04 10 46.2 0.0**
BOOM pmax pmax
comp=Z,11nm,0.6s
BOOM Boomskoye usch 50.04 302 P **P** **04 10 46.2 0.0**
BOOM IAmb IAmb 04 10 47.1
comp=Z,11nm,0.6s
WB0 Warramunga Arr 50.21 184 P **P** **04 10 47.4 0.0**
WB0 IAmb IAmb 04 10 48.0
comp=Z,9.0nm,0.7s
TKM2 Tokmak 2 50.23 302 P **P** **04 10 48.1 +0.4**
SNR=12
WRAB Tennant Creek 50.38 184 *i*P **P** **04 10 48.2 -0.5**
WRAB pmax pmax
comp=Z,18nm,1.5s
WB2 Warramunga Arr 50.38 184 P **P** **04 10 48.7 -0.1**
WB2 IAmb IAmb 04 10 55.7
comp=Z,22nm,1.4s
WRA Warramunga Arr 50.39 184 P **P** **04 10 48.7 -0.1**
comp=Z,5.7nm,0.4s,baz=5.9,slow=8.4,SNR=58
WR0 Warramunga Arr 50.39 184 P **P** **04 10 48.7 -0.1**
WR0 IAmb IAmb 04 10 59.3
comp=Z,8.8nm,0.8s
KSH Kashi 50.47 298 *e*P **P** **04 10 52.9 +3.6**
KSH pmax pmax
comp=Z,32nm,0.6s
KSH pmax pmax
comp=Z,170nm,7.0s
KZA Kyzart 50.60 301 P **P** **04 10 51.5 +0.9**
SNR=7.5
KBK Karagaybulak 50.74 302 P **P** **04 10 51.7 +0.3**
SNR=10
USP Ospenovka 50.98 303 P **P** **04 10 52.9 -0.1**
SNR=5.4
AAK Ala-Archa 51.08 302 P **P** **04 10 53.8 0.0**
SNR=5.8
AAK Ala-Archa 51.08 302 *ce*P **P** **04 10 53.6 -0.2**
AAK pmax pmax
comp=Z,8.0nm,0.7s
AAK Ala-Archa 51.08 302 P **P** **04 10 53.2 -0.6**
AAK IAmb IAmb 04 10 54.4
comp=Z,8.0nm,0.7s
CTAO Charters Tower 51.08 170 P **P** **04 10 54.3 +0.5**
CTAO pmax pmax
comp=Z,12nm,1.1s
CTAO Charters Tower 51.08 170 P **P** **04 10 54.3 +0.5**
CTAO IAmb IAmb 04 11 01.5
comp=Z,12nm,1.1s
UCH Uchtor 51.12 302 P **P** **04 10 55.1 +0.6**
SNR=12
AML Almayashu 51.74 302 P **P** **04 10 59.5 +0.6**
SNR=9.2
TTA Tatalina 52.43 32 P **P** **04 11 04.2 +1.0**
TTA pmax pmax
comp=Z,3.0nm,1.3s
TTA Tatalina 52.43 32 P **P** **04 11 04.2 +1.0**
BRVK Borovoye 52.88 316 *ce*P **P** **04 11 06.0 -0.4**
BRVK pmax pmax
comp=Z,8.0nm,1.0s
BRVK Borovoye 52.88 316 P **P** **04 11 06.1 -0.4**
BRVK PcP **PcP** **04 12 07.6 -0.3**
IMAR Indian Mountai 53.71 28 P **P** **04 11 13.0 +0.8**
KK31 Karatay Array 53.89 303 IAmb IAmb 04 11 14.5
comp=Z,20nm,0.8s
KKAR Karatay Array 53.89 303 P **P** **04 11 13.6 -0.2**
KKAR Karatay Array 53.89 303 P **P** **04 11 13.6 -0.2**
KKAR Karatay Array 53.89 303 P **P** **04 11 13.6 -0.2**
KKAR IAmb IAmb 04 11 14.5
comp=Z,20nm,0.8s
NIL Nilore 53.91 291 P **P** **04 11 14.2 +0.1**
NIL pmax pmax
comp=Z,14nm,0.7s
NIL Nilore 53.91 291 P **P** **04 11 14.2 +0.1**
NIL IAmb IAmb 04 11 15.3
comp=Z,14nm,0.7s
KDAK Kodiak Island 53.95 38 P **P** **04 11 14.8 +0.8**
comp=Z,7.8nm,0.5s,baz=263,slow=0.8,SNR=20
KDAK Kodiak Island 53.95 38 P **P** **04 11 14.7 +0.7**
KDAK IAmb IAmb 04 11 15.8
comp=Z,9.8nm,0.7s
AS31 Alice Springs 54.11 184 P **P** **04 11 15.7 +0.2**
ASAR Alice Springs 54.11 184 P **P** **04 11 15.8 +0.2**
comp=Z,1.3nm,0.3s,baz=15,slow=13,SNR=46
ASAR S **S** **04 18 16.6 +1.2**
comp=Z,0.8nm,0.8s,baz=9.2,slow=16,SNR=4.9
ASAR Alice Springs 54.11 184 P **P** **04 11 15.4 -0.2**
BTK Batken 54.26 300 P **P** **04 11 16.3 -0.3**
BTK pmax pmax
comp=Z,16nm,1.5s
BTK Batken 54.26 300 P **P** **04 11 16.3 -0.3**
BTK IAmb IAmb 04 11 19.7
comp=Z,16nm,1.4s
BPAW Bear Paw Mtn. 54.76 31 P **P** **04 11 21.2 +1.6**
GAR Garm 54.87 298 P **P** **04 11 20.8 -0.2**
GAR IAmb IAmb 04 11 21.6
comp=Z,41nm,1.1s
TOLK Toolik Lake Re 55.55 25 P **P** **04 11 26.9 +1.8**
CHGR Chuyangaron 55.83 298 P **P** **04 11 27.3 -0.3**
CCB Clear Creek Bu 56.15 30 P **P** **04 11 30.0 +0.8**
DHY Denali Highway 56.37 32 P **P** **04 11 32.1 +1.1**
IL31 56.54 30 P **P** **04 11 32.2 +0.3**
ILAR Eielson Array 56.54 30 P **P** **04 11 32.0 0.0**
comp=Z,0.8nm,0.5s,baz=245,slow=5.9,SNR=17
ILAR pP **pP** **04 13 08.8 +1.2**
comp=Z,0.3nm,0.7s,baz=282,slow=7.3,SNR=3.2
ILAR Eielson Array 56.54 30 P **P** **04 11 31.8 -0.2**
KBL Kabul 57.01 294 P **P** **04 11 35.2 -0.9**
KBL pmax pmax
comp=Z,12nm,1.0s
KBL Kabul 57.01 294 P **P** **04 11 35.2 -0.9**
KBL IAmb IAmb 04 11 36.4
comp=Z,12nm,0.9s
BMAR Burnt Mountain 57.40 27 P **P** **04 11 39.7 +1.7**
RIDG Independent Ri 57.48 31 P **P** **04 11 39.0 +0.5**
DOT Dot Lake 57.83 31 P **P** **04 11 41.5 +0.5**
DOT IAmb IAmb 04 11 42.1
comp=Z,6.0nm,0.6s
SCRK Sand Creek 57.84 31 P **P** **04 11 41.6 +0.5**
MENT Mentasta 58.05 32 P **P** **04 11 43.9 +1.5**
MENT IAmb IAmb 04 11 44.6
comp=Z,5.9nm,0.6s
BCAR Beaver Creek A 58.91 32 P **P** **04 11 49.3 +1.0**
DZM Mont Dzumac 59.20 149 P **P** **04 11 52.2 +1.5**
DZM IAmb IAmb 04 11 53.4
comp=Z,9.7nm,0.7s
ARU Arti 59.25 321 *c i*P **P** **04 11 49.8 -0.8**
ARU *PP **pP** **04 13 23.9 -3.2**
ARU **04 14 05.1**
ARU S **S** **04 19 20.8 -0.1**
ARU pmax pmax
comp=Z,12nm,0.8s
ARU Arti 59.25 321 P **P** **04 11 49.6 -1.0**
ARU IAmb IAmb 04 11 50.7
comp=Z,12nm,0.8s
ABKAR Akbulak array 59.85 312 P **P** **04 11 54.3 -0.5**
EPYK Eagle Plains 60.59 27 P **P** **04 12 00.6 +1.1**
EPYK IAmb IAmb 04 12 01.6
comp=Z,16nm,0.6s
INK Inuvik 61.46 25 P **P** **04 12 05.2 +0.2**
comp=Z,2.1nm,0.5s,baz=280,slow=6.4,SNR=10
INK Inuvik 61.46 25 P **P** **04 12 05.8 +0.7**
INK pmax pmax
comp=Z,5.0nm,1.3s
INK Inuvik 61.46 25 P **P** **04 12 05.8 +0.7**
FORT Forrest 61.76 189 P **P** **04 12 07.8 +0.3**
FORT IAmb IAmb 04 12 08.6
comp=Z,10nm,0.6s
ARMA Armidale 62.13 166 P **P** **04 12 10.8 +0.7**
ARMA IAmb IAmb 04 12 11.6
comp=Z,16nm,1.2s
STKA Stephens Creek 62.27 176 P **P** **04 12 11.0 +0.3**
comp=Z,3.1nm,0.9s,baz=352,slow=6.2,SNR=6.6
STKA Stephens Creek 62.27 176 P **P** **04 12 11.1 +0.3**
STKA pmax pmax
comp=Z,2.0nm,1.5s
STKA Stephens Creek 62.27 176 P **P** **04 12 11.1 +0.3**
HRA Herat 62.40 295 P **P** **04 12 11.8 -0.2**
HRA IAmb IAmb 04 12 12.6
comp=Z,8.9nm,0.6s
MORW Morawa 62.87 201 P **P** **04 12 14.6 -0.1**
MORW IAmb IAmb 04 12 17.2
comp=Z,26nm,1.4s
BBOO Buckleboo 63.11 182 P **P** **04 12 16.5 +0.2**
BBOO IAmb IAmb 04 12 21.2
comp=Z,33nm,1.4s
KIRV Kirov 63.58 324 ⇑ *e*P **P** **04 12 18.6 -0.3**
GEYT Alibeck 64.35 300 P **P** **04 12 23.1 -1.2**
comp=Z,6.5nm,0.8s,baz=48,slow=4.4,SNR=8.0
GEYT Alibeck 64.35 300 P **P** **04 12 24.1 -0.3**
NWAO Narrogin (SRO) 66.13 199 P **P** **04 12 35.5 +0.1**
NWAO pmax pmax
comp=Z,17nm,0.9s
NWAO Narrogin (SRO) 66.13 199 P **P** **04 12 35.5 +0.1**
NWAO IAmb IAmb 04 12 36.1
comp=Z,16nm,0.8s
SPA0 Spitsbergen Ar 66.20 349 P **P** **04 12 35.5 +0.2**
SPA0 IAmb IAmb 04 12 53.2
comp=Z,26nm,1.3s
KLMR Klimovskoe 67.57 328 *e*P **P** **04 12 41.9 -2.1**
KLMR pmax pmax
comp=Z,4.0nm,0.6s
KLMR Klimovskoe 67.57 328 *e*P **P** **04 12 41.9 -2.1**
KLMR AMP 04 12 43.8
comp=Z,4.0nm,0.6s
KEV Kevo 68.35 340 P **P** **04 12 48.3 -0.3**
KEV pmax pmax
comp=Z,22nm,1.2s
KEV Kevo 68.35 340 P **P** **04 12 48.3 -0.3**
KEV IAmb IAmb 04 13 05.6
comp=Z,22nm,1.2s
ARCES ARCESS Array B 68.92 340 P **P** **04 12 52.2 +0.1**
comp=Z,7.4nm,0.4s,baz=62,slow=8.6,SNR=82
ARE0 ARCESS Array S 68.92 340 P **P** **04 12 52.2 +0.1**
RES Resolute Bay 69.53 13 P **P** **04 12 56.5 +0.9**
RES pmax pmax
comp=Z,8.0nm,1.2s
RES Resolute Bay 69.53 13 P **P** **04 12 56.5 +0.9**
RES IAmb IAmb 04 13 14.6

comp=Z,8.2nm,1.2s
VRH Novokhopyorsk 70.30 318 *e*P **P** **04 12 58.5 -2.2**
VRH pmax pmax
comp=Z,10.0nm,0.8s
YKA Yellowknife Ar 70.87 28 P **P** **04 13 04.2 +0.3**
comp=Z,1.7nm,0.6s,baz=301,slow=5.8,SNR=16
LPSR Galich'ya Gora 71.28 320 *e*P **P** **04 13 05.3 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 71.41 324 *e*P **P** **04 13 07.2 +0.1**
OBN *e* 04 13 20.4
OBN *e**PP **pP** **04 14 48.3 +0.8**
OBN *e**SP **sP** **04 15 39.0 +1.6**
OBN *e* 04 15 57.1
OBN pmax pmax
comp=Z,8.0nm,0.5s
VSR Storozhevoye 71.75 319 *e*P **P** **04 13 08.2 -1.0**
VSR pmax pmax
comp=Z,20nm,1.0s
VORD Divnogorie 71.79 319 *e*P **P** **04 13 08.2 -1.2**
VORD pmax pmax
comp=Z,10.0nm,1.1s
ZEI Tsey 72.52 310 *e*P **P** **04 13 12.6 -1.5**
ZEI pmax pmax
comp=Z,9.0nm,0.7s
KBZ Khabaz 72.77 311 P **P** **04 13 15.5 +0.2**
comp=Z,15nm,0.8s,baz=87,slow=5.0,SNR=38
KBZ Khabaz 72.77 311 *ce*P **P** **04 13 15.3 +0.1**
KBZ pmax pmax
comp=Z,20nm,0.9s
KIV Kislovodsk 72.81 311 *e*P **P** **04 13 15.5 -0.1**
KIV pmax pmax
comp=Z,54nm,1.1s
KIV Kislovodsk 72.81 311 P **P** **04 13 15.7 0.0**
KIV IAmb IAmb 04 13 17.4
comp=Z,13nm,0.8s
FIA1 FINESS Array S 73.05 332 P **P** **04 13 16.1 -0.4**
FIA1 IAmb IAmb 04 13 16.8
comp=Z,29nm,1.3s
FINES FINESS Array B 73.05 332 P **P** **04 13 16.1 -0.5**
comp=Z,7.1nm,0.4s,baz=65,slow=5.4,SNR=87
AKH Akhalkalaki 73.39 308 P **P** **04 13 19.4 +0.2**
AKH pmax pmax
comp=Z,6.0nm,0.9s
AKH Akhalkalaki 73.39 308 P **P** **04 13 19.4 +0.2**
AKH IAmb IAmb 04 13 20.7
comp=Z,6.3nm,0.9s
SOC Sochi 74.89 312 *e*P **P** **04 13 26.1 -1.3**
SOC *e* 04 16 21.7
SOC *e*S **S** **04 22 25.9 +0.7**
SOC *e*SS **SS** **04 27 22.7 -2.6**
SOC *e*SSS SSS 04 30 45.7
SOC pmax pmax
comp=Z,19nm,1.1s
B08A Colville Reser 75.57 42 P **P** **04 13 31.9 +0.8**
YBH Yreka Blue Hor 76.75 49 P **P** **04 13 39.5 +1.6**
YBH pmax pmax
comp=Z,3.0nm,0.9s
YBH Yreka Blue Hor 76.75 49 P **P** **04 13 39.5 +1.6**
SUMG Summit 77.04 359 *i* P **P** **04 13 40.4 +1.1**
comp=Z,15nm,0.7s
SUMG Summit 77.04 359 *i* P **P** **04 13 40.4 +1.1**
SUMG pmax pmax
comp=Z,15nm,0.7s
SUMG Summit 77.04 359 P **P** **04 13 40.2 +0.9**
SUMG IAmb IAmb 04 13 41.3
comp=Z,6.9nm,0.9s
K05A Summer Lake 77.43 48 P **P** **04 13 43.2 +1.5**
K05A IAmb IAmb 04 13 44.4
comp=Z,6.7nm,1.0s
AKASG Malin Array Be 77.47 322 P **P** **04 13 40.7 -0.8**
comp=Z,7.5nm,0.5s,baz=50,slow=5.6,SNR=30
AKASG Malin Array Be 77.47 322 P **P** **04 13 40.7 -0.8**
AKBB Malin Array Si 77.47 322 *de*P **P** **04 13 40.6 -0.8**
AKBB pmax pmax
comp=Z,12nm,0.8s
AKBB Malin Array Si 77.47 322 P **P** **04 13 40.7 -0.8**
AKBB IAmb IAmb 04 13 41.5
comp=Z,11nm,0.8s
BKZ Black Stump Fm 78.24 150 P **P** **04 13 45.9 +0.1**
BKZ IAmb IAmb 04 13 46.9
comp=Z,24nm,1.4s
WALA Waterton Lakes 78.26 40 P **P** **04 13 47.2 +1.2**
SUW Suwalki 78.60 327 P **P** **04 13 46.9 -0.6**
SUW pmax pmax
comp=Z,38nm,1.0s
SUW Suwalki 78.60 327 P **P** **04 13 46.9 -0.6**
NC405 NORSAR Array S 78.64 336 P **P** **04 13 47.3 -0.4**
NB2 NORSAR Subarra 78.87 337 P **P** **04 13 48.4 -0.5**
comp=Z,4.2nm,0.6s,baz=45,slow=5.3
NOA NORSAR Array B 78.87 337 P **P** **04 13 48.1 -0.8**
comp=Z,6.1nm,0.6s,baz=45,slow=5.3,SNR=28
NORES NORESS Array B 78.97 336 P **P** **04 13 48.6 -0.8**
NORES pmax pmax
comp=Z,3.0nm,0.4s
BEKR Beckworth 79.22 50 P **P** **04 13 52.0 +0.6**
GAZ Gaziantep 79.69 307 P **P** **04 13 53.7 -0.1**
GAZ IAmb IAmb 04 13 54.4
comp=Z,8.4nm,0.7s
WAKR Walker 80.54 51 P **P** **04 13 59.9 +1.5**
BR131 Keskin Array S 80.76 311 P **P** **04 13 59.3 -0.1**
BR131 pmax pmax
comp=Z,5.0nm,0.8s
BR131 Keskin Array S 80.76 311 P **P** **04 13 59.3 -0.1**
BR131 IAmb IAmb 04 14 01.3
comp=Z,5.3nm,0.8s
BRTR Keskin Array B 80.76 311 P **P** **04 13 59.4 -0.1**
comp=Z,9.5nm,1.1s,baz=108,slow=4.0,SNR=24
BRTR Keskin Array B 80.76 311 P **P** **04 13 58.9 -0.6**
LRM Limekiln Ridge 80.89 42 P **P** **04 14 01.1 +0.9**
DLMT Dillon 81.07 42 P **P** **04 14 01.9 +0.9**
DLMT IAmb IAmb 04 14 03.1
comp=Z,5.1nm,0.8s
EGMT Eagleton 81.12 39 P **P** **04 14 01.9 +0.9**
EGMT IAmb IAmb 04 14 02.9
comp=Z,6.4nm,0.7s
KVN Kaiserville 81.14 50 IAmb IAmb **04 14 03.4**
comp=Z,3.7nm,0.6s
CFR Carcaliu 81.16 318 ⇑P **P** **04 13 59.8 -1.4**
CFR Carcaliu 81.16 318 ⇑P **P** **04 13 59.8 -1.4**
ANTO Ankara 81.23 311 P **P** **04 14 01.4 -0.4**
ANTO pmax pmax
comp=Z,9.0nm,0.9s
ANTO Ankara 81.23 311 P **P** **04 14 01.4 -0.4**
ANTO IAmb IAmb 04 14 02.7
comp=Z,9.3nm,0.9s
TESR Tescani 81.24 319 ⇑P **P** **04 14 01.0 -0.6**
BR231 Keskin MP Arra 81.26 311 P **P** **04 14 02.0 0.0**
BR231 IAmb IAmb 04 14 02.5
comp=Z,6.9nm,0.6s
NVAR Mina Array Bea 81.33 50 P **P** **04 14 03.7 +1.1**
comp=Z,1.7nm,0.6s,baz=294,slow=5.7,SNR=7.1
NVAR Mina Array Bea 81.33 50 P **P** **04 14 03.4 +0.9**
BUR08 Bucovina Ar. S 81.38 321 P **P** **04 14 02.5 0.0**
BUR08 IAmb IAmb 04 14 03.4
comp=Z,7.4nm,0.8s
BURAR Bucovina Array 81.39 321 ⇑P **P** **04 14 02.6 +0.1**
BURAR Bucovina Array 81.39 321 ⇑P **P** **04 14 02.6 +0.1**
BURAR Bucovina Array 81.39 321 P **P** **04 14 02.3 -0.2**
NV11 Mina Array Sit 81.43 50 P **P** **04 14 03.8 +0.8**
KWP Kalwaria Pacla 81.50 323 P **P** **04 14 02.6 -0.3**
KWP pmax pmax
comp=Z,27nm,1.1s
KWP Kalwaria Pacla 81.50 323 P **P** **04 14 02.6 -0.3**
HARR Harsova 81.56 317 ⇑P **P** **04 14 00.7 -2.6**
HARR Harsova 81.56 317 ⇑P **P** **04 14 00.7 -2.6**
VRI Vrincioaia 81.58 319 ⇑P **P** **04 14 03.8 +0.4**
VRI Vrincioaia 81.58 319 ⇑P **P** **04 14 03.8 +0.4**
PLOR Plostina 81.63 319 ⇑P **P** **04 14 03.8 +0.1**
PLOR Plostina 81.63 319 ⇑P **P** **04 14 03.8 +0.1**
OZUR 81.97 319 ⇑P **P** **04 14 06.0 +0.5**
QLMT Earthquake Lak 82.06 42 P **P** **04 14 06.3 +0.2**
KOLS Kolonicke sedl 82.15 323 *e*P **P** **04 14 06.4 +0.1**
KOLS Kolonicke sedl 82.15 323 *e*P **P** **04 14 06.4 +0.1**
MLR Muntele Rosu 82.24 319 ⇑P **P** **04 14 06.5 -0.4**
MLR Muntele Rosu 82.24 319 ⇑P **P** **04 14 06.5 -0.4**
MLR Muntele Rosu 82.24 319 IAmb IAmb 04 14 08.3
comp=Z,4.9nm,0.6s
DOPR Dopca 82.27 319 ⇑P **P** **04 14 07.7 +0.7**
SECR 82.44 318 ⇑P **P** **04 14 07.7 -0.1**
TRPA Tarpa 82.51 322 ⇑P **P** **04 14 08.5 +0.4**
VOIR 82.78 319 ⇓P **P** **04 14 09.3 -0.3**
VOIR 82.78 319 ⇓P **P** **04 14 09.3 -0.3**
R11A Troy Canyon, C 83.17 49 P **P** **04 14 12.9 +1.1**

TPNV Topopah Spring 83.50 51 P **P** **04 14 14.1 +0.6**
TPNV pmax pmax
comp=Z,7.0nm,0.9s
TPNV Topopah Spring 83.50 51 P **P** **04 14 14.1 +0.6**
TPNV IAmb IAmb 04 14 23.5
comp=Z,6.5nm,0.9s
DUG Dugway, Tooele 83.90 47 P **P** **04 14 16.7 +1.3**
DUG pmax pmax
comp=Z,2.0nm,0.7s
DUG Dugway, Tooele 83.90 47 P **P** **04 14 16.6 +1.3**
PSUT Pine Spring 84.19 48 P **P** **04 14 17.9 +0.9**
PDAR Pinedale Array 84.37 43 P **P** **04 14 18.0 +0.2**
comp=Z,0.6nm,0.7s,baz=297,slow=1.3,SNR=6.8
PDAR Pinedale Array 84.37 43 P **P** **04 14 18.2 +0.4**
BZS Buzias 84.57 321 ⇑P **P** **04 14 17.1 -1.3**
BZS Buzias 84.57 321 ⇑P **P** **04 14 17.1 -1.3**
MDVR Moldovita 85.05 320 ⇑P **P** **04 14 19.7 -1.1**
CLL Collm 85.06 329 *i* P **P** **04 14 19.9 -0.7**
comp=Z,4.0nm,0.5s
CLL Collm 85.06 329 *i* P **P** **04 14 19.9 -0.7**
CLL pmax pmax
comp=Z,4.0nm,0.5s
PFO Pinyon Flats O 85.20 54 P **P** **04 14 22.8 +0.9**
PFO pmax pmax
comp=Z,5.0nm,1.2s
PFO Pinyon Flats O 85.20 54 P **P** **04 14 22.8 +0.9**
VTS Vitosha 85.53 318 ⇑P **P** **04 14 19.7 -3.7**
VTS Vitosha 85.53 318 ⇑P **P** **04 14 19.7 -3.7**
KHC Kasperske Hory 86.32 327 *ce*P **P** **04 14 26.6 -0.3**
KHC pmax pmax
comp=Z,4.0nm,1.1s
DIVS Divibare 86.43 320 P **P** **04 14 26.6 -0.9**
GERES GERESS Array B 86.46 327 P **P** **04 14 25.6 -2.0**
comp=Z,0.9nm,0.6s,baz=52,slow=5.2,SNR=7.0
GERES GERESS Array B 86.46 327 P **P** **04 14 26.4 -1.2**
GERES GERESS Array B 86.46 327 P **P** **04 14 26.4 -1.2**
RSSD Black Hills 86.66 39 P **P** **04 14 29.6 +0.8**
RSSD pmax pmax
comp=Z,4.0nm,0.7s
RSSD Black Hills 86.66 39 P **P** **04 14 29.6 +0.8**
RSSD IAmb IAmb 04 14 31.2
comp=Z,4.0nm,0.7s
SOKA Soboth 87.32 325 *i* P **P** **04 14 30.6 -1.1**
comp=Z,5.4nm,0.9s
ZOU Zoufplan 88.42 325 P **P** **04 14 35.0 -2.0**
ZOU IAmb IAmb 04 14 35.5
comp=Z,6.4nm,0.9s
ABTA Abfaltersbach 88.51 326 *i* P **P** **04 14 35.5 -1.7**
comp=Z,5.3nm,1.1s
WATA Walderalm 88.54 327 *i* P **P** **04 14 34.6 -2.9**
comp=Z,2.3nm,0.5s
WTTA Wattenberg 88.56 327 *i* P **P** **04 14 36.3 -1.2**
comp=Z,7.6nm,1.2s
MOTA Moosalm 88.75 327 *i* P **P** **04 14 37.0 -1.4**
comp=Z,6.6nm,1.2s
SQTA Sankt Quirin 88.80 327 *i* P **P** **04 14 36.7 -1.9**
comp=Z,5.8nm,1.1s
FETA Feichten 89.17 327 *i* P **P** **04 14 39.0 -1.4**
comp=Z,6.2nm,1.3s
FUORN Ofenpass-Fuorn 89.68 327 P **P** **04 14 42.2 -0.7**
FUORN IAmb IAmb 04 14 42.9
comp=Z,10nm,0.9s
ANMO Albuquerque 91.09 48 *ce*P **P** **04 14 51.0 +1.4**
ANMO pmax pmax
comp=Z,15nm,4.0s
TXAR Lajitas Array 96.49 51 P **P** **04 15 15.2 +1.0**
comp=Z,0.4nm,0.5s,baz=267,slow=2.5,SNR=8.5
TXAR pP **pP** **04 17 01.1 -0.7**
comp=Z,0.7nm,0.7s,baz=296,slow=2.9,SNR=6.8
TXAR Lajitas Array 96.49 51 P **P** **04 15 15.0 +0.8**
TXAR Lajitas Array 96.49 51 P **P** **04 15 15.0 +0.8**
TORD Torodi Ar. Bea 119.34 309 PKP **PKPdf** **04 20 30.5 -0.9**
comp=Z,1.3nm,0.6s,baz=27,slow=1.0,SNR=17
QSPA South Pole Qui 120.39 180 PKP **PKiKP** **04 20 32.3 +0.3**
comp=Z,1.3nm,0.7s,baz=283,slow=1.4,SNR=17
QSPA South Pole Qui 120.39 180 PKP **PKPdf** **04 20 31.7 -0.1**
BOSA Boshof 122.11 254 PKP **PKPdf** **04 20 36.0 -0.4**
comp=Z,1.5nm,0.6s,baz=42,slow=2.6,SNR=4.8
BOSA Boshof 122.11 254 **PKPdf** **04 20 36.4 0.0**
SNAA Sanae 133.76 196 PKPdf **PKiKP** **04 20 58.3 -0.3**
SNAA Sanae 133.76 196 Pdiff **SKPbc** **04 23 40.7 -0.1**
SNAA Sanae 133.76 196 SKPbc **SKPbc** **04 23 40.2 -0.5**
comp=Z,2.8nm,0.8s,baz=116,slow=2.6,SNR=13
SNAA Sanae 133.76 196 PKIKP **PKiKP** **04 20 58.1 -0.5**
SNAA Sanae 133.76 196 PKPdf **PKiKP** **04 20 58.1 -0.5**
VNA2 Neumayer--Watz 135.34 196 PKPdf **PKPdf** **04 21 00.7 +0.6**
VNA2 Neumayer--Watz 135.34 196 Pdiff **PP** **04 23 45.8 +2.4**
VNA3 Neumayer Olymp 135.61 194 PKPdf **PKPdf** **04 21 00.6 0.0**
VNA3 Neumayer Olymp 135.61 194 Pdiff **PP** **04 23 46.2 +1.1**
VNA1 Neumayer--Stat 135.74 195 Pdiff **PP** **04 23 47.5 +1.6**
SAML Samuel 150.90 47 PKIKP **PKPbc** **04 21 35.1 +0.1**
SAML Samuel 150.90 47 **PKPbc** **04 21 35.1 +0.1**
LPAZ La Paz 152.38 65 PKPbc **PKiKP** **04 21 40.0 +0.9**
comp=Z,1.4nm,0.5s,baz=346,slow=2.8,SNR=6.8
LPAZ pPKPbc **pPKPbc** **04 23 33.2 +1.1**
comp=Z,2.3nm,0.9s,baz=342,slow=3.0,SNR=4.0
LPAZ La Paz 152.38 65 PKIKP **PKiKP** **04 21 40.1 +0.9**
LPAZ La Paz 152.38 65 **PKiKP** **04 21 40.0 +0.9**
SIV San Ignacio 157.44 54 PKP **PKPdf** **04 21 38.5 +0.7**
comp=Z,2.1nm,1.0s,baz=234,slow=3.2,SNR=3.8

*NEIC **16** 04:15:40.7±0.8,36.°58S±0.°05×71.°47W±0.°07,h100km±4km, Error ellipse: s-maj=8.2km s-min=6.6km az=112.0*
*GUC **16** 04:15:40.8±0.7,36.°66S×71.°55W,h108km±5km,ML4.1*
*IDC **16** 04:15:41.2±2.4,36.°56S×71.°24W,h103km±23km,mb3.6/7, mb1 3.7/10,mb1mx3.6/27,mbtmp4.0/10,Error ellipse: s-maj=38.2km s-min=14.6km az=91.0*
ISC 16 04:15:40.6±0.7,**36.°61S**±0.°04×**71.°53W**±0.°05,**h100**km±6km, **n55**,σ1°**19**/64,**mb4.1**/12,**4C-2D,Central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
BI02	**San Fabin de**	**0.22**	**105**	⇓*i*P		**Pn**	**04 15 55.1**	**+0.1**
BI02				*e*S		**Sn**	**04 16 07.5**	**+1.7**
BI02				IAML			04 16 08.9	
	comp=N,2μm,0.2s							
BI02	**San Fabin de**	**0.22**	**105**			**Pn**	**04 15 55.0**	**0.0**
BI02				Sn		**Sn**	**04 16 05.8**	**+0.1**
LAJA	**Laja**	**1.16**	**234**	⇑*i*P		**Pn**	**04 16 02.7**	**-0.1**
LAJA				*i* S		**Sn**	**04 16 19.1**	**-0.5**
LAJA				IAML			04 16 20.4	
	comp=N,3μm,0.4s							
BI03	**Tigo**	**1.22**	**258**	⇑*i*P		**Pn**	**04 16 04.0**	**+0.5**
BI03				*i* S		**Sn**	**04 16 21.1**	**+0.3**
BI03				IAML			04 16 23.0	
	comp=N,19μm,0.3s							
BI03	**Tigo**	**1.22**	**258**	Pn		**Pn**	**04 16 04.0**	**+0.5**
BI03				Sn		**Sn**	**04 16 21.2**	**+0.3**
CCSP	**San Pedro de C**	**1.29**	**259**	*e*P		**Pn**	**04 16 04.7**	**+0.4**
CCSP				*i* S		**Sn**	**04 16 22.2**	**0.0**
CCSP				IAML			04 16 28.5	
	comp=E,7μm,0.5s							
GO05	**Huala**	**1.62**	**348**	⇑*i*P		**Pn**	**04 16 09.0**	**+0.5**
GO05				*i* S		**Sn**	**04 16 28.1**	**-1.5**
GO05				IAML			04 16 31.4	
	comp=N,1μm,0.4s							
GO05	**Huala**	**1.62**	**348**			**Pn**	**04 16 08.9**	**+0.4**
GO05				Sn		**Sn**	**04 16 28.2**	**-1.5**
BO02	**Sierra Bellavi**	**1.91**	**19**	⇓*i*P		**Pn**	**04 16 13.1**	**+0.8**
BO02				*i* S		**Sn**	**04 16 37.9**	**+1.7**
BO02				IAML			04 16 42.7	
	comp=E,2μm,0.4s							
BO02	**Sierra Bellavi**	**1.91**	**19**	Pn		**Pn**	**04 16 13.0**	**+0.8**
BO02				Sn		**Sn**	**04 16 38.2**	**+2.1**
LC01	**Cunco**	**2.30**	**187**			**Pn**	**04 16 17.3**	**+0.1**
MT01	**Popeta**	**2.75**	**5**	*i* S		**Sn**	**04 16 56.4**	**+0.8**
MT01				IAML			04 16 57.1	
	comp=N,732nm,0.1s							
MT01	**Popeta**	**2.75**	**5**			**Pn**	**04 16 22.8**	**-0.2**
MT03	**Universidad Ad**	**3.22**	**15**	⇑*e*P		**Pn**	**04 16 29.3**	**-0.1**
MT03				*i* S		**Sn**	**04 17 08.4**	**+1.4**
MT03				IAML			04 17 11.2	
	comp=N,682nm,0.2s							
MT05	**Renca**	**3.27**	**12**			**Pn**	**04 16 29.9**	**-0.2**
MT02	**Curacav**	**3.35**	**6**			**Pn**	**04 16 30.7**	**-0.5**
PEL	**Peldehue**	**3.52**	**12**			**Pn**	**04 16 33.0**	**-0.5**
ROC1	**El Roble**	**3.65**	**7**			**Pn**	**04 16 34.8**	**-0.5**
VA03	**San Esteban**	**3.92**	**12**			**Pn**	**04 16 38.0**	**-0.8**
PLCA	**Paso Flores**	**4.19**	**170**	P		**Pn**	**04 16 43.4**	**+0.9**
	comp=N,2.1nm,0.3s,baz=330,slow=11,SNR=60							
PLCA				S		**Sn**	**04 17 24.9**	**-5.5**
	comp=N,1.0nm,0.3s,baz=341,slow=16,SNR=4.1							

PLCA Paso Flores 4.19 170 **Pn** **04 16 43.0 +0.6**
CFA Coronel Fontan 5.69 30 P **Pn** **04 17 01.1 -1.6**
comp=N,13nm,0.3s,baz=218,slow=14,SNR=21
CFA S **Sn** **04 18 03.5 -3.2**
comp=N,11nm,0.3s,baz=111,slow=23,SNR=5.6
CO03 El Pedregal 5.79 7 Pn **Pn** **04 17 04.1 -0.2**
H03S1 Juan Fernandez 6.63 292 T T 04 23 09.4
baz=113,slow=76,SNR=28
H03S3 Juan Fernandez 6.64 293 T T 04 23 09.6
baz=113,slow=76,SNR=35
H03S2 Juan Fernandez 6.65 292 T T 04 23 09.0
baz=113,slow=76,SNR=33
VA04 Juan Fernndez 6.67 294 Pn **Pn** **04 17 17.0 +1.0**
LVC Limon Verde 14.13 10 P **Pn** **04 18 55.6 -1.1**
comp=N,0.2nm,0.3s,baz=180,slow=12,SNR=2.0
LVC Limon Verde 14.13 10 **Pn** **04 18 56.2 -0.4**
PB09 IPOC Station P 14.89 8 Pn **Pn** **04 19 06.9 +0.7**
CPUP Villa Florida 15.85 54 Pn **Pn** **04 19 17.5 -0.6**
PSGCX Pisagua 16.99 5 Pn **Pn** **04 19 30.2 -2.0**
PSGCX IAmb IAmb 04 19 35.8
comp=Z,28nm,1.5s
LPAZ La Paz 20.46 9 P **P** **04 20 11.7 +0.7**
comp=Z,2.7nm,0.6s,baz=179,slow=8.7,SNR=16
LPAZ La Paz 20.46 9 P **P** **04 20 10.7 -0.3**
SIV San Ignacio 22.54 27 P **P** **04 20 30.2 -2.3**
comp=Z,3.2nm,0.5s,baz=220,slow=7.9,SNR=17
SNAA Sanae 49.03 157 P **P** **04 24 16.5 -0.5**
comp=Z,1.2nm,0.7s,baz=288,slow=6.4,SNR=6.2
SNAA Sanae 49.03 157 P **P** **04 24 17.1 +0.2**
SNAA IAmb IAmb 04 24 24.9
comp=Z,2.1nm,1.0s
QSPA South Pole Qui 53.64 180 P **P** **04 24 52.1 +0.6**
comp=Z,1.7nm,0.8s,baz=133,slow=7.9,SNR=8.5
QSPA South Pole Qui 53.64 180 P **P** **04 24 52.1 +0.6**
CCIG Comitan 56.09 336 P **P** **04 25 10.1 +0.4**
TX31 Lajitas Ar. Si 72.20 331 P **P** **04 26 55.1 +0.3**
TX31 IAmb IAmb 04 27 13.2
comp=Z,8.2nm,1.4s
TXAR Lajitas Array 72.20 331 P **P** **04 26 55.4 +0.6**
comp=Z,0.6nm,0.6s,baz=155,slow=8.7,SNR=8.3
V55A Taylorsville 72.65 352 P **P** **04 26 56.9 -0.3**
V48A Smith Brothers 73.37 347 IAmb IAmb 04 27 02.7
comp=Z,3.7nm,0.8s
WVT Waverly 73.94 346 P **P** **04 27 04.5 -0.2**
WVT IAmb IAmb 04 27 05.3
comp=Z,2.4nm,0.9s
R55A Marlinton 74.94 353 P **P** **04 27 11.0 +0.5**
CCM Cathedral Cave 76.49 344 P **P** **04 27 18.9 -0.4**
CCM IAmb IAmb 04 27 20.3
comp=Z,4.1nm,0.8s
R40A Maddies Statio 76.95 343 P **P** **04 27 22.0 +0.1**
R40A IAmb IAmb 04 27 22.6
comp=Z,3.6nm,0.8s
ECSD EROS Data Cent 83.15 342 P **P** **04 27 55.1 -0.1**
E43A Lone Tree Farm 83.77 349 P **P** **04 27 58.3 +0.1**
TOA0 Torodi Ar. Sit 84.72 69 P **P** **04 28 03.4 -0.4**
TOA0 IAmb IAmb 04 28 17.6
comp=Z,7.0nm,1.5s
TORD Torodi Ar. Bea 84.72 69 P **P** **04 28 03.0 -0.8**
comp=Z,0.3nm,0.4s,baz=249,slow=4.3,SNR=6.3
TORD Torodi Ar. Bea 84.72 69 P **P** **04 28 03.2 -0.7**
NVAR Mina Array Bea 86.25 325 P **P** **04 28 12.3 +1.2**
comp=Z,0.7nm,0.7s,baz=148,slow=5.3,SNR=3.2
NVAR Mina Array Bea 86.25 325 P **P** **04 28 11.7 +0.6**

*IDC **16** 04:33:09.5±1.1,4.°85N×124.°98E,h0km,mb4.0/7, mb1 4.2/7,mb1mx3.8/33,mbtmp4.0/7,MS3.8/19, Ms1 3.8/19,ms1mx3.5/44,Error ellipse: s-maj=61.1km s-min=18.4km az=81.0*
*MAN **16** 04:33:10.1,4.°63N×124.°84E,h10km,MS4.4*
*NEIC **16** 04:33:16.2±1.4,4.°78N±0.°09×125.°21E±0.°03,h44km±9km, mb4.6/24,Error ellipse: s-maj=13.7km s-min=2.6km az=165.0*
ISC 16 04:33:15.1±1.7,**4.°78N**±0.°05×**125.°01E**±0.°08,**h32**km±13km, **n60**,σ1°**43**/51,**mb4.5**/17,**MS3.8**/15,**4D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
GSPH	**General Santos**	**1.30**	**357**	⇓*i*P		**Pn**	**04 33 37.1**	**0.0**
DDMP	**Don Marcelino,**	**1.49**	**28**	*e*P		**Pn**	**04 33 39.1**	**-0.6**
DDMP				*e*S		**Sn**	**04 33 59.4**	**+1.4**
SKMP	**Bagumbayan, Su**	**1.79**	**345**	*e*P		**Pn**	**04 33 43.4**	**-0.4**
SKMP				*e*S		**Sn**	**04 34 06.9**	**+1.5**
KCP	**Kidapawan**	**2.21**	**2**	⇓*e*P		**Pn**	**04 33 51.9**	**+2.2**
KCP				*i* S		**Sb**	**04 34 22.3**	**+0.7**
DMPH	**Davao City--Mi**	**2.34**	**12**	*e*P		**Pb**	**04 34 27.3**	**-0.2**
DMPH				*e*S		**Sb**	**04 34 27.8**	**+2.7**
CTBH	**Cotabato--PC H**	**2.54**	**343**	⇓*e*P		**Pn**	**04 33 55.6**	**+1.5**
CTBH				*i* S		**Sb**	**04 34 28.2**	**-2.6**
BUKP	**Musuan**	**3.08**	**1**	*e*P		**Pn**	**04 34 01.4**	**-0.1**
BUKP				*e*S		**Sn**	**04 34 42.0**	**+4.7**
PAGZ	**Pagadian**	**3.45**	**332**	*e*P		**Pn**	**04 34 06.0**	**-0.6**
PAGZ				*e*S		**Sn**	**04 34 47.7**	**+1.3**
CGP	**Cagayan de Oro**	**3.66**	**355**	⇓*e*P		**Pb**	04 34 27.4	+8.2
LUWI	**Luwuk**	**6.20**	**201**	Pn		**Pn**	**04 34 45.9**	**+1.4**
LUWI				Sn		**Sn**	**04 35 57.1**	**+2.8**
SIJI	**Sorong**	**8.40**	**132**	LR		LR	04 38 50.6	
	comp=Z,547nm,18.6s,baz=276,slow=40							
TGY	**Tagaytay City**	**10.09**	**337**	LR		LR	04 39 50.3	
	comp=Z,1μm,20.6s,baz=162,slow=40							
KAPI	**Kappang**	**11.06**	**208**	LR		LR	04 40 32.8	
	comp=Z,616nm,18.0s,baz=38,slow=40							
SBUM	**Sibu**	**12.97**	**260**	Pn		P	04 36 21.4	-6.0
KSM	**Kuching**	**15.04**	**258**	Pn		**P**	**04 36 48.1**	**-2.4**
JAY	**Jayapura**	**17.28**	**114**	LR		LR	04 43 33.8	
	comp=Z,324nm,18.7s,baz=358,slow=36							
KNRA	**Kununurra**	**20.66**	**170**	P		**P**	**04 37 51.2**	**-1.2**
KNRA				IAmb		IAmb	04 38 08.9	
	comp=Z,58nm,1.4s							
LEM	**Lembang**	**20.84**	**237**	LR		LR	04 46 37.8	
	comp=Z,240nm,20.5s,baz=54,slow=39							
FITZ	**Fitzroy Crossi**	**22.74**	**178**	P		**P**	**04 38 14.7**	**0.0**
	comp=Z,4.5nm,0.8s,baz=352,slow=4.3,SNR=6.0							
FITZ				LR		LR	04 48 46.7	
	comp=Z,48nm,18.8s,baz=24,slow=41							
FITZ	**Fitzroy Crossi**	**22.74**	**178**	P		**P**	**04 38 15.2**	**+0.5**
IPM	**Ipoh**	**23.91**	**270**	P		**P**	**04 38 28.2**	**+1.9**
IPM				IAmb		IAmb	04 38 38.5	
	comp=Z,16nm,1.2s							
BKNI	**Bangkinang**	**24.34**	**260**	P		**P**	**04 38 31.8**	**+1.4**
WB0	**Warramunga Arr**	**26.08**	**160**	P		**P**	**04 38 45.6**	**-0.5**
WB0				IAmb		IAmb	04 38 59.4	
	comp=Z,18nm,1.0s							
WRA	**Warramunga Arr**	**26.23**	**160**	P		**P**	**04 38 46.8**	**-0.6**
	comp=Z,12nm,0.9s,baz=338,slow=10,SNR=14							
WRA	**Warramunga Arr**	**26.23**	**160**	P		**P**	**04 38 46.6**	**-0.7**
WB2	**Warramunga Arr**	**26.23**	**160**	P		**P**	**04 38 46.8**	**-0.6**
WB2				IAmb		IAmb	04 38 52.1	
	comp=Z,14nm,0.8s							
JNU	**Nakatsue**	**28.72**	**10**	LR		LR	04 53 54.8	
	comp=Z,70nm,18.2s,baz=193,slow=44							
CMAR	**Chiang Mai Arr**	**28.86**	**300**	LR		LR	04 51 49.0	
	comp=Z,90nm,18.2s,baz=152,slow=39							
ASAR	**Alice Springs**	**29.58**	**163**	P		**P**	**04 39 17.0**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=350,slow=7.6,SNR=10.0							
ASAR				LR		LR	04 52 40.3	
	comp=Z,96nm,18.9s,baz=13,slow=40							
ASAR	**Alice Springs**	**29.58**	**163**	P		**P**	**04 39 16.9**	**-0.5**
XAN	**Xi'an**	**32.73**	**335**	P		**P**	**04 39 46.1**	**+1.1**
XAN				IAmb		IAmb	04 39 53.4	
	comp=Z,11nm,1.2s							
MJAR	**Matsushiro Arr**	**33.85**	**19**	P		**P**	**04 39 52.7**	**-2.0**
	comp=Z,1.6nm,0.7s,baz=196,slow=10.0,SNR=4.4							
MJAR				LR		LR	04 54 56.5	
	comp=Z,109nm,18.6s,baz=210,slow=39							
MJAR	**Matsushiro Arr**	**33.85**	**19**	P		**P**	**04 39 53.2**	**-1.6**
STKA	**Stephens Creek**	**39.73**	**158**	P		**P**	**04 40 44.3**	**-0.5**
	comp=Z,3.4nm,0.7s,baz=340,slow=9.8,SNR=6.3							
STKA	**Stephens Creek**	**39.73**	**158**	P		**P**	**04 40 44.2**	**-0.6**
SONM	**Songino Array**	**45.77**	**343**	LR		LR	05 01 51.3	
	comp=Z,110nm,19.4s,baz=124,slow=38							
TLY	**Talaya**	**50.01**	**343**	LR		L

KBL				IAmb	IAmb	04 43 23.9		
	comp=Z,5.4nm,0.7s							
KURK	**Kurchatov**	**59.94**	**328**	P	**P**	**04 43 18.2**	**0.0**	
KURK				IAmb	IAmb	04 43 25.5		
	comp=Z,5.0nm,1.1s							
GAR	**Garm**	**59.95**	**313**	P	**P**	**04 43 18.4**	**-0.3**	
BTK	**Batken**	**59.96**	**314**	P	**P**	**04 43 18.6**	**-0.1**	
BTK				IAmb	IAmb	04 43 37.5		
	comp=Z,3.9nm,0.9s							
CHGR	**Chuyangaron**	**60.69**	**312**	P	**P**	**04 43 24.9**	**+1.2**	
KK31	**Karatay Array**	**61.30**	**317**	P	**P**	**04 43 28.2**	**+0.5**	
KKAR	**Karatay Array**	**61.30**	**317**	P	**P**	**04 43 28.7**	**+1.1**	
NRIK	**Noril'sk**	**69.01**	**347**	LR	LR	05 17 56.7		
	comp=Z,123nm,18.2s,baz=161,slow=39							
BPAW	**Bear Paw Mtn.**	**83.10**	**26**	P	**P**	**04 45 37.4**	**-0.1**	
BPAW				IAmb	IAmb	04 45 44.8		
	comp=Z,6.3nm,1.2s							
MCK	**McKinley**	**83.99**	**27**	P	**P**	**04 45 41.2**	**-0.9**	
MDM	**Murphy Dome**	**84.33**	**25**	P	**P**	**04 45 42.5**	**-1.3**	
MDM				IAmb	IAmb	04 45 53.8		
	comp=Z,3.3nm,0.9s							
CCB	**Clear Creek Bu**	**84.50**	**26**	P	**P**	**04 45 43.8**	**-0.8**	
CCB				IAmb	IAmb	04 45 51.4		
	comp=Z,4.4nm,1.4s							
ILAR	**Eielson Array**	**84.90**	**25**	P	**P**	**04 45 47.0**	**+0.3**	
	comp=Z,0.3nm,0.5s,baz=248,slow=5.0,SNR=4.1							
BMAR	**Burnt Mountain**	**85.78**	**23**	P	**P**	**04 45 50.0**	**-1.1**	
ARCES	**ARCESS Array B**	**88.87**	**340**	LR	LR	05 31 28.8		
	comp=Z,45nm,18.2s,baz=34,slow=39							
AKASG	**Malin Array Be**	**90.00**	**321**	LR	LR	05 30 31.4		
	comp=Z,43nm,21.2s,baz=55,slow=38							
FINES	**FINESS Array B**	**90.10**	**332**	LR	LR	05 29 54.9		
	comp=Z,60nm,19.7s,baz=63,slow=38							
NOA	**NORSAR Array B**	**97.08**	**333**	LR	LR	05 34 09.5		
	comp=Z,84nm,21.2s,baz=70,slow=38							

IDC ***16*** *04:54:34.4±0.5, 14˚.90S×173˚.74W, h0km, mb4.4/21, mb1 4.6/21, mb1mx4.4/44, mbtmp4.4/21, MS4.4/27, Ms1 4.4/27, ms1mx4.3/32, Error ellipse: s-maj=20.0km s-min=15.1km az=139.0*

BJI ***16*** *04:54:34.6±0.0, 14˚.75S×173˚.19W, h12km, mB5.4/16, mb5.0/19, Ms4.9/9, Ms7 4.7/9*

NEIC ***16*** *04:54:38.5±1.2, 14˚.74S±0˚.05×173˚.29W±0˚.07, h24km±2km, mb4.8/96, Error ellipse: s-maj=10.4km s-min=6.5km az=121.0*

GCMT ***16*** *04:54:41.5±0.2, 14˚.74S±0˚.01×173˚.52W±0˚.01, h12km, MW5.1/126, Moment Tensor Solution. s55,c72; s126,c195; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=2.82±.15; Mθθ=0.92±.13; Mϕϕ3.74±.13; Mrθ=0.25±.31; Mθϕ4.79±.10; Mϕr3.29±.39; Best double couple: M=6.53800×1016 NP1:ϕs72.00000°, δ50.00000°, λ=-21.00000°. NP2:ϕs176.00000°, δ74.00000°, λ=-138.00000°. Principal axes: T 7.4470, Plg15.0000°, Azm299.0000°; N -1.8180, Plg45.0000°, Azm194.0000°; P -5.6300, Plg41.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 04:54:38.7±0.3, 14.88S±0.06×173.34W±0.06, h30km, n234, σ1§42/211, mb4.8/68, MS4.5/33, 8C-6D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.79**	**57**	Pn	**Pn**	**04 55 04.9**		**-2.8**
AFI				Sn	**Sn**	**04 55 25.9**		**-3.6**
NIUE	**Niue**	**5.29**	**142**	Pn	**Pn**	**04 55 54.1**		**-1.6**
NIUE				Sn	**Sn**	**04 56 55.2**		**-0.5**
MSVF	**Nonsavu**	**8.74**	**250**	Pn	**Pn**	**04 56 44.7**		**+1.4**
KNTN	**Kanton**	**12.14**	**8**	Pn	Pn	04 57 25.1		-4.6
RAR	**Rarotonga**	**14.35**	**118**	Pn	**Pn**	**04 57 59.1**		**-0.7**
	1.1nm,0.3s,baz=258,slow=9.3,SNR=5.9							
RAR				LR	LR	05 02 10.5		
	comp=Z,2μm,21.7s,baz=276,slow=31							
RAR	**Rarotonga**	**14.35**	**118**	Pn	**Pn**	**04 57 58.0**		**-1.8**
RAO	**Raoul Island**	**14.91**	**196**	LR	LR	05 02 35.4		
	comp=Z,1μm,19.4s,baz=19,slow=32							
DZM	**Mont Dzumac**	**20.45**	**247**	*e*P	**P**	**04 59 13.0**		**-1.1**
	214nm,1.5s							
DZM				*e*LQ	LQ	05 03 06.4		
	5μm,26.9s							
DZM				*e*LR	LR	05 03 57.5		
	comp=Z,725nm,24.9s							
DZM	**Mont Dzumac**	**20.45**	**247**	P	**P**	**04 59 12.8**		**-1.2**
PPT	**Papeete**	**22.96**	**100**	LR	LR	05 06 29.5		
	comp=Z,617nm,20.7s,baz=271,slow=31							
PPT2	**Papeete2**	**22.96**	**100**	*e*S	**S**	**05 03 55.2**		**+5.6**
	320nm,22.4s							
PPT2				*e*LQ	LQ	05 04 14.8		
	4μm,26.8s							
PPT2				*e*LR	LR	05 05 14.8		
	comp=Z,3μm,26.5s,baz=271							
PPT2	**Papeete2**	**22.96**	**100**	*e*T	T	05 23 33.0		
	3.5nm,0.3s							
PAE	**Paea**	**22.97**	**100**	*e*T	T	05 23 34.8		
	2.9nm,0.3s							
TVO	**Taravao**	**23.29**	**100**	*e*T	T	05 24 01.9		
	1.6nm,0.3s							
TBI	**Tubuai**	**24.05**	**114**	*e*S	**S**	**05 04 13.2**		**+6.2**
	129nm,20.5s							
TBI				*e*LQ	LQ	05 04 42.3		
	3μm,25.8s							
TBI				*e*LR	LR	05 05 49.5		
	comp=Z,4μm,26.8s,baz=288							
TBI	**Tubuai**	**24.05**	**114**	*e*T	T	05 25 00.8		
	8.5nm,0.3s							
BKZ	**Black Stump Fm**	**25.79**	**198**	P	**P**	**05 00 07.1**		**0.0**
HNR	**Honiara**	**26.66**	**279**	LR	LR	05 09 00.0		
	comp=Z,751nm,18.0s,baz=122,slow=33							
LTZ	**Lake Taylor**	**30.43**	**201**	P	**P**	**05 00 48.2**		**-0.4**
TAOE	**Nuku Hiva Isla**	**33.00**	**83**	*e*LR	LR	05 09 47.5		
	comp=Z,2μm,26.7s							
ARMA	**Armidale**	**35.66**	**238**	P	**P**	**05 01 32.5**		**-2.0**
ARMA				IAmb	IAmb	05 01 36.2		
	comp=Z,16nm,1.3s							
RKT	**Rikitea**	**37.10**	**109**	*e*LR	LR	05 11 40.4		
	comp=Z,2μm,29.0s							
RKT	**Rikitea**	**37.10**	**109**	*e*T	T	05 41 18.6		
	comp=Z,3.3nm,0.3s							
HATHI	**Halema'uma'u T**	**38.45**	**28**	P	**P**	**05 01 56.2**		**-2.0**
H11S2	**WAKE ISLAND Hy**	**38.56**	**329**	T	T	05 42 50.4		
	baz=149,slow=76,SNR=20							
H11S3	**WAKE ISLAND Hy**	**38.57**	**329**	T	T	05 42 56.0		
	baz=149,slow=76,SNR=25							
H11S1	**WAKE ISLAND Hy**	**38.57**	**329**	T	T	05 42 48.6		
	baz=149,slow=76,SNR=19							
H11N3	**WAKE ISLAND Hy**	**39.50**	**330**	T	T	05 44 02.0		
	baz=150,slow=76,SNR=28							
H11N1	**WAKE ISLAND Hy**	**39.50**	**330**	T	T	05 44 10.1		
	baz=150,slow=76,SNR=20							
H11N2	**WAKE ISLAND Hy**	**39.52**	**330**	T	T	05 44 03.3		
	baz=150,slow=76,SNR=26							
BBOO	**Buckleboo**	**49.13**	**239**	P	**P**	**05 03 22.9**		**-1.0**
BBOO				IAmb	IAmb	05 03 34.0		
	comp=Z,22nm,1.5s							
WB0	**Warramunga Arr**	**49.98**	**257**	P	**P**	**05 03 27.6**		**-3.0**
WB2	**Warramunga Arr**	**50.01**	**256**	P	**P**	**05 03 27.5**		**-3.3**
WB2				IAmb	IAmb	05 03 29.6		
	comp=Z,11nm,1.1s							
WRA	**Warramunga Arr**	**50.02**	**256**	P	**P**	**05 03 26.8**		**-4.1**
	comp=Z,4.9nm,0.9s,baz=90,slow=7.2,SNR=11							
WRA				LR	LR	05 22 57.1		
	comp=Z,550nm,18.9s,baz=105,slow=34							
WRA	**Warramunga Arr**	**50.02**	**256**	P	**P**	**05 03 27.4**		**-3.5**
AS31	**Alice Springs**	**50.33**	**251**	P	**P**	**05 03 29.3**		**-3.9**
ASAR	**Alice Springs**	**50.33**	**251**	P	**P**	**05 03 28.9**		**-4.3**
	comp=Z,9.2nm,0.7s,baz=84,slow=8.6,SNR=65							
ASAR				LR	LR	05 22 40.9		
	comp=Z,646nm,20.7s,baz=92,slow=34							
ASAR	**Alice Springs**	**50.33**	**251**	P	**P**	**05 03 28.8**		**-4.4**
SIJI	**Sorong**	**56.44**	**279**	P	**P**	**05 04 16.1**		**-2.1**
	comp=Z,27nm,1.0s,baz=88,slow=4.7,SNR=4.7							
SIJI				LR	LR	05 27 12.7		
	comp=Z,438nm,21.0s,baz=100,slow=35							
VNDA	**Vanda**	**63.89**	**186**	P	**P**	**05 05 08.5**		**+0.4**
	comp=Z,3.0nm,1.0s,baz=14,slow=5.6,SNR=6.3							
VNDA				LR	LR	05 27 41.3		
	comp=Z,186nm,21.1s,baz=14,slow=31							
VNDA	**Vanda**	**63.89**	**186**	P	**P**	**05 05 08.6**		**+0.4**
MJAR	**Matsushiro Arr**	**68.59**	**320**	P	**P**	**05 05 37.2**		**-1.8**
	comp=Z,2.6nm,0.7s,baz=167,slow=6.6,SNR=5.9							
MJAR				LR	LR	05 29 59.6		
	comp=Z,374nm,22.0s,baz=115,slow=31							
MJAR	**Matsushiro Arr**	**68.59**	**320**	P	**P**	**05 05 37.1**		**-1.8**
MAJO	**Matsushiro**	**68.59**	**320**	P	**P**	**05 05 37.1**		**-1.9**
MAJO				IAmb	IAmb	05 05 48.5		
	comp=Z,7.3nm,0.9s							
ASAJ	**Asahikawa**	**71.14**	**328**	LR	LR	05 30 49.0		
	comp=Z,256nm,22.0s,baz=174,slow=31							
JNU	**Nakatsue**	**71.49**	**313**	P	**P**	**05 05 55.7**		**-1.2**
	comp=Z,5.7nm,0.7s,baz=132,slow=7.0,SNR=5.7							
JNU				LR	LR	05 31 49.8		
	comp=Z,160nm,21.4s,baz=147,slow=31							
JNU	**Nakatsue**	**71.49**	**313**	P	**P**	**05 05 55.8**		**-1.0**
JNU				IAmb	IAmb	05 05 59.9		
	comp=Z,8.3nm,0.9s							
CHGN	**Chignik**	**72.01**	**9**	P	**P**	**05 06 00.1**		**+0.8**
CHGN				IAmb	IAmb	05 06 09.5		
	comp=Z,7.1nm,0.8s							
PEA0B	**Petropavlovsk-**	**72.16**	**342**	P	**P**			
PETK	**Petropavlovsk-**	**72.16**	**342**	P	**P**	**05 06 00.1**		**-0.3**
	comp=Z,3.0nm,0.7s,baz=126,slow=7.5,SNR=5.4					**05 05 59.9**		**-0.5**
PETK				LR	LR	05 32 36.5		
	comp=Z,99nm,21.8s,baz=153,slow=32							
PETK	**Petropavlovsk-**	**72.16**	**342**	P	**P**	**05 05 59.5**		**-0.9**
ISA	**Isabella, Lake**	**72.24**	**44**	P	**P**	**05 06 01.9**		**+0.6**
ISA				IAmb	IAmb	05 06 17.9		
	comp=Z,10nm,1.1s							
CMB	**Columbia Colle**	**72.34**	**41**	P	**P**	**05 06 02.0**		**+0.1**
CMB				IAmb	IAmb	05 06 14.6		
	comp=Z,11nm,1.3s							
YBH	**Yreka Blue Hor**	**73.15**	**37**	P	**P**	**05 06 08.3**		**+1.6**
	comp=Z,4.4nm,1.0s,baz=264,slow=1.0,SNR=7.9							
YBH	**Yreka Blue Hor**	**73.15**	**37**	P	**P**	**05 06 06.8**		**+0.2**
BEKR	**Beckworth**	**73.43**	**40**	P	**P**	**05 06 08.4**		**0.0**
NVAR	**Mina Array Bea**	**73.91**	**42**	P	**P**	**05 06 13.6**		**+2.2**
	comp=Z,3.2nm,0.8s,baz=231,slow=9.2,SNR=7.3							
NVAR				LR	LR	05 31 07.9		
	comp=Z,300nm,21.4s,baz=248,slow=30							
NVAR	**Mina Array Bea**	**73.91**	**42**	P	**P**	**05 06 11.9**		**+0.5**
PAHR	**Pah Rah Range**	**73.95**	**40**	P	**P**	**05 06 11.9**		**+0.5**
PAHR				IAmb	IAmb	05 06 15.2		
	comp=Z,14nm,1.3s							
NV11	**Mina Array Sit**	**74.00**	**42**	P	**P**	**05 06 11.7**		**-0.1**
NV11				IAmb	IAmb	05 06 24.9		
	comp=Z,18nm,1.3s							
KVN	**Kaiserville**	**74.39**	**42**	P	**P**	**05 06 14.1**		**0.0**
KVN				IAmb	IAmb	05 06 26.9		
	comp=Z,12nm,1.1s							
SHPR	**Sheep Range**	**74.95**	**45**	P	**P**	**05 06 18.0**		**+0.6**
QSPA	**South Pole Qui**	**75.16**	**180**	P	**P**	**05 06 18.7**		**+0.6**
	comp=Z,10nm,0.9s,baz=74,slow=0.5,SNR=13							
QSPA	**South Pole Qui**	**75.16**	**180**	P	**P**	**05 06 18.5**		**+0.4**
Y14A	**Wickenburg**	**75.16**	**48**	P	**P**	**05 06 17.6**		**-0.9**
KSRS	**Korea Array**	**75.84**	**315**	P	**P**	**05 06 21.8**		**-0.4**
	comp=Z,1.6nm,0.8s,baz=122,slow=6.8,SNR=8.9							
KSRS				LR	LR	05 33 36.0		
	comp=Z,166nm,21.9s,baz=113,slow=31							
KSAR	**Wonju Array Be**	**75.86**	**315**	P	**P**	**05 06 21.6**		**-0.7**
TUC	**Tucson**	**76.02**	**51**	P	**P**	**05 06 22.9**		**-0.6**
I07A	**Izee**	**76.45**	**37**	P	**P**	**05 06 25.4**		**-0.3**
I07A				IAmb	IAmb	05 06 38.6		
	comp=Z,9.6nm,1.1s							
U15A	**North Rim**	**76.90**	**46**	P	**P**	**05 06 28.2**		**-0.4**
U15A				IAmb	IAmb	05 06 42.4		
	comp=Z,19nm,1.4s							
USRK	**Ussuriysk Ar.**	**77.01**	**323**	P	**P**	**05 06 29.8**		**+1.1**
	comp=Z,1.9nm,0.8s,baz=104,slow=1.0,SNR=5.3							
USRK				LR	LR	05 33 39.6		
	comp=Z,415nm,21.3s,baz=123,slow=30							
USRK	**Ussuriysk Ar.**	**77.01**	**323**	P	**P**	**05 06 29.5**		**+0.8**
ELK	**Elko**	**77.16**	**41**	P	**P**	**05 06 31.8**		**+1.9**
	comp=Z,1.8nm,0.9s,baz=236,slow=4.1,SNR=7.5							
ELK	**Elko**	**77.16**	**41**	P	**P**	**05 06 29.1**		**-0.8**
G08A	**Pilot Rock**	**77.48**	**36**	P	**P**	**05 06 31.2**		**-0.3**
G08A				IAmb	IAmb	05 06 44.1		
	comp=Z,8.9nm,1.1s							
LEM	**Lembang**	**77.73**	**266**	LR	LR	05 41 18.3		
	comp=Z,142nm,19.8s,baz=22,slow=36							
MTPU	**Mount Pierson**	**77.78**	**45**	P	**P**	**05 06 33.6**		**0.0**
MFID	**Camas Ranch**	**78.25**	**39**	P	**P**	**05 06 35.7**		**-0.1**
121A	**Cookes Peak, D**	**78.38**	**52**	P	**P**	**05 06 37.1**		**+0.3**
121A				IAmb	IAmb	05 06 49.9		
	comp=Z,9.0nm,0.9s							
PMR	**Palmer**	**78.61**	**12**	P	**P**	**05 06 37.0**		**-0.1**
ZAIG	**Zacatecas**	**78.71**	**63**	P	**P**	**05 06 38.4**		**-0.6**
ZAIG				IAmb	IAmb	05 06 52.3		
	comp=Z,9.4nm,1.0s							
TTA	**Tatalina**	**78.74**	**8**	P	**P**	**05 06 38.1**		**+0.1**
F10A	**Beach Ranch, E**	**78.87**	**36**	P	**P**	**05 06 39.2**		**+0.1**
TMUT	**Trail Mountain**	**79.06**	**44**	P	**P**	**05 06 40.6**		**0.0**
SCM	**Sheep Creek Mo**	**79.19**	**12**	P	**P**	**05 06 40.3**		**-0.2**
SCM				IAmb	IAmb	05 06 43.2		
	comp=Z,22nm,1.4s							
VRDI	**Verde Repeater**	**79.50**	**14**	P	**P**	**05 06 42.6**		**+0.3**
VRDI				IAmb	IAmb	05 06 58.4		
	comp=Z,10.0nm,1.2s							
GLB	**Gilahina Butte**	**79.61**	**14**	P	**P**	**05 06 42.6**		**-0.1**
MA2	**Magadan**	**79.69**	**342**	LR	LR	05 38 09.1		
	comp=Z,118nm,20.2s,baz=154,slow=33							
BARN	**Barnard Glacie**	**79.79**	**15**	P	**P**	**05 06 43.5**		**-0.5**
BARN				IAmb	IAmb	05 06 56.1		
	comp=Z,16nm,1.3s							
MNTX	**Cornudas Mount**	**79.87**	**53**	P	**P**	**05 06 44.7**		**-0.1**
MNTX				IAmb	IAmb	05 06 58.2		
	comp=Z,13nm,1.2s							
NJ2	**Nanjing**	**79.91**	**307**	*e*P	**P**	**05 06 44.8**		**-0.2**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.5s							
TRF	**Thorofare Moun**	**80.11**	**10**	P	**P**	**05 06 44.9**		**-0.7**
TRF				IAmb	IAmb	05 07 00.7		
	comp=Z,11nm,1.0s							
PV20	**West Nyswonger**	**80.14**	**46**	P	**P**	**05 06 45.5**		**+0.1**
PV20				IAmb	IAmb	05 06 59.3		
	comp=Z,16nm,1.1s							
TX31	**Lajitas Ar. Si**	**80.27**	**56**	P	**P**	**05 06 48.7**		**+1.5**
TXAR	**Lajitas Array**	**80.27**	**56**	P	**P**	**05 06 50.1**		**+2.9**
	comp=Z,2.3nm,0.9s,baz=228,slow=5.4,SNR=15							
TXAR				LR	LR	05 36 45.4		
	comp=Z,146nm,18.8s,baz=0.0,slow=31							
TXAR	**Lajitas Array**	**80.27**	**56**	P	**P**	**05 06 48.5**		**+1.4**
RND	**Reindeer**	**80.32**	**11**	P	**P**	**05 06 46.8**		**+0.2**
RND				IAmb	IAmb	05 06 58.4		
	comp=Z,14nm,1.1s							
PV22	**Blue Mesa, Par**	**80.36**	**46**	P	**P**	**05 06 47.8**		**+0.2**
ANMO	**Albuquerque**	**80.42**	**50**	P	**P**	**05 06 49.7**		**+1.7**
	comp=Z,2.2nm,0.9s,baz=226,slow=3.3,SNR=13							
ANMO	**Albuquerque**	**80.42**	**50**	P	**P**	**05 06 48.2**		**+0.2**
ANMO				IAmb	IAmb	05 07 03.4		
	comp=Z,15nm,1.4s							
MCK	**McKinley**	**80.61**	**11**	P	**P**	**05 06 47.7**		**-0.4**
MCK				IAmb	IAmb	05 06 59.7		
	comp=Z,12nm,0.9s							
HYT	**Haines Junctio**	**80.70**	**17**	P	**P**	**05 06 49.5**		**+0.7**
MCMT	**McKenzie Canyo**	**80.82**	**39**	P	**P**	**05 06 50.7**		**+0.8**
MENT	**Mentasta**	**80.94**	**13**	P	**P**	**05 06 49.8**		**-0.1**
MENT				IAmb	IAmb	05 06 53.8		
	comp=Z,11nm,1.4s							
DLBC	**Dease Lake**	**81.20**	**21**	P	**P**	**05 06 52.0**		**+0.6**
	comp=Z,0.6nm,0.4s,baz=183,slow=19,SNR=1.7							
MSO	**Missoula**	**81.23**	**37**	P	**P**	**05 06 52.3**		**+0.4**
DLMT	**Dillon**	**81.25**	**38**	P	**P**	**05 06 52.4**		**+0.3**
REDW	**Red Top Meadow**	**81.31**	**41**	P	**P**	**05 06 52.8**		**+0.3**
TPAW	**Teton Pass**	**81.31**	**41**	P	**P**	**05 06 52.5**		**-0.1**
TPAW				IAmb	IAmb	05 07 06.0		
	comp=Z,8.8nm,1.0s							
FXWY	**Fox Creek**	**81.33**	**41**	P	**P**	**05 06 52.7**		**0.0**
FXWY				IAmb	IAmb	05 07 05.6		
	comp=Z,11nm,1.2s							
S22A	**4UR Ranch, Cre**	**81.38**	**47**	P	**P**	**05 06 53.4**		**+0.2**
S22A				IAmb	IAmb	05 07 06.0		
	comp=Z,13nm,1.0s							
SNOW	**Snow King Moun**	**81.42**	**41**	P	**P**	**05 06 53.1**		**0.0**
SNOW				IAmb	IAmb	05 07 06.0		
	comp=Z,16nm,1.2s							
WRH	**Wood River Hil**	**81.44**	**11**	P	**P**	**05 06 52.8**		**+0.3**
BCAR	**Beaver Creek A**	**81.49**	**14**	P	**P**	**05 06 52.7**		**-0.2**
LRM	**Limekiln Ridge**	**81.58**	**38**	P	**P**	**05 06 53.8**		**-0.1**
HDA	**Harding Lake**	**81.59**	**11**	P	**P**	**05 06 53.2**		**0.0**
HDA				IAmb	IAmb	05 06 56.0		
	comp=Z,11nm,1.0s							
CCB	**Clear Creek Bu**	**81.65**	**11**	P	**P**	**05 06 52.5**		**-1.0**
CCB				IAmb	IAmb	05 06 56.1		
	comp=Z,12nm,1.0s							
FLWY	**Flagg Ranch**	**81.76**	**40**	P	**P**	**05 06 54.4**		**-0.6**
FLWY				IAmb	IAmb	05 07 08.1		
	comp=Z,16nm,1.1s							
SCRK	**Sand Creek**	**81.80**	**13**	P	**P**	**05 06 53.9**		**-0.6**
BW06	**Boulder Array**	**81.84**	**42**	P	**P**	**05 06 55.7**		**+0.3**
PD31	**Pinedale Array**	**81.84**	**42**	P	**P**	**05 06 55.6**		**+0.2**
PDAR	**Pinedale Array**	**81.84**	**42**	P	**P**	**05 06 56.6**		**+1.2**
	comp=Z,1.5nm,0.8s,baz=205,slow=3.1,SNR=9.5							
PDAR				LR	LR	05 38 08.1		
	comp=Z,192nm,18.9s,baz=265,slow=32							
PDAR	**Pinedale Array**	**81.84**	**42**	P	**P**	**05 06 55.8**		**+0.4**
COLA	**College**	**81.85**	**11**	P	**P**	**05 06 54.1**		**-0.4**
IL31		**81.93**	**11**	P	**P**	**05 06 55.0**		**0.0**
IL31				IAmb	IAmb	05 07 11.4		
	comp=Z,13nm,1.4s							
ILAR	**Eielson Array**	**81.93**	**11**	P	**P**	**05 06 55.2**		**+0.2**
	comp=Z,2.5nm,1.0s,baz=207,slow=6.0,SNR=14							
ILAR				LR	LR	05 36 57.2		
	comp=Z,67nm,20.8s,baz=224,slow=31							
ILAR	**Eielson Array**	**81.93**	**11**	P	**P**	**05 06 54.8**		**-0.2**
BOZ	**Bozeman (W)**	**81.95**	**39**	P	**P**	**05 06 56.4**		**+0.6**
BOZ				IAmb	IAmb	05 07 08.6		
	comp=Z,16nm,1.4s							
IMAR	**Indian Mountai**	**81.96**	**8**	P	**P**	**05 06 55.3**		**+0.1**
MSTX	**Muleshoe**	**82.79**	**52**	P	**P**	**05 07 01.0**		**+0.6**
EGAK	**Eagle**	**83.11**	**13**	P	**P**	**05 07 01.6**		**+0.4**
EGAK				IAmb	IAmb	05 07 12.9		
	comp=Z,14nm,1.4s							
ISCO	**Idaho Springs**	**83.13**	**46**	P	**P**	**05 07 03.5**		**+1.2**
RLMT	**Red Lodge**	**83.16**	**40**	P	**P**	**05 07 03.1**		**+0.9**
RLMT				IAmb	IAmb	05 07 06.8		
	comp=Z,6.8nm,1.1s							
N23A	**Red Feather La**	**83.38**	**45**	P	**P**	**05 07 04.3**		**+0.8**
K22A	**Casper**	**83.77**	**43**	P	**P**	**05 07 06.3**		**+1.0**
PHWY	**Pilot Hill**	**83.89**	**45**	P	**P**	**05 07 06.8**		**+0.7**
PHWY				IAmb	IAmb	05 07 24.2		
	comp=Z,6.0nm,0.9s							
AMTX	**Amarillo**	**83.98**	**52**	P	**P**	**05 07 07.1**		**+0.6**
BILL	**Bilibino**	**84.01**	**352**	P	**P**	**05 07 05.7**		**0.0**
BILL				IAmb	IAmb	05 07 15.3		
	comp=Z,9.5nm,1.0s							
EGMT	**Eagleton**	**84.28**	**37**	P	**P**	**05 07 08.3**		**+0.6**
EGMT				IAmb	IAmb	05 07 19.0		
	comp=Z,6.3nm,1.0s							
ABTX	**Abilene, Hawle**	**84.71**	**54**	P	**P**	**05 07 11.1**		**+0.9**
BMAR	**Burnt Mountain**	**84.74**	**11**	P	**P**	**05 07 10.1**		**+0.6**
TOLK	**Toolik Lake Re**	**85.03**	**9**	P	**P**	**05 07 11.9**		**+0.9**
BJT	**Baijiatuan**	**85.16**	**313**	P	**P**	**05 07 12.1**		**-0.1**
BJT				IAmb	IAmb	05 07 22.5		
	comp=Z,13nm,1.4s							
BJI	**Beijing**	**85.16**	**313**	P	**P**	**05 07 14.8**		**+2.6**
BJI				S	**S**	**05 17 47.3**		**+7.1**
BJI				pmax	pmax			
	comp=Z,7.0nm,1.7s							
BJI				LR	LR			
	comp=Z,96nm,17.7s							
BJI				LR	LR			
	comp=Z,100nm,21.6s							
BJI				LR	LR			
	comp=Z,290nm,26.5s							
H03S2	**Juan Fernandez**	**85.43**	**124**	T	T	06 42 06.7		
	baz=251,slow=75,SNR=7.6							
H03S1	**Juan Fernandez**	**85.45**	**124**	T	T	06 42 07.7		
	baz=251,slow=75,SNR=6.3							
H03S3	**Juan Fernandez**	**85.45**	**124**	T	T	06 42 07.0		
	baz=251,slow=75,SNR=5.5							
EPYK	**Eagle Plains**	**85.46**	**14**	P	**P**	**05 07 13.4**		**+0.3**
EPYK				IAmb	IAmb	05 07 30.0		
	comp=Z,7.8nm,0.9s							
LAO	**LASA Array**	**85.77**	**39**	P	**P**	**05 07 15.5**		**+0.3**
CCIG	**Comitan**	**85.93**	**72**	P	**P**	**05 07 16.7**		**-0.1**
RSSD	**Black Hills**	**86.04**	**42**	P	**P**	**05 07 16.6**		**-0.1**
RSSD				IAmb	IAmb	05 07 28.6		
	comp=Z,9.0nm,1.1s							
WHTX	**Lake Whitney,**	**86.22**	**56**	P	**P**	**05 07 18.0**		**+0.4**
INK	**Inuvik**	**87.75**	**14**	P	**P**	**05 07 25.1**		**+0.9**
	comp=Z,1.3nm,0.7s,baz=263,slow=6.0,SNR=5.0							
INK	**Inuvik**	**87.75**	**14**	P	**P**	**05 07 24.2**		**-0.1**
INK				IAmb	IAmb	05 07 35.2		
	comp=Z,7.0nm,1.2

MLR	Muntele Rosu	145.43	336			PKPdf	05 14 14.4	+0.3
DRGR		145.48	340	⇑P		PKPdf	05 14 14.1	0.0
GEC2	GERESS Array S	145.64	352	PKPdf		PKPdf	05 14 14.6	+0.3
GERES	GERESS Array B	145.64	352	PKPbc		PKPab	05 14 15.1	+0.2
	comp=Z,1.7nm,0.7s,baz=55,slow=5.1,SNR=12							
GERES	GERESS Array B	145.64	352	PKPdf		PKPdf	05 14 14.5	+0.2
BR131	Keskin Array S	145.80	322	PKPdf		PKPbc	05 14 15.6	+0.2
BRTR	Keskin Array B	145.80	322	PKPbc		PKPab	05 14 15.9	+0.1
	comp=Z,4.7nm,0.8s,baz=116,slow=1.9,SNR=19							
BRTR	Keskin Array B	145.80	322	PKPdf		PKPdf	05 14 15.3	+0.4
KMBO	Kilima Mbogo	145.81	245	PKPbc		PKPdf	05 14 15.6	-0.3
	comp=Z,0.6nm,0.3s,baz=63,slow=4.5,SNR=1.8							
VOIR		145.82	337	⇓P		PKPab	05 14 16.4	+0.8
ARR	Arges	146.04	337	⇑P		PKPab	05 14 17.2	+0.8
CONA	Conrad Observa	146.18	349	*i* PKPab		PKPab	05 14 17.0	+0.1
	comp=Z,29nm,1.6s							
MOA	Molln	146.53	351	*i* PKPab		PKPab	05 14 18.5	+0.3
	comp=Z,13nm,1.0s							
BFO	Black Forest	146.62	358	PKPdf		PKPdf	05 14 16.7	+0.8
BZS	Buzias	146.87	341	⇑P		PKPbc	05 14 18.3	+0.1
ARSA	Arzberg	146.90	349	*i* PKPab		PKPab	05 14 19.4	-0.2
	comp=Z,11nm,1.2s							
HERR	Herculane	147.25	339	⇑P		PKPbc	05 14 18.8	-0.5
RETA	Reutte	147.31	355	*i* PKPbc		PKPbc	05 14 18.7	-0.8
	comp=Z,8.8nm,1.2s							
WATA	Walderalm	147.39	354	*i* PKPab		PKPbc	05 14 20.3	+0.5
	comp=Z,3.7nm,0.7s							
KBA	Koelnbreinsper	147.42	352	*i* PKiKP		PKPab	05 14 21.5	-0.4
	comp=Z,13nm,2.0s							
MOTA	Moosalm	147.43	354	*i* PKPbc		PKPbc	05 14 19.6	-0.4
	comp=Z,11nm,0.9s							
WTTA	Wattenberg	147.45	354	*i* PKPab		PKPbc	05 14 20.8	+0.7
	comp=Z,5.0nm,0.6s							
SOKA	Soboth	147.54	349	*i* PKPab		PKPbc	05 14 20.2	+0.1
	comp=Z,10nm,1.1s							
SQTA	Sankt Quirin	147.54	354	*i* PKPab		PKPbc	05 14 21.0	+0.8
	comp=Z,7.0nm,0.9s							
MDVR	Moldovita	147.58	340	⇑P		PKPbc	05 14 20.3	0.0
DAVA	Damuels	147.58	356	*i* PKPbc		PKPbc	05 14 20.2	-0.1
	comp=Z,3.1nm,0.5s							
FETA	Feichten	147.78	355	*i* PKPbc		PKPbc	05 14 20.2	-0.7
	comp=Z,3.7nm,0.8s							
OBKA	Obir	147.79	350	*i* PKPbc		PKPbc	05 14 20.8	-0.1
	comp=Z,15nm,1.3s							
MYKA	Terra Mystica	147.82	351	*i* PKPab		PKPbc	05 14 21.2	+0.3
	comp=Z,2.5nm,0.5s							
ABTA	Abfaltersbach	147.86	352	*i* PKPbc		PKPdf	05 14 19.6	+1.5
	comp=Z,13nm,1.1s							
FUORN	Ofenpass-Fuorn	148.22	355			PKPbc	05 14 22.1	-0.1
SENIN	Lac Senin/Sane	148.61	359			PKPbc	05 14 23.9	+0.7
DIVS	Divibare	148.75	341			PKPbc	05 14 23.3	+0.4
BNI	Bardonecchia	149.59	360			PKPab	05 14 31.5	-0.5
PDG	Podgorica	150.48	341	⇓P		PKPbc	05 14 27.3	-0.3
ESDC	Sonseca Array	153.60	19	PKPbc		PKiKP	05 14 35.8	+0.8
	comp=Z,1.5nm,1.1s,baz=336,slow=2.8,SNR=4.1							
ESDC	Sonseca Array	153.60	19			PKPbc	05 14 35.2	+0.3
TORD	Torodi Ar. Bea	174.88	109	PKP		PKPdf	05 14 45.8	-0.8
	comp=Z,1.0nm,1.1s,baz=317,slow=3.6,SNR=3.7							
TORD				PKPab		PKPab	05 16 22.4	+1.1
	comp=Z,0.9nm,1.0s,baz=269,slow=2.9,SNR=3.5							
TORD	Torodi Ar. Bea	174.88	109			PKPdf	05 14 46.7	0.0
TORD						PKPab	05 16 22.1	+0.8

DJA ***16*** *04:55:41.5±0.4, 1°N±4°×12°7E±°, h10km, M3.6/5, MLv3.6/5*

IDC 16 04:55:19.7±2.0, 1°98N×127°80E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/46, mbtmp3.4/4, Error ellipse: s-maj=163.2km s-min=24.0km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANI	Sanana	4.39	204	P	Pb	04 56 36.2	-1.5
SANI				S	Sn	04 57 18.1	-1.5
WRA	Warramunga Arr	22.71	164	P	P	05 00 23.6	+0.3
	0.9nm,0.4s,baz=344,slow=11,SNR=5.4						
ASAR	Alice Springs	26.17	167	P	P	05 00 55.5	-0.5
	0.2nm,0.4s,baz=345,slow=8.0,SNR=1.9						
MKAR	Makanchi Array	59.60	325	P	P	05 05 26.4	+0.9
	0.2nm,0.3s,baz=126,slow=7.1,SNR=2.6						
KURBB	Kurchatov Arra	63.78	327	P	P	05 05 52.9	-0.7
	0.1nm,0.3s,baz=118,slow=6.1,SNR=4.1						

DJA 16 05:12:53.4±0.3, 3°S±3°×12°8E±°, h10km, M3.5/11, MLv3.5/11, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	Ambon	0.61	194	P	Pb	05 13 05.8	-0.4
MSAI	Masohi	0.64	113	P	Pg	05 13 06.0	+0.2
MSAI				S	Sg	05 13 14.8	+0.6
NLAI	Namlea	1.25	263	P	Pn	05 13 16.4	-0.5
SANI	Sanana	2.57	294	P	Pn	05 13 34.4	-0.7
LBMI	Labuha	2.58	341	P	Pn	05 13 35.6	+0.4
FAKI	Fak Fak	3.91	88	P	Pn	05 13 54.2	+0.7
APSI	Ampana	7.03	288	P	Pn	05 14 38.6	+2.1

IDC ***16*** *05:16:26.7±1.6, 2°.06S×99°.81E, h0km, mb4.1/10, mb1 4.1/11, mb1mx3.8/47, mbtmp4.0/11, ML2.8/1, MS3.7/3, Ms1 3.7/3, ms1mx3.0/40, Error ellipse: s-maj=66.4km s-min=16.5km az=56.0*

NEIC ***16*** *05:16:30.5±1.8, 2°.0S±0°.1×99°.7E±0°.2, h27km±7km, mb4.4/7, Error ellipse: s-maj=37.2km s-min=10.7km az=59.0*

DJA ***16*** *05:16:31.2±0.5, 2°S±4°×10°0E±°, h12km±6km, M4.0/11, MLv4.0/11*

ISC 16 05:16:32.0±0.6, 1°94S±0°.06×99°.83E±0°.06, h34km, n43, σ0s87/41, mb4.3/13, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPSI	Pulau Pagai	0.83	167	P	Pb	05 16 48.0	-0.2
SISI	Saibi	0.96	310	P	Pb	05 16 50.1	-0.1
SISI				S	Sb	05 17 04.0	+1.4
PDSI	Padang	1.21	32	P	Pn	05 16 53.2	+0.7
KRJI	Kerinci	1.64	95	Pg	Pb	05 17 01.4	-0.4
SDSI	Sungai Dareh	1.89	58	P	Pn	05 17 03.3	+1.4
PBSI	Pulau Batu	2.43	321	P	Pn	05 17 10.3	+0.9
MASI	Maura Aman, Be	2.69	116	P	Pn	05 17 14.5	+1.5
MNAI	Manna	3.94	128	P	Pn	05 17 31.2	+1.0
MNAI	Manna	3.94	128	Pn	Pn	05 17 31.1	+0.9
RPSI	Rantau Prapat	4.70	349		Pn	05 17 41.4	+0.9
RPSI	Rantau Prapat	4.70	349	Pn	Pn	05 17 41.3	+0.8
PSI	Prapat	4.80	349	Pn	Pn	05 17 41.4	-0.7
	0.4nm,0.3s,baz=180,slow=15,SNR=1.6						
PSI				LR	LR	05 19 59.8	
	comp=Z,151nm,19.3s,baz=269,slow=44						
MDSI	Maura Dua	5.03	120	P	Pn	05 17 46.6	+1.5
KULM	Kulim	7.23	7	Pn	Pn	05 18 15.8	+0.3
H08S2	Diego Garcia H	27.81	257	T	T	05 51 01.8	
	baz=80,slow=76,SNR=71						
H08S3	Diego Garcia H	27.81	257	T	T	05 51 05.9	
	baz=80,slow=76,SNR=64						
H08S1	Diego Carcia H	27.83	257	T	T	05 51 06.8	
	baz=80,slow=76,SNR=58						
WB0	Warramunga Arr	38.15	120	P	P	05 23 47.1	-1.4
WRA	Warramunga Arr	38.17	120	P	P	05 23 47.4	-1.2
	2.0nm,0.4s,baz=304,slow=8.8,SNR=9.1						
WRA	Warramunga Arr	38.17	120	P	P	05 23 47.6	-1.1
WB2	Warramunga Arr	38.18	120	P	P	05 23 47.8	-0.9
WB2				IAmb	IAmb	05 23 52.4	
	comp=Z,7.9nm,1.1s						
ASAR	Alice Springs	39.43	126	P	P	05 23 58.9	-0.3
	comp=Z,0.8nm,0.5s,baz=300,slow=7.8,SNR=9.0						
STKA	Stephens Creek	49.32	132	P	P	05 25 17.1	-0.9
	comp=Z,1.6nm,0.6s,baz=324,slow=12,SNR=3.1						
STKA	Stephens Creek	49.32	132	P	P	05 25 17.6	-0.5
SONM	Songino Array	49.91	6	P	P	05 25 23.2	+0.8
	comp=Z,1.4nm,0.7s,baz=189,slow=9.6,SNR=2.8						
SONM	Songino Array	49.91	6	P	P	05 25 22.3	-0.1
MK31	Makanchi Array	50.93	345	P	P	05 25 30.9	+0.8
MK31				IAmb	IAmb	05 25 31.5	
	comp=Z,2.3nm,0.7s						
MKAR	Makanchi Array	50.93	345	P	P	05 25 30.9	+0.9
	comp=Z,3.2nm,0.6s,baz=147,slow=8.2,SNR=28						
MKAR	Makanchi Array	50.93	345	P	P	05 25 30.4	+0.4
USRK	Ussuriysk Ar.	54.19	28	P	P	05 25 54.5	+0.3
	comp=Z,2.2nm,0.6s,baz=232,slow=6.2,SNR=6.2						
USRK	Ussuriysk Ar.	54.19	28	P	P	05 25 54.8	+0.6
KURBB	Kurchatov Arra	55.45	344	P	P	05 26 03.9	+0.7
	comp=Z,2.0nm,0.7s,baz=163,slow=7.2,SNR=16						
KURK	Kurchatov	55.51	344	P	P	05 26 04.0	+0.4
KURK				IAmb	IAmb	05 26 05.0	
	comp=Z,3.9nm,0.8s						
ZALV	Zalesovo Beam	57.08	349	P	P	05 26 14.9	+0.2
	comp=Z,2.3nm,0.6s,baz=176,slow=6.6,SNR=11						
ZALV				LR	LR	05 53 29.8	
	comp=Z,162nm,20.5s,baz=80,slow=39						
ZALV	Zalesovo Beam	57.08	349	P	P	05 26 14.0	-0.7
BVAR	Borovoye Array	60.07	340	P	P	05 26 35.4	-0.3
	comp=Z,0.5nm,0.5s,baz=150,slow=9.2,SNR=3.8						
ABKAR	Akbulak array	61.51	331	P	P	05 26 44.1	-1.4
FINES	FINESS Array B	83.98	332	P	P	05 28 59.2	+0.6
	comp=Z,2.1nm,0.9s,baz=139,slow=3.0,SNR=2.1						
FINES				LR	LR	06 11 20.1	
	comp=Z,88nm,19.6s,baz=37,slow=39						
TX31	Lajitas Ar. Si	144.76	37		PKPdf	05 36 05.5	-0.8
TX32	Lajitas Array	144.76	37		PKPdf	05 36 05.3	-0.9
TXAR	Lajitas Array	144.76	37	PKP	PKPdf	05 36 06.0	-0.3
	comp=Z,1.6nm,0.5s,baz=265,slow=0.9,SNR=29						
TXAR	Lajitas Array	144.76	37		PKPdf	05 36 05.5	-0.7
MIAR	Mount Ida	145.24	20		PKPdf	05 36 06.8	0.0

IDC ***16*** *05:30:07.1±1.2, 34°.00N×135°.55E, h48km±25km, mb3.2/2, mb1 3.5/6, mb1mx3.2/50, mbtmp3.6/6, ML3.2/4, Error ellipse: s-maj=34.2km s-min=10.2km az=0.0*

JMA ***16*** *05:30:08.2, 34°.06N×135°.52E, h58km±1km, M3.3 Broadband fault plane solution: P waves. NP1: φs=79.00000°, δ53.00000°, λ=-163.00000°. NP2: φs=338.00000°, δ77.00000°, λ=-38.00000°. Principal axes: T Plg15.0000°, Azm33.0000°; N Plg50.0000°, Azm142.0000°; P Plg36.0000°, Azm292.0000°;*

JMA Felt I J1.

ISC 16 05:30:08.1±1.0, 34°08N±0°.04×135°53E±0°.03, h57km±6km, n23, σ0s46/39, 6C-8D, Near south coast of western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JWY	Kouya	0.15	20	⇓P	Pn	05 30 17.4	+0.3
JWY				S	Sn	05 30 23.5	-0.1
JTNC	Tanabenakahech	0.27	166	⇓P	Pn	05 30 17.8	+0.1
JTNC				S	Sn	05 30 24.4	-0.2
JWM	Minabe	0.27	213	⇑P	Pn	05 30 17.6	-0.1
JWM				S	Sn	05 30 24.2	-0.4
JHE	Heguri	0.59	12	⇑P	Pn	05 30 20.9	0.0
JHE				S	Sn	05 30 29.9	-0.3
JKN2	Miekihoku	0.64	75	⇓P	Pn	05 30 21.5	+0.1
JAWN	Awajishima-nag	0.66	308	⇓P	Pn	05 30 21.8	+0.1
JAWN				eS	Sn	05 30 31.6	-0.1
JAI	Aioi	0.94	253	⇑P	Pn	05 30 25.4	+0.1
JAI				S	Sn	05 30 38.0	+0.1
TSUJ	Tsu 2	0.97	49	⇑P	Pn	05 30 25.6	0.0
TSUJ				S	Sn	05 30 37.9	-0.6
JIE	Ise	1.02	72	P	Pn	05 30 26.5	+0.2
JIE				S	Sn	05 30 39.8	0.0
JKS	Kasai	1.07	328	⇓P	Pn	05 30 26.9	0.0
JKS				eS	Sn	05 30 40.3	-0.6
TTO1	TONANKAI O.B.S	1.14	113	⇓P	Pn	05 30 27.8	+0.2
TTO1				eX		05 30 43.4	
JWT	Wachi	1.21	355	⇑P	Pn	05 30 28.8	0.0
JWT				eS	Sn	05 30 44.0	-0.2
TTO2	TONANKAI O.B.S	1.29	105	⇓P	Pn	05 30 29.8	+0.2
TTO2				eX		05 30 47.3	
JJS	Sakaide	1.36	283	⇓P	Pn	05 30 30.7	-0.1
JJS				eS	Sn	05 30 47.1	-0.7
JAD	Aida	1.42	308	P	Pn	05 30 31.2	-0.4
JAD				eS	Sn	05 30 48.7	-0.6
JMN	Monobe	1.42	256	⇑P	Pn	05 30 31.6	-0.1
JMN				eS	Sn	05 30 49.0	-0.3
MAT	Matsushiro	3.29	41	P	Pn	05 30 57.5	+0.3
MAT				S	Sn	05 31 35.5	+0.4
MJAR	Matsushiro Arr	3.29	41	P	Pn	05 30 56.6	-0.6
	0.8nm,0.3s,baz=230,slow=13,SNR=24						
JHJ	Hachijo jima 2	3.67	104	P	Pn	05 31 01.7	-0.7
	18nm,0.3s,baz=96,slow=22,SNR=15						
JHJ				S	Sn	05 31 43.5	-1.0
	17nm,0.3s,baz=226,slow=22,SNR=4.6						
JNU	Nakatsue	4.00	257	P	Pn	05 31 07.7	+0.8
	1.8nm,0.3s,baz=28,slow=1.9,SNR=10.0						
JNU				S	Sn	05 31 51.4	-1.2
	1.3nm,0.3s,baz=338,slow=23,SNR=4.6						
KSRS	Korea Array	7.04	301	P	Pn	05 31 49.2	+0.7
	0.6nm,0.3s,baz=116,slow=14,SNR=8.2						
MKAR	Makanchi Array	41.71	304	P	P	05 37 51.8	+0.5
	0.8nm,0.7s,baz=83,slow=9.5,SNR=4.0						
KURBB	Kurchatov Arra	44.12	310	P	P	05 38 10.7	+0.1
	0.3nm,0.6s,baz=89,slow=5.8,SNR=2.3						

NEIC ***16*** *05:33:40.1±1.8, 4°.9N±0°.1×95°.49E±0°.08, h10km±2km, mb4.4/3, Error ellipse: s-maj=17.5km s-min=12.6km az=17.0*

IDC ***16*** *05:33:45.4±3.9, 3°.97N×95°.44E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.4/45, mbtmp3.7/4, ML4.1/2, MS3.6/2, Ms1 3.6/2, ms1mx2.9/40, Error ellipse: s-maj=91.3km s-min=46.1km az=67.0*

DJA ***16*** *05:33:48.9±0.6, 5°N±5°×9°6E±°, h31km±8km, M3.9/7, MLv3.9/7*

ISC 16 05:33:49.4±1.0, 4°67N±0°.06×96°00E±0°.08, h31km, n23, σ1s82/24, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	Meulaboh, Aceh	0.57	134	P	Pb	05 34 00.6	-0.5
MLSI				S	Sn	05 34 09.6	-0.2
BSI	Banda Aceh	1.08	320	P	Pb	05 34 09.4	-0.2
LHMI	Lhok Sumawe	1.10	60	P	Pn	05 34 05.3	-3.4
LHMI	Lhok Sumawe	1.10	60	Pn	Pn	05 34 06.6	-2.1
TPTI		1.83	140	P	Pn	05 34 16.4	-2.4
TPTI				Pg	Pb	05 34 22.0	-0.3
KCSI	Kotacane, Aceh	2.11	123	P	Pn	05 34 20.5	-2.1
KCSI				Pg	Pb	05 34 26.6	-0.4
PSI	Prapat	3.46	122	Pn	Pn	05 34 44.5	+3.2
	5.0nm,0.3s,baz=360,slow=16,SNR=12						
PSI				Sn	Sb	05 35 33.1	+1.3
	4.9nm,0.3s,baz=359,slow=2.1,SNR=4.6						
PSI				LR	LR	05 36 20.9	
	comp=Z,204nm,18.8s,baz=266,slow=42						
RPSI	Rantau Prapat	3.52	124		Pn	05 34 40.9	-1.1
RPSI	Rantau Prapat	3.52	124		Pn	05 34 44.5	+2.5
RPSI					Sb	05 35 33.1	-0.2
GSI	Gunungsitoli	3.69	155	Pn	Pn	05 34 42.5	-1.9
KULM	Kulim	4.68	82	Pn	Pn	05 34 57.6	-0.3
IPM	Ipoh	5.02	92	Pn	Pn	05 35 02.0	-0.6
CMAR	Chiang Mai Arr	14.01	12	Pn	P	05 37 16.4	+3.0
	0.5nm,0.3s,baz=202,slow=12,SNR=2.5						
H08S2	Diego Garcia H	26.45	243	T	T	06 06 26.4	
	baz=62,slow=75,SNR=5.0						
H08S3	Diego Garcia H	26.45	243	T	T	06 06 27.0	
	baz=62,slow=75,SNR=4.9						
H08S1	Diego Carcia H	26.46	243	T	T	06 06 25.1	
	baz=62,slow=75,SNR=5.4						
WB0	Warramunga Arr	44.89	124	P	P	05 42 00.7	-0.8
WB0				IAmb	IAmb	05 42 02.9	
	comp=Z,9.4nm,1.1s						
WRA	Warramunga Arr	44.93	124	P	P	05 42 02.1	+0.3
	comp=Z,0.6nm,0.6s,baz=302,slow=9.2,SNR=2.2						
WRA	Warramunga Arr	44.93	124	P	P	05 42 00.3	-1.5
WB2	Warramunga Arr	44.94	124	P	P	05 41 59.5	-2.4
WB2				IAmb	IAmb	05 42 01.3	
	comp=Z,3.8nm,1.1s						
ASAR	Alice Springs	46.47	129	P	P	05 42 14.9	+1.0
	comp=Z,0.9nm,0.6s,baz=303,slow=8.0,SNR=7.5						
TORD	Torodi Ar. Bea	93.13	283	LR	LR	06 27 57.8	
	comp=Z,119nm,19.1s,baz=240,slow=35						
TXAR	Lajitas Array	141.28	28	PKP	PKiKP	05 53 20.1	-0.6
	comp=Z,0.5nm,0.9s,baz=2.9,slow=1.8,SNR=3.4						

IDC ***16*** *05:37:22.2±4.5, 53°.62N×90°.63E, h0km, mb1 2.7/3, mb1mx2.6/45, mbtmp2.7/3, ML2.0/3, Error ellipse: s-maj=44.1km s-min=28.4km az=54.0*

KRAR 16 05:37:18.0±0.1, 53°66N×91°09E, M1.8, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	3.73	277	*i*		05 58 30.0	
	baz=88,slow=305,SNR=1.9						
ZALV	Zalesovo Beam	3.73	277	Pn	Pn	05 38 19.0	+2.3
	0.2nm,0.3s,baz=91,slow=14,SNR=7.7						
ZALV				Lg	Lg	05 39 12.4	
	0.5nm,0.3s,baz=90,slow=29,SNR=9.1						
KURBB	Kurchatov Arra	8.30	254	Pn	Pn	05 39 19.7	+0.1
	0.0nm,0.3s,baz=66,slow=15,SNR=4.2						
MKAR	Makanchi Array	8.89	223	Pn	Pn	05 39 29.5	+1.9
	0.1nm,0.3s,baz=37,slow=13,SNR=2.1						
MKAR				Lg	Lg	05 41 55.6	
	baz=32,slow=25,SNR=2.5						

MAN 16 05:50:47.5, 5°.01N×124°92E, h15km, MS4.0, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	Don Marcelino,	1.34	36	*e*P	Pn	05 51 10.0	-1.7
DDMP				*e*S	Sg	05 51 30.4	-0.5
SKMP	Bagumbayan, Su	1.55	346	*e*P	Pn	05 51 13.3	-1.2
SKMP				*e*S	Sb	05 51 35.5	+0.2
KCP	Kidapawan	1.99	5	⇑*e*P	Pn	05 51 21.6	+0.9
KCP				*i* S	Sg	05 51 51.4	-0.4
BUKP	Musuan	2.85	3	*e*P	Pn	05 51 34.0	+1.5
BUKP				*e*S	Sn	05 52 07.6	+0.8

HLW ***16*** *05:55:36.9, 15°.08N×40°.67E, h20km±31km, Md5.7, Ml5.5*

NEIC ***16*** *05:56:08.6±0.9, 16°.83N±0°.09×38°.8E±0°.1, h15km±5km, mb4.6/4, Error ellipse: s-maj=19.1km s-min=10.6km az=59.0*

IDC ***16*** *05:56:08.4±1.5, 17°.00N×38°.63E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/44, mbtmp3.8/9, ML3.6/1, MS3.7/1, Ms1 3.7/1, ms1mx2.7/48, Error ellipse: s-maj=30.2km s-min=26.6km az=124.0*

ISC 16 05:56:08.8±0.6, 16°93N±0°.07×38°92E±0°.08, h10km, n32, σ1s74/31, mb3.7/8, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAMY	Dhamar	5.77	113	Pn	Pn	05 57 35.4	+0.6
ATD	Arta Tunnel	6.58	144	Pn	Pn	05 57 51.5	+5.8
	1.2nm,0.3s,baz=282,slow=18,SNR=2.6						
ATD	Arta Tunnel	6.58	144		Pn	05 57 44.1	-1.7
ANKE	Ethiopia-Afar	7.33	174	*e*P	Pn	05 57 57.5	+1.1
ANKE				*e*S	Sb	05 59 46.7	+2.5
BRNS	Bernies	8.23	328	P	Pn	05 58 10.2	+1.8
	baz=326						
BRNS				AMP		06 00 00.0	
	baz=326						
BRNS				S	Sb	06 00 01.8	-7.9
	baz=326						
HAGS	Hagol	8.28	334	P	Pn	05 58 10.1	+1.1
	baz=332						
MABD	Mabed	8.63	315	P	Pn	05 58 16.8	+2.9
	baz=317						
MABD				AMP		06 00 00.0	
	baz=317						
MABD				S	Sn	06 00 13.3	+22
	baz=317						
NGAL	NGAL	8.68	319	P	Pn	05 58 17.0	+2.5
	baz=320						
NGAL				AMP		06 00 00.0	
	baz=320						
NGWR	NGWR	8.83	320	P	Pn	05 58 19.4	+2.8
	baz=321						
NGWR				AMP		06 00 00.0	
	baz=321						
HMSM	Jabal Masmas	8.87	313	P	Pn	05 58 19.1	+1.9
	baz=315						
NNMR	NNMR	9.02	320	P	Pn	05 58 22.0	+2.8
	baz=320						
NSKD	NSKD	9.08	319	P	Pn	05 58 23.4	+3.4
	baz=320						
ASHG	Umm Shaghir	9.29	314	P	Pn	05 58 24.8	+1.9
	baz=316						
NADB	Abo Dabab	9.33	335	P	Pn	05 58 24.6	+1.2
	baz=332						
SOCY	Socotra	15.33	106	Pn	Pn	05 59 44.7	-0.8
SOCY				IAmb	IAmb	05 59 51.5	
	comp=Z,52nm,1.1s						
BRTR	Keskin Array B	23.18	350	P	P	06 01 17.1	+1.3
	comp=Z,0.7nm,0.7s,baz=174,slow=14,SNR=5.5						
BRTR	Keskin Array B	23.18	350	P	P	06 01 15.6	-0.2
AKASG	Malin Array Be	34.58	349	P	P	06 02 58.4	+0.7
	comp=Z,0.5nm,0.5s,baz=168,slow=7.3,SNR=2.5						
AKASG	Malin Array Be	34.58	349	P	P	06 02 57.1	-0.6
TORD	Torodi Ar. Bea	36.11	269	P	P	06 03 10.0	-1.3
	comp=Z,1.7nm,0.9s,baz=80,slow=8.9,SNR=7.0						
TORD	Torodi Ar. Bea	36.11	269	P	P	06 03 09.0	-2.3
ABKAR	Akbulak array	36.48	23	P	P	06 03 14.1	0.0
KKAR	Karatay Array	37.42	39	P	P	06 03 23.3	+1.1
GERES	GERESS Array B	37.88	333	P	P	06 03 26.1	0.0
	comp=Z,1.0nm,0.7s,baz=128,slow=8.6,SNR=7.0						
GERES	GERESS Array B	37.88	333	P	P	06 03 25.5	-0.5
ARU	Arti	42.15	16	LR	LR	06 23 32.6	
	comp=Z,98nm,20.9s,baz=152,slow=39						
ESDC	Sonseca Array	43.50	310	P	P	06 04 11.0	-1.6
	comp=Z,1.5nm,1.1s,baz=107,slow=9.5,SNR=4.4						
DBIC	Dimbokro	43.95	262	P	P	06 04 15.1	-1.4
	comp=Z,7.6nm,1.1s,baz=70,slow=13,SNR=3.6						
DBIC	Dimbokro	43.95	262	P	P	06 04 14.8	-1.6
DBIC				IAmb	IAmb	06 04 18.9	
	comp=Z,5.4nm,0.9s						
MKAR	Makanchi Array	46.50	41	P	P	06 04

	62nm,0.4s							
SHLS	**Shalkode**	**2.84**	**202**	Pg		**Pb**	**06 01 31.8**	**-0.5**
	26nm,0.4s							
SHLS				Lg		Lg	06 02 06.3	
	62nm,0.4s							
UZB	**Uzynbulak**	**2.98**	**208**	*e*P		**Pb**	**06 01 35.8**	**+1.0**
	14nm,0.4s							
UZB				*e*S		**Sb**	**06 02 12.8**	**+1.5**
	28nm,0.2s							
KURS	**Kuram**	**3.04**	**222**	*e*P		**Pb**	**06 01 36.6**	**+0.9**
	6.6nm,0.4s							
KURS				⇓*i*S		**Sb**	**06 02 14.5**	**+1.7**
	15nm,0.4s							
KURS	**Kuram**	**3.04**	**222**	Pg		**Pb**	**06 01 36.6**	**+0.9**
	6.6nm,0.4s							
KURS				Lg		Lg	06 02 14.5	
	15nm,0.4s							
ZSN	**Zaisan**	**3.17**	**57**	*e*P		**Pb**	**06 01 35.7**	**-2.2**
	7.7nm,0.3s							
ZSN				*e*S		**Sb**	**06 02 13.1**	**-3.6**
	18nm,0.3s							
ZSN	**Zaisan**	**3.17**	**57**	Pg		**Pb**	**06 01 35.7**	**-2.2**
	7.7nm,0.3s							
ZSN				Lg		Lg	06 02 13.1	
	18nm,0.3s							
CHKK	**Chushkaly**	**3.42**	**237**	*e*P		**Pb**	**06 01 41.7**	**-0.4**
	1.5nm,0.2s							
CHKK				*e*S		**Sb**	**06 02 23.2**	**-0.5**
	23nm,0.3s							
CHKK	**Chushkaly**	**3.42**	**237**	Pg		**Pb**	**06 01 41.7**	**-0.4**
	2.4nm,0.5s							
CHKK				Lg		Lg	06 02 23.2	
	24nm,0.3s							
KTBS	**Karatobe**	**3.68**	**237**	*e*P		**Pb**	**06 01 47.0**	**+0.3**
	2.8nm,0.3s							
KTBS				*e*S		**Sb**	**06 02 32.0**	**+0.7**
	32nm,0.4s							
KTBS	**Karatobe**	**3.68**	**237**	Pg		**Pb**	**06 01 47.0**	**+0.3**
	2.8nm,0.3s							
KTBS				Lg		Lg	06 02 32.0	
	32nm,0.5s							
KOTS	**Kotyrbulak**	**3.75**	**228**	*e*P		**Pb**	**06 01 48.5**	**+0.7**
	4.7nm,0.2s							
KOTS				*e*S		**Sb**	**06 02 35.2**	**+1.7**
	16nm,0.2s							
KOTS	**Kotyrbulak**	**3.75**	**228**	Pg		**Pb**	**06 01 48.5**	**+0.7**
	4.7nm,0.2s							
KOTS				Lg		Lg	06 02 35.2	
	16nm,0.2s							
KUU	**Kurty**	**3.79**	**242**	*e*P		**Pb**	**06 01 48.8**	**+0.4**
	1.5nm,0.1s							
KUU				*e*S		**Sb**	**06 02 35.6**	**+1.2**
	24nm,0.1s							
KUU	**Kurty**	**3.79**	**242**	Pg		**Pb**	**06 01 48.8**	**+0.4**
	4.2nm,0.4s							
KUU				Lg		Lg	06 02 35.6	
	20nm,0.5s							
MDOK	**Medeo**	**3.83**	**228**	*e*P		**Pb**	**06 01 50.0**	**+0.7**
	3.6nm,0.4s							
MDOK				*e*S		**Sb**	**06 02 37.4**	**+1.6**
	10nm,0.5s							
MDOK	**Medeo**	**3.83**	**228**	⇓Pg		**Pb**	**06 01 51.2**	**+2.0**
	3.4nm,0.5s							
MDOK				⇓Lg		Lg	06 02 42.0	
	6.9nm,0.4s							
MDOK	**Medeo**	**3.83**	**228**	Pg		**Pb**	**06 01 50.0**	**+0.7**
	3.6nm,0.4s							
MDOK				Lg		Lg	06 02 37.4	
	10nm,0.5s							
TNSS	**Tian-Shan**	**3.97**	**228**	*e*P		**Pb**	**06 01 52.9**	**+1.1**
	1.8nm,0.3s							
TNSS				*e*S		**Sb**	**06 02 42.6**	**+2.4**
	12nm,0.3s							
TNSS	**Tian-Shan**	**3.97**	**228**	Pg		**Pb**	**06 01 52.9**	**+1.1**
	3.1nm,0.5s							
TNSS				Lg		Lg	06 02 42.6	
	13nm,0.5s							
MTBS	**Maitube**	**4.19**	**232**	*e*P		**Pb**	**06 01 56.9**	**+1.6**
	3.8nm,0.2s							
MTBS				*e*S		**Sb**	**06 02 49.3**	**+3.3**
	16nm,0.2s							
MTBS	**Maitube**	**4.19**	**232**	Pg		**Pb**	**06 01 56.9**	**+1.6**
	3.8nm,0.2s							
MTBS				Lg		Lg	06 02 49.3	
	16nm,0.2s							
KST	**Kastek**	**4.50**	**234**	*e*P		**Pb**	**06 02 02.4**	**+1.7**
	4.7nm,0.6s							
KST				⇓*i*S		**Sb**	**06 02 58.8**	**+3.7**
	5.6nm,0.3s							
KST	**Kastek**	**4.50**	**234**	Pg		**Pb**	**06 02 02.4**	**+1.7**
	4.7nm,0.6s							
KST				Lg		Lg	06 02 58.8	
	10nm,0.6s							
TKM2	**Tokmak 2**	**4.79**	**235**	⇑Lg		Lg	06 03 12.9	
	5.4nm,0.8s							
KURBB	**Kurchatov Arra**	**5.10**	**342**	⇓Pn		**Pn**	**06 01 58.4**	**+0.5**
	2.2nm,0.5s							
KURBB				⇓Lg		Lg	06 03 21.0	
	16nm,0.5s							
AAK	**Ala-Archa**	**5.61**	**238**	⇑Lg		Lg	06 03 37.7	
	5.1nm,0.7s							
MRKS	**Merke**	**6.32**	**244**	Pg		**Pg**	**06 02 38.8**	**-3.7**
	1.7nm,0.1s							
MRKS				Lg		Lg	06 04 01.1	
	4.0nm,0.4s							
OTUK	**Ortayu**	**6.38**	**296**	⇓Lg		Lg	06 03 59.5	
	5.3nm,0.6s							

NEIC ***16*** *06:02:02.4±3.0, 10.09S±0.07×118.79E±0.06, h47km±3km, mb4.2/9, Error ellipse: s-maj=11.0km s-min=7.9km az=201.0*

IDC ***16*** *06:02:03.9±5.1, 10.01S×118.58E, h48km±47km, mb3.9/4, mb1 3.8/8, mb1mx3.5/41, mbtmp4.0/8, ML3.7/4, MS2.7/1, Ms1 2.7/1, ms1mx2.3/26, Error ellipse: s-maj=97.9km s-min=20.6km az=63.0*

DJA ***16*** *06:02:07.4±0.5, 10.09S±7.07×11.79E±0.06, h37km±11km, M4.0/9, MLv4.0/9*

ISC 16 06:02:02.1±0.5, 10.10S±0.05×118.80E±0.04, h33km, n39, σ2932/48, mb4.3/8, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBSI	**Waikabubak, Su**	**0.74**	**52**	P	**Pb**	**06 02 19.1**	**+2.5**
WSI	**Waingapu**	**1.53**	**74**	P	**Pb**	**06 02 30.4**	**+0.5**
PLAI	**Plampang**	**1.62**	**321**	P	**Pb**	**06 02 31.1**	**-0.2**
PLAI				S	**Sn**	**06 02 47.3**	**-0.7**
BASI	**Baing, Sumba**	**1.75**	**94**	P	**Pb**	**06 02 36.0**	**+2.4**
BASI				S	**Sb**	**06 02 57.5**	**+2.2**
EDFI	**Ende, Flores**	**3.15**	**65**	P	**Pn**	**06 02 50.7**	**+1.2**
MMRI	**Maumere**	**3.69**	**67**	Pn	**Pn**	**06 02 57.4**	**+0.6**
MMRI				Sn	**Sn**	**06 03 40.5**	**+1.3**
SRBI	**Singaraja**	**4.07**	**299**	P	**Pn**	**06 03 05.6**	**+3.6**
JAGI	**Jajag, Banyuwa**	**4.87**	**289**	P	**Pn**	**06 03 15.8**	**+2.8**
JAGI	**Jajag, Banyuwa**	**4.87**	**289**	Pn	**Pn**	**06 03 12.9**	**-0.1**
JAGI					**Sn**	**06 04 09.3**	**+1.1**
KAPI	**Kappang**	**5.14**	**11**	P	**Pn**	**06 03 19.4**	**+2.6**
	2.5nm,0.3s,baz=194,slow=5.0,SNR=22						
KAPI				S	**Sn**	**06 04 13.6**	**-1.4**
	18nm,0.3s,baz=346,slow=21,SNR=18						
KAPI				LR	LR	06 05 28.0	
	comp=Z,75nm,19.1s,baz=228,slow=40						
KAPI	**Kappang**	**5.14**	**11**		**Pn**	**06 03 18.0**	**+1.3**
KAPI					**Sn**	**06 04 13.2**	**-1.7**
SOEI	**Soe**	**5.40**	**87**	Pn	**Pn**	**06 03 21.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**10.35**	**141**	P	**Pn**	**06 04 32.1**	**+3.8**
	1.0nm,0.3s,baz=338,slow=11,SNR=13						
FITZ				S	**Sn**	**06 06 19.2**	**-4.1**
	2.3nm,0.3s,baz=191,slow=18,SNR=14						
FITZ	**Fitzroy Crossi**	**10.35**	**141**		**Pn**	**06 04 26.7**	**-1.7**
KNRA	**Kununurra**	**11.18**	**121**	Pn	**Pn**	**06 04 42.2**	**+2.5**
PSA00	**Pilbara Seismi**	**11.46**	**175**	Pn	**Pn**	**06 04 43.5**	**0.0**
MTN	**Manton Dam**	**12.39**	**104**	Pn	**Pn**	**06 04 57.7**	**+1.4**
GIRL	**Giralia**	**13.22**	**199**	Pn	**Pn**	**06 05 10.1**	**+2.5**
MNAI	**Manna**	**16.71**	**289**		**P**	**06 05 54.0**	**-2.0**
WRA	**Warramunga Arr**	**17.90**	**125**	P	**P**	**06 06 10.2**	**+1.1**
	0.1nm,0.3s,baz=292,slow=13,SNR=1.3						
WRA				S	**Sn**	**06 09 19.2**	**-8.3**
	1.1nm,0.3s,baz=299,slow=9.7,SNR=26						
WRAB	**Tennant Creek**	**17.91**	**125**	P	**Pn**	**06 06 07.9**	**-0.8**
WRAB				IAmb	IAmb	06 06 14.5	
	comp=Z,15nm,0.9s						
WB2	**Warramunga Arr**	**17.91**	**125**	Pn	**Pn**	**06 06 06.9**	**-1.9**
WR0	**Warramunga Arr**	**18.07**	**125**		**Pn**	**06 06 10.2**	**-0.6**
ASAR	**Alice Springs**	**19.75**	**135**	P	**Pn**	**06 06 32.6**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=310,slow=9.2,SNR=30						
ASAR				S	**S**	**06 10 06.5**	**-3.7**
	comp=Z,0.3nm,0.3s,baz=318,slow=27,SNR=7.1						
ASAR	**Alice Springs**	**19.75**	**135**	P	**P**	**06 06 29.6**	**+0.3**
BJT	**Baijiatuau**	**49.92**	**357**	P	**P**	**06 10 54.4**	**+1.8**
MK31	**Makanchi Array**	**65.34**	**333**	P	**P**	**06 12 39.2**	**-1.9**
MK31				IAmb	IAmb	06 12 41.2	
	comp=Z,1.6nm,0.7s						
MKAR	**Makanchi Array**	**65.34**	**333**	P	**P**	**06 12 40.0**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=151,slow=7.4,SNR=12						
MKAR	**Makanchi Array**	**65.34**	**333**	P	**P**	**06 12 39.3**	**-1.7**
HRA	**Herat**	**69.46**	**313**	P	**P**	**06 13 05.4**	**-2.2**
HRA				IAmb	IAmb	06 13 07.2	
	comp=Z,2.7nm,0.6s						
KURBB	**Kurchatov Arra**	**69.86**	**334**	P	**P**	**06 13 07.6**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=142,slow=5.4,SNR=8.9						
KURK	**Kurchatov**	**69.89**	**334**	P	**P**	**06 13 07.6**	**-2.0**
KURK				IAmb	IAmb	06 13 09.3	
	comp=Z,2.8nm,0.9s						
ZAA0	**Zalesovo Array**	**69.99**	**339**	P	**P**	**06 13 07.5**	**-2.7**
ZAA0				IAmb	IAmb	06 13 09.0	
	comp=Z,2.7nm,0.8s						
ZALV	**Zalesovo Beam**	**69.99**	**339**	P	**P**	**06 13 08.5**	**-1.7**
	comp=Z,2.2nm,0.6s,baz=141,slow=5.3,SNR=7.4						
ZALV	**Zalesovo Beam**	**69.99**	**339**	P	**P**	**06 13 07.8**	**-2.4**
ABKAR	**Akbulak array**	**78.34**	**325**	P	**P**	**06 13 57.8**	**-1.2**
AKTO	**Aktyubinsk**	**80.01**	**325**	P	**P**	**06 14 07.4**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=90,slow=7.1,SNR=1.9						
YKA	**Yellowknife Ar**	**115.27**	**24**	PKP	**PKPdf**	**06 20 40.3**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=288,slow=2.1,SNR=5.1						
TORD	**Torodi Ar. Bea**	**118.45**	**280**	PKP	**PKiKP**	**06 20 48.5**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=32,slow=0.7,SNR=1.8						

VAO ***16*** *06:39:31.9±0.3, 1.60N×79.27W, h6km, mb5.5*

UNK ***16*** *06:39:32.0, 1.59N×79.23W, h10km*

BJI ***16*** *06:39:31.0±0.0, 1.60N×79.30W, h8km, mB5.5/32, Ms5.6/43, Ms7 5.4/40*

NEIC ***16*** *06:39:32.1, 1.60N×79.21W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr1.09; Mθθ-0.15; Mϕϕ-0.93; Mrθ0.03; Mϕθ-0.38; Mϕr-3.37; Fault plane solution: M0 3.54000×10^17 NP1:ϕs180.83000°, δ81.61000°, λ83.93000°. NP2:ϕs36.93000°, δ10.34000°, λ125.65000°. Principal axes: T 3.6146, Plg53.0000°, Azm84.0000°; N -0.1459, Plg6.0000°, Azm182.0000°; P -3.4686, Plg36.0000°, Azm276.0000°;*

NEIC ***16*** *06:39:32.3±2.0, 1.64N±0.06×79.26W±0.07, h15km±2km, mb5.2/559, Ms_20 5.1/698, Mwb5.6/62, Mww5.7, Mwc5.8(GCMT) Error ellipse: s-maj=10.4km s-min=8.9km az=76.0*

IDC ***16*** *06:39:34.5±2.2, 1.70N×79.27W, h24km±14km, mb4.9/33, mb1 5.0/40, mb1mx4.9/47, mbtmp5.0/40, ML4.2/6, MS5.1/27, Ms1 5.1/27, ms1mx5.1/33, Error ellipse: s-maj=14.5km s-min=8.1km az=60.0*

MOS ***16*** *06:39:35.5±1.5, 1.85N×79.35W, h33km, mb5.7/64, MS5.1/45, Error ellipse: s-maj=7.2km s-min=4.9km az=83.3*

IGQ ***16*** *06:39:37.2±1.1, 2.7N±7.7×7.79W±., h10km, MS.7*

NEIC ***16*** *06:39:37, 1.59N×79.13W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr1.55; Mθθ-0.20; Mϕϕ-1.34; Mrθ0.37; Mϕθ-0.64; Mϕr-4.35; Fault plane solution: M0 4.65000×10^17 NP1:ϕs42.00000°, δ13.00000°, λ134.00000°. NP2:ϕs177.00000°, δ81.00000°, λ81.00000°. Principal axes: T 4.7806, Plg53.0000°, Azm77.0000°; N -0.2717, Plg9.0000°, Azm179.0000°; P -4.5089, Plg35.0000°, Azm275.0000°;*

RSNC ***16*** *06:39:38.1±1.2, 1.59N×78.98W, h4km±12km, ML5.2, Mw5.3*

NEIC ***16*** *06:39:38, 1.73N×79.56W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr1.82; Mθθ-0.06; Mϕϕ-1.75; Mrθ-0.12; Mϕθ-0.62; Mϕr-4.61; Fault plane solution: M0 4.98000×10^17 NP1:ϕs33.00000°, δ12.00000°, λ120.00000°. NP2:ϕs183.00000°, δ79.00000°, λ84.00000°. Principal axes: T 4.9883, Plg55.0000°, Azm85.0000°; N -0.0096, Plg6.0000°; Azm184.0000°; P -4.9787, Plg34.0000°, Azm278.0000°;*

GCMT ***16*** *06:39:38.3±0.1, 1.73N±0.01×79.52W±0.01, h16km, MW5.7/155, Moment Tensor Solution. s136,c236; s155,c299; Duration: 1s8 Moment tensor: Scale 10^17 Nm; Mrr1.68±.02; Mθθ-0.00±.02; Mϕθ-1.68±.02; Mrθ-0.14±.07; Mϕϕ-0.50±.02; Mϕr-4.54±.06; Best double couple: M0 4.86900×10^17 NP1:ϕs29.00000°, δ11.00000°, λ116.00000°. NP2:ϕs183.00000°, δ80.00000°, λ85.00000°. Principal axes: T 4.8470, Plg55.0000°, Azm86.0000°; N 0.0390, Plg5.0000°, Azm184.0000°; P -4.8900, Plg35.0000°, Azm277.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

BGR ***16*** *06:39:51.0±0.0, 3.55N×77.33W, h33km, mb5.7, mB_BB6.1, Ms5.1*

ISC 16 06:39:31.5±0.6, 1.65N±0.02×79.39W±0.03, h7km±3km, n1722, σ1967/1561, mb5.3/395, MS5.1/428, 47C-4D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAC1	**Pacto, Paraso**	**1.50**	**157**	*e*Pg	**Pg**	**06 40 01.4**	**+1.1**
PAC1				*e*S	**Sb**	**06 40 18.9**	**-0.1**
PAC1				*i*		06 40 24.8	
	comp=Z,51μm,0.3s						
PAC1	**Pacto, Paraso**	**1.50**	**157**	P	**Pn**	**06 39 58.7**	**-0.2**
ECEN	**Cerro Negro**	**1.63**	**120**	P	**Pg**	**06 40 03.1**	**+0.2**
URCU	**Urcuqui**	**1.65**	**137**	P	**Pn**	**06 40 01.3**	**0.0**
CHL1	**Volcn Chiles**	**1.67**	**121**	P	**Pn**	**06 40 01.9**	**+0.2**
CUIC	**Cuicocha-Domo**	**1.68**	**143**	P	**Pn**	**06 40 01.6**	**-0.1**
CHL2	**Volcn Chiles**	**1.69**	**120**	P	**Pn**	**06 40 01.8**	**-0.1**
CMBC	**Cumbal**	**1.71**	**114**	*e*P	**Pn**	**06 40 01.4**	**-0.7**
CMBC				*e*S	**Sn**	**06 40 19.6**	**-4.9**
IMBA	**Imbabura, San**	**1.81**	**139**	P	**Pb**	**06 40 04.8**	**-0.4**
GR1C	**Gorgona, Isla**	**1.81**	**42**	*e*P	**Pb**	**06 40 04.5**	**-0.6**
GR1C				*e*S	**Sb**	**06 40 28.1**	**+0.1**
GR1C				*i*		06 40 47.3	
	comp=Z,11μm,1.0s						
YAHU	**Yahuarcocha**	**1.83**	**134**	P	**Pb**	**06 40 04.6**	**-0.9**
PULU	**Pululahua**	**1.84**	**151**	P	**Pn**	**06 40 04.0**	**+0.1**
TULM	**Tulcn-Chalpat**	**1.85**	**120**	P	**Pn**	**06 40 04.7**	**+0.7**
ATUL	**Tulcn**	**1.88**	**118**	P	**Pg**	**06 40 06.9**	**-0.6**
ATUL				S	**Sg**	**06 40 34.0**	**+2.1**
YANA	**Yana**	**1.93**	**155**	P	**Pb**	**06 40 06.2**	**-1.2**
PINO	**Pino**	**1.96**	**157**	P	**Pn**	**06 40 05.8**	**+0.2**
GGPC	**Guagua Pichinc**	**1.98**	**157**	P	**Pn**	**06 40 06.6**	**+0.7**
BBAC	**Balboa, Cauca**	**2.17**	**80**	*e*P	**Pn**	**06 40 08.1**	**-0.1**
BBAC				*e*S	**Sn**	**06 40 31.5**	**-4.0**
BBAC				*i*		06 40 49.2	
	comp=Z,14μm,0.5s						
CPAS2	**Pasto**	**2.17**	**101**	*e*P	**Pn**	**06 40 09.7**	**+1.3**
CPAS2				*e*S	**Sn**	**06 40 32.1**	**-3.7**
CPAS2				*i*		06 40 50.0	
	comp=Z,38μm,0.7s						
ANTG	**Antisana-Guama**	**2.42**	**152**	P	**Pb**	**06 40 15.2**	**-0.5**
ANTG				S	**Sb**	**06 40 43.9**	**-2.1**
ILLI	**Illinizas Sur**	**2.44**	**164**	P	**Pb**	**06 40 14.8**	**-1.2**
ANTS	**Antisana-Sarah**	**2.45**	**150**	P	**Pb**	**06 40 15.8**	**-0.6**
REVN	**San Rafael**	**2.46**	**134**	P	**Pb**	**06 40 14.9**	**-1.2**
ANTM	**Antisana-La Mi**	**2.46**	**152**	P	**Pb**	**06 40 15.8**	**-0.7**
BNAS	**Cotopaxi Volca**	**2.48**	**159**	P	**Pn**	**06 40 14.4**	**+1.7**
VC1	**Cotopaxi 1**	**2.48**	**157**	P	**Pn**	**06 40 15.4**	**-1.3**
REVS	**Reventador Sur**	**2.48**	**135**	P	**Pb**	**06 40 16.6**	**0.0**
BREF	**Cotopaxi Volca**	**2.49**	**158**	P	**Pb**	**06 40 15.2**	**-1.8**
BTAM	**Cotopaxi Volca**	**2.51**	**157**	P	**Pb**	**06 40 15.8**	**-1.5**
CASC	**Dorado de Casc**	**2.54**	**126**	P	**Pb**	**06 40 16.0**	**-1.5**
BMOR	**Cotopaxi Volca**	**2.54**	**159**	P	**Pb**	**06 40 16.0**	**-1.8**
VCES	**Cotopaxi**	**2.63**	**158**	P	**Pb**	**06 40 18.8**	**-0.5**
ALAT	**Latacunga**	**2.67**	**163**	P	**Pb**	**06 40 18.2**	**-1.7**
SOTA	**Rioblanco**	**2.82**	**80**	*e*P	**Pn**	**06 40 18.3**	**+0.9**
SOTA				*e*S	**Sn**	**06 40 48.2**	**-3.7**
SOTA				*i*		06 41 06.6	
	comp=Z,20μm,0.7s						
PIS1	**Pisayambo**	**2.87**	**160**	P	**Pb**	**06 40 22.1**	**-1.2**
PISA	**Pisayambo**	**2.87**	**160**	P	**Pb**	**06 40 22.5**	**-0.9**
AAM2	**Ambato 2 (Merc**	**3.00**	**165**	P	**Pb**	**06 40 26.5**	**+1.0**
PUAC	**Puerto Asis, P**	**3.02**	**111**	*e*P	**Pn**	**06 40 20.6**	**+0.8**
PUAC				*e*S	**Sn**	**06 40 52.2**	**-4.0**
PCON	**Cinco Dias**	**3.06**	**77**	*e*P	**Pn**	**06 40 23.4**	**+2.5**
PCON				*e*S	**Sn**	**06 41 00.7**	**+2.7**
PCON				*i*		06 41 20.3	
	comp=Z,8μm,2.1s						
ATEN	**Tena**	**3.07**	**149**	P	**Pg**	**06 40 31.1**	**+0.6**
MALC	**Bahia Malaga**	**3.12**	**41**	*e*P	**Pn**	**06 40 20.1**	**-1.0**
MALC				*e*S	**Sg**	**06 41 10.6**	**-1.2**
MALC				*i*		06 41 33.9	
	comp=Z,4μm,0.6s						
RUN5	**Runtun**	**3.19**	**162**	P	**Pb**	**06 40 26.6**	**-2.2**
BRUN	**Tungurahua Vol**	**3.20**	**162**	P	**Pb**	**06 40 26.9**	**-2.1**
BBIL	**Ulba Tungurahu**	**3.21**	**164**	P	**Pb**	**06 40 26.9**	**-2.2**
BIL2	**Estacion Bilba**	**3.21**	**164**	P	**Pb**	**06 40 27.0**	**-2.0**
BULB	**Ulba Tungurahu**	**3.22**	**162**	P	**Pb**	**06 40 27.1**	**-2.1**
RETU	**Refugio**	**3.22**	**163**	P	**Pb**	**06 40 27.2**	**-2.1**
BMAS	**Trigal station**	**3.26**	**164**	P	**Pb**	**06 40 28.1**	**-1.9**
ARRY	**Arrayan**	**3.27**	**163**	P	**Pb**	**06 40 27.6**	**-2.5**
PPLP	**Puerto Lpez**	**3.46**	**204**	P	**Pn**	**06 40 25.6**	**-0.3**
MARP	**Paez Belalcaza**	**3.63**	**71**	*e*P	**Pn**	**06 40 30.2**	**+1.8**
MARP				*e*S	**Sb**	**06 41 18.1**	**-2.4**
MARP				*i*		06 41 27.4	
	comp=Z,3μm,0.8s						
PKYU	**Pakayacu**	**3.73**	**151**	P	**Pn**	**06 40 32.9**	**+3.3**
SANGA	**Volcan Sangay**	**3.81**	**165**	P	**Pb**	**06 40 35.2**	**-4.3**
PIZC	**Pizarro, Choco**	**3.87**	**31**	*e*P	**Pn**	**06 40 28.2**	**-3.2**
PIZC				*e*S	**Sn**	**06 41 13.2**	**-3.8**
PIZC				*i*		06 41 39.8	
	comp=Z,1μm,2.2s						
BETC	**Betania**	**4.07**	**75**	*e*P	**Pn**	**06 40 38.1**	**+3.8**
BETC				*e*S	Sn	06 41 10.2	-12
SALI	**Salinas**	**4.13**	**203**	P	**Pn**	**06 40 34.0**	**-1.1**
MORR	**Playas El Morr**	**4.37**	**193**	P	**Pn**	**06 40 39.1**	**+0.9**
PLMC	**San Jos del P**	**4.48**	**44**	*e*P	**Pn**	**06 40 37.4**	**-2.5**
PLMC				*e*S	**Sb**	**06 41 39.1**	**-5.7**
PLMC				*i*		06 42 05.6	
	comp=Z,5μm,1.6s						
ORTC	**Ortega, Tolima**	**4.70**	**61**	*e*P	**Pn**	**06 40 43.4**	**+0.4**
ORTC				*e*S	**Sb**	**06 41 46.5**	**-4.8**
ORTC				*i*		06 41 57.3	
	comp=Z,6μm,0.7s						
BOSC	**San Juan Bosco**	**4.85**	**169**	P	Pb	06 40 51.1	-5.9
ANIL	**Santa Ana**	**4.88**	**55**	*e*P	**Pn**	**06 40 45.8**	**+0.3**
ANIL				*e*S	**Sn**	**06 41 47.4**	**+4.9**
ANIL				*i*		06 42 03.0	
	comp=Z,4μm,0.6s						
PRAC	**Prado**	**4.94**	**65**	*e*P	**Pn**	**06 40 46.7**	**+0.5**
PRAC				*e*S	**Sb**	**06 41 57.6**	**-0.5**
PRAC				*i*		06 42 07.8	
	comp=Z,3μm,1.6s						
TOLC	**Tolima**	**5.00**	**54**	*e*P	**Pn**	**06 40 46.9**	**-0.4**
TOLC				*e*S	**Sb**	**06 41 55.4**	**-4.7**
RREF	**El Recreo**	**5.17**	**51**	*e*P	**Pn**	**06 40 49.7**	**-0.2**
RREF				*e*S	**Sb**	**06 42 01.5**	**-3.6**
RREF				*i*		06 42 27.1	
	comp=Z,1μm,1.9s						
GUY2C	**Guyana, Caldas**	**5.36**	**48**	*e*P	**Pn**	**06 40 51.9**	**-0.4**
GUY2C				*e*S	**Sb**	**06 42 04.9**	**-5.7**
GUY2C				*i*		06 42 16.8	
	comp=Z,2μm,0.8s						
MACC	**Macarena, Meta**	**5.56**	**85**	*e*P	**Pn**	**06 40 56.7**	**+2.0**
MACC				*e*S	**Sn**	**06 42 04.8**	**+5.9**
MACC				*i*		06 42 37.0	
	comp=Z,2μm,0.9s						
HELC	**Santa Helena**	**5.93**	**40**	*e*P	**Pn**	**06 40 59.2**	**-0.9**
HELC				*e*S	**Sb**	**06 42 23.7**	**-3.2**
HELC				*i*		06 42 42.1	
	comp=Z,1μm,1.2s						
NORC	**Norcasia**	**5.95**	**49**	*e*P	**Pn**	**06 41 00.5**	**+0.3**
NORC				*e*S	**Sb**	**06 42 18.9**	**-8.4**
NORC				*i*		06 42 33.5	
	comp=Z,946nm,0.8s						
ROSC	**El Rosal**	**5.97**	**58**	Pn	**Pn**	**06 41 01.1**	**+0.4**
	comp=Z,5.9nm,0.3s,baz=246,slow=5.0,SNR=24						
ROSC				Sn	**Sn**	**06 42 16.1**	**+6.6**
	comp=Z,32nm,0.3s,baz=196,slow=22,SNR=1.1						
ROSC				LR	LR	06 43 49.2	
	comp=Z,49μm,18.1s,baz=206,slow=44						
ROSC	**El Rosal**	**5.97**	**58**	*e*P	**Pn**	**06 41 01.5**	**+0.8**
ROSC				*e*S	**Sb**	**06 42 21.6**	**-6.5**
ROSC				*i*		06 42 37.7	
	comp=Z,2μm,1.6s						
ROSC	**El Rosal**	**5.97**	**58**	P	**Pn**	**06 41 01.5**	**+0.8**
ROSC	**El Rosal**	**5.97**	**58**	Pn	**Pn**	**06 41 01.6**	**+0.8**
GUVC	**San Jose del G**	**6.81**	**82**	*e*S	**Sb**	**06 42 56.2**	**+4.3**
PTBC	**PUERTO BERRIO,**	**6.91**	**45**	*e*P	**Pn**	**06 41 13.0**	**-0.3**
PTBC				*e*S	Sn	06 42 41.9	+10
PTBC				*i*		06 43 02.9	
	comp=Z,724nm,3.8s						
BCIP	**Isla Barro Col**	**7.48**	**357**	P	**Pn**	**06 41 23.2**	**+2.0**
BCIP	**Isla Barro Col**	**7.48**	**357**		**Pn**	**06 41 23.1**	**+2.0**
RUSC	**La Rusia**	**7.57**	**56**	*e*P	**Pn**	**06 41 24.7**	**+1.9**
RUSC				*e*S	**Sn**	**06 42 53.9**	**+4.8**
RUSC				*i*		06 43 28.8	
	comp=Z,463nm,1.1s						
RUSC	**La Rusia**	**7.57**	**56**	Pn	**Pn**	**06 41 22.2**	**-0.5**

CCIG Comitan 19.22 320 P **Pn** 06 43 57.9 +0.5
CCIG IAmb IAmb 06 44 10.9
comp=Z,202nm,1.3s
SAML Samuel 19.27 123 P **P** 06 43 56.4 -0.6
SAML pmax pmax
comp=Z,222nm,0.8s
SAML Samuel 19.27 123 P **P** 06 43 56.4 -0.6
SAML Samuel 19.27 123 *eP* **P** 06 43 56.6 -0.3
SAML Samuel 19.27 123 *eP* **P** 06 43 56.6 -0.3
MACA Manacapuru-AM 19.30 104 *eP* **P** 06 43 56.7 -0.5
MACA *eS* **Sn** 06 47 34.7 -0.3
MACA Manacapuru-AM 19.30 104 *eP* **P** 06 43 56.7 -0.5
MACA *eS* **Sn** 06 47 34.7 -0.3
PTGA Pitinga 19.56 97 P **P** 06 44 00.3 +0.2
comp=Z,2.8nm,0.3s,baz=276,slow=13,SNR=35
PTGA Pitinga 19.56 97 P **P** 06 44 00.5 +0.3
PTGA IAmb IAmb 06 44 09.0
comp=Z,204nm,0.9s
PTGA Pitinga 19.56 97 *eP* **P** 06 43 59.7 -0.4
PTGA Pitinga 19.56 97 *eP* **P** 06 43 59.7 -0.4
SC01 Santiago de Io 19.60 25 P **P** 06 43 58.5 -2.0
SC01 IAmb IAmb 06 44 06.2
comp=Z,212nm,0.9s
DR12 Loma Pena Alta 19.66 29 P **P** 06 43 57.6 -3.5
TRN Trinidad (W) 19.97 63 *eP* **P** 06 44 02.8 -1.8
CRPR Cabo Rojo, PR 20.24 36 P **P** 06 44 05.4 -2.0
CRPR IAmb IAmb 06 44 33.5
comp=Z,210nm,1.2s
MLPR Magueyes Islan 20.25 36 P **P** 06 44 06.1 -1.5
MLPR IAmb IAmb 06 44 16.3
comp=Z,116nm,0.8s
MPR Mayaguez 20.38 35 P **P** 06 44 08.4 -0.6
TEIG Tepich 20.41 335 P **P** 06 44 09.7 +0.4
comp=Z,26nm,0.7s,baz=140,slow=1.0,SNR=12
TEIG LR LR 06 51 29.3
comp=Z,6μm,18.6s,baz=139,slow=35
TEIG Tepich 20.41 335 P Pn 06 44 10.9 -0.4
TEIG IAmb IAmb 06 44 22.7
comp=Z,143nm,1.2s
GRGR Grenville 20.43 59 *eP* **P** 06 44 06.5 -3.1
ICMP Isla Caja de M 20.49 37 P **P** 06 44 08.8 -1.4
ICMP IAmb IAmb 06 44 36.2
comp=Z,195nm,1.1s
OBIP Obispado Ponce 20.56 37 P **P** 06 44 10.4 -0.5
OBIP IAmb IAmb 06 44 48.9
comp=Z,157nm,1.1s
AGPR Aguadilla, PR 20.60 35 P **P** 06 44 12.3 +0.9
AOPR Arecibo Observ 20.71 36 P **P** 06 44 13.3 +0.7
GCMP Grenada, Carri 20.80 58 *eP* **P** 06 44 13.0 -0.5
SJG San Juan 20.89 38 P **P** 06 44 14.0 -0.5
comp=Z,68nm,0.7s,baz=225,slow=7.0,SNR=24
SJG LR LR 06 53 43.2
comp=Z,7μm,20.3s,baz=210,slow=41
SJG San Juan 20.89 38 P **P** 06 44 13.7 -0.8
SJG pmax pmax
comp=Z,194nm,1.1s
SJG MLR MLR
comp=Z,6μm,20.0s
SJG San Juan 20.89 38 P **P** 06 44 13.7 -0.8
SJG IAmb IAmb 06 44 37.9
comp=Z,194nm,1.1s
SJG San Juan 20.89 38 IAMs_20 IAMs_20 06 53 20.9
comp=Z,6μm,20.0s
EMPR Esperanza - Ma 20.95 36 P **P** 06 44 15.0 -0.1
LPAZ La Paz 21.00 148 P **P** 06 44 17.2 +0.8
comp=Z,64nm,0.7s,baz=336,slow=9.8,SNR=120
LPAZ LR LR 06 54 28.7
comp=Z,9μm,21.2s,baz=312,slow=43
TOSP Speyside 21.02 62 *eP* **P** 06 44 21.6 +5.7
TOSP Speyside 21.02 62 P **P** 06 44 14.2 -1.8
TOSP IAmb IAmb 06 44 18.1
comp=Z,182nm,1.0s
TOSP IAMs_20 IAMs_20 06 52 41.9
comp=Z,10μm,22.0s
GCPR Guaynabo City 21.08 37 P **P** 06 44 16.9 +0.3
HUMP Col San Antoni 21.10 38 P **P** 06 44 16.2 -0.6
CBYP Canovanas 21.19 38 P **P** 06 44 18.5 +0.6
MTP Monte Pirata 21.25 39 P **P** 06 44 14.8 -3.6
GRTK Grand Turk 21.32 22 P **P** 06 44 17.9 -1.2
SVB Belmont 21.34 56 *eP* **P** 06 44 22.5 +3.0
SVB Belmont 21.34 56 P **P** 06 44 16.6 -2.9
CDVI St. Croix 21.50 41 *eP* **P** 06 44 24.9 +3.8
CDVI St. Croix 21.50 41 P **P** 06 44 18.8 -2.3
CUPR Culebra, Puert 21.58 39 P **P** 06 44 19.7 -2.2
CMIG Matias Romero 21.63 316 P **P** 06 44 23.6 +1.1
comp=Z,28nm,0.9s,baz=90,slow=10,SNR=33
CMIG LR LR 06 51 10.9
comp=Z,3μm,21.3s,baz=154,slow=32
AP01 Chacalluta 21.79 156 P **P** 06 44 22.8 -1.4
AP01 IAMs_20 IAMs_20 06 53 30.2
comp=Z,9μm,20.0s
STVI Saint Thomas 21.82 40 P **P** 06 44 23.6 -0.9
MCLT Moule a Chique 21.83 56 *eP* **P** 06 44 26.8 +2.1
MCLT Moule a Chique 21.83 56 P **P** 06 44 24.1 -0.5
SLAC Saint Lucia, A 21.96 55 *eP* **P** 06 44 23.8 -2.4
SLBI Saint Lucia, B 21.97 55 *eP* **P** 06 44 25.1 -1.1
PB12 IPOC Station P 22.02 157 P **P** 06 44 25.7 -1.0
PB12 IAMs_20 IAMs_20 06 53 00.2
comp=Z,6μm,20.0s
BIM Bigot 22.16 54 *eP* **P** 06 44 25.9 -2.3
FDF Fort de France 22.21 53 *eP* **P** 06 44 27.7 -1.1
FDF Fort de France 22.21 53 P **P** 06 44 27.2 -1.6
FDF pmax pmax
comp=Z,449nm,1.0s
FDF MLR MLR
comp=Z,9μm,18.0s
FDF Fort de France 22.21 53 P **P** 06 44 27.2 -1.6
FDF IAMs_20 IAMs_20 06 54 31.1
comp=Z,9μm,18.0s
MPOM Morne Pois Mar 22.29 54 *eP* **P** 06 44 24.6 -5.0
ILAM Ilet Lapin Mar 22.46 54 *eP* **P** 06 44 31.1 -0.3
DLPL La Plaine 22.48 52 *eP* **P** 06 44 33.2 +1.5
DLPL La Plaine 22.48 52 P **P** 06 44 30.4 -1.2
DLPL IAMs_20 IAMs_20 06 54 38.0
comp=Z,10μm,20.0s
TDBA Terre de Bas, 22.48 50 *eP* **P** 06 44 29.2 -2.4
MLYT Lee's Yard 22.60 47 *eP* **P** 06 44 33.7 +0.7
SKI Saint Kitts 22.60 45 *eP* **P** 06 44 30.5 -2.4
SKI Saint Kitts 22.60 45 P **P** 06 44 32.3 -0.7
SKI pmax pmax
comp=Z,263nm,1.0s
SKI MLR MLR
comp=Z,6μm,19.0s
SKI Saint Kitts 22.60 45 P **P** 06 44 32.3 -0.7
SKI IAMs_20 IAMs_20 06 54 36.7
comp=Z,6μm,19.0s
CBE Ff, Capester 22.63 50 *eP* P 06 44 25.9 -7.4
BBGH Gun Hill 22.71 59 *eP* **P** 06 44 28.6 -5.5
MNMC Minye Minye 22.78 155 P **P** 06 44 35.6 +0.5
MNMC IAMs_20 IAMs_20 06 53 50.3
comp=Z,8μm,22.0s
MAGL Barre de l'ile 22.81 50 *eP* **P** 06 44 32.5 -2.7
SMRT St. Maarten 22.85 43 *eP* **P** 06 44 30.8 -4.8
SMRT St. Maarten 22.85 43 P **P** 06 44 34.4 -1.1
ABD La Joyeuse, An 22.97 49 *eP* **P** 06 44 33.4 -3.4
PSGCX Pisagua 22.99 157 P **P** 06 44 36.4 -0.7
PSGCX IAmb IAmb 06 44 45.6
comp=Z,96nm,0.9s
PSGCX IAMs_20 IAMs_20 06 55 00.9
comp=Z,8μm,20.0s
PB11 IPOC Station P 23.32 156 P **P** 06 44 40.0 -0.5
GO01 Chusmiza 23.43 155 P **P** 06 44 43.5 +1.5
GO01 IAMs_20 IAMs_20 06 54 50.4
comp=Z,8μm,20.0s
ANWB Willy Bob 23.50 46 *eP* P 06 44 32.1 -10
ANWB Willy Bob 23.50 46 P **P** 06 44 41.3 -0.9
TA01 Diego Aracena 23.85 158 P **P** 06 44 46.1 +0.5
PB08 IPOC Station P 23.87 156 P **P** 06 44 45.9 -0.3
VILB Vilhena 23.94 128 *eP* **P** 06 44 46.7 +0.2
VILB Vilhena 23.94 128 *eP* **P** 06 44 46.7 +0.2
PB01 IPOC Station P 24.55 157 P **P** 06 44 52.3 +0.1
PB01 IAmb IAmb 06 45 11.0
comp=Z,107nm,1.1s
PB01 IAMs_20 IAMs_20 06 55 55.2
comp=Z,9μm,22.0s
TLIG Tlapa 24.60 311 P **P** 06 44 53.0 +0.2
TLIG IAmb IAmb 06 45 43.1
comp=Z,52nm,1.1s
TLIG IAMs_20 IAMs_20 06 52 10.6
comp=Z,5μm,18.0s
PB07 IPOC Station P 25.02 159 P **P** 06 44 57.6 +1.1
PB07 IAMs_20 IAMs_20 06 55 26.8
comp=Z,8μm,22.0s
SIV San Ignacio 25.19 135 P **P** 06 44 58.5 +0.5
comp=Z,25nm,0.7s,baz=330,slow=9.4,SNR=64
SIV LR LR 06 55 13.1
comp=Z,17μm,19.1s,baz=328,slow=37
PB09 IPOC Station P 25.32 158 P **P** 06 44 59.1 -0.2
MALB Monte Alegre 25.36 98 *eP* **P** 06 45 00.1 +0.6
MALB Monte Alegre 25.36 98 *eP* **P** 06 45 00.1 +0.6
PB04 IPOC Station P 25.48 160 P **P** 06 45 00.0 -0.7
NPGB Novo Progresso 25.48 110 *eS* **S** 06 49 26.3 -2.2
NPGB Novo Progresso 25.48 110 *eS* **S** 06 49 26.3 -2.2
PB06 IPOC Station P 26.03 159 P **P** 06 45 04.1 -1.5
PB06 IAMs_20 IAMs_20 06 56 07.6
comp=Z,6μm,22.0s
UNM Universidad Na 26.16 314 P **P** 06 45 08.0 +1.0
UNM pmax pmax
comp=Z,71nm,0.6s
UNM Universidad Na 26.16 314 P **P** 06 45 08.0 +1.0
LVC Limon Verde 26.19 158 P **P** 06 45 08.5 +1.2
comp=Z,23nm,0.8s,baz=307,slow=9.0,SNR=17
LVC Limon Verde 26.19 158 *eP* **P** 06 45 07.6 +0.3
LVC Limon Verde 26.19 158 P **P** 06 45 05.7 -1.6
LVC Limon Verde 26.19 158 IAMs_20 IAMs_20 06 56 30.8
comp=Z,8μm,22.0s
PTLB Pontes e Lacer 26.26 131 *eP* **P** 06 45 07.2 -0.4
PTLB *eS* **S** 06 49 38.2 -2.3
PTLB Pontes e Lacer 26.26 131 *eP* **P** 06 45 07.2 -0.4
PTLB *eS* **S** 06 49 38.2 -2.3
PB10 IPOC Station P 26.45 162 P **P** 06 45 08.8 -0.4
PB10 IAMs_20 IAMs_20 06 56 47.9
comp=Z,5μm,20.0s
PB15 IPOC Station P 26.53 159 P **P** 06 45 09.2 -1.0
CLDB Colider 26.56 118 *eP* **P** 06 45 08.0 -2.4
CLDB *eS* **S** 06 49 44.2 -1.2
CLDB Colider 26.56 118 *eP* **P** 06 45 08.0 -2.4
CLDB *eS* **S** 06 49 44.2 -1.2
MDP Montagnes des 26.91 82 P **P** 06 45 14.2 +0.6
comp=Z,72nm,0.8s,baz=256,slow=7.3,SNR=18
GO02 Mina Guanaco 28.29 161 P **P** 06 45 24.3 -1.8
GO02 IAMs_20 IAMs_20 06 58 44.7
comp=Z,5μm,19.0s
553A Crawfordville 28.79 351 P **P** 06 45 30.7 +0.6
553A IAmb IAmb 06 45 40.3
comp=Z,35nm,0.9s
553A IAMs_20 IAMs_20 06 56 06.9
comp=Z,4μm,21.0s
AC01 Pan de Azucar 28.91 164 P **P** 06 45 29.0 -2.3
AC01 IAmb IAmb 06 45 47.9
comp=Z,79nm,1.4s
SALV Santo Antonio 29.19 128 *eP* **P** 06 45 34.5 +0.5
SALV *eS* **S** 06 50 29.1 +2.2
SALV Santo Antonio 29.19 128 *eP* **P** 06 45 34.5 +0.5
SALV *eS* **S** 06 50 29.1 +2.2
TIGA Tifton 29.90 353 P **P** 06 45 39.0 -0.9
baz=171
TIGA Tifton 29.90 353 P **P** 06 45 41.5 +1.5
TIGA IAmb IAmb 06 45 47.2
comp=Z,63nm,1.4s
AC02 Maricunga 30.00 161 P **P** 06 45 39.7 -1.8
AC02 IAmb IAmb 06 46 21.5
comp=Z,26nm,0.8s
AC02 IAMs_20 IAMs_20 06 58 24.9
comp=Z,4μm,21.0s
352A Blakely 30.13 351 P **P** 06 45 42.9 +0.9
352A IAmb IAmb 06 46 20.6
comp=Z,74nm,1.6s
352A IAMs_20 IAMs_20 06 56 49.5
comp=Z,4μm,20.0s
255A Hazlehurst 30.26 355 P **P** 06 45 43.9 +0.7
255A IAmb IAmb 06 46 23.2
comp=Z,103nm,1.6s
255A IAMs_20 IAMs_20 06 57 13.5
comp=Z,4μm,20.0s
GO03 Copiap 30.38 164 IAMs_20 IAMs_20 06 58 39.2
comp=Z,3μm,20.0s
PRPB Parauapebas 30.53 105 *eP* **P** 06 45 43.7 -2.1
PRPB Parauapebas 30.53 105 *eP* **P** 06 45 43.7 -2.1
AC04 Llanos de Chal 30.74 166 IAMs_20 IAMs_20 06 58 05.4
comp=Z,4μm,21.0s
ZAIG Zacatecas 30.78 315 P **P** 06 45 48.1 -0.2
ZAIG IAMs_20 IAMs_20 06 56 21.5
comp=Z,5μm,19.0s
250A Grady 30.86 349 P **P** 06 45 48.5 0.0
250A IAmb IAmb 06 46 15.7
comp=Z,56nm,1.1s
250A IAMs_20 IAMs_20 06 58 27.7
comp=Z,3μm,20.0s
157A Early Branch 30.90 357 P **P** 06 45 47.4 -1.5
baz=177
158A Hollywood 30.93 359 P **P** 06 45 47.1 -2.0
baz=178
154A Montrose 31.00 354 P **P** 06 45 48.2 -1.5
154A IAMs_20 IAMs_20 06 57 35.3
comp=Z,4μm,20.0s
346A Big Creek Wild 31.08 343 P **P** 06 45 50.3 -0.1
RGRS Roger Stewart 31.10 359 P **P** 06 45 49.2 -1.4
CSU Charleston Sou 31.18 359 P **P** 06 45 51.7 +0.4
152A Waverly Hall 31.26 351 P **P** 06 45 51.5 -0.5
152A IAmb IAmb 06 46 04.1
comp=Z,33nm,0.9s
152A IAMs_20 IAMs_20 06 57 34.4
comp=Z,5μm,20.0s
KVTX Kingsville 31.26 327 IAMs_20 IAMs_20 06 57 48.6
comp=Z,4μm,21.0s
NHSC New Hope 31.30 359 P **P** 06 45 52.2 -0.1
baz=178,SNR=8.7
NHSC New Hope 31.30 359 P **P** 06 45 52.9 +0.6
NHSC IAMs_20 IAMs_20 07 00 25.9
comp=Z,4μm,22.0s
Z59A Georgetown, SC 31.43 0 P **P** 06 45 53.1 -0.4
baz=180
Z57A Bowman 31.51 358 P **P** 06 45 53.8 -0.4
baz=177,SNR=6.2
Z58A St. Stephen 31.52 359 P **P** 06 45 53.4 -0.9
baz=179,SNR=6.1
344A Westbrook Farm 31.52 341 P **P** 06 45 54.2 -0.2
AC05 El Transito 31.55 165 P **P** 06 45 53.3 -1.5
AC05 IAmb IAmb 06 45 59.0
comp=Z,40nm,0.8s
AC05 IAMs_20 IAMs_20 06 59 11.1
comp=Z,5μm,20.0s
Z56A Williston 31.57 357 P **P** 06 45 53.7 -1.0
baz=176,SNR=5.4
Z56A Williston 31.57 357 P **P** 06 45 52.7 -2.0
Z56A IAmb IAmb 06 46 25.4
comp=Z,60nm,1.1s
GOGA Godfrey 31.83 354 P **P** 06 45 56.5 -0.5
baz=172,SNR=11
GOGA Godfrey 31.83 354 P **P** 06 45 57.2 +0.2
GOGA pmax pmax
comp=Z,14nm,1.0s
GOGA MLR MLR
comp=Z,3μm,18.0s
GOGA Godfrey 31.83 354 P **P** 06 45 57.1 +0.2
GOGA Godfrey 31.83 354 IAMs_20 IAMs_20 06 59 14.2
comp=Z,3μm,18.0s
Z51A Franklin 31.97 351 P **P** 06 45 57.2 -1.1
Z51A IAmb IAmb 06 46 07.5
comp=Z,23nm,0.8s
Z51A IAMs_20 IAMs_20 06 57 56.1
comp=Z,5μm,20.0s
AQDB Aquidauana 31.97 135 *eP* **P** 06 45 58.3 -0.1
AQDB Aquidauana 31.97 135 *eP* **P** 06 45 58.3 -0.1
342A Flagon Creek P 32.00 339 P **P** 06 45 59.0 +0.5
LRAL Lakeview Retre 32.03 348 P **P** 06 45 58.6 -0.2
baz=165,SNR=31
LRAL Lakeview Retre 32.03 348 P **P** 06 45 58.1 -0.7
LRAL IAmb IAmb 06 46 10.3
comp=Z,28nm,0.8s
VCA Vinchina 32.06 161 *eP* **P** 06 46 03.0 +3.7
Y58A Scranton 32.09 360 P **P** 06 45 58.8 -0.5
baz=179
Y58A Scranton 32.09 360 P **P** 06 45 58.2 -1.1
146A Union 32.14 345 P **P** 06 45 59.8 0.0
146A IAmb IAmb 06 46 27.3
comp=Z,38nm,1.1s
Y59A Loris 32.18 1 P **P** 06 45 59.7 -0.3
baz=181,SNR=9.8
Y59A Loris 32.18 1 IAMs_20 IAMs_20 06 57 51.9
comp=Z,5μm,21.0s
Y55A Saluda 32.20 356 P **P** 06 45 59.7 -0.6
baz=175,SNR=16
Y60A Bolivia 32.21 2 P **P** 06 45 59.8 -0.5
baz=182
Y60A Bolivia 32.21 2 P **P** 06 46 01.3 +1.0
Y60A IAMs_20 IAMs_20 06 58 02.6
comp=Z,3μm,19.0s
Y57A Sumter 32.22 358 P **P** 06 45 59.6 -0.8
baz=178
Y57A Sumter 32.22 358 P **P** 06 46 01.2 +0.8
Y57A IAmb IAmb 06 46 03.3
comp=Z,45nm,1.1s
Y57A IAMs_20 IAMs_20 07 01 03.1
comp=Z,4μm,20.0s
ARAG Araguaiana, MT 32.25 123 *eP* **P** 06 46 00.0 -0.9
ARAG *epP* **P** 06 46 01.9 +1.0
ARAG Araguaiana, MT 32.25 123 *eP* **P** 06 46 00.0 -0.9
ARAG *epP* **P** 06 46 01.9 +1.0
Y52A Lilburn 32.35 353 P **P** 06 46 00.7 -0.9
Y52A IAMs_20 IAMs_20 06 58 29.0
comp=Z,3μm,21.0s
Z47A Carrollton 32.43 346 P **P** 06 46 01.6 -0.7
Z47A IAmb IAmb 06 46 15.3
comp=Z,44nm,0.9s
JSC Jenkinsville 32.51 357 P **P** 06 46 03.3 +0.3
JSC pmax pmax
comp=Z,22nm,1.1s
JSC MLR MLR
comp=Z,2μm,20.0s
JSC Jenkinsville 32.51 357 P **P** 06 46 03.3 +0.3
HODGE Hodges 32.53 356 P **P** 06 46 03.6 +0.5
HODGE IAmb IAmb 06 46 41.9
comp=Z,38nm,1.2s
CYA Choya 32.63 157 *eP* **P** 06 46 05.5 +1.3
X57A Johnson Farm, 32.65 359 P **P** 06 46 03.4 -0.8
baz=178
CO01 Juntas del Tor 32.68 165 IAMs_20 IAMs_20 06 59 07.1
comp=Z,4μm,21.0s
833A Chaparral WMA, 32.70 326 P **P** 06 46 04.2 -0.5
baz=141
Y49A Blount Mountai 32.71 349 IAMs_20 IAMs_20 06 59 35.7
comp=Z,3μm,20.0s
X56A White Oak 32.71 357 P **P** 06 46 04.5 -0.3
baz=177,SNR=11
X55A Gracelyn & Ava 32.72 357 P **P** 06 46 04.4 -0.4
baz=176,SNR=25
X58A Rowland 32.74 0 P **P** 06 46 04.6 -0.3
baz=180
X58A Rowland 32.74 0 IAMs_20 IAMs_20 06 59 50.8
comp=Z,4μm,22.0s
X59A McDuffie Farm, 32.76 1 P **P** 06 46 05.6 +0.4
baz=181,SNR=11
X60A Albert Glenn T 32.79 2 P **P** 06 46 04.6 -0.7
baz=182
BIRD Birdtown, Kers 32.84 358 IAmb IAmb 06 46 42.6
comp=Z,50nm,1.3s
BIRD IAMs_20 IAMs_20 07 01 22.7
comp=Z,3μm,20.0s
X54A Belton 32.85 355 P **P** 06 46 05.2 -0.7
baz=174,SNR=7.0
AROD Rodeo 33.02 164 *eP* **P** 06 46 10.8 +2.9
C2SB Chapadao do Su 33.06 129 *eP* **P** 06 46 08.2 +0.2
C2SB Chapadao do Su 33.06 129 *eP* **P** 06 46 08.2 +0.2
ACDV Cuesta del Vie 33.12 164 *eP* **P** 06 46 10.9 +2.3
X51A Calhoun 33.15 352 IAMs_20 IAMs_20 06 58 43.2
comp=Z,4μm,21.0s
W58A Raeford 33.20 0 P **P** 06 46 08.8 -0.2
baz=180,SNR=6.1
FPAL Fort Paine 33.24 351 P **P** 06 46 08.5 -0.9
FPAL IAmb IAmb 06 46 21.9
comp=Z,25nm,0.8s
FPAL IAMs_20 IAMs_20 06 58 34.7
comp=Z,4μm,21.0s
NATX Nacogdoches 33.24 336 P **P** 06 46 09.3 -0.2
baz=151
W60A Pink Hill 33.27 2 P **P** 06 46 09.0 -0.6
baz=183
W56A Indian Trail 33.34 358 P **P** 06 46 10.2 0.0
baz=178,SNR=7.0
W57A Gilead 33.34 359 P **P** 06 46 09.6 -0.6
baz=179,SNR=16
W57A Gilead 33.34 359 IAmb IAmb 06 46 13.3
comp=Z,37nm,1.0s
W57A IAMs_20 IAMs_20 06 59 58.8
comp=Z,4μm,22.0s
CO03 El Pedregal 33.35 166 P **P** 06 46 08.9 -1.6
CO03 IAmb IAmb 06 46 33.0
comp=Z,50nm,1.2s
CO03 IAMs_20 IAMs_20 07 01 59.1
comp=Z,3μm,19.0s
W59A Clinton 33.36 1 P **P** 06 46 10.6 +0.2
baz=181
SMTB Santa Maria do 33.36 109 *eP* **P** 06 46 09.4 -1.4
SMTB *epP* **P** 06 46 11.8 +1.0
SMTB Santa Maria do 33.36 109 *eP* **P** 06 46 09.4 -1.4
SMTB *epP* **P** 06 46 11.8 +1.0
W54A Cherokee Point 33.37 356 P **P** 06 46 10.0 -0.6
baz=175,SNR=8.5
KMSC Kings Mountain 33.37 357 P **P** 06 46 10.6 +0.1
baz=176,SNR=18
KMSC Kings Mountain 33.37 357 P **P** 06 46 10.7 +0.1
KMSC IAmb IAmb 06 46 14.1
comp=Z,40nm,1.1s
KMSC IAMs_20 IAMs_20 07 01 53.9
comp=Z,4μm,21.0s
X48A Hartselle 33.41 348 P **P** 06 46 11.2 +0.4
Y45A Yeager Farm, C 33.43 345 P **P** 06 46 11.0 -0.1
W61A Ground Anchor 33.43 4 P **P** 06 46 11.1 +0.1
baz=184
CNNC Cliffs of the 33.45 2 P **P** 06 46 11.0 -0.1
baz=182
ACCO Cerro Coronel 33.53 164 *eP* **P** 06 46 14.4 +2.1
BBSR BB Station 33.55 23 P **P** 06 46 13.2 +1.1
BBSR IAmb IAmb 06 46 16.3
comp=Z,25nm,0.7s
CO02 Combarbal 33.63 167 P **P** 06 46 11.7 -1.2
435B Jarrell 33.72 331 P **P** 06 46 13.6 0.0
435B IAmb IAmb 06 46 25.1
comp=Z,30nm,0.8s
W50A Signal Mountai 33.84 351 IAmb IAmb 06 46 27.4
comp=Z,25nm,0.8s
W50A IAMs_20 IAMs_20 06 59 04.5
comp=Z,4μm,21.0s
Z41A Richland Creek 33.87 340 P **P** 06 46 13.7 -1.2
baz=155
Z41A Richland Creek 33.87 340 P **P** 06 46 14.4 -0.5
Z41A IAmb IAmb 06 46 27.9
comp=Z,37nm,1.0s
237A Washetta, Mont 33.93 335 P **P** 06 46 15.3 -0.2
SWET Sewanee 33.95 350 P **P** 06 46 14.6 -1.0
SWET IAmb IAmb 06 46 26.6
comp=Z,26nm,0.9s
SWET IAMs_20 IAMs_20 06 59 07.4
comp=Z,4μm,20.0s
V59A Middlesex 33.96 2 P **P** 06 46 15.1 -0.5
baz=182,SNR=15
CPCT Cooper Cave 33.97 352 P **P** 06 46 15.6 -0.2
CPCT IAmb IAmb 06 46 28.4
comp=Z,29nm,0.9s
CPCT IAMs_20 IAMs_20 06 59 19.0
comp=Z,3μm,21.0s
V58A Windy Hill, Pi 33.98 0 P **P** 06 46 15.3 -0.5
baz=180,SNR=33
V58A Windy Hill, Pi 33.98 0 P **P** 06 46 15.4 -0.3
V58A IAMs_20 IAMs_20 07 00 48.5
comp=Z,4μm,20.0s
V53A Saluda 34.00 355 P **P** 06 46 16.3 +0.3
V53A IAMs_20 IAMs_20 07 00 32.6
comp=Z,3μm,18.0s
V60A Jim Taylor Roa 34.00 3 P **P** 06 46 15.9 -0.1
baz=184,SNR=11
V56A Mocksville 34.01 358 P **P** 06 46 15.0 -1.1
baz=178,SNR=6.6
OXF Oxford 34.01 345 P **P** 06 46 15.5 -0.6
baz=162
OXF Oxford 34.01 345 IAmb IAmb 06 46 47.2
comp=Z,53nm,1.1s
V54A Nebo 34.04 356 P **P** 06 46 16.0 -0.3
baz=175,SNR=11
V57A Coltrane Farms 34.07 359 P **P** 06 46 16.4 -0.2
baz=179,SNR=13
V55A Taylorsville 34.07 357 P **P** 06 46 16.3 -0.3
baz=176,SNR=5.6
V55A Taylorsville 34.07 357 P **P** 06 46 18.1 +1.5
V55A IAmb IAmb 06 46 53.0
comp=Z,37nm,1.3s
V55A IAMs_20 IAMs_20 07 02 14.4
comp=Z,3μm,22.0s
TKL Tuckaleechee C 34.08 354 P **P** 06 46 17.3 +0.6
comp=Z,10nm,1.2s,baz=174,slow=11,SNR=6.6
TKL Tuckaleechee C 34.08 354 IAMs_20 IAMs_20 06 59 31.9
comp=Z,3μm,19.0s
CCAR Cane Creek 34.13 341 P **P** 06 46 17.4 +0.3

PLAL Pickwick Lake 34.14 347 P P 06 46 15.9 -1.2
PLAL IAmb IAmb 06 46 44.0
comp=Z,44nm,1.2s
PLAL IAMs_20 IAMs_20 06 59 57.6
comp=Z,3µm,20.0s
V52A Sevierville 34.25 354 P P 06 46 19.3 +1.2
V52A IAmb IAmb 06 46 42.6
comp=Z,33nm,1.2s
V52A IAMs_20 IAMs_20 06 59 35.2
comp=Z,3µm,20.0s
V51A Loudon 34.30 353 P P 06 46 18.3 -0.3
V51A IAmb IAmb 06 46 25.5
comp=Z,42nm,1.2s
V51A IAMs_20 IAMs_20 06 59 29.6
comp=Z,3µm,21.0s
WLAR White Oak Lake 34.37 339 P P 06 46 19.5 +0.3
WLAR IAmb IAmb 06 46 26.2
comp=Z,54nm,1.0s
X43A Marvell 34.42 343 P P 06 46 20.1 +0.5
U56A King 34.54 359 P P 06 46 20.6 -0.1
baz=178,SNR=13
U56A King 34.54 359 P P 06 46 20.5 -0.1
U56A IAmb IAmb 06 46 24.0
comp=Z,46nm,1.0s
U56A IAMs_20 IAMs_20 07 00 35.6
comp=Z,4µm,22.0s
U59A Littleton 34.56 2 P P 06 46 21.1 +0.3
baz=182,SNR=6.8
U59A Littleton 34.56 2 IAmb IAmb 06 46 49.0
comp=Z,56nm,1.4s
U58A Oxford 34.58 1 P P 06 46 21.0 0.0
baz=181,SNR=25
JCT Junction City 34.60 328 P P 06 46 21.1 -0.2
baz=142
JCT Junction City 34.60 328 P P 06 46 22.0 +0.7
JCT pmax pmax
comp=Z,33nm,1.2s
JCT Junction City 34.60 328 P P 06 46 22.0 +0.7
JCT IAmb IAmb 06 46 32.2
comp=Z,33nm,1.2s
U57A Blanch 34.61 0 P P 06 46 20.2 -1.0
baz=180,SNR=27
RTLS Leoncito 34.61 165 *eP* **P 06 46 23.4 +1.7**
V48A Smith Brothers 34.62 349 P P 06 46 20.3 -1.0
V48A IAMs_20 IAMs_20 07 00 34.1
comp=Z,3µm,20.0s
WHTX Lake Whitney, 34.66 332 P P 06 46 21.6 -0.1
Z38A Mt. Pleasant 34.69 337 IAmb IAmb 06 46 33.6
comp=Z,47nm,0.8s
U60A Pendleton 34.71 3 P P 06 46 21.8 -0.3
baz=184
U55A TA2, Sparta 34.72 358 P P 06 46 22.0 -0.3
baz=177,SNR=14
CFA Coronel Fontan 34.72 163 P P 06 46 22.8 +0.4
comp=Z,21nm,0.9s,baz=340,slow=8.5,SNR=27
U54A Nelsons Funny 34.77 357 P P 06 46 22.6 -0.2
baz=176,SNR=7.7
U54A Nelsons Funny 34.77 357 P P 06 46 23.5 +0.8
U54A IAmb IAmb 06 46 49.2
comp=Z,60nm,1.3s
U54A IAMs_20 IAMs_20 07 02 38.0
comp=Z,3µm,20.0s
CLTN Cedars of Leba 34.87 350 P P 06 46 22.5 -1.0
CLTN IAmb IAmb 06 46 34.6
comp=Z,23nm,0.9s
CLTN IAMs_20 IAMs_20 06 59 34.8
comp=Z,4µm,21.0s
RTCV Cerro Valdivia 34.88 164 *eP* **P 06 46 26.4 +2.7**
TZTN Tazewell 34.94 354 P **P 06 46 23.4 -0.7**
baz=172,SNR=16
TZTN Tazewell 34.94 354 IAmb IAmb 06 46 27.0
comp=Z,35nm,1.1s
TZTN IAMs_20 IAMs_20 07 00 52.5
comp=Z,2µm,18.0s
AUSP Uspallata 34.99 165 *eP* **P 06 46 27.1 +2.2**
X40A Basin Creek Fa 35.00 340 P P 06 46 24.3 -0.3
baz=156,SNR=5.2
X40A Basin Creek Fa 35.00 340 P P 06 46 24.9 +0.3
CPUP Villa Florida 35.03 144 P P 06 46 24.4 -0.7
comp=Z,57nm,1.1s,baz=331,slow=8.5,SNR=28
CPUP LR LR 07 02 55.5
comp=Z,9µm,18.0s,baz=322,slow=40
CPUP Villa Florida 35.03 144 P P 06 46 23.4 -1.7
CPUP pmax pmax
comp=Z,95nm,1.3s
CPUP Villa Florida 35.03 144 P P 06 46 23.4 -1.7
CPUP Villa Florida 35.03 144 *eP* **P 06 46 24.4 -0.7**
CPUP *epP* **P 06 46 26.0 +1.0**
CPUP Villa Florida 35.03 144 *eP* **P 06 46 24.4 -0.7**
CPUP *epP* **P 06 46 26.0 +1.0**
UALR University of 35.10 341 IAmb IAmb 06 46 36.4
comp=Z,51nm,0.9s
T58A Grand View Acr 35.13 1 P P 06 46 25.8 +0.1
baz=181,SNR=13
T57A Hurt 35.18 0 P P 06 46 25.4 -0.8
baz=180,SNR=38
T57A Hurt 35.18 0 P P 06 46 26.2 +0.1
T57A IAMs_20 IAMs_20 07 00 34.3
comp=Z,3µm,19.0s
T59A Double "B" Far 35.19 3 P P 06 46 26.4 +0.2
baz=183,SNR=15
T59A Double "B" Far 35.19 3 P P 06 46 26.6 +0.3
WVT Waverly 35.19 348 P P 06 46 25.6 -0.6
baz=165
WVT Waverly 35.19 348 P P 06 46 26.0 -0.3
WVT pmax pmax
comp=Z,19nm,0.9s
WVT MLR MLR
comp=Z,3µm,21.0s
WVT Waverly 35.19 348 P P 06 46 26.0 -0.3
WVT Waverly 35.19 348 IAMs_20 IAMs_20 07 01 01.4
comp=Z,3µm,21.0s
U49A Red Boiling Sp 35.19 351 P P 06 46 24.8 -1.5
U49A IAMs_20 IAMs_20 06 59 45.5
comp=Z,4µm,20.0s
T56A Rocky Mt 35.21 359 P P 06 46 26.1 -0.4
baz=179,SNR=18
VA03 San Esteban 35.23 167 P P 06 46 26.0 -0.8
T53A Wise 35.28 356 P P 06 46 27.0 -0.2
baz=174,SNR=12
H06E1 SOCORRO T-PHAS 35.29 301 T T 07 23 40.8
SNR=100
T54A Tazewell 35.30 357 P P 06 46 26.4 -0.9
baz=176,SNR=11
MIAR Mount Ida 35.31 340 P P 06 46 27.0 -0.3
baz=155,SNR=6.2
MIAR Mount Ida 35.31 340 P P 06 46 27.5 +0.2
MIAR pmax pmax
comp=Z,17nm,1.0s
MIAR Mount Ida 35.31 340 P P 06 46 27.5 +0.2
T55A Pulaski 35.32 358 P P 06 46 27.1 -0.3
baz=177,SNR=8.8
ROC1 El Roble 35.33 168 P P 06 46 26.0 -1.9
BLA Blacksburg 35.40 359 P P 06 46 27.6 -0.5
baz=178,SNR=14
BLA Blacksburg 35.40 359 IAmb IAmb 06 46 59.0
comp=Z,51nm,0.9s
BLA IAMs_20 IAMs_20 07 01 12.4
comp=Z,3µm,22.0s
T60A Surry 35.40 4 P P 06 46 27.5 -0.6
baz=184
W41B Gary Mavity, V 35.44 342 P P 06 46 28.2 -0.2
baz=157,SNR=18
W41B Gary Mavity, V 35.44 342 IAmb IAmb 06 46 39.3
comp=Z,29nm,0.8s
BDFB Brasilia 35.45 120 P P 06 46 27.6 -1.3
comp=Z,27nm,1.1s,baz=292,slow=8.6,SNR=19
BDFB Brasilia 35.45 120 P P 06 46 27.0 -2.0
BDFB pmax pmax
comp=Z,122nm,1.6s
BDFB Brasilia 35.45 120 P P 06 46 27.0 -2.0
ITRB Iturama 35.52 128 *eP* **P 06 46 28.4 -1.0**
ITRB Iturama 35.52 128 *eP* **P 06 46 28.4 -1.0**
ROSB Rosrio 35.54 97 *eP* **P 06 46 28.8 -0.8**
ROSB *epP* **P 06 46 31.0 +1.4**
ROSB Rosrio 35.54 97 *eP* **P 06 46 28.8 -0.8**
ROSB *epP* **P 06 46 31.0 +1.4**
T50A Nancy 35.56 352 P **P 06 46 30.3 +0.8**
T50A IAMs_20 IAMs_20 07 00 19.0
comp=Z,4µm,20.0s
WHAR Wooly Hollow 35.56 342 P P 06 46 29.6 +0.1
WHAR IAmb IAmb 06 46 40.2
comp=Z,32nm,0.9s
PEL Peldehue 35.57 167 P P 06 46 33.6 +4.0
PEL Peldehue 35.57 167 IAmb IAmb 06 46 52.7
comp=Z,53nm,1.1s

TRCB Terra Rica 35.64 135 *eP* **P 06 46 30.6 +0.2**
TRCB Terra Rica 35.64 135 *eP* **P 06 46 30.6 +0.2**
TCA Tanti 35.69 158 *eP* **P 06 46 30.6 -0.1**
S58A Poland Farm, P 35.81 2 P P 06 46 31.7 +0.1
baz=182
S58A Poland Farm, P 35.81 2 P P 06 46 32.0 +0.5
S58A IAmb IAmb 06 47 13.1
comp=Z,57nm,1.6s
S56A Natural Bridge 35.85 360 P P 06 46 32.4 +0.4
baz=179,SNR=6.7
T47A Sharon Grove 35.88 349 P P 06 46 30.8 -1.4
T47A IAmb IAmb 06 46 40.4
comp=Z,23nm,0.7s
T47A IAMs_20 IAMs_20 07 00 16.6
comp=Z,3µm,20.0s
PCMB Pacaembu 35.91 132 *eP* **P 06 46 31.4 -1.4**
PCMB Pacaembu 35.91 132 *eP* **P 06 46 31.4 -1.4**
S57A Dark Hollow, R 35.94 1 P P 06 46 32.6 -0.1
baz=180,SNR=8.5
S57A Dark Hollow, R 35.94 1 P P 06 46 32.8 +0.1
S57A IAMs_20 IAMs_20 07 00 04.5
comp=Z,3µm,22.0s
LCAR Lake Charles 35.95 344 P P 06 46 32.2 -0.6
LCAR IAmb IAmb 06 46 43.4
comp=Z,39nm,0.8s
S53A Williamson 35.95 356 P P 06 46 32.5 -0.4
baz=175,SNR=13
TX32 Lajitas Array 35.95 322 P P 06 46 32.5 -0.5
TXAR Lajitas Array 35.95 322 P P 06 46 34.0 +0.9
comp=Z,6.9nm,1.0s,baz=138,slow=7.9,SNR=41
TXAR LR LR 07 02 04.0
comp=Z,2µm,20.3s,baz=0.0,slow=38
TXAR Lajitas Array 35.95 322 P P 06 46 34.5 +1.5
TXAR Lajitas Array 35.95 322 P P 06 46 34.5 +1.5
TX31 Lajitas Ar. Si 35.95 322 P P 06 46 34.5 +1.4
TX31 IAmb IAmb 06 47 20.8
comp=Z,42nm,1.1s
S55A Lewisburg 35.96 358 P P 06 46 32.8 -0.2
baz=178,SNR=8.1
W39A Magazine 35.97 340 P P 06 46 33.0 +0.1
baz=155,SNR=16
W39A Magazine 35.97 340 P P 06 46 31.8 -1.2
S60A Water View 35.97 4 P P 06 46 33.2 +0.2
baz=184,SNR=8.7
S59A Mechanicsville 35.99 3 P P 06 46 33.1 0.0
baz=183,SNR=12
X37A Clayton 36.01 337 P P 06 46 32.6 -0.8
X37A IAmb IAmb 06 46 41.5
comp=Z,75nm,1.8s
S54A Dingess, Beckl 36.02 357 P P 06 46 33.0 -0.5
baz=176,SNR=10
S54A Dingess, Beckl 36.02 357 P P 06 46 32.3 -1.1
S54A IAmb IAmb 06 47 10.3
comp=Z,58nm,1.3s
S61A Accomac 36.02 5 P P 06 46 32.6 -0.7
baz=186
S51A Beattyville 36.02 354 P P 06 46 32.9 -0.5
S51A IAmb IAmb 06 46 36.1
comp=Z,36nm,1.0s
S51A IAMs_20 IAMs_20 07 04 08.3
comp=Z,3µm,18.0s
FCAR Ozark Folk Cen 36.06 342 P P 06 46 33.5 -0.3
PARMO Parna 36.14 346 P P 06 46 33.3 -1.1
R58B Mineral 36.17 2 P P 06 46 34.5 -0.1
baz=182,SNR=13
R58B Mineral 36.17 2 P P 06 46 34.2 -0.4
R58B IAmb IAmb 06 46 37.7
comp=Z,29nm,0.9s
R58B IAMs_20 IAMs_20 07 00 23.4
comp=Z,3µm,18.0s
ABTX Abilene, Hawle 36.23 330 P P 06 46 34.8 -0.5
baz=144
ABTX Abilene, Hawle 36.23 330 P P 06 46 35.4 +0.1
MRA San Martin 36.27 160 *eP* **P 06 46 36.3 +0.5**
IPMB Ipameri, GO 36.37 124 *eP* **P 06 46 35.5 -1.2**
IPMB *epP* **P 06 46 37.8 +1.1**
IPMB Ipameri, GO 36.37 124 *eP* **P 06 46 35.5 -1.2**
IPMB *epP* **P 06 46 37.8 +1.1**
R54A Victor 36.39 358 P P 06 46 36.3 -0.3
baz=177,SNR=15
CBN Corbin Frederi 36.43 3 P P 06 46 37.2 +0.4
baz=183
CBN Corbin Frederi 36.43 3 P P 06 46 35.9 -0.9
CBN IAmb IAmb 06 46 40.7
comp=Z,28nm,0.8s
R59A King George, V 36.44 3 P P 06 46 36.7 -0.2
baz=184,SNR=7.5
R55A Marlinton 36.46 359 P P 06 46 37.4 +0.1
baz=178,SNR=16
R55A Marlinton 36.46 359 IAmb IAmb 06 46 44.9
comp=Z,44nm,1.1s
R57A Stanardsville 36.48 1 P P 06 46 37.6 +0.3
baz=181,SNR=9.3
R58A Rapidan 36.50 2 P P 06 46 37.7 +0.2
baz=182,SNR=40
R60A Leonardtown, M 36.53 4 P P 06 46 38.4 +0.6
baz=184
R53A Hurricane 36.58 357 P P 06 46 37.9 -0.3
baz=176,SNR=6.4
R53A Hurricane 36.58 357 IAMs_20 IAMs_20 07 01 57.8
comp=Z,4µm,21.0s
R61A Willards 36.69 5 P P 06 46 38.9 -0.3
baz=186
U40A Yellville 36.72 342 P P 06 46 38.6 -0.8
baz=157,SNR=30
U40A Yellville 36.72 342 IAmb IAmb 06 47 07.6
comp=Z,87nm,1.4s
R50A Paris 36.74 353 IAMs_20 IAMs_20 07 02 45.2
comp=Z,3µm,18.0s
SLBS Sierra La Lagu 36.82 309 P P 06 46 43.4 +2.8
SLBS IAmb IAmb 06 46 52.9
comp=Z,51nm,1.2s
T42A Van Buren 36.83 344 IAmb IAmb 06 46 50.1
comp=Z,26nm,0.8s
T42A IAMs_20 IAMs_20 07 02 35.0
comp=Z,2µm,19.0s
R49A Shelbyville 36.85 352 IAMs_20 IAMs_20 07 01 09.3
comp=Z,4µm,21.0s
USIN University of 36.93 349 P P 06 46 40.0 -1.2
USIN IAmb IAmb 06 46 53.4
comp=Z,54nm,0.8s
USIN IAMs_20 IAMs_20 07 04 46.5
comp=Z,3µm,18.0s
WCI Wyandotte Cave 36.95 351 P P 06 46 40.7 -0.7
baz=168
WCI Wyandotte Cave 36.95 351 P P 06 46 41.6 +0.2
WCI pmax pmax
comp=Z,33nm,1.0s
WCI MLR MLR
comp=Z,4µm,21.0s
WCI Wyandotte Cave 36.95 351 P P 06 46 41.6 +0.2
WCI IAmb IAmb 06 46 47.2
comp=Z,33nm,1.0s
WCI Wyandotte Cave 36.95 351 IAMs_20 IAMs_20 07 00 50.1
comp=Z,4µm,21.0s
S44A Carbondale 37.00 347 IAmb IAmb 06 46 48.4
comp=Z,66nm,1.2s
HHAR Hobbs 37.00 340 P P 06 46 40.6 -1.3
Q53A Leroy 37.09 357 P P 06 46 41.8 -0.7
baz=176,SNR=29
Q59A Harwood 37.12 4 P P 06 46 42.4 -0.3
baz=184,SNR=7.9
GO05 Hualala 37.13 170 IAmb IAmb 06 46 46.3
comp=Z,33nm,0.8s
GO05 IAMs_20 IAMs_20 07 00 37.4
comp=Z,3µm,20.0s
BO02 Sierra Bellavi 37.14 168 P P 06 46 43.5 +0.4
BO02 IAmb IAmb 06 47 08.7
comp=Z,109nm,1.8s
BO02 IAMs_20 IAMs_20 07 00 43.5
comp=Z,3µm,21.0s
Q58A Fox Den Farm, 37.15 2 P P 06 46 42.2 -0.8
baz=183,SNR=35
Q55A Buckhannon 37.17 359 P P 06 46 42.4 -0.9
baz=179,SNR=15
Q54A Coxs Mills 37.18 358 P P 06 46 43.1 -0.2
baz=177,SNR=9.3
Q54A Coxs Mills 37.18 358 IAMs_20 IAMs_20 07 02 05.6
comp=Z,3µm,21.0s
Q56A Snyder Ridge, 37.22 0 P P 06 46 42.2 -1.4
baz=180,SNR=9.2
Q56A Snyder Ridge, 37.22 0 P P 06 46 43.9 +0.3
Q57A Strasburg 37.22 1 P P 06 46 43.4 -0.2
baz=181,SNR=8.7
Q52A Bidwell 37.23 356 P P 06 46 43.2 -0.5
baz=175,SNR=9.3

Q61A Milford 37.24 5 P P 06 46 42.6 -1.2
baz=186
U38A Gravette 37.30 340 P P 06 46 43.1 -1.3
Q60A Greensboro 37.32 5 P P 06 46 43.3 -1.1
baz=186,SNR=5.7
Q60A Greensboro 37.32 5 P P 06 46 43.6 -0.8
LPIG La Paz 37.32 309 LR LR 06 59 06.3
comp=Z,2µm,21.4s,baz=110,slow=31
TUL1 Leonard 37.33 338 P P 06 46 43.9 -0.8
baz=152,SNR=6.3
TUL1 Leonard 37.33 338 P P 06 46 43.5 -1.2
Q51A Peebles 37.38 355 IAMs_20 IAMs_20 07 02 44.0
comp=Z,3µm,18.0s
P57A Homestead Farm 37.68 2 P P 06 46 46.2 -1.3
baz=182,SNR=13
P57A Homestead Farm 37.68 2 IAmb IAmb 06 47 17.3
comp=Z,37nm,1.1s
P57A IAMs_20 IAMs_20 07 01 09.4
comp=Z,3µm,22.0s
P56A Dayton Farm, R 37.68 1 P P 06 46 46.8 -0.7
baz=181,SNR=22
P55A Reedsville 37.68 359 P P 06 46 46.0 -1.6
baz=179
BB19B Bebedouro 37.70 128 *eP* **P 06 46 46.9 -1.1**
BB19B *eS* **S 06 52 38.3 -0.4**
BB19B Bebedouro 37.70 128 *eP* **P 06 46 46.9 -1.1**
BB19B *eS* **S 06 52 38.3 -0.4**
P53A Whipple 37.70 357 P P 06 46 46.9 -0.9
baz=176,SNR=15
P53A Whipple 37.70 357 IAmb IAmb 06 46 50.2
comp=Z,33nm,0.9s
P53A IAMs_20 IAMs_20 07 04 01.5
comp=Z,3µm,20.0s
P58A Pank, Wackersv 37.71 3 P P 06 46 47.3 -0.4
baz=183,SNR=25
OLIL Olney 37.76 349 P P 06 46 46.0 -2.2
OLIL IAmb IAmb 06 46 58.6
comp=Z,47nm,0.9s
OLIL IAMs_20 IAMs_20 07 05 13.4
comp=Z,3µm,18.0s
P54A Burton 37.79 359 P P 06 46 48.5 0.0
baz=178,SNR=6.2
P51A Williamsport 37.80 355 P P 06 46 48.1 -0.5
baz=174
P51A Williamsport 37.80 355 IAMs_20 IAMs_20 07 01 47.3
comp=Z,3µm,19.0s
CCM Cathedral Cave 37.83 345 P P 06 46 48.0 -0.9
baz=160
CCM Cathedral Cave 37.83 345 P P 06 46 47.2 -1.6
CCM pmax pmax
comp=Z,62nm,1.2s
CCM MLR MLR
comp=Z,1µm,20.0s
CCM Cathedral Cave 37.83 345 P P 06 46 47.2 -1.6
CCM IAmb IAmb 06 47 15.9
comp=Z,62nm,1.1s
P59A Jarrettsville 37.88 4 P P 06 46 47.9 -1.3
baz=184,SNR=7.4
P52A Corning 37.89 357 P P 06 46 47.9 -1.4
baz=175,SNR=11
P52A Corning 37.89 357 P P 06 46 46.9 -2.4
P52A IAmb IAmb 06 46 51.9
comp=Z,36nm,1.0s
P52A IAMs_20 IAMs_20 07 02 46.5
comp=Z,4µm,21.0s
BLO Bloomington 37.91 351 P P 06 46 49.4 -0.1
BLO pmax pmax
comp=Z,30nm,0.8s
BLO MLR MLR
comp=Z,4µm,21.0s
BLO Bloomington 37.91 351 P P 06 46 49.4 -0.1
BLO IAmb IAmb 06 47 16.1
comp=Z,30nm,0.8s
BLO IAMs_20 IAMs_20 07 01 20.5
comp=Z,4µm,21.0s
P49A Miami Univ. Ec 38.02 353 P P 06 46 48.8 -1.6
baz=171,SNR=6.5
P49A Miami Univ. Ec 38.02 353 IAMs_20 IAMs_20 07 01 46.2
comp=Z,3µm,20.0s
P48A Milroy 38.04 352 P P 06 46 48.0 -2.5
P48A IAMs_20 IAMs_20 07 01 46.7
comp=Z,4µm,20.0s
P61A Hammonton 38.08 6 P P 06 46 50.1 -0.7
baz=187
S39A Bolivar 38.09 342 P P 06 46 50.2 -0.9
Q44A Meyer Farm, Va 38.11 348 P P 06 46 50.6 -0.5
Q44A IAmb IAmb 06 46 56.6
comp=Z,53nm,0.9s
Q44A IAMs_20 IAMs_20 07 05 16.7
comp=Z,3µm,20.0s
P60A Greenville 38.14 5 P P 06 46 50.0 -1.4
baz=186
FRTB Fartura 38.20 132 *eP* **P 06 46 52.1 -0.1**
FRTB Fartura 38.20 132 *eP* **P 06 46 52.1 -0.1**
MVL Millersville 38.27 4 IAmb IAmb 06 46 56.1
comp=Z,57nm,0.9s
MVL IAMs_20 IAMs_20 07 02 21.0
comp=Z,3µm,20.0s
R40A Maddies Statio 38.34 344 P P 06 46 52.3 -0.7
R40A IAMs_20 IAMs_20 07 03 41.9
comp=Z,2µm,18.0s
O52A Adamsville 38.35 357 P P 06 46 52.2 -1.0
baz=176,SNR=5.0
O52A Adamsville 38.35 357 IAMs_20 IAMs_20 07 03 11.7
comp=Z,3µm,21.0s
O58A Lewisberry 38.36 3 P P 06 46 52.6 -0.7
baz=184,SNR=17
O54A Avella 38.37 359 P P 06 46 52.8 -0.5
baz=178,SNR=7.1
O54A Avella 38.37 359 P P 06 46 53.0 -0.3
O54A IAMs_20 IAMs_20 07 05 30.9
comp=Z,3µm,21.0s
O55A Ligonier 38.38 0 P P 06 46 52.8 -0.6
baz=180,SNR=10
O57A Amberson 38.42 2 P P 06 46 52.7 -1.0
baz=183,SNR=14
O51A Pataskala 38.43 356 P P 06 46 52.5 -1.4
baz=175
O56A Blue Knob Stat 38.45 1 P P 06 46 54.3 +0.2
baz=181,SNR=18
O56A Blue Knob Stat 38.45 1 P P 06 46 54.5 +0.5
O56A IAmb IAmb 06 46 57.4
comp=Z,41nm,0.9s
O56A IAMs_20 IAMs_20 07 01 42.9
comp=Z,2µm,19.0s
O53A New Philadelph 38.46 358 P P 06 46 53.7 -0.4
baz=177,SNR=14
O53A New Philadelph 38.46 358 P P 06 46 53.7 -0.4
O53A IAmb IAmb 06 46 56.9
comp=Z,45nm,1.1s
O53A IAMs_20 IAMs_20 07 05 46.4
comp=Z,3µm,19.0s
P46A Rosedale 38.46 350 IAMs_20 IAMs_20 07 02 55.8
comp=Z,3µm,20.0s
JANB Januaria 38.47 117 *eP* **P 06 46 53.1 -1.5**
JANB *epP* **P 06 46 55.0 +0.5**
JANB Januaria 38.47 117 *eP* **P 06 46 53.1 -1.5**
JANB *epP* **P 06 46 55.0 +0.5**
T35A Sooner Cattle 38.49 338 P P 06 46 54.3 -0.1
O61A Allentown 38.52 6 P P 06 46 53.8 -0.7
baz=188
ACSO Alum Creek Sta 38.54 356 P P 06 46 53.4 -1.3
baz=174,SNR=6.1
ACSO Alum Creek Sta 38.54 356 P P 06 46 53.5 -1.3
ACSO IAMs_20 IAMs_20 07 03 06.8
comp=Z,3µm,19.0s
O59A Robesonia 38.59 4 P P 06 46 54.9 -0.3
baz=185
O49A Covington 38.62 354 IAMs_20 IAMs_20 07 04 03.1
comp=Z,3µm,19.0s
O60A Telford 38.66 5 P P 06 46 55.7 0.0
baz=186,SNR=8.3
MNTX Cornudas Mount 38.67 323 P P 06 46 55.9 -0.1
baz=136,SNR=21
MNTX Cornudas Mount 38.67 323 P P 06 46 56.4 +0.4
BI03 Tigo 38.75 172 P P 06 46 55.1 -1.4
BI03 IAmb IAmb 06 47 00.3
comp=Z,61nm,0.8s
CPRX Cap Rock 38.77 326 P P 06 46 59.4 +2.4
O48A Farmland 38.79 353 P P 06 46 55.6 -1.2
baz=171,SNR=6.7
SSPA Standing Stone 38.83 2 P P 06 46 56.9 -0.3
baz=182
SSPA Standing Stone 38.83 2 P P 06 46 56.6 -0.6
SSPA IAmb IAmb 06 47 00.4
comp=Z,44nm,0.9s
SSPA Standing Stone 38.83 2 IAMs_20 IAMs_20 07 01 55.0

comp=Z,3µm,22.0s
BI02 San Fabin de 38.86 170 P P 06 46 56.4 -1.2
BI02 IAMs_20 IAMs_20 07 01 31.1
comp=Z,4µm,21.0s
MSTX Muleshoe 38.89 328 P P 06 46 57.4 -0.6
baz=141,SNR=29
MSTX Muleshoe 38.89 328 IAmb IAmb 06 47 05.7
comp=Z,94nm,1.1s
P43A Skaggs, Pawnee 38.93 348 IAmb IAmb 06 47 03.6
comp=Z,57nm,1.1s
P43A IAMs_20 IAMs_20 07 05 52.3
comp=Z,3µm,19.0s
LUPA Lehigh Univers 38.94 5 P P 06 46 58.2 +0.1
N55A Marion Center 38.95 0 P P 06 46 57.3 -1.0
baz=180,SNR=15
N57A Milroy 38.96 2 P P 06 46 57.6 -0.7
baz=183,SNR=11
N53A Lisbon 39.00 358 P P 06 46 57.7 -0.9
baz=178,SNR=5.4
N53A Lisbon 39.00 358 IAMs_20 IAMs_20 07 03 00.7
comp=Z,3µm,21.0s
U32A Winter Ranch, 39.04 335 IAmb IAmb 06 47 10.3
comp=Z,48nm,0.9s
N52A McGinn's Farm, 39.04 357 P P 06 46 58.2 -0.8
baz=176
N58A Sunbury 39.09 3 P P 06 46 58.4 -0.9
baz=184,SNR=13
N56A West Decatur 39.10 1 P P 06 46 58.7 -0.8
baz=182,SNR=10.0
N54A Moraine State 39.14 359 P P 06 46 59.8 0.0
baz=179,SNR=13
N54A Moraine State 39.14 359 IAmb IAmb 06 47 31.2
comp=Z,47nm,1.1s
N54A IAMs_20 IAMs_20 07 03 38.3
comp=Z,3µm,20.0s
SFIN Lafayette 39.18 351 IAMs_20 IAMs_20 07 02 10.1
comp=Z,4µm,21.0s
N51A Ashland 39.18 356 P P 06 46 59.8 -0.3
baz=175
N51A Ashland 39.18 356 IAMs_20 IAMs_20 07 03 36.7
comp=Z,4µm,19.0s
N61A South Mountain 39.20 6 P P 06 46 59.6 -0.6
baz=188
O44A Mansfield 39.20 349 IAmb IAmb 06 47 07.0
comp=Z,118nm,1.6s
O44A IAMs_20 IAMs_20 07 03 15.6
comp=Z,3µm,20.0s
RCLB Rio Claro- Sao 39.21 129 eP P 06 46 60.0 -0.7
RCLB epP P 06 47 01.4 +0.7
RCLB Rio Claro- Sao 39.21 129 eP P 06 46 60.0 -0.7
RCLB epP P 06 47 01.4 +0.7
N59A State Game Lan 39.23 4 P P 06 47 00.7 +0.1
baz=185,SNR=25
N59A State Game Lan 39.23 4 IAmb IAmb 06 47 04.2
comp=Z,40nm,0.8s
N60A Cedar Hill Far 39.23 5 P P 06 47 01.0 +0.4
baz=186,SNR=9.6
CPNY Central Park 39.27 7 IAMs_20 IAMs_20 07 05 24.3
comp=Z,2µm,22.0s
N49A Columbus Grove 39.34 354 P P 06 47 01.7 +0.3
N49A IAMs_20 IAMs_20 07 06 07.9
comp=Z,3µm,19.0s
MC01 Montes Claros 39.44 119 eP P 06 47 01.3 -1.4
MC01 epP P 06 47 03.3 +0.5
MC01 Montes Claros 39.44 119 eP P 06 47 01.3 -1.4
MC01 epP P 06 47 03.3 +0.5
N47A Urbana 39.47 352 IAMs_20 IAMs_20 07 02 40.6
comp=Z,4µm,21.0s
N62A Caumsett State 39.47 7 P P 06 47 03.4 +0.9
baz=189
PAL Palisades 39.49 7 P P 06 47 02.1 -0.5
baz=188
PAL Palisades 39.49 7 IAmb IAmb 06 47 30.6
comp=Z,71nm,1.6s
M57A Sunshine Farm, 39.56 3 P P 06 47 02.7 -0.6
baz=183,SNR=29
M57A Sunshine Farm, 39.56 3 IAmb IAmb 06 47 06.8
comp=Z,75nm,0.8s
M57A IAMs_20 IAMs_20 07 02 27.2
comp=Z,3µm,20.0s
M51A Elyria 39.59 357 P P 06 47 02.3 -1.2
baz=175
M53A WI Miller and 39.63 358 P P 06 47 03.7 -0.2
baz=178
M53A WI Miller and 39.63 358 IAMs_20 IAMs_20 07 06 32.3
comp=Z,3µm,22.0s
M58A Price's Panora 39.63 3 P P 06 47 03.3 -0.6
baz=184,SNR=16
NBMO Morrinhos-CE 39.63 97 eP P 06 47 03.8 -0.5
NBMO Morrinhos-CE 39.63 97 eP P 06 47 03.8 -0.5
M55A Ridgway 39.64 1 P P 06 47 04.4 +0.4
baz=181,SNR=8.6
M55A Ridgway 39.64 1 IAmb IAmb 06 47 43.4
comp=Z,83nm,1.6s
M55A IAMs_20 IAMs_20 07 02 20.6
comp=Z,3µm,21.0s
M56A Emporium 39.67 1 P P 06 47 04.6 +0.4
baz=182,SNR=21
M56A Emporium 39.67 1 P P 06 47 03.8 -0.5
M56A IAmb IAmb 06 47 07.0
comp=Z,46nm,0.8s
M56A IAMs_20 IAMs_20 07 02 21.2
comp=Z,2µm,21.0s
M54A Oil Creek Stat 39.68 360 P P 06 47 04.4 +0.1
baz=179,SNR=13
M54A Oil Creek Stat 39.68 360 P P 06 47 04.3 0.0
M54A IAmb IAmb 06 47 35.5
comp=Z,52nm,1.2s
M54A IAMs_20 IAMs_20 07 04 04.6
comp=Z,2µm,18.0s
M50A Fremont 39.71 356 P P 06 47 04.8 +0.2
M50A IAmb IAmb 06 47 06.6
comp=Z,43nm,0.9s
M50A IAMs_20 IAMs_20 07 03 42.8
comp=Z,4µm,19.0s
WSPT Westport, CT 39.72 7 IAmb IAmb 06 47 07.7
comp=Z,49nm,0.9s
M60A Port Jervis 39.73 6 P P 06 47 05.8 +1.0
baz=187
M52A Chesterland 39.75 358 P P 06 47 03.6 -1.3
baz=177
M52A Chesterland 39.75 358 IAMs_20 IAMs_20 07 02 31.7
comp=Z,4µm,21.0s
HDIL Hopedale 39.76 348 P P 06 47 03.7 -1.2
baz=164,SNR=8.4
HDIL Hopedale 39.76 348 IAMs_20 IAMs_20 07 06 26.3
comp=Z,3µm,18.0s
TIJ01 Guaruva-PR 39.80 134 eP P 06 47 04.7 -0.9
TIJ01 Guaruva-PR 39.80 134 eP P 06 47 04.7 -0.9
M61A Granite Spring 39.81 7 P P 06 47 05.5 +0.2
baz=188,SNR=5.2
ALLY Alegheny Colle 39.83 359 IAMs_20 IAMs_20 07 03 58.5
comp=Z,3µm,20.0s
KSPA Keystone Colle 39.86 4 IAmb IAmb 06 47 09.3
comp=Z,66nm,0.9s
M59A Waymart 39.87 5 P P 06 47 06.3 +0.4
baz=186,SNR=15
YLE Yale 39.91 8 IAmb IAmb 06 47 09.7
comp=Z,119nm,1.6s
VAO Valinhos 39.97 130 eP P 06 47 06.5 -0.6
VAO Valinhos 39.97 130 eP P 06 47 06.5 -0.6
M62A Hamden 40.05 8 P P 06 47 07.8 +0.5
baz=190,SNR=6.2
M63A Gales Ferry 40.13 9 P P 06 47 08.3 +0.3
baz=191,SNR=13
L53A Girard 40.13 359 P P 06 47 08.1 +0.1
baz=178
L57A Andrews Acres 40.24 3 P P 06 47 08.1 -0.8
baz=184,SNR=31
ERPA Erie 40.29 359 P P 06 47 08.9 -0.5
baz=179
ERPA Erie 40.29 359 P P 06 47 10.0 +0.7
ERPA IAMs_20 IAMs_20 07 04 22.8
comp=Z,3µm,20.0s
M44A Midewin, Midew 40.33 350 IAMs_20 IAMs_20 07 04 13.2
comp=Z,3µm,20.0s
L50A Kingsville 40.33 356 P P 06 47 07.2 -2.4
baz=174
L56A Greenwood 40.34 2 P P 06 47 09.3 -0.5
baz=183,SNR=12
L56A Greenwood 40.34 2 IAmb IAmb 06 47 38.6
comp=Z,59nm,1.2s
L58A Harry Jones Me 40.34 4 P P 06 47 09.8 0.0
baz=185,SNR=19
CPSB Cacapava Do Su 40.34 144 epP P 06 47 10.8 +0.8
CPSB Cacapava Do Su 40.34 144 epP P 06 47 10.8 +0.8
L55A Hinsdale 40.36 1 P P 06 47 10.0 0.0
baz=181,SNR=12
L48A N Adams 40.37 354 IAMs_20 IAMs_20 07 06 41.3
comp=Z,3µm,19.0s
M64A Tiverton 40.40 9 P P 06 47 10.5 +0.3
baz=192
L54A Sinclairville 40.41 0 P P 06 47 09.5 -0.8
baz=180,SNR=11
L60A Shokan 40.43 6 P P 06 47 10.1 -0.5
baz=188,SNR=8.5
PET01 Itanhaem-SP 40.45 132 eP P 06 47 10.9 -0.1
PET01 Itanhaem-SP 40.45 132 eP P 06 47 10.9 -0.1
KSU1 Kansas State U 40.46 339 IAmb IAmb 06 47 16.8
comp=Z,28nm,0.7s
BINY Binghamton 40.49 4 P P 06 47 10.6 -0.4
baz=185,SNR=26
BINY Binghamton 40.49 4 P P 06 47 10.4 -0.5
M65A Busby, Falmout 40.51 10 P P 06 47 11.0 -0.1
baz=193
M65A Busby, Falmout 40.51 10 IAMs_20 IAMs_20 07 05 30.7
comp=Z,2µm,20.0s
L59A Walton 40.55 5 P P 06 47 11.0 -0.6
baz=186,SNR=9.2
WVNY West Valley, N 40.58 1 IAmb IAmb 06 47 49.1
comp=Z,64nm,1.2s
WVNY IAMs_20 IAMs_20 07 02 49.4
comp=Z,3µm,21.0s
L63A North Scituate 40.64 9 P P 06 47 11.7 -0.5
baz=192
AAM Ann Arbor 40.65 355 P P 06 47 11.9 -0.4
baz=173
AAM Ann Arbor 40.65 355 IAMs_20 IAMs_20 07 07 08.7
comp=Z,3µm,20.0s
L62A Suffield 40.66 8 P P 06 47 11.7 -0.7
baz=190
L46A Eue Claire 40.66 352 IAMs_20 IAMs_20 07 03 16.2
comp=Z,4µm,20.0s
BSCB Bom Sucesso 40.66 125 eP P 06 47 11.7 -1.1
BSCB epP P 06 47 13.6 +0.7
BSCB Bom Sucesso 40.66 125 eP P 06 47 11.7 -1.1
BSCB epP P 06 47 13.6 +0.7
L61A Hillsdale 1, H 40.70 7 P P 06 47 12.5 -0.2
baz=189,SNR=8.4
BRYW Bryant College 40.71 9 P P 06 47 12.1 -0.8
BRYW IAMs_20 IAMs_20 07 07 10.0
comp=Z,3µm,18.0s
121A Cookes Peak, D 40.71 322 P P 06 47 12.5 -0.7
baz=133,SNR=13
121A Cookes Peak, D 40.71 322 P P 06 47 14.8 +1.6
121A IAmb IAmb 06 47 54.8
comp=Z,40nm,0.9s
121A IAMs_20 IAMs_20 07 04 32.0
comp=Z,3µm,18.0s
K54A Basiliko Farm, 40.78 1 P P 06 47 13.2 -0.3
baz=181
L64A Middleborough 40.84 10 P P 06 47 13.1 -0.7
baz=193
K56A Middlesex 40.91 2 P P 06 47 14.2 -0.3
baz=183,SNR=8.0
K55A Peru 40.92 1 P P 06 47 14.1 -0.5
baz=182,SNR=7.5
MMNY Mt. Morris Dam 40.92 2 IAmb IAmb 06 47 43.2
comp=Z,92nm,1.5s
MMNY IAMs_20 IAMs_20 07 03 10.4
comp=Z,2µm,21.0s
LC01 Cunco 40.94 171 P P 06 47 15.4 +0.6
LC01 IAmb IAmb 06 47 17.9
comp=Z,62nm,0.8s
LC01 IAMs_20 IAMs_20 07 02 29.5
comp=Z,3µm,20.0s
N38A Joes South For 40.94 344 P P 06 47 15.6 +0.9
N38A IAmb IAmb 06 47 20.2
comp=Z,62nm,1.1s
QUA2 Belchertown 40.94 8 IAmb IAmb 06 47 17.9
comp=Z,53nm,1.2s
K52A Tillsonburg 40.97 359 P P 06 47 13.6 -1.4
baz=178
K57A Scipio Center 40.98 3 P P 06 47 14.8 -0.3
baz=184,SNR=18
K50A Casco 41.05 356 P P 06 47 16.0 +0.5
K50A IAmb IAmb 06 47 16.9
comp=Z,47nm,1.0s
K50A IAMs_20 IAMs_20 07 04 43.1
comp=Z,4µm,20.0s
L61B Northampton 41.06 8 P P 06 47 15.2 -0.5
baz=190
K58A Earlville 41.07 4 P P 06 47 15.5 -0.3
baz=185,SNR=12
K58A Earlville 41.07 4 P P 06 47 16.8 +0.9
K58A IAmb IAmb 06 47 44.6
comp=Z,58nm,1.1s
K58A IAMs_20 IAMs_20 07 04 08.0
comp=Z,2µm,21.0s
L44A Lake County Fo 41.07 350 IAMs_20 IAMs_20 07 03 18.1
comp=Z,3µm,21.0s
K60A Five Rivers En 41.08 6 P P 06 47 15.7 -0.2
baz=188
K49A Clarkson 41.12 355 P P 06 47 14.9 -1.2
baz=174
CNLB Canela 41.15 141 eP P 06 47 16.0 -0.7
CNLB Canela 41.15 141 eP P 06 47 16.0 -0.7
K59A Cooperstown 41.15 5 P P 06 47 15.7 -0.8
baz=187,SNR=13
BCX Boston College 41.17 9 IAmb IAmb 06 47 45.5
comp=Z,99nm,1.4s
BCX IAMs_20 IAMs_20 07 07 33.3
comp=Z,2µm,20.0s
PARB Paraibuna 41.19 129 eP P 06 47 16.9 -0.3
PARB epP P 06 47 18.0 +0.9
PARB Paraibuna 41.19 129 eP P 06 47 16.9 -0.3
PARB epP P 06 47 18.0 +0.9
WES Weston 41.20 9 IAmb IAmb 06 47 46.8
comp=Z,108nm,1.6s
WES IAMs_20 IAMs_20 07 07 24.0
comp=Z,3µm,18.0s
K61A Williamstown 41.21 7 P P 06 47 17.0 +0.1
baz=189
L42A Oliver, Polo 41.23 348 P P 06 47 15.6 -1.5
L42A IAmb IAmb 06 47 21.9
comp=Z,54nm,1.4s
L42A IAMs_20 IAMs_20 07 07 04.1
comp=Z,2µm,18.0s
PLTB Pedras Altas 41.26 146 eP P 06 47 17.0 -0.5
PLTB epP P 06 47 18.8 +1.3
PLTB Pedras Altas 41.26 146 eP P 06 47 17.0 -0.5
PLTB epP P 06 47 18.8 +1.3
Y22D IRIS PASSCAL I 41.27 324 IAMs_20 IAMs_20 07 04 52.6
comp=Z,2µm,18.0s
HRV Adam Dziewonsk 41.28 9 P P 06 47 17.5 +0.1
baz=192
HRV Adam Dziewonsk 41.28 9 P P 06 47 16.6 -0.9
HRV pmax pmax
comp=Z,37nm,1.0s
HRV MLR MLR
comp=Z,2µm,18.0s
HRV Adam Dziewonsk 41.28 9 P P 06 47 16.6 -0.9
HRV IAmb IAmb 06 47 21.0
comp=Z,37nm,0.9s
HRV Adam Dziewonsk 41.28 9 IAMs_20 IAMs_20 07 07 17.1
comp=Z,2µm,18.0s
K62A Royalston 41.34 8 P P 06 47 17.9 -0.1
baz=191,SNR=8.0
K62A Royalston 41.34 8 IAmb IAmb 06 47 46.9
comp=Z,119nm,1.6s
K62A IAMs_20 IAMs_20 07 07 42.8
comp=Z,2µm,20.0s
MEDO Medina 41.34 1 P P 06 47 18.3 +0.3
MEDO IAMs_20 IAMs_20 07 03 22.5
comp=Z,2µm,21.0s
J54A Appleton 41.45 1 P P 06 47 18.4 -0.5
baz=181
J54A Appleton 41.45 1 IAMs_20 IAMs_20 07 03 14.3
comp=Z,3µm,21.0s
J55A Hilton 41.46 2 P P 06 47 17.8 -1.1
baz=182,SNR=5.4
J55A Hilton 41.46 2 IAmb IAmb 06 47 46.7
comp=Z,79nm,1.5s
J55A IAMs_20 IAMs_20 07 03 36.5
comp=Z,2µm,20.0s
K63A Dunstable 41.46 9 P P 06 47 19.4 +0.4
baz=192,SNR=6.1
J56A Wolcott 41.51 3 P P 06 47 18.7 -0.7
baz=184,SNR=28
J56A Wolcott 41.51 3 IAmb IAmb 06 47 21.8
comp=Z,63nm,0.8s
J56A IAMs_20 IAMs_20 07 03 37.7
comp=Z,2µm,19.0s
LPA La Plata 41.55 153 eP P 06 47 13.7 -6.1
LPA pPP 06 48 59.1
LPA S S 06 53 05.7 -30
LPA PSP PSP 06 53 52.6
LPA PKIKP **PKiKP** **06 56 23.2 -1.4**
LPA SS **SS** **06 56 39.1 -1.9**
LPA SSS SSS 06 57 10.6
LPA SKIKS 07 03 33.3
L40A Anamosa 41.62 347 P P 06 47 18.7 -1.6
L40A IAMs_20 IAMs_20 07 07 36.6
comp=Z,2µm,20.0s
ANMO Albuquerque 41.63 326 P P 06 47 22.8 +2.1
comp=Z,16nm,0.9s,baz=138,slow=9.2,SNR=43
ANMO Albuquerque 41.63 326 eP P 06 47 22.8 +2.1
ANMO pmax pmax
comp=Z,29nm,1.3s
ANMO MLR MLR
comp=Z,1µm,18.0s
ANMO Albuquerque 41.63 326 P P 06 47 21.0 +0.3
ANMO IAmb IAmb 06 47 34.4
comp=Z,51nm,0.9s
K43A Burlington 41.65 350 IAMs_20 IAMs_20 07 05 03.4
comp=Z,3µm,19.0s
J48A Bridge Port 41.66 355 P P 06 47 19.8 -0.8
baz=173
J48A Bridge Port 41.66 355 IAMs_20 IAMs_20 07 07 39.2
comp=Z,3µm,20.0s
J49A Marlette 41.67 356 P P 06 47 18.3 -2.4
baz=174
J57A Williamstown 41.69 4 P P 06 47 19.5 -1.4
baz=185,SNR=13
J57A Williamstown 41.69 4 P P 06 47 20.6 -0.2
J57A IAmb IAmb 06 47 49.3
comp=Z,51nm,1.1s
J57A IAMs_20 IAMs_20 07 04 25.5
comp=Z,2µm,20.0s
J58A Remsen 41.69 4 P P 06 47 19.0 -1.9
baz=186,SNR=19
J58A Remsen 41.69 4 IAmb IAmb 06 47 23.9
comp=Z,52nm,0.9s
J47A Sunmer 41.69 354 P P 06 47 19.8 -1.1
baz=172
J47A Sunmer 41.69 354 P P 06 47 20.6 -0.2
J47A IAMs_20 IAMs_20 07 07 31.3
comp=Z,3µm,19.0s
N35A Tabor 41.72 341 P P 06 47 20.3 -0.9
J60A Lant Hill Farm 41.76 7 P P 06 47 22.1 +0.7
baz=189,SNR=14
J59A Piesco 41.86 5 P P 06 47 23.2 +0.9
baz=187,SNR=29
J59A Piesco 41.86 5 P P 06 47 20.7 -1.6
J59A IAmb IAmb 06 47 25.4
comp=Z,58nm,0.9s
ACCN Adirondack Com 41.87 6 P P 06 47 22.6 +0.3
ACCN IAmb IAmb 06 47 25.8
comp=Z,43nm,1.1s
J62A Henniker 41.95 8 P P 06 47 23.8 +0.9
baz=191
J61A Chester 41.96 7 P P 06 47 24.1 +1.0
baz=190,SNR=6.7
SCIA State Center 41.97 345 IAmb IAmb 06 47 28.5
comp=Z,34nm,0.9s
I51A Listowel 42.00 358 P P 06 47 22.5 -0.9
baz=177
I58A Old Forge 42.05 5 P P 06 47 23.1 -0.7
baz=186,SNR=9.8
J45A Montague 42.07 352 IAMs_20 IAMs_20 07 04 09.5
comp=Z,3µm,20.0s
J63A Strafford 42.11 9 P P 06 47 23.4 -0.9
baz=192
PECO Prince Edward 42.16 3 IAmb IAmb 06 47 52.8
comp=Z,55nm,1.1s
PECO IAMs_20 IAMs_20 07 04 06.9
comp=Z,2µm,20.0s
T25A Trinidad 42.19 330 IAmb IAmb 06 47 38.6
comp=Z,52nm,0.9s
T25A IAMs_20 IAMs_20 07 07 38.7
comp=Z,2µm,20.0s
JFWS Jewell Farm 42.22 348 P P 06 47 23.2 -2.0
baz=164,SNR=15
JFWS Jewell Farm 42.22 348 IAmb IAmb 06 47 30.2
comp=Z,72nm,1.4s
JFWS Jewell Farm 42.22 348 IAMs_20 IAMs_20 07 06 59.4
comp=Z,3µm,19.0s
I49A Point Hope 42.22 356 P P 06 47 24.2 -1.0
baz=175
I49A Point Hope 42.22 356 IAMs_20 IAMs_20 07 05 19.1
comp=Z,4µm,21.0s
I57A Carthage 42.24 4 P P 06 47 24.6 -0.7
baz=185,SNR=12
MAN01 Angra dos Reis 42.24 127 eP P 06 47 25.4 -0.3
MAN01 Angra dos Reis 42.24 127 eP P 06 47 25.4 -0.3
I59A Olmsteadville 42.25 6 P P 06 47 25.7 +0.3
baz=188,SNR=23
GDU01 Guandu, BA 42.31 112 eP P 06 47 25.0 -1.3
GDU01 Guandu, BA 42.31 112 eP P 06 47 25.0 -1.3
I60A Shoreham 42.36 7 P P 06 47 26.2 -0.1
baz=189,SNR=19
VAS01 Vassouras-RJ 42.37 126 eP P 06 47 26.7 -0.1
VAS01 epP P 06 47 27.8 +1.0
VAS01 Vassouras-RJ 42.37 126 eP P 06 47 26.7 -0.1
VAS01 epP P 06 47 27.8 +1.0
NCB Newcomb 42.39 6 P P 06 47 27.0 +0.4
NCB IAmb IAmb 06 47 55.9
comp=Z,95nm,1.7s
I55A Frankford 42.41 2 P P 06 47 26.2 -0.6
baz=182,SNR=7.4
I47A Gladwin 42.44 355 P P 06 47 25.7 -1.2
baz=172,SNR=5.8
I47A Gladwin 42.44 355 IAmb IAmb 06 47 47.2
comp=Z,71nm,1.2s
I46A Reed City 42.45 354 P P 06 47 25.1 -2.0
baz=171
TUC Tucson 42.47 319 P P 06 47 27.8 +0.3
TUC pmax pmax
comp=Z,18nm,1.2s
TUC MLR MLR
comp=Z,5µm,18.0s
TUC Tucson 42.47 319 P P 06 47 27.8 +0.3
I48A Sherman Twp 42.53 355 P P 06 47 26.1 -1.6
baz=173
K38A Parkersburg 42.55 345 P P 06 47 26.7 -1.2
I61A Oroboro, Fairl 42.58 8 P P 06 47 28.6 +0.4
baz=190,SNR=5.9
I45A Fountain 42.64 353 P P 06 47 26.2 -2.4
baz=170
I45A Fountain 42.64 353 IAMs_20 IAMs_20 07 04 26.6
comp=Z,3µm,20.0s
I62A Tamworth 42.65 9 P P 06 47 28.7 0.0
baz=192
I62A Tamworth 42.65 9 IAMs_20 IAMs_20 07 08 08.5
comp=Z,2µm,19.0s
SJMB Sao Joao De Ma 42.65 120 eP P 06 47 27.9 -1.3
SJMB epP P 06 47 29.7 +0.6
SJMB Sao Joao De Ma 42.65 120 eP P 06 47 27.9 -1.3
SJMB epP P 06 47 29.7 +0.6
DELO Deloro Mine 42.72 2 IAMs_20 IAMs_20 07 04 15.8
comp=Z,2µm,19.0s
H53A Bobcaygeon 42.75 1 P P 06 47 28.8 -0.6
baz=181,SNR=8.4
H55A Tweed 42.77 2 P P 06 47 29.4 -0.2
baz=183,SNR=9.9
H52A Wyevale 42.81 359 P P 06 47 29.4 -0.6
baz=179
KSCO Kaye Shedlock' 42.82 333 P P 06 47 31.2 +0.8
KSCO IAmb IAmb 06 48 01.8
comp=Z,46nm,1.1s
H58A Gabriels 42.84 5 P P 06 47 30.3 0.0
baz=187,SNR=9.7
H56A Elgin 42.85 3 P P 06 47 30.1 -0.2
baz=184,SNR=41
I42A Draeger Farm, 42.91 350 IAMs_20 IAMs_20 07 05 50.5
comp=Z,3µm,19.0s
VT1 Waterbury 42.91 7 P P 06 47 30.4 -0.3
VT1 IAmb IAmb 06 47 34.3
comp=Z,88nm,1.4s
LBNH Lisbon 42.92 8 P P 06 47 31.1 +0.2
baz=191,SNR=9.0
LBNH Lisbon 42.92 8 IAmb IAmb 06 47 34.6
comp=Z,56nm,1.1s
I63A Otisfield 42.94 9 P P 06 47 31.4 +0.4
baz=193
SADO Sadowa 42.94 0 P P 06 47 30.9 -0.1
comp=Z,19nm,1.1s,baz=208,slow=7.6,SNR=6.8
PLCA Paso Flores 42.94 170 P P 06 47 31.5 +0.3
comp=Z,44nm,0.7s,baz=345,slow=9.2,SNR=68
PLCA Paso Flores 42.94 170 eP P 06 47 30.0 -1.2

PLCA Paso Flores 42.94 170 P P 06 47 31.0 -0.2
PLCA IAmb IAmb 06 47 34.9
comp=Z,60nm,0.8s
PLCA Paso Flores 42.94 170 eP P 06 47 31.2 0.0
PLCA Paso Flores 42.94 170 eP P 06 47 31.2 0.0
L34A Svendsen Farm, 42.95 341 P P 06 47 30.1 -1.0
L34A IAmb IAmb 06 48 04.4
comp=Z,32nm,0.8s
I64A Boothbay 42.97 10 P P 06 47 32.4 +1.2
baz=194
H47A Mio 42.98 355 P P 06 47 29.9 -1.5
baz=173
BSFB Barra de Sao F 43.00 120 eP P 06 47 31.4 -0.5
BSFB Barra de Sao F 43.00 120 eP P 06 47 31.4 -0.5
LONY Lake Ozonia 43.00 5 P P 06 47 31.8 +0.3
baz=187,SNR=15
LONY Lake Ozonia 43.00 5 IAmb IAmb 06 47 34.3
comp=Z,66nm,1.4s
LONY IAMs_20 IAMs_20 07 07 51.0
comp=Z,2µm,19.0s
H48A Harrisville 43.01 356 P P 06 47 30.4 -1.2
baz=174
H46A Fife Lake 43.02 354 P P 06 47 30.7 -1.0
baz=171
H59A Cadyville 43.11 6 P P 06 47 33.0 +0.5
baz=188,SNR=15
H60A Morristown 43.14 7 P P 06 47 32.9 +0.2
baz=190,SNR=7.3
SDCO Great Sand Dun 43.20 329 IAMs_20 IAMs_20 07 07 01.7
comp=Z,2µm,20.0s
H61A Lyndonville 43.21 8 P P 06 47 33.9 +0.6
baz=191,SNR=7.4
I40A Norwalk 43.23 348 P P 06 47 33.7 +0.2
I40A IAMs_20 IAMs_20 07 08 25.3
comp=Z,3µm,18.0s
GLMI Grayling 43.24 355 IAMs_20 IAMs_20 07 08 38.3
comp=Z,4µm,20.0s
PLVO Plevna 43.26 2 P P 06 47 33.0 -0.6
PLVO IAmb IAmb 06 48 01.8
comp=Z,72nm,1.3s
G53A Haliburton 43.30 1 P P 06 47 33.5 -0.4
baz=181
FRNY Flat Rock 43.31 6 IAmb IAmb 06 47 37.2
comp=Z,76nm,1.4s
FRNY IAMs_20 IAMs_20 07 08 50.1
comp=Z,2µm,19.0s
H62A Milan 43.36 9 P P 06 47 34.7 +0.3
baz=192,SNR=11
H62A Milan 43.36 9 P P 06 47 34.1 -0.3
H62A IAmb IAmb 06 47 38.1
comp=Z,49nm,1.1s
X18A Snowflake 43.39 322 P P 06 47 34.1 -0.9
G57A Newington 43.45 5 P P 06 47 34.5 -0.6
baz=186,SNR=13
G55A Calabogie 43.49 3 P P 06 47 35.3 -0.1
baz=184,SNR=20
G47A Hillman 43.52 355 P P 06 47 35.4 -0.3
baz=173
G45A Suttons Bay 43.56 354 P P 06 47 36.2 +0.2
baz=171
G45A Suttons Bay 43.56 354 IAmb IAmb 06 48 01.3
comp=Z,50nm,0.9s
G45A IAMs_20 IAMs_20 07 05 05.9
comp=Z,3µm,20.0s
G58A Ormstown 43.57 5 P P 06 47 35.9 -0.2
baz=188,SNR=7.8
G54A Lake Saint Pet 43.58 1 P P 06 47 36.1 -0.2
baz=182,SNR=12
RIB01 Linhares ES 43.59 120 eP P 06 47 35.6 -1.1
RIB01 Linhares ES 43.59 120 eP P 06 47 35.6 -1.1
WVL Waterville 43.59 10 IAMs_20 IAMs_20 07 07 31.4
comp=Z,2µm,20.0s
G59A Clarenceville 43.60 6 P P 06 47 36.6 +0.3
baz=189,SNR=12
214A Organ Pipe Nat 43.60 317 P P 06 47 37.0 +0.4
214A IAmb IAmb 06 48 05.1
comp=Z,124nm,1.9s
214A IAMs_20 IAMs_20 07 03 40.8
comp=Z,3µm,19.0s
H63A New Sharon 43.62 10 P P 06 47 37.5 +0.9
baz=193
W18A Petrified Fore 43.66 323 IAmb IAmb 06 48 09.8
comp=Z,76nm,1.1s
G60A Masonville 43.71 7 P P 06 47 38.4 +1.1
baz=190,SNR=16
H64A Troy 43.75 10 P P 06 47 38.4 +0.9
baz=194
G46A Petoskey 43.76 354 P P 06 47 35.9 -1.7
baz=172
ORIO Orleans, Innes 43.76 4 P P 06 47 37.1 -0.4
baz=185,SNR=12
ORIO Orleans, Innes 43.76 4 P P 06 47 37.4 -0.2
S22A 4UR Ranch, Cre 43.89 328 P P 06 47 38.8 -0.4
S22A IAMs_20 IAMs_20 07 09 29.0
comp=Z,2µm,20.0s
MOQ Mont Orford 43.94 7 P P 06 47 38.9 -0.2
F52A Sundridge 43.97 0 P P 06 47 38.3 -1.0
baz=180
Q24A Divide 43.97 331 P P 06 47 40.8 +0.9
Q24A IAMs_20 IAMs_20 07 07 36.8
comp=Z,2µm,22.0s
H65A Eastbrook 43.99 11 P P 06 47 39.7 +0.3
baz=196
F49A Sandfield 43.99 357 P P 06 47 38.5 -1.0
baz=176
G61A St-Isidore-de- 44.00 8 P P 06 47 40.4 +0.8
baz=191,SNR=11
RCBR Riachuelo 44.05 100 P P 06 47 39.6 -1.0
RCBR pmax pmax
comp=Z,294nm,2.0s
RCBR MLR MLR
comp=Z,8µm,20.0s
RCBR Riachuelo 44.05 100 P P 06 47 39.6 -1.0
RCBR Riachuelo 44.05 100 eP P 06 47 39.2 -1.4
RCBR Riachuelo 44.05 100 eP P 06 47 39.2 -1.4
F55A Otter Lake 44.09 3 P P 06 47 39.4 -0.9
baz=184,SNR=14
G62A West of Eustis 44.09 9 P P 06 47 40.1 -0.2
baz=192,SNR=16
G62A West of Eustis 44.09 9 P P 06 47 40.9 +0.6
G62A IAMs_20 IAMs_20 07 04 28.5
comp=Z,2µm,22.0s
F48A Evansville 44.09 357 P P 06 47 39.9 -0.3
baz=175
F51A Arnstein 44.10 359 P P 06 47 39.7 -0.6
baz=179
G63A Kingsbury 44.13 10 P P 06 47 41.0 +0.3
baz=194
ALGO Algonquin Park 44.14 1 P P 06 47 39.6 -1.1
baz=182,SNR=14
OGNE Ogallala 44.15 335 P P 06 47 40.7 -0.3
baz=146
F57A Harrington 44.17 5 P P 06 47 40.6 -0.4
baz=186
F45A CMU Biological 44.18 354 P P 06 47 40.3 -0.7
baz=171
H66A Whiting 44.26 12 P P 06 47 41.6 -0.1
baz=197
LL01 San Ignacio de 44.28 173 IAMs_20 IAMs_20 07 03 55.8
comp=Z,3µm,20.0s
F58A St-Lin Laurent 44.31 6 P P 06 47 42.5 +0.5
baz=188
K31A O'Neill 44.33 339 P P 06 47 40.1 -2.2
PKME Peaks-Kenny Pk 44.34 10 P P 06 47 43.1 +0.8
baz=194
PKME Peaks-Kenny Pk 44.34 10 IAmb IAmb 06 47 45.8
comp=Z,53nm,1.3s
PKME IAMs_20 IAMs_20 07 07 54.0
comp=Z,2µm,20.0s
F59A Saint Guilaume 44.40 7 P P 06 47 43.2 +0.5
baz=189,SNR=8.6
MVCO Mesa Verde 44.40 326 P P 06 47 43.1 -0.2
baz=136,SNR=18
MVCO Mesa Verde 44.40 326 IAmb IAmb 06 48 13.8
comp=Z,62nm,1.4s
G64A Maxfield 44.42 11 P P 06 47 42.8 -0.1
baz=195
E52A Mattawa 44.46 1 P P 06 47 42.4 -0.8
baz=181,SNR=5.1
G40A Rib Lake 44.47 349 P P 06 47 41.6 -1.8
G40A IAmb IAmb 06 47 48.8
comp=Z,31nm,1.1s
G40A IAMs_20 IAMs_20 07 09 12.0
comp=Z,3µm,18.0s
E53A Dumoine, Ponti 44.57 2 P P 06 47 43.9 -0.3
baz=182,SNR=5.5
TRQ Mont Tremblant 44.59 5 P P 06 47 42.6 -1.8

F42A Maple Grove Fa 44.60 351 IAMs_20 IAMs_20 07 05 25.4
comp=Z,4µm,21.0s
G65A Princeton 44.61 12 P P 06 47 45.0 +0.6
baz=197
G65A Princeton 44.61 12 IAmb IAmb 06 47 48.0
comp=Z,50nm,1.2s
G65A IAMs_20 IAMs_20 07 07 56.0
comp=Z,2µm,20.0s
E50A Wahnapitae 44.61 359 P P 06 47 43.6 -0.8
baz=178,SNR=5.1
F60A Warwick 44.62 7 P P 06 47 44.5 0.0
baz=190,SNR=8.5
ECSD EROS Data Cent 44.62 342 P P 06 47 43.3 -1.3
baz=155,SNR=17
E54A Lac Daplat, Po 44.65 2 P P 06 47 44.7 0.0
baz=183,SNR=7.7
E51A G1948 Merrick 44.70 360 P P 06 47 43.8 -1.4
baz=180,SNR=14
E48A Lockeyer 44.72 357 P P 06 47 44.6 -0.7
baz=176,SNR=10
E55A Montcerf-Lytto 44.72 3 P P 06 47 43.9 -1.4
baz=184
113A Mohawk Valley, 44.73 317 P P 06 47 45.9 +0.3
113A IAMs_20 IAMs_20 07 04 14.8
comp=Z,2µm,20.0s
E46A Sault Ste Mari 44.74 355 IAmb IAmb 06 48 15.3
comp=Z,33nm,1.1s
E47A Iron Bridge 44.76 356 P P 06 47 44.8 -0.8
baz=174
F61A St Evariste 44.76 8 P P 06 47 45.4 -0.2
baz=192,SNR=8.6
F63A Nahmakanta, Br 44.80 10 P P 06 47 45.5 -0.5
baz=194
F63A Nahmakanta, Br 44.80 10 IAMs_20 IAMs_20 07 08 07.1
comp=Z,3µm,20.0s
E57A Chemin Saint G 44.82 5 P P 06 47 45.5 -0.6
baz=187,SNR=32
F62A Pittston Farm, 44.84 9 P P 06 47 46.5 +0.2
baz=193
F62A Pittston Farm, 44.84 9 IAMs_20 IAMs_20 07 09 34.3
comp=Z,2µm,19.0s
ISCO Idaho Springs 44.85 331 P P 06 47 46.3 -0.5
baz=141,SNR=24
ISCO Idaho Springs 44.85 331 P P 06 47 45.9 -0.9
ISCO pmax pmax
comp=Z,16nm,0.9s
ISCO MLR MLR
comp=Z,2µm,22.0s
ISCO Idaho Springs 44.85 331 P P 06 47 45.9 -0.9
E58A La Victoria 44.86 6 P P 06 47 45.9 -0.6
baz=188,SNR=14
E56A St. Veronique 44.88 4 P P 06 47 45.9 -0.6
baz=186,SNR=23
WUAZ Wupatki 44.92 322 IAmb IAmb 06 48 01.0
comp=Z,50nm,1.1s
WUAZ IAMs_20 IAMs_20 07 06 05.4
comp=Z,3µm,18.0s
Y14A Wickenburg 44.94 319 IAmb IAmb 06 48 15.5
comp=Z,37nm,1.4s
SPMN Marine on St. 44.98 347 P P 06 47 45.9 -1.5
baz=161,SNR=11
SPMN Marine on St. 44.98 347 P P 06 47 46.9 -0.5
SPMN IAmb IAmb 06 47 52.3
comp=Z,35nm,1.1s
E43A Lone Tree Farm 45.04 353 P P 06 47 47.4 -0.5
E43A IAmb IAmb 06 47 48.9
comp=Z,28nm,0.9s
E43A IAMs_20 IAMs_20 07 05 50.0
comp=Z,3µm,21.0s
E59A St. Maurice 45.05 7 P P 06 47 48.0 0.0
baz=190
E60A Ste Agathe de 45.08 8 P P 06 47 47.9 -0.3
baz=191,SNR=8.7
F64A Sherman 45.09 11 P P 06 47 48.5 +0.2
baz=195,SNR=5.2
F64A Sherman 45.09 11 P P 06 47 48.7 +0.5
F64A IAmb IAmb 06 47 51.6
comp=Z,26nm,1.1s
F64A IAMs_20 IAMs_20 07 07 50.8
comp=Z,2µm,20.0s
COWI Conover 45.09 350 P P 06 47 48.1 -0.2
COWI IAMs_20 IAMs_20 07 10 23.5
comp=Z,3µm,20.0s
PV01 Paradox Valley 45.11 327 P P 06 47 49.5 +0.6
PV01 IAmb IAmb 06 48 02.3
comp=Z,28nm,1.2s
D52A ZEK Kipawa Sen 45.16 1 P P 06 47 47.9 -0.9
baz=181,SNR=7.6
PV15 Paradox Valley 45.21 327 P P 06 47 49.7 0.0
PV15 IAmb IAmb 06 48 03.3
comp=Z,41nm,1.0s
PV15 IAMs_20 IAMs_20 07 09 35.9
comp=Z,3µm,21.0s
D46A Sault St. Mari 45.24 356 P P 06 47 48.2 -1.3
baz=173
PV02 Paradox Valley 45.25 327 IAmb IAmb 06 48 02.8
comp=Z,44nm,0.9s
PV02 IAMs_20 IAMs_20 07 09 46.0
comp=Z,3µm,20.0s
D51A Lot 18 Range I 45.26 0 P P 06 47 48.2 -1.4
baz=180
PV13 Radium Mtn., P 45.26 327 IAMs_20 IAMs_20 07 09 50.3
comp=Z,2µm,20.0s
D53A Lac Vacive, Po 45.27 2 P P 06 47 48.6 -1.1
baz=182,SNR=13
D53A Lac Vacive, Po 45.27 2 IAmb IAmb 06 48 27.3
comp=Z,30nm,1.1s
D53A IAMs_20 IAMs_20 07 05 42.5
comp=Z,3µm,20.0s
E61A Lac Etchemin 45.28 9 P P 06 47 48.8 -1.0
baz=192,SNR=12
D55A Sainte-Anne-du 45.32 4 P P 06 47 49.2 -0.8
baz=185,SNR=16
D50A G1974 Best Tow 45.34 360 P P 06 47 48.3 -2.0
baz=179
D47A Chapleau 45.34 356 P P 06 47 48.7 -1.6
baz=175,SNR=5.6
PV03 Paradox Valley 45.35 327 P P 06 47 50.7 -0.1
PV03 IAmb IAmb 06 48 03.7
comp=Z,36nm,1.0s
PV03 IAMs_20 IAMs_20 07 10 03.5
comp=Z,2µm,18.0s
PV05 Paradox Valley 45.36 327 P P 06 47 50.7 -0.1
PV05 IAmb IAmb 06 48 03.1
comp=Z,34nm,0.8s
PV07 Paradox Valley 45.37 327 IAmb IAmb 06 48 04.3
comp=Z,35nm,1.0s
PV18 Skein Mesa, Pa 45.38 327 IAmb IAmb 06 48 03.9
comp=Z,48nm,1.0s
D54A Lac Fusel, La 45.38 3 P P 06 47 49.2 -1.4
baz=184,SNR=15
D48A Paudash Towsh 45.39 358 P P 06 47 50.0 -0.7
baz=176,SNR=6.6
D56A ZEC Mazanza, M 45.40 4 P P 06 47 50.4 -0.3
baz=186,SNR=23
PV17 East Wray Mesa 45.43 327 IAMs_20 IAMs_20 07 07 53.6
comp=Z,2µm,22.0s
D57A Chemin Vers le 45.44 5 P P 06 47 51.3 +0.2
baz=188,SNR=16
PV19 Morning Glory 45.46 327 IAMs_20 IAMs_20 07 10 12.6
comp=Z,2µm,18.0s
PV20 West Nyswonger 45.48 327 IAmb IAmb 06 48 04.7
comp=Z,25nm,0.9s
D49A Beulah Townshi 45.48 358 P P 06 47 49.8 -1.5
baz=177
PV22 Blue Mesa, Par 45.52 327 IAmb IAmb 06 48 09.3
comp=Z,23nm,1.0s
PV22 IAMs_20 IAMs_20 07 10 35.0
comp=Z,3µm,18.0s
PV10 Paradox Valley 45.54 327 IAmb IAmb 06 48 04.2
comp=Z,44nm,0.9s
E62A Clayton Lake 45.61 10 P P 06 47 53.1 +0.7
baz=194,SNR=28
E62A Clayton Lake 45.61 10 IAMs_20 IAMs_20 07 05 24.8
comp=Z,2µm,20.0s
E63A Oxbow 45.61 11 P P 06 47 51.8 -0.6
baz=195,SNR=5.8
E63A Oxbow 45.61 11 IAmb IAmb 06 47 56.0
comp=Z,47nm,1.1s
E63A IAMs_20 IAMs_20 07 08 39.7
comp=Z,2µm,20.0s
GLA Glamis 45.62 317 P P 06 47 52.6 -0.2
baz=126
D58A Chemin du LacG 45.62 6 P P 06 47 52.6 +0.1
baz=189,SNR=17
PV21 Cone Mtn., Par 45.64 327 IAMs_20 IAMs_20 07 10 36.2
comp=Z,3µm,18.0s
D59A Saint-Raymond 45.66 7 P P 06 47 53.0 +0.2
baz=190,SNR=6.4
D60A Saint Jean D'O 45.69 8 P P 06 47 53.1 +0.2
baz=192,SNR=18
E64A Bridgewater 45.72 11 P P 06 47 52.5 -0.7
baz=196,SNR=6.1
N23A Red Feather La 45.86 332 P P 06 47 54.1 -0.7
baz=141,SNR=7.1
N23A Red Feather La 45.86 332 P P 06 47 56.1 +1.3
N23A IAmb IAmb 06 48 39.5
comp=Z,44nm,1.2s
LATQ La Tuque 45.91 6 P P 06 47 54.6 -0.2
baz=189,SNR=23
LATQ La Tuque 45.91 6 P P 06 47 54.5 -0.2
LATQ IAmb IAmb 06 47 57.7
comp=Z,34nm,1.0s
PQI Presque Isle 45.93 11 IAmb IAmb 06 47 58.4
comp=Z,54nm,1.3s
PQI IAMs_20 IAMs_20 07 08 49.0
comp=Z,2µm,21.0s
D41A Chassel 45.93 351 P P 06 47 55.7 +0.8
PHWY Pilot Hill 45.95 333 P P 06 47 54.4 -1.2
PHWY IAmb IAmb 06 48 26.2
comp=Z,64nm,1.6s
SUSD Miller 46.01 341 P P 06 47 54.6 -1.0
baz=152
SUSD Miller 46.01 341 IAmb IAmb 06 48 05.6
comp=Z,56nm,1.2s
E38A The Farm, Brul 46.02 348 IAMs_20 IAMs_20 07 10 10.1
comp=Z,3µm,18.0s
D61A St Aubert, Com 46.07 9 P P 06 47 56.0 0.0
baz=193,SNR=18
U15A North Rim 46.08 323 P P 06 47 56.6 0.0
U15A IAmb IAmb 06 48 51.3
comp=Z,60nm,1.6s
D62A Allapoint, All 46.14 10 P P 06 47 58.0 +1.4
baz=194,SNR=29
D62A Allapoint, All 46.14 10 P P 06 47 56.5 0.0
D62A IAMs_20 IAMs_20 07 08 59.7
comp=Z,3µm,20.0s
SWSC Sam W. Stewart 46.22 316 P P 06 47 58.4 +0.9
baz=125
W13A Hualapai Mount 46.23 320 P P 06 47 57.8 +0.1
W13A IAmb IAmb 06 48 25.6
comp=Z,46nm,1.5s
W13A IAMs_20 IAMs_20 07 06 25.4
comp=Z,2µm,18.0s
D63A Stockholm 46.26 11 P P 06 47 58.6 +1.1
baz=195,SNR=9.6
VLDQ Val d'Or 46.31 2 P P 06 47 58.2 +0.3
VLDQ IAMs_20 IAMs_20 07 06 26.8
comp=Z,3µm,19.0s
O20A White River Ci 46.41 329 P P 06 48 00.3 +1.2
baz=138
O20A White River Ci 46.41 329 P P 06 48 00.3 +1.2
O20A IAmb IAmb 06 48 17.4
comp=Z,24nm,0.9s
F33A 5 Mile Ranch, 46.45 344 P P 06 47 58.5 -0.6
F33A IAmb IAmb 06 48 08.7
comp=Z,19nm,0.9s
F33A IAMs_20 IAMs_20 07 08 25.6
comp=Z,2µm,20.0s
IRM Iron Mountain 46.48 318 P P 06 48 00.2 +0.7
baz=126,SNR=7.3
MONP2 Monument Peak 46.62 316 P P 06 48 01.8 +0.9
baz=124,SNR=6.0
BAR Barrett 46.68 315 P P 06 48 01.9 +0.8
BAR IAmb IAmb 06 48 24.4
comp=Z,22nm,1.1s
BAR IAMs_20 IAMs_20 07 06 16.6
comp=Z,2µm,19.0s
BATG Bathurst New B 46.90 12 P P 06 48 03.6 +1.0
BELC Belle Mtn. Jos 46.96 317 P P 06 48 04.3 +0.8
baz=125
PFO Pinyon Flats O 47.05 317 P P 06 48 05.0 +0.8
baz=125
PFO Pinyon Flats O 47.05 317 P P 06 48 05.8 +1.7
comp=Z,6.1nm,0.9s,baz=139,slow=6.9,SNR=6.7
PFO Pinyon Flats O 47.05 317 P P 06 48 04.0 -0.2
PFO pmax pmax
comp=Z,26nm,1.4s
PFO Pinyon Flats O 47.05 317 P P 06 48 04.0 -0.2
PFO IAmb IAmb 06 48 31.5
comp=Z,26nm,1.4s
RWWY Rawlins 47.08 331 IAMs_20 IAMs_20 07 11 05.2
comp=Z,2µm,18.0s
MTPU Mount Pierson 47.08 324 P P 06 48 02.7 -1.9
109C Camp Elliot, M 47.10 315 P P 06 48 04.7 +0.3
baz=123,SNR=5.0
109C Camp Elliot, M 47.10 315 IAmb IAmb 06 48 08.2
comp=Z,20nm,0.9s
Q16A Castle Valley 47.10 326 P P 06 48 03.3 -1.3
GMRC Granite Mounta 47.19 318 P P 06 48 06.5 +1.3
baz=126,SNR=7.0
LSQQ Lebel-sur-Quev 47.27 2 P P 06 48 05.1 -0.3
baz=183
EYMN Ely 47.30 349 P P 06 48 05.1 -0.5
baz=163
EYMN Ely 47.30 349 IAMs_20 IAMs_20 07 11 52.7
comp=Z,2µm,20.0s
MSU Marysvale 47.40 325 P P 06 48 06.1 -0.8
MSU Marysvale 47.40 325 P P 06 48 06.1 -0.8
RDMU Red Mountain 47.41 329 P P 06 48 07.1 +0.2
COYC Coyhaique 47.46 173 IAmb IAmb 06 48 35.2
comp=Z,36nm,1.1s
K22A Casper 47.50 333 P P 06 48 07.4 -0.1
baz=142
K22A Casper 47.50 333 IAmb IAmb 06 48 37.7
comp=Z,29nm,1.0s
MURC Murrieta 47.56 316 P P 06 48 08.7 +0.7
baz=124
RSSD Black Hills 47.61 336 P P 06 48 08.6 +0.2
RSSD pmax pmax
comp=Z,64nm,1.0s
RSSD MLR MLR
comp=Z,1µm,21.0s
RSSD Black Hills 47.61 336 P P 06 48 08.6 +0.2
TUQ Turquoise Moun 47.75 319 P P 06 48 09.3 -0.3
baz=126,SNR=5.1
SHPR Sheep Range 47.91 321 P P 06 48 12.3 +1.5
SHPR IAmb IAmb 06 49 01.5
comp=Z,59nm,1.8s
SHPR IAMs_20 IAMs_20 07 07 28.6
comp=Z,2µm,19.0s
MATQ Matagami 47.95 2 P P 06 48 10.0 -0.7
baz=182,SNR=10
B35A Bob, Littlefor 48.15 347 IAMs_20 IAMs_20 07 11 28.4
comp=Z,2µm,20.0s
BFSC Mount Baldy Ra 48.23 317 P P 06 48 13.8 +0.5
baz=124
GSC Goldstone, Bar 48.26 318 P P 06 48 13.5 0.0
baz=126
GSC Goldstone, Bar 48.26 318 IAmb IAmb 06 48 23.7
comp=Z,22nm,1.1s
CHGQ Chibougamau 48.27 4 P P 06 48 12.7 -0.5
baz=186,SNR=20
JLU Jordanelle 48.43 327 P P 06 48 15.1 +0.2
MWC Mount Wilson 48.50 316 P P 06 48 15.5 +0.1
MWC pmax pmax
comp=Z,90nm,2.0s
MWC Mount Wilson 48.50 316 P P 06 48 15.5 +0.1
AGMN Agassiz Nation 48.60 345 P P 06 48 15.5 -0.2
baz=158
AGMN Agassiz Nation 48.60 345 P P 06 48 15.8 +0.1
AGMN IAmb IAmb 06 48 21.1
comp=Z,28nm,1.4s
CTU Camp Tracy 48.66 327 P P 06 48 16.1 -0.4
DECC Green Verdugo 48.71 316 P P 06 48 17.2 +0.4
baz=123
EDW2 Edwards Air Fo 48.82 317 P P 06 48 18.1 +0.3
baz=124,SNR=6.1
TPNV Topopah Spring 48.87 320 P P 06 48 18.4 +0.1
baz=127
TPNV Topopah Spring 48.87 320 IAMs_20 IAMs_20 07 07 18.2
comp=Z,2µm,20.0s
DUG Dugway, Tooele 48.90 326 IAmb IAmb 06 48 31.7
comp=Z,20nm,1.0s
BW06 Boulder Array 49.03 331 P P 06 48 18.8 -0.6
baz=138,SNR=9.4
BW06 Boulder Array 49.03 331 P P 06 48 19.4 0.0
BW06 IAmb IAmb 06 48 33.2
comp=Z,23nm,1.1s
PD31 Pinedale Array 49.03 331 P P 06 48 20.1 +0.7
PDAR Pinedale Array 49.03 331 P P 06 48 19.9 +0.4
comp=Z,1.3nm,0.8s,baz=128,slow=8.8,SNR=13
PDAR Pinedale Array 49.03 331 P P 06 48 18.8 -0.6
MPMC Manual Prospec 49.15 319 P P 06 48 20.4 0.0
baz=125

HWUT Hardware Ranch 49.20 328 IAmb IAmb 06 48 32.5
comp=Z,25nm,0.8s
MDND Maddock 49.24 342 IAmb IAmb 06 48 40.3
comp=Z,46nm,1.1s
R11A Troy Canyon, C 49.32 322 P **P** **06 48 22.8 +1.1**
baz=129,SNR=10.0
R11A Troy Canyon, C 49.32 322 IAmb IAmb 06 48 58.7
comp=Z,51nm,2.0s
R11A IAMs_20 IAMs_20 07 08 38.1
comp=Z,2µm,18.0s
ARVC Arvin 49.53 317 P **P** **06 48 23.4 +0.3**
baz=123
ISA Isabella, Lake 49.58 318 P **P** **06 48 23.6 0.0**
baz=124
ISA Isabella, Lake 49.58 318 IAmb IAmb 06 48 57.8
comp=Z,39nm,1.6s
CWC Cottonwood Cre 49.76 319 P **P** **06 48 25.0 0.0**
baz=125
AHID Auburn Hatcher 49.80 330 P **P** **06 48 24.8 -0.5**
PKM Mcpherson Peak 50.08 316 P **P** **06 48 27.9 +0.4**
baz=122,SNR=9.4
VES Vestal, Richgr 50.09 317 P **P** **06 48 28.2 +0.9**
baz=124,SNR=7.2
REDW Red Top Meadow 50.11 330 P **P** **06 48 27.6 0.0**
REDW IAmb IAmb 06 48 50.1
comp=Z,38nm,1.1s
SNOW Snow King Moun 50.13 330 P **P** **06 48 28.2 +0.4**
SNOW IAmb IAmb 06 48 48.1
comp=Z,22nm,0.8s
SNOW IAMs_20 IAMs_20 07 10 30.0
comp=Z,2µm,20.0s
TPAW Teton Pass 50.25 330 IAMs_20 IAMs_20 07 10 22.2
comp=Z,2µm,18.0s
FXWY Fox Creek 50.40 330 IAMs_20 IAMs_20 07 10 26.9
comp=Z,1µm,18.0s
ULM Lac du Bonnet 50.41 346 P **P** **06 48 29.6 0.0**
comp=Z,28nm,1.0s,baz=167,slow=7.1,SNR=7.9
ULM Lac du Bonnet 50.41 346 *i* P **P** **06 48 28.7 -0.8**
ULM Lac du Bonnet 50.41 346 IAmb IAmb 06 48 34.6
comp=Z,24nm,0.8s
ULM IAMs_20 IAMs_20 07 12 01.5
comp=Z,2µm,18.0s
FLWY Flagg Ranch 50.56 331 IAmb IAmb 06 48 43.7
comp=Z,55nm,1.2s
FLWY IAMs_20 IAMs_20 07 11 17.5
comp=Z,2µm,19.0s
LAO LASA Array 50.60 336 P **P** **06 48 31.3 +0.2**
baz=144
LAO LASA Array 50.60 336 IAmb IAmb 06 48 39.8
comp=Z,37nm,1.2s
ELK Elko 50.64 325 IAMs_20 IAMs_20 07 10 11.1
comp=Z,2µm,18.0s
RLMT Red Lodge 50.67 333 P **P** **06 48 32.0 +0.2**
baz=140
PAGB Antelope Grade 50.83 317 P **P** **06 48 32.5 -0.5**
PAGB IAmb IAmb 06 48 43.0
comp=Z,28nm,1.1s
NV11 Mina Array Sit 50.97 321 IAmb IAmb 06 49 28.2
comp=Z,41nm,1.3s
NV11 IAMs_20 IAMs_20 07 11 18.9
comp=Z,3µm,19.0s
DRLN Deer Lake 51.00 18 P **P** **06 48 33.5 -0.5**
OMMB Old Mammoth Mi 51.03 319 IAmb IAmb 06 49 28.8
comp=Z,43nm,1.2s
OMMB IAMs_20 IAMs_20 07 10 57.7
comp=Z,3µm,19.0s
NVAR Mina Array Bea 51.06 321 P **P** **06 48 35.9 +1.0**
comp=Z,10nm,0.9s,baz=136,slow=6.6,SNR=30
NVAR LR LR 07 11 29.6
comp=Z,2µm,18.6s,baz=128,slow=38
NVAR Mina Array Bea 51.06 321 P **P** **06 48 34.2 -0.7**
MDPB Devils Postpil 51.10 319 P **P** **06 48 36.7 +1.5**
MDPB IAmb IAmb 06 49 12.8
comp=Z,39nm,1.2s
MDPB IAMs_20 IAMs_20 07 10 59.4
comp=Z,2µm,18.0s
KVN Kaiserville 51.30 321 P **P** **06 48 38.0 +1.3**
KVN pmax pmax
comp=Z,33nm,1.5s
KVN MLR MLR
comp=Z,2µm,19.0s
KVN Kaiserville 51.30 321 P **P** **06 48 38.0 +1.3**
KVN IAMs_20 IAMs_20 07 10 48.6
comp=Z,2µm,19.0s
DGMT Dagmar 51.31 339 P **P** **06 48 35.0 -1.3**
DGMT IAmb IAmb 06 49 32.5
comp=Z,87nm,1.6s
RYN Ryan 51.32 321 P **P** **06 48 36.9 +0.1**
RYN IAmb IAmb 06 49 22.1
comp=Z,51nm,1.6s
RYN IAMs_20 IAMs_20 07 11 21.1
comp=Z,2µm,19.0s
WAKR Walker 51.83 320 IAmb IAmb 06 49 03.8
comp=Z,36nm,1.2s
YERR Yerington 51.98 321 IAMs_20 IAMs_20 07 11 51.7
comp=Z,2µm,18.0s
BOZ Bozeman (W) 52.13 332 P **P** **06 48 42.4 -0.3**
baz=137,SNR=45
BOZ Bozeman (W) 52.13 332 P **P** **06 48 41.4 -1.3**
BOZ pmax pmax
comp=Z,24nm,1.0s
BOZ MLR MLR
comp=Z,2µm,19.0s
BOZ Bozeman (W) 52.13 332 P **P** **06 48 41.4 -1.3**
BOZ IAMs_20 IAMs_20 07 12 09.8
comp=Z,1µm,19.0s
MCMT McKenzie Canyo 52.16 330 P **P** **06 48 44.0 +1.0**
CMB Columbia Colle 52.18 319 pP P 06 48 50.9 +7.9
SAO San Andreas Ge 52.20 317 IAMs_20 IAMs_20 07 10 22.6
comp=Z,2µm,18.0s
PNTR Pine Nut 52.27 321 IAMs_20 IAMs_20 07 12 02.3
comp=Z,1µm,19.0s
VCNR Virginia City 52.42 321 IAmb IAmb 06 49 07.7
comp=Z,49nm,1.7s
DLMT Dillon 52.42 331 IAMs_20 IAMs_20 07 11 44.7
comp=Z,2µm,20.0s
PAHR Pah Rah Range 52.49 321 IAMs_20 IAMs_20 07 12 19.2
comp=Z,2µm,19.0s
MFID Camas Ranch 52.73 327 IAmb IAmb 06 49 08.6
comp=Z,68nm,1.3s
AFDM Forest Hills D 53.07 320 P **P** **06 48 51.0 +1.4**
EGMT Eagleton 53.12 335 P **P** **06 48 49.8 -0.1**
baz=141,SNR=8.1
EGMT Eagleton 53.12 335 P **P** **06 48 50.8 +0.8**
BEKR Beckworth 53.20 321 IAMs_20 IAMs_20 07 11 04.8
comp=Z,2µm,18.0s
WVOR Wild Horse Val 53.68 324 P **P** **06 48 54.6 +0.4**
WVOR pmax pmax
comp=Z,38nm,1.1s
WVOR MLR MLR
comp=Z,3µm,18.0s
WVOR Wild Horse Val 53.68 324 P **P** **06 48 54.6 +0.4**
WVOR IAmb IAmb 06 49 10.7
comp=Z,38nm,1.1s
ORV Oroville 53.74 320 P **P** **06 48 56.4 +1.8**
ORV pmax pmax
comp=Z,64nm,1.4s
ORV MLR MLR
comp=Z,1µm,21.0s
ORV Oroville 53.74 320 P **P** **06 48 56.4 +1.8**
SCHQ Schefferville 54.00 9 P **P** **06 48 55.3 -0.9**
comp=Z,43nm,0.9s,baz=200,slow=5.9,SNR=43
SCHQ LR LR 07 13 52.2
comp=Z,1µm,18.6s,baz=200,slow=38
SCHQ Schefferville 54.00 9 P **P** **06 48 55.2 -0.9**
SCHQ IAMs_20 IAMs_20 07 13 31.6
comp=Z,2µm,20.0s
MSO Missoula 54.12 331 P **P** **06 48 57.7 +0.3**
baz=136,SNR=19
MSO Missoula 54.12 331 IAmb IAmb 06 49 24.5
comp=Z,22nm,1.1s
J08A Circle Bar Ran 54.17 325 IAmb IAmb 06 49 21.6
comp=Z,31nm,1.2s
J08A IAMs_20 IAMs_20 07 12 09.3
comp=Z,2µm,18.0s
MOD Modoc Plateau 54.35 323 IAMs_20 IAMs_20 07 11 08.2
comp=Z,2µm,21.0s
O03E Paynes Creek 54.35 321 P **P** **06 48 58.2 -0.8**
baz=124
HOPS Hopland Field 54.47 319 IAMs_20 IAMs_20 07 08 44.6
comp=Z,2µm,21.0s
O02D Mt. Diablo Mer 54.91 320 P **P** **06 49 02.9 -0.3**
baz=123
JTMT Jette 54.94 332 P **P** **06 49 03.0 -0.3**
F10A Beach Ranch, E 55.18 329 P **P** **06 49 03.9 -1.2**
F10A IAmb IAmb 06 49 26.8
comp=Z,23nm,0.9s
F10A IAMs_20 IAMs_20 07 15 41.9
comp=Z,2µm,18.0s
K05A Summer Lake 55.19 324 IAmb IAmb 06 50 01.7
comp=Z,62nm,1.6s
K05A IAMs_20 IAMs_20 07 11 58.4
comp=Z,2µm,21.0s
I07A Izee 55.20 326 IAmb IAmb 06 49 46.5
comp=Z,56nm,1.8s
M04C Matdoel 55.21 322 P **P** **06 49 05.1 -0.3**
baz=125
N02D Trinity Center 55.30 321 P **P** **06 49 05.5 -0.4**
baz=124
M02C Callahan 55.62 321 P **P** **06 49 08.4 +0.2**
baz=124
K04D Chiloquin, OR 55.64 323 P **P** **06 49 08.2 -0.3**
baz=125
G08A Pilot Rock 55.66 327 IAmb IAmb 06 49 29.5
comp=Z,24nm,1.1s
J05D Fort Rock, OR 55.72 324 P **P** **06 49 08.9 -0.1**
baz=126,SNR=11
WALA Waterton Lakes 55.72 333 IAMs_20 IAMs_20 07 16 33.8
comp=Z,2µm,18.0s
YBH Yreka Blue Hor 55.72 322 P **P** **06 49 08.4 -0.6**
comp=Z,4.3nm,0.8s,baz=129,slow=2.6,SNR=13
YBH Yreka Blue Hor 55.72 322 IAMs_20 IAMs_20 07 14 07.7
comp=Z,2µm,18.0s
L04D Klamath Falls 55.74 322 P **P** **06 49 09.1 -0.1**
baz=124,SNR=5.4
PINE Pine Mountain 55.85 325 P **P** **06 49 10.2 +0.2**
PINE IAmb IAmb 06 49 34.8
comp=Z,72nm,1.8s
KHMM Horse Mountain 55.90 320 P **P** **06 49 10.7 +0.3**
KHMM IAmb IAmb 06 49 20.6
comp=Z,40nm,1.0s
KHMM IAMs_20 IAMs_20 07 09 55.4
comp=Z,2µm,21.0s
E09A Wood Farm, Sta 56.02 329 IAMs_20 IAMs_20 07 16 07.0
comp=Z,2µm,18.0s
FFC Flin Flon 56.04 344 *e*P **P** **06 49 10.7 -0.2**
FFC Flin Flon 56.04 344 P **P** **06 49 10.7 -0.2**
FFC IAmb IAmb 06 49 39.5
comp=Z,63nm,1.6s
FFC Flin Flon 56.04 344 IAMs_20 IAMs_20 07 14 12.4
comp=Z,2µm,20.0s
EFI East Falkland 56.12 164 *i* P **P** **06 49 12.4 +0.9**
EFI pmax pmax
comp=Z,94nm,1.2s
EFI MLR MLR
comp=Z,3µm,17.0s
EFI East Falkland 56.12 164 P **P** **06 49 13.0 +1.5**
J04D Umpqua Nationa 56.21 323 P **P** **06 49 12.4 -0.2**
baz=125,SNR=7.7
KRMB Red Mountain 56.36 321 IAMs_20 IAMs_20 07 18 00.5
comp=Z,1µm,20.0s
I05D Terrebonne, OR 56.41 325 P **P** **06 49 14.1 +0.3**
baz=127
E08A Dider Farm, El 56.48 328 IAMs_20 IAMs_20 07 15 00.3
comp=Z,1µm,20.0s
G06A Carlson Farm, 56.55 326 IAmb IAmb 06 49 40.0
comp=Z,36nm,1.2s
F07A Phinny Hill Vi 56.57 327 IAMs_20 IAMs_20 07 14 20.7
comp=Z,2µm,20.0s
HAWA Hanford 56.67 328 P **P** **06 49 15.8 +0.2**
HAWA IAMs_20 IAMs_20 07 14 07.3
comp=Z,2µm,21.0s
NEW Newport 56.67 331 P **P** **06 49 15.7 +0.1**
baz=133,SNR=6.8
NEW Newport 56.67 331 P **P** **06 49 15.3 -0.3**
comp=Z,5.9nm,0.9s,baz=143,slow=6.2,SNR=9.1
I04A Tendick Farm, 56.71 324 P **P** **06 49 16.0 0.0**
baz=125
K02D Willamette Mer 56.85 322 P **P** **06 49 17.1 +0.1**
baz=124
C09A Chrisman Ranch 56.93 330 P **P** **06 49 17.9 +0.4**
C09A IAMs_20 IAMs_20 07 14 04.1
comp=Z,2µm,22.0s
G05D Wamic, OR 56.94 326 P **P** **06 49 17.4 -0.1**
baz=127
E07A Sunnyside 56.95 328 IAMs_20 IAMs_20 07 14 14.7
comp=Z,2µm,20.0s
H04A Detroit Lake 57.10 325 IAmb IAmb 06 49 32.5
comp=Z,22nm,1.0s
H04A IAMs_20 IAMs_20 07 14 56.9
comp=Z,2µm,18.0s
I03D Drain, OR 57.21 323 P **P** **06 49 20.5 +1.0**
baz=124
J01E Myrtle Point 57.27 322 P **P** **06 49 20.5 +0.7**
baz=124,SNR=7.1
H04D Lebanon 57.32 324 P **P** **06 49 20.6 +0.3**
baz=125
COR Corvallis 57.69 324 IAMs_20 IAMs_20 07 15 04.6
comp=Z,2µm,19.0s
I02D Swisshome 57.74 323 P **P** **06 49 23.5 +0.3**
baz=124
LTY Liberty 57.82 328 IAmb IAmb 06 50 46.8
comp=Z,70nm,2.0s
LTY IAMs_20 IAMs_20 07 16 21.7
comp=Z,2µm,18.0s
B08A Colville Reser 57.83 330 IAMs_20 IAMs_20 07 13 53.0
comp=Z,1µm,22.0s
F04A Amboy 57.97 326 IAmb IAmb 06 49 45.3
comp=Z,30nm,1.2s
F04A IAMs_20 IAMs_20 07 14 38.8
comp=Z,2µm,18.0s
LON Longmire 58.12 327 P **P** **06 49 27.0 +1.1**
LON pmax pmax
comp=Z,16nm,1.0s
LON MLR MLR
comp=Z,2µm,19.0s
LON Longmire 58.12 327 P **P** **06 49 26.9 +1.1**
F03A Seaside 58.61 325 IAMs_20 IAMs_20 07 14 59.9
comp=Z,2µm,19.0s
D04E Lakebay 58.91 327 P **P** **06 49 32.0 +0.7**
baz=127
B06A Marblemount 59.04 329 P **P** **06 49 34.3 +2.2**
B06A IAmb IAmb 06 49 45.4
comp=Z,16nm,0.8s
B06A IAMs_20 IAMs_20 07 17 47.9
comp=Z,1µm,18.0s
B05A Bryant 59.20 328 P **P** **06 49 34.7 +1.4**
baz=128
D03D Eldon 59.29 327 P **P** **06 49 34.4 +0.5**
baz=126
RKT Rikitea 59.41 242 *e*S **S** **06 57 44.6 -0.2**
RKT comp=Z,3µm,26.8s *e*LR LR 07 07 08.4
comp=Z,3µm,25.0s
RKT Rikitea 59.41 242 *e*T T 07 53 28.3
comp=Z,3.1nm,0.2s
ROSA Rosais 59.45 45 *e*P P 06 49 40.2 +5.0
PGRA Graciosa 59.76 45 *e*P **P** **06 49 42.1 +4.8**
A04D Lummi Island 59.80 328 P **P** **06 49 38.6 +1.2**
baz=128
LLLB Lilooet 60.55 330 IAmb IAmb 06 49 56.5
comp=Z,20nm,0.9s
LLLB IAMs_20 IAMs_20 07 16 27.9
comp=Z,1µm,22.0s
PSET Sete Cidades 60.89 47 *e*P **P** **06 49 47.7 +2.6**
CMLA Cha da Macela 61.01 47 *e*P **P** **06 49 49.3 +3.4**
PSMN Pico do Norte, 61.06 48 *e*P **P** **06 49 48.6 +2.3**
TAOE Nuku Hiva Isla 61.44 259 *e*LR LR 07 08 11.2
comp=Z,2µm,25.2s
IVI Ivigtut 63.97 16 IAMs_20 IAMs_20 07 22 54.7
comp=Z,2µm,18.0s
PMOZ Porto Moniz, M 65.91 55 *e*S **S** **06 59 11.7 +5.1**
PMOZ Porto Moniz, M 65.91 55 *e*LR LR 07 10 57.3
comp=Z,598nm,22.0s
YKA Yellowknife Ar 66.14 343 P **P** **06 50 18.0 -1.3**
comp=Z,9.0nm,1.0s,baz=139,slow=6.3,SNR=56
YKA LR LR 07 22 09.6
comp=Z,918nm,18.4s,baz=0.0,slow=39
SFJD Kangerlussuaq 68.24 12 *i* P **P** **06 50 32.7 +0.1**
comp=Z,1.5nm,1.0s
SFJD Kangerlussuaq 68.24 12 *i* P **P** **06 50 32.7 +0.1**
SFJD Kangerlussuaq 68.24 12 P **P** **06 50 32.2 -0.4**
SFJD IAmb IAmb 06 50 33.6
comp=Z,24nm,1.1s
SFJD Kangerlussuaq 68.24 12 IAMs_20 IAMs_20 07 22 27.0
comp=Z,1µm,19.0s
DLBC Dease Lake 69.04 334 P **P** **06 50 37.1 -0.7**
DLBC IAmb IAmb 06 50 45.9
comp=Z,20nm,1.0s
DLBC IAMs_20 IAMs_20 07 22 23.0
comp=Z,1µm,20.0s
ILULI Ilulissat 70.06 10 *i* P **P** **06 50 43.5 -0.3**
comp=Z,53nm,1.0s
ILULI Ilulissat 70.06 10 P **P** **06 50 43.2 -0.6**
ILULI pmax pmax
comp=Z,56nm,1.0s
ILULI MLR MLR
comp=Z,1µm,19.0s
ILULI Ilulissat 70.06 10 P **P** **06 50 43.2 -0.6**
ILULI IAMs_20 IAMs_20 07 25 05.3
comp=Z,1µm,19.0s
JIS Juneau Island 70.90 333 IAMs_20 IAMs_20 07 24 18.3
comp=Z,1µm,18.0s
BESE Bessie Mountai 71.27 333 IAMs_20 IAMs_20 07 24 35.0
comp=Z,1µm,18.0s
PPT Papeete 71.67 251 LR LR 07 14 50.0
comp=Z,1µm,18.2s,baz=76,slow=30
PPT2 Papeete2 71.67 251 *e*S **S** **07 00 13.6 -1.7**
comp=Z,1µm,25.2s
PPT2 Papeete2 71.67 251 *e*LR LR 07 12 50.9
comp=Z,2µm,24.2s,baz=85
SKAG Skagway 71.92 334 P **P** **06 50 55.5 +0.3**
TBI Tubuai 72.43 245 *e*S **S** **07 00 22.4 -1.4**
comp=Z,2µm,28.2s
TBI Tubuai 72.43 245 *e*LR LR 07 13 11.0
comp=Z,2µm,25.8s,baz=80
TTIG Tnine Tigouga, 72.78 59 P **P** **06 51 03.1 +1.9**
SNR=5.9
TTIG P **P** **06 51 03.1 +1.9**
SNR=5.9
TTIG P **P** **06 51 03.1 +1.9**
SNR=5.9
OUK Oukaimeden 73.37 58 P **P** **06 51 07.0 +2.0**
SNR=12
OUK P **P** **06 51 07.0 +2.0**
SNR=12
OUK P **P** **06 51 07.0 +2.0**
SNR=12
HYT Haines Junctio 73.53 334 P **P** **06 51 03.5 -1.6**
HYT IAMs_20 IAMs_20 07 24 26.6
comp=Z,1µm,20.0s
SRHM Skhour des Reh 73.53 57 P **P** **06 51 07.0 +1.5**
SNRH=17
SRHM P **P** **06 51 07.0 +1.5**
SNRH=17
SRHM P **P** **06 51 07.0 +1.5**
SNRH=17
RES Resolute Bay 73.53 356 P **P** **06 51 04.8 +0.2**
RES pmax pmax
comp=Z,20nm,1.2s
RES MLR MLR
comp=Z,1µm,20.0s
RES Resolute Bay 73.53 356 P **P** **06 51 04.8 +0.2**
RES IAMs_20 IAMs_20 07 24 13.9
comp=Z,1µm,20.0s
PMAFR Mafra 73.55 50 *e*S **SKiKP** **07 00 42.9 +6.1**
PFVI Vila Bisbo 73.56 52 *e*P **P** **06 51 07.2 +1.7**
comp=Z,103nm,1.8s
PFVI Vila Bisbo 73.56 52 IAMs_20 IAMs_20 07 25 50.1
comp=Z,1µm,19.0s
LIS Lisbon 73.61 50 *e*P **P** **06 51 05.1 -0.7**
LIS AMS AMS 07 23 14.5
comp=Z,1µm,22.5s
LIS Lisbon 73.61 50 *e*P **P** **06 51 05.1 -0.7**
PTEO Sao Teotonio 73.71 51 *e*P **P** **06 51 08.8 +2.4**
comp=Z,60nm,1.4s
MORF Marmelete 73.73 52 *e*P **P** **06 51 05.7 -1.0**
MORF *e*S **SKiKP** **07 00 37.0 -0.2**
MORF AMS AMS 07 24 48.8
comp=E,860nm,18.9s
MORF Marmelete 73.73 52 *e*P **P** **06 51 05.6 -1.0**
MORF *e*S **SKiKP** **07 00 36.9 -0.2**
MORF Marmelete 73.73 52 *e*P **P** **06 51 07.2 +0.6**
comp=E,139nm,1.8s
MORF *e*S **S** **07 00 42.5 +4.3**
PNCL Nicolau / Gran 73.97 51 *e*P **P** **06 51 08.0 +0.1**
comp=E,75nm,1.2s
PNCL *e*S **S** **07 00 47.1 +6.4**
KULLO Kullorsuaq 74.03 6 *i* P **P** **06 51 07.8 +0.3**
comp=E,45nm,1.1s
KULLO Kullorsuaq 74.03 6 *i* P **P** **06 51 07.8 +0.3**
KULLO pmax pmax
comp=Z,45nm,1.1s
PSBE So Bento 74.03 49 *e*P **P** **06 51 09.9 +1.6**
comp=Z,76nm,1.7s
PSBE *e*S **S** **07 00 45.9 +4.4**
AVE Averroes 74.06 56 *e*P **P** **06 51 09.3 +0.7**
AVE *e*S **S** **07 00 43.1 +1.2**
MESJ Messejana 74.16 51 *e*P **P** **06 51 08.3 -0.8**
MESJ *e*S **S** **07 00 41.9 -1.1**
MESJ AMS AMS 07 24 55.0
comp=Z,1µm,21.6s
MESJ Messejana 74.16 51 *e*P **P** **06 51 08.2 -0.8**
MESJ *e*S **S** **07 00 41.8 -1.1**
MESJ Messejana 74.16 51 *e*P **P** **06 51 10.8 +1.8**
comp=Z,34nm,1.2s
PCVE Castro Verde 74.26 51 *e*P **P** **06 51 10.2 +0.5**
comp=Z,59nm,1.6s
OUZM OUZ 74.27 58 P **P** **06 51 12.3 +2.3**
SNR=12
OUZM P **P** **06 51 12.3 +2.3**
SNR=12
OUZM P **P** **06 51 12.3 +2.3**
SNR=12
LIC Lamto 74.27 84 *e*P **P** **06 51 08.7 -1.5**
comp=Z,284nm,1.4s
PBDV Barranco-do-Ve 74.28 52 *e*P **P** **06 51 11.1 +1.3**
comp=Z,76nm,1.5s
PBDV *e*S **S** **07 00 51.5 +7.1**
TIC Toumodi 74.28 84 *e*P **P** **06 51 07.6 -2.6**
PCAS Casmilo, Conde 74.36 49 *e*P **P** **06 51 07.1 -3.1**
comp=Z,149nm,1.8s
PCAS *e*S **S** **07 00 46.4 +1.3**
PMTG Montargil 74.38 50 *e*P **P** **06 51 09.8 -0.5**
comp=Z,58nm,0.9s
PMTG *e*S **S** **07 00 51.5 +6.1**
DBIC Dimbokro 74.44 84 P **P** **06 51 10.1 -1.1**
comp=Z,32nm,0.8s,baz=255,slow=5.2,SNR=22
DBIC LR LR 07 22 09.5
comp=Z,2µm,18.7s,baz=238,slow=34
DBIC Dimbokro 74.44 84 P **P** **06 51 09.7 -1.4**
DBIC pmax pmax
comp=Z,51nm,1.0s
DBIC Dimbokro 74.44 84 P **P** **06 51 09.7 -1.4**
EVO Evora 74.45 50 *e*P **P** **06 51 07.4 -3.3**
EVO *e*S **S** **07 00 44.0 -2.1**
EVO Evora 74.45 50 *e*P **P** **06 51 10.9 +0.2**
comp=Z,71nm,1.6s
COI Coimbra 74.46 49 P **P** **06 51 10.3 -0.4**
COI pmax pmax
comp=Z,152nm,1.0s
COI MLR MLR
comp=Z,1µm,19.0s
COI Coimbra 74.46 49 *e*P **P** **06 51 12.1 +1.4**
comp=Z,194nm,1.1s
COI Coimbra 74.46 49 P **P** **06 51 10.3 -0.4**
COI IAMs_20 IAMs_20 07 23 49.0
comp=Z,1µm,19.0s
PBEJ Beja 74.47 51 *e*P **P** **06 51 11.1 +0.2**
comp=Z,45nm,1.8s
PVAQ Vaqueiros 74.47 52 *e*P **P** **06 51 12.3 +1.4**
comp=Z,47nm,1.8s
PVAQ *e*S **S** **07 00 49.4 +2.9**
PVAQ Vaqueiros 74.47 52 *e*LR LR 07 13 50.4
comp=Z,887nm,20.0s
PVAQ Vaqueiros 74.47 52 IAMs_20 IAMs_20 07 24 49.4
comp=Z,1µm,20.0s
PTO Porto 74.50 48 *e*P **P** **06 51 12.9 +2.0**
comp=Z,175nm,1.3s
KIC Kosan Boka 74.56 84 *e*P **P** **06 51 10.3 -1.5**
comp=Z,184nm,0.9s
PGAV Gavieira, Arco 74.91 47 *e*P **P** **06 51 14.7 +1.2**
comp=Z,89nm,1.8s
PGAV *e*S **S** **07 00 54.2 +2.8**
PGAV Gavieira, Arco 74.91 47 *e*LR LR 07 15 51.8
comp=Z,1µm,18.0s
PCAB Cabril 75.04 47 *e*P **P** **06 51 15.6 +1.5**
comp=Z,64nm,1.8s
TULEG Thule 75.05 3 P **P** **06 51 13.7 +0.3**
TULEG IAmb IAmb 06 51 39.9
comp=Z,41nm,1.2s
PMRV Marv??o 75.08 50 *e*P **P** **06 51 14.0 -0.4**
comp=Z,60nm,1.3s
PMRV Marv??o 75.08 50 *e*PP PP 06 54 03.4 +0.9
PMRV *e*S **S** **07 00 59.7 +6.4**
PMRV Marv??o 75.08 50 *e*LR LR 07 14 09.8
comp=Z,575nm,18.0s
PCBR Castelo Branco 75.09 49 *e*P **P** **06 51 14.4 0.0**
comp=Z,71nm,1.2s
MTE Manteigas 75.15 49 *e*P **P** **06 51 15.2 +0.4**

comp=Z,70nm,1.1s
MTE Manteigas 75.15 49 *e*PP PP 06 54 01.3 -1.8
MTE *e*S **S** **07 00 54.1 +0.1**
MTE *e*SS **SS** **07 05 42.7 -0.6**
MTE *e*LQ LQ 07 12 06.8
MTE *e*LR LR 07 15 53.6
comp=Z,963nm,20.0s
MTE Manteigas 75.15 49 P **P** **06 51 13.4 -1.5**
MTE IAmb IAmb 06 51 17.2
comp=Z,34nm,0.9s
MTE IAMs_20 IAMs_20 07 24 19.2
comp=Z,1µm,20.0s
PVRL Vila Real 75.18 48 *e*P **P** **06 51 15.7 +0.7**
comp=Z,92nm,1.4s
MESA MESA 75.23 333 IAMs_20 IAMs_20 07 26 11.8
comp=Z,1µm,19.0s
SUMG Summit 75.24 12⇑ *i*P **P** **06 51 16.0 +0.9**
comp=Z,196nm,1.0s
SUMG Summit 75.24 12⇑ *i*P **P** **06 51 16.0 +0.9**
SUMG pmax pmax
comp=Z,200nm,1.0s
SUMG Summit 75.24 12 P **P** **06 51 12.9 -2.2**
SUMG IAMs_20 IAMs_20 07 27 54.8
comp=Z,1µm,20.0s
TZRR Tazzarine 75.27 59 P **P** **06 51 19.0 +3.2**
SNR=6.1
TZRR P **P** **06 51 19.0 +3.2**
SNR=6.1
TZRR P **P** **06 51 19.0 +3.2**
SNR=6.1
CTGM Chitina Glacie 75.27 334 P **P** **06 51 14.8 -0.4**
CTGM IAmb IAmb 06 51 24.9
comp=Z,25nm,1.2s
BORG Borgarnes 75.36 22 P **P** **06 51 12.9 -2.5**
BORG pmax pmax
comp=Z,44nm,1.2s
BORG Borgarnes 75.36 22 P **P** **06 51 12.9 -2.5**
BORG IAmb IAmb 06 51 19.1
comp=Z,44nm,1.1s
SFS San Fernando 75.52 53 *e*P **P** **06 51 20.7 +3.8**
RSA Sarsar 75.59 54 P **P** **06 51 20.1 +2.6**
SNR=10
RSA P **P** **06 51 20.1 +2.6**
SNR=10
RSA P **P** **06 51 20.1 +2.6**
SNR=10
MVO Moncorvo 75.67 48 *e*P **P** **06 51 17.8 0.0**
comp=Z,80nm,1.2s
MVO *e*S **S** **07 01 05.6 +5.8**
MVO *e*SS **SS** **07 05 52.4 +1.2**
MVO *e*LQ LQ 07 12 06.9
MVO *e*LR LR 07 15 33.4
comp=Z,662nm,18.0s
BALM Baldy 75.75 333 P **P** **06 51 18.3 +0.4**
BALM Baldy 75.75 333 P **P** **06 51 18.3 +0.4**
A36M Sachs Harbour 75.89 347 P **P** **06 51 18.2 -0.2**
baz=132
EPYK Eagle Plains 75.90 340 P **P** **06 51 18.3 -0.3**
baz=120
EPYK Eagle Plains 75.90 340 IAmb IAmb 06 52 05.7
comp=Z,44nm,1.4s
EPYK IAMs_20 IAMs_20 07 30 24.8
comp=Z,915nm,19.0s
GOLM Goulmima 75.90 58 P **P** **06 51 22.0 +2.6**
SNR=10.0
GOLM P **P** **06 51 22.0 +2.6**
SNR=10.0
GOLM P **P** **06 51 22.0 +2.6**
SNR=10.0
IFR Ifrane 75.98 56 *e*P **P** **06 51 20.6 +0.7**
IFR *e*S **S** **07 01 06.0 +2.3**
CZD Col de Zad 75.99 56 P **P** **06 51 23.1 +3.0**
SNR=14
PBRG Braganca 76.00 47 *e*P **P** **06 51 21.3 +1.6**
comp=Z,80nm,1.8s
CEU Ceuta 76.10 54 *e*P **P** **06 51 19.1 -1.2**
CEU *e*S S 07 01 22.4 +18
MCARA McCarthy VSAT 76.19 334 P **P** **06 51 21.1 +0.8**
VRDI Verde Repeater 76.32 333 P **P** **06 51 20.5 -0.7**
VRDI IAmb IAmb 06 51 58.0
comp=Z,30nm,1.2s
VRDI IAMs_20 IAMs_20 07 26 29.6
comp=Z,1µm,21.0s
BCAR Beaver Creek A 76.33 335 P **P** **06 51 19.7 -1.4**
HORN Hornachuelos 76.47 52 P **P** **06 51 24.1 +1.7**
SNR=9.2
ARF Arif 76.49 58 P **P** **06 51 26.0 +3.2**
SNR=6.2
ARF P **P** **06 51 26.0 +3.2**
SNR=6.2
ARF P **P** **06 51 26.0 +3.2**
SNR=6.2
GLB Gilahina Butte 76.56 334 IAmb IAmb 06 51 31.0
comp=Z,53nm,1.6s
GLB IAMs_20 IAMs_20 07 26 59.9
comp=Z,1µm,22.0s
EGAK Eagle 76.80 337 IAmb IAmb 06 51 36.8
comp=Z,23nm,1.1s
EGAK IAMs_20 IAMs_20 07 25 47.8
comp=Z,1µm,21.0s
PVLZ Peæn de 76.87 54 *e*P **P** **06 51 25.8 +1.2**
EMAL Malaga-Limoner 76.97 53 *e*P **P** **06 51 21.5 -3.7**
EMAL *e*S **S** **07 01 13.3 -0.8**
EYAK Cordova Ski Ar 77.12 332 IAmb IAmb 06 51 32.0
comp=Z,27nm,1.2s
AKLM AKL 77.14 55 P **P** **06 51 28.1 +1.7**
SNR=18
PALE Palemas 77.17 54 P **P** **06 51 29.0 +2.6**
SNR=14
PALE P **P** **06 51 29.0 +2.6**
SNR=14
PALE P **P** **06 51 29.0 +2.6**
SNR=14
PAB San Pablo 77.43 50 P **P** **06 51 27.6 -0.2**
PAB pmax pmax
comp=Z,67nm,1.0s
PAB MLR MLR
comp=Z,1µm,20.0s
PAB San Pablo 77.43 50 P **P** **06 51 27.6 -0.2**
PAB San Pablo 77.43 50 IAMs_20 IAMs_20 07 25 10.5
comp=Z,1µm,20.0s
DOT Dot Lake 77.50 336 P **P** **06 51 27.3 -0.4**
DOT IAmb IAmb 06 51 33.9
comp=Z,25nm,1.1s
DOT IAMs_20 IAMs_20 07 28 09.7
comp=Z,1µm,19.0s
SCRK Sand Creek 77.60 336 P **P** **06 51 27.3 -1.0**
SCRK IAMs_20 IAMs_20 07 28 23.1
comp=Z,1µm,20.0s
GUD Guadarrama 77.73 49 P **P** **06 51 31.7 +2.1**
ESDC Sonseca Array 77.74 50 P **P** **06 51 29.4 -0.1**
comp=Z,27nm,0.8s,baz=264,slow=4.7,SNR=87
ESDC LR LR 07 22 55.3
comp=Z,600nm,21.2s,baz=270,slow=34
ESDC Sonseca Array 77.74 50 P **P** **06 51 29.1 -0.4**
ESBB Sonseca Array 77.74 50 P **P** **06 51 26.8 -2.7**
ESBB IAMs_20 IAMs_20 07 25 20.9
comp=Z,888nm,20.0s
ES18 SONSECA Array 77.75 50 IAMs_20 IAMs_20 07 29 07.3
comp=Z,910nm,20.0s
GLI Glacier Island 77.86 332 IAMs_20 IAMs_20 07 27 59.2
comp=Z,1µm,20.0s
RIDG Independent Ri 77.86 336 P **P** **06 51 29.3 -0.4**
RIDG IAmb IAmb 06 51 35.9
comp=Z,27nm,1.0s
MELI Melilla 77.99 54 *e*P **P** **06 51 29.4 -1.5**
MELI *e*S S 07 01 11.4 -14
SCO Scoresbysund 78.01 17 *i*P **P** **06 51 29.6 -0.7**
comp=Z,15nm,1.2s
SCO Scoresbysund 78.01 17 *i*P **P** **06 51 29.6 -0.7**
SCO pmax pmax
comp=Z,15nm,1.2s
SCM Sheep Creek Mo 78.27 333 IAmb IAmb 06 51 44.9
comp=Z,40nm,1.1s
SCM IAMs_20 IAMs_20 07 28 14.2
comp=Z,1µm,20.0s
UCM Universidad Co 78.37 49 *e*P P 06 51 28.1 -4.9
UCM *e*S **S** **07 01 29.0 -0.3**
TDRA Tendrara 78.50 57 P **P** **06 51 37.0 +2.9**
SNR=8.3
TDRA P **P** **06 51 37.0 +2.9**
SNR=8.3
TDRA P **P** **06 51 37.0 +2.9**
SNR=8.3
KNK Knik Glacier 78.65 333 IAmb IAmb 06 52 15.4
comp=Z,41nm,1.2s

DHY Denali Highway 78.70 335 IAMs_20 IAMs_20 07 29 49.5
comp=Z,1µm,18.0s
SML Sawmill 78.72 333 P **P** **06 51 34.0 -0.5**
SML IAmb IAmb 06 52 14.3
comp=Z,44nm,1.2s
SML IAMs_20 IAMs_20 07 29 19.7
comp=Z,827nm,20.0s
SEW Seward 78.73 331 IAMs_20 IAMs_20 07 24 43.4
comp=Z,1µm,22.0s
PRP Porcupine Dome 78.79 337 P **P** **06 51 35.5 +0.6**
PRP IAMs_20 IAMs_20 07 26 50.4
comp=Z,1µm,21.0s
HDA Harding Lake 78.96 336 P **P** **06 51 35.9 +0.1**
baz=110
HDA Harding Lake 78.96 336 IAmb IAmb 06 52 16.8
comp=Z,36nm,1.4s
GHO Glory Hole Cre 78.97 333 P **P** **06 51 36.7 +0.8**
GHO IAmb IAmb 06 51 48.7
comp=Z,21nm,0.9s
FYU Fort Yukon 79.06 338 P **P** **06 51 36.8 +0.7**
FYU IAmb IAmb 06 52 18.4
comp=Z,51nm,1.4s
FYU IAMs_20 IAMs_20 07 29 09.5
comp=Z,1µm,20.0s
IL31 79.06 336 P **P** **06 51 35.0 -1.2**
ILAR Eielson Array 79.06 336 P **P** **06 51 35.8 -0.4**
comp=Z,8.0nm,1.0s,baz=118,slow=3.9,SNR=28
ILAR LR LR 07 29 20.7
comp=Z,1µm,18.6s,baz=118,slow=38
ILAR Eielson Array 79.06 336 P **P** **06 51 35.2 -1.1**
ILAR Eielson Array 79.06 336 P **P** **06 51 35.2 -1.1**
CLGH Cloghs, Cushen 79.12 34 *e*P **P** **06 51 37.0 +0.3**
CLGH IAmb IAmb 06 51 39.0
comp=Z,203nm,2.3s
RC01 Rabbit Creek A 79.15 332 IAMs_20 IAMs_20 07 30 26.4
comp=Z,1µm,20.0s
BMAR Burnt Mountain 79.15 339 P **P** **06 51 35.3 -1.4**
HTL Hartland 79.24 38 *e*P **P** **06 51 38.1 +0.6**
HTL IAmb IAmb 06 51 40.2
comp=Z,56nm,0.9s
RSBS Rosebush, Pemb 79.26 37 *e*P **P** **06 51 38.4 +0.8**
RSBS IAmb IAmb 06 51 39.8
comp=Z,38nm,0.8s
RSBS IAMs_20 IAMs_20 07 25 16.3
comp=Z,887nm,18.9s
BRLK Bradley Lake 79.33 331 P **P** **06 51 37.1 -0.7**
BRLK IAmb IAmb 06 51 47.2
comp=Z,34nm,1.1s
BRLK IAMs_20 IAMs_20 07 33 15.5
comp=Z,832nm,19.0s
CCB Clear Creek Bu 79.39 336 IAMs_20 IAMs_20 07 29 34.5
comp=Z,1µm,18.0s
POKR Poker Plat Res 79.40 336 P **P** **06 51 38.1 0.0**
baz=109
RND Reindeer 79.44 335 P **P** **06 51 37.9 -0.5**
RND pmax pmax
comp=Z,23nm,1.1s
RND MLR MLR
comp=Z,1µm,19.0s
RND Reindeer 79.44 335 P **P** **06 51 37.9 -0.5**
RND IAmb IAmb 06 51 44.0
comp=Z,23nm,1.1s
CNPM China Poot 79.44 330 P **P** **06 51 39.6 +1.1**
CNPM IAmb IAmb 06 51 51.2
comp=Z,21nm,1.0s
CNPM IAMs_20 IAMs_20 07 33 08.3
comp=Z,735nm,21.0s
WRH Wood River Hil 79.45 336 IAMs_20 IAMs_20 07 32 26.1
comp=Z,1µm,18.0s
COLA College 79.48 336 *i*P **P** **06 51 40.3 +1.8**
COLA pmax pmax
comp=Z,11nm,1.2s
TCOL CIGO, UAF Yank 79.49 336 P **P** **06 51 38.4 -0.1**
baz=109
ROSF Rostrenen 79.55 41 *e*P **P** **06 51 39.9 +0.7**
ROSF pmax pmax
comp=Z,87nm,1.0s
QUIF Quistinic 79.55 42 *e*P **P** **06 51 39.9 +0.7**
QUIF pmax pmax
comp=Z,56nm,1.0s
YRC Rhoscolyn 79.62 36 *e*P **P** **06 51 39.6 +0.1**
WLF1 Llynfaes 79.73 36 *e*P **P** **06 51 41.6 +1.5**
WLF1 IAMs_20 IAMs_20 07 20 48.0
comp=Z,2µm,21.3s
WIM Isle of Man 79.74 35 *e*P **P** **06 51 40.5 +0.4**
CART Cartagena 79.79 52 *e*P **P** **06 51 37.8 -3.0**
CART *e*S **S** **07 01 47.1 +2.8**
WME Myndd Eilian 79.81 36 *e*P **P** **06 51 41.1 +0.6**
IOMK Kirk Michael 79.82 35 *e*P **P** **06 51 41.2 +0.6**
IOMK IAmb IAmb 06 51 43.0
comp=Z,142nm,0.9s
IOMK IAMs_20 IAMs_20 07 22 48.0
comp=Z,2µm,17.5s
YLL Llanberis 79.83 36 *e*P **P** **06 51 41.7 +1.0**
GAL1 Galloway 79.86 34 *e*P **P** **06 51 41.6 +0.8**
GAL1 IAmb IAmb 06 51 42.9
comp=Z,65nm,0.9s
GAL1 IAMs_20 IAMs_20 07 27 18.7
comp=Z,993nm,21.5s
OHAK Old Harbor 79.94 328 P **P** **06 51 41.7 +0.6**
OHAK IAmb IAmb 06 51 51.2
comp=Z,21nm,1.0s
SGMF Saint Gilles 80.01 41 *e*P **P** **06 51 42.3 +0.6**
SGMF pmax pmax
comp=Z,81nm,1.1s
TRF Thorofare Moun 80.07 334 P **P** **06 51 40.3 -1.6**
TRF IAmb IAmb 06 52 18.0
comp=Z,56nm,1.8s
KAC Achnashellach 80.09 32 *e*P **P** **06 51 42.4 +0.4**
SJPF Ste Jean 80.23 47 *e*P **P** **06 51 44.3 +1.2**
SJPF pmax pmax
comp=Z,104nm,1.1s
SPU Mount Spurr 80.25 332 P **P** **06 51 43.1 +0.3**
MCH1 Michaelchurch 80.33 38 *e*P **P** **06 51 44.0 +0.6**
MCH1 IAmb IAmb 06 51 45.5
comp=Z,49nm,0.9s
MCH1 IAMs_20 IAMs_20 07 20 59.9
comp=Z,1µm,20.5s
FOEL Foel Wylfa 80.36 37 *e*P **P** **06 51 44.5 +1.0**
FOEL IAmb IAmb 06 51 45.6
comp=Z,70nm,0.9s
FOEL IAMs_20 IAMs_20 07 33 26.1
comp=Z,848nm,20.7s
JSA Saint Aubin 80.40 40 *e*P **P** **06 51 45.1 +1.3**
JSA IAmb IAmb 06 51 46.4
comp=Z,89nm,1.2s
JSA IAMs_20 IAMs_20 07 20 14.7
comp=Z,898nm,27.6s
INVG Invergeldie, C 80.54 33 *e*P **P** **06 51 44.0 -0.4**
INVG IAMs_20 IAMs_20 07 26 17.5
comp=Z,954nm,23.7s
BPAW Bear Paw Mtn. 80.55 335 IAmb IAmb 06 51 56.8
comp=Z,24nm,1.0s
BPAW IAMs_20 IAMs_20 07 29 21.1
comp=Z,941nm,20.0s
ETSF Etsaut 80.69 47 *e*P **P** **06 51 46.7 +1.1**
ETSF pmax pmax
comp=Z,46nm,1.3s
PPLA Purkeypile 80.75 334 P **P** **06 51 46.8 +1.2**
PPLA IAmb IAmb 06 52 32.0
comp=Z,70nm,1.6s
ESK Eskdalemuir 80.80 34 *e*P **P** **06 51 45.7 -0.1**
ESK IAmb IAmb 06 51 47.8
comp=Z,46nm,0.8s
ESK IAMs_20 IAMs_20 07 26 44.8
comp=Z,1µm,21.2s
ESK Eskdalemuir 80.80 34 P **P** **06 51 45.7 -0.1**
ESK pmax pmax
comp=Z,48nm,0.9s
ESK MLR MLR
comp=Z,1µm,20.0s
ESK Eskdalemuir 80.80 34 P **P** **06 51 45.7 -0.1**
ESK Eskdalemuir 80.80 34 IAMs_20 IAMs_20 07 26 40.0
comp=Z,1µm,20.0s
EKA Eskdalemuir Ar 80.83 34 P P 06 51 51.5 +5.5
TOA0 Torodi Ar. Sit 80.94 77 P **P** **06 51 46.0 -1.4**
TOA0 P **P** **06 51 47.0 -0.4**
TORD Torodi Ar. Bea 80.94 77 P **P** **06 51 45.8 -1.6**
comp=Z,8.1nm,0.8s,baz=283,slow=4.8,SNR=38
TORD LR LR 07 26 12.8
comp=Z,2µm,20.9s,baz=255,slow=35
TORD Torodi Ar. Bea 80.94 77 P **P** **06 51 45.1 -2.3**
SWN1 Swindon 80.99 38 *e*P **P** **06 51 48.0 +1.0**
SWN1 IAmb IAmb 06 51 49.3
comp=Z,173nm,1.0s
SWN1 IAMs_20 IAMs_20 07 21 17.9

comp=Z,1µm,22.6s
STNC Stoke 80.99 37 *e*P **P** **06 51 48.2 +1.3**
STNC IAmb IAmb 06 51 49.5
comp=Z,85nm,0.8s
STNC IAMs_20 IAMs_20 07 26 32.3
comp=Z,797nm,16.8s
ALE Alert 81.15 2 IAMs_20 IAMs_20 07 29 22.7
comp=Z,1µm,20.0s
GRR Gorron 81.15 41 *e*P **P** **06 51 48.5 +0.6**
GRR pmax pmax
comp=Z,103nm,0.9s
LBWR Ladybower, Pea 81.33 36 *e*P **P** **06 51 49.2 +0.5**
LBWR IAmb IAmb 06 51 51.3
comp=Z,145nm,0.9s
LBWR IAMs_20 IAMs_20 07 21 47.6
comp=Z,688nm,17.2s
TOLK Toolik Lake Re 81.33 340 P **P** **06 51 48.5 0.0**
baz=108
TOLK Toolik Lake Re 81.33 340 P **P** **06 51 47.7 -0.8**
TOLK IAmb IAmb 06 52 36.2
comp=Z,34nm,1.8s
EPF Esparros 81.36 47 *e*P **P** **06 51 50.3 +1.1**
EPF pmax pmax
comp=Z,98nm,1.2s
FLN La Foliniere 81.45 41 *e*P **P** **06 51 50.2 +0.8**
FLN pmax pmax
comp=Z,91nm,0.8s
RAR Rarotonga 81.64 248 LR LR 07 19 20.8
comp=Z,930nm,21.0s,baz=62,slow=29
LDF La Druitiere 81.66 41 *e*P **P** **06 51 51.2 +0.6**
LDF pmax pmax
comp=Z,79nm,0.8s
SVW2 Sparrevohn 81.90 332 P **P** **06 51 50.9 -0.7**
SVW2 IAmb IAmb 06 51 58.5
comp=Z,28nm,1.4s
DAG Danmarks Havn 81.93 12 *i*P **P** **06 51 51.6 +0.2**
comp=Z,30nm,0.9s
DAG Danmarks Havn 81.93 12 *i*P **P** **06 51 51.6 +0.2**
DAG pmax pmax
comp=Z,30nm,0.9s
IMAR Indian Mountai 82.16 337 P **P** **06 51 53.4 +0.5**
RJF Les Rejaudoux 82.43 45 *e*P **P** **06 51 54.7 0.0**
RJF pmax pmax
comp=Z,82nm,1.2s
TTA Tatalina 82.46 333 IAMs_20 IAMs_20 07 31 39.9
comp=Z,947nm,20.0s
WACR West Acre 82.64 37 *e*P **P** **06 51 55.6 +0.1**
WACR IAmb IAmb 06 51 58.2
comp=Z,292nm,0.8s
WACR IAMs_20 IAMs_20 07 22 31.5
comp=Z,876nm,19.3s
CAF Calviac 82.78 45 *e*P **P** **06 51 57.2 +0.6**
CAF pmax pmax
comp=Z,62nm,1.2s
CNBA Chernabura Isl 83.01 325 IAmb IAmb 06 52 40.9
comp=Z,46nm,1.6s
CNBA IAMs_20 IAMs_20 07 31 28.3
comp=Z,749nm,21.0s
CLF Chambon-Foret 83.18 42 IAMs_20 IAMs_20 07 27 23.0
comp=Z,678nm,19.0s
AVF Avril sur Loir 83.82 43 *e*P **P** **06 52 01.5 -0.4**
AVF pmax pmax
comp=Z,33nm,0.9s
LOR Lormes 84.20 43 *e*P **P** **06 52 03.9 +0.1**
LOR pmax pmax
comp=Z,27nm,0.9s
NOR Nord 84.51 8 *i*P **P** **06 52 05.7 +1.0**
comp=Z,20nm,1.1s
NOR Nord 84.51 8 *i*P **P** **06 52 05.7 +1.0**
NOR pmax pmax
comp=Z,20nm,1.1s
SSB Saint Sauveur 84.55 45 P **P** **06 52 04.9 -0.8**
SSB pmax pmax
comp=Z,38nm,0.9s
SSB MLR MLR
comp=Z,1µm,19.0s
SSB Saint Sauveur 84.55 45 P **P** **06 52 04.8 -0.8**
SSB Saint Sauveur 84.55 45 IAMs_20 IAMs_20 07 33 43.2
comp=Z,953nm,19.0s
SNF Seneffe 84.70 40 PcP **P** **06 52 07.5 +1.3**
UCC Uccle 84.77 39 IAMs_20 IAMs_20 07 28 08.9
comp=Z,962nm,20.0s
DOU Dourbes 84.87 40 PcP **P** **06 52 07.7 +0.6**
DOU sP **pP** **06 52 08.8 -0.5**
BMRD Maredsous 85.00 40 PcP **P** **06 52 09.3 +1.6**
VNA3 Neumayer Olymp 85.12 162 P **P** **06 52 07.5 -0.4**
BGES Gesves 85.20 40 PcP **PcP** **06 52 10.5 -1.5**
BCLA Clavier 85.34 40 PcP **P** **06 52 10.6 +1.2**
VNA1 Neumayer--Stat 85.36 162 P **P** **06 52 09.5 +0.4**
BSTI Sart Tilman 85.52 40 PcP **PcP** **06 52 12.2 -1.1**
VNA2 Neumayer--Watz 85.72 162 P **P** **06 52 11.1 +0.2**
baz=302,slow=3.2
BHOU Houvegnez 85.79 40 PcP **P** **06 52 12.9 +1.1**
MEM Membach 85.80 40 PcP **PcP** **06 52 13.2 -1.3**
MEM Membach 85.80 40 P P **06 52 14.0 +2.3**
WLF Walferdange 85.86 41 PcP **P** **06 52 12.8 +0.8**
WLF Walferdange 85.86 41 P **P** **06 52 11.2 -0.9**
WLF pmax pmax
comp=Z,127nm,1.0s
WLF MLR MLR
comp=Z,800nm,19.0s
WLF Walferdange 85.86 41 P **P** **06 52 11.2 -0.9**
WLF IAMs_20 IAMs_20 07 30 25.7
comp=Z,812nm,19.0s
WLF Walferdange 85.86 41 *e*P **P** **06 52 13.8 +1.8**
comp=Z,158nm,1.1s,baz=271,slow=4.9
RDOG Red Dog Mine 86.05 338 IAMs_20 IAMs_20 07 33 58.3
comp=Z,720nm,20.0s
BNI Bardonecchia 86.06 45 P **P** **06 52 16.0 +2.7**
BNI Bardonecchia 86.06 45 IAMs_20 IAMs_20 07 34 01.9
comp=Z,1µm,20.0s
LPL La Plagne 86.11 45 *e*P **P** **06 52 15.0 +1.3**
LPL pmax pmax
comp=Z,52nm,1.1s
LPG La Plagne 86.12 45 *e*P **P** **06 52 15.3 +1.5**
LPG pmax pmax
comp=Z,83nm,1.2s
ECH Echery 86.47 42 P **P** **06 52 15.4 +0.2**
ECH Echery 86.47 42 IAMs_20 IAMs_20 07 33 38.9
comp=Z,555nm,18.0s
AHRW Bad Neuenahr-A 86.48 40 *e*P **P** **06 52 16.9 +1.8**
comp=Z,141nm,0.9s,baz=271,slow=4.9
SENIN Lac Senin/Sane 86.52 44 IAMs_20 IAMs_20 07 35 08.3
comp=Z,681nm,20.0s
BUG Bochum--Univer 86.63 39 *e*P **P** **06 52 17.7 +1.9**
comp=Z,109nm,1.0s,baz=271,slow=4.9
ANM Anome 86.79 334 IAMs_20 IAMs_20 07 32 22.2
comp=Z,690nm,20.0s
IBBN Ibbenburen 86.95 38 *e*P **P** **06 52 19.1 +1.7**
comp=Z,118nm,1.1s,baz=271,slow=4.9
UNV Unalaska Valle 86.97 324 P **P** **06 52 19.4 +2.0**
KTD Kalmit 87.11 41 P **P** **06 52 20.4 +2.2**
BFO Black Forest 87.25 42 *e*P **P** **06 52 18.4 -0.6**
BFO Black Forest 87.25 42 P **P** **06 52 17.6 -1.4**
BFO Black Forest 87.25 42 *e*P **P** **06 52 20.3 +1.3**
comp=Z,40nm,1.1s,baz=271,slow=4.9
SNAA Sanae 87.34 162 P **P** **06 52 18.4 -0.5**
SNAA Sanae 87.34 162 P **P** **06 52 18.9 0.0**
comp=Z,24nm,0.8s,baz=270,slow=4.3,SNR=58
SNAA Sanae 87.34 162*ce*P **P** **06 52 18.8 -0.1**
SNAA pmax pmax
comp=Z,75nm,1.7s
SNAA Sanae 87.34 162 P **P** **06 52 18.4 -0.5**
TNS Taunus Mts 87.35 40 *e*P **P** **06 52 20.9 +1.4**
comp=Z,125nm,1.4s,baz=271,slow=4.9
SLE Schleitheim 87.36 42 P **P** **06 52 20.1 +0.6**
STU Stuttgart 87.83 41 P **P** **06 52 23.5 +1.8**
MUD Monsted U'grnd 87.84 34 *i*P **P** **06 52 23.7 +2.2**
MUD Monsted U'grnd 87.84 34 *i*P **P** **06 52 23.7 +2.2**
VSL Villasalto 88.01 51 P **P** **06 52 21.3 -1.5**
VSL IAMs_20 IAMs_20 07 28 30.6
comp=Z,717nm,21.0s
KEST Kesra 88.02 54 P **P** **06 52 23.0 0.0**
comp=Z,14nm,0.9s,baz=204,slow=1.0,SNR=8.0
KEST LR LR 07 29 45.6
comp=Z,662nm,21.8s,baz=202,slow=34
KEST Kesra 88.02 54 P **P** **06 52 20.3 -2.7**
KEST IAmb IAmb 06 52 25.6
comp=Z,25nm,1.1s
MSSA Maissana 88.07 46 IAMs_20 IAMs_20 07 30 05.3
comp=Z,720nm,20.0s
KONO Kongsberg 88.07 31 IAMs_20 IAMs_20 07 27 09.4
comp=Z,788nm,22.0s
DAVA Damuels 88.30 43 *i*PcP **P** **06 52 24.6 +0.4**
comp=Z,88nm,0.9s,SNR=22
GTTG Gottingen 88.31 39 *e*P **P** **06 52 26.1 +2.2**

comp=Z,62nm,1.1s,baz=271,slow=4.9
UBBA Unterbreizbach 88.34 39 *e*P **P 06 52 26.2 +2.3**
comp=Z,67nm,1.8s,baz=271,slow=4.9
NRDL Niedersach Rie 88.39 38 *e*P **P 06 52 26.3 +2.2**
comp=Z,47nm,1.2s,baz=271,slow=4.9
UBR Ueberruh 88.45 43 *e*P **P 06 52 26.5 +1.8**
comp=Z,144nm,1.6s,baz=271,slow=4.9
BSEG Bad Segeberg 88.50 36 *e*P **P 06 52 26.8 +2.1**
comp=Z,45nm,1.0s,baz=271,slow=4.9
CLZ Clausthal 88.56 38 *e*P **P 06 52 27.1 +1.9**
comp=Z,54nm,1.2s,baz=271,slow=4.9
FUORN Ofenpass-Fuorn 88.57 44 IAMs_20 IAMs_20 07 31 58.5
comp=Z,762nm,20.0s
NC204 NORSAR Array S 88.64 29 P **P 06 52 24.5 -0.8**
NBO00 NORSAR Array S 88.65 29 P **P 06 52 24.0 -1.3**
KBS Kingsbay 88.65 11 IAMs_20 IAMs_20 07 36 11.2
comp=Z,947nm,20.0s
VLC Villacollemand 88.70 46 IAMs_20 IAMs_20 07 30 40.9
comp=Z,723nm,20.0s
NAO01 NORSAR Array S 88.70 29 P **P 06 52 25.2 -0.4**
ASSE Asse, Remlinge 88.75 38 *e*P **P 06 52 28.1 +2.2**
comp=Z,44nm,1.2s,baz=271,slow=4.9
SALO Salr 88.77 45 P **P 06 52 25.2 -1.1**
SALO IAMs_20 IAMs_20 07 37 04.8
comp=Z,1μm,20.0s
NB2 NORSAR Subarra 88.86 29 P **P 06 52 26.1 -0.3**
comp=Z,128nm,2.0s,baz=272,slow=4.8
NB2 NORSAR Subarra 88.86 29 P **P 06 52 26.1 -0.3**
baz=272,slow=4.8
NOA NORSAR Array B 88.86 29 P **P 06 52 26.5 +0.1**
comp=Z,6.7nm,0.8s,baz=269,slow=4.4,SNR=12
NOA LR LR 07 28 19.5
comp=Z,442nm,21.6s,baz=255,slow=33
FETA Feichten 88.88 43 *i* PcP **P 06 52 27.7 +0.7**
comp=Z,84nm,1.1s,SNR=28
RETA Reutte 88.90 43 *i* PcP **PcP 06 52 28.0 -0.4**
comp=Z,42nm,1.5s,SNR=12
NORES NORESS Array B 89.03 29 P **P 06 52 30.2 +3.1**
NORES pmax pmax
comp=Z,6.0nm,0.7s
NC405 NORSAR Array S 89.10 29 P **P 06 52 27.2 -0.2**
MOTA Moosalm 89.13 43 *i* PcP **PcP 06 52 28.8 -0.7**
comp=Z,39nm,1.1s,SNR=11
GRA1 Grafenberg Arr 89.15 41 IAMs_20 IAMs_20 07 28 03.8
comp=Z,781nm,22.0s
GRF Grafenberg Arr 89.15 41 *e*P **P 06 52 30.2 +2.3**
comp=Z,47nm,1.1s,baz=271,slow=4.9
GRF *e*L L 07 28 26.6
comp=Z,741nm,21.9s
SQTA Sankt Quirin 89.21 43 *i* PcP **P 06 52 28.9 +0.5**
comp=Z,44nm,0.9s,SNR=14
OSSC Osservatorio P 89.33 47 IAMs_20 IAMs_20 07 31 16.7
comp=Z,618nm,20.0s
MOX Moxa 89.37 40 *e*P **P 06 52 31.1 +2.2**
baz=271,slow=4.9
MOX *e*L L 07 33 14.2
comp=Z,802nm,19.5s
WATA Walderalm 89.45 43 *i* PcP **PcP 06 52 30.8 -0.2**
comp=Z,44nm,1.6s,SNR=7.7
NEUB Neuenburg 89.46 39 *e*P **P 06 52 31.3 +2.0**
baz=271,slow=4.9
WTTA Wattenberg 89.50 43 *i* PcP **PcP 06 52 30.6 -0.6**
comp=Z,35nm,1.0s,SNR=9.9
HSPB Hornsund (broa 89.52 13 *e*P **P 06 52 29.3 +0.3**
HSPB *e*L L 07 30 17.5
comp=Z,802nm,22.2s
CTI Castel Tesino 89.55 44 P **P 06 52 29.8 -0.2**
CTI pmax pmax
comp=Z,62nm,0.9s
CTI MLR MLR
comp=Z,800nm,20.0s
CTI Castel Tesino 89.55 44 P **P 06 52 29.8 -0.2**
CTI IAMs_20 IAMs_20 07 36 35.3
comp=Z,812nm,20.0s
GAMB Gambell 89.56 334 IAmb IAmb 06 52 53.4
comp=Z,34nm,1.4s
GAMB IAMs_20 IAMs_20 07 36 50.6
comp=Z,778nm,18.0s
MANZ Manzenberg 89.71 40 *e*P **P 06 52 32.8 +2.2**
comp=Z,30nm,1.3s,baz=271,slow=4.9
PLN Plauen 89.72 40 *e*P **P 06 52 32.8 +2.2**
comp=Z,18nm,1.1s,baz=271,slow=4.9
ROTZ Rotzenmuhle 89.78 40 *e*P **P 06 52 33.1 +2.2**
baz=271,slow=4.9
GUNZ Gunzen 89.84 40 *e*P **P 06 52 33.5 +2.3**
comp=Z,13nm,1.0s,baz=271,slow=4.9
WERN Wernitzgruen 89.87 40 *e*P **P 06 52 33.4 +2.1**
baz=271,slow=4.9
NKC Novy Kostel 89.92 40 *e*P **P 06 52 30.4 -1.1**
NKC *e*SKS **SKSac 07 03 00.8 -2.1**
NKC AMS AMS 07 31 40.0
comp=Z,800nm,21.2s
NKC Novy Kostel 89.92 40 *e*P **P 06 52 30.4 -1.1**
NKC *e* 07 03 00.8
NKC MLR MLR
comp=Z,800nm,21.2s
TANN Tannenbergstha 89.92 40 *e*P **P 06 52 33.8 +2.2**
comp=Z,50nm,1.1s,baz=271,slow=4.9
CIMO Cimolais 90.08 44 P **P 06 52 30.0 -2.4**
CIMO IAMs_20 IAMs_20 07 38 42.6
comp=Z,804nm,20.0s
ABTA Abfaltersbach 90.11 43 *i* pP **P 06 52 34.3 +1.7**
comp=Z,46nm,1.1s,SNR=14
CLL Collm 90.22 39⇑ *i*P **P 06 52 34.8 +1.9**
comp=Z,79nm,2.1s
CLL *e* 06 52 56.0
CLL *e*PP **PP 06 56 00.0 -6.5**
CLL *e* 06 56 17.0
CLL *e*SKSac **SKSac 07 03 06.0 +1.5**
CLL *e*S **S 07 03 27.0 -0.2**
CLL *e* 07 03 49.0
CLL *e*PS **PS 07 04 43.0 +8.7**
CLL *e*SS **SS 07 09 25.0 -1.3**
CLL *e*SSS SSS 07 13 18.0
CLL *e*SSSS 07 16 18.0
CLL Lm MLR 07 29 00.0
comp=Z,700nm,21.3s
CLL Collm 90.22 39⇑ *i*P **P 06 52 34.8 +1.9**
CLL *e* 07 03 06.0
CLL *e*S **S 07 03 27.0 -0.2**
CLL pmax pmax
comp=Z,79nm,2.1s
CLL MLR MLR
comp=Z,700nm,21.3s
CLL Collm 90.22 39 IAMs_20 IAMs_20 07 29 13.2
comp=Z,719nm,21.0s
CLL Collm 90.22 39 *e*P **P 06 52 35.1 +2.3**
baz=271,slow=4.9
RGN Rugen 90.25 36 IAMs_20 IAMs_20 07 34 32.8
comp=Z,1μm,20.0s
WET Wettzell 90.25 41 P **P 06 52 35.8 +2.7**
WET Wettzell 90.25 41 *e*P **P 06 52 35.0 +1.9**
comp=Z,34nm,1.2s,baz=271,slow=4.9
ZOU Zoufplan 90.44 44 IAmb IAmb 06 52 36.5
comp=Z,30nm,1.2s
ZOU IAMs_20 IAMs_20 07 37 39.1
comp=Z,852nm,20.0s
FBE Freiberg 90.47 39 *e*P **P 06 52 36.2 +2.2**
baz=271,slow=4.9
KBA Koelnbreinsper 90.67 43 *i* pP **P 06 52 37.0 +1.7**
comp=Z,16nm,0.9s,SNR=8.0
KBA Koelnbreinsper 90.67 43 P **P 06 52 37.0 +1.7**
KHC Kasperske Hory 90.71 41 *e*P **P 06 52 37.4 +2.1**
KHC *ex* x 06 52 48.9
KHC *e*SKS **SKSac 07 03 02.8 -4.8**
KHC AMS AMS 07 28 10.0
comp=Z,700nm,24.6s
KHC Kasperske Hory 90.71 41 *c*e**P P 06 52 37.1 +1.8**
KHC pmax pmax
comp=Z,28nm,1.2s
KHC Kasperske Hory 90.71 41 IAmb IAmb 06 52 38.8
comp=Z,34nm,2.0s
GEC2 GERESS Array S 90.81 41 P **P 06 52 36.2 +0.4**
GEC2 IAmb IAmb 06 52 39.9
comp=Z,9.1nm,0.8s
GEC2 IAMs_20 IAMs_20 07 29 16.7
comp=Z,658nm,21.0s
GEC2 GERESS Array S 90.81 41 *e*P **P 06 52 37.4 +1.5**
baz=271,slow=4.9
GERES GERESS Array B 90.81 41 P **P 06 52 36.2 +0.4**
comp=Z,4.2nm,0.7s,baz=273,slow=2.5,SNR=20
GERES LR LR 07 33 35.1
comp=Z,346nm,19.6s,baz=268,slow=36
GERES GERESS Array B 90.81 41 P **P 06 52 33.6 -2.2**
GERES GERESS Array B 90.81 41 P **P 06 52 33.6 -2.2**
BRG Berggiesshubel 90.84 39 *e*P **P 06 52 38.0 +2.2**
comp=Z,20nm,1.2s
BRG PP **PP 06 56 13.0 +1.6**
BRG S **S 07 03 34.0 +1.0**
BRG Berggiesshubel 90.84 39 *e*P **P 06 52 38.0 +2.2**
BRG 06 56 13.0
BRG S **S 07 03 34.0 +1.0**
BRG pmax pmax
comp=Z,20nm,1.2s
BRG Berggiesshubel 90.84 39 *e*P **P 06 52 37.7 +2.0**
baz=271,slow=4.9
PRED Cave del Predi 90.86 44 P **P 06 52 34.5 -1.6**
PRED IAMs_20 IAMs_20 07 32 44.0
comp=Z,811nm,21.0s
MYKA Terra Mystica 90.90 43 *i* PcP **PcP 06 52 37.3 +0.1**
comp=Z,22nm,0.7s,SNR=6.0
TRI Trieste 91.04 44 IAMs_20 IAMs_20 07 38 08.7
comp=Z,549nm,19.0s
BSD Bornholm Skovb 91.13 35 *i* P **P 06 52 38.0 +1.0**
comp=Z,23nm,0.9s
BSD Bornholm Skovb 91.13 35 *i* P **P 06 52 38.0 +1.0**
BSD pmax pmax
comp=Z,23nm,0.9s
PRA Prague 91.21 40 *e*P **P 06 52 35.3 -2.2**
PRA *ex* x 07 03 15.4
PRA AMS AMS 07 33 30.0
comp=Z,400nm,18.1s
PRA Prague 91.21 40 *e*P **P 06 52 35.3 -2.2**
PRA MLR MLR
comp=Z,400nm,18.1s
JAVS Javornik 91.23 44 *i* P **P 06 52 40.0 +2.1**
MOA Molln 91.25 42 *i* pP **P 06 52 40.1 +2.3**
comp=Z,26nm,1.3s,SNR=8.5
PVCC Panska Ves 91.26 40 *e*P **P 06 52 33.7 -4.0**
PVCC AMS AMS 07 34 10.0
comp=Z,900nm,18.3s
PVCC Panska Ves 91.26 40 *e*P **P 06 52 33.7 -4.0**
PVCC MLR MLR
comp=Z,900nm,18.3s
PRU Pruhonice 91.28 40 *e*P **P 06 52 33.5 -4.3**
PRU *e*SKS S 07 03 09.6 -27
PRU AMS AMS 07 33 30.0
comp=Z,900nm,19.9s
PRU Pruhonice 91.28 40 *e*P **P 06 52 33.5 -4.3**
PRU *e* 07 03 09.6
PRU MLR MLR
comp=Z,900nm,19.9s
GOPC GO Pecny, Ondr 91.44 40 *e*P P 06 52 32.0 -6.6
GOPC *e*SKS **SKSac 07 03 07.0 -4.7**
GOPC AMS AMS 07 33 50.0
comp=Z,900nm,18.6s
GOPC GO Pecny, Ondr 91.44 40 *e*P P 06 52 32.0 -6.6
GOPC *e* 07 03 07.0
GOPC MLR MLR
comp=Z,900nm,18.6s
OBKA Obir 91.53 44 *i* pP **P 06 52 41.2 +2.0**
comp=Z,19nm,1.2s
QSPA South Pole Qui 91.69 180 P **P 06 52 40.0 +0.5**
comp=Z,17nm,0.9s,baz=146,slow=2.4,SNR=37
QSPA South Pole Qui 91.69 180 P **P 06 52 39.0 -0.5**
SOKA Soboth 91.85 43 *i* PcP **P 06 52 40.5 -0.2**
comp=Z,13nm,1.1s
PERS Pernice 91.91 43 *e*P **P 06 52 42.1 +1.2**
PAOL Paolisi 91.92 49 IAMs_20 IAMs_20 07 29 55.1
comp=Z,778nm,22.0s
TREC Trest 91.95 41 *e*P **P 06 52 40.2 -0.8**
TREC Trest 91.95 41 *e*P **P 06 52 40.2 -0.8**
NVL N'lazarevskaya 91.95 161 *e*P **P 06 52 42.0 +1.6**
NVL *e*S **SKSac 07 03 11.8 -1.8**
NVL pmax pmax
comp=Z,23nm,1.4s
ARSA Arzberg 92.14 43 *i* pP **P 06 52 43.5 +1.5**
comp=Z,16nm,1.0s
UPC Upice 92.18 40 *e*P **P 06 52 44.2 +2.2**
UPC *e*SKS **SKSac 07 03 08.0 -7.8**
UPC AMS AMS 07 34 40.0
comp=Z,700nm,18.8s
UPC Upice 92.18 40 *e*P **P 06 52 44.2 +2.2**
UPC *e* 07 03 08.0
UPC MLR MLR
comp=Z,700nm,18.8s
GROS Grobnik 92.19 44 *i* P **P 06 52 44.0 +1.7**
CHVC Chvalec 92.20 39 *e*P **P 06 52 44.0 +1.9**
CHVC AMS AMS 07 34 40.0
comp=Z,600nm,16.5s
WDD Wied Dalam 92.22 54 IAMs_20 IAMs_20 07 37 32.1
comp=Z,948nm,20.0s
OSTC Ostas 92.31 39 *e*P **P 06 52 45.3 +2.7**
OSTC *e*SKS **SKSac 07 03 08.9 -7.6**
OSTC AMS AMS 07 34 50.0
comp=Z,600nm,15.6s
CONA Conrad Observa 92.31 42 *i* PcP **PcP 06 52 43.8 +0.2**
comp=Z,24nm,0.9s,SNR=14
KSP Ksiaz 92.33 39 *e*P **P 06 52 45.1 +2.4**
KSP *e*L L 07 33 15.3
comp=Z,818nm,19.7s
KSP Ksiaz 92.33 39 P **P 06 52 45.4 +2.7**
DPC Dobruska-Polom 92.39 40 *e*P **P 06 52 45.2 +2.1**
DPC *ex* x 06 53 06.2
DPC *e*SKS **SKSac 07 03 16.3 -0.8**
DPC AMS AMS 07 34 40.0
comp=Z,900nm,19.1s
DPC Dobruska-Polom 92.39 40 *e*P **P 06 52 45.2 +2.1**
DPC *e* 07 03 16.3
DPC MLR MLR
comp=Z,900nm,19.1s
KRUC Moravsky 92.56 41 *e*P **P 06 52 45.9 +2.1**
KRUC Moravsky 92.56 41 P **P 06 52 46.5 +2.7**
VRAC Vranov 92.67 41⇑P **P 06 52 46.6 +2.2**
VRAC Vranov 92.67 41 *e*P **P 06 52 46.5 +2.2**
VRAC Vranov 92.67 41⇑P **P 06 52 46.6 +2.2**
KOGS Kog 92.71 44 *i* P **P 06 52 46.8 +2.3**
ZST Bratislava 93.11 42 *e*P **P 06 52 47.4 +1.0**
ZST pmax pmax
comp=Z,68nm,1.6s
ZST Bratislava 93.11 42 *e*P **P 06 52 47.4 +1.0**
CEL Celeste 93.14 52 IAMs_20 IAMs_20 07 38 06.5
comp=Z,593nm,20.0s
MODS Modra-Piesok 93.21 42 *e*P **P 06 52 48.1 +1.2**
MODS pmax pmax
comp=Z,53nm,1.3s
MODS Modra-Piesok 93.21 42 *e*P **P 06 52 48.1 +1.2**
MORC Moravsky Berou 93.23 40⇑P **P 06 52 47.5 +0.6**
MORC Moravsky Berou 93.23 40 *e*P **P 06 52 49.1 +2.1**
MORC Moravsky Berou 93.23 40 P **P 06 52 43.6 -3.3**
MORC pmax pmax
comp=Z,13nm,1.0s
MORC MLR MLR
comp=Z,700nm,20.0s
MORC Moravsky Berou 93.23 40 P **P 06 52 43.6 -3.3**
MORC IAmb IAmb 06 52 50.2
comp=Z,13nm,1.0s
MORC IAMs_20 IAMs_20 07 35 21.8
comp=Z,743nm,20.0s
JAVC Velka Javorina 93.42 41 *e*P **P 06 52 51.0 +3.2**
OKC Ostrava-Krasne 93.62 40 *e*P **P 06 52 45.1 -3.5**
OKC *e*SKS **SKSac 07 03 24.0 +0.3**
OKC AMS AMS 07 35 10.0
comp=Z,700nm,16.8s
OKC Ostrava-Krasne 93.62 40 *e*P **P 06 52 45.1 -3.5**
OKC *e* 07 03 24.0
OKC MLR MLR
comp=Z,700nm,16.8s
ARCES ARCESS Array B 93.65 20 P **P 06 52 49.4 +1.0**
comp=Z,6.5nm,0.8s,baz=297,slow=6.2,SNR=8.4
TIP Timpagrande 93.74 51⇓P **P 06 52 50.2 +0.7**
TIP Timpagrande 93.74 51 P **P 06 52 46.9 -2.6**
TIP IAmb IAmb 06 52 50.9
comp=Z,15nm,1.1s
TIP IAMs_20 IAMs_20 07 42 25.3
comp=Z,762nm,20.0s
VYHS Vyhne 94.23 41 *e*P **P 06 52 52.9 +1.4**
VYHS pmax pmax
comp=Z,76nm,2.0s
VYHS Vyhne 94.23 41 *e*P **P 06 52 52.9 +1.4**
VYHS Vyhne 94.23 41 *e*PN **PP 06 56 39.3 +1.2**
BUD Budapest 94.48 42 P **P 06 52 54.9 +2.2**
BUD pmax pmax
comp=Z,44nm,1.1s
LANS Liptovska Anna 94.56 41 *e*P **P 06 52 56.7 +3.6**
LANS pmax pmax
comp=Z,15nm,1.4s
LANS Liptovska Anna 94.56 41 *e*P **P 06 52 56.7 +3.6**
OJC Ojcow 94.62 40 *e*P **P 06 52 55.5 +2.3**
OJC *e*S **S 07 04 13.7 +7.0**
OJC *e*L L 07 36 16.9
comp=Z,799nm,18.3s
OJC Ojcow 94.62 40 P **P 06 52 52.6 -0.7**
OJC pmax pmax
comp=Z,15nm,0.7s
OJC Ojcow 94.62 40 P **P 06 52 52.6 -0.7**
SCTE Santa Cesarea 94.96 50 IAMs_20 IAMs_20 07 30 39.0
comp=Z,578nm,22.0s
PSZ Piszkesteto 95.01 42⇑P **P 06 52 55.8 +0.7**
PSZ Piszkesteto 95.01 42 P **P 06 52 53.7 -1.5**
PSZ pmax pmax
comp=Z,97nm,2.0s
PSZ Piszkesteto 95.01 42 P **P 06 52 53.7 -1.5**
NIE Niedzica 95.06 40 *e*P **P 06 52 58.5 +3.1**
NIE *e*L L 07 31 08.4
comp=Z,420nm,22.4s
PDG Podgorica 95.28 47⇓P **P 06 52 55.4 -1.0**
PDG Podgorica 95.28 47 IAMs_20 IAMs_20 07 36 30.4
comp=Z,567nm,21.0s
DIVS Divibare 95.60 46 P **P 06 52 56.7 -1.3**
CRVS Cervenica-Dubn 95.89 41 *e*P **P 06 53 01.7 +2.6**
CRVS pmax pmax
comp=Z,62nm,1.7s
CRVS Cervenica-Dubn 95.89 41 *e*P **P 06 53 01.7 +2.6**
FINES FINESS Array B 95.91 28 P **P 06 52 59.2 +0.4**
comp=Z,6.6nm,0.8s,baz=318,slow=2.6,SNR=14
FINES LR LR 07 33 04.2
comp=Z,468nm,21.1s,baz=282,slow=34
FINES FINESS Array B 95.91 28 P **P 06 52 56.0 -2.9**
FINES FINESS Array B 95.91 28 P **P 06 52 56.0 -2.9**
FIA1 FINESS Array S 95.91 28 P **P 06 52 57.6 -1.2**
SUW Suwalki 96.04 35 IAMs_20 IAMs_20 07 36 20.1
comp=Z,691nm,20.0s
SIRR Siria 96.45 43⇑P **P 06 53 02.8 +1.1**
UZH Uzhgorod 96.48 41 *e*P P 06 53 06.7 +5.0
UZH *e* 06 53 24.3
BZS Buzias 96.52 44⇑P **P 06 53 03.1 +1.1**
BZS Buzias 96.52 44⇑P **P 06 53 03.1 +1.1**
KWP Kalwaria Pacla 96.57 40 *e*P **P 06 53 04.7 +2.5**
KWP *e*S **S 07 04 30.1 +6.4**
KWP *e*L L 07 37 29.2
comp=Z,555nm,20.2s
KWP Kalwaria Pacla 96.57 40 IAMs_20 IAMs_20 07 37 36.2
comp=Z,698nm,21.0s
MDVR Moldovita 96.72 45⇑P **P 06 52 59.4 -3.6**
TRPA Tarpa 96.73 41⇑P **P 06 53 04.8 +2.0**
APA Apatity 97.02 21⇓ *i*P Pdif 06 53 10.3 +6.4
APA pmax pmax
comp=Z,5.0nm,0.7s
DRGR 97.08 43⇑P Pdif 06 53 05.5 +0.8
DRGR 97.08 43⇑P Pdif 06 53 05.5 +0.8
TSUM Tsumeb 97.12 109 P **P 06 53 04.4 -1.1**
BILL Bilibino 97.38 340 *e*P Pdif 06 53 06.4 +0.9
BILL *e* 06 57 03.3
BILL *e*PPP PPP 06 59 12.6
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL MLR MLR
comp=Z,1μm,22.0s
VNDA Vanda 97.61 191 LR LR 07 31 09.2
comp=Z,322nm,19.3s,baz=136,slow=32
ITM Ithomi 98.01 52 IAMs_20 IAMs_20 07 43 00.8
comp=Z,574nm,20.0s
ARCR ARCALIA 98.13 42⇑P Pdif 06 53 10.5 +1.2
RAO Raoul Island 98.25 241 LR LR 07 30 46.0
comp=Z,754nm,18.0s,baz=100,slow=31
BUR08 Bucovina Ar. S 98.58 41 P **P 06 53 10.3 -1.1**
BUR08 IAmb IAmb 06 53 15.1
comp=Z,11nm,1.1s
BURAR Bucovina Array 98.59 41⇑P Pdif 06 53 13.3 +1.8
BURAR Bucovina Array 98.59 41⇑P Pdif 06 53 13.3 +1.8
BURAR Bucovina Array 98.59 41 P **P 06 53 10.1 -1.4**
VOIR 98.92 44⇑P Pdif 06 53 15.7 +2.7
VOIR 98.92 44⇑P Pdif 06 53 15.7 +2.7
BIZ Bicaz 99.33 42⇑P **Pdif 06 53 16.2 +1.5**
MLR Muntele Rosu 99.53 43⇑P **Pdif 06 53 17.8 +2.0**
MLR Muntele Rosu 99.53 43 P **Pdif 06 53 14.6 -1.1**
MLR pmax pmax
comp=Z,43nm,1.4s
MLR MLR MLR
comp=Z,700nm,20.0s
MLR Muntele Rosu 99.53 43 P **Pdif 06 53 14.6 -1.1**
MLR IAMs_20 IAMs_20 07 41 03.5
comp=Z,699nm,20.0s
ELND Elena 100.01 46⇑P **Pdif 06 53 12.2 -5.5**
AKASG Malin Array Be 100.42 38 PP **PP 06 57 30.9 +5.3**
comp=Z,0.2nm,0.3s,baz=281,slow=6.6,SNR=4.2
IDI Anoyia 100.67 54 IAMs_20 IAMs_20 07 46 47.0
comp=Z,519nm,21.0s
SANT Santorini 100.94 53 IAMs_20 IAMs_20 07 45 34.0
comp=Z,568nm,18.0s
SYO Syowa Base 101.60 161⇑ *e*PP **PP 06 57 29.8 -4.2**
KLMR Klimovskoe 102.22 26 *e*PP **PP 06 57 38.8 +0.1**
KLMR AMP 06 57 53.3
comp=Z,21nm,1.4s
KARP Karpathos 102.45 53 IAMs_20 IAMs_20 07 45 12.0
comp=Z,556nm,19.0s
OBN Obninsk 103.18 32 *e*P **Pdif 06 53 32.4 +0.9**
OBN *e* 06 57 46.9
OBN *e*PPP PPP 06 59 56.9
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,567nm,19.0s
OBN Obninsk 103.18 32 IAMs_20 IAMs_20 07 42 06.7
comp=Z,634nm,20.0s
ILGA Ilgaz 106.14 46 IAMs_20 IAMs_20 07 49 23.4
comp=Z,619nm,21.0s
CSS Mathiatis 107.50 53 IAMs_20 IAMs_20 07 51 35.7
comp=Z,481nm,21.0s
PEA0B Petropavlovsk- 107.74 328 IAMs_20 IAMs_20 07 49 55.9
comp=Z,453nm,20.0s
NRIK Noril'sk 108.59 5 PP **PP 06 58 29.0 +3.5**
comp=Z,1.1nm,0.4s,baz=351,slow=4.0,SNR=3.7
GAZ Gaziantep 109.89 49 IAMs_20 IAMs_20 07 53 35.9
comp=Z,446nm,20.0s
KIV Kislovodsk 111.32 41 *i* PKIKP **PKiKP 06 58 05.5 -1.2**
KIV *e* 06 58 46.4
KIV *e*PS **PS 07 08 18.9 +0.4**
KIV *e*SS SS 07 14 21.7 +1.7
KIV pmax pmax
comp=Z,13nm,1.0s
KIV MLR MLR
comp=Z,1μm,21.0s
DZM Mont Dzumac 112.97 247 *e*PP **PP 06 58 53.6 -5.5**
comp=Z,138nm,24.8s
DZM Mont Dzumac 112.97 247 *e*PS PS 07 08 33.4 -1.4
comp=Z,872nm,30.0s
DZM *e*SS SS 07 14 42.3 -1.5
comp=Z,314nm,26.0s
DZM Mont Dzumac 112.97 247 *e*LR LR 07 32 02.2
comp=Z,1μm,23.6s
MAK Makhachkala 114.90 40 *e*P **Pdif 06 54 20.4 -3.6**
MAK *i* 06 58 10.2
MAK *e* 06 59 09.0
MAK *e* 07 04 53.3
MAK *e*PS **PS 07 08 48.2 -3.0**
MAK *e*SS SS 07 15 04.7 -2.5
MAK *e*SSS SSS 07 19 25.2
MAK pmax pmax
comp=Z,308nm,2.0s
KMBO Kilima Mbogo 116.66 90 *i* PKIKP **PKiKP 06 58 21.7 +3.7**
KMBO pmax pmax
comp=Z,1.0nm,0.4s
ABKAR Akbulak array 118.37 29 PKPdf **PKPdf 06 58 18.1 -1.9**
BRVK Borovoye 119.86 21*c* *i* PKIKP **PKiKP 06 58 23.8 +1.0**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
BRVK Borovoye 119.86 21 IAMs_20 IAMs_20 08 00 36.0
comp=Z,515nm,20.0s
ZAA0 Zalesovo Array 123.06 11 PKPdf **PKPdf 06 58 26.8 -2.0**
ZAA0 IAMs_20 IAMs_20 07 57 01.6
comp=Z,606nm,20.0s
ZALV Zalesovo Beam 123.06 11 PKP **PKPdf 06 58 28.0 -0.8**
comp=Z,10nm,1.0s,baz=264,slow=3.0,SNR=18
ZALV Zalesovo Beam 123.06 11 PKIKP **PKPdf 06 58 26.9 -1.9**
ZALV Zalesovo Beam 123.06 11 PKPdf **PKPdf 06 58 26.9 -1.9**
BRZS Berezniki 123.25 21 *e*PKP **PKiKP 06 58 31.6 +2.0**
comp=Z,2.4nm,0.8s,baz=20
BRZS *e*PP **PP 07 00 12.8 +4.1**
baz=20
BRZS Berezniki 123.25 21 *e*PKIKP **PKiKP 06 58 31.5 +2.0**
BRZS *e* 07 00 12.7
BRZS pmax pmax
comp=Z,2.0nm,0.8s

GEYT	**Alibeck**	**124.42**	**40**	PKP	**PKPdf**	**06 58 31.7**	**-0.3**		
	comp=Z,9.8nm,0.8s,baz=264,slow=1.5,SNR=15								
GEYT	**Alibeck**	**124.42**	**40**	PKPdf	**PKPdf**	**06 58 30.6**	**-1.4**		
GYA0B	**ALIBECK ARRAY**	**124.42**	**40**	IAMs_20	IAMs_20	07 56 52.1			
	comp=Z,494nm,22.0s								
KURK	**Kurchatov**	**124.55**	**17**	*c i*PKIKP	**PKiKP**	**06 58 33.3**	**+1.2**		
KURK				pmax	pmax				
	comp=Z,9.0nm,1.0s								
KURK	**Kurchatov**	**124.55**	**17**	PKPdf	**PKPdf**	**06 58 30.0**	**-1.7**		
USA0B	**Ussuriysk Arra**	**126.44**	**332**	IAMs_20	IAMs_20	08 04 22.9			
	comp=Z,510nm,19.0s								
USRK	**Ussuriysk Ar.**	**126.44**	**332**	PKP	**PKiKP**	**06 58 36.3**	**+0.2**		
	comp=Z,4.3nm,0.7s,baz=316,slow=1.1,SNR=8.6								
USRK	**Ussuriysk Ar.**	**126.44**	**332**	PKIKP	**PKiKP**	**06 58 35.9**	**-0.1**		
USRK	**Ussuriysk Ar.**	**126.44**	**332**	PKPdf	**PKiKP**	**06 58 35.9**	**-0.1**		
TLY	**Talaya**	**126.81**	**358**	*e*PKIKP	PKPdf	06 58 26.7	-9.4		
TLY				*e*SS	SS	07 17 29.0	-9.1		
TLY				pmax	pmax				
	comp=Z,8.0nm,0.7s								
DGZ	**Jazzator, Alta**	**127.60**	**11**	*i* PKIKP	**PKiKP**	**06 58 39.3**	**+0.9**		
KKAR	**Karatay Array**	**127.87**	**28**	PKIKP	**PKiKP**	**06 58 37.6**	**-0.8**		
KKAR	**Karatay Array**	**127.87**	**28**	PKPdf	**PKPdf**	**06 58 37.6**	**-0.8**		
MAJO	**Matsushiro**	**128.38**	**321**	*i* PKIKP	**PKiKP**	**06 58 40.5**	**+0.3**		
MAJO	**Matsushiro**	**128.38**	**321**	IAMs_20	IAMs_20	08 03 22.1			
	comp=Z,377nm,19.0s								
MJAR	**Matsushiro Arr**	**128.38**	**321**	PKP	**PKPdf**	**06 58 39.4**	**-0.2**		
	comp=Z,2.3nm,0.6s,baz=99,slow=0.5,SNR=7.1								
MJAR	**Matsushiro Arr**	**128.38**	**321**	PKIKP	**PKPdf**	**06 58 39.8**	**+0.2**		
MJAR	**Matsushiro Arr**	**128.38**	**321**	PKPdf	**PKPdf**	**06 58 39.8**	**+0.2**		
MJB9	**Matsu-Tunnel**	**128.38**	**321**	IAMs_20	IAMs_20	08 03 14.1			
	comp=Z,407nm,19.0s								
MK31	**Makanchi Array**	**129.14**	**16**	PKIKP	**PKPdf**	**06 58 39.5**	**-1.2**		
MK31	**Makanchi Array**	**129.14**	**16**	PKPdf	**PKPdf**	**06 58 39.5**	**-1.2**		
MKAR	**Makanchi Array**	**129.14**	**16**	PKP	**PKPdf**	**06 58 40.1**	**-0.6**		
	comp=Z,8.2nm,0.9s,baz=330,slow=1.8,SNR=36								
MKAR	**Makanchi Array**	**129.14**	**16**	PKIKP	**PKPdf**	**06 58 38.3**	**-2.5**		
MKAR	**Makanchi Array**	**129.14**	**16**	PKPdf	**PKPdf**	**06 58 38.2**	**-2.5**		
SGDS	**Sogindy**	**129.40**	**24**	*e*PKIKP	**PKiKP**	**06 58 43.0**	**+0.9**		
	comp=Z,12nm,1.0s,baz=23								
SGDS	**Sogindy**	**129.40**	**24**	*e*PKIKP	**PKiKP**	**06 58 43.0**	**+0.9**		
SGDS				pmax	pmax				
	comp=Z,13nm,1.0s								
USP	**Ospenovka**	**129.50**	**25**	P	**PKiKP**	**06 58 43.8**	**+1.5**		
	SNR=13								
TDK	**Taldyqorghan**	**129.53**	**20**	LR	LR	07 54 32.7			
	comp=Z,406nm,16.4s,baz=19								
EKS2	**Erkin-Say**	**129.69**	**26**	P	**PKiKP**	**06 58 45.1**	**+2.3**		
	SNR=14								
KUU	**Kurty**	**129.72**	**23**	*e*PKP	**PKiKP**	**06 58 43.3**	**+0.6**		
	comp=Z,13nm,0.9s,baz=22								
KUU	**Kurty**	**129.72**	**23**	*e*PKIKP	**PKiKP**	**06 58 43.3**	**+0.6**		
KUU				pmax	pmax				
	comp=Z,13nm,0.9s								
INU	**Inuyama**	**129.88**	**321**	IAMs_20	IAMs_20	08 05 22.7			
	comp=Z,432nm,19.0s								
FRU1	**Bishkek**	**129.93**	**25**	IAMs_20	IAMs_20	08 03 21.4			
	comp=Z,531nm,20.0s								
CHKK	**Chushkaly**	**130.00**	**22**	*e*PKP	**PKiKP**	**06 58 44.0**	**+0.7**		
	comp=Z,79nm,0.9s,baz=21								
CHKK	**Chushkaly**	**130.00**	**22**	*e*PKIKP	**PKiKP**	**06 58 43.9**	**+0.7**		
CHKK				pmax	pmax				
	comp=Z,79nm,0.9s								
AAK	**Ala-Archa**	**130.02**	**25**	P	**PKiKP**	**06 58 44.7**	**+1.2**		
	SNR=8.3								
AAK	**Ala-Archa**	**130.02**	**25**	*c i*PKIKP	**PKiKP**	**06 58 44.4**	**+0.9**		
AAK				pmax	pmax				
	comp=Z,18nm,1.0s								
AAK	**Ala-Archa**	**130.02**	**25**	PKPdf	**PKPdf**	**06 58 41.9**	**-0.8**		
AML	**Almayashu**	**130.08**	**26**	P	**PKiKP**	**06 58 45.7**	**+1.7**		
	SNR=12								
KBK	**Karagaybulak**	**130.19**	**25**	P	**PKiKP**	**06 58 43.9**	**+0.1**		
	SNR=6.5								
TKM2	**Tokmak 2**	**130.24**	**24**	P	**PKiKP**	**06 58 45.3**	**+1.2**		
	SNR=9.5								
BTK	**Batken**	**130.35**	**30**	PKIKP	**PKPdf**	**06 58 42.4**	**-0.9**		
BTK	**Batken**	**130.35**	**30**	PKPdf	**PKPdf**	**06 58 42.4**	**-0.9**		
UCH	**Uchtor**	**130.36**	**25**	P	**PKiKP**	**06 58 46.5**	**+1.9**		
	SNR=28								
ULN	**Ulaanbaatar**	**130.37**	**354**	*c i*PKIKP	**PKiKP**	**06 58 44.9**	**+0.8**		
ULN				pmax	pmax				
	comp=Z,9.0nm,1.3s								
ULN	**Ulaanbaatar**	**130.37**	**354**	PKPdf	**PKPdf**	**06 58 43.0**	**-0.2**		
MTBS	**Maitube**	**130.40**	**23**	*e*PKP	**PKiKP**	**06 58 44.9**	**+0.7**		
	comp=Z,70nm,0.6s,baz=22								
MTBS	**Maitube**	**130.40**	**23**	*e*PKIKP	**PKiKP**	**06 58 44.8**	**+0.7**		
MTBS				pmax	pmax				
	comp=Z,70nm,0.6s								
SONM	**Songino Array**	**130.46**	**355**	PKP	**PKPdf**	**06 58 43.6**	**+0.3**		
	comp=Z,6.4nm,0.9s,baz=357,slow=1.2,SNR=12								
SONM	**Songino Array**	**130.46**	**355**	PKIKP	**PKPdf**	**06 58 42.9**	**-0.4**		
SONM	**Songino Array**	**130.46**	**355**	PKPdf	**PKPdf**	**06 58 42.9**	**-0.4**		
AAA	**Alma-Ata**	**130.52**	**23**	*e*PKP	**PKiKP**	**06 58 45.5**	**+1.1**		
	baz=22								
AAA				LR	LR	07 58 29.3			
	comp=Z,195nm,15.7s,baz=22								
AAA	**Alma-Ata**	**130.52**	**23**	*e*PKIKP	**PKiKP**	**06 58 45.5**	**+1.1**		
CHGR	**Chuyangaron**	**130.53**	**33**	PKPdf	**PKPdf**	**06 58 43.4**	**-0.3**		
MDOK	**Medeo**	**130.61**	**23**	*e*PKP	**PKiKP**	**06 58 45.6**	**+0.9**		
	comp=Z,186nm,1.1s,baz=21								
MDOK				LR	LR	07 57 23.6			
	comp=Z,153nm,19.5s,baz=21								
MDOK	**Medeo**	**130.61**	**23**	*e*PKIKP	**PKiKP**	**06 58 45.5**	**+0.9**		
MDOK				pmax	pmax				
	comp=Z,186nm,1.1s								
MDOK				MLR	MLR				
	comp=Z,153nm,20.0s								
TNSS	**Tian-Shan**	**130.68**	**23**	*e*PKP	**PKiKP**	**06 58 45.9**	**+0.7**		
	comp=Z,173nm,0.9s,baz=22								
TNSS	**Tian-Shan**	**130.68**	**23**	*e*PKIKP	**PKiKP**	**06 58 45.8**	**+0.7**		
TNSS				pmax	pmax				
	comp=Z,173nm,0.9s								
BOOM	**Boomskoye usch**	**130.74**	**24**	IAMs_20	IAMs_20	08 00 27.7			
	comp=Z,550nm,20.0s								
GAR	**Garm**	**130.89**	**31**	PKPdf	**PKPdf**	**06 58 40.8**	**-3.6**		
ULHL	**Ulahol**	**131.06**	**24**	P	**PKPdf**	**06 58 44.1**	**-0.7**		
	SNR=14								
STKA	**Stephens Creek**	**131.07**	**228**	PKP	**PKiKP**	**06 58 46.0**	**+0.2**		
	comp=Z,7.8nm,1.1s,baz=45,slow=3.0,SNR=6.2								
STKA				SKPbc	**SKPbc**	**07 02 08.0**	**-1.9**		
	comp=Z,1.6nm,0.6s,baz=154,slow=2.9,SNR=3.3								
STKA	**Stephens Creek**	**131.07**	**228**	PKIKP	**PKPdf**	**06 58 43.1**	**-1.7**		
STKA	**Stephens Creek**	**131.07**	**228**	PKPdf	**PKPdf**	**06 58 43.1**	**-1.7**		
SATY	**Saty**	**131.21**	**22**	*e*PKP	**PKiKP**	**06 58 46.0**	**+0.2**		
	comp=Z,4.5nm,1.1s,baz=20								
SATY	**Saty**	**131.21**	**22**	*e*PKIKP	**PKiKP**	**06 58 46.0**	**+0.2**		
SATY				pmax	pmax				
	comp=Z,4.0nm,1.1s								
UZB	**Uzynbulak**	**131.36**	**21**	*e*PKP	**PKiKP**	**06 58 46.7**	**+0.5**		
	comp=Z,7.3nm,1.1s,baz=20								
UZB				LR	LR	07 59 37.7			
	baz=20								
UZB	**Uzynbulak**	**131.36**	**21**	*e*PKIKP	**PKiKP**	**06 58 46.7**	**+0.5**		
UZB				pmax	pmax				
	comp=Z,7.0nm,1.1s								
SHLS	**Shalkode**	**131.51**	**21**	*e*PKP	**PKiKP**	**06 58 47.1**	**+0.7**		
	comp=Z,53nm,4.6s,baz=19								
SHLS				LR	LR	07 57 05.9			
	comp=Z,202nm,19.5s,baz=19								
SHLS	**Shalkode**	**131.51**	**21**	*e*PKIKP	**PKiKP**	**06 58 47.1**	**+0.7**		
SHLS				MLR	MLR				
	comp=Z,202nm,20.0s								
KDJ	**Kajisay**	**131.54**	**23**	PKIKP	**PKPdf**	**06 58 45.0**	**-0.7**		
KDJ	**Kajisay**	**131.54**	**23**		**PKPdf**	**06 58 45.0**	**-0.7**		
KDJ				IAMs_20	IAMs_20	08 02 45.1			
	comp=Z,558nm,20.0s								
SNY	**Shenyang**	**131.98**	**337**	⇑PKP	**PKiKP**	**06 58 54.8**	**+7.6**		
SNY				PP	PP	07 01 15.3	+9.1		
SNY	**Shenyang**	**131.98**	**337**	SS	SS	07 18 46.3	+3.9		
SNY				AMB	AMB				
	comp=Z,140nm,12.0s								
SNY				LR	LR				
	comp=N,330nm,23.2s								
SNY				LR	LR				
	comp=E,370nm,22.0s								
SNY				LR	LR				
	comp=Z,720nm,24.0s								
TARG	**Taragay, Kyrgy**	**132.12**	**23**	IAMs_20	IAMs_20	08 03 02.4			
	comp=Z,540nm,20.0s								
KSH	**Kashi**	**133.21**	**26**	*e*PKP	**PKiKP**	**06 58 51.9**	**+1.9**		
WMQ	**Urumqi**	**133.28**	**13**	*e*PKP	**PKPdf**	**06 58 48.6**	**-0.1**		
WMQ				PP	**PP**	**07 01 17.1**	**+2.8**		
WMQ				SKS	**SKSdf**	**07 05 56.8**	**-3.9**		
WMQ				SS	**SS**	**07 18 59.3**	**+1.4**		
WMQ				AMB	AMB				
	comp=Z,150nm,5.9s								
WMQ				LR	LR				
	comp=Z,440nm,19.1s								
WMQ				LR	LR				
	comp=Z,270nm,19.1s								
WMQ				LR	LR				
	comp=Z,520nm,24.3s								
KBL	**Kabul**	**133.38**	**36**	IAMs_20	IAMs_20	08 09 49.2			
	comp=Z,475nm,20.0s								
KSRS	**Korea Array**	**133.59**	**330**	PKhKP	PKPpre	06 58 44.3			
	comp=Z,3.9nm,0.7s,baz=113,slow=1.6,SNR=4.1								
KSRS				PKP	**PKiKP**	**06 58 50.6**	**0.0**		
	comp=Z,4.4nm,0.7s,baz=8.6,slow=1.9,SNR=19								
KSRS				SKPbc	**SKPbc**	**07 02 16.2**	**-2.3**		
	comp=Z,1.8nm,0.6s,baz=44,slow=4.5,SNR=6.1								
KSAR	**Wonju Array Be**	**133.62**	**330**	PKIKP	**PKPdf**	**06 58 48.8**	**-0.7**		
KSAR	**Wonju Array Be**	**133.62**	**330**	PKPdf	**PKPdf**	**06 58 48.8**	**-0.7**		
JNU	**Nakatsue**	**135.15**	**323**	IAMs_20	IAMs_20	08 01 23.0			
	comp=Z,449nm,19.0s								
BJI	**Beijing**	**136.13**	**343**	PKP	**PKPdf**	**06 58 54.8**	**+0.8**		
BJI				LR	LR				
	comp=Z,200nm,19.6s								
BJI				LR	LR				
	comp=Z,320nm,22.0s								
BJI				LR	LR				
	comp=Z,330nm,25.5s								
BJT	**Baijiatuao**	**136.16**	**343**	IAMs_20	IAMs_20	08 04 44.5			
	comp=Z,453nm,20.0s								
GTA	**Gaotai**	**139.13**	**1**	PKP	**PKPdf**	**06 58 55.6**	**-4.2**		
GTA				PP	**PP**	**07 01 51.3**	**+0.2**		
GTA				SKKS		07 08 46.0			
GTA				AMB	AMB				
	comp=Z,110nm,6.8s								
GTA				LR	LR				
	comp=Z,420nm,20.4s								
GTA				LR	LR				
	comp=Z,630nm,23.0s								
GTA				LR	LR				
	comp=Z,750nm,22.1s								
TIA	**Tai'an**	**139.31**	**339**	PKP	**PKPdf**	**06 58 59.0**	**-1.1**		
ASAR	**Alice Springs**	**141.03**	**233**	PKhKP	PKPpre	06 58 56.0			
	comp=Z,2.4nm,0.9s,baz=116,slow=3.5,SNR=11								
ASAR				PKP	**PKPdf**	**06 59 04.4**	**+0.8**		
	comp=Z,6.0nm,0.8s,baz=114,slow=3.0,SNR=19								
ASAR	**Alice Springs**	**141.03**	**233**	PKIKP	**PKPdf**	**06 59 04.2**	**+0.6**		
ASAR	**Alice Springs**	**141.03**	**233**		**PKPdf**	**06 59 04.2**	**+0.6**		
WR0	**Warramunga Arr**	**142.18**	**239**	PKPdf	**PKPdf**	**06 59 03.0**	**-2.7**		
NJ2	**Nanjing**	**142.29**	**334**	*e*PKP	**PKPdf**	**06 59 04.4**	**-1.1**		
NJ2				PP	**PP**	**07 02 10.6**	**-0.1**		
NJ2				SS	SS	07 20 47.8	+2.6		
NJ2				AMB	AMB				
	comp=Z,290nm,5.0s								
NJ2				LR	LR				
	comp=Z,380nm,18.5s								
NJ2				LR	LR				
	comp=Z,420nm,17.6s								
NJ2				LR	LR				
	comp=Z,690nm,22.1s								
LZH	**Lanzhou**	**142.34**	**356**	*e*PKP	**PKPdf**	**06 59 01.1**	**-4.6**		
LZH				sPKP		06 59 05.6			
LZH				LR	LR				
	comp=Z,630nm,17.4s								
LZH				LR	LR				
	comp=Z,650nm,18.4s								
LZH				LR	LR				
	comp=Z,790nm,20.1s								
WB2	**Warramunga Arr**	**142.35**	**239**	PKPdf	**PKPdf**	**06 59 03.5**	**-2.5**		
WRAB	**Tennant Creek**	**142.35**	**239**	*c i*PKIKP	**PKPdf**	**06 59 07.4**	**+1.4**		
WRAB				pmax	pmax				
	comp=Z,26nm,1.3s								
WRA	**Warramunga Arr**	**142.36**	**239**	PKhKP	PKPpre	06 59 02.9			
	comp=Z,16nm,1.0s,baz=114,slow=1.9,SNR=25								
WRA				SKPbc	**SKPbc**	**07 02 41.4**	**-3.0**		
	comp=Z,7.1nm,1.0s,baz=126,slow=1.8,SNR=4.9								
WRA	**Warramunga Arr**	**142.36**	**239**	PKIKP	**PKPdf**	**06 59 02.6**	**-3.4**		
WRA	**Warramunga Arr**	**142.36**	**239**		**PKPdf**	**06 59 02.6**	**-3.4**		
XAN	**Xi'an**	**143.65**	**348**	PKP	PKPbc	06 59 04.9	-0.4		
XAN				AMB	AMB				
	comp=Z,180nm,5.4s								
XAN				LR	LR				
	comp=Z,300nm,17.8s								
XAN				LR	LR				
	comp=Z,590nm,17.4s								
XAN				LR	LR				
	comp=Z,640nm,17.6s								
XAN	**Xi'an**	**143.65**	**348**	IAMs_20	IAMs_20	08 09 26.4			
	comp=Z,501nm,22.0s								
NWAO	**Narrogin (SRO)**	**145.19**	**205**	PKP2	**PKPdf**	**06 59 10.5**	**-0.1**		
NWAO	**Narrogin (SRO)**	**145.19**	**205**		**PKPab**	**06 59 10.1**	**0.0**		
NWAO	**Narrogin (SRO)**	**145.19**	**205**		**PKPdf**	**06 59 10.5**	**-0.1**		
WHN	**Wuhan**	**145.41**	**339**	⇓PKPbc	**PKPab**	**06 59 11.3**	**+0.3**		
WHN				SS	SS	07 21 25.3	+4.4		
PYUN	**Piuthan**	**145.92**	**29**	*e*P	**PKPdf**	**06 59 11.8**	**-0.5**		
	comp=Z,432nm,1.3s								
DANN	**Dangsing**	**146.07**	**27**	*e*P	**PKPdf**	**06 59 13.0**	**+0.4**		
	comp=Z,278nm,0.9s								
KOLN	**Koldanda**	**146.48**	**28**	*e*P	**PKPdf**	**06 59 13.6**	**+0.4**		
	comp=Z,130nm,1.0s								
GKN	**Gorkha**	**146.76**	**26**	*e*P	**PKPbc**	**06 59 14.9**	**-0.4**		
	comp=Z,272nm,1.2s								
ENH	**Enshi**	**147.15**	**346**	PKPbc	**PKPdf**	**06 59 14.6**	**+0.6**		
KKN	**Kakani**	**147.22**	**26**	*e*P	**PKPbc**	**06 59 16.5**	**-0.2**		
DMN	**Daman**	**147.31**	**26**	*e*P	**PKPbc**	**06 59 16.9**	**-0.1**		
	comp=Z,173nm,0.9s								
GUN	**Gumba**	**147.37**	**25**	*e*P	**PKPbc**	**06 59 16.9**	**-0.4**		
	comp=Z,458nm,1.0s								
PKIN	**Phulchoki**	**147.46**	**26**	*e*P	**PKPbc**	**06 59 16.8**	**-0.6**		
	comp=Z,146nm,1.0s								
PKI	**Pulchoki**	**147.47**	**26**	*e*P	**PKPbc**	**06 59 17.0**	**-0.5**		
	comp=Z,166nm,1.0s								
CD2	**Chengdu**	**147.48**	**355**	PKPbc	**PKPab**	**06 59 18.3**	**-0.7**		
CD2				PP	**PP**	**07 02 48.6**	**+7.3**		
CD2				SKKS		07 09 31.6			
CD2				SS	**SS**	**07 21 42.8**	**-1.2**		
CD2				LR	LR				
	comp=Z,640nm,21.6s								
CD2				LR	LR				
	comp=Z,560nm,21.6s								
CD2				LR	LR				
	comp=Z,820nm,21.6s								
LSA	**Lhasa**	**147.54**	**15**	IAMs_20	IAMs_20	08 13 38.3			
	comp=Z,446nm,20.0s								
JIRN	**Jiri**	**147.72**	**24**	*e*P	**PKPbc**	**06 59 18.2**	**-0.1**		
	comp=Z,128nm,0.9s								
MTN	**Manton Dam**	**147.80**	**248**		**PKPbc**	**06 59 16.9**	**-1.4**		
MTN				PKPab	**pPKPbc**	**06 59 20.1**	**-0.4**		
QZH	**Quanzhou**	**148.34**	**328**	*e*PKPbc	**PKPdf**	**06 59 16.6**	**+0.5**		
QZH				*e*PP	**PP**	**07 02 54.0**	**+7.1**		
QZH				SS	SS	07 21 56.8	+2.0		
QZH				LR	LR				
	comp=Z,550nm,19.3s								
QZH				LR	LR				
	comp=Z,460nm,19.4s								
QZH				LR	LR				
	comp=Z,750nm,19.5s								
RAMN	**Ramite**	**148.52**	**24**	*e*P	**PKPdf**	**06 59 18.0**	**+1.3**		
	comp=Z,113nm,0.9s								
TAPN	**Taplejung**	**148.60**	**22**	*e*P	**PKPbc**	**06 59 19.2**	**-1.3**		
	comp=Z,106nm,1.0s								
ODAN	**Odare**	**148.92**	**23**	*e*P	**PKPdf**	**06 59 18.7**	**+1.4**		
	comp=Z,134nm,1.1s								
KLRI	**Killari**	**149.29**	**49**	*e*P	**PKPdf**	**06 59 19.1**	**+1.2**		
SRSP	**Sriramsagar**	**150.04**	**46**	*e*P	**PKPdf**	**06 59 20.4**	**+1.4**		
FITZ	**Fitzroy Crossi**	**150.50**	**235**		**PKPbc**	**06 59 22.7**	**-2.4**		
HYBB	**Hyderabad (bro**	**151.16**	**48**	*e*P	**PKPdf**	**06 59 21.8**	**+1.0**		
HYB	**Hyderabad**	**151.16**	**48**	*i* PKP	**PKPdf**	**06 59 22.0**	**+1.2**		
HYB				*e*		06 59 27.0			
HYB				*es*PKP		06 59 34.5			
GYA	**Guiyang**	**151.45**	**349**	PKPbc	**PKPdf**	**06 59 23.8**	**+2.6**		
GYA				PKPab	**sPKPab**	**06 59 37.6**	**-0.7**		
GYA				PP	**PP**	**07 03 12.1**	**+7.6**		
GYA				SKKS		07 09 57.5			
GYA				SS	**SS**	**07 22 25.3**	**-3.4**		
GYA				AMB	AMB				
	comp=Z,50nm,5.4s								
GYA				LR	LR				
	comp=Z,420nm,21.8s								
GYA				LR	LR				
	comp=Z,390nm,21.3s								
GYA				LR	LR				
	comp=Z,790nm,21.1s								
SHL	**Shillong**	**151.66**	**17**	PKIKP	**PKPbc**	**06 59 26.7**	**-1.1**		
SHL	**Shillong**	**151.66**	**17**	PKPbc	**PKPbc**	**06 59 26.7**	**-1.1**		
SRLM	**Srisailam**	**152.22**	**50**	*e*P	**PKPdf**	**06 59 25.5**	**+3.1**		
NJS	**Nagarjunasagar**	**152.26**	**48**	*e*P	**PKPdf**	**06 59 24.2**	**+1.7**		
TNTI	**Ternate**	**153.14**	**275**	IAMs_20	IAMs_20	07 57 40.4			
	comp=Z,416nm,19.0s								
ADKI	**Addanki**	**153.19**	**49**	*e*P	**PKPdf**	**06 59 26.0**	**+2.2**		
KMI	**Kunming**	**153.31**	**356**	PKPbc	**PKPdf**	**06 59 17.8**	**-6.3**		
PVM	**Polavaram**	**153.48**	**44**	*e*P	**PKPdf**	**06 59 24.9**	**+0.8**		
SKHT	**Srikalahasti**	**154.25**	**53**	*e*P	**PKPdf**	**06 59 26.4**	**+1.1**		
QIZ	**Qiongzhong**	**157.54**	**337**	PKP	**PKPdf**	**06 59 26.8**	**-2.8**		
QIZ				PP	**PP**	**07 03 38.3**	**-0.5**		
QIZ				SS	SS	07 23 36.0	+0.8		
QIZ				AMB	AMB				
	comp=Z,130nm,4.0s								
QIZ				LR	LR				
	comp=Z,390nm,17.9s								
QIZ				LR	LR				
	comp=Z,170nm,16.6s								
QIZ				LR	LR				
	comp=Z,450nm,19.4s								
CHTO	**Chiang Mai**	**159.60**	**5**	PKIKP	**PKPdf**	**06 59 33.7**	**+1.6**		
CMAR	**Chiang Mai Arr**	**159.95**	**5**	PKP	**PKPdf**	**06 59 32.3**	**-0.2**		
	comp=Z,4.6nm,0.8s,baz=303,slow=2.6,SNR=15								
CMAR				PKPab	**PKPab**	**07 00 10.1**	**-1.5**		
	comp=Z,9.2nm,0.9s,baz=337,slow=4.8,SNR=12								

IDC ***16*** *06:47:41.6±1.3, 19°.20N×121°.27E, h0km, mb3.4/4, mb1 3.6/5, mb1mx3.4/32, mbtmp3.5/5, ML3.9/1, MS4.1/2, Ms1 4.1/2, ms1mx3.2/17, Error ellipse: s-maj=64.5km s-min=23.3km az=70.0*

MAN ***16*** *06:47:45.9, 19°.37N×121°.27E, h22km, MS3.0*

ISC 16 06:47:45.0±1.7, 19°.37N±0°.05×121°.31E±0°.09, h18km±11km, n14, σ1§53/21, mb3.4/4, 1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
					Op	ISC	h	m	s ISC
BBP	**Basco**	**1.23**	**30**	*e*P	**Pn**	**06 48 07.5**			**+0.1**
BBP				*e*S	**Sn**	**06 48 25.0**			**+1.5**
SGCP	**Mt. Cagua**	**1.32**	**148**	*e*P	**Pg**	**06 48 09.5**			**-1.0**
SGCP				*e*S	**Sn**	**06 48 26.8**			**+0.9**
APYP	**Conner**	**1.50**	**182**	*e*P	**Pn**	**06 48 11.0**			**-0.1**
APYP				*e*S	**Sn**	**06 48 30.4**			**+0.6**
SIPP	**Brgy, Tapao**	**1.65**	**209**	⇓*i*P	**Pg**	**06 48 13.5**			**+0.3**
SIPP				*e*S	**Sg**	**06 48 40.0**			**+1.6**
ABRA	**Dolores**	**1.81**	**198**	*e*P	**Pn**	**06 48 14.6**			**-0.7**
ABRA				*e*S	**Sn**	**06 48 38.1**			**+0.3**
CAUP	**Cauayan**	**2.46**	**169**	*e*P	**Pn**	**06 48 26.9**			**+2.5**
CAUP				*e*S	**Sn**	**06 48 55.0**			**+1.0**
SMPP	**San Manuel, Pa**	**3.26**	**191**	*e*P	**Pn**	**06 48 36.2**			**+0.8**
SMPP				*e*S	**Sn**	**06 49 16.0**			**+2.2**
BALP	**Baler**	**3.62**	**176**	*e*P	**Pn**	**06 48 42.2**			**+1.9**
BALP				*e*S	**Sn**	**06 49 20.3**			**-2.3**
KSRS	**Korea Array**	**18.92**	**16**	P	**P**	**06 52 06.0**			**+1.1**
	0.4nm,0.3s,baz=200,slow=13,SNR=4.9								
WRA	**Warramunga Arr**	**41.11**	**161**	P	**P**	**06 55 25.5**			**-2.7**
	0.7nm,0.8s,baz=344,slow=9.2,SNR=2.2								
MKAR	**Makanchi Array**	**41.97**	**320**	P	**P**	**06 55 34.6**			**-0.5**
	0.6nm,0.8s,baz=126,slow=7.3,SNR=4.2								
MKAR				LR	LR	07 13 11.4			
	comp=Z,122nm,20.6s,baz=246,slow=36								
ASAR	**Alice Springs**	**44.51**	**163**	P	**P**	**06 55 54.4**			**-1.4**
	0.5nm,0.9s,baz=343,slow=7.2,SNR=2.4								
KURBB	**Kurchatov Arra**	**45.93**	**323**	P	**P**	**06 56 07.4**			**+0.7**
	0.4nm,0.3s,baz=126,slow=7.0,SNR=2.9								
AKASG	**Malin Array Be**	**76.55**	**319**	LR	LR	07 37 29.5			
	comp=

ETAZ	East Tamaki Re	1.73	302	P		Pn	07 25 28.9	-0.4
KRHZ	Kereru	1.79	190	P		Pn	07 25 30.1	+0.3
CKHZ	Cape Kidnapper	1.79	172	P		Pn	07 25 30.7	+0.8
MTVZ	Mangateitei	1.81	214	P		Pn	07 25 30.8	+0.7
MBAZ	Motutapu North	1.86	306	P		Pn	07 25 30.2	-0.4
AWAZ	Awhitu Peninsu	1.88	295	P		Pn	07 25 30.3	-0.4
EPAZ	Eden Park BICE	1.90	301	P		Pn	07 25 30.5	-0.4
KAHZ	Kahuranaki	1.91	177	P		Pn	07 25 32.0	+0.8
HBAZ	Herne Bay Bore	1.92	302	P		Pn	07 25 30.8	-0.4
GRZ	Great Barrier	1.94	327	P		Pn	07 25 30.1	-1.3
WTAZ	Waiatarua	1.99	298	P		Pn	07 25 31.6	-0.4
ABAZ	Army Bay	2.00	309	P		Pn	07 25 31.8	-0.3
VRZ	Vera Road	2.00	231	P		Pn	07 25 33.0	+0.9
RVAZ	Riverhead Bore	2.07	302	P		Pn	07 25 32.1	-0.7
PNHZ	Pukenui	2.08	192	P		Pn	07 25 33.0	0.0
WPHZ	Waipukurau	2.19	187	P		Pn	07 25 34.4	+0.2
MHEZ	Mangahewa	2.26	237	P		Pn	07 25 37.0	+2.1
TSZ	Takapari Road	2.26	196	P		Pn	07 25 34.9	-0.1
PRHZ	Porangahau	2.38	182	P		Pn	07 25 36.6	+0.2
LREZ	Lake Rotokare	2.43	229	P		Pn	07 25 38.2	+1.3
DVHZ	Dannevirke	2.46	191	P		Pn	07 25 37.0	-0.3
KHEZ	Kahui Hut	2.58	236	P		Pn	07 25 40.5	+1.8
OHWZ	Ohakea	2.58	205	P		Pn	07 25 39.2	+0.6
ANWZ	Angora Road	2.58	185	P		Pn	07 25 38.9	+0.2
POWZ	Post Office Ro	2.62	197	P		Pn	07 25 39.0	-0.1
NBEZ	Newall Road No	2.66	238	P		Pn	07 25 41.3	+1.6
PRWZ	Pori Road	2.74	193	P		Pn	07 25 40.6	+0.1
BFZ	Birch Farm	2.83	188	Pn		Pn	07 25 41.6	0.0
BFZ				Sn		Sn	07 26 16.1	-1.6
OUZ	Omahuta	3.68	315	Pn		Pn	07 25 52.1	-0.2
MSWZ	Moikau Station	3.72	198	Pn		Pn	07 25 51.4	-1.3
MSWZ				Sn		Sn	07 26 34.4	-3.2
SNZO	South Karori	3.77	204	Pn		Pn	07 25 52.1	-1.3
SNZO				Sn		Sn	07 26 36.0	-2.8
BHW	Baring Head	3.81	202	Pn		Pn	07 25 52.6	-1.2
BHW				Sn		Sn	07 26 36.6	-3.0
PLWZ	Palliser	3.86	197			Pn	07 25 52.9	-1.6
PLWZ				Sn		Sn	07 26 38.6	-2.3
TUWZ	Tuamarina	4.16	211			Pn	07 25 56.7	-1.5
TUWZ				Sn		Sn	07 26 44.5	-3.1
NNZ	Nelson	4.24	217			Pn	07 25 57.9	-1.3
NNZ				Sn		Sn	07 26 46.8	-2.5
CMWZ	Cape Campbell	4.33	206			Pn	07 25 59.7	-0.8
CMWZ				Sn		Sn	07 26 50.6	-1.0
QRZ	Quartz Range	4.41	227			Pn	07 25 59.6	-1.9
QRZ				Sn		Sn	07 26 50.7	-2.6
BSWZ	Blackbirch Sta	4.43	209			Pn	07 26 00.1	-1.6
BSWZ				Sn		Sn	07 26 50.1	-3.7
THZ	Tophouse	4.88	216	Pn		Pn	07 26 06.5	-1.1
THZ				Sn		Sn	07 27 01.7	-2.7
KHZ	Kahutara	5.16	208	Pn		Pn	07 26 09.5	-1.7
KHZ				Sn		Sn	07 27 07.2	-3.6
LTZ	Lake Taylor	5.98	214	Pn		Pn	07 26 20.1	-1.8
OXZ	Oxford	6.52	212	Pn		Pn	07 26 26.1	-2.9
OXZ				Sn		Sn	07 27 36.1	-6.8
MQZ	McQueen's Vall	6.60	207	Pn		Pn	07 26 27.0	-3.1
RPZ	Rata Peaks 26nm,0.3s,baz=261,slow=1.5,SNR=70	7.26	215	P		Pn	07 26 36.0	-2.8
RPZ				S		Sn	07 27 53.8	-6.7
	38nm,0.3s,baz=340,slow=5.1,SNR=16							
RPZ	Rata Peaks	7.26	215	Pn		Pn	07 26 37.1	-1.7
FOZ	Fox Glacier	7.72	221	Pn		Pn	07 26 42.9	-2.0
LBZ	Lake Benmore	8.18	215	Pn		Pn	07 26 49.3	-1.6
ODZ	Otahua Downs	8.50	211			Pn	07 26 53.1	-2.0
WKZ	Wanaka	9.05	218	Pn		Pn	07 26 59.4	-3.0
RAO	Raoul Island 104nm,0.3s,baz=252,slow=20,SNR=4.6	9.68	29	S		Sn	07 28 45.7	-13
MLZ	Mavora Lakes	9.88	218	Pn		Pn	07 27 11.0	-2.4
WHZ	Wether Hill Ro	10.35	217	Pn		Pn	07 27 16.6	-2.8
DZM	Mont Dzumac	18.10	328	P		P	07 28 54.5	+0.5
DZM				IAmb		IAmb	07 29 01.6	
	comp=Z,18nm,0.9s							
MSVF	Nonsavu	20.11	4	P		P	07 29 15.2	-0.5
AFI	Afiamalu	25.96	26	P		P	07 30 12.6	+0.9
STKA	Stephens Creek comp=Z,10.0nm,1.0s,baz=102,slow=12,SNR=5.7	29.35	271	P		P	07 30 44.0	+2.3
STKA	Stephens Creek	29.35	271	P		P	07 30 42.2	+0.5
CTA	Charters Tower comp=Z,10nm,0.7s,baz=113,slow=9.0,SNR=8.4	31.84	295	P		P	07 31 05.0	+1.2
CTAO	Charters Tower	31.84	295	P		P	07 31 02.7	-1.0
CTAO				IAmb		IAmb	07 31 06.5	
	comp=Z,25nm,1.1s							
BBOO	Buckleboo	33.40	266	P		P	07 31 18.5	+1.3
BBOO				IAmb		IAmb	07 31 36.9	
	comp=Z,34nm,1.5s							
AS31	Alice Springs	39.12	279	P		P	07 32 06.2	+0.4
ASAR	Alice Springs comp=Z,2.4nm,0.3s,baz=124,slow=7.3,SNR=33	39.12	279	P		P	07 32 06.2	+0.4
ASAR	Alice Springs	39.12	279	P		P	07 32 05.7	-0.1
VNDA	Vanda comp=Z,2.8nm,0.7s,baz=348,slow=3.0,SNR=6.8	40.26	185	PcP		PcP	07 34 15.4	+1.0
RABL	Rabaul	40.37	320	P		P	07 32 16.1	0.0
FORT	Forrest	40.47	265	P		P	07 32 18.3	+1.5
FORT				IAmb		IAmb	07 32 32.8	
	comp=Z,12nm,0.8s							
WR0	Warramunga Arr	40.65	284	P		P	07 32 15.0	-3.4
WB2	Warramunga Arr	40.81	284	P		P	07 32 20.0	+0.3
WB2				IAmb		IAmb	07 32 24.5	
	comp=Z,14nm,0.9s							
WRA	Warramunga Arr	40.82	284	P		P	07 32 20.3	+0.5
	comp=Z,8.3nm,0.9s,baz=123,slow=8.4,SNR=16							
WRA	Warramunga Arr	40.82	284	P		P	07 32 19.8	+0.1
WB0	Warramunga Arr	40.88	284	P		P	07 32 20.8	+0.5
WB0				IAmb		IAmb	07 32 25.6	
	comp=Z,15nm,1.1s							
CASY	Casey	46.51	211	P		P	07 33 06.5	+1.9
CASY				IAmb		IAmb	07 33 06.7	
	comp=Z,26nm,1.1s							
MTN	Manton Dam	47.57	289	P		P	07 33 13.6	+0.2
MTN				IAmb		IAmb	07 33 16.1	
	comp=Z,36nm,1.1s							
KNRA	Kununurra	47.61	284	P		P	07 33 15.1	+1.4
KNRA				IAmb		IAmb	07 33 19.2	
	comp=Z,24nm,1.1s							
JAY	Jayapura	48.26	308	P		P	07 33 19.4	+0.7
	comp=Z,24nm,0.9s,baz=102,slow=4.7,SNR=4.1							
FITZ	Fitzroy Crossi comp=Z,3.8nm,0.8s,baz=131,slow=4.6,SNR=6.1	48.61	279	P		P	07 33 22.0	+0.7
FITZ	Fitzroy Crossi	48.61	279	P		P	07 33 20.1	-1.3
FITZ				IAmb		IAmb	07 33 26.6	
	comp=Z,13nm,1.1s							
QSPA	South Pole Qui	52.24	180	P		P	07 33 51.0	+2.9
	comp=Z,4.0nm,0.4s,baz=212,slow=2.6,SNR=68							
QSPA	South Pole Qui	52.24	180	P		P	07 33 52.4	+4.3
SIJI	Sorong comp=Z,15nm,0.9s,baz=98,slow=8.4,SNR=4.8	55.68	300	P		P	07 34 13.9	+0.4
HMH	Humu'ula Sheep	62.86	30	P		P	07 35 02.9	0.0
MAW	Mawson comp=Z,11nm,0.9s,baz=125,slow=6.1,SNR=13	63.77	203	P		P	07 35 09.5	+1.6
MAW	Mawson	63.77	203	P		P	07 35 10.3	+2.4
SNAA	Sanae	70.75	180	P		P	07 35 54.1	+2.2
SNAA	Sanae	70.75	180	P		P	07 35 53.9	+2.0
SNAA				IAmb		IAmb	07 35 56.7	
	comp=Z,8.1nm,1.1s							
VNA3	Neumayer Olymp	71.08	178	P		P	07 35 55.5	+1.6
VNA2	Neumayer--Watz baz=180,slow=5.3	71.46	179	P		P	07 35 58.5	+2.4
VNA1	Neumayer--Stat	71.71	178	P		P	07 36 00.0	+2.5
MJAR	Matsushiro Arr comp=Z,2.2nm,0.9s,baz=169,slow=6.4,SNR=5.8	82.19	330	P		P	07 36 55.4	-1.0
MJAR	Matsushiro Arr comp=Z,0.9nm,0.8s	82.19	330	IAmb		IAmb	07 37 02.7	
KSRS	Korea Array comp=Z,4.1nm,0.7s,baz=144,slow=5.2,SNR=12	87.47	323	P		P	07 37 23.4	+0.7
KSAR	Wonju Array Be	87.48	323	P		P	07 37 24.1	+1.3
NJ2	Nanjing	88.05	314	*eP*		P	07 37 27.6	+2.0
NJ2				pmax		pmax		
	comp=Z,12nm,0.5s							
USRK	Ussuriysk Ar. comp=Z,2.7nm,0.7s,baz=160,slow=4.3,SNR=5.3	91.19	330	P		P	07 37 40.4	+0.4
CMAR	Chiang Mai Arr comp=Z,2.0nm,0.4s,baz=147,slow=3.4,SNR=12	91.95	292	P		P	07 37 44.6	+0.6
PETK	Petropavlovsk- comp=Z,3.7nm,0.8s,baz=156,slow=7.8,SNR=5.3	92.12	349	P		P	07 37 43.4	-0.6
NVAR	Mina Array Bea comp=Z,0.4nm,0.7s,baz=207,slow=7.0,SNR=2.4	96.61	46	P		P	07 38 03.7	-1.6
ILAR	Eielson Array comp=Z,0.7nm,0.8s,baz=358,slow=2.9,SNR=6.7	106.22	15	PKKPbc	PKKPbc		07 54 34.2	+13
YKA	Yellowknife Ar comp=Z,0.4nm,0.7s,baz=240,slow=1.7,SNR=9.3	114.06	28	PKiKP	PKPdf		07 43 11.5	-1.0
YKA				PKKPbc		PKKPbc	07 53 55.6	+0.4
	comp=Z,0.6nm,1.1s,baz=60,slow=3.6,SNR=6.1							
WMQ	Urumqi	114.37	307	*eP*		PKiKP	07 43 15.0	+1.2
MK31	Makanchi Array	119.12	308			PKPdf	07 43 21.1	-1.7
MKAR	Makanchi Array comp=Z,5.6nm,0.9s,baz=131,slow=1.1,SNR=30	119.12	308	PKP		PKPdf	07 43 21.3	-1.5
MKAR	Makanchi Array	119.12	308			PKPdf	07 43 20.8	-2.0
ZAA0	Zalesovo Array	120.60	317			PKPdf	07 43 23.2	-2.1
ZALV	Zalesovo Beam comp=Z,3.2nm,0.8s,baz=136,slow=1.2,SNR=13	120.60	317	PKP		PKPdf	07 43 23.4	-2.0
ZALV	Zalesovo Beam	120.60	317			PKPdf	07 43 23.1	-2.2
AAK	Ala-Archa	122.46	301			PKPdf	07 43 28.8	-0.8
KURK	Kurchatov	122.91	311			PKPdf	07 43 28.2	-1.7
GAR	Garm	123.91	296			PKPdf	07 43 31.3	-1.1
NRIK	Noril'sk comp=Z,7.2nm,0.7s,baz=104,slow=3.5,SNR=9.0	124.60	334	PKP		PKPdf	07 43 31.6	-1.0
KK31	Karatay Array	125.35	300			PKPdf	07 43 33.2	-1.7
KKAR	Karatay Array	125.35	300			PKPdf	07 43 33.6	-1.3
KKAR	Karatay Array	125.35	300			PKPdf	07 43 33.8	-1.1
KMBO	Kilima Mbogo comp=Z,1.0nm,0.3s,baz=39,slow=6.1,SNR=4.6	126.14	233	PKP		PKiKP	07 43 38.4	+0.3
BRVK	Borovoye	128.54	312			PKPdf	07 43 40.3	-0.3
ABKAR	Akbulak array	134.10	305			PKPdf	07 43 51.4	+0.2
ARCES	ARCESS Array B comp=Z,13nm,0.6s,baz=50,slow=3.3,SNR=46	144.73	343	PKP		PKPab	07 44 08.5	-0.8
ARCES	ARCESS Array B	144.73	343			PKPab	07 44 08.1	-1.2
ARE0	ARCESS Array S	144.73	343			PKPab	07 44 08.4	-0.9
KLMR	Klimovskoe	144.85	325	*e*PKPdf		PKPbc	07 44 07.5	-2.4
KLMR				AMP			07 44 09.4	
	comp=Z,51nm,0.9s							
KBZ	Khabaz comp=Z,7.3nm,0.9s,baz=179,slow=3.7,SNR=10.0	144.96	294	PKPbc	PKPbc		07 44 10.5	-0.2
ASF	Jabal al Asfar comp=Z,1.6nm,0.6s,baz=342,slow=1.6,SNR=5.5	146.83	272	PKPbc	PKPbc		07 44 16.7	-0.2
EIL	Elat comp=Z,6.1nm,0.8s,baz=282,slow=13,SNR=4.3	147.40	267	PKPbc	PKPbc		07 44 16.9	-1.5
OBN	Obninsk comp=Z,7.3nm,0.4s,baz=41,slow=22,SNR=8.3	148.18	316	PKPbc	PKPbc		07 44 18.5	-1.1
OBN	Obninsk	148.18	316		PKPbc		07 44 19.0	-0.6
MMAI	Mount Meron Ar comp=Z,10nm,0.9s,baz=76,slow=3.5,SNR=12	148.31	273	PKPbc	PKPbc		07 44 20.9	0.0
LIC	Lamto comp=Z,62nm,1.1s	148.44	177	*e*PKP1		PKPbc	07 44 21.9	+0.3
KIC	Kosan Boka comp=Z,105nm,1.1s	148.59	177	*e*PKP1		PKPbc	07 44 22.4	+0.4
TIC	Toumodi	148.86	177	*e*PKP1		PKPbc	07 44 22.9	+0.2
DBIC	Dimbokro comp=Z,12nm,0.8s,baz=48,slow=6.6,SNR=3.8	148.90	177	PKP		PKPdf	07 44 18.6	0.0
DBIC				PKPbc		PKiKP	07 44 23.6	-0.4
	comp=Z,11nm,0.8s,baz=130,slow=6.0,SNR=6.8							
DBIC	Dimbokro	148.90	177			PKPbc	07 44 22.9	+0.2
FIA1	FINESS Array S	150.20	332			PKPbc	07 44 23.3	-1.1
FINES	FINESS Array B comp=Z,27nm,0.9s,baz=82,slow=4.0,SNR=41	150.20	332	PKPbc		PKPbc	07 44 22.6	-1.9
BRTR	Keskin Array B comp=Z,4.6nm,0.8s,baz=144,slow=4.6,SNR=23	151.33	285	PKPbc		PKPbc	07 44 27.2	-0.8
BRTR	Keskin Array B	151.33	285	PKPdf		PKPdf	07 44 21.0	-0.8
BRTR						PKPbc	07 44 27.1	-1.0
BRTR				PKPab		PKPab	07 44 35.8	-1.1
AKASG	Malin Array Be comp=Z,0.4nm,0.3s,baz=70,slow=1.5,SNR=5.4	153.70	310	PKP		PKPdf	07 44 22.9	-1.9
AKASG				PKPbc		PKPbc	07 44 31.8	-0.9
	comp=Z,11nm,0.7s,baz=61,slow=2.5,SNR=30							
AKASG	Malin Array Be	153.70	310			PKPdf	07 44 22.6	-2.1
AKASG						PKPbc	07 44 31.3	-1.4
AKBB	Malin Array Si	153.70	310	PKPdf		PKPdf	07 44 22.2	-2.5
AKBB						PKPbc	07 44 31.3	-1.4
AKBB				PKPab		PKPab	07 44 45.1	-1.2
TOA0	Torodi Ar. Sit	154.98	191			PKPdf	07 44 27.0	-0.6
TOA0				PKPab		PKPab	07 44 53.5	+1.0
TORD	Torodi Ar. Bea comp=Z,3.8nm,0.8s,baz=30,slow=0.5,SNR=19	154.98	191	PKP		PKPdf	07 44 27.4	-0.2
TORD				PKPbc		PKPbc	07 44 36.7	+0.2
	comp=Z,2.2nm,0.5s,baz=158,slow=2.0,SNR=22							
TORD				PKPab		PKPab	07 44 52.7	+0.2
	comp=Z,8.3nm,0.8s,baz=172,slow=3.1,SNR=14							
TORD	Torodi Ar. Bea	154.98	191			PKPdf	07 44 27.3	-0.3
TORD						PKPbc	07 44 35.4	-1.1
TORD						PKPab	07 44 53.5	+1.0
NB2	NORSAR Subarra	155.11	343	PKPdf		PKPdf	07 44 33.8	+7.4
	comp=Z,2.7nm,0.8s,baz=31,slow=1.9							
NOA	NORSAR Array B comp=Z,1.5nm,0.7s,baz=32,slow=2.0,SNR=5.6	155.11	343	PKPbc	PKPdf		07 44 34.0	+7.5
NOA				PKPab		PKPab	07 44 49.5	-2.5
	comp=Z,1.9nm,0.7s,baz=28,slow=3.4,SNR=5.5							
HFS	Hagfors comp=Z,4.6nm,0.8s,baz=66,slow=3.7,SNR=5.6	155.26	340	PKPab		PKPab	07 44 51.4	-1.2
CRVS	Cervenica-Dubn	159.04	310	*e*PKP		PKPab	07 45 09.3	-0.1
BRG	Berggiesshubel comp=Z,7.8nm,1.0s	162.19	322	*e*PKP		PKPab	07 45 22.4	-0.6
CLL	Collm comp=Z,10.0nm,0.9s	162.34	325	⫝̸*i*PKPab		PKPab	07 45 23.2	-0.4
CLL				*ep*PKPab		pPKPab	07 46 08.0	+0.2
GERES	GERESS Array B	163.56	317	PKP		PKPdf	07 44 35.6	-1.0
	comp=Z,0.4nm,0.6s,baz=76,slow=1.7,SNR=5.2							
GERES	GERESS Array B	163.56	317			PKPdf	07 44 35.8	-0.8
ESDC	Sonseca Array comp=Z,0.4nm,0.5s,baz=5.7,slow=1.5,SNR=4.6	178.12	17	PKP		PKPdf	07 44 44.6	+0.1
ESDC	Sonseca Array	178.12	17			PKPdf	07 44 43.3	-1.2

IDC ***16*** *07:29:14.7±5.8, 37.°55S×177.°23E, h123km±46km, mb4.1/11, mb1 4.2/12, mb1mx4.1/32, mbtmp4.5/12, Error ellipse: s-maj=38.3km s-min=16.5km az=61.0*

NEIC ***16*** *07:29:20.2±2.5, 37.°88S±0.°06×176.°84E±0.°08, h168km±4km, Error ellipse: s-maj=9.9km s-min=7.8km az=136.0*

WEL ***16*** *07:29:21.9, 38.°S±4.°×17.°7E±.°, h162km±5km, M4.5/132, MLv4.5/132, Error ellipse: s-maj=0.0km s-min=0.0km az=163.4*

ISC 16 07:29:20.8±0.6, 37.°90S±0.°05×176.°82E±0.°04, h180km±4km, n234, σ1°36/244, mb4.3/16, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WHRZ	Whale Island	0.14	69	P	Pn	07 29 44.0	-0.6
MARZ	Manawahe	0.14	234	P	Pn	07 29 44.1	-0.6
EDRZ	Edgecumbe	0.21	196	P	Pn	07 29 44.3	-0.5
OPRZ	Ohinepanea	0.21	286	P	Pn	07 29 43.8	-0.9
OPRZ				S	Sn	07 30 00.3	-2.7
LIRZ	Lichensteins R	0.35	254	P	Pn	07 29 44.7	-0.4
MKRZ	Makatiti	0.36	229	P	Pn	07 29 45.6	+0.4
OMRZ	Omania	0.40	240	P	Pn	07 29 45.0	-0.3
TARZ	Mount Tarawera	0.41	216	P	Pn	07 29 45.5	+0.1
URZ	Urewera	0.42	147	P	Pn	07 29 44.7	-0.5
URZ				S	Sn	07 30 01.5	-2.7
KARZ	Kaharoa	0.47	255	P	Pn	07 29 45.0	-0.4
TGRZ	Tauranga	0.47	292	P	Pn	07 29 44.6	-0.9
TGRZ				S	Sn	07 30 02.1	-2.3
WIZ	White Island	0.48	38	P	Pn	07 29 44.1	-1.4
RRRZ	Republican Roa	0.49	208	P	Pn	07 29 45.6	0.0
HLRZ	Highlands Stat	0.50	226	P	Pn	07 29 45.7	+0.1
NGRZ	Ngongotaha	0.53	248	P	Pn	07 29 45.8	0.0
UTU	Utuhina	0.56	241	P	Pn	07 29 46.0	+0.2
MUGZ	Murupara	0.57	183	P	Pn	07 29 45.9	0.0
HSRZ	Hossack Road	0.61	228	P	Pn	07 29 46.3	+0.2
HRRZ	Handcock Road	0.64	221	P	Pn	07 29 46.4	+0.2
PRRZ	Plateau Road	0.68	209	P	Pn	07 29 46.5	+0.1
RUGZ	Raukumara Rang	0.69	95	P	Pn	07 29 45.2	-1.4
RUGZ				S	Sn	07 30 02.3	-4.2
KMRZ	Kaimai	0.69	275	P	Pn	07 29 46.1	-0.4
MWZ	Matawai	0.71	128	P	Pn	07 29 46.4	-0.2
GRRZ	Galatos Road	0.71	231	P	Pn	07 29 47.0	+0.3
RTZ	Ruatahuna	0.72	170	P	Pn	07 29 47.0	+0.3
ALRZ	Allen Road	0.76	209	P	Pn	07 29 47.0	+0.2
RAGZ	Rawiri	0.76	141	P	Pn	07 29 47.2	+0.3
RAGZ				S	Sn	07 30 06.1	-1.2
HAZ	Te Kaha	0.78	79	P	Pn	07 29 45.8	-1.2
WPRZ	Whakapapatarin	0.80	220	P	Pn	07 29 47.5	+0.4
MTHZ	Maungataniwha	0.95	179	P	Pn	07 29 48.8	+0.7
SNGZ	Shannon Statio	0.97	155	P	Pn	07 29 49.2	+1.0
SNGZ				S	Sn	07 30 09.0	-0.7
KUTZ	Kaahu Road	0.97	233	P	Pn	07 29 48.9	+0.6
TKGZ	Te Karaka	0.97	124	P	Pn	07 29 48.7	+0.5
MRHZ	Matea Rd	0.98	198	P	Pn	07 29 48.8	+0.5
PKGZ	Pakihiroa	1.00	89	P	Pn	07 29 48.2	-0.3
WHTZ	Whakaora	1.02	221	P	Pn	07 29 49.7	+1.0
RAHZ	Arahi	1.03	168	P	Pn	07 29 50.0	+1.3
TOZ	Tahuroa Road	1.05	279	P	Pn	07 29 48.7	-0.1
TLZ	Tolley Road	1.09	247	P	Pn	07 29 49.8	+0.6
RIGZ	Rimuhau	1.09	137	P	Pn	07 29 49.7	+0.5
HATZ	Hinemaiaia	1.14	210	P	Pn	07 29 50.2	+0.6
PUTZ	Putetiti	1.15	99	P	Pn	07 29 49.4	-0.3
WATZ	Wairara	1.17	226	P	Pn	07 29 50.6	+0.8
NMHZ	Naumai	1.19	180	P	Pn	07 29 51.5	+1.4
NMHZ				S	Sn	07 30 13.8	+1.0
WHHZ	Waihua	1.22	164	P	Pn	07 29 51.6	+1.4
WHHZ				S	Sn	07 30 13.8	+0.8
MXZ	Matakaoa Point	1.23	74	P	Pn	07 29 49.7	-0.6
MXZ	Matakaoa Point	1.23	74		Pn	07 29 49.9	-0.4
MXZ				Sn	Sn	07 30 10.1	-2.9
CNGZ	Carnagh Statio	1.24	118	P	Pn	07 29 51.5	+1.1
RATZ	Rangitukua	1.26	220	P	Pn	07 29 51.4	+0.8
WMGZ	Waiomatatini S	1.27	87	P	Pn	07 29 50.5	-0.2
BKZ	Black Stump Fm	1.28	191	P	Pn	07 29 51.5	+0.7
BKZ	Black Stump Fm	1.28	191	Pn	Pn	07 29 51.5	+0.7
BKZ				Sn	Sn	07 30 12.9	-1.3
KNZ	Kokohu	1.30	149	P	Pn	07 29 52.1	+1.2
RITZ	Rihia Road	1.31	215	P	Pn	07 29 52.1	+1.1
PRGZ	Paritu Road	1.32	141	P	Pn	07 29 52.1	+1.1
ARHZ	Aropaoanui	1.36	174	P	Pn	07 29 53.1	+1.6
KATZ	Kakaramea	1.38	219	P	Pn	07 29 52.5	+0.8
KUZ	Kuaotunu	1.45	323	P	Pn	07 29 50.9	-1.4
KRVZ	Karewarewa	1.50	217	P	Pn	07 29 53.7	+0.9
MHGZ	Mahia Peninsul	1.51	146	P	Pn	07 29 54.3	+1.5
MKAZ	Moumakai	1.54	301	P	Pn	07 29 52.6	-0.5
MCHZ	McNeill Hill	1.54	183	P	Pn	07 29 54.8	+1.7
WTVZ	West Tongariro	1.54	218	P	Pn	07 29 54.2	+0.9
KWHZ	Kaweka Forest	1.55	191	P	Pn	07 29 54.5	+1.2
NGZ	Ngauruhoe	1.59	216	P	Pn	07 29 55.0	+1.2
TWVZ	Taurewa	1.59	222	P	Pn	07 29 54.6	+0.9
TUVZ	Tukino	1.64	213	P	Pn	07 29 55.3	+1.1
HIZ	Hauiti	1.66	248	P	Pn	07 29 55.3	+1.1
HIZ	Hauiti	1.66	248	Pn	Pn	07 29 55.5	+1.3
HIZ				Sn	Sn	07 30 21.7	+1.5
FWVZ	Far West T-bar	1.67	216	P	Pn	07 29 55.3	+0.7
WHVZ	Whangaehu Hut	1.68	215	P	Pn	07 29 55.6	+0.9
DRZ	Dome Shelter	1.68	215	P	Pn	07 29 55.9	+1.1
BHHZ	Black Hill Sta	1.69	200	P	Pn	07 29 55.5	+0.8
TRVZ	Turoa	1.71	215	P	Pn	07 29 56.0	+1.0
MOVZ	Moawhango	1.71	209	P	Pn	07 29 55.5	+0.6
KBAZ	Karaka Road Bo	1.73	297	P	Pn	07 29 55.0	0.0
WIAZ	Waiheke Island	1.74	309	P	Pn	07 29 54.5	-0.6
CKHZ	Cape Kidnapper	1.76	173	P	Pn	07 29 57.0	+1.7
KRHZ	Kereru	1.77	191	P	Pn	07 29 56.4	+1.0
ETAZ	East Tamaki Re	1.78	302	P	Pn	07 29 55.2	-0.3
PKVZ	Pokaka	1.80	219	P	Pn	07 29 56.9	+1.1
MTVZ	Mangateitei	1.81	215	P	Pn	07 29 57.1	+1.1
KAHZ	Kahuranaki	1.89	179	P	Pn	07 29 58.3	+1.7
AWAZ	Awhitu Peninsu	1.92	295	P	Pn	07 29 56.6	-0.3
EPAZ	Eden Park BICE	1.94	301	P	Pn	07 29 56.9	-0.3
HBAZ	Herne Bay Bore	1.96	302	P

FORT					IAmb	IAmb	07 36 46.4	
	comp=Z,12nm,0.8s							
WR0	**Warramunga Arr**	**40.70**	**284**		P	**P**	**07 36 45.4**	**+1.5**
WR0					IAmb	IAmb	07 37 02.2	
	comp=Z,14nm,1.4s							
WB2	**Warramunga Arr**	**40.85**	**284**		P	**P**	**07 36 46.0**	**+0.8**
WB2					IAmb	IAmb	07 36 50.8	
	comp=Z,8.1nm,0.8s							
WRA	**Warramunga Arr**	**40.86**	**284**		P	**P**	**07 36 45.9**	**+0.6**
	comp=Z,7.3nm,0.8s,baz=125,slow=7.0,SNR=10							
WRA	**Warramunga Arr**	**40.86**	**284**		P	**P**	**07 36 44.9**	**-0.3**
WB0	**Warramunga Arr**	**40.92**	**284**		P	**P**	**07 36 46.8**	**+1.1**
WB0					IAmb	IAmb	07 36 51.8	
	comp=Z,9.4nm,0.9s							
CASY	**Casey**	**46.51**	**211**		P	P	07 37 33.0	+3.4
CASY					IAmb	IAmb	07 37 33.6	
	comp=Z,7.9nm,0.7s							
KNRA	**Kununurra**	**47.65**	**284**		P	**P**	**07 37 38.8**	**-0.3**
FITZ	**Fitzroy Crossi**	**48.65**	**279**		P	**P**	**07 37 48.0**	**+1.3**
	comp=Z,3.4nm,0.9s,baz=99,slow=7.9,SNR=1.8							
FITZ	**Fitzroy Crossi**	**48.65**	**279**		P	**P**	**07 37 47.6**	**+0.8**
FITZ					IAmb	IAmb	07 37 54.7	
	comp=Z,10nm,1.2s							
QSPA	**South Pole Qui**	**52.22**	**180**		P	P	07 38 15.6	+2.6
	comp=Z,4.1nm,0.7s,baz=207,slow=2.0,SNR=20							
QSPA	**South Pole Qui**	**52.22**	**180**		P	P	07 38 18.1	+5.0
QSPA					IAmb	IAmb	07 38 19.5	
	comp=Z,7.2nm,0.9s							
MAW	**Mawson**	**63.77**	**203**		P	P	07 39 36.0	+3.1
	comp=Z,7.3nm,0.6s,baz=112,slow=8.3,SNR=16							
MAW	**Mawson**	**63.77**	**203**		P	P	07 39 36.1	+3.1
MAW					IAmb	IAmb	07 39 37.4	
	comp=Z,3.5nm,1.1s							
SNAA	**Sanae**	**70.73**	**180**		P	P	07 40 20.4	+3.6
VNA3	**Neumayer Olymp**	**71.06**	**178**		P	P	07 40 22.2	+3.5
VNA2	**Neumayer--Watz**	**71.43**	**179**		P	P	07 40 24.9	+3.9
VNA1	**Neumayer--Stat**	**71.69**	**178**		P	P	07 40 26.5	+4.1
MJAR	**Matsushiro Arr**	**82.23**	**330**		P	**P**	**07 41 20.9**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=168,slow=9.4,SNR=4.2							
KSRS	**Korea Array**	**87.51**	**323**		P	**P**	**07 41 49.6**	**+1.7**
	comp=Z,2.0nm,0.6s,baz=140,slow=5.7,SNR=8.1							
KSAR	**Wonju Array Be**	**87.52**	**323**			**P**	**07 41 50.2**	**+2.3**
CMAR	**Chiang Mai Arr**	**91.99**	**292**		P	**P**	**07 42 11.4**	**+2.1**
	comp=Z,1.5nm,0.4s,baz=145,slow=3.3,SNR=6.9							
PETK	**Petropavlovsk-**	**92.15**	**349**		P	**P**	**07 42 08.9**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=128,slow=9.6,SNR=4.1							
PETK	**Petropavlovsk-**	**92.15**	**349**		P	**P**	**07 42 07.7**	**-1.4**
ILAR	**Eielson Array**	**106.23**	**15**		PKKPbc	PKKPbc	07 58 46.1	+0.2
	comp=Z,0.1nm,0.4s,baz=7.5,slow=3.3,SNR=4.8							
YKA	**Yellowknife Ar**	**114.06**	**28**		PKiKP	**PKiKP**	**07 47 37.8**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=245,slow=1.6,SNR=5.7							
MKAR	**Makanchi Array**	**119.17**	**308**		PKP	**PKiKP**	**07 47 47.5**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=184,slow=1.3,SNR=17							
MKAR	**Makanchi Array**	**119.17**	**308**			**PKiKP**	**07 47 47.7**	**-0.2**
ZALV	**Zalesovo Beam**	**120.65**	**317**		PKP	**PKiKP**	**07 47 49.7**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=132,slow=2.2,SNR=5.3							
ZALV	**Zalesovo Beam**	**120.65**	**317**			**PKiKP**	**07 47 50.3**	**-0.2**
NRIK	**Noril'sk**	**124.63**	**334**		PKP	**PKiKP**	**07 47 57.8**	**-0.2**
	comp=Z,1.9nm,0.3s,baz=182,slow=5.4,SNR=4.0							
ARCES	**ARCESS Array B**	**144.76**	**343**		PKP	**PKiKP**	**07 48 34.7**	**-4.1**
	comp=Z,5.4nm,0.5s,baz=41,slow=3.4,SNR=28							
ARCES	**ARCESS Array B**	**144.76**	**343**			**PKiKP**	**07 48 35.0**	**-3.8**
KBZ	**Khabaz**	**145.00**	**294**		PKPbc	**PKiKP**	**07 48 36.6**	**-3.4**
	comp=Z,3.4nm,1.0s,baz=168,slow=2.2,SNR=4.5							
MMAI	**Mount Meron Ar**	**148.35**	**273**		PKPbc	**PKPab**	**07 48 47.4**	**-2.3**
	comp=Z,2.8nm,0.5s,baz=69,slow=4.6,SNR=5.8							
LIC	**Lamto**	**148.42**	**177**	*e*	PKP1	**PKPab**	**07 48 49.0**	**-1.2**
	comp=Z,52nm,0.7s							
KIC	**Kosan Boka**	**148.57**	**177**	*e*	PKP1	**PKPab**	**07 48 48.7**	**-2.1**
	comp=Z,41nm,0.8s							
TIC	**Toumodi**	**148.84**	**176**	*e*	PKP1	**PKPab**	**07 48 49.9**	**-2.0**
DBIC	**Dimbokro**	**148.87**	**177**		PKPbc	**PKPab**	**07 48 49.6**	**-2.3**
	comp=Z,4.3nm,0.5s,baz=119,slow=2.7,SNR=17							
DBIC	**Dimbokro**	**148.87**	**177**			**PKPab**	**07 48 49.8**	**-2.2**
DBIC					PKPab	PKiKP	07 48 54.7	+5.7
FINES	**FINESS Array B**	**150.24**	**332**		PKPbc	**PKiKP**	**07 48 49.4**	**-0.8**
	comp=Z,11nm,0.9s,baz=58,slow=2.7,SNR=19							
FINES	**FINESS Array B**	**150.24**	**332**			**PKiKP**	**07 48 49.8**	**-0.4**
FINES					PKPab	**PKPab**	**07 48 56.2**	**-0.2**
BRTR	**Keskin Array B**	**151.38**	**285**		PKPbc	**PKiKP**	**07 48 52.9**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=133,slow=4.2,SNR=12							
BRTR	**Keskin Array B**	**151.38**	**285**			**PKiKP**	**07 48 54.0**	**+0.5**
AKASG	**Malin Array Be**	**153.74**	**310**		PKPbc	**PKiKP**	**07 48 58.0**	**+0.1**
	comp=Z,6.0nm,0.6s,baz=63,slow=2.6,SNR=18							
AKASG	**Malin Array Be**	**153.74**	**310**			**PKiKP**	**07 48 58.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**154.96**	**191**		PKP	**PKPdf**	**07 48 53.3**	**+0.7**
	comp=Z,2.3nm,0.8s,baz=221,slow=0.2,SNR=8.8							
TORD					PKPbc	**PKiKP**	**07 49 02.8**	**+1.4**
	comp=Z,1.4nm,0.3s,baz=152,slow=3.0,SNR=20							
TORD					PKPab	**PKPab**	**07 49 19.6**	**+2.2**
	comp=Z,5.0nm,0.7s,baz=174,slow=3.0,SNR=13							
TORD	**Torodi Ar. Bea**	**154.96**	**191**			**PKPdf**	**07 48 52.9**	**+0.3**
TORD						**PKiKP**	**07 49 02.2**	**+0.8**
TORD						**PKPab**	**07 49 18.2**	**+0.7**
CLL	**Collm**	**162.38**	**325**	*i*	PKPab	**PKPab**	**07 49 49.6**	**+0.8**
	comp=Z,4.0nm,0.7s							

ISK ***16*** *07:43:57.3,35˚.17N×23˚.21E,h79km,ML3.6/7*
ATH ***16*** *07:43:58.8,35˚.22N×23˚.16E,h36km±2km,ML3.6/10,Error ellipse: s-maj=3.6km s-min=1.2km az=54.0*
THE ***16*** *07:43:59.5,35˚.15N×23˚.07E,h44km±4km,ML3.4/8,Error ellipse: s-maj=4.4km s-min=0.8km az=61.0*
IDC ***16*** *07:43:59.5±5.1,35˚.17N×23˚.22E,h64km±28km,mb3.5/5, mb1 3.6/8,mb1mx3.3/40,mbtmp3.7/8,ML3.9/2,Error ellipse: s-maj=75.4km s-min=31.0km az=29.0*

ISC 16 07:43:59.0±1.2,35˚.19N±0˚.07×23˚.12E±0˚.08,h56km±9km, n68,σ1s27/82,mb3.6/5,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.47**	**84**	P	**Pn**	**07 44 09.7**	**-0.5**
KNDR				S	**Sn**	**07 44 17.7**	**-0.7**
	4μm,0.8s						
KNDR	**Palaiochora Ch**	**0.47**	**84**	PG	**Pn**	**07 44 09.8**	**-0.5**
KNDR				SG	**Sn**	**07 44 19.8**	**+1.4**
RODP	**Rodopos**	**0.64**	**54**	P	**Pn**	**07 44 12.6**	**+0.3**
RODP				S	**Sn**	**07 44 22.6**	**+0.6**
	2μm,0.6s						
RODP	**Rodopos**	**0.64**	**54**	PG	**Pn**	**07 44 12.4**	**+0.1**
RODP				SG	**Sn**	**07 44 23.6**	**+1.6**
ANKY	**Antikythira Is**	**0.69**	**12**	P	**Pn**	**07 44 12.1**	**-0.8**
ANKY				S	**Sn**	**07 44 23.8**	**+0.7**
	8μm,0.8s						
ANKY	**Antikythira Is**	**0.69**	**12**	P	**Pn**	**07 44 12.0**	**-1.0**
ANKY				S	**Sn**	**07 44 21.8**	**-1.3**
ANKY				AML	AML	07 44 24.4	
	comp=N,19159μm,0.6s						
ANKY				AML	AML	07 44 27.0	
	comp=E,14369μm,0.8s						
IMMV	**Iera Moni Meta**	**0.76**	**69**	P	**Pn**	**07 44 13.8**	**+0.1**
IMMV				S	**Sn**	**07 44 25.3**	**+0.9**
	comp=E,4μm,0.8s						
IMMV	**Iera Moni Meta**	**0.76**	**69**	P	**Pn**	**07 44 13.8**	**+0.1**
IMMV				S	**Sn**	**07 44 23.6**	**-0.8**
IMMV				AML	AML	07 44 31.3	
	comp=N,6417μm,0.8s						
IMMV				AML	AML	07 44 32.8	
	comp=E,6658μm,0.9s						
IMMV	**Iera Moni Meta**	**0.76**	**69**	PG	**Pn**	**07 44 13.4**	**-0.3**
IMMV				SG	**Sn**	**07 44 25.5**	**+1.1**
CHAN	**Chania**	**0.82**	**66**	P	**Pn**	**07 44 14.9**	**+0.4**
CHAN				S	**Sn**	**07 44 27.4**	**+1.4**
	comp=E,2μm,0.8s						
GVD	**Gavdhos**	**0.87**	**113**	P	**Pn**	**07 44 15.4**	**+0.2**
GVD				S	**Sn**	**07 44 27.7**	**+0.7**
	comp=E,1μm,0.5s						
GVD	**Gavdhos**	**0.87**	**113**	P	**Pn**	**07 44 15.3**	**+0.2**
GVD				AML	AML	07 44 42.0	
	comp=N,2638μm,0.5s						
GVD				AML	AML	07 44 44.8	
	comp=E,2454μm,0.6s						
GVD	**Gavdhos**	**0.87**	**113**	PG	**Pn**	**07 44 14.8**	**-0.3**
VAM	**Vamos**	**0.91**	**76**	P	**Pn**	**07 44 16.3**	**+0.6**
VAM	**Vamos**	**0.91**	**76**	P	**Pn**	**07 44 16.2**	**+0.5**
VAM				S	**Sn**	**07 44 28.0**	**0.0**
VAM				AML	AML	07 44 34.2	
	comp=N,4992μm,0.5s						
VAM				AML	AML	07 44 36.7	
	comp=E,4338μm,0.5s						
KTHA	**Kythira Island**	**1.07**	**357**	P	**Pn**	**07 44 18.2**	**+0.4**
KTHA				S	**Sn**	**07 44 33.0**	**+1.3**
	comp=E,5μm,0.6s						
KTHA	**Kythira Island**	**1.07**	**357**	P	**Pn**	**07 44 18.3**	**+0.4**
KTHA				S	**Sn**	**07 44 33.0**	**+1.3**
KTHA				AML	AML	07 44 34.3	
	comp=E,16301μm,0.8s						
KTHA				AML	AML	07 44 38.9	
	comp=N,5410μm,0.6s						
KTHA	**Kythira Island**	**1.07**	**357**	PN	**Pn**	**07 44 18.2**	**+0.4**
KTHA				SN	**Sn**	**07 44 33.4**	**+1.7**
SIVA	**Sivas**	**1.40**	**97**	P	**Pn**	**07 44 22.7**	**+0.6**
SIVA	**Sivas**	**1.40**	**97**	P	**Pn**	**07 44 23.2**	**+1.0**
IDI	**Anoyia**	**1.45**	**86**	P	**Pn**	**07 44 22.0**	**-1.0**
	comp=N,6.7nm,0.3s,baz=299,slow=14,SNR=15						
IDI				S	**Sn**	**07 44 44.7**	**+3.7**
	comp=N,22nm,0.3s,baz=320,slow=14,SNR=6.7						
IDI	**Anoyia**	**1.45**	**86**	PN	**Pn**	**07 44 21.9**	**-1.1**
MNVA	**Monemvasia**	**1.50**	**357**	P	**Pn**	**07 44 25.2**	**+1.7**
VLI	**Veliai**	**1.53**	**354**	P	**Pn**	**07 44 24.7**	**+0.6**
VLI	**Veliai**	**1.53**	**354**	P	**Pn**	**07 44 25.8**	**+1.7**
VLI				AML	AML	07 44 53.1	
	comp=N,5472μm,0.7s						
VLI				AML	AML	07 44 53.9	
	comp=E,4998μm,0.6s						
MHLO	**Agia Marina, M**	**1.82**	**34**	P	**Pn**	**07 44 29.3**	**+1.3**
MHLO	**Agia Marina, M**	**1.82**	**34**	P	**Pn**	**07 44 29.3**	**+1.3**
MHLO				AML	AML	07 45 10.5	
	comp=E,6232μm,0.9s						
MHLO				AML	AML	07 45 11.2	
	comp=N,6224μm,1.0s						
MHLA	**Plaka, Milos I**	**1.88**	**34**	P	**Pn**	**07 44 29.9**	**+1.1**
MHLA				AML	AML	07 45 10.9	
	comp=N,6038μm,1.2s						
MHLA				AML	AML	07 45 13.3	
	comp=E,4518μm,1.0s						
LAST	**Lasithi**	**1.93**	**90**	P	**Pn**	**07 44 30.4**	**+0.9**
LAST	**Lasithi**	**1.93**	**90**	P	**Pn**	**07 44 30.6**	**+1.1**
PYL	**PYLOS**	**2.04**	**327**	P	**Pn**	**07 44 33.3**	**+2.4**
KRND	**KRANIDI**	**2.19**	**1**	P	**Pn**	**07 44 34.6**	**+1.6**
KRND				S	**Sn**	**07 45 01.1**	**+2.2**
	comp=E,525nm,1.1s						
KRND	**KRANIDI**	**2.19**	**1**	P	**Pn**	**07 44 34.5**	**+1.6**
KRND				AML	AML	07 45 17.1	
	comp=N,1087μm,1.1s						
KRND				AML	AML	07 45 23.8	
	comp=E,1395μm,0.7s						
ITM	**Ithomi**	**2.21**	**334**	P	**Pn**	**07 44 34.1**	**+0.8**
ITM	**Ithomi**	**2.21**	**334**	PN	**Pn**	**07 44 34.5**	**+1.2**
SANT	**Santorini**	**2.24**	**57**	PN	**Pn**	**07 44 33.1**	**-0.6**
SERI	**Serifos**	**2.26**	**29**	P	**Pn**	**07 44 33.1**	**-0.9**
VLX	**Vlachokerasia**	**2.26**	**345**	P	**Pn**	**07 44 35.5**	**+1.5**
DID	**Didima**	**2.32**	**2**	P	**Pn**	**07 44 35.3**	**+0.6**
IOSP	**Ios island**	**2.33**	**48**	P	**Pn**	**07 44 34.5**	**-0.5**
IOSP				AML	AML	07 45 20.3	
	comp=N,950μm,0.6s						
IOSP				AML	AML	07 45 22.6	
	comp=E,997μm,0.9s						
TRIP	**Tripoli**	**2.43**	**344**	P	**Pn**	**07 44 39.1**	**+2.7**
ZKR	**Zakros**	**2.54**	**91**	P	**Pn**	**07 44 39.7**	**+2.0**
ZKR	**Zakros**	**2.54**	**91**	PN	**Pn**	**07 44 37.7**	**0.0**
APE	**Apeiranthos**	**2.71**	**45**	PN	**Pn**	**07 44 39.9**	**-0.2**
KLV	**Kalavryta, Ach**	**2.96**	**345**	P	**Pn**	**07 44 44.4**	**+0.9**
DRO	**Drossia**	**2.98**	**338**	P	**Pn**	**07 44 45.1**	**+1.3**
KARP	**Karpathos**	**3.32**	**83**	P	**Pn**	**07 44 49.3**	**+0.8**
KARP	**Karpathos**	**3.32**	**83**	PN	**Pn**	**07 44 48.5**	**0.0**
PVO	**Paravola**	**3.65**	**340**	P	**Pn**	**07 44 54.2**	**+1.2**
BODT	**Bodrum**	**3.87**	**60**	PN	**Pn**	**07 44 55.3**	**-0.7**
AGG	**Agios Georgios**	**3.88**	**351**	PN	**Pn**	**07 44 56.9**	**+0.8**
CHOS	**Chios island**	**3.97**	**36**	PN	**Pn**	**07 44 57.3**	**-0.1**
URLA	**Izmir**	**4.22**	**40**	PN	**Pn**	**07 44 59.9**	**-0.9**
MAKA	**Makarska**	**9.37**	**332**	*e*	Pn	07 46 07.4	-3.8
MAKA					Sn	07 47 42.9	-12
BRTR	**Keskin Array B**	**9.51**	**58**	P		**07 46 13.6**	**+0.2**
	comp=E,0.0nm,0.3s,baz=239,slow=11,SNR=7.9						
HVAR	**Hvar**	**9.51**	**329**	*e*	Pn	07 46 08.8	-4.4
HVAR					Sn	07 47 45.7	-13
ZIRJ	**Zirje**	**10.24**	**328**	*e*	Pn	**07 46 20.1**	**-3.0**
ZIRJ					Sn	07 48 03.8	-12
MORI	**Morici**	**10.38**	**329**	*e*	Pn	**07 46 22.4**	**-2.6**
MORI					Sn	07 48 07.7	-12
DUGI	**Dugi Otok**	**10.76**	**327**		Sn	07 48 17.8	-11
UDBI	**Udbina**	**10.90**	**331**	*e*	Pn	**07 46 29.5**	**-2.8**
UDBI					Sn	07 48 19.8	-13
GERES	**GERESS Array B**	**15.32**	**336**	P		**07 47 34.1**	**+2.4**
	comp=E,0.2nm,0.3s,baz=144,slow=11,SNR=5.9						
KHC	**Kasperske Hory**	**15.61**	**336**	*e*	P	**07 47 39.0**	**+0.5**
AKASG	**Malin Array Be**	**16.13**	**14**	P		**07 47 43.4**	**-0.8**
	comp=E,0.6nm,0.3s,baz=204,slow=11,SNR=2.5						
HFS	**Hagfors**	**25.70**	**349**	P		**07 49 23.3**	**-0.3**
	comp=E,1.4nm,0.6s,baz=139,slow=6.8,SNR=4.3						
ARCES	**ARCESS Array B**	**34.43**	**1**	P		**07 50 39.1**	**-1.6**
	comp=E,3.0nm,0.9s,baz=193,slow=6.4,SNR=3.6						
MKAR	**Makanchi Array**	**45.15**	**56**	P		**07 52 09.4**	**-0.6**
	comp=E,0.5nm,0.6s,baz=271,slow=8.1,SNR=5.7						
ZALV	**Zalesovo Beam**	**46.19**	**46**	P		**07 52 17.3**	**-0.7**
	comp=E,0.9nm,0.5s,baz=268,slow=9.8,SNR=3.9						
YKA	**Yellowknife Ar**	**76.90**	**341**	P		**07 55 45.2**	**+0.4**
	comp=E,0.1nm,0.6s,baz=36,slow=4.8,SNR=4.8						

TAP ***16*** *07:55:50.9,23˚.70N×122˚.52E,h27km,ML3.5,D*
JMA ***16*** *07:55:50.0±0.1,23˚.64N×122˚.49E,h28km,M3.1*

ISC 16 07:55:50.3±1.2,23˚.68N±0˚.02×122˚.51E±0˚.02,h23km±14km, n109,σ0s93/199,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.86**	**28**	P	**Pb**	**07 56 06.7**	**+0.1**
JYNG				S	**Sn**	**07 56 18.3**	**-0.7**
HWA	**Hwalien**	**0.88**	**290**	*e*P	**Pn**	**07 56 06.6**	**-0.6**
	baz=276						
HWA				*e*S	**Sb**	**07 56 18.5**	**+0.4**
	baz=276						
YOJ	**Yonaguni jima**	**0.90**	**31**	P	**Pn**	**07 56 07.5**	**-0.1**
	baz=29						
YOJ				*e*S	**Sn**	**07 56 19.5**	**-0.4**
	baz=29						
YOJ	**Yonaguni jima**	**0.90**	**31**	P	**Pn**	**07 56 07.4**	**-0.1**
YOJ				*e*S	**Sn**	**07 56 19.5**	**-0.4**
TWD	**Chiawan**	**0.92**	**296**	*i*P	**Pn**	**07 56 07.0**	**-0.9**
	baz=295						
TWD				S	**Sb**	**07 56 19.2**	**-0.2**
	baz=295						
NACB	**Ninganchiao**	**0.97**	**301**	P	**Pn**	**07 56 07.5**	**-0.9**
	baz=288						
NACB				S	**Sb**	**07 56 19.8**	**-1.0**
	baz=288						
EGFH	**Guangfu**	**0.99**	**269**	*i*P	**Pn**	**07 56 08.2**	**-0.6**
	baz=269						
EGFH				S	**Sb**	**07 56 21.3**	**-0.1**
	baz=269						
ESL	**Shilin**	**0.99**	**278**	*i*P	**Pn**	**07 56 07.7**	**-1.1**
	baz=277						
ESL				*e*S	**Sb**	**07 56 21.2**	**-0.2**
	baz=277						
HGSD	**Ruisui**	**1.01**	**259**	P	**Pn**	**07 56 08.2**	**-0.8**
	baz=259						
HGSD				S	**Sn**	**07 56 21.1**	**-1.6**
	baz=259						
ENA	**Nanau**	**1.02**	**317**	*e*P	**Pn**	**07 56 09.0**	**-0.3**
	baz=316						
ENA				S	**Sb**	**07 56 23.0**	**+0.8**
	baz=316						
ETLH	**Xiulin Townshi**	**1.07**	**299**	P	**Pn**	**07 56 09.2**	**-0.9**
	baz=298						
ETLH				*e*S	**Sn**	**07 56 24.1**	**-0.2**
	baz=298						
TWC	**Suao**	**1.10**	**327**	*e*P	**Pn**	**07 56 09.7**	**-0.7**
	baz=326						
TWC				*i*S	**Sn**	**07 56 24.6**	**-0.3**
	baz=326						
EHY	**Hungye**	**1.10**	**261**	*i*P	**Pn**	**07 56 09.9**	**-0.4**
	baz=261						
EHY				S	**Sn**	**07 56 24.1**	**-0.8**
	baz=261						
YULB	**Yu-li**	**1.15**	**256**	P	**Pn**	**07 56 10.5**	**-0.5**
	baz=256						
YULB				S	**Sn**	**07 56 24.8**	**-1.3**
	baz=256						
TWF1	**Yuli**	**1.16**	**254**	*i*P	**Pn**	**07 56 10.7**	**-0.4**
	baz=254						
TWF1				S	**Sn**	**07 56 25.4**	**-0.9**
	baz=254						
CHKT	**Chengkung**	**1.20**	**241**	S	**Sn**	**07 56 25.2**	**-2.0**
	baz=241						
WHF	**Hehuan Shan**	**1.23**	**292**	*i*P	**Pn**	**07 56 11.7**	**-0.7**
	baz=279						
WHF				S	**Sn**	**07 56 27.0**	**-1.5**
	baz=279						
HATJ	**Hateruma jima**	**1.25**	**72**	P	**Pn**	**07 56 12.3**	**0.0**
HATJ				*e*S	**Sn**	**07 56 28.3**	**-0.1**
VWDT	**VWDT**	**1.25**	**273**	P	**Pn**	**07 56 12.4**	**0.0**
	baz=273						
VWDT				S	**Sn**	**07 56 27.7**	**-0.9**
	baz=273						
NNSB	**Datong**	**1.27**	**306**	P	**Pn**	**07 56 12.9**	**+0.1**
	baz=305						
NNSB				S	**Sn**	**07 56 28.7**	**-0.4**
	baz=305						
NNSH	**Datong**	**1.27**	**306**	P	**Pn**	**07 56 12.5**	**-0.3**
	baz=305						
NNSH				S	**Sn**	**07 56 28.6**	**-0.5**
	baz=305						
EGS		**1.27**	**336**	P	**Pb**	**07 56 13.7**	**+0.2**
	baz=334						
CHGB	**Renai**	**1.28**	**287**	P	**Pn**	**07 56 12.8**	**-0.2**
	baz=287						
CHGB				S	**Sn**	**07 56 28.9**	**-0.6**
	baz=287						
NNS	**Nan Shan**	**1.28**	**306**	*i*P	**Pn**	**07 56 13.0**	**+0.1**
	baz=305						
NNS				S	**Sn**	**07 56 28.5**	**-1.0**
	baz=305						
ENTT	**Nioudou**	**1.28**	**318**	*e*P	**Pn**	**07 56 13.4**	**+0.6**
	baz=317						
ENTT				S	**Sb**	**07 56 30.0**	**+0.2**
	baz=317						
TWE	**Neicheng**	**1.29**	**324**	*i*P	**Pn**	**07 56 13.6**	**+0.7**
	baz=322						
TWE				S	**Sb**	**07 56 29.9**	**0.0**
	baz=322						
NDT	**Datong Townshi**	**1.29**	**315**	*e*P	**Pn**	**07 56 12.5**	**-0.4**
	baz=314						
NDT				S	**Sn**	**07 56 29.6**	**0.0**
	baz=314						
IRIF	**Iriomote-Funau**	**1.29**	**60**	P	**Pn**	**07 56 13.3**	**+0.3**
NTC	**Toucheng**	**1.32**	**332**	*e*P	**Pb**	**07 56 14.7**	**+0.3**
	baz=330						
NTC				*e*S	**Sb**	**07 56 31.2**	**+0.4**
	baz=330						
TWT	**Tachien**	**1.34**	**295**	*i*P	**Pn**	**07 56 14.2**	**+0.4**
	baz=294						
TWT				S	**Sn**	**07 56 30.6**	**-0.4**
	baz=294						
TDCB	**Techi**	**1.36**	**295**	P	**Pn**	**07 56 14.3**	**+0.3**
	baz=294						
TDCB				S	**Sn**	**07 56 30.8**	**-0.6**
	baz=294						
TWB1	**Santiao Chiao**	**1.40**	**340**	P	**Pn**	**07 56 14.3**	**-0.2**
	baz=338						
TWB1				*e*S	**Sb**	**07 56 33.0**	**-0.2**
	baz=338						
NWLT	**Wulai**	**1.42**	**320**	*i*P	**Pn**	**07 56 15.8**	**+0.9**
	baz=318						
NWLT				S	**Sn**	**07 56 33.4**	**+0.5**
	baz=318						
YHNB	**Yeheng**	**1.43**	**314**	P	**Pn**	**07 56 15.5**	**+0.6**
	baz=313						
YHNB				S	**Sn**	**07 56 33.8**	**+0.8**
	baz=313						
TIPB	**Shuangxi**	**1.43**	**334**	*i*P	**Pn**	**07 56 15.0**	**+0.2**
	baz=332						
TIPB				*e*S	**Sn**	**07 56 33.1**	**+0.2**
	baz=332						
SSLB	**Suanglung**	**1.43**	**274**	P	**Pn**	**07 56 14.7**	**-0.2**
	baz=274						
SSLB				*e*S	**Sn**	**07 56 32.2**	**-0.8**
	baz=274						
NSK	**Sanguang**	**1.44**	**314**	*i*P	**Pn**	**07 56 15.6**	**+0.5**
	baz=313						
NSK				*i*S	**Sn**	**07 56 33.7**	**+0.3**
	baz=313						
ELDTW	**Lidau**	**1.45**	**251**	*e*P	**Pn**	**07 56 14.2**	**-1.1**
	baz=251						
ELDTW				S	**Sn**	**07 56 31.9**	**-1.8**
	baz=251						
JKRS	**Kuro-shima**	**1.48**	**68**	P	**Pn**	**07 56 16.0**	**+0.5**
JKRS				*e*S	**Sn**	**07 56 34.5**	**+0.3**
SMLT	**Sun Moon Lake**	**1.49**	**278**	*i*P	**Pn**	**07 56 16.1**	**+0.4**
	baz=278						
SMLT				S	**Sn**	**07 56 34.0**	**-0.5**
	baz=278						
DPDB	**Guoxing**	**1.49**	**284**	*i*P	**Pn**	**07 56 16.2**	**+0.5**
	baz=284						
DPDB				*e*S	**Sn**	**07 56 34.1**	**-0.5**
	baz=284						
WHYT	**Xinyi Township**	**1.52**	**271**	*i*P	**Pn**	**07 56 16.8**	**+0.8**
	baz=271						
WHYT				*e*S	**Sn**	**07 56 35.5**	**+0.4**
	baz=271						
NWF	**Wu-fen Shan**	**1.53**	**335**	P	**Pb**	**07 56 17.9**	**-0.1**
	baz=332						
WFSB	**Wu-fen Shan**

TPUB	**Ta-pu**	**1.77 258**	P	**Pn**	**07 56 20.9**	**+1.4**
	baz=251					
TPUB			S	**Sn**	**07 56 42.5**	**+1.2**
	baz=251					
SBCB	**Hsinchu**	**1.77 309**	*e*S	**Sb**	**07 56 43.9**	**-0.1**
	baz=308					
WGK	**Gukeng**	**1.78 270**	*e*P	**Pn**	**07 56 21.3**	**+1.6**
	baz=270					
WGK			*e*S	**Sn**	**07 56 43.5**	**+1.8**
	baz=270					
NMLH	**Miaoli**	**1.78 299**	P	**Pb**	**07 56 22.0**	**-0.3**
	baz=283					
NMLH			S	**Sb**	**07 56 44.2**	**0.0**
	baz=283					
ECL	**Taimali**	**1.79 233**	P	**Pn**	**07 56 18.9**	**-0.9**
	baz=246					
ECL			S	**Sn**	**07 56 40.0**	**-1.9**
	baz=246					
WTP	**Ta-pu**	**1.79 256**	*i* P	**Pn**	**07 56 21.4**	**+1.5**
	baz=256					
WTP			S	**Sn**	**07 56 43.2**	**+1.2**
	baz=256					
WDLH	**Douliu**	**1.81 271**	*i* P	**Pn**	**07 56 22.0**	**+2.0**
	baz=270					
WDLH			S	**Sb**	**07 56 44.6**	**-0.2**
	baz=270					
PTSB	**Yuanli**	**1.81 295**	P	**Pn**	**07 56 21.7**	**+1.5**
	baz=295					
PTSB			S	**Sb**	**07 56 44.7**	**-0.4**
	baz=295					
WCHH	**Zhanghua**	**1.83 283**	P	**Pb**	**07 56 22.6**	**-0.4**
	baz=282					
WCHH			S	**Sb**	**07 56 45.2**	**-0.2**
	baz=282					
WDJ	**Dajia District**	**1.83 292**	*e*P	**Pn**	**07 56 22.0**	**+1.6**
	baz=291					
WDJ			*e*S	**Sb**	**07 56 45.3**	**-0.3**
	baz=291					
SLGT	**Liugui**	**1.84 248**	*i* P	**Pn**	**07 56 22.0**	**+1.5**
	baz=242					
SLGT			S	**Sn**	**07 56 44.3**	**+1.1**
	baz=242					
LAY	**Lan-yu**	**1.86 208**	*e*S	**Sn**	**07 56 40.9**	**-2.7**
	baz=209					
SGST	**Jiashian**	**1.87 252**	*i* P	**Pn**	**07 56 21.8**	**+0.9**
	baz=252					
SGST			S	**Sn**	**07 56 45.6**	**+1.8**
	baz=252					
JISG	**Ishigakijimahi**	**1.88 61**	P	**Pn**	**07 56 20.7**	**-0.3**
JISG			S	**Sn**	**07 56 44.2**	**+0.2**
CHN1	**Nanshi**	**1.88 255**	*i* P	**Pn**	**07 56 23.1**	**+2.0**
	baz=255					
CHN1			*i* S	**Sb**	**07 56 47.4**	**+0.3**
	baz=255					
TWK	**Hsinying**	**1.90 258**	*i* P	**Pn**	**07 56 23.1**	**+1.7**
	baz=258					
TWK			S	**Sb**	**07 56 47.3**	**-0.3**
	baz=258					
SNST	**Tainan City**	**1.90 256**	*i* P	**Pn**	**07 56 23.6**	**+2.2**
	baz=256					
SNST			S	**Sb**	**07 56 47.5**	**-0.2**
	baz=256					
CHY	**Chiayi**	**1.92 265**	P	**Pb**	**07 56 24.2**	**-0.3**
	baz=265					
CHY			S	**Sb**	**07 56 47.9**	**-0.2**
	baz=265					
SSD	**Sandimen**	**1.96 242**	*i* P	**Pn**	**07 56 22.6**	**+0.5**
	baz=236					
SSD			S	**Sn**	**07 56 46.0**	**-0.1**
	baz=236					
PCYT	**Pengchaiyu**	**1.98 349**	*i* P	**Pn**	**07 56 22.8**	**+0.4**
	baz=346					
RLNB	**Erlin**	**1.98 276**	P	**Pn**	**07 56 23.3**	**+0.9**
	baz=276					
RLNB			S	**Sb**	**07 56 49.5**	**-0.3**
	baz=276					
TAW	**Tawu**	**1.99 229**	*e*P	**Pn**	**07 56 22.8**	**+0.3**
	baz=240					
MASBT	**Mashibuluo**	**2.03 239**	P	**Pn**	**07 56 23.8**	**+0.7**
	baz=231					
MASBT			*e*S	**Sn**	**07 56 48.0**	**+0.3**
	baz=231					
TWM1	**Shoushan**	**2.10 246**	*e*P	**Pb**	**07 56 27.7**	**+0.1**
	baz=246					
TWM1			*e*S	**Sb**	**07 56 54.0**	**+0.6**
	baz=246					
CHN8	**Yiju**	**2.13 261**	*e*S	**Sb**	**07 56 53.5**	**-0.8**
	baz=261					
SCZT	**Fangliau**	**2.17 233**	P	**Pn**	**07 56 25.8**	**+0.7**
	baz=234					
SCZT			S	**Sn**	**07 56 51.2**	**-0.1**
	baz=234					
SNJT	**Kaohsiung City**	**2.20 246**	*e*S	**Sb**	**07 56 57.0**	**+0.7**
	baz=246					
TSEB	**Hengchuen, Pin**	**2.31 220**	S	**Sn**	**07 56 57.0**	**+2.2**
	baz=231					
HEN	**Hengchun**	**2.33 225**	*e*S	**Sn**	**07 56 56.8**	**+1.5**
	baz=225					
TWKBT	**Hengchun**	**2.33 222**	*e*P	**Pn**	**07 56 28.5**	**+1.2**
	baz=223					
TWKBT			S	**Sn**	**07 56 54.4**	**-1.0**
	baz=223					
TWK1	**Hengchun**	**2.34 223**	S	**Sn**	**07 56 54.9**	**-0.5**
	baz=223					
WLCH	**Liuqiu**	**2.37 236**	*e*P	**Pb**	**07 56 31.2**	**-1.0**
	baz=230					
WLCH			*e*S	**Sb**	**07 57 00.4**	**-0.6**
	baz=230					
TWP	**Hsiaoliuchiu**	**2.38 236**	*e*S	**Sb**	**07 57 02.0**	**+0.5**
	baz=230					
WDGT	**Dungji**	**2.65 261**	P	**Pn**	**07 56 33.1**	**+1.5**
	baz=261					
WDGT			*e*S	**Sn**	**07 57 04.2**	**+1.2**
	baz=261					
PHUB	**P'eng-hu**	**2.70 267**	*e*P	**Pn**	**07 56 33.9**	**+1.6**
	baz=266					
PHUB			S	**Sn**	**07 57 05.2**	**+0.9**
	baz=266					
PNG	**Penghu**	**2.71 268**	P	**Pn**	**07 56 33.9**	**+1.5**
	baz=267					
PNG			S	**Sn**	**07 57 06.0**	**+1.4**
	baz=267					
VCHM	**Qimei**	**2.87 261**	P	**Pn**	**07 56 35.8**	**+1.2**
	baz=261					
VCHM			S	**Sn**	**07 57 09.1**	**+0.7**
	baz=261					
VWUC	**VWUC**	**3.08 296**	P	**Pn**	**07 56 37.7**	**+0.2**
	baz=282					
VWUC			*e*S	**Sn**	**07 57 11.9**	**-1.8**
	baz=282					
PTTC	**Pingtan**	**3.08 307**	*e*P	**Pn**	**07 56 38.3**	**+0.8**
	baz=316					
PTTC			*e*S	**Sn**	**07 57 12.0**	**-1.6**
	baz=316					
PTMZ	**Houxiangcun**	**3.37 294**	P	**Pn**	**07 56 42.1**	**+0.5**
	baz=281					
PTMZ			*e*S	**Sn**	**07 57 18.7**	**-2.2**
	baz=281					
MATB	**Ma-tsu**	**3.38 317**	*e*P	**Pn**	**07 56 41.9**	**+0.2**
	baz=314					
MATB			*e*S	**Sn**	**07 57 18.7**	**-2.5**
	baz=314					
LYJJ	**Jianjiangzhen**	**3.79 319**	*e*S	**Sn**	**07 57 30.7**	**-0.4**
	baz=317					
KNM	**Kinmen**	**3.79 282**	*e*P	**Pn**	**07 56 49.7**	**+2.3**
	baz=280					
KNM			*e*S	**Sn**	**07 57 33.4**	**+2.1**
	baz=280					
KNMB	**Chin-men Tao**	**3.84 282**	P	**Pn**	**07 56 48.6**	**+0.6**
	baz=281					
KNMB			*e*S	**Sn**	**07 57 31.2**	**-1.4**
	baz=281					
MHZQ	**Yeshan**	**3.97 308**	*e*S	**Sn**	**07 57 34.4**	**-1.2**
	baz=315					
AXDP	**Jialang**	**4.31 287**	*e*P	**Pn**	**07 56 54.4**	**-0.1**
	baz=285					

*IDC **16** 08:02:57.6±1.5,24°.39N×122°.08E,h0km,mb3.7/3,*
mb1 3.9/4,mb1mx3.4/43,mbtmp3.7/4,ML3.6/1,MS4.2/1,
Ms1 4.2/1,ms1mx3.1/45,Error ellipse: s-maj=73.2km
s-min=26.1km az=68.0
*JMA **16** 08:02:57.0±0.1,24°.93N×122°.88E,h28km±2km,M2.8*
*NEIC **16** 08:03:00.4±1.7,24°.45N±0°.07×122°.67E±0°.04,h10km±2km,*
mb4.4/3,Error ellipse: s-maj=11.2km s-min=5.9km
az=166.0

ISC 16 08:02:57.8±1.5,24°.83N±0°.06×122°.91E±0°.04,h17km±11km,
n24,σ1°21/28,mb4.2/6,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.38**	**175**	P		**Pb**		**08 03 06.6**	**+0.4**
JYNG				S		**Sb**		**08 03 13.6**	**+1.8**
YOJ	**Yonaguni jima**	**0.38**	**166**	P		**Pb**		**08 03 06.6**	**+0.4**
YOJ				*e*S		**Sb**		**08 03 13.5**	**+1.7**
YOJ	**Yonaguni jima**	**0.38**	**166**			**Pb**		**08 03 06.6**	**+0.4**
IRIF	**Iriomote-Funau**	**0.90**	**123**	P		**Pb**		**08 03 14.6**	**-0.4**
IRIF				S		**Sg**		**08 03 26.9**	**-0.3**
HATJ	**Hateruma jima**	**1.12**	**133**	P		**Pb**		**08 03 18.6**	**-0.3**
JKRS	**Kuro-shima**	**1.17**	**120**	P		**Pn**		**08 03 18.8**	**-0.6**
JKRS				S		**Sb**		**08 03 34.0**	**-0.4**
JIJ	**Ishigaki jima**	**1.22**	**112**	P		**Pn**		**08 03 19.1**	**-1.0**
JIJ				*e*S		**Sb**		**08 03 34.4**	**-1.5**
TATO	**Taipei**	**1.30**	**277**			**Pg**		**08 03 23.3**	**+0.5**
JISG	**Ishigakijimahi**	**1.30**	**101**	P		**Pn**		**08 03 20.3**	**-1.0**
NACB	**Ninganchiao**	**1.36**	**242**			**Pn**		**08 03 21.0**	**-1.1**
YHNB	**Yeheng**	**1.40**	**264**			**Pn**		**08 03 21.6**	**-1.1**
YULB	**Yu-li**	**2.05**	**226**			**Pn**		**08 03 29.8**	**-1.9**
SSLB	**Suanglung**	**2.06**	**240**			**Pn**		**08 03 30.6**	**-1.2**
JMJ2	**Miyako jima3**	**2.20**	**92**	P		**Pn**		**08 03 33.0**	**-0.7**
TPUB	**Ta-pu**	**2.58**	**234**			**Pn**		**08 03 36.9**	**-2.0**
TWG	**Pinlang**	**2.61**	**220**	Pn		**Pn**		**08 03 36.2**	**-3.1**
KSRS	**Korea Array**	**13.29**	**18**	Pn		**P**		**08 06 16.3**	**+0.9**
	0.3nm,0.3s,baz=198,slow=12,SNR=1.9								
MKAR	**Makanchi Array**	**38.98**	**315**	P		**P**		**08 10 23.6**	**+0.3**
	0.7nm,0.8s,baz=83,slow=6.2,SNR=4.2								
MKAR				LR		LR		08 26 17.3	
	comp=Z,352nm,21.1s,baz=206,slow=36								
WB0	**Warramunga Arr**	**45.72**	**165**	P		**P**		**08 11 18.6**	**+0.3**
WRA	**Warramunga Arr**	**45.88**	**165**	P		**P**		**08 11 19.8**	**+0.2**
	2.7nm,0.7s,baz=346,slow=8.4,SNR=9.4								
WB2	**Warramunga Arr**	**45.88**	**165**	P		**P**		**08 11 19.4**	**-0.1**
WB2				IAmb		IAmb		08 11 21.3	
	comp=Z,3.9nm,0.8s								
WR0	**Warramunga Arr**	**45.94**	**165**	P		**P**		**08 11 19.9**	**-0.1**
WR0				IAmb		IAmb		08 11 27.9	
	comp=Z,4.9nm,1.0s								
TIXI	**Tiksi**	**46.97**	**3**	P		P		08 11 35.6	+8.1
TIXI				IAmb		IAmb		08 11 44.5	
	comp=Z,2.5nm,1.1s								
ASAR	**Alice Springs**	**49.38**	**167**	P		**P**		**08 11 47.3**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=352,slow=7.5,SNR=7.9								

IDC 16 08:05:54.9±7.9,59°.42S×26°.45W,h0km,mb3.9/2,
mb1 4.0/2,mb1mx3.7/16,mbtmp3.9/2,Error ellipse:
s-maj=244.1km s-min=51.4km az=175.0,South
Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**52.68**	**307**	P		P		08 15 11.5	-0.1
	0.7nm,0.7s,baz=132,slow=2.8,SNR=4.7								
TORD	**Torodi Ar. Bea**	**75.82**	**28**	P		P		08 17 42.6	+0.1
	0.8nm,0.3s,baz=198,slow=6.2,SNR=15								
YKA	**Yellowknife Ar**	**138.90**	**315**	PKP		PKPdf		08 25 20.9	-0.5
	0.1nm,0.5s,baz=126,slow=2.3,SNR=2.3								

*IDC **16** 08:06:27.0±1.3,24°.35N×121°.79E,h0km,mb3.7/4,*
mb1 3.8/5,mb1mx3.4/43,mbtmp3.6/5,Error ellipse:
s-maj=72.1km s-min=22.4km az=70.0
*JMA **16** 08:06:27.7±0.2,24°.91N×122°.88E,h25km±3km,M2.8*
*NEIC **16** 08:06:29.5±1.9,24°.74N±0°.05×123°.0E±0°.1,h31km±9km,*
mb4.5/5,Error ellipse: s-maj=14.1km s-min=5.4km
az=66.0
*TAP **16** 08:06:29.6,24°.78N×122°.84E,h16km±1km,ML3.1,D*

ISC 16 08:06:27.9±1.2,24°.83N±0°.04×122°.92E±0°.03,h12km±8km,
n70,σ1°04/82,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.37**	**167**	P		**Pb**		**08 06 37.2**	**+0.7**
	baz=153								
YOJ				*e*S		**Sb**		**08 06 42.0**	**-0.3**
	baz=153								
YOJ	**Yonaguni jima**	**0.37**	**167**	P		**Pb**		**08 06 37.1**	**+0.7**
YOJ				*e*S		**Sb**		**08 06 44.0**	**+1.8**
YOJ	**Yonaguni jima**	**0.37**	**167**			**Pb**		**08 06 37.0**	**+0.5**
YOJ				Sg		**Sg**		**08 06 41.1**	**+0.7**
JYNG	**Yonagunijimaku**	**0.38**	**176**	P		**Pb**		**08 06 37.0**	**+0.5**
JYNG				S		**Sb**		**08 06 43.4**	**+1.1**
TWB1	**Santiao Chiao**	**0.86**	**282**	*e*P		**Pb**		**08 06 45.2**	**+0.4**
	baz=287								
IRIF	**Iriomote-Funau**	**0.89**	**123**	P		**Pb**		**08 06 45.2**	**0.0**
EGS		**0.90**	**271**	P		**Pb**		**08 06 45.2**	**-0.2**
	baz=275								
NTC	**Toucheng**	**0.99**	**272**	*e*P		**Pn**		**08 06 47.4**	**-0.1**
	baz=275								
TWC	**Suao**	**0.99**	**258**	*i* P		**Pg**		**08 06 45.5**	**-1.6**
	baz=260								
TIPB	**Shuangxi**	**1.00**	**278**	P		**Pg**		**08 06 46.9**	**-0.4**
	baz=282								
NWF	**Wu-fen Shan**	**1.06**	**283**	*e*P		**Pn**		**08 06 48.9**	**+0.2**
	baz=287								
HATJ	**Hateruma jima**	**1.12**	**133**	P		**Pg**		**08 06 49.1**	**-0.3**
HATJ				*e*S		**Sn**		**08 07 05.1**	**+0.5**
TWE	**Neicheng**	**1.14**	**265**	*e*P		**Pg**		**08 06 50.2**	**+0.3**
	baz=267								
ENA	**Nanau**	**1.14**	**250**	P		**Pb**		**08 06 49.2**	**-0.4**
	baz=252								
JKRS	**Kuro-shima**	**1.16**	**120**	P		**Pb**		**08 06 49.2**	**-0.6**
JKRS				S		**Sg**		**08 07 05.0**	**-0.2**
JIJ	**Ishigaki jima**	**1.21**	**112**	P		**Pn**		**08 06 49.9**	**-0.7**
JIJ				S		**Sb**		**08 07 06.2**	**-0.1**
TWA	**Mucha**	**1.22**	**277**	*e*P		**Pg**		**08 06 51.7**	**+0.3**
	baz=280								
ENTT	**Nioudou**	**1.24**	**262**	P		**Pn**		**08 06 51.1**	**0.0**
	baz=264								
NWLT	**Wulai**	**1.29**	**268**	*e*P		**Pb**		**08 06 52.1**	**0.0**
	baz=284								
NDT	**Datong Townshi**	**1.30**	**260**	*i* P		**Pb**		**08 06 52.4**	**+0.2**
	baz=263								
TATO	**Taipei**	**1.31**	**277**			**Pg**		**08 06 53.3**	**+0.3**
TATO				Sn		**Sb**		**08 07 09.1**	**0.0**
NACB	**Ninganchiao**	**1.37**	**242**	P		**Pn**		**08 06 52.6**	**-0.2**
	baz=244								
NACB	**Ninganchiao**	**1.37**	**242**			**Pn**		**08 06 52.7**	**-0.2**
NACB				Sn		**Sb**		**08 07 11.2**	**+0.3**
YHNB	**Yeheng**	**1.41**	**264**	P		**Pn**		**08 06 53.0**	**-0.4**
	baz=276								
YHNB	**Yeheng**	**1.41**	**264**	Pn		**Pg**		**08 06 55.1**	**+0.1**
YHNB				Sn		**Sn**		**08 07 12.0**	**0.0**
NSK	**Sanguang**	**1.43**	**264**	*i* P		**Pb**		**08 06 54.3**	**-0.2**
	baz=276								
ETLH	**Xiulin Townshi**	**1.45**	**245**	P		**Pb**		**08 06 54.5**	**-0.3**
	baz=248								
NNSB	**Datong**	**1.45**	**254**	P		**Pn**		**08 06 53.7**	**-0.4**
	baz=257								
NNSH	**Datong**	**1.45**	**254**	P		**Pn**		**08 06 54.4**	**+0.3**
	baz=257								
NNS	**Nan Shan**	**1.46**	**255**	P		**Pb**		**08 06 54.9**	**-0.1**
	baz=257								
WHF	**Hehuan Shan**	**1.65**	**246**	*i* P		**Pn**		**08 06 57.1**	**0.0**
	baz=248								
TWT	**Tachien**	**1.69**	**251**	*e*P		**Pb**		**08 06 59.6**	**+0.6**
	baz=253								
TDCB	**Techi**	**1.70**	**251**	P		**Pb**		**08 06 58.7**	**-0.5**
	baz=253								
LIOB	**Emei**	**1.74**	**264**	*e*P		**Pb**		**08 06 59.2**	**-0.6**
	baz=267								
NSTT	**Nanjuang**	**1.75**	**264**	*e*P		**Pb**		**08 07 00.1**	**+0.1**
	baz=281								
CHGB	**Renai**	**1.76**	**245**	P		**Pn**		**08 06 58.6**	**+0.2**
	baz=231								
WHP	**Taichung City**	**1.88**	**253**	P		**Pb**		**08 07 02.3**	**+0.1**
	baz=243								
HGSD	**Ruisui**	**1.90**	**226**	P		**Pn**		**08 06 59.9**	**-0.3**
	baz=228								
VWDT	**VWDT**	**1.94**	**237**	P		**Pn**		**08 07 01.4**	**+0.7**
	baz=239								
EHY	**Hungye**	**1.96**	**228**	*e*P		**Pn**		**08 07 00.7**	**-0.3**
	baz=231								
YULB	**Yu-li**	**2.06**	**226**	P		**Pn**		**08 07 02.0**	**-0.3**
	baz=219								
YULB	**Yu-li**	**2.06**	**226**			**Pn**		**08 07 02.0**	**-0.3**
SMLT	**Sun Moon Lake**	**2.07**	**243**	*e*P		**Pb**		**08 07 04.2**	**-1.2**
	baz=231								
SSLB	**Suanglung**	**2.07**	**240**	P		**Pn**		**08 07 02.7**	**+0.2**
	baz=243								
SSLB	**Suanglung**	**2.07**	**240**	Pn		**Pn**		**08 07 04.0**	**-1.4**

TWF1	**Yuli**	**2.08 226**	*e*P	**Pn**	**08 07 02.7**	**0.0**
	baz=218					
TYC	**Yuchr**	**2.09 244**	P	**Pb**	**08 07 04.7**	**-1.1**
	baz=232					
WHYT	**Xinyi Township**	**2.19 240**	P	**Pb**	**08 07 05.9**	**-1.6**
	baz=242					
FULB	**Fuli**	**2.20 223**	P	**Pn**	**08 07 03.3**	**-0.9**
	baz=225					
ALS	**Alishan**	**2.33 236**	P	**Pn**	**08 07 08.1**	**+1.8**
	baz=239					
CHN5	**Tsauling**	**2.38 240**	*e*P	**Pb**	**08 07 08.9**	**-1.9**
	baz=243					
TPUB	**Ta-pu**	**2.58 234**	*e*P	**Pn**	**08 07 11.3**	**+1.7**
	baz=238					
TPUB	**Ta-pu**	**2.58 234**	Pn	**Pn**	**08 07 11.0**	**+1.5**
TWG	**Pinlang**	**2.62 221**	Pn	**Pn**	**08 07 09.3**	**-0.7**
TWK	**Hsinying**	**2.71 236**	P	**Pn**	**08 07 13.7**	**+2.3**
	baz=239					
SNST	**Tainan City**	**2.73 235**	*e*P	**Pn**	**08 07 13.5**	**+1.9**
	baz=238					
SLGT	**Liugui**	**2.77 229**	P	**Pn**	**08 07 13.9**	**+1.8**
	baz=231					
SLGT			*e*S	**Sn**	**08 07 46.6**	**+1.2**
	baz=231					
MASBT	**Mashibuluo**	**3.04 224**	*e*P	**Pn**	**08 07 16.4**	**+0.6**
	baz=219					
MASBT			*e*S	**Sn**	**08 07 52.3**	**+0.1**
	baz=219					
KSRS	**Korea Array**	**13.29 18**	Pn	**P**	**08 09 48.2**	**+2.0**
	baz=190,slow=12,SNR=6.4					
SONM	**Songino Array**	**26.43 335**	P	**P**	**08 12 04.8**	**+0.1**
	0.4nm,0.6s,baz=165,slow=6.0,SNR=2.0					
SONM	**Songino Array**	**26.43 335**	P	**P**	**08 12 06.2**	**+1.6**
MKAR	**Makanchi Array**	**38.99 315**	P	**P**	**08 13 52.2**	**-1.9**
	0.6nm,0.8s,baz=93,slow=11,SNR=4.2					
MKAR	**Makanchi Array**	**38.99 315**	P	**P**	**08 13 53.6**	**-0.5**
WB0	**Warramunga Arr**	**45.71 165**	P	**P**	**08 14 48.4**	**-0.6**
WB0			IAmb	IAmb	08 14 55.4	
	comp=Z,6.7nm,1.1s					
WRA	**Warramunga Arr**	**45.87 165**	P	**P**	**08 14 49.8**	**-0.4**
	comp=Z,3.1nm,0.8s,baz=346,slow=8.2,SNR=6.4					
WRA	**Warramunga Arr**	**45.87 165**	P	**P**	**08 14 46.4**	**-3.8**
WB2	**Warramunga Arr**	**45.87 165**	P	**P**	**08 14 50.8**	**+0.5**
WB2			IAmb	IAmb	08 14 52.2	
	comp=Z,9.7nm,1.1s					
WR0	**Warramunga Arr**	**45.93 165**	P	**P**	**08 14 48.8**	**-2.0**
WR0			IAmb	IAmb	08 14 52.2	
	comp=Z,4.2nm,0.8s					
ASAR	**Alice Springs**	**49.37 167**	P	**P**	**08 15 16.5**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=345,slow=8.6,SNR=5.2					
ASAR	**Alice Springs**	**49.37 167**	P	**P**	**08 15 15.1**	**-2.3**

JMA 16 08:17:02.8±0.2,24°.87N×122°.93E,h26km±4km,M2.4,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.41**	**170**	P		**Pb**		**08 17 11.5**	**-0.1**
YOJ				*e*S		**Sb**		**08 17 17.6**	**0.0**
JYNG	**Yonagunijimaku**	**0.42**	**178**	P		**Pb**		**08 17 11.4**	**-0.3**
JYNG				S		**Sb**		**08 17 17.9**	**+0.2**
IRIF	**Iriomote-Funau**	**0.90**	**126**	P		**Pn**		**08 17 19.4**	**-0.4**
IRIF				S		**Sb**		**08 17 31.2**	**-0.2**
HATJ	**Hateruma jima**	**1.14**	**135**	P		**Pb**		**08 17 23.5**	**-0.3**
JKRS	**Kuro-shima**	**1.17**	**122**	P		**Pn**		**08 17 23.8**	**+0.4**
JKRS				S		**Sn**		**08 17 37.3**	**-1.2**
JIJ	**Ishigaki jima**	**1.21**	**114**	P		**Pn**		**08 17 23.6**	**-0.5**
JIJ				S		**Sn**		**08 17 38.2**	**-1.5**

TAP 16 08:17:14.3,23°.75N×121°.48E,h8km,ML1.4,D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.08**	**326**	*i* P		**Pg**		**08 17 16.9**	**+0.6**
	baz=330								
ESL				*e*S		Sg		08 17 18.7	+0.9
	baz=330								
EGFH	**Guangfu**	**0.09**	**211**	*i* P		**Pg**		**08 17 17.2**	**+0.6**
	baz=211								
EGFH				S		Sg		08 17 19.2	+1.0
	baz=211								
HGSD	**Ruisui**	**0.26**	**191**	*e*P		Pb		08 17 20.8	-0.5
	baz=191								
EHY	**Hungye**	**0.28**	**211**	*e*P		Pg		08 17 20.6	+0.7
	baz=209								
EHY				*e*S		Sb		08 17 26.2	-0.3
	baz=209								
VWDT	**VWDT**	**0.31**	**271**	*e*P		Pb		08 17 21.7	-0.4
	baz=270								
VWDT				*e*S		Sb		08 17 26.8	-0.5
	baz=270								
YULB	**Yu-li**	**0.39**	**205**	*e*P		Pg		08 17 22.4	+0.5
	baz=205								
YULB				S		Sb		08 17 29.5	-0.2
	baz=205								
CHGB	**Renai**	**0.42**	**318**	*e*P		Pb		08 17 23.4	-0.7
	baz=317								
CHGB				*e*S		Sb		08 17 29.9	-0.7
	baz=317								
TWF1	**Yuli**	**0.43**	**203**	*e*P		Pb		08 17 23.5	-0.7
	baz=202								
TWF1				*e*S		Sb		08 17 30.4	-0.4
	baz=202								
WHF	**Hehuan Shan**	**0.44**	**334**	P		Pg		08 17 23.7	+0.7
	baz=334								
WHF				*e*S		Sb		08 17 31.3	-0.3
	baz=334								
SSLB	**Suanglung**	**0.48**	**275**	*e*P		Pb		08 17 24.9	-0.2
	baz=274								
SSLB				*e*S		Sb		08 17 32.3	-0.1
	baz=274								
FULB	**Fuli**	**0.57**	**197**	*e*S		Sn		08 17 36.8	-1.7
	baz=197								
TDCB	**Techi**	**0.58**	**330**	*e*P		Pb		08 17 26.6	-0.3
	baz=329								
TDCB				*e*S		Sb		08 17 35.5	+0.2
	baz=329								

*SKHL **16** 08:24:45.1±0.3,42°.09N×144°.92E,h76km±2km,mb4.3/2*
*JMA **16** 08:24:45.7,42°.21N×144°.71E,h29km±1km,M3.6*

ISC 16 08:24:46.0±2.2,42°.3N±0°.1×144°.69E±0°.08,h71km±26km,
n14,σ0°48/22,2C-2D,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.74**	**0**	⇓P		**Pn**		**08 25 00.4**	**-1.1**
JKHN	**Kushirohamanak**	**0.90**	**22**	P		**Pn**		**08 25 03.2**	**-0.1**
JKHN				*e*S		**Sn**		**08 25 17.1**	**+1.0**
JOB	**Onbets**	**0.91**	**316**	P		**Pn**		**08 25 03.2**	**-0.2**
JTHR	**Tokachihiroo**	**1.04**	**273**	⇑P		**Pn**		**08 25 04.6**	**-0.4**
JCH	**Churui**	**1.05**	**291

IDC ***16*** *08:37:34.1±1.3,24°.47S×177°.06W,h0km,mb4.2/6, mb1 4.4/6,mb1mx4.0/34,mbtmp4.2/6,Error ellipse: s-maj=48.0km s-min=29.1km az=159.0*

NEIC ***16*** *08:37:35.4±2.0,24°.50S±0°.05×177°.20W±0°.07,h10km±1km, mb4.5/16,Error ellipse: s-maj=13.9km s-min=4.4km az=53.0*

ISC 16 08:37:35.2±0.7,**24°.48S**±0°.08×**177°.2W**±0°.1,**h10**km,**n30,** σ1§**23**/30,**mb4.5**/13,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.80**	**188**	Pn	**Pn**	**08 38 44.7**	**-3.0**
MSVF	**Nonsavu**	**8.06**	**325**	Pn	**Pn**	**08 39 31.1**	**-1.4**
NIUE	**Niue**	**8.60**	**53**	Pn	**Pn**	**08 39 40.4**	**+0.5**
AFI	**Afiamalu**	**11.67**	**27**	Pn	**Pn**	**08 40 21.8**	**-0.2**
DZM	**Mont Dzumac**	**15.26**	**276**	Pn	**Pn**	**08 41 09.0**	**-1.9**
DZM				IAmb	IAmb	08 41 27.1	
	comp=Z,10nm,0.8s						
BKZ	**Black Stump Fm**	**15.60**	**199**	Pn	**Pn**	**08 41 14.0**	**-1.3**
BKZ				IAmb	IAmb	08 41 30.9	
	comp=Z,22nm,1.3s						
WHZ	**Wether Hill Ro**	**24.51**	**206**	P	**P**	**08 42 55.6**	**+0.8**
WHZ				IAmb	IAmb	08 42 55.6	
	comp=Z,23nm,1.2s						
EIDS	**Eidsvold**	**28.78**	**261**	P	**P**	**08 43 35.8**	**+2.4**
EIDS				IAmb	IAmb	08 43 37.6	
	comp=Z,17nm,1.4s						
CTA	**Charters Tower**	**34.07**	**270**	P	**P**	**08 44 22.4**	**+2.4**
	comp=Z,3.3nm,0.4s,baz=84,slow=13,SNR=7.9						
CTAO	**Charters Tower**	**34.07**	**270**	P	**P**	**08 44 20.7**	**+0.7**
STKA	**Stephens Creek**	**36.92**	**249**	P	**P**	**08 44 45.9**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=87,slow=12,SNR=5.3						
STKA	**Stephens Creek**	**36.92**	**249**	P	**P**	**08 44 46.1**	**+1.6**
BBOO	**Buckleboo**	**41.61**	**248**	P	**P**	**08 45 23.6**	**-0.1**
BBOO				IAmb	IAmb	08 45 41.1	
	comp=Z,27nm,1.4s						
AS31	**Alice Springs**	**44.50**	**261**	P	**P**	**08 45 47.0**	**-0.1**
ASAR	**Alice Springs**	**44.50**	**261**	P	**P**	**08 45 47.8**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=89,slow=6.9,SNR=33						
ASAR	**Alice Springs**	**44.50**	**261**	P	**P**	**08 45 47.0**	**-0.2**
WR0	**Warramunga Arr**	**44.76**	**266**	P	**P**	**08 45 49.4**	**+0.2**
WR0				IAmb	IAmb	08 45 51.1	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**44.94**	**266**	P	**P**	**08 45 50.5**	**-0.2**
WB2				IAmb	IAmb	08 45 58.6	
	comp=Z,15nm,1.4s						
WB0	**Warramunga Arr**	**44.95**	**266**	P	**P**	**08 45 50.9**	**+0.2**
WRA	**Warramunga Arr**	**44.95**	**266**	P	**P**	**08 45 50.5**	**-0.3**
	comp=Z,2.8nm,0.4s,baz=102,slow=7.9,SNR=30						
WRA	**Warramunga Arr**	**44.95**	**266**	P	**P**	**08 45 50.2**	**-0.5**
KNRA	**Kununurra**	**51.27**	**269**	P	**P**	**08 46 40.3**	**+0.6**
QSPA	**South Pole Qui**	**65.61**	**180**	P	**P**	**08 48 21.2**	**+2.0**
QSPA				IAmb	IAmb	08 48 30.3	
	comp=Z,4.3nm,1.4s						
MAW	**Mawson**	**78.10**	**200**	P	**P**	**08 49 34.9**	**+0.9**
	comp=Z,2.3nm,0.5s,baz=132,slow=6.7,SNR=9.1						
MAW	**Mawson**	**78.10**	**200**	P	**P**	**08 49 34.6**	**+0.6**
NVAR	**Mina Array Bea**	**83.39**	**43**	P	**P**	**08 50 02.4**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=212,slow=6.4,SNR=1.9						
NVAR	**Mina Array Bea**	**83.39**	**43**	P	**P**	**08 50 02.0**	**-1.0**
SNAA	**Sanae**	**84.03**	**178**	P	**P**	**08 50 05.7**	**0.0**
SNAA				IAmb	IAmb	08 50 16.7	
	comp=Z,1.1nm,1.1s						
AKASG	**Malin Array Be**	**146.83**	**329**	PKPbc	**PKPab**	**08 57 18.5**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=34,slow=4.4,SNR=5.2						
MMAI	**Mount Meron Ar**	**150.30**	**294**	PKPbc	**PKiKP**	**08 57 27.8**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=62,slow=7.7,SNR=3.6						

GCG ***16*** *08:49:49.7±0.5, 14°.96N×91°.95W,h2km±15km,MD3.9*

IDC ***16*** *08:49:54.7±4.9, 16°.15N×92°.10W,h0km,mb3.5/3, mb1 3.9/6,mb1mx3.6/50,mbtmp3.6/6,ML3.6/3,MS2.5/2, Ms1 2.5/2,ms1mx2.4/31,Error ellipse: s-maj=83.0km s-min=19.0km az=175.0*

ISC 16 08:49:46.6±1.0,**15°.28N**±0°.09×**92°.05W**±0°.06,**h10**km,**n11,** σ2§**25**/15,**mb3.4**/3,**Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**1.43**	**125**	*eP*	**Pb**	**08 50 12.2**	**-1.3**
PCG	**Pacaya**	**1.65**	**122**	*eP*	**Pg**	**08 50 16.5**	**-1.8**
NBG	**Las Nubes**	**1.78**	**112**	*eP*	**Pg**	**08 50 19.2**	**-1.7**
NBG				*eS*	**Sg**	**08 50 42.7**	**-1.3**
IXG	**Ixpaco**	**1.91**	**125**	*eP*	**Pb**	**08 50 20.2**	**-1.4**
MRL	**Marmol**	**2.29**	**95**	*eP*	**Pb**	**08 50 28.0**	**-0.3**
MRL				*eS*	**Sb**	**08 50 57.2**	**+0.5**
CMIG	**Matias Romero**	**3.27**	**304**	Pn	**Pb**	**08 50 41.6**	**-3.1**
	4.2nm,0.3s,baz=118,slow=10,SNR=87						
CMIG				Pg	**Pg**	**08 50 47.3**	**-2.0**
	23nm,0.3s,baz=119,slow=15,SNR=26						
CMIG				Lg	Lg	08 51 23.9	
	9.2nm,0.3s,baz=184,slow=14,SNR=5.3						
CMIG				LR	LR	08 51 40.9	
	comp=Z,45nm,22.0s,baz=204,slow=38						
TEIG	**Tepich**	**6.09**	**36**	Pn	**Pn**	**08 51 17.0**	**+0.2**
	6.0nm,0.3s,baz=318,slow=0.1,SNR=25						
TEIG				Sn	**Sn**	**08 52 23.3**	**-3.3**
	3.9nm,0.3s,baz=319,slow=21,SNR=11						
TEIG				LR	LR	08 54 05.6	
	comp=Z,105nm,20.0s,baz=229,slow=46						
TXAR	**Lajitas Array**	**17.62**	**324**	Pn	**P**	**08 53 54.8**	**+1.3**
	0.0nm,0.3s,baz=159,slow=15,SNR=6.5						
PDAR	**Pinedale Array**	**31.25**	**335**	P	**P**	**08 56 09.0**	**+2.2**
	0.2nm,0.5s,baz=128,slow=12,SNR=1.9						
NVAR	**Mina Array Bea**	**32.66**	**320**	P	**P**	**08 56 22.2**	**+3.0**
	0.4nm,0.7s,baz=134,slow=8.9,SNR=3.2						
YKA	**Yellowknife Ar**	**49.78**	**347**	P	**P**	**08 58 42.1**	**+2.9**
	0.9nm,0.6s,baz=150,slow=7.6,SNR=17						

VAO ***16*** *09:17:42.3±0.8,23°.91S×69°.67W,h54km±6km,mb5.1*

UNK ***16*** *09:17:46.6,23°.94S×69°.47W,h78km*

NEIC ***16*** *09:17:46.8±2.6,23°.97S±0°.05×69°.5W±0°.1,h83km±4km, Error ellipse: s-maj=13.6km s-min=6.9km az=92.0*

GUC ***16*** *09:17:46.7±0.8,23°.97S×69°.56W,h91km±6km,ML5.0*

IDC ***16*** *09:17:47.5±0.4,24°.00S×69°.46W,h85km±3km,mb4.4/16, mb1 4.5/21,mb1mx4.4/28,mbtmp4.7/21,MS3.2/4, Ms1 3.3/4,ms1mx3.0/22,Error ellipse: s-maj=12.9km s-min=6.6km az=103.0*

BJI ***16*** *09:17:48.0±0.2,23°.90S×69°.50W,h80km,mB5.2/1, Ms4.8/1,Ms7 4.7/1*

ISC 16 09:17:46.5±0.3,**23°.96S**±0°.03×**69°.52W**±0°.04,**h80**km±3km, **h80**km:**pP-P,n658,** σ1§**16**/595,**mb4.8**/125,**9C-4D,Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB15	**IPOC Station P**	**0.75**	**3**	⇓*iP*	**Pn**	**09 18 04.3**	**+1.4**
PB15				*i* S	**Sn**	**09 18 16.9**	**+1.9**
PB15	**IPOC Station P**	**0.75**	**3**		**Pn**	**09 18 03.3**	**+0.3**
PB10	**IPOC Station P**	**1.05**	**295**	⇑*iP*	**Pn**	**09 18 06.6**	**+0.5**
PB10				*i* S	**Sn**	**09 18 21.6**	**+0.8**
PB10				IAML		09 18 23.6	
	comp=N,32μm,0.3s						
PB10	**IPOC Station P**	**1.05**	**295**		**Pn**	**09 18 06.6**	**+0.5**
GO02	**Mina Guanaco**	**1.20**	**183**	⇑*iP*	**Pn**	**09 18 09.3**	**+1.0**
GO02				*i* S	**Sn**	**09 18 26.1**	**+1.4**
GO02	**Mina Guanaco**	**1.20**	**183**		**Pn**	**09 18 09.3**	**+1.0**
PB06	**IPOC Station P**	**1.25**	**358**	⇑*iP*	**Pn**	**09 18 09.8**	**+1.0**
PB06				*i* S	**Sn**	**09 18 26.8**	**+1.3**
PB06				IAML		09 18 27.8	
	comp=E,38μm,0.4s						
PB06	**IPOC Station P**	**1.25**	**358**		**Pn**	**09 18 09.9**	**+1.0**
PB05	**IPOC Station P**	**1.27**	**330**	⇑*iP*	**Pn**	**09 18 09.6**	**+0.6**
PB05				*i* S	**Sn**	**09 18 26.4**	**+0.6**
PB05				IAML		09 18 29.6	
	comp=E,55μm,0.4s						
LVC	**Limon Verde**	**1.45**	**23**	P	**Pn**	**09 18 13.5**	**+1.9**
	comp=E,358nm,0.3s,baz=192,slow=9.7,SNR=772						
LVC				S	**Sn**	**09 18 32.5**	**+2.1**
	comp=E,2μm,0.3s,baz=210,slow=9.1,SNR=18						
LVC				LR	LR	09 18 49.4	
	comp=E,1μm,19.1s,baz=185,slow=42						
LVC	**Limon Verde**	**1.45**	**23**	⇓*iP*	**Pn**	**09 18 13.2**	**+1.6**
LVC				*i* S	**Sn**	**09 18 32.4**	**+2.0**
PB04	**IPOC Station P**	**1.72**	**340**	⇓*iP*	**Pn**	**09 18 15.1**	**+0.3**
PB04				*i* S	**Sn**	**09 18 34.0**	**-2.3**
PB04				IAML		09 18 42.8	
	comp=E,16μm,0.3s						
PB04	**IPOC Station P**	**1.72**	**340**		**Pn**	**09 18 15.2**	**+0.3**
PB03	**IPOC Station P**	**1.91**	**353**	⇑*iP*	**Pn**	**09 18 18.0**	**+0.6**
PB03				*i* S	**Sn**	**09 18 41.4**	**+0.5**
PB03				IAML		09 18 42.1	
	comp=E,14μm,0.5s						
PB09	**IPOC Station P**	**2.17**	**7**	⇓*iP*	**Pn**	**09 18 22.4**	**+1.5**
PB09				*i* S	**Sn**	**09 18 47.9**	**+0.9**
PB09	**IPOC Station P**	**2.17**	**7**		**Pn**	**09 18 22.2**	**+1.4**
PB07	**IPOC Station P**	**2.25**	**351**	⇑*iP*	**Pn**	**09 18 22.1**	**+0.2**
PB07				*i* S	**Sn**	**09 18 43.4**	**-5.5**
PB07	**IPOC Station P**	**2.25**	**351**		**Pn**	**09 18 22.4**	**+0.5**
AC02	**Maricunga**	**2.89**	**173**		**Pn**	**09 18 32.9**	**+2.1**
PB01	**IPOC Station P**	**2.90**	**1**		**Pn**	**09 18 31.2**	**+0.6**
TA01	**Diego Aracena**	**3.43**	**350**		**Pn**	**09 18 36.4**	**-1.3**
GO03	**Copiapo**	**3.68**	**190**		**Pn**	**09 18 40.4**	**-0.7**
PB11	**IPOC Station P**	**4.18**	**358**	Pn	**Pn**	**09 18 47.0**	**-1.1**
GO01	**Chusmiza**	**4.28**	**4**		**Pn**	**09 18 49.3**	**-0.4**
PSGCX	**Pisagua**	**4.38**	**353**		**Pn**	**09 18 48.9**	**-1.8**
MNMC	**Minye Minye**	**4.80**	**359**		**Pn**	**09 18 55.9**	**-0.8**
AC05	**El Transito**	**4.91**	**188**	Pn	**Pn**	**09 18 56.9**	**-1.0**
PB12	**IPOC Station P**	**5.37**	**352**	Pn	**Pn**	**09 19 02.0**	**-2.2**
AP01	**Chacalluta**	**5.61**	**352**	Pn	**Pn**	**09 19 06.2**	**-1.3**
CO01	**Juntas del Tor**	**6.02**	**185**	Pn	**Pn**	**09 19 12.7**	**-0.5**
CO02	**Combarbal**	**7.34**	**190**	Pn	**Pn**	**09 19 26.9**	**-4.1**
CFA	**Coronel Fontan**	**7.70**	**172**	P	**Pn**	**09 19 34.7**	**-1.3**
	comp=E,11nm,0.3s,baz=350,slow=12,SNR=120						
CFA				S	**Sn**	**09 20 54.9**	**-6.8**
	baz=236,slow=19,SNR=0.9						
LPAZ	**La Paz**	**7.74**	**10**	P	**Pn**	**09 19 38.5**	**+1.4**
	comp=E,4.1nm,0.3s,baz=189,slow=5.0,SNR=137						
LPAZ				LR	LR	09 22 49.4	
	comp=E,242nm,18.3s,baz=170,slow=39						
LPAZ	**La Paz**	**7.74**	**10**	Pn	**Pn**	**09 19 37.8**	**+0.7**
VA03	**San Esteban**	**8.82**	**186**		**Pn**	**09 19 47.8**	**-3.5**
ROC1	**El Roble**	**9.08**	**188**		**Pn**	**09 19 53.1**	**-1.8**
PEL	**Peldehue**	**9.21**	**186**	Pn	**Pn**	**09 19 57.3**	**+0.8**
MT02	**Curacav**	**9.38**	**188**	Pn	Pn	09 19 53.6	-5.2
MT05	**Renca**	**9.46**	**186**	Pn	**Pn**	**09 19 57.5**	**-2.5**
MT01	**Popeta**	**9.99**	**188**	Pn	**Pn**	**09 20 08.2**	**+1.1**
BO02	**Sierra Bellavi**	**10.85**	**186**		**Pn**	**09 20 14.6**	**-4.3**
GO05	**Huala**	**11.21**	**190**	Pn	**Pn**	**09 20 20.0**	**-3.8**
SIV	**San Ignacio**	**11.21**	**47**	P	**Pn**	**09 20 20.3**	**-3.7**
	comp=E,6.2nm,0.3s,baz=251,slow=9.4,SNR=158						
SIV				S	Sn	09 22 16.1	-12
	baz=153,slow=23,SNR=1.3						
CPUP	**Villa Florida**	**11.29**	**105**	P	**Pn**	**09 20 24.4**	**-0.6**
	comp=E,1.1nm,0.3s,baz=282,slow=12,SNR=30						
CPUP	**Villa Florida**	**11.29**	**105**	Pn	**Pn**	**09 20 23.9**	**-1.0**
BI02	**San Fabin de**	**12.75**	**186**	Pn	**Pn**	**09 20 44.8**	**0.0**
PTLB	**Pontes e Lacer**	**12.93**	**51**	*eP*	**Pn**	**09 20 43.8**	**-3.4**
PTLB	**Pontes e Lacer**	**12.93**	**51**	*eP*	**Pn**	**09 20 43.8**	**-3.4**
AQDB	**Aquidauana**	**13.26**	**78**	*eP*	**Pn**	**09 20 50.6**	**-1.0**
AQDB	**Aquidauana**	**13.26**	**78**	*eP*	**Pn**	**09 20 50.6**	**-1.0**
NNA	**Nana**	**13.79**	**328**	P	**Pn**	**09 20 58.8**	**+0.2**
	comp=E,1.2nm,0.3s,baz=242,slow=23,SNR=1.9						
NNA				S	**Sn**	**09 23 23.3**	**-6.9**
	comp=E,1.0nm,0.3s,baz=180,slow=19,SNR=2.5						
NNA				LR	LR	09 26 03.5	
	comp=E,42nm,19.4s,baz=168,slow=36						
VILB	**Vilhena**	**14.06**	**41**	*eP*	**Pn**	**09 20 59.2**	**-2.9**
VILB	**Vilhena**	**14.06**	**41**	*eP*	**Pn**	**09 20 59.2**	**-2.9**
SALV	**Santo Antonio**	**15.26**	**61**	*eP*	**Pn**	**09 21 15.8**	**-1.8**
SALV	**Santo Antonio**	**15.26**	**61**	*eP*	**Pn**	**09 21 15.8**	**-1.8**
TRCB	**Terra Rica**	**15.55**	**89**	*eP*	**Pn**	**09 21 20.9**	**-0.3**
TRCB	**Terra Rica**	**15.55**	**89**	*eP*	**Pn**	**09 21 20.9**	**-0.3**
PLTB	**Pedras Altas**	**16.07**	**122**	*eP*	**Pn**	**09 21 25.7**	**-1.9**
PLTB	**Pedras Altas**	**16.07**	**122**	*eP*	**Pn**	**09 21 25.7**	**-1.9**
SAML	**Samuel**	**16.11**	**23**	P	**P**	**09 21 31.0**	**+0.9**
C2SB	**Chapadao do Su**	**16.37**	**75**	*eP*	**Pn**	**09 21 30.9**	**-0.6**
C2SB	**Chapadao do Su**	**16.37**	**75**	*eP*	**Pn**	**09 21 30.9**	**-0.6**
PLCA	**Paso Flores**	**16.75**	**183**	P	**P**	**09 21 37.2**	**+0.1**
	comp=E,0.9nm,0.3s,baz=3.3,slow=14,SNR=18						
PLCA	**Paso Flores**	**16.75**	**183**	P	**P**	**09 21 37.4**	**+0.3**
PLCA	**Paso Flores**	**16.75**	**183**	*eP*	**Pn**	**09 21 34.4**	**-1.7**
PLCA	**Paso Flores**	**16.75**	**183**	*eP*	**Pn**	**09 21 34.4**	**-1.7**
PCMB	**Pacaembu**	**17.00**	**86**	*eP*	**Pn**	**09 21 38.0**	**-1.2**
PCMB	**Pacaembu**	**17.00**	**86**	*eP*	**Pn**	**09 21 38.0**	**-1.2**
CNLB	**Canela**	**17.51**	**112**	*eP*	**Pn**	**09 21 43.5**	**-2.0**
CNLB	**Canela**	**17.51**	**112**	*eP*	**Pn**	**09 21 43.5**	**-2.0**
ITRB	**Iturama**	**18.28**	**80**	*eP*	**P**	**09 21 53.8**	**-0.3**
ITRB	**Iturama**	**18.28**	**80**	*eP*	**P**	**09 21 53.8**	**-0.3**
FRTB	**Fartura**	**18.29**	**92**	*eP*	**P**	**09 21 53.7**	**-0.5**
FRTB	**Fartura**	**18.29**	**92**	*eP*	**P**	**09 21 53.7**	**-0.5**
CLDB	**Colider**	**18.44**	**47**	*eP*	**P**	**09 21 53.9**	**-1.9**
CLDB	**Colider**	**18.44**	**47**	*eP*	**P**	**09 21 53.9**	**-1.9**
LL01	**San Ignacio de**	**18.53**	**187**	IAmb	IAmb	09 21 58.8	
	comp=Z,51nm,1.2s						
ARAG	**Araguaiana, MT**	**18.56**	**67**	*eP*	**P**	**09 21 56.0**	**-1.0**
ARAG	**Araguaiana, MT**	**18.56**	**67**	*eP*	**P**	**09 21 56.0**	**-1.0**
TIJ01	**Guaruva-PR**	**18.70**	**98**	*eP*	**P**	**09 21 57.6**	**-1.1**
TIJ01	**Guaruva-PR**	**18.70**	**98**	*eP*	**P**	**09 21 57.6**	**-1.1**
BB19B	**Bebedouro**	**19.60**	**86**	*eP*	**P**	**09 22 07.4**	**-1.2**
BB19B				*eS*	**Sn**	**09 25 49.0**	**-1.6**
BB19B	**Bebedouro**	**19.60**	**86**	*eP*	**P**	**09 22 07.4**	**-1.2**
BB19B				*eS*	**Sn**	**09 25 49.0**	**-1.6**
PET01	**Itanhaem-SP**	**20.30**	**95**	*eP*	**P**	**09 22 14.9**	**-1.2**
PET01	**Itanhaem-SP**	**20.30**	**95**	*eP*	**P**	**09 22 14.9**	**-1.2**
VAO	**Valinhos**	**20.71**	**92**	*eP*	**P**	**09 22 18.4**	**-2.2**
VAO	**Valinhos**	**20.71**	**92**	*eP*	**P**	**09 22 18.4**	**-2.2**
IPMB	**Ipameri, GO**	**20.75**	**77**	*eP*	**P**	**09 22 20.4**	**-0.6**
IPMB	**Ipameri, GO**	**20.75**	**77**	*eP*	**P**	**09 22 20.4**	**-0.6**
NPGB	**Novo Progresso**	**21.62**	**41**	*eP*	**P**	**09 22 28.5**	**-1.7**
NPGB	**Novo Progresso**	**21.62**	**41**	*eP*	**P**	**09 22 28.5**	**-1.7**
COYC	**Coyhaique**	**21.66**	**185**	P	**P**	**09 22 29.9**	**-0.6**
BDFB	**Brasilia**	**21.84**	**72**	P	**P**	**09 22 31.7**	**-1.0**
	comp=Z,35nm,0.6s,baz=249,slow=12,SNR=40						
BDFB	**Brasilia**	**21.84**	**72**	P	**P**	**09 22 30.4**	**-2.2**
BDFB				IAmb	IAmb	09 22 34.1	
	comp=Z,38nm,0.7s						
PARB	**Paraibuna**	**21.90**	**93**	*eP*	**P**	**09 22 33.9**	**+0.6**
PARB	**Paraibuna**	**21.90**	**93**	*eP*	**P**	**09 22 33.9**	**+0.6**
MACA	**Manacapuru-AM**	**22.37**	**24**	*eP*	**P**	**09 22 36.4**	**-1.8**
MACA	**Manacapuru-AM**	**22.37**	**24**	*eP*	**P**	**09 22 36.4**	**-1.8**
BSCB	**Bom Sucesso**	**23.05**	**88**	*eP*	**P**	**09 22 43.5**	**-1.8**
BSCB	**Bom Sucesso**	**23.05**	**88**	*eP*	**P**	**09 22 43.5**	**-1.8**
VAS01	**Vassouras-RJ**	**24.03**	**91**	*eP*	**P**	**09 22 53.9**	**-0.3**
VAS01	**Vassouras-RJ**	**24.03**	**91**	*eP*	**P**	**09 22 53.9**	**-0.3**
PTGA	**Pitinga**	**24.88**	**23**	P	**P**	**09 23 01.8**	**-0.1**
	comp=Z,5.8nm,0.4s,baz=203,slow=13,SNR=10						
PTGA				LR	LR	09 33 43.9	
	comp=Z,70nm,20.7s,baz=209,slow=38						
PTGA	**Pitinga**	**24.88**	**23**	P	**P**	**09 23 02.6**	**+0.7**
PTGA	**Pitinga**	**24.88**	**23**	*eP*	**P**	**09 23 00.5**	**-1.4**
PTGA	**Pitinga**	**24.88**	**23**	*eP*	**P**	**09 23 00.5**	**-1.4**
MC01	**Montes Claros**	**25.02**	**78**	*eP*	**P**	**09 23 01.9**	**-1.5**
MC01	**Montes Claros**	**25.02**	**78**	*eP*	**P**	**09 23 01.9**	**-1.5**
PUAC	**Puerto Asis, P**	**25.30**	**343**	*eP*	pP	09 23 25.6	+1.0
JANB	**Januaria**	**25.32**	**74**	*eP*	**P**	**09 23 03.7**	**-2.4**
JANB	**Januaria**	**25.32**	**74**	*eP*	**P**	**09 23 03.7**	**-2.4**
SMTB	**Santa Maria do**	**25.78**	**58**	*eP*	**P**	**09 23 09.8**	**-0.4**
SMTB	**Santa Maria do**	**25.78**	**58**	*eP*	**P**	**09 23 09.8**	**-0.4**
PRPB	**Paraupebas**	**25.91**	**50**	*eP*	**P**	**09 23 10.4**	**-0.9**
PRPB	**Paraupebas**	**25.91**	**50**	*eP*	**P**	**09 23 10.4**	**-0.9**
MACC	**Macarena, Meta**	**26.29**	**350**	*eP*	pP	09 23 35.9	+2.4
CRUC	**La Cruz**	**26.38**	**343**	*eP*	pP	09 23 33.1	-1.7
MALB	**Monte Alegre**	**26.47**	**36**	*eP*	**P**	**09 23 14.9**	**-1.5**
MALB	**Monte Alegre**	**26.47**	**36**	*eP*	**P**	**09 23 14.9**	**-1.5**
BBAC	**Balboa, Cauca**	**26.89**	**343**	*eP*	P	09 23 29.9	+10
BSFB	**Barra de Sao F**	**27.15**	**85**	*eP*	**P**	**09 23 21.3**	**-1.2**
BSFB	**Barra de Sao F**	**27.15**	**85**	*eP*	**P**	**09 23 21.3**	**-1.2**
RIB01	**Linhares ES**	**27.44**	**86**	*eP*	**P**	**09 23 24.4**	**-0.7**
RIB01	**Linhares ES**	**27.44**	**86**	*eP*	**P**	**09 23 24.4**	**-0.7**
PRAC	**Prado**	**28.00**	**349**	*eP*	pP	09 23 51.0	+1.9
ORT	**Ortega, Tolima**	**28.25**	**348**	*eP*	**P**	**09 23 33.9**	**+1.6**
YOTC	**Yotoco, Valle**	**28.56**	**346**	*eP*	**P**	**09 23 34.1**	**-1.0**
CHIC	**Chingaza**	**28.71**	**351**	*eP*	pP	09 23 58.5	+2.6
TOLC	**Tolima**	**28.93**	**348**	*eP*	**P**	**09 23 39.9**	**+1.3**
EFI	**East Falkland**	**29.04**	**165**	P	**P**	**09 23 38.5**	**-0.4**
EFI				IAmb	IAmb	09 23 56.9	
	comp=Z,29nm,1.0s						
RREF	**El Recreo**	**29.24**	**348**	*eP*	**P**	**09 23 44.5**	**+2.8**
GUY2C	**Guyana, Caldas**	**29.56**	**348**	*eP*	**P**	**09 23 45.5**	**+1.1**
RUSC	**La Rusia**	**29.87**	**353**	*eP*	**P**	**09 23 47.4**	**+0.2**
GDU01	**Guandu, BA**	**30.05**	**76**	*eP*	**P**	**09 23 47.2**	**-1.1**
GDU01	**Guandu, BA**	**30.05**	**76**	*eP*	**P**	**09 23 47.2**	**-1.1**
CBOC	**Ciudad Bolivar**	**30.31**	**347**	*eP*	**P**	**09 23 51.2**	**+0.5**
HELC	**Santa Helena**	**30.53**	**348**	*eP*	**P**	**09 23 53.3**	**+0.4**
PTBC	**PUERTO BERRIO,**	**30.69**	**350**	*eP*	**P**	**09 23 52.4**	**-1.5**
ZARC	**Zaragoza, Cauc**	**31.69**	**350**	*eP*	**P**	**09 24 00.5**	**-2.2**
UREC	**San Jos de Ur**	**32.06**	**349**	*eP*	**P**	**09 24 05.8**	**-0.1**
SMLC	**San Martn de**	**32.86**	**352**	*eP*	**P**	**09 24 10.4**	**-2.4**
RCBR	**Riachuelo**	**36.99**	**66**	P	**P**	**09 24 48.1**	**-0.6**
	comp=Z,24nm,0.6s,baz=226,slow=11,SNR=18						
RCBR	**Riachuelo**	**36.99**	**66**	IAmb	IAmb	09 24 52.5	
	comp=Z,31nm,0.8s						
HOPE	**Hope Point**	**39.03**	**149**	P	**P**	**09 25 05.8**	**+0.7**
MTDJ	**Mount Denham**	**42.65**	**349**	P	**P**	**09 25 36.5**	**+1.1**
TEIG	**Tepich**	**47.57**	**336**	P	**P**	**09 26 14.9**	**+0.6**
ZAIG	**Zacatecas**	**56.47**	**323**	IAmb	IAmb	09 27 23.6	
	comp=Z,7.6nm,0.8s						
NHSC	**New Hope**	**57.65**	**349**	P	**P**	**09 27 28.9**	**+0.4**
	baz=168						
Z58A	**St. Stephen**	**57.81**	**350**	P	**P**	**09 27 30.3**	**+0.7**
	baz=169						
Z57A	**Bowman**	**57.92**	**349**	P	**P**	**09 27 30.5**	**+0.1**
	baz=168						
VNA3	**Neumayer Olymp**	**57.95**	**161**	P	**P**	**09 27 30.4**	**+0.3**
Z56A	**Williston**	**58.07**	**348**	P	**P**	**09 27 31.5**	**+0.1**
	baz=167						
152A	**Waverly Hall**	**58.15**	**345**	P	**P**	**09 27 30.6**	**-1.4**
152A				IAmb	IAmb	09 27 32.2	
	comp=Z,6.1nm,1.0s						
VNA1	**Neumayer--Stat**	**58.17**	**160**	P	**P**	**09 27 32.4**	**+0.7**
Y60A	**Bolivia**	**58.23**	**352**	P	**P**	**09 27 32.7**	**+0.3**
	baz=171						
Y59A	**Loris**	**58.31**	**351**	P	**P**	**09 27 33.3**	**+0.3**
	baz=170						
Y58A	**Scranton**	**58.35**	**350**	P	**P**	**09 27 33.4**	**+0.1**
	baz=169						
VNA2	**Neumayer--Watz**	**58.54**	**160**	P	**P**	**09 27 34.5**	**+0.3**
	baz=293,slow=7.9						
GOGA	**Godfrey**	**58.58**	**346**	P	**P**	**09 27 34.5**	**-0.4**
	baz=165						
Y55A	**Saluda**	**58.76**	**348**	P	**P**	**09 27 36.0**	**-0.2**
	baz=167,SNR=5.2						
X60A	**Albert Glenn T**	**58.77**	**352**	P	**P**	**09 27 36.3**	**+0.2**
	baz=171						
X59A	**McDuffie Farm,**	**58.84**	**351**	P	**P**	**09 27 36.8**	**+0.1**
	baz=170						
X58A	**Rowland**	**58.93**	**351**	P	**P**	**09 27 37.7**	**+0.3**
	baz=170						
X57A	**Johnson Farm,**	**58.96**	**350**	P	**P**	**09 27 37.7**	**+0.1**
	baz=169						
LRAL	**Lakeview Retre**	**59.08**	**343**	P	**P**	**09

comp=Z,8.0nm,0.8s
WHTX Lake Whitney, 61.71 333 P P 09 27 56.5 +0.1
baz=151
T54A Tazewell 61.75 349 P P 09 27 56.3 -0.3
baz=168
S58A Poland Farm, P 61.77 352 P P 09 27 56.7 +0.1
baz=171
CLTN Cedars of Leba 61.80 345 IAmb IAmb 09 27 57.3
comp=Z,9.4nm,0.8s
T53A Wise 61.84 348 P P 09 27 56.6 -0.7
baz=166
S57A Dark Hollow, R 62.03 352 P P 09 27 58.7 +0.3
baz=170,SNR=8.4
S57A Dark Hollow, R 62.03 352 P P 09 27 57.2 -1.2
S57A IAmb IAmb 09 27 59.3
comp=Z,8.5nm,0.8s
S57A pP 09 28 19.7 +0.3
S56A Natural Bridge 62.03 351 P P 09 27 58.7 +0.3
baz=170
U49A Red Boiling Sp 62.07 345 IAmb IAmb 09 27 58.4
comp=Z,5.5nm,0.6s
R58B Mineral 62.09 353 P P 09 27 59.3 +0.5
baz=171,SNR=7.5
R58B Mineral 62.09 353 IAmb IAmb 09 28 00.3
comp=Z,10nm,0.9s
X40A Basin Creek Fa 62.20 338 P P 09 27 59.6 0.0
baz=156
WVT Waverly 62.22 343 P P 09 27 58.6 -1.1
baz=161
WVT Waverly 62.22 343 P 09 27 58.8 -0.9
S55A Lewisburg 62.26 350 P P 09 28 00.3 +0.2
baz=169,SNR=6.1
TXAR Lajitas Array 62.34 326 P P 09 28 01.4 +0.6
comp=Z,1.5nm,0.5s,baz=154,slow=8.7,SNR=29
TXAR Lajitas Array 62.34 326 P 09 28 00.1 -0.7
TX31 Lajitas Ar. Si 62.34 326 IAmb IAmb 09 28 02.0
comp=Z,7.1nm,0.7s
TX32 Lajitas Array 62.34 326 P P 09 27 60.0 -0.8
T50A Nancy 62.35 346 P 09 27 59.0 -1.6
T50A IAmb IAmb 09 28 00.6
comp=Z,7.2nm,0.9s
T50A pP pP 09 28 20.7 -0.7
S54A Dingess, Beckl 62.42 349 P P 09 28 00.8 -0.3
baz=168,SNR=5.5
R58A Rapidan 62.44 352 P P 09 28 01.4 +0.3
baz=171
S53A Williamson 62.45 349 P P 09 28 00.5 -0.8
baz=167
R57A Stanardsville 62.50 352 P P 09 28 02.2 +0.6
baz=171,SNR=6.8
MIAR Mount Ida 62.51 338 P P 09 28 01.5 -0.1
baz=155,SNR=11
MIAR Mount Ida 62.51 338 IAmb IAmb 09 28 02.5
comp=Z,11nm,0.8s
W41B Gary Mavity, V 62.63 339 P P 09 28 02.2 -0.3
baz=157,SNR=6.0
W41B Gary Mavity, V 62.63 339 IAmb IAmb 09 28 03.2
comp=Z,6.9nm,0.8s
R55A Marlinton 62.71 351 P P 09 28 03.6 +0.6
baz=169
R54A Victor 62.74 350 P P 09 28 03.2 0.0
baz=168
WHAR Wooly Hollow 62.75 339 IAmb IAmb 09 28 03.9
comp=Z,7.8nm,0.8s
T47A Sharon Grove 62.85 344 P P 09 28 02.1 -1.8
T47A IAmb IAmb 09 28 04.1
comp=Z,16nm,0.9s
T47A pP 09 28 24.1 -0.7
Q58A Fox Den Farm, 63.03 353 P P 09 28 05.1 +0.1
baz=172
W39A Magazine 63.17 338 P P 09 28 06.4 +0.4
baz=155,SNR=12
W39A Magazine 63.17 338 IAmb IAmb 09 28 07.4
comp=Z,13nm,0.7s
ABTX Abilene, Hawle 63.19 332 P P 09 28 06.4 +0.1
baz=149,SNR=5.7
ABTX Abilene, Hawle 63.19 332 IAmb IAmb 09 28 07.5
comp=Z,11nm,0.8s
Q57A Strasburg 63.21 352 P P 09 28 07.1 +0.8
baz=171,SNR=9.7
Q56A Snyder Ridge, 63.32 352 P P 09 28 07.8 +0.8
baz=170,SNR=6.3
Q56A Snyder Ridge, 63.32 352 IAmb IAmb 09 28 08.8
comp=Z,12nm,0.8s
Q55A Buckhannon 63.40 351 P P 09 28 08.0 +0.4
baz=169
Q53A Leroy 63.49 350 P P 09 28 08.6 +0.5
baz=168
Q54A Coxs Mills 63.50 350 P P 09 28 08.4 +0.2
baz=168
P58A Pank, Wackersv 63.53 353 P P 09 28 08.8 +0.4
baz=172
P59A Jarrettsville 63.57 354 P P 09 28 09.2 +0.6
baz=173
P57A Homestead Farm 63.61 353 P P 09 28 09.7 +0.9
baz=171
P57A Homestead Farm 63.61 353 IAmb IAmb 09 28 10.7
comp=Z,7.5nm,0.8s
Q52A Bidwell 63.72 349 P P 09 28 09.1 -0.5
baz=167
P56A Dayton Farm, R 63.73 352 P P 09 28 10.5 +0.9
baz=170
WCI Wyandotte Cave 63.83 345 P P 09 28 09.2 -1.2
baz=163
WCI Wyandotte Cave 63.83 345 P P 09 28 07.7 -2.7
P55A Reedsville 63.87 351 P P 09 28 11.0 +0.4
baz=170
U40A Yellville 63.91 339 P P 09 28 10.5 -0.4
baz=156,SNR=13
U40A Yellville 63.91 339 IAmb IAmb 09 28 11.5
comp=Z,12nm,0.8s
MCWV Mont Chateau 64.02 351 P P 09 28 11.7 +0.2
baz=170
P54A Burton 64.05 351 P P 09 28 11.9 +0.1
baz=169,SNR=5.7
S44A Carbondale 64.07 343 P P 09 28 11.1 -0.9
P53A Whipple 64.08 350 P P 09 28 11.8 -0.2
baz=168
O58A Lewisberry 64.12 354 P P 09 28 12.5 +0.3
baz=172
O60A Telford 64.18 355 P P 09 28 12.8 +0.3
baz=174
HHAR Hobbs 64.20 338 IAmb IAmb 09 28 13.1
comp=Z,7.1nm,0.7s
O59A Robesonia 64.24 354 P P 09 28 13.4 +0.4
baz=173
O57A Amberson 64.28 353 P P 09 28 13.9 +0.6
baz=172
P52A Corning 64.35 349 P P 09 28 12.8 -0.9
baz=167
P52A Corning 64.35 349 IAmb IAmb 09 28 13.9
comp=Z,11nm,0.8s
O56A Blue Knob Stat 64.45 352 P P 09 28 14.7 +0.3
baz=171
O56A Blue Knob Stat 64.45 352 P P 09 28 14.7 +0.3
O56A IAmb IAmb 09 28 16.0
comp=Z,16nm,1.1s
O56A pP 09 28 36.3 +0.8
O55A Ligonier 64.48 352 P P 09 28 14.9 +0.3
baz=170,SNR=5.2
U38A Gravette 64.50 338 IAmb IAmb 09 28 15.3
comp=Z,9.3nm,0.7s
TUL1 Leonard 64.52 337 P P 09 28 14.7 -0.2
baz=153,SNR=8.5
WMOK Wichita Mounta 64.64 334 P P 09 28 15.4 -0.3
baz=150
N62A Caumsett State 64.66 357 P P 09 28 16.1 +0.4
baz=176
N63A Mattituck 64.67 357 P P 09 28 15.9 +0.2
baz=177
SSPA Standing Stone 64.73 353 P P 09 28 16.5 +0.3
baz=172
O52A Adamsville 64.77 350 P P 09 28 15.9 -0.5
baz=168
N59A State Game Lan 64.80 355 P P 09 28 17.4 +0.7
baz=174
N58A Sunbury 64.81 354 P P 09 28 17.2 +0.5
baz=173
N57A Milroy 64.81 353 P P 09 28 17.0 +0.3
baz=172
O51A Pataskala 64.93 349 P P 09 28 16.8 -0.7
baz=167
CCM Cathedral Cave 64.97 341 P P 09 28 17.2 -0.6
baz=158
CCM Cathedral Cave 64.97 341 P 09 28 15.3 -2.5
CCM IAmb IAmb 09 28 17.9
comp=Z,10nm,0.7s
N55A Marion Center 65.00 352 P P 09 28 18.4 +0.4
baz=170,SNR=11
N56A West Decatur 65.06 353 P P 09 28 18.6 +0.2
baz=171
ACSO Alum Creek Sta 65.08 349 P P 09 28 18.1 -0.4
baz=166
ACSO Alum Creek Sta 65.08 349 IAmb IAmb 09 28 18.7
comp=Z,13nm,0.8s
MNTX Cornudas Mount 65.11 327 P P 09 28 18.9 0.0
baz=144,SNR=9.8
M62A Hamden 65.14 357 P P 09 28 19.4 +0.6
baz=177
N53A Lisbon 65.29 351 P P 09 28 19.9 +0.1
baz=169
O49A Covington 65.29 348 IAmb IAmb 09 28 19.8
comp=Z,21nm,1.2s
M58A Price's Panora 65.31 354 P P 09 28 20.1 +0.1
baz=173
N54A Moraine State 65.32 351 P P 09 28 20.3 +0.4
baz=169
N54A Moraine State 65.32 351 IAmb IAmb 09 28 21.6
comp=Z,18nm,1.3s
M57A Sunshine Farm, 65.34 354 P P 09 28 20.4 +0.3
baz=172
M59A Waymart 65.40 355 P P 09 28 20.6 +0.1
baz=174,SNR=6.7
R40A Maddies Statio 65.50 340 P P 09 28 19.9 -1.3
R40A IAmb IAmb 09 28 21.8
comp=Z,26nm,1.2s
R40A pP 09 28 42.1 -0.2
L63A North Scituate 65.52 358 P P 09 28 21.0 -0.2
baz=178
O48A Farmland 65.53 347 P P 09 28 20.2 -1.1
baz=164
L64A Middleborough 65.57 359 P P 09 28 21.9 +0.3
baz=179
M56A Emporium 65.60 353 P P 09 28 22.0 +0.1
baz=171
M56A Emporium 65.60 353 IAmb IAmb 09 28 22.9
comp=Z,7.4nm,0.8s
M55A Ridgway 65.66 352 P P 09 28 22.4 +0.2
baz=171,SNR=8.2
M55A Ridgway 65.66 352 IAmb IAmb 09 28 23.3
comp=Z,15nm,0.8s
T35A Sooner Cattle 65.68 336 IAmb IAmb 09 28 23.4
comp=Z,14nm,1.1s
MSTX Muleshoe 65.72 330 P P 09 28 23.1 +0.2
baz=147,SNR=11
MSTX Muleshoe 65.72 330 P P 09 28 22.6 -0.3
MSTX sP 09 28 53.1 +0.3
L60A Shokan 65.76 356 P P 09 28 23.3 +0.5
baz=175
M54A Oil Creek Stat 65.81 352 P P 09 28 23.3 +0.1
baz=170
M54A Oil Creek Stat 65.81 352 IAmb IAmb 09 28 24.0
comp=Z,14nm,0.9s
L58A Harry Jones Me 65.93 355 P P 09 28 24.4 +0.5
baz=174
P43A Skaggs, Pawnee 65.97 343 IAmb IAmb 09 28 24.1
comp=Z,12nm,0.8s
AMTX Amarillo 66.00 331 P P 09 28 25.0 +0.4
baz=148
L59A Walton 66.01 356 P P 09 28 25.4 +0.9
baz=174,SNR=6.0
L59A Walton 66.01 356 IAmb IAmb 09 28 26.3
comp=Z,16nm,0.8s
BINY Binghamton 66.09 355 P P 09 28 25.4 +0.4
baz=174
BINY Binghamton 66.09 355 IAmb IAmb 09 28 26.6
comp=Z,18nm,1.2s
L61B Northampton 66.14 357 P P 09 28 25.5 +0.3
baz=177
HRV Adam Dziewonsk 66.16 358 P P 09 28 26.0 +0.7
baz=178
U32A Winter Ranch, 66.16 334 IAmb IAmb 09 28 27.4
comp=Z,12nm,0.8s
L56A Greenwood 66.18 353 P P 09 28 26.0 +0.5
baz=172
L56A Greenwood 66.18 353 IAmb IAmb 09 28 26.7
comp=Z,9.7nm,0.8s
QSPA South Pole Qui 66.25 180 P P 09 28 26.8 +0.9
L55A Hinsdale 66.32 353 P P 09 28 26.8 +0.4
baz=171,SNR=5.7
K61A Williamstown 66.38 357 P P 09 28 27.5 +0.7
baz=176
ERPA Erie 66.45 352 P P 09 28 27.0 -0.2
baz=170
TRY Troy 66.47 357 IAmb IAmb 09 28 29.3
comp=Z,15nm,0.8s
L54A Sinclairville 66.48 352 P P 09 28 27.7 +0.3
baz=170,SNR=5.6
P40A Paris 66.57 341 IAmb IAmb 09 28 28.6
comp=Z,16nm,0.9s
K59A Cooperstown 66.58 356 P P 09 28 28.9 +0.8
baz=175,SNR=5.8
K58A Earlville 66.63 355 P P 09 28 29.0 +0.6
baz=174,SNR=5.7
K58A Earlville 66.63 355 IAmb IAmb 09 28 29.8
comp=Z,14nm,0.9s
K57A Scipio Center 66.67 354 P P 09 28 28.8 +0.2
baz=173
K56A Middlesex 66.71 354 P P 09 28 28.8 -0.1
baz=172
HDIL Hopedale 66.77 344 P P 09 28 27.9 -1.4
baz=160
HDIL Hopedale 66.77 344 IAmb IAmb 09 28 28.6
comp=Z,11nm,0.6s
K54A Basiliko Farm, 66.77 353 P P 09 28 29.6 +0.3
baz=171
K55A Perry 66.82 353 P P 09 28 29.5 -0.1
baz=172
J62A Henniker 66.88 358 P P 09 28 30.0 +0.1
baz=178
319A Douglas 66.90 324 IAmb IAmb 09 28 33.1
comp=Z,16nm,0.8s
J60A Lant Hill Farm 66.96 357 P P 09 28 31.1 +0.7
baz=176
121A Cookes Peak, D 67.01 325 P P 09 28 32.9 +1.7
baz=142,SNR=6.2
121A Cookes Peak, D 67.01 325 IAmb IAmb 09 28 33.5
comp=Z,7.1nm,0.7s
J61A Chester 67.03 358 P P 09 28 32.2 +1.3
baz=177
J58A Remsen 67.19 355 P P 09 28 32.4 +0.4
baz=174
K52A Tillsonburg 67.20 351 P P 09 28 31.6 -0.4
baz=169
J56A Wolcott 67.24 354 P P 09 28 32.1 -0.1
baz=173,SNR=5.5
J59A Piesco 67.24 356 P P 09 28 32.9 +0.6
baz=175,SNR=5.7
J59A Piesco 67.24 356 IAmb IAmb 09 28 34.0
comp=Z,19nm,1.2s
J57A Williamstown 67.30 355 P P 09 28 32.8 +0.2
baz=174
J57A Williamstown 67.30 355 P P 09 28 32.0 -0.6
J57A IAmb IAmb 09 28 33.7
comp=Z,8.9nm,0.8s
J57A pP 09 28 53.7 0.0
I58A Old Forge 67.50 356 P P 09 28 34.5 +0.6
baz=175
I62A Tamworth 67.52 359 P P 09 28 34.9 +0.9
baz=178
I59A Olmsteadville 67.54 357 P P 09 28 34.6 +0.5
baz=176,SNR=6.2
I64A Boothbay 67.54 360 P P 09 28 34.7 +0.6
baz=180
I60A Shoreham 67.56 357 P P 09 28 35.2 +1.1
baz=176
I61A Orroro, Fairl 67.60 358 P P 09 28 35.8 +1.3
baz=177
J52A Paris 67.62 351 P P 09 28 34.6 -0.1
baz=169
I63A Otisfield 67.68 359 P P 09 28 36.0 +1.1
baz=179
NCB Newcomb 67.73 356 IAmb IAmb 09 28 37.3
comp=Z,11nm,1.2s
I57A Carthage 67.80 355 P P 09 28 36.5 +0.8
baz=174
LBNH Lisbon 67.90 358 P P 09 28 37.1 +0.8
baz=178
PECO Prince Edward 67.91 354 IAmb IAmb 09 28 37.4
comp=Z,11nm,1.0s
J49A Marlette 68.15 349 P P 09 28 36.9 -1.1
baz=167
H58A Gabriels 68.17 356 P P 09 28 38.6 +0.5
baz=175,SNR=6.3
H61A Lyndonville 68.19 358 P P 09 28 39.2 +1.0
baz=178
J48A Bridge Port 68.20 349 P P 09 28 37.7 -0.6
baz=166
H62A Milan 68.21 359 P P 09 28 39.8 +1.5
baz=178
H60A Morristown 68.25 358 P P 09 28 39.7 +1.1
baz=177
I51A Listowel 68.25 351 P P 09 28 38.1 -0.4
baz=169
I55A Frankford 68.25 354 P P 09 28 38.5 0.0
baz=172,SNR=5.2
ANMO Albuquerque 68.26 328 P P 09 28 40.6 +1.5
baz=144
ANMO Albuquerque 68.26 328 P P 09 28 40.0 +0.9
ANMO IAmb IAmb 09 28 41.5
comp=Z,7.5nm,0.8s
H64A Troy 68.27 0 P P 09 28 39.5 +0.9
baz=180
J47A Sumner 68.33 348 P P 09 28 38.7 -0.3
baz=165
H59A Cadyville 68.38 357 P P 09 28 39.9 +0.6
baz=176,SNR=5.7
LONY Lake Ozonia 68.40 356 P P 09 28 39.3 -0.2
baz=175
LONY Lake Ozonia 68.40 356 IAmb IAmb 09 28 41.0
comp=Z,9.5nm,1.0s
TUC Tucson 68.44 323 P P 09 28 41.4 +1.2
baz=140
TUC Tucson 68.44 323 P P 09 28 41.2 +1.1
TUC IAmb IAmb 09 28 42.7
comp=Z,9.6nm,1.1s
TUC PcP 09 29 05.6 +0.7
H56A Elgin 68.49 355 P P 09 28 40.2 +0.2
baz=173,SNR=5.6
H55A Tweed 68.53 354 P P 09 28 40.3 0.0
baz=172
FRNY Flat Rock 68.56 357 IAmb IAmb 09 28 42.0
comp=Z,22nm,1.2s
CBKS Cedar Bluff 68.56 335 P P 09 28 41.4 +0.7
baz=150,SNR=5.1
CBKS Cedar Bluff 68.56 335 P P 09 28 40.8 +0.1
I49A Point Hope 68.66 350 P P 09 28 40.8 -0.3
baz=167
L40A Anamosa 68.69 343 P P 09 28 40.1 -1.2
L40A pP 09 29 02.5 0.0
H53A Bobcaygeon 68.70 353 P P 09 28 41.3 -0.1
baz=171
G63A Kingsbury 68.74 360 P P 09 28 42.5 +0.9
baz=180
G60A Masonville 68.77 358 P P 09 28 43.3 +1.5
baz=177
G59A Clarenceville 68.78 357 P P 09 28 43.1 +1.3
baz=176
G62A West of Eustis 68.85 359 P P 09 28 43.4 +1.1
baz=179,SNR=5.5
G62A West of Eustis 68.85 359 IAmb IAmb 09 28 44.3
comp=Z,16nm,0.8s
G62A pP pP 09 29 05.5 +1.9
G64A Maxfield 68.88 1 P P 09 28 43.4 +0.9
baz=181
PKME Peaks-Kenny Pk 68.89 0 P P 09 28 43.2 +0.7
baz=180
G58A Ormstown 68.90 357 P P 09 28 42.9 +0.4
baz=176
G57A Newington 68.91 356 P P 09 28 43.0 +0.4
baz=175,SNR=6.5
H52A Wyevale 68.92 352 P P 09 28 42.8 +0.1
baz=170
G61A St-Isidore-de- 68.93 358 P P 09 28 43.8 +1.0
baz=178
I47A Gladwin 69.03 348 P P 09 28 42.3 -1.1
baz=165
I48A Sherman Twp 69.05 349 P P 09 28 42.6 -0.9
baz=166
T25A Trinidad 69.09 331 P P 09 28 45.4 +1.2
baz=146,SNR=5.9
T25A Trinidad 69.09 331 IAmb IAmb 09 28 46.5
comp=Z,12nm,1.2s
T25A pP pP 09 29 07.7 +2.3
I46A Reed City 69.13 348 P P 09 28 43.1 -1.0
baz=164
G55A Calabogie 69.19 355 P P 09 28 44.2 -0.2
baz=173
JFWS Jewell Farm 69.23 344 P P 09 28 44.9 +0.2
baz=160
JFWS Jewell Farm 69.23 344 IAmb IAmb 09 28 45.1
comp=Z,10.0nm,0.6s
G53A Haliburton 69.25 353 P P 09 28 44.9 +0.1
baz=171,SNR=7.0
ORIO Orleans, Innes 69.29 355 P P 09 28 44.9 0.0
baz=174
ORIO Orleans, Innes 69.29 355 pP 09 29 07.5 +1.3
214A Organ Pipe Nat 69.31 321 P P 09 28 47.3 +1.9
baz=138,SNR=6.4
214A Organ Pipe Nat 69.31 321 IAmb IAmb 09 28 48.4
comp=Z,15nm,1.2s
214A PcP 09 29 11.3 +2.8
G54A Lake Saint Pet 69.46 354 P P 09 28 46.2 +0.2
baz=172
F64A Sherman 69.49 1 P P 09 28 47.3 +1.1
baz=181
F62A Pittston Farm, 69.52 360 P P 09 28 47.4 +1.0
baz=180
H47A Mio 69.53 349 P P 09 28 46.1 -0.5
baz=166
LIC Lamto 69.62 73 eP P 09 28 47.3 -0.5
comp=Z,23nm,0.8s
H46A Fife Lake 69.66 348 P P 09 28 46.2 -1.0
baz=165,SNR=5.5
TIC Toumodi 69.83 73 eP P 09 28 49.2 +0.2
KSCO Kaye Shedlock' 69.89 333 P P 09 28 49.8 +0.8
baz=148
KSCO Kaye Shedlock' 69.89 333 IAmb IAmb 09 28 50.9
comp=Z,18nm,0.8s
KIC Kosan Boka 69.94 73 eP P 09 28 49.8 +0.1
comp=Z,14nm,0.8s
DBIC Dimbokro 69.98 73 P P 09 28 50.1 +0.1
comp=Z,6.0nm,0.7s,baz=197,slow=4.7,SNR=8.6
DBIC LR LR 09 59 37.9
comp=Z,24nm,18.1s,baz=187,slow=36
DBIC Dimbokro 69.98 73 pP pP 09 29 12.3 +0.7
F52A Sundridge 69.99 353 P P 09 28 49.3 +0.1
baz=170
TRQ Mont Tremblant 70.00 356 pP pP 09 29 11.5 +0.7
ALGO Algonquin Park 70.01 354 P P 09 28 49.3 -0.1
baz=172,SNR=6.6
E60A Ste Agathe de 70.01 359 P P 09 28 50.1 +0.7
baz=178
E63A Oxbow 70.05 1 P P 09 28 50.6 +0.9
baz=181
E64A Bridgewater 70.06 1 P P 09 28 50.5 +0.8
baz=182
E58A La Victoria 70.08 357 P P 09 28 49.9 +0.1
baz=176
E57A Chemin Saint G 70.16 357 P P 09 28 50.6 +0.3
baz=176
F51A Arnstein 70.19 352 P P 09 28 50.2 -0.3
baz=170
E62A Clayton Lake 70.24 360 P P 09 28 51.7 +0.9
baz=180
BGNE Belgrade 70.25 337 P P 09 28 51.1 +0.1
baz=152,SNR=7.2
E56A St. Veronique 70.34 356 P P 09 28 51.3 -0.2
baz=175,SNR=5.7
G46A Petoskey 70.35 349 P P 09 28 51.0 -0.4
baz=165
E53A Dumoine, Ponti 70.39 354 P P 09 28 51.8 +0.1
baz=172
E52A Mattawa 70.40 353 P P 09 28 51.5 -0.3
baz=171
E54A Lac Daplat, Po 70.40 354 P P 09 28 51.8 0.0
baz=172,SNR=7.3
S22A 4UR Ranch, Cre 70.69 329 P P 09 28 55.3 +1.2
baz=144
D62A Allapoint, All 70.71 0 P P 09 28 54.3 +0.7
baz=180
E51A G1948 Merrick 70.74 353 P P 09 28 54.1 +0.3
baz=170
D57A Chemin Vers le 70.75 357 P P 09 28 54.3 +0.4
baz=176,SNR=5.2
E50A Wahnapitae 70.78 352 P P 09 28 53.8 -0.3
baz=169
D58A Chemin du LacG 70.78 358 P P 09 28 54.5 +0.4
baz=177,SNR=5.4
F45A CMU Biological 70.82 348 P P 09 28 53.9 -0.4
baz=164
D56A ZEC Mazanza, M 70.83 356 P P 09 28 54.6 +0.2
baz=175
D55A Sainte-Anne-du 70.85 356 P P 09 28 54.7 +0.2

baz=174
Q24A Divide 70.92 331 P **P** **09 28 56.7 +1.1**
baz=146,SNR=6.3
E48A Lockeyer 71.04 351 P **P** **09 28 55.6 -0.1**
baz=168
D52A ZEK Kipawa Sen 71.06 354 P **P** **09 28 55.9 +0.2**
baz=171
MVCO Mesa Verde 71.06 328 P **P** **09 28 57.7 +1.4**
baz=143,SNR=12
MVCO Mesa Verde 71.06 328 P **P** **09 28 57.2 +0.9**
MVCO IAmb IAmb 09 28 58.6
comp=Z,13nm,0.9s
D54A Lac Fusel, La 71.07 355 P **P** **09 28 55.6 -0.2**
baz=173
D53A Lac Vacive, Po 71.09 354 P **P** **09 28 56.0 +0.1**
baz=172
D53A Lac Vacive, Po 71.09 354 P **P** **09 28 54.9 -1.1**
D53A IAmb IAmb 09 28 56.8
comp=Z,12nm,0.7s
D53A pP **pP** **09 29 17.6 +0.2**
I37A Lemond, Waseca 71.10 342 IAmb IAmb 09 28 56.6
comp=Z,14nm,0.9s
E47A Iron Bridge 71.18 350 P **P** **09 28 56.1 -0.4**
baz=167
WUAZ Wupatki 71.19 325 P **P** **09 28 58.8 +1.7**
baz=140,SNR=6.8
WUAZ Wupatki 71.19 325 IAmb IAmb 09 28 60.0
comp=Z,15nm,0.9s
D50A G1974 Best Tow 71.40 353 P **P** **09 28 57.8 -0.1**
baz=170
D48A Paudash Townsh 71.66 351 P **P** **09 28 59.1 -0.3**
baz=168
D49A Beulah Townshi 71.70 352 P **P** **09 28 59.9 +0.3**
baz=169
D46A Sault St. Mari 71.73 350 P **P** **09 28 59.2 -0.6**
baz=166
D47A Chapleau 71.74 350 P **P** **09 28 59.5 -0.3**
baz=167
ECSD EROS Data Cent 71.81 340 P **P** **09 29 00.2 -0.2**
baz=154,SNR=7.5
ISCO Idaho Springs 71.82 331 P **P** **09 29 02.0 +1.1**
baz=146,SNR=6.5
SPMN Marine on St. 72.05 343 P **P** **09 29 01.3 -0.4**
baz=158
SPMN Marine on St. 72.05 343 IAmb IAmb 09 29 02.1
comp=Z,16nm,1.2s
BC3 Big Chuckawall 72.06 321 P **P** **09 29 04.1 +1.9**
baz=136
MONP2 Monument Peak 72.08 320 P **P** **09 29 03.5 +1.0**
baz=136
VLDQ Val d'Or 72.09 354 IAmb IAmb 09 29 03.0
comp=Z,11nm,1.1s
PV07 Paradox Valley 72.10 329 P **P** **09 29 03.5 +1.0**
IRM Iron Mountain 72.25 322 P **P** **09 29 05.1 +1.9**
baz=137
U15A North Rim 72.37 325 IAmb IAmb 09 29 07.4
comp=Z,12nm,1.2s
PFO Pinyon Flats O 72.62 320 P **P** **09 29 07.3 +1.7**
baz=136
BELC Belle Mtn. Jos 72.63 321 P **P** **09 29 07.2 +1.6**
baz=136
N23A Red Feather La 72.86 332 P **P** **09 29 08.1 +1.0**
baz=145,SNR=5.9
GMRC Granite Mounta 73.00 322 P **P** **09 29 09.7 +1.8**
baz=136,SNR=7.8
MURC Murrieta 73.04 320 P **P** **09 29 09.5 +1.5**
baz=135
O20A White River Ci 73.27 330 P **P** **09 29 10.8 +1.4**
baz=143,SNR=14
O20A White River Ci 73.27 330 IAmb IAmb 09 29 11.7
comp=Z,17nm,0.9s
BBRC Big Bear Solar 73.35 320 P **P** **09 29 11.8 +1.8**
baz=135
HEC Hector,Ludlow 73.41 321 P **P** **09 29 12.0 +1.8**
baz=136
CHGQ Chibougamau 73.66 357 P **P** **09 29 11.3 +0.1**
baz=175
MATQ Matagami 73.74 355 P **P** **09 29 10.6 -1.0**
baz=172
BFSC Mount Baldy Ra 73.76 320 P **P** **09 29 14.1 +1.8**
baz=135
GSC Goldstone, Bar 74.02 321 P **P** **09 29 14.3 +0.6**
baz=136
EYMN Ely 74.25 345 P **P** **09 29 15.0 +0.3**
baz=159
VNDA Vanda 74.34 190 P **P** **09 29 16.2 +1.3**
comp=Z,3.5nm,0.8s,baz=136,slow=6.0,SNR=12
VNDA Vanda 74.34 190 P **P** **09 29 17.0 +2.0**
EDW2 Edwards Air Fo 74.41 320 P **P** **09 29 17.4 +1.4**
baz=135
SYO Syowa Base 74.41 159⇑ *iP* **P** **09 29 14.4 -1.0**
SYO Syowa Base 74.41 159⇑ *e*pP pP 09 29 33.6 -3.5
K22A Casper 74.55 333 P **P** **09 29 18.1 +1.3**
baz=145
RSSD Black Hills 74.77 335 P **P** **09 29 18.5 +0.4**
baz=148
RSSD Black Hills 74.77 335 P **P** **09 29 19.3 +1.3**
RSSD IAmb IAmb 09 29 19.9
comp=Z,8.0nm,0.8s
MPU Maple Canyon 74.78 328 P **P** **09 29 19.1 +0.9**
FURC Furnace Creek, 74.89 322 P **P** **09 29 20.4 +1.8**
baz=136,SNR=7.5
TPNV Topopah Spring 74.89 323 P **P** **09 29 21.0 +2.1**
baz=136,SNR=11
TPNV Topopah Spring 74.89 323 P **P** **09 29 19.8 +1.0**
TPNV IAmb IAmb 09 29 21.8
comp=Z,9.6nm,0.8s
MPMC Manual Prospec 74.95 321 P **P** **09 29 20.5 +1.3**
baz=135
ISA Isabella, Lake 75.24 321 P **P** **09 29 22.1 +1.3**
baz=135
PKM Mcpherson Peak 75.49 319 P **P** **09 29 22.5 +0.1**
baz=133
DUG Dugway, Tooele 75.50 327 P **P** **09 29 23.7 +1.5**
baz=140,SNR=5.4
R11A Troy Canyon, C 75.55 324 P **P** **09 29 24.5 +1.9**
baz=137,SNR=11
R11A Troy Canyon, C 75.55 324 P **P** **09 29 23.2 +0.6**
R11A IAmb IAmb 09 29 25.6
comp=Z,15nm,1.4s
CWC Cottonwood Cre 75.56 321 P **P** **09 29 24.1 +1.4**
baz=135
E28A Huff 75.66 338 P **P** **09 29 22.9 +0.1**
E28A IAmb IAmb 09 29 24.6
comp=Z,22nm,1.0s
AGMN Agassiz Nation 75.71 342 P **P** **09 29 22.9 -0.2**
baz=155,SNR=6.0
AGMN Agassiz Nation 75.71 342 IAmb IAmb 09 29 24.3
comp=Z,10nm,1.1s
VES Vestal, Richgr 75.72 320 P **P** **09 29 24.8 +1.4**
baz=134
BW06 Boulder Array 75.96 331 P **P** **09 29 24.9 -0.1**
baz=143
PDAR Pinedale Array 75.96 331 P **P** **09 29 25.4 +0.5**
comp=Z,1.4nm,0.6s,baz=141,slow=7.9,SNR=13
PDAR pP **pP** **09 29 48.8 +2.4**
comp=Z,1.2nm,0.7s,baz=140,slow=6.3,SNR=3.7
PDAR Pinedale Array 75.96 331 P **P** **09 29 25.2 +0.3**
HWUT Hardware Ranch 75.97 329 IAmb IAmb 09 29 27.9
comp=Z,9.8nm,0.7s
TIN Tinemaha, Big 76.07 322 P **P** **09 29 26.7 +1.1**
baz=135
MDND Maddock 76.42 340 P **P** **09 29 27.8 +0.7**
baz=152
AHID Auburn Hatcher 76.66 330 IAmb IAmb 09 29 30.7
comp=Z,16nm,0.9s
OMMB Old Mammoth Mi 76.90 322 P **P** **09 29 28.9 -1.6**
OMMB IAmb IAmb 09 29 32.9
comp=Z,9.0nm,0.9s
SNOW Snow King Moun 77.05 330 IAmb IAmb 09 29 33.2
comp=Z,9.8nm,0.8s
NVAR Mina Array Bea 77.09 323 P **P** **09 29 32.1 +0.8**
comp=Z,2.4nm,0.7s,baz=157,slow=5.9,SNR=18
NVAR pP **pP** **09 29 55.0 +2.1**
comp=Z,1.1nm,0.8s,baz=122,slow=11,SNR=4.2
NVAR Mina Array Bea 77.09 323 P **P** **09 29 32.5 +1.2**
ELK Elko 77.13 326 P **P** **09 29 31.7 +0.1**
TPAW Teton Pass 77.16 330 P **P** **09 29 32.0 +0.2**
TPAW IAmb IAmb 09 29 33.9
comp=Z,8.4nm,0.8s
KVN Kaiserville 77.41 323 P **P** **09 29 33.8 +0.7**
KVN IAmb IAmb 09 29 35.3
comp=Z,14nm,1.3s
KVN pP **pP** **09 29 56.8 +2.1**
ULM Lac du Bonnet 77.49 343 P **P** **09 29 32.7 -0.4**
comp=Z,5.7nm,0.7s,baz=168,slow=7.2,SNR=4.5
ULM Lac du Bonnet 77.49 343 IAmb IAmb 09 29 33.7
comp=Z,9.7nm,0.9s
FLWY Flagg Ranch 77.51 331 IAmb IAmb 09 29 36.2
comp=Z,14nm,0.8s
H17A Grant Village 77.70 331 P **P** **09 29 36.5 +1.7**
baz=142
RLMT Red Lodge 77.71 332 P **P** **09 29 35.9 +1.2**
baz=143,SNR=8.6
RLMT Red Lodge 77.71 332 IAmb IAmb 09 29 36.4
comp=Z,8.1nm,0.6s
LAO LASA Array 77.76 335 P **P** **09 29 35.5 +0.8**
baz=146,SNR=9.0
LAO LASA Array 77.76 335 IAmb IAmb 09 29 36.5
comp=Z,12nm,0.9s
PNTR Pine Nut 78.27 322 IAmb IAmb 09 29 40.7
comp=Z,18nm,0.8s
GCMT Greycliff 78.42 333 P **P** **09 29 39.0 +0.5**
VCNR Virginia City 78.44 323 P **P** **09 29 40.8 +1.9**
SCHQ Schefferville 78.50 2 P **P** **09 29 38.4 -0.2**
comp=Z,2.7nm,0.7s,baz=200,slow=5.4,SNR=6.9
SCHQ pP **pP** **09 30 00.5 +0.2**
comp=Z,6.2nm,0.8s,baz=218,slow=3.7,SNR=6.0
SCHQ Schefferville 78.50 2 IAmb IAmb 09 29 39.6
comp=Z,5.4nm,1.0s
DGMT Dagmar 78.50 337 P **P** **09 29 39.8 +1.1**
baz=148,SNR=5.7
DGMT Dagmar 78.50 337 IAmb IAmb 09 29 40.9
comp=Z,19nm,0.9s
PAHR Pah Rah Range 78.58 323 IAmb IAmb 09 29 42.3
comp=Z,15nm,0.8s
TOA0 Torodi Ar. Sit 78.71 70 P **P** **09 29 40.6 0.0**
TORD Torodi Ar. Bea 78.71 70 P **P** **09 29 40.5 -0.1**
comp=Z,16nm,0.5s,baz=258,slow=5.1,SNR=205
TORD pP **pP** **09 30 02.8 +0.1**
comp=Z,16nm,0.6s,baz=255,slow=5.2,SNR=8.0
TORD Torodi Ar. Bea 78.71 70 P **P** **09 29 40.2 -0.5**
HLID Hailey 78.82 328 P **P** **09 29 42.3 +1.5**
HLID IAmb IAmb 09 29 43.5
comp=Z,13nm,0.8s
BOZ Bozeman (W) 79.11 331 P **P** **09 29 42.9 +0.6**
baz=141,SNR=6.5
BEKR Beckworth 79.23 323 P **P** **09 29 43.6 +0.5**
MFID Camas Ranch 79.40 328 P **P** **09 29 44.9 +1.0**
ORV Oroville 79.66 322 IAmb IAmb 09 29 47.8
comp=Z,14nm,1.0s
TSUM Tsumeb 79.88 107 P **P** **09 29 48.3 +1.1**
TSUM IAmb IAmb 09 29 48.8
comp=Z,10nm,0.8s
EGMT Eagleton 80.24 334 P **P** **09 29 48.8 +0.5**
baz=143,SNR=6.5
EGMT Eagleton 80.24 334 P **P** **09 29 48.1 -0.1**
O03E Paynes Creek 80.33 322 P **P** **09 29 49.0 0.0**
baz=133,SNR=6.4
MOD Modoc Plateau 80.61 324 P **P** **09 29 50.9 +0.4**
O02D Mt. Diablo Mer 80.81 322 P **P** **09 29 51.9 +0.4**
baz=132
WDC Whiskeytown Da 80.94 322 IAmb IAmb 09 29 52.6
comp=Z,6.7nm,0.7s
MSO Missoula 81.08 331 P **P** **09 29 53.6 +0.8**
baz=140
N02D Trinity Center 81.30 322 P **P** **09 29 54.0 -0.1**
baz=132
M04C Macdoel 81.36 323 P **P** **09 29 55.1 +0.6**
baz=133,SNR=5.1
K05A Summer Lake 81.50 324 IAmb IAmb 09 29 57.8
comp=Z,15nm,1.0s
M02C Callahan 81.66 322 P **P** **09 29 56.2 +0.2**
baz=132
I07A Izee 81.72 326 P **P** **09 29 57.5 +1.1**
YBH Yreka Blue Hor 81.81 323 P **P** **09 29 56.4 -0.4**
L04D Klamath Falls 81.91 323 P **P** **09 29 58.0 +0.6**
baz=133
JTMT Jette 81.93 331 IAmb IAmb 09 29 59.3
comp=Z,8.1nm,0.7s
F10A Beach Ranch, E 81.96 329 IAmb IAmb 09 30 00.9
comp=Z,13nm,1.4s
J05D Fort Rock, OR 82.06 325 P **P** **09 29 59.0 +0.9**
baz=134
MAW Mawson 82.15 163 P **P** **09 29 58.8 +0.7**
comp=Z,16nm,0.5s,baz=214,slow=6.4,SNR=65
MAW pP **pP** **09 30 21.2 +1.1**
comp=Z,5.8nm,0.6s,baz=231,slow=6.0,SNR=3.7
PINE Pine Mountain 82.26 325 IAmb IAmb 09 30 01.7
comp=Z,10nm,0.9s
J04D Umpqua Nationa 82.50 324 P **P** **09 30 01.1 +0.5**
baz=133
WALA Waterton Lakes 82.77 332 IAmb IAmb 09 30 03.3
comp=Z,12nm,0.8s
BOSA Boshof 82.80 118 P **P** **09 30 02.5 0.0**
comp=Z,9.3nm,0.4s,baz=262,slow=3.7,SNR=30
BOSA pP **pP** **09 30 25.4 +0.9**
comp=Z,3.4nm,0.4s,baz=269,slow=5.4,SNR=3.5
BOSA Boshof 82.80 118 IAmb IAmb 09 30 03.0
comp=Z,10nm,0.6s
I05D Terrebonne, OR 82.85 325 P **P** **09 30 03.2 +1.1**
baz=134,SNR=7.0
K02D Willamette Mer 82.98 323 P **P** **09 30 04.0 +1.1**
baz=132
I04A Tendick Farm, 83.04 324 P **P** **09 30 03.3 +0.2**
baz=133
FFC Flin Flon 83.17 342 P **P** **09 30 03.5 +0.1**
HAWA Hanford 83.37 328 P **P** **09 30 05.7 +1.0**
NEW Newport 83.58 330 P **P** **09 30 05.9 +0.2**
baz=137
C09A Chrisman Ranch 83.78 329 IAmb IAmb 09 30 08.4
comp=Z,10nm,0.8s
D04E Lakebay 85.52 327 P **P** **09 30 16.6 +1.1**
baz=133
D03D Eldon 85.92 327 P **P** **09 30 17.8 +0.3**
baz=132
B05A Bryant 85.92 328 P **P** **09 30 17.0 -0.5**
baz=133
ESDC Sonseca Array 87.97 45 P **P** **09 30 28.1 +0.4**
comp=Z,0.8nm,0.8s,baz=241,slow=6.0,SNR=4.3
ESDC pP **pP** **09 30 50.3 +0.4**
comp=Z,1.5nm,0.9s,baz=257,slow=4.7,SNR=4.1
ESDC Sonseca Array 87.97 45 P **P** **09 30 28.6 +0.9**
YKA Yellowknife Ar 93.31 341 P **P** **09 30 51.9 -0.1**
comp=Z,4.8nm,0.7s,baz=140,slow=4.8,SNR=84
YKA pP **pP** **09 31 14.4 +0.4**
comp=Z,3.9nm,0.7s,baz=141,slow=4.6,SNR=15
A36M Sachs Harbour 102.91 345 P **Pdif** **09 31 34.8 -0.2**
baz=129
CAPN Captain Cook N 106.65 330 P **PKiKP** **09 36 02.8 +1.0**
baz=109
BRTR Rankin Array B 114.69 56 PKP PKPdf 09 36 17.8 -0.1
comp=Z,0.9nm,0.8s,baz=197,slow=3.9,SNR=4.8
KLMR Klimovskoe 119.88 32 *e*PKPdf **PKPdf** **09 36 23.9 -3.1**
KLMR AMP 09 36 26.3
comp=Z,9.0nm,1.4s
KBZ Khabaz 122.08 52 PKP **PKiKP** **09 36 31.9 -0.1**
comp=Z,1.5nm,0.6s,baz=336,slow=2.5,SNR=5.5
ASAR Alice Springs 127.48 207 PKP **PKPdf** **09 36 42.6 -0.3**
comp=Z,3.6nm,0.6s,baz=148,slow=1.7,SNR=4.1
H11S2 WAKE ISLAND Hyl 127.59 275 T T 11 56 51.1
baz=107,slow=75,SNR=46
H11S1 WAKE ISLAND Hyl 127.60 275 T T 11 56 42.0
baz=107,slow=75,SNR=56
H11S3 WAKE ISLAND Hyl 127.61 275 T T 11 56 41.8
baz=107,slow=75,SNR=58
H11N3 WAKE ISLAND Hyl 127.73 277 T T 11 56 50.3
baz=106,slow=75,SNR=30
H11N1 WAKE ISLAND Hyl 127.75 277 T T 11 56 54.7
baz=106,slow=75,SNR=14
H11N2 WAKE ISLAND Hyl 127.75 277 T T 11 56 53.4
baz=106,slow=75,SNR=11
WRA Warramunga Arr 130.56 210 PKP **PKPdf** **09 36 48.7 -0.2**
comp=Z,2.9nm,0.5s,baz=154,slow=1.9,SNR=5.0
ABKAR Akbulak array 133.31 44 PKPdf **PKiKP** **09 36 53.8 -0.5**
BVAR Borovoye Array 138.12 36 PKP **PKPdf** **09 37 02.6 +0.7**
comp=Z,2.0nm,0.7s,baz=280,slow=2.6,SNR=10
BVAR pPKP **pPKPdf** **09 37 25.8 +0.8**
comp=Z,0.5nm,0.3s,baz=330,slow=2.1,SNR=3.2
KURK Kurchatov 143.67 35 PKPbc 09 37 10.2 +0.6
KURBB Kurchatov Arra 143.68 35 PKP PKPbc 09 37 10.2 +0.6
comp=Z,1.7nm,0.6s,baz=299,slow=3.1,SNR=9.8
KURBB pPKP pPKPdf 09 37 33.7 -1.4
comp=Z,1.0nm,0.5s,baz=303,slow=3.6,SNR=2.7
ZALV Zalesovo Beam 144.40 26 PKP PKPbc 09 37 12.3 +0.6
comp=Z,17nm,0.8s,baz=295,slow=4.2,SNR=46
ZALV pPKP pPKPdf 09 37 36.1 -0.1
comp=Z,12nm,0.8s,baz=295,slow=3.5,SNR=5.4
ZALV Zalesovo Beam 144.40 26 PKPdf PKPbc 09 37 12.2 +0.4
ZALV pPKPdf 09 37 35.6 -0.7
AAK Ala-Archa 144.96 49 PKP **PKPdf** **09 37 15.4 +0.7**
comp=Z,12nm,0.7s,baz=226,slow=3.2,SNR=6.8
AAK pPKP **pPKPdf** **09 37 38.1 +0.3**
comp=Z,3.9nm,0.5s,baz=244,slow=8.0,SNR=2.7
GUMO Guam 145.93 259 PKPab **PKPbc** **09 37 18.0 +0.2**
NIL Nilore 146.13 65 PKPab **PKPbc** **09 37 17.8 -0.1**
KSH Kashi 147.04 54 *e*PKPbc **PKPbc** **09 37 19.8 -0.7**
KSH pPKP pPKPab 09 37 46.5 +1.8
KSH PP **PP** **09 40 50.6 +4.7**
KSH SKKS 09 47 34.6
PRZ Przheval'sk 147.68 47 PKPab **PKPab** **09 37 24.5 -0.2**
MAKZ Makanchi 147.75 38 **PKPdf** **09 37 20.0 +0.9**
MK31 Makanchi Array 147.93 38 **PKPdf** **09 37 20.2 +0.8**
MKAR Makanchi Array 147.93 38 PKP **PKPdf** **09 37 20.1 +0.7**
comp=Z,12nm,0.7s,baz=2.6,slow=0.8,SNR=70
MKAR PKPbc **PKPbc** **09 37 23.0 +0.5**
comp=Z,12nm,0.7s,baz=316,slow=2.6,SNR=63
MKAR pPKPbc **pPKPbc** **09 37 46.1 +0.7**
comp=Z,13nm,0.8s,baz=300,slow=3.0,SNR=10.0
SIJI Sorong 148.12 222 PKPbc **PKPbc** **09 37 24.6 +0.6**
comp=Z,21nm,0.9s,baz=315,slow=8.0,SNR=3.7
CISI Cisompet, Garu 148.57 175 **PKPbc** **09 37 25.1 -0.1**
LEM Lembang 149.28 174 PKPbc **PKiKP** **09 37 28.1 -0.1**
comp=Z,60nm,0.7s,baz=161,slow=19,SNR=8.4
WMQ Urumqi 152.76 38 *e*PKPbc **PKPdf** **09 37 27.3 +0.2**
WMQ LR LR
comp=Z,120nm,24.9s
WMQ LR LR
comp=Z,140nm,24.9s
MJAR Matsushiro Arr 153.07 304 PKPbc **PKPbc** **09 37 34.7 -0.4**
comp=Z,2.1nm,0.6s,baz=158,slow=1.1,SNR=6.3
MJAR Matsushiro Arr 153.07 304 **PKiKP** **09 37 35.6 +0.3**
MJAR PKPab **PKPab** **09 37 48.2 +1.3**
MAJO Matsushiro 153.07 304 **PKPab** **09 37 48.0 +1.1**
MAT Matsushiro 153.07 304 *e*PKP **PKPbc** **09 37 33.9 -1.2**
USRK Ussuriysk Ar. 153.22 324 PKPbc **PKiKP** **09 37 35.6 +0.3**
comp=Z,1.5nm,0.6s,baz=5.3,slow=2.4,SNR=6.0
SONM Songino Array 155.95 7 PKP **PKPdf** **09 37 32.0 +0.5**
comp=Z,0.5nm,0.4s,baz=298,slow=3.2,SNR=4.9
SONM PKPab **PKPab** **09 37 59.9 +1.1**
comp=Z,0.8nm,0.7s,baz=337,slow=3.4,SNR=4.8
KSRS Korea Array 159.90 316 PKP **PKPdf** **09 37 37.4 +0.9**
comp=Z,2.1nm,0.9s,baz=125,slow=1.3,SNR=11
KSRS PKPab **PKPab** **09 38 16.9 +0.8**
comp=Z,2.2nm,0.7s,baz=56,slow=4.3,SNR=10
KSAR Wonju Array Be 159.93 316 PKPdf **PKPdf** **09 37 36.8 +0.3**
LZH Lanzhou 166.62 24 *e*PKP **PKPdf** **09 37 42.0 -1.1**
LZH pPKP pPKPdf 09 38 03.9 -2.3
LZH sPKP 09 38 12.5
LZH PKPab **PKPab** **09 38 47.3 +1.5**
NJ2 Nanjing 169.06 319 *e*PKP **PKPdf** **09 37 44.8 +0.1**
GYA Guiyang 175.74 53⇓ *i*PKP **PKPdf** **09 37 46.8 -1.2**

*IDC **16** 09:30:34.7±0.6,3.81S×128.83E,h0km,mb4.4/18,*
mb1 4.4/20,mb1mx4.3/44,mbtmp4.4/20,ML4.1/2,MS3.4/15,
Ms1 3.4/15,ms1mx3.3/37,Error ellipse: s-maj=26.1km
s-min=11.1km az=74.0
*DJA **16** 09:30:37.3±0.2,4°S±2°×12°9E±°,h10km,M4.7/16,mB5.1/4,*
mb4.7/16,MLv4.7/14,Mw(mB)4.4/4
*NEIC **16** 09:30:41.2±3.0,3°.83S±0°.06×128°.98E±0°.03,h53km±9km,*
mb4.5/19,Error ellipse: s-maj=9.0km s-min=3.2km
az=156.0

ISC 16 09:30:39.0±0.4,3°.80S±0°.05×128°.87E±0°.05,h32km,n82,
σ1°.71/75,mb4.4/19,MS3.3/10,Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.46**	**8**	P	P	**Pb**	**09 30 45.7**	**-3.2**
AAI	**Ambon**	**0.68**	**280**	P	P	**Pn**	**09 30 49.5**	**-2.9**
AAI				S	S	**Sb**	**09 30 58.9**	**-2.8**
BNDI	**Bandanaira**	**1.26**	**125**	P	P	**Pn**	**09 30 59.9**	**-0.5**
NLAI	**Namlea**	**1.85**	**288**	P	P	**Pn**	**09 31 09.8**	**+1.3**
SANI	**Sanana**	**3.36**	**301**	P	P	**Pn**	**09 31 28.2**	**-1.1**
LBMI	**Labuha**	**3.42**	**337**	P	P	**Pn**	**09 31 30.6**	**+0.3**
FAKI	**Fak Fak**	**3.49**	**76**	P	P	**Pn**	**09 31 32.7**	**+1.6**
FAKI	**Fak Fak**	**3.49**	**76**	Pn	Pn	**Pn**	**09 31 32.5**	**+1.4**
SIJI	**Sorong**	**3.77**	**40**	P	Pn	**Pn**	**09 31 36.3**	**+1.3**
	56nm,0.3s,baz=218,slow=13,SNR=84							
SIJI				Sn		**Sn**	**09 32 16.6**	**-1.8**
	26nm,0.3s,baz=282,slow=22,SNR=11							
SIJI				LR	LR		09 33 30.3	
	comp=Z,898nm,19.1s,baz=290,slow=46							
TNTI	**Ternate**	**4.78**	**342**	P	P	**Pn**	**09 31 49.3**	**+0.4**
TNTI	**Ternate**	**4.78**	**342**	Pn	Pn	**Pn**	**09 31 48.4**	**-0.5**
KMPI	**Kaimana, Papua**	**4.83**	**89**	P	P	**Pn**	**09 31 51.1**	**+1.5**
RKPI	**Ransiki, Papua**	**5.77**	**67**	P	P	**Pn**	**09 32 03.9**	**+1.4**
	4.1nm5µm565nm,0.7s							
LUWI	**Luwuk**	**6.68**	**294**	Pn	Pn		09 32 20.1	+5.1
SOEI	**Soe**	**7.47**	**217**	P	Pn	**Pn**	**09 32 28.4**	**+2.4**
	0.4nm114nm,0.9s							
SOEI	**Soe**	**7.47**	**217**	Pn	Pn	**Pn**	**09 32 29.8**	**+3.8**
APSI	**Ampana**	**7.76**	**292**	P	Pn	**Pn**	**09 32 30.4**	**+0.6**
	0.4nm1µm114nm,0.7s							
MRSI	**Marisa**	**8.12**	**301**	P	Pn		09 32 40.8	+6.0
BATI	**Baumata**	**8.19**	**219**	Pn	Pn	**Pn**	**09 32 37.9**	**+2.0**
	5.1nm,0.3s,baz=355,slow=3.4,SNR=3.9							
BATI				LR	LR		09 36 03.6	
	comp=Z,794nm,20.8s,baz=84,slow=40							
BATI	**Baumata**	**8.19**	**219**	P	Pn	**Pn**	**09 32 36.5**	**+0.7**
	39nm,1.2s							
EDFI	**Ende, Flores**	**8.66**	**235**	P	Pn	**Pn**	**09 32 44.2**	**+1.9**
	16nm,1.1s							
BNSI	**Bone**	**8.76**	**266**	P	Pn	**Pn**	**09 32 44.9**	**+1.4**
	26nm,0.9s							
SPSI	**Sidrap Palu**	**9.08**	**269**	P	Pn		09 32 55.4	+7.5
KAPI	**Kappang**	**9.17**	**262**	Pn	Pn	**Pn**	**09 32 51.8**	**+2.7**
	6.6nm,0.3s,baz=110,slow=6.9,SNR=18							
KAPI				Sn		**Sn**	**09 34 31.8**	**+0.5**
	0.7nm,0.3s,baz=163,slow=18,SNR=1.4							
KAPI	**Kappang**	**9.17**	**262**	Pn	Pn	**Pn**	**09 32 52.4**	**+3.3**
MTN	**Manton Dam**	**9.26**	**166**	Pn	Pn	**Pn**	**09 32 51.7**	**+1.3**
MPSI	**Mapaga**	**9.86**	**294**	P	Pn		09 33 08.6	+10
SMPI	**Sarmi**	**9.99**	**80**	P	Pn	**Pn**	**09 33 02.0**	**+1.5**
	22nm,1.2s							
KNRA	**Kununurra**	**11.80**	**180**	Pn	Pn	**Pn**	**09 33 25.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**14.56**	**192**	Pn	Pn	**Pn**	**09 34 01.6**	**-1.2**
	0.3nm,0.3s,baz=50,slow=23,SNR=4.6							
FITZ				LR	LR		09 40 34.0	
	comp=Z,104nm,18.9s,baz=16,slow=41							
FITZ	**Fitzroy Crossi**	**14.56**	**192**		Pn	**Pn**	**09 34 01.6**	**-1.3**
WB0	**Warramunga Arr**	**16.76**	**162**	P	Pn	**Pn**	**09 34 32.3**	**+0.8**
WB0				IAmb	IAmb		09 34 47.0	
	comp=Z,26nm,0.9s							
WRAB	**Tennant Creek**	**16.90**	**162**	P	Pn	**Pn**	**09 34 32.0**	**-1.3**
WRA	**Warramunga Arr**	**16.91**	**162**	Pn	Pn	**Pn**	**09 34 29.9**	**-3.5**
	comp=Z,1.0nm,0.3s,baz=342,slow=13,SNR=28							
WRA				Sn		**Sn**	**09 37 33.6**	**-6.9**
	baz=329,slow=23,SNR=2.8							
WRA	**Warramunga Arr**	**16.91**	**162**			**Pn**	**09 34 33.1**	**-0.3**
WB2	**Warramunga Arr**	**16.91**	**162**	Pn	Pn	**Pn**	**09 34 31.1**	**-2.3**
WB2				IAmb	IAmb		09 34 53.2	
	comp=Z,25nm,0.8s							
WR0	**Warramunga Arr**	**16.99**	**161**	Pn	Pn	**Pn**	**09 34 32.2**	**-2.1**
COEN	**Coen**	**17.36**	**126**	P	Pn	**Pn**	**09 34 37.4**	**-1.6**
COEN				IAmb	IAmb		09 34 41.7	
	comp=Z,32nm,0.9s							
PMG	**Port Moresby**	**19.00**	**108**	LR	LR		09 44 29.3	
	comp=Z,236nm,18.6s,baz=312,slow=44							
TGY	**Taiyatay City**	**19.45**	**336**	LR	LR		09 44 23.1	
	comp=Z,85nm,19.2s,baz=84,slow=43							
PSA00	**Pilbara Seismi**	**19.72**	**206**	P	P	**Pn**	**09 35 06.6**	**+0.6**
PSA00				IAmb	IAmb		09 35 27.8	
	comp=Z,24nm,0.9s							
AS31	**Alice Springs**	**20.34**	**167**	P	P	**Pn**	**09 35 14.0**	**+1.1**
AS31				IAmb	IAmb		09 35 14.9	
	comp=Z,17nm,0.6s							
ASAR	**Alice Springs**	**20.34**	**167**	P	P	**Pn**	**09 35 14.1**	**+1.2**
	comp=Z,48nm,0.8s,baz=348,slow=11,SNR=514							
ASAR				S	Sn		09 39 02.2	-1.2
	comp=Z,0.7nm,0.6s,baz=47,slow=41,SNR=2.6							
ASAR				LR	LR		09 43 10.3	
	comp=Z,141nm,18.8s,baz=338,slow=37							
ASAR	**Alice Springs**	**20.34**	**167**	P	P	**Pn**	**09 35 13.4**	**+0.6**
LEM	**Lembang**	**21.37**	**261**	LR	LR		09 44 27.7	
	comp=Z,258nm,19.1s,baz=132,slow=39							
KRVT	**Keravat (AS076**	**23.11**	**92**	LR	LR		09 44 43.1	
	comp=Z,104nm,20.4s,baz=268,slow=37							
CTA	**Charters Tower**	**23.44**	**135**	P	P	**Pn**	**09 35 46.3**	**+0.6**
	comp=Z,28nm,0.9s,baz=315,slow=12,SNR=17							
CTAO	**Charters Tower**	**23.44**	**135**	P	P		**09 35 46.0**	**+0.3**
BBOO	**Buckleboo**	**29.64**	**168**	P	P		**09 36 39.0**	**-2.6**
STKA	**Stephens Creek**	**30.38**	**158**	P	P		**09 36 48.4**	**+0.1**
	comp=Z,6nm,0.8s,baz=338,slow=8.6,SNR=5.9							
STKA				LR	LR		09 49 19.0	
	comp=Z,110nm,18.7s,baz=350,slow=37							
STKA	**Stephens Creek**	**30.38**	**158**	P	P		**09 36 48.4**	**+0.1**
CAN	**Canberra**	**36.48**	**152**	P	P		**09 37 43.2**	**+1.8**

JNU	**Nakatsue**	**36.77**	**3**	P	**P**	**09 37 44.4**	**+0.5**
	comp=Z,4.3nm,0.9s,baz=122,slow=16,SNR=2.7						
CMAR	**Chiang Mai Arr**	**36.85**	**308**	P	**P**	**09 37 45.2**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=139,slow=8.4,SNR=11						
CMAR				LR	LR	09 54 02.6	
	comp=Z,24nm,18.8s,baz=125,slow=38						
CHTO	**Chiang Mai**	**37.05**	**308**	P	**P**	**09 37 47.2**	**+0.8**
KSAR	**Wonju Array Be**	**41.04**	**359**		**P**	**09 38 16.8**	**-2.6**
KSRS	**Korea Array**	**41.05**	**359**	LR	LR	09 55 35.3	
	comp=Z,8nm,19.8s,baz=186,slow=37						
MJAR	**Matsushiro Arr**	**41.07**	**11**	P	**P**	**09 38 18.9**	**-0.9**
	comp=Z,2.8nm,0.8s,baz=186,slow=11,SNR=8.1						
MJAR				LR	LR	09 53 20.4	
	comp=Z,27nm,21.3s,baz=205,slow=33						
MJAR	**Matsushiro Arr**	**41.07**	**11**	IAmb	IAmb	09 38 20.5	
	comp=Z,2.4nm,0.9s						
USRK	**Ussuriysk Ar.**	**47.87**	**3**	P	**P**	**09 39 14.4**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=180,slow=9.4,SNR=7.0						
SONM	**Songino Array**	**55.07**	**342**	P	**P**	**09 40 08.6**	**+0.6**
	comp=Z,0.9nm,0.9s,baz=151,slow=6.4,SNR=3.8						
PETK	**Petropavlovsk-**	**61.68**	**19**	P	**P**	**09 40 55.0**	**+1.1**
	comp=Z,3.6nm,0.8s,baz=189,slow=6.5,SNR=7.0						
PETK				LR	LR	10 10 42.9	
	comp=Z,16nm,18.9s,baz=241,slow=39						
MK31	**Makanchi Array**	**64.95**	**327**	P	**P**	**09 41 16.1**	**+0.4**
MKAR	**Makanchi Array**	**64.95**	**327**	P	**P**	**09 41 16.4**	**+0.7**
	comp=Z,2.3nm,0.7s,baz=113,slow=9.3,SNR=11						
MKAR				LR	LR	10 10 18.7	
	comp=Z,25nm,21.4s,baz=126,slow=37						
MKAR	**Makanchi Array**	**64.95**	**327**	P	**P**	**09 41 16.0**	**+0.3**
YAK	**Yakutsk**	**65.65**	**0**	P	**P**	**09 41 20.2**	**+0.4**
	comp=Z,11nm,0.5s,baz=19,slow=2.7,SNR=5.8						
ZALV	**Zalesovo Beam**	**68.23**	**334**	P	**P**	**09 41 36.9**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=108,slow=4.8,SNR=3.5						
ZALV				LR	LR	10 13 01.6	
	comp=Z,20nm,20.6s,baz=119,slow=37						
KURBB	**Kurchatov Arra**	**69.21**	**328**	P	**P**	**09 41 42.9**	**+0.3**
	comp=Z,3.5nm,0.7s,baz=129,slow=5.6,SNR=21						
KURK	**Kurchatov**	**69.22**	**328**	P	**P**	**09 41 42.9**	**+0.2**
KURK				IAmb	IAmb	09 41 45.4	
	comp=Z,7.9nm,0.8s						
KKAR	**Karatay Array**	**70.21**	**318**	P	**P**	**09 41 48.5**	**-0.4**
BVAR	**Borovoye Array**	**74.77**	**328**	P	**P**	**09 42 16.0**	**0.0**
	comp=Z,1.0nm,0.6s,baz=131,slow=6.7,SNR=6.3						
TIXI	**Tiksi**	**75.31**	**0**	P	**P**	**09 42 18.4**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=164,slow=2.5,SNR=7.7						
TIXI	**Tiksi**	**75.31**	**0**	P	**P**	**09 42 18.7**	**+0.1**
TIXI				IAmb	IAmb	09 42 26.7	
	comp=Z,17nm,1.7s						
NRIK	**Noril'sk**	**78.20**	**346**	P	**P**	**09 42 36.5**	**+1.5**
	comp=Z,4.3nm,0.8s,baz=109,slow=5.3,SNR=5.6						
ABKAR	**Akbulak array**	**79.32**	**322**	P	**P**	**09 42 41.8**	**+0.2**
AKTO	**Aktyubinsk**	**80.87**	**322**	P	**P**	**09 42 50.9**	**+1.0**
	comp=Z,2.5nm,0.7s,baz=128,slow=9.4,SNR=5.2						
ARU	**Arti**	**82.41**	**328**	P	**P**	**09 42 58.1**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=116,slow=1.8,SNR=4.9						
ARU	**Arti**	**82.41**	**328**	IAmb	IAmb	09 43 00.9	
	comp=Z,6.4nm,1.0s						
RND	**Reindeer**	**89.91**	**26**	P	**P**	**09 43 36.0**	**+1.2**
RND				IAmb	IAmb	09 43 44.3	
	comp=Z,4.3nm,1.0s						
BMAR	**Burnt Mountain**	**92.16**	**23**	P	**P**	**09 43 43.1**	**-2.1**
BCAR	**Beaver Creek A**	**93.06**	**27**	P	**P**	**09 43 50.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**127.03**	**284**	PKP	**PKiKP**	**09 49 42.6**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=87,slow=1.4,SNR=5.7						

IDC ***16*** *09:37:09.5±1.0,3.°88S×128.°96E,h0km,mb4.1/5, mb1 4.3/8,mb1mx3.8/52,mbtmp4.2/8,ML4.1/3,Error ellipse: s-maj=33.1km s-min=18.8km az=64.0*

DJA ***16*** *09:37:10.9±0.3,4.°5S×3.°2×12.°9E±.°,h10km,M4.4/12,mB5.3/1, mb5.1/1,MLv4.1/12,Mw(mB)4.8/1*

NEIC ***16*** *09:37:15.4±2.3,3.°82S±0.°08×129.°0E±0.°1,h48km±9km, mb4.0/7,Error ellipse: s-maj=18.4km s-min=11.6km az=101.0*

ISC 16 09:37:12.6±0.7,3.°76S±0.°05×128.°84E±0.°05,h32km,n29, σ2s13/31,mb4.0/5,Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MSAI	**Masohi**	**0.42**	**12**	P		**Pb**	**09 37 19.5**	**-2.5**
MSAI				S		**Sb**	**09 37 26.5**	**-1.9**
AAI	**Ambon**	**0.65**	**276**	P		**Pb**	**09 37 23.0**	**-2.6**
AAI				S		**Sb**	**09 37 31.7**	**-2.7**
BNDI	**Bandanaira**	**1.31**	**126**	P		**Pn**	**09 37 35.5**	**+0.8**
NLAI	**Namlea**	**1.81**	**287**	P		**Pn**	**09 37 41.6**	**0.0**
SANI	**Sanana**	**3.31**	**301**	P		**Pn**	**09 38 02.1**	**-0.2**
LBMI	**Labuha**	**3.38**	**337**	P		**Pn**	**09 38 03.7**	**+0.5**
FAKI	**Fak Fak**	**3.50**	**76**	P		**Pn**	**09 38 06.0**	**+1.0**
FAKI	**Fak Fak**	**3.50**	**76**	Pn		**Pn**	**09 38 06.2**	**+1.2**
SIJI	**Sorong**	**3.76**	**40**	Pn		**Pn**	**09 38 09.2**	**+0.7**
	12nm,0.3s,baz=34,slow=23,SNR=15							
SIJI				Sn		**Sn**	**09 38 52.4**	**+0.7**
	3.9nm,0.3s,baz=100,slow=21,SNR=6.3							
KMPI	**Kaimana, Papua**	**4.86**	**89**	P		**Pn**	**09 38 24.5**	**+1.0**
RKPI	**Ransiki, Papua**	**5.78**	**67**	P		**Pn**	**09 38 37.6**	**+1.3**
KAPI	**Kappang**	**9.15**	**262**	Pn		**Pn**	**09 39 24.7**	**+2.2**
	5.0nm,0.3s,baz=103,slow=5.9,SNR=7.3							
KNRA	**Kununurra**	**11.84**	**180**	Pn		**Pn**	**09 40 00.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**14.59**	**192**	Pn		**Pn**	**09 40 39.6**	**+2.6**
WB0	**Warramunga Arr**	**16.81**	**162**	Pn		**Pn**	**09 41 03.0**	**-2.7**
WRA	**Warramunga Arr**	**16.96**	**162**	Pn		**Pn**	**09 41 04.9**	**-2.7**
	0.5nm,0.3s,baz=345,slow=13,SNR=11							
WRA	**Warramunga Arr**	**16.96**	**162**			**Pn**	**09 41 05.4**	**-2.2**
WB2	**Warramunga Arr**	**16.96**	**162**	Pn		**Pn**	**09 41 03.2**	**-4.5**
WB2				IAmb		IAmb	09 41 18.3	
	comp=Z,8.0nm,0.9s							
WR0	**Warramunga Arr**	**17.04**	**161**	Pn		**Pn**	**09 41 04.3**	**-4.3**
WR0				IAmb		IAmb	09 41 10.3	
	comp=Z,14nm,1.2s							
AS31	**Alice Springs**	**20.39**	**167**	P		**P**	**09 41 47.8**	**+0.8**
AS31				IAmb		IAmb	09 41 48.2	
	comp=Z,7.7nm,0.6s							
ASAR	**Alice Springs**	**20.39**	**167**	P		**P**	**09 41 47.5**	**+0.5**
	comp=Z,21nm,0.7s,baz=348,slow=11,SNR=109							
ASAR	**Alice Springs**	**20.39**	**167**	P		**P**	**09 41 47.2**	**+0.3**
CTA	**Charters Tower**	**23.49**	**135**	P		**P**	**09 42 20.0**	**+0.2**
	comp=Z,11nm,1.0s,baz=304,slow=9.1,SNR=4.8							
STKA	**Stephens Creek**	**30.43**	**158**	P		**P**	**09 43 21.7**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=338,slow=7.5,SNR=3.9							
BKZ	**Black Stump Fm**	**55.70**	**136**	P		**P**	**09 46 46.2**	**-0.1**
MKAR	**Makanchi Array**	**64.90**	**327**	P		**P**	**09 47 51.6**	**+2.6**
	comp=Z,0.9nm,0.6s,baz=130,slow=7.9,SNR=6.6							
KURBB	**Kurchatov Arra**	**69.16**	**328**	P		**P**	**09 48 18.8**	**+2.9**
	comp=Z,0.9nm,0.8s,baz=128,slow=5.3,SNR=8.0							
KURK	**Kurchatov**	**69.17**	**328**	P		**P**	**09 48 18.8**	**+2.9**
KURK	**Kurchatov**	**69.17**	**328**	IAmb		IAmb	09 48 21.7	
	comp=Z,2.1nm,0.9s							

ASRS ***16*** *09:38:56.6,54.°25N×87.°22E,M1.6,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

IDC 16 09:38:56.7±3.8,54.°29N×87.°45E,h0km,mb1 3.2/2, mb1mx3.0/57,mbtmp3.2/2,ML2.8/2,Error ellipse: s-maj=36.4km s-min=20.3km az=34.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.59**	**259**	*i*			09 47 40.0	
	baz=76,slow=302,SNR=0.9							
ZALV	**Zalesovo Beam**	**1.59**	**259**	Pg		Pn	09 39 24.0	-2.0
	1.8nm,0.3s,baz=78,slow=15,SNR=11							
ZALV				Lg		Lg	09 39 47.5	
	2.7nm,0.3s,baz=79,slow=24,SNR=4.8							
KURBB	**Kurchatov Arra**	**6.57**	**240**	Pn		Pn	09 40 35.9	+1.4
	0.1nm,0.3s,baz=56,slow=14,SNR=3.3							
MKAR	**Makanchi Array**	**8.19**	**206**	Pn		Pn	09 40 57.6	+0.9
	0.3nm,0.3s,baz=26,slow=13,SNR=7.7							

IDC ***16*** *09:41:59.9±8.1,21.°19N×121.°84E,h85km±79km,mb3.8/10, mb1 3.8/11,mb1mx3.4/64,mbtmp4.1/11,ML3.5/1,MS3.8/1, Ms1 3.8/1,ms1mx2.6/39,Error ellipse: s-maj=48.8km s-min=13.1km az=65.0*

NEIC ***16*** *09:42:00.3±2.1,21.°18N±0.°09×121.°67E±0.°04, h85km±10km,mb4.0/6,Error ellipse: s-maj=13.6km s-min=5.6km az=176.0*

JMA ***16*** *09:42:01.2±0.3,21.°31N×121.°75E,h59km,M4.0*

TAP ***16*** *09:42:02.0,21.°39N×121.°63E,h104km,ML4.3,D*

ISC 16 09:42:02.2±0.9,21.°34N±0.°06×121.°62E±0.°03,h106km±6km,

n139,σ1s46/221,mb4.1/12,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LAY	**Lan-yu**	**0.70**	**355**	*i* P		**Pn**	**09 42 19.0**	**-1.3**
	baz=354							
LAY				*i* S		**Sn**	**09 42 32.3**	**-1.5**
	baz=354							
TSEB	**Hengchuen, Pin**	**0.87**	**310**	*i* P		**Pn**	**09 42 22.2**	**+0.4**
	baz=300							
TSEB				*i* S		**Sn**	**09 42 37.1**	**+0.6**
	baz=300							
TWKBT	**Hengchun**	**0.96**	**309**	P		**Pn**	**09 42 22.6**	**-0.1**
	baz=302							
TWKBT				S		**Sn**	**09 42 37.4**	**-0.7**
	baz=302							
TWK1	**Hengchun**	**0.97**	**309**	*i* P		**Pn**	**09 42 22.7**	**-0.1**
	baz=302							
TWK1				*i* S		**Sn**	**09 42 37.9**	**-0.4**
	baz=302							
HEN	**Hengchun**	**1.06**	**309**	*i* P		**Pn**	**09 42 23.9**	**+0.2**
	baz=307							
HEN				S		**Sn**	**09 42 39.7**	**-0.2**
	baz=307							
TAW	**Tawu**	**1.22**	**327**	*i* P		**Pn**	**09 42 24.6**	**-0.9**
	baz=330							
TAW				*i* S		**Sn**	**09 42 41.2**	**-1.9**
	baz=330							
SCZT	**Fangliau**	**1.39**	**318**	*i* P		**Pn**	**09 42 27.2**	**-0.3**
	baz=324							
SCZT				*i* S		**Sn**	**09 42 45.5**	**-1.1**
	baz=324							
ECL	**Taimali**	**1.40**	**334**	*i* P		**Pn**	**09 42 26.7**	**-0.9**
	baz=333							
ECL				*i* S		**Sn**	**09 42 44.6**	**-2.3**
	baz=333							
TTN	**Taitung**	**1.48**	**343**	S		**Sn**	**09 42 49.1**	**+0.6**
	baz=334							
SSPT	**Xinbi**	**1.50**	**320**	*i* P		**Pn**	**09 42 29.1**	**+0.2**
	baz=324							
SSPT				S		**Sn**	**09 42 48.4**	**-0.6**
	baz=324							
WLCH	**Liuqiu**	**1.53**	**311**	*i* P		**Pn**	**09 42 30.4**	**+1.2**
	baz=310							
WLCH				S		**Sn**	**09 42 51.7**	**+2.0**
	baz=310							
TWP	**Hsiaoliuchiu**	**1.54**	**311**	*i* P		**Pn**	**09 42 30.5**	**+1.2**
	baz=309							
TWP				*i* S		**Sn**	**09 42 51.4**	**+1.5**
	baz=309							
TWGBT	**Beinan**	**1.56**	**341**	P		**Pn**	**09 42 28.3**	**-1.2**
	baz=334							
TWGBT				S		**Sn**	**09 42 48.1**	**-2.1**
	baz=334							
TWG	**Pinlang**	**1.56**	**341**	*i* P		**Pn**	**09 42 28.5**	**-1.1**
	baz=334							
TWG				*i* S		**Sn**	**09 42 47.5**	**-2.8**
	baz=334							
TWG	**Pinlang**	**1.56**	**341**			**Pn**	**09 42 28.2**	**-1.4**
MASBT	**Mashibuluo**	**1.57**	**324**	P		**Pn**	**09 42 29.2**	**-0.5**
	baz=323							
MASBT				S		**Sn**	**09 42 48.4**	**-2.0**
	baz=323							
SSD	**Sandimen**	**1.68**	**327**	*i* P		**Pn**	**09 42 30.8**	**-0.2**
	baz=326							
SSD				*i* S		**Sn**	**09 42 51.0**	**-1.8**
	baz=326							
CHKT	**Chengkung**	**1.77**	**352**	*i* P		**Pn**	**09 42 31.4**	**-0.7**
	baz=358							
CHKT				*i* S		**Sn**	**09 42 53.2**	**-1.8**
	baz=358							
SNJT	**Kaohsiung City**	**1.85**	**320**	P		**Pn**	**09 42 34.0**	**+1.0**
	baz=319							
SNJT				*e*S		**Sn**	**09 42 56.7**	**+0.1**
	baz=319							
TWM1	**Shoushan**	**1.85**	**323**	*i* P		**Pn**	**09 42 34.0**	**+0.8**
	baz=322							
TWM1				S		**Sn**	**09 42 58.8**	**+2.0**
	baz=322							
FULB	**Fuli**	**1.88**	**351**	*i* P		**Pn**	**09 42 33.3**	**-0.2**
	baz=342							
FULB				*i* S		**Sn**	**09 42 57.1**	**-0.3**
	baz=342							
SLGT	**Liugui**	**1.88**	**331**	*i* P		**Pn**	**09 42 33.6**	**0.0**
	baz=331							
SLGT				*e*S		**Sn**	**09 42 56.2**	**-1.2**
	baz=331							
ELDTW	**Lidau**	**1.93**	**343**	*i* P		**Pn**	**09 42 33.6**	**-0.6**
	baz=345							
ELDTW				S		**Sn**	**09 42 56.6**	**-2.0**
	baz=345							
SGST	**Jiashian**	**1.98**	**331**	*i* P		**Pn**	**09 42 34.0**	**-0.9**
	baz=330							
SGST				*i* S		**Sn**	**09 42 57.9**	**-1.9**
	baz=330							
STYT	**Tauyuan**	**1.99**	**336**	*i* P		**Pn**	**09 42 35.0**	**0.0**
	baz=336							
STYT				*i* S		**Sn**	**09 42 59.3**	**-0.6**
	baz=336							
TWF1	**Yuli**	**2.03**	**352**	*i* P		**Pn**	**09 42 35.0**	**-0.4**
	baz=344							
TWF1				S		**Sn**	**09 42 59.0**	**-1.8**
	baz=344							
YULB	**Yu-li**	**2.07**	**352**	P		**Pn**	**09 42 35.1**	**-0.9**
	baz=344							
YULB				*e*S		**Sn**	**09 42 59.8**	**-1.9**
	baz=344							
YULB	**Yu-li**	**2.07**	**352**			**Pn**	**09 42 35.7**	**-0.2**
CHN3	**Shinhua**	**2.09**	**326**	*i* P		**Pn**	**09 42 37.0**	**+0.8**
	baz=335							
CHN3				S		**Sn**	**09 43 02.4**	**+0.3**
	baz=335							
WTP	**Ta-pu**	**2.12**	**334**	*i* P		**Pn**	**09 42 36.4**	**-0.2**
	baz=333							
WTP				*i* S		**Sn**	**09 43 00.7**	**-2.1**
	baz=333							
TAI1	**Yung-k'ang**	**2.13**	**323**	*e*S		**Sn**	**09 43 02.2**	**-0.8**
	baz=312							
SNST	**Tainan City**	**2.14**	**331**	P		**Pn**	**09 42 36.6**	**-0.3**
	baz=330							
SNST				*i* S		**Sn**	**09 43 02.1**	**-1.4**
	baz=330							
HGSD	**Ruisui**	**2.15**	**355**	P		**Pn**	**09 42 36.2**	**-0.8**
	baz=360							
HGSD				S		**Sn**	**09 43 03.0**	**-0.7**
	baz=360							
TPUB	**Ta-pu**	**2.16**	**335**	P		**Pn**	**09 42 36.7**	**-0.4**
	baz=334							
TPUB				S		**Sn**	**09 43 02.4**	**-1.4**
	baz=334							
TPUB	**Ta-pu**	**2.16**	**335**			**Pn**	**09 42 36.5**	**-0.6**
EHY	**Hungye**	**2.18**	**353**	*i* P		**Pn**	**09 42 36.7**	**-0.6**
	baz=345							
EHY				*i* S		**Sn**	**09 43 01.9**	**-2.3**
	baz=345							
TWK	**Hsinying**	**2.19**	**332**	*i* P		**Pn**	**09 42 37.5**	**0.0**
	baz=331							
TWK				*i* S		**Sn**	**09 43 02.3**	**-2.3**
	baz=331							
SCLT	**Jiali**	**2.26**	**324**	*e*P		**Pn**	**09 42 38.6**	**+0.3**
	baz=317							
SCLT				S		**Sn**	**09 43 05.1**	**-0.9**
	baz=317							
ALS	**Alishan**	**2.29**	**341**	*i* P		**Pn**	**09 42 39.0**	**-0.1**
	baz=332							
ALS				S		**Sn**	**09 43 06.1**	**-1.2**
	baz=332							
EGFH	**Guangfu**	**2.33**	**356**	P		**Pn**	**09 42 38.7**	**-0.6**
	baz=347							
EGFH				S		**Sn**	**09 43 06.8**	**-0.9**
	baz=347							
CHN8	**Yiju**	**2.39**	**327**	*i* S		**Sn**	**09 43 07.2**	**-1.8**
	baz=335							
CHN5	**Tsauling**	**2.41**	**339**	*i* P		**Pn**	**09 42 40.2**	**-0.3**
	baz=338							
CHN5				*i* S		**Sn**	**09 43 07.4**	**-2.4**
	baz=338							
CHY	**Chiayi**	**2.42**	**333**	*e*P		**Pn**	**09 42 39.7**	**-0.8**
	baz=332							
CHY				*i* S		**Sn**	**09 43 07.9**	**-1.9**
	baz=332							
VWDT	**VWDT**	**2.45**	**350**	P		**Pn**	**09 42 41.3**	**+0.4**
	baz=354							
VWDT				S		**Sn**	**09 43 10.3**	**-0.1**
	baz=354							
WHYT	**Xinyi Township**	**2.45**	**343**	*i* P		**Pn**	**09 42 40.9**	**0.0**
	baz=334							
WHYT				*i* S		**Sn**	**09 43 09.9**	**-0.8**
	baz=334							
WLGB	**Puzi**	**2.46**	**330**	*i* S		**Sn**	**09 43 09.5**	**-1.2**
	baz=330							
ESL	**Shilin**	**2.47**	**356**	*i* P		**Pn**	**09 42 40.8**	**-0.4**
	baz=349							
ESL				S		**Sn**	**09 43 09.7**	**-1.3**
	baz=349							
SSLB	**Suanglung**	**2.52**	**346**	P		**Pn**	**09 42 42.0**	**+0.2**
	baz=336							
SSLB				S		**Sn**	**09 43 11.7**	**-0.5**
	baz=336							
SSLB	**Suanglung**	**2.52**	**346**			**Pn**	**09 42 44.3**	**+2.5**
WGK	**Gukeng**	**2.54**	**337**	S		**Sn**	**09 43 11.2**	**-1.3**
	baz=337							
WDLH	**Douliu**	**2.55**	**337**	P		**Pn**	**09 42 42.2**	**0.0**
	baz=336							
WDLH				*i* S		**Sn**	**09 43 11.3**	**-1.5**
	baz=336							
WJS	**Zhushan**	**2.61**	**342**	S		**Sn**	**09 43 13.6**	**-0.7**
	baz=333							
SMLT	**Sun Moon Lake**	**2.62**	**345**	*i* P		**Pn**	**09 42 44.7**	**+1.5**
	baz=336							
SMLT				*i* S		**Sn**	**09 43 14.4**	**-0.3**
	baz=336							
WSF	**Szhu**	**2.63**	**331**	*i* S		**Sn**	**09 43 12.9**	**-1.8**
	baz=330							
WDGT	**Dungji**	**2.64**	**317**	*i* P		**Pn**	**09 42 42.7**	**-0.7**
	baz=316							
WDGT				S		**Sn**	**09 43 11.6**	**-3.3**
	baz=316							
TYC	**Yuchr**	**2.65**	**345**	*i* P		**Pn**	**09 42 44.5**	**+1.0**
	baz=336							
TYC				*i* S		**Sn**	**09 43 14.6**	**-0.6**
	baz=336							
WNT	**Mingjian**	**2.67**	**341**	*i* S		**Sn**	**09 43 14.6**	**-1.1**
	baz=333							
TWD	**Chiawan**	**2.73**	**360**	P		**Pn**	**09 42 43.4**	**-1.1**
	baz=6.0							
TWD				*i* S		**Sn**	**09 43 15.8**	**-1.3**
	baz=6.0							
CHGB	**Renai**	**2.74**	**351**	P		**Pn**	**09 42 44.8**	**-0.2**
	baz=341							
CHGB				S		**Sn**	**09 43 16.6**	**-1.1**
	baz=341							
VCHM	**Qimei**	**2.75**	**313**	P		**Pn**	**09 42 44.4**	**-0.5**
	baz=312							
VCHM				S		**Sn**	**09 43 14.7**	**-3.0**
	baz=312							
DPDB	**Guoxing**	**2.76**	**347**	*e*P		**Pn**	**09 42 45.4**	**+0.4**
	baz=337							
DPDB				*e*S		**Sn**	**09 43 16.6**	**-1.3**
	baz=337							
RLNB	**Erlin**	**2.80**	**336**	*e*S		**Sn**	**09 43 17.7**	**-1.0**
	baz=342							
WHF	**Hehuan Shan**	**2.81**	**353**	*i* P		**Pn**	**09 42 46.5**	**+0.4**
	baz=358							
WHF				S		**Sn**	**09 43 18.8**	**-1.0**
	baz=358							
NACB	**Ninganchiao**	**2.82**	**360**	P		**Pn**	**09 42 45.6**	**-0.2**
	baz=351							
NACB				S		**Sn**	**09 43 18.4**	**-0.9**
	baz=351							
NACB	**Ninganchiao**	**2.82**	**360**			**Pn**	**09 42 44.8**	**-1.0**
ETLH	**Xiulin Townshi**	**2.86**	**357**	P		**Pn**	**09 42 47.0**	**+0.7**
	baz=357							
ETLH				S		**Sn**	**09 43 20.0**	**-0.4**
	baz=357							
PHUB	**P'eng-hu**	**2.88**	**319**	P		**Pn**	**09 42 45.6**	**-0.9**
	baz=314							
PHUB				S		**Sn**	**09 43 17.5**	**-3.1**
	baz=314							
WCHH	**Zhanghua**	**2.90**	**340**	*e*S		**Sn**	**09 43 19.9**	**-1.3**
	baz=333							
PNG	**Penghu**	**2.93**	**320**	*i* P		**Pn**	**09 42 46.5**	**-0.7**
	baz=319							
PNG				S		**Sn**	**09 43 19.1**	**-2.7**
	baz=319							
TCU	**Taichung**	**2.93**	**343**	*e*S		**Sn**	**09 43 20.7**	**-1.1**
	baz=335							
TWT	**Tachien**	**2.93**	**352**	*e*P		**Pn**	**09 42 48.8**	**+1.4**
	baz=343							
TWT				S		**Sn**	**09 43 22.1**	**-0.1**
	baz=343							
TDCB	**Techi**	**2.93**	**352**	P		**Pn**	**09 42 48.2**	**+0.8**
	baz=343							
TDCB				S		**Sn**	**09 43 22.8**	**+0.6**
	baz=343							
WHP	**Taichung City**	**2.99**	**348**	*i* P		**Pn**	**09 42 48.2**	**0.0**
	baz=339							
WHP				*i* S		**Sn**	**09 43 23.8**	**+0.3**
	baz=339							
ENA	**Nanau**	**3.08**	**2**	*e*P		**Pn**	**09 42 49.4**	**+0.2**
	baz=2.0							
ENA				*e*S		**Sn**	**09 43 24.7**	**-0.7**
	baz=2.0							
NNSB	**Datong**	**3.08**	**356**	P		**Pn**	**09 42 50.3**	**+0.9**
NNSB				S		**Sn**	**09 43 25.6**	**-0.1**
NNSH	**Datong**	**3.08**	**356**	P		**Pn**	**09 42 50.4**	**+1.0**
	baz=360							
NNSH				S		**Sn**	**09 43 25.4**	**-0.3**
	baz=360							
NNS	**Nan Shan**	**3.10**	**356**	P		**Pn**	**09 42 50.6**	**+1.1**
NNS				S		**Sn**	**09 43 25.2**	**-0.8**
TWQ1	**Liyutan**	**3.10**	**346**	*e*S		**Sn**	**09 43 25.3**	**-0.5**
	baz=338							
WDJ	**Dajia District**	**3.13**	**343**	*e*S		**Sn**	**09 43 26.2**	**-0.4**
	baz=336							
NSY	**Sanyi**	**3.17**	**346**	*e*S		**Sn**	**09 43 28.3**	**+0.8**
	baz=345							
PTSB	**Yuanli**	**3.21**	**345**	*e*S		**Sn**	**09 43 27.5**	**-1.0**
	baz=337							
NDT	**Datong Townshi**	**3.25**	**358**	*i* P		**Pn**	**09 42 52.2**	**+0.7**
	baz=354							
NDT				*e*S		**Sn**	**09 43 28.3**	**-1.2**
	baz=354							
TWC	**Suao**	**3.26**	**4**	P		**Pn**	**09 42 51.8**	**+0.2**
	baz=13							
TWC				*e*S		**Sn**	**09 43 28.6**	**-1.2**
	baz=13							
ENTT	**Nioudou**	**3.29**	**359**	P		**Pn**	**09 42 52.8**	**+0.8**
	baz=355							
ENTT				*e*S		**Sn**	**09 43 31.3**	**+0.9**
	baz=355							
YHNB

JISG S **Sn** 09 43 47.8 -1.5
VWUC VWUC 4.15 332 *e*P **Pn** 09 43 02.7 -0.8
baz=337
VWUC *e*S **Sn** 09 43 47.2 -3.9
baz=337
KNMB Chin-men Tao 4.31 317 P **Pn** 09 43 05.6 -0.1
baz=316
KNMB S **Sn** 09 43 51.4 -3.6
baz=316
KNMB Chin-men Tao 4.31 317 Pn **Pn** 09 43 05.5 -0.1
KNMB **Sn** 09 43 52.1 -2.8
JTJ Tarama 4.34 40 S **Sn** 09 43 54.8 -1.0
PTMZ Houxiangcun 4.34 329 P **Pn** 09 43 05.1 -1.1
baz=328
PTMZ S **Sn** 09 43 51.8 -4.0
baz=328
ZPLA Ao Xicun 4.41 307 *e*P **Pn** 09 43 07.5 +0.5
baz=305
ZPLA *e*S **Sn** 09 43 54.9 -2.4
baz=305
PTTC Pingtan 4.48 338 S **Sn** 09 43 55.0 -4.0
baz=337
JIRB Irabujima 4.77 43 P **Pn** 09 43 10.7 -1.2
JMJ2 Miyako jima3 4.81 45 P **Pn** 09 43 11.7 -0.7
ZZJH Jiuhuzhen 4.82 311 *e*P **Pn** 09 43 13.3 +0.7
baz=310
ZZJH *e*S **Sn** 09 44 03.6 -3.7
baz=310
JOGS Gusukube 4.88 45 P **Pn** 09 43 12.8 -0.5
AXDP Jialang 4.89 317 *e*P **Pn** 09 43 11.2 -2.2
baz=316
AXDP *e*S **Sn** 09 44 03.5 -5.4
baz=316
JIKM Ikemajima 4.89 42 P **Pn** 09 43 13.2 -0.3
JIKM S **Sn** 09 44 07.0 -1.9
MATB Ma-tsu 5.03 343 P **Pn** 09 43 14.1 -1.3
baz=348
MATB *e*S **Sn** 09 44 08.0 -4.5
baz=348
MHZQ Yeshan 5.30 334 *e*P **Pn** 09 43 18.8 -0.3
baz=333
MHZQ *e*S **Sn** 09 44 16.2 -2.7
baz=333
LYJJ Jianjiangzhen 5.46 342 *e*S **Sn** 09 44 19.8 -3.0
baz=342
KSRS Korea Array 16.97 17 P **P** 09 45 53.5 +0.3
0.2nm,0.3s,baz=192,slow=11,SNR=5.7
SONM Songino Array 29.15 339 P **P** 09 47 53.9 +0.5
1.0nm,0.5s,baz=161,slow=9.4,SNR=3.8
SONM Songino Array 29.15 339 lAmb lAmb 09 47 55.5
comp=Z,3.2nm,1.4s
BATI Baumata 31.41 176 LR LR 10 01 16.0
comp=Z,178nm,21.5s,baz=150,slow=37
MK31 Makanchi Array 40.69 318 P **P** 09 49 34.8 +2.6
MK31 lAmb lAmb 09 49 35.4
comp=Z,2.1nm,0.8s
MKAR Makanchi Array 40.69 318 P **P** 09 49 34.5 +2.3
comp=Z,2.4nm,0.7s,baz=115,slow=9.3,SNR=16
MKAR Makanchi Array 40.69 318 P **P** 09 49 34.6 +2.4
ZALV Zalesovo Beam 42.86 329 P **P** 09 49 51.1 +1.3
comp=Z,1.2nm,0.5s,baz=131,slow=6.8,SNR=4.9
ZALV Zalesovo Beam 42.86 329 P **P** 09 49 51.3 +1.5
WRA Warramunga Arr 42.87 162 P **P** 09 49 48.3 -2.0
comp=Z,2.8nm,0.6s,baz=343,slow=9.0,SNR=15
WRA Warramunga Arr 42.87 162 lAmb lAmb 09 49 49.2
comp=Z,0.2nm,0.7s
KURK Kurchatov 44.55 322 P **P** 09 50 04.7 +1.4
KURBB Kurchatov Arra 44.56 322 P **P** 09 50 05.5 +2.1
comp=Z,4.6nm,0.8s,baz=114,slow=7.7,SNR=18
AS31 Alice Springs 46.30 164 P **P** 09 50 16.9 -0.6
AS31 lAmb lAmb 09 50 29.6
comp=Z,2.8nm,1.4s
ASAR Alice Springs 46.30 164 P **P** 09 50 14.8 -2.7
comp=Z,1.1nm,0.4s,baz=349,slow=7.2,SNR=27
BVAR Borovoye Array 50.14 322 P **P** 09 50 47.7 +1.0
comp=Z,1.7nm,0.6s,baz=108,slow=9.5,SNR=6.5
STKA Stephens Creek 56.27 160 P **P** 09 51 30.9 -0.8
comp=Z,1.7nm,0.6s,baz=348,slow=3.5,SNR=6.9
ARU Arti 57.63 324 P **P** 09 51 42.2 +1.2
comp=Z,1.6nm,0.3s,baz=191,slow=9.1,SNR=3.8
CLL Collm 84.56 323 *e*P **P** 09 54 25.0 +1.4
YKA Yellowknife Ar 85.43 23 P **P** 09 54 28.1 +0.4
comp=Z,0.2nm,0.7s,baz=309,slow=4.8,SNR=4.4

*JMA **16** 09:50:17.1±0.1,24.96N×122.85E,h25km±2km,M1.7*
*TAP **16** 09:50:19.4,24.60N×122.97E,h47km±1km,ML2.5,D*
ISC 16 09:50:21.6±1.4,**24.57N**±0.08×**122.88E**±0.03,**h40**km±8km,
n24,σ1°**11**/43,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.13**	**155**	P	**Pn**	**09 50 27.4**	**-1.0**
JYNG				S	**Sn**	**09 50 34.8**	**+1.7**
YOJ	**Yonaguni jima**	**0.16**	**133**	P	**Pn**	**09 50 27.2**	**-1.4**
	baz=174						
YOJ				*e*S	**Sn**	**09 50 34.7**	**+1.2**
	baz=174						
YOJ	**Yonaguni jima**	**0.16**	**133**	P	**Pn**	**09 50 27.4**	**-1.2**
YOJ				*e*S	**Sn**	**09 50 34.5**	**+1.1**
IRIF	**Iriomote-Funau**	**0.81**	**107**	P	**Pn**	**09 50 35.5**	**-1.0**
IRIF				*e*S	**Sn**	**09 50 49.0**	**+1.7**
TWC	**Suao**	**0.94**	**273**	*e*P	**Pn**	**09 50 37.6**	**-0.8**
	baz=269						
TWC				*e*S	**Sn**	**09 50 49.5**	**-1.1**
	baz=269						
HATJ	**Hateruma jima**	**0.98**	**121**	S	**Sn**	**09 50 54.6**	**+3.0**
TIPB	**Shuangxi**	**1.04**	**293**	*e*P	**Pn**	**09 50 38.7**	**-1.0**
	baz=287						
ENA	**Nanau**	**1.05**	**262**	*e*P	**Pn**	**09 50 40.1**	**+0.3**
	baz=259						
ENA				*i* S	**Sn**	**09 50 52.6**	**-0.6**
	baz=259						
ENTT	**Nioudou**	**1.20**	**274**	*e*P	**Pn**	**09 50 41.8**	**-0.1**
	baz=270						
ENTT				*e*S	**Sn**	**09 50 57.3**	**+0.2**
	baz=270						
NACB	**Ninganchiao**	**1.24**	**252**	*e*P	**Pn**	**09 50 42.0**	**-0.4**
	baz=249						
NACB				*e*S	**Sn**	**09 50 58.1**	**+0.1**
	baz=249						
NDT	**Datong Townshi**	**1.25**	**272**	P	**Pn**	**09 50 43.0**	**+0.5**
	baz=275						
NDT				S	**Sn**	**09 50 58.8**	**+0.6**
	baz=275						
NWLT	**Wulai**	**1.27**	**280**	P	**Pn**	**09 50 42.8**	**-0.1**
	baz=276						
NWLT				*e*S	**Sn**	**09 50 59.0**	**+0.2**
	baz=276						
JISG	**Ishigakijimahi**	**1.30**	**89**	P	**Pn**	**09 50 41.5**	**-1.8**
ETLH	**Xiulin Townshi**	**1.33**	**254**	P	**Pn**	**09 50 43.9**	**+0.1**
	baz=240						
ETLH				S	**Sn**	**09 51 02.5**	**+2.2**
	baz=240						
NNSB	**Datong**	**1.37**	**264**	P	**Pn**	**09 50 44.4**	**0.0**
	baz=249						
NNSB				S	**Sn**	**09 51 02.9**	**+1.4**
	baz=249						
NNSH	**Datong**	**1.37**	**264**	*i* P	**Pn**	**09 50 44.5**	**+0.2**
	baz=249						
NNSH				S	**Sn**	**09 51 02.5**	**+1.1**
	baz=249						
YHNB	**Yeheng**	**1.38**	**274**	P	**Pn**	**09 50 44.3**	**-0.1**
	baz=278						
YHNB				S	**Sn**	**09 51 01.4**	**0.0**
	baz=278						
NNS	**Nan Shan**	**1.38**	**265**	*e*S	**Sn**	**09 51 03.4**	**+1.7**
	baz=250						
NSK	**Sanguang**	**1.39**	**275**	P	**Pn**	**09 50 45.1**	**+0.5**
	baz=278						
NSK				S	**Sn**	**09 51 01.8**	**0.0**
	baz=278						
WHF	**Hehuan Shan**	**1.54**	**254**	P	**Pn**	**09 50 47.2**	**+0.3**
	baz=252						
WHF				*e*S	**Sn**	**09 51 07.0**	**+1.1**
	baz=252						
TDCB	**Techi**	**1.60**	**259**	*e*P	**Pn**	**09 50 48.2**	**+0.6**
	baz=256						
VWDT	**VWDT**	**1.79**	**243**	*e*P	**Pn**	**09 50 50.2**	**+0.2**
	baz=241						
VWDT				*e*S	**Sn**	**09 51 10.9**	**-0.5**
	baz=241						
YULB	**Yu-li**	**1.86**	**231**	*e*P	**Pn**	**09 50 50.0**	**-1.1**
	baz=243						
YULB				*e*S	**Sn**	**09 51 11.9**	**-1.5**
	baz=243						
FULB	**Fuli**	**2.00**	**227**	*e*P	**Pn**	**09 50 52.4**	**-0.5**
	baz=226						
FULB				*e*S	**Sn**	**09 51 15.5**	**-1.2**
	baz=226						

*NEIC **16** 09:58:15.6±3.0,7.39S±0.07×128.50E±0.07,h157km±7km,*
mb4.4/18,Error ellipse: s-maj=10.9km s-min=9.6km
az=116.0
*IDC **16** 09:58:16.0±1.6,7.41S×128.53E,h153km±15km,mb3.9/12,*
mb1 4.0/18,mb1mx3.8/38,mbtmp4.4/18,MS2.7/1,
Ms1 2.7/1,ms1mx2.3/30,Error ellipse: s-maj=18.5km
s-min=11.1km az=95.0
*DJA **16** 09:58:16.2±0.2,7.3S±2.1×129.0E±1.1,h157km±7km,M4.6/14,*
mb4.5/14,mB5.0/6,MLv4.7/12,Mw(mB)4.4/6
ISC 16 09:58:15.4±0.4,**7.46S**±0.05×**128.56E**±0.06,**h151**km,**n75**,
σ1°**46**/77,**mb4.3**/16,**1D**,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.76**	**101**	P	**Pn**	**09 59 01.4**	**+1.6**
SAUI				S	**Sn**	**09 59 34.5**	**+0.4**
SAUI	**Saumlaki**	**2.76**	**101**	Pn	**Pn**	**09 59 02.2**	**+2.4**
AAI	**Ambon**	**3.77**	**354**	P	**Pn**	**09 59 14.8**	**+2.1**
SOEI	**Soe**	**4.82**	**241**	P	**Pn**	**09 59 28.1**	**+1.5**
SOEI	**Soe**	**4.82**	**241**	Pn	**Pn**	**09 59 28.5**	**+1.9**
BATI	**Baumata**	**5.56**	**240**	P	**Pn**	**09 59 37.8**	**+1.5**
	67nm,0.3s,baz=297,slow=3.3,SNR=29						
BATI				S	**Sn**	**10 00 38.5**	**-0.9**
	179nm,0.3s,baz=2.0,slow=11,SNR=19						
BATI	**Baumata**	**5.56**	**240**	P	**Pn**	**09 59 38.0**	**+1.8**
	1.9nm3µm124nm,0.5s						
FAKI	**Fak Fak**	**5.82**	**39**	P	**Pn**	**09 59 40.2**	**+0.5**
	0.5nm59nm,0.8s						
FAKI	**Fak Fak**	**5.82**	**39**	Pn	**Pn**	**09 59 39.6**	**-0.1**
MTN	**Manton Dam**	**5.92**	**155**	Pn	**Pn**	**09 59 42.2**	**+1.2**
BBSI	**Bau Bau**	**6.27**	**288**	P	**Pn**	**09 59 46.2**	**+0.5**
	0.0nm8.3nm,1.1s						
MMRI	**Maumere**	**6.37**	**259**	P	**Pn**	**09 59 48.2**	**+1.1**
	0.7nm5µm121nm,0.9s						
LBMI	**Labuha**	**6.86**	**351**	P	**Pn**	**09 59 54.6**	**+1.0**
	0.2nm47nm,1.1s						
EDFI	**Ende, Flores**	**6.92**	**259**	P	**Pn**	**09 59 56.2**	**+1.7**
	0.1nm34nm,0.8s						
SIJI	**Sorong**	**7.08**	**23**	P	**Pn**	**09 59 57.5**	**+0.9**
	9.5nm,0.3s,baz=214,slow=23,SNR=73						
SIJI				S	**Sn**	**10 01 12.9**	**-3.1**
	6.1nm,0.3s,baz=64,slow=23,SNR=9.4						
RKPI	**Ransiki, Papua**	**8.14**	**44**	P	**Pn**	**10 00 11.2**	**+0.5**
	109nm,0.7s						
KNRA	**Kununurra**	**8.17**	**179**	Pn	**Pn**	**10 00 11.6**	**+0.6**
BASI	**Baing, Sumba**	**8.35**	**250**	P	**Pn**	**10 00 14.8**	**+1.3**
	105nm,0.9s						
BNSI	**Bone**	**8.94**	**289**	P	Pn	10 00 28.9	+7.5
KAPI	**Kappang**	**9.09**	**285**	P	**Pn**	**10 00 25.2**	**+1.9**
	1.0nm,0.3s,baz=52,slow=13,SNR=2.8						
KAPI				LR	LR	10 04 26.6	
	comp=Z,43nm,19.4s,baz=43,slow=41						
KAPI	**Kappang**	**9.09**	**285**		**Pn**	**10 00 22.4**	**-0.9**
WBSI	**Waikabubak, Su**	**9.32**	**256**	P	**Pn**	**10 00 28.7**	**+2.2**
	81nm,0.9s						
SPSI	**Sidrap Palu**	**9.41**	**291**	P	**Pn**	**10 00 28.9**	**+1.3**
	74nm27nm,0.9s						
PLAI	**Plampang**	**10.76**	**262**	P	**Pn**	**10 00 44.9**	**-0.6**
	51nm,0.8s						
FITZ	**Fitzroy Crossi**	**10.95**	**195**	P	**Pn**	**10 00 47.4**	**-0.5**
	0.9nm,0.3s,baz=12,slow=7.7,SNR=24						
FITZ				S	Sn	10 02 39.0	-10
	6.2nm,0.3s,baz=74,slow=14,SNR=9.2						
FITZ	**Fitzroy Crossi**	**10.95**	**195**	Pn	**Pn**	**10 00 48.4**	**+0.4**
WB0	**Warramunga Ar**	**13.48**	**156**		**Pn**	**10 01 19.8**	**-0.9**
WRAB	**Tennant Creek**	**13.61**	**156**	Pn	**Pn**	**10 01 22.8**	**+0.4**
WRA	**Warramunga Arr**	**13.62**	**156**	P	**Pn**	**10 01 21.9**	**-0.5**
	1.1nm,0.3s,baz=323,slow=11,SNR=23						
WRA				S	Sn	10 03 42.9	-10
	2.9nm,0.3s,baz=335,slow=22,SNR=12						
WRA	**Warramunga Arr**	**13.62**	**156**		**Pn**	**10 01 21.4**	**-1.1**
WB2	**Warramunga Arr**	**13.62**	**156**	Pn	**Pn**	**10 01 21.9**	**-0.6**
WR0	**Warramunga Arr**	**13.71**	**156**	Pn	**Pn**	**10 01 22.6**	**-1.1**
DDMP	**Don Marcelino,**	**13.77**	**348**	*e*P	**P**	**10 01 28.6**	**+0.6**
SKMP	**Bagumbayan, Su**	**14.45**	**344**	*e*P	**P**	**10 01 36.9**	**+1.3**
KCP	**Kidapawan**	**14.78**	**346**	*e*P	**P**	**10 01 41.4**	**+2.1**
COEN	**Coen**	**15.74**	**115**		**P**	**10 01 50.7**	**+0.9**
COEN				lAmb	lAmb	10 02 09.5	
	comp=Z,19nm,1.3s						
PSA00	**Pilbara Seismi**	**16.36**	**210**		**P**	**10 01 57.7**	**+1.1**
PSA00				lAmb	lAmb	10 02 01.0	
	comp=Z,32nm,1.2s						
AS31	**Alice Springs**	**16.91**	**163**		**Pn**	**10 02 04.7**	**+1.5**
ASAR	**Alice Springs**	**16.91**	**163**	P	**Pn**	**10 02 05.2**	**+2.0**
	comp=Z,0.8nm,0.3s,baz=340,slow=10,SNR=64						
ASAR				S	**S**	**10 05 05.2**	**-6.1**
	comp=Z,0.9nm,0.3s,baz=343,slow=26,SNR=4.2						
ASAR				ScP	**ScP**	**10 10 00.2**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=354,slow=1.9,SNR=6.6						
ASAR	**Alice Springs**	**16.91**	**163**	Pn	**Pn**	**10 02 05.5**	**+2.3**
MSLP	**Maasin**	**17.86**	**348**	*e*P	**Pn**	**10 02 16.4**	**+1.8**
UGM	**Wanagama**	**17.88**	**267**	P	**P**	**10 02 13.8**	**+0.4**
CNOP	**Candoni, Negro**	**18.16**	**341**	*e*P	**Pn**	**10 02 20.2**	**+2.1**
SBUM	**Sibu**	**19.05**	**301**	P	**P**	**10 02 24.6**	**-1.5**
SBUM				lAmb	lAmb	10 02 31.0	
	comp=Z,4.1nm,0.6s						
KSM	**Kuching**	**20.26**	**295**	P	**P**	**10 02 38.1**	**-1.1**
KSM				lAmb	lAmb	10 02 43.2	
	comp=Z,11nm,0.8s						
CISI	**Cisompet, Garu**	**20.57**	**268**	P	**P**	**10 02 40.8**	**-1.8**
FORT	**Forrest**	**23.20**	**181**	P	**P**	**10 03 08.3**	**-0.6**
MORW	**Morawa**	**24.52**	**207**	P	**P**	**10 03 22.5**	**+1.5**
MORW				lAmb	lAmb	10 03 24.4	
	comp=Z,15nm,0.8s						
BBOO	**Buckleboo**	**26.17**	**166**	P	**P**	**10 03 34.9**	**-0.9**
STKA	**Stephens Creek**	**27.16**	**155**	P	**P**	**10 03 46.4**	**+1.7**
	comp=Z,2.1nm,0.7s,baz=328,slow=11,SNR=3.4						
STKA	**Stephens Creek**	**27.16**	**155**	P	**P**	**10 03 44.9**	**+0.1**
NWAO	**Narrogin (SRO)**	**27.43**	**201**	P	**P**	**10 03 48.5**	**+1.3**
	comp=Z,9.8nm,1.0s,baz=304,slow=15,SNR=2.1						
NWAO	**Narrogin (SRO)**	**27.43**	**201**	P	**P**	**10 03 46.2**	**-0.9**
NWAO				lAmb	lAmb	10 03 58.4	
	comp=Z,25nm,1.4s						
KSRS	**Korea Array**	**44.68**	**359**	P	**P**	**10 06 13.0**	**-0.2**
	comp=Z,1.0nm,0.4s,baz=176,slow=11,SNR=8.9						
MJAR	**Matsushiro Arr**	**44.70**	**11**	P	**P**	**10 06 11.4**	**-1.9**
	comp=Z,2.0nm,0.7s,baz=188,slow=9.8,SNR=7.9						
MJAR	**Matsushiro Arr**	**44.70**	**11**	lAmb	lAmb	10 06 13.9	
	comp=Z,1.1nm,0.7s						
XAN	**Xi'an**	**45.28**	**337**	P	**P**	**10 06 17.9**	**-0.2**
XAN				lAmb	lAmb	10 06 17.9	
	comp=Z,11nm,0.9s						
USRK	**Ussuriysk Ar.**	**51.51**	**3**	P	**P**	**10 07 05.3**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=186,slow=6.9,SNR=3.1						
ULN	**Ulaanbaatar**	**58.27**	**343**	P	**P**	**10 07 54.7**	**+0.4**
ULN				lAmb	lAmb	10 07 56.7	
	comp=Z,5.1nm,0.8s						
SONM	**Songino Array**	**58.44**	**343**	P	**P**	**10 07 56.0**	**+0.6**
	comp=Z,3.9nm,0.8s,baz=165,slow=8.6,SNR=18						
SONM	**Songino Array**	**58.44**	**343**	P	**P**	**10 07 54.8**	**-0.6**
PETK	**Petropavlovsk-**	**65.21**	**19**	P	**P**	**10 08 40.8**	**+0.4**
	comp=Z,9.7nm,0.7s,baz=194,slow=6.5,SNR=14						
PETK	**Petropavlovsk-**	**65.21**	**19**	P	**P**	**10 08 41.2**	**+0.8**
MKAR	**Makanchi Array**	**67.84**	**328**	P	**P**	**10 08 57.9**	**+0.6**
	comp=Z,2.3nm,0.5s,baz=125,slow=8.2,SNR=15						
MKAR	**Makanchi Array**	**67.84**	**328**	P	**P**	**10 08 57.4**	**+0.1**
ZALV	**Zalesovo Beam**	**71.37**	**334**	P	**P**	**10 09 18.3**	**-0.4**
	comp=Z,4.1nm,0.6s,baz=135,slow=4.8,SNR=13						
ZALV	**Zalesovo Beam**	**71.37**	**334**		**P**	**10 09 17.9**	**-0.8**
KURK	**Kurchatov**	**72.17**	**329**	P	**P**	**10 09 22.6**	**-1.0**
KURK				lAmb	lAmb	10 09 24.6	
	comp=Z,7.0nm,1.0s						
NRIK	**Noril'sk**	**81.66**	**346**	P	**P**	**10 10 16.2**	**0.0**
	comp=Z,2.8nm,0.4s,baz=125,slow=7.0,SNR=4.3						
ABKAR	**Akbulak array**	**81.98**	**322**		**P**	**10 10 17.2**	**-1.2**
QSPA	**South Pole Qui**	**82.52**	**180**	P	**P**	**10 10 21.9**	**+0.8**
	comp=Z,1.2nm,0.9s						
QSPA	**South Pole Qui**	**82.52**	**180**	lAmb	lAmb	10 10 22.6	
	comp=Z,2.1nm,1.0s						
ILAR	**Eielson Array**	**94.37**	**25**	P	**P**	**10 11 15.8**	**-1.8**
	comp=Z,0.6nm,0.9s,baz=246,slow=4.1,SNR=4.3						
BMAR	**Burnt Mountain**	**95.62**	**23**	P	**P**	**10 11 23.3**	**0.0**
LPAZ	**La Paz**	**151.20**	**145**	PKPbc	**PKiKP**	**10 17 53.9**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=19,slow=3.0,SNR=3.5						

TAP 16 10:01:55.7,23.76N×121.42E,h18km,ML1.4,C,Taiwan

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

ESL	**Shilin**	**0.06**	**13**	*i* P	Pg	10 01 59.2	+0.1
	baz=20						
ESL				*i* S	Sg	10 02 01.4	0.0
	baz=20						
EGFH	**Guangfu**	**0.09**	**175**	*i* P	Pg	10 01 59.3	0.0
	baz=175						
EGFH				*i* S	Sg	10 02 01.6	-0.1
	baz=175						
VWDT	**VWDT**	**0.26**	**269**	P	Pb	10 02 02.1	+0.4
	baz=264						
VWDT				S	Sg	10 02 05.5	0.0
	baz=264						
EHY	**Hungye**	**0.27**	**200**	P	Pg	10 02 01.4	-0.3
	baz=198						
EHY				*i* S	Sb	10 02 06.0	0.0
	baz=198						
CHGB	**Renai**	**0.38**	**323**	P	Pb	10 02 04.0	-0.1
	baz=330						
CHGB				S	Sb	10 02 09.5	-0.1
	baz=330						
YULB	**Yu-li**	**0.38**	**197**	P	Pg	10 02 03.6	-0.1
	baz=193						
YULB				*e*S	Sg	10 02 08.9	-0.1
	baz=193						
WHF	**Hehuan Shan**	**0.41**	**340**	*i* P	Pg	10 02 04.5	+0.1
	baz=341						
WHF				*i* S	Sg	10 02 10.1	-0.2
	baz=341						
TWF1	**Yuli**	**0.42**	**196**	P	Pg	10 02 04.3	0.0
	baz=198						
TWF1				S	Sg	10 02 10.3	+0.1
	baz=198						
SSLB	**Suanglung**	**0.43**	**274**	S	Sg	10 02 10.3	-0.1
	baz=280						
FULB	**Fuli**	**0.57**	**192**	*e*P	Pb	10 02 07.6	+0.5
	baz=202						
FULB				*e*S	Sb	10 02 16.2	+1.4
	baz=202						

JMA 16 10:01:58.8±0.2,**24.93N**×**122.87E**,**h21**km±4km,**M1.7**,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.48**	**172**	P	Pb	10 02 08.2	-0.3
JYNG				S	Sb	10 02 15.5	+0.4
YOJ	**Yonaguni jima**	**0.48**	**165**	P	Pb	10 02 08.3	-0.3
YOJ				S	Sb	10 02 14.6	-0.6
IRIF	**Iriomote-Funau**	**0.98**	**127**	P	Pb	10 02 16.4	-0.7
JKRS	**Kuro-shima**	**1.25**	**123**	P	Pn	10 02 20.9	-0.1
JIJ	**Ishigaki jima**	**1.29**	**116**	P	Pn	10 02 21.9	+0.3
JTJ	**Tarama**	**1.69**	**99**	P	Pn	10 02 27.6	+0.5
JTJ				S	Sn	10 02 47.8	-0.3

*GCG **16** 10:04:27.9±0.8,15.20N×92.02W,h13km±219km,MD5.1*
*INET **16** 10:04:29.0,15.37N×92.48W,h15km,ML5.5*
*BJI **16** 10:04:30.0±0.0,15.30N×92.00W,h10km,mB5.2/1,*
Ms4.9/5,Ms7 4.8/6
*UCR **16** 10:04:30.2±1.6,15.20N×92.34W,h20km±49km,ML4.9,*
mb5.2(NEIC)
*SNET **16** 10:04:30.2±1.2,15.11N×92.34W,h15km±36km,ML5.2*
*NEIC **16** 10:04:31.8±2.7,15.35N±0.05×91.97W±0.04,h10km±1km,*
mb5.2/495,Md5.0/13(MEX),Error ellipse: s-maj=8.9km
s-min=5.9km az=209.0
*MEX **16** 10:04:31.6±1.2,15.15N×91.92W,h10km,MD5.0*
*GCMT **16** 10:04:32.8±0.2,15.40N±0.01×92.03W±0.01,h14km±1km,*
MW5.0/112,Moment Tensor Solution. s49,c63;
s112,c181; Duration: 0 Moment tensor: Scale 10^{16}Nm;
M_{rr}1.47±.12; $M_{\theta\theta}$-2.52±.11; $M_{\phi\phi}$1.05±.10; $M_{r\theta}$1.91±.27;
$M_{\theta\phi}$3.26±.09; $M_{r\phi}$0.36±.20; Best double couple:
M_o4.29300×10^{16} NP1:ϕ_s343.00000°,δ57.00000°,
λ166.00000°. NP2:ϕ_s81.00000°,δ78.00000°,λ33.00000°.
Principal axes: T 3.7810, Plg32.0000°, Azm307.0000°; N
1.0230, Plg55.0000°, Azm98.0000°; P -4.8040,
Plg14.0000°, Azm208.0000°; nsta1 refers to body waves,
cutoff=40s. nsta2 refers to surface waves, cutoff=50s.
Triangular moment-rate function
*UNK **16** 10:04:32.1,15.34N×91.91W,h10km*
*IDC **16** 10:04:37.8±2.0,15.42N×91.82W,h65km±18km,mb4.5/26,*
mb1 4.7/30,mb1mx4.7/35,mbtmp4.9/30,MS4.3/31,
Ms1 4.3/31,ms1mx4.2/43,Error ellipse: s-maj=13.7km
s-min=8.6km az=64.0
*BGR **16** 10:04:44.7±0.0,13.96N×90.80W,h33km,mb5.0*
ISC 16 10:04:30.6±0.8,**15.29N**±0.03×**91.95W**±0.03,**h10**km±5km,
n980,σ1°**26**/824,**mb5.2**/221,**MS4.4**/32,
Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG3	**Santiaguito 3,**	**0.68**	**148**	*e*Pg	**Pg**	**10 04 42.0**	**-1.8**
RTAL	**Retalhuleu**	**0.80**	**162**	*e*P	**Pg**	**10 04 43.8**	**-2.2**
RTAL				*e*S	**Sg**	**10 04 54.9**	**-1.7**
CCIG	**Comitan**	**1.00**	**350**		**Pb**	**10 04 50.3**	**+0.1**
CCIG					**Sn**	**10 05 04.3**	**-0.7**
CCIG	**Comitan**	**1.00**	**350**	*e*P	**Pb**	**10 04 50.3**	**+0.1**
CCIG				*e*S	**Sn**	**10 05 04.3**	**-0.7**
PCIG		**1.29**	**289**		**Pn**	**10 04 52.8**	**-1.9**
PCIG					**Sb**	**10 05 10.2**	**-1.4**
PCIG		**1.29**	**289**	*e*P	**Pn**	**10 04 52.8**	**-1.9**
PCIG				*e*S	**Sb**	**10 05 10.2**	**-1.4**
FUG	**Fuego 3**	**1.36**	**128**	*e*Pg	**Pn**	**10 04 55.2**	**-0.5**
PCG	**Pacaya**	**1.57**	**124**	*i* Pg	**Pn**	**10 04 59.5**	**+0.7**
NBG	**Las Nubes**	**1.70**	**114**	*e*Pg	**Pb**	**10 05 01.9**	**-0.2**
IXG	**Ixpaco**	**1.83**	**127**	*e*Pg	**Pn**	**10 05 03.1**	**+0.8**
TGBT	**Tuxtla Gutierr**	**1.84**	**324**		**Pb**	**10 05 03.4**	**-0.9**
TGBT					**Sb**	**10 05 26.9**	**-0.5**
TGBT	**Tuxtla Gutierr**	**1.84**	**324**	*e*P	**Pn**	**10 05 01.4**	**-0.8**
TGBT				*e*S	**Sn**	**10 05 25.0**	**-0.5**
TGIG		**1.86**	**323**		**Pn**	**10 05 00.8**	**-1.8**
TGIG					**Sb**	**10 05 28.7**	**+0.6**
TGIG		**1.86**	**323**	*e*P	**Pn**	**10 05 00.8**	**-1.8**
TGIG				*i* S	**Sn**	**10 05 26.0**	**-0.2**
MRL	**Marmol**	**2.19**	**95**	*e*Pg	**Pb**	**10 05 09.4**	**-1.1**
NUBE	**Las Nubes**	**2.51**	**123**	*e*P	**Pn**	**10 05 13.8**	**+2.2**
NUBE				*e*S	**Sb**	**10 05 47.6**	**+0.7**
NUBE				IAML		10 05 52.4	
	comp=Z,6µm,0.7s						
NUBE	**Las Nubes**	**2.51**	**123**	*e*P	**Pn**	**10 05 13.8**	**+2.2**
NUBE				*e*S	**Sb**	**10 05 47.6**	**+0.7**
NUBE				IAML		10 05 52.4	
	comp=Z,6µm,0.7s		

CMIG S Sn 10 06 05.3 +2.7
comp=Z,256nm,0.3s,baz=190,slow=18,SNR=2.0
CMIG LR LR 10 06 58.4
comp=Z,5µm,19.9s,baz=194,slow=42
CMIG Matias Romero 3.34 303 Pn 10 05 23.8 +1.0
CMIG Matias Romero 3.34 303 *eP* **Pn 10 05 22.8 -0.1**
CMIG *eS* **Sn 10 06 03.0 +0.4**
TUIG Tuzandepetl 3.62 319 *eP* **Pn 10 05 26.9 +0.3**
TUIG *eS* **Sn 10 06 09.6 +0.3**
SCIG Sabancuy 3.73 11 *eP* **Pn 10 05 29.3 +1.1**
SCIG *eS* **Sn 10 06 13.7 +1.6**
HUIG Huatulco 4.04 277 *eP* **Pn 10 05 31.3 -1.1**
HUIG Huatulco 4.04 277 *eP* **Pn 10 05 31.3 -1.1**
HUIG *eS* **Sn 10 06 18.4 -1.4**
TGUH Tegucigalpa,Un 4.69 105 Pn **Pn 10 05 42.5 +1.0**
VHO Vista Hermosa 4.93 292 *eP* **Pn 10 05 47.0 +2.1**
VHO *i* S **Sn 10 06 44.4 +2.3**
MYIG Mrida 6.01 20 *eP* **Pn 10 06 00.7 +1.1**
MYIG *i* S **Sn 10 07 09.8 +1.3**
TEIG Tepich 6.03 35 P **Pn 10 06 00.5 +0.8**
comp=Z,73nm,0.3s,baz=319,slow=0.3,SNR=310
TEIG S **Sn 10 07 06.7 -2.1**
comp=Z,149nm,0.3s,baz=319,slow=23,SNR=25
TEIG LR LR 10 08 49.4
comp=Z,5µm,21.2s,baz=319,slow=43
TEIG Tepich 6.03 35 Pn 10 06 00.1 +0.3
TEIG **Sn 10 07 07.3 -1.5**
TEIG Tepich 6.03 35 *eP* **Pn 10 06 00.1 +0.3**
TEIG *eS* **Sn 10 07 07.3 -1.5**
TPIG Tehuac#an 6.04 302 *eP* **Pn 10 06 01.4 +1.1**
TPIG *eS* **Sn 10 07 10.6 +1.0**
LVIG Laguna Verde 6.13 317 *eP* **Pn 10 06 00.2 -1.0**
LVIG *i* S **Sn 10 07 15.9 +4.5**
HLIG Huajuapan de L 6.16 295 *eP* **Pn 10 06 04.2 +2.4**
HLIG *i* S **Sn 10 07 12.7 +0.3**
MATN Matagalpa 6.30 111 Pn 10 06 05.3 +1.7
FTIG Fresnillo de T 6.48 295 *eP* **Pn 10 06 08.7 +2.6**
FTIG *i* S **Sn 10 07 21.0 +0.9**
TLIG Tlapa 6.74 290 Pn **Pn 10 06 12.0 +2.2**
ACON Acoyapa 7.37 116 Pn 10 06 21.1 +2.9
PPM Popocatepetl 7.41 301 *eP* **Pn 10 06 22.0 +2.8**
PPM *eS* **Sn 10 07 45.1 +1.6**
PLIG Platanillo 7.86 294 *eP* **Pn 10 06 22.6 -2.5**
PLIG *eS* **Sn 10 07 55.8 +1.5**
UNM Universidad Na 7.99 301 Pn **Pn 10 06 30.2 +3.2**
UNM Universidad Na 7.99 301 *eP* **Pn 10 06 27.5 +0.5**
UNM *eS* **Sn 10 07 58.5 +0.9**
CAIG El Cayaco 8.18 283 *i* P **Pn 10 06 30.6 +1.2**
CAIG *eS* **Sn 10 08 02.5 +0.5**
DEIG Demacu 8.39 307 *eP* **Pn 10 06 33.7 +1.2**
DEIG *eS* **Sn 10 08 08.5 +1.1**
JTS Las Juntas de 8.44 125 P **Pn 10 06 35.6 +2.6**
comp=Z,3.1nm,0.3s,baz=5.7,slow=9.5,SNR=20
JTS LR LR 10 10 17.2
comp=Z,2µm,19.2s,baz=356,slow=40
JTS Las Juntas de 8.44 125 Pn **Pn 10 06 35.9 +2.9**
ARIG Puente Sto Nin 8.58 291 *i* P **Pn 10 06 37.8 +3.0**
ARIG *eS* **Sn 10 08 18.5 +6.8**
ZIIG Zihuatanejo 9.42 285 *i* P **Pn 10 06 48.5 +2.1**
ZIIG *eS* **Sn 10 08 33.2 +0.9**
ZAIG Zacatecas 12.49 308 Pn **Pn 10 07 31.1 +2.3**
MTDJ Mount Denham 14.11 76 P **P 10 07 57.2 -1.2**
833A Chaparral WMA, 14.69 333 P **Pn 10 07 56.5 -2.0**
baz=150,SNR=40
833A Chaparral WMA, 14.69 333 Pn Pn 10 07 58.1 -0.4
342A Flagon Creek P 16.01 359 Pn 10 08 17.5 +1.6
342A IAmb IAmb 10 08 25.6
comp=Z,259nm,1.1s
344A Westbrook Farm 16.13 4 P 10 08 19.8 -0.9
344A IAmb IAmb 10 08 56.2
comp=Z,220nm,1.4s
346A Big Creek Wild 16.18 8 P **P 10 08 20.6 -0.7**
346A IAmb IAmb 10 08 46.1
comp=Z,170nm,0.9s
435B Jarrell 16.26 342 P **Pn 10 08 17.3 -1.9**
baz=160,SNR=13
451A Vernon 16.28 19 P **P 10 08 25.8 +3.5**
553A Crawfordville 16.36 24 Pn **Pn 10 08 21.1 +0.8**
553A IAmb IAmb 10 08 30.9
comp=Z,222nm,0.8s
656A Willston 16.48 30 IAmb IAmb 10 08 31.7
comp=Z,311nm,1.4s
NATX Nacogdoches 16.58 352 P **Pn 10 08 23.2 +0.1**
baz=171
NATX Nacogdoches 16.58 352 P **P 10 08 28.1 +2.4**
NATX IAmb IAmb 10 08 31.6
comp=Z,448nm,1.6s
JCT Junction City 16.75 336 P **Pn 10 08 24.4 -1.0**
baz=153,SNR=47
JCT Junction City 16.75 336 Pn **Pn 10 08 24.7 -0.7**
VBMS Vicksburg 16.90 4 P **Pn 10 08 26.4 -0.8**
baz=185,SNR=6.2
VBMS Vicksburg 16.90 4 P **P 10 08 29.2 -0.1**
VBMS IAmb IAmb 10 08 37.6
comp=Z,105nm,0.7s
237A Washetta, Mont 17.00 349 P **P 10 08 31.0 +0.7**
237A IAmb IAmb 10 08 49.9
comp=Z,140nm,0.8s
SJCC San Jacinto, C 17.22 106 *eP* **Pn 10 08 31.3 -0.1**
143A Socs Landing, 17.34 2 P **P 10 08 34.2 +0.1**
352A Blakely 17.34 21 IAmb IAmb 10 08 56.3
comp=Z,142nm,1.0s
WHTX Lake Whitney, 17.37 344 P **Pn 10 08 32.3 -0.8**
baz=162,SNR=35
WHTX Lake Whitney, 17.37 344 IAmb IAmb 10 08 42.2
comp=Z,178nm,0.8s
250A Grady 17.40 16 P 10 08 34.4 -0.3
250A IAmb IAmb 10 08 50.5
comp=Z,213nm,1.4s
146A Union 17.47 8 P **P 10 08 36.2 +0.7**
TXAR Lajitas Array 17.67 324 P **P 10 08 38.9 +1.0**
comp=Z,0.8nm,0.3s,baz=148,slow=13,SNR=188
TXAR LR LR 10 16 30.2
comp=Z,403nm,20.3s,baz=0.0,slow=40
TXAR Lajitas Array 17.67 324 P 10 08 38.0 +0.1
UREC San Jos de Ur 17.73 113 *eP* **Pn 10 08 37.6 -0.2**
TIGA Tifton 17.80 24 P **Pn 10 08 37.5 -0.9**
baz=207,SNR=11
Z41A Richland Creek 17.90 358 P **Pn 10 08 38.8 -0.9**
baz=177,SNR=19
Z41A Richland Creek 17.90 358 P **P 10 08 40.1 -0.2**
Z41A IAmb IAmb 10 08 47.8
comp=Z,323nm,1.2s
ARGC Ariguani, Magd 18.10 105 *eP* **P 10 08 44.4 +1.8**
Z38A Mt. Pleasant 18.10 352 P **P 10 08 44.3 +1.9**
Z38A IAmb IAmb 10 08 50.0
comp=Z,342nm,1.4s
Z47A Carrollton 18.17 10 P **P 10 08 45.4 +2.1**
Z47A IAmb IAmb 10 08 58.4
comp=Z,183nm,1.1s
LRAL Lakeview Retre 18.23 13 P **Pn 10 08 43.2 -0.4**
baz=195,SNR=48
CBOC Ciudad Bolivar 18.24 119 *eP* **P 10 08 45.3 +1.0**
GR1C Gorgona, Isla 18.26 131 *eP* **P 10 08 48.7 +4.3**
ZARC Zaragoza, Cauc 18.45 113 *eP* **P 10 08 45.3 -1.2**
HELC Santa Helena 18.48 118 *eP* **P 10 08 47.1 -0.1**
152A Waverly Hall 18.51 20 IAmb IAmb 10 08 59.6
comp=Z,147nm,0.9s
PLMC San Jos del P 18.54 122 *eP* **Pn 10 08 48.4 +0.7**
CCAR Cane Creek 18.55 0 IAmb IAmb 10 08 58.2
comp=Z,111nm,0.7s
Z35A Perchaven, San 18.59 346 IAmb IAmb 10 08 57.1
comp=Z,143nm,0.8s
ABTX Abilene, Hawle 18.62 339 P **P 10 08 48.3 0.0**
baz=156,SNR=40
ABTX Abilene, Hawle 18.62 339 P **Pn 10 08 49.6 +1.0**
ABTX IAmb IAmb 10 08 54.8
comp=Z,151nm,1.0s
Y45A Yeager Farm, C 18.62 6 P **Pn 10 08 49.2 +0.7**
Y45A **pP 10 08 51.8 +0.1**
Y45A IAmb IAmb 10 08 58.1
comp=Z,118nm,0.9s
SMLC San Martn de 18.63 108 *eP* **P 10 08 48.7 +0.3**
255A Hazlehurst 18.68 26 IAmb IAmb 10 08 54.7
comp=Z,214nm,1.3s
SLBS Sierra La Lagu 18.89 299 P **Pn 10 08 54.0 +2.0**
SLBS **pP 10 08 54.9 -0.2**
YOTC Yotoco, Valle 19.03 125 *eP* **Pn 10 08 53.6 -0.1**
GUY2C Guyana, Caldas 19.12 120 *eP* **P 10 08 55.0 +0.6**
X40A Basin Creek Fa 19.13 358 P **P 10 08 54.1 +0.3**
baz=177,SNR=35
X43A Marvell 19.17 3 P **P 10 08 54.6 +0.4**
baz=183
X43A Marvell 19.17 3 P **Pn 10 08 57.2 +2.1**
X43A IAmb IAmb 10 09 17.9
comp=Z,129nm,0.9s
MIAR Mount Ida 19.23 356 P **P 10 08 55.0 +0.1**
baz=175,SNR=86
MIAR Mount Ida 19.23 356 IAmb IAmb 10 09 01.4
comp=Z,252nm,1.3s
PTBC PUERTO BERRIO, 19.24 115 *eP* **P 10 08 54.5 -0.6**
OXF Oxford 19.27 6 P **P 10 08 55.1 -0.2**
baz=187,SNR=28
OXF Oxford 19.27 6 IAmb IAmb 10 09 19.2
comp=Z,144nm,0.9s
RREF El Recreo 19.31 121 *eP* **Pn 10 08 57.4 -0.2**
NORC Norcasia 19.36 118 *eP* **P 10 08 56.0 -0.6**
257A Skidaway Islan 19.36 29 IAmb IAmb 10 09 05.9
comp=Z,230nm,1.2s
LPIG La Paz 19.36 300 P **Pn 10 08 59.2 +1.6**
comp=Z,10nm,0.3s,baz=207,slow=2.1,SNR=19
LPIG LR LR 10 16 19.3
comp=Z,3µm,19.4s,baz=128,slow=36
ANIL Santa Ana 19.49 122 *eP* **Pn 10 09 02.0 +2.5**
TOLC Tolima 19.51 121 *eP* **Pn 10 09 01.2 +1.5**
OCAC Ocana 19.53 109 *eP* **Pn 10 09 00.5 +0.7**
BBAC Balboa, Cauca 19.60 131 *eP* **Pn 10 09 02.0 +1.3**
GOGA Godfrey 19.61 22 P **P 10 08 58.6 -0.5**
baz=205,SNR=31
URIC Uribia, Colomb 19.73 98 P **Pn 10 09 02.2 +0.3**
W41B Gary Mavity, V 19.80 359 P **P 10 09 01.1 0.0**
baz=179,SNR=37
W39A Magazine 19.89 356 P **P 10 09 01.7 -0.4**
baz=175,SNR=43
W39A Magazine 19.89 356 IAmb IAmb 10 09 41.8
comp=Z,80nm,0.8s
PLAL Pickwick Lake 19.91 9 P **Pn 10 09 04.4 +0.4**
WHAR Wooly Hollow 19.92 359 P **Pn 10 09 03.8 -0.3**
WHAR IAmb IAmb 10 09 07.7
comp=Z,295nm,1.7s
ORTC Ortega, Tolima 19.95 123 *eP* **Pn 10 09 04.2 -0.5**
157A Early Branch 19.97 28 P **P 10 09 02.3 -0.7**
baz=212,SNR=10
SOTA Rioblanco 19.99 129 *eP* Pn 10 09 06.8 +1.2
FPAL Fort Paine 20.00 15 Pn **Pn 10 09 06.3 +1.2**
FPAL IAmb IAmb 10 09 12.4
comp=Z,96nm,0.8s
PCON Cinco Dias 20.03 129 *eP* Pn 10 09 07.3 +1.2
MARP Paez Belalcaza 20.04 127 *eP* Pn 10 09 06.3 +0.4
GCUF Volcan Galeras 20.08 133 *eP* Pn 10 09 08.6 +2.0
SDDR Presa de Saban 20.08 77 Pn 10 09 09.0 +2.9
ROSC El Rosal 20.20 119 P Pn 10 09 08.5 +0.5
comp=Z,69nm,1.0s,baz=143,slow=20,SNR=11
ROSC LR LR 10 17 02.7
comp=Z,704nm,20.3s,baz=352,slow=37
ROSC El Rosal 20.20 119 *eP* **P 10 09 06.8 +0.7**
ROSC El Rosal 20.20 119 Pn 10 09 09.0 +1.0
X51A Calhoun 20.23 17 IAmb IAmb 10 09 15.3
comp=Z,82nm,0.8s
GDL2 Guadalupe Moun 20.28 328 P Pn 10 09 07.8 -0.7
WMOK Wichita Mounta 20.32 344 P **P 10 09 07.2 +0.4**
baz=161,SNR=130
WMOK Wichita Mounta 20.32 344 IAmb IAmb 10 09 10.5
comp=Z,129nm,1.1s
BARC Barichara 20.34 113 *eP* **P 10 09 07.7 +0.3**
Z56A Williston 20.35 26 P **P 10 09 06.1 -1.1**
baz=210
PRAC Prado 20.36 123 *eP* **P 10 09 08.4 +0.9**
158A Hollywood 20.39 30 P **P 10 09 07.1 -0.5**
baz=214
MNTX Cornudas Mount 20.42 325 P **P 10 09 07.6 -0.4**
baz=140,SNR=170
MNTX Cornudas Mount 20.42 325 P Pn 10 09 09.2 -0.9
MNTX IAmb IAmb 10 09 11.2
comp=Z,90nm,0.9s
PAMC Pamplona, Colo 20.45 111 *eP* **P 10 09 06.3 -2.6**
FCAR Ozark Folk Cen 20.51 360 P **P 10 09 09.7 +0.8**
BETC Betania 20.54 126 *eP* Pn 10 09 11.6 0.0
SWET Sewanee 20.56 14 IAmb IAmb 10 09 15.9
comp=Z,109nm,1.0s
Z57A Bowman 20.62 28 P **P 10 09 10.5 +0.5**
baz=212,SNR=14
CSU Charleston Sou 20.65 29 P Pn 10 09 14.5 +1.8
GNAR Gosnell 20.66 4 P Pn 10 09 12.7 -0.1
GNAR IAmb IAmb 10 10 03.4
comp=Z,122nm,1.1s
SC01 Santiago de lo 20.66 75 P Pn 10 09 15.7 +2.7
Y55A Saluda 20.68 24 P **P 10 09 10.7 0.0**
baz=208,SNR=18
GRTK Grand Turk 20.69 70 P Pn 10 09 13.5 +0.3
NHSC New Hope 20.70 29 P **P 10 09 10.6 -0.3**
baz=214,SNR=15
NHSC New Hope 20.70 29 Pn 10 09 14.8 +1.6
W50A Signal Mountai 20.70 16 IAmb IAmb 10 09 18.8
comp=Z,79nm,0.9s
RUSC La Rusia 20.74 115 *eP* **P 10 09 11.9 -0.2**
Y56A Pelion 20.78 26 P **P 10 09 11.6 -0.2**
baz=210
HODGE Hodges 20.79 23 IAmb IAmb 10 09 18.2
comp=Z,107nm,1.1s
GARC Garzon, Huila 20.81 127 *eP* **P 10 09 13.3 +0.8**
CHIC Chingaza 20.81 119 *eP* **P 10 09 12.3 -0.4**
PEBM Pemiscott Bayo 20.82 5 P Pn 10 09 13.8 -0.9
PEBM IAmb IAmb 10 09 37.5
comp=Z,102nm,1.1s
TUL1 Leonard 20.82 351 P **P 10 09 12.6 +0.3**
baz=169,SNR=44
LNXT Lenox 20.84 6 P Pn 10 09 14.2 -0.7
LNXT IAmb IAmb 10 09 28.0
comp=Z,127nm,0.9s
V48A Smith Brothers 20.88 12 IAmb IAmb 10 09 20.4
comp=Z,92nm,1.0s
HHAR Hobbs 20.98 355 IAmb IAmb 10 09 19.8
comp=Z,236nm,1.7s
U40A Yellville 20.99 358 P **P 10 09 14.9 +0.8**
baz=177,SNR=89
U40A Yellville 20.99 358 P **P 10 09 14.9 +0.8**
MSTX Muleshoe 21.01 334 P **P 10 09 14.8 +0.4**
baz=150,SNR=74
MSTX Muleshoe 21.01 334 P **P 10 09 14.7 +0.3**
X54A Belton 21.02 22 P **P 10 09 15.1 +0.7**
baz=206,SNR=35
GLAT Glass 21.03 6 P **P 10 09 17.5 +3.1**
Z58A St. Stephen 21.06 29 P **P 10 09 14.6 -0.2**
baz=214
WVT Waverly 21.08 9 P **P 10 09 14.9 -0.1**
baz=191
WVT Waverly 21.08 9 P **P 10 09 16.1 +1.2**
WVT IAmb IAmb 10 09 22.1
comp=Z,160nm,1.8s
PUAC Puerto Asis, P 21.10 133 *eP* **P 10 09 17.4 +1.9**
CPCT Cooper Cave 21.15 17 IAmb IAmb 10 09 23.5
comp=Z,117nm,0.8s
PENMO Penman 21.17 5 P **P 10 09 19.1 +3.1**
U38A Gravette 21.17 355 IAmb IAmb 10 09 21.8
comp=Z,108nm,1.1s
X55A Gracelyn & Ava 21.24 24 P **P 10 09 18.4 +1.7**
baz=208,SNR=48
Z59A Georgetown, SC 21.24 30 P **P 10 09 17.1 +0.3**
baz=216
HICK Hickman 21.30 6 IAmb IAmb 10 09 23.6
comp=Z,165nm,1.1s
CLTN Cedars of Leba 21.31 13 P **P 10 09 19.2 +1.6**
Y57A Sumter 21.37 27 P **P 10 09 20.0 +1.9**
baz=212,SNR=8.4
PARMO Parma 21.38 5 P **P 10 09 19.8 +1.6**
PARMO IAmb IAmb 10 09 25.5
comp=Z,111nm,0.8s
AMTX Amarillo 21.38 338 P **P 10 09 19.3 +0.9**
baz=153
AMTX Amarillo 21.38 338 P **P 10 09 19.0 +0.6**
PAULI Pauline 21.48 23 IAmb IAmb 10 09 28.3
comp=Z,119nm,0.9s
X56A White Oak 21.50 25 P **P 10 09 22.4 +2.8**
baz=210,SNR=28
V51A Loudon 21.53 17 IAmb IAmb 10 09 27.1
comp=Z,100nm,0.8s
TKL Tuckaleechee C 21.56 18 P **P 10 09 21.9 +1.7**
comp=Z,129nm,1.0s,baz=192,slow=9.7,SNR=39
TKL S **S 10 13 14.6 -4.6**
comp=Z,12nm,0.9s,baz=148,slow=11,SNR=2.8
TKL LR LR 10 18 59.3
comp=Z,1µm,18.4s,baz=206,slow=40
TKL Tuckaleechee C 21.56 18 P **P 10 09 22.3 +2.1**
W54A Cherokee Point 21.57 22 P **P 10 09 22.9 +2.5**
baz=206,SNR=84
Y58A Scranton 21.60 29 P **P 10 09 22.7 +2.1**
baz=214,SNR=11
SDV Santo Domingo 21.78 105 P **P 10 09 25.3 +2.3**
comp=Z,151nm,0.8s,baz=256,slow=3.4,SNR=20
SDV Santo Domingo 21.78 105 *eP* **P 10 09 25.0 +2.0**
SDV Santo Domingo 21.78 105 P **P 10 09 25.5 +2.5**
SDV Santo Domingo 21.78 105 *eP* **P 10 09 22.7 -0.3**
SDV Santo Domingo 21.78 105 *eP* **P 10 09 22.7 -0.3**
T45A Paducah 21.84 7 P **P 10 09 25.1 +2.0**
U49A Red Boiling Sp 21.84 13 IAmb IAmb 10 09 46.8
comp=Z,60nm,0.8s
DR12 Loma Pena Alta 21.85 78 P **P 10 09 27.4 +3.8**
X57A Johnson Farm, 21.88 27 P **P 10 09 25.6 +2.0**
baz=212,SNR=15
T35A Sooner Cattle 21.92 350 P **P 10 09 23.7 -0.3**
KMSC Kings Mountain 21.95 24 P **P 10 09 26.5 +2.1**
baz=208,SNR=51
KMSC Kings Mountain 21.95 24 IAmb IAmb 10 09 35.8
comp=Z,150nm,1.1s
T47A Sharon Grove 22.03 10 IAmb IAmb 10 09 38.8
comp=Z,157nm,1.2s
Y59A Loris 22.05 30 P **P 10 09 26.4 +1.0**
baz=215,SNR=8.7
MACC Macarena, Meta 22.12 124 *eP* **P 10 09 26.5 +0.1**
HSIG 22.23 311 IAmb IAmb 10 09 31.1
comp=Z,74nm,1.1s
W56A Indian Trail 22.24 25 P **P 10 09 29.8 +2.3**
baz=210,SNR=23
V54A Nebo 22.28 22 P **P 10 09 30.1 +2.1**
baz=206,SNR=43
X58A Rowland 22.29 28 P **P 10 09 29.5 +1.5**
baz=214,SNR=7.8
X58A Rowland 22.29 28 IAmb IAmb 10 09 40.2
comp=Z,92nm,1.1s
SRIG Santa Rosalia 22.34 306 P **P 10 09 30.3 +1.7**
SRIG IAmb IAmb 10 09 33.1
comp=Z,135nm,1.1s
S39A Bolivar 22.34 357 IAmb IAmb 10 09 31.6
comp=Z,73nm,0.8s
Y60A Bolivia 22.38 31 P **P 10 09 30.8 +1.8**
baz=217
121A Cookes Peak, D 22.40 323 P **P 10 09 31.4 +1.9**
baz=136,SNR=74
S44A Carbondale 22.44 6 P **P 10 09 29.9 +0.3**
S44A IAmb IAmb 10 10 12.6
comp=Z,76nm,0.8s
TZTN Tazewell 22.45 18 P **P 10 09 30.9 +1.1**
baz=202,SNR=59
W57A Gilead 22.50 26 P **P 10 09 31.9 +1.6**
baz=211,SNR=50
W57A Gilead 22.50 26 IAmb IAmb 10 09 38.1
comp=Z,106nm,0.9s
V55A Taylorsville 22.61 23 P **P 10 09 33.0 +1.4**
baz=208,SNR=46
V55A Taylorsville 22.61 23 P **P 10 09 33.8 +2.2**
V55A IAmb IAmb 10 09 37.7
comp=Z,103nm,0.9s
X59A McDuffie Farm, 22.65 30 P **P 10 09 32.5 +0.7**
baz=215,SNR=6.6
CCM Cathedral Cave 22.68 1 P **P 10 09 32.1 -0.1**
baz=182
CCM Cathedral Cave 22.68 1 P **P 10 09 32.5 +0.3**
CCM IAmb IAmb 10 09 35.3
comp=Z,55nm,0.8s
W58A Raeford 22.73 28 P **P 10 09 34.3 +1.6**
baz=213,SNR=32
V56A Mocksville 22.86 25 P **P 10 09 35.8 +1.7**
baz=209,SNR=47
USIN University of 22.90 9 IAmb IAmb 10 09 58.6
comp=Z,94nm,0.8s
R40A Maddies Statio 22.91 359 IAmb IAmb 10 10 16.2
comp=Z,71nm,1.1s
X60A Albert Glenn T 22.96 31 P **P 10 09 35.8 +0.7**
baz=216
U54A Nelsons Funny 22.99 21 P **P 10 09 37.3 +1.8**
baz=206,SNR=40
U54A Nelsons Funny 22.99 21 P **P 10 09 37.3 +1.8**
Y22D IRIS PASSCAL I 23.07 327 P **P 10 09 38.3 +1.8**
baz=140,SNR=12
Y22D IRIS PASSCAL I 23.07 327 P **P 10 09 38.4 +1.8**
T53A Wise 23.17 19 P **P 10 09 38.6 +1.2**
baz=204,SNR=51
LENM Lemitar 23.17 327 P **P 10 09 39.7 +2.1**
W59A Clinton 23.21 29 P **P 10 09 37.9 +0.2**
baz=215
V57A Coltrane Farms 23.22 26 P **P 10 09 39.0 +1.2**
baz=211,SNR=54
U55A TA2, Sparta 23.25 23 P **P 10 09 39.8 +1.6**
baz=207,SNR=109
SLM Saint Louis 23.30 3 IAmb IAmb 10 09 42.4
comp=Z,82nm,0.8s
U56A King 23.37 24 P **P 10 09 40.8 +1.5**
baz=209,SNR=31
WCI Wyandotte Cave 23.39 11 P **P 10 09 39.7 +0.3**
baz=194
WCI Wyandotte Cave 23.39 11 P **P 10 09 40.2 +0.7**
V58A Windy Hill, Pi 23.43 27 P **P 10 09 40.8 +0.9**
baz=212,SNR=59
S51A Beattyville 23.46 17 IAmb IAmb 10 09 45.4
comp=Z,90nm,0.9s
W60A Pink Hill 23.47 30 P **P 10 09 40.9 +0.6**
baz=216
ANMO Albuquerque 23.52 329 P **P 10 09 42.3 +1.3**
baz=143
ANMO Albuquerque 23.52 329 P **P 10 09 42.4 +1.3**
comp=Z,21nm,0.6s,baz=145,slow=12,SNR=122
ANMO Albuquerque 23.52 329 P **P 10 09 42.4 +1.3**
ANMO IAmb IAmb 10 09 43.5
comp=Z,75nm,1.3s
CNNC Cliffs of the 23.53 30 P **P 10 09 41.6 +0.7**
baz=216
T54A Tazewell 23.56 21 P **P 10 09 42.1 +0.8**
baz=206,SNR=36
OLIL Olney 23.60 8 IAmb IAmb 10 09 45.6
comp=Z,94nm,0.9s
Q44A Meyer Farm, Va 23.66 6 P **P 10 09 42.3 +0.2**
Q44A IAmb IAmb 10 09 55.6
comp=Z,90nm,0.9s
R49A Shelbyville 23.68 13 P **P 10 09 42.8 +0.5**
R49A IAmb IAmb 10 09 46.7
comp=Z,59nm,0.9s
V59A Middlesex 23.80 29 P **P 10 09 44.2 +0.7**
baz=214,SNR=17
R32A Long Quarter, 23.80 347 P **P 10 09 43.4 -0.2**
U57A Blanch 23.87 26 P **P 10 09 44.9 +0.7**
baz=211,SNR=51
T55A Pulaski 23.89 22 P **P 10 09 45.4 +0.9**
baz=207,SNR=48
W61A Ground Anchor 23.92 31 P **P 10 09 43.9 -0.8**
baz=218,SNR=8.5
S53A Williamson 23.94 19 P **P 10 09 44.8 -0.1**
baz=204,SNR=48
KSU1 Kansas State U 24.07 351 P **P 10 09 45.7 -0.4**
baz=169,SNR=27
KSU1 Kansas State U 24.07 351 P **P 10 09 45.8 -0.2**
TUC Tucson 24.10 318 P **P 10 09 46.8 +0.2**
baz=130
TUC Tucson 24.10 318 P **P 10 09 48.1 +1.5**
TUC IAmb IAmb 10 09 50.6
comp=Z,106nm,1.1s
T56A Rocky Mt 24.10 24 P **P 10 09 46.3 -0.2**
baz=209,SNR=33
BLA Blacksburg 24.11 23 P **P 10 09 47.2 +0.6**
baz=208,SNR=28
BLA Blacksburg 24.11 23 P **P 10 09 47.6 +1.0**
P40A Paris 24.15 360 IAmb IAmb 10 09 48.2
comp=Z,81nm,0.8s
U58A Oxford 24.18 27 P **P 10 09 47.0 -0.1**
baz=213,SNR=11
V60A Jim Taylor Roa 24.26 30 P **P 10 09 47.9 +0.1**
baz=216,SNR=12
V60A Jim Taylor Roa 24.26 30 IAmb IAmb 10 09 55.6
comp=Z,73nm,0.8s
BLO Bloomington 24.26 10 IAmb IAmb 10 09 50.4
comp=Z,59nm,0.8s
S54A Dingess, Beckl 24.32 21 P **P 10 09 48.3 -0.2**
baz=206,SNR=28
S54A Dingess, Beckl 24.32 21 IAmb IAmb 10 09 58.0
comp=Z,92nm,1.0s
P43A Skaggs, Pawnee 24.35 5 IAmb IAmb 10 09 50.2
comp=Z,43nm,0.8s
T57A Hurt 24.39 25 P **P 10 09 49.2 +0.2**
baz=211,SNR=31
T57A Hurt 24.39 25 IAmb IAmb 10 09 55.3
comp=Z,63nm,1.1s
CBKS Cedar Bluff 24.41 345 P **P 10 09 49.2 -0.1**
baz=162,SNR=27
T25A Trinidad 24.41 335 P **P 10 09 50.9 +1.3**
baz=150,SNR=207
T25A Trinidad 24.41 335 P **P 10 09 50.9 +1.3**
U59A Littleton 24.48 28 P **P 10 09 49.3 -0.6**

baz=215,SNR=8.2
U59A **Littleton** 24.48 28 IAmb IAmb 10 09 55.6
comp=Z,158nm,1.9s
S55A **Lewisburg** 24.58 22 P P 10 09 50.4 -0.4
baz=207,SNR=32
R53A **Hurricane** 24.59 19 P P 10 09 51.2 +0.4
baz=204,SNR=42
V61A **Roper** 24.61 31 P P 10 09 51.3 +0.2
baz=218,SNR=7.7
V61A **Roper** 24.61 31 P P 10 09 53.3 +2.3
T58A **Grand View Acr** 24.65 26 P P 10 09 51.3 -0.1
baz=212,SNR=29
P48A **Milroy** 24.75 12 P P 10 09 52.6 +0.3
P48A IAmb IAmb 10 09 54.2
comp=Z,67nm,0.8s
V62A **Hyde County Ai** 24.75 32 P P 10 09 52.3 0.0
baz=219
R54A **Victor** 24.77 21 P P 10 09 52.7 +0.2
baz=206,SNR=39
S56A **Natural Bridge** 24.85 24 P P 10 09 52.8 -0.4
baz=209,SNR=21
SJG **San Juan** 24.86 80 P P 10 09 54.5 +1.1
comp=Z,7.5nm,0.4s,baz=276,slow=7.0,SNR=4.8
U60A **Pendleton** 24.88 29 P P 10 09 52.8 -0.6
baz=216
O44A **Mansfield** 24.95 6 IAmb IAmb 10 10 40.9
comp=Z,37nm,0.8s
P49A **Miami Univ. Ec** 24.97 13 P P 10 09 53.5 -0.7
baz=197,SNR=18
P49A **Miami Univ. Ec** 24.97 13 IAmb IAmb 10 09 56.2
comp=Z,40nm,0.7s
Q52A **Bidwell** 25.07 18 P P 10 09 55.7 +0.6
baz=202,SNR=95
X18A **Snowflake** 25.09 323 P P 10 09 57.3 +1.6
X18A IAmb IAmb 10 09 59.5
comp=Z,68nm,1.0s
T59A **Double "B" Far** 25.10 28 P P 10 09 56.0 +0.5
baz=214,SNR=33
U61A **Possum Corner** 25.11 31 P P 10 09 55.5 0.0
baz=217
S57A **Dark Hollow, R** 25.16 25 P P 10 09 56.3 +0.2
baz=210,SNR=21
R55A **Marlinton** 25.17 22 P P 10 09 57.4 +1.2
baz=208,SNR=56
Q53A **Leroy** 25.20 19 P P 10 09 57.2 +0.8
baz=204,SNR=57
214A **Organ Pipe Nat** 25.23 315 P P 10 09 58.3 +1.5
baz=126,SNR=60
HDIL **Hopedale** 25.28 5 P P 10 09 57.0 0.0
baz=186,SNR=23
HDIL **Hopedale** 25.28 5 P P 10 09 57.1 0.0
P51A **Williamsport** 25.33 16 P P 10 09 57.9 +0.4
baz=200,SNR=23
P51A **Williamsport** 25.33 16 P P 10 09 57.9 +0.4
N41A **Harden Midland** 25.34 2 P P 10 09 57.8 +0.2
N41A IAmb IAmb 10 09 59.2
comp=Z,42nm,0.9s
SFIN **Lafayette** 25.35 9 P P 10 09 58.1 +0.4
baz=191,SNR=13
SFIN **Lafayette** 25.35 9 IAmb IAmb 10 10 02.9
comp=Z,44nm,1.0s
SDCO **Great Sand Dun** 25.38 334 P P 10 09 59.1 +0.7
SDCO IAmb IAmb 10 10 01.1
comp=Z,53nm,1.3s
W18A **Petrified Fore** 25.39 324 P P 10 10 00.3 +1.9
baz=137,SNR=18
S58A **Poland Farm, P** 25.41 26 P P 10 09 59.1 +0.8
baz=212,SNR=19
S58A **Poland Farm, P** 25.41 26 IAmb IAmb 10 10 04.0
comp=Z,97nm,1.2s
KSCO **Kaye Shedlock'** 25.43 340 P P 10 09 59.3 +0.8
baz=155,SNR=32
Q54A **Coxs Mills** 25.55 20 P P 10 10 00.6 +1.1
baz=205,SNR=83
O48A **Farmland** 25.57 12 P P 10 09 59.1 -0.6
baz=195,SNR=18
T60A **Surry** 25.61 29 P P 10 10 03.2 +3.1
N35A **Tabor** 25.68 354 P P 10 10 01.2 +0.5
O49A **Covington** 25.68 14 IAmb IAmb 10 10 03.8
comp=Z,66nm,0.8s
P52A **Corning** 25.73 18 P P 10 10 01.5 +0.4
baz=202,SNR=8.2
P52A **Corning** 25.73 18 IAmb IAmb 10 10 04.6
comp=Z,60nm,0.9s
R58B **Mineral** 25.78 26 P P 10 10 02.1 +0.5
baz=212,SNR=32
R58B **Mineral** 25.78 26 IAmb IAmb 10 10 07.5
comp=Z,70nm,1.0s
R57A **Stanardsville** 25.80 25 P P 10 10 02.7 +0.9
baz=211,SNR=22
Q55A **Buckhannon** 25.82 22 P P 10 10 02.9 +0.9
baz=207,SNR=6.9
P53A **Whipple** 25.82 19 P P 10 10 03.0 +1.0
baz=204,SNR=34
S59A **Mechanicsville** 25.87 27 P P 10 10 03.0 +0.6
baz=214
X16A **Lo Mia Camp, P** 25.90 321 P P 10 10 04.6 +1.6
X16A IAmb IAmb 10 10 08.9
comp=Z,34nm,0.8s
S22A **4UR Ranch, Cre** 25.96 332 P P 10 10 05.0 +1.4
baz=146,SNR=58
S22A **4UR Ranch, Cre** 25.96 332 P P 10 10 04.7 +1.1
S22A IAmb IAmb 10 10 06.4
comp=Z,55nm,1.0s
R58A **Rapidan** 26.01 26 P P 10 10 04.5 +0.8
baz=212,SNR=25
ATAH **Atahualpa** 26.02 148 P P 10 10 07.7 +3.3
comp=Z,35nm,0.8s,baz=342,slow=5.9,SNR=15
ATAH LR LR 10 19 02.9
comp=Z,472nm,19.9s,baz=327,slow=33
ACSO **Alum Creek Sta** 26.05 16 P P 10 10 04.2 +0.2
baz=200,SNR=17
ACSO **Alum Creek Sta** 26.05 16 IAmb IAmb 10 10 08.0
comp=Z,51nm,0.8s
N47A **Urbana** 26.07 11 IAmb IAmb 10 10 44.7
comp=Z,50nm,0.8s
O51A **Pataskala** 26.07 16 P P 10 10 04.3 0.0
baz=201,SNR=17
S60A **Water View** 26.11 28 P P 10 10 04.7 +0.1
baz=215
Q56A **Snyder Ridge,** 26.18 23 P P 10 10 06.8 +1.5
baz=209,SNR=19
Q56A **Snyder Ridge,** 26.18 23 IAmb IAmb 10 10 11.1
comp=Z,73nm,1.1s
CBN **Corbin Frederi** 26.20 27 P P 10 10 06.1 +0.7
baz=213
P54A **Burton** 26.22 20 P P 10 10 06.5 +0.9
baz=206,SNR=24
M44A **Midewin, Midew** 26.22 7 IAmb IAmb 10 10 56.2
comp=Z,50nm,1.1s
O52A **Adamsville** 26.26 18 P P 10 10 06.6 +0.6
baz=202,SNR=21
O52A **Adamsville** 26.26 18 P P 10 10 06.4 +0.4
Q24A **Divide** 26.29 336 P P 10 10 07.5 +1.0
baz=150,SNR=7.0
Q24A **Divide** 26.29 336 P P 10 10 07.2 +0.6
R59A **King George, V** 26.31 27 P P 10 10 07.4 +1.0
baz=214,SNR=7.9
MVCO **Mesa Verde** 26.32 329 P P 10 10 08.3 +1.5
baz=142,SNR=65
P55A **Reedsville** 26.36 21 P P 10 10 08.1 +1.2
baz=207,SNR=7.5
113A **Mohawk Valley,** 26.36 315 IAmb IAmb 10 10 09.8
comp=Z,43nm,1.1s
N49A **Columbus Grove** 26.41 13 IAmb IAmb 10 10 58.1
comp=Z,40nm,0.9s
Q57A **Strasburg** 26.48 24 P P 10 10 09.2 +1.3
baz=210,SNR=20
MCWV **Mont Chateau** 26.49 21 P P 10 10 08.3 +0.3
baz=207
SCIA **State Center** 26.54 358 P P 10 10 08.2 -0.3
baz=177,SNR=8.3
SCIA **State Center** 26.54 358 IAmb IAmb 10 10 13.9
comp=Z,49nm,0.8s
S61A **Accomac** 26.55 30 P P 10 10 08.2 -0.4
baz=217
O53A **New Philadelph** 26.57 19 P P 10 10 09.5 +0.7
baz=204,SNR=11
BGNE **Belgrade** 26.57 350 P P 10 10 09.1 +0.3
baz=166,SNR=6.8
BGNE **Belgrade** 26.57 350 P P 10 10 09.4 +0.6
R60A **Leonardtown, M** 26.61 28 P P 10 10 08.2 -0.8
baz=215
WUAZ **Wupatki** 26.62 323 P P 10 10 10.7 +1.2
baz=134,SNR=23
WUAZ **Wupatki** 26.62 323 IAmb IAmb 10 10 18.5
comp=Z,50nm,1.0s
Q58A **Fox Den Farm,** 26.69 25 P P 10 10 10.9 +1.0
baz=212,SNR=9.3
P56A **Dayton Farm, R** 26.72 23 P P 10 10 11.3 +1.2
baz=209,SNR=12
O54A **Avella** 26.78 20 P P 10 10 11.2 +0.5
baz=205,SNR=16
O54A **Avella** 26.78 20 P P 10 10 11.4 +0.8
O54A IAmb IAmb 10 10 14.3
comp=Z,50nm,0.7s
L34A **Svendsen Farm,** 26.86 353 P P 10 10 11.1 -0.2
N51A **Ashland** 26.86 16 P P 10 10 11.3 -0.1
baz=201
N52A **McGinn's Farm,** 26.95 17 P P 10 10 12.4 +0.3
baz=202,SNR=11
L44A **Lake County Fo** 27.02 7 P P 10 10 12.3 -0.5
baz=188
L44A **Lake County Fo** 27.02 7 IAmb IAmb 10 10 37.9
comp=Z,57nm,1.1s
P57A **Homestead Farm** 27.02 24 P P 10 10 12.4 -0.4
baz=211,SNR=28
OGNE **Ogallala** 27.02 343 P P 10 10 13.6 +0.7
baz=158,SNR=6.8
OGNE **Ogallala** 27.02 343 IAmb IAmb 10 10 22.6
comp=Z,104nm,1.2s
Q59A **Harwood** 27.06 27 P P 10 10 13.3 +0.1
baz=214
L46A **Eue Claire** 27.07 9 IAmb IAmb 10 10 54.8
comp=Z,53nm,0.9s
PV01 **Paradox Valley** 27.08 330 P P 10 10 15.3 +1.6
PCRV **Puerto La Cruz** 27.11 98 P P 10 10 16.2 +2.3
comp=Z,6.6nm,0.7s,baz=205,slow=13,SNR=2.5
PCRV LR LR 10 21 39.9
comp=Z,1μm,20.1s,slow=38
PLCV **Puerto La Cruz** 27.15 98 P P 10 10 16.2 +1.9
O55A **Ligonier** 27.17 22 P P 10 10 14.8 +0.6
baz=207,SNR=7.0
ISCO **Idaho Springs** 27.19 337 P P 10 10 15.1 +0.4
baz=150,SNR=24
ISCO **Idaho Springs** 27.19 337 IAmb IAmb 10 10 21.0
comp=Z,133nm,1.9s
N53A **Lisbon** 27.20 19 P P 10 10 14.9 +0.4
baz=204,SNR=7.1
N53A **Lisbon** 27.20 19 P P 10 10 14.8 +0.4
N53A IAmb IAmb 10 10 17.9
comp=Z,49nm,0.8s
PV15 **Paradox Valley** 27.20 331 IAmb IAmb 10 10 25.2
comp=Z,32nm,0.8s
PV02 **Paradox Valley** 27.22 330 IAmb IAmb 10 10 21.4
comp=Z,42nm,0.9s
PV13 **Radium Mtn., P** 27.22 330 IAmb IAmb 10 10 24.6
comp=Z,63nm,1.0s
R61A **Willards** 27.23 29 P P 10 10 14.5 -0.2
baz=217
GLA **Glamis** 27.25 315 P P 10 10 15.6 +0.6
baz=125,SNR=12
GLA **Glamis** 27.25 315 P P 10 10 16.8 +1.8
GLA IAmb IAmb 10 10 17.9
comp=Z,72nm,1.1s
K38A **Parkersburg** 27.27 359 IAmb IAmb 10 10 19.2
comp=Z,75nm,1.2s
PV05 **Paradox Valley** 27.29 329 IAmb IAmb 10 10 21.6
comp=Z,76nm,1.0s
M51A **Elyria** 27.29 16 P P 10 10 14.9 -0.4
baz=201
PV03 **Paradox Valley** 27.31 330 IAmb IAmb 10 10 25.3
comp=Z,61nm,1.1s
P58A **Paw, Wackaw** 27.31 25 P P 10 10 15.6 +0.1
baz=212,SNR=7.4
PV18 **Skein Mesa, Pa** 27.33 330 IAmb IAmb 10 10 25.5
comp=Z,68nm,1.0s
PV11 **David Mesa, Pa** 27.36 330 P P 10 10 17.9 +1.8
PV11 IAmb IAmb 10 10 26.6
comp=Z,68nm,0.9s
PV07 **Paradox Valley** 27.36 331 P P 10 10 17.5 +1.4
PV07 IAmb IAmb 10 10 19.1
comp=Z,42nm,1.0s
PV17 **East Wray Mesa** 27.38 330 IAmb IAmb 10 10 25.9
comp=Z,62nm,1.0s
PV19 **Morning Glory** 27.42 330 IAmb IAmb 10 10 22.7
comp=Z,36nm,0.8s
PV20 **West Nyswonger** 27.43 330 P P 10 10 18.0 +1.2
PV20 IAmb IAmb 10 10 26.4
comp=Z,50nm,1.2s
PV04 **Paradox Valley** 27.45 330 P P 10 10 18.5 +1.6
PV14 **Lion Creek, Pa** 27.49 330 IAmb IAmb 10 10 23.4
comp=Z,52nm,1.0s
O56A **Blue Knob Stat** 27.49 23 P P 10 10 17.5 +0.4
baz=209,SNR=14
O56A **Blue Knob Stat** 27.49 23 P P 10 10 17.7 +0.7
O56A IAmb IAmb 10 10 22.9
comp=Z,82nm,1.3s
K43A **Burlington** 27.50 6 IAmb IAmb 10 11 00.9
comp=Z,45nm,1.1s
PV10 **Paradox Valley** 27.50 330 IAmb IAmb 10 10 26.4
comp=Z,64nm,1.0s
PDMCI **Parker Dam,Lak** 27.54 317 P P 10 10 16.4 -1.1
baz=128,SNR=19
Q60A **Greensboro** 27.54 28 P P 10 10 17.6 +0.2
baz=215
PV23 **Carpenter Ridg** 27.54 330 P P 10 10 19.0 +1.1
JFWS **Jewell Farm** 27.57 3 P P 10 10 17.6 -0.1
baz=183,SNR=14
JFWS **Jewell Farm** 27.57 3 IAmb IAmb 10 10 50.9
comp=Z,45nm,0.8s
N54A **Moraine State** 27.61 20 P P 10 10 18.3 +0.2
baz=205,SNR=22
PV21 **Cone Mtn., Par** 27.61 330 IAmb IAmb 10 10 24.7
comp=Z,48nm,0.9s
M52A **Chesterland** 27.72 17 P P 10 10 18.6 -0.4
baz=202
P59A **Jarrettsville** 27.78 26 P P 10 10 19.4 -0.2
baz=214,SNR=13
U15A **North Rim** 27.78 323 P P 10 10 21.7 +1.6
U15A IAmb IAmb 10 10 23.5
comp=Z,64nm,1.6s
N55A **Marion Center** 27.79 21 P P 10 10 19.3 -0.4
baz=208,SNR=5.6
O57A **Amberson** 27.79 24 P P 10 10 20.0 +0.2
baz=211,SNR=7.9
L50A **Kingsville** 27.80 15 P P 10 10 20.1 +0.3
baz=199
M53A **WI Miller and** 27.82 18 P P 10 10 20.8 +0.8
baz=204,SNR=8.2
AAM **Ann Arbor** 27.85 13 P P 10 10 19.9 -0.3
baz=197
AAM **Ann Arbor** 27.85 13 IAmb IAmb 10 10 22.6
comp=Z,47nm,1.0s
SWSC **Sam W. Stewart** 27.87 313 P P 10 10 21.6 +1.1
baz=123,SNR=9.1
IKP **In-Ko-Pah, Jac** 27.93 313 P P 10 10 22.7 +1.5
baz=122,SNR=12
O58A **Lewisberry** 28.00 25 P P 10 10 22.7 +1.0
baz=212,SNR=13
BC3 **Big Chuckawall** 28.03 315 P P 10 10 23.8 +1.7
baz=125,SNR=32
SSPA **Standing Stone** 28.06 23 P P 10 10 22.7 +0.5
baz=210
SSPA **Standing Stone** 28.06 23 P P 10 10 22.2 0.0
SSPA IAmb IAmb 10 10 27.2
comp=Z,45nm,1.1s
IRM **Iron Mountain** 28.11 316 P P 10 10 23.0 +0.3
baz=126,SNR=20
NEE2 **Needles Airpor** 28.13 318 P P 10 10 23.7 +0.9
baz=128
N56A **West Decatur** 28.16 22 P P 10 10 23.5 +0.5
baz=209
M54A **Oil Creek Stat** 28.20 20 P P 10 10 24.3 +0.9
baz=206,SNR=5.1
M54A **Oil Creek Stat** 28.20 20 IAmb IAmb 10 11 22.4
comp=Z,34nm,1.0s
N23A **Red Feather La** 28.26 337 P P 10 10 23.9 -0.3
baz=150
MONP2 **Monument Peak** 28.28 313 P P 10 10 25.3 +0.8
baz=122,SNR=6.8
P60A **Greenville** 28.29 27 P P 10 10 24.5 +0.3
baz=215
P60A **Greenville** 28.29 27 P P 10 10 24.7 +0.5
P60A IAmb IAmb 10 10 27.9
comp=Z,33nm,0.9s
N57A **Milroy** 28.29 23 P P 10 10 24.9 +0.7
baz=210,SNR=10
K49A **Clarkson** 28.35 13 P P 10 10 24.0 -0.7
baz=197
L53A **Girard** 28.42 19 P P 10 10 25.4 0.0
baz=204
PHWY **Pilot Hill** 28.44 338 IAmb IAmb 10 10 31.9
comp=Z,45nm,1.1s
O59A **Robesonia** 28.47 26 P P 10 10 26.3 +0.6
baz=213,SNR=5.8
M55A **Ridgway** 28.47 21 P P 10 10 26.0 +0.2
baz=207,SNR=9.0
M55A **Ridgway** 28.47 21 IAmb IAmb 10 10 29.5
comp=Z,30nm,0.8s
I40A **Norwalk** 28.53 2 P P 10 10 26.6 +0.3
O20A **White River Ci** 28.55 333 P P 10 10 27.8 +1.1
baz=146,SNR=22
O20A **White River Ci** 28.55 333 IAmb IAmb 10 10 32.6
comp=Z,36nm,1.1s
BELC **Belle Mtn. Jos** 28.60 315 P P 10 10 27.9 +0.7
baz=125,SNR=6.0
I42A **Draeger Farm,** 28.62 5 IAmb IAmb 10 10 28.7
comp=Z,49nm,0.8s
ECSD **EROS Data Cent** 28.63 353 P P 10 10 26.9 -0.3
baz=170,SNR=36
ECSD **EROS Data Cent** 28.63 353 IAmb IAmb 10 10 28.6
comp=Z,92nm,1.4s
ERPA **Erie** 28.65 19 P P 10 10 27.3 -0.1
baz=204
ERPA **Erie** 28.65 19 P P 10 10 31.7 +4.3
ERPA IAmb IAmb 10 10 32.9
comp=Z,49nm,0.8s
I37A **Lemond, Waseca** 28.66 358 IAmb IAmb 10 11 22.4
comp=Z,43nm,1.1s
TPFO **Pinon Flats** 28.69 314 P P 10 10 28.4 +0.3
baz=124,SNR=8.4
M56A **Emporium** 28.69 22 P P 10 10 27.8 0.0
baz=208,SNR=6.4
N58A **Sunbury** 28.69 25 P P 10 10 27.8 0.0
baz=212,SNR=8.8
N58A **Sunbury** 28.69 25 IAmb IAmb 10 10 31.3
comp=Z,32nm,1.1s
XPFO **Pion Flat** 28.69 314 P P 10 10 29.9 +1.8
PFO **Pinyon Flats O** 28.70 314 P P 10 10 28.2 +0.1
baz=124
PFO **Pinyon Flats O** 28.70 314 P P 10 10 29.5 +1.4
comp=Z,1nm,1.0s,baz=118,slow=8.3,SNR=13
PFO **Pinyon Flats O** 28.70 314 P P 10 10 28.5 +0.4
109C **Camp Elliot, M** 28.77 312 P P 10 10 28.0 -0.5
baz=122
K51A **Iona Station** 28.77 16 P P 10 10 27.9 -0.5
baz=201
J48A **Bridge Port** 28.77 12 P P 10 10 28.0 -0.4
baz=196
O60A **Telford** 28.81 27 P P 10 10 29.2 +0.5
baz=215
GMRC **Granite Mounta** 28.82 317 P P 10 10 29.1 -0.1
baz=126,SNR=24
M57A **Sunshine Farm,** 28.96 23 P P 10 10 30.4 +0.3
baz=210,SNR=21
M57A **Sunshine Farm,** 28.96 23 IAmb IAmb 10 10 35.3
comp=Z,41nm,0.8s
J49A **Marlette** 28.97 13 P P 10 10 29.3 -0.9
baz=198,SNR=10
L54A **Sinclairville** 28.97 20 P P 10 10 30.2 0.0
baz=206
Q16A **Castle Valley** 28.98 328 P P 10 10 32.5 +1.9
K52A **Tillsonburg** 29.04 17 P P 10 10 30.9 +0.1
baz=203,SNR=7.6
I46A **Reed City** 29.09 10 P P 10 10 31.3 0.0
baz=193,SNR=6.4
N59A **State Game Lan** 29.15 26 P P 10 10 31.9 +0.1
baz=213,SNR=7.9
N59A **State Game Lan** 29.15 26 IAmb IAmb 10 10 35.8
comp=Z,30nm,1.0s
MSU **Marysvale** 29.20 326 P P 10 10 34.2 +1.6
MURC **Murrieta** 29.21 313 P P 10 10 33.1 +0.7
baz=122,SNR=7.9
L55A **Hinsdale** 29.22 21 P P 10 10 33.0 +0.5
baz=207,SNR=7.8
M58A **Price's Panora** 29.25 24 P P 10 10 33.3 +0.6
baz=212,SNR=26
HEC **Hector,Ludlow** 29.30 316 P P 10 10 33.6 +0.2
baz=126,SNR=5.7
I47A **Gladwin** 29.33 11 P P 10 10 33.2 -0.2
baz=195
I47A **Gladwin** 29.33 11 IAmb IAmb 10 11 22.6
comp=Z,66nm,1.1s
BBRC **Big Bear Solar** 29.38 315 P P 10 10 34.6 +0.3
baz=124,SNR=5.8
TUQ **Turquoise Moun** 29.39 317 P P 10 10 34.7 +0.5
baz=127
N60A **Cedar Hill Far** 29.39 27 P P 10 10 34.5 +0.6
baz=215,SNR=16
RWWY **Rawlins** 29.43 336 IAmb IAmb 10 10 37.2
comp=Z,79nm,1.4s
L56A **Greenwood** 29.49 22 P P 10 10 34.9 0.0
baz=209
RDMU **Red Mountain** 29.49 332 P P 10 10 35.7 +0.5
K54A **Basiliko Farm,** 29.51 20 P P 10 10 35.3 +0.2
baz=207,SNR=9.6
J52A **Paris** 29.54 17 P P 10 10 35.2 -0.1
baz=203,SNR=14
L57A **Andrews Acres** 29.63 23 P P 10 10 36.1 -0.1
baz=210,SNR=6.1
I48A **Sherman Twp** 29.64 12 P P 10 10 35.4 -0.8
baz=196
SUSD **Miller** 29.66 350 P P 10 10 36.3 -0.1
baz=166,SNR=14
H46A **Fife Lake** 29.71 10 P P 10 10 35.7 -1.1
baz=193
M59A **Waymart** 29.81 25 P P 10 10 37.8 +0.1
baz=213,SNR=18
K55A **Perry** 29.83 21 P P 10 10 38.2 +0.3
baz=208,SNR=7.4
SPMN **Marine on St.** 29.85 359 P P 10 10 37.5 -0.4
baz=178,SNR=20
SPMN **Marine on St.** 29.85 359 IAmb IAmb 10 10 40.7
comp=Z,45nm,0.8s
BFSC **Mount Baldy Ra** 29.87 314 P P 10 10 38.7 +0.2
baz=123,SNR=5.1
GSC **Goldstone, Bar** 29.89 316 P P 10 10 39.2 +0.6
baz=126,SNR=5.4
GSC **Goldstone, Bar** 29.89 316 P P 10 10 40.5 +2.0
SHOC **Shoshone, Teco** 29.89 318 P P 10 10 38.4 -0.2
baz=127
I51A **Listowel** 29.91 16 P P 10 10 38.0 -0.5
baz=201,SNR=19
H47A **Mio** 29.94 11 P P 10 10 37.9 -0.9
baz=195
CIS **Catalina Islan** 29.97 312 P P 10 10 38.9 -0.4
baz=121
M60A **Port Jervis** 29.97 27 P P 10 10 39.3 +0.2
baz=215,SNR=14
K22A **Casper** 30.00 338 P P 10 10 39.6 0.0
baz=151,SNR=13
K22A **Casper** 30.00 338 IAmb IAmb 10 10 45.5
comp=Z,56nm,1.1s
PAL **Palisades** 30.03 28 P P 10 10 39.6 0.0
baz=216,SNR=5.3
FMP **Fort Macarthur** 30.04 312 P P 10 10 39.3 -0.5
baz=121
L58A **Harry Jones Me** 30.06 24 P P 10 10 39.9 0.0
baz=212,SNR=17
K56A **Middlesex** 30.06 22 P P 10 10 39.8 -0.2
baz=209,SNR=14
GLMI **Grayling** 30.09 10 P P 10 10 39.7 -0.4
baz=194,SNR=5.3
J54A **Appleton** 30.12 20 P P 10 10 40.6 +0.2
baz=206
J54A **Appleton** 30.12 20 IAmb IAmb 10 10 43.6
comp=Z,29nm,0.9s
G45A **Suttons Bay** 30.13 9 P P 10 10 39.7 -0.7
baz=192
G45A **Suttons Bay** 30.13 9 IAmb IAmb 10 10 44.9
comp=Z,36nm,0.7s
BINY **Binghamton** 30.14 24 P P 10 10 41.1 +0.5
baz=212,SNR=26
MWC **Mount Wilson** 30.14 313 P P 10 10 42.7 +1.7
N62A **Caumsett State** 30.17 29 P P 10 10 40.0 -0.8
baz=217
H48A **Harrisville** 30.21 12 P P 10 10 40.8 -0.4
baz=197
M61A **Granite Spring** 30.34 28 P P 10 10 42.6 +0.3
baz=216,SNR=7.7
DECC **Green Verdugo** 30.36 313 P P 10 10 42.5 -0.1
baz=122
K57A **Scipio Center** 30.39 23 P P 10 10 43.0 +0.2
baz=210,SNR=12
J55A **Hilton** 30.39 21 P P 10 10 42.9 +0.1
baz=208,SNR=5.6
J55A **Hilton** 30.39 21 IAmb IAmb 10 10 46.1
comp=Z,22nm,0.8s
EDW2 **Edwards Air Fo** 30.46 315 P P 10 10 44.8 +1.2
baz=123,SNR=5.9
F36A **Milaca** 30.50 358 IAmb IAmb 10 10 48.1
comp=Z,43nm,1.4s
L59A **Walton** 30.51 25 P P 10 10 44.4 +0.5

baz=213,SNR=17
TPNV **Topopah Spring** 30.52 320 P P 10 10 45.4 +1.2
baz=129,SNR=20
TPNV **Topopah Spring** 30.52 320 P P 10 10 46.0 +1.8
TPNV IAmb IAmb 10 10 48.0
comp=Z,37nm,1.4s
RSSD **Black Hills** 30.52 343 P P 10 10 44.8 +0.6
baz=156
RSSD **Black Hills** 30.52 343 P P 10 10 45.1 +0.8
RSSD IAmb IAmb 10 10 49.3
comp=Z,34nm,0.9s
G46A **Petoskey** 30.52 10 P P 10 10 43.5 -0.4
baz=193
G47A **Hillman** 30.56 11 P P 10 10 43.6 -0.6
baz=195
LRMC **Laurel Mtn Rad** 30.58 316 P P 10 10 45.1 +0.3
baz=124
FURC **Furnace Creek,** 30.61 318 P P 10 10 45.8 +0.9
baz=127,SNR=10
L60A **Shokan** 30.69 26 P P 10 10 45.6 +0.2
baz=215,SNR=11
SNCC **San Nicolas Is** 30.70 311 P P 10 10 45.2 -0.5
baz=119
J56A **Wolcott** 30.73 22 P P 10 10 45.9 +0.1
baz=209,SNR=47
J56A **Wolcott** 30.73 22 P P 10 10 46.6 +0.8
K58A **Earlville** 30.75 24 P P 10 10 46.1 +0.1
baz=212,SNR=52
DUG **Dugway, Tooele** 30.77 328 P P 10 10 46.4 0.0
baz=138,SNR=9.7
F45A **CMU Biological** 30.78 9 P P 10 10 46.1 0.0
baz=192
MPMC **Manual Prospec** 30.78 317 P P 10 10 46.6 +0.1
baz=126,SNR=26
COWI **Conover** 30.80 4 IAmb IAmb 10 10 57.0
comp=Z,24nm,0.8s
OSI **Osito Audit: C** 30.82 314 P P 10 10 46.7 -0.1
baz=122
M62A **Hamden** 30.84 29 P P 10 10 46.6 -0.1
baz=218
H52A **Wyevale** 30.99 17 P P 10 10 47.9 -0.2
baz=203,SNR=9.1
R11A **Troy Canyon, C** 31.01 322 P P 10 10 48.4 -0.2
baz=131,SNR=28
K59A **Cooperstown** 31.07 25 P P 10 10 49.2 +0.3
baz=213,SNR=6.2
L61A **Hillsdale 1, H** 31.14 27 P P 10 10 49.5 +0.1
baz=216
SCZ2 **Santa Cruz Isl** 31.15 312 P P 10 10 48.7 -1.0
baz=120
ARVC **Arvin** 31.16 314 P P 10 10 50.1 +0.4
baz=122,SNR=7.0
J57A **Williamstown** 31.17 23 P P 10 10 49.6 0.0
baz=211,SNR=28
M63A **Gales Ferry** 31.21 30 P P 10 10 51.5 +1.5
baz=219,SNR=6.3
ISA **Isabella, Lake** 31.21 315 P P 10 10 51.1 +0.9
baz=124,SNR=9.0
E38A **The Farm, Brul** 31.22 1 IAmb IAmb 10 10 51.2
comp=Z,36nm,1.1s
HWUT **Hardware Ranch** 31.23 331 P P 10 10 51.3 +0.9
GRAC **Grapevine Rang** 31.25 319 P P 10 10 51.1 +0.5
baz=127,SNR=20
PECO **Prince Edward** 31.26 21 IAmb IAmb 10 10 53.8
comp=Z,34nm,0.8s
PDAR **Pinedale Array** 31.28 335 P P 10 10 51.4 +0.5
comp=Z,4.6nm,0.9s,baz=129,slow=10,SNR=25
PDAR **Pinedale Array** 31.28 335 P P 10 10 50.8 -0.1
BW06 **Boulder Array** 31.28 335 P P 10 10 50.7 -0.2
baz=146,SNR=11
BW06 **Boulder Array** 31.28 335 P P 10 10 50.1 -0.8
I55A **Frankford** 31.28 20 P P 10 10 50.7 +0.1
baz=207,SNR=19
H53A **Bobcaygeon** 31.31 19 P P 10 10 51.3 +0.4
baz=205,SNR=22
SADO **Sadowa** 31.32 18 P P 10 10 50.2 -0.8
SADO IAmb IAmb 10 10 55.7
comp=Z,35nm,1.0s
CWC **Cottonwood Cre** 31.39 317 P P 10 10 52.0 +0.1
baz=125
J58A **Remsen** 31.39 24 P P 10 10 52.0 +0.4
baz=212,SNR=25
F49A **Sandfield** 31.50 13 P P 10 10 52.0 -0.6
baz=198
K61A **Williamstown** 31.65 27 P P 10 10 54.4 +0.4
baz=216,SNR=12
M64A **Tiverton** 31.72 30 P P 10 10 54.3 -0.2
baz=220
VES **Vestal, Richgr** 31.73 315 P P 10 10 55.0 +0.4
baz=123,SNR=25
PKM **Mcpherson Peak** 31.73 313 P P 10 10 55.3 +0.3
baz=121,SNR=5.7
L61B **Northampton** 31.73 28 P P 10 10 54.3 -0.4
baz=217
H55A **Tweed** 31.74 20 P P 10 10 54.4 -0.2
baz=208,SNR=17
I57A **Carthage** 31.74 23 P P 10 10 54.8 +0.1
baz=211
QUA2 **Belchertown** 31.75 28 IAmb IAmb 10 10 59.8
comp=Z,29nm,0.9s
L63A **North Scituate** 31.77 30 P P 10 10 54.4 -0.5
baz=219
J59A **Piesco** 31.79 24 P P 10 10 55.5 +0.3
baz=213,SNR=27
J59A **Piesco** 31.79 24 IAmb IAmb 10 11 01.5
comp=Z,44nm,0.9s
I58A **Old Forge** 31.79 24 P P 10 10 55.4 +0.2
baz=212,SNR=84
G53A **Haliburton** 31.80 18 P P 10 10 55.0 -0.2
baz=205,SNR=13
E47A **Iron Bridge** 31.91 11 P P 10 10 55.7 -0.4
baz=196,SNR=18
AHID **Auburn Hatcher** 31.94 333 IAmb IAmb 10 11 08.8
comp=Z,24nm,0.8s
E28A **Huff** 32.03 349 P P 10 10 56.7 -0.6
J60A **Lant Hill Farm** 32.05 26 P P 10 10 57.6 +0.2
baz=215,SNR=8.1
SMMC **Simmler** 32.07 314 P P 10 10 56.9 -0.9
baz=121
H56A **Elgin** 32.09 21 P P 10 10 57.9 +0.1
baz=209,SNR=14
K62A **Royalston** 32.11 28 P P 10 10 57.5 -0.4
baz=218
E48A **Lockeyer** 32.15 13 P P 10 10 57.3 -1.0
baz=198
F51A **Arnstein** 32.17 16 P P 10 10 57.7 -0.7
baz=202
D46A **Sault St. Mari** 32.19 10 P P 10 10 58.1 -0.5
baz=194,SNR=19
VOG **Valley Oaks Go** 32.19 316 P P 10 10 57.3 -1.4
baz=123
L64A **Middleborough** 32.20 30 P P 10 10 58.3 -0.4
baz=221,SNR=8.0
G54A **Lake Saint Pet** 32.21 18 P P 10 10 58.6 -0.2
baz=206,SNR=13
F52A **Sundridge** 32.21 17 P P 10 10 58.4 -0.4
baz=203,SNR=17
HRV **Adam Dziewonsk** 32.29 29 P P 10 10 58.2 -1.3
baz=219
I59A **Olmsteadville** 32.32 25 P P 10 10 59.5 -0.2
baz=214,SNR=10
SNOW **Snow King Moun** 32.35 334 P P 10 11 01.3 +0.9
E50A **Wahnapitae** 32.42 15 P P 10 10 60.0 -0.7
baz=200,SNR=12
K63A **Dunstable** 32.45 29 P P 10 11 00.6 -0.3
baz=219
TPAW **Teton Pass** 32.45 334 IAmb IAmb 10 11 06.9
comp=Z,48nm,1.1s
PAGB **Antelope Grade** 32.47 314 IAmb IAmb 10 11 08.0
comp=Z,39nm,0.9s
J61A **Chester** 32.51 27 P P 10 11 00.4 -1.1
baz=216
G55A **Calabogie** 32.52 20 P P 10 11 01.3 -0.1
baz=208,SNR=15
D47A **Chapleau** 32.52 11 P P 10 11 00.7 -0.8
baz=196,SNR=14
EYMN **Ely** 32.56 1 P P 10 11 00.7 -1.2
baz=181
EYMN **Ely** 32.56 1 P P 10 11 00.7 -1.2
EYMN IAmb IAmb 10 11 05.6
comp=Z,22nm,0.9s
I60A **Shoreham** 32.60 25 P P 10 11 02.5 +0.4
baz=215,SNR=34
FXWY **Fox Creek** 32.61 334 P P 10 11 03.7 +1.1
NV11 **Mina Array Sit** 32.62 320 IAmb IAmb 10 11 06.4
comp=Z,61nm,1.3s
OMMB **Old Mammoth Mi** 32.67 318 IAmb IAmb 10 11 06.7
comp=Z,35nm,1.4s

NVAR **Mina Array Bea** 32.71 320 P P 10 11 05.0 +1.4
comp=Z,40nm,1.0s,baz=134,slow=8.5,SNR=161
NVAR LR LR 10 27 17.6
comp=Z,802nm,18.7s,baz=136,slow=42
NVAR **Mina Array Bea** 32.71 320 P P 10 11 04.8 +1.2
H58A **Gabriels** 32.72 24 P P 10 11 03.4 +0.1
baz=213,SNR=24
ALGO **Algonquin Park** 32.72 18 P P 10 11 02.9 -0.3
baz=205,SNR=13
LONY **Lake Ozonia** 32.73 23 P P 10 11 03.6 +0.2
baz=212,SNR=62
MDPB **Devils Postpil** 32.73 318 IAmb IAmb 10 11 07.1
comp=Z,31nm,1.2s
J62A **Henniker** 32.74 28 P P 10 11 02.9 -0.5
baz=218
FLWY **Flagg Ranch** 32.83 335 IAmb IAmb 10 11 15.1
comp=Z,28nm,1.0s
E51A **G1948 Merrick** 32.84 16 P P 10 11 04.0 -0.3
baz=202,SNR=16
E52A **Mattawa** 32.84 17 P P 10 11 03.7 -0.6
baz=204
D48A **Paudash Townsh** 32.89 13 P P 10 11 03.5 -1.3
baz=198
KVN **Kaiserville** 32.97 321 P P 10 11 07.4 +1.6
KVN IAmb IAmb 10 11 10.8
comp=Z,29nm,1.0s
G57A **Newington** 32.99 22 P P 10 11 05.1 -0.5
baz=211,SNR=18
B35A **Bob, Littlefor** 33.01 358 IAmb IAmb 10 11 06.0
comp=Z,40nm,1.2s
H17A **Grant Village** 33.04 335 P P 10 11 05.7 -0.7
baz=146,SNR=10
H17A **Grant Village** 33.04 335 IAmb IAmb 10 11 14.9
comp=Z,42nm,1.2s
AGMN **Agassiz Nation** 33.07 355 P P 10 11 05.4 -0.9
baz=173,SNR=13
AGMN **Agassiz Nation** 33.07 355 IAmb IAmb 10 11 12.8
comp=Z,21nm,0.8s
MDND **Maddock** 33.08 351 P P 10 11 06.3 -0.1
baz=166,SNR=43
D49A **Beulah Townshi** 33.08 13 P P 10 11 05.5 -0.9
baz=199,SNR=9.0
H59A **Cadyville** 33.10 24 P P 10 11 06.1 -0.5
baz=214,SNR=7.6
ORIO **Orleans, Innes** 33.10 21 P P 10 11 06.7 +0.1
baz=220,SNR=15
ORIO **Orleans, Innes** 33.10 21 P P 10 11 07.7 +1.1
J63A **Strafford** 33.11 28 P P 10 11 05.6 -1.1
baz=219
I61A **Oroboro, Fairl** 33.13 27 P P 10 11 06.3 -0.5
baz=216
RLMT **Red Lodge** 33.14 337 P P 10 11 07.0 -0.2
baz=148,SNR=9.0
RLMT **Red Lodge** 33.14 337 IAmb IAmb 10 11 12.2
comp=Z,38nm,1.2s
F55A **Otter Lake** 33.15 20 P P 10 11 06.3 -0.7
baz=208,SNR=11
E53A **Dumoine, Ponti** 33.22 18 P P 10 11 07.4 -0.2
baz=206,SNR=9.1
VT1 **Waterbury** 33.22 26 IAmb IAmb 10 11 11.8
comp=Z,20nm,0.7s
D50A **G1974 Best Tow** 33.34 15 P P 10 11 07.8 -0.9
baz=202,SNR=10
G58A **Ormstown** 33.38 23 P P 10 11 08.1 -0.9
baz=208,SNR=8.6
D51A **Lot 18 Range I** 33.39 16 P P 10 11 08.5 -0.6
baz=202,SNR=13
E54A **Lac Daplat, Po** 33.41 19 P P 10 11 09.0 -0.3
baz=206,SNR=18
YMR **Madison River** 33.42 335 P P 10 11 11.1 +1.4
H60A **Morristown** 33.43 25 P P 10 11 08.5 -1.0
baz=215,SNR=9.0
I62A **Tamworth** 33.46 27 P P 10 11 09.1 -0.7
baz=218
I62A **Tamworth** 33.46 27 IAmb IAmb 10 11 13.3
comp=Z,24nm,0.9s
WAKR **Walker** 33.47 319 P P 10 11 11.8 +1.6
WAKR IAmb IAmb 10 11 13.9
comp=Z,38nm,1.4s
LBNH **Lisbon** 33.49 26 P P 10 11 08.9 -1.2
baz=217
LAO **LASA Array** 33.50 342 P P 10 11 10.0 -0.1
baz=154,SNR=20
LAO **LASA Array** 33.50 342 IAmb IAmb 10 11 15.6
comp=Z,42nm,1.1s
D52A **ZEK Kipawa Sen** 33.54 17 P P 10 11 10.2 -0.2
baz=204,SNR=18
YERR **Yerington** 33.63 320 IAmb IAmb 10 11 15.0
comp=Z,46nm,1.3s
G59A **Clarenceville** 33.66 24 P P 10 11 11.4 -0.1
baz=214,SNR=5.6
H61A **Lyndonville** 33.73 26 P P 10 11 11.7 -0.4
baz=216
E55A **Montcerf-Lytto** 33.79 20 P P 10 11 12.9 +0.3
baz=208,SNR=5.2
CMB **Columbia Colle** 33.81 317 P P 10 11 14.3 +1.4
D53A **Lac Vacive, Po** 33.84 18 P P 10 11 13.2 +0.1
baz=205,SNR=17
D53A **Lac Vacive, Po** 33.84 18 IAmb IAmb 10 11 18.1
comp=Z,33nm,0.8s
PNTR **Pine Nut** 33.92 320 IAmb IAmb 10 11 16.9
comp=Z,22nm,0.9s
I63A **Otisfield** 33.94 28 P P 10 11 13.8 -0.1
baz=219,SNR=7.9
I63A **Otisfield** 33.94 28 IAmb IAmb 10 11 19.4
comp=Z,40nm,1.0s
G60A **Masonville** 34.02 25 P P 10 11 14.9 +0.3
baz=215,SNR=15
HLID **Hailey** 34.08 330 P P 10 11 16.3 +0.9
TRQ **Mont Tremblant** 34.10 22 P P 10 11 15.7 +0.3
PAHR **Pah Rah Range** 34.16 321 P P 10 11 17.5 +1.4
E56A **St. Veronique** 34.22 21 P P 10 11 16.6 +0.3
baz=210,SNR=23
D54A **Lac Fusel, La** 34.22 19 P P 10 11 16.3 0.0
baz=207,SNR=20
I64A **Boothbay** 34.28 29 P P 10 11 16.2 -0.7
baz=220
MCMT **McKenzie Canyo** 34.34 333 P P 10 11 19.0 +1.2
E57A **Chemin Saint G** 34.41 22 P P 10 11 18.4 +0.3
baz=211,SNR=19
BOZ **Bozeman (W)** 34.45 335 P P 10 11 18.5 -0.1
baz=145,SNR=38
BOZ **Bozeman (W)** 34.45 335 P P 10 11 18.9 +0.3
F59A **Saint Guilaume** 34.46 24 P P 10 11 17.6 -0.8
baz=214
D55A **Sainte-Anne-du** 34.48 20 P P 10 11 18.6 +0.1
baz=209,SNR=32
G61A **St-Isidore-de-** 34.50 26 P P 10 11 18.7 -0.1
baz=216
DGMT **Dagmar** 34.59 346 P P 10 11 19.7 +0.2
baz=159,SNR=22
H63A **New Sharon** 34.66 28 P P 10 11 19.5 -0.7
baz=219
DLMT **Dillon** 34.66 334 IAmb IAmb 10 11 27.0
comp=Z,50nm,1.2s
E58A **La Victoria** 34.70 23 P P 10 11 20.6 +0.1
baz=213,SNR=16
AFDM **Forest Hills D** 34.70 318 P P 10 11 21.9 +1.3
D56A **ZEC Mazanza, M** 34.75 21 P P 10 11 20.4 -0.5
baz=210,SNR=13
WVL **Waterville** 34.76 28 IAmb IAmb 10 11 25.9
comp=Z,30nm,0.9s
G62A **West of Eustis** 34.88 27 P P 10 11 21.8 -0.2
baz=218,SNR=10.0
G62A **West of Eustis** 34.88 27 IAmb IAmb 10 11 27.5
comp=Z,54nm,1.1s
F60A **Warwick** 34.88 25 P P 10 11 20.6 -1.5
baz=215,SNR=29
ULM **Lac du Bonnet** 35.01 356 P P 10 11 21.9 -1.2
comp=Z,26nm,0.8s,baz=173,slow=9.3,SNR=17
ULM **Lac du Bonnet** 35.01 356 IAmb IAmb 10 11 22.9
comp=Z,27nm,0.8s
H64A **Troy** 35.02 29 P P 10 11 22.0 -1.3
baz=220
D57A **Chemin Vers le** 35.02 22 P P 10 11 22.7 -0.6
baz=211,SNR=18
G63A **Kingsbury** 35.20 28 P P 10 11 23.7 -1.2
baz=219
F61A **St Evariste** 35.28 26 P P 10 11 24.3 -1.2
baz=217
ORV **Oroville** 35.39 319 P P 10 11 28.4 +1.9
PTGA **Pitinga** 35.39 114 eP P 10 11 25.6 -1.3
PTGA **Pitinga** 35.39 114 eP P 10 11 25.6 -1.3
E60A **Ste Agathe de** 35.41 25 P P 10 11 26.5 -0.2
baz=216,SNR=22
D58A **Chemin du LacG** 35.46 23 P P 10 11 26.2 -0.8
baz=213,SNR=24
PKME **Peaks-Kenny Pk** 35.46 28 P P 10 11 26.4 -0.7
baz=220
PKME **Peaks-Kenny Pk** 35.46 28 IAmb IAmb 10 11 32.3
comp=Z,34nm,1.1s
WVOR **Wild Horse Val** 35.46 325 IAmb IAmb 10 11 36.5
comp=Z,38nm,1.3s
H65A **Eastbrook** 35.52 30 P P 10 11 26.0 -1.5
baz=222
F62A **Pittston Farm,** 35.66 27 P P 10 11 28.2 -0.6
baz=218
F62A **Pittston Farm,** 35.66 27 IAmb IAmb 10 11 33.7
comp=Z,30nm,1.2s
G64A **Maxfield** 35.70 28 P P 10 11 29.0 -0.1
baz=220,SNR=6.3
LATQ **La Tuque** 35.74 22 P P 10 11 29.3 -0.1
baz=213
D59A **Saint-Raymond** 35.78 24 P P 10 11 29.4 -0.4
baz=214
EGMT **Eagleton** 35.80 339 P P 10 11 30.4 +0.4
baz=150,SNR=46
LSQQ **Lebel-sur-Quev** 35.84 17 P P 10 11 30.1 -0.1
baz=205
E61A **Lac Etchemin** 35.86 26 P P 10 11 29.9 -0.6
baz=217
F63A **Nahmakanta, Br** 35.88 28 P P 10 11 30.0 -0.7
baz=220
J08A **Circle Bar Ran** 35.99 326 P P 10 11 33.1 +1.2
O03E **Paynes Creek** 36.00 320 P P 10 11 32.0 +0.1
baz=125,SNR=12
D60A **Saint Jean D'O** 36.06 25 P P 10 11 31.6 -0.6
baz=216,SNR=17
G65A **Princeton** 36.22 30 P P 10 11 32.2 -1.3
baz=222
G65A **Princeton** 36.22 30 IAmb IAmb 10 11 37.6
comp=Z,28nm,0.8s
MATQ **Matagami** 36.30 16 P P 10 11 33.8 -0.3
baz=204,SNR=24
F64A **Sherman** 36.35 28 P P 10 11 33.9 -0.7
baz=221
MSO **Missoula** 36.40 334 P P 10 11 35.5 +0.3
baz=142,SNR=21
E62A **Clayton Lake** 36.41 26 P P 10 11 35.1 -0.1
baz=218
E62A **Clayton Lake** 36.41 26 IAmb IAmb 10 11 40.6
comp=Z,52nm,1.4s
O02D **Mt. Diablo Mer** 36.56 319 P P 10 11 35.6 -1.1
baz=124
D61A **St Aubert, Com** 36.60 25 P P 10 11 36.7 -0.1
baz=217,SNR=37
E63A **Oxbow** 36.74 27 P P 10 11 38.0 0.0
baz=220,SNR=8.3
E63A **Oxbow** 36.74 27 IAmb IAmb 10 11 42.6
comp=Z,48nm,1.1s
M04C **Macdoel** 36.90 322 P P 10 11 39.9 +0.3
baz=127,SNR=16
N02D **Trinity Center** 36.95 320 P P 10 11 40.2 +0.2
baz=125
D62A **Allapoint, All** 36.98 26 P P 10 11 40.2 +0.2
baz=218,SNR=22
D62A **Allapoint, All** 36.98 26 P P 10 11 40.8 +0.8
D62A IAmb IAmb 10 11 45.3
comp=Z,64nm,1.0s
E64A **Bridgewater** 37.00 28 P P 10 11 39.8 -0.5
baz=221,SNR=6.9
KMRM **Mail Ridge** 37.17 318 IAmb IAmb 10 11 44.8
comp=Z,36nm,1.1s
F10A **Beach Ranch, E** 37.21 330 IAmb IAmb 10 11 51.5
comp=Z,36nm,1.0s
SAML **Samuel** 37.32 128 eP P 10 11 40.9 -2.4
SAML **Samuel** 37.32 128 eP P 10 11 40.9 -2.4
D63A **Stockholm** 37.35 27 P P 10 11 42.7 -0.5
baz=220,SNR=6.8
K04D **Chiloquin, OR** 37.36 323 P P 10 11 42.9 -0.6
baz=128
CHGQ **Chibougamau** 37.37 19 P P 10 11 43.5 +0.1
baz=209,SNR=8.6
L04D **Klamath Falls** 37.44 322 P P 10 11 44.4 +0.3
baz=127,SNR=11
J05D **Fort Rock, OR** 37.47 324 P P 10 11 43.9 -0.5
baz=129
G08A **Pilot Rock** 37.58 328 P P 10 11 44.9 -0.4
JCC **Jacoby Creek,** 37.70 319 IAmb IAmb 10 11 49.0
comp=Z,89nm,1.4s
J04D **Umpqua Nationa** 37.94 323 P P 10 11 47.6 -0.9
baz=130,SNR=13
I05D **Terrebonne, OR** 38.20 325 P P 10 11 50.4 0.0
baz=130,SNR=5.2
G06A **Carlson Farm,** 38.41 327 P P 10 11 53.5 +1.3
I04A **Tendick Farm,** 38.45 324 P P 10 11 52.7 +0.1
baz=128,SNR=6.0
K02D **Willamette Mer** 38.53 322 P P 10 11 53.4 +0.1
baz=126
G05D **Wamic, OR** 38.77 326 P P 10 11 55.9 +0.7
baz=131,SNR=9.1
NEW **Newport** 38.87 333 P P 10 11 55.8 -0.3
baz=139,SNR=7.7
H04A **Detroit Lake** 38.88 325 IAmb IAmb 10 12 00.2
comp=Z,62nm,1.0s
I03D **Drain, OR** 38.93 323 P P 10 11 56.9 +0.3
baz=127,SNR=9.5
J01E **Myrtle Point** 38.96 322 P P 10 11 57.2 +0.4
baz=126,SNR=7.9
C09A **Chrisman Ranch** 39.04 332 P P 10 11 57.5 +0.1
H04D **Lebanon** 39.09 324 P P 10 11 58.1 +0.2
baz=128,SNR=8.5
LPAZ **La Paz** 39.21 142 P P 10 11 59.6 -0.2
comp=Z,7.0nm,0.7s,baz=320,slow=7.7,SNR=32
LPAZ LR LR 10 28 34.2
comp=Z,321nm,19.6s,baz=308,slow=37
LPAZ **La Paz** 39.21 142 P P 10 11 59.7 -0.2
LPAZ **La Paz** 39.21 142 eP P 10 11 59.7 -0.2
LPAZ **La Paz** 39.21 142 eP P 10 11 59.7 -0.2
F05D **White Salmon** 39.27 327 P P 10 11 59.6 +0.2
baz=131,SNR=8.6
COR **Corvallis** 39.45 324 P P 10 12 02.6 +1.8
I02D **Swisshome** 39.47 323 P P 10 12 01.0 0.0
baz=127
G03D **McMinnville, O** 39.81 325 P P 10 12 03.4 -0.4
baz=128
LON **Longmire** 40.02 328 P P 10 12 06.3 +0.5
FFC **Flin Flon** 40.12 351 P P 10 12 05.7 -0.5
E04D **Cinebar** 40.29 327 P P 10 12 07.9 0.0
baz=130
F03A **Seaside** 40.42 326 IAmb IAmb 10 12 15.4
comp=Z,43nm,0.9s
MNMC **Minye Minye** 40.67 147 IAmb IAmb 10 12 15.7
comp=Z,49nm,0.9s
D04E **Lakebay** 40.80 328 P P 10 12 11.5 -0.5
baz=131
E03A **Lebam** 40.81 326 P P 10 12 15.5 +3.4
E03A IAmb IAmb 10 12 21.7
comp=Z,43nm,1.0s
B06A **Marblemount** 41.06 330 P P 10 12 15.0 +0.8
PB11 **IPOC Station P** 41.16 147 IAmb IAmb 10 12 18.6
comp=Z,41nm,1.0s
D03D **Eldon** 41.20 328 P P 10 12 14.7 -0.7
baz=131
A04D **Lummi Island** 41.79 329 P P 10 12 19.9 -0.3
baz=132
LLLB **Lillooet** 42.70 332 P P 10 12 28.5 +0.9
LVC **Limon Verde** 43.91 149 P P 10 12 40.6 +2.5
LVC **Limon Verde** 43.91 149 eP P 10 12 37.4 -0.6
LVC **Limon Verde** 43.91 149 eP P 10 12 37.4 -0.6
SCHQ **Schefferville** 44.00 21 P P 10 12 37.5 -0.6
comp=Z,30nm,0.8s,baz=223,slow=6.6,SNR=35
SCHQ LR LR 10 31 42.7
comp=Z,867nm,20.2s,baz=210,slow=37
SCHQ **Schefferville** 44.00 21 P P 10 12 37.7 -0.3
SCHQ IAmb IAmb 10 12 39.5
comp=Z,30nm,0.8s
CLDB **Colider** 44.25 124 eP P 10 12 38.0 -2.6
CLDB **Colider** 44.25 124 eP P 10 12 38.0 -2.6
GO02 **Mina Guanaco** 45.74 151 P P 10 12 53.9 +1.4
AC02 **Maricunga** 47.38 152 P P 10 13 07.0 +1.3
AC02 IAmb IAmb 10 13 09.1
comp=Z,16nm,1.0s
YKA **Yellowknife Ar** 49.79 346 P P 10 13 22.6 -0.5
comp=Z,53nm,0.8s,baz=149,slow=7.6,SNR=338
YKA LR LR 10 38 54.6
comp=Z,323nm,18.1s,baz=0.0,slow=41
CO03 **El Pedregal** 50.22 156 IAmb IAmb 10 13 31.3
comp=Z,30nm,0.9s
AQDB **Aquidauana** 50.31 134 eP P 10 13 27.4 -0.3
AQDB **Aquidauana** 50.31 134 eP P 10 13 27.4 -0.3
C2SB **Chapadao do Su** 51.27 130 eP P 10 13 34.7 -0.2
C2SB **Chapadao do Su** 51.27 130 eP P 10 13 34.7 -0.2
DLBC **Dease Lake** 51.50 336 IAmb IAmb 10 13 43.3
comp=Z,33nm,1.1s

VA03	**San Esteban**	**51.98**	**157**	P	**P**	**10 13 41.2**	**+1.0**
VA03				IAmb	IAmb	10 13 43.8		
	comp=Z,36nm,0.9s							
BDFB	**Brasilia**	**53.18**	**123**	P	**P**	**10 13 47.8**	**-1.5**
	comp=Z,3.6nm,0.6s,baz=293,slow=8.9,SNR=4.9							
BDFB				LR	LR	10 38 36.3		
	comp=Z,176nm,19.6s,baz=299,slow=38							
CPUP	**Villa Florida**	**53.34**	**141**	P	**P**	**10 13 49.5**	**-0.7**
	comp=Z,6.5nm,0.9s,baz=329,slow=7.7,SNR=8.7							
CPUP				LR	LR	10 39 20.9		
	comp=Z,142nm,18.6s,baz=328,slow=39							
CPUP	**Villa Florida**	**53.34**	**141**	P	**P**	**10 13 50.0**	**-0.2**
CPUP				IAmb	IAmb	10 13 50.8		
	comp=Z,25nm,1.2s							
CPUP	**Villa Florida**	**53.34**	**141**	*e*P	**P**	**10 13 49.9**	**-0.2**
CPUP	**Villa Florida**	**53.34**	**141**	*e*P	**P**	**10 13 49.9**	**-0.2**
GO05	**Huala**	**53.51**	**160**	P	**P**	**10 13 54.0**	**+2.6**
GO05				IAmb	IAmb	10 13 55.0		
	comp=Z,22nm,0.8s							
ITRB	**Iturama**	**53.69**	**129**	*e*P	**P**	**10 13 52.4**	**-0.5**
ITRB	**Iturama**	**53.69**	**129**	*e*P	**P**	**10 13 52.4**	**-0.5**
BO02	**Sierra Bellavi**	**53.72**	**158**	P	**P**	**10 13 54.3**	**+1.4**
BO02				IAmb	IAmb	10 14 06.7		
	comp=Z,35nm,1.5s							
TRCB	**Terra Rica**	**53.98**	**134**	*e*P	**P**	**10 13 54.5**	**-0.5**
TRCB	**Terra Rica**	**53.98**	**134**	*e*P	**P**	**10 13 54.5**	**-0.5**
PCMB	**Pacaembu**	**54.20**	**132**	*e*P	**P**	**10 13 56.2**	**-0.3**
PCMB	**Pacaembu**	**54.20**	**132**	*e*P	**P**	**10 13 56.2**	**-0.3**
BI02	**San Fabin de**	**55.24**	**160**	IAmb	IAmb	10 14 10.2		
	comp=Z,25nm,1.1s							
IVI	**Ivigtut**	**55.48**	**24**	IAmb	IAmb	10 14 08.2		
	comp=Z,20nm,1.0s							
PTGB	**Pitanga**	**55.63**	**135**	*e*P	**P**	**10 14 06.9**	**-0.1**
PTGB	**Pitanga**	**55.63**	**135**	*e*P	**P**	**10 14 06.9**	**-0.1**
HYT	**Haines Junctio**	**55.98**	**335**	IAmb	IAmb	10 14 15.8		
	comp=Z,32nm,1.6s							
ITQB	**Itaqui**	**56.21**	**143**	*e*P	**P**	**10 14 10.7**	**-0.3**
ITQB	**Itaqui**	**56.21**	**143**	*e*P	**P**	**10 14 10.7**	**-0.3**
FRTB	**Fartura**	**56.50**	**132**	*e*P	**P**	**10 14 13.2**	**-0.1**
FRTB	**Fartura**	**56.50**	**132**	*e*P	**P**	**10 14 13.2**	**-0.1**
PCA	**Pinnacle**	**56.74**	**333**	IAmb	IAmb	10 14 18.4		
	comp=Z,14nm,0.6s							
RKT	**Rikitea**	**56.83**	**229**	*e*T	T	11 14 16.0		
	comp=Z,2.4nm,0.3s							
WAX	**Waxell Ridge**	**58.04**	**333**	IAmb	IAmb	10 14 37.9		
	comp=Z,20nm,1.2s							
VAO	**Valinhos**	**58.19**	**130**	*e*P	**P**	**10 14 24.7**	**-0.5**
VAO	**Valinhos**	**58.19**	**130**	*e*P	**P**	**10 14 24.7**	**-0.5**
SPB	**Sao Paulo**	**58.20**	**131**	*e*P	**P**	**10 14 24.8**	**-0.4**
SPB	**Sao Paulo**	**58.20**	**131**	*e*P	**P**	**10 14 24.8**	**-0.4**
SFJD	**Kangerlussuaq**	**58.28**	**18**	LR	LR	10 39 31.8		
	comp=Z,507nm,21.9s,baz=248,slow=36							
SFJD	**Kangerlussuaq**	**58.28**	**18**	P	P	**10 14 24.8**	**-0.2**
SFJD				IAmb	IAmb	10 14 25.0		
	comp=Z,19nm,0.9s							
MCARA	**McCarthy VSAT**	**58.56**	**334**	IAmb	IAmb	10 14 40.6		
	comp=Z,25nm,1.2s							
CPSB	**Cacapava Do Su**	**58.64**	**141**	*e*P	**P**	**10 14 26.9**	**-1.2**
CPSB	**Cacapava Do Su**	**58.64**	**141**	*e*P	**P**	**10 14 26.9**	**-1.2**
BSCB	**Bom Sucesso**	**58.69**	**127**	*e*P	**P**	**10 14 28.3**	**-0.5**
BSCB	**Bom Sucesso**	**58.69**	**127**	*e*P	**P**	**10 14 28.3**	**-0.5**
RAGM	**Ragged Mountai**	**58.82**	**332**	IAmb	IAmb	10 14 35.9		
	comp=Z,16nm,0.9s							
BCAR	**Beaver Creek A**	**58.88**	**336**	P	**P**	**10 14 28.8**	**-0.6**
EPYK	**Eagle Plains**	**58.94**	**341**	P	**P**	**10 14 28.8**	**-0.9**
	baz=128							
PLCA	**Paso Flores**	**59.17**	**161**	P	**P**	**10 14 31.9**	**+0.1**
	comp=Z,24nm,1.0s,baz=340,slow=7.4,SNR=20							
PLCA				LR	LR	10 35 27.0		
	comp=Z,174nm,18.1s,baz=345,slow=31							
PLCA	**Paso Flores**	**59.17**	**161**	P	**P**	**10 14 32.2**	**+0.5**
PLCA				IAmb	IAmb	10 14 35.5		
	comp=Z,25nm,0.9s							
PLCA	**Paso Flores**	**59.17**	**161**	*e*P	**P**	**10 14 32.3**	**+0.5**
PLCA	**Paso Flores**	**59.17**	**161**	*e*P	**P**	**10 14 32.3**	**+0.5**
INK	**Inuvik**	**59.22**	**343**	IAmb	IAmb	10 14 36.6		
	comp=Z,33nm,1.3s							
EYAK	**Cordova Ski Ar**	**59.37**	**332**	IAmb	IAmb	10 14 46.3		
	comp=Z,26nm,1.2s							
RES	**Resolute Bay**	**59.42**	**359**	LR	LR	10 41 05.5		
	comp=Z,247nm,20.8s,baz=134,slow=37							
RES	**Resolute Bay**	**59.42**	**359**	IAmb	IAmb	10 14 49.4		
	comp=Z,28nm,1.4s							
PLTB	**Pedras Altas**	**59.51**	**142**	*e*P	**P**	**10 14 33.4**	**-0.7**
PLTB	**Pedras Altas**	**59.51**	**142**	*e*P	**P**	**10 14 33.4**	**-0.7**
A36M	**Sachs Harbour**	**60.00**	**349**	P	**P**	**10 14 35.8**	**-1.1**
	baz=142,SNR=11							
DOT	**Dot Lake**	**60.07**	**336**	IAmb	IAmb	10 14 43.5		
	comp=Z,30nm,1.3s							
LL01	**San Ignacio de**	**60.14**	**163**	P	**P**	**10 14 38.9**	**+0.7**
SCRK	**Sand Creek**	**60.19**	**336**	IAmb	IAmb	10 14 44.6		
	comp=Z,19nm,1.3s							
RIDG	**Independent Ri**	**60.42**	**336**	IAmb	IAmb	10 15 00.6		
	comp=Z,25nm,1.1s							
SCM	**Sheep Creek Mo**	**60.60**	**333**	IAmb	IAmb	10 14 46.6		
	comp=Z,16nm,1.0s							
BSFB	**Barra de Sao F**	**60.67**	**122**	*e*P	**P**	**10 14 41.9**	**-0.4**
BSFB	**Barra de Sao F**	**60.67**	**122**	*e*P	**P**	**10 14 41.9**	**-0.4**
OGAUY	**Aigu**	**60.75**	**145**	*e*P	**P**	**10 14 42.7**	**+0.1**
OGAUY	**Aigu**	**60.75**	**145**	*e*P	**P**	**10 14 42.7**	**+0.1**
KNK	**Knik Glacier**	**60.93**	**333**	IAmb	IAmb	10 14 56.1		
	comp=Z,25nm,1.3s							
SML	**Sawmill**	**61.03**	**333**	IAmb	IAmb	10 14 58.1		
	comp=Z,22nm,1.0s							
PMR	**Palmer**	**61.30**	**333**	P	**P**	**10 14 45.0**	**-0.9**
PMR				IAmb	IAmb	10 14 51.7		
	comp=Z,23nm,1.3s							
RC01	**Rabbit Creek A**	**61.38**	**332**	P	**P**	**10 14 45.9**	**-0.6**
RC01				IAmb	IAmb	10 14 59.6		
	comp=Z,18nm,0.9s							
BRLK	**Bradley Lake**	**61.44**	**330**	P	**P**	**10 14 46.4**	**-0.6**
BRLK				IAmb	IAmb	10 14 49.8		
	comp=Z,20nm,0.9s							
PRP	**Porcupine Dome**	**61.51**	**338**	IAmb	IAmb	10 14 52.9		
	comp=Z,23nm,1.0s							
CNPM	**China Poot**	**61.53**	**330**	IAmb	IAmb	10 14 50.5		
	comp=Z,21nm,1.0s							
HDA	**Harding Lake**	**61.55**	**336**	P	**P**	**10 14 46.6**	**-1.0**
	baz=116,SNR=14							
CAM01	**Campos-RJ**	**61.57**	**126**	*e*P	**P**	**10 14 47.7**	**-0.7**
CAM01	**Campos-RJ**	**61.57**	**126**	*e*P	**P**	**10 14 47.7**	**-0.7**
IL31		**61.68**	**337**	IAmb	IAmb	10 14 53.9		
	comp=Z,24nm,1.0s							
ILAR	**Eielson Array**	**61.68**	**337**	P	**P**	**10 14 47.8**	**-0.7**
	comp=Z,8.6nm,0.9s,baz=129,slow=4.9,SNR=42							
ILAR				LR	LR	10 45 22.5		
	comp=Z,246nm,19.3s,baz=131,slow=40							
ILAR	**Eielson Array**	**61.68**	**337**	P	**P**	**10 14 47.7**	**-0.8**
CAPN	**Captain Cook N**	**61.91**	**331**	P	**P**	**10 14 48.6**	**-1.4**
	baz=110							
WRH	**Wood River Hil**	**62.02**	**336**	IAmb	IAmb	10 14 55.0		
	comp=Z,12nm,0.9s							
POKR	**Poker Plat Res**	**62.04**	**337**	P	**P**	**10 14 49.1**	**-1.8**
	baz=116							
MCK	**McKinley**	**62.05**	**335**	IAmb	IAmb	10 14 55.9		
	comp=Z,13nm,0.8s							
COLA	**College**	**62.10**	**336**	P	**P**	**10 14 51.0**	**-0.2**
TCOL	**CIGO, UAF Yank**	**62.10**	**336**	P	**P**	**10 14 50.2**	**-1.1**
	baz=115,SNR=6.0							
BMAR	**Burnt Mountain**	**62.10**	**340**	P	**P**	**10 14 50.9**	**-0.4**
BPAW	**Bear Paw Mtn.**	**63.03**	**335**	IAmb	IAmb	10 15 02.8		
	comp=Z,20nm,0.9s							
PPLA	**Purkeypile**	**63.10**	**334**	P	**P**	**10 14 57.2**	**-1.0**
COYC	**Coyhaique**	**63.20**	**164**	P	**P**	**10 15 01.8**	**+3.0**
TOLK	**Toolik Lake Re**	**64.33**	**340**	P	**P**	**10 15 05.4**	**-0.7**
	baz=115,SNR=10							
CHGN	**Chignik**	**64.38**	**325**	IAmb	IAmb	10 15 06.8		
	comp=Z,17nm,0.6s							
TTA	**Tatalina**	**64.78**	**333**	IAmb	IAmb	10 15 14.1		
	comp=Z,19nm,1.2s							
IMAR	**Indian Mountai**	**64.80**	**337**	P	**P**	**10 15 07.8**	**-1.4**
SUMG	**Summit**	**64.98**	**15**	*i* P	**P**	**10 15 10.3**	**-0.4**
	comp=Z,152nm,1.2s							
SUMG	**Summit**	**64.98**	**15**	P	**P**	**10 15 10.5**	**-0.2**
PPT	**Papeete**	**65.53**	**242**	LR	LR	10 35 03.3		
	comp=Z,118nm,20.9s,baz=52,slow=28							
PPT2	**Papeete2**	**65.54**	**242**	*e*LR	LR	10 34 46.4		
	comp=Z,309nm,25.8s,baz=56							
TBI	**Tubuai**	**68.09**	**237**	*e*LR	LR	10 35 57.9		
	comp=Z,287nm,28.8s,baz=61							
UNV	**Unalaska Valle**	**68.69**	**322**	P	**P**	**10 15 33.1**	**-1.1**
UNV				IAmb	IAmb	10 15 34.4		
	comp=Z,18nm,0.8s							
DAG	**Danmarks Havn**	**71.40**	**13**	*i* P	**P**	**10 15 52.5**	**+2.1**
NOR	**Nord**	**72.82**	**9**	*i* P	**P**	**10 15 58.1**	**-0.8**
	comp=Z,17nm,1.0s							
PGAV	**Gavieira, Arco**	**75.29**	**50**	*e*P	**P**	**10 16 13.1**	**-1.1**
	comp=Z,67nm,1.8s							
PGAV	**Gavieira, Arco**	**75.29**	**50**	*e*LR	LR	10 39 12.1		
	comp=Z,182nm,20.0s							
PCAS	**Casmilo, Conde**	**75.38**	**52**	*e*P	**P**	**10 16 13.5**	**-1.1**
	comp=Z,72nm,1.3s							
PFVI	**Vila Bisbo**	**75.53**	**55**	*e*P	**P**	**10 16 18.4**	**+2.9**
PNCL	**Nicolau / Gran**	**75.62**	**54**	*e*P	**P**	**10 16 18.6**	**+2.6**
PMTG	**Montargil**	**75.72**	**53**	*e*P	**P**	**10 16 15.5**	**-1.1**
PVRL	**Vila Real**	**75.80**	**51**	*e*P	**P**	**10 16 19.6**	**+2.6**
MESJ	**Messejana**	**75.90**	**54**	*e*P	**P**	**10 16 17.1**	**-0.5**
EVO	**Evora**	**75.96**	**54**	*e*P	**P**	**10 16 20.8**	**+2.9**
	comp=Z,25nm,2.0s							
MTE	**Manteigas**	**76.05**	**52**	*e*P	**P**	**10 16 16.2**	**-2.3**
	comp=Z,44nm,1.4s							
MTE	**Manteigas**	**76.05**	**52**	*e*LR	LR	10 39 07.9		
	comp=Z,206nm,18.0s							
MTE	**Manteigas**	**76.05**	**52**	P	**P**	**10 16 17.5**	**-1.0**
MTE				IAmb	IAmb	10 16 22.2		
	comp=Z,23nm,0.9s							
PCVE	**Castro Verde**	**76.08**	**54**	*e*P	**P**	**10 16 19.1**	**+0.5**
	comp=Z,34nm,1.5s							
PBEJ	**Beja**	**76.15**	**54**	*e*P	**P**	**10 16 17.8**	**-1.2**
PCBR	**Castelo Branco**	**76.18**	**52**	*e*P	**P**	**10 16 18.1**	**-1.1**
PMRV	**Marv??o**	**76.31**	**53**	*e*P	**P**	**10 16 18.8**	**-1.1**
	comp=Z,29nm,1.7s							
PMRV	**Marv??o**	**76.31**	**53**	*e*LR	LR	10 39 39.3		
	comp=Z,188nm,20.0s							
MVO	**Moncorvo**	**76.33**	**51**	*e*P	**P**	**10 16 18.3**	**-1.8**
MVO	**Moncorvo**	**76.33**	**51**	*e*LR	LR	10 40 45.6		
	comp=Z,197nm,20.0s							
PVAQ	**Vaqueiros**	**76.36**	**55**	*e*P	**P**	**10 16 22.6**	**+2.4**
PVAQ	**Vaqueiros**	**76.36**	**55**	*e*LR	LR	10 39 38.1		
	comp=Z,125nm,18.0s							
PBRG	**Braganca**	**76.45**	**50**	*e*P	**P**	**10 16 23.0**	**+2.3**
	comp=Z,44nm,1.6s							
ESK	**Eskdalemuir**	**76.87**	**36**	P	**P**	**10 16 22.4**	**-0.3**
PAB	**San Pablo**	**78.61**	**52**	P	**P**	**10 16 31.2**	**-1.7**
ESDC	**Sonseca Array**	**78.88**	**52**	P	**P**	**10 16 33.7**	**-0.7**
	comp=Z,11nm,0.8s,baz=288,slow=5.9,SNR=34							
ESDC				LR	LR	10 49 47.8		
	comp=Z,86nm,18.6s,baz=285,slow=34							
ESDC	**Sonseca Array**	**78.88**	**52**	P	**P**	**10 16 32.6**	**-1.8**
PMSA	**Palmer Station**	**82.61**	**168**	LR	LR	10 48 21.3		
	comp=Z,69nm,18.5s,baz=323,slow=32							
NB2	**NORSAR Subarra**	**82.99**	**29**	P	**P**	**10 16 55.8**	**0.0**
	comp=Z,3.4nm,0.9s,baz=290,slow=5.6							
NOA	**NORSAR Array B**	**82.99**	**29**	P	**P**	**10 16 54.2**	**-1.6**
	comp=Z,2.0nm,0.9s,baz=290,slow=5.0,SNR=4.0							
NOA				LR	LR	10 51 50.3		
	comp=Z,235nm,21.7s,baz=280,slow=34							
ARCES	**ARCESS Array B**	**84.90**	**18**	P	**P**	**10 17 04.1**	**-1.3**
	comp=Z,5.2nm,1.1s,baz=320,slow=4.9,SNR=4.8							
ARCES				LR	LR	10 55 10.3		
	comp=Z,119nm,18.7s,baz=290,slow=36							
TIC	**Toumodi**	**85.32**	**84**	*e*P	**P**	**10 17 10.0**	**+1.4**
LIC	**Lamto**	**85.42**	**85**	*e*P	**P**	**10 17 08.7**	**-0.4**
	comp=Z,41nm,1.2s							
DBIC	**Dimbokro**	**85.47**	**84**	P	**P**	**10 17 09.0**	**-0.3**
	comp=Z,8.1nm,1.0s,baz=265,slow=9.6,SNR=4.8							
DBIC				LR	LR	10 53 36.1		
	comp=Z,106nm,20.3s,baz=265,slow=34							
DBIC	**Dimbokro**	**85.47**	**84**	IAmb	IAmb	10 19 32.0		
	comp=Z,41nm,1.6s							
KIC	**Kosan Boka**	**85.66**	**85**	*e*P	**P**	**10 17 10.7**	**+0.4**
	comp=Z,27nm,1.1s							
GRF	**Grafenberg Arr**	**86.76**	**39**	*e*P	P	10 17 24.4	+9.4
	comp=Z,19nm,1.4s,baz=280,slow=5.4							
CLL	**Collm**	**87.26**	**37**	*e*P	**P**	**10 17 19.0**	**+1.6**
CLL				*e*		10 17 26.0		
CLL				*e*S	**S**	**10 27 54.0**	**-3.4**
CLL				LmV		11 00 00.0		
	comp=Z,200nm,21.9s							
GERES	**GERESS Array B**	**88.58**	**40**	P	**P**	**10 17 22.4**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=211,slow=30,SNR=2.1							
GERES				LR	LR	10 54 52.2		
	comp=Z,250nm,21.7s,baz=294,slow=34							
GERES	**GERESS Array B**	**88.58**	**40**	P	**P**	**10 17 22.6**	**-1.3**
FINES	**FINESS Array B**	**89.31**	**25**	P	**P**	**10 17 24.8**	**-2.1**
	comp=Z,3.2nm,0.8s,baz=306,slow=6.6,SNR=5.6							
FINES				LR	LR	10 58 34.1		
	comp=Z,151nm,18.4s,baz=280,slow=36							
TORD	**Torodi Ar. Bea**	**90.03**	**76**	P	**P**	**10 17 30.8**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=286,slow=4.2,SNR=4.9							
TORD				LR	LR	10 59 52.4		
	comp=Z,46nm,19.1s,baz=120,slow=37							
TORD	**Torodi Ar. Bea**	**90.03**	**76**	IAmb	IAmb	10 17 33.6		
	comp=Z,1.0nm,0.8s							
KEST	**Kesra**	**90.08**	**53**	P	**P**	**10 17 30.6**	**-0.6**
	comp=Z,11nm,1.0s,baz=296,slow=5.5,SNR=6.9							
KEST	**Kesra**	**90.08**	**53**	P	**P**	**10 17 34.3**	**+3.1**
KEST				IAmb	IAmb	10 17 41.5		
	comp=Z,16nm,0.9s							
KLMR	**Klimovskoe**	**94.83**	**22**	*e*PP	**PP**	**10 21 38.5**	**-2.0**
KLMR				AMP		10 21 42.5		
	comp=Z,11nm,1.2s							
NRIK	**Noril'sk**	**95.59**	**0**	LR	LR	11 04 50.2		
	comp=Z,360nm,20.0s,baz=20,slow=38							
AKASG	**Malin Array Be**	**96.62**	**33**	LR	LR	11 01 51.9		
	comp=Z,136nm,20.4s,baz=325,slow=36							
KIRV	**Kirov**	**99.88**	**19**	LR	LR	11 04 07.6		
	comp=Z,160nm,18.7s,baz=338,slow=36							
DZM	**Mont Dzumac**	**106.14**	**251**	*e*LR	LR	10 53 31.6		
	comp=Z,124nm,25.9s							
WMQ	**Urumqi**	**121.18**	**0**	*e*PKP	**PKiKP**	**10 23 25.3**	**+1.1**
WMQ				LR	LR			
	comp=Z,140nm,20.5s							
WMQ				LR	LR			
	comp=Z,110nm,22.9s							
WMQ				LR	LR			
	comp=Z,190nm,22.9s							
NJ2	**Nanjing**	**124.44**	**328**	*e*PKP	**PKiKP**	**10 23 31.4**	**+0.6**
MAW	**Mawson**	**125.22**	**168**	PKP	**PKPdf**	**10 23 29.8**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=268,slow=6.0,SNR=3.9							
LZH	**Lanzhou**	**126.76**	**344**	*e*PKP	**PKPdf**	**10 23 35.1**	**0.0**
LZH				sPKP		10 23 39.8		
LZH				LR	LR			
	comp=Z,180nm,18.2s							
LZH				LR	LR			
	comp=Z,240nm,20.1s							
STKA	**Stephens Creek**	**128.73**	**241**	PKP	**PKPdf**	**10 23 37.8**	**-0.9**
	comp=Z,4.2nm,0.7s,baz=32,slow=4.1,SNR=5.3							
CD2	**Chengdu**	**131.65**	**342**	PKP	**PKPdf**	**10 23 44.3**	**-0.1**
WRA	**Warramunga Arr**	**135.75**	**257**	PKP	**PKPdf**	**10 23 51.6**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=88,slow=2.1,SNR=12							
WRA	**Warramunga Arr**	**135.75**	**257**		**PKPdf**	**10 23 51.9**	**-0.4**
ASAR	**Alice Springs**	**136.13**	**252**	PKhKP	PKPpre	10 23 44.2		
	comp=Z,0.9nm,0.7s,baz=108,slow=3.9,SNR=9.8							
ASAR				PKP	**PKPdf**	**10 23 52.2**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=86,slow=1.8,SNR=17							
KMI	**Kunming**	**137.35**	**340**	PKP	**PKPdf**	**10 23 48.0**	**-7.5**
KMI				LR	LR			
	comp=Z,110nm,15.9s							
KMI				LR	LR			
	comp=Z,220nm,22.0s							
CMAR	**Chiang Mai Arr**	**144.79**	**342**	PKP	**PKPdf**	**10 24 09.4**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=331,slow=3.8,SNR=8.5							
NWAO	**Narrogin (SRO)**	**148.26**	**231**		**PKPbc**	**10 24 18.3**	**+0.8**
NWAO	**Narrogin (SRO)**	**148.26**	**231**		**PKPbc**	**10 24 18.3**	**+0.8**
PSA00	**Pilbara Seismi**	**149.24**	**253**		**PKPbc**	**10 24 19.4**	**-0.8**
KSM	**Kuching**	**152.40**	**305**		**PKPbc**	**10 24 27.5**	**-0.5**

*IDC **16** 10:04:54.2±2.0,3˚.36N×127˚.49E,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.6/36,mbtmp3.8/4,Error ellipse: s-maj=154.4km s-min=26.2km az=66.0*
*MAN **16** 10:05:00.5,3˚.96N×128˚.04E,h229km,MS4.1*
*DJA **16** 10:05:06.4±0.4,3˚N±3˚×12˚7E±˚,h10km,M3.9/7,mb4.2/1, MLv3.7/7*
ISC 16 10:04:59.2±1.3,3˚.70N±0˚.10×128˚.4E±0˚.2,h45km,n11,
σ2⁹96/15,mb3.9/4,1D,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**3.11**	**200**	Pg	**Pn**	**10 05 48.2**	**+2.5**
DDMP	**Don Marcelino,**	**3.62**	**311**	*e*P	**Pn**	**10 05 54.4**	**+1.6**
DDMP				*e*S	**Sn**	**10 06 35.4**	**+1.1**
LBMI	**Labuha**	**4.42**	**192**	P	**Pn**	**10 06 03.3**	**-0.4**
KCP	**Kidapawan**	**4.68**	**315**	↓P	**Pn**	**10 06 10.2**	**+2.7**
KCP				*i* S	**Sn**	**10 07 07.0**	**+6.4**
SKMP	**Bagumbayan, Su**	**4.79**	**306**	*e*P	**Pn**	**10 06 08.0**	**-0.8**
SKMP				*e*S	**Sn**	**10 06 59.8**	**-3.3**
BUKP	**Musuan**	**5.34**	**321**	*e*P	**Pn**	**10 06 14.2**	**-2.3**
BUKP				*e*S	**Sn**	**10 07 13.1**	**-3.7**
SANI	**Sanana**	**6.22**	**203**	P	**Pn**	**10 06 24.7**	**-3.8**
WRA	**Warramunga Arr**	**24.20**	**166**	P	**P**	**10 10 12.2**	**+0.5**
	3.5nm,0.8s,baz=344,slow=10,SNR=7.4						
ASAR	**Alice Springs**	**27.72**	**169**	P	**P**	**10 10 42.5**	**-1.0**
	0.4nm,0.6s,baz=0.2,slow=8.4,SNR=2.2						
STKA	**Stephens Creek**	**37.53**	**161**	P	**P**	**10 12 10.0**	**+1.0**
	2.9nm,0.7s,baz=319,slow=8.9,SNR=5.9						
MKAR	**Makanchi Array**	**58.56**	**324**	P	**P**	**10 14 51.0**	**-0.4**
	0.4nm,0.5s,baz=118,slow=10,SNR=4.0						

*DJA **16** 10:05:17.3±0.6,8˚S±6˚×10˚4E±˚,h10km,M4.4/11,mb4.8/2, MLv4.2/11*
*IDC **16** 10:05:20.2±2.1,7˚.43S×104˚.09E,h0km,mb3.9/8, mb1 4.0/9,mb1mx3.8/35,mbtmp4.0/9,ML3.6/1,Error ellipse: s-maj=59.3km s-min=21.9km az=49.0*
ISC 16 10:05:24.3±1.2,7˚.6S±0˚.1×104˚.17E±0˚.09,h35km,n23,
σ1⁹52/23,mb4.0/8,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**2.11**	**9**	P	**Pn**	**10 05 56.2**	**-1.0**
KASI				S	**Sn**	**10 06 23.1**	**+0.9**
SKJI	**Sukabumi**	**2.45**	**76**	P	**Pn**	**10 05 59.5**	**-2.3**
LWLI	**Liwa**	**2.59**	**358**	P	**Pn**	**10 06 03.4**	**-0.5**
DBJI	**Dramaga**	**2.77**	**68**	P	**Pn**	**10 06 06.0**	**-0.3**
DBJI				S	**Sn**	**10 06 38.4**	**-0.2**
CNJI	**Cibinong**	**2.95**	**84**	P	**Pn**	**10 06 05.6**	**-3.1**
MDSI	**Maura Dua**	**3.12**	**0**	P	**Pn**	**10 06 10.3**	**-0.7**
MNAI	**Manna**	**3.46**	**340**	P	**Pn**	**10 06 14.0**	**-1.7**
LEM	**Lembang**	**3.51**	**77**	Pn	**Pn**	**10 06 17.5**	**+1.0**
	5.6nm,0.3s,baz=188,slow=22,SNR=2.5						
LEM				Sn	**Sn**	**10 06 58.2**	**+1.2**
	12nm,0.3s,baz=156,slow=22,SNR=4.0						
CISI	**Cisompet, Garu**	**3.62**	**89**	P	**Pn**	**10 06 15.4**	**-2.5**
LHSI	**Lahat**	**3.83**	**350**	P	**Pn**	**10 06 20.1**	**-0.7**
UGM	**Wanagama**	**6.30**	**93**	P	**Pn**	**10 06 53.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**26.43**	**349**	P	**P**	**10 10 58.3**	**+0.4**
	1.5nm,0.4s,baz=184,slow=8.7,SNR=10						
H08S2	**Diego Garcia H**	**31.39**	**268**	T	T	10 45 20.6		
	baz=91,slow=74,SNR=32						
H08S3	**Diego Garcia H**	**31.40**	**268**	T	T	10 45 12.4		
	baz=91,slow=74,SNR=24						
H08S1	**Diego Garcia H**	**31.41**	**268**	T	T	10 45 13.4		
	baz=91,slow=74,SNR=20						
WRA	**Warramunga Arr**	**31.69**	**116**	P	**P**	**10 11 46.5**	**+1.7**
	1.4nm,0.8s,baz=284,slow=11,SNR=3.5						
ASAR	**Alice Springs**	**32.67**	**123**	P	**P**	**10 11 56.7**	**+3.2**
	0.4nm,0.9s,baz=135,slow=52,SNR=1.7						
KSRS	**Korea Array**	**50.04**	**25**	P	**P**	**10 14 15.1**	**-0.5**
	0.9nm,0.7s,baz=216,slow=8.1,SNR=6.1						
SONM	**Songino Array**	**55.25**	**2**	P	**P**	**10 14 53.1**	**-1.0**
	1.9nm,0.7s,baz=78,slow=41,SNR=2.5						
USRK	**Ussuriysk Ar.**	**57.39**	**23**	P	**P**	**10 15 08.9**	**-0.2**
	2.1nm,0.6s,baz=219,slow=5.2,SNR=4.4						
MKAR	**Makanchi Array**	**57.57**	**342**	P	**P**	**10 15 09.5**	**-1.0**
	0.4nm,0.5s,baz=118,slow=9.8,SNR=3.6						
ZALV	**Zalesovo Beam**	**63.48**	**347

ML3.4, Mwr3.5/7(SLM), Error ellipse: s-maj=5.6km s-min=5.0km az=113.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr=0.09; Mθθ 1.33; Mφφ=-1.24; Mrθ 0.04; Mrφ 1.46; Mθφ 0.54;
*UNK **16** 10:31:07.8, 35.59N×97.41W, h6km*
*ANF **16** 10:31:08.6±0.9, 35.60N×97.41W, h18km±7km, ML4.4/15, Error ellipse: s-maj=2.5km s-min=2.1km az=175.0*

ISC 16 10:31:07.3±0.8, 35.61N±0.03×97.40W±0.03, h8km±5km, n64, σ1s43/81, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK009	**Oakdale Elemen**	**0.04**	**218**	**Pg**	**Pg**	**10 31 08.6**	**-0.2**
OK009				Sg	**Sg**	**10 31 09.5**	**-0.3**
ADOK	**Arcadia Dam**	**0.05**	**26**	**Pg**	**Pg**	**10 31 09.4**	**+0.4**
OK001	**Jones High Sch**	**0.10**	**119**	**Pg**	**Pg**	**10 31 10.0**	**+0.4**
OK005	**Luther M Schoo**	**0.17**	**75**		**Pg**	**10 31 11.6**	**+0.7**
OKCFA	**Oklahoma City**	**0.20**	**193**	**Pg**	**Pg**	**10 31 11.4**	**+0.1**
OKCFA				Sg	**Sg**	**10 31 14.2**	**+0.2**
OKCFA					Pg	10 31 14.5	+3.2
OKCSW	**OKLAHOMA CITY**	**0.21**	**189**	**Pg**	**Pg**	**10 31 11.6**	**+0.1**
OKCSW				Sg	**Sg**	**10 31 14.6**	**+0.4**
W35A	**Tecumseh**	**0.62**	**137**		**Pg**	**10 31 19.2**	**-0.1**
TUL1	**Leonard** baz=257,SNR=189	**1.34**	**77**	P	**Pn**	**10 31 31.5**	**-0.9**
TUL1				S	**Sb**	**10 31 50.2**	**+0.2**
	baz=257						
TUL1	**Leonard**	**1.34**	**77**	Pn	**Pn**	**10 31 31.5**	**-0.9**
WMOK	**Wichita Mounta** baz=52,SNR=320	**1.43**	**233**	P	**Pn**	**10 31 33.0**	**-0.6**
WMOK				S	**Sn**	**10 31 51.8**	**-0.8**
	baz=52						
WMOK	**Wichita Mounta**	**1.43**	**233**		**Pn**	**10 31 33.0**	**-0.6**
T35A	**Sooner Cattle**	**1.49**	**28**		**Pn**	**10 31 34.6**	**+0.3**
U32A	**Winter Ranch,**	**1.51**	**301**		**Pn**	**10 31 35.0**	**+0.2**
X37A	**Clayton**	**1.95**	**121**		**Pn**	**10 31 41.0**	**+0.4**
Z35A	**Perchaven, San**	**2.28**	**177**	Pn	**Pn**	**10 31 46.1**	**+0.9**
U38A	**Gravette**	**2.58**	**70**		**Pn**	**10 31 49.8**	**+0.4**
HHAR	**Hobbs**	**2.88**	**76**		**Pn**	**10 31 54.1**	**+0.5**
W39A	**Magazine** baz=279,SNR=44	**2.98**	**97**	P	**Pn**	**10 31 55.4**	**+0.5**
W39A				S	**Sn**	**10 32 31.4**	**+0.6**
	baz=279						
W39A	**Magazine**	**2.98**	**97**		**Pn**	**10 31 55.0**	**+0.2**
R32A	**Long Quarter,**	**3.00**	**340**		**Pn**	**10 31 56.5**	**+1.3**
Z38A	**Mt. Pleasant**	**3.08**	**139**		**Pn**	**10 31 56.8**	**+0.6**
MIAR	**Mount Ida** baz=290,SNR=8.4	**3.31**	**108**	P	**Pn**	**10 32 00.5**	**+1.1**
MIAR				S	**Sn**	**10 32 39.8**	**+0.9**
	baz=290						
MIAR	**Mount Ida**	**3.31**	**108**		**Pn**	**10 32 00.8**	**+1.5**
ABTX	**Abilene, Hawle** baz=31,SNR=13	**3.51**	**213**	P	**Pn**	**10 32 02.2**	**0.0**
ABTX				S	**Sn**	**10 32 45.0**	**+0.9**
	baz=31						
ABTX	**Abilene, Hawle**	**3.51**	**213**		**Pb**	**10 32 07.7**	**-2.1**
KSU1	**Kansas State U** baz=190	**3.54**	**10**	P	**Pn**	**10 32 03.4**	**+0.8**
KSU1				S	**Sn**	**10 32 44.7**	**0.0**
	baz=190						
KSU1	**Kansas State U**	**3.54**	**10**		**Pn**	**10 32 03.7**	**+1.1**
AMTX	**Amarillo** baz=77	**3.58**	**260**	Sb	**Sb**	**10 32 57.0**	**+2.4**
WHTX	**Lake Whitney,** baz=0.6,SNR=22	**3.61**	**181**	P	**Pn**	**10 32 03.7**	**+0.2**
WHTX				Sb	**Sb**	**10 32 57.4**	**+2.1**
	baz=0.6						
WHTX	**Lake Whitney,**	**3.61**	**181**	Pn	**Pn**	**10 32 04.1**	**+0.6**
CBKS	**Cedar Bluff** baz=149,SNR=5.6	**3.70**	**330**	P	**Pn**	**10 32 05.3**	**+0.5**
CBKS				S	**Sn**	**10 32 49.9**	**+1.1**
	baz=149						
CBKS	**Cedar Bluff**	**3.70**	**330**		**Pn**	**10 32 05.4**	**+0.5**
U40A	**Yellville** baz=260,SNR=12	**3.76**	**77**	P	**Pn**	**10 32 05.5**	**-0.1**
U40A				Sb	**Sb**	**10 33 02.4**	**+2.8**
	baz=260						
U40A	**Yellville**	**3.76**	**77**	Pn	**Pn**	**10 32 05.6**	**-0.1**
237A	**Washetta, Mont**	**3.83**	**159**		**Pn**	**10 32 06.8**	**+0.2**
S39A	**Bolivar**	**3.88**	**56**	Pn	**Pn**	**10 32 07.9**	**+0.6**
X40A	**Basin Creek Fa** baz=288,SNR=25	**3.91**	**105**	P	**Pn**	**10 32 08.2**	**+0.6**
X40A				Sb	**Sb**	**10 33 07.2**	**+3.3**
	baz=288						
W41B	**Gary Mavity, V** baz=277,SNR=22	**4.23**	**94**	P	**Pn**	**10 32 12.3**	**+0.3**
W41B				S	**Sn**	**10 33 02.5**	**+0.9**
	baz=277						
Z41A	**Richland Creek** baz=303	**4.46**	**120**	P	**Pn**	**10 32 16.3**	**+1.1**
Z41A				S	**Sn**	**10 33 07.5**	**+0.2**
	baz=303						
Z41A	**Richland Creek**	**4.46**	**120**	Pn	**Pn**	**10 32 14.7**	**-0.6**
NATX	**Nacogdoches**	**4.46**	**149**	Pn	**Sn**	**10 32 13.8**	**-1.5**
MSTX	**Muleshoe** baz=68	**4.72**	**251**	Sb	**Sb**	**10 33 30.8**	**+3.4**
435B	**Jarrell** baz=1.7	**4.82**	**182**	Sb	**Sb**	**10 33 35.0**	**+5.0**
CCAR	**Cane Creek**	**4.93**	**108**	Pn	**Pn**	**10 32 23.4**	**+1.8**
X43A	**Marvell** baz=283	**5.45**	**100**	P	**Pn**	**10 32 29.5**	**+0.6**
CCM	**Cathedral Cave** baz=245	**5.50**	**62**	P	**Pn**	**10 32 29.2**	**-0.4**
CCM				S	**Sn**	**10 33 33.9**	**+0.9**
	baz=245						
P40A	**Paris**	**5.78**	**46**	Pn	**Pn**	**10 32 35.3**	**+2.0**
T25A	**Trinidad** baz=103	**5.86**	**287**	P	**Pn**	**10 32 35.0**	**+0.3**
OGNE	**Ogallala** baz=144	**6.46**	**327**	P	**Pn**	**10 32 42.9**	**+0.2**
OXF	**Oxford** baz=282,SNR=5.4	**6.64**	**97**	P	**Pn**	**10 32 44.8**	**-0.3**
OXF				S	**Sn**	**10 33 59.9**	**-1.2**
	baz=282						
SCIA	**State Center** baz=209	**7.08**	**26**	P	**Pn**	**10 32 51.3**	**0.0**
ANMO	**Albuquerque** 0.1nm,0.3s,baz=237,slow=21,SNR=1.9	**7.44**	**268**	Pn	**Pn**	**10 32 56.2**	**-0.2**
ANMO				Pg	**Pb**	**10 33 19.8**	**+3.0**
	0.3nm,0.3s,baz=74,slow=16,SNR=7.7						
ANMO				Lg	Lg	10 34 59.7	
	2.7nm,0.3s,baz=20,slow=19,SNR=6.1						
MNTX	**Cornudas Mount** baz=57,SNR=5.4	**7.71**	**242**	P	**Pn**	**10 32 60.0**	**0.0**
MNTX	**Cornudas Mount**	**7.71**	**242**	Pn	**Pn**	**10 33 00.7**	**+0.7**
ISCO	**Idaho Springs** baz=120,SNR=6.1	**7.74**	**305**	P	**Pn**	**10 33 00.4**	**-0.1**
ECSD	**EROS Data Cent** baz=185	**8.14**	**4**	P	**Pn**	**10 33 04.8**	**-1.0**
TXAR	**Lajitas Array** 0.2nm,0.3s,baz=38,slow=12,SNR=12	**8.20**	**222**	Pn	**Pn**	**10 33 06.2**	**-0.5**
TXAR				Pg	Pb	10 33 35.6	+6.0
	2.0nm,0.3s,baz=42,slow=14,SNR=20						
TXAR				Lg	Lg	10 35 23.2	
	1.6nm,0.3s,baz=44,slow=27,SNR=8.0						
TX31	**Lajitas Ar. Si**	**8.20**	**222**		**Pn**	**10 33 06.3**	**-0.3**
TX32	**Lajitas Array**	**8.20**	**222**		**Pn**	**10 33 05.6**	**-1.0**
N23A	**Red Feather La** baz=126,SNR=8.7	**8.54**	**311**	P	**Pn**	**10 33 11.6**	**0.0**
RSSD	**Black Hills** baz=147	**9.91**	**331**	P	**Pn**	**10 33 30.3**	**+0.1**
TKL	**Tuckaleechee C** 0.8nm,0.3s,baz=170,slow=19,SNR=8.7	**11.09**	**86**	Lg	Lg	10 36 48.3	
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=111,slow=16,SNR=4.2	**11.83**	**311**	Pn	**Pn**	**10 33 53.1**	**-3.4**
PDAR				Lg	Lg	10 37 18.9	
	0.3nm,0.3s,baz=121,slow=28,SNR=7.4						
NVAR	**Mina Array Bea** 0.0nm,0.3s,baz=99,slow=12,SNR=2.8	**16.93**	**286**	Pn	**Pn**	**10 34 59.1**	**-5.7**

IDC 16 10:31:53.2±1.3, 7.27S×109.77E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.6/30, mbtmp3.8/4, ML3.7/1, MS3.5/3, Ms1 3.5/3, ms1mx2.9/36, Error ellipse: s-maj=53.0km s-min=20.0km az=30.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEM	**Lembang** 23nm,0.3s,baz=342,slow=20,SNR=7.3	**2.18**	**282**	Pn	Pn	10 32 30.2	-0.7
LEM				Sn	Sb	10 33 01.6	+0.3
	19nm,0.3s,baz=341,slow=22,SNR=7.7						
WRA	**Warramunga Arr** 0.9nm,0.8s,baz=300,slow=11,SNR=2.0	**26.95**	**120**	P	P	10 37 37.0	+0.2
ASAR	**Alice Springs**	**28.32**	**128**	P	P	10 37 49.0	-0.1
	0.5nm,0.8s,baz=298,slow=9.1,SNR=6.0						
H08S2	**Diego Garcia H** baz=208,slow=74,SNR=8.3	**36.95**	**267**	T	T	11 15 50.4	
H08S3	**Diego Garcia H** baz=96,slow=74,SNR=8.4	**36.96**	**267**	T	T	11 15 54.9	
H08S1	**Diego Garcia H**	**36.97**	**267**	T	T	11 15 51.7	
MJAR	**Matsushiro Arr** comp=Z,58nm,20.4s,baz=60,slow=38	**51.10**	**30**	LR	LR	11 03 52.0	
MKAR	**Makanchi Array** 2.0nm,0.6s,baz=143,slow=7.6,SNR=26	**59.11**	**338**	P	P	10 41 55.5	-0.1
AAK	**Ala-Archa** comp=Z,33nm,19.4s,baz=340,slow=40	**59.15**	**330**	LR	LR	11 11 21.8	

NNC 16 10:40:08.8±6.4, 36.83N×71.00E, h154km±138km, mb3.0, mpv3.7, 1C, Error ellipse: s-maj=66.6km s-min=46.3km az=25.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array** 4.2nm,0.4s,baz=180,slow=13,SNR=56	**6.27**	**357**	P	Pn	10 41 38.5	-0.5
KK31				S	Sn	10 42 50.7	+0.8
	5.5nm,0.5s,baz=145,slow=12,SNR=11						
AAK	**Ala-Archa** 1.7nm,0.5s	**6.39**	**24**	P	Pn	10 41 41.3	+0.5
AAK				S	Sn	10 42 53.0	+0.2
	5.1nm,0.5s						
AB01	**Akbulak array** 1.1nm,0.5s	**14.79**	**331**	⇑P	Pn	10 43 30.2	0.0

*NEIC **16** 10:43:29.7±1.1, 6.74S±0.71×148.85E±0.06, h65km±12km, mb4.2/13, Error ellipse: s-maj=19.6km s-min=5.9km az=158.0*
*IDC **16** 10:43:30.6±2.0, 6.37S×148.75E, h66km±20km, mb3.9/4, mb1 4.2/7, mb1mx3.6/46, mbtmp4.3/7, MS2.9/1, Ms1 2.9/1, ms1mx2.5/26, Error ellipse: s-maj=42.8km s-min=9.6km az=133.0*

ISC 16 10:43:29.4±0.9, 6.74S±0.71×148.78E±0.71, h53km, n25, σ1s05/26, mb4.1/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 29nm,0.3s,baz=34,slow=6.4,SNR=59	**3.40**	**208**	P	**Pn**	**10 44 21.2**	**+1.2**
PMG				S	**Sn**	**10 45 01.5**	**+2.4**
	141nm,0.3s,baz=120,slow=18,SNR=19						
PMG	**Port Moresby**	**3.40**	**208**		**Pn**	**10 44 21.1**	**+1.1**
KRVT	**Keravat (AS076** 16nm,0.3s,baz=200,slow=0.9,SNR=14	**3.84**	**58**	P	**Pn**	**10 44 25.9**	**0.0**
KRVT				S	**Sn**	**10 45 12.7**	**+2.8**
	8.0nm,0.3s,baz=132,slow=17,SNR=1.4						
RABL	**Rabaul**	**4.02**	**57**	P	**Pn**	**10 44 27.8**	**-0.6**
COEN	**Coen**	**9.33**	**216**	Pn	**Pn**	**10 45 41.6**	**+0.3**
SIJI	**Sorong** comp=Z,40nm,19.3s,baz=244,slow=44	**18.30**	**287**	LR	LR	10 56 57.1	
MTN	**Manton Dam**	**18.53**	**248**		**P**	**10 47 41.9**	**+0.1**
MTN				IAmb	IAmb	10 48 00.0	
	comp=Z,12nm,0.8s						
WB0	**Warramunga Arr**	**19.30**	**225**	P	**Pn**	**10 47 51.4**	**-0.2**
WB0				IAmb	IAmb	10 47 51.8	
	comp=Z,7.7nm,0.6s						
WR0	**Warramunga Arr**	**19.32**	**224**	P	**P**	**10 47 50.3**	**-0.1**
WRAB	**Tennant Creek**	**19.44**	**225**	P	**Pn**	**10 47 52.3**	**-0.9**
WRAB				IAmb	IAmb	10 47 53.7	
	comp=Z,17nm,1.1s						
WB2	**Warramunga Arr**	**19.44**	**225**	P	**P**	**10 47 51.8**	**+0.1**
WB2				IAmb	IAmb	10 47 53.9	
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr** comp=Z,1.7nm,0.3s,baz=52,slow=11,SNR=15	**19.45**	**225**	P	**P**	**10 47 51.8**	**0.0**
KNRA	**Kununurra**	**21.68**	**243**	P	**P**	**10 48 15.2**	**-0.8**
AS31	**Alice Springs**	**22.36**	**218**		**P**	**10 48 23.1**	**0.0**
ASAR	**Alice Springs** comp=Z,3.2nm,0.6s,baz=57,slow=9.5,SNR=126	**22.36**	**218**	P	**P**	**10 48 22.9**	**-0.3**
ASAR	**Alice Springs**	**22.36**	**218**		**P**	**10 48 22.4**	**-0.7**
DZM	**Mont Dzumac**	**23.12**	**134**	P	**P**	**10 48 29.8**	**-1.4**
ARMA	**Armidale**	**24.06**	**174**	P	**P**	**10 48 38.2**	**-1.7**
ARMA				IAmb	IAmb	10 48 45.0	
	comp=Z,6.9nm,1.1s						
FITZ	**Fitzroy Crossi** comp=Z,9.3nm,0.7s,baz=52,slow=8.2,SNR=40	**25.39**	**241**	P	**P**	**10 48 52.4**	**+0.4**
FITZ	**Fitzroy Crossi**	**25.39**	**241**	P	**P**	**10 48 52.1**	**+0.1**
FITZ				IAmb	IAmb	10 48 54.3	
	comp=Z,8.9nm,0.9s						
STKA	**Stephens Creek** comp=Z,3.7nm,1.0s,baz=26,slow=14,SNR=4.1	**26.24**	**194**	P	**P**	**10 48 59.5**	**0.0**
FORT	**Forrest**	**31.09**	**216**	P	**P**	**10 49 42.7**	**-0.1**
VNDA	**Vanda** comp=Z,1.3nm,0.6s,baz=338,slow=6.7,SNR=4.6	**71.44**	**177**	P	**P**	**10 54 43.6**	**-0.1**
ESDC	**Sonseca Array** comp=Z,1.0nm,0.4s,baz=249,slow=36,SNR=5.2	**138.77**	**328**	PKP	**PKiKP**	**11 02 51.2**	**-1.1**
TORD	**Torodi Ar. Bea** comp=Z,1.0nm,0.3s,baz=70,slow=3.3,SNR=12	**146.89**	**284**	PKPbc	**PKPdf**	**11 03 05.6**	**+0.5**

*ANF **16** 10:47:33.2±0.2, 35.67N×97.24W, ML5.6/18, Error ellipse: s-maj=2.7km s-min=2.3km az=168.0*
*IDC **16** 10:47:34.9±0.7, 35.68N×97.41W, h0km, mb3.9/7, mb1 4.2/17, mb1mx3.9/59, mbtmp4.0/17, ML3.8/10, MS3.7/26, Ms1 3.7/26, ms1mx3.5/49, Error ellipse: s-maj=11.6km s-min=8.2km az=165.0*
*NEIC **16** 10:47:35.4±2.5, 35.60N±0.02×97.35W±0.03, h5km±1km, Error ellipse: s-maj=4.8km s-min=3.8km az=58.0*
*UNK **16** 10:47:35.6, 35.58N×97.34W, h5km*
*TUL **16** 10:47:35.6±2.2, 35.59N±0.03×97.40W±0.04, h5km±4km, mb4.3/40(NEIC), Mwr4.3/38(NEIC), Error ellipse: s-maj=5.4km s-min=3.9km az=126.0*
*NEIC **16** 10:47:35.6, 35.58N×97.34W, h6km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=0.96; Mθθ 2.50; Mφφ -1.54; Mrθ 0.83; Mrφ 2.70; Mθφ -1.45; Fault plane solution: M0 3.85000×10¹⁵ NP1:ϕ1 284.29000°, δ 70.24000°, λ -22.97000°. NP2:ϕ2 22.45000°, δ 68.45000°, λ -158.69000°. Principal axes: T 3.8529, Plg 1.0000°, Azm 334.0000°; N 0.0003, Plg 60.0000°, Azm 66.0000°; P -3.8532, Plg 30.0000°, Azm 243.0000°;*

ISC 16 10:47:35.1±0.9, 35.61N±0.03×97.33W±0.03, h11km±6km, n409, σ1s97/394, mb4.1/8, MS3.8/18, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK009	**Oakdale Elemen**	**0.08**	**252**		**Pg**	**10 47 36.8**	**-0.8**
OKCFA	**Oklahoma City**	**0.21**	**208**	Pg	**Pg**	**10 47 39.6**	**0.0**
OKCSW	**OKLAHOMA CITY**	**0.22**	**204**	Pg	**Pg**	**10 47 39.8**	**+0.1**
W35A	**Tecumseh**	**0.58**	**141**	Pg	**Pb**	**10 47 47.5**	**+0.2**
W35A				Sg	**Sb**	**10 47 55.6**	**0.0**
TUL1	**Leonard** baz=256,SNR=1000	**1.29**	**76**	P	**Pb**	**10 47 59.6**	**+0.3**
TUL1				S	**Sg**	**10 48 18.0**	**+1.5**
	baz=256						
TUL1	**Leonard**	**1.29**	**76**	Pn	**Pb**	**10 47 59.8**	**+0.6**
TUL1				Sg	**Sg**	**10 48 18.5**	**+2.0**
T35A	**Sooner Cattle**	**1.46**	**27**		**Pb**	**10 48 02.8**	**+0.4**
T35A				Sn	**Sg**	**10 48 23.7**	**+1.5**
WMOK	**Wichita Mounta** baz=54	**1.47**	**234**	P	**Pn**	**10 48 01.2**	**-0.3**
WMOK	**Wichita Mounta**	**1.47**	**234**	Pn	**Pn**	**10 48 01.5**	**0.0**
WMOK				Sn	**Sn**	**10 48 20.4**	**-0.4**
U32A	**Winter Ranch,**	**1.56**	**300**		**Pn**	**10 48 03.2**	**+0.5**
U32A				Sn	**Sg**	**10 48 24.9**	**-0.4**
X37A	**Clayton**	**1.90**	**122**		**Pb**	**10 48 10.8**	**+1.1**
Z35A	**Perchaven, San**	**2.27**	**178**	Pn	**Pn**	**10 48 14.1**	**+1.6**
W39A	**Magazine** baz=278,SNR=176	**2.92**	**97**	P	**Pn**	**10 48 23.4**	**+1.9**
W39A	**Magazine**	**2.92**	**97**		**Pn**	**10 48 23.5**	**+2.1**
R32A	**Long Quarter,**	**3.02**	**339**		**Pn**	**10 48 23.9**	**+1.1**
Z38A	**Mt. Pleasant**	**3.04**	**140**		**Pn**	**10 48 24.7**	**+1.7**
MIAR	**Mount Ida** baz=290,SNR=90	**3.25**	**108**	P	**Pn**	**10 48 28.2**	**+2.2**
MIAR				S	**Sn**	**10 49 06.9**	**+2.2**
	baz=290						
MIAR	**Mount Ida**	**3.25**	**108**		**Pn**	**10 48 28.2**	**+2.2**
KSU1	**Kansas State U** baz=190,SNR=29	**3.54**	**9**	P	**Pn**	**10 48 31.2**	**+1.4**
KSU1	**Kansas State U**	**3.54**	**9**	Pn	**Pn**	**10 48 31.5**	**+1.7**
ABTX	**Abilene, Hawle** baz=32,SNR=75	**3.54**	**213**	P	**Pn**	**10 48 30.9**	**+1.0**
ABTX	**Abilene, Hawle**	**3.54**	**213**	Pn	**Pn**	**10 48 32.8**	**+2.9**
WHTX	**Lake Whitney,** baz=1.5	**3.61**	**182**	P	**Pn**	**10 48 31.9**	**+1.1**
WHTX				Sb	**Sb**	**10 49 25.6**	**+3.0**
	baz=1.5						
WHTX	**Lake Whitney,**	**3.61**	**182**	Pn	**Pn**	**10 48 32.1**	**+1.2**
AMTX	**Amarillo** baz=78	**3.63**	**260**	P	**Pn**	**10 48 33.2**	**+1.9**
AMTX	**Amarillo**	**3.63**	**260**		**Pn**	**10 48 33.3**	**+2.0**
U40A	**Yellville** baz=259,SNR=213	**3.71**	**77**	P	**Pn**	**10 48 33.5**	**+1.3**
U40A	**Yellville**	**3.71**	**77**	Pn	**Pn**	**10 48 33.6**	**+1.3**
CBKS	**Cedar Bluff** baz=149,SNR=44	**3.73**	**330**	P	**Pn**	**10 48 33.5**	**+0.9**
CBKS				Sb	**Sb**	**10 49 30.9**	**+4.6**
	baz=149						
CBKS	**Cedar Bluff**	**3.73**	**330**		**Pn**	**10 48 34.0**	**+1.3**
237A	**Washetta, Mont**	**3.81**	**160**		**Pn**	**10 48 34.7**	**+1.0**
X40A	**Basin Creek Fa** baz=288,SNR=36	**3.85**	**106**	P	**Pn**	**10 48 35.7**	**+1.5**
WLAR	**White Oak Lake**	**3.97**	**118**	Pn	**Pn**	**10 48 37.9**	**+2.1**
W41B	**Gary Mavity, V** baz=277,SNR=244	**4.17**	**94**	P	**Pn**	**10 48 40.6**	**+2.0**
W41B				S	**Sn**	**10 49 29.2**	**+1.8**
	baz=277						
W41B	**Gary Mavity, V**	**4.17**	**94**	Pn	**Pn**	**10 48 40.3**	**+1.7**
Z41A	**Richland Creek** baz=303,SNR=8.6	**4.41**	**121**	P	**Pn**	**10 48 43.1**	**+1.2**
Z41A				S	**Sn**	**10 49 33.6**	**+0.3**
	baz=303						
NATX	**Nacogdoches** baz=330	**4.43**	**149**	P	**Pn**	**10 48 43.0**	**+0.7**
NATX	**Nacogdoches**	**4.43**	**149**		**Pn**	**10 48 43.6**	**+1.4**
MSTX	**Muleshoe** baz=69	**4.77**	**252**	P	**Pn**	**10 48 47.7**	**+0.8**
435B	**Jarrell** baz=2.4	**4.81**	**183**	P	**Pn**	**10 48 48.7**	**+1.2**
P38A	**Dawn**	**5.02**	**36**	Pn	**Pn**	**10 48 51.3**	**+1.1**
X43A	**Marvell** baz=283,SNR=22	**5.40**	**100**	P	**Pn**	**10 48 56.6**	**+1.2**
X43A				S	**Sn**	**10 49 57.7**	**+0.2**
	baz=283						
KSCO	**Kaye Shedlock'** baz=128,SNR=19	**5.42**	**310**	P	**Pn**	**10 48 56.7**	**+0.8**
KSCO	**Kaye Shedlock'**	**5.42**	**310**	Pn	**Pn**	**10 48 56.8**	**+0.8**
CCM	**Cathedral Cave** baz=245	**5.46**	**62**	P	**Pn**	**10 48 56.7**	**+0.4**
CCM	**Cathedral Cave**	**5.46**	**62**	Pn	**Pn**	**10 48 57.5**	**+1.2**
JCT	**Junction City** baz=21	**5.52**	**203**	P	**Pn**	**10 48 58.0**	**+0.8**
JCT	**Junction City**	**5.52**	**203**		**Pg**	**10 49 17.9**	**-2.9**
JCT	**Junction City**	**5.52**	**203**	Pn	**Pn**	**10 48 58.2**	**+1.0**
HKT	**Hockley**	**5.78**	**167**	Pg	**Pg**	**10 49 25.2**	**-0.5**
BGNE	**Belgrade** baz=174	**5.83**	**354**	P	**Pn**	**10 49 01.2**	**-0.2**
T25A	**Trinidad** baz=103,SNR=25	**5.92**	**287**	P	**Pn**	**10 49 03.3**	**+0.5**
MET	**Memphis--Engin**	**6.06**	**92**	Pn	**Pn**	**10 49 06.2**	**+1.7**
OGNE	**Ogallala** baz=144,SNR=27	**6.49**	**327**	P	**Pn**	**10 49 11.3**	**+0.7**
OGNE	**Ogallala**	**6.49**	**327**	Pn	**Pn**	**10 49 12.2**	**+1.7**
OXF	**Oxford** baz=282,SNR=50	**6.59**	**97**	P	**Pn**	**10 49 12.6**	**+0.8**
SCIA	**State Center** baz=208,SNR=16	**7.06**	**26**	P	**Pn**	**10 49 18.7**	**+0.4**
Q24A	**Divide** baz=116,SNR=12	**7.08**	**301**	P	**Pn**	**10 49 18.7**	**-0.1**
833A	**Chaparral WMA,** baz=13	**7.47**	**194**	P	**Pn**	**10 49 23.6**	**-0.3**
833A	**Chaparral WMA,**	**7.47**	**194**	Pn	**Pn**	**10 49 25.6**	**+1.7**
ANMO	**Albuquerque** baz=83	**7.50**	**268**	P	**Pn**	**10 49 24.9**	**+0.5**
ANMO	**Albuquerque** 0.4nm,0.3s,baz=86,slow=16,SNR=11	**7.50**	**268**	Pn	**Pn**	**10 49 26.0**	**+1.5**
ANMO				Pg	Pg	10 49 52.2	-6.4
	3.4nm,0.3s,baz=92,slow=18,SNR=12						
ANMO				Lg	Lg	10 51 31.7	
	19nm,0.3s,baz=28,slow=15,SNR=3.5						
ANMO	**Albuquerque**	**7.50**	**268**		**Pb**	**10 49 45.5**	**+0.3**
ANMO	**Albuquerque**	**7.50**	**268**	Pn	**Pn**	**10 49 26.9**	**+2.4**
WVT	**Waverly** baz=269	**7.73**	**83**	P	**Pn**	**10 49 26.9**	**-0.6**
WVT	**Waverly**	**7.73**	**83**	Pn	**Pn**	**10 49 27.2**	**-0.3**
MNTX	**Cornudas Mount** baz=58,SNR=40	**7.76**	**242**	P	**Pn**	**10 49 28.3**	**+0.3**
MNTX	**Cornudas Mount**	**7.76**	**242**	Pn	**Pn**	**10 49 28.3**	**+0.3**
BNM	**Barren Site**	**7.78**	**262**	Pn	**Pn**	**10 49 29.1**	**+0.7**
ISCO	**Idaho Springs** baz=120,SNR=46	**7.79**	**305**	P	**Pn**	**10 49 28.5**	**0.0**
ISCO	**Idaho Springs**	**7.79**	**305**	Pn	**Pn**	**10 49 28.9**	**+0.4**
S22A	**4UR Ranch, Cre** baz=103,SNR=14	**7.93**	**288**	P	**Pn**	**10 49 31.7**	**+1.2**
L40A	**Anamosa**	**8.02**	**35**		**Pn**	**10 49 31.3**	**-0.1**
HDIL	**Hopedale** baz=234,SNR=20	**8.03**	**50**	P	**Pn**	**10 49 31.8**	**+0.2**
HDIL	**Hopedale**	**8.03**	**50**	Pn	**Pn**	**10 49 32.1**	**+0.5**
ECSD	**EROS Data Cent** baz=184,SNR=54	**8.14**	**4**	P	**Pn**	**10 49 32.5**	**-0.5**
TXAR	**Lajitas Array** 0.8nm,0.3s,baz=33,slow=11,SNR=35	**8.23**	**222**	Pn	**Pn**	**10 49 34.1**	**-0.4**
TXAR				Pg	Pg	10 50 05.3	-7.4
	7.4nm,0.3s,baz=52,slow=13,SNR=25						
TXAR				Lg	Lg	10 51 51.9	
	17nm,0.3s,baz=38,slow=27,SNR=9.5						
TXAR				LR	LR	10 52 09.1	
	comp=Z,101nm,21.1s,baz=0.0,slow=33						
TXAR	**Lajitas Array**	**8.23**	**222**	Pn	**Pn**	**10 49 33.8**	**-0.7**
N23A	**Red Feather La** baz=126,SNR=86	**8.59**	**310**	P	**Pn**	**10 49 40.0**	**+0.5**
SUSD	**Miller** baz=172	**8.91**	**352**	P	**Pn**	**10 49 43.2**	**-0.5**
LRAL	**Lakeview Retre** baz=289,SNR=11	**8.92**	**104**	P	**Pn**	**10 49 44.4**	**+0.6**
JFWS	**Jewell Farm** baz=219,SNR=23	**9.13**	**35**	P	**Pn**	**10 49 46.2**	**-0.5**
JFWS	**Jewell Farm**	**9.13**	**35**	Pn	**Pn**	**10 49 46.0**	**-0.7**
Y49A	**Blount Mountai**	**9.15**	**98**	Pn	**Pn**	**10 49 47.2**	**+0.1**

PDAR **Pinedale Array** 11.87 311 Pn 10 50 23.3 -1.2
P51A **Williamsport** 11.97 67 P Pn 10 50 24.6 -0.9
baz=255,SNR=10
I45A **Fountain** 11.97 42 P Pn 10 50 24.2 -1.4
baz=229
T53A **Wise** 12.02 79 P Pn 10 50 25.5 -0.8
baz=268,SNR=6.0
ACSO **Alum Creek Sta** 12.23 64 P Pn 10 50 27.6 -1.5
baz=252,SNR=14
X54A **Belton** 12.30 91 P Pn 10 50 28.9 -1.2
baz=279
J47A **Sunmer** 12.30 48 P Pn 10 50 28.8 -1.3
baz=236
TCUT **Toone Canyon** 12.34 301 Pn 10 50 31.8 +0.9
MDND **Maddock** 12.35 353 P Pn 10 50 29.7 -1.0
baz=171
MDND **Maddock** 12.35 353 Pn Pn 10 50 32.0 +1.3
I46A **Reed City** 12.35 44 P Pn 10 50 28.6 -2.1
baz=232
W54A **Cherokee Point** 12.38 88 P Pn 10 50 30.6 -0.5
baz=277,SNR=7.1
S53A **Williamson** 12.39 76 P Pn 10 50 30.7 -0.6
baz=265
Q52A **Bidwell** 12.46 70 P Pn 10 50 31.0 -1.2
baz=259,SNR=20
H45A **Beulah** 12.47 40 P Pn 10 50 30.5 -1.8
baz=228
O51A **Pataskala** 12.48 64 P Pn 10 50 31.1 -1.4
baz=253,SNR=15
V54A **Nebo** 12.51 85 P Pn 10 50 32.5 -0.5
baz=274
U54A **Nelsons Funny** 12.59 81 P Pn 10 50 32.5 -1.5
baz=270
R53A **Hurricane** 12.60 73 P Pn 10 50 32.9 -1.2
baz=262,SNR=6.7
P52A **Corning** 12.70 67 P Pn 10 50 33.9 -1.6
baz=256,SNR=19
AGMN **Agassiz Nation** 12.73 4 P Pn 10 50 33.0 -2.9
baz=185,SNR=10
T54A **Tazewell** 12.79 79 P Pn 10 50 35.5 -1.3
baz=268,SNR=8.6
Y55A **Saluda** 12.83 93 P Pn 10 50 36.3 -1.0
baz=282
H46A **Fife Lake** 12.87 42 P Pn 10 50 36.2 -1.6
baz=230
N51A **Ashland** 12.89 61 P Pn 10 50 36.0 -2.1
baz=250,SNR=6.3
X55A **Gracelyn & Ava** 12.91 90 P Pn 10 50 37.1 -1.4
baz=279,SNR=5.2
LAO **LASA Array** 12.93 332 P Pn 10 50 37.0 -1.8
baz=146
LAO **LASA Array** 12.93 332 Pn Pn 10 50 37.2 -1.5
I47A **Gladwin** 12.94 46 P Pn 10 50 36.9 -1.8
baz=234
G45A **Suttons Bay** 12.95 40 P Pn 10 50 36.7 -2.2
baz=227
J48A **Bridge Port** 12.97 50 P Pn 10 50 36.4 -2.8
baz=238,SNR=5.7
Q53A **Leroy** 13.01 71 P Pn 10 50 38.1 -1.6
baz=260,SNR=20
O52A **Adamsville** 13.04 65 P Pn 10 50 39.0 -1.2
baz=255
S54A **Dingess, Beckl** 13.04 76 P Pn 10 50 39.0 -1.3
baz=265,SNR=7.0
KMSC **Kings Mountain** 13.07 87 P Pn 10 50 39.4 -1.2
baz=277
EYMN **Ely** 13.07 18 P Pn 10 50 37.6 -3.0
baz=201
V55A **Taylorsville** 13.10 84 P Pn 10 50 40.2 -0.8
baz=274,SNR=6.7
RLMT **Red Lodge** 13.15 320 P Pn 10 50 40.9 -1.0
baz=132
U55A **TA2, Sparta** 13.21 81 P Pn 10 50 41.2 -1.3
baz=271,SNR=7.4
P53A **Whipple** 13.23 68 P Pn 10 50 41.4 -1.3
baz=258,SNR=15
FXWY **Fox Creek** 13.25 311 Pn Pn 10 50 41.0 -2.3
R54A **Victor** 13.33 74 P Pn 10 50 42.9 -1.3
baz=264,SNR=10
N52A **McGinn's Farm,** 13.35 62 P Pn 10 50 42.3 -2.1
baz=252
GLMI **Grayling** 13.37 43 P Pn 10 50 41.5 -3.2
baz=231
X56A **White Oak** 13.40 90 P Pn 10 50 43.2 -2.0
baz=279
J49A **Marlette** 13.41 50 P Pn 10 50 42.8 -2.4
baz=239
T55A **Pulaski** 13.42 79 P Pn 10 50 42.0 -3.4
baz=268,SNR=7.3
H47A **Mio** 13.46 44 P Pn 10 50 42.6 -3.2
baz=232
F45A **CMU Biological** 13.47 38 P Pn 10 50 42.8 -3.1
baz=226,SNR=5.9
I48A **Sherman Twp** 13.51 47 P Pn 10 50 43.3 -3.2
baz=235
O53A **New Philadelph** 13.54 65 P Pn 10 50 43.9 -3.1
baz=255,SNR=6.7
G46A **Petoskey** 13.55 41 P Pn 10 50 44.6 -2.5
baz=228,SNR=11
Q54A **Coxs Mills** 13.56 71 P Pn 10 50 45.2 -2.1
baz=261,SNR=14
W56A **Indian Trail** 13.68 87 P Pn 10 50 45.7 -3.2
baz=277
S55A **Lewisburg** 13.68 76 P Pn 10 50 46.1 -2.8
baz=266,SNR=6.4
V56A **Mocksville** 13.68 84 P Pn 10 50 46.3 -2.6
baz=274
BLA **Blacksburg** 13.71 78 P Pn 10 50 47.1 -2.3
baz=268,SNR=11
DGMT **Dagmar** 13.82 341 P Pn 10 50 48.2 -2.6
baz=156
M52A **Chesterland** 13.82 60 P Pn 10 50 48.2 -2.6
baz=250
BIRD **Birdtown, Kers** 13.84 89 Pn Pn 10 50 50.4 -0.7
I49A **Point Hope** 13.90 49 P Pn 10 50 49.6 -2.3
baz=238
Z57A **Bowman** 13.91 95 P Pn 10 50 49.2 -2.9
baz=284
P54A **Burton** 13.94 68 P Pn 10 50 49.7 -2.8
baz=258,SNR=19
N53A **Lisbon** 13.96 63 P Pn 10 50 49.6 -3.2
baz=253
G47A **Hillman** 14.01 43 P Pn 10 50 49.9 -3.5
baz=232,SNR=16
R55A **Marlinton** 14.02 74 P Pn 10 50 51.2 -2.4
baz=264,SNR=9.4
R55A **Marlinton** 14.02 74 Pn Pn 10 50 51.6 -2.0
T56A **Rocky Mt** 14.02 79 P Pn 10 50 51.0 -2.6
baz=269,SNR=9.3
H48A **Harrisville** 14.03 45 P Pn 10 50 50.0 -3.6
baz=234
O54A **Avella** 14.14 66 P Pn 10 50 52.6 -2.7
baz=256
Q55A **Buckhannon** 14.14 71 P Pn 10 50 52.9 -2.3
baz=261
W57A **Gilead** 14.15 87 P Pn 10 50 53.3 -2.1
baz=277
W57A **Gilead** 14.15 87 Pn Pn 10 50 54.5 -0.9
X57A **Johnson Farm,** 14.17 90 P Pn 10 50 53.4 -2.2
baz=279
V57A **Coltrane Farms** 14.26 84 P Pn 10 50 54.3 -2.6
baz=274
M53A **WI Miller and** 14.27 61 P Pn 10 50 55.1 -1.9
baz=251
S56A **Natural Bridge** 14.41 77 P Pn 10 50 56.8 -2.1
baz=267,SNR=6.0
P55A **Reedsville** 14.42 69 P Pn 10 50 56.2 -2.8
baz=260
U57A **Blanch** 14.59 81 P Pn 10 50 59.9 -1.5
baz=272
N54A **Moraine State** 14.62 63 P Pn 10 50 58.4 -3.5
baz=254
T57A **Hurt** 14.64 79 P Pn 10 51 00.1 -2.0
baz=270,SNR=12
ULM **Lac du Bonnet** 14.67 4 Pn Pn 10 50 58.0 -4.4
1.2nm,0.3s,baz=182,slow=11,SNR=3.6
ULM Sn Sn 10 53 32.3 -13
2.7nm,0.3s,baz=269,slow=20,SNR=4.4
ULM Lg Lg 10 55 07.7
2.2nm,0.3s,baz=265,slow=14,SNR=5.0
ULM LR LR 10 57 02.5
comp=Z,176nm,20.6s,baz=190,slow=39
ULM **Lac du Bonnet** 14.67 4 Pn Pn 10 50 58.9 -3.5
L53A **Girard** 14.73 59 P Pn 10 51 01.5 -1.9
baz=250
W58A **Raeford** 14.79 87 P Pn 10 51 02.4 -1.7
baz=277
V58A **Windy Hill, Pi** 14.80 84 P Pn 10 51 02.0 -2.2
baz=274
Q56A **Snyder Ridge,** 14.84 71 P Pn 10 51 01.5 -3.2
baz=262,SNR=6.6
R11A **Troy Canyon, C** 14.85 286 P P 10 51 10.4 -0.5
S57A **Dark Hollow, R** 14.90 76 P Pn 10 51 04.2 -1.4
baz=267
O55A **Ligonier** 14.95 67 P Pn 10 51 03.2 -3.0
baz=258
I51A **Listowel** 14.97 52 P Pn 10 51 03.3 -3.2
baz=242,SNR=6.3
ERPA **Erie** 14.98 59 P Pn 10 51 03.2 -3.4
baz=250
ELK **Elko** 14.99 295 Pn Pn 10 51 06.0 -1.0
0.1nm,0.3s,baz=94,slow=6.0,SNR=4.9
ELK Lg Lg 10 55 24.2
0.1nm,0.3s,baz=146,slow=4.6,SNR=3.1
M54A **Oil Creek Stat** 15.02 62 P Pn 10 51 03.9 -3.2
baz=252
D46A **Sault St. Mari** 15.04 37 P Pn 10 51 04.4 -3.1
baz=226
F48A **Evansville** 15.10 43 P Pn 10 51 04.5 -3.7
baz=232
E47A **Iron Bridge** 15.14 40 P Pn 10 51 05.4 -3.3
baz=229
DLMT **Dillon** 15.14 315 IAmb IAmb 10 51 18.0
comp=Z,10nm,0.9s
P56A **Dayton Farm, R** 15.17 70 P Pn 10 51 06.1 -3.1
baz=261
U58A **Oxford** 15.22 82 P Pn 10 51 06.3 -3.7
baz=272
R57A **Stanardsville** 15.28 74 P Pn 10 51 07.2 -3.3
baz=266
N55A **Marion Center** 15.31 65 P Pn 10 51 08.3 -2.8
baz=256
F49A **Sandfield** 15.38 44 P Pn 10 51 08.3 -3.7
baz=234
Q57A **Strasburg** 15.44 72 P Pn 10 51 09.4 -3.3
baz=263
EGMT **Eagleton** 15.46 327 P Pn 10 51 10.2 -2.8
baz=139,SNR=8.0
O56A **Blue Knob Stat** 15.51 67 P Pn 10 51 10.6 -3.1
baz=258,SNR=14
V59A **Middlesex** 15.52 84 P Pn 10 51 11.4 -2.3
baz=275
S58A **Poland Farm, P** 15.61 77 P Pn 10 51 11.6 -3.4
baz=268
D47A **Chapleau** 15.62 39 P Pn 10 51 10.3 -4.8
baz=228,SNR=14
M55A **Ridgway** 15.65 62 P Pn 10 51 11.6 -3.9
baz=254
R58A **Rapidan** 15.68 74 P Pn 10 51 13.1 -2.8
baz=266
E48A **Lockeyer** 15.75 42 P Pn 10 51 12.9 -3.7
baz=232,SNR=19
R58B **Mineral** 15.76 76 P Pn 10 51 14.8 -2.1
baz=267
P57A **Homestead Farm** 15.80 70 P Pn 10 51 14.5 -2.9
baz=262
U59A **Littleton** 15.84 82 P Pn 10 51 16.1 -1.8
baz=273
N56A **West Decatur** 15.85 65 P Pn 10 51 16.2 -1.9
baz=256
PFO **Pinyon Flats O** 15.88 268 LR LR 10 56 39.5
comp=Z,115nm,21.1s,baz=153,slow=34
Q58A **Fox Den Farm,** 15.99 72 P Pn 10 51 17.4 -2.5
baz=264
T59A **Double "B" Far** 16.01 79 P Pn 10 51 17.7 -2.4
baz=271
T59A **Double "B" Far** 16.01 79 IAmb IAmb 10 51 25.0
comp=Z,12nm,1.0s
LPIG **La Paz** 16.05 228 LR LR 10 57 40.7
comp=Z,229nm,19.7s,baz=44,slow=38
K54A **Basiliko Farm,** 16.05 59 P Pn 10 51 17.7 -3.0
baz=250
M56A **Emporium** 16.08 63 P Pn 10 51 17.7 -3.3
baz=255,SNR=7.3
SSPA **Standing Stone** 16.09 66 P Pn 10 51 18.3 -2.9
baz=258
O57A **Amberson** 16.20 68 P Pn 10 51 18.5 -4.1
baz=260,SNR=6.9
P58A **Pank, Wackersv** 16.35 70 P Pn 10 51 20.4 -4.0
baz=262,SNR=6.3
N57A **Milroy** 16.37 66 P Pn 10 51 21.0 -3.7
baz=258,SNR=14
D48A **Paudash Townsh** 16.37 40 P Pn 10 51 21.0 -3.7
baz=231
E50A **Wahnapitae** 16.50 44 P Pn 10 51 22.4 -3.9
baz=235
K55A **Perry** 16.52 59 P Pn 10 51 23.0 -3.7
baz=251
SADO **Sadowa** 16.61 51 Pn Pn 10 51 27.2 -0.6
comp=Z,0.5nm,0.3s,baz=258,slow=14,SNR=3.4
SADO Sn Sn 10 54 27.3 -4.8
comp=Z,1.3nm,0.3s,baz=217,slow=22,SNR=1.7
SADO Lg Lg 10 56 09.7
comp=Z,2.2nm,0.3s,baz=350,slow=22,SNR=1.7
SADO LR LR 10 57 55.4
comp=Z,682nm,18.2s,baz=200,slow=37
SADO **Sadowa** 16.61 51 IAmb IAmb 10 51 34.9
comp=Z,8.6nm,0.8s
D49A **Beulah Townshi** 16.67 41 P Pn 10 51 24.8 -3.7
baz=231
L56A **Greenwood** 16.70 61 P Pn 10 51 25.7 -3.3
baz=253,SNR=15
F51A **Arnstein** 16.71 47 P Pn 10 51 25.9 -3.1
baz=238
O58A **Lewisberry** 16.73 68 P Pn 10 51 25.7 -3.5
baz=261,SNR=5.5
MSO **Missoula** 16.75 317 P Pn 10 51 27.8 -1.9
baz=126
M57A **Sunshine Farm,** 16.81 64 P Pn 10 51 27.0 -3.3
baz=256,SNR=7.3
H53A **Bobcaygeon** 16.88 52 P Pn 10 51 28.6 -2.6
baz=244
J55A **Hilton** 16.88 57 P Pn 10 51 28.1 -3.0
baz=250,SNR=8.0
J55A **Hilton** 16.88 57 IAmb IAmb 10 51 34.3
comp=Z,38nm,0.9s
NVAR **Mina Array Bea** 16.98 286 Pn P 10 51 34.6 -0.1
comp=Z,0.1nm,0.3s,baz=104,slow=11,SNR=6.9
NVAR LR LR 10 57 59.5
comp=Z,56nm,18.2s,baz=100,slow=37
F52A **Sundridge** 16.99 48 P Pn 10 51 29.8 -2.8
baz=239
N58A **Sunbury** 17.01 66 P Pn 10 51 29.5 -3.3
baz=259
K56A **Middlesex** 17.04 59 P Pn 10 51 30.5 -2.7
baz=252
G53A **Haliburton** 17.10 51 P Pn 10 51 31.1 -2.8
baz=243
L57A **Andrews Acres** 17.18 62 P Pn 10 51 32.7 -2.2
baz=255
TEIG **Tepich** 17.27 150 P P 10 51 40.3 +2.7
comp=Z,1.5nm,0.3s,baz=319,slow=5.0,SNR=8.6
TEIG S Sn 10 54 35.7 -13
comp=Z,0.9nm,0.3s,baz=319,slow=19,SNR=2.0
TEIG **Tepich** 17.27 150 IAmb IAmb 10 51 54.2
comp=Z,16nm,0.7s
E51A **G1948 Merrick** 17.28 45 P Pn 10 51 33.5 -2.7
baz=237,SNR=6.7
M58A **Price's Panora** 17.31 64 P Pn 10 51 33.6 -3.0
baz=257,SNR=15
O59A **Robesonia** 17.31 68 P Pn 10 51 34.2 -2.5
baz=261,SNR=5.8
I55A **Frankford** 17.32 54 P Pn 10 51 33.9 -2.8
baz=247
D50A **G1974 Best Tow** 17.44 43 P Pn 10 51 34.3 -3.8
baz=235,SNR=7.9
DELO **Deloro Mine** 17.48 53 Pn 10 51 38.6 -0.1
DELO IAmb IAmb 10 51 41.0
comp=Z,9.5nm,0.7s
J56A **Wolcott** 17.54 58 P Pn 10 51 36.1 -3.4
baz=251
G54A **Lake Saint Pet** 17.56 50 P Pn 10 51 37.0 -2.7
baz=243
K57A **Scipio Center** 17.61 60 P Pn 10 51 37.6 -2.8
baz=253
E52A **Mattawa** 17.64 47 P Pn 10 51 38.5 -2.2
baz=239
D51A **Lot 18 Range I** 17.66 44 P Pn 10 51 37.8 -3.0
baz=236
P60A **Greenville** 17.66 70 P Pn 10 51 38.4 -2.6
baz=263
N59A **State Game Lan** 17.73 66 P Pn 10 51 38.4 -3.4
baz=259
N59A **State Game Lan** 17.73 66 IAmb IAmb 10 51 44.3
comp=Z,19nm,1.1s
H55A **Tweed** 17.78 54 P Pn 10 51 39.7 -2.7
baz=247,SNR=7.0
ALGO **Algonquin Park** 17.84 49 P Pn 10 51 40.2 -3.0
baz=241
BINY **Binghamton** 17.85 62 P Pn 10 51 40.8 -2.5
baz=255,SNR=5.4
KSPA **Keystone Colle** 17.86 64 IAmb IAmb 10 51 46.3
comp=Z,38nm,1.1s
O60A **Telford** 17.90 68 P Pn 10 51 41.0 -2.9
baz=262
L58A **Harry Jones Me** 17.91 63 P Pn 10 51 41.4 -2.6
baz=256,SNR=13
TLIG **Tlapa** 18.01 184 P P 10 51 47.8 +1.8
TLIG IAmb IAmb 10 51 49.1
comp=Z,10nm,0.6s
M59A **Waymart** 18.10 64 P Pn 10 51 43.7 -2.7
baz=258,SNR=6.8
D52A **ZEK Kipawa Sen** 18.14 45 P Pn 10 51 44.2 -2.7
baz=238
J57A **Williamstown** 18.18 58 P Pn 10 51 44.2 -3.1
baz=252,SNR=6.8
N60A **Cedar Hill Far** 18.22 67 P Pn 10 51 45.1 -2.7
baz=260
K58A **Earlville** 18.24 60 P Pn 10 51 44.7 -3.3
baz=254,SNR=5.6
E53A **Dumoine, Ponti** 18.29 48 P Pn 10 51 46.2 -2.4
baz=241
G55A **Calabogie** 18.37 52 P Pn 10 51 46.7 -2.9
baz=245
H56A **Elgin** 18.41 54 P P 10 51 47.1 -2.9
baz=248,SNR=9.0
L59A **Walton** 18.52 63 P P 10 51 49.3 -2.2
baz=256,SNR=13
L59A **Walton** 18.52 63 P P 10 51 50.3 -1.2
I57A **Carthage** 18.58 57 P P 10 51 49.8 -2.2
baz=251
E54A **Lac Daplat, Po** 18.60 48 P P 10 51 50.7 -1.5
baz=242
D53A **Lac Vacive, Po** 18.61 46 P P 10 51 49.8 -2.6
baz=239,SNR=6.4
D53A **Lac Vacive, Po** 18.61 46 IAmb IAmb 10 51 52.5
comp=Z,11nm,0.8s
M60A **Port Jervis** 18.65 65 P P 10 51 51.3 -1.4
baz=259
J58A **Remsen** 18.66 59 P P 10 51 51.1 -1.8
baz=253
J58A **Remsen** 18.66 59 IAmb IAmb 10 51 56.5
comp=Z,15nm,0.8s
K59A **Cooperstown** 18.80 61 P P 10 51 52.6 -1.8
baz=255,SNR=10
I58A **Old Forge** 18.98 58 P P 10 51 54.5 -1.9
baz=252,SNR=10.0
L60A **Shokan** 19.08 64 P P 10 51 55.5 -1.9
baz=258,SNR=6.9
PAL **Palisades** 19.13 67 P P 10 51 55.5 -2.6
baz=261
PAL **Palisades** 19.13 67 P 10 51 57.9 -0.2
PAL IAmb IAmb 10 52 01.9
comp=Z,23nm,0.8s
J59A **Piesco** 19.23 59 P P 10 51 56.9 -2.3
baz=254,SNR=8.8
J59A **Piesco** 19.23 59 P P 10 51 59.4 +0.2
J59A IAmb IAmb 10 52 03.1
comp=Z,14nm,0.8s
D54A **Lac Fusel, La** 19.27 47 P P 10 51 57.5 -2.0
baz=241
M61A **Granite Spring** 19.29 66 P P 10 51 57.1 -2.6
baz=260,SNR=5.7
VLDQ **Val d'Or** 19.30 44 P P 10 51 56.8 -3.1
VLDQ IAmb IAmb 10 51 59.7
comp=Z,16nm,0.9s
NEW **Newport** 19.34 317 P P 10 51 58.8 -1.6
baz=124
NEW **Newport** 19.34 317 P Pn 10 52 02.4 +1.0
comp=Z,0.2nm,0.3s,baz=133,slow=3.9,SNR=5.3
NEW LR LR 10 59 59.0
comp=Z,337nm,18.2s,baz=119,slow=39
NEW **Newport** 19.34 317 IAmb IAmb 10 52 07.1
comp=Z,5.0nm,0.9s
FFC **Flin Flon** 19.39 352 Pn 10 52 03.2 +1.3
G57A **Newington** 19.44 54 P P 10 52 00.2 -1.2
baz=248
LONY **Lake Ozonia** 19.54 56 P P 10 52 00.3 -2.2
baz=250,SNR=6.9
K05A **Summer Lake** 19.57 298 Pn 10 52 06.5 +2.1
K05A IAmb IAmb 10 52 09.7
comp=Z,17nm,0.9s
NCB **Newcomb** 19.58 58 IAmb IAmb 10 52 05.7
comp=Z,13nm,0.7s
L61A **Hillsdale 1, H** 19.61 63 P P 10 52 01.4 -1.8
baz=258
TRY **Troy** 19.64 62 P P 10 52 04.7 +1.1
H58A **Gabriels** 19.74 57 P P 10 52 03.3 -1.5
baz=251,SNR=15
I59A **Olmsteadville** 19.77 58 P P 10 52 04.4 -0.6
baz=253,SNR=6.1
K61A **Williamstown** 19.91 62 P P 10 52 05.5 -1.1
baz=257
D55A **Sainte-Anne-du** 19.92 48 P P 10 52 05.7 -0.9
baz=243
J60A **Lant Hill Farm** 19.94 60 P P 10 52 05.7 -1.2
baz=255
J05D **Fort Rock, OR** 19.95 300 P P 10 52 05.3 -1.8
baz=105,SNR=5.5
E56A **St. Veronique** 19.98 50 P P 10 52 05.7 -1.5
baz=245
M04C **Macdoel** 20.07 295 P P 10 52 07.5 -0.9
baz=100
G58A **Ormstown** 20.07 55 P P 10 52 07.2 -1.1
baz=250
LSQQ **Lebel-sur-Quev** 20.09 42 P P 10 52 08.1 -0.4
baz=236
H59A **Cadyville** 20.15 56 P P 10 52 09.0 -0.1
baz=251,SNR=9.2
MATQ **Matagami** 20.15 39 P P 10 52 08.9 -0.3
baz=233,SNR=6.8
I60A **Shoreham** 20.19 59 P P 10 52 08.4 -1.1
baz=254
FRNY **Flat Rock** 20.28 56 P P 10 52 11.8 +1.3
FRNY IAmb IAmb 10 52 17.2
comp=Z,13nm,0.7s
L61B **Northampton** 20.29 63 P P 10 52 09.4 -1.3
baz=255
D56A **ZEC Mazanza, M** 20.37 49 P P 10 52 10.7 -0.8
baz=244,SNR=9.6
E57A **Chemin Saint G** 20.48 51 P P 10 52 12.0 -0.7
baz=246
J61A **Chester** 20.58 60 P P 10 52 12.6 -1.2
baz=256
G59A **Clarenceville** 20.63 55 P P 10 52 12.7 -1.7
baz=251
K62A **Royalston** 20.66 62 P P 10 52 14.2 -0.5
baz=258
YBH **Yreka Blue Hor** 20.70 295 P Pn 10 52 17.3 -0.3
comp=Z,2.7nm,0.6s,baz=76,slow=6.2,SNR=13
YBH LR LR 11 01 39.6
comp=Z,124nm,18.8s,baz=98,slow=41
YBH **Yreka Blue Hor** 20.70 295 Pn Pn 10 52 20.1 +2.5
YBH IAmb IAmb 10 52 31.6
comp=Z,8.9nm,1.1s
H60A **Morristown** 20.80 57 P P 10 52 15.7 -0.5
baz=253
D57A **Chemin Vers le** 20.89 50 P P 10 52 16.7 -0.5
baz=245,SNR=6.9
I61A **Oroboro, Fairl** 20.96 59 P P 10 52 17.0 -1.0
baz=255,SNR=5.6
E58A **La Victoria** 21.02 52 P P 10 52 18.1 -0.5
baz=248
J62A **Henniker** 21.08 61 P P 10 52 18.8 -0.4
baz=257
K63A **Dunstable** 21.17 63 P P 10 52 19.7 -0.5
baz=259
G60A **Masonville** 21.21 56 P P 10 52 19.9 -0.7
baz=252
M64A **Tiverton** 21.22 66 P P 10 52 19.5 -1.2
baz=262
LBNH **Lisbon** 21.24 58 P P 10 52 21.0 0.0
baz=255
H61A **Lyndonville** 21.32 58 P P 10 52 21.5 -0.3
baz=254
MOQ **Mont Orford** 21.33 55 P P 10 52 23.1 +1.2
D58A **Chemin du LacG** 21.55 50 P P 10 52 24.1 -0.2
baz=246,SNR=6.0
LATQ **La Tuque** 21.73 50 P P 10 52 25.7 -0.5
baz=246
F60A **Warwick** 21.74 54 P P 10 52 25.6 -0.7
baz=250,SNR=8.0
G61A **St-Isidore-de-** 21.80 56 P P 10 52 26.7 -0.3
baz=253

H62A	**Milan**	**21.86**	**58**	P		**P**	**10 52 27.4**	**-0.2**
	baz=255							
CHGQ	**Chibougamau**	**21.98**	**42**	P		**P**	**10 52 28.5**	**-0.3**
	baz=238,SNR=9.8							
I63A	**Otisfield**	**22.13**	**59**	P		**P**	**10 52 30.7**	**+0.2**
	baz=257							
E60A	**Ste Agathe de**	**22.20**	**53**	P		**P**	**10 52 31.1**	**-0.2**
	baz=250							
F61A	**St Evariste**	**22.37**	**54**	P		**P**	**10 52 32.4**	**-0.7**
	baz=252							
G62A	**West of Eustis**	**22.46**	**57**	P		**P**	**10 52 33.2**	**-0.9**
	baz=254							
G62A	**West of Eustis**	**22.46**	**57**	P		**P**	**10 52 35.5**	**+1.5**
D60A	**Saint Jean D'O**	**22.73**	**52**	P		**P**	**10 52 36.0**	**-0.8**
	baz=250							
F62A	**Pittston Farm,**	**23.03**	**55**	P		**P**	**10 52 39.6**	**-0.4**
	baz=253,SNR=6.0							
G63A	**Kingsbury**	**23.06**	**57**	P		**P**	**10 52 40.3**	**0.0**
	baz=255							
H64A	**Troy**	**23.22**	**59**	P		**P**	**10 52 41.9**	**0.0**
	baz=257							
D61A	**St Aubert, Com**	**23.30**	**52**	P		**P**	**10 52 42.3**	**-0.5**
	baz=250							
PKME	**Peaks-Kenny Pk**	**23.32**	**57**	P		**P**	**10 52 42.4**	**-0.5**
	baz=255							
PKME	**Peaks-Kenny Pk**	**23.32**	**57**	P		**P**	**10 52 44.2**	**+1.2**
PKME				IAmb	IAmb		10 52 46.9	
	comp=Z,11nm,0.8s							
E62A	**Clayton Lake**	**23.54**	**54**	P		**P**	**10 52 44.6**	**-0.6**
	baz=252							
E62A	**Clayton Lake**	**23.54**	**54**	P		**P**	**10 52 46.0**	**+0.8**
E62A				IAmb	IAmb		10 52 49.1	
	comp=Z,9.0nm,0.8s							
F63A	**Nahmakanta, Br**	**23.56**	**56**	P		**P**	**10 52 45.0**	**-0.4**
	baz=254,SNR=5.4							
F63A	**Nahmakanta, Br**	**23.56**	**56**	P		**P**	**10 52 47.7**	**+2.3**
G64A	**Maxfield**	**23.68**	**57**	P		**P**	**10 52 46.3**	**-0.2**
	baz=256							
H65A	**Eastbrook**	**23.91**	**59**	P		**P**	**10 52 48.5**	**-0.2**
	baz=258							
D62A	**Allapoint, All**	**24.00**	**53**	P		**P**	**10 52 48.7**	**-0.8**
	baz=252							
D62A	**Allapoint, All**	**24.00**	**53**	P		**P**	**10 52 51.1**	**+1.6**
F64A	**Sherman**	**24.11**	**56**	P		**P**	**10 52 49.5**	**-1.2**
	baz=255							
E63A	**Oxbow**	**24.21**	**55**	P		**P**	**10 52 50.8**	**-0.8**
	baz=254							
E63A	**Oxbow**	**24.21**	**55**	P		**P**	**10 52 53.0**	**+1.4**
EMMW	**East Machias**	**24.46**	**59**	P		**P**	**10 52 56.2**	**+2.3**
H66A	**Whiting**	**24.58**	**59**	P		**P**	**10 52 54.8**	**-0.1**
	baz=258							
E64A	**Bridgewater**	**24.61**	**55**	P		**P**	**10 52 55.5**	**+0.3**
	baz=254							
BBB	**Bella Bella**	**27.41**	**317**	LR		LR	11 05 20.2	
	comp=Z,284nm,18.6s,baz=148,slow=39							
JTS	**Las Juntas de**	**27.60**	**153**	LR		LR	11 06 49.9	
	comp=Z,76nm,18.1s,baz=24,slow=42							
SCHQ	**Schefferville**	**28.48**	**38**	P		**P**	**10 53 30.4**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=243,slow=8.2,SNR=7.6							
SCHQ				LR		LR	11 05 01.9	
	comp=Z,254nm,18.6s,baz=354,slow=37							
SCHQ	**Schefferville**	**28.48**	**38**	P		**P**	**10 53 30.9**	**+0.9**
SCHQ				IAmb	IAmb		10 53 31.6	
	comp=Z,7.4nm,1.0s							
YKA	**Yellowknife Ar**	**29.00**	**343**	P		**P**	**10 53 34.8**	**+0.3**
	comp=Z,0.7nm,1.0s,baz=145,slow=8.7,SNR=6.1							
YKA				LR		LR	11 05 40.9	
	comp=Z,227nm,18.8s,baz=0.0,slow=38							
FRB	**Frobisher Bay**	**33.20**	**23**	LR		LR	11 07 58.0	
	comp=Z,73nm,19.6s,baz=222,slow=37							
ROSC	**El Rosal**	**37.25**	**140**	LR		LR	11 13 47.4	
	comp=Z,60nm,18.2s,baz=242,slow=42							
EPYK	**Eagle Plains**	**38.34**	**336**	P		**P**	**10 54 55.2**	**-0.4**
	baz=124							
INK	**Inuvik**	**38.50**	**339**	P		**P**	**10 54 59.1**	**+2.2**
	comp=Z,0.5nm,0.5s,baz=151,slow=4.3,SNR=3.7							
A36M	**Sachs Harbour**	**39.21**	**347**	P		**P**	**10 55 02.6**	**-0.1**
	baz=143							
SFJD	**Kangerlussuaq**	**41.18**	**26**	LR		LR	11 12 39.2	
	comp=Z,93nm,18.6s,baz=242,slow=37							
ILAR	**Eielson Array**	**41.39**	**330**	P		**P**	**10 55 22.6**	**+1.7**
	comp=Z,1.2nm,0.7s,baz=110,slow=7.5,SNR=12							
ILAR				LR		LR	11 13 52.1	
	comp=Z,197nm,19.4s,baz=124,slow=38							
BMAR	**Burnt Mountain**	**41.56**	**335**	P		**P**	**10 55 24.2**	**+1.9**
BORG	**Borgarnes**	**52.55**	**32**	LR		LR	11 17 19.4	
	comp=Z,87nm,19.6s,baz=290,slow=34							
LPAZ	**La Paz**	**58.56**	**147**	LR		LR	11 25 38.2	
	comp=Z,27nm,21.6s,baz=326,slow=39							
NOA	**NORSAR Array B**	**67.65**	**30**	LR		LR	11 28 03.2	
	comp=Z,49nm,18.7s,baz=290,slow=36							
MA2	**Magadan**	**69.86**	**330**	LR		LR	11 32 15.4	
	comp=Z,79nm,19.3s,baz=62,slow=38							
PPT	**Papeete**	**72.42**	**232**	LR		LR	11 24 31.1	
	comp=Z,61nm,18.6s,baz=18,slow=31							
FINES	**FINESS Array B**	**72.98**	**25**	P		**P**	**10 59 04.4**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=302,slow=32,SNR=3.4							
YAK	**Yakutsk**	**75.57**	**339**	LR		LR	11 38 19.8	
	comp=Z,60nm,18.2s,baz=7.5,slow=40							
GERES	**GERESS Array B**	**76.00**	**39**	P		**P**	**10 59 22.7**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=298,slow=2.9,SNR=5.0							
KEST	**Kesra**	**81.56**	**52**	LR		LR	11 33 08.5	
	comp=Z,120nm,21.0s,baz=308,slow=34							
AKASG	**Malin Array Be**	**82.03**	**31**	LR		LR	11 36 22.9	
	comp=Z,38nm,18.1s,baz=0.0,slow=36							
KBZ	**Khabaz**	**93.14**	**28**	LR		LR	11 42 04.6	
	comp=Z,58nm,18.3s,baz=348,slow=35							

IDC 16 10:52:25.0±3.3, 4.74S×100.02E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.5/50, mbtmpb3.6/7, Error ellipse: s-maj=134.1km s-min=22.8km az=55.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**23.08**	**357**	P	P	10 57 32.5	+0.1
	0.3nm,0.3s,baz=172,slow=7.3,SNR=1.8						
H08S2	**Diego Garcia H**	**27.52**	**263**	T	T	11 28 05.8	
	baz=84,slow=75,SNR=100						
H08S3	**Diego Garcia H**	**27.53**	**263**	T	T	11 28 04.6	
	baz=84,slow=75,SNR=137						
H08S1	**Diego Garcia H**	**27.54**	**263**	T	T	11 28 06.6	
	baz=84,slow=75,SNR=45						
H01W3	**Cape Leeuwin H**	**32.72**	**158**	T	T	11 33 52.1	
	baz=337,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**32.73**	**158**	T	T	11 33 52.8	
	baz=337,slow=76,SNR=20						
H01W1	**Cape Leeuwin H**	**32.73**	**158**	T	T	11 33 53.2	
	baz=337,slow=76,SNR=17						
WRA	**Warramunga Arr**	**36.66**	**117**	P	P	10 59 35.0	+1.2
	0.8nm,0.8s,baz=309,slow=9.4,SNR=1.3						
ASAR	**Alice Springs**	**37.68**	**123**	P	P	10 59 41.0	-1.4
	0.7nm,1.1s,baz=218,slow=23,SNR=3.0						
SONM	**Songino Array**	**52.65**	**5**	P	P	11 01 40.5	-0.6
	0.7nm,0.6s,baz=188,slow=8.7,SNR=2.4						
MKAR	**Makanchi Array**	**53.66**	**345**	P	P	11 01 49.0	+0.5
	0.5nm,0.6s,baz=156,slow=9.1,SNR=4.9						
KURBB	**Kurchatov Arra**	**58.17**	**344**	P	P	11 02 20.3	-0.4
	0.1nm,0.5s,baz=169,slow=34,SNR=2.4						
ZALV	**Zalesovo Beam**	**59.85**	**350**	P	P	11 02 32.0	-0.3
	0.8nm,0.5s,baz=28,slow=29,SNR=2.1						
TXAR	**Lajitas Array**	**146.81**	**40**	PKPbc	PKPbc	11 12 09.6	-0.5
	0.4nm,0.6s,baz=213,slow=1.2,SNR=6.1						

*IDC **16** 10:54:55.8±1.1, 28°.35N×57°.06E, h0km, mb3.7/12, mb1 3.9/14, mb1mx3.7/57, mbtmpb3.8/14, ML4.1/2, Error ellipse: s-maj=23.1km s-min=21.1km az=174.0*
*THR **16** 10:54:56.3±0.4, 28°.31N×56°.95E, h17km±5km, ML3.6*
*TEH **16** 10:54:58.8, 28°.39N×57°.20E, h14km, ML4.0*
*DSN **16** 10:55:04.0±1.8, 27°.98N×57°.27E, h10km, ML3.8/10, Error ellipse: s-maj=41.5km s-min=15.2km az=126.0*
*OMAN **16** 10:55:05.5, 28°.11N×57°.40E, h41km, ml3.7/14*

ISC 16 10:54:57.6±0.6, 28°.35N±0°.04×57°.17E±0°.05, h10km, n75, σ2s23/82, mb3.7/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.62**	**130**	*e*Pg	**Pg**	**10 55 11.2**	**+1.5**
GENO	**Geno**	**1.29**	**223**	*e*Pg	**Pn**	**10 55 24.6**	**+2.7**
GENO				*e*		10 55 25.4	
GENO				*e*Sg	**Sn**	**10 55 43.7**	**+4.3**
BNDS	**Bandar-Abbas**	**1.29**	**223**	*e*Pg	Pn	10 55 17.6	-4.3
BNDS				IAML		10 55 47.0	
	comp=N,1μm,0.3s						
NGRK	**Negar Kerman**	**1.35**	**344**	*e*Pg	**Pn**	**10 55 23.1**	**+0.2**
NGRK				*e*		10 55 24.2	
CHMN	**Cheshme madani**	**1.54**	**12**	*e*Pg	**Pn**	**10 55 26.6**	**+1.1**
KRBR	**Kerman**	**1.67**	**348**	*e*Pn	**Pn**	**10 55 27.0**	**-0.2**
KRBR				*e*Sg	**Sn**	**10 55 49.8**	**+0.9**
KRBR				IAML		10 55 52.7	
	comp=N,588nm,0.4s						
KRBR				IAML		10 55 58.7	
	comp=E,710nm,0.5s						
KRBR	**Kerman**	**1.67**	**348**	*e*Pn	**Pn**	**10 55 27.0**	**-0.2**
TVBK	**TV Kerman**	**1.67**	**348**	*e*Pg	**Pn**	**10 55 29.1**	**+1.8**
TVBK				*e*		10 55 30.1	
KHGB	**Koh Gabri**	**2.11**	**344**	*e*Pn	**Pn**	**10 55 35.9**	**+2.7**
KHGB				*e*		10 55 40.7	
SHME	**Shamm**	**2.47**	**202**	*e*P	**Pn**	**10 55 39.5**	**+1.6**
	SNR=68						
SHME				S	**Sn**	**10 56 08.3**	**+0.1**
SHME	**Shamm**	**2.47**	**202**	*e*Pn	**Pn**	**10 55 39.9**	**+1.9**
BANOM	**Banah**	**2.54**	**198**	*e*P	**Pn**	**10 55 40.5**	**+1.6**
	SNR=19						
BANOM	**Banah**	**2.54**	**198**	P	**Pn**	**10 55 40.6**	**+1.7**
	SNR=17						
BANOM				S	**Sn**	**10 56 09.8**	**-0.1**
BANOM	**Banah**	**2.54**	**198**	*e*Pn	**Pn**	**10 55 40.8**	**+1.9**
MSFE	**Esma-Masafi**	**3.11**	**197**	P	**Pn**	**10 55 49.5**	**+2.7**
MSFE	**Esma-Masafi**	**3.11**	**197**	*e*Pn	**Pn**	**10 55 49.5**	**+2.7**
UMQ	**Umm Al-Quwin**	**3.12**	**206**	P	**Pn**	**10 55 50.0**	**+3.2**
UMQ	**Umm Al-Quwin**	**3.12**	**206**	*e*Pn	**Pn**	**10 55 50.1**	**+3.2**
MDH	**Madha**	**3.13**	**195**	P	**Pn**	**10 55 48.2**	**+1.0**
MDH	**Madha**	**3.13**	**195**	P	**Pn**	**10 55 48.4**	**+1.3**
MDH	**Madha**	**3.13**	**195**	*e*Pn	**Pn**	**10 55 48.5**	**+1.3**
ZHSF	**Zahedan**	**3.40**	**67**	*e*Pn	**Pn**	**10 55 53.3**	**+2.4**
ZHSF	**Zahedan**	**3.40**	**67**	*e*Pn	**Pn**	**10 55 53.3**	**+2.4**
UOSS	**Minazif**	**3.50**	**195**	P	**Pn**	**10 55 54.2**	**+2.1**
UOSS	**Minazif**	**3.50**	**195**	P	**Pn**	**10 55 54.4**	**+2.3**
UOSS	**Minazif**	**3.50**	**195**	*e*Pn	**Pn**	**10 55 54.7**	**+2.6**
NAZ	**Nazwa, Dubai**	**3.61**	**202**	P	**Pn**	**10 55 55.4**	**+1.8**
NAZ	**Nazwa, Dubai**	**3.61**	**202**	P	**Pn**	**10 55 57.1**	**+3.4**
NAZ	**Nazwa, Dubai**	**3.61**	**202**	*e*Pn	**Pn**	**10 55 56.7**	**+3.1**
HATD	**Hatta, Dubai**	**3.63**	**195**	P	**Pn**	**10 55 57.1**	**+3.2**
HATD	**Hatta, Dubai**	**3.63**	**195**	*e*Pn	Pn	10 55 59.1	+5.2
IMEH	**Mehriz**	**3.76**	**324**	*e*Pn	**Pn**	**10 55 58.7**	**+2.8**
ASHO	**Ashiyiah**	**3.78**	**196**	*i* P	**Pn**	**10 55 60.0**	**+3.9**
	SNR=7.5						
ASHO	**Ashiyiah**	**3.78**	**196**	P	**Pn**	**10 55 58.4**	**+2.3**
	SNR=8.0						
ASHO	**Ashiyiah**	**3.78**	**196**	*e*Pn	**Pn**	**10 55 59.1**	**+3.0**
NHDN	**Nehbandan**	**3.93**	**39**	*e*Pn	**Pn**	**10 56 00.6**	**+2.4**
BSRN	**Basiran**	**3.98**	**25**	*e*Pn	**Pn**	**10 56 00.7**	**+1.8**
BSRN	**Basiran**	**3.98**	**25**	*e*Pn	**Pn**	**10 56 00.7**	**+1.8**
SOHO	**SOHO**	**4.24**	**188**	*i* P	**Pn**	**10 56 02.7**	**+0.5**
	SNR=6.5						
SOHO	**SOHO**	**4.24**	**188**	P	**Pn**	**10 56 02.8**	**+0.6**
	SNR=6.5						
SOHO	**SOHO**	**4.24**	**188**	*e*Pn	**Pn**	**10 56 05.2**	**+3.0**
AJN	**Ajban**	**4.25**	**208**	*i* P	**Pn**	**10 56 04.5**	**+2.1**
	SNR=19						
AJN	**Ajban**	**4.25**	**208**	P	**Pn**	**10 56 04.8**	**+2.4**
	SNR=19						
AJN				S	**Sn**	**10 56 53.1**	**+1.1**
IKOO	**Kooshah**	**4.36**	**21**	*e*Pn	**Pn**	**10 56 08.4**	**+4.2**
TPRV	**Parvadeh(Tabas**	**4.68**	**355**	*e*Pn	**Pn**	**10 56 12.7**	**+4.2**
HOQ	**Hoqain**	**4.75**	**178**	P	**Pn**	**10 56 09.9**	**+0.6**
	SNR=7.3						
HOQ				S	**Sn**	**10 57 02.5**	**-2.0**
BIDO	**Bidbid**	**4.88**	**170**	P	**Pn**	**10 56 12.1**	**+0.9**
	SNR=6.0						
ARQ	**Araqi**	**5.03**	**187**	P	**Pn**	**10 56 16.0**	**+2.8**
	SNR=47						
WSAR	**Wadi Sarin**	**5.26**	**165**	Pn	**Pn**	**10 56 17.8**	**+1.5**
	comp=E,15nm,0.3s,baz=351,slow=6.6,SNR=119						
WSAR				Sn	**Sn**	**10 57 14.1**	**-2.9**
	comp=E,8.7nm,0.3s,baz=261,slow=20,SNR=9.3						
WSAR	**Wadi Sarin**	**5.26**	**165**	P	**Pn**	**10 56 17.7**	**+1.4**
	SNR=189						
WSAR				S	**Sn**	**10 57 14.8**	**-2.1**
IMQN	**Monand**	**5.29**	**23**	*e*Pn	**Pn**	**10 56 21.2**	**+4.3**
AFRZ	**Afriz**	**5.30**	**17**	*e*Pn	**Pn**	**10 56 21.1**	**+4.0**
SMDO	**Samad**	**5.33**	**171**	P	**Pn**	**10 56 18.9**	**+1.6**
	SNR=7.1						
IRAM	**Ramesheh**	**5.39**	**311**	*e*Pn	**Pn**	**10 56 20.9**	**+2.5**
KLNJ	**Kolanjah**	**5.53**	**300**	*e*Pn	**Pn**	**10 56 23.0**	**+2.6**
BSY	**Bisya**	**5.58**	**180**	P	**Pn**	**10 56 23.4**	**+2.6**
	SNR=7.2						
ANAR	**Anarak**	**5.66**	**329**	*e*Pn	**Pn**	**10 56 24.6**	**+2.6**
WBK	**Wadi Bani Khal**	**5.94**	**164**	P	**Pn**	**10 56 26.7**	**+0.9**
	SNR=31						
IZEF	**Zefreh**	**6.16**	**319**	*e*Pn	**Pn**	**10 56 31.6**	**+2.7**
MHTO	**MHTO**	**7.37**	**174**	P	**Pn**	**10 56 47.2**	**+1.9**
	SNR=11						
MHTO				S	**Sn**	**10 58 07.3**	**-1.6**
SBZV	**Sabzevar**	**8.03**	**3**	*e*Pn	**Pn**	**10 56 57.8**	**+3.3**
ASF	**Jabal al Asfar**	**17.92**	**287**	P	**Pn**	**10 59 07.3**	**+0.2**
	comp=E,0.3nm,0.3s,baz=149,slow=3.4,SNR=3.1						
AKTO	**Aktyubinsk**	**22.07**	**1**	P	**P**	**10 59 53.5**	**+0.9**
	comp=E,2.3nm,0.4s,baz=192,slow=9.7,SNR=11						
BRTR	**Keskin Array B**	**22.49**	**306**	P	**P**	**10 59 57.4**	**-0.1**
	comp=E,2.5nm,0.9s,baz=125,slow=11,SNR=13						
BVAR	**Borovoye Array**	**26.52**	**18**	P	**P**	**11 00 35.4**	**+0.1**
	comp=E,0.9nm,0.7s,baz=206,slow=9.9,SNR=4.9						
MKAR	**Makanchi Array**	**26.94**	**40**	P	**P**	**11 00 39.0**	**-0.1**
	comp=E,0.4nm,0.5s,baz=212,slow=7.0,SNR=4.1						
KURBB	**Kurchatov Arra**	**27.50**	**30**	P	**P**	**11 00 44.7**	**+0.6**
	comp=E,0.1nm,0.3s,baz=229,slow=8.0,SNR=1.7						
AKASG	**Malin Array Be**	**30.72**	**324**	P	**P**	**11 01 10.9**	**-1.7**
	comp=E,0.6nm,0.4s,baz=263,slow=22,SNR=4.1						
ZALV	**Zalesovo Beam**	**32.59**	**31**	P	**P**	**11 01 29.1**	**0.0**
	comp=E,0.9nm,0.3s,baz=230,slow=8.5,SNR=3.3						
GERES	**GERESS Array B**	**38.99**	**314**	P	**P**	**11 02 23.1**	**-1.1**
	comp=E,0.2nm,0.2s,baz=115,slow=9.0,SNR=5.9						
FINES	**FINESS Array B**	**39.02**	**337**	P	**P**	**11 02 23.2**	**-0.9**
	comp=E,1.0nm,0.5s,baz=122,slow=7.2,SNR=6.3						
KHC	**Kasperske Hory**	**39.15**	**314**	*e*P	**P**	**11 02 24.5**	**-1.0**
TORD	**Torodi Ar. Bea**	**53.60**	**266**	P	**P**	**11 04 17.4**	**-2.0**
	comp=E,0.7nm,0.4s,baz=61,slow=6.8,SNR=4.7						
YKA	**Yellowknife Ar**	**89.24**	**356**	P	**P**	**11 07 52.5**	**-1.0**
	comp=E,0.4nm,0.7s,baz=0.9,slow=5.2,SNR=2.5						
ASAR	**Alice Springs**	**90.18**	**117**	P	**P**	**11 07 58.5**	**-0.1**
	comp=E,0.2nm,0.9s,baz=302,slow=4.4,SNR=1.3						

*IDC **16** 11:12:16.3±2.9, 17°.31S×173°.17W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.8/33, mbtmpb3.8/6, MS3.4/2, Ms1 3.4/2, ms1mx3.0/30, Error ellipse: s-maj=199.3km s-min=24.5km az=147.0*
*NEIC **16** 11:12:17.1±1.2, 16°.77S±0°.03×173°.3W±0°.1, h10km±1km, mb4.2/8, Error ellipse: s-maj=18.1km s-min=5.8km az=92.0*

ISC 16 11:12:18.5±0.8, 16°.6S±0°.2×173°.4W±0°.2, h10km, n21, σ1s72/16, mb3.8/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.13**	**30**		**Pn**	**11 13 07.1**	**-0.8**
AFI				Sn	**Sn**	**11 13 43.2**	**-2.3**
NIUE	**Niue**	**4.10**	**127**		Pn	11 13 16.5	-4.8
NIUE				Sn	Sn	11 13 54.9	-14
DZM	**Mont Dzumac**	**19.77**	**251**	Pn	**P**	**11 16 49.8**	**+0.8**
BKZ	**Black Stump Fm**	**24.12**	**200**	P	**P**	**11 17 32.0**	**-2.6**
BKZ				IAmb	IAmb	11 17 34.1	
	comp=Z,28nm,1.4s						
HNR	**Honiara**	**26.91**	**282**	LR	LR	11 27 17.2	
	comp=Z,80nm,20.5s,baz=116,slow=33						
STKA	**Stephens Creek**	**43.43**	**241**	P	P	11 20 19.9	-1.9
	comp=Z,0.4nm,0.3s,baz=119,slow=13,SNR=1.3						
STKA	**Stephens Creek**	**43.43**	**241**	P	P	11 20 20.1	-1.7
STKA				IAmb	IAmb	11 20 28.4	
	comp=Z,1.4nm,1.2s						
BBOO	**Buckleboo**	**48.20**	**241**	P	**P**	**11 20 58.8**	**-0.8**
WB2	**Warramunga Arr**	**49.56**	**258**	P	**P**	**11 21 09.2**	**-1.0**
WRA	**Warramunga Arr**	**49.58**	**258**	P	**P**	**11 21 09.2**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=96,slow=7.5,SNR=2.2						
AS31	**Alice Springs**	**49.74**	**253**	P	**P**	**11 21 10.7**	**-0.7**
AS31				IAmb	IAmb	11 21 12.0	
	comp=Z,1.5nm,0.7s						
ASAR	**Alice Springs**	**49.74**	**253**	P	**P**	**11 21 11.2**	**-0.3**
	comp=Z,4.2nm,0.6s,baz=88,slow=8.7,SNR=76						
ASAR	**Alice Springs**	**49.74**	**253**	P	**P**	**11 21 10.8**	**-0.6**
QSPA	**South Pole Qui**	**73.42**	**180**	P	**P**	**11 23 50.6**	**-0.2**
QSPA				IAmb	IAmb	11 23 55.1	
	comp=Z,1.0nm,0.9s						
YBH	**Yreka Blue Hor**	**74.58**	**37**	LR	LR	11 50 43.2	
	comp=Z,22nm,18.6s,baz=228,slow=31						
NVAR	**Mina Array Bea**	**75.24**	**42**	P	**P**	**11 24 03.4**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=253,slow=4.5,SNR=2.4						
PDAR	**Pinedale Array**	**83.18**	**42**	P	**P**	**11 24 46.6**	**+1.3**
	comp=Z,0.2nm,0.6s,baz=43,slow=55,SNR=2.7						
YKA	**Yellowknife Ar**	**91.22**	**23**	P	**P**	**11 25 24.9**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=230,slow=4.8,SNR=3.8						
SNAA	**Sanae**	**91.68**	**177**	P	P	11 25 25.1	-0.8
SNAA				IAmb	IAmb	11 25 36.0	
	comp=Z,4.4nm,1.5s						
BRTR	**Keskin Array B**	**147.10**	**320**	PKPbc	**PKPdf**	**11 32 04.0**	**+3.8**
	comp=Z,0.2nm,0.4s,baz=63,slow=2.5,SNR=2.6						
BRTR	**Keskin Array B**	**147.10**	**320**		**PKPdf**	**11 32 01.2**	**+1.1**

IDC 16 11:22:09.6±1.4, 36°.78N×33°.09W, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.5/40, mbtmpb3.6/5, MS3.4/4, Ms1 3.4/4, ms1mx2.9/32, Error ellipse: s-maj=76.8km s-min=28.8km az=34.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**28.87**	**10**	LR	LR	11 36 10.5	
	comp=Z,39nm,21.1s,baz=185,slow=29						
SCHQ	**Schefferville**	**29.25**	**319**	LR	LR	11 38 36.3	
	comp=Z,104nm,21.3s,baz=110,slow=34						
TORD	**Torodi Ar. Bea**	**39.01**	**118**	P	P	11 29 37.7	-0.3
	0.6nm,0.8s,baz=303,slow=6.7,SNR=3.6						
TORD				LR	LR	11 43 40.1	
	comp=Z,57nm,19.8s,baz=330,slow=33						
DBIC	**Dimbokro**	**39.52**	**132**	LR	LR	11 44 51.9	
	comp=Z,71nm,18.8s,baz=7.0,slow=34						
YKA	**Yellowknife Ar**	**54.33**	**326**	P	P	11 31 36.0	-1.5
	0.3nm,0.7s,baz=78,slow=7.0,SNR=7.7						
TXAR	**Lajitas Array**	**58.42**	**285**	P	P	11 32 07.5	+0.2
	1.1nm,0.8s,baz=86,slow=8.0,SNR=3.5						
NVAR	**Mina Array Bea**	**65.06**	**300**	P	P	11 32 52.1	0.0
	0.4nm,0.8s,baz=89,slow=7.4,SNR=1.7						
ILAR	**Eielson Array**	**66.43**	**335**	P	P	11 33 01.6	+1.3
	0.6nm,1.1s,baz=47,slow=2.9,SNR=4.3						

*ISK **16** 11:24:24.6, 40°.33N×25°.70E, h8km, ML2.5/16*
*ATH **16** 11:24:24.4, 40°.34N×25°.71E, h24km±2km, ML2.3/11, Error ellipse: s-maj=2.2km s-min=1.0km az=342.0*
*THE **16** 11:24:25.3, 40°.34N×25°.75E, h11km±1km, ML2.2/9, Error ellipse: s-maj=1.2km s-min=0.5km az=73.0*
*DDA **16** 11:24:26.8, 40°.29N×25°.89E, h8km±2km, ML2.6*

ISC 16 11:24:25.2±0.8, 40°.34N±0°.02×25°.73E±0°.02, h15km±5km, n50, σ0s51/80, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.20**	**138**	P	**Pg**	**11 24 29.6**	**-0.2**
GADA				S	**Sg**	**11 24 32.7**	**-0.1**
	1μm,0.2s						
GADA	**Gvkgeada**	**0.20**	**138**	PG	**Pg**	**11 24 29.7**	**-0.1**
GADA				SG	**Sg**	**11 24 32.8**	**-0.1**
GOKA	**anakkale-Gk**	**0.20**	**137**	*i* P	**Pg**	**11 24 29.9**	**0.0**
GOKA				IAML		11 24 33.0	
	comp=N,4μm,0.5s						
GOKA				IAML		11 24 33.0	
	comp=E,3μm,0.2s						
GOKA				*i* S	**Sg**	**11 24 33.2**	**+0.2**
SMTH	**Samothraki Isl**	**0.20**	**312**	P	**Pg**	**11 24 29.8**	**-0.2**
SMTH				S	**Sg**	**11 24 33.1**	**-0.1**
	comp=E,2μm,0.1s						
SMTH	**Samothraki Isl**	**0.20**	**312**	P	**Pg**	**11 24 29.9**	**-0.1**
SMTH				S	**Sg**	**11 24 33.1**	**-0.1**
SMTH				AML	AML	11 24 33.5	
	comp=E,2861μm,0.1s						
SMTH				AML	AML	11 24 33.5	
	comp=N,5124μm,0.1s						
ENEZ	**Enez**	**0.51**	**39**	P	**Pg**	**11 24 35.2**	**-0.2**
ENEZ				S	**Sb**	**11 24 43.0**	**-0.2**
	comp=N,

KDZ	**Kurdzhali**	**1.33**	**350**	PN	**Pn**	**11 24 50.0**	**+0.7**
OUR	**Ouranopolis**	**1.34**	**270**	P	**Pn**	**11 24 48.8**	**-0.5**
OUR				AML	AML	11 25 10.7	
	comp=N,163μm,0.3s						
OUR				AML	AML	11 25 19.6	
	comp=E,149μm,0.3s						
MRMT	**Marmara Adasi**	**1.45**	**79**	PN	**Pn**	**11 24 51.4**	**+0.5**
DKL	**Dikili**	**1.56**	**144**	PN	**Pn**	**11 24 53.3**	**+1.0**
BALY	**Balya**	**1.57**	**112**	*i* P	**Pg**	**11 24 55.0**	**-0.4**
BALY				*i* S	**Sb**	**11 25 14.0**	**+0.4**
EDC	**Edincik**	**1.63**	**89**	PN	**Pb**	**11 24 54.5**	**-0.5**
EDRB	**Edirne**	**1.69**	**27**	PN	**Pb**	**11 24 55.6**	**-0.5**
ZEDA	**zmir-Bergama**	**1.72**	**142**	*i* P	**Pb**	**11 24 56.0**	**-0.5**
ZEDA				*i* S	**Sg**	**11 25 19.3**	**-1.3**
ZEDA				IAML		11 25 21.0	
	comp=N,61nm,0.4s						
KIRK	**Kırklareli**	**1.78**	**35**	*i* P	**Pb**	**11 24 57.5**	**0.0**
KIRK				*i* S	**Sn**	**11 25 18.6**	**+0.9**
KIRK				IAML		11 25 22.0	
	comp=N,48nm,1.7s						
SRS	**Serrai**	**1.80**	**296**	P	**Pn**	**11 24 55.6**	**-0.2**
SRS				AML	AML	11 25 25.4	
	comp=E,101μm,0.5s						
SRS				AML	AML	11 25 28.9	
	comp=N,48μm,0.3s						
CHOS	**Chios island**	**1.96**	**173**	P	**Pn**	**11 24 58.5**	**+0.5**
CHOS	**Chios island**	**1.96**	**173**	PN	**Pn**	**11 24 58.5**	**+0.5**
URLA	**Izmir**	**2.08**	**161**	PN	**Pn**	**11 25 00.5**	**+0.9**
XOR	**Xorichti**	**2.18**	**244**	P	**Pn**	**11 25 00.1**	**-0.8**
DURS	**Dursunbey**	**2.23**	**108**	*i* P	**Pg**	**11 25 07.5**	**-0.6**
DURS				*i* S	**Sg**	**11 25 35.2**	**-1.8**
KNT	**Kendrikon**	**2.30**	**292**	P	**Pn**	**11 25 02.8**	**+0.1**
KNT				AML	AML	11 25 41.5	
	comp=E,40μm,0.6s						
KNT				AML	AML	11 25 41.6	
	comp=N,58μm,0.5s						

SKHL ***16*** *11:24:54.8±0.7, 45°.21N×153°.50E, h45km±5km, mb4.3/2*
JMA ***16*** *11:24:54.0±0.8, 46°.43N×153°.07E, h30km, M3.9*
IDC ***16*** *11:24:57.7±3.3, 46°.28N×152°.88E, h49km±30km, mb3.3/5, mb1 3.5/7, mb1mx3.2/39, mbtmp3.5/7, ML3.2/2, Error ellipse: s-maj=38.4km s-min=23.8km az=144.0*

ISC 16 11:24:57.5±1.4, 45°.3N±0°.2×153°.30E±0°.10, h35km, n24, σ1§26/28, mb3.5/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.84**	**271**	*i* P	**Pn**	**11 25 53.8**	**-0.2**
KUR				AMB	AMB	11 25 54.0	
	20nm,0.3s						
KUR				*e*S	**Sn**	**11 26 38.6**	**+0.7**
KUR				A	A	11 26 40.0	
	70nm,0.3s						
KUR				A	A	11 26 40.0	
	30nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.46**	**259**	*e*P	**Pn**	**11 26 16.6**	**+0.3**
YUK				AMB	AMB	11 26 18.4	
	20nm,0.4s						
YUK				*e*S	**Sn**	**11 27 17.8**	**0.0**
LAGR	**Lagunnoye**	**5.51**	**259**	*e*S	**Sn**	**11 27 19.4**	**+0.4**
GRPR	**Tuman**	**5.53**	**259**	*e*P	**Pn**	**11 26 17.6**	**+0.3**
GRPR				*e*S	**Sn**	**11 27 19.1**	**-0.6**
NEM2	**Nemuro 2**	**5.76**	**253**	P	**Pn**	**11 26 20.1**	**-0.4**
NEM2				*e*S	**Sn**	**11 27 24.3**	**-1.0**
NMR	**Nemuro--Hokkai**	**5.77**	**253**	*i* P	**Pn**	**11 26 20.4**	**-0.2**
NMR				*i* S	**Sn**	**11 27 24.9**	**-0.6**
JRA	**Rausu**	**6.00**	**260**	P	**Pn**	**11 26 25.3**	**+1.6**
JNK	**Nakash**	**6.38**	**257**	P	**Pn**	**11 26 29.5**	**+0.5**
JAK	**Akkeshi**	**6.61**	**253**	P	**Pn**	**11 26 32.0**	**-0.1**
JAK				*e*S	**Sn**	**11 27 44.9**	**-1.3**
JTKR	**Abashiri--Toko**	**6.84**	**262**	P	**Pn**	**11 26 35.8**	**+0.6**
JAR	**Ashorobuto**	**7.13**	**257**	P	**Pn**	**11 26 40.2**	**+0.9**
JAR				*e*S	**Sn**	**11 27 59.5**	**+0.5**
JMP	**Maruseppu**	**7.21**	**263**	P	**Pn**	**11 26 41.7**	**+1.3**
JCH	**Churui**	**7.66**	**253**	P	**Pn**	**11 26 46.7**	**+0.1**
JKK2	**Kamakawa 2**	**7.67**	**263**	P	**Pn**	**11 26 47.6**	**+0.9**
ASAJ	**Asahikawa**	**7.72**	**265**	P	**Pn**	**11 26 47.5**	**+0.2**
	0.7nm,0.3s,baz=67,slow=6.1,SNR=7.4						
PETK	**Petropavlovsk-**	**8.31**	**19**	P	Pn	11 26 43.0	-12
	0.4nm,0.3s,baz=181,slow=13,SNR=7.7						
JKB	**Kayabe**	**9.54**	**253**	P	**Pn**	**11 27 11.6**	**-0.6**
JKB				*e*S	**Sn**	**11 28 54.3**	**-3.8**
JYM2	**Yakumo 2**	**9.89**	**256**	P	**Pn**	**11 27 17.4**	**+0.3**
JOSM	**Okushiri--Mats**	**10.52**	**257**	P	**Pn**	**11 27 25.2**	**-0.5**
MKAR	**Makanchi Array**	**47.73**	**299**	P	P	11 33 22.3	-8.4
	0.6nm,0.7s,baz=68,slow=8.0,SNR=4.8						
YKA	**Yellowknife Ar**	**52.00**	**36**	P	P	11 33 57.4	-5.4
	0.1nm,0.6s,baz=292,slow=6.6,SNR=3.6						
ASAR	**Alice Springs**	**70.89**	**199**	P	**P**	**11 36 13.8**	**+2.9**
	0.5nm,0.9s,baz=16,slow=7.7,SNR=1.2						
AKASG	**Malin Array Be**	**72.81**	**327**	P	P	11 36 16.1	-6.1
	1.4nm,0.5s,baz=38,slow=5.7,SNR=5.9						
TXAR	**Lajitas Array**	**78.08**	**60**	P	**P**	**11 36 50.7**	**-2.2**
	0.3nm,0.6s,baz=297,slow=4.5,SNR=5.0						

IDC ***16*** *11:38:34.9±4.6, 68°.39N×162°.56W, h0km, mb3.1/2, mb1 3.9/3, mb1mx3.4/44, mbtmp3.5/3, ML4.0/1, Error ellipse: s-maj=78.0km s-min=56.7km az=36.0*
AEIC ***16*** *11:38:37.4±1.2, 67°.68N±0°.08×162°.3W±0°.1, h12km±8km, ML2.8/21, Error ellipse: s-maj=11.1km s-min=6.4km az=183.0*
NEIC ***16*** *11:38:39.0±1.3, 67°.70N±0°.05×162°.4W±0°.2, h24km±8km, Error ellipse: s-maj=11.1km s-min=6.2km az=105.0*

ISC 16 11:38:37.7±0.9, 67°.67N±0°.06×162°.24W±0°.06, h10km, n28, σ0§84/33, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**0.46**	**327**		**Pg**	**11 38 46.2**	**-0.5**
RDOG					**Sg**	**11 38 52.8**	**0.0**
ANM	**Nome**	**3.37**	**204**		**Pn**	**11 39 30.4**	**+0.2**
ANM					**Sn**	**11 40 10.0**	**-0.1**
IM03		**3.76**	**113**		**Pn**	**11 39 35.9**	**+0.3**
IMAR	**Indian Mountai**	**3.76**	**113**	Pn	**Pn**	**11 39 35.7**	**+0.1**
TOLK	**Toolik Lake Re**	**4.83**	**73**		**Pn**	**11 39 51.2**	**+0.8**
TOLK					**Sn**	**11 40 46.4**	**+0.1**
TTA	**Tatalina**	**5.42**	**148**		**Pn**	**11 39 59.0**	**+0.4**
TT01	**Tatalina**	**5.45**	**148**		**Pn**	**11 39 59.3**	**+0.5**
BPAW	**Bear Paw Mtn.**	**5.84**	**123**		**Pn**	**11 40 05.1**	**+0.9**
NEA	**Nenana**	**6.18**	**114**		**Pn**	**11 40 09.6**	**+0.8**
MDM	**Murphy Dome**	**6.26**	**109**	Pn	**Pn**	**11 40 11.5**	**+1.5**
COLA	**College**	**6.45**	**109**		**Pn**	**11 40 13.6**	**+1.2**
TRF	**Thorofare Moun**	**6.51**	**125**	Pn	**Pn**	**11 40 14.7**	**+1.1**
WRH	**Wood River Hil**	**6.58**	**112**		**Pn**	**11 40 15.2**	**+0.8**
CCB	**Clear Creek Bu**	**6.59**	**111**		**Pn**	**11 40 15.1**	**+0.7**
BM03	**Burnt Mountain**	**6.76**	**84**		**Pn**	**11 40 17.6**	**+0.9**
BMAR	**Burnt Mountain**	**6.76**	**84**	Pn	**Pn**	**11 40 17.4**	**+0.5**
IL31		**6.85**	**108**		**Pn**	**11 40 18.7**	**+0.7**
ILAR	**Eielson Array**	**6.85**	**108**	Pn	**Pn**	**11 40 18.8**	**+0.7**
	2.4nm,0.3s,baz=302,slow=14,SNR=126						
ILAR					Sn	**Sn**	**11 41 33.6**	**-2.3**
	0.2nm,0.3s,baz=309,slow=28,SNR=1.5						
ILAR	**Eielson Array**	**6.85**	**108**	Pn	**Pn**	**11 40 18.1**	**+0.1**
ILAR					**Sn**	**11 41 35.5**	**-0.4**
RND	**Reindeer**	**7.00**	**121**	Pn	**Pn**	**11 40 20.4**	**+0.2**
HDA	**Harding Lake**	**7.03**	**111**		**Pn**	**11 40 20.8**	**+0.4**
SVW2	**Sparrevohn**	**7.20**	**153**		**Pn**	**11 40 23.2**	**+0.4**
DHY	**Denali Highway**	**7.72**	**120**	Pn	**Pn**	**11 40 31.3**	**+1.2**
RIDG	**Independent Ri**	**8.17**	**111**	Pn	**Pn**	**11 40 36.7**	**+0.5**
DOT	**Dot Lake**	**8.50**	**110**	Pn	**Pn**	**11 40 41.2**	**+0.5**
BC03		**9.68**	**109**		**Pn**	**11 40 57.9**	**+1.2**
YKA	**Yellowknife Ar**	**20.28**	**82**	P	**P**	**11 43 12.2**	**-0.7**
	0.4nm,0.7s,baz=304,slow=11,SNR=6.1						
TXAR	**Lajitas Array**	**51.36**	**107**	P	**P**	**11 47 42.7**	**+0.6**
	0.3nm,0.6s,baz=343,slow=6.7,SNR=5.7						

IDC ***16*** *11:46:11.7±7.5, 1°.46S×99°.20E, h0km, mb4.0/3, mb1 4.0/3, mb1mx3.6/36, mbtmp4.0/3, Error ellipse: s-maj=412.4km s-min=29.1km az=56.0*
DJA ***16*** *11:46:20.5±0.5, 1°.5S×10°.0E±°, h19km±6km, M3.9/13, mb4.3/2, MLv3.7/13*

ISC 16 11:46:20.7±1.0, 1°.09S±0°.06×99°.76E±0°.04, h57km, n16, σ2§19/15, mb4.1/3, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.70**	**251**	P	**Pn**	**11 46 34.2**	**-0.7**
SISI				S	**Sn**	**11 46 44.4**	**-0.8**
PDSI	**Padang**	**0.73**	**76**	P	**Pn**	**11 46 35.6**	**+0.4**
PDSI				S	**Sn**	**11 46 46.5**	**+0.7**
PPSI	**Pulau Pagai**	**1.68**	**171**	P	**Pn**	**11 46 48.9**	**+1.1**
SDSI	**Sungai Dareh**	**1.68**	**85**	P	**Pn**	**11 46 49.3**	**+1.5**
SDSI				S	**Sn**	**11 47 01.6**	**-6.7**
PBSI	**Pulau Batu**	**1.80**	**305**	P	**Pn**	**11 46 50.4**	**+1.0**
MNSI	**Mandailing Nat**	**1.88**	**355**	P	**Pn**	**11 46 50.7**	**+0.1**
BKNI	**Bangkinang**	**1.91**	**42**	P	**Pn**	**11 46 52.7**	**+1.8**
KRJI	**Kerinci**	**1.97**	**120**	P	**Pn**	**11 46 53.5**	**+1.6**
GSI	**Gunungsitoli**	**3.23**	**318**	P	**Pn**	**11 47 09.8**	**+0.8**
H08S2	**Diego Garcia H**	**27.94**	**256**	T	T	12 20 15.3	
	baz=77,slow=76,SNR=10						
H08S3	**Diego Garcia H**	**27.94**	**256**	T	T	12 20 02.8	
	baz=77,slow=76,SNR=10						
H08S1	**Diego Carcia H**	**27.95**	**256**	T	T	12 20 13.4	
	baz=77,slow=76,SNR=6.6						
ASAR	**Alice Springs**	**39.98**	**127**	P	**P**	**11 53 50.5**	**+0.3**
	1.1nm,0.8s,baz=309,slow=7.8,SNR=4.6						
MKAR	**Makanchi Array**	**50.09**	**344**	P	**P**	**11 55 10.3**	**+0.3**
	0.5nm,0.3s,baz=151,slow=8.7,SNR=16						
ZALV	**Zalesovo Beam**	**56.24**	**349**	P	**P**	**11 55 55.4**	**+0.4**
	1.3nm,0.4s,baz=174,slow=4.5,SNR=8.2						
TXAR	**Lajitas Array**	**144.13**	**36**	PKP	PKPbc	12 05 50.0	+1.0
	0.3nm,0.6s,baz=297,slow=0.6,SNR=4.6						

IDC 16 11:48:16.7±2.2, 8°.62S×128°.35E, h0km, mb3.4/1, mb1 4.0/5, mb1mx3.6/34, mbtmp3.8/5, ML3.9/4, MS2.9/2, Ms1 2.9/2, ms1mx2.6/23, Error ellipse: s-maj=50.1km s-min=29.5km az=71.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**4.89**	**251**	P	**Pn**	**11 49 33.0**	**+1.5**
	5.9nm,0.3s,baz=77,slow=22,SNR=2.3						
BATI					Sn	Sn	11 50 21.3	-7.6
	7.7nm,0.3s,baz=172,slow=22,SNR=1.9						
SIJI	**Sorong**	**8.22**	**21**	LR	LR	11 53 53.1	
	comp=Z,49nm,20.4s,baz=38,slow=41						
FITZ	**Fitzroy Crossi**	**9.79**	**195**	Pn	Pn	11 50 38.2	-0.6
	0.5nm,0.3s,baz=12,slow=9.7,SNR=14						
FITZ					Sn	Sn	11 52 23.2	-6.3
	1.6nm,0.3s,baz=125,slow=24,SNR=6.5						
WRA	**Warramunga Arr**	**12.66**	**153**	Pn	Pn	11 51 18.6	+0.3
	0.9nm,0.3s,baz=322,slow=13,SNR=17						
WRA					Sn	Sn	11 53 36.0	-4.2
	1.0nm,0.3s,baz=333,slow=22,SNR=5.9						
JAY	**Jayapura**	**13.70**	**64**	LR	LR	11 57 32.4	
	comp=Z,63nm,18.4s,baz=176,slow=41						
ASAR	**Alice Springs**	**15.88**	**161**	Pn	Pn	11 52 02.0	+0.2
	0.3nm,0.3s,baz=336,slow=9.9,SNR=19						
ASAR					Sn	Sn	11 54 54.6	-4.1
	0.3nm,0.3s,baz=343,slow=25,SNR=6.6						
MKAR	**Makanchi Array**	**68.70**	**328**	P	P	11 59 21.8	-0.3
	0.2nm,0.6s,baz=135,slow=6.9,SNR=2.1						

IDC ***16*** *12:00:30.0±0.8, 68°.16N×162°.33W, h0km, mb3.7/9, mb1 4.1/12, mb1mx3.8/53, mbtmp3.9/12, ML4.0/3, Error ellipse: s-maj=29.1km s-min=14.9km az=23.0*
AEIC ***16*** *12:00:30.1±1.9, 67°.68N±0°.08×162°.3W±0°.1, h15km±4km, ML3.4/31, Error ellipse: s-maj=11.4km s-min=6.4km az=159.0*
NEIC ***16*** *12:00:31.1±1.7, 67°.69N±0°.07×162°.3W±0°.1, h9km±4km, Error ellipse: s-maj=10.8km s-min=5.8km az=157.0*

ISC 16 12:00:31.1±0.5, 67°.79N±0°.08×162°.25W±0°.06, h10km, n63, σ1§04/64, mb3.9/9, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**0.36**	**318**	Pg	**Pb**	**12 00 39.4**	**-0.2**
ANM	**Nome**	**3.48**	**203**	Pn	**Pn**	**12 01 23.3**	**-1.8**
IM03		**3.81**	**114**		**Pn**	**12 01 28.9**	**-0.8**
IMAR	**Indian Mountai**	**3.81**	**114**	Pn	**Pn**	**12 01 28.4**	**-1.3**
TOLK	**Toolik Lake Re**	**4.80**	**74**	Pn	**Pn**	**12 01 44.5**	**+1.1**
PS06	**TAPS Pump Stn6**	**5.31**	**106**		**Pn**	**12 01 49.9**	**-0.4**
PS01	**TAPS Pump Stn**	**5.49**	**57**		**Pn**	**12 01 54.3**	**+1.6**
TTA	**Tatalina**	**5.53**	**149**	Pn	**Pn**	**12 01 52.0**	**-1.4**
TT01	**Tatalina**	**5.55**	**149**		**Pn**	**12 01 52.2**	**-1.4**
GAMB	**Gambell**	**5.59**	**228**		**Pn**	**12 01 56.4**	**+2.2**
BPAW	**Bear Paw Mtn.**	**5.91**	**123**		**Pn**	**12 01 57.9**	**-0.6**
NEA	**Nenana**	**6.23**	**115**		**Pn**	**12 02 02.5**	**-0.4**
MDM	**Murphy Dome**	**6.31**	**110**		**Pn**	**12 02 04.2**	**+0.2**
PPLA	**Purkeypile**	**6.46**	**135**		**Pn**	**12 02 05.6**	**-0.6**
TCOL	**CIGO, UAF Yank**	**6.49**	**110**		**Pn**	**12 02 06.5**	**+0.1**
COLA	**College**	**6.49**	**110**		**Pn**	**12 02 06.5**	**+0.1**
POKR	**Poker Plat Res**	**6.51**	**107**		**Pn**	**12 02 06.1**	**-0.7**
CCB	**Clear Creek Bu**	**6.63**	**112**		**Pn**	**12 02 07.9**	**-0.5**
WRH	**Wood River Hil**	**6.63**	**113**		**Pn**	**12 02 08.0**	**-0.5**
WRH	**Wood River Hil**	**6.63**	**113**		**Pn**	**12 02 08.5**	**+0.1**
FYU	**Fort Yukon**	**6.73**	**93**	Pn	**Pn**	**12 02 10.2**	**+0.5**
BM03	**Burnt Mountain**	**6.75**	**85**		**Pn**	**12 02 10.9**	**+0.8**
BMAR	**Burnt Mountain**	**6.76**	**85**	Pn	**Pn**	**12 02 10.3**	**+0.1**
MCK	**McKinley**	**6.82**	**120**		**Pn**	**12 02 10.4**	**-0.7**
IL31		**6.89**	**109**		**Pn**	**12 02 11.3**	**-0.7**
ILAR	**Eielson Array**	**6.89**	**109**	Pn	**Pn**	**12 02 11.6**	**-0.4**
	8.1nm,0.3s,baz=303,slow=14,SNR=439						
ILAR	**Eielson Array**	**6.89**	**109**	Pn	**Pn**	**12 02 10.1**	**-1.9**
PRP	**Porcupine Dome**	**7.02**	**101**		**Pn**	**12 02 13.1**	**-0.9**
PS08	**TAPS Pump Stn8**	**7.04**	**110**		**Pn**	**12 02 13.4**	**-0.6**
RND	**Reindeer**	**7.07**	**122**		**Pn**	**12 02 12.9**	**-1.6**
HDA	**Harding Lake**	**7.07**	**111**	Pn	**Pn**	**12 02 14.4**	**-0.1**
SVW2	**Sparrevohn**	**7.30**	**154**		**Pn**	**12 02 17.3**	**-0.4**
SPNN	**North Nagishla**	**7.63**	**143**		**Pn**	**12 02 22.1**	**-0.2**
RSO	**Redoubt South**	**8.43**	**146**		**Pn**	**12 02 34.0**	**+0.6**
EGAK	**Eagle**	**9.00**	**100**	Pn	**Pn**	**12 02 41.0**	**+0.1**
BCAR	**Beaver Creek A**	**9.72**	**109**	Pn	**Pn**	**12 02 49.5**	**-1.3**
EPYK	**Eagle Plains**	**10.03**	**86**	Pn	**Pn**	**12 02 55.4**	**+0.4**
INK	**Inuvik**	**10.72**	**74**	Pn	**Pn**	**12 03 03.6**	**-0.7**
	0.7nm,0.3s,baz=316,slow=6.2,SNR=21						
KDAK	**Kodiak Island**	**10.95**	**152**	Pn	**Pn**	**12 03 09.4**	**+1.8**
	0.2nm,0.3s,baz=7.8,slow=10.0,SNR=5.9						
KDAK	**Kodiak Island**	**10.95**	**152**	Pn	**Pn**	**12 03 07.8**	**+0.2**
OHAK	**Old Harbor**	**11.37**	**155**	Pn	**Pn**	**12 03 13.2**	**0.0**
BILL	**Bilibino**	**11.78**	**286**		**Pn**	**12 03 18.9**	**0.0**
CNBA	**Chernabura Isl**	**13.07**	**173**	Pn	**Pn**	**12 03 35.7**	**-0.9**
YKA	**Yellowknife Ar**	**20.27**	**82**	P	**P**	**12 05 06.2**	**0.0**
	2.5nm,0.7s,baz=303,slow=9.9,SNR=19						
RES	**Resolute Bay**	**21.48**	**42**	P	**P**	**12 05 16.4**	**-2.8**
	3.0nm,1.1s,baz=329,slow=12,SNR=1.0						
PEA0B	**Petropavlovsk-**	**24.02**	**252**	P	**P**	**12 05 47.2**	**+1.5**
PDAR	**Pinedale Array**	**37.30**	**105**	P	**P**	**12 07 44.2**	**+1.0**
	0.5nm,0.5s,baz=343,slow=7.3,SNR=5.7						
NVAR	**Mina Array Bea**	**38.05**	**118**	P	**P**	**12 07 50.7**	**+1.2**
	0.7nm,0.8s,baz=326,slow=5.7,SNR=6.1						
KSRS	**Korea Array**	**48.36**	**268**	P	**P**	**12 09 13.2**	**+0.7**
	0.6nm,0.6s,baz=17,slow=7.4,SNR=2.9						
ZAA0	**Zalesovo Array**	**48.82**	**314**	P	**P**	**12 09 17.4**	**+1.5**
ZALV	**Zalesovo Beam**	**48.82**	**314**	P	**P**	**12 09 15.6**	**-0.3**
	1.0nm,0.6s,baz=46,slow=8.5,SNR=4.7						
TX31	**Lajitas Ar. Si**	**51.40**	**108**	P	**P**	**12 09 36.0**	**+0.1**
TX32	**Lajitas Array**	**51.40**	**108**	P	**P**	**12 09 36.3**	**+0.4**
TXAR	**Lajitas Array**	**51.40**	**108**	P	**P**	**12 09 36.2**	**+0.3**
	1.3nm,0.6s,baz=336,slow=5.5,SNR=23						
TXAR	**Lajitas Array**	**51.40**	**108**	P	**P**	**12 09 36.0**	**+0.1**
KURK	**Kurchatov**	**53.40**	**316**	P	**P**	**12 09 52.0**	**+1.7**
MKAR	**Makanchi Array**	**55.96**	**312**	P	**P**	**12 10 08.7**	**-0.3**
	0.9nm,1.0s,baz=25,slow=5.2,SNR=4.2						
WMQ	**Urumqi**	**57.06**	**306**	*e*P	**P**	**12 10 18.1**	**+1.2**
WMQ				LR	LR		
	comp=N,3μm,14.1s						
WMQ				LR	LR		
	comp=E,3μm,16.1s						
WMQ				LR	LR		
	comp=Z,4μm,19.1s						
LZH	**Lanzhou**	**58.57**	**289**	*e*P	**P**	**12 10 26.3**	**-1.4**
LZH				pP	pP	12 10 31.3	+0.3
LZH				sP	sP	12 10 33.8	+1.6
LZH				*e*PP	**PP**	**12 12 37.5**	**+0.6**
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
LZH				pmax	pmax		
	comp=Z,79nm,5.5s						
ABKAR	**Akbulak array**	**59.06**	**329**	P	**P**	**12 10 31.2**	**+0.5**
KDJ	**Kajisay**	**61.69**	**313**	P	**P**	**12 10 49.8**	**+0.8**
CMAR	**Chiang Mai Arr**	**76.36**	**285**	P	**P**	**12 12 18.1**	**-2.1**
	comp=Z,0.6nm,0.4s,baz=2.5,slow=7.6,SNR=4.2						
QSPA	**South Pole Qui**	**157.61**	**180**		**PKPab**	**12 20 59.2**	**+1.2**

BJI ***16*** *12:01:05.5±0.0, 67°.70N×162°.30W, h10km, mB5.6/68, mb5.3/76, Ms6.1/80, Ms7 5.8/77*

MOS ***16*** *12:01:06.5±0.9, 67°.72N×162°.19W, h10km, mb5.6/116, MS5.2/86, Error ellipse: s-maj=9.9km s-min=3.5km az=95.3*
IDC ***16*** *12:01:07.1±0.3, 67°.78N×162°.21W, h0km, mb5.2/42, mb1 5.3/44, mb1mx5.2/51, mbtmp5.2/44, ML4.8/2, MS5.2/36, Ms1 5.2/36, ms1mx5.1/43, Error ellipse: s-maj=11.3km s-min=7.8km az=4.0*
NEIC ***16*** *12:01:08.3, 67°.71N×162°.33W, h6km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=2.26; Mθθ=2.00; Mφφ=0.27; Mrθ=1.26; Mθφ=-1.65; Mrφ=0.47; Fault plane solution: M₀3.02000×10¹⁷ NP1:φs277.89000°, δ58.85000°, λ-119.63000°. NP2:φs145.60000°, δ41.93000°, λ-50.72000°. Principal axes: T 3.1296, Plg9.0000°, Azm29.0000°; N -0.2341, Plg25.0000°, Azm294.0000°; P -2.8955, Plg63.0000°, Azm137.0000°;*
AEIC ***16*** *12:01:08±3.2, 67°.70N±0°.04×162°.6W±0°.1, h24km±2km Error ellipse: s-maj=7.0km s-min=5.4km az=109.0*
UNK ***16*** *12:01:08.0, 67°.70N×162°.61W, h24km*
NEIC ***16*** *12:01:08.3±1.8, 67°.69N±0°.05×162°.3W±0°.1, h10km±1km, mb5.6/608, Ms_20 5.4/681, Mwb5.6/80, Mww5.7, ML5.7/54(AEIC), Mwc5.7(GCMT), Error ellipse: s-maj=9.3km s-min=6.9km az=2.0*
GCMT ***16*** *12:01:10.3±0.1, 67°.84N±0°.01×162°.16W±0°.02, h12km, MW5.7/156, Moment Tensor Solution. s146,c263; s156,c338; Duration: 167 Moment tensor: Scale 10¹⁷ Nm; Mrr=3.47±.05; Mθθ=2.90±.04; Mφφ=0.57±.04; Mrθ=0.60±.10; Mφθ=-2.20±.03; Mrφ=1.45±.11; Best double couple: M₀4.20600×10¹⁷ NP1:φs279.00000°, δ48.00000°, λ-124.00000°. NP2:φs143.00000°, δ52.00000°, λ-58.00000°. Principal axes: T 4.2330, Plg2.0000°, Azm212.0000°; N -0.0500, Plg24.0000°, Azm302.0000°; P -4.1800, Plg66.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***16*** *12:01:11, 67°.82N×162°.35W, h16km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=3.34; Mθθ=2.43; Mφφ=0.91; Mrθ=0.73; Mθφ=-2.08; Mrφ=1.86; Fault plane solution: M₀4.16000×10¹⁷ NP1:φs287.00000°, δ35.00000°, λ-118.00000°. NP2:φs141.00000°, δ60.00000°, λ-71.00000°. Principal axes: T 4.2617, Plg13.0000°, Azm218.0000°; N -0.2168, Plg16.0000°, Azm312.0000°; P -4.0448, Plg69.0000°, Azm91.0000°;*
NEIC ***16*** *12:01:11, 67°.82N×162°.10W, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=3.50; Mθθ=2.86; Mφφ=0.63; Mrθ=0.00; Mθφ=-2.32; Mrφ=1.92; Fault plane solution: M₀4.41000×10¹⁷ NP1:φs279.00000°, δ43.00000°, λ-127.00000°. NP2:φs145.00000°, δ57.00000°, λ-61.00000°. Principal axes: T 4.4624, Plg8.0000°, Azm215.0000°; N -0.0981, Plg24.0000°, Azm308.0000°; P -4.3643, Plg65.0000°, Azm108.0000°;*
BGR ***16*** *12:01:19.1±0.0, 69°.37N×163°.76W, h10km, mb5.2, Ms4.9*

ISC 16 12:01:08.7±0.4, 67°.70N±0°.03×162°.15W±0°.03, h12km±2km, h11km:pP-P, n1828, σ1§40/1579, mb5.5/487, MS5.4/458, 52C-35D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**0.46**	**322**		**Sg**	**12 01 23.4**	**-0.6**
RDOG					**Pg**	**12 01 16.4**	**-1.4**
ANM	**Nome**	**3.41**	**204**	P	**Pn**	**12 01 59.7**	**-1.9**
ANM	**Nome**	**3.41**	**204**		**Sn**	**12 02 38.0**	**-3.9**
ANM	**Nome**	**3.41**	**204**	Pn	**Pn**	**12 01 59.7**	**-1.9**
IMAR	**Indian Mountai**	**3.74**	**113**	Pn	**Pn**	**12 02 05.8**	**-0.4**
IM01	**Indian Mountai**	**3.74**	**113**		**Pn**	**12 02 06.0**	**-0.2**
PS05	**TAPS Pump Stn5**	**4.55**	**96**		**Pn**	**12 02 17.6**	**+0.3**
PS05					**Sn**	**12 03 11.5**	**+1.6**
TOLK	**Toolik Lake Re**	**4.79**	**73**	P	**Pn**	**12 02 20.9**	**+0.2**
	baz=265						
TOLK				S	**Sn**	**12 03 15.1**	**-0.9**
	baz=265						
TOLK	**Toolik Lake Re**	**4.79**	**73**

BCAR	**Beaver Creek A**	**9.65**	**109**	Pn	**Pn**	**12 03 27.3**	**0.0**		
FID	**Port Fidalgo**	**9.72**	**128**		**Pn**	**12 03 29.5**	**+1.2**		
EPYK	**Eagle Plains**	**9.99**	**86**	P	**Pn**	**12 03 32.0**	**0.0**		
	baz=289								
EPYK	**Eagle Plains**	**9.99**	**86**	Pn	**Pn**	**12 03 32.0**	**0.0**		
HIN	**Hinchinbrook I**	**10.00**	**130**	Pn	**Pn**	**12 03 33.8**	**+1.8**		
GLB	**Gilahina Butte**	**10.04**	**120**	Pn	**Pn**	**12 03 33.5**	**+0.9**		
EYAK	**Cordova Ski Ar**	**10.10**	**127**	Pn	**Pn**	**12 03 33.8**	**+0.4**		
VRDI	**Verde Repeater**	**10.31**	**120**	Pn	**Pn**	**12 03 37.0**	**+0.5**		
INK	**Inuvik**	**10.70**	**74**	Pn	**Pn**	**12 03 39.8**	**-1.8**		
	19nm,0.3s,baz=292,slow=11,SNR=81								
INK				Sn	**Sn**	**12 05 35.5**	**-5.6**		
	23nm,0.3s,baz=148,slow=21,SNR=9.7								
INK				Lg	Lg	12 06 47.2			
	baz=92,slow=10.0,SNR=0.9								
INK				LR	LR	12 08 30.3			
	comp=Z,21μm,19.3s,baz=258,slow=41								
BALM	**Baldy**	**10.82**	**119**	P	**Pn**	**12 03 44.6**	**+1.2**		
BALM	**Baldy**	**10.82**	**119**		**Pn**	**12 03 44.6**	**+1.2**		
MID	**Middleton Isla**	**10.84**	**132**	P	**Pn**	**12 03 45.4**	**+1.9**		
MID	**Middleton Isla**	**10.84**	**132**	Pn	**Pn**	**12 03 45.4**	**+1.9**		
KDAK	**Kodiak Island**	**10.85**	**152**	Pn	**Pn**	**12 03 45.0**	**+1.4**		
	5.8nm,0.3s,baz=20,slow=7.0,SNR=66								
KDAK				Lg	Lg	12 06 41.7			
	baz=151,slow=22,SNR=2.4								
KDAK				LR	LR	12 07 35.2			
	comp=Z,17μm,20.4s,baz=354,slow=36								
KDAK	**Kodiak Island**	**10.85**	**152**	P	**Pn**	**12 03 44.8**	**+1.1**		
KDAK	**Kodiak Island**	**10.85**	**152**	Pn	**Pn**	**12 03 44.8**	**+1.1**		
BARN	**Barnard Glacie**	**11.04**	**117**		**Pn**	**12 03 47.8**	**+1.4**		
SPIA	**Saint Paul Isl**	**11.19**	**203**	Pn	**Pn**	**12 03 47.8**	**-0.5**		
OHAK	**Old Harbor**	**11.26**	**155**	Pn	**Pn**	**12 03 49.7**	**+0.4**		
CHGN	**Chignik**	**11.56**	**170**	Pn	**Pn**	**12 03 53.5**	**+0.1**		
BILL	**Bilibino**	**11.84**	**286**	*e*P	**Pn**	**12 03 55.1**	**-2.1**		
BILL				pmax	pmax				
	comp=Z,179nm,1.3s								
BILL				MLR	MLR				
	comp=Z,34μm,13.0s								
BILL	**Bilibino**	**11.84**	**286**	Pn	**Pn**	**12 03 54.9**	**-2.2**		
SDPT	**Sand Point**	**12.41**	**176**	Pn	**Pn**	**12 04 05.1**	**+0.1**		
CNBA	**Chernabura Isl**	**12.98**	**173**	Pn	**Pn**	**12 04 13.1**	**+0.4**		
A36M	**Sachs Harbour**	**13.25**	**55**	P	**Pn**	**12 04 13.7**	**-2.6**		
	baz=270,SNR=209								
SKAG	**Skagway**	**14.39**	**112**	Pn	**Pn**	**12 04 31.3**	**-0.6**		
JIS	**Juneau Island**	**15.59**	**114**	IAmb	IAmb	12 04 57.4			
	comp=Z,708nm,1.9s								
SIT	**Sitka**	**16.21**	**118**	IAmb	IAmb	12 05 05.2			
	comp=Z,460nm,1.1s								
ATKA	**Atka Island**	**16.61**	**207**	P	**Pn**	**12 05 02.3**	**+1.2**		
ATKA				IAmb	IAmb	12 05 10.3			
	comp=Z,892nm,1.6s								
DLBC	**Dease Lake**	**17.03**	**107**	P	**Pn**	**12 05 06.1**	**-0.4**		
	comp=Z,0.7nm,0.3s,baz=315,slow=9.9,SNR=21								
DLBC				Lg	Lg	12 09 56.0			
	comp=Z,0.1nm,0.3s,baz=49,slow=21,SNR=3.9								
DLBC				LR	LR	12 12 01.7			
	comp=Z,17μm,18.1s,baz=321,slow=38								
ADK	**Adak**	**17.38**	**211**	P	**P**	**12 05 12.1**	**0.0**		
ADK				pmax	pmax				
	comp=Z,272nm,1.3s								
ADK	**Adak**	**17.38**	**211**	P	**P**	**12 05 12.1**	**0.0**		
WRAK	**Wrangell Islan**	**17.73**	**115**	IAmb	IAmb	12 05 22.7			
	comp=Z,441nm,1.3s								
SMY	**Shemya**	**18.88**	**229**	IAmb	IAmb	12 05 36.6			
	comp=Z,517nm,1.3s								
YKA	**Yellowknife Ar**	**20.24**	**82**	P	**P**	**12 05 43.0**	**-0.3**		
	comp=Z,89nm,0.7s,baz=335,slow=21,SNR=125								
YKA				S	**S**	**12 09 29.3**	**-0.5**		
	comp=Z,21nm,0.8s,baz=313,slow=22,SNR=4.5								
YKA				Lg	Lg	12 11 48.4			
	comp=Z,9.5nm,0.9s,baz=128,slow=46,SNR=1.1								
YKA	**Yellowknife Ar**	**20.24**	**82**	P	**P**	**12 05 43.0**	**-0.3**		
RES	**Resolute Bay**	**21.52**	**42**	P	**P**	**12 05 57.2**	**+0.1**		
	comp=Z,38nm,0.8s,baz=276,slow=13,SNR=18								
RES				S	**S**	**12 09 49.8**	**-5.3**		
	comp=Z,128nm,0.9s,baz=217,slow=20,SNR=9.3								
RES				LR	LR	12 15 40.0			
	comp=Z,6μm,21.9s,baz=281,slow=41								
RES	**Resolute Bay**	**21.52**	**42**	P	**P**	**12 05 56.4**	**-0.7**		
MA2	**Magadan**	**21.89**	**271**	LR	LR	12 14 52.4			
	comp=Z,11μm,19.3s,baz=56,slow=38								
MA2	**Magadan**	**21.89**	**271**	*ce*P	**P**	**12 06 00.6**	**-0.6**		
MA2				pmax	pmax				
	comp=Z,255nm,1.3s								
MA2				MLR	MLR				
	comp=Z,10μm,16.0s								
MA2	**Magadan**	**21.89**	**271**	P	**P**	**12 06 01.1**	**0.0**		
MA2				IAmb	IAmb	12 06 07.8			
	comp=Z,247nm,1.1s								
MA2				IAMs_20	IAMs_20	12 14 30.9			
	comp=Z,13μm,19.0s								
BBB	**Bella Bella**	**22.62**	**116**	P	**P**	**12 06 09.6**	**+0.6**		
	comp=Z,49nm,0.9s,baz=316,slow=9.5,SNR=13								
BBB				Lg	Lg	12 13 00.1			
	comp=Z,14nm,1.2s,baz=255,slow=22,SNR=1.6								
BBB				LR	LR	12 15 46.5			
	comp=Z,10μm,18.0s,baz=330,slow=39								
BBB	**Bella Bella**	**22.62**	**116**	IAmb	IAmb	12 06 16.5			
	comp=Z,404nm,1.4s								
TIXI	**Tiksi**	**23.07**	**311**	P	**P**	**12 06 13.9**	**+0.3**		
	comp=Z,30nm,0.8s,baz=77,slow=11,SNR=37								
TIXI				PcP	**PcP**	**12 10 01.9**	**0.0**		
	comp=Z,14nm,0.8s,baz=128,slow=3.2,SNR=5.1								
TIXI	**Tiksi**	**23.07**	**311**	*ce*P	**P**	**12 06 11.8**	**-1.7**		
TIXI				pmax	pmax				
	comp=Z,33nm,1.0s								
TIXI				MLR	MLR				
	comp=Z,10μm,15.0s								
TIXI	**Tiksi**	**23.07**	**311**	P	**P**	**12 06 11.8**	**-1.7**		
TIXI				IAmb	IAmb	12 06 51.8			
	comp=Z,238nm,1.6s								
PET	**Petropavlovsk**	**23.75**	**251**	α *i*P	**P**	**12 06 20.9**	**+0.4**		
PET				*e*S	**S**	**12 10 29.2**	**-6.1**		
PET						12 11 36.0			
PET				pmax	pmax				
	comp=Z,147nm,1.2s								
PET				pmax	pmax				
	comp=Z,1μm,10.8s								
PET				MLR	MLR				
	comp=Z,4μm,15.0s								
PET				MLR	MLR				
	comp=Z,4μm,15.0s								
PET	**Petropavlovsk**	**23.75**	**251**	P	**P**	**12 06 18.9**	**-1.5**		
PEA0B	**Petropavlovsk-**	**24.03**	**253**	*ce*P	**P**	**12 06 23.5**	**+0.3**		
PEA0B	**Petropavlovsk-**	**24.03**	**253**	P	**P**	**12 06 23.1**	**-0.1**		
PETK	**Petropavlovsk-**	**24.03**	**253**	P	**P**	**12 06 23.8**	**+0.6**		
	comp=Z,144nm,1.1s,baz=68,slow=7.6,SNR=60								
PETK				PcP	**PcP**	**12 10 05.9**	**+1.6**		
	comp=Z,6.4nm,0.8s,baz=108,slow=4.8,SNR=4.5								
PETK				LR	LR	12 16 17.1			
	comp=Z,6μm,18.6s,baz=42,slow=38								
PETK	**Petropavlovsk-**	**24.03**	**253**	P	**P**	**12 06 22.4**	**-0.8**		
LLLB	**Lillooet**	**26.11**	**111**	IAmb	IAmb	12 06 51.0			
	comp=Z,124nm,1.1s								
SKR	**Severo-Kuril's**	**26.58**	**251**	*e*P	**P**	**12 06 45.0**	**-1.2**		
SKR				*e*PPP	PPP	12 07 26.0			
SKR				*e*S	**S**	**12 11 20.3**	**+0.1**		
SKR				pmax	pmax				
	comp=Z,130nm,0.9s								
SKR				pmax	pmax				
	comp=Z,700nm,5.9s								
SKR				pmax	pmax				
	comp=Z,400nm,7.6s								
SKR				MLR	MLR				
	comp=Z,3μm,17.0s								
TULEG	**Thule**	**26.70**	**31**	IAmb	IAmb	12 07 41.1			
	comp=Z,109nm,1.0s								
A04D	**Lummi Island**	**27.40**	**114**	P	**P**	**12 06 52.1**	**-1.6**		
	baz=328,SNR=12								
J45C	**J45C**	**27.57**	**123**	P	**P**	**12 06 59.3**	**+4.5**		
J45C				PP	**PnPn**	**12 07 42.2**	**+2.5**		
J45C				S	**S**	**12 11 30.0**	**-5.2**		
J45C				SS	SnSn	12 13 06.5	+21		
B05A	**Bryant**	**28.00**	**114**	P	**P**	**12 06 59.4**	**+0.3**		
	baz=328,SNR=21								
YAK	**Yakutsk**	**28.11**	**292**	P	**P**	**12 06 58.7**	**-1.2**		
	comp=Z,15nm,0.4s,baz=232,slow=3.6,SNR=8.5								
YAK				PcP	**PcP**	**12 10 13.8**	**+0.3**		
	comp=Z,22nm,0.7s,baz=358,slow=1.5,SNR=2.3								
YAK	**Yakutsk**	**28.11**	**292**	*e*P	**P**	**12 06 59.4**	**-0.5**		
YAK				*e**PP	**pP**	**12 07 03.7**	**+0.2**		
YAK				*e*PPP	PPP	12 08 01.8			
YAK				*e*		12 10 12.7			
YAK				*e*S	**S**	**12 11 46.3**	**+2.1**		
YAK				*e*SS	**SnSn**	**12 13 01.7**	**+2.4**		
YAK				*e*SSS	SSS	12 13 31.4			
YAK				pmax	pmax				
	comp=Z,24nm,1.1s								
YAK				pmax	pmax				
	comp=N,11nm,1.1s								
YAK				pmax	pmax				
	comp=E,11nm,1.3s								
YAK				smax	smax				
	comp=N,164nm,2.8s								
YAK				smax	smax				
	comp=E,123nm,2.7s								
YAK				MLR	MLR				
	comp=Z,2μm,16.0s								
YAK				MLR	MLR				
	comp=N,3μm,17.0s								
YAK				MLR	MLR				
	comp=E,2μm,16.0s								
YAK	**Yakutsk**	**28.11**	**292**	P	**P**	**12 06 58.8**	**-1.1**		
YAK				IAmb	IAmb	12 07 12.1			
	comp=Z,53nm,0.7s								
NLWA	**Neilton Lookou**	**28.14**	**117**	IAmb	IAmb	12 07 07.3			
	comp=Z,222nm,1.8s								
NLWA				IAMs_20	IAMs_20	12 18 39.6			
	comp=Z,7μm,19.0s								
D03D	**Eldon**	**28.29**	**116**	P	**P**	**12 07 01.2**	**-0.4**		
	baz=329,SNR=12								
D04E	**Lakebay**	**28.70**	**116**	P	**P**	**12 07 04.3**	**-1.0**		
	baz=330								
C06D	**Leavenworth**	**28.72**	**113**	P	**P**	**12 07 05.7**	**+0.2**		
	baz=328								
J29C	**J29C**	**28.74**	**124**	P	**P**	**12 07 06.5**	**+1.3**		
J29C				PP	**PnPn**	**12 07 58.1**	**+2.4**		
J29C				S	S	12 12 06.2	+13		
B08A	**Colville Reser**	**28.90**	**110**	P	**P**	**12 07 07.5**	**+0.4**		
E04D	**Cinebar**	**29.31**	**116**	P	**P**	**12 07 10.6**	**-0.1**		
	baz=330,SNR=17								
LTY	**Liberty**	**29.36**	**113**	IAMs_20	IAMs_20	12 19 46.9			
	comp=Z,8μm,19.0s								
LON	**Longmire**	**29.41**	**115**	IAmb	IAmb	12 07 18.7			
	comp=Z,214nm,1.9s								
F04D	**Rainier, OR**	**29.57**	**117**	P	**P**	**12 07 13.4**	**+0.3**		
	baz=331								
C09A	**Chrisman Ranch**	**29.75**	**110**	IAmb	IAmb	12 07 20.6			
	comp=Z,104nm,1.4s								
C09A				IAMs_20	IAMs_20	12 20 35.1			
	comp=Z,7μm,19.0s								
NOR	**Nord**	**29.77**	**10**	*i* P	**P**	**12 07 14.5**	**0.0**		
	comp=Z,61nm,1.3s								
	comp=Z,7μm,16.0s								
NOR	**Nord**	**29.77**	**10**	*i* P	**P**	**12 07 14.5**	**0.0**		
NOR				pmax	pmax				
	comp=Z,61nm,1.3s								
NOR				MLR	MLR				
	comp=Z,7μm,16.0s								
NEW	**Newport**	**29.78**	**108**	P	**P**	**12 07 14.7**	**-0.2**		
	baz=327,SNR=19								
NEW	**Newport**	**29.78**	**108**	P	**P**	**12 07 14.4**	**-0.5**		
	comp=Z,16nm,1.0s,baz=323,slow=6.4,SNR=18								
NEW				PcP	**PcP**	**12 10 18.8**	**+0.8**		
	comp=Z,10nm,0.9s,baz=343,slow=4.1,SNR=3.6								
NEW				Lg	Lg	12 16 39.3			
	comp=Z,1.4nm,0.7s,baz=358,slow=11,SNR=3.6								
NEW				LR	LR	12 18 44.3			
	comp=Z,1μm,18.8s,baz=320,slow=35								
F04A	**Amboy**	**29.91**	**117**	IAmb	IAmb	12 07 22.1			
	comp=Z,92nm,1.0s								
F04A				IAMs_20	IAMs_20	12 20 47.2			
	comp=Z,6μm,18.0s								
D08A	**Wollman Farm,**	**30.16**	**111**	IAmb	IAmb	12 07 24.1			
	comp=Z,72nm,1.0s								
D08A				IAMs_20	IAMs_20	12 19 00.9			
	comp=Z,6μm,19.0s								
KULLO	**Kullorsuaq**	**30.20**	**31**	*i* P	**P**	**12 07 18.4**	**+0.1**		
	comp=Z,88nm,1.1s								
	comp=Z,4μm,18.0s								
KULLO	**Kullorsuaq**	**30.20**	**31**	*i* P	**P**	**12 07 18.4**	**+0.1**		
KULLO				pmax	pmax				
	comp=Z,88nm,1.1s								
KULLO				MLR	MLR				
	comp=Z,4μm,18.0s								
G03D	**McMinnville, O**	**30.25**	**118**	P	**P**	**12 07 18.2**	**-0.8**		
	baz=332								
E07A	**Sunnyside**	**30.25**	**113**	P	**P**	**12 07 18.9**	**-0.2**		
E07A				IAmb	IAmb	12 07 25.1			
	comp=Z,87nm,1.0s								
E07A				IAMs_20	IAMs_20	12 19 34.4			
	comp=Z,8μm,18.0s								
F05D	**White Salmon**	**30.28**	**115**	P	**P**	**12 07 19.9**	**+0.6**		
	baz=330,SNR=14								
WALA	**Waterton Lakes**	**30.30**	**103**	IAmb	IAmb	12 07 25.2			
	comp=Z,127nm,1.1s								
WALA				IAMs_20	IAMs_20	12 18 40.6			
	comp=Z,6μm,19.0s								
FFC	**Flin Flon**	**30.34**	**85**	P	**P**	**12 07 18.8**	**-0.9**		
FFC				pmax	pmax				
	comp=Z,114nm,1.3s								
FFC				MLR	MLR				
	comp=Z,5μm,19.0s								
FFC	**Flin Flon**	**30.34**	**85**	P	**P**	**12 07 18.8**	**-0.9**		
FFC				IAmb	IAmb	12 07 25.6			
	comp=Z,114nm,1.2s								
NKL	**Nikolayevsk**	**30.41**	**270**	*e*P	**P**	**12 07 20.0**	**-0.3**		
NKL				*e*S	**S**	**12 12 20.9**	**+0.5**		
NKL				pmax	pmax				
	comp=Z,51nm,1.2s								
NKL				smax	smax				
	comp=E,3.0nm,3.2s								
NKL				smax	smax				
	comp=N,4.0nm,2.2s								
HAWA	**Hanford**	**30.51**	**113**	P	**P**	**12 07 20.8**	**-0.5**		
HAWA				IAMs_20	IAMs_20	12 19 43.2			
	comp=Z,8μm,18.0s								
E08A	**Dider Farm, El**	**30.59**	**112**	IAmb	IAmb	12 07 28.0			
	comp=Z,106nm,1.1s								
E08A				IAMs_20	IAMs_20	12 21 03.3			
	comp=Z,7μm,18.0s								
F07A	**Phinny Hill Vi**	**30.80**	**114**	IAmb	IAmb	12 07 30.5			
	comp=Z,129nm,1.3s								
F07A				IAMs_20	IAMs_20	12 19 08.9			
	comp=Z,6μm,21.0s								
G05D	**Wamic, OR**	**30.89**	**116**	P	**P**	**12 07 25.3**	**+0.6**		
	baz=331,SNR=17								
E09A	**Wood Farm, Sta**	**30.90**	**111**	IAmb	IAmb	12 07 30.0			
	comp=Z,58nm,1.0s								
E09A				IAMs_20	IAMs_20	12 20 59.3			
	comp=Z,10μm,19.0s								
H04D	**Lebanon**	**31.03**	**118**	P	**P**	**12 07 25.8**	**-0.1**		
	baz=332								
I02D	**Swisshome**	**31.03**	**120**	P	**P**	**12 07 26.7**	**+0.7**		
	baz=333								
H04A	**Detroit Lake**	**31.08**	**117**	IAmb	IAmb	12 07 32.9			
	comp=Z,85nm,1.3s								
H04A				IAMs_20	IAMs_20	12 20 16.3			
	comp=Z,6μm,18.0s								
G06A	**Carlson Farm,**	**31.13**	**115**	IAmb	IAmb	12 07 32.7			
	comp=Z,95nm,1.3s								
G06A				IAMs_20	IAMs_20	12 21 08.5			
	comp=Z,7μm,18.0s								
TYV	**Tymovskoe**	**31.45**	**266**	*e*P	**P**	**12 07 29.3**	**-0.3**		
TYV				*e*S	**S**	**12 12 39.5**	**+2.6**		
TYV				pmax	pmax				
	comp=Z,37nm,1.0s								
TYV				pmax	pmax				
	comp=Z,400nm,4.3s								
TYV				smax	smax				
	comp=E,9.0nm,1.3s								
TYV				smax	smax				
	comp=N,400nm,4.4s								
TYV				MLR	MLR				
	comp=Z,5μm,16.0s								
I03D	**Drain, OR**	**31.56**	**120**	P	**P**	**12 07 30.7**	**+0.1**		
	baz=333								
I05D	**Terrebonne, OR**	**31.67**	**117**	P	**P**	**12 07 32.0**	**+0.3**		
	baz=332,SNR=25								
F10A	**Beach Ranch, E**	**31.69**	**110**	IAMs_20	IAMs_20	12 21 34.3			
	comp=Z,9μm,18.0s								
I04A	**Tendick Farm,**	**31.79**	**119**	P	**P**	**12 07 32.5**	**-0.2**		
	baz=332,SNR=20								
J01E	**Myrtle Point**	**31.85**	**121**	P	**P**	**12 07 34.4**	**+1.3**		
	baz=333								
MSO	**Missoula**	**32.15**	**106**	P	**P**	**12 07 35.3**	**-0.6**		
	baz=328,SNR=43								
MSO	**Missoula**	**32.15**	**106**	P	**P**	**12 07 35.2**	**-0.7**		
MSO				IAMs_20	IAMs_20	12 20 38.6			
	comp=Z,6μm,18.0s								
K02D	**Willamette Mer**	**32.35**	**121**	P	**P**	**12 07 38.4**	**+0.7**		
	baz=334,SNR=24								
J04D	**Umpqua Nationa**	**32.38**	**119**	P	**P**	**12 07 38.5**	**+0.4**		
	baz=333,SNR=12								
I07A	**Izee**	**32.53**	**115**	IAmb	IAmb	12 07 45.9			
	comp=Z,66nm,1.1s								
BMO	**Blue Mountains**	**32.63**	**112**	IAMs_20	IAMs_20	12 22 07.1			
	comp=Z,7μm,18.0s								
J05D	**Fort Rock, OR**	**32.64**	**118**	P	**P**	**12 07 41.0**	**+0.8**		
	baz=332,SNR=37								
EGMT	**Eagleton**	**32.71**	**100**	P	**P**	**12 07 40.3**	**-0.4**		
	baz=326,SNR=31								
EGMT	**Eagleton**	**32.71**	**100**	IAmb	IAmb	12 07 47.7			
	comp=Z,54nm,0.9s								
K04D	**Chiloquin, OR**	**33.05**	**119**	P	**P**	**12 07 43.6**	**-0.2**		
	baz=333								
L04D	**Klamath Falls**	**33.23**	**120**	P	**P**	**12 07 44.4**	**-1.0**		
	baz=333,SNR=21								
KRMB	**Red Mountain**	**33.33**	**122**	P	**P**	**12 07 47.9**	**+1.7**		
KRMB				IAmb	IAmb	12 07 54.9			
	comp=Z,84nm,1.4s								
J08A	**Circle Bar Ran**	**33.52**	**114**	IAmb	IAmb	12 07 51.5			
	comp=Z,93nm,1.4s								
KBS	**Kingsbay**	**33.55**	**2**	*i* P	**P**	**12 07 47.5**	**-0.1**		
KBS				pmax	pmax				
	comp=Z,60nm,0.8s								
KBS	**Kingsbay**	**33.55**	**2**	P	**P**	**12 07 48.3**	**+0.6**		
KBS				IAmb	IAmb	12 07 57.5			
	comp=Z,83nm,0.9s								
KBS	**Kingsbay**	**33.55**	**2**	*e*P	**P**	**12 07 49.1**	**+1.4**		
M04C	**Macdoel**	**33.77**	**120**	P	**P**	**12 07 50.6**	**+0.5**		
	baz=334,SNR=14								
M02C	**Callahan**	**33.79**	**121**	P	**P**	**12 07 51.2**	**+1.0**		
	baz=334,SNR=19								
DLMT	**Dillon**	**33.89**	**106**	IAmb	IAmb	12 07 57.0			
	comp=Z,58nm,0.9s								
GRNR	**Gornyy**	**33.91**	**271** ⇓	*i* P	**P**	**12 07 50.3**	**-0.8**		
GRNR				*e*		12 09 03.2			
GRNR				*e*S	**S**	**12 13 16.7**	**+1.6**		
GRNR				*e*SS	**SS**	**12 15 46.0**	**+4.8**		
GRNR				pmax	pmax				
	comp=N,20nm,0.7s								
GRNR				pmax	pmax				
	comp=E,8.0nm,0.7s								
GRNR				pmax	pmax				
	comp=Z,40nm,0.9s								
GRNR				smax	smax				
	comp=N,3.0nm,1.0s								
GRNR				MLR	MLR				
	comp=E,2μm,14.0s								
GRNR				MLR	MLR				
	comp=Z,6μm,16.0s								
KHMM	**Horse Mountain**	**33.97**	**123**	IAmb	IAmb	12 07 59.4			
	comp=Z,86nm,1.4s								
DAG	**Danmarks Havn**	**34.03**	**14**	*i* P	**P**	**12 07 51.1**	**-0.7**		
	comp=Z,70nm,1.2s								
	comp=Z,5μm,14.0s								
DAG	**Danmarks Havn**	**34.03**	**14**	*i* P	**P**	**12 07 51.1**	**-0.7**		
DAG				pmax	pmax				
	comp=Z,70nm,1.2s								
DAG				MLR	MLR				
	comp=Z,5μm,14.0s								
BOZ	**Bozeman (W)**	**34.05**	**105**	P	**P**	**12 07 52.8**	**+0.3**		
	baz=328,SNR=158								
BOZ	**Bozeman (W)**	**34.05**	**105**	IAmb	IAmb	12 07 58.9			
	comp=Z,117nm,1.0s								
KUR	**Kuril'sk**	**34.16**	**255**	*c i* P	**P**	**12 07 55.1**	**+1.8**		
KUR				*e*S	**S**	**12 13 24.1**	**+5.1**		
KUR				pmax	pmax				
	comp=Z,161nm,1.2s								
KUR				MLR	MLR				
	comp=Z,3μm,15.0s								
KUR				MLR	MLR				
	comp=N,3μm,16.0s								
KUR				MLR	MLR				
	comp=E,1μm,13.0s								
MOD	**Modoc Plateau**	**34.18**	**118**	P	**P**	**12 07 54.0**	**+0.3**		
N02D	**Trinity Center**	**34.21**	**121**	P	**P**	**12 07 53.8**	**-0.1**		
	baz=334,SNR=34								
WVOR	**Wild Horse Val**	**34.28**	**115**	P	**P**	**12 07 55.8**	**+1.3**		
WVOR	**Wild Horse Val**	**34.28**	**115**	IAmb	IAmb	12 08 01.6			
	comp=Z,128nm,1.3s								
SPA0	**Spitsbergen Ar**	**34.34**	**1**	P	**P**	**12 07 54.6**	**+0.1**		
SPA0				IAmb	IAmb	12 08 00.1			
	comp=Z,84nm,1.2s								
SPA0	**Spitsbergen Ar**	**34.34**	**1**	*e*P	**P**	**12 07 55.0**	**+0.4**		
SPITS	**Spitsbergen Ar**	**34.34**	**1**	P	**P**	**12 07 55.2**	**+0.7**		
SPITS				pmax	pmax				
	comp=Z,2.0nm,0.3s								
DGMT	**Dagmar**	**34.44**	**94**	P	**P**	**12 07 55.7**	**0.0**		
	baz=325,SNR=20								
DGMT	**Dagmar**	**34.44**	**94**	IAMs_20	IAMs_20	12 21 42.2			
	comp=Z,7μm,18.0s								
KMRM	**Mail Ridge**	**34.57**	**123**	IAmb	IAmb	12 08 04.5			
	comp=Z,81nm,1.1s								
YSS	**Yuzh-Sakhalins**	**34.62**	**261** ⇑	*e*P	**P**	**12 07 57.1**	**-0.1**		
YSS				*e**SP		13 08 02.1			
YSS				pmax	pmax				
	comp=Z,800nm,5.3s								
YSS				pmax	pmax				
	comp=Z,30nm,1.3s								
YSS				pmax	pmax				
	comp=N,20nm,0.9s								
YSS				pmax	pmax				
	comp=E,20nm,1.1s								
YSS				MLR	MLR				
	comp=N,3μm,14.0s								
YSS				MLR	MLR				
	comp=Z,8μm,14.0s								
YSS	**Yuzh-Sakhalins**	**34.62**	**261**	P	**P**	**12 07 56.1**	**-1.1**		
YSS				IAmb	IAmb	12 08 03.3			
	comp=Z,45n

comp=Z,62nm,0.9s
RLMT IAMs_20 IAMs_20 12 24 24.5
comp=Z,6µm,20.0s
H17A Grant Village 35.46 105 P **P** **12 08 06.5 +1.6**
baz=329,SNR=54
H17A Grant Village 35.46 105 P **P** **12 08 06.4 +1.6**
H17A IAmb IAmb 12 08 13.0
comp=Z,162nm,1.4s
ILULI Ilulissat 35.47 35 *i* P **P** **12 08 04.4 +0.1**
comp=Z,6µm,22.0s
ILULI Ilulissat 35.47 35 *i* P **P** **12 08 04.4 +0.1**
ILULI MLR MLR
comp=Z,6µm,22.0s
ILULI Ilulissat 35.47 35 IAMs_20 IAMs_20 12 23 30.1
comp=Z,5µm,22.0s
YPP Pitchstone Pla 35.48 105 P **P** **12 08 06.6 +1.5**
HSPB Hornsund (broa 35.52 1 *e*P **P** **12 08 07.0 +2.3**
HSPB *e*L L 12 30 21.2
comp=Z,1µm,18.0s
HSPB Hornsund (broa 35.52 1 *e*P **P** **12 08 04.5 -0.2**
HOPS Hopland Field 35.89 123 IAmb IAmb 12 08 14.9
comp=Z,97nm,1.2s
ORV Oroville 35.89 121 P **P** **12 08 08.1 -0.2**
ORV pmax pmax
comp=Z,36nm,1.0s
ORV MLR MLR
comp=Z,2µm,18.0s
ORV Oroville 35.89 121 P **P** **12 08 08.1 -0.2**
YUK Yuzh-Kuril'sk 35.93 256 *c* P **P** **12 08 06.2 -2.3**
YUK *e* 12 09 27.3
YUK *e* 12 10 31.2
YUK *i* S **S** **12 13 48.5 +2.3**
YUK pmax pmax
comp=Z,194nm,1.4s
YUK pmax pmax
comp=Z,227nm,1.1s
YUK pmax pmax
comp=N,151nm,1.0s
YUK pmax pmax
comp=E,98nm,0.9s
YUK MLR MLR
comp=N,3µm,18.0s
YUK MLR MLR
comp=Z,5µm,18.0s
BEKR Beckworth 35.98 119 P **P** **12 08 09.8 +0.5**
TPAW Teton Pass 36.10 106 P **P** **12 08 11.5 +1.1**
TPAW IAmb IAmb 12 08 16.8
comp=Z,184nm,1.4s
TPAW IAMs_20 IAMs_20 12 24 47.0
comp=Z,7µm,18.0s
ULM Lac du Bonnet 36.17 85 P **P** **12 08 10.3 -0.3**
comp=Z,19nm,0.9s,baz=317,slow=9.5,SNR=9.6
ULM PcP **PcP** **12 10 36.4 +0.7**
comp=Z,26nm,0.6s,baz=317,slow=0.8,SNR=7.4
ULM LR LR 12 24 33.5
comp=Z,3µm,19.9s,baz=328,slow=39
ULM Lac du Bonnet 36.17 85 *i* P **P** **12 08 09.3 -1.2**
ULM Lac du Bonnet 36.17 85 IAmb IAmb 12 08 16.2
comp=Z,240nm,1.9s
ULM IAMs_20 IAMs_20 12 24 31.3
comp=Z,5µm,18.0s
SNOW Snow King Moun 36.20 106 IAMs_20 IAMs_20 12 24 41.6
comp=Z,7µm,18.0s
PAHR Pah Rah Range 36.45 118 IAMs_20 IAMs_20 12 24 21.5
comp=Z,4µm,19.0s
AFDM Forest Hills D 36.61 121 P **P** **12 08 13.9 -0.6**
BOD Bodaibo 36.62 297 *e*P **P** **12 08 12.9 -1.4**
BOD pmax pmax
comp=Z,63nm,1.3s
AHID Auburn Hatcher 36.67 107 P **P** **12 08 15.5 +0.3**
MDND Maddock 36.71 90 P **P** **12 08 15.3 +0.1**
baz=326,SNR=51
MDND Maddock 36.71 90 P **P** **12 08 15.0 -0.2**
MDND IAMs_20 IAMs_20 12 24 40.6
comp=Z,7µm,21.0s
KLR Kul'dur 36.93 274 P **P** **12 08 15.6 -1.5**
comp=Z,24nm,1.1s,baz=26,slow=9.9,SNR=23
PNTR Pine Nut 36.94 119 P **P** **12 08 17.5 0.0**
PNTR IAmb IAmb 12 08 29.3
comp=Z,74nm,0.9s
PNTR IAMs_20 IAMs_20 12 23 07.4
comp=Z,4µm,18.0s
ELK Elko 36.96 113 P **P** **12 08 18.0 +0.3**
ELK pmax pmax
comp=Z,69nm,1.0s
ELK MLR MLR
comp=Z,5µm,19.0s
ELK Elko 36.96 113 P **P** **12 08 18.0 +0.3**
ELK IAMs_20 IAMs_20 12 24 57.7
comp=Z,5µm,19.0s
ASAJ Asahikawa 37.07 259 P **P** **12 08 19.4 +1.1**
comp=Z,8.8nm,1.0s,baz=292,slow=16,SNR=3.7
YERR Yerington 37.15 119 IAMs_20 IAMs_20 12 24 53.0
comp=Z,5µm,19.0s
BW06 Boulder Array 37.24 105 P **P** **12 08 20.1 +0.1**
baz=330,SNR=130
BW06 Boulder Array 37.24 105 IAmb IAmb 12 08 26.5
comp=Z,121nm,1.1s
BW06 IAMs_20 IAMs_20 12 23 41.3
comp=Z,6µm,20.0s
PD31 Pinedale Array 37.24 105 IAmb IAmb 12 08 26.5
comp=Z,114nm,1.1s
PDAR Pinedale Array 37.24 105 P **P** **12 08 20.4 +0.4**
comp=Z,64nm,1.0s,baz=332,slow=5.4,SNR=143
PDAR PcP **PcP** **12 10 40.1 +0.7**
comp=Z,8.3nm,0.6s,baz=354,slow=0.9,SNR=9.7
PDAR PKiKP **PKiKP** **12 17 57.5 +1.5**
comp=Z,0.6nm,0.7s,baz=128,slow=2.4,SNR=4.3
PDAR LR LR 12 25 00.3
comp=Z,6µm,21.9s,baz=340,slow=38
PDAR Pinedale Array 37.24 105 P **P** **12 08 19.0 -1.1**
E28A Huff 37.35 93 IAMs_20 IAMs_20 12 25 06.0
comp=Z,8µm,20.0s
SFJD Kangerlussuaq 37.36 37 *i* P **P** **12 08 20.4 -0.1**
comp=Z,6.2nm,1.2s
SFJD *i* 12 09 42.8
comp=Z,200nm,21.0s
SFJD Kangerlussuaq 37.36 37 *i* P **P** **12 08 20.4 -0.1**
SFJD *i* 12 09 42.8
SFJD pmax pmax
comp=Z,6.0nm,1.2s
SFJD MLR MLR
comp=Z,220nm,21.0s
SFJD Kangerlussuaq 37.36 37 P **P** **12 08 20.7 +0.2**
KVN Kaiserville 37.48 117 IAMs_20 IAMs_20 12 24 24.4
comp=Z,4µm,20.0s
HWUT Hardware Ranch 37.51 108 P **P** **12 08 22.8 +0.5**
WAKR Walker 37.52 119 P **P** **12 08 23.3 +0.9**
WAKR IAmb IAmb 12 08 28.7
comp=Z,109nm,1.0s
AGMN Agassiz Nation 37.76 87 P **P** **12 08 23.7 -0.5**
baz=325,SNR=41
AGMN Agassiz Nation 37.76 87 P **P** **12 08 23.6 -0.5**
AGMN IAmb IAmb 12 08 29.2
comp=Z,127nm,1.2s
AGMN IAMs_20 IAMs_20 12 25 25.9
comp=Z,4µm,20.0s
NVAR Mina Array Bea 37.97 118 P **P** **12 08 27.3 +1.1**
comp=Z,52nm,0.8s,baz=314,slow=6.8,SNR=170
NVAR PcP **PcP** **12 10 44.0 +2.3**
comp=Z,8.6nm,0.8s,baz=281,slow=2.7,SNR=4.1
NVAR PKiKP **PKiKP** **12 17 57.3 +0.6**
comp=Z,0.4nm,0.7s,baz=56,slow=0.3,SNR=3.9
NVAR LR LR 12 23 53.6
comp=Z,3µm,18.5s,baz=350,slow=36
NVAR Mina Array Bea 37.97 118 P **P** **12 08 26.5 +0.3**
TCUT Toone Canyon 38.00 108 P **P** **12 08 26.9 +0.5**
NV11 Mina Array Sit 38.02 118 IAmb IAmb 12 08 32.8
comp=Z,90nm,1.0s
NV11 IAMs_20 IAMs_20 12 24 53.9
comp=Z,5µm,19.0s
RSSD Black Hills 38.14 98 P **P** **12 08 27.4 -0.2**
baz=328
RSSD Black Hills 38.14 98 P **P** **12 08 26.7 -0.9**
RSSD pmax pmax
comp=Z,210nm,1.9s
RSSD MLR MLR
comp=Z,9µm,18.0s
RSSD Black Hills 38.14 98 P **P** **12 08 26.7 -0.9**
RSSD IAmb IAmb 12 08 33.6
comp=Z,210nm,1.9s
D32A Dogwood Acres, 38.28 89 IAMs_20 IAMs_20 12 25 31.7
comp=Z,7µm,19.0s
DUG Dugway, Tooele 38.30 110 P **P** **12 08 29.4 +0.5**
baz=332,SNR=89
DUG Dugway, Tooele 38.30 110 IAmb IAmb 12 08 34.9
comp=Z,85nm,0.9s
DUG IAMs_20 IAMs_20 12 24 42.5
comp=Z,7µm,18.0s
MDPB Devils Postpil 38.43 119 IAmb IAmb 12 08 37.3
comp=Z,189nm,1.3s
SAO San Andreas Ge 38.44 123 P **P** **12 08 29.9 -0.1**
SAO pmax pmax
comp=Z,54nm,1.3s
SAO San Andreas Ge 38.44 123 P **P** **12 08 29.9 -0.1**
K22A Casper 38.47 102 P **P** **12 08 29.7 -0.6**
baz=330,SNR=34
OMMB Old Mammoth Mi 38.47 119 IAmb IAmb 12 08 37.8
comp=Z,119nm,1.1s
B35A Bob, Littlefor 38.53 85 IAMs_20 IAMs_20 12 25 53.9
comp=Z,6µm,18.0s
TEY Ternei 38.56 266 *i* *e*P **P** **12 08 27.6 -3.2**
TEY pmax pmax
comp=Z,10.0nm,1.2s
TEY MLR MLR
comp=N,300nm,16.0s
ERM Erimo 38.67 257 *c* *e*P **P** **12 08 31.8 0.0**
ERM pmax pmax
comp=Z,93nm,1.3s
ERM Erimo 38.67 257 P **P** **12 08 31.6 -0.2**
ERM Erimo 38.67 257 IAMs_20 IAMs_20 12 25 19.0
comp=Z,6µm,19.0s
R11A Troy Canyon, C 38.97 115 P **P** **12 08 35.3 +0.7**
baz=334,SNR=126
RWWY Rawlins 39.04 103 IAMs_20 IAMs_20 12 25 36.0
comp=Z,5µm,20.0s
PMPB Monarch Peak 39.15 122 IAmb IAmb 12 08 42.7
comp=Z,98nm,1.0s
TIN Tinemaha, Big 39.24 119 P **P** **12 08 37.7 +0.9**
baz=335,SNR=18
SCO Scoresbysund 39.47 20 *i* P **P** **12 08 39.7 +1.5**
comp=Z,40nm,1.0s
SCO *i* 12 10 19.7
comp=Z,3µm,17.0s
SCO Scoresbysund 39.47 20 *i* P **P** **12 08 39.7 +1.5**
SCO *i* 12 10 19.7
SCO pmax pmax
comp=Z,40nm,1.0s
SCO MLR MLR
comp=Z,3µm,17.0s
VOG Valley Oaks Go 39.52 120 P **P** **12 08 39.3 +0.3**
baz=336
GRAC Grapevine Rang 39.58 118 P **P** **12 08 40.2 +0.7**
baz=335,SNR=29
F33A 5 Mile Ranch, 39.64 89 IAmb IAmb 12 08 45.8
comp=Z,200nm,1.0s
F33A IAMs_20 IAMs_20 12 25 57.6
comp=Z,5µm,18.0s
EYMN Ely 39.71 83 P **P** **12 08 40.1 -0.4**
baz=326,SNR=37
EYMN Ely 39.71 83 IAmb IAmb 12 08 46.3
comp=Z,131nm,0.9s
EYMN Ely 39.71 83 IAMs_20 IAMs_20 12 26 37.4
comp=Z,7µm,19.0s
PAGB Antelope Grade 39.78 122 IAmb IAmb 12 08 48.1
comp=Z,206nm,1.3s
SUSD Miller 39.80 93 P **P** **12 08 41.2 -0.1**
baz=328
SUSD Miller 39.80 93 IAmb IAmb 12 08 46.3
comp=Z,118nm,1.1s
CWC Cottonwood Cre 39.84 119 P **P** **12 08 43.0 +1.1**
baz=336
TPNV Topopah Spring 40.00 117 P **P** **12 08 43.2 0.0**
baz=335,SNR=70
TPNV Topopah Spring 40.00 117 P **P** **12 08 43.6 +0.4**
TPNV pmax pmax
comp=Z,102nm,1.1s
TPNV MLR MLR
comp=Z,4µm,18.0s
TPNV Topopah Spring 40.00 117 P **P** **12 08 43.6 +0.4**
TPNV IAmb IAmb 12 08 49.0
comp=Z,102nm,1.1s
TPNV IAMs_20 IAMs_20 12 27 27.4
comp=Z,4µm,18.0s
O20A White River Ci 40.02 106 P **P** **12 08 42.7 -0.7**
baz=331,SNR=16
MSU Marysvale 40.02 111 P **P** **12 08 44.5 +1.1**
MSU Marysvale 40.02 111 P **P** **12 08 44.5 +1.1**
PHWY Pilot Hill 40.03 102 IAMs_20 IAMs_20 12 27 32.0
comp=Z,4µm,18.0s
VES Vestal, Richgr 40.06 120 P **P** **12 08 43.4 0.0**
baz=336,SNR=23
N23A Red Feather La 40.20 103 P **P** **12 08 44.6 -0.3**
baz=331,SNR=22
N23A Red Feather La 40.20 103 IAMs_20 IAMs_20 12 25 33.7
comp=Z,4µm,18.0s
FURC Furnace Creek, 40.23 118 P **P** **12 08 45.2 +0.4**
baz=335,SNR=35
SMMC Simmler 40.24 122 P **P** **12 08 45.8 +0.8**
baz=337,SNR=6.8
MPMC Manual Prospec 40.39 118 P **P** **12 08 47.2 +0.7**
baz=336,SNR=51
ISA Isabella, Lake 40.42 120 P **P** **12 08 46.7 +0.1**
baz=336,SNR=33
ISA Isabella, Lake 40.42 120 IAMs_20 IAMs_20 12 27 25.5
comp=Z,5µm,18.0s
PKM Mcpherson Peak 40.69 122 P **P** **12 08 49.7 +0.8**
baz=337,SNR=34
SHPR Sheep Range 40.77 116 IAMs_20 IAMs_20 12 27 11.0
comp=Z,4µm,19.0s
ARVC Arvin 40.79 121 P **P** **12 08 49.1 -0.5**
baz=336
E38A The Farm, Brul 40.80 84 IAmb IAmb 12 08 54.9
comp=Z,163nm,1.1s
LRMC Laurel Mtn Rad 40.85 119 P **P** **12 08 50.7 +0.5**
baz=336,SNR=18
SHOC Shoshone, Teco 40.94 117 P **P** **12 08 51.1 +0.4**
baz=335,SNR=22
USA0B Ussuriysk Arra 41.03 269 *i* P **P** **12 08 50.2 -1.1**
USA0B Ussuriysk Arra 41.03 269 P **P** **12 08 50.9 -0.4**
USRK Ussuriysk Ar. 41.03 269 P **P** **12 08 51.0 -0.4**
comp=Z,65nm,1.1s,baz=35,slow=7.8,SNR=38
USRK LR LR 12 26 12.0
comp=Z,6µm,18.1s,baz=23,slow=37
USRK Ussuriysk Ar. 41.03 269 P **P** **12 08 51.0 -0.4**
USRK Ussuriysk Ar. 41.03 269 P **P** **12 08 50.1 -1.3**
SBC Santa Barbara 41.13 122 P **P** **12 08 52.8 +0.5**
baz=337
PV21 Cone Mtn., Par 41.13 107 IAmb IAmb 12 08 58.7
comp=Z,214nm,1.5s
PV21 IAMs_20 IAMs_20 12 26 01.4
comp=Z,3µm,20.0s
PV10 Paradox Valley 41.27 108 IAmb IAmb 12 08 60.0
comp=Z,100nm,1.1s
PV10 IAMs_20 IAMs_20 12 26 05.1
comp=Z,4µm,19.0s
ISCO Idaho Springs 41.28 103 P **P** **12 08 54.1 +0.2**
baz=331,SNR=50
ISCO Idaho Springs 41.28 103 IAMs_20 IAMs_20 12 26 20.3
comp=Z,4µm,18.0s
PV14 Lion Creek, Pa 41.28 108 IAmb IAmb 12 08 56.6
comp=Z,132nm,1.2s
PV14 IAMs_20 IAMs_20 12 26 04.3
comp=Z,5µm,20.0s
EDW2 Edwards Air Fo 41.29 120 P **P** **12 08 53.7 0.0**
baz=336,SNR=19
ECSD EROS Data Cent 41.30 91 P **P** **12 08 52.8 -0.8**
baz=328,SNR=46
ECSD EROS Data Cent 41.30 91 P **P** **12 08 52.6 -1.0**
ECSD EROS Data Cent 41.30 91 IAMs_20 IAMs_20 12 25 57.4
comp=Z,6µm,19.0s
OSI Osito Audit: C 41.30 121 P **P** **12 08 54.0 +0.3**
baz=336
GSC Goldstone, Bar 41.31 118 P **P** **12 08 54.5 +0.7**
baz=336,SNR=54
GSC Goldstone, Bar 41.31 118 P **P** **12 08 54.6 +0.7**
GSC pmax pmax
comp=Z,91nm,1.0s
GSC MLR MLR
comp=Z,3µm,19.0s
GSC Goldstone, Bar 41.31 118 P **P** **12 08 54.6 +0.8**
GSC IAmb IAmb 12 09 00.7
comp=Z,91nm,0.9s
PV04 Paradox Valley 41.31 108 IAmb IAmb 12 09 00.2
comp=Z,167nm,1.2s
PV04 IAMs_20 IAMs_20 12 25 40.1
comp=Z,5µm,20.0s
ANGG Ammassalik, Gr 41.32 31 P **P** **12 08 52.8 -0.7**
ANGG IAmb IAmb 12 08 59.5
comp=Z,92nm,0.9s
PV20 West Nyswonger 41.33 108 IAmb IAmb 12 08 57.0
comp=Z,127nm,1.4s
PV19 Morning Glory 41.35 108 IAmb IAmb 12 08 57.2
comp=Z,103nm,1.3s
PV19 IAMs_20 IAMs_20 12 25 43.2
comp=Z,5µm,19.0s
PV07 Paradox Valley 41.36 107 P **P** **12 08 54.1 -0.4**
PV07 IAmb IAmb 12 08 56.2
comp=Z,80nm,1.0s
PV17 East Wray Mesa 41.39 108 P **P** **12 08 54.5 -0.2**
PV17 IAmb IAmb 12 09 00.1
comp=Z,160nm,1.4s
PV17 IAMs_20 IAMs_20 12 26 47.1
comp=Z,7µm,18.0s
PV11 David Mesa, Pa 41.40 108 IAmb IAmb 12 09 00.9
comp=Z,157nm,1.3s
PV12 Saucer Basin, 41.41 107 IAMs_20 IAMs_20 12 25 44.7
comp=Z,5µm,20.0s
K31A O'Neill 41.43 94 IAmb IAmb 12 08 59.3
comp=Z,222nm,1.4s
PV18 Skein Mesa, Pa 41.44 108 IAMs_20 IAMs_20 12 26 47.4
comp=Z,6µm,18.0s
PV03 Paradox Valley 41.45 108 IAMs_20 IAMs_20 12 25 45.8
comp=Z,4µm,19.0s
TUQ Turquoise Moun 41.48 117 P **P** **12 08 56.2 +0.8**
baz=335,SNR=50
SPMN Marine on St. 41.49 87 P **P** **12 08 54.9 -0.3**
baz=328,SNR=27
SPMN Marine on St. 41.49 87 P **P** **12 08 54.8 -0.4**
SPMN IAmb IAmb 12 09 01.1
comp=Z,150nm,1.1s
PV05 Paradox Valley 41.52 108 P **P** **12 08 56.4 +0.6**
PV05 IAmb IAmb 12 09 01.2
comp=Z,141nm,1.2s
PV05 IAMs_20 IAMs_20 12 25 47.1
comp=Z,4µm,18.0s
PV02 Paradox Valley 41.53 107 IAMs_20 IAMs_20 12 25 47.7
comp=Z,6µm,21.0s
PV13 Radium Mtn., P 41.55 108 IAMs_20 IAMs_20 12 25 48.3
comp=Z,4µm,19.0s
D41A Chassel 41.56 81 IAmb IAmb 12 09 01.6
comp=Z,146nm,0.9s
SCZ2 Santa Cruz Isl 41.57 122 P **P** **12 08 56.3 +0.4**
baz=337
MDJ Mudanjiang 41.59 272 P **P** **12 08 56.0 0.0**
MDJ pP sP 12 09 05.3 +4.1
MDJ sP pP 12 09 08.6 +8.9
MDJ S **S** **12 15 07.6 -3.9**
MDJ pmax pmax
comp=Z,19nm,1.2s
MDJ pmax pmax
comp=Z,96nm,3.9s
MDJ LR LR
comp=Z,8µm,15.9s
MDJ LR LR
comp=Z,7µm,17.3s
MDJ LR LR
comp=Z,10µm,14.8s
MDJ Mudanjiang 41.59 272 IAMs_20 IAMs_20 12 25 26.9
comp=Z,6µm,19.0s
OGNE Ogallala 41.63 99 P **P** **12 08 56.5 0.0**
baz=330
RRX Edison Barstow 41.63 119 P **P** **12 08 57.3 +0.9**
baz=336
PV01 Paradox Valley 41.66 107 IAMs_20 IAMs_20 12 25 53.3
comp=Z,4µm,21.0s
DECC Green Verdugo 41.75 121 P **P** **12 08 58.2 +0.8**
baz=337
U15A North Rim 41.84 112 IAMs_20 IAMs_20 12 28 04.2
comp=Z,5µm,19.0s
HAMF Hammerfest 41.86 357 *e*P **P** **12 08 56.9 -1.0**
MWC Mount Wilson 41.87 120 P **P** **12 08 59.3 +0.7**
MWC pmax pmax
comp=Z,253nm,1.3s
MWC MLR MLR
comp=Z,5µm,18.0s
MWC Mount Wilson 41.87 120 P **P** **12 08 59.3 +0.7**
MWC IAMs_20 IAMs_20 12 28 23.9
comp=Z,5µm,18.0s
PASC Pasadena Art C 41.88 120 P **P** **12 08 59.1 +0.7**
PASC IAmb IAmb 12 09 05.1
comp=Z,210nm,1.4s
HEC Hector,Ludlow 41.89 118 P **P** **12 08 59.3 +0.7**
baz=336,SNR=8.8
VLA Vladivostok 41.98 269 *i* P **P** **12 08 58.4 -0.8**
VLA pmax pmax
comp=Z,34nm,1.2s
BFSC Mount Baldy Ra 41.99 120 P **P** **12 09 00.3 +0.7**
baz=336,SNR=62
COWI Conover 42.15 83 P **P** **12 08 60.0 -0.6**
COWI IAMs_20 IAMs_20 12 25 33.7
comp=Z,4µm,22.0s
GMRC Granite Mounta 42.16 117 P **P** **12 09 01.6 +0.7**
baz=336,SNR=59
Q24A Divide 42.19 103 P **P** **12 09 01.5 +0.2**
baz=332,SNR=26
BBRC Big Bear Solar 42.21 119 P **P** **12 09 01.9 +0.4**
baz=336
FMP Fort Macarthur 42.26 121 P **P** **12 09 01.7 +0.2**
baz=337
I37A Lemond, Waseca 42.28 88 P **P** **12 09 01.8 +0.1**
I37A IAMs_20 IAMs_20 12 25 57.5
comp=Z,5µm,21.0s
SNCC San Nicolas Is 42.29 123 P **P** **12 09 02.0 +0.2**
baz=337
G40A Rib Lake 42.44 84 IAmb IAmb 12 09 08.8
comp=Z,165nm,1.6s
G40A IAMs_20 IAMs_20 12 28 12.6
comp=Z,6µm,19.0s
MVCO Mesa Verde 42.51 108 P **P** **12 09 03.8 -0.1**
baz=333,SNR=21
MVCO Mesa Verde 42.51 108 IAMs_20 IAMs_20 12 26 19.7
comp=Z,4µm,20.0s
CIS Catalina Islan 42.51 121 P **P** **12 09 03.6 0.0**
baz=337,SNR=13
NEE2 Needles Airpor 42.53 116 P **P** **12 09 04.3 +0.5**
baz=335
S22A 4UR Ranch, Cre 42.64 106 P **P** **12 09 05.0 0.0**
baz=332,SNR=60
KEV Kevo 42.67 355 P **P** **12 09 03.7 -0.7**
KEV pmax pmax
comp=Z,86nm,1.4s
KEV MLR MLR
comp=Z,2µm,19.0s
KEV Kevo 42.67 355 P **P** **12 09 03.7 -0.7**
BGNE Belgrade 42.70 95 P **P** **12 09 03.8 -1.3**
baz=330
BGNE Belgrade 42.70 95 IAmb IAmb 12 09 10.3
comp=Z,98nm,1.0s
MURC Murrieta 42.73 120 P **P** **12 09 05.4 0.0**
baz=337,SNR=12
BELC Belle Mtn. Jos 42.76 118 P **P** **12 09 06.0 +0.1**
baz=336,SNR=22
IVI Ivigtut 42.81 41 IAmb IAmb 12 09 08.1
comp=Z,80nm,0.9s
F42A Maple Grove Fa 42.81 82 IAmb IAmb 12 09 12.4
comp=Z,81nm,0.8s
SCHQ Schefferville 42.83 58 P **P** **12 09 06.1 +0.2**
comp=Z,66nm,1.0s,baz=334,slow=8.5,SNR=37
SCHQ PcP **PcP** **12 10 57.5 +0.7**
comp=Z,18nm,0.6s,baz=297,slow=5.4,SNR=5.4
SCHQ LR LR 12 28 02.6
comp=Z,8µm,21.0s,baz=327,slow=38
SCI2 San Clemente I 42.85 122 P **P** **12 09 06.9 +0.5**
baz=337,SNR=9.5
L34A Svendsen Farm, 42.90 92 IAMs_20 IAMs_20 12 25 23.8
comp=Z,6µm,22.0s
IRM Iron Mountain 42.91 117 P **P** **12 09 07.2 +0.4**
baz=336,SNR=56
ARCES ARCESS Array B 42.93 356 P **P** **12 09 06.0 -0.6**
comp=Z,7.5nm,0.8s,baz=10,slow=8.6,SNR=15
ARCES PcP **PcP** **12 10 56.2 -0.6**
comp=Z,42nm,0.6s,baz=353,slow=3.2,SNR=17
ARCES LR LR 12 27 18.7
comp=Z,2µm,18.2s,baz=352,slow=37
ARCES ARCESS Array B 42.93 356 P **P** **12 09 06.4 -0.3**
ARCES 12 10 56.3
ARCES ARCESS Array B 42.93 356 P **P** **12 09 06.4 -0.3**
ARCES PcP **PcP** **12 10 56.3 -0.6**
ARE0 ARCESS Array S 42.93 356 P **P** **12 09 06.7 +0.1**
ARE0 PcP **PcP** **12 10 57.8 +0.9**
ARE0 ARCESS Array S 42.93 356 *e*P **P** **12 09 06.4 -0.2**
TRO Tromso 42.93 359 *e*P **P** **12 09 06.9 +0.3**
PFO Pinyon Flats O 42.96 119 P **P** **12 09 07.2 -0.3**
baz=336,SNR=17
PFO Pinyon Flats O 42.96 119 P **P** **12 09 07.4 0.0**
PFO pmax pmax
comp=Z,71nm,1.2s
PFO MLR MLR
comp=Z,3µm,18.0s
PFO Pinyon Flats O 42.96 119 P **P** **12 09 07.4 0.0**

PFO Pinyon Flats O 42.96 119 IAMs_20 IAMs_20 12 26 30.9
comp=Z,3µm,18.0s
XPFO Pion Flat 42.97 119 P P 12 09 07.1 -0.3
XPFO Pion Flat 42.97 119 IAMs_20 IAMs_20 12 26 29.9
comp=Z,3µm,18.0s
WUAZ Wupatki 42.99 112 P P 12 09 08.5 +0.8
baz=334,SNR=49
WUAZ Wupatki 42.99 112 IAmb IAmb 12 09 10.3
comp=Z,94nm,1.0s
KSCO Kaye Shedlock' 43.09 101 P P 12 09 08.7 +0.3
baz=331,SNR=18
KSCO Kaye Shedlock' 43.09 101 IAMs_20 IAMs_20 12 29 19.8
comp=Z,6µm,18.0s
PDMCI Parker Dam,Lak 43.12 116 P P 12 09 09.2 +0.6
baz=336,SNR=17
BC3 Big Chuckawall 43.26 118 P P 12 09 10.4 +0.5
baz=336,SNR=20
MATQ Matagami 43.34 70 P P 12 09 09.0 -1.2
baz=327
D46A Sault St. Mari 43.40 78 P P 12 09 09.5 -1.2
baz=327,SNR=21
109C Camp Elliot, M 43.41 120 P P 12 09 11.7 +0.8
baz=337,SNR=10
109C Camp Elliot, M 43.41 120 IAmb IAmb 12 09 17.5
comp=Z,140nm,1.2s
I40A Norwalk 43.45 86 IAmb IAmb 12 09 17.1
comp=Z,72nm,0.7s
I40A IAMs_20 IAMs_20 12 27 41.3
comp=Z,4µm,20.0s
KTK1 Kautokeino 43.51 357 eP P 12 09 10.9 -0.4
NRS Narsarsuaq 43.52 39 iP P 12 09 11.1 -0.3
comp=Z,75nm,1.0s
comp=Z,5µm,21.0s
NRS Narsarsuaq 43.52 39 iP P 12 09 11.1 -0.3
NRS pmax pmax
comp=Z,75nm,1.0s
NRS MLR MLR
comp=Z,5µm,21.0s
NRS Narsarsuaq 43.52 39 IAMs_20 IAMs_20 12 29 29.0
comp=Z,5µm,20.0s
N33A J Bar K, Exete 43.54 94 IAmb IAmb 12 09 16.9
comp=Z,104nm,0.9s
D47A Chapleau 43.61 77 P P 12 09 11.4 -1.0
baz=327,SNR=49
MONP2 Monument Peak 43.63 119 P P 12 09 13.7 +0.8
baz=337,SNR=59
E46A Sault Ste Mari 43.74 78 P P 12 09 12.8 -0.6
E46A IAMs_20 IAMs_20 12 28 46.8
comp=Z,3µm,19.0s
BAR Barrett 43.74 120 IAmb IAmb 12 09 20.1
comp=Z,91nm,1.2s
SWSC Sam W. Stewart 43.79 118 P P 12 09 14.6 +0.6
baz=336,SNR=13
CN2 Changchun 43.86 275 eP P 12 09 12.8 -1.6
CN2 pmax pmax
comp=Z,30nm,0.9s
F45A CMU Biological 43.86 80 P P 12 09 13.5 -0.9
baz=328,SNR=12
W18A Petrified Fore 43.93 111 P P 12 09 15.8 +0.5
baz=334,SNR=38
W18A Petrified Fore 43.93 111 IAmb IAmb 12 09 18.6
comp=Z,139nm,1.2s
X16A Lo Mia Camp, P 43.95 113 IAMs_20 IAMs_20 12 29 45.0
comp=Z,3µm,18.0s
IKP In-Ko-Pah, Jac 43.96 119 P P 12 09 15.1 -0.3
baz=337,SNR=19
D48A Paudash Townsh 43.99 76 P P 12 09 14.5 -1.0
baz=327,SNR=22
GLA Glamis 44.02 117 P P 12 09 16.3 +0.4
baz=336,SNR=9.0
GLA Glamis 44.02 117 IAMs_20 IAMs_20 12 29 55.9
comp=Z,3µm,18.0s
H43A Windswept, Lux 44.04 83 IAmb IAmb 12 09 22.5
comp=Z,52nm,0.7s
H43A IAMs_20 IAMs_20 12 29 10.9
comp=Z,5µm,18.0s
E47A Iron Bridge 44.05 77 P P 12 09 14.6 -1.3
baz=328,SNR=29
T25A Trinidad 44.07 104 P P 12 09 15.6 -0.8
baz=332,SNR=17
D49A Beulah Townshi 44.07 75 P P 12 09 15.3 -0.7
baz=327,SNR=13
I42A Draeger Farm, 44.10 84 IAMs_20 IAMs_20 12 29 06.4
comp=Z,5µm,18.0s
N35A Tabor 44.13 93 IAMs_20 IAMs_20 12 27 41.4
comp=Z,5µm,22.0s
SCIA State Center 44.15 90 P P 12 09 16.4 -0.4
baz=329,SNR=12
SCIA State Center 44.15 90 IAMs_20 IAMs_20 12 30 05.7
comp=Z,4µm,19.0s
LSQQ Lebel-sur-Quev 44.17 70 P P 12 09 15.5 -1.3
baz=327
LVZ Lovozero 44.17 351ceP P 12 09 16.3 -0.4
LVZ pmax pmax
comp=Z,135nm,1.3s
LVZ Lovozero 44.17 351 P P 12 09 16.5 -0.2
LVZ IAmb IAmb 12 09 37.1
comp=Z,67nm,1.0s
LVZ IAMs_20 IAMs_20 12 28 53.2
comp=Z,4µm,19.0s
CBKS Cedar Bluff 44.35 98 P P 12 09 17.6 -0.8
baz=331
CBKS Cedar Bluff 44.35 98 IAMs_20 IAMs_20 12 27 52.4
comp=Z,3µm,19.0s
G45A Suttons Bay 44.35 80 P P 12 09 17.5 -0.9
baz=328
G45A Suttons Bay 44.35 80 IAmb IAmb 12 09 24.7
comp=Z,86nm,0.7s
G45A IAMs_20 IAMs_20 12 28 41.1
comp=Z,7µm,20.0s
CHGQ Chibougamau 44.38 67 P P 12 09 16.9 -1.6
baz=327,SNR=8.1
X18A Snowflake 44.38 111 IAmb IAmb 12 09 25.8
comp=Z,118nm,1.3s
X18A IAMs_20 IAMs_20 12 27 55.4
comp=Z,5µm,21.0s
G46A Petoskey 44.42 80 P P 12 09 17.8 -1.0
baz=328
IRK Irkutsk 44.42 299 eP P 12 09 17.9 -0.9
IRK pmax pmax
comp=Z,136nm,2.7s
JFWS Jewell Farm 44.42 86 P P 12 09 18.1 -0.8
baz=329,SNR=21
JFWS Jewell Farm 44.42 86 IAmb IAmb 12 09 24.2
comp=Z,73nm,0.8s
JFWS Jewell Farm 44.42 86 IAMs_20 IAMs_20 12 28 22.1
comp=Z,4µm,20.0s
E48A Lockeyer 44.44 76 P P 12 09 18.2 -0.8
baz=328,SNR=20
H45A Beulah 44.56 81 P P 12 09 18.9 -1.1
baz=328
APA Apatity 44.57 352⇓iP P 12 09 18.5 -1.3
APA pmax pmax
comp=Z,13nm,0.8s
STEI Steigen 44.63 1 eP P 12 09 20.1 -0.2
113A Mohawk Valley, 44.64 116 IAmb IAmb 12 09 27.3
comp=Z,84nm,1.2s
113A IAMs_20 IAMs_20 12 29 08.3
comp=Z,4µm,19.0s
D50A G1974 Best Tow 44.72 74 P P 12 09 20.5 -0.7
baz=328,SNR=24
L40A Anamosa 44.78 88 IAMs_20 IAMs_20 12 29 30.6
comp=Z,4µm,19.0s
VLDQ Val d'Or 44.79 71 IAMs_20 IAMs_20 12 30 30.2
comp=Z,5µm,19.0s
F48A Evansville 44.82 77 P P 12 09 20.9 -1.1
baz=328,SNR=6.4
G47A Hillman 44.92 79 P P 12 09 21.4 -1.5
baz=328
GLMI Grayling 44.93 80 P P 12 09 21.7 -1.3
baz=328
BORG Borgarnes 44.93 23 P P 12 09 23.6 +0.9
BORG Borgarnes 44.93 23 P P 12 09 23.6 +0.9
H46A Fife Lake 44.95 80 P P 12 09 22.0 -1.1
baz=328,SNR=12
D51A Lot 18 Range I 44.95 74 P P 12 09 22.3 -0.8
baz=328,SNR=10
I45A Fountain 44.99 82 P P 12 09 22.6 -0.9
baz=329
I45A Fountain 44.99 82 IAMs_20 IAMs_20 12 29 35.0
comp=Z,4µm,18.0s
E50A Wahnapitae 45.02 75 P P 12 09 22.6 -1.1
baz=328,SNR=8.1
F49A Sandfield 45.09 77 P P 12 09 23.0 -1.3
baz=328
TLY Talaya 45.10 299 P P 12 09 23.6 -0.7
comp=Z,17nm,1.0s,baz=20,slow=7.9,SNR=14
TLY Talaya 45.10 299 P P 12 09 24.0 -0.3

TLY Talaya 45.10 299 eP P 12 09 23.4 -0.9
TLY eS S 12 16 03.6 +0.8
TLY eSSS SSS 12 20 14.0
TLY pmax pmax
comp=Z,66nm,0.9s
TLY MLR MLR
comp=Z,7µm,11.0s
TLY Talaya 45.10 299 P P 12 09 24.0 -0.3
TLY IAMs_20 IAMs_20 12 31 00.6
comp=Z,4µm,18.0s
N38A Joes South For 45.10 90 IAmb IAmb 12 09 29.6
comp=Z,97nm,0.9s
ANMO Albuquerque 45.27 107 P P 12 09 26.7 +0.7
baz=334
ANMO Albuquerque 45.27 107diP P 12 09 26.7 +0.7
ANMO pmax pmax
comp=Z,79nm,1.0s
ANMO Albuquerque 45.27 107 P P 12 09 25.9 -0.1
ANMO IAmb IAmb 12 09 32.5
comp=Z,70nm,1.0s
H47A Mio 45.27 80 P P 12 09 24.4 -1.2
baz=328
KSU1 Kansas State U 45.29 95 P P 12 09 24.7 -1.1
baz=331,SNR=9.6
MJB9 Matsu-Tunnel 45.31 258 IAmb IAmb 12 09 32.5
comp=Z,87nm,0.8s
MJB9 IAMs_20 IAMs_20 12 28 50.6
comp=Z,5µm,20.0s
MAJO Matsushiro 45.31 258diP P 12 09 26.8 +0.7
MAJO pmax pmax
comp=Z,65nm,1.0s
MAJO Matsushiro 45.31 258 P P 12 09 25.7 -0.3
MAJO IAmb IAmb 12 09 32.5
comp=Z,85nm,0.8s
MAJO Matsushiro 45.31 258 IAMs_20 IAMs_20 12 29 00.6
comp=Z,4µm,20.0s
MAT Matsushiro 45.31 258 P P 12 09 26.9 +0.8
MJAR Matsushiro Arr 45.31 258 P P 12 09 25.2 -0.8
comp=Z,38nm,1.0s,baz=9.3,slow=7.6,SNR=66
MJAR LR LR 12 29 11.6
comp=Z,5µm,20.0s,baz=30,slow=37
MJAR Matsushiro Arr 45.31 258 P P 12 09 25.8 -0.3
MJAR pmax pmax
comp=Z,24nm,1.2s
MJAR Matsushiro Arr 45.31 258 P P 12 09 25.8 -0.3
K43A Burlington 45.33 85 IAMs_20 IAMs_20 12 29 52.1
comp=Z,4µm,19.0s
I46A Reed City 45.37 81 P P 12 09 25.8 -0.7
baz=329
E51A G1948 Merrick 45.38 74 P P 12 09 25.4 -1.1
baz=328,SNR=16
D52A ZEK Kipawa Sen 45.40 73 P P 12 09 25.7 -1.0
baz=328,SNR=22
L42A Oliver, Polo 45.42 86 IAMs_20 IAMs_20 12 28 51.6
comp=Z,4µm,19.0s
J45A Montague 45.44 82 P P 12 09 25.9 -1.1
baz=329
J45A Montague 45.44 82 IAMs_20 IAMs_20 12 26 35.0
comp=Z,4µm,22.0s
H48A Harrisville 45.52 79 P P 12 09 25.8 -1.8
baz=328
H48A Harrisville 45.52 79 P P 12 09 26.9 -0.7
H48A IAmb IAmb 12 09 32.8
comp=Z,48nm,0.6s
H48A IAMs_20 IAMs_20 12 31 50.2
comp=Z,3µm,18.0s
D53A Lac Vacive, Po 45.57 72 P P 12 09 27.7 -0.3
baz=328,SNR=20
D53A Lac Vacive, Po 45.57 72 P P 12 09 27.9 -0.1
D53A IAmb IAmb 12 09 34.8
comp=Z,53nm,1.1s
D53A IAMs_20 IAMs_20 12 29 45.3
comp=Z,6µm,18.0s
I47A Gladwin 45.65 80 P P 12 09 27.7 -1.0
baz=329
214A Organ Pipe Nat 45.71 116 P P 12 09 29.8 +0.5
baz=336,SNR=40
214A Organ Pipe Nat 45.71 116 IAmb IAmb 12 09 35.9
comp=Z,65nm,1.0s
214A IAMs_20 IAMs_20 12 28 28.6
comp=Z,3µm,18.0s
F51A Arnstein 45.74 75 P P 12 09 27.4 -2.0
baz=328,SNR=7.8
I48A Sherman Twp 45.81 79 P P 12 09 28.6 -1.3
baz=329,SNR=11
Y22D IRIS PASSCAL I 45.88 108 P P 12 09 31.6 +0.8
baz=334,SNR=12
Y22D IRIS PASSCAL I 45.88 108 IAMs_20 IAMs_20 12 30 32.0
comp=Z,4µm,18.0s
D54A Lac Fusel, La 45.89 71 P P 12 09 29.6 -1.0
baz=328,SNR=28
E52A Mattawa 45.90 74 P P 12 09 29.5 -1.1
baz=328,SNR=30
L44A Lake County Fo 45.94 85 P P 12 09 30.3 -0.7
baz=329,SNR=10.0
L44A Lake County Fo 45.94 85 IAMs_20 IAMs_20 12 30 20.2
comp=Z,4µm,20.0s
MOY Mondy 45.99 301 eP P 12 09 31.4 0.0
MOY pmax pmax
comp=Z,115nm,2.3s
P38A Dawn 46.00 91 IAMs_20 IAMs_20 12 27 24.0
comp=Z,4µm,20.0s
KONS Konsvik 46.04 3 eP P 12 09 32.4 +1.0
F52A Sundridge 46.07 75 P P 12 09 30.9 -1.1
baz=328,SNR=15
TUC Tucson 46.09 113 P P 12 09 33.1 +0.7
baz=336
TUC Tucson 46.09 113 P P 12 09 32.4 0.0
TUC pmax pmax
comp=Z,116nm,1.9s
TUC MLR MLR
comp=Z,3µm,19.0s
TUC Tucson 46.09 113 P P 12 09 32.4 0.0
TUC IAmb IAmb 12 09 39.4
comp=Z,116nm,1.9s
TUC Tucson 46.09 113 IAMs_20 IAMs_20 12 29 21.7
comp=Z,3µm,19.0s
E53A Dumoine, Ponti 46.18 73 P P 12 09 31.9 -1.0
baz=328,SNR=25
J47A Sunmer 46.20 81 P P 12 09 32.2 -0.9
baz=329
J47A Sunmer 46.20 81 IAmb IAmb 12 09 39.5
comp=Z,54nm,0.8s
STOK Stokkvaagen 46.21 3 eP P 12 09 33.4 +0.7
SNY Shenyang 46.26 275 ⇓P P 12 09 32.5 -1.0
SNY S S 12 16 15.9 -3.7
SNY pmax pmax
comp=Z,28nm,1.0s
SNY pmax pmax
comp=Z,470nm,4.7s
SNY LR LR
comp=Z,8µm,13.4s
SNY LR LR
comp=Z,4µm,12.9s
SNY LR LR
comp=Z,7µm,12.4s
E54A Lac Daplat, Po 46.31 72 P P 12 09 33.1 -0.7
baz=328,SNR=40
ZAK Zakamensk 46.33 298 eP P 12 09 33.9 -0.2
ZAK e 12 11 07.8
ZAK pmax pmax
comp=Z,22nm,1.1s
ZAK pmax pmax
comp=Z,15nm,1.2s
I49A Point Hope 46.35 79 P P 12 09 33.5 -0.7
baz=329
I49A Point Hope 46.35 79 IAmb IAmb 12 09 39.5
comp=Z,95nm,1.1s
MOR8 Moi Rana 46.39 2 eP P 12 09 33.8 -0.5
ALGO Algonquin Park 46.40 73 P P 12 09 33.4 -1.2
baz=328,SNR=16
D55A Sainte-Anne-du 46.43 71 P P 12 09 33.9 -0.9
baz=328,SNR=19
J48A Bridge Port 46.54 80 P P 12 09 35.3 -0.4
baz=329
M44A Midewin, Midew 46.57 85 IAMs_20 IAMs_20 12 29 38.9
comp=Z,4µm,19.0s
D56A ZEC Mazanza, M 46.66 70 P P 12 09 35.5 -1.1
baz=329,SNR=19
L46A Eue Claire 46.70 83 IAMs_20 IAMs_20 12 28 10.2
comp=Z,4µm,21.0s
E55A Montcerf-Lytto 46.70 71 P P 12 09 36.3 -0.6
baz=329,SNR=6.5
J49A Marlette 46.73 80 P P 12 09 36.1 -1.1
baz=329
U32A Winter Ranch, 46.77 99 IAmb IAmb 12 09 42.0
comp=Z,59nm,1.1s

HDIL Hopedale 46.81 87 P P 12 09 36.6 -1.2
baz=330,SNR=21
HDIL Hopedale 46.81 87 IAMs_20 IAMs_20 12 28 38.4
comp=Z,4µm,18.0s
H52A Wyevale 46.84 76 P P 12 09 36.6 -1.5
baz=329
G54A Lake Saint Pet 46.86 74 P P 12 09 37.0 -1.2
baz=329,SNR=16
G53A Haliburton 46.90 74 P P 12 09 37.6 -1.0
baz=329,SNR=19
121A Cookes Peak, D 46.95 110 P P 12 09 40.0 +0.7
baz=335,SNR=43
121A Cookes Peak, D 46.95 110 IAMs_20 IAMs_20 12 30 02.5
comp=Z,3µm,19.0s
E56A St. Veronique 46.99 71 P P 12 09 38.3 -0.9
baz=329,SNR=8.9
D57A Chemin Vers le 47.00 69 P P 12 09 38.2 -1.0
baz=329,SNR=35
LATQ La Tuque 47.08 68 P P 12 09 39.7 -0.2
baz=329
AMTX Amarillo 47.09 102 P P 12 09 39.4 -0.7
baz=333
AMTX Amarillo 47.09 102 IAmb IAmb 12 09 45.3
comp=Z,60nm,0.9s
AMTX IAMs_20 IAMs_20 12 28 38.8
comp=Z,3µm,20.0s
K49A Clarkson 47.11 80 P P 12 09 39.5 -0.7
baz=329
F55A Otter Lake 47.12 72 P P 12 09 39.5 -0.7
baz=329,SNR=11
I51A Listowel 47.14 77 P P 12 09 39.4 -1.0
baz=329,SNR=14
ULN Ulaanbaatar 47.18 293 P P 12 09 40.3 -0.5
ULN Ulaanbaatar 47.18 293ceP P 12 09 41.0 +0.1
ULN pmax pmax
comp=Z,30nm,1.3s
ULN Ulaanbaatar 47.18 293 P P 12 09 40.9 +0.1
ULN Ulaanbaatar 47.18 293 IAMs_20 IAMs_20 12 29 34.5
comp=Z,4µm,18.0s
I52A Shelburne 47.23 76 P P 12 09 39.9 -1.2
baz=329
D58A Chemin du LacG 47.29 68 P P 12 09 40.3 -1.2
baz=329,SNR=18
H53A Bobcaygeon 47.39 75 P P 12 09 41.2 -1.1
baz=329,SNR=13
E57A Chemin Saint G 47.43 70 P P 12 09 41.5 -1.1
baz=329,SNR=20
K50A Casco 47.43 79 P P 12 09 41.6 -1.0
baz=330
SONM Songino Array 47.43 294 P P 12 09 43.8 +1.0
comp=Z,29nm,1.1s,baz=33,slow=6.4,SNR=45
SONM LR LR 12 30 39.7
comp=Z,5µm,18.2s,baz=36,slow=37
SONM Songino Array 47.43 294 P P 12 09 42.1 -0.6
AAM Ann Arbor 47.45 81 P P 12 09 42.0 -0.7
baz=330
L48A N Adams 47.46 82 IAMs_20 IAMs_20 12 30 34.4
comp=Z,6µm,21.0s
319A Douglas 47.47 112 IAmb IAmb 12 09 51.4
comp=Z,60nm,1.0s
O44A Mansfield 47.48 86 IAMs_20 IAMs_20 12 31 24.0
comp=Z,4µm,19.0s
G55A Calabogie 47.49 73 P P 12 09 42.0 -1.1
baz=329,SNR=39
MSTX Muleshoe 47.49 104 P P 12 09 42.8 -0.6
baz=334,SNR=30
MSTX Muleshoe 47.49 104 IAMs_20 IAMs_20 12 31 29.7
comp=Z,4µm,19.0s
P43A Skaggs, Pawnee 47.52 88 IAMs_20 IAMs_20 12 31 08.1
comp=Z,5µm,20.0s
TMCR Tamitsa 47.64 348 eP P 12 09 40.2 -3.7
TMCR pmax pmax
comp=Z,61nm,0.6s
I53A Kortright Cn E 47.66 76 P P 12 09 43.2 -1.1
baz=329
D59A Saint-Raymond 47.74 68 P P 12 09 44.0 -1.0
baz=329
S39A Bolivar 47.77 93 IAmb IAmb 12 09 49.0
comp=Z,52nm,1.0s
S39A IAMs_20 IAMs_20 12 33 43.4
comp=Z,3µm,20.0s
E58A La Victoria 47.77 69 P P 12 09 44.6 -0.6
baz=329,SNR=9.9
JHJ Hachijo jima 2 47.77 254 P P 12 09 46.4 +0.9
comp=Z,55nm,0.8s,baz=302,slow=14,SNR=2.1
DELO Deloro Mine 47.79 74 IAmb IAmb 12 09 46.3
comp=Z,48nm,1.0s
DELO IAMs_20 IAMs_20 12 31 15.9
comp=Z,5µm,19.0s
SFIN Lafayette 47.80 85 P P 12 09 44.8 -0.8
baz=330,SNR=31
SFIN Lafayette 47.80 85 IAMs_20 IAMs_20 12 30 14.5
comp=Z,3µm,21.0s
J52A Paris 47.83 77 P P 12 09 43.9 -1.8
baz=330,SNR=5.3
K51A Iona Station 47.89 79 P P 12 09 44.3 -1.9
baz=330
N47A Urbana 47.90 83 IAMs_20 IAMs_20 12 31 15.1
comp=Z,3µm,18.0s
H55A Tweed 47.92 74 P P 12 09 45.4 -1.0
baz=329,SNR=27
E59A St. Maurice 47.95 69 P P 12 09 45.2 -1.4
baz=329
L50A Kingsville 47.99 80 P P 12 09 45.4 -1.5
baz=330,SNR=5.2
NSS Namsos 47.99 3 eP P 12 09 47.4 +0.7
F58A St-Lin Laurent 48.01 70 P P 12 09 45.2 -1.9
baz=329
I55A Frankford 48.02 74 P P 12 09 45.7 -1.5
baz=329,SNR=12
EPT El Paso 48.10 109 IAMs_20 IAMs_20 12 31 28.9
comp=Z,5µm,18.0s
SLM Saint Louis 48.12 89 IAmb IAmb 12 09 48.8
comp=Z,72nm,1.0s
K52A Tillsonburg 48.14 78 P P 12 09 46.9 -1.2
baz=330
D60A Saint Jean D'O 48.14 67 P P 12 09 46.8 -1.2
baz=329
D61A St Aubert, Com 48.15 66 P P 12 09 47.5 -0.7
baz=329,SNR=26
OKCFA Oklahoma City 48.20 98 IAMs_20 IAMs_20 12 30 15.4
comp=Z,3µm,21.0s
H56A Elgin 48.22 73 P P 12 09 48.0 -0.7
baz=330,SNR=24
CCM Cathedral Cave 48.24 90 P P 12 09 48.0 -1.0
baz=331
CCM Cathedral Cave 48.24 90 P P 12 09 47.6 -1.4
CCM pmax pmax
comp=Z,113nm,1.0s
CCM MLR MLR
comp=Z,5µm,18.0s
CCM Cathedral Cave 48.24 90 P P 12 09 47.6 -1.4
CCM Cathedral Cave 48.24 90 IAMs_20 IAMs_20 12 30 52.5
comp=Z,5µm,18.0s
G57A Newington 48.25 71 P P 12 09 47.7 -1.2
baz=329,SNR=22
WMOK Wichita Mounta 48.30 100 P P 12 09 48.7 -0.8
baz=333,SNR=36
WMOK Wichita Mounta 48.30 100 IAMs_20 IAMs_20 12 32 44.8
comp=Z,5µm,18.0s
Q44A Meyer Farm, Va 48.35 88 IAMs_20 IAMs_20 12 29 20.2
comp=Z,4µm,18.0s
KS19 Wonju Array Si 48.38 268 IAmb IAmb 12 09 53.8
comp=Z,66nm,0.9s
F59A Saint Guilaume 48.39 69 P P 12 09 49.0 -1.1
baz=330
TUL1 Leonard 48.39 96 P P 12 09 49.0 -1.2
baz=332,SNR=14
TUL1 Leonard 48.39 96 IAmb IAmb 12 09 55.0
comp=Z,75nm,0.9s
KSRS Korea Array 48.40 268 P P 12 09 50.2 0.0
comp=Z,40nm,0.8s,baz=23,slow=7.5,SNR=97
KSRS LR LR 12 30 19.8
comp=Z,4µm,18.0s,baz=33,slow=36
P46A Rosedale 48.42 86 IAMs_20 IAMs_20 12 30 45.9
comp=Z,4µm,18.0s
E60A Ste Agathe de 48.42 68 P P 12 09 49.1 -1.2
baz=330,SNR=24
KSAR Wonju Array Be 48.42 268 P P 12 09 49.6 -0.8
KSAR Wonju Array Be 48.42 268 P P 12 09 49.6 -0.8
N49A Columbus Grove 48.44 82 P P 12 09 49.1 -1.3
N49A IAmb IAmb 12 09 55.1
comp=Z,84nm,1.2s
N49A IAMs_20 IAMs_20 12 27 29.3
comp=Z,4µm,20.0s
M50A Fremont 48.45 81 IAmb IAmb 12 09 53.9
comp=Z,68nm,1.1s
M50A IAMs_20 IAMs_20 12 27 47.6

	comp=Z,4µm,19.0s							
U38A	**Gravette**	**48.46**	**94**	P	**P**	**12 09 48.4**	**-2.3**
U38A				IAmb	IAmb	12 09 54.8		
	comp=Z,43nm,0.8s							
U38A				IAMs_20	IAMs_20	12 30 18.2		
	comp=Z,5µm,22.0s							
J54A	**Appleton**	**48.48**	**76**	P	**P**	**12 09 49.6**	**-1.1**
	baz=330,SNR=8.9							
J54A	**Appleton**	**48.48**	**76**	IAmb	IAmb	12 09 52.0		
	comp=Z,71nm,1.0s							
J54A				IAMs_20	IAMs_20	12 31 33.3		
	comp=Z,3µm,18.0s							
G58A	**Ormstown**	**48.54**	**71**	P	**P**	**12 09 49.9**	**-1.3**
	baz=330,SNR=9.1							
MNTX	**Cornudas Mount**	**48.58**	**108**	P	**P**	**12 09 52.0**	**+0.3**
	baz=335,SNR=119							
MNTX	**Cornudas Mount**	**48.58**	**108**	IAmb	IAmb	12 09 57.6		
	comp=Z,65nm,0.9s							
F60A	**Warwick**	**48.59**	**68**	P	**P**	**12 09 50.5**	**-1.1**
	baz=330							
MEDO	**Medina**	**48.65**	**76**	IAMs_20	IAMs_20	12 27 46.6		
	comp=Z,3µm,21.0s							
O48A	**Farmland**	**48.65**	**83**	P	**P**	**12 09 50.8**	**-1.3**
	baz=330,SNR=90							
D62A	**Allapoint, All**	**48.65**	**65**	P	**P**	**12 09 51.3**	**-0.7**
	baz=330,SNR=12							
E61A	**Lac Etchemin**	**48.71**	**67**	P	**P**	**12 09 50.8**	**-1.7**
	baz=330,SNR=12							
HHAR	**Hobbs**	**48.77**	**94**	IAmb	IAmb	12 09 58.5		
	comp=Z,52nm,1.3s							
HHAR				IAMs_20	IAMs_20	12 30 37.3		
	comp=Z,4µm,22.0s							
X34A	**Smith Ranch, M**	**48.78**	**99**	P	**P**	**12 09 52.1**	**-1.1**
X34A				IAmb	IAmb	12 11 23.0		
	comp=Z,33nm,0.8s							
J55A	**Hilton**	**48.79**	**75**	P	**P**	**12 09 51.3**	**-1.8**
	baz=330,SNR=5.8							
J55A	**Hilton**	**48.79**	**75**	IAmb	IAmb	12 11 21.7		
	comp=Z,30nm,0.8s							
J55A				IAMs_20	IAMs_20	12 31 45.5		
	comp=Z,4µm,18.0s							
LONY	**Lake Ozonia**	**48.81**	**71**	P	**P**	**12 09 52.1**	**-1.2**
	baz=330,SNR=33							
LONY	**Lake Ozonia**	**48.81**	**71**	IAmb	IAmb	12 09 54.0		
	comp=Z,71nm,1.0s							
LONY				IAMs_20	IAMs_20	12 28 09.8		
	comp=Z,4µm,18.0s							
M51A	**Elyria**	**48.84**	**80**	P	**P**	**12 09 52.0**	**-1.5**
	baz=330							
OLIL	**Olney**	**48.85**	**87**	IAMs_20	IAMs_20	12 32 07.3		
	comp=Z,4µm,19.0s							
INCN	**Inchon**	**48.87**	**270**	P	**P**	**12 09 53.6**	**-0.2**
INCN	**Inchon**	**48.87**	**270**	P	**P**	**12 09 53.3**	**-0.5**
INCN				pmax	pmax			
	comp=Z,56nm,0.9s							
INCN				MLR	MLR			
	comp=Z,4µm,20.0s							
INCN	**Inchon**	**48.87**	**270**	P	**P**	**12 09 53.3**	**-0.5**
INCN				IAmb	IAmb	12 10 00.5		
	comp=Z,56nm,0.8s							
INCN	**Inchon**	**48.87**	**270**	IAMs_20	IAMs_20	12 29 51.8		
	comp=Z,4µm,20.0s							
E62A	**Clayton Lake**	**48.88**	**66**	P	**P**	**12 09 53.3**	**-0.6**
	baz=330,SNR=28							
E62A	**Clayton Lake**	**48.88**	**66**	IAmb	IAmb	12 10 00.7		
	comp=Z,68nm,0.9s							
ZAA0	**Zalesovo Array**	**48.91**	**314**	IAmb	IAmb	12 10 00.1		
	comp=Z,84nm,0.9s							
ZALV	**Zalesovo Beam**	**48.91**	**314**	P	**P**	**12 09 52.5**	**-1.4**
	comp=Z,34nm,0.6s,baz=21,slow=5.4,SNR=85							
ZALV				PcP	**PcP**	**12 11 18.5**	**+0.5**	
	comp=Z,20nm,0.7s,baz=27,slow=6.6,SNR=2.7							
ZALV				LR	LR	12 34 04.2		
	comp=Z,5µm,18.2s,baz=14,slow=40							
ZALV	**Zalesovo Beam**	**48.91**	**314**	P	**P**	**12 09 52.4**	**-1.6**
G59A	**Clarenceville**	**48.92**	**70**	P	**P**	**12 09 52.9**	**-1.2**
	baz=330,SNR=14							
F61A	**St Evariste**	**48.92**	**68**	P	**P**	**12 09 53.5**	**-0.7**
	baz=330,SNR=12							
M52A	**Chesterland**	**48.97**	**79**	P	**P**	**12 09 52.9**	**-1.7**
	baz=330							
ERPA	**Erie**	**48.98**	**78**	P	**P**	**12 09 53.0**	**-1.6**
	baz=330							
ERPA	**Erie**	**48.98**	**78**	IAmb	IAmb	12 09 57.1		
	comp=Z,52nm,0.9s							
ERPA				IAMs_20	IAMs_20	12 28 22.5		
	comp=Z,3µm,18.0s							
FRNY	**Flat Rock**	**48.98**	**71**	P	**P**	**12 09 53.9**	**-0.7**
FRNY				IAmb	IAmb	12 09 57.5		
	comp=Z,49nm,1.0s							
FRNY				IAMs_20	IAMs_20	12 33 24.3		
	comp=Z,4µm,21.0s							
I57A	**Carthage**	**49.01**	**73**	P	**P**	**12 09 53.5**	**-1.3**
	baz=330,SNR=16							
D63A	**Stockholm**	**49.01**	**65**	P	**P**	**12 09 53.5**	**-1.4**
	baz=330,SNR=6.1							
O49A	**Covington**	**49.02**	**83**	IAMs_20	IAMs_20	12 28 11.6		
	comp=Z,3µm,18.0s							
L53A	**Girard**	**49.02**	**78**	P	**P**	**12 09 53.7**	**-1.2**
	baz=330,SNR=8.3							
HSIG		**49.04**	**115**	IAmb	IAmb	12 10 01.0		
	comp=Z,63nm,1.2s							
K54A	**Basiliko Farm,**	**49.04**	**76**	P	**P**	**12 09 53.1**	**-2.0**
	baz=330,SNR=6.0							
BLO	**Bloomington**	**49.07**	**85**	IAmb	IAmb	12 10 00.1		
	comp=Z,41nm,0.8s							
BLO				IAMs_20	IAMs_20	12 31 07.1		
	comp=Z,5µm,19.0s							
H59A	**Cadyville**	**49.11**	**71**	P	**P**	**12 09 54.7**	**-0.9**
	baz=330,SNR=17							
U40A	**Yellville**	**49.12**	**93**	P	**P**	**12 09 53.9**	**-1.9**
	baz=332,SNR=42							
U40A	**Yellville**	**49.12**	**93**	IAmb	IAmb	12 11 23.3		
	comp=Z,48nm,0.8s							
U40A				IAMs_20	IAMs_20	12 33 46.3		
	comp=Z,4µm,20.0s							
N51A	**Ashland**	**49.12**	**81**	P	**P**	**12 09 54.3**	**-1.4**
	baz=330,SNR=11							
N51A	**Ashland**	**49.12**	**81**	IAmb	IAmb	12 09 58.4		
	comp=Z,100nm,1.1s							
H58A	**Gabriels**	**49.13**	**71**	P	**P**	**12 09 54.5**	**-1.2**
	baz=330,SNR=36							
L54A	**Sinclairville**	**49.13**	**77**	P	**P**	**12 09 54.3**	**-1.5**
	baz=330,SNR=5.8							
J56A	**Wolcott**	**49.14**	**74**	P	**P**	**12 09 54.0**	**-1.8**
	baz=330,SNR=7.6							
K55A	**Perry**	**49.16**	**76**	P	**P**	**12 09 54.5**	**-1.5**
	baz=330,SNR=9.3							
T42A	**Van Buren**	**49.20**	**91**	IAmb	IAmb	12 10 00.3		
	comp=Z,60nm,0.9s							
G60A	**Masonville**	**49.20**	**69**	P	**P**	**12 09 55.0**	**-1.3**
	baz=330,SNR=14							
MMNY	**Mt. Morris Dam**	**49.22**	**75**	IAmb	IAmb	12 09 56.7		
	comp=Z,50nm,1.1s							
MMNY				IAMs_20	IAMs_20	12 29 59.3		
	comp=Z,3µm,18.0s							
WVNY	**West Valley, N**	**49.24**	**76**	IAmb	IAmb	12 09 59.4		
	comp=Z,64nm,1.1s							
WVNY				IAMs_20	IAMs_20	12 28 06.5		
	comp=Z,4µm,20.0s							
M53A	**WI Miller and**	**49.31**	**79**	P	**P**	**12 09 56.1**	**-1.1**
	baz=330,SNR=11							
M53A	**WI Miller and**	**49.31**	**79**	IAmb	IAmb	12 09 57.9		
	comp=Z,84nm,1.0s							
S44A	**Carbondale**	**49.32**	**89**	IAMs_20	IAMs_20	12 31 42.7		
	comp=Z,4µm,18.0s							
ALLY	**Alegheny Colle**	**49.33**	**78**	IAMs_20	IAMs_20	12 30 41.7		
	comp=Z,4µm,20.0s							
G61A	**St-Isidore-de-**	**49.33**	**69**	P	**P**	**12 09 56.1**	**-1.2**
	baz=330							
J57A	**Williamstown**	**49.34**	**73**	P	**P**	**12 09 55.6**	**-1.7**
	baz=330,SNR=16							
J57A	**Williamstown**	**49.34**	**73**	IAmb	IAmb	12 09 57.8		
	comp=Z,51nm,1.1s							
F62A	**Pittston Farm,**	**49.35**	**67**	P	**P**	**12 09 56.1**	**-1.4**
	baz=330,SNR=12							
E63A	**Oxbow**	**49.44**	**65**	P	**P**	**12 09 57.3**	**-0.8**
	baz=330,SNR=5.5							
P49A	**Miami Univ. Ec**	**49.44**	**83**	P	**P**	**12 09 56.5**	**-1.7**
	baz=331,SNR=17							
P49A	**Miami Univ. Ec**	**49.44**	**83**	IAMs_20	IAMs_20	12 29 58.8		
	comp=Z,3µm,20.0s							
K56A	**Middlesex**	**49.47**	**75**	P	**P**	**12 09 57.2**	**-1.2**
	baz=330,SNR=11							
I58A	**Old Forge**	**49.47**	**72**	P	**P**	**12 09 56.9**	**-1.4**
	baz=330,SNR=11							
N52A	**McGinn's Farm,**	**49.47**	**80**	P	**P**	**12 09 56.9**	**-1.5**
	baz=330							
ACSO	**Alum Creek Sta**	**49.49**	**81**	P	**P**	**12 09 57.4**	**-1.2**
	baz=331,SNR=10							
ACSO	**Alum Creek Sta**	**49.49**	**81**	IAmb	IAmb	12 10 01.7		
	comp=Z,86nm,0.9s							
ACSO				IAMs_20	IAMs_20	12 31 36.1		
	comp=Z,5µm,20.0s							
NCB	**Newcomb**	**49.50**	**72**	IAMs_20	IAMs_20	12 33 18.0		
	comp=Z,3µm,20.0s							
L55A	**Hinsdale**	**49.50**	**76**	P	**P**	**12 09 57.2**	**-1.4**
	baz=330,SNR=18							
DL2	**Dalian**	**49.53**	**275**	P	**P**	**12 09 59.6**	**+0.8**
DL2				S	**S**	**12 17 06.4**	**+0.4**	
DL2				pmax	pmax			
	comp=Z,31nm,1.1s							
DL2				pmax	pmax			
	comp=Z,460nm,7.3s							
DL2				LR	LR			
	comp=Z,6µm,16.1s							
DL2				LR	LR			
	comp=Z,16µm,17.2s							
DL2				LR	LR			
	comp=Z,4µm,13.8s							
H60A	**Morristown**	**49.54**	**70**	P	**P**	**12 09 57.8**	**-1.1**
	baz=330,SNR=12							
TJN	**Taejon**	**49.56**	**268**	*e*P	**P**	**12 09 59.6**	**+0.5**
M54A	**Oil Creek Stat**	**49.63**	**78**	P	**P**	**12 09 58.1**	**-1.5**
	baz=330,SNR=23							
M54A	**Oil Creek Stat**	**49.63**	**78**	IAmb	IAmb	12 10 02.4		
	comp=Z,80nm,0.9s							
J58A	**Remsen**	**49.64**	**73**	P	**P**	**12 09 58.6**	**-1.1**
	baz=330,SNR=13							
E64A	**Bridgewater**	**49.65**	**65**	P	**P**	**12 09 58.5**	**-1.1**
	baz=330							
USIN	**University of**	**49.69**	**87**	P	**P**	**12 09 58.3**	**-1.7**
USIN				IAMs_20	IAMs_20	12 32 31.5		
	comp=Z,5µm,20.0s							
O51A	**Pataskala**	**49.71**	**81**	P	**P**	**12 09 58.9**	**-1.3**
	baz=331,SNR=21							
VT1	**Waterbury**	**49.72**	**70**	P	**P**	**12 10 00.4**	**+0.2**
VT1				IAmb	IAmb	12 10 03.9		
	comp=Z,56nm,1.0s							
VT1				IAMs_20	IAMs_20	12 33 35.1		
	comp=Z,5µm,19.0s							
K57A	**Scipio Center**	**49.73**	**74**	P	**P**	**12 09 59.0**	**-1.4**
	baz=330,SNR=6.3							
G62A	**West of Eustis**	**49.74**	**68**	P	**P**	**12 09 58.6**	**-1.8**
	baz=330,SNR=5.7							
G62A	**West of Eustis**	**49.74**	**68**	IAmb	IAmb	12 10 26.5		
	comp=Z,58nm,1.1s							
I59A	**Olmsteadville**	**49.78**	**71**	P	**P**	**12 09 59.5**	**-1.2**
	baz=330,SNR=36							
W39A	**Magazine**	**49.79**	**95**	P	**P**	**12 09 59.4**	**-1.5**
	baz=332,SNR=29							
N53A	**Lisbon**	**49.80**	**79**	P	**P**	**12 09 59.5**	**-1.4**
	baz=330,SNR=17							
N53A	**Lisbon**	**49.80**	**79**	IAmb	IAmb	12 10 04.0		
	comp=Z,76nm,0.9s							
FCAR	**Ozark Folk Cen**	**49.81**	**93**	IAmb	IAmb	12 10 05.0		
	comp=Z,83nm,1.0s							
FCAR				IAMs_20	IAMs_20	12 33 15.8		
	comp=Z,4µm,18.0s							
MOL	**Molde**	**49.81**	**6**	*e*P	**P**	**12 10 01.1**	**+0.4**
F63A	**Nahmakanta, Br**	**49.82**	**66**	P	**P**	**12 10 00.1**	**-0.9**
	baz=330,SNR=12							
F63A	**Nahmakanta, Br**	**49.82**	**66**	IAmb	IAmb	12 10 08.7		
	comp=Z,53nm,0.9s							
J59A	**Piesco**	**49.83**	**72**	P	**P**	**12 09 59.7**	**-1.4**
	baz=330,SNR=11							
H61A	**Lyndonville**	**49.84**	**69**	P	**P**	**12 10 00.3**	**-0.9**
	baz=330,SNR=8.0							
ABTX	**Abilene, Hawle**	**49.86**	**102**	P	**P**	**12 10 00.1**	**-1.4**
	baz=334,SNR=8.5							
ABTX	**Abilene, Hawle**	**49.86**	**102**	IAmb	IAmb	12 10 06.2		
	comp=Z,76nm,1.2s							
L56A	**Greenwood**	**49.87**	**76**	P	**P**	**12 10 00.1**	**-1.3**
	baz=330,SNR=29							
L56A	**Greenwood**	**49.87**	**76**	IAmb	IAmb	12 10 01.9		
	comp=Z,78nm,0.9s							
L56A				IAMs_20	IAMs_20	12 32 02.9		
	comp=Z,5µm,18.0s							
I60A	**Shoreham**	**49.95**	**71**	P	**P**	**12 10 00.7**	**-1.3**
	baz=330,SNR=8.8							
F64A	**Sherman**	**49.95**	**66**	P	**P**	**12 10 00.7**	**-1.2**
	baz=330							
WCI	**Wyandotte Cave**	**49.98**	**86**	P	**P**	**12 10 01.0**	**-1.3**
	baz=331							
WCI	**Wyandotte Cave**	**49.98**	**86**	P	**P**	**12 10 00.6**	**-1.7**
WCI				pmax	pmax			
	comp=Z,117nm,1.0s							
WCI				MLR	MLR			
	comp=Z,4µm,18.0s							
WCI	**Wyandotte Cave**	**49.98**	**86**	P	**P**	**12 10 00.6**	**-1.7**
WCI	**Wyandotte Cave**	**49.98**	**86**	IAMs_20	IAMs_20	12 33 48.2		
	comp=Z,4µm,18.0s							
N54A	**Moraine State**	**49.98**	**78**	P	**P**	**12 10 00.5**	**-1.8**
	baz=331,SNR=11							
N54A	**Moraine State**	**49.98**	**78**	IAmb	IAmb	12 10 05.1		
	comp=Z,60nm,1.0s							
N54A				IAMs_20	IAMs_20	12 31 10.0		
	comp=Z,3µm,19.0s							
M55A	**Ridgway**	**50.00**	**77**	P	**P**	**12 10 00.8**	**-1.6**
	baz=330,SNR=30							
M55A	**Ridgway**	**50.00**	**77**	IAmb	IAmb	12 10 03.0		
	comp=Z,91nm,1.1s							
M55A				IAMs_20	IAMs_20	12 29 41.4		
	comp=Z,3µm,20.0s							
LCAR	**Lake Charles**	**50.02**	**92**	IAmb	IAmb	12 11 26.7		
	comp=Z,72nm,0.9s							
LCAR				IAMs_20	IAMs_20	12 34 06.0		
	comp=Z,4µm,19.0s							
O52A	**Adamsville**	**50.02**	**81**	P	**P**	**12 10 01.2**	**-1.4**
	baz=331,SNR=16							
O52A	**Adamsville**	**50.02**	**81**	IAmb	IAmb	12 10 05.5		
	comp=Z,94nm,0.9s							
K58A	**Earlville**	**50.02**	**74**	P	**P**	**12 10 01.5**	**-1.1**
	baz=330,SNR=7.0							
K58A	**Earlville**	**50.02**	**74**	IAmb	IAmb	12 11 27.8		
	comp=Z,78nm,1.4s							
H62A	**Milan**	**50.08**	**69**	P	**P**	**12 10 02.4**	**-0.5**
	baz=330							
LBNH	**Lisbon**	**50.09**	**70**	P	**P**	**12 10 02.9**	**-0.2**
	baz=330,SNR=12							
LBNH	**Lisbon**	**50.09**	**70**	IAMs_20	IAMs_20	12 34 27.1		
	comp=Z,5µm,20.0s							
HENM	**Henderson Moun**	**50.09**	**90**	IAMs_20	IAMs_20	12 29 46.3		
	comp=Z,3µm,19.0s							
P51A	**Williamsport**	**50.11**	**82**	P	**P**	**12 10 01.7**	**-1.6**
	baz=331,SNR=12							
P51A	**Williamsport**	**50.11**	**82**	IAmb	IAmb	12 10 03.7		
	comp=Z,58nm,1.0s							
P51A				IAMs_20	IAMs_20	12 28 56.6		
	comp=Z,3µm,19.0s							
Z35A	**Perchaven, San**	**50.13**	**99**	IAmb	IAmb	12 11 27.3		
	comp=Z,72nm,0.8s							
PKME	**Peaks-Kenny Pk**	**50.14**	**67**	P	**P**	**12 10 02.6**	**-0.7**
	baz=330,SNR=16							
PKME	**Peaks-Kenny Pk**	**50.14**	**67**	IAmb	IAmb	12 10 05.2		
	comp=Z,107nm,1.1s							
O53A	**New Philadelph**	**50.14**	**80**	P	**P**	**12 10 02.3**	**-1.2**
	baz=331,SNR=14							
O53A	**New Philadelph**	**50.14**	**80**	IAmb	IAmb	12 10 04.0		
	comp=Z,57nm,0.9s							
T45A	**Paducah**	**50.14**	**89**	IAMs_20	IAMs_20	12 29 47.6		
	comp=Z,4µm,19.0s							
G63A	**Kingsbury**	**50.15**	**67**	P	**P**	**12 10 02.9**	**-0.7**
	baz=330,SNR=18							
AKN	**Aaknes**	**50.18**	**7**	*e*P	**P**	**12 10 04.0**	**+0.5**
M56A	**Emporium**	**50.20**	**77**	P	**P**	**12 10 02.4**	**-1.6**
	baz=330,SNR=27							
M56A	**Emporium**	**50.20**	**77**	IAmb	IAmb	12 10 04.3		
	comp=Z,76nm,1.1s							
ACCN	**Adirondack Com**	**50.21**	**72**	IAMs_20	IAMs_20	12 33 40.8		
	comp=Z,5µm,20.0s							
L57A	**Andrews Acres**	**50.24**	**75**	P	**P**	**12 10 02.7**	**-1.6**
	baz=330,SNR=30							
I61A	**Oroboro, Fairl**	**50.26**	**70**	P	**P**	**12 10 03.8**	**-0.5**
	baz=330,SNR=18							
PENMO	**Penman**	**50.27**	**90**	IAMs_20	IAMs_20	12 31 12.4		
	comp=Z,4µm,22.0s							
K59A	**Cooperstown**	**50.31**	**73**	P	**P**	**12 10 03.6**	**-1.2**
	baz=330,SNR=17							
P52A	**Corning**	**50.33**	**81**	P	**P**	**12 10 03.2**	**-1.7**
	baz=331,SNR=10							
P52A	**Corning**	**50.33**	**81**	IAmb	IAmb	12 10 06.0		
	comp=Z,110nm,1.4s							
G64A	**Maxfield**	**50.34**	**66**	P	**P**	**12 10 03.9**	**-1.0**
	baz=330,SNR=8.4							
HICK	**Hickman**	**50.34**	**89**	IAMs_20	IAMs_20	12 32 58.8		
	comp=Z,3µm,18.0s							
R49A	**Shelbyville**	**50.35**	**85**	IAMs_20	IAMs_20	12 33 12.0		
	comp=Z,3µm,18.0s							
BINY	**Binghamton**	**50.39**	**74**	P	**P**	**12 10 03.8**	**-1.6**
	baz=330,SNR=17							
BINY	**Binghamton**	**50.39**	**74**	IAmb	IAmb	12 10 06.4		
	comp=Z,70nm,1.1s							
W41B	**Gary Mawity, V**	**50.39**	**93**	P	**P**	**12 10 03.7**	**-1.7**
	baz=332,SNR=19							
H63A	**New Sharon**	**50.40**	**68**	P	**P**	**12 10 04.7**	**-0.6**
	baz=330							
DOMB	**Dombas**	**50.40**	**5**	*e*P	**P**	**12 10 05.6**	**+0.4**
Q51A	**Peebles**	**50.40**	**83**	IAmb	IAmb	12 10 06.2		
	comp=Z,58nm,1.1s							
Q51A				IAMs_20	IAMs_20	12 33 15.3		
	comp=Z,3µm,20.0s							
J60A	**Lant Hill Farm**	**50.42**	**71**	P	**P**	**12 10 04.3**	**-1.3**
	baz=330,SNR=24							
HNH	**Hanover**	**50.43**	**70**	IAmb	IAmb	12 10 09.8		
	comp=Z,52nm,0.9s							
HNH				IAMs_20	IAMs_20	12 34 28.7		
	comp=Z,5µm,19.0s							
MIAR	**Mount Ida**	**50.44**	**95**	P	**P**	**12 10 04.7**	**-1.1**
	baz=333,SNR=90							
MIAR	**Mount Ida**	**50.44**	**95**	IAmb	IAmb	12 10 09.1		
	comp=Z,91nm,1.0s							
PEBM	**Pemiscott Bayo**	**50.47**	**90**	IAMs_20	IAMs_20	12 32 18.9		
	comp=Z,5µm,18.0s							
N55A	**Marion Center**	**50.51**	**78**	P	**P**	**12 10 04.8**	**-1.6**
	baz=331,SNR=30							
O54A	**Avella**	**50.51**	**79**	P	**P**	**12 10 05.0**	**-1.3**
	baz=331,SNR=15							
O54A	**Avella**	**50.51**	**79**	IAmb	IAmb	12 10 09.2		
	comp=Z,65nm,0.9s							
O54A				IAMs_20	IAMs_20	12 32 48.2		
	comp=Z,4µm,18.0s							
GLAT	**Glass**	**50.56**	**90**	P	**P**	**12 10 06.1**	**-0.5**
GLAT				IAMs_20	IAMs_20	12 31 21.5		
	comp=Z,3µm,21.0s							
L58A	**Harry Jones Me**	**50.58**	**74**	P	**P**	**12 10 05.5**	**-1.3**
	baz=331,SNR=18							
BJI	**Beijing**	**50.60**	**281**	P	**P**	**12 10 06.4**	**-0.6**
BJI				PP	**PP**	**12 12 06.4**	**+3.9**	
BJI				S	**S**	**12 17 17.4**	**-3.5**	
BJI				sS	**sS**	**12 17 27.8**	**+0.7**	
BJI				SS	**SS**	**12 20 54.0**	**-0.5**	
BJI				pmax	pmax			
	comp=Z,15nm,0.8s							
BJI				pmax	pmax			
	comp=Z,560nm,4.7s							
BJI				LR	LR			
	comp=Z,9µm,16.5s							
BJI				LR	LR			
	comp=Z,12µm,16.5s							
BJI				LR	LR			
	comp=Z,3µm,17.7s							
WVL	**Waterville**	**50.62**	**68**	P	**P**	**12 10 07.1**	**+0.1**
WVL				IAmb	IAmb	12 10 13.0		
	comp=Z,129nm,1.8s							
I62A	**Tamworth**	**50.62**	**69**	P	**P**	**12 10 06.1**	**-1.0**
	baz=331							
BJT	**Baijiatuau**	**50.63**	**281**	IAMs_20	IAMs_20	12 29 50.0		
	comp=Z,5µm,19.0s							
J61A	**Chester**	**50.64**	**71**	P	**P**	**12 10 06.4**	**-0.8**
	baz=331,SNR=8.7							
N56A	**West Decatur**	**50.65**	**77**	P	**P**	**12 10 05.8**	**-1.6**
	baz=331,SNR=10.0							
HBAR	**Harrisburg**	**50.66**	**91**	IAMs_20	IAMs_20	12 30 07.4		
	comp=Z,4µm,19.0s							
R50A	**Paris**	**50.68**	**84**	IAMs_20	IAMs_20	12 30 33.7		
	comp=Z,3µm,19.0s							
H64A	**Troy**	**50.70**	**67**	P	**P**	**12 10 07.2**	**-0.5**
	baz=331,SNR=12							
UALR	**University of**	**50.71**	**93**	IAmb	IAmb	12 10 10.8		
	comp=Z,68nm,1.0s							
UALR				IAMs_20	IAMs_20	12 29 58.7		
	comp=Z,4µm,20.0s							
M57A	**Sunshine Farm,**	**50.72**	**76**	P	**P**	**12 10 06.2**	**-1.7**
	baz=331,SNR=19							
M57A	**Sunshine Farm,**	**50.72**	**76**	IAmb	IAmb	12 10 10.5		
	comp=Z,59nm,1.1s							
M57A				IAMs_20	IAMs_20	12 31 21.5		
	comp=Z,3µm,19.0s							
I63A	**Otisfield**	**50.74**	**69**	P	**P**	**12 10 07.0**	**-1.0**
	baz=331							
I63A	**Otisfield**	**50.74**	**69**	IAMs_20	IAMs_20	12 35 05.9		
	comp=Z,5µm,19.0s							
P53A	**Whipple**	**50.74**	**81**	P	**P**	**12 10 06.4**	**-1.6**
	baz=331,SNR=18							
P53A	**Whipple**	**50.74**	**81**	IAmb	IAmb	12 10 08.5		
	comp=Z,72nm,1.1s							
L59A	**Walton**	**50.74**	**73**	P	**P**	**12 10 06.5**	**-1.5**
	baz=331,SNR=11							
T47A	**Sharon Grove**	**50.76**	**87**	IAMs_20	IAMs_20	12 31 07.8		
	comp=Z,3µm,18.0s							
TRY	**Troy**	**50.77**	**72**	IAMs_20	IAMs_20	12 29 21.9		
	comp=Z,4µm,22.0s							
X40A	**Basin Creek Fa**	**50.78**	**94**	P	**P**	**12 10 06.9**	**-1.5**
	baz=333,SNR=33							
X40A	**Basin Creek Fa**	**50.78**	**94**	IAmb	IAmb	12 10 11.3		
	comp=Z,78nm,1.2s							
KLMR	**Klimovskoe**	**50.78**	**347**	*e*P	**P**	**12 10 07.4**	**-0.6**
KLMR				*e*S	**S**	**12 17 23.3**	**+0.4**	
KLMR				pmax	pmax			
	comp=Z,209nm,1.5s							
KLMR	**Klimovskoe**	**50.78**	**347**	*e*P	**P**	**12 10 07.5**	**-0.6**
KLMR				AMP		12 10 15.6		
	comp=Z,209nm,1.5s							
KLMR				*e*S	**S**	**12 17 23.4**	**+0.5**	
KLMR				*e*S	**S**	**12 17 23.4**	**+0.5**	
KLMR				LQ	LQ	12 26 18.4		
KLMR				LQ	LQ	12 26 18.4		
KLMR				LR	LR	12 29 11.4		
K60A	**Five Riv

J63A	**Strafford**	**51.23**	**69**	P	**P**	**12 10 09.9**	**-1.7**
	baz=331,SNR=5.1						
WVT	**Waverly**	**51.24**	**88**	P	**P**	**12 10 10.9**	**-0.9**
	baz=332						
WVT	**Waverly**	**51.24**	**88**	P	**P**	**12 10 10.3**	**-1.5**
WVT				pmax	pmax		
	comp=Z,56nm,0.9s						
WVT				MLR	MLR		
	comp=Z,4µm,19.0s						
WVT	**Waverly**	**51.24**	**88**	P	**P**	**12 10 10.3**	**-1.5**
WVT				IAmb	IAmb	12 10 17.0	
	comp=Z,56nm,0.9s						
WVT	**Waverly**	**51.24**	**88**	IAMs_20	IAMs_20	12 31 23.5	
	comp=Z,5µm,19.0s						
Q53A	**Leroy**	**51.24**	**81**	P	**P**	**12 10 10.4**	**-1.4**
	baz=331,SNR=34						
H66A	**Whiting**	**51.24**	**65**	P	**P**	**12 10 09.8**	**-1.9**
	baz=331,SNR=6.4						
HDBT	**Hernando Brdge**	**51.25**	**91**	IAMs_20	IAMs_20	12 35 23.3	
	comp=Z,4µm,21.0s						
WHTX	**Lake Whitney,**	**51.25**	**100**	P	**P**	**12 10 10.6**	**-1.4**
	baz=334						
WHTX	**Lake Whitney,**	**51.25**	**100**	IAMs_20	IAMs_20	12 32 15.0	
	comp=Z,4µm,18.0s						
L61A	**Hillsdale 1, H**	**51.28**	**72**	P	**P**	**12 10 11.2**	**-0.9**
	baz=331,SNR=14						
NC303	**NORSAR Array S**	**51.29**	**4**	IAmb	IAmb	12 10 18.2	
	comp=Z,92nm,1.1s						
N58A	**Sunbury**	**51.30**	**76**	P	**P**	**12 10 10.4**	**-1.9**
	baz=331,SNR=30						
N58A	**Sunbury**	**51.30**	**76**	IAmb	IAmb	12 10 15.6	
	comp=Z,60nm,0.8s						
P55A	**Reedsville**	**51.31**	**79**	P	**P**	**12 10 11.0**	**-1.3**
	baz=331,SNR=19						
TXAR	**Lajitas Array**	**51.34**	**108**	P	**P**	**12 10 13.0**	**+0.2**
	comp=Z,119nm,0.8s,baz=335,slow=5.7,SNR=244						
TXAR				LR	LR	12 34 05.2	
	comp=Z,3µm,18.3s,baz=0.0,slow=38						
TXAR				PKPPKP	P'P'df	12 40 43.8	-9.1
	comp=Z,0.7nm,1.0s,baz=145,slow=4.6,SNR=4.0						
TXAR	**Lajitas Array**	**51.34**	**108**	P	**P**	**12 10 13.0**	**+0.2**
TXAR	**Lajitas Array**	**51.34**	**108**	P	**P**	**12 10 12.8**	**0.0**
K62A	**Royalston**	**51.35**	**71**	P	**P**	**12 10 12.2**	**-0.4**
	baz=331,SNR=12						
K62A	**Royalston**	**51.35**	**71**	IAmb	IAmb	12 10 16.4	
	comp=Z,60nm,1.0s						
L61B	**Northampton**	**51.38**	**71**	P	**P**	**12 10 11.4**	**-1.4**
	baz=331						
Q54A	**Coxs Mills**	**51.39**	**80**	P	**P**	**12 10 11.5**	**-1.4**
	baz=331,SNR=20						
Q54A	**Coxs Mills**	**51.39**	**80**	IAmb	IAmb	12 10 17.7	
	comp=Z,42nm,0.8s						
NC405	**NORSAR Array S**	**51.41**	**4**	IAmb	IAmb	12 10 19.8	
	comp=Z,99nm,1.1s						
NBO00	**NORSAR Array S**	**51.47**	**4**	IAmb	IAmb	12 10 20.0	
	comp=Z,58nm,1.1s						
NB2	**NORSAR Subarra**	**51.47**	**4**	P	**P**	**12 10 12.7**	**-0.6**
	comp=Z,61nm,1.2s,baz=354,slow=7.4						
NB2	**NORSAR Subarra**	**51.47**	**4**	P	**P**	**12 10 12.7**	**-0.6**
	baz=354,slow=7.4						
NOA	**NORSAR Array B**	**51.47**	**4**	P	**P**	**12 10 12.7**	**-0.6**
	comp=Z,10nm,0.8s,baz=356,slow=7.3,SNR=18						
NOA				PcP	**PcP**	**12 11 27.2**	**-0.2**
	comp=Z,6.8nm,0.7s,baz=1.4,slow=4.3,SNR=12						
NOA				LR	LR	12 33 22.1	
	comp=Z,1µm,18.2s,baz=0.0,slow=38						
X43A	**Marvell**	**51.49**	**92**	P	**P**	**12 10 12.3**	**-1.4**
	baz=333						
X43A	**Marvell**	**51.49**	**92**	IAmb	IAmb	12 10 18.7	
	comp=Z,73nm,0.8s						
O57A	**Amberson**	**51.51**	**77**	P	**P**	**12 10 12.3**	**-1.6**
	baz=331,SNR=45						
S51A	**Beattyville**	**51.52**	**84**	IAmb	IAmb	12 10 17.1	
	comp=Z,97nm,0.8s						
S51A				IAMs_20	IAMs_20	12 35 54.3	
	comp=Z,3µm,18.0s						
R53A	**Hurricane**	**51.54**	**82**	P	**P**	**12 10 12.9**	**-1.1**
	baz=331,SNR=21						
R53A	**Hurricane**	**51.54**	**82**	IAmb	IAmb	12 10 14.8	
	comp=Z,107nm,0.9s						
R53A				IAMs_20	IAMs_20	12 32 59.3	
	comp=Z,5µm,20.0s						
K63A	**Dunstable**	**51.58**	**70**	P	**P**	**12 10 13.6**	**-0.7**
	baz=331,SNR=14						
N59A	**State Game Lan**	**51.59**	**75**	P	**P**	**12 10 12.3**	**-2.1**
	baz=331,SNR=11						
T50A	**Nancy**	**51.59**	**85**	IAmb	IAmb	12 10 20.0	
	comp=Z,109nm,1.0s						
T50A				IAMs_20	IAMs_20	12 32 32.8	
	comp=Z,4µm,21.0s						
QUA2	**Belchertown**	**51.65**	**71**	IAMs_20	IAMs_20	12 34 33.9	
	comp=Z,5µm,19.0s						
M60A	**Port Jervis**	**51.65**	**74**	P	**P**	**12 10 12.9**	**-1.9**
	baz=331,SNR=13						
Q55A	**Buckhannon**	**51.66**	**80**	P	**P**	**12 10 13.8**	**-1.2**
	baz=331,SNR=31						
U49A	**Red Boiling Sp**	**51.68**	**86**	IAmb	IAmb	12 10 18.5	
	comp=Z,76nm,0.9s						
U49A				IAMs_20	IAMs_20	12 34 07.2	
	comp=Z,5µm,22.0s						
P56A	**Dayton Farm, R**	**51.68**	**78**	P	**P**	**12 10 13.7**	**-1.4**
	baz=331,SNR=17						
CCAR	**Cane Creek**	**51.69**	**93**	IAmb	IAmb	12 10 20.2	
	comp=Z,75nm,1.0s						
CCAR				IAMs_20	IAMs_20	12 32 17.5	
	comp=Z,4µm,22.0s						
LRW	**Lerwick**	**51.71**	**12**	*e*P	**P**	**12 10 14.9**	**-0.1**
LRW				IAmb	IAmb	12 10 19.2	
	comp=Z,54nm,0.7s						
LRW				IAMs_20	IAMs_20	12 33 33.0	
	comp=Z,2µm,18.0s						
JCT	**Junction City**	**51.72**	**103**	P	**P**	**12 10 14.8**	**-0.8**
	baz=335,SNR=54						
JCT	**Junction City**	**51.72**	**103**	IAMs_20	IAMs_20	12 34 43.7	
	comp=Z,4µm,19.0s						
HRV	**Adam Dziewonsk**	**51.73**	**70**	P	**P**	**12 10 15.3**	**-0.2**
	baz=331						
HRV	**Adam Dziewonsk**	**51.73**	**70**	P	**P**	**12 10 15.2**	**-0.2**
HRV				pmax	pmax		
	comp=Z,47nm,1.1s						
HRV				MLR	MLR		
	comp=Z,4µm,18.0s						
HRV	**Adam Dziewonsk**	**51.73**	**70**	P	**P**	**12 10 15.2**	**-0.3**
HRV	**Adam Dziewonsk**	**51.73**	**70**	IAMs_20	IAMs_20	12 34 45.2	
	comp=Z,4µm,18.0s						
SKAR	**Skarslia**	**51.73**	**6**	*e*P	**P**	**12 10 15.5**	**+0.2**
L62A	**Suffield**	**51.75**	**72**	P	**P**	**12 10 14.3**	**-1.2**
	baz=331						
NC602	**NORSAR Array S**	**51.79**	**4**	*e*P	**P**	**12 10 15.0**	**-0.6**
NORES	**NORESS Array B**	**51.79**	**4**	P	**P**	**12 10 16.0**	**+0.4**
NORES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SVE	**Sverdlovsk**	**51.83**	**332**	*e*P	**P**	**12 10 16.0**	**+0.1**
SVE				*e*S	**S**	**12 17 39.5**	**+2.1**
SVE				pmax	pmax		
	comp=Z,91nm,1.6s						
CLTN	**Cedars of Leba**	**51.84**	**87**	IAmb	IAmb	12 10 21.7	
	comp=Z,98nm,1.1s						
CLTN				IAMs_20	IAMs_20	12 35 45.9	
	comp=Z,4µm,18.0s						
O58A	**Lewisberry**	**51.85**	**76**	P	**P**	**12 10 14.6**	**-1.8**
	baz=331,SNR=43						
237A	**Washetta, Mont**	**51.86**	**98**	IAMs_20	IAMs_20	12 32 41.2	
	comp=Z,4µm,19.0s						
N60A	**Cedar Hill Far**	**51.87**	**74**	P	**P**	**12 10 14.6**	**-1.9**
	baz=331,SNR=17						
Z41A	**Richland Creek**	**51.88**	**95**	P	**P**	**12 10 15.5**	**-1.1**
	baz=333						
Z41A	**Richland Creek**	**51.88**	**95**	P	**P**	**12 10 15.7**	**-0.9**
Z41A				IAmb	IAmb	12 10 18.7	
	comp=Z,134nm,1.4s						
KIRV	**Kirov**	**51.90**	**340**	*i* P	**P**	**12 10 16.4**	**0.0**
WES	**Weston**	**51.92**	**70**	P	**P**	**12 10 17.0**	**+0.2**
WES				pmax	pmax		
	comp=Z,94nm,1.0s						
WES				MLR	MLR		
	comp=Z,5µm,20.0s						
WES	**Weston**	**51.92**	**70**	P	**P**	**12 10 17.0**	**+0.2**
WES				IAmb	IAmb	12 10 20.7	
	comp=Z,94nm,1.0s						
WES				IAMs_20	IAMs_20	12 35 23.2	
	comp=Z,5µm,20.0s						
DGZ	**Jazzator, Alta**	**51.94**	**309**	*i* P	**P**	**12 10 16.6**	**-0.5**
DGZ				pmax	pmax		
	comp=Z,30nm,0.9s						
Q56A	**Snyder Ridge,**	**51.96**	**79**	P	**P**	**12 10 15.9**	**-1.3**
	baz=331,SNR=16						
Q56A	**Snyder Ridge,**	**51.96**	**79**	IAmb	IAmb	12 10 22.4	
	comp=Z,97nm,1.4s						
V48A	**Smith Brothers**	**51.96**	**88**	IAmb	IAmb	12 10 22.4	
	comp=Z,50nm,1.0s						
V48A				IAMs_20	IAMs_20	12 35 48.4	
	comp=Z,3µm,18.0s						
M61A	**Granite Spring**	**51.98**	**73**	P	**P**	**12 10 15.7**	**-1.6**
	baz=331						
P57A	**Homestead Farm**	**52.01**	**78**	P	**P**	**12 10 15.7**	**-1.8**
	baz=331,SNR=10						
P57A	**Homestead Farm**	**52.01**	**78**	IAMs_20	IAMs_20	12 35 20.7	
	comp=Z,3µm,18.0s						
BCX	**Boston College**	**52.02**	**70**	IAmb	IAmb	12 10 19.0	
	comp=Z,70nm,1.1s						
R54A	**Victor**	**52.03**	**81**	P	**P**	**12 10 16.1**	**-1.7**
	baz=332,SNR=24						
S53A	**Williamson**	**52.04**	**82**	P	**P**	**12 10 16.5**	**-1.4**
	baz=332						
OXF	**Oxford**	**52.06**	**91**	P	**P**	**12 10 17.2**	**-0.7**
	baz=333,SNR=62						
PLAL	**Pickwick Lake**	**52.15**	**89**	P	**P**	**12 10 17.8**	**-0.8**
MVL	**Millersville**	**52.17**	**76**	IAMs_20	IAMs_20	12 35 20.0	
	comp=Z,4µm,18.0s						
M62A	**Hamden**	**52.18**	**72**	P	**P**	**12 10 17.3**	**-1.4**
	baz=331,SNR=6.3						
PAL	**Palisades**	**52.19**	**73**	P	**P**	**12 10 17.1**	**-1.8**
	baz=331,SNR=7.5						
PAL	**Palisades**	**52.19**	**73**	IAmb	IAmb	12 10 24.6	
	comp=Z,44nm,0.8s						
BRNJ	**Basking Ridge**	**52.23**	**74**	IAMs_20	IAMs_20	12 33 52.6	
	comp=Z,4µm,19.0s						
O60A	**Telford**	**52.24**	**75**	P	**P**	**12 10 16.6**	**-2.7**
	baz=331,SNR=8.7						
S54A	**Dingess, Beckl**	**52.24**	**82**	P	**P**	**12 10 17.7**	**-1.6**
	baz=332,SNR=7.2						
S54A	**Dingess, Beckl**	**52.24**	**82**	IAMs_20	IAMs_20	12 36 07.4	
	comp=Z,3µm,21.0s						
Q57A	**Strasburg**	**52.25**	**78**	P	**P**	**12 10 17.6**	**-1.7**
	baz=332,SNR=11						
BRYW	**Bryant College**	**52.25**	**71**	IAmb	IAmb	12 10 20.4	
	comp=Z,53nm,1.0s						
P58A	**Pank, Wackersv**	**52.27**	**77**	P	**P**	**12 10 17.1**	**-2.3**
	baz=331,SNR=8.2						
R55A	**Marlinton**	**52.27**	**80**	P	**P**	**12 10 18.0**	**-1.6**
	baz=332,SNR=15						
N61A	**South Mountain**	**52.27**	**74**	P	**P**	**12 10 18.7**	**-0.7**
	baz=331						
L63A	**North Scituate**	**52.28**	**71**	P	**P**	**12 10 18.7**	**-0.8**
	baz=331						
435B	**Jarrell**	**52.28**	**101**	P	**P**	**12 10 18.3**	**-1.3**
	baz=334						
435B	**Jarrell**	**52.28**	**101**	IAmb	IAmb	12 10 25.8	
	comp=Z,147nm,1.8s						
435B				IAMs_20	IAMs_20	12 32 04.4	
	comp=Z,3µm,19.0s						
BTO	**Baotou**	**52.40**	**286**	*e*P	**P**	**12 10 19.3**	**-1.2**
N62A	**Caumsett State**	**52.42**	**73**	P	**P**	**12 10 18.6**	**-1.9**
	baz=331						
P59A	**Jarrettsville**	**52.48**	**76**	P	**P**	**12 10 19.0**	**-2.1**
	baz=332,SNR=14						
L64A	**Middleborough**	**52.49**	**70**	P	**P**	**12 10 19.7**	**-1.3**
	baz=331,SNR=5.7						
T53A	**Wise**	**52.50**	**83**	P	**P**	**12 10 20.4**	**-0.9**
	baz=332,SNR=14						
TZTN	**Tazewell**	**52.50**	**84**	P	**P**	**12 10 20.5**	**-0.7**
	baz=332,SNR=72						
NATX	**Nacogdoches**	**52.51**	**97**	P	**P**	**12 10 20.3**	**-1.0**
	baz=334						
M63A	**Gales Ferry**	**52.52**	**71**	P	**P**	**12 10 19.9**	**-1.3**
	baz=331,SNR=5.9						
ARU	**Arti**	**52.57**	**333**	*d* P	**P**	**12 10 20.9**	**-0.6**
ARU						12 11 34.3	
ARU				S	**S**	**12 17 48.8**	**+1.1**
ARU						12 20 09.9	
ARU				SS	**SS**	**12 21 30.9**	**+5.9**
ARU				pmax	pmax		
	comp=Z,53nm,0.8s						
ARU				MLR	MLR		
	comp=Z,3µm,21.0s						
ARU	**Arti**	**52.57**	**333**	P	**P**	**12 10 20.7**	**-0.7**
ARU				IAmb	IAmb	12 10 28.2	
	comp=Z,92nm,1.1s						
ARU				IAMs_20	IAMs_20	12 34 32.0	
	comp=Z,3µm,20.0s						
S55A	**Lewisburg**	**52.58**	**81**	P	**P**	**12 10 20.3**	**-1.5**
	baz=332,SNR=12						
P60A	**Greenville**	**52.60**	**75**	P	**P**	**12 10 19.5**	**-2.4**
	baz=332						
P60A	**Greenville**	**52.60**	**75**	IAMs_20	IAMs_20	12 31 26.3	
	comp=Z,3µm,20.0s						
Q58A	**Fox Den Farm,**	**52.61**	**78**	P	**P**	**12 10 20.1**	**-1.8**
	baz=332,SNR=25						
GBN	**Guysborough**	**52.67**	**61**	IAmb	IAmb	12 10 24.7	
	comp=Z,116nm,1.4s						
L65A	**Cape Cod Natio**	**52.69**	**69**	P	**P**	**12 10 21.4**	**-1.1**
	baz=332						
M64A	**Tiverton**	**52.69**	**71**	P	**P**	**12 10 21.6**	**-1.0**
	baz=332						
O61A	**Allentown**	**52.76**	**74**	P	**P**	**12 10 21.7**	**-1.3**
	baz=332						
SWET	**Sewanee**	**52.77**	**87**	IAmb	IAmb	12 10 27.9	
	comp=Z,58nm,0.9s						
SWET				IAMs_20	IAMs_20	12 35 04.9	
	comp=Z,4µm,20.0s						
T54A	**Tazewell**	**52.80**	**82**	P	**P**	**12 10 22.1**	**-1.4**
	baz=332,SNR=15						
KONO	**Kongsberg**	**52.81**	**5**	P	**P**	**12 10 23.3**	**+0.1**
KONO				pmax	pmax		
	comp=Z,62nm,1.0s						
KONO				MLR	MLR		
	comp=Z,1µm,22.0s						
KONO	**Kongsberg**	**52.81**	**5**	P	**P**	**12 10 23.3**	**+0.1**
KONO				IAmb	IAmb	12 10 30.3	
	comp=Z,62nm,0.9s						
KONO	**Kongsberg**	**52.81**	**5**	*e*P	**P**	**12 10 23.8**	**+0.5**
V51A	**Loudon**	**52.85**	**85**	IAmb	IAmb	12 10 29.3	
	comp=Z,68nm,0.9s						
R57A	**Stanardsville**	**52.86**	**79**	P	**P**	**12 10 21.9**	**-1.9**
	baz=332,SNR=44						
M65A	**Busby, Falmout**	**52.89**	**70**	P	**P**	**12 10 21.4**	**-2.6**
	baz=332						
M65A	**Busby, Falmout**	**52.89**	**70**	IAMs_20	IAMs_20	12 35 21.7	
	comp=Z,5µm,20.0s						
143A	**Socs Landing,**	**52.90**	**94**	IAMs_20	IAMs_20	12 36 35.5	
	comp=Z,4µm,19.0s						
S56A	**Natural Bridge**	**53.01**	**80**	P	**P**	**12 10 23.1**	**-1.9**
	baz=332						
W50A	**Signal Mountai**	**53.02**	**87**	IAMs_20	IAMs_20	12 33 02.5	
	comp=Z,2µm,20.0s						
X48A	**Hartselle**	**53.02**	**89**	IAmb	IAmb	12 10 29.9	
	comp=Z,45nm,0.8s						
X48A				IAMs_20	IAMs_20	12 33 54.6	
	comp=Z,3µm,18.0s						
P61A	**Hammonton**	**53.04**	**75**	P	**P**	**12 10 23.1**	**-2.0**
	baz=332						
T55A	**Pulaski**	**53.04**	**81**	P	**P**	**12 10 23.7**	**-1.6**
	baz=332,SNR=9.4						
R58A	**Rapidan**	**53.05**	**78**	P	**P**	**12 10 23.2**	**-2.0**
	baz=332,SNR=8.6						
Q59A	**Harwood**	**53.06**	**77**	P	**P**	**12 10 23.1**	**-2.2**
	baz=332						
CPCT	**Cooper Cave**	**53.10**	**86**	IAMs_20	IAMs_20	12 33 31.7	
	comp=Z,4µm,18.0s						
BLA	**Blacksburg**	**53.10**	**81**	P	**P**	**12 10 24.4**	**-1.3**
	baz=332,SNR=6.9						
BLA	**Blacksburg**	**53.10**	**81**	IAMs_20	IAMs_20	12 30 32.6	
	comp=Z,3µm,20.0s						
V52A	**Sevierville**	**53.10**	**85**	IAmb	IAmb	12 10 31.2	
	comp=Z,70nm,1.0s						
S57A	**Dark Hollow, R**	**53.17**	**79**	P	**P**	**12 10 24.7**	**-1.5**
	baz=332,SNR=16						
U54A	**Nelsons Funny**	**53.18**	**83**	P	**P**	**12 10 25.4**	**-0.9**
	baz=332,SNR=12						
U54A	**Nelsons Funny**	**53.18**	**83**	IAMs_20	IAMs_20	12 30 16.3	
	comp=Z,3µm,20.0s						
TKL	**Tuckaleechee C**	**53.20**	**85**	IAMs_20	IAMs_20	12 31 37.3	
	comp=Z,3µm,20.0s						
Q60A	**Greensboro**	**53.24**	**76**	P	**P**	**12 10 25.0**	**-1.6**
	baz=332						
Q60A	**Greensboro**	**53.24**	**76**	IAMs_20	IAMs_20	12 31 30.1	
	comp=Z,3µm,20.0s						
SEM	**Semipalatinsk**	**53.34**	**315**	*e*P	**P**	**12 10 30.5**	**+3.0**
	comp=Z,6.1nm,1.0s,baz=315						
SEM				*e*S	**S**	**12 18 01.9**	**+3.1**
	baz=315						
SEM	**Semipalatinsk**	**53.34**	**315**	*e*P	**P**	**12 10 30.5**	**+3.0**
SEM				*e*S	**S**	**12 18 01.8**	**+3.1**
SEM				pmax	pmax		
	comp=Z,6.0nm,1.0s						
M66A	**Nantucket**	**53.34**	**70**	P	**P**	**12 10 26.0**	**-1.3**
	baz=332						
MLA1	**Latheron**	**53.34**	**14**	*e*P	**P**	**12 10 27.2**	**+0.1**
CBN	**Corbin Frederi**	**53.37**	**78**	P	**P**	**12 10 26.0**	**-1.6**
	baz=332						
CBN	**Corbin Frederi**	**53.37**	**78**	IAMs_20	IAMs_20	12 30 54.7	
	comp=Z,2µm,19.0s						
BRVK	**Borovoye**	**53.38**	**323**	P	**P**	**12 10 26.6**	**-0.9**
BRVK	**Borovoye**	**53.38**	**323**	P	**P**	**12 10 26.6**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,65nm,0.6s						
BRVK				MLR	MLR		
	comp=Z,4µm,20.0s						
BRVK	**Borovoye**	**53.38**	**323**	P	**P**	**12 10 26.6**	**-0.9**
BRVK	**Borovoye**	**53.38**	**323**	IAMs_20	IAMs_20	12 36 21.5	
	comp=Z,3µm,20.0s						
R58B	**Mineral**	**53.39**	**78**	P	**P**	**12 10 26.2**	**-1.6**
	baz=332,SNR=19						
T56A	**Rocky Mt**	**53.41**	**81**	P	**P**	**12 10 26.2**	**-1.7**
	baz=332,SNR=10						
R59A	**King George, V**	**53.47**	**78**	P	**P**	**12 10 26.8**	**-1.5**
	baz=332,SNR=7.5						
FPAL	**Fort Paine**	**53.48**	**87**	IAmb	IAmb	12 10 33.5	
	comp=Z,79nm,0.9s						
FPAL				IAMs_20	IAMs_20	12 34 19.0	
	comp=Z,4µm,18.0s						
U55A	**TA2, Sparta**	**53.49**	**82**	P	**P**	**12 10 27.2**	**-1.4**
	baz=332,SNR=28						
KURK	**Kurchatov**	**53.49**	**316**	P	**P**	**12 10 27.1**	**-1.2**
KURK	**Kurchatov**	**53.49**	**316**	P	**P**	**12 10 27.1**	**-1.2**
KURK				pmax	pmax		
	comp=Z,174nm,1.2s						
KURK				MLR	MLR		
	comp=Z,3µm,18.0s						
KURK	**Kurchatov**	**53.49**	**316**	P	**P**	**12 10 27.1**	**-1.2**
KURK	**Kurchatov**	**53.49**	**316**	IAMs_20	IAMs_20	12 35 14.3	
	comp=Z,3µm,18.0s						
Q61A	**Milford**	**53.54**	**76**	P	**P**	**12 10 26.5**	**-2.3**
	baz=332						
V53A	**Saluda**	**53.55**	**84**	IAmb	IAmb	12 10 30.4	
	comp=Z,99nm,1.0s						
V53A				IAMs_20	IAMs_20	12 36 00.7	
	comp=Z,3µm,21.0s						
TIA	**Tai'an**	**53.60**	**277**	P	**P**	**12 10 29.8**	**+0.4**
TIA				PP	**PP**	**12 12 32.4**	**+2.7**
TIA				ScP	**ScP**	**12 15 34.8**	**+1.9**
TIA				S	**S**	**12 18 02.9**	**+0.7**
TIA				pmax	pmax		
	comp=Z,33nm,0.8s						
TIA				pmax	pmax		
	comp=Z,340nm,8.3s						
TIA				LR	LR		
	comp=Z,6µm,18.1s						
TIA				LR	LR		
	comp=Z,13µm,19.1s						
TIA				LR	LR		
	comp=Z,3µm,17.1s						
R60A	**Leonardtown, M**	**53.61**	**77**	P	**P**	**12 10 27.3**	**-2.0**
	baz=332						
S58A	**Poland Farm, P**	**53.64**	**79**	P	**P**	**12 10 27.9**	**-1.7**
	baz=332,SNR=25						
S58A	**Poland Farm, P**	**53.64**	**79**	IAmb	IAmb	12 10 32.4	
	comp=Z,56nm,0.9s						
VBMS	**Vicksburg**	**53.67**	**93**	P	**P**	**12 10 28.0**	**-1.9**
	baz=333						
VBMS	**Vicksburg**	**53.67**	**93**	IAMs_20	IAMs_20	12 31 50.1	
	comp=Z,4µm,21.0s						
HKT	**Hockley**	**53.69**	**99**	P	**P**	**12 10 29.1**	**-0.8**
HKT				pmax	pmax		
	comp=Z,74nm,1.9s						
HKT				MLR	MLR		
	comp=Z,4µm,19.0s						
HKT	**Hockley**	**53.69**	**99**	P	**P**	**12 10 29.1**	**-0.8**
HKT	**Hockley**	**53.69**	**99**	IAMs_20	IAMs_20	12 33 51.3	
	comp=Z,4µm,19.0s						
T57A	**Hurt**	**53.73**	**80**	P	**P**	**12 10 28.2**	**-2.0**
	baz=332,SNR=16						
T57A	**Hurt**	**53.73**	**80**	P	**P**	**12 10 28.2**	**-2.0**
Z47A	**Carrollton**	**53.73**	**90**	IAMs_20	IAMs_20	12 34 19.7	
	comp=Z,4µm,20.0s						
342A	**Flagon Creek P**	**53.74**	**95**	IAmb	IAmb	12 10 34.0	
	comp=Z,84nm,0.9s						
X51A	**Calhoun**	**53.75**	**87**	IAmb	IAmb	12 10 35.5	
	comp=Z,46nm,0.8s						
X51A				IAMs_20	IAMs_20	12 32 13.0	
	comp=Z,4µm,20.0s						
Y49A	**Blount Mountai**	**53.78**	**88**	IAmb	IAmb	12 10 35.1	
	comp=Z,46nm,0.9s						
V54A	**Nebo**	**53.78**	**83**	P	**P**	**12 10 30.0**	**-0.7**
	baz=332,SNR=17						
S59A	**Mechanicsville**	**53.79**	**78**	P	**P**	**12 10 29.4**	**-1.2**
	baz=332						
833A	**Chaparral WMA,**	**53.82**	**104**	P	**P**	**12 10 30.3**	**-0.8**
	baz=335						
833A	**Chaparral WMA,**	**53.82**	**104**	P	**P**	**12 10 30.2**	**-0.8**
U56A	**King**	**53.87**	**82**	P	**P**	**12 10 30.0**	**-1.3**
	baz=332,SNR=10						
U56A	**King**	**53.87**	**82**	IAmb	IAmb	12 10 32.1	
	comp=Z,67nm,1.1s						
U56A				IAMs_20	IAMs_20	12 34 37.2	
	comp=Z,4µm,22.0s						
735A	**Kenedy**	**53.93**	**102**	IAMs_20	IAMs_20	12 32 19.1	
	comp=Z,3µm,19.0s						
KAC	**Achnashellach**	**53.95**	**15**	*e*P	**P**	**12 10 32.6**	**+1.0**
VSU	**Vasula**	**53.98**	**354**	*e*P	**P**	**12 10 31.4**	**-0.3**
VSU	**Vasula**	**53.98**	**354**	*i* P	**P**	**12 10 31.8**	**0.0**
VSU				pmax	pmax		
	comp=Z,85nm,0.7s						
V55A	**Taylorsville**	**54.00**	**83**	P	**P**	**12 10 31.1**	**-1.2**
	baz=332,SNR=13						
V55A	**Taylorsville**	**54.00**	**83**	IAMs_20	IAMs_20	12 35 02.4	
	comp=Z,4µm,21.0s						
R61A	**Willards**	**54.01**	**76**	P	**P**	**12 10 30.7**	**-1.6**
	baz=332						
T58A	**Grand View Acr**	**54.04**	**80**	P	**P**	**12 10 30.7**	**-1.9**
	baz=332,SNR=11						
TIY	**Taiyuan**	**54.04**	**282**	*e*P	**P**	**12 10 34.3**	**+1.7**
TIY				PP	**PP**	**12 12 37.4**	**+3.7**
TIY				S	**S**	**12 18 06.4**	**-1.9**
TIY				pmax	pmax		
	comp=Z,26nm,1.1s						
TIY				pmax

comp=Z,3µm,20.0s
KMSC Kings Mountain 54.58 83 P P 12 10 35.0 -1.5
baz=333,SNR=17
KMSC Kings Mountain 54.58 83 IAmb IAmb 12 10 37.2
comp=Z,52nm,1.1s
Y52A Lilburn 54.67 86 IAmb IAmb 12 10 42.9
comp=Z,79nm,0.9s
Y52A IAMs_20 IAMs_20 12 35 41.5
comp=Z,5µm,20.0s
PAULI Pauline 54.68 84 IAmb IAmb 12 10 38.1
comp=Z,89nm,1.1s
PAULI IAMs_20 IAMs_20 12 31 34.6
comp=Z,2µm,19.0s
X54A Belton 54.71 84 P P 12 10 36.8 -0.7
baz=333,SNR=57
ZSN Zaisan 54.72 310 *e*P P 12 10 36.2 -1.1
comp=Z,13nm,0.7s,baz=310
ZSN *e*S S 12 18 17.1 0.0
baz=310
ZSN LR LR 12 35 49.9
comp=Z,685nm,12.1s,baz=310
ZSN Zaisan 54.72 310 *e*P P 12 10 36.2 -1.1
ZSN *e*S S 12 18 17.0 0.0
ZSN pmax pmax
comp=Z,13nm,0.7s
ZSN MLR MLR
comp=Z,685nm,12.0s
Z51A Franklin 54.74 88 IAmb IAmb 12 10 38.3
comp=Z,65nm,1.1s
Z51A IAMs_20 IAMs_20 12 33 24.1
comp=Z,3µm,19.0s
DRUM Mains of Drumt 54.79 13 *e*P P 12 10 37.9 +0.1
DRUM IAmb IAmb 12 10 39.5
comp=Z,104nm,1.0s
346A Big Creek Wild 54.81 93 IAmb IAmb 12 10 43.4
comp=Z,83nm,0.9s
346A IAMs_20 IAMs_20 12 35 43.4
comp=Z,4µm,18.0s
V58A Windy Hill, Pi 54.84 81 P P 12 10 37.0 -1.4
baz=332,SNR=20
V58A Windy Hill, Pi 54.84 81 IAmb IAmb 12 10 41.2
comp=Z,43nm,0.9s
U59A Littleton 54.84 79 P P 12 10 37.1 -1.3
baz=332,SNR=8.1
W56A Indian Trail 54.87 82 P P 12 10 37.5 -1.0
baz=333,SNR=8.5
SLIT Slitere, Latvi 54.94 357 *e*P P 12 10 38.8 0.0
U60A Pendleton 54.98 79 P P 12 10 37.1 -2.2
baz=332
HODGE Hodges 55.03 84 IAMs_20 IAMs_20 12 31 41.9
comp=Z,2µm,20.0s
X55A Gracelyn & Ava 55.06 84 P P 12 10 39.0 -1.0
baz=333,SNR=41
W57A Gilead 55.08 82 P P 12 10 38.7 -1.4
baz=333,SNR=9.8
W57A Gilead 55.08 82 P P 12 10 37.6 -2.4
W57A IAMs_20 IAMs_20 12 36 10.0
comp=Z,3µm,18.0s
KVTX Kingsville 55.08 103 IAMs_20 IAMs_20 12 35 39.6
comp=Z,3µm,18.0s
INVG Invergeldie, C 55.13 15 *e*P P 12 10 39.9 -0.3
INVG IAmb IAmb 12 10 45.6
comp=Z,264nm,2.0s
INVG IAMs_20 IAMs_20 12 34 27.3
comp=Z,2µm,18.1s
LAWE Loch Awe, Argy 55.16 16 *e*P P 12 10 40.7 +0.3
LAWE IAmb IAmb 12 10 47.2
comp=Z,91nm,1.4s
LAWE IAMs_20 IAMs_20 12 35 27.8
comp=Z,2µm,17.8s
V59A Middlesex 55.20 80 P P 12 10 39.4 -1.5
baz=333,SNR=18
X56A White Oak 55.27 83 P P 12 10 40.3 -1.1
baz=333,SNR=22
GOGA Godfrey 55.30 86 P P 12 10 40.9 -0.8
baz=333,SNR=8.3
GOGA Godfrey 55.30 86 P P 12 10 40.7 -1.0
GOGA pmax pmax
comp=Z,44nm,1.2s
GOGA MLR MLR
comp=Z,4µm,21.0s
GOGA Godfrey 55.30 86 P P 12 10 40.7 -1.0
GOGA Godfrey 55.30 86 IAMs_20 IAMs_20 12 34 51.1
comp=Z,4µm,21.0s
EAB Aberfoyle 55.34 15 *e*P P 12 10 41.5 -0.2
BIRD Birdtown, Kers 55.35 83 IAMs_20 IAMs_20 12 36 03.2
comp=Z,4µm,19.0s
U61A Possum Corner 55.37 78 P P 12 10 40.8 -1.3
baz=333,SNR=7.7
U61A Possum Corner 55.37 78 IAMs_20 IAMs_20 12 37 22.6
comp=Z,3µm,20.0s
JSC Jenkinsville 55.37 84 IAmb IAmb 12 10 43.0
comp=Z,40nm,1.0s
Y55A Saluda 55.45 84 P P 12 10 41.9 -0.9
baz=333,SNR=65
W58A Raeford 55.48 81 P P 12 10 41.8 -1.1
baz=333,SNR=11
152A Waverly Hall 55.48 88 IAMs_20 IAMs_20 12 35 54.0
comp=Z,4µm,18.0s
250A Grady 55.51 89 IAmb IAmb 12 10 47.7
comp=Z,73nm,1.1s
250A IAMs_20 IAMs_20 12 34 24.6
comp=Z,4µm,18.0s
V60A Jim Taylor Roa 55.56 79 P P 12 10 41.8 -1.7
baz=333
V60A Jim Taylor Roa 55.56 79 IAmb IAmb 12 10 46.6
comp=Z,33nm,0.7s
W59A Clinton 55.65 81 P P 12 10 43.1 -1.0
baz=333
X57A Johnson Farm, 55.65 82 P P 12 10 43.1 -1.1
baz=333
ESY Stoneypath 55.77 14 *e*P P 12 10 45.0 +0.3
Y56A Pelion 55.79 84 P P 12 10 44.2 -1.0
baz=333
CNNC Cliffs of the 55.79 80 P P 12 10 44.1 -1.1
baz=333
V61A Roper 55.80 79 P P 12 10 43.9 -1.3
baz=333
X58A Rowland 55.85 82 P P 12 10 44.4 -1.2
baz=333
X58A Rowland 55.85 82 IAmb IAmb 12 10 48.8
comp=Z,36nm,0.8s
EBL Broad Law 55.87 14 *e*P P 12 10 45.8 +0.3
Y57A Sumter 55.93 83 P P 12 10 45.2 -1.0
baz=333
Y57A Sumter 55.93 83 IAmb IAmb 12 10 47.0
comp=Z,98nm,1.1s
MUD Monsted U'grnd 56.00 6 *i* P P 12 10 46.0 -0.3
MUD Monsted U'grnd 56.00 6 *i* P P 12 10 46.0 -0.3
MOS Moscow 56.01 347 *e*P P 12 10 45.9 -0.6
MOS *e* 12 11 47.6
MOS *e*S S 12 18 35.3 +1.4
MOS pmax pmax
comp=Z,91nm,1.0s
MOS pmax pmax
comp=Z,500nm,2.2s
MOS MLR MLR
comp=Z,2µm,18.0s
W60A Pink Hill 56.02 80 P P 12 10 45.7 -1.1
baz=333
MK31 Makanchi Array 56.05 312 *i* P P 12 10 45.6 -1.4
MKAR Makanchi Array 56.05 312 P P 12 10 45.0 -2.0
comp=Z,17nm,0.7s,baz=38,slow=3.7,SNR=49
MKAR LR LR 12 37 37.4
comp=Z,3µm,19.1s,baz=8.0,slow=39
MKAR PKPPKP P'P'df 12 41 01.6 +10
comp=Z,1.4nm,1.1s,baz=196,slow=3.5,SNR=3.5
MKAR Makanchi Array 56.05 312 P P 12 10 44.8 -2.2
X59A McDuffie Farm, 56.12 81 P P 12 10 46.0 -1.6
baz=333
MAKZ Makanchi 56.13 312 P P 12 10 45.8 -1.8
MAKZ pmax pmax
comp=Z,57nm,1.2s
MAKZ MLR MLR
comp=Z,6µm,19.0s
MAKZ Makanchi 56.13 312 P P 12 10 45.8 -1.8
MAKZ IAmb IAmb 12 10 53.5
comp=Z,56nm,1.2s
154A Montrose 56.15 86 IAMs_20 IAMs_20 12 39 25.1
comp=Z,4µm,18.0s
Z56A Williston 56.18 84 P P 12 10 47.3 -0.7
baz=333
Z56A Williston 56.18 84 IAMs_20 IAMs_20 12 35 13.2
comp=Z,4µm,18.0s
W61A Ground Anchor 56.19 79 P P 12 10 46.6 -1.4
baz=333
V62A Hyde County Ai 56.23 78 IAMs_20 IAMs_20 12 32 32.5
comp=Z,2µm,20.0s
EKA Eskdalemuir Ar 56.30 14 P P 12 10 48.2 -0.3
EKA pmax pmax
comp=Z,3.0nm,0.4s
ESK Eskdalemuir 56.31 14 *e*P P 12 10 48.4 -0.2
ESK IAmb IAmb 12 10 55.7
comp=Z,78nm,0.9s
ESK IAMs_20 IAMs_20 12 37 50.6
comp=Z,2µm,17.4s
ESK Eskdalemuir 56.31 14 P P 12 10 48.7 +0.1
ESK pmax pmax
comp=Z,84nm,1.0s
ESK MLR MLR
comp=Z,1µm,19.0s
ESK Eskdalemuir 56.31 14 P P 12 10 48.7 +0.1
ESK IAmb IAmb 12 10 55.9
comp=Z,84nm,0.9s
Y58A Scranton 56.31 82 P P 12 10 47.7 -1.2
baz=333
Y58A Scranton 56.31 82 IAMs_20 IAMs_20 12 36 46.6
comp=Z,4µm,19.0s
X60A Albert Glenn T 56.35 80 P P 12 10 47.5 -1.7
baz=333
NEWG New Galloway 56.40 15 *e*P P 12 10 49.6 +0.3
NEWG IAmb IAmb 12 10 55.1
comp=Z,134nm,1.7s
NEWG IAMs_20 IAMs_20 12 35 16.7
comp=Z,2µm,16.9s
Z57A Bowman 56.45 84 P P 12 10 48.7 -1.3
baz=333,SNR=13
352A Blakely 56.47 88 IAmb IAmb 12 10 51.0
comp=Z,109nm,1.2s
352A IAMs_20 IAMs_20 12 38 05.9
comp=Z,3µm,19.0s
Y59A Loris 56.53 82 P P 12 10 49.2 -1.3
baz=333
Y59A Loris 56.53 82 IAMs_20 IAMs_20 12 33 50.5
comp=Z,2µm,19.0s
SSE Sheshan 56.60 271 P P 12 10 51.6 +0.6
SSE S S 12 18 43.3 +0.9
SSE pmax pmax
comp=Z,44nm,0.8s
SSE pmax pmax
comp=Z,240nm,6.2s
SSE LR LR
comp=Z,750nm,17.6s
SSE LR LR
comp=Z,3µm,16.5s
GAL1 Galloway 56.60 15 *e*P P 12 10 50.1 -0.6
GAL1 IAmb IAmb 12 10 56.2
comp=Z,517nm,2.3s
GAL1 IAMs_20 IAMs_20 12 36 21.3
comp=Z,2µm,19.9s
NJ2 Nanjing 56.63 274 ⇓ *i*P P 12 10 51.6 +0.4
NJ2 sP **sP** 12 10 56.8 +0.2
NJ2 S S 12 18 42.3 -0.6
NJ2 sS **sS** 12 18 50.8 +1.7
NJ2 pmax pmax
comp=Z,66nm,1.1s
NJ2 pmax pmax
comp=Z,520nm,4.5s
NJ2 LR LR
comp=Z,4µm,19.9s
NJ2 LR LR
comp=Z,17µm,16.3s
NJ2 LR LR
comp=Z,5µm,18.8s
IZAR Zarasai 56.71 354 *e*P P 12 10 52.9 +1.4
OBN Obninsk 56.72 347 *e*P P 12 10 51.6 +0.1
OBN *e* 12 11 46.9
OBN *e* 12 12 58.0
OBN pmax pmax
comp=Z,38nm,1.1s
OBN MLR MLR
comp=Z,3µm,19.0s
OBN Obninsk 56.72 347 IAMs_20 IAMs_20 12 38 21.7
comp=Z,3µm,19.0s
Z58A St. Stephen 56.76 83 P P 12 10 50.8 -1.3
baz=333
Y60A Bolivia 56.77 81 P P 12 10 50.8 -1.3
baz=333
NHSC New Hope 56.82 83 P P 12 10 51.6 -0.9
baz=333,SNR=6.3
NHSC New Hope 56.82 83 IAMs_20 IAMs_20 12 37 05.3
comp=Z,4µm,21.0s
157A Early Branch 56.89 84 P P 12 10 52.4 -0.7
baz=333,SNR=7.9
ISAL Salakas 56.90 354 *e*P P 12 10 54.3 +1.5
451A Vernon 56.92 90 IAmb IAmb 12 10 53.8
comp=Z,54nm,0.9s
451A IAMs_20 IAMs_20 12 36 56.1
comp=Z,4µm,19.0s
255A Hazlehurst 57.00 86 IAMs_20 IAMs_20 12 38 52.7
comp=Z,3µm,20.0s
TIGA Tifton 57.01 87 P P 12 10 53.0 -1.0
baz=334
TIGA Tifton 57.01 87 IAMs_20 IAMs_20 12 39 44.5
comp=Z,4µm,18.0s
PABE Paberze 57.03 356 *e*P P 12 10 54.1 +0.4
KESW Keswick, Cumbr 57.04 14 *e*P P 12 10 53.6 -0.2
KESW IAmb IAmb 12 11 00.6
comp=Z,103nm,1.1s
KESW IAMs_20 IAMs_20 12 38 11.9
comp=Z,2µm,17.7s
Z59A Georgetown, SC 57.04 82 P P 12 10 53.5 -0.6
baz=333
GMM Mts of Mourne 57.09 16 *e*P P 12 10 54.1 -0.1
GTA Gaotai 57.11 294 P P 12 10 54.6 -0.1
GTA pP sP 12 11 00.1 +0.1
GTA sP pP 12 11 02.8 +4.2
GTA S S 12 18 48.3 -1.0
GTA sS sS 12 18 59.3 +3.8
GTA pmax pmax
comp=Z,29nm,1.1s
GTA pmax pmax
comp=Z,350nm,5.1s
GTA LR LR
comp=Z,6µm,16.2s
GTA LR LR
comp=Z,11µm,16.2s
GTA LR LR
comp=Z,8µm,13.6s
IIGN Ignalina 57.11 354 *e*P P 12 10 55.5 +1.2
IIGN *e*PP **PP** 12 13 00.2 -0.4
IDID Didziasalis 57.13 354 *e*P P 12 10 55.1 +0.7
WMQ Urumqi 57.15 306 P P 12 10 54.1 -0.8
WMQ pP sP 12 11 00.3 +0.1
WMQ PP **PP** 12 12 59.8 -1.5
WMQ S S 12 18 47.8 -1.7
WMQ ScS **ScS** 12 20 39.3 -4.3
WMQ pmax pmax
comp=Z,50nm,1.1s
WMQ pmax pmax
comp=Z,340nm,4.3s
WMQ LR LR
comp=Z,3µm,16.9s
WMQ LR LR
comp=Z,3µm,18.1s
WMQ LR LR
comp=Z,4µm,21.5s
WMQ Urumqi 57.15 306 P P 12 10 55.3 +0.4
WMQ pmax pmax
comp=Z,52nm,0.8s
WMQ MLR MLR
comp=Z,5µm,19.0s
WMQ Urumqi 57.15 306 P P 12 10 55.3 +0.4
WMQ IAmb IAmb 12 11 01.8
comp=Z,52nm,0.8s
158A Hollywood 57.15 83 P P 12 10 54.1 -0.8
baz=333
OTUK Ortayu 57.37 320 P P 12 10 53.8 -2.5
BSD Bornholm Skovb 57.49 2 *i* P P 12 10 57.4 +0.4
comp=Z,2µm,18.0s
BSD Bornholm Skovb 57.49 2 *e*P P 12 10 57.4 +0.4
BSD MLR MLR
comp=Z,2µm,18.0s
257A Skidaway Islan 57.51 85 IAMs_20 IAMs_20 12 33 33.5
comp=Z,3µm,19.0s
NACGM Naroch 57.54 354 *e*P P 12 10 57.0 -0.3
NACGM *e*PP **PP** 12 13 12.0 +7.6
NACGM *e*PPP PPP 12 14 23.0
NACGM *e*S S 12 18 56.0 +1.8
NACGM *e*SS SS 12 23 07.0 +24
NACGM *e*SSS SSS 12 25 36.0
NACGM *e*LQ LQ 12 29 30.0
NACGM *e*LR LR 12 31 48.0
NACGM LRM MLR 12 32 55.0
comp=Z,9.2nm,24.0s
ZAIG Zacatecas 57.72 110 IAmb IAmb 12 11 02.1
comp=Z,116nm,1.3s
JOW Kunigami 57.73 262 P P 12 11 01.0 +1.9
baz=96,slow=14
JOW Kunigami 57.73 262 IAmb IAmb 12 11 10.4
comp=Z,47nm,1.1s
553A Crawfordville 57.81 89 IAmb IAmb 12 11 02.6
comp=Z,64nm,1.0s
MNK Minsk 57.89 353 *e*P P 12 11 04.0 +4.2
MNK *e* 12 14 40.0
MNK *e*S S 12 19 04.0 +5.2
MNK *e* 12 19 20.0
MNK pmax pmax
comp=Z,310nm,1.5s
MNK pmax pmax
comp=N,280nm,1.5s
456A Hilliard 58.25 86 IAMs_20 IAMs_20 12 36 33.0
comp=Z,3µm,19.0s
LBWR Ladybower, Pea 58.34 14 *e*P P 12 11 03.0 0.0
LBWR IAMs_20 IAMs_20 12 37 45.7
comp=Z,2µm,18.5s
AKTO Aktyubinsk 58.40 331 P P 12 11 01.9 -1.6
SUW Suwalki 58.55 356 *e*P P 12 11 04.1 -0.3
SUW *e*S S 12 19 09.9 +2.5
SUW *e*L L 12 39 37.3
comp=Z,2µm,22.4s
SUW Suwalki 58.55 356 IAMs_20 IAMs_20 12 39 40.2
comp=Z,2µm,21.0s
BSEG Bad Segeberg 58.56 5 *e*P P 12 11 04.9 +0.4
comp=Z,39nm,1.1s,baz=358,slow=7.0
XAN Xi'an 58.61 283 P P 12 11 04.3 -0.9
XAN pP pP 12 11 09.1 0.0
XAN S S 12 19 04.8 -4.1
XAN SS SS 12 23 05.4 +4.5
XAN pmax pmax
comp=Z,11nm,0.8s
XAN pmax pmax
comp=Z,240nm,4.2s
XAN LR LR
comp=Z,12µm,14.0s
LZH Lanzhou 58.64 289 ⇑ P P 12 11 06.3 +0.7
LZH pP sP 12 11 13.8 +2.9
LZH S S 12 19 06.0 -3.5
LZH SS SS 12 23 04.3 +2.7
LZH pmax pmax
comp=Z,110nm,1.3s
LZH pmax pmax
comp=Z,620nm,5.2s
LZH LR LR
comp=Z,7µm,16.3s
LZH LR LR
comp=Z,18µm,15.7s
LZH LR LR
comp=Z,10µm,17.3s
FOEL Foel Wylfa 58.71 15 *e*P P 12 11 05.7 +0.1
FOEL IAmb IAmb 12 11 12.4
comp=Z,73nm,1.0s
FOEL IAMs_20 IAMs_20 12 33 59.7
comp=Z,1µm,19.9s
TDK Taldyqorghan 58.79 314 *e*P P 12 11 05.2 -1.1
comp=Z,37nm,1.0s,baz=314
TDK *e*S S 12 19 10.1 -0.8
baz=314
TDK LR LR 12 38 02.5
comp=Z,5µm,15.1s,baz=314
TDK LRM MLR 12 39 44.4
baz=314
TDK Taldyqorghan 58.79 314 *e*P P 12 11 05.2 -1.1
TDK *e*S S 12 19 10.1 -0.8
TDK pmax pmax
comp=Z,37nm,1.0s
TDK MLR MLR
comp=Z,5µm,15.0s
LPSR Galich'ya Gora 58.99 345 *e*P P 12 11 07.0 -0.5
LPSR *e*S S 12 19 06.1 -7.1
LPSR pmax pmax
comp=Z,40nm,0.9s
LPSR smax smax
comp=E,360nm,10.2s
LPSR MLR MLR
comp=Z,2µm,18.0s
ABKAR Akbulak array 59.16 329 P P 12 11 07.8 -1.0
MCH1 Michaelchurch 59.61 15 *e*P P 12 11 10.9 -0.9
MCH1 IAmb IAmb 12 11 18.5
comp=Z,68nm,1.2s
MCH1 IAMs_20 IAMs_20 12 38 54.8
comp=Z,1µm,14.7s
WHN Wuhan 59.69 277 ⇓ P P 12 11 12.9 +0.2
WHN S S 12 19 22.8 0.0
WHN pmax pmax
comp=Z,880nm,5.4s
WHN LR LR
comp=Z,11µm,15.6s
WHN LR LR
comp=Z,19µm,16.0s
WHN LR LR
comp=Z,10µm,14.3s
VORR Voronezh 59.88 345 *e*P P 12 11 11.0 -2.7
VORR pmax pmax
comp=Z,250nm,2.0s
NRDL Niedersach Rie 59.99 5 *e*P P 12 11 14.7 +0.4
comp=Z,31nm,1.0s,baz=358,slow=7.0
VRH Novokhopyorsk 60.08 343 *e*P P 12 11 14.2 -0.8
VRH *e*S S 12 19 21.3 -6.0
VRH pmax pmax
comp=Z,30nm,0.7s
VRH smax smax
comp=E,230nm,8.4s
VRH MLR MLR
comp=Z,2µm,20.0s
IBBN Ibbenburen 60.08 7 *e*P P 12 11 15.6 +0.6
comp=Z,63nm,1.2s,baz=358,slow=7.0
RUE Ruedersdorf 60.11 3 *e*P P 12 11 14.6 -0.6
RUE *e*PP PP 12 13 27.0 -0.2
RUE Ruedersdorf 60.11 3 *e*P P 12 11 15.2 0.0
baz=358,slow=7.0
SHLS Shalkode 60.19 312 *e*P P 12 11 14.5 -1.6
comp=Z,21nm,0.9s,baz=312
SHLS *e*S S 12 19 27.4 -1.9
baz=312
SHLS LR LR 12 38 58.6
comp=Z,906nm,12.6s,baz=312
SHLS Shalkode 60.19 312 *e*P P 12 11 14.5 -1.6
SHLS *e*S S 12 19 27.3 -1.9
SHLS pmax pmax
comp=Z,21nm,0.9s
SHLS MLR MLR
comp=Z,906nm,13.0s
CHKK Chushkaly 60.23 314 *e*P P 12 11 15.3 -1.0
comp=Z,132nm,0.8s,baz=315
CHKK Chushkaly 60.23 314 *e*P P 12 11 15.3 -1.0
CHKK pmax pmax
comp=Z,132nm,0.8s
UZB Uzynbulak 60.32 312 *e*P P 12 11 15.6 -1.5
comp=Z,8.2nm,1.0s,baz=313
UZB *e*S S 12 19 30.3 -0.7
baz=313
UZB Uzynbulak 60.32 312 *e*P P 12 11 15.5 -1.5
UZB *e*S S 12 19 30.3 -0.7
UZB pmax pmax
comp=Z,8.0nm,1.0s
VSR Storozhevoye 60.34 345 *e*P P 12 11 15.9 -0.9
VSR *e*S S 12 19 26.1 -4.5
VSR pmax pmax
comp=Z,80nm,1.3s
VSR smax smax
comp=E,310nm,9.9s
VSR MLR MLR
comp=Z,2µm,24.0s
ASSE Asse, Remlinge 60.38 5 *e*P P 12 11 17.4 +0.4
baz=358,slow=7.0
KUU Kurty 60.38 315 *e*P P 12 11 16.6 -0.7
comp=Z,9.7nm,0.7s,baz=315
KUU *e*S S 12 19 31.4 -0.1
baz=315
KUU LR LR 12 38 54.7
comp=Z,2µm,12.9s,baz=315
KUU Kurty 60.38 315 *e*P P 12 11 16.6 -0.7
KUU *e*S S 12 19 31.3 -0.1
KUU pmax pmax
comp=Z,10.0nm,0.7s
KUU MLR MLR
comp=Z,2µm,13.0s
SATY Saty 60.58 313 *e*P P 12 11 17.8 -1.1

	comp=Z,2.7nm,0.5s,baz=313									
SATY					*e*S		**S**	**12 19 34.1**	**-0.1**
	baz=313									
SATY					LR		LR	12 37 28.5		
	comp=Z,616nm,12.6s,baz=313									
SATY	**Saty**	**60.58**	**313**		*e*P		**P**	**12 11 17.7**	**-1.1**
SATY					*e*S		**S**	**12 19 34.1**	**-0.1**
SATY					pmax		pmax			
	comp=Z,3.0nm,0.5s									
SATY					MLR		MLR			
	comp=Z,616nm,13.0s									
CLZ	**Clausthal**	**60.65**	**5**	*e*P			**P**	**12 11 19.6**	**+0.6**	
	comp=Z,66nm,1.3s,baz=358,slow=7.0									
BEL	**Belsk**	**60.77**	**358**	*e*P			**P**	**12 11 21.3**	**+1.6**	
BEL				*e*L			L	12 40 53.8		
	comp=Z,2µm,21.1s									
AAA	**Alma-Ata**	**60.85**	**314**	*e*P			**P**	**12 11 19.2**	**-1.4**	
	comp=Z,48nm,2.6s,baz=314									
AAA				*e*S			**S**	**12 19 36.9**	**-0.8**	
	baz=314									
AAA				LR			LR	12 39 38.9		
	comp=Z,2µm,13.5s,baz=314									
AAA	**Alma-Ata**	**60.85**	**314**	*e*P			**P**	**12 11 22.0**	**+1.4**	
AAA				*e*S			**S**	**12 19 38.8**	**+1.2**	
AAA				pmax			pmax			
	comp=Z,300nm,2.6s									
AAA				smax			smax			
	comp=N,300nm,8.1s									
AAA				MLR			MLR			
	comp=Z,3µm,13.0s									
MDOK	**Medeo**	**60.86**	**314**	*e*P			**P**	**12 11 19.1**	**-1.6**	
	comp=Z,171nm,1.1s,baz=314									
MDOK				*e*S			**S**	**12 19 37.1**	**-0.8**	
	baz=314									
MDOK				LR			LR	12 38 52.8		
	comp=Z,2µm,15.0s,baz=314									
MDOK	**Medeo**	**60.86**	**314**	*e*P			**P**	**12 11 19.1**	**-1.6**	
MDOK				*e*S			**S**	**12 19 37.0**	**-0.8**	
MDOK				pmax			pmax			
	comp=Z,171nm,1.1s									
MDOK				MLR			MLR			
	comp=Z,2µm,15.0s									
BUG	**Bochum--Univer**	**60.92**	**8**	*e*P			**P**	**12 11 21.3**	**+0.5**	
	baz=358,slow=7.0									
GTTG	**Gottingen**	**60.94**	**6**	*e*P			**P**	**12 11 21.6**	**+0.7**	
	comp=Z,29nm,0.9s,baz=358,slow=7.0									
TNSS	**Tian-Shan**	**61.00**	**314**	*e*P			**P**	**12 11 21.5**	**-0.5**	
	comp=Z,67nm,0.9s,baz=314									
TNSS	**Tian-Shan**	**61.00**	**314**	*e*P			**P**	**12 11 21.5**	**-0.5**	
TNSS				pmax			pmax			
	comp=Z,67nm,0.9s									
MTBS	**Maitube**	**61.06**	**314**	*e*P			**P**	**12 11 21.6**	**-0.5**	
	baz=315									
MTBS	**Maitube**	**61.06**	**314**	*e*P			**P**	**12 11 21.5**	**-0.5**	
PRZ	**Przheval'sk**	**61.11**	**313**	IAmb			IAmb	12 11 36.3		
	comp=Z,72nm,1.2s									
PRZ				IAMs_20			IAMs_20	12 40 03.3		
	comp=Z,3µm,22.0s									
SGDS	**Sogindy**	**61.24**	**316**	*e*P			**P**	**12 11 22.5**	**-0.8**	
	comp=Z,19nm,1.0s,baz=316									
SGDS				*e*S			**S**	**12 19 42.3**	**-0.3**	
	baz=316									
SGDS				LR			LR	12 39 25.8		
	comp=Z,783nm,11.0s,baz=316									
SGDS	**Sogindy**	**61.24**	**316**	*e*P			**P**	**12 11 22.4**	**-0.8**	
SGDS				*e*S			**S**	**12 19 42.3**	**-0.3**	
SGDS				pmax			pmax			
	comp=Z,19nm,1.0s									
SGDS				MLR			MLR			
	comp=Z,783nm,11.0s									
CLL	**Collm**	**61.27**	**3**	*i* P			**P**	**12 11 23.5**	**+0.4**	
	comp=Z,20nm,1.0s									
CLL				*i* pP			**sP**	**12 11 27.7**	**-0.8**	
	comp=Z,67nm,1.2s									
CLL				*e*S			**S**	**12 19 40.0**	**-2.5**	
CLL				*e*SS			**SS**	**12 23 42.0**	**+0.4**	
CLL				*e*SSS			SSS	12 26 30.0		
CLL				*e*PKPPKPKP			**P'P'df**	**12 40 39.0**	**-5.5**	
CLL				LmV				12 46 00.0		
	comp=Z,700nm,20.1s									
CLL	**Collm**	**61.27**	**3**	*i* P			**P**	**12 11 23.5**	**+0.4**	
CLL				*e*S			**S**	**12 19 40.0**	**-2.5**	
CLL				pmax			pmax			
	comp=Z,67nm,1.2s									
CLL	**Collm**	**61.27**	**3**	IAmb			IAmb	12 11 30.2		
	comp=Z,46nm,1.0s									
CLL	**Collm**	**61.27**	**3**	*e*P			**P**	**12 11 23.3**	**+0.2**	
	comp=Z,20nm,1.0s,baz=358,slow=7.0									
NEUB	**Neuenburg**	**61.33**	**4**	*e*P			**P**	**12 11 24.0**	**+0.4**	
	baz=358,slow=7.0									
USP	**Ospenovka**	**61.45**	**316**	P			**P**	**12 11 25.0**	**+0.4**	
	SNR=24									
TKM2	**Tokmak 2**	**61.48**	**315**	P			**P**	**12 11 25.5**	**+0.5**	
	SNR=32									
TKM2	**Tokmak 2**	**61.48**	**315**	P			**P**	**12 11 24.3**	**-0.7**	
AKASG	**Malin Array Be**	**61.62**	**352**	P			**P**	**12 11 24.7**	**-0.8**	
	comp=Z,8.7nm,0.4s,baz=8.2,slow=6.7,SNR=47									
AKASG				LR			LR	12 38 58.5		
	comp=Z,2µm,19.3s,baz=355,slow=37									
AKASG	**Malin Array Be**	**61.62**	**352**	P			**P**	**12 11 24.5**	**-1.0**	
AKBB	**Malin Array Si**	**61.62**	**352**	P			**P**	**12 11 24.4**	**-1.1**	
AKBB				IAmb			IAmb	12 11 32.4		
	comp=Z,64nm,1.0s									
CHMS	**Chumysh**	**61.63**	**316**	P			**P**	**12 11 26.3**	**+0.5**	
	SNR=17									
FBE	**Freiberg**	**61.66**	**3**	*e*P			**P**	**12 11 26.0**	**+0.2**	
	baz=358,slow=7.0									
UBBA	**Unterbreizbach**	**61.66**	**6**	*e*P			**P**	**12 11 26.0**	**+0.3**	
	baz=358,slow=7.0									
BSTI	**Sart Tilman**	**61.68**	**9**	P			**P**	**12 11 26.6**	**+0.7**	
MEM	**Membach**	**61.68**	**9**	P			**P**	**12 11 26.3**	**+0.3**	
BRG	**Berggiesshubel**	**61.72**	**3**	*i* P			**P**	**12 11 26.6**	**+0.4**	
	comp=Z,17nm,1.0s									
BRG				*i*				12 11 31.4		
	comp=Z,49nm,1.0s									
BRG				PP			**PP**	**12 13 41.0**	**-0.4**	
BRG				S			**S**	**12 19 50.0**	**+1.8**	
BRG				SS			**SS**	**12 23 51.0**	**+2.3**	
BRG				*e*PKPPKP			**P'P'df**	**12 40 40.1**	**-3.6**	
	comp=Z,13nm,1.6s									
	comp=N,1µm,22.8s									
	comp=E,1µm,22.9s									
	comp=Z,1µm,22.6s									
BRG	**Berggiesshubel**	**61.72**	**3**	*i* P			**P**	**12 11 26.6**	**+0.4**	
BRG				*i*				12 11 31.4		
BRG								12 13 41.0		
BRG				S			**S**	**12 19 50.0**	**+1.8**	
BRG				SS			**SS**	**12 23 51.0**	**+2.3**	
BRG				pmax			pmax			
	comp=Z,17nm,1.0s									
BRG				MLR			MLR			
	comp=N,1µm,22.8s									
BRG				MLR			MLR			
	comp=E,1µm,22.9s									
BRG				MLR			MLR			
	comp=Z,1µm,22.6s									
BRG	**Berggiesshubel**	**61.72**	**3**	*e*P			**P**	**12 11 26.3**	**+0.1**	
	baz=358,slow=7.0									
KSP	**Ksiaz**	**61.78**	**1**	*e*P			**P**	**12 11 27.0**	**+0.3**	
KSP				*e*S			**S**	**12 19 51.4**	**+2.3**	
KSP				*e*L			L	12 43 25.5		
	comp=Z,1µm,19.8s									
KSP	**Ksiaz**	**61.78**	**1**	P			**P**	**12 11 27.3**	**+0.7**	
BOOM	**Boomskoye usch**	**61.79**	**315**	IAmb			IAmb	12 11 34.4		
	comp=Z,64nm,1.2s									
AHRW	**Bad Neuenahr-A**	**61.81**	**8**	*e*P			**P**	**12 11 27.5**	**+0.7**	
	baz=358,slow=7.0									
BCLA	**Clavier**	**61.83**	**9**	pP			pP	12 11 31.9	+1.1	
FRU1	**Bishkek**	**61.84**	**316**	IAMs_20			IAMs_20	12 39 43.2		
	comp=Z,3µm,20.0s									
BGES	**Gesves**	**61.85**	**9**	P			**P**	**12 11 26.4**	**-0.8**	
YOJ	**Yonaguni jima**	**61.87**	**266**	IAMs_20			IAMs_20	12 38 28.8		
	comp=Z,3µm,18.0s									
MOX	**Moxa**	**61.89**	**4**	P			**P**	**12 11 28.1**	**+0.7**	
MOX	**Moxa**	**61.89**	**4**	*e*P			**P**	**12 11 27.4**	**0.0**	
	baz=358,slow=7.0									
MOX				*e*L			L	12 42 53.2		
	comp=Z,781nm,18.4s									
KBK	**Karagaybulak**	**61.90**	**315**	P			**P**	**12 11 27.5**	**-0.3**	
	SNR=36									
BMRD	**Maredsous**	**61.91**	**9**	P			**P**	**12 11 27.9**	**+0.3**	
BMRD				pP			**sP**	**12 11 33.5**	**+0.6**	
BMRD				PcP			**PcP**	**12 12 06.0**	**-2.2**	
ULHL	**Ulahol**	**61.93**	**314**	P			**P**	**12 11 28.9**	**+0.8**	
	SNR=9.6									
BHOU	**Houvegnez**	**61.94**	**9**	P			**P**	**12 11 29.3**	**+1.6**	
BHOU				PcP			**PcP**	**12 12 12.1**	**+3.7**	
TARG	**Taragay, Kyrgy**	**61.98**	**313**	IAmb			IAmb	12 11 36.7		
	comp=Z,41nm,0.9s									
TARG				IAMs_20			IAMs_20	12 41 54.9		
	comp=Z,3µm,21.0s									
TATO	**Taipei**	**61.98**	**268**	IAMs_20			IAMs_20	12 37 00.9		
	comp=Z,2µm,19.0s									
CHVC	**Chvalec**	**62.03**	**1**	*e*P			**P**	**12 11 29.0**	**+0.6**	
CHVC				AMS			AMS	12 41 30.0		
	comp=Z,1µm,16.2s									
AAK	**Ala-Archa**	**62.04**	**316**	P			**P**	**12 11 29.2**	**+0.5**	
	SNR=23									
AAK	**Ala-Archa**	**62.04**	**316**	*i* P			**P**	**12 11 28.0**	**-0.7**	
	SNR=33									
AAK	**Ala-Archa**	**62.04**	**316**	P			**P**	**12 11 28.6**	**-0.1**	
AAK	**Ala-Archa**	**62.04**	**316**	P			**P**	**12 11 29.0**	**+0.3**	
AAK				pmax			pmax			
	comp=Z,182nm,1.5s									
AAK				MLR			MLR			
	comp=Z,3µm,21.0s									
AAK	**Ala-Archa**	**62.04**	**316**	P			**P**	**12 11 29.0**	**+0.3**	
AAK	**Ala-Archa**	**62.04**	**316**	IAMs_20			IAMs_20	12 40 50.4		
	comp=Z,3µm,21.0s									
OSTC	**Ostas**	**62.07**	**1**	*e*P			**P**	**12 11 30.1**	**+1.5**	
OSTC				*ex*			x	12 11 35.7		
OSTC				*e*S			**S**	**12 19 53.2**	**+0.5**	
OSTC				AMS			AMS	12 41 40.0		
	comp=Z,1µm,17.3s									
PLN	**Plauen**	**62.07**	**4**	*e*P			**P**	**12 11 28.3**	**-0.3**	
	baz=358,slow=7.0									
PVCC	**Panska Ves**	**62.08**	**2**	*e*P			**P**	**12 11 30.1**	**+1.5**	
PVCC				AMS			AMS	12 47 10.0		
	comp=Z,1µm,17.4s									
PVCC	**Panska Ves**	**62.08**	**2**	*e*P			**P**	**12 11 30.1**	**+1.5**	
PVCC				MLR			MLR			
	comp=Z,1µm,17.4s									
UNM	**Universidad Na**	**62.10**	**108**	IAMs_20			IAMs_20	12 40 04.6		
	comp=Z,3µm,18.0s									
DOU	**Dourbes**	**62.11**	**10**	P			**P**	**12 11 27.6**	**-1.2**	
DOU				pP			**sP**	**12 11 34.9**	**+0.6**	
UPC	**Upice**	**62.11**	**1**	*e*P			**P**	**12 11 29.5**	**+0.6**	
UPC				*e*S			**S**	**12 19 55.1**	**+1.8**	
UPC				AMS			AMS	12 41 30.0		
	comp=Z,2µm,16.4s									
UPC	**Upice**	**62.11**	**1**	*e*P			**P**	**12 11 29.5**	**+0.6**	
UPC				*e*S			**S**	**12 19 55.1**	**+1.8**	
UPC				MLR			MLR			
	comp=Z,2µm,16.4s									
GIVF	**Givet**	**62.12**	**9**	*e*P			**P**	**12 11 29.2**	**+0.3**	
GIVF				pmax			pmax			
	comp=Z,71nm,1.3s									
BAIF	**Baives**	**62.12**	**10**	*e*P			**P**	**12 11 29.5**	**+0.6**	
BAIF				pmax			pmax			
	comp=Z,51nm,1.0s									
TANN	**Tannenbergstha**	**62.15**	**4**	*e*P			**P**	**12 11 29.6**	**+0.4**	
	comp=Z,35nm,0.9s,baz=358,slow=7.0									
060A	**Indiantown**	**62.19**	**86**	IAMs_20			IAMs_20	12 41 43.5		
	comp=Z,3µm,20.0s									
GUNZ	**Gunzen**	**62.19**	**4**	*e*P			**P**	**12 11 30.0**	**+0.5**	
	baz=358,slow=7.0									
TNS	**Taunus Mts**	**62.19**	**7**	*e*P			**P**	**12 11 30.1**	**+0.6**	
	baz=358,slow=7.0									
EKS2	**Erkin-Say**	**62.20**	**316**	P			**P**	**12 11 30.3**	**+0.5**	
	SNR=23									
WERN	**Wernitzgruen**	**62.27**	**4**	*e*P			**P**	**12 11 30.8**	**+0.8**	
	baz=358,slow=7.0									
DPC	**Dobruska-Polom**	**62.27**	**1**	*e*P			**P**	**12 11 31.1**	**+1.1**	
DPC				*e*S			**S**	**12 19 57.1**	**+1.7**	
DPC				AMS			AMS	12 41 40.0		
	comp=Z,1µm,17.9s									
DPC	**Dobruska-Polom**	**62.27**	**1**	*e*P			**P**	**12 11 31.1**	**+1.1**	
DPC				*e*S			**S**	**12 19 57.1**	**+1.7**	
DPC				MLR			MLR			
	comp=Z,1µm,17.9s									
YHNB	**Yeheng**	**62.30**	**268**	IAMs_20			IAMs_20	12 37 21.4		
	comp=Z,3µm,18.0s									
NKC	**Novy Kostel**	**62.33**	**4**	*e*P			**P**	**12 11 31.2**	**+0.9**	
NKC				*e*S			**S**	**12 19 51.5**	**-4.5**	
NKC				AMS			AMS	12 42 10.0		
	comp=Z,1µm,19.1s									
NKC	**Novy Kostel**	**62.33**	**4**	*e*P			**P**	**12 11 31.2**	**+0.9**	
NKC				*e*S			**S**	**12 19 51.5**	**-4.5**	
NKC				MLR			MLR			
	comp=Z,1µm,19.1s									
KZA	**Kyzart**	**62.36**	**315**	P			**P**	**12 11 31.6**	**+0.4**	
	SNR=30									
OJC	**Ojcow**	**62.40**	**359**	*e*P			**P**	**12 11 31.0**	**+0.2**	
OJC				*e*S			**S**	**12 19 58.7**	**+1.8**	
OJC				*e*L			L	12 37 41.5		
	comp=Z,2µm,20.0s									
OJC	**Ojcow**	**62.40**	**359**	P			**P**	**12 11 30.5**	**-0.3**	
OJC				pmax			pmax			
	comp=Z,77nm,0.6s									
OJC	**Ojcow**	**62.40**	**359**	P			**P**	**12 11 30.5**	**-0.3**	
UCH	**Uchtor**	**62.41**	**316**	P			**P**	**12 11 31.9**	**+0.3**	
	SNR=17									
PRA	**Prague**	**62.53**	**2**	*e*P			**P**	**12 11 32.9**	**+1.2**	
PRA				*e*S			**S**	**12 19 56.4**	**-2.1**	
PRA				AMS			AMS	12 47 30.0		
	comp=Z,800nm,16.2s									
PRA	**Prague**	**62.53**	**2**	*e*P			**P**	**12 11 32.9**	**+1.2**	
PRA				*e*S			**S**	**12 19 56.4**	**-2.1**	
PRA				MLR			MLR			
	comp=Z,800nm,16.2s									
MANZ	**Manzenberg**	**62.56**	**4**	*e*P			**P**	**12 11 32.3**	**+0.3**	
	baz=358,slow=7.0									
PRU	**Pruhonice**	**62.62**	**2**	*e*P			**P**	**12 11 33.1**	**+0.9**	
PRU				*e*pP			**sP**	**12 11 38.0**	**+0.4**	
PRU				*e*S			**S**	**12 19 58.3**	**-1.3**	
PRU				AMS			AMS	12 47 30.0		
	comp=Z,2µm,16.7s									
PRU	**Pruhonice**	**62.62**	**2**	*e*P			**P**	**12 11 33.1**	**+0.9**	
PRU				*e*				12 11 38.0		
PRU				*e*S			**S**	**12 19 58.3**	**-1.3**	
PRU				MLR			MLR			
	comp=Z,2µm,16.7s									
KK31	**Karatay Array**	**62.63**	**319**	*i* P			**P**	**12 11 31.0**	**-1.5**	
KK31	**Karatay Array**	**62.63**	**319**	P			**P**	**12 11 32.2**	**-0.3**	
KK31				IAmb			IAmb	12 11 39.3		
	comp=Z,67nm,1.3s									
KKAR	**Karatay Array**	**62.63**	**319**	P			**P**	**12 11 31.7**	**-0.8**	
KKAR				pmax			pmax			
	comp=Z,67nm,1.3s									
KKAR	**Karatay Array**	**62.63**	**319**	P			**P**	**12 11 31.7**	**-0.8**	
KKAR				IAmb			IAmb	12 11 39.3		
	comp=Z,67nm,1.3s									
KKAR	**Karatay Array**	**62.63**	**319**	P			**P**	**12 11 30.8**	**-1.7**	
WLF	**Walferdange**	**62.63**	**9**	P			**P**	**12 11 33.1**	**+0.7**	
WLF	**Walferdange**	**62.63**	**9**	P			**P**	**12 11 33.7**	**+1.3**	
WLF				pmax			pmax			
	comp=Z,45nm,1.0s									
WLF				MLR			MLR			
	comp=Z,2µm,22.0s									
WLF	**Walferdange**	**62.63**	**9**	P			**P**	**12 11 33.7**	**+1.3**	
WLF				IAmb			IAmb	12 11 39.9		
	comp=Z,45nm,1.0s									
WLF				IAMs_20			IAMs_20	12 40 19.6		
	comp=Z,2µm,22.0s									
WLF	**Walferdange**	**62.63**	**9**	*e*P			**P**	**12 11 33.1**	**+0.7**	
	comp=Z,23nm,1.0s,baz=358,slow=7.0									
NACB	**Ninganchiao**	**62.66**	**267**	IAMs_20			IAMs_20	12 37 33.1		
	comp=Z,3µm,19.0s									
GOPC	**GO Pecny, Ondr**	**62.69**	**2**	*e*P			**P**	**12 11 33.5**	**+0.7**	
GOPC				*ex*			x	12 11 44.0		
GOPC				*e*S			**S**	**12 20 02.4**	**+1.8**	
GOPC				AMS			AMS	12 43 00.0		
	comp=Z,1µm,18.6s									
GOPC	**GO Pecny, Ondr**	**62.69**	**2**	*e*P			**P**	**12 11 33.5**	**+0.7**	
GOPC				*e*S			**S**	**12 20 02.4**	**+1.8**	
GOPC				MLR			MLR			
	comp=Z,1µm,18.6s									
LVV	**L'vov**	**62.72**	**356**	*e*P			**P**	**12 11 32.9**	**0.0**	
LVV				*e*				12 12 05.4		
LVV				*e*				12 13 54.3		
LVV				*e*PPP			PPP	12 15 26.3		
LVV				*e*S			**S**	**12 19 58.6**	**-2.3**	
LVV				*e*SSS			SSS	12 26 52.1		
LVV				MLR			MLR			
	comp=E,500nm,18.0s									
LVV				MLR			MLR			
	comp=N,1µm,19.0s									
LVV				MLR			MLR			
	comp=Z,1µm,19.0s									
AML	**Almayashu**	**62.72**	**316**	P			**P**	**12 11 34.4**	**+0.8**	
	SNR=41									
ROTZ	**Rotzenmuhle**	**62.79**	**4**	*e*P			**P**	**12 11 33.9**	**+0.5**	
	comp=Z,11nm,1.1s,baz=358,slow=7.0									
OKC	**Ostrava-Krasne**	**62.79**	**360**	*e*P			**P**	**12 11 34.1**	**+0.7**	
OKC				*e*S			**S**	**12 20 04.9**	**+3.1**	
OKC				AMS			AMS	12 42 50.0		
	comp=Z,1µm,15.6s									
OKC	**Ostrava-Krasne**	**62.79**	**360**	*e*P			**P**	**12 11 34.1**	**+0.7**	
OKC				*e*S			**S**	**12 20 04.9**	**+3.1**	
OKC				MLR			MLR			
	comp=Z,1µm,15.6s									
GRF	**Grafenberg Arr**	**62.83**	**5**	*e*P			**P**	**12 11 34.7**	**+1.0**	
	baz=358,slow=7.0									
GRF				*e*L			L	12 41 46.0		
	comp=Z,792nm,19.1s									
MORC	**Moravsky Berou**	**62.85**	**0**	⇑P			**P**	**12 11 34.8**	**+0.9**	
MORC	**Moravsky Berou**	**62.85**	**0**	*e*P			**P**	**12 11 33.9**	**0.0**	
MORC	**Moravsky Berou**	**62.85**	**0**	P			**P**	**12 11 34.4**	**+0.5**	
MORC				pmax			pmax			
	comp=Z,95nm,1.5s									
MORC				MLR			MLR			
	comp=Z,1µm,22.0s									
MORC	**Moravsky Berou**	**62.85**	**0**	P			**P**	**12 11 34.4**	**+0.5**	
MORC				IAmb			IAmb	12 11 41.4		
	comp=Z,95nm,1.5s									
BRLS	**Borolday**	**62.87**	**320**	*e*S			**S**	**12 20 05.6**	**+2.6**	
	baz=320									
PBCC	**Pribram**	**62.91**	**3**	*e*P			**P**	**12 11 34.9**	**+0.7**	
KWP	**Kalwaria Pacla**	**62.94**	**356**	*e*P			**P**	**12 11 35.1**	**+0.6**	
KWP				*e*L			L	12 38 49.1		
	comp=Z,2µm,21.8s									
KWP	**Kalwaria Pacla**	**62.94**	**356**	IAMs_20			IAMs_20	12 42 38.5		
	comp=Z,2µm,21.0s									
061Z	**Ochoppi**	**63.04**	**88**	IAMs_20			IAMs_20	12 41 49.0		
	comp=Z,3µm,19.0s									
FLN	**La Foliniere**	**63.05**	**14**	*e*P			**P**	**12 11 35.1**	**0.0**	
FLN				pmax			pmax			
	comp=Z,67nm,1.3s									
QZH	**Quanzhou**	**63.12**	**270**	⇑*i*P			**P**	**12 11 38.1**	**+2.2**	
QZH				S			**S**	**12 20 11.5**	**+5.1**	
QZH				LR			LR			
	comp=Z,1µm,19.9s									
QZH				LR			LR			
	comp=Z,9µm,15.6s									
QZH				LR			LR			
	comp=Z,3µm,17.8s									
NIE	**Niedzica**	**63.20**	**358**	*e*P			**P**	**12 11 37.4**	**+1.2**	
NIE				*e*L			L	12 42 53.6		
	comp=Z,946nm,19.8s									
NIE	**Niedzica**	**63.20**	**358**	P			**P**	**12 11 37.7**	**+1.5**	
BBSR	**BB Station**	**63.22**	**70**	IAMs_20			IAMs_20	12 40 56.2		
	comp=Z,3µm,18.0s									
SSLB	**Suanglung**	**63.26**	**268**	P			**P**	**12 11 38.0**	**+1.1**	
SSLB				IAMs_20			IAMs_20	12 38 49.8		
	comp=Z,2µm,18.0s									
VRAC	**Vranov**	**63.32**	**1**	⇑P			**P**	**12 11 38.0**	**+1.0**	
VRAC	**Vranov**	**63.32**	**1**	*e*P			**P**	**12 11 37.3**	**+0.3**	
CD2	**Chengdu**	**63.32**	**286**	P			**P**	**12 11 37.3**	**0.0**	
CD2				sP			sP	12 11 47.4	+4.8	
CD2				PP			**PP**	**12 13 54.6**	**-1.5**	
CD2				S			**S**	**12 20 09.6**	**+0.6**	
CD2				sS			sS	12 20 20.5	+5.2	
CD2				SS			**SS**	**12 24 16.6**	**+1.8**	
CD2				pmax			pmax			
	comp=Z,80nm,0.9s									
CD2				pmax			pmax			
	comp=Z,530nm,8.6s									
CD2				LR			LR			
	comp=Z,8µm,14.4s									
CD2				LR			LR			
	comp=Z,13µm,15.8s									
CD2				LR			LR			
	comp=Z,13µm,18.7s									
TREC	**Trest**	**63.32**	**2**	*e*P			**P**	**12 11 37.8**	**+0.8**	
TREC				AMS			AMS	12 42 20.0		
	comp=Z,1µm,17.2s									
TREC	**Trest**	**63.32**	**2**	*e*P			**P**	**12 11 37.8**	**+0.8**	
TREC				MLR			MLR			
	comp=Z,1µm,17.2s									
GRR	**Gorron**	**63.38**	**14**	*e*P			**P**	**12 11 37.6**	**+0.2**	
GRR				pmax			pmax			
	comp=Z,24nm,0.8s									
WET	**Wettzell**	**63.43**	**4**	P			**P**	**12 11 38.8**	**+1.1**	
WET	**Wettzell**	**63.43**	**4**	*e*P			**P**	**12 11 38.1**	**+0.4**	
	comp=Z,11nm,1.0s,baz=358,slow=7.0									
KHC	**Kasperske Hory**	**63.46**	**3**	*e*P			**P**	**12 11 38.7**	**+0.8**	
KHC				*e*pP			**sP**	**12 11 44.2**	**+0.9**	
KHC				*e*S			**S**	**12 20 07.0**	**-3.2**	
KHC				AMS			AMS	12 40 50.0		
	comp=Z,2µm,19.4s									
KHC	**Kasperske Hory**	**63.46**	**3**	*e*P			**P**	**12 11 38.7**	**+0.8**	
KHC				*e*				12 11 44.2		
KHC				*e*S			**S**	**12 20 07.0**	**-3.2**	
KHC				MLR			MLR			
	comp=Z,2µm,19.4s									
KHC	**Kasperske Hory**	**63.46**	**3**	IAmb			IAmb	12 11 46.1		
	comp=Z,51nm,1.4s									
LANS	**Liptovska Anna**	**63.47**	**359**	*e*P			**P**	**12 11 39.6**	**+1.5**	
LANS				*e*			

SMOL	**Smolenice**	**64.12**	**0**	*eP*		**P**		**12 11 43.7**	**+1.5**
SMOL				*e*				12 11 48.4	
KECS	**Kecovo**	**64.13**	**358**	*eP*		**P**		**12 11 43.1**	**+0.8**
KECS				*e*				12 11 47.5	
KECS					pmax	pmax			
	comp=Z,19nm,1.0s								
KECS	**Kecovo**	**64.13**	**358**	*eP*		**P**		**12 11 43.1**	**+0.8**
KECS				*e*				12 11 47.5	
ECH	**Echery**	**64.13**	**8**	P		**P**		**12 11 41.5**	**-0.9**
ECH					pmax	pmax			
	comp=Z,29nm,0.9s								
ECH					MLR	MLR			
	comp=Z,900nm,21.0s								
ECH	**Echery**	**64.13**	**8**	P		**P**		**12 11 41.5**	**-0.9**
ECH					IAmb	IAmb		12 11 49.6	
	comp=Z,29nm,0.9s								
VYHS	**Vyhne**	**64.14**	**359**	*eP*		**P**		**12 11 43.1**	**+0.8**
VYHS				*e*				12 11 48.0	
VYHS				*eS*		**S**		**12 20 20.8**	**+2.2**
VYHS					pmax	pmax			
	comp=Z,62nm,1.2s								
VYHS	**Vyhne**	**64.14**	**359**	*eP*		**P**		**12 11 43.1**	**+0.8**
VYHS				*e*				12 11 48.0	
VYHS				*eS*		**S**		**12 20 20.8**	**+2.2**
MODS	**Modra-Piesok**	**64.26**	**0**	*eP*		**P**		**12 11 43.4**	**+0.2**
MODS				*e*				12 11 48.3	
MODS				*eS*		**S**		**12 20 21.8**	**+1.7**
MODS					pmax	pmax			
	comp=Z,76nm,1.2s								
MODS	**Modra-Piesok**	**64.26**	**0**	*eP*		**P**		**12 11 43.4**	**+0.2**
MODS				*e*				12 11 48.3	
MODS				*eS*		**S**		**12 20 21.8**	**+1.7**
HAU	**Haudompre**	**64.30**	**9**	*eP*		**P**		**12 11 44.0**	**+0.6**
HAU					pmax	pmax			
	comp=Z,43nm,1.0s								
ZST	**Bratislava**	**64.44**	**1**	*eP*		**P**		**12 11 44.6**	**+0.3**
ZST				*e*				12 11 49.4	
ZST				*eS*		**S**		**12 20 24.4**	**+2.1**
ZST	**Bratislava**	**64.44**	**1**	*eP*		**P**		**12 11 44.6**	**+0.3**
ZST				*e*				12 11 49.4	
ZST				*eS*		**S**		**12 20 24.4**	**+2.1**
TRPA	**Tarpa**	**64.45**	**357**	⇑*P*		**P**		**12 11 46.3**	**+1.9**
HINF	**Hinteralfeld**	**64.52**	**8**	*eP*		**P**		**12 11 45.1**	**+0.2**
HINF					pmax	pmax			
	comp=Z,78nm,1.4s								
KSH	**Kashi**	**64.54**	**313**	*eP*		**P**		**12 11 48.6**	**+3.3**
KSH					sP	sP		12 11 55.3	+4.7
KSH					S	**S**		**12 20 28.8**	**+4.6**
KSH					pmax	pmax			
	comp=Z,32nm,1.0s								
KSH					pmax	pmax			
	comp=Z,1µm,4.7s								
KSH					LR	LR			
	comp=Z,11µm,15.4s								
KSH					LR	LR			
	comp=Z,9µm,13.5s								
KSH					LR	LR			
	comp=Z,12µm,13.9s								
TAS	**Tashkent**	**64.61**	**319**		IAMs_20	IAMs_20		12 42 06.3	
	comp=Z,3µm,21.0s								
CONA	**Conrad Observa**	**64.69**	**1**	*i*	pP	**P**		**12 11 46.7**	**+0.6**
	comp=Z,67nm,1.0s,SNR=23								
PSZ	**Piszkesteto**	**64.70**	**358**	⇓	P	**P**		**12 11 47.7**	**+1.6**
PSZ	**Piszkesteto**	**64.70**	**358**		P	**P**		**12 11 46.9**	**+0.8**
PSZ					pmax	pmax			
	comp=Z,97nm,1.3s								
PSZ	**Piszkesteto**	**64.70**	**358**		P	**P**		**12 11 46.9**	**+0.8**
MOA	**Molln**	**64.75**	**3**	*i*	pP	**P**		**12 11 46.8**	**+0.4**
	comp=Z,29nm,0.8s,SNR=24								
UBR	**Ueberruh**	**64.80**	**6**	*eP*		**P**		**12 11 47.9**	**+1.1**
	baz=358,slow=7.0								
SRO	**Srobarova**	**64.82**	**360**	*eP*		P		12 11 52.8	+6.0
SRO	**Srobarova**	**64.82**	**360**	*e*		P		12 11 52.8	+6.0
BUR08	**Bucovina Ar. S**	**64.85**	**355**		IAmb	IAmb		12 11 52.7	
	comp=Z,39nm,1.4s								
LOR	**Lormes**	**64.88**	**10**	*eP*		**P**		**12 11 47.5**	**+0.3**
LOR					pmax	pmax			
	comp=Z,77nm,1.1s								
BURAR	**Bucovina Array**	**64.88**	**355**	⇑	P	**P**		**12 11 47.8**	**+0.4**
BURAR	**Bucovina Array**	**64.88**	**355**		P	**P**		**12 11 46.9**	**-0.5**
BURAR	**Bucovina Array**	**64.88**	**355**		P	**P**		**12 11 46.9**	**-0.5**
SOP	**Sopron**	**64.94**	**1**		P	**P**		**12 11 51.2**	**+3.6**
SOP					pmax	pmax			
	comp=Z,53nm,1.7s								
RETA	**Reutte**	**65.02**	**5**	*i*	pP	**P**		**12 11 49.1**	**+0.8**
	comp=Z,13nm,1.0s								
MOTA	**Moosalm**	**65.17**	**5**	*i*	pP	**P**		**12 11 49.9**	**+0.6**
	comp=Z,45nm,1.2s,SNR=5.5								
DAVA	**Damuels**	**65.19**	**6**	*i*	pP	**P**		**12 11 49.6**	**+0.2**
	comp=Z,23nm,1.1s								
WATA	**Walderalm**	**65.20**	**5**	*i*	pP	**P**		**12 11 50.1**	**+0.7**
	comp=Z,70nm,1.3s,SNR=6.9								
WTTA	**Wattenberg**	**65.27**	**5**	*i*	pP	**P**		**12 11 51.0**	**+1.0**
	comp=Z,110nm,1.5s,SNR=24								
SQTA	**Sankt Quirin**	**65.30**	**5**	*i*	pP	**P**		**12 11 50.9**	**+0.8**
	comp=Z,70nm,1.1s,SNR=17								
AVF	**Avril sur Loir**	**65.32**	**11**	*eP*		**P**		**12 11 50.4**	**+0.4**
AVF					pmax	pmax			
	comp=Z,79nm,1.2s								
KIS	**Kishinev**	**65.33**	**352**	⇑	*iP*	**P**		**12 11 50.9**	**+0.8**
	comp=Z,200nm,9.0s								
KIS				*i*	S	**S**		**12 20 33.1**	**-0.2**
	comp=Z,450nm,12.1s								
KIS					eLQ	LQ		12 33 15.0	
KIS					eLR	LR		12 36 36.0	
	comp=Z,700nm,19.0s								
KIS	**Kishinev**	**65.33**	**352**	*c*	*iP*	**P**		**12 11 50.9**	**+0.8**
KIS				*i*	S	**S**		**12 20 33.1**	**-0.2**
KIS					pmax	pmax			
	comp=Z,190nm,9.0s								
KIS					smax	smax			
	comp=N,450nm,12.1s								
TEIG	**Tepich**	**65.34**	**97**		P	**P**		**12 11 50.6**	**+0.1**
TEIG	**Tepich**	**65.34**	**97**		IAMs_20	IAMs_20		12 43 53.2	
	comp=Z,2µm,20.0s								
ARSA	**Arzberg**	**65.37**	**2**	*i*	pP	**P**		**12 11 51.3**	**+0.8**
	comp=Z,13nm,1.1s								
BTK	**Batken**	**65.42**	**318**		IAMs_20	IAMs_20		12 42 13.7	
	comp=Z,3µm,19.0s								
ARCR	**ARCALIA**	**65.44**	**355**	⇑	P	**P**		**12 11 52.2**	**+1.3**
FETA	**Feichten**	**65.48**	**5**	*i*	pP	**P**		**12 11 52.0**	**+0.7**
	comp=Z,101nm,1.2s,SNR=19								
KBA	**Koelnbreinsper**	**65.50**	**3**	*i*	pP	**P**		**12 11 52.2**	**+0.7**
	comp=Z,20nm,0.6s,SNR=16								
KBA	**Koelnbreinsper**	**65.50**	**3**		P	**P**		**12 11 52.2**	**+0.7**
BIZ	**Bicaz**	**65.52**	**354**	⇓	P	**P**		**12 11 52.6**	**+1.2**
DRGR		**65.78**	**356**	⇓	P	**P**		**12 11 54.0**	**+0.9**
ABTA	**Abfaltersbach**	**65.81**	**4**	*i*	pP	**P**		**12 11 54.1**	**+0.8**
	comp=Z,22nm,0.6s,SNR=17								
TESR	**Tescani**	**65.93**	**353**	⇑	P	**P**		**12 11 55.0**	**+1.0**
SOKA	**Soboth**	**65.94**	**2**	*i*	pP	**P**		**12 11 55.1**	**+1.0**
	comp=Z,11nm,1.3s								
MYKA	**Terra Mystica**	**65.96**	**3**	*i*	pP	**P**		**12 11 54.8**	**+0.5**
	comp=Z,49nm,1.1s								
GOF	**Gofitskoye**	**65.97**	**341**	⇑	*eP*	**P**		**12 11 55.3**	**+1.0**
GOF					pmax	pmax			
	comp=Z,137nm,0.9s								
ZOU	**Zoufplan**	**66.02**	**4**		P	**P**		**12 11 55.0**	**+0.2**
OBKA	**Obir**	**66.10**	**2**	*i*	pP	**P**		**12 11 56.1**	**+0.8**
	comp=Z,80nm,0.8s,SNR=27								
PRED	**Cave del Predi**	**66.14**	**3**		P	**P**		**12 11 55.3**	**-0.2**
PRED					IAmb	IAmb		12 11 59.5	
	comp=Z,30nm,0.8s								
PRED					IAMs_20	IAMs_20		12 46 11.3	
	comp=Z,2µm,21.0s								
CIMO	**Cimolais**	**66.25**	**4**		IAmb	IAmb		12 12 03.2	
	comp=Z,58nm,1.4s								
CIMO					IAMs_20	IAMs_20		12 43 10.1	
	comp=Z,2µm,21.0s								
GYA	**Guiyang**	**66.27**	**282**	⇑	*iP*	**P**		**12 11 56.8**	**+0.2**
GYA					PP	**PP**		**12 14 26.3**	**+4.2**
GYA					S	**S**		**12 20 42.0**	**-3.5**
GYA					SKS	**ScS**		**12 21 52.9**	**+0.1**
GYA					SS	**SS**		**12 25 00.6**	**-0.4**
GYA					pmax	pmax			
	comp=Z,50nm,1.0s								
GYA					pmax	pmax			
	comp=Z,410nm,5.0s								
GYA					LR	LR			
	comp=Z,6µm,16.9s								
GYA					LR	LR			
	comp=Z,4µm,16.4s								
GYA					LR	LR			
	comp=Z,6µm,16.7s								
SIRR	**Siria**	**66.33**	**357**	⇑	P	**P**		**12 11 57.5**	**+0.9**
CTI	**Castel Tesino**	**66.49**	**5**		IAmb	IAmb		12 12 09.5	
	comp=Z,30nm,1.0s								
KALN	**Kalnik**	**66.50**	**1**		P	**P**		**12 11 57.9**	**+0.2**
DOPR	**Dopca**	**66.52**	**354**	⇑	P	**P**		**12 11 59.0**	**+1.1**
VRI	**Vrincioaia**	**66.57**	**353**	⇓	P	**P**		**12 12 00.5**	**+2.4**
PLOR	**Plostina**	**66.59**	**353**	⇑	P	**P**		**12 11 59.9**	**+1.6**
PTJ	**Puntijarka**	**66.72**	**1**		P	**P**		**12 11 59.0**	**-0.2**
LPL	**La Plagne**	**66.80**	**8**	*eP*		**P**		**12 11 57.5**	**-2.4**
LPL					pmax	pmax			
	comp=Z,8.0nm,0.4s								
LPG	**La Plagne**	**66.82**	**8**	*eP*		**P**		**12 12 01.5**	**+1.4**
LPG					pmax	pmax			
	comp=Z,51nm,1.2s								
ANN	**Anapa**	**66.86**	**345**	*eP*		**P**		**12 12 00.3**	**+0.4**
ANN				*eS*		**S**		**12 20 52.4**	**+0.5**
ANN					pmax	pmax			
	comp=Z,50nm,1.1s								
ANN					MLR	MLR			
	comp=Z,2µm,15.0s								
SSB	**Saint Sauveur**	**66.90**	**10**		IAmb	IAmb		12 12 07.7	
	comp=Z,38nm,1.0s								
MLR	**Muntele Rosu**	**66.98**	**354**	⇓	P	**P**		**12 12 03.5**	**+2.6**
MLR	**Muntele Rosu**	**66.98**	**354**		P	**P**		**12 12 02.4**	**+1.5**
MLR					pmax	pmax			
	comp=Z,187nm,1.9s								
MLR					MLR	MLR			
	comp=Z,2µm,21.0s								
MLR	**Muntele Rosu**	**66.98**	**354**		P	**P**		**12 12 02.4**	**+1.5**
MLR					IAMs_20	IAMs_20		12 44 26.2	
	comp=Z,2µm,21.0s								
BZS	**Buzias**	**66.98**	**357**	⇑	P	**P**		**12 12 01.2**	**+0.5**
VOIR		**67.06**	**355**	⇑	P	**P**		**12 12 02.0**	**+0.6**
KIV	**Kislovodsk**	**67.10**	**341**	⇓	P	**P**		**12 12 02.4**	**+0.7**
KIV	**Kislovodsk**	**67.10**	**341**	/	P	**P**		**12 12 01.2**	**-0.5**
	SNR=23								
KIV	**Kislovodsk**	**67.10**	**341**		P	**P**		**12 12 01.0**	**-0.7**
KIV	**Kislovodsk**	**67.10**	**341**	*eP*		**P**		**12 12 01.6**	**-0.1**
KIV				*eS*		**S**		**12 20 55.7**	**+0.6**
KIV				*eSS*		**SS**		**12 25 15.3**	**+2.4**
KIV					pmax	pmax			
	comp=Z,300nm,3.8s								
KIV					pmax	pmax			
	comp=Z,228nm,1.1s								
KIV					MLR	MLR			
	comp=Z,3µm,17.0s								
KIV	**Kislovodsk**	**67.10**	**341**		P	**P**		**12 12 01.5**	**-0.2**
KIV					IAmb	IAmb		12 12 11.3	
	comp=Z,58nm,0.9s								
KIV					IAMs_20	IAMs_20		12 45 22.4	
	comp=Z,2µm,19.0s								
ARR	**Arges**	**67.15**	**355**	⇑	P	**P**		**12 12 03.8**	**+1.9**
GZR	**Gura Zlata**	**67.18**	**356**	⇑	P	**P**		**12 12 02.4**	**+0.3**
CFR	**Carcaliu**	**67.19**	**352**	⇓	P	**P**		**12 12 02.6**	**+0.6**
BNI	**Bardonecchia**	**67.26**	**9**		IAmb	IAmb		12 12 11.1	
	comp=Z,33nm,1.0s								
KBZ	**Khabaz**	**67.30**	**341**		P	**P**		**12 12 03.0**	**+0.3**
	comp=Z,18nm,0.6s,baz=313,slow=4.9,SNR=24								
KBZ					LR	LR		12 45 51.9	
	comp=Z,2µm,18.9s,baz=356,slow=40								
VIVF	**Saint-Julien-l**	**67.33**	**10**	*eP*		**P**		**12 12 03.7**	**+0.7**
VIVF					pmax	pmax			
	comp=Z,35nm,0.9s								
MAK	**Makhachkala**	**67.41**	**337**	*eP*		P		12 11 57.5	-6.0
MAK				*eS*		**S**		**12 20 51.4**	**-7.2**
MAK				*eSS*		**SS**		**12 25 17.7**	**+0.1**
MAK					pmax	pmax			
	comp=Z,105nm,1.0s								
GROC	**Groznyy**	**67.42**	**338**	*eP*		**P**		**12 12 01.4**	**-2.2**
GROC				*e*				12 12 26.5	
GROC					pmax	pmax			
	comp=Z,68nm,1.3s								
CCIG	**Comitan**	**67.49**	**102**		IAmb	IAmb		12 12 11.2	
	comp=Z,47nm,0.9s								
CCIG					IAMs_20	IAMs_20		12 42 42.3	
	comp=Z,2µm,21.0s								
MBDF	**Montbardon**	**67.59**	**9**	*eP*		**P**		**12 12 06.3**	**+1.5**
MBDF					pmax	pmax			
	comp=Z,39nm,0.6s								
HARR	**Harsova**	**67.68**	**352**	⇓	P	**P**		**12 12 05.9**	**+0.7**
HERR	**Herculane**	**67.70**	**356**	⇓	P	**P**		**12 12 05.8**	**+0.5**
MDVR	**Moldovita**	**67.81**	**357**	⇑	P	**P**		**12 12 06.4**	**+0.3**
SOC	**Sochi**	**67.82**	**343**	*eP*		**P**		**12 12 05.0**	**-1.1**
SOC				*eS*		**S**		**12 21 03.2**	**-0.4**
SOC					pmax	pmax			
	comp=Z,40nm,1.1s								
SOC					MLR	MLR			
	comp=Z,2µm,20.0s								
TIRR	**Tirgusor**	**67.89**	**352**	⇓	P	**P**		**12 12 07.0**	**+0.5**
TIRR	**Tirgusor**	**67.89**	**352**	*eP*		**P**		**12 12 07.9**	**+1.4**
ZEI	**Tsey**	**68.09**	**340**	*eP*		**P**		**12 12 06.3**	**-1.8**
ZEI					pmax	pmax			
	comp=Z,53nm,0.9s								
PGRA	**Graciosa**	**68.13**	**37**	*eP*		**P**		**12 12 10.7**	**+2.6**
PGRA	**Graciosa**	**68.13**	**37**	*eLQ*		LQ		12 33 20.5	
MSSA	**Maissana**	**68.14**	**6**		IAmb	IAmb		12 12 12.9	
	comp=Z,36nm,0.9s								
ICOR	**Ion Corvin**	**68.26**	**352**	⇓	P	**P**		**12 12 09.9**	**+1.1**
ROSA	**Rosais**	**68.36**	**37**	*eP*		**P**		**12 12 11.8**	**+2.2**
ROSA	**Rosais**	**68.36**	**37**	*eLQ*		LQ		12 33 20.5	
DUGI	**Dugi Otok**	**68.62**	**2**		P	**P**		**12 12 15.3**	**+4.2**
KIJV	**Kijevo**	**68.62**	**1**		P	**P**		**12 12 15.5**	**+4.4**
FRF	**La Foret Royal**	**68.75**	**9**	*eP*		**P**		**12 12 16.3**	**+4.4**
FRF					pmax	pmax			
	comp=Z,127nm,1.7s								
LSA	**Lhasa**	**68.89**	**297**		P	**P**		**12 12 14.8**	**+1.2**
LSA	**Lhasa**	**68.89**	**297**		P	**P**		**12 12 14.0**	**+0.5**
LSA	**Lhasa**	**68.89**	**297**		IAmb	IAmb		12 12 28.3	
	comp=Z,72nm,1.4s								
LSA					IAMs_20	IAMs_20		12 45 22.3	
	comp=Z,3µm,19.0s								
PGAV	**Gavieira, Arco**	**68.89**	**21**	*eP*		**P**		**12 12 13.5**	**+0.6**
	comp=Z,174nm,1.6s								
PGAV				*eS*		**S**		**12 21 18.5**	**+1.9**
PGAV				*eSS*		SS		12 25 56.8	+16
PGAV				*eLR*		LR		12 34 14.1	
	comp=Z,2µm,18.0s								
KMI	**Kunming**	**68.94**	**285**		P	**P**		**12 12 13.6**	**0.0**
KMI					pmax	pmax			
	comp=Z,17nm,1.1s								
ZIRJ	**Zirje**	**68.97**	**2**		P	**P**		**12 12 15.3**	**+2.1**
OSSC	**Osservatorio P**	**69.00**	**5**		IAmb	IAmb		12 12 19.7	
	comp=Z,54nm,1.1s								
PRD	**Provadia**	**69.20**	**353**	*eP*		**P**		**12 12 14.7**	**0.0**
SZH	**Strazhica**	**69.20**	**354**	*eP*		**P**		**12 12 16.8**	**+2.1**
PBRG	**Braganca**	**69.25**	**19**	*eP*		**P**		**12 12 15.3**	**+0.2**
	comp=Z,56nm,2.0s								
MURB	**Monte Urbino**	**69.30**	**4**		P	**P**		**12 12 14.7**	**-0.7**
PLE	**Pljevlja**	**69.30**	**359**	⇑	*iP*	**P**		**12 12 16.2**	**+0.7**
UPM	**Unac-Piva**	**69.43**	**359**	⇑	*iP*	**P**		**12 12 16.7**	**+0.3**
HVAR	**Hvar**	**69.45**	**1**		P	**P**		**12 12 19.8**	**+3.5**
AKH	**Akhalkalaki**	**69.50**	**340**	⇓	P	**P**		**12 12 17.7**	**+0.9**
AKH	**Akhalkalaki**	**69.50**	**340**		IAMs_20	IAMs_20		12 48 28.9	
	comp=Z,2µm,18.0s								
BATM	**Batumi**	**69.54**	**341**	⇑	P	**P**		**12 12 17.5**	**+0.7**
PVRL	**Vila Real**	**69.64**	**20**	*eP*		**P**		**12 12 18.7**	**+1.2**
	comp=Z,91nm,1.6s								
PTO	**Porto**	**69.66**	**21**	*eP*		**P**		**12 12 19.5**	**+2.0**
	comp=Z,160nm,1.5s								
BCA	**Borcka**	**69.71**	**341**	⇓	P	**P**		**12 12 18.0**	**+0.1**
BRY	**Bratogost**	**69.73**	**359**	⇑	*iP*	**P**		**12 12 18.9**	**+0.7**
IVA	**Berane**	**69.75**	**358**	⇑	*iP*	**P**		**12 12 18.4**	**+0.2**
KOME	**Kolasin**	**69.78**	**359**	⇓	*iP*	**P**		**12 12 19.0**	**+0.6**
PSET	**Sete Cidades**	**69.79**	**36**	*eP*		P		12 12 10.7	-7.8
PSET	**Sete Cidades**	**69.79**	**36**	*eLQ*		LQ		12 34 10.9	
NKY	**Niksic**	**69.82**	**359**	⇑	*iP*	**P**		**12 12 18.9**	**+0.2**
MVO	**Moncorvo**	**69.84**	**20**	*eP*		**P**		**12 12 17.5**	**-1.3**
	comp=Z,66nm,1.4s								
MVO				*eS*		S		12 21 37.6	+10
MVO				*eSS*		SS		12 26 08.6	+13
MVO				*eLR*		LR		12 34 39.1	
	comp=Z,1µm,20.0s								
NKME	**Niksic**	**69.86**	**359**	⇑	*iP*	**P**		**12 12 19.7**	**+0.8**
CMLA	**Cha da Macela**	**69.89**	**35**	*eP*		**P**		**12 12 19.9**	**+0.8**
CMLA	**Cha da Macela**	**69.89**	**35**	*eLQ*		LQ		12 34 22.5	
VTS	**Vitosha**	**69.94**	**356**	⇑	P	**P**		**12 12 19.1**	**-0.4**
VTS	**Vitosha**	**69.94**	**356**	*eP*		**P**		**12 12 19.1**	**-0.4**
VTS	**Vitosha**	**69.94**	**356**		IAmb	IAmb		12 12 26.2	
	comp=Z,90nm,1.8s								
VTS					IAMs_20	IAMs_20		12 45 06.6	
	comp=Z,2µm,20.0s								
DBRK	**Dubrovnik**	**69.96**	**360**		P	**P**		**12 12 22.2**	**+2.8**
PVY	**Plav**	**70.03**	**358**	⇑	*iP*	**P**		**12 12 20.7**	**+0.7**
CEME	**Cevo**	**70.08**	**359**	⇓	*iP*	**P**		**12 12 21.3**	**+1.0**
PVIS	**Viseu**	**70.17**	**21**	*eP*		**P**		**12 12 21.7**	**+0.9**
	comp=Z,74nm,1.6s								
HCY	**Herceg Novi**	**70.18**	**359**	⇓	*iP*	**P**		**12 12 21.6**	**+0.8**
DIKM	**Dikmen**	**70.19**	**346**	⇓	P	**P**		**12 12 20.9**	**+0.1**
PDG	**Podgorica**	**70.20**	**359**	⇑	P	**P**		**12 12 20.4**	**-0.4**
PDG	**Podgorica**	**70.20**	**359**		IAmb	IAmb		12 12 27.5	
	comp=Z,61nm,1.1s								
PDG					IAMs_20	IAMs_20		12 44 29.5	
	comp=Z,2µm,21.0s								
TTG	**Podgorica**	**70.20**	**359**	⇓	*iP*	**P**		**12 12 21.3**	**+0.5**
BUM	**Brajici-Budva**	**70.33**	**359**	⇓	*iP*	**P**		**12 12 22.5**	**+0.7**
ASHT	**Ashkhabad**	**70.33**	**327**		IAMs_20	IAMs_20		12 48 50.9	
	comp=Z,3µm,22.0s								
KTUT	**Trabzon**	**70.38**	**343**	⇑	P	**P**		**12 12 22.1**	**+0.1**
GEYT	**Alibeck**	**70.40**	**327**		P	**P**		**12 12 21.9**	**-0.3**
	comp=Z,16nm,0.8s,baz=343,slow=3.6,SNR=14								
GEYT					LR	LR		12 48 51.8	
	comp=Z,4µm,18.4s,baz=15,slow=41								
GEYT	**Alibeck**	**70.40**	**327**		P	**P**		**12 12 22.2**	**0.0**
GYA0	**ALIBECK ARRAY**	**70.40**	**327**		P	**P**		**12 12 21.1**	**-1.1**
GYA0B	**ALIBECK ARRAY**	**70.40**	**327**		IAmb	IAmb		12 12 30.4	
	comp=Z,59nm,1.2s								
PLD	**Plovdiv**	**70.40**	**355**		P	P		12 12 27.2	+5.1
PLD					pmax	pmax			
	comp=Z,138nm,1.9s								
DRME	**Dracevica, Mon**	**70.44**	**359**	⇓	*iP*	**P**		**12 12 23.7**	**+1.3**
MTE	**Manteigas**	**70.53**	**20**	*eP*		**P**		**12 12 23.3**	**+0.3**
	comp=Z,111nm,1.4s								
MTE				*eS*		**S**		**12 21 38.1**	**+2.3**
MTE				*eSS*		SS		12 26 18.9	+13
MTE				*eLR*		LR		12 35 04.2	
	comp=Z,2µm,18.0s								
MTE	**Manteigas**	**70.53**	**20**		P	**P**		**12 12 22.6**	**-0.4**
MTE					IAmb	IAmb		12 12 30.6	
	comp=Z,86nm,1.3s								
MTE					IAMs_20	IAMs_20		12 43 31.4	
	comp=Z,2µm,19.0s								
INTR	**Introdacqua**	**70.58**	**3**		IAmb	IAmb		12 12 29.9	
	comp=Z,62nm,1.0s								
GTBY	**Guantanamo Bay**	**70.63**	**85**		IAMs_20	IAMs_20		12 43 32.9	
	comp=Z,2µm,21.0s								
ULC	**Ulcinj**	**70.66**	**359**	⇓	*iP*	**P**		**12 12 24.8**	**+1.0**
GRTK	**Grand Turk**	**70.69**	**81**		IAMs_20	IAMs_20		12 44 22.5	
	comp=Z,3µm,20.0s								
KKB	**Krupnik**	**70.69**	**356**	*eP*		**P**		**12 12 24.5**	**+0.6**
PSMN	**Pico do Norte,**	**70.72**	**35**	*eP*		**P**		**12 12 26.1**	**+1.9**
PSMN	**Pico do Norte,**	**70.72**	**35**	*eLQ*		LQ		12 34 22.5	
PCAS	**Casmilo, Conde**	**70.74**	**21**	*eP*		**P**		**12 12 21.0**	**-3.2**
	comp=Z,206nm,1.6s								
PCAS				*eS*		**S**		**12 21 39.5**	**+1.4**
NIL	**Nilore**	**70.80**	**313**		P	**P**		**12 12 24.6**	**-0.1**
NIL	**Nilore**	**70.80**	**313**		P	**P**		**12 12 24.9**	**+0.2**
NIL					pmax	pmax			
	comp=Z,56nm,0.9s								
NIL					MLR	MLR			
	comp=Z,4µm,20.0s								
NIL	**Nilore**	**70.80**	**313**		P	**P**		**12 12 24.9**	**+0.2**
NIL					IAmb	IAmb		12 12 32.5	
	comp=Z,56nm,0.9s								
ILGA	**Ilgaz**	**70.91**	**347**		IAMs_20	IAMs_20		12 45 38.3	
	comp=Z,2µm,20.0s								
SNET	**Serv Nac Est T**	**70.95**	**101**		IAMs_20	IAMs_20		12 44 22.1	
	comp=Z,2µm,21.0s								
KBL	**Kabul**	**71.08**	**317**		P	**P**		**12 12 25.7**	**-1.0**
KBL	**Kabul**	**71.08**	**317**		P	**P**		**12 12 25.5**	**-1.2**
KBL					pmax	pmax			
	comp=Z,39nm,1.4s								
KBL					MLR	MLR			
	comp=Z,2µm,21.0s								
KBL	**Kabul**	**71.08**	**317**		P	**P**		**12 12 25.5**	**-1.2**
KBL					IAMs_20	IAMs_20		12 46 10.9	
	comp=Z,2µm,21.0s								
PCBR	**Castelo Branco**	**71.09**	**20**	*eP*		**P**		**12 12 26.9**	**+0.6**
	comp=Z,95nm,1.7s								
UCM	**Universidad Co**	**71.14**	**17**	*eP*		**P**		**12 12 26.7**	**

JIRN Jiri 72.43 300 *e*P P 12 12 34.9 -0.2
comp=Z,249nm,1.1s
DANN Dangsing 72.59 303 *e*P P 12 12 36.3 +0.4
comp=Z,374nm,1.1s
KKN Kakani 72.61 301 *e*P P 12 12 36.3 +0.4
comp=Z,158nm,1.1s
GKN Gorkha 72.62 302 *e*P P 12 12 36.4 +0.5
comp=Z,274nm,1.2s
PGP Puerto Galera 72.63 263⇑*e*P P 12 12 35.7 -0.2
PNCL Nicolau / Gran 72.64 22 *e*P P 12 12 36.0 +0.3
comp=Z,112nm,1.6s
PNCL *e*S **SKiKP** 12 22 05.6 -3.5
CRIN San Cristobal 72.68 99 IAMs_20 IAMs_20 12 45 17.0
comp=Z,2μm,21.0s
PKIN Phulchoki 72.77 301 *e*P P 12 12 37.0 +0.1
comp=Z,79nm,1.1s
PKI Pulchoki 72.77 301 *e*P P 12 12 37.0 0.0
comp=Z,126nm,1.3s
ODAN Odare 72.77 299 *e*P P 12 12 37.5 +0.6
comp=Z,197nm,1.0s
PBEJ Beja 72.82 21 *e*P P 12 12 37.2 +0.5
comp=Z,40nm,1.5s
DMN Daman 72.84 301 *e*P P 12 12 37.9 +0.6
comp=Z,74nm,0.8s
MATN Matagalpa 72.89 98 IAmb IAmb 12 12 41.0
comp=Z,60nm,1.0s
VSL Villasalto 72.94 7 IAmb IAmb 12 12 44.8
comp=Z,45nm,1.0s
MESJ Messejana 72.95 21 *e*P P 12 12 37.4 -0.1
MESJ *e*S **S** 12 22 04.4 +0.8
MESJ AMS AMS 12 45 35.5
comp=Z,1μm,29.1s
MESJ Messejana 72.95 21 *e*P P 12 12 37.4 -0.1
MESJ *e*S **S** 12 22 04.4 +0.8
MESJ Messejana 72.95 21 *e*P P 12 12 38.2 +0.7
comp=Z,43nm,1.9s
RAMN Ramite 72.95 300 *e*P P 12 12 38.0 0.0
comp=Z,171nm,1.0s
PYUN Piuthan 73.07 303 *e*P P 12 12 38.7 +0.1
comp=Z,212nm,1.0s
PTEO Sao Teotonio 73.17 22 *e*P P 12 12 39.5 +0.7
comp=Z,100nm,1.5s
KOLN Koldanda 73.18 302 *e*P P 12 12 39.0 -0.3
comp=Z,112nm,1.1s
MORF Marmelete 73.42 22 *e*P P 12 12 40.2 -0.2
MORF *e*S **S** 12 22 09.7 +0.7
MORF AMS AMS 12 43 12.1
comp=Z,1μm,19.4s
MORF Marmelete 73.42 22 *e*P P 12 12 40.1 -0.2
MORF *e*S **S** 12 22 09.7 +0.7
MORF Marmelete 73.42 22 *e*P P 12 12 41.0 +0.6
comp=Z,116nm,1.7s
MORF *e*S **SKiKP** 12 22 14.6 +4.2
TIP Timpagrande 73.45 1 ⇓P P 12 12 41.1 +0.6
PVAQ Vaqueiros 73.45 21 *e*P P 12 12 41.5 +1.0
comp=Z,124nm,1.8s
PVAQ *e*S **SKiKP** 12 22 13.1 +2.7
PVAQ Vaqueiros 73.45 21 *e*LR LR 12 36 21.4
comp=Z,800nm,20.0s
PVAQ Vaqueiros 73.45 21 IAmb IAmb 12 12 45.5
comp=Z,37nm,1.0s
AGG Agios Georgios 73.55 356 IAMs_20 IAMs_20 12 49 23.3
comp=Z,2μm,19.0s
PFVI Vila Bisbo 73.56 22 *e*P P 12 12 41.8 +0.7
comp=Z,151nm,1.3s
PFVI *e*S **SKiKP** 12 22 13.7 +3.1
PFVI Vila Bisbo 73.56 22 IAmb IAmb 12 12 49.4
comp=Z,85nm,1.1s
PFVI IAMs_20 IAMs_20 12 42 30.2
comp=Z,1μm,21.0s
PBDV Barranco-do-Ve 73.58 21 *e*P P 12 12 41.8 +0.5
comp=Z,111nm,1.9s
PBDV *e*S **S** 12 22 17.1 +6.3
ACON Acoyapa 74.06 97 IAmb IAmb 12 12 45.5
comp=Z,54nm,1.3s
ACON IAMs_20 IAMs_20 12 47 52.3
comp=Z,2μm,20.0s
CART Cartagena 74.07 15 *e*P P 12 12 42.7 -1.4
CART *e*S **S** 12 22 18.8 +2.5
CART Cartagena 74.07 15 IAMs_20 IAMs_20 12 49 49.5
comp=Z,1μm,18.0s
GAZ Gaziantep 74.43 344 IAmb IAmb 12 12 54.2
comp=Z,70nm,1.3s
GAZ IAMs_20 IAMs_20 12 49 45.4
comp=Z,1μm,19.0s
EMAL Malaga-Limoner 74.51 18 *e*P P 12 12 47.7 +1.1
EMAL *e*S **S** 12 22 25.6 +4.4
SFS San Fernando 74.58 20 *e*P P 12 12 47.0 0.0
CORL Corleone 74.68 4 P P 12 12 48.4 +0.7
CEU Ceuta 75.24 19 *e*P P 12 12 51.1 +0.2
CEU *e*S **S** 12 22 33.4 +4.0
ITM Ithomi 75.40 357 P P 12 12 51.3 -0.5
ITM IAMs_20 IAMs_20 12 48 50.2
comp=Z,2μm,21.0s
MLPR Magueyes Islan 75.46 78 P P 12 12 52.7 +0.3
MLPR IAmb IAmb 12 12 53.3
comp=Z,45nm,0.9s
ELL Elmali 75.48 350 P P 12 12 52.0 -0.4
ELL pmax pmax
comp=Z,53nm,1.0s
ELL MLR MLR
comp=Z,4μm,21.0s
ELL Elmali 75.48 350 P P 12 12 52.0 -0.4
ELL IAmb IAmb 12 13 19.9
comp=Z,53nm,1.0s
CBYP Canovanas 75.62 77 IAmb IAmb 12 12 58.5
comp=Z,32nm,0.8s
SJG San Juan 75.66 77 IAMs_20 IAMs_20 12 51 35.1
comp=Z,2μm,18.0s
JTS Las Juntas de 75.68 98 IAMs_20 IAMs_20 12 48 04.3
comp=Z,2μm,20.0s
MTP Monte Pirata 75.90 77 IAmb IAmb 12 12 55.8
comp=Z,54nm,1.1s
PVLZ Peæn de 76.09 19 *e*P P 12 12 56.9 +1.1
PVLZ *e*S **S** 12 22 40.3 +1.5
CHTO Chiang Mai 76.10 285 P P 12 12 55.5 -0.6
CHTO Chiang Mai 76.10 285 P P 12 12 55.8 -0.3
CHTO pmax pmax
comp=Z,28nm,1.0s
CHTO Chiang Mai 76.10 285 P P 12 12 55.8 -0.3
MELI Melilla 76.13 17 *e*P P 12 12 53.8 -2.2
MELI *e*S **S** 12 22 36.3 -2.9
HDC Heredia 76.26 97 IAMs_20 IAMs_20 12 48 56.5
comp=Z,2μm,22.0s
PMOZ Porto Moniz, M 76.38 30 *e*S S 12 22 52.6 +10
PMOZ Porto Moniz, M 76.38 30 *e*LR LR 12 37 12.3
comp=Z,676nm,18.0s
CM31 Chiang Mai Arr 76.42 285 P P 12 12 57.7 -0.2
CM31 Chiang Mai Arr 76.42 285 IAmb IAmb 12 13 04.7
comp=Z,50nm,1.0s
CMAR Chiang Mai Arr 76.42 285 P P 12 12 57.4 -0.5
comp=Z,22nm,0.7s,baz=5.0,slow=6.3,SNR=65
CMAR LR LR 12 47 42.6
comp=Z,1μm,20.9s,baz=67,slow=37
KEST Kesra 76.69 7 P P 12 12 59.5 +0.2
comp=Z,61nm,1.0s,baz=282,slow=3.3,SNR=25
KEST Kesra 76.69 7 IAmb IAmb 12 13 02.0
comp=Z,71nm,1.1s
SMRT St. Maarten 76.86 75 IAMs_20 IAMs_20 12 48 40.6
comp=Z,2μm,20.0s
KCP Kidapawan 77.04 257⇑*i*P P 12 13 02.2 +0.7
IDI Anoyia 77.20 354 ⇑P P 12 12 59.8 -2.4
AVE Averroes 77.53 21 *e*P P 12 13 05.0 +1.1
AVE *e*S **S** 12 22 57.4 +2.8
IFR Ifrane 77.62 20 *e*P P 12 13 03.2 -1.5
IFR *e*S **S** 12 22 58.9 +3.0
SKI Saint Kitts 77.64 75 IAMs_20 IAMs_20 12 46 28.8
comp=Z,3μm,22.0s
ANWB Willy Bob 77.68 74 IAMs_20 IAMs_20 12 47 18.4
comp=Z,2μm,21.0s
BCIP Isla Barro Col 78.66 94 IAmb IAmb 12 13 11.5
comp=Z,118nm,1.4s
KRVT Keravat (AS076 78.68 227 P P 12 13 11.2 +0.7
comp=Z,54nm,0.9s,baz=56,slow=13,SNR=4.6
DLV T Lat 78.80 274 IAmb IAmb 12 13 17.0
comp=Z,129nm,1.6s
SJCC San Jacinto, C 79.76 89 *e*P P 12 13 16.0 -0.5
HATO Hato, Curacao 80.04 82 IAMs_20 IAMs_20 12 43 52.2
comp=Z,2μm,22.0s
ARGC Ariguani, Magd 80.15 88 *e*P P 12 13 18.9 +0.3
JAY Jayapura 80.41 238 P P 12 13 20.5 +0.5
comp=Z,24nm,0.9s,baz=194,slow=5.0,SNR=3.6
JAY Jayapura 80.41 238 P P 12 13 21.5 +1.6
comp=Z,519nmcomp=Z,27nm,1.4s
SMPI Sarmi 80.57 240 P P 12 13 22.2 +1.5
comp=Z,1μmcomp=Z,29nm,1.6s

FDF Fort de France 80.61 74 IAMs_20 IAMs_20 12 48 49.1
comp=Z,2μm,21.0s
GENI Genyem 80.66 239 P P 12 13 22.8 +1.6
comp=Z,4μmcomp=Z,44nm,1.2s
SMLC San Martn de 81.19 88 *e*P P 12 13 22.9 -1.2
KKM Kota Kinabalu 81.26 265 P P 12 13 23.8 -0.8
KKM IAMs_20 IAMs_20 12 49 04.0
comp=Z,1μm,20.0s
HNR Honiara 81.56 218 LR LR 12 45 44.9
comp=Z,833nm,21.6s,baz=1.0,slow=33
HNR Honiara 81.56 218 IAMs_20 IAMs_20 12 46 04.6
comp=Z,1μm,21.0s
SIJI Sorong 82.08 248 P P 12 13 29.5 +0.7
comp=Z,39nm,0.8s,baz=13,slow=6.6,SNR=11
ZARC Zaragoza, Cauc 82.09 90 *e*P P 12 13 27.0 -1.8
SHME Shamm 82.29 326 *i*P P 12 13 24.9 -5.0
SNR=11
WAMI Wamena 82.35 240 P P 12 13 32.3 +2.2
comp=Z,2μmcomp=Z,140nm,1.4s
BANOM Banah 82.38 326 P P 12 13 27.8 -2.5
BANOM Banah 82.38 326 P P 12 13 29.8 -0.5
SDV Santo Domingo 82.42 85 P P 12 13 31.3 +0.4
SDV Santo Domingo 82.42 85 IAMs_20 IAMs_20 12 53 36.2
comp=Z,2μm,20.0s
SDV Santo Domingo 82.42 85 *e*P P 12 13 30.7 -0.2
SDV Santo Domingo 82.42 85 *e*P P 12 13 30.7 -0.2
GRGR Grenville 82.82 76 IAMs_20 IAMs_20 12 53 01.6
comp=Z,2μm,20.0s
UMQ Umm Al-Quwin 82.90 326 P P 12 13 31.6 -1.4
MSFE Esma-Masafi 82.95 326 P P 12 13 30.5 -2.8
MDH Madha 82.98 325 P P 12 13 31.7 -1.7
HELC Santa Helena 83.03 91 *e*P P 12 13 33.3 -0.9
SRSP Sriramsagar 83.11 304 *e*P P 12 13 33.7 -0.5
SRSP IVMsBB 12 56 16.6
comp=Z,371nm,6.0s
PTBC PUERTO BERRIO, 83.12 90 *e*P P 12 13 33.0 -1.2
CBOC Ciudad Bolivar 83.14 91 *e*P P 12 13 33.5 -1.1
LBMI Labuha 83.22 252 P P 12 13 35.8 +1.1
comp=Z,100nm,1.1s
UOSS Minazif 83.34 325 P P 12 13 31.9 -3.4
UOSS Minazif 83.34 325 P P 12 13 33.4 -1.9
UOSS Minazif 83.34 325 P P 12 13 32.6 -2.7
UOSS IAmb IAmb 12 13 38.8
comp=Z,29nm,0.6s
KMSI Cibinong 83.38 255 P P 12 13 36.6 +1.1
comp=Z,2μmcomp=Z,88nm,0.9s
NAZ Nazwa, Dubai 83.42 326 P P 12 13 32.9 -2.8
HATD Hatta, Dubai 83.47 325 *i*P P 12 13 33.3 -2.7
SNR=8.8
HATD Hatta, Dubai 83.47 325 P P 12 13 36.5 +0.5
BARC Barichara 83.55 88 *e*P P 12 13 35.9 -0.8
PVM Polavaram 83.62 300 *e*P P 12 13 36.9 +0.1
PVM IVMs_BB IVMs_BB 12 53 26.3
comp=Z,253nm,6.8s
ASHO Ashiyiah 83.63 326 P P 12 13 36.2 -0.6
ASHO Ashiyiah 83.63 326 P P 12 13 35.4 -1.4
PAYG Puerto Ayora 83.80 107 P P 12 13 39.4 +1.7
NORC Norcasia 83.85 90 *e*P P 12 13 37.2 -0.9
GUY2C Guyana, Caldas 83.98 91 *e*P P 12 13 38.4 -0.8
SOHO SOHO 84.06 325 P P 12 13 39.1 +0.2
SNR=5.6
MRSI Marisa 84.23 257 P P 12 13 37.7 -2.2
comp=Z,1μmcomp=Z,2μmcomp=Z,174nm,1.3s
RUSC La Rusia 84.23 89 *e*P P 12 13 39.4 -1.1
RREF El Recreo 84.28 91 *e*P P 12 13 42.6 +1.7
HOQ Hoqain 84.42 324 P P 12 13 40.5 -0.3
HYBB Hyderabad (bro 84.45 303 *e*P P 12 13 41.0 -0.1
HYBB IVMs_BB IVMs_BB 12 56 05.1
comp=Z,743nm,16.8s
HYB Hyderabad 84.46 303 *i*P P 12 13 40.0 -1.1
KLRI Killari 84.46 305 *e*P P 12 13 41.4 +0.2
KLRI IVMsBB 12 51 27.8
comp=Z,489nm,6.4s
TOLC Tolima 84.58 91 *e*P P 12 13 41.6 -0.5
ROSC El Rosal 84.73 90 P P 12 13 43.6 +0.7
comp=Z,96nm,1.0s,baz=108,slow=2.8,SNR=22
ROSC LR LR 12 54 20.2
comp=Z,1μm,20.8s,baz=343,slow=38
ROSC El Rosal 84.73 90 *e*P P 12 13 43.9 +1.0
ROSC El Rosal 84.73 90 IAMs_20 IAMs_20 12 54 08.7
comp=Z,2μm,22.0s
SMDO Samad 84.76 323 P P 12 13 43.0 +0.3
ARQ Araqi 84.83 325 P P 12 13 42.2 -0.7
PMG Port Moresby 84.92 230 P P 12 13 43.6 +0.3
comp=Z,45nm,1.1s,baz=42,slow=9.0,SNR=3.8
PMG LR LR 12 47 50.7
comp=Z,554nm,21.1s,baz=30,slow=33
PMG Port Moresby 84.92 230 P P 12 13 44.0 +0.7
PMG pmax pmax
comp=Z,75nm,1.2s
PMG Port Moresby 84.92 230 P P 12 13 44.0 +0.7
PMG Port Moresby 84.92 230 IAMs_20 IAMs_20 12 46 20.0
comp=Z,1μm,21.0s
WBK Wadi Bani Khal 84.98 322 P P 12 13 43.5 -0.2
NJS Nagarjunasagar 85.02 302 *e*P P 12 13 44.1 +0.1
NJS IVMs_BB IVMs_BB 12 56 17.7
comp=Z,522nm,17.6s
MPSI Mapaga 85.12 259 P P 12 13 39.7 -4.7
comp=Z,912nmcomp=Z,80nm,1.2s
CHIC Chingaza 85.14 90 *e*P P 12 13 43.9 -1.2
ORTC Ortega, Tolima 85.23 91 *e*P P 12 13 43.3 -1.7
BSY Bsya 85.25 324 P P 12 13 44.3 -0.7
SNR=6.8
LUWI Luwuk 85.32 256 P P 12 13 52.3 +6.9
JMDO Jabal Madar 85.41 323 P P 12 13 45.3 -0.5
ADKI Addanki 85.47 301 *e*P P 12 13 46.6 +0.5
ADKI IVMsBB 12 58 38.1
comp=Z,346nm,6.0s
PPT Papeete 85.52 168 LR LR 12 45 10.9
comp=Z,745nm,19.5s,baz=356,slow=31
PPT2 Papeete2 85.54 168 *e*PP PP 12 17 02.0 -3.2
comp=Z,72nm,25.2s
PPT2 *e*S **S** 12 24 18.3 +0.8
comp=Z,544nm,24.8s
PPT2 *e*SS **SS** 12 29 54.4 +0.6
comp=Z,542nm,28.8s
PPT2 *e*LQ LQ 12 36 28.3
comp=Z,3μm,35.8s
PPT2 *e*LR LR 12 40 47.5
comp=Z,1μm,21.5s,baz=354
SRLM Srisailam 85.58 302 *e*P P 12 13 47.0 +0.3
SRLM IVMsBB 12 57 01.3
comp=Z,517nm,13.3s
VILC Villavicencio, 85.64 90 *e*P P 12 13 45.4 -1.7
SBUM Sibu 86.08 267 P P 12 13 51.0 +1.8
MSVF Nonsavu 86.42 199 IAMs_20 IAMs_20 12 47 06.8
comp=Z,2μm,21.0s
MHTO MHTO 86.77 323 P P 12 13 51.8 -0.7
URV Uravakonda 87.19 304 *e*P P 12 13 54.5 -0.1
URV IVMsBB 12 57 47.1
comp=Z,350nm,6.8s
SKHT Srikalahasti 87.53 301 *e*P P 12 13 56.4 +0.2
SKHT IVMs_BB IVMs_BB 12 56 18.7
comp=Z,260nm,6.6s
KSM Kuching 87.71 268 P P 12 13 55.9 -1.2
KSM IAmb IAmb 12 13 59.5
comp=Z,54nm,1.2s
KSM Kuching 87.71 268 P P 12 13 58.0 +0.9
BKB Balikpapan 87.72 261 P P 12 14 04.0 +6.9
BKB Balikpapan 87.72 261 IAMs_20 IAMs_20 12 56 05.4
comp=Z,1μm,19.0s
PUAC Puerto Asis, P 87.81 94 *e*P P 12 13 57.6 0.0
KULM Kulim 87.88 279 P P 12 13 57.6 -0.3
KULM IAmb IAmb 12 13 59.4
comp=Z,51nm,1.1s
KULM Kulim 87.88 279 P P 12 13 58.0 +0.1
TTSI Tana Toraja 88.27 258 P P 12 14 01.6 +1.9
comp=Z,1μmcomp=Z,17nm,1.0s
IPM Ipoh 88.48 278 IAmb IAmb 12 14 05.7
comp=Z,35nm,0.8s
IPM Ipoh 88.48 278 P P 12 14 01.0 +0.2
RAR Rarotonga 88.66 178 LR LR 12 49 22.3
comp=Z,582nm,18.1s,baz=16,slow=33
TAM Tamanrasset 89.32 11 IAmb IAmb 12 14 11.3
comp=Z,54nm,1.8s
COEN Coen 90.42 232 IAmb IAmb 12 14 15.8
comp=Z,51nm,1.4s
WHFO Wadi Hawf 90.67 326 P P 12 14 10.8 -0.3
PSI Prapat 90.82 279 P P 12 14 11.6 -0.3
comp=Z,29nm,0.9s,baz=360,slow=2.0
PSI Prapat 90.82 279 P P 12 14 11.6 -0.3
PSI MLR MLR
comp=Z,2μm,18.0s
RPSI Rantau Prapat 90.92 279 P P 12 14 11.6 -0.6
RPSI Rantau Prapat 90.92 279 P P 12 14 11.2 -1.0
RPSI IAmb IAmb 12 14 16.2
comp=Z,136nm,1.6s
RPSI IAMs_20 IAMs_20 12 57 41.4
comp=Z,2μm,18.0s
TBI Tubuai 91.26 168 *e*PP PP 12 17 50.1 -0.8
comp=Z,65nm,27.5s
TBI *e*S **S** 12 25 11.9 +0.6
comp=Z,572nm,30.5s
TBI *e*SS **SS** 12 31 16.6 -0.3
comp=Z,325nm,32.5s
TBI *e*LQ LQ 12 39 34.8
comp=Z,1μm,25.2s
TBI *e*LR LR 12 43 14.7
comp=Z,2μm,23.5s,baz=350
ABTO Aybut 91.32 326 P P 12 14 13.6 -0.5
BKNI Bangkinang 92.30 276 IAMs_20 IAMs_20 12 56 10.0
comp=Z,2μm,20.0s
DZM Mont Dzumac 92.47 209 *e*P P 12 14 19.9 +0.7
comp=Z,63nm,1.4s
DZM Mont Dzumac 92.47 209 *e*PP PP 12 17 58.4 -2.2
comp=Z,144nm,26.4s
DZM *e*SKSac **SKSac** 12 24 52.5 +0.4
comp=Z,178nm,22.2s
DZM *e*SP **SP** 12 26 32.9 -0.8
comp=Z,908nm,27.5s
DZM *e*SS **SS** 12 31 37.4 +2.9
comp=Z,2μm,30.1s
DZM Mont Dzumac 92.47 209 *e*LR LR 12 43 59.4
comp=Z,3μm,33.2s
DZM Mont Dzumac 92.47 209 IAmb IAmb 12 14 22.0
comp=Z,41nm,1.3s
PALK Pallekele 93.24 298 IAMs_20 IAMs_20 12 57 45.4
comp=Z,2μm,21.0s
PDSI Padang 93.65 276 P P 12 14 22.5 -2.3
comp=Z,10nm,1.1s
PMBI Palembang 93.86 272 IAMs_20 IAMs_20 13 01 21.8
comp=Z,1μm,19.0s
PTGA Pitinga 95.29 79 *e*P P 12 14 31.4 -0.9
PTGA Pitinga 95.29 79 *e*P P 12 14 31.4 -0.9
CTA Charters Tower 95.32 228 P P 12 14 32.1 -0.1
comp=Z,18nm,1.2s,baz=357,slow=7.8,SNR=3.3
CTAO Charters Tower 95.32 228 P P 12 14 32.6 +0.4
CTAO pmax pmax
comp=Z,25nm,1.2s
CTAO Charters Tower 95.32 228 P P 12 14 32.6 +0.4
CTAO IAmb IAmb 12 14 33.0
comp=Z,25nm,1.2s
DAMY Dhamar 95.71 334 IAMs_20 IAMs_20 13 03 02.2
comp=Z,1μm,21.0s
CISI Cisompet, Garu 96.95 267 IAMs_20 IAMs_20 13 02 19.6
comp=Z,1μm,18.0s
MACA Manacapuru-AM 97.26 81 *e*P Pdif 12 14 41.9 +0.5
MACA Manacapuru-AM 97.26 81 *e*P Pdif 12 14 41.9 +0.5
RAO Raoul Island 97.37 194 LR LR 12 56 17.1
comp=Z,603nm,18.6s,baz=44,slow=34
MALB Monte Alegre 98.44 74 *e*P P 12 14 46.0 -0.6
MALB Monte Alegre 98.44 74 *e*P P 12 14 46.0 -0.6
TORD Torodi Ar. Bea 98.53 16 P P 12 14 45.7 -1.3
comp=Z,1.7nm,1.0s,baz=351,slow=4.9,SNR=6.4
TORD PKKPbc **PKKPbc** 12 31 13.1 +0.1
comp=Z,0.8nm,0.8s,baz=135,slow=1.3,SNR=4.3
TORD LR LR 13 01 50.2
comp=Z,583nm,19.2s,baz=325,slow=37
TORD Torodi Ar. Bea 98.53 16 P P 12 14 44.9 -2.1
WRA Warramunga Arr 98.81 238 P P 12 14 47.5 -0.6
comp=Z,4.3nm,0.9s,baz=24,slow=5.0,SNR=8.5
WRA Warramunga Arr 98.81 238 P P 12 14 48.0 -0.1
ATD Arta Tunnel 98.95 335 IAMs_20 IAMs_20 13 08 31.8
comp=Z,897nm,18.0s
EIDS Eidsvold 99.05 222 IAMs_20 IAMs_20 12 52 54.7
comp=Z,1μm,22.0s
ITTB Itaituba 100.22 76 *e*P Pdif 12 14 54.6 +0.1
ITTB Itaituba 100.22 76 *e*P Pdif 12 14 54.6 +0.1
SAML Samuel 101.63 85 IAMs_20 IAMs_20 13 04 26.6
comp=Z,803nm,20.0s
ASAR Alice Springs 102.43 238 P Pdif 12 15 04.5 +0.4
comp=Z,0.8nm,0.9s,baz=37,slow=4.7,SNR=6.4
ASAR PKiKP **PKiKP** 12 19 26.2 +0.8
comp=Z,0.6nm,0.8s,baz=42,slow=1.7,SNR=4.3
ASAR PKKPbc **PKKPdf** 12 31 08.2 -1.7
comp=Z,0.6nm,0.8s,baz=184,slow=2.2,SNR=7.5
ARMA Armidale 103.74 220 IAMs_20 IAMs_20 12 59 22.9
comp=Z,838nm,20.0s
PSAD2 Pilbara Seismi 105.31 251 IAMs_20 IAMs_20 13 08 13.1
comp=Z,1μm,20.0s
LPAZ La Paz 106.46 93 PP **PKiKP** 12 19 40.3 +6.5
comp=Z,2.3nm,0.9s,baz=1.3,slow=13,SNR=4.6
LPAZ PKKPbc **PKKPdf** 12 30 59.8 -2.8
comp=Z,0.8nm,0.6s,baz=49,slow=2.3,SNR=3.8
AP01 Chacalluta 107.52 96 IAMs_20 IAMs_20 13 04 57.6
comp=Z,768nm,21.0s
TA01 Diego Aracena 109.58 96 IAMs_20 IAMs_20 12 59 20.2
comp=Z,760nm,20.0s
PB08 IPOC Station P 109.58 95 IAMs_20 IAMs_20 13 10 00.6
comp=Z,711nm,20.0s
BBOO Buckleboo 110.28 232 IAMs_20 IAMs_20 13 01 05.7
comp=Z,1μm,21.0s
NWAO Narrogin (SRO) 116.60 248 PKP **PKiKP** 12 19 52.6 +0.8
comp=Z,13nm,0.9s,baz=117,slow=8.1,SNR=2.6
AC05 El Transito 117.03 100 IAMs_20 IAMs_20 13 19 44.0
comp=Z,846nm,22.0s
CPUP Villa Florida 119.69 87 PKP **PKiKP** 12 19 60.0 +2.0
comp=Z,2.5nm,0.8s,baz=38,slow=6.8,SNR=3.1
CPUP PKKP **PKKPdf** 12 30 37.1 0.0
comp=Z,3.7nm,1.1s,baz=207,slow=8.8,SNR=2.8
CPUP Villa Florida 119.69 87 PKiKP **PKiKP** 12 20 00.0 +2.0
PTGB Pitanga 120.23 81 *e*P **PKPdf** 12 19 58.1 -1.0
PTGB Pitanga 120.23 81 *e*P **PKPdf** 12 19 58.1 -1.0
MT05 Renca 120.94 103 IAMs_20 IAMs_20 13 12 05.7
comp=Z,948nm,21.0s
MT01 Popeta 121.17 103 IAMs_20 IAMs_20 13 09 40.6
comp=Z,566nm,20.0s
PARB Paraibuna 121.38 74 *e*P **PKPdf** 12 20 01.4 0.0
PARB Paraibuna 121.38 74 *e*P **PKPdf** 12 20 01.4 0.0
ITQB Itaqui 122.97 88 *e*P **PKiKP** 12 20 04.7 +0.4
ITQB Itaqui 122.97 88 *e*P **PKiKP** 12 20 04.7 +0.4
CPSB Cacapava Do Su 124.84 86 *e*P **PKPdf** 12 20 07.5 -0.2
CPSB Cacapava Do Su 124.84 86 *e*P **PKPdf** 12 20 07.5 -0.2
CNLB Canela 124.84 82 *e*P **PKPdf** 12 20 06.9 -0.9
CNLB Canela 124.84 82 *e*P **PKPdf** 12 20 06.9 -0.9
PLTB Pedras Altas 125.99 86 *e*P **PKPdf** 12 20 09.2 -0.6
PLTB Pedras Altas 125.99 86 *e*P **PKPdf** 12 20 09.2 -0.6
LSZ Lusaka 127.19 347 PKiKP **PKPdf** 12 20 12.5 -0.2
LSZ Lusaka 127.19 347 **PKPdf** 12 20 12.5 -0.2
PLCA Paso Flores 127.51 107 PKhKP PKPpre 12 20 03.1
comp=Z,2.2nm,0.9s,baz=250,slow=6.0,SNR=2.9
PLCA PKP **PKiKP** 12 20 13.2 +0.1
comp=Z,11nm,0.7s,baz=4.1,slow=4.5,SNR=12
PLCA Paso Flores 127.51 107 PKPdf **PKiKP** 12 20 13.1 0.0
PLCA Paso Flores 127.51 107 *e*P **PKiKP** 12 20 13.1 0.0
PLCA Paso Flores 127.51 107 *e*P **PKiKP** 12 20 13.1 0.0
LL01 San Ignacio de 128.27 109 IAMs_20 IAMs_20 13 16 23.8
comp=Z,951nm,22.0s
BOSA Boshof 140.64 350 PKhKP PKPpre 12 20 30.5
comp=Z,9.2nm,1.0s,baz=350,slow=2.6,SNR=11
EFI East Falkland 141.36 105 PKiKP **PKPdf** 12 20 38.4 +0.5
EFI East Falkland 141.36 105 PKPdf **PKPdf** 12 20 38.4 +0.5
SUR Sutherland 144.60 356 PKP **PKPab** 12 20 42.7 -0.4
comp=Z,70nm,0.9s,baz=229,slow=2.8,SNR=22
SUR Sutherland 144.60 356 PKPdf **PKPab** 12 20 43.1 0.0
VNDA Vanda 146.61 193 PKPbc **PKPdf** 12 20 46.8 +0.4
comp=Z,21nm,1.1s,baz=332,slow=4.3,SNR=29
VNDA Vanda 146.61 193 PKP2 **PKPbc** 12 20 48.3 +0.3
VNDA Vanda 146.61 193 **PKPbc** 12 20 48.2 +0.3
CASY Casey 146.93 228 **PKPdf** 12 20 49.0 -0.2
PMSA Palmer Station 149.11 124 *e*P **PKPdf** 12 20 52.0 +1.2
PMSA Palmer Station 149.11 124 *e*P **PKPdf** 12 20 52.0 +1.2
MAW Mawson 163.16 249 PKP **PKPdf** 12 21 10.1 +1.1
comp=Z,2.0nm,0.9s,baz=322,slow=14,SNR=2.5
MAW PKPab **PKPab** 12 21 58.4 -1.1
comp=Z,5.2nm,1.0s,baz=68,slow=8.1,SNR=4.8
MAW Mawson 163.16 249 **PKPab** 12 21 59.8 +0.3
VNA3 Neumayer Olymp 169.76 123 PKPab **PKPab** 12 22 28.6 -0.1
VNA1 Neumayer--Stat 170.29 120 PKPab **PKPab** 12 22 30.7 -0.2
VNA2 Neumayer--Watz 170.54 121 PKPab **PKPab** 12 22 32.3 +0.2
SNAA Sanae 171.80 128 PKPab **PKPab** 12 22 37.2 -0.6
SNAA Sanae 171.80 128 PKP **PKPdf** 12 21 13.6 -1.6
comp=Z,3.3nm,1.0s,baz=334,slow=6.6,SNR=26
SNAA PKPab **PKPab** 12 22 36.4 -1.4
comp=Z,11nm,1.0s,baz=233,slow=3.1,SNR=15
SNAA Sanae 171.80 128 **PKPab** 12 22 37.2 -0.6
SYO Syowa Base 171.87 251⇑*i*PKPdf **PKPdf** 12 21 15.0 -0.2
SYO Syowa Base 171.87 251⇑*e*PKPdf pPKPdf 12 21 22.3 +2.9
SYO Syowa Base 171.87 251⇑*e*PKPab **PKPab** 12 22 34.4 -3.6
SYO Syowa Base 171.87 251⇓*e*PKPab pPKPab 12 22 43.0 +1.0

IDC ***16*** *12:23:03.6±4.8, 68°.02N×163°.00W, h0km, mb3.1/2, mb1 3.8/3, mb1mx3.3/53, mbtmp3.4/3, ML3.8/1, Error ellipse: s-maj=83.9km s-min=56.2km az=29.0*
AEIC ***16*** *12:23:06.9±0.8, 67°.70N±0°.03×162°.3W±0°.1, h18km±7km, ML2.8/18, Error ellipse: s-maj=7.6km s-min=4.0km az=96.0*
NEIC ***16*** *12:23:07.2±0.8, 67°.73N±0°.09×162°.3W±0°.1, h18km±8km, Error ellipse: s-maj=12.9km s-min=7.5km az=164.0*

ISC 16 12:23:06.5±0.9, 67°.71N±0°.06×162°.25W±0°.05, h10km, n26, σ0§64/31, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.43**	**324**		**Pb**	**12 23 15.5**	**-0.7**
RDOG					**Sb**	**12 23 22.3**	**-0.4**
ANM	**Nome**	**3.40**	**203**		**Pn**	**12 24 00.0**	**+0.4**
ANM					**Sn**	**12 24 39.2**	**-0.7**
IM03		**3.78**	**113**		**Pn**	**12 24 04.6**	**0.0**
IMAR	**Indian Mountai**	**3.78**	**113**		**Pn**	**12 24 04.2**	**-0.5**
PS05	**TAPS Pump Stn5**	**4.58**	**96**		**Pn**	**12 24 16.8**	**+1.0**
TOLK	**Toolik Lake Re**	**4.82**	**73**		**Pn**	**12 24 20.0**	**+0.9**
TOLK					**Sn**	**12 25 14.3**	**-0.6**
TTA	**Tatalina**	**5.46**	**149**		**Pn**	**12 24 28.1**	**+0.2**
TTA					**Sn**	**12 25 29.4**	**-1.3**
BPAW	**Bear Paw Mtn.**	**5.86**	**123**		**Pn**	**12 24 33.7**	**+0.4**
MDM	**Murphy Dome**	**6.28**	**109**	Pn	**Pn**	**12 24 39.4**	**+0.4**
PPLA	**Purkeypile**	**6.41**	**134**	Pn	**Pn**	**12 24 41.0**	**+0.1**
COLA	**College**	**6.46**	**109**		**Pn**	**12 24 41.9**	**+0.5**
TRF	**Thorofare Moun**	**6.54**	**125**		**Pn**	**12 24 42.6**	**-0.2**
CCB	**Clear Creek Bu**	**6.60**	**111**		**Pn**	**12 24 43.5**	**+0.1**
WRH	**Wood River Hil**	**6.60**	**113**		**Pn**	**12 24 43.7**	**+0.2**
FYU	**Fort Yukon**	**6.72**	**92**	Pn	**Pn**	**12 24 45.4**	**+0.3**
BMAR	**Burnt Mountain**	**6.76**	**84**		**Pn**	**12 24 45.7**	**0.0**
MCK	**McKinley**	**6.78**	**120**	Pn	**Pn**	**12 24 45.9**	**0.0**
IL31		**6.86**	**108**		**Pn**	**12 24 47.0**	**0.0**
ILAR	**Eielson Array**	**6.86**	**108**	Pn	**Pn**	**12 24 46.9**	**-0.1**
	1.6nm,0.3s,baz=304,slow=14,SNR=83						
ILAR				Sn	**Sn**	**12 26 03.8**	**-1.3**
	0.2nm,0.3s,baz=302,slow=24,SNR=6.6						
ILAR	**Eielson Array**	**6.86**	**108**		**Pn**	**12 24 47.1**	**+0.1**
RND	**Reindeer**	**7.03**	**122**	Pn	**Pn**	**12 24 49.8**	**+0.4**
HDA	**Harding Lake**	**7.04**	**111**		**Pn**	**12 24 49.6**	**+0.1**
SVW2	**Sparrevohn**	**7.23**	**153**		**Pn**	**12 24 53.1**	**+1.0**
DHY	**Denali Highway**	**7.74**	**120**		**Pn**	**12 25 00.1**	**+0.9**
YKA	**Yellowknife Ar**	**20.27**	**82**	P	**P**	**12 27 41.9**	**+0.1**
	0.3nm,0.5s,baz=303,slow=10,SNR=3.8						
TXAR	**Lajitas Array**	**51.38**	**107**	P	**P**	**12 32 12.4**	**+1.3**
	0.3nm,0.9s,baz=356,slow=7.2,SNR=2.8						

IDC 16 12:26:60.0±1.7, 2°.67S×139°.04E, h0km, mb3.1/2, mb1 3.4/3, mb1mx3.2/40, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=30.7km s-min=15.2km az=168.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.68**	**85**	Pg	Pg	12 27 32.1	0.0
	3.1nm,0.3s,baz=265,slow=15,SNR=16						
JAY				Lg	Lg	12 27 51.5	
	5.8nm,0.3s,baz=134,slow=18,SNR=4.2						
WRA	**Warramunga Arr**	**17.77**	**195**	P	P	12 31 10.1	+0.3
	0.2nm,0.3s,baz=17,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**21.45**	**193**	P	P	12 31 48.8	-1.2
	0.6nm,0.8s,baz=21,slow=9.2,SNR=7.3						
MKAR	**Makanchi Array**	**69.96**	**322**	P	P	12 38 13.3	0.0
	0.1nm,0.4s,baz=96,slow=8.9,SNR=2.1						

NNC ***16*** *12:46:57.3±0.3, 43°.32N×70°.21E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=2.5km s-min=1.6km az=26.0, Suspected Mining explosion.*
SOME ***16*** *12:46:57.7, 43°.13N×70°.37E*
KRNET ***16*** *12:46:59.0±0.1, 43°.14N×69°.81E, mb3.0*

ISC 16 12:47:02.5±1.1, 43°.21N±0°.06×70°.43E±0°.04, h0km, n25, σ1§69/44, 32C-8D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK09	**Karatay Array**	**0.10**	**150**	⇑P	**Pg**	**12 47 03.0**	**-1.5**
KK09				⇑S	**Sg**	**12 47 07.2**	**+1.4**
KK08	**Karatay Array**	**0.12**	**158**	⇑P	**Pg**	**12 47 03.3**	**-1.4**
KK08				⇑S	**Sg**	**12 47 07.6**	**+1.4**
KK04	**Karatay Array**	**0.12**	**151**	⇑P	**Pg**	**12 47 03.2**	**-1.5**
KK04				⇑S	**Sg**	**12 47 07.5**	**+1.2**
KK05	**Karatay Array**	**0.12**	**144**	⇑P	**Pg**	**12 47 03.2**	**-1.5**
KK05				⇑S	**Sg**	**12 47 07.6**	**+1.4**
KK01	**Karatay Array**	**0.12**	**152**	⇑P	**Pg**	**12 47 03.4**	**-1.5**
KK01				⇓S	**Sg**	**12 47 07.7**	**+1.3**
KK03	**Karatay Array**	**0.12**	**154**	⇑P	**Pg**	**12 47 03.3**	**-1.5**
KK03				⇑S	**Sg**	**12 47 07.7**	**+1.3**
KK02	**Karatay Array**	**0.12**	**151**	⇑P	**Pg**	**12 47 03.3**	**-1.5**
KK02				⇑S	**Sg**	**12 47 07.7**	**+1.3**
KK31	**Karatay Array**	**0.12**	**151**	⇑P	**Pg**	**12 47 03.4**	**-1.5**
	20nm,0.5s,baz=302,slow=17,SNR=1097						
KK31				⇑S	**Sg**	**12 47 07.8**	**+1.3**
	189nm,0.5s,baz=320,slow=32,SNR=7.9						
KK07	**Karatay Array**	**0.13**	**157**	⇑P	**Pg**	**12 47 03.6**	**-1.5**
KK07				⇑S	**Sg**	**12 47 08.1**	**+1.3**
KK06	**Karatay Array**	**0.14**	**149**	⇑P	**Pg**	**12 47 03.5**	**-1.6**
KK06				⇓S	**Sg**	**12 47 08.2**	**+1.3**
BRLS	**Borolday**	**0.47**	**247**	P	**Pg**	**12 47 10.0**	**-1.5**
	8.8nm,0.1s						
BRLS				S	**Sg**	**12 47 19.4**	**+1.8**
	25nm,0.3s						
ARK	**Arkit**	**1.81**	**141**	⇓*i*P	**Pn**	**12 47 35.6**	**+0.5**
	baz=29						
ARK				⇓*i*S	**Sg**	**12 48 02.6**	**+1.9**
	baz=29						
AML	**Almayashu**	**2.64**	**113**	⇑*i*P	**Pb**	**12 47 48.9**	**-2.0**
	baz=8.0						
AML				⇑*i*S	**Sb**	**12 48 24.9**	**+0.9**
	baz=8.0						
ARSB	**Arslanbob**	**2.67**	**134**	⇑*i*P	**Pn**	**12 47 47.8**	**+0.8**
	baz=27						
ARSB				⇑*i*S	**Sn**	**12 48 22.7**	**+2.6**
	baz=27						
USP	**Ospenovka**	**2.98**	**88**	⇑*i*P	**Pb**	**12 47 54.1**	**-2.3**
	baz=86						
USP				⇑*i*S	**Sb**	**12 48 34.0**	**+0.7**
	baz=86						
AAK	**Ala-Archa**	**3.04**	**100**	⇑Pg	**Pb**	**12 47 55.8**	**-1.8**
	2.1nm,0.4s						
AAK				⇑Lg	Lg	12 48 37.9	
	4.0nm,0.5s						
UCH	**Uchtor**	**3.17**	**107**	⇑*e*P	**Pn**	**12 47 56.6**	**+2.6**
	baz=3.0						
UCH				⇑*i*S	**Sb**	**12 48 38.1**	**-1.1**
	baz=3.0						
CHMS	**Chumysh**	**3.17**	**92**	⇓*i*P	**Pb**	**12 47 57.1**	**-2.7**
	baz=91						
CHMS				⇓*i*S	**Sb**	**12 48 38.8**	**-0.2**
	baz=91						
ARLS	**Aral**	**3.18**	**114**	⇑*i*P	**Pn**	**12 47 55.9**	**+2.0**
	baz=9.0						
ARLS				⇑*i*S	**Sb**	**12 48 37.5**	**-1.8**
	baz=9.0						
BTLS	**Baital**	**3.18**	**54**	Pg	**Pb**	**12 47 58.7**	**-1.3**
	2.4nm,0.4s						
BTLS				Lg	Lg	12 48 42.1	
	3.0nm,0.8s						
KZA	**Kyzart**	**3.73**	**106**	⇓*e*P	**Pn**	**12 48 04.4**	**+2.6**
	baz=3.0						
KZA				⇓*i*S	**Sb**	**12 48 52.0**	**-3.5**
	baz=3.0						
TKM2	**Tokmak 2**	**3.80**	**93**	⇑Pg	**Pb**	**12 48 09.8**	**-0.8**
	2.5nm,0.6s						
TKM2				⇑Lg	Lg	12 49 01.6	
	5.7nm,0.5s						
DGS	**Degeres**	**3.91**	**88**	Pg	**Pb**	**12 48 11.3**	**-1.0**
	6.5nm,0.4s						
DGS				Lg	Lg	12 49 04.5	
	11nm,0.5s						
KUU	**Kurty**	**4.35**	**79**	Pg	**Pb**	**12 48 18.7**	**-1.2**
	1.1nm,0.3s						
KUU				Lg	Lg	12 49 17.0	
	16nm,0.6s						
TNSS	**Tian-Shan**	**4.77**	**90**	Pg	**Pb**	**12 48 26.2**	**-1.1**
	1.4nm,0.4s						
TNSS				Lg	Lg	12 49 30.1	
	6.7nm,0.6s						

IDC ***16*** *12:56:50.6±0.7, 67°.97N×162°.13W, h0km, mb3.9/15, mb1 4.1/18, mb1mx3.9/61, mbtmp3.9/18, ML3.8/3, Error ellipse: s-maj=21.4km s-min=12.5km az=27.0*
AEIC ***16*** *12:56:50±1.1, 67°.68N±0°.07×162°.2W±0°.1, h13km±4km, ML3.8/41, mb4.3/11(NEIC), Error ellipse: s-maj=9.5km s-min=6.6km az=181.0*
NEIC ***16*** *12:56:51.1±1.2, 67°.67N±0°.06×162°.16W±0°.08, h11km±5km, Error ellipse: s-maj=9.0km s-min=3.2km az=200.0*

ISC 16 12:56:50.9±0.5, 67°.74N±0°.05×161°.96W±0°.04, h10km, n88, σ1§61/94, mb4.1/18, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.48**	**312**	Pg	**Pg**	**12 56 59.6**	**-0.7**
RDOG					**Sg**	**12 57 06.5**	**-0.1**
ANM	**Nome**	**3.47**	**205**	Pn	**Pn**	**12 57 43.4**	**-1.5**
ANM					**Sn**	**12 58 23.5**	**-2.5**
IM03		**3.69**	**115**		**Pn**	**12 57 48.5**	**+0.7**
IMAR	**Indian Mountai**	**3.69**	**115**	Pn	**Pn**	**12 57 48.1**	**+0.3**
IM01	**Indian Mountai**	**3.69**	**114**		**Pn**	**12 57 48.6**	**+0.7**
IM01					**Sn**	**12 58 32.6**	**+1.3**
PS05	**TAPS Pump Stn5**	**4.48**	**97**		**Pn**	**12 58 00.6**	**+1.9**
TOLK	**Toolik Lake Re**	**4.71**	**73**	Pn	**Pn**	**12 58 04.0**	**+2.1**
TOLK					**Sn**	**12 58 58.6**	**+2.1**
PS04	**TAPS Pump Stn4**	**4.77**	**76**		**Pn**	**12 58 06.2**	**+3.4**
PS06	**TAPS Pump Stn6**	**5.19**	**106**		**Pn**	**12 58 09.7**	**+1.3**
TTA	**Tatalina**	**5.43**	**150**	Pn	**Pn**	**12 58 11.6**	**-0.2**
TT01	**Tatalina**	**5.45**	**150**		**Pn**	**12 58 12.2**	**+0.3**
CHUM	**Lake Minchumin**	**5.53**	**130**		**Pn**	**12 58 13.8**	**+0.6**
BPAW	**Bear Paw Mtn.**	**5.78**	**124**	Pn	**Pn**	**12 58 16.9**	**+0.2**
NEA	**Nenana**	**6.10**	**115**		**Pn**	**12 58 21.9**	**+0.9**
MDM	**Murphy Dome**	**6.18**	**110**		**Pn**	**12 58 23.3**	**+1.2**
PPLA	**Purkeypile**	**6.34**	**135**		**Pn**	**12 58 24.5**	**+0.1**
TCOL	**CIGO, UAF Yank**	**6.36**	**110**		**Pn**	**12 58 26.4**	**+1.9**
COLA	**College**	**6.36**	**110**		**Pn**	**12 58 26.1**	**+1.5**
COLA	**College**	**6.36**	**110**	Pn	**Pn**	**12 58 25.6**	**+1.1**
POKR	**Poker Plat Res**	**6.38**	**107**		**Pn**	**12 58 26.5**	**+1.6**
TRF	**Thorofare Moun**	**6.46**	**126**	Pn	**Pn**	**12 58 27.1**	**+1.0**
CCB	**Clear Creek Bu**	**6.51**	**112**		**Pn**	**12 58 27.3**	**+0.8**
WRH	**Wood River Hil**	**6.51**	**114**		**Pn**	**12 58 27.3**	**+0.7**
FYU	**Fort Yukon**	**6.61**	**92**	Pn	**Pn**	**12 58 28.9**	**+0.9**
BM03	**Burnt Mountain**	**6.64**	**85**		**Pn**	**12 58 30.1**	**+1.7**
BMAR	**Burnt Mountain**	**6.65**	**85**	Pn	**Pn**	**12 58 30.1**	**+1.5**
MCK	**McKinley**	**6.70**	**121**	Pn	**Pn**	**12 58 29.7**	**+0.5**
IL31		**6.77**	**109**	Pn	**Pn**	**12 58 30.9**	**+0.8**
ILAR	**Eielson Array**	**6.77**	**109**	Pn	**Pn**	**12 58 30.9**	**+0.9**
	17nm,0.3s,baz=304,slow=13,SNR=713						
ILAR				Sn	**Sn**	**12 59 46.3**	**-0.8**
	baz=294,slow=20,SNR=1.8						
ILAR				Lg	Lg	13 00 26.1	
	0.5nm,0.3s,baz=308,slow=31,SNR=2.4						
ILAR	**Eielson Array**	**6.77**	**109**	Pn	**Pn**	**12 58 30.6**	**+0.5**
PRP	**Porcupine Dome**	**6.90**	**101**		**Pn**	**12 58 32.7**	**+0.7**
PS08	**TAPS Pump Stn8**	**6.92**	**110**		**Pn**	**12 58 33.3**	**+1.2**
RND	**Reindeer**	**6.95**	**122**	Pn	**Pn**	**12 58 33.8**	**+1.1**
HDA	**Harding Lake**	**6.95**	**112**		**Pn**	**12 58 32.9**	**+0.3**
SPNN	**North Nagishla**	**7.53**	**144**		**Pn**	**12 58 42.0**	**+1.3**
DHY	**Denali Highway**	**7.66**	**121**		**Pn**	**12 58 43.9**	**+1.4**
SPU	**Mount Spurr**	**7.84**	**142**	Pn	**Pn**	**12 58 46.0**	**+1.2**
GHO	**Glory Hole Cre**	**8.16**	**131**		**Pn**	**12 58 50.8**	**+1.5**
SCRK	**Sand Creek**	**8.26**	**109**		**Pn**	**12 58 51.9**	**+1.3**
SML	**Sawmill**	**8.30**	**129**	Pn	**Pn**	**12 58 52.1**	**+0.9**
RSO	**Redoubt South**	**8.33**	**147**		**Pn**	**12 58 50.0**	**-1.7**
DOT	**Dot Lake**	**8.42**	**111**	Pn	**Pn**	**12 58 53.2**	**+0.4**
SCM	**Sheep Creek Mo**	**8.59**	**127**		**Pn**	**12 58 56.1**	**+1.0**
EGAK	**Eagle**	**8.88**	**100**	Pn	**Pn**	**12 58 59.6**	**+0.6**
MENT	**Mentasta**	**8.99**	**114**		**Pn**	**12 59 01.4**	**+0.7**
BCAR	**Beaver Creek A**	**9.60**	**110**	Pn	**Pn**	**12 59 09.1**	**+0.2**
EPYK	**Eagle Plains**	**9.92**	**86**	Pn	**Pn**	**12 59 14.6**	**+1.3**
GLB	**Gilahina Butte**	**10.00**	**120**	Pn	**Pn**	**12 59 14.0**	**-0.4**
VRDI	**Verde Repeater**	**10.27**	**121**	Pn	**Pn**	**12 59 17.5**	**-0.8**
INK	**Inuvik**	**10.62**	**74**	Pn	**Pn**	**12 59 23.7**	**+0.9**
	0.6nm,0.3s,baz=291,slow=18,SNR=15						
INK				Sn	**Sn**	**13 01 16.8**	**-4.8**
	0.7nm,0.3s,baz=277,slow=22,SNR=4.6						
INK	**Inuvik**	**10.62**	**74**	Pn	**Pn**	**12 59 23.4**	**+0.6**
KDAK	**Kodiak Island**	**10.85**	**152**	Pn	**Pn**	**12 59 27.5**	**+1.5**
	0.3nm,0.3s,baz=35,slow=7.3,SNR=7.2						
KDAK	**Kodiak Island**	**10.85**	**152**	Pn	**Pn**	**12 59 26.1**	**0.0**
OHAK	**Old Harbor**	**11.27**	**155**	Pn	**Pn**	**12 59 31.0**	**-0.8**
CNBA	**Chernabura Isl**	**13.01**	**174**	Pn	**Pn**	**12 59 57.1**	**+1.6**
DLBC	**Dease Lake**	**16.97**	**108**	P	**P**	**13 00 50.8**	**+0.8**
	0.2nm,0.3s,baz=311,slow=9.6,SNR=4.4						
DLBC	**Dease Lake**	**16.97**	**108**	P	**P**	**13 00 50.2**	**+0.1**
YKA	**Yellowknife Ar**	**20.16**	**82**	P	**P**	**13 01 26.1**	**+1.2**
	2.5nm,0.6s,baz=302,slow=9.8,SNR=31						
YKA				S	**S**	**13 05 02.2**	**-8.6**
	0.7nm,0.8s,baz=308,slow=22,SNR=6.9						
RES	**Resolute Bay**	**21.44**	**42**	P	**P**	**13 01 37.1**	**-1.6**
	5.3nm,1.1s,baz=36,slow=15,SNR=2.7						
RES				S	**S**	**13 05 31.2**	**-4.8**
	6.9nm,1.1s,baz=310,slow=11,SNR=2.5						
RES	**Resolute Bay**	**21.44**	**42**	P	**P**	**13 01 38.9**	**+0.3**
TIXI	**Tiksi**	**23.10**	**311**	P	**P**	**13 01 55.5**	**-0.8**
	0.2nm,0.2s,baz=278,slow=11,SNR=1.2						
PETK	**Petropavlovsk-**	**24.11**	**253**	P	**P**	**13 02 07.1**	**+0.7**
	2.3nm,0.9s,baz=76,slow=12,SNR=3.8						
NRIK	**Noril'sk**	**35.21**	**325**	P	**P**	**13 03 44.2**	**-0.4**
	3.1nm,0.9s,baz=73,slow=13,SNR=1.7						
PDAR	**Pinedale Array**	**37.18**	**105**	P	**P**	**13 04 03.5**	**+1.5**
	0.9nm,0.5s,baz=335,slow=7.0,SNR=10						
PDAR	**Pinedale Array**	**37.18**	**105**	P	**P**	**13 04 02.4**	**+0.5**
NVAR	**Mina Array Bea**	**37.92**	**118**	P	**P**	**13 04 10.7**	**+2.4**
	1.3nm,0.7s,baz=324,slow=7.2,SNR=12						
NVAR	**Mina Array Bea**	**37.92**	**118**	P	**P**	**13 04 09.6**	**+1.3**
OMMB	**Oid Mammoth Mi**	**38.43**	**119**	P	**P**	**13 04 11.7**	**-1.0**
OSI	**Osito Audit: C**	**41.25**	**121**	P	**P**	**13 04 35.8**	**-0.1**
TLY	**Talaya**	**45.15**	**299**	P	**P**	**13 05 07.9**	**+0.8**
TLY				IAmb	IAmb	13 05 09.2	
	comp=Z,4.9nm,1.4s						
KSRS	**Korea Array**	**48.47**	**269**	P	**P**	**13 05 34.1**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=20,slow=8.2,SNR=7.7						
ZALV	**Zalesovo Beam**	**48.94**	**314**	P	**P**	**13 05 36.5**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=34,slow=6.0,SNR=8.6						
ZALV	**Zalesovo Beam**	**48.94**	**314**	P	**P**	**13 05 36.0**	**-0.6**
FINES	**FINESS Array B**	**50.99**	**355**	P	**P**	**13 05 52.4**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=358,slow=4.3,SNR=3.8						
TX31	**Lajitas Ar. Si**	**51.28**	**108**	P	**P**	**13 05 55.8**	**+1.0**
TX32	**Lajitas Array**	**51.28**	**108**	P	**P**	**13 05 56.0**	**+1.2**
TX32				IAmb	IAmb	13 05 57.2	
	comp=Z,4.3nm,0.9s						
TXAR	**Lajitas Array**	**51.28**	**108**	P	**P**	**13 05 56.5**	**+1.7**
	comp=Z,2.3nm,0.7s,baz=335,slow=5.7,SNR=34						
TXAR	**Lajitas Array**	**51.28**	**108**	P	**P**	**13 05 55.5**	**+0.8**
BRVK	**Borovoye**	**53.40**	**324**	P	**P**	**13 06 10.2**	**+0.2**
BRVK				IAmb	IAmb	13 06 11.0	
	comp=Z,2.1nm,0.5s						
KURK	**Kurchatov**	**53.51**	**316**	P	**P**	**13 06 10.7**	**-0.2**
KURK				IAmb	IAmb	13 06 13.7	
	comp=Z,2.1nm,0.9s						
MKAR	**Makanchi Array**	**56.08**	**312**	P	**P**	**13 06 28.6**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=36,slow=6.3,SNR=6.8						
MKAR	**Makanchi Array**	**56.08**	**312**	P	**P**	**13 06 29.6**	**0.0**
ABKAR	**Akbulak array**	**59.16**	**329**	P	**P**	**13 06 51.2**	**0.0**
AKASG	**Malin Array Be**	**61.59**	**352**	P	**P**	**13 07 08.0**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=6.0,slow=6.7,SNR=1.5						
AKASG	**Malin Array Be**	**61.59**	**352**	IAmb	IAmb	13 07 09.9	
	comp=Z,0.7nm,0.6s						
ESDC	**Sonseca Array**	**71.63**	**18**	P	**P**	**13 08 13.2**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=352,slow=6.8,SNR=2.6						
ESDC	**Sonseca Array**	**71.63**	**18**	IAmb	IAmb	13 08 16.9	
	comp=Z,2.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**76.48**	**285**	P	**P**	**13 08 41.1**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=12,slow=7.0,SNR=5.5						

MAN 16 12:57:00.8, 6°.85N×124°.81E, h32km, mb4.2, ML3.0, MS2.7, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**0.32**	**60**	⇓*i*P	Pb	12 57 08.9	0.0
CTBH	**Cotabato--PC H**	**0.67**	**304**	⇓*i*P	Pb	12 57 14.4	+0.3
CTBH				*i* S	Sn	12 57 24.5	+1.0
DMPH	**Davao City--Mi**	**0.73**	**71**	*e*P	Pb	12 57 16.7	+1.5
DMPH				*i* S	Sn	12 57 26.2	+1.1
CGP	**Cagayan de Oro**	**1.60**	**356**	⇑*e*P	Pb	12 57 28.4	-1.4
CGP				*e*S	Sb	12 57 48.7	-0.9

IDC ***16*** *13:13:56.2±0.6, 53°.56N×35°.43W, h0km, mb4.2/23, mb1 4.4/26, mb1mx4.2/49, mbtmp4.2/26, ML3.4/2, MS4.1/22, Ms1 4.2/22, ms1mx4.0/50, Error ellipse: s-maj=19.1km s-min=10.7km az=2.0*
NEIC ***16*** *13:13:57.0±1.9, 53°.54N±0°.08×35°.3W±0°.1, h10km±3km, mb4.6/128, Error ellipse: s-maj=11.9km s-min=11.3km az=122.0*
GCMT ***16*** *13:13:59.0±0.3, 53°.77N±0°.05×35°.31W±0°.04, h16km±1km, MW4.9/77, Moment Tensor Solution. s19,c22; s77,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r-2.31±.20; $M_{\theta\theta}$0.14±.14; $M_{\phi\phi}$2.16±.15; $M_{r\theta}$2.01±.57; $M_{r\phi}$-0.35±.11; $M_{\theta\phi}$-0.49±.43; Best double couple: M_o2.93900×10^{16} NP1:*ϕ_s*319.00000°,*δ*64.00000°,*λ*-118.00000°. NP2:*ϕ_s*319.00000°,*δ*64.00000°,*λ*-118.00000°. Principal axes: T 2.4270, Plg14.0000°, Azm69.0000°; N 1.0160, Plg25.0000°, Azm332.0000°; P -3.4510, Plg61.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 13:13:58.2±0.4, 53°.55N±0°.08×35°.38W±0°.05, h16km, n202, σ1§08/193, mb4.5/81, MS4.1/19, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**9.35**	**329**	Pn	**Pn**	**13 16 09.2**	**-2.8**
IVI	**Ivigtut**	**10.30**	**323**	Pn	**Pn**	**13 16 25.2**	**0.0**
BORG	**Borgarnes**	**13.29**	**27**	Pn	**Pn**	**13 17 09.2**	**+3.3**
	0.2nm,0.3s,baz=221,slow=13,SNR=3.9						
BORG				LR	LR	13 20 35.5	
	comp=Z,412nm,20.3s,baz=212,slow=30						
BORG	**Borgarnes**	**13.29**	**27**	Pn	**Pn**	**13 17 03.2**	**-2.8**
SFJD	**Kangerlussuaq**	**15.38**	**337**	Pn	**Pn**	**13 17 35.9**	**+1.6**
	0.9nm,0.3s,baz=155,slow=10,SNR=6.6						
SFJD				LR	LR	13 22 20.5	
	comp=Z,724nm,20.3s,baz=129,slow=33						
SFJD	**Kangerlussuaq**	**15.38**	**337**	Pn	**Pn**	**13 17 36.0**	**+1.8**
SCHQ	**Schefferville**	**18.38**	**287**	P	**P**	**13 18 11.2**	**-0.8**
	0.5nm,0.3s,baz=64,slow=8.2,SNR=6.5						
SCHQ				LR	LR	13 24 26.2	
	comp=Z,361nm,18.5s,baz=98,slow=34						
SCHQ	**Schefferville**	**18.38**	**287**	P	**P**	**13 18 09.9**	**-2.2**
EKA	**Eskdalemuir Ar**	**18.73**	**72**	P	**Pn**	**13 18 16.2**	**-0.2**
	baz=275,slow=9.9,SNR=9.9						
SUMG	**Summit**	**19.14**	**357**		**Pn**	**13 18 22.1**	**+0.5**
FRB	**Frobisher Bay**	**19.80**	**314**	LR	LR	13 24 33.7	
	comp=Z,988nm,18.7s,baz=104,slow=32						
PGAV	**Gavieira, Arco**	**21.45**	**112**	*e*LR	LR	13 23 36.5	
	587nm,22.0s						
E63A	**Oxbow**	**22.26**	**265**	P	**P**	**13 18 54.1**	**-0.1**
E63A				IAmb	IAmb	13 19 05.8	
	comp=Z,36nm,1.1s						
D62A	**Allapoint, All**	**22.30**	**267**	P	**P**	**13 18 56.9**	**+2.2**
D62A				IAmb	IAmb	13 18 58.8	
	comp=Z,40nm,1.4s						
G65A	**Princeton**	**22.40**	**261**	P	**P**	**13 18 57.4**	**+1.7**
PBRG	**Braganca**	**22.41**	**110**	*e*P	**P**	**13 18 56.7**	**+0.8**
F64A	**Sherman**	**22.51**	**263**	P	**P**	**13 18 57.3**	**+0.5**
F64A				IAmb	IAmb	13 19 24.0	
	comp=Z,51nm,1.6s						
MVO	**Moncorvo**	**22.68**	**112**	*e*P	**P**	**13 19 00.2**	**+1.4**
MVO				*e*LR	LR	13 24 38.6	
	comp=Z,624nm,20.0s						
E62A	**Clayton Lake**	**22.81**	**266**	P	**P**	**13 19 01.6**	**+1.5**
E62A				IAmb	IAmb	13 19 07.5	
	comp=Z,29nm,1.1s						
MTE	**Manteigas**	**22.92**	**114**	*e*LR	LR	13 24 53.8	
	comp=Z,717nm,20.0s						
PCBR	**Castelo Branco**	**23.35**	**115**	*e*P	**P**	**13 19 06.4**	**+1.0**
PKME	**Peaks-Kenny Pk**	**23.39**	**263**	P	**P**	**13 19 07.3**	**+1.4**
PKME				IAmb	IAmb	13 19 17.6	
	comp=Z,37nm,1.4s						
F62A	**Pittston Farm,**	**23.45**	**265**	P	**P**	**13 19 07.2**	**+0.6**
F62A				IAmb	IAmb	13 19 15.3	

U56A	**King**	**35.50 259**	P	**P**	**13 20 53.2**	**-0.7**
U56A			IAmb	IAmb	13 20 59.4	
	comp=Z,9.5nm,1.0s					
KEST	**Kesra**	**35.76 102**	P	**P**	**13 20 57.5**	**+1.3**
	comp=Z,5.1nm,0.8s,baz=310,slow=8.7,SNR=4.6					
KEST			LR	LR	13 33 54.2	
	comp=Z,190nm,20.4s,baz=243,slow=34					
ULM	**Lac du Bonnet**	**36.49 290**	P	**P**	**13 21 03.4**	**+1.1**
	comp=Z,4.4nm,0.8s,baz=88,slow=8.0,SNR=3.7					
ULM	**Lac du Bonnet**	**36.49 290**	P	**P**	**13 21 02.9**	**+0.6**
ULM			IAmb	IAmb	13 21 04.3	
	comp=Z,9.4nm,1.1s					
R50A	**Paris**	**36.54 266**	P	**P**	**13 21 02.9**	**+0.1**
R50A			IAmb	IAmb	13 21 06.3	
	comp=Z,13nm,1.1s					
TZTN	**Tazewell**	**37.23 263**	P	**P**	**13 21 08.6**	**-0.1**
F36A	**Milaca**	**37.43 282**	P	**P**	**13 21 11.2**	**+0.9**
JSC	**Jenkinsville**	**37.45 258**	P	**P**	**13 21 10.8**	**+0.2**
T50A	**Nancy**	**37.67 264**	P	**P**	**13 21 12.9**	**+0.4**
CSU	**Charleston Sou**	**37.69 255**	P	**P**	**13 21 13.4**	**+0.8**
FFC	**Flin Flon**	**37.71 290**	P	**P**	**13 21 11.7**	**-0.9**
BUR08	**Bucovina Ar. S**	**37.87 74**	P	**P**	**13 21 14.0**	**-0.2**
BURAR	**Bucovina Array**	**37.89 74**	P	**P**	**13 21 14.5**	**+0.2**
W52A	**Murphy**	**38.45 261**	P	**P**	**13 21 20.3**	**+1.2**
W52A			IAmb	IAmb	13 21 21.9	
	comp=Z,16nm,1.4s					
AKASG	**Malin Array Be**	**38.55 67**	P	**P**	**13 21 19.7**	**0.0**
	comp=Z,1.8nm,0.6s,baz=304,slow=8.4,SNR=8.4					
AKASG			LR	LR	13 38 01.3	
	comp=Z,131nm,18.3s,baz=5.0,slow=38					
AKASG	**Malin Array Be**	**38.55 67**	IAmb	IAmb	13 21 20.1	
	comp=Z,0.7nm,0.7s					
AKBB	**Malin Array Si**	**38.55 67**	P	**P**	**13 21 18.3**	**-1.4**
U49A	**Red Boiling Sp**	**38.58 265**	P	**P**	**13 21 20.4**	**+0.3**
KLMR	**Klimovskoe**	**39.12 49**	*eP*	**P**	**13 21 23.9**	**-0.4**
KLMR			AMP		13 21 26.0	
	comp=Z,17nm,1.0s					
W50A	**Signal Mountai**	**39.19 263**	P	**P**	**13 21 25.5**	**+0.2**
MLR	**Muntele Rosu**	**39.48 76**	P	**P**	**13 21 27.4**	**-0.3**
V48A	**Smith Brothers**	**39.72 265**	P	**P**	**13 21 30.5**	**+0.9**
FPAL	**Fort Paine**	**39.83 262**	P	**P**	**13 21 30.7**	**+0.1**
S44A	**Carbondale**	**39.86 269**	P	**P**	**13 21 30.9**	**+0.1**
S44A			IAmb	IAmb	13 21 34.0	
	comp=Z,20nm,1.1s					
WVT	**Waverly**	**40.05 266**	P	**P**	**13 21 34.1**	**+1.7**
YKA	**Yellowknife Ar**	**40.31 315**	P	**P**	**13 21 33.1**	**-1.1**
	comp=Z,3.8nm,1.1s,baz=65,slow=8.5,SNR=14					
YKA			PcP	**PcP**	**13 23 38.3**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=72,slow=3.0,SNR=4.2					
YKA			LR	LR	13 36 52.5	
	comp=Z,285nm,18.2s,baz=0.0,slow=34					
ECSD	**EROS Data Cent**	**40.45 282**	P	**P**	**13 21 35.9**	**+0.2**
CCM	**Cathedral Cave**	**40.81 271**	P	**P**	**13 21 39.4**	**+0.8**
CCM			IAmb	IAmb	13 21 41.7	
	comp=Z,14nm,1.4s					
PLAL	**Pickwick Lake**	**40.98 265**	P	**P**	**13 21 41.1**	**+1.0**
PLAL			IAmb	IAmb	13 21 43.2	
	comp=Z,15nm,1.5s					
E28A	**Huff**	**41.16 288**	P	**P**	**13 21 41.8**	**+0.3**
T42A	**Van Buren**	**41.39 270**	P	**P**	**13 21 43.7**	**+0.3**
LRAL	**Lakeview Retre**	**41.70 262**	P	**P**	**13 21 46.5**	**+0.5**
OXF	**Oxford**	**42.10 265**	P	**P**	**13 21 48.8**	**-0.5**
S39A	**Bolivar**	**42.29 272**	P	**P**	**13 21 50.6**	**-0.1**
S39A			IAmb	IAmb	13 21 53.7	
	comp=Z,23nm,1.8s					
U40A	**Yellville**	**42.90 270**	P	**P**	**13 21 55.2**	**-0.6**
U40A			IAmb	IAmb	13 21 58.9	
	comp=Z,11nm,1.2s					
TAM	**Tamanrasset**	**43.51 119**	P	**P**	**13 21 59.6**	**-1.4**
TAM			IAmb	IAmb	13 22 04.4	
	comp=Z,14nm,1.6s					
HHAR	**Hobbs**	**43.59 271**	P	**P**	**13 22 00.5**	**-0.9**
HHAR			IAmb	IAmb	13 22 04.1	
	comp=Z,9.9nm,1.2s					
X40A	**Basin Creek Fa**	**44.16 268**	P	**P**	**13 22 04.0**	**-1.9**
X40A			IAmb	IAmb	13 22 07.9	
	comp=Z,10nm,1.2s					
LAO	**LASA Array**	**44.21 291**	P	**P**	**13 22 06.3**	**0.0**
LAO			IAmb	IAmb	13 22 10.4	
	comp=Z,14nm,1.0s					
W39A	**Magazine**	**44.24 270**	P	**P**	**13 22 06.3**	**-0.2**
W39A			IAmb	IAmb	13 22 14.7	
	comp=Z,19nm,1.4s					
INK	**Inuvik**	**44.48 328**	LR	LR	13 39 07.0	
	comp=Z,291nm,21.5s,baz=22,slow=34					
INK	**Inuvik**	**44.48 328**	P	**P**	**13 22 08.8**	**+0.8**
INK			IAmb	IAmb	13 22 19.9	
	comp=Z,9.3nm,1.4s					
MIAR	**Mount Ida**	**44.56 269**	P	**P**	**13 22 08.9**	**-0.3**
MIAR			IAmb	IAmb	13 22 12.3	
	comp=Z,16nm,1.2s					
EGMT	**Eagleton**	**45.36 295**	P	**P**	**13 22 15.3**	**-0.1**
EGMT			IAmb	IAmb	13 22 18.9	
	comp=Z,9.8nm,0.9s					
GCMT	**Greycliff**	**46.66 292**	P	**P**	**13 22 25.5**	**-0.2**
K22A	**Casper**	**46.84 287**	P	**P**	**13 22 26.7**	**-0.7**
WALA	**Waterton Lakes**	**46.97 298**	P	**P**	**13 22 27.5**	**-0.6**
WALA			IAmb	IAmb	13 22 31.2	
	comp=Z,8.3nm,1.0s					
PHWY	**Pilot Hill**	**47.09 285**	P	**P**	**13 22 28.7**	**-0.7**
PHWY			IAmb	IAmb	13 22 32.3	
	comp=Z,5.1nm,1.0s					
YNE	**Yellowstone No**	**47.33 292**	P	**P**	**13 22 30.6**	**-0.5**
BR131	**Keskin Array S**	**47.50 78**	P	**P**	**13 22 31.4**	**-0.9**
BR131			IAmb	IAmb	13 22 35.4	
	comp=Z,4.2nm,0.8s					
BRTR	**Keskin Array B**	**47.50 78**	P	**P**	**13 22 32.8**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=290,slow=5.1,SNR=15					
BRTR			LR	LR	13 44 22.4	
	comp=Z,191nm,18.1s,baz=301,slow=38					
BRTR	**Keskin Array B**	**47.50 78**	P	**P**	**13 22 31.7**	**-0.7**
WMOK	**Wichita Mounta**	**47.53 273**	P	**P**	**13 22 31.9**	**-0.7**
N23A	**Red Feather La**	**47.64 285**	P	**P**	**13 22 33.2**	**-0.4**
BOZ	**Bozeman (W)**	**47.86 293**	P	**P**	**13 22 34.3**	**-0.8**
BOZ			IAmb	IAmb	13 22 38.5	
	comp=Z,5.2nm,1.0s					
ISCO	**Idaho Springs**	**48.16 283**	P	**P**	**13 22 36.4**	**-1.4**
ISCO			IAmb	IAmb	13 22 46.0	
	comp=Z,5.7nm,1.1s					
LRM	**Limekiln Ridge**	**48.17 294**	P	**P**	**13 22 36.7**	**-0.9**
YPP	**Pitchstone Pla**	**48.23 291**	P	**P**	**13 22 37.7**	**-0.6**
MSO	**Missoula**	**48.34 296**	P	**P**	**13 22 38.9**	**0.0**
MSO			IAmb	IAmb	13 22 47.5	
	comp=Z,3.5nm,0.8s					
BMAR	**Burnt Mountain**	**48.35 331**	P	**P**	**13 22 39.5**	**+0.9**
BW06	**Boulder Array**	**48.49 289**	P	**P**	**13 22 38.2**	**-2.0**
PD31	**Pinedale Array**	**48.49 289**	P	**P**	**13 22 38.5**	**-1.7**
PD31			IAmb	IAmb	13 22 43.1	
	comp=Z,9.6nm,1.6s					
PDAR	**Pinedale Array**	**48.49 289**	P	**P**	**13 22 39.0**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=67,slow=8.7,SNR=12					
PDAR	**Pinedale Array**	**48.49 289**	P	**P**	**13 22 38.2**	**-2.0**
DLMT	**Dillon**	**48.53 293**	P	**P**	**13 22 38.9**	**-1.4**
DLMT			IAmb	IAmb	13 22 44.0	
	comp=Z,6.8nm,1.2s					
FXWY	**Fox Creek**	**48.76 291**	P	**P**	**13 22 41.4**	**-0.8**
TPAW	**Teton Pass**	**48.81 291**	P	**P**	**13 22 42.0**	**-0.7**
TOLK	**Toolik Lake Re**	**48.92 334**	P	**P**	**13 22 42.3**	**-0.6**
TOLK			IAmb	IAmb	13 22 45.7	
	comp=Z,5.3nm,1.1s					
FSCY	**Frank Sound, G**	**48.96 244**	P	**P**	**13 22 42.4**	**-1.2**
O20A	**White River Ci**	**49.46 285**	P	**P**	**13 22 47.3**	**-0.2**
O20A			IAmb	IAmb	13 23 00.1	
	comp=Z,7.7nm,1.1s					
TOA0	**Torodi Ar. Sit**	**49.83 130**	P	**P**	**13 22 48.5**	**-1.9**
TORD	**Torodi Ar. Bea**	**49.83 130**	P	**P**	**13 22 48.4**	**-1.9**
	comp=Z,2.8nm,0.7s,baz=332,slow=8.5,SNR=16					
TORD	**Torodi Ar. Bea**	**49.83 130**	P	**P**	**13 22 48.4**	**-1.9**
LLLB	**Lillooet**	**50.08 304**	P	**P**	**13 22 51.8**	**-0.1**
LLLB			IAmb	IAmb	13 22 54.3	
	comp=Z,6.0nm,1.0s					
KBZ	**Khabaz**	**50.16 68**	P	**P**	**13 22 53.3**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=326,slow=8.4,SNR=6.5					
KBZ			LR	LR	13 44 40.3	
	comp=Z,193nm,18.4s,baz=328,slow=37					
B08A	**Colville Reser**	**50.22 300**	P	**P**	**13 22 52.2**	**-0.8**
B08A			IAmb	IAmb	13 22 55.6	
	comp=Z,6.5nm,1.0s					
BCAR	**Beaver Creek A**	**50.38 325**	P	**P**	**13 22 54.3**	**+0.3**
HWUT	**Hardware Ranch**	**50.38 289**	P	**P**	**13 22 52.9**	**-1.6**
HWUT			IAmb	IAmb	13 22 57.7	
	comp=Z,7.2nm,0.8s					
MSTX	**Muleshoe**	**50.44 276**	P	**P**	**13 22 54.6**	**-0.3**
MSTX			IAmb	IAmb	13 22 58.7	

	comp=Z,14nm,1.2s					
TCUT	**Toone Canyon**	**50.62 288**	P	**P**	**13 22 56.4**	**0.0**
PV07	**Paradox Valley**	**50.82 284**	P	**P**	**13 22 57.5**	**-0.5**
PV07			IAmb	IAmb	13 23 01.8	
	comp=Z,15nm,1.5s					
ILAR	**Eielson Array**	**50.85 329**	P	**P**	**13 22 58.9**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=40,slow=6.1,SNR=8.4					
ILAR			PcP	**PcP**	**13 24 14.5**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=358,slow=3.7,SNR=4.9					
ILAR	**Eielson Array**	**50.85 329**	P	**P**	**13 22 58.5**	**+0.9**
PV04	**Paradox Valley**	**51.00 284**	P	**P**	**13 22 58.4**	**-0.9**
PV20	**West Nyswonger**	**51.08 284**	P	**P**	**13 23 00.3**	**+0.5**
PV20			IAmb	IAmb	13 23 08.5	
	comp=Z,7.5nm,1.0s					
PV18	**Skein Mesa, Pa**	**51.11 284**	P	**P**	**13 22 59.9**	**-0.1**
PV18			IAmb	IAmb	13 23 03.7	
	comp=Z,10.0nm,0.9s					
PV17	**East Wray Mesa**	**51.11 284**	P	**P**	**13 22 59.9**	**-0.2**
BMO	**Blue Mountains**	**51.42 296**	P	**P**	**13 23 00.9**	**-1.3**
SRU	**San Rafael Swe**	**51.45 286**	P	**P**	**13 23 01.3**	**-1.3**
ANMO	**Albuquerque**	**51.94 279**	P	**P**	**13 23 06.5**	**+0.2**
BALM	**Baldy**	**51.96 324**	P	**P**	**13 23 05.6**	**-0.4**
BALM			IAmb	IAmb	13 23 09.6	
	comp=Z,15nm,1.5s					
IMAR	**Indian Mountai**	**51.96 333**	P	**P**	**13 23 05.1**	**-0.8**
G08A	**Pilot Rock**	**52.01 297**	P	**P**	**13 23 05.0**	**-1.7**
YAH	**Yahtse**	**52.21 323**	P	**P**	**13 23 05.8**	**-2.2**
BPAW	**Bear Paw Mtn.**	**52.58 330**	P	**P**	**13 23 11.5**	**+1.1**
BPAW			IAmb	IAmb	13 23 14.4	
	comp=Z,9.2nm,1.6s					
BNM	**Barren Site**	**52.59 279**	P	**P**	**13 23 11.2**	**0.0**
DBIC	**Dimbokro**	**52.90 141**	LR	LR	13 42 47.2	
	comp=Z,413nm,18.4s,baz=7.0,slow=33					
ELK	**Elko**	**53.02 291**	P	**P**	**13 23 13.4**	**-0.9**
J08A	**Circle Bar Ran**	**53.04 295**	P	**P**	**13 23 13.1**	**-1.2**
J08A			IAmb	IAmb	13 23 17.1	
	comp=Z,6.7nm,1.0s					
E03A	**Lebam**	**53.58 301**	P	**P**	**13 23 18.5**	**+0.5**
KNK	**Knik Glacier**	**53.77 327**	P	**P**	**13 23 19.8**	**+0.5**
CCUT	**Cedar City**	**54.15 286**	P	**P**	**13 23 21.3**	**-1.3**
TX31	**Lajitas Ar. Si**	**54.28 272**	P	**P**	**13 23 22.9**	**-0.6**
TXAR	**Lajitas Array**	**54.28 272**	P	**P**	**13 23 22.5**	**-1.0**
	comp=Z,2.0nm,1.1s,baz=47,slow=5.5,SNR=10					
TXAR			PcP	**PcP**	**13 24 27.6**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=89,slow=4.9,SNR=3.5					
TXAR	**Lajitas Array**	**54.28 272**	P	**P**	**13 23 22.9**	**-0.6**
K05A	**Summer Lake**	**54.77 296**	P	**P**	**13 23 26.9**	**-0.2**
X16A	**Lo Mia Camp, P**	**55.23 282**	P	**P**	**13 23 30.3**	**-0.2**
X16A			IAmb	IAmb	13 23 40.0	
	comp=Z,5.6nm,1.1s					
ABKAR	**Akbulak array**	**55.25 53**	P	**P**	**13 23 30.3**	**+0.1**
KVN	**Kaiserville**	**55.78 291**	P	**P**	**13 23 34.4**	**0.0**
KVN			IAmb	IAmb	13 23 37.5	
	comp=Z,7.9nm,1.3s					
PAHR	**Pah Rah Range**	**56.03 292**	P	**P**	**13 23 36.4**	**+0.3**
PAHR			IAmb	IAmb	13 23 39.9	
	comp=Z,9.9nm,1.1s					
RYN	**Ryan**	**56.31 291**	P	**P**	**13 23 37.7**	**-0.5**
NVAR	**Mina Array Bea**	**56.33 291**	P	**P**	**13 23 38.7**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=66,slow=7.0,SNR=7.6					
NVAR	**Mina Array Bea**	**56.33 291**	P	**P**	**13 23 36.9**	**-1.5**
113A	**Mohawk Valley,**	**57.76 283**	P	**P**	**13 23 48.0**	**-0.2**
PTGA	**Pitinga**	**57.84 209**	P	**P**	**13 23 50.3**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=37,slow=6.1,SNR=4.7					
PFO	**Pinyon Flats O**	**58.71 285**	P	**P**	**13 23 55.1**	**0.0**
PFO			IAmb	IAmb	13 23 58.5	
	comp=Z,8.5nm,1.1s					
ZALV	**Zalesovo Beam**	**61.97 35**	P	**P**	**13 24 18.1**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=325,slow=9.8,SNR=2.1					
GEYT	**Alibeck**	**62.45 63**	P	**P**	**13 24 22.2**	**+1.8**
	comp=Z,2.7nm,0.8s,baz=260,slow=4.4,SNR=4.5					
GEYT			LR	LR	13 53 17.9	
	comp=Z,124nm,18.4s,baz=185,slow=38					
GEYT	**Alibeck**	**62.45 63**	IAmb	IAmb	13 24 23.2	
	comp=Z,2.2nm,0.8s					
CNBA	**Chernabura Isl**	**62.59 327**	P	**P**	**13 24 21.4**	**+0.4**
MKAR	**Makanchi Array**	**66.88 41**	P	**P**	**13 24 50.0**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=323,slow=6.8,SNR=7.0					
MKAR			LR	LR	13 54 40.8	
	comp=Z,135nm,19.1s,baz=334,slow=36					
MKAR	**Makanchi Array**	**66.88 41**	P	**P**	**13 24 48.7**	**-0.4**
GAR	**Garm**	**67.84 54**	P	**P**	**13 24 54.9**	**-0.6**
WMQ	**Urumqi**	**71.45 40**	*eP*	**P**	**13 25 19.4**	**+1.8**
SONM	**Songino Array**	**73.91 26**	P	**P**	**13 25 31.2**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=302,slow=8.2,SNR=2.8					
SONM	**Songino Array**	**73.91 26**	P	**P**	**13 25 30.3**	**-1.9**
LPAZ	**La Paz**	**75.04 213**	P	**P**	**13 25 41.5**	**+1.9**
	comp=Z,1.1nm,0.8s,baz=15,slow=12,SNR=2.4					
LPAZ	**La Paz**	**75.04 213**	IAmb	IAmb	13 26 35.9	
	comp=Z,15nm,1.9s					
GTA	**Gaotai**	**79.66 34**	*eP*	**P**	**13 26 04.0**	**-0.8**
GTA			pP	pP	13 26 08.8	-0.6
GTA			sP	sP	13 26 11.3	+0.4
GTA			pmax	pmax		
	comp=Z,3.0nm,1.0s					
CPUP	**Villa Florida**	**81.80 200**	LR	LR	13 59 19.2	
	comp=Z,542nm,18.6s,baz=330,slow=33					
LZH	**Lanzhou**	**83.99 32**	*eP*	**P**	**13 26 26.4**	**-1.3**
LZH			pP	PcP	13 26 30.8	-0.9
LZH			sP	pP	13 26 32.5	+0.3
LZH			*ePP*	**PP**	**13 29 41.8**	**+1.1**
LZH			pmax	pmax		
	comp=Z,18nm,1.4s					
LZH			pmax	pmax		
	comp=Z,79nm,7.5s					
LZH			LR	LR		
	comp=N,110nm,16.5s					
LZH			LR	LR		
	comp=E,120nm,16.3s					
LZH			LR	LR		
	comp=Z,160nm,19.2s					
NJ2	**Nanjing**	**91.86 22**	*eP*	**P**	**13 27 04.4**	**-1.0**
NJ2			pmax	pmax		
	comp=Z,5.0nm,0.5s					
KMI	**Kunming**	**93.66 37**	P	**P**	**13 27 12.9**	**-1.2**
KMI			pmax	pmax		
	comp=Z,7.0nm,0.5s					
WRA	**Warramunga Arr**	**145.53 17**	PKPbc	**PKPab**	**13 33 36.6**	**+0.9**
	comp=Z,3.0nm,1.0s,baz=344,slow=3.7,SNR=2.7					
ASAR	**Alice Springs**	**149.07 19**	PKP	**PKPdf**	**13 33 40.1**	**-1.1**
	comp=Z,0.4nm,0.9s,baz=353,slow=2.4,SNR=9.1					
ASAR			PKPbc	**pPKPdf**	**13 33 46.0**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=351,slow=2.4,SNR=22					

GCG ***16*** *13:15:42.5±0.7, 14.97N×92.19W, h0km±6km, MD3.5*
MEX ***16*** *13:15:43.6±3.8, 15.18N×91.94W, h5km, MD3.9*

ISC 16 13:15:42.6±1.1, **15.25N**±0.04×**92.03W**±0.04, **h9**km±11km, **n7,σ1ᵎ52**/14, **1C, Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.41**	**214**	*i* P	**Pg**	**13 15 50.7**	**+0.1**
THIG				*i* S	**Sg**	**13 15 57.5**	**+1.6**
STG3	**Santiaguito 3,**	**0.69**	**140**	*eP*	**Pg**	**13 15 54.9**	**-1.1**
STG3				*eS*	**Sn**	**13 16 07.9**	**-1.9**
CCIG	**Comitan**	**1.03**	**354ᎇ**	*eP*	**Pg**	**13 16 02.7**	**+0.2**
	baz=147,slow=7.4						
CCIG				*i* S	**Sg**	**13 16 16.0**	**0.0**
PCIG		**1.23**	**292**	*i* P	**Pn**	**13 16 05.3**	**-0.7**
PCIG				*i* S	**Sb**	**13 16 21.4**	**-0.7**
FUG	**Fuego 3**	**1.40**	**124**	*eP*	**Pn**	**13 16 08.6**	**+0.2**
FUG				*eS*	**Sn**	**13 16 30.8**	**+3.7**
IXG	**Ixpaco**	**1.87**	**125**	*eP*	**Pb**	**13 16 16.6**	**-0.5**
IXG				*eS*	**Sg**	**13 16 42.3**	**-0.5**
MRL	**Marmol**	**2.27**	**94**	*eP*	**Pb**	**13 16 24.2**	**+0.2**
MRL				*eS*	**Sg**	**13 16 56.4**	**+0.7**

MEX ***16*** *13:17:42.3±0.6, 15.01N×91.78W, h8km±59km, MD3.7*
GCG ***16*** *13:17:48.1±1.1, 14.91N×91.88W, h0km±85km, MD3.7*

ISC 16 13:17:44.2±1.4, **15.21N**±0.05×**92.05W**±0.05, **h13**km±12km, **n8,σ1ᵎ04**/15, **Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.36**	**215**	*eP*	**Pg**	**13 17 51.1**	**-0.4**
THIG				*i* S	**Sb**	**13 17 58.3**	**+0.2**
CCIG	**Comitan**	**1.07**	**356**	*eP*	**Pb**	**13 18 05.5**	**-1.1**
CCIG				*i* S	**Sb**	**13 18 19.1**	**+0.5**
PCIG		**1.23**	**294**	*eP*	**Pn**	**13 18 05.9**	**-1.1**
PCIG				*i* S	**Sg**	**13 18 24.6**	**+0.7**
FUG	**Fuego 3**	**1.39**	**123**	*eP*	**Pn**	**13 18 09.0**	**-0.4**
FUG				*eS*	**Sn**	**13 18 26.4**	**-1.4**
IXG	**Ixpaco**	**1.87**	**123**	*eP*	**Pb**	**13 18 18.2**	**-0.1**
IXG				*eS*	**Sn**	**13 18 40.9**	**+1.4**
TGIG		**1.87**	**327**	*i* P	**Pn**	**13 18 16.7**	**+0.8**
TGIG				*i* S	**Sn**	**13 18 38.5**	**-0.9**
MRL	**Marmol**	**2.29**	**93**	*eS*	**Sb**	**13 18 55.0**	**+1.2**
CMIG	**Matias Romero**	**3.30**	**305**	*i* P	**Pb**	**13 18 43.8**	**+1.1**
CMIG				*eS*	**Sb**	**13 19 23.2**	**+0.5**

INET ***16*** *13:26:29.4, 11.67N×79.96W, h15km, ML6.0*
IDC ***16*** *13:26:43.8±0.4, 11.77N×81.35W, h0km, mb4.7/31, mb1 4.9/37, mb1mx4.8/43, mbtmp4.8/37, ML3.5/3, MS4.6/20, Ms1 4.6/20, ms1mx4.4/40, Error ellipse: s-maj=15.1km s-min=9.4km az=57.0*
MOS ***16*** *13:26:45.6±1.0, 11.76N×81.45W, h22km, mb5.4/81, Error ellipse: s-maj=7.0km s-min=4.3km az=108.6*
NEIC ***16*** *13:26:46.9, 11.67N×81.39W, h20km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.23; Mθθ-1.15; Mθφ-0.07; Mrθ-0.30; Mrφ1.89; Mφφ0.16; Fault plane solution: M₀2.26000×10¹⁷ NP1:φ₁265.26000°, δ77.40000°, λ20.50000°. NP2:φ₂170.60000°, δ70.02000°, λ166.58000°. Principal axes: T 1.3697, Plg23.0000°, Azm129.0000°; N 1.2351, Plg66.0000°, Azm296.0000°; P -2.6049, Plg5.0000°, Azm37.0000°;*
NEIC ***16*** *13:26:46.7±1.5, 11.71N×0.06×81.36W±0.05, h21km±3km, mb5.4/497, Mwb5.5/11, Mww5.3, Mwc5.4(GCMT) Error ellipse: s-maj=8.7km s-min=7.1km az=209.0*
BJI ***16*** *13:26:46.4±0.0, 11.70N×81.40W, h20km, mB5.4/7, Ms5.3/13, Ms7 5.2/13*
UNK ***16*** *13:26:46.1, 11.69N×81.32W, h18km*
UCR ***16*** *13:26:48.9±1.7, 11.52N×81.56W, h10km, mb5.3(NEIC)*
RSNC ***16*** *13:26:48.1±0.4, 11.72N×81.23W, h42km, ML4.8, Mw4.5*
UPA ***16*** *13:26:48.3±2.3, 11.47N×81.38W, h10km±19km, MW5.2*
GCMT ***16*** *13:26:50.6±0.1, 11.82N±0.01×81.35W±0.01, h29km, MW5.3/145, Moment Tensor Solution. s88,c136; s145,c242; Duration: 1s1 Moment tensor: Scale 10¹⁷ Nm; Mrr0.62±.03; Mθθ-0.01±.02; Mθφ-0.61±.02; Mrθ0.42±.03; Mφφ0.99±.01; Mrr0.17±.03; Best double couple: M₀1.23200×10¹⁷ NP1:φ₁1.00000°, δ59.00000°, λ150.00000°. NP2:φ₂107.00000°, δ65.00000°, λ34.00000°. Principal axes: T 1.1110, Plg41.0000°, Azm326.0000°; N 0.2410, Plg48.0000°, Azm139.0000°; P -1.3530, Plg3.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***16*** *13:26:50, 11.79N×81.42W, h22km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.53; Mθθ0.21; Mφφ-0.73; Mrθ0.51; Mθφ0.56; Mφr0.14; Fault plane solution: M₀1.01000×10¹⁷ NP1:φ₁9.00000°, δ56.00000°, λ145.00000°. NP2:φ₂120.00000°, δ62.00000°, λ39.00000°. Principal axes: T 1.0249, Plg47.0000°, Azm338.0000°; N -0.0247, Plg43.0000°, Azm150.0000°; P -1.0002, Plg4.0000°, Azm244.0000°;*
NEIC ***16*** *13:26:52, 11.81N×81.37W, h28km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.52; Mθθ-0.02; Mθφ-0.51; Mrθ0.56; Mθφ0.99; Mφr0.13; Fault plane solution: M₀1.26000×10¹⁷ NP1:φ₁0.00000°, δ57.00000°, λ156.00000°. NP2:φ₂104.00000°, δ70.00000°, λ35.00000°. Principal axes: T 1.1850, Plg39.0000°, Azm326.0000°; N 0.1332, Plg50.0000°, Azm130.0000°; P -1.3182, Plg8.0000°, Azm230.0000°;*

ISC 16 13:26:46.5±0.6, **11.75N**±0.03×**81.35W**±0.03, **h19**km±2km, **h20**km:**pP-P, n1437,σ1ᵎ54**/1503, **mb5.3**/318, **MS4.6**/24, **66C-28D, North of Panama**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PRVC	**Isla de Provid**	**1.62**	**360**	⇓*i* P	**Pn**	**13 27 14.2**	**+0.2**
PRVC				*eS*	**Sn**	**13 27 33.8**	**-0.6**
PRVC	**Isla de Provid**	**1.62**	**360**	⇓*i* P	**Pn**	**13 27 14.2**	**+0.2**
PRVC				*eS*	**Sn**	**13 27 33.8**	**-0.6**
SPIL	**Cristobal, Col**	**2.84**	**150**	⇓*i* P	**Pn**	**13 27 29.8**	**-0.9**
MLIR	**Monte Lirio**	**2.89**	**149**	⇑*i* P	**Pn**	**13 27 30.2**	**-1.4**
CHGR2	**Aguacate**	**2.90**	**196**	⇓*i* P	**Pn**	**13 27 30.0**	**-1.7**
CHGR2				*eS*	**Sn**	**13 28 00.0**	**-6.0**
CHGR2	**Aguacate**	**2.90**	**196**	⇓*i* P	**Pn**	**13 27 29.9**	**-1.7**
CHGR2				*eS*	**Sn**	**13 28 00.0**	**-6.0**
ESPN	**Las Esperanzas**	**2.92**	**279**		**Pn**	**13 27 31.3**	**-0.7**
BCIP	**Isla Barro Col**	**2.96**	**150**	⇑*i* P	**Pn**	**13 27 31.1**	**-1.4**
BCIP				*eS*	**Sn**	**13 28 04.1**	**-3.5**
BCIP				*i*		13 28 05.6	
	comp=Z,3μm,0.3s						
BCIP	**Isla Barro Col**	**2.96**	**150**	*eP*	**Pn**	**13 27 31.3**	**-1.2**
BCIP				*eS*	**Sn**	**13 28 04.5**	**-3.1**
BCIP	**Isla Barro Col**	**2.96**	**150**

SFRA3 **San Francisco,** 3.50 174 *e*P Pn 13 27 38.5 -1.4
SFRA3 *e*S Sn 13 28 17.2 -3.5
SFRA3 **San Francisco,** 3.50 174 *i* P Pn 13 27 38.8 -1.0
SFRA3 *e*S Sn 13 28 17.2 -3.5
EDDO Dominical 3.50 225 *e*P Pn 13 27 39.8 -0.2
EDDO *e*S Sn 13 28 19.8 -1.1
PEDE3 Pedregal, Chir 3.50 198↓ *e*P Pn 13 27 39.4 -0.6
PEDE3 *i* S Sn 13 28 17.4 -3.5
NANC3 Nancito, Chiri 3.50 186↓ *i*P Pn 13 27 38.8 -1.2
NANC3 Nancito, Chiri 3.50 186↓ *i*P Pn 13 27 38.8 -1.2
REME3 Remedios, Chir 3.53 188↓ *i*P Pn 13 27 40.2 -0.2
REME3 *i* S Sn 13 28 19.1 -2.4
CRIS3 El Cristo, Coc 3.54 168↓ *i*P Pn 13 27 39.8 -0.7
CASO Castillo 3.57 249↑ *e*P Pn 13 27 40.9 0.0
MESA3 La Mesa, Verag 3.58 177↓ *i*P Pn 13 27 40.4 -0.6
STIA3 Santiago, Vera 3.64 174 *e*P Pn 13 27 40.7 -1.2
STIA3 *e*S Sn 13 28 17.6 -6.8
STIA3 Santiago, Vera 3.64 174 *e*P Pn 13 27 41.7 -0.2
STIA3 *e*S Sn 13 28 17.6 -6.8
PVID3 Puerto Vidal, 3.68 184↓ *e*P Pn 13 27 41.6 -0.9
PVID3 *i* S Sn 13 28 19.9 -5.5
PTEN Parque Tenorio 3.71 254 *e*P Pn 13 27 42.2 -0.7
RSUS3 Rio de Jesus, 3.74 177↓ *i*P Pn 13 27 42.4 -0.9
RSUS3 *i* S Sn 13 28 21.3 -5.5
ACON Acoyapa 3.75 274 Pn 13 27 42.5 -0.9
ACAL Aguas Claras 3.78 253↑ *e*P Pn 13 27 43.9 0.0
ACAL *e*S Sn 13 28 26.4 -1.6
OCU3 Ocu, Herrera 3.82 171↑ *e*P Pn 13 27 44.4 +0.1
JTS Las Juntas de 3.82 248 Pn Pn 13 27 43.7 -0.6
comp=Z,291nm,0.3s,baz=127,slow=13,SNR=26
JTS Sn Sn 13 28 26.8 -2.0
comp=Z,304nm,0.3s,baz=128,slow=21,SNR=8.2
JTS LR LR 13 28 46.8
comp=Z,3µm,18.5s,baz=29,slow=32
JTS Las Juntas de 3.82 248↑ *i*P Pn 13 27 43.8 -0.6
JTS *e*S Sn 13 28 17.2 -12
JTS Las Juntas de 3.82 248 *d i*P Pn 13 27 43.7 -0.6
JTS Las Juntas de 3.82 248 *d i*P Pn 13 27 43.6 -0.8
JTS Las Juntas de 3.82 248 Pn Pn 13 27 43.5 -0.8
PONU3 Ponuga, Veragu 3.85 175 *e*P Pn 13 27 44.0 -0.8
PESE3 Pese, Herrera 3.88 169 *e*P Pn 13 27 44.3 -0.9
PESE3 *e*S Sn 13 28 26.7 -3.6
HORNC Hornillas 3.89 255 *e*P Pn 13 27 45.6 +0.2
CUI Cuipilapa 3.90 254 *e*P Pn 13 27 45.3 -0.1
COLC Colonia 3.93 255 *e*P Pn 13 27 45.7 -0.2
GUAB Guayabo de Bag 3.94 255 *e*P Pn 13 27 46.0 -0.1
GMAL Guarumal, Vera 3.96 178 *e*P Pn 13 27 44.7 -1.6
GMAL *e*S Sn 13 28 26.4 -5.8
GMAL Guarumal, Vera 3.96 178 *e*P Pn 13 27 44.7 -1.6
GMAL *e*S Sn 13 28 26.4 -5.8
LIM1 Limonal 3.97 255↑ *e*P Pn 13 27 46.7 +0.2
BUAI Buenos Aires 4.00 258↓ *e*P Pn 13 27 45.4 -1.5
GPS1 Guardaparques 4.04 257 *e*P Pn 13 27 47.6 +0.2
GPS2 Hotel Rincn d 4.05 256 *e*P Pn 13 27 48.5 +1.0
GPS3 Bodega del ICE 4.06 256 *e*P Pn 13 27 48.2 +0.5
AZU Azuero 4.07 165↑ *e*P Pn 13 27 46.5 -1.2
AZU *e*S Sn 13 28 32.0 -2.9
AZU Azuero 4.07 165↑ *i*P Pn 13 27 46.2 -1.6
AZU Azuero 4.07 165↑ *i*P Pn 13 27 46.5 -1.2
baz=327,slow=12
GB1A Boringuen Arri 4.08 257 *e*P Pn 13 27 48.3 +0.3
MARI3 Mariato, Verag 4.09 175↑ *e*P Pn 13 27 49.0 +1.0
LAPC Finca la Perla 4.12 257 *e*P Pn 13 27 48.1 -0.4
GBS3 Finca Las Img 4.14 257 *e*P Pn 13 27 49.1 +0.3
PCRI3 Pocri, Los San 4.24 163↑ *i*P Pn 13 27 49.3 -0.8
PCRI3 *i* S Sn 13 28 36.6 -2.4
NY14 Universidad de 4.25 256 *e*P Pn 13 27 51.0 +0.7
GUAI GUAI 4.34 251 *e*P Pn 13 27 51.7 +0.2
CACAO El Cacao, Vera 4.40 174 *e*P Pn 13 27 52.3 0.0
CACAO *e*S Sn 13 28 40.0 -3.0
CACAO El Cacao, Vera 4.40 174 *e*P Pn 13 27 52.3 0.0
CACAO *e*S Sn 13 28 40.0 -3.0
UPD2 Meteti 4.57 134 *e*P Pn 13 27 52.3 -2.3
UPD2 *e*S Sn 13 28 43.7 -3.5
UPD2 *i* 13 29 01.6
comp=Z,2µm,0.7s
UPD2 Meteti 4.57 134 *e*P Pn 13 27 56.4 +1.7
MATN Matagalpa 4.62 285 Pn Pn 13 27 55.5 0.0
CAP2 Capurgana 4.99 128 *e*P Pn 13 28 01.3 +0.9
CAP2 *e*S Sn 13 28 55.4 -2.2
CAP2 Capurgana 4.99 128↑ *e*P Pn 13 28 00.1 -0.4
CAP2 *e*S Sn 13 28 55.4 -2.2
CAPC Capurgana 5.00 128 *e*P Pn 13 27 58.2 -2.4
CAPC *e*S Sn 13 28 53.2 -4.7
CAPC *i* 13 28 58.8
comp=Z,1µm,0.8s
CRIN San Cristobal 5.65 280 Pn 13 28 09.2 -0.4
LCBC Los crdobas, 5.68 120 *e*P Pn 13 28 10.4 +0.5
LCBC *e*S Sn 13 29 10.2 -4.5
PTAC Punta Ardita, 5.75 142 *e*P Pn 13 28 08.9 -2.0
PTAC *e*S Sn 13 29 11.9 -4.5
PTAC *i* 13 29 13.7
comp=Z,2µm,0.3s
TGUH Tegucigalpa,Un 6.21 292 *e*P Pn 13 28 18.0 +0.6
TGUH *e*S Sb 13 29 51.8 +3.5
TGUH Tegucigalpa,Un 6.21 292 Pn Pn 13 28 18.0 +0.6
SJCC San Jacinto, C 6.33 106↓ *i*P Pn 13 28 17.4 -1.6
SJCC *e*S Sn 13 29 26.0 -4.9
SJCC *i* 13 29 30.6
comp=Z,1µm,1.0s
SJCC San Jacinto, C 6.33 106 *e*P Pn 13 28 17.5 -1.4
SJCC *e*S Sn 13 29 27.9 -3.0
SJCC San Jacinto, C 6.33 106 *e*P Pn 13 28 17.5 -1.4
SJCC *e*S Sn 13 29 27.9 -3.0
DBBC Dabeiba 6.91 132 *e*P Pn 13 28 28.5 +1.6
comp=Z,175nm,0.3s
DBBC *i* 13 29 49.1
comp=Z,175nm,0.3s
UREC San Jos de Ur 6.97 124 *e*P Pn 13 28 28.1 +0.3
UREC *e*S Sn 13 29 40.6 -5.9
UREC *i* 13 29 43.6
comp=Z,279nm,0.3s
SMRC Santa Marta, M 7.01 94 *e*P Pn 13 28 25.2 -3.0
SMRC *e*S Sn 13 29 41.3 -6.1
SMRC *i* 13 29 45.1
comp=Z,109nm,0.2s
MCJ Malvern 7.09 30 *i* P Pn 13 28 29.9 +0.5
PCJ Portland Cotta 7.21 34↑ *i*P Pn 13 28 31.9 +1.0
ARGC Ariguani, Magd 7.23 104 *e*P Pn 13 28 29.2 -2.0
ARGC *e*S Sn 13 29 47.1 -5.7
ARGC *i* 13 30 14.2
comp=Z,244nm,0.6s
CVJ Coleyville 7.42 29↑ *i*P Pn 13 28 34.8 +0.8
MTDJ Mount Denham 7.42 29 Pn Pn 13 28 34.6 +0.7
MBJ Montego Bay 7.42 27 *i* P Pn 13 28 34.9 +0.9
FSCY Frank Sound, G 7.53 1 Pn Pn 13 28 36.0 +0.8
HOJ Hope 7.65 35 *i* P Pn 13 28 37.0 0.0
ZARC Zaragoza, Cauc 7.67 123 *e*P Pn 13 28 36.6 -0.7
ZARC *i* 13 30 02.2
comp=Z,504nm,1.1s
STH Stony Hill 7.67 34↑ *i*P Pn 13 28 38.2 +0.9
BBJ Bamboo Saint A 7.69 30↑ *i*P Pn 13 28 38.7 +1.2
GWJ Greenwich 7.71 35↑ *i*P Pn 13 28 38.9 +0.9
GWJ *i* P Pn 13 28 39.2 +1.2
SMLC San Martn de 7.74 112 *e*P Pn 13 28 36.3 -1.9
SMLC *e*S Sn 13 29 59.8 -5.6
SMLC *i* 13 30 03.2
comp=Z,240nm,0.6s
BNJ Bonny Gate 7.79 32↑ *i*P Pn 13 28 40.1 +1.1
CBOC Ciudad Bolivar 7.87 137 *e*P Pn 13 28 40.4 +0.2
CBOC *e*S Sn 13 30 05.5 -3.4
CBOC *i* 13 30 37.7
comp=Z,108nm,1.0s
SNET Serv Nac Est T 7.93 285 Pn Pn 13 28 41.2 +0.3
CMJ Castle Mountai 7.97 37↑ *i*P Pn 13 28 42.2 +0.8
HELC Santa Helena 7.97 133 *e*P Pn 13 28 42.5 +0.8
HELC *i* 13 30 36.9
comp=Z,57nm,2.0s
HELC Santa Helena 7.97 133 *e*P Pn 13 28 42.8 +1.1
MTO3 Montecristo 8.24 290 Pn 13 28 45.9 +0.6
PTBC PUERTO BERRIO, 8.55 127 *e*P Pn 13 28 48.1 -1.3
PTBC *i* 13 30 37.5
comp=Z,155nm,0.7s
OCAC Ocana 8.64 113 *e*P Pn 13 28 48.7 -2.0
OCAC *e*S Sn 13 30 22.4 -5.5
OCAC *i* 13 30 39.0
comp=Z,278nm,0.6s
GUY2C Guyana, Caldas 8.78 137 *e*P Pn 13 28 53.2 +0.4
GUY2C *i* 13 30 55.0
comp=Z,52nm,0.7s
BRRC Barranca, Sant 8.83 121 *e*P Pn 13 28 53.3 +0.1
BRRC *i* 13 30 33.0
comp=Z,158nm,0.4s
NORC Norcasia 8.87 133 *e*P Pn 13 28 56.6 +2.8
NORC *e*S Sn 13 30 28.9 -4.5
NORC *i* 13 30 57.5
comp=Z,42nm,1.2s
RREF El Recreo 9.03 138 *e*P Pn 13 28 56.4 -0.1
RREF *i* 13 30 44.1
comp=Z,42nm,1.0s
URIC Uribia, Colomb 9.16 89 *e*S Sn 13 30 32.2 -8.2
URIC Uribia, Colomb 9.16 89 Pn Pn 13 28 54.9 -2.8
TOLC Tolima 9.28 140 *e*P Pn 13 29 00.7 +1.0
TOLC *i* 13 30 50.5
comp=Z,88nm,0.9s
ANIL Santa Ana 9.30 140 *e*P Pn 13 29 01.8 +1.9
ANIL *i* 13 31 15.7
comp=Z,42nm,0.5s
SPBC San Pablo de B 9.40 129 *e*P Pn 13 29 01.8 +0.6
SPBC *i* 13 31 04.7
comp=Z,42nm,0.8s
PAMC Pamplona, Colo 9.59 116 *e*P Pn 13 29 02.7 -1.4
PAMC *i* 13 30 53.1
comp=Z,225nm,0.3s
ROSC El Rosal 9.77 134 Pn Pn 13 29 07.8 +1.4
comp=Z,4.0nm,0.3s,baz=166,slow=15,SNR=2.6
ROSC Sn Sn 13 30 55.9 0.0
comp=Z,2.5nm,0.3s,baz=180,slow=21,SNR=4.2
ROSC LR LR 13 33 09.8
comp=Z,3µm,19.8s,baz=334,slow=40
ROSC El Rosal 9.77 134 Pn Pn 13 29 05.1 -1.3
ORTC Ortega, Tolima 9.86 142 *e*P Pn 13 29 09.1 +1.8
ORTC *i* 13 31 19.8
comp=Z,35nm,0.9s
RUSC La Rusia 10.03 125 *e*S Sn 13 30 54.4 -7.9
RUSC La Rusia 10.03 125 Pn Pn 13 29 09.7 -0.3
GTBY Guantanamo Bay 10.11 36 Pn Pn 13 29 11.2 +0.5
PRAC Prado 10.23 141 *e*P Pn 13 29 15.0 +2.5
PRAC *i* 13 31 21.0
comp=Z,32nm,4.0s
MARP Paez Belalcaza 10.34 148 *e*P Pn 13 29 16.4 +2.3
MARP *i* 13 31 17.7
comp=Z,14nm,0.6s
BBAC Balboa, Cauca 10.48 157 *e*P Pn 13 29 17.3 +1.3
BBAC *i* 13 31 24.6
comp=Z,14nm,0.9s
BETC Betania 10.74 147 *e*P Pn 13 29 20.2 +0.7
TEIG Tepich 10.74 323 Pn Pn 13 29 20.2 +0.8
comp=Z,20nm,0.3s,baz=139,slow=3.1,SNR=54
TEIG Sn Sn 13 31 12.7 -6.4
comp=Z,35nm,0.3s,baz=319,slow=12,SNR=13
TEIG LR LR 13 33 42.0
comp=Z,5µm,18.2s,baz=142,slow=39
TEIG Tepich 10.74 323 *e*P Pn 13 29 20.0 +0.7
TAMC Tame, Arauca 10.81 118 *e*S Sn 13 31 13.9 -7.1
SDV Santo Domingo 10.92 104 Pn Pn 13 29 20.2 -1.8
comp=Z,4.7nm,0.3s,baz=332,slow=2.8,SNR=3.3
SDV Sn Sn 13 31 17.0 -6.8
comp=Z,32nm,0.3s,baz=55,slow=21,SNR=13
SDV Santo Domingo 10.92 104 *e*S Sn 13 31 15.2 -8.7
GARC Garzon, Huila 11.13 148 *e*P Pn 13 29 26.9 +1.9
GARC *i* 13 31 31.5
comp=Z,31nm,0.6s
CCIG Comitan 11.40 295 Pn Pn 13 29 28.3 -0.2
SDDR Presa de Saban 12.07 52 Pn 13 29 37.1 -0.6
MACC Macarena, Meta 12.10 141 *e*P Pn 13 29 37.6 -0.3
MACC *i* 13 32 34.8
comp=Z,14nm,0.8s
BANI BANI 12.50 57 Pn Pn 13 29 43.0 -0.6
DR12 Loma Pena Alta 13.50 57 Pn Pn 13 29 53.6 -3.5
061Z Ochoppi 14.05 2 Pn Pn 13 30 04.9 +0.3
CMIG Matias Romero 14.14 294 Pn Pn 13 30 06.8 +0.9
comp=Z,0.4nm,0.3s,baz=105,slow=8.7,SNR=8.7
CMIG Lg Lg 13 34 11.3
comp=Z,0.1nm,0.3s,baz=202,slow=21,SNR=2.2
CMIG LR LR 13 36 05.6
comp=Z,2µm,19.8s,baz=112,slow=40
MLPR Magueyes Islan 15.14 64 P P 13 30 24.2 -0.2
PAYG Puerto Ayora 15.20 216 Pn Pn 13 30 19.0 -1.3
PAYG IAmb IAmb 13 30 40.1
comp=Z,161nm,1.2s
OBIP Obispado Ponce 15.56 65 P P 13 30 29.4 +0.2
ICMP Isla Caja de M 15.57 65 P P 13 30 29.5 +0.3
ICMP IAmb IAmb 13 30 40.5
comp=Z,219nm,1.0s
SJG San Juan 15.99 65 Pn Pn 13 30 29.9 -0.5
comp=Z,5.0nm,0.3s,baz=248,slow=15,SNR=5.3
SJG Sn Sn 13 33 16.8 -11
comp=Z,6.9nm,0.3s,baz=235,slow=22,SNR=6.8
SJG San Juan 15.99 65 P P 13 30 34.2 +0.3
SJG pmax pmax
comp=Z,267nm,1.2s
SJG San Juan 15.99 65 P P 13 30 34.2 +0.3
SJG IAmb IAmb 13 30 44.7
comp=Z,267nm,1.2s
GCPR Guaynabo City 16.12 64 Pn Pn 13 30 31.4 -0.7
GCPR IAmb IAmb 13 30 46.6
comp=Z,348nm,1.2s
PCRV Puerto La Cruz 16.48 94 Pn P 13 30 41.8 +2.4
comp=Z,1.2nm,0.3s,baz=218,slow=3.2,SNR=12
PCRV Sn Sn 13 33 31.4 -8.1
comp=Z,0.7nm,0.3s,baz=171,slow=21,SNR=6.1
PCRV LR LR 13 39 00.1
comp=Z,2µm,19.8s,slow=44
PLCV Puerto La Cruz 16.53 94 P P 13 30 41.8 +1.9
PLCV Sn 13 33 31.4 -9.2
CDVI St. Croix 17.11 68 *e*P Pn 13 30 36.8 -7.9
CDVI St. Croix 17.11 68 P P 13 30 46.8 +0.5
STVI Saint Thomas 17.13 66 P 13 30 46.5 -0.1
STVI IAmb IAmb 13 30 47.8
comp=Z,689nm,1.8s
656A Willston 17.57 357 P P 13 30 51.5 +0.1
553A Crawfordville 18.57 352 P 13 31 02.1 -0.3
SMRT St. Maarten 18.73 68 *e*P P 13 31 04.3 0.0
SKI Saint Kitts 18.84 71 *e*P Pn 13 31 11.5 +5.3
ATAH Atahualpa 18.99 171 P Pn 13 31 10.6 +2.4
comp=Z,0.5nm,0.3s,baz=339,slow=9.3,SNR=5.4
ATAH LR LR 13 37 53.9
comp=Z,2µm,21.1s,baz=348,slow=35
MLYT Lee's Yard 19.21 73 *e*P Pn 13 31 12.1 +1.5
GRGR Grenville 19.27 87 *e*P Pn 13 31 15.9 +4.6
GCMP Grenada, Carri 19.50 86 *e*P Pn 13 31 15.9 +2.0
TDBA Terre de Bas, 19.57 76 *e*P Pn 13 31 19.0 +4.2
TRN Trinidad (W) 19.60 91 *e*P Pn 13 31 14.8 -0.4
CBE Ff, Capester 19.64 75 *e*P Pn 13 31 19.0 +3.4
SVB Belmont 19.68 83 *e*P Pn 13 31 15.9 -0.2
TIGA Tifton 19.71 354 P Pn 13 31 16.5 +0.1
baz=173
TIGA Tifton 19.71 354 P P 13 31 14.9 +0.1
TIGA IAmb IAmb 13 31 33.0
comp=Z,209nm,1.3s
ANWB Willy Bob 19.81 70 *e*P P 13 31 14.8 -1.3
ABD La Joyeuse, An 19.82 74 *e*P Pn 13 31 20.1 +2.3
FDF Fort de France 19.88 79 *e*P Pn 13 31 19.9 +1.3
FDF Fort de France 19.88 79 P Pn 13 31 20.2 +1.6
352A Blakely 19.91 351 P P 13 31 17.1 0.0
MAGL Barre de l'ile 19.92 76 *e*P Pn 13 31 23.2 +4.2
BIM Bigot 19.94 80 *e*P Pn 13 31 19.9 +0.6
SLBI Saint Lucia, B 19.99 81 *e*P Pn 13 31 23.9 +4.0
MCLT Moule a Chique 20.00 82 *e*P Pn 13 31 22.0 +2.0
SLAC Saint Lucia, A 20.06 82 *e*P Pn 13 31 20.1 -0.5
MPOM Morne Pois Mar 20.14 80 *e*P Pn 13 31 20.9 -0.6
ILAM Ilet Lapin Mar 20.16 79 *e*P Pn 13 31 24.1 +2.3
TOSP Speyside 20.40 89 *e*P Pn 13 31 27.0 +2.4
TOSP Speyside 20.40 89 P P 13 31 21.8 -0.7
TOSP IAmb IAmb 13 31 32.7
comp=Z,284nm,1.8s
250A Grady 20.64 348 P Pn 13 31 26.6 -0.7
250A IAmb IAmb 13 31 45.9
comp=Z,170nm,1.1s
154A Montrose 20.83 356 P P 13 31 27.4 +0.4
154A IAmb IAmb 13 31 50.7
comp=Z,363nm,1.4s
157A Early Branch 20.84 1 P Pn 13 31 29.0 -0.6
baz=181
158A Hollywood 20.92 3 P Pn 13 31 29.8 -0.7
baz=183
346A Big Creek Wild 20.94 340 P P 13 31 28.3 +0.1
346A IAmb IAmb 13 32 03.9
comp=Z,367nm,1.4s
152A Waverly Hall 21.05 352 P P 13 31 29.8 +0.4
152A IAmb IAmb 13 31 54.4
comp=Z,164nm,1.5s
NHSC New Hope 21.29 3 P P 13 31 33.6 +1.6
baz=183
NHSC New Hope 21.29 3 P P 13 31 32.3 +0.4
NHSC IAmb IAmb 13 31 55.8
comp=Z,122nm,1.0s
BBGH Gun Hill 21.32 84 *e*P P 13 31 38.7 +6.1
Z57A Bowman 21.46 1 P P 13 31 35.2 +1.4
baz=182
Z56A Williston 21.48 360 P P 13 31 35.4 +1.4
baz=180
Z59A Georgetown, SC 21.48 5 P P 13 31 35.2 +1.2
baz=185
Z58A St. Stephen 21.54 4 P P 13 31 36.2 +1.6
baz=184
GOGA Godfrey 21.65 355 P P 13 31 37.2 +1.3
baz=174,SNR=14
GOGA S Sn 13 35 41.9 -2.1
baz=174
GOGA Godfrey 21.65 355 P P 13 31 36.6 +0.8
GOGA pmax pmax
comp=Z,81nm,1.1s
GOGA Godfrey 21.65 355 P P 13 31 36.6 +0.8
Z51A Franklin 21.75 351 P P 13 31 37.8 +0.8
Z51A IAmb IAmb 13 31 56.8
comp=Z,144nm,1.3s
LRAL Lakeview Retre 21.81 347 P P 13 31 39.1 +1.5
baz=165,SNR=17
LRAL Lakeview Retre 21.81 347 P P 13 31 38.4 +0.8
LRAL IAmb IAmb 13 31 57.1
comp=Z,181nm,1.5s
441A DeRidder 21.86 332 P P 13 31 38.3 +0.2
Y56A Pelion 21.95 0 P P 13 31 40.0 +1.0
baz=180
146A Union 21.97 342 P P 13 31 39.9 +0.6
146A IAmb IAmb 13 31 56.0
comp=Z,305nm,1.1s
342A Flagon Creek P 22.01 334 P P 13 31 40.5 +0.8
VBMS Vicksburg 22.05 339 P P 13 31 41.4 +1.2
baz=156
VBMS Vicksburg 22.05 339 P P 13 31 41.0 +0.9
KVTX Kingsville 22.09 318 P P 13 31 41.4 +0.8
Y55A Saluda 22.09 359 P P 13 31 42.0 +1.4
baz=179,SNR=21
Y58A Scranton 22.11 4 P P 13 31 42.3 +1.5
baz=184
Y52A Lilburn 22.16 354 P P 13 31 39.7 -1.6
Y57A Sumter 22.19 2 P P 13 31 43.0 +1.4
baz=182
Z47A Carrollton 22.22 345 P P 13 31 42.3 +0.3
Z47A IAmb IAmb 13 32 20.9
comp=Z,134nm,1.1s
Y59A Loris 22.26 5 P P 13 31 43.6 +1.3
baz=186
Y60A Bolivia 22.34 7 P P 13 31 44.0 +0.8
baz=188
HODGE Hodges 22.40 358 P P 13 31 44.3 +0.4
JSC Jenkinsville 22.43 0 P P 13 31 44.6 +0.4
JSC pmax pmax
comp=Z,46nm,1.1s
JSC Jenkinsville 22.43 0 P P 13 31 44.6 +0.4
Y49A Blount Mountai 22.49 349 P P 13 31 44.9 0.0
Y49A IAmb IAmb 13 32 06.9
comp=Z,110nm,1.3s
HKT Hockley 22.57 326 P P 13 31 45.8 +0.1
HKT pmax pmax
comp=Z,307nm,1.4s
HKT Hockley 22.57 326 P P 13 31 45.8 +0.1
HKT IAmb IAmb 13 31 50.3
comp=Z,307nm,1.4s
X55A Gracelyn & Ava 22.62 359 P P 13 31 47.5 +1.2
baz=179,SNR=23
X57A Johnson Farm, 22.64 3 P P 13 31 47.5 +1.0
baz=183
X56A White Oak 22.64 1 P P 13 31 47.4 +0.9
baz=181,SNR=18
X54A Belton 22.72 358 P P 13 31 48.1 +0.9
baz=177,SNR=9.9
X58A Rowland 22.78 4 P P 13 31 48.6 +0.7
baz=185
X58A Rowland 22.78 4 P P 13 31 48.4 +0.5
X58A IAmb IAmb 13 31 51.6
comp=Z,117nm,1.4s
BIRD Birdtown, Kers 22.81 2 P P 13 31 48.5 +0.3
143A Socs Landing, 22.81 338 P P 13 31 48.4 +0.1
143A IAmb IAmb 13 32 29.0
comp=Z,355nm,1.6s
X59A McDuffie Farm, 22.86 6 P P 13 31 49.9 +1.2
baz=187
735A Kenedy 22.93 320 P P 13 31 49.5 -0.1
X60A Albert Glenn T 22.93 7 P P 13 31 50.3 +0.8
baz=188
PAULI Pauline 22.98 359 P P 13 31 50.4 +0.4
PAULI IAmb IAmb 13 32 09.5
comp=Z,83nm,1.1s
ZAIG Zacatecas 23.00 301 P P 13 31 49.4 -1.4
FPAL Fort Paine 23.02 351 P P 13 31 50.9 +0.4
FPAL IAmb IAmb 13 32 13.2
comp=Z,162nm,1.1s
BG3 Lake Jocassee 23.19 357 P P 13 31 52.1 -0.1
X48A Hartselle 23.19 348 P P 13 31 52.6 +0.4
X48A IAmb IAmb 13 32 14.0
comp=Z,91nm,1.2s
W54A Cherokee Point 23.25 358 P P 13 31 54.1 +1.4
baz=178,SNR=17
W58A Raeford 23.25 4 P P 13 31 53.3 +0.6
baz=185
Y45A Yeager Farm, C 23.26 343 P P 13 31 53.6 +0.8
KMSC Kings Mountain 23.29 0 P P 13 31 54.3 +1.2
baz=180,SNR=9.5
KMSC Kings Mountain 23.29 0 P P 13 31 53.4 +0.2
W56A Indian Trail 23.30 2 P P 13 31 54.1 +0.9
baz=182,SNR=5.8
W57A Gilead 23.34 3 P P 13 31 54.4 +0.8
baz=183,SNR=11
W57A Gilead 23.34 3 P P 13 31 53.5 -0.1
W57A IAmb IAmb 13 32 13.7
comp=Z,138nm,1.4s
NATX Nacogdoches 23.40 330 P P 13 31 55.3 +1.0
baz=146
NATX Nacogdoches 23.40 330 P P 13 31 54.4 +0.1
NATX IAmb IAmb 13 32 16.4
comp=Z,209nm,1.4s
W60A Pink Hill 23.44 8 P P 13 31 55.5 +0.9
baz=189
W59A Clinton 23.46 6 P P 13 31 55.8 +0.9
baz=187
833A Chaparral WMA, 23.60 317 P P 13 31 56.3 +0.1
baz=131,SNR=30
833A Chaparral WMA, 23.60 317 P P 13 31 56.1 -0.2
CNNC Cliffs of the 23.60 7 P P 13 31 57.1 +1.0
baz=188
W50A Signal Mountai 23.62 352 P P 13 31 56.7 +0.2
W61A Ground Anchor 23.66 9 P P 13 31 58.3 +1.5
baz=191
SWET Sewanee 23.73 351 P P 13 31 57.8 +0.2
SWET IAmb IAmb 13 31 60.0
comp=Z,166nm,1.7s
CPCT Cooper Cave 23.77 354 P P 13 31 58.7 +0.8
CPCT IAmb IAmb 13 32 01.2
comp=Z,220nm,1.7s
OXF Oxford 23.82 343 P P 13 31 58.9 +0.5
baz=160,SNR=11
OXF Oxford 23.82 343 P P 13 31 58.5 +0.2
OXF pmax pmax
comp=Z,234nm,1.0s
OXF Oxford 23.82 343 P P 13 31 58.5 +0.2
Z41A Richland Creek 23.84 336 P P 13 31 59.4 +0.8
baz=151
Z41A Richland Creek 23.84 336 P P 13 31 58.8 +0.3
Z41A IAmb IAmb 13 32 22.1
comp=Z,189nm,1.2s
V53A Saluda 23.85 357 P P 13 31 59.2 +0.5
V53A IAmb IAmb 13 32 23.8
comp=Z,207nm,1.6s
TKL Tuckaleechee C 23.91 355 P P 13 31 60.0 +0.8
comp=Z,9.9nm,0.7s,baz=163,slow=10,SNR=22
TKL LR LR 13 41 17.9
comp=Z,2µm,20.4s,baz=176,slow=37
TKL Tuckaleechee C 23.91 355 P P 13 31 59.2 0.0
TKL pmax pmax
comp=Z,37nm,0.9s
TKL Tuckaleechee C 23.91 355 P P 13 31 59.2 0.0
PLAL Pickwick Lake 23.93 346 P P 13 31 59.5 +0.1
V54A Nebo 23.93 359 P P 13 32 01.0 +1.6
baz=178,SNR=16
V56A Mocksville 23.97 2 P P 13 32 00.9 +1.1
baz=182,SNR=6.7
NNA Nana 24.00 169 P P 13 32 01.7 +1.4

comp=Z,9,0nm,0.6s,baz=327,slow=6.5,SNR=3.8
NNA LR LR 13 41 19.4
comp=Z,1µm,19.1s,baz=330,slow=36
NNA Nana 24.00 169 P **P** **13 32 01.7 +1.4**
NNA pmax pmax
comp=Z,188nm,1.8s
NNA Nana 24.00 169 lAmb lAmb 13 32 16.5
comp=Z,188nm,1.8s
V55A Taylorsville 24.00 0 P **P** **13 32 01.5 +1.4**
baz=180,SNR=18
V55A Taylorsville 24.00 0 P **P** **13 32 00.2 +0.2**
V58A Windy Hill, Pi 24.03 4 P **P** **13 32 01.0 +0.8**
baz=185,SNR=8.8
V58A Windy Hill, Pi 24.03 4 P **P** **13 32 00.6 +0.4**
CCAR Cane Creek 24.04 338 P **P** **13 32 01.1 +0.7**
V52A Sevierville 24.07 356 P **P** **13 32 00.1 -0.6**
V52A lAmb lAmb 13 32 28.0
comp=Z,181nm,1.9s
V57A Coltrane Farms 24.08 3 P **P** **13 32 01.8 +1.1**
baz=184,SNR=7.7
V59A Middlesex 24.08 6 P **P** **13 32 01.9 +1.2**
baz=187,SNR=13
V51A Loudon 24.11 354 P **P** **13 32 00.4 -0.6**
V51A lAmb lAmb 13 32 04.3
comp=Z,107nm,1.4s
237A Washetta, Mont 24.16 329 P **P** **13 32 01.8 +0.2**
435B Jarrell 24.18 324 P **P** **13 32 02.7 +0.8**
baz=138,SNR=21
435B Jarrell 24.18 324 P **P** **13 32 01.9 +0.1**
V60A Jim Taylor Roa 24.20 8 P **P** **13 32 03.3 +1.5**
baz=190
V62A Hyde County Ai 24.21 11 P **P** **13 32 03.7 +1.8**
baz=193
X43A Marvell 24.27 341 P **P** **13 32 03.8 +1.2**
baz=157
X43A Marvell 24.27 341 P **P** **13 32 02.9 +0.3**
X43A lAmb lAmb 13 32 27.5
comp=Z,210nm,1.1s
V61A Roper 24.33 9 P **P** **13 32 04.8 +1.8**
baz=191
WLAR White Oak Lake 24.34 336 P **P** **13 32 03.5 +0.3**
WLAR lAmb lAmb 13 32 49.9
comp=Z,129nm,1.2s
V48A Smith Brothers 24.40 349 P **P** **13 32 04.3 +0.6**
V48A lAmb lAmb 13 32 06.4
comp=Z,76nm,1.1s
U56A King 24.51 2 P **P** **13 32 06.6 +1.9**
baz=182,SNR=13
U56A King 24.51 2 P **P** **13 32 05.9 +1.1**
U56A lAmb lAmb 13 32 08.2
comp=Z,147nm,1.5s
PTGA Pitinga 24.59 119 P **P** **13 32 07.1 +1.4**
comp=Z,7.7nm,0.6s,baz=297,slow=16,SNR=6.2
PTGA Pitinga 24.59 119 P **P** **13 32 04.6 -1.1**
PTGA Pitinga 24.59 119 *e*P **P** **13 32 07.9 +2.2**
PTGA *e*S **S** **13 36 31.1 +5.0**
PTGA Pitinga 24.59 119 *e*P **P** **13 32 07.9 +2.2**
PTGA *e*S **S** **13 36 31.1 +5.0**
U57A Blanch 24.64 4 P **P** **13 32 07.0 +1.0**
baz=185,SNR=19
U55A TA2, Sparta 24.65 1 P **P** **13 32 07.8 +1.7**
baz=181,SNR=33
CLTN Cedars of Leba 24.65 350 P **P** **13 32 05.1 -0.9**
U54A Nelsons Funny 24.67 359 P **P** **13 32 07.8 +1.5**
baz=179,SNR=24
U54A Nelsons Funny 24.67 359 P **P** **13 32 07.2 +0.9**
U54A lAmb lAmb 13 32 10.3
comp=Z,65nm,0.6s
U58A Oxford 24.67 5 P **P** **13 32 07.3 +1.1**
baz=186,SNR=6.1
U59A Littleton 24.71 7 P **P** **13 32 07.7 +1.2**
baz=188
TZTN Tazewell 24.77 356 P **P** **13 32 08.5 +1.4**
baz=175,SNR=13
TZTN Tazewell 24.77 356 P **P** **13 32 06.7 -0.4**
TZTN lAmb lAmb 13 32 46.8
comp=Z,191nm,1.8s
Z38A Mt. Pleasant 24.79 332 P **P** **13 32 07.7 +0.4**
U61A Possum Corner 24.88 9 P **P** **13 32 09.5 +1.5**
baz=191
U60A Pendleton 24.91 8 P **P** **13 32 08.6 +0.4**
baz=190
X40A Basin Creek Fa 24.94 337 P **P** **13 32 09.4 +0.7**
baz=153,SNR=15
X40A Basin Creek Fa 24.94 337 P **P** **13 32 07.8 -0.8**
WVT Waverly 24.97 348 P **P** **13 32 09.2 +0.3**
baz=165
WVT Waverly 24.97 348 P **P** **13 32 08.4 -0.5**
WVT pmax pmax
comp=Z,53nm,1.1s
WVT Waverly 24.97 348 P **P** **13 32 08.4 -0.5**
U49A Red Boiling Sp 24.98 352 P **P** **13 32 08.3 -0.6**
UALR University of 25.01 338 P **P** **13 32 09.6 +0.4**
UALR lAmb lAmb 13 32 11.7
comp=Z,204nm,1.5s
WHTX Lake Whitney, 25.02 326 P **P** **13 32 10.1 +0.7**
baz=140,SNR=26
WHTX Lake Whitney, 25.02 326 P **P** **13 32 09.4 0.0**
LPAR Lepanto 25.10 343 P **P** **13 32 10.6 +0.6**
HALT Halls 25.12 345 P **P** **13 32 10.6 +0.4**
T53A Wise 25.15 358 P **P** **13 32 12.1 +1.5**
baz=177
HBAR Harrisburg 25.16 342 P **P** **13 32 11.1 +0.5**
T56A Rocky Mt 25.20 2 P **P** **13 32 12.7 +1.7**
baz=183,SNR=13
T54A Tazewell 25.21 360 P **P** **13 32 12.5 +1.4**
baz=179,SNR=16
T57A Hurt 25.21 4 P **P** **13 32 12.1 +1.0**
baz=185,SNR=6.5
T57A Hurt 25.21 4 P **P** **13 32 11.8 +0.7**
T58A Grand View Acr 25.22 5 P **P** **13 32 12.2 +1.1**
baz=186,SNR=7.2
T55A Pulaski 25.27 1 P **P** **13 32 13.4 +1.8**
baz=181,SNR=13
MIAR Mount Ida 25.28 336 P **P** **13 32 12.2 +0.5**
baz=151,SNR=13
MIAR Mount Ida 25.28 336 P **P** **13 32 11.8 +0.1**
MIAR pmax pmax
comp=Z,34nm,1.0s
MIAR Mount Ida 25.28 336 P **P** **13 32 11.8 +0.1**
JCT Junction City 25.30 320 P **P** **13 32 12.3 +0.3**
baz=134,SNR=66
JCT Junction City 25.30 320 P **P** **13 32 12.2 +0.2**
JCT pmax pmax
comp=Z,313nm,1.4s
JCT Junction City 25.30 320 P **P** **13 32 12.2 +0.2**
MACA Manacapuru-AM 25.33 125 *e*P **P** **13 32 15.1 +2.7**
MACA Manacapuru-AM 25.33 125 *e*P **P** **13 32 15.1 +2.7**
W41B Gary Mavity, V 25.34 339 P **P** **13 32 13.2 +1.0**
baz=154
LNXT Lenox 25.34 344 P **P** **13 32 12.7 +0.5**
T59A Double "B" Far 25.35 7 P **P** **13 32 13.9 +1.6**
baz=189,SNR=13
T59A Double "B" Far 25.35 7 P **P** **13 32 12.7 +0.4**
GNAR Gosnell 25.36 343 P **P** **13 32 13.2 +0.9**
T50A Nancy 25.36 353 P **P** **13 32 13.1 +0.7**
T50A lAmb lAmb 13 32 15.0
comp=Z,132nm,1.6s
BLA Blacksburg 25.37 2 P **P** **13 32 14.3 +1.8**
baz=182,SNR=8.7
BLA Blacksburg 25.37 2 P **P** **13 32 13.5 +0.9**
BLA pmax pmax
comp=Z,90nm,1.4s
BLA Blacksburg 25.37 2 P **P** **13 32 13.4 +0.9**
BLA lAmb lAmb 13 32 15.8
comp=Z,90nm,1.4s
GLAT Glass 25.45 345 P **P** **13 32 13.4 +0.2**
PEBM Pemiscott Bayo 25.45 344 P **P** **13 32 13.8 +0.6**
WHAR Wooly Hollow 25.45 339 P **P** **13 32 13.4 +0.1**
T60A Surry 25.62 9 P **P** **13 32 15.9 +1.2**
baz=190
T60A Surry 25.62 9 P **P** **13 32 15.3 +0.5**
T47A Sharon Grove 25.66 349 P **P** **13 32 15.4 +0.3**
HICK Hickman 25.69 345 P **P** **13 32 15.7 +0.3**
LCAR Lake Charles 25.79 342 P **P** **13 32 16.5 +0.2**
LCAR lAmb lAmb 13 32 18.5
comp=Z,208nm,1.5s
S53A Williamson 25.84 359 P **P** **13 32 18.0 +1.2**
baz=178
S51A Beattyville 25.86 356 P **P** **13 32 17.5 +0.6**
S56A Natural Bridge 25.87 3 P **P** **13 32 18.4 +1.3**
baz=184
HENM Henderson Moun 25.92 345 P **P** **13 32 17.6 +0.1**
S58A Poland Farm, P 25.93 6 P **P** **13 32 18.9 +1.4**
baz=187
comp=Z,88nm,1.4s
P48A Milroy 27.84 353 P **P** **13 32 35.0 +0.3**
P48A lAmb lAmb 13 32 36.7
comp=Z,92nm,1.4s
WMOK Wichita Mounta 27.84 328 P **P** **13 32 34.6 -0.3**
baz=141,SNR=23
WMOK Wichita Mounta 27.84 328 P **P** **13 32 34.6 -0.3**
WMOK pmax pmax
comp=Z,71nm,1.5s
WMOK Wichita Mounta 27.84 328 P **P** **13 32 34.6 -0.3**
WMOK lAmb lAmb 13 32 36.3
comp=Z,71nm,1.4s
P58A Pank, Wackersv 27.86 7 P **P** **13 32 36.7 +1.7**
baz=188
SLM Saint Louis 27.93 345 P **P** **13 32 35.4 -0.1**
SLM pmax pmax
comp=Z,126nm,1.4s
SLM Saint Louis 27.93 345 P **P** **13 32 35.4 -0.1**
SLM lAmb lAmb 13 32 37.0
comp=Z,126nm,1.4s
S39A Bolivar 27.98 339 P **P** **13 32 35.6 -0.4**
S39A lAmb lAmb 13 32 37.8
comp=Z,85nm,1.6s
P59A Jarrettsville 28.09 8 P **P** **13 32 38.5 +1.5**
baz=190
R40A Maddies Statio 28.18 342 P **P** **13 32 37.5 -0.3**
O52A Adamsville 28.26 359 P **P** **13 32 39.4 +0.9**
baz=179
O52A Adamsville 28.26 359 P **P** **13 32 39.2 +0.7**
O51A Pataskala 28.31 358 P **P** **13 32 39.7 +0.8**
baz=177
O54A Avella 28.34 2 P **P** **13 32 40.5 +1.3**
baz=182,SNR=6.8
O54A Avella 28.34 2 P **P** **13 32 39.7 +0.5**
O53A New Philadelph 28.39 0 P **P** **13 32 40.8 +1.2**
baz=180,SNR=6.4
O53A New Philadelph 28.39 0 P **P** **13 32 40.2 +0.5**
O53A lAmb lAmb 13 32 42.7
comp=Z,117nm,1.5s
O55A Ligonier 28.41 3 P **P** **13 32 41.6 +1.8**
baz=184
P60A Greenville 28.41 9 P **P** **13 32 41.2 +1.4**
baz=192
ACSO Alum Creek Sta 28.41 357 P **P** **13 32 41.1 +1.3**
baz=177
ACSO Alum Creek Sta 28.41 357 P **P** **13 32 39.5 -0.3**
O49A Covington 28.45 355 P **P** **13 32 40.7 +0.5**
MVL Millersville 28.49 8 P **P** **13 32 40.6 +0.1**
O56A Blue Knob Stat 28.52 4 P **P** **13 32 42.8 +2.0**
baz=186
O58A Lewisberry 28.53 7 P **P** **13 32 43.1 +2.2**
baz=189
T35A Sooner Cattle 28.54 334 P **P** **13 32 40.5 -0.6**
O57A Amberson 28.54 6 P **P** **13 32 41.0 0.0**
baz=188
O48A Farmland 28.60 354 P **P** **13 32 41.9 +0.4**
baz=172,SNR=5.9
P43A Skaggs, Pawnee 28.71 347 P **P** **13 32 42.8 +0.3**
P43A lAmb lAmb 13 32 44.4
comp=Z,202nm,1.5s
O61A Allentown 28.87 11 P **P** **13 32 45.0 +1.2**
baz=194
SSPA Standing Stone 28.94 5 P **P** **13 32 46.3 +1.7**
baz=187
O60A Telford 28.94 9 P **P** **13 32 46.1 +1.6**
baz=192
N53A Lisbon 28.95 1 P **P** **13 32 45.7 +1.0**
baz=181
N53A Lisbon 28.95 1 P **P** **13 32 45.6 +1.0**
N52A McGinn's Farm, 28.95 359 P **P** **13 32 45.6 +0.9**
baz=179
SFIN Lafayette 28.97 351 P **P** **13 32 45.0 +0.2**
baz=168
SFIN Lafayette 28.97 351 P **P** **13 32 44.8 +0.1**
SFIN lAmb lAmb 13 33 31.3
comp=Z,82nm,1.4s
O44A Mansfield 28.98 349 P **P** **13 32 45.1 +0.2**
O44A lAmb lAmb 13 32 46.6
comp=Z,156nm,1.4s
N55A Marion Center 29.00 4 P **P** **13 32 46.7 +1.6**
baz=185
N51A Ashland 29.07 358 P **P** **13 32 46.4 +0.7**
baz=178
N57A Milroy 29.09 6 P **P** **13 32 47.3 +1.4**
baz=188
N54A Moraine State 29.13 2 P **P** **13 32 47.7 +1.5**
baz=183
MDP Montagnes des 29.14 101 LR LR 13 46 06.4
comp=Z,1µm,18.6s,baz=280,slow=40
N49A Columbus Grove 29.17 356 P **P** **13 32 47.1 +0.5**
N56A West Decatur 29.18 5 P **P** **13 32 48.3 +1.6**
baz=186
U32A Winter Ranch, 29.24 330 P **P** **13 32 47.0 -0.3**
U32A lAmb lAmb 13 32 48.7
comp=Z,56nm,1.1s
P40A Paris 29.25 343 P **P** **13 32 47.1 -0.3**
P40A lAmb lAmb 13 32 48.7
comp=Z,76nm,1.4s
N58A Sunbury 29.27 7 P **P** **13 32 49.1 +1.6**
baz=189
N58A Sunbury 29.27 7 P **P** **13 32 47.9 +0.5**
N47A Urbana 29.27 353 P **P** **13 32 47.7 +0.2**
N47A lAmb lAmb 13 32 49.2
comp=Z,111nm,1.4s
GDL2 Guadalupe Moun 29.37 317 P **P** **13 32 48.2 -0.5**
N59A State Game Lan 29.47 9 P **P** **13 32 51.2 +1.9**
baz=191
M51A Elyria 29.48 359 P **P** **13 32 49.8 +0.5**
baz=178
MSTX Muleshoe 29.52 322 P **P** **13 32 50.0 +0.1**
baz=134,SNR=25
MSTX Muleshoe 29.52 322 P **P** **13 32 49.4 -0.6**
N60A Cedar Hill Far 29.53 10 P **P** **13 32 51.5 +1.7**
baz=192
AMTX Amarillo 29.53 325 P **P** **13 32 50.2 +0.2**
baz=136
AMTX Amarillo 29.53 325 P **P** **13 32 48.9 -1.0**
AMTX lAmb lAmb 13 33 44.8
comp=Z,71nm,1.3s
HDIL Hopedale 29.54 348 P **P** **13 32 49.7 -0.2**
baz=164
HDIL Hopedale 29.54 348 P **P** **13 32 49.0 -0.9**
HDIL lAmb lAmb 13 32 51.4
comp=Z,128nm,1.6s
N61A South Mountain 29.55 11 P **P** **13 32 52.0 +2.1**
baz=194
M53A WI Miller and 29.59 1 P **P** **13 32 51.7 +1.4**
baz=181
M53A WI Miller and 29.59 1 P **P** **13 32 50.4 +0.1**
M53A lAmb lAmb 13 32 53.1
comp=Z,115nm,1.6s
M52A Chesterland 29.68 360 P **P** **13 32 51.9 +0.8**
baz=180
M54A Oil Creek Stat 29.68 3 P **P** **13 32 52.7 +1.5**
baz=183,SNR=7.3
M54A Oil Creek Stat 29.68 3 P **P** **13 32 50.9 -0.3**
M55A Ridgway 29.70 4 P **P** **13 32 53.2 +1.9**
baz=185
M57A Sunshine Farm, 29.71 6 P **P** **13 32 53.4 +2.0**
baz=188,SNR=13
M57A Sunshine Farm, 29.71 6 P **P** **13 32 52.1 +0.7**
M57A lAmb lAmb 13 32 58.4
comp=Z,46nm,0.8s
MNTX Cornudas Mount 29.75 316 P **P** **13 32 52.2 +0.3**
baz=127,SNR=103
MNTX Cornudas Mount 29.75 316 P **P** **13 32 52.0 +0.1**
MNTX lAmb lAmb 13 32 53.8
comp=Z,131nm,1.4s
M56A Emporium 29.75 5 P **P** **13 32 51.9 +0.1**
baz=186
M56A Emporium 29.75 5 P **P** **13 32 52.1 +0.3**
P38A Dawn 29.79 341 P **P** **13 32 51.8 -0.3**
P38A lAmb lAmb 13 32 53.6
comp=Z,47nm,0.7s
M58A Price's Panora 29.82 7 P **P** **13 32 54.2 +1.8**
baz=190
PAL Palisades 29.87 11 P **P** **13 32 54.4 +1.6**
baz=195
N62A Caumsett State 29.89 12 P **P** **13 32 54.5 +1.6**
baz=196
N41A Harden Midland 30.04 345 P **P** **13 32 53.9 -0.4**
N41A lAmb lAmb 13 32 55.7
comp=Z,173nm,1.6s
M60A Port Jervis 30.05 10 P **P** **13 32 55.8 +1.4**
baz=193
KSPA Keystone Colle 30.10 8 P **P** **13 32 55.4 +0.6**

KSPA IAmb IAmb 13 32 58.3
comp=Z,62nm,1.5s
M44A Midewin, Midew 30.11 350 P **P 13 32 54.2 -0.7**
M44A IAmb IAmb 13 32 55.7
comp=Z,104nm,1.6s
L53A Girard 30.11 2 P **P 13 32 56.2 +1.3**
baz=182
MALB Monte Alegre 30.12 115 *eP* **P 13 32 57.9 +2.6**
MALB Monte Alegre 30.12 115 *eP* **P 13 32 57.9 +2.6**
M59A Waymart 30.13 9 P **P 13 32 56.9 +1.8**
baz=192,SNR=6.2
L50A Kingsville 30.21 358 P **P 13 32 56.6 +0.8**
baz=177
ERPA Erie 30.28 2 P **P 13 32 57.7 +1.3**
baz=183
ERPA Erie 30.28 2 P **P 13 32 57.1 +0.7**
L57A Andrews Acres 30.39 7 P **P 13 32 59.1 +1.6**
baz=189,SNR=5.1
L54A Sinclairville 30.43 3 P **P 13 32 59.2 +1.5**
baz=184
L55A Hinsdale 30.43 4 P **P 13 32 59.3 +1.6**
baz=186,SNR=6.3
KSU1 Kansas State U 30.43 336 P **P 13 32 58.0 +0.2**
baz=150
KSU1 Kansas State U 30.43 336 P **P 13 32 56.3 -1.5**
L56A Greenwood 30.46 6 P **P 13 32 59.1 +1.1**
baz=187
L56A Greenwood 30.46 6 P **P 13 32 59.4 +1.4**
AAM Ann Arbor 30.51 357 P **P 13 32 59.9 +1.5**
baz=176
L58A Harry Jones Me 30.56 8 P **P 13 33 00.8 +1.8**
baz=190
WVNY West Valley, N 30.64 4 P **P 13 33 00.8 +1.2**
M63A Gales Ferry 30.65 14 P **P 13 33 01.7 +2.1**
baz=198
BINY Binghamton 30.70 8 P **P 13 33 01.9 +1.8**
baz=190
BINY Binghamton 30.70 8 P **P 13 33 01.0 +0.8**
BINY IAmb IAmb 13 33 03.6
comp=Z,74nm,1.9s
R32A Long Quarter, 30.75 333 P **P 13 33 00.9 +0.2**
R32A IAmb IAmb 13 33 02.7
comp=Z,151nm,1.6s
L60A Shokan 30.77 10 P **P 13 33 02.8 +2.1**
baz=194,SNR=6.2
N38A Joes South For 30.77 342 P **P 13 33 00.6 -0.2**
LPAZ La Paz 30.77 155 P **P 13 33 02.9 +1.3**
comp=Z,1.7nm,0.5s,baz=330,slow=2.3,SNR=10
LPAZ LR LR 13 48 01.5
comp=Z,1µm,18.9s,baz=301,slow=42
LPAZ La Paz 30.77 155 P **P 13 33 01.8 +0.1**
LPAZ pmax pmax
comp=Z,23nm,1.5s
LPAZ La Paz 30.77 155 P **P 13 33 01.8 +0.1**
LPAZ La Paz 30.77 155 *eP* **P 13 33 03.0 +1.3**
LPAZ La Paz 30.77 155 *eP* **P 13 33 03.0 +1.3**
L59A Walton 30.82 9 P **P 13 33 02.9 +1.7**
baz=192
L59A Walton 30.82 9 P **P 13 33 02.7 +1.4**
K54A Basiliko Farm, 30.84 4 P **P 13 33 02.7 +1.4**
baz=185
L44A Lake County Fo 30.85 350 P **P 13 33 01.2 -0.3**
baz=167
L44A Lake County Fo 30.85 350 P **P 13 33 00.8 -0.7**
L44A IAmb IAmb 13 33 55.9
comp=Z,45nm,0.8s
K51A Iona Station 30.86 360 P **P 13 33 02.2 +0.7**
baz=180
K52A Tillsonburg 30.92 1 P **P 13 33 03.0 +1.0**
baz=181
K50A Casco 30.93 358 P **P 13 33 03.1 +0.9**
baz=178
K50A Casco 30.93 358 P **P 13 33 03.3 +1.2**
K50A IAmb IAmb 13 33 04.3
comp=Z,49nm,1.1s
K49A Clarkson 30.98 357 P **P 13 33 03.2 +0.7**
baz=176
K55A Perry 31.00 5 P **P 13 33 04.3 +1.5**
baz=186,SNR=7.2
L42A Oliver, Polo 31.01 348 P **P 13 33 02.2 -0.6**
L42A IAmb IAmb 13 33 03.7
comp=Z,129nm,1.5s
MMNY Mt. Morris Dam 31.02 5 P **P 13 33 04.2 +1.3**
MMNY IAmb IAmb 13 33 05.8
comp=Z,80nm,1.5s
K56A Middlesex 31.04 6 P **P 13 33 04.6 +1.5**
baz=188,SNR=6.5
L61A Hillsdale 1, H 31.09 11 P **P 13 33 05.7 +2.2**
baz=195
K57A Scipio Center 31.16 7 P **P 13 33 05.6 +1.4**
baz=189,SNR=5.8
K58A Earlville 31.30 8 P **P 13 33 07.0 +1.6**
baz=191,SNR=5.4
K58A Earlville 31.30 8 P **P 13 33 05.6 +0.2**
J52A Paris 31.39 1 P **P 13 33 07.0 +0.8**
baz=182
MEDO Medina 31.40 4 P **P 13 33 05.3 -1.0**
L40A Anamosa 31.41 346 P **P 13 33 05.7 -0.7**
L40A IAmb IAmb 13 33 07.6
comp=Z,130nm,1.6s
K59A Cooperstown 31.43 9 P **P 13 33 08.1 +1.6**
baz=192
K60A Five Rivers En 31.43 11 P **P 13 33 09.0 +2.4**
baz=194
K43A Burlington 31.44 350 P **P 13 33 05.6 -1.0**
K43A IAmb IAmb 13 34 02.7
comp=Z,49nm,1.1s
J54A Appleton 31.50 4 P **P 13 33 08.5 +1.4**
baz=185
J54A Appleton 31.50 4 P **P 13 33 08.0 +0.9**
J54A IAmb IAmb 13 33 10.1
comp=Z,163nm,1.8s
J48A Bridge Port 31.51 357 P **P 13 33 07.8 +0.6**
baz=175
J48A Bridge Port 31.51 357 P **P 13 33 07.5 +0.3**
J48A IAmb IAmb 13 33 09.2
comp=Z,98nm,1.6s
L61B Northampton 31.51 12 P **P 13 33 09.8 +2.6**
baz=196
J47A Sunmer 31.52 355 P **P 13 33 07.6 +0.2**
baz=174
J47A Sunmer 31.52 355 P **P 13 33 07.2 -0.1**
J47A IAmb IAmb 13 33 09.2
comp=Z,110nm,1.8s
J49A Marlette 31.54 358 P **P 13 33 07.8 +0.4**
baz=177
CBKS Cedar Bluff 31.54 332 P **P 13 33 08.3 +0.7**
baz=144,SNR=6.3
CBKS Cedar Bluff 31.54 332 P **P 13 33 06.7 -0.9**
CBKS pmax pmax
comp=Z,286nm,1.6s
CBKS Cedar Bluff 31.54 332 P **P 13 33 06.7 -0.9**
J55A Hilton 31.55 5 P **P 13 33 08.7 +1.1**
baz=186
J55A Hilton 31.55 5 P **P 13 33 07.1 -0.5**
J55A IAmb IAmb 13 33 10.5
comp=Z,73nm,1.8s
TRY Troy 31.59 11 P **P 13 33 07.2 -0.7**
N35A Tabor 31.61 339 P **P 13 33 07.7 -0.5**
J56A Wolcott 31.66 6 P **P 13 33 09.7 +1.2**
baz=188,SNR=7.5
J56A Wolcott 31.66 6 P **P 13 33 08.6 +0.1**
J56A IAmb IAmb 13 33 11.4
comp=Z,126nm,1.8s
SCIA State Center 31.79 343 P **P 13 33 09.8 +0.1**
baz=158,SNR=6.7
SCIA State Center 31.79 343 P **P 13 33 09.4 -0.3**
SCIA IAmb IAmb 13 33 10.6
comp=Z,57nm,0.8s
K62A Royalston 31.81 13 P **P 13 33 11.6 +1.7**
baz=197
HRV Adam Dziewonsk 31.81 14 P **P 13 33 11.9 +2.0**
baz=198
J45A Montague 31.87 353 P **P 13 33 09.8 -0.6**
baz=171
J57A Williamstown 31.89 7 P **P 13 33 12.0 +1.4**
baz=190,SNR=5.5
J57A Williamstown 31.89 7 P **P 13 33 10.7 +0.2**
NPGB Novo Progresso 31.89 125 *eP* **P 13 33 11.7 +0.8**
NPGB *eS* **S 13 38 26.2 +5.1**
NPGB Novo Progresso 31.89 125 *eP* **P 13 33 11.7 +0.8**
NPGB *eS* **S 13 38 26.2 +5.1**
121A Cookes Peak, D 31.90 315 P **P 13 33 12.6 +1.5**
baz=125,SNR=12
121A Cookes Peak, D 31.90 315 P **P 13 33 12.1 +1.0**
J58A Remsen 31.93 8 P **P 13 33 12.7 +1.7**
baz=191,SNR=8.7
J58A Remsen 31.93 8 P **P 13 33 10.7 -0.3**
J58A IAmb IAmb 13 33 13.9
comp=Z,60nm,1.4s
I51A Listowel 31.94 0 P **P 13 33 11.8 +0.7**
baz=181
K63A Dunstable 31.99 14 P **P 13 33 13.3 +1.8**
baz=198
I53A Kortright Cn E 32.00 2 P **P 13 33 12.4 +0.8**
baz=183
JFWS Jewell Farm 32.00 348 P **P 13 33 11.3 -0.2**
baz=163,SNR=12
JFWS Jewell Farm 32.00 348 P **P 13 33 10.9 -0.7**
JFWS pmax pmax
comp=Z,121nm,1.6s
JFWS Jewell Farm 32.00 348 P **P 13 33 10.9 -0.7**
JFWS IAmb IAmb 13 33 12.8
comp=Z,121nm,1.6s
BNM Barren Site 32.07 318 P **P 13 33 11.6 -1.0**
I49A Point Hope 32.10 358 P **P 13 33 13.0 +0.6**
baz=177
I49A Point Hope 32.10 358 P **P 13 33 13.0 +0.6**
I49A IAmb IAmb 13 33 14.6
comp=Z,47nm,0.8s
J60A Lant Hill Farm 32.13 11 P **P 13 33 14.8 +2.2**
baz=195
J59A Piesco 32.15 9 P **P 13 33 14.6 +1.6**
baz=193,SNR=5.9
J59A Piesco 32.15 9 P **P 13 33 14.3 +1.4**
N33A J Bar K, Exete 32.17 337 P **P 13 33 13.5 +0.4**
TVZX PASSCAL Wareho 32.21 318 P **P 13 33 14.8 +1.2**
baz=128
Y22D IRIS PASSCAL I 32.21 318 P **P 13 33 15.0 +1.2**
baz=128
I52A Shelburne 32.22 2 P **P 13 33 14.5 +1.0**
baz=182
I47A Gladwin 32.27 356 P **P 13 33 13.8 -0.1**
baz=174
I47A Gladwin 32.27 356 P **P 13 33 14.0 0.0**
I47A IAmb IAmb 13 34 17.8
comp=Z,34nm,0.8s
I46A Reed City 32.27 354 P **P 13 33 13.6 -0.4**
baz=172
VILB Vilhena 32.29 139 *eP* **P 13 33 16.2 +1.8**
VILB Vilhena 32.29 139 *eP* **P 13 33 16.2 +1.8**
PECO Prince Edward 32.29 6 P **P 13 33 14.1 0.0**
PECO IAmb IAmb 13 33 16.6
comp=Z,45nm,1.4s
I58A Old Forge 32.30 9 P **P 13 33 16.0 +1.8**
baz=192
319A Douglas 32.34 312 P **P 13 33 14.8 -0.1**
319A IAmb IAmb 13 33 18.2
comp=Z,134nm,1.6s
K38A Parkersburg 32.35 344 P **P 13 33 14.0 -0.6**
I48A Sherman Twp 32.39 357 P **P 13 33 15.6 +0.7**
baz=176
J61A Chester 32.39 12 P **P 13 33 17.2 +2.1**
baz=196
J62A Henniker 32.44 13 P **P 13 33 17.3 +1.9**
baz=198
I45A Fountain 32.45 353 P **P 13 33 14.9 -0.6**
baz=171
I57A Carthage 32.45 8 P **P 13 33 16.9 +1.4**
baz=190,SNR=9.2
ANMO Albuquerque 32.45 319 P **P 13 33 16.8 +0.9**
baz=129
ANMO Albuquerque 32.45 319 P **P 13 33 17.0 +1.1**
comp=Z,22nm,0.8s,baz=137,slow=11,SNR=56
ANMO Albuquerque 32.45 319 *eP* **P 13 33 13.1 -2.8**
ANMO pmax pmax
comp=Z,56nm,1.3s
ANMO Albuquerque 32.45 319 P **P 13 33 16.6 +0.7**
ANMO IAmb IAmb 13 33 18.5
comp=Z,79nm,1.4s
HSIG 32.50 306 P **P 13 33 16.1 0.0**
HSIG IAmb IAmb 13 33 19.5
comp=Z,88nm,1.6s
I55A Frankford 32.51 5 P **P 13 33 17.2 +1.2**
baz=187,SNR=10
I59A Olmsteadville 32.58 10 P **P 13 33 18.5 +1.8**
baz=194,SNR=12
J63A Strafford 32.66 14 P **P 13 33 17.9 +0.7**
baz=199
T25A Trinidad 32.68 325 P **P 13 33 19.5 +1.6**
baz=135,SNR=16
T25A Trinidad 32.68 325 P **P 13 33 18.9 +1.0**
T25A IAmb IAmb 13 33 21.1
comp=Z,125nm,1.4s
I42A Draeger Farm, 32.69 350 P **P 13 33 17.2 -0.4**
NCB Nescopeck 32.69 10 P **P 13 33 16.9 -0.7**
I60A Shoreham 32.73 11 P **P 13 33 19.7 +1.8**
baz=195,SNR=5.8
MNMC Minye Minye 32.80 159 P **P 13 33 19.6 +0.5**
H53A Bobcaygeon 32.80 4 P **P 13 33 19.9 +1.4**
baz=185,SNR=9.6
H52A Wyevale 32.80 2 P **P 13 33 19.6 +1.0**
baz=183
H47A Mio 32.83 356 P **P 13 33 19.0 +0.2**
baz=175
H46A Fife Lake 32.84 355 P **P 13 33 18.2 -0.7**
baz=173
L34A Svendsen Farm, 32.85 339 P **P 13 33 18.2 -0.8**
L34A IAmb IAmb 13 33 19.9
comp=Z,51nm,1.1s
H48A Harrisville 32.88 357 P **P 13 33 19.5 +0.2**
baz=176
H55A Tweed 32.88 5 P **P 13 33 20.2 +1.0**
baz=187,SNR=7.8
SADO Sadowa 32.96 3 P **P 13 33 20.8 +0.8**
comp=Z,11nm,0.7s,baz=202,slow=9.7,SNR=9.0
SADO Sadowa 32.96 3 IAmb IAmb 13 33 22.3
comp=Z,111nm,1.8s
H45A Beulah 33.01 354 P **P 13 33 19.9 -0.5**
baz=172
I40A Norwalk 33.02 348 P **P 13 33 19.9 -0.6**
I40A IAmb IAmb 13 33 21.4
comp=Z,64nm,1.1s
BGNE Belgrade 33.02 336 P **P 13 33 20.8 +0.3**
baz=149,SNR=9.3
BGNE Belgrade 33.02 336 P **P 13 33 20.4 -0.1**
H56A Elgin 33.02 7 P **P 13 33 21.7 +1.3**
baz=189
I61A Oroboro, Fairl 33.03 12 P **P 13 33 22.2 +1.7**
baz=196
PSGCX Pisagua 33.05 160 P **P 13 33 18.5 -2.6**
PSGCX IAmb IAmb 13 33 46.4
comp=Z,59nm,1.7s
H43A Windswept, Lux 33.07 352 P **P 13 33 20.2 -0.8**
H43A IAmb IAmb 13 33 21.9
comp=Z,84nm,1.4s
GLMI Grayling 33.08 356 P **P 13 33 21.1 +0.1**
baz=174
KSCO Kaye Shedlock' 33.09 329 P **P 13 33 22.4 +1.0**
baz=140,SNR=7.5
KSCO Kaye Shedlock' 33.09 329 P **P 13 33 21.9 +0.5**
H58A Gabriels 33.13 9 P **P 13 33 23.1 +1.5**
baz=193
I62A Tamworth 33.16 13 P **P 13 33 23.5 +1.8**
baz=198
LONY Lake Ozonia 33.27 9 P **P 13 33 24.1 +1.4**
baz=192
LONY Lake Ozonia 33.27 9 P **P 13 33 23.6 +0.9**
VT1 Waterbury 33.30 11 P **P 13 33 24.3 +1.3**
G53A Haliburton 33.34 4 P **P 13 33 24.1 +0.9**
baz=185,SNR=7.6
G47A Hillman 33.38 357 P **P 13 33 24.1 +0.5**
baz=176,SNR=7.7
LBNH Lisbon 33.38 12 P **P 13 33 23.8 +0.2**
baz=197
G45A Suttons Bay 33.38 354 P **P 13 33 23.7 +0.1**
baz=172
G45A Suttons Bay 33.38 354 P **P 13 33 23.4 -0.3**
H59A Cadyville 33.44 10 P **P 13 33 25.5 +1.3**
baz=194,SNR=7.0
I63A Otisfield 33.50 14 P **P 13 33 25.4 +0.7**
baz=199
H60A Morristown 33.53 11 P **P 13 33 27.1 +2.1**
baz=195,SNR=5.5
G46A Petoskey 33.59 356 P **P 13 33 26.0 +0.5**
baz=174
I64A Boothbay 33.62 15 P **P 13 33 26.1 +0.4**
baz=201
G55A Calabogie 33.62 6 P **P 13 33 27.1 +1.4**
baz=188,SNR=11
FRNY Flat Rock 33.64 10 P **P 13 33 25.4 -0.4**
G54A Lake Saint Pet 33.65 4 P **P 13 33 27.0 +1.0**
baz=186,SNR=8.9
H61A Lyndonville 33.66 12 P **P 13 33 27.8 +1.7**
baz=197
G57A Newington 33.69 8 P **P 13 33 27.4 +1.1**
baz=191,SNR=6.2
I37A Lemond, Waseca 33.79 344 P **P 13 33 26.4 -0.8**
I37A IAmb IAmb 13 34 34.7
comp=Z,56nm,1.2s
H62A Milan 33.87 13 P **P 13 33 30.1 +2.2**
baz=198
G58A Ormstown 33.87 9 P **P 13 33 28.9 +1.0**
baz=193
CLDB Colider 33.90 131 *eP* pP 13 33 33.4 -0.5
CLDB Colider 33.90 131 *eP* pP 13 33 33.4 -0.5
F49A Sandfield 33.91 359 P **P 13 33 28.2 0.0**
baz=179
TUC Tucson 33.92 312 P **P 13 33 29.9 +1.3**
baz=121
TUC Tucson 33.92 312 P **P 13 33 29.2 +0.6**
TUC pmax pmax
comp=Z,74nm,1.4s
TUC Tucson 33.92 312 P **P 13 33 29.2 +0.6**
TUC IAmb IAmb 13 33 31.5
comp=Z,74nm,1.4s
G59A Clarenceville 33.95 10 P **P 13 33 29.9 +1.4**
baz=194
ORIO Orleans, Innes 33.96 7 P **P 13 33 29.5 +0.9**
baz=190
F52A Sundridge 33.98 3 P **P 13 33 28.9 +0.1**
baz=184
F48A Evansville 33.98 358 P **P 13 33 29.1 +0.2**
baz=178
F45A CMU Biological 34.01 355 P **P 13 33 29.0 0.0**
baz=173
F51A Arnstein 34.09 2 P **P 13 33 30.4 +0.7**
baz=182
SIV San Ignacio 34.09 144 P **P 13 33 29.6 -0.5**
comp=Z,4.1nm,1.0s,baz=346,slow=8.3,SNR=9.3
G60A Masonville 34.12 11 P **P 13 33 29.9 -0.2**
baz=196
ALGO Algonquin Park 34.21 4 P **P 13 33 31.7 +0.9**
baz=186
H63A New Sharon 34.21 14 P **P 13 33 31.3 +0.5**
baz=200
F55A Otter Lake 34.24 6 P **P 13 33 31.7 +0.7**
baz=189
G40A Rib Lake 34.25 349 P **P 13 33 30.3 -1.0**
G40A IAmb IAmb 13 33 32.3
comp=Z,92nm,1.6s
K31A O'Neill 34.29 337 P **P 13 33 30.9 -0.7**
OGNE Ogallala 34.30 332 P **P 13 33 32.8 +1.0**
baz=142,SNR=6.3
OGNE Ogallala 34.30 332 P **P 13 33 31.7 -0.1**
MOQ Mont Orford 34.34 11 P **P 13 33 32.4 +0.4**
Q24A Divide 34.39 326 P **P 13 33 33.9 +1.0**
baz=136,SNR=9.7
Q24A Divide 34.39 326 P **P 13 33 33.4 +0.5**
Q24A IAmb IAmb 13 33 35.6
comp=Z,83nm,1.4s
G61A St-Isidore-de- 34.46 12 P **P 13 33 35.1 +2.1**
baz=197,SNR=5.7
ECSD EROS Data Cent 34.49 340 P **P 13 33 32.7 -0.6**
baz=153,SNR=31
ECSD EROS Data Cent 34.49 340 P **P 13 33 32.5 -0.9**
ECSD IAmb IAmb 13 33 34.2
comp=Z,101nm,1.6s
E52A Mattawa 34.50 3 P **P 13 33 33.6 +0.3**
baz=185
S22A 4UR Ranch, Cre 34.50 323 P **P 13 33 35.4 +1.5**
baz=132,SNR=50
S22A 4UR Ranch, Cre 34.50 323 P **P 13 33 35.2 +1.3**
S22A IAmb IAmb 13 33 37.0
comp=Z,108nm,1.4s
X18A Snowflake 34.51 316 P **P 13 33 35.2 +1.4**
X18A IAmb IAmb 13 33 37.2
comp=Z,92nm,1.6s
E50A Wahnapitae 34.56 1 P **P 13 33 34.0 +0.1**
baz=181
G62A West of Eustis 34.62 14 P **P 13 33 36.1 +1.7**
baz=199
G62A West of Eustis 34.62 14 P **P 13 33 35.1 +0.7**
G62A IAmb IAmb 13 33 38.3
comp=Z,79nm,1.6s
E48A Lockeyer 34.63 359 P **P 13 33 35.2 +0.7**
baz=179,SNR=12
E47A Iron Bridge 34.63 358 P **P 13 33 35.2 +0.7**
baz=177,SNR=13
E53A Dumoine, Ponti 34.66 4 P **P 13 33 35.5 +0.8**
baz=186,SNR=6.5
W18A Petrified Fore 34.70 317 P **P 13 33 37.4 +2.0**
baz=125,SNR=38
W18A Petrified Fore 34.70 317 P **P 13 33 36.8 +1.3**
E51A G1948 Merrick 34.71 2 P **P 13 33 35.9 +0.7**
baz=183,SNR=7.0
H65A Eastbrook 34.71 16 P **P 13 33 35.4 +0.2**
baz=203
G63A Kingsbury 34.74 15 P **P 13 33 35.6 +0.2**
baz=200
E54A Lac Daplat, Po 34.75 5 P **P 13 33 36.6 +1.0**
baz=187,SNR=16
F59A Saint Guilaume 34.76 11 P **P 13 33 36.5 +0.9**
baz=195
SPMN Marine on St. 34.77 346 P **P 13 33 35.0 -0.8**
baz=160,SNR=15
SPMN Marine on St. 34.77 346 P **P 13 33 34.8 -0.9**
PTLB Pontes e Lacer 34.84 140 *eP* **P 13 33 38.5 +1.9**
PTLB *epP* **pP 13 33 41.1 -0.9**
PTLB Pontes e Lacer 34.84 140 *eP* **P 13 33 38.5 +1.9**
PTLB *epP* **pP 13 33 41.1 -0.9**
TRQ Mont Tremblant 34.84 8 P **P 13 33 37.1 +0.8**
E43A Lone Tree Farm 34.84 353 P **P 13 33 35.9 -0.5**
COWI Conover 34.87 351 P **P 13 33 35.9 -0.7**
E55A Montcerf-Lytto 34.88 6 P **P 13 33 37.5 +0.9**
baz=189
PKME Peaks-Kenny Pk 34.96 15 P **P 13 33 38.6 +1.3**
baz=201
F60A Warwick 35.03 11 P **P 13 33 39.3 +1.4**
baz=196
H66A Whiting 35.06 18 P **P 13 33 39.5 +1.4**
baz=204
G64A Maxfield 35.09 16 P **P 13 33 39.1 +0.7**
baz=202
E57A Chemin Saint G 35.09 9 P **P 13 33 39.7 +1.2**
baz=192,SNR=6.0
E56A St. Veronique 35.09 8 P **P 13 33 39.9 +1.4**
baz=191,SNR=7.1
D46A Sault St. Mari 35.10 357 P **P 13 33 38.9 +0.3**
baz=175,SNR=8.5
MVCO Mesa Verde 35.16 321 P **P 13 33 40.4 +0.9**
baz=129,SNR=9.4
E58A La Victoria 35.18 10 P **P 13 33 40.7 +1.4**
baz=194
D52A ZEK Kipawa Sen 35.20 3 P **P 13 33 40.6 +1.2**
baz=185,SNR=11
D47A Chapleau 35.23 358 P **P 13 33 39.7 +0.1**
baz=177,SNR=7.8
F61A St Evariste 35.23 13 P **P 13 33 39.4 -0.3**
baz=198
ISCO Idaho Springs 35.24 327 P **P 13 33 41.5 +1.3**
baz=136,SNR=48
ISCO Idaho Springs 35.24 327 P **P 13 33 40.9 +0.7**
ISCO pmax pmax
comp=Z,81nm,1.2s
ISCO Idaho Springs 35.24 327 P **P 13 33 40.9 +0.7**
ISCO IAmb IAmb 13 33 43.3
comp=Z,81nm,1.1s
214A Organ Pipe Nat 35.25 310 P **P 13 33 41.5 +1.4**
baz=118,SNR=25
214A Organ Pipe Nat 35.25 310 P **P 13 33 41.2 +1.1**
214A IAmb IAmb 13 33 43.1
comp=Z,88nm,1.4s
D51A Lot 18 Range I 35.27 2 P **P 13 33 40.3 +0.3**
baz=183
D48A Paudash Townsh 35.31 359 P **P 13 33 40.7 +0.4**
baz=179,SNR=13
D50A G1974 Best Tow 35.33 2 P **P 13 33 40.8 +0.3**
baz=182,SNR=5.7
D53A Lac Vacive, Po 35.35 4 P **P 13 33 41.8 +1.1**
baz=186,SNR=7.2
D53A Lac Vacive, Po 35.35 4 P **P 13 33 41.8 +1.1**
D53A IAmb IAmb 13 33 43.5
comp=Z,94nm,1.8s
G65A Princeton 35.36 17 P **P 13 33 41.7 +0.9**
baz=204
F62A Pittston Farm, 35.39 14 P **P 13 33 42.7 +1.7**
baz=199
D49A Beulah Townshi 35.41 360 P **P 13 33 41.7 +0.5**
baz=180,SNR=10

F63A Nahmakanta, Br 35.42 15 P P 13 33 41.0 -0.2
baz=201
X16A Lo Mia Camp, P 35.48 314 P P 13 33 43.5 +1.3
X16A IAmb IAmb 13 33 45.5
comp=Z,49nm,1.2s
D55A Sainte-Anne-du 35.51 7 P P 13 33 43.2 +1.2
baz=190,SNR=15
D54A Lac Fusel, La 35.51 6 P P 13 33 43.2 +1.1
baz=188,SNR=19
E60A Ste Agathe de 35.52 12 P P 13 33 43.0 +1.0
baz=197
F36A Milaca 35.55 345 P P 13 33 40.9 -1.5
F36A IAmb IAmb 13 33 42.2
comp=Z,36nm,0.8s
D56A ZEC Mazanza, M 35.62 8 P P 13 33 44.2 +1.2
baz=191,SNR=11
D57A Chemin Vers le 35.72 9 P P 13 33 45.3 +1.5
baz=192,SNR=7.2
D41A Chassel 35.72 352 P P 13 33 43.5 -0.4
D41A IAmb IAmb 13 33 44.8
comp=Z,60nm,1.1s
F64A Sherman 35.76 16 P P 13 33 45.8 +1.6
baz=202
F64A Sherman 35.76 16 P P 13 33 45.4 +1.3
E61A Lac Etchemin 35.78 13 P P 13 33 45.0 +0.7
baz=198
PV01 Paradox Valley 35.79 322 P P 13 33 45.9 +1.0
PV01 IAmb IAmb 13 33 48.3
comp=Z,124nm,1.6s
E38A The Farm, Brul 35.80 348 P P 13 33 43.9 -0.7
E38A IAmb IAmb 13 33 45.3
comp=Z,58nm,1.6s
PV15 Paradox Valley 35.87 322 P P 13 33 47.0 +1.4
SUSD Miller 35.93 338 P P 13 33 45.1 -0.5
baz=150
SUSD Miller 35.93 338 P P 13 33 44.9 -0.8
PV02 Paradox Valley 35.94 322 P P 13 33 47.2 +1.0
PV13 Radium Mtn., P 35.96 322 P P 13 33 47.0 +0.6
WUAZ Wupatki 36.03 316 P P 13 33 48.8 +1.9
baz=124,SNR=25
WUAZ Wupatki 36.03 316 P P 13 33 48.3 +1.4
PV07 Paradox Valley 36.03 322 P P 13 33 48.4 +1.4
PV03 Paradox Valley 36.04 322 P P 13 33 48.2 +1.3
PV12 Saucer Basin, 36.05 322 P P 13 33 48.6 +1.5
D59A Saint-Raymond 36.05 11 P P 13 33 48.0 +1.3
baz=196
PRPB Parauapebas 36.07 118 eP P 13 33 49.4 +2.1
PRPB epP pP 13 33 51.8 -0.7
PRPB Parauapebas 36.07 118 eP P 13 33 49.4 +2.1
PRPB epP pP 13 33 51.8 -0.7
PV18 Skein Mesa, Pa 36.07 322 P P 13 33 48.5 +1.3
PV05 Paradox Valley 36.08 321 P P 13 33 48.3 +0.9
PV11 David Mesa, Pa 36.08 322 P P 13 33 48.6 +1.2
PV17 East Wray Mesa 36.12 322 P P 13 33 48.8 +1.1
D60A Saint Jean D'O 36.14 12 P P 13 33 49.3 +1.9
baz=197,SNR=5.8
PV19 Morning Glory 36.16 322 P P 13 33 49.0 +1.0
PV04 Paradox Valley 36.16 322 P P 13 33 49.2 +1.2
PV20 West Nyswonger 36.17 322 P P 13 33 49.1 +1.0
E62A Clayton Lake 36.17 14 P P 13 33 50.1 +2.3
baz=200,SNR=6.9
E62A Clayton Lake 36.17 14 P P 13 33 49.8 +2.0
E62A IAmb IAmb 13 33 51.4
comp=Z,55nm,1.5s
PV22 Blue Mesa, Par 36.18 322 P P 13 33 49.5 +1.3
N23A Red Feather La 36.20 328 P P 13 33 50.0 +1.6
baz=136,SNR=31
N23A Red Feather La 36.20 328 P P 13 33 49.4 +1.0
N23A IAmb IAmb 13 33 51.4
comp=Z,100nm,1.4s
PV14 Lion Creek, Pa 36.22 322 P P 13 33 49.5 +1.0
PV10 Paradox Valley 36.23 322 P P 13 33 49.4 +0.7
PHWY Pilot Hill 36.24 329 P P 13 33 49.6 +0.8
PHWY IAmb IAmb 13 33 51.6
comp=Z,102nm,1.8s
LVC Limon Verde 36.26 160 P P 13 33 49.3 +0.2
comp=Z,1.2nm,0.4s,baz=304,slow=7.3,SNR=1.6
LVC Limon Verde 36.26 160 P P 13 33 49.3 +0.2
LVC pmax pmax
comp=Z,25nm,1.2s
E63A Oxbow 36.26 15 P P 13 33 50.4 +1.9
baz=202
PV23 Carpenter Ridg 36.26 322 P P 13 33 49.8 +0.8
F33A 5 Mile Ranch, 36.28 342 P P 13 33 47.2 -1.4
F33A IAmb IAmb 13 33 48.9
comp=Z,125nm,1.5s
PV21 Cone Mtn., Par 36.31 322 P P 13 33 50.3 +1.0
113A Mohawk Valley, 36.34 310 P P 13 33 50.1 +0.7
113A IAmb IAmb 13 33 52.3
comp=Z,53nm,1.4s
Y14A Wickenburg 36.35 313 P P 13 33 50.2 +0.8
Y14A IAmb IAmb 13 33 52.2
comp=Z,62nm,1.6s
PV09 Paradox Valley 36.37 322 P P 13 33 50.7 +0.8
VLDQ Val d'Or 36.40 4 P P 13 33 50.6 +1.0
VLDQ IAmb IAmb 13 33 52.3
comp=Z,69nm,1.6s
E64A Bridgewater 36.41 16 P P 13 33 51.3 +1.6
baz=203
D61A St Aubert, Com 36.57 13 P P 13 33 53.5 +2.4
baz=198,SNR=6.3
D62A Allapoint, All 36.72 14 P P 13 33 54.0 +1.6
baz=200
D62A Allapoint, All 36.72 14 P P 13 33 54.3 +1.9
D63A Stockholm 36.91 15 P P 13 33 56.0 +2.0
baz=202
O20A White River Ci 36.92 325 P P 13 33 56.1 +1.7
baz=133,SNR=13
O20A White River Ci 36.92 325 P P 13 33 55.8 +1.3
O20A IAmb IAmb 13 33 59.1
comp=Z,110nm,1.2s
EYMN Ely 37.08 349 P P 13 33 54.6 -0.8
baz=163
EYMN Ely 37.08 349 P P 13 33 54.2 -1.2
U15A North Rim 37.15 317 P P 13 33 57.6 +1.0
U15A IAmb IAmb 13 34 00.1
comp=Z,69nm,1.4s
GLA Glamis 37.27 310 P P 13 33 58.8 +1.5
baz=117,SNR=16
GLA Glamis 37.27 310 P P 13 33 58.5 +1.2
GLA pmax pmax
comp=Z,151nm,1.6s
GLA Glamis 37.27 310 P P 13 33 58.5 +1.2
GLA IAmb IAmb 13 34 00.4
comp=Z,151nm,1.6s
PDMCI Parker Dam,Lak 37.35 312 P P 13 33 59.1 +1.2
baz=119,SNR=8.6
LSQQ Lebel-sur-Quev 37.38 5 P P 13 33 58.5 +0.6
baz=187
RWWY Rawlins 37.43 327 P P 13 33 59.9 +1.1
RWWY IAmb IAmb 13 34 01.9
comp=Z,168nm,1.4s
W13A Hualapai Mount 37.55 314 P P 13 34 01.3 +1.4
SRU San Rafael Swe 37.60 322 P P 13 34 01.0 +0.8
SRU pmax pmax
comp=Z,143nm,1.4s
SRU San Rafael Swe 37.60 322 P P 13 34 01.0 +0.8
D32A Dogwood Acres, 37.67 342 P P 13 33 59.1 -1.4
D32A IAmb IAmb 13 34 00.5
comp=Z,62nm,1.3s
RSSD Black Hills 37.71 333 P P 13 34 02.2 +1.1
baz=142
RSSD Black Hills 37.71 333 P P 13 34 01.0 -0.1
RSSD pmax pmax
comp=Z,104nm,1.5s
RSSD Black Hills 37.71 333 P P 13 34 01.0 -0.1
RSSD IAmb IAmb 13 34 03.8
comp=Z,104nm,1.4s
PKCU Pink Cliffs 37.73 318 P P 13 34 02.9 +1.3
K22A Casper 37.77 329 P P 13 34 03.0 +1.4
baz=137,SNR=22
K22A Casper 37.77 329 P P 13 34 02.6 +1.0
K22A IAmb IAmb 13 34 04.5
comp=Z,84nm,1.0s
KNB Kanab 37.83 317 P P 13 34 03.6 +1.3
KNB pmax pmax
comp=Z,204nm,1.7s
KNB Kanab 37.83 317 P P 13 34 03.6 +1.3
NEE2 Needles Airpor 37.91 313 P P 13 34 03.9 +1.2
baz=119
P17A Butcher Ranch, 37.95 322 P P 13 34 03.6 +0.4
SWSC Sam W. Stewart 37.95 309 P P 13 34 04.5 +1.4
baz=116
RDMU Red Mountain 37.97 324 P P 13 34 04.1 +0.7
MTPU Mount Pierson 37.99 319 P P 13 34 05.0 +1.2

BC3 Big Chuckawall 38.01 311 P P 13 34 04.8 +1.1
baz=117,SNR=6.4
IRM Iron Mountain 38.01 311 P P 13 34 05.2 +1.6
baz=118,SNR=11
MATQ Matagami 38.02 4 P P 13 34 04.0 +0.6
baz=186,SNR=7.5
IKP In-Ko-Pah, Jac 38.06 309 P P 13 34 05.6 +1.5
baz=115,SNR=5.4
LCMT Little Creek M 38.11 317 P P 13 34 05.8 +1.2
TMUT Trail Mountain 38.13 321 P P 13 34 04.9 0.0
MSU Marysvale 38.26 320 P P 13 34 06.7 +0.8
MSU Marysvale 38.26 320 P P 13 34 06.7 +0.8
SZCU Shurtz Canyon 38.33 318 P P 13 34 06.2 -0.3
E28A Huff 38.38 338 P P 13 34 05.9 -0.7
AGMN Agassiz Nation 38.40 344 P P 13 34 05.8 -0.9
baz=157,SNR=18
AGMN Agassiz Nation 38.40 344 P P 13 34 05.4 -1.2
AGMN IAmb IAmb 13 34 07.2
comp=Z,119nm,1.6s
CHGQ Chibougamau 38.48 7 P P 13 34 08.1 +0.8
baz=191,SNR=10
CCUT Cedar City 38.49 317 P P 13 34 09.0 +1.2
TCRU Three Creeks R 38.49 319 P P 13 34 08.8 +0.9
BAR Barrett 38.50 308 P P 13 34 08.6 +0.8
BELC Belle Mtn. Jos 38.57 311 P P 13 34 09.9 +1.4
baz=117,SNR=10
GMRC Granite Mounta 38.68 312 P P 13 34 10.9 +1.5
baz=118,SNR=10
TPFO Pinon Flats 38.73 310 P P 13 34 11.2 +1.4
baz=116
XPFO Pion Flat 38.73 310 P P 13 34 10.4 +0.6
PFO Pinyon Flats O 38.74 310 P P 13 34 11.1 +1.3
baz=116,SNR=8.9
PFO Pinyon Flats O 38.74 310 P P 13 34 10.7 +0.9
comp=Z,8.0nm,0.8s,baz=114,slow=5.8,SNR=13
PFO Pinyon Flats O 38.74 310 P P 13 34 10.3 +0.4
PFO pmax pmax
comp=Z,39nm,1.5s
PFO Pinyon Flats O 38.74 310 P P 13 34 10.3 +0.4
MPU Maple Canyon 38.83 322 P P 13 34 11.4 +0.8
109C Camp Elliot, M 38.92 309 P P 13 34 11.9 +0.7
baz=14
109C Camp Elliot, M 38.92 309 P P 13 34 11.8 +0.6
109C IAmb IAmb 13 34 13.8
comp=Z,124nm,1.7s
NLU North Lily Min 39.06 321 P P 13 34 13.3 +0.7
JLU Jordanelle 39.08 323 P P 13 34 13.8 +1.0
MDND Maddock 39.11 340 P P 13 34 12.2 -0.4
baz=151,SNR=16
MDND Maddock 39.11 340 P P 13 34 12.0 -0.6
MDND IAmb IAmb 13 34 12.9
comp=Z,98nm,0.8s
SHPR Sheep Range 39.16 315 P P 13 34 14.2 +0.9
TUQ Turquoise Moun 39.17 313 P P 13 34 14.9 +1.5
baz=118
HEC Hector,Ludlow 39.19 312 P P 13 34 15.2 +1.6
baz=117
MURC Murrieta 39.29 309 P P 13 34 15.6 +1.3
baz=115,SNR=7.1
CTU Camp Tracy 39.32 323 P P 13 34 15.3 +0.7
SMTB Santa Maria do 39.32 120 eP P 13 34 16.2 +1.5
SMTB epP pP 13 34 19.2 -0.9
SMTB Santa Maria do 39.32 120 eP P 13 34 16.2 +1.5
SMTB epP pP 13 34 19.2 -0.9
PSUT Pine Spring 39.35 318 P P 13 34 16.2 +1.2
BBRC Big Bear Solar 39.37 311 P P 13 34 16.7 +1.5
baz=116
TCUT Toone Canyon 39.38 323 P P 13 34 16.2 +1.0
BW06 Boulder Array 39.43 327 P P 13 34 16.3 +0.6
baz=133,SNR=78
BW06 Boulder Array 39.43 327 P P 13 34 16.0 +0.3
BW06 IAmb IAmb 13 34 17.9
comp=Z,194nm,1.6s
PD31 Pinedale Array 39.43 327 P P 13 34 16.1 +0.4
PD31 IAmb IAmb 13 34 17.9
comp=Z,165nm,1.5s
PDAR Pinedale Array 39.43 327 P P 13 34 16.4 +0.7
comp=Z,18nm,0.6s,baz=132,slow=11,SNR=159
PDAR PcP PcP 13 36 23.8 +0.2
comp=Z,2.2nm,0.6s,baz=134,slow=4.6,SNR=4.0
PDAR LR LR 13 53 19.3
comp=Z,433nm,21.1s,baz=128,slow=40
PDAR Pinedale Array 39.43 327 P P 13 34 16.1 +0.4
SHOC Shoshone, Teco 39.65 313 P P 13 34 18.2 +0.9
baz=119
DUG Dugway, Tooele 39.66 321 P P 13 34 18.8 +1.4
baz=127,SNR=37
DUG Dugway, Tooele 39.66 321 P P 13 34 18.2 +0.8
DUG pmax pmax
comp=Z,117nm,1.5s
DUG Dugway, Tooele 39.66 321 P P 13 34 18.2 +0.8
DUG IAmb IAmb 13 34 20.5
comp=Z,117nm,1.5s
RRX Edison Barstow 39.70 311 P P 13 34 19.2 +1.6
baz=117
GSC Goldstone, Bar 39.75 312 P P 13 34 19.7 +1.5
baz=118,SNR=7.5
GSC Goldstone, Bar 39.75 312 P P 13 34 18.7 +0.5
GSC pmax pmax
comp=Z,20nm,1.1s
GSC Goldstone, Bar 39.75 312 P P 13 34 18.7 +0.5
ROSB Rosrio 39.77 109 eP P 13 34 20.8 +2.4
ROSB Rosrio 39.77 109 eP P 13 34 20.8 +2.4
HWUT Hardware Ranch 39.78 324 P P 13 34 19.2 +0.7
BFSC Mount Baldy Ra 39.91 310 P P 13 34 20.8 +1.2
baz=116,SNR=5.3
ARAG Araguaiana, MT 39.98 132 eP P 13 34 22.0 +1.7
ARAG epP pP 13 34 24.9 -0.7
ARAG Araguaiana, MT 39.98 132 eP P 13 34 22.0 +1.7
ARAG epP pP 13 34 24.9 -0.7
SCI2 San Clemente I 40.07 308 P P 13 34 21.9 +1.1
baz=113
SPUT South Promonto 40.12 323 P P 13 34 22.1 +0.8
CIS Catalina Islan 40.13 309 P P 13 34 22.1 +0.7
baz=114
TPNV Topopah Spring 40.14 315 P P 13 34 23.4 +1.9
baz=120,SNR=19
TPNV Topopah Spring 40.14 315 P P 13 34 22.7 +1.2
TPNV pmax pmax
comp=Z,64nm,1.5s
TPNV Topopah Spring 40.14 315 P P 13 34 22.7 +1.2
FMP Fort Macarthur 40.17 309 P P 13 34 22.2 +0.6
baz=114
ULM Lac du Bonnet 40.21 346 P P 13 34 20.4 -1.2
comp=Z,23nm,0.6s,baz=163,slow=6.5,SNR=20
ULM LR LR 13 51 36.9
comp=Z,664nm,18.2s,baz=160,slow=37
ULM Lac du Bonnet 40.21 346 c iP P 13 34 20.0 -1.7
ULM Lac du Bonnet 40.21 346 P P 13 34 20.2 -1.4
ULM IAmb IAmb 13 34 22.4
comp=Z,95nm,1.4s
BGU Big Grassy Mou 40.23 322 P P 13 34 23.1 +0.9
AHID Auburn Hatcher 40.27 326 P P 13 34 22.9 +0.3
AHID IAmb IAmb 13 34 25.0
comp=Z,131nm,1.4s
PASC Pasadena Art C 40.27 310 P P 13 34 22.6 +0.1
FURC Furnace Creek, 40.33 314 P P 13 34 24.7 +1.8
baz=119,SNR=13
R11A Troy Canyon, C 40.40 317 P P 13 34 25.3 +1.6
baz=122,SNR=34
R11A Troy Canyon, C 40.40 317 P P 13 34 24.6 +0.9
DECC Green Verdugo 40.42 310 P P 13 34 24.4 +0.7
baz=115
EDW2 Edwards Air Fo 40.43 311 P P 13 34 25.0 +1.2
baz=116,SNR=12
LRMC Laurel Mtn Rad 40.47 312 P P 13 34 25.6 +1.4
baz=117,SNR=8.1
SNOW Snow King Moun 40.55 327 P P 13 34 25.8 +0.9
MPMC Manual Prospec 40.59 313 P P 13 34 26.5 +1.2
baz=118,SNR=15
HVU Hansel Valley 40.60 323 P P 13 34 25.2 -0.1
HVU pmax pmax
comp=Z,63nm,1.6s
HVU Hansel Valley 40.60 323 P P 13 34 25.1 -0.1
TPAW Teton Pass 40.67 327 P P 13 34 26.8 +0.8
LAO LASA Array 40.68 334 P P 13 34 26.0 +0.2
baz=141,SNR=6.1
LAO LASA Array 40.68 334 P P 13 34 25.6 -0.2
LAO IAmb IAmb 13 34 27.5
comp=Z,102nm,1.5s
AQDB Aquidauana 40.77 142 eP P 13 34 27.8 +1.2
AQDB Aquidauana 40.77 142 eP P 13 34 27.8 +1.2
FXWY Fox Creek 40.81 327 P P 13 34 27.6 +0.6
FXWY IAmb IAmb 13 34 29.5
comp=Z,73nm,1.4s

OSI Osito Audit: C 40.86 310 P P 13 34 28.4 +1.0
baz=115
SNCC San Nicolas Is 40.93 308 P P 13 34 29.0 +1.1
baz=113
RLMT Red Lodge 40.93 330 P P 13 34 29.1 +1.1
baz=136,SNR=57
RLMT Red Lodge 40.93 330 P P 13 34 28.6 +0.6
FLWY Flagg Ranch 40.94 327 P P 13 34 29.0 +0.9
FLWY IAmb IAmb 13 34 31.0
comp=Z,242nm,1.9s
IMW Indian Meadow 40.94 327 P P 13 34 28.9 +0.7
IMW IAmb IAmb 13 34 30.8
comp=Z,142nm,1.6s
GRAC Grapevine Rang 40.94 314 P P 13 34 29.8 +1.8
baz=119,SNR=15
H17A Grant Village 41.09 328 P P 13 34 31.7 +2.3
baz=133,SNR=14
H17A Grant Village 41.09 328 P P 13 34 30.8 +1.4
H17A IAmb IAmb 13 34 34.4
comp=Z,108nm,1.8s
YMP Mirror Lake Pl 41.11 329 P P 13 34 30.7 +1.1
LKWY Lake 41.11 328 P P 13 34 30.6 +1.0
LKWY pmax pmax
comp=Z,76nm,1.7s
LKWY Lake 41.11 328 P P 13 34 30.6 +1.0
YPP Pitchstone Pla 41.12 328 P P 13 34 30.7 +1.0
ISA Isabella, Lake 41.13 312 P P 13 34 31.1 +1.5
baz=116,SNR=7.6
ISA Isabella, Lake 41.13 312 P P 13 34 30.5 +0.9
ISA pmax pmax
comp=Z,29nm,1.3s
ISA Isabella, Lake 41.13 312 P P 13 34 30.5 +0.9
ARVC Arvin 41.16 311 P P 13 34 31.4 +1.7
baz=115,SNR=5.2
CWC Cottonwood Cre 41.19 313 P P 13 34 31.4 +1.2
baz=117
YNE Yellowstone No 41.22 329 P P 13 34 30.9 +0.5
DGMT Dagmar 41.27 337 P P 13 34 30.8 +0.2
baz=145,SNR=7.7
DGMT Dagmar 41.27 337 P P 13 34 30.6 +0.1
DGMT IAmb IAmb 13 34 32.1
comp=Z,214nm,1.6s
SCZ2 Santa Cruz Isl 41.30 309 P P 13 34 31.8 +0.7
baz=113
YMR Madison River 41.48 328 P P 13 34 33.6 +1.0
ELK Elko 41.48 320 P P 13 34 33.3 +0.7
ELK pmax pmax
comp=Z,64nm,1.4s
ELK Elko 41.48 320 P P 13 34 33.3 +0.7
YHH Holmes Hill 41.50 328 P P 13 34 33.6 +0.8
SBC Santa Barbara 41.54 309 P P 13 34 33.5 +0.6
baz=114
TIN Tinemaha, Big 41.58 314 P P 13 34 34.3 +0.9
baz=118
GCMT Greycliff 41.61 330 P P 13 34 34.3 +0.8
VES Vestal, Richgr 41.65 312 P P 13 34 35.3 +1.5
baz=116,SNR=8.2
YHB Horse Butte 41.65 328 P P 13 34 35.2 +1.2
PKM Mcpherson Peak 41.80 310 P P 13 34 36.5 +1.3
baz=114,SNR=7.9
QLMT Earthquake Lak 41.83 328 P P 13 34 37.0 +1.6
SMMC Simmler 42.10 310 P P 13 34 38.3 +0.8
baz=114
NV11 Mina Array Sit 42.18 316 P P 13 34 39.4 +1.1
NVAR Mina Array Bea 42.28 315 P P 13 34 40.5 +1.4
comp=Z,8.9nm,0.9s,baz=131,slow=5.8,SNR=60
NVAR PcP PcP 13 36 33.9 +1.0
comp=Z,1.3nm,0.5s,baz=116,slow=4.1,SNR=8.6
NVAR LR LR 13 54 44.9
comp=Z,823nm,20.3s,baz=130,slow=40
NVAR Mina Array Bea 42.28 315 P P 13 34 39.4 +0.2
OMMB Old Mammoth Mi 42.38 314 P P 13 34 40.2 0.0
MDPB Devils Postpil 42.45 314 P P 13 34 40.9 +0.3
KVN Kaiserville 42.45 316 P P 13 34 41.1 +0.6
KVN pmax pmax
comp=Z,49nm,1.4s
KVN Kaiserville 42.45 316 P P 13 34 41.1 +0.6
BOZ Bozeman (W) 42.45 328 P P 13 34 41.4 +1.0
baz=133,SNR=69
BOZ Bozeman (W) 42.45 328 P P 13 34 41.4 +1.0
BOZ pmax pmax
comp=Z,150nm,1.7s
BOZ Bozeman (W) 42.45 328 P P 13 34 41.4 +1.0
BOZ IAmb IAmb 13 34 43.3
comp=Z,150nm,1.6s
PAGB Antelope Grade 42.46 311 P P 13 34 41.4 +0.9
PAGB IAmb IAmb 13 34 43.2
comp=Z,174nm,1.6s
RYN Ryan 42.53 316 P P 13 34 41.8 +0.7
MCMT McKenzie Canyo 42.58 327 P P 13 34 43.4 +1.8
CYA Choya 42.69 160 i P P 13 34 44.1 +1.7
BDFB Brasilia 42.77 129 P P 13 34 45.8 +2.6
comp=Z,2.1nm,0.5s,baz=305,slow=16,SNR=1.4
BDFB LR LR 13 53 45.4
comp=Z,1μm,20.0s,baz=307,slow=38
BDFB Brasilia 42.77 129 P P 13 34 45.8 +2.6
BDFB pmax pmax
comp=Z,13nm,1.1s
DLMT Dillon 42.80 327 P P 13 34 44.5 +1.2
DLMT IAmb IAmb 13 34 46.2
comp=Z,92nm,1.4s
AGUA GUANDACOL 42.83 163 i P P 13 34 45.8 +2.3
LRM Limekiln Ridge 43.03 328 P P 13 34 46.1 +0.9
PMPB Monarch Peak 43.07 311 P P 13 34 46.1 +0.7
PMPB IAmb IAmb 13 34 47.5
comp=Z,136nm,1.7s
WAKR Walker 43.10 315 P P 13 34 46.8 +1.0
YERR Yerington 43.19 316 P P 13 34 47.6 +1.0
YERR IAmb IAmb 13 34 49.3
comp=Z,69nm,1.4s
AROD Rodeo 43.21 165 i P P 13 34 49.5 +2.6
EGMT Eagleton 43.27 332 P P 13 34 47.8 +1.0
baz=137,SNR=33
EGMT Eagleton 43.27 332 P P 13 34 47.5 +0.7
EGMT IAmb IAmb 13 34 49.4
comp=Z,200nm,1.5s
ACDV Cuesta del Vie 43.31 164 i P P 13 34 53.1 +5.7
MFID Camas Ranch 43.38 323 P P 13 34 48.2 +0.3
MFID IAmb IAmb 13 34 50.4
comp=Z,60nm,1.2s
PNTR Pine Nut 43.49 316 P P 13 34 49.1 +0.2
PNTR IAmb IAmb 13 34 51.7
comp=Z,78nm,1.6s
CMB Columbia Colle 43.55 314 P P 13 34 49.3 0.0
CMB pmax pmax
comp=Z,46nm,1.9s
CMB Columbia Colle 43.55 314 P P 13 34 49.3 0.0
VCNR Virginia City 43.62 316 P P 13 34 51.0 +1.0
PAHR Pah Rah Range 43.63 316 P P 13 34 50.7 +0.6
PAHR IAmb IAmb 13 34 52.5
comp=Z,72nm,1.6s
ACCO Cerro Coronel 43.72 165 i P P 13 34 52.8 +1.8
SAO San Andreas Ge 43.77 312 P P 13 34 51.2 +0.2
SAO pmax pmax
comp=Z,16nm,1.1s
SAO San Andreas Ge 43.77 312 P P 13 34 51.2 +0.2
IPMB Ipameri, GO 44.08 132 eP P 13 34 55.9 +2.2
IPMB Ipameri, GO 44.08 132 eP P 13 34 55.9 +2.2
AMOG MOGNA 44.20 164 i P P 13 34 53.0 -1.5
AFDM Forest Hills D 44.37 315 P P 13 34 55.1 -0.7
BEKR Beckworth 44.37 316 P P 13 34 56.1 +0.1
BEKR IAmb IAmb 13 34 58.4
comp=Z,55nm,1.4s
MSO Missoula 44.47 328 P P 13 34 57.1 +0.5
baz=131,SNR=19
MSO Missoula 44.47 328 P P 13 34 56.8 +0.2
MSO IAmb IAmb 13 34 58.8
comp=Z,97nm,1.6s
SCHQ Schefferville 44.48 12 P P 13 34 57.6 +1.2
comp=Z,11nm,0.6s,baz=213,slow=7.3,SNR=17
SCHQ LR LR 13 54 46.8
comp=Z,743nm,19.1s,baz=201,slow=38
SCHQ Schefferville 44.48 12 P P 13 34 57.2 +0.8
WVOR Wild Horse Val 44.54 320 P P 13 34 57.3 +0.1
WVOR pmax pmax
comp=Z,256nm,1.5s
WVOR Wild Horse Val 44.54 320 P P 13 34 57.3 +0.1
RTLS Leoncito 44.81 165 i P P 13 35 00.3 +0.7
CFA Coronel Fontan 44.90 164 P P 13 35 01.4 +1.4
comp=Z,2.6nm,0.6s,baz=1.5,slow=6.4,SNR=4.8
J08A Circle Bar Ran 44.94 321 P P 13 35 00.4 +0.1
J08A IAmb IAmb 13 35 02.3
comp=Z,57nm,1.3s
ORV Oroville 45.01 315 P P 13 35 01.4 +0.5
ORV pmax pmax

comp=Z,75nm,1.3s
ORV Oroville 45.01 315 P **P** **13 35 01.4 +0.5**
ORV IAmb IAmb 13 35 03.5

comp=Z,74nm,1.3s
RTCV Cerro Valdivia 45.06 165 *i* P P 13 35 06.8 +5.5
BMO Blue Mountains 45.09 324 P **P** **13 35 00.8 -0.7**
BMO pmax pmax

comp=Z,52nm,1.5s
BMO Blue Mountains 45.09 324 P **P** **13 35 00.8 -0.7**
BMO IAmb IAmb 13 35 02.5

comp=Z,52nm,1.5s
AUSP Uspallata 45.20 166 *i* P **P** **13 35 05.1 +2.4**
JTMT Jette 45.25 329 P **P** **13 35 03.0 +0.2**
MOD Modoc Plateau 45.32 319 P **P** **13 35 03.1 -0.4**
MOD IAmb IAmb 13 35 04.9

comp=Z,67nm,1.6s
JANB Januaria 45.33 125 *e*P **P** **13 35 05.7 +2.0**
JANB Januaria 45.33 125 *e*P **P** **13 35 05.7 +2.0**
O03E Paynes Creek 45.55 316 P **P** **13 35 04.9 -0.4**
baz=117
ROC1 El Roble 45.55 168 *i* P **P** **13 35 03.9 -1.6**
F10A Beach Ranch, E 45.70 325 P **P** **13 35 06.3 -0.1**
F10A IAmb IAmb 13 35 08.1

comp=Z,49nm,1.1s
TCA Tanti 45.76 160 *i* P **P** **13 35 07.4 +0.4**
ACAN Cantantal 45.82 163 *i* P **P** **13 35 06.7 -0.7**
FFC Flin Flon 45.86 343 P **P** **13 35 06.6 -0.8**
FFC pmax pmax

comp=Z,40nm,1.5s
FFC Flin Flon 45.86 343 P **P** **13 35 06.5 -0.8**
WALA Waterton Lakes 45.95 330 P **P** **13 35 08.4 +0.1**
I07A Izee 45.96 322 P **P** **13 35 08.2 -0.3**
I07A IAmb IAmb 13 35 10.0

comp=Z,50nm,1.4s
K05A Summer Lake 46.11 319 P **P** **13 35 09.9 0.0**
O02D Mt. Diablo Mer 46.17 315 P **P** **13 35 08.7 -1.5**
baz=116
M04C Macdoel 46.27 318 P **P** **13 35 10.9 0.0**
baz=118,SNR=13
N02D Trinity Center 46.47 316 P **P** **13 35 11.2 -1.3**
baz=117
E09A Wood Farm, Sta 46.54 325 P **P** **13 35 12.8 -0.1**
J05D Fort Rock, OR 46.61 320 P **P** **13 35 13.7 0.0**
baz=120,SNR=11
K04D Chiloquin, OR 46.62 319 P **P** **13 35 13.8 +0.1**
baz=119
M02C Callahan 46.76 317 P **P** **13 35 13.7 -1.1**
baz=117
L04D Klamath Falls 46.78 318 P **P** **13 35 14.8 -0.2**
baz=118,SNR=18
YBH Yreka Blue Hor 46.82 317 P **P** **13 35 13.9 -1.4**
comp=Z,8.9nm,0.8s,baz=111,slow=3.8,SNR=24
YBH LR LR 13 58 02.0

comp=Z,705nm,19.6s,baz=150,slow=40
YBH Yreka Blue Hor 46.82 317 P **P** **13 35 13.7 -1.5**
YBH pmax pmax

comp=Z,40nm,1.6s
YBH Yreka Blue Hor 46.82 317 P **P** **13 35 13.7 -1.5**
YBH IAmb IAmb 13 35 15.3

comp=Z,40nm,1.6s
E08A Dider Farm, El 47.04 325 P **P** **13 35 16.4 -0.3**
E08A IAmb IAmb 13 35 18.2

comp=Z,47nm,1.4s
NEW Newport 47.05 328 P **P** **13 35 17.2 +0.3**
baz=129,SNR=22
NEW Newport 47.05 328 P **P** **13 35 16.8 -0.1**
NEW pmax pmax

comp=Z,103nm,1.6s
NEW Newport 47.05 328 P **P** **13 35 16.8 -0.1**
NEW IAmb IAmb 13 35 18.6

comp=Z,103nm,1.6s
KHMM Horse Mountain 47.12 316 P **P** **13 35 17.7 0.0**
KHMM IAmb IAmb 13 35 19.7

comp=Z,62nm,1.6s
J04D Umpqua Nationa 47.14 319 P **P** **13 35 18.1 +0.2**
baz=119,SNR=12
F07A Phinny Hill Vi 47.20 324 P **P** **13 35 17.9 -0.1**
I05D Terrebonne, OR 47.21 321 P **P** **13 35 18.8 +0.6**
baz=121,SNR=7.8
HAWA Hanford 47.25 324 P **P** **13 35 18.4 -0.1**
HAWA IAmb IAmb 13 35 20.0

comp=Z,80nm,1.6s
G06A Carlson Farm, 47.26 322 P **P** **13 35 18.6 +0.1**
G06A IAmb IAmb 13 35 21.3

comp=Z,85nm,1.6s
D08A Wollman Farm, 47.29 325 P **P** **13 35 18.6 -0.1**
D08A IAmb IAmb 13 35 21.9

comp=Z,36nm,1.2s
JCC Jacoby Creek, 47.30 316 P **P** **13 35 20.1 +1.2**
C09A Chrisman Ranch 47.37 327 P **P** **13 35 19.7 +0.3**
KRMB Red Mountain 47.53 316 P **P** **13 35 21.4 +0.6**
KRMB IAmb IAmb 13 35 22.5

comp=Z,91nm,1.6s
E07A Sunnyside 47.53 324 P **P** **13 35 21.1 +0.5**
E07A IAmb IAmb 13 35 22.6

comp=Z,24nm,0.9s
I04A Tendick Farm, 47.61 320 P **P** **13 35 21.3 0.0**
baz=120,SNR=13
G05D Wamic, OR 47.67 322 P **P** **13 35 23.2 +1.5**
baz=122,SNR=17
K02D Willamette Mer 47.89 318 P **P** **13 35 23.4 -0.1**
baz=117,SNR=7.0
H04A Detroit Lake 47.91 321 P **P** **13 35 23.6 0.0**
F05D White Salmon 48.09 323 P **P** **13 35 26.2 +1.2**
baz=122,SNR=6.4
I03D Drain, OR 48.16 319 P **P** **13 35 25.6 +0.1**
baz=118,SNR=9.4
H04D Lebanon 48.17 321 P **P** **13 35 26.9 +1.3**
baz=120
B08A Colville Reser 48.28 327 P **P** **13 35 26.1 -0.3**
B08A IAmb IAmb 13 35 28.2

comp=Z,51nm,1.4s
J01E Myrtle Point 48.28 318 P **P** **13 35 27.6 +1.1**
baz=118
LTY Liberty 48.38 325 P **P** **13 35 27.2 -0.1**
LTY IAmb IAmb 13 35 29.2

comp=Z,23nm,0.8s
COR Corvallis 48.55 320 P **P** **13 35 26.6 -1.9**
I02D Swisshome 48.66 320 P **P** **13 35 29.7 +0.3**
baz=118
F04A Amboy 48.69 322 P **P** **13 35 29.1 -0.4**
F04A IAmb IAmb 13 35 46.1

comp=Z,67nm,1.6s
LON Longmire 48.76 324 P **P** **13 35 30.0 -0.2**
LON pmax pmax

comp=Z,110nm,1.7s
LON Longmire 48.76 324 P **P** **13 35 30.0 -0.2**
LON IAmb IAmb 13 35 32.1

comp=Z,110nm,1.6s
G03D McMinnville, O 48.84 321 P **P** **13 35 31.4 +0.7**
baz=120,SNR=5.1
C06D Leavenworth 48.88 325 P **P** **13 35 31.8 +0.7**
baz=124
BI02 San Fabin de 49.08 169 P **P** **13 35 31.8 -0.8**
BI02 IAmb IAmb 13 35 51.4

comp=Z,28nm,1.1s
E04D Cinebar 49.10 323 P **P** **13 35 32.7 0.0**
baz=122
F04D Rainier, OR 49.12 322 P **P** **13 35 33.3 +0.4**
baz=121
F03A Seaside 49.37 322 P **P** **13 35 35.4 +0.6**
B06A Marblemount 49.54 326 P **P** **13 35 36.0 -0.1**
D04E Lakebay 49.55 324 P **P** **13 35 36.6 +0.5**
baz=122
E03A Lebam 49.69 323 P **P** **13 35 37.2 +0.1**
E03A IAmb IAmb 13 35 39.0

comp=Z,101nm,1.4s
B05A Bryant 49.74 325 P **P** **13 35 37.0 -0.5**
baz=123,SNR=7.1
D03D Eldon 49.92 324 P **P** **13 35 38.8 -0.2**
baz=122,SNR=11
NLWA Neilton Lookou 50.30 323 P **P** **13 35 42.2 +0.4**
A04D Lummi Island 50.33 325 P **P** **13 35 41.9 -0.1**
baz=123
PLTB Pedras Altas 50.78 149 *e*P **P** **13 35 46.2 +0.6**
PLTB Pedras Altas 50.78 149 *e*P **P** **13 35 46.2 +0.6**
LLLB Lillooet 50.94 328 P **P** **13 35 46.9 +0.2**
LLLB IAmb IAmb 13 35 48.9

comp=Z,83nm,1.3s
LC01 Cunco 51.15 171 P **P** **13 35 48.7 +0.5**
LC01 IAmb IAmb 13 36 02.3

comp=Z,40nm,1.1s
PLCA Paso Flores 53.16 170 P **P** **13 36 04.3 +1.0**
comp=Z,11nm,0.6s,baz=340,slow=7.9,SNR=32
PLCA Paso Flores 53.16 170 P **P** **13 36 04.1 +0.8**
PLCA pmax pmax

comp=Z,84nm,1.4s
PLCA Paso Flores 53.16 170 P **P** **13 36 04.1 +0.8**
PLCA IAmb IAmb 13 36 18.4

comp=Z,84nm,1.4s
PLCA Paso Flores 53.16 170 *e*P **P** **13 36 04.3 +1.0**
PLCA Paso Flores 53.16 170 *e*P **P** **13 36 04.3 +1.0**
YKA Yellowknife Ar 55.99 342 P **P** **13 36 22.3 -1.2**
comp=Z,16nm,0.7s,baz=136,slow=7.7,SNR=17
SFJD Kangerlussuaq 58.88 14 P **P** **13 36 42.9 -0.9**
comp=Z,10nm,0.9s,baz=208,slow=5.6,SNR=5.5
SFJD Kangerlussuaq 58.88 14 P **P** **13 36 42.7 -1.0**
SFJD pmax pmax

comp=Z,18nm,1.1s
SFJD Kangerlussuaq 58.88 14 P **P** **13 36 42.7 -1.0**
DLBC Dease Lake 59.19 333 P **P** **13 36 46.9 +0.7**
DLBC IAmb IAmb 13 36 48.8

comp=Z,30nm,0.8s
WRAK Wrangell Islan 59.29 330 P **P** **13 36 47.2 +0.4**
ILULI Ilulissat 60.60 12 P **P** **13 36 55.0 -0.5**
ILULI pmax pmax

comp=Z,112nm,1.7s
ILULI Ilulissat 60.60 12 P **P** **13 36 55.0 -0.5**
JIS Juneau Island 61.12 331 P **P** **13 36 59.6 +0.3**
JIS IAmb IAmb 13 37 01.5

comp=Z,32nm,1.3s
ANGG Ammassalik, Gr 61.45 19 P **P** **13 37 01.1 -0.3**
ANGG IAmb IAmb 13 37 01.4

comp=Z,24nm,1.0s
BESE Bessie Mountai 61.48 331 P **P** **13 37 01.5 -0.3**
SKAG Skagway 62.09 332 P **P** **13 37 05.9 +0.1**
SKAG IAmb IAmb 13 37 07.9

comp=Z,60nm,1.6s
RES Resolute Bay 63.38 356 P **P** **13 37 13.3 -0.9**
RES pmax pmax

comp=Z,81nm,1.9s
RES Resolute Bay 63.38 356 P **P** **13 37 13.3 -0.9**
RES IAmb IAmb 13 37 15.0

comp=Z,81nm,1.9s
HYT Haines Junctio 63.67 333 P **P** **13 37 16.8 +0.3**
HYT IAmb IAmb 13 37 18.9

comp=Z,51nm,1.7s
PCA Pinnacle 64.63 332 P **P** **13 37 23.4 +0.6**
TULEG Thule 65.13 3 P **P** **13 37 24.8 -0.8**
YAH Yahtse 65.42 332 P **P** **13 37 28.1 0.0**
MESA MESA 65.45 331 P **P** **13 37 28.5 +0.3**
BARN Barnard Glacie 65.63 332 P **P** **13 37 29.9 +0.5**
BARN IAmb IAmb 13 37 32.0

comp=Z,19nm,0.8s
A36M Sachs Harbour 65.68 346 P **P** **13 37 28.6 -0.7**
baz=132,SNR=30
INK Inuvik 65.73 341 P **P** **13 37 29.8 +0.2**
comp=Z,32nm,1.1s,baz=113,slow=7.4,SNR=37
INK LR LR 14 08 30.4

comp=Z,657nm,18.4s,baz=106,slow=38
INK Inuvik 65.73 341 P **P** **13 37 29.6 0.0**
INK pmax pmax

comp=Z,62nm,1.3s
INK Inuvik 65.73 341 P **P** **13 37 29.6 0.0**
INK IAmb IAmb 13 37 31.4

comp=Z,62nm,1.3s
EPYK Eagle Plains 65.83 339 P **P** **13 37 31.0 +0.6**
baz=118,SNR=18
EPYK Eagle Plains 65.83 339 P **P** **13 37 30.5 +0.1**
SUMG Summit 65.86 13 *i* *i*P **P** **13 37 31.1 +0.2**
comp=Z,162nm,0.9s
SUMG Summit 65.86 13 *i* *i*P **P** **13 37 31.1 +0.2**
SUMG pmax pmax

comp=Z,160nm,0.9s
SUMG Summit 65.86 13 P **P** **13 37 30.7 -0.2**
BALM Baldy 65.93 332 P **P** **13 37 31.5 +0.3**
WAX Waxell Ridge 65.97 332 P **P** **13 37 32.1 +0.7**
WAX IAmb IAmb 13 37 34.0

comp=Z,40nm,1.1s
BCAR Beaver Creek A 66.41 334 P **P** **13 37 34.2 0.0**
VRDI Verde Repeater 66.50 332 P **P** **13 37 35.1 +0.2**
VRDI IAmb IAmb 13 37 37.3

comp=Z,73nm,1.4s
GLB Gilahina Butte 66.74 332 P **P** **13 37 36.6 +0.3**
GLB IAmb IAmb 13 37 38.7

comp=Z,72nm,1.4s
EGAK Eagle 66.81 336 P **P** **13 37 36.9 +0.3**
EGAK IAmb IAmb 13 37 38.4

comp=Z,35nm,1.2s
BORG Borgarnes 66.88 24 P **P** **13 37 38.5 +1.5**
comp=Z,6.4nm,0.7s,baz=249,slow=1.9,SNR=7.5
BORG Borgarnes 66.88 24 P **P** **13 37 38.2 +1.1**
BORG pmax pmax

comp=Z,17nm,1.0s
BORG Borgarnes 66.88 24 P **P** **13 37 38.2 +1.1**
MENT Mentasta 67.19 334 P **P** **13 37 39.6 +0.5**
MENT IAmb IAmb 13 37 41.6

comp=Z,25nm,1.0s
EYAK Cordova Ski Ar 67.36 331 P **P** **13 37 40.8 +0.6**
DOT Dot Lake 67.58 335 P **P** **13 37 42.2 +0.6**
SCRK Sand Creek 67.66 335 P **P** **13 37 42.8 +0.6**
SCRK IAmb IAmb 13 37 44.8

comp=Z,61nm,1.3s
HIN Hinchinbrook I 67.67 331 P **P** **13 37 42.8 +0.6**
FID Port Fidalgo 67.76 331 P **P** **13 37 43.9 +1.1**
RIDG Independent Ri 67.94 335 P **P** **13 37 44.6 +0.7**
GLI Glacier Island 68.09 331 P **P** **13 37 45.4 +0.5**
GLI IAmb IAmb 13 39 39.9

comp=Z,37nm,1.1s
PRP Porcupine Dome 68.80 336 P **P** **13 37 49.3 0.0**
PRP IAmb IAmb 13 37 51.1

comp=Z,95nm,1.8s
DHY Denali Highway 68.82 334 P **P** **13 37 49.4 -0.1**
KNK Knik Glacier 68.87 332 P **P** **13 37 49.7 0.0**
SML Sawmill 68.91 332 P **P** **13 37 49.8 -0.2**
SCO Scoresbysund 69.02 18 P **P** **13 37 49.7 -0.7**
SCO pmax pmax

comp=Z,17nm,1.1s
SCO Scoresbysund 69.02 18 P **P** **13 37 49.6 -0.7**
SEW Seward 69.02 330 P **P** **13 37 50.2 -0.4**
HDA Harding Lake 69.03 335 P **P** **13 37 51.0 +0.3**
baz=107,SNR=64
HDA Harding Lake 69.03 335 P **P** **13 37 50.6 0.0**
FYU Fort Yukon 69.03 337 P **P** **13 37 51.0 +0.4**
BMAR Burnt Mountain 69.09 338 P **P** **13 37 50.9 -0.1**
IL31 69.11 335 P **P** **13 37 50.9 -0.1**
ILAR Eielson Array 69.11 335 P **P** **13 37 51.2 +0.1**
comp=Z,11nm,0.7s,baz=110,slow=4.4,SNR=107
ILAR PP **PP** **13 40 20.1 -3.6**
comp=Z,4.3nm,1.2s,baz=120,slow=5.0,SNR=4.8
ILAR LR LR 14 12 07.7

comp=Z,590nm,18.9s,baz=122,slow=39
ILAR Eielson Array 69.11 335 P **P** **13 37 50.6 -0.5**
ILAR Eielson Array 69.11 335 P **P** **13 37 50.6 -0.5**
GHO Glory Hole Cre 69.17 332 P **P** **13 37 51.4 -0.3**
PMR Palmer 69.22 332 P **P** **13 37 51.6 -0.2**
PMR pmax pmax

comp=Z,120nm,1.8s
PMR Palmer 69.22 332 P **P** **13 37 51.6 -0.2**
MORF Marmelete 69.25 54 *e*P **P** **13 37 52.0 -0.6**
MORF Marmelete 69.25 54 *e*P **P** **13 37 54.7 +2.1**
PNCL Nicolau / Gran 69.36 54 *e*P **P** **13 37 57.1 +3.9**
RC01 Rabbit Creek A 69.39 331 P **P** **13 37 52.9 0.0**
RC01 IAmb IAmb 13 37 55.4

comp=Z,58nm,1.2s
PCAS Casmilo, Conde 69.43 52 *e*P **P** **13 37 51.4 -2.2**
comp=Z,41nm,1.8s
POKR Poker Plat Res 69.44 336 P **P** **13 37 53.2 0.0**
baz=107
CCB Clear Creek Bu 69.45 335 P **P** **13 37 52.6 -0.6**
CCB IAmb IAmb 13 37 54.7

comp=Z,71nm,1.6s
WRH Wood River Hil 69.52 335 P **P** **13 37 53.1 -0.5**
COLA College 69.54 335 *c* *i*P **P** **13 37 53.7 0.0**
COLA pmax pmax

comp=Z,12nm,0.9s
COLA College 69.54 335 P **P** **13 37 53.5 -0.2**
TCOL CIGO, UAF Yank 69.54 335 P **P** **13 37 53.7 0.0**
baz=106,SNR=6.1
RND Reindeer 69.56 334 P **P** **13 37 54.7 +0.7**
RND pmax pmax

comp=Z,458nm,1.6s
RND Reindeer 69.56 334 P **P** **13 37 54.7 +0.7**
MESJ Messejana 69.60 54 *e*P **P** **13 37 54.3 -0.4**
MESJ Messejana 69.60 54 *e*P **P** **13 37 56.4 +1.8**
PMTG Montargil 69.62 53 *e*P **P** **13 37 56.1 +1.4**
comp=Z,26nm,1.5s
BRLK Bradley Lake 69.65 330 P **P** **13 37 54.5 -0.1**
PGAV Gavieira, Arco 69.68 50 *e*LR LR 13 59 06.9
comp=Z,263nm,18.0s

MDM Murphy Dome 69.72 335 P **P** **13 37 55.0 +0.1**
MDM IAmb IAmb 13 37 56.6

comp=Z,53nm,1.9s
EVO Evora 69.77 53 *e*P **P** **13 37 57.4 +1.7**
comp=Z,18nm,1.7s
CNPM China Poot 69.78 329 P **P** **13 37 55.4 0.0**
PBEJ Beja 69.88 54 *e*P **P** **13 37 58.2 +1.8**
CAPN Captain Cook N 69.99 331 P **P** **13 37 57.2 +0.7**
baz=102
PVAQ Vaqueiros 69.99 54 *e*LR LR 13 59 13.4
comp=Z,209nm,22.0s
KDAK Kodiak Island 70.15 327 P **P** **13 37 57.3 -0.3**
KDAK pmax pmax

comp=Z,17nm,1.0s
KDAK Kodiak Island 70.15 327 P **P** **13 37 57.3 -0.3**
MTE Manteigas 70.17 51 *e*P **P** **13 38 00.0 +1.8**
comp=Z,31nm,1.6s
MTE Manteigas 70.17 51 *e*LR LR 13 59 26.4
comp=Z,245nm,18.0s
PCBR Castelo Branco 70.21 52 *e*P **P** **13 37 59.7 +1.3**
comp=Z,30nm,1.5s
PMRV Marv??o 70.27 52 *e*P **P** **13 38 00.1 +1.3**
PMRV Marv??o 70.27 52 *e*LR LR 13 59 39.4
comp=Z,288nm,20.0s
OHAK Old Harbor 70.43 327 P **P** **13 37 59.4 +0.1**
SPU Mount Spurr 70.50 331 P **P** **13 37 59.6 -0.2**
MVO Moncorvo 70.58 50 *e*P **P** **13 38 02.2 +1.5**
comp=Z,34nm,1.4s
MVO Moncorvo 70.58 50 *e*LR LR 14 00 42.2
comp=Z,383nm,18.0s
BPAW Bear Paw Mtn. 70.65 334 P **P** **13 38 00.7 +0.1**
RSO Redoubt South 70.70 330 P **P** **13 38 00.6 -0.6**
PBRG Braganca 70.81 50 *e*P **P** **13 38 03.7 +1.6**
comp=Z,40nm,1.5s
PPLA Purkeypile 70.91 333 P **P** **13 38 02.1 -0.3**
TOLK Toolik Lake Re 71.26 339 P **P** **13 38 04.4 +0.1**
baz=106,SNR=8.1
TOLK Toolik Lake Re 71.26 339 P **P** **13 38 04.2 -0.1**
SVW2 Sparrevohn 72.18 331 P **P** **13 38 08.9 -0.9**
SVW2 IAmb IAmb 13 38 10.6

comp=Z,109nm,1.8s
IMAR Indian Mountai 72.20 336 P **P** **13 38 09.3 -0.6**
DAG Danmarks Havn 72.53 12 *i* P **P** **13 38 10.9 -0.8**
comp=Z,18nm,0.6s
DAG Danmarks Havn 72.53 12 *i* P **P** **13 38 10.9 -0.8**
DAG pmax pmax

comp=Z,18nm,0.6s
TTA Tatalina 72.64 332 P **P** **13 38 11.7 -1.0**
TTA pmax pmax

comp=Z,51nm,1.4s
TTA Tatalina 72.64 332 P **P** **13 38 11.7 -1.0**
TTA IAmb IAmb 13 38 14.3

comp=Z,51nm,1.4s
ESDC Sonseca Array 72.92 52 P **P** **13 38 16.3 +1.5**
comp=Z,7.1nm,0.7s,baz=282,slow=6.0,SNR=52
ESDC LR LR 14 07 35.1

comp=Z,184nm,18.4s,baz=265,slow=34
ESDC Sonseca Array 72.92 52 P **P** **13 38 15.5 +0.6**
ESBB Sonseca Array 72.92 52 P **P** **13 38 16.0 +1.2**
ESBB IAmb IAmb 13 38 17.4

comp=Z,80nm,1.9s
CHGN Chignik 73.13 325 P **P** **13 38 14.7 -0.9**
PPT2 Papeete2 73.40 248 *e*S **SKiKP** **13 47 55.6 +7.0**
comp=Z,222nm,27.5s
PPT2 Papeete2 73.40 248 *e*LR LR 14 00 58.6
comp=Z,266nm,21.8s
QUIF Quistinic 73.47 43 *e*P **P** **13 38 18.6 +0.8**
QUIF pmax pmax

comp=Z,11nm,0.8s
ESK Eskdalemuir 73.68 36 P **P** **13 38 19.0 +0.1**
ESK pmax pmax

comp=Z,23nm,0.7s
ESK Eskdalemuir 73.68 36 P **P** **13 38 19.0 +0.1**
ESK IAmb IAmb 13 38 20.0

comp=Z,23nm,0.7s
EKA Eskdalemuir Ar 73.71 36 P **P** **13 38 19.5 +0.5**
comp=Z,11nm,0.6s,baz=262,slow=5.3,SNR=67
CNBA Chernabura Isl 73.71 324 P **P** **13 38 18.6 -0.5**
CNBA IAmb IAmb 13 38 20.2

comp=Z,24nm,1.0s
SDPT Sand Point 74.24 324 P **P** **13 38 21.8 -0.3**
NOR Nord 74.83 8 *i* P **P** **13 38 24.7 -0.5**
NOR Nord 74.83 8 *i* P **P** **13 38 24.7 -0.5**
SJPF Ste Jean 74.89 48 *e*P **P** **13 38 27.7 +1.5**
SJPF pmax pmax

comp=Z,11nm,0.6s
GRR Gorron 75.01 43 *e*P **P** **13 38 27.6 +0.8**
GRR pmax pmax

comp=Z,95nm,1.5s
TBI Tubuai 75.18 242 *e*LR LR 14 01 52.5
comp=Z,276nm,27.0s
FLN La Foliniere 75.25 42 *e*P **P** **13 38 29.2 +1.0**
FLN pmax pmax

comp=Z,24nm,1.0s
TIC Toumodi 75.33 86 *e*P **P** **13 38 29.8 +0.5**
ETSF Etsaut 75.38 49 *e*P **P** **13 38 32.0 +2.9**
ETSF pmax pmax

comp=Z,27nm,1.5s
LIC Lamto 75.40 87 *e*P **P** **13 38 29.6 -0.1**
comp=Z,52nm,1.0s
DBIC Dimbokro 75.49 86 P **P** **13 38 30.8 +0.6**
comp=Z,5.0nm,0.8s,baz=330,slow=3.6,SNR=5.3
DBIC Dimbokro 75.49 86 P **P** **13 38 30.3 +0.1**
DBIC pmax pmax

comp=Z,34nm,1.5s
DBIC Dimbokro 75.49 86 P **P** **13 38 30.3 +0.1**
DBIC IAmb IAmb 13 38 39.5

comp=Z,34nm,1.4s
KIC Kosan Boka 75.66 86 *e*P **P** **13 38 31.8 +0.6**
comp=Z,17nm,0.9s
FALS False Pass 75.93 324 P **P** **13 38 32.0 +0.2**
RDOG Red Dog Mine 76.03 337 P **P** **13 38 32.3 0.0**
RDOG IAmb IAmb 13 38 34.0

comp=Z,72nm,1.7s
EPF Esparros 76.03 48 *e*P **P** **13 38 34.1 +1.2**
EPF pmax pmax

comp=Z,45nm,1.6s
RJF Les Rejaudoux 76.75 46 *e*P **P** **13 38 37.6 +0.8**
RJF pmax pmax

comp=Z,20nm,1.2s
ANM Nome 76.91 334 P **P** **13 38 37.6 +0.3**
ANM pmax pmax

comp=Z,23nm,1.1s
ANM Nome 76.91 334 P **P** **13 38 37.6 +0.3**
CLF Chambon-Foret 77.11 43 P **P** **13 38 39.5 +0.8**
CAF Calviac 77.16 46 *e*P **P** **13 38 39.9 +0.7**
CAF pmax pmax

comp=Z,32nm,1.4s
AKUT Akutan 77.32 323 P **P** **13 38 39.4 -0.3**
AKUT IAmb IAmb 13 38 40.6

comp=Z,19nm,0.6s
UNV Unalaska Valle 77.76 323 P **P** **13 38 42.0 -0.2**
UNV IAmb IAmb 13 38 44.5

comp=Z,36nm,0.8s
AVF Avril sur Loir 77.93 44 *e*P **P** **13 38 43.6 +0.2**
AVF pmax pmax

comp=Z,11nm,0.9s
LOR Lormes 78.24 44 *e*P **P** **13 38 45.4 +0.3**
LOR pmax pmax

comp=Z,21nm,1.3s
DOU Dourbes 78.50 41 P **P** **13 38 46.2 -0.3**
DOU PcP **PcP** **13 38 56.4 +0.9**
BMRD Maredsous 78.59 41 P **P** **13 38 47.7 +0.7**
VIVF Saint-Julien-l 79.02 46 *e*P **P** **13 38 50.9 +1.4**
VIVF pmax pmax

comp=Z,33nm,1.3s
BSTI Sart Tilman 79.08 40 P **P** **13 38 50.2 +0.6**
NIKH Nikolski High 79.23 322 P **P** **13 38 50.3 -0.1**
NIKH IAmb IAmb 13 40 32.3

comp=Z,38nm,0.9s
GAMB Gambell 79.72 333 P **P** **13 38 53.0 +0.3**
GAMB IAmb IAmb 13 38 54.9

comp=Z,93nm,2.0s
HAU Haudompre 79.85 43 *e*P **P** **13 38 54.2 +0.3**
HAU pmax pmax

comp=Z,11nm,0.9s
HINF Hinteralfeld 80.20 43 *e*P **P** **13 38 55.9 0.0**
HINF pmax pmax

comp=Z,7.0nm,0.7s
ECH Echery 80.36 43 P **P** **13 38 56.1 -0.6**
ECH pmax pmax

comp=Z,20nm,1.1s
ECH Echery 80.36 43 P **P** **13 38 56.1 -0.6**
LPL La Plagne 80.39 45 *e*P **P** **13 38 54.9 -2.3**
LPL pmax pmax

comp=Z,3.0nm,0.2s
KONO Kongsberg 80.44 31 *ce*P **P 13 38 57.1 +0.3**
KONO pmax pmax
comp=Z,20nm,1.7s
SENIN Lac Senin/Sane 80.68 45 P **P 13 38 57.8 -0.9**
TORD Torodi Ar. Bea 80.72 78 P **P 13 38 58.3 -0.9**
comp=Z,1.4nm,0.6s,baz=280,slow=6.0,SNR=9.0
TORD LR LR 14 11 19.3
comp=Z,220nm,20.7s,baz=290,slow=33
TORD Torodi Ar. Bea 80.72 78 P **P 13 38 59.1 -0.1**
NBO00 NORSAR Array S 80.85 30 P **P 13 38 59.7 +0.7**
NAO01 NORSAR Array S 80.93 30 P **P 13 39 00.1 +0.7**
NB2 NORSAR Subarra 81.06 29 P **P 13 39 01.1 +0.9**
comp=Z,105nm,2.0s,baz=278,slow=5.3
NB2 NORSAR Subarra 81.06 29 P **P 13 39 01.0 +0.9**
NB2 pmax pmax
comp=Z,242nm,1.8s
NB2 NORSAR Subarra 81.06 29 P **P 13 39 01.1 +0.9**
baz=278,slow=5.3
NOA NORSAR Array B 81.06 29 P **P 13 39 01.2 +1.0**
comp=Z,4.8nm,0.6s,baz=277,slow=5.3,SNR=21
NB201 NORSAR Array S 81.10 29 P **P 13 39 01.2 +0.8**
NB201 IAmb IAmb 13 39 21.5
comp=Z,98nm,1.4s
NC602 NORSAR Array S 81.26 30 P **P 13 39 02.1 +0.9**
NC405 NORSAR Array S 81.29 29 P **P 13 39 02.2 +0.8**
NC405 IAmb IAmb 13 39 12.6
comp=Z,79nm,1.4s
DAVA Damuels 82.31 43 *e*P **P 13 39 08.2 +1.0**
comp=Z,28nm,1.5s
FUORN Ofenpass-Fuorn 82.67 44 P **P 13 39 09.5 +0.2**
GRF Grafenberg Arr 82.80 41 *e*P **P 13 39 10.6 +1.0**
comp=Z,15nm,1.1s,baz=273,slow=5.9
RETA Reutte 82.87 43 *e*P **P 13 39 11.0 +1.0**
comp=Z,17nm,1.2s
FETA Feichten 82.92 44 *e*P **P 13 39 11.4 +1.0**
comp=Z,7.1nm,0.7s
MOTA Moosalm 83.12 43 *e*P **P 13 39 11.4 -0.1**
comp=Z,8.2nm,0.8s
SQTA Sankt Quirin 83.21 43 *e*P **P 13 39 11.8 0.0**
comp=Z,5.1nm,0.7s
WTTA Wattenberg 83.49 43 *i*P **P 13 39 14.0 +0.6**
comp=Z,3.7nm,0.6s
CLL Collm 83.64 39 ⇑*i*P **P 13 39 14.5 +0.7**
comp=Z,18nm,1.0s
CLL *es*P **pwP 13 39 22.0 +0.2**
CLL *es*PcP 13 39 26.0
CLL *e* 13 39 30.0
CLL *e*SS SS 13 55 12.0 +11
CLL LmV 14 16 00.0
comp=Z,300nm,18.4s
CLL Collm 83.64 39 ⇑*i*P **P 13 39 14.5 +0.7**
CLL *e* 13 39 26.0
CLL pmax pmax
comp=Z,18nm,1.0s
CLL MLR MLR
comp=Z,300nm,18.4s
CLL Collm 83.64 39 P **P 13 39 14.3 +0.6**
KEST Kesra 83.80 55 P **P 13 39 16.6 +1.5**
comp=Z,7.6nm,1.1s,baz=210,slow=0.9,SNR=3.8
KEST Kesra 83.80 55 IAmb IAmb 13 39 35.7
comp=Z,43nm,1.6s
ABTA Abfaltersbach 84.17 44 *e*P **P 13 39 17.8 +1.0**
comp=Z,13nm,1.1s
CIMO Cimolais 84.21 44 P **P 13 39 17.3 +0.4**
CIMO IAmb IAmb 13 39 19.4
comp=Z,20nm,1.3s
BRG Berggiesshubel 84.30 39 *i*P **P 13 39 18.3 +1.1**
comp=Z,24nm,1.4s
BRG Berggiesshubel 84.30 39 *i*P **P 13 39 18.3 +1.1**
BRG pmax pmax
comp=Z,24nm,1.4s
KHC Kasperske Hory 84.42 41 *e*P **P 13 39 18.8 +0.9**
KHC *ex* x 13 39 30.3
KHC Kasperske Hory 84.42 41 *ce*P **P 13 39 18.6 +0.7**
KHC pmax pmax
comp=Z,71nm,2.5s
KHC Kasperske Hory 84.42 41 P **P 13 39 18.0 +0.1**
GEC2 GERESS Array S 84.56 41 P **P 13 39 18.8 +0.1**
GEC2 IAmb IAmb 13 39 20.8
comp=Z,43nm,1.7s
GERES GERESS Array B 84.56 41 P **P 13 39 19.4 +0.7**
comp=Z,2.8nm,0.7s,baz=270,slow=2.7,SNR=20
GERES GERESS Array B 84.56 41 P **P 13 39 19.1 +0.4**
GERES GERESS Array B 84.56 41 P **P 13 39 19.1 +0.4**
KBA Koelnbreinsper 84.67 43 *e*PcP **P 13 39 20.4 +1.0**
comp=Z,22nm,1.2s
ARCES ARCESS Array B 84.87 20 P **P 13 39 19.8 +0.1**
comp=Z,7.0nm,0.6s,baz=284,slow=4.3,SNR=42
PRED Cave del Predi 84.95 44 P **P 13 39 20.5 -0.1**
PRED IAmb IAmb 13 39 22.0
comp=Z,15nm,0.7s
MYKA Terra Mystica 84.96 44 *e*P **P 13 39 21.5 +0.8**
comp=Z,20nm,1.1s
MOA Molln 85.13 42 *e*P **P 13 39 22.3 +0.9**
comp=Z,9.2nm,0.8s
OBKA Obir 85.60 44 *e*PcP **PcP 13 39 25.6 -1.3**
comp=Z,12nm,1.3s
UPC Upice 85.67 39 *e*P **P 13 39 25.2 +1.1**
UPC *ex* x 13 39 36.8
UPC Upice 85.67 39 *e*P **P 13 39 25.2 +1.1**
UPC *e* 13 39 36.8
CHVC Chvalec 85.67 39 *e*P **P 13 39 25.5 +1.4**
KSP Ksiaz 85.77 39 *e*P **P 13 39 25.4 +0.9**
KSP *e*L L 14 13 01.2
comp=Z,322nm,20.7s
OSTC Ostas 85.78 39 *e*P **P 13 39 25.9 +1.2**
SOKA Soboth 85.89 43 *e*P **P 13 39 25.9 +0.5**
comp=Z,12nm,1.1s
DPC Dobruska-Polom 85.90 40 *e*P **P 13 39 26.5 +1.2**
DPC *ex* x 13 39 37.9
DPC Dobruska-Polom 85.90 40 *e*P **P 13 39 26.5 +1.2**
DPC *e* 13 39 37.9
ARSA Arzberg 86.09 43 *e*PcP **P 13 39 27.0 +0.7**
comp=Z,10nm,1.4s
CONA Conrad Observa 86.16 42 *e*PcP **P 13 39 27.6 +0.9**
comp=Z,10.0nm,0.7s
KRUC Moravsky 86.24 41 *e*P **P 13 39 27.7 +0.8**
VRAC Vranov 86.31 41 ⇑P **P 13 39 28.4 +1.1**
VRAC Vranov 86.31 41 *e*P **P 13 39 28.4 +1.1**
MORC Moravsky Berou 86.80 40 ⇑P **P 13 39 30.7 +1.0**
MORC Moravsky Berou 86.80 40 *e*P **P 13 39 30.9 +1.2**
MORC Moravsky Berou 86.80 40 ⇑P **P 13 39 30.7 +1.0**
ZST Bratislava 86.90 42 *e*P **P 13 39 30.7 +0.5**
ZST pmax pmax
comp=Z,82nm,2.0s
ZST Bratislava 86.90 42 *e*P **P 13 39 30.7 +0.5**
MODS Modra-Piesok 86.97 41 *e*P **P 13 39 30.8 +0.2**
MODS pmax pmax
comp=Z,42nm,1.7s
MODS Modra-Piesok 86.97 41 *e*P **P 13 39 30.8 +0.2**
JAVC Velka Javorina 87.11 41 *e*P **P 13 39 33.7 +2.4**
BILL Bilibino 87.30 340 *ce*P **P 13 39 31.6 -0.1**
BILL *e* 13 42 52.0
BILL *e*PPP PPP 13 44 50.2
BILL pmax pmax
comp=Z,64nm,1.7s
BILL MLR MLR
comp=Z,303nm,19.0s
BILL Bilibino 87.30 340 P **P 13 39 31.7 0.0**
BILL IAmb IAmb 13 39 33.5
comp=Z,52nm,1.3s
FINES FINESS Array B 87.91 27 P **P 13 39 35.0 +0.3**
comp=Z,2.5nm,0.5s,baz=282,slow=2.6,SNR=22
VYHS Vyhne 87.95 41 *e*P **P 13 39 36.6 +1.3**
VYHS pmax pmax
comp=Z,17nm,1.5s
VYHS Vyhne 87.95 41 *e*P **P 13 39 36.6 +1.3**
OJC Ojcow 88.09 39 *e*P **P 13 39 36.8 +0.9**
OJC *e*L L 14 14 08.2
comp=Z,363nm,20.2s
LANS Liptovska Anna 88.17 40 *e*P **P 13 39 38.9 +2.5**
LANS Liptovska Anna 88.17 40 *e*P **P 13 39 38.9 +2.5**
PSZ Piszkesteto 88.78 41 ⇑P **P 13 39 40.9 +1.6**
PSZ Piszkesteto 88.78 41 ⇑P **P 13 39 40.9 +1.6**
CRVS Cervenica-Dubn 89.50 40 *e*P **P 13 39 43.9 +1.3**
CRVS pmax pmax
comp=Z,31nm,1.5s
CRVS Cervenica-Dubn 89.50 40 *e*P **P 13 39 43.9 +1.3**
UZH Uzhgorod 90.11 40 *e*P **P 13 39 42.2 -3.2**
UZH *e* 13 39 44.6
UZH *e* 13 39 50.9
TRPA Tarpa 90.42 41 ⇑P **P 13 39 48.6 +1.8**
BZS Buzias 90.58 43 ⇑P **P 13 39 49.0 +1.4**
BZS Buzias 90.58 43 ⇑P **P 13 39 49.0 +1.4**
DRGR 90.95 42 ⇑P **P 13 39 51.2 +1.7**
DRGR 90.95 42 ⇑P **P 13 39 51.2 +1.7**
VTS Vitosha 92.61 46 ⇑P **P** 13 39 55.9 +1.7
VTS Vitosha 92.61 46 ⇑P **P 13 39 55.9 -1.4**
VTS Vitosha 92.61 46 P **P 13 39 58.1 +0.7**
VTS IAmb IAmb 13 40 14.3
comp=Z,17nm,1.4s
MLR Muntele Rosu 93.50 42 P **P 13 40 01.4 0.0**
MLR pmax pmax
comp=Z,17nm,1.1s
MLR Muntele Rosu 93.50 42 P **P 13 40 01.4 0.0**
MLR IAmb IAmb 13 40 04.6
comp=Z,17nm,1.1s
MLR Muntele Rosu 93.50 42 ⇑P **P** 13 40 01.7 +0.8
AKASG Malin Array Be 93.60 37 P **P 13 40 00.3 -1.2**
comp=Z,0.3nm,0.3s,baz=86,slow=40,SNR=1.3
AKASG Malin Array Be 93.60 37 P **P 13 40 00.3 -1.2**
AKASG pmax pmax
comp=Z,2.0nm,1.2s
KLMR Klimovskoe 93.99 25 *e*P **P 13 40 01.8 -1.3**
KLMR pmax pmax
comp=Z,30nm,1.3s
KLMR Klimovskoe 93.99 25 *e*P **P 13 40 01.8 -1.3**
KLMR AMP 13 40 05.0
comp=Z,30nm,1.3s
TIXI Tiksi 94.37 351 *ce*P **P 13 40 02.5 -2.1**
TIXI pmax pmax
comp=Z,4.0nm,1.1s
OBN Obninsk 95.62 31 *e*P **P 13 40 09.7 -0.9**
OBN *e*PPP PPP 13 46 04.4
OBN pmax pmax
comp=Z,13nm,1.6s
MA2 Magadan 97.58 336 *ce*P **P 13 40 16.1 -3.4**
MA2 pmax pmax
comp=Z,24nm,1.2s
BRVK Borovoye 111.03 18 *i* PKIKP **PKiKP 13 45 19.3 +0.6**
ZALV Zalesovo Beam 113.51 9 PKiKP **PKiKP 13 45 21.9 -1.5**
comp=Z,1.0nm,0.5s,baz=253,slow=4.0,SNR=4.1
MK31 Makanchi Array 119.91 13 PKIKP **PKPdf 13 45 34.1 -1.9**
MK31 Makanchi Array 119.91 13 PKPdf **PKPdf 13 45 34.1 -1.9**
MKAR Makanchi Array 119.91 13 PKP **PKPdf 13 45 34.5 -1.4**
comp=Z,0.8nm,0.5s,baz=310,slow=2.9,SNR=13
MKAR PP **PP 13 46 57.9 -0.7**
comp=Z,0.7nm,0.9s,baz=12,slow=2.9,SNR=3.6
MKAR Makanchi Array 119.91 13 PKIKP **PKPdf 13 45 34.1 -1.9**
MKAR 13 46 57.9
MKAR Makanchi Array 119.91 13 PKPdf **PKPdf 13 45 34.1 -1.9**
SONM Songino Array 120.29 354 PKP **PKPdf 13 45 35.2 -1.6**
comp=Z,0.8nm,0.6s,baz=304,slow=0.5,SNR=2.8
AAK Ala-Archa 121.53 21 *c i* PKIKP **PKPdf 13 45 38.2 -1.2**
AAK pmax pmax
comp=Z,2.0nm,1.0s
WMQ Urumqi 123.81 10 *e*PKP **PKPdf 13 45 42.5 -1.1**
KS19 Wonju Array Si 123.86 332 **PKPdf 13 45 42.5 -1.3**
KSRS Korea Array 123.87 332 PKP **PKPdf 13 45 43.0 -0.7**
comp=Z,3.0nm,0.6s,baz=17,slow=1.8,SNR=25
KSAR Wonju Array Be 123.90 332 PKIKP **PKPdf 13 45 42.4 -1.4**
KSAR Wonju Array Be 123.90 332 PKPdf **PKPdf 13 45 42.4 -1.4**
GTA Gaotai 129.10 359 PKP **PKPdf 13 45 53.6 -0.3**
GTA LR LR
comp=Z,360nm,22.5s
GTA LR LR
comp=Z,240nm,23.8s
GTA LR LR
comp=Z,370nm,23.8s
LZH Lanzhou 132.17 354 *e*PKP **PKPdf 13 45 57.8 -2.1**
LZH LR LR
comp=Z,2μm,15.7s
LZH LR LR
comp=Z,1μm,17.3s
LZH LR LR
comp=Z,2μm,20.1s
STKA Stephens Creek 135.74 236 PKP **PKPdf 13 46 05.7 -0.8**
comp=Z,1.5nm,0.7s,baz=146,slow=9.8,SNR=3.5
CD2 Chengdu 137.31 354 PKP **PKPdf 13 46 08.0 -1.5**
CD2 AMB AMB
comp=Z,110nm,7.9s
CD2 LR LR
comp=Z,2μm,27.0s
CD2 LR LR
comp=Z,1μm,25.0s
CD2 LR LR
comp=Z,2μm,25.0s
GYA Guiyang 141.23 348 *e*PKP **PKPdf 13 46 17.3 +0.5**
GYA PP **PP 13 49 18.0 +0.9**
GYA SKKS 13 56 06.8
GYA SS **SS 14 07 42.6 -1.7**
GYA AMB AMB
comp=Z,60nm,4.4s
GYA LR LR
comp=Z,130nm,23.8s
GYA LR LR
comp=Z,210nm,23.3s
GYA LR LR
comp=Z,220nm,21.6s
RPR Rampur 144.10 32 *e*PKPdf **PKPab 13 46 18.1 -1.2**
AS31 Alice Springs 144.49 246 PKPdf **PKPab 13 46 20.2 -0.6**
ASAR Alice Springs 144.49 246 PKP **PKPab 13 46 20.4 -0.4**
comp=Z,14nm,0.8s,baz=110,slow=3.8,SNR=239
ASAR Alice Springs 144.49 246 PKIKP **PKPab 13 46 20.3 -0.5**
ASAR Alice Springs 144.49 246 PKPdf **PKPab 13 46 20.3 -0.5**
WR0 Warramunga Arr 144.58 252 PKPdf **PKPab 13 46 20.8 -0.5**
WB0 Warramunga Arr 144.75 252 **PKPab 13 46 21.6 -0.3**
WB2 Warramunga Arr 144.76 252 PKPdf **PKPab 13 46 21.4 -0.5**
WRA Warramunga Arr 144.77 252 PKP **PKPab 13 46 21.8 -0.1**
comp=Z,13nm,0.8s,baz=91,slow=3.6,SNR=35
WRA Warramunga Arr 144.77 252 PKIKP **PKPab 13 46 21.2 -0.7**
WRA Warramunga Arr 144.77 252 **PKPab 13 46 21.2 -0.7**
HYBB Hyderabad (bro 144.87 35 *e*PKPab **PKPab 13 46 20.7 -1.6**
HYB Hyderabad 144.87 35 *i* PKP **PKPab 13 46 20.5 -1.8**
NJS Nagarjunasagar 145.99 35 *e*PKPab **PKPdf 13 46 25.0 -0.3**
URV Uravakonda 146.05 39 *e*PKPab **PKPdf 13 46 25.0 -0.4**
SRLM Srisailam 146.12 36 *e*PKPbc **PKPdf 13 46 24.6 -1.0**
PVM Polavaram 146.64 31 *e*PKPdf **PKPdf 13 46 24.9 -1.4**
SLVN Son La 146.72 351 **PKPdf 13 46 26.1 -0.3**
FORT Forrest 146.85 231 PKPbc **PKPdf 13 46 27.2 +0.9**
ADKI Addanki 146.93 34 *e*PKPbc **PKPdf 13 46 27.5 +0.7**
QIZ Qiongzhong 147.49 340 **PKPbc 13 46 29.9 -0.3**
KCP Kidapawan 147.77 304 ⇓*i*P **PKiKP 13 46 33.1 -0.1**
MTN Manton Dam 148.25 265 **PKPbc 13 46 32.1 -0.3**
CHTO Chiang Mai 149.63 359 PKHKP PKPpre 13 46 33.8
CHTO Chiang Mai 149.63 359 **PKPbc 13 46 33.8 -2.0**
CM31 Chiang Mai Arr 149.99 359 **PKPbc 13 46 35.3 -1.4**
CMAR Chiang Mai Arr 149.99 359 PKP **PKPdf 13 46 31.4 -0.4**
comp=Z,4.5nm,0.6s,baz=327,slow=3.2,SNR=28
CMAR PKPbc **PKPbc 13 46 35.8 -0.9**
comp=Z,5.1nm,0.6s,baz=322,slow=3.5,SNR=19
BM03 Burnt Mountain 6.79 84 **Pn 13 33 16.3 +0.2**
BMAR Burnt Mountain 6.80 84 Pn **Pn 13 33 16.1 -0.1**
IL31 6.87 108 **Pn 13 33 17.4 +0.3**
ILAR Eielson Array 6.87 108 Pn **Pn 13 33 16.3 -0.9**
3.8nm,0.3s,baz=303,slow=14,SNR=176
ILAR Sn **Sn 13 34 32.9 -2.5**
0.3nm,0.3s,baz=302,slow=25,SNR=5.6
ILAR Eielson Array 6.87 108 **Pn 13 33 17.4 +0.2**
PS08 TAPS Pump Stn8 7.02 109 **Pn 13 33 19.4 +0.2**
RND Reindeer 7.02 121 Pn **Pn 13 33 18.7 -0.6**
PRP Porcupine Dome 7.02 100 Pn **Pn 13 33 18.1 -1.2**
HDA Harding Lake 7.05 110 **Pn 13 33 19.4 -0.2**
SVW2 Sparrevohn 7.19 153 **Pn 13 33 21.9 +0.4**
DHY Denali Highway 7.74 119 **Pn 13 33 30.1 +0.9**
RIDG Independent Ri 8.19 110 Pn **Pn 13 33 35.6 +0.3**
GHO Glory Hole Cre 8.21 129 Pn **Pn 13 33 35.1 -0.5**
SML Sawmill 8.36 128 Pn **Pn 13 33 37.6 0.0**
SCRK Sand Creek 8.37 107 Pn **Pn 13 33 37.5 -0.2**
DOT Dot Lake 8.53 109 Pn **Pn 13 33 39.9 0.0**
EGAK Eagle 9.01 99 Pn **Pn 13 33 46.3 -0.1**
BCAR Beaver Creek A 9.70 108 Pn **Pn 13 33 55.1 -0.8**
INK Inuvik 10.79 73 Pn **Pn 13 34 09.7 -1.0**
baz=286,slow=12
INK Sn Sn 13 36 03.2 -7.9
0.1nm,0.3s,baz=340,slow=6.1,SNR=2.6
YKA Yellowknife Ar 20.32 82 P **P 13 36 10.0 -2.1**
0.3nm,0.5s,baz=303,slow=11,SNR=4.7
TXAR Lajitas Array 51.39 107 P **P 13 40 42.4 +1.2**
0.3nm,0.7s,baz=308,slow=3.1,SNR=2.4

*IDC **16** 13:31:34.2±4.5, 68.°10N×162.°67W, h0km, mb3.1/2, mb1 3.9/4, mb1mx3.4/49, mbtmp3.5/4, ML4.2/1, Error ellipse: s-maj=60.1km s-min=53.0km az=175.0*
*AEIC **16** 13:31:37.0±1.8, 67.°65N±0.°08×162.°3W±0.°1, h18km±6km, ML3.0/30, Error ellipse: s-maj=11.9km s-min=5.0km az=156.0*
ISC 16 13:31:36.5±1.0, **67.°65N**±0.°06×**162.°33W**±0.°06, **h10**km, **n39**, σ0**.°90**/45, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**0.47**	**332**		**Pb**	**13 31 46.4**	**-0.4**
RDOG					**Sb**	13 31 53.5	-0.2
ANM	**Nome**	**3.33**	**203**		**Pn**	**13 32 29.0**	**+0.4**
ANM					**Sn**	13 33 08.6	+0.4
IM03		**3.78**	**112**		**Pn**	**13 32 34.4**	**-0.3**
IM03					**Sn**	13 33 19.8	+0.6
IMAR	**Indian Mountai**	**3.78**	**112**		**Pn**	**13 32 34.1**	**-0.6**
PS05	**TAPS Pump Stn5**	**4.61**	**95**		**Pn**	**13 32 46.1**	**0.0**
PS05					**Sn**	13 33 42.4	+2.8
TOLK	**Toolik Lake Re**	**4.87**	**72**		**Pn**	**13 32 50.5**	**+0.8**
TOLK					**Sn**	13 33 47.1	+1.0
PS04	**TAPS Pump Stn4**	**4.93**	**75**		**Pn**	**13 32 51.9**	**+1.3**
TTA	**Tatalina**	**5.42**	**148**		**Pn**	**13 32 58.0**	**+0.6**
TT01	**Tatalina**	**5.44**	**148**		**Pn**	**13 32 57.9**	**+0.3**
BPAW	**Bear Paw Mtn.**	**5.85**	**122**		**Pn**	**13 33 03.5**	**+0.3**
NEA	**Nenana**	**6.20**	**114**		**Pn**	**13 33 08.1**	**+0.2**
MDM	**Murphy Dome**	**6.29**	**109**		**Pn**	**13 33 10.0**	**+0.9**
PPLA	**Purkeypile**	**6.38**	**134**		**Pn**	**13 33 11.3**	**+0.7**
TCOL	**CIGO, UAF Yank**	**6.47**	**109**		**Pn**	**13 33 12.5**	**+1.0**
COLA	**College**	**6.47**	**109**		**Pn**	**13 33 12.4**	**+0.8**
TRF	**Thorofare Moun**	**6.53**	**124**	Pn	**Pn**	**13 33 12.8**	**+0.2**
WRH	**Wood River Hil**	**6.61**	**112**		**Pn**	**13 33 13.5**	**0.0**
CCB	**Clear Creek Bu**	**6.61**	**110**		**Pn**	**13 33 13.8**	**+0.3**

ATH 16 13:37:32.9, 38.°32N×22.°05E, h8km±4km, **ML0.8/3, Error ellipse: s-maj=4.9km s-min=1.1km az=69.0, Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.05**	**21**	P	Pg	13 37 34.7	0.0
TRIZ				S	Sg	13 37 35.7	-0.3
SERG	**Sergoula**	**0.10**	**3**	P	Pg	13 37 35.3	0.0
SERG				S	Sg	13 37 36.9	-0.1
SERG				AML	AML	13 37 37.8	
	comp=N,160μm,0.1s						
SERG	comp=E,130μm,0.1s			AML	AML	13 37 38.2	
KALE	**Kalithea**	**0.10**	**44**	P	Pg	13 37 35.6	+0.2
KALE				S	Sg	13 37 37.2	0.0
KALE				AML	AML	13 37 38.0	
	comp=E,115μm,0.2s						
KALE				AML	AML	13 37 38.3	
	comp=N,196μm,0.2s						
KLV	**Kalavryta, Ach**	**0.28**	**164**	P	Pg	13 37 38.2	-0.4
KLV				S	Sg	13 37 43.3	+1.0
ANX	**Ano Chora**	**0.29**	**340**	P	Pg	13 37 38.6	-0.2
ANX				S	Sg	13 37 43.2	+0.5
ANX				AML	AML	13 37 44.1	
	comp=E,88μm,0.4s						
ANX				AML	AML	13 37 44.1	
	comp=N,90μm,0.2s						
DRO	**Drossia**	**0.45**	**216**	P	Pg	13 37 41.8	+0.1

PRU 16 13:37:56.8±0.0, **50.°27N×18.°82E, h0**km, **1C-1D, Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.63**	**94**	*e*Pg	Pg	13 38 08.5	-0.3
OJC				*e*Sg	Sg	13 38 16.2	-0.8
MORC	**Moravsky Berou**	**0.96**	**240**	*e*PG	Pg	13 38 14.5	-0.7
MORC				*e*SG	Sg	13 38 27.6	0.0
LANS	**Liptovska Anna**	**1.20**	**159**	*e*PG	Pg	13 38 19.1	-0.6
LANS				*e*SG	Sg	13 38 35.3	+0.1
LANS				*e*LG	Lg	13 38 39.0	
DPC	**Dobruska-Polom**	**1.60**	**274**	*e*PG	Pn	13 38 26.1	-0.3
DPC				*e*SG	Sb	13 38 48.1	0.0
	comp=Z,4.9nm,0.7s						
OSTC	**Ostas**	**1.69**	**281**	*e*SG	Sg	13 38 51.2	+0.1
KSP	**Ksiaz**	**1.71**	**291**	*e*Pg	Pb	13 38 29.2	+0.1
KSP				*e*Sg	Sg	13 38 52.3	+0.6
VRAC	**Vranov**	**1.73**	**237**	*e*SG	Sn	13 38 50.1	-0.9
VYHS	**Vyhne**	**1.78**	**180**	*e*PN	Pn	13 38 28.2	-0.6
VYHS				*e*SN	Sn	13 38 51.9	-0.2
CHVC	**Chvalec**	**1.80**	**281**	*e*PG	Pn	13 38 28.9	-0.2
CHVC				*e*SG	Sg	13 38 54.5	0.0
	comp=Z,5.6nm,0.8s						
KRUC	**Moravsky**	**1.99**	**233**	*e*SG	Sn	13 38 57.8	+0.6
KHC	**Kasperske Hory**	**3.59**	**253**	*e*SG	Sg	13 39 49.0	-3.0
VRI	**Vrincioaia**	**6.89**	**127**	⇑P	Pn	13 39 42.7	+3.7
CFR	**Carcaliu**	**8.08**	**125**	⇓P	Pn	13 39 55.0	-0.4

IDC 16 13:46:10.0±4.8, **16.°86S×173.°11W, h0**km, **mb3.7/3, mb1 4.0/3, mb1mx3.6/28, mbtmp3.7/3, Error ellipse: s-maj=314.8km s-min=33.4km az=150.0, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**40.35**	**330**	T	T	14 35 56.6	
H11S3	**WAKE ISLAND Hy**	**40.36**	**330**	T	T	14 35 45.9	
H11S1	**WAKE ISLAND Hy**	**40.37**	**330**	T	T	14 35 55.3	
H11N3	**WAKE ISLAND Hy**	**41.31**	**331**	T	T	14 37 21.3	
	baz=156						
H11N1	**WAKE ISLAND Hy**	**41.31**	**331**	T	T	14 37 22.6	
	baz=156,SNR=2.5						
H11N2	**WAKE ISLAND Hy**	**41.33**	**331**	T	T	14 37 16.4	
	baz=156						
WRA	**Warramunga Arr**	**49.80**	**258**	P	P	13 55 04.5	-0.4
	0.9nm,1.0s,baz=95,slow=6.3,SNR=2.4						
ASAR	**Alice Springs**	**49.94**	**253**	P	P	13 55 06.2	+0.1
	1.1nm,0.6s,baz=90,slow=7.9,SNR=23						
NVAR	**Mina Array Bea**	**75.22**	**42**	P	P	13 57 55.1	+0.2
	0.4nm,0.7s,baz=236,slow=9.7,SNR=1.6						
H03S2	**Juan Fernandez**	**84.17**	**123**	T	T	15 32 30.2	
	baz=251,slow=75,SNR=4.1						
H03S1	**Juan Fernandez**	**84.19**	**123**	T	T	15 32 29.1	
	baz=251,slow=75,SNR=4.6						
H03S3	**Juan Fernandez**	**84.19**	**123**	T	T	15 32 27.8	
	baz=251,slow=75,SNR=4.2						
BRTR	**Keskin Array B**	**147.45**	**320**	PKPbc	PKPbc	14 05 55.4	-1.0
	0.8nm,0.8s,baz=96,slow=2.9,SNR=4.6						

*TAP **16** 14:00:20.6, 24.°06N×121.°65E, h42km, ML2.5, B*
*JMA **16** 14:00:20.4, 24.°03N×121.°62E, h44km±1km*
ISC 16 14:00:21.5±1.0, **24.°06N**±0.°02×**121.°65E**±0.°02, **h33**km±2km, **n88**, σ0**.°57**/162, **4C-1D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWD	**Chiawan**	**0.06**	**295**	*i* P	**Pb**	**14 00 27.8**	**+0.7**
	baz=296						
TWD				*i* S	**Sb**	14 00 32.8	+1.9
	baz=296						
HWA	**Hwalien**	**0.09**	**210**	*e*S	**Sb**	14 00 32.3	+1.2
	baz=199						
NACB	**Ninganchiao**	**0.13**	**335**	⇑P	**Pb**	**14 00 27.9**	**+0.3**
	baz=336						
NACB				S	**Sb**	**14 00 32.9**	**+1.3**
	baz=336						
ETLH	**Xiulin Townshi**	**0.22**	**314**	P	**Pn**	**14 00 28.6**	**+0.6**
	baz=313						
ETLH				S	**Sb**	**14 00 34.2**	**+1.0**
	baz=313						
ESL	**Shilin**	**0.31**	**220**	*i* P	**Pb**	**14 00 28.7**	**-0.8**
	baz=217						
ESL				*i* S	**Sn**	**14 00 34.9**	**+0.1**
	baz=217						
WHF	**Hehuan Shan**	**0.37**	**284**	*i* P	**Pb**	**14 00 30.4**	**-0.1**
	baz=283						
WHF				*i* S	**Sn**	**14 00 37.3**	**+0.5**
	baz=283						
ENA	**Nanau**	**0.38**	**12**	*i* P	**Pb**	**14 00 30.2**	**-0.1**
	baz=14						
ENA				S	**Sn**	**14 00 37.7**	**+1.0**
	baz=14						
EGFH	**Guangfu**	**0.44**	**208**	*e*P	**Pb**	**14 00 31.2**	**0.0**
	baz=207						
CHGB	**Renai**	**0.44**	**271**	P	**Pb**	**14 00 31.2**	**-0.2**
	baz=269						
CHGB				S	**Sb**	**14 00 38.5**	**+0.4**
	baz=269						
NNSB	**Datong**	**0.45**	**326**	P	**Pb**	**14 00 31.1**	**-0.3**
	baz=326						
NNSB				S	**Sb**	**14 00 38.2**	**0.0**
	baz=326						
NNSH	**Datong**	**0.45**	**326**	*e*P	**Pb**	**14 00 31.0**	**-0.4**
	baz=326						

NNSH eS Sb 14 00 38.3 0.0
baz=326
OWD Renai 0.45 257 S Sb 14 00 38.9 +0.6
baz=256
NNS Nan Shan 0.46 326 iP Pb 14 00 31.2 -0.5
baz=327
NNS iS Sb 14 00 39.1 +0.5
baz=327
TWT Tachien 0.48 294 P Pb 14 00 32.7 +0.7
baz=292
TWT S Sb 14 00 39.3 +0.2
baz=292
TDCB Techi 0.49 294 P Pb 14 00 32.0 -0.1
baz=292
TDCB S Sb 14 00 39.1 -0.4
baz=292
VWDT VWDT 0.56 237 P Pn 14 00 32.6 -0.4
baz=236
VWDT S Sb 14 00 40.5 -0.4
baz=236
NDT Datong Townshi 0.56 347 iP Pn 14 00 32.5 -0.6
baz=347
NDT iS Sb 14 00 40.9 -0.1
baz=347
TWC Suao 0.58 18 iP Pn 14 00 33.1 -0.3
baz=19
TWC iS Sb 14 00 42.1 +0.6
baz=19
ENTT Nioudou 0.59 352⇑iP Pn 14 00 32.8 -0.7
baz=353
ENTT iS Sn 14 00 41.2 -0.7
baz=353
HGSD Ruisui 0.60 201 P Pn 14 00 33.5 -0.2
baz=199
HGSD S Sb 14 00 43.0 +0.9
baz=199
EHY Hungye 0.63 209 P Pn 14 00 33.6 -0.4
baz=207
EHY S Sn 14 00 42.7 -0.2
baz=207
YHNB Yeheng 0.66 337 ⇑P Pn 14 00 34.0 -0.7
baz=337
YHNB S Sn 14 00 42.8 -1.2
baz=337
TWE Neicheng 0.66 1⇓iP Pn 14 00 33.8 -0.8
baz=2.0
TWE S Sn 14 00 42.9 -0.9
baz=2.0
DPDB Guoxing 0.67 268 P Pn 14 00 33.6 -1.1
baz=267
DPDB S Sn 14 00 43.8 -0.2
baz=267
NSK Sanguang 0.67 336⇑iP Pn 14 00 34.1 -0.7
baz=337
NSK iS Sn 14 00 43.1 -1.2
baz=337
WHP Taichung City 0.68 289 P Pn 14 00 34.6 -0.3
baz=288
WHP S Sn 14 00 44.5 0.0
baz=288
SSLB Suanglung 0.69 248 P Pn 14 00 34.6 -0.4
baz=246
SSLB S Sn 14 00 44.5 -0.2
baz=246
SMLT Sun Moon Lake 0.71 256 iP Pn 14 00 35.0 -0.3
baz=255
SMLT S Sn 14 00 45.0 -0.1
baz=255
ILA Ilan 0.71 7 P Pn 14 00 34.3 -0.9
baz=8.0
ILA S Sn 14 00 45.4 +0.4
baz=8.0
NWLT Wulai 0.73 349 eP Pn 14 00 34.7 -0.9
baz=349
NWLT eS Sn 14 00 44.2 -1.4
baz=349
YULB Yu-li 0.74 206 P Pn 14 00 33.9 -1.7
baz=205
YULB S Sn 14 00 44.8 -0.9
baz=205
TYC Yuchr 0.74 258 P Pn 14 00 35.6 -0.1
baz=257
TYC S Sn 14 00 46.3 +0.4
baz=257
TWF1 Yuli 0.77 205 P Pn 14 00 34.3 -1.8
baz=203
TWF1 S Sn 14 00 46.2 -0.4
baz=203
NTC Toucheng 0.81 11 eP Pn 14 00 35.9 -0.7
baz=11
NTC eS Sn 14 00 47.1 -0.4
baz=11
WHYT Xinyi Township 0.82 244 P Pn 14 00 36.7 0.0
baz=243
WHYT eS Sn 14 00 47.8 +0.1
baz=243
EGS 0.83 18 P Pn 14 00 36.6 -0.2
baz=19
EGS S Sn 14 00 47.9 0.0
baz=19
LIOB Emei 0.83 315 iP Pn 14 00 36.9 0.0
baz=315
LIOB S Sn 14 00 48.7 +0.8
baz=315
NSTT Nanjuang 0.83 314 iP Pn 14 00 36.7 -0.1
baz=314
NSTT S Sn 14 00 47.9 0.0
baz=314
TWQ1 Liyutan 0.86 290 P Pn 14 00 36.5 -0.7
baz=289
TWQ1 S Sn 14 00 48.7 +0.1
baz=289
WLTB Daxi 0.87 335 eP Pn 14 00 37.5 0.0
baz=335
WLTB eS Sn 14 00 49.3 +0.3
baz=335
WJS Zhushan 0.88 255 eP Pn 14 00 37.2 -0.4
baz=254
WJS eS Sn 14 00 49.4 +0.2
baz=254
NSY Sanyi 0.89 294 eP Pn 14 00 36.8 -1.0
baz=293
NSY eS Sn 14 00 49.0 -0.5
baz=293
TCU Taichung 0.90 276 eP Pn 14 00 37.5 -0.3
baz=275
TCU eS Sn 14 00 49.6 -0.1
baz=275
WNT Mingjian 0.91 259 iP Pn 14 00 38.2 +0.3
baz=258
WNT S Sn 14 00 49.8 0.0
baz=258
NHDH Xindian Distri 0.91 353 P Pn 14 00 38.2 +0.2
baz=352
NHDH eS Sn 14 00 49.8 -0.2
baz=352
FULB Fuli 0.92 201 P Pn 14 00 37.9 -0.2
baz=200
FULB eS Sn 14 00 50.4 +0.3
baz=200
NMLH Miaoli 0.92 302 eS Sn 14 00 50.1 -0.2
baz=301
TWA Mucha 0.92 356 P Pn 14 00 36.9 -1.3
baz=356
TWA eS Sn 14 00 50.1 -0.2
baz=356
TIPB Shuangxi 0.93 10 P Pn 14 00 37.6 -0.6
baz=10.0
TIPB S Sn 14 00 50.7 +0.3
baz=10.0
TATO Taipei 0.93 351 eP Pn 14 00 38.2 0.0
baz=351
TATO eS Sn 14 00 50.2 -0.2
baz=351
ALS Alishan 0.95 235 P Pn 14 00 38.6 -0.1
baz=234
ALS S Sn 14 00 50.9 -0.4
baz=234
PTSB Yuanli 0.95 294 eS Sn 14 00 51.1 +0.1
baz=294
HSN Hsinchu 0.97 320 eP Pn 14 00 38.4 -0.4
baz=322
HSN eS Sn 14 00 51.2 -0.2
baz=322
CHKT Chengkung 0.99 196 eS Sn 14 00 51.6 -0.3
baz=194
TAP Taipei 0.99 352 eP Pn 14 00 38.9 -0.2
baz=352

TAP eS Sn 14 00 52.0 +0.1
baz=352
TWB1 Santiao Chiao 1.00 18 eP Pn 14 00 39.2 0.0
baz=18
TWB1 eS Sn 14 00 52.5 +0.5
baz=18
CHN5 Tsauling 1.00 243 P Pn 14 00 39.1 -0.2
baz=242
CHN5 eS Sn 14 00 53.0 +0.7
baz=242
NCUH Zhongli 1.00 335 eS Sn 14 00 52.5 +0.2
baz=334
NCU National Centr 1.00 335 eP Pn 14 00 39.2 -0.1
baz=335
NCU eS Sn 14 00 52.1 -0.2
baz=335
NWF Wu-fen Shan 1.02 6 eS Sn 14 00 52.3 -0.4
baz=6.0
WFSB Wu-fen Shan 1.02 6 eS Sn 14 00 52.6 0.0
baz=6.0
ELDTW Lidau 1.04 214 P Pn 14 00 40.0 +0.1
baz=213
TWS1 Kuangyinshan 1.06 348 P Pn 14 00 40.1 0.0
baz=348
TWS1 eS Sn 14 00 53.2 -0.5
baz=348
WDLH Douliu 1.08 251 eP Pn 14 00 40.8 +0.4
baz=249
WDLH eS Sn 14 00 53.7 -0.6
baz=249
YM04 YM04 1.10 354 eP Pn 14 00 39.9 -0.7
baz=354
YM04 eS Sn 14 00 54.7 0.0
baz=354
YM03 YM03 1.12 355 eP Pn 14 00 41.0 0.0
baz=354
YM03 eS Sn 14 00 55.0 -0.4
baz=354
RLNB Erlin 1.20 262 P Pn 14 00 41.7 -0.2
baz=261
RLNB eS Sn 14 00 57.0 0.0
baz=261
CHN4 Tsaushan 1.20 234 P Pn 14 00 42.1 +0.1
baz=233
CHN4 eS Sn 14 00 56.9 -0.2
baz=233
TPUB Ta-pu 1.20 232 P Pn 14 00 42.3 +0.3
baz=230
TPUB eS Sn 14 00 57.0 -0.2
baz=230
STYT Tauyuan 1.21 223 P Pn 14 00 42.4 +0.2
baz=222
STYT eS Sn 14 00 57.0 -0.5
baz=222
TWY Chenhua 1.22 358 eP Pn 14 00 42.1 -0.1
baz=358
TWY eS Sn 14 00 57.6 +0.1
baz=358
JYNG Yonagunijimaku 1.24 71 P Pn 14 00 42.4 -0.1
JYNG eS Sn 14 00 58.6 +0.5
WTP Ta-pu 1.25 230 eP Pn 14 00 42.7 0.0
baz=229
WTP eS Sn 14 00 58.2 -0.2
baz=229
CHY Chiayi 1.26 244 eP Pn 14 00 42.2 -0.5
baz=243
CHY eS Sn 14 00 58.0 -0.5
baz=243
WTCT Ta-ch'eng 1.27 262 eP Pn 14 00 42.5 -0.4
baz=260
YOJ Yonaguni jima 1.30 72 eP Pn 14 00 43.2 -0.1
baz=71
YOJ eS Sn 14 01 00.3 +0.7
baz=71
YOJ Yonaguni jima 1.30 72 P Pn 14 00 43.0 -0.4
YOJ S Sn 14 01 00.3 +0.7
TWK Hsinying 1.33 234 eP Pn 14 00 43.9 +0.1
baz=232
TWK eS Sn 14 01 00.5 +0.2
baz=232
TWG Pinlang 1.34 204 eP Pn 14 00 43.7 -0.2
baz=202
TWG eS Sn 14 01 00.4 -0.2
baz=202
TWGBT Beinan 1.34 203 eP Pn 14 00 43.3 -0.6
baz=202
CHN1 Nanshi 1.35 230 eP Pn 14 00 44.5 +0.4
baz=229
CHN1 eS Sn 14 01 01.1 +0.2
baz=229
SGST Jiashian 1.38 226 eP Pn 14 00 44.1 -0.4
baz=224
SGST S Sn 14 01 01.5 0.0
baz=224
SLGT Liugui 1.41 221 eP Pn 14 00 45.6 +0.8
baz=220
SLGT eS Sn 14 01 03.1 +1.0
baz=220
MASBT Mashibuluo 1.72 213 eP Pn 14 00 48.8 -0.3
baz=212
IRIF Iriomote-Funau 1.92 81 P Pn 14 00 51.2 -0.6
IRIF eS Sn 14 01 14.8 0.0
JKRS Kuro-shima 2.16 85 P Pn 14 00 53.3 -1.8
JKRS S Sn 14 01 21.3 +0.5
JIJ Ishigaki jima 2.29 82 P Pn 14 00 56.6 -0.4
JIJ S Sn 14 01 23.6 -0.5
JISG Ishigakijimahi 2.48 77 P Pn 14 00 59.3 -0.3

DJA **16** *14:03:16.7±0.3, 1°N×4°×9°3E±°, h13km, M4.9/23, mb4.9/23, mB5.5/7, MLv5.0/11, Mw(mB)4.9/7*
BJI **16** *14:03:16.0±0.0, 0°.80N×92°.60E, h10km, mB4.8/8, mb4.6/10, Ms4.4/3, Ms7 4.2/3*
IDC **16** *14:03:16.6±0.7, 0°.84N×92°.59E, h0km, mb4.1/16, mb1 4.2/18, mb1mx4.0/54, mbtmp4.1/18, ML3.6/2, Error ellipse: s-maj=20.9km s-min=17.8km az=44.0*
NEIC **16** *14:03:18.9±1.0, 0°.9N±0°.1×92°.6E±0°.1, h15km±4km, mb4.5/14, Error ellipse: s-maj=15.4km s-min=13.8km az=217.0*
ISC 16 14:03:18.3±0.6, 0°.84N±0°.08×92°.67E±0°.07, h10km, n61, σ0§65/60, mb4.4/23, Off west coast of northern Sumatera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
GSI Gunungsitoli 4.93 85 P Pn 14 04 32.7 +0.3
3.1nm13μm350nm,0.7s
GSI Gunungsitoli 4.93 85 Pn Pn 14 04 32.8 +0.4
MLSI Meulaboh, Aceh 5.05 48 P Pn 14 04 33.6 -0.5
1.2nm5μm126nm,0.8s
MLSI S Sn 14 05 31.3 -1.3
1.2nm5μm126nm,0.8s
TPTI 5.11 62 P Pn 14 04 34.7 -0.2
0.2nm899nm24nm,0.7s
KCSI Kotacane, Aceh 5.75 62 P Pn 14 04 43.6 -0.2
0.7nm2μm86nm,0.6s
KCSI S Sn 14 05 48.8 -1.2
0.7nm2μm86nm,0.6s
LHMI Lhok Sumawe 6.11 44 P Pn 14 04 48.1 -0.5
1.2nm277nm,1.1s
LHMI Lhok Sumawe 6.11 44 Pn Pn 14 04 49.8 +1.1
RPSI Rantau Prapat 6.52 73 Pn Pn 14 04 55.0 +0.7
RPSI Rantau Prapat 6.52 73 Pn 14 04 55.2 +0.9
RPSI Sn 14 06 00.2 -8.6
PSI Prapat 6.55 73 Pn Pn 14 04 55.2 +0.4
1.0nm,0.3s,baz=178,slow=0.5,SNR=4.3
PSI Sn Sn 14 06 00.2 -10
4.3nm,0.3s,baz=180,slow=19,SNR=8.1
SISI Saibi 6.77 108 P Pn 14 04 58.1 +0.4
0.3nm57nm,0.7s
MNSI Mandailing Nat 6.91 90 P Pn 14 05 00.0 +0.3
PDSI Padang 7.98 103 P Pn 14 05 14.5 0.0
PPSI Pulau Pagai 8.16 116 P Pn 14 05 16.9 0.0
209nm,0.6s
SDSI Sungai Dareh 8.93 101 P Pn 14 05 27.5 0.0
55nm,0.6s
IPM Ipoh 9.10 66 Pn Pn 14 05 29.6 -0.2
KULM Kulim 9.11 61 Pn Pn 14 05 29.6 -0.4
KRJI Kerinci 9.26 108 P Pn 14 05 32.1 +0.1
11μm519nm,1.0s
MNAI Manna 11.50 117 P Pn 14 06 02.5 -0.1
265nm,1.3s
MNAI Manna 11.50 117 Pn Pn 14 06 02.6 -0.1
LHSI Lahat 11.79 113 P Pn 14 06 06.9 +0.2
30nm,0.9s

LWLI Liwa 12.78 117 P Pn 14 06 20.0 -0.2
62nm,1.1s
KASI Kota Agung 13.39 118 P Pn 14 06 28.5 -0.1
29nm,1.6s
CMAR Chiang Mai Arr 18.56 19 P P 14 07 35.8 +0.3
0.1nm,0.3s,baz=217,slow=13,SNR=9.6
SBUM Sibu 19.61 85 P P 14 07 47.3 +0.3
LSA Lhasa 28.74 357 P P 14 09 16.2 -0.4
LSA IAmb IAmb 14 09 19.2
comp=Z,10.0nm,0.5s
XAN Xi'an 36.37 23 P P 14 10 23.1 +0.3
XAN pP pwP 14 10 33.9 +3.5
XAN pmax pmax
comp=Z,9.0nm,0.7s
LZH Lanzhou 36.58 15 eP P 14 10 25.0 +0.3
LZH pP pP 14 10 29.6 +3.2
LZH sP sP 14 10 32.3 +5.2
LZH ePP PnPn 14 11 50.5 +2.8
LZH pmax pmax
comp=Z,18nm,1.1s
LZH pmax pmax
comp=Z,52nm,5.2s
LZH LR LR
comp=Z,220nm,12.8s
LZH LR LR
comp=Z,220nm,13.2s
LZH LR LR
comp=Z,350nm,16.3s
FITZ Fitzroy Crossi 37.49 122 P P 14 10 32.8 +0.3
comp=Z,6.5nm,1.1s,baz=297,slow=11,SNR=2.5
FITZ Fitzroy Crossi 37.49 122 IAmb IAmb 14 10 58.5
comp=Z,34nm,1.6s
WMQ Urumqi 43.03 355 eP P 14 11 19.5 +1.3
ARSB Arslanbob 44.06 339 P P 14 11 27.1 +0.5
ARSB IAmb IAmb 14 11 28.0
comp=Z,6.8nm,0.8s
BOOM Boomskoye usch 44.11 342 P P 14 11 27.2 +0.2
BOOM IAmb IAmb 14 11 27.9
comp=Z,3.8nm,0.7s
WRA Warramunga Arr 45.75 119 P P 14 11 40.4 +0.1
comp=Z,1.7nm,0.7s,baz=299,slow=8.6,SNR=2.7
KKAR Karatay Array 46.52 338 P P 14 11 45.7 -0.3
MK31 Makanchi Array 46.66 350 P P 14 11 46.4 -0.6
MK31 IAmb IAmb 14 11 47.9
comp=Z,2.7nm,0.8s
MKAR Makanchi Array 46.66 350 P P 14 11 46.4 -0.7
comp=Z,2.7nm,0.7s,baz=164,slow=8.8,SNR=24
ASAR Alice Springs 46.87 124 P P 14 11 49.3 +0.2
comp=Z,0.2nm,0.7s,baz=301,slow=7.1,SNR=5.3
SONM Songino Array 48.31 12 P P 14 12 00.3 +0.4
comp=Z,2.1nm,0.6s,baz=192,slow=9.1,SNR=10.0
SONM Songino Array 48.31 12 P P 14 12 00.4 +0.5
KS19 Wonju Array Si 48.80 38 P P 14 12 03.9 +0.1
KSRS Korea Array 48.81 38 P P 14 12 04.5 +0.7
comp=Z,0.5nm,0.7s,baz=228,slow=8.2,SNR=2.9
KURK Kurchatov 51.11 349 P P 14 12 20.1 -1.0
ZAA0 Zalesovo Array 53.33 354 P P 14 12 36.9 -0.7
ZAA0 IAmb IAmb 14 12 37.6
comp=Z,2.1nm,0.6s
ZALV Zalesovo Beam 53.33 354 P P 14 12 37.2 -0.3
comp=Z,2.2nm,0.4s,baz=190,slow=7.3,SNR=11
ZALV Zalesovo Beam 53.33 354 P P 14 12 37.0 -0.6
ABKAR Akbulak array 55.80 335 P P 14 12 54.6 -0.9
BRTR Keskin Array B 66.04 314 P P 14 14 05.5 -0.1
comp=Z,0.8nm,0.6s,baz=140,slow=7.8,SNR=5.7
MATP Matopo 66.20 247 P P 14 14 07.0 0.0
comp=Z,2.0nm,0.6s,baz=101,slow=5.9,SNR=5.6
BOSA Boshof 70.69 239 P P 14 14 34.5 -0.4
comp=Z,1.1nm,0.6s,baz=63,slow=9.0,SNR=1.4
AKASG Malin Array Be 72.82 323 P P 14 14 46.2 -0.9
comp=Z,0.5nm,0.4s,baz=90,slow=4.6,SNR=2.4
AKASG Malin Array Be 72.82 323 IAmb IAmb 14 14 52.2
comp=Z,1.5nm,1.3s
TIXI Tiksi 74.38 11 P P 14 14 55.2 -0.7
comp=Z,2.6nm,0.5s,baz=248,slow=4.3,SNR=11
TIXI Tiksi 74.38 11 P P 14 14 54.9 -1.0
TIXI IAmb IAmb 14 14 55.6
comp=Z,3.5nm,0.7s
FINES FINESS Array B 78.25 333 P P 14 15 17.4 -0.7
comp=Z,3.9nm,0.9s,baz=116,slow=6.6,SNR=4.3
FINES FINESS Array B 78.25 333 P P 14 15 17.8 -0.2
ARCES ARCESS Array B 81.37 341 P P 14 15 34.7 -0.2
comp=Z,0.7nm,0.6s,baz=105,slow=6.6,SNR=4.4
GERES GERESS Array B 82.11 319 P P 14 15 39.3 -0.1
comp=Z,0.4nm,0.4s,baz=104,slow=5.6,SNR=8.9
GERES GERESS Array B 82.11 319 P P 14 15 39.0 -0.3
DAVOX Davos/Dischmat 84.45 317 P P 14 15 51.4 -0.2
comp=Z,2.1nm,0.5s,baz=25,slow=4.0,SNR=2.2
TXAR Lajitas Array 146.18 26 PKPbc PKPdf 14 22 59.2 +0.5
comp=Z,0.4nm,0.7s,baz=294,slow=1.2,SNR=5.0

REY **16** *14:12:58.7, 70°.09N×13°.67W, h10km*
IDC **16** *14:12:59.3±0.4, 70°.32N×15°.25W, h0km, mb4.2/36, mb1 4.3/42, mb1mx4.3/59, mbtmp4.3/42, ML3.5/6, MS4.0/6, Ms1 4.1/6, ms1mx3.6/55, Error ellipse: s-maj=12.0km s-min=8.7km az=21.0*
GCMT **16** *14:13:00.1±0.4, 70°.42N±0°.05×15°.0W±0°.1, h19km±1km, MW4.8/80, Moment Tensor Solution. s11,c13; s80,c97; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.17±.23; Mθθ0.21±.15; Mφφ1.96±.15; Mrθ-0.32±.47; Mrφ0.69±.09; Mθφ-0.96±.32; Best double couple: Mo2.40800×10^16 NP1:φs199.00000°, δ33.00000°, λ-90.00000°. NP2: φs19.00000°, δ57.00000°, λ-90.00000°. Principal axes: T 2.4210, Plg12.0000°, Azm109.0000°; N -0.0250, Plg0.0000°, Azm19.0000°; P -2.3940, Plg78.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC **16** *14:13:01.1±1.8, 70°.39N±0°.07×15°.4W±0°.2, h10km±1km, mb4.7/88 Error ellipse: s-maj=11.4km s-min=9.8km az=185.0*
NAO **16** *14:13:01.1±4.3, 70°.56N×14°.86W, ML4.7*
BGR **16** *14:13:11.9±0.0, 70°.60N×9°.83W, h10km, mb4.7, Ms4.7*
ISC 16 14:13:01.2±0.7, 70°.39N±0°.04×15°.27W±0°.04, h12km±4km, n327, σ1§74/344, mb4.6/112, 14C-6D, Jan Mayen Island region

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SCO Scoresbysund 2.25 276 iP Pn 14 13 32.3 -5.8
SCO Scoresbysund 2.25 276 Pn Pn 14 13 36.2 -1.9
SCO Scoresbysund 2.25 276 eP Pn 14 13 32.4 -5.7
JMIC Jan Mayen 2.33 72 Pn Pn 14 13 36.8 -2.4
JMIC Jan Mayen 2.33 72 eP Pn 14 13 36.3 -2.9
JMIC IVMs_BB IVMs_BB 14 14 58.3
comp=Z,6μm,5.8s
IGRI Grimsey 4.00 196 P Pn 14 13 59.7 -2.3
baz=206
IGRI S Sn 14 14 46.5 -2.1
baz=206
DBG Daneborg 4.22 341 eP Pn 14 14 01.4 -3.6
IFLA Flatey 4.35 194 P Pn 14 14 04.9 -2.1
baz=204
IFLA S Sn 14 14 54.1 -3.4
baz=204
IHED Heoinshofoi 4.39 191 P Pn 14 14 04.3 -3.2
baz=200
IHED S Sn 14 14 55.2 -3.3
baz=200
IBRE Brettingsstaoi 4.40 194 P Pn 14 14 05.2 -2.3
baz=204
IBRE S Sn 14 14 55.2 -3.3
baz=204
IDIM Dimmadalss 4.49 189 P Pn 14 14 05.3 -3.6
baz=198
IDIM S Sn 14 14 56.8 -4.1
baz=198
IGHA Grjothals 4.60 187 P Pn 14 14 06.5 -3.8
baz=196
IHRN Hraun 4.66 205 P Pn 14 14 10.1 -1.0
baz=214
IKVO Krokottuvotn 4.74 188 P Pn 14 14 08.8 -3.4
baz=197
IGRS Grimsstaoir 4.78 184 P Pn 14 14 09.0 -3.9
baz=193
IREN Reynihlio 4.80 188 P Pn 14 14 10.0 -3.2
baz=197
IADA Aoalbol 5.40 181 P Pn 14 14 17.4 -4.0
baz=189
IMKO Mokollar 5.45 185 P Pn 14 14 18.4 -3.7
baz=192
IVSH V-Sauoahnukur 5.61 182 P Pn 14 14 20.5 -3.8

baz=190
BORG Borgarnes 6.12 205 Pn Pn 14 14 30.3 -0.8
comp=Z,4.3nm,0.3s,baz=2.4,slow=6.3,SNR=27
BORG Sn Sn **14 15 41.3 +0.3**
baz=143,slow=21,SNR=0.8
BORG LR LR 14 16 16.6
comp=Z,524nm,21.6s,baz=336,slow=33
BORG Borgarnes 6.12 205 Pn Pn 14 14 31.1 -0.1
BORG Borgarnes 6.12 205 *eP* **Pn 14 14 32.2 +1.1**
SUMG Summit 7.67 297 *i* P **Pn 14 14 52.8 0.0**
comp=Z,109nm,0.9s
SUMG Summit 7.67 297 Pn Pn 14 14 50.9 -1.9
SUMG Summit 7.67 297 *i* P **Pn 14 14 52.9 0.0**
SUMG IAmb IAmb 14 14 59.8
comp=Z,109nm,0.9s
KBS Kingsbay 11.02 28 Pn Pn 14 15 37.4 -0.8
KBS Sn **Sn 14 17 33.3 -7.8**
KBS Kingsbay 11.02 28 Pn Pn 14 15 37.4 -0.8
KBS Kingsbay 11.02 28 *eP* **Pn 14 15 38.5 +0.2**
KBS Sn **Sn 14 17 33.3 -7.8**
NOR Nord 11.28 359 Pn Pn 14 15 40.2 -1.6
NOR Sn Sn 14 17 38.5 -9.0
NOR Nord 11.28 359 *i* P **Pn 14 15 40.5 -1.3**
comp=Z,28nm,1.1s
NOR Nord 11.28 359 Pn Pn 14 15 40.2 -1.6
NOR *i* P 14 15 40.6
NOR IAmb IAmb 14 15 43.8
comp=Z,28nm,1.1s
NOR Sn Sn 14 17 38.5 -9.0
SPA0 Spitsbergen Ar 11.39 33 Pn Pn 14 15 42.9 -0.4
baz=234,slow=14
SPA0 Spitsbergen Ar 11.39 33 Pn Pn 14 15 43.4 +0.2
SPA0 Spitsbergen Ar 11.39 33 Pn Pn 14 15 42.9 -0.4
baz=234,slow=14
SPITS Spitsbergen Ar 11.39 33 Pn Pn 14 15 43.3 0.0
baz=230,slow=14,SNR=22
SPITS LR LR 14 18 48.7
comp=Z,525nm,19.2s,baz=215,slow=30
AKN Aaknes 12.08 122 Pn Pn 14 15 55.2 +2.3
AKN Aaknes 12.08 122 Pn Pn 14 15 55.2 +2.3
NUUG Nuugaatsiaq 12.29 293 *i* P **Pn 14 15 58.2 +2.5**
NUUG IAmb IAmb 14 16 02.7
comp=Z,17nm,1.0s
ILULI Ilulissat 12.32 282 Pn 14 15 52.3 -3.7
UPNV Upernavik 12.94 300 *i* P Pn 14 15 59.3 -5.1
UPNV IAmb IAmb 14 16 07.1
comp=Z,20nm,1.0s
KULLO Kullorsuaq 13.06 308 *i* P **Pn 14 16 02.0 -4.0**
comp=Z,50nm,1.1s
KULLO Kullorsuaq 13.06 308 *eP* **Pn 14 16 02.1 -4.0**
KULLO IAmb IAmb 14 16 05.9
comp=Z,50nm,1.1s
SFJD Kangerlussuaq 13.15 272 LR LR 14 20 56.3
comp=Z,2µm,18.1s,baz=51,slow=36
ARCES ARCESS Array B 13.82 74 Pn Pn 14 16 16.0 -0.5
comp=Z,0.1nm,0.3s,baz=299,slow=11,SNR=2.3
ARCES LR LR 14 20 34.0
comp=Z,870nm,19.0s,baz=294,slow=33
ARCES ARCESS Array B 13.82 74 Pn Pn 14 16 19.8 +3.3
NC204 NORSAR Array S 13.90 118 Pn 14 16 18.5 +0.8
NBO00 NORSAR Array S 14.10 119 Pn Pn 14 16 22.4 +2.0
NC303 NORSAR Array S 14.12 117 Pn Pn 14 16 22.6 +2.0
NB2 NORSAR Subarra 14.22 118 Pn Pn 14 16 23.2 +1.2
NB2 NORSAR Subarra 14.22 118 Pn Pn 14 16 23.2 +1.2
NOA NORSAR Array B 14.22 118 Pn Pn 14 16 20.7 -1.4
comp=Z,0.0nm,0.3s,baz=316,slow=13,SNR=5.3
NOA LR LR 14 21 22.4
comp=Z,464nm,19.4s,baz=315,slow=36
NB201 NORSAR Array S 14.24 118 Pn Pn 14 16 23.7 +1.4
NC405 NORSAR Array S 14.31 117 Pn 14 16 24.8 +1.5
NC602 NORSAR Array S 14.56 118 Pn Pn 14 16 28.8 +2.1
NRA0 NORESS Array S 14.56 118 Pn Pn 14 16 28.1 +1.4
baz=328,slow=14
NRA0 NORESS Array S 14.56 118 Pn Pn 14 16 28.1 +1.4
baz=328,slow=14
KONO Kongsberg 14.89 124 Pn Pn 14 16 32.4 +1.3
KONO Kongsberg 14.89 124 *eP* **P 14 16 38.3 +1.5**
HFS Hagfors 15.69 116 P Pn 14 16 42.2 +0.6
baz=326,slow=16
HFS Hagfors 15.69 116 Pn Pn 14 16 41.8 +0.1
comp=Z,0.1nm,0.3s,baz=329,slow=10,SNR=8.2
HFS Hagfors 15.69 116 P Pn 14 16 42.2 +0.6
baz=326,slow=16
TULEG Thule 15.83 316 Pn Pn 14 16 37.6 -5.8
TULEG Thule 15.83 316 *i* P **Pn 14 16 38.0 -5.3**
TULEG IAmb IAmb 14 16 43.2
comp=Z,170nm,1.2s
EKA Eskdalemuir Ar 16.03 154 P Pn 14 16 47.4 +1.3
EKA Eskdalemuir Ar 16.03 154 Pn Pn 14 16 45.5 -0.5
baz=354,slow=12,SNR=9.6
EKA Eskdalemuir Ar 16.03 154 P Pn 14 16 47.4 +1.3
ESK Eskdalemuir 16.04 154 *eP* **P 14 16 51.1 +1.5**
IVI Ivigtut 16.09 252 Pn Pn 14 16 45.1 -1.6
APA0 Apatity Array 17.14 76 P Pn 14 16 58.5 -1.7
baz=320,slow=18
APA0 Apatity Array 17.14 76 P Pn 14 16 58.5 -1.7
baz=320,slow=18
ZFI2 Zemlya Franca- 17.50 28 P Pn 14 16 51.8 -13
comp=Z,56nm,0.7s
FIA0 FINESS Array S 18.69 98 P Pn 14 17 20.0 +0.9
baz=322,slow=12
FIA0 FINESS Array S 18.69 98 P Pn 14 17 20.0 +0.9
baz=322,slow=12
FIA1 FINESS Array S 18.69 98 Pn 14 17 20.3 +1.2
FIA1 IAmb IAmb 14 17 23.4
comp=Z,49nm,0.9s
FINES FINESS Array B 18.69 98 P P 14 17 18.6 -0.1
comp=Z,1.0nm,0.3s,baz=330,slow=11,SNR=31
FINES LR LR 14 23 39.2
comp=Z,1µm,19.1s,baz=322,slow=34
FINES FINESS Array B 18.69 98 Pn 14 17 20.0 +0.9
SLVR Solovky 19.52 81 *eP* **P 14 17 26.9 -0.9**
comp=Z,33nm,0.7s
BSEG Bad Segeberg 20.09 132 *eP* Pn 14 17 35.1 -0.8
baz=342,slow=10
RGN Rugen 20.32 127 P Pn 14 17 38.7 0.0
TMCR Tamitsa 20.85 81 *eP* **P 14 17 42.7 +0.5**
comp=Z,29nm,1.2s
FRB Frobisher Bay 21.12 278 P P 14 17 45.1 0.0
comp=Z,7.5nm,0.8s,baz=46,slow=11,SNR=9.2
VSU Vasula 21.15 103 *eP* **P 14 17 47.2 +1.7**
NRDL Niedersach Rie 21.35 134 *eP* **P 14 17 48.4 +0.7**
comp=Z,52nm,1.1s,baz=342,slow=10
PBUR Paburge 21.58 113 *eP* **P 14 17 52.0 +1.9**
BUG Bochum--Univer 21.67 139 *eP* **P 14 17 52.8 +1.6**
comp=Z,35nm,0.8s,baz=342,slow=10
BEBN Eben Emael 21.94 143 P P 14 17 54.3 +0.2
BEBN PnPn **PnPn 14 18 16.6 +1.1**
GTTG Gottingen 22.19 135 *eP* **P 14 17 58.3 +1.5**
comp=Z,48nm,1.0s,baz=342,slow=10
BGES Gesves 22.22 144 P P 14 17 58.6 +1.5
BCLA Clavier 22.23 144 P P 14 17 59.0 +1.8
DOU Dourbes 22.39 145 P P 14 17 58.0 -0.9
BHOU Houvegnez 22.43 142 P P 14 17 59.7 +0.3
AHRW Bad Neuenahr-A 22.48 141 *eP* **P 14 18 01.5 +1.6**
baz=342,slow=10
GKP Gorka Klasztor 22.54 123 *eP* **P 14 18 02.6 +2.1**
RES Resolute Bay 22.55 317 P P 14 18 01.3 +0.9
comp=Z,12nm,1.0s,baz=58,slow=5.8,SNR=5.5
PABE Paberze 22.65 111 *eP* **P 14 18 01.3 -0.3**
UBBA Unterbreizbach 22.88 136 *eP* **P 14 18 05.0 +1.1**
baz=342,slow=10
LSH Leshukonskoye 22.92 74 *eP* **P 14 18 02.5 -1.9**
comp=Z,70nm,1.0s
NEUB Neuenburg 22.94 133 *eP* **P 14 18 05.3 +0.5**
comp=Z,130nm,1.3s,baz=342,slow=10
TNS Taunus Mts 23.08 139 *eP* **P 14 18 07.4 +1.2**
comp=Z,14nm,1.0s,baz=342,slow=10
WLF Walferdange 23.11 143 P P 14 18 07.4 +0.9
WLF IAmb IAmb 14 18 12.0
comp=Z,18nm,0.9s
WLF Walferdange 23.11 143 *eP* **P 14 18 07.8 +1.3**
comp=Z,14nm,0.9s,baz=342,slow=10
CLL Collm 23.16 131 *eP* **P 14 18 08.0 +1.0**
CLL *ePmax* 14 18 10.0
comp=Z,33nm,1.0s
CLL *e* 14 18 15.0
CLL Collm 23.16 131 P P 14 18 05.9 -1.1
CLL IAmb IAmb 14 18 12.5
comp=Z,42nm,1.2s
CLL Collm 23.16 131 *eP* **P 14 18 06.8 -0.2**
comp=Z,19nm,0.9s,baz=342,slow=10
IZAR Zarasai 23.17 108 *eP* **P 14 18 08.4 +1.4**
ISAL Salakas 23.28 108 *eP* **P 14 18 09.4 +1.2**
MOX Moxa 23.43 134 *eP* **P 14 18 10.3 +0.7**
comp=Z,12nm,0.9s,baz=342,slow=10
IIGN Ignalina 23.50 108 *eP* **P 14 18 10.1 -0.2**
FBE Freiberg 23.61 131 *eP* **P 14 18 11.6 +0.2**
comp=Z,17nm,1.1s,baz=342,slow=10
KLMR Klimovskoe 23.64 86 *eP* **P 14 18 09.9 -1.8**
comp=Z,109nm,1.4s
KLMR Klimovskoe 23.64 86 *eP* **P 14 18 10.6 -1.1**
KLMR AMP 14 18 16.5
comp=Z,140nm,1.5s
KLMR LQ LQ 14 24 15.9
KLMR LQ LQ 14 24 15.9
KLMR LR LR 14 25 27.9
BRG Berggiesshubel 23.80 130 *eP* **P 14 18 13.3 -0.1**
comp=Z,15nm,0.9s
BRG *i* 14 18 28.2
comp=Z,16nm,1.1s
BRG Berggiesshubel 23.80 130 *eP* **P 14 18 13.2 -0.1**
comp=Z,9.0nm,0.8s,baz=342,slow=10
TANN Tannenbergstha 23.85 133 *eP* **P 14 18 14.0 +0.2**
comp=Z,49nm,1.0s,baz=342,slow=10
GUNZ Gunzen 23.86 133 *eP* **P 14 18 14.1 +0.1**
comp=Z,7.8nm,0.8s,baz=342,slow=10
NACGM Naroch 24.05 108 *eP* **P 14 18 16.0 +0.4**
NACGM *eLQ* LQ 14 25 22.0
NACGM *eLR* LR 14 26 42.0
NACGM LRM MLR 14 27 36.0
comp=Z,2.6nm,16.0s
MANZ Manzenberg 24.16 133 *eP* **P 14 18 16.9 +0.2**
comp=Z,11nm,1.1s,baz=342,slow=10
GRA1 Grafenberg Arr 24.21 135 P P 14 18 17.6 +0.3
GRF Grafenberg Arr 24.21 135 *eP* **P 14 18 18.1 +0.8**
baz=342,slow=10
PVCC Panska Ves 24.28 129 *eP* **P 14 18 20.0 +2.2**
ROTZ Rotzenmuhle 24.38 134 *eP* **P 14 18 19.0 +0.2**
comp=Z,17nm,1.1s,baz=342,slow=10
KSP Ksiaz 24.45 127 *eP* **P 14 18 20.2 +0.8**
CHVC Chvalec 24.62 127 *eP* **P 14 18 21.2 +0.3**
UPC Upice 24.68 127 *eP* **P 14 18 22.4 +0.9**
OSTC Ostas 24.69 127 *eP* **P 14 18 23.9 +2.3**
ECH Echery 24.70 142 P P 14 18 21.4 -0.2
ECH IAmb IAmb 14 18 27.5
comp=Z,18nm,1.0s
PRU Pruhonice 24.77 130 *eP* **P 14 18 22.2 0.0**
BFO Black Forest 24.84 141 P P 14 18 22.2 -0.7
BFO IAmb IAmb 14 18 28.7
comp=Z,21nm,1.1s
BFO Black Forest 24.84 141 *eP* **P 14 18 23.6 +0.6**
comp=Z,11nm,0.9s,baz=342,slow=10
BFO Black Forest 24.84 141 *eP* **P 14 18 23.2 +0.3**
GOPC GO Pecny, Ondr 24.90 130 *eP* **P 14 18 24.5 +1.1**
GOPC *epP* **sP 14 18 28.5 +0.2**
PBCC Pribram 24.90 131 *eP* **P 14 18 24.6 +1.1**
PBCC *ex* x 14 18 28.0
DPC Dobruska-Polom 24.91 127 *eP* **P 14 18 24.8 +1.3**
DPC *epP* **sP 14 18 28.1 -0.3**
PRGR Permogore 25.12 79 *eP* **P 14 18 24.5 -0.8**
comp=Z,60nm,1.1s
WET Wettzell 25.12 133 *eP* **P 14 18 26.6 +1.1**
comp=Z,25nm,1.0s,baz=342,slow=10
KHC Kasperske Hory 25.31 132 *eP* **P 14 18 29.0 +1.8**
KHC *epP* **sP 14 18 32.4 +0.3**
KHC *ex* x 14 18 37.2
KHC Kasperske Hory 25.31 132 P P 14 18 27.1 -0.1
GEC2 GERESS Array S 25.61 132 P P 14 18 30.0 0.0
GEC2 GERESS Array S 25.61 132 *eP* **P 14 18 31.2 +1.3**
comp=Z,18nm,1.1s,baz=342,slow=10
GERES GERESS Array B 25.61 132 P P 14 18 29.6 -0.4
comp=Z,10nm,1.1s,baz=336,slow=6.3,SNR=26
GERES GERESS Array B 25.61 132 P P 14 18 30.2 +0.3
TREC Trest 25.65 129 *eP* **P 14 18 32.1 +1.9**
MORC Moravsky Berou 25.76 126 ⇑P **P 14 18 33.4 +2.2**
MORC Moravsky Berou 25.76 126 *eP* **P 14 18 31.6 +0.3**
MORC Moravsky Berou 25.76 126 P P 14 18 31.3 0.0
MORC IAmb IAmb 14 18 37.9
comp=Z,29nm,1.1s
VRAC Vranov 25.93 128 ⇓P **P 14 18 34.3 +1.6**
VRAC Vranov 25.93 128 *eP* **P 14 18 34.4 +1.6**
OJC Ojcow 25.99 123 *eP* **P 14 18 33.5 +0.2**
OJC Ojcow 25.99 123 P P 14 18 33.0 -0.2
KRUC Moravsky 26.10 128 *eP* **P 14 18 34.8 +0.5**
DAVA Damuels 26.16 139 *eP* **P 14 18 36.1 +1.0**
comp=Z,19nm,1.0s
RETA Reutte 26.17 138 *eP* **P 14 18 36.0 +1.0**
comp=Z,16nm,1.3s
MOTA Moosalm 26.39 137 *eP* **P 14 18 38.0 +0.9**
comp=Z,32nm,1.1s,SNR=9.5
WATA Walderalm 26.50 137 *eP* **P 14 18 39.2 +1.1**
comp=Z,37nm,1.3s
SQTA Sankt Quirin 26.53 137 *eP* **P 14 18 39.5 +1.1**
comp=Z,22nm,1.2s
WTTA Wenberg 26.58 136 *eP* **P 14 18 40.2 +1.2**
comp=Z,40nm,1.2s,SNR=9.7
FETA Feichten 26.61 138 *eP* **P 14 18 40.3 +1.2**
comp=Z,9.4nm,1.1s
DAVOX Davos/Dischmat 26.64 139 P P 14 18 38.4 -1.0
comp=Z,0.9nm,0.3s,baz=120,slow=22,SNR=1.7
MOA Molln 26.67 132 *epP* **P 14 18 41.3 +1.8**
comp=Z,28nm,1.4s,SNR=9.2
NIE Niedzica 26.85 123 *eP* **P 14 18 42.1 +1.0**
LANS Liptovska Anna 26.86 124 *eP* **P 14 18 43.5 +2.3**
MODS Modra-Piesok 26.97 128 *eP* **P 14 18 48.2 +6.0**
CONA Conrad Observa 27.00 130 *epP* **P 14 18 45.9 +3.3**
comp=Z,15nm,1.1s,SNR=9.0
OBN Obninsk 27.09 97 P P 14 18 42.5 -0.6
comp=Z,5.5nm,0.4s,baz=326,slow=3.6,SNR=7.2
OBN Obninsk 27.09 97 IAmb IAmb 14 18 46.2
comp=Z,35nm,1.0s
SCHQ Schefferville 27.23 262 P P 14 18 44.1 -0.3
comp=Z,4.6nm,0.7s,baz=45,slow=9.2,SNR=6.3
SCHQ Schefferville 27.23 262 P P 14 18 44.6 +0.1
ABTA Abfaltersbach 27.27 136 *esP* **P 14 18 50.1 +5.1**
comp=Z,14nm,1.2s
VYHS Vyhne 27.28 126 *eP* **P 14 18 48.4 +3.4**
KWP Kalwaria Pacla 27.35 119 P P 14 18 46.6 +1.0
ARSA Arzberg 27.54 131 *epP* **P 14 18 51.0 +3.7**
comp=Z,7.9nm,1.0s
MYKA Terra Mystica 27.66 134 *eP* **P 14 18 53.0 +4.6**
comp=Z,6.8nm,1.0s
CTI Castel Tesino 27.73 137 P P 14 18 49.4 +0.2
OBKA Obir 27.99 133 *eP* **P 14 18 57.7 +6.3**
comp=Z,16nm,1.2s
PSZ Piszkesteto 28.09 125 P P 14 18 51.6 -0.7
PSZ IAmb IAmb 14 19 31.4
comp=Z,13nm,1.2s
AKASG Malin Array Be 28.41 110 P P 14 18 54.1 -0.9
comp=Z,10nm,0.9s,baz=332,slow=8.7,SNR=6.5
AKASG Malin Array Be 28.41 110 P P 14 18 54.1 -0.9
AKBB Malin Array Si 28.41 110 P P 14 18 54.2 -0.8
AKBB IAmb IAmb 14 19 15.1
comp=Z,13nm,1.0s
TRPA Tarpa 28.65 121 ⇑P **P 14 18 59.0 +1.8**
KIRV Kirov 28.66 81 P P 14 18 55.8 -1.4
comp=Z,7.6nm,0.4s,baz=306,slow=3.1,SNR=5.2
VLC Villacollemand 29.25 140 P P 14 19 03.8 +1.3
BUR08 Bucovina Ar. S 29.87 118 P P 14 19 07.6 -0.5
BUR08 IAmb IAmb 14 19 18.8
comp=Z,16nm,1.1s
BURAR Bucovina Array 29.90 118 ⇑P **P 14 19 08.8 +0.4**
BURAR Bucovina Array 29.90 118 P P 14 19 07.7 -0.7
DRGR 29.92 122 ⇑P **P 14 19 09.2 +0.8**
SORM Soroca 30.39 114 ⇑P **P 14 19 13.7 +1.2**
BZS Buzias 30.68 124 ⇓P **P 14 19 14.0 -1.2**
TESR Tescani 31.32 117 ⇑P **P 14 19 21.4 +0.6**
ESDC Sonseca Array 31.34 163 P P 14 19 19.7 -1.4
comp=Z,1.5nm,1.1s,baz=356,slow=8.5,SNR=5.7
ESDC Sonseca Array 31.34 163 P P 14 19 20.9 -0.3
NRIK Noril'sk 31.42 42 P P 14 19 21.4 0.0
comp=Z,2.1nm,0.4s,baz=328,slow=5.4,SNR=3.0
DOPR Dopca 31.44 119 ⇑P **P 14 19 21.9 0.0**
MDVR Moldovita 31.48 125 ⇓P **P 14 19 20.7 -1.5**
HERR Herculane 31.58 124 ⇑P **P** 14 19 17.4 -5.7
VOIR 31.82 120 ⇓P **P 14 19 26.9 +1.5**
PLOR Plostina 31.92 118 ⇑P **P 14 19 27.2 +1.1**
VRI Vrincioaia 31.93 118 ⇑P **P 14 19 27.4 +1.2**
MLR Muntele Rosu 32.04 119 P P 14 19 28.1 +0.8
comp=Z,2.5nm,0.8s,baz=324,slow=5.4,SNR=3.6
MLR Muntele Rosu 32.04 119 ⇑P **P 14 19 25.3 -1.9**
MLR Muntele Rosu 32.04 119 P P 14 19 29.5 +2.2
MLR IAmb IAmb 14 19 35.3
comp=Z,9.9nm,1.0s
CFR Carcaliu 32.98 117 ⇑P **P 14 19 35.2 -0.1**
TLCR 33.17 116 ⇓P **P 14 19 38.6 +1.6**
HARR Harsova 33.35 117 ⇑P **P 14 19 37.7 -0.9**
ARU Arti 33.40 76 P P 14 19 37.4 -1.5
comp=Z,1.8nm,0.7s,baz=355,slow=11,SNR=9.4
ARU Arti 33.40 76 P P 14 19 37.3 -1.5
ARU IAmb IAmb 14 19 44.9
comp=Z,12nm,0.9s
TIRR Tirgusor 33.71 117 ⇑P **P 14 19 41.5 -0.2**
TIRR Tirgusor 33.71 117 P P 14 19 41.2 -0.5
VTS Vitosha 33.90 125 ⇓P **P** 14 19 38.5 -5.0
VTS Vitosha 33.90 125 P P 14 19 42.5 -1.0
INK Inuvik 35.48 326 P P 14 19 55.4 -1.3
comp=Z,2.4nm,1.0s,baz=15,slow=8.2,SNR=4.0
INK PcP **PcP 14 22 26.2 +0.6**
comp=Z,2.3nm,1.0s,baz=51,slow=5.9,SNR=3.1
INK Inuvik 35.48 326 P P 14 19 55.6 -1.1
YKA Yellowknife Ar 36.08 309 P P 14 20 02.6 +0.7
comp=Z,7.9nm,1.0s,baz=35,slow=8.2,SNR=32
YKA PcP **PcP 14 22 27.9 +0.4**
comp=Z,1.3nm,0.8s,baz=32,slow=2.3,SNR=11
ALN Alexandroupoli 36.28 122 P P 14 20 03.9 0.0
ALN IAmb IAmb 14 20 08.5
comp=Z,13nm,1.1s
TIXI Tiksi 36.28 18 P P 14 20 03.8 +0.2
comp=Z,1.0nm,0.3s,baz=351,slow=8.3,SNR=8.9
TIXI Tiksi 36.28 18 P P 14 20 03.8 +0.2
TIXI IAmb IAmb 14 20 09.2
comp=Z,23nm,1.6s
AGG Agios Georgios 37.00 128 P P 14 20 10.2 +0.1
AGG IAmb IAmb 14 20 24.0
comp=Z,13nm,0.9s
EPYK Eagle Plains 37.78 326 P P 14 20 17.0 +0.6
EPYK IAmb IAmb 14 21 30.8
comp=Z,25nm,1.7s
AKTO Aktyubinsk 38.21 82 P P 14 20 20.0 -0.2
comp=Z,7.0nm,1.0s,baz=327,slow=10,SNR=12
AKTO PP **PP 14 21 47.8 +0.5**
comp=Z,5.7nm,1.1s,baz=319,slow=14,SNR=5.6
BMAR Burnt Mountain 38.21 331 P P 14 20 21.2 +1.2
FFC Flin Flon 38.92 293 P P 14 20 27.4 +1.3
FFC IAmb IAmb 14 20 32.6
comp=Z,17nm,1.2s
KBZ Khabaz 38.97 102 P P 14 20 27.7 +1.1
comp=Z,7.0nm,1.1s,baz=336,slow=9.9,SNR=4.5
KBZ PP **PP 14 21 54.9 -0.8**
comp=Z,3.0nm,0.8s,baz=14,slow=7.5,SNR=4.3
BRTR Keskin Array B 39.62 114 P P 14 20 32.2 -0.1
comp=Z,1.8nm,0.7s,baz=338,slow=6.4,SNR=13
BRTR PP **PP 14 22 03.6 +0.6**
comp=Z,0.8nm,0.8s,baz=316,slow=10.0,SNR=2.4
BRTR Keskin Array B 39.62 114 P P 14 20 33.1 +0.9
ABKAR Akbulak array 39.87 81 P P 14 20 34.2 +0.2
BRVK Borovoye 39.98 69 P P 14 20 36.0 +1.1
EGAK Eagle 40.03 327 P P 14 20 37.3 +2.0
BVAR Borovoye Array 40.04 69 P P 14 20 36.5 +1.0
comp=Z,7.1nm,1.1s,baz=321,slow=6.1,SNR=12
BVAR PP **PP 14 22 08.3 +1.1**
comp=Z,4.1nm,0.9s,baz=336,slow=10,SNR=8.1
SANT Santorini 40.34 126 P P 14 20 40.2 +2.1
SANT IAmb IAmb 14 21 34.3
comp=Z,16nm,1.0s
ULM Lac du Bonnet 40.79 284 P P 14 20 41.3 -0.4
comp=Z,3.3nm,0.4s,baz=70,slow=3.1,SNR=3.4
ULM Lac du Bonnet 40.79 284 IAmb IAmb 14 20 50.9
comp=Z,9.2nm,1.0s
IMAR Indian Mountai 40.94 336 P P 14 20 44.4 +1.7
IMAR PcP **PcP 14 22 43.8 +1.1**
ILAR Eielson Array 41.03 331 P P 14 20 44.8 +1.3
comp=Z,2.4nm,1.1s,baz=17,slow=7.0,SNR=16
ILAR PcP **PcP 14 22 42.7 -0.3**
comp=Z,2.4nm,0.9s,baz=348,slow=2.9,SNR=11
ILAR Eielson Array 41.03 331 P P 14 20 44.8 +1.3
ILAR PcP **PcP 14 22 43.0 0.0**
ELL Elmali 41.24 120 P P 14 20 46.4 +0.7
CCB Clear Creek Bu 41.30 331 P P 14 20 48.0 +2.3
BCAR Beaver Creek A 41.71 327 P P 14 20 50.4 +1.2
BCAR PcP **PcP 14 22 46.4 +1.1**
BILL Bilibino 41.82 359 P P 14 20 49.9 0.0
BILL IAmb IAmb 14 21 00.1
comp=Z,20nm,1.8s
BPAW Bear Paw Mtn. 42.31 333 P P 14 20 55.5 +1.5
AGMN Agassiz Nation 42.48 283 P P 14 20 56.7 +1.1
ZALV Zalesovo Beam 43.59 58 P P 14 21 04.7 +0.2
comp=Z,1.0nm,0.6s,baz=318,slow=6.4,SNR=5.1
ZALV PP **PcP 14 22 49.0 -2.7**
comp=Z,0.9nm,0.7s,baz=317,slow=10,SNR=2.4
ZALV Zalesovo Beam 43.59 58 P P 14 21 05.4 +1.0
MDND Maddock 44.10 286 P P 14 21 09.3 +0.7
KURK Kurchatov 44.60 65 P P 14 21 13.4 +0.9
KURK IAmb IAmb 14 21 19.9
comp=Z,8.4nm,1.0s
KURK Kurchatov 44.60 65 PcP 14 22 55.0 -0.1
KURBB Kurchatov Arra 44.65 65 P P 14 21 13.8 +0.8
comp=Z,4.3nm,0.8s,baz=332,slow=7.6,SNR=27
KURBB PP **PcP 14 22 55.0 -0.3**
comp=Z,1.3nm,0.9s,baz=335,slow=7.9,SNR=3.2
O53A New Philadelph 44.67 264 P P 14 21 12.8 -0.5
O53A IAmb IAmb 14 21 21.2
comp=Z,24nm,1.4s
SEM Semipalatinsk 45.37 64 *eP* **P 14 21 20.9 +2.0**
baz=64
YAK Yakutsk 45.59 22 P P 14 21 20.4 +0.1
comp=Z,4.6nm,0.6s,baz=159,slow=1.1,SNR=4.4
YAK Yakutsk 45.59 22 IAmb IAmb 14 21 26.2
comp=Z,9.8nm,0.8s
ECSD EROS Data Cent 46.74 280 P P 14 21 29.0 -0.6
ECSD IAmb IAmb 14 21 35.5
comp=Z,8.7nm,1.1s
EGMT Eagleton 47.16 294 P P 14 21 33.0 0.0
KKAR Karatay Array 48.77 76 P P 14 21 46.3 +0.9
TAM Tamanrasset 49.17 154 P P 14 21 49.2 +0.4
MK31 Makanchi Array 49.20 64 P P 14 21 49.4 +0.7
MKAR Makanchi Array 49.20 64 P P 14 21 49.4 +0.7
comp=Z,5.5nm,1.0s,baz=337,slow=5.8,SNR=23
MKAR PP **PP 14 23 44.7 +2.7**
comp=Z,2.8nm,1.0s,baz=336,slow=6.8,SNR=5.5
GEYT Alibeck 49.27 90 P P 14 21 49.8 +0.5
comp=Z,3.7nm,0.8s,baz=280,slow=8.9,SNR=6.5
GEYT Alibeck 49.27 90 P P 14 21 50.1 +0.9
EIL Elat 49.34 118 P P 14 21 50.0 +0.2
comp=Z,8.7nm,1.1s,baz=354,slow=11,SNR=5.7
ZSN Zaisan 49.39 62 *eP* **P 14 21 52.7 +2.6**
comp=Z,3.8nm,2.0s,baz=62
IUG Iuzhnay 49.47 77 *eP* **P 14 21 53.0 +2.1**
comp=Z,0.4nm,0.7s,baz=78
MSO Missoula 49.51 297 P P 14 21 50.6 -0.4
MSO IAmb IAmb 14 21 56.4
comp=Z,9.5nm,0.9s
TDK Taldyqorghan 49.61 68 *eP* **P 14 21 53.3 +1.6**
baz=69
B08A Colville Reser 49.71 302 P P 14 21 52.6 +0.1
B08A IAmb IAmb 14 21 59.1
comp=Z,7.8nm,1.1s
SGDS Sogindy 49.80 72 *eP* **P 14 21 55.2 +2.0**
comp=Z,3.7nm,1.2s,baz=73
BOZ Bozeman (W) 49.91 294 P P 14 21 54.7 +0.5
BOZ IAmb IAmb 14 22 00.4
comp=Z,18nm,1.9s
KUU Kurty 49.95 71 *eP* **P 14 21 55.4 +1.1**
comp=Z,6.8nm,1.1s,baz=71
KUU *eS* **S 14 29 06.6 +2.5**
baz=71
CHKK Chushkaly 50.19 70 *eP* **P 14 21 57.2 +1.0**
baz=71
AAK Ala-Archa 50.48 73 P P 14 21 59.8 +1.2
AAK IAmb IAmb 14 22 04.9
comp=Z,8.3nm,0.9s
TLY Talaya 50.58 45 P P 14 21 59.9 +0.8
W50A Signal Mountai 50.62 265 P P 14 21 60.0 +0.5
W50A IAmb IAmb 14 22 12.0
comp=Z,7.3nm,0.9s
MTBS Maitube 50.66 71 *eP* **P 14 22 01.2 +1.4**
baz=72
MDOK Medeo 50.83 71 *eP* **P 14 22 03.8 +2.6**
baz=71
MDOK LR LR 14 43 16.1
comp=Z,252nm,10.4s,baz=71
T42A Van Buren 50.90 271 P P 14 22 01.6 0.0
TNSS Tian-Shan 50.91 71 *eP* **P 14 22 03.8 +1.7**
baz=71
BOOM Boomskoye usch 51.08 72 P P 14 22 04.7 +1.6
BOOM IAmb IAmb 14 22 09.6
comp=Z,14nm,1.3s
SATY Saty 51.36 69 *eP* **P 14 22 06.5 +1.4**
comp=Z,3.9nm,1.3s,baz=70
UZB Uzynbulak 51.47 69 *eP* **P 14 22 07.4 +1.4**
comp=Z,2.4nm,1.1s,baz=69
SHLS Shalkode 51.60 69 *eP* **P 14 22 09.7 +2.8**
comp=Z,9.4nm,0.9s,baz=69

BTK	**Batken**	**51.61**	**78**	P	**P**	**14 22 07.7**	**+0.7**
KDJ	**Kajisay**	**51.80**	**71**	P	**P**	**14 22 10.1**	**+1.6**
KDJ				IAmb	IAmb	14 22 14.5	
	comp=Z,7.5nm,1.0s						
PD31	**Pinedale Array**	**51.81**	**291**	P	**P**	**14 22 07.8**	**-0.9**
PDAR	**Pinedale Array**	**51.81**	**291**	P	**P**	**14 22 08.8**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=44,slow=4.5,SNR=11						
PDAR				PP	**PP**	**14 24 09.8**	**+3.7**
	comp=Z,0.7nm,0.9s,baz=25,slow=9.0,SNR=2.2						
PDAR	**Pinedale Array**	**51.81**	**291**	P	**P**	**14 22 08.4**	**-0.2**
N23A	**Red Feather La**	**52.35**	**287**	P	**P**	**14 22 13.2**	**+0.5**
N23A				IAmb	IAmb	14 22 18.6	
	comp=Z,16nm,1.0s						
TARG	**Taragay, Kyrgy**	**52.37**	**71**	P	**P**	**14 22 13.2**	**+0.2**
TARG				IAmb	IAmb	14 22 17.9	
	comp=Z,10.0nm,0.9s						
GAR	**Garm**	**52.40**	**79**	P	**P**	**14 22 14.1**	**+1.2**
T35A	**Sooner Cattle**	**52.83**	**276**	P	**P**	**14 22 14.2**	**-1.8**
WMQ	**Urumqi**	**53.51**	**61**	*e*P	**P**	**14 22 24.5**	**+3.5**
KSH	**Kashi**	**53.78**	**73**	*e*P	P	14 22 28.4	+5.3
KSH				sP	sP	14 22 37.0	+8.9
KSH				pmax	pmax		
	comp=Z,14nm,0.9s						
KSH				pmax	pmax		
	comp=Z,280nm,3.9s						
KSH				LR	LR		
	comp=N,570nm,10.3s						
KSH				LR	LR		
	comp=E,570nm,10.1s						
KSH				LR	LR		
	comp=Z,440nm,11.9s						
RDMU	**Red Mountain**	**53.80**	**290**	P	**P**	**14 22 23.3**	**-0.1**
SONM	**Songino Array**	**54.82**	**45**	P	**P**	**14 22 31.5**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=328,slow=5.5,SNR=5.7						
SONM	**Songino Array**	**54.82**	**45**	P	**P**	**14 22 30.8**	**+0.2**
ULN	**Ulaanbaatar**	**54.95**	**44**	P	**P**	**14 22 32.3**	**+0.8**
ULN				IAmb	IAmb	14 22 38.8	
	comp=Z,6.3nm,1.1s						
PV04	**Paradox Valley**	**55.57**	**288**	P	**P**	**14 22 36.2**	**0.0**
PV18	**Skein Mesa, Pa**	**55.71**	**288**	P	**P**	**14 22 36.2**	**-1.0**
PETK	**Petropavlovsk-**	**56.70**	**5**	P	**P**	**14 22 44.7**	**+0.8**
	comp=Z,2.9nm,1.0s,baz=8.4,slow=5.0,SNR=2.9						
PAHR	**Pah Rah Range**	**57.63**	**298**	P	**P**	**14 22 50.6**	**-0.1**
PAHR				IAmb	IAmb	14 22 56.7	
	comp=Z,16nm,1.6s						
R11A	**Troy Canyon, C**	**57.72**	**294**	P	**P**	**14 22 51.8**	**+0.3**
KVN	**Kaiserville**	**57.84**	**296**	P	**P**	**14 22 52.9**	**+0.5**
KVN				IAmb	IAmb	14 22 58.0	
	comp=Z,7.3nm,1.0s						
KNB	**Kanab**	**58.08**	**291**	P	**P**	**14 22 54.0**	**+0.1**
TOA0	**Torodi Ar. Sit**	**58.17**	**160**	P	**P**	**14 22 54.3**	**-0.3**
TOA0				IAmb	IAmb	14 22 57.9	
	comp=Z,9.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**58.17**	**160**	P	**P**	**14 22 54.0**	**-0.6**
	comp=Z,8.7nm,1.2s,baz=346,slow=7.7,SNR=15						
TORD				PcP	**PcP**	**14 23 46.1**	**+0.1**
	comp=Z,3.0nm,1.0s,baz=334,slow=5.2,SNR=4.4						
TORD	**Torodi Ar. Bea**	**58.17**	**160**	P	**P**	**14 22 54.0**	**-0.6**
NVAR	**Mina Array Bea**	**58.48**	**296**	P	**P**	**14 22 57.7**	**+0.9**
	comp=Z,1.9nm,1.0s,baz=24,slow=5.1,SNR=7.4						
TPNV	**Topopah Spring**	**59.21**	**294**	P	**P**	**14 23 02.3**	**+0.5**
SHPR	**Sheep Range**	**59.28**	**293**	P	**P**	**14 23 02.5**	**+0.2**
GTA	**Gaotai**	**61.03**	**53**	P	**P**	**14 23 15.3**	**+1.1**
GTA				pP	sP	14 23 19.8	+0.5
GTA				sP	pP	14 23 22.4	+4.5
GTA				pmax	pmax		
	comp=Z,6.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,48nm,5.0s						
GTA				LR	LR		
	comp=N,360nm,21.7s						
GTA				LR	LR		
	comp=E,240nm,22.1s						
GTA				LR	LR		
	comp=Z,380nm,22.5s						
TX31	**Lajitas Ar. Si**	**62.16**	**279**	P	**P**	**14 23 23.1**	**+1.2**
TX32	**Lajitas Array**	**62.16**	**279**	P	**P**	**14 23 23.3**	**+1.4**
TX32				IAmb	IAmb	14 24 28.1	
	comp=Z,11nm,1.9s						
TXAR	**Lajitas Array**	**62.16**	**279**	P	**P**	**14 23 22.5**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=29,slow=7.6,SNR=6.9						
TXAR				PP	**PP**	**14 25 36.7**	**-1.6**
	comp=Z,0.4nm,0.9s,baz=40,slow=8.6,SNR=2.7						
TXAR	**Lajitas Array**	**62.16**	**279**	P	**P**	**14 23 22.9**	**+0.9**
USRK	**Ussuriysk Ar.**	**63.28**	**26**	P	**P**	**14 23 28.9**	**-0.1**
BJI	**Beijing**	**64.43**	**40**	P	**P**	**14 23 38.4**	**+1.7**
BJI				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BJI				LR	LR		
	comp=N,360nm,18.9s						
BJI				LR	LR		
	comp=E,160nm,15.2s						
LZH	**Lanzhou**	**65.23**	**51**	*e*P	**P**	**14 23 42.3**	**+0.1**
LZH				pP	pP	14 23 45.6	-0.3
LZH				sP	sP	14 23 47.1	-0.2
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,85nm,7.5s						
LZH				LR	LR		
	comp=N,190nm,15.3s						
LZH				LR	LR		
	comp=E,210nm,15.2s						
LZH				LR	LR		
	comp=Z,330nm,18.1s						
LSA	**Lhasa**	**67.61**	**65**	P	**P**	**14 23 58.1**	**+0.2**
LSA				IAmb	IAmb	14 24 00.8	
	comp=Z,7.4nm,1.0s						
URIC	**Uribia, Colomb**	**68.21**	**242**	P	**P**	**14 24 00.0**	**-1.2**
KSRS	**Korea Array**	**69.22**	**31**	P	**P**	**14 24 07.5**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=349,slow=6.8,SNR=2.8						
MJB9	**Matsu-Tunnel**	**71.65**	**22**	P	**P**	**14 24 22.6**	**+0.5**
MJB9				IAmb	IAmb	14 24 24.6	
	comp=Z,7.4nm,1.0s						
MAJO	**Matsushiro**	**71.66**	**22**	P	**P**	**14 24 22.5**	**+0.4**
MAJO				IAmb	IAmb	14 24 24.7	
	comp=Z,7.3nm,1.0s						
MAT	**Matsushiro**	**71.66**	**22**	P	**P**	**14 24 22.8**	**+0.6**
MAT				S	**S**	**14 33 41.8**	**+0.7**
MJAR	**Matsushiro Arr**	**71.66**	**22**	P	**P**	**14 24 23.1**	**+0.9**
	comp=Z,5.5nm,1.0s,baz=342,slow=5.6,SNR=10						
MJAR	**Matsushiro Arr**	**71.66**	**22**	P	**P**	**14 24 22.6**	**+0.4**
ENH	**Enshi**	**72.21**	**48**	P	**P**	**14 24 25.9**	**+0.4**
ENH				IAmb	IAmb	14 24 30.5	
	comp=Z,9.6nm,1.0s						
NJ2	**Nanjing**	**72.69**	**40**	*e*P	**P**	**14 24 28.6**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**80.52**	**61**	P	**P**	**14 25 12.5**	**-0.3**
	comp=Z,2.2nm,1.0s,baz=327,slow=5.5,SNR=7.4						
ASAR	**Alice Springs**	**129.91**	**38**	PKP	**PKPdf**	**14 32 09.3**	**-0.6**
	comp=Z,0.8nm,0.9s,baz=339,slow=1.6,SNR=7.5						
MAW	**Mawson**	**147.44**	**136**	PKPbc	**PKPbc**	**14 32 41.6**	**-1.1**
	comp=Z,2.8nm,0.8s,baz=240,slow=1.4,SNR=4.6						

*REY **16** 14:17:21.4, 70˚.11N×13˚.73W, h10km*
*IDC **16** 14:17:21.9±0.6, 70˚.16N× 15˚.39W, h0km, mb3.8/17, mb1 3.9/22, mb1mx3.8/56, mbtmp3.8/22, ML3.1/5, Error ellipse: s-maj=17.8km s-min=13.0km az=30.0*
*NEIC **16** 14:17:23.4±1.9, 70˚.20N±0˚.08×15˚.4W±0˚.2, h10km±1km, mb4.4/9, Error ellipse: s-maj=13.2km s-min=8.9km az=199.0*

ISC 16 14:17:23.4±0.4,**70˚.24N**±0˚.05×**15˚.22W**±0˚.06,**h10**km,**n57,** σ1**s31**/66,**mb3.8**/19,**Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.29**	**279**	Pn		**Pn**		**14 17 59.9**	**-1.2**
IGRI	**Grimsey**	**3.85**	**197**	P		**Pn**		**14 18 22.6**	**0.0**
	baz=206								
IGRI				S		**Sn**		**14 19 09.5**	**+1.6**
	baz=206								
IFLA	**Flatey**	**4.21**	**195**	P		**Pn**		**14 18 27.8**	**+0.3**
	baz=203								
IFLA				S		**Sn**		**14 19 18.0**	**+1.4**
	baz=203								
IHED	**Heoinshofoi**	**4.25**	**192**	P		**Pn**		**14 18 27.2**	**-0.9**
	baz=200								
IHED				S		**Sn**		**14 19 18.3**	**+0.7**
	baz=200								
IBRE	**Brettingsstaoi**	**4.25**	**195**	P		**Pn**		**14 18 28.2**	**+0.1**
	baz=203								
IBRE				S		**Sn**		**14 19 18.4**	**+0.7**
	baz=203								
IDIM	**Dimmadalss**	**4.34**	**189**	P		**Pn**		**14 18 28.2**	**-1.2**
	baz=198								
IDIM				S		**Sn**		**14 19 19.4**	**-0.6**
	baz=198								
IGRA	**Granastaoir**	**4.43**	**193**	P		**Pn**		**14 18 30.5**	**0.0**
	baz=201								
IGRA				S		**Sn**		**14 19 22.9**	**+0.9**
	baz=201								
ISKI	**Skildingahlsh**	**4.44**	**190**	P		**Pn**		**14 18 30.0**	**-0.7**
	baz=198								
IGHA	**Grjothals**	**4.45**	**188**	P		**Pn**		**14 18 29.5**	**-1.3**
	baz=196								
IHRN	**Hraun**	**4.53**	**206**	P		**Pn**		**14 18 32.8**	**+0.9**
	baz=214								
IHRN				S		**Sn**		**14 19 27.6**	**+3.1**
	baz=214								
IGRS	**Grimsstaoir**	**4.64**	**185**	P		**Pn**		**14 18 31.6**	**-1.8**
	baz=192								
IGRS				S		**Sn**		**14 19 25.6**	**-1.6**
	baz=192								
IREN	**Reynihlio**	**4.66**	**189**	P		**Pn**		**14 18 33.0**	**-0.6**
	baz=196								
IADA	**Aoalbol**	**5.25**	**182**	P		**Pn**		**14 18 40.1**	**-1.6**
	baz=189								
IVSH	**V-Sauoahnukur**	**5.46**	**182**	P		**Pn**		**14 18 43.3**	**-1.4**
	baz=189								
BORG	**Borgarnes**	**5.99**	**206**	Pn		**Pn**		**14 18 49.9**	**-2.0**
	1.8nm,0.3s,baz=11,slow=8.5,SNR=3.2								
BORG				Sn		**Sn**		**14 19 59.7**	**-0.7**
	baz=138,slow=2.6,SNR=1.0								
SUMG	**Summit**	**7.76**	**298**	Pn		**Pn**		**14 19 15.7**	**-0.8**
KBS	**Kingsbay**	**11.14**	**27**	Pn		**Pn**		**14 19 59.6**	**-2.8**
SPA0	**Spitsbergen Ar**	**11.50**	**33**	Pn		**Pn**		**14 20 06.7**	**-0.7**
SPITS	**Spitsbergen Ar**	**11.50**	**33**	Pn		**Pn**		**14 20 05.4**	**-2.0**
	baz=237,slow=15,SNR=16								
NOA	**NORSAR Array B**	**14.14**	**117**	Pn		**Pn**		**14 20 42.9**	**-0.6**
	0.0nm,0.3s,baz=332,slow=11,SNR=1.5								
HFS	**Hagfors**	**15.61**	**116**	Pn		**Pn**		**14 21 00.2**	**-2.9**
	0.1nm,0.3s,baz=339,slow=7.7,SNR=2.5								
EKA	**Eskdalemuir Ar**	**15.89**	**154**	Pn		**Pn**		**14 21 05.4**	**-1.4**
	baz=341,slow=9.8,SNR=2.7								
FIA1	**FINESS Array S**	**18.65**	**97**	P		**Pn**		**14 21 42.8**	**+1.6**
FIA1				IAmb		IAmb		14 21 45.8	
	comp=Z,19nm,1.1s								
FINES	**FINESS Array B**	**18.65**	**97**	P		**P**		**14 21 39.6**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=319,slow=12,SNR=13								
FINES	**FINESS Array B**	**18.65**	**97**			**Pn**		**14 21 42.5**	**+1.3**
FRB	**Frobisher Bay**	**21.16**	**279**	P		**P**		**14 22 07.2**	**-0.9**
	comp=Z,1.6nm,0.4s,baz=71,slow=11,SNR=1.4								
CLL	**Collm**	**23.05**	**131**	*e*P		**P**		**14 22 31.0**	**+2.6**
	comp=Z,13nm,1.3s								
CLL				*i*				14 22 37.4	
	comp=Z,16nm,1.1s								
CLL				*e*PP		**PnPn**		**14 22 54.0**	**+0.9**
CLL	**Collm**	**23.05**	**131**	P		**P**		**14 22 29.4**	**+0.9**
CLL				IAmb		IAmb		14 22 39.1	
	comp=Z,19nm,1.2s								
KLMR	**Klimovskoe**	**23.64**	**86**	*e*		**P**		**14 22 31.7**	**-2.5**
KLMR				AMP				14 22 43.7	
	comp=Z,51nm,1.5s								
BRG	**Berggiesshubel**	**23.69**	**130**	*e*P		P		14 22 50.4	+16
	comp=Z,10nm,1.2s								
GERES	**GERESS Array B**	**25.49**	**132**	P		**P**		**14 22 51.9**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=331,slow=7.6,SNR=9.4								
GERES	**GERESS Array B**	**25.49**	**132**	P		**P**		**14 22 51.6**	**+0.1**
AKASG	**Malin Array Be**	**28.34**	**110**	P		**P**		**14 23 16.4**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=332,slow=9.4,SNR=4.7								
BURAR	**Bucovina Array**	**29.82**	**118**	P		**P**		**14 23 31.9**	**+1.7**
ESDC	**Sonseca Array**	**31.19**	**163**	P		**P**		**14 23 43.5**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=10,slow=7.8,SNR=3.8								
ESDC	**Sonseca Array**	**31.19**	**163**	IAmb		IAmb		14 23 44.8	
	comp=Z,11nm,1.6s								
YKA	**Yellowknife Ar**	**36.18**	**309**	P		**P**		**14 24 25.2**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=36,slow=8.4,SNR=9.3								
YKA				PcP		**PcP**		**14 26 50.3**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=42,slow=2.8,SNR=2.0								
TIXI	**Tiksi**	**36.42**	**19**	P		**P**		**14 24 27.9**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=354,slow=9.3,SNR=3.7								
TIXI	**Tiksi**	**36.42**	**18**	IAmb		IAmb		14 24 32.5	
	comp=Z,12nm,1.8s								
AKTO	**Aktyubinsk**	**38.22**	**82**	P		**P**		**14 24 43.0**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=323,slow=10,SNR=2.9								
BMAR	**Burnt Mountain**	**38.35**	**331**	P		**P**		**14 24 45.7**	**+1.9**
BRTR	**Keskin Array B**	**39.54**	**114**	P		**P**		**14 24 54.0**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=331,slow=6.7,SNR=1.9								
BVAR	**Borovoye Array**	**40.08**	**69**	P		**P**		**14 24 58.9**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=314,slow=11,SNR=3.7								
IMAR	**Indian Mountai**	**41.09**	**336**	P		**P**		**14 25 07.8**	**+1.2**
ILAR	**Eielson Array**	**41.17**	**331**	P		**P**		**14 25 08.2**	**+0.9**
	comp=Z,1.3nm,1.1s,baz=19,slow=8.6,SNR=3.2								
ILAR				PcP		**PcP**		**14 27 07.1**	**+1.0**
	comp=Z,0.7nm,0.9s,baz=353,slow=5.4,SNR=2.6								
ILAR	**Eielson Array**	**41.17**	**331**	P		**P**		**14 25 07.6**	**+0.3**
BCAR	**Beaver Creek A**	**41.84**	**327**	P		**P**		**14 25 13.9**	**+1.0**
KURK	**Kurchatov**	**44.65**	**64**	P		**P**		**14 25 36.1**	**+0.5**
GEYT	**Alibeck**	**49.25**	**90**	P		**P**		**14 26 13.8**	**+2.1**
	comp=Z,1.4nm,0.8s,baz=347,slow=5.0,SNR=2.2								
MKAR	**Makanchi Array**	**49.25**	**64**	P		**P**		**14 26 12.3**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=347,slow=5.0,SNR=4.3								
PDAR	**Pinedale Array**	**51.88**	**291**	P		**P**		**14 26 31.3**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=61,slow=7.3,SNR=3.1								
R32A	**Long Quarter,**	**52.24**	**279**	P		**P**		**14 26 33.2**	**-1.1**
TORD	**Torodi Ar. Bea**	**58.03**	**160**	P		**P**		**14 27 14.8**	**-1.3**
	comp=Z,2.3nm,1.1s,baz=299,slow=0.9,SNR=5.9								
TXAR	**Lajitas Array**	**62.20**	**279**	P		**P**		**14 27 44.7**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=44,slow=5.4,SNR=2.7								
MJAR	**Matsushiro Arr**	**71.79**	**22**	P		**P**		**14 28 46.2**	**+0.7**
	comp=Z,2.4nm,1.0s,baz=336,slow=5.6,SNR=4.1								
CMAR	**Chiang Mai Arr**	**80.57**	**61**	P		**P**		**14 29 37.6**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=338,slow=6.8,SNR=2.8								
ASAR	**Alice Springs**	**130.02**	**38**	PKP		**PKPdf**		**14 36 32.2**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=341,slow=2.0,SNR=2.9								

*IDC **16** 14:18:30.7±1.0, 70˚.24N× 15˚.20W, h0km, mb3.5/8, mb1 3.8/11, mb1mx3.5/53, mbtmp3.6/11, ML3.2/3, Error ellipse: s-maj=31.1km s-min=17.9km az=13.0*

ISC 16 14:18:32.2±0.8,**70˚.3N**±0˚.1×**15˚.13W**±0˚.09,**h10**km,**n12,** σ0**s49**/13,**mb3.5**/8,**Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SPITS	**Spitsbergen Ar**	**11.44**	**33**	Pn		**Pn**		**14 21 14.6**	**-0.7**
	baz=222,slow=15,SNR=1.1								
ARCES	**ARCESS Array B**	**13.79**	**74**	Pn		**Pn**		**14 21 47.7**	**+0.2**
	0.1nm,0.3s,baz=285,slow=20,SNR=2.0								
HFS	**Hagfors**	**15.61**	**116**	Pn		**Pn**		**14 22 12.5**	**+0.6**
	0.1nm,0.3s,baz=354,slow=13,SNR=1.1								
FINES	**FINESS Array B**	**18.63**	**98**	P		**Pn**		**14 22 50.4**	**+0.6**
	0.2nm,0.3s,baz=335,slow=13,SNR=4.0								
AKASG	**Malin Array Be**	**28.33**	**110**	P		**P**		**14 24 25.5**	**-0.2**
	0.2nm,0.3s,baz=333,slow=6.9,SNR=2.1								
YKA	**Yellowknife Ar**	**36.17**	**309**	P		**P**		**14 25 34.4**	**+0.3**
	1.0nm,0.9s,baz=35,slow=8.3,SNR=4.7								
YKA				PcP		**PcP**		**14 27 59.1**	**-0.2**
	0.3nm,0.8s,baz=42,slow=2.3,SNR=2.9								
BVAR	**Borovoye Array**	**40.03**	**69**	P		**P**		**14 26 06.8**	**0.0**
	0.2nm,0.5s,baz=317,slow=9.3,SNR=1.2								
ILAR	**Eielson Array**	**41.13**	**331**	P		**P**		**14 26 16.5**	**+0.7**
	0.3nm,1.0s,baz=17,slow=9.4,SNR=1.3								
MKAR	**Makanchi Array**	**49.20**	**64**	P		**P**		**14 27 20.2**	**+0.2**
	1.3nm,1.0s,baz=354,slow=7.3,SNR=3.9								
PDAR	**Pinedale Array**	**51.89**	**291**	P		**P**		**14 27 40.3**	**-0.3**
	0.2nm,0.5s,baz=57,slow=5.7,SNR=1.5								
TORD	**Torodi Ar. Bea**	**58.07**	**161**	P		**P**		**14 28 24.8**	**-0.5**
	1.0nm,1.0s,baz=355,slow=7.1,SNR=2.6								
TXAR	**Lajitas Array**	**62.22**	**279**	P		**P**		**14 28 53.8**	**0.0**
	0.3nm,0.9s,baz=29,slow=4.2,SNR=2.0								

*IDC **16** 14:18:50.3±0.6, 70˚.27N× 15˚.26W, h0km, mb3.9/18, mb1 4.1/24, mb1mx3.9/56, mbtmp3.9/24, ML3.6/5, Error ellipse: s-maj=16.4km s-min=12.5km az=25.0*
*NEIC **16** 14:18:51.8±2.0, 70˚.29N±0˚.07×15˚.3W±0˚.2, h10km±1km, mb4.4/20, Error ellipse: s-maj=12.0km s-min=11.2km az=126.0*

ISC 16 14:18:51.9±0.4,**70˚.28N**±0˚.06×**15˚.22W**±0˚.05,**h10**km,**n62,** σ1**s38**/67,**mb4.1**/24,**Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**6.03**	**206**	Pn		**Pn**		**14 20 19.9**	**-1.1**
	0.8nm,0.3s,baz=24,slow=16,SNR=2.0								
BORG				Sn		**Sn**		**14 21 32.0**	**+2.1**
	baz=349,slow=19,SNR=0.8								
SUMG	**Summit**	**7.74**	**298**	Pn		**Pn**		**14 20 45.4**	**+0.6**
ANGG	**Ammassalik, Gr**	**9.60**	**252**	Pn		**Pn**		**14 21 08.8**	**-1.0**
KBS	**Kingsbay**	**11.11**	**27**	Pn		**Pn**		**14 21 28.7**	**-1.8**
SPA0	**Spitsbergen Ar**	**11.47**	**33**	Pn		**Pn**		**14 21 34.5**	**-0.8**
SPITS	**Spitsbergen Ar**	**11.47**	**33**	Pn		**Pn**		**14 21 34.1**	**-1.3**
	baz=233,slow=14,SNR=3.7								
ILULI	**Ilulissat**	**12.36**	**282**	Pn		**Pn**		**14 21 45.9**	**-1.7**
ARCES	**ARCESS Array B**	**13.83**	**74**	Pn		**Pn**		**14 22 07.6**	**0.0**
	0.2nm,0.3s,baz=295,slow=8.6,SNR=1.4								
NOA	**NORSAR Array B**	**14.15**	**118**	Pn		**Pn**		**14 22 12.5**	**+0.4**
	baz=320,slow=9.0,SNR=1.7								
HFS	**Hagfors**	**15.62**	**116**	Pn		**Pn**		**14 22 33.4**	**+1.6**
	0.1nm,0.3s,baz=338,slow=11,SNR=2.8								
EKA	**Eskdalemuir Ar**	**15.92**	**154**	Pn		**Pn**		**14 22 35.0**	**-0.7**
	baz=347,slow=13,SNR=1.8								
IVI	**Ivigtut**	**16.07**	**252**			**P**		**14 22 41.8**	**+0.9**
LVZ	**Lovozero**	**17.55**	**74**	P		**P**		**14 23 00.0**	**+2.7**
LVZ				IAmb		IAmb		14 23 05.2	
	comp=Z,65nm,1.8s								
FIA1	**FINESS Array S**	**18.65**	**98**	P		**Pn**		**14 23 10.4**	**+0.7**
FINES	**FINESS Array B**	**18.65**	**98**	P		**P**		**14 23 09.4**	**0.0**
	comp=Z,0.6nm,0.3s,baz=320,slow=11,SNR=10								
FINES	**FINESS Array B**	**18.65**	**98**	P		**Pn**		**14 23 10.4**	**+0.7**
FRB	**Frobisher Bay**	**21.15**	**279**	P		**P**		**14 23 37.2**	**+0.6**
	comp=Z,2.1nm,0.2s,baz=42,slow=12,SNR=2.8								
CLL	**Collm**	**23.08**	**131**	*e*P		**P**		**14 23 59.0**	**+1.8**
	comp=Z,10.0nm,0.9s								
CLL				*e*				14 24 06.0	
CLL				*e*PP		**PnPn**		**14 24 22.0**	**0.0**
CLL	**Collm**	**23.08**	**131**	P		**P**		**14 23 57.9**	**+0.7**
CLL				IAmb		IAmb		14 24 02.5	
	comp=Z,8.3nm,0.8s								
KLMR	**Klimovskoe**	**23.63**	**86**	*e*		**P**		**14 23 58.6**	**-4.1**
KLMR				AMP				14 24 07.1	
	comp=Z,43nm,1.4s								
BRG	**Berggiesshubel**	**23.72**	**130**	*i* P		**P**		**14 24 05.1**	**+1.5**
	comp=Z,7.3nm,1.0s								
ECH	**Echery**	**24.60**	**142**	P		**P**		**14 24 12.2**	**+0.3**
ECH				IAmb		IAmb		14 24 16.7	
	comp=Z,9.0nm,1.0s								
PRU	**Pruhonice**	**24.68**	**130**	*e*P		**P**		**14 24 18.0**	**+5.5**
BFO	**Black Forest**	**24.74**	**140**	P		**P**		**14 24 13.3**	**+0.2**
BFO				IAmb		IAmb		14 24 17.8	
	comp=Z,8.4nm,0.9s								
DPC	**Dobruska-Polom**	**24.82**	**127**	*e*P		**P**		**14 24 15.7**	**+1.8**
KHC	**Kasperske Hory**	**25.22**	**132**	*e*P		**P**		**14 24 20.0**	**+2.5**
KHC	**Kasperske Hory**	**25.22**	**132**	P		**P**		**14 24 18.4**	**+0.9**
GEC2	**GERESS Array S**	**25.52**	**132**	P		**P**		**14 24 21.8**	**+1.6**
GEC2				IAmb		IAmb		14 24 28.0	
	comp=Z,10nm,1.1s								
GERES	**GERESS Array B**	**25.52**	**132**	P		**P**		**14 24 21.2**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=321,slow=7.7,SNR=7.3								
GERES	**GERESS Array B**	**25.52**	**132**	P		**P**		**14 24 21.5**	**+1.2**
MORC	**Moravsky Berou**	**25.68**	**126**	P		**P**		**14 24 21.8**	**+0.2**
MORC				IAmb		IAmb		14 24 28.5	
	comp=Z,10.0nm,1.1s								
AKASG	**Malin Array Be**	**28.35**	**110**	P		**P**		**14 24 44.6**	**-0.9**
	comp=Z,2.7nm,0.6s,baz=331,slow=9.1,SNR=6.4								
BURAR	**Bucovina Array**	**29.84**	**118**	P		**P**		**14 24 58.1**	**-0.8**
ESDC	**Sonseca Array**	**31.23**	**163**	P		**P**		**14 25 10.3**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=353,slow=8.3,SNR=2.1								
YKA	**Yellowknife Ar**	**36.16**	**309**	P		**P**		**14 25 53.4**	**-0.4**
	comp=Z,2.3nm,1.0s,baz=36,slow=8.4,SNR=6.0								
YKA				PcP		**PcP**		**14 28 18.6**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=35,slow=2.3,SNR=6.6								
TIXI	**

Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-1.86; $M_{\theta\theta}$0.39; $M_{\phi\phi}$1.47; $M_{r\theta}$-0.16; $M_{r\phi}$0.46; $M_{\theta\phi}$-0.20; Fault plane solution: M_o1.78000×10^{17} NP1:ϕ_s198.00000°, δ41.00000°, λ-93.00000°. NP2:ϕ_s23.00000°, δ49.00000°, λ-87.00000°. Principal axes: T 1.6573, Plg4.0000°, Azm111.0000°; N 0.2198, Plg2.0000°, Azm201.0000°; P -1.8771, Plg85.0000°, Azm319.0000°;

*IEPN **16** 14:24:41.0, 70.16N× 13.66W, h10km*

*BGR **16** 14:24:44.1±0.0, 69.88N× 12.73W, h10km, mb5.1, Ms4.7*

ISC 16 14:24:31.9±0.4, 70.37N±0.03× 15.19W±0.03, h11km±2km, h11km:pP-P, n1466, σ1s70/1271, mb4.9/260, MS5.3/480, 41C-24D, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**2.22**	**72**	*eP*		**Pn**	**14 25 05.2**	**-3.4**
SCO	**Scoresbysund**	**2.28**	**276**	*i* P		**Pg**	**14 25 16.9**	**+1.3**
SCO	**Scoresbysund**	**2.28**	**276**	P		Pn	14 25 04.5	-4.9
SCO	**Scoresbysund**	**2.28**	**276**	Pn		Pn	14 25 04.5	-4.9
JMIC	**Jan Mayen**	**2.31**	**71**	Pn		**Pn**	**14 25 06.4**	**-3.4**
JMIC	**Jan Mayen**	**2.31**	**71**	*eP*		**Pn**	**14 25 05.9**	**-3.9**
JMIC				IVMsBB			14 25 48.9	
	comp=Z,52μm,11.3s							
JNW	**Jan Mayen West**	**2.34**	**71**	*eP*		**Pn**	**14 25 06.5**	**-3.8**
IGRI	**Grimsey**	**3.99**	**196**	P		**Pn**	**14 25 29.1**	**-3.8**
	baz=204							
IGRI				S		**Sn**	**14 26 16.0**	**-3.5**
	baz=204							
DBG	**Daneborg**	**4.24**	**341**	*eP*		**Pn**	**14 25 31.8**	**-4.5**
IFLA	**Flatey**	**4.35**	**194**	P		**Pn**	**14 25 34.8**	**-3.0**
	baz=201							
IFLA				S		**Sn**	**14 26 23.9**	**-4.5**
	baz=201							
IHED	**Heoinshofoi**	**4.38**	**191**	P		**Pn**	**14 25 34.3**	**-4.0**
	baz=198							
IHED				S		**Sn**	**14 26 24.7**	**-4.6**
	baz=198							
IBRE	**Brettingsstaoi**	**4.39**	**195**	P		**Pn**	**14 25 35.3**	**-3.1**
	baz=201							
IBRE				S		**Sn**	**14 26 25.1**	**-4.3**
	baz=201							
IDIM	**Dimmadalss**	**4.48**	**189**	P		**Pn**	**14 25 35.5**	**-4.2**
	baz=196							
IDIM				S		**Sn**	**14 26 26.3**	**-5.4**
	baz=196							
IGHA	**Grjothals**	**4.59**	**188**	P		**Pn**	**14 25 36.5**	**-4.6**
	baz=194							
IGHA				S		**Sn**	**14 26 28.7**	**-5.6**
	baz=194							
IHRN	**Hraun**	**4.66**	**206**	P		**Pn**	**14 25 39.3**	**-2.8**
	baz=212							
IHRN				S		**Sn**	**14 26 33.8**	**-2.2**
	baz=212							
IKVO	**Krokottuvotn**	**4.72**	**189**	P		**Pn**	**14 25 38.9**	**-4.1**
	baz=195							
IGRS	**Grimsstaoir**	**4.77**	**185**	P		**Pn**	**14 25 38.9**	**-4.7**
	baz=191							
IGRS				S		**Sn**	**14 26 33.0**	**-5.8**
	baz=191							
IREN	**Reynihlio**	**4.79**	**189**	P		**Pn**	**14 25 40.1**	**-3.9**
	baz=195							
ISVA	**Svartarkot**	**5.12**	**190**	P		**Pn**	**14 25 44.3**	**-4.2**
	baz=196							
ISVA				S		**Sn**	**14 26 43.8**	**-3.6**
	baz=196							
IADA	**Aoalbol**	**5.38**	**182**	P		**Pn**	**14 25 47.5**	**-4.6**
	baz=187							
BORG	**Borgarnes**	**6.12**	**205**	Pn		**Pn**	**14 25 59.5**	**-2.6**
	comp=Z,12nm,0.3s,baz=1.2,slow=6.1,SNR=38							
BORG				Sn		**Sn**	**14 27 07.6**	**-4.4**
	baz=304,slow=7.3,SNR=0.8							
BORG				LR		LR	14 27 47.7	
	comp=Z,8μm,21.2s,baz=0.6,slow=33							
BORG	**Borgarnes**	**6.12**	**205**	P		**Pn**	**14 26 00.0**	**-2.1**
BORG							14 27 07.6	
BORG	**Borgarnes**	**6.12**	**205**			**Pn**	**14 25 60.0**	**-2.1**
BORG	**Borgarnes**	**6.12**	**205**	*eP*		**Pn**	**14 26 02.4**	**+0.3**
SUMG	**Summit**	**7.70**	**297**	*i* P		**Pn**	**14 26 21.0**	**-3.2**
SUMG	**Summit**	**7.70**	**297**	*i* P		**Pn**	**14 26 21.0**	**-3.2**
SUMG	**Summit**	**7.70**	**297**			**Pn**	**14 26 21.0**	**-3.2**
HSPB	**Hornsund (broa**	**10.73**	**38**	*eP*		**Pn**	**14 27 03.2**	**-2.0**
HSPB				IVMs_BB		IVMs_BB	14 29 49.8	
	comp=Z,3μm,17.2s							
BRBA	**Barentsburg A**	**10.93**	**33**	*eP*		**Pn**	**14 27 07.4**	**-0.5**
BRBA				IVMs_BB		IVMs_BB	14 29 56.6	
	comp=Z,3μm,20.4s							
BJO1	**Bjornoya**	**10.98**	**52**	IVMs_BB		IVMs_BB	14 30 21.6	
	comp=Z,4μm,16.8s							
KBS	**Kingsbay**	**11.02**	**27**	Pn		**Pn**	**14 27 07.7**	**-1.4**
KBS				Sn		**Sn**	**14 29 05.5**	**-6.6**
KBS	**Kingsbay**	**11.02**	**27**	*i* P		**Pn**	**14 27 07.7**	**-1.4**
KBS	**Kingsbay**	**11.02**	**27**			**Pn**	**14 27 07.5**	**-1.6**
KBS	**Kingsbay**	**11.02**	**27**	*eP*		**Pn**	**14 27 08.1**	**-1.1**
KBS				IVMs_BB		IVMs_BB	14 30 08.8	
	comp=Z,5μm,17.2s							
NOR	**Nord**	**11.30**	**359**	Pn		**Pn**	**14 27 12.0**	**-0.9**
NOR				Sn		Sn	14 29 09.1	-10
NOR	**Nord**	**11.30**	**359**	*i* P		**Pn**	**14 27 11.0**	**-1.9**
NOR	**Nord**	**11.30**	**359**	*i* P		**Pn**	**14 27 11.0**	**-1.9**
NOR	**Nord**	**11.30**	**359**	Pn		**Pn**	**14 27 12.0**	**-0.9**
NOR				Sn		Sn	14 29 09.1	-10
SPA0	**Spitsbergen Ar**	**11.38**	**33**	Pn		**Pn**	**14 27 13.1**	**-1.0**
	baz=235,slow=11							
SPA0	**Spitsbergen Ar**	**11.38**	**33**			**Pn**	**14 27 13.3**	**-0.9**
SPA0	**Spitsbergen Ar**	**11.38**	**33**	Pn		**Pn**	**14 27 13.1**	**-1.0**
	baz=235,slow=11							
SPITS	**Spitsbergen Ar**	**11.38**	**33**	Pn		**Pn**	**14 27 13.7**	**-0.5**
	baz=227,slow=13,SNR=49							
SPITS				Sn		**Sn**	**14 29 18.0**	**-3.1**
	baz=224,slow=20,SNR=1.8							
SPITS				LR		LR	14 30 31.1	
	comp=Z,9μm,20.9s,baz=245,slow=31							
FOO	**Floro**	**11.98**	**127**	*eP*		**Pn**	**14 27 22.0**	**-0.3**
AKN	**Aaknes**	**12.05**	**122**	Pn		**Pn**	**14 27 23.9**	**+0.5**
AKN	**Aaknes**	**12.05**	**122**	Pn		**Pn**	**14 27 23.9**	**+0.5**
ILULI	**Ilulissat**	**12.35**	**282**	*i* P		Pn	14 27 22.2	-5.2
ILULI	**Ilulissat**	**12.35**	**282**	P		**Pn**	**14 27 23.9**	**-3.5**
ILULI	**Ilulissat**	**12.35**	**282**			**Pn**	**14 27 23.9**	**-3.5**
DOMB	**Dombas**	**12.76**	**119**	*eP*		**Pn**	**14 27 31.7**	**-1.3**
SFJD	**Kangerlussuaq**	**13.18**	**272**	Pn		**Pn**	**14 27 36.9**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=53,slow=9.5,SNR=2.6							
SFJD	**Kangerlussuaq**	**13.18**	**272**	*i* P		**Pn**	**14 27 35.5**	**-3.2**
ARCES	**ARCESS Array B**	**13.79**	**74**	Pn		**Pn**	**14 27 47.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=282,slow=14,SNR=2.4							
ARCES				LR		LR	14 32 05.5	
	comp=Z,11μm,19.2s,baz=300,slow=33							
NC204	**NORSAR Array S**	**13.87**	**118**			**Pn**	**14 27 47.3**	**-0.9**
NB000	**NORSAR Array S**	**14.07**	**119**			**Pn**	**14 27 51.0**	**+0.2**
NC303	**NORSAR Array S**	**14.09**	**117**			**Pn**	**14 27 50.7**	**-0.5**
NB2	**NORSAR Subarra**	**14.19**	**118**	Pn		**Pn**	**14 27 53.4**	**+0.8**
	baz=337,slow=16							
NB2	**NORSAR Subarra**	**14.19**	**118**	Pn		**Pn**	**14 27 53.4**	**+0.8**
	baz=337,slow=16							
NOA	**NORSAR Array B**	**14.19**	**118**	Pn		**Pn**	**14 27 50.6**	**-2.0**
	comp=Z,0.0nm,0.3s,baz=322,slow=12,SNR=6.8							
NOA				LR		LR	14 32 43.6	
	comp=Z,6μm,20.9s,baz=320,slow=35							
NB201	**NORSAR Array S**	**14.21**	**118**	Pn		**Pn**	**14 27 51.4**	**-1.4**
NC405	**NORSAR Array S**	**14.28**	**117**	Pn		**Pn**	**14 27 53.5**	**-0.3**
NC602	**NORSAR Array S**	**14.53**	**118**	Pn		**Pn**	**14 27 57.6**	**+0.5**
NRA0	**NORESS Array S**	**14.53**	**118**	Pn		**Pn**	**14 27 58.0**	**+0.9**
	baz=306,slow=11							
NRA0	**NORESS Array S**	**14.53**	**118**	Pn		**Pn**	**14 27 58.0**	**+0.9**
	baz=306,slow=11							
KONO	**Kongsberg**	**14.86**	**124**	*i* P		**Pn**	**14 27 59.7**	**-1.9**
KONO	**Kongsberg**	**14.86**	**124**	*eP*		**Pn**	**14 27 58.8**	**-2.8**
SGF	**Sodankyl**	**15.07**	**81**	P		**P**	**14 28 09.9**	**+0.2**
HFS	**Hagfors**	**15.66**	**116**	P		**Pn**	**14 28 11.3**	**-0.8**
	baz=329,slow=10							
HFS	**Hagfors**	**15.66**	**116**	Pn		**Pn**	**14 28 10.8**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=332,slow=8.8,SNR=5.1							
HFS				LR		LR	14 33 28.7	
	comp=Z,10μm,21.7s,baz=310,slow=34							
HFS	**Hagfors**	**15.66**	**116**	P		**Pn**	**14 28 11.3**	**-0.8**
	baz=329,slow=10							
TULEG	**Thule**	**15.86**	**316**	Pn		**Pn**	**14 28 08.2**	**-6.5**
TULEG				IAmb		IAmb	14 28 16.5	
	comp=Z,261nm,1.4s							
EKA	**Eskdalemuir Ar**	**16.00**	**154**	P		**P**	**14 28 18.5**	**-1.7**
EKA	**Eskdalemuir Ar**	**16.00**	**154**	Pn		**Pn**	**14 28 14.1**	**-2.6**
	baz=355,slow=11,SNR=2.7							
EKA				LR		LR	14 33 46.2	
	comp=Z,9μm,19.1s,baz=345,slow=35							
EKA	**Eskdalemuir Ar**	**16.00**	**154**	P		**P**	**14 28 18.5**	**-1.7**
ESK	**Eskdalemuir**	**16.01**	**155**	P		**Pn**	**14 28 16.3**	**-0.5**
ESK				pmax		pmax		
	comp=Z,169nm,1.9s							
ESK	**Eskdalemuir**	**16.01**	**155**			**Pn**	**14 28 16.3**	**-0.5**
ESK				IAmb		IAmb	14 28 29.4	
	comp=Z,169nm,1.9s							
ESK	**Eskdalemuir**	**16.01**	**155**	*eP*		**Pn**	**14 28 16.5**	**-0.3**
IVI	**Ivigtut**	**16.11**	**252**			**Pn**	**14 28 17.3**	**-0.7**
OUL	**Oulu**	**16.17**	**89**	P		**P**	**14 28 21.7**	**-0.2**
OUL				pmax		pmax		
	comp=Z,106nm,1.0s							
VAF	**Ylistaro**	**16.40**	**98**	P		**P**	**14 28 25.0**	**+0.6**
VAF				pmax		pmax		
	comp=Z,215nm,0.8s							
APA0	**Apatity Array**	**17.12**	**76**	P		**Pn**	**14 28 29.1**	**-1.7**
	slow=6.9							
APA0	**Apatity Array**	**17.12**	**76**	P		**Pn**	**14 28 29.1**	**-1.7**
	slow=6.9							
APA	**Apatity**	**17.28**	**76**	*i* P		**Pn**	**14 28 31.0**	**-1.7**
APA				*i*			14 31 41.0	
APA				pmax		pmax		
	comp=Z,14nm,0.7s							
ZFI2	**Zemlya Franca-**	**17.50**	**28**	*eP*		**P**	**14 28 36.5**	**0.0**
	comp=Z,16nm,0.7s							
ZFI2				S		Sn	14 31 36.6	-13
LVZ	**Lovozero**	**17.51**	**74**	*i* P		**Pn**	**14 28 34.1**	**-1.6**
LVZ				pmax		pmax		
	comp=Z,79nm,1.0s							
LVZ	**Lovozero**	**17.51**	**74**	Pn		**Pn**	**14 28 34.6**	**-1.1**
LVZ	**Lovozero**	**17.51**	**74**	*eP*		**Pn**	**14 28 33.2**	**-2.5**
SUF	**Sumiainen**	**17.79**	**95**	P		**P**	**14 28 40.6**	**+0.8**
SUF				pmax		pmax		
	comp=Z,50nm,2.1s							
FIA0	**FINESS Array S**	**18.66**	**98**	P		**Pn**	**14 28 50.0**	**+0.4**
	baz=314,slow=10							
FIA0	**FINESS Array S**	**18.66**	**98**	P		**Pn**	**14 28 50.0**	**+0.4**
	baz=314,slow=10							
FIA1	**FINESS Array S**	**18.66**	**98**	P		**Pn**	**14 28 50.2**	**+0.5**
FINES	**FINESS Array B**	**18.66**	**98**	P		**P**	**14 28 48.8**	**-0.6**
	comp=Z,1.5nm,0.3s,baz=327,slow=10.0,SNR=55							
FINES				LR		LR	14 35 10.5	
	comp=Z,13μm,19.5s,baz=320,slow=34							
FINES	**FINESS Array B**	**18.66**	**98**	P		**Pn**	**14 28 49.9**	**+0.2**
FINES	**FINESS Array B**	**18.66**	**98**	P		**Pn**	**14 28 49.9**	**+0.2**
JOF	**Joensuu**	**19.39**	**89**	P		**P**	**14 28 57.7**	**+0.3**
JOF				pmax		pmax		
	comp=Z,53nm,1.6s							
SLVR	**Solovky**	**19.50**	**81**	*eP*		**P**	**14 28 58.7**	**+0.2**
	comp=Z,30nm,0.7s							
SLVR				*eS*		**Sn**	**14 32 28.3**	**-10**
RGN	**Rugen**	**20.29**	**127**	*eP*		**P**	**14 29 06.7**	**-0.6**
SLIT	**Slitere, Latvi**	**20.34**	**110**	*eP*		**P**	**14 29 06.7**	**-1.1**
TMCR	**Tamitsa**	**20.83**	**81**	*eP*		**P**	**14 29 13.1**	**+0.1**
	comp=Z,31nm,0.8s							
TMCR				*eS*		S	14 32 46.5	-18
TMCR	**Tamitsa**	**20.83**	**81**	*eP*		**P**	**14 29 13.1**	**+0.1**
TMCR				*eS*		**S**	**14 33 06.7**	**+1.9**
TMCR				pmax		pmax		
	comp=Z,31nm,0.8s							
VSU	**Vasula**	**21.12**	**103**	*eP*		**P**	**14 29 16.4**	**+0.2**
VSU	**Vasula**	**21.12**	**103**	*c i* P		**P**	**14 29 15.9**	**-0.3**
VSU				pmax		pmax		
	comp=Z,196nm,0.9s							
FRB	**Frobisher Bay**	**21.15**	**278**	P		**P**	**14 29 14.8**	**-1.6**
	comp=Z,16nm,0.9s,baz=44,slow=10,SNR=12							
FRB				LR		LR	14 37 16.5	
	comp=Z,7μm,18.5s,baz=56,slow=36							
NRDL	**Niedersach Rie**	**21.32**	**134**	*eP*		**P**	**14 29 18.7**	**+0.4**
	comp=Z,189nm,1.8s,baz=339,slow=10.0							
PBUR	**Paburge**	**21.55**	**113**	*eP*		**P**	**14 29 20.9**	**+0.1**
BUG	**Bochum--Univer**	**21.64**	**140**	*eP*		**P**	**14 29 22.0**	**+0.1**
	baz=339,slow=10.0							
ASSE	**Asse, Remlinge**	**21.79**	**134**	*eP*		**P**	**14 29 23.1**	**-0.3**
	comp=Z,122nm,1.8s,baz=339,slow=10.0							
SNF	**Seneffe**	**21.91**	**145**	P		**P**	**14 29 23.6**	**-1.1**
BEBN	**Eben Emael**	**21.91**	**143**	P		**P**	**14 29 25.0**	**+0.2**
CLZ	**Clausthal**	**21.99**	**134**	*eP*		**P**	**14 29 25.3**	**-0.3**
	baz=339,slow=10.0							
BSTI	**Sart Tilman**	**22.09**	**143**	P		**P**	**14 29 27.0**	**+0.2**
MEM	**Membach**	**22.16**	**142**	P		**P**	**14 29 27.3**	**-0.2**
MEM	**Membach**	**22.16**	**142**	P		**P**	**14 29 27.5**	**+0.1**
MEM				pmax		pmax		
	comp=Z,59nm,1.3s							
GTTG	**Gottingen**	**22.16**	**135**	*eP*		**P**	**14 29 27.4**	**0.0**
	comp=Z,236nm,2.1s,baz=339,slow=10.0							
BGES	**Gesves**	**22.19**	**144**	P		**P**	**14 29 27.1**	**-0.6**
BCLA	**Clavier**	**22.20**	**144**	‖P		**P**	**14 29 28.4**	**+0.6**
BCLA				PnPn		**PnPn**	**14 29 50.4**	**+0.5**
BMRD	**Maredsous**	**22.20**	**145**	P		**P**	**14 29 27.4**	**-0.5**
RUE	**Ruedersdorf**	**22.27**	**129**	*eP*		**P**	**14 29 27.3**	**-1.3**
BAIF	**Baives**	**22.33**	**146**	*eP*		**P**	**14 29 29.5**	**+0.3**
BAIF				pmax		pmax		
	comp=Z,42nm,1.1s							
DOU	**Dourbes**	**22.37**	**145**	P		**P**	**14 29 29.0**	**-0.6**
DOU	**Dourbes**	**22.37**	**145**	P		**P**	**14 29 29.2**	**-0.4**
DOU				pmax		pmax		
	comp=Z,37nm,1.9s							
BHOU	**Houvegnez**	**22.40**	**143**	P		**P**	**14 29 29.9**	**-0.2**
	comp=Z,58nm,2.0s							
GIVF	**Givet**	**22.41**	**145**	*eP*		**P**	**14 29 29.8**	**-0.3**
GIVF				pmax		pmax		
	comp=Z,128nm,1.6s							
AHRW	**Bad Neuenahr-A**	**22.45**	**141**	*eP*		**P**	**14 29 30.5**	**0.0**
	comp=Z,64nm,1.6s,baz=339,slow=10.0							
GKP	**Gorka Klasztor**	**22.51**	**123**	*eP*		**P**	**14 29 31.9**	**+0.8**
GKP				*eL*		L	14 36 58.6	
	comp=Z,5μm,23.4s							
GKP	**Gorka Klasztor**	**22.51**	**123**	P		**P**	**14 29 32.9**	**+1.8**
GKP				pmax		pmax		
	comp=Z,133nm,1.1s							
RES	**Resolute Bay**	**22.57**	**317**	P		**P**	**14 29 30.6**	**-1.1**
	comp=Z,10nm,1.0s,baz=69,slow=10.0,SNR=5.7							
RES				LR		LR	14 38 15.9	
	comp=Z,10μm,18.3s,baz=61,slow=36							
RES	**Resolute Bay**	**22.57**	**317**	P		**P**	**14 29 31.9**	**+0.3**
RES				pmax		pmax		
	comp=Z,45nm,1.3s							
RES				MLR		MLR		
	comp=Z,11μm,18.0s							
RES	**Resolute Bay**	**22.57**	**317**	P		**P**	**14 29 31.9**	**+0.3**
RES				IAMs_20		IAMs_20	14 38 06.0	
	comp=Z,11μm,18.0s							
PABE	**Paberze**	**22.62**	**111**	*eP*		**P**	**14 29 32.0**	**-0.3**
FLN	**La Foliniere**	**22.79**	**154**	*eP*		**P**	**14 29 34.9**	**+0.8**
FLN				pmax		pmax		
	comp=Z,37nm,1.0s							
UBBA	**Unterbreizbach**	**22.85**	**136**	*eP*		**P**	**14 29 35.1**	**+0.5**
	baz=339,slow=10.0							
LSH	**Leshukonskoye**	**22.89**	**74**	*eP*		**P**	**14 29 32.6**	**-2.5**
	comp=Z,99nm,1.5s							
LSH				*eS*		**S**	**14 33 33.8**	**-10**
NEUB	**Neuenburg**	**22.91**	**133**	*eP*		**P**	**14 29 35.1**	**-0.3**
	baz=339,slow=10.0							
LDF	**La Druitiere**	**23.01**	**154**	*eP*		**P**	**14 29 40.0**	**+3.6**
LDF				pmax		pmax		
	comp=Z,34nm,1.0s							
TNS	**Taunus Mts**	**23.05**	**139**	*eP*		**P**	**14 29 37.0**	**+0.1**
	baz=339,slow=10.0							
WLF	**Walferdange**	**23.09**	**143**	P		**P**	**14 29 39.0**	**+1.8**
WLF	**Walferdange**	**23.09**	**143**	*eP*		**P**	**14 29 36.7**	**-0.6**
	baz=339,slow=10.0							
CLL	**Collm**	**23.13**	**131**	*i* P		**P**	**14 29 37.4**	**-0.3**
	comp=Z,373nm,3.0s							
CLL				*i* sP		**sP**	**14 29 41.7**	**-0.1**
	comp=Z,1μm,3.2s							
CLL				*i*			14 29 47.2	
CLL				*e*(PP)			14 29 57.0	
CLL				*eS*		**S**	**14 33 51.0**	**+2.4**
CLL				*e*			14 34 30.0	
CLL				Lm		MLR	14 37 00.0	
	comp=N,4μm,21.9s							
CLL				Lm		MLR	14 37 00.0	
	comp=E,3μm,19.8s							
CLL				Lm		MLR	14 37 00.0	
	comp=Z,5μm,22.0s							
CLL	**Collm**	**23.13**	**131**	*i* P		**P**	**14 29 37.4**	**-0.3**
CLL				*i*			14 29 41.7	
CLL				*eS*		**S**	**14 33 51.0**	**+2.4**
CLL				pmax		pmax		
	comp=Z,1μm,3.2s							
CLL				MLR		MLR		
	comp=Z,5μm,22.0s							
CLL	**Collm**	**23.13**	**131**	P		**P**	**14 29 36.9**	**-0.8**
CLL				IAmb		IAmb	14 29 49.0	
	comp=Z,73nm,1.4s							
CLL	**Collm**	**23.13**	**131**	*eP*		**P**	**14 29 36.7**	**-1.0**
	baz=339,slow=10.0							
IZAR	**Zarasai**	**23.14**	**108**	*eP*		**P**	**14 29 38.5**	**+0.8**
ISAL	**Salakas**	**23.25**	**108**	*eP*		**P**	**14 29 39.6**	**+0.8**
MOX	**Moxa**	**23.39**	**134**	P		**P**	**14 29 38.8**	**-1.6**
MOX	**Moxa**	**23.39**	**134**	*eP*		**P**	**14 29 39.6**	**-0.8**
	comp=Z,210nm,2.4s,baz=339,slow=10.0							
MOX				*eL*		L	14 37 52.3	
	comp=Z,4μm,21.8s							
IIGN	**Ignalina**	**23.46**	**108**	*eP*		**P**	**14 29 41.5**	**+0.5**
FBE	**Freiberg**	**23.57**	**131**	*eP*		**P**	**14 29 42.2**	**+0.1**
	comp=Z,294nm,2.3s,baz=339,slow=10.0							
KLMR	**Klimovskoe**	**23.61**	**86**	*eP*		**P**	**14 29 41.3**	**-1.1**
	comp=Z,72nm,0.9s							
KLMR				*eS*		**S**	**14 33 48.8**	**-7.5**
KLMR	**Klimovskoe**	**23.61**	**86**	*eP*		**P**	**14 29 39.9**	**-2.5**
KLMR				*eS*		**S**	**14 33 55.6**	**-0.7**
KLMR				pmax		pmax		
	comp=Z,105nm,1.0s							
KLMR				MLR		MLR		
	comp=Z,7μm,16.0s							
KLMR	**Klimovskoe**	**23.61**	**86**	*eP*		**P**	**14 29 39.9**	**-2.5**
KLMR				AMP			14 29 49.0	
	comp=Z,105nm,1.0s							
KLMR				*eS*		**S**	**14 33 55.7**	**-0.6**
KLMR				*eS*		**S**	**14 33 55.7**	**-0.6**
KLMR				LQ		LQ	14 36 02.2	
KLMR				LQ		LQ	14 36 02.2	
KLMR				LR		LR	14 37 14.2	
KLMR				AMP			14 37 57.7	
	comp=Z,7μm,15.7s							
SUW	**Suwalki**	**23.63**	**114**	*eP*		**P**	**14 29 42.0**	**-0.6**
SUW				*eL*		L	14 37 49.5	
	comp=Z,12μm,22.6s							
SUW	**Suwalki**	**23.63**	**114**	P		**P**	**14 29 42.9**	**+0.3**
SUW				pmax		pmax		
	comp=Z,58nm,0.8s							
SUW	**Suwalki**	**23.63**	**114**	IAMs_20		IAMs_20	14 38 05.7	
	comp=Z,12μm,21.0s							
PLN	**Plauen**	**23.68**	**133**	*eP*		**P**	**14 29 42.9**	**-0.2**
	comp=Z,242nm,2.3s,baz=339,slow=10.0							
BRG	**Berggiesshubel**	**23.77**	**130**	*eP*		**P**	**14 29 43.8**	**-0.2**
	comp=Z,160nm,2.2s							
BRG				S		**S**	**14 34 05.0**	**+6.0**
	comp=N,4μm,16.0s							
	comp=E,3μm,17.1s							
	comp=Z,6μm,17.5s							
BRG	**Berggiesshubel**	**23.77**	**130**	*eP*		**P**	**14 29 43.8**	**-0.2**
BRG				S		**S**	**14 34 05.0**	**+6.0**
BRG				pmax		pmax		
	comp=Z,160nm,2.2s							
BRG				MLR		MLR		
	comp=N,4μm,16.0s							
BRG				MLR		MLR		
	comp=E,3μm,17.1s							
BRG				MLR		MLR		
	comp=Z,6μm,17.5s							
BRG	**Berggiesshubel**	**23.77**	**130**	*eP*		**P**	**14 29 43.4**	**-0.6**
	baz=339,slow=10.0							
TANN	**Tannenbergstha**	**23.82**	**133**	*eP*		**P**	**14 29 44.4**	**-0.1**
	comp=Z,490nm,2.1s,baz=339,slow=10.0							
GUNZ	**Gunzen**	**23.83**	**133**	*eP*		**P**	**14 29 44.5**	**-0.2**
	comp=Z,183nm,2.1s,baz=339,slow=10.0							
WERN	**Wernitzgruen**	**23.91**	**133**	*eP*		**P**	**14 29 44.7**	**-0.7**
	baz=339,slow=10.0							
CLF	**Chambon-Foret**	**23.94**	**150**			**P**	**14 29 44.5**	**-1.1**
CLF				IAMs_20		IAMs_20	14 38 54.9	
	comp=Z,10μm,19.0s							
NKC	**Novy Kostel**	**23.98**	**133**	*eP*		**P**	**14 29 47.8**	**+1.8**
NKC				*eS*		**S**	**14 34 04.6**	**+2.2**
NKC				AMS		AMS	14 42 20.0	
	comp=Z,4μm,12.7s							
NKC	**Novy Kostel**	**23.98**	**133**	*eP*		**P**	**14 29 47.8**	**+1.8**
NKC				*eS*		**S**	**14 34 04.6**	**+2.2**
NKC				MLR		MLR		
	comp=Z,4μm,12.7s							
NACGM	**Naroch**	**24.02**	**108**	*eP*		**P**	**14 29 44.0**	**-2.3**
NACGM				*eP*		**pP**	**14 29 46.0**	**-3.3**
NACGM				*ePP*		**PnPn**	**14 30 20.0**	**+5.3**
NACGM				*ePPP*		PPP	14 30 49.0	
NACGM				*eS*		**S**	**14 34 04.0**	**+1.2**
NACGM				*eSS*		SnSn	14 35 27.0	+44
NACGM				*eSSS*		SSS	14 35 52.0	
NACGM				*eLQ*		LQ	14 36 15.0	
NACGM				*eLR*		LR	14 37 10.0	
NACGM				LRM		MLR	14 39 08.0	
	comp=Z,27nm,15.0s							
MANZ	**

MNK MLR MLR
comp=N,1µm,14.0s
HAU Haudompre 24.71 144 *e*P **P 14 29 55.9 +3.2**
HAU pmax pmax
comp=Z,344nm,2.6s
PRU Pruhonice 24.73 130 *e*P **P 14 29 54.5 +1.6**
PRU *e*S **S 14 34 20.7 +6.2**
PRU AMS AMS 14 40 00.0
comp=Z,5µm,17.1s
PRU Pruhonice 24.73 130 *e*P **P 14 29 54.5 +1.6**
PRU *e*S **S 14 34 20.7 +6.2**
PRU MLR MLR
comp=Z,5µm,17.1s
BEL Belsk 24.80 120 *e*P **P 14 29 54.1 +0.7**
BEL *e*L L 14 38 11.0
comp=Z,4µm,24.9s
BFO Black Forest 24.81 141 P **P 14 29 51.7 -2.0**
BFO pmax pmax
comp=Z,99nm,1.6s
BFO MLR MLR
comp=Z,4µm,20.0s
BFO Black Forest 24.81 141 P **P 14 29 51.7 -2.0**
BFO IAmb IAmb 14 30 00.8
comp=Z,99nm,1.6s
BFO Black Forest 24.81 141 *e*P **P 14 29 53.3 -0.4**
baz=339,slow=10.0
GOPC GO Pecny, Ondr 24.87 130 *e*P **P 14 29 56.2 +2.1**
GOPC *e*S **S 14 34 26.6 +10**
GOPC AMS AMS 14 39 50.0
comp=Z,5µm,17.3s
GOPC GO Pecny, Ondr 24.87 130 *e*P **P 14 29 56.2 +2.1**
GOPC MLR MLR
comp=Z,5µm,17.3s
DPC Dobruska-Polom 24.88 127 *e*P **P 14 29 56.0 +1.8**
DPC *e*S **S 14 34 21.1 +4.3**
DPC AMS AMS 14 39 20.0
comp=Z,6µm,18.7s
DPC Dobruska-Polom 24.88 127 *e*P **P 14 29 56.0 +1.8**
DPC *e*S **S 14 34 21.1 +4.3**
DPC MLR MLR
comp=Z,6µm,18.7s
LOR Lormes 24.95 148 *e*P **P 14 29 55.7 +0.8**
LOR pmax pmax
comp=Z,39nm,1.2s
HINF Hinteralfeld 24.99 143 *e*P **P 14 29 56.2 +0.9**
HINF pmax pmax
comp=Z,73nm,1.9s
PRGR Permogore 25.09 79 P **P 14 29 54.7 -1.3**
comp=Z,30nm,0.8s
WET Wettzell 25.09 133 P **P 14 29 57.1 +0.9**
WET pmax pmax
comp=Z,55nm,1.6s
WET Wettzell 25.09 133 *e*P **P 14 29 56.8 +0.5**
baz=339,slow=10.0
KHC Kasperske Hory 25.28 132 *e*P **P 14 29 59.1 +1.2**
KHC *epP* **sP 14 30 04.7 +2.6**
KHC *e*S S 14 34 40.6 +17
KHC AMS AMS 14 38 40.0
comp=Z,4µm,21.4s
KHC Kasperske Hory 25.28 132 *e*P **P 14 29 59.1 +1.2**
KHC MLR MLR
comp=Z,4µm,21.4s
KHC Kasperske Hory 25.28 132 P **P 14 29 56.8 -1.1**
AVF Avril sur Loir 25.32 149 *e*P **P 14 29 59.9 +1.7**
AVF pmax pmax
comp=Z,26nm,1.2s
SLE Schleitheim 25.38 141 P **P 14 29 59.3 +0.5**
SLE pmax pmax
comp=Z,35nm,2.3s
GEC2 GERESS Array S 25.58 132 P **P 14 30 01.9 +1.2**
GEC2 pmax pmax
comp=Z,49nm,1.8s
GEC2 GERESS Array S 25.58 132 P **P 14 30 00.3 -0.3**
GEC2 GERESS Array S 25.58 132 *e*P **P 14 30 00.9 +0.3**
comp=Z,34nm,1.8s,baz=339,slow=10.0
GERES GERESS Array B 25.58 132 P **P 14 29 59.3 -1.3**
comp=Z,2.0nm,0.7s,baz=340,slow=7.4,SNR=20
GERES LR LR 14 39 30.1
comp=Z,4µm,21.6s,baz=340,slow=35
GERES GERESS Array B 25.58 132 P **P 14 29 59.6 -1.0**
GERES GERESS Array B 25.58 132 P **P 14 29 59.6 -1.0**
TREC Trest 25.62 129 *e*P **P 14 30 04.2 +3.3**
TREC AMS AMS 14 40 20.0
comp=Z,6µm,17.6s
TREC Trest 25.62 129 *e*P **P 14 30 04.2 +3.3**
TREC MLR MLR
comp=Z,6µm,17.6s
MORC Moravsky Berou 25.73 126 ⇑P **P 14 30 02.4 +0.4**
MORC Moravsky Berou 25.73 126 *e*P **P 14 30 02.0 +0.1**
MORC Moravsky Berou 25.73 126 ⇑P **P 14 30 02.4 +0.4**
MORC Moravsky Berou 25.73 126 P **P 14 30 01.5 -0.5**
MORC IAmb IAmb 14 30 08.6
comp=Z,118nm,2.0s
UBR Ueberruh 25.81 138 *e*P **P 14 30 03.0 +0.2**
comp=Z,104nm,1.8s,baz=339,slow=10.0
OKC Ostrava-Krasne 25.84 125 *e*P **P 14 30 03.4 +0.5**
OKC *e*S **S 14 34 40.3 +8.3**
OKC AMS AMS 14 39 40.0
comp=Z,4µm,20.2s
OKC Ostrava-Krasne 25.84 125 *e*P **P 14 30 03.4 +0.5**
OKC *e*S **S 14 34 40.3 +8.3**
OKC MLR MLR
comp=Z,4µm,20.2s
VRAC Vranov 25.90 128 LR LR 14 40 38.6
comp=Z,6µm,18.2s,baz=336,slow=38
VRAC Vranov 25.90 128 ⇓P **P 14 30 03.3 -0.2**
VRAC Vranov 25.90 128 *e*P **P 14 30 03.9 +0.4**
VRAC Vranov 25.90 128 ⇓P **P 14 30 03.3 -0.2**
OJC Ojcow 25.95 123 *e*P **P 14 30 04.1 +0.1**
OJC *e*L L 14 39 08.8
comp=Z,4µm,22.8s
OJC Ojcow 25.95 123 P **P 14 30 03.5 -0.5**
OJC pmax pmax
comp=Z,25nm,1.0s
OJC Ojcow 25.95 123 P **P 14 30 03.5 -0.5**
OJC IAmb IAmb 14 30 11.5
comp=Z,25nm,1.0s
KRUC Moravsky 26.07 128 *e*P **P 14 30 05.3 +0.3**
KRUC Moravsky 26.07 128 P **P 14 30 05.6 +0.6**
KRUC pmax pmax
comp=Z,19nm,0.9s
DAVA Damuels 26.14 139 *e*P **P 14 30 07.4 +1.6**
comp=Z,43nm,1.3s,SNR=7.2
RETA Reutte 26.14 138 *e*P **P 14 30 06.5 +0.7**
comp=Z,19nm,1.3s,SNR=6.0
MOTA Moosalm 26.36 137 *epP* **P 14 30 08.7 +0.9**
comp=Z,63nm,2.1s,SNR=11
RJF Les Rejaudoux 26.46 153 *e*P **P 14 30 10.1 +1.5**
RJF pmax pmax
comp=Z,32nm,1.0s
SENIN Lac Senin/Sane 26.47 144 **P 14 30 09.5 +0.6**
SENIN IAmb IAmb 14 30 13.6
comp=Z,72nm,1.8s
WATA Walderalm 26.47 137 *epP* **P 14 30 09.9 +1.0**
comp=Z,33nm,1.2s,SNR=7.6
SQTA Sankt Quirin 26.50 137 *epP* **P 14 30 10.0 +1.0**
comp=Z,34nm,1.3s,SNR=9.4
WTTA Wattenberg 26.55 137 *epP* **P 14 30 10.8 +1.2**
comp=Z,35nm,1.4s,SNR=9.5
FETA Feichten 26.57 138 *epP* **P 14 30 10.5 +0.7**
comp=Z,20nm,1.5s
JAVC Velka Javorina 26.60 127 *e*P **P 14 30 10.7 +0.9**
DAVOX Davos/Dischmat 26.61 139 P **P 14 30 09.3 -0.8**
comp=Z,0.9nm,0.4s,baz=338,slow=19,SNR=1.4
DAVOX LR LR 14 41 00.4
comp=Z,5µm,19.8s,baz=288,slow=37
MOA Molln 26.64 132 *e*P **P 14 30 10.3 +0.1**
comp=Z,29nm,1.6s
NIE Niedzica 26.82 123 *e*P **P 14 30 12.8 +1.0**
NIE *e*L L 14 39 35.8
comp=Z,2µm,23.3s
NIE Niedzica 26.82 123 P **P 14 30 12.7 +0.9**
NIE pmax pmax
comp=Z,13nm,1.2s
LANS Liptovska Anna 26.83 124 *e*P **P 14 30 14.3 +2.4**
LANS pmax pmax
comp=Z,11nm,1.1s
LANS Liptovska Anna 26.83 124 *e*P **P 14 30 14.3 +2.4**
SMOL Smolenice 26.85 127 *e*P **P 14 30 12.8 +0.8**
SMOL Smolenice 26.85 127 *e*P **P 14 30 12.8 +0.8**
MOS Moscow 26.91 95 *e*P **P 14 30 10.2 -2.3**
MOS *e*S **S 14 34 48.2 -0.6**
MOS pmax pmax
comp=Z,38nm,0.9s
MOS MLR MLR
comp=N,6µm,19.0s
MOS MLR MLR
comp=Z,6µm,19.0s
CAF Calviac 26.92 152 *e*P **P 14 30 13.7 +0.9**
CAF pmax pmax
comp=Z,26nm,1.1s
MODS Modra-Piesok 26.93 128 *e*P **P 14 30 12.8 -0.1**
MODS pmax pmax
comp=Z,134nm,2.3s
MODS Modra-Piesok 26.93 128 *e*P **P 14 30 12.8 -0.1**
CONA Conrad Observa 26.97 130 *epP* **P 14 30 14.0 +0.7**
comp=Z,12nm,1.2s
SSB Saint Sauveur 26.99 148 P **P 14 30 11.9 -1.5**
SSB pmax pmax
comp=Z,43nm,1.7s
SSB MLR MLR
comp=Z,7µm,18.0s
SSB Saint Sauveur 26.99 148 **P 14 30 11.9 -1.5**
SSB IAmb IAmb 14 30 16.5
comp=Z,43nm,1.7s
SSB Saint Sauveur 26.99 148 IAMs_20 IAMs_20 14 40 57.6
comp=Z,7µm,18.0s
ZST Bratislava 27.05 128 *e*P **P 14 30 14.6 +0.7**
ZST Bratislava 27.05 128 *e*P **P 14 30 14.6 +0.7**
OBN Obninsk 27.06 97 P **P 14 30 13.5 -0.4**
comp=Z,5.0nm,0.4s,baz=179,slow=3.1,SNR=5.9
OBN LR LR 14 40 22.4
comp=Z,2µm,18.7s,baz=327,slow=35
OBN Obninsk 27.06 97 ⇑*i*P **P 14 30 13.4 -0.4**
OBN *e*PPP PPP 14 31 00.3
OBN pmax pmax
comp=Z,29nm,1.0s
OBN Obninsk 27.06 97 IAmb IAmb 14 30 19.3
comp=Z,32nm,0.8s
OBN IAMs_20 IAMs_20 14 40 00.0
comp=Z,8µm,19.0s
KBA Koelnbreinsper 27.13 134 *epP* **P 14 30 15.8 +1.0**
comp=Z,18nm,1.2s
KBA Koelnbreinsper 27.13 134 P **P 14 30 16.0 +1.2**
KBA pmax pmax
comp=Z,16nm,1.9s
LPL La Plagne 27.17 145 *e*P **P 14 30 19.9 +4.7**
LPL pmax pmax
comp=Z,17nm,1.1s
ABTA Abfaltersbach 27.25 136 *epP* **P 14 30 16.5 +0.8**
comp=Z,11nm,1.0s
VYHS Vyhne 27.25 126 *e*P **P 14 30 16.1 +0.5**
VYHS pmax pmax
comp=Z,35nm,1.4s
VYHS Vyhne 27.25 126 *e*P **P 14 30 16.1 +0.5**
SCHQ Schefferville 27.26 262 P **P 14 30 13.6 -2.1**
comp=Z,6.7nm,0.7s,baz=36,slow=12,SNR=11
SCHQ LR LR 14 40 28.2
comp=Z,7µm,19.0s,baz=47,slow=35
SCHQ Schefferville 27.26 262 P **P 14 30 15.0 -0.6**
SCHQ IAmb IAmb 14 30 17.6
comp=Z,64nm,1.8s
SCHQ IAMs_20 IAMs_20 14 39 45.3
comp=Z,8µm,22.0s
KWP Kalwaria Pacla 27.32 120 P **P 14 30 18.4 +2.1**
KWP pmax pmax
comp=Z,63nm,0.6s
VIVF Saint-Julien-l 27.42 148 *e*P **P 14 30 21.5 +4.2**
VIVF pmax pmax
comp=Z,70nm,1.9s
ARSA Arzberg 27.51 131 *e*P **P 14 30 18.7 +0.6**
comp=Z,8.9nm,1.2s
ZOU Zoufplan 27.53 135 P **P 14 30 18.2 -0.3**
ZOU IAmb IAmb 14 30 21.7
comp=Z,88nm,1.9s
LVV L'vov 27.55 118 *e*P **P 14 30 17.8 -0.5**
LVV *e* 14 31 07.7
LVV *e*PPP PPP 14 31 19.9
LVV *e*S **S 14 34 55.3 -3.7**
LVV *e*SS **SnSn 14 36 11.0 +1.9**
LVV MLR MLR
comp=E,800nm,14.0s
LVV MLR MLR
comp=Z,3µm,14.0s
LVV MLR MLR
comp=N,3µm,15.0s
ORIF Oris-en-Rattie 27.58 147 P **P 14 30 23.1 +4.3**
ORIF pmax pmax
comp=Z,16nm,2.1s
BNI Bardonecchia 27.61 145 P **P 14 30 18.6 -0.4**
BNI pmax pmax
comp=Z,37nm,1.4s
BNI MLR MLR
comp=Z,4µm,19.0s
BNI Bardonecchia 27.61 145 P **P 14 30 18.6 -0.4**
BNI IAmb IAmb 14 30 26.1
comp=Z,37nm,1.4s
CRVS Cervenica-Dubn 27.61 122 *e*P **P 14 30 19.7 +0.8**
CRVS pmax pmax
comp=Z,243nm,2.5s
CRVS Cervenica-Dubn 27.61 122 *e*P **P 14 30 19.7 +0.8**
CTI Castel Tesino 27.70 137 P **P 14 30 18.7 -1.2**
CTI pmax pmax
comp=Z,44nm,1.1s
CTI MLR MLR
comp=Z,3µm,22.0s
CTI Castel Tesino 27.70 137 P **P 14 30 18.6 -1.2**
CTI IAmb IAmb 14 30 26.9
comp=Z,44nm,1.1s
KOLS Kolonicke sedl 27.82 121 P **P 14 30 21.4 +0.6**
KOLS pmax pmax
comp=Z,8.0nm,1.1s
SOKA Soboth 27.92 132 *epP* **P 14 30 22.5 +0.7**
comp=Z,13nm,1.4s
PERS Pernice 27.98 132 *e*P **P 14 30 23.5 +1.2**
PSZ Piszkesteto 28.06 125 ⇑P **P 14 30 24.0 +1.0**
PSZ Piszkesteto 28.06 125 ⇑P **P 14 30 24.0 +1.0**
PSZ Piszkesteto 28.06 125 P **P 14 30 21.9 -1.1**
PSZ IAmb IAmb 14 30 32.7
comp=Z,61nm,2.0s
UZH Uzhgorod 28.10 121 *e*P **P 14 30 21.7 -1.5**
UZH *e*S **S 14 35 02.3 -5.3**
UZH *e* 14 36 56.6
MORS Morshin 28.12 119 P **P 14 30 23.6 +0.2**
AKASG Malin Array Be 28.38 111 P **P 14 30 24.3 -1.3**
comp=Z,2.4nm,0.6s,baz=330,slow=9.6,SNR=8.6
AKASG LR LR 14 41 15.9
comp=Z,5µm,20.6s,baz=320,slow=36
AKASG Malin Array Be 28.38 111 *i* P **P 14 30 26.0 +0.3**
AKASG pmax pmax
comp=Z,5.0nm,0.6s
AKASG Malin Array Be 28.38 111 P **P 14 30 24.4 -1.3**
AKBB Malin Array Si 28.38 111 *i* P **P 14 30 23.8 -1.9**
AKBB pmax pmax
comp=Z,7.0nm,0.9s
AKBB Malin Array Si 28.38 111 P **P 14 30 24.0 -1.6**
AKBB IAmb IAmb 14 30 34.1
comp=Z,45nm,1.9s
LJU Ljubljana 28.39 133 *e*P **P 14 30 27.1 +1.2**
EPF Esparros 28.52 156 *e*P **P 14 30 31.8 +4.7**
EPF pmax pmax
comp=Z,56nm,1.8s
TRPA Tarpa 28.62 121 ⇑P **P 14 30 29.5 +1.6**
KIRV Kirov 28.64 81 P **P 14 30 27.0 -0.9**
comp=Z,14nm,0.7s,baz=336,slow=12,SNR=6.0
KIRV LR LR 14 41 01.7
comp=Z,8µm,18.2s,baz=318,slow=35
KIRV Kirov 28.64 81 *i* P **P 14 30 27.3 -0.6**
PGAV Gavieira, Arco 28.70 169 *e*S S 14 35 30.6 +13
PGAV *e*LR LR 14 38 11.5
comp=Z,1µm,18.0s
TRSU Trosnyk 28.77 121 P **P 14 30 29.9 +0.7**
BOJS Bojanci 29.07 133 *e*P **P 14 30 33.7 +1.8**
ZCCA Zocca 29.16 140 IAMs_20 IAMs_20 14 41 34.4
comp=Z,5µm,20.0s
KSV Kosov 29.20 118 P **P 14 30 33.0 0.0**
VLC Villacollemand 29.22 140 P **P 14 30 32.8 -0.4**
VLC IAMs_20 IAMs_20 14 42 07.9
comp=Z,5µm,20.0s
MVO Moncorvo 29.58 167 *e*S S 14 35 41.3 +10
MVO *e*LR LR 14 38 50.6
comp=Z,2µm,20.0s
BUR08 Bucovina Ar. S 29.84 118 P **P 14 30 38.4 -0.5**
BURAR Bucovina Array 29.87 118 ⇑P **P 14 30 39.9 +0.8**
BURAR Bucovina Array 29.87 118 ⇑P **P 14 30 39.9 +0.8**
BURAR Bucovina Array 29.87 118 P **P 14 30 38.9 -0.3**
DRGR 29.88 122 ⇓P **P 14 30 39.4 +0.2**
DRGR 29.88 122 ⇓P **P 14 30 39.4 +0.2**
LPSR Galich'ya Gora 29.93 98 *e*P **P 14 30 39.4 0.0**
LPSR pmax pmax
comp=Z,20nm,0.8s
LPSR MLR MLR
comp=Z,6µm,18.0s
SIRR Siria 30.06 124 ⇑P **P 14 30 41.9 +1.2**
ARCR ARCALIA 30.09 120 ⇑P **P 14 30 42.8 +1.8**
MTE Manteigas 30.30 168 *e*S S 14 35 52.9 +10
MTE *e*LR LR 14 39 04.2
comp=Z,1µm,16.0s
SORM Soroca 30.36 114 ⇑P **P 14 30 44.3 +1.0**
SORM Soroca 30.36 114 ⇑P **P 14 30 44.3 +1.0**
MURB Monte Urbino 30.54 138 P **P 14 30 45.1 +0.1**
MURB IAmb IAmb 14 30 51.8
comp=Z,36nm,1.1s
PCAS Casmilo, Conde 30.59 170 *e*S **S 14 35 50.9 +4.0**
BZS Buzias 30.65 124 ⇑P **P 14 30 47.0 +1.1**
BZS Buzias 30.65 124 ⇑P **P 14 30 47.0 +1.1**
BIZ Bicaz 30.74 118 ⇑P **P 14 30 48.6 +1.9**
UCM Universidad Co 30.77 162 *e*P **P 14 30 45.2 -1.8**
UCM *e*S **S 14 35 55.4 +5.6**
A36M Sachs Harbour 30.86 325 P **P 14 30 48.6 +1.1**
baz=38
NRCA Norcia 31.08 138 P **P 14 30 50.1 +0.3**
NRCA IAmb IAmb 14 31 07.2
comp=Z,34nm,1.4s
PSBE So Bento 31.11 170 *e*S S 14 36 11.2 +16
VSR Storozhevoye 31.18 99 *e*P **P 14 30 49.7 -0.7**
VSR pmax pmax
comp=Z,8.0nm,0.6s
VSR MLR MLR
comp=Z,10µm,19.0s
PMRV Marv??o 31.28 168 *e*P **P 14 30 53.4 +1.9**
comp=Z,37nm,1.6s
PMRV *e*S S 14 36 06.7 +9.0
PMRV *e*LR LR 14 39 41.3
comp=Z,2µm,16.0s
TESR Tescani 31.29 118 ⇓P **P 14 30 51.8 +0.3**
ESDC Sonseca Array 31.32 163 P **P 14 30 50.9 -1.0**
comp=Z,2.4nm,0.9s,baz=355,slow=8.1,SNR=11
ESDC LR LR 14 43 21.2
comp=Z,3µm,18.4s,baz=350,slow=36
ESDC Sonseca Array 31.32 163 P **P 14 30 51.0 -0.9**
NRIK Noril'sk 31.41 42 P **P 14 30 52.3 0.0**
comp=Z,5.0nm,0.9s,baz=326,slow=6.2,SNR=6.9
NRIK LR LR 14 45 19.6
comp=Z,2µm,19.1s,baz=324,slow=40
NRIK Noril'sk 31.41 42 *i* P **P 14 30 52.0 -0.3**
NRIK pmax pmax
comp=Z,9.0nm,1.1s
DOPR Dopca 31.41 119 ⇑P **P 14 30 53.2 +0.6**
VORD Divnogorie 31.43 99 *e*P **P 14 30 56.5 +3.8**
VORD pmax pmax
comp=Z,10.0nm,0.5s
VORD MLR MLR
comp=Z,3µm,14.0s
MDVR Moldovita 31.44 125 ⇑P **P 14 30 53.9 +0.9**
KIS Kishinev 31.51 115 LRN LR 14 41 49.0
comp=Z,2µm,23.0s
KIS Kishinev 31.51 115 *e*P **P 14 30 52.4 -1.1**
KIS *e* 14 31 59.4
KIS *e*S **S 14 36 00.0 -1.2**
KIS pmax pmax
comp=Z,200nm,7.0s
KIS Kishinev 31.51 115 *e*PP PP 14 31 50.0 -14
HERR Herculane 31.55 124 ⇓P **P 14 30 54.5 +0.7**
PMTG Montargil 31.58 170 *e*P **P 14 30 55.7 +1.6**
comp=Z,35nm,2.0s
PMTG *e*S **S 14 36 04.9 +2.5**
DIVS Divibare 31.61 128 P **P 14 30 53.1 -1.4**
DIVS IAmb IAmb 14 30 56.5
comp=Z,35nm,1.6s
PMAFR Mafra 31.64 171 *e*S S 14 36 16.7 +13
ARR Arges 31.73 121 ⇓P **P 14 30 57.2 +1.6**
VOIR 31.79 120 ⇓P **P 14 30 57.8 +1.8**
VOIR 31.79 120 ⇓P **P 14 30 57.8 +1.8**
PLOR Plostina 31.89 118 ⇓P **P 14 30 57.6 +0.8**
PLOR Plostina 31.89 118 ⇓P **P 14 30 57.6 +0.8**
VRI Vrincioaia 31.90 118 ⇑P **P 14 30 57.4 +0.5**
VRI Vrincioaia 31.90 118 ⇑P **P 14 30 57.4 +0.5**
MLR Muntele Rosu 32.01 119 P **P 14 30 56.8 -1.2**
comp=Z,2.1nm,0.8s,baz=296,slow=7.2,SNR=4.5
MLR LR LR 14 44 26.9
comp=Z,6µm,19.0s,baz=347,slow=37
MLR Muntele Rosu 32.01 119 ⇑P **P 14 30 58.5 +0.5**
MLR Muntele Rosu 32.01 119 ⇑P **P 14 30 58.5 +0.5**
MLR Muntele Rosu 32.01 119 P **P 14 30 57.8 -0.2**
MLR IAMs_20 IAMs_20 14 44 06.3
comp=Z,6µm,20.0s
VRH Novokhopyorsk 32.04 97 *e*P **P 14 30 57.1 -1.0**
VRH pmax pmax
comp=Z,10.0nm,0.8s
VRH MLR MLR
comp=Z,7µm,17.0s
EVO Evora 32.13 169 *e*P P 14 30 53.6 -5.3
EVO *e*S S 14 36 20.4 +9.4
NEHR Nehoiu 32.17 119 ⇑P **P 14 31 01.0 +1.7**
PNCL Nicolau / Gran 32.52 170 *e*S S 14 36 28.7 +12
CFR Carcaliu 32.94 117 ⇑P **P 14 31 05.9 -0.1**
CFR Carcaliu 32.94 117 ⇑P **P 14 31 05.9 -0.1**
PAOL Paolisi 33.13 137 IAMs_20 IAMs_20 14 46 54.5
comp=Z,4µm,18.0s
PVAQ Vaqueiros 33.27 169 *e*S **S 14 36 34.0 +5.2**
PVAQ *e*LR LR 14 39 31.3
comp=Z,2µm,20.0s
MORF Marmelete 33.31 170 *e*S **S 14 36 35.9 +6.4**
HARR Harsova 33.32 117 ⇑P **P 14 31 09.7 +0.4**
HARR Harsova 33.32 117 ⇑P **P 14 31 09.7 +0.4**
ARU Arti 33.37 76 P **P 14 31 09.5 -0.1**
comp=Z,1.5nm,0.6s,baz=331,slow=9.2,SNR=9.9
ARU LR LR 14 43 53.6
comp=Z,7µm,19.6s,baz=314,slow=35
ARU Arti 33.37 76 *d i* P **P 14 31 10.0 +0.4**
ARU S **S 14 36 34.2 +4.2**
ARU pmax pmax
comp=Z,24nm,1.3s
ARU MLR MLR
comp=Z,7µm,19.0s
ARU Arti 33.37 76 P **P 14 31 09.4 -0.3**
ARU IAmb IAmb 14 31 13.6
comp=Z,23nm,1.2s
ARU IAMs_20 IAMs_20 14 43 39.9
comp=Z,7µm,20.0s
PBDV Barranco-do-Ve 33.42 169 *e*S **S 14 36 33.9 +2.8**
PFVI Vila Bisbo 33.48 171 *e*S S 14 36 41.1 +9.2
TIRR Tirgusor 33.68 117 ⇓P **P 14 31 14.0 +1.6**
TIRR Tirgusor 33.68 117 ⇓P **P 14 31 14.0 +1.6**
TIRR Tirgusor 33.68 117 P **P 14 31 12.0 -0.4**
CART Cartagena 33.71 159 *e*P **P 14 31 13.7 +1.0**
CART *e*S S 14 36 47.5 +12
VTS Vitosha 33.86 125 ⇑P **P 14 31 14.0 -0.2**
VTS Vitosha 33.86 125 *e*P **P 14 31 13.9 -0.4**
VTS Vitosha 33.86 125 ⇑P **P 14 31 14.0 -0.2**
VTS Vitosha 33.86 125 P **P 14 31 13.7 -0.5**
CHGQ Chibougamau 33.91 264 P **P 14 31 15.2 +0.8**
baz=31
TIR Tirane 34.14 130 IAMs_20 IAMs_20 14 46 26.4
comp=Z,4µm,20.0s
EMAL Malaga-Limoner 34.16 165 *e*P **P 14 31 17.2 +0.5**
EMAL *e*S S 14 36 54.0 +11
D63A Stockholm 34.32 255 P **P 14 31 18.8 +0.8**
baz=28
KKB Krupnik 34.52 125 *e*P **P 14 31 20.1 +0.3**
D62A Allapoint, All 34.59 256 P **P 14 31 21.2 +0.9**
baz=29
D62A Allapoint, All 34.59 256 IAMs_20 IAMs_20 14 44 18.3
comp=Z,5µm,20.0s
E64A Bridgewater 34.77 255 P **P 14 31 22.7 +0.8**
baz=28
D61A St Aubert, Com 34.85 258 P **P 14 31 22.8 +0.2**
baz=29
CEU Ceuta 34.94 166 *e*P **P 14 31 26.1 +2.7**
CEU *e*S S 14 37 04.8 +10
MMB Musomiste 34.95 125 *e*P **P 14 31 24.5 +0.9**
E63A Oxbow 34.96 255 P **P 14 31 24.0 +0.5**
baz=28
E63A Oxbow 34.96 255 IAMs_20 IAMs_20 14 44 06.3
comp=Z,4µm,22.0s
KNT Kendrikon 35.12 126 P **P 14 31 24.3 -0.7**
MATQ Matagami 35.14 267 P **P 14 31 25.7 +0.6**
baz=31
RZN Rozhen 35.14 123 *e*P **P 14 31 23.5 -1.8**
E62A Clayton Lake 35.15 257 P **P 14 31 25.3 +0.2**
baz=28
E62A Clayton Lake 35.15 257 IAMs_20 IAMs_20 14 44 34.2
comp=Z,5µm,20.0s

D60A Saint Jean D'O 35.35 258 P **P** **14 31 27.9 +1.1**
baz=29
SRS Serrai 35.36 125 P **P** **14 31 25.4 -1.6**
SRS pmax pmax
comp=Z,9.0nm,0.8s
KDZ Kurdzhali 35.37 123 *e*P **P** **14 31 25.5 -1.6**
F64A Sherman 35.43 255 P **P** **14 31 26.5 -1.0**
baz=28
INK Inuvik 35.50 326 P **P** **14 31 28.2 +0.3**
comp=Z,2.8nm,0.7s,baz=32,slow=14,SNR=9.4
INK PcP **PcP** **14 33 56.6 -0.1**
comp=Z,2.7nm,1.1s,baz=338,slow=5.8,SNR=4.5
INK Inuvik 35.50 326 P **P** **14 31 27.8 -0.1**
INK IAmb IAmb 14 31 33.3
comp=Z,58nm,2.0s
INK Inuvik 35.50 326 IAMs_20 IAMs_20 14 47 38.9
comp=Z,4µm,21.0s
LSQQ Lebel-sur-Quev 35.52 266 P **P** **14 31 28.7 +0.4**
baz=31
LATQ La Tuque 35.56 261 P **P** **14 31 28.3 -0.3**
baz=29
D59A Saint-Raymond 35.57 259 P **P** **14 31 28.9 +0.2**
baz=29
E61A Lac Etchemin 35.63 257 P **P** **14 31 28.9 -0.4**
baz=28
PVLZ Peæn de 35.75 165 *e*P **P** **14 31 30.9 +0.5**
PVLZ *e*S **S** **14 37 15.0 +8.1**
MELI Melilla 35.76 163 *e*P **P** **14 31 30.9 +0.5**
G65A Princeton 35.76 253 P **P** **14 31 30.2 -0.2**
baz=27
G65A Princeton 35.76 253 IAMs_20 IAMs_20 14 45 40.5
comp=Z,4µm,18.0s
F63A Nahmakanta, Br 35.82 255 P **P** **14 31 30.9 0.0**
baz=28
F63A Nahmakanta, Br 35.82 255 IAMs_20 IAMs_20 14 44 42.9
comp=Z,4µm,22.0s
D58A Chemin du LacG 35.84 260 P **P** **14 31 32.3 +1.2**
baz=29,SNR=5.2
D58A S **S** **14 37 11.9 +3.7**
baz=29
CORL Corleone 35.84 140 P **P** **14 31 31.8 +0.5**
F62A Pittston Farm, 35.93 256 P **P** **14 31 32.0 +0.1**
baz=28
F62A Pittston Farm, 35.93 256 IAMs_20 IAMs_20 14 44 57.9
comp=Z,4µm,21.0s
E60A Ste Agathe de 36.00 258 P **P** **14 31 33.3 +0.9**
baz=28
H66A Whiting 36.05 253 P **P** **14 31 33.2 +0.4**
baz=27
G64A Maxfield 36.10 255 P **P** **14 31 34.0 +0.7**
baz=27
YKA Yellowknife Ar 36.11 309 P **P** **14 31 32.6 -0.5**
comp=Z,8.0nm,0.9s,baz=35,slow=7.7,SNR=63
YKA PcP **PcP** **14 33 57.8 -0.8**
comp=Z,1.6nm,0.7s,baz=39,slow=2.4,SNR=15
YKA LR LR 14 46 20.4
comp=Z,5µm,19.5s,baz=0.0,slow=36
EMMW East Machias 36.16 253 IAMs_20 IAMs_20 14 45 44.3
comp=Z,3µm,19.0s
ANN Anapa 36.20 107 *e*P **P** **14 31 32.8 -1.3**
ANN *e*S **S** **14 37 14.6 +1.0**
ANN pmax pmax
comp=Z,22nm,0.7s
ANN MLR MLR
comp=Z,10µm,16.0s
ANN MLR MLR
comp=E,2µm,16.0s
F61A St Evariste 36.20 258 P **P** **14 31 33.7 -0.5**
baz=28
D57A Chemin Vers le 36.25 261 P **P** **14 31 35.0 +0.4**
baz=29
ALN Alexandroupoli 36.25 122 P **P** **14 31 34.4 -0.2**
ALN pmax pmax
comp=Z,20nm,1.2s
ALN MLR MLR
comp=Z,2µm,20.0s
ALN Alexandroupoli 36.25 122 **P** **14 31 34.4 -0.2**
ALN IAmb IAmb 14 31 41.0
comp=Z,20nm,1.2s
E59A St. Maurice 36.26 260 P **P** **14 31 35.0 +0.4**
baz=29
PKME Peaks-Kenny Pk 36.27 255 P **P** **14 31 33.9 -0.8**
baz=28
PKME Peaks-Kenny Pk 36.27 255 IAMs_20 IAMs_20 14 44 55.9
comp=Z,4µm,22.0s
TIXI Tiksi 36.28 18 P **P** **14 31 36.0 +1.4**
baz=9.5,slow=8.2
TIXI LR LR 14 45 27.7
comp=Z,415nm,21.8s,baz=289,slow=34
TIXI Tiksi 36.28 18*c i*P **P** **14 31 34.4 -0.2**
TIXI pmax pmax
comp=Z,10.0nm,1.5s
TIXI Tiksi 36.28 18 P **P** **14 31 35.4 +0.8**
H65A Eastbrook 36.43 254 P **P** **14 31 35.6 -0.5**
baz=27
VLDQ Val d'Or 36.49 266 P **P** **14 31 35.9 -0.7**
VLDQ IAmb IAmb 14 31 40.0
comp=Z,36nm,1.7s
G63A Kingsbury 36.51 255 P **P** **14 31 37.4 +0.6**
baz=27
D56A ZEC Mazanza, M 36.51 262 P **P** **14 31 36.7 -0.1**
baz=29
F60A Warwick 36.52 259 P **P** **14 31 36.6 -0.3**
baz=28
E58A La Victoria 36.61 260 P **P** **14 31 38.2 +0.6**
baz=29
G62A West of Eustis 36.72 257 P **P** **14 31 37.7 -0.8**
baz=28
G62A West of Eustis 36.72 257 IAMs_20 IAMs_20 14 45 21.7
comp=Z,4µm,21.0s
RTC Rabat Centre 36.73 168 IAMs_20 IAMs_20 14 46 23.9
comp=Z,3µm,20.0s
D55A Sainte-Anne-du 36.77 263 P **P** **14 31 39.2 +0.1**
baz=29
H64A Troy 36.80 255 P **P** **14 31 38.9 -0.3**
baz=27
E57A Chemin Saint G 36.86 261 P **P** **14 31 39.7 -0.2**
baz=29
F59A Saint Guilaume 36.90 259 P **P** **14 31 40.0 -0.1**
baz=28
AGG Agios Georgios 36.97 128 P **P** **14 31 40.7 -0.1**
AGG pmax pmax
comp=Z,91nm,0.7s
AGG MLR MLR
comp=Z,2µm,19.0s
AGG Agios Georgios 36.97 128 P **P** **14 31 40.7 -0.1**
G61A St-Isidore-de- 36.99 258 P **P** **14 31 40.8 -0.1**
baz=28
E56A St. Veronique 37.04 262 P **P** **14 31 41.7 +0.3**
baz=29
H63A New Sharon 37.05 256 P **P** **14 31 42.7 +1.4**
baz=27
D54A Lac Fusel, La 37.06 264 P **P** **14 31 39.4 -2.1**
baz=30
KEST Kesra 37.13 146 P **P** **14 31 41.2 -1.0**
comp=Z,3.0nm,0.4s,baz=31,slow=5.9,SNR=2.9
KEST LR LR 14 47 08.0
comp=Z,2µm,18.1s,baz=321,slow=37
KEST Kesra 37.13 146 P **P** **14 31 42.8 +0.6**
KEST IAmb IAmb 14 31 46.8
comp=Z,56nm,1.7s
TRQ Mont Tremblant 37.16 261 P **P** **14 31 42.6 +0.1**
F58A St-Lin Laurent 37.23 260 P **P** **14 31 43.0 +0.1**
baz=28
IFR Ifrane 37.32 166 *e*P **P** **14 31 44.9 +0.8**
IFR *e*S **S** **14 37 37.0 +5.6**
AVE Averroes 37.38 169 *e*P **P** **14 31 45.6 +1.3**
AVE *e*S **S** **14 37 36.2 +4.3**
G60A Masonville 37.42 258 P **P** **14 31 45.6 +1.1**
baz=28
E55A Montcerf-Lytto 37.47 263 P **P** **14 31 45.0 +0.1**
baz=29
D53A Lac Vacive, Po 37.47 265 P **P** **14 31 44.3 -0.6**
baz=30
H62A Milan 37.49 257 P **P** **14 31 44.3 -0.8**
baz=27
H62A Milan 37.49 257 IAMs_20 IAMs_20 14 45 56.2
comp=Z,4µm,21.0s
I64A Boothbay 37.58 255 P **P** **14 31 45.5 -0.3**
baz=27
G59A Clarenceville 37.71 259 P **P** **14 31 47.9 +0.9**
baz=28
I63A Otisfield 37.77 256 P **P** **14 31 47.4 -0.1**
baz=27
I63A Otisfield 37.77 256 IAMs_20 IAMs_20 14 45 51.6
comp=Z,3µm,22.0s
H61A Lyndonville 37.78 257 P **P** **14 31 48.9 +1.3**
baz=27
D52A ZEK Kipawa Sen 37.80 266 P **P** **14 31 48.6 +0.8**
baz=29
EPYK Eagle Plains 37.80 326 P **P** **14 31 48.0 +0.3**
baz=28
EPYK Eagle Plains 37.80 326 P **P** **14 31 47.8 +0.2**
EPYK IAmb IAmb 14 31 51.9
comp=Z,49nm,1.8s
EPYK IAMs_20 IAMs_20 14 49 16.7
comp=Z,4µm,19.0s
GOF Gofitskoye 37.81 101⇑ *e*P **P** **14 31 48.7 +0.8**
E54A Lac Daplat, Po 37.86 264 P **P** **14 31 49.3 +1.1**
baz=29,SNR=6.3
TOLK Toolik Lake Re 37.89 335 P **P** **14 31 49.7 +1.3**
baz=23
TOLK Toolik Lake Re 37.89 335 P **P** **14 31 49.2 +0.8**
G58A Ormstown 37.94 260 P **P** **14 31 50.5 +1.6**
baz=28
H60A Morristown 38.01 258 P **P** **14 31 50.9 +1.3**
baz=28
D51A Lot 18 Range I 38.02 267 P **P** **14 31 50.9 +1.3**
baz=30
SOC Sochi 38.02 105 *e*P **P** **14 31 47.9 -1.8**
SOC *e* 14 33 17.1
SOC *e*S **S** **14 37 42.3 +0.8**
SOC *e*SS **SnSn** **14 40 19.8 -3.7**
SOC pmax pmax
comp=Z,20nm,1.1s
SOC MLR MLR
comp=Z,10µm,16.0s
LBNH Lisbon 38.04 257 P **P** **14 31 51.4 +1.6**
baz=27
LBNH Lisbon 38.04 257 P **P** **14 31 50.1 +0.3**
LBNH pmax pmax
comp=Z,106nm,1.9s
LBNH MLR MLR
comp=Z,3µm,20.0s
LBNH Lisbon 38.04 257 P **P** **14 31 50.1 +0.3**
LBNH IAMs_20 IAMs_20 14 46 13.7
comp=Z,3µm,20.0s
FRNY Flat Rock 38.06 259 P **P** **14 31 49.6 -0.4**
FRNY IAMs_20 IAMs_20 14 46 56.3
comp=Z,5µm,18.0s
MDT Midelt 38.06 165 LR LR 14 46 12.3
comp=Z,1µm,22.0s,baz=322,slow=34
E53A Dumoine, Ponti 38.07 265 P **P** **14 31 51.3 +1.3**
baz=29,SNR=5.3
F55A Otter Lake 38.11 263 P **P** **14 31 51.2 +0.8**
baz=29
D50A G1974 Best Tow 38.12 267 P **P** **14 31 51.5 +1.0**
baz=30
ORIO Orleans, Innes 38.16 262 P **P** **14 31 51.1 +0.4**
baz=28
I62A Tamworth 38.17 256 P **P** **14 31 52.0 +1.1**
baz=27
I62A Tamworth 38.17 256 IAMs_20 IAMs_20 14 46 17.2
comp=Z,4µm,21.0s
AKTO Aktyubinsk 38.19 82 P **P** **14 31 50.5 -0.5**
comp=Z,4.6nm,0.8s,baz=327,slow=8.0,SNR=15
AKTO LR LR 14 46 45.1
comp=Z,4µm,18.7s,baz=339,slow=35
VT1 Waterbury 38.23 258 IAMs_20 IAMs_20 14 46 32.0
comp=Z,5µm,20.0s
BMAR Burnt Mountain 38.24 331 P **P** **14 31 52.3 +1.0**
BMAR PcP **PcP** **14 34 05.4 +0.2**
H59A Cadyville 38.27 259 P **P** **14 31 52.3 +0.6**
baz=28
G57A Newington 38.29 261 P **P** **14 31 53.0 +1.1**
baz=28
I61A Oroboro, Fairl 38.41 257 P **P** **14 31 54.2 +1.3**
baz=27
E52A Mattawa 38.49 266 P **P** **14 31 54.1 +0.6**
baz=29
D49A Beulah Townshi 38.54 269 P **P** **14 31 54.0 +0.1**
baz=30
E51A G1948 Merrick 38.55 267 P **P** **14 31 53.7 -0.4**
baz=29
ALGO Algonquin Park 38.57 265 P **P** **14 31 55.3 +1.1**
baz=29
LONY Lake Ozonia 38.59 260 P **P** **14 31 55.0 +0.6**
baz=28
LONY Lake Ozonia 38.59 260 P **P** **14 31 53.6 -0.8**
LONY IAmb IAmb 14 31 57.7
comp=Z,46nm,1.8s
LONY IAMs_20 IAMs_20 14 47 04.2
comp=Z,3µm,18.0s
ITM Ithomi 38.60 129 P **P** **14 31 54.5 -0.1**
ITM IAMs_20 IAMs_20 14 49 35.4
comp=Z,4µm,19.0s
J63A Strafford 38.62 256 P **P** **14 31 54.6 -0.1**
baz=27
H58A Gabriels 38.63 260 P **P** **14 31 54.9 +0.1**
baz=28
HNH Hanover 38.64 257 IAMs_20 IAMs_20 14 46 42.5
comp=Z,3µm,20.0s
KIV Kislovodsk 38.67 102⇓ P **P** **14 31 56.7 +1.5**
KIV Kislovodsk 38.67 102 *e*P **P** **14 31 53.4 -1.8**
KIV *e* 14 33 22.1
KIV *e*S **S** **14 37 50.8 -0.6**
KIV *e*SS **SnSn** **14 40 40.1 +1.0**
KIV pmax pmax
comp=Z,25nm,1.0s
KIV MLR MLR
comp=Z,4µm,16.0s
KIV Kislovodsk 38.67 102 IAMs_20 IAMs_20 14 47 17.7
comp=Z,4µm,19.0s
KVAR Kislovodsk Arr 38.67 102 LR LR 14 47 35.0
comp=Z,3µm,18.6s,baz=238,slow=36
G55A Calabogie 38.74 263 P **P** **14 31 56.2 +0.6**
baz=28
D48A Paudash Townsh 38.77 269 P **P** **14 31 55.8 -0.2**
baz=30
I60A Shoreham 38.84 258 P **P** **14 31 57.2 +0.6**
baz=27
J62A Henniker 38.91 256 P **P** **14 31 57.7 +0.6**
baz=27
KBZ Khabaz 38.94 102 P **P** **14 31 58.2 +0.9**
comp=Z,3.1nm,0.9s,baz=312,slow=9.5,SNR=6.5
KBZ LR LR 14 47 40.0
comp=Z,5µm,18.9s,baz=313,slow=36
KBZ Khabaz 38.94 102*c i*P **P** **14 31 55.7 -1.6**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
FFC Flin Flon 38.96 293 P **P** **14 31 57.8 +0.4**
FFC pmax pmax
comp=Z,27nm,1.1s
FFC MLR MLR
comp=Z,8µm,19.0s
FFC Flin Flon 38.96 293 P **P** **14 31 57.8 +0.4**
FFC IAmb IAmb 14 32 02.6
comp=Z,27nm,1.1s
FFC Flin Flon 38.96 293 IAMs_20 IAMs_20 14 47 45.3
comp=Z,8µm,19.0s
NCB Newcomb 39.04 259 IAMs_20 IAMs_20 14 47 26.1
comp=Z,3µm,18.0s
J61A Chester 39.04 257 P **P** **14 31 58.8 +0.6**
baz=27
E50A Wahnapitae 39.07 268 P **P** **14 31 59.0 +0.6**
baz=29
G54A Lake Saint Pet 39.07 264 P **P** **14 31 59.3 +0.8**
baz=28
I59A Olmsteadville 39.08 259 P **P** **14 31 58.2 -0.4**
baz=27
FYU Fort Yukon 39.13 331 P **P** **14 32 00.1 +1.4**
F52A Sundridge 39.14 266 P **P** **14 31 59.3 +0.3**
baz=29
H56A Elgin 39.17 262 P **P** **14 32 00.1 +0.8**
baz=28
ANTO Ankara 39.19 115⇓ P **P** **14 32 01.1 +1.5**
ANTO Ankara 39.19 115⇓ P **P** **14 32 01.1 +1.5**
ANTO Ankara 39.19 115 IAMs_20 IAMs_20 14 49 31.4
comp=Z,3µm,19.0s
MANT Manisa 39.20 121 IAMs_20 IAMs_20 14 49 55.5
comp=Z,5µm,18.0s
F51A Arnstein 39.22 267 P **P** **14 32 00.5 +0.8**
baz=29
K63A Dunstable 39.30 256 P **P** **14 32 01.4 +1.1**
baz=26
D47A Chapleau 39.31 270 P **P** **14 32 00.5 0.0**
baz=30
ACCN Adirondack Com 39.38 258 IAMs_20 IAMs_20 14 47 07.1
comp=Z,5µm,22.0s
L65A Cape Cod Natio 39.41 254 P **P** **14 32 02.1 +0.9**
baz=26
J60A Lant Hill Farm 39.42 258 P **P** **14 32 02.0 +0.6**
baz=27
HRV Adam Dziewonsk 39.47 256 P **P** **14 32 02.6 +0.9**
baz=26
E48A Lockeyer 39.50 269 P **P** **14 32 02.3 +0.3**
baz=29
H55A Tweed 39.52 263 P **P** **14 32 03.5 +1.3**
baz=28
I58A Old Forge 39.54 260 P **P** **14 32 03.9 +1.5**
baz=27
K62A Royalston 39.55 256 P **P** **14 32 03.8 +1.3**
baz=26
K62A Royalston 39.55 256 IAMs_20 IAMs_20 14 47 18.6
comp=Z,3µm,19.0s
I57A Carthage 39.55 261 P **P** **14 32 02.5 +0.1**
baz=27
J59A Piesco 39.58 259 P **P** **14 32 03.8 +1.0**
baz=27
J59A Piesco 39.58 259 IAMs_20 IAMs_20 14 47 51.5
comp=Z,4µm,18.0s
BR131 Keskin Array S 39.59 114 *i* P **P** **14 32 04.4 +1.4**
BR131 Keskin Array S 39.59 114 P **P** **14 32 03.0 +0.1**
BRTR Keskin Array B 39.59 114 P **P** **14 32 03.4 +0.4**
comp=Z,1.9nm,0.8s,baz=340,slow=6.6,SNR=8.7
BRTR LR LR 14 48 45.9
comp=Z,2µm,21.8s,baz=318,slow=37
BRTR Keskin Array B 39.59 114 P **P** **14 32 02.5 -0.5**
APE Apeiranthos 39.67 125⇑ P **P** **14 32 02.9 -0.7**
APE Apeiranthos 39.67 125 *e*P **P** **14 32 02.2 -1.4**
APE pmax pmax
comp=Z,9.0nm,1.0s
DELO Deloro Mine 39.69 263 IAMs_20 IAMs_20 14 47 36.2
comp=Z,6µm,20.0s
L64A Middleborough 39.74 254 P **P** **14 32 04.5 +0.4**
baz=26
D46A Sault St. Mari 39.77 271 P **P** **14 32 04.8 +0.5**
baz=30
ABKAR Akbulak array 39.84 81 P **P** **14 32 04.2 -0.6**
K61A Williamstown 39.88 257 P **P** **14 32 06.6 +1.3**
baz=26
L61B Northampton 39.89 257 P **P** **14 32 05.9 +0.6**
baz=26
E47A Iron Bridge 39.90 270 P **P** **14 32 05.9 +0.5**
baz=29
QUA2 Belchertown 39.93 256 IAMs_20 IAMs_20 14 46 44.8
comp=Z,3µm,22.0s
J58A Remsen 39.94 260 P **P** **14 32 05.8 +0.1**
baz=27
J58A Remsen 39.94 260 IAMs_20 IAMs_20 14 47 54.8
comp=Z,4µm,18.0s
BRVK Borovoye 39.96 70 *i* P **P** **14 32 06.3 +0.6**
BRVK pmax pmax
comp=Z,6.0nm,1.2s
BRVK Borovoye 39.96 70 P **P** **14 32 05.7 -0.1**
TRY Troy 39.96 258 IAMs_20 IAMs_20 14 47 23.5
comp=Z,5µm,21.0s
H53A Bobcaygeon 39.97 264 P **P** **14 32 05.7 -0.2**
baz=28
I55A Frankford 39.98 263 P **P** **14 32 06.3 +0.4**
baz=28
PECO Prince Edward 40.00 262 IAMs_20 IAMs_20 14 47 47.4
comp=Z,8µm,20.0s
M65A Busby, Falmout 40.02 254 IAMs_20 IAMs_20 14 48 24.2
comp=Z,3µm,18.0s
BVAR Borovoye Array 40.02 69 P **P** **14 32 06.7 +0.4**
comp=Z,4.9nm,1.0s,baz=339,slow=7.9,SNR=18
EGAK Eagle 40.06 327 P **P** **14 32 06.7 +0.3**
EGAK IAMs_20 IAMs_20 14 50 01.4
comp=Z,6µm,18.0s
L63A North Scituate 40.06 255 P **P** **14 32 07.1 +0.4**
baz=26
F49A Sandfield 40.09 268 P **P** **14 32 07.2 +0.3**
baz=29
RDOG Red Dog Mine 40.11 342 P **P** **14 32 07.8 +0.9**
J57A Williamstown 40.13 261 P **P** **14 32 07.9 +0.6**
baz=27
J57A Williamstown 40.13 261 IAMs_20 IAMs_20 14 47 31.9
comp=Z,5µm,22.0s
K60A Five Rivers En 40.14 258 P **P** **14 32 07.2 -0.1**
baz=26
PRP Porcupine Dome 40.14 330 P **P** **14 32 08.5 +1.2**
M64A Tiverton 40.21 255 P **P** **14 32 07.4 -0.5**
baz=26
F48A Evansville 40.22 269 P **P** **14 32 08.3 +0.3**
baz=29
L62A Suffield 40.25 256 P **P** **14 32 09.2 +0.9**
baz=26
SANT Santorini 40.30 126 IAMs_20 IAMs_20 14 50 53.7
comp=Z,3µm,18.0s
K59A Cooperstown 40.31 259 P **P** **14 32 08.9 +0.1**
baz=27
E46A Sault Ste Mari 40.32 271 P **P** **14 32 09.9 +1.1**
E46A IAMs_20 IAMs_20 14 48 13.1
comp=Z,7µm,19.0s
H52A Wyevale 40.34 266 P **P** **14 32 09.1 +0.1**
baz=28
L61A Hillsdale 1, H 40.40 257 P **P** **14 32 09.5 -0.1**
baz=26
BATM Batumi 40.45 104⇓ P **P** **14 32 10.0 +0.1**
BATM Batumi 40.45 104⇓ P **P** **14 32 10.0 +0.1**
J56A Wolcott 40.54 262 P **P** **14 32 10.7 +0.1**
baz=27
J56A Wolcott 40.54 262 IAMs_20 IAMs_20 14 48 14.6
comp=Z,7µm,19.0s
BCA Borcka 40.56 105⇓ P **P** **14 32 11.4 +0.5**
K58A Earlville 40.59 260 P **P** **14 32 12.4 +1.3**
baz=27
K58A Earlville 40.59 260 IAMs_20 IAMs_20 14 47 57.1
comp=Z,4µm,20.0s
M63A Gales Ferry 40.62 255 P **P** **14 32 12.0 +0.7**
baz=26
KSCT Kent School, K 40.80 257 IAMs_20 IAMs_20 14 47 47.7
comp=Z,4µm,22.0s
L60A Shokan 40.81 258 P **P** **14 32 14.0 +1.1**
baz=26
ULM Lac du Bonnet 40.82 284 P **P** **14 32 12.5 -0.4**
comp=Z,7.9nm,0.8s,baz=42,slow=9.2,SNR=5.7
ULM LR LR 14 49 10.4
comp=Z,6µm,18.2s,baz=41,slow=36
ULM Lac du Bonnet 40.82 284 *i* P **P** **14 32 13.5 +0.6**
ULM Lac du Bonnet 40.82 284 P **P** **14 32 11.2 -1.8**
ULM IAMs_20 IAMs_20 14 48 59.5
comp=Z,6µm,18.0s
POKR Poker Plat Res 40.83 331 P **P** **14 32 14.6 +1.7**
baz=23
M62A Hamden 40.86 256 P **P** **14 32 14.4 +1.1**
baz=26
J55A Hilton 40.87 263 P **P** **14 32 14.7 +1.3**
baz=27
J55A Hilton 40.87 263 IAMs_20 IAMs_20 14 48 24.3
comp=Z,8µm,19.0s
L59A Walton 40.90 259 P **P** **14 32 14.7 +1.0**
baz=26
L59A Walton 40.90 259 IAMs_20 IAMs_20 14 48 22.3
comp=Z,3µm,19.0s
K57A Scipio Center 40.91 261 P **P** **14 32 14.5 +0.8**
baz=27
I52A Shelburne 40.95 265 P **P** **14 32 14.8 +0.8**
baz=28
I53A Kortright Cn E 40.97 265 P **P** **14 32 15.0 +0.8**
baz=28
IMAR Indian Mountai 40.97 336 P **P** **14 32 14.6 +0.7**
IMAR PcP **PcP** **14 34 13.8 +0.1**
YLE Yale 40.99 256 IAMs_20 IAMs_20 14 47 26.8
comp=Z,3µm,22.0s
IL31 41.06 331 P **P** **14 32 15.5 +0.8**
ILAR Eielson Array 41.06 331 P **P** **14 32 14.8 +0.1**
comp=Z,3.9nm,0.9s,baz=17,slow=7.1,SNR=20
ILAR PcP **PcP** **14 34 13.8 -0.3**
comp=Z,1.4nm,0.8s,baz=335,slow=3.8,SNR=8.7
ILAR LR LR 14 52 32.5
comp=Z,2µm,20.1s,baz=46,slow=41
ILAR Eielson Array 41.06 331 P **P** **14 32 15.7 +0.9**
ILAR Eielson Array 41.06 331 P **P** **14 32 15.7 +0.9**
MDM Murphy Dome 41.10 332 P **P** **14 32 12.9 -2.2**
COLA College 41.12 331 *i* P **P** **14 32 14.5 -0.7**
COLA pmax pmax
comp=Z,13nm,1.0s
TCOL CIGO, UAF Yank 41.12 331 P **P** **14 32 17.0 +1.8**
baz=22
J54A Appleton 41.13 263 P **P** **14 32 15.9 +0.4**
baz=27
J54A Appleton 41.13 263 IAMs_20 IAMs_20 14 48 30.5
comp=Z,6µm,19.0s
N63A Mattituck 41.15 256 P **P** **14 32 16.3 +0.7**
baz=26
D41A Chassel 41.15 275 IAMs_20 IAMs_20 14 49 02.1
comp=Z,6µm,18.0s
MAK Makhachkala 41.16 98 *e*P P 14 32 10.4 -5.3
MAK *e*S **S** **14 38 22.3 -6.1**

MAK eSS SS 14 41 24.0 -6.8
MAK pmax pmax
comp=Z,26nm,0.4s
MAK MLR MLR
comp=Z,3µm,14.0s
IDI Anoyia 41.17 127 P P 14 32 14.3 -1.7
comp=Z,4.7nm,1.0s,baz=10,slow=7.1,SNR=5.5
IDI LR LR 14 51 02.7
comp=Z,1µm,18.4s,baz=324,slow=39
BINY Binghamton 41.20 260 P P 14 32 17.2 +1.0
baz=26
BINY Binghamton 41.20 260 IAMs_20 IAMs_20 14 48 16.4
comp=Z,4µm,20.0s
K56A Middlesex 41.21 262 P P 14 32 18.0 +1.7
baz=27
AKH Akhalkalaki 41.21 103 ⇑P P 14 32 18.0 +1.5
AKH Akhalkalaki 41.21 103 P P 14 32 15.9 -0.6
AKH pmax pmax
comp=Z,31nm,1.7s
AKH MLR MLR
comp=Z,7µm,21.0s
AKH Akhalkalaki 41.21 103 P P 14 32 15.9 -0.6
AKH IAMs_20 IAMs_20 14 48 58.9
comp=Z,7µm,21.0s
ELL Elmali 41.21 120 IAMs_20 IAMs_20 14 50 16.8
comp=Z,7µm,20.0s
G47A Hillman 41.22 270 P P 14 32 17.7 +1.5
baz=28
E43A Lone Tree Farm 41.22 274 IAMs_20 IAMs_20 14 49 00.9
comp=Z,7µm,18.0s
M61A Granite Spring 41.27 257 P P 14 32 16.6 -0.1
baz=26
L58A Harry Jones Me 41.30 260 P P 14 32 18.2 +1.3
baz=26
SCRK Sand Creek 41.30 329 P P 14 32 16.7 -0.2
SCRK IAMs_20 IAMs_20 14 50 29.2
comp=Z,5µm,22.0s
CCB Clear Creek Bu 41.32 331 P P 14 32 18.1 +1.2
F45A CMU Biological 41.33 272 P P 14 32 18.4 +1.3
baz=29
EYMN Ely 41.37 279 P P 14 32 18.6 +1.2
baz=30
EYMN Ely 41.37 279 IAMs_20 IAMs_20 14 48 49.8
comp=Z,8µm,20.0s
HDA Harding Lake 41.41 331 P P 14 32 18.6 +1.0
baz=22
HDA Harding Lake 41.41 331 P P 14 32 18.3 +0.7
G46A Petoskey 41.43 271 P P 14 32 18.3 +0.3
baz=29
K55A Perry 41.43 262 P P 14 32 18.3 +0.3
baz=27
H48A Harrisville 41.45 269 P P 14 32 18.5 +0.3
baz=28
H48A Harrisville 41.45 269 IAMs_20 IAMs_20 14 48 57.0
comp=Z,7µm,19.0s
I51A Listowel 41.47 266 P P 14 32 19.1 +0.8
baz=28
N62A Caumsett State 41.51 257 P P 14 32 19.3 +0.7
baz=26
WRH Wood River Hil 41.53 331 P P 14 32 18.1 -0.5
M60A Port Jervis 41.53 258 P P 14 32 20.2 +1.3
baz=26
KARP Karpathos 41.55 124 IAMs_20 IAMs_20 14 51 02.6
comp=Z,3µm,19.0s
PAL Palisades 41.59 257 P P 14 32 20.4 +1.1
baz=26
PAL Palisades 41.59 257 IAMs_20 IAMs_20 14 48 21.6
comp=Z,3µm,21.0s
M59A Waymart 41.61 259 P P 14 32 20.8 +1.3
baz=26
DOT Dot Lake 41.61 328 P P 14 32 20.4 +1.1
DOT IAMs_20 IAMs_20 14 50 38.6
comp=Z,4µm,21.0s
RIDG Independent Ri 41.67 329 P P 14 32 20.3 +0.5
RIDG IAMs_20 IAMs_20 14 51 59.9
comp=Z,3µm,19.0s
L57A Andrews Acres 41.67 261 P P 14 32 20.8 +0.8
baz=26
KSPA Keystone Colle 41.71 259 IAMs_20 IAMs_20 14 49 06.7
comp=Z,4µm,18.0s
BCAR Beaver Creek A 41.74 327 P P 14 32 21.5 +1.1
K54A Basiliko Farm, 41.74 263 P P 14 32 21.1 +0.6
baz=27
ODNJ Ogdensburg 41.75 258 IAMs_20 IAMs_20 14 48 27.8
comp=Z,6µm,20.0s
B35A Bob, Littlefor 41.75 281 P P 14 32 19.1 -1.4
B35A IAmb IAmb 14 32 22.8
comp=Z,42nm,1.6s
B35A IAMs_20 IAMs_20 14 49 11.9
comp=Z,8µm,20.0s
GLMI Grayling 41.78 270 P P 14 32 21.4 +0.5
baz=28
GLMI Grayling 41.78 270 IAMs_20 IAMs_20 14 48 58.6
comp=Z,5µm,20.0s
J52A Paris 41.78 265 P P 14 32 21.4 +0.6
baz=27
L56A Greenwood 41.78 261 P P 14 32 21.8 +0.8
baz=27
L56A Greenwood 41.78 261 IAMs_20 IAMs_20 14 48 53.7
comp=Z,7µm,20.0s
BILL Bilibino 41.84 359*c iP* P 14 32 18.2 -2.9
BILL *e* 14 33 55.9
BILL *e*PPP PPP 14 34 24.7
BILL pmax pmax
comp=Z,6.0nm,1.0s
BILL Bilibino 41.84 359 P P 14 32 21.6 +0.6
H47A Mio 41.84 270 P P 14 32 21.6 +0.3
baz=28
WVNY West Valley, N 41.89 263 P P 14 32 21.6 -0.2
WVNY IAmb IAmb 14 32 25.7
comp=Z,80nm,1.6s
G45A Suttons Bay 41.94 271 P P 14 32 22.9 +0.8
baz=28
G45A Suttons Bay 41.94 271 IAMs_20 IAMs_20 14 49 12.9
comp=Z,7µm,19.0s
N61A South Mountain 41.94 257 P P 14 32 21.7 -0.6
baz=26
I49A Point Hope 41.95 268 P P 14 32 22.8 +0.6
baz=28
I49A Point Hope 41.95 268 IAMs_20 IAMs_20 14 49 21.0
comp=Z,7µm,18.0s
I48A Sherman Twp 42.03 269 P P 14 32 22.5 -0.4
baz=28
L55A Hinsdale 42.04 262 P P 14 32 22.8 -0.2
baz=27
BRNJ Basking Ridge 42.09 257 IAMs_20 IAMs_20 14 48 38.0
comp=Z,5µm,21.0s
M58A Price's Panora 42.10 260 P P 14 32 23.4 -0.2
baz=26
N60A Cedar Hill Far 42.10 258 P P 14 32 23.9 +0.4
baz=26
F42A Maple Grove Fa 42.15 274 IAMs_20 IAMs_20 14 49 31.4
comp=Z,6µm,18.0s
COWI Conover 42.18 275 IAMs_20 IAMs_20 14 49 25.4
comp=Z,4µm,19.0s
MENT Mentasta 42.21 328 P P 14 32 24.9 +0.7
MENT IAMs_20 IAMs_20 14 51 19.2
comp=Z,4µm,19.0s
H46A Fife Lake 42.23 271 P P 14 32 24.6 0.0
baz=28
K52A Tillsonburg 42.27 265 P P 14 32 25.4 +0.6
baz=27
N59A State Game Lan 42.28 259 P P 14 32 24.9 -0.1
baz=26
N59A State Game Lan 42.28 259 IAMs_20 IAMs_20 14 49 14.9
comp=Z,3µm,19.0s
L54A Sinclairville 42.29 263 P P 14 32 24.9 -0.2
baz=27
BPAW Bear Paw Mtn. 42.34 333 P P 14 32 25.8 +0.6
M57A Sunshine Farm, 42.36 261 P P 14 32 25.7 +0.1
baz=26
M57A Sunshine Farm, 42.36 261 P P 14 32 25.6 0.0
M57A IAmb IAmb 14 32 29.8
comp=Z,40nm,1.6s
M57A IAMs_20 IAMs_20 14 49 01.8
comp=Z,6µm,20.0s
MCK McKinley 42.36 332 P P 14 32 26.0 +0.6
MCK pmax pmax
comp=Z,78nm,1.9s
MCK MLR MLR
comp=Z,3µm,18.0s
MCK McKinley 42.36 332 P P 14 32 26.0 +0.6
MCK IAmb IAmb 14 32 34.0
comp=Z,78nm,1.9s
MCK IAMs_20 IAMs_20 14 53 12.4
comp=Z,3µm,18.0s
MALT Malatya 42.37 110 P P 14 32 28.7 +2.8

H45A Beulah 42.44 271 P P 14 32 27.5 +1.3
baz=28
I47A Gladwin 42.45 270 P P 14 32 27.1 +0.8
baz=28
I47A Gladwin 42.45 270 IAMs_20 IAMs_20 14 49 30.5
comp=Z,7µm,20.0s
AGMN Agassiz Nation 42.51 283 P P 14 32 27.6 +0.8
baz=30,SNR=5.7
AGMN Agassiz Nation 42.51 283 P P 14 32 27.2 +0.5
E38A The Farm, Brul 42.55 278 IAMs_20 IAMs_20 14 49 35.1
comp=Z,5µm,19.0s
J49A Marlette 42.57 268 P P 14 32 27.6 +0.3
baz=28
M56A Emporium 42.58 262 P P 14 32 27.5 +0.1
baz=26
K51A Iona Station 42.59 266 P P 14 32 28.3 +0.8
baz=27
ERPA Erie 42.62 264 P P 14 32 28.8 +1.1
baz=27
ERPA Erie 42.62 264 IAMs_20 IAMs_20 14 49 34.6
comp=Z,5µm,19.0s
O61A Allentown 42.62 257 P P 14 32 28.1 +0.4
baz=25
RND Reindeer 42.65 331 P P 14 32 27.7 -0.1
RND pmax pmax
comp=Z,12nm,1.5s
RND MLR MLR
comp=Z,2µm,18.0s
RND Reindeer 42.65 331 P P 14 32 27.7 -0.1
RND IAMs_20 IAMs_20 14 53 12.1
comp=Z,2µm,18.0s
N58A Sunbury 42.66 260 P P 14 32 28.7 +0.6
baz=26
N58A Sunbury 42.66 260 P P 14 32 26.6 -1.4
N58A IAmb IAmb 14 32 31.9
comp=Z,26nm,1.0s
N58A IAMs_20 IAMs_20 14 49 01.0
comp=Z,4µm,21.0s
O60A Telford 42.70 258 P P 14 32 29.0 +0.7
baz=26
DHY Denali Highway 42.72 330 P P 14 32 28.3 -0.1
DHY IAmb IAmb 14 32 32.4
comp=Z,40nm,1.8s
M55A Ridgway 42.78 262 P P 14 32 29.4 +0.3
baz=26
M55A Ridgway 42.78 262 P P 14 32 28.8 -0.4
M55A IAmb IAmb 14 32 32.0
comp=Z,72nm,1.9s
I46A Reed City 42.84 270 P P 14 32 30.0 +0.5
baz=28
J48A Bridge Port 42.85 268 P P 14 32 30.1 +0.6
baz=28
L53A Girard 42.85 264 P P 14 32 30.0 +0.3
baz=27
K50A Casco 42.92 267 P P 14 32 31.4 +1.3
baz=27
K50A Casco 42.92 267 IAMs_20 IAMs_20 14 49 43.6
comp=Z,7µm,20.0s
HYT Haines Junctio 42.95 323 P P 14 32 29.3 -1.0
HYT IAMs_20 IAMs_20 14 51 06.6
comp=Z,5µm,19.0s
N57A Milroy 43.02 261 P P 14 32 31.6 +0.6
baz=26
I45A Fountain 43.02 271 P P 14 32 31.5 +0.5
baz=28
I45A Fountain 43.02 271 IAMs_20 IAMs_20 14 50 04.6
comp=Z,6µm,18.0s
M54A Oil Creek Stat 43.05 263 P P 14 32 32.3 +1.0
baz=26
M54A Oil Creek Stat 43.05 263 IAMs_20 IAMs_20 14 49 41.2
comp=Z,6µm,20.0s
P61A Hammonton 43.08 257 P P 14 32 32.3 +0.9
baz=25
ALLY Alegheny Colle 43.09 264 IAMs_20 IAMs_20 14 49 42.1
comp=Z,5µm,20.0s
N56A West Decatur 43.12 261 P P 14 32 32.6 +0.8
baz=26
H43A Windswept, Lux 43.16 273 IAMs_20 IAMs_20 14 49 53.1
comp=Z,5µm,20.0s
K49A Clarkson 43.19 268 P P 14 32 32.7 +0.3
baz=27
P60A Greenville 43.23 258 P P 14 32 33.8 +1.1
baz=25
P60A Greenville 43.23 258 IAMs_20 IAMs_20 14 49 23.1
comp=Z,5µm,20.0s
SSPA Standing Stone 43.24 261 P P 14 32 33.8 +1.1
baz=26
SSPA Standing Stone 43.24 261 IAMs_20 IAMs_20 14 49 40.2
comp=Z,6µm,20.0s
J47A Sunmer 43.25 269 P P 14 32 33.6 +0.8
baz=28
G40A Rib Lake 43.27 276 P P 14 32 32.2 -0.8
G40A IAmb IAmb 14 32 36.2
comp=Z,28nm,1.4s
G40A IAMs_20 IAMs_20 14 50 08.2
comp=Z,4µm,18.0s
MVL Millersville 43.30 259 IAMs_20 IAMs_20 14 49 18.9
comp=Z,4µm,20.0s
O58A Lewisberry 43.38 260 P P 14 32 34.5 +0.6
baz=26
M53A WI Miller and 43.45 264 P P 14 32 35.3 +0.8
baz=26
M53A WI Miller and 43.45 264 P P 14 32 33.3 -1.2
M53A IAMs_20 IAMs_20 14 50 00.8
comp=Z,5µm,18.0s
DLBC Dease Lake 43.46 316 P P 14 32 33.4 -1.1
DLBC IAMs_20 IAMs_20 14 50 47.1
comp=Z,4µm,18.0s
N55A Marion Center 43.48 262 P P 14 32 35.3 +0.6
baz=26
MCARA McCarthy VSAT 43.52 326 IAMs_20 IAMs_20 14 53 16.8
comp=Z,3µm,18.0s
O57A Amberson 43.54 260 P P 14 32 36.0 +0.8
baz=26
ZAA0 Zalesovo Array 43.58 58 P P 14 32 35.7 +0.4
ZALV Zalesovo Beam 43.58 58 P P 14 32 35.6 +0.3
comp=Z,1.6nm,0.7s,baz=324,slow=7.3,SNR=7.8
ZALV PcP PcP 14 34 21.4 -1.2
comp=Z,0.6nm,0.4s,baz=328,slow=3.1,SNR=1.9
ZALV LR LR 14 52 57.8
comp=Z,2µm,20.7s,baz=332,slow=39
ZALV Zalesovo Beam 43.58 58*i P* P 14 32 38.5 +3.2
ZALV pmax pmax
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 43.58 58 P P 14 32 35.7 +0.4
CTGM Chitina Glacie 43.58 325 IAMs_20 IAMs_20 14 51 26.5
comp=Z,4µm,18.0s
M52A Chesterland 43.59 265 P P 14 32 35.9 +0.3
baz=27
J45A Montague 43.60 271 P P 14 32 36.2 +0.5
baz=28
J45A Montague 43.60 271 IAMs_20 IAMs_20 14 50 22.9
comp=Z,6µm,18.0s
GLB Gilahina Butte 43.61 327 P P 14 32 35.0 -0.6
GLB IAmb IAmb 14 32 39.8
comp=Z,48nm,1.8s
GLB IAMs_20 IAMs_20 14 52 04.2
comp=Z,4µm,21.0s
L50A Kingsville 43.63 267 P P 14 32 36.7 +0.8
baz=27
N54A Moraine State 43.65 263 P P 14 32 36.4 +0.3
baz=26
N54A Moraine State 43.65 263 P P 14 32 34.5 -1.6
N54A IAmb IAmb 14 32 40.1
comp=Z,63nm,1.4s
N54A IAMs_20 IAMs_20 14 50 00.0
comp=Z,6µm,20.0s
P59A Jarrettsville 43.68 259 P P 14 32 37.2 +0.9
baz=25
AAM Ann Arbor 43.69 268 P P 14 32 36.7 +0.3
baz=27
AAM Ann Arbor 43.69 268 IAMs_20 IAMs_20 14 50 25.2
comp=Z,5µm,18.0s
BALM Baldy 43.71 326 IAMs_20 IAMs_20 14 51 54.9
comp=Z,5µm,21.0s
SKAG Skagway 43.73 320 IAMs_20 IAMs_20 14 51 15.3
comp=Z,7µm,20.0s
VRDI Verde Repeater 43.74 327 IAMs_20 IAMs_20 14 52 07.7
comp=Z,4µm,20.0s
O56A Blue Knob Stat 43.80 261 P P 14 32 38.6 +1.3
baz=26
SCM Sheep Creek Mo 43.87 329 IAMs_20 IAMs_20 14 52 39.2
comp=Z,2µm,18.0s
CSS Mathiatis 43.89 117 P P 14 32 36.2 -1.9
D32A Dogwood Acres, 43.91 283 IAMs_20 IAMs_20 14 50 45.0
comp=Z,6µm,19.0s
Q61A Milford 43.97 257 P P 14 32 39.6 +0.9
baz=25

Q60A Greensboro 44.03 258 P P 14 32 39.8 +0.7
baz=25
Q60A Greensboro 44.03 258 IAMs_20 IAMs_20 14 49 56.3
comp=Z,4µm,20.0s
I42A Draeger Farm, 44.05 274 IAMs_20 IAMs_20 14 50 38.8
comp=Z,5µm,18.0s
M51A Elyria 44.05 265 P P 14 32 39.7 +0.3
baz=26
SML Sawmill 44.06 330 P P 14 32 36.2 -3.0
SML Sawmill 44.06 330 P P 14 32 36.2 -3.0
SML IAmb IAmb 14 32 42.9
comp=Z,60nm,1.9s
N53A Lisbon 44.07 264 P P 14 32 39.8 +0.3
baz=26
N53A Lisbon 44.07 264 IAMs_20 IAMs_20 14 50 21.2
comp=Z,4µm,19.0s
P58A Pank, Wackersv 44.08 260 P P 14 32 40.1 +0.6
baz=25
O55A Ligonier 44.10 262 P P 14 32 40.5 +0.8
baz=26
MDND Maddock 44.13 286 P P 14 32 39.8 0.0
baz=29
MDND Maddock 44.13 286 IAMs_20 IAMs_20 14 50 50.9
comp=Z,5µm,18.0s
PCA Pinnacle 44.17 324 IAMs_20 IAMs_20 14 51 44.0
comp=Z,5µm,19.0s
SPMN Marine on St. 44.18 278 P P 14 32 41.0 +0.7
baz=28
SPMN Marine on St. 44.18 278 IAMs_20 IAMs_20 14 50 27.3
comp=Z,4µm,20.0s
YAH Yahtse 44.22 325 P P 14 32 38.2 -2.4
YAH IAmb IAmb 14 33 05.2
comp=Z,56nm,1.6s
YAH IAMs_20 IAMs_20 14 53 20.4
comp=Z,5µm,18.0s
L48A N Adams 44.27 268 IAMs_20 IAMs_20 14 50 43.5
comp=Z,4µm,19.0s
M50A Fremont 44.28 266 IAMs_20 IAMs_20 14 50 34.6
comp=Z,6µm,18.0s
P57A Homestead Farm 44.32 260 P P 14 32 43.3 +1.8
baz=25
P57A Homestead Farm 44.32 260 IAMs_20 IAMs_20 14 50 01.7
comp=Z,5µm,21.0s
N52A McGinn's Farm, 44.35 265 P P 14 32 42.5 +0.8
baz=26
PMR Palmer 44.40 331 P P 14 32 40.1 -1.7
PMR pmax pmax
comp=Z,48nm,2.0s
PMR MLR MLR
comp=Z,2µm,18.0s
PMR Palmer 44.40 331 P P 14 32 40.1 -1.7
PMR IAmb IAmb 14 32 45.5
comp=Z,48nm,2.0s
Q59A Harwood 44.42 258 P P 14 32 43.7 +1.4
baz=25
MESA MESA 44.43 325 P P 14 32 40.2 -2.1
MESA IAMs_20 IAMs_20 14 52 19.8
comp=Z,6µm,20.0s
BESE Bessie Mountai 44.43 319 P P 14 32 40.1 -2.1
BESE IAmb IAmb 14 32 47.0
comp=Z,40nm,1.8s
BESE IAMs_20 IAMs_20 14 51 35.8
comp=Z,4µm,19.0s
R61A Willards 44.47 257 P P 14 32 44.3 +1.6
baz=25
O54A Avella 44.48 263 P P 14 32 44.0 +1.3
baz=26
N51A Ashland 44.49 265 P P 14 32 44.3 +1.5
baz=26
P56A Dayton Farm, R 44.57 261 P P 14 32 44.8 +1.3
baz=26
KURK Kurchatov 44.58 65*d iP* P 14 32 42.9 -0.5
KURK pmax pmax
comp=Z,10.0nm,0.9s
KURK Kurchatov 44.58 65 P P 14 32 42.9 -0.5
KURK Kurchatov 44.58 65 IAMs_20 IAMs_20 14 51 31.4
comp=Z,3µm,20.0s
YKU2 Yakutat 44.59 323 IAMs_20 IAMs_20 14 51 57.1
comp=Z,4µm,19.0s
I40A Norwalk 44.63 275 IAMs_20 IAMs_20 14 50 59.0
comp=Z,6µm,18.0s
Q58A Fox Den Farm, 44.70 260 P P 14 32 46.3 +1.8
baz=25
O53A New Philadelph 44.70 264 P P 14 32 46.5 +2.0
baz=26
O53A New Philadelph 44.70 264 IAMs_20 IAMs_20 14 50 20.8
comp=Z,4µm,21.0s
GLI Glacier Island 44.72 329 IAMs_20 IAMs_20 14 52 26.2
comp=Z,3µm,22.0s
FID Port Fidalgo 44.74 328 IAMs_20 IAMs_20 14 52 29.2
comp=Z,3µm,21.0s
RAGM Ragged Mountai 44.75 327 IAMs_20 IAMs_20 14 52 42.4
comp=Z,6µm,18.0s
MCWV Mont Chateau 44.77 262 P P 14 32 45.7 +0.6
baz=26
MCWV Mont Chateau 44.77 262 IAMs_20 IAMs_20 14 50 45.7
comp=Z,4µm,19.0s
EYAK Cordova Ski Ar 44.79 328 IAMs_20 IAMs_20 14 53 04.6
comp=Z,5µm,19.0s
Q57A Strasburg 44.85 260 P P 14 32 46.8 +1.1
baz=25
P55A Reedsville 44.90 262 P P 14 32 48.1 +2.0
baz=26
K43A Burlington 44.91 272 IAMs_20 IAMs_20 14 51 04.5
comp=Z,6µm,19.0s
R60A Leonardtown, M 44.94 258 P P 14 32 48.0 +1.6
baz=25
O52A Adamsville 45.03 264 P P 14 32 48.9 +1.8
baz=26
O52A Adamsville 45.03 264 IAMs_20 IAMs_20 14 51 07.5
comp=Z,6µm,18.0s
P54A Burton 45.03 263 P P 14 32 47.5 +0.3
baz=26
DGMT Dagmar 45.06 290 P P 14 32 49.1 +1.8
baz=28
DGMT Dagmar 45.06 290 IAMs_20 IAMs_20 14 51 03.6
comp=Z,5µm,21.0s
HIN Hinchinbrook I 45.07 328 IAMs_20 IAMs_20 14 53 14.9
comp=Z,3µm,19.0s
N49A Columbus Grove 45.10 267 P P 14 32 47.2 -0.4
N49A IAmb IAmb 14 32 51.2
comp=Z,40nm,1.4s
Q56A Snyder Ridge, 45.11 261 P P 14 32 47.9 +0.1
baz=25
Q56A Snyder Ridge, 45.11 261 IAMs_20 IAMs_20 14 50 56.7
comp=Z,6µm,19.0s
GAMB Gambell 45.13 346 P P 14 32 48.0 +0.4
GAMB IAmb IAmb 14 32 54.5
comp=Z,15nm,0.9s
S61A Accomac 45.17 257 P P 14 32 48.9 +0.7
baz=24
S61A Accomac 45.17 257 IAMs_20 IAMs_20 14 51 28.5
comp=Z,2µm,18.0s
R59A King George, V 45.18 259 P P 14 32 49.9 +1.6
baz=25
L44A Lake County Fo 45.23 271 P P 14 32 50.0 +1.3
baz=27
L44A Lake County Fo 45.23 271 IAMs_20 IAMs_20 14 51 31.8
comp=Z,6µm,18.0s
O51A Pataskala 45.26 265 P P 14 32 48.6 -0.4
baz=26
CBN Corbin Frederi 45.26 259 P P 14 32 49.6 +0.7
baz=25
CBN Corbin Frederi 45.26 259 IAMs_20 IAMs_20 14 50 36.8
comp=Z,3µm,19.0s
ACSO Alum Creek Sta 45.31 266 P P 14 32 49.7 +0.3
baz=26
ACSO Alum Creek Sta 45.31 266 P P 14 32 48.4 -0.9
ACSO IAmb IAmb 14 32 52.8
comp=Z,23nm,1.1s
SEM Semipalatinsk 45.35 64*eP* P 14 32 48.0 -1.8
comp=Z,1.2nm,0.5s,baz=64
SEM *eS* S 14 39 29.4 -0.8
baz=64
SEM Semipalatinsk 45.35 64*eP* P 14 32 47.9 -1.8
SEM *eS* S 14 39 29.3 -0.8
SEM pmax pmax
comp=Z,1.0nm,0.5s
JFWS Jewell Farm 45.37 274 P P 14 32 50.1 +0.3
baz=27
JFWS Jewell Farm 45.37 274 P P 14 32 48.8 -1.0
JFWS pmax pmax
comp=Z,22nm,1.3s
JFWS MLR MLR
comp=Z,4µm,18.0s
JFWS Jewell Farm 45.37 274 P P 14 32 48.8 -1.0
JFWS IAmb IAmb 14 32 53.3
comp=Z,22nm,1.2s

JFWS Jewell Farm 45.37 274 IAMs_20 IAMs_20 14 51 21.6
comp=Z,4µm,18.0s
R58A Rapidan 45.38 259 P **P** **14 32 51.6 +1.6**
baz=25,SNR=6.4
P53A Whipple 45.44 264 P **P** **14 32 51.7 +1.3**
baz=26
P53A Whipple 45.44 264 IAMs_20 IAMs_20 14 51 05.5
comp=Z,5µm,20.0s
Q55A Buckhannon 45.45 262 P **P** **14 32 51.8 +1.3**
baz=25
I37A Lemond, Waseca 45.45 278 IAMs_20 IAMs_20 14 51 17.8
comp=Z,5µm,20.0s
S60A Water View 45.47 258 P **P** **14 32 51.8 +1.2**
baz=24
CAPN Captain Cook N 45.51 331 P **P** **14 32 51.4 +0.7**
baz=19
R57A Stanardsville 45.56 260 P **P** **14 32 52.9 +1.6**
baz=25
P52A Corning 45.56 264 P **P** **14 32 52.7 +1.3**
baz=26
P52A Corning 45.56 264 IAMs_20 IAMs_20 14 51 32.6
comp=Z,6µm,18.0s
YAK Yakutsk 45.59 22 *e*P **P** **14 32 51.0 -0.3**
YAK *e**PP **sP** **14 32 55.4 -0.2**
YAK *e* 14 34 23.8
YAK *e* 14 34 35.6
YAK *e*PPP PPP 14 35 16.1
YAK *e*S **S** **14 39 34.3 +1.4**
YAK *e**SS **sS** **14 39 43.0 +5.0**
YAK *e* 14 42 48.2
YAK *e*SSS SSS 14 43 48.4
YAK pmax pmax
comp=Z,9.0nm,0.6s
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK pmax pmax
comp=Z,61nm,2.2s
YAK pmax pmax
comp=N,67nm,2.5s
YAK pmax pmax
comp=E,33nm,2.5s
YAK smax smax
comp=N,101nm,3.2s
YAK smax smax
comp=E,60nm,3.0s
YAK MLR MLR
comp=Z,323nm,18.0s
E28A Huff 45.60 286 IAMs_20 IAMs_20 14 51 45.9
comp=Z,4µm,18.0s
S59A Mechanicsville 45.63 258 P **P** **14 32 52.8 +0.9**
baz=25
N47A Urbana 45.64 269 IAMs_20 IAMs_20 14 51 35.7
comp=Z,5µm,18.0s
R58B Mineral 45.65 259 P **P** **14 32 53.4 +1.4**
baz=25
R58B Mineral 45.65 259 IAMs_20 IAMs_20 14 50 50.0
comp=Z,4µm,20.0s
Q54A Coxs Mills 45.71 263 P **P** **14 32 54.5 +2.0**
baz=25,SNR=5.7
SEW Seward 45.86 330 IAMs_20 IAMs_20 14 54 27.7
comp=Z,2µm,19.0s
SIT Sitka 45.92 319 IAMs_20 IAMs_20 14 53 03.2
comp=Z,4µm,18.0s
L42A Oliver, Polo 45.98 273 IAMs_20 IAMs_20 14 51 47.9
comp=Z,6µm,18.0s
M44A Midewin, Midew 45.98 271 IAMs_20 IAMs_20 14 51 37.6
comp=Z,4µm,19.0s
P51A Williamsport 46.01 265 P **P** **14 32 55.0 +0.1**
baz=26
P51A Williamsport 46.01 265 IAMs_20 IAMs_20 14 51 29.4
comp=Z,6µm,19.0s
T60A Surry 46.02 258 P **P** **14 32 56.6 +1.7**
baz=24
T60A Surry 46.02 258 IAMs_20 IAMs_20 14 51 06.8
comp=Z,3µm,21.0s
O48A Farmland 46.02 268 P **P** **14 32 55.1 +0.1**
baz=26
S58A Poland Farm, P 46.02 259 P **P** **14 32 56.4 +1.4**
baz=25
S58A Poland Farm, P 46.02 259 IAMs_20 IAMs_20 14 51 02.9
comp=Z,3µm,20.0s
Q53A Leroy 46.05 263 P **P** **14 32 56.8 +1.6**
baz=25
R55A Marlinton 46.10 262 P **P** **14 32 57.0 +1.3**
baz=25
S57A Dark Hollow, R 46.19 260 P **P** **14 32 56.9 +0.7**
baz=25
Q52A Bidwell 46.21 264 P **P** **14 32 56.8 +0.4**
baz=26
MMAI Mount Meron Ar 46.32 116 LR LR 14 53 03.0
comp=Z,1µm,22.0s,baz=335,slow=37
T59A Double "B" Far 46.44 258 P **P** **14 32 59.7 +1.4**
baz=24
T59A Double "B" Far 46.44 258 IAMs_20 IAMs_20 14 51 30.0
comp=Z,3µm,20.0s
K38A Parkersburg 46.45 276 IAMs_20 IAMs_20 14 51 58.4
comp=Z,5µm,20.0s
L40A Anamosa 46.45 274 P **P** **14 32 57.9 -0.5**
L40A IAMs_20 IAMs_20 14 51 56.3
comp=Z,4µm,19.0s
S56A Natural Bridge 46.47 261 P **P** **14 32 59.4 +0.9**
baz=25
R54A Victor 46.49 262 P **P** **14 32 59.7 +1.0**
baz=25
Q51A Peebles 46.52 265 P **P** **14 32 58.5 -0.4**
Q51A IAmb IAmb 14 33 02.2
comp=Z,28nm,1.4s
P49A Miami Univ. Ec 46.52 267 P **P** **14 32 59.5 +0.6**
baz=26
SFIN Lafayette 46.57 270 P **P** **14 33 00.3 +1.1**
baz=26
U61A Possum Corner 46.66 257 P **P** **14 32 60.0 0.0**
baz=24
U61A Possum Corner 46.66 257 IAMs_20 IAMs_20 14 52 24.8
comp=Z,2µm,18.0s
R53A Hurricane 46.67 263 P **P** **14 33 01.5 +1.3**
baz=25
R53A Hurricane 46.67 263 IAMs_20 IAMs_20 14 51 54.1
comp=Z,6µm,19.0s
S55A Lewisburg 46.69 262 P **P** **14 33 00.9 +0.6**
baz=25
CNPM China Poot 46.70 331 P **P** **14 33 00.5 +0.3**
U60A Pendleton 46.76 258 P **P** **14 33 02.0 +1.2**
baz=24
ECSD EROS Data Cent 46.77 280 P **P** **14 33 01.7 +0.8**
baz=27,SNR=6.6
ECSD EROS Data Cent 46.77 280 P **P** **14 33 00.5 -0.3**
ECSD IAmb IAmb 14 33 04.3
comp=Z,29nm,1.4s
T58A Grand View Acr 46.79 259 P **P** **14 33 02.6 +1.6**
baz=24
P48A Milroy 46.83 267 P **P** **14 33 01.0 -0.3**
P48A IAmb IAmb 14 33 04.2
comp=Z,20nm,1.1s
P48A IAMs_20 IAMs_20 14 52 12.0
comp=Z,6µm,18.0s
SUSD Miller 46.92 283 P **P** **14 33 01.5 -0.5**
baz=27
S54A Dingess, Beckl 46.94 262 P **P** **14 33 03.3 +1.1**
baz=25
T57A Hurt 46.98 260 P **P** **14 33 03.6 +1.1**
baz=24
U59A Littleton 47.08 258 P **P** **14 33 04.7 +1.4**
baz=24
U59A Littleton 47.08 258 IAMs_20 IAMs_20 14 51 60.0
comp=Z,3µm,20.0s
HDIL Hopedale 47.15 272 P **P** **14 33 04.6 +0.8**
baz=26
HDIL Hopedale 47.15 272 IAMs_20 IAMs_20 14 52 33.5
comp=Z,5µm,18.0s
BLA Blacksburg 47.17 261 P **P** **14 33 04.4 +0.4**
baz=25
V61A Roper 47.19 257 P **P** **14 33 04.4 +0.3**
baz=24
V61A Roper 47.19 257 IAMs_20 IAMs_20 14 52 41.0
comp=Z,2µm,18.0s
EGMT Eagleton 47.19 294 P **P** **14 33 03.5 -0.6**
baz=27,SNR=14
EGMT Eagleton 47.19 294 P **P** **14 33 03.5 -0.6**
V62A Hyde County Ai 47.20 256 P **P** **14 33 04.9 +0.8**
baz=24
T56A Rocky Mt 47.21 261 P **P** **14 33 05.0 +0.6**
baz=25
O44A Mansfield 47.23 271 IAMs_20 IAMs_20 14 52 17.0
comp=Z,5µm,20.0s
SCIA State Center 47.26 276 P **P** **14 33 05.5 +0.8**
baz=27
SCIA State Center 47.26 276 IAMs_20 IAMs_20 14 52 41.8
comp=Z,5µm,19.0s
LAO LASA Array 47.28 290 P **P** **14 33 05.9 +1.1**
baz=27
LAO LASA Array 47.28 290 IAMs_20 IAMs_20 14 52 25.3
comp=Z,6µm,20.0s
P46A Rosedale 47.29 269 P **P** **14 33 03.7 -1.1**
U58A Oxford 47.29 259 P **P** **14 33 06.1 +1.2**
baz=24
S53A Williamson 47.32 263 P **P** **14 33 05.8 +0.6**
baz=25
T55A Pulaski 47.38 262 P **P** **14 33 06.3 +0.6**
baz=25
V60A Jim Taylor Roa 47.44 257 P **P** **14 33 07.3 +1.2**
baz=24
V60A Jim Taylor Roa 47.44 257 IAMs_20 IAMs_20 14 52 00.5
comp=Z,2µm,21.0s
BLO Bloomington 47.46 268 IAMs_20 IAMs_20 14 52 42.6
comp=Z,5µm,18.0s
U57A Blanch 47.52 260 P **P** **14 33 08.1 +1.4**
baz=24
WALA Waterton Lakes 47.53 298 P **P** **14 33 06.0 -0.8**
WALA IAMs_20 IAMs_20 14 53 22.2
comp=Z,4µm,18.0s
ASF Jabal al Asfar 47.56 115 LR LR 14 54 06.9
comp=Z,2µm,21.6s,baz=324,slow=37
T54A Tazewell 47.70 262 P **P** **14 33 09.2 +1.0**
baz=25
V59A Middlesex 47.76 258 P **P** **14 33 09.3 +0.7**
baz=24
S51A Beattyville 47.85 265 IAMs_20 IAMs_20 14 52 07.4
comp=Z,3µm,21.0s
U56A King 47.95 261 P **P** **14 33 11.4 +1.4**
baz=24
U55A TA2, Sparta 48.03 261 P **P** **14 33 12.3 +1.5**
baz=24,SNR=5.6
V58A Windy Hill, Pi 48.03 259 P **P** **14 33 12.5 +1.8**
baz=24,SNR=7.8
V58A Windy Hill, Pi 48.03 259 P **P** **14 33 09.7 -0.9**
V58A IAMs_20 IAMs_20 14 52 13.0
comp=Z,3µm,20.0s
P43A Skaggs, Pawnee 48.05 271 IAMs_20 IAMs_20 14 53 01.5
comp=Z,5µm,18.0s
T53A Wise 48.09 263 P **P** **14 33 12.8 +1.5**
baz=25
DGZ Jazzator, Alta 48.10 58 *c*P **P** **14 33 10.8 -0.4**
DGZ pmax pmax
comp=Z,6.0nm,1.1s
CNNC Cliffs of the 48.13 258 P **P** **14 33 12.6 +1.2**
baz=24
CNNC Cliffs of the 48.13 258 IAMs_20 IAMs_20 14 52 29.7
comp=Z,3µm,20.0s
V57A Coltrane Farms 48.16 260 P **P** **14 33 12.9 +1.2**
baz=24
WCI Wyandotte Cave 48.23 268 P **P** **14 33 13.3 +1.1**
baz=25
WCI Wyandotte Cave 48.23 268 IAMs_20 IAMs_20 14 53 06.3
comp=Z,5µm,18.0s
W60A Pink Hill 48.24 257 P **P** **14 33 13.0 +0.8**
baz=24
N38A Joes South For 48.27 276 IAMs_20 IAMs_20 14 53 20.3
comp=Z,4µm,18.0s
U54A Nelsons Funny 48.27 262 P **P** **14 33 13.7 +1.1**
baz=24
V56A Mocksville 48.47 261 P **P** **14 33 15.3 +1.2**
baz=24
KDAK Kodiak Island 48.58 331 IAMs_20 IAMs_20 14 56 18.8
comp=Z,2µm,19.0s
V55A Taylorsville 48.67 261 P **P** **14 33 16.3 +0.7**
baz=24
KKAR Karatay Array 48.75 76 P **P** **14 33 16.4 +0.2**
KKAR 14 33 16.6
KKAR pmax pmax
comp=Z,22nm,1.5s
KKAR Karatay Array 48.75 76 P **P** **14 33 16.4 +0.2**
KKAR Karatay Array 48.75 76 P **P** **14 33 16.6 +0.4**
KKAR IAmb IAmb 14 33 21.9
comp=Z,22nm,1.5s
X60A Albert Glenn T 48.76 257 P **P** **14 33 17.8 +1.5**
baz=24
W58A Raeford 48.77 259 P **P** **14 33 17.4 +1.0**
baz=24
JTMT Jette 48.82 298 P **P** **14 33 16.3 -0.5**
JTMT IAmb IAmb 14 33 19.7
comp=Z,44nm,1.8s
TZTN Tazewell 48.83 264 P **P** **14 33 17.7 +0.9**
baz=25
TZTN Tazewell 48.83 264 IAMs_20 IAMs_20 14 53 11.1
comp=Z,4µm,18.0s
RSSD Black Hills 48.86 287 P **P** **14 33 17.3 0.0**
baz=27
RSSD Black Hills 48.86 287 IAMs_20 IAMs_20 14 53 43.3
comp=Z,4µm,20.0s
W57A Gilead 48.90 260 P **P** **14 33 17.9 +0.5**
baz=24
W57A Gilead 48.90 260 IAMs_20 IAMs_20 14 52 40.2
comp=Z,4µm,21.0s
USIN University of 48.93 269 IAMs_20 IAMs_20 14 53 29.9
comp=Z,5µm,20.0s
X59A McDuffie Farm, 48.97 258 P **P** **14 33 18.9 +1.0**
baz=24
V54A Nebo 48.99 262 P **P** **14 33 19.0 +0.9**
baz=24
P40A Paris 49.00 274 IAMs_20 IAMs_20 14 53 42.7
comp=Z,5µm,18.0s
MAKZ Makanchi 49.08 64 P **P** **14 33 18.5 -0.2**
MAKZ pmax pmax
comp=Z,29nm,1.6s
MAKZ MLR MLR
comp=Z,2µm,19.0s
MAKZ Makanchi 49.08 64 P **P** **14 33 18.5 -0.2**
MAKZ IAmb IAmb 14 33 23.1
comp=Z,29nm,1.6s
W56A Indian Trail 49.12 260 P **P** **14 33 20.0 +1.0**
baz=24
TAM Tamanrasset 49.14 154 P **P** **14 33 19.5 0.0**
TAM pmax pmax
comp=Z,7.0nm,0.9s
TAM MLR MLR
comp=Z,3µm,20.0s
TAM Tamanrasset 49.14 154 P **P** **14 33 19.5 0.0**
TAM IAMs_20 IAMs_20 14 53 48.0
comp=Z,3µm,20.0s
GCMT Greycliff 49.16 293 P **P** **14 33 18.5 -0.9**
MK31 Makanchi Array 49.18 64 P **P** **14 33 19.0 -0.5**
MK31 pmax pmax
comp=Z,14nm,1.2s
MK31 Makanchi Array 49.18 64 P **P** **14 33 19.0 -0.5**
MK31 IAmb IAmb 14 33 23.0
comp=Z,14nm,1.2s
MKAR Makanchi Array 49.18 64 P **P** **14 33 19.5 +0.1**
comp=Z,9.9nm,1.0s,baz=332,slow=6.8,SNR=29
MKAR PP **PP** **14 35 14.5 +1.7**
comp=Z,1.3nm,0.6s,baz=341,slow=6.4,SNR=5.3
MKAR LR LR 14 55 43.7
comp=Z,2µm,21.0s,baz=315,slow=38
MKAR Makanchi Array 49.18 64 P **P** **14 33 18.6 -0.9**
NEW Newport 49.19 300 P **P** **14 33 20.4 +0.8**
baz=26
NEW Newport 49.19 300 P **P** **14 33 19.1 -0.4**
NEW pmax pmax
comp=Z,20nm,1.9s
NEW MLR MLR
comp=Z,6µm,18.0s
NEW Newport 49.19 300 P **P** **14 33 19.1 -0.4**
SLM Saint Louis 49.19 272 IAMs_20 IAMs_20 14 53 37.9
comp=Z,5µm,19.0s
X58A Rowland 49.23 259 P **P** **14 33 20.4 +0.5**
baz=24
X58A Rowland 49.23 259 IAMs_20 IAMs_20 14 53 24.7
comp=Z,3µm,18.0s
OHAK Old Harbor 49.23 331 IAMs_20 IAMs_20 14 57 37.0
comp=Z,3µm,19.0s
GEYT Alibeck 49.24 91 P **P** **14 33 19.9 -0.2**
comp=Z,3.2nm,0.7s,baz=308,slow=7.3,SNR=7.5
GEYT LR LR 14 55 40.5
comp=Z,6µm,19.2s,baz=335,slow=38
GEYT Alibeck 49.24 91 P **P** **14 33 20.0 0.0**
GYA0B ALIBECK ARRAY 49.24 91 P **P** **14 33 20.5 +0.5**
GYA0B IAmb IAmb 14 33 24.6
comp=Z,14nm,1.2s
EIL Elat 49.31 118 LR LR 14 55 06.6
comp=Z,679nm,21.1s,baz=321,slow=37
BGNE Belgrade 49.36 280 P **P** **14 33 21.4 +0.5**
baz=26
KMSC Kings Mountain 49.36 261 P **P** **14 33 21.1 +0.2**
baz=24
Y60A Bolivia 49.37 257 P **P** **14 33 21.9 +1.0**
baz=23
Y60A Bolivia 49.37 257 IAMs_20 IAMs_20 14 53 08.5
comp=Z,2µm,21.0s
ZSN Zaisan 49.37 62 *i* P **P** **14 33 21.7 +0.8**
comp=Z,6.7nm,1.6s,baz=62
ZSN *e*S **S** **14 40 28.9 +1.8**
baz=62
ZSN LR LR 14 54 18.1
comp=Z,445nm,12.4s,baz=62
ZSN Zaisan 49.37 62 *i* P **P** **14 33 21.7 +0.8**
ZSN *e*S **S** **14 40 28.8 +1.8**
ZSN MLR MLR
comp=Z,445nm,12.0s
P38A Dawn 49.41 275 IAMs_20 IAMs_20 14 53 48.7
comp=Z,5µm,18.0s
IUG luzhnay 49.45 77 *e*P **P** **14 33 22.9 +1.2**
comp=Z,1.7nm,1.7s,baz=78
IUG *e*S **S** **14 40 30.7 +2.3**
baz=78
IUG LR LR 14 53 18.7
comp=Z,250nm,16.0s,baz=78
IUG luzhnay 49.45 77 *e*P **P** **14 33 22.8 +1.2**
IUG *e*S **S** **14 40 30.7 +2.3**
IUG MLR MLR
comp=Z,250nm,16.0s
V52A Sevierville 49.48 264 P **P** **14 33 20.7 -1.2**
V52A IAmb IAmb 14 33 24.5
comp=Z,44nm,1.8s
V52A IAMs_20 IAMs_20 14 53 32.4
comp=Z,5µm,19.0s
BIRD Birdtown, Kers 49.52 260 P **P** **14 33 21.7 -0.5**
BIRD IAmb IAmb 14 33 25.9
comp=Z,39nm,1.6s
BIRD IAMs_20 IAMs_20 14 52 59.6
comp=Z,4µm,21.0s
MSO Missoula 49.54 297 P **P** **14 33 22.3 0.0**
baz=26,SNR=7.1
MSO Missoula 49.54 297 P **P** **14 33 21.8 -0.5**
X57A Johnson Farm, 49.57 259 P **P** **14 33 23.5 +1.0**
baz=24
TDK Taldyqorghan 49.59 68 *e*P **P** **14 33 23.8 +1.2**
comp=Z,438nm,5.0s,baz=69
TDK *e*S **S** **14 40 32.8 +2.7**
baz=69
TDK LR LR 14 53 21.4
comp=Z,1µm,13.5s,baz=69
TDK Taldyqorghan 49.59 68 *e*P **P** **14 33 23.8 +1.2**
TDK *e*S **S** **14 40 32.8 +2.7**
TDK MLR MLR
comp=Z,1µm,14.0s
Y59A Loris 49.59 258 P **P** **14 33 23.2 +0.5**
baz=23
Y59A Loris 49.59 258 IAMs_20 IAMs_20 14 53 23.5
comp=Z,2µm,21.0s
T47A Sharon Grove 49.62 268 IAMs_20 IAMs_20 14 54 00.3
comp=Z,5µm,18.0s
RLMT Red Lodge 49.63 292 P **P** **14 33 23.8 +0.7**
baz=26
W54A Cherokee Point 49.70 262 P **P** **14 33 24.4 +0.9**
baz=24
TKL Tuckaleechee C 49.71 264 P **P** **14 33 22.5 -1.1**
TKL pmax pmax
comp=Z,58nm,2.0s
TKL Tuckaleechee C 49.71 264 P **P** **14 33 22.5 -1.1**
TKL IAMs_20 IAMs_20 14 53 39.4
comp=Z,5µm,19.0s
S44A Carbondale 49.71 270 P **P** **14 33 23.4 -0.1**
S44A IAmb IAmb 14 33 26.6
comp=Z,26nm,1.0s
B08A Colville Reser 49.74 302 P **P** **14 33 23.6 -0.2**
B08A IAmb IAmb 14 33 26.9
comp=Z,44nm,1.7s
V51A Loudon 49.77 264 IAMs_20 IAMs_20 14 53 39.2
comp=Z,4µm,19.0s
SGDS Sogindy 49.77 73 *i* P **P** **14 33 25.6 +1.4**
comp=Z,4.9nm,1.1s,baz=73
SGDS *e*S **S** **14 40 35.6 +2.6**
baz=73
SGDS LR LR 14 53 31.6
comp=Z,1µm,13.9s,baz=73
SGDS Sogindy 49.77 73 *i* P **P** **14 33 25.5 +1.4**
SGDS *e*S **S** **14 40 35.5 +2.6**
SGDS pmax pmax
comp=Z,5.0nm,1.1s
SGDS MLR MLR
comp=Z,1µm,14.0s
X56A White Oak 49.85 260 P **P** **14 33 25.9 +1.2**
baz=24
KUU Kurty 49.93 71 *e*P **P** **14 33 26.4 +1.1**
comp=Z,17nm,1.7s,baz=71
KUU *e*S **S** **14 40 37.3 +2.4**
baz=71
KUU LR LR 14 53 39.2
comp=Z,2µm,13.9s,baz=71
KUU Kurty 49.93 71 *e*P **P** **14 33 26.3 +1.1**
KUU *e*S **S** **14 40 37.3 +2.4**
KUU pmax pmax
comp=Z,17nm,1.7s
KUU MLR MLR
comp=Z,2µm,14.0s
Y58A Scranton 49.93 259 P **P** **14 33 25.6 +0.3**
baz=23
Y58A Scranton 49.93 259 IAMs_20 IAMs_20 14 53 54.5
comp=Z,2µm,18.0s
BOZ Bozeman (W) 49.94 294 P **P** **14 33 25.7 +0.3**
baz=26,SNR=7.6
BOZ Bozeman (W) 49.94 294 P **P** **14 33 25.3 -0.1**
BOZ pmax pmax
comp=Z,15nm,1.5s
BOZ MLR MLR
comp=Z,8µm,19.0s
BOZ Bozeman (W) 49.94 294 P **P** **14 33 25.3 -0.1**
MOY Mondy 49.95 47 *e*P **P** **14 33 26.9 +1.6**
MOY pmax pmax
comp=Z,68nm,2.1s
YNE Yellowstone No 49.97 293 P **P** **14 33 24.8 -1.0**
LRM Limekiln Ridge 49.99 295 P **P** **14 33 24.5 -1.4**
BG3 Lake Jocassee 50.03 263 P **P** **14 33 25.0 -1.1**
CCM Cathedral Cave 50.06 272 P **P** **14 33 26.3 +0.1**
baz=25
CCM Cathedral Cave 50.06 272 P **P** **14 33 25.5 -0.7**
CCM pmax pmax
comp=Z,25nm,1.4s
CCM MLR MLR
comp=Z,4µm,19.0s
CCM Cathedral Cave 50.06 272 P **P** **14 33 25.5 -0.7**
CCM IAmb IAmb 14 33 28.3
comp=Z,25nm,1.4s
CCM Cathedral Cave 50.06 272 IAMs_20 IAMs_20 14 54 05.4
comp=Z,4µm,19.0s
X55A Gracelyn & Ava 50.07 261 P **P** **14 33 27.6 +1.2**
baz=24
Y57A Sumter 50.07 260 P **P** **14 33 27.8 +1.5**
baz=24
Y57A Sumter 50.07 260 IAMs_20 IAMs_20 14 53 24.2
comp=Z,3µm,20.0s
JSC Jenkinsville 50.12 261 P **P** **14 33 25.9 -0.8**
JSC pmax pmax
comp=Z,21nm,1.6s
JSC Jenkinsville 50.12 261 P **P** **14 33 25.9 -0.8**
JSC IAmb IAmb 14 33 30.6
comp=Z,21nm,1.6s
JSC IAMs_20 IAMs_20 14 53 29.4
comp=Z,4µm,21.0s
CPCT Cooper Cave 50.15 264 IAMs_20 IAMs_20 14 53 51.0
comp=Z,4µm,19.0s
CHKK Chushkaly 50.17 70 *e*P **P** **14 33 28.1 +1.1**
baz=71
CHKK LR LR 14 53 54.3
comp=Z,948nm,13.8s,baz=71
CHKK Chushkaly 50.17 70 *e*P **P** **14 33 28.1 +1.1**
CHKK MLR MLR
comp=Z,948nm,14.0s
CLTN Cedars of Leba 50.17 266 P **P** **14 33 26.2 -0.9**
CLTN IAmb IAmb 14 33 30.3
comp=Z,21nm,1.1s
R40A Maddies Statio 50.19 273 P **P** **14 33 26.2 -0.9**
R40A IAMs_20 IAMs_20 14 54 26.9
comp=Z,5µm,18.0s
IRK Irkutsk 50.20 44 *e*P **P** **14 33 26.4 -0.7**
IRK *e* 14 35 26.3
IRK pmax pmax
comp=Z,38nm,4.0s
B06A Marblemount 50.21 304 IAMs_20 IAMs_20 14 54 44.2
comp=Z,4µm,19.0s

X54A Belton 50.25 262 P P 14 33 29.1 +1.4
baz=24
W52A Murphy 50.27 264 IAMs_20 IAMs_20 14 53 58.3
comp=Z,5µm,20.0s
FRU1 Bishkek 50.35 73 IAMs_20 IAMs_20 14 54 11.0
comp=Z,3µm,18.0s
A04D Lummi Island 50.37 305 P P 14 33 30.0 +1.7
baz=25
AAK Ala-Archa 50.46 73 *d* P P 14 33 28.7 -0.7
AAK pmax pmax
comp=Z,9.0nm,1.1s
AAK Ala-Archa 50.46 73 P P 14 33 30.4 +0.9
AAK IAmb IAmb 14 33 34.0
comp=Z,17nm,1.2s
AAK Ala-Archa 50.46 73 IAMs_20 IAMs_20 14 54 13.9
comp=Z,2µm,18.0s
Z58A St. Stephen 50.51 259 P P 14 33 30.4 +0.8
baz=23
TLY Talaya 50.58 45 *eP* P 14 33 30.3 +0.3
TLY *eS* S 14 40 44.8 +1.0
TLY pmax pmax
comp=Z,18nm,1.6s
TLY MLR MLR
comp=Z,3µm,16.0s
TLY Talaya 50.58 45 P P 14 33 30.1 +0.2
Y56A Pelion 50.58 260 P P 14 33 31.4 +1.2
baz=24
C06D Leavenworth 50.58 303 P P 14 33 31.0 +0.9
baz=25
Y55A Saluda 50.63 261 P P 14 33 31.6 +1.0
baz=24
W50A Signal Mountai 50.64 265 P P 14 33 30.0 -0.7
W50A IAmb IAmb 14 33 34.1
comp=Z,34nm,1.4s
W50A IAMs_20 IAMs_20 14 54 05.2
comp=Z,4µm,20.0s
MTBS Maitube 50.64 71 *eP* P 14 33 32.4 +1.7
baz=72
MTBS Maitube 50.64 71 *eP* P 14 33 32.3 +1.7
WVT Waverly 50.65 268 P P 14 33 31.1 +0.4
baz=25
WVT Waverly 50.65 268 P P 14 33 29.9 -0.8
WVT pmax pmax
comp=Z,8.0nm,0.6s
WVT MLR MLR
comp=Z,4µm,18.0s
WVT Waverly 50.65 268 P P 14 33 29.9 -0.8
WVT IAmb IAmb 14 34 35.3
comp=Z,7.7nm,0.6s
WVT Waverly 50.65 268 IAMs_20 IAMs_20 14 54 32.3
comp=Z,4µm,18.0s
V48A Smith Brothers 50.66 267 P P 14 33 29.3 -1.4
V48A IAmb IAmb 14 33 33.6
comp=Z,23nm,1.3s
HENM Henderson Moun 50.67 270 IAMs_20 IAMs_20 14 54 41.9
comp=Z,5µm,18.0s
H17A Grant Village 50.70 293 P P 14 33 30.5 -0.8
baz=26
AAA Alma-Ata 50.73 71 *eP* P 14 33 32.8 +1.5
baz=71
AAA *eS* S 14 40 48.7 +2.5
baz=71
AAA LR LR 14 54 15.4
comp=Z,2µm,13.9s,baz=71
AAA Alma-Ata 50.73 71 *eP* P 14 33 32.7 +1.5
AAA *eS* S 14 40 48.6 +2.5
AAA MLR MLR
comp=Z,2µm,14.0s
MDOK Medeo 50.81 71 *i* P P 14 33 33.4 +1.3
comp=Z,111nm,1.6s,baz=71
MDOK *eS* S 14 40 49.9 +2.4
baz=71
MDOK LR LR 14 54 14.8
comp=Z,2µm,14.6s,baz=71
MDOK Medeo 50.81 71 *i* P P 14 33 33.3 +1.3
MDOK *eS* S 14 40 49.9 +2.4
MDOK pmax pmax
comp=Z,111nm,1.6s
MDOK MLR MLR
comp=Z,2µm,15.0s
PARMO Parma 50.81 270 IAMs_20 IAMs_20 14 54 36.7
comp=Z,5µm,19.0s
NHSC New Hope 50.84 259 P P 14 33 33.4 +1.3
baz=23
NHSC New Hope 50.84 259 IAMs_20 IAMs_20 14 53 09.4
comp=Z,2µm,22.0s
SWET Sewanee 50.84 266 P P 14 33 30.6 -1.6
SWET IAmb IAmb 14 33 34.8
comp=Z,18nm,1.3s
Z57A Bowman 50.84 259 P P 14 33 33.4 +1.3
baz=23
TNSS Tian-Shan 50.89 71 *i* P P 14 33 34.1 +1.2
baz=71
TNSS LR LR 14 54 19.2
comp=Z,1µm,11.8s,baz=71
TNSS Tian-Shan 50.89 71 *i* P P 14 33 34.1 +1.2
TNSS MLR MLR
comp=Z,1µm,12.0s
KSU1 Kansas State U 50.92 278 P P 14 33 32.8 +0.1
baz=25
T42A Van Buren 50.93 271 P P 14 33 30.3 -2.5
T42A IAmb IAmb 14 33 35.2
comp=Z,20nm,1.2s
K22A Casper 50.98 288 P P 14 33 33.6 +0.3
baz=26
K22A Casper 50.98 288 IAMs_20 IAMs_20 14 54 41.4
comp=Z,4µm,21.0s
MCMT McKenzie Canyo 51.01 295 P P 14 33 32.9 -0.7
GLAT Glass 51.01 269 IAMs_20 IAMs_20 14 54 43.0
comp=Z,4µm,19.0s
FLWY Flagg Ranch 51.02 293 IAMs_20 IAMs_20 14 54 37.3
comp=Z,4µm,21.0s
Z56A Williston 51.03 260 P P 14 33 35.1 +1.5
baz=23
Z56A Williston 51.03 260 IAMs_20 IAMs_20 14 53 55.5
comp=Z,5µm,22.0s
OGNE Ogallala 51.06 283 P P 14 33 34.5 +0.7
baz=26
OGNE Ogallala 51.06 283 IAMs_20 IAMs_20 14 55 08.3
comp=Z,5µm,19.0s
BOOM Boomskoye usch 51.06 72 IAMs_20 IAMs_20 14 54 28.5
comp=Z,3µm,21.0s
X51A Calhoun 51.07 264 IAMs_20 IAMs_20 14 54 21.3
comp=Z,3µm,19.0s
E09A Wood Farm, Sta 51.07 300 IAMs_20 IAMs_20 14 55 42.9
comp=Z,3µm,19.0s
S39A Bolivar 51.09 274 P P 14 33 33.8 -0.2
158A Hollywood 51.18 259 P P 14 33 36.2 +1.5
baz=23
IMW Indian Meadow 51.26 293 P P 14 33 34.8 -0.8
IMW IAmb IAmb 14 33 47.5
comp=Z,31nm,1.9s
IMW IAMs_20 IAMs_20 14 54 44.7
comp=Z,5µm,21.0s
F10A Beach Ranch, E 51.29 299 IAMs_20 IAMs_20 14 56 01.7
comp=Z,4µm,18.0s
SATY Saty 51.34 70 *eP* P 14 33 37.2 +1.3
comp=Z,6.2nm,1.5s,baz=70
SATY LR LR 14 54 35.9
comp=Z,269nm,11.9s,baz=70
SATY Saty 51.34 70 *eP* P 14 33 37.2 +1.3
SATY pmax pmax
comp=Z,6.0nm,1.5s
SATY MLR MLR
comp=Z,269nm,12.0s
FPAL Fort Paine 51.34 265 P P 14 33 35.2 -0.7
FPAL IAmb IAmb 14 33 38.9
comp=Z,20nm,1.1s
FPAL IAMs_20 IAMs_20 14 54 26.8
comp=Z,4µm,20.0s
HALT Halls 51.35 269 IAMs_20 IAMs_20 14 55 02.1
comp=Z,5µm,18.0s
E08A Dider Farm, El 51.36 301 IAMs_20 IAMs_20 14 55 43.5
comp=Z,5µm,19.0s
UZB Uzynbulak 51.45 69 *i* P P 14 33 37.6 +0.8
comp=Z,7.4nm,1.4s,baz=69
UZB *eS* S 14 40 58.3 +2.0
baz=69
UZB LR LR 14 55 04.6
comp=Z,568nm,14.5s,baz=69
UZB Uzynbulak 51.45 69 *i* P P 14 33 37.6 +0.8
UZB *eS* S 14 40 58.3 +2.0
UZB pmax pmax
comp=Z,7.0nm,1.4s
UZB MLR MLR
comp=Z,568nm,15.0s
157A Early Branch 51.50 259 P P 14 33 37.9 +0.8
baz=23
FXWY Fox Creek 51.52 293 P P 14 33 36.4 -1.0
FXWY IAMs_20 IAMs_20 14 54 53.6
comp=Z,5µm,21.0s
SHLS Shalkode 51.58 69 *eP* P 14 33 40.2 +2.4
comp=Z,27nm,1.4s,baz=69
SHLS LR LR 14 55 01.3
comp=Z,414nm,13.4s,baz=69
SHLS Shalkode 51.58 69 *eP* P 14 33 40.2 +2.4
SHLS pmax pmax
comp=Z,27nm,1.4s
SHLS MLR MLR
comp=Z,414nm,13.0s
BTK Batken 51.58 78 P P 14 33 38.4 +0.6
BTK pmax pmax
comp=Z,14nm,1.1s
BTK MLR MLR
comp=Z,8µm,18.0s
BTK Batken 51.58 78 P P 14 33 38.4 +0.6
SNOW Snow King Moun 51.59 292 IAMs_20 IAMs_20 14 55 04.6
comp=Z,3µm,20.0s
TPAW Teton Pass 51.63 293 P P 14 33 36.4 -1.9
TPAW IAmb IAmb 14 33 51.9
comp=Z,26nm,1.9s
TPAW IAMs_20 IAMs_20 14 54 56.5
comp=Z,4µm,21.0s
GOGA Godfrey 51.65 262 P P 14 33 39.0 +0.8
baz=24
GOGA Godfrey 51.65 262 P P 14 33 37.5 -0.7
GOGA pmax pmax
comp=Z,32nm,1.8s
GOGA MLR MLR
comp=Z,9µm,18.0s
GOGA Godfrey 51.65 262 P P 14 33 37.5 -0.7
GOGA IAmb IAmb 14 33 49.7
comp=Z,32nm,1.8s
PLAL Pickwick Lake 51.77 267 P P 14 33 38.6 -0.5
PLAL IAmb IAmb 14 33 41.2
comp=Z,20nm,1.4s
PLAL IAMs_20 IAMs_20 14 55 08.1
comp=Z,4µm,18.0s
KDJ Kajisay 51.78 71 P P 14 33 40.1 +0.8
KDJ pmax pmax
comp=Z,16nm,1.1s
KDJ Kajisay 51.78 71 P P 14 33 40.1 +0.8
KDJ IAmb IAmb 14 33 43.7
comp=Z,16nm,1.1s
KDJ IAMs_20 IAMs_20 14 55 03.3
comp=Z,2µm,19.0s
D04E Lakebay 51.79 304 P P 14 33 39.8 +0.7
baz=24
LCAR Lake Charles 51.82 271 P P 14 33 38.8 -0.6
LCAR IAmb IAmb 14 34 02.1
comp=Z,10nm,0.8s
BW06 Boulder Array 51.84 291 P P 14 33 40.2 +0.4
baz=25,SNR=9.0
BW06 Boulder Array 51.84 291 P P 14 33 39.4 -0.5
BW06 IAmb IAmb 14 33 42.3
comp=Z,19nm,1.4s
PD31 Pinedale Array 51.84 291 P P 14 33 39.5 -0.3
PDAR Pinedale Array 51.84 291 P P 14 33 39.1 -0.8
comp=Z,1.8nm,0.5s,baz=50,slow=5.0,SNR=19
PDAR PP PP 14 35 38.3 +1.0
comp=Z,0.9nm,0.8s,baz=33,slow=10,SNR=2.4
PDAR LR LR 14 55 31.1
comp=Z,6µm,20.3s,baz=15,slow=36
PDAR Pinedale Array 51.84 291 P P 14 33 39.5 -0.3
PHWY Pilot Hill 51.85 287 P P 14 33 39.8 -0.3
PHWY IAMs_20 IAMs_20 14 55 28.5
comp=Z,3µm,20.0s
NLWA Neilton Lookou 51.90 305 IAMs_20 IAMs_20 14 55 47.9
comp=Z,4µm,19.0s
X48A Hartselle 51.91 266 P P 14 33 39.8 -0.3
X48A IAmb IAmb 14 33 42.2
comp=Z,23nm,1.2s
RWWY Rawlins 52.07 288 IAMs_20 IAMs_20 14 55 16.2
comp=Z,5µm,21.0s
U40A Yellville 52.14 273 P P 14 33 42.2 +0.3
baz=25,SNR=13
U40A Yellville 52.14 273 P P 14 33 41.5 -0.4
U40A IAMs_20 IAMs_20 14 55 20.5
comp=Z,3µm,19.0s
257A Skidaway Islan 52.16 259 IAMs_20 IAMs_20 14 55 13.3
comp=Z,3µm,20.0s
CBKS Cedar Bluff 52.22 280 P P 14 33 43.0 +0.5
baz=25
Y49A Blount Mountai 52.23 265 IAMs_20 IAMs_20 14 55 13.4
comp=Z,5µm,19.0s
R32A Long Quarter, 52.23 279 P P 14 33 41.5 -1.1
R32A IAmb IAmb 14 33 44.5
comp=Z,39nm,1.4s
MET Memphis--Engin 52.27 269 IAMs_20 IAMs_20 14 55 40.3
comp=Z,5µm,18.0s
CHGR Chuyangaron 52.30 80 P P 14 33 43.4 +0.2
CHGR IAmb IAmb 14 33 56.7
comp=Z,17nm,0.9s
CHGR IAMs_20 IAMs_20 14 55 24.7
comp=Z,4µm,19.0s
E04D Cinebar 52.30 304 P P 14 33 43.8 +0.9
baz=24
AHID Auburn Hatcher 52.33 292 IAMs_20 IAMs_20 14 55 40.1
comp=Z,3µm,19.0s
BMO Blue Mountains 52.33 299 P P 14 33 42.7 -0.6
BMO pmax pmax
comp=Z,11nm,1.2s
BMO MLR MLR
comp=Z,4µm,19.0s
BMO Blue Mountains 52.33 299 P P 14 33 42.7 -0.6
BMO IAMs_20 IAMs_20 14 56 34.2
comp=Z,4µm,19.0s
TARG Taragay, Kyrgy 52.34 71 P P 14 33 44.0 +0.1
TARG IAmb IAmb 14 33 48.9
comp=Z,23nm,1.1s
TARG IAMs_20 IAMs_20 14 55 23.9
comp=Z,2µm,20.0s
GAR Garm 52.37 79 P P 14 33 43.6 -0.1
N23A Red Feather La 52.38 287 P P 14 33 44.2 +0.3
baz=25,SNR=12
N23A Red Feather La 52.38 287 P P 14 33 42.5 -1.4
N23A IAMs_20 IAMs_20 14 55 45.3
comp=Z,4µm,20.0s
G08A Pilot Rock 52.42 300 P P 14 33 43.1 -0.9
G08A IAmb IAmb 14 33 47.1
comp=Z,39nm,1.7s
G08A IAMs_20 IAMs_20 14 56 35.6
comp=Z,2µm,18.0s
CNBA Chernabura Isl 52.52 335 P P 14 33 44.7 +0.4
CNBA IAmb IAmb 14 34 59.8
comp=Z,17nm,1.2s
CNBA IAMs_20 IAMs_20 14 59 58.6
comp=Z,2µm,19.0s
HHAR Hobbs 52.57 274 P P 14 33 44.1 -0.9
HHAR IAmb IAmb 14 33 47.0
comp=Z,43nm,1.8s
HHAR IAMs_20 IAMs_20 14 55 43.3
comp=Z,4µm,19.0s
U38A Gravette 52.58 274 P P 14 33 44.3 -0.8
E03A Lebam 52.59 304 P P 14 33 44.2 -0.8
E03A IAMs_20 IAMs_20 14 56 12.1
comp=Z,4µm,20.0s
F05D White Salmon 52.60 302 P P 14 33 45.6 +0.4
baz=24
OXF Oxford 52.65 269 P P 14 33 45.9 +0.2
baz=24
OXF Oxford 52.65 269 P P 14 33 44.9 -0.7
OXF pmax pmax
comp=Z,33nm,1.0s
OXF MLR MLR
comp=Z,4µm,19.0s
OXF Oxford 52.65 269 P P 14 33 44.9 -0.7
OXF IAmb IAmb 14 33 48.2
comp=Z,33nm,1.0s
OXF IAMs_20 IAMs_20 14 55 43.4
comp=Z,4µm,19.0s
255A Hazlehurst 52.68 261 IAMs_20 IAMs_20 14 54 46.2
comp=Z,5µm,22.0s
F04D Rainier, OR 52.86 304 P P 14 33 47.7 +0.7
baz=24
T35A Sooner Cattle 52.86 276 P P 14 33 46.5 -0.8
T35A IAMs_20 IAMs_20 14 55 59.0
comp=Z,4µm,19.0s
KSCO Kaye Shedlock' 53.00 283 P P 14 33 48.8 +0.4
baz=25
KSCO Kaye Shedlock' 53.00 283 P P 14 33 47.7 -0.7
KSCO IAMs_20 IAMs_20 14 56 18.7
comp=Z,5µm,19.0s
W41B Gary Mavity, V 53.01 272 P P 14 33 49.0 +0.7
baz=24
X43A Marvell 53.14 270 P P 14 33 49.5 +0.3
baz=24
X43A Marvell 53.14 270 IAMs_20 IAMs_20 14 56 16.1
comp=Z,5µm,18.0s
F03A Seaside 53.15 304 IAMs_20 IAMs_20 14 56 30.0
comp=Z,4µm,20.0s
LRAL Lakeview Retre 53.18 265 P P 14 33 49.6 +0.1
baz=24
LRAL Lakeview Retre 53.18 265 P P 14 33 48.7 -0.9
MFID Camas Ranch 53.19 297 P P 14 33 49.5 -0.3
ISCO Idaho Springs 53.26 286 P P 14 33 51.4 +0.9
baz=25
ISCO Idaho Springs 53.26 286 P P 14 33 52.7 +2.2
ISCO pmax pmax
comp=Z,7.0nm,1.6s
ISCO Idaho Springs 53.26 286 IAMs_20 IAMs_20 14 56 22.7
comp=Z,4µm,18.0s
ZEA Zeya 53.27 27 *eP* P 14 33 51.8 +1.8
ZEA *eS* S 14 41 32.0 +11
ZEA pmax pmax
comp=Z,63nm,2.0s
ZEA pmax pmax
comp=Z,400nm,6.0s
Y45A Yeager Farm, C 53.28 268 P P 14 33 50.9 +0.6
Y45A IAMs_20 IAMs_20 14 56 02.9
comp=Z,3µm,20.0s
Z47A Carrollton 53.39 267 P P 14 33 51.9 +0.7
Z47A IAmb IAmb 14 33 52.5
comp=Z,13nm,0.8s
WMQ Urumqi 53.50 61 *eP* P 14 33 53.6 +1.7
WMQ pP sP 14 33 59.6 +3.3
WMQ S S 14 41 23.8 -0.3
WMQ SS SKiKP 14 45 08.8 +2.1
WMQ pmax pmax
comp=Z,15nm,1.1s
WMQ pmax pmax
comp=Z,360nm,5.5s
WMQ LR LR
comp=Z,2µm,16.5s
WMQ LR LR
comp=Z,1µm,16.5s
WMQ LR LR
comp=Z,3µm,21.5s
WMQ Urumqi 53.50 61 P P 14 33 53.4 +1.5
WMQ pmax pmax
comp=Z,28nm,1.2s
WMQ MLR MLR
comp=Z,4µm,18.0s
WMQ Urumqi 53.50 61 P P 14 33 53.4 +1.5
WMQ IAmb IAmb 14 33 56.4
comp=Z,28nm,1.2s
WMQ Urumqi 53.50 61 IAMs_20 IAMs_20 14 58 17.0
comp=Z,4µm,18.0s
TIGA Tifton 53.50 261 P P 14 33 53.0 +1.1
baz=23
W39A Magazine 53.51 273 P P 14 33 51.8 -0.1
baz=24,SNR=8.7
W39A Magazine 53.51 273 P P 14 33 51.8 -0.1
W39A IAMs_20 IAMs_20 14 56 12.7
comp=Z,4µm,18.0s
HWUT Hardware Ranch 53.52 292 P P 14 33 52.4 +0.2
HWUT IAmb IAmb 14 33 56.4
comp=Z,52nm,2.0s
HWUT IAMs_20 IAMs_20 14 56 17.7
comp=Z,4µm,20.0s
TUL1 Leonard 53.53 275 P P 14 33 51.6 -0.5
baz=24
TUL1 Leonard 53.53 275 IAMs_20 IAMs_20 14 56 24.7
comp=Z,5µm,18.0s
I07A Izee 53.68 300 IAMs_20 IAMs_20 14 58 04.0
comp=Z,2µm,19.0s
KSH Kashi 53.76 74 *eP* P 14 33 57.3 +3.4
KSH pP sP 14 34 02.3 +4.0
KSH S S 14 41 30.6 +2.7
KSH SS SS 14 45 10.8 +2.8
KSH pmax pmax
comp=Z,30nm,1.2s
KSH pmax pmax
comp=Z,1µm,6.3s
KSH LR LR
comp=Z,2µm,11.9s
KSH LR LR
comp=Z,2µm,13.5s
KSH LR LR
comp=Z,1µm,13.7s
O20A White River Ci 53.81 288 P P 14 33 55.1 +0.7
baz=25,SNR=13
O20A White River Ci 53.81 288 P P 14 33 53.6 -0.8
O20A IAMs_20 IAMs_20 14 56 35.2
comp=Z,5µm,19.0s
X40A Basin Creek Fa 53.83 272 P P 14 33 54.8 +0.5
baz=24
X40A Basin Creek Fa 53.83 272 P P 14 33 53.0 -1.3
X40A IAmb IAmb 14 33 56.6
comp=Z,29nm,1.7s
RDMU Red Mountain 53.84 290 P P 14 33 54.3 -0.3
HRA Herat 53.85 89 IAMs_20 IAMs_20 14 58 05.0
comp=Z,3µm,18.0s
Q24A Divide 53.87 285 P P 14 33 55.2 +0.2
baz=25
Q24A Divide 53.87 285 IAMs_20 IAMs_20 14 57 47.8
comp=Z,3µm,20.0s
250A Grady 53.90 264 IAMs_20 IAMs_20 14 55 57.4
comp=Z,5µm,20.0s
I05D Terrebonne, OR 53.98 302 P P 14 33 56.3 +0.9
baz=24
MIAR Mount Ida 54.03 272 P P 14 33 56.5 +0.8
baz=24,SNR=7.3
MIAR Mount Ida 54.03 272 P P 14 33 55.4 -0.4
MIAR pmax pmax
comp=Z,86nm,2.0s
MIAR MLR MLR
comp=Z,4µm,18.0s
MIAR Mount Ida 54.03 272 P P 14 33 55.4 -0.4
MIAR IAMs_20 IAMs_20 14 56 39.5
comp=Z,4µm,18.0s
J08A Circle Bar Ran 54.04 299 IAMs_20 IAMs_20 14 57 38.4
comp=Z,4µm,18.0s
H04D Lebanon 54.21 303 P P 14 33 57.9 +1.0
baz=23
146A Union 54.24 267 P P 14 33 56.8 -0.6
COR Corvallis 54.31 303 IAMs_20 IAMs_20 14 57 23.8
comp=Z,4µm,19.0s
PINE Pine Mountain 54.36 301 P P 14 33 57.7 -0.7
PINE IAmb IAmb 14 34 02.6
comp=Z,45nm,1.8s
OKCFA Oklahoma City 54.54 276 IAMs_20 IAMs_20 14 57 12.4
comp=Z,4µm,18.0s
X37A Clayton 54.59 274 P P 14 33 59.0 -0.9
BGU Big Grassy Mou 54.60 293 P P 14 33 59.6 -0.5
I04A Tendick Farm, 54.79 302 P P 14 34 02.1 +0.9
baz=23
SONM Songino Array 54.81 45 P P 14 34 02.0 +0.6
comp=Z,1.8nm,0.7s,baz=331,slow=6.6,SNR=9.7
SONM PcP PcP 14 35 05.1 +1.4
comp=Z,0.8nm,0.8s,baz=338,slow=3.4,SNR=2.0
SONM PP PP 14 36 05.5 +1.7
comp=Z,0.2nm,0.3s,baz=352,slow=9.3,SNR=1.2
SONM LR LR 15 00 05.0
comp=Z,2µm,20.6s,baz=337,slow=39
SONM Songino Array 54.81 45 P P 14 34 01.4 -0.1
J05D Fort Rock, OR 54.91 301 P P 14 34 03.6 +1.3
baz=23,SNR=12
WVOR Wild Horse Val 54.93 298 IAMs_20 IAMs_20 14 58 00.1
comp=Z,4µm,18.0s
ULN Ulaanbaatar 54.94 44 *i* P P 14 34 03.0 +0.6
ULN pmax pmax
comp=Z,11nm,1.5s
ULN Ulaanbaatar 54.94 44 P P 14 34 02.1 -0.3
ULN IAmb IAmb 14 34 06.9
comp=Z,48nm,1.8s
Z41A Richland Creek 54.94 271 P P 14 34 03.6 +1.2
baz=24
656A Willston 55.05 259 IAMs_20 IAMs_20 14 57 12.0
comp=Z,2µm,19.0s
VBMS Vicksburg 55.12 268 P P 14 34 04.2 +0.6
baz=23
VBMS Vicksburg 55.12 268 IAMs_20 IAMs_20 14 57 22.4
comp=Z,2µm,19.0s
I03D Drain, OR 55.14 303 P P 14 34 05.4 +1.7
baz=23
DUG Dugway, Tooele 55.20 292 P P 14 34 05.5 +1.1
baz=24,SNR=10
DUG Dugway, Tooele 55.20 292 P P 14 34 03.4 -1.0
DUG pmax pmax
comp=Z,19nm,1.2s

DUG MLR MLR
comp=Z,5µm,20.0s
DUG Dugway, Tooele 55.20 292 P **P** **14 34 03.4 -1.0**
DUG IAmb IAmb 14 34 10.0
comp=Z,19nm,1.1s
DUG IAMs_20 IAMs_20 14 57 32.1
comp=Z,5µm,20.0s
P17A Butcher Ranch, 55.21 290 P **P** **14 34 03.5 -1.0**
J04D Umpqua Nationa 55.21 302 P **P** **14 34 04.3 -0.3**
baz=23
T25A Trinidad 55.29 284 P **P** **14 34 05.5 +0.3**
baz=24
K05A Summer Lake 55.33 300 P **P** **14 34 04.9 -0.4**
K05A IAMs_20 IAMs_20 14 57 52.6
comp=Z,3µm,18.0s
X34A Smith Ranch, M 55.41 276 IAMs_20 IAMs_20 14 57 46.4
comp=Z,4µm,18.0s
PV22 Blue Mesa, Par 55.44 288 IAMs_20 IAMs_20 14 57 38.3
comp=Z,5µm,20.0s
SRU San Rafael Swe 55.47 290 P **P** **14 34 05.7 -0.7**
SRU pmax pmax
comp=Z,13nm,1.0s
SRU San Rafael Swe 55.47 290 P **P** **14 34 05.7 -0.7**
PV21 Cone Mtn., Par 55.47 288 IAMs_20 IAMs_20 14 57 41.3
comp=Z,5µm,20.0s
PV07 Paradox Valley 55.48 288 P **P** **14 34 06.1 -0.4**
PV07 IAmb IAmb 14 34 09.5
comp=Z,25nm,1.7s
PV07 IAMs_20 IAMs_20 14 57 39.3
comp=Z,4µm,20.0s
PV15 Paradox Valley 55.52 288 P **P** **14 34 05.1 -1.8**
PV15 IAmb IAmb 14 35 51.0
comp=Z,21nm,1.2s
PV15 IAMs_20 IAMs_20 14 57 20.3
comp=Z,3µm,20.0s
TMUT Trail Mountain 55.52 291 P **P** **14 34 05.6 -1.3**
S22A 4UR Ranch, Cre 55.52 286 P **P** **14 34 07.5 +0.5**
baz=24,SNR=5.9
S22A 4UR Ranch, Cre 55.52 286 IAMs_20 IAMs_20 14 57 50.5
comp=Z,3µm,18.0s
WMOK Wichita Mounta 55.60 277 P **P** **14 34 08.5 +1.3**
baz=24,SNR=6.9
WMOK Wichita Mounta 55.60 277 P **P** **14 34 07.0 -0.2**
WMOK pmax pmax
comp=Z,46nm,1.6s
WMOK MLR MLR
comp=Z,6µm,20.0s
WMOK Wichita Mounta 55.60 277 P **P** **14 34 07.0 -0.2**
K04D Chiloquin, OR 55.67 301 P **P** **14 34 08.3 +0.6**
baz=23
PV20 West Nyswonger 55.67 288 IAMs_20 IAMs_20 14 57 46.5
comp=Z,4µm,20.0s
PV11 David Mesa, Pa 55.68 288 P **P** **14 34 07.5 -0.5**
PV19 Morning Glory 55.71 288 IAMs_20 IAMs_20 14 57 47.4
comp=Z,4µm,20.0s
PV03 Paradox Valley 55.71 288 P **P** **14 34 07.7 -0.5**
PV03 IAmb IAmb 14 36 10.0
comp=Z,18nm,0.9s
PV03 IAMs_20 IAMs_20 14 57 46.6
comp=Z,4µm,21.0s
PV02 Paradox Valley 55.72 288 P **P** **14 34 07.9 -0.4**
PV02 IAmb IAmb 14 34 11.3
comp=Z,38nm,1.6s
PV17 East Wray Mesa 55.73 288 P **P** **14 34 08.0 -0.3**
PV01 Paradox Valley 55.73 288 P **P** **14 34 08.0 -0.4**
PV01 IAmb IAmb 14 34 13.4
comp=Z,19nm,1.2s
PV18 Skein Mesa, Pa 55.74 288 P **P** **14 34 08.1 -0.3**
PV18 IAmb IAmb 14 34 10.4
comp=Z,31nm,1.7s
PV18 IAMs_20 IAMs_20 14 57 57.3
comp=Z,4µm,20.0s
PV13 Radium Mtn., P 55.79 288 P **P** **14 34 08.8 0.0**
PV13 IAMs_20 IAMs_20 14 57 50.6
comp=Z,4µm,20.0s
344A Westbrook Farm 55.89 268 IAMs_20 IAMs_20 14 57 26.9
comp=Z,3µm,20.0s
MOD Modoc Plateau 55.91 300 P **P** **14 34 09.3 -0.2**
MOD IAmb IAmb 14 34 13.1
comp=Z,46nm,1.9s
MOD IAMs_20 IAMs_20 15 00 02.0
comp=Z,2µm,20.0s
PV05 Paradox Valley 55.95 288 IAMs_20 IAMs_20 14 58 49.2
comp=Z,4µm,20.0s
K02D Willamette Mer 56.16 303 P **P** **14 34 12.0 +0.9**
baz=23
L04D Klamath Falls 56.20 301 P **P** **14 34 12.2 +0.6**
baz=23
Z35A Perchaven, San 56.37 275 IAMs_20 IAMs_20 14 58 13.9
comp=Z,4µm,18.0s
AMTX Amarillo 56.44 280 P **P** **14 34 14.3 +1.0**
baz=24
M04C Macdoel 56.47 301 P **P** **14 34 14.3 +0.8**
baz=23
060A Indiantown 56.49 256 IAMs_20 IAMs_20 14 59 39.2
comp=Z,2µm,18.0s
MVCO Mesa Verde 56.55 287 P **P** **14 34 15.9 +1.6**
baz=24,SNR=7.3
MVCO Mesa Verde 56.55 287 P **P** **14 34 13.3 -0.9**
MVCO IAmb IAmb 14 34 17.8
comp=Z,34nm,1.4s
MVCO IAMs_20 IAMs_20 14 58 25.8
comp=Z,3µm,19.0s
PETK Petropavlovsk- 56.72 5 P **P** **14 34 14.9 0.0**
comp=Z,3.3nm,0.7s,baz=30,slow=3.8,SNR=3.7
PETK LR LR 14 58 18.7
comp=Z,354nm,20.9s,baz=24,slow=36
PETK Petropavlovsk- 56.72 5 P **P** **14 34 15.0 +0.1**
PETK Petropavlovsk- 56.72 5 P **P** **14 34 15.0 +0.1**
YBH Yreka Blue Hor 56.77 301 IAMs_20 IAMs_20 14 59 09.7
comp=Z,2µm,18.0s
PET Petropavlovsk 56.83 4 *e*P **P** **14 34 18.6 +3.0**
PET *e*S **S** **14 42 07.7 -0.6**
PET pmax pmax
comp=Z,22nm,1.3s
PET MLR MLR
comp=Z,400nm,16.0s
NATX Nacogdoches 56.94 272 P **P** **14 34 17.5 +0.8**
baz=23
MTPU Mount Pierson 56.97 291 P **P** **14 34 17.2 -0.1**
M02C Callahan 57.12 301 P **P** **14 34 19.0 +0.9**
baz=22
441A DeRidder 57.36 270 IAMs_20 IAMs_20 14 57 58.9
comp=Z,4µm,20.0s
N02D Trinity Center 57.47 301 P **P** **14 34 21.9 +1.4**
baz=22
MSTX Muleshoe 57.64 281 P **P** **14 34 23.1 +1.3**
baz=24
PAHR Pah Rah Range 57.66 298 P **P** **14 34 21.2 -0.8**
WHTX Lake Whitney, 57.67 275 P **P** **14 34 22.4 +0.5**
baz=23
WHTX Lake Whitney, 57.67 275 P **P** **14 34 21.1 -0.8**
WHTX IAMs_20 IAMs_20 14 59 12.2
comp=Z,4µm,18.0s
R11A Troy Canyon, C 57.75 294 P **P** **14 34 24.1 +1.4**
baz=23,SNR=22
R11A Troy Canyon, C 57.75 294 P **P** **14 34 23.1 +0.5**
R11A IAmb IAmb 14 34 26.0
comp=Z,22nm,1.4s
061Z Ochoppi 57.75 256 IAMs_20 IAMs_20 14 59 26.7
comp=Z,2µm,19.0s
WDC Whiskeytown Da 57.78 301 IAMs_20 IAMs_20 14 59 51.6
comp=Z,2µm,19.0s
ABTX Abilene, Hawle 57.82 277 P **P** **14 34 24.2 +1.2**
baz=23
O03E Paynes Creek 57.83 300 P **P** **14 34 23.5 +0.4**
baz=22
KVN Kaiserville 57.88 296 P **P** **14 34 23.8 +0.3**
KVN pmax pmax
comp=Z,15nm,1.1s
KVN MLR MLR
comp=Z,6µm,19.0s
KVN Kaiserville 57.88 296 P **P** **14 34 23.8 +0.3**
KVN IAmb IAmb 14 34 28.4
comp=Z,15nm,1.1s
ANMO Albuquerque 57.96 284 P **P** **14 34 25.5 +1.4**
baz=23
ANMO Albuquerque 57.96 284 P **P** **14 34 24.3 +0.2**
ANMO MLR MLR
comp=Z,4µm,19.0s
ANMO Albuquerque 57.96 284 P **P** **14 34 24.3 +0.2**
ANMO IAmb IAmb 14 34 27.3
comp=Z,24nm,1.8s
ANMO Albuquerque 57.96 284 IAMs_20 IAMs_20 14 59 33.0
comp=Z,4µm,19.0s
KNB Kanab 58.11 291 P **P** **14 34 25.6 +0.4**
TOC1 Torodi Ar. Sit 58.13 161 IAMs_20 IAMs_20 14 59 53.0
comp=Z,2µm,18.0s
TOB5 Torodi Ar. Sit 58.14 161 IAMs_20 IAMs_20 14 59 52.4
comp=Z,1µm,18.0s
TOA0 Torodi Ar. Sit 58.15 161 P **P** **14 34 24.7 -0.7**
TOA0 IAmb IAmb 14 34 26.4
comp=Z,36nm,1.6s
TORD Torodi Ar. Bea 58.15 161 P **P** **14 34 23.9 -1.5**
comp=Z,3.2nm,0.7s,baz=346,slow=7.8,SNR=20
TORD PcP **PcP** **14 35 16.1 -0.8**
comp=Z,2.4nm,1.0s,baz=338,slow=4.1,SNR=2.0
TORD LR LR 15 00 04.3
comp=Z,1µm,18.1s,baz=350,slow=37
TORD Torodi Ar. Bea 58.15 161 P **P** **14 34 24.4 -1.0**
TOC5 Torodi Ar. Sit 58.17 161 IAMs_20 IAMs_20 14 59 54.1
comp=Z,2µm,18.0s
NIL Nilore 58.21 79 P **P** **14 34 26.8 +1.1**
NIL pmax pmax
comp=Z,11nm,0.6s
O02D Mt. Diablo Mer 58.23 301 P **P** **14 34 27.0 +1.2**
baz=22
RYN Ryan 58.39 297 P **P** **14 34 26.8 -0.3**
ORV Oroville 58.43 299 IAMs_20 IAMs_20 14 59 56.6
comp=Z,4µm,19.0s
NV11 Mina Array Sit 58.46 296 P **P** **14 34 26.8 -0.8**
U15A North Rim 58.48 290 P **P** **14 34 27.4 -0.5**
U15A IAMs_20 IAMs_20 14 59 37.9
comp=Z,4µm,21.0s
RUBR Rubicon Trail 58.49 298 IAMs_20 IAMs_20 15 00 15.3
comp=Z,4µm,19.0s
NVAR Mina Array Bea 58.51 296 P **P** **14 34 27.3 -0.7**
comp=Z,2.2nm,1.0s,baz=38,slow=6.4,SNR=8.6
NVAR LR LR 15 00 16.0
comp=Z,5µm,19.6s,baz=12,slow=37
NVAR Mina Array Bea 58.51 296 P **P** **14 34 26.7 -1.3**
WAKR Walker 58.78 297 P **P** **14 34 29.2 -0.6**
435B Jarrell 58.82 274 P **P** **14 34 30.5 +0.6**
baz=23
435B Jarrell 58.82 274 IAMs_20 IAMs_20 14 59 41.6
comp=Z,4µm,18.0s
AFDM Forest Hills D 58.83 299 P **P** **14 34 29.7 -0.3**
AFDM IAmb IAmb 14 34 32.6
comp=Z,39nm,1.8s
W18A Petrified Fore 58.87 287 P **P** **14 34 31.6 +1.1**
baz=23
W18A Petrified Fore 58.87 287 IAMs_20 IAMs_20 14 59 50.1
comp=Z,4µm,19.0s
Y22D IRIS PASSCAL I 58.91 284 P **P** **14 34 32.7 +1.9**
baz=23
Y22D IRIS PASSCAL I 58.91 284 IAMs_20 IAMs_20 15 01 15.1
comp=Z,2µm,20.0s
HKT Hockley 58.99 272 *i* P **P** **14 34 29.7 -1.4**
HKT pmax pmax
comp=Z,9.0nm,1.2s
WUAZ Wupatki 59.03 289 P **P** **14 34 33.0 +1.4**
baz=23
WUAZ Wupatki 59.03 289 P **P** **14 34 31.0 -0.6**
WUAZ IAmb IAmb 14 34 36.6
comp=Z,27nm,1.4s
WUAZ IAMs_20 IAMs_20 14 59 43.3
comp=Z,4µm,21.0s
TPNV Topopah Spring 59.24 294 P **P** **14 34 34.5 +1.4**
baz=23,SNR=6.7
HOPS Hopland Field 59.41 301 IAMs_20 IAMs_20 15 01 21.5
comp=Z,3µm,18.0s
GDXM Geysers 59.50 300 IAMs_20 IAMs_20 15 01 28.9
comp=Z,2µm,19.0s
GRAC Grapevine Rang 59.54 295 P **P** **14 34 35.8 +0.8**
baz=22
TIN Tinemaha, Big 59.76 296 P **P** **14 34 37.9 +1.4**
baz=22
JCT Junction City 59.84 276 P **P** **14 34 38.1 +1.0**
baz=23
JCT Junction City 59.84 276 P **P** **14 34 36.9 -0.2**
JCT pmax pmax
comp=Z,99nm,2.0s
JCT MLR MLR
comp=Z,3µm,18.0s
JCT Junction City 59.84 276 P **P** **14 34 36.9 -0.2**
JCT IAMs_20 IAMs_20 15 00 16.8
comp=Z,3µm,18.0s
FURC Furnace Creek, 59.88 294 P **P** **14 34 38.8 +1.6**
baz=22
X16A Lo Mia Camp, P 60.06 288 IAMs_20 IAMs_20 15 00 16.6
comp=Z,3µm,20.0s
MCCM Marconi Confer 60.14 300 IAMs_20 IAMs_20 15 01 44.8
comp=Z,3µm,18.0s
W13A Hualapai Mount 60.21 291 IAMs_20 IAMs_20 15 00 24.6
comp=Z,4µm,20.0s
SHOC Shoshone, Teco 60.22 293 P **P** **14 34 41.6 +2.1**
baz=22
CWC Cottonwood Cre 60.28 295 P **P** **14 34 41.8 +1.6**
baz=22
MTP Monte Pirata 60.29 237 P **P** **14 34 39.5 -0.7**
MPMC Manual Prospec 60.45 294 P **P** **14 34 43.3 +1.9**
baz=22,SNR=7.1
UOSS Minazif 60.49 99 IAMs_20 IAMs_20 15 03 24.7
comp=Z,2µm,22.0s
TUQ Turquoise Moun 60.54 293 P **P** **14 34 43.4 +1.4**
baz=22
MNTX Cornudas Mount 60.58 282 P **P** **14 34 43.1 +1.0**
baz=23
MNTX Cornudas Mount 60.58 282 P **P** **14 34 41.3 -0.8**
MNTX IAmb IAmb 14 34 43.9
comp=Z,17nm,1.8s
121A Cookes Peak, D 60.61 284 P **P** **14 34 44.2 +1.7**
baz=23,SNR=5.2
121A Cookes Peak, D 60.61 284 P **P** **14 34 43.1 +0.6**
121A IAMs_20 IAMs_20 15 01 17.1
comp=Z,2µm,20.0s
735A Kenedy 60.66 274 IAMs_20 IAMs_20 15 01 01.5
comp=Z,4µm,19.0s
NEE2 Needles Airpor 60.74 291 P **P** **14 34 42.4 -0.8**
baz=22
VOG Valley Oaks Go 60.78 296 P **P** **14 34 44.8 +1.4**
baz=22
EPT El Paso 60.89 283 IAMs_20 IAMs_20 15 00 47.5
comp=Z,3µm,20.0s
GSC Goldstone, Bar 60.94 294 P **P** **14 34 46.6 +2.0**
baz=22
GSC Goldstone, Bar 60.94 294 IAMs_20 IAMs_20 15 01 33.9
comp=Z,4µm,18.0s
SAO San Andreas Ge 60.99 298 IAMs_20 IAMs_20 15 01 44.5
comp=Z,3µm,19.0s
GTA Gaotai 61.02 53 P **P** **14 34 46.3 +1.2**
GTA pP sP 14 34 49.6 0.0
GTA sP pP 14 34 52.3 +3.9
GTA S **S** **14 43 01.0 -2.3**
GTA sS sS 14 43 15.0 +6.4
GTA pmax pmax
comp=Z,10.0nm,2.0s
GTA pmax pmax
comp=Z,290nm,6.0s
GTA LR LR
comp=Z,990nm,14.9s
GTA LR LR
comp=Z,2µm,18.3s
GTA LR LR
comp=Z,2µm,17.4s
PDMCI Parker Dam,Lak 61.02 291 P **P** **14 34 46.2 +1.2**
baz=22
LRMC Laurel Mtn Rad 61.04 294 P **P** **14 34 45.4 0.0**
baz=22
GMRC Granite Mounta 61.06 292 P **P** **14 34 47.5 +2.1**
baz=22,SNR=6.3
ISA Isabella, Lake 61.12 295 P **P** **14 34 47.3 +1.5**
baz=22
ISA Isabella, Lake 61.12 295 P **P** **14 34 46.0 +0.2**
VES Vestal, Richgr 61.14 296 P **P** **14 34 47.2 +1.4**
baz=22
HEC Hector,Ludlow 61.23 293 P **P** **14 34 48.8 +2.3**
baz=22
RRX Edison Barstow 61.39 294 P **P** **14 34 49.4 +1.9**
baz=22
IRM Iron Mountain 61.47 292 P **P** **14 34 50.3 +2.1**
baz=22
833A Chaparral WMA, 61.69 275 P **P** **14 34 51.2 +1.6**
baz=22
833A Chaparral WMA, 61.69 275 IAMs_20 IAMs_20 15 01 39.6
comp=Z,3µm,18.0s
EDW2 Edwards Air Fo 61.69 294 P **P** **14 34 51.2 +1.6**
baz=22
ARVC Arvin 61.72 295 P **P** **14 34 50.7 +0.9**
baz=22
TUC Tucson 61.79 287 P **P** **14 34 52.2 +1.9**
baz=22
TUC Tucson 61.79 287 P **P** **14 34 49.9 -0.4**
TUC pmax pmax
comp=Z,21nm,1.5s
TUC MLR MLR
comp=Z,3µm,20.0s
TUC Tucson 61.79 287 P **P** **14 34 49.9 -0.4**
TUC IAmb IAmb 14 34 54.0
comp=Z,21nm,1.4s
TUC Tucson 61.79 287 IAMs_20 IAMs_20 15 01 32.4
comp=Z,3µm,20.0s
BELC Belle Mtn. Jos 61.88 292 P **P** **14 34 52.6 +1.5**
baz=22
YSS Yuzh-Sakhalins 61.89 17 *e*P **P** **14 34 49.9 -0.8**
YSS pmax pmax
comp=Z,20nm,1.5s
YSS pmax pmax
comp=Z,500nm,4.5s
SMMC Simmler 61.90 296 P **P** **14 34 52.9 +1.8**
baz=22
BBRC Big Bear Solar 61.93 293 P **P** **14 34 52.4 +0.9**
baz=22
BC3 Big Chuckawall 62.03 292 P **P** **14 34 52.6 +0.6**
baz=22
319A Douglas 62.16 285 IAMs_20 IAMs_20 15 02 46.1
comp=Z,3µm,18.0s
OSI Osito Audit: C 62.16 295 P **P** **14 34 54.6 +1.8**
baz=22
BFSC Mount Baldy Ra 62.18 294 P **P** **14 34 53.8 +0.8**
baz=22
TX31 Lajitas Ar. Si 62.19 279 P **P** **14 34 53.1 0.0**
TX32 Lajitas Array 62.19 279 P **P** **14 34 53.2 +0.1**
TXAR Lajitas Array 62.19 279 P **P** **14 34 53.2 +0.1**
comp=Z,1.4nm,0.8s,baz=44,slow=4.9,SNR=14
TXAR PP **PP** **14 37 05.2 -4.3**
comp=Z,0.3nm,0.9s,baz=61,slow=7.3,SNR=1.9
TXAR LR LR 15 02 07.5
comp=Z,5µm,19.0s,baz=0.0,slow=36
TXAR Lajitas Array 62.19 279 P **P** **14 34 52.7 -0.4**
PKM Mcpherson Peak 62.24 296 P **P** **14 34 55.6 +2.1**
baz=22
MWC Mount Wilson 62.32 294 IAMs_20 IAMs_20 15 02 00.5
comp=Z,3µm,20.0s
113A Mohawk Valley, 62.32 290 IAMs_20 IAMs_20 15 01 57.5
comp=Z,3µm,20.0s
DECC Green Verdugo 62.38 294 P **P** **14 34 56.1 +1.9**
baz=22
PFO Pinyon Flats O 62.39 293 P **P** **14 34 56.2 +1.8**
baz=22
PFO Pinyon Flats O 62.39 293 IAMs_20 IAMs_20 15 02 18.4
comp=Z,3µm,20.0s
XPFO Pion Flat 62.39 293 IAMs_20 IAMs_20 15 02 28.4
comp=Z,3µm,20.0s
GLA Glamis 62.40 291 P **P** **14 34 55.8 +1.4**
baz=22
GLA Glamis 62.40 291 IAMs_20 IAMs_20 15 01 51.5
comp=Z,4µm,20.0s
PASC Pasadena Art C 62.41 294 IAMs_20 IAMs_20 15 02 02.8
comp=Z,3µm,20.0s
MDJ Mudanjiang 62.51 28 P **P** **14 34 55.9 +1.0**
MDJ IAmb IAmb 14 34 58.0
comp=Z,24nm,1.4s
SBC Santa Barbara 62.62 296 P **P** **14 34 56.3 +0.5**
baz=22
MURC Murrieta 62.63 293 P **P** **14 34 57.3 +1.4**
baz=22
214A Organ Pipe Nat 62.77 289 IAMs_20 IAMs_20 15 01 39.3
comp=Z,3µm,21.0s
SWSC Sam W. Stewart 62.80 292 P **P** **14 34 58.7 +1.7**
baz=22
FMP Fort Macarthur 62.87 294 P **P** **14 34 58.2 +0.7**
baz=22
SCZ2 Santa Cruz Isl 63.01 295 P **P** **14 35 00.1 +1.6**
baz=22
IKP In-Ko-Pah, Jac 63.17 292 P **P** **14 35 00.2 +0.6**
baz=22
109C Camp Elliot, M 63.26 293 IAMs_20 IAMs_20 15 03 24.4
comp=Z,2µm,19.0s
USA0B Ussuriysk Arra 63.28 26 *i* P **P** **14 34 59.9 -0.1**
USRK Ussuriysk Ar. 63.28 26 P **P** **14 35 00.1 0.0**
comp=Z,2.6nm,0.8s,baz=325,slow=7.0,SNR=5.3
USRK LR LR 15 03 39.4
comp=Z,366nm,18.5s,baz=335,slow=37
USRK Ussuriysk Ar. 63.28 26 P **P** **14 34 60.0 0.0**
BAR Barrett 63.32 292 IAMs_20 IAMs_20 15 02 41.0
comp=Z,3µm,20.0s
DBIC Dimbokro 63.97 169 LR LR 15 02 06.5
comp=Z,543nm,20.7s,baz=352,slow=35
SNY Shenyang 64.19 33 ‖P **P** **14 35 05.9 -0.1**
SNY S **S** **14 43 41.4 -1.3**
SNY pmax pmax
comp=Z,7.0nm,0.5s
SNY pmax pmax
comp=Z,210nm,4.6s
SNY LR LR
comp=Z,430nm,17.2s
SNY LR LR
comp=Z,360nm,14.1s
SNY LR LR
comp=Z,820nm,19.6s
BJI Beijing 64.42 40 P **P** **14 35 08.9 +1.3**
BJI pmax pmax
comp=Z,11nm,0.5s
BJI LR LR
comp=Z,240nm,17.3s
BJI LR LR
comp=Z,430nm,21.6s
BJT Baijiatuau 64.44 40 IAMs_20 IAMs_20 15 05 15.9
comp=Z,2µm,18.0s
LZH Lanzhou 65.22 51 *e*P **P** **14 35 14.5 +1.4**
LZH pP sP 14 35 19.5 +1.9
LZH sP pP 14 35 21.6 +5.2
LZH PP **PP** **14 37 37.3 +1.3**
LZH *e*S **S** **14 44 01.5 +5.5**
LZH SS **SS** **14 48 08.6 +0.9**
LZH pmax pmax
comp=Z,29nm,1.1s
LZH pmax pmax
comp=Z,350nm,6.9s
LZH LR LR
comp=Z,1µm,15.2s
LZH LR LR
comp=Z,1µm,15.3s
LZH LR LR
comp=Z,2µm,18.6s
TEIG Tepich 65.43 261 IAMs_20 IAMs_20 15 02 27.0
comp=Z,2µm,20.0s
TIY Taiyuan 65.81 44 *e*P **P** **14 35 18.4 +1.6**
TIY S **S** **14 44 06.0 +3.0**
TIY ScS **SKSac** **14 45 10.3 -1.8**
TIY pmax pmax
comp=Z,21nm,0.5s
TIY pmax pmax
comp=Z,210nm,5.3s
TIY LR LR
comp=Z,540nm,13.8s
TIY LR LR
comp=Z,330nm,11.0s
TIY LR LR
comp=Z,1µm,24.5s
DAMY Dhamar 66.36 114 IAMs_20 IAMs_20 15 06 53.0
comp=Z,2µm,18.0s
ERM Erimo 66.82 17 *i* P **P** **14 35 21.5 -1.6**
ERM pmax pmax
comp=Z,16nm,1.0s
HATO Hato, Curacao 66.89 239 P **P** **14 35 23.5 -0.3**
LSA Lhasa 67.59 65 P **P** **14 35 28.7 0.0**
LSA pmax pmax
comp=Z,16nm,1.1s
LSA MLR MLR
comp=Z,1µm,20.0s
LSA Lhasa 67.59 65 P **P** **14 35 28.7 0.0**
LSA IAmb IAmb 14 35 33.8
comp=Z,16nm,1.1s
LSA IAMs_20 IAMs_20 15 06 12.6
comp=Z,1µm,20.0s
ZAIG Zacatecas 67.89 276 IAMs_20 IAMs_20 15 08 22.9
comp=Z,2µm,18.0s
TIA Tai'an 68.31 40 P **P** **14 35 33.5 +0.9**
TIA pmax pmax
comp=Z,8.0nm,1.3s
XAN Xi'an 68.47 48 P **P** **14 35 32.8 -0.8**
XAN pP sP 14 35 42.3 +4.2
XAN pmax pmax
comp=Z,12nm,0.9s
XAN pmax pmax
comp=Z,300nm,3.7s
XAN LR LR
comp=Z,3µm,17.6s
XAN LR LR

comp=Z,1µm,17.0s
XAN LR LR
comp=Z,3µm,20.6s
XAN Xi'an 68.47 48 IAMs_20 IAMs_20 15 08 08.8
comp=Z,3µm,21.0s
KSRS Korea Array 69.21 31 P **P** **14 35 37.9 -0.3**
comp=Z,0.8nm,0.7s,baz=350,slow=5.8,SNR=5.7
KSRS LR LR 15 06 41.5
comp=Z,389nm,19.5s,baz=335,slow=36
UNM Universidad Na 69.94 271 IAMs_20 IAMs_20 15 07 23.2
comp=Z,1µm,22.0s
CD2 Chengdu 70.09 53 *e*P **P** **14 35 43.0 -0.8**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
TGUH Tegucigalpa,Un 70.85 258 IAMs_20 IAMs_20 15 06 24.7
comp=Z,1µm,20.0s
TLIG Tlapa 71.37 270 P **P** **14 35 51.3 -0.4**
TLIG IAMs_20 IAMs_20 15 09 12.2
comp=Z,1µm,19.0s
MJB9 Matsu-Tunnel 71.66 22 P **P** **14 35 53.5 +0.3**
MJB9 IAmb IAmb 14 35 59.6
comp=Z,12nm,1.1s
MAJO Matsushiro 71.66 22 *i* P **P** **14 35 52.5 -0.7**
MAJO pmax pmax
comp=Z,10.0nm,1.0s
MAJO Matsushiro 71.66 22 P **P** **14 35 53.3 +0.2**
MAJO IAmb IAmb 14 35 59.7
comp=Z,12nm,1.1s
MAT Matsushiro 71.66 22 P **P** **14 35 53.6 +0.4**
MAT S **S** **14 45 11.6 -0.7**
MJAR Matsushiro Arr 71.66 22 P **P** **14 35 53.4 +0.2**
comp=Z,5.4nm,0.9s,baz=340,slow=5.4,SNR=11
MJAR Matsushiro Arr 71.66 22 P **P** **14 35 53.2 +0.1**
SHL Shillong 71.68 65 IAMs_20 IAMs_20 15 08 39.9
comp=Z,2µm,18.0s
ENH Enshi 72.19 48 P **P** **14 35 56.1 -0.4**
ENH IAMs_20 IAMs_20 15 11 33.3
comp=Z,2µm,19.0s
NJ2 Nanjing 72.69 40 *e*P **P** **14 35 59.0 -0.3**
NJ2 sP **sP** **14 36 05.8 +2.0**
NJ2 S **S** **14 45 26.3 +2.2**
NJ2 sS **SKiKP** **14 45 35.3 +2.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,220nm,5.5s
NJ2 LR LR
comp=Z,1µm,16.9s
NJ2 LR LR
comp=Z,850nm,17.7s
NJ2 LR LR
comp=Z,1µm,22.2s
HDC Heredia 73.62 253 IAMs_20 IAMs_20 15 07 17.0
comp=Z,1µm,21.0s
JTS Las Juntas de 73.62 254 IAMs_20 IAMs_20 15 07 35.0
comp=Z,1µm,20.0s
SSE Sheshan 74.10 38 IAMs_20 IAMs_20 15 11 19.6
comp=Z,2µm,19.0s
GYA Guiyang 75.09 52⇑ *i*P **P** **14 36 16.3 +2.6**
GYA PP **PP** **14 39 03.3 +2.1**
GYA S **S** **14 45 51.0 -0.6**
GYA SS **SS** **14 50 40.4 +0.8**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,250nm,4.6s
GYA LR LR
comp=Z,280nm,19.6s
GYA LR LR
comp=Z,540nm,21.8s
GYA LR LR
comp=Z,640nm,24.5s
KMI Kunming 75.29 56 P **P** **14 36 14.8 -0.1**
KMI pmax pmax
comp=Z,8.0nm,2.0s
KMI Kunming 75.29 56 IAMs_20 IAMs_20 15 12 20.5
comp=Z,2µm,21.0s
ROSC El Rosal 75.43 242 LR LR 15 07 14.1
comp=Z,218nm,19.8s,baz=50,slow=34
KMBO Kilima Mbogo 79.19 126 LR LR 15 14 25.1
comp=Z,333nm,19.9s,baz=288,slow=38
SLVN Son La 79.21 56 IAMs_20 IAMs_20 15 14 50.6
comp=Z,1µm,22.0s
KNMB Chin-men Tao 79.90 42 IAMs_20 IAMs_20 15 16 10.2
comp=Z,1µm,19.0s
TATO Taipei 80.09 39 IAMs_20 IAMs_20 15 14 57.2
comp=Z,2µm,20.0s
YHNB Yeheng 80.36 39 IAMs_20 IAMs_20 15 15 26.3
comp=Z,2µm,20.0s
CMAR Chiang Mai Arr 80.50 61 P **P** **14 36 43.0 -0.7**
comp=Z,1.7nm,0.8s,baz=324,slow=6.4,SNR=9.5
CMAR LR LR 15 19 40.3
comp=Z,362nm,19.3s,baz=12,slow=41
NACB Ninganchiao 80.89 39 IAMs_20 IAMs_20 15 15 52.2
comp=Z,2µm,19.0s
YOJ Yonaguni jima 80.91 38 IAMs_20 IAMs_20 15 16 44.6
comp=Z,1µm,20.0s
HKPS Hong Kong Po S 81.00 47 IAMs_20 IAMs_20 15 15 41.6
comp=Z,1µm,20.0s
SSLB Suanglung 81.12 40 IAMs_20 IAMs_20 15 16 00.5
comp=Z,2µm,18.0s
TPUB Ta-pu 81.52 40 IAMs_20 IAMs_20 15 16 31.1
comp=Z,2µm,19.0s
YULB Yu-li 81.58 40 IAMs_20 IAMs_20 15 16 24.6
comp=Z,2µm,18.0s
QIZ Qiongzhong 83.02 51 IAMs_20 IAMs_20 15 18 34.2
comp=Z,1µm,19.0s
SZP Santa 87.04 42 IAMs_20 IAMs_20 15 19 09.3
comp=Z,1µm,22.0s
BDFB Brasilia 88.78 211 LR LR 15 10 27.8
comp=Z,1µm,20.0s,baz=336,slow=31
BDFB Brasilia 88.78 211 IAMs_20 IAMs_20 15 10 36.8
comp=Z,1µm,19.0s
LSZ Lusaka 90.54 138 IAMs_20 IAMs_20 15 21 35.5
comp=Z,993nm,20.0s
TSUM Tsumeb 92.25 149 IAMs_20 IAMs_20 15 20 25.4
comp=Z,1µm,20.0s
IPM Ipoh 94.35 64 IAMs_20 IAMs_20 15 23 37.8
comp=Z,916nm,20.0s
RPSI Rantau Prapat 95.39 66 IAMs_20 IAMs_20 15 24 42.6
comp=Z,1µm,20.0s
KKM Kota Kinabalu 97.11 49 IAMs_20 IAMs_20 15 26 20.5
comp=Z,956nm,20.0s
MYKOM Kota Tinggi 97.74 62 IAMs_20 IAMs_20 15 25 41.7
comp=Z,1µm,22.0s
DAV Davao City (W) 98.32 39 IAMs_20 IAMs_20 15 30 25.4
comp=Z,708nm,20.0s
BKB Balikpapan 104.30 50 IAMs_20 IAMs_20 15 30 44.2
comp=Z,1µm,21.0s
CISI Cisompet, Garu 107.78 61 IAMs_20 IAMs_20 15 31 31.8
comp=Z,767nm,19.0s
TARA Tarawa 108.20 351 IAMs_20 IAMs_20 15 17 16.8
comp=Z,1µm,19.0s
TAOE Nuku Hiva Isla 109.59 301 *e*LR LR 15 15 20.5
comp=Z,899nm,29.6s
VA03 San Esteban 110.19 228 IAMs_20 IAMs_20 15 31 52.6
comp=Z,931nm,21.0s
PPT2 Papeete2 120.54 308 *e*SP SP 14 54 38.0 -1.8
comp=Z,281nm,25.2s
PPT2 *e*SS **SS** **15 01 19.3 +0.4**
comp=Z,924nm,29.5s
PPT2 Papeete2 120.54 308 *e*LR LR 15 20 21.7
comp=Z,830nm,23.8s,baz=18
PSAA1 Pilbara Seismi 124.51 53 IAMs_20 IAMs_20 15 25 03.9
comp=Z,1µm,21.0s
TBI Tubuai 125.99 306 *e*SS SS 15 02 31.8 +3.9
comp=Z,614nm,35.8s
TBI Tubuai 125.99 306 *e*LR LR 15 22 57.0
comp=Z,1µm,37.8s,baz=14
WB5 Warramunga Arr 126.32 36 IAMs_20 IAMs_20 15 39 17.1
comp=Z,600nm,21.0s
WRA Warramunga Arr 126.38 36 PKP **PKPdf** **14 43 33.4 -0.8**
comp=Z,1.9nm,1.1s,baz=352,slow=2.3,SNR=2.2
WB1 Warramunga Ar. 126.39 36 IAMs_20 IAMs_20 15 21 01.1
comp=Z,792nm,20.0s
WC4 Warramunga Arr 126.39 36 IAMs_20 IAMs_20 15 49 17.1
comp=Z,595nm,19.0s
WR8 Warramunga Arr 126.42 36 IAMs_20 IAMs_20 15 41 12.8
comp=Z,485nm,18.0s
ASAR Alice Springs 129.90 38 PKP **PKPdf** **14 43 40.3 -0.6**
comp=Z,0.6nm,0.6s,baz=3.6,slow=1.7,SNR=16
DZM Mont Dzumac 131.68 358 *e*LR LR 15 25 36.6
comp=Z,518nm,25.2s
SYO Syowa Base 143.88 150⇑ *e*PKPdf PKPbc 14 44 02.6 -0.3
SYO Syowa Base 143.88 150⇑ /X **PKPdf** **14 44 06.4 +1.3**
MAW Mawson 147.41 136 PKPbc **PKPbc** **14 44 14.2 +0.5**
comp=Z,4.4nm,1.0s,baz=331,slow=6.6,SNR=4.5
MAW Mawson 147.41 136 PKP2 **PKPbc** **14 44 14.6 +0.9**
MAW Mawson 147.41 136 **PKPbc** **14 44 14.6 +0.9**
QSPA South Pole Qui 160.32 180 **PKPab** **14 45 10.8 +0.3**

*IDC **16** 14:27:19.6±0.9, 70.°30N×15.°27W, h0km, mb3.6/7, mb1 3.8/12, mb1mx3.6/48, mbtmp3.7/12, ML3.0/4, Error ellipse: s-maj=24.5km s-min=19.1km az=26.0*
*NEIC **16** 14:27:21.0±1.9, 70.°36N±0.°09×15.°2W±0.°3, h10km±1km, mb4.0/4, Error ellipse: s-maj=15.9km s-min=13.8km az=55.0*
ISC 16 14:27:21.1±0.6, 70.°37N±0.°08×15.°15W±0.°08, h10km, n18, σ0.°96/19, mb3.7/8, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**6.12**	**206**	Pn	**Pn**	**14 28 51.7**	**+0.3**
	1.4nm,0.3s,baz=307,slow=19,SNR=1.0						
SUMG	**Summit**	**7.72**	**297**	Pn	**Pn**	**14 29 14.8**	**+1.1**
KBS	**Kingsbay**	**11.02**	**27**	Pn	**Pn**	**14 29 57.6**	**-0.8**
SPA0	**Spitsbergen Ar**	**11.38**	**33**	Pn	**Pn**	**14 30 03.4**	**0.0**
SPITS	**Spitsbergen Ar**	**11.38**	**33**	Pn	**Pn**	**14 30 03.0**	**-0.4**
	baz=234,slow=14,SNR=1.2						
HFS	**Hagfors**	**15.64**	**116**	Pn	**Pn**	**14 31 00.6**	**-0.6**
	0.1nm,0.3s,baz=327,slow=10,SNR=1.8						
EKA	**Eskdalemuir Ar**	**15.99**	**154**	Pn	**Pn**	**14 31 06.5**	**+0.7**
	baz=333,slow=9.1,SNR=1.4						
FIA1	**FINESS Array S**	**18.64**	**98**		**Pn**	**14 31 39.5**	**+0.8**
FIA1				IAmb	IAmb	14 31 40.4	
	comp=Z,22nm,1.2s						
FINES	**FINESS Array B**	**18.64**	**98**	P	**Pn**	**14 31 39.1**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=354,slow=9.8,SNR=2.2						
KHC	**Kasperske Hory**	**25.27**	**132**	P	**P**	**14 32 47.0**	**-0.1**
KHC				IAmb	IAmb	14 33 14.2	
	comp=Z,2.8nm,1.2s						
GERES	**GERESS Array B**	**25.56**	**132**	P	**P**	**14 32 48.9**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=324,slow=9.6,SNR=2.6						
YKA	**Yellowknife Ar**	**36.12**	**309**	P	**P**	**14 34 23.1**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=33,slow=7.7,SNR=4.5						
YKA				PcP	**PcP**	**14 36 47.5**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=42,slow=1.9,SNR=3.9						
ILAR	**Eielson Array**	**41.07**	**331**		**S**	**14 41 13.9**	**-2.3**
MKAR	**Makanchi Array**	**49.17**	**64**	P	**P**	**14 36 09.6**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=354,slow=7.2,SNR=2.1						
PDAR	**Pinedale Array**	**51.86**	**291**	P	**P**	**14 36 29.2**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=18,slow=6.0,SNR=2.0						
SONM	**Songino Array**	**54.80**	**45**	P	**P**	**14 36 51.8**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=352,slow=8.7,SNR=2.0						
TORD	**Torodi Ar. Bea**	**58.14**	**161**	P	**P**	**14 37 13.0**	**-1.6**
	comp=Z,0.6nm,0.9s,baz=350,slow=7.3,SNR=2.2						
TXAR	**Lajitas Array**	**62.20**	**279**	P	**P**	**14 37 42.2**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=13,slow=5.6,SNR=2.4						

*IDC **16** 14:27:43.1±0.8, 70.°24N×15.°22W, h0km, mb3.8/12, mb1 4.0/16, mb1mx3.7/48, mbtmp3.8/16, ML3.2/3, Error ellipse: s-maj=22.5km s-min=16.1km az=19.0*
*NEIC **16** 14:27:44.3±1.6, 70.°13N±0.°08×15.°0W±0.°2, h10km±1km, mb4.7/22, Error ellipse: s-maj=14.5km s-min=13.8km az=210.0*
ISC 16 14:27:44.3±0.5, 70.°14N±0.°08×15.°10W±0.°07, h10km, n47, σ0.°87/45, mb4.0/21, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**5.92**	**207**	Pn	**Pn**	**14 29 11.6**	**-0.2**
	1.8nm,0.3s,baz=286,slow=11,SNR=1.6						
SUMG	**Summit**	**7.84**	**299**	Pn	**Pn**	**14 29 38.7**	**+0.2**
KBS	**Kingsbay**	**11.21**	**27**	Pn	**Pn**	**14 30 22.5**	**-1.7**
SPA0	**Spitsbergen Ar**	**11.56**	**32**	Pn	**Pn**	**14 30 28.7**	**-0.4**
SPITS	**Spitsbergen Ar**	**11.56**	**32**	Pn	**Pn**	**14 30 28.3**	**-0.7**
	baz=228,slow=12,SNR=7.6						
HFS	**Hagfors**	**15.53**	**116**	Pn	**P**	**14 31 27.1**	**-0.3**
	0.1nm,0.3s,baz=324,slow=9.0,SNR=1.5						
EKA	**Eskdalemuir Ar**	**15.78**	**154**	Pn	**P**	**14 31 29.3**	**-0.9**
	baz=345,slow=10,SNR=1.1						
FINES	**FINESS Array B**	**18.60**	**97**	P	**Pn**	**14 32 02.1**	**+0.6**
	0.1nm,0.3s,baz=330,slow=8.0,SNR=1.2						
RES	**Resolute Bay**	**22.77**	**317**	P	**P**	**14 32 46.7**	**+0.6**
CLL	**Collm**	**22.96**	**131**	*e*(P)	**P**	**14 32 50.0**	**+1.7**
GERES	**GERESS Array B**	**25.40**	**132**	P	**P**	**14 33 13.2**	**+1.7**
	0.4nm,0.6s,baz=339,slow=10,SNR=2.5						
BNI	**Bardonecchia**	**27.40**	**145**	P	**P**	**14 33 28.5**	**-1.1**
BNI				IAmb	IAmb	14 33 39.0	
	comp=Z,19nm,1.4s						
AKASG	**Malin Array Be**	**28.27**	**110**	P	**P**	**14 33 37.0**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=328,slow=9.0,SNR=1.4						
AKASG	**Malin Array Be**	**28.27**	**110**	IAmb	IAmb	14 33 41.6	
	comp=Z,2.9nm,1.4s						
YKA	**Yellowknife Ar**	**36.28**	**309**	P	**P**	**14 34 46.3**	**-0.8**
	comp=Z,2.0nm,1.0s,baz=38,slow=8.1,SNR=4.6						
YKA				PcP	**PcP**	**14 37 12.5**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=39,slow=2.4,SNR=5.9						
BMAR	**Burnt Mountain**	**38.46**	**331**	P	**P**	**14 35 06.8**	**+1.2**
FFC	**Flin Flon**	**39.08**	**293**	P	**P**	**14 35 11.2**	**+0.3**
FYU	**Fort Yukon**	**39.35**	**331**	P	**P**	**14 35 14.2**	**+1.2**
FYU				IAmb	IAmb	14 35 19.1	
	comp=Z,32nm,1.4s						
BRTR	**Keskin Array B**	**39.46**	**114**	P	**P**	**14 35 15.0**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=343,slow=9.2,SNR=1.8						
ILAR	**Eielson Array**	**41.28**	**331**	P	**P**	**14 35 28.4**	**-0.6**
	comp=Z,1.2nm,1.0s,baz=23,slow=7.2,SNR=4.3						
ILAR				PcP	**PcP**	**14 37 27.7**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=333,slow=3.0,SNR=5.0						
ILAR	**Eielson Array**	**41.28**	**331**	P	**P**	**14 35 30.4**	**+1.4**
RIDG	**Independent Ri**	**41.88**	**329**	P	**P**	**14 35 34.4**	**+0.3**
RIDG				IAmb	IAmb	14 35 39.1	
	comp=Z,14nm,1.5s						
MCK	**McKinley**	**42.58**	**332**	P	**P**	**14 35 40.6**	**+1.0**
WHY	**Whitehorse**	**42.75**	**321**	P	**P**	**14 35 41.0**	**-0.2**
WHY				IAmb	IAmb	14 35 44.9	
	comp=Z,17nm,1.6s						
GAZ	**Gaziantep**	**42.92**	**112**	P	**P**	**14 35 41.6**	**-1.2**
GAZ				IAmb	IAmb	14 36 42.6	
	comp=Z,8.0nm,0.4s						
ZALV	**Zalesovo Beam**	**43.68**	**57**	P	**P**	**14 35 48.0**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=316,slow=8.0,SNR=2.0						
KURK	**Kurchatov**	**44.66**	**65**	P	**P**	**14 35 58.0**	**+1.5**
KURK	**Kurchatov**	**44.66**	**65**	IAmb	IAmb	14 36 02.2	
	comp=Z,6.2nm,1.2s						
KURBB	**Kurchatov Arra**	**44.71**	**65**	P	**P**	**14 35 58.0**	**+1.1**
	comp=Z,2.0nm,1.0s,baz=329,slow=7.2,SNR=4.6						
V55A	**Taylorsville**	**48.67**	**262**	P	**P**	**14 36 28.7**	**+0.6**
TZTN	**Tazewell**	**48.83**	**264**	P	**P**	**14 36 27.9**	**-1.4**
TZTN				IAmb	IAmb	14 36 39.0	
	comp=Z,4.7nm,0.8s						
JTMT	**Jette**	**48.95**	**298**	P	**P**	**14 36 30.3**	**0.0**
JTMT				IAmb	IAmb	14 36 34.1	
	comp=Z,18nm,1.8s						
MKAR	**Makanchi Array**	**49.26**	**64**	P	**P**	**14 36 33.5**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=353,slow=4.9,SNR=4.4						
OHAK	**Old Harbor**	**49.45**	**331**	P	**P**	**14 36 33.8**	**0.0**
MCMT	**McKenzie Canyo**	**51.13**	**295**	P	**P**	**14 36 46.7**	**-0.3**
S39A	**Bolivar**	**51.13**	**274**	P	**P**	**14 36 47.2**	**+0.4**
PDAR	**Pinedale Array**	**51.95**	**291**	P	**P**	**14 36 53.5**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=32,slow=6.9,SNR=2.4						
SONM	**Songino Array**	**54.96**	**45**	P	**P**	**14 37 15.2**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=1.9,slow=4.3,SNR=3.8						
SONM	**Songino Array**	**54.96**	**45**	IAmb	IAmb	14 37 20.1	
	comp=Z,2.0nm,1.1s						
K05A	**Summer Lake**	**55.47**	**301**	P	**P**	**14 37 19.8**	**+0.9**
PSUT	**Pine Spring**	**57.16**	**293**	P	**P**	**14 37 31.0**	**0.0**
PAHR	**Pah Rah Range**	**57.79**	**298**	P	**P**	**14 37 35.2**	**-0.2**
PAHR				IAmb	IAmb	14 37 39.2	
	comp=Z,14nm,1.7s						
TXAR	**Lajitas Array**	**62.26**	**279**	P	**P**	**14 38 05.9**	**-0.2**
	comp=Z,0.9nm,1.0s,baz=46,slow=5.2,SNR=2.5						
MJB9	**Matsu-Tunnel**	**71.86**	**22**	P	**P**	**14 39 06.2**	**-0.6**
MAJO	**Matsushiro**	**71.86**	**22**	P	**P**	**14 39 06.0**	**-0.9**
MAJO				IAmb	IAmb	14 39 09.3	
	comp=Z,14nm,1.6s						
MJAR	**Matsushiro Arr**	**71.86**	**22**	P	**P**	**14 39 06.4**	**-0.5**
	comp=Z,3.1nm,1.0s,baz=333,slow=6.0,SNR=5.6						
MJAR	**Matsushiro Arr**	**71.86**	**22**	IAmb	IAmb	14 39 08.9	
	comp=Z,1.4nm,0.9s						

ISK 16 14:30:07.6, 40.°40N×26.°15E, h17km, ML1.6/8, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GELI	**Tayfur-Gelibol**	**0.25**	**89**	PG	Pb	14 30 13.6	-0.1
GELI				SG	Sb	14 30 17.9	+0.1
GADA	**Gvkgeada**	**0.28**	**223**	PG	Pb	14 30 14.1	0.0
GADA				SG	Sb	14 30 18.7	+0.2
ENEZ	**Enez**	**0.34**	**1**	PG	Pb	14 30 15.4	+0.2
ERIK	**Erikli-Kesan**	**0.39**	**45**	PG	Pb	14 30 16.2	+0.1
ERIK				SG	Sb	14 30 21.9	0.0
LPK	**Lapseki**	**0.47**	**93**	PG	Pb	14 30 17.7	+0.3
BOZC	**Bozcaada**	**0.56**	**187**	PG	Pb	14 30 18.8	-0.1
BOZC				SG	Sb	14 30 27.4	+0.8
EZN	**Ezine**	**0.58**	**166**	PG	Pb	14 30 19.7	+0.3
RDO	**Rodhopi**	**0.88**	**329**	PG	Pn	14 30 25.2	0.0
KDZ	**Kurdzhali**	**1.37**	**336**	PN	Pb	14 30 32.5	-0.3
EDRB	**Edirne**	**1.52**	**17**	PN	Pn	14 30 34.4	+0.4

*AEIC **16** 14:33:22.7±1.7, 52.°1N±0.°3×171.°7W±0.°1, h26km±9km, ML2.5/13, Error ellipse: s-maj=44.0km s-min=6.7km az=165.0*
NEIC 16 14:33:23.6±1.3, 52.°0N±0.°3×171.°7W±0.°1, h42km±55km, Error ellipse: s-maj=42.3km s-min=7.7km az=167.0, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.49**	**284**		Pn	**14 33 48.8**	**+0.9**
KOFP	**Korovin Flat P**	**1.50**	**281**		Pn	14 33 48.4	+0.3
ATKA	**Atka Island**	**1.55**	**278**		Pn	14 33 48.2	-0.5
NIKH	**Nikolski High**	**1.98**	**60**		Pn	14 33 53.4	-1.2
NIKH					Sn	14 34 16.8	-1.5
OKSP	**Okmok Steeple**	**2.42**	**58**		Pn	14 34 00.4	-0.2
OKTU	**Okmok Mt. Tuli**	**2.61**	**57**		Pn	14 34 03.9	+0.5
GSMY	**Great Sitkin M**	**2.69**	**272**		Pn	14 34 05.2	+0.8
GSTR	**Great Sitkin T**	**2.69**	**273**	Pn	Pn	14 34 04.5	+0.1
ADK	**Adak**	**3.09**	**269**	P	Pn	14 34 09.6	-0.2
ADK	**Adak**	**3.09**	**269**	Pn	Pn	14 34 09.6	-0.2
UNV	**Unalaska Valle**	**3.64**	**58**		Pn	14 34 17.7	+0.3

*IDC **16** 14:33:39.3±0.8, 70.°30N×15.°08W, h0km, mb3.6/10, mb1 3.8/15, mb1mx3.6/57, mbtmp3.7/15, ML2.9/4, MS3.6/1, Ms1 3.6/1, ms1mx3.2/49, Error ellipse: s-maj=23.2km s-min=15.7km az=17.0*
*NEIC **16** 14:33:41.9±1.6, 70.°29N±0.°04×14.°9W±0.°2, h17km±4km, mb4.6/7, Error ellipse: s-maj=11.0km s-min=5.5km az=84.0*
ISC 16 14:33:40.6±0.5, 70.°34N±0.°08×14.°95W±0.°06, h10km, n30, σ1.°52/29, mb3.6/10, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCO	**Scoresbysund**	**2.37**	**277**	*i* P	**Pg**	**14 34 24.7**	**-1.1**
SCO	**Scoresbysund**	**2.37**	**277**	Pn	**Pn**	**14 34 20.6**	**+1.2**
BORG	**Borgarnes**	**6.12**	**207**	Pn	**Pn**	**14 35 11.6**	**+0.7**
	0.9nm,0.3s,baz=25,slow=17,SNR=3.4						
SUMG	**Summit**	**7.79**	**298**	*i* P	**Pn**	**14 35 33.4**	**-0.8**
SUMG				*i*		14 35 48.0	
SUMG	**Summit**	**7.79**	**298**		**Pn**	**14 35 33.6**	**-0.6**
KBS	**Kingsbay**	**11.01**	**27**	Pn	**Pn**	**14 36 17.5**	**-0.3**
NOR	**Nord**	**11.33**	**359**	*i* P	**Pn**	**14 36 23.3**	**+1.1**
SPA0	**Spitsbergen Ar**	**11.37**	**33**	Pn	**Pn**	**14 36 23.5**	**+0.7**
SPITS	**Spitsbergen Ar**	**11.37**	**33**	Pn	**Pn**	**14 36 23.4**	**+0.7**
	baz=220,slow=12,SNR=13						
SFJD	**Kangerlussuaq**	**13.27**	**273**	LR	LR	14 40 46.7	
	comp=Z,307nm,21.0s,baz=87,slow=32						
ARCES	**ARCESS Array B**	**13.72**	**74**	Pn	**Pn**	**14 36 53.5**	**-1.4**
	0.1nm,0.3s,baz=293,slow=9.4,SNR=1.3						
NOA	**NORSAR Array B**	**14.10**	**118**	Pn	**Pn**	**14 36 58.9**	**-1.2**
	0.0nm,0.3s,baz=315,slow=10.0,SNR=1.1						
HFS	**Hagfors**	**15.57**	**117**	Pn	**P**	**14 37 22.6**	**-1.5**
	0.1nm,0.3s,baz=327,slow=7.4,SNR=2.5						
TULEG	**Thule**	**15.94**	**316**	Pn	**Pn**	**14 37 18.5**	**-6.0**
TULEG				IAmb	IAmb	14 37 22.2	
	comp=Z,71nm,1.4s						
IVI	**Ivigtut**	**16.17**	**252**	Pn	**Pn**	**14 37 29.0**	**+1.4**
IVI				IAmb	IAmb	14 38 25.4	
	comp=Z,83nm,2.0s						
FINES	**FINESS Array B**	**18.57**	**98**	P	**Pn**	**14 37 57.7**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=340,slow=10,SNR=10						
GERES	**GERESS Array B**	**25.49**	**133**	P	**P**	**14 39 09.0**	**+0.3**
	comp=Z,0.3nm,0.2s,baz=353,slow=6.9,SNR=1.6						
AKASG	**Malin Array Be**	**28.29**	**111**	P	**P**	**14 39 34.0**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=332,slow=9.2,SNR=2.3						
YKA	**Yellowknife Ar**	**36.19**	**309**	P	**P**	**14 40 43.0**	**+0.3**
	comp=Z,1.9nm,1.0s,baz=36,slow=8.5,SNR=14						
YKA				PcP	**PcP**	**14 43 07.5**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=39,slow=2.4,SNR=4.2						
AKTO	**Aktyubinsk**	**38.11**	**82**	P	**P**	**14 41 00.5**	**+1.3**
	comp=Z,0.6nm,0.3s,baz=333,slow=11,SNR=1.5						
BRTR	**Keskin Array B**	**39.50**	**115**	P	**P**	**14 41 12.2**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=355,slow=4.9,SNR=1.7						
BVAR	**Borovoye Array**	**39.95**	**70**	P	**P**	**14 41 15.8**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=348,slow=6.5,SNR=2.2						
BCAR	**Beaver Creek A**	**41.81**	**327**	P	**P**	**14 41 31.7**	**+1.9**
ZAA0	**Zalesovo Array**	**43.53**	**58**	P	**P**	**14 41 44.3**	**+0.6**
PDAR	**Pinedale Array**	**51.93**	**291**	P	**P**	**14 42 49.3**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=12,slow=5.5,SNR=2.5						
SONM	**Songino Array**	**54.78**	**45**	P	**P**	**14 43 10.4**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=326,slow=7.5,SNR=2.6						
SONM	**Songino Array**	**54.78**	**45**	IAmb	IAmb	14 43 13.0	
	comp=Z,0.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**58.09**	**161**	P	**P**	**14 43 33.1**	**-0.7**
	comp=Z,1.3nm,0.9s,baz=351,slow=5.2,SNR=5.1						
U15A	**North Rim**	**58.57**	**290**	P	**P**	**14 43 37.1**	**-0.2**
TXAR	**Lajitas Array**	**62.27**	**280**	P	**P**	**14 44 02.5**	**+0.1**
	comp=Z,0.1nm,0.6s,baz=57,slow=3.3,SNR=2.2						

VAO 16 14:35:07.0±0.2, 8.°85S×53.°32W, h0km, mb3.7, Brazil

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPGB	**Novo Progresso**	**2.71**	**311**	*e*S	Sn	14 36 26.6	+1.2
NPGB	**Novo Progresso**	**2.71**	**311**	*e*S	Sn	14 36 26.6	+1.2
CLDB	**Colider**	**3.16**	**230**	*e*S	Sn	14 36 37.0	+0.4
CLDB	**Colider**	**3.16**	**230**	*e*S	Sn	14 36 37.0	+0.4
PRPB	**Parauapebas**	**4.37**	**53**	*e*P	Pn	14 36 13.5	-1.3
PRPB				*e*S	Sn	14 37 07.2	+0.7
PRPB	**Parauapebas**	**4.37**	**53**	*e*P	Pn	14 36 13.5	-1.3
PRPB				*e*S	Sn	14 37 07.2	+0.7
ITTB	**Itaituba**	**5.06**	**332**	*e*P	Pn	14 36 24.4	+0.2
ITTB				*e*S	Sn	14 37 23.6	+0.1
ITTB	**Itaituba**	**5.06**	**332**	*e*P	Pn	14 36 24.4	+0.2

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**1.22**	**207**	Pg	Pn	14 40 08.4	+0.3
CUR				Sg	Sg	14 40 23.3	-0.3
AKAR	**Aktash**	**1.33**	**230**	Pg	Pb	14 40 11.3	+1.5
AKAR				Sg	Sn	14 40 28.8	+0.9
CHBI	**Chibit, Altay**	**1.40**	**231**	Pg	Pg	14 40 12.9	+1.9
CHBI				Sg	Sn	14 40 30.3	+0.9
TASR	**Tashtagol**	**1.77**	**333**	Pg	Pg	14 40 22.9	+4.8
TASR				Sg	Sg	14 40 47.2	+6.2
DGZ	**Jazzator, Alta**	**1.88**	**218**	Pg	Pg	14 40 20.9	+0.7
DGZ				Sg	Sg	14 40 44.0	-0.6
ELDR	**Elanda**	**1.96**	**272**	Pg	Pg	14 40 24.1	+2.3
ELDR				Sg	Sg	14 40 49.9	+2.7
DJO	**Djoy, Khakassi**	**2.02**	**37**	Pg	Pg	14 40 25.5	+2.6
DJO				Sg	Sg	14 40 52.5	+3.4
DJOS	**Djoyskaya Sosn**	**2.10**	**39**	Pg	Pg	14 40 26.7	+2.2
DJOS				Sg	Sg	14 40 54.3	+2.6
TUNR	**Tungur**	**2.10**	**242**	Pg	Pg	14 40 25.8	+1.2
TUNR				Sg	Sg	14 40 51.8	0.0
CERR	**Cheremushki**	**2.15**	**39**	Pg	Pg	14 40 27.3	+1.8
CERR				Sg	Sg	14 40 57.4	+4.0
GALT	**Gorno-Altaysk,**	**2.17**	**292**	Pg	Pg	14 40 28.0	+2.1
GALT				Sg	Sg	14 40 57.5	+3.5
VEH	**Verkhnyaya Baz**	**2.17**	**18**	Pg	Pg	14 40 28.9	+3.0
VEH				Sg	Sg	14 40 58.3	+4.3
LUZB	**Luzhba, Kemero**	**2.48**	**356**	Pg	Pg	14 40 33.4	+1.7
LUZB				Sg	Sg	14 41 07.3	+3.5
ELT	**Eltsovka**	**2.76**	**320**	Pg	Pg	14 40 36.0	-1.1
ELT				Sg	Sg	14 41 11.9	-0.9
UKR	**Ust'-Kan**	**2.81**	**266**	Pg	Pg	14 40 39.4	+1.4
UKR				Sg	Sg	14 41 16.3	+1.9
ARDR	**Aradan**	**2.96**	**60**	Pg	Pg	14 40 41.6	+0.6
ARDR				Sg	Sg	14 41 19.3	-0.1
KZLR	**Kyzyl**	**3.32**	**79**	Pg	Pg	14 40 47.2	-0.8
KZLR				Sg	Sg	14 41 29.1	-1.9
POMOR	**Pomortsevo, Ku**	**3.60**	**334**	Sg	Sg	14 41 41.0	+1.0
ZAA0	**Zalesovo Array**	**3.84**	**318**	⇑Pn	Pb	14 40 54.4	+1.9
	0.3nm,0.6s						
ZAA0				⇓Sn	Sg	14 41 45.3	-2.3
	3.1nm,0.8s						
SALR	**Pechorkino, Sa**	**3.86**	**328**	Pg	Pb	14 40 53.7	+0.8
SALR				Sg	Sg	14 41 50.4	+2.1
TDJR	**Todzha**	**4.45**	**72**	Pg	Pg	14 41 09.0	-0.5
TDJR				Sg	Sg	14 42 05.0	-2.0
MINR	**Mina**	**4.78**	**37**	Pg	Pg	14 41 14.4	-1.4
MINR				Sg	Sg	14 42 18.8	+1.1
NVSII	**Novosibirsk**	**5.13**	**318**	Sg	Sg	14 42 29.1	+0.3
NVS	**Novosibirsk**	**5.13**	**318**	Pg	Pg	14 41 21.5	-1.0
NVS				Sg	Sg	14 42 29.7	+0.8
BSTK	**Bystrovka, Nov**	**5.21**	**313**	Sg	Sg	14 42 34.4	+3.0
MK31	**Makanchi Array**	**6.33**	**229**	⇑Pn	Pn	14 41 23.2	+4.9
	0.6nm,0.5s,baz=51,slow=14,SNR=4.8						
MK31				⇑Pg	Pg	14 41 40.5	-5.0
	0.6nm,0.5s						
MK31				⇓Lg	Lg	14 43 01.2	
	2.9nm,0.6s,baz=49,slow=33,SNR=4.6						
KURBB	**Kurchatov Arra**	**6.78**	**269**	⇑Pn	Pn	14 41 32.7	+8.4
	1.1nm,0.5s,baz=83,slow=15						
KURBB				⇑Sn	Sn	14 42 47.0	+5.2
	6.1nm,0.6s						
KURBB				⇓Lg	Lg	14 43 23.0	
	9.2nm,0.6s						

*IDC **16** 14:44:54.3±1.2, 70°.24N×15°.19W, h0km, mb3.4/4, mb1 3.7/7, mb1mx3.4/54, mbtmp3.6/7, ML3.3/3, Error ellipse: s-maj=28.0km s-min=22.9km az=166.0*

ISC 16 14:44:55.6±0.8, 70°.27N±0°.09×15°.08W±0°.10, h10km, n8, σ0s91/10, mb3.5/4, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.33**	**279**	*i* P	**Pn**	**14 45 34.0**	**+0.1**
BORG	**Borgarnes**	**6.04**	**206**	Pn	**Pn**	**14 46 24.3**	**-0.6**
	0.8nm,0.3s,baz=17,slow=5.4,SNR=3.7						
BORG				Sn	**Sn**	**14 47 34.2**	**+0.3**
	baz=72,slow=18,SNR=1.1						
SPITS	**Spitsbergen Ar**	**11.45**	**33**	Pn	**Pn**	**14 47 37.7**	**-1.2**
	baz=228,slow=13,SNR=21						
FINES	**FINESS Array B**	**18.61**	**98**	P	**Pn**	**14 49 14.0**	**+1.1**
	0.1nm,0.3s,baz=260,slow=11,SNR=4.1						
YKA	**Yellowknife Ar**	**36.20**	**309**	P	**P**	**14 51 57.6**	**-0.2**
	0.7nm,0.9s,baz=34,slow=7.5,SNR=8.1						
YKA				PcP	**PcP**	**14 54 21.9**	**-0.9**
	0.3nm,0.7s,baz=34,slow=2.2,SNR=2.4						
ILAR	**Eielson Array**	**41.17**	**331**	P	**P**	**14 52 40.8**	**+1.3**
	0.4nm,0.8s,baz=16,slow=5.5,SNR=5.1						
MKAR	**Makanchi Array**	**49.19**	**64**	P	**P**	**14 53 43.8**	**+0.4**
	0.3nm,0.6s,baz=351,slow=6.6,SNR=3.1						
PDAR	**Pinedale Array**	**51.92**	**291**	P	**P**	**14 54 04.0**	**-0.3**
	0.2nm,0.3s,baz=34,slow=8.7,SNR=3.7						

*IDC **16** 14:53:58.2±4.3, 68°.15N×162°.68W, h0km, mb3.2/2, mb1 3.9/4, mb1mx3.4/45, mbtmp3.5/4, ML3.7/2, Error ellipse: s-maj=63.9km s-min=52.5km az=0.0*
*AEIC **16** 14:54:01.1±1.3, 67°.69N±0°.07×162°.2W±0°.1, h15km±6km, ML2.9/28, Error ellipse: s-maj=11.8km s-min=4.6km az=152.0*

ISC 16 14:54:00.9±0.9, 67°.69N±0°.06×162°.14W±0°.05, h10km, n39, σ1s32/46, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.47**	**322**		**Pg**	**14 54 09.8**	**-0.2**
RDOG					**Sg**	**14 54 17.0**	**+0.8**
ANM	**Nome**	**3.40**	**204**		**Pn**	**14 54 54.2**	**+0.2**
ANM					**Sn**	**14 55 33.9**	**-0.5**
IM03		**3.73**	**113**		**Pn**	**14 54 59.0**	**+0.5**
IM03					**Sn**	**14 55 43.5**	**+1.1**
IMAR	**Indian Mountai**	**3.73**	**113**		**Pn**	**14 54 58.4**	**-0.1**
PS05	**TAPS Pump Stn5**	**4.54**	**96**		**Pn**	**14 55 10.5**	**+0.9**
PS05					**Sn**	**14 56 03.8**	**+1.3**
TOLK	**Toolik Lake Re**	**4.79**	**73**		**Pn**	**14 55 14.5**	**+1.4**
TOLK					**Sn**	**14 56 09.8**	**+1.3**
PS04	**TAPS Pump Stn4**	**4.85**	**75**		**Pn**	**14 55 15.5**	**+1.6**
PS06	**TAPS Pump Stn6**	**5.24**	**105**		**Pn**	**14 55 20.0**	**+0.7**
TTA	**Tatalina**	**5.42**	**149**	Pn	**Pn**	**14 55 22.5**	**+0.6**
TT01	**Tatalina**	**5.45**	**149**		**Pn**	**14 55 22.9**	**+0.9**
CHUM	**Lake Minchumin**	**5.56**	**129**		**Pn**	**14 55 24.3**	**+0.7**
BPAW	**Bear Paw Mtn.**	**5.82**	**123**		**Pn**	**14 55 27.2**	**-0.2**
NEA	**Nenana**	**6.15**	**114**		**Pn**	**14 55 32.4**	**+0.7**
MDM	**Murphy Dome**	**6.23**	**110**		**Pn**	**14 55 34.0**	**+1.1**
PPLA	**Purkeypile**	**6.36**	**134**		**Pn**	**14 55 36.0**	**+1.2**
COLA	**College**	**6.42**	**109**		**Pn**	**14 55 36.7**	**+1.4**
TRF	**Thorofare Moun**	**6.50**	**125**	Pn	**Pn**	**14 55 37.0**	**+0.4**
CCB	**Clear Creek Bu**	**6.56**	**111**		**Pn**	**14 55 38.2**	**+1.0**
WRH	**Wood River Hil**	**6.56**	**113**		**Pn**	**14 55 38.1**	**+0.8**
FYU	**Fort Yukon**	**6.68**	**92**	Pn	**Pn**	**14 55 39.0**	**0.0**
BM03	**Burnt Mountain**	**6.72**	**84**		**Pn**	**14 55 40.3**	**+0.8**
BMAR	**Burnt Mountain**	**6.72**	**84**		**Pn**	**14 55 39.5**	**-0.2**
MCK	**McKinley**	**6.74**	**120**	Pn	**Pn**	**14 55 40.5**	**+0.8**
IL31		**6.82**	**108**		**Pn**	**14 55 40.9**	**0.0**
ILAR	**Eielson Array**	**6.82**	**108**	Pn	**Pn**	**14 55 41.0**	**+0.1**
	2.4nm,0.3s,baz=304,slow=14,SNR=121						
ILAR				Sn	**Sn**	**14 56 56.5**	**-1.9**
	0.2nm,0.3s,baz=300,slow=24,SNR=2.3						
ILAR	**Eielson Array**	**6.82**	**108**	Pn	**Pn**	**14 55 41.2**	**+0.3**
RND	**Reindeer**	**6.99**	**122**		**Pn**	**14 55 44.2**	**+1.0**
HDA	**Harding Lake**	**7.00**	**111**	Pn	**Pn**	**14 55 43.4**	**+0.1**
SVW2	**Sparrevohn**	**7.20**	**154**		**Pn**	**14 55 47.5**	**+1.4**
DHY	**Denali Highway**	**7.70**	**120**		**Pn**	**14 55 53.9**	**+0.8**
RIDG	**Independent Ri**	**8.14**	**111**	Pn	**Pn**	**14 55 59.4**	**+0.3**
GHO	**Glory Hole Cre**	**8.19**	**130**	Pn	**Pn**	**14 56 01.2**	**+1.5**
SCRK	**Sand Creek**	**8.31**	**108**	Pn	**Pn**	**14 56 01.8**	**+0.3**
DOT	**Dot Lake**	**8.48**	**110**	Pn	**Pn**	**14 56 04.2**	**+0.6**
BCAR	**Beaver Creek A**	**9.65**	**109**	Pn	**Pn**	**14 56 20.3**	**+0.6**
INK	**Inuvik**	**10.70**	**73**	Pn	**Pn**	**14 56 32.4**	**-1.6**
	0.3nm,0.3s,baz=283,slow=11,SNR=6.0						
INK				Sn	**Sn**	**14 58 27.4**	**-6.3**
	0.2nm,0.3s,baz=117,slow=13,SNR=1.8						
INK	**Inuvik**	**10.70**	**73**		**Pn**	**14 56 33.7**	**-0.2**
YKA	**Yellowknife Ar**	**20.24**	**82**	P	**P**	**14 58 35.6**	**-0.2**
	0.4nm,0.5s,baz=303,slow=10,SNR=5.5						
TXAR	**Lajitas Array**	**51.33**	**108**	P	**P**	**15 03 06.0**	**+0.7**
	0.6nm,0.9s,baz=354,slow=4.5,SNR=4.4						

*IDC **16** 15:17:46.9±1.3, 70°.16N×15°.23W, h0km, mb3.4/4, mb1 3.6/7, mb1mx3.4/37, mbtmp3.5/7, ML2.9/3, MS3.6/6, Ms1 3.6/6, ms1mx3.2/49, Error ellipse: s-maj=30.7km s-min=24.6km az=38.0*

ISC 16 15:17:47.9±0.9, 70°.2N±0°.1×15°.4W±0°.1, h10km, n14, σ0s93/8, mb3.4/4, MS3.9/3, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCO	**Scoresbysund**	**2.25**	**281**	*i* P	**Pn**	**15 18 24.0**	**-1.1**
BORG	**Borgarnes**	**5.91**	**206**	Pn	**Pn**	**15 19 14.7**	**-0.6**
	0.5nm,0.3s,baz=279,slow=17,SNR=1.7						
SPITS	**Spitsbergen Ar**	**11.59**	**33**	Pn	**Pn**	**15 20 32.5**	**-0.5**
	baz=238,slow=11,SNR=7.2						
ARCES	**ARCESS Array B**	**13.91**	**73**	LR	LR	15 25 21.0	
	comp=Z,264nm,19.0s,baz=1.5,slow=33						
NOA	**NORSAR Array B**	**14.15**	**117**	LR	LR	15 25 36.7	
	comp=Z,43nm,21.2s,baz=15,slow=33						
HFS	**Hagfors**	**15.62**	**115**	LR	LR	15 27 06.8	
	comp=Z,123nm,18.9s,baz=306,slow=36						
FINES	**FINESS Array B**	**18.69**	**97**	P	**Pn**	**15 22 06.0**	**-0.1**
	0.0nm,0.3s,baz=313,slow=11,SNR=1.9						
GERES	**GERESS Array B**	**25.48**	**132**	P	**P**	**15 23 16.6**	**+0.6**
	0.2nm,0.2s,baz=330,slow=11,SNR=1.2						
DAVOX	**Davos/Dischmat**	**26.50**	**139**	LR	LR	15 34 57.4	
	comp=Z,153nm,18.9s,baz=260,slow=39						
YKA	**Yellowknife Ar**	**36.19**	**309**	P	**P**	**15 24 51.2**	**+1.3**
	0.6nm,0.9s,baz=34,slow=7.7,SNR=3.4						
ILAR	**Eielson Array**	**41.21**	**331**	P	**P**	**15 25 32.6**	**+0.5**
	0.3nm,0.8s,baz=25,slow=9.0,SNR=2.4						
MKAR	**Makanchi Array**	**49.33**	**64**	P	**P**	**15 26 36.3**	**-0.4**
	0.6nm,1.0s,baz=337,slow=6.3,SNR=3.6						
ANMO	**Albuquerque**	**57.95**	**284**	LR	LR	15 53 02.3	
	comp=Z,86nm,19.3s,baz=30,slow=36						
NVAR	**Mina Array Bea**	**58.55**	**296**	LR	LR	15 53 43.8	
	comp=Z,141nm,19.2s,baz=12,slow=37						

*GUC **16** 15:31:50.1±0.8, 26°.14S×70°.82W, h40km±2km, ML3.7*
*SJA **16** 15:31:52.1±0.9, 26°.40S×71°.30W, h40km±37km, ML3.3, MW3.5*

ISC 16 15:31:51.2±1.5, 26°.13S±0°.04×71°.00W±0°.09, h31km, n21, σ1s90/27, 1C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.36**	**93**	⇓*i* P	**Pb**	**15 31 58.3**	**-1.2**
AC01				*i* S	**Sb**	**15 32 03.4**	**-1.9**
AC01				IAML		15 32 03.6	
	comp=E,34μm,0.1s						
GO02	**Mina Guanaco**	**1.59**	**53**	*e*P	**Pn**	**15 32 17.4**	**-0.2**
GO02				*e*S	**Sn**	**15 32 37.4**	**+0.2**
GO02				IAML		15 32 43.3	
	comp=E,1μm,0.5s						
GO03	**Copiap**	**1.61**	**155**	⇑*e*P	**Pn**	**15 32 17.6**	**0.0**
GO03				*e*S	**Sn**	**15 32 37.7**	**+0.4**
GO03				IAML		15 32 38.8	
	comp=E,1μm,0.2s						
GO03	**Copiap**	**1.61**	**155**	*i* P	**Pn**	**15 32 17.7**	**+0.1**
GO03				*e*S	**Sn**	**15 32 38.1**	**+0.8**
AC02	**Maricunga**	**1.82**	**113**	⇓*i*P	**Pn**	**15 32 21.5**	**+0.8**
AC02				*i* S	**Sn**	**15 32 43.6**	**+0.6**
AC02				IAML		15 32 45.1	
	comp=N,3μm,0.3s						
PB10	**IPOC Station P**	**2.64**	**9**	*e*P	**Pn**	**15 32 30.1**	**-1.5**
PB10				*e*S	**Sn**	**15 33 02.5**	**-0.1**
AC05	**El Transito**	**2.77**	**167**	*e*P	**Pn**	**15 32 34.0**	**+0.4**
AC05				IAML		15 33 19.4	
	comp=N,220nm,0.8s						
PB15	**IPOC Station P**	**3.22**	**26**	*e*P	**Pn**	**15 32 40.8**	**+0.9**
PB15				*e*S	**Sn**	**15 33 20.6**	**+3.3**
VCA	**Vinchina**	**3.59**	**137**	*i* P	Pn	15 32 49.8	+4.9
VCA				IAML		15 33 51.6	
	comp=Z,45nm,0.7s						
AGUA	**GUANDACOL**	**4.01**	**147**	*i* P	**Pn**	**15 32 53.6**	**+3.0**
AGUA				IAML		15 34 01.2	
	comp=Z,67nm,0.4s						
GO04	**Tololo Observa**	**4.03**	**178**	*i* P	**Pn**	**15 32 50.7**	**-0.3**
GO04				*e*S	**Sn**	**15 33 34.3**	**-3.0**
AROD	**Rodeo**	**4.24**	**162**	*i* P	**Pn**	**15 32 56.4**	**+2.4**
ACDV	**Cuesta del Vie**	**4.35**	**158**	*i* P	**Pn**	**15 32 58.8**	**+3.4**
ACDV				IAML		15 34 11.8	
	comp=Z,22nm,0.5s						
ACCO	**Cerro Coronel**	**4.76**	**159**	*i* P	**Pn**	**15 33 03.6**	**+2.5**
CYA	**Choya**	**5.17**	**118**	*i* P	Pn	15 33 11.8	+5.4
CYA				IAML		15 34 42.4	
	comp=Z,6.1nm,1.8s						
AMOG	**MOGNA**	**5.27**	**156**	*i* P	**Pn**	**15 33 10.0**	**+2.0**
AMOG				IAML		15 34 41.9	
	comp=Z,12nm,0.6s						
RTLS	**Leoncito**	**5.84**	**166**	*i* P	**Pn**	**15 33 17.8**	**+1.9**
RTLS				IAML		15 34 53.0	
	comp=Z,17nm,0.5s						
CFA	**Coronel Fontan**	**5.97**	**157**	*i* P	**Pn**	**15 33 19.2**	**+1.8**
CFA				IAML		15 35 00.1	
	comp=Z,6.8nm,1.1s						
AUSP	**Uspallata**	**6.23**	**167**	*i* P	**Pn**	**15 33 23.9**	**+2.6**
ACAN	**Cantantal**	**6.97**	**152**	*i* P	**Pn**	**15 33 33.0**	**+1.8**
ACAN				IAML		15 35 43.1	
	comp=Z,18nm,3.3s						
MRA	**San Martin**	**7.78**	**145**	*i* P	**Pn**	**15 33 40.6**	**-1.8**
MRA				IAML		15 36 10.6	
	comp=Z,3.8nm,0.6s						

IEPN 16 15:37:40.0, 85°.88N×29°.68E, h20km, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**5.46**	**149**	*e*P	Pn	15 39 04.8	+4.9
ZFI2				*e*S	Sn	15 40 03.2	+1.2
	7.9nm,0.5s						
ZFI2	**Zemlya Franca-**	**5.46**	**149**	*e*P	Pn	15 39 04.8	+4.9
ZFI2				*e*S	Sn	15 40 03.2	+1.2
	7.9nm,0.5s						
KBS	**Kingsbay**	**7.30**	**208**	*e*P	Pn	15 39 21.2	-4.1
KBS				*e*S	Sn	15 40 36.7	-11
KBS	**Kingsbay**	**7.30**	**208**	*e*P	Pn	15 39 21.2	-4.1
KBS				*e*S	Sn	15 40 36.7	-11
SPA0	**Spitsbergen Ar**	**7.92**	**200**	*e*P	Pn	15 39 31.0	-2.8
SPA0				*e*S	Sn	15 40 53.1	-9.5
SPA0	**Spitsbergen Ar**	**7.92**	**200**	*e*P	Pn	15 39 31.0	-2.8
SPA0				*e*S	Sn	15 40 53.1	-9.5

*MEX **16** 15:39:09.6±0.4, 15°.07N×91°.91W, h11km±29km, MD3.8*
*GCG **16** 15:39:10.6±0.5, 14°.82N×92°.06W, h6km±10km, MD3.8*

ISC 16 15:39:07.8±1.4, 15°.18N±0°.05×92°.02W±0°.05, h10km±15km, n9, σ0s44/14, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.36**	**222**	*i* P	**Pb**	**15 39 16.8**	**+0.4**
THIG				*i* S	**Sb**	**15 39 22.6**	**+0.5**
STG3	**Santiaguito 3,**	**0.63**	**137**	*e*P	**Pb**	**15 39 20.9**	**-0.2**
CCIG	**Comitán**	**1.10**	**354**	*e*P	**Pg**	**15 39 29.1**	**0.0**
CCIG				*e*S	**Sg**	**15 39 43.3**	**-0.2**
PCIG		**1.27**	**294**	*e*P	**Pn**	**15 39 31.5**	**-0.1**
PCIG				*e*S	**Sb**	**15 39 48.3**	**0.0**
FUG	**Fuego 3**	**1.35**	**123**	*e*P	**Pg**	**15 39 33.8**	**0.0**
NBG	**Las Nubes**	**1.72**	**110**	*e*P	**Pg**	**15 39 40.9**	**+0.1**
IXG	**Ixpaco**	**1.82**	**123**	*e*P	**Pg**	**15 39 42.2**	**-0.6**
TGIG		**1.91**	**326**	*i* P	Pn	**15 39 40.2**	**-0.3**
TGIG				*i* S	**Sn**	**15 40 04.3**	**-0.4**
MRL	**Marmol**	**2.25**	**92**	*e*P	**Pb**	**15 39 49.7**	**+0.9**
MRL				*e*S	**Sg**	**15 40 20.2**	**-0.2**

IDC 16 15:52:26.5±3.5, 22°.18N×12°.39W, h0km, mb1 3.6/2, mb1mx3.2/30, mbtmp3.6/2, ML3.2/2, Error ellipse: s-maj=99.3km s-min=61.7km az=61.0, Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**16.14**	**121**	Pn	Pn	15 56 13.5	-1.4
	0.0nm,0.3s,baz=311,slow=14,SNR=2.1						
DBIC	**Dimbokro**	**17.05**	**154**	P	P	15 56 28.0	-0.4
	0.3nm,0.3s,baz=319,slow=14,SNR=1.6						
I42PT	**GRACIOSA ISLAN**	**21.46**	**325**	*i*		18 04 40.0	
	baz=138,slow=324,SNR=3.0						
ASAR	**Alice Springs**	**148.96**	**99**	PKPbc	PKPbc	16 12 16.5	-0.6
	0.3nm,0.7s,baz=255,slow=1.8,SNR=2.3						

*JMA **16** 16:13:46.1±0.1, 24°.95N×122°.89E, h23km±2km, M1.8*
*TAP **16** 16:13:49.3, 24°.52N×122°.94E, h38km, ML2.6, C*

ISC 16 16:13:49.6±1.3, 24°.69N±0°.09×122°.93E±0°.03, h32km±8km, n23, σ0s88/33, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.24**	**176**	P	**Pb**	**16 13 56.0**	**-0.5**
JYNG				S	**Sn**	**16 14 03.1**	**+1.5**
YOJ	**Yonaguni jima**	**0.24**	**162**	P	**Pb**	**16 13 55.9**	**-0.5**
	baz=133						
YOJ				S	**Sb**	**16 14 00.6**	**-0.5**
	baz=133						
YOJ	**Yonaguni jima**	**0.24**	**162**	P	**Pb**	**16 13 56.0**	**-0.5**
YOJ				S	**Sb**	**16 14 03.1**	**+2.0**
IRIF	**Iriomote-Funau**	**0.81**	**116**	P	**Pn**	**16 14 03.9**	**-0.9**
IRIF				*e*S	**Sn**	**16 14 16.5**	**+0.7**
EGS		**0.92**	**280**	P	**Pn**	**16 14 06.3**	**0.0**
	baz=289						
TWC	**Suao**	**0.99**	**266**	*e*P	**Pn**	**16 14 06.7**	**-0.5**
	baz=275						
TWC				*e*S	**Sn**	**16 14 19.2**	**-0.9**
	baz=275						
NTC	**Toucheng**	**1.01**	**280**	*e*S	**Sn**	**16 14 22.5**	**+1.7**
	baz=288						
HATJ	**Hateruma jima**	**1.02**	**128**	P	**Pn**	**16 14 08.0**	**+0.3**
TIPB	**Shuangxi**	**1.04**	**286**	*e*P	**Pn**	**16 14 07.9**	**-0.1**
	baz=302						
JKRS	**Kuro-shima**	**1.08**	**114**	P	**Pn**	**16 14 08.3**	**-0.3**
ENA	**Nanau**	**1.11**	**257**	*e*P	**Pn**	**16 14 08.5**	**-0.5**
	baz=274						
ENA				*e*S	**Sn**	**16 14 22.0**	**-1.2**
	baz=274						
TWE	**Neicheng**	**1.15**	**272**	*e*P	**Pn**	**16 14 09.3**	**-0.1**
	baz=279						
TWE				*e*S	**Sn**	**16 14 24.9**	**+0.8**
	baz=279						
JIJ	**Ishigaki jima**	**1.15**	**106**	P	**Pn**	**16 14 08.8**	**-0.7**
JIJ				*e*S	**Sn**	**16 14 25.3**	**+1.1**
ENTT	**Nioudou**	**1.24**	**268**	*e*P	**Pn**	**16 14 10.7**	**-0.1**
	baz=275						
ENTT				*e*S	**Sn**	**16 14 27.0**	**+0.5**
	baz=275						
JISG	**Ishigakijimahi**	**1.26**	**94**	P	**Pn**	**16 14 10.0**	**-1.0**
NDT	**Datong Townshi**	**1.29**	**266**	P	**Pn**	**16 14 11.0**	**-0.5**
	baz=274						
NACB	**Ninganchiao**	**1.32**	**247**	P	**Pn**	**16 14 10.7**	**-1.2**
	baz=254						
NACB				*e*S	**Sn**	**16 14 27.8**	**-0.6**
	baz=254						
ETLH	**Xiulin Townshi**	**1.40**	**250**	*e*P	**Pn**	**16 14 12.9**	**-0.2**
	baz=257						
YHNB	**Yeheng**	**1.41**	**269**	P	**Pn**	**16 14 13.9**	**+0.7**
	baz=286						
NSK	**Sanguang**	**1.43**	**270**	P	**Pn**	**16 14 14.4**	**+1.0**
	baz=286						
NNSB	**Datong**	**1.43**	**260**	P	**Pn**	**16 14 12.7**	**-0.8**
	baz=274						
NNSH	**Datong**	**1.43**	**260**	P	**Pn**	**16 14 13.7**	**+0.2**
	baz=273						
NNS	**Nan Shan**	**1.44**	**260**	*e*P	**Pn**	**16 14 13.8**	**+0.2**
	baz=274						

*IDC **16** 16:18:59.8±7.1, 32°.28N×48°.61E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.3/30, mbtmp3.6/4, Error ellipse: s-maj=148.7km s-min=47.8km az=22.0*
*TEH **16** 16:19:04.6, 32°.61N×48°.90E, h10km, ML3.3*
*THR **16** 16:19:05.6±0.6, 32°.54N×48°.85E, h14km±5km, ML3.4*

ISC 16 16:19:05.0±0.7, 32°.56N±0°.03×48°.83E±0°.05, h10km, n36, σ1s67/40, mb3.8/4, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.45**	**183**	*e*Pg	**Pg**	**16 19 13.9**	**0.0**
SHGR				*e*Sg	**Sg**	**16 19 20.8**	**+0.9**
SHGR				IAML		16 19 27.3	
	comp=E,3μm,0.5s						
SHGR				IAML		16 19 27.4	
	comp=N,3μm,0.4s						
SHGR	**Shooshtar-Gavs**	**0.45**	**183**	*e*Pg	**Pg**	**16 19 13.9**	**0.0**
IKMR	**Kamar-syah**	**1.03**	**338**	*e*Pg	**Pg**	**16 19 24.3**	**-0.5**
BMDN	**Meydan**	**1.11**	**360**	*e*Pg	**Pb**	**16 19 24.5**	**-1.9**
BMDN				*e*		16 19 49.3	
AHWZ	**Ahwaz**	**1.24**	**188**	*e*Pg	**Pn**	**16 19 29.2**	**+0.8**
AHWZ				*e*Sg	**Sn**	**16 19 48.3**	**+3.2**
IKFM	**Kafar-mosalman**	**1.27**	**319**	*e*Pg	**Pn**	**16 19 28.8**	**0.0**
IDOB	**Doab**	**1.34**	**336**	*e*Pg	**Pn**	**16 19 30.5**	**+0.4**
IDOB				*e*		16 19 53.5	
JHBN	**Jahan bin**	**1.58**	**101**	*e*Pg	**Pn**	**16 19 34.1**	**+0.6**
JHBN				*e*		16 20 07.0	
HSAM	**Samen**	**1.66**	**353**	*e*Pg	**Pn**	**16 19 35.7**	**+1.2**
HSAM				*e*		16 19 36.9	
IPIR	**Pirpir**	**1.74**	**85**	*e*Pg	**Pn**	**16 19 36.3**	**+0.7**
IPIR				*e*		16 20 04.4	
ROKH

JISG	**Ishigakijimahi**	**1.35 106**	P	Pn	16 44 51.4	-0.1

TAP 16 16:45:15.0, 24.45N×121.97E, h12km, ML2.2, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.19 324**		*i* P	Pg	16 45 19.4	+0.1
	baz=326						
TWC				*i* S	Sg	16 45 22.2	-0.1
	baz=326						
ENA	**Nanau**	**0.21 264**		*i* P	Pg	16 45 19.8	+0.1
	baz=270						
ENA				*i* S	Sg	16 45 22.9	+0.1
	baz=270						
ENTT	**Nioudou**	**0.42 297**		S	Sg	16 45 29.5	+0.6
	baz=297						
NDT	**Datong Townshi**	**0.45 290**		P	Pb	16 45 24.9	+0.1
	baz=289						
NDT				S	Sg	16 45 30.4	+0.6
	baz=289						
TIPB	**Shuangxi**	**0.54 345**		*e*P	Pb	16 45 26.8	+0.4
	baz=343						
TIPB				S	Sb	16 45 33.7	-0.4
	baz=343						

IDC ***16*** *17:13:43.9±1.8, 16.87S×178.15W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/38, mbtmp3.8/4, Error ellipse: s-maj=185.1km s-min=31.1km az=155.0*
NEIC ***16*** *17:14:42.0±2.1, 18.0S±0.1×178.6W±0.2, h595km±12km, mb4.3/16, Error ellipse: s-maj=24.2km s-min=10.7km az=124.0*
ISC 16 17:14:41.5±0.8, 17.9S±0.2×178.6W±0.1, h579km, n25, σ1§08/25, mb4.0/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.17 273**		P	**P**	**17 16 01.6**	**+1.6**
NIUE	**Niue**	**8.34 99**		P	**P**	**17 16 44.9**	**+1.5**
OUZ	**Omahuta**	**18.57 200**		P	**P**	**17 18 24.6**	**+1.6**
OUZ				IAmb	IAmb	17 18 37.4	
	comp=Z,7.4nm,0.9s						
QRZ	**Quartz Range**	**24.07 197**		P	**P**	**17 19 12.6**	**+0.3**
TUWZ	**Tuamarina**	**24.29 194**		P	**P**	**17 19 13.3**	**-0.9**
LHI	**Lord Howe Isla**	**24.31 232**		P	**P**	**17 19 14.2**	**-0.4**
THZ	**Tophouse**	**24.85 195**		P	**P**	**17 19 18.0**	**-1.2**
THZ				IAmb	IAmb	17 19 29.5	
	comp=Z,12nm,1.1s						
KHZ	**Kahutara**	**25.32 194**		P	**P**	**17 19 22.0**	**-1.3**
KHZ				IAmb	IAmb	17 19 40.5	
	comp=Z,23nm,1.2s						
WKZ	**Wanaka**	**28.76 198**		P	**P**	**17 19 51.5**	**-1.9**
WKZ				IAmb	IAmb	17 20 06.5	
	comp=Z,22nm,1.1s						
MLZ	**Mavora Lakes**	**29.52 199**		P	**P**	**17 19 59.5**	**-0.5**
WHZ	**Wether Hill Ro**	**30.05 199**		P	**P**	**17 20 03.5**	**-1.0**
WHZ				IAmb	IAmb	17 20 07.4	
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**38.44 241**		P	**P**	**17 21 15.4**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=84,slow=10,SNR=1.7						
STKA	**Stephens Creek**	**38.44 241**		P	**P**	**17 21 14.6**	**-0.2**
WB0	**Warramunga Arr**	**44.39 260**		P	**P**	**17 22 01.1**	**-0.7**
WB0				IAmb	IAmb	17 22 08.5	
	comp=Z,4.4nm,1.1s						
WB2	**Warramunga Arr**	**44.41 260**		P	**P**	**17 22 01.6**	**-0.4**
WB2				IAmb	IAmb	17 22 17.6	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**44.42 260**		P	**P**	**17 22 01.8**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=94,slow=7.3,SNR=1.0						
WRA	**Warramunga Arr**	**44.42 260**		P	**P**	**17 22 01.0**	**-1.1**
AS31	**Alice Springs**	**44.58 254**		P	**P**	**17 22 03.8**	**+0.5**
ASAR	**Alice Springs**	**44.58 254**		P	**P**	**17 22 03.9**	**+0.5**
	comp=Z,2.4nm,0.5s,baz=88,slow=8.5,SNR=87						
ASAR	**Alice Springs**	**44.58 254**		P	**P**	**17 22 03.6**	**+0.3**
MTN	**Manton Dam**	**48.59 269**		P	**P**	**17 22 34.5**	**+0.9**
MTN				IAmb	IAmb	17 22 50.7	
	comp=Z,14nm,1.1s						
QSPA	**South Pole Qui**	**72.14 180**		P	**P**	**17 25 07.5**	**-0.5**
ELK	**Elko**	**82.81 43**		P	**P**	**17 26 04.0**	**-2.1**
ELK				IAmb	IAmb	17 26 07.5	
	comp=Z,1.8nm,0.5s						
TXAR	**Lajitas Array**	**86.18 58**		P	**P**	**17 26 23.0**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=224,slow=3.8,SNR=5.5						
TXAR	**Lajitas Array**	**86.18 58**		P	**P**	**17 26 22.9**	**+0.3**

KRNET ***16*** *17:14:59.9±0.1, 39.99N×77.77E, mb2.4*
SOME 16 17:14:56.1, 42.28N×81.12E, h10km, 6C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.50 306**		*e*P	Pn	17 15 19.3	-3.9
	1.5nm,0.1s						
SHLS				*e*S	Sn	17 15 35.9	-7.0
	5.5nm,0.2s						
UZB	**Uzynbulak**	**1.77 300**		*e*P	Pb	17 15 28.4	-0.3
	1.5nm,0.2s						
UZB				*e*S	Sb	17 15 51.8	+0.8
	2.0nm,0.2s						
SATY	**Saty**	**2.14 292**		*e*P	Pb	17 15 35.5	+0.4
	0.9nm,0.1s						
SATY				*e*S	Sg	17 16 04.3	-0.8
	4.2nm,0.2s						
DJR	**Jarkent**	**2.27 335**		*e*P	Pb	17 15 38.0	+0.8
	0.5nm,0.2s						
DJR				*e*S	Sg	17 16 08.1	-0.8
	1.4nm,0.3s						
TARG	**Taragay, Kyrgy**	**2.53 258**		⇑*i*P	Pg	17 15 43.3	-1.3
	baz=1.0						
TARG				⇑*i*S	Sb	17 16 15.1	+1.9
	baz=1.0						
KDJ	**Kajisay**	**2.93 268**		⇓*e*P	Pb	17 15 49.1	+0.6
	baz=51						
KDJ				⇓*i*S	Sb	17 16 25.2	+0.8
	baz=51						
KAPS	**Kapalarasan**	**3.26 338**		*e*P	Pb	17 15 54.9	+0.8
	0.5nm,0.2s						
KAPS				*e*S	Sb	17 16 37.0	+3.2
	1.1nm,0.2s						
ULHL	**Ulahol**	**3.62 271**		⇑*e*P	Pn	17 15 54.2	+1.8
	baz=39						
ULHL				⇑*i*S	Sn	17 16 32.7	-2.6
	baz=39						
BOOM	**Boomskoye usch**	**3.84 275**		⇑*i*P	Pn	17 15 57.9	+2.5
	baz=37						
BOOM				⇑*e*S	Sn	17 16 40.0	-0.7
	baz=37						

NIED ***16*** *17:24:00, 44.50N×149.30E, h32km, Mw3.8 Best double couple: M0≤4.83000×10^14 NP1:φs=271.00000°, δ77.00000°, λ=-150.00000°. NP2:φs=173.00000°, δ61.00000°, λ=-15.00000°.*
IDC ***16*** *17:24:07.0±1.0, 44.29N×149.38E, h0km, mb3.4/6, mb1 3.7/9, mb1mx3.5/39, mbtmp3.4/9, ML2.8/3, MS2.6/2, Ms1 2.6/2, ms1mx2.3/44, Error ellipse: s-maj=35.8km s-min=19.8km az=130.0*
JMA ***16*** *17:24:10.5±0.5, 44.54N×149.28E, h30km, M4.0*
MOS ***16*** *17:24:10.2±0.9, 44.36N×149.33E, h34km, mb4.2/4, Error ellipse: s-maj=12.8km s-min=9.2km az=136.5*
SKHL ***16*** *17:24:10.2±0.6, 44.44N×149.39E, h45km±2km, mb4.7/6*
ISC 16 17:24:11.8±3.8, 44.34N±0.06×149.29E±0.07, h32km±29km, n57, σ1§43/70, mb3.7/9, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.35 312**		*i* P	**Pn**	**17 24 32.0**	**-2.3**
KUR				AMB	AMB	17 24 32.5	
	170nm,0.4s						
KUR				AMB	AMB	17 24 32.5	
	460nm,0.4s						
KUR				*i* S	**Sn**	**17 24 47.8**	**-3.3**
KUR				A	A	17 24 50.3	
	2μm,0.4s						
KUR				A	A	17 24 50.3	
	2μm,0.4s						
KUR	**Kuril'sk**	**1.35 312**		*d* iPN	**Pn**	**17 24 32.0**	**-2.3**
KUR				*i* S	**Sn**	**17 24 47.5**	**-3.6**
KUR				pmax	pmax		
	comp=N,172nm,0.3s						
KUR				pmax	pmax		
	comp=Z,461nm,0.3s						
KUR				pmax	pmax		
	comp=E,55nm,0.2s						
KUR				smax	smax		
	comp=E,2μm,0.4s						
KUR				smax	smax		
	comp=N,2μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**2.48 264**		*i* P	**Pn**	**17 24 50.0**	**+0.1**
YUK				AMB	AMB	17 24 51.0	
	comp=N,30nm,0.4s						
YUK				AMB	AMB	17 24 51.0	
	comp=N,40nm,0.4s						
YUK				AMB	AMB	17 24 51.0	
	comp=N,180nm,0.4s						
YUK				*i* S	**Sn**	**17 25 19.6**	**+0.6**
YUK				A	A	17 25 25.0	
	comp=N,380nm,0.4s						
YUK				A	A	17 25 25.0	
	comp=N,620nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**2.48 264**		*c* iPN	**Pn**	**17 24 50.3**	**+0.4**
YUK				*i* S	**Sn**	**17 25 20.5**	**+1.5**
YUK				pmax	pmax		
	comp=N,26nm,0.2s						
YUK				pmax	pmax		
	comp=E,41nm,0.2s						
YUK				pmax	pmax		
	comp=Z,182nm,0.2s						
YUK				smax	smax		
	comp=N,380nm,0.3s						
YUK				smax	smax		
	comp=E,616nm,0.4s						
LAGR	**Lagunnoye**	**2.53 265**		*e*P	**Pn**	**17 24 50.3**	**-0.3**
LAGR				AMB	AMB	17 24 53.0	
	comp=E,100nm,0.3s						
LAGR				*e*S	**Sn**	**17 25 20.8**	**+0.5**
LAGR				A	A	17 25 29.0	
	comp=E,310nm,0.4s						
LAGR				A	A	17 25 29.0	
	comp=E,890nm,0.4s						
LAGR	**Lagunnoye**	**2.53 265**		*e*PN	**Pn**	**17 24 50.3**	**-0.3**
LAGR				*e*S	**Sn**	**17 25 20.8**	**+0.5**
LAGR				pmax	pmax		
	comp=Z,98nm,0.1s						
LAGR				smax	smax		
	comp=E,892nm,0.4s						
LAGR				smax	smax		
	comp=N,307nm,0.2s						
GRPR	**Tuman**	**2.55 263**		*e*P	**Pn**	**17 24 50.7**	**-0.2**
GRPR				AMB	AMB	17 24 52.0	
	comp=N,110nm,0.3s						
GRPR				*e*S	**Sn**	**17 25 21.4**	**+0.6**
GRPR				A	A	17 25 27.0	
	comp=N,570nm,0.4s						
GRPR				A	A	17 25 27.0	
	comp=N,490nm,0.4s						
GRPR	**Tuman**	**2.55 263**		PN	**Pn**	**17 24 50.7**	**-0.2**
GRPR				*e*S	**Sn**	**17 25 21.4**	**+0.6**
GRPR				pmax	pmax		
	comp=Z,113nm,0.3s						
GRPR				smax	smax		
	comp=N,572nm,0.3s						
GRPR				smax	smax		
	comp=E,486nm,0.2s						
NEM2	**Nemuro 2**	**2.74 250**		P	**Pn**	**17 24 52.3**	**-1.2**
NEM2				*e*S	**Sn**	**17 25 22.8**	**-2.6**
NMR	**Nemuro--Hokkai**	**2.75 251**		*e*P	**Pn**	**17 24 52.8**	**-0.8**
NMR				*e*S	**Sn**	**17 25 25.2**	**-0.5**
NMR	**Nemuro--Hokkai**	**2.75 251**		*e*PN	**Pn**	**17 24 52.8**	**-0.8**
NMR				*e*S	**Sn**	**17 25 25.2**	**-0.5**
GLVR	**Golovnino**	**2.78 259**		*e*P	**Pn**	**17 24 54.0**	**0.0**
GLVR				AMB	AMB	17 24 57.0	
	comp=E,100nm,0.4s						
GLVR				*i* S	**Sn**	**17 25 26.3**	**-0.1**
GLVR				A	A	17 25 35.0	
	comp=E,810nm,0.4s						
GLVR				A	A	17 25 35.0	
	comp=E,350nm,0.4s						
GLVR	**Golovnino**	**2.78 259**		*e*PN	**Pn**	**17 24 54.0**	**0.0**
GLVR				*i* S	**Sn**	**17 25 26.3**	**-0.1**
GLVR				pmax	pmax		
	comp=Z,95nm,0.5s						
GLVR				smax	smax		
	comp=N,814nm,0.3s						
GLVR				smax	smax		
	comp=E,347nm,0.4s						
JNK	**Nakash**	**3.38 259**		P	**Pn**	**17 25 01.8**	**-0.5**
JNK				*e*S	**Sn**	**17 25 39.7**	**-1.6**
JAK	**Akkeshi**	**3.59 250**		P	**Pn**	**17 25 03.9**	**-1.2**
JAK				*e*S	**Sn**	**17 25 45.0**	**-1.4**
JTKR	**Abashiri--Toko**	**3.89 266**		P	**Pn**	**17 25 10.5**	**+1.3**
JAR	**Ashorobuto**	**4.13 257**		P	**Pn**	**17 25 13.0**	**+0.5**
JAR				*e*S	**Sn**	**17 25 58.7**	**-0.9**
JOB	**Onbets**	**4.21 252**		P	**Pn**	**17 25 13.7**	**+0.1**
JOB				*e*S	**Sn**	**17 26 00.3**	**-1.4**
JMP	**Maruseppu**	**4.28 268**		P	**Pn**	**17 25 15.1**	**+0.5**
JCH	**Churui**	**4.64 250**		P	**Pn**	**17 25 19.4**	**-0.2**
JKA	**Kamikawa-asahi**	**4.81 270**		*e*P	**Pn**	**17 25 23.8**	**+1.9**
ASAJ	**Asahikawa**	**4.81 270**		Pn	**Pn**	**17 25 23.8**	**+1.8**
	comp=E,0.4nm,0.3s,baz=168,slow=26,SNR=2.3						
ASAJ				Sn	**Sn**	**17 26 20.0**	**+3.5**
	baz=262,slow=19,SNR=1.2						
ASAJ				LR	LR	17 27 28.4	
	comp=E,41nm,18.5s,baz=188,slow=41						
JFR	**Furan**	**4.99 259**		*e*S	**Sn**	**17 26 22.7**	**+1.8**
ERM	**Erimo**	**5.05 245**		*i* PN	**Pn**	**17 25 26.0**	**+0.8**
JEM	**Erimo**	**5.05 245**		*e*S	**Sn**	**17 26 21.1**	**-1.2**
JNBK	**Urakawa-nobuka**	**5.19 249**		P	**Pn**	**17 25 26.3**	**-0.8**
JNBK				*e*S	**Sn**	**17 26 23.3**	**-2.6**
JBT2	**Biratori 2**	**5.27 255**		P	**Pn**	**17 25 28.5**	**+0.3**
YSS	**Yuzh-Sakhalins**	**5.27 302**		*e*P	**Pn**	**17 25 27.7**	**-0.5**
YSS				AMB	AMB	17 25 28.8	
	comp=E,10.0nm,0.3s						
YSS				*e*S	**Sn**	**17 26 26.7**	**-1.1**
YSS				A	A	17 26 28.4	
	comp=E,120nm,0.4s						
YSS				A	A	17 26 28.4	
	comp=E,80nm,0.4s						
JNB	**Noboribetsu**	**6.29 256**		P	**Pn**	**17 25 42.3**	**+0.1**
JKB	**Kayabe**	**6.52 251**		P	**Pn**	**17 25 44.3**	**-1.0**
JKB				*e*S	**Sn**	**17 26 53.9**	**-4.6**
JTH	**Tanohata**	**7.05 234**		*e*S	Sn	17 27 02.7	-9.0
SKR	**Severo-Kuril's**	**7.85 34**		*e*P	**Pn**	**17 26 02.2**	**-1.4**
SKR	**Severo-Kuril's**	**7.85 34**		*i* PN	**Pn**	**17 26 04.2**	**+0.6**
PEA0B	**Petropavlovsk-**	**10.38 29**		*i* PN	**Pn**	**17 26 38.6**	**+0.3**
PETK	**Petropavlovsk-**	**10.38 29**		Pn	**Pn**	**17 26 38.7**	**+0.5**
	comp=E,0.5nm,0.3s,baz=209,slow=15,SNR=17						
PETK				LR	LR	17 30 40.5	
	comp=E,45nm,19.1s,baz=62,slow=38						
MJA0	**Matsu Arr-Jizo**	**11.45 231**		*e*PN	Pn	17 27 05.4	+12
MJAR	**Matsushiro Arr**	**11.48 231**		Pn	**Pn**	**17 26 51.4**	**-1.9**
	comp=E,0.0nm,0.3s,baz=31,slow=13,SNR=2.3						
BILL	**Bilibino**	**25.38 15**		*e*P	**P**	**17 29 37.5**	**+1.8**
BILL	**Bilibino**	**25.38 15**		*e*P	**P**	**17 29 37.0**	**+1.3**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.6s						
H11N2	**WAKE ISLAND Hy**	**28.60 143**		T	T	18 00 52.1	
	baz=334,slow=75,SNR=66						
H11N1	**WAKE ISLAND Hy**	**28.60 143**		T	T	18 01 02.8	
	baz=334,slow=75,SNR=60						
H11N3	**WAKE ISLAND Hy**	**28.61 143**		T	T	18 00 58.4	
	baz=334,slow=75,SNR=48						
H11S1	**WAKE ISLAND Hy**	**29.60 145**		T	T	18 02 12.3	
	baz=335,slow=76,SNR=76						
H11S3	**WAKE ISLAND Hy**	**29.61 145**		T	T	18 02 10.7	
	baz=335,slow=76,SNR=58						
H11S2	**WAKE ISLAND Hy**	**29.62 145**		T	T	18 02 13.5	
	baz=335,slow=76,SNR=57						
ILAR	**Eielson Array**	**40.10 37**		P	**P**	**17 31 44.2**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=273,slow=7.1,SNR=1.8						
MKAR	**Makanchi Array**	**45.67 298**		P	**P**	**17 32 28.9**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=74,slow=7.7,SNR=2.5						
KURK	**Kurchatov**	**46.48 304**		*e*P	**P**	**17 32 36.2**	**+0.7**
KURK	**Kurchatov**	**46.48 304**		*i* P	**P**	**17 32 36.2**	**+0.7**
BRVK	**Borovoye**	**50.36 310**		*e*P	**P**	**17 33 06.9**	**+1.5**
BRVK	**Borovoye**	**50.36 310**		*i* P	**P**	**17 33 06.9**	**+1.5**
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.2s						
YKA	**Yellowknife Ar**	**54.45 35**		P	**P**	**17 33 35.4**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=295,slow=6.5,SNR=4.6						
WRA	**Warramunga Arr**	**65.41 195**		P	**P**	**17 34 51.1**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=17,slow=6.8,SNR=1.3						
OBN	**Obninsk**	**65.74 324**		*e*P	**P**	**17 34 52.0**	**-1.0**
OBN	**Obninsk**	**65.74 324**		*e*P	**P**	**17 34 52.0**	**-1.0**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ASAR	**Alice Springs**	**69.12 195**		P	**P**	**17 35 15.3**	**+0.6**
	comp=Z,0.6nm,0.8s,baz=12,slow=6.4,SNR=6.7						
TXAR	**Lajitas Array**	**81.04 58**		P	**P**	**17 36 23.2**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=305,slow=4.4,SNR=3.4						

IDC ***16*** *17:39:46.3±0.7, 24.99N×97.94E, h0km, mb3.9/16, mb1 4.0/17, mb1mx3.9/58, mbtmp3.9/17, ML4.2/1, MS3.7/4, Ms1 3.7/4, ms1mx3.2/41, Error ellipse: s-maj=33.4km s-min=12.5km az=59.0*
BJI ***16*** *17:39:47.9±0.0, 24.99N×97.74E, h11km, mB4.6/7, mb4.5/18, ML4.2/11, Ms4.2/15, Ms7 4.0/10*
NEIC ***16*** *17:39:48.1±1.5, 25.00N±0.09×97.86E±0.09, h10km±1km, mb4.4/25, Error ellipse: s-maj=16.1km s-min=11.5km az=213.0*
ISC 16 17:39:47.8±0.4, 24.98N±0.04×97.91E±0.05, h10km, n74, σ1§62/79, mb4.2/26, MS3.8/4, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOHI	**KOHIMA**	**3.51 283**		*ex*	**Pn**	**17 40 45.6**	**+2.9**
KMI	**Kunming**	**4.39 87**		Pg	**Pg**	**17 41 09.5**	**-2.5**
KMI				Sg	**Sg**	**17 42 09.0**	**+0.2**
KMI				smax	smax		
	comp=N,570nm,1.3s						
KMI				smax	smax		
	comp=E,430nm,1.2s						
KMI	**Kunming**	**4.39 87**		Pn	**Pn**	**17 40 54.6**	**-0.1**
SHL	**Shillong**	**5.48 277**		*ex*	**Pn**	**17 41 09.8**	**+0.1**
SHL				*e*P	**Pn**	**17 41 09.9**	**+0.1**
SHL	**Shillong**	**5.48 277**		Pn	**Pn**	**17 41 08.7**	**-1.1**
CHTO	**Chiang Mai**	**6.21 171**			**Pn**	**17 41 20.1**	**+0.4**
CMMT	**Chiang Mai**	**6.22 171**		P	**Pn**	**17 41 20.3**	**+0.6**
CMMT				S	**Sg**	**17 43 03.2**	**-4.3**
CM31	**Chiang Mai Arr**	**6.56 171**			**Pn**	**17 41 25.4**	**+0.8**
CMAR	**Chiang Mai Arr**	**6.56 171**		Pn	**Pn**	**17 41 24.9**	**+0.4**
	1.2nm,0.3s,baz=346,slow=12,SNR=30						
CMAR				Pg	**Pb**	**17 41 46.5**	**+4.3**
	1.5nm,0.3s,baz=348,slow=18,SNR=24						
CMAR				Lg	Lg	17 43 10.0	
	1.3nm,0.3s,baz=354,slow=33,SNR=5.7						
CMAR				LR	LR	17 44 22.8	
	comp=Z,261nm,18.9s,baz=338,slow=42						
CM15	**Chiang Mai Arr**	**6.57 172**		P	**Pn**	**17 41 24.9**	**+0.3**
CM09	**Chiang Mai Arr**	**6.59 171**		P	**Pn**	**17 41 25.2**	**+0.4**
CM02	**Chiang Mai Arr**	**6.59 171**		Pn	**Pn**	**17 41 25.3**	**+0.5**
CM01	**Chiang Mai Arr**	**6.60 171**		Pn	**Pn**	**17 41 25.5**	**+0.4**
CM01				S	**Sg**	**17 43 15.4**	**-4.6**
SLVN	**Son La**	**6.61 122**			**Pn**	**17 41 26.4**	**+1.3**
CM05	**Chiang Mai Arr**	**6.62 171**		P	**Pn**	**17 41 25.8**	**+0.5**
LAMP	**Lampang**	**6.63 166**		Pn	**Pn**	**17 41 24.8**	**-0.6**
UTTA	**Uttaradit**	**7.61 161**		Pn	**Pn**	**17 41 39.3**	**+0.4**
UTTA				S	**Sg**	**17 43 50.4**	**-1.9**
LSA	**Lhasa**	**7.62 310**		Pn	**Pn**	**17 41 40.6**	**+1.1**
LSA	**Lhasa**	**7.62 310**		Pn	**Pn**	**17 41 39.1**	**-0.4**
CD2	**Chengdu**	**7.85 40**		Pg	**Pg**	**17 42 16.5**	**-1.7**
CD2				Sg	**Sg**	**17 43 58.0**	**-1.8**
CD2				smax	smax		
	comp=N,70nm,0.9s						
CD2				smax	smax		
	comp=E,80nm,1.2s						
CD2				LR	LR		
	comp=N,1μm,7.2s						
CD2				LR	LR		
	comp=E,2μm,8.6s						
CD2				LR	LR		
	comp=Z,2μm,10.8s						
GYA	**Guiyang**	**8.04 78**		P	**Pn**	**17 41 48.3**	**+3.5**
GYA				S	**Sn**	**17 43 16.3**	**+0.5**
GYA				smax	smax		
	comp=Z,50nm,1.8s						
GYA				smax	smax		
	comp=Z,30nm,1.9s						
GYA				LR	LR		
	comp=Z,580nm,6.2s						
GYA				LR	LR		
	comp=Z,580nm,6.0s						
GYA				LR	LR		
	comp=Z,510nm,6.1s						
NONG	**Nongkai**	**8.44 144**		Pn	**Pn**	**17 41 52.0**	**+1.8**
LZH	**Lanzhou**	**12.19 23**		*e*P	**Pn**	**17 42 40.9**	**-0.8**
LZH				PP	**PnPn**	**17 42 51.1**	**+1.4**
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LZH				LR	LR		
	comp=Z,740nm,10.3s						
LZH				LR	LR		
	comp=Z,850nm,11.9s						
LZH				LR	LR		
	comp=Z,840nm,13.6s						
GTA	**Gaotai**	**14.47 6**		*e*P	**P**	**17 43 19.9**	**+0.2**
GTA				pP	Pn	17 43 24.9	+12
GTA				sP		17 43 28.3	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.4s						
GTA				pmax	pmax		
	comp=Z,31nm,4.7s						
GTA				LR	LR		
	comp=N,360nm,10.6s						
GTA				LR	LR		
	comp=E,900nm,13.2s						
GTA				LR	LR		
	comp=Z,400nm,9.8s						
SMLA	**Simla**	**19.29 293**		*ex*	**P**	**17 44 12.9**	**+0.1**
SMLA				*ex*	x	17 45 31.6	
WMQ	**Urumqi**	**20.56 339**		*e*P	Pn	17 44 30.1	+1.1
WMQ				pP	sP	17 44 33.5	+1.9
WMQ				S	**S**	**17 48 09.9**	**-6.8**
WMQ				SS	**SnSn**	**17 48 40.3**	**+4.6**
WMQ				pmax	pmax		
	comp=Z,17nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,130nm,4.5s						
WMQ				LR	LR		
	comp=Z,200nm,11.7s						
WMQ				LR	LR		
	comp=Z,190nm,13.7s						
NIL	**Nilore**	**23.12 298**		P	**P**	**17 44 54.9**	**+0.7**
NIL				IAmb	IAmb	17 45 19.5	
	comp=Z,15nm,1.1s						
KSH	**Kashi**	**23.45 313**		*e*P	**P**	**17 44 59.3**	**+1.7**
KSH				pmax	pmax		
	comp=Z,19nm,1.0s						
TARG	**Taragay, Kyrgy**	**23.59 320**		P	**P**	**17 44 59.4**	**+0.1**
TARG				IAmb	IAmb	17 45 03.8	
	comp=Z,16nm,1.3s						
SONM	**Songino Array**	**23.78 14**		P	**P**	**17 45 01.4**	**+0.7**
	comp=Z,3.1nm,0.9s,baz=201,slow=10,SNR=11						
SONM	**Songino Array**	**23.78 14**		P	**P**	**17 45 01.7**	**+1.0**
ULN	**Ulaanbaatar**	**23.96 15**		P	**P**	**17 45 03.2**	**+0.7**
KDJ	**Kajisay**	**24.20 320**		P	**P**	**17 45 05.9**	**+1.1**
TGY	**Tagaytay City**	**24.21 112**		LR	LR	17 54 08.0	
	comp=Z,489nm,21.1s,baz=1.0,slow=36						
MK31	**Makanchi Array**	**25.08 334**		P	**P**	**17 45 13.2**	**+0.6**
MKAR	**Makanchi Array**	**25.08 334**		P	**P**	**17 45 12.6**	**0.0**
	comp=Z,2.8nm,0.8s,baz=142,slow=9.4,SNR=30						
MKAR	**Makanchi Array**	**25.08 334**		P	**P**	**17 45 13.2**	**+0.7**
BOOM	**Boomskoye usch**	**25.15 319**		P	**P**	**17 45 14.4**	**+1.0**
BOOM				IAmb	IAmb	17 45 18.6	
	comp=Z,11nm,1.1s						
MAKZ	**Makanchi**	**25.22 334**		P	**P**	**17 45 14.7**	**+0.9**
MAKZ				IAmb	IAmb	17 45 18.9	
	comp=Z,11nm,1.2s						
AAK	**Ala-Archa**

ZALV	**Zalesovo Beam**	**30.54 345**	P	**P**	**17 46 01.8**	**+0.5**
	comp=Z,2.3nm,0.7s,baz=166,slow=9.7,SNR=12						
ZALV	**Zalesovo Beam**	**30.54 345**	P	**P**	**17 46 02.0**	**+0.7**
BVAR	**Borovoye Array**	**34.82 331**	P	**P**	**17 46 38.6**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=141,slow=9.6,SNR=8.7						
BRVK	**Borovoye**	**34.89 331**	P	**P**	**17 46 40.0**	**+0.7**
GEYT	**Alibeck**	**36.05 301**	P	**P**	**17 46 50.5**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=120,slow=8.7,SNR=4.2						
GEYT	**Alibeck**	**36.05 301**	P	**P**	**17 46 50.5**	**+1.0**
GYA0B	**ALIBECK ARRAY**	**36.05 301**	P	**P**	**17 46 50.6**	**+1.0**
GYA0B			IAmb	IAmb	17 46 52.6		
	comp=Z,4.4nm,0.9s						
ABKAR	**Akbulak array**	**38.18 319**	P	**P**	**17 47 07.4**	**0.0**
AKTO	**Aktyubinsk**	**39.81 320**	P	**P**	**17 47 21.0**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=128,slow=7.6,SNR=5.2						
FITZ	**Fitzroy Crossi**	**50.63 145**	P	**P**	**17 48 46.6**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=337,slow=7.7,SNR=1.2						
KLMR	**Klimovskoe**	**53.19 329**	*e*	**P**	**17 49 04.7**	**-1.2**
KLMR			AMP		17 49 10.0		
	comp=Z,25nm,1.6s						
BRTR	**Keskin Array B**	**55.16 302**	P	**P**	**17 49 20.1**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=115,slow=6.5,SNR=2.3						
WB0	**Warramunga Arr**	**56.91 138**	P	**P**	**17 49 33.3**	**-0.1**
WB0			IAmb	IAmb	17 49 33.7		
	comp=Z,8.1nm,1.1s						
WRA	**Warramunga Arr**	**57.01 138**	P	**P**	**17 49 33.7**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=325,slow=7.4,SNR=3.8						
WB2	**Warramunga Arr**	**57.02 138**	P	**P**	**17 49 34.4**	**+0.2**
WR0	**Warramunga Arr**	**57.15 138**	P	**P**	**17 49 35.4**	**+0.4**
AKASG	**Malin Array Be**	**57.73 316**	P	**P**	**17 49 38.7**	**-0.1**
	comp=Z,0.2nm,0.2s,baz=78,slow=7.0,SNR=2.1						
AKASG	**Malin Array Be**	**57.73 316**	IAmb	IAmb	17 49 44.5		
	comp=Z,0.7nm,0.7s						
ASAR	**Alice Springs**	**59.63 141**	P	**P**	**17 49 52.8**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=324,slow=6.7,SNR=11						
NWAO	**Narrogin (SRO)**	**60.46 161**	P	**P**	**17 49 59.6**	**+1.8**
IDI	**Anoyia**	**62.71 298**	LR	LR	18 21 44.9		
	comp=Z,53nm,19.2s,baz=7.5,slow=40						
GERES	**GERESS Array B**	**67.92 315**	P	**P**	**17 50 46.5**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=86,slow=5.6,SNR=6.1						
GERES	**GERESS Array B**	**67.92 315**	P	**P**	**17 50 46.7**	**-0.1**
STKA	**Stephens Creek**	**70.27 141**	P	**P**	**17 51 01.6**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=306,slow=7.9,SNR=3.3						
STKA	**Stephens Creek**	**70.27 141**	IAmb	IAmb	17 51 06.1		
	comp=Z,0.9nm,1.1s						
YKA	**Yellowknife Ar**	**89.04 14**	P	**P**	**17 52 41.6**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=332,slow=4.9,SNR=4.0						

NIED ***16*** *17:42:00,34.00N×139.80E,h110km,Mw5.3 Best double couple: M0 9.57000×10^16 NP1:φs195.00000°, δ76.00000°,λ56.00000°. NP2:φs85.00000°,δ37.00000°, λ156.00000°.*

KEA ***16*** *17:42:07.4±0.0,33.90N×141.30E,h96km,mB5.4/1*

BJI ***16*** *17:42:20.0±0.0,33.90N×139.60E,h129km,mB5.2/60, mb5.0/79*

MOS ***16*** *17:42:21.6±0.9,33.89N×139.60E,h136km,mb5.5/78, Error ellipse: s-maj=7.4km s-min=4.1km az=120.2*

BGR ***16*** *17:42:22.5±0.0,34.52N×140.51E,h33km,mb5.5*

NEIC ***16*** *17:42:22.5±1.6,33.87N±0.06×139.58E±0.10, h130km±4km,mb5.3/424,Error ellipse: s-maj=12.0km s-min=8.3km az=68.0*

IDC ***16*** *17:42:22.6±0.5,33.85N×139.56E,h126km±4km,mb4.9/48, mb1 5.0/50,mb1mx5.0/55,mbtmp5.3/50,MS4.0/26, Ms1 4.0/26,ms1mx3.9/35,Error ellipse: s-maj=8.5km s-min=6.4km az=90.0*

UNK ***16*** *17:42:23.9,33.99N×139.58E,h137km*

JMA ***16*** *17:42:23.2±0.1,34.00N×139.82E,h121km±1km,M5.3 Broadband fault plane solution: P waves. NP1: φs79.00000°,δ39.00000°,λ95.00000°. NP2:φs252.00000°, δ51.00000°,λ86.00000°. Principal axes: T Plg83.0000°, Azm138.0000°; N Plg3.0000°, Azm255.0000°; P Plg6.0000°, Azm345.0000°;*

JMA Felt III J1.

GCMT ***16*** *17:42:24.6±0.1,33.99N±0.01×139.72E±0.01, h131km,MW5.3/149,Moment Tensor Solution. s110,c170; s149,c283; Duration: 1ŝ2 Moment tensor: Scale 10^17Nm; Mrr0.49±.02; Mθθ-0.29±.02; Mφφ-0.19±.02; Mrθ-0.27±.01; Mθφ-0.97±.02; Mφr-0.81±.01; Best double couple: M0 1.32000×10^17 NP1:φs88.00000°,δ42.00000°, λ160.00000°. NP2:φs193.00000°,δ77.00000°,λ50.00000°. Principal axes: T 1.1280, Plg44.0000°, Azm64.0000°; N 0.3840, Plg39.0000°, Azm204.0000°; P -1.5120, Plg21.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 17:42:22.3±0.3,33.94N±0.02×139.66E±0.03,h131km±2km, h131km:pP-P,n1462,σ1ŝ48/1624,mb5.3/393,63C-191D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JMKN	**Mikurajimanish**	**0.07**	**227**	⇑P			**Pn**	**17 42 39.8**	**-0.3**
JMKN				S			**Sn**	**17 42 52.8**	**-0.6**
JKO	**Kozu shima**	**0.49**	**300**	⇑P			**Pn**	**17 42 41.9**	**+0.5**
JNIO	**Niijimaoohara**	**0.52**	**323**	P			**Pn**	**17 42 42.0**	**+0.4**
JSKK	**Shikinejimakit**	**0.54**	**317**	⇑P			**Pn**	**17 42 42.1**	**+0.4**
JTHY	**Toshimahigashi**	**0.66**	**333**	P			**Pn**	**17 42 42.8**	**+0.3**
JIM2	**Oshima 3**	**0.80**	**347**	⇑P			**Pn**	**17 42 43.5**	**-0.1**
JIM2				S			**Sn**	**17 42 59.3**	**-0.4**
JHJ	**Hachijo jima 2**	**0.83**	**172**	P			**Pn**	**17 42 44.1**	**+0.3**
	10μm,0.3s,baz=61,slow=21,SNR=7289								
JHJ				S			**Sn**	**17 42 59.1**	**-0.9**
	12μm,0.3s,baz=105,slow=23,SNR=23								
JHJ2	**Mitsune**	**0.84**	**171**	⇓P			**Pn**	**17 42 44.4**	**+0.5**
JHJ2				S			**Sn**	**17 43 00.9**	**+0.7**
JHJ2	**Mitsune**	**0.84**	**171**	Pn			**Pn**	**17 42 44.2**	**+0.3**
JIZS	**Izushimoda**	**1.01**	**321**	⇑P			**Pn**	**17 42 46.0**	**+0.7**
JIZS				S			**Sn**	**17 43 03.1**	**+0.3**
BSO3	**Boso 3**	**1.11**	**39**	⇑P			**Pn**	**17 42 45.8**	**-0.3**
JHTM	**Izuhatsuma**	**1.15**	**332**	⇑P			**Pn**	**17 42 47.4**	**+0.7**
AJI	**Ajiro2**	**1.20**	**337**	⇑P			**Pn**	**17 42 47.6**	**+0.4**
JKUC	**kamogawauchiur**	**1.30**	**20**	⇑P			**Pn**	**17 42 47.9**	**-0.3**
BSO1	**Boso 1**	**1.31**	**57**	P			**Pn**	**17 42 47.2**	**-0.5**
JOD2	**Odawara 2**	**1.40**	**341**	⇓P			**Pn**	**17 42 49.7**	**+0.3**
JOD2				S			**Sn**	**17 43 10.6**	**+0.6**
JAOM	**Aogashimamukai**	**1.48**	**176**	⇓P			**Pn**	**17 42 51.5**	**+1.2**
JFNN	**Fujinakano**	**1.48**	**328**	⇓P			**Pn**	**17 42 51.3**	**+1.0**
JFNN				S			**Sn**	**17 43 12.7**	**+1.1**
TK04	**Tokai 4**	**1.54**	**287**	⇑P			**Pn**	**17 42 52.7**	**+1.9**
TK04				S			**Sn**	**17 43 15.9**	**+3.4**
TK02	**Tokai 2**	**1.58**	**271**	⇑P			**Pn**	**17 42 53.1**	**+2.0**
SHZ3	**Shizuoka 3**	**1.64**	**314**	P			**Pn**	**17 42 53.6**	**+1.5**
SHZ3				S			**Sn**	**17 43 17.2**	**+2.4**
JSGW	**Sagamiharawaka**	**1.70**	**348**	⇓P			**Pn**	**17 42 52.8**	**+0.1**
JYN	**Shimob**	**1.80**	**330**	⇓P			**Pn**	**17 42 55.0**	**+1.0**
JYN				S			**Sn**	**17 43 19.4**	**+1.1**
HMMJ	**Hamamatsu 2**	**1.84**	**300**	⇓P			**Pn**	**17 42 55.7**	**+1.3**
JYZW	**Yoshizawa**	**1.90**	**304**	P			**Pn**	**17 42 56.4**	**+1.3**
JSSY	**Shinshiroyabe**	**2.02**	**299**	⇓P			**Pn**	**17 42 57.9**	**+1.3**
JSSY				S			**Sn**	**17 43 24.6**	**+1.8**
JNY	**Yasuok**	**2.04**	**314**	⇓P			**Pn**	**17 42 58.5**	**+1.6**
JRY	**Ryogami san**	**2.16**	**344**	⇓P			**Pn**	**17 42 59.1**	**+0.8**
JAA	**Atsumi**	**2.19**	**289**	P			**Pn**	**17 43 00.2**	**+1.6**
JNT	**Takato**	**2.30**	**328**	⇓P			**Pn**	**17 43 01.7**	**+1.6**
JNT				S			**Sn**	**17 43 31.3**	**+2.2**
JAO	**Obara**	**2.38**	**304**	⇓P			**Pn**	**17 43 02.5**	**+1.5**
JAG	**Ashikaga**	**2.48**	**356**	⇓P			**Pn**	**17 43 01.6**	**-0.7**
JIE	**Ise**	**2.48**	**281**	⇑P			**Pn**	**17 43 03.8**	**+1.5**
JGF	**Kuroka**	**2.51**	**312**	⇓P			**Pn**	**17 43 04.1**	**+1.4**
INU	**Inuyama**	**2.59**	**304**				**Pn**	**17 43 04.8**	**+1.2**
JICN	**Ichinomiyachia**	**2.69**	**301**	P			**Pn**	**17 43 06.6**	**+1.7**
JGK	**Kuni**	**2.74**	**343**	⇓P			**Pn**	**17 43 06.4**	**+0.7**
JHO	**Hitachi**	**2.77**	**15**	⇓P			**Pn**	**17 43 04.0**	**-1.9**
JNG	**Nsakai**	**2.77**	**333**	⇓P			**Pn**	**17 43 07.2**	**+1.1**
TSUJ	**Tsu 2**	**2.79**	**287**	⇓P			**Pn**	**17 43 07.9**	**+1.8**
JKN2	**Miekihoku**	**2.82**	**277**	⇑P			**Pn**	**17 43 08.3**	**+1.7**
JKT	**Katashina**	**2.84**	**353**	⇓P			**Pn**	**17 43 06.1**	**-0.8**
MJAR	**Matsushiro Arr**	**2.85**	**336**	P			**Pn**	**17 43 07.3**	**+0.3**
	101nm,0.3s,baz=136,slow=16,SNR=4576								
MJAR				S			**Sn**	**17 43 40.4**	**-1.2**
	72nm,0.3s,baz=146,slow=21,SNR=5.3								
MJAR	**Matsushiro Arr**	**2.85**	**336**				**Pn**	**17 43 05.5**	**-1.5**
MAJO	**Matsushiro**	**2.85**	**336**	P			**Pn**	**17 43 07.8**	**+0.8**
MAJO	**Matsushiro**	**2.85**	**336**				**Pn**	**17 43 07.8**	**+0.8**
MAT	**Matsushiro**	**2.85**	**336**	P			**Pn**	**17 43 07.8**	**+0.7**
MAT				S			**Sn**	**17 43 43.0**	**+1.4**
MAT	**Matsushiro**	**2.85**	**336**	P			**Pn**	**17 43 07.9**	**+0.8**
MJB9	**Matsu-Tunnel**	**2.86**	**336**				**Pn**	**17 43 07.8**	**+0.7**
JYTA	**Yamagatataniai**	**2.91**	**305**	⇓P			**Pn**	**17 43 09.3**	**+1.5**
JEG	**Eigenji**	**2.95**	**295**	⇓P			**Pn**	**17 43 10.3**	**+2.0**
JGN	**Niukaw**	**2.98**	**321**	⇓P			**Pn**	**17 43 10.4**	**+1.7**
JMMH	**Miemihama**	**3.02**	**269**	⇑P			**Pn**	**17 43 10.9**	**+1.7**
JSB	**Shiboa**	**3.03**	**4**	⇓P			**Pn**	**17 43 08.0**	**-1.3**
JFFD	**Fukushimafurud**	**3.23**	**13**	⇓P			**Pn**	**17 43 10.0**	**-1.9**
JTT	**Ttatey**	**3.27**	**325**	⇓P			**Pn**	**17 43 14.1**	**+1.7**
ONAJ	**Iwakimizuishiy**	**3.29**	**16**	⇓P			**Pn**	**17 43 10.4**	**-2.3**
ONAJ				S			**Sn**	**17 43 47.1**	**-4.6**
JHK	**Hiroka**	**3.34**	**351**	⇓P			**Pn**	**17 43 12.8**	**-0.6**
JHE	**Heguri**	**3.36**	**283**	⇓P			**Pn**	**17 43 15.4**	**+1.7**
JJN	**Nakama**	**3.38**	**339**	⇓P			**Pn**	**17 43 14.8**	**+0.9**
JFM	**Mihama**	**3.41**	**299**	⇓P			**Pn**	**17 43 15.8**	**+1.5**
JFY	**Yanaizu**	**3.46**	**1**	⇓P			**Pn**	**17 43 13.8**	**-1.1**
JWM	**Minabe**	**3.58**	**270**	P			**Pn**	**17 43 18.7**	**+2.2**
JKG	**Kaga**	**3.58**	**311**	⇓P			**Pn**	**17 43 18.5**	**+1.9**
JIZZ	**Izumozaki**	**3.66**	**348**	⇓P			**Pn**	**17 43 17.8**	**+0.2**
JWT	**Wachi**	**3.75**	**292**	⇓P			**Pn**	**17 43 20.8**	**+2.0**
JJH	**Hakui**	**3.79**	**323**	⇓P			**Pn**	**17 43 20.7**	**+1.4**
JNS	**Sasagawa**	**3.88**	**356**	⇓P			**Pn**	**17 43 19.6**	**-0.8**
JMST	**Minamisoumatoc**	**3.91**	**15**	P			**Pn**	**17 43 18.6**	**-2.2**
JSZ	**Suzu**	**3.96**	**333**	⇓P			**Pn**	**17 43 22.0**	**+0.4**
JMM	**Marumori**	**4.02**	**13**	⇓P			**Pn**	**17 43 20.4**	**-2.0**
JKY	**Yasaka**	**4.11**	**295**	⇓P			**Pn**	**17 43 25.2**	**+1.7**
JKS	**Kasai**	**4.11**	**286**	⇓P			**Pn**	**17 43 25.6**	**+2.1**
JSD	**Sado**	**4.24**	**345**	⇓P			**Pn**	**17 43 24.4**	**-0.8**
JAI	**Aioi**	**4.33**	**269**	⇓P			**Pn**	**17 43 28.6**	**+2.1**
JKSM	**Kasumi**	**4.42**	**293**	⇓P			**Pn**	**17 43 29.4**	**+1.7**
JHG	**Hegura jima**	**4.49**	**331**	⇓P			**Pn**	**17 43 29.2**	**+0.7**
JIKH	**Ishinomakikobu**	**4.60**	**18**	⇓P			**Pn**	**17 43 27.3**	**-2.7**
MRT2	**Murotomisaki 2**	**4.63**	**265**	⇓P			**Pn**	**17 43 31.9**	**+1.4**
JAD	**Aida**	**4.64**	**284**	⇓P			**Pn**	**17 43 32.7**	**+2.1**
JYA	**Atsumi**	**4.64**	**1**	⇓P			**Pn**	**17 43 29.6**	**-1.0**
JIO	**Ouri**	**4.71**	**16**	⇓P			**Pn**	**17 43 28.8**	**-2.6**
JJS	**Sakaide**	**4.76**	**277**	⇓P			**Pn**	**17 43 34.1**	**+1.8**
JMN	**Monobe**	**4.81**	**269**	⇓P			**Pn**	**17 43 34.9**	**+2.0**
JYK	**Kaneyama**	**5.00**	**6**	⇓P			**Pn**	**17 43 34.0**	**-1.4**
JKR	**Kurayoshi**	**5.02**	**288**	⇓P			**Pn**	**17 43 38.1**	**+2.5**
JTB	**Tobi-shima**	**5.24**	**359**	⇓P			**Pn**	**17 43 37.4**	**-1.2**
OFUJ	**Ofunato**	**5.38**	**17**	⇓P			**Pn**	**17 43 37.6**	**-2.8**
JJG	**Jouge**	**5.43**	**279**	⇓P			**Pn**	**17 43 43.4**	**+2.3**
JET	**Tanbara**	**5.50**	**270**	⇓P			**Pn**	**17 43 44.1**	**+2.0**
JRG	**Rokugo**	**5.50**	**8**	⇓P			**Pn**	**17 43 40.5**	**-1.6**
JHS	**Saijyo**	**5.50**	**283**	⇓P			**Pn**	**17 43 44.6**	**+2.4**
JYW	**Yuwa**	**5.61**	**4**	⇓P			**Pn**	**17 43 42.5**	**-1.0**
JOM	**Ohasama**	**5.67**	**13**	⇓P			**Pn**	**17 43 42.0**	**-2.4**
JOG3	**Oga3**	**5.98**	**356**	⇓P			**Pn**	**17 43 46.8**	**-1.8**
JNA	**Nagahama**	**5.99**	**268**	⇓P			**Pn**	**17 43 50.8**	**+2.1**
JKZ	**Kuzumaki**	**6.18**	**12**	⇓P			**Pn**	**17 43 48.6**	**-2.6**
JTH	**Tanohata**	**6.24**	**16**	⇓P			**Pn**	**17 43 49.1**	**-2.9**
JAH	**Hinai**	**6.29**	**7**	⇓P			**Pn**	**17 43 50.7**	**-1.9**
JNTW	**Noshirotokiwa**	**6.33**	**4**	⇓P			**Pn**	**17 43 51.7**	**-1.5**
JHIK	**Hikimi**	**6.43**	**277**	⇓P			**Pn**	**17 43 56.8**	**+2.2**
JKD	**Kudamatsu**	**6.46**	**273**	⇓P			**Pn**	**17 43 57.6**	**+2.5**
JIW	**Iwasaki**	**6.64**	**2**	⇓P			**Pn**	**17 43 55.7**	**-1.8**
JKI	**Kunimi**	**6.74**	**270**	⇓P			**Pn**	**17 44 01.4**	**+2.6**
JBEP	**Beppuamama**	**6.91**	**267**	P			**Pn**	**17 44 04.0**	**+3.0**
JHGM	**Hagimishima**	**7.09**	**279**	P			**Pn**	**17 44 05.9**	**+2.4**
JCJ	**Chichijima**	**7.16**	**162**	Pn			**Pn**	**17 44 01.2**	**-3.4**
JNU	**Nakatsue**	**7.37**	**266**	P			**Pn**	**17 44 09.7**	**+2.3**
	14nm,0.3s,baz=74,slow=3.6,SNR=153								
JNU				S			**Sn**	**17 45 31.6**	**+2.0**
	baz=168,slow=22,SNR=4.6								
JNU	**Nakatsue**	**7.37**	**266**	Pn			**Pn**	**17 44 09.9**	**+2.5**
JFA	**Akaike**	**7.38**	**271**	P			**Pn**	**17 44 09.4**	**+2.1**
JTZ	**Takazaki**	**7.48**	**257**	P			**Pn**	**17 44 12.0**	**+3.2**
JFI	**Itaya**	**7.74**	**269**	P			**Pn**	**17 44 14.8**	**+2.5**
NGSJ	**Nagasakinomoza**	**8.36**	**264**	P			**Pn**	**17 44 23.0**	**+2.5**
ERM	**Erimo**	**8.52**	**18**	*ce*P			**Pn**	**17 44 18.8**	**-3.9**
ERM					pmax	pmax			
	comp=Z,268nm,0.7s								
ERM	**Erimo**	**8.52**	**18**	Pn			**Pn**	**17 44 18.7**	**-3.9**
KSRS	**Korea Array**	**10.16**	**294**	P			**Pn**	**17 44 46.8**	**+2.0**
	comp=Z,3.6nm,0.3s,baz=109,slow=14,SNR=203								
KSRS				PcP			**PcP**	**17 50 43.0**	**+1.7**
	comp=Z,0.4nm,0.3s,baz=135,slow=0.8,SNR=12								
KSRS				ScP			**ScP**	**17 54 01.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=112,slow=0.9,SNR=14								
KSAR	**Wonju Array Be**	**10.19**	**293**	P			**Pn**	**17 44 46.2**	**+1.1**
KSAR	**Wonju Array Be**	**10.19**	**293**	Pn			**Pn**	**17 44 46.2**	**+1.1**
KS19	**Wonju Array Si**	**10.22**	**294**				**Pn**	**17 44 47.7**	**+2.2**
TJN	**Taejon**	**10.35**	**287**	*d*	iP		**Pn**	**17 44 50.3**	**+3.0**
ASAJ	**Asahikawa**	**10.41**	**12**	P			**Pn**	17 44 43.0	-5.1
	comp=Z,86nm,0.3s,baz=233,slow=10,SNR=271								
ASAJ				S			Sn	17 46 31.3	-12
	comp=Z,17nm,0.3s,baz=94,slow=30,SNR=7.4								
ASAJ				LR			LR	17 50 01.3	
	comp=Z,485nm,19.1s,baz=186,slow=44								
ASAJ	**Asahikawa**	**10.41**	**12**	P			Pn	17 44 43.0	-5.1
JKA	**Kamikawa-asahi**	**10.41**	**12**				Pn	17 44 43.0	-5.1
JKA							Sn	17 46 31.3	-12
JKA	**Kamikawa-asahi**	**10.41**	**12**				Pn	17 44 43.2	-4.8
NMR	**Nemuro--Hokkai**	**10.54**	**25**	⇑	iP		Pn	17 44 44.8	-4.9
JKDJ	**Kitadaitoujima**	**10.76**	**224**	P			Pn	17 44 59.6	+6.7
GLVR	**Golovnino**	**10.79**	**23**	*d*	iP		**Pn**	**17 44 49.5**	**-3.6**
GLVR					pmax	pmax			
	comp=Z,796nm,0.5s								
GLVR					pmax	pmax			
	comp=N,100nm,0.4s								
GLVR					pmax	pmax			
	comp=E,167nm,0.4s								
GLVR					pmax	pmax			
	comp=Z,990nm,1.3s								
MSHR	**Mys Shultsa**	**10.90**	**325**	*ce*P			**Pn**	**17 44 53.6**	**-1.0**
MSHR					pmax	pmax			
	comp=Z,48nm,1.7s								
VLA	**Vladivostok**	**10.99**	**329**	*d*	iP		**Pn**	**17 44 54.7**	**-1.1**
VLA					pmax	pmax			
	comp=Z,24nm,0.8s								
CHJN	**Chongjin**	**11.05**	**318**	P			**Pn**	**17 44 57.5**	**+0.9**
GRPR	**Tuman**	**11.10**	**24**	*d*	iP		**Pn**	**17 44 53.1**	**-4.2**
GRPR					pmax	pmax			
	comp=Z,629nm,0.3s								
GRPR					pmax	pmax			
	comp=E,104nm,0.1s								
GRPR					pmax	pmax			
	comp=N,395nm,0.4s								
WOSN	**Wonsan**	**11.13**	**301**	P			**Pn**	**17 45 00.0**	**+2.4**
INCN	**Inchon**	**11.16**	**292**	P			**Pn**	**17 45 00.0**	**+1.9**
INCN	**Inchon**	**11.16**	**292**	Pn			**Pn**	**17 45 00.0**	**+1.9**
LAGR	**Lagunnoye**	**11.16**	**23**	*d*	iP		**Pn**	**17 44 54.2**	**-3.8**
LAGR					pmax	pmax			
	comp=Z,1μm,1.0s								
LAGR					pmax	pmax			
	comp=N,513nm,0.4s								
LAGR					pmax	pmax			
	comp=E,187nm,0.4s								
LAGR					pmax	pmax			
	comp=Z,790nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**11.17**	**24**	*d*	iP		**Pn**	**17 44 54.5**	**-3.6**
TEY	**Ternei**	**11.33**	**349**	⇑	*e*P		**Pn**	**17 44 57.8**	**-2.4**
TEY					*e*S		**Sn**	**17 47 00.1**	**-4.8**
TEY					pmax	pmax			
	comp=E,10.0nm,1.7s								
TEY					pmax	pmax			
	comp=N,30nm,1.1s								
TEY					pmax	pmax			
	comp=Z,30nm,0.8s								
HHU	**Hamhung**	**11.39**	**305**	P			**Pn**	**17 45 02.2**	**+1.1**
USA0B	**Ussuriysk Arra**	**11.84**	**332**	*d*	iP		**Pn**	**17 45 05.4**	**-1.6**
USA0B	**Ussuriysk Arra**	**11.84**	**332**	Pn			**Pn**	**17 45 05.5**	**-1.6**
USRK	**Ussuriysk Ar.**	**11.84**	**332**	P			**Pn**	**17 45 05.6**	**-1.4**
	baz=145,slow=13,SNR=21								
USRK				LR			LR	17 49 31.6	
	comp=Z,537nm,19.3s,baz=141,slow=36								
USRK	**Ussuriysk Ar.**	**11.84**	**332**	P			**Pn**	**17 45 05.2**	**-1.8**
USRK	**Ussuriysk Ar.**	**11.84**	**332**	Pn			**Pn**	**17 45 05.2**	**-1.8**
HJU	**Haeju**	**12.00**	**294**	P			**Pn**	**17 45 11.8**	**+2.7**
JOW	**Kunigami**	**12.11**	**237**	P			**Pn**	**17 45 13.3**	**+2.7**
	comp=Z,0.4nm,0.3s,baz=86,slow=16,SNR=9.1								
JOW	**Kunigami**	**12.11**	**237**				**P**	**17 45 15.0**	**-2.7**
PYAG	**Pyongyang**	**12.29**	**299**	P			**Pn**	**17 45 16.0**	**+3.2**
PYAG				pP			P	17 45 26.0	+6.4
PYAG				PP				17 45 30.0	
PYAG				sP				17 45 41.0	
PYAG				S			**S**	**17 47 44.0**	**-2.9**
PYAG				sS			Sn	17 48 04.0	+36
KUR	**Kuril'sk**	**12.92**	**27**	*d*	iP		**Pn**	**17 45 19.0**	**-2.0**
KUR					pmax	pmax			
	comp=N,54nm,0.6s								
KUR					pmax	pmax			
	comp=Z,312nm,0.6s								
KUR					pmax	pmax			
	comp=E,48nm,0.4s								
KUR					pmax	pmax			
	comp=Z,862nm,3.8s								
JAGN	**Aguni-jima**	**12.98**	**239**	P			**P**	**17 45 27.4**	**-0.1**
MDJ	**Mudanjiang**	**13.19**	**327**	P			**Pn**	**17 45 23.3**	**-1.2**
MDJ				S			**Sn**	**17 47 49.8**	**-0.2**
MDJ				pmax	pmax				
	comp=Z,14nm,0.8s								
MDJ					pmax	pmax			
	comp=Z,710nm,6.5s								
MDJ					LR	LR			
	comp=Z,2μm,12.9s								
MDJ					LR	LR			
	comp=Z,1μm,13.9s								
MDJ					LR	LR			
	comp=Z,3μm,16.3s								
MDJ	**Mudanjiang**	**13.19**	**327**				**Pn**	**17 45 22.4**	**-2.2**
YSS	**Yuzh-Sakhalins**	**13.21**	**9**	⇓	*i*P		**Pn**	**17 45 20.5**	**-4.2**
YSS					pmax	pmax			
	comp=Z,160nm,0.6s								
YSS					MLR	MLR			
	comp=N,800nm,16.0s								
YSS					MLR	MLR			
	comp=Z,900nm,16.0s								
YSS	**Yuzh-Sakhalins**	**13.21**	**9**	Pn			**Pn**	**17 45 20.8**	**-3.9**
JKE	**Kume jima 2**	**13.47**	**239**	P			**P**	**17 45 33.7**	**+0.8**
SUJ	**Sinuiju**	**13.58**	**301**	P			**Pn**	**17 45 30.9**	**+1.4**
CN2	**Changchun**	**14.79**	**316**	*e*P			**Pn**	**17 45 44.4**	**-0.5**
CN2					pmax	pmax			
	comp=Z,30nm,0.9s								
SNY	**Shenyang**	**14.92**	**307**	⇓	P		**Pn**	**17 45 46.8**	**+0.3**
SNY					S		**Sn**	**17 48 30.5**	**-1.2**
SNY					pmax	pmax			
	comp=Z,54nm,1.6s								
SNY					pmax	pmax			
	comp=Z,1μm,12.0s								
SNY					LR	LR			
	comp=Z,890nm,14.1s								
SNY					LR	LR			
	comp=Z,940nm,12.0s								
SNY					LR	LR			
	comp=Z,1μm,15.5s								
UGL	**Uglegorsk**	**15.23**	**6**	*e*P			**P**	**17 45 51.7**	**-0.5**
UGL					pmax	pmax			
	comp=Z,177nm,0.6s								
UGL					pmax	pmax			
	comp=Z,1μm,2.5s								
DL2	**Dalian**	**15.33**	**294**	P			**P**	**17 45

HIA IAmb IAmb 17 47 01.4
comp=Z,61nm,0.8s
WHN Wuhan 21.65 268 P **P** **17 47 02.8 +0.4**
WHN pP **pwP** **17 47 28.0 -0.9**
WHN S **S** **17 50 52.3 -1.7**
WHN pmax pmax
comp=Z,190nm,0.9s
WHN LR LR
comp=Z,3μm,14.9s
WHN LR LR
comp=Z,2μm,13.5s
WHN LR LR
comp=Z,2μm,12.1s
ZEA Zeya 21.66 340 *e*P **P** **17 47 00.5 -1.7**
ZEA *e*S **S** **17 50 48.0 -5.7**
ZEA pmax pmax
comp=N,1μm,2.0s
ZEA pmax pmax
comp=E,300nm,2.0s
ZEA pmax pmax
comp=Z,2μm,2.0s
ZEA pmax pmax
comp=E,210nm,0.8s
ZEA pmax pmax
comp=N,1μm,1.4s
ZEA pmax pmax
comp=Z,1μm,1.2s
ZEA smax smax
comp=N,2μm,11.0s
ZEA MLR MLR
comp=Z,600nm,13.0s
ZEA MLR MLR
comp=N,500nm,15.0s
TIY Taiyuan 22.36 288 *e*P **P** **17 47 06.8 -2.9**
TIY PP **PnPn** **17 47 40.3 -0.1**
TIY pmax pmax
comp=N,240nm,7.4s
TIY LR LR
comp=N,320nm,8.4s
TIY LR LR
comp=N,740nm,12.3s
TIY LR LR
comp=N,810nm,15.6s
PEA0B Petropavlovsk- 23.08 28*c i*P **P** **17 47 17.3 +1.0**
PEA0B Petropavlovsk- 23.08 28 P **P** **17 47 16.9 +0.6**
PEA0B IAmb IAmb 17 47 19.8
comp=Z,107nm,1.1s
PETK Petropavlovsk- 23.08 28 P **P** **17 47 17.1 +0.8**
comp=Z,38nm,0.8s,baz=210,slow=6.8,SNR=65
PETK ScP **ScP** **17 54 27.5 +0.7**
comp=Z,4.4nm,1.0s,baz=225,slow=3.3,SNR=4.5
PETK LR LR 17 55 52.7
comp=Z,320nm,21.1s,baz=222,slow=35
PETK Petropavlovsk- 23.08 28 P **P** **17 47 16.6 +0.2**
PET Petropavlovsk 23.40 30α *i*P **P** **17 47 20.3 +1.1**
PET *e**PP **pP** **17 47 48.2 +3.3**
PET *e**SP **sP** **17 48 04.1 +3.0**
PET *e* 17 51 05.5
PET *e*S **S** **17 51 17.6 -4.7**
PET *e**SS **sS** **17 52 06.0 -2.7**
PET pmax pmax
comp=Z,132nm,1.3s
PET pmax pmax
comp=Z,100nm,12.3s
PET MLR MLR
comp=Z,400nm,19.0s
PET MLR MLR
comp=Z,400nm,15.0s
PET Petropavlovsk 23.40 30 P **P** **17 47 19.2 -0.1**
PET IAmb IAmb 17 47 22.2
comp=Z,161nm,1.2s
BTO Baotou 24.43 294 *e*P **P** **17 47 29.3 +0.5**
XAN Xi'an 25.44 279 P **P** **17 47 36.6 -1.4**
XAN S **S** **17 51 51.0 -4.3**
XAN pmax pmax
comp=Z,18nm,0.8s
XAN pmax pmax
comp=Z,860nm,11.6s
XAN LR LR
comp=Z,740nm,13.1s
XAN LR LR
comp=Z,1μm,13.0s
XAN LR LR
comp=Z,1μm,11.8s
XAN Xi'an 25.44 279 P **P** **17 47 36.2 -1.8**
XAN pmax pmax
comp=Z,21nm,0.9s
XAN Xi'an 25.44 279 P **P** **17 47 36.2 -1.8**
ENH Enshi 25.77 270 P **P** **17 47 39.0 -2.0**
CIT Chita 26.07 322 *e*P **P** **17 47 44.5 +1.0**
CIT *e* 17 48 14.3
CIT pmax pmax
comp=Z,425nm,1.7s
MA2 Magadan 26.68 13*c e*P **P** **17 47 49.3 +0.5**
MA2 pmax pmax
comp=Z,53nm,1.0s
MA2 Magadan 26.68 13 P **P** **17 47 49.5 +0.8**
MA2 IAmb IAmb 17 47 56.3
comp=Z,52nm,0.9s
H11N2 WAKE ISLAND Hy 28.02 113 T T 18 17 09.1
baz=305,slow=74
H11N1 WAKE ISLAND Hy 28.03 113 T T 18 17 23.4
baz=305,slow=74
H11N3 WAKE ISLAND Hy 28.04 113 T T 18 17 24.3
baz=305
ULN Ulaanbaatar 28.06 310*d i*P **P** **17 48 02.3 +0.8**
ULN pmax pmax
comp=Z,120nm,0.9s
ULN Ulaanbaatar 28.06 310 P **P** **17 48 02.2 +0.7**
SONM Songino Array 28.47 309 P **P** **17 48 05.9 +0.8**
comp=Z,69nm,0.9s,baz=116,slow=9.0,SNR=193
SONM PcP **PcP** **17 51 15.2 +1.5**
comp=Z,3.6nm,0.6s,baz=111,slow=2.6,SNR=5.3
SONM ScP **ScP** **17 54 43.4 +0.7**
comp=Z,16nm,1.1s,baz=135,slow=3.1,SNR=23
SONM LR LR 17 58 59.1
comp=Z,552nm,20.5s,baz=105,slow=35
SONM Songino Array 28.47 309 P **P** **17 48 05.2 +0.1**
SONM pmax pmax
comp=Z,74nm,1.0s
SONM Songino Array 28.47 309 P **P** **17 48 05.2 +0.1**
H11S3 WAKE ISLAND Hy 28.60 116 T T 18 18 03.9
baz=308,slow=76,SNR=77
H11S1 WAKE ISLAND Hy 28.60 116 T T 18 17 56.1
baz=308,slow=76,SNR=14
H11S2 WAKE ISLAND Hy 28.62 116 T T 18 18 00.2
baz=308,slow=76,SNR=81
YAK Yakutsk 28.82 350*d i*P **P** **17 48 08.3 +0.5**
YAK *e**PP **pP** **17 48 38.5 +3.0**
YAK *e* 17 49 10.6
YAK *e* 17 51 15.1
YAK *e*S **S** **17 52 48.1 +0.3**
YAK *e**SS **sS** **17 53 40.1 +3.4**
YAK *e* 17 58 34.3
YAK pmax pmax
comp=Z,116nm,1.3s
YAK pmax pmax
comp=N,128nm,1.3s
YAK pmax pmax
comp=E,41nm,1.4s
YAK pmax pmax
comp=Z,59nm,1.4s
YAK pmax pmax
comp=N,59nm,1.5s
YAK pmax pmax
comp=E,18nm,1.3s
YAK smax smax
comp=E,62nm,2.7s
YAK smax smax
comp=N,268nm,2.6s
YAK Yakutsk 28.82 350 P **P** **17 48 07.5 -0.3**
LZH Lanzhou 29.31 284 ⇑P **P** **17 48 11.4 -1.3**
LZH PP **PnPn** **17 49 15.3 +2.7**
LZH S **S** **17 52 52.3 -4.1**
LZH sS sS 17 53 42.3 -3.0
LZH pmax pmax
comp=N,29nm,1.0s
LZH pmax pmax
comp=N,290nm,4.9s
LZH LR LR
comp=N,1μm,12.1s
LZH LR LR
comp=N,1μm,12.0s
LZH LR LR
comp=N,1μm,15.2s
GYA Guiyang 29.38 264 ⇑*i*P **P** **17 48 12.3 -1.1**
GYA S **S** **17 52 55.5 -2.1**
GYA pmax pmax
comp=N,20nm,1.0s
GYA pmax pmax
comp=N,120nm,3.8s
GYA LR LR
comp=N,430nm,15.2s
GYA LR LR
comp=N,410nm,12.5s
GYA LR LR
comp=N,390nm,12.5s
BOD Bodaibo 29.48 332 *e*P **P** **17 48 14.5 +0.8**
BOD pmax pmax
comp=Z,139nm,1.1s
CD2 Chengdu 30.36 274 P **P** **17 48 20.6 -1.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,320nm,7.6s
CD2 LR LR
comp=Z,2μm,16.2s
CD2 LR LR
comp=Z,1μm,12.4s
CD2 LR LR
comp=Z,1μm,13.1s
ZAK Zakamensk 31.19 313 *e*P **P** **17 48 29.8 +0.8**
ZAK pmax pmax
comp=Z,55nm,1.3s
IRK Irkutsk 31.23 317 *e*P **P** **17 48 30.5 +1.2**
IRK pmax pmax
comp=Z,154nm,2.8s
TLY Talaya 31.39 315*d i*P **P** **17 48 32.1 +1.4**
TLY *e*PPP PPP 17 49 44.8
TLY *e*S **S** **17 53 30.1 +1.6**
TLY pmax pmax
comp=Z,331nm,0.9s
TLY MLR MLR
comp=Z,1μm,13.0s
TLY Talaya 31.39 315 P **P** **17 48 32.1 +1.4**
GTA Gaotai 32.23 291 P **P** **17 48 37.6 -0.7**
GTA pP pwP 17 49 07.9 -0.3
GTA S **S** **17 53 37.8 -4.1**
GTA ScP **ScP** **17 54 56.0 +0.8**
GTA ScS **ScS** **17 58 53.0 -1.5**
GTA pmax pmax
comp=Z,10.0nm,1.5s
GTA LR LR
comp=Z,380nm,12.8s
GTA LR LR
comp=Z,400nm,16.6s
GTA LR LR
comp=Z,380nm,16.6s
MOY Mondy 32.95 314 *e*P **P** **17 48 45.5 +1.1**
MOY pmax pmax
comp=Z,130nm,1.4s
KMI Kunming 33.16 265 P **P** **17 48 45.3 -1.4**
KMI pP pP 17 49 14.8 +0.7
KMI pmax pmax
comp=Z,6.0nm,1.0s
KMI pmax pmax
comp=Z,130nm,5.4s
KMI LR LR
comp=Z,410nm,16.2s
KMI LR LR
comp=Z,320nm,8.7s
KMI LR LR
comp=Z,310nm,12.0s
KMI Kunming 33.16 265 P **P** **17 48 45.2 -1.4**
KMI pmax pmax
comp=Z,11nm,0.9s
KMI Kunming 33.16 265 P **P** **17 48 45.2 -1.4**
SLVN Son La 33.90 258 P **P** **17 48 52.0 -0.9**
SlJI Sorong 35.51 195 P **P** **17 49 05.2 -1.5**
comp=Z,21nm,0.8s,baz=27,slow=8.5,SNR=12
SMPI Sarmi 35.75 182 P **P** **17 49 07.2 -1.5**
comp=Z,16nm,0.7s
ADK Adak 36.01 47 P **P** **17 49 11.7 +1.1**
ADK pmax pmax
comp=Z,81nm,1.0s
ADK Adak 36.01 47 P **P** **17 49 11.7 +1.1**
ADK IAmb IAmb 17 49 12.4
comp=Z,81nm,1.0s
JAY Jayapura 36.27 178 LR LR 18 02 17.3
comp=Z,137nm,18.3s,baz=358,slow=33
JAY Jayapura 36.27 178 P **P** **17 49 12.2 -1.0**
comp=Z,232nmcomp=Z,19nm,0.9s
JAY Jayapura 36.27 178 P **P** **17 49 13.7 +0.5**
JAY pmax pmax
comp=Z,30nm,0.9s
KMSI Cibinong 36.30 207 P **P** **17 49 12.5 -0.9**
comp=Z,998nmcomp=Z,57nm,0.9s
GENI Genyem 36.34 179 P **P** **17 49 11.8 -1.9**
comp=Z,80nm,1.0s
MRSI Marisa 37.20 210 P **P** **17 49 18.4 -2.7**
comp=Z,1μmcomp=Z,18nm,1.1s
BILL Bilibino 37.39 16*d i*P **P** **17 49 23.4 +1.3**
BILL *e* 17 50 53.4
BILL pmax pmax
comp=Z,36nm,1.7s
BILL Bilibino 37.39 16 **P** **17 49 22.0 -0.1**
TIXI Tiksi 38.20 354*d i*P **P** **17 49 29.4 +0.6**
TIXI pmax pmax
comp=Z,101nm,1.7s
TIXI Tiksi 38.20 354 P **P** **17 49 29.1 +0.2**
TIXI IAmb IAmb 17 49 30.6
comp=Z,29nm,0.6s
MPSI Mapaga 38.22 213 P **P** **17 49 27.4 -2.2**
comp=Z,493nmcomp=Z,8.9nm,1.3s
KRAR Krasnoyarsk 38.78 319*i*P **P** **17 49 35.4 +1.6**
CHTO Chiang Mai 39.19 258 P **P** **17 49 36.5 -1.2**
CHTO pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 39.19 258 P **P** **17 49 36.5 -1.2**
CM31 Chiang Mai Arr 39.37 257 P **P** **17 49 36.2 -3.0**
CMAR Chiang Mai Arr 39.37 257 P **P** **17 49 38.7 -0.6**
comp=Z,2.6nm,0.6s,baz=48,slow=7.2,SNR=9.3
CMAR PcP **PcP** **17 51 46.6 +1.5**
comp=Z,4.0nm,0.9s,baz=26,slow=1.4,SNR=6.0
CMAR ScP **ScP** **17 55 23.0 +1.5**
comp=Z,1.1nm,0.5s,baz=15,slow=2.9,SNR=6.9
CMAR LR LR 18 08 48.1
comp=Z,94nm,18.1s,baz=95,slow=40
CMAR Chiang Mai Arr 39.37 257 *i* P **P** **17 49 39.0 -0.3**
KRVT Keravat (AS076 39.80 161 P **P** **17 49 42.5 -0.3**
comp=Z,11nm,0.6s,baz=1,slow=17,SNR=4.3
SBUM Sibu 40.47 225 P **P** **17 49 45.1 -3.2**
SBUM Sibu 40.47 225 P **P** **17 49 48.0 -0.3**
NIKH Nikolski High 40.92 46 P **P** **17 49 51.5 -0.1**
WMQ Urumqi 41.04 300 P **P** **17 49 54.3 +1.5**
WMQ PcP **PcP** **17 51 50.4 +0.2**
WMQ S **S** **17 55 57.3 +1.8**
WMQ sS sS 17 56 49.4 +3.5
WMQ pmax pmax
comp=Z,36nm,1.3s
WMQ pmax pmax
comp=Z,330nm,6.5s
WMQ LR LR
comp=Z,320nm,18.7s
WMQ LR LR
comp=Z,180nm,16.5s
WMQ LR LR
comp=Z,200nm,24.1s
WMQ Urumqi 41.04 300 P **P** **17 49 53.5 +0.7**
WMQ pmax pmax
comp=Z,61nm,0.9s
WMQ Urumqi 41.04 300 P **P** **17 49 53.5 +0.7**
WMQ IAmb IAmb 17 49 57.3
comp=Z,61nm,0.9s
DGZ Jazzator, Alta 41.12 309*d i*P **P** **17 49 55.0 +1.5**
DGZ pmax pmax
comp=Z,193nm,0.9s
LSA Lhasa 41.13 278 P **P** **17 49 53.7 -0.5**
LSA pmax pmax
comp=Z,10.0nm,1.2s
LSA Lhasa 41.13 278 P **P** **17 49 53.7 -0.5**
GAMB Gambell 42.10 30 P **P** **17 50 02.3 +1.3**
BNSI Bone 42.37 210 P **P** **17 50 01.2 -2.6**
comp=Z,16nm,1.1s
KSM Kuching 42.39 227 P **P** **17 50 02.7 -1.2**
KSM Kuching 42.39 227 P **P** **17 50 04.0 +0.1**
ZSN Zaisan 42.82 305⇓*i*P **P** **17 50 08.6 +1.5**
comp=Z,81nm,1.3s,baz=306
ZSN *i* S **S** **17 56 23.9 +2.3**
baz=306
ZSN Zaisan 42.82 305*d i*P **P** **17 50 08.6 +1.5**
ZSN *i* S **S** **17 56 23.8 +2.3**
ZSN pmax pmax
comp=Z,81nm,1.3s
ZAA0 Zalesovo Array 43.01 315 P **P** **17 50 08.4 -0.1**
ZALV Zalesovo Beam 43.01 315 P **P** **17 50 09.0 +0.5**
comp=Z,56nm,0.5s,baz=103,slow=6.5,SNR=281
ZALV PcP **PcP** **17 51 57.1 +0.8**
comp=Z,19nm,0.7s,baz=98,slow=2.6,SNR=5.5
ZALV ScP **ScP** **17 55 36.2 +0.9**
comp=Z,9.8nm,0.9s,baz=101,slow=4.7,SNR=9.5
ZALV LR LR 18 08 51.7
comp=Z,327nm,18.7s,baz=88,slow=37
ZALV Zalesovo Beam 43.01 315 *i* P **P** **17 50 09.0 +0.5**
ZALV pmax pmax
comp=Z,56nm,0.5s
ZALV Zalesovo Beam 43.01 315 P **P** **17 50 07.8 -0.7**
ZALV **PcP** **17 51 56.1 -0.3**
ZALV ScP **ScP** **17 55 35.7 +0.5**
KAPI Kappang 43.07 210 P **P** **17 50 09.0 -0.4**
comp=Z,5.0nm,0.6s,baz=49,slow=11,SNR=1.7
KAPI PcP **PcP** **17 51 58.9 +1.8**
comp=Z,19nm,0.6s,baz=329,slow=3.8,SNR=5.2
PMG Port Moresby 43.69 169 P **P** **17 50 14.8 +0.4**
comp=Z,22nm,0.8s,baz=351,slow=12,SNR=4.0
PMG Port Moresby 43.69 169 P **P** **17 50 13.9 -0.5**
PMG IAmb IAmb 17 50 40.5
comp=Z,50nm,1.2s
MK31 Makanchi Array 44.61 305 *i* P **P** **17 50 22.1 +0.6**
MK31 Makanchi Array 44.61 305 P **P** **17 50 21.7 +0.2**
MK31 IAmb IAmb 17 50 23.6
comp=Z,88nm,0.9s
MKAR Makanchi Array 44.61 305 P **P** **17 50 22.4 +0.8**
comp=Z,71nm,0.7s,baz=90,slow=10.0,SNR=479
MKAR PcP **PcP** **17 52 03.0 +1.0**
comp=Z,11nm,0.8s,baz=68,slow=4.7,SNR=3.6
MKAR ScP **ScP** **17 55 42.7 +0.6**
comp=Z,16nm,0.9s,baz=85,slow=5.4,SNR=16
MKAR PKiKP **PKiKP** **17 58 59.8 -1.4**
comp=Z,0.6nm,0.6s,baz=132,slow=1.3,SNR=4.2
MKAR ScS **ScS** **18 00 04.8 -0.7**
comp=Z,0.9nm,0.9s,baz=102,slow=6.3,SNR=5.4
MKAR LR LR 18 09 07.8
comp=Z,194nm,18.8s,baz=87,slow=36
MKAR Makanchi Array 44.61 305 P **P** **17 50 21.0 -0.5**
TAPN Taplejung 44.78 276 *e*P **P** **17 50 22.9 -0.5**
comp=Z,13nm,0.4s
MAKZ Makanchi 44.83 305 P **P** **17 50 23.4 +0.2**
MAKZ Makanchi 44.83 305 P **P** **17 50 23.2 0.0**
MAKZ IAmb IAmb 17 50 25.4
comp=Z,87nm,0.8s
ANM Nome 44.98 30 P **P** **17 50 25.6 +1.5**
ANM pmax pmax
comp=Z,104nm,1.3s
ANM Nome 44.98 30 P **P** **17 50 25.6 +1.5**
ANM IAmb IAmb 17 50 28.1
comp=Z,104nm,1.3s
ODAN Odare 45.23 276 *e*P **P** **17 50 26.4 -0.5**
comp=Z,20nm,0.6s
NRIK Noril'sk 45.51 337 P **P** **17 50 29.2 +1.0**
comp=Z,44nm,0.5s,baz=110,slow=9.3,SNR=85
NRIK PcP **PcP** **17 52 06.1 +1.5**
comp=Z,7.6nm,0.5s,baz=146,slow=3.6,SNR=1.6
NRIK ScP **ScP** **17 55 46.4 +1.2**
comp=Z,11nm,0.9s,baz=127,slow=3.8,SNR=5.7
NRIK S **S** **17 56 58.8 -0.9**
comp=Z,3.4nm,0.7s,baz=53,slow=8.5,SNR=9.1
NRIK Noril'sk 45.51 337 *i* P **P** **17 50 29.1 +0.9**
RAMN Ramite 45.85 276 *e*P **P** **17 50 30.9 -0.9**
comp=Z,59nm,0.8s
SOEI Soe 45.85 201 P **P** **17 50 30.3 -1.3**
comp=Z,58nm,1.1s
JIRN Jiri 45.92 277 *e*P **P** **17 50 32.3 -0.2**
comp=Z,112nm,0.6s
GUN Gumba 46.09 278 *e*P **P** **17 50 33.4 -0.4**
comp=Z,56nm,0.7s
IPM Ipoh 46.32 239 P **P** **17 50 33.7 -1.6**
IPM Ipoh 46.32 239 P **P** **17 50 36.0 +0.7**
CNBA Chernabura Isl 46.51 44 P **P** **17 50 35.7 -0.5**
CNBA IAmb IAmb 17 50 38.0
comp=Z,87nm,0.9s
PKI Pulchoki 46.60 277 *e*P **P** **17 50 36.4 -1.3**
comp=Z,33nm,0.9s
PKIN Phulchoki 46.61 277 *e*P **P** **17 50 36.7 -1.0**
comp=Z,28nm,0.8s
KKN Kakani 46.62 278 *e*P **P** **17 50 37.0 -0.8**
comp=Z,38nm,0.9s
KURK Kurchatov 46.77 310*d i*P **P** **17 50 38.8 +0.5**
KURK pmax pmax
comp=Z,230nm,0.9s
KURK Kurchatov 46.77 310 **ScP** **17 55 51.5 +0.7**
KURK Kurchatov 46.77 310 P **P** **17 50 38.2 -0.1**
KURBB Kurchatov Arra 46.83 310 P **P** **17 50 39.2 +0.4**
comp=Z,124nm,0.8s,baz=87,slow=7.9,SNR=774
KURBB ScP **ScP** **17 55 51.5 +0.4**
comp=Z,1.4nm,0.7s,baz=103,slow=3.3,SNR=8.0
KURBB S **S** **17 57 16.3 -2.9**
comp=Z,0.8nm,0.8s,baz=81,slow=12,SNR=4.2
KURBB PKiKP **PKiKP** **17 59 02.5 -0.7**
comp=Z,0.3nm,0.7s,baz=95,slow=2.3,SNR=4.1
DMN Daman 46.84 278 *e*P **P** **17 50 38.7 -0.8**
comp=Z,26nm,0.8s
RDOG Red Dog Mine 46.91 26 P **P** **17 50 41.1 +2.0**
SHLS Shalkode 47.06 300⇓*i*P **P** **17 50 39.0 -2.0**
comp=Z,64nm,1.5s,baz=300
SHLS *i* S **S** **17 57 19.0 -4.0**
baz=300
SHLS Shalkode 47.06 300*d i*P **P** **17 50 38.9 -2.0**
SHLS *i* S **S** **17 57 19.0 -4.0**
SHLS pmax pmax
comp=Z,64nm,1.5s
GKN Gorkha 47.08 278 *e*P **P** **17 50 40.9 -0.3**
MTN Manton Dam 47.23 191 P **P** **17 50 40.4 -1.7**
UZB Uzynbulak 47.38 300⇓*i*P **P** **17 50 43.9 +0.5**
comp=Z,52nm,1.6s,baz=300
UZB *e*S **S** **17 57 28.4 +0.8**
baz=300
UZB Uzynbulak 47.38 300*d i*P **P** **17 50 43.9 +0.5**
UZB *e*S **S** **17 57 28.3 +0.8**
UZB pmax pmax
comp=Z,52nm,1.6s
TDK Taldyqorghan 47.52 302 *e*P **P** **17 50 45.3 +1.0**
comp=Z,204nm,1.7s,baz=303
TDK *e*S **S** **17 57 29.9 +0.8**
baz=303
TDK Taldyqorghan 47.52 302 *e*P **P** **17 50 45.3 +1.0**
TDK *e*S **S** **17 57 29.9 +0.8**
TDK pmax pmax
comp=Z,204nm,1.7s
DANN Dangsing 47.67 279 *e*P **P** **17 50 45.8 -0.2**
comp=Z,172nm,0.7s
COEN Coen 47.75 175 P **P** **17 50 46.2 0.0**
COEN IAmb IAmb 17 50 48.3
comp=Z,64nm,0.8s
SATY Saty 47.84 300⇓*i*P **P** **17 50 47.7 +0.8**
comp=Z,60nm,2.1s,baz=300
SATY *e*S **S** **17 57 34.5 +0.4**
baz=300
SATY Saty 47.84 300*d i*P **P** **17 50 47.7 +0.8**
SATY *e*S **S** **17 57 34.4 +0.4**
SATY pmax pmax
comp=Z,60nm,2.1s
PRZ Przheval'sk 47.95 299 P **P** **17 50 48.9 +1.0**
PRZ pmax pmax
comp=Z,159nm,1.3s
PRZ Przheval'sk 47.95 299 P **P** **17 50 48.9 +1.0**
KOLN Koldanda 48.02 279 *e*P **P** **17 50 48.0 -0.6**
PYUN Piuthan 48.39 279 *e*P **P** **17 50 51.3 -0.2**
comp=Z,77nm,0.5s
TARG Taragay, Kyrgy 48.54 298 P **P** **17 50 52.0 -0.6**
TARG IAmb IAmb 17 50 55.1
comp=Z,103nm,1.5s
CHKK Chushkaly 48.71 301 *e*P **P** **17 50 54.1 +0.7**
baz=301
CHKK Chushkaly 48.71 301 *e*P **P** **17 50 54.1 +0.7**
MDOK Medeo 48.80 300 *i* P **P** **17 50 55.5 +1.1**
baz=300
MDOK *i* S **S** **17 57 48.5 +0.9**
baz=300
MDOK Medeo 48.80 300 *i* P **P** **17 50 55.4 +1.1**
MDOK *i* S **S** **17 57 48.4 +0.9**
KNDC Almaty 48.85 300 P **P** **17 50 55.6 +1.0**
AAA Alma-Ata 48.89 300 *e*P **P** **17 50 56.5 +1.6**
comp=Z,98nm,1.2s,baz=300
AAA *e*S **S** **17 57 49.7 +1.2**
baz=300
AAA Alma-Ata 48.89 300 *e*P **P** **17 50 56.4 +1.6**
AAA *e*S **S** **17 57 49.7 +1.2**

AAA pmax pmax
comp=Z,98nm,1.2s
TNSS Tian-Shan 48.90 300 ⇓ *i*P **P 17 50 56.8 +1.4**
baz=300
TNSS Tian-Shan 48.90 300 *d i*P **P 17 50 56.7 +1.4**
KDJ Kajisay 48.91 299 P **P 17 50 55.8 +0.6**
KDJ pmax pmax
comp=Z,58nm,1.4s
KDJ Kajisay 48.91 299 P **P 17 50 55.8 +0.6**
KDJ IAmb IAmb 17 50 57.5
comp=Z,58nm,1.4s
KUU Kurty 49.16 301 ⇓ *i*P **P 17 50 57.5 +0.5**
comp=Z,142nm,1.0s,baz=302
KUU *e*S **S 17 57 52.5 +0.1**
baz=302
KUU Kurty 49.16 301 *d i*P **P 17 50 57.4 +0.5**
KUU *e*S **S 17 57 52.4 +0.1**
KUU pmax pmax
comp=Z,142nm,1.0s
MTBS Maitube 49.25 300 *e*P **P 17 50 58.8 +1.1**
baz=300
MTBS Maitube 49.25 300 *e*P **P 17 50 58.7 +1.1**
KCSI Kotacane, Aceh 49.33 241 P **P 17 50 57.2 -1.3**
comp=Z,10nm,1.3s
ULHL Ulahol 49.57 299 P **P 17 51 00.9 +0.7**
SNR=25
BOOM Boomskoye usch 49.73 300 P **P 17 51 00.7 -0.8**
BOOM pmax pmax
comp=Z,33nm,1.0s
BOOM Boomskoye usch 49.73 300 P **P 17 51 00.7 -0.8**
BOOM IAmb IAmb 17 51 03.8
comp=Z,33nm,1.0s
TKM2 Tokmak 2 49.89 300 P **P 17 51 04.0 +1.3**
SNR=69
TKM2 Tokmak 2 49.89 300 P **P 17 51 02.9 +0.2**
IMAR Indian Mountai 50.04 29 P **P 17 51 03.5 +0.4**
RSO Redoubt South 50.23 37 P **P 17 51 04.4 -0.5**
KZA Kyzart 50.33 299 P **P 17 51 07.8 +1.6**
SNR=34
KDAK Kodiak Island 50.37 40 LR LR 18 12 07.8
comp=Z,56nm,20.3s,baz=261,slow=35
KDAK Kodiak Island 50.37 40 P **P 17 51 05.5 -0.2**
KDAK pmax pmax
comp=Z,103nm,1.0s
KDAK Kodiak Island 50.37 40 P **P 17 51 05.5 -0.2**
KSH Kashi 50.41 296 *e*P **P 17 51 11.0 +4.5**
KSH S **S 17 58 10.9 +1.0**
KSH SS **SS 18 01 47.8 +2.8**
KSH pmax pmax
comp=Z,20nm,0.7s
KSH pmax pmax
comp=Z,280nm,5.6s
KSH LR LR
comp=Z,480nm,10.7s
KSH LR LR
comp=Z,690nm,11.3s
KSH LR LR
comp=Z,470nm,14.7s
KBK Karagaybulak 50.41 300 P **P 17 51 07.7 +1.2**
SNR=78
KNRA Kununurra 50.42 194 P **P 17 51 05.3 -1.3**
KNRA IAmb IAmb 17 51 07.3
comp=Z,43nm,0.7s
SGDS Sogindy 50.47 301 ⇓ *i*P **P 17 51 07.6 +0.7**
comp=Z,54nm,1.2s,baz=301
SGDS *e*S **S 17 58 10.9 +0.3**
baz=301
SGDS Sogindy 50.47 301 *d i*P **P 17 51 07.5 +0.7**
SGDS *e*S **S 17 58 10.9 +0.3**
SGDS pmax pmax
comp=Z,54nm,1.2s
CHMS Chumysh 50.48 301 P **P 17 51 07.7 +0.8**
SNR=38
PPLA Purkeypile 50.53 33 P **P 17 51 09.0 +1.9**
SPU Mount Spurr 50.57 36 P **P 17 51 08.6 +1.3**
USP Ospenovka 50.60 301 P **P 17 51 08.7 +0.9**
SNR=35
FRU1 Bishkek 50.61 300 P **P 17 51 07.7 -0.2**
FRU1 pmax pmax
comp=Z,105nm,1.1s
FRU1 Bishkek 50.61 300 P **P 17 51 07.7 -0.2**
LEM Lembang 50.64 223 P **P 17 51 07.0 -1.5**
baz=322,slow=14
LHSI Lahat 50.72 229 P **P 17 51 09.6 +0.7**
AAK Ala-Archa 50.74 300 P **P 17 51 09.5 +0.5**
comp=Z,27nm,0.8s,baz=100,slow=4.7,SNR=50
AAK PcP **PcP 17 52 25.5 +1.3**
comp=Z,17nm,0.9s,baz=115,slow=6.5,SNR=4.6
AAK ScP **ScP 17 56 08.5 +0.3**
comp=Z,2.2nm,0.6s,baz=103,slow=4.4,SNR=5.4
AAK Ala-Archa 50.74 300 P **P 17 51 09.8 +0.8**
SNR=23
AAK Ala-Archa 50.74 300 *i*P **P 17 51 09.6 +0.6**
SNR=6.4
AAK Ala-Archa 50.74 300 *d i*P **P 17 51 09.6 +0.6**
AAK pmax pmax
comp=Z,49nm,1.0s
AAK Ala-Archa 50.74 300 P **P 17 51 09.4 +0.3**
AAK IAmb IAmb 17 51 11.0
comp=Z,40nm,0.9s
AAK **PcP 17 52 24.3 +0.1**
UCH Uchtor 50.82 300 P **P 17 51 11.3 +1.4**
SNR=31
GSI Gunungsitoli 50.99 240 P **P 17 51 12.5 +1.5**
GSI Gunungsitoli 50.99 240 P **P 17 51 09.3 -1.6**
GSI IAmb IAmb 17 51 13.2
comp=Z,28nm,0.8s
CAPN Captain Cook N 51.01 36 P **P 17 51 12.7 +2.3**
baz=271
BPAW Bear Paw Mtn. 51.10 32 P **P 17 51 12.3 +1.2**
BPAW IAmb IAmb 17 51 14.7
comp=Z,58nm,1.2s
OTUK Ortayu 51.12 308 P **P 17 51 12.1 +0.5**
BRLK Bradley Lake 51.17 37 P **P 17 51 12.6 +0.8**
BRLK IAmb IAmb 17 51 15.1
comp=Z,61nm,1.0s
EKS2 Erkin-Say 51.25 300 P **P 17 51 13.4 +0.6**
SNR=29
AML Almayashu 51.44 300 P **P 17 51 15.9 +1.4**
SNR=124
BVAR Borovoye Array 51.63 314 P **P 17 51 16.0 +0.7**
comp=Z,79nm,0.8s,baz=96,slow=8.1,SNR=336
BRVK Borovoye 51.69 314 P **P 17 51 16.2 +0.5**
BRVK Borovoye 51.69 314 P **P 17 51 15.8 +0.1**
RC01 Rabbit Creek A 51.69 36 P **P 17 51 15.9 +0.3**
TOLK Toolik Lake Re 51.87 26 P **P 17 51 19.1 +2.2**
baz=266
TOLK S **S 17 58 30.0 +0.9**
baz=266
TOLK Toolik Lake Re 51.87 26 P **P 17 51 18.6 +1.7**
TOLK IAmb IAmb 17 51 20.3
comp=Z,56nm,1.1s
SEW Seward 51.88 37 P **P 17 51 17.2 +0.3**
RND Reindeer 52.04 33 P **P 17 51 18.9 +0.6**
RND pmax pmax
comp=Z,63nm,0.9s
RND Reindeer 52.04 33 P **P 17 51 18.9 +0.6**
RND IAmb IAmb 17 51 20.7
comp=Z,63nm,0.9s
GHO Glory Hole Cre 52.06 35 P **P 17 51 19.5 +1.1**
ARSB Arslanbob 52.15 299 P **P 17 51 20.3 +0.8**
ARSB Arslanbob 52.15 299 P **P 17 51 20.3 +0.8**
MDM Murphy Dome 52.30 31 P **P 17 51 21.4 +1.3**
MDM IAmb IAmb 17 51 23.4
comp=Z,65nm,1.1s
KNK Knik Glacier 52.30 35 P **P 17 51 20.9 +0.8**
KNK IAmb IAmb 17 51 22.7
comp=Z,65nm,1.0s
SML Sawmill 52.34 35 P **P 17 51 20.8 +0.3**
WRH Wood River Hil 52.36 31 P **P 17 51 20.7 +0.2**
WRH IAmb IAmb 17 51 24.5
comp=Z,25nm,1.0s
TCOL CIGO, UAF Yank 52.45 31 P **P 17 51 23.0 +1.9**
baz=271
CCB Clear Creek Bu 52.48 31 P **P 17 51 21.9 +0.5**
POKR Poker Plat Res 52.63 31 P **P 17 51 24.5 +2.0**
baz=271
POKR S **S 17 58 41.6 +2.1**
baz=271
HDA Harding Lake 52.86 31 P **P 17 51 25.1 +1.0**
baz=272
HDA S **S 17 58 42.5 0.0**
baz=272
HDA Harding Lake 52.86 31 P **P 17 51 24.4 +0.2**
HDA IAmb IAmb 17 51 26.3
comp=Z,43nm,0.9s

IL31 52.87 31 P **P 17 51 23.8 -0.4**
IL31 IAmb IAmb 17 51 28.3
comp=Z,28nm,0.9s
ILAR Eielson Array 52.87 31 P **P 17 51 25.1 +0.9**
comp=Z,17nm,0.9s,baz=273,slow=6.2,SNR=109
ILAR LR LR 18 16 40.4
comp=Z,44nm,18.8s,baz=320,slow=39
ILAR Eielson Array 52.87 31 P **P 17 51 24.3 0.0**
GLI Glacier Island 52.99 36 P **P 17 51 26.5 +1.3**
FID Port Fidalgo 53.30 36 P **P 17 51 27.3 -0.2**
PRP Porcupine Dome 53.42 30 P **P 17 51 28.4 -0.1**
FITZ Fitzroy Crossi 53.45 197 P **P 17 51 28.5 -0.4**
comp=Z,4.8nm,0.5s,baz=23,slow=9.5,SNR=19
FITZ Fitzroy Crossi 53.45 197 P **P 17 51 28.6 -0.3**
KK31 Karatay Array 53.47 302 *i* P **P 17 51 29.5 +0.4**
KK31 Karatay Array 53.47 302 P **P 17 51 29.4 +0.4**
KKAR Karatay Array 53.47 302 P **P 17 51 28.2 -0.8**
KKAR pmax pmax
comp=Z,150nm,0.9s
KKAR Karatay Array 53.47 302 P **P 17 51 28.2 -0.8**
FYU Fort Yukon 53.50 29 P **P 17 51 31.1 +2.3**
WB0 Warramunga Arr 53.64 186 P **P 17 51 29.6 -0.8**
EYAK Cordova Ski Ar 53.68 36 P **P 17 51 32.0 +1.8**
EYAK IAmb IAmb 17 51 33.4
comp=Z,44nm,0.8s
BMAR Burnt Mountain 53.73 28 P **P 17 51 32.1 +1.6**
WRAB Tennant Creek 53.81 186 *ce*P **P 17 51 30.7 -0.9**
WRAB pmax pmax
comp=Z,55nm,0.7s
WRAB Tennant Creek 53.81 186 P **P 17 51 30.3 -1.3**
RIDG Independent Ri 53.82 32 P **P 17 51 31.2 -0.1**
RIDG IAmb IAmb 17 51 33.7
comp=Z,33nm,1.3s
WB2 Warramunga Arr 53.82 186 P **P 17 51 30.6 -1.0**
WR0 Warramunga Arr 53.82 186 P **P 17 51 30.8 -0.8**
WRA Warramunga Arr 53.82 186 P **P 17 51 31.0 -0.7**
comp=Z,67nm,0.7s,baz=2.6,slow=7.6,SNR=23
WRA ScP **ScP 17 56 22.2 +0.7**
comp=Z,7.8nm,0.9s,baz=1.1,slow=4.6,SNR=6.6
WRA Warramunga Arr 53.82 186 P **P 17 51 29.9 -1.7**
WRA **ScP 17 56 21.6 +0.1**
BRLS Borolday 53.97 302 *e*S **S 17 59 01.7 +3.4**
baz=302
IUG luzhnay 54.07 301 ⇓ *i*P **P 17 51 34.6 +1.1**
comp=Z,18nm,0.8s,baz=301
IUG *e*S **S 17 59 00.9 +1.1**
baz=301
IUG luzhnay 54.07 301 *d i*P **P 17 51 34.6 +1.1**
IUG *e*S **S 17 59 00.9 +1.1**
IUG pmax pmax
comp=Z,18nm,0.8s
BTK Batken 54.08 298 P **P 17 51 33.0 -0.6**
BTK pmax pmax
comp=Z,31nm,1.1s
BTK Batken 54.08 298 P **P 17 51 33.0 -0.6**
BTK IAmb IAmb 17 51 35.2
comp=Z,32nm,1.1s
CTA Charters Tower 54.09 172 P **P 17 51 34.1 +0.4**
comp=Z,18nm,0.7s,baz=5.5,slow=7.2,SNR=18
CTA pP **pP 17 52 03.6 -0.6**
comp=Z,8.6nm,0.7s,baz=9.3,slow=7.8,SNR=2.8
CTAO Charters Tower 54.09 172 P **P 17 51 34.2 +0.6**
CTAO pmax pmax
comp=Z,23nm,0.9s
CTAO Charters Tower 54.09 172 P **P 17 51 34.2 +0.6**
CTAO IAmb IAmb 17 51 34.9
comp=Z,23nm,0.8s
DOT Dot Lake 54.17 32 P **P 17 51 34.6 +0.8**
DOT IAmb IAmb 17 51 35.6
comp=Z,21nm,0.9s
SCRK Sand Creek 54.18 32 P **P 17 51 34.5 +0.5**
SCRK IAmb IAmb 17 51 36.5
comp=Z,69nm,1.2s
RAGM Ragged Mountai 54.23 36 P **P 17 51 35.7 +1.5**
RAGM IAmb IAmb 17 51 41.8
comp=Z,48nm,1.0s
PVM Polavaram 54.24 267 *e*P **P 17 51 33.9 -1.0**
NIL Nilore 54.26 290 P **P 17 51 35.1 +0.2**
NIL pmax pmax
comp=Z,46nm,0.8s
NIL Nilore 54.26 290 P **P 17 51 35.1 +0.2**
NIL IAmb IAmb 17 51 38.1
comp=Z,46nm,0.8s
GLB Gilahina Butte 54.52 35 P **P 17 51 37.6 +1.3**
GLB IAmb IAmb 17 51 39.8
comp=Z,96nm,1.5s
VRDI Verde Repeater 54.72 35 P **P 17 51 39.3 +1.3**
VRDI IAmb IAmb 17 51 41.1
comp=Z,65nm,1.2s
GAR Garm 54.77 297 P **P 17 51 38.2 -0.4**
TAS Tashkent 54.83 300 P **P 17 51 40.7 +1.8**
TAS pmax pmax
comp=Z,120nm,0.9s
TAS Tashkent 54.83 300 P **P 17 51 40.7 +1.8**
MCARA McCarthy VSAT 54.90 35 P **P 17 51 41.5 +2.5**
WAX Waxell Ridge 55.12 36 P **P 17 51 41.2 +0.6**
WAX IAmb IAmb 17 51 43.4
comp=Z,63nm,1.1s
BCAR Beaver Creek A 55.26 33 P **P 17 51 42.4 +0.8**
BALM Baldy 55.28 35 P **P 17 51 42.8 +1.0**
BALM IAmb IAmb 17 51 44.8
comp=Z,52nm,1.0s
EGAK Eagle 55.32 31 P **P 17 51 42.2 +0.3**
EGAK IAmb IAmb 17 51 45.7
comp=Z,27nm,1.1s
RPR Rampur 55.40 270 *e*P **P 17 51 42.9 -0.3**
MESA MESA 55.60 36 P **P 17 51 45.2 +0.8**
MESA IAmb IAmb 17 51 46.9
comp=Z,38nm,1.0s
BARN Barnard Glacie 55.60 35 P **P 17 51 45.6 +1.3**
BARN IAmb IAmb 17 51 47.4
comp=Z,35nm,0.8s
YAH Yahtse 55.67 36 P **P 17 51 46.3 +1.5**
YAH IAmb IAmb 17 51 48.0
comp=Z,45nm,0.9s
SANVU Saraoutou 55.69 147 P **P 17 51 45.5 +0.3**
CHGR Chuyangaron 55.73 297 P **P 17 51 45.4 -0.1**
CTGM Chitina Glacie 55.77 35 P **P 17 51 46.8 +1.3**
CTGM IAmb IAmb 17 51 48.6
comp=Z,41nm,0.8s
SRSP Sriramsagar 56.15 271 *e*P **P 17 51 48.5 -0.2**
ADKI Addanki 56.31 267 *e*P **P 17 51 49.6 -0.2**
PCA Pinnacle 56.45 36 P **P 17 51 51.4 +1.2**
PCA IAmb IAmb 17 51 53.3
comp=Z,36nm,1.0s
NJS Nagarjunasagar 56.51 268 *e*P **P 17 51 50.8 -0.3**
SVE Sverdlovsk 56.54 320 *ce*P **P 17 51 52.2 +1.4**
SVE *e*S **S 17 59 32.6 +0.6**
SVE pmax pmax
comp=Z,118nm,1.5s
HYB Hyderabad 56.71 269 *i* P **P 17 51 52.5 -0.1**
HYBB Hyderabad (bro 56.71 269 *e*P **P 17 51 51.7 -0.9**
EPYK Eagle Plains 56.92 29 P **P 17 51 55.7 +2.3**
baz=280
EPYK Eagle Plains 56.92 29 P **P 17 51 55.0 +1.6**
SRLM Srisailam 57.08 268 *e*P **P 17 51 54.4 -0.8**
KBL Kabul 57.21 292 P **P 17 51 56.1 -0.1**
KBL pmax pmax
comp=Z,29nm,0.9s
KBL Kabul 57.21 292 P **P 17 51 56.1 -0.1**
KBL IAmb IAmb 17 51 57.2
comp=Z,29nm,0.8s
KHLH Kahului Airpor 57.40 85 P **P 17 51 58.7 +1.4**
AS31 Alice Springs 57.55 186 P **P 17 51 57.9 -0.3**
AS31 IAmb IAmb 17 52 00.8
comp=Z,16nm,0.7s
ASAR Alice Springs 57.55 186 P **P 17 51 58.1 -0.1**
comp=Z,23nm,0.7s,baz=15,slow=12,SNR=200
ASAR pP **pP 17 52 27.8 -1.2**
comp=Z,7.1nm,0.6s,baz=2.0,slow=5.8,SNR=3.0
ASAR ScP **ScP 17 56 38.2 +0.5**
comp=Z,3.0nm,0.8s,baz=13,slow=4.6,SNR=5.0
ASAR S **S 17 59 44.3 -1.5**
comp=Z,1.1nm,0.8s,baz=19,slow=9.8,SNR=5.2
ASAR Alice Springs 57.55 186 P **P 17 51 57.0 -1.2**
SKHT Srikalahasti 57.60 265 *e*P **P 17 51 59.9 +1.0**
HYT Haines Junctio 57.64 35 P **P 17 52 00.5 +1.9**
ARU Arti 57.75 320 *d i*P **P 17 51 59.9 +0.6**
ARU *e*PP **pP 17 52 30.5 +0.4**
ARU 17 52 47.5
ARU 17 54 07.0
ARU PPP PPP 17 55 31.4
ARU S **S 17 59 50.6 +2.8**
ARU 18 01 31.3

ARU SS **SS 18 03 36.7 -3.0**
ARU pmax pmax
comp=Z,200nm,1.9s
ARU MLR MLR
comp=Z,284nm,16.0s
ARU Arti 57.75 320 P **P 17 51 59.4 +0.1**
INK Inuvik 57.79 26 P **P 17 52 00.9 +1.6**
comp=Z,25nm,0.7s,baz=286,slow=5.8,SNR=32
INK Inuvik 57.79 26 P **P 17 52 01.0 +1.6**
INK Inuvik 57.79 26 P **P 17 52 00.2 +0.8**
INK IAmb IAmb 17 52 02.0
comp=Z,30nm,0.9s
KLRI Killari 58.02 271 *e*P **P 17 52 01.2 -0.6**
PSA00 Pilbara Seismi 58.34 202 P **P 17 52 02.3 -1.4**
PSA00 IAmb IAmb 17 52 03.6
comp=Z,19nm,0.9s
PSA00 Pilbara Seismi 58.34 202 P **P 17 52 02.3 -1.4**
POHA Pohakuloa 58.67 86 P **P 17 52 07.9 +1.4**
MLOA Mauna Loa Obse 58.74 86 P **P 17 52 08.9 +1.6**
MWH Moku'aweowe 58.74 87 P **P 17 52 09.6 +2.2**
KHU Kahuku 58.84 87 P **P 17 52 10.0 +2.3**
KHU pmax pmax
comp=Z,271nm,1.1s
KHU Kahuku 58.84 87 P **P 17 52 10.0 +2.3**
ABKAR Akbulak array 58.86 311 P **P 17 52 07.5 +0.4**
AIN Ainahou 58.91 87 P **P 17 52 08.3 +0.1**
MLH Mauna Loa 58.91 86 P **P 17 52 10.3 +2.1**
WHY Whitehorse 58.93 35 P **P 17 52 09.4 +1.8**
URV Uravakonda 59.02 268 *e*P **P 17 52 08.0 -0.7**
BESE Bessie Mountai 59.49 37 P **P 17 52 13.3 +1.9**
A36M Sachs Harbour 59.66 21 P **P 17 52 14.2 +2.0**
baz=286
AKTO Aktyubinsk 59.70 313 P **P 17 52 13.3 +0.5**
comp=Z,51nm,0.7s,baz=82,slow=7.1,SNR=55
AKTO LR LR 18 18 59.1
comp=Z,201nm,19.6s,baz=86,slow=37
AKTO Aktyubinsk 59.70 313 P **P 17 52 12.7 -0.2**
JIS Juneau Island 59.82 38 P **P 17 52 14.8 +1.3**
EIDS Eidsvold 59.98 168 P **P 17 52 15.4 +0.4**
DZM Mont Dzumac 61.27 152 *e*P **P 17 52 25.6 +1.7**
comp=Z,49nm,1.6s
DZM *e*S **S 18 00 28.8 -5.0**
comp=Z,408nm,24.6s
DZM Mont Dzumac 61.27 152 *e*LR LR 18 10 38.1
comp=Z,558nm,33.7s
DZM Mont Dzumac 61.27 152 P **P 17 52 24.4 +0.5**
WRAK Wrangell Islan 61.43 39 P **P 17 52 24.9 +0.4**
WRAK IAmb IAmb 17 52 28.1
comp=Z,39nm,1.2s
KIRV Kirov 61.86 324 P **P 17 52 28.3 +1.0**
comp=Z,141nm,0.5s,baz=83,slow=3.2,SNR=76
KIRV LR LR 18 20 54.9
comp=Z,197nm,19.4s,baz=66,slow=37
DLBC Dease Lake 61.95 37 P **P 17 52 30.7 +2.6**
comp=Z,27nm,1.0s,baz=296,slow=7.5,SNR=42
DLBC Dease Lake 61.95 37 P **P 17 52 30.1 +2.1**
DLBC IAmb IAmb 17 52 31.9
comp=Z,46nm,1.1s
DIB Dawson Inlet, 62.45 43 P **P 17 52 31.6 +0.3**
DIB IAmb IAmb 17 52 33.9
comp=Z,46nm,1.0s
HRA Herat 62.46 294 P **P 17 52 31.9 -0.2**
HRA IAmb IAmb 17 52 34.2
comp=Z,36nm,0.7s
MSVF Nonsavu 63.08 138 P **P 17 52 38.6 +2.6**
MSVF pmax pmax
comp=Z,131nm,1.4s
MSVF Nonsavu 63.08 138 P **P 17 52 38.6 +2.6**
SPA0 Spitsbergen Ar 63.27 349 *e*P **P 17 52 38.2 +1.7**
KBS Kingsbay 63.45 350 *e*P **P 17 52 39.3 +1.7**
NOR Nord 64.04 356 ⇓ *i*P **P 17 52 42.5 +1.1**
comp=Z,7.2nm,0.7s
NOR Nord 64.04 356 *i*P **P 17 52 42.5 +1.1**
NOR pmax pmax
comp=Z,7.0nm,0.7s
GEYT Alibeck 64.09 300 P **P 17 52 43.4 +0.8**
comp=Z,21nm,0.9s,baz=56,slow=3.7,SNR=36
GEYT Alibeck 64.09 300 P **P 17 52 42.2 -0.3**
GYA0 ALIBECK ARRAY 64.09 300 P **P 17 52 42.4 -0.1**
GYA0B ALIBECK ARRAY 64.09 300 P **P 17 52 43.1 +0.6**
GYA0B IAmb IAmb 17 52 44.7
comp=Z,31nm,1.0s
HSPB Hornsund (broa 64.17 348 *e*P **P 17 52 43.8 +1.5**
HSPB *e*L L 18 22 36.1
comp=Z,196nm,17.4s
HSPB Hornsund (broa 64.17 348 *e*P **P 17 52 44.2 +1.9**
LVZ Lovozero 64.34 336 *ce*P **P 17 52 43.9 +0.3**
LVZ pmax pmax
comp=Z,97nm,1.0s
LVZ Lovozero 64.34 336 P **P 17 52 43.9 +0.3**
LVZ IAmb IAmb 17 52 46.0
comp=Z,59nm,1.2s
TMCR Tamitsa 64.77 332 *e*P **P 17 52 45.8 -0.6**
TMCR pmax pmax
comp=Z,124nm,1.0s
APA Apatity 64.92 336 ⇓ *i*P **P 17 52 47.3 0.0**
APA *i* *PP **pP 17 53 17.6 -1.3**
APA pmax pmax
comp=Z,44nm,0.8s
ARMA Armidale 65.01 169 P **P 17 52 49.7 +1.3**
ARMA IAmb IAmb 17 52 51.2
comp=Z,24nm,0.9s
BBB Bella Bella 65.29 43 P **P 17 52 51.1 +1.2**
comp=Z,24nm,1.0s,baz=274,slow=3.0,SNR=6.1
BBB Bella Bella 65.29 43 P **P 17 52 49.8 -0.1**
BBB IAmb IAmb 17 52 51.8
comp=Z,36nm,1.1s
FORT Forrest 65.30 191 P **P 17 52 50.0 -0.1**
STKA Stephens Creek 65.49 178 P **P 17 52 52.3 +0.9**
comp=Z,37nm,0.7s,baz=345,slow=7.3,SNR=100
STKA LR LR 18 20 44.0
comp=Z,131nm,19.3s,baz=4.2,slow=35
STKA Stephens Creek 65.49 178 P **P 17 52 51.5 +0.1**
KLMR Klimovskoe 65.61 328 *e*P **P 17 52 49.4 -2.4**
KLMR pmax pmax
comp=Z,121nm,1.1s
KLMR Klimovskoe 65.61 328 *e*P **P 17 52 49.4 -2.4**
KLMR AMP 17 52 53.7
comp=Z,121nm,1.1s
KLMR *e*PP **PP 17 55 13.8 -3.5**
KEV Kevo 65.82 339 P **P 17 52 54.4 +1.3**
KEV pmax pmax
comp=Z,61nm,1.2s
KEV Kevo 65.82 339 P **P 17 52 54.4 +1.3**
KEV IAmb IAmb 17 52 55.5
comp=Z,61nm,1.2s
RES Resolute Bay 65.94 14 P **P 17 52 55.1 +1.4**
comp=Z,52nm,0.6s,baz=309,slow=6.1,SNR=151
RES Resolute Bay 65.94 14 P **P 17 52 54.7 +0.9**
HAMF Hammerfest 66.26 341 *e*P **P 17 52 57.0 +1.1**
ARCES ARCESS Array B 66.38 339 P **P 17 52 57.7 +1.0**
comp=Z,32nm,0.9s,baz=52,slow=8.6,SNR=30
ARCES LR LR 18 27 05.0
comp=Z,193nm,18.0s,baz=47,slow=40
ARCES ARCESS Array B 66.38 339 P **P 17 52 57.3 +0.6**
ARE0 ARCESS Array S 66.38 339 P **P 17 52 57.3 +0.6**
ARE0 ARCESS Array S 66.38 339 *e*P **P 17 52 57.9 +1.2**
BBOO Buckleboo 66.48 183 P **P 17 52 58.3 +0.6**
BBOO IAmb IAmb 17 52 59.6
comp=Z,38nm,0.9s
MORW Morawa 66.53 202 P **P 17 52 57.5 -0.6**
MORW IAmb IAmb 17 52 59.1
comp=Z,23nm,0.8s
YKA Yellowknife Ar 67.20 29 P **P 17 53 02.9 +0.9**
comp=Z,6.1nm,0.4s,baz=299,slow=6.0,SNR=102
YKA pP **pwP 17 53 34.7 -0.8**
comp=Z,2.6nm,0.7s,baz=295,slow=6.1,SNR=3.5
YKA PKPPKP **P'P'df 18 21 26.1 -2.9**
comp=Z,0.2nm,0.8s,baz=126,slow=3.1,SNR=3.7
KTK1 Kautokeino 67.34 340 *e*P **P 17 53 04.2 +1.4**
TRO Tromso 68.17 341 *e*P **P 17 53 09.0 +1.1**
TULEG Thule 68.34 7 P **P 17 53 08.9 0.0**
TULEG IAmb IAmb 17 53 10.5
comp=Z,38nm,0.6s
DAG Danmarks Havn 68.72 355 ⇓ *i*P **P 17 53 12.6 +1.4**
comp=Z,32nm,0.8s
DAG Danmarks Havn 68.72 355 *i*P **P 17 53 12.6 +1.4**
DAG pmax pmax
comp=Z,32nm,0.8s
MOS Moscow 68.88 324 *e*P **P 17 53 10.7 -1.9**
MOS *e**PP **PcP 17 53 36.5 +0.4**
MOS *e* 17 55 44.5
MOS *e*S **S 18 02 04.1 -1.8**
MOS pmax pmax
comp=Z,300nm,1.4s

MOS pmax pmax
comp=Z,150nm,1.1s
VRH Novokhopyorsk 68.91 318 *e*P **P** **17 53 12.9 +0.1**
VRH pmax pmax
comp=Z,150nm,0.8s
LLLB Lillooet 69.49 42 P **P** **17 53 17.1 +0.6**
LLLB IAmb IAmb 17 53 19.4
comp=Z,64nm,1.4s
OBN Obninsk 69.71 323 *d i*P **P** **17 53 18.3 +0.6**
OBN *e* 17 53 37.9
OBN *e**PP **pP** **17 53 47.3 -2.3**
OBN *e* 17 55 54.2
OBN pmax pmax
comp=Z,118nm,1.2s
OBN Obninsk 69.71 323 P **P** **17 53 17.8 +0.1**
LPSR Galich'ya Gora 69.75 320 *e*P **P** **17 53 18.4 +0.4**
LPSR pmax pmax
comp=Z,70nm,0.6s
NWAO Narrogin (SRO) 69.78 200 P **P** **17 53 17.9 -0.3**
comp=Z,25nm,0.8s,baz=24,slow=5.7,SNR=12
NWAO Narrogin (SRO) 69.78 200 P **P** **17 53 17.5 -0.8**
NLWA Neilton Lookou 69.88 46 P **P** **17 53 19.0 +0.1**
NLWA IAmb IAmb 17 53 23.0
comp=Z,89nm,1.4s
A04D Lummi Island 69.92 44 P **P** **17 53 21.4 +2.3**
baz=299
VORR Voronezh 70.06 319 P **P** **17 53 19.0 -0.9**
VORR pmax pmax
comp=Z,250nm,1.6s
N2IH Innhavet 70.09 340 *e*P **P** **17 53 21.2 +1.5**
GROC Groznyy 70.23 309 *e*P **P** **17 53 21.6 +0.5**
GROC *e**PP **pP** **17 53 56.2 +3.1**
GROC *e**SP **sP** **17 54 11.9 +4.7**
GROC *e*S **S** **18 02 24.1 +1.8**
GROC pmax pmax
comp=Z,129nm,1.6s
D03D Eldon 70.27 46 P **P** **17 53 24.1 +2.8**
baz=299
STEI Steigen 70.31 341 *e*P **P** **17 53 22.1 +1.0**
VSR Storozhevoye 70.31 319 *e*P **P** **17 53 21.5 +0.1**
VSR pmax pmax
comp=Z,170nm,1.0s
VORD Divnogorie 70.37 319 *e*P **P** **17 53 21.8 0.0**
VORD pmax pmax
comp=Z,70nm,0.9s
B05A Bryant 70.50 45 P **P** **17 53 25.0 +2.3**
baz=299
N2TV Tѵrnvik 70.59 340 *e*P **P** **17 53 24.1 +1.3**
N2ST Straumen 70.61 340 *e*P **P** **17 53 23.4 +0.5**
D04E Lakebay 70.63 46 P **P** **17 53 25.3 +1.9**
baz=299
B06A Marblemount 70.73 44 P **P** **17 53 25.4 +1.4**
B06A IAmb IAmb 17 53 27.0
comp=Z,86nm,1.0s
F03A Seaside 70.76 47 P **P** **17 53 26.2 +1.9**
BANOM Banah 70.84 289 *i* P **P** **17 53 26.0 +0.9**
SNR=7.1
FIA1 FINESS Array S 70.87 332 P **P** **17 53 25.4 +0.7**
FINES FINESS Array B 70.88 332 P **P** **17 53 25.5 +0.9**
comp=Z,54nm,0.6s,baz=95,slow=7.0,SNR=173
FINES PP **PP** **17 56 03.0 +0.1**
comp=Z,15nm,0.9s,baz=54,slow=9.7,SNR=3.8
FINES LR LR 18 25 17.7
comp=Z,96nm,21.9s,baz=54,slow=36
FINES FINESS Array B 70.88 332 P **P** **17 53 24.9 +0.2**
FINES PP **17 56 02.1 -0.7**
SHME Shamm 70.90 289 *i* P **P** **17 53 26.3 +0.8**
SNR=9.8
F04D Rainier, OR 71.02 47 P **P** **17 53 28.1 +2.3**
baz=300
NBB28 Valnes 71.03 340 *e*P **P** **17 53 26.7 +1.2**
E04D Cinebar 71.06 46 P **P** **17 53 28.5 +2.5**
baz=300
GOF Gofitskoye 71.08 312 ⇓ *i*P **P** **17 53 27.3 +1.1**
GOF pmax pmax
comp=Z,168nm,0.9s
MDH Madha 71.14 288 P **P** **17 53 27.1 +0.2**
KULLO Kullorsuaq 71.18 5 ⇑ *i*P **P** **17 53 27.2 +0.9**
comp=Z,24nm,0.7s
KULLO Kullorsuaq 71.18 5 ⇑ *i*P **P** **17 53 27.2 +0.9**
KULLO pmax pmax
comp=Z,24nm,0.7s
N2VA Vr_y 71.19 341 *e*P **P** **17 53 27.7 +1.3**
MSFE Esma-Masafi 71.22 288 P **P** **17 53 28.4 +1.0**
NBB05 Inndyr 71.26 340 *e*P **P** **17 53 28.4 +1.5**
G03D McMinnville, O 71.30 48 P **P** **17 53 30.0 +2.5**
baz=300
TOO Toolangi 71.36 175 P **P** **17 53 29.1 +1.3**
TOO pmax pmax
comp=Z,31nm,1.1s
TOO Toolangi 71.36 175 P **P** **17 53 29.1 +1.3**
TOO IAmb IAmb 17 53 30.6
comp=Z,31nm,1.1s
UOSS Minazif 71.39 288 P **P** **17 53 28.9 +0.4**
UOSS Minazif 71.39 288 P **P** **17 53 28.3 -0.1**
NBB30 Finnes 71.39 340 *e*P **P** **17 53 28.7 +1.0**
LON Longmire 71.42 46 P **P** **17 53 27.9 -0.4**
LON pmax pmax
comp=Z,14nm,1.1s
LON Longmire 71.42 46 P **P** **17 53 27.9 -0.4**
N2RO R_st 71.45 341 *e*P **P** **17 53 29.8 +1.8**
F04A Amboy 71.46 47 P **P** **17 53 29.5 +1.0**
F04A IAmb IAmb 17 53 31.7
comp=Z,61nm,0.9s
I02D Swisshome 71.48 49 P **P** **17 53 31.2 +2.5**
baz=300
HATD Hatta, Dubai 71.50 288 *i* P **P** **17 53 30.0 +0.9**
SNR=10.0
SOHO SOHO 71.52 287 *i* P **P** **17 53 29.6 +0.4**
SNR=13
COR Corvallis 71.58 48 P **P** **17 53 29.1 -0.1**
COR pmax pmax
comp=Z,114nm,1.2s
COR Corvallis 71.58 48 P **P** **17 53 29.1 -0.1**
TBLG Delisi 71.63 308 P **P** **17 53 30.1 +0.5**
TBLG pmax pmax
comp=Z,52nm,1.0s
TBLG Delisi 71.63 308 P **P** **17 53 30.1 +0.5**
TBLG IAmb IAmb 17 53 32.1
comp=Z,52nm,1.0s
ASHO Ashiyiah 71.63 288 *i* P **P** **17 53 30.7 +0.7**
SNR=10
ZEI Tsey 71.65 309 *e*P **P** **17 53 26.4 -3.6**
ZEI pmax pmax
comp=Z,40nm,0.9s
MOR8 Moi Rana 71.75 340 *e*P **P** **17 53 29.9 -0.1**
KBZ Khabaz 71.83 311 P **P** **17 53 32.1 +1.4**
comp=Z,90nm,0.9s,baz=64,slow=4.5,SNR=187
KBZ LR LR 18 27 54.1
comp=Z,163nm,18.2s,baz=58,slow=38
LTY Liberty 71.84 45 P **P** **17 53 31.6 +0.7**
LTY IAmb IAmb 17 53 33.7
comp=Z,47nm,1.2s
KIV Kislovodsk 71.85 311 ⇓ P **P** **17 53 32.3 +1.3**
KIV Kislovodsk 71.85 311 *i* P **P** **17 53 32.4 +1.3**
SNR=32
KIV Kislovodsk 71.85 311 *e*P **P** **17 53 32.3 +1.3**
KIV *e**PP **pP** **17 54 02.2 -0.9**
KIV *e*S **S** **18 02 44.0 +2.9**
KIV pmax pmax
comp=Z,537nm,1.1s
KIV pmax pmax
comp=Z,82nm,3.0s
KIV MLR MLR
comp=Z,206nm,18.0s
KIV Kislovodsk 71.85 311 P **P** **17 53 31.6 +0.6**
J01E Myrtle Point 71.89 50 P **P** **17 53 33.4 +2.3**
baz=300,SNR=5.3
KONS Konsvik 71.90 340 *e*P **P** **17 53 32.7 +1.9**
H04D Lebanon 71.96 48 P **P** **17 53 34.1 +2.6**
baz=300
I03D Drain, OR 71.99 49 P **P** **17 53 34.3 +2.6**
baz=300,SNR=19
KZRT Kazreti 72.02 308 P **P** **17 53 33.3 +1.3**
B08A Colville Reser 72.05 43 P **P** **17 53 33.1 +1.0**
B08A IAmb IAmb 17 53 35.0
comp=Z,82nm,1.1s
F05D White Salmon 72.06 47 P **P** **17 53 34.3 +2.2**
baz=300
ALNE Al Ain 72.18 287 *i* P **P** **17 53 33.9 +0.7**
SNR=5.6
H04A Detroit Lake 72.22 48 P **P** **17 53 34.8 +1.6**
H04A IAmb IAmb 17 53 36.4
comp=Z,81nm,1.2s
K02D Willamette Mer 72.29 50 P **P** **17 53 36.0 +2.4**
baz=300,SNR=20
VSU Vasula 72.38 329 *e*P **P** **17 53 34.6 +0.9**
G05D Wamic, OR 72.47 47 P **P** **17 53 36.9 +2.3**
baz=301
I04A Tendick Farm, 72.53 49 P **P** **17 53 37.1 +2.1**
baz=300,SNR=21
AKH Akhalkalaki 72.60 308 ⇑ P **P** **17 53 37.7 +2.1**
AKH Akhalkalaki 72.60 308 P **P** **17 53 36.7 +1.1**
AKH pmax pmax
comp=Z,45nm,0.9s
AKH Akhalkalaki 72.60 308 P **P** **17 53 36.7 +1.1**
AKH IAmb IAmb 17 53 38.7
comp=Z,46nm,0.9s
E07A Sunnyside 72.67 45 P **P** **17 53 36.8 +1.0**
E07A IAmb IAmb 17 53 39.1
comp=Z,58nm,1.1s
KRMB Red Mountain 72.72 51 P **P** **17 53 38.1 +1.9**
KRMB IAmb IAmb 17 53 40.0
comp=Z,41nm,1.1s
G06A Carlson Farm, 72.89 47 P **P** **17 53 38.3 +1.2**
G06A IAmb IAmb 17 53 40.4
comp=Z,40nm,1.0s
I05D Terrebonne, OR 72.92 48 P **P** **17 53 39.4 +2.1**
baz=301
C09A Chrisman Ranch 72.95 44 P **P** **17 53 37.2 -0.1**
C09A IAmb IAmb 17 53 40.2
comp=Z,123nm,1.4s
HAWA Hanford 72.95 45 P **P** **17 53 37.7 +0.3**
HAWA IAmb IAmb 17 53 40.6
comp=Z,40nm,1.1s
D08A Wollman Farm, 72.96 45 P **P** **17 53 38.2 +0.8**
D08A IAmb IAmb 17 53 40.3
comp=Z,65nm,1.1s
F07A Phinny Hill Vi 72.97 46 P **P** **17 53 37.6 +0.1**
F07A IAmb IAmb 17 53 40.9
comp=Z,63nm,1.0s
J04D Umpqua Nationa 73.00 49 P **P** **17 53 40.2 +2.2**
baz=301,SNR=12
KHMM Horse Mountain 73.16 52 P **P** **17 53 40.3 +1.4**
KHMM IAmb IAmb 17 53 42.9
comp=Z,59nm,1.2s
E08A Dider Farm, El 73.18 45 P **P** **17 53 40.2 +1.5**
E08A IAmb IAmb 17 53 41.8
comp=Z,49nm,1.0s
KARS Kars 73.26 308 P **P** **17 53 42.0 +2.5**
NEW Newport 73.36 43 P **P** **17 53 41.5 +1.7**
baz=302
NEW Newport 73.36 43 P **P** **17 53 41.5 +1.7**
comp=Z,41nm,1.0s,baz=303,slow=5.3,SNR=42
NEW Newport 73.36 43 P **P** **17 53 41.0 +1.2**
NEW IAmb IAmb 17 53 42.6
comp=Z,59nm,1.1s
YBH Yreka Blue Hor 73.39 51 P **P** **17 53 41.7 +1.6**
comp=Z,21nm,1.0s,baz=286,slow=1.5,SNR=28
YBH Yreka Blue Hor 73.39 51 P **P** **17 53 41.4 +1.3**
YBH IAmb IAmb 17 53 43.9
comp=Z,54nm,1.2s
L04D Klamath Falls 73.40 50 P **P** **17 53 42.4 +2.1**
baz=301,SNR=23
PINE Pine Mountain 73.45 48 P **P** **17 53 42.2 +1.6**
M02C Callahan 73.47 51 P **P** **17 53 43.1 +2.5**
baz=301,SNR=14
J05D Fort Rock, OR 73.53 49 P **P** **17 53 43.3 +2.3**
baz=301,SNR=21
K04D Chiloquin, OR 73.54 50 P **P** **17 53 43.2 +2.1**
baz=301,SNR=5.4
NSS Namsos 73.66 339 *e*P **P** **17 53 42.5 +1.3**
BATM Batumi 73.66 309 ⇓ P **P** **17 53 42.9 +1.3**
BATM Batumi 73.66 309 ⇓ P **P** **17 53 42.9 +1.3**
E09A Wood Farm, Sta 73.70 45 P **P** **17 53 42.6 +0.8**
E09A IAmb IAmb 17 53 45.0
comp=Z,101nm,1.2s
SUMG Summit 73.76 359 ⇑ *i*P **P** **17 53 44.2 +2.1**
comp=Z,69nm,0.7s
SUMG Summit 73.76 359 ⇑ *i*P **P** **17 53 44.2 +2.1**
SUMG pmax pmax
comp=Z,69nm,0.7s
SUMG Summit 73.76 359 P **P** **17 53 43.2 +1.1**
SUMG IAmb IAmb 17 53 45.1
comp=Z,27nm,0.7s
N02D Trinity Center 73.78 51 P **P** **17 53 44.8 +2.3**
baz=301,SNR=16
BCA Borcka 73.79 309 ⇓ P **P** **17 53 43.4 +1.0**
KCPM Cahto Peak 73.86 53 P **P** **17 53 43.8 +0.8**
KCPM IAmb IAmb 17 53 46.6
comp=Z,55nm,1.1s
SOC Sochi 73.89 312 *e*P **P** **17 53 42.5 -0.4**
SOC *e* 17 56 24.5
SOC *e*S **S** **18 03 04.0 0.0**
SOC *e*SS **SS** **18 07 51.7 +1.7**
SOC *e*SSS SSS 18 11 08.2
SOC pmax pmax
comp=Z,72nm,0.9s
M04C Macdoel 73.92 50 P **P** **17 53 45.3 +2.0**
baz=301,SNR=24
K05A Summer Lake 74.03 49 P **P** **17 53 45.8 +1.8**
K05A IAmb IAmb 17 53 47.2
comp=Z,56nm,1.0s
WDC Whiskeytown Da 74.09 52 P **P** **17 53 45.7 +1.6**
WDC pmax pmax
comp=Z,47nm,1.3s
WDC Whiskeytown Da 74.09 52 P **P** **17 53 45.7 +1.6**
WDC IAmb IAmb 17 53 47.5
comp=Z,47nm,1.2s
O02D Mt. Diablo Mer 74.14 52 P **P** **17 53 46.7 +2.2**
baz=301,SNR=13
I07A Izee 74.18 47 P **P** **17 53 45.6 +0.8**
IZAR Zarasai 74.24 327 *e*P **P** **17 53 46.2 +1.5**
MICGM Minsk 74.24 326 *e*P **P** **17 53 46.0 +1.3**
MICGM PM 17 53 47.0
comp=Z,0.4nm,1.4s
MICGM *e*pP **pP** **17 54 15.0 -2.1**
MICGM *e*PP **PP** **17 56 25.0 -6.6**
MICGM *e*S **S** **18 03 08.0 +0.5**
MICGM *e*LR LR 18 27 52.0
MNK Minsk 74.24 326 *e*P **P** **17 53 46.0 +1.3**
MNK *e* 17 54 15.0
MNK *e*S **S** **18 03 08.0 +0.5**
ISAL Salakas 74.40 327 *e*P **P** **17 53 47.0 +1.4**
IIGN Ignalina 74.49 327 *e*P **P** **17 53 47.2 +1.0**
NACGM Naroch 74.51 326 *e* **P** **17 53 46.0 -0.3**
NACGM *e*LQ LQ 18 23 06.0
NACGM *e*LR LR 18 29 23.0
F10A Beach Ranch, E 74.53 45 P **P** **17 53 48.1 +1.3**
ANN Anapa 74.63 314 *d i*P **P** **17 53 47.8 +0.6**
ANN *e**PP **pP** **17 54 19.0 -0.6**
ANN *e*S **S** **18 03 11.5 -0.7**
ANN pmax pmax
comp=Z,251nm,1.2s
WALA Waterton Lakes 74.70 41 P **P** **17 53 48.8 +1.1**
WALA IAmb IAmb 17 53 50.6
comp=Z,69nm,1.3s
O03E Paynes Creek 74.72 52 P **P** **17 53 49.1 +1.2**
baz=302,SNR=22
SLIT Slitere, Latvi 74.76 330 *e*P **P** **17 53 48.2 +0.6**
MOD Modoc Plateau 74.84 50 P **P** **17 53 49.8 +1.2**
GDXM Geysers 74.84 53 P **P** **17 53 50.3 +1.7**
GDXM IAmb IAmb 17 53 53.0
comp=Z,39nm,1.2s
SCO Scoresbysund 75.03 354 *i* P **P** **17 53 51.1 +2.2**
comp=Z,17nm,0.8s
SCO Scoresbysund 75.03 354 *i* P **P** **17 53 51.1 +2.2**
SCO pmax pmax
comp=Z,17nm,0.8s
SCO Scoresbysund 75.03 354 P **P** **17 53 51.2 +2.2**
SCO IAmb IAmb 17 53 52.6
comp=Z,67nm,1.5s
BMO Blue Mountains 75.09 46 P **P** **17 53 51.1 +1.1**
BMO pmax pmax
comp=Z,73nm,1.3s
BMO Blue Mountains 75.09 46 P **P** **17 53 51.1 +1.1**
BMO IAmb IAmb 17 53 53.1
comp=Z,73nm,1.3s
TBLU Trondheim 75.11 339 *e*P **P** **17 53 50.3 +0.7**
J08A Circle Bar Ran 75.20 48 P **P** **17 53 52.1 +1.5**
J08A IAmb IAmb 17 53 54.1
comp=Z,69nm,1.2s
JTMT Jette 75.23 42 P **P** **17 53 52.1 +1.3**
JTMT IAmb IAmb 17 53 53.8
comp=Z,76nm,1.1s
ORV Oroville 75.31 52 P **P** **17 53 51.8 +0.6**
ORV pmax pmax
comp=Z,34nm,1.3s
ORV Oroville 75.31 52 P **P** **17 53 51.8 +0.6**
PABE Paberze 75.40 328 *e*P **P** **17 53 52.0 +0.6**
WVOR Wild Horse Val 75.60 48 P **P** **17 53 54.2 +1.2**
WVOR pmax pmax
comp=Z,56nm,1.4s
WVOR Wild Horse Val 75.60 48 P **P** **17 53 54.2 +1.2**
WVOR IAmb IAmb 17 53 56.3
comp=Z,56nm,1.4s
AKASG Malin Array Be 75.86 322 P **P** **17 53 54.6 +0.6**
comp=Z,40nm,0.5s,baz=50,slow=5.8,SNR=228
AKASG PP **PP** **17 56 45.5 +0.2**
comp=Z,3.2nm,0.7s,baz=45,slow=8.7,SNR=4.1
AKASG S **S** **18 03 24.2 -1.3**
comp=Z,0.1nm,0.3s,baz=52,slow=9.7,SNR=7.8
AKASG LR LR 18 30 05.0
comp=Z,198nm,19.2s,baz=50,slow=38
AKASG Malin Array Be 75.86 322 P **P** **17 53 54.1 0.0**
AKBB Malin Array Si 75.86 322 P **P** **17 53 53.6 -0.4**
AKBB pmax pmax
comp=Z,82nm,0.6s
AKBB Malin Array Si 75.86 322 P **P** **17 53 53.6 -0.4**
BEKR Beckworth 75.88 51 P **P** **17 53 55.3 +0.7**
MSO Missoula 75.95 43 P **P** **17 53 56.0 +1.2**
baz=305
MSO Missoula 75.95 43 P **P** **17 53 54.8 0.0**
MSO IAmb IAmb 17 53 57.4
comp=Z,47nm,1.4s
PBUR Paburge 75.95 329 *e*P **P** **17 53 55.1 +0.6**
AFDM Forest Hills D 75.97 52 P **P** **17 53 56.1 +1.1**
NC405 NORSAR Array S 76.25 337 P **P** **17 53 56.5 +0.4**
NC303 NORSAR Array S 76.28 337 P **P** **17 53 57.2 +0.9**
DOMB Dombas 76.39 338 *e*P **P** **17 53 58.0 +1.1**
NB201 NORSAR Array S 76.44 337 P **P** **17 53 57.4 +0.2**
NC204 NORSAR Array S 76.44 337 P **P** **17 53 57.8 +0.6**
MOL Molde 76.44 339 *e*P **P** **17 53 58.7 +1.6**
NB2 NORSAR Subarra 76.47 337 P **P** **17 53 58.2 +0.8**
comp=Z,48nm,0.8s,baz=42,slow=5.6
NB2 NORSAR Subarra 76.47 337 P **P** **17 53 58.2 +0.8**
baz=42,slow=5.6
NOA NORSAR Array B 76.47 337 P **P** **17 53 58.3 +0.9**
comp=Z,24nm,0.8s,baz=42,slow=5.8,SNR=75
NOA pP **pP** **17 54 29.6 -0.3**
comp=Z,5.7nm,0.8s,baz=42,slow=5.8,SNR=2.0
NOA PP **PP** **17 56 51.1 +0.9**
comp=Z,4.5nm,1.0s,baz=42,slow=8.6,SNR=4.0
NOA LR LR 18 33 11.1
comp=Z,133nm,18.3s,baz=45,slow=40
NC602 NORSAR Array S 76.59 337 P **P** **17 53 58.2 +0.2**
NC602 NORSAR Array S 76.59 337 *e*P **P** **17 53 58.6 +0.6**
NORES NORESS Array B 76.59 337 P **P** **17 54 00.7 +2.7**
PAHR Pah Rah Range 76.60 51 P **P** **17 53 59.8 +1.1**
NBO00 NORSAR Array S 76.62 337 P **P** **17 53 58.4 +0.2**
NBO00 IAmb IAmb 17 54 00.4
comp=Z,68nm,0.9s
SUW Suwalki 76.71 327 *e*P **P** **17 53 59.8 +1.0**
SUW *e*PcP **PcP** **17 54 10.6 +0.9**
SUW *e*L L 18 30 48.9
comp=Z,209nm,16.6s
SUW Suwalki 76.71 327 P **P** **17 53 59.3 +0.5**
SUW pmax pmax
comp=Z,93nm,0.6s
SUW Suwalki 76.71 327 P **P** **17 53 59.3 +0.5**
NAO01 NORSAR Array S 76.72 337 P **P** **17 53 59.0 +0.2**
NAO01 IAmb IAmb 17 54 00.8
comp=Z,53nm,0.9s
MFID Camas Ranch 76.78 46 P **P** **17 54 00.8 +1.3**
MFID IAmb IAmb 17 54 02.8
comp=Z,75nm,1.4s
ILULI Ilulissat 76.84 4 *i* P **P** **17 54 00.7 +1.4**
comp=Z,17nm,0.7s
ILULI Ilulissat 76.84 4 *i* P **P** **17 54 00.7 +1.4**
ILULI pmax pmax
comp=Z,17nm,0.7s
ILULI Ilulissat 76.84 4 P **P** **17 53 59.9 +0.6**
CMB Columbia Colle 76.85 53 P **P** **17 54 00.4 +0.4**
CMB pmax pmax
comp=Z,22nm,1.1s
CMB Columbia Colle 76.85 53 P **P** **17 54 00.3 +0.4**
AKN Aaknes 76.91 339 *e*P **P** **17 54 01.7 +1.9**
FFC Flin Flon 77.08 32 P **P** **17 54 01.0 +0.1**
FFC pmax pmax
comp=Z,29nm,1.0s
FFC Flin Flon 77.08 32 P **P** **17 54 01.0 +0.1**
YERR Yerington 77.09 52 P **P** **17 54 01.4 -0.1**
WAKR Walker 77.22 52 P **P** **17 54 03.8 +1.5**
LRM Limekiln Ridge 77.37 43 P **P** **17 54 04.2 +1.1**
FCC Fort Churchill 77.40 26 P **P** **17 54 01.9 -0.7**
FCC pmax pmax
comp=Z,20nm,0.7s
FCC Fort Churchill 77.40 26 P **P** **17 54 01.9 -0.7**
OSL Oslo 77.46 336 *e*P **P** **17 54 04.5 +1.6**
MALT Malatya 77.54 308 P **P** **17 54 06.0 +2.1**
HLID Hailey 77.54 46 P **P** **17 54 05.5 +1.6**
EGMT Eagleton 77.55 40 P **P** **17 54 05.3 +1.5**
baz=307
EGMT Eagleton 77.55 40 P **P** **17 54 04.9 +1.2**
EGMT IAmb IAmb 17 54 06.5
comp=Z,101nm,1.1s
DLMT Dillon 77.56 43 P **P** **17 54 05.2 +1.3**
DLMT IAmb IAmb 17 54 06.8
comp=Z,77nm,1.1s
SKAR Skarslia 77.67 338 *e*P **P** **17 54 05.7 +1.5**
DIKM Dikmen 77.70 312 ⇓ P **P** **17 54 06.3 +1.7**
MCMT McKenzie Canyo 77.72 44 P **P** **17 54 05.2 +0.2**
RYN Ryan 77.75 52 P **P** **17 54 06.3 +1.1**
KVN Kaiserville 77.79 51 P **P** **17 54 06.7 +1.3**
KVN pmax pmax
comp=Z,22nm,0.8s
KVN Kaiserville 77.79 51 P **P** **17 54 06.7 +1.3**
SORM Soroca 77.86 320 ⇓ P **P** **17 54 05.8 +0.5**
SORM Soroca 77.86 320 ⇓ P **P** **17 54 05.8 +0.5**
MDPB Devils Postpil 77.94 53 P **P** **17 54 06.2 -0.2**
HYA Hoyanger 77.94 339 *e*P **P** **17 54 06.9 +1.4**
BOZ Bozeman (W) 77.97 43 P **P** **17 54 08.0 +1.8**
baz=307
BOZ Bozeman (W) 77.97 43 P **P** **17 54 07.0 +0.8**
BOZ pmax pmax
comp=Z,20nm,0.8s
BOZ Bozeman (W) 77.97 43 P **P** **17 54 07.0 +0.8**
NVAR Mina Array Bea 78.01 52 P **P** **17 54 08.5 +1.9**
comp=Z,11nm,0.8s,baz=280,slow=5.7,SNR=63
NVAR LR LR 18 23 08.3
comp=Z,59nm,20.4s,baz=302,slow=31
NVAR Mina Array Bea 78.01 52 P **P** **17 54 07.5 +0.8**
KONO Kongsberg 78.05 337 *e*P **P** **17 54 07.0 +0.8**
NV11 Mina Array Sit 78.10 52 P **P** **17 54 08.2 +1.1**
PAGB Antelope Grade 78.20 55 P **P** **17 54 09.2 +1.7**
PAGB IAmb IAmb 17 54 10.1
comp=Z,37nm,0.8s
BZK Bozkurt 78.29 313 ⇓ P **P** **17 54 09.5 +1.7**
QLMT Earthquake Lak 78.54 43 P **P** **17 54 11.1 +1.6**
ELK Elko 78.65 48 P **P** **17 54 11.9 +1.7**
comp=Z,9.9nm,0.9s,baz=310,slow=6.2,SNR=28
ELK Elko 78.65 48 P **P** **17 54 11.5 +1.3**
YHL Hebgen Lake 78.67 43 P **P** **17 54 11.5 +1.3**
HPB Horse Butte 78.72 43 P **P** **17 54 12.5 +2.0**
TIN Tinemaha, Big 78.82 53 P **P** **17 54 12.9 +1.9**
baz=304
BER Bergen 78.82 339 *e*P **P** **17 54 11.8 +1.5**
IAS Iasi 78.86 320 P **P** **17 54 12.4 +1.6**
YHH Holmes Hill 78.89 43 P **P** **17 54 12.6 +1.1**
VES Vestal, Richgr 78.93 54 P **P** **17 54 12.5 +1.1**
baz=304
LEOM Leova 78.93 319 ⇓ P **P** **17 54 12.8 +1.5**
LEOM Leova 78.93 319 ⇓ P **P** **17 54 12.8 +1.5**
GCMT Greycliff 78.95 42 P **P** **17 54 12.2 +0.6**
PKM Mcpherson Peak 78.96 55 P **P** **17 54 13.8 +1.9**
baz=304
GAZ Gaziantep 78.97 307 P **P** **17 54 12.7 +1.0**
GAZ IAmb IAmb 17 54 15.0
comp=Z,84nm,1.0s
ILGA Ilgaz 78.99 312 P **P** **17 54 13.4 +1.4**
LVV L'vov 79.02 323 *e*P **P** **17 54 12.5 +0.8**
LVV *e**PP **pP** **17 54 42.0 -2.4**
LVV *e*S **S** **18 03 59.0 -0.7**
LVV pmax pmax
comp=Z,120nm,1.4s
SFJD Kangerlussuaq 79.07 4 P **P** **17 54 12.7 +1.1**
comp=Z,2.2nm,0.6s,baz=356,slow=3.0,SNR=14
SFJD Kangerlussuaq 79.07 4 *i* P **P** **17 54 12.9 +1.3**
comp=Z,1.6nm,0.7s
SFJD Kangerlussuaq 79.07 4 *i* P **P** **17 54 12.9 +1.3**
SFJD Kangerlussuaq 79.07 4 P **P** **17 54 12.4 +0.8**
SFJD IAmb IAmb 17 54 13.8
comp=Z,24nm,0.6s
VASR Vaslui 79.08 319 ⇓ P **P** **17 54 13.5 +1.4**

YPP Pitchstone Pla 79.23 44 P P 17 54 15.5 +2.2
BEL Belsk 79.23 326 eP P 17 54 14.6 +1.8
BEL eL L 18 27 24.7
comp=Z,169nm,26.6s
YNE Yellowstone No 79.24 43 P P 17 54 14.2 +0.9
BLS5 Blasjo 79.24 338 eP P 17 54 14.1 +1.4
CWC Cottonwood Cre 79.27 53 P P 17 54 15.0 +1.4
baz=304
SBC Santa Barbara 79.27 56 P P 17 54 14.5 +1.2
baz=304
H17A Grant Village 79.29 43 P P 17 54 16.1 +2.4
H17A IAmb IAmb 17 54 18.4
comp=Z,66nm,1.1s
YMP Mirror Lake Pl 79.32 43 P P 17 54 15.8 +1.9
IMW Indian Meadow 79.38 44 P P 17 54 15.9 +1.7
FLWY Flagg Ranch 79.41 44 P P 17 54 16.5 +2.3
FLWY IAmb IAmb 17 54 18.3
comp=Z,86nm,1.4s
TLCR 79.41 318 ⇑P P 17 54 15.2 +1.3
TLCR 79.41 318 ⇑P P 17 54 15.2 +1.3
GRAC Grapevine Rang 79.42 53 P P 17 54 15.9 +1.7
baz=305
ISA Isabella, Lake 79.44 54 P P 17 54 14.8 +0.5
baz=304,SNR=6.3
ISA Isabella, Lake 79.44 54 P P 17 54 14.1 -0.2
ISA pmax pmax
comp=Z,12nm,1.0s
ISA Isabella, Lake 79.44 54 P P 17 54 14.1 -0.2
BSD Bornholm Skovb 79.47 331 ⇓iP P 17 54 14.6 +0.6
comp=Z,74nm,0.9s
BSD Bornholm Skovb 79.47 331 ⇓iP P 17 54 14.6 +0.6
BSD pmax pmax
comp=Z,74nm,0.9s
FXWY Fox Creek 79.48 44 P P 17 54 16.2 +1.6
ARVC Arvin 79.50 55 P P 17 54 15.9 +1.3
baz=304
VARL Varlezi 79.50 319 ⇑P P 17 54 16.0 +1.6
HVU Hansel Valley 79.56 46 P P 17 54 16.9 +1.9
HVU pmax pmax
comp=Z,20nm,0.8s
HVU Hansel Valley 79.56 46 P P 17 54 16.9 +1.9
SCZ2 Santa Cruz Isl 79.58 56 P P 17 54 16.5 +1.4
baz=304
RLMT Red Lodge 79.58 42 P P 17 54 17.0 +1.9
baz=308
RLMT Red Lodge 79.58 42 P P 17 54 16.1 +0.9
TPAW Teton Pass 79.62 44 P P 17 54 13.8 -1.7
JURR Jurilovca 79.63 317 ⇑P P 17 54 11.9 -3.1
GHRR 79.64 319 ⇓P P 17 54 17.2 +2.1
SNOW Snow King Moun 79.75 44 P P 17 54 16.3 +0.2
TESR Tescani 79.77 320 ⇓P P 17 54 16.8 +0.9
KWP Kalwaria Pacla 79.79 324 eP P 17 54 17.6 +1.7
KWP eL L 18 32 27.9
comp=Z,384nm,17.5s
KWP Kalwaria Pacla 79.79 324 P P 17 54 17.0 +1.1
KWP pmax pmax
comp=Z,181nm,1.2s
KWP Kalwaria Pacla 79.79 324 P P 17 54 17.0 +1.1
CFR Carcaliu 79.79 318 ⇓P P 17 54 16.8 +0.9
CFR Carcaliu 79.79 318 ⇓P P 17 54 16.8 +0.9
BIZ Bicaz 79.79 320 ⇓P P 17 54 17.4 +1.4
BR131 Keskin Array S 79.81 311 P P 17 54 17.1 +0.7
BR131 pmax pmax
comp=Z,55nm,0.9s
BR131 Keskin Array S 79.81 311 P P 17 54 17.1 +0.7
BR131 IAmb IAmb 17 54 18.8
comp=Z,54nm,0.8s
BRTR Keskin Array B 79.81 311 P P 17 54 17.5 +1.1
comp=Z,53nm,0.9s,baz=120,slow=4.2,SNR=190
BRTR Keskin Array B 79.81 311 P P 17 54 16.8 +0.4
R11A Troy Canyon, C 79.81 51 P P 17 54 18.2 +1.7
baz=305
R11A Troy Canyon, C 79.81 51 P P 17 54 17.8 +1.3
BUR08 Bucovina Ar. S 79.82 321 P P 17 54 17.4 +1.1
BUR08 IAmb IAmb 17 54 18.8
comp=Z,38nm,0.9s
BURAR Bucovina Array 79.83 321 ⇓P P 17 54 17.6 +1.3
BURAR Bucovina Array 79.83 321 ⇓P P 17 54 17.6 +1.3
BURAR Bucovina Array 79.83 321 P P 17 54 17.0 +0.7
SNART Snartemo 79.85 337 eP P 17 54 17.4 +1.4
OSI Osito Audit: C 79.86 55 P P 17 54 17.9 +1.3
baz=304
MPMC Manual Prospec 79.88 53 P P 17 54 18.0 +1.1
baz=305,SNR=18
BGU Big Grassy Mou 79.91 47 P P 17 54 18.1 +1.2
PETR Petresti 79.95 319 ⇓P P 17 54 19.2 +2.4
AHID Auburn Hatcher 79.97 45 P P 17 54 18.1 +0.9
ODBI Odobesti 80.02 319 ⇑P P 17 54 19.7 +2.6
SPUT South Promonto 80.04 47 P P 17 54 19.0 +1.4
FURC Furnace Creek, 80.06 53 P P 17 54 18.9 +1.4
baz=305,SNR=14
TIRR Tirgusor 80.08 317 ⇓P P 17 54 18.4 +0.9
TIRR Tirgusor 80.08 317 ⇓P P 17 54 18.4 +0.9
TIRR Tirgusor 80.08 317 P P 17 54 18.1 +0.6
FRB Frobisher Bay 80.10 12 P P 17 54 18.4 +1.2
comp=Z,22nm,0.7s,baz=334,slow=5.6,SNR=26
FRB pP pP 17 54 50.4 +0.7
comp=Z,9.3nm,0.6s,baz=339,slow=5.0,SNR=3.3
VRI Vrincioaia 80.14 319 ⇓P P 17 54 19.3 +1.5
VRI Vrincioaia 80.14 319 ⇓P P 17 54 19.3 +1.5
DGMT Dagmar 80.15 37 P P 17 54 18.8 +0.8
baz=311
DGMT Dagmar 80.15 37 P P 17 54 18.3 +0.3
DGMT IAmb IAmb 17 54 20.1
comp=Z,81nm,1.4s
GOET G??ttrup 80.18 335 iP P 17 54 19.2 +1.5
comp=Z,138nm,0.8s
TPNV Topopah Spring 80.19 52 P P 17 54 20.1 +1.6
baz=305
TPNV Topopah Spring 80.19 52 P P 17 54 19.3 +0.8
TPNV pmax pmax
comp=Z,36nm,1.0s
TPNV Topopah Spring 80.19 52 P P 17 54 19.3 +0.8
TPNV IAmb IAmb 17 54 21.1
comp=Z,36nm,0.9s
PLOR Plostina 80.19 319 ⇑P P 17 54 19.5 +1.3
PLOR Plostina 80.19 319 ⇑P P 17 54 19.5 +1.3
EDW2 Edwards Air Fo 80.20 55 P P 17 54 19.5 +1.1
baz=305,SNR=14
HARR Harsova 80.21 318 ⇓P P 17 54 19.8 +1.6
HARR Harsova 80.21 318 ⇓P P 17 54 19.8 +1.6
ANTO Ankara 80.25 312 ⇑P P 17 54 19.9 +1.2
ANTO Ankara 80.25 312 ⇑P P 17 54 19.9 +1.2
ANTO Ankara 80.25 312 P P 17 54 19.7 +1.0
LAO LASA Array 80.26 40 P P 17 54 20.0 +1.5
baz=310
LAO LASA Array 80.26 40 P P 17 54 16.3 -2.2
LAO IAmb IAmb 17 54 21.4
comp=Z,44nm,1.1s
BR231 Keskin MP Arra 80.28 312 P P 17 54 20.3 +1.4
BR231 IAmb IAmb 17 54 21.5
comp=Z,59nm,0.8s
DECC Green Verdugo 80.32 55 P P 17 54 20.4 +1.3
baz=305
BKZ Black Stump Fm 80.35 152 P P 17 54 19.3 +0.4
BKZ IAmb IAmb 17 54 22.2
comp=Z,29nm,0.9s
MANR Mangalia 80.38 317 ⇑P P 17 54 21.1 +2.0
HWUT Hardware Ranch 80.39 46 P P 17 54 20.9 +1.3
HWUT IAmb IAmb 17 54 22.8
comp=Z,56nm,1.2s
KOLS Kolonicke sedl 80.46 324 eP P 17 54 20.9 +1.4
KOLS pmax pmax
comp=Z,26nm,1.2s
KOLS Kolonicke sedl 80.46 324 eP P 17 54 20.9 +1.4
DUG Dugway, Tooele 80.48 48 P P 17 54 21.9 +2.0
baz=307
DUG Dugway, Tooele 80.48 48 P P 17 54 21.3 +1.4
DUG pmax pmax
comp=Z,65nm,1.4s
DUG Dugway, Tooele 80.48 48 P P 17 54 21.3 +1.4
DUG IAmb IAmb 17 54 23.1
comp=Z,65nm,1.4s
OZUR 80.50 320 ⇓P P 17 54 22.5 +2.6
MWC Mount Wilson 80.53 55 P P 17 54 20.7 +0.3
MWC pmax pmax
comp=Z,17nm,0.8s
MWC Mount Wilson 80.53 55 P P 17 54 20.7 +0.3
SHAB Shabla 80.54 317 ⇓P P 17 54 07.3 -13
AMRR Amara 80.59 318 ⇓P P 17 54 22.0 +1.8
AMRR Amara 80.59 318 ⇓P P 17 54 22.0 +1.8
PGOR Pogoanele 80.60 318 ⇓P P 17 54 23.1 +2.8
ARCR ARCALIA 80.62 321 ⇑P P 17 54 22.7 +2.3
ICOR Ion Corvin 80.64 317 ⇑P P 17 54 22.3 +1.8

MUD Monsted U'grnd 80.64 335 iP P 17 54 21.3 +1.1
comp=Z,35nm,0.9s
MUD Monsted U'grnd 80.64 335 iP P 17 54 21.3 +1.1
MUD pmax pmax
comp=Z,35nm,0.9s
NEHR Nehoiu 80.65 319 ⇓P P 17 54 22.6 +2.0
UZH Uzhgorod 80.66 323 eP P 17 54 20.1 -0.4
UZH e 17 54 55.4
UZH eS S 18 04 12.0 -4.9
FMP Fort Macarthur 80.66 56 P P 17 54 21.6 +0.8
baz=305
BMR Baia Mare 80.68 322 ⇑P P 17 54 22.5 +1.8
BMR Baia Mare 80.68 322 ⇑P P 17 54 22.5 +1.8
ISR Istrita 80.71 319 ⇓P P 17 54 23.7 +2.7
ISR Istrita 80.71 319 ⇓P P 17 54 23.7 +2.7
CIS Catalina Islan 80.75 56 P P 17 54 22.3 +0.9
baz=305
GSC Goldstone, Bar 80.76 54 P P 17 54 22.6 +1.1
baz=305,SNR=13
GSC Goldstone, Bar 80.76 54 P P 17 54 21.9 +0.4
GSC pmax pmax
comp=Z,32nm,1.2s
GSC Goldstone, Bar 80.76 54 P P 17 54 21.9 +0.4
TCUT Toone Canyon 80.78 46 P P 17 54 22.0 +0.4
OJC Ojcow 80.79 326 eP P 17 54 22.7 +1.5
OJC eL L 18 30 46.3
comp=Z,150nm,23.9s
OJC Ojcow 80.79 326 P P 17 54 22.1 +0.9
OJC pmax pmax
comp=Z,107nm,1.2s
OJC Ojcow 80.79 326 P P 17 54 22.1 +0.9
OJC IAmb IAmb 17 54 23.8
comp=Z,107nm,1.2s
BFSC Mount Baldy Ra 80.79 55 P P 17 54 22.5 +0.7
baz=305,SNR=8.1
DOPR Dopca 80.80 320 ⇑P P 17 54 23.4 +2.0
MLR Muntele Rosu 80.80 319 ⇓P P 17 54 22.7 +1.2
MLR Muntele Rosu 80.80 319 ⇓P P 17 54 22.7 +1.2
MLR Muntele Rosu 80.80 319 P P 17 54 21.9 +0.4
PSUT Pine Spring 80.81 50 P P 17 54 22.9 +1.0
CTU Camp Tracy 80.83 47 P P 17 54 22.5 +0.7
TRPA Tarpa 80.86 323 ⇓P P 17 54 23.3 +1.7
BW06 Boulder Array 80.87 44 P P 17 54 23.2 +1.1
baz=308
BW06 Boulder Array 80.87 44 P P 17 54 22.5 +0.4
PD31 Pinedale Array 80.87 44 P P 17 54 21.4 -0.7
PDAR Pinedale Array 80.87 44 P P 17 54 23.2 +1.1
comp=Z,3.5nm,0.6s,baz=277,slow=2.5,SNR=19
PDAR LR LR 18 29 50.9
comp=Z,28nm,19.1s,baz=319,slow=35
PDAR Pinedale Array 80.87 44 P P 17 54 22.3 +0.2
MDUB Mudurnu 80.88 313 P P 17 54 23.0 +1.0
RRX Edison Barstow 80.88 54 P P 17 54 23.1 +1.1
baz=305
CRVS Cervenica-Dubn 80.88 324 eP P 17 54 23.4 +1.6
CRVS pmax pmax
comp=Z,69nm,1.3s
CRVS Cervenica-Dubn 80.88 324 eP P 17 54 23.4 +1.6
LEHL Lehliu 80.96 318 ⇑P P 17 54 24.1 +1.9
SECR 81.02 319 ⇓P P 17 54 24.2 +1.6
JLU Jordanelle 81.07 47 P P 17 54 24.7 +1.5
NLU North Lily Min 81.07 48 P P 17 54 24.7 +1.5
NIE Niedzica 81.10 325 eP P 17 54 24.8 +1.9
NIE ePcP PcP 17 54 28.8 -0.1
NIE eL L 18 33 03.3
comp=Z,106nm,17.5s
NIE Niedzica 81.10 325 P P 17 54 24.7 +1.8
SHPR Sheep Range 81.16 52 P P 17 54 24.7 +1.1
CJR Cluj-Napoca 81.26 321 ⇓P P 17 54 25.6 +1.8
CJR Cluj-Napoca 81.26 321 ⇓P P 17 54 25.6 +1.8
TUQ Turquoise Moun 81.27 53 P P 17 54 25.3 +1.0
baz=306
BBRC Big Bear Solar 81.28 55 P P 17 54 25.0 +0.6
baz=305
MPU Maple Canyon 81.31 47 P P 17 54 25.7 +1.3
VOIR 81.32 320 ⇑P P 17 54 25.6 +1.4
VOIR 81.32 320 ⇑P P 17 54 25.6 +1.4
ORH Orhaniye 81.32 314 P P 17 54 36.6 +12
HEC Hector,Ludlow 81.35 54 P P 17 54 25.8 +1.2
baz=306,SNR=14
TUWZ Tuamarina 81.36 155 P P 17 54 23.8 -0.3
PRD Provadia 81.44 317 iP P 17 54 26.6 +1.8
MURC Murrieta 81.47 55 P P 17 54 26.3 +1.1
baz=305
ARR Arges 81.59 320 ⇓P P 17 54 27.9 +2.3
KECS Kecovo 81.64 324 eP P 17 54 27.3 +1.5
KECS Kecovo 81.64 324 eP P 17 54 27.3 +1.5
TCRU Three Creeks R 81.65 49 P P 17 54 27.5 +1.2
DRGR 81.66 322 ⇓P P 17 54 27.2 +1.2
DRGR 81.66 322 ⇓P P 17 54 27.2 +1.2
LANS Liptovska Anna 81.68 325 eP P 17 54 28.4 +2.4
LANS pmax pmax
comp=Z,21nm,0.8s
LANS Liptovska Anna 81.68 325 eP P 17 54 28.4 +2.4
CCUT Cedar City 81.70 50 P P 17 54 27.6 +1.0
RAZG Razgrad 81.71 318 ⇑P P 17 54 28.0 +1.8
OKC Ostrava-Krasne 81.82 326 eP P 17 54 27.9 +1.2
OKC ex x 17 54 35.7
OKC eS S 18 04 23.6 -5.4
OKC AMS AMS 18 34 30.0
comp=Z,200nm,16.3s
OKC Ostrava-Krasne 81.82 326 eP P 17 54 27.9 +1.2
OKC eS S 18 04 23.6 -5.4
OKC MLR MLR
comp=Z,200nm,16.3s
GMRC Granite Mounta 81.83 54 P P 17 54 28.2 +1.0
baz=306,SNR=25
RUE Ruedersdorf 81.85 330 eP P 17 54 28.1 +1.4
comp=Z,69nm,1.1s,baz=40,slow=4.9
BHL Bhannes 81.88 305 eP P 17 54 28.4 +1.0
MSU Marysvale 81.88 49 P P 17 54 29.4 +1.9
MSU Marysvale 81.88 49 P P 17 54 29.4 +1.9
HUMR Humele 81.94 319 ⇓P P 17 54 27.7 +0.3
109C Camp Elliot, M 81.94 56 P P 17 54 28.7 +1.1
baz=305
109C Camp Elliot, M 81.94 56 P P 17 54 25.0 -2.6
109C IAmb IAmb 17 54 30.1
comp=Z,83nm,1.5s
KSP Ksiaz 81.95 328 eP P 17 54 28.9 +1.5
KSP eL L 18 32 13.5
comp=Z,152nm,20.6s
KSP Ksiaz 81.95 328 P P 17 54 28.7 +1.4
PFO Pinyon Flats O 81.97 55 P P 17 54 29.0 +1.1
baz=306
PFO Pinyon Flats O 81.97 55 P P 17 54 28.8 +0.9
comp=Z,15nm,0.7s,baz=289,slow=2.3,SNR=12
PFO Pinyon Flats O 81.97 55 P P 17 54 29.0 +1.1
PFO pmax pmax
comp=Z,48nm,1.3s
PFO Pinyon Flats O 81.97 55 P P 17 54 29.0 +1.1
PFO IAmb IAmb 17 54 30.3
comp=Z,48nm,1.3s
XPFO Pion Flat 81.97 55 P P 17 54 28.5 +0.6
XPFO IAmb IAmb 17 54 30.3
comp=Z,53nm,1.4s
LOT Lotru 82.00 320 ⇓P P 17 54 29.1 +1.3
TMUT Trail Mountain 82.00 48 P P 17 54 29.2 +0.9
BELC Belle Mtn. Jos 82.06 54 P P 17 54 29.3 +0.9
baz=306,SNR=9.8
QRWL Qaraoun 82.06 305 eP P 17 54 29.5 +1.1
LCMT Little Creek M 82.10 51 P P 17 54 29.7 +1.1
MORC Moravsky Berou 82.14 326 ⇓P P 17 54 29.8 +1.4
MORC Moravsky Berou 82.14 326 ⇓iP P 17 54 29.8 +1.4
MORC ePP PP 17 57 39.0 +1.4
MORC Moravsky Berou 82.14 326 ⇓P P 17 54 29.8 +1.4
MORC Moravsky Berou 82.14 326 P P 17 54 29.2 +0.8
MORC IAmb IAmb 17 54 31.0
comp=Z,64nm,1.3s
BSEG Bad Segeberg 82.15 333 eP P 17 54 29.0 +0.8
comp=Z,49nm,1.1s,baz=40,slow=4.9
MTPU Mount Pierson 82.16 49 P P 17 54 30.4 +1.3
DEV Deva 82.17 321 ⇓P P 17 54 30.8 +2.2
DEV Deva 82.17 321 ⇓P P 17 54 30.8 +2.2
P17A Butcher Ranch, 82.18 47 P P 17 54 30.6 +1.5
OSTC Ostas 82.19 328 eP P 17 54 30.1 +1.5
OSTC eS S 18 04 29.7 -3.1
OSTC AMS AMS 18 34 40.0
comp=Z,200nm,15.8s
RDMU Red Mountain 82.22 46 P P 17 54 30.3 +1.1
SZH Strazhica 82.23 318 iP P 17 54 30.0 +1.1
CHVC Chvalec 82.24 328 eP P 17 54 29.9 +1.0
CHVC AMS AMS 18 34 40.0
comp=Z,200nm,13.6s

DPC Dobruska-Polom 82.29 327 eP P 17 54 30.5 +1.3
DPC eS S 18 04 31.4 -2.5
DPC AMS AMS 18 34 40.0
comp=Z,300nm,14.3s
DPC Dobruska-Polom 82.29 327 eP P 17 54 30.5 +1.3
DPC eS S 18 04 31.4 -2.5
DPC MLR MLR
comp=Z,300nm,14.3s
PSZ Piszkesteto 82.32 324 P P 17 54 30.8 +1.4
PSZ pmax pmax
comp=Z,93nm,1.1s
PSZ Piszkesteto 82.32 324 P P 17 54 30.8 +1.4
PSZ IAmb IAmb 17 54 32.2
comp=Z,93nm,1.1s
UPC Upice 82.32 328 eP P 17 54 30.8 +1.5
UPC eS S 18 04 30.6 -3.5
UPC AMS AMS 18 34 40.0
comp=Z,200nm,13.7s
UPC Upice 82.32 328 eP P 17 54 30.8 +1.5
UPC eS S 18 04 30.6 -3.5
UPC MLR MLR
comp=Z,200nm,13.7s
BAR Barrett 82.36 56 P P 17 54 30.3 +0.5
KNB Kanab 82.37 50 P P 17 54 31.7 +1.7
KNB pmax pmax
comp=Z,129nm,1.5s
KNB Kanab 82.37 50 P P 17 54 31.7 +1.7
MONP2 Monument Peak 82.41 55 P P 17 54 31.4 +1.1
baz=306,SNR=7.1
RPZ Rata Peaks 82.43 158 P P 17 54 30.0 +0.4
comp=Z,15nm,0.7s,baz=281,slow=5.2,SNR=6.5
VYHS Vyhne 82.43 325 eP P 17 54 31.7 +1.8
VYHS pmax pmax
comp=Z,88nm,1.4s
VYHS Vyhne 82.43 325 eP P 17 54 31.7 +1.8
PKCU Pink Cliffs 82.44 50 P P 17 54 31.4 +0.9
ELND Elena 82.47 317 ⇑P P 17 54 31.8 +1.6
NEE2 Needles Airpor 82.53 53 P P 17 54 31.8 +1.1
baz=306
IRM Iron Mountain 82.54 54 P P 17 54 32.1 +1.4
baz=306
SRU San Rafael Swe 82.54 48 P P 17 54 32.2 +1.3
SRU pmax pmax
comp=Z,51nm,0.9s
SRU San Rafael Swe 82.54 48 P P 17 54 32.2 +1.3
SIRR Siria 82.55 322 ⇑P P 17 54 32.0 +1.4
VLAD Vladila 82.60 319 ⇓P P 17 54 32.1 +1.3
BC3 Big Chuckawall 82.62 54 P P 17 54 32.6 +1.3
baz=306,SNR=10.0
K22A Casper 82.68 43 P P 17 54 32.5 +1.0
baz=310
K22A Casper 82.68 43 P P 17 54 32.0 +0.5
JAVC Velka Javorina 82.73 326 ⇓iP P 17 54 34.0 +2.5
JAVC ePP PP 17 57 45.0 +2.5
IKP In-Ko-Pah, Jac 82.77 56 P P 17 54 33.3 +1.3
baz=306,SNR=5.6
SWSC Sam W. Stewart 82.81 55 P P 17 54 33.2 +1.1
baz=306
CSS Mathiatis 82.81 307 P P 17 54 32.4 +0.3
CSS IAmb IAmb 17 54 34.4
comp=Z,86nm,1.2s
SRE Strehaia 82.81 320 ⇑P P 17 54 33.9 +1.9
SRE Strehaia 82.81 320 ⇑P P 17 54 33.9 +1.9
W13A Hualapai Mount 82.82 52 P P 17 54 32.9 +0.5
MDND Maddock 82.85 36 P P 17 54 33.1 +1.0
baz=314
MDND Maddock 82.85 36 P P 17 54 32.2 +0.1
MDND IAmb IAmb 17 54 33.7
comp=Z,26nm,0.7s
ULM Lac du Bonnet 82.87 32 P P 17 54 32.1 0.0
comp=Z,15nm,1.1s,baz=311,slow=6.4,SNR=8.4
ULM Lac du Bonnet 82.87 32 P P 17 54 31.9 -0.2
ULM IAmb IAmb 17 54 33.7
comp=Z,46nm,1.4s
PLVB Pleven 82.88 318 ⇓P P 17 54 33.6 +1.3
ISP Isparta 82.90 311 P P 17 54 32.6 0.0
ISP pmax pmax
comp=Z,28nm,0.7s
ISP Isparta 82.90 311 P P 17 54 32.6 0.0
ISP IAmb IAmb 17 54 35.0
comp=Z,28nm,0.7s
RWWY Rawlins 82.90 44 P P 17 54 33.1 +0.4
RWWY IAmb IAmb 17 54 35.2
comp=Z,74nm,1.3s
VRAC Vranov 82.91 326 ⇓P P 17 54 34.0 +1.6
VRAC Vranov 82.91 326 ⇓iP P 17 54 33.9 +1.5
VRAC ePP PP 17 57 45.0 +1.1
VRAC Vranov 82.91 326 ⇓P P 17 54 34.0 +1.6
PVCC Panska Ves 82.94 328 eP P 17 54 33.5 +1.0
PVCC AMS AMS 18 34 00.0
comp=Z,200nm,16.4s
PVCC Panska Ves 82.94 328 eP P 17 54 33.5 +1.0
PVCC MLR MLR
comp=Z,200nm,16.4s
BRG Berggiesshubel 82.96 329 iP P 17 54 33.6 +1.1
comp=Z,25nm,0.9s
BRG pP pP 17 55 06.0 +0.5
BRG PP PP 17 57 45.5 +1.4
comp=Z,56nm,1.5s
BRG S S 18 04 36.0 -4.5
BRG SS SS 18 09 56.0 -9.5
BRG Berggiesshubel 82.96 329 iP P 17 54 33.7 +1.1
BRG *PP pP 17 55 06.0 +0.5
BRG 17 57 45.5
BRG S S 18 04 36.0 -4.5
BRG pmax pmax
comp=Z,25nm,0.9s
BRG pmax pmax
comp=Z,56nm,1.5s
BRG Berggiesshubel 82.96 329 eP P 17 54 33.5 +0.9
comp=Z,21nm,1.0s,baz=40,slow=4.9
BZS Buzias 83.01 321 ⇓P P 17 54 33.8 +0.9
BZS Buzias 83.01 321 ⇓P P 17 54 33.8 +0.9
CLL Collm 83.04 330 ⇓iP P 17 54 33.8 +0.8
comp=Z,95nm,1.5s
CLL epP pP 17 55 05.0 -0.9
CLL ePP PP 17 57 45.0 +0.2
comp=Z,33nm,1.3s
CLL eS S 18 04 43.0 +1.7
CLL eSS SS 18 10 12.0 +5.4
CLL eSSSS 18 16 42.0
CLL LmV 18 34 00.0
comp=Z,200nm,18.6s
CLL Collm 83.04 330 ⇓iP P 17 54 33.8 +0.8
CLL e*PP pP 17 55 05.0 -0.9
CLL eS S 18 04 43.0 +1.7
CLL pmax pmax
comp=Z,95nm,1.5s
CLL Collm 83.04 330 P P 17 54 33.2 +0.2
CLL IAmb IAmb 17 54 34.9
comp=Z,91nm,1.4s
CLL Collm 83.04 330 eP P 17 54 34.0 +1.0
comp=Z,42nm,0.9s,baz=40,slow=4.9
BUD Budapest 83.05 324 P P 17 54 35.1 +2.1
BUD pmax pmax
comp=Z,49nm,1.2s
U15A North Rim 83.06 51 P P 17 54 34.0 +0.2
HERR Herculane 83.09 320 ⇓P P 17 54 34.4 +1.0
SMOL Smolenice 83.09 325 eP P 17 54 35.5 +2.2
SMOL pmax pmax
comp=Z,63nm,1.3s
SMOL Smolenice 83.09 325 eP P 17 54 35.5 +2.2
RSSD Black Hills 83.10 41 P P 17 54 34.6 +0.9
baz=312
RSSD Black Hills 83.10 41 P P 17 54 33.0 -0.7
RSSD pmax pmax
comp=Z,18nm,1.3s
RSSD Black Hills 83.10 41 P P 17 54 33.0 -0.7
PDMCI Parker Dam,Lak 83.12 53 P P 17 54 34.6 +0.9
baz=307,SNR=7.5
FBE Freiberg 83.18 329 eP P 17 54 34.7 +1.1
baz=40,slow=4.9
KRUC Moravsky 83.18 326 ⇓iP P 17 54 35.1 +1.4
KRUC ePP PP 17 57 47.7 +1.6
KRUC Moravsky 83.18 326 P P 17 54 35.3 +1.6
E28A Huff 83.19 37 P P 17 54 34.2 +0.3
E28A IAmb IAmb 17 54 36.0
comp=Z,59nm,1.4s
PUNG Punghina 83.22 320 ⇑P P 17 54 35.4 +1.4
MODS Modra-Piesok 83.26 325 eP P 17 54 35.1 +0.9
MODS pmax pmax
comp=Z,95nm,1.2s
MODS Modra-Piesok 83.26 325 eP P 17 54 35.1 +0.9
O20A White River Ci 83.28 46 P P 17 54 35.9 +1.2

baz=309
O20A White River Ci 83.28 46 P **P** **17 54 35.1 +0.4**
O20A IAmb IAmb 17 54 37.2
comp=Z,26nm,0.8s
GOPC GO Pecny, Ondr 83.29 328 *e*P **P** **17 54 35.6 +1.3**
GOPC *e*PCP **PcP** **17 54 40.3 +1.8**
GOPC *e*S **S** **18 04 42.4 -1.6**
GOPC AMS AMS 18 35 10.0
comp=Z,200nm,15.4s
GOPC GO Pecny, Ondr 83.29 328 *e*P **P** **17 54 35.6 +1.3**
GOPC *e*S **S** **18 04 42.4 -1.6**
GOPC MLR MLR
comp=Z,200nm,15.4s
NRDL Niedersach Rie 83.33 332 *e*P **P** **17 54 35.3 +1.0**
comp=Z,15nm,1.2s,baz=40,slow=4.9
PRA Prague 83.34 328 *e*P **P** **17 54 35.8 +1.3**
PRA AMS AMS 18 35 20.0
comp=Z,100nm,16.7s
PRA Prague 83.34 328 *e*P **P** **17 54 35.8 +1.3**
PRU Pruhonice 83.35 328 *e*P **P** **17 54 36.0 +1.4**
PRU *e*S **S** **18 04 42.8 -1.7**
PRU AMS AMS 18 35 20.0
comp=Z,200nm,15.1s
PRU Pruhonice 83.35 328 *e*P **P** **17 54 36.0 +1.4**
PRU *e*S **S** **18 04 42.8 -1.7**
PRU MLR MLR
comp=Z,200nm,15.1s
ASSE Asse, Remlinge 83.38 331 *e*P **P** **17 54 35.8 +1.2**
comp=Z,38nm,1.4s,baz=40,slow=4.9
MPEP Malo Peshtene 83.39 319 *i* P **P** **17 54 36.4 +1.5**
GLA Glamis 83.40 55 P **P** **17 54 36.7 +1.5**
baz=306
GLA Glamis 83.40 55 P **P** **17 54 36.6 +1.4**
GLA pmax pmax
comp=Z,50nm,1.3s
GLA Glamis 83.40 55 P **P** **17 54 36.6 +1.4**
GLA IAmb IAmb 17 54 37.9
comp=Z,50nm,1.3s
TREC Trest 83.43 327 *e*P **P** **17 54 36.4 +1.4**
TREC *ex* x 17 54 50.7
TREC *e*S **S** **18 04 42.8 -2.6**
TREC AMS AMS 18 35 10.0
comp=Z,300nm,14.6s
TREC Trest 83.43 327 *e*P **P** **17 54 36.4 +1.4**
TREC *e*S **S** **18 04 42.8 -2.6**
TREC MLR MLR
comp=Z,300nm,14.6s
ZST Bratislava 83.47 325 *e*P **P** **17 54 36.2 +1.0**
ZST pmax pmax
comp=Z,95nm,1.5s
ZST Bratislava 83.47 325 *e*P **P** **17 54 36.2 +1.0**
MDVR Moldovita 83.53 321 ⇓P **P** **17 54 36.8 +1.1**
NEUB Neuenburg 83.63 330 *e*P **P** **17 54 37.0 +1.0**
comp=Z,103nm,1.3s,baz=40,slow=4.9
PLD Plovdiv 83.67 317 P **P** **17 54 38.1 +1.7**
PLD Plovdiv 83.67 317 P **P** **17 54 38.0 +1.7**
PLD pmax pmax
comp=Z,96nm,1.6s
PGB Panagyurishte 83.68 318 *i* P **P** **17 54 38.2 +1.7**
ALN Alexandroupoli 83.68 316 P **P** **17 54 37.3 +0.9**
ALN pmax pmax
comp=Z,28nm,0.8s
ALN Alexandroupoli 83.68 316 P **P** **17 54 37.3 +0.9**
ALN IAmb IAmb 17 54 38.6
comp=Z,28nm,0.8s
MANT Manisa 83.70 313 P **P** **17 54 37.5 +0.5**
CLZ Clausthal 83.72 331 *e*P **P** **17 54 37.7 +1.1**
baz=40,slow=4.9
PV09 Paradox Valley 83.77 47 P **P** **17 54 38.0 +0.7**
PBCC Pribram 83.81 328 *e*P **P** **17 54 38.1 +1.1**
PV21 Cone Mtn., Par 83.83 47 P **P** **17 54 39.0 +1.4**
PV23 Carpenter Ridg 83.87 47 P **P** **17 54 39.0 +1.2**
PV10 Paradox Valley 83.90 47 P **P** **17 54 39.7 +1.7**
PV14 Lion Creek, Pa 83.92 47 P **P** **17 54 39.5 +1.4**
RZN Rozhen 83.93 317 *i* P **P** **17 54 39.9 +1.9**
TANN Tannenbergstha 83.94 329 *e*P **P** **17 54 38.7 +1.0**
comp=Z,41nm,1.0s,baz=40,slow=4.9
ELL Elmali 83.94 311 P **P** **17 54 38.5 +0.4**
ELL pmax pmax
comp=Z,204nm,0.6s
ELL Elmali 83.94 311 P **P** **17 54 38.5 +0.4**
PV22 Blue Mesa, Par 83.96 47 P **P** **17 54 39.2 +1.0**
PV22 IAmb IAmb 17 54 41.1
comp=Z,73nm,1.2s
PV20 West Nyswonger 83.97 47 P **P** **17 54 39.0 +0.8**
PV04 Paradox Valley 83.98 47 P **P** **17 54 40.2 +2.0**
PV19 Morning Glory 83.98 47 P **P** **17 54 39.3 +1.0**
PLN Plauen 84.01 329 *e*P **P** **17 54 39.0 +1.1**
comp=Z,24nm,1.0s,baz=40,slow=4.9
PV17 East Wray Mesa 84.01 47 P **P** **17 54 37.9 -0.6**
GUNZ Gunzen 84.03 329 *e*P **P** **17 54 39.1 +1.1**
comp=Z,49nm,1.1s,baz=40,slow=4.9
PV05 Paradox Valley 84.05 48 P **P** **17 54 39.7 +1.0**
PV11 David Mesa, Pa 84.06 47 P **P** **17 54 39.7 +1.0**
PV18 Skein Mesa, Pa 84.07 47 P **P** **17 54 40.0 +1.2**
WERN Wernitzgruen 84.07 329 *e*P **P** **17 54 39.6 +1.3**
comp=Z,44nm,0.9s,baz=40,slow=4.9
NKC Novy Kostel 84.08 329 *e*P **P** **17 54 39.7 +1.4**
NKC AMS AMS 18 34 40.0
comp=Z,200nm,14.1s
NKC Novy Kostel 84.08 329 *e*P **P** **17 54 39.7 +1.4**
NKC MLR MLR
comp=Z,200nm,14.1s
PV12 Saucer Basin, 84.09 47 P **P** **17 54 40.5 +1.7**
SOP Sopron 84.09 325 P **P** **17 54 40.1 +1.7**
SOP pmax pmax
comp=Z,102nm,1.2s
Y14A Wickenburg 84.10 53 P **P** **17 54 39.7 +0.9**
Y14A IAmb IAmb 17 54 41.3
comp=Z,43nm,1.3s
PV03 Paradox Valley 84.10 47 P **P** **17 54 40.1 +1.2**
PV07 Paradox Valley 84.11 47 P **P** **17 54 39.3 +0.3**
GTTG Gottingen 84.11 331 *e*P **P** **17 54 39.6 +1.2**
comp=Z,39nm,0.8s,baz=40,slow=4.9
MORH Mrgy, Hungar 84.11 323 ⇓*i*P **P** **17 54 39.1 +0.6**
MOX Moxa 84.12 330 P **P** **17 54 39.6 +1.1**
MOX Moxa 84.12 330 *e*P **P** **17 54 39.8 +1.3**
comp=Z,30nm,1.0s,baz=40,slow=4.9
N23A Red Feather La 84.14 44 P **P** **17 54 40.6 +1.4**
N23A IAmb IAmb 17 54 42.4
comp=Z,81nm,1.3s
VTS Vitosha 84.15 318 ⇓P **P** **17 54 40.6 +1.6**
VTS Vitosha 84.15 318 *i* P **P** **17 54 40.7 +1.7**
VTS Vitosha 84.15 318 P **P** **17 54 40.0 +1.0**
VTS pmax pmax
comp=Z,56nm,0.9s
VTS Vitosha 84.15 318 P **P** **17 54 40.0 +1.0**
VTS IAmb IAmb 17 54 41.9
comp=Z,56nm,0.9s
PHWY Pilot Hill 84.16 43 P **P** **17 54 40.2 +1.0**
PHWY IAmb IAmb 17 54 41.8
comp=Z,41nm,1.4s
PV13 Radium Mtn., P 84.17 47 P **P** **17 54 39.9 +0.5**
PV02 Paradox Valley 84.19 47 P **P** **17 54 40.4 +1.0**
PV02 IAmb IAmb 17 54 42.2
comp=Z,50nm,1.0s
EZN Ezine 84.20 315 P **P** **17 54 40.1 +1.0**
WUAZ Wupatki 84.21 51 P **P** **17 54 41.1 +1.7**
baz=308
WUAZ Wupatki 84.21 51 P **P** **17 54 40.7 +1.2**
WUAZ IAmb IAmb 17 54 42.3
comp=Z,52nm,1.1s
CONA Conrad Observa 84.24 326 *i* PcP **P** **17 54 41.0 +1.7**
comp=Z,111nm,1.3s,SNR=45
CONA PP **PP** **17 57 56.3 +1.5**
comp=Z,9.9nm,1.1s
FRGS Fruska Gora 84.26 322 ⇓*i*P **P** **17 54 40.4 +1.1**
PV15 Paradox Valley 84.27 47 P **P** **17 54 41.0 +1.2**
PV15 IAmb IAmb 17 54 43.5
comp=Z,23nm,0.7s
113A Mohawk Valley, 84.29 54 P **P** **17 54 40.0 +0.3**
AGMN Agassiz Nation 84.30 34 P **P** **17 54 39.3 -0.2**
baz=317
AGMN Agassiz Nation 84.30 34 P **P** **17 54 38.7 -0.7**
PV01 Paradox Valley 84.34 47 P **P** **17 54 41.2 +1.0**
PV01 IAmb IAmb 17 54 43.0
comp=Z,80nm,1.1s
IBBN Ibbenburen 84.39 333 *e*P **P** **17 54 40.8 +1.0**
baz=40,slow=4.9
KHC Kasperske Hory 84.40 328 *e*P **P** **17 54 40.9 +0.9**
KHC *ex* x 17 54 54.5
KHC *ex* x 17 55 13.5
KHC *ex* x 17 57 56.0
KHC *e*S S 18 04 45.6 -10
KHC AMS AMS 18 36 00.0
comp=Z,300nm,12.8s
KHC Kasperske Hory 84.40 328 *e*P **P** **17 54 40.9 +0.9**
KHC *e* 17 55 13.5
KHC *e* 17 57 56.0
KHC *e*S S 18 04 45.6 -10
KHC MLR MLR
comp=Z,300nm,12.8s
KHC Kasperske Hory 84.40 328 P **P** **17 54 40.6 +0.6**
MANZ Manzersberg 84.41 329 *e*P **P** **17 54 41.2 +1.2**
comp=Z,34nm,0.8s,baz=40,slow=4.9
ROTZ Rotzenmuhle 84.53 329 *e*P **P** **17 54 41.8 +1.2**
baz=40,slow=4.9
MMB Musomiste 84.56 317 *i* P **P** **17 54 42.5 +1.6**
GEC2 GERESS Array S 84.56 328 P **P** **17 54 40.9 0.0**
GEC2 IAmb IAmb 17 54 42.8
comp=Z,36nm,0.9s
GEC2 GERESS Array S 84.56 328 *e*P **P** **17 54 41.7 +0.9**
comp=Z,33nm,0.8s,baz=40,slow=4.9
GERES GERESS Array B 84.56 328 P **P** **17 54 41.8 +0.9**
comp=Z,21nm,0.7s,baz=38,slow=5.0,SNR=177
GERES PP **PP** **17 57 59.4 +2.0**
comp=Z,1.6nm,0.8s,baz=35,slow=7.2,SNR=3.6
GERES LR LR 18 35 33.9
comp=Z,88nm,18.0s,baz=48,slow=38
GERES GERESS Array B 84.56 328 P **P** **17 54 41.4 +0.5**
PPT Papeete 84.58 115 LR LR 18 22 36.4
comp=Z,104nm,21.9s,baz=307,slow=28
PPT2 Papeete2 84.59 115 *e*S **S** **18 04 52.0 -5.8**
comp=Z,220nm,26.8s
PPT2 Papeete2 84.59 115 *e*LR LR 18 21 06.6
comp=Z,589nm,32.8s
UBBA Unterbreizbach 84.66 331 *e*P **P** **17 54 42.1 +1.0**
baz=40,slow=4.9
WET Wettzell 84.70 328 P **P** **17 54 42.8 +1.3**
WET Wettzell 84.70 328 *e*P **P** **17 54 42.8 +1.3**
comp=Z,55nm,1.5s,baz=40,slow=4.9
KKB Krupnik 84.73 318 *i* P **P** **17 54 43.3 +1.5**
TIAR Tiarei 84.75 115 *e*T T 19 27 13.7
comp=Z,4.6nm,0.3s
X16A Lo Mia Camp, P 84.83 52 P **P** **17 54 43.0 +0.3**
X16A IAmb IAmb 17 54 45.6
comp=Z,27nm,1.1s
BEHE Becsehely 84.85 324 ⇓*i*P **P** **17 54 46.1 +3.8**
ARSA Arzberg 84.89 326 *i* PcP **P** **17 54 43.8 +1.3**
comp=Z,33nm,0.9s,SNR=20
DIVS Divibare 84.89 321 P **P** **17 54 43.0 +0.4**
DIVS IAmb IAmb 17 54 44.6
comp=Z,44nm,1.1s
DIVS Divibare 84.89 321 ⇓*i*P **P** **17 54 43.1 +0.4**
SRS Serrai 84.94 317 P **P** **17 54 43.7 +0.9**
SRS pmax pmax
comp=Z,21nm,1.1s
MVCO Mesa Verde 84.97 48 P **P** **17 54 44.7 +1.3**
baz=309
MVCO Mesa Verde 84.97 48 P **P** **17 54 43.9 +0.5**
IVI Ivigtut 84.98 4 P **P** **17 54 43.2 +0.7**
IVI IAmb IAmb 17 54 44.3
comp=Z,22nm,0.7s
GRA1 Grafenberg Arr 85.01 329 P **P** **17 54 44.1 +1.1**
GRF Grafenberg Arr 85.01 329 P **P** **17 54 44.1 +1.1**
GRF pmax pmax
comp=Z,96nm,1.0s
GRF Grafenberg Arr 85.01 329 *e*P **P** **17 54 44.1 +1.1**
baz=40,slow=4.9
MOA Molln 85.04 327 *i* PcP **P** **17 54 44.6 +1.4**
comp=Z,46nm,1.0s,SNR=14
MOA *e*PP **PP** **17 58 01.5 +0.4**
comp=Z,14nm,1.4s
ISCO Idaho Springs 85.04 45 P **P** **17 54 45.5 +1.7**
baz=311
ISCO Idaho Springs 85.04 45 P **P** **17 54 44.7 +0.9**
ISCO pmax pmax
comp=Z,13nm,0.8s
ISCO Idaho Springs 85.04 45 P **P** **17 54 44.7 +0.9**
KALN Kalnik 85.25 324 P **P** **17 54 45.4 +1.1**
BUG Bochum--Univer 85.26 332 *e*P **P** **17 54 44.8 +0.7**
comp=Z,46nm,0.9s,baz=40,slow=4.9
STIP Stip 85.35 318 *i* P **P** **17 54 44.8 -0.1**
BBLS Lazići 85.36 321 *e*P **P** **17 54 45.3 +0.4**
VAY Valandovo 85.38 318 *i* P **P** **17 54 45.8 +0.8**
VAY Valandovo 85.38 318 P **P** **17 54 46.0 +1.0**
VAY pmax pmax
comp=Z,50nm,0.8s
214A Organ Pipe Nat 85.42 54 P **P** **17 54 46.6 +1.2**
baz=308
214A Organ Pipe Nat 85.42 54 P **P** **17 54 46.3 +0.9**
W18A Petrified Fore 85.50 50 P **P** **17 54 47.4 +1.4**
baz=309
W18A Petrified Fore 85.50 50 P **P** **17 54 47.0 +1.0**
SOKA Soboth 85.54 325 *i* PcP **P** **17 54 46.6 +0.9**
comp=Z,73nm,1.0s,SNR=42
EKA Eskdalemuir Ar 85.55 340 P **P** **17 54 45.9 +0.4**
SUSD Miller 85.55 38 P **P** **17 54 46.4 +0.6**
baz=315
RUDO Rudo 85.55 321 *e*P **P** **17 54 46.3 +0.5**
SKO Skopje 85.57 319 *i* P **P** **17 54 47.5 +1.6**
S22A 4UR Ranch, Cre 85.65 47 P **P** **17 54 47.2 +0.4**
S22A IAmb IAmb 17 54 50.0
comp=Z,35nm,1.2s
X18A Snowflake 85.73 51 P **P** **17 54 47.4 +0.3**
TNS Taunus Mts 85.75 331 *e*P **P** **17 54 47.8 +1.1**
comp=Z,25nm,0.9s,baz=40,slow=4.9
Q24A Divide 85.86 45 P **P** **17 54 47.4 -0.5**
Q24A IAmb IAmb 17 54 50.4
comp=Z,27nm,1.1s
F33A 5 Mile Ranch, 85.87 36 P **P** **17 54 47.7 +0.3**
F33A IAmb IAmb 17 54 49.3
comp=Z,33nm,1.3s
BLY Banja Luka 85.88 323 ⇓*i*P **P** **17 54 48.2 +0.8**
OBKA Obir 85.89 325 *e*PcP **P** **17 54 48.1 +0.5**
comp=Z,13nm,0.9s
OBKA *e*PP **PP** **17 58 08.6 +0.4**
comp=Z,20nm,1.3s
MEH Mehetia 85.90 115 *e*T T 19 28 40.9
comp=Z,59nm,0.2s
CRES Cresnjev 85.95 325 *e*P **P** **17 54 46.7 -1.0**
KBA Koelnbreinsper 86.03 326 *i* PcP **P** **17 54 49.0 +0.6**
comp=Z,21nm,0.8s,SNR=12
KBA *e*PP **PP** **17 58 10.1 +0.7**
comp=Z,29nm,1.4s
KBA Koelnbreinsper 86.03 326 P **P** **17 54 49.2 +0.9**
AHRW Bad Neuenahr-A 86.04 332 *e*P **P** **17 54 48.9 +0.8**
comp=Z,36nm,1.1s,baz=40,slow=4.9
UPM Unac-Piva 86.08 321 *e*P **P** **17 54 50.6 +1.9**
FUR Furstenfeldbru 86.14 328 P **P** **17 54 50.3 +1.7**
FUR Furstenfeldbru 86.14 328 *e*P **P** **17 54 49.6 +1.0**
comp=Z,54nm,1.1s,baz=40,slow=4.9
MGRS Mrkonjic Grad 86.16 323 *e*P **P** **17 54 50.6 +1.8**
MYKA Terra Mystica 86.22 326 *i* PcP **P** **17 54 49.2 +0.1**
comp=Z,21nm,0.9s,SNR=6.9
LJU Ljubljana 86.24 325 ⇓*i*P **P** **17 54 49.4 +0.3**
OGNE Ogallala 86.32 42 P **P** **17 54 50.7 +0.9**
baz=313
OGNE Ogallala 86.32 42 P **P** **17 54 50.3 +0.5**
OGNE IAmb IAmb 17 54 51.8
comp=Z,42nm,1.1s
BEBN Eben Emael 86.38 333 PcP **P** **17 54 50.5 +0.8**
BEBN pP **pP** **17 55 22.6 -0.2**
PRED Cave del Predi 86.40 326 P **P** **17 54 49.1 -0.9**
MEM Membach 86.40 332 PcP **P** **17 54 50.5 +0.6**
MEM pP **pP** **17 55 23.1 +0.1**
KARP Karpathos 86.43 311 P **P** **17 54 50.8 +0.5**
KARP IAmb IAmb 17 54 52.8
comp=Z,77nm,1.3s
PDG Podgorica 86.44 320 ⇓P **P** **17 54 50.6 +0.5**
PDG Podgorica 86.44 320 P **P** **17 54 50.4 +0.3**
PDG Podgorica 86.44 320 ⇓*i*P **P** **17 54 50.7 +0.5**
SDCO Great Sand Dun 86.45 46 P **P** **17 54 51.0 +0.2**
APE Apeiranthos 86.46 313 ⇓P **P** **17 54 49.5 -0.9**
APE Apeiranthos 86.46 313 ⇓P **P** **17 54 49.5 -0.9**
BRY Bratogost 86.49 321 *e*P **P** **17 54 50.8 +0.2**
OHR Ohrid 86.51 318 *i* P **P** **17 54 50.9 +0.2**
EYMN Ely 86.51 32 P **P** **17 54 50.9 +0.5**
baz=320
EYMN Ely 86.51 32 P **P** **17 54 49.9 -0.6**
TUC Tucson 86.56 53 P **P** **17 54 52.4 +1.3**
baz=308
TUC Tucson 86.56 53 P **P** **17 54 51.9 +0.8**
TUC pmax pmax
comp=Z,10.0nm,1.1s
TUC Tucson 86.56 53 P **P** **17 54 51.9 +0.8**
STU Stuttgart 86.57 330 P **P** **17 54 53.3 +2.6**
STU Stuttgart 86.57 330 *e*P **P** **17 54 52.1 +1.4**
baz=40,slow=4.9
ZOU Zoufplan 86.59 326 P **P** **17 54 50.7 -0.4**
ZOU IAmb IAmb 17 54 51.9
comp=Z,49nm,1.4s
BSTI Sart Tilman 86.59 333 PcP **PcP** **17 54 51.9 -1.1**
BHOU Houvegnez 86.61 332 PcP **P** **17 54 51.9 +1.0**
WATA Walderalm 86.64 328 *e*PcP **P** **17 54 51.6 +0.3**
comp=Z,13nm,1.2s
WATA *e*PP **PP** **17 58 10.3 -3.9**
comp=Z,26nm,1.7s
DRME Dracevica, Mon 86.64 320 *e*P **P** **17 54 51.3 +0.1**
ABTA Abfaltersbach 86.66 327 *i* P **P** **17 54 51.0 -0.3**
comp=Z,27nm,1.0s,SNR=7.3
WTTA Wattenberg 86.66 327 *i* PcP **P** **17 54 52.0 +0.5**
comp=Z,20nm,1.3s,SNR=5.3
WTTA *e*PP **PP** **17 58 13.7 -0.8**
comp=Z,39nm,1.8s
WTTA Wattenberg 86.66 327 P **P** **17 54 52.1 +0.7**
TREB Trebinje 86.71 321 *e*P **P** **17 54 50.5 -1.0**
KIJV Kijevo 86.80 323 P **P** **17 54 52.6 +0.7**
BCLA Clavier 86.82 333 ⇓PcP **P** **17 54 52.5 +0.6**
HCY Herceg Novi 86.83 321 *e*P **P** **17 54 52.1 0.0**
MOTA Moosalm 86.84 328 *i* PcP **P** **17 54 52.7 +0.4**
comp=Z,21nm,1.3s,SNR=7.5
MOTA *e*PP **PP** **17 58 13.1 -2.7**
comp=Z,25nm,1.4s
RETA Reutte 86.88 328 *i* PcP **P** **17 54 53.0 +0.7**
comp=Z,43nm,1.4s,SNR=11
RETA *e*PP **PP** **17 58 13.4 -2.7**
comp=Z,5.1nm,0.8s
SQTA Sankt Quirin 86.89 328 *i* PcP **P** **17 54 53.0 +0.5**
comp=Z,19nm,1.3s,SNR=6.1
SQTA *e*PP **PP** **17 58 16.4 +0.2**
comp=Z,32nm,1.6s
STAL STALIGIAL 86.93 326 P **P** **17 54 51.9 -0.6**
K31A O'Neill 86.93 39 P **P** **17 54 53.1 +0.4**
K31A IAmb IAmb 17 54 54.6
comp=Z,44nm,0.9s
BGES Gesves 86.93 333 PcP **P** **17 54 53.2 +0.8**
BGES pP **pP** **17 55 23.6 -2.0**
SANT Santorini 86.95 313 ⇑P **P** **17 54 52.7 -0.1**
SANT Santorini 86.95 313 P **P** **17 54 51.8 -1.1**
SANT IAmb IAmb 17 54 53.9
comp=Z,26nm,0.8s
CIMO Cimolais 87.02 326 P **P** **17 54 52.1 -0.9**
CIMO IAmb IAmb 17 54 53.5
comp=Z,36nm,1.3s
UBR Ueberruh 87.02 329 *e*P **P** **17 54 53.9 +0.9**
baz=40,slow=4.9
WLF Walferdange 87.10 332 PcP **PcP** **17 54 54.4 -0.8**
WLF Walferdange 87.10 332 P **P** **17 54 51.9 -1.4**
WLF pmax pmax
comp=Z,33nm,1.1s
WLF Walferdange 87.10 332 P **P** **17 54 51.9 -1.4**
WLF IAmb IAmb 17 54 55.7
comp=Z,33nm,1.1s
WLF Walferdange 87.10 332 *e*P **P** **17 54 54.2 +0.9**
comp=Z,28nm,1.1s,baz=40,slow=4.9
BMRD Maredsous 87.12 333 PcP **P** **17 54 54.0 +0.7**
SNF Seneffe 87.14 333 PcP **P** **17 54 54.1 +0.8**
SNF pP **pP** **17 55 26.9 +0.4**
F36A Milaca 87.17 34 P **P** **17 54 52.6 -1.0**
ECSD EROS Data Cent 87.24 37 P **P** **17 54 54.6 +0.6**
baz=316
ECSD EROS Data Cent 87.24 37 P **P** **17 54 53.9 -0.2**
MORI Morici 87.25 323 P **P** **17 54 54.3 +0.3**
FETA Feichten 87.25 328 *i* PcP **P** **17 54 54.8 +0.6**
comp=Z,21nm,1.1s,SNR=11
FETA *e*PP **PP** **17 58 21.8 +2.6**
comp=Z,13nm,1.3s
GIVF Givet 87.26 333 *e*P **P** **17 54 54.1 +0.1**
GIVF pmax pmax
comp=Z,13nm,0.9s
BFO Black Forest 87.27 330 P **P** **17 54 53.8 -0.3**
BFO pmax pmax
comp=Z,18nm,0.7s
BFO Black Forest 87.27 330 P **P** **17 54 53.8 -0.3**
BFO IAmb IAmb 17 54 56.2
comp=Z,18nm,0.7s
BFO Black Forest 87.27 330 *e*P **P** **17 54 54.8 +0.7**
baz=40,slow=4.9
KSCO Kaye Shedlock' 87.30 44 P **P** **17 54 55.6 +1.0**
baz=313
KSCO Kaye Shedlock' 87.30 44 P **P** **17 54 55.3 +0.7**
KSCO IAmb IAmb 17 54 56.9
comp=Z,52nm,1.2s
DOU Dourbes 87.35 333 PcP **P** **17 54 54.8 +0.4**
HVAR Hvar 87.37 322 P **P** **17 54 54.6 0.0**
DAVA Damuels 87.42 328 *i* PcP **P** **17 54 55.6 +0.6**
comp=Z,14nm,0.7s,SNR=6.7
T25A Trinidad 87.50 46 P **P** **17 54 57.0 +1.3**
baz=312
T25A Trinidad 87.50 46 P **P** **17 54 56.2 +0.5**
E38A The Farm, Brul 87.51 33 P **P** **17 54 55.2 -0.1**
E38A IAmb IAmb 17 54 56.9
comp=Z,68nm,1.4s
BAIF Baives 87.53 333 *e*P **P** **17 54 55.4 +0.1**
BAIF pmax pmax
comp=Z,24nm,1.1s
CTI Castel Tesino 87.58 327 P **P** **17 54 55.2 -0.5**
CTI pmax pmax
comp=Z,12nm,0.7s
CTI Castel Tesino 87.58 327 P **P** **17 54 55.2 -0.5**
CDF Champ du Feu 87.64 330 *e*P **P** **17 54 56.0 0.0**
CDF pmax pmax
comp=Z,19nm,0.9s
ANMO Albuquerque 87.69 49 P **P** **17 54 57.9 +1.3**
baz=311
ANMO Albuquerque 87.69 49 P **P** **17 54 57.6 +1.0**
ANMO pmax pmax
comp=Z,16nm,1.5s
ANMO Albuquerque 87.69 49 P **P** **17 54 57.6 +1.0**
FUORN Ofenpass-Fuorn 87.76 328 P **P** **17 54 57.7 +0.9**
ECH Echery 87.85 330 P **P** **17 54 56.5 -0.4**
ECH pmax pmax
comp=Z,11nm,0.8s
ECH Echery 87.85 330 P **P** **17 54 56.5 -0.4**
IGT Igoumenitsa 87.85 318 P **P** **17 54 56.6 -0.4**
IGT pmax pmax
comp=Z,18nm,1.1s
SPMN Marine on St. 87.98 34 P **P** **17 54 56.5 -1.0**
SPMN IAmb IAmb 17 54 59.5
comp=Z,20nm,1.1s
IDI Anoyia 88.01 312 P **P** **17 54 57.0 -0.9**
IDI IAmb IAmb 17 55 00.3
comp=Z,27nm,1.0s
BNM Barren Site 88.09 49 P **P** **17 54 59.3 +0.7**
BGNE Belgrade 88.11 40 P **P** **17 54 58.5 +0.2**
baz=315
BGNE Belgrade 88.11 40 P **P** **17 54 57.3 -0.9**
TBI Tubuai 88.21 120 *e*S **S** **18 05 29.2 -3.3**
comp=Z,253nm,38.2s
TBI Tubuai 88.21 120 *e*LR LR 18 22 41.3
comp=Z,349nm,35.0s
TBI Tubuai 88.21 120 *e*T T 19 31 34.8
comp=Z,6.6nm,0.3s
HINF Hinteralfeld 88.29 330 *e*P **P** **17 54 59.0 0.0**
HINF pmax pmax
comp=Z,6.0nm,0.8s
HAU Haudompre 88.34 331 *e*P **P** **17 54 59.6 +0.4**
HAU pmax pmax
comp=Z,11nm,0.8s
ITM Ithomi 88.54 315 P **P** **17 55 00.0 -0.3**
I37A Lemond, Waseca 88.61 35 P **P** **17 55 01.5 +1.0**
I37A IAmb IAmb 17 55 03.0
comp=Z,55nm,1.2s
SCHQ Schefferville 88.69 15 P **P** **17 55 02.0 +1.3**
comp=Z,8.8nm,0.8s,baz=2.6,slow=8.5,SNR=9.3
SCHQ LR LR 18 38 56.0
comp=Z,48nm,18.1s,baz=320,slow=38
SCHQ Schefferville 88.69 15 P **P** **17 55 01.4 +0.7**
SGRT San Giovanni R 88.76 322 P **P** **17 55 01.3 -0.1**
COWI Conover 88.96 32 P **P** **17 55 02.9 +0.8**
COWI IAmb IAmb 17 55 04.1
comp=Z,34nm,1.4s
CBKS Cedar Bluff 89.07 42 P **P** **17 55 03.1 +0.2**
baz=314
G40A Rib Lake 89.14 33 P **P** **17 55 03.3 +0.3**
G40A IAmb IAmb 17 55 05.0
comp=Z,31nm,1.2s
PRMA PARMA 89.16 327 P **P** **17 55 03.4 +0.3**
ZCCA Zocca 89.17 326 P **P** **17 55 03.9 +0.7**
ZCCA IAmb IAmb 17 55 06.3
comp=Z,41nm,0.9s
SENIN Lac Senin/Sane 89.25 329 P **P** **17 55 02.5 -1.3**
MURB Monte Urbino 89.26 324 P **P** **17 55 03.8 +0.2**

MURB IAmb IAmb 17 55 06.4
comp=Z,40nm,0.9s
AQU **L'Aquila** **89.50 323** P **P** **17 55 04.3 -0.5**
AQU pmax pmax
comp=Z,53nm,0.9s
AQU **L'Aquila** **89.50 323** P **P** **17 55 04.3 -0.5**
AQU **L'Aquila** **89.50 323** *eP* **P** **17 55 05.6 +0.8**
INTR **Introdacqua** **89.51 323** P **P** **17 55 03.6 -1.2**
INTR IAmb IAmb 17 55 07.3
comp=Z,26nm,0.9s
CABF **La Chapelle** **89.56 330** *eP* **P** **17 55 05.1 0.0**
CABF pmax pmax
comp=Z,20nm,1.3s
VLC **Villacollemand** **89.59 326** P **P** **17 55 05.0 -0.2**
VLC IAmb IAmb 17 55 22.1
comp=Z,23nm,1.0s
E43A **Lone Tree Farm** **89.66 30** P **P** **17 55 05.5 +0.1**
E43A IAmb IAmb 17 55 07.3
comp=Z,20nm,0.8s
OSSC **Osservatorio P** **89.67 325** P **P** **17 55 05.3 -0.2**
OSSC IAmb IAmb 17 55 06.7
comp=Z,30nm,1.1s
LOR **Lormes** **89.94 332** *eP* **P** **17 55 06.7 0.0**
LOR pmax pmax
comp=Z,20nm,1.2s
I40A **Norwalk** **90.01 34** P **P** **17 55 05.6 -1.5**
LPL **La Plagne** **90.16 329** *eP* **P** **17 55 08.4 +0.3**
LPL pmax pmax
comp=Z,33nm,1.0s
LPG **La Plagne** **90.17 329** *eP* **P** **17 55 08.5 +0.3**
LPG pmax pmax
comp=Z,35nm,1.0s
SCIA **State Center** **90.27 37** P **P** **17 55 09.3 +1.0**
baz=319
SCIA **State Center** **90.27 37** P **P** **17 55 07.9 -0.4**
SCIA IAmb IAmb 17 55 10.8
comp=Z,41nm,1.4s
MATQ **Matagami** **90.34 23** P **P** **17 55 09.0 +0.6**
baz=330
D46A **Sault St. Mari** **90.45 28** P **P** **17 55 09.9 +0.9**
baz=325
MNTX **Cornudas Mount** **90.48 51** P **P** **17 55 10.5 +1.0**
baz=311
MNTX **Cornudas Mount** **90.48 51** P **P** **17 55 09.6 0.0**
AVF **Avril sur Loir** **90.53 332** *eP* **P** **17 55 09.6 +0.2**
AVF pmax pmax
comp=Z,45nm,1.4s
BNI **Bardonecchia** **90.56 329** P **P** **17 55 08.5 -1.2**
BNI pmax pmax
comp=Z,26nm,1.1s
BNI **Bardonecchia** **90.56 329** P **P** **17 55 08.5 -1.2**
BNI IAmb IAmb 17 55 12.5
comp=Z,26nm,1.1s
KSU1 **Kansas State U** **90.58 40** P **P** **17 55 10.4 +0.5**
baz=316
MSTX **Muleshoe** **90.61 47** P **P** **17 55 10.9 +0.7**
baz=313
MSTX **Muleshoe** **90.61 47** P **P** **17 55 09.7 -0.5**
AMTX **Amarillo** **90.66 46** P **P** **17 55 11.6 +1.3**
baz=313
AMTX **Amarillo** **90.66 46** P **P** **17 55 10.3 0.0**
AMTX IAmb IAmb 17 55 13.0
comp=Z,40nm,1.1s
D47A **Chapleau** **90.67 28** P **P** **17 55 10.8 +0.7**
baz=326
GRR **Gorron** **90.77 335** *eP* **P** **17 55 10.9 +0.4**
GRR pmax pmax
comp=Z,34nm,1.0s
GDL2 **Guadalupe Moun** **90.80 50** P **P** **17 55 10.4 -0.8**
F45A **CMU Biological** **90.83 30** P **P** **17 55 12.1 +1.2**
baz=324
JFWS **Jewell Farm** **90.94 34** P **P** **17 55 11.6 +0.2**
baz=321
ORIF **Oris-en-Rattie** **91.00 329** *eP* **P** **17 55 11.9 +0.1**
ORIF pmax pmax
comp=Z,15nm,0.8s
D48A **Paudash Townsh** **91.07 27** P **P** **17 55 12.3 +0.3**
baz=327
N38A **Joes South For** **91.10 37** P **P** **17 55 11.7 -0.5**
E47A **Iron Bridge** **91.10 28** P **P** **17 55 12.9 +0.8**
baz=326
L40A **Anamosa** **91.13 35** P **P** **17 55 11.2 -1.1**
L40A IAmb IAmb 17 55 14.0
comp=Z,22nm,1.2s
D49A **Beulah Townshi** **91.16 27** P **P** **17 55 12.9 +0.6**
baz=327
LSQQ **Lebel-sur-Quev** **91.16 23** P **P** **17 55 13.2 +0.9**
baz=330
SBF **Sospel** **91.16 328** *eP* **P** **17 55 11.9 -0.6**
SBF pmax pmax
comp=Z,31nm,0.9s
CHGQ **Chibougamau** **91.23 21** P **P** **17 55 13.3 +0.6**
baz=332
SSB **Saint Sauveur** **91.28 330** P **P** **17 55 13.0 0.0**
SSB pmax pmax
comp=Z,31nm,1.2s
SSB **Saint Sauveur** **91.28 330** P **P** **17 55 13.0 0.0**
SSB IAmb IAmb 17 55 14.9
comp=Z,31nm,1.2s
TCF **Toulx Ste Croi** **91.39 332** *eP* **P** **17 55 13.9 +0.4**
TCF pmax pmax
comp=Z,34nm,1.4s
E48A **Lockeyer** **91.51 27** P **P** **17 55 15.2 +1.1**
baz=326
VIVF **Saint-Julien-l** **91.56 330** *eP* **P** **17 55 14.6 +0.3**
VIVF pmax pmax
comp=Z,41nm,1.0s
D50A **G1974 Best Tow** **91.80 26** P **P** **17 55 15.6 +0.3**
baz=328
P38A **Dawn** **91.82 38** P **P** **17 55 15.3 -0.2**
P38A IAmb IAmb 17 55 17.6
comp=Z,20nm,1.3s
VLDQ **Val d'Or** **91.82 24** P **P** **17 55 15.0 -0.4**
F48A **Evansville** **91.88 28** P **P** **17 55 16.3 +0.6**
baz=326
L42A **Oliver, Polo** **91.91 34** P **P** **17 55 15.7 -0.2**
L42A IAmb IAmb 17 55 17.4
comp=Z,21nm,1.2s
G47A **Hillman** **91.93 29** P **P** **17 55 16.6 +0.7**
baz=325
QUIF **Quistinic** **91.97 336** *eP* **P** **17 55 16.4 +0.4**
QUIF pmax pmax
comp=Z,33nm,1.2s
D51A **Lot 18 Range I** **92.03 26** P **P** **17 55 16.8 +0.4**
baz=329
E50A **Wahnapitae** **92.10 27** P **P** **17 55 17.3 +0.6**
baz=328
F49A **Sandfield** **92.16 28** P **P** **17 55 17.4 +0.5**
baz=327
T35A **Sooner Cattle** **92.21 42** P **P** **17 55 18.2 +0.8**
T35A IAmb IAmb 17 55 19.7
comp=Z,24nm,1.1s
N41A **Harden Midland** **92.34 36** P **P** **17 55 18.4 +0.5**
N41A IAmb IAmb 17 55 19.8
comp=Z,17nm,1.1s
WMOK **Wichita Mounta** **92.47 45** P **P** **17 55 19.7 +1.0**
baz=315
WMOK **Wichita Mounta** **92.47 45** P **P** **17 55 19.7 +1.0**
WMOK pmax pmax
comp=Z,24nm,1.4s
WMOK **Wichita Mounta** **92.47 45** P **P** **17 55 19.7 +1.0**
WMOK IAmb IAmb 17 55 20.8
comp=Z,24nm,1.4s
D52A **ZEK Kipawa Sen** **92.47 25** P **P** **17 55 18.7 +0.3**
baz=329
RJF **Les Rejaudoux** **92.47 332** *eP* **P** **17 55 19.2 +0.7**
RJF pmax pmax
comp=Z,36nm,1.1s
SLBS **Sierra La Lagu** **92.50 59** P **P** **17 55 20.4 +1.4**
SLBS IAmb IAmb 17 55 22.0
comp=Z,24nm,1.1s
CAF **Calviac** **92.57 331** *eP* **P** **17 55 19.9 +0.9**
CAF pmax pmax
comp=Z,38nm,1.2s
D53A **Lac Vacive, Po** **92.63 25** P **P** **17 55 19.7 +0.5**
baz=330
D53A **Lac Vacive, Po** **92.63 25** P **P** **17 55 17.9 -1.2**
D53A IAmb IAmb 17 55 20.9
comp=Z,16nm,1.3s
P40A **Paris** **92.64 37** P **P** **17 55 20.0 +0.7**
P40A IAmb IAmb 17 55 21.4
comp=Z,29nm,1.4s
OKCFA **Oklahoma City** **92.76 43** P **P** **17 55 19.9 -0.1**
I48A **Sherman Twp** **92.80 30** P **P** **17 55 20.9 +0.9**
baz=325
F51A **Arnstein** **92.83 26** P **P** **17 55 20.1 +0.1**
baz=328
D54A **Lac Fusel, La** **92.92 24** P **P** **17 55 20.9 +0.3**
baz=331
X34A **Smith Ranch, M** **93.12 44** P **P** **17 55 21.8 +0.1**
X34A IAmb IAmb 17 55 24.1
comp=Z,13nm,0.9s
M44A **Midewin, Midew** **93.15 34** P **P** **17 55 21.2 -0.4**
M44A IAmb IAmb 17 55 24.2
comp=Z,9.8nm,0.8s
TX31 **Lajitas Ar. Si** **93.15 51** P **P** **17 55 22.6 +0.5**
TX32 **Lajitas Array** **93.16 51** P **P** **17 55 22.8 +0.8**
TX32 IAmb IAmb 17 55 24.7
comp=Z,29nm,1.0s
TXAR **Lajitas Array** **93.16 51** P **P** **17 55 23.4 +1.4**
comp=Z,16nm,0.8s,baz=291,slow=3.5,SNR=110
TXAR PP **PP** **17 59 07.2 +0.8**
comp=Z,2.1nm,1.0s,baz=303,slow=5.3,SNR=4.6
TXAR LR LR 18 32 57.2
comp=Z,41nm,19.9s,baz=0.0,slow=32
TXAR **Lajitas Array** **93.16 51** P **P** **17 55 22.6 +0.5**
E53A **Dumoine, Ponti** **93.25 25** P **P** **17 55 22.1 +0.1**
baz=330
W35A **Tecumseh** **93.28 43** P **P** **17 55 22.5 +0.1**
S39A **Bolivar** **93.37 39** P **P** **17 55 21.5 -1.2**
S39A IAmb IAmb 17 55 23.2
comp=Z,7.6nm,0.8s
D55A **Sainte-Anne-du** **93.43 23** P **P** **17 55 23.4 +0.6**
baz=332
ABTX **Abilene, Hawle** **93.44 47** P **P** **17 55 24.0 +0.8**
baz=314
ABTX **Abilene, Hawle** **93.44 47** P **P** **17 55 22.5 -0.7**
ABTX IAmb IAmb 17 55 25.6
comp=Z,32nm,1.3s
R40A **Maddies Statio** **93.47 38** P **P** **17 55 21.6 -1.6**
R40A IAmb IAmb 17 55 24.1
comp=Z,7.1nm,0.8s
ALGO **Algonquin Park** **93.48 25** P **P** **17 55 23.6 +0.5**
baz=330
J48A **Bridge Port** **93.49 30** P **P** **17 55 23.9 +0.8**
baz=325
D56A **ZEC Mazanza, M** **93.64 23** P **P** **17 55 24.3 +0.5**
baz=332
J49A **Marlette** **93.71 30** P **P** **17 55 25.2 +1.0**
baz=326
U38A **Gravette** **93.73 41** P **P** **17 55 24.3 -0.1**
U38A IAmb IAmb 17 55 26.0
comp=Z,18nm,1.3s
MTLF **Montolieu** **93.82 330** *eP* **P** **17 55 25.3 +0.6**
MTLF pmax pmax
comp=Z,21nm,1.1s
G54A **Lake Saint Pet** **93.94 26** P **P** **17 55 25.7 +0.5**
baz=330
D57A **Chemin Vers le** **93.94 22** P **P** **17 55 26.0 +0.8**
baz=333
E56A **St. Veronique** **94.00 23** P **P** **17 55 26.1 +0.7**
baz=332
CCM **Cathedral Cave** **94.17 38** P **P** **17 55 26.8 +0.4**
baz=320
CCM **Cathedral Cave** **94.17 38** P **P** **17 55 25.7 -0.7**
CCM **Cathedral Cave** **94.17 38** P **P** **17 55 25.7 -0.7**
D58A **Chemin du LacG** **94.19 22** P **P** **17 55 26.8 +0.5**
baz=334
Z35A **Perchaven, San** **94.36 45** P **P** **17 55 25.2 -2.2**
E57A **Chemin Saint G** **94.40 23** P **P** **17 55 27.9 +0.5**
baz=332
H53A **Bobcaygeon** **94.47 26** P **P** **17 55 28.2 +0.5**
baz=329
G55A **Calabogie** **94.56 25** P **P** **17 55 28.0 0.0**
baz=330
U40A **Yellville** **94.61 40** P **P** **17 55 28.7 +0.2**
baz=319
U40A **Yellville** **94.61 40** P **P** **17 55 27.9 -0.6**
U40A IAmb IAmb 17 55 29.9
comp=Z,14nm,1.1s
E58A **La Victoria** **94.71 22** P **P** **17 55 28.9 +0.2**
baz=333
JCT **Junction City** **94.83 48** P **P** **17 55 30.3 +0.7**
baz=314
JCT **Junction City** **94.83 48** P **P** **17 55 29.6 0.0**
JCT pmax pmax
comp=Z,11nm,0.8s
JCT **Junction City** **94.83 48** P **P** **17 55 29.6 0.0**
JCT IAmb IAmb 17 55 31.0
comp=Z,11nm,0.8s
H55A **Tweed** **95.00 25** P **P** **17 55 30.3 +0.2**
baz=330
T42A **Van Buren** **95.03 38** P **P** **17 55 29.2 -1.2**
WHTX **Lake Whitney,** **95.20 46** P **P** **17 55 30.6 -0.6**
WHTX IAmb IAmb 17 55 34.3
comp=Z,12nm,1.1s
E60A **Ste Agathe de** **95.28 21** P **P** **17 55 31.9 +0.6**
baz=335
G57A **Newington** **95.28 24** P **P** **17 55 31.2 -0.1**
baz=332
H56A **Elgin** **95.29 25** P **P** **17 55 32.1 +0.8**
baz=331
ETSF **Etsaut** **95.31 332** *eP* **P** **17 55 32.8 +1.2**
ETSF pmax pmax
comp=Z,77nm,2.3s
D62A **Alint, Ali** **95.31 19** P **P** **17 55 31.8 +0.4**
baz=336
F60A **Warwick** **95.48 22** P **P** **17 55 32.6 +0.3**
baz=334
G58A **Ormstown** **95.55 23** P **P** **17 55 32.7 +0.2**
baz=332
MIAR **Mount Ida** **95.57 42** P **P** **17 55 33.4 +0.5**
baz=318
MIAR **Mount Ida** **95.57 42** P **P** **17 55 33.2 +0.3**
MIAR pmax pmax
comp=Z,6.0nm,0.9s
MIAR **Mount Ida** **95.57 42** P **P** **17 55 33.2 +0.3**
MIAR IAmb IAmb 17 55 34.2
comp=Z,6.0nm,0.8s
E62A **Clayton Lake** **95.60 20** P **P** **17 55 33.0 +0.2**
baz=336
D63A **Stockholm** **95.61 19** P **P** **17 55 33.1 +0.3**
baz=337
H59A **Cadyville** **96.11 23** P **P** **17 55 35.6 +0.5**
baz=333
H58A **Gabriels** **96.16 24** P **P** **17 55 35.8 +0.5**
baz=332
J57A **Williamstown** **96.41 25** P **P** **17 55 36.2 -0.3**
baz=331
KEST **Kesra** **96.57 321** P **P** **17 55 37.9 +0.4**
comp=Z,6.9nm,0.9s,baz=71,slow=4.1,SNR=3.8
KEST LR LR 18 43 59.1
comp=Z,111nm,18.9s,baz=288,slow=38
M54A **Oil Creek Stat** **96.67 29** P **P** **17 55 37.9 +0.1**
baz=328
J59A **Piesco** **96.89 24** P **P** **17 55 38.2 -0.5**
baz=332
PKME **Peaks-Kenny Pk** **96.91 20** P **P** **17 55 38.2 -0.5**
baz=336
I60A **Shoreham** **96.96 23** P **P** **17 55 38.7 -0.2**
baz=333
H62A **Milan** **96.98 22** P **P** **17 55 39.6 +0.5**
baz=335
K58A **Earlville** **97.10 25** P Pdif 17 55 40.0 +0.3
baz=331
K59A **Cooperstown** **97.37 25** P Pdif 17 55 41.3 +0.4
baz=332
M57A **Sunshine Farm,** **97.80 27** P Pdif 17 55 43.3 +0.4
baz=330
L59A **Walton** **97.82 25** P Pdif 17 55 43.4 +0.4
baz=332
TZTN **Tazewell** **99.12 34** P **Pdif** **17 55 49.0 +0.2**
baz=325
ESDC **Sonseca Array** **99.39 332** P **Pdif** **17 55 50.4 +0.4**
comp=Z,0.6nm,0.8s,baz=73,slow=4.4,SNR=2.6
ESDC PP **PP** **17 59 53.1 -0.7**
comp=Z,2.3nm,1.0s,baz=21,slow=7.8,SNR=4.7
ESDC LR LR 18 43 45.9
comp=Z,71nm,19.3s,baz=60,slow=37
ESDC **Sonseca Array** **99.39 332** IAmb IAmb 17 55 54.1
comp=Z,6.2nm,1.3s
VNDA **Vanda** **112.03 175** PKiKP **PKiKP** **18 00 41.3 +0.4**
comp=Z,0.6nm,0.6s,baz=288,slow=1.7,SNR=3.9
MAW **Mawson** **116.14 205** PKP **PKiKP** **18 00 49.5 +0.6**
comp=Z,1.3nm,0.7s,baz=33,slow=5.5,SNR=2.4
MAW **Mawson** **116.14 205** PKiKP **PKiKP** **18 00 49.0 +0.1**
MAW **Mawson** **116.14 205** **PKiKP** **18 00 49.0 +0.1**
TORD **Torodi Ar. Bea** **118.41 312** PKP **PKiKP** **18 00 55.0 0.0**
comp=Z,3.9nm,0.6s,baz=12,slow=2.9,SNR=23
TORD PP **PP** **18 02 12.6 +0.2**
comp=Z,2.2nm,0.8s,baz=31,slow=5.5,SNR=7.9
TORD PKiKPab **PKKPab** **18 11 18.5 +0.8**
comp=Z,1.3nm,0.9s,baz=229,slow=4.1,SNR=6.2
TORD **Torodi Ar. Bea** **118.41 312** PKPdf **PKPdf** **18 00 54.1 -0.9**
LBTB **Lobatse** **122.77 260** PKIKP **PKiKP** **18 01 03.4 0.0**
LBTB **Lobatse** **122.77 260** PKPdf **PKiKP** **18 01 03.4 0.0**
QSPA **South Pole Qui** **123.69 180** PKP **PKPdf** **18 01 03.7 +0.1**
comp=Z,6.2nm,0.6s,baz=291,slow=1.5,SNR=38
QSPA PP **PP** **18 02 48.0 -0.2**
comp=Z,8.0nm,1.0s,baz=344,slow=7.0,SNR=3.7
QSPA **South Pole Qui** **123.69 180** **PKPdf** **18 01 03.5 -0.1**
BOSA **Boshof** **124.52 256** PKP **PKiKP** **18 01 07.4 +0.6**
comp=Z,7.0nm,0.9s,baz=101,slow=2.8,SNR=9.1
SYO **Syowa Base** **124.80 206**⇑ *e*Pdiff **Pdif** **17 57 45.6 +3.6**
SYO **Syowa Base** **124.80 206**⇑ *i*PKPdf **PKPdf** **18 01 05.4 -0.1**
SYO **Syowa Base** **124.80 206**⇑ *i*PKiKP **PKiKP** **18 01 08.8 +2.9**
SYO **Syowa Base** **124.80 206**|| *e*pPKPdf pPKPdf 18 01 41.4 +1.3
DBIC **Dimbokro** **127.46 313** PKP **PKiKP** **18 01 13.0 +0.1**
comp=Z,5.7nm,0.8s,baz=3.5,slow=1.6,SNR=4.5
DBIC PP **PP** **18 03 11.9 -1.5**
comp=Z,5.5nm,0.8s,baz=21,slow=7.3,SNR=3.5
TIC **Toumodi** **127.58 314** *e*PKP2 **PKiKP** **18 01 13.4 +0.2**
KIC **Kosan Boka** **127.64 313** *e*PKP2 **PKPdf** **18 01 12.9 +0.2**
comp=Z,15nm,0.9s
LIC **Lamto** **127.92 313** *e*PKP2 **PKiKP** **18 01 14.2 +0.3**
comp=Z,11nm,0.5s
SNAA **Sanae** **137.38 197** PKPdf PKPpre 18 01 16.6
VNA2 **Neumayer--Watz** **138.96 196** PKPdf PKPpre 18 01 23.7
baz=117,slow=3.4
VNA3 **Neumayer Olymp** **139.22 195** PKPdf PKPpre 18 01 23.1
VNA1 **Neumayer--Stat** **139.36 196** PKPdf PKPpre 18 01 25.2
SAML **Samuel** **147.44 45** PKIKP **PKPdf** **18 01 48.6 -0.2**
SAML **Samuel** **147.44 45** **PKPdf** **18 01 48.6 -0.2**
PB12 **IPOC Station P** **149.23 68** PKPdf **PKPdf** **18 01 52.4 +0.7**
LPAZ **La Paz** **149.46 62** PKP **PKPdf** **18 01 54.5 +1.8**
comp=Z,19nm,0.9s,baz=1.8,slow=2.5,SNR=8.4
LPAZ PKPbc **PKiKP** **18 01 58.5 +0.1**
comp=Z,19nm,0.9s,baz=347,slow=5.7,SNR=33
LPAZ **La Paz** **149.46 62** PKHKP PKPpre 18 01 53.0
LPAZ **La Paz** **149.46 62** **PKPdf** **18 01 53.0 +0.2**
PSGCX **Pisagua** **149.95 69** **PKPbc** **18 01 57.0 -0.9**
MNMC **Minye Minye** **150.09 68** **PKiKP** **18 01 59.4 +0.2**
PB11 **IPOC Station P** **150.40 69** **PKPdf** **18 01 55.1 +1.5**
TA01 **Diego Aracena** **150.44 71** **PKPdf** **18 01 55.8 +2.4**
GO01 **Chusmiza** **150.71 68** **PKPdf** **18 01 55.6 +1.1**
PB08 **IPOC Station P** **151.01 69** PKPdf **PKPdf** **18 01 54.5 -0.4**
PB07 **IPOC Station P** **151.29 73** **PKPbc** **18 02 00.6 -0.4**
PB09 **IPOC Station P** **151.84 72** **PKiKP** **18 02 03.8 +1.2**
PB06 **IPOC Station P** **152.04 74** **PKPbc** **18 02 00.8 -2.0**
PB15 **IPOC Station P** **152.37 75** **PKPbc** **18 02 03.5 0.0**
LVC **Limon Verde** **152.52 73** PKIKP **PKPbc** **18 02 03.5 -0.6**
LVC **Limon Verde** **152.52 73** **PKPbc** **18 02 03.5 -0.6**
GO02 **Mina Guanaco** **153.17 79** **PKPbc** **18 02 03.7 -1.6**
LL01 **San Ignacio de** **153.54 118** **PKPbc** **18 02 04.0 -1.2**
AC05 **El Transito** **154.00 87** PKPdf **PKPdf** **18 01 56.7 -2.0**
AC05 PKPbc **PKiKP** **18 02 07.5 +0.6**
BI02 **San Fabin de** **154.67 105** **PKiKP** **18 02 08.7 +0.7**
PLCA **Paso Flores** **155.13 115** PKPbc PKPdf 18 02 09.7 +10
comp=Z,3.2nm,0.8s,baz=234,slow=3.3,SNR=5.6
PLCA PKPab **PKPab** **18 02 26.9 +1.7**
comp=Z,4.0nm,0.7s,baz=245,slow=3.5,SNR=6.7

IDC ***16*** *18:01:24.1±5.1,33°.62N×139°.02E,h85km±81km,mb3.2/3, mb1 3.2/4,mb1mx3.0/44,mbtmp3.4/4,ML1.8/1,Error ellipse: s-maj=151.9km s-min=30.1km az=64.0*
JMA ***16*** *18:01:26.6±0.1,34°.01N×139°.82E,h118km±2km, M2.9*
ISC 16 18:01:25.7±1.0,34°.00N±0°.06×139°.82E±0°.07,h127km±7km, n20,σ0s76/26,mb3.4/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JMKN	**Mikurajimanish**	**0.22**	**241**	P		**Pn**	**18 01 43.0**	**-0.3**
JMKN				S		**Sn**	**18 01 55.9**	**-0.6**
JNIO	**Niijimaoohara**	**0.57**	**308**	P		**Pn**	**18 01 45.0**	**+0.1**
JKO	**Kozu shima**	**0.60**	**289**	P		**Pn**	**18 01 45.0**	**-0.1**
JSKK	**Shikinejimakit**	**0.60**	**304**	P		**Pn**	**18 01 45.2**	**+0.1**
JTHY	**Toshimahigashi**	**0.68**	**320**	P		**Pn**	**18 01 45.9**	**+0.2**
JIM2	**Oshima 3**	**0.79**	**336**	P		**Pn**	**18 01 46.7**	**+0.2**
JIM2				S		**Sn**	**18 02 02.2**	**-0.1**
JHJ2	**Mitsune**	**0.89**	**180**	P		**Pn**	**18 01 47.6**	**+0.2**
BSO3	**Boso 3**	**0.98**	**35**	P		**Pn**	**18 01 48.9**	**+1.0**
JIZS	**Izushimoda**	**1.06**	**313**	P		**Pn**	**18 01 49.1**	**+0.2**
BSO1	**Boso 1**	**1.16**	**55**	P		**Pn**	**18 01 50.3**	**+0.9**
JOD2	**Odawara 2**	**1.40**	**335**	P		**Pn**	**18 01 52.8**	**+0.3**
JOD2				S		**Sn**	**18 02 13.2**	**+0.3**
JAOM	**Aogashimamukai**	**1.53**	**182**	P		**Pn**	**18 01 55.5**	**+1.4**
TK04	**Tokai 4**	**1.66**	**284**	P		**Pn**	**18 01 55.9**	**+0.6**
TK04				S		**Sn**	**18 02 19.2**	**+1.3**
SHZ3	**Shizuoka 3**	**1.70**	**309**	P		**Pn**	**18 01 56.7**	**+0.7**
SHZ3				S		**Sn**	**18 02 20.4**	**+1.2**
TK02	**Tokai 2**	**1.71**	**269**	P		**Pn**	**18 01 56.3**	**+0.4**
JYN	**Shimob**	**1.83**	**325**	P		**Pn**	**18 01 58.4**	**+0.9**
MJAR	**Matsushiro Arr**	**2.86**	**333**	P		**Pn**	**18 02 10.8**	**+0.3**
	0.1nm,0.3s,baz=171,slow=12,SNR=8.9							
MJAR				S		**Sn**	**18 02 43.8**	**-1.1**
	0.2nm,0.3s,baz=153,slow=22,SNR=5.7							
SONM	**Songino Array**	**28.54**	**309**	P		**P**	**18 07 09.4**	**-0.1**
	0.3nm,0.5s,baz=111,slow=7.9,SNR=2.2							
MKAR	**Makanchi Array**	**44.69**	**304**	P		**P**	**18 09 26.1**	**+0.2**
	0.4nm,0.5s,baz=96,slow=8.0,SNR=8.1							
WRA	**Warramunga Arr**	**53.89**	**186**	P		**P**	**18 10 34.7**	**-1.2**
	0.4nm,0.7s,baz=1.7,slow=7.6,SNR=0.9							

GUC ***16*** *18:11:26.0±0.5,21°.68S×68°.68W,h133km±3km, ML3.6*
IDC ***16*** *18:11:26.8±9.2,21°.66S×68°.23W,h127km±64km,mb3.4/2, mb1 3.5/3,mb1mx3.2/22,mbtmp3.7/3, Error ellipse: s-maj=86.8km s-min=56.0km az=41.0*
ISC 16 18:11:26.3±1.1,21°.66S±0°.05×68°.6W±0°.1,h129km±10km, n14,σ0s50/25,5C-4D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.60**	**256**	⇑*i*P		**Pn**	**18 11 46.1**	**-0.1**
PB09				*i* S		**Sn**	**18 12 01.6**	**+0.4**
PB01	**IPOC Station P**	**1.02**	**307**	⇑*i*P		**Pn**	**18 11 49.1**	**-0.4**
PB01				*i* S		**Sn**	**18 12 06.3**	**-0.7**
PB01				IAML			18 12 08.8	
	comp=N,935nm,0.2s							
PB03	**IPOC Station P**	**1.13**	**250**	⇑*i*P		**Pn**	**18 11 50.7**	**0.0**
PB03				*i* S		**Sn**	**18 12 09.2**	**+0.1**
PB03				IAML			18 12 10.2	
	comp=E,1μm,0.1s							
PB07	**IPOC Station P**	**1.19**	**266**	⇑*i*P		**Pn**	**18 11 51.3**	**+0.1**
PB07				*i* S		**Sn**	**18 12 10.2**	**+0.1**
PB07				IAML			18 12 11.5	
	comp=N,2μm,0.2s							
PB02	**IPOC Station P**	**1.24**	**285**	⇑*i*P		**Pn**	**18 11 51.7**	**0.0**
PB02				*i* S		**Sn**	**18 12 11.4**	**+0.4**
PB02				IAML			18 12 14.0	
	comp=E,1μm,0.2s							
PB06	**IPOC Station P**	**1.37**	**220**	⇓*i*P		**Pn**	**18 11 53.4**	**+0.2**
PB06				*i* S		**Sn**	**18 12 14.0**	**+0.4**
PB06				IAML			18 12 16.0	
	comp=N,723nm,0.1s							
PB04	**IPOC Station P**	**1.58**	**244**	*e*P		**Pn**	**18 11 55.5**	**+0.1**
PB04				*i* S		**Sn**	**18 12 17.6**	**-0.1**
PB04				IAML			18 12 20.0	
	comp=N,710nm,0.1s							
PB08	**IPOC Station P**	**1.59**	**341**	⇓*i*P		**Pn**	**18 11 55.9**	**0.0**
PB08				*i* S		**Sn**	**18 12 18.5**	**+0.3**
PB15	**IPOC Station P**	**1.74**	**207**	⇓*i*P		**Pn**	**18 11 57.5**	**+0.1**
PB15				*i* S		**Sn**	**18 12 21.7**	**+0.6**
PB05	**IPOC Station P**	**1.90**	**231**	⇓*i*P		**Pn**	**18 11 59.0**	**-0.1**
PB05				*i* S		**Sn**	**18 12 24.0**	**-0.2**
LPAZ	**La Paz**	**5.36**	**5**	P		**Pn**	**18 12 45.1**	**+0.2**
	comp=N,1.0nm,0.3s,baz=180,slow=6.9,SNR=21							
LPAZ				S		**Sn**	**18 13 46.5**	**+0.7**
	comp=N,0.1nm,0.3s,baz=299,slow=13,SNR=2.1							
TORD	**Torodi Ar. Bea**	**77.15**	**70**	P		**P**	**18 23 04.8**	**-1.5**
	comp=N,0.5nm,0.6s,baz=253,slow=4.9,SNR=4.1							
YKA	**Yellowknife Ar**	**91.42**	**340**	P		**P**	**18 24 18.0**	**+0.7**
	comp=N,0.3nm,0.7s,baz=136,slow=5.1,SNR=5.3							
MKAR	**Makanchi Array**	**145.59**	**36**	PKPbc		**PKPdf**	**18 30 49.9**	**+0.6**
	comp=N,0.3nm,0.6s,baz=330,slow=2.8,SNR=3.7							

IPEC ***16*** *18:15:15.7±0.2,50°.06N×18°.47E,h0km,ML2.8/3,Error ellipse: s-maj=1.8km s-min=1.1km az=161.0*
VIE ***16*** *18:15:15.2±0.4,50°.11N×18°.42E,h0km,mb2.5/7,ml2.8/8, Error ellipse: s-maj=5.6km s-min=3.4km az=148.0 33 km NNE of Ostrava Suspected Mining induced.*
IDC ***16*** *18:15:15.7±0.9,49°.88N×18°.49E,h0km,mb1 3.2/4,*

mb1mx3.0/35, mbtmp3.1/4, ML2.7/4, Error ellipse: s-maj=18.2km s-min=7.5km az=155.0
*PRU **16** 18:15:16.2±0.0, 50.05N× 18.40E, h0km, Felt In Loucky*
ISC 16 18:15:14.2±0.7, 50.09N±0.03× 18.44E±0.02, h0km, n61, σ1s43/99, 3C-10D, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.31**	**218**	*e*PG	**Pb**	**18 15 21.8**	**-0.8**
OKC				*e*SG	**Sg**	**18 15 24.8**	**+0.6**
	comp=Z,942nm,0.6s						
MORC	**Moravsky Berou**	**0.66**	**242**	⇓P	**Pb**	**18 15 28.2**	**-0.4**
MORC				⇑S	**Sg**	**18 15 36.3**	**+1.1**
MORC	**Moravsky Berou**	**0.66**	**242**	*e*PG	**Pb**	**18 15 28.2**	**-0.4**
MORC				*e*SG	**Sg**	**18 15 36.4**	**+1.1**
MORC	**Moravsky Berou**	**0.66**	**242**	*e*Pg	**Pg**	**18 15 28.1**	**+1.3**
	baz=64						
MORC				*e*Sg	**Sg**	**18 15 36.4**	**+1.1**
	138nm,0.4s,baz=64						
OJC	**Ojcow**	**0.88**	**81**	*e*Pg	**Pb**	**18 15 32.4**	**0.0**
OJC				*e*SG	**Sb**	**18 15 45.0**	**+0.3**
LANS	**Liptovska Anna**	**1.15**	**144**	*e*PG	**Pn**	**18 15 37.7**	**+0.2**
LANS				*e*SG	**Sn**	**18 15 54.1**	**+0.1**
LANS				*e*LG	Lg	18 15 58.6	
JAVC	**Velka Javorina**	**1.33**	**203**	*e*PG	**Pn**	**18 15 41.1**	**+1.1**
NIE	**Niedzica**	**1.38**	**118**	*e*Pg	**Pb**	**18 15 41.4**	**+0.6**
NIE				*e*Sg	**Sn**	**18 16 00.8**	**+1.1**
DPC	**Dobruska-Polom**	**1.39**	**282**	*e*PG	**Pb**	**18 15 41.7**	**+0.7**
DPC				*e*SG	**Sb**	**18 16 00.4**	**+1.1**
	comp=Z,273nm,0.5s						
VRAC	**Vranov**	**1.43**	**238**	Pg	**Pn**	**18 15 41.8**	**+0.4**
	10nm,0.3s,baz=61,slow=15,SNR=78						
VRAC				Lg	Lg	18 15 58.5	
	8.8nm,0.3s,baz=145,slow=20,SNR=10						
VRAC	**Vranov**	**1.43**	**238**	⇑P	**Pn**	**18 15 41.8**	**+0.4**
VRAC				⇓S	**Sb**	**18 16 00.8**	**+0.4**
VRAC	**Vranov**	**1.43**	**238**	*e*PG	**Pb**	**18 15 42.1**	**+0.3**
VRAC				*e*SG	**Sg**	**18 16 00.4**	**+0.3**
VRAC	**Vranov**	**1.43**	**238**	*e*Pg	**Pb**	**18 15 42.0**	**+0.3**
	baz=58						
VRAC				*e*Sg	**Sg**	**18 16 00.3**	**+0.2**
	84nm,0.6s,baz=58						
OSTC	**Ostas**	**1.50**	**289**	*e*PG	**Pn**	**18 15 42.9**	**+0.5**
OSTC				*e*SG	**Sn**	**18 16 03.7**	**+1.0**
	comp=Z,139nm,0.8s						
KSP	**Ksiaz**	**1.57**	**300**	*e*Pn	**Pn**	**18 15 43.9**	**+0.6**
KSP				*e*Pg	**Pg**	**18 15 46.0**	**+1.8**
KSP				*e*Sg	**Sg**	**18 16 05.8**	**+1.3**
CHVC	**Chvalec**	**1.61**	**289**	*e*PG	**Pn**	**18 15 44.7**	**+0.8**
CHVC				*e*SG	**Sg**	**18 16 07.3**	**+1.4**
	comp=Z,180nm,1.2s						
VYHS	**Vyhne**	**1.61**	**171**	*e*PG	**Pn**	**18 15 44.2**	**+0.3**
VYHS				*e*SG	**Sg**	**18 16 06.4**	**+0.4**
UPC	**Upice**	**1.61**	**286**	*e*PG	**Pn**	**18 15 44.6**	**+0.7**
UPC				*e*SG	**Sg**	**18 16 07.9**	**+1.9**
	comp=Z,172nm,1.2s						
KRUC	**Moravsky**	**1.68**	**233**	*e*PG	**Pb**	**18 15 46.1**	**+0.1**
KRUC				*e*SG	**Sg**	**18 16 08.2**	**0.0**
KRUC	**Moravsky**	**1.68**	**233**	*e*Pg	**Pb**	**18 15 46.0**	**+0.1**
	baz=53						
KRUC				*e*Sg	**Sb**	**18 16 08.1**	**+0.4**
	119nm,0.6s,baz=53						
SMOL	**Smolenice**	**1.71**	**203**	*e*PG	**Pn**	**18 15 45.9**	**+0.7**
SMOL				*e*SG	**Sg**	**18 16 08.8**	**-0.2**
SMOL				*e*LG	Lg	18 16 10.9	
MODS	**Modra-Piesok**	**1.88**	**204**	*e*PN	**Pn**	**18 15 47.3**	**-0.2**
MODS				*e*LG	Lg	18 16 23.0	
STHS	**Stebnicka Huta**	**1.94**	**109**	*e*PN	**Pg**	**18 15 52.1**	**+0.9**
TREC	**Trest**	**2.08**	**249**	*e*PG	**Pb**	**18 15 52.8**	**+0.1**
TREC				*e*SG	**Sb**	**18 16 20.3**	**+1.2**
	comp=Z,58nm,0.5s						
ZST	**Bratislava**	**2.09**	**205**	*e*PN	**Pn**	**18 15 50.4**	**0.0**
ZST				*e*LG	Lg	18 16 17.4	
KECS	**Kecovo**	**2.09**	**139**	*e*PN	**Pn**	**18 15 51.3**	**+0.9**
KECS				*e*LG	Lg	18 16 23.2	
CRVS	**Cervenica-Dubn**	**2.30**	**120**	*e*PN	**Pb**	**18 15 57.2**	**+0.7**
CRVS				*e*LG	Lg	18 16 36.4	
GOPC	**GO Pecny, Ondr**	**2.37**	**267**	*e*PG	**Pb**	**18 15 57.3**	**-0.3**
GOPC				*e*SG	**Sg**	**18 16 30.1**	**0.0**
	comp=Z,38nm,0.7s						
PSZ	**Piszkesteto**	**2.37**	**156**	⇓P	**Pn**	**18 15 54.7**	**+0.3**
PSZ				⇓S	**Sn**	**18 16 23.1**	**-1.1**
PRU	**Pruhonice**	**2.52**	**269**	*e*PG	**Pb**	**18 16 00.6**	**+0.4**
PRU				*e*SG	**Sg**	**18 16 34.6**	**-0.4**
	comp=Z,31nm,0.6s						
PVCC	**Panska Ves**	**2.52**	**282**	*e*PG	**Pb**	**18 16 01.4**	**+1.1**
PVCC				*e*SG	**Sg**	**18 16 36.0**	**+0.8**
	comp=Z,82nm,0.5s						
PRA	**Prague**	**2.58**	**271**	*e*PG	**Pb**	**18 16 02.2**	**+0.9**
PRA				*e*SG	**Sg**	**18 16 36.5**	**-0.6**
	comp=Z,45nm,1.1s						
CONA	**Conrad Observa**	**2.75**	**219**	Pn	**Pn**	**18 16 00.2**	**+0.6**
	1.7nm,0.2s,SNR=6.4						
CONA				*e*Sn	**Sn**	**18 16 33.4**	**-0.1**
	8.8nm,0.3s						
PBCC	**Pribram**	**2.90**	**264**	*e*PG	**Pb**	**18 16 08.7**	**+1.9**
PBCC				*e*SG	**Sg**	**18 16 47.6**	**+0.2**
BRG	**Berggiesshubel**	**2.98**	**287**	PG	**Pg**	**18 16 10.7**	**-0.6**
BRG				SG	**Sg**	**18 16 50.7**	**+0.9**
	28nm,0.8s						
KHC	**Kasperske Hory**	**3.31**	**255**	*e*PN	**Pn**	**18 16 07.5**	**+0.3**
KHC				*e*PG	**Pb**	**18 16 14.9**	**+1.2**
KHC				*e*SG	**Sg**	**18 16 59.7**	**-0.6**
	comp=Z,44nm,0.4s						
TRPA	**Tarpa**	**3.33**	**124**	⇑P	**Pn**	**18 16 09.3**	**+1.9**
GERES	**GERESS Array B**	**3.33**	**250**	Pn	**Pn**	**18 16 08.1**	**+0.5**
	0.4nm,0.3s,baz=66,slow=15,SNR=9.4						
GERES				Pg	**Pb**	**18 16 16.5**	**+2.3**
	2.1nm,0.3s,baz=65,slow=16,SNR=19						
GERES				Sn	**Sn**	**18 16 44.9**	**-3.0**
	1.8nm,0.3s,baz=71,slow=21,SNR=5.8						
GERES				Lg	Lg	18 16 59.1	
	5.7nm,0.3s,baz=66,slow=29,SNR=9.6						
ARSA	**Arzberg**	**3.44**	**215**	*i* Pn	**Pn**	**18 16 10.3**	**+1.3**
	1.2nm,0.2s						
ARSA				*e*Sn	**Sn**	**18 16 53.4**	**+3.0**
	2.8nm,0.4s						
MOA	**Molln**	**3.55**	**232**	*e*Pn	**Pn**	**18 16 10.9**	**+0.4**
	0.7nm,0.2s						
MOA				*e*Sn	**Sb**	**18 16 57.8**	**-3.6**
	14nm,0.6s						
CLL	**Collm**	**3.67**	**292**	*e*Pg	**Pg**	**18 16 23.0**	**-1.4**
CLL				*e*Pgmax		18 16 26.0	
CLL				*e*		18 17 02.0	
CLL				*e*Sg	**Sg**	**18 17 13.0**	**+1.0**
	comp=Z,44nm,1.0s						
NKC	**Novy Kostel**	**3.86**	**274**	*e*PG	**Pb**	**18 16 24.8**	**+1.7**
NKC				*e*SG	**Sg**	**18 17 17.0**	**-1.0**
	comp=Z,24nm,0.5s						
SOKA	**Soboth**	**4.10**	**215**	*i* Pn	**Pn**	**18 16 19.0**	**+0.9**
	comp=Z,1.6nm,0.5s						
DRGR		**4.35**	**138**	⇓P	**Pn**	**18 16 22.6**	**+1.1**
SIRR	**Siria**	**4.38**	**149**	⇓P	**Pn**	**18 16 23.0**	**+1.0**
OBKA	**Obir**	**4.42**	**217**	*e*Pn	**Pn**	**18 16 24.0**	**+1.4**
	comp=Z,2.2nm,0.3s,SNR=4.0						
OBKA				Sg	**Sg**	**18 17 42.7**	**+6.5**
	comp=Z,6.1nm,0.6s						
KBA	**KoelnbreinspER**	**4.53**	**230**	Sn	**Sn**	**18 17 18.6**	**+1.1**
	comp=Z,3.2nm,0.6s						
BZS	**Buzias**	**4.96**	**153**	⇓P	**Pn**	**18 16 30.5**	**+0.7**
BURAR	**Bucovina Array**	**5.11**	**116**	⇓P	**Pn**	**18 16 33.5**	**+1.5**
ABTA	**Abfaltersbach**	**5.17**	**232**	Sg	**Sg**	**18 17 59.4**	**-0.8**
	comp=Z,4.1nm,0.3s						
WATA	**Walderalm**	**5.31**	**241**	Sg	**Sg**	**18 18 03.3**	**-1.5**
	comp=Z,8.8nm,0.4s						
WTTA	**Wattenberg**	**5.32**	**241**	Sg	**Sg**	**18 18 02.9**	**-2.1**
	comp=Z,12nm,0.5s						
MOTA	**Moosalm**	**5.58**	**243**	Sg	**Sg**	**18 18 10.4**	**-2.9**
	comp=Z,19nm,0.6s						
RETA	**Reutte**	**5.70**	**246**	Sg	**Sg**	**18 18 16.0**	**-1.3**
	comp=Z,5.9nm,0.3s						
MDVR	**Moldovita**	**5.75**	**156**	⇓P	**Pn**	**18 16 40.4**	**-0.4**
HERR	**Herculane**	**5.86**	**151**	⇓P	**Pn**	**18 16 43.3**	**+1.1**
FETA	**Feichten**	**5.97**	**242**	Sg	**Sg**	**18 18 27.3**	**+1.5**
	comp=Z,3.8nm,0.4s						
DAVOX	**Davos/Dischmat**	**6.59**	**243**	Lg	Lg	18 18 40.6	
	comp=Z,0.5nm,0.3s,baz=172,slow=19,SNR=3.1						
AKASG	**Malin Array Be**	**6.92**	**81**	Pn	**Pn**	**18 16 55.2**	**-1.5**
	comp=Z,1.0nm,0.3s,baz=270,slow=11,SNR=6.0						
AKASG				Sn	**Sn**	**18 18 10.9**	**-5.2**
	comp=Z,0.5nm,0.3s,baz=260,slow=22,SNR=1.8						
AKASG				Lg	Lg	18 18 47.5	
	comp=Z,1.0nm,0.3s,baz=264,slow=26,SNR=2.6						
HFS	**Hagfors**	**10.43**	**347**	Pn	**Pn**	**18 17 44.3**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=160,slow=16,SNR=1.2						
FINES	**FINESS Array B**	**12.16**	**18**	Pn	**Pn**	**18 18 06.4**	**-1.9**
	comp=Z,0.2nm,0.3s,baz=204,slow=12,SNR=6.3						
FINES				Sn	Sn	18 20 15.8	-8.7
	comp=Z,0.1nm,0.3s,baz=204,slow=26,SNR=1.0						

*MEX **16** 18:30:22.8±1.7, 15.15N× 92.03W, h5km, MD3.7*
*GCG **16** 18:30:26.1±0.5, 14.96N× 91.85W, h0km±32km, MD3.4*
ISC 16 18:30:21.3±1.2, 15.16N±0.05× 92.06W±0.04, h13km±12km, n7, σ0s83/12, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.32**	**219**	*i* P	**Pb**	**18 30 29.8**	**+1.0**
THIG				*i* S	**Sb**	**18 30 32.9**	**-0.9**
STG3	**Santiaguito 3,**	**0.65**	**133**	*e*P	**Pg**	**18 30 33.8**	**-0.2**
STG3				*e*S	**Sg**	**18 30 41.9**	**-0.6**
CCIG	**Comitan**	**1.12**	**356**	*i* P	**Pn**	**18 30 42.1**	**-0.7**
CCIG				*e*S	**Sb**	**18 30 57.0**	**-0.2**
PCIG		**1.25**	**296**	*e*P	**Pg**	**18 30 44.7**	**-0.6**
PCIG				*i* S	**Sg**	**18 31 02.5**	**+1.1**
FUG	**Fuego 3**	**1.37**	**121**	*e*P	**Pb**	**18 30 47.4**	**+0.5**
FUG				*e*S	**Sn**	**18 31 04.4**	**0.0**
IXG	**Ixpaco**	**1.85**	**122**	*e*P	**Pb**	**18 30 55.6**	**+0.7**
MRL	**Marmol**	**2.29**	**92**	*e*S	**Sb**	**18 31 31.8**	**+0.8**

*IDC **16** 18:49:39.1±1.3, 18.34N× 120.77E, h0km, mb3.4/5, mb1 3.7/5, mb1mx3.4/39, mbtmp3.4/5, MS2.6/1, Ms1 2.8/1, ms1mx2.3/26, Error ellipse: s-maj=48.3km s-min=25.3km az=56.0*
*MAN **16** 18:49:44.9, 18.42N× 120.46E, h16km, mb4.5, ML3.4, MS3.2*
ISC 16 18:49:44.8±1.2, 18.4N±0.1× 120.8E±0.2, h41km, n9, σ1s27/7, mb3.5/4, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapaoo**	**0.56**	**214**	⇓*i*P	**Pn**	**18 49 55.9**	**-0.6**
SIPP				*e*S	**Sn**	**18 50 06.3**	**+1.6**
CMAR	**Chiang Mai Arr**	**20.73**	**274**	P	**P**	**18 54 21.4**	**-0.6**
	0.7nm,0.6s,baz=78,slow=8.6,SNR=6.9						
CMAR				LR	LR	19 01 34.8	
	comp=Z,16nm,20.9s,baz=130,slow=35						
WRA	**Warramunga Arr**	**40.35**	**160**	P	**P**	**18 57 17.8**	**-0.9**
	0.9nm,0.9s,baz=344,slow=8.7,SNR=1.8						
MKAR	**Makanchi Array**	**42.40**	**321**	P	**P**	**18 57 34.9**	**-0.4**
	0.2nm,0.6s,baz=115,slow=9.0,SNR=2.4						
H11S3	**WAKE ISLAND Hy**	**43.45**	**82**	T	T	19 43 09.2	
	baz=277						
H11S1	**WAKE ISLAND Hy**	**43.46**	**82**	T	T	19 43 11.7	
	baz=277						
H11S2	**WAKE ISLAND Hy**	**43.47**	**82**	T	T	19 43 10.6	
	baz=277						
ASAR	**Alice Springs**	**43.72**	**162**	P	**P**	**18 57 46.0**	**-0.3**
	0.3nm,0.4s,baz=339,slow=6.7,SNR=8.4						
YKA	**Yellowknife Ar**	**88.43**	**22**	P	**P**	**19 02 33.8**	**+1.4**
	0.3nm,0.8s,baz=309,slow=3.9,SNR=3.1						

*IDC **16** 18:59:31.7±10.0, 24.10S× 179.75W, h434km±107km, mb3.4/8, mb1 3.5/8, mb1mx3.2/25, mbtmp4.2/8, Error ellipse: s-maj=59.0km s-min=21.2km az=58.0*
*NEIC **16** 18:59:34.7±1.6, 24.2S±0.2× 179.8W±0.3, h480km±14km, mb4.2/20, Error ellipse: s-maj=34.2km s-min=20.0km az=72.0*
ISC 16 18:59:36.1±1.0, 24.05S±0.10× 179.7W±0.2, h512km, n54, σ1s61/54, mb4.1/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.64**	**341**	P	**P**	**19 01 18.2**	**-1.2**
HIZ	**Hauiti**	**15.16**	**197**	P	**P**	**19 02 51.8**	**+4.2**
BKZ	**Black Stump Fm**	**15.42**	**191**	P	**P**	**19 02 47.4**	**-3.0**
BKZ				IAmb	IAmb	19 02 49.1	
	comp=Z,9.9nm,1.2s						
FUNA	**Funafuti**	**15.48**	**356**	P	**P**	**19 02 49.7**	**-1.6**
TWVZ	**Taurewa**	**15.54**	**194**	P	**P**	**19 02 51.4**	**-0.3**
VRZ	**Vera Road**	**15.76**	**196**	P	**P**	**19 02 55.7**	**+1.8**
MOVZ	**Moawhango**	**15.80**	**193**	P	**P**	**19 02 55.1**	**+0.8**
BHHZ	**Black Hill Sta**	**15.81**	**192**	P	**P**	**19 02 52.5**	**-2.0**
KRHZ	**Kereru**	**15.91**	**191**	P	**P**	**19 02 55.5**	**+0.1**
KAHZ	**Kahuranaki**	**15.97**	**190**	P	**P**	**19 02 55.8**	**-0.3**
TSZ	**Takapari Road**	**16.38**	**192**	P	**P**	**19 02 59.7**	**-0.6**
ANWZ	**Angora Road**	**16.68**	**190**	P	**P**	**19 03 02.1**	**-1.2**
BFZ	**Birch Farm**	**16.94**	**191**	P	**P**	**19 03 03.4**	**-2.4**
BFZ	**Birch Farm**	**16.94**	**191**	P	**P**	**19 03 02.5**	**-3.3**
MRZ	**Mangatainoka R**	**17.04**	**192**	P	**P**	**19 03 04.4**	**-2.5**
OGWZ	**Otaki Gorge**	**17.27**	**193**	P	**P**	**19 03 07.4**	**-1.6**
MTW	**Mount Morrison**	**17.54**	**192**	P	**P**	**19 03 09.1**	**-2.4**
MSWZ	**Moikau Station**	**17.83**	**193**	P	**P**	**19 03 10.7**	**-3.5**
QRZ	**Quartz Range**	**17.97**	**200**	P	**P**	**19 03 14.5**	**-0.9**
QRZ	**Quartz Range**	**17.97**	**200**	P	**P**	**19 03 13.6**	**-1.8**
PLWZ	**Palliser**	**17.98**	**192**	P	**P**	**19 03 14.2**	**-1.3**
TUWZ	**Tuamarina**	**18.14**	**196**	P	**P**	**19 03 15.7**	**-1.2**
TUWZ	**Tuamarina**	**18.14**	**196**	P	**P**	**19 03 14.5**	**-2.5**
THZ	**Tophouse**	**18.72**	**198**	P	**P**	**19 03 21.5**	**-0.9**
THZ	**Tophouse**	**18.72**	**198**	P	**P**	**19 03 21.5**	**-0.9**
KHZ	**Kahutara**	**19.17**	**195**	P	**P**	**19 03 25.1**	**-1.2**
KHZ	**Kahutara**	**19.17**	**195**	P	**P**	**19 03 25.1**	**-1.2**
GVZ	**Greta Valley S**	**19.81**	**196**	P	**P**	**19 03 30.5**	**-1.8**
LTZ	**Lake Taylor**	**19.84**	**198**	P	**P**	**19 03 30.4**	**-2.1**
OXZ	**Oxford**	**20.41**	**198**	P	**P**	**19 03 36.1**	**-1.6**
RPZ	**Rata Peaks**	**21.05**	**199**	P	**P**	**19 03 43.0**	**-0.4**
	comp=Z,9.2nm,0.9s,baz=71,slow=12,SNR=1.3						
RPZ	**Rata Peaks**	**21.05**	**199**	P	**P**	**19 03 42.8**	**-0.6**
CTA	**Charters Tower**	**31.79**	**270**	P	**P**	**19 05 18.9**	**+0.5**
	comp=Z,8.9nm,0.3s,baz=96,slow=12,SNR=26						
CTAO	**Charters Tower**	**31.79**	**270**	P	**P**	**19 05 18.9**	**+0.5**
STKA	**Stephens Creek**	**34.96**	**248**	P	**P**	**19 05 45.2**	**+0.2**
	comp=Z,2.6nm,0.4s,baz=92,slow=11,SNR=6.3						
STKA	**Stephens Creek**	**34.96**	**248**	P	**P**	**19 05 45.1**	**+0.2**
BBOO	**Buckleboo**	**39.67**	**247**	P	**P**	**19 06 22.6**	**-1.1**
BBOO				IAmb	IAmb	19 06 30.9	
	comp=Z,13nm,1.2s						
AS31	**Alice Springs**	**42.32**	**261**	P	**P**	**19 06 44.8**	**-0.1**
ASAR	**Alice Springs**	**42.32**	**261**	P	**P**	**19 06 44.6**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=93,slow=7.7,SNR=52						
ASAR	**Alice Springs**	**42.32**	**261**	P	**P**	**19 06 44.4**	**-0.5**
WR0	**Warramunga Arr**	**42.52**	**266**	P	**P**	**19 06 44.8**	**-1.7**
WR0				IAmb	IAmb	19 07 03.1	
	comp=Z,7.6nm,1.1s						
WB2	**Warramunga Arr**	**42.70**	**266**	P	**P**	**19 06 47.1**	**-0.8**
WB2				IAmb	IAmb	19 06 47.6	
	comp=Z,4.6nm,0.5s						
WB0	**Warramunga Arr**	**42.70**	**266**	P	**P**	**19 06 47.2**	**-0.7**
WB0				IAmb	IAmb	19 07 02.2	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**42.71**	**266**	P	**P**	**19 06 47.4**	**-0.6**
	comp=Z,3.5nm,0.5s,baz=96,slow=8.3,SNR=37						
WRA	**Warramunga Arr**	**42.71**	**266**	P	**P**	**19 06 47.1**	**-0.9**
JAY	**Jayapura**	**43.86**	**293**	P	**P**	**19 06 57.5**	**+0.5**
	comp=Z,4.0nm,0.8s,baz=141,slow=6.5,SNR=1.7						
KNRA	**Kununurra**	**49.00**	**270**	P	**P**	**19 07 36.0**	**+0.1**
KNRA				IAmb	IAmb	19 07 45.7	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**51.13**	**266**	P	**P**	**19 07 52.4**	**+0.8**
FITZ				IAmb	IAmb	19 07 56.5	
	comp=Z,10nm,1.3s						
QSPA	**South Pole Qui**	**66.03**	**180**	P	**P**	**19 09 33.2**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=41,slow=0.5,SNR=7.4						
QSPA	**South Pole Qui**	**66.03**	**180**	P	**P**	**19 09 33.0**	**+1.5**
MAW	**Mawson**	**77.72**	**200**	P	**P**	**19 10 38.8**	**-0.5**
PETK	**Petropavlovsk-**	**79.32**	**346**	P	**P**	**19 10 50.6**	**+2.6**
	comp=Z,1.0nm,0.8s,baz=144,slow=10,SNR=1.7						
AKASG	**Malin Array Be**	**145.27**	**327**	PKPbc	**PKPab**	**19 18 17.2**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=50,slow=3.9,SNR=1.6						
BRTR	**Keskin Array B**	**147.92**	**307**	PKPbc	**PKPab**	**19 18 29.0**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=51,slow=5.7,SNR=1.9						

*NEIC **16** 19:25:35.7±3.4, 41.099N±0.010× 112.81W±0.04, h0km±2km, Error ellipse: s-maj=5.6km s-min=3.0km az=96.0*
*IDC **16** 19:25:38.0±1.2, 41.47N× 112.87W, h0km, mb1 2.9/2, mb1mx2.8/33, mbtmp2.4/2, ML3.1/2, Error ellipse: s-maj=96.9km s-min=8.9km az=149.0*
ISC 16 19:25:32.7±1.0, 41.24N±0.04× 112.90W±0.04, h0km, n20, σ0s55/20, Utah

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BGU	**Big Grassy Mou**	**0.33**	**197**	Pg	**Pg**	**19 25 39.4**	**+0.5**
SPUT	**South Promonto**	**0.35**	**78**		**Pb**	**19 25 42.3**	**+0.4**
HVU	**Hansel Valley**	**0.55**	**10**	Pg	**Pn**	**19 25 47.6**	**-0.4**
CTU	**Camp Tracy**	**1.03**	**122**		**Pb**	**19 25 53.7**	**+0.2**
DUG	**Dugway, Tooele**	**1.05**	**176**	Pg	**Pg**	**19 25 53.0**	**+0.2**
HWUT	**Hardware Ranch**	**1.07**	**70**		**Pn**	**19 25 55.7**	**+0.5**
TCUT	**Toone Canyon**	**1.14**	**96**		**Pn**	**19 25 56.5**	**+0.4**
JLU	**Jordanelle**	**1.27**	**120**	Pg	**Pg**	**19 25 57.0**	**0.0**
NLU	**North Lily Min**	**1.43**	**154**	Pg	**Pg**	**19 25 59.2**	**-0.9**
MPU	**Maple Canyon**	**1.56**	**141**	Pn	**Pn**	**19 26 01.4**	**-0.5**
ELK	**Elko**	**1.84**	**255**	Pn	**Pb**	**19 26 07.6**	**+0.3**
PSUT	**Pine Spring**	**2.80**	**195**	Pn	**Pn**	**19 26 19.1**	**+0.1**
BW06	**Boulder Array**	**2.92**	**57**		**Pb**	**19 26 25.0**	**-0.8**
PD31	**Pinedale Array**	**2.92**	**57**		**Pb**	**19 26 25.1**	**-0.7**
PDAR	**Pinedale Array**	**2.92**	**57**	Pn	**Pb**	**19 26 26.6**	**+0.7**
	0.8nm,0.3s,baz=225,slow=10,SNR=11						
PDAR				Pg	**Pg**	**19 26 29.4**	**+0.6**
	0.9nm,0.3s,baz=231,slow=14,SNR=14						
PDAR				Lg	Lg	19 27 06.0	
	0.9nm,0.3s,baz=228,slow=20,SNR=2.1						
PDAR	**Pinedale Array**	**2.92**	**57**		**Pb**	**19 26 25.0**	**-0.8**
MFID	**Camas Ranch**	**3.07**	**316**	Pn	**Pb**	**19 26 28.4**	**+0.1**
MCMT	**McKenzie Canyo**	**3.59**	**1**	Pn	**Pb**	**19 26 36.6**	**-0.5**
NVAR	**Mina Array Bea**	**5.01**	**238**	Pn	Pb	19 26 56.8	-4.7
	0.2nm,0.3s,baz=55,slow=14,SNR=2.1						
NVAR				Pg	**Pg**	**19 27 08.7**	**-0.2**
	0.2nm,0.3s,baz=50,slow=16,SNR=2.5						
I56US	**NEWPORT INFRAS**	**7.64**	**338**	*i*		20 09 00.0	
	baz=157,slow=318,SNR=3.8						

*IDC **16** 19:32:14.6±1.1, 23.47N× 94.64E, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.5/41, mbtmp3.8/6, ML4.0/2, Error ellipse: s-maj=28.2km s-min=16.2km az=51.0*
ISC 16 19:32:20.6±0.9, 23.1N±0.3× 94.2E±0.2, h58km, n19, σ0s61/19, mb3.7/4, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRDH	**Bariadhala**	**2.43**	**260**	Pn	Pn	19 33 02.5	+4.7
	23nm,0.3s,baz=86,slow=19,SNR=1.4						
BRDH				Sn	Sn	19 33 37.5	+11
	63nm,0.3s,baz=107,slow=19,SNR=2.1						
CMAR	**Chiang Mai Arr**	**6.41**	**136**	Pn	**Pn**	**19 33 52.0**	**-0.4**
	0.9nm,0.3s,baz=312,slow=13,SNR=37						
CMAR				Sn	**Sn**	**19 35 03.7**	**-0.5**
	0.3nm,0.3s,baz=325,slow=23,SNR=1.6						
CMAR				Lg	Lg	19 35 40.0	
	0.3nm,0.3s,baz=316,slow=31,SNR=2.6						
ODAN	**Odare**	**7.23**	**302**	*e*P	**Pn**	**19 34 04.2**	**+0.3**
	24nm,0.4s						
TAPN	**Taplejung**	**7.24**	**307**	*e*P	**Pn**	**19 34 04.3**	**+0.2**
	14nm,0.5s						
RAMN	**Ramite**	**7.89**	**300**	*e*P	**Pn**	**19 34 13.9**	**+0.9**
	26nm,0.4s						
JIRN	**Jiri**	**8.55**	**303**	*e*P	**Pn**	**19 34 22.5**	**+0.4**
	14nm,0.3s						
GUN	**Gumba**	**8.92**	**304**	*e*P	**Pn**	**19 34 27.3**	**+0.3**
	15nm,0.4s						
PKI	**Pulchoki**	**9.12**	**301**	*e*P	**Pn**	**19 34 29.6**	**-0.2**
	10nm,0.4s						
PKIN	**Phulchoki**	**9.13**	**301**	*e*P	**Pn**	**19 34 30.6**	**+0.7**
	13nm,0.3s						
KKN	**Kakani**	**9.32**	**302**	*e*P	**Pn**	**19 34 32.2**	**-0.3**
	6.4nm,0.3s						
DMN	**Daman**	**9.38**	**300**	*e*P	**Pn**	**19 34 33.2**	**-0.1**
	5.5nm,0.3s						
GKN	**Gorkha**	**9.92**	**301**	*e*P	**Pn**	**19 34 40.5**	**-0.2**
	25nm,0.3s						
KOLN	**Koldanda**	**10.66**	**

MDD 16 20:39:03.2±0.4, 43°04'N×0°19W, h0km, mbLg1.1/7, Error ellipse: s-maj=5.8km s-min=2.6km az=4.0, PRXIMO, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETSF	**Etsaut**	**0.31**	**242**	*e*Pg	Pg	20 39 09.5	+0.4
ETSF				*e*Sg	Sg	20 39 13.1	0.0
	18nm,0.2s						
ETSF	**Etsaut**	**0.31**	**242**	Pg	Pg	20 39 09.1	0.0
	2.5nm,0.2s						
ETSF				Lg	Lg	20 39 13.1	
	9.2nm,0.2s						
ATE	**Arette**	**0.38**	**277**	Pg	Pg	20 39 08.8	-1.7
	1.7nm,0.2s,SNR=7.9						
ATE				Lg	Lg	20 39 16.2	
	13nm,0.1s,SNR=7.9						
EPF	**Esparros**	**0.39**	**92**	*e*Pg	Pg	20 39 11.4	+0.7
EPF				*e*Sg	Sg	20 39 17.4	+1.7
	6.0nm,0.2s						
EPF	**Esparros**	**0.39**	**92**	Pg	Pg	20 39 09.9	-0.8
	1.6nm,0.2s						
EPF				Lg	Lg	20 39 17.4	
	3.0nm,0.2s						
ECHI	**Chisagues Biel**	**0.47**	**143**	Pg	Pg	20 39 11.6	-0.7
	0.3nm,0.1s,SNR=7.9						
ECHI				Lg	Lg	20 39 18.9	
	1.1nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**0.76**	**276**	*e*Pg	Pg	20 39 18.0	+0.1
SJPF				*e*Sg	Sg	20 39 28.0	+0.2
	2.6nm,0.2s						
SJPF	**Ste Jean**	**0.76**	**276**	Pg	Pg	20 39 18.0	+0.1
SJPF				Lg	Lg	20 39 28.0	
	1.3nm,0.2s						
EORO	**Oroz-Betelu**	**0.84**	**260**	Pg	Pn	20 39 22.9	+0.6
	0.1nm,0.1s,SNR=4.0						
EORO				Lg	Lg	20 39 30.9	
	0.3nm,0.1s,SNR=7.9						
EALK	**Alkurruntz**	**0.98**	**281**	Lg	Lg	20 39 35.4	
	1.6nm,0.2s,SNR=7.9						
CSOR	**Sort**	**1.18**	**124**	Pg	Pn	20 39 27.4	+0.3
	0.1nm,0.2s,SNR=7.9						
CSOR				Lg	Lg	20 39 43.6	
	1.0nm,0.3s,SNR=7.9						
ESAC	**San Caprasio**	**1.34**	**189**	Pg	Pn	20 39 30.1	+0.9
	6.5nm,0.2s,SNR=7.9						
ESAC				Lg	Lg	20 39 49.4	
	2.2nm,0.1s,SNR=7.9						
CLLI	**Llivia**	**1.69**	**109**	Lg	Lg	20 39 59.9	
	SNR=7.9						
MTLF	**Montolieu**	**1.78**	**80**	*e*Pg	Pg	20 39 38.2	+0.8
MTLF				*e*Sg	Sg	20 40 01.2	+0.6
	0.9nm,0.3s						
MTLF	**Montolieu**	**1.78**	**80**	Pg	Pn	20 39 34.0	-1.3
MTLF				Lg	Lg	20 40 01.2	
	0.4nm,0.3s						
EPOB	**Poblet**	**1.93**	**150**	Lg	Lg	20 40 04.6	
	0.2nm,0.1s,SNR=7.9						
LFF	**La Frestale**	**2.01**	**19**	*e*Sg	Sg	20 40 08.6	+0.8
	1.8nm,0.3s						
LFF	**La Frestale**	**2.01**	**19**	Lg	Lg	20 40 08.6	
	0.9nm,0.3s						
CFON	**Fontmartina**	**2.33**	**122**	Lg	Lg	20 40 18.9	
	1.4nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.49**	**40**	*e*Sg	Sg	20 40 23.4	+0.3
	0.7nm,0.2s						
CAF	**Calviac**	**2.49**	**40**	Lg	Lg	20 40 23.4	
	0.3nm,0.2s						

IDC 16 20:46:34.5±1.3, 53°19S×23°76E, h0km, mb4.0/2, mb1 4.1/2, mb1mx3.6/20, mbtmp4.0/2, Error ellipse: s-maj=104.8km s-min=38.9km az=45.0, South of Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**68.73**	**337**	P	P	20 57 39.7	-0.2
	1.5nm,0.9s,baz=177,slow=6.2,SNR=6.3						
ASAR	**Alice Springs**	**82.60**	**120**	P	P	20 58 59.6	+0.1
	1.1nm,0.8s,baz=209,slow=6.8,SNR=6.9						
PDAR	**Pinedale Array**	**147.60**	**270**	PKPbc	PKPbc	21 06 19.1	-1.1
	0.7nm,0.8s,baz=123,slow=3.3,SNR=4.3						
YKA	**Yellowknife Ar**	**156.37**	**310**	PKPab	PKPab	21 06 58.5	+0.3
	0.6nm,0.9s,baz=97,slow=5.0,SNR=4.8						

IDC 16 21:14:57.7±3.0, 13°80S×167°59E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/26, mbtmp4.0/4, Error ellipse: s-maj=107.4km s-min=41.0km az=130.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.83**	**229**	P	P	21 21 07.3	+0.6
	1.1nm,0.5s,baz=55,slow=9.6,SNR=8.3						
WRA	**Warramunga Arr**	**32.36**	**255**	P	P	21 21 28.9	-0.3
	0.8nm,0.5s,baz=86,slow=9.5,SNR=3.2						
ASAR	**Alice Springs**	**33.30**	**248**	P	P	21 21 37.0	-0.4
	1.0nm,0.4s,baz=77,slow=9.4,SNR=21						
MKAR	**Makanchi Array**	**96.75**	**316**	P	P	21 28 31.1	+0.7
	0.2nm,0.6s,baz=86,slow=6.3,SNR=2.4						
ARCES	**ARCESS Array B**	**119.44**	**346**	PKP	PKPdf	21 33 47.7	-1.0
	0.9nm,0.7s,baz=50,slow=3.0,SNR=1.0						

IDC 16 21:29:52.2±1.1, 10°33N×93°77E, h0km, mb3.9/9, mb1 4.0/9, mb1mx3.7/30, mbtmp3.9/9, MS3.2/9, Ms1 3.2/9, ms1mx3.0/31, Error ellipse: s-maj=45.1km s-min=21.4km az=48.0

NEIC 16 21:30:01.2±1.5, 10°4N±0°1×93°9E±0°1, h74km±10km, mb4.4/20, Error ellipse: s-maj=18.2km s-min=14.3km az=133.0

ISC 16 21:29:55.8±0.7, 10°4N±0°1×93°7E±0°2, h19km, n43, σ1s01/35, mb4.2/16, MS3.3/7, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**6.06**	**147**	Pn	Pn	**21 31 26.4**	**+2.0**
PSI	**Prapat**	**9.15**	**145**	LR	LR	21 35 34.1	
	comp=Z,188nm,21.2s,baz=275,slow=37						
CMAR	**Chiang Mai Arr**	**9.51**	**32**	LR	LR	21 36 23.0	
	comp=Z,49nm,18.6s,baz=220,slow=41						
SHL	**Shillong**	**15.20**	**354**	Pn	**Pn**	**21 33 31.0**	**+1.3**
SHL				IAmb	IAmb	21 33 34.1	
	comp=Z,6.5nm,0.3s						
LSA	**Lhasa**	**19.37**	**353**	P	**Pn**	**21 34 22.2**	**+0.2**
H08S3	**Diego Garcia H**	**27.67**	**231**	T	T	22 03 09.8	
	baz=49						
H08S2	**Diego Garcia H**	**27.67**	**230**	T	T	22 03 22.8	
	baz=49						
H08S1	**Diego Carcia H**	**27.68**	**231**	T	T	22 03 18.3	
	baz=49						
NIL	**Nilore**	**29.80**	**324**	P	**P**	**21 36 02.6**	**+1.0**
NIL				IAmb	IAmb	21 36 03.2	
	comp=Z,7.3nm,1.2s						
KDJ	**Kajisay**	**34.78**	**338**	P	**P**	**21 36 45.8**	**+0.5**
KDJ				IAmb	IAmb	21 36 47.1	
	comp=Z,2.5nm,0.9s						
GAR	**Garm**	**35.32**	**328**	P	**P**	**21 36 50.5**	**+0.5**
CHGR	**Chuyangaron**	**35.69**	**326**	P	**P**	**21 36 53.2**	**0.0**
ARSB	**Arslanbob**	**35.81**	**333**	P	**P**	**21 36 54.6**	**+0.4**
ARSB				IAmb	IAmb	21 36 56.0	
	comp=Z,5.6nm,0.8s						
BTK	**Batken**	**35.85**	**329**	P	**P**	**21 36 55.7**	**+1.2**
BTK				IAmb	IAmb	21 36 58.3	
	comp=Z,6.6nm,0.9s						
AAK	**Ala-Archa**	**36.24**	**336**	P	**P**	**21 36 58.1**	**+0.2**
MKAR	**Makanchi Array**	**37.56**	**347**	P	**P**	**21 37 08.3**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=161,slow=8.7,SNR=5.8						
MKAR				LR	LR	21 55 23.0	
	comp=Z,40nm,20.3s,baz=160,slow=41						
MKAR	**Makanchi Array**	**37.56**	**347**	P	**P**	**21 37 08.1**	**-0.8**
KK31	**Karatay Array**	**38.34**	**332**	P	**P**	**21 37 15.4**	**-0.1**
KKAR	**Karatay Array**	**38.34**	**332**	P	**P**	**21 37 15.4**	**-0.1**
SONM	**Songino Array**	**38.84**	**14**	P	**P**	**21 37 19.1**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=211,slow=8.1,SNR=4.6						
SONM				LR	LR	21 54 58.6	
	comp=Z,42nm,18.6s,baz=231,slow=39						
SONM	**Songino Array**	**38.84**	**14**	P	**P**	**21 37 18.8**	**-1.0**
KSRS	**Korea Array**	**40.92**	**43**	LR	LR	21 55 51.3	
	comp=Z,33nm,18.4s,baz=230,slow=38						
GEYT	**Alibeck**	**42.06**	**317**	P	**P**	**21 37 48.5**	**+2.0**
	comp=Z,8.6nm,0.7s,baz=143,slow=8.7,SNR=18						
GEYT				LR	LR	21 56 51.6	
	comp=Z,41nm,18.5s,baz=155,slow=38						
GEYT	**Alibeck**	**42.06**	**317**	P	**P**	**21 37 48.2**	**+1.7**
GYA0B	**ALIBECK ARRAY**	**42.06**	**317**	P	**P**	**21 37 48.1**	**+1.6**
GYA0B				IAmb	IAmb	21 37 49.7	
	comp=Z,11nm,0.8s						
ZAA0	**Zalesovo Array**	**44.03**	**352**	P	**P**	**21 38 01.8**	**-0.3**
ZALV	**Zalesovo Beam**	**44.03**	**352**	P	**P**	**21 38 02.0**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=170,slow=9.0,SNR=7.8						
ZALV				LR	LR	22 01 02.6	
	comp=Z,18nm,19.5s,baz=158,slow=42						
ZALV	**Zalesovo Beam**	**44.03**	**352**	P	**P**	**21 38 01.8**	**-0.2**
ABKAR	**Akbulak array**	**47.83**	**331**	P	**P**	**21 38 32.3**	**+0.1**
WRA	**Warramunga Arr**	**50.10**	**127**	P	**P**	**21 38 49.1**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=305,slow=8.9,SNR=1.6						
ASAR	**Alice Springs**	**51.88**	**131**	P	**P**	**21 39 01.9**	**-1.5**
	comp=Z,0.7nm,0.9s,baz=319,slow=8.5,SNR=2.7						
TBLG	**Delisi**	**52.96**	**315**	P	**P**	**21 39 12.3**	**+1.2**
TBLG				IAmb	IAmb	21 39 12.8	
	comp=Z,4.9nm,0.7s						
KBZ	**Khabaz**	**54.95**	**317**	P	**P**	**21 39 26.2**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=140,slow=6.1,SNR=4.9						
KIV	**Kislovodsk**	**55.18**	**317**	P	**P**	**21 39 27.9**	**+0.5**
KIV				IAmb	IAmb	21 39 29.1	
	comp=Z,5.2nm,0.7s						
BR131	**Keskin Array S**	**60.47**	**310**	P	**P**	**21 40 03.8**	**-0.9**
BR131				IAmb	IAmb	21 40 04.5	
	comp=Z,1.9nm,0.9s						
BRTR	**Keskin Array B**	**60.47**	**310**	P	**P**	**21 40 03.5**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=117,slow=7.4,SNR=8.8						
BRTR	**Keskin Array B**	**60.47**	**310**	P	**P**	**21 40 03.8**	**-0.9**
ARCES	**ARCESS Array B**	**72.77**	**340**	LR	LR	22 16 12.5	
	comp=Z,31nm,18.6s,baz=352,slow=38						
GERES	**GERESS Array B**	**75.67**	**318**	P	**P**	**21 41 39.2**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=108,slow=6.3,SNR=4.7						
GERES	**GERESS Array B**	**75.67**	**318**	P	**P**	**21 41 39.0**	**-1.0**
BOSA	**Boshof**	**76.54**	**237**	P	**P**	**21 41 44.2**	**-1.1**
ESK	**Eskdalemuir**	**85.44**	**325**	P	**P**	**21 42 32.0**	**-0.1**
INK	**Inuvik**	**94.72**	**16**	LR	LR	22 32 48.9	
	comp=Z,9.8nm,18.2s,baz=203,slow=40						

MOS 16 22:06:59.1±0.9, 44°07N×146°38E, h153km, mb3.9/8, Error ellipse: s-maj=14.0km s-min=11.6km az=109.0

SKHL 16 22:07:00.6±0.4, 44°05N×146°41E, h145km±15km, mb4.4/5, msh5.3/5

JMA 16 22:07:01.1±0.2, 44°03N×146°35E, h143km±2km, M3.6

IDC 16 22:07:02.0±1.9, 44°67N×146°26E, h138km±17km, mb3.5/14, mb1 3.6/16, mb1mx3.4/43, mbtmp3.8/16, MS2.9/1, Ms1 2.9/1, ms1mx2.1/34, Error ellipse: s-maj=29.9km s-min=16.9km az=169.0

ISC 16 22:07:00.5±0.7, 44°09N±0°06×146°38E±0°06, h146km±5km, n77, σ0s99/90, mb3.8/18, 11C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.38**	**262**	*i* P	**Pn**	**22 07 21.1**	**+0.2**
YUK				AMB	AMB	22 07 21.8	
	120nm,0.2s						
YUK				*i* S	**Sn**	**22 07 36.2**	**0.0**
YUK				A	A	22 07 38.0	
	880nm,0.4s						
YUK				A	A	22 07 38.0	
	650nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.38**	**262**	*d i* PN	**Pn**	**22 07 21.0**	**+0.2**
YUK				*i* S	**Sn**	**22 07 36.1**	**-0.1**
YUK				pmax	pmax		
	comp=N,107nm,0.2s						
YUK				pmax	pmax		
	comp=E,215nm,0.2s						
YUK				pmax	pmax		
	comp=Z,512nm,0.2s						
YUK				smax	smax		
	comp=N,875nm,0.2s						
YUK				smax	smax		
	comp=E,1µm,0.5s						
LAGR	**Lagunnoye**	**0.43**	**266**	*i* P	**Pn**	**22 07 20.8**	**-0.2**
LAGR				AMB	AMB	22 07 25.3	
	comp=E,90nm,0.2s						
LAGR				*i* S	**Sn**	**22 07 36.4**	**-0.2**
LAGR				A	A	22 07 41.0	
	comp=E,2µm,0.6s						
LAGR				A	A	22 07 41.0	
	comp=E,790nm,0.6s						
LAGR	**Lagunnoye**	**0.43**	**266**	⇑ *i* PN	**Pn**	**22 07 20.8**	**-0.2**
LAGR				*i* S	**Sn**	**22 07 36.4**	**-0.2**
LAGR				pmax	pmax		
	comp=Z,855nm,0.4s						
LAGR				pmax	pmax		
	comp=N,484nm,0.2s						
LAGR				pmax	pmax		
	comp=E,252nm,0.2s						
LAGR				smax	smax		
	comp=N,2µm,0.6s						
LAGR				smax	smax		
	comp=E,794nm,0.6s						
GRPR	**Tuman**	**0.45**	**258**	*i* P	**Pn**	**22 07 21.2**	**+0.1**
GRPR				AMB	AMB	22 07 21.9	
	comp=E,110nm,0.2s						
GRPR				*i* S	**Sn**	**22 07 36.3**	**-0.5**
GRPR				A	A	22 07 37.0	
	comp=E,1µm,0.4s						
GRPR				A	A	22 07 37.0	
	comp=E,1µm,0.4s						
GRPR	**Tuman**	**0.45**	**258**	⇑ *i* PN	**Pn**	**22 07 21.2**	**+0.1**
GRPR				*i* S	**Sn**	**22 07 36.3**	**-0.5**
GRPR				pmax	pmax		
	comp=Z,1µm,0.2s						
GRPR				pmax	pmax		
	comp=N,273nm,0.3s						
GRPR				pmax	pmax		
	comp=E,149nm,0.1s						
GRPR				smax	smax		
	comp=E,1µm,0.4s						
GRPR				smax	smax		
	comp=N,1µm,0.3s						
GLVR	**Golovnino**	**0.71**	**241**	*i* P	**Pn**	**22 07 23.1**	**+0.5**
GLVR				AMB	AMB	22 07 24.0	
	comp=N,160nm,0.2s						
GLVR				*i* S	**Sn**	**22 07 40.3**	**+0.8**
GLVR				A	A	22 07 41.0	
	comp=N,240nm,0.4s						
GLVR				A	A	22 07 41.0	
	comp=N,2µm,0.4s						
GLVR	**Golovnino**	**0.71**	**241**	⇑ *i* PN	**Pn**	**22 07 23.1**	**+0.5**
GLVR				*i* S	**Sn**	**22 07 40.3**	**+0.8**
GLVR				pmax	pmax		
	comp=N,474nm,0.3s						
GLVR				pmax	pmax		
	comp=Z,567nm,0.3s						
GLVR				pmax	pmax		
	comp=E,364nm,0.2s						
GLVR				smax	smax		
	comp=N,2µm,0.3s						
GLVR				smax	smax		
	comp=E,2µm,0.4s						
NEM2	**Nemuro 2**	**0.86**	**213**	P	**Pn**	**22 07 23.4**	**-0.3**
NEM2				*e*S	**Sn**	**22 07 40.4**	**-1.0**
NMR	**Nemuro--Hokkai**	**0.86**	**213**	*i* P	**Pn**	**22 07 23.4**	**-0.3**
NMR				*i* S	**Sn**	**22 07 40.3**	**-1.1**
NMR	**Nemuro--Hokkai**	**0.86**	**213**	⇑ *i* PN	**Pn**	**22 07 23.4**	**-0.3**
NMR				*i* S	**Sn**	**22 07 40.3**	**-1.1**
JRA	**Rausu**	**0.92**	**261**	P	**Pn**	**22 07 24.2**	**0.0**
JRA				*e*S	**Sn**	**22 07 41.8**	**-0.4**
JNSB	**Nemuroshibetsu**	**1.04**	**253**	P	**Pn**	**22 07 25.6**	**+0.4**
JNK	**Nakash**	**1.30**	**248**	P	**Pn**	**22 07 27.9**	**+0.2**
JKHN	**Kushirohamanak**	**1.34**	**222**	P	**Pn**	**22 07 28.0**	**-0.1**
JKHN				*e*S	**Sn**	**22 07 48.5**	**-0.6**
KUR	**Kuril'sk**	**1.56**	**42**	*i* P	**Pn**	**22 07 30.6**	**+0.2**
KUR				AMB	AMB	22 07 31.2	
	comp=E,80nm,0.5s						
KUR				*i* S	**Sn**	**22 07 53.4**	**+0.1**
KUR				A	A	22 07 59.7	
	comp=E,110nm,0.4s						
KUR				A	A	22 07 59.7	
	comp=E,50nm,0.4s						
KUR	**Kuril'sk**	**1.56**	**42**	*i* PN	**Pn**	**22 07 30.5**	**+0.2**
JAK	**Akkeshi**	**1.64**	**229**	P	**Pn**	**22 07 31.0**	**-0.3**
JAK				*e*S	**Sn**	**22 07 53.6**	**-1.2**
JTKR	**Abashiri--Toko**	**1.79**	**267**	P	**Pn**	**22 07 32.9**	**0.0**
JTKR				*e*S	**Sn**	**22 07 57.2**	**-0.5**
JAR	**Ashorobuto**	**2.05**	**248**	P	**Pn**	**22 07 36.3**	**+0.3**
JMP	**Maruseppu**	**2.18**	**269**	P	**Pn**	**22 07 37.6**	**+0.1**
JMP				*e*S	**Sn**	**22 08 05.6**	**-0.3**
JOB	**Onbets**	**2.20**	**238**	P	**Pn**	**22 07 38.0**	**+0.3**
JOB				*e*S	**Sn**	**22 08 05.3**	**-1.0**
JKK2	**Kamakawa 2**	**2.63**	**267**	P	**Pn**	**22 07 43.4**	**+0.4**
JCH	**Churui**	**2.65**	**237**	P	**Pn**	**22 07 42.9**	**-0.3**
JKA	**Kamikawa-asahi**	**2.72**	**272**	*e*P	**Pn**	**22 07 45.0**	**+0.8**
ASAJ	**Asahikawa**	**2.72**	**272**	P	**Pn**	**22 07 45.0**	**+0.8**
	comp=E,2.4nm,0.3s,baz=109,slow=12,SNR=19						
ASAJ				S	**Sn**	**22 08 18.3**	**+0.4**
	comp=E,0.6nm,0.3s,baz=318,slow=29,SNR=5.4						
ASAJ	**Asahikawa**	**2.72**	**272**	P	**Pn**	**22 07 44.8**	**+0.6**
JSE	**Soyaes**	**2.85**	**289**	P	**Pn**	**22 07 45.5**	**-0.2**
ERM	**Erimo**	**3.14**	**230**	⇓ *i* PN	**Pn**	**22 07 50.2**	**+0.7**
YSS	**Yuzh-Sakhalins**	**3.83**	**320**	*e*P	**Pn**	**22 07 59.0**	**+0.7**
YSS	**Yuzh-Sakhalins**	**3.83**	**320**	*e*PN	**Pn**	**22 07 59.1**	**+0.7**
USRK	**Ussurijsk Ar.**	**10.35**	**276**	P	**Pn**	**22 09 23.4**	**-1.7**
	baz=93,slow=16,SNR=3.0						
USRK				LR	LR	22 12 51.4	
	comp=E,70nm,21.3s,baz=219,slow=34						
JOW	**Kunigami**	**22.59**	**226**	P	**P**	**22 11 54.9**	**+6.2**
	comp=E,2.2nm,0.5s,baz=214,slow=23,SNR=6.5						
BILL	**Bilibino**	**26.19**	**17**	*e*P	**P**	**22 12 21.3**	**+0.2**
BILL	**Bilibino**	**26.19**	**17**	*i* P	**P**	**22 12 21.3**	**+0.2**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
SONM	**Songino Array**	**27.83**	**292**	P	**P**	**22 12 36.0**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=86,slow=8.2,SNR=2.6						
SONM	**Songino Array**	**27.83**	**292**	P	**P**	**22 12 36.0**	**-0.1**
H11N2	**WAKE ISLAND Hy**	**29.72**	**138**	T	T	22 43 59.4	
	baz=328,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**29.74**	**138**	T	T	22 44 28.2	
	baz=328,slow=75,SNR=21						
H11N3	**WAKE ISLAND Hy**	**29.74**	**138**	T	T	22 44 14.1	
	baz=328,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**30.68**	**140**	T	T	22 45 02.1	
	baz=330,slow=76,SNR=20						
H11S3	**WAKE ISLAND Hy**	**30.69**	**140**	T	T	22 45 02.3	
	baz=330,slow=76,SNR=23						
H11S2	**WAKE ISLAND Hy**	**30.70**	**140**	T	T	22 45 03.3	
	baz=330,slow=76,SNR=18						
NRIK	**Noril'sk**	**38.68**	**331**	*i* P	**P**	**22 14 10.9**	**+1.4**
NRIK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DGZ	**Jazzator, Alta**	**39.77**	**300**	*i* P	**P**	**22 14 17.5**	**-1.4**
DGZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ZALV	**Zalesovo Beam**	**40.35**	**307**	*e*P	**P**	**22 14 22.9**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=175,slow=6.6,SNR=4.0						
ZALV	**Zalesovo Beam**	**40.35**	**307**	*e*P	**P**	**22 14 23.9**	**+0.5**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ILAR	**Eielson Array**	**41.55**	**36**	P	**P**	**22 14 32.5**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=260,slow=7.2,SNR=7.2						
ILAR	**Eielson Array**	**41.55**	**36**	*e*P	**P**	**22 14 33.1**	**0.0**
MKAR	**Makanchi Array**	**43.93**	**297**	P	**P**	**22 14 52.0**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=80,slow=8.9,SNR=17						
MKAR	**Makanchi Array**	**43.93**	**297**	*e*P	**P**	**22 14 51.9**	**-0.7**
MKAR	**Makanchi Array**	**43.93**	**297**	*e*P	**P**	**22 14 51.9**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**46.39**	**30**	P	**P**	**22 15 10.9**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=315,slow=4.3,SNR=2.4						
ARCES	**ARCESS Array B**	**58.73**	**339**	P	**P**	**22 16 41.5**	**-0.8**
	comp=Z,3.5nm,1.0s,baz=59,slow=5.5,SNR=2.4						
FINES	**FINESS Array B**	**64.32**	**333**	P	**P**	**22 17 18.2**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=34,slow=7.1,SNR=4.0						
FINES	**FINESS Array B**	**64.32**	**333**	*e*P	**P**	**22 17 18.5**	**-1.4**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NVAR	**Mina Array Bea**	**67.87**	**58**	P	**P**	**22 17 44.1**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=316,slow=6.3,SNR=2.3						
NB2	**NORSAR Subarra**	**69.08**	**338**	P	**P**	**22 17 48.6**	**-1.5**
	comp=Z,1.0nm,0.6s,baz=32,slow=6.9						
NOA	**NORSAR Array B**	**69.08**	**338**	P	**P**	**22 17 48.9**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=36,slow=6.1,SNR=5.0						
NOA	**NORSAR Array B**	**69.08**	**338**	*e*P	**P**	**22 17 48.6**	**-1.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KIV	**Kislovodsk**	**69.12**	**311**	⇑ P	**P**	**22 17 50.8**	**+0.1**
KIV	**Kislovodsk**	**69.12**	**311**	*e*P	**P**	**22 17 50.9**	**+0.1**
KIV	**Kislovodsk**	**69.12**	**311**	*e*P	**P**	**22 17 50.9**	**+0.1**
KIV				pmax	pmax		
	comp=Z,14nm,1.1s						
KBZ	**Khabaz**	**69.16**	**311**	P	**P**	**22 17 50.7**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=47,slow=4.0,SNR=6.1						
KBZ	**Khabaz**	**69.16**	**311**	*e*P	**P**	**22 17 51.1**	**+0.3**
KBZ	**Khabaz**	**69.16**	**311**	*e*P	**P**	**22 17 51.1**	**+0.3**
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PDAR	**Pinedale Array**	**70.11**	**49**	P	**P**	**22 17 57.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=298,slow=6.0,SNR=1.9						
AKASG	**Malin Array Be**	**70.97**	**323**	P	**P**	**22 18 00.3**	**-1.5**
	comp=Z,0.7nm,0.4s,baz=48,slow=5.5,SNR=5.2						
SORM	**Soroca**	**73.26**	**322**	⇑ P	**P**	**22 18 14.0**	**-1.4**
BURAR	**Bucovina Array**	**75.03**	**323**	⇑ P	**P**	**22 18 25.0**	**-0.8**
BIZ	**Bicaz**	**75.16**	**322**	⇑ P	**P**	**22 18 26.5**	**0.0**
TESR	**Tescani**	**75.25**	**322**	⇑ P	**P**	**22 18 26.1**	**-0.8**
TRPA	**Tarpa**	**75.76**	**325**	⇑ P	**P**	**22 18 29.7**	**-0.1**
CLL	**Collm**	**76.75**	**332**	*e*P	**P**	**22 18 34.0**	**-1.4**
CLL	**Collm**	**76.75**	**332**	*e*P	**P**	**22 18 34.0**	**-1.4**
VOIR		**76.79**	**322**	⇑ P	**P**	**22 18 36.1**	**+0.3**
TXAR	**Lajitas Array**	**82.92**	**56**	P	**P**	**22 19 08.8**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=276,slow=3.3,SNR=5.3						

NEIC 16 22:39:11.0±0.6, 18°80N±0°05×145°6E±0°3, h200km±10km, mb4.3/12, Error ellipse: s-maj=34.9km s-min=4.7km az=98.0

IDC 16 22:39:21.9±5.9, 18°78N×145°61E, h309km±60km, mb3.1/8, mb1 3.3/9, mb1mx3.1/33, mbtmp3.7/9, Error ellipse: s-maj=33.7km s-min=15.4km az=93.0

**ISC 16 22:39:10.8±0.7, 18.70N±0.07°×145.7E±0.2, h200km,

az=198.0

ISC 16 22:45:55.6±0.7,**55°9S**±0.1×**27°2W**±0.1,**h63**km,**n36**, σ0**81**/31,**mb4.5**/12,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.57**	**283**	Pn	**Pn**	**22 47 16.9**	**+1.1**
VNA1	**Neumayer--Stat**	**16.96**	**158**	P	**P**	**22 49 51.4**	**+2.2**
VNA3	**Neumayer Olymp**	**17.16**	**161**	P	**P**	**22 49 52.5**	**+1.0**
VNA2	**Neumayer--Watz** baz=315,slow=12	**17.36**	**158**	P	**P**	**22 49 54.9**	**+1.2**
SNAA	**Sanae**	**18.91**	**156**	P	**P**	**22 50 10.1**	**-0.6**
SNAA	**Sanae**	**18.91**	**156**		**P**	**22 50 10.6**	**-0.1**
PMSA	**Palmer Station**	**20.02**	**229**	P	**P**	**22 50 23.4**	**+0.6**
PMSA	comp=Z,43nm,1.1s			IAmb	IAmb	22 50 25.4	
QSPA	**South Pole Qui**	**34.38**	**180**	P	**P**	**22 52 36.2**	**0.0**
MT02	**Curacav**	**37.73**	**288**	P	**P**	**22 53 03.3**	**-1.6**
CO01	**Juntas del Tor**	**39.75**	**293**	P	**P**	**22 53 22.8**	**+0.6**
CO01	comp=Z,3.9nm,0.9s			IAmb	IAmb	22 53 22.9	
AC05	**El Transito**	**40.75**	**293**	P	**P**	**22 53 29.6**	**-0.8**
AC05	comp=Z,24nm,1.4s			IAmb	IAmb	22 53 48.0	
AC04	**Llanos de Chal**	**41.68**	**293**	P	**P**	**22 53 37.3**	**-0.5**
AC02	**Maricunga**	**41.80**	**296**	P	**P**	**22 53 39.0**	**-0.3**
AC02	comp=Z,8.2nm,0.8s			IAmb	IAmb	22 53 40.1	
GO02	**Mina Guanaco**	**43.41**	**297**	P	**P**	**22 53 52.0**	**-0.2**
LVC	**Limon Verde**	**45.21**	**300**	P	**P**	**22 54 06.9**	**+0.2**
LVC	comp=Z,5.7nm,0.6s			IAmb	IAmb	22 54 07.4	
PB09	**IPOC Station P**	**46.06**	**300**	P	**P**	**22 54 13.2**	**+0.1**
PB09	comp=Z,21nm,1.5s			IAmb	IAmb	22 54 30.6	
PB07	**IPOC Station P**	**46.44**	**300**	P	**P**	**22 54 15.5**	**-0.7**
VNDA	**Vanda** comp=Z,1.7nm,0.8s,baz=186,slow=6.4,SNR=8.9	**46.75**	**183**	P	**P**	**22 54 17.0**	**-0.7**
VNDA	**Vanda**	**46.75**	**183**	P	**P**	**22 54 17.4**	**-0.3**
PB08	**IPOC Station P**	**47.43**	**301**	P	**P**	**22 54 24.3**	**+0.2**
PB08	comp=Z,3.3nm,0.8s			IAmb	IAmb	22 54 29.3	
H10S2	**ASCENSION HYDR** baz=189,slow=74,SNR=7.3	**47.83**	**17**	T	T	23 46 34.1	
H10S3	**ASCENSION HYDR** baz=31,slow=74,SNR=21	**47.83**	**17**	T	T	23 46 54.5	
MNMC	**Minye Minye**	**48.50**	**302**	P	**P**	**22 54 32.5**	**+0.2**
MNMC	comp=Z,8.0nm,0.8s			IAmb	IAmb	22 54 33.5	
H10N1	**ASCENSION HYDR** baz=189	**48.95**	**17**	T	T	23 48 00.5	
H10N3	**ASCENSION HYDR** baz=189,slow=74	**48.95**	**17**	T	T	23 48 16.0	
H10N2	**ASCENSION HYDR** baz=189,slow=74	**48.97**	**17**	T	T	23 48 17.4	
TSUM	**Tsumeb**	**49.60**	**61**	P	**P**	**22 54 41.0**	**+0.5**
TSUM	comp=Z,5.4nm,1.2s			IAmb	IAmb	22 54 47.6	
LPAZ	**La Paz** comp=Z,1.7nm,0.5s,baz=143,slow=5.1,SNR=9.7	**50.27**	**305**	P	**P**	**22 54 46.5**	**+0.4**
LPAZ	**La Paz**	**50.27**	**305**	P	**P**	**22 54 46.2**	**0.0**
LPAZ	comp=Z,2.4nm,0.7s			IAmb	IAmb	22 54 47.1	
TOA0	**Torodi Ar. Sit**	**72.90**	**29**	P	**P**	**22 57 17.9**	**+0.1**
TORD	**Torodi Ar. Bea** comp=Z,1.5nm,0.5s,baz=200,slow=6.2,SNR=15	**72.90**	**29**	P	**P**	**22 57 18.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**72.90**	**29**	P	**P**	**22 57 18.2**	**+0.4**
BKZ	**Black Stump Fm**	**83.20**	**198**	P	**P**	**22 58 13.6**	**-1.1**
BKZ	comp=Z,16nm,1.2s			IAmb	IAmb	22 58 20.1	
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.5s,baz=142,slow=2.7,SNR=3.8	**136.04**	**318**	PKP	**PKiKP**	**23 05 09.1**	**-0.4**
ILAR	**Eielson Array** comp=Z,0.4nm,0.6s,baz=111,slow=1.3,SNR=4.2	**150.00**	**312**	PKPbc	**PKPbc**	**23 05 36.8**	**-0.5**
ILAR	**Eielson Array**	**150.00**	**312**		**PKPbc**	**23 05 36.0**	**-1.3**

*IDC **16** 23:05:09.8±2.4,34°.57S×179°.19E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/32, mbtmp4.0/3, Error ellipse: s-maj=71.7km s-min=38.1km az=43.0*

*WEL **16** 23:05:33.7±0.4,35°S±3°×17°9E±°, h33km, M4.1/17, ML4.4/17, MLv4.1/17*

ISC 16 23:05:32.3±1.1,**35°22S**±0°07×**178°9E**±0°1,**h199**km±10km, **n52**,σ2°**09**/58,**Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**2.39**	**191**	P	**Pn**	**23 06 15.5**	**+0.8**
MXZ				S	**Sn**	**23 06 46.6**	**-1.4**
WMGZ	**Waiomatatini S**	**2.62**	**188**	P	**Pn**	**23 06 18.8**	**+1.4**
WMGZ				S	**Sn**	**23 06 52.8**	**0.0**
HAZ	**Te Kaha**	**2.68**	**199**	P	**Pn**	**23 06 18.4**	**+0.3**
HAZ				S	**Sn**	**23 06 52.4**	**-1.6**
PKGZ	**Pakihiroa**	**2.74**	**193**	P	**Pn**	**23 06 19.5**	**+0.7**
PUZ	**Puketiti**	**2.89**	**190**	P	**Pn**	**23 06 21.2**	**+0.6**
PUZ				S	**Sn**	**23 06 57.5**	**-1.0**
RUGZ	**Raukumara Rang**	**2.91**	**199**	P	**Pn**	**23 06 20.7**	**-0.2**
RUGZ				S	**Sn**	**23 06 57.9**	**-1.1**
KUZ	**Kuaotunu**	**2.98**	**238**	P	**Pn**	**23 06 21.0**	**-0.5**
OPRZ	**Ohinepanea**	**3.22**	**215**	P	**Pn**	**23 06 25.4**	**+1.0**
MWZ	**Matawai**	**3.29**	**199**	P	**Pn**	**23 06 25.5**	**+0.2**
MWZ				S	**Sn**	**23 07 06.4**	**-0.7**
CNGZ	**Carnagh Statio**	**3.31**	**189**	P	**Pn**	**23 06 26.1**	**+0.7**
TKGZ	**Te Karaka**	**3.32**	**194**	P	**Pn**	**23 06 26.0**	**+0.4**
TKGZ				S	**Sn**	**23 07 06.6**	**-0.9**
URZ	**Urewera**	**3.35**	**204**	P	**Pn**	**23 06 25.7**	**-0.2**
RAGZ	**Rawiri**	**3.48**	**199**	P	**Pn**	**23 06 27.9**	**+0.4**
RIGZ	**Rimuhau**	**3.59**	**194**	P	**Pn**	**23 06 28.2**	**-0.8**
MUGZ	**Murupara**	**3.67**	**207**	P	**Pn**	**23 06 29.6**	**-0.2**
TOZ	**Tahuroa Road**	**3.70**	**226**	P	**Pn**	**23 06 32.6**	**+2.4**
RTZ	**Ruatahuna**	**3.72**	**204**	P	**Pn**	**23 06 29.9**	**-0.6**
WCZ	**Waipu Caves**	**3.76**	**258**	P	**Pn**	**23 06 30.1**	**-0.9**
SNGZ	**Shannon Statio**	**3.77**	**199**	P	**Pn**	**23 06 31.1**	**+0.1**
PRGZ	**Paritu Road**	**3.78**	**192**	P	**Pn**	**23 06 31.0**	**-0.3**
KNZ	**Kokohu**	**3.92**	**194**	P	**Pn**	**23 06 32.1**	**-0.8**
RAHZ	**Arahi**	**3.96**	**201**	P	**Pn**	**23 06 33.2**	**-0.3**
MTHZ	**Maungataniwha**	**3.98**	**204**	P	**Pn**	**23 06 33.1**	**-0.6**
MHGZ	**Mahia Peninsul**	**4.00**	**191**	P	**Pn**	**23 06 33.7**	**-0.2**
WHHZ	**Waihua**	**4.07**	**198**	P	**Pn**	**23 06 34.6**	**-0.2**
ARHZ	**Aropaoanui**	**4.31**	**200**	P	**Pn**	**23 06 37.1**	**-0.7**
BKZ	**Black Stump Fm**	**4.38**	**205**	P	**Pn**	**23 06 38.1**	**-0.6**
MCNZ	**McNeill Hill**	**4.56**	**202**	P	**Pn**	**23 06 40.0**	**-1.0**
HIZ	**Hauiti**	**4.61**	**223**	P	**Pn**	**23 06 43.6**	**+2.1**
KWHZ	**Kaweka Forest**	**4.63**	**204**	P	**Pn**	**23 06 40.8**	**-1.2**
FWVZ	**Far West T-bar**	**4.82**	**212**	P	**Pn**	**23 06 43.6**	**-1.0**
KAHZ	**Kahuranaki**	**4.84**	**199**	P	**Pn**	**23 06 43.1**	**-1.5**
KRHZ	**Kereru**	**4.85**	**204**	P	**Pn**	**23 06 42.8**	**-1.9**
MOVZ	**Moawhango**	**4.87**	**210**	P	**Pn**	**23 06 43.0**	**-2.0**
PXZ	**Pawanui**	**5.06**	**198**	P	**Pn**	**23 06 45.2**	**-2.2**
MRZ	**Mangatainoka R**	**6.03**	**205**	P	**Pn**	**23 06 56.6**	**-3.1**
TIWZ	**Tintock**	**6.03**	**202**	P	**Pn**	**23 06 57.2**	**-2.6**
HOWZ	**Holdsworth Sta**	**6.26**	**204**	P	Pn	23 06 57.4	-5.4
OGWZ	**Otaki Gorge**	**6.31**	**207**	P	**Pn**	**23 07 00.3**	**-3.1**
TMWZ	**Te Maipa**	**6.33**	**201**	P	**Pn**	**23 07 00.5**	**-3.3**
KIW	**Kapiti Island**	**6.45**	**208**	P	**Pn**	**23 07 01.3**	**-3.8**
GLKZ	**Green Lake**	**6.53**	**25**	S	**Sn**	**23 08 16.8**	**-4.1**
CAW	**Cannon Point**	**6.60**	**206**	P	**Pn**	**23 07 03.2**	**-4.0**
TRWZ	**Traveller**	**6.66**	**201**	P	**Pn**	**23 07 04.5**	**-3.5**
MSWZ	**Moikau Station**	**6.81**	**204**	P	**Pn**	**23 07 05.8**	**-4.2**
PLWZ	**Palliser**	**6.95**	**203**	P	**Pn**	**23 07 07.5**	**-4.3**
TCW	**Tory Channel**	**6.99**	**210**	P	**Pn**	**23 07 08.0**	**-4.2**
TUWZ	**Tuamarina**	**7.31**	**211**	P	**Pn**	**23 07 12.3**	**-4.2**
ASAR	**Alice Springs** 1.3nm,0.5s,baz=116,slow=8.0,SNR=16	**40.51**	**274**	P	**P**	**23 12 52.5**	**+0.4**
WRA	**Warramunga Arr** 1.7nm,0.7s,baz=120,slow=7.6,SNR=5.8	**41.95**	**279**	P	**P**	**23 13 03.7**	**-0.1**
QSPA	**South Pole Qui** 1.2nm,0.7s,baz=339,slow=2.5,SNR=3.8	**54.90**	**180**	P	**P**	**23 14 46.7**	**+4.6**
FINES	**FINESS Array B** 13nm,1.3s,baz=29,slow=3.2,SNR=2.5	**148.58**	**335**	PKPbc	**PKPbc**	**23 24 56.0**	**+1.3**

*IDC **16** 23:07:24.9±3.9,29°.42N×143°.42E, h0km, mb3.9/5, mb1 3.8/8, mb1mx3.6/44, mbtmp3.8/8, ML3.2/3, Error ellipse: s-maj=148.6km s-min=27.2km az=70.0*

*NEIC **16** 23:07:29.0±1.1,29°.31N±0°.07×142°.6E±0°.1, h10km±2km, mb4.3/8, Error ellipse: s-maj=22.2km s-min=9.1km az=68.0*

ISC 16 23:07:31.6±1.7,**29°29N**±0°.09×**142°4E**±0°.3,**h22**km,**n24**, σ1**°25**/26,**mb4.1**/9,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**2.19**	**184**	Pn	**Pn**	**23 08 06.8**	**+0.1**
JCJ				Sn	**Sn**	**23 08 30.8**	**-2.5**
JHJ	**Hachijo jima 2** 2.4nm,0.3s,baz=205,slow=15,SNR=1.2	**4.41**	**331**	Pn	**Pn**	**23 08 37.6**	**+0.3**
JHJ				Sn	**Sn**	**23 09 24.0**	**-3.9**
MJAR	**Matsushiro Arr** 9.7nm,0.3s,baz=65,slow=21,SNR=2.3	**8.03**	**335**	Pn	**Pn**	**23 09 27.5**	**+0.6**
MJAR	**Matsushiro Arr** 0.1nm,0.3s,baz=156,slow=10,SNR=8.7	**8.03**	**335**	Pn	**Pn**	**23 09 26.7**	**-0.3**
MAJO	**Matsushiro**	**8.03**	**335**	Pn	**Pn**	**23 09 26.5**	**-0.5**
KSRS	**Korea Array** 0.2nm,0.3s,baz=114,slow=12,SNR=2.3	**14.54**	**308**	Pn	**P**	**23 11 02.0**	**-0.5**
SONM	**Songino Array** 1.4nm,0.8s,baz=109,slow=8.0,SNR=6.2	**33.28**	**314**	P	**P**	**23 14 09.4**	**+1.8**
SONM	**Songino Array**	**33.28**	**314**	P	**P**	**23 14 06.9**	**-0.7**
CHTO	**Chiang Mai**	**40.80**	**265**	P	**P**	**23 15 12.5**	**+0.9**
CHTO	comp=Z,3.6nm,1.1s			IAmb	IAmb	23 15 24.9	
KSM	**Kuching**	**41.19**	**234**	P	**P**	**23 15 15.5**	**+0.7**
KSM	comp=Z,7.3nm,1.1s			IAmb	IAmb	23 15 29.5	
ZAA0	**Zalesovo Array**	**47.96**	**318**	P	**P**	**23 16 09.1**	**+0.7**
ZALV	**Zalesovo Beam** comp=Z,0.7nm,0.4s,baz=106,slow=7.8,SNR=4.9	**47.96**	**318**	P	**P**	**23 16 09.2**	**+0.8**
ZALV	**Zalesovo Beam**	**47.96**	**318**	P	**P**	**23 16 08.3**	**-0.2**
MK31	**Makanchi Array**	**49.23**	**308**	P	**P**	**23 16 19.1**	**+0.7**
MKAR	**Makanchi Array** comp=Z,0.8nm,0.7s,baz=90,slow=9.3,SNR=8.9	**49.23**	**308**	P	**P**	**23 16 19.5**	**+1.2**
MKAR	**Makanchi Array**	**49.23**	**308**	P	**P**	**23 16 18.8**	**+0.4**
WB0	**Warramunga Arr**	**49.38**	**190**	P	**P**	**23 16 19.1**	**-0.6**
MAKZ	**Makanchi**	**49.44**	**308**	P	**P**	**23 16 20.9**	**+0.9**
WRA	**Warramunga Arr** comp=Z,1.8nm,0.9s,baz=7.4,slow=8.3,SNR=3.6	**49.55**	**190**	P	**P**	**23 16 20.0**	**-1.0**
KURK	**Kurchatov**	**51.58**	**313**	P	**P**	**23 16 37.1**	**+1.0**
KURK	comp=Z,5.7nm,1.2s			IAmb	IAmb	23 16 38.0	
KKAR	**Karatay Array**	**57.95**	**305**	P	**P**	**23 17 23.5**	**+1.1**
KKAR	comp=Z,2.6nm,0.8s			IAmb	IAmb	23 17 24.5	
KKAR	**Karatay Array**	**57.95**	**305**	P	**P**	**23 17 23.1**	**+0.8**
ABKAR	**Akbulak array**	**63.69**	**314**		**P**	**23 18 01.8**	**+0.5**
BRTR	**Keskin Array B** comp=Z,0.6nm,0.8s,baz=101,slow=3.9,SNR=4.6	**84.63**	**313**	P	**P**	**23 20 03.5**	**-0.3**

*BJI **16** 23:14:58.7±0.0,2°.37N×96°.46E, h46km, mB4.8/34, mb4.9/55, Ms4.2/9, Ms7 4.0/6*

*NEIC **16** 23:15:01.6±1.6,2°.71N±0°.04×96°.46E±0°.07, h35km±2km, mb4.8/76, Error ellipse: s-maj=12.3km s-min=6.8km az=71.0*

*KLM **16** 23:15:02.0,2°.68N×96°.35E, h68km, mb5.0*

*DJA **16** 23:15:04.3±0.4,3°N±2°×9°7E±°, h48km±5km, M4.9/17, mB5.6/3, mb5.0/17, MLv4.8/16, Mw(mB)5.2/3*

*IDC **16** 23:15:05.4±2.4,2°.84N×96°.56E, h64km±22km, mb4.2/23, mb1 4.3/25, mb1mx4.2/35, mbtmp4.5/25, MS3.4/16, Ms1 3.4/16, ms1mx3.3/33, Error ellipse: s-maj=18.4km s-min=10.3km az=55.0*

ISC 16 23:15:03.9±1.1,**2°73N**±0°04×**96°50E**±0°05,**h54**km±10km, **n244**,σ1°**25**/250,**mb4.7**/83,**MS3.5**/16,**3C-21D**,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCSI	**Kotacane, Aceh**	**1.50**	**58**	P	**Pn**	**23 15 29.1**	**+0.6**
KCSI				S	**Sn**	**23 15 47.6**	**+0.6**
MLSI	**Meulaboh, Aceh**	**1.53**	**357**	P	**Pn**	**23 15 28.1**	**-0.9**
MLSI				S	**Sn**	**23 15 48.3**	**+0.5**
GSI	**Gunungsitoli**	**1.78**	**143**	P	**Pn**	**23 15 32.2**	**-0.1**
GSI				S	**Sn**	**23 15 52.8**	**-1.0**
GSI	**Gunungsitoli**	**1.78**	**143**	Pn	**Pn**	**23 15 31.3**	**-1.1**
GSI				Sn	**Sn**	**23 15 52.2**	**-1.6**
TSI	**Tuntungan**	**2.20**	**70**	P	**Pn**	**23 15 38.3**	**+0.2**
RPSI	**Rantau Prapat**	**2.43**	**91**	Pn	**Pn**	**23 15 41.8**	**+0.6**
RPSI	**Rantau Prapat**	**2.43**	**91**		**Sn**	**23 16 10.9**	**+1.3**
PSI	**Prapat** 24nm,0.3s,baz=360,slow=10,SNR=56	**2.43**	**88**	P	**Pn**	**23 15 42.1**	**+0.8**
PSI	55nm,0.3s,baz=180,slow=4.8,SNR=8.5			S	**Sn**	**23 16 10.9**	**+1.0**
PSI	comp=Z,1μm,19.8s,baz=270,slow=48			LR	LR	23 16 58.0	
LHMI	**Lhok Sumawe**	**2.52**	**10**	P	**Pn**	**23 15 42.7**	**+0.2**
LHMI	**Lhok Sumawe**	**2.52**	**10**		**Pn**	**23 15 42.8**	**+0.3**
LHMI				Sn	**Sn**	**23 16 10.6**	**-1.5**
MNSI	**Mandailing Nat**	**3.63**	**122**	P	**Pn**	**23 15 58.4**	**+0.7**
SISI	**Saibi**	**4.79**	**147**	P	**Pn**	**23 16 14.8**	**+1.2**
IPM	**Ipoh**	**4.84**	**69**		**Pn**	**23 16 14.7**	**+0.4**
IPM				Sn	**Sn**	**23 17 06.1**	**-3.1**
IPM	**Ipoh**	**4.84**	**69**	P	**Pn**	**23 16 15.0**	**+0.6**
KULM	**Kulim**	**4.86**	**58**		**Pn**	**23 16 15.2**	**+0.6**
KULM				Sn	**Sn**	**23 17 07.8**	**-1.9**
KULM	**Kulim**	**4.86**	**58**	P	**Pn**	**23 16 15.0**	**+0.4**
PDSI	**Padang** 0.4nm2μm24nm,0.6s	**5.37**	**132**	P	**Pn**	**23 16 22.4**	**+0.9**
SDSI	**Sungai Dareh** 0.3nm2μm18nm,0.5s	**6.13**	**126**	P	**Pn**	**23 16 32.5**	**+0.6**
KRJI	**Kerinci** 1.0nm225nm,0.5s	**6.90**	**134**	P	**Pn**	**23 16 45.2**	**+2.6**
MNAI	**Manna** 280nm,0.9s	**9.55**	**137**	P	**Pn**	**23 17 19.3**	**+0.4**
MNAI	**Manna**	**9.55**	**137**	Pn	**Pn**	**23 17 17.7**	**-1.2**
LHSI	**Lahat** 76nm,0.9s	**9.58**	**133**	P	**Pn**	**23 17 19.3**	**+0.1**
LWLI	**Liwa** 111nm,0.7s	**10.78**	**136**	P	**Pn**	**23 17 34.7**	**-1.1**
KASI	**Kota Agung**	**11.45**	**136**	P	**Pn**	**23 17 40.1**	**-4.7**
LEM	**Lembang** comp=Z,220nm,18.5s,baz=270,slow=41	**14.61**	**131**	LR	LR	23 25 01.1	
CM31	**Chiang Mai Arr**	**15.81**	**9**	Pn	**Pn**	**23 18 42.3**	**-0.9**
CM31	comp=Z,38nm,0.8s			IAmb	IAmb	23 18 46.6	
CMAR	**Chiang Mai Arr** comp=Z,1.3nm,0.3s,baz=198,slow=11,SNR=54	**15.81**	**9**	P	**Pn**	**23 18 42.2**	**-1.0**
CMAR	comp=Z,220nm,20.4s,baz=220,slow=38			LR	LR	23 25 10.0	
CHTO	**Chiang Mai**	**16.17**	**8**		**Pn**	**23 18 46.5**	**-1.2**
SLVN	**Son La**	**19.85**	**21**	P	**P**	**23 19 30.2**	**-0.5**
KKM	**Kota Kinabalu**	**19.93**	**80**		**P**	**23 19 31.6**	**-0.1**
BWNR	**Bhubaneshwar**	**20.34**	**330**	*eP*	**P**	**23 19 35.5**	**-0.4**
KMI	**Kunming**	**23.07**	**15**	P	**P**	**23 20 06.3**	**+1.1**
KMI				pP	pP	23 20 16.3	-1.0
KMI				sP	sP	23 20 20.3	-3.6
KMI	comp=Z,17nm,1.0s			pmax	pmax		
KMI	comp=Z,160nm,16.6s			LR	LR		
KMI	comp=Z,140nm,20.0s			LR	LR		
KMI	**Kunming**	**23.07**	**15**	P	**P**	**23 20 04.0**	**-1.2**
SHL	**Shillong**	**23.14**	**349**	*eP*	**P**	**23 20 02.6**	**-3.2**
SHL	comp=Z,46nm,1.1s			IAmb	IAmb	23 20 06.5	
SHL	**Shillong**	**23.14**	**349**	P	**P**	**23 20 02.7**	**-3.2**
SHL	comp=Z,43nm,0.9s			IAmb	IAmb	23 20 06.2	
BOK	**Bokaro**	**23.32**	**335**	*eP*	**P**	**23 20 04.7**	**-2.8**
BOK	comp=Z,21nm,0.9s			IAmb	IAmb	23 20 10.8	
KAPI	**Kappang** comp=Z,9.3nm,0.6s,baz=258,slow=9.9,SNR=4.0	**24.47**	**108**	P	**P**	**23 20 18.7**	**+0.5**
KAPI	comp=Z,126nm,18.4s,baz=271,slow=39			LR	LR	23 30 53.8	
KAPI	**Kappang**	**24.47**	**108**	P	**P**	**23 20 18.0**	**-0.3**
ZIRO	**ZIRO**	**24.79**	**354**	*eP*	**P**	**23 20 18.6**	**-2.5**
ZIRO	comp=Z,15nm,0.6s			IAmb	IAmb	23 20 20.0	
GYA	**Guiyang**	**25.53**	**22**	*↓iP*	**P**	**23 20 27.0**	**-0.8**
GYA				S	**S**	**23 24 45.5**	**-6.4**
GYA				SS	**SnSn**	**23 25 59.6**	**+10**
GYA	comp=Z,20nm,0.9s			pmax	pmax		
GYA	comp=Z,90nm,3.5s			pmax	pmax		
GYA	comp=Z,130nm,4.0s			LR	LR		
GYA	comp=Z,120nm,4.3s			LR	LR		
GYA	comp=Z,90nm,4.2s			LR	LR		
ODAN	**Odare** comp=Z,89nm,0.6s	**25.53**	**341**	*eP*	**P**	**23 20 27.7**	**-0.3**
GTK	**Tadong**	**25.59**	**344**	*eP*	**P**	**23 20 27.2**	**-1.2**
GTK	comp=Z,24nm,0.5s			IAmb	IAmb	23 20 30.8	
RAMN	**Ramite** comp=Z,81nm,0.5s	**25.89**	**339**	*eP*	**P**	**23 20 31.4**	**+0.2**
TAPN	**Taplejung** comp=Z,99nm,0.6s	**25.89**	**342**	*eP*	**P**	**23 20 31.1**	**-0.1**
H08S2	**Diego Garcia H** baz=68,slow=76,SNR=1703	**26.07**	**247**	T	T	23 47 06.7	
H08S3	**Diego Garcia H** baz=68,slow=76,SNR=1299	**26.07**	**247**	T	T	23 47 06.0	
H08S1	**Diego Garcia H** baz=68,slow=76,SNR=783	**26.09**	**247**	T	T	23 47 04.0	
JIRN	**Jiri** comp=Z,138nm,0.8s	**26.68**	**339**	*eP*	**P**	**23 20 38.5**	**0.0**
PKI	**Pulchoki** comp=Z,22nm,0.6s	**26.88**	**338**	*eP*	**P**	**23 20 40.4**	**+0.1**
PKIN	**Phulchoki** comp=Z,19nm,0.4s	**26.89**	**338**	*eP*	**P**	**23 20 40.3**	**0.0**
GUN	**Gumba** comp=Z,85nm,0.6s	**27.02**	**339**	*eP*	**P**	**23 20 41.2**	**-0.3**
DMN	**Daman** comp=Z,47nm,0.8s	**27.03**	**337**	*eP*	**P**	**23 20 41.2**	**-0.3**
KKN	**Kakani** comp=Z,33nm,0.6s	**27.13**	**338**	*eP*	**P**	**23 20 41.7**	**-0.7**
LSA	**Lhasa**	**27.30**	**350**	P	**P**	**23 20 44.5**	**+0.4**
LSA	comp=Z,88nm,0.7s			pmax	pmax		
LSA	**Lhasa**	**27.30**	**350**	P	**P**	**23 20 43.5**	**-0.6**
LSA	comp=Z,17nm,0.8s			IAmb	IAmb	23 20 45.5	
GKN	**Gorkha** comp=Z,38nm,0.2s	**27.57**	**337**	*eP*	**P**	**23 20 45.9**	**-0.3**
KOLN	**Koldanda** comp=Z,53nm,0.7s	**27.79**	**335**	*eP*	**P**	**23 20 48.3**	**+0.1**
DANN	**Dangsing** comp=Z,56nm,0.5s	**28.23**	**336**	*eP*	**P**	**23 20 52.0**	**-0.3**
PYUN	**Piuthan** comp=Z,20nm,0.3s	**28.33**	**334**	*eP*	**P**	**23 20 53.5**	**+0.4**
CD2	**Chengdu**	**28.86**	**13**	P	**P**	**23 20 58.5**	**+0.9**
CD2	comp=Z,10.0nm,0.5s			pmax	pmax		
XAN	**Xi'an**	**33.24**	**19**	P	**P**	**23 21 34.6**	**-1.5**
XAN	comp=Z,39nm,0.7s			pmax	pmax		
XAN	**Xi'an**	**33.24**	**19**	P	**P**	**23 21 34.4**	**-1.8**
PSA00	**Pilbara Seismi**	**33.25**	**138**	P	**P**	**23 21 36.6**	**+0.4**
SMLA	**Simla**	**33.63**	**329**	*eP*	**P**	**23 21 40.0**	**+0.5**
SMLA	comp=Z,8.5nm,0.6s			IAmb	IAmb	23 21 46.2	
LZH	**Lanzhou**	**33.88**	**11**	*eP*	**P**	**23 21 44.8**	**+3.0**
LZH				pP	pP	23 21 55.8	+0.6
LZH				sP	sP	23 22 00.3	-1.2
LZH				*ePP*	**PP**	**23 22 59.6**	**+0.2**
LZH	comp=Z,23nm,1.2s			pmax	pmax		
LZH	comp=Z,110nm,5.0s			pmax	pmax		
LZH	comp=Z,370nm,13.0s			LR	LR		
LZH	comp=Z,380nm,13.2s			LR	LR		
LZH	comp=Z,530nm,16.4s			LR	LR		
DHRM	**DHARAMSHALA**	**34.97**	**329**	*eP*	**P**	**23 21 51.6**	**+0.3**
FITZ	**Fitzroy Crossi** baz=35,SNR=7.0	**35.39**	**127**	P	**P**	**23 21 54.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**35.39**	**127**	P	**P**	**23 21 54.1**	**-0.8**
FITZ	comp=Z,10.0nm,0.8s			IAmb	IAmb	23 21 54.4	
NJ2	**Nanjing**	**35.96**	**33**	*eP*	**P**	**23 22 00.9**	**+1.3**
NJ2	comp=Z,15nm,0.5s			pmax	pmax		
MEEK	**Meekatharra** baz=36,SNR=5.6	**36.18**	**145**	P	**P**	**23 22 02.9**	**+1.3**
GTA	**Gaotai**	**36.64**	**4**	*↓*P	**P**	**23 22 05.0**	**-0.4**
GTA				pP	pP	23 22 15.5	-3.5
GTA				sP	sP	23 22 19.8	-5.4
GTA				PcP	**PcP**	**23 24 29.8**	**+2.2**
GTA	comp=Z,30nm,1.0s			pmax	pmax		
GTA	comp=Z,45nm,4.9s			pmax	pmax		
GTA	comp=Z,54nm,14.5s			LR	LR		
GTA	comp=Z,64nm,17.4s			LR	LR		
KNRA	**Kununurra** baz=37,SNR=3.0	**36.78**	**121**	P	**P**	**23 22 05.6**	**-1.2**
KNRA	**Kununurra**	**36.78**	**121**	P	**P**	**23 22 05.5**	**-1.3**
KDU	**Kakadu** baz=39,SNR=3.4	**38.87**	**114**	P	**P**	**23 22 23.3**	**-1.1**
H01W3	**Cape Leeuwin H** baz=333,slow=76,SNR=149	**40.92**	**158**	T	T	00 06 01.3	
H01W2	**Cape Leeuwin H** baz=333,slow=76,SNR=149	**40.93**	**158**	T	T	00 06 02.3	
H01W1	**Cape Leeuwin H** baz=333,slow=76,SNR=206	**40.93**	**158**	T	T	00 06 02.6	
KSH	**Kashi**	**41.10**	**336**	*eP*	**P**	**23 22 41.8**	**-1.0**
KSH	comp=Z,33nm,0.7s			pmax	pmax		
KSH	comp=Z,180nm,5.0s			pmax	pmax		
BJT	**Baijiatuau**	**41.18**	**23**	P	**P**	**23 22 43.3**	**0.0**
BJT	comp=Z,10nm,0.8s			IAmb	IAmb	23 22 45.1	
BJI	**Beijing**	**41.20**	**23**	P	**P**	**23 22 44.5**	**+1.1**
BJI	comp=Z,14nm,0.9s			pmax	pmax		
WRKA	**Warakurna** baz=42,SNR=8.4	**41.39**	**134**	P	**P**	**23 22 45.2**	**-0.1**
WMQ	**Urumqi**	**41.66**	**350**	*eP*	**P**	**23 22 47.3**	**+0.1**
WMQ				pP	pP	23 22 58.8	-2.1
WMQ	comp=Z,15nm,0.7s			pmax	pmax		
WMQ	comp=Z,28nm,5.1s			pmax	pmax		
WMQ	**Urumqi**	**41.66**	**350**	P	**P**	**23 22 46.5**	**-0.7**
WMQ	comp=Z,12nm,0.5

SNR=10.0
KBK Karagaybulak 44.17 337 P P 23 23 09.1 +1.4
SNR=6.9
AML Almayashu 44.23 336 P P 23 23 09.1 +0.7
SNR=19
AAK Ala-Archa 44.33 337 P P 23 23 08.8 -0.1
AAK IAmb IAmb 23 23 12.0
comp=Z,9.5nm,0.8s
CHMS Chumysh 44.54 337 P P 23 23 11.0 +0.6
SNR=7.3
EKS2 Erkin-Say 44.64 336 P P 23 23 12.6 +1.2
SNR=16
KUU Kurty 44.72 339 eP P 23 23 12.2 +0.4
comp=Z,13nm,1.7s,baz=339
KUU eS S 23 29 47.2 +2.4
baz=339
USP Ospenovka 44.86 337 P P 23 23 13.4 +0.4
SNR=44
ASAR Alice Springs 44.88 128 P P 23 23 13.4 -0.1
comp=Z,5.4nm,0.6s,baz=299,slow=7.9,SNR=59
ASAR PcP PcP 23 24 54.5 0.0
comp=Z,0.9nm,0.6s,baz=316,slow=3.8,SNR=4.4
ASAR LR LR 23 44 09.6
comp=Z,38nm,18.7s,baz=300,slow=39
ASAR Alice Springs 44.88 128 P P 23 23 12.5 -1.0
AS31 Alice Springs 44.88 128 P P 23 23 12.2 -1.3
FORT Forrest 44.89 140 P P 23 23 14.8 +1.4
baz=45,SNR=40
FORT Forrest 44.89 140 P P 23 23 13.6 +0.2
SGDS Sogindy 44.97 337 eP P 23 23 14.7 +0.7
comp=Z,3.7nm,0.7s,baz=337
TDK Taldyqorghan 45.01 342 eP P 23 23 15.1 +1.0
comp=Z,8.2nm,0.7s,baz=342
KSRS Korea Array 45.01 36 P P 23 23 13.1 -1.2
comp=Z,0.5nm,0.3s,baz=226,slow=8.1,SNR=2.0
KSRS LR LR 23 42 50.5
comp=Z,66nm,20.0s,baz=224,slow=37
MK31 Makanchi Array 45.60 346 P P 23 23 18.4 -0.4
MKAR Makanchi Array 45.60 346 P P 23 23 18.4 -0.4
comp=Z,19nm,0.4s,baz=161,slow=8.3,SNR=160
MKAR PcP PcP 23 24 57.2 +0.7
comp=Z,0.9nm,0.5s,baz=165,slow=3.3,SNR=1.7
MKAR LR LR 23 45 56.9
comp=Z,27nm,18.2s,baz=163,slow=41
MKAR Makanchi Array 45.60 346 P P 23 23 18.1 -0.7
ZSN Zaisan 45.67 349 eP P 23 23 20.2 +0.8
comp=Z,13nm,1.0s,baz=349
MAKZ Makanchi 45.69 346 P P 23 23 18.9 -0.6
SONM Songino Array 45.74 9 P P 23 23 19.8 -0.3
comp=Z,20nm,0.7s,baz=189,slow=9.2,SNR=118
SONM PcP PcP 23 24 57.5 +0.4
comp=Z,2.7nm,0.7s,baz=203,slow=3.5,SNR=5.4
SONM LR LR 23 44 32.3
comp=Z,42nm,21.0s,baz=80,slow=39
SONM Songino Array 45.74 9 P P 23 23 19.6 -0.4
IUG Iuzhnay 45.84 332 eP P 23 23 21.4 +0.5
comp=Z,1.3nm,0.7s,baz=332
ULN Ulaanbaatar 45.88 10 P P 23 23 20.4 -0.7
ULN IAmb IAmb 23 23 21.5
comp=Z,12nm,0.8s
KK31 Karatay Array 46.38 334 P P 23 23 25.5 +0.4
KK31 IAmb IAmb 23 23 27.5
comp=Z,5.5nm,0.7s
KKAR Karatay Array 46.38 334 P P 23 23 25.6 +0.5
KKAR Karatay Array 46.38 334 P P 23 23 25.8 +0.7
KKAR IAmb IAmb 23 23 27.5
comp=Z,5.5nm,0.7s
QIS Mount Isa 48.17 121 P P 23 23 39.7 +0.4
baz=48,SNR=4.4
TLY Talaya 49.15 6 P P 23 23 45.7 -0.6
COEN Coen 49.16 111 P P 23 23 46.3 -0.6
baz=49,SNR=8.0
COEN Coen 49.16 111 P P 23 23 45.6 -1.3
SEM Semipalatinsk 49.46 346 eP P 23 23 48.0 -0.9
comp=Z,4.7nm,0.7s,baz=346
GEYT Alibeck 49.60 320 P P 23 23 50.3 +0.3
comp=Z,7.4nm,0.7s,baz=142,slow=7.4,SNR=18
GEYT LR LR 23 47 45.4
comp=Z,22nm,19.0s,baz=185,slow=40
GEYT Alibeck 49.60 320 P P 23 23 50.4 +0.4
GYA0B ALIBECK ARRAY 49.60 320 P P 23 23 50.1 +0.1
GYA0B IAmb IAmb 23 24 05.7
comp=Z,12nm,0.8s
KURK Kurchatov 50.15 345 P P 23 23 53.4 -0.4
HIA Hailar 50.44 20 P P 23 23 55.6 -0.6
HIA IAmb IAmb 23 23 56.5
comp=Z,7.1nm,0.7s
MJAR Matsushiro Arr 51.06 44 LR LR 23 47 37.4
comp=Z,19nm,18.5s,baz=215,slow=38
BBOO Buckleboo 51.47 137 P P 23 24 04.1 0.0
baz=52,SNR=18
BBOO Buckleboo 51.47 137 P P 23 24 04.0 -0.2
BBOO IAmb IAmb 23 24 04.6
comp=Z,11nm,0.7s
USRK Ussuriysk Ar. 51.84 32 LR LR 23 48 21.7
comp=Z,57nm,18.8s,baz=194,slow=39
ZAA0 Zalesovo Array 51.95 351 P P 23 24 06.8 -0.5
ZALV Zalesovo Beam 51.95 351 P P 23 24 07.1 -0.2
comp=Z,24nm,0.5s,baz=178,slow=7.4,SNR=118
ZALV LR LR 23 50 53.6
comp=Z,34nm,18.2s,baz=158,slow=41
ZALV Zalesovo Beam 51.95 351 P P 23 24 06.8 -0.5
HTT Hallett 53.80 136 P P 23 24 22.1 +0.7
baz=54,SNR=7.2
CTA Charters Tower 53.82 117 P P 23 24 22.1 +0.4
comp=Z,7.2nm,0.8s,baz=308,slow=8.3,SNR=4.8
CTAO Charters Tower 53.82 117 P P 23 24 19.8 -1.9
CTAO IAmb IAmb 23 24 31.3
comp=Z,20nm,1.3s
QLP Quilpie 54.51 126 P P 23 24 27.6 +0.9
baz=55,SNR=5.7
BRVK Borovoye 54.65 341 P P 23 24 26.7 -0.5
BRVK IAmb IAmb 23 24 29.0
comp=Z,8.1nm,0.8s
STKA Stephens Creek 54.90 133 P P 23 24 29.6 +0.2
baz=55,SNR=5.8
STKA Stephens Creek 54.90 133 P P 23 24 29.6 +0.2
comp=Z,11nm,0.7s,baz=306,slow=7.1,SNR=22
STKA LR LR 23 49 41.0
comp=Z,43nm,19.8s,baz=9.2,slow=38
STKA Stephens Creek 54.90 133 P P 23 24 29.2 -0.2
ABKAR Akbulak array 55.84 332 P P 23 24 35.4 -0.4
ARPS Mount Arapiles 57.62 137 P P 23 24 50.2 +1.5
baz=58,SNR=6.8
CMSA Cobar Meteorol 57.81 130 P P 23 24 50.8 +0.7
baz=58,SNR=19
KMBO Kilima Mbogo 59.35 267 P P 23 25 03.7 +2.2
comp=Z,3.4nm,0.7s,baz=64,slow=10,SNR=11
KMBO Kilima Mbogo 59.35 267 P P 23 25 01.7 +0.3
KMBO IAmb IAmb 23 25 04.2
comp=Z,5.3nm,0.9s
TBLG Delisi 60.39 317 P P 23 25 08.2 +0.3
TBLG IAmb IAmb 23 25 25.3
comp=Z,6.6nm,0.9s
AKH Akhalkalaki 61.10 317 ⇓P P 23 25 13.1 +0.2
ARU Arti 61.51 337 P P 23 25 16.2 +1.1
ARU IAmb IAmb 23 25 17.2
comp=Z,8.1nm,0.7s
CAN Canberra 61.97 133 P P 23 25 19.2 +0.6
KBZ Khabaz 62.47 319 P P 23 25 21.4 -0.4
comp=Z,2.1nm,0.7s,baz=146,slow=7.7,SNR=5.7
KIV Kislovodsk 62.70 319 ⇓P P 23 25 25.7 +2.2
KIV Kislovodsk 62.70 319 P P 23 25 22.9 -0.5
KIV IAmb IAmb 23 25 38.8
comp=Z,5.5nm,0.9s
MBAR Mbarara 65.82 268 P P 23 25 44.1 -0.5
MBAR IAmb IAmb 23 25 46.5
comp=Z,9.1nm,1.4s
CSS Mathiatis 66.59 307 P P 23 25 47.7 -1.3
NRIK Noril'sk 66.77 357 P P 23 25 48.9 -0.4
comp=Z,2.3nm,0.4s,baz=138,slow=7.1,SNR=3.4
BRTR Keskin Array B 67.57 312 P P 23 25 54.4 -0.8
comp=Z,1.5nm,0.8s,baz=133,slow=6.7,SNR=12
BRTR LR LR 23 56 52.7
comp=Z,14nm,19.7s,baz=106,slow=37
BRTR Keskin Array B 67.57 312 P P 23 25 54.1 -1.1
BR131 Keskin Array S 67.57 312 P P 23 25 54.3 -0.9
BR131 IAmb IAmb 23 26 01.7
comp=Z,3.4nm,0.6s
KDZE Karadeniz Ereo 69.61 313 ⇓P P 23 26 57.2 +49
ELL Elmali 69.70 308 P P 23 26 08.0 -0.5
TIXI Tiksi 71.82 10 P P 23 26 19.6 -0.9
KLMR Klimovskoe 72.08 334 eP P 23 26 23.9 +1.6
KLMR AMP 23 26 40.4
comp=Z,11nm,1.1s
CFR Carcaliu 72.91 317 ⇓P P 23 26 27.1 -0.5

HARR Harsova 72.93 316 ⇓P P 23 26 27.5 -0.2
SORM Soroca 73.49 320 ⇓P P 23 26 30.1 -0.8
AKASG Malin Array Be 73.63 322 P P 23 26 30.7 -1.0
comp=Z,2.4nm,0.5s,baz=89,slow=4.9,SNR=5.0
AKASG Malin Array Be 73.63 322 P P 23 26 30.5 -1.2
LBTB Lobatse 73.94 243 P P 23 26 34.3 +0.2
LBTB IAmb IAmb 23 26 35.8
comp=Z,6.9nm,0.8s
VRI Vrincioaia 74.03 317 ⇓P P 23 26 34.4 +0.3
MAW Mawson 74.03 193 P P 23 26 35.0 +1.4
comp=Z,2.2nm,0.7s,baz=66,slow=7.2,SNR=10
MAW Mawson 74.03 193 P P 23 26 34.8 +1.2
PLOR Plostina 74.08 317 ⇓P P 23 26 34.7 +0.2
TESR Tescani 74.22 318 ⇓P P 23 26 35.4 +0.1
NEHR Nehoiu 74.23 316 ⇓P P 23 26 35.7 +0.3
MLR Muntele Rosu 74.48 316 ⇓P P 23 26 37.2 +0.2
MLR Muntele Rosu 74.48 316 P P 23 26 37.6 +0.6
BIZ Bicaz 74.69 318 ⇓P P 23 26 38.1 +0.2
BOSA Boshof 74.93 240 P P 23 26 40.4 +0.5
comp=Z,3.1nm,0.7s,baz=80,slow=3.8,SNR=8.0
BOSA Boshof 74.93 240 P P 23 26 40.3 +0.5
VOIR 75.09 316 ⇓P P 23 26 40.1 -0.3
BURAR Bucovina Array 75.42 319 ⇓P P 23 26 42.9 +0.6
BURAR Bucovina Array 75.42 319 P P 23 26 42.6 +0.3
BUR08 Bucovina Ar. S 75.44 319 P P 23 26 42.8 +0.4
VTS Vitosha 75.86 313 ⇓P P 23 26 40.7 -4.3
ITM Ithomi 76.07 308 P P 23 26 45.1 -1.0
DRGR 76.94 317 ⇓P P 23 26 51.2 +0.3
LVZ Lovozero 77.17 340 P P 23 26 51.0 -0.6
TRPA Tarpa 77.29 319 ⇓P P 23 26 53.2 +0.5
KWP Kalwaria Pacla 77.45 320 P P 23 26 53.9 +0.2
KWP IAmb IAmb 23 27 00.6
comp=Z,8.6nm,1.0s
BZS Buzias 77.49 316 ⇓P P 23 26 53.9 0.0
SIRR Siria 77.57 317 ⇓P P 23 26 54.7 +0.4
KOLS Kolonicke sedl 77.61 319 eP P 23 26 55.9 +1.4
FIA1 FINESS Array S 78.33 332 P P 23 26 57.5 -0.7
FIA1 IAmb IAmb 23 27 10.6
comp=Z,8.7nm,1.0s
FINES FINESS Array B 78.33 332 P P 23 26 57.9 -0.3
comp=Z,1.7nm,0.4s,baz=90,slow=5.6,SNR=17
FINES LR LR 00 04 41.0
comp=Z,26nm,19.1s,baz=88,slow=38
FINES FINESS Array B 78.33 332 P P 23 26 57.6 -0.6
PDG Podgorica 78.75 313 P P 23 27 00.1 -0.8
PDG IAmb IAmb 23 27 18.5
comp=Z,18nm,1.2s
ARCES ARCESS Array B 80.87 340 P P 23 27 12.1 +0.2
comp=Z,2.7nm,0.6s,baz=94,slow=4.8,SNR=28
ARCES LR LR 00 06 14.3
comp=Z,20nm,18.1s,baz=121,slow=38
ARCES ARCESS Array B 80.87 340 P P 23 27 11.9 0.0
ARE0 ARCESS Array S 80.87 340 P P 23 27 11.9 0.0
DPC Dobruska-Polom 81.63 320 eP P 23 27 16.9 +0.5
PRED Cave del Predi 83.16 316 P P 23 27 23.8 -0.6
PRED IAmb IAmb 23 27 32.2
comp=Z,6.9nm,1.2s
GEC2 GERESS Array S 83.21 319 P P 23 27 24.3 -0.4
GERES GERESS Array B 83.21 319 P P 23 27 25.0 +0.3
comp=Z,1.3nm,0.6s,baz=104,slow=5.6,SNR=13
GERES GERESS Array B 83.21 319 P P 23 27 24.1 -0.6
KHC Kasperske Hory 83.31 319 eP P 23 27 25.2 +0.1
KHC ex x 23 27 45.3
CLL Collm 83.81 321 eP P 23 27 26.0 -1.6
CIMO Cimolais 83.93 316 P P 23 27 28.4 +0.1
CIMO IAmb IAmb 23 27 36.0
comp=Z,4.7nm,0.9s
CTI Castel Tesino 84.47 316 P P 23 27 30.8 -0.4
CTI IAmb IAmb 23 27 32.3
comp=Z,5.9nm,0.8s
WATA Walderalm 84.56 317 eP P 23 27 30.8 -0.9
comp=Z,2.2nm,0.5s
SQTA Sankt Quirin 84.81 317 iP P 23 27 32.4 -0.5
comp=Z,3.4nm,0.5s
MOTA Moosalm 84.88 317 iP P 23 27 32.6 -0.7
comp=Z,2.4nm,0.6s
RETA Reutte 85.12 317 iP P 23 27 34.3 -0.1
comp=Z,3.4nm,0.5s
NOA NORSAR Array B 85.34 331 P P 23 27 36.0 +0.9
comp=Z,1.4nm,1.1s,baz=94,slow=6.1,SNR=3.0
FUORN Ofenpass-Fuorn 85.44 316 P P 23 27 36.6 +0.3
FUORN IAmb IAmb 23 27 38.2
comp=Z,3.6nm,0.7s
DAVA Damuels 85.71 317 eP P 23 27 37.8 +0.3
comp=Z,6.2nm,1.1s
VNDA Vanda 87.45 169 P P 23 27 45.8 +0.6
comp=Z,1.3nm,0.7s,baz=292,slow=4.5,SNR=7.8
VNDA Vanda 87.45 169 P P 23 27 45.3 +0.2
VNDA IAmb IAmb 23 28 02.4
comp=Z,5.7nm,1.5s
QSPA South Pole Qui 92.66 180 P P 23 28 10.5 +0.6
TOA0 Torodi Ar. Sit 94.06 283 P P 23 28 16.1 -1.1
TOA0 IAmb IAmb 23 28 31.3
comp=Z,8.5nm,1.4s
TORD Torodi Ar. Bea 94.06 283 P P 23 28 17.4 +0.2
comp=Z,1.3nm,0.7s,baz=85,slow=6.4,SNR=7.0
TORD Torodi Ar. Bea 94.06 283 P P 23 28 17.1 -0.1
YKA Yellowknife Ar 110.81 15 PP PP 23 34 08.3 +0.4
comp=Z,0.1nm,0.6s,baz=322,slow=6.6,SNR=4.7
PDAR Pinedale Array 128.96 25 PKP PKiKP 23 34 07.0 -0.1
comp=Z,0.4nm,0.5s,baz=316,slow=3.8,SNR=2.2
TXAR Lajitas Array 142.72 30 PKhKP PKPpre 23 34 28.3
comp=Z,0.4nm,0.6s,baz=346,slow=1.9,SNR=2.8
CPUP Villa Florida 145.62 225 PKPbc PKPbc 23 34 37.5 +0.1
comp=Z,5.6nm,0.7s,baz=142,slow=3.0,SNR=13
LPAZ La Paz 159.74 227 PKPab PKPab 23 35 37.8 +0.3
comp=Z,0.6nm,0.6s,baz=164,slow=7.4,SNR=4.1

IDC 16 23:18:53.1±2.2,10.63S×113.74E,h0km,mb3.8/4, mb1 4.1/5,mb1mx3.7/28,mbtmp4.0/5,ML4.9/1,Error ellipse: s-maj=78.3km s-min=23.4km az=44.0,South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**9.77**	**88**	Pn	Pn	23 21 14.4	-0.7
	9.9nm,0.3s,baz=269,slow=9.3,SNR=4.3						
WRA	**Warramunga Arr**	**21.90**	**117**	P	P	23 23 48.7	+0.6
	4.6nm,0.5s,baz=290,slow=12,SNR=7.0						
ASAR	**Alice Springs**	**23.18**	**127**	P	P	23 24 01.1	-0.6
	1.0nm,0.5s,baz=307,slow=8.7,SNR=1.8						
SONM	**Songino Array**	**58.57**	**354**	P	P	23 28 51.3	-0.4
	0.5nm,0.5s,baz=159,slow=8.6,SNR=3.8						
MKAR	**Makanchi Array**	**63.70**	**336**	P	P	23 29 26.8	+0.3
	0.5nm,0.5s,baz=145,slow=7.1,SNR=6.4						

*IDC **16** 23:19:46.4±2.2,28.81S×71.19W,h0km,mb4.1/1, mb1 4.0/3,mb1mx3.7/18,mbtmp3.8/3,ML3.8/2,Error ellipse: s-maj=67.8km s-min=60.4km az=9.0*
*SJA **16** 23:19:52.6±1.1,28.12S×71.25W,h58km±14km,ML3.6, MW3.9*
*NEIC **16** 23:19:53.8±2.6,28.15S±0.03×71.12W±0.04,h40km±8km, mb4.2/5,ML4.0(GUC),Error ellipse: s-maj=6.5km s-min=2.4km az=52.0*
*GUC **16** 23:19:55.5±0.5,28.20S×70.85W,h44km±3km,ML4.0*
ISC 16 23:19:54.1±0.8,28.16S±0.03×71.09W±0.06,h45km±6km, n72,σ1°71/83,3C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC04	**Llanos de Chal**	**0.05**	**162**	⇑iP	Pn	23 20 02.6	+1.5
AC04				iS	Sn	23 20 07.9	+1.8
AC04				IAML		23 20 08.1	
	comp=N,27μm,0.1s						
AC04	**Llanos de Chal**	**0.05**	**162**		Pn	23 20 02.2	+1.1
AC04				Sn	Sn	23 20 07.8	+1.8
LCO	**Las Campanas**	**0.92**	**158**	eP	Pn	23 20 10.7	-0.1
LCO	**Las Campanas**	**0.92**	**158**		Pn	23 20 10.9	0.0
LCO				Sn	Sn	23 20 20.9	-2.2
GO03	**Copiap**	**0.94**	**54**	eP	Pn	23 20 10.4	-0.5
GO03				eS	Sn	23 20 22.2	-1.2
GO03				IAML		23 20 22.7	
	comp=N,14μm,0.2s						
GO03	**Copiap**	**0.94**	**54**		Pn	23 20 10.6	-0.4
GO03				Sn	Sn	23 20 22.2	-1.2
AC05	**El Transito**	**0.99**	**133**	⇑iP	Pn	23 20 11.2	-0.4
AC05				eS	Sn	23 20 21.1	-3.5
AC05	**El Transito**	**0.99**	**133**	Pn	Pn	23 20 11.2	-0.4
AC05				Sn	Sn	23 20 22.9	-1.6
CO01	**Juntas del Tor**	**2.01**	**155**	eP	Pn	23 20 26.9	+1.1
CO01	**Juntas del Tor**	**2.01**	**155**		Pn	23 20 26.9	+1.1
CO01				Sn	Sn	23 20 51.7	+1.8
GO04	**Tololo Observa**	**2.02**	**173**	eP	Pn	23 20 27.0	+1.0
GO04				eS	Sn	23 20 51.4	+1.3
GO04	**Tololo Observa**	**2.02**	**173**	Pn	Pn	23 20 27.0	+1.0
GO04	**Tololo Observa**	**2.02**	**173**	iP	Pn	23 20 27.3	+1.3
GO04				eS	Sn	23 20 53.0	+2.8
AC01	**Pan de Azucar**	**2.05**	**12**	⇑eP	Pn	23 20 26.6	+0.5
AC01				eS	Sn	23 20 51.7	+1.3
AC01				IAML		23 20 59.9	
	comp=E,630nm,0.4s						
AC01	**Pan de Azucar**	**2.05**	**12**	Pn	Pn	23 20 26.7	+0.7
AC02	**Maricunga**	**2.18**	**53**	⇓eP	Pn	23 20 29.6	+1.2
AC02				eS	Sn	23 20 56.5	+2.0
ACO2				IAML		23 20 58.3	
	comp=N,2μm,0.3s						
AC02	**Maricunga**	**2.18**	**53**		Pn	23 20 29.4	+1.1
AROD	**Rodeo**	**2.45**	**145**	iP	Pn	23 20 34.5	+2.6
VCA	**Vinchina**	**2.61**	**103**	iP	Pn	23 20 36.8	+3.0
VCA				IAML		23 21 14.7	
	comp=Z,316nm,0.3s						
ACDV	**Cuesta del Vie**	**2.65**	**140**	iP	Pn	23 20 38.3	+3.9
ACDV				IAML		23 21 25.6	
	comp=Z,104nm,1.7s						
CO03	**El Pedregal**	**2.70**	**173**	eP	Pn	23 20 37.0	+2.0
CO03				eS	Sn	23 21 09.1	+2.6
CO03				IAML		23 21 23.6	
	comp=E,549nm,0.4s						
CO03	**El Pedregal**	**2.70**	**173**	Pn	Pn	23 20 37.0	+2.0
ACCO	**Cerro Coronel**	**3.00**	**144**	iP	Pn	23 20 42.2	+2.8
ACCO				IAML		23 21 36.1	
	comp=Z,134nm,0.5s						
CO02	**Combarbal**	**3.04**	**179**	eP	Pn	23 20 41.1	+1.4
CO02				eS	Sn	23 21 16.3	+1.3
CO02	**Combarbal**	**3.04**	**179**		Pn	23 20 41.1	+1.4
GO02	**Mina Guanaco**	**3.27**	**25**	eP	Pn	23 20 43.9	+0.8
GO02				eS	Sn	23 21 23.4	+2.4
GO02	**Mina Guanaco**	**3.27**	**25**	Pn	Pn	23 20 43.7	+0.6
AMOG	**MOGNA**	**3.58**	**141**	iP	Pn	23 20 49.6	+2.5
AMOG				IAML		23 21 43.8	
	comp=Z,173nm,0.4s						
RTLL	**Cerro Villicun**	**3.90**	**145**	iP	Pn	23 20 54.5	+3.0
RTLL				IAML		23 21 50.8	
	comp=Z,94nm,0.9s						
RTLS	**Leoncito**	**3.95**	**157**	iP	Pn	23 20 55.7	+3.2
RTLS				IAML		23 21 58.6	
	comp=Z,107nm,0.6s						
ZON	**Zonda**	**3.98**	**149**	Pn	Pn	23 20 55.0	+2.4
ZON	**Zonda**	**3.98**	**149**	iP	Pn	23 20 55.7	+3.1
ZON				IAML		23 22 07.2	
	comp=Z,47nm,0.6s						
CFA	**Coronel Fontan**	**4.24**	**145**	iP	Pn	23 20 58.2	+2.1
CFA				IAML		23 22 01.6	
	comp=Z,43nm,0.8s						
RTCV	**Cerro Valdivia**	**4.30**	**150**	iP	Pn	23 20 59.9	+2.8
RTCV				IAML		23 22 10.7	
	comp=Z,37nm,1.4s						
AUSP	**Uspallata**	**4.31**	**160**	iP	Pn	23 21 00.8	+3.3
VA03	**San Esteban**	**4.62**	**174**		Pn	23 21 03.0	+1.6
PB10	**IPOC Station P**	**4.65**	**6**	Pn	Pn	23 21 00.6	-1.2
CYA	**Choya**	**4.67**	**95**	iP	Pn	23 21 02.8	+0.6
CYA				IAML		23 22 00.5	
	comp=Z,72nm,1.6s						
ROC1	**El Roble**	**4.80**	**179**	Pn	Pn	23 21 04.8	+0.7
ROC1	**El Roble**	**4.80**	**179**	iP	Pn	23 21 05.2	+1.1
PEL	**Peldehue**	**4.98**	**176**	Pn	Pn	23 21 07.1	+0.7
MT02	**Curacav**	**5.09**	**180**	Pn	Pn	23 21 08.0	+0.2
PB15	**IPOC Station P**	**5.14**	**17**		Pn	23 21 08.8	+0.1
ACAN	**Cantantal**	**5.32**	**141**	iP	Pn	23 21 12.3	+1.3
ACAN				IAML		23 22 18.8	
	comp=Z,27nm,0.7s						
PB06	**IPOC Station P**	**5.60**	**15**	Pn	Pn	23 21 15.3	+0.3
MT01	**Popeta**	**5.69**	**181**	Pn	Pn	23 21 14.6	-1.4
LVC	**Limon Verde**	**5.87**	**20**	Pn	Pn	23 21 18.0	-0.8
PB07	**IPOC Station P**	**6.50**	**10**	Pn	Pn	23 21 25.2	-2.1
PB09	**IPOC Station P**	**6.55**	**15**	Pn	Pn	23 21 27.3	-0.7
BO02	**Sierra Bellavi**	**6.62**	**178**	Pn	Pn	23 21 28.7	-0.2
GO05	**Huala**	**6.87**	**186**	Pn	Pn	23 21 30.8	-1.4
PB01	**IPOC Station P**	**7.23**	**12**	Pn	Pn	23 21 35.0	-2.3
PB08	**IPOC Station P**	**8.17**	**13**	Pn	Pn	23 21 49.8	-0.7
H03N1	**Juan Fernandez**	**8.54**	**230**	T	T	23 30 34.4	
	baz=56,slow=72,SNR=292						
H03N2	**Juan Fernandez**	**8.55**	**230**	T	T	23 30 34.7	
	baz=56,slow=72,SNR=211						
H03N3	**Juan Fernandez**	**8.56**	**230**	T	T	23 30 32.9	
	baz=56,slow=72,SNR=269						
PSGCX	**Pisagua**	**8.57**	**6**	Pn	Pn	23 21 52.8	-2.9
GO01	**Chusmiza**	**8.63**	**12**	Pn	Pn	23 21 54.9	-1.9
MNMC	**Minye Minye**	**9.09**	**9**	Pn	Pn	23 22 02.2	-0.7
LPAZ	**La Paz**	**12.12**	**14**	Pn	Pn	23 22 49.9	+5.1
	comp=Z,0.2nm,0.3s,baz=168,slow=7.9,SNR=6.9						
LPAZ	**La Paz**	**12.12**	**14**		Pn	23 22 44.4	-0.4
CPUP	**Villa Florida**	**12.38**	**85**	Pn	Pn	23 22 47.4	-0.3
	comp=Z,0.1nm,0.3s,baz=232,slow=17,SNR=1.9						
CPUP	**Villa Florida**	**12.38**	**85**		Pn	23 22 46.4	-1.3
NNA	**Nana**	**16.96**	**340**		P	23 23 49.4	-0.3
NNA				IAmb	IAmb	23 23 58.2	
	comp=Z,25nm,1.2s						
SNAA	**Sanae**	**56.72**	**159**	P	P	23 29 33.1	+0.3
SNAA				IAmb	IAmb	23 29 38.8	
	comp=Z,3.4nm,1.3s						
QSPA	**South Pole Qui**	**62.06**	**180**	P	P	23 30 10.8	+0.9
TOA0	**Torodi Ar. Sit**	**81.46**	**70**	P	P	23 32 07.0	+0.1
TORD	**Torodi Ar. Bea**	**81.46**	**70**	P	P	23 32 06.8	-0.1
	comp=Z,1.5nm,0.7s,baz=258,slow=4.8,SNR=8.0						
TORD	**Torodi Ar. Bea**	**81.46**	**70**	P	P	23 32 07.0	+0.1
ZALV	**Zalesovo Beam**	**148.77**	**28**	PKPbc	PKiKP	23 39 36.7	-0.9
	comp=Z,1.4nm,0.6s,baz=300,slow=3.2,SNR=5.9						
MKAR	**Makanchi Array**	**152.06**	**41**	PKPbc	PKiKP	23 39 44.9	+0.3
	comp=Z,0.6nm,0.7s,baz=287,slow=2.3,SNR=8.3						
MKAR	**Makanchi Array**	**152.06**	**41**		PKiKP	23 39 44.6	0.0

ATH 16 23:24:49.4,38.40N×22.50E,h13km±2km,ML1.5/7,Error ellipse: s-maj=2.4km s-min=0.6km az=346.0,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DLFA	**Delphi**	**0.08**	**358**	P	Pg	23 24 52.2	0.0
DLFA				S	Sg	23 25 04.0	-0.2
KALE	**Kalithea**	**0.28**	**268**	P	Pg	23 24 55.2	-0.1
KALE				S	Sg	23 24 59.2	-0.1
KALE				AML	AML	23 25 00.2	
	comp=N,237μm,0.2s						
KALE				AML	AML	23 25 01.2	
	comp=E,169μm,0.1s						
TRIZ	**Trizonia**	**0.34**	**264**	P	Pg	23 24 56.1	-0.2
TRIZ				S	Sg	23 25 01.0	+0.2
PROD	**Prodromos**	**0.35**	**114**	P	Pg	23 24 56.2	-0.2
PROD				S	Sg	23 25 01.8	+0.7
PROD				AML	AML	23 25 03.2	
	comp=E,253μm,0.2s						
PROD				AML	AML	23 25 04.5	
	comp=N,191μm,0.2s						
SERG	**Sergoula**	**0.35**	**272**	P	Pg	23 24 56.2	-0.2
SERG				S	Sg	23 25 01.7	+0.5
SERG				AML	AML	23 25 03.7	
	comp=N,170μm,0.2s						
SERG				AML	AML	23 25 04.8	
	comp=E,168μm,0.2s						
AXAR	**Agios Charalam**	**0.39**	**19**	P	Pg	23 24 57.1	-0.1
AXAR				S	Sg	23 25 03.0	+0.6
AXAR				AML	AML	23 25 05.1	
	comp=E,492μm,0.3s						
AXAR				AML	AML	23 25 07.8	
	comp=N,666μm,0.4s						
LAKA	**Lakka**	**0.44**	**249**	P	Pg	23 24 58.3	+0.2
KLV	**Kalavryta, Ach**	**0.45**	**218**	P	Pg	23 24 58.1	-0.2
LKR	**Lokris**	**0.47**	**57**	P	Pg	23 24 58.1	-0.5
LKR				S	Sg	23 25 05.1	+0.3
LKR				AML	AML	23 25 06.4	
	comp=N,187μm,0.2s						
LKR				AML	AML	23 25 08.4	
	comp=E,272μm,0.2s						
GUR	**Goura**	**0.48**	**195**	P	Pg	23 24 58.9	0.0
GUR				S	Sg	23 25 05.3	0.0
GUR				AML	AML	23 25 07.2	
	comp=E,104μm,0.1s						
GUR				AML	AML	23 25 09.4	
	comp=N,112μm,0.3s						
ANX	**Ano Chora**	**0.49**	**293**	P	Pg	23 24 59.0	-0.2
ANX				S	Sg	23 25 06.3	+0.6
ANX				AML	AML	23 25 08.8	
	comp=E,109μm,0.2s						
ANX				AML	AML	23 25 11.4	

comp=N,151µm,0.3s

LOUT	**Loutraki**	**0.56**	**138**	P	Pg	23 25 00.4	+0.1
VIL2	**Platees**	**0.63**	**107**	P	Pb	23 25 02.6	+0.3
AGG	**Agios Georgios**	**0.64**	**348**	P	Pg	23 25 01.1	-0.7
AGG				S	Sg	23 25 10.4	+0.2
MAKR	**Makrakomi, Fth**	**0.68**	**335**	P	Pg	23 25 02.4	-0.2
MAKR				S	Sg	23 25 11.9	+0.4
EVR	**Evrytania**	**0.75**	**314**	P	Pg	23 25 03.7	-0.2
EVR				S	Sb	23 25 14.5	0.0
DRO	**Drossia**	**0.77**	**235**	P	Pb	23 25 04.4	-0.2
TRIP	**Tripoli**	**0.89**	**192**	P	Pg	23 25 06.1	-0.4
VLX	**Vlachokerasia**	**1.03**	**185**	P	Pb	23 25 08.9	-0.3
DID	**Didima**	**1.07**	**147**	P	Pb	23 25 09.7	0.0
VLY	**Voula,Athens**	**1.16**	**118**	P	Pg	23 25 11.5	-0.2
DION	**Dionisos Attik**	**1.17**	**105**	P	Pb	23 25 11.7	+0.1

JMA ***16*** *23:40:43.8±0.1,33°.99N×139°.82E,h120km±2km,M2.9*
IDC ***16*** *23:40:46.8±7.7,33°.83N×138°.37E,h95km±62km,mb3.4/3, mb1 3.4/4,mb1mx3.1/29,mbtmp3.7/4,ML2.7/1,MS3.1/2, Ms1 3.1/2,ms1mx2.6/22,Error ellipse: s-maj=80.4km s-min=65.2km az=74.0*

ISC 16 23:40:43.2±1.1,33.99N±0°.06×139.82E±0°.07,h126km±7km, n25,σ0s78/30,mb3.6/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMKN	**Mikurajimanish**	**0.21**	**243**	P	**Pn**	**23 41 00.5**	**-0.2**
JMKN				S	**Sn**	**23 41 13.3**	**-0.5**
JNIO	**Niijimaoohara**	**0.58**	**309**	P	**Pn**	**23 41 02.5**	**+0.1**
JKO	**Kozu shima**	**0.60**	**289**	P	**Pn**	**23 41 02.5**	**0.0**
JTHY	**Toshimahigashi**	**0.69**	**321**	P	**Pn**	**23 41 03.5**	**+0.3**
JIM2	**Oshima 3**	**0.79**	**336**	P	**Pn**	**23 41 04.3**	**+0.3**
JIM2				S	**Sn**	**23 41 19.3**	**-0.5**
JHJ2	**Mitsune**	**0.88**	**180**	P	**Pn**	**23 41 04.9**	**+0.2**
JHJ2				S	**Sn**	**23 41 20.6**	**-0.3**
BSO3	**Boso 3**	**0.99**	**35**	P	**Pn**	**23 41 06.4**	**+1.0**
JIZS	**Izushimoda**	**1.07**	**313**	P	**Pn**	**23 41 06.4**	**0.0**
JIZS				*e*S	**Sn**	**23 41 24.0**	**-0.1**
BSO1	**Boso 1**	**1.17**	**55**	P	**Pn**	**23 41 07.8**	**+1.0**
JOD2	**Odawara 2**	**1.41**	**335**	P	**Pn**	**23 41 10.6**	**+0.6**
TK04	**Tokai 4**	**1.66**	**284**	P	**Pn**	**23 41 13.4**	**+0.6**
TK04				S	**Sn**	**23 41 36.7**	**+1.3**
SHZ3	**Shizuoka 3**	**1.71**	**309**	P	**Pn**	**23 41 14.3**	**+0.7**
SHZ3				S	**Sn**	**23 41 37.5**	**+0.8**
TK02	**Tokai 2**	**1.71**	**269**	P	**Pn**	**23 41 13.8**	**+0.5**
TK02				S	**Sn**	**23 41 36.7**	**+0.4**
JYN	**Shimob**	**1.83**	**325**	P	**Pn**	**23 41 15.7**	**+0.6**
JRY	**Ryogami san**	**2.16**	**340**	P	**Pn**	**23 41 19.8**	**+0.8**
JRY				S	**Sn**	**23 41 46.8**	**+0.4**
MJAR	**Matsushiro Arr**	**2.87**	**333**	P	**Pn**	**23 41 28.2**	**+0.2**
	1.2nm,0.3s,baz=172,slow=12,SNR=39						
MJAR				S	**Sn**	**23 42 00.8**	**-1.8**
	0.4nm,0.3s,baz=183,slow=18,SNR=5.6						
MAT	**Matsushiro**	**2.87**	**333**	P	**Pn**	**23 41 28.5**	**+0.5**
MAT				S	**Sn**	**23 42 00.7**	**-1.9**
PETK	**Petropavlovsk-**	**22.97**	**28**	LR	LR	23 55 38.9	
	comp=Z,27nm,21.4s,baz=240,slow=38						
H11N2	**WAKE ISLAND Hy**	**27.91**	**114**	T	T	00 15 44.1	
	baz=306,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**27.92**	**114**	T	T	00 15 43.5	
	baz=306,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**27.93**	**114**	T	T	00 15 36.3	
	baz=306,slow=75,SNR=11						
SONM	**Songino Array**	**28.55**	**309**	P	**P**	**23 46 27.4**	**+0.3**
	0.6nm,0.8s,baz=105,slow=9.3,SNR=2.7						
ZALV	**Zalesovo Beam**	**43.07**	**315**	P	**P**	**23 48 29.9**	**-0.4**
	0.6nm,0.4s,baz=113,slow=6.8,SNR=2.3						
MKAR	**Makanchi Array**	**44.70**	**305**	P	**P**	**23 48 42.8**	**-0.7**
	0.8nm,0.6s,baz=85,slow=9.9,SNR=11						
YKA	**Yellowknife Ar**	**67.09**	**29**	LR	LR	00 25 49.3	
	comp=Z,24nm,18.3s,baz=0.0,slow=40						

IDC ***16*** *23:57:03.9±0.8,28°.68N×142°.72E,h0km,mb4.0/13, mb1 4.2/17,mb1mx4.0/35,mbtmp4.0/17,ML3.3/4,MS3.0/6, Ms1 3.1/6,ms1mx2.8/33,Error ellipse: s-maj=24.5km s-min=18.5km az=78.0*
NEIC ***16*** *23:57:08.4±1.5,28°.77N±0°.06×142°.7E±0°.1,h33km±6km, mb4.6/27,Error ellipse: s-maj=16.5km s-min=8.6km az=90.0*

ISC 16 23:57:08.1±0.7,28.78N±0°.07×142.6E±0°.1,h27km,n72, σ0s69/67,mb4.4/23,MS3.0/3,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.72**	**193**	Pn	**Pn**	**23 57 35.7**	**-0.6**
JHJ	**Hachijo jima 2**	**4.96**	**331**	Pn	**Pn**	**23 58 21.3**	**+0.5**
	8.8nm,0.3s,baz=232,slow=19,SNR=1.5						
JHJ				Sn	**Sn**	**23 59 16.3**	**-1.1**
	7.1nm,0.3s,baz=59,slow=19,SNR=1.7						
JHJ				LR	LR	00 00 16.3	
	comp=Z,176nm,18.6s,baz=224,slow=38						
MJAR	**Matsushiro Arr**	**8.58**	**336**	Pn	**Pn**	**23 59 11.4**	**+0.9**
	0.4nm,0.3s,baz=170,slow=6.0,SNR=9.6						
MJAR				Sn	**Sn**	**00 00 45.8**	**-0.7**
	0.1nm,0.3s,baz=311,slow=27,SNR=5.4						
MJAR	**Matsushiro Arr**	**8.58**	**336**	Pn	**Pn**	**23 59 09.9**	**-0.7**
MAJO	**Matsushiro**	**8.59**	**336**	Pn	**Pn**	**23 59 10.8**	**+0.2**
MAT	**Matsushiro**	**8.59**	**336**	P	**Pn**	**23 59 11.5**	**+0.9**
JNU	**Nakatsue**	**10.96**	**296**	LR	LR	00 03 40.4	
	comp=Z,95nm,19.0s,baz=118,slow=36						
KSRS	**Korea Array**	**15.03**	**309**	Pn	**Pn**	**00 00 40.2**	**+1.6**
	0.3nm,0.3s,baz=117,slow=12,SNR=2.2						
KSRS				LR	LR	00 06 36.9	
	comp=Z,46nm,18.0s,baz=121,slow=38						
USRK	**Ussuriysk Ar.**	**17.58**	**334**	P	**Pn**	**00 01 10.6**	**-0.5**
	baz=155,slow=11,SNR=4.8						
USRK	**Ussuriysk Ar.**	**17.58**	**334**	P	**Pn**	**00 01 10.1**	**-0.9**
YULB	**Yu-li**	**19.87**	**259**	P	**Pn**	**00 01 38.4**	**-0.7**
SSLB	**Suanglung**	**20.04**	**261**		Pn	00 01 42.4	+1.4
SSLB				IAmb	IAmb	00 01 45.4	
	comp=Z,18nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**23.87**	**107**	T	T	00 27 22.9	
	baz=296,slow=74,SNR=5.6						
H11N1	**WAKE ISLAND Hy**	**23.87**	**107**	T	T	00 27 15.8	
	baz=296,slow=74,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**23.88**	**107**	T	T	00 27 21.6	
	baz=296,slow=74,SNR=7.7						
PETK	**Petropavlovsk-**	**26.74**	**20**	LR	LR	00 14 37.5	
	comp=Z,23nm,19.6s,baz=244,slow=39						
HIA	**Hailar**	**26.91**	**326**	P	**P**	**00 02 46.8**	**-0.1**
HIA				IAmb	IAmb	00 02 51.4	
	comp=Z,7.3nm,0.7s						
XAN	**Xi'an**	**29.14**	**289**	P	**P**	**00 03 06.2**	**-0.8**
ULN	**Ulaanbaatar**	**33.39**	**315**	P	**P**	**00 03 44.2**	**-0.1**
SONM	**Songino Array**	**33.79**	**314**	P	**P**	**00 03 48.6**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=114,slow=8.7,SNR=6.5						
SONM				LR	LR	00 17 00.6	
	comp=Z,40nm,19.7s,baz=98,slow=35						
SONM	**Songino Array**	**33.79**	**314**	P	**P**	**00 03 47.7**	**-0.2**
TLY	**Talaya**	**36.90**	**319**	P	**P**	**00 04 15.0**	**+0.7**
TLY				IAmb	IAmb	00 04 17.3	
	comp=Z,17nm,1.5s						
CMAR	**Chiang Mai Arr**	**41.11**	**265**	LR	LR	00 22 56.7	
	comp=Z,21nm,19.6s,baz=115,slow=38						
SHL	**Shillong**	**44.97**	**278**	P	**P**	**00 05 21.1**	**-0.3**
KULM	**Kulim**	**46.06**	**248**	P	**P**	**00 05 30.9**	**+1.0**
ZAA0	**Zalesovo Array**	**48.48**	**318**	P	**P**	**00 05 47.8**	**-0.5**
ZAA0				IAmb	IAmb	00 05 49.7	
	comp=Z,5.3nm,1.4s						
ZALV	**Zalesovo Beam**	**48.48**	**318**	P	**P**	**00 05 49.1**	**+0.9**
	comp=Z,1.3nm,0.4s,baz=94,slow=7.5,SNR=5.7						
ZALV	**Zalesovo Beam**	**48.48**	**318**	P	**P**	**00 05 47.7**	**-0.5**
WB0	**Warramunga Arr**	**48.91**	**190**	P	**P**	**00 05 50.6**	**-1.2**
WB2	**Warramunga Arr**	**49.09**	**190**	P	**P**	**00 05 52.1**	**-1.1**
WRA	**Warramunga Arr**	**49.09**	**190**	P	**P**	**00 05 52.2**	**-1.0**
	comp=Z,6.1nm,0.5s,baz=13,slow=8.7,SNR=14						
WRA	**Warramunga Arr**	**49.09**	**190**	P	**P**	**00 05 51.6**	**-1.7**
RAMN	**Ramite**	**49.16**	**282**	*e*P	**P**	**00 05 54.0**	**-0.2**
JIRN	**Jiri**	**49.32**	**283**	*e*P	**P**	**00 05 55.7**	**+0.2**
	comp=Z,32nm,0.8s						
FITZ	**Fitzroy Crossi**	**49.40**	**201**	P	**P**	**00 05 55.2**	**-0.4**
FITZ				IAmb	IAmb	00 06 02.1	
	comp=Z,12nm,1.2s						
GUN	**Gumba**	**49.52**	**283**	*e*P	**P**	**00 05 56.7**	**-0.3**
MK31	**Makanchi Array**	**49.71**	**309**	P	**P**	**00 05 57.5**	**-0.4**
MKAR	**Makanchi Array**	**49.71**	**309**	P	**P**	**00 05 58.6**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=93,slow=9.8,SNR=15						
MKAR	**Makanchi Array**	**49.71**	**309**	P	**P**	**00 05 57.1**	**-0.8**
MAKZ	**Makanchi**	**49.93**	**309**	P	**P**	**00 05 59.0**	**-0.4**
DANN	**Dangsing**	**51.21**	**285**	*e*P	**P**	**00 06 09.4**	**-0.3**
	comp=Z,24nm,0.7s						
KOLN	**Koldanda**	**51.50**	**284**	*e*P	**P**	**00 06 11.7**	**-0.1**
	comp=Z,20nm,0.9s						
PYUN	**Piuthan**	**51.93**	**285**	*e*P	**P**	**00 06 14.3**	**-0.7**
	comp=Z,30nm,0.6s						
KURK	**Kurchatov**	**52.09**	**314**	P	**P**	**00 06 15.7**	**0.0**
KURK				IAmb	IAmb	00 06 17.9	
	comp=Z,14nm,1.1s						
PRZ	**Przheval'sk**	**52.79**	**303**	P	**P**	**00 06 21.4**	**+0.3**
PRZ				IAmb	IAmb	00 06 23.1	
	comp=Z,6.2nm,0.8s						
KDAK	**Kodiak Island**	**52.80**	**37**	P	**P**	**00 06 20.7**	**-0.1**
	comp=Z,15nm,0.9s,baz=282,slow=9.3,SNR=2.1						
KDAK	**Kodiak Island**	**52.80**	**37**	P	**P**	**00 06 19.7**	**-1.1**
ASAR	**Alice Springs**	**52.81**	**190**	P	**P**	**00 06 20.7**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=3.6,slow=7.0,SNR=3.2						
IMAR	**Indian Mountai**	**53.38**	**27**	P	**P**	**00 06 25.1**	**+0.2**
BOOM	**Boomskoye usch**	**54.59**	**304**	P	**P**	**00 06 34.4**	**+0.1**
ILAR	**Eielson Array**	**56.06**	**29**	P	**P**	**00 06 44.8**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=262,slow=6.5,SNR=5.3						
ILAR	**Eielson Array**	**56.06**	**29**	P	**P**	**00 06 44.5**	**+0.1**
BRVK	**Borovoye**	**57.13**	**317**	P	**P**	**00 06 53.0**	**+0.8**
BRVK				IAmb	IAmb	00 06 54.0	
	comp=Z,3.8nm,0.6s						
KK31	**Karatay Array**	**58.42**	**305**	P	**P**	**00 07 01.6**	**+0.2**
KK31				IAmb	IAmb	00 07 03.3	
	comp=Z,4.3nm,0.8s						
KKAR	**Karatay Array**	**58.42**	**305**	P	**P**	**00 07 01.4**	**0.0**
KKAR	**Karatay Array**	**58.42**	**305**	P	**P**	**00 07 01.8**	**+0.4**
KKAR				IAmb	IAmb	00 07 03.3	
	comp=Z,4.3nm,0.8s						
CHGR	**Chuyangaron**	**60.42**	**300**	P	**P**	**00 07 15.6**	**+0.2**
INK	**Inuvik**	**61.35**	**25**	P	**P**	**00 07 21.4**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=273,slow=7.1,SNR=3.4						
INK	**Inuvik**	**61.35**	**25**	P	**P**	**00 07 20.8**	**-0.2**
INK				IAmb	IAmb	00 07 38.2	
	comp=Z,3.2nm,1.1s						
ARU	**Arti**	**63.34**	**322**	P	**P**	**00 07 34.9**	**+0.3**
ARU				IAmb	IAmb	00 07 36.0	
	comp=Z,9.5nm,1.2s						
ABKAR	**Akbulak array**	**64.20**	**314**	P	**P**	**00 07 40.8**	**+0.4**
YKA	**Yellowknife Ar**	**70.49**	**29**	P	**P**	**00 08 20.2**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=282,slow=5.2,SNR=4.9						
FINES	**FINESS Array B**	**76.61**	**334**	P	**P**	**00 08 57.0**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=106,slow=4.8,SNR=4.2						
FINES	**FINESS Array B**	**76.61**	**334**	P	**P**	**00 08 56.3**	**+0.4**
KBZ	**Khabaz**	**77.14**	**313**	P	**P**	**00 09 00.6**	**+1.3**
	comp=Z,1.5nm,0.5s,baz=113,slow=3.2,SNR=7.5						
NC204	**NORSAR Array S**	**82.16**	**339**	P	**P**	**00 09 26.1**	**-0.2**
NB2	**NORSAR Subarra**	**82.19**	**338**	P	**P**	**00 09 26.0**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=41,slow=5.3						
NOA	**NORSAR Array B**	**82.19**	**338**	P	**P**	**00 09 26.7**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=48,slow=4.7,SNR=4.4						
BR131	**Keskin Array S**	**85.14**	**313**	P	**P**	**00 09 42.5**	**+0.4**
BR131				IAmb	IAmb	00 09 46.1	
	comp=Z,2.9nm,1.0s						
BRTR	**Keskin Array B**	**85.14**	**313**	P	**P**	**00 09 43.3**	**+1.2**
	comp=Z,1.5nm,0.7s,baz=105,slow=4.3,SNR=13						
BRTR	**Keskin Array B**	**85.14**	**313**	P	**P**	**00 09 42.9**	**+0.8**
LPAZ	**La Paz**	**149.10**	**73**	PKPbc	**PKPbc**	**00 16 54.9**	**-0.4**
	comp=Z,1.1nm,0.9s,baz=288,slow=6.4,SNR=2.5						

MOS ***17*** *00:11:41.9±0.8,36°.70N×70°.98E,h250km,mb4.4/31,Error ellipse: s-maj=7.4km s-min=3.7km az=77.5*
NEIC ***17*** *00:11:43.0±1.7,36°.68N±0°.06×70°.98E±0°.09,h248km±5km, mb4.4/55,Error ellipse: s-maj=10.2km s-min=8.4km az=97.0*
BJI ***17*** *00:11:43.0±0.0,36°.78N×71°.16E,h221km,mB4.6/9, mb4.6/13*
IDC ***17*** *00:11:44.1±2.0,36°.64N×71°.01E,h262km±20km,mb3.8/22, mb1 3.9/29,mb1mx3.8/46,mbtmp4.5/29,Error ellipse: s-maj=11.7km s-min=9.4km az=177.0*
NNC ***17*** *00:11:46.0±3.2,37°.08N×70°.70E,h238km±48km,mb3.8, mpv5.0,Error ellipse: s-maj=37.3km s-min=16.1km az=165.0*

ISC 17 00:11:43.1±0.3,36.70N±0°.04×70.95E±0°.04,h250km,n275, σ1s40/310,mb4.3/64,26C-15D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.35**	**348**	Pn	**Pn**	**00 12 29.2**	**+0.1**
GAR				S	**S**	**00 13 02.5**	**-2.8**
CHGR	**Chuyangaron**	**2.42**	**325**	Pn	**Pn**	**00 12 29.4**	**-0.2**
CHGR				S	**S**	**00 13 03.5**	**-2.8**
KBL	**Kabul**	**2.65**	**216**	PN	**Pn**	**00 12 31.9**	**-0.4**
KBL				S	**S**	**00 13 08.9**	**-2.1**
KBL	**Kabul**	**2.65**	**216**	Pn	**Pn**	**00 12 31.9**	**-0.4**
KBL				S	**S**	**00 13 08.9**	**-2.1**
CEP	**Cherat**	**2.97**	**164**	P	**Pn**	**00 12 35.6**	**0.0**
BTK	**Batken**	**3.36**	**358**	PN	**Pn**	**00 12 40.4**	**+0.8**
BTK				S	**S**	**00 13 23.7**	**-0.7**
BTK	**Batken**	**3.36**	**358**	Pn	**Pn**	**00 12 40.4**	**+0.8**
BTK				S	**S**	**00 13 23.7**	**-0.7**
CHCP	**Chirah Chowk**	**3.58**	**147**	P	**Pn**	**00 12 42.1**	**-0.1**
NIL	**Nilore**	**3.58**	**147**	Pn	**Pn**	**00 12 42.4**	**+0.2**
NIL				S	**S**	**00 13 27.3**	**-1.7**
THW	**Thamme Wali**	**3.95**	**170**	P	**Pn**	**00 12 46.1**	**-0.4**
TAS	**Tashkent**	**4.80**	**345**	PN	**Pn**	**00 12 56.7**	**+0.3**
TAS	**Tashkent**	**4.80**	**345**	Pn	**Pn**	**00 12 56.7**	**+0.3**
KSH	**Kashi**	**4.86**	**53**	P	Pn	00 12 52.0	-5.3
KSH				S	S	00 13 40.0	-16
KSH				smax	smax		
	comp=N,1µm,0.3s						
KSH				smax	smax		
	comp=E,1µm,0.6s						
ARSB	**Arslanbob**	**4.88**	**18**	PN	**Pn**	**00 12 56.9**	**-0.7**
ARSB	**Arslanbob**	**4.88**	**18**		**Pn**	**00 12 56.9**	**-0.7**
SARP	**Sargodha**	**4.97**	**163**	P	**Pn**	**00 12 57.9**	**-0.8**
JMU	**Jammu**	**5.14**	**139**	*e*P	**Pn**	**00 13 02.0**	**+1.4**
JMU				*e*S	S	00 13 47.5	-15
IUG	**luzhnay**	**5.49**	**353**	⇓*i*P	**Pn**	**00 13 05.2**	**+0.3**
	61nm,0.5s,baz=352						
IUG				*e*S	**S**	**00 14 10.2**	**-0.1**
	baz=352						
IUG				*i* S	S	00 14 10.2	-0.1
	baz=352						
IUG	**luzhnay**	**5.49**	**353**	*d i*PN	**Pn**	**00 13 05.2**	**+0.3**
IUG				*e*S	**S**	**00 14 10.1**	**-0.1**
IUG				pmax	pmax		
	comp=Z,61nm,0.5s						
THN	**Thein Dam**	**5.79**	**136**	*e*P	**Pn**	**00 13 07.5**	**-1.2**
THN				*ex*	x	00 14 13.3	
AML	**Almayashu**	**5.83**	**21**	P	**Pn**	**00 13 08.8**	**-0.6**
	SNR=241						
UCH	**Uchtor**	**6.17**	**25**	P	**Pn**	**00 13 13.3**	**-0.5**
	SNR=140						
DZA	**Taraz**	**6.19**	**3**	⇓*i*P	**Pn**	**00 13 13.4**	**-0.2**
	baz=2.1						
DZA	**Taraz**	**6.19**	**3**	*d i*PN	**Pn**	**00 13 13.4**	**-0.2**
DHRM	**DHARAMSHALA**	**6.26**	**134**	*e*P	**Pn**	**00 13 14.3**	**-0.6**
DHRM				*ex*	x	00 14 24.4	
KZA	**Kyzart**	**6.32**	**30**	P	**Pn**	**00 13 14.9**	**-0.7**
	SNR=29						
EKS2	**Erkin-Say**	**6.34**	**19**	P	**Pn**	**00 13 16.0**	**+0.4**
	SNR=26						
BRLS	**Borolday**	**6.38**	**353**	*e*P	**Pn**	**00 13 12.4**	**-3.6**
	comp=Z,26nm,0.8s,baz=351						
BRLS	**Borolday**	**6.38**	**353**	*e*PN	**Pn**	**00 13 12.3**	**-3.6**
BRLS				pmax	pmax		
	comp=Z,26nm,0.8s						
KK31	**Karatay Array**	**6.41**	**357**	P	**Pn**	**00 13 15.8**	**-0.4**
	comp=Z,175nm,0.7s,baz=177,slow=11,SNR=1469						
KK31				⇑S	**S**	**00 14 24.8**	**-6.1**
	comp=Z,35nm,0.5s,baz=185,slow=21,SNR=4.1						
KK31	**Karatay Array**	**6.41**	**357**	*i* PN	**Pn**	**00 13 15.8**	**-0.4**
KK31	**Karatay Array**	**6.41**	**357**	Pn	**Pn**	**00 13 15.9**	**-0.4**
KKAR	**Karatay Array**	**6.41**	**357**	PN	**Pn**	**00 13 15.5**	**-0.8**
KKAR	**Karatay Array**	**6.41**	**357**	Pn	**Pn**	**00 13 15.5**	**-0.8**
KKAR	**Karatay Array**	**6.41**	**357**	Pn	**Pn**	**00 13 15.9**	**-0.4**
AAK	**Ala-Archa**	**6.53**	**24**	P	**Pn**	**00 13 17.8**	**-0.1**
	comp=Z,34nm,0.3s,baz=192,slow=8.1,SNR=122						
AAK				S	**S**	**00 14 31.0**	**-3.0**
	comp=Z,5.8nm,0.3s,baz=326,slow=23,SNR=12						
AAK	**Ala-Archa**	**6.53**	**24**	P	**Pn**	**00 13 17.9**	**-0.1**
	SNR=60						
AAK	**Ala-Archa**	**6.53**	**24**	⇑P	**Pn**	**00 13 17.6**	**-0.4**
	comp=Z,54nm,0.5s						
AAK				⇓S	**S**	**00 14 30.5**	**-3.5**
	comp=Z,185nm,0.8s						
KBK	**Karagaybulak**	**6.70**	**26**	P	**Pn**	**00 13 20.3**	**+0.1**
	SNR=64						
FRU1	**Bishkek**	**6.73**	**24**	PN	**Pn**	**00 13 20.3**	**-0.1**
FRU1	**Bishkek**	**6.73**	**24**		**Pn**	**00 13 20.3**	**-0.1**
ULHL	**Ulahol**	**6.89**	**35**	P	**Pn**	**00 13 22.2**	**-0.4**
	SNR=34						
CHMS	**Chumysh**	**6.94**	**24**	P	**Pn**	**00 13 23.0**	**0.0**
	SNR=17						
BOOM	**Boomskoye usch**	**6.95**	**32**	PN	**Pn**	**00 13 23.1**	**-0.2**
BOOM	**Boomskoye usch**	**6.95**	**32**		**Pn**	**00 13 23.1**	**-0.2**
BHK	**Bhakra**	**6.95**	**138**	*e*P	**Pn**	**00 13 24.0**	**+0.7**
BHK				*e*S	S	00 14 31.2	-12
USP	**Ospenovka**	**7.11**	**21**	P	**Pn**	**00 13 26.9**	**+1.8**
	SNR=6.2						
TKM2	**Tokmak 2**	**7.17**	**29**	P	**Pn**	**00 13 25.9**	**-0.2**
	SNR=12						
TKM2	**Tokmak 2**	**7.17**	**29**	⇓P	**Pn**	**00 13 25.4**	**-0.8**
	comp=Z,65nm,0.7s						
TKM2				⇑S	**S**	**00 14 45.4**	**-3.3**
	comp=Z,112nm,1.0s						
TKM2	**Tokmak 2**	**7.17**	**29**	PN	**Pn**	**00 13 25.3**	**-0.8**
TKM2				S	**S**	**00 14 45.4**	**-3.3**
KDJ	**Kajisay**	**7.26**	**40**	PN	**Pn**	**00 13 26.5**	**-0.7**
KDJ	**Kajisay**	**7.26**	**40**	Pn	**Pn**	**00 13 26.5**	**-0.7**
SGDS	**Sogindy**	**7.31**	**22**	⇓*i*P	**Pn**	**00 13 26.6**	**-1.2**
	comp=Z,12nm,0.5s,baz=21						
SGDS	**Sogindy**	**7.31**	**22**	*d i*PN	**Pn**	**00 13 26.5**	**-1.2**
SGDS				pmax	pmax		
	comp=Z,12nm,0.5s						
HRA	**Herat**	**7.46**	**255**	Pn	**Pn**	**00 13 30.5**	**+0.7**
SMLA	**Simla**	**7.59**	**135**	*e*P	**Pn**	**00 13 30.3**	**-0.9**
SMLA				*e*S	**S**	**00 14 52.3**	**-5.9**
SMLA				IAML		00 14 55.0	
	comp=N,568nm,0.8s						
SMLA				IAML		00 14 56.2	
	comp=E,480nm,0.5s						
MTBS	**Maitube**	**7.68**	**32**	*i* P	**Pn**	**00 13 32.2**	**-0.3**
	baz=31						
MTBS	**Maitube**	**7.68**	**32**	*i* PN	**Pn**	**00 13 32.1**	**-0.3**
TNSS	**Tian-Shan**	**7.83**	**34**	*i* P	**Pn**	**00 13 34.2**	**-0.5**
	baz=34						
TNSS	**Tian-Shan**	**7.83**	**34**	*i* PN	**Pn**	**00 13 34.1**	**-0.5**
AAA	**Alma-Ata**	**7.96**	**33**	*e*P	**Pn**	**00 13 36.0**	**+0.1**
	comp=E,52nm,0.8s,baz=33						
AAA	**Alma-Ata**	**7.96**	**33**	*e*PN	**Pn**	**00 13 35.9**	**+0.1**
AAA				pmax	pmax		
	comp=Z,51nm,0.8s						
MDOK	**Medeo**	**7.98**	**34**	*i* P	**Pn**	**00 13 35.9**	**-0.3**
	baz=34						
MDOK				*e*S	**S**	**00 15 06.8**	**-0.4**
	baz=34						
MDOK	**Medeo**	**7.98**	**34**	⇑P	**Pn**	**00 13 36.0**	**-0.3**
	comp=Z,37nm,0.7s						
MDOK	**Medeo**	**7.98**	**34**	*i* PN	**Pn**	**00 13 35.9**	**-0.3**
MDOK				*e*S	**S**	**00 15 06.8**	**-0.4**
KNDC	**Almaty**	**7.98**	**34**	⇑P	**Pn**	**00 13 36.6**	**+0.4**
	comp=Z,142nm,0.9s						
KNDC	**Almaty**	**7.98**	**34**	PN	**Pn**	**00 13 36.6**	**+0.4**
PRZ	**Przheval'sk**	**8.15**	**43**	PN	**Pn**	**00 13 37.8**	**-0.7**
PRZ	**Przheval'sk**	**8.15**	**43**	Pn	**Pn**	**00 13 37.8**	**-0.7**
KUU	**Kurty**	**8.28**	**28**	*i* P	**Pn**	**00 13 39.1**	**-0.8**
	comp=Z,6.6nm,0.7s,baz=28						
KUU	**Kurty**	**8.28**	**28**	*i* PN	**Pn**	**00 13 39.1**	**-0.8**
KUU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
CHKK	**Chushkaly**	**8.51**	**31**	*i* P	**Pn**	**00 13 41.5**	**-1.3**
	baz=31						
CHKK	**Chushkaly**	**8.51**	**31**	*i* PN	**Pn**	**00 13 41.4**	**-1.3**
SATY	**Saty**	**8.56**	**40**	*e*P	**Pn**	**00 13 42.5**	**-1.1**
	comp=Z,4.3nm,0.8s,baz=40						
SATY				*e*S	**S**	**00 15 19.6**	**-1.1**
	baz=40						
SATY	**Saty**	**8.56**	**40**	*e*PN	**Pn**	**00 13 42.4**	**-1.1**
SATY				*e*S	**S**	**00 15 19.5**	**-1.1**
SATY				pmax	pmax		
	comp=Z,

baz=23
SEM Semipalatinsk 15.26 23 *i* P **P** **00 15 05.6 -0.2**
SEM *e*S **S** **00 17 54.3 +0.1**
SEM pmax pmax
comp=Z,7.0nm,0.8s
GUN Gumba 15.36 121 *e*P **P** **00 15 06.8 -0.5**
comp=Z,64nm,0.5s
JIRN Jiri 15.72 121 *e*P **Pn** **00 15 11.9 -0.5**
comp=Z,77nm,0.4s
BVAR Borovoye Array 16.33 359 P **Pn** **00 15 18.6 -0.3**
comp=Z,1.9nm,0.3s,baz=164,slow=9.8,SNR=60
BVAR S **S** **00 18 14.1 -1.2**
comp=Z,0.2nm,0.3s,baz=166,slow=19,SNR=4.6
BRVK Borovoye 16.37 359 *i* P **Pn** **00 15 18.7 -0.6**
BRVK pmax pmax
comp=Z,17nm,0.8s
BRVK Borovoye 16.37 359 **Pn** **00 15 18.6 -0.7**
BRVK IAmb IAmb 00 15 22.2
comp=Z,18nm,0.8s
RAMN Ramite 16.46 122 *e*P **Pn** **00 15 20.0 -0.9**
comp=Z,40nm,0.5s
AKTO Aktyubinsk 16.59 330 P **Pn** **00 15 21.6 -0.4**
comp=Z,2.6nm,0.3s,baz=138,slow=10,SNR=57
AKTO S **S** **00 18 19.5 -1.0**
comp=Z,0.5nm,0.3s,baz=296,slow=22,SNR=6.5
AKTO Aktyubinsk 16.59 330 ⇑P **Pn** **00 15 21.4 -0.5**
comp=Z,45nm,0.8s
TAPN Taplejung 16.98 119 *e*P **Pn** **00 15 26.3 -0.8**
comp=Z,51nm,0.7s
ODAN Odare 17.06 120 *e*P **Pn** **00 15 27.2 -0.7**
comp=Z,20nm,0.5s
WSAR Wadi Sarin 17.11 222 P **Pn** **00 15 27.8 -0.6**
comp=Z,0.8nm,0.3s,baz=58,slow=6.2,SNR=9.7
UOSS Minazif 17.22 231 P **P** **00 15 27.6 +0.2**
UOSS IAmb IAmb 00 15 32.6
comp=Z,11nm,0.8s
DGZ Jazzator, Alta 17.65 37*c* *i*P **Pn** **00 15 33.2 -1.4**
DGZ pmax pmax
comp=Z,36nm,0.8s
ZAA0 Zalesovo Array 19.75 25 P **P** **00 15 54.1 -0.1**
ZALV Zalesovo Beam 19.75 25 P **P** **00 15 54.2 -0.1**
comp=Z,3.9nm,0.3s,baz=219,slow=12,SNR=52
ZALV S **S** **00 19 20.1 -2.8**
comp=Z,0.2nm,0.3s,baz=210,slow=24,SNR=5.3
ZALV Zalesovo Beam 19.75 25 *i* P **P** **00 15 54.2 -0.1**
ZALV pmax pmax
comp=Z,14nm,0.4s
ZALV Zalesovo Beam 19.75 25 P **P** **00 15 53.9 -0.3**
GROC Groznyy 20.30 296 *e*P **P** **00 16 01.8 +1.5**
GROC *e**SP **sP** **00 17 10.2 -2.2**
GROC *e* 00 20 05.6
GROC pmax pmax
comp=Z,24nm,1.2s
HYB Hyderabad 20.35 159 *i* P **P** **00 16 01.0 0.0**
SHL Shillong 21.03 116 P **P** **00 16 08.0 -0.3**
SHL pmax pmax
comp=Z,13nm,0.8s
SHL Shillong 21.03 116 P **P** **00 16 08.0 -0.3**
SHL IAmb IAmb 00 16 16.7
comp=Z,13nm,0.8s
SVE Sverdlovsk 21.29 344 *e*P **P** **00 16 11.3 +1.1**
SVE pmax pmax
comp=Z,13nm,1.0s
ARU Arti 21.43 341*c* *i*P **P** **00 16 12.5 +0.9**
ARU S **S** **00 19 55.1 +3.3**
ARU pmax pmax
comp=Z,16nm,0.7s
ARU Arti 21.43 341 P **P** **00 16 12.4 +0.9**
ARU IAmb IAmb 00 16 14.7
comp=Z,17nm,0.8s
AKH Akhalkalaki 21.79 291 P **P** **00 16 17.5 +2.2**
AKH pmax pmax
comp=Z,8.0nm,1.1s
AKH Akhalkalaki 21.79 291 P **P** **00 16 17.5 +2.2**
AKH IAmb IAmb 00 16 20.5
comp=Z,8.1nm,1.1s
KBZ Khabaz 22.47 297 P **P** **00 16 22.5 +1.2**
comp=Z,2.0nm,0.7s,baz=176,slow=7.6,SNR=5.7
KBZ Khabaz 22.47 297*ce*P **P** **00 16 24.3 +3.0**
GOF Gofitskoye 22.61 300⇓*e*P **P** **00 16 25.5 +3.0**
GOF pmax pmax
comp=Z,31nm,0.9s
KIV Kislovodsk 22.66 297 *e*P **P** **00 16 24.1 +1.0**
KIV pmax pmax
comp=Z,12nm,1.0s
KIV MLR MLR
comp=Z,31nm,14.0s
GTA Gaotai 22.85 74 P **P** **00 16 26.8 +1.8**
GTA pmax pmax
comp=Z,10.0nm,1.2s
KIRV Kirov 26.04 334 P **P** **00 16 54.5 +1.2**
comp=Z,23nm,0.6s,baz=197,slow=2.4,SNR=7.9
SONM Songino Array 28.26 56 P **P** **00 17 14.3 +1.0**
comp=Z,2.9nm,0.8s,baz=254,slow=9.6,SNR=15
SONM Songino Array 28.26 56 P **P** **00 17 13.5 +0.2**
ULN Ulaanbaatar 28.70 56*ce*P **P** **00 17 18.3 +1.0**
ULN pmax pmax
comp=Z,6.0nm,1.4s
ULN Ulaanbaatar 28.70 56 P **P** **00 17 18.0 +0.7**
BZK Bozkurt 28.90 292 ⇓P P **P** **00 17 11.1 -7.8**
MMAI Mount Meron Ar 29.29 273 P **P** **00 17 24.0 +1.4**
comp=Z,0.6nm,0.5s,baz=82,slow=10,SNR=2.4
MMAI PcP **PcP** **00 20 22.9 +0.4**
comp=Z,1.1nm,0.8s,baz=83,slow=4.8,SNR=4.5
BR131 Keskin Array S 29.33 287 P **P** **00 17 23.9 +0.9**
BR131 pmax pmax
comp=Z,2.0nm,0.8s
BR131 Keskin Array S 29.33 287 P **P** **00 17 23.9 +0.9**
BRTR Keskin Array B 29.33 287 P **P** **00 17 23.9 +0.9**
comp=Z,1.4nm,0.7s,baz=101,slow=8.1,SNR=13
OBN Obninsk 29.76 319*ce*P **P** **00 17 27.1 +0.8**
OBN *e*PP **pP** **00 18 17.6 +1.6**
OBN *e*S **S** **00 21 57.2 -6.3**
OBN pmax pmax
comp=Z,11nm,1.0s
OBN Obninsk 29.76 319 P **P** **00 17 26.7 +0.4**
CMAR Chiang Mai Arr 30.59 119 P **P** **00 17 35.0 +1.0**
comp=Z,0.8nm,0.3s,baz=302,slow=8.6,SNR=5.1
CMAR Chiang Mai Arr 30.59 119*ce*P **P** **00 17 36.2 +2.2**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
KLMR Klimovskoe 31.29 331 *e*P **P** **00 17 38.7 -0.9**
KLMR pmax pmax
comp=Z,20nm,1.1s
KLMR Klimovskoe 31.29 331 *e*P **P** **00 17 38.8 -0.9**
KLMR AMP 00 17 40.9
comp=Z,20nm,1.1s
GYA Guiyang 31.94 98 *e*P **P** **00 17 49.8 +3.9**
GYA pmax pmax
comp=Z,10.0nm,0.8s
ELL Elmali 32.71 283 P **P** **00 17 53.4 +0.9**
ELL pmax pmax
comp=Z,25nm,0.7s
ELL Elmali 32.71 283 P **P** **00 17 53.4 +0.9**
AKASG Malin Array Be 32.79 309 P **P** **00 17 52.2 -0.6**
comp=Z,0.6nm,0.3s,baz=85,slow=7.2,SNR=7.4
AKASG Malin Array Be 32.79 309*ce*P **P** **00 17 53.2 +0.4**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 32.79 309 P **P** **00 17 52.9 +0.1**
AKBB Malin Array Si 32.79 309*ce*P **P** **00 17 53.8 +1.0**
CFR Carcaliu 33.11 298 ⇓P **P** **00 17 56.8 +1.2**
NRIK Noril'sk 33.94 10 P **P** **00 18 04.0 +1.6**
comp=Z,12nm,0.6s,baz=213,slow=6.1,SNR=13
NRIK Noril'sk 33.94 10⇑*e*P **P** **00 18 04.1 +1.6**
NRIK pmax pmax
comp=Z,13nm,0.7s
MLR Muntele Rosu 34.65 299 ⇑P **P** **00 18 11.3 +2.3**
MLR Muntele Rosu 34.65 299 P **P** **00 18 10.7 +1.7**
MLR pmax pmax
comp=Z,5.0nm,1.0s
MLR Muntele Rosu 34.65 299 P **P** **00 18 10.7 +1.7**
BURAR Bucovina Array 35.14 303 ⇓P **P** **00 18 14.7 +1.5**
BURAR Bucovina Array 35.14 303 P **P** **00 18 12.7 -0.5**
BOD Bodaibo 35.23 39 *e*P **P** **00 18 12.1 -1.5**
BOD pmax pmax
comp=Z,5.0nm,1.2s
SANT Santorini 36.28 283 ⇑P P 00 18 10.5 -12
DRGR 36.86 301 ⇑P **P** **00 18 29.7 +2.0**
KWP Kalwaria Pacla 36.86 306 P **P** **00 18 29.1 +1.5**
KWP pmax pmax
comp=Z,8.0nm,1.2s
KWP Kalwaria Pacla 36.86 306 P **P** **00 18 29.1 +1.5**
KWP IAmb IAmb 00 18 30.0
comp=Z,8.4nm,1.2s

IDI Anoyia 37.02 282 ⇓P **P** **00 18 29.5 +0.3**
IDI Anoyia 37.02 282 P **P** **00 18 29.2 +0.1**
IDI IAmb IAmb 00 18 34.2
comp=Z,8.7nm,1.2s
LVZ Lovozero 37.26 338 P **P** **00 18 30.7 0.0**
LVZ pmax pmax
comp=Z,22nm,1.2s
LVZ Lovozero 37.26 338 P **P** **00 18 30.7 0.0**
LVZ IAmb IAmb 00 18 41.1
comp=Z,22nm,1.2s
FIA1 FINESS Array S 37.30 326 P **P** **00 18 31.0 0.0**
FIA1 IAmb IAmb 00 18 33.4
comp=Z,12nm,0.9s
FINES FINESS Array B 37.30 326 P **P** **00 18 31.9 +0.8**
comp=Z,16nm,1.0s,baz=118,slow=8.9,SNR=32
FINES FINESS Array B 37.30 326 *i* P **P** **00 18 31.8 +0.8**
FINES pmax pmax
comp=Z,17nm,1.0s
FINES FINESS Array B 37.30 326 P **P** **00 18 31.1 +0.1**
LHMI Lhok Sumawe 39.35 136 P **P** **00 18 48.3 -0.4**
KEV Kevo 40.60 338 P **P** **00 18 58.9 +0.7**
KEV pmax pmax
comp=Z,17nm,1.2s
KEV Kevo 40.60 338 P **P** **00 18 58.9 +0.7**
KEV IAmb IAmb 00 19 10.9
comp=Z,18nm,1.2s
ARCES ARCESS Array B 40.95 338 P **P** **00 19 02.1 +1.0**
comp=Z,8.0nm,0.6s,baz=113,slow=8.1,SNR=55
ARE0 ARCESS Array S 40.95 338 P **P** **00 19 02.0 +0.9**
GERES GERESS Array B 42.78 305 PcP **PcP** **00 21 00.4 -2.3**
comp=Z,0.1nm,0.4s,baz=101,slow=4.1,SNR=4.9
YAK Yakutsk 43.83 36⇑*e*P **P** **00 19 24.7 +0.4**
YAK pmax pmax
comp=Z,13nm,0.6s
NC405 NORSAR Array S 43.96 323 P **P** **00 19 25.8 +0.4**
NC405 IAmb IAmb 00 19 26.8
comp=Z,21nm,1.0s
NORES NORESS Array B 44.01 323 P **P** **00 19 25.7 0.0**
NORES pmax pmax
comp=Z,1.0nm,0.3s
NC303 NORSAR Array S 44.14 323 P **P** **00 19 27.3 +0.5**
NB2 NORSAR Subarra 44.20 323 P **P** **00 19 27.5 +0.2**
comp=Z,3.7nm,0.8s,baz=94,slow=7.9
NOA NORSAR Array B 44.20 323 P **P** **00 19 27.3 0.0**
comp=Z,4.8nm,0.7s,baz=96,slow=7.7,SNR=24
TIXI Tiksi 45.61 22*ce*P **P** **00 19 38.6 +0.5**
TIXI pmax pmax
comp=Z,10.0nm,0.8s
TIXI Tiksi 45.61 22 P **P** **00 19 38.5 +0.4**
TIXI IAmb IAmb 00 19 39.5
comp=Z,10nm,0.8s
SPA0 Spitsbergen Ar 47.29 347 P **P** **00 19 52.5 +1.4**
SPA0 IAmb IAmb 00 20 00.8
comp=Z,29nm,1.1s
KBS Kingsbay 48.41 347*ce*P **P** **00 20 00.8 +1.2**
KBS pmax pmax
comp=Z,32nm,1.7s
KEST Kesra 48.93 288 P **P** **00 20 05.9 +1.6**
comp=Z,4.0nm,0.8s,baz=5.2,slow=0.9,SNR=6.4
MBAR Mbarara 52.59 234 P **P** **00 20 32.5 +0.7**
MBAR pmax pmax
comp=Z,3.0nm,0.7s
MBAR Mbarara 52.59 234 P **P** **00 20 32.5 +0.7**
ESDC Sonseca Array 57.33 298 P **P** **00 21 05.5 +0.2**
comp=Z,1.3nm,0.8s,baz=69,slow=6.9,SNR=8.7
TAM Tamanrasset 57.47 276 P **P** **00 21 06.7 +0.1**
TAM pmax pmax
comp=Z,2.0nm,0.7s
TAM Tamanrasset 57.47 276 P **P** **00 21 06.7 +0.1**
BILL Bilibino 58.45 26*c* *i*P **P** **00 21 13.5 +1.0**
BILL *e*PP **pP** **00 22 11.0 +2.1**
BILL *e* 00 23 23.3
BILL pmax pmax
comp=Z,11nm,1.1s
BILL Bilibino 58.45 26 P **P** **00 21 13.3 +0.8**
BILL IAmb IAmb 00 21 14.6
comp=Z,7.0nm,0.8s
ABPO Ambohimpanom 59.77 206 P **P** **00 21 23.5 +1.2**
ABPO pmax pmax
comp=Z,17nm,1.5s
ABPO Ambohimpanom 59.77 206 P **P** **00 21 23.5 +1.2**
ABPO IAmb IAmb 00 21 31.5
comp=Z,17nm,1.5s
PEA0B Petropavlovsk- 59.86 44 P **P** **00 21 22.1 -0.3**
PEA0B pmax pmax
comp=Z,20nm,1.4s
PEA0B Petropavlovsk- 59.86 44 P **P** **00 21 22.1 -0.3**
PEA0B IAmb IAmb 00 21 34.2
comp=Z,20nm,1.4s
PETK Petropavlovsk- 59.86 44 P **P** **00 21 21.2 -1.2**
comp=Z,1.1nm,0.6s,baz=255,slow=4.5,SNR=3.7
PETK Petropavlovsk- 59.86 44 P **P** **00 21 21.0 -1.4**
SUMG Summit 60.86 341 *i* P **P** **00 21 30.7 +1.4**
comp=Z,16nm,0.8s
SUMG Summit 60.86 341 *i* P **P** **00 21 30.7 +1.4**
SUMG pmax pmax
comp=Z,16nm,0.8s
SUMG Summit 60.86 341 P **P** **00 21 30.4 +1.1**
SUMG IAmb IAmb 00 21 31.2
comp=Z,6.2nm,0.8s
LSZ Lusaka 65.56 226 P **P** **00 22 01.0 +0.5**
LSZ pmax pmax
comp=Z,2.0nm,1.0s
LSZ Lusaka 65.56 226 P **P** **00 22 01.0 +0.5**
TOA0 Torodi Ar. Sit 65.68 269 P **P** **00 22 00.0 -1.2**
TORD Torodi Ar. Bea 65.68 269 P **P** **00 21 59.8 -1.4**
comp=Z,7.9nm,0.6s,baz=49,slow=6.1,SNR=89
TORD Torodi Ar. Bea 65.68 269 P **P** **00 21 59.9 -1.4**
GAMB Gambell 68.35 25 P **P** **00 22 17.2 0.0**
GAMB IAmb IAmb 00 22 29.5
comp=Z,6.9nm,1.3s
TOLK Toolik Lake Re 70.74 15 P **P** **00 22 32.1 +0.3**
IMAR Indian Mountai 72.00 18 P **P** **00 22 39.4 +0.2**
BMAR Burnt Mountain 72.76 14 P **P** **00 22 44.7 +0.9**
INK Inuvik 73.72 9 P **P** **00 22 50.0 +0.8**
INK pmax pmax
comp=Z,18nm,1.2s
INK Inuvik 73.72 9 P **P** **00 22 50.0 +0.8**
TTA Tatalina 73.85 20 P **P** **00 22 50.9 +0.7**
TTA pmax pmax
comp=Z,3.0nm,0.8s
TTA Tatalina 73.85 20 P **P** **00 22 50.9 +0.7**
BPAW Bear Paw Mtn. 74.22 18 P **P** **00 22 52.4 +0.1**
BPAW IAmb IAmb 00 22 53.8
comp=Z,4.4nm,0.8s
COLA College 74.30 16 P **P** **00 22 53.1 +0.4**
COLA College 74.30 16 P **P** **00 22 53.1 +0.4**
WRH Wood River Hil 74.59 16 P **P** **00 22 54.8 +0.4**
ILAR Eielson Array 74.60 16 P **P** **00 22 54.3 -0.1**
comp=Z,3.5nm,0.9s,baz=315,slow=5.0,SNR=25
ILAR Eielson Array 74.60 16 P **P** **00 22 54.0 -0.4**
DBIC Dimbokro 74.66 267 P **P** **00 22 54.3 -1.3**
comp=Z,6.3nm,0.9s,baz=17,slow=8.9,SNR=5.0
DBIC Dimbokro 74.66 267 P **P** **00 22 54.3 -1.3**
DBIC pmax pmax
comp=Z,25nm,1.5s
DBIC Dimbokro 74.66 267 P **P** **00 22 54.3 -1.3**
LBTB Lobatse 74.80 222 P **P** **00 22 56.6 +0.4**
LBTB pmax pmax
comp=Z,4.0nm,0.9s
LBTB Lobatse 74.80 222 P **P** **00 22 56.6 +0.4**
PPLA Purkeypile 74.91 19 P **P** **00 22 56.8 +0.3**
PPLA IAmb IAmb 00 23 06.5
comp=Z,11nm,1.3s
FITZ Fitzroy Crossi 75.04 127 P **P** **00 22 56.9 -0.7**
comp=Z,2.6nm,0.8s,baz=238,slow=10,SNR=1.7
RND Reindeer 75.32 17 P **P** **00 22 58.3 -0.3**
RND pmax pmax
comp=Z,4.0nm,0.6s
RND Reindeer 75.32 17 P **P** **00 22 58.3 -0.3**
RND IAmb IAmb 00 22 59.0
comp=Z,4.1nm,0.6s
KNRA Kununurra 75.37 123 P **P** **00 22 58.3 -1.2**
EGAK Eagle 75.77 14 P **P** **00 23 02.3 +1.2**
DHY Denali Highway 75.95 17 P **P** **00 23 02.5 +0.1**
DHY IAmb IAmb 00 23 03.6
comp=Z,8.3nm,0.6s
SML Sawmill 76.81 18 P **P** **00 23 07.3 +0.3**
SCM Sheep Creek Mo 77.03 18 P **P** **00 23 08.6 +0.3**
SCM pmax pmax
comp=Z,10.0nm,0.6s
SCM Sheep Creek Mo 77.03 18 P **P** **00 23 08.6 +0.3**
BCAR Beaver Creek A 77.18 15 P **P** **00 23 10.1 +1.0**
BOSA Boshof 77.87 220 P **P** **00 23 13.0 -0.4**
comp=Z,3.5nm,0.9s,baz=28,slow=10.0,SNR=3.8
BOSA Boshof 77.87 220 P **P** **00 23 13.0 -0.4**
BOSA Boshof 77.87 220 P **P** **00 23 12.9 -0.4**
BOSA IAmb IAmb 00 23 22.3
comp=Z,15nm,1.4s
KDAK Kodiak Island 79.03 22 P **P** **00 23 19.5 +0.3**
KDAK pmax pmax
comp=Z,36nm,1.3s
KDAK Kodiak Island 79.03 22 P **P** **00 23 19.5 +0.3**
HYT Haines Junctio 80.07 14 P **P** **00 23 25.9 +1.0**
HYT IAmb IAmb 00 23 26.9
comp=Z,5.1nm,0.8s
YKA Yellowknife Ar 81.05 3 P **P** **00 23 30.3 +0.4**
comp=Z,3.4nm,0.7s,baz=347,slow=4.8,SNR=53
WRA Warramunga Arr 82.13 122 P **P** **00 23 34.3 -1.9**
comp=Z,3.5nm,0.7s,baz=326,slow=4.6,SNR=8.6
WRA Warramunga Arr 82.13 122 *i* P **P** **00 23 33.7 -2.5**
WRA pmax pmax
comp=Z,4.0nm,0.7s
WRA Warramunga Arr 82.13 122 P **P** **00 23 34.6 -1.6**
WB2 Warramunga Arr 82.14 122 P **P** **00 23 34.6 -1.6**
WB2 IAmb IAmb 00 23 35.1
comp=Z,4.4nm,0.6s
AS31 Alice Springs 84.40 125 P **P** **00 23 46.2 -1.5**
ASAR Alice Springs 84.40 125 P **P** **00 23 46.4 -1.3**
comp=Z,3.5nm,0.6s,baz=310,slow=5.0,SNR=47
PMG Port Moresby 84.70 106 *i* P P 00 23 57.7 +8.4
PLCA Paso Flores 149.85 250 PKPbc **PKPbc** **00 31 03.4 -0.1**
comp=Z,6.0nm,1.0s,baz=139,slow=4.6,SNR=7.7

RSPR ***17*** *00:18:29.6, 19°.37N×68°.10W, h29km±19km, MD3.4/11*
NEIC ***17*** *00:18:31.1±1.7, 19°.25N±0°.05×67°.91W±0°.04, h26km±12km, Error ellipse: s-maj=7.8km s-min=2.5km az=213.0*
OSPL ***17*** *00:18:32.5±0.3, 19°.05N×68°.00W, h0km±7km, ML2.3*
ISC 17 00:18:30.3±1.8, 19°.13N±0°.08×67°.97W±0°.03, h12km±10km, n55, σ0°963/68, 8C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	
						h m s	ISC
PCDR	**Punta Cana, DR**	**0.72**	**213**	⇓*i*P		**Pg**	**00 18 44.0**	**-0.3**
PCDR	**Punta Cana, DR**	**0.72**	**213**	*e*S		**Sn**	**00 18 56.2**	**-1.0**
PCDR	**Punta Cana, DR**	**0.72**	**213**			**Pg**	**00 18 44.0**	**-0.3**
PCDR						**Sn**	**00 18 56.2**	**-1.0**
PCDR	**Punta Cana, DR**	**0.72**	**213**	*i* P		**Pg**	**00 18 44.0**	**-0.3**
PCDR				*e*S		**Sg**	**00 18 52.5**	**-1.2**
PCDR				IAML			00 19 00.3	
	comp=Z,168nm,0.5s							
AGPR	**Aguadilla, PR**	**1.05**	**129**⇑*e*P			**Pb**	**00 18 50.0**	**-0.4**
AGPR	**Aguadilla, PR**	**1.05**	**129**	*e*S		**Sn**	**00 19 05.6**	**+0.3**
AGPR	**Aguadilla, PR**	**1.05**	**129**			**Pb**	**00 18 50.0**	**-0.4**
AGPR						**Sn**	**00 19 05.6**	**+0.3**
MPR	**Mayaguez**	**1.20**	**139**	Pn		**Pg**	**00 18 53.4**	**0.0**
MPR	**Mayaguez**	**1.20**	**139**	*i* P		**Pg**	**00 18 53.5**	**0.0**
MPR				*e*S		**Sn**	**00 19 08.8**	**-0.3**
MPR				IAML			00 19 13.2	
	comp=Z,60nm,0.3s							
LSP	**Las Mesas**	**1.26**	**138**⇑*e*P			**Pn**	**00 18 53.6**	**-0.2**
LSP	**Las Mesas**	**1.26**	**138**	*e*S		**Sg**	**00 19 12.2**	**+1.1**
LSP	**Las Mesas**	**1.26**	**138**			**Pn**	**00 18 53.6**	**-0.2**
LSP						**Sg**	**00 19 12.2**	**+1.1**
DR12	**Loma Pena Alta**	**1.37**	**256**			**Pn**	**00 18 54.9**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.38**	**144**⇓*e*P			**Pn**	**00 18 55.3**	**-0.1**
CRPR				*e*S		**Sg**	**00 19 15.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.38**	**144**			**Pn**	**00 18 55.3**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.38**	**144**			**Sg**	**00 19 15.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.38**	**144**			**Pb**	**00 18 56.4**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.38**	**144**			**Sg**	**00 19 15.5**	**+0.7**
AOPR	**Arecibo Observ**	**1.39**	**124**⇓*e*P			**Pn**	**00 18 55.2**	**-0.4**
AOPR	**Arecibo Observ**	**1.39**	**124**	*e*S		**Sb**	**00 19 14.5**	**+0.5**
AOPR	**Arecibo Observ**	**1.39**	**124**			**Pn**	**00 18 55.2**	**-0.4**
AOPR						**Sb**	**00 19 14.5**	**+0.5**
MLPR	**Magueyes Islan**	**1.45**	**142**⇑*e*P			**Pn**	**00 18 56.3**	**0.0**
MLPR	**Magueyes Islan**	**1.45**	**142**	*e*S		**Sb**	**00 19 16.3**	**+0.8**
MLPR	**Magueyes Islan**	**1.45**	**142**			**Pn**	**00 18 56.3**	**0.0**
MLPR						**Sb**	**00 19 16.3**	**+0.8**
EMPR	**Esperanza - Ma**	**1.51**	**115**⇑*e*P			**Pn**	**00 18 56.2**	**-0.9**
EMPR	**Esperanza - Ma**	**1.51**	**115**	*e*S		**Sb**	**00 19 17.4**	**0.0**
EMPR	**Esperanza - Ma**	**1.51**	**115**			**Sb**	**00 19 17.4**	**0.0**
EMPR	**Esperanza - Ma**	**1.51**	**115**			**Pn**	**00 18 57.4**	**+0.2**
OBIP	**Obispado Ponce**	**1.69**	**129**⇓*e*P			**Pn**	**00 18 59.2**	**-0.3**
OBIP	**Obispado Ponce**	**1.69**	**129**	*e*S		**Sb**	**00 19 22.0**	**-0.3**
OBIP	**Obispado Ponce**	**1.69**	**129**			**Pn**	**00 18 59.2**	**-0.3**
OBIP						**Sb**	**00 19 22.0**	**-0.3**
ICMP	**Isla Caja de M**	**1.84**	**132**	Pn		**Pn**	**00 19 01.7**	**-0.1**
GCPR	**Guaynabo City**	**1.97**	**114**⇓*e*P			**Pn**	**00 19 02.3**	**-1.1**
GCPR	**Guaynabo City**	**1.97**	**114**	*e*S		**Sn**	**00 19 28.4**	**+0.4**
GCPR	**Guaynabo City**	**1.97**	**114**			**Sn**	**00 19 28.4**	**+0.4**
GCPR	**Guaynabo City**	**1.97**	**114**			**Pn**	**00 19 03.1**	**-0.3**
SJG	**San Juan**	**2.00**	**120**			**Pn**	**00 19 03.9**	**0.0**
IGPR	**InterUniversit**	**2.11**	**123**	*e*S		**Sn**	**00 19 32.1**	**+0.5**
IGPR	**InterUniversit**	**2.11**	**123**⇓*e*P			**Pn**	**00 19 05.2**	**-0.3**
IGPR	**InterUniversit**	**2.11**	**123**			**Sn**	**00 19 32.1**	**+0.5**
IGPR	**InterUniversit**	**2.11**	**123**	Pn		**Pn**	**00 19 05.3**	**-0.1**
CBYP	**Canovanas**	**2.18**	**113**⇑*e*P			**Pn**	**00 19 05.8**	**-0.6**
CBYP				*e*S		**Sn**	**00 19 33.1**	**-0.3**
CBYP	**Canovanas**	**2.18**	**113**⇑*e*P			**Pn**	**00 19 05.4**	**-1.0**
CBYP	**Canovanas**	**2.18**	**113**			**Sn**	**00 19 33.1**	**-0.3**
CBYP	**Canovanas**	**2.18**	**113**			**Pn**	**00 19 05.4**	**-1.0**
CBYP	**Canovanas**	**2.18**	**113**			**Pn**	**00 19 06.3**	**-0.1**
HUMP	**Col San Antoni**	**2.24**	**116**	*e*S		**Sn**	**00 19 34.6**	**-0.1**
HUMP	**Col San Antoni**	**2.24**	**116**⇓*e*P			**Pn**	**00 19 06.8**	**-0.3**
HUMP	**Col San Antoni**	**2.24**	**116**			**Pn**	**00 19 06.8**	**-0.3**
HUMP						**Sn**	**00 19 34.6**	**-0.1**
MTP	**Monte Pirata**	**2.51**	**114**⇓*e*P			**Pn**	**00 19 10.6**	**-0.4**
MTP				*e*S		**Sn**	**00 19 41.5**	**0.0**
MTP	**Monte Pirata**	**2.51**	**114**			**Pn**	**00 19 10.6**	**-0.4**
MTP						**Sn**	**00 19 41.5**	**0.0**
CUPR	**Culebra, Puert**	**2.68**	**107**			**Pn**	**00 19 11.7**	**-1.5**
STVI	**Saint Thomas**	**2.96**	**105**	Pn		**Pn**	**00 19 15.6**	**-1.6**
SDDR	**Presa de Saban**	**3.14**	**268**			**Pn**	**00 19 21.1**	**+1.4**
SDDR	**Presa de Saban**	**3.14**	**268**	*i* P		**Pn**	**00 19 21.0**	**+1.4**
SDDR				IAML			00 20 09.3	
	comp=Z,23nm,1.4s							

IDC 17 00:19:32.2±1.3, 41°.63N×29°.32W, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/33, mbtmpg3.5/5, ML3.6/1, MS2.9/4, Ms1 2.9/4, ms1mx2.6/29, Error ellipse: s-maj=72.2km s-min=24.8km az=25.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
ESDC	**Sonseca Array**	**19.32**	**87**	P		P	00 23 59.2	+0.3
	0.0nm,0.3s,baz=299,slow=12,SNR=3.0							
ESDC					LR	LR	00 30 12.2	
	comp=Z,24nm,19.3s,baz=170,slow=33							
SCHQ	**Schefferville**	**27.89**	**311**	LR	LR	LR	00 35 10.9	
	comp=Z,42nm,20.3s,baz=24,slow=34							
NOA	**NORSAR Array B**	**31.19**	**38**	LR	LR	LR	00 36 31.4	
	comp=Z,9.0nm,19.8s,baz=85,slow=33							
TORD	**Torodi Ar. Bea**	**39.15**	**127**	P		P	00 27 01.4	-0.3
	0.7nm,0.8s,baz=316,slow=7.4,SNR=1.9							
DBIC	**Dimbokro**	**41.05**	**141**	LR	LR	LR	00 42 40.4	
	comp=Z,30nm,18.8s,baz=67,slow=34							
YKA	**Yellowknife Ar**	**52.07**	**324**	P		P	00 28 43.4	+0.1
	0.3nm,0.8s,baz=78,slow=7.0,SNR=2.8							
PDAR	**Pinedale Array**	**57.23**	**300**	P		P	00 29 20.8	-0.6
	0.8nm,0.8s,baz=78,slow=8.4,SNR=5.3							
TXAR	**Lajitas Array**	**60.06**	**284**	P		P	00 29 41.5	+0.4
	0.8nm,0.9s,baz=91,slow=7.5,SNR=4.6							

IDC ***17*** *00:21:47.5±0.5, 2°.74S×141°.35E, h0km, mb4.4/18, mb1 4.6/21, mb1mx4.6/26, mbtmp4.5/21, ML4.7/3, MS3.9/17, Ms1 3.9/17, ms1mx3.7/26, Error ellipse: s-maj=13.1km s-min=8.9km az=28.0*
DJA ***17*** *00:21:50.6±0.3, 3°.5S×4°×14°.1E±°, h10km, M4.8/27, mB5.4/3, mb5.0/27, MLv4.8/7, Mw(mB)4.9/3*
NEIC ***17*** *00:21:50.5±1.3, 2°.77S±0°.06×141°.19E±0°.06, h20km±3km, mb4.9/72, Error ellipse: s-maj=9.4km s-min=8.5km az=177.0*
BJI ***17*** *00:21:51.8±0.0, 2°.76S×141°.63E, h54km, mB5.0/23, mb4.8/37, Ms4.3/9, Ms7 4.1/8*
ISC 17 00:21:52.1±0.3, 2°.80S±0°.05×141°.23E±0°.06, h29km, n184, σ1°856/180, mb4.8/61, MS3.9/16, 1D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res
							h m s	ISC
JAY	**Jayapura**	**0.59**	**299**	Pg		**Pb**	**00 22 01.3**	**-2.8**
	552nm,0.3s,baz=130,slow=6.8,SNR=1225							

JAY Lg Lg 00 22 10.7
JAY LR LR 00 22 36.7
comp=Z,6µm,18.3s,baz=112,slow=72
JAY Jayapura 0.59 299 P **Pb** **00 22 01.3 -2.8**
GENI Genyem 1.08 281 P **Pn** **00 22 09.4 -1.8**
SMPI Sarmi 2.64 288 P **Pn** **00 22 32.8 +0.1**
WAMI Wamena 2.73 247 P **Pn** **00 22 35.6 +1.6**
SRPI Serui, Papua 5.07 280 P **Pn** **00 23 08.7 +2.5**
MMPI Merauke 5.69 188 P **Pn** **00 23 18.5 +3.8**
5.1nm908nm,0.4s
PMG Port Moresby 8.82 138 Pn **Pn** **00 24 00.9 +3.1**
3.0nm,0.3s,baz=338,slow=1.9,SNR=4.9
PMG LR LR 00 28 28.9
comp=Z,868nm,20.3s,baz=32,slow=46
PMG Port Moresby 8.82 138 Pn **Pn** **00 24 01.1 +3.4**
FAKI Fak Fak 8.97 269 P **Pn** **00 24 02.8 +3.0**
FAKI Fak Fak 8.97 269 **Pn** **00 24 01.4 +1.6**
SIJI Sorong 10.14 281 Pn **Pn** **00 24 18.9 +3.1**
2.6nm,0.3s,baz=74,slow=10,SNR=5.3
KRVT Keravat (AS076 10.88 98 Pn Pn 00 24 29.2 +3.2
3.5nm,0.3s,baz=23,slow=20,SNR=1.4
KRVT LR LR 00 27 48.4
comp=Z,429nm,19.7s,baz=274,slow=34
COEN Coen 11.25 170 P **Pn** **00 24 34.5 +3.4**
baz=11,SNR=8.9
COEN Coen 11.25 170 Pn **Pn** **00 24 31.6 +0.5**
KDU Kakadu 13.10 221 P **Pn** **00 24 54.5 -1.8**
baz=13,SNR=42
MTN Manton Dam 14.12 224 P **Pn** **00 25 08.0 -2.2**
baz=14,SNR=17
MTN Manton Dam 14.12 224 **Pn** **00 25 07.8 -2.5**
MTSU Mount Surprise 15.54 169 P **P** **00 25 31.3 -2.1**
baz=16,SNR=16
QIS Mount Isa 17.72 185 P **Pn** **00 25 57.4 +0.6**
baz=18,SNR=7.5
KNRA Kununurra 17.73 223 P **Pn** **00 25 56.5 -0.5**
baz=18,SNR=18
KNRA Kununurra 17.73 223 **Pn** **00 25 56.3 -0.7**
KNRA IAmb IAmb 00 26 06.3
comp=Z,44nm,0.7s
CTA Charters Tower 17.87 164 P **P** **00 25 59.8 +0.6**
comp=Z,0.3nm,0.3s,baz=342,slow=12,SNR=5.1
CTAO Charters Tower 17.87 164 **Pn** **00 25 57.6 -1.1**
WB0 Warramunga Arr 18.14 201 P **Pn** **00 26 01.3 -0.6**
SOEI Soe 18.21 247 P **Pn** **00 26 04.7 +1.7**
comp=Z,109nm,0.9s
SOEI Soe 18.21 247 **P** **00 26 03.4 +0.3**
SOEI IAmb IAmb 00 26 18.0
comp=Z,103nm,0.9s
WR0 Warramunga Arr 18.26 200 P **P** **00 26 02.4 -1.1**
WB2 Warramunga Arr 18.31 201 **P** **00 26 02.8 -1.3**
WB2 IAmb IAmb 00 26 16.6
comp=Z,86nm,1.4s
WRA Warramunga Arr 18.32 201 P **P** **00 26 04.0 -0.1**
comp=Z,4.6nm,0.3s,baz=23,slow=12,SNR=35
WRA S Sn 00 29 17.9 -10
comp=Z,0.3nm,0.3s,baz=16,slow=21,SNR=3.0
WRA LR LR 00 33 47.6
comp=Z,728nm,18.0s,baz=20,slow=39
WRA Warramunga Arr 18.32 201 P **P** **00 26 02.5 -1.6**
WC3 Warramunga Arr 18.32 201 P **P** **00 26 03.5 -0.6**
baz=18
LUWI Luwuk 18.53 275 **P** **00 26 07.0 +0.6**
LUWI IAmb IAmb 00 26 15.0
comp=Z,98nm,1.2s
BATI Baumata 18.93 246 P **P** **00 26 11.0 +0.1**
comp=Z,4.9nm,0.3s,baz=299,slow=22,SNR=2.8
BATI Baumata 18.93 246 P **Pn** **00 26 13.7 +2.0**
comp=Z,58nm,0.9s
MRSI Marisa 19.55 279 P **Pn** **00 26 23.4 +4.3**
PATS Pohnpei 19.56 61 P **Pn** **00 26 18.6 -0.7**
baz=20,SNR=9.3
PATS Pohnpei 19.56 61 P **Pn** **00 26 16.9 -2.4**
PATS IAmb IAmb 00 26 19.5
comp=Z,102nm,1.0s
BNSI Bone 21.14 265 P **P** **00 26 40.6 +5.7**
TTSI Tana Toraja 21.38 269 P **P** **00 26 44.2 +6.7**
SPSI Sidrap Palu 21.45 266 P **P** **00 26 41.9 +3.6**
comp=Z,32nm,1.1s
KAPI Kappang 21.54 263 P **P** **00 26 40.0 +0.8**
comp=Z,6.2nm,0.3s,baz=184,slow=15,SNR=2.3
KAPI LR LR 00 35 24.6
comp=Z,190nm,21.6s,baz=86,slow=38
KAPI Kappang 21.54 263 P **P** **00 26 38.6 -0.6**
MPSI Mapaga 21.55 278 P **P** **00 26 42.3 +3.0**
comp=Z,20nm,1.0s
FITZ Fitzroy Crossi 21.55 224 P **P** **00 26 38.3 -1.0**
baz=21,SNR=8.3
FITZ Fitzroy Crossi 21.55 224 P **P** **00 26 38.3 -1.0**
comp=Z,13nm,0.5s,baz=49,slow=12,SNR=35
FITZ S **S** **00 30 31.2 -5.7**
comp=Z,11nm,0.7s,baz=183,slow=18,SNR=4.4
FITZ LR LR 00 36 24.1
comp=Z,328nm,19.9s,baz=44,slow=40
FITZ Fitzroy Crossi 21.55 224 P **P** **00 26 37.4 -2.0**
AS31 Alice Springs 21.92 198 P **P** **00 26 42.8 -0.5**
ASAR Alice Springs 21.92 198 P **P** **00 26 42.4 -0.9**
comp=Z,5.1nm,0.6s,baz=30,slow=11,SNR=4.0
ASAR S **S** **00 30 44.5 +0.5**
comp=Z,4.9nm,1.1s,baz=15,slow=30,SNR=3.1
ASAR LR LR 00 35 44.4
comp=Z,595nm,19.0s,baz=21,slow=38
ASAR Alice Springs 21.92 198 P **P** **00 26 41.7 -1.6**
QLP Quilpie 23.82 173 P **P** **00 27 03.7 +1.0**
baz=24,SNR=5.8
EIDS Eidsvold 24.36 158 P **P** **00 27 11.0 +3.2**
baz=24,SNR=20
EIDS Eidsvold 24.36 158 P **P** **00 27 08.0 +0.2**
EIDS IAmb IAmb 00 27 19.5
comp=Z,32nm,0.7s
RMQ Roma 24.63 164 P **P** **00 27 13.1 +2.8**
baz=25,SNR=27
WRKA Warakurna 25.38 208 P **P** **00 27 16.1 -0.9**
baz=25,SNR=26
KKM Kota Kinabalu 26.48 289 P **P** **00 27 26.2 -1.0**
KKM IAmb IAmb 00 27 36.6
comp=Z,43nm,1.2s
CMSA Cobar Meteorol 28.89 172 P **P** **00 27 50.1 +1.6**
baz=29,SNR=16
STKA Stephens Creek 28.92 179 P **P** **00 27 50.4 +1.6**
baz=29,SNR=4.3
STKA Stephens Creek 28.92 179 P **P** **00 27 49.5 +0.8**
comp=Z,3.9nm,0.6s,baz=353,slow=8.2,SNR=9.9
STKA LR LR 00 41 37.4
comp=Z,230nm,20.9s,baz=352,slow=41
STKA Stephens Creek 28.92 179 P **P** **00 27 47.9 -0.9**
ARMA Armidale 29.18 161 P **P** **00 27 52.1 +0.9**
ARMA IAmb IAmb 00 28 08.6
comp=Z,22nm,1.4s
SBUM Sibu 29.46 280 P **P** **00 27 52.8 -1.0**
BBOO Buckleboo 30.24 189 P **P** **00 28 01.8 +1.3**
baz=30,SNR=13
BBOO Buckleboo 30.24 189 P **P** **00 27 59.9 -0.6**
BBOO IAmb IAmb 00 28 03.5
comp=Z,8.9nm,0.7s
FORT Forrest 30.48 203 P **P** **00 28 03.0 +0.4**
baz=30,SNR=12
FORT Forrest 30.48 203 P **P** **00 28 01.7 -0.9**
DZM Mont Dzumac 31.09 130 P **P** **00 28 08.4 +0.2**
DZM IAmb IAmb 00 28 19.3
comp=Z,32nm,1.4s
KSM Kuching 31.20 277 P **P** **00 28 07.1 -2.0**
YNG Young 32.04 169 P **P** **00 28 18.1 +1.8**
baz=32,SNR=7.6
MEEK Meekatharra 32.12 220 P **P** **00 28 16.3 -0.8**
baz=32,SNR=14
H11S3 WAKE ISLAND Hy 32.81 49 T T 01 02 48.9
baz=232,slow=75,SNR=1834
H11S2 WAKE ISLAND Hy 32.82 49 T T 01 02 49.6
baz=232,slow=75,SNR=1526
H11S1 WAKE ISLAND Hy 32.83 49 T T 01 02 50.0
baz=232,slow=75,SNR=1092
CAN Canberra 33.15 168 P **P** **00 28 26.3 +0.2**
CAN IAmb IAmb 00 28 35.4
comp=Z,28nm,1.2s
ARPS Mount Arapiles 33.81 179 P **P** **00 28 33.6 +1.9**
baz=34,SNR=8.0
TOO Toolangi 34.82 174 P **P** **00 28 41.1 +0.5**
TOO IAmb IAmb 00 28 55.8
comp=Z,30nm,1.5s
MORW Morawa 35.44 220 P **P** **00 28 45.3 -0.6**
baz=35,SNR=7.2
MORW Morawa 35.44 220 P **P** **00 28 45.2 -0.7**
KASI Kota Agung 36.73 265 P **P** **00 28 59.4 +2.2**
comp=Z,54nm,1.0s
NWAO Narrogin (SRO) 37.47 214 P **P** **00 29 03.2 0.0**

MJAR Matsushiro Arr 39.24 356 P **P** **00 29 15.6 -2.4**
comp=Z,0.8nm,0.5s,baz=183,slow=8.2,SNR=2.7
MJAR LR LR 00 44 27.4
comp=Z,69nm,19.7s,baz=140,slow=35
TAU Tasmania Unive 40.30 173 P **P** **00 29 26.1 -0.7**
TAU IAmb IAmb 00 29 39.8
comp=Z,32nm,1.1s
NJ2 Nanjing 40.65 330 *e*P **P** **00 29 31.0 +1.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
KSRS Korea Array 41.91 344 P **P** **00 29 39.9 -0.2**
comp=Z,2.6nm,0.7s,baz=161,slow=10,SNR=2.6
KSRS LR LR 00 45 14.5
comp=Z,82nm,20.3s,baz=140,slow=34
RPSI Rantau Prapat 42.64 277 P **P** **00 29 44.8 -1.7**
RPSI IAmb IAmb 00 29 46.0
comp=Z,31nm,1.3s
KCSI Kotacane, Aceh 43.88 278 P P 00 30 10.2 +14
GYA Guiyang 44.29 313 *e*P **P** **00 30 01.0 +1.3**
GYA pmax pmax
comp=Z,10.0nm,0.9s
KMI Kunming 46.51 309 ‖P **P** **00 30 21.5 +4.1**
KMI pmax pmax
comp=Z,5.0nm,0.5s
KMI pmax pmax
comp=Z,78nm,5.5s
CMAR Chiang Mai Arr 46.67 299 P **P** **00 30 18.5 -0.1**
comp=Z,1.9nm,0.7s,baz=116,slow=6.5,SNR=7.8
USRK Ussuriysk Ar. 47.52 351 P **P** **00 30 24.7 0.0**
comp=Z,4.4nm,0.8s,baz=184,slow=7.5,SNR=10
USRK LR LR 00 47 05.9
comp=Z,167nm,21.0s,baz=159,slow=32
USRK Ussuriysk Ar. 47.52 351 P **P** **00 30 24.5 -0.2**
XAN Xi'an 47.62 323 P **P** **00 30 26.4 +0.6**
XAN pmax pmax
comp=Z,39nm,0.7s
XAN Xi'an 47.62 323 P **P** **00 30 24.9 -0.9**
XAN IAmb IAmb 00 30 26.4
comp=Z,10nm,0.8s
BKZ Black Stump Fm 48.35 143 P **P** **00 30 30.4 -1.0**
CN2 Changchun 48.51 345 *e*P **P** **00 30 35.0 +2.6**
KHZ Kahutara 48.87 148 P **P** **00 30 34.7 -0.5**
CD2 Chengdu 48.96 316 *e*P **P** **00 30 36.0 -0.2**
LZH Lanzhou 52.09 321 *e*P **P** **00 31 00.9 +1.0**
LZH pP sP 00 31 12.4 0.0
LZH sP pP 00 31 17.3 +8.4
LZH *e*PP **PP** **00 33 01.3 +2.9**
LZH pmax pmax
comp=Z,24nm,1.3s
LZH pmax pmax
comp=Z,86nm,5.6s
LZH LR LR
comp=Z,250nm,15.0s
LZH LR LR
comp=Z,260nm,14.8s
LZH LR LR
comp=Z,380nm,18.1s
GTA Gaotai 56.66 322 P **P** **00 31 33.8 +0.8**
GTA pP sP 00 31 46.9 +1.4
GTA sP pP 00 31 52.3 +10
GTA pmax pmax
comp=Z,16nm,1.0s
GTA pmax pmax
comp=Z,52nm,5.3s
GTA LR LR
comp=Z,64nm,18.7s
GTA LR LR
comp=Z,70nm,17.0s
GTA LR LR
comp=Z,66nm,16.6s
PETK Petropavlovsk- 57.40 12 P **P** **00 31 37.8 -0.1**
comp=Z,3.6nm,0.8s,baz=164,slow=6.9,SNR=7.3
PETK LR LR 00 52 55.8
comp=Z,101nm,21.9s,baz=240,slow=33
LSA Lhasa 57.74 308 P **P** **00 31 41.0 -0.2**
LSA IAmb IAmb 00 31 54.1
comp=Z,5.5nm,0.5s
SONM Songino Array 58.90 333 P **P** **00 31 48.8 +0.2**
comp=Z,0.8nm,0.7s,baz=155,slow=9.6,SNR=4.2
SONM Songino Array 58.90 333 P **P** **00 31 48.2 -0.4**
WMQ Urumqi 66.66 321 *e*P **P** **00 32 41.3 +1.0**
WMQ sP sP 00 32 57.8 +4.9
WMQ pmax pmax
comp=Z,11nm,1.1s
WMQ pmax pmax
comp=Z,46nm,5.1s
WMQ Urumqi 66.66 321 P **P** **00 32 40.5 +0.2**
PPT Papeete 69.33 108 LR LR 01 01 35.4
comp=Z,29nm,18.1s,baz=332,slow=34
MK31 Makanchi Array 71.41 322 P **P** **00 33 09.9 +0.2**
MKAR Makanchi Array 71.41 322 P **P** **00 33 10.1 +0.4**
comp=Z,5.1nm,0.7s,baz=110,slow=8.0,SNR=48
MKAR Makanchi Array 71.41 322 P **P** **00 33 09.9 +0.2**
MAKZ Makanchi 71.61 322 P **P** **00 33 10.9 0.0**
MAKZ IAmb IAmb 00 33 18.2
comp=Z,9.9nm,0.8s
SHLS Shalkode 71.78 317 *e*P **P** **00 33 10.4 -1.8**
comp=Z,4.0nm,1.0s,baz=318
UZB Uzynbulak 72.07 317 *e*P **P** **00 33 13.7 -0.2**
comp=Z,2.3nm,0.8s,baz=317
PRZ Przheval'sk 72.26 316 P **P** **00 33 15.9 +0.8**
PRZ IAmb IAmb 00 33 17.8
comp=Z,15nm,1.1s
SATY Saty 72.46 317 *e*P **P** **00 33 16.0 -0.2**
comp=Z,3.7nm,1.1s,baz=317
BILL Bilibino 72.82 10 P **P** **00 33 17.3 -0.3**
KDJ Kajisay 72.98 316 P **P** **00 33 19.3 -0.1**
TDK Taldyqorghan 73.17 319 *e*P **P** **00 33 20.9 +0.7**
baz=319
ZAA0 Zalesovo Array 73.29 329 P **P** **00 33 20.0 -0.7**
ZAA0 IAmb IAmb 00 33 21.2
comp=Z,6.8nm,0.8s
ZALV Zalesovo Beam 73.29 329 P **P** **00 33 20.2 -0.5**
comp=Z,6.2nm,0.7s,baz=112,slow=5.9,SNR=28
ZALV Zalesovo Beam 73.29 329 P **P** **00 33 19.8 -0.9**
NIL Nilore 73.40 306 P **P** **00 33 21.6 -0.2**
NIL IAmb IAmb 00 33 22.6
comp=Z,9.5nm,0.8s
MDOK Medeo 73.43 317 *i* P **P** **00 33 22.0 0.0**
comp=Z,170nm,4.3s,baz=317
MDOK *e*S **S** **00 42 48.6 -1.1**
baz=317
TNSS Tian-Shan 73.45 316 *e*P **P** **00 33 23.2 +0.8**
baz=316
BOOM Boomskoye usch 73.97 316 P **P** **00 33 25.6 +0.3**
KUU Kurty 74.16 317 *e*P **P** **00 33 26.5 +0.4**
comp=Z,6.2nm,0.9s,baz=317
AAK Ala-Archa 75.03 315 P **P** **00 33 31.4 0.0**
SGDS Sogindy 75.19 316 *e*P **P** **00 33 32.3 +0.1**
comp=Z,1.7nm,0.8s,baz=316
KURK Kurchatov 75.25 324 P **P** **00 33 31.7 -0.5**
KURK IAmb IAmb 00 33 39.2
comp=Z,9.9nm,1.1s
VNDA Vanda 75.48 175 P **P** **00 33 33.5 +0.4**
comp=Z,2.0nm,0.7s,baz=326,slow=7.6,SNR=15
VNDA Vanda 75.48 175 P **P** **00 33 33.0 0.0**
GAR Garm 77.05 311 P **P** **00 33 42.5 -0.4**
GAR IAmb IAmb 00 33 44.0
comp=Z,18nm,1.2s
CHGR Chuyangaron 77.84 310 P **P** **00 33 46.9 -0.4**
CHGR IAmb IAmb 00 34 03.9
comp=Z,14nm,0.9s
KKAR Karatay Array 77.96 315 P **P** **00 33 47.5 -0.3**
KKAR Karatay Array 77.96 315 P **P** **00 33 47.4 -0.4**
KKAR IAmb IAmb 00 33 55.0
comp=Z,3.3nm,1.1s
SVW2 Sparrevohn 79.84 26 P **P** **00 33 57.9 +0.2**
SVW2 IAmb IAmb 00 33 59.5
comp=Z,7.6nm,0.9s
KDAK Kodiak Island 79.92 30 P **P** **00 33 58.0 -0.1**
TTA Tatalina 80.45 24 P **P** **00 34 01.0 0.0**
TTA IAmb IAmb 00 34 02.4
comp=Z,11nm,0.8s
NRIK Noril'sk 80.53 343 P **P** **00 34 00.4 -0.8**
comp=Z,4.1nm,0.7s,baz=128,slow=2.8,SNR=5.2
NRIK LR LR 01 09 57.9
comp=Z,63nm,19.9s,baz=132,slow=36
BRVK Borovoye 80.90 325 P **P** **00 34 03.5 -0.1**
BRVK IAmb IAmb 00 34 10.9
comp=Z,9.5nm,0.8s
PPLA Purkeypile 82.03 25 P **P** **00 34 09.0 -0.5**
PPLA IAmb IAmb 00 34 09.7
comp=Z,8.0nm,0.7s
RC01 Rabbit Creek A 82.46 27 P **P** **00 34 11.1 -0.5**
IMAR Indian Mountai 82.63 22 P **P** **00 34 12.4 0.0**
BPAW Bear Paw Mtn. 82.98 24 P **P** **00 34 14.1 -0.1**

MAW Mawson 82.99 202 P **P** **00 34 14.6 +0.4**
baz=83,SNR=5.6
MAW Mawson 82.99 202 P **P** **00 34 14.5 +0.4**
comp=Z,6.5nm,1.0s,baz=53,slow=7.4,SNR=8.8
MAW LR LR 01 09 05.3
comp=Z,89nm,19.6s,baz=52,slow=34
MAW Mawson 82.99 202 P **P** **00 34 14.4 +0.2**
TRF Thorofare Moun 83.04 25 P **P** **00 34 14.0 -0.8**
TRF IAmb IAmb 00 34 16.1
comp=Z,5.2nm,0.7s
GHO Glory Hole Cre 83.06 27 P **P** **00 34 13.9 -0.9**
SML Sawmill 83.33 27 P **P** **00 34 15.5 -0.7**
RND Reindeer 83.63 25 P **P** **00 34 16.8 -0.9**
MCK McKinley 83.70 25 P **P** **00 34 16.9 -1.1**
SCM Sheep Creek Mo 83.80 27 P **P** **00 34 18.1 -0.5**
DHY Denali Highway 84.16 26 P **P** **00 34 20.2 -0.3**
WRH Wood River Hil 84.30 24 P **P** **00 34 20.2 -0.8**
CCB Clear Creek Bu 84.47 24 P **P** **00 34 20.6 -1.2**
HDA Harding Lake 84.75 24 P **P** **00 34 22.2 -1.0**
HDA IAmb IAmb 00 34 23.3
comp=Z,9.0nm,1.0s
IL31 84.88 24 P **P** **00 34 22.2 -1.6**
IL31 IAmb IAmb 00 34 23.7
comp=Z,9.4nm,0.8s
ILAR Eielson Array 84.88 24 P **P** **00 34 22.2 -1.7**
comp=Z,7.7nm,0.8s,baz=254,slow=5.1,SNR=66
ILAR LR LR 01 07 50.6
comp=Z,53nm,20.8s,baz=260,slow=33
ILAR Eielson Array 84.88 24 P **P** **00 34 22.0 -1.9**
RIDG Independent Ri 85.44 25 P **P** **00 34 26.3 -0.5**
RIDG IAmb IAmb 00 34 27.5
comp=Z,12nm,1.0s
MENT Mentasta 85.72 26 P **P** **00 34 27.8 -0.4**
MENT IAmb IAmb 00 34 29.2
comp=Z,4.8nm,0.8s
GEYT Alibeck 86.27 308 P **P** **00 34 31.7 +0.2**
comp=Z,2.9nm,0.7s,baz=219,slow=1.9,SNR=7.7
GEYT Alibeck 86.27 308 P **P** **00 34 31.3 -0.2**
GYA0B ALIBECK ARRAY 86.27 308 P **P** **00 34 30.6 -0.9**
GYA0B IAmb IAmb 00 34 33.2
comp=Z,3.7nm,0.6s
ABKAR Akbulak array 86.42 320 P **P** **00 34 30.9 -1.0**
BMAR Burnt Mountain 86.55 22 P **P** **00 34 32.4 +0.2**
BCAR Beaver Creek A 86.61 26 P **P** **00 34 32.5 -0.1**
QSPA South Pole Qui 87.14 180 P **P** **00 34 35.2 -0.1**
EGAK Eagle 87.25 25 P **P** **00 34 35.6 0.0**
EGAK IAmb IAmb 00 34 36.8
comp=Z,7.0nm,1.0s
HYT Haines Junctio 88.17 29 P **P** **00 34 40.1 -0.1**
HYT IAmb IAmb 00 34 42.3
comp=Z,7.2nm,1.0s
YKA Yellowknife Ar 99.00 27 P Pdif 00 35 29.5 -0.4
comp=Z,0.5nm,0.7s,baz=273,slow=4.7,SNR=7.1
YKA LR LR 01 15 30.4
comp=Z,82nm,21.8s,baz=0.0,slow=33
NVAR Mina Array Bea 99.94 52 LR LR 01 18 17.2
comp=Z,32nm,18.1s,baz=242,slow=34
GERES GERESS Array B 116.00 324 PKP **PKPdf** **00 40 32.1 -0.4**
comp=Z,0.2nm,0.3s,baz=52,slow=2.2,SNR=4.3
GERES GERESS Array B 116.00 324 **PKiKP** **00 40 32.0 -0.6**
SCHQ Schefferville 123.34 19 PKP **PKiKP** **00 40 45.8 -0.8**
comp=Z,2.1nm,0.9s,baz=340,slow=3.3,SNR=4.2
TORD Torodi Ar. Bea 138.69 287 PKP **PKPdf** **00 41 16.9 +0.5**
comp=Z,0.6nm,0.7s,baz=92,slow=1.4,SNR=4.3
TORD Torodi Ar. Bea 138.69 287 **PKPdf** **00 41 16.0 -0.4**
LPAZ La Paz 145.34 124 PKPbc **PKPdf** **00 41 29.7 +0.6**
comp=Z,2.9nm,0.6s,baz=215,slow=1.7,SNR=6.5
LPAZ La Paz 145.34 124 **PKPdf** **00 41 28.6 -0.5**
RUSC La Rusia 145.66 84 **PKPdf** **00 41 28.1 -1.4**
CPUP Villa Florida 145.93 149 PKPbc **PKPab** **00 41 30.1 0.0**
comp=Z,9.9nm,1.0s,baz=227,slow=3.0,SNR=10
CPUP Villa Florida 145.93 149 **PKPab** **00 41 29.6 -0.5**
DBIC Dimbokro 145.99 278 PKPbc **PKPab** **00 41 30.5 -0.3**
comp=Z,7.9nm,0.9s,baz=340,slow=1.9,SNR=4.9
DBIC Dimbokro 145.99 278 **PKPbc** **00 41 29.8 -0.4**

MAN 17 00:28:33.5, 13°.80N×122°.93E, h31km, mb4.0, ML2.8, MS2.4, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GQP	**Guinayangan**	**0.48**	**283**	⇑*e*P	Pn	00 28 44.7	+0.5
GQP				*e*S	Sb	00 28 49.6	-1.1
BOAC	**Boac**	**1.11**	**253**	*e*P	Pn	00 28 52.1	-0.8
BOAC				*e*S	Sb	00 29 07.8	-0.5
POLP	**Polilio Island**	**1.33**	**314**	*e*P	Pn	00 28 56.7	+0.7
POLP				*e*S	Sn	00 29 12.7	0.0

KEA 17 00:33:36.5±0.0, 44°.75N×123°.90E, h0km, ML3.8/1
BJI 17 00:33:42.2±0.0, 44°.61N×124°.23E, h7km, mB4.0/1, mb4.2/2, ML4.0/14
ISC 17 00:33:41.4±1.3, 44°.91N±0°.07×124°.17E±0°.06, h10km, n12, σ3°.33/20, 2C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CN2	**Changchun**	**1.44**	**140**	*e*Pg	**Pn**	**00 34 05.1**	**-2.4**
CN2				*e*Sg	**Sb**	**00 34 22.5**	**-4.1**
CN2				smax	smax		
	comp=N,2µm,0.6s						
CN2				smax	smax		
	comp=E,2µm,0.6s						
SNY	**Shenyang**	**3.11**	**188**	⇑Pg	**Pn**	**00 34 29.0**	**-1.4**
SNY				Sg	**Sn**	**00 35 09.8**	**+2.2**
SNY				smax	smax		
	comp=N,170nm,0.4s						
SNY				smax	smax		
	comp=E,200nm,0.5s						
MDJ	**Mudanjiang**	**3.88**	**92**	Pg	**Pb**	**00 34 53.3**	**+3.5**
MDJ				Sg	**Sg**	**00 35 45.3**	**-0.4**
MDJ				smax	smax		
	comp=N,330nm,0.7s						
KGE	**Kanggye**	**4.35**	**155**	Pn	**Pn**	**00 34 47.8**	**+0.3**
KGE				Pg	**Pb**	**00 34 55.4**	**-2.5**
KGE				Sn	**Sn**	**00 35 33.4**	**-4.8**
KGE				Sg	**Sb**	**00 35 51.8**	**+1.4**
SUJ	**Sinuiju**	**4.81**	**177**	Pg	**Pb**	**00 35 05.3**	**-0.4**
SUJ				Sg	**Sb**	**00 36 05.7**	**+2.1**
HHU	**Hamhung**	**5.56**	**152**	Sg	**Sb**	**00 36 26.6**	**+1.3**
PYS	**Pyongsong**	**5.79**	**167**	Sg	**Sb**	**00 36 36.3**	**+4.5**
PYAG	**Pyongyang**	**5.97**	**168**	Pg	**Pb**	**00 35 27.0**	**+1.5**
PYAG				Sg	**Sb**	**00 36 42.8**	**+5.8**
WOSN	**Wonsan**	**6.23**	**156**	Sg	**Sb**	**00 36 51.5**	**+7.1**
HJU	**Haeju**	**6.96**	**170**	Sg	Sg	00 37 14.1	-11
WMQ	**Urumqi**	**25.96**	**281**	*e*P	**P**	**00 39 14.3**	**+0.3**
KMI	**Kunming**	**26.27**	**228**	⇑P	**P**	**00 39 16.0**	**-1.1**
KMI				pP	**pP**	**00 39 18.8**	**-1.4**
KMI				pmax	pmax		
	comp=Z,7.0nm,0.5s						

IDC 17 00:57:29.6±1.6, 35°.06S×110°.38W, h0km, mb3.8/1, mb1 4.3/1, mb1mx3.5/25, mbtmpg3.8/1, MS3.7/7, Ms1 3.7/7, ms1mx3.5/17, Error ellipse: s-maj=104.5km s-min=63.3km az=112.0, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**25.91**	**96**	T	T	01 31 10.0	
	baz=258,slow=75,SNR=13						
H03S1	**Juan Fernandez**	**25.93**	**96**	T	T	01 31 07.1	
	baz=258,slow=75,SNR=12						
H03S3	**Juan Fernandez**	**25.93**	**96**	T	T	01 31 04.8	
	baz=258,slow=75,SNR=13						
H03N2	**Juan Fernandez**	**25.99**	**96**	T	T	01 31 11.8	
	baz=248,slow=72,SNR=4.4						
H03N3	**Juan Fernandez**	**25.99**	**96**	T	T	01 31 11.8	
	baz=248,slow=72,SNR=4.4						
H03N1	**Juan Fernandez**	**26.00**	**96**	T	T	01 31 12.3	
	baz=248,slow=72,SNR=5.4						
TBI	**Tubuai**	**35.85**	**278**	*e*LR	LR	01 13 43.5	
	comp=Z,162nm,25.2s						
TBI	**Tubuai**	**35.85**	**278**	*e*T	T	01 41 26.0	
	3.3nm,0.3s						
PPT2	**Papeete2**	**38.91**	**286**	*e*LR	LR	01 14 57.8	
	comp=Z,64nm,28.0s						
PPT	**Papeete**	**38.92**	**286**	LR	LR	01 16 34.8	
	comp=Z,49nm,19.4s,baz=159,slow=29						
LPAZ	**La Paz**	**42.05**	**75**	LR	LR	01 19 03.9	
	comp=Z,53nm,18.4s,baz=248,slow=31						
CPUP	**Villa Florida**	**45.98**	**94**	LR	LR	01 21 49.4	
	comp=Z,89nm,20.1s,baz=227,slow=32						
ROSC	**El Rosal**	**52.20**	**48**	LR	LR	01 24 55.8	

comp=Z,111nm,21.8s,baz=108,slow=32
VNDA Vanda 55.59 195 LR LR 01 24 43.6
comp=Z,60nm,21.4s,baz=238,slow=29
BDFB Brasilia 58.68 88 LR LR 01 31 03.9
comp=Z,63nm,18.3s,baz=351,slow=34
PDAR Pinedale Array 77.46 1 P P 01 09 26.5 -0.3
1.0nm,0.8s,baz=149,slow=6.3,SNR=5.3
STKA Stephens Creek 85.15 234 LR LR 01 41 28.2
comp=Z,75nm,18.1s,baz=206,slow=31
CMAR Chiang Mai Arr 149.19 245 PKPbc PKPbc 01 17 19.4 -1.2
3.6nm,1.0s,baz=170,slow=1.4,SNR=8.5
SONM Songino Array 149.92 306 PKPbc PKiKP 01 17 22.5 -0.1
0.7nm,0.7s,baz=120,slow=0.7,SNR=3.0
BRTR Keskin Array B 151.16 70 PKPbc PKPbc 01 17 24.8 -0.1
0.8nm,1.0s,baz=282,slow=1.3,SNR=4.2

IDC 17 01:23:59.9±2.5, 29°26N×86°52E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.2/46, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=80.2km s-min=28.0km az=71.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.82**	**350**	P	Pn	01 28 09.2	-0.1
	0.1nm,0.3s,baz=165,slow=12,SNR=4.4						
KURBB	**Kurchatov Arra**	**22.18**	**346**	P	P	01 28 57.5	0.0
	1.3nm,0.7s,baz=164,slow=10,SNR=9.3						
SONM	**Songino Array**	**24.08**	**34**	P	P	01 29 17.2	0.0
	1.8nm,0.8s,baz=231,slow=10,SNR=8.1						
ASAR	**Alice Springs**	**69.61**	**134**	P	P	01 35 11.2	0.0
	0.7nm,0.7s,baz=321,slow=7.3,SNR=5.3						

IDC 17 01:27:49.7±3.0, 15°07S×168°12E, h0km, mb4.1/3, mb1 4.1/3, mb1mx3.7/29, mbtmp4.0/3, Error ellipse: s-maj=132.6km s-min=41.3km az=132.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.41**	**231**	P	P	01 33 55.0	+0.1
	1.4nm,0.5s,baz=40,slow=8.7,SNR=4.5						
ASAR	**Alice Springs**	**33.33**	**250**	P	P	01 34 29.6	-0.1
	0.5nm,0.6s,baz=80,slow=9.3,SNR=5.5						
MKAR	**Makanchi Array**	**98.02**	**316**	P	P	01 41 27.7	-0.3
	0.6nm,0.7s,baz=100,slow=6.4,SNR=6.7						
ARCES	**ARCESS Array B**	**120.78**	**346**	PKP	PKPdf	01 46 43.1	-0.2
	0.7nm,0.3s,baz=61,slow=2.3,SNR=9.2						

IDC 17 01:34:09.7±2.7, 4°09S×128°73E, h0km, mb3.6/2, mb1 4.0/3, mb1mx3.5/29, mbtmp3.7/3, ML3.4/1, Error ellipse: s-maj=222.6km s-min=30.7km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.68**	**161**	Pn	Pn	01 38 04.7	-0.4
	0.1nm,0.3s,baz=344,slow=12,SNR=4.7						
ASAR	**Alice Springs**	**20.10**	**166**	P	P	01 38 45.4	+0.2
	4.4nm,0.8s,baz=346,slow=11,SNR=26						
MKAR	**Makanchi Array**	**65.11**	**327**	P	P	01 44 52.4	0.0
	0.3nm,0.7s,baz=140,slow=7.2,SNR=2.9						

*IDC **17** 02:03:23.1±3.0, 4°24S×127°37E, h0km, mb3.8/2, mb1 4.2/3, mb1mx3.7/28, mbtmp4.0/3, ML4.3/1, Error ellipse: s-maj=356.0km s-min=30.0km az=66.0*
*NEIC **17** 02:03:44.7±1.9, 4°78S±0°09×129°7E±0°1, h106km±12km, mb4.1/8, Error ellipse: s-maj=17.6km s-min=10.6km az=120.0*

ISC 17 02:03:43.9±1.3, 4°75S±0°09×129°6E±0°2, h100km, n15, σ0s82/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.18**	**55**	Pn	**Pn**	**02 04 32.7**	**+0.7**
FAKI					**Sn**	**02 05 08.1**	**-1.0**
MTN	**Manton Dam**	**8.18**	**170**	Pn	**Pn**	**02 05 40.1**	**+0.3**
MTN					**Sn**	**02 07 10.9**	**+0.4**
KNRA	**Kununurra**	**10.89**	**184**	Pn	**Pn**	**02 06 17.0**	**+0.3**
WB0	**Warramunga Arr**	**15.63**	**163**	Pn	**Pn**	**02 07 18.7**	**+0.1**
WB0				IAmb	IAmb	02 07 23.0	
	comp=Z,7.1nm,0.8s						
WRA	**Warramunga Arr**	**15.78**	**164**	Pn	**Pn**	**02 07 21.5**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=331,slow=12,SNR=16						
WRA	**Warramunga Arr**	**15.78**	**164**	P	**Pn**	**02 07 20.9**	**+0.4**
WB2	**Warramunga Arr**	**15.78**	**163**		**Pn**	**02 07 21.1**	**+0.6**
WB2				IAmb	IAmb	02 07 24.8	
	comp=Z,6.2nm,0.8s						
COEN	**Coen**	**16.18**	**125**	Pn	**Pn**	**02 07 24.8**	**-0.6**
PSA00	**Pilbara Seismi**	**19.23**	**209**	P	**P**	**02 07 59.3**	**-1.0**
PSA00				IAmb	IAmb	02 08 00.6	
	comp=Z,11nm,1.0s						
AS31	**Alice Springs**	**19.25**	**168**	P	**P**	**02 08 01.5**	**+1.0**
AS31				IAmb	IAmb	02 08 02.4	
	comp=Z,9.1nm,0.3s						
ASAR	**Alice Springs**	**19.25**	**168**	P	**P**	**02 08 01.5**	**+1.0**
	comp=Z,7.1nm,0.4s,baz=348,slow=11,SNR=112						
ASAR	**Alice Springs**	**19.25**	**168**	P	**P**	**02 08 01.1**	**+0.6**
BBOO	**Buckleboo**	**28.55**	**169**	P	**P**	**02 09 29.1**	**-1.3**
BBOO				IAmb	IAmb	02 09 39.9	
	comp=Z,6.5nm,1.1s						
JHJ2	**Mitsune**	**38.87**	**14**	P	**P**	**02 11 00.0**	**+0.5**
MKAR	**Makanchi Array**	**66.16**	**326**	P	P	02 14 01.8	-19
	comp=Z,0.2nm,0.8s,baz=132,slow=8.0,SNR=1.9						

IDC 17 02:26:03.3±1.6, 2°74S×141°39E, h0km, mb3.5/4, mb1 3.9/5, mb1mx3.6/25, mbtmp3.6/5, ML4.0/1, Error ellipse: s-maj=65.5km s-min=25.3km az=107.0, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.43**	**201**	P	Pn	02 30 20.4	-0.1
	0.5nm,0.3s,baz=23,slow=12,SNR=8.7						
FITZ	**Fitzroy Crossi**	**21.71**	**224**	P	P	02 30 55.5	-0.7
	2.6nm,0.7s,baz=39,slow=13,SNR=1.1						
ASAR	**Alice Springs**	**22.03**	**199**	P	P	02 30 59.5	-0.2
	0.6nm,0.4s,baz=26,slow=11,SNR=8.1						
H11S3	**WAKE ISLAND Hy**	**32.65**	**49**	T	T	03 07 05.1	
	baz=232,slow=75,SNR=480						
H11S2	**WAKE ISLAND Hy**	**32.66**	**49**	T	T	03 07 05.9	
	baz=232,slow=75,SNR=264						
H11S1	**WAKE ISLAND Hy**	**32.66**	**49**	T	T	03 07 06.4	
	baz=232,slow=75,SNR=117						
MKAR	**Makanchi Array**	**71.46**	**322**	P	P	02 37 26.6	+0.8
	0.3nm,0.7s,baz=119,slow=4.7,SNR=3.4						
ILAR	**Eielson Array**	**84.76**	**24**	P	P	02 38 38.9	-0.4
	0.6nm,0.8s,baz=236,slow=6.1,SNR=4.5						

*ISK **17** 02:33:17.8, 34°93N×33°88E, h69km±2km, ML2.5/16*
*NIC **17** 02:33:20.5±0.0, 35°01N×33°90E, h52km±1km, Ml2.6/6*
*GII **17** 02:33:20.2±0.0, 35°01N×33°97E, h30km*
*DDA **17** 02:33:22.7, 35°32N×33°58E, h7km±1km, ML1.9*

ISC 17 02:33:19.7±1.2, 35°03N±0°03×33°90E±0°04, h60km±7km, n40, σ1s28/63, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.12**	**108**	P	**Pn**	**02 33 29.0**	**+0.2**
PARAL				AML	AML	02 33 39.9	
	0.7nm,0.3s						
PARAL				AML	AML	02 33 41.7	
	0.8nm,0.4s						
MVOU	**Mavrovouni**	**0.22**	**265**	P	**Pn**	**02 33 29.1**	**-0.2**
MVOU				AML	AML	02 33 35.7	
	3.5nm,0.7s						
MVOU				AML	AML	02 33 35.7	
	3.5nm,0.7s						
MVOU				S	**Sn**	**02 33 36.0**	**-0.2**
MVOU				AML	AML	02 33 36.0	
	3.5nm,0.5s						
MVOU				AML	AML	02 33 36.0	
	3.5nm,0.5s						
LFK	**Lefkose**	**0.39**	**310**	PG	**Pn**	**02 33 31.1**	**+0.5**
LFK				SG	**Sn**	**02 33 40.0**	**+1.5**
ATHAL	**Athalassa**	**0.42**	**285**	P	**Pn**	**02 33 31.2**	**+0.3**
ATHAL				S	**Sn**	**02 33 39.5**	**+0.5**
ATHAL				AML	AML	02 33 42.9	
	1.5nm,0.5s						
ATHAL				AML	AML	02 33 42.9	
	1.5nm,0.5s						
CSS	**Mathiatis**	**0.47**	**261**	PG	**Pn**	**02 33 30.7**	**-0.7**
CSS				SG	**Sn**	**02 33 39.3**	**-0.6**
CSS	**Mathiatis**	**0.47**	**261**	Pg	**Pn**	**02 33 30.7**	**-0.7**
CSS	**Mathiatis**	**0.47**	**261**	P	**Pn**	**02 33 31.1**	**-0.2**
CSS				S	**Sn**	**02 33 39.5**	**-0.4**
EREN	**Erenkoy**	**0.54**	**24**	PG	**Pn**	**02 33 32.6**	**+0.4**
EREN	**Erenkoy**	**0.54**	**24**	*i* P	**Pn**	**02 33 32.8**	**+0.6**
EREN				*i* S	**Sn**	**02 33 40.7**	**-0.5**
EREN				IAML		02 33 45.0	
	comp=N,93nm,0.5s						
EREN				IAML		02 33 52.0	
	comp=E,88nm,1.0s						
ASGA	**Asgata**	**0.59**	**245**	P	**Pn**	**02 33 32.7**	**+0.1**
ASGA				S	**Sn**	**02 33 42.5**	**+0.4**
ASGA				AML	AML	02 33 42.5	
	comp=E,0.8nm,0.5s						
ASGA				AML	AML	02 33 42.5	
	comp=E,0.8nm,0.5s						
ASGA				AML	AML	02 33 49.4	
	comp=E,0.6nm,0.4s						
ASGA				AML	AML	02 33 49.4	
	comp=E,0.6nm,0.4s						
AKDN	**Akdeniz- Kıbrı**	**0.80**	**289**	PG	**Pn**	**02 33 34.8**	**-0.4**
LEF	**Lefka**	**0.83**	**276**	PG	**Pn**	**02 33 35.8**	**+0.3**
LEF				SG	**Sn**	**02 33 48.2**	**+1.0**
LEF	**Lefka**	**0.83**	**276**	*i* P	**Pn**	**02 33 35.6**	**0.0**
LEF				*i* S	**Sn**	**02 33 45.1**	**-2.1**
SZAC	**Souni**	**0.88**	**252**	P	**Pn**	**02 33 36.7**	**+0.4**
SZAC				S	**Sn**	**02 33 49.1**	**+0.8**
NATA	**Nata**	**1.12**	**257**	P	**Pn**	**02 33 40.3**	**+0.9**
NATA				AML	AML	02 33 57.0	
	comp=E,0.7nm,0.8s						
TISA	**Tisan-Mersin**	**1.14**	**351**	PN	**Pn**	**02 33 39.9**	**+0.3**
AKKU	**Akkuyu-Mersin**	**1.16**	**346**	PN	**Pn**	**02 33 40.1**	**+0.3**
GULN	**MERSİN_Gulnar**	**1.18**	**346**	*i* P	**Pn**	**02 33 42.2**	**+2.0**
GULN				*i* S	**Sn**	**02 33 53.6**	**-1.8**
IKL	**Isikli**	**1.22**	**352**	PN	**Pn**	**02 33 41.7**	**+1.1**
IKL				SN	**Sn**	**02 33 57.8**	**+1.6**
TEKE	**Tekeli-Mersin**	**1.28**	**330**	PN	**Pn**	**02 33 42.1**	**+0.7**
TEKE				SN	**Sn**	**02 33 58.8**	**+1.2**
AKMS	**Akamas**	**1.28**	**270**	P	**Pn**	**02 33 42.5**	**+1.1**
AKMS				AML	AML	02 34 03.3	
	comp=E,0.4nm,0.3s						
KEBE	**Keben-Mersin**	**1.42**	**354**	PN	**Pn**	**02 33 44.3**	**+0.9**
BERE	**Bereket-Mersin**	**1.42**	**338**	PN	**Pn**	**02 33 43.9**	**+0.4**
TEVE	**Tevekalti-Mers**	**1.45**	**345**	PN	**Pn**	**02 33 44.5**	**+0.7**
KIZK	**Mersin**	**1.46**	**8**	PN	**Pn**	**02 33 44.6**	**+0.8**
KIZK	**Mersin**	**1.46**	**8**	*i* P	**Pn**	**02 33 45.3**	**+1.4**
KIZK				*i* S	**Sn**	**02 33 58.1**	**-3.8**
GAZI	**Gazipasa**	**1.76**	**313**	PN	**Pn**	**02 33 47.5**	**-0.4**
GAZI	**Gazipasa**	**1.76**	**313**	*i* P	**Pn**	**02 33 49.0**	**+1.1**
GAZI				*i* S	**Sn**	**02 34 05.1**	**-4.2**
GAZI				IAML		02 34 14.0	
	comp=N,20nm,0.4s						
ERMK	**Ermenek**	**1.79**	**334**	*i* P	**Pn**	**02 33 51.6**	**+3.0**
ERMK				*i* S	**Sn**	**02 34 07.3**	**-3.0**
ERMK				IAML		02 34 19.0	
	comp=N,13nm,0.4s						
MERS	**Mersin**	**1.90**	**15**	PN	**Pn**	**02 33 50.9**	**+1.0**
NATI	**Neve Ativ**	**2.33**	**139**	Pn	**Pn**	**02 33 56.2**	**+0.5**
NATI				Sn	**Sn**	**02 34 22.2**	**-1.1**
GEM	**Giv'at Ha'Em**	**2.34**	**141**	Pn	**Pn**	**02 33 56.0**	**+0.2**
GEM				Sn	**Sn**	**02 34 21.6**	**-1.7**
MMC7	**Mount Meron ar**	**2.36**	**148**	Pn	**Pn**	**02 33 56.7**	**+0.5**
MMA0B	**Mount Meron ar**	**2.37**	**148**	Pn	**Pn**	**02 33 56.5**	**+0.2**
MMA0B				Sn	**Sn**	**02 34 23.2**	**-1.1**
CMRB	**Camardi-Nigde**	**2.77**	**18**	PN	**Pn**	**02 34 02.6**	**+0.8**
SHMJ	**Saham**	**2.78**	**145**	Pn	**Pn**	**02 34 02.2**	**+0.4**
SHMJ				Sn	**Sn**	**02 34 34.4**	**+0.3**
MMLI	**Mount Malkishu**	**2.88**	**153**	PN	**Pn**	**02 34 01.3**	**-2.0**
MMLI	**Mount Malkishu**	**2.88**	**153**	Pn	**Pn**	**02 34 04.1**	**+0.8**
MMLI				Sn	**Sn**	**02 34 37.1**	**+0.3**
HMDT	**Nahal Hemdat**	**3.09**	**153**	Pn	**Pn**	**02 34 06.5**	**+0.5**
HMDT				Sn	**Sn**	**02 34 41.8**	**0.0**
DSI	**Dead Sea**	**3.67**	**160**	Pn	**Pn**	**02 34 15.1**	**+1.1**
DSI				Sn	**Sn**	**02 34 56.4**	**+0.3**

*IDC **17** 02:54:02.5±0.6, 16°25S×172°91W, h0km, mb4.2/11, mb1 4.5/11, mb1mx4.3/25, mbtmp4.2/11, MS3.8/12, Ms1 3.8/12, ms1mx3.5/23, Error ellipse: s-maj=30.8km s-min=17.7km az=138.0*
*NEIC **17** 02:54:07.0±0.8, 16°3S±0°1×172°8W±0°1, h35km±1km, mb4.4/21, Error ellipse: s-maj=23.6km s-min=13.4km az=237.0*

ISC 17 02:54:05.9±0.4, 16°30S±0°09×172°69W±0°08, h24km, n123, σ0s92/103, mb4.3/21, MS3.8/15, 20C-2D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.82**	**137**	Pn	**Pn**	**02 55 04.0**	**+0.7**
NIUE				Sn	**Sn**	**02 55 44.7**	**-2.7**
RAR	**Rarotonga**	**13.18**	**114**	Pn	**Pn**	**02 57 10.1**	**-1.5**
	1.2nm,0.3s,baz=16,slow=13,SNR=1.8						
RAR				Sn	Sn	02 59 25.7	-12
	0.5nm,0.3s,baz=153,slow=14,SNR=1.4						
RAR	**Rarotonga**	**13.18**	**114**		**Pn**	**02 57 13.4**	**+1.8**
DZM	**Mont Dzumac**	**20.52**	**250**	*e*Pn	Pn	02 58 46.8	+1.9
	25nm,1.2s						
DZM				*e*S	**S**	**03 02 32.9**	**+1.6**
	112nm,23.9s						
DZM				*e*LR	LR	03 03 39.4	
	comp=Z,457nm,24.9s						
PAE	**Paea**	**22.15**	**97**	*e*T	T	03 21 48.7	
	1.2nm,0.3s						
PPT	**Papeete**	**22.15**	**97**	LR	LR	03 05 39.3	
	comp=Z,99nm,19.3s,baz=272,slow=31						
PPT2	**Papeete2**	**22.15**	**97**	*e*LQ	LQ	03 03 18.7	
	525nm,27.2s						
PPT2				*e*LR	LR	03 04 04.0	
	comp=Z,263nm,25.0s,baz=262						
PPT2	**Papeete2**	**22.15**	**97**	*e*T	T	03 21 49.7	
	2.4nm,0.3s						
TVO	**Taravao**	**22.46**	**97**	*e*T	T	03 22 12.5	
	0.6nm,0.3s						
TBI	**Tubuai**	**22.94**	**112**	*e*LQ	LQ	03 03 26.0	
	295nm,32.5s						
TBI				*e*LR	LR	03 04 35.1	
	comp=Z,296nm,26.0s,baz=290						
TBI	**Tubuai**	**22.94**	**112**	*e*T	T	03 22 54.0	
	3.4nm,0.3s						
HNR	**Honiara**	**27.51**	**281**	LR	LR	03 09 16.4	
	comp=Z,278nm,20.4s,baz=138,slow=34						
RKT	**Rikitea**	**36.08**	**107**	*e*T	T	03 39 17.0	
	1.9nm,0.3s						
H11S2	**WAKE ISLAND Hy**	**40.08**	**329**	T	T	03 44 15.2	
	baz=149						
H11S3	**WAKE ISLAND Hy**	**40.09**	**329**	T	T	03 44 03.2	
	baz=149,slow=74						
H11S1	**WAKE ISLAND Hy**	**40.10**	**329**	T	T	03 44 38.0	
	baz=149,slow=74						
H11N3	**WAKE ISLAND Hy**	**41.02**	**330**	T	T	03 45 07.4	
	baz=145,slow=76,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**41.03**	**330**	T	T	03 45 09.2	
	baz=145,slow=76,SNR=6.8						
H11N2	**WAKE ISLAND Hy**	**41.04**	**330**	T	T	03 45 09.2	
	baz=145,slow=76,SNR=3.1						
STKA	**Stephens Creek**	**44.19**	**241**	P	**P**	**03 02 11.8**	**-1.3**
	1.8nm,0.5s,baz=74,slow=9.8,SNR=6.5						
STKA				LR	LR	03 18 21.1	
	comp=Z,96nm,18.3s,baz=50,slow=33						
WRA	**Warramunga Arr**	**50.31**	**257**	P	**P**	**03 02 57.9**	**-3.1**
	1.4nm,0.6s,baz=95,slow=6.1,SNR=5.9						
WRA	**Warramunga Arr**	**50.31**	**257**	P	**P**	**03 02 59.7**	**-1.4**
AS31	**Alice Springs**	**50.48**	**253**	P	**P**	**03 03 01.2**	**-1.1**
ASAR	**Alice Springs**	**50.48**	**253**	P	**P**	**03 03 00.7**	**-1.7**
	3.5nm,0.5s,baz=85,slow=8.5,SNR=38						
ASAR				LR	LR	03 23 35.3	
	comp=Z,184nm,18.1s,baz=96,slow=35						
VNDA	**Vanda**	**62.56**	**186**	P	**P**	**03 04 28.0**	**+0.6**
	1.8nm,0.9s,baz=360,slow=6.1,SNR=7.6						
MJAR	**Matsushiro Arr**	**70.06**	**320**	LR	LR	03 30 01.5	
	comp=Z,27nm,21.7s,baz=230,slow=31						
PETK	**Petropavlovsk-**	**73.69**	**342**	P	**P**	**03 05 37.3**	**-0.1**
	5.5nm,1.0s,baz=134,slow=13,SNR=6.6						
PETK	**Petropavlovsk-**	**73.69**	**342**	P	**P**	**03 05 36.9**	**-0.6**
QSPA	**South Pole Qui**	**73.75**	**180**	P	**P**	**03 05 38.4**	**+0.5**
QSPA				IAmb	IAmb	03 05 42.5	
	comp=Z,6.3nm,1.1s						
NVAR	**Mina Array Bea**	**74.54**	**41**	P	**P**	**03 05 43.8**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=227,slow=10.0,SNR=8.9						
NVAR				LR	LR	03 33 09.0	
	comp=Z,77nm,18.0s,baz=258,slow=31						
NVAR	**Mina Array Bea**	**74.54**	**41**	P	**P**	**03 05 43.0**	**-0.1**
PINE	**Pine Mountain**	**76.22**	**36**	P	**P**	**03 05 52.4**	**-0.2**
TUC	**Tucson**	**76.44**	**50**	P	**P**	**03 05 53.8**	**-0.1**
TUC				IAmb	IAmb	03 06 12.5	
	comp=Z,2.8nm,1.1s						
KSRS	**Korea Array**	**77.27**	**315**	LR	LR	03 34 42.1	
	comp=Z,15nm,21.6s,baz=225,slow=32						
G08A	**Pilot Rock**	**78.26**	**36**	P	**P**	**03 06 03.7**	**-0.2**
G08A				IAmb	IAmb	03 06 06.4	
	comp=Z,5.0nm,1.0s						
F10A	**Beach Ranch, E**	**79.64**	**36**	P	**P**	**03 06 11.3**	**-0.1**
F10A				IAmb	IAmb	03 06 12.8	
	comp=Z,5.8nm,1.0s						
B08A	**Colville Reser**	**79.95**	**33**	P	**P**	**03 06 12.7**	**-0.2**
B08A				IAmb	IAmb	03 06 14.1	
	comp=Z,4.7nm,0.9s						
MNTX	**Cornudas Mount**	**80.22**	**53**	P	**P**	**03 06 15.1**	**+0.3**
TXAR	**Lajitas Array**	**80.55**	**56**	P	**P**	**03 06 18.1**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=224,slow=8.3,SNR=7.1						
TXAR				LR	LR	03 35 49.0	
	comp=Z,47nm,19.1s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**80.55**	**56**	P	**P**	**03 06 15.8**	**-0.9**
PV01	**Paradox Valley**	**80.85**	**46**	P	**P**	**03 06 17.9**	**-0.4**
ANMO	**Albuquerque**	**80.86**	**50**	P	**P**	**03 06 17.9**	**-0.5**
FXWY	**Fox Creek**	**82.00**	**40**	P	**P**	**03 06 23.9**	**-0.3**
BW06	**Boulder Array**	**82.48**	**42**	IAmb	IAmb	03 06 28.3	
	comp=Z,2.2nm,0.8s						
PD31	**Pinedale Array**	**82.48**	**42**	IAmb	IAmb	03 06 28.3	
	comp=Z,2.0nm,0.8s						
PDAR	**Pinedale Array**	**82.48**	**42**	P	**P**	**03 06 27.2**	**+0.5**
	comp=Z,1.6nm,0.8s,baz=204,slow=3.1,SNR=12						
PDAR				LR	LR	03 37 33.7	
	comp=Z,82nm,19.3s,baz=292,slow=32						
PDAR	**Pinedale Array**	**82.48**	**42**	P	**P**	**03 06 25.8**	**-1.0**
BOZ	**Bozeman (W)**	**82.67**	**38**	IAmb	IAmb	03 06 30.6	
	comp=Z,3.2nm,1.1s						
WRH	**Wood River Hil**	**82.70**	**10**	P	**P**	**03 06 26.5**	**-0.6**
ILAR	**Eielson Array**	**83.19**	**11**	P	**P**	**03 06 29.0**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=219,slow=5.7,SNR=20						
ILAR	**Eielson Array**	**83.19**	**11**	P	**P**	**03 06 29.4**	**-0.3**
IMAR	**Indian Mountai**	**83.26**	**8**	P	**P**	**03 06 30.1**	**+0.1**
RWWY	**Rawlins**	**83.47**	**43**	IAmb	IAmb	03 06 33.7	
	comp=Z,8.5nm,1.1s						
RLMT	**Red Lodge**	**83.85**	**40**	P	**P**	**03 06 33.6**	**-0.1**
RLMT				IAmb	IAmb	03 06 36.0	
	comp=Z,3.3nm,0.9s						
PRP	**Porcupine Dome**	**84.12**	**11**	P	**P**	**03 06 34.6**	**+0.1**
PRP				IAmb	IAmb	03 06 44.3	
	comp=Z,5.3nm,1.1s						
BMAR	**Burnt Mountain**	**86.00**	**11**	P	**P**	**03 06 43.2**	**-0.7**
PLCA	**Paso Flores**	**88.41**	**132**	LR	LR	03 38 57.5	
	comp=Z,44nm,18.6s,baz=216,slow=30						
YKA	**Yellowknife Ar**	**90.65**	**23**	P	**P**	**03 07 05.6**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=228,slow=4.8,SNR=6.4						
YKA				LR	LR	03 42 10.6	
	comp=Z,34nm,19.2s,baz=0.0,slow=32						
VNA2	**Neumayer--Watz**	**92.41**	**175**	P	**P**	**03 07 17.1**	**+2.8**
CMAR	**Chiang Mai Arr**	**93.54**	**288**	P	**P**	**03 07 20.8**	**+0.3**
	comp=Z,1.5nm,0.3s,baz=135,slow=0.1,SNR=2.3						
ULM	**Lac du Bonnet**	**94.20**	**39**	LR	LR	03 46 07.8	
	comp=Z,68nm,18.1s,baz=272,slow=33						
BVAR	**Borovoye Array**	**119.00**	**322**	PKP	**PKiKP**	**03 12 53.2**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=64,slow=3.4,SNR=4.1						
OJC	**Ojcow**	**144.69**	**346**		**PKPdf**	**03 13 40.6**	**+0.1**
CLL	**Collm**	**144.78**	**354**	*i* pPKPdf	pPKPdf	03 13 52.5	+5.1
CLL	**Collm**	**144.78**	**354**	*i* PKPdf	**PKPdf**	**03 13 42.2**	**+1.5**
	comp=Z,8.0nm,1.4s						
OSTC	**Ostas**	**145.08**	**350**	*e*PKP	**PKPdf**	**03 13 41.6**	**+0.3**
OSTC				*ex*	x	03 13 54.0	
DPC	**Dobruska-Polom**	**145.26**	**350**	*e*PKP	**PKPdf**	**03 13 42.6**	**+1.0**
DPC				*ep*PKP	**sPKPdf**	**03 13 54.1**	**+3.4**
BUR08	**Bucovina Ar. S**	**145.43**	**339**		**PKPbc**	**03 13 41.3**	**-0.7**
BURAR	**Bucovina Array**	**145.45**	**338**	↑P	**PKPab**	**03 13 43.2**	**+1.0**
BURAR	**Bucovina Array**	**145.45**	**338**		**PKPbc**	**03 13 41.3**	**-0.7**
MORC	**Moravsky Berou**	**145.59**	**348**	↑P	**PKPab**	**03 13 43.0**	**+0.4**
MORC	**Moravsky Berou**	**145.59**	**348**	*e*PKP	**PKPab**	**03 13 42.8**	**+0.2**
BIZ	**Bicaz**	**145.70**	**337**	↑P	**PKPab**	**03 13 43.4**	**+0.3**
KMBO	**Kilima Mbogo**	**145.74**	**242**	PKPbc	**PKPab**	**03 13 44.6**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=35,slow=6.5,SNR=4.3						
TESR	**Tescani**	**145.84**	**336**	↑P	**PKPdf**	**03 13 42.7**	**+0.1**
TRPA	**Tarpa**	**145.87**	**342**	↑P	**PKPab**	**03 13 43.7**	**0.0**
PRU	**Pruhonice**	**145.89**	**352**	*e*PKP	**PKPab**	**03 13 44.0**	**+0.3**
GOPC	**GO Pecny, Ondr**	**145.93**	**351**	*e*PKP	**PKPab**	**03 13 44.6**	**+0.7**
GOPC				*ep*PKP	sPKPab	03 13 55.6	+2.8
TLCR		**146.00**	**332**	↑P	**PKPab**	**03 13 44.3**	**+0.1**
VRAC	**Vranov**	**146.22**	**349**	PKPbc	**PKPab**	**03 13 45.1**	**+0.1**
	comp=Z,1.7nm,0.5s,baz=354,slow=4.2,SNR=7.2						
VRAC	**Vranov**	**146.22**	**349**	*e*PKP	**PKPbc**	**03 13 44.6**	**+0.3**
CFR	**Carcaliu**	**146.30**	**333**	↑P	**PKPab**	**03 13 45.2**	**-0.1**
VRI	**Vrincioaia**	**146.34**	**335**	↑P	**PKPbc**	**03 13 45.1**	**+0.4**
PLOR	**Plostina**	**146.38**	**335**	↑P	**PKPbc**	**03 13 44.2**	**+0.5**
JAVC	**Velka Javorina**	**146.44**	**348

MKAR	**Makanchi Array**	**79.98**	**319**	P		P		03 12 38.1	-0.2
	0.4nm,0.7s,baz=99,slow=4.5,SNR=2.8								

ROM 17 03:11:15.6±0.1, 43°.316N×0°.003×12°.537E±0°.004, h9km, ML1.0/3, Error ellipse: s-maj=0.3km s-min=0.1km az=240.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MURB	**Monte Urbino**	**0.05**	**190**	AML	AML		
	comp=N,556μm,0.4s						
MURB				AML	AML		
	comp=E,761μm,0.2s						
ATFO	**Monte Foce - G**	**0.06**	**26**	P	Pg	03 11 17.6	0.0
ATFO				S	Sg	03 11 19.2	+0.2
ATFO				AML	AML		
	comp=N,203μm,0.1s						
ATFO				AML	AML		
	comp=E,234μm,1.6s						
ATVO	**AVT- Monte Val**	**0.12**	**305**	P	Pg	03 11 18.6	+0.3
ATVO				S	Sg	03 11 21.0	+0.7
ATVO				AML	AML		
	comp=E,86μm,0.2s						
ATVO				AML	AML		
	comp=E,86μm,0.2s						
ATVO				AML	AML		
	comp=N,132μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.15**	**150**	P	Pg	03 11 19.3	+0.5
ATCC				S	Sg	03 11 22.6	+1.5
ATCC				AML	AML		
	comp=E,94μm,0.1s						
ATCC				AML	AML		
	comp=N,73μm,1.2s						
ATCC				AML	AML		
	comp=N,72μm,1.2s						
FOSV	**Fossato di Vic**	**0.17**	**97**	P	Pg	03 11 19.7	+0.6
FOSV				S	Sg	03 11 22.4	+0.9
ATPI	**Pietralunga -**	**0.17**	**324**	P	Pg	03 11 19.7	+0.5
ATPI				S	Sg	03 11 22.9	+1.2
ATTE	**AVT- Monte Tez**	**0.18**	**229**	P	Pg	03 11 19.8	+0.4
ATTE				S	Sg	03 11 23.0	+1.1
PIEI	**Pieia**	**0.22**	**360**	P	Pg	03 11 20.9	+0.8
PIEI				S	Sg	03 11 24.7	+1.5
SNTG	**Esanatoglia**	**0.30**	**102**	AML	AML		
	comp=E,34μm,1.2s						
SNTG				AML	AML		
	comp=N,28μm,1.3s						

KRSC 17 03:37:06.7±1.5, 48°.16N×156°.15E, h30km±29km, ML3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**2.74**	**352**	*e*P	Pn	03 37 49.6	+1.0
PAU	**Pauzhetka**	**3.33**	**7**	*e*S	Sn	03 38 39.9	+4.7
ASAK	**Asacha**	**4.37**	**14**	*e*P	Pn	03 38 15.6	+4.6
MTVR	**Mutnovka**	**4.52**	**16**	*e*P	Pn	03 38 17.7	+4.6
MTVR				*e*S	Sn	03 39 11.1	+6.5
RUS	**Russkaya**	**4.53**	**19**	*e*P	Pn	03 38 16.7	+3.5
RUS				*e*S	Sn	03 39 09.2	+4.4
GRL	**Gorelyy**	**4.56**	**15**	*e*P	Pn	03 38 18.5	+4.8
UGLR	**Uglovaya**	**5.33**	**18**	*e*P	Pn	03 38 29.4	+5.2
AVH	**Avacha**	**5.37**	**17**	*e*P	Pn	03 38 30.1	+5.4
KOK	**Koryaka**	**5.37**	**16**	*e*P	Pn	03 38 30.5	+5.7
SMAR	**Somma**	**5.38**	**17**	*e*P	Pn	03 38 30.5	+5.6
SDLR	**Sedlovina**	**5.41**	**18**	*e*P	Pn	03 38 30.1	+4.8
KRX	**Arik**	**5.44**	**16**	*e*P	Pn	03 38 30.0	+4.3
SPN	**Mys Shipunski**	**5.52**	**25**	*e*S	Sn	03 39 34.8	+5.7

IDC 17 03:50:25.1±3.7, 53°.77N×88°.16E, h0km, mb1 2.8/2, mb1mx2.8/35, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=36.8km s-min=20.8km az=47.0

KRAR 17 03:50:23.4±0.1, 53°.79N×88°.13E, M2.0, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.97**	**276**	*i*		04 02 53.0	
	baz=91,slow=316,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.97**	**276**	Pn	Pb	03 51 00.2	+0.1
	0.8nm,0.3s,baz=92,slow=12,SNR=13						
ZALV				Lg	Lg	03 51 27.9	
	3.5nm,0.3s,baz=99,slow=28,SNR=14						
KURBB	**Kurchatov Arra**	**6.70**	**246**	Pn	Pn	03 52 05.3	+2.4
	0.1nm,0.3s,baz=64,slow=15,SNR=5.8						
MKAR	**Makanchi Array**	**7.94**	**210**	Pn	Pn	03 52 22.4	+2.4
	0.1nm,0.3s,baz=25,slow=13,SNR=2.9						

LDG 17 03:58:09.0±0.1, 42°.76N×0°.12W, h4km, Md1.8/3, Ml1.7/7, Error ellipse: s-maj=2.9km s-min=1.3km az=179.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETSF	**Etsaut**	**0.35**	**294**	*e*Pg	Pg	03 58 16.4	+0.6
ETSF				*e*Sg	Sg	03 58 20.2	-0.2
	7.8nm,0.2s						
ETSF	**Etsaut**	**0.35**	**294**	*e*Pg	Pg	03 58 16.3	+0.5
ETSF				*e*Sg	Sg	03 58 20.1	-0.3
	16nm,0.2s						
EPF	**Esparros**	**0.44**	**51**	*e*Pg	Pg	03 58 17.7	+0.3
EPF				*e*Sg	Sg	03 58 23.9	+0.7
	3.2nm,0.2s						
EPF	**Esparros**	**0.44**	**51**	*e*Pg	Pg	03 58 18.3	+0.9
EPF				*e*Sg	Sg	03 58 24.0	+0.8
	6.2nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**294**	*e*Pg	Pg	03 58 25.7	-0.3
SJPF				*e*Sg	Sg	03 58 36.7	-0.8
	1.6nm,0.2s						
SJPF	**Ste Jean**	**0.89**	**294**	*e*Pg	Pg	03 58 25.8	-0.2
SJPF	**Ste Jean**	**0.89**	**294**	*e*Pn	Pb	03 58 27.2	+0.3
SJPF				*e*Sg	Sg	03 58 35.8	-1.7
	1.7nm,0.2s						
MTLF	**Montolieu**	**1.81**	**70**	*e*Pn	Pn	03 58 39.4	-1.6
MTLF	**Montolieu**	**1.81**	**70**	*e*Pg	Pb	03 58 42.5	-0.2
MTLF				*e*Sg	Sb	03 59 05.6	-0.2
	0.6nm,0.2s						
MTLF	**Montolieu**	**1.81**	**70**	*e*Pn	Pn	03 58 41.1	+0.1
MTLF				*e*Sn	Sn	03 59 03.3	-1.1
MTLF				*e*Sg	Sg	03 59 07.5	+0.3
	0.8nm,0.3s						
LFF	**La Frestale**	**2.27**	**16**	*e*Pn	Pn	03 58 45.4	-1.9
LFF	**La Frestale**	**2.27**	**16**	*e*Pg	Pb	03 58 51.1	+0.5
LFF				*e*Sn	Sn	03 59 12.3	-3.4
LFF				*e*Sg	Sb	03 59 20.0	+1.0
	2.4nm,0.2s						
LFF	**La Frestale**	**2.27**	**16**	*e*Pn	Pn	03 58 45.7	-1.6
LFF	**La Frestale**	**2.27**	**16**	*e*Pg	Pb	03 58 50.6	0.0
LFF				*e*Sg	Sb	03 59 17.7	-1.3
	4.1nm,0.3s						
CAF	**Calviac**	**2.69**	**35**	*e*Pn	Pn	03 58 51.1	-1.9
CAF	**Calviac**	**2.69**	**35**	*e*Pg	Pg	03 58 59.2	-1.3
CAF				*e*Sg	Sb	03 59 33.1	+2.1
	0.6nm,0.2s						
CAF	**Calviac**	**2.69**	**35**	*e*Pn	Pn	03 58 52.1	-0.9
CAF	**Calviac**	**2.69**	**35**	*e*Pg	Pb	03 58 58.9	+1.3
CAF				*e*Sn	Sn	03 59 22.2	-3.8
CAF				*e*Sg	Sb	03 59 32.0	+1.0
	1.0nm,0.3s						
RJF	**Les Rejaudoux**	**2.81**	**24**	*e*Pn	Pn	03 58 53.2	-1.5
RJF	**Les Rejaudoux**	**2.81**	**24**	*e*Pg	Pb	03 59 01.1	+1.4
RJF				*e*Sn	Sn	03 59 25.4	-3.6
RJF				*e*Sg	Sg	03 59 37.1	-2.1
	0.6nm,0.2s						
RJF	**Les Rejaudoux**	**2.81**	**24**	*e*Pn	Pn	03 58 52.9	-1.8
RJF	**Les Rejaudoux**	**2.81**	**24**	*e*Pg	Pb	03 59 00.2	+0.5
RJF				*e*Sn	Sn	03 59 23.9	-5.1
RJF				*e*Sg	Sb	03 59 35.5	+1.0
	1.3nm,0.3s						
LASF	**Ste Croix**	**3.19**	**64**	*e*Pn	Pn	03 58 57.4	-2.5
LASF	**Ste Croix**	**3.19**	**64**	*e*Pg	Pg	03 59 08.5	-1.5
LASF				*e*Sg	Sg	03 59 49.5	-1.8
	0.5nm,0.3s						

IDC 17 04:28:20.8±3.0, 19°.09S×176°.19W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.7/29, mbtmp3.9/3, Error ellipse: s-maj=318.4km s-min=34.5km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.50**	**260**	P	P	04 36 49.3	-1.0
	1.1nm,1.0s,baz=99,slow=6.6,SNR=6.0						
ASAR	**Alice Springs**	**46.51**	**255**	P	P	04 36 50.9	+0.5
	3.1nm,0.5s,baz=89,slow=8.3,SNR=37						
TXAR	**Lajitas Array**	**84.86**	**57**	P	P	04 40 58.0	+0.1
	0.4nm,0.9s,baz=240,slow=7.2,SNR=3.7						

IDC 17 04:39:37.4±1.9, 3°.76N×126°.12E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/32, mbtmp3.7/5, MS3.1/3, Ms1 3.1/3, ms1mx2.6/37, Error ellipse: s-maj=119.5km s-min=26.3km az=67.0

MAN 17 04:39:42.7, 4°.12N×126°.42E, h4km, mb5.1, ML4.1, MS4.1

ISC 17 04:39:38.9±1.0, 3°.9N±0°.1×126°.6E±0°.2, h10km, n13, σ1§12/15, mb3.5/5, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**2.39**	**338**	*e*P	**Pn**	**04 40 19.1**	**+0.9**
DDMP				*e*S	**Sn**	**04 40 46.7**	**-0.8**
SKMP	**Bagumbayan, Su**	**3.34**	**322**	*e*P	**Pn**	**04 40 32.4**	**+1.1**
SKMP				*e*S	**Sn**	**04 41 09.1**	**-2.0**
KCP	**Kidapawan**	**3.46**	**334**	*e*P	**Pb**	**04 40 40.8**	**+0.4**
KCP				*i* S	**Sb**	**04 41 22.8**	**+0.1**
BUKP	**Musuan**	**4.27**	**339**	*e*P	**Pn**	**04 40 45.6**	**+1.5**
BUKP				*e*S	**Sn**	**04 41 32.6**	**-1.3**
PAGZ	**Pagadian**	**5.09**	**321**	*e*P	**Pn**	**04 40 57.0**	**+1.6**
PAGZ				*e*S	**Sn**	**04 41 54.5**	**+0.2**
KAPI	**Kappang**	**11.19**	**218**	LR	LR	04 46 34.7	
	comp=Z,49nm,19.5s,baz=320,slow=39						
FITZ	**Fitzroy Crossi**	**21.86**	**183**	P	**P**	**04 44 31.9**	**0.0**
	1.9nm,0.7s,baz=6.4,slow=8.7,SNR=1.3						
WRA	**Warramunga Arr**	**24.86**	**163**	P	**P**	**04 45 02.1**	**+0.3**
	0.9nm,0.7s,baz=337,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**28.28**	**166**	P	**P**	**04 45 32.4**	**-0.4**
	0.2nm,0.3s,baz=346,slow=6.6,SNR=2.3						
STKA	**Stephens Creek**	**38.30**	**159**	P	**P**	**04 46 60.0**	**+0.1**
	1.3nm,0.6s,baz=320,slow=11,SNR=4.3						
MKAR	**Makanchi Array**	**57.37**	**325**	P	**P**	**04 49 26.4**	**-1.1**
	0.2nm,0.4s,baz=127,slow=8.4,SNR=3.7						
GEYT	**Alibeck**	**70.72**	**309**	LR	LR	05 27 24.2	
	comp=Z,14nm,18.1s,baz=30,slow=41						
PPT	**Papeete**	**85.26**	**108**	LR	LR	05 26 58.0	
	comp=Z,15nm,18.9s,baz=302,slow=33						

UCR 17 04:49:04.0±1.4, 9°.40N×84°.34W, h12km±4km, MD3.8, 3C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.47**	**44**	*e*P	Pg	04 49 13.0	-0.4
LCR2				*e*S	Sg	04 49 20.3	+0.5
EDDO	**Dominical**	**0.49**	**107**	*e*P	Pg	04 49 13.3	-0.4
EDDO				*i* S	Sg	04 49 20.4	+0.2
SJS	**Escuela Geolog**	**0.60**	**28**	*e*P	Pg	04 49 15.4	-0.5
SJS				*e*S	Sg	04 49 24.4	+0.6
HDC	**Heredia**	**0.64**	**20**	*e*P	Pg	04 49 15.8	-0.6
HDC				*e*S	Sg	04 49 25.3	+0.4
SRA1	**San Ramn**	**0.69**	**349**	*e*P	Pg	04 49 16.6	-0.9
SRA1				*e*S	Sg	04 49 26.4	-0.3
EDLM	**Las Mercedes**	**0.75**	**99**	*e*P	Pg	04 49 17.5	-1.1
EDLM				*e*S	Sg	04 49 28.6	+0.1
CVTR	**Volcan Turrial**	**0.84**	**43**	*e*P	Pg	04 49 19.8	-0.5
CVTR				*e*S	Sg	04 49 31.6	+0.1
JTS	**Las Juntas de**	**1.07**	**326**	*e*P	Pb	04 49 22.6	-1.9
JTS				*e*S	Sb	04 49 37.8	-0.7
EDBA	**Buenos Aires**	**1.08**	**103**	*e*P	Pb	04 49 22.8	-1.8
EDBA				*e*S	Sb	04 49 37.4	-1.3
DRK0	**Durika**	**1.09**	**97**	*e*P	Pb	04 49 23.3	-1.5
DRK0				*e*S	Sb	04 49 38.3	-0.8
CASO	**Castillo**	**1.10**	**339**	*i* P	Pb	04 49 23.8	-1.2
CASO				*i* S	Sb	04 49 38.3	-0.9
ARE1	**Arenal 1**	**1.12**	**341**	*e*P	Pb	04 49 24.3	-0.9
ARE1				*e*S	Sb	04 49 39.5	-0.3
PLVR	**Palo Verde**	**1.37**	**313**	*e*P	Pn	04 49 27.8	-1.2
PLVR				*e*S	Sb	04 49 46.3	-0.9
ACAL	**Aguas Claras**	**1.40**	**331**	*i* P	Pn	04 49 28.6	-0.9
CUI	**Cuipilapa**	**1.49**	**327**	*e*P	Pn	04 49 29.7	-0.9
CUI				*e*S	Sn	04 49 49.8	-0.2
HORNC	**Hornillas**	**1.54**	**328**	*i* P	Pn	04 49 30.4	-1.0
LIM1	**Limonal**	**1.57**	**325**	*i* P	Pn	04 49 30.8	-1.0
GPS2	**Hotel Rincn d**	**1.67**	**323**	*e*P	Pn	04 49 32.7	-0.5
GPS2				*e*S	Sg	04 49 57.2	-0.7
BRU2	**Volcan**	**1.74**	**110**	*e*P	Pn	04 49 34.6	+0.5
BRU2				*e*S	Sg	04 49 59.0	-0.9
BUEV	**Buena Vista**	**1.74**	**323**	*e*P	Pn	04 49 33.5	-0.6
BUEV				*e*S	Sg	04 49 59.4	-0.7
GB1A	**Boringuen Arri**	**1.75**	**324**	*e*P	Pn	04 49 34.0	-0.2
GBS3	**Finca Las Img**	**1.76**	**321**	*i* P	Pn	04 49 33.8	-0.4
ACON	**Acoyapa**	**2.68**	**342**	*e*P	Pn	04 49 48.0	+1.1
ESPN	**Las Esperanzas**	**2.78**	**1**	*e*P	Pn	04 49 48.3	+0.1
GMAL	**Guarumal, Vera**	**3.48**	**118**	*e*P	Pn	04 49 57.0	-0.9

WEL 17 04:57:12.0, 41°.4S×0°.9×17°.4E±°, h39km±2km, M3.6/30, ML3.8/30, MLv3.6/30, Error ellipse: s-maj=0.0km s-min=0.0km az=120.4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCW	**Tory Channel**	**0.14**	**348**	P	Pn	04 57 19.2	-1.3
TCW				S	Sn	04 57 23.7	-3.9
TUWZ	**Tuamarina**	**0.29**	**254**	P	Pn	04 57 20.4	+0.2
TUWZ				S	Sn	04 57 25.6	-0.8
CMWZ	**Cape Campbell**	**0.40**	**191**	P	Pn	04 57 23.2	+1.8
BHW	**Baring Head**	**0.42**	**98**	P	Pn	04 57 22.4	+0.9
BHW				S	Sn	04 57 29.6	+1.2
BSWZ	**Blackbirch Sta**	**0.49**	**222**	P	Pn	04 57 23.2	+0.6
BSWZ				S	Sn	04 57 31.1	+1.0
CAW	**Cannon Point**	**0.62**	**67**	P	Pn	04 57 25.3	+0.9
CAW				S	Sn	04 57 35.1	+2.0
DUWZ	**D'Urville Isla**	**0.62**	**331**	P	Pn	04 57 25.0	+0.5
DUWZ				S	Sn	04 57 33.8	+0.5
KIW	**Kapiti Island**	**0.66**	**43**	P	Pn	04 57 25.8	+0.8
KIW				S	Sn	04 57 35.6	+1.4
MSWZ	**Moikau Station**	**0.70**	**96**	P	Pn	04 57 26.1	+0.6
MSWZ				S	Sn	04 57 36.7	+1.4
NNZ	**Nelson**	**0.72**	**280**	P	Pn	04 57 26.2	+0.5
PLWZ	**Palliser**	**0.74**	**107**	P	Pn	04 57 26.5	+0.5
PLWZ				S	Sn	04 57 37.3	+1.2
PAWZ	**Paruwai Farm**	**0.84**	**92**	P	Pn	04 57 27.6	+0.3
PAWZ				S	Sn	04 57 39.5	+1.0
OGWZ	**Otaki Gorge**	**0.84**	**51**	P	Pn	04 57 28.4	+1.1
OGWZ				S	Sn	04 57 40.4	+1.9
HOWZ	**Holdsworth Sta**	**1.01**	**64**	P	Pn	04 57 30.2	+0.4
TRWZ	**Traveller**	**1.03**	**93**	P	Pn	04 57 30.1	+0.1
THZ	**Tophouse**	**1.14**	**248**	P	Pn	04 57 32.4	+0.9
MRZ	**Mangatainoka R**	**1.18**	**55**	P	Pn	04 57 32.7	+0.7
KHZ	**Kahutara**	**1.21**	**208**	P	Pn	04 57 33.2	+0.8
TMWZ	**Te Maipa**	**1.21**	**79**	P	Pn	04 57 32.6	+0.1
TIWZ	**Tintock**	**1.32**	**65**	P	Pn	04 57 34.2	+0.3
OHWZ	**Ohakea**	**1.37**	**34**	P	Pn	04 57 34.5	-0.1
QRZ	**Quartz Range**	**1.45**	**291**	P	Pn	04 57 37.6	+1.8
POWZ	**Post Office Ro**	**1.46**	**49**	P	Pn	04 57 36.3	+0.5
PRWZ	**Pori Road**	**1.48**	**58**	P	Pn	04 57 36.6	+0.4
BFZ	**Birch Farm**	**1.61**	**66**	P	Pn	04 57 37.5	-0.4
WAZ	**Wanganui**	**1.68**	**18**	P	Pn	04 57 41.9	+3.1
DVHZ	**Dannevirke**	**1.75**	**54**	P	Pn	04 57 39.7	-0.3
TSZ	**Takapari Road**	**1.80**	**45**	P	Pn	04 57 40.9	+0.3
ANWZ	**Angora Road**	**1.86**	**62**	P	Pn	04 57 40.9	-0.5
GVZ	**Greta Valley S**	**1.88**	**210**	P	Pn	04 57 41.8	+0.3
LREZ	**Lake Rotokare**	**1.89**	**2**	P	Pn	04 57 44.7	+2.9
DSZ	**Denniston Nort**	**1.93**	**257**	P	Pn	04 57 44.2	+1.9
NMEZ	**Namu Road**	**1.96**	**350**	P	Pn	04 57 45.5	+2.7
PREZ	**Palmer Road**	**2.01**	**357**	P	Pn	04 57 47.3	+3.8
PNHZ	**Pukenui**	**2.03**	**46**	P	Pn	04 57 43.7	0.0
WPHZ	**Waipukurau**	**2.06**	**52**	P	Pn	04 57 44.1	0.0
KHEZ	**Kahui Hut**	**2.07**	**353**	P	Pn	04 57 47.4	+3.1
LTZ	**Lake Taylor**	**2.09**	**226**	P	Pn	04 57 45.1	+0.5
NBEZ	**Newall Road No**	**2.11**	**350**	P	Pn	04 57 47.6	+2.8
MTVZ	**Mangateitei**	**2.15**	**25**	P	Pn	04 57 51.0	+5.5
PKE	**Pukeiti**	**2.17**	**353**	P	Pn	04 57 48.6	+2.9
AMCZ	**Amberley**	**2.20**	**214**	P	Pn	04 57 53.2	+7.2
PKVZ	**Pokaka**	**2.21**	**21**	P	Pn	04 57 48.5	+2.3
MOVZ	**Moawhango**	**2.23**	**30**	P	Pn	04 57 47.3	+0.8
VRZ	**Vera Road**	**2.25**	**9**	P	Pn	04 57 49.4	+2.7
TRVZ	**Turoa**	**2.26**	**25**	P	Pn	04 57 49.0	+1.9
WHVZ	**Whangaehu Hut**	**2.28**	**26**	P	Pn	04 57 49.9	+2.5
BHHZ	**Black Hill Sta**	**2.29**	**36**	P	Pn	04 57 48.0	+0.7
FWVZ	**Far West T-bar**	**2.30**	**25**	P	Pn	04 57 49.7	+2.1
KRHZ	**Kereru**	**2.32**	**43**	P	Pn	04 57 47.4	-0.3
TUVZ	**Tukino**	**2.32**	**27**	P	Pn	04 57 52.5	+4.7
PXZ	**Pawanui**	**2.34**	**57**	P	Pn	04 57 47.3	-0.6
NGZ	**Ngauruhoe**	**2.39**	**25**	P	Pn	04 57 52.6	+3.8
TWVZ	**Taurewa**	**2.44**	**21**	P	Pn	04 57 53.0	+3.7
WTVZ	**West Tongariro**	**2.44**	**24**	P	Pn	04 57 51.2	+1.7
KRVZ	**Karewarewa**	**2.47**	**25**	P	Pn	04 57 55.2	+5.3
KAHZ	**Kahuranaki**	**2.49**	**52**	P	Pn	04 57 49.4	-0.7
KWHZ	**Kaweka Forest**	**2.51**	**41**	P	Pn	04 57 50.8	+0.5
INZ	**Inchbonnie**	**2.54**	**236**	P	Pn	04 57 53.9	+3.2
OKCZ	**Okains Bay**	**2.55**	**201**	P	Pn	04 57 50.7	-0.1
OXZ	**Oxford**	**2.60**	**220**	P	Pn	04 57 52.4	+0.9
MQZ	**McQueen's Vall**	**2.66**	**207**	P	Pn	04 57 50.9	-1.4
BKZ	**Black Stump Fm**	**2.75**	**38**	P	Pn	04 58 00.8	+7.2
HIZ	**Hauiti**	**2.87**	**8**	P	Pn	04 57 57.8	+2.6
TOZ	**Tahuroa Road**	**3.73**	**15**	P	Pn	04 58 08.4	+1.4
FOZ	**Fox Glacier**	**3.98**	**235**	P	Pn	04 58 12.9	+2.4
TWGZ	**Tauwhareparae**	**4.25**	**43**	P	Pn	04 58 15.4	+1.2
RUGZ	**Raukumara Rang**	**4.26**	**39**	P	Pn	04 58 14.7	+0.2
AWAZ	**Awhitu Peninsu**	**4.29**	**3**	P	Pn	04 58 17.8	+3.1
MKAZ	**Moumakai**	**4.29**	**9**	P	Pn	04 58 17.5	+2.7
HAZ	**Te Kaha**	**4.48**	**38**	P	Pn	04 58 16.7	-0.7
ODZ	**Otahua Downs**	**4.56**	**215**	P	Pn	04 58 18.1	-0.4
JCZ	**Jackson Bay**	**4.90**	**234**	P	Pn	04 58 25.7	+2.6
WCZ	**Waipu Caves**	**5.41**	**0**	P	Pn	04 58 33.1	+3.1

IDC 17 04:59:17.7±5.9, 33°.67N×75°.42E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/44, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=129.3km s-min=69.1km az=139.0, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.11**	**20**	Pn	Pn	05 02 39.5	+0.6
	0.1nm,0.3s,baz=204,slow=13,SNR=1.5						
ZALV	**Zalesovo Beam**	**21.34**	**15**	P	P	05 04 06.4	+0.2
	0.8nm,0.4s,baz=212,slow=10,SNR=2.7						
ARCES	**ARCESS Array B**	**45.14**	**338**	P	P	05 07 35.4	-0.2
	2.0nm,0.9s,baz=116,slow=8.3,SNR=5.0						
YKA	**Yellowknife Ar**	**83.83**	**5**	P	P	05 11 48.7	0.0
	0.1nm,0.6s,baz=344,slow=5.3,SNR=2.2						

IDC 17 05:04:38.8±1.7, 3°.98N×124°.87E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.5/41, mbtmp3.6/5, Error ellipse: s-maj=122.9km s-min=21.5km az=68.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**21.95**	**178**	P	P	05 09 35.2	+1.0
	1.0nm,0.3s,baz=348,slow=7.9,SNR=19						
WRA	**Warramunga Arr**	**25.53**	**159**	P	P	05 10 09.0	-0.3
	0.8nm,0.3s,baz=336,slow=10,SNR=9.7						
ASAR	**Alice Springs**	**28.85**	**163**	P	P	05 10 38.5	-0.7
	0.3nm,0.4s,baz=336,slow=7.0,SNR=4.5						
MKAR	**Makanchi Array**	**56.31**	**326**	P	P	05 14 20.8	-0.6
	0.3nm,0.6s,baz=108,slow=6.3,SNR=2.2						
KURBB	**Kurchatov Arra**	**60.54**	**328**	P	P	05 14 51.4	+0.6
	0.2nm,0.6s,baz=119,slow=4.9,SNR=2.5						

NEIC 17 05:11:19.1±1.1, 59°.13N±0°.07×145°.65W±0°.09, h28km±13km, Error ellipse: s-maj=10.0km s-min=6.4km az=184.0

AEIC 17 05:11:20.4±0.8, 59°.10N±0°.06×145°.68W±0°.06, h1km±7km, ML2.7/61, Error ellipse: s-maj=9.7km s-min=3.5km az=162.0

ISC 17 05:11:16.0±3.2, 59°.13N±0°.07×145°.67W±0°.04, h6km±19km, n54, σ1§05/59, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MID	**Middleton Isla**	**0.46**	**312**		**Pn**	**05 11 28.9**	**-0.1**
RAGM	**Ragged Mountai**	**1.36**	**21**		**Pn**	**05 11 42.1**	**+0.6**
EYAK	**Cordova Ski Ar**	**1.43**	**358**		**Sg**	**05 12 00.7**	**-1.1**
GOAT	**Goat Mountain**	**1.53**	**18**		**Pn**	**05 11 44.7**	**+0.8**
GOAT					**Sn**	**05 12 04.4**	**+0.2**
GRIN	**Grindle Hills**	**1.66**	**45**		**Pn**	**05 11 46.5**	**+0.9**
GRIN					**Sn**	**05 12 07.2**	**-0.1**
FID	**Port Fidalgo**	**1.68**	**346**		**Pn**	**05 11 46.4**	**+0.6**
KHIT	**Khitrov Hills**	**1.80**	**42**		**Pn**	**05 11 48.1**	**+0.5**
KHIT					**Sn**	**05 12 09.3**	**-1.5**
CYK	**Cape Yakataga**	**1.88**	**58**		**Sn**	**05 12 11.3**	**-1.3**
GLI	**Glacier Island**	**1.90**	**338**		**Pn**	**05 11 49.2**	**+0.4**
WAX	**Waxell Ridge**	**1.95**	**46**		**Pn**	**05 11 50.0**	**+0.4**
JPK	**Jack Peak**	**1.99**	**347**		**Pn**	**05 11 50.6**	**+0.5**
VMT	**TAPS TI Valdez**	**1.99**	**350**		**Pn**	**05 11 51.4**	**+1.2**
SEW	**Seward**	**

SNPH				*i* S		**Sn**	05 43 12.3	**+1.6**
OCLP	**Ormoc**	**1.26**	**26**	*e*P		**Pn**	05 43 01.1	**+0.3**
OCLP				*e*S		**Sg**	05 43 19.5	**+1.2**
CNOP	**Candoni, Negro**	**1.39**	**267**	*e*P		**Pg**	05 43 04.0	**-0.3**
CNOP				*e*S		**Sn**	05 43 19.4	**-1.4**
SCPH	**Surigao**	**1.42**	**95**⇓	*e*P		**Pn**	05 43 02.9	**-0.1**
DCPH	**Dipolog City**	**1.48**	**208**⇑	*e*P		**Pb**	05 43 04.6	**-0.3**
DCPH				*e*S		**Sg**	05 43 24.7	**-0.7**
GUIM	**Jordan**	**1.61**	**297**	*e*P		**Pb**	05 43 06.6	**-0.4**
GUIM				*e*S		**Sg**	05 43 28.9	**-0.4**
PAGZ	**Pagadian**	**2.15**	**198**	*e*P		**Pn**	05 43 13.5	**+0.5**
PAGZ				*e*S		**Sn**	05 43 40.5	**+1.0**
JAP	**San Jose, Anti**	**2.23**	**292**⇑	*e*P		**Pb**	05 43 18.3	**+0.6**
BUKP	**Musuan**	**2.25**	**154**	*e*P		**Pn**	05 43 15.5	**+1.1**
BUKP				*e*S		**Sb**	05 43 45.2	**-0.6**
CNP	**Catarman**	**2.66**	**13**	*e*P		**Pn**	05 43 20.5	**+0.6**
CNP				*e*S		**Sn**	05 43 50.7	**-1.3**
CTBH	**Cotabato--PC H**	**2.67**	**176**⇑	*i*P		**Pn**	05 43 21.4	**+1.2**
KCP	**Kidapawan**	**3.06**	**160**⇑	*i*P		**Pn**	05 43 26.9	**+1.4**
CUYO	**Cuyo Island**	**3.13**	**288**	*e*P		**Pn**	05 43 26.9	**+0.5**
CUYO				*e*S		**Sn**	05 43 59.8	**-3.9**
OTRP	**Odiongan**	**3.15**	**321**	*e*P		**Pn**	05 43 28.2	**+1.4**
OTRP				*e*S		**Sn**	05 44 03.3	**-0.9**
DAV	**Davao City (W)**	**3.20**	**152**	Pn		**Pb**	05 43 32.2	**-2.0**
DDMP	**Don Marcelino,**	**4.12**	**156**	*e*P		**Pn**	05 43 42.4	**+2.2**
DDMP				*e*S		**Sn**	05 44 28.2	**0.0**
BATI	**Baumata**	**19.98**	**181**	P		**Pn**	05 47 11.1	**-0.4**
	51nm,0.5s,baz=167,slow=4.1,SNR=5.0							
CMAR	**Chiang Mai Arr**	**25.76**	**292**	P		P	05 48 15.4	+7.3
	2.9nm,0.8s,baz=106,slow=7.2,SNR=11							
KSRS	**Korea Array**	**27.65**	**7**	P		**P**	**05 48 25.3**	**+0.4**
	1.7nm,0.6s,baz=187,slow=9.6,SNR=5.9							
KSRS				LR		LR	05 59 07.4	
	comp=Z,40nm,19.8s,baz=206,slow=36							
WRA	**Warramunga Arr**	**31.34**	**161**	P		**P**	**05 48 56.9**	**-1.0**
	0.6nm,0.8s,baz=349,slow=8.7,SNR=1.6							
ASAR	**Alice Springs**	**34.73**	**164**	P		**P**	**05 49 27.0**	**-0.4**
	0.6nm,0.5s,baz=339,slow=6.6,SNR=7.7							
SONM	**Songino Array**	**40.64**	**342**	P		**P**	**05 50 18.7**	**+1.4**
	0.3nm,0.3s,baz=148,slow=8.4,SNR=3.7							
SONM				LR		LR	06 06 36.8	
	comp=Z,46nm,19.4s,baz=107,slow=35							
BBOO	**Buckleboo**	**43.99**	**165**	P		**P**	**05 50 43.5**	**-1.1**
STKA	**Stephens Creek**	**44.81**	**159**	LR		LR	06 11 08.9	
	comp=Z,24nm,19.3s,baz=16,slow=38							
MK31	**Makanchi Array**	**51.01**	**324**	P		**P**	**05 51 40.1**	**+1.0**
MK31				IAmb		IAmb	05 51 46.1	
	comp=Z,1.5nm,0.8s							
MKAR	**Makanchi Array**	**51.01**	**324**	P		**P**	**05 51 40.4**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=126,slow=8.4,SNR=15							
MKAR	**Makanchi Array**	**51.01**	**324**	P		**P**	**05 51 40.2**	**+1.1**
ZALV	**Zalesovo Beam**	**53.91**	**332**	P		**P**	**05 52 01.1**	**+0.6**
	comp=Z,2.0nm,0.9s,baz=108,slow=9.5,SNR=4.3							
ZALV				LR		LR	06 14 59.1	
	comp=Z,20nm,18.4s,baz=189,slow=36							
ZALV	**Zalesovo Beam**	**53.91**	**332**	P		**P**	**05 52 00.7**	**+0.2**
KURK	**Kurchatov**	**55.15**	**327**	P		**P**	**05 52 09.8**	**+0.3**
KKAR	**Karatay Array**	**56.96**	**315**	P		**P**	**05 52 22.9**	**+0.2**
ARCES	**ARCESS Array B**	**83.77**	**340**	P		**P**	**05 55 06.5**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=84,slow=8.3,SNR=4.5							
NOA	**NORSAR Array B**	**92.11**	**333**	LR		LR	06 40 30.9	
	comp=Z,7.3nm,21.3s,baz=75,slow=38							
YKA	**Yellowknife Ar**	**94.97**	**23**	P		**P**	**05 55 59.3**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=295,slow=4.4,SNR=5.4							
TORD	**Torodi Ar. Bea**	**118.36**	**291**	PKP		**PKPdf**	**06 01 24.4**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=58,slow=1.9,SNR=2.3							

*IDC **17** 06:02:58.7±6.3, 36°.27N×71°.19E, h84km±43km, mb3.1/3, mb1 3.2/6, mb1mx3.0/42, mbtmp3.5/6, ML3.4/3, Error ellipse: s-maj=72.9km s-min=19.9km az=150.0*
*NNC **17** 06:03:04.5±11.0, 36°.60N×71°.11E, h113km±241km, mb3.1, mpv3.6, Error ellipse: s-maj=108.9km s-min=93.2km az=112.0*

ISC 17 06:02:59.1±0.8, 36°.20N±0°.07×71°.32E±0°.07, h114km, n23, σ2s18/27, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.23**	**135**	*e*P	**Pn**	**06 04 16.3**	**+1.3**
THN				*e*S	**Sn**	**06 05 13.5**	**-0.7**
AAK	**Ala-Archa**	**6.88**	**20**	P	**Pn**	**06 04 38.6**	**+1.1**
	1.0nm,0.3s,baz=196,slow=9.9,SNR=4.4						
AAK				S	**Sn**	**06 05 52.6**	**-1.8**
	0.4nm,0.3s,baz=321,slow=19,SNR=1.5						
AAK	**Ala-Archa**	**6.88**	**20**	⇓P	**Pn**	**06 04 38.5**	**+1.1**
	2.0nm,0.4s						
AAK				⇑S	**Sn**	**06 05 52.3**	**-2.0**
	7.3nm,0.8s						
KK31	**Karatay Array**	**6.92**	**355**	⇑P	**Pn**	**06 04 38.4**	**+0.5**
	2.2nm,0.3s,baz=179,slow=14,SNR=6.8						
KK31				⇑S	**Sn**	**06 05 52.0**	**-3.1**
	2.4nm,0.3s,baz=188,slow=26,SNR=6.4						
GEYT	**Alibeck**	**10.69**	**283**	P	**Pn**	**06 05 28.7**	**-0.2**
	0.9nm,0.3s,baz=104,slow=12,SNR=2.9						
GEYT				S	**Sn**	**06 07 22.7**	**-3.9**
	2.6nm,0.3s,baz=12,slow=29,SNR=7.2						
PYUN	**Piuthan**	**12.76**	**126**	*e*P	**Pn**	**06 05 54.9**	**-1.7**
	46nm,0.3s						
DANN	**Dangsing**	**13.11**	**123**	*e*P	**Pn**	**06 05 59.3**	**-1.9**
	21nm,0.4s						
KOLN	**Koldanda**	**13.38**	**125**	*e*P	**Pn**	**06 06 03.0**	**-1.6**
	11nm,0.4s						
MKAR	**Makanchi Array**	**13.39**	**34**	P	**Pn**	**06 06 03.8**	**-0.6**
	0.1nm,0.3s,baz=224,slow=6.0,SNR=2.0						
GKN	**Gorkha**	**13.93**	**122**	*e*P	**Pn**	**06 06 10.1**	**-1.5**
	19nm,0.2s						
DMN	**Daman**	**14.50**	**122**	*e*P	**Pn**	**06 06 17.1**	**-1.9**
	8.2nm,0.2s						
KKN	**Kakani**	**14.50**	**121**	*e*P	**Pn**	**06 06 16.7**	**-2.4**
	21nm,0.5s						
PKIN	**Phulchoki**	**14.72**	**122**	*e*P	**Pn**	**06 06 19.7**	**-2.1**
	15nm,0.4s						
PKI	**Pulchoki**	**14.73**	**122**	*e*P	**Pn**	**06 06 19.8**	**-2.2**
	9.6nm,0.2s						
GUN	**Gumba**	**14.85**	**120**	*e*P	**Pn**	**06 06 21.0**	**-2.5**
	7.3nm,0.3s						
JIRN	**Jiri**	**15.22**	**120**	*e*P	**Pn**	**06 06 26.0**	**-2.2**
	42nm,0.4s						
KURBB	**Kurchatov Arra**	**15.33**	**18**	P	**P**	**06 06 33.3**	**+2.1**
	0.0nm,0.3s,baz=204,slow=11,SNR=4.1						
AB31	**Akbulak array**	**15.47**	**331**	⇑P	**Pn**	**06 06 30.9**	**+0.1**
	0.6nm,0.5s						
RAMN	**Ramite**	**15.94**	**121**	*e*P	**Pn**	**06 06 34.9**	**-2.2**
	11nm,0.6s						
ODAN	**Odare**	**16.55**	**120**	*e*P	**Pn**	**06 06 41.4**	**-3.2**
	10.0nm,0.5s						
ZALV	**Zalesovo Beam**	**20.09**	**24**	P	Pn	06 07 24.6	-1.6
	1.3nm,0.3s,baz=205,slow=12,SNR=4.6						
TORD	**Torodi Ar. Bea**	**65.97**	**269**	P	**P**	**06 13 35.5**	**+2.0**
	0.2nm,0.3s,baz=44,slow=6.2,SNR=1.3						
YKA	**Yellowknife Ar**	**81.53**	**3**	P	**P**	**06 15 06.9**	**+3.4**
	0.1nm,0.6s,baz=341,slow=4.2,SNR=3.7						

UCR 17 06:14:42.8±1.5, 9°.46N×84°.54W, h10km±4km, MD3.7, MW3.3, 2C-4D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCR2	**La Lucha 2**	**0.60**	**62**	*i*P	Pg	06 14 54.2	-0.4
LCR2				*e*S	Sg	06 15 02.8	+0.3
SRA1	**San Ramn**	**0.63**	**5**	⇓P	Pg	06 14 54.7	-0.3
SRA1				*e*S	Sb	06 15 04.2	-0.7
SJS	**Escuela Geolog**	**0.68**	**45**	⇓*e*P	Pg	06 14 55.6	-0.3
SJS				*e*S	Sb	06 15 05.8	-0.5
HDC	**Heredia**	**0.69**	**38**	*e*P	Pg	06 14 55.9	-0.3
HDC				*e*S	Sb	06 15 06.0	-0.6
JTS	**Las Juntas de**	**0.93**	**334**	*e*P	Pg	06 14 59.2	-1.4
JTS				*e*S	Sg	06 15 11.9	-0.8
CVTR	**Volcan Turrial**	**0.95**	**54**	*e*P	Pg	06 15 01.1	-0.2
EDLM	**Las Mercedes**	**0.95**	**100**	*e*P	Pg	06 15 00.5	-0.7
EDLM				*e*S	Sb	06 15 15.0	+0.8
CASO	**Castillo**	**0.99**	**349**	*i*P	Pg	06 15 00.9	-1.0
CASO				*i*S	Sg	06 15 14.7	-0.1
ARE1	**Arenal 1**	**1.01**	**350**	*i*P	Pg	06 15 01.7	-0.6
ARE1				*e*S	Sn	06 15 16.9	-0.6
EDPN	**Palmar Norte**	**1.18**	**115**	*e*P	Pb	06 15 03.5	-1.7
EDPN				*e*S	Sb	06 15 20.2	-0.3
PLVR	**Palo Verde**	**1.19**	**318**	*e*P	Pb	06 15 04.1	-1.5
PLVR				*e*S	Sb	06 15 21.1	-0.1
ACAL	**Aguas Claras**	**1.27**	**337**	*i*P	Pn	06 15 05.4	-1.3
DRK0	**Durika**	**1.29**	**98**	*e*P	Pn	06 15 05.8	-1.3
DRK0				*e*S	Sb	06 15 23.4	-0.6
CUI	**Cuipilapa**	**1.34**	**333**⇓	*e*P	Pn	06 15 06.5	-1.2
CUI				*e*S	Sb	06 15 25.0	-0.4
HORNC	**Hornillas**	**1.40**	**333**	*i*P	Pn	06 15 07.0	-1.5
HORNC				*i*S	Sn	06 15 26.1	-0.9
LIM1	**Limonal**	**1.42**	**330**	*i*P	Pn	06 15 07.3	-1.5
GPS2	**Hotel Rincn d**	**1.52**	**328**⇑	*i*P	Pn	06 15 09.3	-0.8
GPS2				*e*S	Sb	06 15 30.6	+0.2
GPS1	**Guardaparques**	**1.54**	**329**	*i*P	Pn	06 15 09.4	-0.9
BUEV	**Buena Vista**	**1.58**	**327**⇑	*e*P	Pn	06 15 10.3	-0.8
BUEV				*e*S	Sg	06 15 33.4	-0.5
GB1A	**Borinquen Arri**	**1.60**	**328**	*e*P	Pn	06 15 10.7	-0.5
GBS3	**Finca Las Img**	**1.60**	**326**	*i*P	Pn	06 15 09.9	-1.2
ACON	**Acoyapa**	**2.57**	**346**	*e*P	Pn	06 15 24.6	0.0

*ASRS **17** 06:16:03.7, 53°.76N×91°.00E, M2.2, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*IDC **17** 06:16:11.7±3.3, 53°.52N×90°.69E, h0km, mb1 3.1/3, mb1mx3.0/34, mbtmp3.1/3, ML2.5/3, Error ellipse: s-maj=27.9km s-min=23.0km az=54.0*
*NNC **17** 06:16:11.6±6.4, 53°.53N×90°.69E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=53.1km s-min=46.2km az=165.0, Suspected Mining explosion.*

ISC 17 06:16:13.1±4.2, 53°.6N±0°.1×90°.5E±0°.2, h0km, n8, σ2s48/11, 5C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.40**	**278**	*i*		06 37 20.0	
	baz=88,slow=300,SNR=2.2						
ZALV	**Zalesovo Beam**	**3.40**	**278**	Pn	**Pn**	**06 17 06.9**	**-0.3**
	0.2nm,0.3s,baz=96,slow=10,SNR=2.6						
ZALV				Lg	Lg	06 18 03.2	
	1.1nm,0.3s,baz=93,slow=30,SNR=8.1						
KURK	**Kurchatov**	**7.86**	**253**	⇓Pn	**Pn**	**06 18 06.6**	**-1.9**
	1.8nm,0.7s						
KURK				⇓Sn	**Sn**	**06 19 42.2**	**+4.2**
	7.5nm,0.9s						
KURK				⇑Lg	Lg	06 20 27.2	
	20nm,1.1s						
KURBB	**Kurchatov Arra**	**7.95**	**253**	Pn	**Pn**	**06 18 09.3**	**-0.5**
	0.1nm,0.3s,baz=65,slow=15,SNR=10.0						
KURBB				Sn	**Sn**	**06 19 40.4**	**+0.1**
	0.0nm,0.3s,baz=67,slow=22,SNR=3.2						
KURBB				Lg	Lg	06 20 29.6	
	0.0nm,0.3s,baz=68,slow=32,SNR=6.6						
KURBB	**Kurchatov Arra**	**7.95**	**253**	⇑Pn	**Pn**	**06 18 08.9**	**-0.9**
	1.9nm,0.4s						
KURBB				⇑Sn	**Sn**	**06 19 40.6**	**+0.3**
	18nm,0.8s						
KURBB				⇓Lg	Lg	06 20 27.6	
	13nm,0.7s						
MK31	**Makanchi Array**	**8.60**	**221**	Pn	**Pn**	**06 18 21.9**	**+3.2**
	0.8nm,0.6s,baz=39,slow=13,SNR=9.7						
MK31				⇑Sn	**Sn**	**06 19 55.3**	**-1.0**
	4.0nm,1.1s						
MK31				⇑Lg	Lg	06 20 44.9	
	13nm,1.1s,baz=59,slow=35,SNR=5.2						
MKAR	**Makanchi Array**	**8.60**	**221**	Pn	**Pn**	**06 18 19.2**	**+0.5**
	0.2nm,0.3s,baz=36,slow=14,SNR=9.5						
MKAR				Sn	**Sn**	**06 19 52.4**	**-3.9**
	0.1nm,0.3s,baz=34,slow=18,SNR=1.5						
MKAR				Lg	Lg	06 20 44.9	
	baz=41,slow=19,SNR=3.1						
SONM	**Songino Array**	**11.59**	**113**	Lg	Lg	06 22 05.5	
	0.2nm,0.3s,baz=306,slow=29,SNR=11						

UCR 17 06:36:04.9±1.5, 9°.87N×84°.14W, h71km±3km, MD3.6, 4C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**0.11**	**48**	*i*P	Pn	06 36 15.4	-0.1
SJS				*e*S	Sn	06 36 23.9	+0.7
HDC	**Heredia**	**0.13**	**9**	*e*P	Pn	06 36 15.8	+0.2
HDC				*e*S	Sn	06 36 23.9	+0.5
LCR2	**La Lucha 2**	**0.18**	**134**	*i*P	Pn	06 36 15.6	-0.2
LCR2				*e*S	Sn	06 36 24.1	+0.3
CVTR	**Volcan Turrial**	**0.40**	**68**	*e*P	Pn	06 36 17.7	+0.3
CVTR				*e*S	Sn	06 36 27.7	+1.2
SRA1	**San Ramn**	**0.40**	**302**⇓	*e*P	Pn	06 36 17.0	-0.1
SRA1				*e*S	Sn	06 36 26.3	+0.3
EDDO	**Dominical**	**0.67**	**156**⇑	*e*P	Pn	06 36 20.1	+0.5
EDDO				*i*S	Sn	06 36 31.4	+1.1
EDLM	**Las Mercedes**	**0.80**	**137**	*i*P	Pn	06 36 21.2	+0.2
EDLM				*e*S	Sn	06 36 34.0	+1.0
CASO	**Castillo**	**0.81**	**314**	*i*P	Pn	06 36 21.2	-0.1
ARE1	**Arenal 1**	**0.82**	**316**	*e*P	Pn	06 36 21.6	+0.2
ARE1				*i*S	Sn	06 36 34.7	+1.1
JTS	**Las Juntas de**	**0.91**	**298**	*e*P	Pn	06 36 22.5	+0.1
JTS				*e*S	Sn	06 36 36.0	+0.7
DRK0	**Durika**	**1.06**	**124**⇑	*e*P	Pn	06 36 24.3	-0.2
DRK0				*e*S	Sn	06 36 39.1	+0.1
EDPN	**Palmar Norte**	**1.12**	**143**	*e*P	Pn	06 36 26.2	+1.2
EDPN				*e*S	Sn	06 36 42.9	+2.9
CUI	**Cuipilapa**	**1.28**	**308**	*i*P	Pn	06 36 27.2	+0.1
CUI				*e*S	Sn	06 36 44.5	+0.7
PLVR	**Palo Verde**	**1.29**	**292**	*e*S	Sn	06 36 45.2	+1.1
HORNC	**Hornillas**	**1.33**	**309**	*i*P	Pn	06 36 27.3	-0.4
GPS2	**Hotel Rincn d**	**1.49**	**306**	*e*P	Pn	06 36 30.0	+0.2
GPS2				*e*S	Sn	06 36 49.8	+1.3
BUEV	**Buena Vista**	**1.56**	**307**	*e*P	Pn	06 36 31.1	+0.4
BUEV				*e*S	Sn	06 36 51.5	+1.3
GB1A	**Borinquen Arri**	**1.56**	**307**	*e*P	Pn	06 36 31.7	+0.9

IDC 17 06:42:04.8±2.5, 54°.18N×86°.31E, h0km, mb1 3.0/2, mb1mx2.9/40, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=19.1km s-min=12.1km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**256**	*i*		06 47 50.0	
	baz=71,slow=303,SNR=1.1						
ZALV	**Zalesovo Beam**	**0.91**	**256**	Pg	Pg	06 42 20.5	-1.6
	2.4nm,0.3s,baz=72,slow=14,SNR=18						
ZALV				Lg	Lg	06 42 35.1	
	7.8nm,0.3s,baz=78,slow=30,SNR=34						
KURBB	**Kurchatov Arra**	**5.94**	**236**	Pn	Pn	06 43 35.1	+1.2
	0.1nm,0.3s,baz=54,slow=14,SNR=11						
KURBB				Sn	Sn	06 44 39.5	-3.2
	0.0nm,0.3s,baz=60,slow=5.5,SNR=1.7						
KURBB				Lg	Lg	06 45 15.5	
	0.0nm,0.3s,baz=61,slow=33,SNR=8.3						
MKAR	**Makanchi Array**	**7.82**	**201**	Pn	Pn	06 44 00.8	+1.0
	0.2nm,0.3s,baz=19,slow=14,SNR=7.4						
MKAR				Lg	Lg	06 46 11.2	
	0.1nm,0.3s,baz=24,slow=27,SNR=9.3						

*IDC **17** 06:49:10.5±1.9, 59°.83N×152°.76W, h61km±24km, mb3.5/8, mb1 3.7/13, mb1mx3.5/51, mbtmp3.9/13, ML4.3/6, MS3.3/1, Ms1 3.2/1, ms1mx2.2/34, Error ellipse: s-maj=21.6km s-min=12.8km az=113.0*
*NEIC **17** 06:49:11.9±1.1, 59°.80N±0°.03×152°.45W±0°.08, h85km±4km, Error ellipse: s-maj=5.6km s-min=4.1km az=90.0*
*AEIC **17** 06:49:12±1.2, 59°.83N±0°.04×152°.49W±0°.06, h82km±4km, ML3.8/135, Error ellipse: s-maj=7.2km s-min=1.4km az=147.0*

ISC 17 06:49:12.3±0.7, 59°.80N±0°.04×152°.42W±0°.04, h86km±6km, n144, σ0s84/164, mb3.9/8, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILS	**Iliamna Low So**	**0.36**	**295**		**Pn**	**06 49 24.8**	**-0.9**
IVE	**Iliamna Volcan**	**0.37**	**305**		**Pn**	**06 49 24.6**	**-1.1**
IVE					**Sn**	**06 49 34.5**	**-1.2**
ILIM	**Iliamna**	**0.39**	**316**		**Pn**	**06 49 24.9**	**-0.9**
HOM	**Homer**	**0.42**	**110**		**Pn**	**06 49 25.8**	**-0.1**
HOM					**Sn**	**06 49 36.7**	**+0.6**
ILW	**Iliamna West**	**0.45**	**306**		**Pn**	**06 49 25.6**	**-0.8**
RED	**Redoubt Volcan**	**0.64**	**344**		**Pn**	**06 49 27.2**	**-0.7**
RED					**Sn**	**06 49 38.8**	**-0.7**
AU22	**Augustine Moun**	**0.65**	**228**		**Pn**	**06 49 27.2**	**-0.6**
AU22					**Sn**	**06 49 38.8**	**-0.6**
CNPM	**China Poot**	**0.66**	**114**		**Pn**	**06 49 27.8**	**-0.2**
CNPM					**Sn**	**06 49 39.7**	**-0.1**
AUL	**Augustine Lava**	**0.67**	**231**		**Pn**	**06 49 27.5**	**-0.6**
AUL					**Sn**	**06 49 39.4**	**-0.4**
RDSO	**Redoubt South**	**0.67**	**346**		**Pn**	**06 49 27.6**	**-0.7**
RDSO					**Sn**	**06 49 39.4**	**-0.8**
AUP	**Augustine Pinn**	**0.68**	**230**		**Pn**	**06 49 27.7**	**-0.5**
AUJK	**Augustine Jueg**	**0.68**	**228**		**Pn**	**06 49 27.6**	**-0.6**
RSO	**Redoubt South**	**0.68**	**346**		**Pn**	**06 49 27.6**	**-0.8**
AUH	**Augustine H**	**0.68**	**230**		**Pn**	**06 49 27.8**	**-0.5**
AUW	**Augustine West**	**0.69**	**231**		**Pn**	**06 49 27.8**	**-0.5**
RDWB	**Redoubt West**	**0.72**	**343**		**Pn**	**06 49 27.9**	**-0.8**
RDWB					**Sn**	**06 49 40.1**	**-0.9**
RDT	**Redoubt**	**0.77**	**0**		**Pn**	**06 49 28.5**	**-0.7**
BRLK	**Bradley Lake**	**0.77**	**92**		**Pn**	**06 49 28.9**	**-0.3**
BRLK					**Sn**	**06 49 42.4**	**+0.6**
RDJH	**Redoubt Jeurge**	**0.81**	**346**		**Pn**	**06 49 29.1**	**-0.6**
RDJH					**Sn**	**06 49 42.2**	**-0.5**
BRSE	**Bradley Lake S**	**0.85**	**93**		**Pn**	**06 49 29.6**	**-0.3**
BRSE					**Sn**	**06 49 43.3**	**+0.1**
CAPN	**Captain Cook N**	**1.15**	**32**		**Pn**	**06 49 35.1**	**+1.7**
SLKM	**Skilak Lake**	**1.30**	**56**		**Pn**	**06 49 35.7**	**+0.3**
SLKM					**Sn**	**06 49 52.6**	**-0.2**
SPU	**Mount Spurr**	**1.39**	**7**		**Pn**	**06 49 36.4**	**-0.1**
SPCR	**Spurr Chakacha**	**1.41**	**4**		**Pn**	**06 49 36.5**	**-0.2**
SPCR					**Sn**	**06 49 54.9**	**-0.1**
SPBG	**Spurr Blockage**	**1.46**	**1**		**Pn**	**06 49 37.3**	**-0.1**
SPBG					**Sn**	**06 49 56.6**	**+0.3**
SPCG	**Spurr Capps Gl**	**1.51**	**7**		**Pn**	**06 49 38.0**	**0.0**
SPCG					**Sn**	**06 49 58.1**	**+0.7**
O22K	**Cooper Landing**	**1.51**	**62**		**Pn**	**06 49 38.0**	**+0.2**
SEW	**Seward**	**1.52**	**77**		**Pn**	**06 49 37.7**	**-0.3**
SPNN	**North Nagishla**	**1.57**	**355**		**Pn**	**06 49 38.8**	**-0.1**
KAHG	**Katmai Hook Gl**	**1.71**	**221**		**Pn**	**06 49 40.1**	**-0.5**
STLK	**Strandline Lak**	**1.73**	**9**		**Pn**	**06 49 40.9**	**+0.1**
FIS	**Fire Island**	**1.73**	**38**		**Pn**	**06 49 42.1**	**+1.4**
KAHC	**Katmai Hardscr**	**1.77**	**230**		**Pn**	**06 49 40.5**	**-0.9**
RC01	**Rabbit Creek A**	**1.85**	**45**		**Pn**	**06 49 42.1**	**-0.2**
RC01					**Sn**	**06 50 05.8**	**+0.6**
KAWH	**Katmai**	**1.88**	**222**		**Pn**	**06 49 42.1**	**-0.7**
KDAK	**Kodiak Island**	**2.03**	**183**	P	**Pn**	**06 49 43.6**	**-1.0**
	129nm,0.3s,baz=46,slow=15,SNR=548						
KDAK				S	**Sn**	**06 50 07.5**	**-1.9**
	87nm,0.3s,baz=302,slow=15,SNR=11						
KDAK	**Kodiak Island**	**2.03**	**183**		**Pn**	**06 49 43.5**	**-1.2**
SVW2	**Sparrevohn**	**2.04**	**311**		**Pn**	**06 49 43.7**	**-1.0**
KCG	**Knife Ck. Glac**	**2.05**	**224**		**Pn**	**06 49 44.4**	**-0.6**
KABU	**Katmai Buttres**	**2.14**	**225**		**Pn**	**06 49 45.8**	**-0.4**
PWL	**Port Wells**	**2.29**	**61**		**Pn**	**06 49 47.5**	**-0.6**
PWL					**Sn**	**06 50 14.6**	**-1.0**
CAHL	**Cahill**	**2.31**	**222**		**Pn**	**06 49 48.5**	**+0.1**
KJL	**Kejulik**	**2.40**	**224**		**Pn**	**06 49 49.8**	**+0.1**
PMR	**Palmer**	**2.41**	**41**		**Pn**	**06 49 49.3**	**-0.4**
PMR					**Sn**	**06 50 17.5**	**-1.0**
KNK	**Knik Glacier**	**2.53**	**49**		**Pn**	**06 49 50.9**	**-0.5**
GHO	**Glory Hole Cre**	**2.61**	**39**		**Pn**	**06 49 52.5**	**0.0**
OHAK	**Old Harbor**	**2.63**	**190**		**Pn**	**06 49 50.9**	**-1.7**
SML	**Sawmill**	**2.84**	**43**		**Pn**	**06 49 55.1**	**-0.4**
GLI	**Glacier Island**	**2.86**	**66**		**Pn**	**06 49 54.2**	**-1.5**
PLK2	**Peulik 2**	**2.88**	**227**		**Pn**	**06 49 56.3**	**+0.2**
PLK5	**Peulik 5**	**2.94**	**234**		**Pn**	**06 49 56.6**	**-0.2**
PLK1	**Peulik 1**	**2.96**	**229**		**Pn**	**06 49 57.2**	**0.0**
FID	**Port Fidalgo**	**3.11**	**70**		**Pn**	**06 49 57.1**	**-1.9**
PPLA	**Purkeypile**	**3.11**	**2**		**Pn**	**06 49 59.7**	**+0.5**
MID	**Middleton Isla**	**3.11**	**94**		**Pn**	**06 49 58.9**	**-0.2**
JPK	**Jack Peak**	**3.15**	**64**		**Pn**	**06 49 58.5**	**-1.1**
SCM	**Sheep Creek Mo**	**3.22**	**49**		**Pn**	**06 50 00.5**	**-0.1**
VMT	**TAPS TI Valdez**	**3.26**	**64**		**Pn**	**06 50 00.4**	**-0.7**
EYAK	**Cordova Ski Ar**	**

KURK	**Kurchatov**	62.36	326	P		P	06 59 25.2	0.0
BVAR	**Borovoye Array**	62.38	332	P		P	06 59 25.3	-0.1
	0.5nm,0.4s,baz=35,slow=5.3,SNR=3.1							
KURBB	**Kurchatov Arra**	62.47	326	P		P	06 59 25.2	-0.7
	0.5nm,0.5s,baz=27,slow=6.4,SNR=4.9							
MKAR	**Makanchi Array**	64.77	322	P		P	06 59 39.8	-1.4
	0.4nm,0.6s,baz=28,slow=5.5,SNR=4.3							

MAN **17** *06:56:38.0, 15°.99N×119°.42E, h15km, mb4.7, ML3.6, MS3.5*
NEIC **17** *06:56:40.8±1.4, 15°.94N±0°.05×119°.6E±0°.1, h52km±8km, mb4.2/9, Error ellipse: s-maj=20.2km s-min=4.0km az=73.0*
IDC **17** *06:56:41.1±2.1, 16°.00N×119°.57E, h50km±22km, mb3.8/16, mb1 4.0/19, mb1mx3.8/43, mbtmp4.1/19, ML4.1/3, MS3.5/17, Ms1 3.5/17, ms1mx3.3/45, Error ellipse: s-maj=22.3km s-min=12.0km az=66.0*
ISC 17 06:56:36.2±2.2, 15°.95N±0°.04×119°.34E±0°.06, h12km±13km, **n63,σ1§30/67, mb4.2/19, MS3.4/15, 1C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCZP	**Santa Cruz**	0.58	107	*eP*	Pn	06 56 49.1	-1.1
SCZP				*eS*	Sn	06 57 00.2	+0.6
BOLP	**Bolinao**	0.70	52	*eP*	Pb	06 56 49.5	-0.7
BOLP				*eS*	Sn	06 57 03.1	+0.5
SMPP	**San Manuel, Pa**	1.30	81	*eP*	Pn	06 56 59.8	-0.5
SMPP				*eS*	Sg	06 57 17.1	-1.1
PCPH	**Palayan**	1.73	103	*eP*	Pn	06 57 06.4	+0.2
ABRA	**Dolores**	2.14	38	*eP*	Pn	06 57 12.0	+0.3
ABRA				*eS*	Sb	06 57 41.4	-0.1
BALP	**Baler**	2.16	95	*eP*	Pb	06 57 13.7	-1.6
BALP				*eS*	Sg	06 57 49.4	+3.7
SIPP	**Brgy, Tapao**	2.23	28	*eP*	Pb	06 57 14.5	-2.0
SIPP				*eS*	Sg	06 58 11.1	+23
TGY	**Tagaytay City**	2.40	140	P	Pn	06 57 15.4	0.0
	79nm,0.3s,baz=98,slow=6.1,SNR=1.8						
TGY				S	Sn	06 57 45.0	+0.3
	75nm,0.3s,baz=314,slow=8.1,SNR=6.7						
TGY				LR	LR	06 58 28.0	
	comp=Z,1μm,19.5s,baz=218,slow=46						
CAUP	**Cauayan**	2.58	67	*eP*	Pb	06 57 20.4	-2.0
CAUP				*eS*	Sb	06 57 54.5	+0.4
APYP	**Conner**	2.63	44	*eP*	Pn	06 57 18.9	+0.3
APYP				*eS*	Sn	06 57 38.6	-12
POLP	**Polilio Island**	2.79	116	*eP*	Pb	06 57 24.6	-1.3
POLP				*eS*	Sb	06 58 00.9	+0.9
LQP	**Lukban**	2.80	130	*eP*	Pn	06 57 22.7	+1.7
LQP				*i* S	Sg	06 58 06.1	-0.2
PGP	**Puerto Galera**	2.89	147	*eP*	Pn	06 57 23.7	+1.6
PVCP	**Virac**	5.21	116	*eP*	Pn	06 57 56.1	+2.1
PVCP				*eS*	Sn	06 58 57.0	+2.9
TWG	**Pinlang**	7.03	13	Pn	Pn	06 58 20.6	+1.7
YULB	**Yu-li**	7.63	14	Pn	Pn	06 58 28.5	+1.3
SSLB	**Suanglung**	7.94	11	Pn	Pn	06 58 33.5	+2.0
NACB	**Ninganchiao**	8.45	14	Pn	Pn	06 58 39.3	+0.8
YHNB	**Yeheng**	8.88	12	Pn	Pn	06 58 46.0	+1.6
CMAR	**Chiang Mai Arr**	19.64	280	P	Pn	07 01 09.3	+3.0
	0.2nm,0.3s,baz=94,slow=7.6,SNR=7.7						
CMAR				LR	LR	07 09 01.8	
	comp=Z,313nm,18.2s,baz=161,slow=37						
JNU	**Nakatsue**	20.03	29	P	P	07 01 08.4	-0.7
	0.3nm,0.3s,baz=270,slow=1.3,SNR=7.0						
JNU				LR	LR	07 09 00.3	
	comp=Z,36nm,21.4s,baz=180,slow=37						
JNU	**Nakatsue**	20.03	29	P	P	07 01 08.2	-0.9
SIJI	**Sorong**	20.45	144	LR	LR	07 08 55.4	
	comp=Z,78nm,18.8s,baz=210,slow=36						
KAPI	**Kappang**	20.83	179	LR	LR	07 11 13.4	
	comp=Z,105nm,18.0s,baz=44,slow=42						
KSAR	**Wonju Array Be**	22.70	18	P	P	07 01 37.3	-0.4
KSRS	**Korea Array**	22.73	18	P	P	07 01 36.6	-1.4
	2.3nm,0.8s,baz=200,slow=11,SNR=7.0						
KSRS				LR	LR	07 11 05.6	
	comp=Z,75nm,19.6s,baz=191,slow=38						
BJT	**Baijiatuau**	24.14	354	P	P	07 01 53.1	+1.1
BJT				IAmb	IAmb	07 02 02.3	
	comp=Z,8.3nm,1.1s						
JHJ	**Hachijo jima 2**	25.18	44	LR	LR	07 10 08.5	
	comp=Z,56nm,20.7s,baz=91,slow=32						
MJAR	**Matsushiro Arr**	26.49	36	LR	LR	07 12 54.6	
	comp=Z,100nm,19.7s,baz=265,slow=37						
JAY	**Jayapura**	27.98	129	LR	LR	07 12 42.4	
	comp=Z,107nm,20.8s,baz=338,slow=34						
SONM	**Songino Array**	33.54	344	P	P	07 03 16.8	+0.9
	comp=Z,1.7nm,0.6s,baz=164,slow=9.8,SNR=8.3						
SONM	**Songino Array**	33.54	344	P	P	07 03 14.2	-1.8
WRA	**Warramunga Arr**	38.59	157	P	P	07 03 57.8	-1.5
	comp=Z,3.0nm,0.9s,baz=336,slow=9.3,SNR=4.9						
WRA				PcP	PcP	07 06 12.4	+0.6
	comp=Z,1.2nm,0.6s,baz=341,slow=3.0,SNR=3.9						
WB2	**Warramunga Arr**	38.60	157	P	P	07 03 57.0	-2.4
AS31	**Alice Springs**	41.87	160	P	P	07 04 25.3	-1.1
ASAR	**Alice Springs**	41.87	160	P	P	07 04 25.6	-0.9
	comp=Z,3.1nm,0.9s,baz=339,slow=6.5,SNR=24						
ASAR				PcP	PcP	07 06 23.3	+1.0
	comp=Z,0.8nm,0.9s,baz=330,slow=3.3,SNR=2.9						
ASAR	**Alice Springs**	41.87	160	P	P	07 04 25.8	-0.7
MKAR	**Makanchi Array**	43.45	323	P	P	07 04 40.7	+1.6
	comp=Z,0.8nm,0.7s,baz=104,slow=7.6,SNR=3.6						
MKAR				PcP	PcP	07 06 28.4	+1.2
	comp=Z,0.5nm,0.8s,baz=123,slow=5.3,SNR=2.3						
ZALV	**Zalesovo Beam**	46.47	332	P	P	07 05 03.2	+0.2
	comp=Z,1.0nm,0.5s,baz=141,slow=8.1,SNR=4.0						
ZALV				LR	LR	07 27 24.2	
	comp=Z,24nm,19.5s,baz=82,slow=40						
ZALV	**Zalesovo Beam**	46.47	332	P	P	07 05 02.5	-0.4
KURBB	**Kurchatov Arra**	47.60	326	P	P	07 05 12.6	+0.8
	comp=Z,2.1nm,0.7s,baz=122,slow=8.3,SNR=19						
KURBB				PcP	PcP	07 06 40.7	-0.8
	comp=Z,0.2nm,0.3s,baz=107,slow=3.4,SNR=2.2						
KURK	**Kurchatov**	47.60	326	P	P	07 05 12.9	+1.1
PETK	**Petropavlovsk-**	47.73	30	P	P	07 05 12.3	-0.5
	comp=Z,7.3nm,0.7s,baz=216,slow=6.6,SNR=16						
PETK	**Petropavlovsk-**	47.73	30	P	P	07 05 11.8	-1.0
KKAR	**Karatay Array**	49.48	314	P	P	07 05 27.1	+0.6
STKA	**Stephens Creek**	52.12	156	LR	LR	07 30 00.3	
	comp=Z,66nm,18.2s,baz=211,slow=38						
BVAR	**Borovoye Array**	53.18	325	P	P	07 05 55.4	+1.3
	comp=Z,0.5nm,0.4s,baz=103,slow=6.5,SNR=4.3						
AKTO	**Aktyubinsk**	59.66	319	P	P	07 06 40.8	+0.5
	comp=Z,1.7nm,0.5s,baz=100,slow=12,SNR=6.2						
KBZ	**Khabaz**	69.42	311	P	P	07 07 44.4	+0.2
	comp=Z,2.3nm,0.9s,baz=179,slow=6.2,SNR=4.3						
KBZ				LR	LR	07 40 32.5	
	comp=Z,27nm,18.8s,baz=62,slow=38						
ARCES	**ARCESS Array B**	76.53	339	P	P	07 08 24.9	-1.0
	comp=Z,1.9nm,0.7s,baz=79,slow=7.5,SNR=8.4						
ILAR	**Eielson Array**	77.31	26	P	P	07 08 29.0	-1.5
	comp=Z,0.6nm,0.8s,baz=273,slow=6.6,SNR=6.2						
EIL	**Elat**	77.50	297	LR	LR	07 46 48.2	
	comp=Z,41nm,19.0s,baz=94,slow=39						
FINES	**FINESS Array B**	77.69	331	P	P	07 08 31.3	-1.3
	comp=Z,2.0nm,0.6s,baz=42,slow=5.9,SNR=8.0						
BMAR	**Burnt Mountain**	77.72	23	P	P	07 08 32.3	-0.4
BURAR	**Bucovina Array**	81.12	317	P	P	07 08 51.3	-0.5
BUR08	**Bucovina Ar. S**	81.13	317	P	P	07 08 51.7	0.0
BUR08					IAmb	IAmb	07 08 59.2	
	comp=Z,3.1nm,1.2s						
MLR	**Muntele Rosu**	81.14	315	LR	LR	07 48 32.0	
	comp=Z,38nm,18.1s,baz=135,slow=38						
INK	**Inuvik**	81.48	21	P	P	07 08 53.0	0.0
INK					IAmb	IAmb	07 08 55.9	
	comp=Z,8.3nm,1.5s						
HFS	**Hagfors**	83.88	331	LR	LR	07 49 49.4	
	comp=Z,41nm,18.0s,baz=62,slow=38						
NB2	**NORSAR Subarra**	84.67	332	P	P	07 09 08.9	-0.8
	comp=Z,0.4nm,0.5s,baz=67,slow=5.1						
NOA	**NORSAR Array B**	84.67	332	P	P	07 09 08.8	-1.0
	comp=Z,0.6nm,0.6s,baz=66,slow=5.0,SNR=3.8						
NOA				LR	LR	07 48 09.0	
	comp=Z,30nm,18.9s,baz=70,slow=36						
YKA	**Yellowknife Ar**	91.20	22	P	P	07 09 40.6	-0.4
	comp=Z,0.4nm,0.6s,baz=307,slow=4.3,SNR=7.4						
PPT	**Papeete**	95.70	107	LR	LR	07 47 44.0	
	comp=Z,18nm,18.2s,baz=304,slow=32						

IDC **17** *07:16:56.0±1.8, 53°.28N×160°.61W, h0km, mb3.5/6, mb1 3.8/9, mb1mx3.6/49, mbtmp3.5/9, ML3.6/3, Error ellipse: s-maj=32.9km s-min=23.4km az=71.0*
AEIC **17** *07:16:59±1.8, 53°.35N±0°.04×160°.71W±0°.04, h31km±7km, ML3.2/28, Error ellipse: s-maj=6.4km s-min=2.4km az=151.0*
NEIC **17** *07:16:59.6±1.7, 53°.42N±0°.04×160°.72W±0°.08, h25km±8km, Error ellipse: s-maj=6.5km s-min=6.0km az=71.0*
ISC 17 07:17:00.1±0.8, 53°.33N±0°.07×160°.58W±0°.05, h35km**, n62,**
σ1§66/65, mb3.5/7, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNBA	**Chernabura Isl**	1.60	21		Pn	07 17 25.1	-0.8
CNBA					Sn	07 17 45.4	+0.1
SDPT	**Sand Point**	2.03	2		Pn	07 17 31.4	-0.2
SDPT					Sn	07 17 56.3	+0.6
DT1	**Dutton Round H**	2.04	331		Pn	07 17 31.7	-0.2
HAG	**Hague Volcano**	2.14	339		Pn	07 17 33.9	+0.7
HAG					Sn	07 18 01.3	+2.8
PS4A	**Pavlof South-4**	2.16	340		Pn	07 17 34.1	+0.6
PVV	**Pavlof Volcano**	2.17	341		Sn	07 18 01.8	+2.5
PN7A	**Pavlof North-7**	2.27	339		Pn	07 17 34.5	-0.5
FALS	**False Pass**	2.27	314		Pn	07 17 34.8	-0.1
FALS					Sn	07 18 01.6	-0.1
FALS	**False Pass**	2.27	314		Sn	07 18 03.4	+1.7
SSBA	**Shishaldin**	2.54	306		Pn	07 17 38.1	-0.7
WESP	**Westdahl Peak**	2.71	297		Pn	07 17 40.6	-0.6
WECS	**Westdahl Cape**	2.76	298		Pn	07 17 41.3	-0.5
VNWF	**Veniaminof 8**	2.89	11		Sn	07 18 20.1	+2.9
AKSA	**Akutan Strait**	3.15	287		Pn	07 17 46.4	-0.7
AKSA	**Akutan Strait**	3.15	287		Pn	07 17 46.3	-0.7
AKSA					Sn	07 18 23.2	-0.1
AKUT	**Akutan**	3.19	287		Pn	07 17 47.1	-0.5
AKUT					Sn	07 18 23.9	-0.5
ZRO	**Akutan Zero**	3.30	286		Pn	07 17 48.3	-0.9
AKMO	**Akutan Morgan**	3.32	285		Pn	07 17 48.5	-0.9
UNV	**Unalaska Valle**	3.57	281		Pn	07 17 51.4	-1.4
UNV					Sn	07 18 31.4	-2.3
MSW	**Makushin Switc**	3.74	282		Pn	07 17 54.2	-1.1
MCIR	**Makushin Cirqu**	3.81	282		Pn	07 17 55.5	-0.8
OKNC	**Okmok New Cone**	4.52	275		Pn	07 18 04.9	-1.0
NIKH	**Nikolski High**	5.00	269	Pn	Pn	07 18 11.2	-1.2
OHAK	**Old Harbor**	5.71	44	Pn	Pn	07 18 20.6	-1.6
KDAK	**Kodiak Island**	6.36	42	Pn	Pn	07 18 29.8	-1.4
	0.7nm,0.3s,baz=182,slow=6.7,SNR=8.8						
KDAK					Sn	07 19 37.9	-4.6
	0.8nm,0.3s,baz=340,slow=23,SNR=8.4						
KDAK	**Kodiak Island**	6.36	42		Pn	07 18 29.7	-1.5
CNPM	**China Poot**	8.08	36	Pn	Pn	07 18 54.7	-0.1
ATKA	**Atka Island**	8.34	268	Pn	Pn	07 18 57.4	-0.9
SEW	**Seward**	9.13	38	Pn	Pn	07 19 08.7	-0.4
RC01	**Rabbit Creek A**	9.74	33	Pn	Pn	07 19 17.6	+0.1
PMR	**Palmer**	10.31	32	Pn	Pn	07 19 24.8	-0.4
PPLA	**Purkeypile**	10.56	21	Pn	Pn	07 19 30.9	+2.1
SCM	**Sheep Creek Mo**	11.08	34	Pn	Pn	07 19 35.7	-0.2
TRF	**Thorofare Moun**	11.48	24	Pn	Pn	07 19 41.2	-0.2
DHY	**Denali Highway**	11.97	30	Pn	Pn	07 19 46.8	-1.3
VRDI	**Verde Repeater**	12.15	43	Pn	Pn	07 19 49.8	-0.8
BALM	**Baldy**	12.51	45	Pn	Pn	07 19 54.7	-0.7
WRH	**Wood River Hil**	12.87	25	Pn	Pn	07 19 57.9	-2.3
CCB	**Clear Creek Bu**	13.08	25	Pn	Pn	07 20 01.1	-2.0
HDA	**Harding Lake**	13.12	27	Pn	Pn	07 20 01.4	-2.2
IMAR	**Indian Mountai**	13.14	12	Pn	Pn	07 20 03.6	-0.3
RIDG	**Independent Ri**	13.23	32	Pn	Pn	07 20 05.2	0.0
IL31		13.42	26	Pn	Pn	07 20 05.0	-2.6
ILAR	**Eielson Array**	13.42	26	Pn	Pn	07 20 05.6	-2.1
	0.1nm,0.3s,baz=217,slow=13,SNR=4.9						
ILAR					Sn	07 22 28.5	-6.9
	0.1nm,0.3s,baz=336,slow=25,SNR=2.9						
ILAR	**Eielson Array**	13.42	26		Pn	07 20 06.3	-1.4
DOT	**Dot Lake**	13.42	33	Pn	Pn	07 20 07.5	-0.3
SCRK	**Sand Creek**	13.67	32	Pn	Pn	07 20 08.9	-2.4
EGAK	**Eagle**	15.13	33	Pn	Pn	07 20 31.4	+0.6
INK	**Inuvik**	19.71	30	P	Pn	07 21 26.9	-0.8
	0.4nm,0.3s,baz=218,slow=9.5,SNR=16						
YKA	**Yellowknife Ar**	25.55	51	P	P	07 22 25.5	+0.4
	0.8nm,1.0s,baz=263,slow=7.3,SNR=8.3						
NVAR	**Mina Array Bea**	32.45	100	P	P	07 23 28.4	+1.5
	0.7nm,0.6s,baz=304,slow=10,SNR=6.7						
ELK	**Elko**	32.80	94	P	P	07 23 31.5	+1.5
	0.2nm,0.3s,baz=292,slow=4.6,SNR=3.5						
PDAR	**Pinedale Array**	35.00	86	P	P	07 23 50.4	+1.3
	0.2nm,0.6s,baz=70,slow=32,SNR=1.9						
H11N2	**WAKE ISLAND Hy**	41.85	229	T	T	08 11 03.3	
	baz=26,slow=76,SNR=5.8						
H11N3	**WAKE ISLAND Hy**	41.85	229	T	T	08 11 08.2	
	baz=26,slow=76,SNR=5.1						
H11N1	**WAKE ISLAND Hy**	41.87	229	T	T	08 11 05.5	
	baz=26,slow=76,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	43.00	229	T	T	08 12 44.1	
	baz=26,slow=76,SNR=4.6						
H11S2	**WAKE ISLAND Hy**	43.02	229	T	T	08 12 40.6	
	baz=26,slow=76,SNR=4.4						
H11S3	**WAKE ISLAND Hy**	43.02	229	T	T	08 12 34.9	
	baz=26,slow=76,SNR=3.7						
TXAR	**Lajitas Array**	47.48	97	P	P	07 25 32.3	+0.8
	1.2nm,0.7s,baz=302,slow=5.7,SNR=21						
LPIG	**La Paz**	47.52	108	P	P	07 25 32.7	+1.0
	21nm,0.9s,baz=333,slow=4.5,SNR=1.8						
MKAR	**Makanchi Array**	66.83	318	P	P	07 27 49.5	+1.5
	0.3nm,0.7s,baz=39,slow=5.7,SNR=2.4						

IDC **17** *07:27:48.6±2.3, 0°.11S×128°.19E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/28, mbtmp3.4/3, Error ellipse: s-maj=172.3km s-min=27.6km az=67.0*
DJA **17** *07:27:55.5±0.3, 1°.5S×2°.12°.7E±°, h10km, M4.0/13, mb4.2/1, MLv3.9/13*
ISC 17 07:27:57.0±1.1, 0°.71S±0°.06×126°.87E±0°.07, h35km**, n11,**
σ1§70/12, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	0.64	84	P	Pn	07 28 08.8	-0.8
TNTI	**Ternate**	1.55	19	P	Pn	07 28 23.0	+0.8
TNTI				S	Sn	07 28 44.3	+3.2
NLAI	**Namlea**	2.52	175	P	Pn	07 28 37.2	+1.6
KMSI	**Cibinong**	3.16	294	P	Pn	07 28 44.7	+0.4
AAI	**Ambon**	3.24	156	P	Pn	07 28 46.7	+1.2
MSAI	**Masohi**	3.33	142	P	Pn	07 28 47.9	+1.2
LUWI	**Luwuk**	4.11	265	P	Pn	07 28 57.9	+0.5
FAKI	**Fak Fak**	5.81	112	P	Pn	07 29 21.9	+1.1
WRA	**Warramunga Arr**	20.47	160	P	P	07 32 30.2	-1.7
	1.0nm,0.7s,baz=343,slow=12,SNR=2.5						
ASAR	**Alice Springs**	23.82	164	P	P	07 33 05.5	-1.5
	0.6nm,0.5s,baz=346,slow=8.4,SNR=10						
MKAR	**Makanchi Array**	61.29	327	P	P	07 38 07.5	-1.4
	0.3nm,0.4s,baz=121,slow=8.0,SNR=4.6						

INET **17** *07:28:11.6, 10°.02N×85°.73W, h8km, ML4.2*
UCR **17** *07:28:13.1±1.2, 10°.19N×85°.75W, h14km±5km, MD3.9, mb4.5(NEIC)*
IDC **17** *07:28:15.6±1.6, 10°.84N×85°.33W, h28km±14km, mb3.8/12, mb1 4.1/13, mb1mx3.8/40, mbtmp4.0/13, ML3.6/1, MS3.3/4, Ms1 3.3/4, ms1mx2.8/26, Error ellipse: s-maj=30.4km s-min=14.3km az=54.0*
NEIC **17** *07:28:16.8±1.9, 10°.35N±0°.07×85°.55W±0°.06, h52km±7km, mb4.2/51, Mwr4.5(UCR), Error ellipse: s-maj=10.6km s-min=7.1km az=209.0*
ISC 17 07:28:14.2±0.9, 10°.25N±0°.05×85°.68W±0°.05, h30km±5km**,**
n107, σ1§26/119, mb4.2/32, MS3.3/3, 5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUAI	**GUAI**	0.16	84	*i* P	Pb	07 28 18.9	-1.0
GUAI				*i* S	Sb	07 28 23.4	-0.5
PLVR	**Palo Verde**	0.33	73	*i* P	Pb	07 28 21.7	-0.5
PLVR				*eS*	Sb	07 28 28.6	+0.9
NY14	**Universidad de**	0.42	20	*i* P	Pb	07 28 23.7	+0.4
GPS3	**Bodega del ICE**	0.59	32	*i* P	Pb	07 28 26.1	+0.1
GPS3				*i* S	Sn	07 28 35.3	+0.2
GPS2	**Hotel Rincn d**	0.59	33	*i* P	Pb	07 28 26.2	+0.1
GPS2				*eS*	Sn	07 28 36.1	+0.8
BUEV	**Buena Vista**	0.60	26	*eP*	Pb	07 28 26.2	-0.2
BUEV				*eS*	Sn	07 28 35.6	0.0
LIM1	**Limonal**	0.61	43	*i* P	Pb	07 28 26.5	0.0
GPS1	**Guardaparques**	0.61	32	*i* P	Pb	07 28 26.5	0.0
GB1A	**Borinquen Arri**	0.62	26	*eP*	Pb	07 28 26.6	-0.1
GB1A				*eS*	Sn	07 28 36.9	+0.7
GUAB	**Guayabo de Bag**	0.63	44	*i* P	Pb	07 28 26.7	-0.1
CUI	**Cuipilapa**	0.65	51	*i* P	Pb	07 28 27.0	0.0
CUI				*eS*	Sn	07 28 37.6	+1.0
HORNC	**Hornillas**	0.67	47	*i* P	Pb	07 28 27.4	-0.1
HORNC				*i* S	Sn	07 28 37.5	+0.3
JTS	**Las Juntas de**	0.71	87	Pg	Pb	07 28 27.5	-0.6
	316nm,0.3s,baz=185,slow=22,SNR=3511						
JTS				Lg	Lg	07 28 38.6	
	470nm,0.3s,baz=307,slow=20,SNR=19						
JTS	**Las Juntas de**	0.71	87	*eP*	Pb	07 28 27.6	-0.5
JTS				*eS*	Sn	07 28 39.0	+0.8
ACAL	**Aguas Claras**	0.74	59	*i* P	Pb	07 28 28.6	0.0
ACAL				*i* S	Sn	07 28 40.4	+1.5
ARE1	**Arenal 1**	0.96	78	*eP*	Pb	07 28 32.5	+0.2
ARE1				*eS*	Sb	07 28 47.8	+3.1
SRA1	**San Ramn**	1.19	98	*eP*	Pn	07 28 35.0	+0.1
HDC	**Heredia**	1.56	99	*eP*	Pn	07 28 40.7	+0.7
HDC				*eS*	Sb	07 29 03.5	+1.6
HDC	**Heredia**	1.56	99		Pn	07 28 40.8	+0.8
SJS	**Escuela Geolog**	1.63	101	*eP*	Pn	07 28 41.7	+0.7
LCR2	**La Lucha 2**	1.73	107	*eP*	Pn	07 28 42.1	-0.2
ACON	**Acoyapa**	1.77	16		Pn	07 28 43.7	+0.8
CVTR	**Volcan Turrial**	1.90	97	*eP*	Pn	07 28 45.6	+0.6
BOAB	**BOACO BROADBAN**	2.18	0		Pn	07 28 49.0	+0.5
ESPN	**Las Esperanzas**	2.36	35		Pn	07 28 51.4	+0.6
DRK0	**Durika**	2.59	112	*eP*	Pn	07 28 54.2	0.0
MATN	**Matagalpa**	2.67	355		Pn	07 28 56.2	+0.9
CRIN	**San Cristobal**	2.78	331	Pn	Pn	07 28 58.2	+1.4
BRU2	**Volcan**	3.28	116	*eP*	Pn	07 29 05.6	+1.9
TGUH	**Tegucigalpa,Un**	4.09	338	Pn	Pn	07 29 16.3	+1.5
MTO3	**Montecristo**	5.47	319	Pn	Pn	07 29 36.2	+2.3
BCIP	**Isla Barro Col**	5.86	100	Pn	Pn	07 29 40.1	+1.1
TEIG	**Tepich**	10.23	346	LR	LR	07 34 52.9	
	comp=Z,154nm,19.2s,baz=52,slow=41						
CMIG	**Matias Romero**	11.23	308	Pn	Pn	07 30 54.3	+1.5
	0.5nm,0.3s,baz=164,slow=11,SNR=13						
TLIG	**Tlapa**	14.46	302	P	P	07 31 46.6	+3.1
656A	**Willston**	19.25	8	Pn	Pn	07 32 37.5	+0.2
656A				IAmb	IAmb	07 32 37.9	
	comp=Z,13nm,0.8s						
553A	**Crawfordville**	19.87	3	P	Pn	07 32 44.3	-0.4
ZAIG	**Zacatecas**	20.40	310	P	P	07 32 49.1	0.0
255A	**Hazlehurst**	21.77	7	P	P	07 33 05.8	+2.3
255A				IAmb	IAmb	07 33 06.1	
	comp=Z,7.6nm,0.6s						
833A	**Chaparral WMA,**	22.12	326	P	P	07 33 07.6	+0.3
833A				IAmb	IAmb	07 33 09.7	
	comp=Z,9.5nm,0.7s						
152A	**Waverly Hall**	22.33	2	P	P	07 33 09.7	+0.2
LRAL	**Lakeview Retre**	22.71	357	P	P	07 33 13.4	-0.1
Z51A	**Franklin**	22.96	1	P	P	07 33 16.6	+0.4
GOGA	**Godfrey**	23.14	5	P	P	07 33 17.6	-0.4
Y49A	**Blount Mountai**	23.50	358	P	P	07 33 21.2	-0.4
Y49A				IAmb	IAmb	07 33 33.9	
	comp=Z,5.9nm,0.8s						
Y52A	**Lilburn**	23.55	3	P	P	07 33 21.8	-0.3
Y52A				IAmb	IAmb	07 33 22.7	
	comp=Z,7.0nm,0.8s						
JCT	**Junction City**	24.04	329	P	P	07 33 26.1	-0.7
JCT				IAmb	IAmb	07 33 26.9	
	comp=Z,4.7nm,0.6s						
HODGE	**Hodges**	24.07	7	P	P	07 33 27.1	+0.1
HODGE				IAmb	IAmb	07 33 27.8	
	comp=Z,8.6nm,1.0s						
X51A	**Calhoun**	24.21	2	P	P	07 33 27.1	-1.2
X51A				IAmb	IAmb	07 33 29.6	
	comp=Z,4.8nm,0.8s						
PAULI	**Pauline**	24.71	8	P	P	07 33 32.2	-0.6
PAULI				IAmb	IAmb	07 33 33.8	
	comp=Z,9.4nm,1.2s						
BG3	**Lake Jocassee**	24.75	5	P	P	07 33 33.2	-0.1
BG3				IAmb	IAmb	07 33 35.9	
	comp=Z,5.5nm,0.6s						
SWET	**Sewanee**	24.85	360	P	P	07 33 33.3	-0.8
SW

ILAR	Eielson Array	68.72	336	P	P	07 39 12.6	-2.2	
	comp=Z,0.8nm,0.6s,baz=126,slow=4.0,SNR=14							
ILAR	Eielson Array	68.72	336	P	P	07 39 13.0	-1.8	
BMAR	Burnt Mountain	68.94	339	P	P	07 39 14.9	-1.3	
PPLA	Purkeypile	70.31	334	P	P	07 39 23.3	-1.6	
IMAR	Indian Mountai	71.83	336	P	P	07 39 31.8	-2.1	
UNV	Unalaska Valle	76.38	323	P	P	07 40 01.1	+0.5	
ESDC	Sonseca Array	77.18	52	P	P	07 40 03.6	-1.9	
	comp=Z,0.4nm,0.7s,baz=294,slow=7.7,SNR=2.4							
ESDC	Sonseca Array	77.18	52	P	P	07 40 05.0	-0.5	
AKASG	Malin Array Be	97.30	36	LR	LR	08 26 17.1		
	comp=Z,12mn,18.0s,baz=110,slow=36							
CMAR	Chiang Mai Arr	151.11	351	PKPbc	PKPbc	07 48 05.2	-0.2	
	comp=Z,0.5nm,0.4s,baz=331,slow=3.8,SNR=5.6							

MAN 17 07:43:20.6, 7.73N×124.78E, h31km, mb4.0, ML2.8, MS2.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BUKP	Musuan	0.32	62	eP	Pn	07 43 29.8	+0.6
BUKP				eS	Sn	07 43 36.9	+2.0
CTBH	Cotabato--PC H	0.73	226	iP	Pb	07 43 34.9	+0.1
PAGZ	Pagadian	1.39	275	eP	Pn	07 43 43.7	-0.1
PAGZ				eS	Sn	07 44 01.4	+0.3

SNET 17 07:59:10.9±1.0, 13.33N×89.56W, h68km±5km, ML3.4
GCG 17 07:59:13.0±0.7, 13.31N×89.72W, h18km±7km, MD3.9
ISC 17 07:59:13.2±2.5, 13.3N±0.1×89.54W±0.06, h56km±14km, n20, σ1§14/29, 3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LALI	Alcalda de L	0.25	55	eP	Pn	07 59 21.7	-0.9
LALI				eS	Sn	07 59 29.8	+0.6
SNET	Serv Nac Est T	0.45	41	iP	Pn	07 59 23.6	-0.9
SNET				eS	Sn	07 59 33.1	+0.6
BOQS	Boqueron	0.46	32	eP	Pn	07 59 24.0	-0.7
BOQS				eS	Sn	07 59 35.1	+2.1
CEDA	San Andres	0.48	17	eP	Pn	07 59 23.6	-1.1
CEDA				eS	Sn	07 59 33.4	+0.5
CEDA				IAML		07 59 38.7	
	comp=Z,1μm,0.4s						
UTEC	Universidad Te	0.48	42	IAML		07 59 24.6	
	comp=Z,1μm,0.4s						
OPAM	Oficina de Pla	0.49	42	eP	Pn	07 59 24.2	-0.7
OPAM				eS	Sn	07 59 34.2	+1.0
OPAM				IAML		07 59 36.2	
	comp=Z,1μm,0.3s						
UESS	Universidad de	0.50	41	IAML		07 59 24.7	
	comp=Z,2μm,0.2s						
SBLS	San Blas	0.50	350	eP	Pn	07 59 24.1	-1.0
AEIL	Aeropuerto Ilo	0.54	49	eP	Pn	07 59 25.1	-0.3
AEIL				eS	Sn	07 59 36.0	+1.8
AEIL				IAML		07 59 41.5	
	comp=Z,2μm,0.3s						
LFRS	El Faro	0.54	59	iP	Pn	07 59 24.6	-0.8
RTR	El Retiro	0.56	349	eP	Pn	07 59 25.0	-0.8
NUBE	Las Nubes	0.61	337	iP	Pn	07 59 24.9	-1.3
NUBE				eS	Sn	07 59 36.0	+0.3
TACO	Tacachico	0.65	16	eS	Sn	07 59 36.3	-0.1
PAVA	Las Pavas	0.69	58	eP	Pn	07 59 26.4	-0.8
PAVA				eS	Sn	07 59 38.2	+0.8
PAVA				IAML		07 59 39.6	
	comp=Z,932nm,0.3s						
MTO3	Montecristo	1.06	9	eP	Pn	07 59 30.9	-1.3
IXG	Ixpaco	1.21	313	eP	Pn	07 59 33.3	-0.8
IXG	Ixpaco	1.21	313	eP	Pn	07 59 32.3	-1.8
ESQI	Esquipulas	1.23	9	eP	Pn	07 59 33.0	-1.2
ESQI				eS	Sn	07 59 49.8	-0.1
NBG	Las Nubes	1.47	328	eP	Pn	07 59 38.8	+1.1
NBG				eS	Sn	07 59 58.0	+2.1
FUG	Fuego 3	1.68	311	eP	Pn	07 59 40.0	-0.5
FUG				eS	Sn	08 00 01.8	+0.8

IDC 17 08:16:41.3±6.1, 68.31N×164.02W, h0km, mb3.2/3, mb1 3.9/5, mb1mx3.5/42, mbtmp3.6/5, ML4.0/2, Error ellipse: s-maj=95.7km s-min=73.3km az=130.0
AEIC 17 08:16:49±1.0, 67.6N±0.1×162.2W±0.1, h7km±8km, ML3.2/29, Error ellipse: s-maj=15.4km s-min=6.9km az=161.0
NEIC 17 08:16:50.0±1.6, 67.67N±0.05×162.5W±0.2, h35km±7km, Error ellipse: s-maj=9.7km s-min=7.4km az=99.0
ISC 17 08:16:48.6±0.9, 67.68N±0.06×162.03W±0.06, h10km, n31, σ1§83/35, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDOG	Red Dog Mine	0.50	319	Pg	Pg	08 16 58.4	+0.1
RDOG				Sg	Sb	08 17 05.4	-1.4
ANM	Nome	3.41	205	Pn	Pn	08 17 41.3	-0.5
ANM				Sn	Sn	08 18 20.5	-1.8
IM03		3.69	114		Pn	08 17 46.4	+0.8
IMAR	Indian Mountai	3.69	114		Pn	08 17 46.2	+0.6
TOLK	Toolik Lake Re	4.75	73	Pn	Pn	08 18 03.0	+2.8
TTA	Tatalina	5.40	149	Pn	Pn	08 18 10.0	+0.9
TT01	Tatalina	5.42	149		Pn	08 18 10.0	+0.7
BPAW	Bear Paw Mtn.	5.78	123		Pn	08 18 15.7	+1.4
MDM	Murphy Dome	6.19	110		Pn	08 18 21.7	+1.7
PPLA	Purkeypile	6.33	135	Pn	Pn	08 18 23.6	+1.6
TCOL	CIGO, UAF Yank	6.37	110		Pn	08 18 24.2	+1.8
COLA	College	6.37	110		Pn	08 18 24.3	+1.9
CCB	Clear Creek Bu	6.52	111		Pn	08 18 25.5	+1.2
WRH	Wood River Hil	6.52	113		Pn	08 18 25.6	+1.2
FYU	Fort Yukon	6.64	92	Pn	Pn	08 18 27.4	+1.3
BM03	Burnt Mountain	6.67	84		Pn	08 18 28.1	+1.5
BMAR	Burnt Mountain	6.68	84	Pn	Pn	08 18 28.1	+1.3
MCK	McKinley	6.69	120		Pn	08 18 27.6	+0.8
IL31		6.78	108	Pn	Pn	08 18 29.3	+1.3
ILAR	Eielson Array	6.78	108	Pn	Pn	08 18 29.5	+1.5
	5.4nm,0.3s,baz=303,slow=14,SNR=257						
ILAR				Sn	Sn	08 19 43.2	-1.9
	0.3nm,0.3s,baz=308,slow=27,SNR=1.9						
ILAR	Eielson Array	6.78	108	Pn	Pn	08 18 29.0	+1.0
PS08	TAPS Pump Stn8	6.93	110		Pn	08 18 31.2	+1.1
HDA	Harding Lake	6.96	111	Pn	Pn	08 18 31.4	+1.0
DHY	Denali Highway	7.66	120		Pn	08 18 42.0	+1.8
SCRK	Sand Creek	8.27	108		Pn	08 18 49.9	+1.3
BC03		9.61	109		Pn	08 19 07.0	+0.4
EPYK	Eagle Plains	9.95	86		Pn	08 19 13.3	+1.8
INK	Inuvik	10.66	73	Pn	Pn	08 19 21.2	+0.1
	0.4nm,0.3s,baz=285,slow=18,SNR=20						
INK				Sn	Sn	08 21 13.7	-6.7
	0.2nm,0.3s,baz=96,slow=7.7,SNR=2.2						
YKA	Yellowknife Ar	20.20	82	P	P	08 21 23.8	+0.8
	0.6nm,0.6s,baz=307,slow=11,SNR=11						
PDAR	Pinedale Array	37.20	105	P	P	08 24 00.9	+1.1
	0.3nm,0.6s,baz=322,slow=7.1,SNR=2.6						
TXAR	Lajitas Array	51.29	108	P	P	08 25 53.8	+1.3
	0.3nm,0.7s,baz=340,slow=7.0,SNR=5.4						

NEIC 17 09:03:47.9±1.4, 62.79N±0.04×150.74W±0.04, h102km±4km, Error ellipse: s-maj=5.3km s-min=1.8km az=200.0
IDC 17 09:03:48.9±0.7, 62.94N×150.88W, h105km±6km, mb3.8/29, mb1 3.9/31, mb1mx3.8/47, mbtmp4.1/31, MS3.1/8, Ms1 3.1/8, ms1mx2.8/34, Error ellipse: s-maj=14.0km s-min=9.1km az=35.0
AEIC 17 09:03:48.5±1.6, 62.75N±0.03×150.70W±0.07, h97km±4km, ML4.3/148, mb4.4/48(NEIC), Mwr4.5/40(NEIC), Error ellipse: s-maj=5.2km s-min=4.3km az=220.0
NEIC 17 09:03:48, 62.76N×150.74W, h96km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr 2.90; Mθθ -1.95; Mϕϕ -0.96; Mrθ 1.00; Mrϕ 5.67; Mθϕ 2.69; Fault plane solution: Mo 6.85000×10^15 NP1: ϕs 350.29000°, δ 68.96000°, λ 146.29000°. NP2: ϕs 93.77000°, δ 58.80000°, λ 24.82000°. Principal axes: T 6.3408, Plg 38.0000°, Azm 309.0000°; N 0.9199, Plg 51.0000°, Azm 142.0000°; P -7.2608, Plg 6.0000°, Azm 44.0000°;
UNK 17 09:03:49.0, 62.76N×150.73W, h95km
ISC 17 09:03:48.3±0.5, 62.78N±0.03×150.76W±0.03, h106km±4km, n364, σ1§13/380, mb4.2/51, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPLA	Purkeypile	0.66	281		Sn	09 04 05.9	-0.2
PPLA	Purkeypile	0.66	281		Sn	09 04 19.1	-0.4
TRF	Thorofare Moun	0.70	18		Pn	09 04 06.2	-0.3
TRF					Sn	09 04 19.5	-0.7
CAST	Castle Rocks	0.88	317		Pn	09 04 07.3	-0.6
WAT2	Susitna Watana	1.01	79		Pn	09 04 08.8	-0.6
WAT2					Sn	09 04 24.3	-1.0
WAT1	Susitna Watana	1.02	86		Pn	09 04 09.0	-0.3
WAT1					Sn	09 04 24.4	-0.9
RND	Reindeer	1.07	53		Pn	09 04 09.8	-0.1
RND					Sn	09 04 25.4	-0.9
MCK	McKinley	1.26	40		Pn	09 04 11.9	-0.1
MCK	McKinley	1.26	40		Sn	09 04 30.3	+0.3
CHUM	Lake Minchumin	1.31	328		Pn	09 04 12.7	+0.1
CHUM					Sn	09 04 30.6	-0.2
BPAW	Bear Paw Mtn.	1.33	356		Pn	09 04 12.4	-0.7
BPAW	Bear Paw Mtn.	1.33	356		Sn	09 04 30.3	-1.1
GHO	Glory Hole Cre	1.33	139		Pn	09 04 12.7	-0.2
GHO	Glory Hole Cre	1.33	139		Sn	09 04 31.0	-0.5
STLK	Strandline Lak	1.38	202		Pn	09 04 12.7	-0.8
WAT6	Susitna Watana	1.41	97		Pn	09 04 13.2	-0.7
PMR	Palmer	1.42	147		Pn	09 04 12.9	-0.9
PMR					Sn	09 04 31.9	-1.3
SML	Sawmill	1.50	130	Pn	Pn	09 04 14.2	-0.7
SML					Sn	09 04 34.2	-0.9
DHY	Denali Highway	1.58	78		Pn	09 04 15.5	-0.4
DHY	Denali Highway	1.58	78	Sn	Sn	09 04 36.0	-0.9
SPCG	Spurr Capps Gl	1.61	202		Pn	09 04 15.3	-1.0
FIS	Fire Island	1.66	171		Pn	09 04 17.1	+0.3
FIS					Sn	09 04 39.6	+1.1
SPNN	North Nagishla	1.69	214		Pn	09 04 16.6	-0.6
SPBG	Spurr Blockage	1.71	207		Pn	09 04 17.1	-0.4
SPCH	Spurr Chakacha	1.73	204		Pn	09 04 16.9	-0.8
KNK	Knik Glacier	1.75	141	Pn	Pn	09 04 17.1	-0.8
KNK				Sn	Sn	09 04 38.9	-1.6
RC01	Rabbit Creek A	1.77	164	Pn	Pn	09 04 17.2	-0.9
RC01				Sn	Sn	09 04 39.3	-1.5
SCM	Sheep Creek Mo	1.87	119		Pn	09 04 18.8	-0.6
SCM				Sn	Sn	09 04 42.6	-0.6
NEA2	Nenana	1.97	22		Pn	09 04 20.4	-0.3
CAPN	Captain Cook N	2.03	185	P	Pn	09 04 22.5	+1.1
	baz=5.5						
CAPN	Captain Cook N	2.03	185		Pn	09 04 22.5	+1.1
WRH	Wood River Hil	2.07	34		Pn	09 04 21.8	-0.2
WRH					Sn	09 04 45.7	-2.1
PWL	Port Wells	2.25	148		Pn	09 04 23.1	-1.1
MLY	Manley	2.26	0		Pn	09 04 24.4	0.0
CCB	Clear Creek Bu	2.29	34		Pn	09 04 24.5	-0.3
CCB					Sn	09 04 50.3	-2.3
SLKM	Skilak Lake	2.30	173		Pn	09 04 24.2	-0.7
O22K	Cooper Landing	2.36	167		Pn	09 04 24.9	-0.8
PS10	TAPS Pump St10	2.36	72		Pn	09 04 26.6	+0.9
HDA	Harding Lake	2.36	45	P	Pn	09 04 25.5	-0.2
	baz=227,SNR=1000						
HDA	Harding Lake	2.36	45		Pn	09 04 25.5	-0.2
RDJH	Redoubt Jeurge	2.40	205		Pn	09 04 25.7	-0.7
TTA	Tatalina	2.41	276	Pn	Pn	09 04 26.0	-0.4
TT01	Tatalina	2.42	275		Pn	09 04 25.9	-0.4
MDM	Murphy Dome	2.46	26		Pn	09 04 26.9	-0.1
TCOL	CIGO, UAF Yank	2.46	30	P	Pn	09 04 27.1	0.0
	baz=212,SNR=814						
TCOL	CIGO, UAF Yank	2.46	30		Pn	09 04 27.0	0.0
I53US	FAIRBANKS INFR	2.46	30	P	Pn	09 04 26.7	-0.3
	baz=194,slow=17						
COLA	College	2.47	30		Pn	09 04 26.8	-0.2
COLA	College	2.47	30		Pn	09 04 27.1	+0.1
PS08	TAPS Pump Stn8	2.49	43		Pn	09 04 27.2	-0.2
RDWB	Redoubt West	2.51	204		Pn	09 04 27.0	-0.8
RSO	Redoubt South	2.51	203		Pn	09 04 27.6	-0.3
PS09	TAPS Pump Stn9	2.53	61		Pn	09 04 28.6	+0.7
RED	Redoubt Volcan	2.56	203		Pn	09 04 28.0	-0.4
PS11	TAPS Pump St11	2.56	104		Pn	09 04 28.5	+0.2
GLI	Glacier Island	2.58	136		Pn	09 04 27.8	-0.8
JPK	Jack Peak	2.62	129		Pn	09 04 27.8	-1.4
IL31		2.64	39		Pn	09 04 29.1	-0.1
ILAR	Eielson Array	2.64	39	P	Pn	09 04 28.0	-1.3
	133nm,0.3s,baz=222,slow=13,SNR=2831						
ILAR				S	Sn	09 04 55.2	-5.6
	52nm,0.3s,baz=220,slow=17,SNR=8.5						
ILAR	Eielson Array	2.64	39	Pn	Pn	09 04 28.2	-1.1
VMT	TAPS TI Valdez	2.69	127		Pn	09 04 28.4	-1.6
SEW	Seward	2.76	166	Pn	Pn	09 04 30.4	-0.5
PS07	TAPS Pump Stn7	2.76	22		Pn	09 04 31.1	+0.1
POKR	Poker Plat Res	2.77	31	P	Pn	09 04 31.2	+0.2
	baz=213,SNR=391						
POKR	Poker Plat Res	2.77	31		Pn	09 04 31.1	+0.1
SVW2	Sparrevohn	2.84	236		Pn	09 04 31.5	-0.4
RIDG	Independent Ri	2.84	68		Pn	09 04 33.0	+0.9
FID	Port Fidalgo	2.88	133		Pn	09 04 31.6	-1.0
PS12	TAPS Pump St12	2.95	114		Pn	09 04 32.4	-1.1
ILIW	Iliamna West	2.96	204		Pn	09 04 33.7	-0.1
IVE	Iliamna Volcan	2.98	202		Pn	09 04 34.0	+0.1
BRLK	Bradley Lake	3.03	181		Pn	09 04 34.2	-0.3
PS06	TAPS Pump Stn6	3.12	8		Pn	09 04 36.0	+0.3
HIN	Hinchinbrook I	3.14	138	Pn	Pn	09 04 35.2	-0.8
DOT	Dot Lake	3.16	71	Pn	Pn	09 04 36.1	-0.2
HOM	Homer	3.16	188		Pn	09 04 36.8	+0.5
MENT	Mentasta	3.23	84		Pn	09 04 37.5	+0.3
CNPM	China Poot	3.27	184		Pn	09 04 37.5	-0.3
EYAK	Cordova Ski Ar	3.28	131	Pn	Pn	09 04 37.0	-0.7
SCRK	Sand Creek	3.28	66		Pn	09 04 37.9	0.0
IM03		3.47	339		Pn	09 04 40.5	+0.3
IMAR	Indian Mountai	3.47	339	Pn	Pn	09 04 40.5	+0.2
GLB	Gilahina Butte	3.53	109	Pn	Pn	09 04 40.3	-0.9
PRP	Porcupine Dome	3.58	38		Pn	09 04 41.8	-0.2
AU22	Augustine Moun	3.65	201		Pn	09 04 43.3	+0.6
AUW	Augustine West	3.67	202		Pn	09 04 43.3	+0.3
VRDI	Verde Repeater	3.72	111	Pn	Pn	09 04 45.5	-1.2
MCARA	McCarthy VSAT	3.90	108		Pn	09 04 45.5	-0.7
MID	Middleton Isla	3.99	145		Pn	09 04 45.9	-1.4
PS05	TAPS Pump Stn5	4.05	1		Pn	09 04 48.8	+0.8
BC03		4.12	82		Pn	09 04 48.5	-0.4
BCAR	Beaver Creek A	4.12	82	Pn	Pn	09 04 48.0	-1.1
CRQM	Cirque	4.15	116		Pn	09 04 49.1	-0.6
PTPK	Patty Peak	4.23	109		Pn	09 04 49.9	-0.8
KHIT	Khitrov Hills	4.29	120		Pn	09 04 50.1	-1.3
BALM	Baldy	4.35	110		Pn	09 04 50.8	-1.5
GRIN	Grindle Hills	4.36	122		Pn	09 04 51.7	-0.6
KIAG	Kiagna River	4.40	111		Pn	09 04 51.5	-1.5
WAX	Waxell Ridge	4.44	118		Pn	09 04 52.4	-1.1
FYU	Fort Yukon	4.48	30		Pn	09 04 53.9	0.0
BVCY	Beaver Creek	4.59	90		Pn	09 04 55.8	+0.3
BARN	Barnard Glacie	4.64	108		Pn	09 04 55.5	-0.7
KAHC	Katmai Hardscr	4.64	209		Pn	09 04 56.8	+0.5
KAHG	Katmai Hook Gl	4.69	205		Pn	09 04 57.5	+0.6
EGAK	Eagle	4.71	61	Pn	Pn	09 04 56.6	-0.4
YUK2	White River	4.74	98		Pn	09 04 57.2	-0.4
CTGM	Chitina Glacie	4.82	108		Pn	09 04 57.7	-0.9
YUK3	Moose Creek	4.92	97		Pn	09 04 59.7	-0.3
YAH	Yahtse	4.95	115		Pn	09 04 59.0	-1.4
MESA	MESA	4.96	118		Pn	09 05 00.1	-0.6
KABU	Katmai Buttres	5.04	208		Pn	09 05 02.3	+0.6
KDAK	Kodiak Island	5.10	191	P	Pn	09 04 59.8	-2.5
	43nm,0.3s,baz=55,slow=6.4,SNR=599						
KDAK				S	Sn	09 05 53.2	-6.6
	58nm,0.3s,baz=314,slow=21,SNR=9.4						
KDAK	Kodiak Island	5.10	191	Pn	Pn	09 05 00.0	-2.3
RKAV	Rock Avalanche	5.15	115		Pn	09 05 02.0	-1.1
CAHL	Cahill	5.25	207		Pn	09 05 04.8	+0.4
DAWY	Dawson	5.27	71		Pn	09 05 04.3	-0.2
BM03	Burnt Mountain	5.33	26		Pn	09 05 05.5	+0.1
BMAR	Burnt Mountain	5.35	27	Pn	Pn	09 05 04.9	-0.7
PLK5	Peulik 5	5.67	215		Pn	09 05 11.8	+1.8
PS04	TAPS Pump Stn4	5.70	5		Pn	09 05 11.2	+0.8
PCA	Pinnacle	5.71	113		Pn	09 05 09.2	-1.5
OHAK	Old Harbor	5.72	194		Pn	09 05 08.3	-2.4
PLK1	Peulik 1	5.78	213		Pn	09 05 12.3	+0.8
PLK3	Peulik 3	5.80	211		Pn	09 05 12.2	+0.4
TOLK	Toolik Lake Re	5.91	4	P	Pn	09 05 14.6	+1.4
	baz=185,SNR=107						
TOLK				S	Sn	09 06 19.8	+0.4
	baz=185						
TOLK	Toolik Lake Re	5.91	4	Pn	Pn	09 05 14.6	+1.4
YUK6	Outpost Mounta	6.15	102		Pn	09 05 16.1	-0.7
PNL	Peninsula	6.31	115		Pn	09 05 17.4	-1.4
HYT	Haines Junctio	6.58	101		Pn	09 05 21.6	-0.9
ANM	Nome	6.74	292		Pn	09 05 25.3	+0.8
EPYK	Eagle Plains	7.03	53	P	Pn	09 05 28.1	-0.4
	baz=246,SNR=191						
EPYK	Eagle Plains	7.03	53		Pn	09 05 27.7	-0.8
RDOG	Red Dog Mine	7.31	322	Pn	Pn	09 05 33.6	+1.3
PS01	TAPS Pump Stn	7.56	6		Pn	09 05 36.8	+1.3
CHGN	Chignik	7.57	214		Pn	09 05 34.0	-1.7
PLBC	Pleasant Camp	7.72	109		Pn	09 05 37.0	-0.9
WHY	Whitehorse	7.83	99		Pn	09 05 38.5	-0.9
VNFG	Fog Glacier, M	7.89	218		Pn	09 05 41.0	+0.8
BESE	Bessie Mountai	8.86	111	Pn	Pn	09 05 52.4	-1.0
SDPT	Sand Point	8.97	218	Pn	Pn	09 05 54.4	-0.3
INK	Inuvik	9.02	45	P	Pn	09 05 55.9	+0.5
	2.8nm,0.3s,baz=232,slow=16,SNR=149						
INK				LR	LR	09 09 33.7	
	comp=Z,181nm,18.4s,baz=202,slow=38						
INK	Inuvik	9.02	45		Pn	09 05 54.9	-0.5
JIS	Juneau Island	9.24	112		Pn	09 05 56.4	-2.0
GAMB	Gambell	9.47	285	Pn	Pn	09 05 59.4	-2.2
SIT	Sitka	9.63	120	Pn	Pn	09 06 01.9	-1.8
DLBC	Dease Lake	11.06	104	P	Pn	09 06 22.2	-0.9
	0.4nm,0.3s,baz=332,slow=14,SNR=5.6						
DLBC	Dease Lake	11.06	104		Pn	09 06 19.7	-3.4
WRAK	Wrangell Islan	11.27	116	Pn	Pn	09 06 25.9	0.0
UNV	Unalaska Valle	12.16	230		Pn	09 06 36.8	-0.9
A36M	Sachs Harbour	13.33	36	P	Pn	09 06 50.9	-2.1
	baz=239,SNR=7.7						
DIB	Dawson Inlet,	13.59	127	Pn	Pn	09 06 56.1	-0.3
MOBC	Moresby Island	13.82	126	Pn	Pn	09 06 59.9	+0.3
BBB	Bell Bella	16.05	121	P	P	09 07 30.3	+1.4
	0.3nm,0.3s,baz=270,slow=6.2,SNR=5.7						
ATKA	Atka Island	16.35	240	Pn	P	09 07 31.8	-0.5
YKA	Yellowknife Ar	16.49	75	P	Pn	09 07 32.6	-0.3
	1.6nm,0.3s,baz=280,slow=11,SNR=90						
YKA				PcP	PcP	09 12 17.8	+0.4
	0.4nm,0.3s,baz=280,slow=1.3,SNR=10.0						
YKA				LR	LR	09 14 05.6	
	comp=Z,58nm,21.7s,baz=0.0,slow=37						
YKA				ScP	ScP	09 15 42.9	+1.0
	0.1nm,0.3s,baz=282,slow=2.0,SNR=13						
GSTR	Great Sitkin T	17.18	243	P	Pn	09 07 42.7	+1.2
ADK	Adak	17.60	244	P	P	09 07 46.0	0.0
ADK				IAmb	IAmb	09 07 54.5	
	comp=Z,48nm,1.2s						
D03D	Eldon	21.72	122	P	P	09 08 32.4	+1.8
	baz=325						
RES	Resolute Bay	22.38	35	P	P	09 08 37.4	+0.1
	comp=Z,3.0nm,0.3s,baz=261,slow=10,SNR=25						
RES	Resolute Bay	22.38	35	P	P	09 08 37.5	+0.2
NEW	Newport	23.59	112	P	P	09 08 50.1	+1.0
	baz=320						
NEW	Newport	23.59	112	P	P	09 08 50.9	+1.7
	comp=Z,2.2nm,0.8s,baz=320,slow=16,SNR=2.9						
NEW	Newport	23.59	112	P	P	09 08 47.1	-2.0
D08A	Wollman Farm,	23.78	117	P	P	09 08 49.8	-1.1
WALA	Waterton Lakes	24.37	107	P	P	09 08 55.1	-1.2
WALA				IAmb	IAmb	09 09 00.6	
	comp=Z,11nm,1.2s						
F10A	Beach Ranch, E	25.35	116	P	P	09 09 05.0	-0.2
MSO	Missoula	26.06	110	P	P	09 09 12.8	+1.2
	baz=321						
MSO	Missoula	26.06	110	P	P	09 09 12.6	+1.0
BMO	Blue Mountains	26.23	117	P	P	09 09 12.6	-0.5
K05A	Summer Lake	26.60	125	P	P	09 09 17.1	+0.5
K05A				IAmb	IAmb	09 09 32.4	
	comp=Z,8.8nm,1.4s						
YBH	Yreka Blue Hor	26.80	129	P	P	09 09 18.4	+0.2
	comp=Z,1.2nm,0.8s,baz=360,slow=11,SNR=5.7						
YBH				pP	pP	09 09 43.3	+1.6
	comp=Z,4.2nm,0.9s,baz=20,slow=1.4,SNR=5.9						
YBH	Yreka Blue Hor	26.80	129	P	P	09 09 17.0	-1.3
YBH				IAmb	IAmb	09 09 22.6	
	comp=Z,5.8nm,1.2s						
EGMT	Eagleton	26.99	104	P	P	09 09 20.2	+0.3
	baz=318						
EGMT	Eagleton	26.99	104	P	P	09 09 18.9	-1.0
EGMT				IAmb	IAmb	09 09 22.3	
	comp=Z,6.2nm,0.9s						
N02D	Trinity Center	27.46	129	P	P	09 09 26.4	+2.2
	baz=332						
PEA0B	Petropavlovsk-	28.25	274	P	P	09 09 31.2	+0.2
PEA0B				IAmb	IAmb	09 09 32.4	
	comp=Z,10nm,1.1s						
PETK	Petropavlovsk-	28.25	274	P	P	09 09 29.3	-1.7
	comp=Z,1.2nm,0.6s,baz=74,slow=11,SNR=5.0						
PETK	Petropavlovsk-	28.25	274	P	P	09 09 30.4	-0.6
O03E	Paynes Creek	28.39	129	P	P	09 09 33.4	+1.0
	baz=332						
RLMT	Red Lodge

E48A	**Lockeyer**	**40.73**	**80**	P	**P**	**09 11 18.9**	**+0.6**
	baz=319						
F48A	**Evansville**	**41.02**	**81**	P	**P**	**09 11 21.6**	**+1.0**
	baz=320						
LSQQ	**Lebel-sur-Quev**	**41.12**	**74**	P	**P**	**09 11 21.4**	**0.0**
	baz=318						
SCHQ	**Schefferville**	**41.20**	**61**	P	**P**	**09 11 22.6**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=295,slow=6.2,SNR=9.3						
SCHQ	**Schefferville**	**41.20**	**61**	IAmb	IAmb	09 11 24.6	
	comp=Z,10nm,1.2s						
D50A	**G1974 Best Tow**	**41.26**	**78**	P	**P**	**09 11 22.9**	**+0.4**
	baz=319						
F49A	**Sandfield**	**41.33**	**81**	P	**P**	**09 11 23.7**	**+0.5**
	baz=320						
E50A	**Wahnapitae**	**41.42**	**79**	P	**P**	**09 11 24.4**	**+0.5**
	baz=319						
MSTX	**Muleshoe**	**41.44**	**111**	P	**P**	**09 11 25.8**	**+1.5**
	baz=329						
MSTX	**Muleshoe**	**41.44**	**111**	IAmb	IAmb	09 11 27.6	
	comp=Z,13nm,1.2s						
D51A	**Lot 18 Range I**	**41.53**	**78**	P	**P**	**09 11 25.4**	**+0.6**
	baz=319						
H48A	**Harrisville**	**41.55**	**83**	P	**P**	**09 11 26.0**	**+1.0**
	baz=320						
NRIK	**Noril'sk**	**41.88**	**333**	P	**P**	**09 11 27.9**	**+0.5**
	comp=Z,5.0nm,0.4s,baz=62,slow=6.8,SNR=7.9						
E51A	**G1948 Merrick**	**41.90**	**78**	P	**P**	**09 11 27.7**	**-0.1**
	baz=319						
D52A	**ZEK Kipawa Sen**	**42.05**	**77**	P	**P**	**09 11 29.7**	**+0.7**
	baz=319,SNR=5.9						
D53A	**Lac Vacive, Po**	**42.28**	**76**	P	**P**	**09 11 31.5**	**+0.6**
	baz=319						
MNTX	**Cornudas Mount**	**42.30**	**116**	P	**P**	**09 11 31.0**	**-0.3**
	baz=331						
E52A	**Mattawa**	**42.46**	**78**	P	**P**	**09 11 32.6**	**+0.3**
	baz=320						
WMOK	**Wichita Mounta**	**42.53**	**106**	P	**P**	**09 11 34.7**	**+1.7**
	baz=328						
F52A	**Sundridge**	**42.53**	**79**	P	**P**	**09 11 33.4**	**+0.5**
	baz=320						
D54A	**Lac Fusel, La**	**42.70**	**75**	P	**P**	**09 11 34.7**	**+0.5**
	baz=319						
E53A	**Dumoine, Ponti**	**42.83**	**77**	P	**P**	**09 11 35.9**	**+0.5**
	baz=320						
ALGO	**Algonquin Park**	**42.98**	**78**	P	**P**	**09 11 37.0**	**+0.4**
	baz=320						
E54A	**Lac Daplat, Po**	**43.01**	**77**	P	**P**	**09 11 37.1**	**+0.4**
	baz=320						
U38A	**Gravette**	**43.07**	**101**	P	**P**	**09 11 37.4**	**0.0**
U38A				IAmb	IAmb	09 11 38.1	
	comp=Z,4.1nm,0.7s						
D55A	**Sainte-Anne-du**	**43.32**	**75**	P	**P**	**09 11 39.9**	**+0.6**
	baz=320						
G53A	**Haliburton**	**43.37**	**79**	P	**P**	**09 11 40.7**	**+1.1**
	baz=320						
D56A	**ZEC Mazanza, M**	**43.62**	**74**	P	**P**	**09 11 41.8**	**+0.1**
	baz=320						
E56A	**St. Veronique**	**43.88**	**75**	P	**P**	**09 11 44.2**	**+0.5**
	baz=320						
D57A	**Chemin Vers le**	**44.02**	**74**	P	**P**	**09 11 45.7**	**+0.8**
	baz=320						
G55A	**Calabogie**	**44.12**	**77**	P	**P**	**09 11 46.1**	**+0.4**
	baz=321						
D58A	**Chemin du LacG**	**44.41**	**73**	P	**P**	**09 11 48.9**	**+0.9**
	baz=320						
H55A	**Tweed**	**44.46**	**78**	P	**P**	**09 11 48.2**	**-0.2**
	baz=321						
TX31	**Lajitas Ar. Si**	**45.08**	**115**	IAmb	IAmb	09 11 56.4	
	comp=Z,5.7nm,0.9s						
TXAR	**Lajitas Array**	**45.08**	**115**	P	**P**	**09 11 55.5**	**+1.9**
	comp=Z,1.3nm,0.8s,baz=331,slow=6.2,SNR=15						
TXAR				LR	LR	09 32 03.3	
	comp=Z,27nm,20.3s,baz=0.0,slow=38						
TXAR	**Lajitas Array**	**45.08**	**115**	P	**P**	**09 11 54.2**	**+0.6**
ACSO	**Alum Creek Sta**	**45.22**	**87**	P	**P**	**09 11 55.7**	**+1.2**
	baz=323						
M53A	**WI Miller and**	**45.31**	**84**	P	**P**	**09 11 56.0**	**+0.8**
	baz=323						
G58A	**Ormstown**	**45.39**	**75**	P	**P**	**09 11 55.6**	**-0.2**
	baz=321						
O51A	**Pataskala**	**45.46**	**87**	P	**P**	**09 11 56.4**	**0.0**
	baz=323						
LONY	**Lake Ozonia**	**45.57**	**76**	P	**P**	**09 11 57.2**	**0.0**
	baz=321						
E60A	**Ste Agathe de**	**45.60**	**72**	P	**P**	**09 11 57.5**	**+0.1**
	baz=321						
F60A	**Warwick**	**45.69**	**73**	P	**P**	**09 11 57.8**	**-0.2**
	baz=321						
JCT	**Junction City**	**45.72**	**111**	P	**P**	**09 11 59.9**	**+1.3**
	baz=330						
JCT	**Junction City**	**45.72**	**111**	IAmb	IAmb	09 12 02.0	
	comp=Z,5.5nm,0.8s						
M54A	**Oil Creek Stat**	**45.72**	**83**	P	**P**	**09 11 59.6**	**+1.1**
	baz=323						
N53A	**Lisbon**	**45.74**	**85**	P	**P**	**09 11 59.3**	**+0.7**
	baz=323,SNR=6.2						
N53A	**Lisbon**	**45.74**	**85**	P	**P**	**09 11 58.7**	**+0.1**
L55A	**Hinsdale**	**45.74**	**81**	P	**P**	**09 11 59.3**	**+0.6**
	baz=322						
O52A	**Adamsville**	**45.84**	**86**	P	**P**	**09 11 59.7**	**+0.4**
	baz=323						
H58A	**Gabriels**	**45.91**	**76**	P	**P**	**09 12 00.1**	**+0.2**
	baz=322						
N54A	**Moraine State**	**46.01**	**84**	P	**P**	**09 12 01.9**	**+1.3**
	baz=323						
I58A	**Old Forge**	**46.12**	**77**	P	**P**	**09 12 01.5**	**-0.1**
	baz=322						
M55A	**Ridgway**	**46.16**	**82**	P	**P**	**09 12 02.6**	**+0.6**
	baz=323						
M55A	**Ridgway**	**46.16**	**82**	IAmb	IAmb	09 12 05.2	
	comp=Z,13nm,1.3s						
E62A	**Clayton Lake**	**46.24**	**71**	P	**P**	**09 12 03.1**	**+0.7**
	baz=321						
WVT	**Waverly**	**46.32**	**95**	P	**P**	**09 12 03.9**	**+0.8**
	baz=326						
USRK	**Ussuriysk Ar.**	**46.37**	**284**	P	**P**	**09 12 02.6**	**-0.9**
	comp=Z,0.7nm,0.5s,baz=44,slow=7.2,SNR=3.1						
M56A	**Emporium**	**46.41**	**82**	P	**P**	**09 12 04.9**	**+1.0**
	baz=323						
O54A	**Avella**	**46.45**	**85**	P	**P**	**09 12 04.9**	**+0.7**
	baz=323						
P53A	**Whipple**	**46.55**	**86**	P	**P**	**09 12 06.0**	**+1.1**
	baz=324						
N55A	**Marion Center**	**46.61**	**83**	P	**P**	**09 12 06.2**	**+0.8**
	baz=323,SNR=5.9						
L57A	**Andrews Acres**	**46.61**	**80**	P	**P**	**09 12 06.0**	**+0.6**
	baz=323						
F62A	**Pittston Farm,**	**46.61**	**72**	P	**P**	**09 12 06.8**	**+1.4**
BINY	**Binghamton**	**46.84**	**79**	P	**P**	**09 12 07.6**	**+0.4**
	baz=323						
P54A	**Burton**	**46.87**	**85**	P	**P**	**09 12 08.4**	**+0.9**
	baz=324						
O55A	**Ligonier**	**46.92**	**84**	P	**P**	**09 12 08.8**	**+0.9**
	baz=323						
OXF	**Oxford**	**46.93**	**97**	P	**P**	**09 12 08.9**	**+0.9**
	baz=327						
U49A	**Red Boiling Sp**	**46.94**	**92**	IAmb	IAmb	09 12 10.0	
	comp=Z,6.4nm,0.8s						
T50A	**Nancy**	**46.96**	**91**	P	**P**	**09 12 07.7**	**-0.5**
T50A				IAmb	IAmb	09 12 10.2	
	comp=Z,7.8nm,1.1s						
Q53A	**Leroy**	**46.99**	**87**	P	**P**	**09 12 09.0**	**+0.6**
	baz=324						
CLTN	**Cedars of Leba**	**47.04**	**93**	P	**P**	**09 12 07.4**	**-1.3**
CLTN				IAmb	IAmb	09 12 11.0	
	comp=Z,4.3nm,0.8s						
PLAL	**Pickwick Lake**	**47.15**	**96**	IAmb	IAmb	09 12 11.1	
	comp=Z,2.6nm,0.7s						
Q54A	**Coxs Mills**	**47.21**	**86**	P	**P**	**09 12 10.7**	**+0.6**
	baz=324						
O56A	**Blue Knob Stat**	**47.21**	**83**	P	**P**	**09 12 10.9**	**+0.8**
	baz=324						
R53A	**Hurricane**	**47.22**	**88**	P	**P**	**09 12 11.0**	**+0.9**
	baz=324						
P55A	**Reedsville**	**47.24**	**85**	P	**P**	**09 12 11.4**	**+1.0**
	baz=324						
Q55A	**Buckhannon**	**47.54**	**85**	P	**P**	**09 12 13.3**	**+0.6**
	baz=324						
S53A	**Williamson**	**47.67**	**88**	P	**P**	**09 12 14.3**	**+0.6**
	baz=325						
O57A	**Amberson**	**47.68**	**82**	P	**P**	**09 12 14.6**	**+0.9**
	baz=324						
R54A	**Victor**	**47.78**	**87**	P	**P**	**09 12 15.2**	**+0.7**
	baz=324						
Q56A	**Snyder Ridge,**	**47.91**	**85**	P	**P**	**09 12 16.7**	**+1.2**
	baz=324						
ARCES	**ARCESS Array B**	**47.94**	**2**	P	**P**	**09 12 13.5**	**-1.8**
	comp=Z,1.5nm,0.7s,baz=352,slow=7.8,SNR=7.8						
ARCES				PcP	**PcP**	**09 13 40.7**	**-1.2**
	comp=Z,1.8nm,0.9s,baz=349,slow=3.8,SNR=1.8						
TZTN	**Tazewell**	**47.94**	**90**	P	**P**	**09 12 16.6**	**+0.8**
	baz=325						
S54A	**Dingess, Beckl**	**47.95**	**87**	P	**P**	**09 12 16.5**	**+0.7**
	baz=325						
T53A	**Wise**	**48.05**	**89**	P	**P**	**09 12 17.9**	**+1.2**
	baz=325						
O58A	**Lewisberry**	**48.08**	**82**	P	**P**	**09 12 17.2**	**+0.5**
	baz=324						
P57A	**Homestead Farm**	**48.09**	**83**	P	**P**	**09 12 17.1**	**+0.3**
	baz=324						
Q57A	**Strasburg**	**48.27**	**84**	P	**P**	**09 12 19.5**	**+1.2**
	baz=324						
S55A	**Lewisburg**	**48.34**	**87**	P	**P**	**09 12 19.8**	**+0.9**
	baz=325						
P58A	**Pank, Wackersv**	**48.41**	**83**	P	**P**	**09 12 20.2**	**+0.8**
	baz=324						
T54A	**Tazewell**	**48.43**	**88**	P	**P**	**09 12 19.9**	**+0.3**
	baz=325						
O60A	**Telford**	**48.61**	**80**	P	**P**	**09 12 22.0**	**+1.2**
	baz=324						
Z47A	**Carrollton**	**48.64**	**97**	IAmb	IAmb	09 12 23.1	
	comp=Z,6.4nm,0.8s						
Q58A	**Fox Den Farm,**	**48.68**	**83**	P	**P**	**09 12 22.4**	**+1.0**
	baz=324,SNR=5.2						
U54A	**Nelsons Funny**	**48.76**	**89**	P	**P**	**09 12 22.7**	**+0.6**
	baz=325						
R57A	**Stanardsville**	**48.82**	**85**	P	**P**	**09 12 23.6**	**+1.1**
	baz=324						
BLA	**Blacksburg**	**48.84**	**87**	P	**P**	**09 12 23.5**	**+0.8**
	baz=325						
M62A	**Hamden**	**48.84**	**78**	P	**P**	**09 12 23.3**	**+0.8**
	baz=323						
U55A	**TA2, Sparta**	**49.13**	**88**	P	**P**	**09 12 25.9**	**+1.0**
	baz=325,SNR=7.3						
T56A	**Rocky Mt**	**49.16**	**87**	P	**P**	**09 12 26.0**	**+0.9**
	baz=325						
V54A	**Nebo**	**49.31**	**89**	P	**P**	**09 12 27.3**	**+1.0**
	baz=326						
R58B	**Mineral**	**49.39**	**84**	P	**P**	**09 12 28.1**	**+1.4**
	baz=325						
T57A	**Hurt**	**49.54**	**86**	P	**P**	**09 12 28.3**	**+0.3**
	baz=325						
V55A	**Taylorsville**	**49.58**	**89**	P	**P**	**09 12 29.3**	**+0.9**
	baz=326						
S58A	**Poland Farm, P**	**49.59**	**85**	P	**P**	**09 12 28.9**	**+0.6**
	baz=325						
W54A	**Cherokee Point**	**49.77**	**90**	P	**P**	**09 12 30.8**	**+1.1**
	baz=326						
Q61A	**Milford**	**49.81**	**81**	P	**P**	**09 12 31.3**	**+1.3**
	baz=324						
T58A	**Grand View Acr**	**49.92**	**86**	P	**P**	**09 12 31.8**	**+1.0**
	baz=325						
V56A	**Mocksville**	**49.95**	**88**	P	**P**	**09 12 32.5**	**+1.4**
	baz=326						
U57A	**Blanch**	**49.97**	**87**	P	**P**	**09 12 32.0**	**+0.8**
	baz=325						
X54A	**Belton**	**50.13**	**91**	P	**P**	**09 12 33.4**	**+1.0**
	baz=326						
T59A	**Double "B" Far**	**50.34**	**85**	P	**P**	**09 12 35.2**	**+1.2**
	baz=325						
HODGE	**Hodges**	**50.44**	**91**	IAmb	IAmb	09 12 36.6	
	comp=Z,6.3nm,1.0s						
X55A	**Gracelyn & Ava**	**50.53**	**90**	P	**P**	**09 12 36.1**	**+0.7**
	baz=326						
GOGA	**Godfrey**	**50.57**	**93**	P	**P**	**09 12 36.5**	**+0.7**
	baz=327						
W57A	**Gilead**	**50.72**	**88**	P	**P**	**09 12 37.2**	**+0.3**
	baz=326						
X56A	**White Oak**	**50.79**	**90**	P	**P**	**09 12 38.3**	**+0.9**
	baz=326						
Y55A	**Saluda**	**50.87**	**91**	P	**P**	**09 12 38.7**	**+0.7**
	baz=326						
KSRS	**Korea Array**	**53.63**	**282**	P	**P**	**09 12 59.4**	**+1.1**
	comp=Z,2.4nm,0.5s,baz=32,slow=6.5,SNR=13						
KSRS				LR	LR	09 40 32.1	
	comp=Z,7.0nm,18.0s,baz=25,slow=41						
KSAR	**Wonju Array Be**	**53.66**	**282**	P	**P**	**09 12 58.6**	**0.0**
SONM	**Songino Array**	**54.03**	**306**	P	**P**	**09 13 02.1**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=38,slow=7.5,SNR=14						
SONM	**Songino Array**	**54.03**	**306**	P	**P**	**09 13 02.2**	**+0.8**
NOA	**NORSAR Array B**	**55.74**	**10**	P	**P**	**09 13 12.0**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=321,slow=4.5,SNR=1.5						
ZALV	**Zalesovo Beam**	**55.76**	**324**	P	**P**	**09 13 13.6**	**+0.1**
	comp=Z,1.9nm,0.4s,baz=18,slow=6.0,SNR=1.7						
ZALV				LR	LR	09 40 37.3	
	comp=Z,23nm,18.9s,baz=227,slow=40						
FINES	**FINESS Array B**	**56.07**	**2**	P	**P**	**09 13 14.8**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=2.1,slow=10,SNR=5.5						
HFS	**Hagfors**	**56.83**	**9**	P	**P**	**09 13 20.0**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=27,slow=7.0,SNR=5.5						
EKA	**Eskdalemuir Ar**	**59.54**	**21**	P	**P**	**09 13 39.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=331,slow=5.4,SNR=5.6						
BVAR	**Borovoye Array**	**60.09**	**333**	P	**P**	**09 13 44.0**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=54,slow=7.3,SNR=6.8						
KURK	**Kurchatov**	**60.32**	**326**	P	**P**	**09 13 45.6**	**+0.3**
KURK	**Kurchatov**	**60.32**	**326**	IAmb	IAmb	09 13 45.9	
	comp=Z,3.1nm,0.4s						
KURBB	**Kurchatov Arra**	**60.43**	**326**	P	**P**	**09 13 45.6**	**-0.4**
	comp=Z,2.0nm,0.4s,baz=32,slow=6.8,SNR=20						
MKAR	**Makanchi Array**	**62.91**	**322**	P	**P**	**09 14 01.9**	**-0.9**
	comp=Z,1.2nm,0.4s,baz=33,slow=6.5,SNR=28						
MKAR	**Makanchi Array**	**62.91**	**322**	P	**P**	**09 14 02.0**	**-0.9**
GTA	**Gaotai**	**63.70**	**305**	*e*P	**P**	**09 14 08.8**	**+0.5**
GTA				pP	pP	09 14 35.8	+0.9
GTA				sP	sP	09 14 46.9	+0.3
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
WMQ	**Urumqi**	**63.98**	**317**	*e*P	**P**	**09 14 14.5**	**+4.5**
WMQ				pmax	pmax		
	comp=Z,29nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,39nm,5.7s						
WMQ				LR	LR		
	comp=N,220nm,18.5s						
WMQ				LR	LR		
	comp=E,150nm,20.1s						
WMQ				LR	LR		
	comp=Z,71nm,23.9s						
AKTO	**Aktyubinsk**	**64.85**	**340**	P	**P**	**09 14 15.2**	**-0.2**
	comp=Z,2.1nm,0.4s,baz=47,slow=8.2,SNR=9.7						
LZH	**Lanzhou**	**65.05**	**301**	*e*P	**P**	**09 14 18.6**	**+1.5**
LZH				pP	pP	09 14 42.5	-1.3
LZH				sP	sP	09 14 53.8	-1.7
LZH				*e*PP	**PP**	**09 16 34.3**	**-6.6**
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				pmax	pmax		
	comp=Z,68nm,4.8s						
ABKAR	**Akbulak array**	**65.68**	**338**	P	**P**	**09 14 20.5**	**-0.3**
AKASG	**Malin Array Be**	**66.86**	**0**	P	**P**	**09 14 27.7**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=3.2,slow=6.4,SNR=6.5						
AKASG	**Malin Array Be**	**66.86**	**0**	IAmb	IAmb	09 14 31.6	
	comp=Z,1.8nm,1.2s						
AKBB	**Malin Array Si**	**66.86**	**0**	P	**P**	**09 14 27.4**	**-0.9**
KKAR	**Karatay Array**	**69.42**	**329**	P	**P**	**09 14 43.5**	**-0.9**
KBZ	**Khabaz**	**73.28**	**350**	P	**P**	**09 15 07.3**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=66,slow=20,SNR=5.0						
CHGR	**Chuyangaron**	**73.96**	**328**	P	**P**	**09 15 11.5**	**-0.3**
ESDC	**Sonseca Array**	**74.47**	**26**	P	**P**	**09 15 14.5**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=352,slow=6.6,SNR=3.1						
ESDC				LR	LR	09 51 33.5	
	comp=Z,25nm,18.5s,baz=170,slow=38						
ESDC	**Sonseca Array**	**74.47**	**26**	P	**P**	**09 15 13.1**	**-1.6**
BRTR	**Keskin Array B**	**77.78**	**357**	P	**P**	**09 15 33.2**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=5.7,slow=1.4,SNR=2.3						
CMAR	**Chiang Mai Arr**	**82.64**	**296**	P	**P**	**09 15 59.4**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=7.8,slow=12,SNR=4.5						
BOSA	**Boshof**	**145.73**	**6**	PKPbc	**PKPdf**	**09 23 13.8**	**0.0**
	comp=Z,0.8nm,0.3s,baz=346,slow=6.6,SNR=3.1						
BOSA				pPKPbc	**pPKPdf**	**09 23 42.2**	**-0.9**
	comp=Z,3.5nm,0.8s,baz=37,slow=6.6,SNR=3.1						

MAN 17 09:07:46.9, 6.64N × 125.67E, h98 km, mb4.3, ML3.1, MS2.9, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DMPH	**Davao City--Mi**	**0.47**	**340**	*e*P	Pn	09 08 10.5	+8.1
DMPH				*i* S	Sn	09 08 14.0	+0.2
DDMP	**Don Marcelino,**	**0.53**	**175**	*e*P	Pn	09 07 57.9	-4.9
DDMP				*e*S	Sn	09 08 07.5	-7.1
KCP	**Kidapawan**	**0.69**	**303**	⇑*i*P	Pn	09 08 06.0	+1.9
KCP				*i* S	Sn	09 08 19.8	+2.8
GSPH	**General Santos**	**0.90**	**233**	⇑*i*P	Pn	09 08 04.5	-1.8
GSPH				*i* S	Sn	09 08 19.2	-1.6
SKMP	**Bagumbayan, Su**	**1.12**	**264**	*e*P	Pn	09 08 09.8	+1.2
SKMP				*e*S	Sn	09 08 25.4	+0.4
BUKP	**Musuan**	**1.38**	**334**	*e*P	Pn	09 08 12.1	+0.5
BUKP				*e*S	Sn	09 08 30.7	+0.4

*IDC **17** 09:11:31.5±3.0, 53.56N × 87.66E, h0 km, mb1 2.9/2, mb1mx2.9/43, mbtmp2.9/2, ML2.8/2, Error ellipse: s-maj=27.8km s-min=15.9km az=55.0*

KRAR 17 09:11:31.4±0.1, 53.63N × 88.12E, M2.1, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.98**	**281**	*i*		09 22 50.0	
	baz=98,slow=301,SNR=1.7						
ZALV	**Zalesovo Beam**	**1.98**	**281**	Pg	Pn	09 12 02.9	-3.3
	1.4nm,0.3s,baz=97,slow=14,SNR=8.6						
ZALV				Lg	Lg	09 12 25.9	
	9.5nm,0.3s,baz=105,slow=27,SNR=28						
KURBB	**Kurchatov Arra**	**6.63**	**247**	Pn	Pn	09 13 07.2	-2.8
	0.1nm,0.3s,baz=63,slow=14,SNR=11						
KURBB				Lg	Lg	09 14 53.2	
	baz=63,slow=31,SNR=1.5						
MKAR	**Makanchi Array**	**7.80**	**211**	Pn	Pn	09 13 24.4	-1.7
	0.2nm,0.3s,baz=28,slow=14,SNR=6.6						
MKAR				Lg	Lg	09 15 31.1	
	baz=24,slow=28,SNR=1.6						

IDC 17 09:51:52.5±2.6, 6.03S × 130.54E, h0 km, mb3.4/1, mb1 3.6/4, mb1mx3.4/26, mbtmp3.5/4, ML3.2/3, Error ellipse: s-maj=97.2km s-min=31.6km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**12.92**	**201**	Pn	Pn	09 54 58.8	+1.2
	0.2nm,0.3s,baz=25,slow=9.2,SNR=10						
WRA	**Warramunga Arr**	**14.32**	**165**	Pn	Pn	09 55 15.8	-0.9
	0.1nm,0.3s,baz=347,slow=14,SNR=1.3						
WRA				Sn	Sn	09 57 43.6	-13
	0.0nm,0.3s,baz=345,slow=22,SNR=1.5						
ASAR	**Alice Springs**	**17.84**	**170**	Pn	Pn	09 56 01.9	-0.5
	0.1nm,0.3s,baz=344,slow=9.3,SNR=7.8						
MKAR	**Makanchi Array**	**67.71**	**326**	P	P	10 02 51.8	0.0
	0.2nm,0.5s,baz=130,slow=6.4,SNR=2.6						

*NEIC **17** 10:15:50.8±2.1, 4.34S±0.08 × 144.76E±0.1, h118 km±7 km, mb4.1/13, Error ellipse: s-maj=15.6km s-min=10.5km az=60.0*
*IDC **17** 10:15:53.3±1.5, 4.40S × 144.41E, h134 km±13 km, mb3.6/6, mb1 3.8/9, mb1mx3.5/33, mbtmp4.0/9, Error ellipse: s-maj=17.7km s-min=11.6km az=64.0*

ISC 17 10:15:49.8±0.8, 4.32S±0.08 × 144.56E±0.0, h100 km, n28, σ1 s76/31, mb3.8/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**4.24**	**295**	P	**Pn**	**10 16 56.5**	**+4.1**
	5.7nm,0.3s,baz=147,slow=8.6,SNR=27						
JAY				S	**Sn**	**10 17 42.0**	**+1.1**
	1.9nm,0.3s,baz=158,slow=19,SNR=1.7						
PMG	**Port Moresby**	**5.67**	**153**	P	**Pn**	**10 17 15.8**	**+4.1**
	1.8nm,0.3s,baz=18,slow=19,SNR=1.8						
PMG				S	**Sn**	**10 18 18.1**	**+2.5**
	1.4nm,0.3s,baz=345,slow=20,SNR=2.2						
PMG	**Port Moresby**	**5.67**	**153**		**Pn**	**10 17 12.7**	**+0.9**
FAKI	**Fak Fak**	**12.36**	**276**	Pn	**Pn**	**10 18 42.6**	**+0.2**
MTN	**Manton Dam**	**15.73**	**237**	Pn	**Pn**	**10 19 26.2**	**+0.3**
WB0	**Warramunga Arr**	**18.27**	**212**	P	**P**	**10 19 55.1**	**-0.7**
WR0	**Warramunga Arr**	**18.35**	**211**	P	**P**	**10 19 57.0**	**+0.3**
WR0				IAmb	IAmb	10 20 00.2	
	comp=Z,7.8nm,0.9s						
WB2	**Warramunga Arr**	**18.44**	**212**	P	**P**	**10 19 57.8**	**+0.1**
WB2				IAmb	IAmb	10 20 00.7	
	comp=Z,9.1nm,0.8s						
WRA	**Warramunga Arr**	**18.44**	**212**	P	**Pn**	**10 19 58.6**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=30,slow=12,SNR=21						
WRA	**Warramunga Arr**	**18.44**	**212**	P	**P**	**10 19 57.3**	**-0.4**
KNRA	**Kununurra**	**19.19**	**233**	P	**P**	**10 20 05.5**	**-0.4**
KNRA				IAmb	IAmb	10 20 09.7	
	comp=Z,30nm,1.4s						
AS31	**Alice Springs**	**21.80**	**207**	P	**P**	**10 20 35.1**	**+1.1**
ASAR	**Alice Springs**	**21.80**	**207**	P	**P**	**10 20 35.1**	**+1.1**
	comp=Z,7.3nm,0.7s,baz=29,slow=12,SNR=84						
ASAR				S	**S**	**10 24 24.6**	**-4.8**
	comp=Z,1.6nm,0.9s,baz=26,slow=16,SNR=7.9						
ASAR	**Alice Springs**	**21.80**	**207**	P	**P**	**10 20 32.5**	**-1.5**
EIDS	**Eidsvold**	**21.84**	**164**	P	**P**	**10 20 33.0**	**-1.4**
EIDS				IAmb	IAmb	10 20 38.6	
	comp=Z,6.8nm,0.8s						
FITZ	**Fitzroy Crossi**	**23.02**	**232**	P	**P**	**10 20 45.2**	**-1.2**
	comp=Z,1.8nm,0.4s,baz=51,slow=11,SNR=9.7						
FITZ	**Fitzroy Crossi**	**23.02**	**232**	P	**P**	**10 20 45.3**	**-1.2**
FITZ				IAmb	IAmb	10 20 48.5	
	comp=Z,4.6nm,0.8s						
STKA	**Stephens Creek**	**27.55**	**185**	P	**P**	**10 21 27.4**	**0.0**
	comp=Z,0.8nm,0.7s,baz=11,slow=16,SNR=1.9						
STKA	**Stephens Creek**	**27.55**	**185**	P	**P**	**10 21 25.0**	**-2.4**
BBOO	**Buckleboo**	**29.43**	**195**	P	**P**	**10 21 44.4**	**+0.3**
FORT	**Forrest**	**30.57**	**209**	P	**P**	**10 21 54.4**	**+0.3**
PETK	**Petropavlovsk-**	**58.28**	**9**	P	**P**	**10 25 32.3**	**-1.7**
VNDA	**Vanda**	**73

IDC 17 11:04:22.1±1.8, 2.79N×121.77E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.5/44, mbtmp3.7/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/35, Error ellipse: s-maj=174.0km s-min=25.9km az=72.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.01**	**195**	LR	LR	11 09 31.4	
	comp=Z,99nm,20.1s,baz=252,slow=39						
FITZ	**Fitzroy Crossi**	**21.11**	**170**	P	P	11 09 07.6	-0.9
	12nm,1.3s,baz=358,slow=7.8,SNR=6.2						
WRA	**Warramunga Arr**	**25.74**	**152**	P	P	11 09 53.8	-0.9
	0.2nm,0.4s,baz=333,slow=9.5,SNR=6.4						
ASAR	**Alice Springs**	**28.83**	**156**	P	P	11 10 23.6	+1.2
	1.1nm,0.6s,baz=331,slow=8.3,SNR=22						
SONM	**Songino Array**	**46.79**	**346**	P	P	11 12 53.5	-0.2
	0.6nm,0.5s,baz=166,slow=8.5,SNR=3.6						

IDC 17 11:04:45.0±7.1, 68.30N×163.62W, h0km, mb2.9/2, mb1 3.7/3, mb1mx3.3/53, mbtmp3.3/3, ML4.0/1, Error ellipse: s-maj=108.1km s-min=99.2km az=50.0
AEIC 17 11:04:50.8±1.3, 67.63N±0.07×162.4W±0.1, h20km±6km, ML2.9/22, Error ellipse: s-maj=10.9km s-min=7.2km az=160.0
NEIC 17 11:04:51.3±1.6, 67.65N±0.05×162.6W±0.1, h30km±7km, Error ellipse: s-maj=7.9km s-min=6.8km az=132.0

ISC 17 11:04:50.4±0.9, 67.66N±0.06×162.19W±0.07, h10km, n34, σ1s08/37, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.48**	**326**		**Pg**	**11 04 59.4**	**-0.4**
RDOG					**Sb**	**11 05 07.4**	**-0.8**
ANM	**Nome**	**3.36**	**204**		**Pn**	**11 05 41.2**	**-1.7**
ANM					**Sn**	**11 06 21.8**	**-1.0**
IM03		**3.73**	**113**		**Pn**	**11 05 48.1**	**+0.2**
IMAR	**Indian Mountai**	**3.73**	**113**		**Pn**	**11 05 48.1**	**+0.1**
TOLK	**Toolik Lake Re**	**4.82**	**72**		**Pn**	**11 06 04.0**	**+1.1**
TTA	**Tatalina**	**5.40**	**148**		**Pn**	**11 06 10.7**	**-0.2**
TT01	**Tatalina**	**5.42**	**149**		**Pn**	**11 06 11.6**	**+0.4**
BPAW	**Bear Paw Mtn.**	**5.81**	**123**		**Pn**	**11 06 16.9**	**+0.4**
NEA2	**Nenana**	**6.14**	**114**		**Pn**	**11 06 21.8**	**+0.7**
MDM	**Murphy Dome**	**6.24**	**109**		**Pn**	**11 06 22.6**	**+0.2**
PPLA	**Purkeypile**	**6.35**	**134**	Pn	**Pn**	**11 06 24.9**	**+0.9**
TCOL	**CIGO, UAF Yank**	**6.42**	**109**		**Pn**	**11 06 25.9**	**+1.2**
COLA	**College**	**6.42**	**109**		**Pn**	**11 06 25.1**	**+0.3**
TRF	**Thorofare Moun**	**6.49**	**125**	Pn	**Pn**	**11 06 26.6**	**+0.7**
WRH	**Wood River Hil**	**6.56**	**113**		**Pn**	**11 06 27.3**	**+0.6**
CCB	**Clear Creek Bu**	**6.56**	**111**		**Pn**	**11 06 27.3**	**+0.5**
FYU	**Fort Yukon**	**6.70**	**91**	Pn	**Pn**	**11 06 29.4**	**+0.8**
BM03	**Burnt Mountain**	**6.74**	**84**		**Pn**	**11 06 29.1**	**-0.1**
BMAR	**Burnt Mountain**	**6.75**	**84**		**Pn**	**11 06 30.2**	**+0.8**
IL31		**6.83**	**108**		**Pn**	**11 06 31.3**	**+1.0**
ILAR	**Eielson Array**	**6.83**	**108**	Pn	**Pn**	**11 06 31.4**	**+1.1**
	2.2nm,0.3s,baz=302,slow=14,SNR=106						
ILAR				Sn	**Sn**	**11 07 44.3**	**-3.7**
	baz=304,slow=21,SNR=2.5						
ILAR	**Eielson Array**	**6.83**	**108**		**Pn**	**11 06 30.9**	**+0.6**
HDA	**Harding Lake**	**7.00**	**111**	Pn	**Pn**	**11 06 32.3**	**-0.5**
SVW2	**Sparrevohn**	**7.17**	**153**	Pn	**Pn**	**11 06 36.1**	**+0.9**
DHY	**Denali Highway**	**7.70**	**120**	Pn	**Pn**	**11 06 44.1**	**+1.7**
SPU	**Mount Spurr**	**7.83**	**141**	Pn	**Pn**	**11 06 45.2**	**+1.1**
RIDG	**Independent Ri**	**8.14**	**111**	Pn	**Pn**	**11 06 48.0**	**-0.5**
SCRK	**Sand Creek**	**8.32**	**108**		**Pn**	**11 06 50.7**	**-0.2**
DOT	**Dot Lake**	**8.48**	**110**	Pn	**Pn**	**11 06 54.1**	**+1.0**
BCAR	**Beaver Creek A**	**9.65**	**109**	Pn	**Pn**	**11 07 10.1**	**+0.9**
EPYK	**Eagle Plains**	**10.01**	**85**	Pn	**Pn**	**11 07 15.6**	**+1.6**
INK	**Inuvik**	**10.73**	**73**	Pn	**Pn**	**11 07 23.6**	**-0.2**
YKA	**Yellowknife Ar**	**20.26**	**82**	P	**P**	**11 09 25.8**	**+0.4**
	0.2nm,0.6s,baz=302,slow=10,SNR=4.7						
TXAR	**Lajitas Array**	**51.34**	**108**	P	**P**	**11 13 56.3**	**+1.6**
	0.2nm,0.7s,baz=330,slow=7.2,SNR=4.0						

NEIC 17 11:17:31.3±2.8, 8.50S±0.07×123.80E±0.07, h118km±9km, mb4.3/14, Error ellipse: s-maj=11.4km s-min=8.6km az=50.0
IDC 17 11:17:32.4±1.5, 8.51S×123.91E, h115km±15km, mb3.6/7, mb1 3.7/10, mb1mx3.5/28, mbtmp4.0/10, Error ellipse: s-maj=30.9km s-min=13.7km az=70.0
DJA 17 11:17:34.3±1.8, 9.3S×12.4E±, h24km±19km, M4.1/11, mB5.1/1, mb4.3/4, MLv4.0/11, Mw(mB)4.4/1

ISC 17 11:17:33.2±0.6, 8.65S±0.05×123.72E±0.07, h133km, n49, σ1s94/53, mb3.9/10, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.22**	**154**	P	**Pn**	**11 17 57.2**	**-1.5**
SOEI				S	**Sn**	**11 18 14.6**	**-3.5**
SOEI	**Soe**	**1.22**	**154**	Pn	**Pn**	**11 17 58.4**	**-0.3**
MMRI	**Maumere**	**1.47**	**270**	P	**Pn**	**11 17 58.9**	**-2.3**
MMRI				S	**Sn**	**11 18 18.0**	**-4.5**
MMRI	**Maumere**	**1.47**	**270**	Pn	**Pn**	**11 17 59.1**	**-2.1**
BATI	**Baumata**	**1.55**	**182**	P	**Pn**	**11 18 01.8**	**-0.3**
	254nm,0.3s,baz=32,slow=2.6,SNR=199						
BATI				S	**Sn**	**11 18 24.6**	**+0.4**
	381nm,0.3s,baz=332,slow=22,SNR=30						
BATI	**Baumata**	**1.55**	**182**	P	**Pn**	**11 18 00.8**	**-1.3**
BATI				S	**Sn**	**11 18 21.6**	**-2.6**
EDFI	**Ende, Flores**	**2.01**	**267**	P	**Pn**	**11 18 06.1**	**-1.5**
BBSI	**Bau Bau**	**3.34**	**340**	P	**Pn**	**11 18 24.3**	**-0.1**
BASI	**Baing, Sumba**	**3.47**	**243**	P	**Pn**	**11 18 24.7**	**-1.4**
WBSI	**Waikabubak, Su**	**4.39**	**257**	P	**Pn**	**11 18 37.8**	**-0.5**
KAPI	**Kappang**	**5.35**	**312**	P	**Pn**	**11 18 51.0**	**0.0**
	1.9nm,0.3s,baz=160,slow=16,SNR=7.5						
KAPI	**Kappang**	**5.35**	**312**		**Pn**	**11 18 50.0**	**-1.0**
BNSI	**Bone**	**5.54**	**319**	P	**Pn**	**11 18 53.3**	**-0.3**
	0.1nm30nm,0.6s						
PLAI	**Plampang**	**5.88**	**268**	P	**Pn**	**11 18 58.5**	**+0.3**
	0.5nm2µm65nm,0.7s						
SAUI	**Saumlaki**	**7.53**	**86**	Pn	**Pn**	**11 19 16.8**	**-3.5**
LUWI	**Luwuk**	**7.62**	**353**	Pn	**Pn**	**11 19 18.2**	**-3.3**
MTN	**Manton Dam**	**8.39**	**128**	Pn	**Pn**	**11 19 31.1**	**-0.8**
KNRA	**Kununurra**	**8.55**	**145**		**Pn**	**11 19 15.9**	**-2.1**
JAGI	**Jajag, Banyuwa**	**9.47**	**270**	Pn	**Pn**	**11 19 44.8**	**-1.6**
FITZ	**Fitzroy Crossi**	**9.58**	**169**	P	**Pn**	**11 19 44.6**	**-3.2**
	4.5nm,0.3s,baz=352,slow=9.8,SNR=132						
FITZ				S	Sn	11 21 24.4	-9.4
	4.9nm,0.3s,baz=317,slow=18,SNR=13						
FAKI	**Fak Fak**	**10.21**	**57**	Pn	Pn	11 19 50.0	-6.4
PSA00	**Pilbara Seismi**	**13.38**	**196**	Pn	**Pn**	**11 20 40.0**	**+2.1**
PSA00	**Pilbara Seismi**	**13.38**	**196**	Pn	**Pn**	**11 20 37.9**	**-0.1**
WB0	**Warramunga Arr**	**15.13**	**138**	Pn	**Pn**	**11 20 57.6**	**-2.5**
WB0				IAmb	IAmb	11 21 17.4	
	comp=Z,8.3nm,1.0s						
WRA	**Warramunga Arr**	**15.22**	**139**	P	**Pn**	**11 20 59.2**	**-2.0**
	comp=Z,1.4nm,0.3s,baz=259,slow=11,SNR=38						
WRA				S	Sn	11 23 35.5	-15
	comp=Z,2.6nm,0.3s,baz=328,slow=30,SNR=11						
WRA	**Warramunga Arr**	**15.22**	**139**	Pn	**Pn**	**11 20 56.6**	**-4.6**
WRAB	**Tennant Creek**	**15.22**	**139**	Pn	**Pn**	**11 20 59.5**	**-1.7**
WRAB				IAmb	IAmb	11 21 08.5	
	comp=Z,17nm,0.8s						
WB2	**Warramunga Arr**	**15.22**	**139**	Pn	**Pn**	**11 20 59.1**	**-2.2**
WR0	**Warramunga Arr**	**15.36**	**138**	Pn	**Pn**	**11 21 01.3**	**-1.7**
WR0				IAmb	IAmb	11 21 07.4	
	comp=Z,7.8nm,0.7s						
GIRL	**Giralia**	**16.64**	**212**		**Pn**	**11 21 19.8**	**+1.2**
AS31	**Alice Springs**	**17.83**	**148**	P	**P**	**11 21 32.2**	**+0.2**
ASAR	**Alice Springs**	**17.83**	**148**	P	**P**	**11 21 33.5**	**+1.5**
	comp=Z,1.0nm,0.3s,baz=324,slow=12,SNR=54						
ASAR				S	S	11 24 40.1	-10
	comp=Z,0.7nm,0.3s,baz=315,slow=20,SNR=8.1						
ASAR				ScP	**ScP**	**11 29 28.2**	**+2.6**
	baz=331,slow=1.8,SNR=4.7						
ASAR	**Alice Springs**	**17.83**	**148**	P	**P**	**11 21 32.2**	**+0.2**
COEN	**Coen**	**19.78**	**107**	P	**P**	**11 21 52.9**	**-0.3**
COEN				IAmb	IAmb	11 21 56.9	
	comp=Z,34nm,1.4s						
MORW	**Morawa**	**21.56**	**199**	P	**P**	**11 22 12.8**	**+0.6**
MORW				IAmb	IAmb	11 22 27.9	
	comp=Z,17nm,1.4s						
FORT	**Forrest**	**22.39**	**170**	P	**P**	**11 22 21.3**	**+0.7**
FORT				IAmb	IAmb	11 22 26.7	
	comp=Z,20nm,0.9s						
NWAO	**Narrogin (SRO)**	**24.90**	**193**	P	**P**	**11 22 44.8**	**+1.1**
NWAO	**Narrogin (SRO)**	**24.90**	**193**	P	**P**	**11 22 44.8**	**+1.1**
NWAO				IAmb	IAmb	11 23 04.1	
	comp=Z,71nm,1.4s						
BBOO	**Buckleboo**	**26.62**	**156**	P	**P**	**11 23 00.8**	**+1.4**
BBOO				IAmb	IAmb	11 23 02.8	
	comp=Z,24nm,1.5s						
RPSI	**Rantau Prapat**	**27.17**	**293**	P	**P**	**11 23 07.3**	**+2.9**
PSI	**Prapat**	**27.22**	**294**	P	**P**	**11 23 07.3**	**+2.3**
	comp=Z,3.3nm,0.6s,baz=180,slow=15,SNR=1.9						
STKA	**Stephens Creek**	**28.46**	**147**	P	**P**	**11 23 17.5**	**+1.8**
	comp=Z,1.0nm,0.4s,baz=308,slow=13,SNR=6.6						
STKA	**Stephens Creek**	**28.46**	**147**	P	**P**	**11 23 18.0**	**+2.2**
MJAR	**Matsushiro Arr**	**46.97**	**12**	P	**P**	**11 25 50.1**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=202,slow=8.4,SNR=2.8						
USRK	**Ussuriysk Ar.**	**53.13**	**7**	P	**P**	**11 26 38.2**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=180,slow=5.2,SNR=2.1						
MKAR	**Makanchi Array**	**66.37**	**330**	P	**P**	**11 28 07.7**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=131,slow=7.5,SNR=4.6						
MKAR	**Makanchi Array**	**66.37**	**330**	P	**P**	**11 28 06.8**	**-0.9**
PETK	**Petropavlovsk-**	**67.97**	**21**	P	**P**	**11 28 17.3**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=214,slow=7.0,SNR=2.1						
VNDA	**Vanda**	**71.64**	**172**	P	**P**	**11 28 41.4**	**+1.5**
	comp=Z,0.5nm,0.8s,baz=324,slow=6.6,SNR=1.9						

MEX 17 11:25:21.8±0.6, 15.51N×93.22W, h111km±5km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.20**	**359**	*i* P	Pn	11 25 35.7	-1.6
PCIG				*i* S	Sn	11 25 47.1	-1.8
PCIG		**0.20**	**359**	*e*P	Pn	11 25 35.7	-1.6
PCIG				*e*S	Sn	11 25 46.4	-2.5
THIG		**1.09**	**123**	*i* P	Pn	11 25 43.1	-0.9
THIG				*e*S	Sn	11 25 58.6	-2.2
THIG		**1.09**	**123**	*e*P	Pn	11 25 43.1	-0.9
THIG				*i* S	Sn	11 25 59.5	-1.3
TGIG		**1.27**	**4**	*e*P	Pn	11 25 45.6	-0.4
TGIG				*i* S	Sn	11 26 02.7	-1.8
TGBT	**Tuxtla Gutierr**	**1.27**	**5**	*i* P	Pn	11 25 45.4	-0.6
TGBT				*i* S	Sn	11 26 02.5	-1.8
CCIG	**Comitan**	**1.29**	**53**	*e*P	Pn	11 25 45.9	-0.6
CCIG				*e*S	Sn	11 26 03.9	-1.2
CMIG	**Matias Romero**	**2.25**	**315**	*e*P	Pn	11 25 58.7	+0.7
CMIG				*e*S	Sn	11 26 24.6	-1.2

IDC 17 12:00:50.0±2.3, 7.02S×129.72E, h99km±22km, mb3.9/7, mb1 4.1/12, mb1mx3.8/30, mbtmp4.3/12, Error ellipse: s-maj=28.6km s-min=15.1km az=73.0
NEIC 17 12:00:52.5±2.9, 7.13S±0.06×129.70E±0.07, h148km±9km, mb4.4/23, Error ellipse: s-maj=10.7km s-min=9.0km az=108.0

ISC 17 12:00:52.1±0.5, 7.05S±0.05×129.60E±0.05, h139km, n55, σ2s16/60, mb4.2/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.92**	**119**		**Pn**	**12 01 27.4**	**+1.7**
SAUI				Sn	**Sn**	**12 01 52.5**	**+1.2**
FAKI	**Fak Fak**	**4.88**	**33**	Pn	**Pn**	**12 02 04.3**	**+0.5**
FAKI				Sn	**Sn**	**12 02 58.0**	**-1.5**
SOEI	**Soe**	**5.92**	**243**	Pn	**Pn**	**12 02 19.9**	**+2.1**
SOEI				Sn	**Sn**	**12 03 24.1**	**-0.6**
MTN	**Manton Dam**	**5.95**	**165**	Pn	**Pn**	**12 02 18.2**	**+0.1**
MTN				Sn	**Sn**	**12 03 20.7**	**-4.6**
SIJI	**Sorong**	**6.36**	**15**	P	**Pn**	**12 02 21.1**	**-2.5**
	1.8nm,0.3s,baz=238,slow=19,SNR=1.2						
SIJI				S	**Sn**	**12 03 26.9**	**-8.2**
	2.1nm,0.3s,baz=217,slow=23,SNR=1.8						
BATI	**Baumata**	**6.66**	**241**	P	**Pn**	**12 02 28.4**	**+0.8**
	11nm,0.3s,baz=130,slow=3.3,SNR=12						
BATI				S	**Sn**	**12 03 38.3**	**-4.0**
	22nm,0.3s,baz=131,slow=9.8,SNR=3.8						
MMRI	**Maumere**	**7.46**	**257**	Pn	**Pn**	**12 02 40.2**	**+1.8**
KNRA	**Kununurra**	**8.62**	**185**	Pn	**Pn**	**12 02 53.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**11.64**	**199**	P	**Pn**	**12 03 31.9**	**-2.2**
	2.4nm,0.3s,baz=24,slow=9.7,SNR=76						
FITZ				S	Sn	12 05 32.0	-11
	6.6nm,0.3s,baz=311,slow=23,SNR=8.7						
WB0	**Warramunga Arr**	**13.47**	**160**		**Pn**	**12 03 55.0**	**-2.8**
WRAB	**Tennant Creek**	**13.61**	**161**	Pn	**Pn**	**12 03 56.8**	**-2.8**
WRA	**Warramunga Arr**	**13.62**	**161**	P	**Pn**	**12 03 57.1**	**-2.6**
	3.4nm,0.3s,baz=349,slow=11,SNR=38						
WRA				S	Sn	12 06 16.4	-14
	6.3nm,0.3s,baz=330,slow=21,SNR=15						
WRA	**Warramunga Arr**	**13.62**	**161**	Pn	**Pn**	**12 03 56.3**	**-3.4**
WB2	**Warramunga Arr**	**13.62**	**161**	Pn	**Pn**	**12 03 57.0**	**-2.7**
WR0	**Warramunga Arr**	**13.70**	**160**	Pn	**Pn**	**12 03 58.3**	**-2.4**
COEN	**Coen**	**15.00**	**118**		**Pn**	**12 04 16.6**	**-0.6**
AS31	**Alice Springs**	**17.03**	**166**		**P**	**12 04 41.9**	**+0.3**
AS31				IAmb	IAmb	12 04 47.9	
	comp=Z,5.5nm,0.3s						
ASAR	**Alice Springs**	**17.03**	**166**	P	**P**	**12 04 42.0**	**+0.4**
	comp=Z,1.7nm,0.3s,baz=340,slow=9.7,SNR=87						
ASAR				S	S	12 07 38.0	-14
	comp=Z,0.4nm,0.3s,baz=329,slow=16,SNR=7.0						
ASAR	**Alice Springs**	**17.03**	**166**		**P**	**12 04 40.8**	**-0.9**
PSAD1	**Pilbara Seismi**	**17.16**	**212**	P	**P**	**12 04 42.5**	**-0.5**
PSAD1				IAmb	IAmb	12 04 46.3	
	comp=Z,12nm,0.7s						
PSAC2	**Pilbara Seismi**	**17.21**	**212**	P	**P**	**12 04 43.1**	**-0.4**
PSAC2				IAmb	IAmb	12 04 57.0	
	comp=Z,30nm,1.4s						
PSAB2	**Pilbara Seismi**	**17.22**	**212**	P	**P**	**12 04 43.8**	**+0.1**
PSAB2				IAmb	IAmb	12 04 47.0	
	comp=Z,11nm,0.6s						
PSAC1	**Pilbara Seismi**	**17.23**	**212**	P	**P**	**12 04 42.5**	**-1.3**
PSAC1				IAmb	IAmb	12 04 47.1	
	comp=Z,18nm,0.7s						
PSA00	**Pilbara Seismi**	**17.24**	**212**	P	**P**	**12 04 44.4**	**+0.5**
PSAA1	**Pilbara Seismi**	**17.25**	**212**	P	**P**	**12 04 43.8**	**-0.2**
PSAB1	**Pilbara Seismi**	**17.25**	**212**	P	**P**	**12 04 44.1**	**0.0**
PSAB3	**Pilbara Seismi**	**17.26**	**212**	P	**P**	**12 04 43.4**	**-0.7**
PSAC3	**Pilbara Seismi**	**17.29**	**212**	P	**P**	**12 04 43.7**	**-0.8**
PSAC3				IAmb	IAmb	12 04 47.8	
	comp=Z,15nm,0.7s						
PSAD3	**Pilbara Seismi**	**17.34**	**212**	P	**P**	**12 04 44.3**	**-0.6**
PSAD3				IAmb	IAmb	12 04 52.4	
	comp=Z,21nm,1.1s						
SBUM	**Sibu**	**19.75**	**298**	P	**P**	**12 05 14.5**	**+3.1**
KSM	**Kuching**	**21.03**	**293**	P	**P**	**12 05 26.0**	**+0.9**
FORT	**Forrest**	**23.65**	**183**	P	**P**	**12 05 49.0**	**-1.9**
BBOO	**Buckleboo**	**26.33**	**168**	P	**P**	**12 06 14.6**	**-0.4**
BBOO				IAmb	IAmb	12 06 21.3	
	comp=Z,15nm,1.1s						
STKA	**Stephens Creek**	**27.12**	**157**	P	**P**	**12 06 24.2**	**+2.1**
	comp=Z,5.6nm,0.9s,baz=334,slow=10,SNR=12						
STKA	**Stephens Creek**	**27.12**	**157**	P	**P**	**12 06 20.7**	**-1.5**
CMAR	**Chiang Mai Arr**	**39.46**	**310**	P	**P**	**12 08 11.3**	**+2.3**
	comp=Z,2.6nm,0.5s,baz=134,slow=6.9,SNR=16						
USRK	**Ussuriysk Ar.**	**51.05**	**2**	P	**P**	**12 09 42.3**	**+2.2**
	comp=Z,1.5nm,0.6s,baz=186,slow=6.5,SNR=4.3						
USRK	**Ussuriysk Ar.**	**51.05**	**2**	P	**P**	**12 09 39.1**	**-0.9**
SONM	**Songino Array**	**58.36**	**342**	P	**P**	**12 10 35.4**	**+2.6**
	comp=Z,0.6nm,0.5s,baz=140,slow=7.5,SNR=3.7						
SONM	**Songino Array**	**58.36**	**342**	IAmb	IAmb	12 10 38.0	
	comp=Z,0.7nm,0.6s						
MK31	**Makanchi Array**	**68.05**	**327**	P	**P**	**12 11 38.2**	**+1.5**
MK31				IAmb	IAmb	12 11 40.1	
	comp=Z,1.7nm,0.5s						
MKAR	**Makanchi Array**	**68.05**	**327**	P	**P**	**12 11 39.4**	**+2.8**
	comp=Z,2.7nm,0.4s,baz=118,slow=8.0,SNR=44						
MKAR	**Makanchi Array**	**68.05**	**327**	P	**P**	**12 11 38.9**	**+2.2**
MAKZ	**Makanchi**	**68.23**	**327**	P	**P**	**12 11 39.7**	**+2.0**
MAKZ				IAmb	IAmb	12 11 41.4	
	comp=Z,2.5nm,0.5s						
ZAA0	**Zalesovo Array**	**71.45**	**334**	P	**P**	**12 11 57.6**	**+0.3**
ZAA0				IAmb	IAmb	12 12 00.7	
	comp=Z,4.9nm,1.4s						
ZALV	**Zalesovo Beam**	**71.45**	**334**	P	**P**	**12 11 58.6**	**+1.4**
	comp=Z,1.0nm,0.4s,baz=134,slow=4.8,SNR=7.3						
ZALV	**Zalesovo Beam**	**71.45**	**334**	P	**P**	**12 11 58.0**	**+0.7**
KURK	**Kurchatov**	**72.35**	**329**	P	**P**	**12 12 03.4**	**+0.7**
KK31	**Karatay Array**	**73.12**	**319**	P	**P**	**12 12 05.5**	**-2.0**
KKAR	**Karatay Array**	**73.12**	**319**	P	**P**	**12 12 05.7**	**-1.7**
KKAR	**Karatay Array**	**73.12**	**319**	P	**P**	**12 12 05.6**	**-1.9**
KKAR				IAmb	IAmb	12 12 11.1	
	comp=Z,1.7nm,1.1s						
ABKAR	**Akbulak array**	**82.30**	**322**	P	**P**	**12 12 58.6**	**+0.5**
ILAR	**Eielson Array**	**93.56**	**25**	P	**P**	**12 13 52.8**	**+0.8**
	comp=Z,0.3nm,0.7s,baz=232,slow=6.3,SNR=4.4						
TORD	**Torodi Ar. Bea**	**128.43**	**281**	PKP	**PKiKP**	**12 19 45.5**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=73,slow=2.4,SNR=2.0						
LPAZ	**La Paz**	**150.92**	**143**	PKPbc	**PKiKP**	**12 20 33.7**	**+3.0**
	comp=Z,0.6nm,0.4s,baz=158,slow=19,SNR=4.7						

SOME 17 12:25:38.1, 44.67N×82.23E, h20km
NNC 17 12:25:39.6±1.1, 44.62N×82.09E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=12.1km s-min=4.6km az=121.0

ISC 17 12:25:37.8±2.8, 44.62N±0.05×82.21E±0.09, h8km±19km, n13, σ0s71/23, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.76**	**262**	*e*P	**Pb**	**12 26 10.9**	**+0.5**
	9.8nm,0.2s						
DJR				*e*S	**Sg**	**12 26 34.3**	**0.0**
	8.8nm,0.2s						
DJR	**Jarkent**	**1.76**	**262**	P	**Pb**	**12 26 10.6**	**+0.2**
	9.8nm,0.2s						
DJR				S	**Sg**	**12 26 34.0**	**-0.3**
	8.8nm,0.2s						
KTMS	**Ketmen**	**1.78**	**230**	*e*P	**Pb**	**12 26 10.8**	**0.0**
	1.0nm,0.1s						
KTMS				*e*S	**Sb**	**12 26 34.1**	**+0.8**
	23nm,0.5s						
KTMS	**Ketmen**	**1.78**	**230**	P	**Pb**	**12 26 10.8**	**0.0**
	0.8nm,0.1s						
KTMS				S	**Sb**	**12 26 34.1**	**+0.8**
	23nm,0.5s						
KAPS	**Kapalarasan**	**2.13**	**289**	*e*P	**Pb**	**12 26 16.3**	**-0.5**
	3.3nm,0.2s						
KAPS				*e*S	**Sb**	**12 26 44.0**	**+0.5**
	21nm,0.4s						
KAPS	**Kapalarasan**	**2.13**	**289**	Pg	**Pb**	**12 26 16.3**	**-0.5**
	4.0nm,0.2s						
KAPS				Lg	Lg	12 26 43.6	
	21nm,0.4s						
MK31	**Makanchi Array**	**2.18**	**1**	⇓Pn	**Pb**	**12 26 17.7**	**+0.1**
	2.8nm,0.2s,baz=186,slow=16,SNR=209						
MK31				⇑Sn	**Sb**	**12 26 45.9**	**+1.2**
	5.7nm,0.2s,baz=180,slow=27,SNR=22						
MAKZ	**Makanchi**	**2.20**	**356**	⇑Pn	**Pb**	**12 26 17.0**	**-0.8**
	2.8nm,0.3s						
MAKZ				⇑Sn	**Sb**	**12 26 45.9**	**+0.6**
	8.7nm,0.5s						
SHLS	**Shalkode**	**2.47**	**235**	*e*P	**Pn**	**12 26 18.5**	**0.0**
	11nm,0.2s						
SHLS				*e*S	**Sn**	**12 26 47.7**	**-1.2**
	35nm,0.3s						
SHLS	**Shalkode**	**2.47**	**235**	Pg	**Pn**	**12 26 18.5**	**0.0**
	11nm,0.2s						
SHLS				Lg	Lg	12 26 47.6	
	35nm,0.3s						
UZB	**Uzynbulak**	**2.73**	**239**	*e*P	**Pb**	**12 26 26.4**	**-0.7**
	7.0nm,0.2s						
UZB				*e*S	**Sb**	**12 27 01.2**	**+0.4**
	6.0nm,0.2s						
UZB	**Uzynbulak**	**2.73**	**239**	Pg	**Pb**	**12 26 26.4**	**-0.7**
	6.8nm,0.2s						
UZB				Lg	Lg	12 27 01.4	
	6.5nm,0.2s						
SATY	**Saty**	**3.16**	**242**	*e*P	**Pb**	**12 26 33.9**	**-0.5**
	3.3nm,0.2s						
SATY				*e*S	**Sb**	**12 27 14.5**	**+1.4**
	18nm,0.3s						

IDC 17 12:51:12.9±0.8, 28.28N×51.71E, h0km, mb4.2/17, mb1 4.2/23, mb1mx4.1/49, mbtmp4.1/23, ML3.8/6, MS3.3/17, Ms1 3.3/17, ms1mx3.2/40, Error ellipse: s-maj=18.4km s-min=14.0km az=156.0
MOS 17 12:51:12.6±1.1, 28.14N×51.64E, h13km, mb4.4/21, Error ellipse: s-maj=8.7km s-min=5.3km az=76.0
TEH 17 12:51:14.9, 28.31N×51.68E, h16km, ML4.2
NEIC 17 12:51:14.4±2.4, 28.34N±0.04×51.65E±0.07, h10km±1km, Error ellipse: s-maj=12.2km s-min=3.1km az=115.0
THR 17 12:51:17.0±0.5, 28.47N×51.65E, h18km±6km, ML4.3
OMAN 17 12:51:18.9, 28.30N×51.87E, h30km, ml4.5/9, ms3.1/1
DSN 17 12:51:18.8±0.9, 28.10N×51.87E, h10km, ML4.8/11, Error ellipse: s-maj=11.7km s-min=4.4km az=172.0

ISC 17 12:51:15.4±0.4, 28.23N±0.04×51.62E±0.04, h16km, n199, σ1s43/209, mb4.2/45, MS3.3/17, 8C-3D, Southern Iran

SNR=18
HATD S Sn 12 53 33.9 -0.3
ASHO Ashiyiah 5.32 131 *i* P Pn 12 52 34.9 +0.6
SNR=42
ASHO Ashiyiah 5.32 131 P Pn 12 52 35.1 +0.8
SNR=42
ASHO Ashiyiah 5.32 131 *e*Pn Pn 12 52 35.0 +0.6
KHNJ Kahnooj 5.38 92 *e*Pn Pn 12 52 36.2 +1.1
ALNE Al Ain 5.58 137 *i* P Pn 12 52 38.9 +1.1
SNR=12
ALNE Al Ain 5.58 137 *e*Pn Pn 12 52 39.1 +1.3
SOHO SOHO 6.01 132 *i* P Pn 12 52 44.2 +0.4
SNR=26
SOHO SOHO 6.01 132 *e*Pn Pn 12 52 44.1 +0.4
IKFM Kafar-mosalman 6.19 329 *e*Pn Pn 12 52 49.2 +3.0
UMZA Um Al Zommool 6.36 149 *e*Pn Pn 12 52 49.8 +1.3
ARQ Araqi 6.58 137 P Pn 12 52 52.0 +0.4
SNR=32
ARQ S Sn 12 54 05.8 -0.5
IKOM Komasi 6.89 330 *e*Pn Pn 12 52 57.7 +1.8
HOQ Hoqain 6.91 131 P Pn 12 52 56.5 +0.4
SNR=10
HOQ S Sn 12 54 12.1 -2.2
BSY Bisya 7.43 136 P Pn 12 53 04.0 +0.6
SNR=6.9
BSRN Basiran 7.49 58 *e*Pn Pn 12 53 05.8 +1.6
BSRN Basiran 7.49 58 *e*Pn Pn 12 53 05.8 +1.6
BSRN Basiran 7.49 58 Pn Pn 12 53 05.0 +0.8
BIDO Bidbid 7.51 127 *e*Pn Pn 12 53 03.7 -0.6
SMDO Samad 7.76 130 P Pn 12 53 08.1 +0.2
SNR=31
SMDO S Sn 12 54 34.7 -0.8
SNR=6.9
WSAR Wadi Sarin 8.04 127 Pn Pn 12 53 11.2 -0.5
comp=E,5.4nm,0.3s,baz=327,slow=9.7,SNR=31
WSAR Sn Sn 12 54 37.8 -4.6
comp=E,2.5nm,0.3s,baz=336,slow=10,SNR=3.9
WSAR LR LR 12 57 34.3
comp=E,131nm,21.2s,baz=330,slow=48
WSAR Wadi Sarin 8.04 127 P Pn 12 53 11.3 -0.3
SNR=8.8
JMDO Jabal Madar 8.27 133 P Pn 12 53 15.0 +0.2
SNR=8.2
GEYT Alibeck 11.09 28 Pn Pn 12 53 53.4 -0.1
comp=E,0.7nm,0.3s,baz=204,slow=14,SNR=6.6
GEYT Alibeck 11.09 28 Pn Pn 12 53 53.1 -0.4
ASF Jabal al Asfar 13.32 291 Pn Pn 12 54 23.3 -0.8
comp=E,0.2nm,0.3s,baz=198,slow=3.2,SNR=1.7
EIL Elat 14.67 280 LR LR 13 00 54.0
comp=E,104nm,18.5s,baz=90,slow=39
MMAI Mount Meron Ar 14.75 293 Pn Pn 12 54 44.3 +0.8
comp=E,1.4nm,0.3s,baz=124,slow=18,SNR=1.6
MMAI LR LR 13 01 41.5
comp=E,152nm,18.3s,baz=85,slow=42
MAK Makhachkala 15.07 348 *e*P Pn 12 54 48.1 +0.5
MAK *e*S Sn 12 57 38.1 +4.0
MAK pmax pmax
comp=Z,209nm,1.5s
MAK MLR MLR
comp=Z,106nm,17.0s
DAMY Dhamar 15.16 208 Pn Pn 12 54 49.6 +0.3
DAMY IAmb IAmb 12 55 03.3
comp=Z,16nm,0.9s
ZEI Tsey 15.81 339 *e*P Pn 12 54 57.1 -0.5
ZEI pmax pmax
comp=Z,8.0nm,0.5s
SOCY Socotra 16.12 172 Pn Pn 12 54 59.4 -2.1
KBL Kabul 16.14 63 P Pn 12 55 02.5 +0.6
KBL pmax pmax
comp=Z,6.0nm,0.5s
KBL Kabul 16.14 63 P Pn 12 55 02.5 +0.6
CSS Mathiatis 16.95 298 Pn 12 55 10.7 -1.3
KBZ Khabaz 16.98 338 Pn P 12 55 13.7 -0.4
comp=Z,0.1nm,0.3s,baz=131,slow=5.5,SNR=9.6
KBZ LR LR 13 02 49.4
comp=Z,71nm,18.3s,baz=155,slow=41
KBZ Khabaz 16.98 338 *ce*P P 12 55 14.8 +0.7
KIV Kislovodsk 17.25 338 *e*P P 12 55 19.0 +1.8
KIV pmax pmax
comp=Z,30nm,1.0s
KIV MLR MLR
comp=Z,47nm,14.0s
KIV Kislovodsk 17.25 338 Pn 12 55 13.1 -2.7
KIV IAmb IAmb 12 55 20.7
comp=Z,20nm,1.3s
CHGR Chuyangaron 17.92 50 Pn Pn 12 55 20.2 -3.9
CHGR IAmb IAmb 12 55 25.3
comp=Z,16nm,0.9s
ATD Arta Tunnel 18.54 208 LR LR 13 03 42.1
comp=Z,202nm,18.2s,baz=51,slow=40
BRTR Keskin Array B 18.77 312 P Pn 12 55 34.6 +0.1
comp=Z,0.2nm,0.3s,baz=132,slow=12,SNR=22
BRTR LR LR 13 04 01.2
comp=Z,57nm,20.6s,baz=114,slow=41
BRTR Keskin Array B 18.77 312 P P 12 55 32.0 -2.1
BR131 Keskin Array S 18.77 312 P P 12 55 33.4 -0.6
BR131 pmax pmax
comp=Z,6.0nm,0.9s
BR131 Keskin Array S 18.77 312 P 12 55 33.4 -0.6
GAR Garm 18.88 51 P P 12 55 31.3 -3.9
GAR IAmb IAmb 12 55 39.2
comp=Z,17nm,0.8s
ILGA Ilgaz 19.46 316 P P 12 55 40.5 -1.2
ANN Anapa 20.03 329 *e*P P 12 55 46.2 -1.4
ANN *e**PP Pn 12 55 49.5 +0.1
ANN *e*S S 12 59 32.4 +0.2
ANN pmax pmax
comp=Z,7.0nm,0.5s
MDUB Mudurnu 20.76 311 P P 12 55 53.0 -2.7
KK31 Karatay Array 21.27 41 P P 12 55 59.8 -1.3
KK31 pmax pmax
comp=Z,13nm,0.7s
KK31 Karatay Array 21.27 41 P P 12 55 59.8 -1.3
KK31 IAmb IAmb 12 56 01.1
comp=Z,13nm,0.7s
KKAR Karatay Array 21.27 41 P P 12 56 00.2 -0.9
KKAR Karatay Array 21.27 41 P P 12 56 00.2 -0.9
KKAR Karatay Array 21.27 41 P P 12 55 59.9 -1.2
KKAR IAmb IAmb 12 56 01.1
comp=Z,13nm,0.7s
DZA Taraz 21.63 42 *e*P P 12 56 04.2 -0.7
baz=43
DZA LR LR 13 05 35.6
comp=Z,20nm,11.6s,baz=43
DZA Taraz 21.63 42 *e*P P 12 56 04.2 -0.7
DZA MLR MLR
comp=Z,20nm,12.0s
ABKAR Akbulak array 21.94 15 P P 12 56 07.7 -0.5
AKTO Aktyubinsk 22.70 11 P P 12 56 14.6 -1.7
comp=Z,6.2nm,0.7s,baz=192,slow=13,SNR=21
AKTO LR LR 13 05 32.7
comp=Z,36nm,19.6s,baz=170,slow=38
AAK Ala-Archa 23.43 46 P P 12 56 23.2 -0.9
comp=Z,5.5nm,0.7s,baz=226,slow=3.4,SNR=6.7
AAK Ala-Archa 23.43 46 P P 12 56 23.2 -0.9
AAK pmax pmax
comp=Z,5.0nm,0.7s
AAK Ala-Archa 23.43 46 P P 12 56 23.2 -0.9
AAK IAmb IAmb 12 56 31.2
comp=Z,5.0nm,0.7s
IDI Anoyia 23.75 294 P P 12 56 26.8 -0.3
comp=Z,2.2nm,0.6s,baz=110,slow=12,SNR=1.8
IDI LR LR 13 08 00.2
comp=Z,35nm,21.8s,baz=90,slow=42
IDI Anoyia 23.75 294 P P 12 56 26.8 -0.3
IDI IAmb IAmb 12 56 35.2
comp=Z,8.4nm,1.0s
SGDS Sogindy 23.94 45 *e*P P 12 56 28.4 -0.6
comp=Z,2.4nm,0.9s,baz=46
SGDS Sogindy 23.94 45 *e*P P 12 56 28.3 -0.6
SGDS pmax pmax
comp=Z,2.0nm,0.9s
VRH Novokhopyorsk 24.13 345 *e*P P 12 56 31.4 +1.0
VRH pmax pmax
comp=Z,30nm,0.7s
BOOM Boomskoye usch 24.30 48 P P 12 56 29.7 -2.7
BOOM pmax pmax
comp=Z,13nm,0.7s
BOOM Boomskoye usch 24.30 48 P P 12 56 29.6 -2.7
VORD Divnogorie 24.54 341 *e*P P 12 56 35.1 +0.9
VORD pmax pmax
comp=Z,10.0nm,1.4s
VSR Storozhevoye 24.80 341 *e*P P 12 56 36.6 0.0
VSR pmax pmax
comp=Z,20nm,1.6s

KDJ Kajisay 24.95 50 P P 12 56 36.9 -1.4
KDJ pmax pmax
comp=Z,15nm,1.2s
KDJ Kajisay 24.95 50 P P 12 56 36.9 -1.4
TNSS Tian-Shan 25.21 47 *e*P P 12 56 41.8 +0.9
baz=48
TNSS Tian-Shan 25.21 47 *e*P P 12 56 41.7 +0.9
TARG Taragay, Kyrgy 25.21 51 P P 12 56 38.3 -2.6
TARG IAmb IAmb 12 56 47.3
comp=Z,7.1nm,0.7s
KUU Kurty 25.23 45 *e*P P 12 56 41.4 +0.7
comp=Z,4.3nm,1.0s,baz=46
KUU LR LR 13 07 33.4
comp=Z,45nm,8.4s,baz=46
KUU Kurty 25.23 45 *e*P P 12 56 41.3 +0.7
KUU pmax pmax
comp=Z,4.0nm,1.0s
KUU MLR MLR
comp=Z,45nm,8.0s
AAA Alma-Ata 25.27 47 LR LR 13 07 50.6
comp=Z,74nm,14.5s,baz=48
MDOK Medeo 25.33 47 *e*P P 12 56 41.3 -0.4
baz=48
MDOK LR LR 13 07 46.5
comp=Z,79nm,17.2s,baz=48
MDOK Medeo 25.33 47 *e*P P 12 56 41.2 -0.4
MDOK MLR MLR
comp=Z,79nm,17.0s
CHKK Chushkaly 25.62 46 *e*P P 12 56 43.9 -0.3
baz=47
CHKK Chushkaly 25.62 46 *e*P P 12 56 43.8 -0.3
LPSR Galich'ya Gora 26.11 342 *e*P P 12 56 48.6 +0.2
LPSR pmax pmax
comp=Z,20nm,1.0s
UZB Uzynbulak 26.62 49 *i* P P 12 56 53.6 +0.2
comp=Z,2.7nm,0.8s,baz=50
UZB Uzynbulak 26.62 49 *i* P P 12 56 53.5 +0.2
UZB pmax pmax
comp=Z,3.0nm,0.8s
MLR Muntele Rosu 26.64 317 LR LR 13 10 07.6
comp=Z,113nm,19.7s,baz=124,slow=43
SHLS Shalkode 26.91 49 *e*P P 12 56 58.7 +2.7
comp=Z,1.5nm,0.6s,baz=50
SHLS Shalkode 26.91 49 *e*P P 12 56 58.7 +2.7
SHLS pmax pmax
comp=Z,2.0nm,0.6s
AKASG Malin Array Be 28.12 329 P P 12 57 05.7 -0.9
comp=Z,0.5nm,0.4s,baz=125,slow=7.4,SNR=1.6
AKBB Malin Array Si 28.12 329 P P 12 57 06.6 +0.1
AKBB pmax pmax
comp=Z,2.0nm,0.8s
AKBB Malin Array Si 28.12 329 P P 12 57 06.6 +0.1
AKBB IAmb IAmb 12 57 11.7
comp=Z,2.4nm,0.8s
BURAR Bucovina Array 28.21 320 P P 12 57 09.2 +1.7
BURAR Bucovina Array 28.21 320 P P 12 57 08.6 +1.1
BUR08 Bucovina Ar. S 28.23 321 P P 12 57 07.7 0.0
BRVK Borovoye 28.38 24 *i* P P 12 57 08.8 0.0
BRVK pmax pmax
comp=Z,2.0nm,0.6s
BRVK Borovoye 28.38 24 P P 12 57 07.5 -1.3
BRVK IAmb IAmb 12 57 09.7
comp=Z,2.3nm,0.6s
BVAR Borovoye Array 28.39 24 P P 12 57 09.2 +0.2
comp=Z,2.8nm,0.6s,baz=217,slow=7.2,SNR=16
ARU Arti 28.61 8 P P 12 57 12.0 +1.2
ARU 12 57 56.7
ARU S S 13 02 00.3 +1.8
ARU Arti 28.61 8 P P 12 57 09.6 -1.3
ARU IAmb IAmb 12 57 23.9
comp=Z,4.3nm,1.1s
OBN Obninsk 28.99 342 *e*P P 12 57 16.3 +2.2
OBN *e* 12 58 06.4
OBN pmax pmax
comp=Z,10.0nm,0.4s
OBN MLR MLR
comp=Z,38nm,17.0s
MAKZ Makanchi 30.12 44 P P 12 57 23.7 -0.6
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
MAKZ Makanchi 30.12 44 P P 12 57 23.7 -0.6
MAKZ IAmb IAmb 12 57 28.8
comp=Z,3.2nm,0.8s
MK31 Makanchi Array 30.30 44 P P 12 57 25.5 -0.5
MK31 pmax pmax
comp=Z,2.0nm,0.8s
MK31 Makanchi Array 30.30 44 P P 12 57 25.5 -0.5
MK31 IAmb IAmb 12 57 30.2
comp=Z,2.4nm,0.8s
MKAR Makanchi Array 30.30 44 P P 12 57 25.5 -0.5
comp=Z,1.8nm,0.6s,baz=231,slow=8.3,SNR=22
MKAR PcP PcP 13 00 25.6 -0.6
comp=Z,0.2nm,0.4s,baz=252,slow=4.2,SNR=2.1
MKAR LR LR 13 11 32.9
comp=Z,95nm,19.2s,baz=225,slow=40
MKAR Makanchi Array 30.30 44 *ce*P P 12 57 26.0 0.0
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 30.30 44 P P 12 57 25.3 -0.7
KURK Kurchatov 30.34 35 *i* P P 12 57 26.1 -0.1
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURK Kurchatov 30.34 35 P P 12 57 25.8 -0.3
KIRV Kirov 30.38 358 *i* P P 12 57 27.2 +0.8
WMQ Urumqi 32.76 52 *e*P P 12 57 48.8 +1.1
KLMR Klimovskoe 33.62 349 *e*P P 12 57 53.6 -1.3
KLMR pmax pmax
comp=Z,7.0nm,0.6s
KLMR Klimovskoe 33.62 349 *e*P P 12 57 53.7 -1.2
KLMR AMP 12 57 56.9
comp=Z,7.0nm,0.6s
MBAR Mbarara 34.97 218 P P 12 58 08.2 +0.9
comp=Z,2.6nm,0.3s,baz=53,slow=13,SNR=5.9
MBAR Mbarara 34.97 218 *ce*P P 12 58 11.3 +4.0
MBAR pmax pmax
comp=Z,3.0nm,0.8s
ZAA0 Zalesovo Array 35.31 34 P P 12 58 09.4 -0.3
ZAA0 IAmb IAmb 12 58 09.7
comp=Z,3.0nm,0.8s
ZALV Zalesovo Beam 35.31 34 P P 12 58 09.0 -0.6
comp=Z,2.5nm,0.6s,baz=246,slow=10,SNR=9.9
ZALV LR LR 13 14 51.3
comp=Z,49nm,19.8s,baz=228,slow=40
ZALV Zalesovo Beam 35.31 34 *i* P P 12 58 09.1 -0.5
ZALV pmax pmax
comp=Z,3.0nm,0.6s
ZALV Zalesovo Beam 35.31 34 P P 12 58 08.8 -0.8
GERES GERESS Array B 35.60 316 LR LR 13 15 21.3
comp=Z,30nm,19.1s,baz=99,slow=41
FIA1 FINESS Array S 37.32 340 P P 12 58 26.1 -0.6
FINES FINESS Array B 37.32 340 P P 12 58 26.2 -0.4
comp=Z,4.5nm,0.5s,baz=140,slow=9.1,SNR=10
FINES LR LR 13 15 55.0
comp=Z,41nm,19.1s,baz=38,slow=40
FINES FINESS Array B 37.32 340 P P 12 58 25.7 -1.0
GTA Gaotai 41.13 61 P P 12 58 59.6 +0.6
GTA pP pP 12 59 02.6 -1.4
GTA sP sP 12 59 05.6 -0.4
GTA pmax pmax
comp=Z,7.0nm,0.9s
GTA pmax pmax
comp=Z,65nm,4.5s
GTA LR LR
comp=N,84nm,16.2s
GTA LR LR
comp=E,72nm,17.0s
GTA LR LR
comp=Z,57nm,15.3s
NOA NORSAR Array B 42.43 332 LR LR 13 19 47.7
comp=Z,31nm,18.2s,baz=120,slow=40
ARCES ARCESS Array B 44.01 347 P P 12 59 21.1 -0.8
comp=Z,0.8nm,0.5s,baz=153,slow=8.2,SNR=11
ARCES LR LR 13 21 15.4
comp=Z,29nm,20.1s,baz=348,slow=41
ARCES ARCESS Array B 44.01 347 P P 12 59 22.3 +0.4
ARCES ARCESS Array B 44.01 347 P P 12 59 22.3 +0.4
LZH Lanzhou 44.45 66 *e*P P 12 59 24.6 -1.5
LZH pP pP 12 59 27.8 -3.3
LZH sP sP 12 59 29.3 -3.8
LZH *e*PP PcP 13 01 09.8 +0.3
LZH pmax pmax
comp=Z,18nm,1.1s
LZH pmax pmax
comp=Z,53nm,6.0s
SONM Songino Array 46.32 50 P P 12 59 38.7 -2.0
comp=Z,0.6nm,0.5s,baz=263,slow=10,SNR=3.7
SONM LR LR 13 21 36.6
comp=Z,43nm,19.8s,baz=254,slow=40
SONM Songino Array 46.32 50 P P 12 59 39.0 -1.6
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 46.32 50 P P 12 59 39.0 -1.6
ULN Ulaanbaatar 46.76 50 *i* P P 12 59 44.2 +0.1
ULN pmax pmax
comp=Z,2.0nm,0.5s
TORD Torodi Ar. Bea 48.72 263 P P 12 59 59.9 +0.3
comp=Z,2.4nm,0.8s,baz=67,slow=7.9,SNR=9.2
TORD Torodi Ar. Bea 48.72 263 P P 13 00 00.2 +0.6
DBIC Dimbokro 57.43 259 P P 13 01 04.8 +1.0
comp=Z,4.9nm,0.7s,baz=35,slow=6.8,SNR=5.8
DBIC Dimbokro 57.43 259 P P 13 01 04.1 +0.3
TIXI Tiksi 59.46 21 *i* P P 13 01 17.6 +0.5
TIXI pmax pmax
comp=Z,5.0nm,1.3s
KSRS Korea Array 63.17 60 P P 13 01 41.4 -1.4
comp=Z,1.0nm,0.6s,baz=281,slow=6.5,SNR=6.2
KSRS LR LR 13 34 57.3
comp=Z,35nm,19.3s,baz=246,slow=42
JOW Kunigami 66.84 71 LR LR 13 33 59.6
comp=Z,252nm,20.1s,baz=337,slow=38
MA2 Magadan 70.50 32 *i* P P 13 02 31.4 +2.3
BILL Bilibino 72.68 21 *e*P P 13 02 41.4 -0.7
BILL *e* 13 02 58.6
BILL *e* 13 05 26.1
BILL pmax pmax
comp=Z,2.0nm,1.1s
BILL MLR MLR
comp=Z,98nm,23.0s
SCHQ Schefferville 81.92 329 P P 13 03 34.5 +0.4
comp=Z,2.4nm,0.6s,baz=54,slow=8.7,SNR=4.6
SCHQ Schefferville 81.92 329 P P 13 03 34.4 +0.3
YKA Yellowknife Ar 88.92 354 P P 13 04 09.4 +0.6
comp=Z,1.1nm,0.8s,baz=8.0,slow=4.7,SNR=12
KDAK Kodiak Island 91.93 13 P P 13 04 22.4 -0.6
comp=Z,17nm,0.9s,baz=357,slow=9.7,SNR=4.1
ASAR Alice Springs 94.54 114 P P 13 04 34.9 -0.7
comp=Z,0.5nm,0.6s,baz=300,slow=4.5,SNR=8.8
ASAR Alice Springs 94.54 114 P P 13 04 34.8 -0.8

MAN 17 12:51:55.9, 9.84N×124.03E, h10km, mb4.2, ML3.0, MS2.7, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TBP	**Tagbilaran**	**0.22**	**228**	*e*P	Pg	12 52 02.2	+1.7
TBP				*i* S	Sg	12 52 07.1	+3.6
LLP	**Lapu-Lapu**	**0.48**	**353**	*i e*P	Pg	12 52 04.8	-0.5
LLP				*i* S	Sg	12 52 10.9	-0.7
MSLP	**Maasin**	**0.87**	**70**	*e*P	Pg	12 52 12.4	-0.3
MSLP				*e*S	Sn	12 52 26.4	-0.6
OCLP	**Ormoc**	**1.33**	**25**	*e*P	Pn	12 52 20.0	-0.6
OCLP				*e*S	Sg	12 52 39.3	+0.4
CNOP	**Candoni, Negro**	**1.37**	**270**	*e*P	Pn	12 52 20.7	-0.4
CNOP				*e*S	Sb	12 52 39.0	-0.1
DCPH	**Dipolog City**	**1.41**	**208**	*i e*P	Sb	12 52 42.7	+2.2
GUIM	**Jordan**	**1.62**	**299**	*e*P	Pn	12 52 24.9	+0.4
GUIM				*e*S	Sn	12 52 45.6	+0.2
PAGZ	**Pagadian**	**2.08**	**198**	*e*P	Pn	12 52 30.5	-0.3
PAGZ				*e*S	Sn	12 52 57.1	+0.3
BUKP	**Musuan**	**2.20**	**152**	*e*P	Pn	12 52 33.1	+0.6
BUKP				*e*S	Sn	12 52 58.8	-1.1

IDC ***17*** *13:01:42.5±0.8, 67.79N×162.28W, h0km, mb3.9/15, mb1 4.2/16, mb1mx3.9/43, mbtmp4.0/16, ML4.4/1, MS3.1/3, Ms1 3.2/3, ms1mx2.6/42, Error ellipse: s-maj=28.2km s-min=13.8km az=17.0*
AEIC ***17*** *13:01:43±1.5, 67.64N±0.07×162.3W±0.1, h12km±4km, ML3.8/40, mb4.5/17(NEIC), Error ellipse: s-maj=10.6km s-min=6.7km az=169.0*

ISC 17 13:01:43.4±0.5, 67.74N±0.06×162.15W±0.05, h10km, n89, σ1s49/94, mb4.3/22, 1D, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**0.43**	**318**		**Pb**	**13 01 52.2**	**-0.8**
RDOG					**Sb**	**13 01 59.1**	**-0.3**
ANM	**Nome**	**3.45**	**204**		**Pn**	**13 02 35.5**	**-1.6**
IM03		**3.76**	**114**		**Pn**	**13 02 41.2**	**-0.1**
IM03					**Sn**	**13 03 26.6**	**+1.2**
IMAR	**Indian Mountai**	**3.76**	**114**	Pn	**Pn**	**13 02 40.7**	**-0.6**
TOLK	**Toolik Lake Re**	**4.78**	**73**		**Pn**	**13 02 56.8**	**+1.4**
PS04	**TAPS Pump Stn4**	**4.84**	**76**		**Pn**	**13 02 58.4**	**+2.1**
PS04					**Sn**	**13 03 55.5**	**+3.1**
TTA	**Tatalina**	**5.47**	**149**		**Pn**	**13 03 04.4**	**-0.5**
PS01	**TAPS Pump Stn**	**5.48**	**56**		**Pn**	**13 03 06.9**	**+1.9**
TT01	**Tatalina**	**5.49**	**149**		**Pn**	**13 03 04.6**	**-0.5**
GAMB	**Gambell**	**5.59**	**229**	Pn	**Pn**	**13 03 04.0**	**-2.5**
BPAW	**Bear Paw Mtn.**	**5.85**	**123**		**Pn**	**13 03 10.6**	**+0.5**
PS07	**TAPS Pump Stn7**	**6.05**	**107**		**Pn**	**13 03 13.7**	**+0.9**
MDM	**Murphy Dome**	**6.25**	**110**		**Pn**	**13 03 16.4**	**+0.8**
PPLA	**Purkeypile**	**6.40**	**135**		**Pn**	**13 03 18.0**	**+0.2**
TCOL	**CIGO, UAF Yank**	**6.43**	**110**		**Pn**	**13 03 19.1**	**+1.1**
COLA	**College**	**6.44**	**110**		**Pn**	**13 03 18.9**	**+0.9**
POKR	**Poker Plat Res**	**6.46**	**107**		**Pn**	**13 03 19.0**	**+0.6**
TRF	**Thorofare Moun**	**6.53**	**126**	Pn	**Pn**	**13 03 20.0**	**+0.5**
CCB	**Clear Creek Bu**	**6.58**	**111**		**Pn**	**13 03 20.6**	**+0.6**
WRH	**Wood River Hil**	**6.58**	**113**		**Pn**	**13 03 20.2**	**+0.1**
FYU	**Fort Yukon**	**6.69**	**92**	Pn	**Pn**	**13 03 22.2**	**+0.6**
BM03	**Burnt Mountain**	**6.71**	**85**		**Pn**	**13 03 22.8**	**+0.8**
BMAR	**Burnt Mountain**	**6.72**	**85**	Pn	**Pn**	**13 03 22.5**	**+0.4**
MCK	**McKinley**	**6.76**	**120**		**Pn**	**13 03 22.9**	**+0.3**
IL31		**6.84**	**109**		**Pn**	**13 03 23.6**	**+0.1**
ILAR	**Eielson Array**	**6.84**	**109**	Pn	**Pn**	**13 03 24.6**	**+0.9**
ILAR	8.7nm,0.3s,baz=303,slow=13,SNR=459				Sn	**13 04 38.4**	**-3.0**
	1.6nm,0.3s,baz=311,slow=25,SNR=2.8						
ILAR	**Eielson Array**	**6.84**	**109**	Pn	**Pn**	**13 03 23.2**	**-0.4**
PRP	**Porcupine Dome**	**6.97**	**101**		**Pn**	**13 03 25.3**	**-0.3**
PS08	**TAPS Pump Stn8**	**6.99**	**110**		**Pn**	**13 03 26.5**	**+0.8**
RND	**Reindeer**	**7.01**	**122**		**Pn**	**13 03 26.7**	**+0.6**
HDA	**Harding Lake**	**7.02**	**111**		**Pn**	**13 03 26.7**	**+0.6**
SUW2	**Sparrevohn**	**7.25**	**154**		**Pn**	**13 03 28.6**	**-0.7**
WAT2	**Susitna Watana**	**7.42**	**124**		**Pn**	**13 03 32.5**	**+0.8**
SPNN	**North Nagishla**	**7.57**	**143**		**Pn**	**13 03 33.5**	**-0.4**
DHY	**Denali Highway**	**7.73**	**120**		**Pn**	**13 03 36.4**	**+0.5**
SPBG	**Spurr Blockage**	**7.75**	**142**		**Pn**	**13 03 36.0**	**-0.1**
RIDG	**Independent Ri**	**8.16**	**111**		**Pn**	**13 03 42.3**	**+0.5**
PMR	**Palmer**	**8.30**	**132**	Pn	**Pn**	**13 03 44.6**	**+0.9**
SCRK	**Sand Creek**	**8.33**	**108**	Pn	**Pn**	**13 03 42.5**	**-1.7**
SML	**Sawmill**	**8.37**	**129**	Pn	**Pn**	**13 03 43.1**	**-1.5**
RSO	**Redoubt South**	**8.37**	**146**	Pn	**Pn**	**13 03 43.1**	**-1.7**
DOT	**Dot Lake**	**8.50**	**110**	Pn	**Pn**	**13 03 46.1**	**-0.3**
SCM	**Sheep Creek Mo**	**8.65**	**126**	Pn	**Pn**	**13 03 48.8**	**+0.3**
EGAK	**Eagle**	**8.95**	**99**	Pn	**Pn**	**13 03 52.3**	**-0.3**
MENT	**Mentasta**	**9.06**	**113**		**Pn**	**13 03 54.0**	**-0.1**
BC03		**9.67**	**109**		**Pn**	**13 04 02.5**	**+0.1**
BCAR	**Beaver Creek A**	**9.67**	**109**	Pn	**Pn**	**13 04 02.7**	**+0.3**
EPYK	**Eagle Plains**	**9.99**	**86**		**Pn**	**13 04 07.6**	**+0.8**
INK	**Inuvik**	**10.69**	**74**	Pn	**Pn**	**13 04 15.8**	**-0.5**
	1.9nm,0.3s,baz=291,slow=11,SNR=42						
INK					Sn	**13 06 10.5**	**-5.4**
	0.7nm,0.3s,baz=213,slow=5.6,SNR=4.0						
INK					LR	13 09 11.9	
	comp=Z,92nm,18.3s,baz=133,slow=42						
INK	**Inuvik**	**10.69**	**74**	Pn	**Pn**	**13 04 15.6**	**-0.7**
KDAK	**Kodiak Island**	**10.89**	**152**	LR	LR	13 08 44.8	
	comp=Z,50nm,18.3s,baz=354,slow=38						
BILL	**Bilibino**	**11.83**	**286**	Pn	**Pn**	**13 04 30.3**	**-1.5**
YKA	**Yellowknife Ar**	**20.23**	**82**	P	**P**	**13 06 18.4**	**+0.2**
	3.0nm,0.7s,baz=302,slow=10,SNR=23						
RES	**Resolute Bay**	**21.49**	**42**	P	**P**	**13 06 32.0**	**+0.4**
	2.3nm,0.8s,baz=298,slow=0.7,SNR=2.5						
RES				S	**S**	**13 10 20.2**	**-9.3**
	2.4nm,0.8s,baz=202,slow=11,SNR=1.5						
SUMG	**Summit**	**35.12**	**26**	*i* P	**P**	**13 08 38.2**	**+1.5**
	13nm,0.8s						
SUMG	**Summit**	**35.12**	**26**	P	**P**	**13 08 38.2**	**+1.5**
SUMG				IAmb	IAmb	13 08 39.1	
	comp=Z,5.2nm,0.8s						
PDAR	**Pinedale Array**	**37.26**	**105**	P	**P**	**13 08 56.2**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=329,slow=8.2,SNR=11						
PDAR	**Pinedale Array**	**37.26**	**105**	P	**P**	**13 08 55.7**	**+0.6**
NVAR	**Mina Array Bea**	**37.99**	**118**	P	**P**	**13 09 02.9**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=327,slow=6.5,SNR=2.5						
NVAR	**Mina Array Bea**	**37.99**	**118**	P	**P**	**13 09 02.6**	**+1.2**
F33A	**5 Mile Ranch,**	**39.64**	**89**	P	**P**	**13 09 15.7**	**+0.8**
EYMN	**Ely**	**39.71**	**83**	P	**P**	**13 09 16.0**	**+0.6**

PV04	**Paradox Valley**	**41.32 108**	P	**P**	**13 09 27.7**	**-1.3**
PV12	**Saucer Basin,**	**41.43 107**	P	**P**	**13 09 28.2**	**-1.8**
ARCES	**ARCESS Array B**	**42.89 356**	PcP	**PcP**	**13 11 31.8**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=349,slow=3.7,SNR=7.9					
SONM	**Songino Array**	**47.41 294**	P	**P**	**13 10 18.4**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=31,slow=3.4,SNR=2.0					
SONM	**Songino Array**	**47.41 294**	P	**P**	**13 10 18.2**	**+0.6**
KSRS	**Korea Array**	**48.40 268**	P	**P**	**13 10 25.8**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=20,slow=7.9,SNR=4.5					
ZAA0	**Zalesovo Array**	**48.88 314**	P	**P**	**13 10 28.1**	**-0.6**
ZAA0			IAmb	IAmb	13 10 29.0	
	comp=Z,2.6nm,0.7s					
ZALV	**Zalesovo Beam**	**48.88 314**	P	**P**	**13 10 28.6**	**-0.1**
	comp=Z,2.6nm,0.7s,baz=24,slow=6.2,SNR=9.9					
ZALV	**Zalesovo Beam**	**48.88 314**	P	**P**	**13 10 28.0**	**-0.6**
FINES	**FINESS Array B**	**50.97 355**	P	**P**	**13 10 45.1**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=36,slow=10.0,SNR=5.1					
WVT	**Waverly**	**51.24 88**	P	**P**	**13 10 46.7**	**-0.1**
WVT			IAmb	IAmb	13 11 54.9	
	comp=Z,16nm,1.9s					
TX31	**Lajitas Ar. Si**	**51.35 108**	P	**P**	**13 10 48.4**	**+0.5**
TX31			IAmb	IAmb	13 10 49.5	
	comp=Z,8.1nm,0.7s					
TX32	**Lajitas Array**	**51.35 108**	P	**P**	**13 10 48.5**	**+0.6**
TX32			IAmb	IAmb	13 10 49.5	
	comp=Z,2.8nm,0.7s					
TXAR	**Lajitas Array**	**51.35 108**	P	**P**	**13 10 48.8**	**+1.0**
	comp=Z,2.3nm,0.6s,baz=336,slow=6.0,SNR=26					
TXAR	**Lajitas Array**	**51.35 108**	P	**P**	**13 10 48.4**	**+0.6**
BRVK	**Borovoye**	**53.35 323**	P	**P**	**13 11 02.4**	**+0.2**
BRVK			IAmb	IAmb	13 11 03.1	
	comp=Z,2.6nm,0.6s					
BVAR	**Borovoye Array**	**53.35 323**	P	**P**	**13 11 02.4**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=32,slow=9.2,SNR=5.9					
KURK	**Kurchatov**	**53.46 316**	P	**P**	**13 11 02.6**	**-0.4**
KURK			IAmb	IAmb	13 11 42.9	
	comp=Z,3.9nm,0.9s					
KURBB	**Kurchatov Arra**	**53.56 316**	P	**P**	**13 11 03.8**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=28,slow=7.1,SNR=5.7					
W52A	**Murphy**	**53.63 85**	P	**P**	**13 11 04.9**	**+0.3**
W52A			IAmb	IAmb	13 11 05.3	
	comp=Z,3.3nm,0.6s					
MKAR	**Makanchi Array**	**56.02 312**	P	**P**	**13 11 20.8**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=30,slow=6.9,SNR=2.2					
ESK	**Eskdalemuir**	**56.26 14**	P	**P**	**13 11 24.0**	**+0.7**
ABKAR	**Akbulak array**	**59.12 329**	P	**P**	**13 11 43.4**	**-0.1**
AKASG	**Malin Array Be**	**61.57 352**	P	**P**	**13 12 00.8**	**+0.7**
	comp=Z,1.3nm,0.5s,baz=7.5,slow=6.7,SNR=2.1					
ESDC	**Sonseca Array**	**71.64 18**	P	**P**	**13 13 05.7**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=353,slow=6.5,SNR=8.2					
ESDC	**Sonseca Array**	**71.64 18**	P	**P**	**13 13 05.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**76.41 285**	P	**P**	**13 13 33.0**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=3.6,slow=7.2,SNR=5.5					
CMAR			LR	LR	13 51 23.5	
	comp=Z,18nm,19.6s,baz=110,slow=39					

*SOME **17** 13:08:10.7, 44.°63N×82.°13E, h10km*
*NNC **17** 13:08:11.3±1.3, 44.°63N×82.°16E, h0km, mb4.0, mpv3.7,*
Error ellipse: s-maj=12.9km s-min=4.8km az=126.0
ISC 17 13:08:09.8±1.1, 44.°66N±0.°04×82.°20E±0.°06, h10km, n22,
σ1§77/39, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
DJR	**Jarkent**	**1.75**	**260**	*eP*		**Pg**	**13 08 43.5**	**+0.1**
DJR	24nm,0.2s							
	18nm,0.4s			*eS*		**Sg**	**13 09 07.5**	**+1.3**
DJR	**Jarkent**	**1.75**	**260**	P		**Pg**	**13 08 43.5**	**+0.1**
DJR	24nm,0.1s							
	24nm,0.3s			S		**Sg**	**13 09 07.5**	**+1.3**
KTMS	**Ketmen**	**1.80**	**228**	*eP*		**Pg**	**13 08 43.9**	**-0.5**
KTMS	1.3nm,0.1s							
	84nm,0.5s			*eS*		**Sg**	**13 09 08.4**	**+0.7**
KAPS	**Kapalarasan**	**2.11**	**288**	*eP*		**Pg**	**13 08 49.5**	**-0.8**
KAPS	13nm,0.3s							
	31nm,0.4s			*eS*		**Sg**	**13 09 17.2**	**-0.3**
KAPS	**Kapalarasan**	**2.11**	**288**	Pg		**Pg**	**13 08 49.0**	**-1.2**
KAPS	13nm,0.3s							
	32nm,0.5s			Lg		Lg	13 09 17.2	
MK31	**Makanchi Array**	**2.13**	**2**	⇑Pn		**Pg**	**13 08 49.4**	**-1.3**
MK31	17nm,0.3s,baz=182,slow=13,SNR=466							
	12nm,0.3s,baz=186,slow=30,SNR=28			⇑Sn		**Sg**	**13 09 17.2**	**-1.1**
MAKZ	**Makanchi**	**2.15**	**356**	⇓Pn		**Pb**	**13 08 48.9**	**0.0**
MAKZ	3.6nm,0.2s							
	14nm,0.3s			⇑Sn		**Sg**	**13 09 17.4**	**-1.5**
SHLS	**Shalkode**	**2.48**	**234**	*eP*		**Pn**	**13 08 51.8**	**+1.4**
SHLS	26nm,0.4s							
	92nm,0.6s			*eS*		**Sn**	**13 09 21.7**	**+0.9**
SHLS	**Shalkode**	**2.48**	**234**	Pg		**Pn**	**13 08 51.8**	**+1.4**
SHLS	26nm,0.4s							
	92nm,0.6s			Lg		Lg	13 09 21.7	
TDK	**Taldyqorghan**	**2.72**	**278**	*eP*		**Pg**	**13 09 00.5**	**-1.3**
TDK	72nm,0.4s							
	122nm,0.4s			*eS*		**Sg**	**13 09 36.3**	**-0.7**
TDK	**Taldyqorghan**	**2.72**	**278**	Pg		**Pb**	**13 08 59.8**	**+1.3**
TDK	72nm,0.4s							
	122nm,0.4s			Lg		Lg	13 09 35.3	
UZB	**Uzynbulak**	**2.75**	**238**	*eP*		**Pb**	**13 08 59.9**	**+0.7**
UZB	13nm,0.3s							
	15nm,0.6s			*eS*		**Sg**	**13 09 35.8**	**-2.3**
UZB	**Uzynbulak**	**2.75**	**238**	Pg		**Pb**	**13 08 59.9**	**+0.7**
UZB	13nm,0.3s							
	15nm,0.6s			Lg		Lg	13 09 35.8	
KURS	**Kuram**	**3.13**	**249**	*eP*		**Pg**	**13 09 07.7**	**-2.1**
KURS	4.2nm,0.3s							
	5.8nm,0.5s			*eS*		**Sg**	**13 09 48.4**	**-1.9**
SATY	**Saty**	**3.18**	**241**	*eP*		**Pb**	**13 09 07.4**	**+1.0**
SATY	6.9nm,0.3s							
	47nm,0.3s			*eS*		**Sg**	**13 09 48.8**	**-3.0**
SATY	**Saty**	**3.18**	**241**	Pg		**Pb**	**13 09 07.4**	**+1.0**
SATY	6.9nm,0.3s							
	47nm,0.3s			Lg		Lg	13 09 48.8	
ZSN	**Zaisan**	**3.35**	**33**	*eP*		**Pb**	**13 09 09.4**	**+0.2**
ZSN	8.5nm,0.3s							
	11nm,0.4s			*eS*		**Sb**	**13 09 51.8**	**+1.7**
CHKK	**Chushkaly**	**3.83**	**260**	*eP*		**Pb**	**13 09 20.0**	**+2.6**
CHKK	3.4nm,0.3s							
	16nm,0.3s			*eS*		**Sg**	**13 10 09.3**	**-3.4**
TNSS	**Tian-Shan**	**4.13**	**249**	*eP*		**Pg**	**13 09 26.1**	**-2.8**
TNSS	3.5nm,0.4s							
	4.4nm,0.4s			*eS*		**Sg**	**13 10 20.0**	**-2.5**
KUU	**Kurty**	**4.28**	**262**	*eP*		**Pg**	**13 09 29.7**	**-2.0**
KUU	3.9nm,0.2s							
	12nm,0.3s			*eS*		**Sg**	**13 10 26.4**	**-0.6**
IZV	**Izvestkoviy**	**4.35**	**250**	*eP*		**Pg**	**13 09 29.8**	**-3.4**
IZV	4.0nm,0.2s							
	12nm,0.7s			*eS*		**Sg**	**13 10 26.7**	**-2.9**
MTBS	**Maitube**	**4.44**	**252**	*eP*		**Pg**	**13 09 32.5**	**-2.4**
MTBS	6.4nm,0.2s							
	11nm,0.3s			*eS*		**Sg**	**13 10 31.1**	**-1.2**

*BER **17** 13:12:31.0±1.6, 80.°77N×2.°97W, h10km, ML1.9,*
ML2.6(DNK), Confirmed Earthquake
*IEPN **17** 13:12:34.0, 80.°69N×1.°02W, h15km*
ISC 17 13:12:26.8±0.9, 80.°73N±0.°06×2.°89W±0.°04, h10km, n16,
σ2§86/31, 1C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NOR	**Nord**	**2.30**	**299**	*i* P		**Pn**	**13 13 05.9**	**+1.3**
NOR				*eS*		**Sn**	**13 13 32.8**	**0.0**
NOR	**Nord**	**2.30**	**299**	*i* P		**Pn**	**13 13 06.0**	**+1.3**
NOR				IAML			13 13 32.3	
	comp=Z,5.3nm,0.4s							
NOR				*eS*		**Sn**	**13 13 32.9**	**0.0**
KBS	**Kingsbay**	**3.19**	**117**	*eP*		**Pn**	**13 13 19.9**	**+3.0**
KBS				*eS*		**Sn**	**13 13 53.2**	**-1.6**
KBS	**Kingsbay**	**3.19**	**117**	*eP*		**Pn**	**13 13 19.9**	**+3.0**
KBS				*eS*		**Sn**	**13 13 52.9**	**-1.9**
KBS				IAML			13 13 54.5	
	comp=Z,12nm,0.5s							
BRBA	**Barentsburg A**	**4.13**	**122**	*eP*		**Pn**	**13 13 33.0**	**+3.2**
BRBA				*eS*		**Sn**	**13 14 15.5**	**-2.4**
BRBA				IAML			13 14 43.2	
	comp=Z,9.9nm,0.3s							
SPA0	**Spitsbergen Ar**	**4.35**	**116**	*i* P		**Pn**	**13 13 36.2**	**+3.5**
SPA0				*i* S		**Sn**	**13 14 22.4**	**-1.0**
SPA0	**Spitsbergen Ar**	**4.35**	**116**	*eP*		**Pn**	**13 13 35.9**	**+3.2**
SPA0				*eS*		**Sn**	**13 14 20.7**	**-2.7**
SPA0				IAML			13 14 32.2	
	comp=Z,4.1nm,0.4s							
DAG	**Danmarks Havn**	**5.01**	**226**	*i* P		**Pn**	**13 13 44.6**	**+2.8**
DAG				*i* S		**Sn**	**13 14 37.9**	**-1.8**
DAG	**Danmarks Havn**	**5.01**	**226**	*e*		**Pn**	**13 13 44.2**	**+2.4**
	baz=35,slow=14							
DAG				*i* P		**Pn**	**13 13 44.7**	**+2.8**
DAG				*i* S		**Sn**	**13 14 38.0**	**-1.8**
DAG				IAML			13 14 43.6	
	comp=Z,5.4nm,0.4s							
HSPB	**Hornsund (broa**	**5.14**	**127**	*eP*		**Pn**	**13 13 47.7**	**+4.1**
HSPB				*eS*		**Sn**	**13 14 43.0**	**+0.1**
HSPB	**Hornsund (broa**	**5.14**	**127**	*eP*		**Pn**	**13 13 47.2**	**+3.5**
HSPB				*eS*		**Sn**	**13 14 41.0**	**-2.0**
HSPB				IAML			13 14 48.1	
	comp=Z,4.2nm,0.6s							
HOPEN	**Hopen**	**6.87**	**113**	*eP*		**Pn**	**13 14 09.1**	**+1.8**
HOPEN				*eS*		**Sn**	**13 15 21.6**	**-3.6**
HOPEN	**Hopen**	**6.87**	**113**	*eP*		**Pn**	**13 14 09.4**	**+2.1**
HOPEN				IAML			13 15 29.4	
	comp=Z,3.2nm,0.5s							
DBG	**Daneborg**	**7.42**	**219**	*eP*		**Pn**	**13 14 17.0**	**+2.2**
DBG				*eS*		**Sn**	**13 15 34.1**	**-4.7**
DBG				IAML			13 15 39.3	
	comp=Z,1.7nm,0.3s							
ZFI2	**Zemlya Franca-**	**7.90**	**65**	*eP*		**Pn**	**13 14 23.7**	**+2.3**
ZFI2				*eS*		**Sn**	**13 15 44.6**	**-6.1**
	comp=Z,3.7nm,0.7s							
SUMG	**Summit**	**11.29**	**244**	*eP*		**Pn**	**13 15 09.7**	**+1.5**

*DDA **17** 13:13:29.1, 35.°77N×33.°31E, h7km±4km, ML2.2*
*ISK **17** 13:13:29.9, 35.°84N×33.°35E, h5km, ML2.9/20*
*NIC **17** 13:13:32.4±0.0, 35.°61N×33.°28E, h46km±5km, MI2.3/3*
ISC 17 13:13:29.7±1.0, 35.°77N±0.°02×33.°30E±0.°03, h7km±12km,
n36, σ0§56/54, Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
YORU	**Yoruktepe-Mers**	**0.39**	**12**	PG		**Pg**	**13 13 37.5**	**+0.1**
TEKE	**Tekeli-Mersin**	**0.40**	**338**	PG		**Pg**	**13 13 38.0**	**+0.4**
TEKE				SG		**Sg**	**13 13 43.9**	**+1.0**
AKK2	**Akkuyu-Mersin**	**0.42**	**29**	PG		**Pg**	**13 13 37.5**	**-0.4**
AKK2				SG		**Sg**	**13 13 43.5**	**+0.1**
AKK1	**Akkuyu-Mersin**	**0.42**	**27**	PG		**Pg**	**13 13 37.9**	**0.0**
AKK1				SG		**Sg**	**13 13 43.5**	**0.0**
AKKU	**Akkuyu-Mersin**	**0.44**	**27**	PG		**Pg**	**13 13 37.6**	**-0.7**
AKKU				SG		**Sg**	**13 13 44.1**	**+0.1**
OREN	**Orenkoy-Mersin**	**0.46**	**16**	PG		**Pg**	**13 13 38.4**	**-0.2**
GULN	**MERSIN_Gulnar**	**0.46**	**25**	*i* P		**Pg**	**13 13 38.1**	**-0.6**
GULN				*i* S		**Sg**	**13 13 44.5**	**-0.2**
GULN				IAML			13 13 46.0	
	comp=E,164nm,0.3s							
TEPK	**Tepekoy-MERSIN**	**0.50**	**23**	PG		**Pg**	**13 13 39.3**	**-0.1**
TISA	**Tisan-Mersin**	**0.50**	**38**	PG		**Pg**	**13 13 38.9**	**-0.5**
YESI	**Yesilovacik-Me**	**0.51**	**33**	PG		**Pg**	**13 13 39.2**	**-0.4**
LFK	**Lefkose**	**0.52**	**159**	PG		**Pb**	**13 13 42.3**	**+1.0**
AKDN	**Akdeniz- Kıbrı**	**0.54**	**210**	PG		**Pn**	**13 13 43.1**	**-0.8**
IKL	**Isikli**	**0.56**	**33**	PG		**Pg**	**13 13 40.3**	**-0.3**
BERE	**Bereket-Mersin**	**0.58**	**354**	PG		**Pg**	**13 13 40.9**	**-0.1**
ATHAL	**Athalassa**	**0.63**	**173**	P		**Pb**	**13 13 43.8**	**+0.7**
ATHAL				S		**Sb**	**13 13 51.7**	**-0.4**
TEVE	**Tevekalti-Mers**	**0.68**	**10**	PG		**Pg**	**13 13 42.3**	**-0.5**
LEF	**Lefka**	**0.73**	**208**	*i* P		**Pb**	**13 13 44.7**	**-0.1**
LEF				*i* S		**Sb**	**13 13 54.8**	**-0.2**
EREN	**Erenkoy**	**0.75**	**108**	*i* P		**Pn**	**13 13 48.2**	**+1.4**
KEBE	**Keben-Mersin**	**0.76**	**26**	PG		**Pg**	**13 13 43.9**	**-0.4**
KEBE				SG		**Sg**	**13 13 54.4**	**+0.3**
SILI	**Silifke-Mersin**	**0.78**	**40**	PG		**Pg**	**13 13 44.7**	**-0.1**
SILI				SG		**Sg**	**13 13 54.6**	**-0.4**
MVOU	**Mavrovouni**	**0.80**	**160**	P		**Pg**	**13 13 45.2**	**+0.1**
MVOU				S		**Sg**	**13 13 55.9**	**+0.5**
MVOU				AML	AML		13 13 56.4	
	comp=E,0.8nm,0.3s							
MVOU				AML	AML		13 13 56.4	
	comp=E,0.8nm,0.3s							
MVOU				AML	AML		13 13 56.5	
	comp=E,0.3nm,0.3s							
MVOU				AML	AML		13 13 56.5	
	comp=E,0.3nm,0.3s							
CSS	**Mathiatis**	**0.81**	**178**	P		**Pg**	**13 13 45.5**	**+0.3**
CSS				S		**Sg**	**13 13 55.3**	**-0.4**
SLFK	**Silifke-Mersin**	**0.81**	**40**	PG		**Pg**	**13 13 45.0**	**-0.4**
ALFC	**Alefka**	**0.84**	**223**	P		**Pg**	**13 13 45.8**	**0.0**
ALFC				AML	AML		13 13 56.9	
	comp=E,0.5nm,0.3s							
ALFC				AML	AML		13 13 56.9	
	comp=E,0.5nm,0.3s							
ALFC				S		**Sg**	**13 13 57.2**	**+0.5**
ALFC				AML	AML		13 13 57.4	
	comp=E,0.5nm,0.3s							
ALFC				AML	AML		13 13 57.4	
	comp=E,0.5nm,0.3s							
GAZI	**Gazipasa**	**0.93**	**301**	PG		**Pn**	**13 13 48.9**	**-0.3**
GAZI	**Gazipasa**	**0.93**	**301**	*i* P		**Pb**	**13 13 48.3**	**+0.2**
GAZI				*i* S		**Sb**	**13 14 00.6**	**-0.1**
GAZI				IAML			13 14 04.0	
	comp=N,74nm,0.5s							
ERMK	**Ermenek**	**0.93**	**340**	*i* P		**Pb**	**13 13 48.5**	**+0.2**
ERMK				*i* S		**Sb**	**13 14 00.4**	**-0.6**
ERMK				IAML			13 14 02.0	
	comp=N,103nm,0.2s							
ERMK				IAML			13 14 03.0	
	comp=E,84nm,0.4s							
ASGA	**Asgata**	**0.98**	**183**	P		**Pg**	**13 13 47.8**	**-0.8**
ASGA				S		**Sg**	**13 13 59.9**	**-1.4**
ASGA				AML	AML		13 14 08.3	
	comp=E,0.1nm,0.4s							
ASGA				AML	AML		13 14 08.3	
	comp=E,0.1nm,0.4s							
ASGA				AML	AML		13 14 09.1	
	comp=E,0.2nm,0.5s							
ASGA				AML	AML		13 14 09.1	
	comp=E,0.2nm,0.5s							
KIZK	**Mersin**	**0.98**	**44**	PG		**Pg**	**13 13 48.5**	**-0.2**
KIZK	**Mersin**	**0.98**	**44**	*i* P		**Pg**	**13 13 48.0**	**-0.7**
KIZK				*i* S		**Sb**	**13 14 02.2**	**-0.2**
SZAC	**Souni**	**1.07**	**199**	P		**Pg**	**13 13 49.9**	**-0.3**
AKMS	**Akamas**	**1.09**	**227**	P		**Pg**	**13 13 50.2**	**-0.4**
KRMN	**Karaman**	**1.40**	**359**	PN		**Pg**	**13 13 56.5**	**-0.2**
KERG	**Konya-Eregli**	**1.77**	**22**	*i* P		**Pb**	**13 14 01.9**	**-0.8**
KERG				*i* S		**Sg**	**13 14 26.4**	**-0.3**
KERG				IAML			13 14 29.0	
	comp=E,23nm,0.3s							
KERG				IAML			13 14 30.0	
	comp=N,31nm,0.3s							
KEPZ	**Antalya-Kepez**	**1.78**	**310**	*i* P		**Pb**	**13 14 02.4**	**-0.3**
KEPZ				*i* S		**Sg**	**13 14 27.9**	**+1.1**
KEPZ				IAML			13 14 50.0	
	comp=N,31nm,0.8s							
SEYD	**Seydisehir-KON**	**2.01**	**325**	PN		**Pn**	**13 14 05.4**	**+1.1**

NNC 17 13:15:49.8±0.7, 49.°99N×78.°36E, h0km, mb3.5, mpv3.2,
13C-10D, Error ellipse: s-maj=6.6km s-min=2.8km
az=77.0, Suspected Mining explosion., Eastern
Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
KUR07	**Kurchatov Arra**	**0.60**	**9**	⇑P		Pg	13 16 01.9	+0.7
KUR07				⇓S		Sg	13 16 10.1	+1.1
KUR06	**Kurchatov Arra**	**0.62**	**9**	⇓P		Pg	13 16 02.0	+0.4
KUR06				⇑S		Sg	13 16 10.8	+1.1
KUR15	**Kurchatov Arra**	**0.64**	**11**	⇓P		Pg	13 16 02.2	+0.2
KUR15				⇑S		Sg	13 16 10.9	+0.6
KUR14	**Kurchatov Arra**	**0.64**	**13**	⇑P		Pg	13 16 02.0	0.0
KUR14				⇑S		Sg	13 16 10.4	+0.1
KURBB	**Kurchatov Arra**	**0.64**	**10**	⇓P		Pg	13 16 02.4	+0.4
	26nm,0.3s							
KURBB				⇑S		Sg	13 16 11.1	+0.8
	69nm,0.6s							
KUR16	**Kurchatov Arra**	**0.64**	**8**	⇓P		Pg	13 16 02.7	+0.7
KUR16				⇑S		Sg	13 16 11.4	+1.1
KUR17	**Kurchatov Arra**	**0.64**	**6**	⇑P		Pg	13 16 02.8	+0.7
KUR17				⇓S		Sb	13 16 12.1	-1.3
KUR05	**Kurchatov Arra**	**0.66**	**10**	⇓P		Pg	13 16 02.6	+0.2
KUR05				⇑S		Sg	13 16 11.9	+1.0
KUR04	**Kurchatov Arra**	**0.68**	**10**	⇑P		Pg	13 16 03.1	+0.3
KUR04				⇑S		Sg	13 16 12.6	+1.0
KURK	**Kurchatov**	**0.74**	**13**	⇑P		Pg	13 16 03.9	-0.1
	12nm,0.4s							
KURK				⇓S		Sg	13 16 14.1	+0.5
	15nm,0.4s							
SEM	**Semipalatinsk**	**1.28**	**70**	P		Pg	13 16 13.1	-1.2
	4.6nm,0.1s							
SEM				S		Sb	13 16 32.0	0.0
	37nm,0.7s							
MAKZ	**Makanchi**	**3.99**	**142**	⇓Pg		Pb	13 17 02.4	+1.4
	1.2nm,0.4s							
MAKZ				⇓Lg		Lg	13 17 54.4	
	2.3nm,0.5s							
MK31	**Makanchi Array**	**4.13**	**139**	Pg		Pb	13 17 03.5	+0.1
	1.3nm,0.4s,baz=325,slow=14,SNR=19							
MK31				⇑Lg		Lg	13 17 59.0	
	5.2nm,0.5s,baz=331,slow=35,SNR=16							
KAPS	**Kapalarasan**	**4.76**	**172**	Pg		Pb	13 17 16.1	+2.1
	1.2nm,0.3s							
KAPS				Lg		Lg	13 18 19.7	
	9.3nm,0.5s							
ZSN	**Zaisan**	**5.00**	**118**	Pg		Pb	13 17 20.1	+1.9
	1.5nm,0.3s							
ZSN				Lg		Lg	13 18 25.9	
	11nm,0.5s							

*IDC **17** 13:31:40.6±1.6, 3.°14N×126.°96E, h0km, mb3.7/4,*
mb1 3.9/5, mb1mx3.5/37, mbtmp3.7/5, ML3.7/1, Error
ellipse: s-maj=101.6km s-min=24.6km az=61.0
*MAN **17** 13:31:44.3, 3.°92N×128.°07E, h4km, mb4.5, ML3.4, MS3.2*
*NEIC **17** 13:31:51.0±1.6, 3.°5N±0.°1×128.°0E±0.°2, h99km±8km,*
mb4.4/8, Error ellipse: s-maj=25.5km s-min=13.5km
az=63.0
ISC 17 13:31:48.8±0.8, 3.°65N±0.°07×128.°0E±0.°1, h84km, n19,
σ1§90/24, mb4.0/7, 1D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
TNTI	**Ternate**	**2.93**	**193**	Pn		**Pn**	**13 32 34.5**	**+1.2**
DDMP	**Don Marcelino,**	**3.35**	**317**	*eP*		**Pn**	**13 32 36.6**	**-2.4**
DDMP				*eS*		**Sn**	**13 33 15.2**	**-2.6**
KCP	**Kidapawan**	**4.43**	**319**	⇓*i*P		**Pn**	**13 32 57.5**	**+3.8**
KCP				*i* S		**Sn**	**13 33 47.0**	**+2.7**
SKMP	**Bagumbayan, Su**	**4.49**	**310**	*eP*		**Pn**	**13 32 53.1**	**-1.3**
SKMP				*eS*		**Sn**	**13 33 44.7**	**-0.7**
BUKP	**Musuan**	**5.13**	**325**	*eP*		**Pn**	**13 33 00.2**	**-3.0**
BUKP				*eS*		**Sn**	**13 33 60.0**	**-1.3**
SIJI	**Sorong**	**5.54**	**144**	Pn		**Pn**	**13 33 09.3**	**+0.6**
	2.0nm,0.3s,baz=5.9,slow=11,SNR=4.3							
SIJI				Sn		**Sn**	**13 34 08.0**	**-3.1**
	0.6nm,0.3s,baz=190,slow=22,SNR=1.3							
LUWI	**Luwuk**	**7.02**	**228**	Pn		**Pn**	**13 33 29.3**	**+0.4**
FAKI	**Fak Fak**	**7.77**	**147**	Pn		**Pn**	**13 33 41.3**	**+2.0**
SZP	**Santa**	**15.68**	**332**	P		**P**	**13 35 28.3**	**+1.0**
MTN	**Manton Dam**	**16.67**	**169**	P		**Pn**	**13 35 37.1**	**-0.2**
KNRA	**Kununurra**	**19.21**	**178**	P		**P**	**13 36 03.3**	**-2.9**
WB0	**Warramunga Arr**	**24.10**	**165**	P		**P**	**13 36 57.3**	**+0.6**
WB0				IAmb		IAmb	13 37 18.5	
	comp=Z,46nm,1.9s							
WRA	**Warramunga Arr**	**24.25**	**165**	P		**P**	**13 36 58.2**	**+0.1**
	comp=Z,4.8nm,1.0s,baz=343,slow=10,SNR=2.6							
WB2	**Warramunga Arr**	**24.25**	**165**	P		**P**	**13 36 58.3**	**+0.2**
WB2				IAmb		IAmb	13 37 50.5	
	comp=Z,35nm,1.8s							
WR0	**Warramunga Arr**	**24.32**	**165**	P		**P**	**13 36 58.8**	**+0.1**
WR0				IAmb		IAmb	13 37 19.1	
	comp=Z,7.8nm,1.2s							
ASAR	**Alice Springs**	**27.75**	**168**	P		**P**	**13 37 28.6**	**-1.1**
	comp=Z,0.6nm,0.9s,baz=356,slow=8.0,SNR=4.6							
STKA	**Stephens Creek**	**37.61**	**161**	P		**P**	**13 38 55.7**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=330,slow=6.6,SNR=4.0							
MKAR	**Makanchi Array**	**58.36**	**325**	P		**P**	**13 41 36.4**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=117,slow=8.2,SNR=4.8							
MKAR	**Makanchi Array**	**58.36**	**325**	P		**P**	**13 41 35.9**	**+0.5**

*SJA **17** 13:36:26.5±0.3, 27.°94S×66.°78W, h193km±9km, ML3.7,*
MW3.7
*IDC **17** 13:36:26.0±1.7, 27.°90S×66.°44W, h119km±22km, mb3.8/2,*
mb1 3.5/6, mb1mx3.3/32, mbtmp3.9/6, Error ellipse:
s-maj=38.4km s-min=16.4km az=112.0
ISC 17 13:36:27.5±0.8, 27.°93S±0.°07×66.°70W±0.°08, h167km, n23,
σ1§29/29, 2D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
VCA	**Vinchina**	**1.55**	**239**	*i* P		**Pn**

KRNET ***17*** *14:02:38.4±0.1, 40˚.27N×78˚.97E, mb2.4*
SOME 17 14:02:38.0, 42˚.12N×80˚.18E, h10km, 8C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 22nm,0.1s	**1.17**	**333**	*eP*	Pb	14 02 58.7	-1.7
SHLS	40nm,0.2s			*eS*	Sb	14 03 13.9	-1.7
KTMS	**Ketmen** 4.5nm,0.1s	**1.33**	**5**	*eP*	Pb	14 03 03.1	-0.1
KTMS	12nm,0.2s			*eS*	Sg	14 03 21.2	+0.2
UZB	**Uzymbulak** 1.3nm,0.2s	**1.34**	**321**	*eP*	Pn	14 03 02.9	0.0
UZB	12nm,0.2s			*eS*	Sn	14 03 20.9	0.0
PRZ	**Przheval'sk** baz=49	**1.37**	**286**	⇑*iP*	Pg	14 03 18.5	+14
PRZ	baz=49			⇑*iS*	Sg	14 03 47.9	+26
SATY	**Saty** 2.1nm,0.2s	**1.61**	**306**	*eP*	Pb	14 03 07.9	-0.1
SATY	6.8nm,0.1s			*eS*	Sg	14 03 29.3	-0.6
KPKS	**Kokpek** 5.2nm,0.2s	**1.74**	**321**	*eP*	Pb	14 03 10.0	-0.1
KPKS	26nm,0.2s			*eS*	Sg	14 03 33.2	-0.8
TARG	**Taragay, Kyrgy** baz=29	**1.82**	**258**	⇑*eP*	Pn	14 03 10.1	+0.4
TARG	baz=29			⇑*iS*	Sn	14 03 33.1	+0.1
DJR	**Jarkent** 1.5nm,0.1s	**2.23**	**353**	*eP*	Pb	14 03 19.2	+0.8
DJR	10nm,0.4s			*eS*	Sg	14 03 48.8	-1.0
KDJ	**Kajisay** baz=25	**2.23**	**271**	⇑*eP*	Pb	14 03 18.8	+0.2
KDJ	baz=25			⇑*iS*	Sg	14 03 48.7	-1.1
KOTS	**Kotyrbulak** 1.8nm,0.4s	**2.52**	**297**	*eP*	Pb	14 03 24.5	+1.0
KOTS	4.1nm,0.5s			*eS*	Sg	14 03 57.8	-1.4
ULHL	**Ulahol** baz=15	**2.93**	**274**	⇑*iP*	Pn	14 03 27.6	+2.7
ULHL	baz=15			⇑*iS*	Sn	14 04 02.6	+2.4
BOOM	**Boomskoye usch** baz=15	**3.17**	**278**	⇓*iP*	Pb	14 03 31.7	-2.8
BOOM	baz=15			⇓*iS*	Sb	14 04 10.2	-3.0

SJA ***17*** *14:04:40.7±0.7, 23˚.24S×66˚.78W, h229km±6km, ML3.3, MW3.5*
GUC ***17*** *14:04:43.9±0.7, 23˚.22S×66˚.91W, h210km±14km, ML3.6*
ISC 17 14:04:42.3±2.7, 23˚.16S±0˚.07×66˚.90W±0˚.07, h220km±21km, n25, σ0899/41, 13C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.61**	**53**	*iP*	**Pn**	**14 05 18.8**	**-0.4**
YJA				*eS*	**S**	**14 05 47.5**	**-0.3**
LVC	**Limon Verde**	**1.93**	**286**	*iP*	**Pn**	**14 05 22.8**	**+0.7**
LVC				*eS*	**S**	**14 05 53.9**	**+1.0**
PB15	**IPOC Station P**	**2.37**	**268**	⇑*iP*	**Pn**	**14 05 26.6**	**+0.3**
PB15				*eS*	**S**	**14 05 59.1**	**-1.2**
PB15	**IPOC Station P**	**2.37**	**268**	*iP*	**Pn**	**14 05 27.2**	**+0.9**
PB15				*eS*	**S**	**14 06 01.0**	**+0.7**
PB15	comp=Z,257nm,0.2s			IAML		14 06 07.0	
PB06	**IPOC Station P**	**2.50**	**280**	⇑*iP*	**Pn**	**14 05 28.2**	**+0.6**
PB06				*eS*	**S**	**14 06 02.1**	**-0.7**
PB06	comp=N,102nm,0.1s			IAML		14 06 04.5	
PB06	**IPOC Station P**	**2.50**	**280**	*iP*	**Pn**	**14 05 28.5**	**+0.9**
PB06	comp=Z,39nm,0.1s			IAML		14 06 12.9	
PB09	**IPOC Station P**	**2.55**	**302**	⇑*iP*	**Pn**	**14 05 29.3**	**+1.1**
PB09				*iS*	**S**	**14 06 04.3**	**+0.4**
PB09	comp=N,77nm,0.2s			IAML		14 06 06.9	
PB09	**IPOC Station P**	**2.55**	**302**	*iP*	**Pn**	**14 05 29.5**	**+1.3**
PB09	comp=Z,48nm,0.2s			IAML		14 06 08.5	
PB03	**IPOC Station P**	**2.86**	**292**	⇑*iP*	**Pn**	**14 05 32.0**	**+0.4**
PB03				*eS*	**S**	**14 06 08.9**	**-1.0**
PB03	comp=E,180nm,0.3s			IAML		14 06 10.6	
PB03	**IPOC Station P**	**2.86**	**292**	*iP*	**Pn**	**14 05 32.1**	**+0.6**
PB03	comp=Z,107nm,0.1s			IAML		14 06 13.0	
PB05	**IPOC Station P**	**3.06**	**275**	⇑*iP*	**Pn**	**14 05 34.2**	**+0.4**
PB05				*eS*	**S**	**14 06 12.2**	**-1.7**
PB05	comp=E,38nm,0.1s			IAML		14 06 16.7	
PB05	**IPOC Station P**	**3.06**	**275**	*iP*	**Pn**	**14 05 34.4**	**+0.6**
PB05	comp=Z,16nm,0.4s			IAML		14 06 18.5	
PB07	**IPOC Station P**	**3.11**	**297**	⇑*iP*	**Pn**	**14 05 35.0**	**+0.6**
PB07				*eS*	**S**	**14 06 13.5**	**-1.6**
PB07	**IPOC Station P**	**3.11**	**297**	*iP*	**Pn**	**14 05 35.0**	**+0.6**
PB07	comp=Z,75nm,0.2s			IAML		14 06 17.8	
PB04	**IPOC Station P**	**3.11**	**285**	⇑*iP*	**Pn**	**14 05 35.0**	**+0.6**
PB04				*eS*	**S**	**14 06 13.8**	**-1.2**
PB04	comp=N,137nm,0.2s			IAML		14 06 19.8	
PB04	**IPOC Station P**	**3.11**	**285**	*iP*	**Pn**	**14 05 35.0**	**+0.6**
PB04	comp=Z,97nm,0.1s			IAML		14 06 19.6	
GO02	**Mina Guanaco**	**3.17**	**230**	⇑*iP*	**Pn**	**14 05 35.9**	**+0.7**
GO02				*eS*	**S**	**14 06 16.3**	**-0.2**
PB01	**IPOC Station P**	**3.19**	**311**	⇑*iP*	**Pn**	**14 05 36.1**	**+0.7**
PB01				*eS*	**S**	**14 06 16.2**	**-0.5**
PB02	**IPOC Station P**	**3.32**	**303**	⇑*iP*	**Pn**	**14 05 37.2**	**+0.4**
PB02				*eS*	**S**	**14 06 18.4**	**-1.1**
PB02	**IPOC Station P**	**3.32**	**303**	*iP*	**Pn**	**14 05 37.4**	**+0.5**
PB10	**IPOC Station P**	**3.38**	**263**	⇑*iP*	**Pn**	**14 05 38.1**	**+0.7**
PB10				*eS*	**S**	**14 06 19.1**	**-1.3**
PB10	comp=N,45nm,0.3s			IAML		14 06 22.0	
PB10	**IPOC Station P**	**3.38**	**263**	*iP*	**Pn**	**14 05 38.0**	**+0.6**
PB10	comp=Z,20nm,0.5s			IAML		14 06 25.3	
PB08	**IPOC Station P**	**3.66**	**325**	⇑*iP*	**Pn**	**14 05 42.5**	**+1.4**
PB08				*iS*	**S**	**14 06 27.4**	**+0.3**
PB08	comp=N,48nm,0.4s			IAML		14 06 30.8	
PB08	**IPOC Station P**	**3.66**	**325**	*iP*	**Pn**	**14 05 42.6**	**+1.5**
PB08	comp=Z,30nm,0.4s			IAML		14 06 32.7	
TA01	**Diego Aracena**	**3.99**	**310**	⇑*eP*	**Pn**	**14 05 45.2**	**+0.4**
TA01				*iS*	**S**	**14 06 31.1**	**-2.6**

AEIC ***17*** *14:37:24±2.3, 63˚.50N±0˚.01×148˚.13W±0˚.07, h0km±3km, ML4.1/109, mb4.7/55(NEIC), Mwr3.9/38(SLM), Error ellipse: s-maj=4.8km s-min=1.5km az=104.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.49; $M_{\theta\theta}$-0.60; $M_{\phi\phi}$0.11; $M_{r\theta}$0.78; $M_{\theta\phi}$0.04; $M_{\phi r}$0.36;*
IDC ***17*** *14:37:28.0±1.6, 63˚.79N×148˚.40W, h27km±10km, mb3.9/24, mb1 4.0/28, mb1mx3.9/52, mbtmp4.0/28, ML3.8/4, MS3.0/13, Ms1 3.0/13, ms1mx2.8/39 Error ellipse: s-maj=12.4km s-min=9.5km az=84.0*
ISC 17 14:37:24.5±0.3, 63˚.56N±0˚.02×148˚.23W±0˚.02, h11km, n214, σ1844/212, mb4.5/48, MS3.0/9, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RND	**Reindeer**	**0.32**	**242**		**Pb**	**14 37 31.4**	**-0.9**
RND					**Sb**	**14 37 36.1**	**-1.4**
MCK	**McKinley**	**0.36**	**299**		**Pn**	**14 37 33.1**	**-2.6**
DHY	**Denali Highway**	**0.62**	**141**		**Pg**	**14 37 34.7**	**-1.8**
DHY					**Sg**	**14 37 41.8**	**-2.9**
WAT2	**Susitna Watana**	**0.62**	**195**		**Pg**	**14 37 34.9**	**-1.6**
WAT2					**Sg**	**14 37 42.8**	**-1.9**
WAT1	**Susitna Watana**	**0.74**	**192**		**Pg**	**14 37 37.3**	**-1.6**
WAT1					**Sg**	**14 37 46.6**	**-2.0**
WRH	**Wood River Hil**	**0.92**	**4**		**Sn**	**14 37 55.6**	**-1.0**
WRH	**Wood River Hil**	**0.92**	**4**	Pg	**Pn**	**14 37 43.1**	**-0.3**
TRF	**Thorofare Moun**	**0.93**	**264**	Pg	**Pn**	**14 37 42.4**	**-1.3**
WAT6	**Susitna Watana**	**1.00**	**167**		**Pg**	**14 37 41.5**	**-2.4**
HDA	**Harding Lake**	**1.02**	**33**		**Pn**	**14 37 44.4**	**-0.4**
NEA2	**Nenana**	**1.10**	**341**		**Pn**	**14 37 46.6**	**+0.6**
CCB	**Clear Creek Bu**	**1.11**	**9**		**Pn**	**14 37 46.3**	**+0.3**
PS10	**TAPS Pump St10**	**1.11**	**96**		**Pb**	**14 37 44.0**	**-1.7**
PS09	**TAPS Pump Stn9**	**1.16**	**70**		**Pg**	**14 37 46.1**	**-0.6**
PS08	**TAPS Pump Stn8**	**1.17**	**31**		**Pn**	**14 37 47.0**	**+0.2**
COLA	**College**	**1.33**	**7**		**Pg**	**14 37 49.8**	**-0.3**
TCOL	**CIGO, UAF Yank**	**1.33**	**7**		**Pg**	**14 37 49.9**	**-0.2**
BPAW	**Bear Paw Mtn.**	**1.34**	**295**		**Pg**	**14 37 49.6**	**-0.6**
IL31		**1.35**	**25**		**Pg**	**14 37 49.7**	**-0.8**
ILAR	**Eielson Array** 165nm,0.3s,baz=206,slow=17,SNR=1196	**1.35**	**25**	Pg	**Pg**	**14 37 49.6**	**-0.8**
ILAR	1um,0.3s,baz=202,slow=29,SNR=12			Lg	Lg	14 38 07.8	
ILAR	**Eielson Array**	**1.35**	**25**	Pn	**Pg**	**14 37 49.2**	**-1.3**
MDM	**Murphy Dome**	**1.41**	**360**		**Pg**	**14 37 51.0**	**-0.5**
RIDG	**Independent Ri**	**1.52**	**82**		**Pb**	**14 37 51.5**	**-1.2**
POKR	**Poker Plat Res**	**1.60**	**12**		**Pg**	**14 37 53.6**	**-1.6**
CAST	**Castle Rocks**	**1.74**	**267**		**Pb**	**14 37 54.8**	**-1.6**
SML	**Sawmill**	**1.76**	**182**		**Pn**	**14 37 53.7**	**-1.2**
PS07	**TAPS Pump Stn7**	**1.76**	**359**		**Pg**	**14 37 56.2**	**-2.0**
SCM	**Sheep Creek Mo**	**1.78**	**166**		**Pn**	**14 37 54.2**	**-1.1**
GHO	**Glory Hole Cre**	**1.82**	**191**		**Pn**	**14 37 54.7**	**-1.1**
MLY	**Manley**	**1.84**	**325**		**Pg**	**14 37 57.1**	**-2.7**
CHUM	**Lake Minchumin**	**1.85**	**282**		**Pb**	**14 37 56.6**	**-1.7**
DOT	**Dot Lake**	**1.86**	**85**		**Pb**	**14 37 56.6**	**-2.0**
PPLA	**Purkeypile**	**1.91**	**251**		**Pb**	**14 37 58.5**	**-1.0**
SCRK	**Sand Creek**	**1.93**	**75**		**Pb**	**14 37 57.5**	**-2.2**
PS11	**TAPS Pump St11**	**1.95**	**138**		**Pn**	**14 37 57.9**	**+0.4**
PMR	**Palmer**	**2.02**	**192**		**Pn**	**14 37 57.6**	**-0.8**
MENT	**Mentasta**	**2.13**	**105**		**Pb**	**14 38 01.0**	**-2.2**
KNK	**Knik Glacier**	**2.15**	**183**		**Pn**	**14 38 00.0**	**-0.3**
PRP	**Porcupine Dome**	**2.29**	**29**		**Pb**	**14 38 03.3**	**-2.6**
PS06	**TAPS Pump Stn6**	**2.40**	**345**		**Pb**	**14 38 05.2**	**-2.4**
RC01	**Rabbit Creek A**	**2.58**	**197**		**Pn**	**14 38 07.0**	**+0.9**
FIS	**Fire Island**	**2.59**	**202**		**Pb**	**14 38 08.0**	**-3.0**
VMT	**TAPS TI Valdez**	**2.63**	**160**		**Pn**	**14 38 07.5**	**+0.7**
STLK	**Strandline Lak**	**2.66**	**221**		**Pn**	**14 38 08.1**	**+0.8**
PWL	**Port Wells**	**2.71**	**181**		**Pn**	**14 38 09.1**	**+1.1**
GLI	**Glacier Island**	**2.74**	**168**		**Pn**	**14 38 09.2**	**+0.9**
SPCG	**Spurr Capps Gl**	**2.88**	**220**		**Pn**	**14 38 11.3**	**+0.9**
FID	**Port Fidalgo**	**2.93**	**163**		**Pn**	**14 38 12.0**	**+0.9**
BC03		**2.95**	**97**		**Pn**	**14 38 11.2**	**0.0**
BCAR	**Beaver Creek A**	**2.95**	**97**	Pn	**Pn**	**14 38 10.6**	**-0.7**
GLB	**Gilahina Butte**	**2.95**	**134**		**Pn**	**14 38 12.1**	**+0.8**
SPBG	**Spurr Blockage**	**3.01**	**222**		**Pb**	**14 38 14.3**	**-3.8**
SPCR	**Spurr Chakacha**	**3.01**	**220**		**Pb**	**14 38 14.0**	**-4.0**
SPNN	**North Nagishla**	**3.02**	**225**		**Pn**	**14 38 13.5**	**+1.0**
O22K	**Cooper Landing**	**3.17**	**194**		**Pn**	**14 38 15.7**	**+1.4**
SLKM	**Skilak Lake**	**3.20**	**198**		**Pn**	**14 38 15.9**	**+1.2**
VRDI	**Verde Repeater**	**3.23**	**134**		**Pn**	**14 38 16.6**	**+1.4**
EYAK	**Cordova Ski Ar**	**3.24**	**158**		**Pn**	**14 38 16.1**	**+0.9**
MCARA	**McCarthy VSAT**	**3.25**	**130**		**Pn**	**14 38 17.2**	**+1.7**
HIN	**Hinchinbrook I**	**3.27**	**165**		**Pn**	**14 38 16.6**	**+0.8**
FYU	**Fort Yukon**	**3.28**	**21**		**Pb**	14 38 17.2	-5.4
EGAK	**Eagle**	**3.33**	**65**		**Pn**	**14 38 18.1**	**+1.6**
IM03		**3.40**	**318**		**Pn**	**14 38 18.4**	**+1.1**
IMAR	**Indian Mountai**	**3.40**	**318**	Pn	**Pn**	**14 38 18.4**	**+1.0**
PS05	**TAPS Pump Stn5**	**3.43**	**344**		**Pb**	14 38 19.7	-5.5
SEW	**Seward**	**3.51**	**190**		**Pn**	**14 38 21.1**	**+2.2**
TTA	**Tatalina**	**3.58**	**263**		**Pn**	**14 38 19.7**	**-0.3**
TT01	**Tatalina**	**3.59**	**263**		**Pn**	**14 38 20.0**	**0.0**
RAGM	**Ragged Mountai**	**3.59**	**151**	Pn	**Pn**	**14 38 20.0**	**-0.2**
RDJH	**Redoubt Jeurge**	**3.67**	**218**		**Pn**	**14 38 23.1**	**+1.8**
CRQM	**Cirque**	**3.69**	**137**		**Pn**	**14 38 22.2**	**+0.7**
BALM	**Baldy**	**3.73**	**130**		**Pn**	**14 38 23.8**	**+1.7**
RSO	**Redoubt South**	**3.77**	**217**		**Pn**	**14 38 24.5**	**+1.8**
RDWB	**Redoubt West**	**3.77**	**217**		**Pn**	**14 38 24.6**	**+2.0**
KIAG	**Kiagna River**	**3.81**	**131**		**Pn**	**14 38 24.5**	**+1.3**
RED	**Redoubt Volcan**	**3.81**	**216**		**Pn**	**14 38 24.8**	**+1.6**
KHIT	**Khitrov Hills**	**3.91**	**141**		**Pn**	**14 38 26.1**	**+1.6**
DAWY	**Dawson**	**3.95**	**79**		**Pn**	**14 38 25.4**	**+0.4**
BARN	**Barnard Glacie**	**3.96**	**126**		**Pn**	**14 38 27.8**	**+2.5**
BRLK	**Bradley Lake**	**4.01**	**200**		**Pn**	**14 38 27.5**	**+1.6**
WAX	**Waxell Ridge**	**4.02**	**138**		**Pn**	**14 38 27.0**	**+1.0**
CTGM	**Chitina Glacie**	**4.14**	**126**		**Pn**	**14 38 29.6**	**+1.9**
BM03	**Burnt Mountain**	**4.16**	**20**		**Pn**	**14 38 29.1**	**+1.1**
BMAR	**Burnt Mountain**	**4.17**	**20**	Pn	**Pn**	**14 38 29.3**	**+1.2**
ILW	**Iliamna West**	**4.21**	**216**		**Pn**	**14 38 30.6**	**+1.8**
IVE	**Iliamna Volcan**	**4.22**	**215**		**Pn**	**14 38 30.4**	**+1.6**
SVW2	**Sparrevohn**	**4.23**	**238**		**Pn**	**14 38 29.3**	**+0.5**
HOM	**Homer**	**4.24**	**204**	Pn	**Pn**	**14 38 31.3**	**+2.3**
MID	**Middleton Isla**	**4.24**	**167**	Pn	**Pn**	**14 38 30.4**	**+1.4**
CNPM	**China Poot**	**4.29**	**201**		**Pn**	**14 38 31.1**	**+1.4**
YAH	**Yahtse**	**4.43**	**133**		**Pn**	**14 38 32.5**	**+0.7**
MESA	**MESA**	**4.51**	**136**	Pn	**Pn**	**14 38 34.2**	**+1.4**
RKAV	**Rock Avalanche**	**4.61**	**132**		**Pn**	**14 38 35.5**	**+1.3**
AUP	**Augustine Pinn**	**4.89**	**213**		**Pn**	**14 38 40.1**	**+2.1**
AUH	**Augustine H**	**4.89**	**213**		**Pn**	**14 38 40.0**	**+2.0**
AUW	**Augustine West**	**4.90**	**213**		**Pn**	**14 38 40.1**	**+2.1**
PS04	**TAPS Pump Stn4**	**4.91**	**355**		**Pn**	**14 38 40.5**	**+2.3**
PCA	**Pinnacle**	**5.13**	**129**		**Pn**	**14 38 42.4**	**+1.2**
TOLK	**Toolik Lake Re**	**5.14**	**354**		Pn	14 38 44.1	+2.8
YUK6	**Outpost Mounta**	**5.30**	**115**		**Pn**	**14 38 45.9**	**+2.1**
YUK7	**Dusty Glacier**	**5.63**	**118**		**Pn**	**14 38 50.1**	**+1.9**
EPYK	**Eagle Plains**	**5.64**	**55**		**Pn**	**14 38 48.6**	**+0.3**
HYT	**Haines Junctio**	**5.72**	**114**		**Pn**	**14 38 51.3**	**+1.9**
KAHC	**Katmai Hardscr**	**5.92**	**217**		**Pn**	**14 38 54.0**	**+1.9**
KDAK	**Kodiak Island** 4.0nm,0.3s,baz=38,slow=8.5,SNR=60	**6.17**	**202**	Pn	**Pn**	**14 38 56.0**	**+0.5**
KDAK	6.9nm,0.3s,baz=182,slow=21,SNR=6.0			Sn	**Sn**	**14 40 02.4**	**-3.6**
KDAK	comp=Z,203nm,19.8s,baz=125,slow=38			LR	LR	14 41 33.2	
KDAK	**Kodiak Island**	**6.17**	**202**		**Pn**	**14 38 55.4**	**-0.1**
KABU	**Katmai Buttres**	**6.32**	**216**		**Pn**	**14 38 59.5**	**+1.9**
OHAK	**Old Harbor**	**6.83**	**204**		**Pn**	**14 39 04.0**	**-0.4**
WHY	**Whitehorse**	**6.90**	**109**		**Pn**	**14 39 04.6**	**-1.0**
RDOG	**Red Dog Mine**	**7.52**	**313**		**Pn**	**14 39 15.6**	**+1.6**
ANM	**Nome**	**7.58**	**285**	Pn	**Pn**	**14 39 16.2**	**+1.3**
INK	**Inuvik** 2.9nm,0.3s,baz=232,slow=11,SNR=56	**7.66**	**45**	Pn	**Pn**	**14 39 16.2**	**+0.4**
INK	1.3nm,0.3s,baz=177,slow=17,SNR=1.9			Sn	**Sn**	**14 40 38.8**	**-3.5**
INK	comp=Z,57nm,19.8s,baz=233,slow=43			LR	LR	14 42 51.1	
JIS	**Juneau Island**	**8.56**	**122**	Pn	**Pn**	**14 39 28.1**	**-0.1**
CHGN	**Chignik**	**8.88**	**220**	Pn	**Pn**	**14 39 32.8**	**+0.2**
SIT	**Sitka**	**9.12**	**130**	Pn	**Pn**	**14 39 36.2**	**+0.4**
DLBC	**Dease Lake** 0.3nm,0.3s,baz=268,slow=22,SNR=2.3	**10.20**	**112**	Pn	**Pn**	**14 39 52.1**	**+1.4**
DLBC	0.4nm,0.3s,baz=52,slow=24,SNR=3.5			Lg	Lg	14 42 42.6	
DLBC	comp=Z,39nm,21.4s,baz=302,slow=43			LR	LR	14 44 49.0	
GAMB	**Gambell**	**10.41**	**282**	Pn	**Pn**	**14 39 54.1**	**+0.6**
WRAK	**Wrangell Islan**	**10.67**	**125**	Pn	**Pn**	**14 39 56.9**	**-0.2**
DIB	**Dawson Inlet,**	**13.22**	**134**	Pn	**Pn**	**14 40 33.5**	**+1.6**
YKA	**Yellowknife Ar**	**15.19**	**79**	Pn	**Pn**	**14 40 57.8**	**-0.9**
BBB	**Bella Bella** 0.2nm,0.3s,baz=305,slow=8.0,SNR=4.0	**15.54**	**128**	Pn	**P**	**14 41 09.6**	**+1.9**
BBB	comp=Z,79nm,21.1s,baz=0.5,slow=35			LR	LR	14 46 42.9	
BBB	**Bella Bella** comp=Z,51nm,1.5s	**15.54**	**128**	IAmb	IAmb	14 41 45.6	
ATKA	**Atka Island**	**17.73**	**242**	P	**P**	**14 41 32.7**	**+0.8**
GSTR	**Great Sitkin T**	**18.56**	**245**	P	**Pn**	**14 41 43.0**	**+1.7**
ADK	**Adak**	**18.97**	**245**	P	**Pn**	**14 41 47.0**	**+0.8**
ADK	comp=Z,110nm,1.7s			IAmb	IAmb	14 42 08.4	
RES	**Resolute Bay** comp=Z,0.9nm,0.4s,baz=225,slow=8.0,SNR=1.6	**21.08**	**36**	P	**P**	**14 42 08.8**	**+0.5**
NEW	**Newport** comp=Z,8.0nm,21.6s,baz=328,slow=41	**22.87**	**117**	LR	LR	14 53 16.6	
JTMT	**Jette**	**24.43**	**114**	P	**P**	**14 42 42.3**	**-0.6**
I07A	**Izee**	**25.46**	**126**	P	**P**	**14 42 52.8**	**+0.5**
EGMT	**Eagleton**	**26.10**	**108**	P	**P**	**14 42 58.9**	**+0.9**
YBH	**Yreka Blue Hor** comp=Z,2.1nm,0.8s,baz=358,slow=3.3,SNR=4.5	**26.44**	**134**	P	**P**	**14 43 06.2**	**+5.0**
YBH	comp=Z,30nm,19.5s,baz=329,slow=35			LR	LR	14 52 53.9	
PETK	**Petropavlovsk-** comp=Z,23nm,18.1s,baz=70,slow=40	**29.34**	**275**	LR	LR	14 56 58.0	
ELK	**Elko** comp=Z,0.5nm,0.5s,baz=312,slow=12,SNR=2.1	**29.92**	**124**	P	**P**	**14 43 35.3**	**+2.8**
ELK	comp=Z,39nm,20.7s,baz=330,slow=36			LR	LR	14 55 33.3	
BW06	**Boulder Array**	**30.41**	**115**	P	**P**	**14 43 38.6**	**+1.9**
PD31	**Pinedale Array**	**30.41**	**115**	P	**P**	**14 43 38.5**	**+1.7**
PDAR	**Pinedale Array** comp=Z,1.7nm,0.8s,baz=322,slow=6.1,SNR=13	**30.41**	**115**	P	**P**	**14 43 39.4**	**+2.6**
PDAR	comp=Z,71nm,19.1s,baz=317,slow=38			LR	LR	14 56 43.3	
PDAR	**Pinedale Array**	**30.41**	**115**	P	**P**	**14 43 38.2**	**+1.5**
NVAR	**Mina Array Bea** comp=Z,2.6nm,0.8s,baz=308,slow=7.3,SNR=12	**30.88**	**130**	P	**P**	**14 43 43.7**	**+2.8**
NVAR	**Mina Array Bea**	**30.88**	**130**	P	**P**	**14 43 42.5**	**+1.6**
EYMN	**Ely**	**34.20**	**90**	P	**P**	**14 44 10.2**	**+0.6**
F36A	**Milaca**	**34.87**	**94**	P	**P**	**14 44 16.5**	**+1.1**
F36A	comp=Z,7.3nm,0.8s			IAmb	IAmb	14 44 17.7	
ECSD	**EROS Data Cent**	**35.16**	**99**	P	**P**	**14 44 18.8**	**+0.8**
SPMN	**Marine on St.**	**35.69**	**94**	P	**P**	**14 44 23.9**	**+1.5**
SPMN	comp=Z,12nm,0.6s			IAmb	IAmb	14 44 24.5	
I37A	**Lemond, Waseca**	**36.37**	**96**	P	**P**	**14 44 29.9**	**+1.6**
G40A	**Rib Lake**	**36.82**	**92**	P	**P**	**14 44 33.0**	**+0.9**
G40A	comp=Z,6.9nm,0.8s			IAmb	IAmb	14 44 33.7	
SFJD	**Kangerlussuaq** comp=Z,5.9nm,0.7s,baz=276,slow=9.2,SNR=2.8	**36.97**	**40**	P	**P**	**14 44 31.8**	**-1.3**
SPITS	**Spitsbergen Ar** comp=Z,37nm,20.1s,baz=55,slow=35	**38.19**	**5**	LR	LR	14 59 23.2	
E46A	**Sault Ste Mari**	**38.61**	**85**	P	**P**	**14 44 48.3**	**+1.1**
E46A	comp=Z,8.1nm,0.8s			IAmb	IAmb	14 44 49.1	
JFWS	**Jewell Farm**	**38.64**	**94**	P	**P**	**14 44 48.3**	**+0.8**
JFWS	comp=Z,10nm,0.6s			IAmb	IAmb	14 44 49.1	
L40A	**Anamosa**	**38.89**	**96**	P	**P**	**14 44 50.1**	**+0.5**
L40A	comp=Z,10nm,0.7s			IAmb	IAmb	14 44 51.0	
P40A	**Paris**	**40.57**	**99**	P	**P**	**14 45 04.8**	**+1.1**
L48A	**N Adams**	**42.02**	**90**	P	**P**	**14 45 15.7**	**+0.2**
L48A	comp=Z,14nm,0.6s			IAmb	IAmb	14 45 17.2	
N47A	**Urbana**	**42.31**	**92**	P	**P**	**14 45 18.4**	**+0.5**
N47A	comp=Z,10nm,0.7s			IAmb	IAmb	14 45 18.8	
N49A	**Columbus Grove**	**42.95**	**90**	P	**P**	**14 45 23.9**	**+0.8**
N49A	comp=Z,7.4nm,0.8s			IAmb	IAmb	14 45 24.8	
O49A	**Covington**	**43.47**	**91**	P	**P**	**14 45 27.8**	**+0.5**
O49A	comp=Z,7.5nm,0.6s			IAmb	IAmb	14 45 28.3	
W41B	**Gary Mavity, V**	**44.11**	**103**	P	**P**	**14 45 33.7**	**+1.2**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.5s,baz=348,slow=5.6,SNR=7.1	**44.41**	**119**	P	**P**	**14 45 37.0**	**+2.0**
TXAR	comp=Z,0.3nm,0.6s,baz=299,slow=3.7,SNR=3.5			PcP	**PP**	**14 47 20.0**	**+1.5**
TXAR	comp=Z,38nm,18.9s,baz=0.0,slow=38			LR	LR	15 05 59.9	
TXAR	**Lajitas Array**	**44.41**	**119**	P	**P**	**14 45 36.3**	**+1.3**
TXAR					**PP**	**14 47 19.7**	**+1.2**
M54A	**Oil Creek Stat**	**44.50**	**86**	P	**P**	**14 45 36.5**	**+1.0**
M54A	comp=Z,14nm,1.2s			IAmb	IAmb	14 45 40.0	
Q51A	**Peebles**	**44.86**	**91**	P	**P**	**14 45 38.8**	**+0.3**
Q51A	comp=Z,7.0nm,0.7s			IAmb	IAmb	14 45 39.6	
O54A	**Avella**	**45.25**	**88**	P	**P**	**14 45 42.5**	**+1.0**
O54A	comp=Z,13nm,0.9s			IAmb	IAmb	14 45 43.3	
P53A	**Whipple**	**45.36**	**89**	P	**P**	**14 45 43.0**	**+0.6**
P53A	comp=Z,8.5nm,0.8s			IAmb	IAmb	14 45 43.9	
T50A	**Nancy**	**45.84**	**94**	P	**P**	**14 45 46.7**	**+0.4**
T50A	comp=Z,12nm,1.2s			IAmb	IAmb	14 47 12.9	
U49A	**Red Boiling Sp**	**45.85**	**95**	P	**P**	**14 45 46.7**	**+0.4**
U49A	comp=Z,8.8nm,0.6s			IAmb	IAmb	14 45 47.7	
S51A	**Beattyville**	**45.89**	**93**	P	**P**	**14 45 47.2**	**+0.6**
R53A	**Hurricane**	**46.06**	**91**	P	**P**	**14 45 48.1**	**+0.2**
TZTN	**Tazewell**	**46.82**	**93**	P	**P**	**14 45 54.4**	**+0.4**
TZTN	comp=Z,7.2nm,0.9s			IAmb	IAmb	14 46 43.0	
ARCES	**ARCESS Array B** comp=Z,7.2nm,1.2s,baz=10,slow=7.4,SNR=4.5	**47.12**	**3**	P	**P**	**14 45 55.8**	**-0.1**
ARCES	comp=Z,2.7nm,1.0s,baz=0.0,slow=3.6,SNR=3.8			PcP	**PcP**	**14 47 26.7**	**-0.7**
TKL	**Tuckaleechee C**

BOSA Boshof 144.79 10 PKP **PKPdf** **14 56 59.4 -1.6**
comp=Z,4.2nm,1.0s,baz=1.5,slow=5.1,SNR=4.2

*NEIC **17** 14:53:51.0±1.6, 19°.82S±0°.09×176°.32W±0°.09, h251km±6km, mb4.7/52, Error ellipse: s-maj=12.8km s-min=11.6km az=156.0*
*IDC **17** 14:53:50.8±3.4, 19°.77S×176°.37W, h245km±30km, mb3.7/16, mb1 3.9/16, mb1mx3.8/28, mbtmp4.3/16, Error ellipse: s-maj=17.4km s-min=13.6km az=119.0*
ISC 17 14:53:47.9±0.4, 19.80S±0°.06×176°.26W±0°.08, h222km, n121, σ1§10/122, mb4.4/33, 6C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.77**	**290**	Pn	Pn	14 55 18.8	+6.1
NIUE	**Niue**	**6.02**	**84**	Pn	**Pn**	**14 55 15.8**	**+0.1**
AFI	**Afiamalu**	**7.26**	**37**	Pn	**Pn**	**14 55 30.6**	**-1.3**
RAO	**Raoul Island**	**9.53**	**189**	Pn	**Pn**	**14 56 02.2**	**+1.5**
DZM	**Mont Dzumac**	**16.32**	**259**	Pn	**Pn**	**14 57 28.3**	**+3.1**
DZM				IAmb	IAmb	14 57 30.4	
	comp=Z,49nm,0.7s						
SANVU	**Saraoutou**	**16.34**	**283**	Pn	**Pn**	**14 57 26.7**	**+1.3**
SANVU				IAmb	IAmb	14 57 29.7	
	comp=Z,39nm,0.6s						
KNTN	**Kanton**	**17.50**	**15**	P	**P**	**14 57 38.0**	**+1.1**
OUZ	**Omahuta**	**17.78**	**208**	P	**Pn**	**14 57 40.9**	**-1.2**
KUZ	**Kuaotunu**	**18.28**	**201**	P	**Pn**	**14 57 46.3**	**+1.8**
WMGZ	**Waiomatatini S**	**18.54**	**193**	P	**P**	**14 57 48.7**	**+0.6**
HAZ	**Te Kaha**	**18.63**	**195**	P	**P**	**14 57 49.4**	**+0.4**
PKGZ	**Pakihiroa**	**18.68**	**194**	P	**P**	**14 57 50.4**	**+0.7**
ETAZ	**East Tamaki Re**	**18.75**	**202**	P	**Pn**	**14 57 52.7**	**-0.8**
MKAZ	**Moumakai**	**18.80**	**202**	P	**P**	**14 57 51.6**	**+0.8**
PUZ	**Puketiti**	**18.82**	**194**	P	**P**	**14 57 51.3**	**+0.2**
RUGZ	**Raukumara Rang**	**18.85**	**195**	P	**P**	**14 57 51.7**	**+0.1**
CNGZ	**Carnagh Statio**	**19.22**	**193**	P	**P**	**14 57 50.6**	**-4.8**
MWZ	**Matawai**	**19.24**	**195**	P	**P**	**14 57 55.7**	**+0.1**
TOZ	**Tahuroa Road**	**19.25**	**200**	P	**P**	**14 57 56.4**	**+0.7**
URZ	**Urewera**	**19.27**	**196**	P	**P**	**14 57 54.1**	**-1.8**
RIGZ	**Rimuhau**	**19.54**	**194**	P	**P**	**14 57 59.5**	**+0.7**
MUGZ	**Murupara**	**19.57**	**197**	P	**P**	**14 57 59.2**	**+0.1**
SNGZ	**Shannon Statio**	**19.71**	**195**	P	**P**	**14 58 01.4**	**+0.8**
WHHZ	**Waihua**	**20.01**	**195**	P	**P**	**14 58 03.3**	**-0.6**
HIZ	**Hauiti**	**20.17**	**201**	P	**P**	**14 58 06.4**	**+0.8**
HIZ	**Hauiti**	**20.17**	**201**	P	**P**	**14 58 05.4**	**-0.2**
ARHZ	**Aropaoanui**	**20.25**	**195**	P	**P**	**14 58 07.0**	**+0.6**
BKZ	**Black Stump Fm**	**20.29**	**196**	P	**P**	**14 58 03.4**	**-3.4**
KAHZ	**Kahuranaki**	**20.78**	**195**	P	**P**	**14 58 11.5**	**-0.5**
BFZ	**Birch Farm**	**21.78**	**196**	P	**P**	**14 58 20.1**	**-2.0**
MSWZ	**Moikau Station**	**22.73**	**197**	P	**P**	**14 58 29.1**	**-1.7**
SNZO	**South Karori**	**22.78**	**198**	P	**P**	**14 58 28.8**	**-2.4**
BHW	**Baring Head**	**22.82**	**197**	P	**P**	**14 58 29.1**	**-2.5**
PLWZ	**Palliser**	**22.87**	**197**	P	**P**	**14 58 30.0**	**-2.1**
QRZ	**Quartz Range**	**23.04**	**202**	P	**P**	**14 58 33.2**	**-0.5**
BSWZ	**Blackbirch Sta**	**23.40**	**199**	P	**P**	**14 58 35.4**	**-1.5**
THZ	**Tophouse**	**23.75**	**200**	P	**P**	**14 58 39.6**	**-0.6**
KHZ	**Kahutara**	**24.14**	**199**	P	**P**	**14 58 42.8**	**-0.8**
LTZ	**Lake Taylor**	**24.87**	**200**	P	**P**	**14 58 50.2**	**0.0**
OXZ	**Oxford**	**25.43**	**200**	P	**P**	**14 58 53.7**	**-1.5**
RPZ	**Rata Peaks**	**26.10**	**201**	P	**P**	**14 59 01.2**	**-0.1**
	comp=Z,13nm,0.7s,baz=20,slow=1.7,SNR=6.1						
RPZ	**Rata Peaks**	**26.10**	**201**	P	**P**	**14 59 01.0**	**-0.3**
FOZ	**Fox Glacier**	**26.39**	**203**	P	**P**	**14 59 03.6**	**-0.2**
LBZ	**Lake Benmore**	**26.99**	**202**	P	**P**	**14 59 07.9**	**-1.4**
EIDS	**Eidsvold**	**30.61**	**253**	P	**P**	**14 59 42.0**	**+0.5**
EIDS				IAmb	IAmb	14 59 42.6	
	comp=Z,8.1nm,0.9s						
KWAJ	**Kwajalein Atol**	**32.56**	**329**	P	**P**	**14 59 59.1**	**+0.6**
CTA	**Charters Tower**	**35.19**	**263**	P	**P**	**15 00 22.0**	**+0.8**
	comp=Z,12nm,0.4s,baz=89,slow=10.0,SNR=79						
CTAO	**Charters Tower**	**35.19**	**263**	P	**P**	**15 00 22.0**	**+0.8**
CTAO				IAmb	IAmb	15 00 23.2	
	comp=Z,34nm,1.2s						
TOO	**Toolangi**	**37.62**	**234**	P	**P**	**15 00 40.9**	**-0.7**
TOO				IAmb	IAmb	15 01 35.9	
	comp=Z,37nm,1.6s						
COEN	**Coen**	**39.18**	**272**	P	**P**	**15 00 54.1**	**-0.6**
COEN				IAmb	IAmb	15 01 33.7	
	comp=Z,55nm,1.5s						
STKA	**Stephens Creek**	**39.56**	**244**	P	**P**	**15 00 58.1**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=62,slow=10,SNR=4.0						
WAKE	**Wake Island**	**42.30**	**336**	P	**P**	**15 01 20.3**	**+0.3**
WR0	**Warramunga Arr**	**46.13**	**261**	P	**P**	**15 01 49.4**	**-1.1**
WR0				IAmb	IAmb	15 02 11.4	
	comp=Z,31nm,1.6s						
AS31	**Alice Springs**	**46.27**	**256**	P	**P**	**15 01 50.9**	**-0.7**
ASAR	**Alice Springs**	**46.27**	**256**	P	**P**	**15 01 51.0**	**-0.7**
	comp=Z,5.3nm,0.5s,baz=90,slow=8.3,SNR=200						
ASAR				PcP	**PcP**	**15 03 23.7**	**+0.4**
	comp=Z,1.2nm,1.0s,baz=96,slow=4.8,SNR=1.6						
ASAR				ScP	**ScP**	**15 06 52.8**	**-2.6**
	comp=Z,0.9nm,1.1s,baz=128,slow=5.1,SNR=3.1						
ASAR	**Alice Springs**	**46.27**	**256**	P	**P**	**15 01 50.7**	**-0.9**
WB0	**Warramunga Arr**	**46.30**	**261**	P	**P**	**15 01 50.8**	**-1.0**
WB0				IAmb	IAmb	15 02 14.9	
	comp=Z,42nm,2.0s						
WB2	**Warramunga Arr**	**46.31**	**261**	P	**P**	**15 01 50.7**	**-1.2**
WRA	**Warramunga Arr**	**46.32**	**261**	P	**P**	**15 01 50.9**	**-1.1**
	comp=Z,2.2nm,0.4s,baz=94,slow=5.8,SNR=36						
WRA	**Warramunga Arr**	**46.32**	**261**	P	**P**	**15 01 51.0**	**-1.1**
MTN	**Manton Dam**	**50.80**	**269**	P	**P**	**15 02 25.2**	**-0.9**
MTN				IAmb	IAmb	15 04 05.0	
	comp=Z,75nm,1.7s						
KNRA	**Kununurra**	**52.34**	**265**	P	**P**	**15 02 37.0**	**-0.5**
KNRA				IAmb	IAmb	15 03 09.0	
	comp=Z,43nm,1.4s						
FAKI	**Fak Fak**	**52.95**	**282**	P	**P**	**15 02 41.5**	**-0.5**
FAKI				IAmb	IAmb	15 03 20.3	
	comp=Z,26nm,1.1s						
FITZ	**Fitzroy Crossi**	**54.74**	**261**	P	**P**	**15 02 54.7**	**-0.3**
FITZ				IAmb	IAmb	15 03 12.5	
	comp=Z,37nm,1.8s						
VNDA	**Vanda**	**58.75**	**185**	P	**P**	**15 03 23.5**	**+1.4**
	comp=Z,2.5nm,0.7s,baz=15,slow=7.9,SNR=14						
VNDA	**Vanda**	**58.75**	**185**	P	**P**	**15 03 23.3**	**+1.2**
CASY	**Casey**	**65.29**	**205**	P	**P**	**15 04 05.3**	**-0.4**
JHJ2	**Mitsune**	**67.29**	**321**	P	**P**	**15 04 17.6**	**-1.3**
QSPA	**South Pole Qui**	**70.26**	**180**	P	**P**	**15 04 37.1**	**+0.2**
QSPA				IAmb	IAmb	15 04 38.4	
	comp=Z,11nm,0.8s						
MJAR	**Matsushiro Arr**	**70.64**	**322**	P	**P**	**15 04 39.0**	**-0.4**
	comp=Z,2.0nm,0.6s,baz=138,slow=6.6,SNR=6.3						
MJAR	**Matsushiro Arr**	**70.64**	**322**	P	**P**	**15 04 38.8**	**-0.6**
MAJO	**Matsushiro**	**70.64**	**322**	P	**P**	**15 04 39.2**	**-0.3**
MAJO				IAmb	IAmb	15 06 53.4	
	comp=Z,26nm,2.0s						
MAT	**Matsushiro**	**70.64**	**322**	P	**P**	**15 04 38.7**	**-0.7**
MJB9	**Matsu-Tunnel**	**70.64**	**322**	P	**P**	**15 04 39.3**	**-0.2**
JOW	**Kunigami**	**70.99**	**309**	P	**P**	**15 04 40.1**	**-1.6**
ADK	**Adak**	**71.38**	**360**	P	**P**	**15 04 43.8**	**+0.4**
SSLB	**Suanglung**	**74.97**	**302**	P	**P**	**15 05 05.3**	**+0.1**
SSLB				IAmb	IAmb	15 06 39.3	
	comp=Z,50nm,1.8s						
TPUB	**Ta-pu**	**74.99**	**302**	P	**P**	**15 05 05.3**	**0.0**
PET	**Petropavlovsk**	**75.72**	**345**	P	**P**	**15 05 09.1**	**+0.4**
PET				IAmb	IAmb	15 07 23.4	
	comp=Z,46nm,1.5s						
PEA0B	**Petropavlovsk-**	**76.03**	**344**	P	**P**	**15 05 10.9**	**+0.4**
PEA0B				IAmb	IAmb	15 05 12.5	
	comp=Z,50nm,1.5s						
PETK	**Petropavlovsk-**	**76.03**	**344**	P	**P**	**15 05 10.7**	**+0.2**
	comp=Z,9.1nm,0.7s,baz=143,slow=9.1,SNR=20						
KSRS	**Korea Array**	**77.46**	**318**	P	**P**	**15 05 19.4**	**+0.6**
	comp=Z,0.8nm,0.7s,baz=134,slow=5.4,SNR=4.6						
KSAR	**Wonju Array Be**	**77.48**	**318**	P	**P**	**15 05 19.1**	**+0.1**
PNTR	**Pine Nut**	**78.97**	**41**	P	**P**	**15 05 28.1**	**+0.7**
PNTR				IAmb	IAmb	15 05 29.7	
	comp=Z,6.7nm,0.8s						
YERR	**Yerington**	**79.14**	**42**	P	**P**	**15 05 29.1**	**+0.9**
YERR				IAmb	IAmb	15 05 30.2	
	comp=Z,4.2nm,0.6s						
USRK	**Ussuriysk Ar.**	**79.32**	**325**	P	**P**	**15 05 29.8**	**+1.0**
NVAR	**Mina Array Bea**	**79.40**	**43**	P	**P**	**15 05 30.9**	**+1.2**
	comp=Z,2.0nm,0.7s,baz=226,slow=9.1,SNR=9.4						
NVAR	**Mina Array Bea**	**79.40**	**43**	P	**P**	**15 05 30.3**	**+0.5**
PAHR	**Pah Rah Range**	**79.48**	**41**	P	**P**	**15 05 31.1**	**+1.1**
NV11	**Mina Array Sit**	**79.50**	**43**	P	**P**	**15 05 31.2**	**+1.1**
NV11				IAmb	IAmb	15 06 32.2	
	comp=Z,12nm,1.9s						
KVN	**Kaiserville**	**79.89**	**42**	P	**P**	**15 05 33.2**	**+0.9**
MAW	**Mawson**	**82.77**	**199**	P	**P**	**15 05 46.5**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=135,slow=4.3,SNR=2.9						
MAW	**Mawson**	**82.77**	**199**	P	**P**	**15 05 46.3**	**-0.3**
G08A	**Pilot Rock**	**83.08**	**37**	P	**P**	**15 05 49.2**	**+0.4**
TXAR	**Lajitas Array**	**85.31**	**57**	P	**P**	**15 06 00.8**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=202,slow=6.8,SNR=3.7						
TXAR	**Lajitas Array**	**85.31**	**57**	P	**P**	**15 06 00.6**	**+0.3**
ILAR	**Eielson Array**	**87.28**	**12**	P	**P**	**15 06 09.1**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=233,slow=4.3,SNR=5.9						
ILAR	**Eielson Array**	**87.28**	**12**	P	**P**	**15 06 09.6**	**+0.6**
PDAR	**Pinedale Array**	**87.34**	**43**	P	**P**	**15 06 09.8**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=172,slow=3.0,SNR=3.9						
PDAR	**Pinedale Array**	**87.34**	**43**	P	**P**	**15 06 09.7**	**-0.4**
SYO	**Syowa Base**	**87.76**	**192**	*e*PcP	**P**	**15 06 11.0**	**-0.3**
VNA3	**Neumayer Olymp**	**88.72**	**176**	P	**P**	**15 06 15.2**	**-0.7**
VNA1	**Neumayer--Stat**	**89.40**	**176**	P	**P**	**15 06 18.8**	**-0.2**
CMAR	**Chiang Mai Arr**	**91.43**	**289**	P	**P**	**15 06 29.8**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=134,slow=2.8,SNR=10.0						
YKA	**Yellowknife Ar**	**95.20**	**24**	P	**P**	**15 06 46.0**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=241,slow=5.2,SNR=6.8						
MKAR	**Makanchi Array**	**111.91**	**313**	PKiKP	**PKiKP**	**15 11 55.0**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=230,slow=1.8,SNR=6.3						
MKAR	**Makanchi Array**	**111.91**	**313**		**PKiKP**	**15 11 55.0**	**-1.5**
ARCES	**ARCESS Array B**	**128.52**	**350**	PKP	**PKPdf**	**15 12 27.4**	**-0.3**
	comp=Z,5.7nm,1.1s,baz=19,slow=3.1,SNR=6.0						
AKASG	**Malin Array Be**	**143.17**	**333**	PKhKP	PKPpre	15 12 51.3	
	comp=Z,1.6nm,0.5s,baz=46,slow=4.4,SNR=10						
BRTR	**Keskin Array B**	**147.56**	**314**	PKPbc	**PKPbc**	**15 13 05.5**	**-0.8**
	comp=Z,1.3nm,0.7s,baz=88,slow=2.8,SNR=8.6						
BRTR	**Keskin Array B**	**147.56**	**314**		**PKPbc**	**15 13 05.2**	**-1.1**
CLL	**Collm**	**147.72**	**349**	*i*PKPbc	**PKPbc**	**15 13 06.6**	**+0.4**
	comp=Z,13nm,1.3s						
OSTC	**Ostas**	**147.76**	**345**	*e*PKP	**PKPab**	**15 13 10.3**	**+1.0**
DPC	**Dobruska-Polom**	**147.92**	**345**	*e*PKP	**PKPab**	**15 13 07.6**	**+0.8**
PRU	**Pruhonice**	**148.67**	**347**	*e*PKP	**PKPab**	**15 13 13.0**	**0.0**
KHC	**Kasperske Hory**	**149.69**	**347**	*e*PKP	**PKPbc**	**15 13 11.0**	**-0.3**
KHC				*e*PKPAB	**PKPab**	**15 13 17.0**	**-0.2**
GERES	**GERESS Array B**	**149.94**	**347**	PKPbc	**PKPbc**	**15 13 10.8**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=35,slow=3.3,SNR=11						
GERES	**GERESS Array B**	**149.94**	**347**		**PKPbc**	**15 13 11.3**	**-0.7**
ESDC	**Sonseca Array**	**159.11**	**17**	PKPab	**PKPab**	**15 13 57.7**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=336,slow=2.8,SNR=3.0						
ESDC	**Sonseca Array**	**159.11**	**17**		**PKPab**	**15 13 57.8**	**+0.2**
TORD	**Torodi Ar. Bea**	**173.10**	**163**	PKPab	**PKPab**	**15 14 59.4**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=186,slow=1.3,SNR=4.2						

*TRN **17** 15:04:06.2, 15°.38N×61°.07W, h128km, MD3.7*
*IDC **17** 15:04:06.5±0.6, 15°.36N×61°.26W, h127km±5km, mb3.1/5, mb1 3.6/9, mb1mx3.4/35, mbtmp3.9/9, Error ellipse: s-maj=16.9km s-min=5.1km az=82.0*
ISC 17 15:04:06.4±0.7, 15°.39N±0°.03×61°.13W±0°.06, h136km±5km, n66, σ0§90/104, mb3.6/5, 13C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLPL	**La Plaine**	**0.12**	**244**	*e*P	**Pn**	**15 04 24.9**	**+0.1**
DLPL				*e*S	**Sn**	**15 04 38.7**	**0.0**
MDN	**Morne-Daniel**	**0.26**	**255**	*e*P	**Pn**	**15 04 25.8**	**+0.7**
MDN				*e*S	**Sn**	**15 04 39.5**	**+0.3**
DPMT	**Pointe Michel**	**0.27**	**242**	*e*P	**Pn**	**15 04 25.9**	**+0.9**
DPMT				*e*S	**Sn**	**15 04 39.7**	**+0.5**
DSLB	**Salisbury**	**0.28**	**281**	*i*eP	**Pn**	**15 04 25.9**	**+0.7**
MDPV	**Dominica, Penn**	**0.37**	**311**	*e*P	**Pn**	**15 04 26.4**	**+0.9**
MDPV				*e*S	**Sn**	**15 04 40.2**	**+0.2**
SVN	**Savane Anatole**	**0.54**	**183**	*i*eP	**Pn**	**15 04 26.7**	**+0.3**
BAMF	**Morne Balai**	**0.57**	**181**	*i*eP	**Pn**	**15 04 26.9**	**+0.3**
CXM	**Morne La Croix**	**0.57**	**183**	*i*eP	**Pn**	**15 04 27.1**	**+0.3**
PCM	**Pelee Case Pet**	**0.57**	**187**	*i*eP	**Pn**	**15 04 26.7**	**+0.1**
MAGL	**Barre de l'ile**	**0.58**	**346**	*e*P	**Pn**	**15 04 27.0**	**+0.4**
MAGL				*e*S	**Sn**	**15 04 41.5**	**-0.5**
GBMF	**Grand Be**	**0.59**	**183**	*i*eP	**Pn**	**15 04 26.9**	**+0.2**
PML	**Morne Lenard**	**0.60**	**185**	*i*eP	**Pn**	**15 04 27.1**	**+0.4**
FDF	**Fort de France**	**0.65**	**181**	*i*iP	**Pn**	**15 04 27.3**	**+0.2**
FDF				*e*S	**Sn**	**15 04 42.4**	**-0.4**
ILAM	**Ilet Lapin Mar**	**0.66**	**157**	*i*iP	**Pn**	**15 04 27.2**	**+0.1**
ILAM				*e*S	**Sn**	**15 04 42.0**	**-0.7**
TDBA	**Terre de Bas,**	**0.67**	**314**	*e*P	**Pn**	**15 04 27.7**	**+0.5**
TDBA				*e*S	**Sn**	**15 04 42.9**	**0.0**
ZAM	**Aeronautique**	**0.81**	**173**	*i*eP	**Pn**	**15 04 28.0**	**-0.2**
CBE	**Ff, Capester**	**0.82**	**326**	*e*P	**Pn**	**15 04 29.1**	**+0.8**
CBE				*e*S	**Sn**	**15 04 45.9**	**+1.0**
LPMF	**Morne Lapointe**	**0.82**	**169**	*i*eP	**Pn**	**15 04 28.0**	**-0.3**
TRMF	**Trois Ilets**	**0.85**	**175**	*e*P	**Pn**	**15 04 28.6**	**0.0**
MVM	**Montagne Vaucl**	**0.86**	**164**	*i*eP	**Pn**	**15 04 28.7**	**0.0**
BIM	**Bigot**	**0.87**	**176**	*e*P	**Pn**	**15 04 29.0**	**+0.3**
BIM				*e*S	**Sn**	**15 04 45.8**	**+0.1**
DEG	**La Desirade**	**0.93**	**4**	*e*P	**Pn**	**15 04 29.9**	**+0.6**
DEG				*e*S	**Sn**	**15 04 45.7**	**-0.9**
H05N1	**Guadeloupe/Mar**	**0.93**	**5**	P	**Pn**	**15 04 29.7**	**+0.5**
H05N1				S	**Sn**	**15 04 46.1**	**-0.5**
	SNR=2084						
MPOM	**Morne Pois Mar**	**0.97**	**164**	*i*P	**Pn**	**15 04 29.6**	**0.0**
MPOM				*e*S	**Sn**	**15 04 46.3**	**-0.9**
H05S1	**Guadeloupe/Mar**	**1.00**	**163**	P	**Pn**	**15 04 29.8**	**0.0**
H05S1				S	**Sn**	**15 04 46.8**	**-0.8**
ABD	**La Joyeuse, An**	**1.14**	**343**	*e*P	**Pn**	**15 04 31.5**	**+0.4**
ABD				*e*S	**Sn**	**15 04 49.9**	**0.0**
SLBI	**Saint Lucia, B**	**1.36**	**173**	*i*P	**Pn**	**15 04 33.6**	**+0.2**
SLBI				*e*S	**Sn**	**15 04 52.8**	**-1.3**
SLW	**Petit Monier**	**1.37**	**172**	*e*P	**Pn**	**15 04 33.5**	**-0.1**
SLW				*e*S	**Sn**	**15 04 54.0**	**-0.2**
SLAC	**Saint Lucia, A**	**1.50**	**171**	*e*P	**Pn**	**15 04 35.0**	**0.0**
SLAC				*e*S	**Sn**	**15 04 56.1**	**-0.6**
SLPA	**Patience**	**1.54**	**172**	*e*P	**Pn**	**15 04 35.6**	**+0.3**
SLPA				*e*S	**Sn**	**15 04 56.9**	**-0.5**
SLB	**Belfond**	**1.55**	**177**	*e*P	**Pn**	**15 04 35.6**	**+0.1**
SLB				*e*S	**Sn**	**15 04 58.1**	**+0.3**
SLDE	**Delcer**	**1.57**	**177**	*e*P	**Pn**	**15 04 36.3**	**+0.5**
SLDE				*e*S	**Sn**	**15 04 57.6**	**-0.6**
MLYT	**Lee's Yard**	**1.67**	**323**	*e*P	**Pn**	**15 04 37.3**	**+0.5**
MLYT				*e*S	**Sn**	**15 05 02.4**	**+2.2**
MCLT	**Moule a Chique**	**1.68**	**174**	*e*P	**Pn**	**15 04 37.3**	**+0.3**
MCLT				*e*S	**Sn**	**15 04 59.6**	**-0.6**
SFAN	**Fancy Village**	**1.99**	**181**	*e*P	**Pn**	**15 04 41.6**	**+1.0**
SFAN				*e*S	**Sn**	**15 05 07.2**	**+0.4**
SSV	**Crater Summit**	**2.05**	**182**	*e*P	**Pn**	**15 04 42.6**	**+1.2**
SSV				*e*S	**Sn**	**15 05 07.6**	**-0.6**
SVV	**Soufriere Volc**	**2.06**	**182**	*e*P	**Pn**	**15 04 42.9**	**+1.5**
SVV				*e*S	**Sn**	**15 05 07.6**	**-0.7**
BHS	**Barnard House**	**2.08**	**180**	*e*P	**Pn**	**15 04 43.2**	**+1.6**
BHS				*e*S	**Sn**	**15 05 08.6**	**-0.1**
SVCV	**St. Vincent, C**	**2.10**	**180**	*e*P	**Pn**	**15 04 42.8**	**+0.8**
SVCV				*e*S	**Sn**	**15 05 09.2**	**-0.1**
SVB	**Belmont**	**2.10**	**183**	*e*P	**Pn**	**15 04 42.4**	**+0.4**
SVB				*e*S	**Sn**	**15 05 09.5**	**+0.2**
NVDO	**Nevis, Disaste**	**2.24**	**321**	*e*P	**Pn**	**15 04 45.1**	**+1.5**
NVDO				*e*S	**Sn**	**15 05 13.2**	**+1.1**
ANWB	**Willy Bob**	**2.35**	**345**	*e*P	**Pn**	**15 04 44.6**	**-0.4**
ANWB				*e*S	**Sn**	**15 05 13.5**	**-1.2**
SKI	**Saint Kitts**	**2.48**	**322**	*e*P	**Pn**	**15 04 47.2**	**+0.7**
SKI				*e*S	**Sn**	**15 05 18.0**	**+0.6**
BCHC	**Barbados, Cave**	**2.67**	**147**	*e*P	**Pn**	**15 04 50.5**	**+1.5**
BCHC				*e*S	**Sn**	**15 05 21.2**	**-0.6**
BBGH	**Gun Hill**	**2.70**	**145**	*e*P	**Pn**	**15 04 51.1**	**+1.7**
BBGH				*e*S	**Sn**	**15 05 21.6**	**-1.0**
GCMP	**Grenada, Carri**	**2.90**	**186**	*e*P	**Pn**	**15 04 52.2**	**+0.3**
GCMP				*e*S	**Sn**	**15 05 26.9**	**-0.1**
SMRT	**St. Maarten**	**3.24**	**325**	*e*P	**Pn**	**15 04 55.7**	**-0.6**
SMRT				*e*S	**Sn**	**15 05 32.7**	**-2.2**
GRGR	**Grenville**	**3.27**	**189**	*e*P	**Pn**	**15 04 57.3**	**+0.5**
GRGR				*e*S	**Sn**	**15 05 36.4**	**+0.6**
TOSP	**Speyside**	**4.10**	**172**	*e*P	**Pn**	**15 05 08.1**	**+0.4**
TOSP	**Speyside**	**4.10**	**172**	*e*S	**Sn**	**15 05 53.7**	**-1.6**
TRN	**Trinidad (W)**	**4.72**	**183**	*e*P	**Pn**	**15 05 17.1**	**+1.3**
TRN	**Trinidad (W)**	**4.72**	**183**	*e*S	**Sn**	**15 06 07.9**	**-1.9**
SJG	**San Juan**	**5.52**	**300**	P	**Pn**	**15 05 26.3**	**-0.2**
	5.9nm,0.3s,baz=90,slow=8.9,SNR=10						
SJG				S	**Sn**	**15 06 26.8**	**-2.1**
	2.5nm,0.3s,baz=334,slow=21,SNR=1.2						
AOPR	**Arecibo Observ**	**6.13**	**299**	*e*P	**Pn**	**15 05 36.1**	**+1.4**
AOPR	**Arecibo Observ**	**6.13**	**299**	*e*S	**Sn**	**15 06 42.3**	**-1.6**
PCRV	**Puerto La Cruz**	**6.20**	**214**	P	**Pn**	**15 05 34.2**	**-1.6**
	1.6nm,0.3s,baz=24,slow=14,SNR=3.2						
BAUV	**El Baul**	**9.30**	**227**	*e*P	**Pn**	**15 06 17.9**	**+0.5**
SDDR	**Presa de Saban**	**10.34**	**292**	*e*P	**Pn**	**15 06 32.5**	**+1.2**
SDV	**Santo Domingo**	**11.31**	**236**	P	**Pn**	**15 06 41.9**	**-2.4**
	8.6nm,0.3s,baz=53,slow=10,SNR=3.0						
MDP	**Montagnes des**	**13.20**	**140**	P	**Pn**	**15 07 07.0**	**-1.7**
	0.9nm,0.3s,baz=309,slow=15,SNR=6.1						
MDP				S	Sn	15 09 23.0	-11
	2.3nm,0.3s,baz=247,slow=24,SNR=15						
PTGA	**Pitinga**	**16.05**	**176**	P	**P**	**15 07 45.5**	**+0.1**
	0.5nm,0.3s,baz=301,slow=22,SNR=1.9						
PTGA				S	Sn	15 10 31.1	-12
	1.0nm,0.3s,baz=279,slow=23,SNR=5.4						
TXAR	**Lajitas Array**	**41.48**	**297**	P	**P**	**15 11 40.3**	**0.0**
	0.2nm,0.4s,baz=106,slow=8.6,SNR=2.7						
PDAR	**Pinedale Array**	**49.48**	**314**	P	**P**	**15 12 43.8**	**+0.6**
	0.7nm,0.5s,baz=114,slow=9.6,SNR=8.1						
NVAR	**Mina Array Bea**	**54.97**	**306**	P	**P**	**15 13 24.8**	**+0.9**
	0.3nm,0.5s,baz=117,slow=9.6,SNR=2.1						
YKA	**Yellowknife Ar**	**59.99**	**334**	P	**P**	**15 13 58.5**	**+0.2**
	0.6nm,0.6s,baz=105,slow=7.5,SNR=8.1						
TORD	**Torodi Ar. Bea**	**60.74**	**83**	P	**P**	**15 14 06.0**	**+1.8**
	0.4nm,0.5s,baz=285,slow=6.0,SNR=2.2						

*SOME **17** 15:48:50.9, 46°.23N×85°.53E, h0km*
NNC 17 15:49:03.4±7.0, 48°.46N×84°.47E, h0km, mb3.0, mpv2.6, 5C-3D, Error ellipse: s-maj=58.8km s-min=33.3km az=75.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**1.04**	**165**	*e*P	Pg	15 49 18.5	-4.9
	8.8nm,0.1s						
ZSN				*e*S	Sn	15 49 40.3	-0.3
	24nm,0.3s						
MK31	**Makanchi Array**	**2.22**	**222**	⇑Pn	Pn	15 49 39.1	-2.4
	1.4nm,0.4s,baz=40,slow=18,SNR=42						
MK31				⇑Sn	Sb	15 50 11.9	-0.6
	1.4nm,0.2s,baz=40,slow=28,SNR=12						
MAKZ	**Makanchi**	**2.36**	**227**	⇓Pn	Pn	15 49 40.0	-3.4
	0.5nm,0.3s						
MAKZ				⇑Sn	Sb	15 50 15.5	-1.0
	4.1nm,0.3s						
KURK	**Kurchatov**	**4.43**	**303**	⇑Pn	Pn	15 50 15.4	+3.6
	1.6nm,0.7s						
KURK				⇑Lg	Lg	15 51 15.4	
	4.9nm,0.5s						
KURBB	**Kurchatov Arra**	**4.43**	**301**

baz=71,slow=75,SNR=5255
GYA Guiyang 26.78 19⇓ *i*P **P 16 10 20.0 -0.2**
GYA PP **PnPn 16 11 08.0 +6.0**
GYA pmax pmax
comp=Z,20nm,1.0s
GYA pmax pmax
comp=Z,150nm,4.0s
GYA LR LR
comp=Z,1μm,13.5s
GYA LR LR
comp=Z,470nm,11.6s
GYA LR LR
comp=Z,1μm,14.0s
ODAN Odare 27.18 341 *e*P **P 16 10 24.8 +0.9**
comp=Z,109nm,0.7s
TAPN Taplejung 27.53 342 *e*P **P 16 10 28.5 +1.4**
comp=Z,179nm,0.9s
SZP Santa 28.17 53 P **P 16 10 32.2 -0.4**
JIRN Jiri 28.32 339 *e*P **P 16 10 35.6 +1.3**
comp=Z,149nm,1.0s
PKI Pulchoki 28.52 338 *e*P **P 16 10 36.8 +0.7**
PKIN Phulchoki 28.53 338 *e*P **P 16 10 37.3 +1.2**
GUN Gumba 28.66 339 *e*P **P 16 10 38.2 +0.9**
comp=Z,84nm,0.7s
DMN Daman 28.67 337 *e*P **P 16 10 38.2 +0.9**
BATI Baumata 28.78 114 LR LR 16 24 16.6
comp=Z,405nm,20.5s,baz=230,slow=41
LSA Lhasa 28.92 349 P **P 16 10 41.1 +1.4**
LSA pmax pmax
comp=Z,15nm,0.4s
LSA Lhasa 28.92 349 P **P 16 10 40.6 +0.9**
LSA pmax pmax
comp=Z,16nm,0.8s
LSA Lhasa 28.92 349 P **P 16 10 40.6 +0.9**
LSA IAmb IAmb 16 10 44.0
comp=Z,16nm,0.8s
SOEI Soe 29.18 112 P **P 16 10 41.4 -0.4**
SOEI IAmb IAmb 16 10 54.5
comp=Z,26nm,0.8s
GKN Gorkha 29.21 337 *e*P **P 16 10 42.9 +0.9**
KOLN Koldanda 29.42 335 *e*P **P 16 10 45.2 +1.3**
comp=Z,72nm,0.8s
DANN Dangsing 29.87 336 *e*P **P 16 10 48.5 +0.6**
comp=Z,65nm,0.9s
PYUN Piuthan 29.97 335 *e*P **P 16 10 50.3 +1.5**
comp=Z,13nm,0.4s
CD2 Chengdu 30.24 11 P **P 16 10 52.0 +1.0**
CD2 S **S 16 15 51.4 +2.0**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,880nm,12.4s
CD2 LR LR
comp=Z,1μm,14.9s
CD2 LR LR
comp=Z,1μm,12.9s
ENH Enshi 31.25 21 P **P 16 10 58.4 -1.5**
TPUB Ta-pu 31.72 44 P **P 16 11 03.3 -0.8**
TPUB IAmb IAmb 16 11 11.4
comp=Z,41nm,1.2s
YULB Yu-li 32.25 45 P **P 16 11 08.9 +0.2**
YULB IAmb IAmb 16 11 10.0
comp=Z,30nm,0.9s
SSLB Suanglung 32.26 44 P **P 16 11 08.7 -0.2**
SSLB IAmb IAmb 16 11 09.9
comp=Z,31nm,0.9s
XAN Xi'an 34.52 18 P **P 16 11 27.3 -1.1**
XAN pmax pmax
comp=Z,110nm,0.9s
XAN pmax pmax
comp=Z,410nm,3.8s
XAN LR LR
comp=Z,640nm,14.7s
XAN LR LR
comp=Z,690nm,16.2s
XAN LR LR
comp=Z,830nm,15.1s
XAN Xi'an 34.52 18 P **P 16 11 26.5 -1.9**
XAN pmax pmax
comp=Z,27nm,0.7s
XAN Xi'an 34.52 18 P **P 16 11 26.5 -1.9**
KNRA Kununurra 35.52 119 P **P 16 11 34.6 -2.6**
MTN Manton Dam 36.56 113 P **P 16 11 43.5 -2.6**
MTN IAmb IAmb 16 12 08.9
comp=Z,61nm,1.8s
GTA Gaotai 38.13 3 ⇑P **P 16 11 59.1 -0.2**
GTA pP sP 16 12 09.8 +0.9
GTA PcP **PcP 16 14 14.3 +0.3**
GTA pmax pmax
comp=Z,27nm,1.0s
GTA pmax pmax
comp=Z,57nm,4.5s
GTA LR LR
comp=Z,290nm,14.0s
GTA LR LR
comp=Z,280nm,14.9s
GTA LR LR
comp=Z,320nm,13.6s
NIL Nilore 39.27 328 P **P 16 12 08.6 -0.2**
NIL pmax pmax
comp=Z,15nm,0.8s
NIL Nilore 39.27 328 P **P 16 12 08.6 -0.2**
NIL IAmb IAmb 16 12 30.2
comp=Z,15nm,0.8s
H01W3 Cape Leeuwin H 39.27 158 T T 16 53 43.8
baz=333,slow=76,SNR=88
H01W2 Cape Leeuwin H 39.29 158 T T 16 53 37.5
baz=333,slow=76,SNR=83
H01W1 Cape Leeuwin H 39.29 158 T T 16 53 37.5
baz=333,slow=76,SNR=81
WB0 Warramunga Arr 42.11 122 P **P 16 12 31.6 -0.8**
WRA Warramunga Arr 42.14 122 P **P 16 12 32.4 -0.3**
comp=Z,4.3nm,0.6s,baz=301,slow=9.1,SNR=16
WRA Warramunga Arr 42.14 122 P **P 16 12 31.5 -1.2**
WRA Warramunga Arr 42.14 122 P **P 16 12 31.5 -1.2**
WRAB Tennant Creek 42.14 122⇑ *i*P **P 16 12 31.6 -1.1**
WRAB pmax pmax
comp=Z,23nm,1.8s
WB2 Warramunga Arr 42.15 122 P **P 16 12 32.4 -0.4**
WB2 IAmb IAmb 16 12 51.4
comp=Z,52nm,1.9s
WR0 Warramunga Arr 42.31 122 P **P 16 12 33.5 -0.7**
WR0 IAmb IAmb 16 12 54.1
comp=Z,52nm,1.9s
BJT Baijiatuau 42.39 22 P **P 16 12 34.8 +0.4**
BJT pmax pmax
comp=Z,18nm,0.8s
BJT Baijiatuau 42.39 22 P **P 16 12 34.8 +0.4**
BJT IAmb IAmb 16 12 36.0
comp=Z,18nm,0.8s
BJI Beijing 42.41 22 P **P 16 12 35.0 +0.5**
BJI pmax pmax
comp=Z,22nm,0.8s
AS31 Alice Springs 43.49 127 P **P 16 12 43.4 -0.2**
ASAR Alice Springs 43.49 127 P **P 16 12 43.7 +0.1**
comp=Z,4.9nm,0.8s,baz=298,slow=7.8,SNR=80
ASAR PcP **PcP 16 14 30.7 -0.9**
comp=Z,1.2nm,0.9s,baz=334,slow=3.2,SNR=4.6
ASAR Alice Springs 43.49 127 P **P 16 12 43.3 -0.3**
ASAR 16 14 30.7
ASAR Alice Springs 43.49 127 P **P 16 12 43.3 -0.3**
DL2 Dalian 43.76 28 P **P 16 12 45.9 +0.4**
DL2 *e*S **S 16 19 16.4 +1.7**
DL2 pmax pmax
comp=Z,28nm,0.8s
DL2 LR LR
comp=Z,190nm,16.3s
DL2 LR LR
comp=Z,300nm,17.2s
DL2 LR LR
comp=Z,210nm,18.6s
TARG Taragay, Kyrgy 43.95 339 P **P 16 12 48.5 +1.0**
TARG IAmb IAmb 16 13 08.2
comp=Z,14nm,0.8s
KDJ Kajisay 44.52 339 P **P 16 12 52.9 +1.1**
KDJ pmax pmax
comp=Z,30nm,1.0s
KDJ Kajisay 44.52 339 P **P 16 12 52.9 +1.1**
KDJ IAmb IAmb 16 12 54.6
comp=Z,30nm,1.0s
SHLS Shalkode 44.66 342⇑ *i*P **P 16 12 53.3 +0.4**
comp=Z,12nm,1.1s,baz=342
SHLS Shalkode 44.66 342 *c i*P **P 16 12 53.2 +0.4**
SHLS pmax pmax
comp=Z,12nm,1.1s
UZB Uzynbulak 44.79 341⇑ *i*P **P 16 12 55.1 +1.2**
comp=Z,4.0nm,0.4s,baz=342
UZB Uzynbulak 44.79 341 *c i*P **P 16 12 55.1 +1.2**
UZB pmax pmax
comp=Z,4.0nm,0.4s
TJN Taejon 44.87 35⇓ *i*P **P 16 12 54.4 0.0**
GAR Garm 44.89 330 P **P 16 12 54.5 -0.2**
GAR IAmb IAmb 16 13 02.9
comp=Z,29nm,1.0s
JNU Nakatsue 44.91 41 P **P 16 12 55.2 +0.3**
SATY Saty 44.92 341 *i*P **P 16 12 56.3 +1.3**
comp=Z,9.5nm,0.9s,baz=341
SATY Saty 44.92 341 *i*P **P 16 12 56.2 +1.3**
SATY pmax pmax
comp=Z,9.0nm,0.9s
KPKS Kokpek 45.19 341 *e*P **P 16 12 56.5 -0.6**
comp=Z,3.8nm,0.8s,baz=341
KPKS Kokpek 45.19 341 *e*P **P 16 12 56.4 -0.6**
KPKS pmax pmax
comp=Z,4.0nm,0.8s
CHGR Chuyangaron 45.22 329 P **P 16 12 56.7 -0.6**
CHGR IAmb IAmb 16 12 57.9
comp=Z,28nm,0.8s
BOOM Boomskoye usch 45.29 338 P **P 16 12 58.1 +0.2**
BOOM pmax pmax
comp=Z,12nm,1.0s
BOOM Boomskoye usch 45.29 338 P **P 16 12 58.1 +0.2**
TNSS Tian-Shan 45.40 339 *i*P **P 16 13 00.1 +1.1**
baz=340
TNSS Tian-Shan 45.40 339 *i*P **P 16 13 00.1 +1.1**
MDOK Medeo 45.47 339 *i*P **P 16 13 00.7 +1.3**
baz=340
MDOK *e*S **S 16 19 43.5 +3.6**
baz=340
MDOK LR LR 16 34 05.1
comp=Z,76nm,14.4s,baz=340
MDOK Medeo 45.47 339 *i*P **P 16 13 00.6 +1.3**
MDOK *e*S **S 16 19 43.4 +3.6**
MDOK MLR MLR
comp=Z,76nm,14.0s
ARSB Arslanbob 45.50 334 P **P 16 13 00.1 +0.5**
ARSB Arslanbob 45.50 334 P **P 16 13 00.1 +0.5**
AAA Alma-Ata 45.56 339 *e*P **P 16 13 01.1 +1.1**
comp=Z,11nm,0.7s,baz=340
AAA Alma-Ata 45.56 339 *e*P **P 16 13 01.0 +1.1**
AAA pmax pmax
comp=Z,11nm,0.7s
UCH Uchtor 45.62 337 P **P 16 13 02.1 +1.2**
SNR=20
TKM2 Tokmak 2 45.79 338 P **P 16 13 02.9 +1.0**
SNR=10
TKM2 Tokmak 2 45.79 338 P **P 16 13 02.5 +0.6**
KBK Karagaybulak 45.81 337 P **P 16 13 03.9 +1.8**
SNR=9.0
AML Almayashu 45.87 336 P **P 16 13 04.0 +1.3**
SNR=10
KSAR Wonju Array Be 45.91 35 P **P 16 13 02.3 -0.4**
KSAR Wonju Array Be 45.91 35 P **P 16 13 02.2 -0.4**
KSRS Korea Array 45.94 35 P **P 16 13 02.7 -0.2**
comp=Z,21nm,0.9s,baz=222,slow=9.0,SNR=48
KS19 Wonju Array Si 45.94 35 P **P 16 13 02.5 -0.4**
KS19 IAmb IAmb 16 13 03.5
comp=Z,27nm,0.8s
AAK Ala-Archa 45.97 337⇓ *i*P **P 16 13 04.9 +1.6**
AAK pmax pmax
comp=Z,6.0nm,0.9s
CHKK Chushkaly 46.10 340 *e*P **P 16 13 04.2 0.0**
comp=Z,28nm,1.0s,baz=340
CHKK Chushkaly 46.10 340 *e*P **P 16 13 04.1 0.0**
CHKK pmax pmax
comp=Z,28nm,1.0s
EKS2 Erkin-Say 46.28 336 P **P 16 13 07.2 +1.5**
SNR=14
KUU Kurty 46.36 339 *e*P **P 16 13 06.4 +0.2**
comp=Z,14nm,1.3s,baz=340
KUU Kurty 46.36 339 *e*P **P 16 13 06.4 +0.2**
KUU pmax pmax
comp=Z,15nm,1.3s
USP Ospenovka 46.50 337 P **P 16 13 08.4 +1.1**
SNR=28
SGDS Sogindy 46.61 338 *e*P **P 16 13 09.0 +0.7**
comp=Z,1.9nm,0.8s,baz=338
SGDS *e*S **S 16 19 59.5 +3.4**
baz=338
SGDS Sogindy 46.61 338 *e*P **P 16 13 08.9 +0.7**
SGDS *e*S **S 16 19 59.4 +3.4**
SGDS pmax pmax
comp=Z,2.0nm,0.8s
TDK Taldyqorghan 46.65 342 *e*P **P 16 13 08.8 +0.3**
baz=342
TDK Taldyqorghan 46.65 342 *e*P **P 16 13 08.7 +0.3**
SONM Songino Array 47.17 9 P **P 16 13 12.9 +0.3**
comp=Z,12nm,0.7s,baz=189,slow=8.9,SNR=50
SONM PcP **PcP 16 14 44.4 +0.5**
comp=Z,2.6nm,0.5s,baz=196,slow=4.5,SNR=4.6
SONM Songino Array 47.17 9 P **P 16 13 12.4 -0.2**
MK31 Makanchi Array 47.23 346 *e*P **P 16 13 12.9 0.0**
MK31 Makanchi Array 47.23 346 P **P 16 13 13.1 +0.1**
MK31 IAmb IAmb 16 13 22.0
comp=Z,11nm,1.0s
MKAR Makanchi Array 47.23 346 P **P 16 13 13.3 +0.4**
comp=Z,12nm,0.6s,baz=160,slow=8.2,SNR=145
MKAR LR LR 16 36 16.6
comp=Z,81nm,20.6s,baz=152,slow=40
MKAR Makanchi Array 47.23 346 P **P 16 13 13.1 +0.1**
ZSN Zaisan 47.30 349 *i*P **P 16 13 14.7 +1.3**
comp=Z,9.0nm,1.0s,baz=349
ZSN Zaisan 47.30 349 *i*P **P 16 13 14.7 +1.3**
ZSN pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 47.30 9 *c i*P **P 16 13 13.7 +0.1**
ULN pmax pmax
comp=Z,13nm,1.1s
ULN Ulaanbaatar 47.30 9 P **P 16 13 13.6 -0.1**
ULN IAmb IAmb 16 13 14.8
comp=Z,11nm,1.0s
MAKZ Makanchi 47.32 346 P **P 16 13 13.7 +0.1**
MAKZ pmax pmax
comp=Z,10.0nm,1.0s
MAKZ Makanchi 47.32 346 P **P 16 13 13.7 +0.1**
MAKZ IAmb IAmb 16 13 22.5
comp=Z,9.8nm,0.9s
DZA Taraz 47.49 334⇑ *i*P **P 16 13 15.7 +0.6**
comp=Z,8.9nm,0.9s,baz=335
DZA Taraz 47.49 334 *c i*P **P 16 13 15.6 +0.6**
DZA pmax pmax
comp=Z,9.0nm,0.9s
KK31 Karatay Array 48.02 334 P **P 16 13 19.3 +0.2**
KK31 pmax pmax
comp=Z,8.0nm,0.9s
KK31 Karatay Array 48.02 334 P **P 16 13 19.3 +0.2**
KK31 IAmb IAmb 16 13 23.8
comp=Z,7.9nm,0.8s
KKAR Karatay Array 48.02 334 P **P 16 13 19.4 +0.3**
KKAR pmax pmax
comp=Z,8.0nm,0.9s
KKAR Karatay Array 48.02 334 P **P 16 13 19.2 +0.1**
KKAR Karatay Array 48.02 334 P **P 16 13 19.4 +0.3**
KKAR IAmb IAmb 16 13 23.8
comp=Z,7.9nm,0.8s
COEN Coen 48.08 110 P **P 16 13 20.6 +0.5**
COEN IAmb IAmb 16 14 32.2
comp=Z,36nm,1.4s
DGZ Jazzator, Alta 49.04 352⇓ *i*P **P 16 13 28.2 +1.2**
DGZ pmax pmax
comp=Z,9.0nm,0.9s
ZAK Zakamensk 49.31 5 *e*P **P 16 13 28.2 -0.8**
ZAK pmax pmax
comp=Z,4.0nm,0.9s
BBOO Buckleboo 49.96 136 P **P 16 13 34.6 +0.5**
SEM Semipalatinsk 51.09 346 *i*P P 16 13 50.5 +7.8
comp=Z,5.1nm,0.8s,baz=346
SEM Semipalatinsk 51.09 346 *i*P P 16 13 50.4 +7.7
SEM pmax pmax
comp=Z,5.0nm,0.8s
GEYT Alibeck 51.15 320 P **P 16 13 43.7 +0.6**
comp=Z,2.7nm,0.7s,baz=144,slow=8.9,SNR=6.1
GEYT LR LR 16 38 11.5
comp=Z,68nm,19.2s,baz=45,slow=39
GEYT Alibeck 51.15 320 P **P 16 13 43.1 0.0**
GYA0B ALIBECK ARRAY 51.15 320 P **P 16 13 42.6 -0.5**
GYA0B IAmb IAmb 16 13 54.4
comp=Z,13nm,1.1s
MSHR Mys Shultsa 51.30 32⇓ *i*P **P 16 13 44.2 +0.2**
OTUK Ortayu 51.52 339 P **P 16 13 46.1 +0.4**
HIA Hailar 51.70 19 P **P 16 13 46.7 -0.4**
HIA pmax pmax
comp=Z,16nm,0.8s
HIA Hailar 51.70 19 P **P 16 13 46.7 -0.4**
HIA IAmb IAmb 16 13 47.9
comp=Z,16nm,0.8s
KURBB Kurchatov Arra 51.72 345 P **P 16 13 47.0 -0.1**
KURK Kurchatov 51.78 345 *c i*P **P 16 13 47.9 +0.4**
KURK pmax pmax
comp=Z,18nm,1.1s
KURK Kurchatov 51.78 345 P **P 16 13 47.8 +0.2**
KURK IAmb IAmb 16 13 49.0
comp=Z,15nm,1.0s
MAJO Matsushiro 51.80 42 P **P 16 13 48.9 +1.0**
MAJO pmax pmax
comp=Z,31nm,2.0s
MAJO Matsushiro 51.80 42 P **P 16 13 48.9 +1.0**
MAJO IAmb IAmb 16 15 32.3
comp=Z,31nm,2.0s
MJB9 Matsu-Tunnel 51.80 42 P **P 16 13 48.8 +0.9**
MJAR Matsushiro Arr 51.80 42 P **P 16 13 48.7 +0.8**
comp=Z,6.6nm,0.8s,baz=230,slow=6.0,SNR=6.5
MJAR Matsushiro Arr 51.80 42 P **P 16 13 49.4 +1.4**
MJAR pmax pmax
comp=Z,1.0nm,0.8s
MJAR Matsushiro Arr 51.80 42 P **P 16 13 49.4 +1.4**
MDJ Mudanjiang 51.95 29 P **P 16 13 48.9 0.0**
MDJ IAmb IAmb 16 13 51.7
comp=Z,11nm,0.8s
USA0B Ussuriysk Arra 52.86 31 *c i*P **P 16 13 55.6 0.0**
USA0B Ussuriysk Arra 52.86 31 P **P 16 13 55.5 -0.2**
USRK Ussuriysk Ar. 52.86 31 P **P 16 13 55.8 +0.1**
comp=Z,25nm,0.8s,baz=232,slow=5.6,SNR=53
USRK Ussuriysk Ar. 52.86 31 P **P 16 13 55.4 -0.2**
USRK Ussuriysk Ar. 52.86 31 P **P 16 13 55.4 -0.2**
STKA Stephens Creek 53.44 132 P **P 16 13 60.0 -0.2**
comp=Z,5.2nm,0.8s,baz=304,slow=8.2,SNR=9.1
STKA LR LR 16 39 17.2
comp=Z,214nm,20.6s,baz=291,slow=39
STKA Stephens Creek 53.44 132 P **P 16 14 00.0 -0.2**
STKA pmax pmax
comp=Z,1.0nm,0.8s
STKA Stephens Creek 53.44 132 IAmb IAmb 16 14 01.5
comp=Z,1.2nm,0.8s
ZAA0 Zalesovo Array 53.56 351 P **P 16 14 00.4 -0.2**
ZALV Zalesovo Beam 53.56 351 P **P 16 14 00.9 +0.2**
comp=Z,42nm,0.9s,baz=179,slow=6.3,SNR=96
ZALV Zalesovo Beam 53.56 351 P **P 16 14 00.5 -0.1**
BRVK Borovoye 56.29 341 P **P 16 14 19.9 -0.5**
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 56.29 341 P **P 16 14 19.9 -0.5**
BRVK IAmb IAmb 16 14 21.0
comp=Z,12nm,1.0s
KLR Kul'dur 56.33 27 *c i*P **P 16 14 21.1 +0.3**
KLR pmax pmax
comp=Z,26nm,0.9s
ABKAR Akbulak array 57.47 332 P **P 16 14 28.4 -0.5**
ZEA Zeya 58.01 21 *e*P **P 16 14 33.0 +0.5**
ZEA pmax pmax
comp=Z,23nm,1.0s
BOD Bodaibo 58.06 11 *e*P **P 16 14 33.0 +0.2**
BOD pmax pmax
comp=Z,18nm,1.0s
EIDS Eidsvold 58.48 121 P **P 16 14 37.1 +0.7**
EIDS IAmb IAmb 16 14 38.2
comp=Z,11nm,0.7s
GRNR Gornyy 59.56 28⇑ *i*P **P 16 14 43.6 +0.2**
GRNR pmax pmax
comp=Z,3.0nm,1.1s
GRNR MLR MLR
comp=Z,180nm,15.0s
YSS Yuzh-Sakhalins 60.44 34⇑ *e*P **P 16 14 49.7 +0.2**
YSS pmax pmax
comp=Z,30nm,1.0s
YSS Yuzh-Sakhalins 60.44 34 P **P 16 14 49.9 +0.4**
GROC Groznyy 61.88 320 *e*P **P 16 15 00.5 +1.1**
GROC *e* 16 17 16.9
GROC pmax pmax
comp=Z,20nm,0.6s
SVE Sverdlovsk 62.66 338⇑ *e*P **P 16 15 04.7 +0.4**
SVE pmax pmax
comp=Z,20nm,1.0s
ZEI Tsey 62.93 319 *e*P **P 16 15 06.5 -0.2**
ZEI pmax pmax
comp=Z,4.0nm,0.4s
ARU Arti 63.15 337 *c i*P **P 16 15 07.0 -0.6**
ARU 16 15 43.2
ARU S **S 16 23 39.6 +2.2**
ARU SS **SS 16 27 43.7 -0.1**
ARU pmax pmax
comp=Z,14nm,1.2s
ARU Arti 63.15 337 P **P 16 15 06.7 -0.9**
ARU IAmb IAmb 16 15 08.0
comp=Z,16nm,1.2s
KBZ Khabaz 64.00 319 P **P 16 15 13.8 +0.4**
comp=Z,3.8nm,0.8s,baz=132,slow=6.1,SNR=12
KIV Kislovodsk 64.24 319 *e*P **P 16 15 19.0 +3.8**
KIV pmax pmax
comp=Z,43nm,1.1s
YAK Yakutsk 65.48 16 *e*P **P 16 15 21.8 -0.9**
YAK *e**PP **pP 16 15 29.0 -1.1**
YAK *e*S **S 16 24 00.6 -5.4**
YAK *e**SS sS 16 24 32.1 +14
YAK *e*SSS SSS 16 31 09.5
YAK pmax pmax
comp=Z,36nm,0.9s
YAK pmax pmax
comp=N,17nm,1.1s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK smax smax
comp=E,79nm,3.8s
YAK smax smax
comp=N,46nm,3.0s
YAK MLR MLR
comp=Z,210nm,17.0s
YAK MLR MLR
comp=N,123nm,16.0s
YAK MLR MLR
comp=E,160nm,18.0s
YAK Yakutsk 65.48 16 P **P 16 15 21.8 -0.9**
KIRV Kirov 68.27 335⇑ *i*P **P 16 15 40.1 -0.5**
NRIK Noril'sk 68.34 356 P **P 16 15 40.5 -0.3**
comp=E,11nm,0.9s,baz=183,slow=5.5,SNR=13
NRIK Noril'sk 68.34 356 *i*P **P 16 15 40.3 -0.5**
BR131 Keskin Array S 69.03 312 P **P 16 15 44.8 -1.1**
BR131 pmax pmax
comp=Z,3.0nm,0.9s
BR131 Keskin Array S 69.03 312 **P 16 15 44.8 -1.1**
BRTR Keskin Array B 69.03 312 P **P 16 15 45.4 -0.5**
comp=Z,1.4nm,0.8s,baz=128,slow=8.0,SNR=10.0
BRTR LR LR 16 50 32.7
comp=Z,20nm,18.0s,baz=108,slow=40
BRTR Keskin Array B 69.03 312 *i*P **P 16 15 45.4 -0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 69.03 312 **P 16 15 44.9 -1.1**
VSR Storozhevoye 69.51 325 *e*P **P 16 15 46.8 -1.7**
VSR pmax pmax
comp=Z,10.0nm,1.3s
PETK Petropavlovsk- 71.83 34 P **P 16 16 02.1 -0.4**
comp=Z,3.4nm,0.8s,baz=180,slow=3.0,SNR=8.7
PETK LR LR 16 51 33.7
comp=Z,64nm,18.1s,baz=241,slow=39
PETK Petropavlovsk- 71.83 34 P **P 16 16 01.7 -0.8**
PETK Petropavlovsk- 71.83 34 P **P 16 16 01.7 -0.8**
PET Petropavlovsk 72.32 34⇑ *i*P **P 16 16 05.9 +0.4**
PET pmax pmax
comp=Z,17nm,1.0s
PET Petropavlovsk 72.32 34 P **P 16 16 05.0 -0.5**
OBN Obninsk 72.57 328⇓ *i*P **P 16 16 06.8 -0.1**
OBN *e* 16 18 55.4
OBN *e*S **SKSac 16 26 09.9 -0.5**
OBN pmax pmax
comp=Z,7.0nm,0.6s
OBN MLR MLR
comp=Z,48nm,19.0s
MAW Mawson 72.66 193 LR LR 16 44 04.4
comp=Z,72nm,18.2s,baz=52,slow=33
TIXI Tiksi 73.23 10⇓ *i*P **P 16 16 09.8 -0.7**
TIXI pmax pmax
comp=Z,10.0nm,0.9s
TIXI Tiksi 73.23 10 P **P 16 16 09.7 -0.8**
KLMR Klimovskoe 73.71 335 *e*P **P 16 16 11.9 -1.7**
KLMR pmax pmax
comp=Z,14nm,1.5s

KLMR	**Klimovskoe**	**73.71**	**335**	*e*P		**P**	**16 16 11.9**	**-1.7**
KLMR				AMP			16 16 21.3	
	comp=Z,14nm,1.5s							
BOSA	**Boshof**	**74.65**	**240**	LR		LR	16 44 24.9	
	comp=Z,89nm,20.0s,baz=54,slow=32							
AKASG	**Malin Array Be**	**75.19**	**322**	P		**P**	**16 16 21.5**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=86,slow=4.7,SNR=7.7							
AKASG	**Malin Array Be**	**75.19**	**322**	*i* P		**P**	**16 16 21.5**	**-0.9**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.5s							
AKASG	**Malin Array Be**	**75.19**	**322**	P		**P**	**16 16 20.7**	**-1.7**
AKBB	**Malin Array Si**	**75.19**	**322**	‖*i* P		**P**	**16 16 21.8**	**-0.6**
AKBB	**Malin Array Si**	**75.19**	**322**	P		**P**	**16 16 21.2**	**-1.2**
BURAR	**Bucovina Array**	**76.95**	**319**	P		**P**	**16 16 31.7**	**-0.9**
BUR08	**Bucovina Ar. S**	**76.97**	**319**	P		**P**	**16 16 31.9**	**-0.9**
KOLS	**Kolonicke sedl**	**79.15**	**320**	*e*P		**P**	**16 16 45.2**	**+0.5**
KOLS	**Kolonicke sedl**	**79.15**	**320**	*e*P		**P**	**16 16 45.2**	**+0.5**
FIA1	**FINESS Array S**	**79.96**	**333**	P		**P**	**16 16 48.1**	**-0.6**
FINES	**FINESS Array B**	**79.96**	**333**	P		**P**	**16 16 48.5**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=111,slow=4.3,SNR=8.0							
FINES	**FINESS Array B**	**79.96**	**333**	P		**P**	**16 16 48.2**	**-0.5**
BILL	**Bilibino**	**81.23**	**21**⇑	*e*P		**P**	**16 16 56.7**	**+1.2**
BILL				*e*			16 19 58.0	
BILL				pmax		pmax		
	comp=Z,7.0nm,1.9s							
BILL				MLR		MLR		
	comp=Z,196nm,16.0s							
VYHS	**Vyhne**	**81.32**	**319**	*e*P		**P**	**16 16 56.3**	**-0.1**
VYHS	**Vyhne**	**81.32**	**319**	*e*P		**P**	**16 16 56.3**	**-0.1**
ARCES	**ARCESS Array B**	**82.51**	**340**	P		**P**	**16 17 02.5**	**+0.3**
	comp=Z,7.0nm,1.0s,baz=107,slow=4.9,SNR=11							
GEC2	**GERESS Array S**	**84.74**	**319**	P		**P**	**16 17 12.5**	**-1.7**
GERES	**GERESS Array B**	**84.74**	**319**	P		**P**	**16 17 14.7**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=98,slow=5.8,SNR=12							
GERES	**GERESS Array B**	**84.74**	**319**	P		**P**	**16 17 13.1**	**-1.1**
GERES	**GERESS Array B**	**84.74**	**319**	P		**P**	**16 17 13.1**	**-1.1**
KHC	**Kasperske Hory**	**84.84**	**319**⇑	*i* P		**P**	**16 17 14.7**	**0.0**
KHC				pmax		pmax		
	comp=Z,7.0nm,1.3s							
CLL	**Collm**	**85.37**	**321**	*e*P		**P**	**16 17 18.0**	**+0.8**
CLL				*e*			16 17 24.0	
CLL				*e*S		**S**	**16 27 45.0**	**-1.7**
CLL				*e*SSS		SSS	16 37 12.0	
CLL				*e*SSSS			16 40 00.0	
CLL	**Collm**	**85.37**	**321**	*e*P		**P**	**16 17 18.0**	**+0.8**
CLL				*e*S		**S**	**16 27 45.0**	**-1.7**
VNDA	**Vanda**	**85.83**	**169**	P		**P**	**16 17 19.6**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=247,slow=7.7,SNR=1.4							
VNDA				LR		LR	16 53 10.6	
	comp=Z,51nm,19.2s,baz=319,slow=34							
NB2	**NORSAR Subarra**	**86.96**	**331**	P		**P**	**16 17 24.4**	**-0.4**
	comp=Z,3.8nm,1.1s,baz=89,slow=5.9							
NOA	**NORSAR Array B**	**86.96**	**331**	P		**P**	**16 17 24.5**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=94,slow=5.0,SNR=4.8							
NOA				LR		LR	17 01 12.8	
	comp=Z,46nm,19.0s,baz=105,slow=39							
TORD	**Torodi Ar. Bea**	**94.97**	**280**	LR		LR	16 59 08.3	
	comp=Z,52nm,13.3s,baz=105,slow=34							
IMAR	**Indian Mountai**	**96.65**	**23**	P		**P**	**16 18 09.4**	**-0.3**
PDAR	**Pinedale Array**	**130.12**	**26**	PKP		**PKPdf**	**16 23 50.5**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=72,slow=2.9,SNR=2.9							
R11A	**Troy Canyon, C**	**130.49**	**34**	PKPdf		**PKPdf**	**16 23 51.4**	**+0.1**
JLU	**Jordanelle**	**130.97**	**29**			**PKPdf**	**16 23 52.0**	**-0.2**
W50A	**Signal Mountai**	**143.74**	**3**	PKPpre		PKPpre	16 24 09.1	
TX31	**Lajitas Ar. Si**	**143.75**	**32**			PKPbc	16 24 13.8	+0.4
TX32	**Lajitas Array**	**143.75**	**32**			PKPbc	16 24 13.9	+0.5
TXAR	**Lajitas Array**	**143.75**	**32**	PKP		PKPbc	16 24 13.7	+0.3
	comp=Z,0.6nm,0.5s,baz=346,slow=2.2,SNR=7.8							
TXAR	**Lajitas Array**	**143.75**	**32**	PKIKP		PKPbc	16 24 13.6	+0.2
JCT	**Junction City**	**144.65**	**26**	PKIKP		**PKPab**	**16 24 15.7**	**-0.2**
JCT	**Junction City**	**144.65**	**26**	PKPdf		**PKPab**	**16 24 15.7**	**-0.2**
CPUP	**Villa Florida**	**144.90**	**222**	PKP		PKPbc	16 24 17.0	+0.1
	comp=Z,3.4nm,0.8s,baz=86,slow=1.7,SNR=5.1							
CPUP	**Villa Florida**	**144.90**	**222**	PKIKP		**PKPab**	**16 24 16.4**	**-0.5**
CPUP	**Villa Florida**	**144.90**	**222**			**PKPab**	**16 24 16.4**	**-0.5**
Y49A	**Blount Mountai**	**145.00**	**5**			**PKPab**	**16 24 15.9**	**-1.1**
GOGA	**Godfrey**	**145.59**	**1**	PKP2		**PKPdf**	**16 24 17.5**	**-1.3**
GOGA	**Godfrey**	**145.59**	**1**			**PKPdf**	**16 24 17.5**	**-1.3**
LRAL	**Lakeview Retre**	**145.75**	**6**			**PKPdf**	**16 24 17.6**	**-1.5**

IDC ***17*** *16:06:44.9±0.6,53.°43S×24.°48E,h0km,mb4.2/13, mb1 4.2/13,mb1mx4.1/35,mbtmp4.2/13,MS3.6/4, Ms1 3.6/4,ms1mx3.2/28,Error ellipse: s-maj=28.1km s-min=14.6km az=81.0*
NEIC ***17*** *16:06:46.5±1.2,53.°40S±0.°02×24.°4E±0.°3,h10km±1km, mb4.6/14,Error ellipse: s-maj=26.8km s-min=3.1km az=83.0*

ISC 17 16:06:46.5±0.5,53.°43S±0.°08×24.°6E±0.°2,h10km,n45, σ1§20/39,mb4.3/15,MS3.6/4,2C,South of Africa

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SYO	**Syowa Base**	**17.14**	**161**⇑	*i* P		**Pn**	**16 10 41.4**	**-4.2**
SYO	**Syowa Base**	**17.14**	**161**⇑	*i* P		**Pn**	**16 10 45.0**	**-0.6**
SUR	**Sutherland**	**21.21**	**351**	P		**P**	**16 11 33.5**	**+1.2**
	7.6nm,0.8s,baz=153,slow=9.2,SNR=6.5							
SUR	**Sutherland**	**21.21**	**351**	IAmb		IAmb	16 11 37.1	
	comp=Z,146nm,2.0s							
SNAA	**Sanae**	**21.85**	**203**	P		**P**	**16 11 39.7**	**+0.9**
SNAA	**Sanae**	**21.85**	**203**	P		**P**	**16 11 40.2**	**+1.4**
	comp=Z,13nm,0.9s,baz=51,slow=9.7,SNR=25							
SNAA	**Sanae**	**21.85**	**203**	P		**P**	**16 11 39.8**	**+0.9**
SNAA				IAmb		IAmb	16 11 47.3	
	comp=Z,27nm,1.0s							
VNA2	**Neumayer--Watz**	**22.54**	**207**	P		**P**	**16 11 47.2**	**+1.0**
VNA1	**Neumayer--Stat**	**22.63**	**208**	P		**P**	**16 11 48.9**	**+1.9**
MAW	**Mawson**	**23.08**	**143**	P		**P**	**16 11 53.4**	**+1.6**
	comp=Z,1.9nm,0.8s,baz=274,slow=19,SNR=2.4							
VNA3	**Neumayer Olymp**	**23.34**	**207**	P		**P**	**16 11 57.4**	**+3.0**
BOSA	**Boshof**	**24.80**	**1**	LR		LR	16 19 49.2	
	comp=Z,104nm,21.7s,baz=186,slow=32							
LBTB	**Lobatse**	**28.39**	**2**	P		**P**	**16 12 41.5**	**+0.6**
	comp=Z,3.7nm,0.8s,baz=170,slow=11,SNR=7.7							
LBTB	**Lobatse**	**28.39**	**2**	P		**P**	**16 12 40.9**	**0.0**
LBTB				IAmb		IAmb	16 13 30.1	
	comp=Z,38nm,1.7s							
TSUM	**Tsumeb**	**34.59**	**348**	P		**P**	**16 13 34.4**	**-1.1**
	comp=Z,2.8nm,0.9s,baz=161,slow=4.2,SNR=4.6							
TSUM	**Tsumeb**	**34.59**	**348**	IAmb		IAmb	16 13 37.9	
	comp=Z,6.3nm,1.1s							
QSPA	**South Pole Qui**	**36.79**	**180**	P		**P**	**16 13 53.9**	**-0.2**
	comp=Z,6.5nm,1.0s,baz=304,slow=3.7,SNR=19							
QSPA	**South Pole Qui**	**36.79**	**180**	P		**P**	**16 13 54.1**	**0.0**
QSPA				IAmb		IAmb	16 14 01.6	
	comp=Z,10.0nm,1.0s							
LSZ	**Lusaka**	**38.17**	**6**	P		**P**	**16 14 06.5**	**+0.4**
	comp=Z,2.3nm,0.6s,baz=180,slow=8.6,SNR=6.3							
LSZ	**Lusaka**	**38.17**	**6**	P		**P**	**16 14 06.0**	**-0.2**
VNDA	**Vanda**	**46.66**	**168**	LR		LR	16 33 58.4	
	comp=Z,94nm,21.1s,baz=236,slow=35							
VNDA	**Vanda**	**46.66**	**168**	P		**P**	**16 15 15.2**	**+0.8**
VNDA				IAmb		IAmb	16 15 47.4	
	comp=Z,16nm,2.0s							
PLCA	**Paso Flores**	**61.29**	**240**	P		**P**	**16 17 01.4**	**-0.5**
	comp=Z,1.2nm,0.9s,baz=149,slow=12,SNR=1.4							
DBIC	**Dimbokro**	**64.82**	**327**	LR		LR	16 39 15.1	
	comp=Z,36nm,20.2s,baz=104,slow=30							
TOA0	**Torodi Ar. Sit**	**69.14**	**336**	P		**P**	**16 17 52.8**	**0.0**
TORD	**Torodi Ar. Bea**	**69.14**	**336**	P		**P**	**16 17 52.8**	**0.0**
	comp=Z,1.9nm,0.7s,baz=174,slow=6.6,SNR=9.0							
TORD	**Torodi Ar. Bea**	**69.14**	**336**	P		**P**	**16 17 52.8**	**0.0**
LPAZ	**La Paz**	**78.67**	**258**	P		**P**	**16 18 48.2**	**-1.3**
LPAZ				IAmb		IAmb	16 18 52.7	
	comp=Z,11nm,1.9s							
STKA	**Stephens Creek**	**79.07**	**129**	P		**P**	**16 18 51.3**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=284,slow=7.5,SNR=4.0							
ASAR	**Alice Springs**	**82.07**	**119**	P		**P**	**16 19 07.0**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=206,slow=4.9,SNR=19							
ASAR	**Alice Springs**	**82.07**	**119**	P		**P**	**16 19 06.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**82.08**	**110**	LR		LR	16 46 33.7	
	comp=Z,42nm,20.9s,baz=294,slow=29							
WRA	**Warramunga Arr**	**85.35**	**117**	P		**P**	**16 19 22.9**	**-1.0**
	comp=Z,1.8nm,1.0s,baz=204,slow=3.8,SNR=3.5							
WRA	**Warramunga Arr**	**85.35**	**117**	P		**P**	**16 19 23.5**	**-0.4**
BRTR	**Keskin Array B**	**93.11**	**7**	P		**P**	**16 20 01.1**	**+1.0**
	comp=Z,0.6nm,0.9s,baz=152,slow=9.0,SNR=3.6							
BRTR	**Keskin Array B**	**93.11**	**7**	P		**P**	**16 20 00.6**	**+0.5**
RSSD	**Black Hills**	**145.55**	**276**			**PKPdf**	**16 26 24.3**	**0.0**
BW06	**Boulder Array**	**148.07**	**269**			**PKPbc**	**16 26 30.6**	**-1.2**
PD31	**Pinedale Array**	**148.07**	**269**			**PKPbc**	**16 26 30.9**	**-0.9**
PDAR	**Pinedale Array**	**148.07**	**269**	PKPbc		**PKPdf**	**16 26 29.4**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=108,slow=4.8,SNR=7.8							
PDAR	**Pinedale Array**	**148.07**	**269**			**PKPbc**	**16 26 30.6**	**-1.2**
HWUT	**Hardware Ranch**	**148.59**	**266**			**PKPbc**	**16 26 32.5**	**-0.6**
FXWY	**Fox Creek**	**149.45**	**270**			**PKPbc**	**16 26 35.0**	**-0.3**
NVAR	**Mina Array Bea**	**150.52**	**255**			**PKPbc**	**16 26 38.2**	**+0.2**
YKA	**Yellowknife Ar**	**156.89**	**309**	PKPab		**PKPab**	**16 27 10.6**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=98,slow=4.5,SNR=7.6							

NIED ***17*** *16:21:00,38.°20N×143.°90E,h8km,Mw4.1 Best double couple: M0 1.74000×10*^{15} *NP1:φs175.00000°,δ67.00000°, λ-105.00000°. NP2:φs29.00000°,δ27.00000°, λ-58.00000°.*
IDC ***17*** *16:21:05.2±0.7,38.°00N×144.°19E,h0km,mb4.1/16, mb1 4.3/23,mb1mx4.1/48,mbtmp4.1/23,ML3.6/7,MS2.9/5, Ms1 3.0/5,ms1mx2.7/37,Error ellipse: s-maj=17.6km s-min=13.6km az=134.0*
BJI ***17*** *16:21:05.0±0.0,38.°10N×144.°10E,h10km,mB4.9/14, mb4.3/26,Ms4.2/4,Ms7 4.0/2*
JMA ***17*** *16:21:08.5±0.2,38.°16N×143.°90E,h40km,M4.3*
NEIC ***17*** *16:21:09.5±1.5,38.°11N±0.°09×144.°1E±0.°1,h23km±5km, mb4.7/45,Error ellipse: s-maj=13.8km s-min=10.6km az=137.0*

ISC 17 16:21:09.3±3.8,38.°12N±0.°05×144.°00E±0.°06,h23km±27km, n114,σ1§93/127,mb4.6/32,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
JIKH	**Ishinomakikobu**	**2.00**	**276**	P		**Pn**	**16 21 39.7**	**-2.1**
JIKH				S		**Sn**	**16 22 02.2**	**-4.0**
OFUJ	**Ofunato**	**2.06**	**298**	P		**Pn**	**16 21 40.7**	**-1.9**
OFUJ				*e*S		**Sn**	**16 22 04.5**	**-3.1**
JKMT	**Kesennumamotoy**	**2.10**	**290**	P		**Pn**	**16 21 41.2**	**-1.9**
JKMT				*e*S		**Sn**	**16 22 05.3**	**-3.2**
JIO	**Ouri**	**2.11**	**280**	P		**Pn**	**16 21 41.4**	**-1.9**
JIO				*e*S		**Sn**	**16 22 05.3**	**-3.5**
JMK	**Ichinoseki**	**2.33**	**292**	P		**Pn**	**16 21 44.7**	**-1.6**
JMK				*e*S		**Sn**	**16 22 11.8**	**-2.4**
JOM	**Ohasama**	**2.51**	**303**	P		**Pn**	**16 21 47.2**	**-1.5**
JOM				*e*S		**Sn**	**16 22 16.4**	**-2.2**
JANG	**Nango**	**2.96**	**320**	P		**Pn**	**16 21 53.3**	**-1.7**
JANG				*e*S		**Sn**	**16 22 26.5**	**-3.3**
JFT	**Otama**	**2.96**	**259**	P		**Pn**	**16 21 54.0**	**-1.0**
JFT				*e*S		**Sn**	**16 22 27.2**	**-2.7**
JYK	**Kaneyama**	**2.96**	**287**	P		**Pn**	**16 21 54.0**	**-1.0**
JYK				*e*S		**Sn**	**16 22 28.2**	**-1.6**
JNS	**Sasagawa**	**3.71**	**267**	P		**Pn**	**16 22 04.4**	**-0.9**
JAW	**Awa shima**	**3.75**	**277**	P		**Pn**	**16 22 05.2**	**-0.6**
ERM	**Erimo**	**3.94**	**351**			**Pn**	**16 22 07.0**	**-1.4**
BSO1	**Boso 1**	**4.24**	**216**	P		**Pn**	**16 22 09.4**	**-2.6**
JKB	**Kayabe**	**4.39**	**330**	P		**Pn**	**16 22 14.0**	**-0.6**
JKB				*e*S		**Sn**	**16 23 00.2**	**-4.9**
JCH	**Churui**	**4.51**	**354**	P		**Pn**	**16 22 14.2**	**-2.1**
JCH				S		**Sn**	**16 23 03.5**	**-4.5**
JRY	**Ryogami san**	**4.59**	**244**	P		**Pn**	**16 22 15.6**	**-1.7**
JOD2	**Odawara 2**	**4.87**	**236**	P		**Pn**	**16 22 19.4**	**-1.8**
JOD2				*e*S		**Sn**	**16 23 11.1**	**-5.8**
MJAR	**Matsushiro Arr**	**4.88**	**253**	Pn		**Pn**	**16 22 20.5**	**-0.8**
	1.6nm,0.3s,baz=64,slow=8.3,SNR=69							
MJAR				LR		LR	16 24 39.1	
	comp=Z,184nm,21.5s,baz=85,slow=43							
MJAR	**Matsushiro Arr**	**4.88**	**253**	Pn		**Pn**	**16 22 24.6**	**+3.3**
MAJO	**Matsushiro**	**4.88**	**253**	Pn		**Pn**	**16 22 21.2**	**-0.1**
MAT	**Matsushiro**	**4.88**	**253**	P		**Pn**	**16 22 21.3**	**0.0**
MAT				*e*S		**Sn**	**16 23 13.8**	**-3.3**
MJB9	**Matsu-Tunnel**	**4.88**	**253**	Pn		**Pn**	**16 22 21.2**	**-0.1**
JOSM	**Okushiri--Mats**	**5.26**	**320**	P		**Pn**	**16 22 26.1**	**-0.4**
NEM2	**Nemuro 2**	**5.40**	**14**	P		**Pn**	**16 22 24.8**	**-3.7**
NEM2				*e*S		**Sn**	**16 23 23.0**	**-6.9**
JHJ	**Hachijo jima 2**	**6.06**	**216**	Pn		**Pn**	**16 22 33.7**	**-3.9**
	20nm,0.3s,baz=289,slow=23,SNR=38							
JHJ				Sn		**Sn**	**16 23 39.1**	**-7.1**
	20nm,0.3s,baz=49,slow=23,SNR=3.0							
JHJ				LR		LR	16 25 58.5	
	comp=Z,37nm,18.2s,baz=14,slow=49							
JKA	**Kamikawa-asahi**	**6.08**	**350**			**Pn**	**16 22 36.5**	**-1.3**
JKA						**Sn**	**16 23 43.9**	**-2.8**
ASAJ	**Asahikawa**	**6.08**	**350**	Pn		**Pn**	**16 22 36.5**	**-1.4**
	3.2nm,0.3s,baz=190,slow=8.5,SNR=34							
ASAJ				Sn		**Sn**	**16 23 43.9**	**-2.8**
	4.1nm,0.3s,baz=25,slow=30,SNR=8.0							
USA0B	**Ussuriysk Arra**	**10.89**	**308**	Pn		**Pn**	**16 23 45.0**	**+1.2**
USRK	**Ussuriysk Ar.**	**10.89**	**308**	Pn		**Pn**	**16 23 44.8**	**+1.0**
	baz=112,slow=15,SNR=8.7							
USRK				LR		LR	16 27 45.9	
	comp=Z,70nm,21.5s,baz=126,slow=36							
USRK	**Ussuriysk Ar.**	**10.89**	**308**			**Pn**	**16 23 45.6**	**+1.8**
JNU	**Nakatsue**	**11.78**	**249**	Pn		**Pn**	**16 23 54.9**	**-1.2**
	0.4nm,0.3s,baz=97,slow=8.2,SNR=5.3							
JNU	**Nakatsue**	**11.78**	**249**	Pn		**Pn**	**16 23 58.2**	**+2.2**
KSRS	**Korea Array**	**12.74**	**272**	Pn		**Pn**	**16 24 09.8**	**+0.7**
	0.4nm,0.3s,baz=88,slow=14,SNR=16							
KSAR	**Wonju Array Be**	**12.77**	**272**	Pn		**Pn**	**16 24 11.3**	**+1.8**
KS19	**Wonju Array Si**	**12.78**	**272**	Pn		**Pn**	**16 24 13.0**	**+3.4**
PEA0B	**Petropavlovsk-**	**17.74**	**28**	P		**Pn**	**16 25 15.1**	**+0.5**
PETK	**Petropavlovsk-**	**17.74**	**28**	P		**Pn**	**16 25 13.4**	**-1.3**
	0.1nm,0.3s,baz=215,slow=14,SNR=6.1							
PETK				LR		LR	16 34 03.3	
	comp=Z,47nm,18.2s,baz=241,slow=44							
PETK	**Petropavlovsk-**	**17.74**	**28**	P		**Pn**	**16 25 15.0**	**+0.4**
MA2	**Magadan**	**21.90**	**9**	P		**P**	**16 26 00.9**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**27.04**	**126**	T		T	16 55 14.9	
	baz=318,slow=76,SNR=13							
H11N1	**WAKE ISLAND Hy**	**27.04**	**126**	T		T	16 55 12.6	
	baz=318,slow=76,SNR=7.3							
H11N3	**WAKE ISLAND Hy**	**27.05**	**126**	T		T	16 55 18.2	
	baz=318,slow=76,SNR=9.7							
SONM	**Songino Array**	**28.92**	**302**	P		**P**	**16 27 09.0**	**+2.2**
	0.9nm,0.6s,baz=81,slow=9.3,SNR=4.8							
SONM	**Songino Array**	**28.92**	**302**	P		**P**	**16 27 08.1**	**+1.4**
ENH	**Enshi**	**29.47**	**265**	P		**P**	**16 27 13.5**	**+1.8**
ENH				IAmb		IAmb	16 27 26.5	
	comp=Z,13nm,1.0s							
GYA	**Guiyang**	**33.43**	**261**	*e*P		P	16 27 51.9	+5.3
GYA				pmax		pmax		
	comp=Z,10.0nm,0.7s							
CD2	**Chengdu**	**33.73**	**270**	*e*P		**P**	**16 27 50.0**	**+0.9**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
ZALV	**Zalesovo Beam**	**42.72**	**312**	P		**P**	**16 29 05.5**	**+1.1**
	comp=Z,0.5nm,0.3s,baz=116,slow=6.6,SNR=2.2							
CHTO	**Chiang Mai**	**43.55**	**257**	P		**P**	**16 29 13.7**	**+2.1**
CMAR	**Chiang Mai Arr**	**43.76**	**256**	P		**P**	**16 29 14.4**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=46,slow=7.7,SNR=2.0							
CMAR				LR		LR	16 48 04.3	
	comp=Z,24nm,20.0s,baz=135,slow=37							
KDAK	**Kodiak Island**	**44.91**	**43**	P		**P**	**16 29 21.5**	**-0.5**
MK31	**Makanchi Array**	**45.29**	**302**	P		**P**	**16 29 25.9**	**+0.7**
MKAR	**Makanchi Array**	**45.29**	**302**	P		**P**	**16 29 26.4**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=80,slow=10,SNR=17							
MKAR	**Makanchi Array**	**45.29**	**302**	P		**P**	**16 29 25.7**	**+0.5**
MAKZ	**Makanchi**	**45.50**	**302**	P		**P**	**16 29 28.6**	**+1.7**
KURK	**Kurchatov**	**46.89**	**308**	P		**P**	**16 29 39.5**	**+1.8**
KURK				IAmb		IAmb	16 29 45.5	
	comp=Z,5.9nm,0.8s							
KURBB	**Kurchatov Arra**	**46.96**	**308**	P		**P**	**16 29 40.1**	**+1.9**
	comp=Z,5.8nm,0.8s,baz=82,slow=8.4,SNR=15							
SCM	**Sheep Creek Mo**	**47.37**	**37**	P		**P**	**16 29 41.0**	**-0.4**
HDA	**Harding Lake**	**47.45**	**33**	P		**P**	**16 29 41.6**	**-0.2**
HDA				IAmb		IAmb	16 31 26.1	
	comp=Z,28nm,1.6s							
IL31		**47.47**	**33**	P		**P**	**16 29 41.8**	**-0.2**
IL31				IAmb		IAmb	16 30 50.1	
	comp=Z,29nm,1.9s							
ILAR	**Eielson Array**	**47.47**	**33**	P		**P**	**16 29 41.4**	**-0.7**
	comp=Z,2.5nm,0.8s,baz=266,slow=6.3,SNR=16							
ILAR	**Eielson Array**	**47.47**	**33**	P		**P**	**16 29 41.8**	**-0.2**
BMAR	**Burnt Mountain**	**48.38**	**29**	P		**P**	**16 29 50.4**	**+1.3**
RIDG	**Independent Ri**	**48.40**	**34**	P		**P**	**16 29 49.5**	**+0.2**
DOT	**Dot Lake**	**48.75**	**34**	P		**P**	**16 29 52.2**	**+0.2**
DOT				IAmb		IAmb	16 30 55.0	
	comp=Z,18nm,1.7s							
VRDI	**Verde Repeater**	**49.27**	**38**	P		**P**	**16 29 55.8**	**-0.4**
WAX	**Waxell Ridge**	**49.66**	**38**	P		**P**	**16 29 58.3**	**-0.8**
BALM	**Baldy**	**49.83**	**38**	P		**P**	**16 30 01.2**	**+0.9**
BCAR	**Beaver Creek A**	**49.83**	**35**	P		**P**	**16 30 00.8**	**+0.5**
BARN	**Barnard Glacie**	**50.16**	**38**	P		**P**	**16 30 02.4**	**-0.6**
YAH	**Yahtse**	**50.22**	**38**	P		**P**	**16 30 03.2**	**-0.2**
HYT	**Haines Junctio**	**52.19**	**37**	P		**P**	**16 30 18.1**	**-0.1**
HYT				IAmb		IAmb	16 30 21.5	
	comp=Z,18nm,1.0s							
INK	**Inuvik**	**52.47**	**28**	P		**P**	**16 30 19.3**	**-0.6**
	comp=Z,1.8nm,0.8s,baz=318,slow=7.6,SNR=4.6							
INK	**Inuvik**	**52.47**	**28**	P		**P**	**16 30 20.4**	**+0.5**
INK				IAmb		IAmb	16 30 21.3	
	comp=Z,9.4nm,1.3s							
KKAR	**Karatay Array**	**54.35**	**300**	P		**P**	**16 30 35.4**	**+1.2**
WB0	**Warramunga Arr**	**58.29**	**191**	P		**P**	**16 31 00.8**	**-1.5**
WR0	**Warramunga Arr**	**58.45**	**190**	P		**P**	**16 31 01.5**	**-2.0**
WB2	**Warramunga Arr**	**58.47**	**191**	P		**P**	**16 31 02.3**	**-1.2**
WRA	**Warramunga Arr**	**58.47**	**191**	P		**P**	**16 31 02.2**	**-1.4**
	comp=Z,7.2nm,0.6s,baz=11,slow=7.1,SNR=21							
WRA	**Warramunga Arr**	**58.47**	**191**	P		**P**	**16 31 02.3**	**-1.3**
ABKAR	**Akbulak array**	**58.80**	**310**	P		**P**	**16 31 06.0**	**+0.3**
RES	**Resolute Bay**	**61.02**	**15**	P		**P**	**16 31 20.2**	**-0.4**
RES				IAmb		IAmb	16 32 25.9	
	comp=Z,10nm,1.4s							
YKA	**Yellowknife Ar**	**61.83**	**31**	P		**P**	**16 31 26.2**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=300,slow=6.6,SNR=11							
ASAR	**Alice Springs**	**62.19**	**190**	P		**P**	**16 31 28.0**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=13,slow=5.4,SNR=16							
GEYT	**Alibeck**	**65.09**	**300**	P		**P**	**16 31 48.8**	**+0.6**
H04A	**Detroit Lake**	**66.83**	**51**	P		**P**	**16 32 00.2**	**+0.9**
H04A				IAmb		IAmb	16 32 01.2	
	comp=Z,8.0nm,0.9s							
SUMG	**Summit**	**69.58**	**1**	P		**P**	**16 32 16.9**	**+0.4**
SUMG				IAmb		IAmb	16 32 37.5	
	comp=Z,8.8nm,1.3s							
BEKR	**Beckworth**	**70.56**	**54**	P		**P**	**16 32 22.9**	**+0.1**
FFC	**Flin Flon**	**71.67**	**34**	P		**P**	**16 32 29.1**	**+0.1**
FFC				IAmb		IAmb	16 32 30.1	
	comp=Z,6.5nm,1.1s							
WAKR	**Walker**	**71.91**	**55**	P		**P**	**16 32 30.5**	**-0.6**
WAKR				IAmb		IAmb	16 35 08.8	
	comp=Z,16nm,1.8s							
LRM	**Limekiln Ridge**	**71.92**	**46**			**P**	**16 32 31.6**	**+0.5**
FCC	**Fort Churchill**	**72.10**	**28**	P		**P**	**16 32 31.3**	**-0.1**
FCC				IAmb		IAmb	16 33 44.1	
	comp=Z,7.8nm,1.3s							
KVN	**Kaiserville**	**72.46**	**54**	P		**P**	**16 32 34.5**	**+0.2**
KVN				IAmb		IAmb	16 32 36.9	
	comp=Z,8.0nm,1.4s		

FOO					IAML		16 23 49.1	
	comp=Z,16nm,1.2s							
BLS5	**Blasjo**	**1.60**	**153**	*e*P	Pn		16 23 44.6	-2.4
BLS5					IAML		16 24 05.6	
	comp=Z,2.3nm,0.7s							
BLS5				*e*S	Sn		16 24 05.8	-2.6
SKAR	**Skarslia**	**1.61**	**95**	*e*P	Pn		16 23 45.7	-1.5
SKAR				*e*S	Sn		16 24 06.2	-2.4
SKAR				IAML			16 24 08.9	
	comp=Z,4.3nm,0.9s							

NEIC ***17*** *16:30:46.7±0.9, 18°.4S±0°.2×177°.9W±0°.2, h590km±14km, mb4.2/6, Error ellipse: s-maj=34.3km s-min=25.6km az=156.0*

IDC ***17*** *16:30:48.0±8.7, 18°.52S×177°.86W, h606km±102km, mb2.9/5, mb1 3.1/5, mb1mx2.8/32, mbtmp3.9/5, Error ellipse: s-maj=135.4km s-min=42.7km az=158.0*

ISC 17 16:30:47.0±1.1, 18°.3S±0°.2×177°.9W±0°.2, h600km, n12, σ0s87/12, mb3.5/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.91**	**278**	P		**P**		**16 32 11.0**	**-0.9**
MQZ	**McQueen's Vall**	**26.54**	**195**	P		**P**		**16 35 38.0**	**-0.5**
STKA	**Stephens Creek**	**38.87**	**242**	P		**P**		**16 37 22.8**	**+0.4**
	1.0nm,0.7s,baz=74,slow=15,SNR=2.1								
BBOO	**Buckleboo**	**43.64**	**241**	P		**P**		**16 38 00.5**	**+0.4**
WRA	**Warramunga Arr**	**45.05**	**260**	P		**P**		**16 38 11.0**	**0.0**
	0.3nm,0.5s,baz=98,slow=7.6,SNR=4.6								
ASAR	**Alice Springs**	**45.16**	**255**	P		**P**		**16 38 12.2**	**+0.3**
	1.6nm,0.8s,baz=90,slow=7.6,SNR=19								
ASAR				PcP		**PcP**		**16 39 39.1**	**0.0**
	0.3nm,0.4s,baz=101,slow=4.0,SNR=7.6								
ASAR	**Alice Springs**	**45.16**	**255**	P		**P**		**16 38 11.7**	**-0.1**
FITZ	**Fitzroy Crossi**	**53.45**	**261**	P		**P**		**16 39 13.7**	**+1.0**
	2.9nm,1.1s,baz=106,slow=15,SNR=1.8								
FITZ	**Fitzroy Crossi**	**53.45**	**261**	IAmb		IAmb		16 40 00.6	
	comp=Z,23nm,1.4s								
QSPA	**South Pole Qui**	**71.73**	**180**	P		**P**		**16 41 09.1**	**-0.3**
QSPA				IAmb		IAmb		16 43 18.1	
	comp=Z,10nm,1.4s								
TXAR	**Lajitas Array**	**85.80**	**57**	P		**P**		**16 42 25.4**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=248,slow=4.8,SNR=3.5								
CLL	**Collm**	**145.97**	**348**	*i* PKPbc		**PKiKP**		**16 49 21.0**	**-1.8**
	comp=Z,4.0nm,0.6s								

IDC ***17*** *16:40:16.0±0.9, 11°.48S×116°.95E, h0km, mb3.9/10, mb1 4.0/13, mb1mx3.8/31, mbtmp3.9/13, ML3.9/3, Error ellipse: s-maj=31.5km s-min=16.7km az=57.0*

NEIC ***17*** *16:40:19.8±1.7, 11°.65S±0°.08×116°.94E±0°.08, h32km±5km, mb4.4/17, Error ellipse: s-maj=12.5km s-min=9.5km az=48.0*

ISC 17 16:40:19.1±0.5, 11°.58S±0°.06×117°.08E±0°.07, h26km, n42, σ1s97/43, mb4.2/14, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**4.22**	**317**				**Pn**	**16 41 19.8**	**-2.1**
MMRI	**Maumere**	**5.87**	**61**	Pn			**Pn**	**16 41 46.6**	**+2.2**
BATI	**Baumata**	**6.61**	**79**	Pn			**Pn**	**16 41 56.1**	**+1.4**
	4.2nm,0.3s,baz=273,slow=8.8,SNR=6.5								
BATI				Sn			**Sn**	**16 43 09.6**	**+0.3**
	6.0nm,0.3s,baz=51,slow=23,SNR=9.0								
KAPI	**Kappang**	**7.04**	**22**	Pn			**Pn**	**16 42 01.5**	**+0.9**
	0.9nm,0.3s,baz=240,slow=20,SNR=1.5								
KAPI				Sn			**Sn**	**16 43 15.2**	**-4.7**
	11nm,0.3s,baz=131,slow=20,SNR=17								
KAPI	**Kappang**	**7.04**	**22**				**Pn**	**16 42 02.4**	**+1.8**
SOEI	**Soe**	**7.30**	**76**	Pn			**Pn**	**16 42 06.2**	**+2.0**
UGM	**Wanagama**	**7.42**	**299**	Pn			**Pn**	**16 42 06.0**	**+0.3**
PSA00	**Pilbara Seismi**	**10.28**	**165**	Pn			**Pn**	**16 42 43.8**	**-1.2**
PSA00	**Pilbara Seismi**	**10.28**	**165**	Pn			**Pn**	**16 42 42.8**	**-2.2**
FITZ	**Fitzroy Crossi**	**10.51**	**129**	Pn			**Pn**	**16 42 47.2**	**-0.9**
	1.1nm,0.3s,baz=323,slow=10,SNR=30								
FITZ				Sn			Sn	16 44 37.1	-8.0
	2.4nm,0.3s,baz=199,slow=19,SNR=12								
GIRL	**Giralia**	**11.33**	**193**	Pn			**Pn**	**16 42 57.6**	**-1.8**
KNRA	**Kununurra**	**12.07**	**111**	Pn			**Pn**	**16 43 09.7**	**+0.2**
MORW	**Morawa**	**17.43**	**183**	Pn			**Pn**	**16 44 18.5**	**-2.0**
MORW				IAmb			IAmb	16 44 54.1	
	comp=Z,70nm,1.4s								
WB0	**Warramunga Arr**	**18.54**	**118**	P			**P**	**16 44 34.6**	**+0.6**
WB0				IAmb			IAmb	16 44 48.2	
	comp=Z,24nm,1.6s								
WRA	**Warramunga Arr**	**18.57**	**119**	P			**P**	**16 44 35.2**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=236,slow=15,SNR=10								
WRA				S			Sn	16 47 49.4	-12
	comp=Z,0.5nm,0.3s,baz=290,slow=25,SNR=7.5								
WB2	**Warramunga Arr**	**18.57**	**119**	P			**P**	**16 44 35.0**	**+0.6**
WB2				IAmb			IAmb	16 45 13.5	
	comp=Z,45nm,1.9s								
WR0	**Warramunga Arr**	**18.75**	**119**	P			**P**	**16 44 37.9**	**+1.1**
WR0				IAmb			IAmb	16 44 48.7	
	comp=Z,23nm,1.6s								
COCO	**West Island**	**19.82**	**266**	P			**Pn**	**16 44 50.2**	**+0.6**
AS31	**Alice Springs**	**20.02**	**129**	P			**P**	**16 44 50.8**	**+0.7**
ASAR	**Alice Springs**	**20.02**	**129**	P			Pn	16 44 53.2	+1.3
	comp=Z,1.5nm,0.7s,baz=303,slow=10.0,SNR=28								
ASAR				S			**S**	**16 48 25.3**	**-8.7**
	comp=Z,1.4nm,0.7s,baz=303,slow=23,SNR=8.6								
NWAO	**Narrogin (SRO)**	**21.25**	**180**	P			**P**	**16 45 05.5**	**+2.2**
	comp=Z,8.1nm,0.8s,baz=342,slow=13,SNR=1.4								
NWAO				S			S	16 48 45.6	-13
	comp=Z,8.3nm,0.4s,baz=118,slow=21,SNR=7.7								
BBOO	**Buckleboo**	**27.39**	**143**	P			**P**	**16 46 04.7**	**+2.2**
BBOO				IAmb			IAmb	16 46 41.2	
	comp=Z,69nm,1.9s								
STKA	**Stephens Creek**	**30.31**	**136**	P			**P**	**16 46 30.2**	**+1.7**
	comp=Z,2.0nm,0.7s,baz=324,slow=3.5,SNR=4.0								
STKA	**Stephens Creek**	**30.31**	**136**	P			**P**	**16 46 29.0**	**+0.5**
CMAR	**Chiang Mai Arr**	**34.80**	**329**	P			**P**	**16 47 07.7**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=166,slow=6.9,SNR=2.0								
CHTO	**Chiang Mai**	**35.10**	**329**	P			**P**	**16 47 10.4**	**-0.1**
CHTO				IAmb			IAmb	16 48 25.9	
	comp=Z,16nm,1.9s								
KSRS	**Korea Array**	**49.83**	**11**	P			**P**	**16 49 09.5**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=185,slow=9.7,SNR=2.4								
SONM	**Songino Array**	**59.91**	**352**	P			**P**	**16 50 22.8**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=167,slow=9.2,SNR=8.8								
SONM	**Songino Array**	**59.91**	**352**	IAmb			IAmb	16 50 23.5	
	comp=Z,1.6nm,0.9s								
MK31	**Makanchi Array**	**65.92**	**335**	P			**P**	**16 51 02.7**	**-0.1**
MKAR	**Makanchi Array**	**65.92**	**335**	P			**P**	**16 51 03.0**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=147,slow=7.2,SNR=24								
MKAR	**Makanchi Array**	**65.92**	**335**	P			**P**	**16 51 02.4**	**-0.4**
MAKZ	**Makanchi**	**66.06**	**334**	P			**P**	**16 51 03.8**	**0.0**
MAKZ				IAmb			IAmb	16 51 58.7	
	comp=Z,7.5nm,1.8s								
KURK	**Kurchatov**	**70.50**	**335**	P			**P**	**16 51 31.1**	**-0.3**
KURK				IAmb			IAmb	16 51 47.1	
	comp=Z,2.3nm,0.9s								
ZAA0	**Zalesovo Array**	**70.80**	**340**	P			**P**	**16 51 32.4**	**-0.7**
ZAA0				IAmb			IAmb	16 51 37.5	
	comp=Z,1.3nm,0.7s								
ZALV	**Zalesovo Beam**	**70.80**	**340**	P			**P**	**16 51 32.2**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=148,slow=5.4,SNR=4.6								
PEA0B	**Petropavlovsk-**	**73.19**	**24**	P			**P**	**16 51 48.2**	**+0.7**
PETK	**Petropavlovsk-**	**73.19**	**24**	P			**P**	**16 51 48.9**	**+1.3**
	comp=Z,0.8nm,0.5s,baz=192,slow=3.3,SNR=6.4								
PETK	**Petropavlovsk-**	**73.19**	**24**	P			**P**	**16 51 48.6**	**+1.1**
ABKAR	**Akbulak array**	**78.60**	**326**	P			**P**	**16 52 18.8**	**+0.3**
BRTR	**Keskin Array B**	**92.33**	**310**	P			**P**	**16 53 28.7**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=102,slow=5.2,SNR=4.0								
BRTR	**Keskin Array B**	**92.33**	**310**	P			**P**	**16 53 27.9**	**+0.3**

MAN 17 16:41:33.5, 15°.72N×120°.82E, h26km, mb4.3, ML3.2, MS2.9, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BALP	**Baler**	**0.73**	**88**	*e*P			Pn	16 41 48.2	+0.1
BALP				*e*S			Sn	16 41 58.8	+0.4
CAUP	**Cauayan**	**1.55**	**38**	*e*P			Pn	16 41 58.7	-0.7
CAUP				*e*S			Sn	16 42 18.8	+0.1
APYP	**Conner**	**2.17**	**11**	*e*P			Pn	16 42 08.7	+0.8
APYP				*e*S			Sn	16 42 34.6	+0.7

IDC ***17*** *16:42:37.1±6.5, 17°.60S×178°.04W, h495km±66km, mb3.4/10, mb1 3.5/10, mb1mx3.2/29, mbtmp4.2/10, Error ellipse: s-maj=43.9km s-min=22.5km az=122.0*

NEIC ***17*** *16:42:41.8±1.7, 17°.6S±0°.1×178°.2W±0°.1, h549km±7km, mb4.6/23, Error ellipse: s-maj=20.8km s-min=15.9km az=141.0*

ISC 17 16:42:41.9±0.5, 17°.6S±0°.1×178°.18W±0°.09, h550km, n48, σ0s75/51, mb4.4/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.60**	**268**	P			**P**	**16 44 01.7**	**+0.7**
AFI	**Afiamalu**	**7.18**	**60**	P			**P**	**16 44 30.7**	**-1.0**
NIUE	**Niue**	**7.97**	**102**	P			**P**	**16 44 39.3**	**0.0**
KNTN	**Kanton**	**16.05**	**24**	P			**P**	**16 46 01.8**	**-0.3**
ARMA	**Armidale**	**30.28**	**240**	P			**P**	**16 48 08.3**	**-0.5**
WHZ	**Wether Hill Ro**	**30.47**	**199**	P			**P**	**16 48 10.1**	**-0.1**
COEN	**Coen**	**37.33**	**270**	P			**P**	**16 49 08.6**	**+0.5**
STKA	**Stephens Creek**	**38.96**	**241**	P			**P**	**16 49 21.6**	**+0.4**
	1.6nm,0.5s,baz=104,slow=12,SNR=6.0								
JAY	**Jayapura**	**43.04**	**286**	P			**P**	**16 49 54.5**	**+0.6**
	13nm,0.8s,baz=155,slow=11,SNR=10								
BBOO	**Buckleboo**	**43.74**	**241**	P			**P**	**16 49 58.5**	**-0.5**
WR0	**Warramunga Arr**	**44.71**	**259**	P			**P**	**16 50 06.3**	**-0.4**
WR0				IAmb			IAmb	16 50 17.4	
	comp=Z,36nm,1.6s								
WB0	**Warramunga Arr**	**44.87**	**259**	P			**P**	**16 50 07.1**	**-0.8**
WB0				IAmb			IAmb	16 50 19.4	
	comp=Z,14nm,1.3s								
WB2	**Warramunga Arr**	**44.89**	**259**	P			**P**	**16 50 07.3**	**-0.8**
WB2				IAmb			IAmb	16 50 17.3	
	comp=Z,42nm,1.9s								
WRA	**Warramunga Arr**	**44.90**	**259**	P			**P**	**16 50 07.4**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=94,slow=6.9,SNR=4.6								
WRA				PcP			**PcP**	**16 51 38.6**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=94,slow=3.5,SNR=4.6								
WRA	**Warramunga Arr**	**44.90**	**259**	IAmb			IAmb	16 50 08.0	
	comp=Z,0.2nm,1.0s								
WRA							**PcP**	**16 51 37.5**	**-0.4**
AS31	**Alice Springs**	**45.08**	**254**	P			**P**	**16 50 08.9**	**-0.6**
ASAR	**Alice Springs**	**45.08**	**254**	P			**P**	**16 50 09.2**	**-0.4**
	comp=Z,8.6nm,0.5s,baz=88,slow=8.1,SNR=49								
ASAR				PcP			**PcP**	**16 51 38.9**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=105,slow=3.6,SNR=8.4								
ASAR				S			**S**	**16 56 06.7**	**-2.3**
	comp=Z,0.8nm,1.0s,baz=88,slow=18,SNR=4.1								
ASAR	**Alice Springs**	**45.08**	**254**	P			**P**	**16 50 08.6**	**-0.9**
ASAR							**PcP**	**16 51 38.6**	**0.0**
FORT	**Forrest**	**50.33**	**244**	P			**P**	**16 50 47.9**	**-0.7**
KNRA	**Kununurra**	**50.74**	**264**	P			**P**	**16 50 51.4**	**-0.4**
KNRA				IAmb			IAmb	16 52 24.5	
	comp=Z,31nm,1.2s								
FAKI	**Fak Fak**	**50.74**	**281**	P			**P**	**16 50 51.9**	**+0.1**
FAKI				IAmb			IAmb	16 51 57.0	
	comp=Z,33nm,1.3s								
FITZ	**Fitzroy Crossi**	**53.30**	**260**	P			**P**	**16 51 10.3**	**+0.2**
SOEI	**Soe**	**56.29**	**270**	P			**P**	**16 51 32.8**	**+1.5**
PSA00	**Pilbara Seismi**	**58.20**	**255**	P			**P**	**16 51 43.8**	**-0.2**
PSA00				IAmb			IAmb	16 53 31.5	
	comp=Z,54nm,1.6s								
JAGI	**Jajag, Banyuwa**	**66.27**	**268**	P			**P**	**16 52 35.2**	**-1.2**
MJAR	**Matsushiro Arr**	**67.81**	**323**	P			**P**	**16 52 44.1**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=167,slow=5.8,SNR=3.7								
KKM	**Kota Kinabalu**	**68.89**	**284**	P			**P**	**16 52 52.8**	**+0.2**
UGM	**Wanagama**	**69.88**	**268**	P			**P**	**16 52 58.2**	**-0.2**
JKA	**Kamikawa-asahi**	**71.13**	**331**	P			**P**	**16 53 05.3**	**+0.3**
ASAJ	**Asahikawa**	**71.13**	**331**	P			**P**	**16 53 05.3**	**+0.3**
	comp=Z,1.7nm,0.5s								
QSPA	**South Pole Qui**	**72.43**	**180**	P			**P**	**16 53 13.1**	**+0.6**
QSPA				IAmb			IAmb	16 54 48.4	
	comp=Z,25nm,2.0s								
KSM	**Kuching**	**72.87**	**277**	P			**P**	**16 53 16.7**	**+0.9**
KSM				IAmb			IAmb	16 53 17.8	
	comp=Z,13nm,0.8s								
PETK	**Petropavlovsk-**	**73.46**	**345**	P			**P**	**16 53 18.8**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=123,slow=5.3,SNR=2.8								
NVAR	**Mina Array Bea**	**79.06**	**44**	P			**P**	**16 53 49.2**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=236,slow=6.4,SNR=2.2								
ILAR	**Eielson Array**	**85.56**	**13**	P			**P**	**16 54 21.8**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=219,slow=4.9,SNR=6.5								
CMAR	**Chiang Mai Arr**	**89.00**	**290**	P			**P**	**16 54 40.6**	**+1.7**
	comp=Z,1.6nm,0.9s,baz=112,slow=2.6,SNR=6.6								
SNAA	**Sanae**	**90.88**	**179**	P			**P**	**16 54 46.3**	**-0.4**
VNA3	**Neumayer Olymp**	**91.01**	**176**	P			**P**	**16 54 47.2**	**-0.1**
VNA2	**Neumayer--Watz**	**91.45**	**177**	P			**P**	**16 54 49.7**	**+0.5**
	baz=176,slow=3.1								
VNA1	**Neumayer--Stat**	**91.68**	**177**	P			**P**	**16 54 50.8**	**+0.6**
MKAR	**Makanchi Array**	**109.09**	**314**	PKiKP			**PKiKP**	**17 00 08.4**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=132,slow=2.1,SNR=2.5								
BUR08	**Bucovina Ar. S**	**144.45**	**333**				**PKPab**	**17 01 17.3**	**+0.9**
BURAR	**Bucovina Array**	**144.46**	**332**				**PKPab**	**17 01 17.2**	**+0.8**
BR131	**Keskin Array S**	**144.74**	**315**				**PKPab**	**17 01 17.7**	**-0.1**
BRTR	**Keskin Array B**	**144.74**	**315**	PKP			PKPbc	17 01 17.2	+0.1
	comp=Z,1.9nm,0.8s,baz=151,slow=4.0,SNR=8.6								
BRTR	**Keskin Array B**	**144.74**	**315**				**PKPab**	**17 01 17.4**	**-0.5**
GERES	**GERESS Array B**	**147.39**	**345**	PKPbc			**PKiKP**	**17 01 25.2**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=26,slow=2.6,SNR=13								
GERES	**GERESS Array B**	**147.39**	**345**				**PKPbc**	**17 01 24.4**	**+0.2**

MAN 17 16:58:43.2, 10°.31N×125°.99E, h39km, mb4.5, ML3.4, MS3.2, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.72**	**223**	*e*P			Pn	16 58 57.6	+0.7
SCPH				*e*S			Sn	16 59 08.9	+2.1
MSLP	**Maasin**	**1.13**	**261**	*e*P			Pn	16 59 03.7	+1.2
MSLP				*e*S			Sn	16 59 18.0	+1.2
OCLP	**Ormoc**	**1.55**	**299**	*e*P			Pn	16 59 08.3	+0.1
TBP	**Tagbilaran**	**2.19**	**254**	*e*P			Pn	16 59 19.8	+2.7
CNP	**Catarman**	**2.54**	**329**	*e*P			Pn	16 59 22.9	+1.0
CNP				*e*S			Sn	16 59 53.3	+1.6
PAGZ	**Pagadian**	**3.56**	**227**	*e*P			Pn	16 59 37.9	+2.0
PAGZ				*e*S			Sn	17 00 18.1	+1.4

NIED ***17*** *17:12:00.24°.90N×123°.30E, h5km, Mw4.3 Best double couple: M0 3.20000×10^15 NP1:φs=45.00000°, δ62.00000°, λ=-110.00000°. NP2:φs=262.00000°, δ34.00000°, λ=-57.00000°.*

JMA ***17*** *17:12:00.3±0.2, 24°.94N×123°.33E, h18km±5km, M4.3*

NEIC ***17*** *17:12:03.4±1.5, 24°.76N±0°.06×123°.29E±0°.09, h24km±5km, mb4.7/26, Error ellipse: s-maj=12.5km s-min=8.0km az=104.0*

IDC ***17*** *17:12:11.6±5.5, 24°.88N×123°.48E, h96km±54km, mb3.6/11, mb1 3.7/12, mb1mx3.5/52, mbtmp3.9/12, MS3.6/20, Ms1 3.6/20, ms1mx3.4/37, Error ellipse: s-maj=27.2km s-min=13.9km az=70.0*

ISC 17 17:12:01.7±1.3, 24°.83N±0°.05×123°.35E±0°.03, h14km±8km, n79, σ0s91/75, mb4.4/22, MS3.7/17, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.48**	**220**	P			**Pg**	**17 12 11.1**	**-0.2**
YOJ				*e*S			**Sb**	**17 12 18.8**	**-0.1**
YOJ	**Yonaguni jima**	**0.48**	**220**				**Pg**	**17 12 11.0**	**-0.2**
JYNG	**Yonagunijimaku**	**0.53**	**224**	P			**Pg**	**17 12 11.9**	**-0.3**
JYNG				S			**Sg**	**17 12 19.8**	**+0.5**
IRIF	**Iriomote-Funau**	**0.60**	**145**	P			**Pg**	**17 12 13.7**	**+0.1**
IRIF				*e*S			**Sb**	**17 12 23.7**	**+1.3**
JKRS	**Kuro-shima**	**0.84**	**135**	P			**Pb**	**17 12 17.6**	**-0.5**
JKRS				*e*S			**Sg**	**17 12 29.7**	**+0.5**
JIJ	**Ishigaki jima**	**0.86**	**123**	P			**Pg**	**17 12 17.4**	**-1.0**
JIJ				*e*S			**Sb**	**17 12 29.8**	**+0.1**
HATJ	**Hateruma jima**	**0.88**	**152**	P			**Pb**	**17 12 18.3**	**-0.4**
HATJ				*e*S			**Sg**	**17 12 31.6**	**+1.4**
JISG	**Ishigakijimahi**	**0.91**	**105**	P			**Pb**	**17 12 18.1**	**-1.1**
JISG				*e*S			**Sb**	**17 12 30.7**	**-0.4**
JTJ	**Tarama**	**1.24**	**99**	P			**Pn**	**17 12 24.0**	**-0.6**
JIRB	**Irabujima**	**1.66**	**90**	P			**Pn**	**17 12 30.5**	**+0.2**
JIRB				*e*S			**Sn**	**17 12 50.8**	**-0.5**
TATO	**Taipei**	**1.70**	**275**				**Pn**	**17 12 31.8**	**+0.9**
JIKM	**Ikemajima**	**1.73**	**87**	P			**Pn**	**17 12 31.4**	**+0.1**
JIKM				*e*S			**Sn**	**17 12 52.6**	**-0.5**
NACB	**Ninganchiao**	**1.73**	**248**				**Pn**	**17 12 30.7**	**-0.7**
JMJ2	**Miyako jima3**	**1.80**	**92**	P			**Pn**	**17 12 32.8**	**+0.5**
YHNB	**Yeheng**	**1.80**	**265**				**Pn**	**17 12 31.6**	**-0.8**
JOGS	**Gusukube**	**1.87**	**92**	P			**Pn**	**17 12 33.9**	**+0.6**
YULB	**Yu-li**	**2.36**	**233**				**Pn**	**17 12 39.0**	**-1.0**
SSLB	**Suanglung**	**2.42**	**245**				**Pn**	**17 12 40.8**	**-0.1**
TWG	**Pinlang**	**2.89**	**227**				**Pn**	**17 12 46.7**	**-0.7**
TPUB	**Ta-pu**	**2.92**	**239**				**Pn**	**17 12 47.7**	**0.0**
KNMB	**Chin-men Tao**	**4.53**	**266**	Pn			**Pn**	**17 13 09.9**	**0.0**

JNU	**Nakatsue**	**10.56**	**37**	LR		LR		17 18 42.1
	comp=Z,114nm,19.5s,baz=226,slow=37							
KSRS	**Korea Array**	**13.17**	**16**	P		**P**		**17 15 15.0** **-3.3**
	0.1nm,0.3s,baz=199,slow=12,SNR=10.0							
KSRS				LR		LR		17 20 22.6
	comp=Z,87nm,19.9s,baz=198,slow=38							
XAN	**Xi'an**	**15.55**	**309**	P		**P**		**17 15 45.1** **+0.3**
MJAR	**Matsushiro Arr**	**17.28**	**44**	LR		LR		17 23 53.4
	comp=Z,44nm,19.0s,baz=180,slow=41							
KKM	**Kota Kinabalu**	**19.90**	**201**			**Pn**		**17 16 34.4** **-0.2**
USRK	**Ussuriysk Ar.**	**20.57**	**18**	P		**P**		**17 16 40.8** **+0.8**
	1.6nm,0.8s,baz=225,slow=14,SNR=2.9							
USRK				LR		LR		17 24 49.9
	comp=Z,115nm,19.7s,baz=151,slow=37							
USRK	**Ussuriysk Ar.**	**20.57**	**18**	P		**P**		**17 16 40.2** **+0.3**
CHTO	**Chiang Mai**	**23.42**	**260**	P		**P**		**17 17 10.7** **+0.1**
CMAR	**Chiang Mai Arr**	**23.54**	**259**	P		**P**		**17 17 14.1** **+2.4**
	0.9nm,0.8s,baz=56,slow=8.2,SNR=5.8							
CMAR				LR		LR		17 27 34.0
	comp=Z,108nm,18.0s,baz=82,slow=39							
SONM	**Songino Array**	**26.60**	**334**	P		**P**		**17 17 40.8** **+1.2**
	1.4nm,0.8s,baz=146,slow=10,SNR=7.0							
SONM				LR		LR		17 28 55.3
	comp=Z,110nm,18.6s,baz=107,slow=38							
SONM	**Songino Array**	**26.60**	**334**	P		**P**		**17 17 39.4** **-0.2**
FAKI	**Fak Fak**	**28.91**	**161**	P		**P**		**17 17 59.4** **-0.9**
FAKI				IAmb		IAmb		17 18 31.8
	comp=Z,23nm,1.2s							
PETK	**Petropavlovsk-**	**38.23**	**33**	LR		LR		17 35 48.3
	comp=Z,30nm,18.1s,baz=239,slow=37							
MK31	**Makanchi Array**	**39.27**	**315**	P		**P**		**17 19 29.8** **-0.1**
MKAR	**Makanchi Array**	**39.27**	**315**	P		**P**		**17 19 30.6** **+0.7**
	comp=Z,0.6nm,0.8s,baz=105,slow=9.3,SNR=5.6							
MKAR				LR		LR		17 36 31.2
	comp=Z,52nm,19.8s,baz=122,slow=37							
MKAR	**Makanchi Array**	**39.27**	**315**	P		**P**		**17 19 30.1** **+0.2**
MAKZ	**Makanchi**	**39.48**	**314**	P		**P**		**17 19 31.0** **-0.6**
MAKZ				IAmb		IAmb		17 19 47.7
	comp=Z,4.8nm,1.5s							
KNRA	**Kununurra**	**40.61**	**172**	P		**P**		**17 19 40.9** **-0.3**
KNRA				IAmb		IAmb		17 20 13.6
	comp=Z,41nm,1.2s							
ZALV	**Zalesovo Beam**	**40.80**	**326**	P		**P**		**17 19 43.6** **+1.2**
	comp=Z,0.9nm,0.6s,baz=100,slow=7.8,SNR=4.0							
ZALV				LR		LR		17 37 39.3
	comp=Z,111nm,18.5s,baz=146,slow=37							
ZALV	**Zalesovo Beam**	**40.80**	**326**	P		**P**		**17 19 41.3** **-1.2**
KURK	**Kurchatov**	**42.88**	**319**	P		**P**		**17 19 59.9** **+0.4**
KURBB	**Kurchatov Arra**	**42.91**	**319**	P		**P**		**17 20 00.7** **+1.0**
	comp=Z,0.9nm,0.8s,baz=105,slow=8.7,SNR=6.5							
COEN	**Coen**	**43.13**	**151**	P		**P**		**17 20 00.7** **-1.2**
COEN				IAmb		IAmb		17 20 10.3
	comp=Z,24nm,1.3s							
AAK	**Ala-Archa**	**43.70**	**306**	LR		LR		17 38 31.8
	comp=Z,70nm,18.4s,baz=151,slow=36							
WB0	**Warramunga Arr**	**45.62**	**165**	P		**P**

SARP Sargodha 3.25 263 P **Pn** 17 31 58.9 -0.4
NDI New Delhi 3.72 170 *e*P **Pn** 17 32 07.0 +1.3
NDI *e*S **Sn** 17 32 50.0 +0.8
THW Thamme Wali 4.02 278 P **Pn** 17 32 11.2 +1.4
CEP Cherat 4.10 292 P **Pn** 17 32 12.7 +1.6
LGTI Lohaghat 4.35 131 *e*P **Pn** 17 32 14.3 0.0
LGTI *e*x **Sn** 17 33 08.0 +3.2
AJM Ajmer 6.07 196 *e*x **Pn** 17 32 38.0 0.0
AJM *i* x **Sn** 17 33 48.0 +0.7
KBL Kabul 6.58 291 P **Pn** 17 32 46.2 +1.0
KBL Kabul 6.58 291 Pn **Pn** 17 32 46.2 +1.0
PYUN Piuthan 7.06 125 *e*Pn **Pn** 17 32 53.8 +2.0
PYUN *e*Sn **Sn** 17 34 10.8 -1.1
comp=E,55nm,0.4s
KSH Kashi 7.16 357 Pn **Pn** 17 32 53.1 0.0
KSH Sn **Sn** 17 34 13.3 -0.9
KSH smax smax
comp=E,210nm,0.4s
KSH smax smax
comp=E,320nm,0.6s
DANN Dangsing 7.46 120 *e*Pn **Pn** 17 32 58.6 +1.3
KOLN Koldanda 7.68 125 *e*Pn **Pn** 17 33 02.1 +1.7
GKN Gorkha 8.29 119 *e*Pn **Pn** 17 33 09.2 +0.5
GAR Garm 8.31 325 Pn **Pn** 17 33 09.0 +0.2
CHGR Chuyangaron 8.66 319 Pn **Pn** 17 33 13.6 0.0
DMN Daman 8.86 120 *e*Pn **Pn** 17 33 17.1 +0.6
KKN Kakani 8.88 119 *e*Pn **Pn** 17 33 17.2 +0.3
PKIN Phulchoki 9.09 119 *e*Pn **Pn** 17 33 19.7 0.0
PKIN *e*Sn **Sn** 17 34 58.2 -3.7
comp=E,6.1nm,0.3s
PKI Pulchoki 9.10 119 *e*Pn **Pn** 17 33 19.8 -0.1
PKI *e*Sn **Sn** 17 34 59.2 -3.1
BHPL Bhopal 9.12 174 *e*P **Pn** 17 33 19.1 -0.8
BHPL *i* x x 17 33 20.2
BHPL *e*S **Sn** 17 34 55.4 -7.1
TARG Taragay, Kyrgy 9.42 6 Pn **Pn** 17 33 27.1 +2.9
JIRN Jiri 9.64 117 *e*Pn **Pn** 17 33 27.2 -0.1
comp=E,16nm,0.3s
JIRN *e*Sn **Sn** 17 35 10.8 -4.8
JBP Jabalpur 9.67 160 *e*P **Pn** 17 33 27.2 -0.2
JBP *e*x **Sn** 17 35 13.7 -2.1
KZA Kyzart 9.75 355 P **Pn** 17 33 30.6 +1.7
SNR=10
KDJ Kajisay 9.77 3 P **Pn** 17 33 31.2 +2.2
KDJ Kajisay 9.77 3 Pn **Pn** 17 33 31.2 +2.2
UCH Uchtor 9.98 352 P **Pn** 17 33 33.6 +1.6
SNR=20
AML Almayashu 10.01 348 P **Pn** 17 33 35.3 +3.0
SNR=35
PRZ Przheval'sk 10.23 8 P **Pn** 17 33 37.6 +2.4
PRZ Przheval'sk 10.23 8 Pn **Pn** 17 33 37.6 +2.4
RAMN Ramite 10.32 119 *e*Pn **Pn** 17 33 36.7 +0.1
RAMN *e*Sn **Sn** 17 35 26.9 -5.4
comp=E,27nm,0.4s
KBK Karagaybulak 10.35 354 P **Pn** 17 33 39.9 +3.0
SNR=6.6
AAK Ala-Archa 10.38 352 Pn **Pn** 17 33 38.1 +0.8
comp=E,1.3nm,0.3s,baz=152,slow=9.6,SNR=11
AAK Ala-Archa 10.38 352 ⇓*i*P **Pn** 17 33 38.7 +1.4
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 10.38 352 Pn **Pn** 17 33 38.5 +1.2
EKS2 Erkin-Say 10.51 349 P **Pn** 17 33 42.9 +4.0
SNR=7.1
FRU1 Bishkek 10.54 353 P **Pn** 17 33 41.2 +1.8
FRU1 Bishkek 10.54 353 Pn **Pn** 17 33 41.2 +1.8
TKM2 Tokmak 2 10.57 356 P **Pn** 17 33 41.9 +2.0
SNR=8.2
TKM2 Tokmak 2 10.57 356 P **Pn** 17 33 41.1 +1.2
TNSS Tian-Shan 10.67 2 *e*P **Pn** 17 33 43.3 +1.9
baz=2.4
TNSS Tian-Shan 10.67 2 *e*P **Pn** 17 33 43.3 +1.9
SATY Saty 10.79 8 *e*P **Pn** 17 33 45.4 +2.5
comp=Z,7.3nm,0.8s,baz=7.9
SATY LR LR 17 37 59.0
comp=Z,88nm,11.5s,baz=7.9
SATY Saty 10.79 8 *e*P **Pn** 17 33 45.4 +2.5
SATY pmax pmax
comp=Z,7.0nm,0.8s
SATY MLR MLR
comp=Z,88nm,12.0s
MDOK Medeo 10.80 2 *e*P **Pn** 17 33 45.3 +2.3
baz=2.8
MDOK LR LR 17 37 53.4
comp=Z,139nm,11.2s,baz=2.8
MDOK Medeo 10.80 2 *e*P **Pn** 17 33 45.3 +2.3
MDOK MLR MLR
comp=Z,139nm,11.0s
AAA Alma-Ata 10.84 2 *e*P **Pn** 17 33 45.8 +2.3
comp=Z,4.4nm,0.3s,baz=2.2
AAA LR LR 17 37 47.8
comp=Z,109nm,11.1s,baz=2.2
AAA Alma-Ata 10.84 2 *e*P **Pn** 17 33 45.7 +2.3
AAA pmax pmax
comp=Z,4.0nm,0.3s
AAA MLR MLR
comp=Z,109nm,11.0s
TAPN Taplejung 10.96 114 *e*Pn **Pn** 17 33 44.5 -0.8
UZB Uzynbulak 10.96 10 ⇓*i*P **Pn** 17 33 47.5 +2.3
comp=Z,12nm,1.4s,baz=10
UZB LR LR 17 37 55.7
comp=Z,81nm,10.5s,baz=10
UZB Uzynbulak 10.96 10 *d i*P **Pn** 17 33 47.5 +2.3
UZB pmax pmax
comp=Z,13nm,1.4s
UZB MLR MLR
comp=Z,81nm,11.0s
ODAN Odare 10.96 117 *e*Pn **Pn** 17 33 45.9 +0.5
SHLS Shalkode 11.04 12 *i* P **Pn** 17 33 49.4 +3.1
comp=Z,14nm,0.4s,baz=13
SHLS Shalkode 11.04 12 *i* P **Pn** 17 33 49.3 +3.1
SHLS pmax pmax
comp=Z,14nm,0.4s
SGDS Sogindy 11.17 353 *e*P **Pn** 17 33 50.1 +2.0
comp=Z,3.1nm,0.8s,baz=354
SGDS LR LR 17 37 24.9
comp=Z,79nm,10.3s,baz=354
SGDS Sogindy 11.17 353 *e*P **Pn** 17 33 50.0 +2.0
SGDS pmax pmax
comp=Z,3.0nm,0.8s
SGDS MLR MLR
comp=Z,79nm,10.0s
KPKS Kokpek 11.23 8 ⇓*i*P **Pn** 17 33 51.4 +2.5
comp=Z,16nm,0.4s,baz=8.6
KPKS Kokpek 11.23 8 *d i*P **Pn** 17 33 51.3 +2.5
KPKS pmax pmax
comp=Z,16nm,0.4s
DZA Taraz 11.28 340 *e*P **Pn** 17 33 50.4 +1.0
comp=Z,6.2nm,0.6s,baz=341
DZA Taraz 11.28 340 *e*P **Pn** 17 33 50.4 +1.0
DZA pmax pmax
comp=Z,6.0nm,0.6s
NGP Nagpur 11.39 168 *e*P **Pn** 17 33 50.9 -0.2
NGP *e*S **Sn** 17 35 50.4 -7.8
KUU Kurty 11.52 360 LR LR 17 38 02.4
comp=Z,74nm,9.4s,baz=0.1
KK31 Karatay Array 11.72 338 *e*P **Pn** 17 33 55.2 -0.2
KK31 Karatay Array 11.72 338 Pn **Pn** 17 33 54.6 -0.8
KKAR Karatay Array 11.72 338 P **Pn** 17 33 54.4 -1.0
KKAR Karatay Array 11.72 338 Pn **Pn** 17 33 54.4 -1.0
KKAR Karatay Array 11.72 338 Pn **Pn** 17 33 54.4 -1.0
HRA Herat 12.07 284 Pn **Pn** 17 34 02.2 +1.8
TDK Taldygorghan 12.72 6 LR LR 17 38 53.9
comp=Z,240nm,12.7s,baz=6.6
BTLS Baital 12.81 352 *e*P **Pn** 17 34 11.7 +1.4
comp=Z,1.8nm,1.1s,baz=353
BTLS LR LR 17 38 43.9
comp=Z,26nm,9.8s,baz=353
BTLS Baital 12.81 352 *e*P **Pn** 17 34 11.7 +1.4
BTLS pmax pmax
comp=Z,2.0nm,1.1s
BTLS MLR MLR
comp=Z,26nm,10.0s
WMQ Urumqi 14.45 34 *e*P **Pn** 17 34 35.3 +2.6
WMQ Urumqi 14.45 34 P **Pn** 17 34 31.7 -1.0
WMQ Urumqi 14.45 34 Pn **Pn** 17 34 31.7 -1.0
HYB Hyderabad 14.99 172 *i* P **Pn** 17 34 40.0 -0.3
HYB *e*S **Sn** 17 37 32.0 +5.8
MAKZ Makanchi 15.04 15 P **Pn** 17 34 39.7 -1.0
MAKZ Makanchi 15.04 15 Pn **Pn** 17 34 39.5 -1.3
MAKZ IAmb IAmb 17 34 42.0
comp=Z,10nm,0.8s
SHL Shillong 15.08 113 P **Pn** 17 34 39.3 -2.3
SHL pmax pmax
comp=Z,10.0nm,1.0s
SHL Shillong 15.08 113 Pn **Pn** 17 34 39.3 -2.3
MK31 Makanchi Array 15.09 16 *e*P **Pn** 17 34 41.4 -0.1
MK31 Makanchi Array 15.09 16 Pn **Pn** 17 34 40.9 -0.6
MKAR Makanchi Array 15.09 16 Pn **Pn** 17 34 40.2 -1.3
comp=Z,1.7nm,0.3s,baz=198,slow=13,SNR=78
MKAR Sn **Sn** 17 37 21.1 -7.3
comp=Z,0.7nm,0.3s,baz=196,slow=22,SNR=6.6
MKAR Makanchi Array 15.09 16 *i* P **Pn** 17 34 41.7 +0.2
MKAR pmax pmax
comp=Z,5.0nm,0.4s
MKAR Makanchi Array 15.09 16 Pn **Pn** 17 34 40.2 -1.3
MKAR **Sn** 17 37 20.6 -7.8
GEYT Alibeck 16.00 295 Pn **Pn** 17 34 53.4 0.0
comp=Z,0.2nm,0.3s,baz=106,slow=11,SNR=4.7
GEYT Alibeck 16.00 295 Pn **Pn** 17 34 52.2 -1.2
GYA0B ALIBECK ARRAY 16.00 295 Pn **Pn** 17 34 51.3 -2.0
OTUK Ortayu 16.18 350 P **Pn** 17 34 55.0 -0.5
ZSN Zaisan 16.38 21 *e*P **P** 17 35 01.5 +0.5
comp=Z,2.6nm,0.4s,baz=20
ZSN Zaisan 16.38 21 *e*P **P** 17 35 01.4 +0.5
ZSN pmax pmax
comp=Z,3.0nm,0.4s
WSAR Wadi Sarin 18.19 245 LR LR 17 42 55.5
comp=Z,46nm,18.6s,baz=144,slow=39
SEM Semipalatinsk 18.25 8 *e*P **P** 17 35 23.1 +1.2
comp=Z,9.9nm,0.7s,baz=7.9
SEM Semipalatinsk 18.25 8 *e*P **P** 17 35 23.0 +1.2
SEM pmax pmax
comp=Z,10.0nm,0.7s
KURBB Kurchatov Arra 18.32 4 P **Pn** 17 35 20.3 -1.9
comp=Z,0.3nm,0.3s,baz=192,slow=11,SNR=47
KURBB Kurchatov Arra 18.32 4 P **Pn** 17 35 20.2 -2.0
KURK Kurchatov 18.41 4 ⇓*i*P **P** 17 35 21.4 -1.9
KURK pmax pmax
comp=Z,15nm,1.0s
KURK Kurchatov 18.41 4 **P** 17 35 21.0 -2.3
KURK IAmb IAmb 17 35 26.1
comp=Z,15nm,1.0s
DGZ Jazzator, Alta 19.16 22 *d i*P **Pn** 17 35 33.5 +0.8
GTA Gaotai 20.15 63 P Pn 17 35 43.6 -0.9
GTA pP sP 17 35 52.3 +2.7
GTA sP pP 17 35 56.6 +9.2
GTA pmax pmax
comp=Z,5.0nm,1.2s
ABKAR Akbulak array 20.93 329 P **P** 17 35 50.3 -0.6
BVAR Borovoye Array 21.12 350 P **P** 17 35 52.9 +0.1
comp=Z,10nm,0.7s,baz=163,slow=11,SNR=78
BRVK Borovoye 21.17 350 P **P** 17 35 53.4 0.0
BRVK Borovoye 21.17 350 P **P** 17 35 53.4 0.0
BRVK IAmb IAmb 17 35 55.3
comp=Z,22nm,0.8s
ZAA0 Zalesovo Array 22.39 13 P **P** 17 36 05.1 -1.4
ZAA0 IAmb IAmb 17 36 11.2
comp=Z,5.3nm,0.8s
ZALV Zalesovo Beam 22.39 13 P **P** 17 36 05.0 -1.4
comp=Z,5.5nm,0.7s,baz=214,slow=12,SNR=12
ZALV Zalesovo Beam 22.39 13 P **P** 17 36 04.9 -1.6
AKTO Aktyubinsk 22.65 328 P **P** 17 36 10.5 +1.2
comp=Z,9.3nm,0.7s,baz=123,slow=9.9,SNR=31
LZH Lanzhou 22.91 73 *e*P **P** 17 36 12.6 +0.3
LZH pP sP 17 36 20.3 +1.0
LZH sP pP 17 36 24.1 +7.0
LZH pmax pmax
comp=Z,18nm,1.1s
LZH pmax pmax
comp=Z,56nm,4.6s
LZH LR LR
comp=Z,200nm,10.6s
LZH LR LR
comp=Z,210nm,11.2s
LZH LR LR
comp=Z,280nm,13.5s
CHTO Chiang Mai 24.28 118 P **P** 17 36 25.3 -0.4
CHTO pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 24.28 118 P **P** 17 36 25.2 -0.4
CHTO IAmb IAmb 17 36 32.0
comp=Z,5.7nm,0.9s
CM31 Chiang Mai Arr 24.50 119 P **P** 17 36 26.8 -0.8
CMAR Chiang Mai Arr 24.50 119 P **P** 17 36 27.3 -0.4
comp=Z,6.0nm,1.0s,baz=308,slow=9.0,SNR=26
CMAR Chiang Mai Arr 24.50 119 *i* P **P** 17 36 28.2 +0.5
CMAR pmax pmax
comp=Z,6.0nm,1.0s
SLVN Son La 26.75 107 P **P** 17 36 48.4 +0.3
SLVN IAmb IAmb 17 36 50.5
comp=Z,7.4nm,1.3s
ZAK Zakamensk 26.78 40 *e*P **P** 17 36 47.5 -0.7
ZAK pmax pmax
comp=Z,2.0nm,0.8s
ARU Arti 27.09 338 *c i*P **P** 17 36 52.0 +1.2
ARU 17 37 31.2
ARU S **S** 17 41 30.9 +2.6
ARU pmax pmax
comp=Z,6.0nm,1.1s
ARU Arti 27.09 338 P **P** 17 36 50.9 +0.1
ARU IAmb IAmb 17 37 21.3
comp=Z,6.9nm,1.2s
SONM Songino Array 27.40 47 P **P** 17 36 54.2 +0.3
comp=Z,1.8nm,0.8s,baz=242,slow=10.0,SNR=8.4
SONM Songino Array 27.40 47 P **P** 17 36 54.0 +0.1
AKH Akhalkalaki 27.75 298 P **P** 17 36 59.1 +2.1
AKH pmax pmax
comp=Z,5.0nm,0.8s
AKH Akhalkalaki 27.75 298 P **P** 17 36 59.1 +2.1
AKH IAmb IAmb 17 37 00.7
comp=Z,4.6nm,0.8s
ULN Ulaanbaatar 27.82 47 ⇓*i*P **P** 17 36 59.0 +1.4
ULN pmax pmax
comp=Z,2.0nm,1.0s
KIRV Kirov 31.95 333 ⇑*i*P **P** 17 37 35.8 +2.0
BR131 Keskin Array S 35.14 294 P **P** 17 38 01.4 -0.6
BR131 pmax pmax
comp=Z,2.0nm,0.8s
BR131 Keskin Array S 35.14 294 P **P** 17 38 01.4 -0.6
BR131 IAmb IAmb 17 38 10.4
comp=Z,1.9nm,0.8s
BRTR Keskin Array B 35.14 294 P **P** 17 38 01.8 -0.3
comp=Z,0.9nm,0.7s,baz=95,slow=7.4,SNR=6.2
BRTR Keskin Array B 35.14 294 *i* P **P** 17 38 03.2 +1.1
BRTR pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 39.07 312 P **P** 17 38 34.2 -0.8
comp=Z,0.8nm,0.5s,baz=80,slow=7.3,SNR=4.4
AKASG Malin Array Be 39.07 312 *i* P **P** 17 38 37.7 +2.7
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 39.07 312 P **P** 17 38 33.8 -1.3
MLR Muntele Rosu 40.80 304 P **P** 17 38 50.8 +1.1
comp=Z,4.4nm,0.8s,baz=170,slow=6.9,SNR=5.9
MLR Muntele Rosu 40.80 304 P **P** 17 38 51.1 +1.4
MLR pmax pmax
comp=Z,6.0nm,0.8s
MLR Muntele Rosu 40.80 304 P **P** 17 38 51.1 +1.4
MLR IAmb IAmb 17 38 58.2
comp=Z,5.8nm,0.8s
BURAR Bucovina Array 41.36 307 P **P** 17 38 53.0 -1.2
BURAR Bucovina Array 41.36 307 P **P** 17 38 53.0 -1.2
KSRS Korea Array 42.08 68 P **P** 17 38 58.6 -1.4
comp=Z,1.1nm,0.9s,baz=289,slow=7.6,SNR=4.3
FIA1 FINESS Array S 43.42 327 P **P** 17 39 11.0 +0.4
FINES FINESS Array B 43.42 327 P **P** 17 39 11.2 +0.6
comp=Z,2.9nm,0.8s,baz=128,slow=12,SNR=7.3
FINES FINESS Array B 43.42 327 P **P** 17 39 11.0 +0.3
MSHR Mys Shultsa 43.91 60 ⇑*i*P **P** 17 39 15.6 +0.7
MSHR pmax pmax
comp=Z,4.0nm,1.0s
KLR Kul'dur 44.09 51 ⇓*i*P **P** 17 39 17.2 +0.9
KLR pmax pmax
comp=Z,2.0nm,0.6s
USRK Ussuriysk Ar. 44.38 58 P **P** 17 39 18.6 -0.1
comp=Z,1.2nm,0.7s,baz=259,slow=7.6,SNR=4.5
USRK Ussuriysk Ar. 44.38 58 P **P** 17 39 19.3 +0.6
USRK Ussuriysk Ar. 44.38 58 P **P** 17 39 19.3 +0.6
JNU Nakatsue 45.33 74 P **P** 17 39 27.2 +0.8
ARCES ARCESS Array B 46.68 338 P **P** 17 39 37.7 +1.2
comp=Z,3.7nm,0.8s,baz=114,slow=7.4,SNR=9.0
ARCES ARCESS Array B 46.68 338 P **P** 17 39 37.3 +0.8
ARE0 ARCESS Array S 46.68 338 P **P** 17 39 38.3 +1.8
SCTE Santa Cesarea 46.71 297 P **P** 17 39 37.2 0.0
TIXI Tiksi 48.03 20 ⇑*i*P **P** 17 39 48.7 +1.8
TIXI pmax pmax
comp=Z,4.0nm,1.1s
CNJI Cibinong 49.09 138 P **P** 17 39 58.5 +2.8
MAT Matsushiro 50.32 67 P **P** 17 40 03.7 -1.3
MJAR Matsushiro Arr 50.32 67 P **P** 17 40 04.4 -0.7
comp=Z,2.3nm,0.8s,baz=282,slow=10.0,SNR=6.7
MJAR LR LR 18 04 48.2
comp=Z,20nm,19.4s,baz=270,slow=40
MJAR Matsushiro Arr 50.32 67 P **P** 17 40 03.5 -1.6
NB2 NORSAR Subarra 50.38 325 P **P** 17 40 07.7 +2.5
comp=Z,3.0nm,1.0s,baz=95,slow=7.9
NOA NORSAR Array B 50.39 325 P **P** 17 40 05.4 +0.2
comp=Z,.2nm,0.8s,baz=97,slow=7.3,SNR=2.7
YSS Yuzh-Sakhalins 51.60 53 ⇑*i*P **P** 17 40 15.1 +0.7
YSS pmax pmax
comp=Z,11nm,1.2s
SKR Severo-Kuril's 59.49 47 ⇓*i*P **P** 17 41 12.5 +1.4
TORD Torodi Ar. Bea 70.31 273 P **P** 17 42 20.8 -1.4
comp=Z,1.4nm,0.7s,baz=53,slow=5.3,SNR=6.9
TORD Torodi Ar. Bea 70.31 273 P **P** 17 42 21.4 -0.7
BMAR Burnt Mountain 75.82 15 P **P** 17 42 54.6 +0.6
WRA Warramunga Arr 75.94 125 P **P** 17 42 54.5 -0.8
comp=Z,2.4nm,1.1s,baz=324,slow=5.7,SNR=1.8
WRA Warramunga Arr 75.94 125 P **P** 17 42 54.3 -1.0
COLA College 77.11 18 ⇑*i*P **P** 17 43 02.6 +1.4
COLA pmax pmax
comp=Z,4.0nm,0.9s
INK Inuvik 77.18 11 P **P** 17 43 00.7 -0.9
comp=Z,1.5nm,0.7s,baz=33,slow=8.3,SNR=3.2
INK Inuvik 77.18 11 P **P** 17 43 00.3 -1.2
INK IAmb IAmb 17 44 38.6
comp=Z,8.8nm,1.5s
ILAR Eielson Array 77.44 18 P **P** 17 43 02.3 -0.8
comp=Z,1.3nm,0.9s,baz=310,slow=5.1,SNR=10
ILAR Eielson Array 77.44 18 P **P** 17 43 01.8 -1.4
ASAR Alice Springs 78.16 128 P **P** 17 43 07.4 -0.4
comp=Z,0.9nm,0.8s,baz=314,slow=5.3,SNR=8.4
ASAR Alice Springs 78.16 128 P **P** 17 43 06.3 -1.4
YKA Yellowknife Ar 85.06 5 P **P** 17 43 43.6 0.0
comp=Z,1.3nm,0.8s,baz=343,slow=4.6,SNR=12

PRU 17 17:39:17.4±0.0, **49.84N**×**18.58E, h0**km, **Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.28**	**270**	*e*P		G	Pg	17 39 23.2	+0.4
OKC				*e*S		G	Sg	17 39 25.8	-0.6
comp=Z,6.1nm,0.5s									
OKC	**Ostrava-Krasne**	**0.28**	**270**	*e*P		G	Pg	17 39 23.2	+0.4
MORC	**Moravsky Berou**	**0.68**	**265**	*e*P		G	Pg	17 39 31.1	+0.8
MORC				*e*S		G	Sg	17 39 39.4	+0.3
DPC	**Dobruska-Polom**	**1.54**	**290**	*e*P		G	Pn	17 39 45.2	-1.0
DPC				*e*S		G	Sg	17 40 06.8	-0.1
DPC	**Dobruska-Polom**	**1.54**	**290**	*e*P		G	Pn	17 39 45.2	-1.0

IDC ***17*** *17:43:24.9*±*3.5, 36.07N*×*136.94E, h267*km±*211*km*, mb2.6/2, mb1 2.7/2, mb1mx2.4/50, mbtmp3.2/2, Error ellipse: s-maj=618.6km s-min=30.1km az=59.0*
JMA ***17*** *17:43:25.0*±*0.3, 36.14N*×*137.04E, h272*km±*3*km*, M2.8*
ISC 17 17:43:24.9±1.1, **36.1N**±0.1×**137.02E**±0.08, **h270**km±8km, **n13**, σ0.43/19, **Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.27**	**62**	P		P	**Pn**	**17 43 59.7**	**0.0**
JYTA	**Yamagatataniai**	**0.55**	**205**	P		P	**Pn**	**17 44 00.6**	**+0.3**
JYTA				S		S	**S**	**17 44 28.3**	**+0.0**
JKG	**Kaga**	**0.58**	**288**	P		P	**Pn**	**17 44 00.6**	**+0.3**
MAT	**Matsushiro**	**1.06**	**65**	P		P	**Pn**	**17 44 02.5**	**+0.1**
MAT				S		S	**S**	**17 44 32.4**	**+0.4**
MAT	**Matsushiro**	**1.06**	**65**	P		P	**Pn**	**17 44 02.5**	**+0.1**
MJAR	**Matsushiro Arr**	**1.06**	**65**	P		P	**Pn**	**17 44 02.7**	**+0.3**
0.9nm,0.3s,baz=249,slow=7.6,SNR=60									
MJAR				S		S	**S**	**17 44 32.5**	**+0.5**
baz=25,slow=28,SNR=1.1									
JYN	**Shimob**	**1.38**	**115**	P		P	**Pn**	**17 44 04.3**	**-0.1**
JRY	**Ryogami san**	**1.53**	**92**	P		P	**Pn**	**17 44 05.4**	**0.0**
JRY				*e*S		S	**S**	**17 44 37.1**	**-0.3**
JWT	**Wachi**	**1.54**	**239**	P		P	**Pn**	**17 44 05.7**	**+0.2**
JWT				*e*S		S	**S**	**17 44 36.7**	**-0.9**
JOD2	**Odawara 2**	**1.88**	**116**	P		P	**Pn**	**17 44 08.7**	**+0.6**
JAG	**Ashikaga**	**2.00**	**80**	P		P	**Pn**	**17 44 08.8**	**-0.2**
JAG				*e*S		S	**S**	**17 44 43.1**	**-0.9**
MKAR	**Makanchi Array**	**41.62**	**302**	P		P	**P**	**17 50 46.7**	**-0.1**
0.2nm,0.6s,baz=94,slow=6.9,SNR=2.8									
ASAR	**Alice Springs**	**59.51**	**183**	P		P	**P**	**17 53 00.1**	**+0.1**
0.2nm,0.8s,baz=359,slow=5.5,SNR=5.3									

IDC ***17*** *17:50:01.8*±*3.8, 30.98S*×*177.81W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/26, mbtmp3.7/2, Error ellipse: s-maj=82.2km s-min=27.7km az=113.0*
NEIC ***17*** *17:50:02.0*±*2.1, 31.10S*±*0.08*×*177.8W*±*0.4, h12km*±*14km, mb4.6/5, Error ellipse: s-maj=54.5km s-min=4.2km az=101.0*
ISC 17 17:50:03.2±2.0, **31.1S**±0.1×**177.7W**±0.4, **h27**km, **n16**, σ1.9**30**/16, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.82**	**354**	Pn		P	**Pb**	**17 50 34.0**	**-1.8**
31nm,0.3s,baz=312,slow=23,SNR=2.3									
RAO				Sn		S	**Sn**	**17 50 55.1**	**+0.2**
120nm,0.3s,baz=93,slow=19,SNR=6.9									
RAO	**Raoul Island**	**1.82**	**354**	Pn		P	**Pn**	**17 50 32.9**	**+0.1**
OUZ	**Omahuta**	**8.38**	**238**			P	Pn	17 52 08.8	+5.9
BKZ	**Black Stump Fm**	**9.37**	**209**	Pn		P	**Pn**	**17 52 14.6**	**-1.9**
BFZ	**Birch Farm**	**10.77**	**205**	Pn		P	**Pn**	**17 52 35.2**	**-0.4**
AS31	**Alice Springs**	**43.32**	**268**	P		P	**P**	**17 58 02.7**	**-0.4**
AS31				IAmb		IAmb	IAmb	17 58 05.7	
comp=Z,3.1nm,1.8s									
ASAR	**Alice Springs**	**43.32**	**268**	P		P	**P**	**17 58 04.6**	**+1.5**
comp=Z,0.5nm,0.7s,baz=108,slow=7.6,SNR=14									
ASAR	**Alice Springs**	**43.32**	**268**	P		P	**P**	**17 58 03.6**	**+0.5**
WR0	**Warramunga Arr**	**44.19**	**273**	P		P	**P**	**17 58 11.3**	**+1.2**
WR0				IAmb		IAmb	IAmb	17 58 29.6	
comp=Z,29nm,1.8s									
WB2	**Warramunga Arr**	**44.36**	**273**	P		P	**P**	**17 58 12.4**	**+0.9**
WRA	**Warramunga Arr**	**44.37**	**273**	P		P	**P**	**17 58 13.9**	**+2.3**
comp=Z,0.8nm,0.6s,baz=111,slow=8.1,SNR=5.2									
WRA	**Warramunga Arr**	**44.37**	**273**	P		P	**P**	**17 58 12.1**	**+0.5**
WB0	**Warramunga Arr**	**44.40**	**273**	P		P	**P**	**17 58 12.3**	**+0.5**
WB0				IAmb		IAmb	IAmb	17 58 31.6	
comp=Z,22nm,1.6s									
FINES	**FINESS Array B**	**145.85**	**340**	PKPbc			**PKPab**	**18 09 40.8**	**+1.0**
comp=Z,1.9nm,0.8s,baz=51,slow=5.5,SNR=2.0									
FINES	**FINESS Array B**	**145.85**	**340**				**PKPab**	**18 09 40.6**	**+0.8**
CLL	**Collm**	**158.27**	**342**	*e*PKPab			**PKPab**	**18 10 33.0**	**+1.4**

IDC 17 18:00:09.7±3.3, **0.66S**×**98.52E, h0**km, **mb3.6/4, mb1 3.6/5, mb1mx3.4/28, mbtmp3.5/5, ML3.8/1, Error ellipse: s-maj=131.9km s-min=29.9km az=60.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**19.01**	**1**	P		P		18 04 33.0	-0.2
0.1nm,0.3s,baz=184,slow=11,SNR=2.1									
H08S2	**Diego Garcia H**	**26.85**	**254**	T		T		18 33 42.7	
baz=78,slow=74,SNR=30									
H08S3	**Diego Garcia H**	**26.86**	**254**	T		T		18 33 43.1	
baz=78,SNR=38									
H08S1	**Diego Garcia H**	**26.87**	**254**	T		T		18 33 43.5	
baz=78,slow=74,SNR=16									
ASAR	**Alice Springs**	**41.23**	**126**	P		P		18 07 56.6	-0.2
0.2nm,0.7s,baz=304,slow=7.5,SNR=2.1									
SONM	**Songino Array**	**48.79**	**7**	P		P		18 08 57.8	+1.2
0.4nm,0.5s,baz=188,slow=8.7,SNR=2.1									
MKAR	**Makanchi Array**	**49.36**	**345**	P		P		18 09 00.7	-0.2
0.7nm,0.6s,baz=155,slow=7.9,SNR=10									
ZALV	**Zalesovo Beam**	**55.60**	**350**	P		P		18 09 46.2	-0.8
0.6nm,0.5s,baz=186,slow=8.8,SNR=5.0									

IDC ***17*** *18:30:53.1*±*1.9, 6.58S*×*129.96E, h156km*±*19km, mb3.8/15, mb1 3.9/20, mb1mx3.8/35, mbtmp4.4/20, Error ellipse: s-maj=19.5km s-min=12.4km az=74.0*
DJA ***17*** *18:30:54.9*±*0.3, 7.5S*±*2.3*×*13.0E*±*, h171km*±*6km, M4.4/12, mb4.4/12, mB4.9/5, MLv4.5/12, Mw(mB)4.2/5*
NEIC ***17*** *18:30:55.0*±*2.9, 6.53S*±*0.07*×*129.97E*±*0.08, h184km*±*8km, mb4.6/33, Error ellipse: s-maj=12.1km s-min=9.8km az=85.0*

ISC 17 18:30:55.8±0.4, 6°65S±0.04×130°06E±0.05, h200km, n111, σ2§14/120, mb4.2/31, 1C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.81**	**137**	**P**	**Pn**	**18 31 31.6**	**-0.9**
SAUI				S	**Sn**	**18 31 58.4**	**-2.6**
SAUI	**Saumlaki**	**1.81**	**137**	Pn	**Pn**	**18 31 31.5**	**-0.9**
SAUI					**Sn**	**18 31 54.5**	**-6.4**
BNDI	**Bandanaira**	**2.12**	**356**	P	**Pn**	**18 31 32.9**	**-2.7**
MSAI	**Masohi**	**3.47**	**341**	P	**Pn**	**18 31 48.8**	**-2.4**
MSAI				S	**Sn**	**18 32 29.2**	**-5.3**
FAKI	**Fak Fak**	**4.30**	**31**	P	**Pn**	**18 31 58.0**	**-3.4**
FAKI				S	**Sn**	**18 32 46.1**	**-6.9**
FAKI	**Fak Fak**	**4.30**	**31**	Pn	**Pn**	**18 31 57.7**	**-3.7**
NLAI	**Namlea**	**4.49**	**319**	P	**Pn**	**18 32 03.5**	**-0.3**
NLAI				S	**Sn**	**18 32 57.9**	**+0.6**
KMPI	**Kaimana, Papua**	**4.69**	**51**	P	**Pn**	**18 32 05.1**	**-1.2**
KMPI				S	**Sn**	**18 32 57.1**	**-4.7**
SIJI	**Sorong**	**5.87**	**12**	P	**Pn**	**18 32 17.5**	**-4.0**
	21nm,0.3s,baz=51,slow=14,SNR=76						
SIJI				S	Sn	18 33 19.3	-10
	15nm,0.3s,baz=258,slow=23,SNR=12						
SANI	**Sanana**	**6.11**	**318**	P	**Pn**	**18 32 23.2**	**-1.4**
	0.1nm41nm,0.6s						
MTN	**Manton Dam**	**6.25**	**170**	Pn	**Pn**	**18 32 25.6**	**-0.8**
SOEI	**Soe**	**6.51**	**241**	P	**Pn**	**18 32 27.9**	**-2.0**
	0.6nm70nm,0.7s						
SOEI	**Soe**	**6.51**	**241**	Pn	**Pn**	**18 32 27.6**	**-2.3**
BATI	**Baumata**	**7.25**	**240**	P	**Pn**	**18 32 36.7**	**-2.7**
	30nm,0.3s,baz=84,slow=5.6,SNR=39						
BATI				S	**Sn**	**18 33 54.3**	**-7.3**
	18nm,0.3s,baz=221,slow=19,SNR=7.9						
BATI	**Baumata**	**7.25**	**240**	P	**Pn**	**18 32 37.3**	**-2.1**
	0.3nm47nm,0.5s						
TNTI	**Ternate**	**7.85**	**340**	Pn	Pn	18 32 42.0	-5.2
MMRI	**Maumere**	**8.00**	**255**	Pn	**Pn**	**18 32 44.7**	**-4.5**
EDFI	**Ende, Flores**	**8.55**	**255**	P	**Pn**	**18 32 56.0**	**-0.5**
	9.7nm,1.0s						
KNRA	**Kununurra**	**9.06**	**188**	Pn	**Pn**	**18 33 01.1**	**-1.9**
KNRA				Sn	Sn	18 34 35.5	-9.2
LUWI	**Luwuk**	**9.16**	**307**	Pn	**Pn**	**18 32 59.6**	**-4.6**
SPSI	**Sidrap Palu**	**10.59**	**284**	P	**P**	**18 33 30.0**	**+0.2**
MRSI	**Marisa**	**10.76**	**311**	P	**Pn**	**18 33 24.8**	**-0.2**
	940nm86nm,1.0s						
FITZ	**Fitzroy Crossi**	**12.17**	**200**	P	**Pn**	**18 33 40.4**	**-2.6**
	1.6nm,0.3s,baz=37,slow=9.4,SNR=34						
FITZ				S	Sn	18 35 48.2	-11
	2.2nm,0.3s,baz=88,slow=13,SNR=8.1						
FITZ	**Fitzroy Crossi**	**12.17**	**200**	Pn	**Pn**	**18 33 40.4**	**-2.6**
FITZ					Sn	18 35 48.5	-10
MPSI	**Mapaga**	**12.29**	**304**	P	**P**	**18 33 45.6**	**-3.1**
	11nm,1.0s						
WB0	**Warramunga Arr**	**13.70**	**163**		**Pn**	**18 34 00.4**	**-1.8**
WRA	**Warramunga Arr**	**13.85**	**163**	P	**Pn**	**18 34 02.3**	**-1.8**
	0.9nm,0.3s,baz=345,slow=13,SNR=20						
WRA				S	S	18 36 28.9	-10
	2.4nm,0.3s,baz=337,slow=22,SNR=12						
WB2	**Warramunga Arr**	**13.86**	**163**	Pn	**Pn**	**18 34 02.4**	**-1.7**
WR0	**Warramunga Arr**	**13.93**	**162**	Pn	**Pn**	**18 34 03.4**	**-1.6**
COEN	**Coen**	**14.80**	**120**	Pn	**P**	**18 34 16.1**	**-0.6**
JAGI	**Jajag, Banyuwa**	**15.87**	**262**		**P**	**18 34 26.1**	**-2.4**
JAGI				IAmb	IAmb	18 35 01.2	
	comp=Z,86nm,1.4s						
AS31	**Alice Springs**	**17.32**	**168**		**Pn**	**18 34 46.7**	**+0.7**
ASAR	**Alice Springs**	**17.32**	**168**	P	**Pn**	**18 34 46.8**	**+0.8**
	comp=Z,1.7nm,0.3s,baz=332,slow=8.4,SNR=114						
ASAR				S	**S**	**18 37 51.9**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=356,slow=27,SNR=6.4						
ASAR	**Alice Springs**	**17.32**	**168**		**Pn**	**18 34 46.8**	**+0.8**
ASAR					**S**	**18 37 55.1**	**+0.8**
PSA00	**Pilbara Seismi**	**17.82**	**213**		**Pn**	**18 34 51.6**	**-0.3**
PSA00				IAmb	IAmb	18 34 52.1	
	comp=Z,25nm,0.5s						
PSA00	**Pilbara Seismi**	**17.82**	**213**	P	**Pn**	**18 34 51.3**	**-0.5**
PSA00				IAmb	IAmb	18 34 52.2	
	comp=Z,8.8nm,0.8s						
KKM	**Kota Kinabalu**	**18.70**	**312**	P	**P**	**18 34 58.9**	**-0.7**
KKM				IAmb	IAmb	18 35 01.0	
	comp=Z,6.2nm,0.7s						
SBUM	**Sibu**	**19.97**	**296**	P	**P**	**18 35 12.3**	**-0.8**
CTA	**Charters Tower**	**20.63**	**132**	P	Pn	18 35 22.9	-2.8
	comp=Z,3.1nm,0.6s,baz=302,slow=12,SNR=7.1						
CTAO	**Charters Tower**	**20.63**	**132**	P	**P**	**18 35 22.1**	**+2.1**
CTAO				IAmb	IAmb	18 35 47.3	
	comp=Z,38nm,1.6s						
KSM	**Kuching**	**21.30**	**292**	P	**P**	**18 35 26.6**	**-0.6**
GIRL	**Giralia**	**22.04**	**222**	P	**P**	**18 35 34.0**	**-0.5**
CISI	**Cisompet, Garu**	**22.09**	**266**	P	**P**	**18 35 33.8**	**-1.4**
CISI				IAmb	IAmb	18 35 36.2	
	comp=Z,22nm,0.7s						
FORT	**Forrest**	**24.08**	**184**	P	**P**	**18 35 53.0**	**-0.1**
FORT				IAmb	IAmb	18 36 27.3	
	comp=Z,28nm,1.1s						
XMIS	**Christmas Isla**	**24.43**	**259**	P	**P**	**18 35 54.8**	**-1.6**
GUMO	**Guam**	**24.91**	**36**	P	**P**	**18 35 58.9**	**-1.8**
BBOO	**Buckleboo**	**26.62**	**169**	P	**P**	**18 36 18.5**	**+2.6**
BBOO				IAmb	IAmb	18 36 25.3	
	comp=Z,23nm,1.3s						
STKA	**Stephens Creek**	**27.32**	**158**	P	**P**	**18 36 24.1**	**+2.0**
	comp=Z,1.9nm,0.4s,baz=336,slow=9.1,SNR=15						
STKA	**Stephens Creek**	**27.32**	**158**	P	**P**	**18 36 23.6**	**+1.5**
NWAO	**Narrogin (SRO)**	**28.74**	**203**	P	**P**	**18 36 36.0**	**+1.2**
NWAO	**Narrogin (SRO)**	**28.74**	**203**	P	**P**	**18 36 35.9**	**+1.2**
NWAO				IAmb	IAmb	18 36 39.2	
	comp=Z,95nm,1.5s						
KULM	**Kulim**	**31.66**	**291**	P	**P**	**18 36 59.8**	**-0.9**
KULM				IAmb	IAmb	18 37 29.1	
	comp=Z,32nm,1.6s						
SLVN	**Son La**	**37.84**	**318**	P	**P**	**18 37 53.1**	**-0.5**
SLVN				IAmb	IAmb	18 37 56.6	
	comp=Z,9.6nm,1.6s						
CMAR	**Chiang Mai Arr**	**39.55**	**310**	P	**P**	**18 38 08.2**	**+0.5**
	comp=Z,2.1nm,0.8s,baz=136,slow=7.2,SNR=14						
CHTO	**Chiang Mai**	**39.76**	**310**	P	**P**	**18 38 09.1**	**-0.5**
NJ2	**Nanjing**	**39.94**	**345**	*e*P	**P**	**18 38 11.9**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
GYA	**Guiyang**	**39.98**	**326**	*e*P	**P**	**18 38 11.6**	**+0.3**
GYA				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KMI	**Kunming**	**41.28**	**321**	⇓P	**P**	**18 38 23.4**	**+1.3**
KMI				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KMI				pmax	pmax		
	comp=Z,150nm,4.4s						
MJAR	**Matsushiro Arr**	**43.64**	**10**	P	**P**	**18 38 40.8**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=195,slow=10,SNR=5.9						
MJAR	**Matsushiro Arr**	**43.64**	**10**	P	**P**	**18 38 40.4**	**-0.3**
LZH	**Lanzhou**	**49.12**	**332**	⇑P	**P**	**18 39 25.5**	**+2.0**
LZH				pP	pP	18 40 06.3	+0.3
LZH				sP	sP	18 40 26.8	-0.9
LZH				PP	**PP**	**18 41 22.1**	**+2.7**
LZH				pmax	pmax		
	comp=Z,23nm,1.3s						
LZH				pmax	pmax		
	comp=Z,100nm,5.4s						
CN2	**Changchun**	**50.39**	**356**	*e*P	**P**	**18 39 36.0**	**+3.3**
USA0B	**Ussuriysk Arra**	**50.64**	**2**	P	**P**	**18 39 35.8**	**+1.2**
USA0B				IAmb	IAmb	18 40 06.9	
	comp=Z,10nm,1.5s						
USRK	**Ussuriysk Ar.**	**50.64**	**2**	P	**P**	**18 39 35.6**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=178,slow=7.1,SNR=9.1						
USRK	**Ussuriysk Ar.**	**50.64**	**2**	P	**P**	**18 39 35.2**	**+0.7**
ODAN	**Odare**	**53.07**	**311**	*e*P	**P**	**18 39 53.5**	**+0.3**
	comp=Z,7.8nm,0.5s						
TAPN	**Taplejung**	**53.10**	**311**	*e*P	**P**	**18 39 53.7**	**+0.3**
	comp=Z,9.0nm,0.4s						
GTA	**Gaotai**	**53.70**	**331**	P	**P**	**18 39 58.5**	**+1.1**
GTA				pP	pP	18 40 39.1	-1.6
GTA				sP	PcP	18 40 59.4	-1.5
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
RAMN	**Ramite**	**53.72**	**310**	*e*P	**P**	**18 39 58.7**	**+0.8**
	comp=Z,20nm,0.5s						
JIRN	**Jiri**	**54.40**	**311**	*e*P	**P**	**18 40 03.3**	**+0.3**
	comp=Z,6.2nm,0.3s						
GUN	**Gumba**	**54.77**	**311**	*e*P	**P**	**18 40 05.8**	**+0.2**
	comp=Z,11nm,0.4s						
PKI	**Pulchoki**	**54.94**	**310**	*e*P	**P**	**18 40 06.8**	**0.0**
	comp=Z,5.5nm,0.6s						
PKIN	**Phulchoki**	**54.96**	**310**	*e*P	**P**	**18 40 06.7**	**-0.1**
DMN	**Daman**	**55.19**	**310**	*e*P	**P**	**18 40 08.9**	**+0.4**
	comp=Z,5.7nm,0.4s						
GKN	**Gorkha**	**55.75**	**310**	*e*P	**P**	**18 40 12.7**	**+0.3**
	comp=Z,11nm,0.3s						
KOLN	**Koldanda**	**56.42**	**310**	*e*P	**P**	**18 40 17.8**	**+0.6**
	comp=Z,6.5nm,0.4s						
SONM	**Songino Array**	**58.13**	**341**	P	**P**	**18 40 29.8**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=150,slow=6.5,SNR=4.3						
SONM	**Songino Array**	**58.13**	**341**	P	**P**	**18 40 29.5**	**+0.9**
WMQ	**Urumqi**	**63.13**	**327**	*e*P	**P**	**18 41 03.3**	**+0.8**
WMQ				PcP	**PcP**	**18 41 38.4**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,30nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,120nm,5.3s						
WMQ				LR	LR		
	comp=N,49nm,20.3s						
WMQ				LR	LR		
	comp=E,120nm,22.1s						
WMQ				LR	LR		
	comp=Z,190nm,23.9s						
WMQ	**Urumqi**	**63.13**	**327**	smax	smax		
	comp=N,37nm,0.7s						
WMQ				smax	smax		
	comp=E,41nm,1.1s						
PEA0B	**Petropavlovsk-**	**63.97**	**18**	P	**P**	**18 41 08.9**	**+1.3**
PEA0B				IAmb	IAmb	18 41 45.2	
	comp=Z,21nm,1.4s						
PETK	**Petropavlovsk-**	**63.97**	**18**	P	**P**	**18 41 10.3**	**+2.7**
	comp=Z,1.2nm,0.5s,baz=149,slow=2.2,SNR=5.0						
PETK	**Petropavlovsk-**	**63.97**	**18**	P	**P**	**18 41 08.2**	**+0.5**
MK31	**Makanchi Array**	**67.97**	**327**	P	**P**	**18 41 35.2**	**+2.0**
MK31				IAmb	IAmb	18 41 57.6	
	comp=Z,14nm,0.7s						
MKAR	**Makanchi Array**	**67.97**	**327**	P	**P**	**18 41 35.1**	**+1.8**
	comp=Z,11nm,0.5s,baz=114,slow=8.6,SNR=184						
MAKZ	**Makanchi**	**68.15**	**327**	P	**P**	**18 41 35.9**	**+1.5**
KZA	**Kyzart**	**69.55**	**320**	P	**P**	**18 41 46.2**	**+2.6**
	SNR=5.1						
TKM2	**Tokmak 2**	**69.75**	**320**	P	**P**	**18 41 46.7**	**+2.1**
	SNR=7.1						
UCH	**Uchtor**	**70.10**	**319**	P	**P**	**18 41 49.4**	**+2.4**
	SNR=6.2						
AAK	**Ala-Archa**	**70.31**	**320**	P	**P**	**18 41 49.7**	**+1.7**
	comp=Z,3.2nm,0.4s,baz=116,slow=5.1,SNR=8.4						
AAK	**Ala-Archa**	**70.31**	**320**	P	**P**	**18 41 50.5**	**+2.5**
AAK				IAmb	IAmb	18 41 51.2	
	comp=Z,5.7nm,0.6s						
AML	**Almayashu**	**70.58**	**319**	P	**P**	**18 41 52.3**	**+2.4**
	SNR=7.8						
USP	**Ospenovka**	**70.62**	**320**	P	**P**	**18 41 51.8**	**+2.2**
	SNR=9.9						
EKS2	**Erkin-Say**	**70.79**	**319**	P	**P**	**18 41 53.2**	**+2.5**
	SNR=10						
ZALV	**Zalesovo Beam**	**71.30**	**334**	P	**P**	**18 41 54.2**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=113,slow=3.7,SNR=8.6						
GAR	**Garm**	**71.46**	**315**	P	**P**	**18 41 56.0**	**+1.1**
GAR				IAmb	IAmb	18 41 57.2	
	comp=Z,11nm,0.7s						
CHGR	**Chuyangaron**	**72.14**	**314**		**P**	**18 41 59.4**	**+0.4**
KURBB	**Kurchatov Arra**	**72.24**	**328**	P	**P**	**18 42 00.6**	**+1.5**
	comp=Z,2.8nm,0.6s,baz=127,slow=5.0,SNR=64						
KURK	**Kurchatov**	**72.25**	**329**	P	**P**	**18 41 59.7**	**+0.5**
KURK				IAmb	IAmb	18 42 01.1	
	comp=Z,3.3nm,0.7s						
KURK				pP	**pP**	**18 42 41.5**	**-4.0**
KK31	**Karatay Array**	**73.12**	**319**	P	**P**	**18 42 05.4**	**+0.9**
KKAR	**Karatay Array**	**73.12**	**319**	P	**P**	**18 42 05.2**	**+0.7**
KKAR	**Karatay Array**	**73.12**	**319**		**P**	**18 42 05.8**	**+1.3**
KKAR				IAmb	IAmb	18 42 07.2	
	comp=Z,4.7nm,1.1s						
WSAR	**Wadi Sarin**	**75.77**	**296**	P	**P**	**18 42 21.8**	**+1.7**
	comp=Z,2.4nm,0.5s,baz=146,slow=4.9,SNR=5.0						
BVAR	**Borovoye Array**	**77.80**	**328**	P	**P**	**18 42 32.5**	**+1.6**
	comp=Z,1.5nm,0.8s,baz=131,slow=6.5,SNR=12						
BRVK	**Borovoye**	**77.87**	**328**	P	**P**	**18 42 32.2**	**+0.9**
NRIK	**Noril'sk**	**81.23**	**346**	P	**P**	**18 42 49.0**	**-0.1**
	comp=Z,2.1nm,0.5s,baz=113,slow=6.5,SNR=3.6						
ABKAR	**Akbulak array**	**82.27**	**322**	P	**P**	**18 42 55.0**	**+0.1**
AKTO	**Aktyubinsk**	**83.83**	**322**	P	**P**	**18 43 03.9**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=94,slow=5.8,SNR=6.1						
CLL	**Collm**	**111.91**	**323**	*e*PKIKP	**PKiKP**	**18 49 08.0**	**+0.9**
TORD	**Torodi Ar. Bea**	**128.80**	**281**	PKP	**PKiKP**	**18 49 42.2**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=95,slow=1.8,SNR=2.2						
TORD	**Torodi Ar. Bea**	**128.80**	**281**		**PKiKP**	**18 49 42.3**	**+1.1**

*IDC **17** 18:40:49.0±1.9, 43°.48N×81°.78E, h0km, mb3.7/1, mb1 3.5/5, mb1mx3.3/35, mbtmp3.5/5, ML3.1/4, MS3.1/2, Ms1 3.0/2, ms1mx2.3/41, Error ellipse: s-maj=23.8km s-min=14.9km az=129.0*
*BJI **17** 18:40:51.9±0.0, 43°.44N×81°.93E, h7km, ML3.6/10*
*SOME **17** 18:40:52.1, 43°.47N×81°.80E, h5km*
*NNC **17** 18:40:53.0±1.1, 43°.56N×81°.77E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=10.0km s-min=3.3km az=137.0*

ISC 17 18:40:51.2±1.5, 43°.46N±0°.05×81°.90E±0°.05, h7km±10km, n49, σ2§50/75, 16C-10D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.13**	**270**	⇓*e*P	**Pg**	**18 41 13.1**	**+0.3**
	57nm,0.1s						
KTMS				⇓*i*S	**Sg**	**18 41 27.9**	**+0.5**
	424nm,0.4s						
KTMS	**Ketmen**	**1.13**	**270**	P	**Pg**	**18 41 13.0**	**+0.3**
	57nm,0.1s						
KTMS				S	**Sg**	**18 41 27.9**	**+0.5**
	424nm,0.4s						
DJR	**Jarkent**	**1.75**	**300**	⇑*i*P	**Pn**	**18 41 23.2**	**+1.2**
	54nm,0.2s						
DJR				⇓*i*S	**Sn**	**18 41 45.6**	**+0.9**
	254nm,0.4s						
DJR	**Jarkent**	**1.75**	**300**	P	**Pn**	**18 41 23.2**	**+1.2**
	54nm,0.2s						
DJR				S	**Sn**	**18 41 45.6**	**+0.9**
	254nm,0.4s						
SHLS	**Shalkode**	**1.80**	**261**	⇓*i*P	**Pn**	**18 41 19.8**	**-3.0**
	362nm,0.2s						
SHLS				⇑*i*S	**Sn**	**18 41 40.3**	**-5.6**
	2µm,0.5s						
SHLS	**Shalkode**	**1.80**	**261**	P	**Pn**	**18 41 19.8**	**-3.0**
	362nm,0.2s						
SHLS				S	**Sn**	**18 41 40.3**	**-5.6**
	2µm,0.5s						
UZB	**Uzynbulak**	**2.12**	**262**	*e*P	**Pn**	**18 41 29.3**	**+2.1**
	46nm,0.3s						
UZB				*e*S	**Sn**	**18 41 56.5**	**+2.6**
	547nm,0.5s						
UZB	**Uzynbulak**	**2.12**	**262**	Pg	**Pn**	**18 41 29.3**	**+2.1**
	46nm,0.3s						
UZB				Lg	Lg	18 41 56.5	
	547nm,0.5s						
KPKS	**Kokpek**	**2.34**	**271**	*e*P	**Pn**	**18 41 32.8**	**+2.7**
	41nm,0.2s						
KPKS				⇑*i*S	**Sb**	**18 42 02.8**	**0.0**
	2µm,0.5s						
KAPS	**Kapalarasan**	**2.58**	**316**	*e*P	**Pb**	**18 41 37.4**	**-0.4**
	13nm,0.2s						
KAPS				*e*S	**Sb**	**18 42 10.7**	**+1.1**
	157nm,0.3s						
SATY	**Saty**	**2.58**	**262**	*e*P	**Pb**	**18 41 37.4**	**-0.4**
	40nm,0.3s						
SATY				*e*S	**Sb**	**18 42 10.9**	**+1.1**
	471nm,0.4s						
SATY	**Saty**	**2.58**	**262**	Pg	**Pb**	**18 41 37.5**	**-0.4**
	40nm,0.3s						
SATY				Lg	Lg	18 42 10.9	
	471nm,0.4s						
KURS	**Kuram**	**2.71**	**272**	*e*P	**Pb**	**18 41 40.7**	**+0.6**
	14nm,0.5s						
KURS				*e*S	**Sb**	**18 42 16.1**	**+2.6**
	75nm,0.4s						
TDK	**Taldyqorghan**	**2.94**	**303**	*e*P	**Pb**	**18 41 44.8**	**+0.8**
	74nm,0.5s						
TDK				*e*S	**Sb**	**18 42 21.7**	**+1.6**
	268nm,0.5s						
MK31	**Makanchi Array**	**3.34**	**5**	Pn	**Pn**	**18 41 45.2**	**+1.4**
	3.3nm,0.6s,baz=60,slow=10,SNR=198						
MK31				⇑Pg	**Pg**	**18 41 54.2**	**-1.0**
	6.5nm,0.3s,baz=186,slow=13,SNR=42						
MK31				⇑Sn	**Sn**	**18 42 24.3**	**+0.5**
	7.0nm,0.3s,baz=178,slow=17,SNR=4.6						
MK31				Lg	Lg	18 42 39.7	
	45nm,0.6s,baz=184,slow=24,SNR=15						
MKAR	**Makanchi Array**	**3.34**	**5**	Pn	**Pn**	**18 41 45.3**	**+1.5**
	2.1nm,0.3s,baz=186,slow=13,SNR=45						
MKAR				Sn	**Sn**	**18 42 25.0**	**+1.2**
	15nm,0.3s,baz=187,slow=28,SNR=8.4						
MKAR				Lg	Lg	18 42 39.2	
	28nm,0.3s,baz=185,slow=26,SNR=10						
MAKZ	**Makanchi**	**3.35**	**1**	⇓Pn	**Pn**	**18 41 45.1**	**+1.2**
	6.5nm,0.4s						
MAKZ				⇑Pg	**Pg**	**18 41 54.4**	**-0.9**
	17nm,0.4s						
MAKZ				⇑Sn	**Sn**	**18 42 25.1**	**+1.2**
	25nm,0.5s						
MAKZ				⇓Lg	Lg	18 42 40.2	
	78nm,0.6s						
MDOK	**Medeo**	**3.55**	**267**	*e*P	**Pb**	**18 41 54.8**	**+0.4**
	14nm,0.4s						
MDOK				*e*S	**Sb**	**18 42 40.6**	**+2.9**
	72nm,0.6s						
MDOK	**Medeo**	**3.55**	**267**	⇑Pg	**Pb**	**18 41 56.9**	**+2.5**
	12nm,0.4s						
MDOK				⇑Lg	Lg	18 42 42.4	
	52nm,0.5s						
MDOK	**Medeo**	**3.55**	**267**	Pg	**Pb**	**18 41 54.8**	**+0.4**
	14nm,0.4s						
MDOK				Lg	Lg	18 42 40.6	
	72nm,0.6s						
CHKK	**Chushkaly**	**3.58**	**278**	*e*P	**Pb**	**18 41 55.9**	**+1.0**
	5.9nm,0.4s						
CHKK				*e*S	**Sb**	**18 42 42.8**	**+4.2**
	64nm,0.3s						
CHKK	**Chushkaly**	**3.58**	**278**	Pg	**Pb**	**18 41 56.1**	**+1.3**
	14nm,0.5s						
CHKK				Lg	Lg	18 42 42.8	
	69nm,0.4s						
TNSS	**Tian-Shan**	**3.64**	**265**	*e*P	**Pb**	**18 41 57.6**	**+1.5**
	26nm,0.4s						
TNSS				*e*S	**Sg**	**18 42 46.0**	**-2.2**
	71nm,0.5s						
TNSS	**Tian-Shan**	**3.64**	**265**	Pg	**Pb**	**18 41 57.6**	**+1.5**
	26nm,0.4s						
TNSS				Lg	Lg	18 42 46.0	
	71nm,0.5s						
KTBS	**Karatobe**	**3.80**	**276**	*e*P	**Pb**	**18 42 00.6**	**+2.0**
	3.3nm,0.3s						
KTBS				*e*S	**Sg**	**18 42 51.1**	**-2.0**
KTBS	**Karatobe**	**3.80**	**276**	Pg	**Pb**	**18 42 00.0**	**+1.5**
KTBS				Lg	Lg	18 42 48.5	
IZV	**Izvestkoviy**	**3.88**	**266**	*e*P	**Pb**	**18 42 02.1**	**+2.1**
	18nm,0.4s						
IZV				*e*S	**Sg**	**18 42 53.1**	**-2.8**
	89nm,0.6s						
IZV	**Izvestkoviy**	**3.88**	**266**	Pg	**Pb**	**18 42 02.1**	**+2.1**
	18nm,0.4s						
IZV				Lg	Lg	18 42 53.1	
	89nm,0.6s						
MTBS	**Maitube**	**4.01**	**267**	*e*P	**Pb**	**18 42 03.9**	**+1.8**
	8.6nm,0.4s						
MTBS				*e*S	**Sb**	**18 42 56.3**	**+5.6**
	54nm,0.4s						
MTBS	**Maitube**	**4.01**	**267**	Pg	**Pb**	**18 42 03.9**	**+1.8**
	8.6nm,0.4s						
MTBS				Lg	Lg	18 42 56.3	
	54nm,0.4s						
KUU	**Kurty**	**4.05**	**278**	*e*P	**Pb**	**18 42 04.1**	**+1.3**
	6.8nm,0.4s						
KUU				*e*S	**Sb**	**18 42 56.6**	**+4.5**
	80nm,0.4s						
KUU	**Kurty**	**4.05**	**278**	Pg	**Pb**	**18 42 04.1**	**+1.3**
	6.8nm,0.4s						
KUU				Lg	Lg	18 42 56.6	
	80nm,0.4s						
KST	**Kastek**	**4.36**	**267**	*e*P	**Pb**	**18 42 10.4**	**+2.3**
	16nm,0.3s						
KST				*e*S	**Sb**	**18 43 07.3**	**+6.5**
	55nm,0.5s						
KST	**Kastek**	**4.36**	**267**	Pg	**Pb**	**18 42 10.4**	**+2.3**
	16nm,0.3s						
KST				Lg	Lg	18 43 07.3	
	55nm,0.5s						
ZSN	**Zaisan**	**4.50**	**27**	*e*P	**Pb**	**18 42 14.4**	**+3.9**
	19nm,0.2s						
ZSN				*e*S	**Sg**	**18 43 13.8**	**-1.9**
	60nm,0.5s						
TKM2	**Tokmak 2**	**4.64**	**265**	⇓Pn	**Pn**	**18 42 04.2**	**+2.4**
	3.7nm,0.6s						
TKM2				⇓Pg	**Pg**	**18 42 19.2**	**-0.8**
	4.6nm,0.5s						
TKM2				⇑Lg	Lg	18 43 18.7	
	57nm,0.8s						
AAK	**Ala-Archa**	**5.49**	**264**	Pg	**Pb**	**18 42 27.5**	**+0.2**
	0.8nm,0.3s,baz=112,slow=13,SNR=2.5						
AAK				Lg	Lg	18 43 43.1	
	1.7nm,0.3s,baz=347,slow=22,SNR=7.6						
AAK	**Ala-Archa**	**5.49**	**264**	⇑Pg	**Pg**	**18 42 35.3**	**-0.9**
	3.9nm,0.5s						
AAK				⇑Lg	Lg	18 43 42.3	
	26nm,0.8s						
BTLS	**Baital**	**5.86**	**288**	*e*P	**Pb**	**18 42 37.6**	**+4.0**
	2.3nm,0.3s						
BTLS				*e*S	**Sg**	**18 43 53.9**	**-5.3**
	7.0nm,0.6s						
KURBB	**Kurchatov Arra**	**7.52**	**343**	Pn	**Pn**	**18 42 40.8**	**-0.4**
	0.1nm,0.3s,baz=164,slow=12,SNR=8.1						
KURBB				Sn	**Sn**	**18 44 02.7**	**-3.9**
	0.3nm,0.3s,baz=158,slow=23,SNR=7.2						
KURBB	**Kurchatov Arra**	**7.52**	**343**	⇑Pn	**Pn**	**18 42 41.3**	**+0.2**
	2.7nm,0.5s					

SAAT	**Saatly**	**6.78**	**284**	*e*Pn	**Pn**	**18 46 31.3**	**0.0**
GRMI	**Germi**	**7.11**	**275**	*e*Pn	**Pn**	**18 46 32.9**	**-3.0**
GRMI				IAML		18 47 54.1	
	comp=E,8.4nm,0.4s						
KLNJ	**Kolanjah**	**8.66**	**212**	*e*Pn	**Pn**	**18 46 57.8**	**+0.3**
AB31	**Akbulak array**	**10.98**	**10**	⇑*i*P	**Pn**	**18 47 30.1**	**+1.2**
	comp=E,0.6nm,0.3s,baz=186,slow=12						
AB31				⇑S	**Sn**	**18 49 29.9**	**-1.9**
	comp=E,2.3nm,0.5s,baz=186,slow=22						
AKTO	**Aktyubinsk**	**11.98**	**3**	⇑P	**Pn**	**18 47 42.9**	**+0.4**
	comp=E,2.6nm,0.5s						
AKTO				⇓S	**Sn**	**18 49 54.6**	**-1.4**
	comp=E,5.0nm,0.8s						

GCG ***17*** *18:57:10.2±0.5, 15°.35N×89°.21W, h3km±65km, MD3.6*
UCR ***17*** *18:57:15.3±2.2, 15°.01N×89°.50W, h0km±24km, ML3.6*
SNET ***17*** *18:57:15.1±2.3, 15°.01N×89°.51W, h10km±26km, ML3.7*
ISC 17 18:57:15.7±1.5**, 15°.01N**±0°.07×**89°.40W**±0°.04**, h6**km±11km**, n35**, σ0**.97/50**, 1D**, Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRL	**Marmol**	**0.29**	**284**	⇓*i*P		**Pg**	**18 57 20.7**	**-0.8**
NBG	**Las Nubes**	**1.01**	**246**	*e*P		**Pb**	**18 57 35.2**	**-0.6**
TACO	**Tacachico**	**1.03**	**178**	*e*P		**Pg**	**18 57 34.9**	**-0.7**
TACO				*e*S		**Sn**	**18 57 50.7**	**-1.0**
TACO	**Tacachico**	**1.03**	**178**	*e*P		**Pg**	**18 57 34.9**	**-0.7**
TACO				*e*S		**Sn**	**18 57 50.7**	**-1.0**
RTR	**El Retiro**	**1.13**	**192**	*e*P		**Pg**	**18 57 37.1**	**-0.4**
RTR	**El Retiro**	**1.13**	**192**	*e*P		**Pg**	**18 57 37.1**	**-0.4**
SNJE	**San Jose**	**1.15**	**190**	*e*P		**Pg**	**18 57 37.3**	**-0.5**
SNJE	**San Jose**	**1.15**	**190**	*e*P		**Pg**	**18 57 37.3**	**-0.5**
SBLS	**San Blas**	**1.18**	**191**	*e*P		**Pb**	**18 57 37.9**	**-0.9**
SBLS	**San Blas**	**1.18**	**191**	*e*P		**Pb**	**18 57 37.9**	**-0.9**
CEDA	**San Andres**	**1.20**	**180**	*e*P		**Pb**	**18 57 37.7**	**-1.3**
CEDA				*e*S		**Sn**	**18 57 55.9**	**+0.1**
CEDA				IAML			18 58 03.5	
	comp=Z,2μm,0.5s							
CEDA	**San Andres**	**1.20**	**180**	*e*P		**Pb**	**18 57 37.7**	**-1.3**
CEDA				*e*S		**Sn**	**18 57 55.9**	**+0.1**
CEDA				IAML			18 58 03.5	
	comp=Z,2μm,0.5s							
BOQS	**Boqueron**	**1.27**	**175**	*e*P		**Pn**	**18 57 39.5**	**-0.8**
BOQS				*e*S		**Sn**	**18 57 58.4**	**+0.6**
BOQS	**Boqueron**	**1.27**	**175**	*e*P		**Pn**	**18 57 39.5**	**-0.8**
BOQS				*e*S		**Sn**	**18 57 58.4**	**+0.6**
UEES	**Universidad Ev**	**1.29**	**173**	*e*P		**Pn**	**18 57 39.5**	**-1.0**
UEES				*e*S		**Sn**	**18 57 59.0**	**+0.8**
UEES				IAML			18 58 03.4	
	comp=Z,2μm,0.2s							
UEES	**Universidad Ev**	**1.29**	**173**	*e*P		**Pn**	**18 57 39.5**	**-1.0**
UEES				*e*S		**Sn**	**18 57 59.0**	**+0.8**
UEES				IAML			18 58 03.4	
	comp=Z,2μm,0.2s							
LBRS	**Las Brisas**	**1.31**	**165**	*e*P		**Pn**	**18 57 40.4**	**-0.3**
LBRS	**Las Brisas**	**1.31**	**165**	*e*P		**Pn**	**18 57 40.4**	**-0.3**
IXG	**Ixpaco**	**1.31**	**231**	*e*P		**Pg**	**18 57 40.7**	**-0.2**
PCG	**Pacaya**	**1.32**	**243**	*e*P		**Pg**	**18 57 40.6**	**-0.5**
SNET	**Serv Nac Est T**	**1.32**	**173**	IAML			18 58 02.2	
	comp=Z,2μm,0.2s							
SNET	**Serv Nac Est T**	**1.32**	**173**	IAML			18 58 02.2	
	comp=Z,2μm,0.2s							
LFRS	**El Faro**	**1.42**	**167**	*e*P		**Pn**	**18 57 41.7**	**-0.5**
LFRS	**El Faro**	**1.42**	**167**	*e*P		**Pn**	**18 57 41.7**	**-0.5**
FUG	**Fuego 3**	**1.51**	**248**	*e*P		**Pg**	**18 57 43.9**	**-0.8**
FUG				*e*S		**Sg**	**18 58 07.7**	**+3.4**
LALI	**Alcalda de L**	**1.51**	**177**	*e*P		**Pb**	**18 57 43.4**	**-0.9**
LALI				*e*S		**Sg**	**18 58 06.1**	**+1.7**
LALI				IAML			18 58 07.7	
	comp=Z,480nm,0.2s							
LALI	**Alcalda de L**	**1.51**	**177**	*e*P		**Pb**	**18 57 43.4**	**-0.9**
LALI				*e*S		**Sg**	**18 58 06.1**	**+1.7**
LALI				IAML			18 58 07.7	
	comp=Z,480nm,0.2s							
COEB	**Comit de Eme**	**1.72**	**151**	*e*P		**Pg**	**18 57 49.0**	**+0.3**
COEB				*e*S		**Sg**	**18 58 11.6**	**+0.4**
COEB				IAML			18 58 16.0	
	comp=Z,588nm,0.3s							
COEB	**Comit de Eme**	**1.72**	**151**	*e*P		**Pg**	**18 57 49.0**	**+0.3**
COEB				*e*S		**Sg**	**18 58 11.6**	**+0.4**
COEB				IAML			18 58 16.0	
	comp=Z,588nm,0.3s							
TECA	**Tecapa**	**1.74**	**150**	*e*P		**Pb**	**18 57 47.8**	**-0.5**
TECA	**Tecapa**	**1.74**	**150**	*e*P		**Pb**	**18 57 47.8**	**-0.5**
FAGO	**Alcalda de S**	**1.81**	**136**	*e*P		**Pn**	**18 57 47.4**	**-0.1**
FAGO				*e*S		**Sb**	**18 58 13.0**	**+0.7**
FAGO				IAML			18 58 14.8	
	comp=Z,251nm,0.3s							
FAGO	**Alcalda de S**	**1.81**	**136**	*e*P		**Pn**	**18 57 47.4**	**-0.1**
FAGO				*e*S		**Sb**	**18 58 13.0**	**+0.7**
FAGO				IAML			18 58 14.8	
	comp=Z,251nm,0.3s							
LCND	**La Caada**	**2.23**	**139**	*e*P		**Pn**	**18 57 54.9**	**+1.6**
LCND				*e*S		**Sg**	**18 58 27.0**	**-0.6**
LCND				IAML			18 58 28.1	
	comp=Z,572nm,0.4s							
LCND	**La Caada**	**2.23**	**139**	*e*P		**Pn**	**18 57 54.9**	**+1.6**
LCND				*e*S		**Sg**	**18 58 27.0**	**-0.6**
LCND				IAML			18 58 28.1	
	comp=Z,572nm,0.4s							

NIED ***17*** *19:49:00.24°.40N×121°.90E, h77km, Mw4.1 Best double couple: M0 1.59000×10^15 NP1:φ=207.00000°, δ=52.00000°, λ=104.00000°. NP2:φ=6.00000°, δ=40.00000°, λ=74.00000°.*
BJI ***17*** *19:49:11.0±0.0, 24°.51N×121°.98E, h30km, mb3.8/5, ML3.9/6*
JMA ***17*** *19:49:12.0±0.1, 24°.44N×121°.95E, h72km±2km, M4.1*
NEIC ***17*** *19:49:12.5±1.6, 24°.48N±0°.03×122°.00E±0°.04, h66km±3km, mb4.4/29, Mwr4.2/19, ML4.7(TAP), Error ellipse: s-maj=4.9km s-min=3.7km az=117.0*
NEIC ***17*** *19:49:12.5, 24°.48N×121°.99E, h70km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=1.11; Mθθ=0.67; Mφφ=-1.77; Mrθ=-0.97; Mφθ=-1.08; Mrφ=0.37; Fault plane solution: M0 2.16000×10^15 NP1:φ=235.71000°, δ=59.67000°, λ=144.26000°. NP2:φ=345.68000°, δ=59.72000°, λ=35.78000°. Principal axes: T 2.1320, Plg46.0000°, Azm201.0000°; N 0.0485, Plg44.0000°, Azm21.0000°; P -2.1805, Plg0.0000°, Azm111.0000°;*
IDC ***17*** *19:49:12.4±4.0, 24°.45N×121°.98E, h63km±42km, mb3.6/11, mb1 3.7/13, mb1mx3.5/47, mbtmp3.9/13, ML3.5/2, MS2.7/2, Ms1 2.7/2, ms1mx2.5/38 Error ellipse: s-maj=31.7km s-min=13.7km az=59.0*
ASIES ***17*** *19:49:13.5, 24°.52N×121°.99E, h58km, MW3.9*
TAP ***17*** *19:49:13.1, 24°.51N×121°.97E, h62km, ML4.8, B*
ISC 17 19:49:12.7±0.5**, 24°.50N**±0°.02×**122°.01E**±0°.02**, h65**km±4km**, n205**, σ1**.27/333**, mb4.2**/23**, 21C-46D**, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.18**	**308**	⇑*i*P		**Pn**	**19 49 23.1**	**+0.4**
	baz=323							
TWC				S		**Sn**	**19 49 30.1**	**+0.3**
	baz=323							
ENA	**Nanau**	**0.25**	**254**	⇑*i*P		**Pn**	**19 49 23.4**	**+0.4**
	baz=249							
ENA				*e*S		**Sn**	**19 49 30.9**	**+0.4**
	baz=249							
EGS		**0.35**	**349**	⇑*i*P		**Pn**	**19 49 24.2**	**+0.5**
	baz=3.0							
EGS				*e*S		**Sn**	**19 49 31.5**	**-0.2**
	baz=3.0							
ILA	**Ilan**	**0.35**	**319**	⇑*i*P		**Pn**	**19 49 24.7**	**+1.0**
	baz=327							
ILA				*e*S		**Sn**	**19 49 33.0**	**+1.3**
	baz=327							
TWE	**Neicheng**	**0.38**	**306**	⇑*i*P		**Pn**	**19 49 24.6**	**+0.7**
	baz=309							
TWE				*e*S		**Sn**	**19 49 32.8**	**+0.7**
	baz=309							
NTC	**Toucheng**	**0.39**	**336**	⇑*i*P		**Pn**	**19 49 24.7**	**+0.7**
	baz=343							
NTC				*e*S		**Sn**	**19 49 32.6**	**+0.4**
	baz=343							
ENTT	**Nioudou**	**0.42**	**289**	⇓*i*P		**Pn**	**19 49 24.9**	**+0.6**
	baz=286							
ENTT				*e*S		**Sn**	**19 49 33.6**	**+0.7**
	baz=286							
NDT	**Datong Townshi**	**0.46**	**283**	⇓*i*P		**Pn**	**19 49 25.2**	**+0.6**
	baz=280							
NDT				S		**Sn**	**19 49 33.8**	**+0.3**
	baz=280							
NACB	**Ninganchiao**	**0.49**	**229**	⇓*i*P		**Pn**	**19 49 24.9**	**-0.2**
	baz=220							
NACB				*e*S		**Sn**	**19 49 33.9**	**-0.1**
	baz=220							
NACB	**Ninganchiao**	**0.49**	**229**			**Pn**	**19 49 24.8**	**-0.2**
NACB					Sn	**Sn**	**19 49 33.7**	**-0.3**
TIPB	**Shuangxi**	**0.50**	**341**	⇑*i*P		**Pn**	**19 49 25.5**	**+0.4**
	baz=354							
TIPB				*e*S		**Sn**	**19 49 33.8**	**-0.3**
	baz=354							
TWB1	**Santiao Chiao**	**0.51**	**358**	⇑*i*P		**Pn**	**19 49 25.3**	**+0.1**
	baz=10.0							
TWB1				*e*S		**Sn**	**19 49 33.7**	**-0.6**
	baz=10.0							
NWLT	**Wulai**	**0.54**	**301**	⇓*i*P		**Pn**	**19 49 26.1**	**+0.6**
	baz=295							
NWLT				S		**Sn**	**19 49 34.9**	**+0.1**
	baz=295							
ETLH	**Xiulin Townshi**	**0.56**	**239**	*i* P		**Pn**	**19 49 25.8**	**0.0**
	baz=236							
ETLH				*e*S		**Sn**	**19 49 35.3**	**-0.1**
	baz=236							
TWD	**Chiawan**	**0.56**	**222**	P		**Pn**	**19 49 25.8**	**+0.1**
	baz=213							
TWD				*e*S		**Sn**	**19 49 35.4**	**+0.2**
	baz=213							
NNSB	**Datong**	**0.57**	**263**	⇓*i*P		**Pn**	**19 49 26.1**	**+0.1**
	baz=257							
NNSB				*e*S		**Sn**	**19 49 34.7**	**-0.9**
	baz=257							
NNSH	**Datong**	**0.57**	**263**	⇓*i*P		**Pn**	**19 49 26.3**	**+0.3**
	baz=257							
NNSH				*e*S		**Sn**	**19 49 35.6**	**-0.1**
	baz=257							
NNS	**Nan Shan**	**0.58**	**264**	⇓*i*P		**Pn**	**19 49 26.3**	**+0.3**
	baz=258							
NNS				*e*S		**Sn**	**19 49 35.8**	**0.0**
	baz=258							
YHNB	**Yeheng**	**0.60**	**287**	⇓*i*P		**Pn**	**19 49 26.6**	**+0.4**
	baz=280							
YHNB				*e*S		**Sn**	**19 49 36.1**	**0.0**
	baz=280							
YHNB	**Yeheng**	**0.60**	**287**			**Pn**	**19 49 25.9**	**-0.3**
YHNB					Sn	**Sn**	**19 49 35.9**	**-0.2**
NWF	**Wu-fen Shan**	**0.60**	**340**	⇑*i*P		**Pn**	**19 49 26.8**	**+0.5**
	baz=343							
NWF				S		**Sn**	**19 49 36.1**	**-0.1**
	baz=343							
WFSB	**Wu-fen Shan**	**0.60**	**340**	⇑*i*P		**Pn**	**19 49 26.7**	**+0.5**
	baz=343							
WFSB				*i* S		**Sn**	**19 49 36.2**	**+0.1**
	baz=343							
TWA	**Mucha**	**0.61**	**321**	⇑*i*P		**Pn**	**19 49 27.0**	**+0.7**
	baz=330							
TWA				*e*S		**Sn**	**19 49 36.6**	**+0.3**
	baz=330							
NSK	**Sanguang**	**0.61**	**287**	⇓*i*P		**Pn**	**19 49 26.7**	**+0.3**
	baz=280							
NSK				S		**Sn**	**19 49 36.3**	**-0.1**
	baz=280							
HWA	**Hwalien**	**0.64**	**215**	*e*P		**Pn**	**19 49 27.4**	**+0.9**
	baz=202							
HWA				*e*S		**Sn**	**19 49 38.0**	**+1.4**
	baz=202							
NHDH	**Xindian Distri**	**0.64**	**317**	⇓*i*P		**Pn**	**19 49 27.2**	**+0.6**
	baz=318							
NHDH				S		**Sn**	**19 49 37.3**	**+0.6**
	baz=318							
TATO	**Taipei**	**0.67**	**315**	⇓*i*P		**Pn**	**19 49 27.3**	**+0.4**
	baz=317							
TATO				*i* S		**Sn**	**19 49 37.6**	**+0.4**
	baz=317							
TATO	**Taipei**	**0.67**	**315**			**Pn**	**19 49 27.3**	**+0.4**
TATO					Sn	**Sn**	**19 49 37.5**	**+0.3**
TAP	**Taipei**	**0.70**	**320**	⇓*i*P		**Pn**	**19 49 27.8**	**+0.5**
	baz=322							
TAP				S		**Sn**	**19 49 37.7**	**-0.3**
	baz=322							
WHF	**Hehuan Shan**	**0.76**	**243**	⇓*i*P		**Pn**	**19 49 28.6**	**+0.2**
	baz=240							
WHF				*e*S		**Sn**	**19 49 39.8**	**-0.2**
	baz=240							
WLTB	**Daxi**	**0.77**	**297**	⇓*i*P		**Pn**	**19 49 28.8**	**+0.7**
	baz=290							
WLTB				S		**Sn**	**19 49 40.5**	**+1.1**
	baz=290							
YM04	**YM04**	**0.78**	**327**	⇑*i*P		**Pn**	**19 49 28.5**	**+0.3**
	baz=337							
YM04				S		**Sn**	**19 49 39.4**	**-0.2**
	baz=337							
YM08	**YM08**	**0.78**	**331**	⇑*i*P		**Pn**	**19 49 28.4**	**+0.1**
	baz=341							
YM08				S		**Sn**	**19 49 39.2**	**-0.6**
	baz=341							
YM03	**YM03**	**0.80**	**328**	⇑*i*P		**Pn**	**19 49 28.7**	**+0.2**
	baz=338							
YM03				*e*S		**Sn**	**19 49 39.6**	**-0.6**
	baz=338							
TWS1	**Kuangyinshan**	**0.80**	**318**	⇓*i*P		**Pn**	**19 49 29.2**	**+0.7**
	baz=327							
TWS1				S		**Sn**	**19 49 41.2**	**+1.1**
	baz=327							
TDCB	**Techi**	**0.81**	**253**	⇓*i*P		**Pn**	**19 49 29.4**	**+0.7**
	baz=244							
TDCB				S		**Sn**	**19 49 40.5**	**0.0**
	baz=244							
ANP	**Anpu**	**0.81**	**327**	⇑*i*P		**Pn**	**19 49 28.9**	**+0.1**
	baz=337							
ANP				*e*S		**Sn**	**19 49 40.7**	**+0.2**
	baz=337							
NTST	**Danshui**	**0.83**	**323**	⇓*i*P		**Pn**	**19 49 29.5**	**+0.6**
	baz=331							
NTST				S		**Sn**	**19 49 41.3**	**+0.6**
	baz=331							
TWY	**Chenhua**	**0.86**	**335**	⇑*i*P		**Pn**	**19 49 29.7**	**+0.6**
	baz=347							
TWY				*e*S		**Sn**	**19 49 42.3**	**+1.0**
	baz=347							
JYNG	**Yonaguniijimaku**	**0.86**	**93**	P		**Pn**	**19 49 29.9**	**+0.7**
JYNG				S		**Sn**	**19 49 41.7**	**+0.4**
ESL	**Shilin**	**0.86**	**218**	⇓*i*P		**Pn**	**19 49 28.7**	**-0.5**
	baz=224							
ESL				*e*S		**Sn**	**19 49 40.1**	**-1.2**
	baz=224							
CHGB	**Renai**	**0.88**	**240**	⇓*i*P		**Pn**	**19 49 30.2**	**+0.6**
	baz=231							
CHGB				S		**Sn**	**19 49 42.0**	**-0.1**
	baz=231							
NCU	**National Centr**	**0.88**	**302**	⇓*i*P		**Pn**	**19 49 29.9**	**+0.5**
	baz=303							
NCU				*e*S		**Sn**	**19 49 42.4**	**+0.6**
	baz=303							
NCUH	**Zhongli**	**0.88**	**302**	⇓*i*P		**Pn**	**19 49 29.9**	**+0.4**
	baz=302							
NCUH				*e*S		**Sn**	**19 49 42.0**	**+0.2**
	baz=302							
LIOB	**Emei**	**0.91**	**279**	⇓*i*P		**Pn**	**19 49 30.5**	**+0.6**
	baz=279							
LIOB				*e*S		**Sn**	**19 49 43.3**	**+0.7**
	baz=279							
YOJ	**Yonaguni jima**	**0.92**	**92**	⇓*i*P		**Pn**	**19 49 30.7**	**+0.7**
	baz=85							
YOJ				S		**Sn**	**19 49 43.2**	**+0.6**
	baz=85							
YOJ	**Yonaguni jima**	**0.92**	**92**	P		**Pn**	**19 49 30.6**	**+0.7**
YOJ				S		**Sn**	**19 49 42.9**	**+0.3**
YOJ	**Yonaguni jima**	**0.92**	**92**			**Pn**	**19 49 30.5**	**+0.6**
YOJ					Sn	**Sn**	**19 49 43.0**	**+0.4**
NSTT	**Nanjuang**	**0.92**	**278**	⇓*i*P		**Pn**	**19 49 30.5**	**+0.5**
	baz=278							
NSTT				S		**Sn**	**19 49 43.2**	**+0.4**
	baz=278							
OWD	**Renai**	**0.93**	**235**	P		**Pn**	**19 49 30.7**	**+0.5**
	baz=227							
OWD				*e*S		**Sn**	**19 49 42.8**	**-0.4**
	baz=227							
SBCB	**Hsinchu**	**0.97**	**288**	⇓*i*P		**Pn**	**19 49 31.1**	**+0.5**
	baz=297							
SBCB				*e*S		**Sn**	**19 49 44.4**	**+0.5**
	baz=297							
EGFH	**Guangfu**	**0.98**	**213**	P		**Pn**	**19 49 30.4**	**-0.3**
	baz=220							
EGFH				*e*S		**Sn**	**19 49 42.9**	**-1.2**
	baz=220							
HSN	**Hsinchu**	**0.99**	**288**	⇓*i*P		**Pn**	**19 49 31.0**	**+0.2**
	baz=290							
HSN				*e*S		**Sn**	**19 49 44.0**	**-0.2**
	baz=290							
WHP	**Taichung City**	**0.99**	**257**	⇓*i*P		**Pn**	**19 49 32.5**	**+1.5**
	baz=254							
WHP				S		**Sn**	**19 49 45.6**	**+1.2**
	baz=254							
VWDT	**VWDT**	**1.08**	**227**	⇓*i*P		**Pn**	**19 49 32.7**	**+0.7**
	baz=218							
VWDT				S		**Sn**	**19 49 46.2**	**-0.1**
	baz=218							
DPDB	**Guoxing**	**1.09**	**245**	⇓*i*P		**Pn**	**19 49 33.3**	**+1.2**
	baz=244							
DPDB				*e*S		**Sn**	**19 49 47.5**	**+0.9**
	baz=244							
NMLH	**Miaoli**	**1.11**	**272**	P		**Pn**	**19 49 33.1**	**+0.7**
	baz=271							
NMLH				*e*S		**Sn**	**19 49 48.3**	**+1.3**
	baz=271							
PCYT	**Pengchaiyu**	**1.13**	**3**	⇑*i*P		**Pn**	**19 49 33.0**	**+0.4**
	baz=5.0							
PCYT				*e*S		**Sn**	**19 49 47.1**	**-0.3**
	baz=5.0							
HGSD	**Ruisui**	**1.13**	**208**	⇑*i*P		**Pn**	**19 49 32.8**	**+0.1**
	baz=216							
HGSD				*e*S		**Sn**	**19 49 48.0**	**+0.4**
	baz=216							
EHY	**Hungye**	**1.17**	**212**	*e*P		**Pn**	**19 49 32.2**	**-0.9**
	baz=211							
EHY				*e*S		**Sn**	**19 49 47.4**	**-1.0**
	baz=211							
SMLT	**Sun Moon Lake**	**1.18**	**239**	P		**Pn**	**19 49 34.5**	**+1.1**
	baz=230							
SMLT				*e*S		**Sn**	**19 49 52.1**	**+3.3**
	baz=230							
PTSB	**Yuanli**	**1.19**	**268**	⇓*i*P		**Pn**	**19 49 34.1**	**+0.8**
	baz=267							
PTSB				*e*S		**Sn**	**19 49 49.1**	**+0.3**
	baz=267							
SSLB	**Suanglung**	**1.19**	**234**	P		**Pn**	**19 49 34.1**	**+0.6**
	baz=228							
SSLB				*e*S		**Sn**	**19 49 51.3**	**+2.3**
	baz=228							
SSLB	**Suanglung**	**1.19**	**234**			**Pn**	**19 49 33.9**	**+0.4**
TYC	**Yuchr**	**1.20**	**241**	⇓*i*P		**Pn**	**19 49 34.8**	**+1.2**
	baz=239							
TYC				*e*S		**Sn**	**19 49 50.0**	**+0.8**
	baz=239							
WDJ	**Dajia District**	**1.25**	**263**	⇓*i*P		**Pn**	**19 49 35.0**	**+0.8**
	baz=263							
WDJ				*e*S		**Sn**	**19 49 50.8**	**+0.4**
	baz=263							
TCU	**Taichung**	**1.26**	**254**	*e*P		**Pn**	**19 49 35.3**	**+1.0**
	baz=264							
TCU				*e*S		**Sn**	**19 49 51.9**	**+1.4**
	baz=264							
YULB	**Yu-li**	**1.28**	**211**	P		**Pn**	**19 49 33.7**	**-1.0**
	baz=210							
YULB	**Yu-li**	**1.28**	**211**			**Pn**	**19 49 33.6**	**-1.0**
YULB					Sn	**Sn**	**19 49 49.6**	**-1.4**
TWF1	**Yuli**	**1.31**	**210**	*e*P		**Pn**	**19 49 34.2**	**-0.9**
	baz=217							
WHYT	**Xinyi Township**	**1.32**	**233**	P		**Pn**	**19 49 36.9**	**+1.7**
	baz=224							
WHYT				*e*S		**Sn**	**19 49 53.9**	**+1.9**
	baz=224							
WJS	**Zhushan**	**1.35**	**240**	P		**Pn**	**19 49 36.8**	**+1.3**
	baz=250							
WJS				S		**Sn**	**19 49 54.5**	**+1.9**
	baz=250							
WNT	**Mingjian**	**1.35**	**243**	⇓*i*P		**Pn**	**19 49 37.0**	**+1.4**
	baz=254							
WNT				*e*S		**Sn**	**19 49 55.0**	**+2.2**
	baz=254							
WCHH	**Zhanghua**	**1.39**	**253**	⇓*i*P		**Pn**	**19 49 36.5**	**+0.6**
	baz=263							
WCHH				*e*S		**Sn**	**19 49 54.2**	**+0.8**
	baz=263							
FULB	**Fuli**	**1.45**	**207**	*i* P		**Pn**	**19 49 36.9**	**0.0**
	baz=214							
FULB				*e*S		**Sn**	**19 49 55.0**	**-0.1**
	baz=214							
ALS	**Alishan**	**1.47**	**228**	P		**Pn**	**19 49 38.8**	**+1.3**
	baz=220							
ALS				*e*S		**Sn**	**19 49 57.8**	**+1.8**
	baz=220							
CHN5	**Tsauling**	**1.51**	**234**	*i* P		**Pn**	**19 49 39.3**	**+1.5**
	baz=244							
CHN5				*e*S		**Sn**	**19 49 59.0**	**+2.4**
	baz=244							
CHKT	**Chengkung**	**1.51**	**203**	P		**Pn**	**19 49 37.1**	**-0.6**
	baz=194							
CHKT				*e*S		**Sn**	**19 49 54.6**	**-1.9**
	baz=194							
WGK	**Gukeng**	**1.55**	**239**	P		**Pn**	**19 49 39.6**	**+1.4**
	baz=248							
WGK				*e*S		**Sn**	**19 49 59.7**	**+2.4**
	baz=248							
WDLH	**Douliu**	**1.56**	**239**	⇓P		**Pn**	**19 49 39.8**	**+1.4**
	baz=249							
WDLH				*e*S		**Sn**	**19 49 59.6**	**+1.8**
	baz=249							
IRIF	**Iriomote-Funau**	**1.58**	**96**	P		**Pn**	**19 49 39.0**	**+0.4**
IRIF				S		**Sn**	**19 49 58.5**	**+0.4**
ELDTW	**Lidau**	**1.59**	**215**	P		**Pn**	**19 49 38.6**	**-0.2**
	baz=209							
ELDTW				*e*S		**Sn**	**19 49 58.3**	**-0.2**
	baz=209							
RLNB	**Erlin**	**1.62**	**248**	⇓*i*P		**Pn**	**19 49 39.8**	**+0.7**
	baz=258							
RLNB				*e*S		**Sn**	**19 49 59.6**	**+0.5**
	baz=258							
WTCT	**Ta-ch'eng**	**1.70**	**248**	P		**Pn**	**19 49 40.5**	**+0.3**
	baz=257							
WTCT				*e*S		**Sn**	**19 50 01.1**	**+0.2**
	baz=257							
HATJ	**Hateruma jima**	**1.70**	**105**	P		**Pn**	**19 49 41.0**	**+0.8**
HATJ				*e*S		**Sn**	**19 50 03.0**	**+2.0**
TPUB	**Ta-pu**	**1.73**	**227**	⇑*i*P		**Pn**	**19 49 42.2**	**+1.5**
	baz=218							
TPUB				*e*S		**Sn**	**19 50 04.1**	**+2.2**
	baz=218							
TPUB	**Ta-pu**	**1.73**	**227**			**Pn**	**19 49 42.2**	**+1.5**
TPUB					Sn	**Sn**	**19 50 05.0**	**+3.1**
STYT	**Tauyuan**	**1.75**	**221**	P		**Pn**	**19 49 42.3**	**+1.3**
	baz=212							
STYT				*e*S		**Sn**	**19 50 04.3**	**+1.9**
	baz=212							
CHY	**Chiayi**	**1.76**	**236**	⇓*i*P		**Pn**	**19 49 42.3**	**+1.3**
	baz=246							
CHY				*e*S		**Sn**	**19 50 03.8**	**

baz=226
CHN1 eS Sn 19 50 08.2 +2.7
baz=226
TTN Taitung 1.91 205 eP Pn 19 49 43.1 +0.1
baz=204
TTN eS Sn 19 50 05.8 -0.3
baz=204
SGST Jiashian 1.92 223 eP Pn 19 49 43.9 +0.7
baz=223
SGST eS Sn 19 50 07.9 +1.5
baz=223
SLGT Liugui 1.95 220⇑ iP Pn 19 49 45.3 +1.7
baz=212
SLGT eS Sn 19 50 09.2 +2.2
baz=212
JIJ Ishigaki jima 1.95 94 P Pn 19 49 44.0 +0.4
JIJ S Sn 19 50 06.7 -0.4
CHN8 Yiju 2.00 235 P Pn 19 49 45.3 +1.0
baz=234
CHN8 eS Sn 19 50 10.2 +1.9
baz=234
CHN3 Shinhua 2.06 227 eP Pn 19 49 46.1 +1.0
baz=237
JISG Ishigakijimahi 2.10 87 P Pn 19 49 46.2 +0.6
JISG S Sn 19 50 11.3 +0.6
SCLT Jiali 2.12 232 eP Pn 19 49 47.3 +1.4
baz=242
SCLT eS Sn 19 50 13.0 +1.8
baz=242
ECL Taimali 2.12 207 P Pn 19 49 45.1 -0.9
baz=201
ECL eS Sn 19 50 10.1 -1.2
baz=201
SSD Sandimen 2.15 216 eP Pn 19 49 48.2 +1.9
baz=209
SSD eS Sn 19 50 14.3 +2.4
baz=209
TWM1 Shoushan 2.21 221 eP Pn 19 49 49.7 +2.5
baz=222
TWM1 eS Sn 19 50 17.9 +4.5
baz=222
SGLT Jiouru 2.25 218 P Pn 19 49 50.9 +3.3
baz=220
SGLT eS Sn 19 50 18.1 +3.8
baz=220
PTTC Pingtan 2.26 297⇓ eP Pn 19 49 47.1 -0.6
baz=296
MASBT Mashibuluo 2.26 214 P Pn 19 49 48.7 +0.9
baz=216
MASBT eS Sn 19 50 16.4 +1.8
baz=216
SNJT Kaohsiung City 2.32 222 eP Pn 19 49 50.2 +1.7
baz=224
TAW Tawu 2.36 206 eP Pn 19 49 49.2 0.0
baz=201
TAW eS Sn 19 50 15.1 -2.0
baz=201
VWUC VWUC 2.38 282⇓ eP Pn 19 49 48.9 -0.5
baz=282
SSPT Xinbi 2.40 214 eP Pn 19 49 52.2 +2.5
baz=216
SSPT eS Sn 19 50 21.6 +3.6
baz=216
PNG Penghu 2.42 248 i P Pn 19 49 49.4 -0.6
baz=246
PNG eS Sn 19 50 17.6 -0.9
baz=246
PHUB P'eng-hu 2.43 247⇓ iP Pn 19 49 49.5 -0.6
baz=245
PHUB eS Sn 19 50 16.0 -2.7
baz=245
JTJ Tarama 2.46 86 P Pn 19 49 51.8 +1.3
JTJ eS Sn 19 50 20.7 +1.3
SCZT Fangliau 2.47 211 P Pn 19 49 52.4 +1.8
baz=214
SCZT eS Sn 19 50 23.0 +3.3
baz=214
WDGT Dungji 2.48 241 P Pn 19 49 50.7 0.0
baz=239
WDGT eS Sn 19 50 18.6 -1.2
baz=239
LAY Lan-yu 2.48 190 P Pn 19 49 50.2 -0.6
baz=185
LAY eS Sn 19 50 17.2 -2.9
baz=185
MATB Ma-tsu 2.49 312⇓ eP Pn 19 49 50.4 -0.5
baz=311
WLCH Liuqiu 2.61 215 eP Pn 19 49 55.6 +3.1
baz=219
TWP Hsiaoliuchiu 2.62 215 eP Pn 19 49 55.1 +2.4
baz=219
PTMZ Houxiangcun 2.68 282⇓ eP Pn 19 49 53.0 -0.5
baz=281
VCHM Qimei 2.69 242 P Pn 19 49 53.1 -0.4
baz=240
VCHM eS Sn 19 50 23.1 -1.9
baz=240
HEN Hengchun 2.74 205 P Pn 19 49 55.7 +1.4
baz=207
HEN eS Sn 19 50 28.5 +2.1
baz=207
TWK1 Hengchun 2.77 204 eP Pn 19 49 55.3 +0.5
baz=205
TWK1 eS Sn 19 50 27.1 0.0
baz=205
TWKBT Hengchun 2.77 204 P Pn 19 49 55.4 +0.6
baz=205
TWKBT eS Sn 19 50 26.3 -0.8
baz=205
TSEB Hengchuen, Pin 2.78 202 P Pn 19 49 55.4 +0.6
baz=204
TSEB eS Sn 19 50 27.1 -0.2
baz=204
LYJJ Jianjiangzhen 2.88 316⇓ eP Pn 19 49 55.8 -0.4
baz=315
JIRB Irabujima 2.90 83 P Pn 19 49 58.0 +1.5
JIRB S Sn 19 50 31.6 +1.4
XPSS Dashiqiu 2.92 326⇓ eP Pn 19 49 56.7 -0.1
baz=317
JIKM Ikemajima 2.98 81 P Pn 19 49 59.3 +1.7
JMJ Miyako jima 2 3.01 83 eP Pn 19 50 00.1 +2.1
baz=85
JMJ eS Sn 19 50 35.3 +2.5
baz=85
JMJ2 Miyako jima3 3.03 85 P Pn 19 50 00.2 +1.9
JMJ2 eS Sn 19 50 35.6 +2.1
JOGS Gusukube 3.11 84 P Pn 19 50 01.1 +1.8
MHZQ Yeshan 3.13 301 eP Pn 19 49 58.7 -0.9
baz=299
QZH Quanzhou 3.13 279⇓ iPn Pn 19 49 59.3 -0.4
QZH Sn Sn 19 50 32.3 -3.7
QZH smax smax
comp=N,230nm,0.4s
QZH smax smax
comp=E,160nm,0.3s
KNM Kinmen 3.26 269 eP Pn 19 50 02.4 +1.0
baz=268
KNMB Chin-men Tao 3.29 270 eP Pn 19 50 01.1 -0.8
baz=269
KNMB Chin-men Tao 3.29 270 Pn 19 50 01.3 -0.6
ZPLA Ao Xicun 3.93 263 eP Pn 19 50 09.8 -0.7
baz=261
ZZJH Jiuhuzhen 3.99 270 eP Pn 19 50 10.6 -0.7
baz=270
JOW Kunigami 6.12 66 P Pn 19 50 40.3 -0.2
2.2nm,0.3s,baz=36,slow=12,SNR=7.2
JOW Kunigami 6.12 66 Pn 19 50 40.9 +0.4
SZP Santa 7.06 192 Pn Pn 19 50 50.3 -3.2
HKPS Hong Kong Po S 7.55 255 Pn Pn 19 51 00.7 +0.4
WHN Wuhan 9.08 313 P Pn 19 51 20.5 -0.5
WHN S Sn 19 53 02.6 +1.0
ENH Enshi 12.52 300 Pn Pn 19 52 07.3 -0.7
KSRS Korea Array 13.87 20 P Pn 19 52 27.7 +1.6
0.3nm,0.3s,baz=203,slow=12,SNR=4.4
KSRS LR LR 19 57 54.6
comp=Z,25nm,18.7s,baz=186,slow=38
KS19 Wonju Array Si 13.90 20 Pn Pn 19 52 23.1 -3.5
GYA Guiyang 13.99 281⇑ iP Pn 19 52 29.3 +1.3
GYA S Sn 19 55 05.3 +3.4
GYA SS S 19 55 20.8 +0.9
GYA pmax pmax
comp=Z,10.0nm,0.7s
XAN Xi'an 14.84 313 Pn Pn 19 52 38.2 -0.7
MJAR Matsushiro Arr 18.38 45 LR LR 20 00 31.3
comp=Z,29nm,19.1s,baz=265,slow=37
KKM Kota Kinabalu 19.17 198 Pn 19 53 32.8 0.0
KKM IAmb IAmb 19 53 35.7
comp=Z,13nm,1.0s
USA0B Ussuriysk Arra 21.28 20 P P 19 53 54.4 +0.7
CMAR Chiang Mai Arr 22.27 259 P P 19 54 04.2 -0.5
comp=Z,0.6nm,0.6s,baz=62,slow=9.0,SNR=4.6
SBUM Sibu 23.87 205 P P 19 54 19.7 -0.7
LUWI Luwuk 25.40 178 P P 19 54 35.5 +1.3
LUWI IAmb IAmb 19 54 41.2
comp=Z,20nm,0.8s
KSM Kuching 25.53 208 P P 19 54 34.6 -0.9
KSM IAmb IAmb 19 54 36.4
comp=Z,6.6nm,0.9s
BKB Balikpapan 26.08 192 P P 19 54 38.8 -1.6
ULN Ulaanbaatar 26.16 337 P P 19 54 40.6 -0.5
SONM Songino Array 26.38 336 P P 19 54 43.4 +0.4
comp=Z,0.7nm,0.6s,baz=167,slow=7.5,SNR=3.6
SONM Songino Array 26.38 336 P P 19 54 42.2 -0.8
SHL Shillong 27.29 279 P P 19 54 51.4 -0.1
SHL IAmb IAmb 19 55 13.2
comp=Z,7.5nm,1.1s
IPM Ipoh 28.35 229 P P 19 55 01.1 +0.3
IPM IAmb IAmb 19 55 12.2
comp=Z,14nm,1.3s
FAKI Fak Fak 29.02 159 P P 19 55 06.8 +0.1
FAKI IAmb IAmb 19 55 38.4
comp=Z,76nm,1.3s
WMQ Urumqi 33.98 313 eP P 19 55 55.3 +5.1
MK31 Makanchi Array 38.64 315 P P 19 56 28.7 -1.1
MKAR Makanchi Array 38.64 315 P P 19 56 29.9 +0.1
comp=Z,0.6nm,0.6s,baz=100,slow=8.4,SNR=9.4
MKAR Makanchi Array 38.64 315 P P 19 56 29.7 -0.1
MAKZ Makanchi 38.84 315 P P 19 56 30.1 -1.5
ZAA0 Zalesovo Array 40.39 327 P P 19 56 43.3 -0.9
ZALV Zalesovo Beam 40.39 327 P P 19 56 43.3 -0.9
comp=Z,0.6nm,0.3s,baz=94,slow=8.7,SNR=2.4
ZALV Zalesovo Beam 40.39 327 P P 19 56 42.2 -2.0
KNRA Kununurra 40.47 170 P P 19 56 43.5 -1.7
FITZ Fitzroy Crossi 42.49 175 P P 19 57 00.1 -1.7
comp=Z,1.9nm,0.8s,baz=304,slow=3.6,SNR=1.6
FITZ Fitzroy Crossi 42.49 175 P P 19 56 60.0 -1.7
FITZ IAmb IAmb 19 57 09.4
comp=Z,16nm,1.5s
COEN Coen 43.45 149 P P 19 57 11.0 +1.4
COEN IAmb IAmb 19 57 40.5
comp=Z,27nm,1.4s
WB0 Warramunga Arr 45.62 164 P P 19 57 26.0 -0.8
WB0 IAmb IAmb 19 57 59.9
comp=Z,11nm,1.3s
WRA Warramunga Arr 45.78 164 P P 19 57 27.4 -0.6
comp=Z,1.2nm,0.4s,baz=346,slow=8.5,SNR=16
WRA Warramunga Arr 45.78 164 P P 19 57 27.3 -0.7
WB2 Warramunga Arr 45.78 164 P P 19 57 27.5 -0.5
WB2 IAmb IAmb 19 57 28.3
comp=Z,15nm,1.3s
WR0 Warramunga Arr 45.84 163 P P 19 57 27.8 -0.8
WR0 IAmb IAmb 19 57 29.5
comp=Z,12nm,1.1s
TIXI Tiksi 47.34 3 P P 19 57 41.3 +1.7
TIXI IAmb IAmb 19 58 03.6
comp=Z,4.2nm,1.1s
BRVK Borovoye 47.98 320 P P 19 57 44.4 -0.5
BRVK IAmb IAmb 19 58 16.9
comp=Z,1.8nm,0.8s
AS31 Alice Springs 49.25 166 P P 19 57 54.4 -0.5
AS31 IAmb IAmb 19 58 07.6
comp=Z,2.7nm,1.4s
ASAR Alice Springs 49.25 166 P P 19 57 54.8 -0.2
comp=Z,0.6nm,0.4s,baz=349,slow=7.1,SNR=16
ASAR Alice Springs 49.25 166 P P 19 57 55.0 0.0
ASAR PcP PcP 19 59 16.2 -1.0
CTA Charters Tower 50.21 150 P P 19 58 02.7 +0.4
comp=Z,5.6nm,1.0s,baz=312,slow=8.3,SNR=5.0
CTAO Charters Tower 50.21 150 P P 19 58 03.3 +1.0
ABKAR Akbulak array 53.76 314 P P 19 58 29.0 +0.7
GEYT Alibeck 55.28 300 P P 19 58 40.6 +1.0
comp=Z,1.6nm,0.7s,baz=69,slow=8.1,SNR=3.8
GEYT Alibeck 55.28 300 P P 19 58 40.2 +0.5
NWAO Narrogin (SRO) 57.29 185 P P 19 58 53.3 -0.5
BBOO Buckleboo 58.55 166 P P 19 59 01.9 -0.7
STKA Stephens Creek 59.10 161 P P 19 59 05.8 -0.7
comp=Z,1.1nm,0.3s,baz=333,slow=9.0,SNR=2.9
STKA Stephens Creek 59.10 161 P P 19 59 06.2 -0.3
STKA IAmb IAmb 19 59 40.1
comp=Z,4.3nm,1.6s
JOHN Johnston Islan 64.00 83 P P 19 59 38.3 -1.5
FINES FINESS Array B 71.55 330 P P 20 00 26.3 -0.3
comp=Z,1.3nm,0.7s,baz=66,slow=6.5,SNR=4.5
FINES FINESS Array B 71.55 330 P P 20 00 26.0 -0.6

NEIC ***17*** *19:56:21.4±2.2, 1°.51N±0°.07×125°.48E±0°.06, h82km±4km, mb5.3/137, Error ellipse: s-maj=10.4km s-min=8.8km az=186.0*
UNK ***17*** *19:56:21.3, 1°.52N×125°.48E, h80km*
BJI ***17*** *19:56:22.4±0.0, 1°.12N×125°.50E, h128km, mB5.0/44, mb4.8/56*
MOS ***17*** *19:56:22.0±1.0, 1°.50N×125°.37E, h99km, mb4.8/30, Error ellipse: s-maj=8.0km s-min=4.6km az=114.3*
IDC ***17*** *19:56:23.1±1.3, 1°.48N×125°.38E, h89km±11km, mb4.5/27, mb1 4.6/32, mb1mx4.6/37, mbtmp4.9/32, MS3.5/25, Ms1 3.5/25, ms1mx3.5/37, Error ellipse: s-maj=12.8km s-min=8.2km az=76.0*
DJA ***17*** *19:56:24.2±0.2, 2°N±2°×12°6E±°, h95km±2km, M5.0/70, mb5.3/70, mB5.4/31, MLv5.5/19, Mw(mB)4.9/31, Mwp5.0/1*
KLM ***17*** *19:56:24.0, 1°.50N×125°.51E, h104km, mb5.4*
GCMT ***17*** *19:56:24.4±0.2, 1°.65N±0°.01×125°.58E±0°.02, h98km±1km, MW5.0/120, Moment Tensor Solution. s65,c78; s120,c195; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.73±.09; Mθθ-4.22±.09; Mφφ 1.49±.11; Mrθ-1.43±.07; Mrφ0.93±.10; Mθφ-0.61±.08; Best double couple: Ms3.97900×10¹⁶ NP1:φs125.00000°, δ41.00000°, λ130.00000°. NP2:φs257.00000°, δ60.00000°, λ61.00000°. Principal axes: T 3.3510, Plg63.0000°, Azm119.0000°; N 1.2560, Plg25.0000°, Azm273.0000°; P -4.6070, Plg10.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 17 19:56:23.6±0.3, 1°.49N±0°.03×125°.52E±0°.04, h99km±2km, h99km:pP-P, n667, σ1§53/727, mb5.0/129, 17C-13D, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MNI	**Manado**	**0.68**	**267**	P		Pn	19 56 39.9	-0.9
KMSI	**Cibinong**	**1.79**	**240**	P		Pn	19 56 53.8	+0.4
KMSI				S		Sn	19 57 17.9	+1.8
TNTI	**Ternate**	**1.98**	**111**	P		Pn	19 56 55.9	+0.1
TNTI				S		Sn	19 57 20.3	-0.1
TNTI	**Ternate**	**1.98**	**111**	Pn		Pn	19 56 55.8	+0.1
SANI	**Sanana**	**3.54**	**172**	P		Pn	19 57 14.3	-2.3
SANI				S		Sn	19 57 51.4	-6.2
MRSI	**Marisa**	**3.72**	**254**	P		Pn	19 57 20.5	+1.5
MRSI				S		Sn	19 58 01.8	-0.1
LUWI	**Luwuk**	**3.72**	**228**	P		Pn	19 57 20.4	+1.4
LUWI				S		Sn	19 58 05.1	+3.1
LUWI	**Luwuk**	**3.72**	**228**	Pn		Pn	19 57 19.5	+0.5
APSI	**Ampana**	**4.55**	**238**	P		Pn	19 57 32.2	+2.0
APSI				S		Sn	19 58 27.8	+5.9
DDMP	**Don Marcelino,**	**4.59**	**2**	eP		Pn	19 57 33.0	+2.2
GSPH	**General Santos**	**4.61**	**353**	i/P		Pn	19 57 32.5	+1.4
NLAI	**Namlea**	**4.95**	**161**	P		Pn	19 57 34.9	-0.7
SKMP	**Bagumbayan, Su**	**5.10**	**349**	eP		Pn	19 57 39.2	+1.5
KCP	**Kidapawan**	**5.50**	**356**	I/P		Pn	19 57 46.5	+3.2
KCP				i	S	Sn	19 58 51.9	+6.6
DMPH	**Davao City--Mi**	**5.56**	**360**	eP		Pn	19 57 47.8	+3.8
MPSI	**Mapaga**	**5.74**	**259**	P		Pn	19 57 48.6	+2.3
	1.8nm3µm394nm,0.7s							
CTBH	**Cotabato--PC H**	**5.84**	**347**	i/eP		Pn	19 57 49.9	+2.2
MSAI	**Masohi**	**5.88**	**145**	P		Pn	19 57 49.7	+1.4
	2.4nm5µm360nm,0.6s							
SIJI	**Sorong**	**6.20**	**112**	P		Pn	19 57 52.4	-0.2
	5.4nm,0.3s,baz=311,slow=7.6,SNR=43							
BUKP	**Musuan**	**6.37**	**356**	eP		Pn	19 57 59.5	+4.5
ZCP	**Zamboanga City**	**6.41**	**328**	I/eP		Pn	19 57 57.0	+1.5
PAGZ	**Pagadian**	**6.67**	**341**	eP		Pn	19 58 00.8	+1.8
TTSI	**Tana Toraja**	**7.26**	**232**	P		Pn	19 58 07.9	+0.8
	3.1nm6µm630nm,0.7s							
BNDI	**Bandanaira**	**7.40**	**144**	P		Pn	19 58 09.1	+0.1
	5.9nm761nm,0.6s							
BBSI	**Bau Bau**	**7.53**	**203**	P		Pn	19 58 11.6	+0.9
	0.2nm668nm60nm,0.6s							

SPSI Sidrap Palu 7.90 227 P Pn 19 58 17.1 +1.4
1.5nm5µm400nm,0.6s
BNSI Bone 7.97 223 P Pn 19 58 17.1 +0.4
1.1nm3µm323nm,0.6s
FAKI Fak Fak 8.02 123 P Pn 19 58 18.0 +0.6
2µm272nm,1.1s
FAKI Fak Fak 8.02 123 Pn Pn 19 58 17.5 +0.1
SMKI Samarinda 8.53 257 P Pn 19 58 26.7 +2.3
328nm,0.8s
MSLP Maasin 8.62 356 eP Pn 19 58 27.7 +2.2
KAPI Kappang 8.65 222 P Pn 19 58 25.6 -0.5
25nm,0.3s,baz=45,slow=4.1,SNR=63
KAPI LR LR 20 02 17.6
comp=Z,423nm,18.6s,baz=52,slow=41
KAPI Kappang 8.65 222 Pn Pn 19 58 26.0 0.0
CNOP Candoni, Negro 8.77 341 eP Pn 19 58 31.2 +3.6
LLP Lapu-Lapu 8.91 350 eP Pn 19 58 32.4 +2.9
BKB Balikpapan 9.05 252 P Pn 19 58 32.9 +1.5
2µm256nm,0.8s
BKB Balikpapan 9.05 252 Pn Pn 19 58 30.2 -1.1
SPMM Sapulut 9.59 290 P Pn 19 58 42.0 +3.1
KMPI Kaimana, Papua 9.64 122 P Pn 19 58 39.8 +0.3
2µm248nm,0.8s
KKM Kota Kinabalu 10.33 296 Pn Pn 19 58 51.0 +2.1
KBKI Kotabaru 10.49 243 P Pn 19 58 52.3 +1.3
1µm144nm,0.7s
MMRI Maumere 10.57 198 Pn Pn 19 58 51.1 -1.1
BATP Bataraza 10.57 314 eP Pn 19 58 50.3 -1.9
EDFI Ende, Flores 10.86 201 P Pn 19 58 58.1 +1.9
1µm55nm,0.4s
SAUI Saumlaki 11.03 149 Pn Pn 19 58 55.7 -2.6
SOEI Soe 11.24 186 P Pn 19 59 05.8 +4.5
SOEI Soe 11.24 186 Pn Pn 19 59 05.6 +4.3
BATI Baumata 11.76 189 P Pn 19 59 10.4 +2.1
12nm,0.3s,baz=332,slow=1.6,SNR=18
BATI LR LR 20 03 52.4
comp=Z,701nm,20.1s,baz=19,slow=38
BATI Baumata 11.76 189 P Pn 19 59 10.3 +2.1
95nm,0.7s
BASI Baing, Sumba 12.63 203 P P 19 59 25.2 -1.9
WBSI Waikabubak, Su 12.63 209 P Pn 19 59 20.1 +0.4
71nm,0.8s
PLAI Plampang 12.83 217 P Pn 19 59 22.7 +0.4
2µm244nm,0.9s
SBUM Sibu 13.33 274 Pn Pn 19 59 30.2 +1.3
SBUM Sibu 13.33 274 P Pn 19 59 32.0 +3.1
TGY Tagaytay City 13.33 340 P Pn 19 59 31.2 +2.2
37nm,0.3s,baz=156,slow=7.2,SNR=5.6
TGY LR LR 20 05 02.0
comp=Z,352nm,21.9s,baz=154,slow=39
SMPI Sarmi 13.63 105 P Pn 19 59 33.6 +0.7
2µm222nm,0.9s
KMMI Kalianget 14.31 234 P P 19 59 46.4 +0.5
BALP Baler 14.69 345 eP Pn 19 59 48.5 +2.0
JAGI Jajag, Banyuwa 15.04 229 P Pn 19 59 53.5 +2.5
202nm,1.0s
JAGI Jajag, Banyuwa 15.04 229 Pn 19 59 52.4 +1.3
JAGI IAmb IAmb 19 59 58.0
comp=Z,136nm,0.6s
GENI Genyem 15.19 105 P Pn 19 59 53.6 +0.7
comp=Z,3µmcomp=Z,270nm,0.8s
KSM Kuching 15.21 270 Pn 19 59 54.2 +1.1
KSM IAmb IAmb 20 00 00.9
comp=Z,234nm,1.0s
KSM Kuching 15.21 270 P Pn 19 59 55.0 +1.9
MTN Manton Dam 15.29 159 Pn 19 59 51.7 -2.3
MTN IAmb IAmb 19 59 53.3
comp=Z,123nm,0.6s
SMPP San Manuel, Pa 15.33 342 eP Pn 19 59 54.7 0.0
JAY Jayapura 15.69 105 P Pn 19 59 59.3 +0.1
comp=Z,4.5nm,0.3s,baz=270,slow=6.0,SNR=15
JAY Jayapura 15.69 105 P Pn 19 59 58.9 -0.3
comp=Z,435nmcomp=Z,51nm,0.8s
NGJI Ngawi 16.56 238 P P 20 00 11.8 +1.0
comp=Z,94nm,0.9s
ABRA Dolores 16.75 344 eP Pn 20 00 12.8 +0.6
APYP Conner 16.81 346 eP Pn 20 00 13.2 +0.3
WOJI Wonogiri, Jawa 17.26 237 P Pn 20 00 19.8 +1.3
comp=Z,74nm,1.1s
SMRI Semarang 17.27 240 P Pn 20 00 19.6 +0.9
comp=Z,217nm,0.9s
SMRI Semarang 17.27 240 P Pn 20 00 17.6 -1.1
SMRI IAmb IAmb 20 00 22.2
comp=Z,147nm,0.8s
KNRA Kununurra 17.35 169 P P 20 00 19.0 -0.5
baz=17,SNR=90
KNRA Kununurra 17.35 169 P P 20 00 18.7 -0.8
KNRA IAmb IAmb 20 00 20.5
comp=Z,170nm,0.8s
UGM Wanagama 17.63 238 P 20 00 22.3 -0.3
UGM IAmb IAmb 20 00 51.8
comp=Z,704nm,2.0s
MMPI Merauke 17.81 124 P Pn 20 00 26.5 +1.3
comp=Z,21µmcomp=Z,3µm,0.7s
TPI Tanjungpandan 18.35 257 P P 20 00 31.9 +1.3
comp=Z,28nm,0.8s
FITZ Fitzroy Crossi 19.46 180 P P 20 00 42.1 -0.6
baz=20,SNR=43
FITZ Fitzroy Crossi 19.46 180 P P 20 00 42.0 -0.6
comp=Z,3.3nm,0.3s,baz=12,slow=8.7,SNR=97
FITZ Fitzroy Crossi 19.46 180 P P 20 00 41.5 -1.1
LEM Lembang 19.68 245 P P 20 00 44.6 -0.7
comp=Z,3.4nm,0.3s,baz=46,slow=9.1,SNR=12
CISI Cisompet, Garu 19.82 243 P P 20 00 44.7 -1.9
CISI Cisompet, Garu 19.82 243 P 20 00 43.3 -3.3
CISI IAmb IAmb 20 00 54.7
comp=Z,80nm,0.7s
DLV T Lat 19.84 302 P P 20 00 45.3 -1.6
DLV IAmb IAmb 20 01 12.2
comp=Z,172nm,1.6s
CBJI Citeko 20.23 247 P Pn 20 00 56.2 +2.4
TWG Pinlang 21.64 349 P P 20 01 04.5 -1.5
TWG IAmb IAmb 20 01 08.1
comp=Z,135nm,0.6s
MYKOM Kota Tinggi 21.67 271 P P 20 01 06.3 -0.1
MYKOM IAmb IAmb 20 01 10.2
comp=Z,58nm,0.8s
MYKOM Kota Tinggi 21.67 271 P P 20 01 09.0 +2.6
KASI Kota Agung 22.12 252 P P 20 01 10.7 -0.5
comp=Z,65nm,0.9s
YULB Yu-li 22.16 350 P P 20 01 08.0 -3.6
TPUB Ta-pu 22.20 348 P P 20 01 08.9 -3.0
TPUB IAmb IAmb 20 01 16.6
comp=Z,57nm,0.5s
TPUB S 20 05 02.9 -7.2
LWLI Liwa 22.39 253 P P 20 01 13.1 -1.1
GUMO Guam 22.61 57 P P 20 01 12.7 -3.6
GUMO pmax pmax
comp=Z,81nm,0.9s
GUMO Guam 22.61 57 P P 20 01 12.7 -3.6
GUMO IAmb IAmb 20 01 41.0
comp=Z,81nm,0.8s
SSLB Suanglung 22.61 349 P P 20 01 14.3 -1.9
SSLB S 20 05 10.8 -6.1
LHSI Lahat 22.61 256 P P 20 01 19.1 +2.8
WB0 Warramunga Arr 22.84 158 P P 20 01 17.3 -1.3
NACB Ninganchiao 22.87 351 P P 20 01 17.1 -1.7
YOJ Yonaguni jima 22.97 354 P P 20 01 17.5 -2.2
YOJ pmax pmax
comp=Z,108nm,1.1s
YOJ Yonaguni jima 22.97 354 P P 20 01 17.5 -2.2
YOJ IAmb IAmb 20 01 40.1
comp=Z,108nm,1.1s
WRAB Tennant Creek 22.98 158 c iP P 20 01 19.3 -0.6
WRAB pmax pmax
comp=Z,132nm,0.8s
WRAB Tennant Creek 22.98 158 P P 20 01 18.4 -1.6
WRAB IAmb IAmb 20 01 21.5
comp=Z,238nm,0.9s
WRA Warramunga Arr 22.98 158 P P 20 01 19.1 -0.9
comp=Z,190nm,0.5s,baz=329,slow=11,SNR=247
WRA S S 20 05 23.3 +0.4
comp=Z,39nm,0.9s,baz=336,slow=21,SNR=14
WRA Warramunga Arr 22.98 158 i P P 20 01 19.1 -0.9
WRA pmax pmax
comp=Z,125nm,0.4s
WRA Warramunga Arr 22.98 158 P P 20 01 17.7 -2.3
WRA S 20 05 21.4 -1.4
WB2 Warramunga Arr 22.99 158 P P 20 01 18.9 -1.1
XMIS Christmas Isla 23.07 239 P P 20 01 17.2 -3.7
XMIS IAmb IAmb 20 01 20.5
comp=Z,99nm,0.9s
WR0 Warramunga Arr 23.07 158 P P 20 01 19.4 -1.4
MBWA Marble Bar 23.21 194 P P 20 01 21.1 -0.9
QIZ Qiongzhong 23.24 320 P P 20 01 21.0 -1.4

QIZ S **S** **20 05 28.8 +1.8**
QIZ LR LR
comp=Z,330nm,16.0s
QIZ LR LR
comp=Z,160nm,10.2s
QIZ LR LR
comp=Z,360nm,15.3s
COEN Coen **23.27 132** P **P** **20 01 21.2 -1.5**
baz=23,SNR=14
COEN Coen **23.27 132** P **P** **20 01 20.8 -2.0**
MNAI Manna **23.29 255** P **P** **20 01 20.9 -2.0**
YHNB Yeheng **23.39 350** P **P** **20 01 21.4 -2.5**
PSA00 Pilbara Seismi **23.58 193** P **P** **20 01 23.7 -1.8**
PMG Port Moresby **24.12 117** P **P** **20 01 31.4 +1.1**
comp=Z,53nm,0.8s,baz=44,slow=1.3,SNR=10
PMG Port Moresby **24.12 117** P **P** **20 01 30.3 -0.1**
PMG pmax pmax
comp=Z,75nm,0.9s
PMG Port Moresby **24.12 117** P **P** **20 01 30.3 -0.1**
PMG IAmb IAmb 20 01 33.8
comp=Z,75nm,0.9s
KRJI Kerinci **24.32 262** P **P** **20 01 37.9 +5.6**
IPM Ipoh **24.64 277** P **P** **20 01 34.3 -0.9**
IPM Ipoh **24.64 277** P **P** **20 01 36.0 +0.8**
KULM Kulim **25.11 279** P **P** **20 01 38.0 -1.5**
JOW Kunigami **25.34 6** P **P** **20 01 42.5 +1.2**
comp=Z,18nm,0.8s,baz=179,slow=12,SNR=10
JOW Kunigami **25.34 6** P **P** **20 01 41.5 +0.1**
JOW IAmb IAmb 20 01 46.1
comp=Z,111nm,0.9s
QIS Mount Isa **25.89 149** P **P** **20 01 46.8 +0.3**
baz=26,SNR=62
MNSI Mandailing Nat **25.95 269** P **P** **20 01 50.6 +3.6**
AS31 Alice Springs **26.30 162** P **P** **20 01 49.7 -0.4**
AS31 IAmb IAmb 20 01 54.6
comp=Z,36nm,0.4s
ASAR Alice Springs **26.30 162** P **P** **20 01 50.4 +0.3**
comp=Z,40nm,0.6s,baz=339,slow=7.1,SNR=432
ASAR PcP **PcP** **20 05 15.2 +1.1**
comp=Z,8.0nm,0.5s,baz=353,slow=2.3,SNR=7.9
ASAR S **S** **20 06 15.7 0.0**
comp=Z,7.2nm,1.0s,baz=347,slow=22,SNR=4.6
ASAR LR LR 20 12 53.8
comp=Z,85nm,18.8s,baz=259,slow=38
ASAR Alice Springs **26.30 162** P **P** **20 01 49.8 -0.3**
ASAR **PcP** **20 05 14.7 +0.6**
GIRL Giralia **26.39 204** P **P** **20 01 52.0 +1.1**
baz=26,SNR=7.4
GIRL Giralia **26.39 204** P **P** **20 01 51.3 +0.5**
WRKA Warakurna **26.50 174** P **P** **20 01 52.5 +0.6**
baz=27,SNR=37
RPSI Rantau Prapat **26.61 273** P **P** **20 01 51.5 -1.4**
PSI Prapat **26.61 273** P **P** **20 01 51.6 -1.6**
comp=Z,9.0nm,0.6s,baz=2.2,slow=2.3,SNR=6.3
PSI Prapat **26.61 273** P **P** **20 01 51.6 -1.6**
PSI pmax pmax
comp=Z,34nm,0.9s
MTSU Mount Surprise **26.88 137** P **P** **20 01 55.9 +0.5**
baz=27,SNR=15
RABL Rabaul **27.21 102** P **P** **20 01 59.7 +1.3**
GSI Gunungsitoli **27.94 270** P **P** **20 02 02.5 -2.4**
GSI IAmb IAmb 20 03 00.0
comp=Z,50nm,1.1s
MEEK Meekatharra **28.74 193** P **P** **20 02 11.7 -0.2**
baz=29,SNR=49
SLVN Son La **28.87 315** P **P** **20 02 13.2 +0.1**
CTA Charters Tower **29.55 138** P **P** **20 02 20.1 +1.1**
comp=Z,4.9nm,0.7s,baz=332,slow=11,SNR=5.5
CTAO Charters Tower **29.55 138** P **P** **20 02 19.2 +0.1**
CTAO pmax pmax
comp=Z,92nm,1.9s
CTAO Charters Tower **29.55 138** P **P** **20 02 19.1 +0.1**
CTAO IAmb IAmb 20 03 09.9
comp=Z,92nm,1.9s
GYA Guiyang **30.75 325** ⇓*i*P **P** **20 02 30.8 +1.1**
GYA sP sP 20 03 17.3 +14
GYA PcP **PcP** **20 05 26.5 +1.2**
GYA S **S** **20 07 24.0 -1.8**
GYA SS **SnSn** **20 09 20.0 +5.0**
GYA pmax pmax
comp=Z,10.0nm,0.9s
GYA pmax pmax
comp=Z,140nm,4.0s
GYA LR LR
comp=Z,180nm,4.2s
GYA LR LR
comp=Z,160nm,5.0s
GYA LR LR
comp=Z,110nm,4.3s
NJ2 Nanjing **31.05 349** *e*P **P** **20 02 32.6 +0.5**
NJ2 pmax pmax
comp=Z,13nm,0.5s
CM31 Chiang Mai Arr **31.05 305** P **P** **20 02 29.8 -2.6**
CM31 pP **pP** **20 02 55.0 +0.5**
CMAR Chiang Mai Arr **31.05 305** P **P** **20 02 32.0 -0.4**
comp=Z,2.7nm,0.9s,baz=117,slow=7.2,SNR=14
CMAR PcP **PcP** **20 05 27.7 +1.6**
comp=Z,2.7nm,0.8s,baz=127,slow=2.7,SNR=6.0
CMAR ScP **ScP** **20 09 01.2 +1.0**
comp=Z,1.3nm,0.8s,baz=148,slow=1.6,SNR=5.3
CMAR LR LR 20 16 15.2
comp=Z,41nm,20.6s,baz=115,slow=38
CMAR Chiang Mai Arr **31.05 305** P **P** **20 02 32.2 -0.2**
CMAR **pP** **20 02 54.7 +0.2**
CMAR **PcP** **20 05 27.2 +1.1**
CMAR **ScP** **20 09 00.2 +0.1**
CHTO Chiang Mai **31.23 305** P **P** **20 02 33.0 -1.0**
CHTO *PP **pP** **20 02 55.7 -0.4**
CHTO pmax pmax
comp=Z,20nm,1.0s
CHTO Chiang Mai **31.23 305** P **P** **20 02 33.0 -1.0**
CHTO pP **pP** **20 02 55.6 -0.4**
MORW Morawa **31.71 196** P **P** **20 02 38.2 +0.2**
baz=32,SNR=7.9
MORW Morawa **31.71 196** P **P** **20 02 36.3 -1.7**
MORW IAmb IAmb 20 02 38.9
comp=Z,53nm,0.9s
JNU Nakatsue **31.87 9** P **P** **20 02 37.6 -1.8**
JNU IAmb IAmb 20 03 10.0
comp=Z,32nm,1.0s
FORT Forrest **32.18 176** P **P** **20 02 42.7 +0.6**
baz=32,SNR=66
FORT Forrest **32.18 176** P **P** **20 02 42.3 +0.2**
KMI Kunming **32.18 319** ⇓P **P** **20 02 44.3 +1.8**
KMI pP pP 20 03 06.8 +2.3
KMI pmax pmax
comp=Z,120nm,4.4s
KMI LR LR
comp=Z,280nm,12.0s
KMI LR LR
comp=Z,180nm,16.9s
KMI LR LR
comp=Z,270nm,15.3s
ENH Enshi **32.43 334** P **P** **20 02 43.5 -0.8**
BLDU Ballidu **33.01 194** P **P** **20 02 49.2 -0.1**
baz=33,SNR=42
PATS Pohnpei **33.12 80** P **P** **20 02 51.0 +0.4**
QLP Quilpie **33.24 148** P **P** **20 02 51.5 +0.1**
baz=33,SNR=9.5
KLBR Kellerberrin **33.71 192** P **P** **20 02 55.7 +0.2**
baz=34,SNR=54
MUN Mundaring **34.43 194** P **P** **20 03 01.7 0.0**
baz=35,SNR=18
TJN Taejon **34.76 3** ⇓*i*P **P** **20 03 06.7 +2.3**
NWAO Narrogin (SRO) **35.11 192** P **P** **20 03 08.0 +0.5**
baz=35,SNR=21
NWAO Narrogin (SRO) **35.11 192** LR LR 20 18 11.4
comp=Z,138nm,18.1s,baz=332,slow=37
NWAO Narrogin (SRO) **35.11 192** P **P** **20 03 07.8 +0.3**
NWAO pmax pmax
comp=Z,230nm,1.7s
NWAO Narrogin (SRO) **35.11 192** P **P** **20 03 07.8 +0.3**
NWAO Narrogin (SRO) **35.11 192** P **P** **20 03 07.9 +0.5**
NWAO IAmb IAmb 20 03 23.5
comp=Z,185nm,1.7s
BBOO Buckleboo **35.53 165** P **P** **20 03 11.5 +0.3**
baz=36,SNR=43
BBOO Buckleboo **35.53 165** P **P** **20 03 09.6 -1.5**
RMQ Roma **35.72 143** P **P** **20 03 13.3 +0.4**
baz=36,SNR=12
CD2 Chengdu **35.80 327** P **P** **20 03 12.6 -0.9**
CD2 S **S** **20 08 45.0 +1.2**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,270nm,15.8s
KSAR Wonju Array Be **35.85 3** P **P** **20 03 12.2 -1.6**
KSAR Wonju Array Be **35.85 3** P **P** **20 03 12.2 -1.6**
KSRS Korea Array **35.86 3** P **P** **20 03 15.2 +1.3**
comp=Z,10.0nm,0.8s,baz=181,slow=10,SNR=34
KSRS PcP **PcP** **20 05 41.1 +1.9**
comp=Z,3.9nm,0.8s,baz=190,slow=2.4,SNR=7.5
KSRS ScP **ScP** **20 09 17.2 +0.6**
comp=Z,3.6nm,0.8s,baz=188,slow=3.8,SNR=9.7
KSRS LR LR 20 20 42.8
comp=Z,31nm,18.6s,baz=197,slow=41
KS19 Wonju Array Si **35.91 3** P **P** **20 03 15.0 +0.7**
KS19 IAmb IAmb 20 03 17.7
comp=Z,24nm,1.1s
XAN Xi'an **35.92 336** P **P** **20 03 14.0 -0.5**
XAN pmax pmax
comp=Z,12nm,1.3s
XAN Xi'an **35.92 336** P **P** **20 03 12.3 -2.2**
XAN *PP **pP** **20 03 33.7 -3.1**
XAN pmax pmax
comp=Z,14nm,0.9s
XAN Xi'an **35.92 336** P **P** **20 03 12.3 -2.2**
XAN pP **pP** **20 03 33.7 -3.1**
HNR Honiara **35.96 108** LR LR 20 18 49.6
comp=Z,62nm,18.8s,baz=242,slow=37
EIDS Eidsvold **36.40 139** P **P** **20 03 18.5 -0.2**
baz=36,SNR=10
EIDS Eidsvold **36.40 139** P **P** **20 03 18.1 -0.5**
EIDS IAmb IAmb 20 03 19.7
comp=Z,44nm,1.0s
STKA Stephens Creek **36.51 157** P **P** **20 03 20.2 +0.7**
baz=37,SNR=119
STKA Stephens Creek **36.51 157** P **P** **20 03 20.3 +0.7**
comp=Z,111nm,0.8s,baz=328,slow=8.7,SNR=156
STKA LR LR 20 18 57.9
comp=Z,164nm,19.3s,baz=350,slow=37
STKA Stephens Creek **36.51 157** P **P** **20 03 19.2 -0.3**
STKA IAmb IAmb 20 03 21.3
comp=Z,30nm,0.9s
MJAR Matsushiro Arr **36.81 17** P **P** **20 03 22.2 +0.2**
comp=Z,6.6nm,0.5s,baz=200,slow=7.6,SNR=25
MJAR ScP **ScP** **20 09 20.5 +0.3**
comp=Z,4.9nm,1.0s,baz=207,slow=5.7,SNR=7.5
MJAR LR LR 20 16 18.6
comp=Z,41nm,21.2s,baz=200,slow=32
MJAR Matsushiro Arr **36.81 17** P **P** **20 03 21.9 -0.1**
MJAR **ScP** **20 09 20.3 +0.1**
MAJO Matsushiro **36.81 17** P **P** **20 03 21.7 -0.3**
MAJO pmax pmax
comp=Z,15nm,0.8s
MAJO Matsushiro **36.81 17** P **P** **20 03 21.7 -0.3**
MAJO IAmb IAmb 20 03 23.7
comp=Z,15nm,0.8s
MAT Matsushiro **36.81 17** P **P** **20 03 22.0 0.0**
MAT *e*S **S** **20 08 56.2 -2.8**
MJB9 Matsu-Tunnel **36.81 17** P **P** **20 03 21.4 -0.6**
MJB9 IAmb IAmb 20 03 23.7
comp=Z,16nm,0.8s
HTT Hallett **36.96 161** P **P** **20 03 23.7 +0.4**
baz=37,SNR=14
CMSA Cobar Meteorol **38.02 151** P **P** **20 03 33.6 +1.4**
baz=38,SNR=39
BJI Beijing **39.31 349** P **P** **20 03 44.3 +1.4**
BJI PcP **PcP** **20 05 50.8 +1.1**
BJI pmax pmax
comp=Z,7.0nm,0.7s
LZH Lanzhou **39.87 332** *e*P **P** **20 03 46.5 -1.3**
LZH PP **PP** **20 05 24.3 +2.9**
LZH pmax pmax
comp=Z,24nm,1.2s
LZH pmax pmax
comp=Z,110nm,5.4s
LZH LR LR
comp=Z,350nm,15.7s
LZH LR LR
comp=Z,330nm,16.8s
LZH LR LR
comp=Z,400nm,19.0s
SHL Shillong **40.29 309** P **P** **20 03 50.7 -0.8**
SHL Shillong **40.29 309** P **P** **20 03 50.7 -0.8**
SHL pP **pP** **20 04 13.4 -1.0**
SHL IAmb IAmb 20 04 16.1
comp=Z,29nm,0.8s
ARMA Armidale **40.32 144** P **P** **20 03 53.5 +1.9**
baz=40,SNR=26
ARMA Armidale **40.32 144** P **P** **20 03 52.0 +0.5**
ARMA IAmb IAmb 20 03 54.2
comp=Z,76nm,1.1s
ARPS Mount Arapiles **40.97 160** P **P** **20 03 58.0 +1.3**
baz=41,SNR=23
YNG Young **41.58 151** P **P** **20 04 03.9 +2.1**
baz=42,SNR=7.4
MGCD Mangrove Creek **42.11 147** P **P** **20 04 08.4 +2.3**
baz=32,SNR=9.3
CN2 Changchun **42.13 360** *e*P **P** **20 04 09.0 +2.9**
CNB Canberra Magne **42.86 151** P **P** **20 04 13.9 +1.7**
baz=43,SNR=14
USA0B Ussuriysk Arra **42.92 7** *d*/*i*P **P** **20 04 14.0 +1.6**
USA0B Ussuriysk Arra **42.92 7** P **P** **20 04 12.8 +0.4**
USRK Ussuriysk Ar. **42.92 7** P **P** **20 04 13.9 +1.5**
comp=Z,9.6nm,0.6s,baz=187,slow=7.2,SNR=24
USRK Ussuriysk Ar. **42.92 7** P **P** **20 04 13.6 +1.2**
USRK Ussuriysk Ar. **42.92 7** P **P** **20 04 13.6 +1.2**
TOO Toolangi **43.04 157** P **P** **20 04 15.7 +2.2**
baz=43,SNR=23
TOO Toolangi **43.04 157** P **P** **20 04 14.0 +0.4**
TOO pmax pmax
comp=Z,86nm,1.1s
TOO Toolangi **43.04 157** P **P** **20 04 14.0 +0.4**
TOO IAmb IAmb 20 04 16.9
comp=Z,86nm,1.1s
LSA Lhasa **43.06 314** P **P** **20 04 15.5 +1.1**
LSA Lhasa **43.06 314** P **P** **20 04 14.0 -0.4**
LSA pmax pmax
comp=Z,10.0nm,0.7s
LSA Lhasa **43.06 314** P **P** **20 04 14.0 -0.4**
MDJ Mudanjiang **43.10 4** P **P** **20 04 15.6 +1.7**
MDJ S **S** **20 10 35.8 +3.2**
MDJ pmax pmax
comp=Z,37nm,0.8s
MDJ pmax pmax
comp=Z,150nm,4.5s
MDJ Mudanjiang **43.10 4** P **P** **20 04 14.6 +0.7**
MDJ IAmb IAmb 20 04 36.7
comp=Z,28nm,0.7s
H11S3 WAKE ISLAND Hy **43.76 65** T T 20 51 34.3
baz=253,slow=75,SNR=297
H11S2 WAKE ISLAND Hy **43.77 65** T T 20 51 35.4
baz=253,slow=75,SNR=229
H11S1 WAKE ISLAND Hy **43.77 65** T T 20 51 21.2
baz=253,slow=75,SNR=100
H11N1 WAKE ISLAND Hy **44.32 63** T T 20 52 24.4
baz=252,slow=75,SNR=9.1
H11N2 WAKE ISLAND Hy **44.33 63** T T 20 52 22.7
baz=252,slow=75,SNR=5.4
H11N3 WAKE ISLAND Hy **44.34 63** T T 20 52 20.7
baz=252,slow=75,SNR=15
TAPN Taplejung **44.42 309** *e*P **P** **20 04 24.2 -0.9**
comp=Z,9.2nm,0.4s
GTA Gaotai **44.43 331** P **P** **20 04 24.3 -0.6**
GTA PcP **PcP** **20 06 08.3 +1.4**
GTA pmax pmax
comp=Z,3.0nm,1.2s
GTA pmax pmax
comp=Z,74nm,5.1s
GTA LR LR
comp=Z,160nm,18.3s
GTA LR LR
comp=Z,240nm,17.4s
GTA LR LR
comp=Z,140nm,17.3s
ODAN Odare **44.44 308** *e*P **P** **20 04 24.8 -0.4**
comp=Z,16nm,0.7s
TEY Ternei **44.46 11** ⇑*i*P **P** **20 04 26.4 +1.6**
TEY pmax pmax
comp=E,10.0nm,1.0s
TEY pmax pmax
comp=N,40nm,0.5s
TEY pmax pmax
comp=Z,80nm,0.5s
ASAJ Asahikawa **45.08 17** P **P** **20 04 31.9 +2.1**
comp=Z,8.3nm,0.5s,baz=228,slow=9.0,SNR=28
RAMN Ramite **45.10 308** *e*P **P** **20 04 30.4 -0.1**
comp=Z,15nm,0.5s
LHI Lord Howe Isla **45.72 139** P **P** **20 04 33.2 -1.8**
JIRN Jiri **45.76 308** *e*P **P** **20 04 35.5 -0.3**
PVM Polavaram **45.90 293** *e*P **P** **20 04 36.1 -0.5**
GUN Gumba **46.12 308** *e*P **P** **20 04 38.0 -0.6**
comp=Z,25nm,0.4s
PKI Pulchoki **46.33 308** *e*P **P** **20 04 39.2 -1.1**
comp=Z,7.1nm,0.4s
PKIN Phulchoki **46.34 308** *e*P **P** **20 04 39.3 -1.0**
comp=Z,8.0nm,0.3s
KKN Kakani **46.53 308** *e*P **P** **20 04 41.1 -0.6**
comp=Z,12nm,0.5s
DMN Daman **46.59 308** *e*P **P** **20 04 41.5 -0.7**
SKHT Srikalahasti **46.91 287** *e*P **P** **20 04 44.5 -0.1**
ADKI Addanki **47.10 290** *e*P **P** **20 04 46.6 +0.6**
GKN Gorkha **47.13 308** *e*P **P** **20 04 45.6 -0.7**
YSS Yuzh-Sakhalins **47.72 16** ⇑*e*P **P** **20 04 50.6 +0.3**
YSS *e* 20 05 19.1
YSS pmax pmax
comp=Z,20nm,1.1s
KOLN Koldanda **47.85 307** *e*P **P** **20 04 51.6 -0.4**
comp=Z,82nm,0.8s
KLR Kul'dur **47.86 6** *d*/*i*P **P** **20 04 52.3 +0.9**
KLR pmax pmax
comp=Z,14nm,1.5s
NJS Nagarjunasagar **47.88 291** *e*P **P** **20 04 51.7 -0.4**
DANN Dangsing **47.98 308** *e*P **P** **20 04 52.4 -0.7**
comp=Z,76nm,0.5s
SRLM Srisailam **48.17 290** *e*P **P** **20 04 53.3 -1.1**
RPR Rampur **48.46 294** *e*P **P** **20 04 55.8 -0.7**
PYUN Piuthan **48.48 307** *e*P **P** **20 04 56.6 -0.2**
comp=Z,55nm,0.4s
HYB Hyderabad **48.78 292** *i* P **P** **20 04 58.5 -0.5**
HYB *e* 20 05 13.0
HYB *e* 20 05 21.5
HYBB Hyderabad (bro **48.78 292** *e*P **P** **20 04 58.9 -0.1**
ULN Ulaanbaatar **48.89 344** ⇓*i*P **P** **20 05 00.6 +1.1**
ULN pmax pmax
comp=Z,5.0nm,0.7s
ULN Ulaanbaatar **48.89 344** P **P** **20 04 59.5 -0.1**
SONM Songino Array **49.05 343** P **P** **20 05 00.8 0.0**
comp=Z,4.9nm,0.8s,baz=164,slow=7.6,SNR=20
SONM ScP **ScP** **20 10 09.7 +0.3**
comp=Z,2.1nm,0.9s,baz=156,slow=4.1,SNR=5.7
SONM LR LR 20 28 38.6
comp=Z,37nm,18.6s,baz=142,slow=40
SONM Songino Array **49.05 343** P **P** **20 05 00.7 0.0**
SONM **ScP** **20 10 09.2 -0.1**
SRSP Sriramsagar **49.35 294** *e*P **P** **20 05 03.0 -0.3**
URV Uravakonda **49.47 288** *e*P **P** **20 05 03.2 -1.1**
KLRI Killari **50.74 292** *e*P **P** **20 05 13.5 -0.5**
ZEA Zeya **52.10 1** *e*P **P** **20 05 24.0 +0.6**
ZEA pmax pmax
comp=Z,28nm,1.4s
ZAK Zakamensk **52.26 342** *e*P **P** **20 05 23.1 -1.6**
ZAK pmax pmax
comp=Z,2.0nm,1.3s
TLY Talaya **53.29 343** *e*P **P** **20 05 33.3 +1.1**
TLY pmax pmax
comp=Z,9.0nm,0.6s
WMQ Urumqi **53.89 327** *e*P **P** **20 05 37.9 +1.1**
WMQ pmax pmax
comp=Z,13nm,0.9s
WMQ pmax pmax
comp=Z,28nm,5.7s
WMQ LR LR
comp=Z,110nm,19.5s
WMQ LR LR
comp=Z,140nm,19.5s
WMQ LR LR
comp=Z,86nm,25.1s
MOY Mondy **54.09 341** *e*P **P** **20 05 39.3 +1.1**
MSVF Nonsavu **55.12 113** P **P** **20 05 47.1 +0.9**
MSVF pmax pmax
comp=Z,67nm,1.2s
MSVF Nonsavu **55.12 113** P **P** **20 05 47.1 +0.9**
MSVF IAmb IAmb 20 05 49.7
comp=Z,67nm,1.2s
BOD Bodaibo **56.91 353** *e*P **P** **20 05 58.9 +0.8**
BOD pmax pmax
comp=Z,18nm,1.4s
ZSN Zaisan **57.75 328** *e*P **P** **20 06 04.4 +0.1**
comp=Z,5.0nm,1.3s,baz=328
ZSN Zaisan **57.75 328** *e*P **P** **20 06 04.3 +0.1**
ZSN pmax pmax
comp=Z,5.0nm,1.3s
OUZ Omahuta **57.85 134** P **P** **20 06 05.2 +0.1**
PEA0B Petropavlovsk- **57.95 22** P **P** **20 06 05.0 -0.5**
PEA0B pmax pmax
comp=Z,14nm,0.9s
PEA0B Petropavlovsk- **57.95 22** P **P** **20 06 05.0 -0.5**
PEA0B IAmb IAmb 20 06 19.8
comp=Z,14nm,0.8s
PETK Petropavlovsk- **57.95 22** P **P** **20 06 07.5 +2.0**
comp=Z,9.4nm,0.7s,baz=197,slow=6.2,SNR=24
PETK LR LR 20 27 46.6
comp=Z,24nm,21.3s,baz=244,slow=32
PETK Petropavlovsk- **57.95 22** P **P** **20 06 06.7 +1.2**
PETK Petropavlovsk- **57.95 22** P **P** **20 06 06.7 +1.2**
DGZ Jazzator, Alta **57.97 332** ⇑*i*P **P** **20 06 06.2 +0.3**
DGZ pmax pmax
comp=Z,7.0nm,1.4s
SHLS Shalkode **58.32 322** *e*P **P** **20 06 06.2 -2.2**
comp=Z,8.9nm,1.1s,baz=322
SHLS Shalkode **58.32 322** *e*P **P** **20 06 06.2 -2.2**
SHLS pmax pmax
comp=Z,9.0nm,1.1s
NIL Nilore **58.37 309** P **P** **20 06 08.0 -0.8**
NIL pmax pmax
comp=Z,28nm,1.4s
NIL Nilore **58.37 309** P **P** **20 06 08.0 -0.8**
NIL IAmb IAmb 20 06 10.4
comp=Z,28nm,1.4s
UZB Uzynbulak **58.59 322** ⇑*i*P **P** **20 06 09.8 -0.6**
comp=Z,9.0nm,1.5s,baz=322
UZB Uzynbulak **58.59 322** *c*/*i*P **P** **20 06 09.7 -0.6**
UZB pmax pmax
comp=Z,9.0nm,1.5s
PRZ Przheval'sk **58.63 321** P **P** **20 06 10.7 0.0**
PRZ pmax pmax
comp=Z,21nm,1.2s
PRZ Przheval'sk **58.63 321** P **P** **20 06 10.7 0.0**
PRZ IAmb IAmb 20 07 02.0
comp=Z,21nm,1.1s
TARG Taragay, Kyrgy **58.63 320** P **P** **20 06 08.9 -2.2**
MK31 Makanchi Array **58.73 327** P **P** **20 06 10.1 -1.0**
MK31 pmax pmax
comp=Z,8.0nm,0.9s
MK31 Makanchi Array **58.73 327** P **P** **20 06 10.1 -1.0**
MKAR Makanchi Array **58.73 327** P **P** **20 06 10.6 -0.5**
comp=Z,5.0nm,0.4s,baz=121,slow=7.5,SNR=108
MKAR ScP **ScP** **20 10 51.0 -0.6**
comp=Z,2.5nm,0.8s,baz=140,slow=5.6,SNR=4.4
MKAR S **S** **20 14 08.1 -0.3**
comp=Z,1.0nm,0.9s,baz=135,slow=12,SNR=8.7
MKAR LR LR 20 32 48.6
comp=Z,80nm,19.1s,baz=115,slow=37
MKAR PKPPKP P'P'df 20 35 57.5 +11
comp=Z,1.2nm,1.0s,baz=280,slow=2.1,SNR=4.9
MKAR Makanchi Array **58.73 327** P **P** **20 06 09.5 -1.6**
MKAR **ScP** **20 10 50.9 -0.6**
MKAR **P'P'bc** **20 35 57.3 -0.4**
KSH Kashi **58.80 317** *e*P **P** **20 06 12.9 +1.0**
KSH pmax pmax
comp=Z,15nm,0.8s
KSH pmax pmax
comp=Z,260nm,4.7s
MAKZ Makanchi **58.91 326** P **P** **20 06 11.0 -1.3**
MAKZ pmax pmax
comp=Z,17nm,1.2s
MAKZ Makanchi **58.91 326** P **P** **20 06 11.0 -1.3**
MAKZ IAmb IAmb 20 07 01.3
comp=Z,17nm,1.2s
SATY Saty **58.93 321** *i* P **P** **20 06 12.5 -0.3**
comp=Z,5.7nm,0.9s,baz=321
SATY Saty **58.93 321** *i* P **P** **20 06 12.4 -0.3**
SATY pmax pmax
comp=Z,6.0nm,0.9s
KPKS Kokpek **58.97 322** *i* P **P** **20 06 12.6 -0.3**
comp=Z,12nm,1.0s,baz=322
KPKS Kokpek **58.97 322** *i* P **P** **20 06 12.6 -0.3**
KPKS pmax pmax
comp=Z,12nm,1.0s
DCZ Deep Cove **59.50 147** P **P** **20 06 16.7 +0.4**
PYZ Puysegur Point **59.70 148** P **P** **20 06 14.6 -3.1**
FOZ Fox Glacier **59.82 144** P **P** **20 06 18.6 +0.1**
MDOK Medeo **59.84 321** *e*P **P** **20 06 18.8 -0.2**
baz=321

MDOK **Medeo** 59.84 321 *e*P **P** **20 06 18.7 -0.2**
TNSS **Tian-Shan** 59.84 321 *e*P **P** **20 06 19.4 +0.1**
baz=321
TNSS **Tian-Shan** 59.84 321 *e*P **P** **20 06 19.3 +0.1**
AAA **Alma-Ata** 59.94 321 *e*P **P** **20 06 20.4 +0.7**
baz=321
AAA **Alma-Ata** 59.94 321 *e*P **P** **20 06 20.3 +0.7**
QRZ **Quartz Range** 59.96 140 P **P** **20 06 19.6 -0.1**
MLZ **Mavora Lakes** 59.97 147 P **P** **20 06 19.7 +0.1**
MLZ IAmb IAmb 20 06 21.3
comp=Z,36nm,1.0s
WKZ **Wanaka** 60.13 146 P **P** **20 06 20.9 +0.1**
WHZ **Wether Hill Ro** 60.20 147 P **P** **20 06 21.7 +0.5**
WHZ IAmb IAmb 20 06 22.9
comp=Z,43nm,1.0s
HIZ **Hauiti** 60.32 137 P **P** **20 06 23.0 +0.9**
KZA **Kyzart** 60.47 319 P **P** **20 06 23.7 +0.1**
SNR=13
YAK **Yakutsk** 60.48 2 *e*P **P** **20 06 23.4 +0.7**
YAK *e**PP **pP** **20 06 43.7 -2.8**
YAK *e* 20 07 13.0
YAK *e* 20 08 32.9
YAK *e*S **S** **20 14 29.8 -0.4**
YAK *e**SS **pS** **20 15 04.3 +6.4**
YAK *e* 20 15 54.8
YAK *e*SS **SS** **20 18 22.6 -7.3**
YAK *e*SSS SSS 20 21 13.3
YAK pmax pmax
comp=Z,69nm,0.8s
YAK pmax pmax
comp=N,13nm,0.9s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK pmax pmax
comp=Z,58nm,3.2s
YAK smax smax
comp=N,178nm,2.3s
YAK smax smax
comp=E,45nm,1.5s
YAK **Yakutsk** 60.48 2 P **P** **20 06 22.5 -0.2**
LBZ **Lake Benmore** 60.54 145 P **P** **20 06 24.0 +0.4**
KUU **Kurty** 60.65 321⇑ *i*P **P** **20 06 23.7 -0.7**
comp=E,21nm,1.1s,baz=321
KUU **Kurty** 60.65 321 *c i*P **P** **20 06 23.6 -0.7**
KUU pmax pmax
comp=Z,21nm,1.1s
RPZ **Rata Peaks** 60.66 144 P **P** **20 06 24.0 -0.3**
THZ **Tophouse** 60.70 141 P **P** **20 06 24.2 -0.6**
THZ IAmb IAmb 20 06 26.6
comp=Z,40nm,0.8s
NNZ **Nelson** 60.72 140 P **P** **20 06 25.2 +0.5**
LTZ **Lake Taylor** 60.87 142 P **P** **20 06 27.5 +1.7**
OXZ **Oxford** 61.02 143 P **P** **20 06 27.1 +0.3**
UCH **Uchtor** 61.03 319 P **P** **20 06 27.6 +0.2**
SNR=18
TUWZ **Tuamarina** 61.19 140 P **P** **20 06 28.1 +0.2**
ODZ **Otahua Downs** 61.19 145 P **P** **20 06 28.8 +0.8**
ODZ IAmb IAmb 20 08 29.2
comp=Z,59nm,1.5s
AAK **Ala-Archa** 61.23 319⇓ *i*P **P** **20 06 28.5 0.0**
AAK pmax pmax
comp=Z,7.0nm,1.2s
AAK **Ala-Archa** 61.23 319 P **P** **20 06 27.5 -1.0**
AAK **PcP** **20 07 09.8 -0.4**
BSWZ **Blackbirch Sta** 61.30 140 P **P** **20 06 27.8 -0.9**
KHZ **Kahutara** 61.45 141 P **P** **20 06 28.9 -0.8**
KHZ IAmb IAmb 20 06 31.1
comp=Z,34nm,0.8s
USP **Ospenovka** 61.52 320 P **P** **20 06 30.0 -0.2**
SNR=10
SGDS **Sogindy** 61.52 320 *e*P **P** **20 06 29.4 -0.9**
comp=Z,8.3nm,1.6s,baz=320
SGDS **Sogindy** 61.52 320 *e*P **P** **20 06 29.3 -0.9**
SGDS pmax pmax
comp=Z,8.0nm,1.6s
AML **Almayashu** 61.53 318 P **P** **20 06 30.7 -0.1**
SNR=13
MQZ **McQueen's Vall** 61.61 143 P **P** **20 06 31.1 +0.4**
SNZO **South Karori** 61.62 140 P **P** **20 06 30.5 -0.4**
EKS2 **Erkin-Say** 61.71 319 P **P** **20 06 31.9 +0.2**
SNR=11
BKZ **Black Stump Fm** 61.76 137 P **P** **20 06 32.3 +0.3**
BHW **Baring Head** 61.78 140 P **P** **20 06 31.2 -0.7**
KBL **Kabul** 61.95 309 P **P** **20 06 30.8 -2.7**
KBL pmax pmax
comp=Z,12nm,0.9s
KBL **Kabul** 61.95 309 P **P** **20 06 30.8 -2.7**
KBL IAmb IAmb 20 06 35.0
comp=Z,12nm,0.9s
MSWZ **Moikau Station** 62.03 139 P **P** **20 06 33.0 -0.7**
ZAA0 **Zalesovo Array** 62.05 334 P **P** **20 06 31.7 -1.8**
ZALV **Zalesovo Beam** 62.05 334 P **P** **20 06 32.2 -1.2**
comp=Z,2.6nm,0.4s,baz=139,slow=5.5,SNR=8.4
ZALV LR LR 20 34 58.6
comp=Z,63nm,20.1s,baz=120,slow=37
ZALV PKPPKP **P'P'df** **20 35 45.9 +4.9**
comp=Z,0.6nm,0.6s,baz=328,slow=5.3,SNR=3.7
ZALV **Zalesovo Beam** 62.05 334 P **P** **20 06 31.4 -2.1**
ZALV **P'P'bc** **20 35 46.4 -2.7**
PLWZ **Palliser** 62.11 140 P **P** **20 06 33.9 -0.3**
BFZ **Birch Farm** 62.32 138 P **P** **20 06 36.0 +0.4**
GAR **Garm** 62.57 314 P **P** **20 06 35.1 -2.4**
GAR IAmb IAmb 20 06 39.2
comp=Z,40nm,1.1s
BTLS **Baital** 62.64 321 *e*P **P** **20 06 37.5 -0.1**
comp=Z,1.2nm,1.0s,baz=321
BTLS **Baital** 62.64 321 *e*P **P** **20 06 37.5 -0.1**
BTLS pmax pmax
comp=Z,1.0nm,1.0s
KURBB **Kurchatov Arra** 62.99 328 PKPPKP 20 35 40.9
comp=Z,0.5nm,1.0s,baz=272,slow=3.1,SNR=4.1
KURK **Kurchatov** 62.99 329 *c i*P **P** **20 06 39.1 -0.8**
KURK pmax pmax
comp=Z,16nm,1.0s
KURK **Kurchatov** 62.99 329 P **P** **20 06 38.8 -1.1**
KURK IAmb IAmb 20 06 42.3
comp=Z,16nm,1.0s
CHGR **Chuyangaron** 63.28 313 P **P** **20 06 40.9 -1.3**
CHGR IAmb IAmb 20 06 44.4
comp=Z,38nm,1.1s
KK31 **Karatay Array** 64.06 318 P **P** **20 06 46.0 -1.1**
KK31 pmax pmax
comp=Z,19nm,1.6s
KK31 **Karatay Array** 64.06 318 P **P** **20 06 46.0 -1.1**
KKAR **Karatay Array** 64.06 318 P **P** **20 06 45.8 -1.3**
KKAR **Karatay Array** 64.06 318 P **P** **20 06 45.2 -1.9**
KKAR **Karatay Array** 64.06 318 P **P** **20 06 45.8 -1.3**
HRA **Herat** 67.28 307 P **P** **20 07 06.1 -2.1**
BRVK **Borovoye** 68.62 328⇑ *i*P **P** **20 07 15.0 -1.0**
BRVK pmax pmax
comp=Z,8.0nm,1.1s
BRVK **Borovoye** 68.62 328 P **P** **20 07 14.6 -1.4**
ADK **Adak** 69.49 34 P **P** **20 07 21.4 +0.1**
ADK pmax pmax
comp=Z,31nm,1.0s
ADK **Adak** 69.49 34 P **P** **20 07 21.4 +0.1**
ADK IAmb IAmb 20 07 59.3
comp=Z,31nm,0.9s
GSTR **Great Sitkin T** 69.92 34 P **P** **20 07 23.0 -1.1**
TIXI **Tiksi** 70.09 1 *c i*P **P** **20 07 24.8 +0.2**
TIXI pmax pmax
comp=Z,19nm,1.1s
TIXI **Tiksi** 70.09 1 P **P** **20 07 23.9 -0.7**
TIXI IAmb IAmb 20 07 26.1
comp=Z,24nm,1.2s
TIXI pP **PcP** **20 07 45.8 -0.3**
ATKA **Atka Island** 71.02 34 P **P** **20 07 31.0 +0.4**
ATKA IAmb IAmb 20 07 33.3
comp=Z,61nm,0.8s
GEYT **Alibeck** 71.37 310 P **P** **20 07 32.5 -0.7**
comp=Z,3.9nm,0.6s,baz=137,slow=5.5,SNR=9.1
GEYT LR LR 20 43 24.1
comp=Z,28nm,18.2s,baz=70,slow=40
GEYT **Alibeck** 71.37 310 P **P** **20 07 32.0 -1.2**
GEYT **PcP** **20 07 52.6 +0.3**
SOCY **Socotra** 71.64 282 P **P** **20 07 33.0 -2.2**
BILL **Bilibino** 72.02 15⇓ *e*P **P** **20 07 37.6 +1.2**
BILL *e**PP **pwP** **20 08 05.8 +2.0**
BILL *e* 20 10 24.2
BILL pmax pmax
comp=Z,9.0nm,1.7s
NRIK **Noril'sk** 72.32 347 P **P** **20 07 38.7 +0.6**
comp=Z,17nm,0.6s,baz=132,slow=6.4,SNR=21
NRIK **Noril'sk** 72.32 347 *i*P **P** **20 07 38.6 +0.5**

ABKAR **Akbulak array** 73.13 321 P **P** **20 07 41.9 -1.4**
NIKH **Nikolski High** 74.33 35 P **P** **20 07 51.6 +1.4**
NIKH IAmb IAmb 20 09 58.3
comp=Z,90nm,1.1s
SVE **Sverdlovsk** 75.24 329 *e*P **P** **20 07 54.7 -0.7**
UNV **Unalaska Valle** 75.94 34 P **P** **20 08 00.4 +0.9**
ARU **Arti** 76.19 328 *c i*P **P** **20 07 59.5 -1.3**
ARU *PP **pP** **20 08 25.9 0.0**
ARU S **S** **20 17 35.6 -1.3**
ARU *SS **sS** **20 18 23.9 +5.2**
ARU pmax pmax
comp=Z,7.0nm,0.8s
ARU **Arti** 76.19 328 P **P** **20 07 59.2 -1.6**
AKUT **Akutan** 76.44 34 P **P** **20 08 02.2 -0.1**
GAMB **Gambell** 76.92 24 P **P** **20 08 06.7 +1.9**
GAMB IAmb IAmb 20 08 08.1
comp=Z,21nm,1.0s
ABPO **Ambohimpanom** 79.42 250 P **P** **20 08 19.7 -0.1**
ABPO pmax pmax
comp=Z,24nm,0.9s
ABPO **Ambohimpanom** 79.42 250 P **P** **20 08 19.7 -0.1**
ABPO IAmb IAmb 20 08 21.0
comp=Z,24nm,0.9s
SDPT **Sand Point** 79.72 34 P **P** **20 08 21.6 +1.2**
BTLR **Botlikh** 81.12 313⇓ *i*P **P** **20 08 28.0 -0.3**
BTLR pmax pmax
comp=Z,10.0nm,0.7s
MAW **Mawson** 81.25 200 P **P** **20 08 29.4 +1.1**
baz=81,SNR=16
MAW **Mawson** 81.25 200 P **P** **20 08 29.4 +1.1**
comp=Z,18nm,1.0s,baz=54,slow=6.4,SNR=25
MAW LR LR 20 39 11.4
comp=Z,56nm,21.4s,baz=56,slow=32
MAW **Mawson** 81.25 200 P **P** **20 08 28.9 +0.6**
MAW pmax pmax
comp=Z,8.0nm,1.2s
MAW **Mawson** 81.25 200 P **P** **20 08 28.9 +0.6**
VNDA **Vanda** 81.37 173 P **P** **20 08 29.9 +1.0**
comp=Z,16nm,0.8s,baz=317,slow=6.6,SNR=116
VNDA LR LR 20 45 29.7
comp=Z,57nm,18.3s,baz=323,slow=36
VNDA **Vanda** 81.37 173 P **P** **20 08 29.3 +0.5**
VNDA pmax pmax
comp=Z,16nm,0.9s
VNDA **Vanda** 81.37 173 P **P** **20 08 29.3 +0.5**
GROC **Groznyy** 81.49 313 *e*P **P** **20 08 29.9 -0.3**
GROC *e**PP **pP** **20 08 54.9 -0.7**
GROC *e* 20 11 36.9
GROC *e*S **S** **20 18 34.6 +0.7**
GROC pmax pmax
comp=Z,8.0nm,0.8s
KIRV **Kirov** 81.51 329⇑ *i*P **P** **20 08 31.3 +1.4**
ZEI **Tsey** 82.84 313 *e*P **P** **20 08 36.0 -1.5**
ZEI pmax pmax
comp=Z,24nm,1.5s
AKH **Akhalkalaki** 83.04 311 P **P** **20 08 37.4 -1.1**
AKH pmax pmax
comp=Z,9.0nm,0.9s
AKH **Akhalkalaki** 83.04 311 P **P** **20 08 37.4 -1.1**
TTA **Tatalina** 83.44 27 P **P** **20 08 41.6 +1.6**
TTA pmax pmax
comp=Z,33nm,1.2s
TTA **Tatalina** 83.44 27 P **P** **20 08 41.5 +1.6**
TTA IAmb IAmb 20 08 43.4
comp=Z,33nm,1.2s
KBZ **Khabaz** 83.64 314 P **P** **20 08 41.1 -0.2**
comp=Z,2.7nm,0.8s,baz=118,slow=3.6,SNR=8.0
KBZ LR LR 20 51 12.3
comp=Z,18nm,19.1s,baz=76,slow=39
KIV **Kislovodsk** 83.81 314 *e*P **P** **20 08 40.4 -1.9**
KIV pmax pmax
comp=Z,14nm,1.0s
KIV MLR MLR
comp=Z,89nm,20.0s
RSO **Redoubt South** 84.63 30 P **P** **20 08 47.6 +1.4**
IMAR **Indian Mountai** 84.87 24 P **P** **20 08 48.1 +1.1**
VRH **Novokhopyorsk** 84.96 321 *e*P **P** **20 08 45.5 -2.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
PPT **Papeete** 85.58 108 LR LR 20 46 09.2
comp=Z,16nm,18.0s,baz=266,slow=35
COLD **Coldfoot** 86.42 23 P **P** **20 08 56.3 +1.6**
baz=265
VORD **Divnogorie** 86.47 321 *e*P **P** **20 08 53.7 -1.6**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR **Storozhevoye** 86.56 321 *e*P **P** **20 08 54.4 -1.3**
VSR pmax pmax
comp=Z,30nm,1.0s
RND **Reindeer** 86.72 27 P **P** **20 08 56.3 0.0**
RND pmax pmax
comp=Z,12nm,1.0s
RND **Reindeer** 86.72 27 P **P** **20 08 56.3 0.0**
LPSR **Galich'ya Gora** 86.75 322 *e*P **P** **20 08 55.8 -0.8**
LPSR pmax pmax
comp=Z,40nm,0.8s
KLMR **Klimovskoe** 86.76 331 *e*P **P** **20 08 54.5 -2.0**
KLMR pmax pmax
comp=Z,21nm,0.9s
KLMR **Klimovskoe** 86.76 331 *e*P **P** **20 08 54.5 -2.0**
KLMR AMP 20 08 56.4
comp=Z,21nm,0.9s
TMCR **Tamitsa** 87.57 334 *e*P **P** **20 08 58.5 -1.8**
TMCR pmax pmax
comp=Z,33nm,1.1s
HDA **Harding Lake** 87.60 26 P **P** **20 08 59.9 -0.6**
HDA IAmb IAmb 20 09 46.1
comp=Z,38nm,2.0s
ANN **Anapa** 87.60 315 *e*P **P** **20 08 58.2 -2.7**
ANN *e**PP **pP** **20 09 22.5 -4.1**
ANN *eS **SKSac** **20 19 15.8 -4.2**
ANN *eSS **SS** **20 25 16.0 -6.5**
ANN pmax pmax
comp=Z,35nm,1.0s
IL31 87.64 25 P **P** **20 09 00.3 -0.2**
IL31 IAmb IAmb 20 10 15.3
comp=Z,29nm,2.0s
ILAR **Eielson Array** 87.64 25 P **P** **20 09 00.0 -0.6**
comp=Z,1.3nm,0.4s,baz=247,slow=4.5,SNR=16
ILAR PKKPbc **PKKPbc** **20 26 50.5 -0.9**
comp=Z,0.4nm,0.9s,baz=150,slow=2.7,SNR=5.1
ILAR LR LR 20 45 07.1
comp=Z,16nm,20.5s,baz=304,slow=33
ILAR **Eielson Array** 87.64 25 P **P** **20 08 59.5 -1.1**
OBN **Obninsk** 88.19 325⇓ *e*P **P** **20 09 02.9 -0.5**
OBN *e**PP **pP** **20 09 30.2 +1.1**
OBN *e* 20 12 32.3
OBN *eSS SS 20 25 23.9 -6.5
OBN pmax pmax
comp=Z,24nm,0.8s
KMBO **Kilima Mbogo** 88.30 269 P **P** **20 09 06.5 +1.3**
comp=Z,32nm,0.9s,baz=65,slow=6.6,SNR=75
KMBO **Kilima Mbogo** 88.30 269 P **P** **20 09 05.4 +0.2**
KMBO pmax pmax
comp=Z,40nm,1.0s
KMBO **Kilima Mbogo** 88.30 269 P **P** **20 09 05.4 +0.2**
KMBO IAmb IAmb 20 09 07.3
comp=Z,40nm,0.9s
RIDG **Independent Ri** 88.52 26 P **P** **20 09 05.5 +0.6**
RIDG IAmb IAmb 20 09 06.5
comp=Z,17nm,1.1s
BMAR **Burnt Mountain** 88.60 23 P **P** **20 09 06.9 +1.7**
MENT **Mentasta** 89.03 27 P **P** **20 09 07.5 +0.2**
MENT IAmb IAmb 20 11 39.6
comp=Z,37nm,1.8s
SYO **Syowa Base** 89.91 201⇑ *i*P **P** **20 09 10.8 -0.4**
BCAR **Beaver Creek A** 89.91 27 P **P** **20 09 12.6 +1.1**
BARN **Barnard Glacie** 90.08 29 P **P** **20 09 14.3 +1.8**
BARN IAmb IAmb 20 09 15.4
comp=Z,20nm,0.8s
BR131 **Keskin Array S** 90.51 310⇑ *i*P **P** **20 09 14.1 -0.8**
BR131 **Keskin Array S** 90.51 310 P **P** **20 09 13.7 -1.3**
BRTR **Keskin Array B** 90.51 310 P **P** **20 09 13.6 -1.3**
comp=Z,2.4nm,1.0s,baz=130,slow=5.0,SNR=12
BRTR LR LR 20 56 18.9
comp=Z,16nm,19.4s,baz=93,slow=40
BRTR **Keskin Array B** 90.51 310 P **P** **20 09 12.8 -2.1**
QSPA **South Pole Qui** 91.41 180 P **P** **20 09 19.0 +0.6**
EPYK **Eagle Plains** 91.77 24 P **P** **20 09 20.7 +0.7**
baz=278
EPYK **Eagle Plains** 91.77 24 P **P** **20 09 20.5 +0.5**
EPYK IAmb IAmb 20 09 22.6
comp=Z,12nm,1.1s
ARCES **ARCESS Array B** 92.12 340 P **P** **20 09 20.9 -0.7**
comp=Z,4.9nm,0.7s,baz=86,slow=5.5,SNR=15

ARCES LR LR 20 55 30.9
comp=Z,24nm,21.4s,baz=315,slow=38
ARCES **ARCESS Array B** 92.12 340 P **P** **20 09 19.3 -2.2**
INK **Inuvik** 92.68 21 P **P** **20 09 23.5 -0.6**
comp=Z,2.6nm,0.6s,baz=254,slow=8.6,SNR=4.6
INK **Inuvik** 92.68 21 P **P** **20 09 23.9 -0.2**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK **Inuvik** 92.68 21 P **P** **20 09 23.9 -0.2**
INK IAmb IAmb 20 09 26.6
comp=Z,8.8nm,1.1s
AKASG **Malin Array Be** 92.86 321 P **P** **20 09 24.0 -1.3**
comp=Z,3.5nm,0.7s,baz=66,slow=4.7,SNR=12
AKASG LR LR 20 55 26.6
comp=Z,18nm,19.3s,baz=25,slow=38
AKASG **Malin Array Be** 92.86 321 P **P** **20 09 24.0 -1.3**
AKBB **Malin Array Si** 92.86 321⇓ *i*P **P** **20 09 24.4 -0.9**
AKBB **Malin Array Si** 92.86 321 P **P** **20 09 23.7 -1.6**
AKBB IAmb IAmb 20 09 25.0
comp=Z,5.6nm,0.8s
KIEV **Kiev** 92.87 321 P **P** **20 09 23.0 -2.3**
FINES **FINESS Array B** 93.22 332 P **P** **20 09 25.4 -1.3**
comp=Z,2.4nm,0.8s,baz=88,slow=4.1,SNR=11
FINES LR LR 20 54 11.5
comp=Z,44nm,20.9s,baz=66,slow=37
FINES **FINESS Array B** 93.22 332 P **P** **20 09 25.3 -1.4**
WHY **Whitehorse** 93.42 29 P **P** **20 09 29.2 +1.4**
WHY IAmb IAmb 20 09 30.8
comp=Z,14nm,0.8s
NACGM **Naroch** 93.83 325 *e* **P** **20 09 28.0 -1.6**
KMPD **K-Podol'skiy** 94.90 319 P **P** **20 09 34.0 -0.7**
BURAR **Bucovina Array** 95.86 318 P **P** **20 09 38.3 -1.0**
BUR08 **Bucovina Ar. S** 95.86 318 P **P** **20 09 38.7 -0.6**
BUR08 IAmb IAmb 20 09 40.1
comp=Z,10nm,0.9s
SUW **Suwalki** 96.05 325 P **P** **20 09 38.9 -0.9**
SUW **Suwalki** 96.05 325 P **P** **20 09 38.9 -0.9**
DLBC **Dease Lake** 96.28 31 LR LR 20 50 22.4
comp=Z,19nm,20.0s,baz=290,slow=34
LSZ **Lusaka** 97.46 255 P **P** **20 09 46.3 -0.9**
LSZ pmax pmax
comp=Z,30nm,1.7s
LSZ **Lusaka** 97.46 255 P **P** **20 09 46.3 -0.9**
LSZ IAmb IAmb 20 09 47.7
comp=Z,30nm,1.6s
KOLS **Kolonicke sedl** 97.57 320 *e*P Pdif 20 09 48.2 +1.3
KOLS **Kolonicke sedl** 97.57 320 *e*PDIFF Pdif 20 09 48.2 +1.3
UZH **Uzhgorod** 97.61 319 *e*P **P** **20 09 46.6 -0.4**
UZH *e* 20 10 11.0
CRVS **Cervenica-Dubn** 98.10 320 *e*P **P** **20 09 49.6 +0.3**
CRVS **Cervenica-Dubn** 98.10 320 *e*PDIFF **P** **20 09 49.6 +0.3**
KNT **Kendrikon** 98.52 312 P **P** **20 09 50.8 -0.5**
OJC **Ojcow** 98.88 321 P **P** **20 09 51.9 -0.8**
OJC pmax pmax
comp=Z,6.0nm,0.9s
OJC **Ojcow** 98.88 321 **P** **20 09 51.9 -0.8**
OJC IAmb IAmb 20 09 53.4
comp=Z,6.3nm,0.9s
LANS **Liptovska Anna** 99.33 320 *e*P **Pdif** **20 09 56.5 +1.7**
LANS **Liptovska Anna** 99.33 320 *e*PDIFF **Pdif** **20 09 56.5 +1.7**
VYHS **Vyhne** 99.89 320 *e*P **Pdif** **20 09 56.8 -0.4**
VYHS **Vyhne** 99.89 320 *e*PDIFF **Pdif** **20 09 56.8 -0.4**
NOA **NORSAR Array B** 100.24 333 P **Pdif** **20 09 57.8 -0.8**
comp=Z,1.0nm,0.8s,baz=68,slow=4.7,SNR=3.6
BRG **Berggiesshubel** 102.30 323 *e*PKP **Pdif** **20 10 08.2 +0.2**
comp=Z,7.3nm,1.2s
BRG **Berggiesshubel** 102.30 323 *e*P **Pdif** **20 10 08.1 +0.2**
BRG pmax pmax
comp=Z,7.0nm,1.2s
CLL **Collm** 102.73 324 *e*PP **PP** **20 14 22.0 -2.2**
CLL Lm MLR 21 00 00.0
comp=Z,100nm,21.5s
SNAA **Sanae** 102.75 195 P **Pdif** **20 10 11.3 +1.8**
GERES **GERESS Array B** 103.07 321 P **Pdif** **20 10 10.7 -0.8**
comp=Z,0.9nm,0.9s,baz=55,slow=5.1,SNR=7.4
GERES **GERESS Array B** 103.07 321 P **Pdif** **20 10 11.5 0.0**
GERES **GERESS Array B** 103.07 321 **Pdif** **20 10 11.5 0.0**
J05D **Fort Rock, OR** 105.69 44 P **PKiKP** **20 14 34.5 -1.5**
baz=288
SCZ2 **Santa Cruz Isl** 109.55 53 P **PKiKP** **20 14 43.7 +0.4**
baz=286
HLID **Hailey** 110.27 42 P **PKiKP** **20 14 44.7 +0.2**
baz=293
EGMT **Eagleton** 111.30 36 P **PKiKP** **20 14 46.9 +0.6**
baz=298
DUG **Dugway, Tooele** 112.67 45 P **PKiKP** **20 14 50.0 +0.8**
baz=293
BW06 **Boulder Array** 113.83 41 P **PKiKP** **20 14 51.9 +0.5**
baz=296
PDAR **Pinedale Array** 113.83 41 PKiKP **PKiKP** **20 14 52.8 +1.3**
comp=Z,0.5nm,0.6s,baz=229,slow=2.4,SNR=4.2
PDAR **Pinedale Array** 113.83 41 **PKiKP** **20 14 51.2 -0.2**
RSSD **Black Hills** 116.69 38 P **PKPdf** **20 14 57.6 +0.7**
baz=302
RSSD **Black Hills** 116.69 38 PKIKP **PKPdf** **20 14 56.3 -0.5**
RSSD **Black Hills** 116.69 38 PKPdf **PKPdf** **20 14 56.3 -0.5**
W18A **Petrified Fore** 116.89 49 P **PKPdf** **20 14 58.3 +0.8**
baz=293
ULM **Lac du Bonnet** 117.50 29 PKP **PKPdf** **20 14 57.4 -0.5**
comp=Z,1.3nm,0.4s,baz=154,slow=2.2,SNR=3.5
ULM **Lac du Bonnet** 117.50 29 PKIKP **PKPdf** **20 14 56.9 -1.0**
ULM **Lac du Bonnet** 117.50 29 **PKPdf** **20 14 56.9 -1.0**
ANMO **Albuquerque** 119.42 48 P **PKiKP** **20 15 03.5 +1.1**
baz=296
MVO **Moncorvo** 119.57 320 *e*PKPdf **PKPdf** **20 15 03.3 +1.0**
T25A **Trinidad** 119.92 45 P **PKPdf** **20 15 04.2 +1.0**
baz=298
F33A **5 Mile Ranch,** 120.16 33 **PKPdf** **20 15 02.6 -0.6**
PCBR **Castelo Branco** 120.56 319 *e*PKPdf **PKiKP** **20 15 05.5 +1.3**
EYMN **Ely** 121.17 28 P **PKPdf** **20 15 05.0 -0.1**
baz=315
ECSD **EROS Data Cent** 121.31 35 PKPdf **PKPdf** **20 15 05.9 +0.4**
ECSD **pPKPdf** **20 15 28.0 -4.0**
MNTX **Cornudas Mount** 121.59 51 P **PKPdf** **20 15 07.5 +1.1**
baz=294
MNTX **Cornudas Mount** 121.59 51 PKPdf **PKPdf** **20 15 06.9 +0.5**
MNTX **pPKPdf** **20 15 29.5 -3.4**
F36A **Milaca** 121.61 31 PKPdf **PKPdf** **20 15 06.2 +0.2**
F36A **pPKPdf** **20 15 27.9 -4.7**
PCVE **Castro Verde** 122.09 317 *e*PKPdf **PKiKP** **20 15 08.7 +1.4**
MESJ **Messejana** 122.11 318 *e*PKPdf **PKiKP** **20 15 08.6 +1.3**
PNCL **Nicolau / Gran** 122.17 318 *e*PKPdf **PKiKP** **20 15 08.7 +1.3**
SPMN **Marine on St.** 122.41 31 P **PKPdf** **20 15 08.3 +0.7**
baz=313
TOA0 **Torodi Ar. Sit** 122.43 287 PKPdf **PKPdf** **20 15 07.8 -0.5**
TORD **Torodi Ar. Bea** 122.43 287 PKP **PKPdf** **20 15 08.4 0.0**
comp=Z,8.3nm,0.8s,baz=54,slow=2.0,SNR=42
TORD PKKPbc **PKKPab** **20 25 05.2 +1.2**
comp=Z,2.1nm,0.7s,baz=262,slow=3.1,SNR=15
TORD **Torodi Ar. Bea** 122.43 287 **PKPdf** **20 15 07.7 -0.7**
MORF **Marmelete** 122.68 317 *e*PKPdf **PKiKP** **20 15 10.0 +1.4**
PFVI **Vila Bisbo** 122.89 317 *e*PKPdf **PKiKP** **20 15 10.3 +1.4**
I37A **Lemond, Waseca** 122.91 33 **PKPdf** **20 15 09.0 +0.4**
SCHQ **Schefferville** 122.95 8 PKP **PKPdf** **20 15 09.2 +0.9**
comp=Z,3.7nm,0.4s,baz=5.7,slow=0.4,SNR=7.5
SCHQ **Schefferville** 122.95 8 **PKPdf** **20 15 08.4 +0.1**
G40A **Rib Lake** 123.70 30 **PKPdf** **20 15 10.5 +0.5**
G40A pPKPdf **pPKPdf** **20 15 32.5 -4.2**
TXAR **Lajitas Array** 123.91 53 PKP **PKiKP** **20 15 12.6 +1.3**
comp=Z,1.1nm,0.7s,baz=252,slow=1.0,SNR=12
TXAR **Lajitas Array** 123.91 53 PKIKP **PKPdf** **20 15 11.8 +0.8**
TXAR **Lajitas Array** 123.91 53 **PKPdf** **20 15 11.8 +0.8**
KSU1 **Kansas State U** 124.10 39 P **PKPdf** **20 15 11.7 +0.8**
baz=306
WMOK **Wichita Mounta** 125.07 45 P **PKPdf** **20 15 13.8 +0.8**
baz=302
D46A **Sault St. Mari** 125.28 24 P **PKPdf** **20 15 13.7 +0.7**
baz=323
JFWS **Jewell Farm** 125.34 32 P **PKPdf** **20 15 13.8 +0.6**
baz=314
L40A **Anamosa** 125.40 33 **PKPdf** **20 15 12.5 -0.8**
E47A **Iron Bridge** 125.95 24 P **PKPdf** **20 15 14.7 +0.5**
baz=324
CHGQ **Chibougamau** 126.02 16 P **PKPdf** **20 15 14.8 +0.5**
baz=335
JCT **Junction City** 126.43 50 P **PKPdf** **20 15 16.7 +0.9**
baz=298
P40A **Paris** 126.62 36 **PKPdf** **20 15 16.4 +0.6**
D50A **G1974 Best Tow** 126.69 21 P **PKPdf** **20 15 15.7 0.0**
baz=328
D51A **Lot 18 Range I** 126.93 21 P **PKPdf** **20 15 16.1 0.0**
baz=328
S39A **Bolivar** 127.01 39 PKPdf **PKPdf** **20 15 16.7 +0.1**
S39A **pPKPdf** **20 15 38.8 -4.3**
U38A **Gravette** 127.09 40 **PKPdf** **20 15 17.5 +0.7**

R40A	**Maddies Statio**	**127.28**	**37**		**PKPdf**	**20 15 17.8**	**+0.7**
R40A					**pPKPdf**	**20 15 39.5**	**-4.2**
D52A	**ZEK Kipawa Sen**	**127.37**	**20**	P	**PKPdf**	**20 15 17.4**	**+0.4**
	baz=330						
HDIL	**Hopedale**	**127.49**	**33**	P	**PKPdf**	**20 15 17.0**	**-0.4**
	baz=314						
D53A	**Lac Vacive, Po**	**127.52**	**20**	P	**PKPdf**	**20 15 17.7**	**+0.4**
	baz=330						
D54A	**Lac Fusel, La**	**127.81**	**19**	P	**PKPdf**	**20 15 17.8**	**0.0**
	baz=332						
CCM	**Cathedral Cave**	**128.05**	**37**	P	**PKPdf**	**20 15 19.4**	**+0.9**
	baz=311						
CCM	**Cathedral Cave**	**128.05**	**37**	PKIKP	**PKPdf**	**20 15 18.5**	**0.0**
CCM	**Cathedral Cave**	**128.05**	**37**	PKPdf	**PKPdf**	**20 15 18.5**	**0.0**
U40A	**Yellville**	**128.13**	**40**	P	**PKPdf**	**20 15 19.8**	**+1.0**
	baz=308						
U40A	**Yellville**	**128.13**	**40**	PKPdf	**PKPdf**	**20 15 18.6**	**-0.2**
U40A					**pPKPdf**	**20 15 41.2**	**-4.1**
E53A	**Dumoine, Ponti**	**128.14**	**20**	P	**PKPdf**	**20 15 19.1**	**+0.6**
	baz=330						
W39A	**Magazine**	**128.22**	**41**	P	**PKPdf**	**20 15 20.0**	**+1.1**
	baz=306						
W39A	**Magazine**	**128.22**	**41**		**PKPdf**	**20 15 19.3**	**+0.3**
E54A	**Lac Daplat, Po**	**128.26**	**20**	P	**PKPdf**	**20 15 19.3**	**+0.6**
	baz=331						
D55A	**Sainte-Anne-du**	**128.30**	**18**	P	**PKPdf**	**20 15 19.1**	**+0.4**
	baz=333						
ALGO	**Algonquin Park**	**128.37**	**21**	P	**PKPdf**	**20 15 19.5**	**+0.6**
	baz=330						
D56A	**ZEC Mazanza, M**	**128.50**	**18**	P	**PKPdf**	**20 15 19.7**	**+0.6**
	baz=334						
MIAR	**Mount Ida**	**128.75**	**42**	P	**PKPdf**	**20 15 20.8**	**+0.8**
	baz=306						
LATQ	**La Tuque**	**128.76**	**16**	P	**PKPdf**	**20 15 20.4**	**+0.9**
	baz=336						
D57A	**Chemin Vers le**	**128.78**	**17**	P	**PKPdf**	**20 15 20.3**	**+0.6**
	baz=335						
T42A	**Van Buren**	**128.81**	**38**		**PKPdf**	**20 15 20.9**	**+0.9**
E56A	**St. Veronique**	**128.86**	**18**	P	**PKPdf**	**20 15 20.6**	**+0.8**
	baz=333						
D58A	**Chemin du LacG**	**129.00**	**16**	P	**PKPdf**	**20 15 20.2**	**+0.1**
	baz=336						
W41B	**Gary Mavity, V**	**129.24**	**40**	P	**PKPdf**	**20 15 21.9**	**+1.0**
	baz=308						
G55A	**Calabogie**	**129.45**	**20**	P	**PKPdf**	**20 15 21.5**	**+0.6**
	baz=331						
E58A	**La Victoria**	**129.54**	**17**	P	**PKPdf**	**20 15 22.1**	**+1.0**
	baz=335						
D60A	**Saint Jean D'O**	**129.68**	**15**	P	**PKPdf**	**20 15 22.0**	**+0.6**
	baz=339						
J52A	**Paris**	**129.72**	**25**	P	**PKPdf**	**20 15 22.3**	**+0.7**
	baz=325						
KIC	**Kosan Boka**	**129.74**	**279**	*e*PKIKP	**PKPdf**	**20 15 23.1**	**+0.7**
	comp=Z,19nm,0.9s						
DBIC	**Dimbokro**	**129.82**	**280**	PKP	**PKPdf**	**20 15 22.9**	**+0.4**
	comp=Z,12nm,1.0s,baz=113,slow=2.1,SNR=6.5						
DBIC	**Dimbokro**	**129.82**	**280**	PKIKP	**PKPdf**	**20 15 23.0**	**+0.4**
DBIC	**Dimbokro**	**129.82**	**280**		**PKPdf**	**20 15 19.8**	**-2.7**
H55A	**Tweed**	**129.89**	**21**	P	**PKPdf**	**20 15 23.3**	**+1.4**
	baz=330						
O48A	**Farmland**	**129.90**	**31**	P	**PKPdf**	**20 15 22.4**	**+0.4**
	baz=318						
D62A	**Allapoint, All**	**129.97**	**13**	P	**PKPdf**	**20 15 22.3**	**+0.4**
	baz=341						
TIC	**Toumodi**	**129.98**	**280**	*e*PKIKP	**PKPdf**	**20 15 23.6**	**+0.7**
LIC	**Lamto**	**130.04**	**279**	*e*PKIKP	**PKPdf**	**20 15 23.4**	**+0.4**
	comp=Z,36nm,0.8s						
E61A	**Lac Etchemin**	**130.24**	**14**	P	**PKPdf**	**20 15 23.9**	**+1.4**
	baz=339						
F60A	**Warwick**	**130.29**	**16**	P	**PKPdf**	**20 15 23.5**	**+1.0**
	baz=337						
F61A	**St Evariste**	**130.54**	**15**	P	**PKPdf**	**20 15 23.1**	**+0.1**
	baz=338						
ACSO	**Alum Creek Sta**	**131.00**	**29**	P	**PKPdf**	**20 15 24.5**	**+0.4**
	baz=321						
F63A	**Nahmakanta, Br**	**131.26**	**14**	P	**PKPdf**	**20 15 25.4**	**+0.9**
	baz=340						
F64A	**Sherman**	**131.28**	**13**	P	**PKPdf**	**20 15 25.0**	**+0.5**
	baz=342						
J57A	**Williamstown**	**131.31**	**21**	P	**PKPdf**	**20 15 25.5**	**+0.9**
	baz=331						
WVT	**Waverly**	**131.37**	**36**	P	**PKPdf**	**20 15 25.5**	**+0.6**
	baz=313						
WVT	**Waverly**	**131.37**	**36**	PKIKP	**PKPdf**	**20 15 24.0**	**-0.9**
WVT	**Waverly**	**131.37**	**36**	PKPdf	**PKPdf**	**20 15 24.0**	**-0.9**
OXF	**Oxford**	**131.47**	**39**	P	**PKPdf**	**20 15 25.9**	**+0.8**
	baz=310						
M54A	**Oil Creek Stat**	**131.49**	**25**	P	**PKPdf**	**20 15 25.0**	**-0.1**
	baz=326						
J58A	**Remsen**	**131.60**	**20**	P	**PKPdf**	**20 15 26.2**	**+1.1**
	baz=332						
H61A	**Lyndonville**	**131.61**	**17**	P	**PKPdf**	**20 15 26.5**	**+1.3**
	baz=336						
PKME	**Peaks-Kenny Pk**	**131.63**	**14**	P	**PKPdf**	**20 15 25.8**	**+0.7**
	baz=340						
O52A	**Adamsville**	**131.63**	**28**	P	**PKPdf**	**20 15 26.3**	**+1.0**
	baz=322						
G63A	**Kingsbury**	**131.69**	**14**	P	**PKPdf**	**20 15 26.4**	**+1.1**
	baz=340						
K57A	**Scipio Center**	**131.71**	**22**	P	**PKPdf**	**20 15 26.9**	**+1.5**
	baz=330						
J59A	**Piesco**	**131.78**	**20**	P	**PKPdf**	**20 15 26.1**	**+0.6**
	baz=333						
H62A	**Milan**	**131.79**	**16**	P	**PKPdf**	**20 15 26.6**	**+1.1**
	baz=338						
N54A	**Moraine State**	**131.79**	**26**	P	**PKPdf**	**20 15 26.2**	**+0.6**
	baz=325						
L56A	**Greenwood**	**131.82**	**23**	P	**PKPdf**	**20 15 26.0**	**+0.4**
	baz=328						
I60A	**Shoreham**	**131.83**	**18**	P	**PKiKP**	**20 15 27.3**	**+0.8**
	baz=334						
PLAL	**Pickwick Lake**	**131.99**	**38**		**PKPdf**	**20 15 25.6**	**-0.5**
M56A	**Emporium**	**132.12**	**24**	P	**PKiKP**	**20 15 27.9**	**+0.6**
	baz=327						
L57A	**Andrews Acres**	**132.21**	**23**	P	**PKPdf**	**20 15 27.0**	**+0.6**
	baz=329						
O54A	**Avella**	**132.25**	**27**	P	**PKPdf**	**20 15 26.4**	**-0.1**
	baz=324						
P53A	**Whipple**	**132.34**	**28**	P	**PKPdf**	**20 15 27.5**	**+0.8**
	baz=322						
H65A	**Eastbrook**	**132.41**	**13**	P	**PKPdf**	**20 15 27.5**	**+0.9**
	baz=341						
I63A	**Otisfield**	**132.43**	**16**	P	**PKPdf**	**20 15 28.0**	**+1.3**
	baz=338						
H66A	**Whiting**	**132.53**	**12**	P	**PKPdf**	**20 15 28.0**	**+1.2**
	baz=343						
L58A	**Harry Jones Me**	**132.55**	**22**	P	**PKPdf**	**20 15 28.0**	**+1.0**
	baz=330						
N56A	**West Decatur**	**132.55**	**25**	P	**PKPdf**	**20 15 28.0**	**+1.0**
	baz=327						
O55A	**Ligonier**	**132.71**	**26**	P	**PKPdf**	**20 15 28.4**	**+1.0**
	baz=325						
I64A	**Boothbay**	**132.80**	**15**	P	**PKPdf**	**20 15 28.5**	**+1.1**
	baz=339						
O56A	**Blue Knob Stat**	**132.98**	**25**	P	**PKPdf**	**20 15 28.4**	**+0.5**
	baz=326						
N57A	**Milroy**	**132.99**	**24**	P	**PKPdf**	**20 15 29.1**	**+1.2**
	baz=328						
Q54A	**Coxs Mills**	**133.00**	**28**	P	**PKPdf**	**20 15 28.5**	**+0.6**
	baz=323						
M59A	**Waymart**	**133.14**	**22**	P	**PKPdf**	**20 15 29.6**	**+1.4**
	baz=331						
L61A	**Hillsdale 1, H**	**133.22**	**19**	P	**PKPdf**	**20 15 29.7**	**+1.5**
	baz=334						
L61B	**Northampton**	**133.28**	**19**	P	**PKiKP**	**20 15 30.0**	**+0.5**
	baz=335						
Q55A	**Buckhannon**	**133.34**	**28**	P	**PKPdf**	**20 15 29.3**	**+0.7**
	baz=324						
S53A	**Williamson**	**133.38**	**30**	P	**PKPdf**	**20 15 29.9**	**+1.1**
	baz=320						
O57A	**Amberson**	**133.42**	**24**	P	**PKPdf**	**20 15 29.2**	**+0.5**
	baz=327						
P56A	**Dayton Farm, R**	**133.49**	**26**	P	**PKPdf**	**20 15 29.8**	**+1.0**
	baz=326						
P57A	**Homestead Farm**	**133.87**	**25**	P	**PKPdf**	**20 15 30.3**	**+0.8**
	baz=327						
O59A	**Robesonia**	**133.92**	**23**	P	**PKPdf**	**20 15 30.6**	**+1.0**
	baz=329						
M61A	**Granite Spring**	**133.94**	**20**	P	**PKPdf**	**20 15 30.2**	**+0.6**
	baz=333						
LRAL	**Lakeview Retre**	**133.96**	**39**	P	**PKPdf**	**20 15 30.1**	**+0.2**
	baz=312						
LRAL	**Lakeview Retre**	**133.96**	**39**	PKPdf	**PKPdf**	**20 15 28.9**	**-1.0**
T54A	**Tazewell**	**134.14**	**31**	P	**PKPdf**	**20 15 30.8**	**+0.6**
	baz=321						
Q58A	**Fox Den Farm,**	**134.46**	**26**	P	**PKPdf**	**20 15 31.6**	**+1.0**
	baz=327						
T55A	**Pulaski**	**134.50**	**30**	P	**PKPdf**	**20 15 31.3**	**+0.4**
	baz=322						
P60A	**Greenville**	**134.56**	**23**	P	**PKPdf**	**20 15 31.8**	**+1.0**
	baz=330						
BLA	**Blacksburg**	**134.60**	**29**	P	**PKPdf**	**20 15 31.5**	**+0.4**
	baz=322						
U55A	**TA2, Sparta**	**134.84**	**31**	P	**PKPdf**	**20 15 33.0**	**+1.5**
	baz=321						
R58A	**Rapidan**	**134.85**	**26**	P	**PKPdf**	**20 15 33.0**	**+1.6**
	baz=326						
V54A	**Nebo**	**134.93**	**32**	P	**PKPdf**	**20 15 33.4**	**+1.7**
	baz=320						
T56A	**Rocky Mt**	**134.94**	**29**	P	**PKiKP**	**20 15 33.8**	**+0.7**
	baz=323						
V55A	**Taylorsville**	**135.26**	**31**	P	**PKPdf**	**20 15 33.1**	**+0.9**
	baz=320						
X54A	**Belton**	**135.62**	**34**	P	**PKiKP**	**20 15 34.9**	**+0.4**
	baz=318						
T58A	**Grand View Acr**	**135.72**	**28**	P	**PKPdf**	**20 15 34.4**	**+1.3**
	baz=324						
V57A	**Coltrane Farms**	**135.96**	**30**	P	**PKPdf**	**20 15 35.3**	**+1.7**
	baz=322						
X55A	**Gracelyn & Ava**	**136.09**	**33**	P	**PKPdf**	**20 15 35.3**	**+1.5**
	baz=319						
CMIG	**Matias Romero**	**136.10**	**63**	PKP	**PKPdf**	**20 15 35.2**	**+0.9**
	comp=Z,2.5nm,0.6s,baz=349,slow=4.2,SNR=6.0						
Y55A	**Saluda**	**136.36**	**34**	P	**PKPdf**	**20 15 35.8**	**+1.5**
	baz=318						
Z57A	**Bowman**	**137.48**	**33**	P	**PKPdf**	**20 15 38.3**	**+1.9**
	baz=319						
W61A	**Ground Anchor**	**137.88**	**28**	P	**PKPdf**	**20 15 38.1**	**+1.1**
	baz=325						
PLCA	**Paso Flores**	**138.31**	**162**	PKP	**PKPdf**	**20 15 39.1**	**+1.3**
	comp=Z,2.8nm,0.9s,baz=202,slow=6.4,SNR=3.1						
PLCA	**Paso Flores**	**138.31**	**162**	PKIKP	**PKPdf**	**20 15 36.5**	**-1.4**
PLCA	**Paso Flores**	**138.31**	**162**		**PKPdf**	**20 15 36.5**	**-1.4**
BO02	**Sierra Bellavi**	**143.54**	**157**		PKPbc	20 15 46.2	+1.2
MT01	**Popeta**	**144.16**	**156**		PKPbc	20 15 47.8	+1.1
MT02	**Curacav**	**144.74**	**155**	PKPdf	PKPbc	20 15 49.6	+1.1
ROC1	**El Roble**	**145.03**	**155**		**PKPbc**	**20 15 49.6**	**-0.2**
ROC1	**El Roble**	**145.03**	**155**	*i* P	**PKPbc**	**20 15 50.2**	**+0.4**
AUSP	**Uspallata**	**146.35**	**157**	*i* P	**PKPab**	**20 15 55.9**	**+1.1**
RTLS	**Leoncito**	**146.76**	**157**	*i* P	**PKPbc**	**20 15 56.8**	**+1.6**
RTCV	**Cerro Valdivia**	**147.00**	**158**	*i* P	**PKPab**	**20 15 57.8**	**+0.7**
CO03	**El Pedregal**	**147.01**	**154**		**PKPbc**	**20 15 56.5**	**+0.9**
CFA	**Coronel Fontan**	**147.34**	**158**	PKPbc	**PKPdf**	**20 15 56.3**	**+2.3**
	comp=Z,8.0nm,0.5s,baz=251,slow=3.5,SNR=11						
CFA	**Coronel Fontan**	**147.34**	**158**	*i* P	**PKPbc**	**20 15 58.2**	**+1.7**
JTS	**Las Juntas de**	**147.49**	**68**	PKP2	**PKPbc**	**20 15 58.0**	**+0.7**
JTS	**Las Juntas de**	**147.49**	**68**		**PKPbc**	**20 15 58.0**	**+0.7**
GO04	**Tololo Observa**	**147.53**	**153**		**PKPbc**	**20 15 57.7**	**+0.4**
AMOG	**MOGNA**	**147.84**	**157**	*i* P	**PKPbc**	**20 15 59.6**	**+1.7**
ACCO	**Cerro Coronel**	**147.92**	**156**	*i* P	**PKPbc**	**20 16 00.1**	**+1.7**
CO01	**Juntas del Tor**	**148.01**	**154**		**PKPbc**	**20 16 00.2**	**+1.6**
AROD	**Rodeo**	**148.12**	**155**	*i* P	**PKiKP**	**20 16 01.0**	**+0.3**
TCA	**Tanti**	**148.80**	**163**	*i* P	**PKPbc**	**20 16 01.2**	**+0.8**
AGUA	**GUANDACOL**	**149.12**	**156**	*i* P	**PKPbc**	**20 16 02.7**	**+1.5**
AC01	**Pan de Azucar**	**150.98**	**149**		**PKPbc**	**20 16 07.0**	**+1.3**
CPUP	**Villa Florida**	**155.15**	**174**	PKP	**PKPdf**	**20 16 07.3**	**+1.4**
	comp=Z,1.5nm,0.8s,baz=124,slow=5.8,SNR=3.5						
CPUP				PKPab	**pPKPdf**	**20 16 32.3**	**-0.2**
	comp=Z,6.0nm,0.8s,baz=185,slow=5.3,SNR=7.5						
LPAZ	**La Paz**	**160.07**	**138**	PKP	**PKPdf**	**20 16 14.7**	**+1.7**
	comp=Z,4.9nm,0.9s,baz=328,slow=1.5,SNR=18						
LPAZ				PKPab	**PKPab**	**20 16 54.0**	**+0.8**
	comp=Z,18nm,0.7s,baz=243,slow=13,SNR=7.0						
SIV	**San Ignacio**	**164.19**	**156**	PKP	**PKPdf**	**20 16 17.8**	**+1.3**
	comp=Z,4.3nm,0.9s,baz=181,slow=2.1,SNR=12						
SIV				PKPab	**PKPab**	**20 17 11.4**	**+1.1**
	comp=Z,5.3nm,0.9s,baz=232,slow=3.9,SNR=9.4						
BDFB	**Brasilia**	**164.56**	**204**	PKP	**PKPdf**	**20 16 17.1**	**+0.1**
	comp=Z,1.8nm,0.5s,baz=206,slow=26,SNR=3.3						
BDFB				PKPab	**PKPab**	**20 17 13.1**	**+1.0**
	comp=Z,5.8nm,0.9s,baz=354,slow=5.4,SNR=5.7						
BDFB	**Brasilia**	**164.56**	**204**	PKIKP	**PKPdf**	**20 16 15.2**	**-1.7**
BDFB						20 17 12.1	
BDFB	**Brasilia**	**164.56**	**204**	PKPdf	**PKPdf**	**20 16 15.2**	**-1.7**
BDFB				PKPab	**PKPab**	**20 17 12.1**	**+0.1**
SAML	**Samuel**	**168.60**	**131**	PKP2	**PKPab**	**20 17 30.9**	**+0.9**
SAML						21 16 20.3	
SAML	**Samuel**	**168.60**	**131**		**PKPdf**	**20 16 20.2**	**+0.3**
SAML				PKPab	**PKPab**	**20 17 30.9**	**+0.9**

*ARE **17** 20:14:58.0±0.0, 16.09N×74.85W, h63km, Error ellipse: s-maj=0.0km s-min=0.0km az=90.0*
*NEIC **17** 20:15:01.8±1.8, 15.96S±0.09×74.6W±0.1, h66km±6km, mb4.7/51, ML4.1(ARE), Error ellipse: s-maj=17.5km s-min=9.0km az=51.0*
*IDC **17** 20:15:03.6±2.3, 15.89S×74.63W, h72km±21km, mb3.8/10, mb1 4.0/13, mb1mx3.8/38, mbtmp4.2/13, MS3.2/15, Ms1 3.2/15, ms1mx3.0/42, Error ellipse: s-maj=25.9km s-min=15.3km az=61.0*

ISC 17 20:15:00.3±0.5, 15.95S±0.07×74.54W±0.09, h49km, n123, σ1s54/113, mb4.6/32, MS3.2/10, 4C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC	
NNA	**Nana**	**4.53**	**330**	P		**Pn**	**20 16 08.9**	**+2.5**
	5.5nm,0.3s,baz=197,slow=11,SNR=1.1							
NNA				S		**Sn**	**20 16 55.7**	**-2.0**
	103nm,0.3s,baz=214,slow=18,SNR=10.0							
NNA	**Nana**	**4.53**	**330**			**Pn**	**20 16 07.9**	**+1.5**
NNA						**Sn**	**20 16 53.8**	**-4.0**
AP01	**Chacalluta**	**4.68**	**122**	*e*P		**Pn**	**20 16 11.3**	**+2.8**
AP01				*i* S		**Sn**	**20 17 01.4**	**-0.2**
AP01	**Chacalluta**	**4.68**	**122**			Pn	20 16 13.1	+4.6
PB12	**IPOC Station P**	**4.82**	**124**	*e*P		**Pn**	**20 16 12.0**	**+1.5**
PB12				*e*S		**Sn**	**20 17 03.5**	**-1.6**
PB12	**IPOC Station P**	**4.82**	**124**			**Pn**	**20 16 11.8**	**+1.4**
PSGC	**Pisagua**	**5.56**	**131**	⇑*i*P		**Pn**	**20 16 22.2**	**+1.6**
PSGC				*e*S		**Sn**	**20 17 20.0**	**-3.3**
PSGCX	**Pisagua**	**5.56**	**131**			**Pn**	**20 16 21.9**	**+1.3**
PSGCX				Sn		**Sn**	**20 17 19.2**	**-4.1**
MNMC	**Minye Minye**	**5.68**	**125**	⇑*i*P		**Pn**	**20 16 24.4**	**+1.9**
MNMC				*e*S		**Sn**	**20 17 24.8**	**-1.8**
MNMC	**Minye Minye**	**5.68**	**125**			**Pn**	**20 16 24.6**	**+2.2**
PB11	**IPOC Station P**	**6.00**	**130**	⇑*i*P		**Pn**	**20 16 28.6**	**+1.8**
PB11				*e*S		**Sn**	**20 17 30.4**	**-3.9**
PB11	**IPOC Station P**	**6.00**	**130**			**Pn**	**20 16 28.1**	**+1.3**
LPAZ	**La Paz**	**6.17**	**94**	P		Pn	20 16 34.9	+5.4
	0.2nm,0.3s,baz=263,slow=7.2,SNR=4.1							
LPAZ				LR		LR	20 19 15.3	
	comp=Z,133nm,20.8s,baz=224,slow=40							
LPAZ	**La Paz**	**6.17**	**94**	Pn		Pn	20 16 35.2	+5.7
TA01	**Diego Aracena**	**6.19**	**139**			**Pn**	**20 16 30.7**	**+1.6**
GO01	**Chusmiza**	**6.30**	**127**	⇑*i*P		**Pn**	**20 16 33.9**	**+2.8**
GO01				*e*S		**Sn**	**20 17 39.5**	**-2.5**
GO01	**Chusmiza**	**6.30**	**127**			**Pn**	**20 16 32.9**	**+1.8**
PB08	**IPOC Station P**	**6.61**	**130**	Pn		**Pn**	**20 16 38.3**	**+3.0**
PB01	**IPOC Station P**	**6.98**	**137**			**Pn**	**20 16 42.3**	**+2.2**
PB07	**IPOC Station P**	**7.24**	**143**			**Pn**	**20 16 45.4**	**+1.6**
PB04	**IPOC Station P**	**7.59**	**148**			**Pn**	**20 16 49.9**	**+1.3**
PB04						**Sn**	**20 18 09.9**	**-3.4**
PB09	**IPOC Station P**	**7.68**	**140**			**Pn**	**20 16 51.8**	**+2.0**
PB06	**IPOC Station P**	**8.20**	**146**			**Pn**	**20 16 57.6**	**+0.7**
PB06						**Sn**	**20 18 27.3**	**-0.9**
PB10	**IPOC Station P**	**8.41**	**154**			**Pn**	**20 17 00.0**	**+0.4**
LVC	**Limon Verde**	**8.50**	**142**	P		**Pn**	**20 17 04.4**	**+3.3**
	40nm,0.3s,baz=323,slow=9.5,SNR=104							
LVC				S		**Sn**	**20 18 35.1**	**-0.7**
	16nm,0.3s,baz=77,slow=19,SNR=24							
LVC	**Limon Verde**	**8.50**	**142**			**Pn**	**20 17 04.2**	**+3.1**
LVC						**Sn**	**20 18 34.9**	**-1.0**
PB15	**IPOC Station P**	**8.66**	**147**			**Pn**	**20 17 05.1**	**+1.9**
ATAH	**Atahualpa**	**9.54**	**336**	LR		LR	20 20 29.7	
	comp=Z,65nm,20.6s,baz=174,slow=34							
GO02	**Mina Guanaco**	**10.27**	**154**	Pn		**Pn**	**20 17 25.6**	**+0.2**
AC01	**Pan de Azucar**	**10.79**	**161**	Pn		**Pn**	**20 17 31.9**	**-0.3**
GO03	**Copiap**	**12.26**	**162**	Pn		**Pn**	**20 17 54.2**	**+1.9**
SIV	**San Ignacio**	**12.96**	**92**	LR		LR	20 23 50.2	
	comp=Z,78nm,21.1s,baz=284,slow=40							
CFA	**Coronel Fontan**	**16.61**	**161**	P		**P**	**20 18 52.5**	**+0.8**
	0.5nm,0.3s,baz=333,slow=12,SNR=3.0							
CFA				LR		LR	20 24 30.6	
	comp=Z,44nm,19.3s,baz=266,slow=34							
H03N1	**Juan Fernandez**	**17.86**	**192**	T		T	20 37 50.6	
	baz=14,slow=74,SNR=562							
H03N2	**Juan Fernandez**	**17.86**	**192**	T		T	20 37 50.3	
	baz=14,slow=74,SNR=482							
H03N3	**Juan Fernandez**	**17.88**	**192**	T		T	20 37 49.5	
	baz=14,slow=74,SNR=540							
BO02	**Sierra Bellavi**	**19.07**	**170**	P		**Pn**	**20 19 20.7**	**+0.8**
CPUP	**Villa Florida**	**19.07**	**126**	LR		LR	20 27 43.3	
	comp=Z,54nm,18.3s,baz=261,slow=40							
CPUP	**Villa Florida**	**19.07**	**126**	P		**Pn**	**20 19 19.2**	**-0.8**
ROSC	**Rosal**	**20.66**	**1**	LR		LR	20 29 33.2	
	comp=Z,79nm,18.4s,baz=208,slow=42							
BI02	**San Fabin de**	**20.84**	**173**	P		**P**	**20 19 37.5**	**-0.5**
PTGA	**Pitinga**	**20.87**	**45**	P		Pn	20 19 41.3	-0.1
	1.6nm,0.5s,baz=216,slow=19,SNR=2.0							
PTGA				LR		LR	20 28 19.9	
	comp=Z,83nm,18.6s,baz=227,slow=38							
PTGA	**Pitinga**	**20.87**	**45**	P		**P**	**20 19 37.8**	**-0.6**
RUSC	**La Rusia**	**21.75**	**4**	P		**P**	**20 19 48.2**	**-0.1**
LC01	**Cunco**	**22.98**	**175**			**P**	**20 20 02.5**	**+1.7**
LC01				IAmb		IAmb	20 20 04.4	
	comp=Z,13nm,0.8s							
PLCA	**Paso Flores**	**24.94**	**173**	P		**P**	**20 20 20.9**	**+1.9**
	comp=Z,5.1nm,0.9s,baz=343,slow=10.0,SNR=10.0							
PLCA				LR		LR	20 28 23.4	
	comp=Z,40nm,21.0s,baz=324,slow=32							
PLCA	**Paso Flores**	**24.94**	**173**	P		**P**	**20 20 20.5**	**+1.5**
BCIP	**Isla Barro Col**	**25.50**	**348**	P		**P**	**20 20 25.8**	**+1.6**
JTS	**Las Juntas de**	**28.03**	**338**	LR		LR	20 31 19.4	
	comp=Z,40nm,20.0s,baz=231,slow=35							
MDP	**Montagnes des**	**30.12**	**48**	LR		LR	20 34 07.4	
	comp=Z,58nm,21.2s,baz=158,slow=38							
TEIG	**Tepich**	**38.40**	**339**	LR		LR	20 36 27.8	
	comp=Z,34nm,20.8s,baz=228,slow=34							
CMIG	**Matias Romero**	**38.47**	**328**	P		**P**	**20 22 18.4**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=142,slow=8.2,SNR=5.3							
WLAR	**White Oak Lake**	**52.44**	**340**			**P**	**20 24 08.9**	**+0.8**
TXAR	**Lajitas Array**	**53.08**	**328**	P		**P**	**20 24 13.2**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=148,slow=9.8,SNR=6.9							
TXAR	**Lajitas Array**	**53.08**	**328**	P		**P**	**20 24 13.0**	**0.0**
TX31	**Lajitas Ar. Si**	**53.08**	**328**	P		**P**	**20 24 12.7**	**-0.3**
TX31				lAmb		lAmb	20 24 14.0	
	comp=Z,6.2nm,0.9s							
TX32	**Lajitas Array**	**53.08**	**328**	P		**P**	**20 24 12.9**	**-0.1**
MIAR	**Mount Ida**	**53.38**	**340**	P		**P**	**20 24 13.9**	**-1.0**
MIAR				lAmb		lAmb	20 24 15.7	
	comp=Z,8.6nm,0.7s							
W41B	**Gary Mavity, V**	**53.55**	**342**	P		**P**	**20 24 15.4**	**-0.8**
W41B				lAmb		lAmb	20 24 16.6	
	comp=Z,8.9nm,0.7s							
WHAR	**Wooly Hollow**	**53.67**	**342**			**P**	**20 24 16.7**	**-0.3**
WHAR				lAmb		lAmb	20 24 17.5	
	comp=Z,10nm,0.9s							
ABTX	**Abilene, Hawle**	**53.94**	**334**	P		**P**	**20 24 19.0**	**-0.2**
X37A	**Clayton**	**54.02**	**339**	P		**P**	**20 24 19.9**	**+0.3**
W39A	**Magazine**	**54.04**	**341**	P		**P**	**20 24 19.5**	**-0.3**
W39A				lAmb		lAmb	20 24 21.7	
	comp=Z,7.4nm,0.8s							
FCAR	**Ozark Folk Cen**	**54.18**	**342**	P		**P**	**20 24 19.7**	**-1.1**
FCAR				lAmb		lAmb	20 24 21.2	
	comp=Z,4.2nm,0.8s							
U40A	**Yellville**	**54.83**	**342**			**P**	**20 24 24.7**	**-0.8**
W35A	**Tecumseh**	**55.06**	**338**	P		**P**	**20 24 26.0**	**-1.2**
HHAR	**Hobbs**	**55.09**	**341**	P		**P**	**20 24 27.0**	**-0.4**
HHAR				lAmb		lAmb	20 24 27.9	
	comp=Z,8.0nm,0.7s							
S44A	**Carbondale**	**55.12**	**346**	P		**P**	**20 24 25.7**	**-1.9**
S44A				lAmb		lAmb	20 24 28.0	
	comp=Z,7.4nm,0.7s							
TUL1	**Leonard**	**55.36**	**339**			**P**	**20 24 29.1**	**-0.2**
U38A	**Gravette**	**55.38**	**341**	P		**P**	**20 24 29.1**	**-0.4**
U38A				lAmb		lA

T35A					IAmb	IAmb	20 24 39.0		
	comp=Z,9.9nm,0.7s								
M56A	**Emporium**	**57.24**	**357**		P	**P**	**20 24 40.8**	**-1.9**	
M55A	**Ridgway**	**57.26**	**356**		P	**P**	**20 24 40.8**	**-2.0**	
ANMO	**Albuquerque**	**58.99**	**330**		P	**P**	**20 24 55.3**	**0.0**	
	comp=Z,1.7nm,0.7s,baz=154,slow=4.3,SNR=4.5								
ANMO	**Albuquerque**	**58.99**	**330**		P	**P**	**20 24 55.0**	**-0.3**	
SADO	**Sadowa**	**60.57**	**356**		P	**P**	**20 25 04.2**	**-1.4**	
	comp=Z,3.7nm,0.5s,baz=270,slow=6.1								
SADO	**Sadowa**	**60.57**	**356**		P	**P**	**20 25 04.3**	**-1.3**	
G65A	**Princeton**	**61.19**	**6**		P	**P**	**20 25 10.9**	**+1.1**	
G65A					IAmb	IAmb	20 25 11.4		
	comp=Z,6.7nm,0.7s								
E62A	**Clayton Lake**	**62.44**	**4**		P	**P**	**20 25 19.4**	**+1.2**	
E62A					IAmb	IAmb	20 25 25.2		
	comp=Z,14nm,1.5s								
ECSD	**EROS Data Cent**	**62.73**	**342**			**P**	**20 25 19.1**	**-1.2**	
ECSD					IAmb	IAmb	20 25 20.5		
	comp=Z,5.9nm,0.9s								
F36A	**Milaca**	**63.87**	**345**		P	**P**	**20 25 26.9**	**-0.8**	
F36A					IAmb	IAmb	20 25 28.1		
	comp=Z,3.4nm,0.6s								
F33A	**5 Mile Ranch,**	**64.57**	**343**		P	**P**	**20 25 31.5**	**-0.8**	
F33A					IAmb	IAmb	20 25 32.2		
	comp=Z,7.0nm,0.5s								
MSU	**Marysvale**	**64.64**	**328**		P	**P**	**20 25 30.6**	**-2.7**	
P17A	**Butcher Ranch,**	**64.66**	**330**		P	**P**	**20 25 33.4**	**+0.1**	
RWWY	**Rawlins**	**64.81**	**333**		P	**P**	**20 25 32.5**	**-1.9**	
JLU	**Jordanelle**	**65.88**	**330**		P	**P**	**20 25 41.6**	**+0.3**	
DUG	**Dugway, Tooele**	**66.23**	**329**			**P**	**20 25 41.0**	**-2.4**	
DUG					IAmb	IAmb	20 25 45.1		
	comp=Z,6.2nm,0.9s								
TCUT	**Toone Canyon**	**66.26**	**330**		P	**P**	**20 25 43.3**	**-0.4**	
B35A	**Bob, Littlefor**	**66.27**	**346**		P	**P**	**20 25 42.0**	**-1.2**	
B35A					IAmb	IAmb	20 25 42.8		
	comp=Z,3.7nm,0.9s								
PDAR	**Pinedale Array**	**66.71**	**333**		LR	LR	20 56 10.7		
	comp=Z,33nm,21.1s,baz=313,slow=37								
HWUT	**Hardware Ranch**	**66.71**	**331**			**P**	**20 25 44.8**	**-1.7**	
HWUT					IAmb	IAmb	20 25 47.7		
	comp=Z,5.8nm,0.9s								
NVAR	**Mina Array Bea**	**67.87**	**324**		LR	LR	20 52 22.9		
	comp=Z,34nm,21.5s,baz=125,slow=33								
ELK	**Elko**	**67.88**	**328**		P	**P**	**20 25 54.5**	**+0.5**	
	comp=Z,0.9nm,0.6s,baz=22,slow=2.9,SNR=4.7								
ELK	**Elko**	**67.88**	**328**		P	**P**	**20 25 53.4**	**-0.6**	
PAHR	**Pah Rah Range**	**69.36**	**324**		P	**P**	**20 26 02.3**	**-0.8**	
PAHR					IAmb	IAmb	20 26 05.7		
	comp=Z,6.2nm,1.0s								
HLID	**Hailey**	**69.56**	**330**		P	**P**	**20 26 05.0**	**+0.7**	
MCMT	**McKenzie Canyo**	**69.80**	**332**		P	**P**	**20 26 06.6**	**+0.8**	
BEKR	**Beckworth**	**70.02**	**324**		P	**P**	**20 26 07.8**	**+0.5**	
MFID	**Camas Ranch**	**70.14**	**329**		P	**P**	**20 26 07.8**	**0.0**	
MFID					IAmb	IAmb	20 26 10.0		
	comp=Z,5.9nm,1.1s								
FRB	**Frobisher Bay**	**79.58**	**3**		LR	LR	21 03 06.5		
	comp=Z,22nm,19.2s,baz=346,slow=36								
TORD	**Torodi Ar. Bea**	**80.72**	**73**		P	**P**	**20 27 09.8**	**+0.9**	
	comp=Z,3.8nm,0.5s,baz=255,slow=4.7,SNR=41								
TORD					LR	LR	21 01 46.8		
	comp=Z,41nm,19.1s,baz=105,slow=35								
TORD	**Torodi Ar. Bea**	**80.72**	**73**		P	**P**	**20 27 09.0**	**0.0**	
YKA	**Yellowknife Ar**	**84.26**	**343**		P	**P**	**20 27 26.0**	**-0.3**	
	comp=Z,0.9nm,0.7s,baz=148,slow=5.7,SNR=5.9								
ESDC	**Sonseca Array**	**85.80**	**47**		P	**P**	**20 27 35.4**	**+0.6**	
	comp=Z,0.1nm,0.4s,baz=264,slow=5.3,SNR=4.7								
ESDC	**Sonseca Array**	**85.80**	**47**		P	**P**	**20 27 34.4**	**-0.3**	
SUMG	**Summit**	**91.50**	**10**			**P**	**20 28 01.8**	**+0.3**	
SUMG					IAmb	IAmb	20 28 03.2		
	comp=Z,6.4nm,1.1s								
H11S2	**WAKE ISLAND Hyl**	**21.68**	**282**		T	T	22 47 29.1		
	baz=99,slow=75,SNR=7.2								
H11S1	**WAKE ISLAND Hyl**	**21.69**	**282**		T	T	22 47 37.4		
	baz=99,slow=75,SNR=3.4								
H11S3	**WAKE ISLAND Hyl**	**21.70**	**282**		T	T	22 47 30.5		
	baz=99,slow=75,SNR=2.9								
ASAR	**Alice Springs**	**131.80**	**216**		PKP	**PKPdf**	**20 34 08.9**	**0.0**	
	comp=Z,0.5nm,1.0s,baz=121,slow=2.3,SNR=5.0								
ASAR	**Alice Springs**	**131.80**	**216**			**PKPdf**	**20 34 08.3**	**-0.6**	
WRA	**Warramunga Arr**	**134.41**	**220**		PKP	**PKPdf**	**20 34 13.8**	**-0.1**	
	comp=Z,0.5nm,0.5s,baz=125,slow=2.0,SNR=6.8								
WRA	**Warramunga Arr**	**134.41**	**220**			**PKPdf**	**20 34 13.2**	**-0.7**	
ZALV	**Zalesovo Beam**	**138.80**	**18**		PKP	**PKPdf**	**20 34 21.0**	**+0.1**	
	comp=Z,2.1nm,0.9s,baz=256,slow=3.1,SNR=6.2								
USRK	**Ussuriysk Ar.**	**143.97**	**327**		PKP	PKPbc	20 34 28.9	+0.5	
	comp=Z,3.0nm,0.9s,baz=66,slow=5.4,SNR=5.7								
USRK	**Ussuriysk Ar.**	**143.97**	**327**			PKPbc	20 34 28.7	+0.3	
MJAR	**Matsushiro Arr**	**144.43**	**311**		PKP	**PKPab**	**20 34 29.6**	**-0.2**	
	comp=Z,1.9nm,0.8s,baz=141,slow=1.7,SNR=6.3								
MJAR	**Matsushiro Arr**	**144.43**	**311**			PKPbc	20 34 30.2	+0.1	
SONM	**Songino Array**	**148.19**	**359**		PKPbc	**PKiKP**	**20 34 41.9**	**-0.9**	
	comp=Z,2.4nm,0.7s,baz=344,slow=1.4,SNR=14								
SONM	**Songino Array**	**148.19**	**359**			**PKPbc**	**20 34 41.4**	**+0.4**	
KSRS	**Korea Array**	**150.79**	**321**		PKPbc	**PKiKP**	**20 34 48.9**	**+0.6**	
	comp=Z,2.8nm,0.8s,baz=2.2,slow=1.4,SNR=14								

*IDC **17**:20:30:17.6±4.6,36°.17N×70°.74E,h164km±42km,mb3.4/8, mb1 3.5/13,mb1mx3.2/49,mbtmp3.9/13,Error ellipse: s-maj=31.5km s-min=20.4km az=26.0*
*NNC **17**:20:30:25.8±11.0,36°.88N×70°.60E,h162km±187km,mb3.5, mpv4.5,Error ellipse: s-maj=103.8km s-min=62.4km az=1.0*

ISC 17 20:30:21.4±0.7,**36°.55N**±0°.06×**70°.80E**±0°.08,**h188**km,**n48,** σ**2s00/58,mb3.5/7,2C-8D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.87**	**161**	P	**Pn**	**20 31 10.0**	**+1.0**
CEP				S	**Sn**	**20 31 45.0**	**-1.2**
CHCP	**Chirah Chowk**	**3.52**	**144**	P	**Pn**	**20 31 18.2**	**+1.3**
THW	**Thamme Wali**	**3.83**	**168**	P	**Pn**	**20 31 21.0**	**+0.4**
CHM	**Chimkent**	**5.83**	**351**	*e*P	**Pn**	**20 31 48.9**	**+2.6**
	baz=351						
CHM				*e*S	**Sn**	**20 32 52.0**	**-1.2**
	baz=351						
AML	**Almayashu**	**6.01**	**21**	P	**Pn**	**20 31 50.5**	**+1.7**
	SNR=406						
DZA	**Taraz**	**6.35**	**4**	⇓*e*P	**Pn**	**20 31 55.2**	**+2.3**
DZA	baz=4.1			*e*S	**Sn**	**20 33 03.9**	**-1.4**
	baz=4.1						
UCH	**Uchtor**	**6.36**	**26**	P	**Pn**	**20 31 55.2**	**+1.7**
	SNR=78						
KZA	**Kyzart**	**6.51**	**31**	P	**Pn**	**20 31 56.6**	**+1.2**
	SNR=28						
BRLS	**Boroldoy**	**6.51**	**354**	*e*P	**Pn**	**20 31 53.7**	**-1.4**
	baz=352						
BRLS				*e*S	**Sn**	**20 33 01.6**	**-7.6**
	baz=352						
EKS2	**Erkin-Say**	**6.52**	**20**	P	**Pn**	**20 31 57.1**	**+1.8**
	SNR=105						
KK31	**Karatay Array**	**6.55**	**358**	P	**Pn**	**20 31 56.7**	**+1.2**
	6.8nm,0.3s,baz=176,slow=13,SNR=204						
KK31				⇓S	**Sn**	**20 33 07.1**	**-2.9**
	6.3nm,0.3s,baz=187,slow=23,SNR=8.2						
AAK	**Ala-Archa**	**6.71**	**24**	P	**Pn**	**20 31 59.4**	**+1.6**
	13nm,0.3s,baz=178,slow=5.9,SNR=54						
AAK				S	**Sn**	**20 33 14.8**	**+0.6**
	0.8nm,0.3s,baz=345,slow=20,SNR=12						
AAK	**Ala-Archa**	**6.71**	**24**	P	**Pn**	**20 31 59.9**	**+2.0**
	SNR=34						
AAK	**Ala-Archa**	**6.71**	**24**	⇑P	**Pn**	**20 31 59.4**	**+1.6**
	15nm,0.4s						
AAK				⇑S	**Sn**	**20 33 14.4**	**+0.3**
	12nm,0.6s						
KBK	**Karagaybulak**	**6.89**	**26**	P	**Pn**	**20 32 02.3**	**+2.2**
	SNR=54						
ULHL	**Ulahol**	**7.08**	**35**	P	**Pn**	**20 32 04.1**	**+1.5**
	SNR=13						
CHMS	**Chumysh**	**7.12**	**24**	P	**Pn**	**20 32 04.5**	**+1.5**
	SNR=38						
USP	**Ospenovka**	**7.29**	**22**	P	**Pn**	**20 32 06.2**	**+1.0**
	SNR=28						
TKM2	**Tokmak 2**	**7.36**	**29**	P	**Pn**	**20 32 08.1**	**+1.8**
	SNR=29						
TKM2	**Tokmak 2**	**7.36**	**29**	⇓P	**Pn**	**20 32 07.4**	**+1.1**
	29nm,0.4s						
TKM2				⇓S	**Sn**	**20 33 29.8**	**+0.4**
	6.0nm,0.6s						
SGDS	**Sogindy**	**7.49**	**22**	⇓*e*P	**Pn**	**20 32 08.8**	**+0.8**
	6.1nm,0.4s,baz=24						
SGDS				*e*S	**Sn**	**20 33 30.1**	**-2.4**
	baz=24						
MTBS	**Maitube**	**7.87**	**32**	*e*P	**Pn**	**20 32 14.6**	**+1.7**
	baz=34						
TNSS	**Tian-Shan**	**8.02**	**34**	*e*P	**Pn**	**20 32 16.7**	**+1.5**
	baz=36						
AAA	**Alma-Ata**	**8.14**	**33**	*e*P	**Pn**	**20 32 20.0**	**+3.5**
	11nm,0.8s,baz=36						
MDOK	**Medeo**	**8.16**	**34**	*e*P	**Pn**	**20 32 18.9**	**+2.0**
	baz=36						
MDOK	**Medeo**	**8.16**	**34**	P	**Pn**	**20 32 18.7**	**+1.8**
	9.7nm,0.5s						
MDOK				S	**Sn**	**20 33 44.0**	**-4.6**
	4.0nm,0.8s						
KUU	**Kurty**	**8.47**	**28**	*e*P	**Pn**	**20 32 21.0**	**+0.4**
	2.5nm,0.8s,baz=30						
KUU				*e*S	**Sn**	**20 33 53.1**	**-2.4**
	baz=30						
CHKK	**Chushkaly**	**8.69**	**31**	*e*P	**Pn**	**20 32 25.4**	**+1.8**
	baz=33						
SATY	**Saty**	**8.74**	**40**	*e*P	**Pn**	**20 32 25.5**	**+1.1**
	1.0nm,0.8s,baz=42						
BTLS	**Baital**	**8.83**	**15**	*e*P	**Pn**	**20 32 26.1**	**+0.8**
	1.3nm,1.0s,baz=16						
UZB	**Uzynbulak**	**9.13**	**41**	*e*P	**Pn**	**20 32 31.0**	**+1.6**
	3.0nm,0.8s,baz=44						
KPKS	**Kokpek**	**9.18**	**39**	⇓*e*P	**Pn**	**20 32 31.5**	**+1.5**
	1.5nm,0.3s,baz=41						
SHLS	**Shalkode**	**9.37**	**43**	*e*P	Pn	20 32 37.6	+5.1
	1.1nm,0.5s,baz=46						
MKAR	**Makanchi Array**	**13.35**	**36**	P	**Pn**	**20 33 24.5**	**+1.0**
	0.2nm,0.3s,baz=220,slow=11,SNR=10						
AB31	**Akbulak array**	**14.96**	**331**	⇓P	**P**	**20 33 46.5**	**+2.2**
	0.7nm,0.4s						
KURBB	**Kurchatov Arra**	**15.13**	**19**	P	**P**	**20 33 45.8**	**-0.4**
	0.1nm,0.3s,baz=207,slow=11,SNR=9.7						
BVAR	**Borovoye Array**	**16.48**	**359**	P	**Pn**	**20 34 02.9**	**+1.1**
	0.5nm,0.3s,baz=163,slow=10,SNR=14						
AKTO	**Aktyubinsk**	**16.66**	**330**	P	**Pn**	**20 34 04.5**	**+0.6**
	1.0nm,0.3s,baz=146,slow=9.6,SNR=17						
AKTO	**Aktyubinsk**	**16.66**	**330**	⇓P	**Pn**	**20 34 04.4**	**+0.6**
	3.5nm,0.5s						
ZALV	**Zalesovo Beam**	**19.94**	**25**	P	**Pn**	**20 34 40.6**	**-2.0**
	2.0nm,0.5s,baz=218,slow=11,SNR=7.1						
FINES	**FINESS Array B**	**37.35**	**326**	P	**P**	**20 37 17.0**	**+1.7**
	2.3nm,0.8s,baz=124,slow=6.8,SNR=7.5						
ARCES	**ARCESS Array B**	**41.03**	**338**	P	**P**	**20 37 46.3**	**+0.5**
	4.9nm,1.2s,baz=348,slow=5.1,SNR=4.5						
NB2	**NORSAR Subarra**	**44.24**	**323**	P	**P**	**20 38 12.7**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=90,slow=7.9						
NOA	**NORSAR Array B**	**44.24**	**323**	P	**P**	**20 38 11.9**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=96,slow=7.7,SNR=4.5						
TORD	**Torodi Ar. Bea**	**65.56**	**268**	P	**P**	**20 40 43.5**	**-1.6**
	comp=Z,1.5nm,0.6s,baz=51,slow=6.1,SNR=22						
YKA	**Yellowknife Ar**	**81.20**	**3**	P	**P**	**20 42 17.0**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=350,slow=5.2,SNR=2.2						
WRA	**Warramunga Arr**	**82.16**	**122**	P	**P**	**20 42 20.1**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=322,slow=4.8,SNR=2.4						
ASAR	**Alice Springs**	**84.42**	**125**	P	**P**	**20 42 30.4**	**-2.4**
	comp=Z,0.3nm,0.6s,baz=308,slow=4.6,SNR=5.1						

*IDC **17**:20:34:31.6±7.7,37°.92N×72°.75E,h166km±63km,mb2.9/1, mb1 2.8/5,mb1mx2.7/53,mbtmp3.4/5,Error ellipse: s-maj=82.7km s-min=41.7km az=156.0*

ISC 17 20:34:29.1±1.2,**37°.77N**±0°.08×**72°.86E**±0°.10,**h150**km,**n16,** σ**2s31/20,2C-2D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.00**	**53**	Pn	**Pn**	**20 35 16.4**	**-0.1**
KSH				Sn	**Sn**	**20 35 48.8**	**-4.5**
KSH				smax	smax		
	comp=N,360nm,0.3s						
KSH				smax	smax		
	comp=E,320nm,0.3s						
AML	**Almayashu**	**4.41**	**8**	P	**Pn**	**20 35 36.2**	**+1.2**
	SNR=48						
UCH	**Uchtor**	**4.63**	**15**	P	**Pn**	**20 35 40.0**	**+2.0**
	SNR=21						
KZA	**Kyzart**	**4.68**	**22**	P	**Pn**	**20 35 40.7**	**+2.1**
	SNR=7.8						
EKS2	**Erkin-Say**	**4.94**	**8**	P	**Pn**	**20 35 43.5**	**+1.8**
	SNR=24						
AAK	**Ala-Archa**	**5.02**	**14**	P	**Pn**	**20 35 44.4**	**+1.6**
	comp=E,4.2nm,0.3s,baz=172,slow=7.0,SNR=13						
AAK				S	**Sn**	**20 36 41.3**	**+0.8**
	baz=139,slow=20,SNR=2.4						
AAK	**Ala-Archa**	**5.02**	**14**	P	**Pn**	**20 35 45.2**	**+2.4**
	SNR=12						
AAK	**Ala-Archa**	**5.02**	**14**	⇓P	**Pn**	**20 35 44.5**	**+1.6**
	comp=E,7.6nm,0.6s						
AAK				⇑S	**Sn**	**20 36 40.6**	**+0.1**
	comp=E,10nm,0.6s						
ULHL	**Ulahol**	**5.17**	**29**	P	**Pn**	**20 35 47.4**	**+2.4**
	SNR=9.6						
CHMS	**Chumysh**	**5.42**	**15**	P	**Pn**	**20 35 50.3**	**+2.3**
	SNR=7.5						
KK31	**Karatay Array**	**5.62**	**342**	⇓P	**Pn**	**20 35 49.8**	**-0.8**
	comp=E,1.3nm,0.3s,baz=149,slow=11,SNR=31						
KK31				⇑S	**Sn**	**20 36 48.8**	**-5.6**
	comp=E,5.1nm,0.3s,baz=142,slow=23,SNR=20						
THN	**Thein Dam**	**5.81**	**155**	*e*S	**Sn**	**20 36 58.0**	**-1.1**
MKAR	**Makanchi Array**	**11.40**	**35**	P	**Pn**	**20 37 07.7**	**+0.3**
	comp=E,0.0nm,0.3s,baz=231,slow=16,SNR=2.0						
KURBB	**Kurchatov Arra**	**13.47**	**16**	P	**Pn**	**20 37 33.3**	**-0.8**
	comp=E,0.0nm,0.3s,baz=205,slow=12,SNR=5.1						
ZALV	**Zalesovo Beam**	**18.16**	**23**	P	**P**	**20 38 30.8**	**+1.0**
	comp=E,0.1nm,0.3s,baz=228,slow=8.9,SNR=4.0						
BRTR	**Keskin Array B**	**30.48**	**286**	P	**P**	**20 40 27.8**	**-0.1**
	comp=E,0.2nm,0.5s,baz=96,slow=10,SNR=2.4						

*IDC **17**:20:45:35.6±2.6,8°.23S×111°.26E,h0km,mb3.9/6, mb1 4.0/7,mb1mx3.7/29,mbtmp3.9/7,ML3.2/1,Error ellipse: s-maj=145.2km s-min=17.4km az=53.0*
*NEIC **17**:20:45:51.2±3.0,8°.30S±0°.09×111°.59E±0°.08,h133km±6km, mb4.2/15,Error ellipse: s-maj=14.7km s-min=9.1km az=215.0*

ISC 17 20:45:52.1±0.6,**8°.31S**±0°.09×**111°.56E**±0°.08,**h150**km,**n33,** σ**1s70/33,mb4.0/11,Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.10**	**291**		**Pn**	**20 46 16.1**	**-1.6**
SMRI	**Semarang**	**1.67**	**318**		**Pn**	**20 46 22.8**	**-0.8**
JAGI	**Jajag, Banyuwa**	**2.57**	**94**		**Pn**	**20 46 31.5**	**-2.6**
CISI	**Cisompet, Garu**	**3.78**	**281**		**Pn**	**20 46 49.5**	**-0.1**
XMIS	**Christmas Isla**	**6.21**	**249**		**Pn**	**20 47 20.2**	**-1.5**
MNAI	**Manna**	**9.41**	**294**	Pn	**Pn**	**20 47 59.9**	**-4.4**
SOEI	**Soe**	**12.63**	**97**	Pn	**Pn**	**20 48 44.3**	**-2.5**
GIRL	**Giralia**	**14.48**	**170**	Pn	**P**	**20 49 11.0**	**-1.6**
PSA00	**Pilbara Seismi**	**15.42**	**150**	P	**Pn**	**20 49 20.3**	**-1.4**
PSA00				IAmb	IAmb	20 49 38.7	
	comp=Z,29nm,1.4s						
FITZ	**Fitzroy Crossi**	**16.80**	**127**	P	**P**	**20 49 37.3**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=326,slow=11,SNR=2.2						
FITZ				S	S	20 52 32.0	-14
	comp=Z,0.1nm,0.3s,baz=209,slow=7.5,SNR=1.4						
FITZ	**Fitzroy Crossi**	**16.80**	**127**	P	**P**	**20 49 37.0**	**-1.2**
FITZ				IAmb	IAmb	20 49 42.8	
	comp=Z,8.1nm,1.4s						
FITZ					S	20 52 32.8	-13
KNRA	**Kununurra**	**18.34**	**115**	P	**Pn**	**20 49 56.5**	**-0.5**
MTN	**Manton Dam**	**19.76**	**105**	P	**Pn**	**20 50 11.8**	**-1.9**
WB0	**Warramunga Arr**	**24.87**	**120**	P	**P**	**20 51 02.7**	**+1.6**
WB0				IAmb	IAmb	20 51 29.8	
	comp=Z,8.2nm,1.1s						
WRA	**Warramunga Arr**	**24.89**	**120**	P	**P**	**20 51 02.6**	**+1.3**
	comp=Z,1.8nm,0.6s,baz=295,slow=11,SNR=4.9						
WRA	**Warramunga Arr**	**24.89**	**120**	P	**P**	**20 51 01.5**	**+0.2**
WB2	**Warramunga Arr**	**24.91**	**120**	P	**P**	**20 51 02.5**	**+1.1**
WB2				IAmb	IAmb	20 51 21.7	
	comp=Z,23nm,1.4s						
WR0	**Warramunga Arr**	**25.07**	**120**	P	**P**	**20 51 02.6**	**-0.4**
WR0				IAmb	IAmb	20 51 11.7	
	comp=Z,18nm,1.5s						
AS31	**Alice Springs**	**26.29**	**128**		**P**	**20 51 15.5**	**+1.6**
ASAR	**Alice Springs**	**26.29**	**128**	P	**P**	**20 51 15.8**	**+2.0**
	comp=Z,1.0nm,0.5s,baz=303,slow=8.3,SNR=18						
ASAR	**Alice Springs**	**26.29**	**128**	P	**P**	**20 51 14.8**	**+0.9**
BBOO	**Buckleboo**	**33.30**	**141**	P	**P**	**20 52 14.8**	**-0.8**
STKA	**Stephens Creek**	**36.45**	**134**	P	**P**	**20 52 44.5**	**+1.9**
	comp=Z,1.4nm,0.5s,baz=318,slow=7.8,SNR=11						
STKA	**Stephens Creek**	**36.45**	**134**	P	**P**	**20 52 43.5**	**+0.8**
SONM	**Songino Array**	**56.09**	**356**	P	**P**	**20 55 16.3**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=175,slow=8.8,SNR=4.8						
SONM	**Songino Array**	**56.09**	**356**	P	**P**	**20 55 15.9**	**+0.2**
MK31	**Makanchi Array**	**60.74**	**337**	P	**P**	**20 55 48.4**	**+0.6**
MK31				IAmb	IAmb	20 56 15.5	
	comp=Z,2.1nm,1.4s						
MKAR	**Makanchi Array**	**60.74**	**337**	P	**P**	**20 55 48.4**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=153,slow=7.6,SNR=20						
MKAR	**Makanchi Array**	**60.74**	**337**	P	**P**	**20 55 48.3**	**+0.4**
ZALV	**Zalesovo Beam**	**66.01**	**343**	P	**P**	**20 56 21.6**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=159,slow=4.4,SNR=6.0						
MAW	**Mawson**	**67.48**	**198**	P	**P**	**20 56 33.9**	**+2.4**
ABKAR	**Akbulak array**	**72.89**	**327**	P	**P**	**20 57 05.4**	**+0.7**
QSPA	**South Pole Qui**	**81.68**	**180**	P	**P**	**20 57 57.0**	**+3.4**
QSPA				IAmb	IAmb	20 58 28.7	
	comp=Z,4.4nm,1.3s						

*JMA **17**:21:13:12.5,23°.76N×121°.58E,h3km,M2.9*
*TAP **17**:21:13:13.0,23°.76N×121°.54E,h5km,ML3.5,C*

ISC 17 21:13:11.5±1.0,**23°.69N**±0°.02×**121°.64E**±0°.02,**h5**km±9km, **n120,** σ**1s13/192,1C-22D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.20**	**264**	⇓*i*P	**Pg**	**21 13 16.5**	**+1.0**
	baz=236						
EGFH				*i* S	**Sg**	**21 13 18.6**	**+0.5**
	baz=236						
ESL	**Shilin**	**0.23**	**302**	⇓*i*P	**Pg**	**21 13 15.7**	**-0.4**
	baz=298						
ESL				*i* S	**Sg**	**21 13 17.1**	**-1.9**
	baz=298						
HWA	**Hwalien**	**0.29**	**353**	P	**Pg**	**21 13 18.4**	**+1.3**
	baz=10.0						
HWA				*i* S	**Sg**	**21 13 22.8**	**+1.8**
	baz=10.0						
EHY	**Hungye**	**0.35**	**238**	⇓*i*P	**Pb**	**21 13 19.6**	**-0.6**
	baz=227						
EHY				S	**Sb**	**21 13 24.5**	**-1.5**
	baz=227						
TWD	**Chiawan**	**0.39**	**354**	*i* P	**Pg**	**21 13 19.6**	**+0.6**
	baz=354						
TWD				S	**Sg**	**21 13 24.6**	**+0.4**
	baz=354						
YULB	**Yu-li**	**0.43**	**227**	⇓*i*P	**Pn**	**21 13 21.7**	**-2.8**
	baz=226						
YULB				*e*S	**Sb**	**21 13 28.5**	**-0.1**
	baz=226						
TWF1	**Yuli**	**0.46**	**223**	⇓*i*P	**Pn**	**21 13 22.4**	**-2.4**
	baz=225						
TWF1				*e*S	**Sb**	**21 13 29.5**	**+0.2**
	baz=225						
VWDT	**VWDT**	**0.46**	**278**	⇓*i*P	**Pg**	**21 13 20.9**	**+0.4**
	baz=268						
VWDT				S	**Sg**	**21 13 25.8**	**-0.8**
	baz=268						
NACB	**Ninganchiao**	**0.48**	**355**	⇓*i*P	**Pg**	**21 13 21.1**	**+0.2**
	baz=352						
NACB				*e*S	**Sg**	**21 13 26.2**	**-1.0**
	baz=352						
OWD	**Renai**	**0.50**	**302**	⇓*i*P	**Pg**	**21 13 20.9**	**-0.3**
	baz=298						
OWD				*e*S	**Sg**	**21 13 26.6**	**-1.2**
	baz=298						
ETLH	**Xiulin Townshi**	**0.53**	**344**	P	**Pg**	**21 13 21.7**	**-0.2**
	baz=348						
ETLH				*e*S	**Sg**	**21 13 29.5**	**+0.7**
	baz=348						
CHGB	**Renai**	**0.56**	**311**	⇓*i*P	**Pg**	**21 13 22.3**	**-0.2**
	baz=308						
CHGB				*e*S	**Sg**	**21 13 27.9**	**-1.9**
	baz=308						
WHF	**Hehuan Shan**	**0.57**	**323**	⇓*i*P	**Pg**	**21 13 22.2**	**-0.4**
	baz=312						
WHF				*e*S	**Sg**	**21 13 28.3**	**-1.7**
	baz=312						
FULB	**Fuli**	**0.59**	**213**	*e*P	**Pn**	**21 13 25.9**	**-0.6**
	baz=219						
SSLB	**Suanglung**	**0.64**	**279**	⇓*i*P	**Pg**	**21 13 23.9**	**0.0**
	baz=272						
SSLB				*e*S	**Sg**	**21 13 30.3**	**-1.8**
	baz=272						
CHKT	**Chengkung**	**0.64**	**203**	*e*P	**Pn**	**21 13 27.2**	**-0.1**
	baz=194						
CHKT				*e*S	**Sn**	**21 13 37.6**	**-0.2**
	baz=194						
TWT	**Tachien**	**0.70

TWGBT	**Beinan** baz=219	1.01	211	*e*P	Pn	21 13 32.7	+0.3
TWGBT	baz=219			*e*S	Sn	21 13 48.8	+1.8
TWG	**Pinlang** baz=219	1.01	211	P	Pn	21 13 33.5	+1.0
TWG	baz=219			*e*S	Sn	21 13 48.9	+1.9
WDLH	**Douliu** baz=265	1.01	270	P	Pn	21 13 32.5	+0.1
WDLH	baz=265			*e*S	Sn	21 13 46.3	-0.7
NSK	**Sanguang** baz=333	1.01	345	||P	Pb	21 13 31.3	-0.3
NSK	baz=333			*e*S	Sg	21 13 43.2	-1.0
TWE	**Neicheng** baz=2.0	1.02	1	*e*P	Pb	21 13 31.8	0.0
TWE	baz=2.0			*e*S	Sg	21 13 44.4	-0.2
TWQ1	**Liyutan** baz=307	1.03	310	*e*P	Pb	21 13 32.2	+0.3
TWQ1	baz=307			*e*S	Sg	21 13 45.0	+0.3
TTN	**Taitung** baz=203	1.04	206	*e*P	Pn	21 13 33.1	+0.3
WTP	**Ta-pu** baz=249	1.04	245	*i* P	Pn	21 13 33.2	+0.3
WTP	baz=249			*e*S	Sn	21 13 47.2	-0.7
WCHH	**Zhanghua** baz=287	1.06	291	P	Pn	21 13 32.8	-0.3
WCHH	baz=287			*e*S	Sn	21 13 48.7	+0.3
NWLT	**Wulai** baz=352	1.09	353	P	Pb	21 13 32.8	-0.1
NWLT	baz=352			*e*S	Sb	21 13 45.5	-1.9
NSTT	**Nanjuang** baz=319	1.10	328	P	Pb	21 13 32.8	-0.3
NSTT	baz=319			*e*S	Sb	21 13 46.7	-1.2
LIOB	**Emei** baz=318	1.11	329	P	Pb	21 13 32.8	-0.5
LIOB	baz=318			*e*S	Sb	21 13 46.8	-1.2
WDJ	**Dajia District** baz=311	1.13	306	P	Pg	21 13 34.4	+1.3
WDJ	baz=311			*e*S	Sb	21 13 49.6	+1.1
CHY	**Chiayi** baz=256	1.14	260	*e*P	Pn	21 13 34.5	+0.4
CHY	baz=256			*e*S	Sn	21 13 50.8	+0.8
PTSB	**Yuanli** baz=309	1.14	311	P	Pg	21 13 34.9	+1.4
CHN1	**Nanshi** baz=241	1.14	244	*i* P	Pn	21 13 35.2	+1.0
CHN1	baz=241			*e*S	Sn	21 13 51.1	+0.8
TWK	**Hsinying** baz=245	1.14	248	P	Pn	21 13 34.8	+0.6
TWK	baz=245			*e*S	Sn	21 13 50.1	-0.2
NMLH	**Miaoli** baz=314	1.15	317	P	Pn	21 13 34.2	-0.1
NMLH	baz=314			*e*S	Sb	21 13 49.2	+0.1
SGST	**Jiashian** baz=235	1.15	238	P	Pn	21 13 34.3	0.0
SGST	baz=235			*e*S	Sn	21 13 51.0	+0.7
SLGT	**Liugui** baz=226	1.15	233	P	Pn	21 13 34.9	+0.6
SLGT	baz=226			*e*S	Sn	21 13 52.0	+1.6
SNST	**Tainan City** baz=243	1.15	246	P	Pn	21 13 35.0	+0.6
SNST	baz=243			*e*S	Sn	21 13 51.4	+0.9
NTC	**Toucheng** baz=353	1.17	8	*e*P	Pn	21 13 34.5	-0.1
EGS	baz=358	1.18	13	*e*P	Pg	21 13 35.6	+1.4
RLNB	**Erlin** baz=276	1.19	280	*e*P	Pg	21 13 35.2	+0.7
RLNB	baz=276			*e*S	Sg	21 13 51.0	+1.1
WLTB	**Daxi** baz=353	1.21	343	*e*P	Pn	21 13 35.3	+0.1
SBCB	**Hsinchu** baz=338	1.25	331	*e*P	Pg	21 13 36.6	+1.1
WLGB	**Puzi** baz=257	1.25	260	*e*P	Pg	21 13 36.1	+0.5
WLGB	baz=257			*e*S	Sn	21 13 53.2	+0.3
ECL	**Taimali** baz=193	1.26	210	*e*P	Pg	21 13 37.0	+1.3
HSN	**Hsinchu** baz=339	1.27	331	*e*P	Pg	21 13 37.2	+1.4
HSN	baz=339			*e*S	Sg	21 13 54.9	+2.6
NHDH	**Xindian Distri** baz=353	1.27	355	P	Pb	21 13 36.3	+0.3
NHDH	baz=353			*e*S	Sb	21 13 53.1	+0.5
TATO	**Taipei** baz=353	1.29	354	*e*P	Pb	21 13 36.5	+0.3
TIPB	**Shuangxi** baz=358	1.29	7	*e*P	Pn	21 13 36.3	+0.1
SSD	**Sandimen** baz=217	1.32	225	*e*P	Pg	21 13 37.9	+0.9
SSD	baz=217			*e*S	Sg	21 13 57.6	+3.5
CHN3	**Shinhua** baz=237	1.32	243	*e*P	Pg	21 13 39.1	+2.1
NCUH	**Zhongli** baz=337	1.34	342	*e*P	Pb	21 13 37.8	+0.7
NCUH	baz=337			*e*S	Sg	21 13 56.9	+2.3
NCU	**National Centr** baz=348	1.34	342	*e*P	Pg	21 13 39.5	+2.2
NCU	baz=348			*e*S	Sn	21 13 56.0	+0.9
TAP	**Taipei** baz=354	1.35	355	*e*P	Pg	21 13 39.1	+1.7
TWB1	**Santiao Chiao** baz=4.0	1.35	13	*e*P	Pg	21 13 38.5	+1.1
CHN8	**Yiju** baz=253	1.36	256	*e*P	Pg	21 13 38.3	+0.7
CHN8	baz=253			*e*S	Sg	21 13 58.1	+2.8
NWF	**Wu-fen Shan** baz=2.0	1.38	5	*e*P	Pb	21 13 38.0	+0.1
NWF	baz=2.0			*e*S	Sn	21 13 56.6	+0.3
WFSB	**Wu-fen Shan** baz=2.0	1.38	5	*e*P	Pb	21 13 37.9	+0.1
WFSB	baz=2.0			*e*S	Sb	21 13 57.5	+1.7
JYNG	**Yonagunijimaku**	1.41	57	P	Pg	21 13 38.5	-0.1
JYNG				*e*S	Sg	21 13 58.2	+1.3
TWM1	**Shoushan** baz=227	1.42	233	*e*P	Pg	21 13 40.9	+2.2
TWS1	**Kuangyinshan** baz=351	1.42	352	*e*P	Pb	21 13 39.1	+0.6
MASBT	**Mashibuluo** baz=216	1.42	221	P	Pg	21 13 39.5	+0.7
MASBT	baz=216			*e*S	Sg	21 13 59.2	+2.0
YM01	**YM01** baz=356	1.45	357	*e*P	Pn	21 13 38.6	+0.1
YM04	**YM04** baz=355	1.46	356	*e*P	Pn	21 13 37.6	-1.0
YM10	**YM10** baz=356	1.46	357	*e*P	Pg	21 13 40.9	+1.3
YOJ	**Yonaguni jima** baz=62	1.47	58	P	Pg	21 13 39.5	-0.2
YOJ	**Yonaguni jima**	1.47	58	P	Pg	21 13 40.1	+0.4
YOJ				*e*S	Sg	21 13 59.8	+1.1
YM05	**YM05** baz=352	1.47	357	*e*P	Pn	21 13 38.9	+0.1
YM05	baz=352			*e*S	Sn	21 13 59.2	+0.8
NTST	**Danshui** baz=352	1.48	353	*e*P	Pb	21 13 39.9	+0.4
YM03	**YM03** baz=355	1.48	356	*e*P	Pb	21 13 39.8	+0.1
YM08	**YM08** baz=357	1.49	358	*e*P	Pb	21 13 40.4	+0.6
ANP	**Anpu** baz=355	1.49	356	*e*P	Pn	21 13 39.5	+0.4
TAW	**Tawu** baz=193	1.50	208	*e*P	Pg	21 13 40.9	+0.6
SSPT	**Xinbi** baz=205	1.56	220	*e*P	Pg	21 13 43.6	+2.2
TWY	**Chenhua** baz=357	1.58	359	*e*P	Pg	21 13 42.6	+0.8
SCZT	**Fangliau** baz=212	1.62	216	*e*P	Pg	21 13 43.5	+0.9
WLCH	**Liuqiu** baz=218	1.77	221	*e*P	Pg	21 13 47.6	+2.1
WDGT	**Dungji** baz=253	1.87	257	*e*P	Pb	21 13 44.9	-1.3
TWK1	**Hengchun** baz=195	1.90	204	*e*P	Pg	21 13 46.5	-1.5
TWKBT	**Hengchun** baz=195	1.90	204	*e*P	Pg	21 13 47.2	-0.8
PHUB	**P'eng-hu** baz=261	1.91	265	*e*P	Pb	21 13 45.2	-1.6
PNG	**Penghu** baz=264	1.92	267	*e*P	Pb	21 13 45.3	-1.7
PNG	baz=264			*e*S	Sb	21 14 09.7	-1.6
HATJ	**Hateruma jima**	2.01	79	*e*S	Sb	21 14 13.5	-0.5
IRIF	**Iriomote-Funau**	2.01	71	P	Pb	21 13 47.9	-0.7
IRIF				S	Sb	21 14 13.6	-0.4
VCHM	**Qimei** baz=253	2.09	257	*e*P	Pn	21 13 47.0	-0.2
JKRS	**Kuro-shima**	2.23	75	*e*S	Sb	21 14 19.1	-1.2
JIJ	**Ishigaki jima**	2.38	73	P	Pb	21 13 54.0	-0.9
JIJ				S	Sb	21 14 22.2	-2.4
VWUC	**VWUC** baz=300	2.38	303	*e*P	Pn	21 13 50.5	-0.8
PTTC	**Pingtan** baz=312	2.48	317	*e*P	Pn	21 13 51.7	-0.9
JISG	**Ishigakijimahi**	2.59	69	P	Pb	21 13 56.5	-2.1
JISG				*e*S	Sn	21 14 25.9	-0.2
PTMZ	**Houxiangcun** baz=297	2.66	301	*e*P	Pn	21 13 54.0	-1.1
MATB	**Ma-tsu** baz=324	2.89	328	*e*P	Pn	21 13 58.2	0.0
JTJ	**Tarama**	2.95	71	*e*S	Sb	21 14 36.9	-4.1
KNM	**Kinmen** baz=281	3.02	284	*e*P	Pn	21 14 01.8	+1.8
KNMB	**Chin-men Tao** baz=268	3.07	285	*e*P	Pn	21 14 00.6	-0.2
MHZQ	**Yeshan** baz=311	3.37	316	*e*P	Pn	21 14 05.6	+0.7
XPSS	**Dashiqiu** baz=321	3.48	338	*e*P	Pn	21 14 06.2	-0.2
ZPLA	**Ao Xicun** baz=272	3.57	275	*e*P	Pn	21 14 07.8	+0.2

KRSC 17 21:13:27.0±1.7, 50.40N×156.99E, h40km±20km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	0.62	297	*i* P		Pn		21 13 40.0	+0.6
SKR				*e*S		Sn		21 13 48.7	+0.5
ALID	**Alaid**	1.03	297	*e*P		Pn		21 13 45.4	+0.3
ALID				*e*S		Sn		21 13 58.1	-0.3
PAU	**Pauzhetka**	1.07	354	*e*P		Pn		21 13 47.4	+1.9
PAU				*e*S		Sn		21 14 01.9	+2.7
MIPR	**Malaya Ipel'ka**	1.88	356	*e*P		Pn		21 13 58.6	+1.9
MIPR				*e*S		Sn		21 14 21.4	+2.3
ASAK	**Asacha**	2.06	16	*e*P		Pn		21 14 02.1	+2.9
ASAK				*e*S		Sn		21 14 27.0	+3.3
MTVR	**Mutnovka**	2.21	19	*e*P		Pn		21 14 03.9	+2.6
MTVR				*e*S		Sn		21 14 30.4	+2.9
RUS	**Russkaya**	2.24	25	*e*P		Pn		21 14 03.5	+1.9
RUS				*e*S		Sn		21 14 30.0	+2.0
GRL	**Gorelyy**	2.25	17	*e*P		Pn		21 14 04.7	+2.8
GRL				*e*S		Sn		21 14 31.4	+2.9
APC	**Apacha**	2.53	2	*e*P		Pn		21 14 08.5	+3.0
KRMR	**Karymshinskiy**	2.53	16	*e*P		Pn		21 14 10.2	+4.7
DALK	**Dalny**	2.85	22	*e*P		Pn		21 14 12.6	+2.7
DALK				*e*S		Sn		21 14 46.0	+3.1
UGLR	**Uglovaya**	3.03	21	*e*P		Pn		21 14 16.2	+3.7
UGLR				*e*S		Sn		21 14 52.0	+4.4
AVH	**Avacha**	3.06	20	*e*P		Pn		21 14 17.0	+4.1
AVH				*e*S		Sn		21 14 54.2	+5.9
KOK	**Koryaka**	3.07	19	*e*P		Pn		21 14 17.2	+4.2
SMAR	**Somma**	3.08	21	*e*P		Pn		21 14 16.8	+3.6
KRER	**Koryakskii**	3.10	20	*e*P		Pn		21 14 17.6	+4.0
KRER				*e*S		Sn		21 14 54.2	+4.7
SDLR	**Sedlovina**	3.11	21	*e*P		Pn		21 14 16.5	+2.9
KRX	**Arik**	3.13	18	*e*P		Pn		21 14 17.9	+3.9
KRX				*e*S		Sn		21 14 55.0	+4.8
NLC	**Nalytchevo**	3.13	27	*e*P		Pn		21 14 15.4	+1.6
NLC				*e*S		Sn		21 14 50.9	+1.0
SPN	**Mys Shipunski**	3.29	34	*e*P		Pn		21 14 18.6	+2.6
SPN				*e*S		Sn		21 14 57.0	+3.2
KII	**Karymskiy**	3.94	22	*e*P		Pn		21 14 28.6	+3.6
KII				*e*S		Sn		21 15 14.5	+4.6
KZV	**Kizimen**	5.12	22	*e*P		Pn		21 14 46.5	+5.2
KZV				*e*S		Sn		21 15 45.0	+5.8
TUMR	**Tumrok**	5.25	20	*e*P		Pn		21 14 48.5	+5.6
BZWR	**Bezymyannyi-We**	5.95	19	*e*P		Pn		21 14 58.0	+5.3

*ATH **17** 21:35:14.6, 39.09N×26.26E, h24km±1km, ML2.2/6, Error ellipse: s-maj=2.1km s-min=1.2km az=274.0*
*ISK **17** 21:35:14.9, 39.09N×26.25E, h8km, ML2.6/17*
*DDA **17** 21:35:15.1, 39.10N×26.27E, h7km±3km, ML2.3*
*THE **17** 21:35:16.3, 39.10N×26.22E, h12km±2km, ML2.2/5, Error ellipse: s-maj=2.2km s-min=0.6km az=45.0*

ISC 17 21:35:15.4±0.8, 39.09N±0.02×26.25E±0.02, h16km±6km, n56, σ0 970/81, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	0.16	6	P		P	**Pb**	**21 35 19.8**	**-0.2**
PRK				S		S	**Sg**	**21 35 22.8**	**+0.4**
	2μm,0.5s								
PRK	**Paraskevi**	0.16	6	P		P	**Pb**	**21 35 19.9**	**-0.1**
PRK				S		S	**Sg**	**21 35 23.1**	**+0.7**
PRK				AML		AML		21 35 24.9	
	comp=E,3325μm,0.5s								
PRK				AML		AML		21 35 26.5	
	comp=N,3460μm,0.5s								
SIGR	**SIGRI**	0.33	292	P		**Pg**	**21 35 22.3**	**0.0**	
SIGR				S		**Sg**	**21 35 27.2**	**+0.2**	
	comp=N,440nm,0.5s								
SIGR	**SIGRI**	0.33	292	P		**Pg**	**21 35 22.2**	**0.0**	
SIGR				S		**Sg**	**21 35 27.2**	**+0.2**	
SIGR				AML		AML		21 35 28.1	
	comp=N,998μm,0.5s								
SIGR				AML		AML		21 35 28.2	
	comp=E,738μm,0.6s								
SIGR	**SIGRI**	0.33	292	PG		**Pg**	**21 35 22.0**	**-0.3**	
SIGR				SG		**Sg**	**21 35 27.1**	**+0.1**	
AYVA	**Ayvalik**	0.41	57	*i* P		**Pg**	**21 35 23.1**	**-0.5**	
AYVA				*i* S		**Sg**	**21 35 28.0**	**-1.3**	
AYVA				IAML				21 35 29.0	
	comp=N,366nm,0.2s								
AYVA				IAML				21 35 29.0	
	comp=E,235nm,0.3s								
DKL	**Dikili**	0.51	91	PG		**Pb**	**21 35 25.5**	**-0.4**	
KRBN	**Karaburun**	0.55	154	PG		**Pg**	**21 35 26.1**	**-0.1**	
ZEDA	**zmir-Bergama**	0.66	100	*i* P		**Pg**	**21 35 27.9**	**-0.4**	
ZEDA				*i* S		**Sg**	**21 35 34.4**	**-2.5**	
BAYC	**CANAKKALE_Bayr**	0.69	19	*i* P		**Pg**	**21 35 27.9**	**-1.0**	
BAYC				*i* S		**Sg**	**21 35 37.7**	**-0.5**	
BAYC				IAML				21 35 41.0	
	comp=N,96nm,0.5s								
BAYC				IAML				21 35 42.0	
	comp=E,158nm,0.3s								
CHOS	**Chios island**	0.71	192	P		**Pg**	**21 35 29.4**	**+0.1**	
CHOS				S		**Sn**	**21 35 41.2**	**-0.3**	
	comp=E,348nm,0.3s								
CHOS	**Chios island**	0.71	192	P		**Pg**	**21 35 29.0**	**-0.3**	
CHOS				AML		AML		21 35 42.2	
	comp=N,661μm,0.3s								
CHOS				AML		AML		21 35 42.9	
	comp=E,746μm,0.3s								
CHOS	**Chios island**	0.71	192	PG		**Pb**	**21 35 29.6**	**+0.2**	
EZN	**Ezine**	0.74	4	PG		**Pb**	**21 35 29.7**	**-0.2**	
PSRA	**Psara**	0.76	225	P		**Pg**	**21 35 29.8**	**-0.4**	
BOZC	**Bozcaada**	0.77	349	PG		**Pg**	**21 35 29.9**	**-0.5**	
BOZC	**Bozcaada**	0.77	349	*i* P		**Pg**	**21 35 29.4**	**-1.1**	
BOZC				*i* S		**Sb**	**21 35 41.3**	**+0.7**	
URLA	**Izmir**	0.77	159	PG		**Pg**	**21 35 30.1**	**-0.3**	
URLA	**Izmir**	0.77	159	*i* P		**Pg**	**21 35 29.9**	**-0.5**	
URLA				*i* S		**Sg**	**21 35 39.8**	**-0.9**	
URLA				IAML				21 35 43.0	
	comp=E,115nm,0.4s								
URLA				IAML				21 35 45.0	
	comp=N,99nm,0.6s								
GOKA	**anakkale-Gk**	1.14	347	*i* P		**Pb**	**21 35 36.0**	**-0.6**	
GOKA				*i* S		**Sn**	**21 35 52.6**	**+0.8**	
GOKA				IAML				21 35 54.0	
	comp=E,98nm,0.5s								
GOKA				IAML				21 36 01.0	
	comp=N,69nm,0.3s								
GADA	**Gvkgeada**	1.14	346	PN		**Pg**	**21 35 36.9**	**-0.4**	
DGB	**zmir**	1.15	154	*i* P		**Pb**	**21 35 36.5**	**-0.2**	
DGB				*i* S		**Sb**	**21 35 52.0**	**+0.7**	
DGB				IAML				21 35 54.0	
	comp=N,45nm,0.3s								
LIA	**Limnos Island**	1.16	315	P		**Pg**	**21 35 37.2**	**-0.5**	
LIA				S		**Sn**	**21 35 52.8**	**+0.5**	
	comp=N,60nm,0.5s								
LIA	**Limnos Island**	1.16	315	P		**Pg**	**21 35 37.2**	**-0.5**	
LIA				AML		AML		21 35 58.3	
	comp=E,147μm,0.5s								
LIA				AML		AML		21 35 58.7	
	comp=N,88μm,0.5s								
STEP	**BALIKESIR_Sava**	1.18	75	*i* P		**Pg**	**21 35 37.7**	**-0.4**	
STEP				*i* S		**Sn**	**21 35 53.8**	**+0.9**	
STEP				IAML				21 36 00.0	
	comp=E,121nm,0.4s								
STEP				IAML				21 36 03.0	
	comp=N,107nm,0.6s								
AKHS	**Akhisar**	1.24	99	*i* P		**Pg**	**21 35 38.8**	**-0.4**	
AKHS				*i* S		**Sg**	**21 35 56.2**	**+0.8**	
BALY	**Balya**	1.25	58	*i* P		**Pb**	**21 35 38.3**	**-0.2**	
BALY				*i* S		**Sg**	**21 35 55.6**	**-0.1**	
BALY				IAML				21 35 58.0	
	comp=N,98nm,0.7s								
BALY				IAML				21 36 01.0	
	comp=E,70nm,0.6s								
GELI	**Tayfur-Gelibol**	1.32	7	PN		**Pg**	**21 35 40.1**	**-0.8**	
LPK	**Lapseki**	1.34	17	PN		**Pb**	**21 35 40.2**	**0.0**	
BALB	**Balikesir**	1.38	66	PN		**Pb**	**21 35 40.9**	**+0.2**	
SMG	**Samos**	1.45	161	P		**Pn**	**21 35 41.2**	**+0.3**	
SMG				S		**Sg**	**21 36 01.5**	**-0.6**	
	comp=E,188nm,0.3s								
SMG	**Samos**	1.45	161	P		**Pn**	**21 35 41.2**	**+0.3**	
SMG				AML		AML		21 36 05.3	
	comp=E,265μm,0.3s								
SMG				AML		AML		21 36 06.7	
	comp=N,504μm,0.3s								
SMTH	**Samothraki Isl**	1.49	338	P		**Pn**	**21 35 41.1**	**-0.4**	
SMTH				S		**Sn**	**21 36 00.2**	**-0.4**	
SMTH	**Samothraki Isl**	1.49	338	P		**Pb**	**21 35 42.0**	**-0.6**	
SMTH				AML		AML		21 36 02.2	
	comp=E,36μm,0.6s								
SMTH				AML		AML		21 36 08.4	
	comp=N,33μm,0.5s								
GCAM	**G?zelcaml?**	1.58	150	PN		**Pn**	**21 35 43.7**	**+1.0**	
GCAM	**G?zelcaml?**	1.58	150	*i* P		**Pb**	**21 35 43.8**	**-0.4**	
GCAM				*i* S		**Sg**	**21 36 06.0**	**-0.5**	
GCAM				IAML				21 36 08.0	
	comp=E,32nm,0.4s								
GCAM				IAML				21 36 11.0	
	comp=N,42nm,0.3s								
AYDB	**Zeytinkoy-Aydi**	1.72	131	PN		**Pb**	**21 35 46.1**	**-0.5**	
KESN	**Edirne-Kesan**	1.77	11	*i* P		**Pb**	**21 35 46.9**	**-0.8**	
KESN				*i* S		**Sb**	**21 36 09.1**	**-0.6**	
KESN				IAML				21 36 12.0	
	comp=N,54nm,0.5s								
KESN				IAML				21 36 13.0	
	comp=E,41nm,0.6s								
EDC	**Edincik**	1.77	44	PN		**Pn**	**21 35 46.1**	**+0.8**	
DURS	**Dursunbey**	1.80	73	*i* P		**Pn**	**21 35 46.2**	**+0.4**	
DURS				*i* S		**Sb**	**21 36 11.3**	**+1.0**	
DURS				IAML				21 36 15.0	
	comp=N,19nm,0.3s								
DURS				IAML				21 36 16.0	
	comp=E,22nm,0.3s								
ALN	**Alexandroupoli**	1.82	355	P		**Pn**	**21 35 46.4**	**+0.5**	
ALN	**Alexandroupoli**	1.82	355	P		**Pn**	**21 35 46.7**	**+0.8**	
MANT	**Manisa**	1.90	107	*i* P		**Pb**	**21 35 49.6**	**-0.1**	
DEMI	**Demirci**	1.92	90	*i* P		**Pb**	**21 35 49.3**	**-0.7**	
DEMI				*i* S		**Sb**	**21 36 13.3**	**-0.5**	
THAS	**Thassos island**	1.92	323	P		**Pn**	**21 35 46.8**	**-0.6**	
THAS				S		**Sn**	**21 36 11.0**	**-0.2**	
THAS	**Thassos island**	1.92	323	P		**Pn**	**21 35 48.2**	**+0.9**	
KCTX	**Karacabey (Bur**	2.01	53	PN		**Pn**	**21 35 49.9**	**+1.3**	
APE	**Apeiranthos**	2.09	196	P		**Pn**	**21 35 49.6**	**-0.1**	
APE	**Apeiranthos**	2.09	196	P		**Pn**	**21 35 49.4**	**-0.3**	
RDO	**Rodhopi**	2.13	345	P		**Pn**	**21 35 50.5**	**+0.3**	
RDO	**Rodhopi**	2.13	345	P		**Pn**	**21 35 51.0**	**+0.8**	
BODT	**Bodrum**	2.19	157	PN		**Pn**	**21 35 51.7**	**+0.7**	
ULDT	**Uludag**	2.47	64	*i* P		**Pg**	**21 36 02.9**	**+0.2**	
ULDT				*i* S		**Sb**	**21 36 31.5**	**+1.9**	
ULDT				IAML				21 36 40.0	
	comp=E,19nm,0.4s								
ULDT				IAML				21 36 43.0	
	comp=N,13nm,0.7s								
GDZ	**Gediz**	2.52	89	*i* P		**Pg**	**21 36 03.0**	**-0.6**	
TVSB	**Tavsanli**	2.52	81	PN		**Pn**	**21 35 57.1**	**+1.4**	
IGD	**Bursa**	2.56	62	*i* P		**Pg**	**21 36 03.3**	**-1.2**	
IGD				IAML				21 36 37.0	
	comp=N,14nm,1.2s								
IGD				IAML				21 36 42.0	
	comp=E,8.8nm,1.5s								

IDC 17 21:45:07.2±0.8, 19.56S×177.78W, h595km±103km, mb2.9/4, mb1 3.1/4, mb1mx2.8/28, mbtmp3.9/4, Error ellipse: s-maj=124.8km s-min=45.3km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	38.38	243	P		P	P	21 51 39.0	-0.1
	2.9nm,1.1s,baz=98,slow=15,SNR=3.3								
ASAR	**Alice Springs**	44.94	256	P		P	P	21 52 30.4	-0.3
	1.8nm,0.8s,baz=90,slow=7.7,SNR=14								
ASAR				PcP		PcP	PcP	21 53 59.0	-0.2
	0.6nm,0.7s,baz=96,slow=4.0,SNR=4.3								
WRA	**Warramunga Arr**	44.94	261	P		P	P	21 52 31.1	+0.3
	0.6nm,0.5s,baz=90,slow=5.8,SNR=1.3								
TXAR	**Lajitas Array**	86.38	57	P		P	P	21 56 47.9	0.0
	0.3nm,0.6s,baz=249,slow=4.7,SNR=2.3								
BRTR	**Keskin Array B**	146.35	313	PKPbc		PKPbc	PKPbc	22 03 42.0	-0.8
	0.2nm,0.4s,baz=114,slow=8.2,SNR=3.7								
GERES	**GERESS Array B**	149.35	345	PKPbc		PKPbc	PKPbc	22 03 49.6	-0.4
	0.7nm,0.7s,baz=62,slow=3.2,SNR=6.7								

IDC 17 21:59:06.5±1.2, 18.25S×65.37E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.6/32, mbtmp3.8/6, ML4.4/1, MS3.6/17, Ms1 3.6/17, ms1mx3.5/27, Error ellipse: s-maj=42.7km s-min=26.5km az=2.0, Mauritius-Reunion region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	12.61	34	T		T	T	22 14 56.8	
	baz=214,slow=76,SNR=190								
H08S2	**Diego Garcia H**	12.62	34	T		T	T	22 14 58.1	
	baz=214,slow=76,SNR=196								
H08S3	**Diego Garcia H**	12.63	34	T		T	T	22 14 58.4	
	baz=214,slow=76,SNR=154								
OPO	**Ambohidratompo**	17.26	266	P		P	P	22 03 10.4	-0.5
	1.3nm,0.3s,baz=96,slow=10.0,SNR=12								
MATP	**Matopo**	34.81	260	P		P	P	22 05 58.8	-0.6
	2.7nm,1.0s,baz=76,slow=11,SNR=3.6								
BOSA	**Boshof**	38.07

	0.4nm,0.6s,baz=273,slow=6.0,SNR=4.6							
ASAR				LR	LR	22 33 14.2		
	comp=Z,240nm,21.5s,baz=282,slow=32							
WRA	**Warramunga Arr**	**64.76**	**104**	P	P	22 09 47.3	0.0	
	1.2nm,1.0s,baz=266,slow=5.8,SNR=2.3							
WRA				LR	LR	22 35 52.8		
	comp=Z,111nm,18.6s,baz=230,slow=34							
BRTR	**Keskin Array B**	**64.84**	**333**	LR	LR	22 36 25.9		
	comp=Z,34nm,19.1s,baz=132,slow=34							
KBZ	**Khabaz**	**65.03**	**342**	LR	LR	22 37 02.8		
	comp=Z,32nm,20.0s,baz=154,slow=35							
MKAR	**Makanchi Array**	**66.52**	**13**	P	P	22 09 56.9	-1.1	
	0.3nm,0.7s,baz=206,slow=9.5,SNR=2.6							
MKAR				LR	LR	22 35 36.6		
	comp=Z,35nm,20.6s,baz=179,slow=33							
TORD	**Torodi Ar. Bea**	**70.11**	**292**	LR	LR	22 38 13.3		
	comp=Z,37nm,21.8s,baz=100,slow=34							
DBIC	**Dimbokro**	**73.53**	**283**	LR	LR	22 41 58.8		
	comp=Z,38nm,18.9s,baz=114,slow=35							
VNDA	**Vanda**	**73.71**	**167**	LR	LR	22 39 23.1		
	comp=Z,38nm,18.2s,baz=281,slow=33							
ZALV	**Zalesovo Beam**	**73.83**	**12**	P	P	22 10 43.8	+1.2	
	0.5nm,0.5s,baz=183,slow=5.8,SNR=2.0							
ZALV				LR	LR	22 40 41.8		
	comp=Z,25nm,19.7s,baz=160,slow=34							
SONM	**Songino Array**	**75.35**	**27**	LR	LR	22 42 48.6		
	comp=Z,49nm,19.9s,baz=197,slow=35							
KSRS	**Korea Array**	**80.79**	**46**	LR	LR	22 47 42.4		
	comp=Z,18nm,18.0s,baz=215,slow=36							
ESDC	**Sonseca Array**	**86.51**	**314**	LR	LR	22 51 13.0		
	comp=Z,28nm,18.3s,baz=125,slow=36							
USRK	**Ussuriysk Ar.**	**86.85**	**41**	LR	LR	22 49 03.6		
	comp=Z,24nm,21.8s,baz=264,slow=34							

NEIC ***17*** *22:11:55.8±0.7, 63.01N±0.04×150.57W±0.07, h103km±7km, Error ellipse: s-maj=5.6km s-min=4.5km az=215.0*
IDC ***17*** *22:11:55.8±7.5, 62.89N×150.37W, h75km±71km, mb2.9/1, mb1 3.5/3, mb1mx3.1/36, mbtmp3.3/3, ML3.1/2, Error ellipse: s-maj=63.2km s-min=21.0km az=37.0*
AEIC ***17*** *22:11:56.2±0.7, 63.01N±0.04×150.57W±0.07, h99km±6km, ML3.0/88, Error ellipse: s-maj=5.9km s-min=4.5km az=200.0*

ISC 17 22:11:56.1±1.0, 63.01N±0.03×150.58W±0.03, h101km±7km, n82, σ0ˢ55/93, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRF	**Thorofare Moun**	**0.46**	**16**		**Pn**	**22 12 11.8**	**-0.1**
TRF	**Thorofare Moun**	**0.46**	**16**		**Sn**	**22 12 24.1**	**+0.3**
PPLA	**Purkeypile**	**0.74**	**262**		**Pn**	**22 12 14.2**	**0.0**
PPLA					**Sn**	**22 12 27.6**	**-0.1**
CAST	**Castle Rocks**	**0.80**	**302**		**Pn**	**22 12 14.2**	**-0.3**
RND	**Reindeer**	**0.88**	**62**		**Pn**	**22 12 15.4**	**0.0**
RND					**Sn**	**22 12 29.7**	**-0.2**
WAT2	**Susitna Watana**	**0.91**	**92**		**Pn**	**22 12 15.5**	**-0.3**
WAT2					**Sn**	**22 12 30.4**	**-0.2**
WAT1	**Susitna Watana**	**0.95**	**100**		**Pn**	**22 12 15.8**	**-0.3**
WAT1					**Sn**	**22 12 31.1**	**0.0**
MCK	**McKinley**	**1.04**	**45**		**Pn**	**22 12 17.1**	**+0.1**
BPAW	**Bear Paw Mtn.**	**1.11**	**351**		**Sn**	**22 12 17.7**	**-0.1**
BPAW					**Sn**	**22 12 33.6**	**-0.6**
CHUM	**Lake Minchumin**	**1.17**	**319**		**Pn**	**22 12 18.4**	**-0.1**
CHUM					**Sn**	**22 12 35.2**	**-0.2**
WAT6	**Susitna Watana**	**1.37**	**107**		**Pn**	**22 12 20.6**	**-0.4**
WAT6					**Sn**	**22 12 39.5**	**-0.4**
DHY	**Denali Highway**	**1.46**	**86**		**Pn**	**22 12 21.9**	**-0.2**
DHY					**Sn**	**22 12 41.5**	**-0.2**
GHO	**Glory Hole Cre**	**1.46**	**147**		**Pn**	**22 12 22.5**	**+0.5**
PMR	**Palmer**	**1.58**	**154**		**Pn**	**22 12 23.3**	**-0.1**
SML	**Sawmill**	**1.60**	**138**		**Pn**	**22 12 23.5**	**-0.1**
STLK	**Strandline Lak**	**1.63**	**202**		**Pn**	**22 12 23.7**	**-0.4**
NEA2	**Nenana**	**1.72**	**22**		**Pn**	**22 12 24.8**	**-0.3**
NEA2					**Sn**	**22 12 46.2**	**-1.1**
WRH	**Wood River Hil**	**1.84**	**36**		**Pn**	**22 12 26.5**	**-0.1**
SPCG	**Spurr Capps Gl**	**1.85**	**202**		**Pn**	**22 12 26.7**	**-0.2**
KNK	**Knik Glacier**	**1.89**	**147**		**Pn**	**22 12 27.0**	**-0.2**
SCM	**Sheep Creek Mo**	**1.92**	**127**		**Pn**	**22 12 27.5**	**-0.2**
SPNN	**North Nagishla**	**1.93**	**212**		**Pn**	**22 12 27.7**	**-0.2**
SPNN					**Sn**	**22 12 52.7**	**+0.6**
SPBG	**Spurr Blockage**	**1.95**	**206**		**Pn**	**22 12 28.7**	**+0.6**
RC01	**Rabbit Creek A**	**1.97**	**168**		**Pn**	**22 12 28.8**	**+0.5**
SPCR	**Spurr Chakacha**	**1.97**	**204**		**Pn**	**22 12 28.6**	**+0.2**
MLY	**Manley**	**2.03**	**358**		**Pn**	**22 12 29.0**	**-0.1**
CCB	**Clear Creek Bu**	**2.05**	**36**		**Pn**	**22 12 29.1**	**-0.2**
HDA	**Harding Lake**	**2.14**	**47**		**Pn**	**22 12 30.5**	**0.0**
MDM	**Murphy Dome**	**2.21**	**27**		**Pn**	**22 12 31.5**	**0.0**
PS10	**TAPS Pump St10**	**2.22**	**77**		**Pn**	**22 12 32.7**	**+1.1**
COLA	**College**	**2.23**	**32**		**Pn**	**22 12 32.3**	**+0.7**
COLA	**College**	**2.23**	**32**	Pn	**Pn**	**22 12 31.5**	**0.0**
PS08	**TAPS Pump Stn8**	**2.27**	**46**		**Pn**	**22 12 32.0**	**-0.2**
PWL	**Port Wells**	**2.41**	**153**		**Pn**	**22 12 33.2**	**-0.8**
IL31		**2.41**	**41**		**Pn**	**22 12 33.9**	**0.0**
ILAR	**Eielson Array**	**2.41**	**41**	P	**Pn**	**22 12 33.8**	**-0.2**
	2.2nm,0.3s,baz=222,slow=13,SNR=95							
ILAR				S	**Sn**	**22 13 02.8**	**-0.2**
	7.9nm,0.3s,baz=216,slow=28,SNR=3.6							
ILAR	**Eielson Array**	**2.41**	**41**		**Pn**	**22 12 33.2**	**-0.8**
TTA	**Tatalina**	**2.48**	**271**		**Pn**	**22 12 34.3**	**-0.8**
TT01	**Tatalina**	**2.49**	**270**		**Pn**	**22 12 34.2**	**-0.8**
SLKM	**Skilak Lake**	**2.52**	**176**		**Pn**	**22 12 35.1**	**-0.4**
POKR	**Poker Plat Res**	**2.53**	**32**		**Pn**	**22 12 36.3**	**+0.8**
RIDG	**Independent Ri**	**2.68**	**72**		**Pn**	**22 12 38.3**	**+0.7**
GLI	**Glacier Island**	**2.70**	**141**		**Pn**	**22 12 36.9**	**-1.0**
RDWB	**Redoubt West**	**2.75**	**204**		**Pn**	**22 12 39.2**	**+0.5**
RED	**Redoubt Volcan**	**2.80**	**203**		**Pn**	**22 12 39.6**	**+0.3**
SEW	**Seward**	**2.97**	**169**		**Pn**	**22 12 41.0**	**-0.3**
FID	**Port Fidalgo**	**2.99**	**138**		**Pn**	**22 12 40.6**	**-1.0**
DOT	**Dot Lake**	**3.01**	**75**		**Pn**	**22 12 41.9**	**-0.1**
SVW2	**Sparrevohn**	**3.04**	**233**		**Pn**	**22 12 41.6**	**-0.8**
SCRK	**Sand Creek**	**3.11**	**69**		**Pn**	**22 12 43.7**	**+0.2**
MENT	**Mentasta**	**3.13**	**88**		**Pn**	**22 12 44.1**	**+0.5**
BRLK	**Bradley Lake**	**3.26**	**183**		**Pn**	**22 12 45.3**	**0.0**
HIN	**Hinchinbrook I**	**3.26**	**142**		**Pn**	**22 12 44.4**	**-0.9**
IM03		**3.29**	**337**		**Pn**	**22 12 45.3**	**-0.2**
IMAR	**Indian Mountai**	**3.29**	**337**		**Pn**	**22 12 45.0**	**-0.6**
PRP	**Porcupine Dome**	**3.35**	**39**		**Pn**	**22 12 46.7**	**+0.1**
CNPM	**China Poot**	**3.51**	**185**		**Pn**	**22 12 48.7**	**0.0**
GLB	**Gilahina Butte**	**3.54**	**113**		**Pn**	**22 12 48.6**	**-0.5**
GOAT	**Goat Mountain**	**3.70**	**129**		**Pn**	**22 12 50.5**	**-0.7**
VRDI	**Verde Repeater**	**3.79**	**115**		**Pn**	**22 12 51.9**	**-0.8**
MCARA	**McCarthy VSAT**	**3.90**	**111**		**Pn**	**22 12 53.5**	**-0.4**
BC03		**4.01**	**85**		**Pn**	**22 12 54.8**	**-0.5**
BCAR	**Beaver Creek A**	**4.01**	**85**		**Pn**	**22 12 53.8**	**-1.6**
PTPK	**Patty Peak**	**4.23**	**112**		**Pn**	**22 12 58.0**	**-0.5**
FYU	**Fort Yukon**	**4.24**	**30**		**Pn**	**22 12 58.2**	**-0.2**
KHIT	**Khitrov Hills**	**4.33**	**123**		**Pn**	**22 12 58.8**	**-1.1**
BALM	**Baldy**	**4.36**	**113**		**Pn**	**22 12 59.1**	**-1.1**
KIAG	**Kiagna River**	**4.41**	**115**		**Pn**	**22 12 59.6**	**-1.3**
WAX	**Waxell Ridge**	**4.48**	**121**		**Pn**	**22 13 01.4**	**-0.4**
BVCY	**Beaver Creek**	**4.51**	**93**		**Pn**	**22 13 02.1**	**-0.1**
EGAK	**Eagle**	**4.53**	**63**	Pn	**Pn**	**22 13 02.8**	**+0.5**
BARN	**Barnard Glacie**	**4.63**	**111**		**Pn**	**22 13 03.7**	**-0.3**
YUK2	**White River**	**4.69**	**101**		**Pn**	**22 13 05.0**	**+0.3**
CTGM	**Chitina Glacie**	**4.82**	**111**		**Pn**	**22 13 06.2**	**-0.3**
YUK3	**Moose Creek**	**4.87**	**100**		**Pn**	**22 13 07.3**	**+0.2**
BM03	**Burnt Mountain**	**5.09**	**27**		**Pn**	**22 13 10.2**	**+0.3**
BMAR	**Burnt Mountain**	**5.10**	**27**		**Pn**	**22 13 10.1**	**0.0**
DAWY	**Dawson**	**5.12**	**73**	Pn	**Pn**	**22 13 09.8**	**-0.5**
RKAV	**Rock Avalanche**	**5.17**	**118**		**Pn**	**22 13 10.9**	**-0.3**
HYT	**Haines Junctio**	**6.55**	**104**	Pn	**Pn**	**22 13 28.5**	**-1.4**
YKA	**Yellowknife Ar**	**16.35**	**76**	P	**Pn**	**22 15 39.3**	**0.0**
	0.1nm,0.3s,baz=289,slow=10,SNR=3.3							
TXAR	**Lajitas Array**	**45.10**	**116**	P	**P**	**22 20 03.0**	**+0.9**
	0.2nm,0.6s,baz=335,slow=5.5,SNR=3.7							

IDC 17 22:13:32.3±7.6, 2.46S×139.92E, h0km, mb3.7/2, mb1 3.9/3, mb1mx3.5/23, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=304.5km s-min=28.9km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.21**	**197**	P	P	22 17 47.0	-0.1
	0.3nm,0.3s,baz=15,slow=12,SNR=5.4						
ASAR	**Alice Springs**	**21.88**	**195**	P	P	22 18 26.8	-0.1
	1.0nm,0.7s,baz=25,slow=11,SNR=7.7						
MKAR	**Makanchi Array**	**70.33**	**322**	P	P	22 24 47.9	0.0
	1.3nm,0.8s,baz=117,slow=7.9,SNR=12						

IDC 17 22:15:24.9±2.3, 2.51S×138.57E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/22, mbtmp3.7/4, ML3.6/1, Error ellipse: s-maj=119.0km s-min=27.9km az=79.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.81**	**193**	P	P	22 19 34.9	-0.3
	0.2nm,0.3s,baz=14,slow=12,SNR=2.2						
ASAR	**Alice Springs**	**21.51**	**192**	P	P	22 20 15.2	-0.4
	0.9nm,0.6s,baz=16,slow=12,SNR=3.0						
MKAR	**Makanchi Array**	**69.55**	**322**	P	P	22 26 35.7	0.0
	1.0nm,0.8s,baz=114,slow=8.0,SNR=9.3						
VNDA	**Vanda**	**75.99**	**175**	P	P	22 27 13.5	+0.1
	0.5nm,0.7s,baz=328,slow=7.2,SNR=7.0						

MOS ***17*** *22:43:27.5±2.7, 51.33N×142.03E, h7km, mb3.9/4, Error ellipse: s-maj=16.0km s-min=8.1km az=92.4*
MOS Felt (III-IV) at Khoye, Viakhtu; (III) at Mgachi; (II-III) at Aleksandrovsk-Sakhalinskiy.
SKHL ***17*** *22:43:27.8±0.4, 51.23N×142.02E, h8km±1km, mb4.8/6*
SKHL Felt (III-IV) at Hoe, Viakhtu; (III) at Mgachi ; (II-III) at Aleksandrovsk-Sakhalinskiy.

ISC 17 22:43:27.9±1.1, 51.24N±0.03×142.12E±0.04, h9km±9km, n24, σ2ˢ77/31, mb3.5/3, 6C-5D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TYV	**Tymovskoe**	**0.51**	**138**	*e*Pg	**Pg**	**22 43 38.8**	**+1.0**
TYV				*e*Sg	**Sg**	**22 43 46.2**	**+1.8**
TYV				A	A	22 43 46.8	
	1μm,0.3s						
TYV				A	A	22 43 46.8	
	1μm,0.3s						
TYV	**Tymovskoe**	**0.51**	**138**	*e*PN	**Pg**	**22 43 38.8**	**+1.0**
TYV				*e*S	**Sg**	**22 43 46.1**	**+1.7**
TYV				pmax	pmax		
	comp=Z,43nm,0.2s						
TYV				smax	smax		
	comp=E,125nm,0.3s						
NKL	**Nikolayevsk**	**2.11**	**336**	*i* P	**Pn**	**22 44 03.1**	**-0.2**
NKL				AMB	AMB	22 44 03.3	
	comp=E,1μm,0.3s						
NKL				*e*S	**Sb**	**22 44 33.0**	**+0.5**
NKL				A	A	22 44 35.0	
	comp=E,2μm,0.3s						
NKL	**Nikolayevsk**	**2.11**	**336**	*c* iPN	**Pn**	**22 44 03.1**	**-0.2**
NKL				*e*S	**Sg**	**22 44 33.9**	**-1.7**
NKL				pmax	pmax		
	comp=N,1.0nm,0.1s						
NKL				pmax	pmax		
	comp=Z,235nm,0.1s						
NKL				pmax	pmax		
	comp=E,33nm,0.2s						
NKL				smax	smax		
	comp=N,2.0nm,0.3s						
NKL				smax	smax		
	comp=E,293nm,0.3s						
UGL	**Uglegorsk**	**2.17**	**181**	*e*Pg	**Pg**	**22 44 11.4**	**+2.0**
UGL				AMB	AMB	22 44 15.1	
	comp=E,150nm,0.9s						
UGL				*e*Sg	**Sg**	**22 44 40.6**	**+3.2**
UGL				A	A	22 44 42.0	
	comp=E,200nm,0.7s						
UGL				A	A	22 44 42.0	
	comp=E,400nm,0.7s						
UGL	**Uglegorsk**	**2.17**	**181**	*e*PN	**Pg**	**22 44 08.8**	**-0.6**
UGL				*e*S	**Sb**	**22 44 34.8**	**+0.6**
UGL				pmax	pmax		
	comp=Z,153nm,0.7s						
UGL				smax	smax		
	comp=N,279nm,0.5s						
OKH	**Okha**	**2.37**	**12**	*e*P	**Pb**	**22 44 10.2**	**-0.5**
OKH				AMB	AMB	22 44 10.7	
	comp=N,80nm,0.5s						
OKH				*e*S	**Sb**	**22 44 40.1**	**+0.2**
OKH				A	A	22 44 42.0	
	comp=N,240nm,0.4s						
OKH				A	A	22 44 42.0	
	comp=N,160nm,0.4s						
OKH	**Okha**	**2.37**	**12**	‖ *e*PN	**Pn**	**22 44 04.1**	**-2.8**
GRNR	**Gornyy**	**3.63**	**265**	‖ *i* PN	**Pb**	**22 44 28.7**	**-3.5**
GRNR				pmax	pmax		
	comp=E,5.0nm,0.4s						
GRNR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GRNR				MLR	MLR		
	comp=N,50nm,10.0s						
YSS	**Yuzh-Sakhalins**	**4.31**	**174**	*e*PN	**Pb**	**22 44 39.9**	**-3.9**
EKMR	**Ekimchan**	**5.93**	**292**	*e*P	**Pn**	**22 44 56.7**	**+0.8**
EKMR				*e*Pg	**Pg**	**22 45 23.0**	**+1.5**
EKMR				AMB	AMB	22 45 28.9	
	comp=N,6.0nm,0.5s						
EKMR				*e*S	**Sn**	**22 46 02.0**	**-2.0**
EKMR				A	A	22 46 47.1	
	comp=N,97nm,0.8s						
EKMR				A	A	22 46 47.1	
	comp=N,37nm,0.8s						
KUR	**Kuril'sk**	**7.13**	**145**	‖ *i* PN	**Pn**	**22 45 08.0**	**-4.3**
YUK	**Yuzh-Kuril'sk**	**7.64**	**159**	*c* iPN	**Pn**	**22 45 18.4**	**-0.9**
BMKR	**Bomnak**	**8.73**	**299**	*e*Pg	**Sg**	**22 48 03.2**	**-4.7**
BMKR				AMB	AMB	22 48 11.8	
	comp=N,10.0nm,0.4s						
SKR	**Severo-Kuril's**	**8.86**	**88**	‖ *i* PN	**Pn**	**22 45 33.1**	**-2.8**
ZEA	**Zeya**	**9.41**	**291**	*e*Sg	Sn	22 48 15.0	+46
ZEA				A	A	22 48 15.8	
	comp=N,50nm,0.4s						
KROS	**Kirovskiy**	**9.71**	**295**	*e*P	**Pn**	**22 45 51.0**	**+3.4**
KROS				AMB	AMB	22 45 57.8	
	comp=N,2.0nm,0.5s						
KROS				*e*Sg		22 48 36.7	
KROS				A	A	22 48 43.7	
	comp=N,5.0nm,0.5s						
PEA0B	**Petropavlovsk-**	**9.76**	**73**	‖ *i* PN	**Pn**	**22 45 45.8**	**-2.5**
PET	**Petropavlovsk**	**10.32**	**74**	*i* PN	**Pn**	**22 45 52.8**	**-3.2**
YAK	**Yakutsk**	**12.77**	**333**	*i* PN	Pn	22 46 36.5	+7.1
YAK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BILL	**Bilibino**	**20.55**	**26**	‖ *e*P	**P**	**22 48 07.7**	**+1.3**
BILL				*e*		22 48 29.2	
BILL				*e*S	**S**	**22 51 55.0**	**-1.0**
BILL				pmax	pmax		
	comp=Z,9.0nm,2.5s						
BILL				MLR	MLR		
	comp=Z,38nm,19.0s						
TIXI	**Tiksi**	**21.33**	**348**	‖ *i* P	**P**	**22 48 18.7**	**+3.9**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s						
ULN	**Ulaanbaatar**	**22.86**	**275**	‖ *i* P	**P**	**22 48 38.1**	**+6.6**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**38.86**	**295**	‖ *i* P	P	22 50 59.3	+6.2
KURK				pmax	pmax		
	comp=Z,3.0nm,1.6s						

NIED ***17*** *23:36:00.24.30N×125.20E, h26km, Mw3.8 Best double couple: M0 6.43000×10¹⁴ NP1:ϕs 14.00000°, δ 78.00000°, λ 52.00000°. NP2:ϕs 270.00000°, δ 40.00000°, λ 162.00000°.*
JMA ***17*** *23:36:43.4±0.1, 24.29N×125.21E, h41km±4km, M3.8*
JMA Felt I J1.
IDC ***17*** *23:36:51.6±8.8, 25.16N×125.30E, h68km±66km, mb3.6/6, mb1 3.7/6, mb1mx3.4/53, mbtmp3.9/6, ML2.0/1, MS3.0/3, Ms1 3.0/3, ms1mx2.6/42, Error ellipse: s-maj=131.8km s-min=62.1km az=3.0*

ISC 17 23:36:43.9±1.7, 24.34N±0.09×125.17E±0.07, h30km±11km, n20, σ0ˢ71/25, mb4.0/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ2	**Miyako jima3**	**0.42**	**19**	P	**Pb**	**23 36 53.5**	**+0.3**
JMJ2				S	**Sn**	**23 37 01.1**	**+0.3**
JOGS	**Gusukube**	**0.47**	**27**	P	**Pb**	**23 36 54.2**	**+0.3**
JOGS				S	**Sn**	**23 37 02.4**	**+0.5**
JIRB	**Irabujima**	**0.49**	**0**	P	**Pn**	**23 36 54.4**	**-0.4**
JIRB				*e*S	**Sn**	**23 37 02.5**	**+0.2**
JTJ	**Tarama**	**0.52**	**305**	P	**Pn**	**23 36 55.1**	**-0.2**
JTJ				S	**Sn**	**23 37 03.1**	**-0.1**
JIKM	**Ikemajima**	**0.59**	**7**	P	**Pn**	**23 36 55.9**	**-0.3**
JIKM				S	**Sn**	**23 37 05.6**	**+0.8**
JISG	**Ishigakijimahi**	**0.82**	**288**	P	**Pn**	**23 36 59.1**	**-0.3**
JIJ	**Ishigaki jima**	**0.94**	**272**	P	**Pb**	**23 37 01.1**	**-0.5**
JIJ				*e*S	**Sn**	**23 37 14.2**	**+0.7**
JKRS	**Kuro-shima**	**1.07**	**265**	P	**Pb**	**23 37 03.3**	**-0.5**
JKRS				S	**Sn**	**23 37 17.8**	**+1.2**
HATJ	**Hateruma jima**	**1.28**	**258**	P	**Pn**	**23 37 05.6**	**-0.1**
HATJ				*e*S	**Sn**	**23 37 21.9**	**0.0**
IRIF	**Iriomote-Funau**	**1.32**	**270**	P	**Pn**	**23 37 06.7**	**+0.5**
JOW	**Kunigami**	**3.74**	**48**	P	**Pn**	**23 37 38.9**	**-0.7**
	0.3nm,0.3s,baz=60,slow=26,SNR=2.0						
KSRS	**Korea Array**	**13.29**	**10**	LR	LR	23 45 26.3	
	comp=Z,42nm,18.9s,baz=205,slow=41						
CMAR	**Chiang Mai Arr**	**25.09**	**262**	LR	LR	23 53 21.8	
	comp=Z,25nm,18.6s,baz=275,slow=39						
MKAR	**Makanchi Array**	**40.80**	**314**	P	**P**	**23 44 22.2**	**-0.4**
	1.6nm,0.4s,baz=101,slow=10,SNR=35						
ZALV	**Zalesovo Beam**	**42.15**	**325**	P	**P**	**23 44 31.8**	**-1.6**
	1.1nm,0.4s,baz=104,slow=6.3,SNR=3.8						
TIXI	**Tiksi**	**47.39**	**2**	LR	LR	00 05 38.2	
	comp=Z,26nm,18.7s,baz=58,slow=37						
GEYT	**Ailbeck**	**57.86**	**301**	P	**P**	**23 46 34.5**	**+1.5**
	1.0nm,0.5s,baz=134,slow=4.2,SNR=3.5						
FINES	**FINESS Array B**	**73.14**	**330**	P	**P**	**23 48 10.8**	**-0.4**
	2.7nm,0.7s,baz=56,slow=4.8,SNR=9.8						
BRTR	**Keskin Array B**	**75.99**	**307**	P	**P**	**23 48 28.9**	**+0.4**
	0.2nm,0.5s,baz=46,slow=4.2,SNR=1.9						
NOA	**NORSAR Array B**	**79.76**	**333**	P	**P**	**23 48 48.5**	**-0.4**
	0.5nm,0.8s,baz=59,slow=4.3,SNR=1.9						

NEIC ***17*** *23:54:41.6±1.4, 6.49S±0.07×146.5E±0.2, h61km±9km, mb4.1/10, Error ellipse: s-maj=23.6km s-min=4.6km az=65.0*
IDC ***17*** *23:54:42.4±4.3, 6.50S×146.49E, h60km±39km, mb3.4/7, mb1 3.7/9, mb1mx3.6/32, mbtmp3.8/9, ML3.6/1, MS3.0/5, Ms1 3.0/5, ms1mx2.8/21, Error ellipse: s-maj=34.2km s-min=27.3km az=81.0*

ISC 17 23:54:40.0±0.8, 6.44S±0.08×146.5E±0.1, h35km, n23, σ1ᵖ73/21, mb3.9/9, MS2.9/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.03**	**167**	P	**Pn**	**23 55 27.5**	**+2.0**
	9.5nm,0.3s,baz=238,slow=18,SNR=14						
PMG				S	**Sn**	**23 56 00.8**	**+0.1**
	12nm,0.3s,baz=280,slow=7.7,SNR=3.4						
PMG				LR	LR	23 56 59.8	
	comp=Z,184nm,20.8s,baz=270,slow=46						
PMG	**Port Moresby**	**3.03**	**167**		**Pn**	**23 55 26.4**	**+0.8**
COEN	**Coen**	**8.13**	**203**	Pn	**Pn**	**23 56 37.8**	**+2.0**
WRAB	**Tennant Creek**	**17.83**	**220**		**Pn**	**23 58 44.0**	**-1.6**
WB2	**Warramunga Arr**	**17.84**	**220**		**Pn**	**23 58 44.2**	**-1.5**
WRA	**Warramunga Arr**	**17.85**	**220**	P	**Pn**	**23 58 47.0**	**+1.2**
	0.2nm,0.3s,baz=44,slow=12,SNR=15						
AS31	**Alice Springs**	**20.95**	**214**	P	**P**	**23 59 19.0**	**-1.1**
ASAR	**Alice Springs**	**20.95**	**214**	P	**P**	**23 59 19.9**	**-0.2**
	4.5nm,0.8s,baz=33,slow=13,SNR=20						
FITZ	**Fitzroy Crossi**	**23.37**	**238**	P	**P**	**23 59 45.0**	**-0.7**
	1.2nm,0.5s,baz=53,slow=15,SNR=1.5						
FITZ				LR	LR	00 10 20.4	
	comp=Z,95nm,21.0s,baz=342,slow=40						
STKA	**Stephens Creek**	**25.71**	**190**	P	**P**	**00 00 06.0**	**-1.1**
	2.3nm,0.7s,baz=357,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**25.71**	**190**	IAmb	IAmb	00 00 31.9	
	comp=Z,4.3nm,1.7s						
MJAR	**Matsushiro Arr**	**43.45**	**350**	LR	LR	00 19 53.0	
	comp=Z,11nm,20.2s,baz=250,slow=35						
KSRS	**Korea Array**	**46.97**	**340**	pP	**pP**	**00 03 23.4**	**+5.1**
	comp=Z,0.7nm,0.4s,baz=148,slow=7.2,SNR=2.6						
KSRS				LR	LR	00 21 19.8	
	comp=Z,11nm,20.9s,baz=240,slow=34						
CMAR	**Chiang Mai Arr**	**52.98**	**299**	P	**P**	**00 03 54.5**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=127,slow=6.7,SNR=5.5						
PETK	**Petropavlovsk-**	**60.08**	**8**	LR	LR	00 29 48.0	
	comp=Z,12nm,19.1s,baz=238,slow=35						
VNDA	**Vanda**	**71.51**	**177**	P	**P**	**00 05 56.7**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=331,slow=5.8,SNR=5.6						
MKAR	**Makanchi Array**	**77.48**	**321**	P	**P**	**00 06 32.1**	**0.0**
	comp=Z,0.2nm,0.5s,baz=88,slow=7.1,SNR=3.2						
MAKZ	**Makanchi**	**77.69**	**321**	P	**P**	**00 06 32.3**	**-1.0**
MAKZ				IAmb	IAmb	00 07 22.4	
	comp=Z,8.5nm,2.0s						
NIL	**Nilore**	**79.73**	**306**	P	**P**	**00 06 43.4**	**-1.4**
KURK	**Kurchatov**	**81.23**	**323**	P	**P**	**00 06 50.7**	**-1.7**
KURK				IAmb	IAmb	00 09 04.9	
	comp=Z,5.3nm,1.6s						
IL31		**86.10**	**23**	P	**P**	**00 07 15.6**	**-1.3**

BLCC	**Black Canyon**	**0.94**	**145**			**Pg**	**23 58 05.1**	**-0.1**
BLCC						**Sb**	**23 58 19.2**	**+0.8**
ISA	**Isabella, Lake**	**0.95**	**47**	P		**Pg**	**23 58 04.2**	**-1.1**
	baz=228,SNR=51							
ISA				S		**Sb**	**23 58 18.2**	**-0.4**
	baz=228							
ISA	**Isabella, Lake**	**0.95**	**47**			**Pg**	**23 58 04.1**	**-1.1**
ISA	**Isabella, Lake**	**0.95**	**47**	Pg		**Pg**	**23 58 03.7**	**-1.5**
WASM	**Alta Sierra Ca**	**0.95**	**41**			**Pg**	**23 58 04.3**	**-1.1**
WASM						**Sg**	**23 58 18.0**	**+0.2**
PAGB	**Antelope Grade**	**1.03**	**314**			**Pg**	**23 58 06.3**	**-0.6**
WHFM	**Hanning Flat**	**1.05**	**50**			**Pg**	**23 58 05.8**	**-1.3**
SCZ2	**Santa Cruz Isl**	**1.05**	**194**	P		**Pg**	**23 58 06.5**	**-0.8**
	baz=14,SNR=16							
SCZ2				S		**Sg**	**23 58 21.4**	**+0.4**
	baz=14							
SCZ2	**Santa Cruz Isl**	**1.05**	**194**			**Pg**	**23 58 06.5**	**-0.8**
GATR	**Gnd/Air Tx Cnt**	**1.07**	**245**			**Pg**	**23 58 07.8**	**+0.1**
CJV	**Casa Juvan**	**1.09**	**116**			**Sb**	**23 58 22.6**	**-0.1**
EDW2	**Edwards Air Fo**	**1.10**	**97**	P		**Pg**	**23 58 07.3**	**-0.9**
	baz=278,SNR=69							
EDW2				S		**Sb**	**23 58 22.7**	**-0.3**
	baz=278							
EDW2	**Edwards Air Fo**	**1.10**	**97**			**Sg**	**23 58 22.6**	**0.0**
DECC	**Green Verdugo**	**1.12**	**133**	P		**Pg**	**23 58 08.0**	**-0.6**
	baz=313,SNR=14							
DECC				Sg		**Sn**	**23 58 24.9**	**+0.2**
	baz=313							
DJJ	**Donna J Jenkin**	**1.16**	**141**			**Pg**	**23 58 08.2**	**-1.2**
DPD	**Davis Peak**	**1.21**	**281**			**Pg**	**23 58 10.0**	**-0.2**
SPG2	**Springville 2**	**1.26**	**21**			**Pn**	**23 58 10.0**	**-1.1**
PASC	**Pasadena Art C**	**1.27**	**132**	Pg		**Pn**	**23 58 10.7**	**-0.3**
JNH	**Juniper Hills**	**1.27**	**116**			**Pg**	**23 58 09.8**	**-1.5**
VOG	**Valley Oaks Go**	**1.30**	**358**	P		**Pn**	**23 58 10.1**	**-1.4**
	baz=178,SNR=10							
VOG				S		**Sb**	**23 58 27.7**	**-0.8**
	baz=178							
VOG	**Valley Oaks Go**	**1.30**	**358**			**Pn**	**23 58 10.2**	**-1.3**
MWC	**Mount Wilson**	**1.31**	**127**			**Pn**	**23 58 11.5**	**-0.4**
LRMC	**Laurel Mtn Rad**	**1.42**	**71**	Pg		**Pb**	**23 58 14.0**	**+0.1**
	baz=252,SNR=19							
FMP	**Fort Macarthur**	**1.56**	**146**	Sb		**Sg**	**23 58 36.9**	**-0.3**
	baz=327							
BFSC	**Mount Baldy Ra**	**1.58**	**119**	P		**Pn**	**23 58 14.8**	**-0.7**
	baz=300,SNR=38							
BFSC				Sb		**Sg**	**23 58 37.9**	**0.0**
	baz=300							
MFS	**McCloud Flat S**	**1.62**	**47**			**Pn**	**23 58 16.5**	**+0.3**
PMPB	**Monarch Peak**	**1.69**	**315**			**Pn**	**23 58 16.9**	**-0.1**
CWC	**Cottonwood Cre**	**1.74**	**35**	Pb		**Pn**	**23 58 18.4**	**+0.6**
	baz=216							
CWC				Sb		**Sb**	**23 58 41.4**	**-0.2**
	baz=216							
SNCC	**San Nicolas Is**	**1.77**	**185**	S		**Sn**	**23 58 39.9**	**-0.9**
	baz=5.1							
CIS	**Catalina Islan**	**1.78**	**155**	Pb		**Pb**	**23 58 19.7**	**-0.3**
	baz=335							
CIS				S		**Sn**	**23 58 40.6**	**-0.4**
	baz=335							
MPMC	**Manual Prospec**	**1.82**	**55**	Pb		**Pb**	**23 58 20.2**	**-0.6**
	baz=236,SNR=149							
MPMC				Sg		**Sg**	**23 58 47.3**	**+1.7**
	baz=236							
RRX	**Edison Barstow**	**1.92**	**94**	Pb		**Pb**	**23 58 22.1**	**-0.2**
	baz=275							
RRX				Sg		**Sg**	**23 58 50.7**	**+1.9**
	baz=275							
CGO	**Cerro Gordo**	**1.97**	**39**			**Pb**	**23 58 23.0**	**-0.3**
CFT	**Crafton Hills**	**2.08**	**118**			**Pn**	**23 58 21.4**	**-0.9**
GSC	**Goldstone, Bar**	**2.08**	**82**	Pg		**Pg**	**23 58 26.2**	**-0.8**
	baz=263							
GSC				Sg		**Sg**	**23 58 56.3**	**+2.2**
	baz=263							
GSC	**Goldstone, Bar**	**2.08**	**82**	Pn		**Pn**	**23 58 23.6**	**+1.1**
BBRC	**Big Bear Solar**	**2.12**	**110**	Pg		**Pg**	**23 58 27.9**	**+0.2**
	baz=292							
SCI2	**San Clemente I**	**2.13**	**162**	Pg		**Pg**	**23 58 28.5**	**+0.5**
	baz=342							
TIN	**Tinemaha, Big**	**2.22**	**23**	Pb		**Pb**	**23 58 26.6**	**-0.9**
	baz=204,SNR=14							
TIN				Sb		**Sb**	**23 58 56.0**	**+0.9**
	baz=204							
MURC	**Murrieta**	**2.26**	**128**	P		**Pn**	**23 58 24.1**	**-0.7**
	baz=309							
MURC				Sb		**Sb**	**23 58 57.5**	**+1.2**
	baz=309							
SAO	**San Andreas Ge**	**2.45**	**316**	Pn		**Pn**	**23 58 26.9**	**-0.4**
HEC	**Hector,Ludlow**	**2.47**	**94**	Pb		**Pb**	**23 58 31.9**	**+0.2**
	baz=275							
FURC	**Furnace Creek,**	**2.47**	**54**	Pb		**Pb**	**23 58 32.1**	**+0.4**
	baz=235							
GRAC	**Grapevine Rang**	**2.53**	**38**	Pb		**Pb**	**23 58 32.4**	**-0.4**
	baz=219							
OMMB	**Old Mammoth Mi**	**2.60**	**6**	Pn		**Pn**	**23 58 30.4**	**+0.7**
MLAC	**Mammoth, Mammo**	**2.63**	**9**	Pb		**Pb**	**23 58 33.3**	**-1.3**
	baz=189							
PFO	**Pinyon Flats O**	**2.76**	**120**	Pn		**Pn**	**23 58 31.5**	**-0.2**
XPFO	**Pion Flat**	**2.76**	**120**	Pn		**Pn**	**23 58 31.5**	**-0.3**
TPFO	**Pinon Flats**	**2.76**	**120**	P		**Pn**	**23 58 31.4**	**-0.4**
	baz=302							
BELC	**Belle Mtn. Jos**	**2.93**	**109**	P		**Pn**	**23 58 33.4**	**-0.7**
	baz=291							
BORC	**Borrego Spring**	**2.98**	**125**			**Pb**	**23 58 39.5**	**-0.8**
GMRC	**Granite Mounta**	**3.02**	**93**	P		**Pn**	**23 58 34.3**	**-1.0**
	baz=276,SNR=9.0							
CMB	**Columbia Colle**	**3.13**	**344**	Pn		**Pn**	**23 58 37.6**	**+0.8**
TPNV	**Topopah Spring**	**3.15**	**51**	Pg		**Pg**	**23 58 47.0**	**-0.5**
	baz=233							
TPNV	**Topopah Spring**	**3.15**	**51**	Pn		**Pn**	**23 58 38.2**	**+1.1**
MONP2	**Monument Peak**	**3.21**	**131**	P		**Pn**	**23 58 37.3**	**-0.8**
	baz=312							
MONP2				S		**Sn**	**23 59 16.5**	**-0.2**
	baz=312							
DANC	**Danby, Needles**	**3.27**	**96**			**Pb**	**23 58 45.5**	**+0.1**
WAKR	**Walker**	**3.48**	**359**			**Pn**	**23 58 43.0**	**+1.3**
NVAR	**Mina Array Bea**	**3.50**	**13**	Pn		**Pn**	**23 58 42.2**	**+0.2**
NV11	**Mina Array Sit**	**3.53**	**15**	Pn		**Pn**	**23 58 44.0**	**+1.6**
IRM	**Iron Mountain**	**3.56**	**103**	Pb		**Pb**	**23 58 50.0**	**-0.3**
	baz=285							
IKP	**In-Ko-Pah, Jac**	**3.57**	**131**	P		**Pn**	**23 58 42.8**	**-0.1**
	baz=312							
RYN	**Ryan**	**3.66**	**10**	Pn		**Pn**	**23 58 45.2**	**+1.1**
SHPR	**Sheep Range**	**3.70**	**65**	Pn		**Pn**	**23 58 46.3**	**+1.6**
YERR	**Yerington**	**3.96**	**1**	Pn		**Pn**	**23 58 48.5**	**+0.2**
PNTR	**Pine Nut**	**4.07**	**357**	Pn		**Pn**	**23 58 50.5**	**+0.7**
AFDM	**Forest Hills D**	**4.14**	**342**	Pn		**Pn**	**23 58 52.0**	**+1.4**
KVN	**Kaiserville**	**4.14**	**13**	Pn		**Pn**	**23 58 52.1**	**+1.3**
W13A	**Hualapai Mount**	**4.46**	**87**	Pn		**Pn**	**23 58 57.3**	**+2.1**
R11A	**Troy Canyon, C**	**4.48**	**41**	Pg		**Pg**	**23 59 11.1**	**-1.8**
	baz=223							
R11A	**Troy Canyon, C**	**4.48**	**41**	Pn		**Pn**	**23 58 58.3**	**+2.9**
PAHR	**Pah Rah Range**	**4.68**	**359**	Pn		**Pn**	**23 59 00.1**	**+1.9**
BEKR	**Beckworth**	**4.91**	**351**	Pn		**Pn**	**23 59 03.1**	**+1.8**
CCUT	**Cedar City**	**5.44**	**61**	Pn		**Pn**	**23 59 10.2**	**+1.5**
PSUT	**Pine Spring**	**5.62**	**50**	Pn		**Pn**	**23 59 11.4**	**+0.3**
ELK	**Elko**	**6.56**	**28**	Pn		**Pn**	**23 59 25.1**	**+1.0**

*IDC **18** 00:00:10.8±1.0,55.07N×165.45E,h0km,mb3.7/11, mb1 4.0/12,mb1mx3.8/40,mbtmp3.7/12,ML3.2/1,MS2.8/3, Ms1 2.8/3,ms1mx2.4/49,Error ellipse: s-maj=30.6km s-min=18.9km az=168.0*

*KRSC **18** 00:00:11.3±2.1,54.88N×165.57E,h40km±15km,ML4.3*

*MOS **18** 00:00:13.2±1.0,54.97N×165.70E,h35km,mb4.3/1,Error ellipse: s-maj=7.1km s-min=6.1km az=162.1*

*NEIC **18** 00:00:14.4±1.8,55.0N±0.1×165.5E±0.1,h28km,ₙ6km, mb4.1/7,Error ellipse: s-maj=16.0km s-min=9.4km az=186.0*

ISC 18 00:00:13.4±0.5,54.93N±0.04×165.65E±0.05,h20km,ₙ3km, n120,σt$36/163,mb3.9/13,1C-1D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.33**	**34**	*eP*	**Pb**	**00 00 20.1**	**-0.3**
BKI				*eS*	**Sb**	**00 00 25.0**	**-0.2**
BKI	**Bering**	**0.33**	**34**	PN	**Pb**	**00 00 20.1**	**-0.3**
BKI				S	**Sb**	**00 00 25.0**	**-0.2**
KBTR	**Krutoberegovo**	**2.06**	**310**	*eP*	**Pn**	**00 00 43.7**	**-3.0**
KBTR				*eS*	**Sn**	**00 01 07.1**	**-4.6**
KBTR	**Krutoberegovo**	**2.06**	**310**	PN	**Pn**	**00 00 43.7**	**-3.0**
KBTR				S	**Sn**	**00 01 07.1**	**-4.6**
KBG	**Krutoberegovo**	**2.13**	**310**	*eS*	**Sn**	**00 01 10.3**	**-3.3**
SMKR	**Semkarok**	**2.89**	**307**	*eP*	**Pn**	**00 00 57.7**	**-0.5**
SMKR				*eS*	**Sn**	**00 01 31.3**	**-1.0**
SMKR	**Semkarok**	**2.89**	**307**	PN	**Pn**	**00 00 57.7**	**-0.5**
SMKR				S	**Sn**	**00 01 31.3**	**-1.0**
ZLN	**Zelenaya**	**2.97**	**293**	*eP*	**Pn**	**00 01 00.0**	**+0.7**
ZLN	**Zelenaya**	**2.97**	**293**	PN	**Pn**	**00 01 00.0**	**+0.7**
BDR	**Baidarnaya**	**3.00**	**305**	*eP*	**Pn**	**00 00 59.6**	**-0.2**
BDR				*eS*	**Sn**	**00 01 34.4**	**-0.7**
BDR	**Baidarnaya**	**3.00**	**305**	PN	**Pn**	**00 00 59.6**	**-0.2**
BDR				S	**Sn**	**00 01 34.4**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**3.00**	**292**	*eP*	**Pn**	**00 01 00.0**	**+0.2**
BZGR				*eS*	**Sn**	**00 01 36.0**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**3.00**	**292**	PN	**Pn**	**00 01 00.0**	**+0.2**
BZGR				S	**Sn**	**00 01 36.0**	**+0.9**
CIRR	**Tsirk**	**3.03**	**295**	*eP*	**Pn**	**00 01 00.9**	**+0.7**
CIRR				*eS*	**Sn**	**00 01 38.2**	**+2.3**
CIRR	**Tsirk**	**3.03**	**295**	PN	**Pn**	**00 01 00.9**	**+0.7**
CIRR				S	**Sn**	**00 01 38.2**	**+2.3**
TUMD	**Tumrok D**	**3.03**	**277**	*eP*	**Pn**	**00 01 00.4**	**+0.2**
TUMD				*eS*	**Sn**	**00 01 36.4**	**+0.5**
LGNR	**Loginova**	**3.05**	**294**	*i* P	**Pn**	**00 01 01.2**	**+0.6**
LGNR				*eS*	**Sn**	**00 01 36.7**	**+0.1**
LGNR	**Loginova**	**3.05**	**294**	PN	**Pn**	**00 01 01.2**	**+0.6**
LGNR				S	**Sn**	**00 01 36.7**	**+0.1**
SRKR	**Sorokina**	**3.06**	**306**	*eP*	**Pn**	**00 01 00.8**	**+0.2**
SRKR	**Sorokina**	**3.06**	**306**	PN	**Pn**	**00 01 00.8**	**+0.2**
KZV	**Kizimen**	**3.09**	**276**	*eP*	**Pn**	**00 01 00.8**	**-0.3**
KZV				*eS*	**Sn**	**00 01 36.5**	**-1.0**
KZV	**Kizimen**	**3.09**	**276**	PN	**Pn**	**00 01 00.8**	**-0.3**
KZV				S	**Sn**	**00 01 36.5**	**-1.0**
BZWR	**Bezymyannyi-We**	**3.11**	**291**	*eP*	**Pn**	**00 01 01.9**	**+0.5**
BZWR				*eS*	**Sn**	**00 01 39.2**	**+1.1**
BZWR	**Bezymyannyi-We**	**3.11**	**291**	PN	**Pn**	**00 01 01.9**	**+0.5**
BZWR				S	**Sn**	**00 01 39.2**	**+1.1**
KRSR	**Krestovskiy**	**3.16**	**296**	*eP*	**Pn**	**00 01 02.1**	**+0.1**
KRSR				*eS*	**Sn**	**00 01 38.8**	**-0.3**
KRSR	**Krestovskiy**	**3.16**	**296**	PN	**Pn**	**00 01 02.1**	**+0.1**
KRSR				S	**Sn**	**00 01 38.8**	**-0.3**
TUMR	**Tumrok**	**3.18**	**279**	*eP*	**Pn**	**00 01 02.6**	**+0.3**
TUMR				*eS*	**Sn**	**00 01 40.2**	**+0.5**
TUMR	**Tumrok**	**3.18**	**279**	PN	**Pn**	**00 01 02.6**	**+0.3**
TUMR				S	**Sn**	**00 01 40.2**	**+0.5**
KIRR	**Kirishev**	**3.19**	**291**	*eP*	**Pn**	**00 01 03.1**	**+0.6**
KIRR				*eS*	**Sn**	**00 01 39.6**	**-0.4**
KIRR	**Kirishev**	**3.19**	**291**	PN	**Pn**	**00 01 03.1**	**+0.6**
KIRR				S	**Sn**	**00 01 39.6**	**-0.4**
KMNR	**Kamenistaya**	**3.20**	**287**	*i* P	**Pn**	**00 01 03.3**	**+0.8**
KMNR				*eS*	**Sn**	**00 01 40.9**	**+0.8**
KMNR	**Kamenistaya**	**3.20**	**287**	PN	**Pn**	**00 01 03.3**	**+0.8**
KMNR				S	**Sn**	**00 01 40.9**	**+0.8**
KPT	**Kopyto**	**3.26**	**291**	*eP*	**Pn**	**00 01 04.1**	**+0.7**
KPT	**Kopyto**	**3.26**	**291**	PN	**Pn**	**00 01 04.1**	**+0.7**
KOZ	**Kozyrevsk**	**3.48**	**291**	*eP*	**Pn**	**00 01 07.2**	**+1.0**
KOZ				*eS*	**Sn**	**00 01 46.5**	**-0.3**
KOZ	**Kozyrevsk**	**3.48**	**291**	PN	**Pn**	**00 01 07.2**	**+1.0**
KOZ				S	**Sn**	**00 01 46.5**	**-0.3**
SRDR	**Sredinnyy**	**3.64**	**295**	*eP*	**Pn**	**00 01 09.4**	**+0.9**
SRDR				*eS*	**Sn**	**00 01 51.2**	**+0.3**
SRDR	**Sredinnyy**	**3.64**	**295**	PN	**Pn**	**00 01 09.4**	**+0.9**
SRDR				S	**Sn**	**00 01 51.2**	**+0.3**
KII	**Karymskiy**	**3.73**	**259**	*eP*	**Pn**	**00 01 10.4**	**+0.6**
KII				*eS*	**Sn**	**00 01 52.5**	**-0.6**
KII	**Karymskiy**	**3.73**	**259**	PN	**Pn**	**00 01 10.4**	**+0.6**
KII				S	**Sn**	**00 01 52.5**	**-0.6**
SPN	**Mys Shipunski**	**3.80**	**243**	*eP*	**Pn**	**00 01 10.4**	**-0.2**
SPN				*eS*	**Sn**	**00 01 51.3**	**-3.3**
SPN	**Mys Shipunski**	**3.80**	**243**	PN	**Pn**	**00 01 10.4**	**-0.2**
NLC	**Nalytchevo**	**4.12**	**247**	*eP*	**Pn**	**00 01 15.4**	**+0.4**
NLC				*eS*	**Sn**	**00 02 00.0**	**-2.4**
NLC	**Nalytchevo**	**4.12**	**247**	PN	**Pn**	**00 01 15.4**	**+0.4**
SDLR	**Sedlovina**	**4.32**	**250**	*i* P	**Pn**	**00 01 18.3**	**+0.4**
SDLR				*eS*	**Sn**	**00 02 06.4**	**-1.2**
SDLR	**Sedlovina**	**4.32**	**250**	PN	**Pn**	**00 01 18.3**	**+0.4**
SMAR	**Somma**	**4.37**	**250**	*eP*	**Pn**	**00 01 19.4**	**+0.7**
SMAR				*eS*	**Sn**	**00 02 07.5**	**-1.5**
SMAR	**Somma**	**4.37**	**250**	PN	**Pn**	**00 01 19.4**	**+0.7**
KRER	**Koryakskii**	**4.38**	**251**	*eP*	**Pn**	**00 01 19.5**	**+0.7**
KRER				*eS*	**Sn**	**00 02 08.2**	**-1.0**
KRER	**Koryakskii**	**4.38**	**251**	PN	**Pn**	**00 01 19.5**	**+0.7**
UGLR	**Uglovaya**	**4.38**	**250**	*eP*	**Pn**	**00 01 19.3**	**+0.6**
UGLR				*eS*	**Sn**	**00 02 05.9**	**-3.2**
UGLR	**Uglovaya**	**4.38**	**250**	PN	**Pn**	**00 01 19.3**	**+0.6**
AVH	**Avacha**	**4.40**	**251**	*eP*	**Pn**	**00 01 20.0**	**+1.0**
AVH				*eS*	**Sn**	**00 02 08.5**	**-1.1**
AVH	**Avacha**	**4.40**	**251**	PN	**Pn**	**00 01 20.0**	**+1.0**
KRX	**Arik**	**4.41**	**252**	*i* P	**Pn**	**00 01 19.9**	**+0.7**
KRX				*eS*	**Sn**	**00 02 08.2**	**-1.8**
KRX	**Arik**	**4.41**	**252**	PN	**Pn**	**00 01 19.9**	**+0.7**
KOK	**Koryaka**	**4.45**	**251**	*i* P	**Pn**	**00 01 20.4**	**+0.8**
KOK				*eS*	**Sn**	**00 02 09.9**	**-0.8**
KOK	**Koryaka**	**4.45**	**251**	PN	**Pn**	**00 01 20.4**	**+0.8**
DALK	**Dalny**	**4.50**	**248**	*eP*	**Pn**	**00 01 21.1**	**+0.9**
DALK				*eS*	**Sn**	**00 02 08.9**	**-2.9**
DALK	**Dalny**	**4.50**	**248**	PN	**Pn**	**00 01 21.1**	**+0.9**
PET	**Petropavlovsk**	**4.55**	**248**	*eP*	**Pn**	**00 01 22.0**	**+1.0**
PET				*eS*	**Sn**	**00 02 10.6**	**-2.6**
PET	**Petropavlovsk**	**4.55**	**248**	*e*PN	**Pn**	**00 01 22.0**	**+1.0**
PET				pmax	pmax		
	comp=Z,41nm,0.4s						
PET	**Petropavlovsk**	**4.55**	**248**		**Pn**	**00 01 20.7**	**-0.3**
PET					**Sn**	**00 02 08.0**	**-5.2**
KRMR	**Karymshinskiy**	**4.92**	**248**	*eP*	**Pn**	**00 01 28.9**	**+2.8**
KRMR				*eS*	**Sn**	**00 02 22.2**	**-0.2**
KRMR	**Karymshinskiy**	**4.92**	**248**	PN	**Pn**	**00 01 28.9**	**+2.8**
RUS	**Russkaya**	**4.93**	**242**	*i* P	**Pn**	**00 01 26.5**	**+0.4**
RUS				*eS*	**Sn**	**00 02 18.7**	**-3.8**
RUS	**Russkaya**	**4.93**	**242**	PN	**Pn**	**00 01 26.5**	**+0.4**
PEA0B	**Petropavlovsk-**	**5.03**	**252**	*d i*PN	**Pn**	**00 01 28.7**	**+1.1**
PEA0B	**Petropavlovsk-**	**5.03**	**252**		**Pn**	**00 01 26.8**	**-0.8**
PETK	**Petropavlovsk-**	**5.03**	**252**	Pn	**Pn**	**00 01 28.8**	**+1.1**
	comp=Z,5.1nm,0.3s,baz=81,slow=19,SNR=42						
PETK				Sn	**Sn**	**00 02 24.4**	**-0.7**
	comp=Z,4.5nm,0.3s,baz=9.8,slow=27,SNR=3.1						
PETK				LR	LR	00 03 31.9	
	comp=Z,56nm,19.1s,baz=51,slow=40						
PETK	**Petropavlovsk-**	**5.03**	**252**		**Pn**	**00 01 26.8**	**-0.8**
MTVR	**Mutnovka**	**5.07**	**244**	*eP*	**Pn**	**00 01 29.1**	**+0.8**
MTVR				*eS*	**Sn**	**00 02 24.4**	**-1.8**
MTVR	**Mutnovka**	**5.07**	**244**	PN	**Pn**	**00 01 29.1**	**+0.8**
GRL	**Gorelyy**	**5.09**	**245**	*eP*	**Pn**	**00 01 29.8**	**+1.3**
GRL				*eS*	**Sn**	**00 02 27.0**	**+0.3**
GRL	**Gorelyy**	**5.09**	**245**	PN	**Pn**	**00 01 29.8**	**+1.3**
ASAK	**Asacha**	**5.27**	**244**	*eP*	**Pn**	**00 01 32.3**	**+1.4**
ASAK				*eS*	**Sn**	**00 02 29.6**	**-1.5**
ASAK	**Asacha**	**5.27**	**244**	PN	**Pn**	**00 01 32.3**	**+1.4**
APC	**Apacha**	**5.41**	**252**	*eP*	**Pn**	**00 01 34.6**	**+1.9**
APC				*eS*	**Sn**	**00 02 34.5**	**+0.2**
APC	**Apacha**	**5.41**	**252**	PN	**Pn**	**00 01 34.6**	**+1.9**
MIPR	**Malaya Ipel'ka**	**5.93**	**247**	*eP*	**Pn**	**00 01 41.6**	**+1.7**
MIPR	**Malaya Ipel'ka**	**5.93**	**247**	PN	**Pn**	**00 01 41.6**	**+1.7**
ALID	**Alaid**	**7.34**	**240**	*eP*	**Pn**	**00 02 00.2**	**+0.8**
ALID	**Alaid**	**7.34**	**240**	PN	**Pn**	**00 02 00.2**	**+0.8**
MA2	**Magadan**	**9.30**	**306**	*i*PN	**Pn**	**00 02 25.2**	**-0.9**
BILL	**Bilibino**	**13.16**	**1**	*e*PN	**Pn**	**00 03 21.0**	**+2.3**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s						
SPIA	**Saint Paul Isl**	**13.63**	**71**	Pn	**Pn**	**00 03 25.2**	**0.0**
GAMB	**Gambell**	**14.47**	**43**	Pn	**Pn**	**00 03 38.1**	**+1.5**
ERM	**Erimo**	**19.62**	**238**	*i* P	**Pn**	**00 04 41.7**	**0.0**
CNBA	**Chernabura Isl**	**19.88**	**76**	P	**P**	**00 04 40.6**	**-2.4**
CNBA				IAmb	IAmb	00 04 57.1	
	comp=Z,79nm,1.4s						
KLR	**Kul'dur**	**21.45**	**269**	LR	LR	00 13 54.4	
	comp=Z,22nm,18.6s,baz=120,slow=39						
KLR	**Kul'dur**	**21.45**	**269**	*i* P	**P**	**00 04 58.4**	**-1.7**
IMAR	**Indian Mountai**	**22.41**	**44**	P	**P**	**00 05 11.8**	**+1.6**
RSO	**Redoubt South**	**22.60**	**59**	P	**P**	**00 05 13.4**	**+1.0**
IL31		**25.16**	**48**	P	**P**	**00 05 34.8**	**-1.9**
IL31				IAmb	IAmb	00 05 39.6	
	comp=Z,3.7nm,1.1s						
ILAR	**Eielson Array**	**25.16**	**48**	P	**P**	**00 05 37.5**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=247,slow=7.7,SNR=11						
BMAR	**Burnt Mountain**	**26.20**	**42**	P	**P**	**00 05 46.7**	**+0.5**
BCAR	**Beaver Creek A**	**27.52**	**51**	P	**P**	**00 05 57.7**	**-0.4**
H11N2	**WAKE ISLAND Hy**	**35.16**	**178**	T	T	00 44 36.8	
	baz=359,slow=76,SNR=304						
H11N3	**WAKE ISLAND Hy**	**35.17**	**178**	T	T	00 44 37.8	
	baz=359,slow=76,SNR=222						
H11N1	**WAKE ISLAND Hy**	**35.17**	**178**	T	T	00 44 38.2	
	baz=359,slow=76,SNR=272						
H11S1	**WAKE ISLAND Hy**	**36.37**	**178**	T	T	00 46 09.8	
	baz=359,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**36.38**	**178**	T	T	00 46 06.4	
	baz=359,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**36.39**	**178**	T	T	00 46 08.9	
	baz=359,slow=76,SNR=14						
MKAR	**Makanchi Array**	**50.27**	**297**	P	**P**	**00 09 07.2**	**-0.7**
	comp=Z,0.2nm,0.4s,baz=45,slow=4.3,SNR=2.7						
NVAR	**Mina Array Bea**	**52.06**	**75**	P	**P**	**00 09 22.8**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=297,slow=9.0,SNR=2.7						
ARCES	**ARCESS Array B**	**52.51**	**343**	P	**P**	**00 09 23.5**	**-0.8**
	comp=Z,2.3nm,1.0s,baz=27,slow=11,SNR=3.9						
PDAR	**Pinedale Array**	**53.76**	**65**	P	**P**	**00 09 35.1**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=279,slow=2.9,SNR=4.9						
PFO	**Pinyon Flats O**	**56.56**	**78**	LR	LR	00 33 07.3	
	comp=Z,18nm,18.3s,baz=184,slow=35						
FIA1	**FINESS Array S**	**59.66**	**339**	P	**P**	**00 10 14.8**	**-0.6**
FINES	**FINESS Array B**	**59.66**	**339**	P	**P**	**00 10 14.8**	**-0.7**
	comp=Z,3.1nm,1.1s,baz=36,slow=10.0,SNR=1.7						
NB2	**NORSAR Subarra**	**62.61**	**346**	P	**P**	**00 10 35.2**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=17,slow=6.9						
NOA	**NORSAR Array B**	**62.61**	**346**	P	**P**	**00 10 35.0**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=18,slow=6.8,SNR=3.6						
NOA	**NORSAR Array B**	**62.61**	**346**	P	**P**	**00 10 35.0**	**-0.6**
TX31	**Lajitas Ar. Si**	**66.92**	**72**	P	**P**	**00 11 04.3**	**+0.2**
TX32	**Lajitas Array**	**66.92**	**72**	P	**P**	**00 11 03.8**	**-0.3**
TX32				IAmb	IAmb	00 11 15.4	
	comp=Z,0.7nm,0.8s						
TXAR	**Lajitas Array**	**66.92**	**72**	P	**P**	**00 11 05.6**	**+1.4**
	comp=Z,0.6nm,0.6s,baz=300,slow=4.3,SNR=11						
GERES	**GERESS Array B**	**73.94**	**341**	P	**P**	**00 11 46.0**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=39,slow=6.3,SNR=2.5						
WRA	**Warramunga Arr**	**79.23**	**210**	P	**P**	**00 12 17.2**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=21,slow=6.3,SNR=1.2						
WRA	**Warramunga Arr**	**79.23**	**210**	IAmb	IAmb	00 12 26.6	
	comp=Z,0.2nm,1.1s						
ESDC	**Sonseca Array**	**85.34**	**352**	P	**P**	**00 12 49.4**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=2.5,slow=4.9,SNR=6.2						

*TAP **18** 00:10:05.3,23.72N×121.90E,h29km,ML2.5,D*

*JMA **18** 00:10:07.9±0.3,24.86N×123.40E,h27km,M1.7*

ISC 18 00:10:02.1±1.4,23.65N±0.03×122.11E±0.05,h31km±11km, n59,σ0$81/85,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien**	**0.57**	**305**	*eP*	**Pb**	**00 10 14.1**	**+0.4**
	baz=313						
EGFH	**

	baz=332							
WHP	**Taichung City**	**1.24**	**300**	*e*P		**Pb**	**00 10 25.5**	**+0.5**
	baz=302							
WHP				*e*S		**Sn**	**00 10 38.6**	**-0.5**
	baz=302							
NWLT	**Wulai**	**1.25**	**334**	*e*P		**Pb**	**00 10 25.6**	**+0.4**
	baz=340							
NWLT				*e*S		**Sn**	**00 10 39.8**	**+0.4**
	baz=340							
TWGBT	**Beinan**	**1.26**	**229**	*e*P		**Pb**	**00 10 26.4**	**+1.0**
	baz=220							
TWG	**Pinlang**	**1.27**	**229**	*e*P		**Pb**	**00 10 26.4**	**+1.0**
	baz=220							
CHN5	**Tsauling**	**1.32**	**268**	*e*P		**Pb**	**00 10 26.6**	**+0.3**
	baz=263							
STYT	**Tauyuan**	**1.34**	**249**	*e*P		**Pn**	**00 10 25.7**	**+0.9**
	baz=241							
STYT				*e*S		**Sn**	**00 10 41.8**	**+0.2**
	baz=241							
TIPB	**Shuangxi**	**1.34**	**349**	*e*P		**Pb**	**00 10 28.1**	**+1.4**
	baz=356							
TIPB				S		**Sb**	**00 10 43.4**	**-0.1**
	baz=356							
TWB1	**Santiao Chiao**	**1.35**	**355**	*e*S		**Sb**	**00 10 44.0**	**+0.2**
	baz=3.0							
NSTT	**Nanjuang**	**1.41**	**314**	*e*S		**Sn**	**00 10 43.5**	**+0.3**
	baz=317							
TPUB	**Ta-pu**	**1.41**	**256**	*e*P		**Pb**	**00 10 28.2**	**+0.4**
	baz=250							
WTP	**Ta-pu**	**1.44**	**254**	*e*P		**Pb**	**00 10 28.5**	**+0.2**
	baz=248							
ECL	**Taimali**	**1.50**	**226**	*e*P		**Pb**	**00 10 29.4**	**+0.1**
	baz=217							
SLGT	**Liugui**	**1.50**	**244**	*e*P		**Pb**	**00 10 29.4**	**0.0**
	baz=237							
SLGT				*e*S		**Sb**	**00 10 46.8**	**-1.2**
	baz=237							
SGST	**Jiashian**	**1.52**	**248**	*e*P		**Pb**	**00 10 29.7**	**+0.1**
	baz=242							
CHN1	**Nanshi**	**1.53**	**253**	*e*P		**Pb**	**00 10 30.2**	**+0.3**
	baz=247							
TWK	**Hsinying**	**1.54**	**256**	*e*P		**Pb**	**00 10 30.5**	**+0.3**
	baz=250							
IRIF	**Iriomote-Funau**	**1.63**	**65**	P		Pn	00 10 19.6	-9.1
MASBT	**Mashibuluo**	**1.71**	**233**	*e*P		**Pb**	**00 10 32.7**	**-0.3**
	baz=226							
JKRS	**Kuro-shima**	**1.83**	**71**	S		Sn	00 10 34.5	-19
JIJ	**Ishigaki jima**	**1.99**	**69**	P		Pn	00 10 23.8	-10
JIJ				S		Sn	00 10 34.5	-23
JISG	**Ishigakijimahi**	**2.21**	**65**	S		Sn	00 10 34.6	-28
PHUB	**P'eng-hu**	**2.34**	**267**	*e*P		**Pn**	**00 10 40.4**	**+2.0**
	baz=264							
PHUB				*e*S		**Sn**	**00 11 05.3**	**-0.8**
	baz=264							
VWUC	**VWUC**	**2.77**	**299**	*e*P		**Pn**	**00 10 45.7**	**+1.3**
	baz=299							

IDC 18 00:29:08.6±1.9,5°57S×130°84E, h0km, mb3.2/1, mb1 3.6/4, mb1mx3.4/32, mbtmp3.5/4, ML3.4/3, Error ellipse: s-maj=96.3km s-min=28.1km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**4.69**	**5**	Pn	Pn	00 30 20.1	-0.6
	2.5nm,0.3s,baz=219,slow=23,SNR=8.8						
SIJI				Sn	Sn	00 31 06.7	-9.2
	3.4nm,0.3s,baz=269,slow=23,SNR=9.2						
WRA	**Warramunga Arr**	**14.69**	**167**	Pn	Pn	00 32 35.9	-2.0
	0.2nm,0.3s,baz=348,slow=14,SNR=1.6						
WRA				Sn	Sn	00 35 07.5	-14
	0.1nm,0.3s,baz=119,slow=19,SNR=1.7						
ASAR	**Alice Springs**	**18.23**	**171**	P	P	00 33 23.9	+0.2
	0.1nm,0.3s,baz=351,slow=10,SNR=5.8						
MKAR	**Makanchi Array**	**67.50**	**326**	P	P	00 40 07.0	+0.3
	0.2nm,0.5s,baz=108,slow=6.7,SNR=2.0						

*THR **18** 00:29:39.8±0.5,28°.95N×58°.21E, h16km±5km, ML4.2*
*IDC **18** 00:29:40.5±1.1,29°.08N×58°.27E, h0km, mb3.8/13, mb1 3.8/16, mb1mx3.7/53, mbtmp3.8/16, ML3.7/3, Error ellipse: s-maj=24.2km s-min=18.3km az=156.0*
*NEIC **18** 00:29:42.9±2.6,29°.08N±0°.05×58°.34E±0°.07, h21km±4km, Error ellipse: s-maj=9.4km s-min=6.6km az=89.0*
*TEH **18** 00:29:42.0,29°.04N×58°.33E, h19km, ML4.1*
*DSN **18** 00:29:45.1±2.2,28°.31N×59°.36E, h10km, ML3.9/9, Error ellipse: s-maj=51.6km s-min=15.7km az=150.0*
*OMAN **18** 00:29:47.6,28°.95N×58°.73E, h30km, ml3.8/7*

ISC 18 00:29:42.6±1.2, 29°.02N±0°.03×58°.36E±0°.03, h19km±4km, n93, σ2s66/103, mb3.8/15, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHMN	**Cheshme madani**	**1.10**	**320**	*e*Pg	**Pb**	**00 30 01.4**	**-1.9**
CHMN	**Cheshme madani**	**1.10**	**320**	Pn	**Pb**	**00 30 01.4**	**-1.9**
KHNJ	**Kahnooj**	**1.21**	**208**	*e*Pn	**Pg**	**00 30 05.2**	**-0.8**
KHNJ	**Kahnooj**	**1.21**	**208**	Pn	**Pg**	**00 30 05.1**	**-0.9**
NGRK	**Negar Kerman**	**1.55**	**294**	*e*	**Sb**	**00 30 34.5**	**+4.2**
NGRK				*e*Pg	**Pb**	**00 30 09.9**	**-1.0**
NGRK	**Negar Kerman**	**1.55**	**294**		**Pb**	**00 30 09.9**	**-1.0**
KRBR	**Kerman**	**1.69**	**305**	*e*Pg	**Pn**	**00 30 09.9**	**-1.5**
KRBR				*e*Sg	**Sn**	**00 30 31.9**	**-0.8**
KRBR	**Kerman**	**1.69**	**305**	*e*Pn	**Pn**	**00 30 09.9**	**-1.5**
KRBR	**Kerman**	**1.69**	**305**	Pn	**Pn**	**00 30 09.8**	**-1.5**
TVBK	**TV Kerman**	**1.69**	**305**	*e*Pg	**Pb**	**00 30 12.1**	**-1.2**
TVBK				*e*	**Sn**	**00 30 37.1**	**+4.3**
TVBK	**TV Kerman**	**1.69**	**305**		**Pb**	**00 30 12.1**	**-1.2**
KHGB	**Koh Gabri**	**2.12**	**310**	*e*Pn	**Pb**	**00 30 18.9**	**-1.7**
KHGB				*e*	**Sn**	**00 30 50.4**	**+7.1**
ZHSF	**Zahedan**	**2.19**	**74**	*e*P	**Pb**	**00 30 19.8**	**-1.9**
ZHSF	**Zahedan**	**2.19**	**74**	*e*Pn	**Pb**	**00 30 19.8**	**-1.9**
IBND	**Bandar-abas**	**2.24**	**226**	*e*Pn	**Pg**	**00 30 24.3**	**-1.3**
IBND				*e*		00 31 19.5	
SZD1	**Zahaedan-tmp**	**2.24**	**77**	*e*Pn	**Pb**	**00 30 20.8**	**-1.7**
GENO	**Geno**	**2.51**	**231**	*e*Pn	**Pb**	**00 30 27.3**	**+0.1**
BNDS	**Bandar-Abbas**	**2.51**	**231**	*e*Pn	**Pn**	**00 30 20.2**	**-2.4**
BNDS				*e*Sg	**Sn**	**00 30 54.4**	**+1.6**
BNDS	**Bandar-Abbas**	**2.51**	**231**	*e*Pn	**Pn**	**00 30 20.2**	**-2.4**
BNDS	**Bandar-Abbas**	**2.51**	**231**	Pn	**Pn**	**00 30 20.1**	**-2.4**
NHDN	**Nehbandan**	**2.78**	**31**	*e*Pn	**Pn**	**00 30 27.4**	**+1.2**
BSRN	**Basiran**	**3.01**	**13**	*e*Pn	**Pn**	**00 30 30.1**	**+0.7**
BSRN				IAML		00 31 13.4	
	comp=E,791nm,0.4s						
BSRN				IAML		00 31 14.2	
	comp=N,444nm,0.6s						
BSRN	**Basiran**	**3.01**	**13**	*e*Pn	**Pn**	**00 30 30.1**	**+0.7**
IKOO	**Kooshah**	**3.44**	**9**	*e*Pn	**Pn**	**00 30 36.0**	**+0.6**
IBAF	**Bafgh**	**3.52**	**317**	*e*Pn	**Pn**	**00 30 38.3**	**+1.9**
SHME	**Shamm**	**3.55**	**214**	*i* P	**Pb**	**00 30 41.8**	**-3.0**
	SNR=9.9						
BANOM	**Banah**	**3.58**	**211**	*i* P	**Pb**	**00 30 41.7**	**-3.7**
	SNR=30						
BANOM				S	**Sb**	**00 31 25.2**	**-3.3**
BANOM	**Banah**	**3.58**	**211**	P	**Pb**	**00 30 43.0**	**-2.3**
	SNR=30						
BANOM				S	**Sb**	**00 31 26.9**	**-1.5**
ITEG	**Tejag**	**3.88**	**5**	*e*Pn	**Pn**	**00 30 42.3**	**+0.9**
IDAH	**Dahanechah**	**3.93**	**19**	*e*Pn	**Pn**	**00 30 41.8**	**-0.3**
IMEH	**Mehriz**	**4.01**	**307**	*e*Pn	**Pn**	**00 30 45.7**	**+2.5**
MDH	**Madha**	**4.13**	**207**	P	**Pn**	**00 30 45.6**	**+1.0**
MDH	**Madha**	**4.13**	**207**	P	**Pn**	**00 30 48.2**	**+3.6**
MDH				S	**Sn**	**00 31 37.2**	**+4.7**
MSFE	**Esma-Masafi**	**4.14**	**209**	P	**Pn**	**00 30 48.6**	**+3.8**
TPRV	**Parvadeh(Tabas**	**4.25**	**341**	*e*Pn	**Pn**	**00 30 47.4**	**+1.1**
AFRZ	**Afriz**	**4.43**	**7**	*e*Pn	**Pn**	**00 30 49.2**	**+0.3**
UOSS	**Minazif**	**4.49**	**206**	P	**Pn**	**00 30 51.9**	**+2.4**
UOSS	**Minazif**	**4.49**	**206**	P	Pn	00 30 54.2	+4.7
UOSS	**Minazif**	**4.49**	**206**		**Pn**	**00 30 48.5**	**-1.1**
HATD	**Hatta, Dubai**	**4.62**	**206**	P	**Pn**	**00 30 53.1**	**+1.7**
HATD	**Hatta, Dubai**	**4.62**	**206**	P	Pb	00 30 57.5	-5.6
YZKH	**Yazd**	**4.67**	**317**	*e*Pn	**Pn**	**00 30 51.6**	**-0.5**
YZKH	**Yazd**	**4.67**	**317**	*e*Pn	**Pn**	**00 30 51.6**	**-0.5**
NAZ	**Nazwa, Dubai**	**4.68**	**212**	*i* P	Pn	00 30 57.0	+4.8
	SNR=6.3						
TABS	**Tabas**	**4.74**	**347**	*e*Pn	**Pn**	**00 30 53.6**	**+0.6**
TABS				IAML		00 32 20.2	
	comp=N,147nm,0.6s						
TABS	**Tabas**	**4.74**	**347**	*e*Pn	**Pn**	**00 30 53.6**	**+0.6**
ASHO	**Ashiyiah**	**4.78**	**206**	*i* P	**Pn**	**00 30 57.6**	**+4.0**
	SNR=13						
ASHO	**Ashiyiah**	**4.78**	**206**	P	Pb	00 30 59.6	-6.2
	SNR=7.6						
SHRT	**Shahrakht**	**4.90**	**19**	*e*Pn	**Pn**	**00 30 56.1**	**+0.9**
SHRT	**Shahrakht**	**4.90**	**19**	*e*Pn	**Pn**	**00 30 56.2**	**+0.9**
ISAD	**Sadrabad**	**4.96**	**307**	*e*Pn	**Pn**	**00 30 59.7**	**+3.4**
SOHO	**SOHO**	**5.13**	**199**	*i* P	**Pn**	**00 30 59.5**	**+1.1**
	SNR=6.4						
SOHO	**SOHO**	**5.13**	**199**	P	**Pn**	**00 31 00.9**	**+2.6**
SOHO				S	**Sn**	**00 32 02.0**	**+4.9**
AJN	**Ajban**	**5.36**	**215**	P	Pn	00 31 07.5	+5.9
AJN				S	**Sb**	**00 32 10.9**	**-8.8**
BIDO	**Bidbid**	**5.48**	**182**	P	**Pn**	**00 31 05.4**	**+2.2**
BIDO				S	**Sn**	**00 32 08.8**	**+3.2**
HOQ	**Hoqain**	**5.49**	**190**	P	**Pn**	**00 31 05.6**	**+2.2**
HOQ				S	**Sn**	**00 32 08.9**	**+2.8**
WSAR	**Wadi Sarin**	**5.76**	**177**	Pn	**Pn**	**00 31 10.1**	**+3.0**
	comp=N,6.1nm,0.3s,baz=31,slow=15,SNR=57						
WSAR				Sn	**Sn**	**00 32 13.8**	**+1.2**
	comp=N,2.6nm,0.3s,baz=272,slow=20,SNR=6.8						
WSAR	**Wadi Sarin**	**5.76**	**177**	P	**Pn**	**00 31 10.7**	**+3.7**
	SNR=41						
WSAR				S	**Sn**	**00 32 15.9**	**+3.3**
ARQ	**Araqi**	**5.89**	**197**	P	Pn	00 31 13.5	+4.6
	SNR=14						
ARQ				S	**Sn**	**00 32 23.6**	**+7.7**
SMDO	**Samad**	**5.94**	**183**	P	**Pn**	**00 31 12.3**	**+2.6**
SMDO				S	**Sn**	**00 32 22.3**	**+5.2**
HRA	**Herat**	**6.29**	**31**		**Pn**	**00 31 13.6**	**-1.0**
BSY	**Bisya**	**6.33**	**190**	P	Pn	00 31 20.8	+5.8
BSY				S	**Sn**	**00 32 32.8**	**+6.0**
WBK	**Wadi Bani Khal**	**6.40**	**175**	P	**Pn**	**00 31 20.3**	**+4.4**
	SNR=36						
WBK				S	**Sn**	**00 32 29.3**	**+0.8**
JMDO	**Jabal Madar**	**6.62**	**182**	P	Pn	00 31 23.6	+4.7
JMDO				S	**Sn**	**00 32 37.6**	**+3.6**
IPAY	**Payeh**	**7.43**	**4**	*e*Pn	**Pn**	**00 31 31.7**	**+1.5**
IAKL	**Akhelmad**	**7.57**	**2**	*e*Pn	**Pn**	**00 31 33.2**	**+1.0**
ISFR	**Sfrayin**	**8.02**	**358**	*e*Pn	**Pn**	**00 31 40.5**	**+2.2**
GEYT	**Alibeck**	**8.89**	**359**	Pn	**Pn**	**00 31 51.3**	**+1.2**
	comp=N,0.5nm,0.3s,baz=188,slow=21,SNR=5.3						
GEYT				Sn	**Sn**	**00 33 23.5**	**-6.2**
	comp=N,0.1nm,0.3s,baz=26,slow=44,SNR=2.5						
GEYT				Lg	Lg	00 34 08.1	
	comp=N,0.1nm,0.3s,baz=196,slow=31,SNR=2.1						
GEYT	**Alibeck**	**8.89**	**359**		**Pn**	**00 31 49.3**	**-0.7**
GYA0B	**ALIBECK ARRAY**	**8.89**	**359**	Pn	**Pn**	**00 31 47.5**	**-2.6**
KKAR	**Karatay Array**	**17.12**	**32**	Pn	**Pn**	**00 33 39.0**	**-1.8**
KKAR	**Karatay Array**	**17.12**	**32**	Pn	Pn	**00 33 39.5**	**-1.2**
KKAR				IAmb	IAmb	00 34 01.1	
	comp=Z,11nm,2.0s						
ASF	**Jabal al Asfar**	**18.74**	**285**	P	**Pn**	**00 34 00.9**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=172,slow=7.4,SNR=1.7						
ABKAR	**Akbulak array**	**20.25**	**3**	P	**P**	**00 34 14.0**	**-2.6**
AKTO	**Aktyubinsk**	**21.39**	**359**	P	**P**	**00 34 29.6**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=176,slow=10,SNR=7.6						
BRTR	**Keskin Array B**	**22.96**	**304**	P	**P**	**00 34 45.9**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=134,slow=7.0,SNR=4.3						
BVAR	**Borovoye Array**	**25.57**	**17**	P	**P**	**00 35 11.7**	**+1.5**
	comp=Z,3.0nm,0.6s,baz=194,slow=8.0,SNR=22						
MK31	**Makanchi Array**	**25.75**	**40**	P	**P**	**00 35 11.5**	**-0.4**
MK31				IAmb	IAmb	00 35 14.2	
	comp=Z,2.2nm,1.4s						
MKAR	**Makanchi Array**	**25.75**	**40**	P	**P**	**00 35 12.9**	**+1.0**
	comp=Z,0.2nm,0.7s,baz=250,slow=28,SNR=4.2						
KURBB	**Kurchatov Arra**	**26.40**	**30**	P	**P**	**00 35 18.7**	**+1.0**
	comp=Z,0.8nm,0.9s,baz=227,slow=8.6,SNR=8.1						
KURK	**Kurchatov**	**26.51**	**30**	P	**P**	**00 35 18.7**	**0.0**
KURK	**Kurchatov**	**26.51**	**30**	IAmb	IAmb	00 36 03.3	
	comp=Z,3.5nm,1.4s						
AKASG	**Malin Array Be**	**30.80**	**323**	P	**P**	**00 35 57.5**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=128,slow=8.4,SNR=6.5						
AKASG	**Malin Array Be**	**30.80**	**323**	IAmb	IAmb	00 36 01.2	
	comp=Z,2.1nm,1.4s						
ZALV	**Zalesovo Beam**	**31.49**	**30**	P	**P**	**00 36 01.9**	**-1.0**
FINES	**FINESS Array B**	**38.83**	**336**	P	**P**	**00 37 06.4**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=134,slow=8.2,SNR=7.8						
GERES	**GERESS Array B**	**39.30**	**313**	P	**P**	**00 37 10.0**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=106,slow=9.8,SNR=4.4						
SONM	**Songino Array**	**41.31**	**49**	P	**P**	**00 37 28.0**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=242,slow=3.1,SNR=2.4						
ARCES	**ARCESS Array B**	**44.72**	**344**	P	**P**	**00 37 52.6**	**-1.6**
	comp=Z,1.7nm,0.8s,baz=115,slow=5.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**54.69**	**266**	P	**P**	**00 39 11.1**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=62,slow=7.1,SNR=24						
TORD	**Torodi Ar. Bea**	**54.69**	**266**	P	**P**	**00 39 11.3**	**+0.5**
KSRS	**Korea Array**	**57.62**	**62**	P	**P**	**00 39 31.5**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=274,slow=7.2,SNR=2.4						
YKA	**Yellowknife Ar**	**88.64**	**357**	P	**P**	**00 42 33.4**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=2.2,slow=4.3,SNR=2.2						

*NCEDC **18** 00:31:53.2±2.0, 36°.28N±0°.02×120°.37W±0°.03, h10km±6km, ML3.0/23, Error ellipse: s-maj=4.4km s-min=2.6km az=62.0*

NEIC 18 00:31:53.6±0.9, 36°.32N±0°.02×120°.38W±0°.02, h12km±6km, Error ellipse: s-maj=3.0km s-min=2.0km az=197.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARM	**Anticline Ridg**	**0.07**	**158**		Pg	00 31 56.0	-0.1
PWMM	**Westland Maint**	**0.18**	**49**		Pb	00 31 59.1	+0.3
PSMM	**Smith Mountain**	**0.30**	**216**		Pg	00 32 00.1	+0.3
PKEM	**Kettleman Hill**	**0.33**	**140**		Pg	00 32 00.6	+0.3
PMPB	**Monarch Peak**	**0.36**	**254**		Pg	00 32 01.2	+0.4
PHRM	**Hernandez Vall**	**0.36**	**279**		Pb	00 32 01.5	-0.5
PHPM	**Hope Ranch**	**0.38**	**209**		Pg	00 32 01.1	-0.1
CTM	**Castle Mountai**	**0.39**	**175**		Pg	00 32 01.2	-0.1
PKD	**Bear Valley Ra**	**0.39**	**200**		Pg	00 32 01.4	0.0
PSTM	**Stockdale Moun**	**0.40**	**195**		Pg	00 32 01.7	+0.1
PVCM	**Vineyard Canyo**	**0.41**	**198**		Pg	00 32 02.0	+0.1
PHFM	**Heflinger Ranc**	**0.43**	**183**		Pg	00 32 02.6	+0.5
PBWM	**Bitterwater Cr**	**0.45**	**270**		Pg	00 32 02.9	+0.5
PSRM	**Scobie Ranch**	**0.46**	**170**		Pg	00 32 02.9	+0.2
BMSM	**Mercy Hot Spri**	**0.48**	**316**		Pb	00 32 04.0	-0.1
GHC	**Gold Hill**	**0.48**	**178**		Pg	00 32 03.0	-0.1
PPO	**Portuguese Can**	**0.49**	**203**		Pg	00 32 03.6	+0.4
PSAM	**San Ardo**	**0.51**	**235**		Pg	00 32 03.4	-0.1
PCMM	**Cholame Hills**	**0.51**	**183**		Pg	00 32 03.7	+0.1
PWKM	**Work Ranch**	**0.51**	**192**		Pg	00 32 03.8	+0.2
LRV	**Little Rabbit**	**0.53**	**282**		Pb	00 32 04.7	-0.2
PSNM	**Stone Corral**	**0.53**	**173**		Pg	00 32 03.6	-0.3
PMRM	**Maxey Ranch**	**0.54**	**168**		Pg	00 32 04.0	-0.2
LRC	**Lone Oak Road**	**0.54**	**263**		Pg	00 32 04.2	0.0
PKLM	**Kerr Lake**	**0.54**	**177**		Pg	00 32 04.1	-0.1
PMCM	**McMillan Canyo**	**0.59**	**180**		Pg	00 32 04.9	-0.2
PAGB	**Antelope Grade**	**0.59**	**170**		Pg	00 32 04.6	-0.5
BBGB	**Big Mountain B**	**0.60**	**296**		Pb	00 32 06.1	0.0
BBNM	**San Benito**	**0.60**	**289**		Pb	00 32 06.0	0.0
THIS	**South End of C**	**0.60**	**168**		Pg	00 32 05.0	-0.4
BAVM	**Antelope Valle**	**0.62**	**302**		Pg	00 32 06.0	+0.3
TCHL	**Shandon**	**0.63**	**182**		Pg	00 32 05.7	-0.1
BRMM	**Rolling Bench**	**0.63**	**325**		Pb	00 32 07.1	+0.5
TRAM	**Private Proper**	**0.64**	**172**		Pg	00 32 05.6	-0.5
BPIM	**Pinnacles**	**0.66**	**285**		Pg	00 32 06.6	+0.1
PTRM	**Twissleman Ran**	**0.67**	**168**		Pg	00 32 06.0	-0.6
BEMM	**Emmet**	**0.68**	**301**		Pb	00 32 07.1	-0.2
PCCM	**Crazy Canyon**	**0.68**	**251**		Pg	00 32 06.9	+0.2
PANM	**San Antonio Re**	**0.69**	**219**		Pg	00 32 06.5	-0.4
BVL	**Bear Valley**	**0.70**	**292**		Pb	00 32 07.8	0.0
BSGM	**Shirttail Gulc**	**0.71**	**278**		Pg	00 32 07.6	+0.1
BEHM	**Elkhorn Ranch**	**0.73**	**299**		Pb	00 32 08.4	+0.1
TSCN	**Private Proper**	**0.77**	**178**		Pg	00 32 08.3	-0.2
PBPM	**Bitterwater Pu**	**0.77**	**162**		Pg	00 32 08.0	-0.6
RAMR	**Ramage Ranch**	**0.79**	**211**		Pg	00 32 08.6	-0.2
BLRM	**Lewis Ranch**	**0.80**	**296**		Pb	00 32 10.1	+0.6
BJOM	**Mount Johnson**	**0.82**	**293**		Pg	00 32 09.5	+0.1
BHRM	**Hodges Ranch**	**0.82**	**300**		Pb	00 32 10.0	+0.1
BJCM	**Johnson Can.**	**0.85**	**286**		Pg	00 32 09.8	-0.2
BSMM	**Soledad Missio**	**0.85**	**275**		Pg	00 32 10.0	-0.1
FRI	**Friant**	**0.86**	**38**		Pg	00 32 09.1	-1.1
BCGM	**Cienega Road**	**0.87**	**297**		Pb	00 32 10.7	0.0
SCZ	**Santa Cruz**	**0.87**	**289**		Pg	00 32 10.3	-0.2
MHDM	**Hidden Dam**	**0.89**	**26**		Pg	00 32 09.6	-1.2
BLDC	**Black Mountain**	**0.89**	**209**		Pg	00 32 10.2	-0.6
PHCM	**Hearst Castle**	**0.89**	**225**		Pg	00 32 10.7	-0.2
PAPM	**Alder Peak**	**0.89**	**244**		Pg	00 32 10.4	-0.5
HJSM	**John Smith Roa**	**0.90**	**304**		Pb	00 32 11.2	+0.1
BSLM	**Silva Ranch**	**0.91**	**301**		Pn	00 32 11.9	-0.3
RCTC	**Rector, Farmer**	**0.92**	**90**		Pg	00 32 09.8	-1.5
BVYM	**Vineyard**	**0.94**	**298**		Pg	00 32 11.6	-0.2
HAST	**Hastings Reser**	**0.95**	**275**		Pg	00 32 11.4	-0.5
PTAM	**Tassajara Cree**	**0.96**	**196**		Pg	00 32 11.4	-0.7
BCWM	**Chews Ridge**	**0.96**	**270**		Pg	00 32 11.7	-0.4
PCBM	**Cambria**	**0.97**	**215**		Pg	00 32 11.5	-0.8
SAO	**San Andreas Ge**	**0.97**	**298**		Pg	00 32 11.9	-0.4
SAO	**San Andreas Ge**	**0.97**	**298**	Pg	Pg	00 32 11.4	-0.9
SFJWR	**San Luis Fatjo**	**0.97**	**319**		Pg	00 32 12.2	-0.1
ARDC	**Alexander Ranc**	**0.98**	**210**		Pg	00 32 11.5	-1.0
BSRM	**Salinas Radio**	**0.98**	**291**		Pg	00 32 12.2	-0.4
FRP	**Fremont Peak**	**1.00**	**296**		Pg	00 32 12.3	-0.5
PACP	**Pacheco Peak**	**1.01**	**314**		Pg	00 32 13.0	0.0
SLD	**San Luis Dam**	**1.02**	**318**		Pb	00 32 12.8	-0.4
EFD	**Emergency Oper**	**1.03**	**196**		Pb	00 32 12.1	-1.3
BAPM	**Anderson Peak**	**1.03**	**263**		Pg	00 32 12.5	-1.0
HPCM	**Pacheco Lake**	**1.04**	**316**		Pb	00 32 12.8	-0.8
BPCNC	**Pine Canyon**	**1.04**	**285**		Pb	00 32 13.1	-0.5
MRHM	**Rocky Hill**	**1.04**	**91**		Pb	00 32 11.4	-2.2
HFEM	**San Felipe**	**1.06**	**309**		Pb	00 32 13.5	-0.4
MYLM	**Yosemite Lake**	**1.07**	**358**		Pb	00 32 12.9	-1.1
HJGM	**San Juan Grade**	**1.08**	**297**		Pb	00 32 13.7	-0.5
LSDC	**Los Osos Digit**	**1.08**	**201**		Pb	00 32 13.5	-0.8
CARC	**Carrizo Plain**	**1.09**	**157**		Pb	00 32 13.1	-1.5
BPOM	**Post Ranch**	**1.13**	**266**		Pb	00 32 13.9	-1.2
ANZ	**Anzar Road**	**1.13**	**300**		Pb	00 32 14.8	-0.3
DPD	**Davis Peak**	**1.13**	**197**		Pb	00 32 13.4	-1.7
HTUM	**Tustin Road**	**1.14**	**297**		Pb	00 32 14.4	-0.9
VPDC	**Valencia Peak**	**1.15**	**201**		Pb	00 32 14.2	-1.2
HELL	**Mitchell Peak,**	**1.15**	**71**		Pb	00 32 13.4	-2.1
VES	**Vestal, Richgr**	**1.15**	**114**		Pb	00 32 13.4	-2.1
BCH	**Branch Mountai**	**1.15**	**168**		Pb	00 32 13.8	-1.8
GHS	**Gilroy Hot Spr**	**1.16**	**312**		Pb	00 32 15.1	-0.6
CSR	**Chase Ranch**	**1.16**	**304**		Pb	00 32 14.7	-1.0
DCD	**Diablo Creek**	**1.17**	**199**		Pb	00 32 14.0	-1.7
HERM	**Elkhorn Road**	**1.18**	**295**		Pb	00 32 15.3	-0.6
CBC	**Chamberlain**	**1.20**	**301**		Pb	00 32 15.4	-0.8
MMIM	**Miami Mountain**	**1.21**	**25**		Pn	00 32 15.4	-1.2
HCOM	**Corn Cob Canyo**	**1.21**	**298**		Pn	00 32 15.3	-1.1
HSPM	**Sheep**	**1.21**	**311**		Pn	00 32 15.9	-0.6
HMOM	**Monterey**	**1.27**	**283**		Pn	00 32 16.4	-0.9
CMPM	**Mikes Peak**	**1.28**	**324**		Pn	00 32 16.9	-0.6
SPG2	**Springville 2**	**1.31**	**95**		Pn	00 32 15.8	-2.0
KCC	**Kaiser Creek**	**1.32**	**40**		Pn	00 32 16.9	-1.1
JELB	**Ellicott, Sant**	**1.32**	**298**		Pn	00 32 16.6	-1.2
JLAB	**Laurel Hill**	**1.38**	**308**		Pn	00 32 17.5	-1.2
ARN	**Arnold Ranch**	**1.39**	**318**		Pn	00 32 17.8	-1.1
CCOB	**Coe Ranch Numb**	**1.40**	**312**		Pn	00 32 18.7	-0.4
JHLM

369nm,0.5s
UUDB Ulan-Yde 1.46 177 *e*Pg **Pn 01 08 08.7 -0.7**
UUDB *e*Pb **Pb 01 08 09.4 -0.7**
UUDB *e* 01 08 12.5
UUDB *e*Sg **Sn 01 08 28.9 +0.2**
UUDB max
32nm,0.2s
UUDB Smax
228nm,0.5s
SYVR Suvo 1.52 76 ⇑*i*Pg **Pn 01 08 08.9 -1.3**
SYVR ⇑*i*Pb **Pb 01 08 09.6 -1.5**
SYVR *e*Sg **Sn 01 08 29.0 -1.2**
SYVR *e*Sb **Sb 01 08 30.5 0.0**
SYVR max
157nm,0.4s
SYVR Smax
190nm,0.3s
HRMR Khuramsha 1.73 192 *e*Pn **Pn 01 08 12.9 -0.2**
HRMR *e*Pg **Pb 01 08 14.6 -0.1**
HRMR *e* 01 08 18.7
HRMR *e* 01 08 34.4
HRMR *e*Sg **Sb 01 08 37.7 +1.1**
HRMR max
155nm,0.4s
HRMR Smax
681nm,0.1s
BGT Bolshoye Golou 1.81 226 *e*Pn **Pn 01 08 13.9 -0.3**
BGT *e* 01 08 23.9
BGT *e*Sg **Sb 01 08 40.3 +1.3**
BGT max
33nm,0.3s
BGT Smax
168nm,0.4s
LSTR Listvyanka 2.19 229 *e*Pn **Pn 01 08 19.6 +0.2**
LSTR *e*Pg **Pb 01 08 21.6 -0.9**
LSTR *e* 01 08 47.1
LSTR *e*Sg **Sb 01 08 50.5 +0.6**
LSTR Pmax
12nm,0.2s
LSTR Smax
99nm,0.5s
IRK Irkutsk 2.25 243 *e* **Sn 01 08 47.7 -0.5**
IRK *e*Sg **Sb 01 08 52.1 +0.6**
IRK Smax
429nm,0.3s
IVK Ivanovka 2.43 232 *e*Pn **Pn 01 08 22.4 -0.3**
IVK *e*Pg **Pb 01 08 25.4 -1.2**
IVK *e* 01 08 32.1
IVK *e*Sg **Sb 01 08 58.0 +1.2**
IVK Pmax
9.0nm,0.2s
IVK Smax
119nm,0.5s
YLYR Ulyunkhan 2.65 53 *e*Pn **Pn 01 08 25.1 -0.6**
YLYR *e*Pg **Pb 01 08 28.9 -1.5**
YLYR *e* 01 08 34.4
YLYR *e*Sg **Sb 01 09 03.5 +0.4**
YLYR *e* 01 09 06.0
YLYR max
32nm,0.7s
YLYR Smax
63nm,0.4s
NIZ Nizh Angarsk 2.73 25 *e*Pn **Pn 01 08 26.9 +0.1**
NIZ *e*PgPg **Pb 01 08 31.7 +0.1**
NIZ *e* 01 09 03.1
NIZ *e*Sg **Sb 01 09 06.5 +1.2**
NIZ max
12nm,0.4s
NIZ Smax
56nm,0.3s
TLY Talaya 2.88 237 Pn **Pn 01 08 30.2 +1.3**
0.0nm,0.3s,baz=92,slow=5.7,SNR=23
TLY Pg **Pb 01 08 35.7 +1.4**
0.1nm,0.3s,baz=66,slow=11,SNR=9.8
TLY Lg Lg 01 09 03.8
0.1nm,0.3s,baz=185,slow=20,SNR=10
TLY Talaya 2.88 237 *e*Pn **Pn 01 08 28.7 -0.2**
TLY *e*Pg **Pb 01 08 33.9 -0.4**
TLY *e*Sn **Sn 01 09 02.7 -1.1**
TLY *e*Sg **Sb 01 09 11.2 +1.4**
TLY Pmax
14nm,0.2s
TLY Smax
117nm,0.4s
KMO Kumora 3.34 38 *e*Pn **Pn 01 08 34.0 -1.3**
KMO *e*Pg **Pb 01 08 41.5 -0.7**
KMO *e* 01 09 20.5
KMO *e*Sg **Sb 01 09 25.7 +2.6**
KMO *e*SgSg **Sg 01 09 31.6 +1.6**
KMO Pmax
18nm,0.4s
KMO max
76nm,1.1s
ARS Arshan 3.41 248 *e*Pn **Pn 01 08 37.6 +1.4**
ARS *e*Pg **Pb 01 08 42.8 -0.5**
ARS *e*PgPg **PbPb 01 08 46.3 -0.1**
ARS *e*Sg **Sb 01 09 27.0 +2.1**
ARS *e* 01 09 32.4
ARS max
38nm,0.6s
ARS max
342nm,0.7s
YOA Uoyan 3.73 39 *e*Sg **Sb 01 09 38.2 +4.2**
YOA Smax
111nm,0.5s
CIT Chita 3.90 107 *e*Sg **Sb 01 09 42.5 +3.6**
CIT Smax
111nm,0.3s
ZAK Zakamensk 3.95 223 *e* **Pb 01 08 55.3 +2.8**
ZAK *e*Sg **Sg 01 09 46.8 -2.4**
ZAK *e* 01 09 48.5
ZAK max
8.0nm,0.3s
ZAK max
28nm,0.6s
UKT Uakit 4.18 56 *e*Pn **Pn 01 08 44.3 -2.5**
UKT *e*Pg **Pb 01 08 56.3 -0.1**
UKT *e* 01 09 26.1
UKT *e*Sg **Sb 01 09 49.8 +2.7**
UKT Pmax
10.0nm,0.6s
UKT Smax
34nm,1.2s
MOY Mondy 4.32 250 *e* **Pn 01 08 51.8 +3.1**
MOY *e*Pg **Pb 01 08 59.2 +0.4**
MOY *e* 01 09 40.4
MOY *e*Sg **Sb 01 09 55.8 +4.6**
MOY Pmax
11nm,0.9s
MOY Smax
67nm,0.8s
SVKR Severomuysk 4.48 49 *e*Sg **Sb 01 10 01.8 +6.0**
SVKR *e* 01 10 08.1
SVKR Smax
96nm,0.5s
KPC Khapcheranga 4.72 138 *e*Pn **Pn 01 08 52.0 -2.3**
KPC *e* 01 09 04.2
KPC *e* 01 09 42.0
KPC *e*Sg **Sb 01 10 07.1 +4.3**
KPC max
4.0nm,0.3s
KPC Smax
25nm,1.0s
ORL Orlik 4.73 264 *e* **Pb 01 09 04.2 -1.6**
ORL *e* 01 09 47.6
ORL *e*Sg **Sb 01 10 09.9 +6.9**
ORL max
11nm,0.5s
ORL Smax
38nm,0.9s
ULN Ulaanbaatar 5.47 183 *e* **Sb 01 10 27.4 +3.1**
ULN *e*Sg **Sg 01 10 32.1 -6.1**
ULN *e* 01 10 38.8
SONM Songino Array 5.54 188 Pn **Pn 01 09 08.1 +2.6**
0.3nm,0.3s,baz=0.6,slow=16,SNR=1.5
SONM Pg **Pb 01 09 23.5 +3.8**
0.3nm,0.3s,baz=4.0,slow=16,SNR=3.5
SONM Lg Lg 01 10 36.9
1.5nm,0.3s,baz=7.3,slow=30,SNR=11
NLYR Nelyaty 5.69 53 *e* **Pb 01 09 21.8 -0.3**
NLYR *e* 01 09 30.6
NLYR *e*Sg **Sb 01 10 36.3 +5.9**
NLYR max
2.0nm,0.7s
NLYR Smax
18nm,1.5s
BOD Bodaibo 5.82 37 *e* **Sb 01 10 36.8 +2.8**
BOD *e*Sg **Sg 01 10 41.8 -7.4**
BOD *e* 01 11 32.6
TDJR Todzha 6.98 267 *e* Pb 01 09 50.8 +6.7
TDJR *e*Sg **Sg 01 11 19.5 -6.9**
TDJR *e* 01 11 22.5
CRS Chara 7.13 56 *e* Sn 01 11 08.2 +20
CRS *e*Sg Sg 01 11 23.2 -8.1
CRS Smax
17nm,1.0s
TUP Tupik 7.44 76 *e*Pn **Pn 01 09 29.8 -1.6**
TUP *e*Pg **Pb 01 09 54.0 +2.2**
TUP *e* 01 10 42.8
TUP *e* 01 11 18.3
TUP *e*Sg Sb 01 11 30.6 +10
TUP Pmax
1.0nm,0.3s
TUP Smax
21nm,2.0s
YKLR Yuktali 8.77 62 *e*Sg Sg 01 12 13.1 -11
MKAR Makanchi Array 17.41 258 Pn **P**
0.1nm,0.3s,baz=72,slow=14,SNR=3.0
YKA Yellowknife Ar 59.87 21 P P 01 18 01.8 +13
0.9nm,0.9s,baz=319,slow=6.0,SNR=3.5

*NEIC **18** 01:09:52.7±1.0,20.8°S±0.1°×179.2°W±0.1°,h640km±7km, mb4.1/31,Error ellipse: s-maj=20.7km s-min=15.6km az=164.0*
*IDC **18** 01:09:53.1±2.4,20.77°S×179.22°W,h643km±27km,mb3.5/9, mb1 3.7/9,mb1mx3.2/38,mbtmp4.5/9,Error ellipse: s-maj=46.8km s-min=13.0km az=156.0*
ISC 18 01:09:51.2±0.6,**20.9°S**±0.1°×**179.1°W**±0.1°,**h619**km,**n51,** σ1°**03**/53,**mb4.1**/23,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.11**	**319**	P	**P**	**01 11 21.3**	**+2.3**
AFI	**Afiamalu**	**9.85**	**47**	P	**P**	**01 12 10.6**	**+1.4**
DZM	**Mont Dzumac**	**13.49**	**262**	P	**P**	**01 12 46.1**	**+1.4**
OUZ	**Omahuta**	**15.66**	**203**	P	**P**	**01 13 06.6**	**+2.1**
OUZ				IAmb	IAmb	01 13 15.4	
	comp=Z,8.5nm,1.0s						
EIDS	**Eidsvold**	**27.73**	**255**	P	**P**	**01 14 52.6**	**+0.1**
EIDS				IAmb	IAmb	01 15 00.4	
	comp=Z,6.6nm,1.1s						
CTAO	**Charters Tower**	**32.41**	**265**	P	**P**	**01 15 33.3**	**+0.7**
TOO	**Toolangi**	**34.83**	**234**	P	**P**	**01 15 52.5**	**0.0**
TOO				IAmb	IAmb	01 15 53.5	
	comp=Z,4.9nm,0.8s						
COEN	**Coen**	**36.56**	**275**	P	**P**	**01 16 07.9**	**+0.9**
STKA	**Stephens Creek**	**36.68**	**244**	P	**P**	**01 16 08.2**	**+0.4**
	comp=Z,2.3nm,0.5s,baz=95,slow=11,SNR=8.4						
STKA	**Stephens Creek**	**36.68**	**244**	P	**P**	**01 16 08.2**	**+0.4**
BBOO	**Buckleboo**	**41.44**	**244**	P	**P**	**01 16 45.9**	**0.0**
BBOO				IAmb	IAmb	01 16 48.9	
	comp=Z,7.4nm,1.0s						
JAY	**Jayapura**	**43.17**	**290**	P	**P**	**01 17 00.1**	**+0.4**
	comp=Z,18nm,0.5s,baz=162,slow=5.8,SNR=12						
AS31	**Alice Springs**	**43.41**	**257**	P	**P**	**01 17 01.4**	**0.0**
AS31				IAmb	IAmb	01 17 02.8	
	comp=Z,5.4nm,1.1s						
ASAR	**Alice Springs**	**43.41**	**257**	P	**P**	**01 17 01.6**	**+0.2**
	comp=Z,11nm,0.6s,baz=93,slow=8.1,SNR=67						
ASAR				ScP	**ScP**	**01 21 28.9**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=94,slow=4.6,SNR=5.4						
ASAR				S	**S**	**01 22 44.1**	**-2.3**
	comp=Z,0.8nm,0.9s,baz=37,slow=24,SNR=4.8						
ASAR	**Alice Springs**	**43.41**	**257**	P	**P**	**01 17 01.4**	**0.0**
WB0	**Warramunga Arr**	**43.49**	**263**	P	**P**	**01 17 01.9**	**-0.1**
WB2	**Warramunga Arr**	**43.50**	**263**	P	**P**	**01 17 01.8**	**-0.3**
WB2				IAmb	IAmb	01 17 02.6	
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**43.51**	**263**	P	**P**	**01 17 02.0**	**-0.1**
	comp=Z,5.8nm,0.3s,baz=97,slow=7.7,SNR=118						
WRA	**Warramunga Arr**	**43.51**	**263**	P	**P**	**01 17 01.5**	**-0.7**
MTN	**Manton Dam**	**48.12**	**271**	P	**P**	**01 17 36.9**	**-0.1**
KNRA	**Kununurra**	**49.59**	**267**	P	**P**	**01 17 47.8**	**0.0**
KNRA				IAmb	IAmb	01 17 48.5	
	comp=Z,13nm,0.7s						
FITZ	**Fitzroy Crossi**	**51.94**	**263**	P	**P**	**01 18 05.0**	**+0.2**
PSA00	**Pilbara Seismi**	**56.56**	**257**	P	**P**	**01 18 36.3**	**-0.8**
NWAO	**Narrogin (SRO)**	**57.26**	**244**	P	**P**	**01 18 42.2**	**+0.6**
NWAO				IAmb	IAmb	01 19 00.3	
	comp=Z,14nm,1.0s						
MORW	**Morawa**	**58.71**	**248**	P	**P**	**01 18 51.1**	**-0.4**
QSPA	**South Pole Qui**	**69.20**	**180**	P	**P**	**01 19 56.8**	**-0.4**
XMIS	**Christmas Isla**	**72.63**	**265**	P	**P**	**01 20 15.7**	**-2.3**
YBH	**Yreka Blue Hor**	**81.24**	**39**	P	**P**	**01 21 04.6**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=222,slow=2.7,SNR=6.6						
YBH	**Yreka Blue Hor**	**81.24**	**39**	P	**P**	**01 21 05.0**	**+0.9**
YBH				IAmb	IAmb	01 21 05.3	
	comp=Z,4.0nm,0.8s						
WAKR	**Walker**	**81.33**	**43**	P	**P**	**01 21 05.0**	**+0.1**
WAKR				IAmb	IAmb	01 21 06.2	
	comp=Z,4.9nm,1.1s						
YERR	**Yerington**	**81.73**	**43**	P	**P**	**01 21 06.7**	**-0.2**
NVAR	**Mina Array Bea**	**82.02**	**44**	P	**P**	**01 21 08.2**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=220,slow=9.2,SNR=5.7						
TPNV	**Topopah Spring**	**82.55**	**46**	P	**P**	**01 21 11.0**	**0.0**
MID	**Middleton Isla**	**84.41**	**16**	P	**P**	**01 21 16.6**	**-2.7**
VRDI	**Verde Repeater**	**86.70**	**16**	P	**P**	**01 21 29.5**	**-1.0**
GLB	**Gilahina Butte**	**86.79**	**16**	P	**P**	**01 21 29.8**	**-1.0**
GLB				IAmb	IAmb	01 21 32.4	
	comp=Z,3.9nm,1.0s						
F10A	**Beach Ranch, E**	**86.94**	**38**	P	**P**	**01 21 31.2**	**-0.7**
F10A				IAmb	IAmb	01 21 32.5	
	comp=Z,4.2nm,0.8s						
TRF	**Thorofare Moun**	**87.03**	**13**	P	**P**	**01 21 31.0**	**-1.1**
TRF				IAmb	IAmb	01 21 32.1	
	comp=Z,3.8nm,0.7s						
RND	**Reindeer**	**87.29**	**13**	P	**P**	**01 21 31.9**	**-1.2**
RND				IAmb	IAmb	01 21 33.2	
	comp=Z,5.5nm,0.9s						
TX31	**Lajitas Ar. Si**	**88.14**	**58**	P	**P**	**01 21 38.1**	**+0.1**
TX31				IAmb	IAmb	01 21 39.3	
	comp=Z,4.8nm,0.8s						
TXAR	**Lajitas Array**	**88.14**	**58**	P	**P**	**01 21 38.5**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=222,slow=5.9,SNR=17						
TXAR	**Lajitas Array**	**88.14**	**58**	P	**P**	**01 21 38.3**	**+0.3**
CCB	**Clear Creek Bu**	**88.61**	**13**	P	**P**	**01 21 37.8**	**-1.3**
CCB				IAmb	IAmb	01 21 38.3	
	comp=Z,2.1nm,0.8s						
IMAR	**Indian Mountai**	**88.70**	**10**		**P**	**01 21 39.1**	**-0.5**
ILAR	**Eielson Array**	**88.91**	**13**	P	**P**	**01 21 39.0**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=215,slow=5.2,SNR=8.1						
PDAR	**Pinedale Array**	**89.95**	**44**	P	**P**	**01 21 45.7**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=197,slow=3.1,SNR=7.5						
EGAK	**Eagle**	**120.24**	**15**	P	**P**	**01 21 46.1**	**-0.6**
ARCES	**ARCESS Array B**	**129.09**	**349**	PKP	**PKPdf**	**01 27 48.0**	**-1.5**
	comp=Z,2.0nm,0.9s,baz=318,slow=4.9,SNR=4.1						
ARCES	**ARCESS Array B**	**129.09**	**349**		**PKPdf**	**01 27 49.0**	**-0.5**
GERES	**GERESS Array B**	**150.26**	**343**	PKPbc	**PKPbc**	**01 28 32.0**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=349,slow=3.4,SNR=3.9						
GERES	**GERESS Array B**	**150.26**	**343**		**PKPbc**	**01 28 32.8**	**-0.9**

*NIED **18** 01:26:00,37.00N×141.20E,h8km,Mw3.5 Best double couple: M0 1.81000×10^14 NP1:φ227.00000°,δ54.00000°, λ-90.00000°. NP2:φ47.00000°,δ36.00000°,λ-90.00000°.*
*JMA **18** 01:26:31.7,37.04N×141.19E,h21km±1km,M3.6*
JMA Felt I J1.
*IDC **18** 01:26:31.5±2.7,36.61N×141.25E,h0km,mb3.6/2, mb1 3.7/3,mb1mx3.4/28,mbtmp3.5/3,ML2.5/1,Error ellipse: s-maj=55.5km s-min=31.5km az=38.0*
ISC 18 01:26:30.6±1.9,**37.01N**±0.04×**141.25E**±0.08,**h9**km±10km, **n19,**σ1°**31**/24,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAJ	**Iwakimizuishiy**	**0.37**	**284**	P	**Pg**	**01 26 38.5**	**+0.6**
ONAJ				S	**Sg**	**01 26 43.3**	**+0.5**
JFK	**Kawauchi**	**0.46**	**320**	P	**Pg**	**01 26 40.0**	**+0.3**
JFK				S	**Sg**	**01 26 45.8**	**0.0**
JFFD	**Fukushimafurud**	**0.55**	**278**	P	**Pg**	**01 26 41.6**	**+0.2**
JFFD				S	**Sg**	**01 26 48.4**	**-0.3**
JHO	**Hitachi**	**0.68**	**234**	P	**Pb**	**01 26 43.9**	**-0.7**
JHO				S	**Sb**	**01 26 53.4**	**-0.7**
JFT	**Otama**	**0.89**	**305**	P	**Pb**	**01 26 47.7**	**-0.5**
JFT				*e*S	**Sb**	**01 26 59.0**	**-1.2**
JMM	**Marumori**	**0.93**	**337**	P	**Pb**	**01 26 47.7**	**-1.2**
JMM				S	**Sb**	**01 26 59.5**	**-1.9**
JSB	**Shiboa**	**1.06**	**268**	P	**Pb**	**01 26 51.4**	**+0.1**
JSB				S	**Sb**	**01 27 04.9**	**-0.4**
JYT	**Yasato**	**1.15**	**228**	P	**Pn**	**01 26 51.5**	**-1.5**
JYT				S	**Sb**	**01 27 06.0**	**-1.8**
JFY	**Yanaizu**	**1.29**	**288**	P	**Pn**	**01 26 54.5**	**-0.5**
JFY				S	**Sn**	**01 27 10.7**	**-1.7**
MJAR	**Matsushiro Arr**	**2.48**	**260**	Pn	**Pn**	**01 27 11.9**	**+0.6**
	1.0nm,0.3s,baz=87,slow=15,SNR=17						
MJAR				Sn	**Sb**	**01 27 45.0**	**-1.2**
	1.2nm,0.3s,baz=323,slow=31,SNR=3.5						
MAT	**Matsushiro**	**2.48**	**260**	P	**Pn**	**01 27 11.9**	**+0.5**
MAT				S	**Sn**	**01 27 41.9**	**+0.1**
H11N2	**WAKE ISLAND Hy**	**28.25**	**121**	T	T	02 02 07.6	
	baz=313,slow=75,SNR=56						
H11N1	**WAKE ISLAND Hy**	**28.26**	**121**	T	T	02 02 04.4	
	baz=313,slow=75,SNR=67						
H11N3	**WAKE ISLAND Hy**	**28.27**	**121**	T	T	02 02 05.1	
	baz=313,slow=75,SNR=48						
H11S1	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	02 03 11.0	
	baz=314,slow=75,SNR=40						
H11S3	**WAKE ISLAND Hy**	**28.96**	**123**	T	T	02 03 05.6	
	baz=314,slow=75,SNR=26						
H11S2	**WAKE ISLAND Hy**	**28.98**	**123**	T	T	02 03 08.2	
	baz=314,slow=75,SNR=18						
MKAR	**Makanchi Array**	**44.02**	**302**	P	**P**	**01 34 42.3**	**+3.8**
	0.3nm,0.7s,baz=96,slow=8.8,SNR=2.6						
WRA	**Warramunga Arr**	**57.02**	**188**	P	**P**	**01 36 16.2**	**-0.7**
	0.7nm,0.5s,baz=3.5,slow=7.4,SNR=5.8						

*IDC **18** 01:52:02.2±1.5,15.56S×178.62W,h0km,mb4.1/7, mb1 4.4/7,mb1mx4.0/43,mbtmp4.1/7,Error ellipse: s-maj=107.3km s-min=20.1km az=149.0*
*NEIC **18** 01:52:52.3±0.8,16.7°S±0.2°×178.7°W±0.1°,h504km±8km, mb4.1/17,Error ellipse: s-maj=27.0km s-min=13.9km az=143.0*
ISC 18 01:52:52.4±0.6,**16.7S**±0.1°×**178.7W**±0.1°,**h500**km,**n32,** σ0°**71**/32,**mb4.0**/15,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.30**	**252**		**P**	**01 54 06.9**	**+1.4**
AFI	**Afiamalu**	**7.20**	**68**	P	**P**	**01 54 39.8**	**-0.9**
NIUE	**Niue**	**8.64**	**107**	P	**P**	**01 54 55.0**	**-0.4**
BKZ	**Black Stump Fm**	**22.76**	**190**	P	**P**	**01 57 15.6**	**-0.2**
BKZ				IAmb	IAmb	01 57 34.0	
	comp=Z,4.8nm,0.9s						
RPZ	**Rata Peaks**	**28.29**	**196**	P	**P**	**01 58 04.2**	**-0.5**
ARMA	**Armidale**	**30.35**	**238**	P	**P**	**01 58 22.7**	**-0.2**
ARMA				IAmb	IAmb	01 58 32.3	
	comp=Z,6.8nm,0.9s						
CTAO	**Charters Tower**	**33.42**	**259**	P	**P**	**01 58 49.2**	**0.0**
COEN	**Coen**	**36.87**	**269**	P	**P**	**01 59 18.0**	**-0.1**
TOO	**Toolangi**	**37.74**	**229**	P	**P**	**01 59 25.6**	**+0.6**
STKA	**Stephens Creek**	**39.00**	**240**	P	**P**	**01 59 35.7**	**+0.5**
	comp=Z,2.1nm,0.5s,baz=101,slow=9.5,SNR=5.9						
STKA	**Stephens Creek**	**39.00**	**240**	P	**P**	**01 59 35.8**	**+0.5**
BBOO	**Buckleboo**	**43.78**	**240**	P	**P**	**02 00 13.1**	**-0.2**
BBOO				IAmb	IAmb	02 00 18.5	
	comp=Z,9.2nm,1.1s						
WB0	**Warramunga Arr**	**44.58**	**259**	P	**P**	**02 00 18.9**	**-0.7**
WB0				IAmb	IAmb	02 00 32.8	
	comp=Z,6.4nm,1.1s						
WB2	**Warramunga Arr**	**44.61**	**258**	P	**P**	**02 00 18.9**	**-1.0**
WB2				IAmb	IAmb	02 00 20.2	
	comp=Z,4.1nm,0.8s						
WRA	**Warramunga Arr**	**44.62**	**258**	P	**P**	**02 00 19.1**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=95,slow=7.6,SNR=16						
WRA	**Warramunga Arr**	**44.62**	**258**	P	**P**	**02 00 18.7**	**-1.2**
AS31	**Alice Springs**	**44.89**	**253**	P	**P**	**02 00 21.6**	**-0.4**
AS31				IAmb	IAmb	02 00 22.4	
	comp=Z,3.1nm,0.6s						
ASAR	**Alice Springs**	**44.89**	**253**	P	**P**	**02 00 21.8**	**-0.2**
	comp=Z,7.1nm,0.5s,baz=86,slow=8.4,SNR=81						
ASAR	**Alice Springs**	**44.89**	**253**	P	**P**	**02 00 21.7**	**-0.4**
MTN	**Manton Dam**	**48.60**	**267**	P	**P**	**02 00 50.0**	**-0.2**
MTN				IAmb	IAmb	02 00 51.5	
	comp=Z,8.5nm,1.1s						
FORT	**Forrest**	**50.31**	**244**	P	**P**	**02 01 01.6**	**-1.0**
NVAR	**Mina Array Bea**	**78.74**	**44**	P	**P**	**02 04 03.5**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=228,slow=9.1,SNR=4.4						
NVAR	**Mina Array Bea**	**78.74**	**44**	P	**P**	**02 04 02.9**	**0.0**
GHO	**Glory Hole Cre**	**81.71**	**14**	P	**P**	**02 04 17.3**	**-0.5**
GHO				IAmb	IAmb	02 04 18.6	
	comp=Z,5.5nm,1.1s						
SCM	**Sheep Creek Mo**	**82.14**	**14**	P	**P**	**02 04 19.4**	**-0.5**
DOT	**Dot Lake**	**84.48**	**15**	P	**P**	**02 04 31.2**	**-0.4**
IMAR	**Indian Mountai**	**84.56**	**10**	P	**P**	**02 04 31.7**	**-0.2**
ILAR	**Eielson Array**	**84.79**	**13**	P	**P**	**02 04 32.1**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=227,slow=5.5,SNR=5.0						
ILAR	**Eielson Array**	**84.79**	**13**	P	**P**	**02 04 32.4**	**-0.6**
TXAR	**Lajitas Array**	**85.57**	**58**	P	**P**	**02 04 39.5**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=213,slow=7.8,SNR=5.5						
PDAR	**Pinedale Array**	**86.66**	**44**	P	**P**	**02 04 43.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=224,slow=3.8,SNR=5.2						
PDAR	**Pinedale Array**	**86.66**	**44**	P	**P**	**02 04 43.0**	**+0.2**

*IDC **18** 01:54:53.0±0.6,19.57N×120.59E,h0km,mb4.1/21, mb1 4.3/23,mb1mx4.2/48,mbtmp4.1/23,ML3.7/2,MS3.3/14, Ms1 3.3/14,ms1mx3.1/43,Error ellipse: s-maj=20.5km s-min=13.9km az=74.0*
*MAN **18** 01:54:56.0,19.65N×120.65E,h26km,MS4.1*
*NEIC **18** 01:54:58.1±1.9,19.72N±0.08×120.56E±0.09,h33km±5km, mb4.5/36,Error ellipse: s-maj=12.7km s-min=10.2km az=121.0*
ISC 18 01:54:56.4±0.4,**19.66N**±0.03×**120.59E**±0.06,**h23**km,**n101,** σ1°**10**/103,**mb4.3**/35,**MS3.3**/12,**1C-1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBP	**Basco**	**1.51**	**59**	*e*P	**Pn**	**01 55 20.9**	**-1.1**
BBP				*e*S	Sn	01 55 29.5	-11
SIPP	**Brgy, Tapao**	**1.73**	**184**⇑	*e*P	**Pn**	**01 55 24.7**	**-0.3**
SIPP				*e*S	Sb	01 55 58.0	+9.3
APYP	**Conner**	**1.89**	**161**	*e*P	**Pn**	**01 55 27.5**	**+0.3**
APYP				*e*S	**Sn**	**01 55 50.4**	**+0.1**
SGCP	**Mt. Cagua**	**1.97**	**135**	*e*P	**Pn**	**01 55 27.3**	**-1.0**
SGCP				*e*S	**Sn**	**01 55 51.3**	**-1.0**
ABRA	**Dolores**	**2.00**	**177**	*e*P	**Pn**	**01 55 27.4**	**-1.3**
ABRA				*e*S	**Sb**	**01 55 54.4**	**-2.1**
CAUP	**Cauayan**	**2.94**	**156**	*e*P	**Pn**	**01 55 44.1**	**+2.4**
CAUP				*e*S	**Sb**	**01 56 23.8**	**+0.2**
TWG	**Pinlang**	**3.18**	**8**		**Pn**	**01 55 44.6**	**-0.4**
TWG				Sn	**Sn**	**01 56 19.1**	**-3.1**
BOLP	**Bolinao**	**3.32**	**191**	*e*P	**Pn**	**01 55 47.8**	**+0.8**
BOLP				*e*S	**Sn**	**01 56 22.9**	**-2.8**
SMPP	**San Manuel, Pa**	**3.49**	**179**	*e*P	**Pn**	**01 55 49.5**	**+0.2**
SMPP				*e*S	**Sn**	**01 56 28.0**	**-1.8**
TPUB	**Ta-pu**	**3.63**	**1**		**Pn**	**01 55 49.7**	**-1.5**
YULB	**Yu-li**	**3.78**	**10**		**Pn**	**01 55 51.3**	**-1.9**
BALP	**Baler**	**4.00**	**166**	*e*P	**Pn**	**01 55 56.6**	**+0.3**
BALP				*e*S	**Sn**	**01 56 40.1**	**-2.5**
SSLB	**Suanglung**	**4.13**	**5**		**Pn**	**01 55 57.2**	**-0.9**
NACB	**Ninganchiao**	**4.59**	**11**		**Pn**	**01 56 04.2**	**-0.2**
NACB					**Sn**	**01 56 56.1**	**-0.9**
YHNB	**Yeheng**	**5.04**	**8**		**Pn**	**01 56 11.3**	**+0.6**
KNMB	**Chin-men Tao**	**5.20**	**337**	Pn	**Pn**	**01 56 10.9**	**-2.0**
YOJ	**Yonaguni jima**	**5.28**	**25**	Pn	**Pn**	**01 56 13.7**	**-0.2**
TGY	**Tagaytay City**	**5.53**	**177**	Pn	Pb	01 56 26.5	-5.9
	65nm,0.3s,baz=264,slow=2.6,SNR=4.2						
TGY				LR	LR	01 58 49.6	
	comp=Z,325nm,20.5s,baz=12,slow=43						
LQP	**Lukban**	**5.59**	**171**⇓	*e*P	**Pb**	**01 56 30.7**	**-2.6**
HKPS	**Hong Kong Po S**	**6.57**	**295**	Pn	**Pn**	**01 56 30.2**	**-1.4**
QIZ	**Qiongzhong**	**10.17**	**268**		**Pn**	**01 57 19.8**	**-1.2**
JNU	**Nakatsue**	**16.26**	**32**	Pn	**Pn**	**01 58 43.4**	**0.0**
	0.1nm,0.3s,baz=40,slow=8.1,SNR=2.3						
JNU	**Nakatsue**	**16.26**	**32**		**Pn**	**01 58 43.1**	**-0.3**
JNU				IAmb	IAmb	01 58 52.5	
	comp=Z,91nm,1.5s						
XAN	**Xi'an**	**17.69**	**326**	Pn	**Pn**	**01 58 59.9**	**-1.4**
KSAR	**Wonju Array Be**	**18.83**	**18**	P	**Pn**	**01 59 14.4**	**-0.8**
KSRS	**Korea Array**	**18.85**	**18**	P	**Pn**	**01 59 14.8**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=195,slow=11,SNR=10						
KSRS				LR	LR	02 08 01.9	
	comp=Z,57nm,18.1s,baz=198,slow=42						
CHTO	**Chiang Mai**	**20.46**	**271**	P	Pn	01 59 33.9	-0.9
CMAR	**Chiang Mai Arr**	**20.50**	**270**	P	Pn	01 59 33.7	-1.5
	comp=Z,2.7nm,0.3s,baz=79,slow=9.0,SNR=9.9						

CMAR	**Chiang Mai Arr**	**20.50**	**270**	P	**P**	**01 59 32.9**	**-0.1**
BJT	**Baijiatuan**	**20.65**	**350**	P	Pn	01 59 35.0	-1.8
BJT				IAmb	IAmb	01 59 39.9	
	comp=Z,12nm,0.6s						
MJB9	**Matsu-Tunnel**	**22.84**	**39**	P	**P**	**01 59 57.1**	**-0.8**
MJAR	**Matsushiro Arr**	**22.84**	**39**	P	**P**	**02 00 00.1**	**+2.2**
	comp=Z,0.9nm,0.4s,baz=212,slow=3.2,SNR=2.5						
MJAR				LR	LR	02 08 04.4	
	comp=Z,27nm,21.0s,baz=215,slow=34						
MJAR	**Matsushiro Arr**	**22.84**	**39**	P	**P**	**01 59 57.9**	**-0.1**
KAPI	**Kappang**	**24.53**	**182**	LR	LR	02 11 05.9	
	comp=Z,79nm,18.0s,baz=6.5,slow=40						
USRK	**Ussuriysk Ar.**	**26.26**	**19**	P	**P**	**02 00 31.9**	**+2.1**
	comp=Z,1.7nm,0.7s,baz=224,slow=14,SNR=4.9						
USRK				LR	LR	02 10 55.2	
	comp=Z,52nm,21.3s,baz=149,slow=36						
USRK	**Ussuriysk Ar.**	**26.26**	**19**	P	**P**	**02 00 28.5**	**-1.3**
ULN	**Ulaanbaatar**	**30.21**	**342**	P	**P**	**02 01 05.3**	**0.0**
SONM	**Songino Array**	**30.39**	**341**	P	**P**	**02 01 07.7**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=155,slow=9.0,SNR=6.0						
SONM				LR	LR	02 14 09.0	
	comp=Z,74nm,20.8s,baz=182,slow=38						
SONM	**Songino Array**	**30.39**	**341**	P	**P**	**02 01 06.9**	**+0.1**
ASAJ	**Asahikawa**	**30.54**	**32**	LR	LR	02 14 47.2	
	comp=Z,40nm,18.9s,baz=22,slow=39						
KLR	**Kul'dur**	**30.84**	**14**	P	**P**	**02 01 12.2**	**+1.6**
	comp=Z,1.5nm,0.6s,baz=218,slow=8.4,SNR=10						
KLR				LR	LR	02 13 54.8	
	comp=Z,76nm,19.7s,baz=185,slow=37						
COEN	**Coen**	**40.12**	**145**	P	**P**	**02 02 29.8**	**-0.8**
COEN				IAmb	IAmb	02 02 38.6	
	comp=Z,17nm,1.2s						
MK31	**Makanchi Array**	**41.32**	**320**	P	**P**	**02 02 41.4**	**+1.2**
MK31				IAmb	IAmb	02 02 42.7	
	comp=Z,5.2nm,0.7s						
MKAR	**Makanchi Array**	**41.32**	**320**	P	**P**	**02 02 41.9**	**+1.6**
	comp=Z,4.6nm,0.5s,baz=118,slow=8.9,SNR=63						
MKAR				PcP	**PcP**	**02 04 38.9**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=111,slow=3.1,SNR=3.6						
MKAR				LR	LR	02 21 28.0	
	comp=Z,40nm,18.7s,baz=143,slow=38						
MKAR	**Makanchi Array**	**41.32**	**320**	P	**P**	**02 02 41.4**	**+1.1**
WB0	**Warramunga Arr**	**41.45**	**160**	P	**P**	**02 02 39.9**	**-1.6**
WB0				IAmb	IAmb	02 02 42.8	
	comp=Z,4.5nm,0.7s						
MAKZ	**Makanchi**	**41.51**	**320**	P	**P**	**02 02 43.0**	**+1.1**
MAKZ				IAmb	IAmb	02 02 44.4	
	comp=Z,5.3nm,0.7s						
WRA	**Warramunga Arr**	**41.59**	**160**	P	**P**	**02 02 41.6**	**-1.2**
	comp=Z,3.7nm,0.6s,baz=342,slow=9.1,SNR=16						
WRA				PcP	**PcP**	**02 04 40.3**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=346,slow=3.6,SNR=1.7						
WRA	**Warramunga Arr**	**41.59**	**160**	P	**P**	**02 02 41.5**	**-1.2**
WB2	**Warramunga Arr**	**41.60**	**160**	P	**P**	**02 02 41.5**	**-1.3**
WB2				IAmb	IAmb	02 02 43.9	
	comp=Z,6.8nm,0.8s						
ZALV	**Zalesovo Beam**	**43.81**	**330**	P	**P**	**02 03 01.1**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=120,slow=8.7,SNR=4.0						
ZALV	**Zalesovo Beam**	**43.81**	**330**	P	**P**	**02 02 59.9**	**-0.4**
PEA0B	**Petropavlovsk-**	**43.95**	**32**	P	**P**	**02 03 00.5**	**-1.1**
PEA0B				IAmb	IAmb	02 03 14.6	
	comp=Z,23nm,1.4s						
PETK	**Petropavlovsk-**	**43.95**	**32**	LR	LR	02 22 09.7	
	comp=Z,29nm,19.6s,baz=222,slow=37						
PETK	**Petropavlovsk-**	**43.95**	**32**	P	**P**	**02 03 01.0**	**-0.6**
AS31	**Alice Springs**	**44.97**	**163**	P	**P**	**02 03 10.2**	**+0.1**
AS31				IAmb	IAmb	02 03 21.2	
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**44.97**	**163**	P	**P**	**02 03 09.6**	**-0.5**
	comp=Z,2.6nm,0.4s,baz=345,slow=6.9,SNR=23						
ASAR	**Alice Springs**	**44.97**	**163**	P	**P**	**02 03 09.9**	**-0.2**
KURK	**Kurchatov**	**45.29**	**323**	P	**P**	**02 03 12.9**	**+0.7**
KURK				IAmb	IAmb	02 03 14.5	
	comp=Z,6.0nm,0.8s						
GAR	**Garm**	**47.24**	**305**	P	**P**	**02 03 28.6**	**+0.6**
GAR				IAmb	IAmb	02 03 30.8	
	comp=Z,10nm,1.0s						
KK31	**Karatay Array**	**47.89**	**311**	P	**P**	**02 03 32.9**	**+0.1**
KKAR	**Karatay Array**	**47.89**	**311**	P	**P**	**02 03 32.8**	**0.0**
MORW	**Morawa**	**48.64**	**185**	P	**P**	**02 03 38.6**	**0.0**
BRVK	**Borovoye**	**50.96**	**323**	P	**P**	**02 03 56.1**	**+0.1**
BRVK				IAmb	IAmb	02 04 08.5	
	comp=Z,2.3nm,0.7s						
TIXI	**Tiksi**	**52.23**	**3**	P	**P**	**02 04 05.1**	**-0.1**
NWAO	**Narrogin (SRO)**	**52.38**	**184**	P	**P**	**02 04 09.0**	**+2.2**
NRIK	**Noril'sk**	**53.63**	**346**	P	**P**	**02 04 16.4**	**+0.8**
	comp=Z,5.1nm,0.5s,baz=136,slow=8.3,SNR=8.8						
NRIK				LR	LR	02 28 55.8	
	comp=Z,53nm,18.1s,baz=60,slow=38						
BBOO	**Buckleboo**	**54.23**	**164**	P	**P**	**02 04 21.0**	**+0.7**
STKA	**Stephens Creek**	**55.05**	**158**	P	**P**	**02 04 27.0**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=324,slow=17,SNR=3.9						
STKA	**Stephens Creek**	**55.05**	**158**	P	**P**	**02 04 27.2**	**+0.8**
BILL	**Bilibino**	**56.12**	**19**	P	**P**	**02 04 34.5**	**+0.9**
BILL				IAmb	IAmb	02 04 35.1	
	comp=Z,6.0nm,1.1s						
ABKAR	**Akbulak array**	**56.27**	**317**	P	**P**	**02 04 35.3**	**+0.3**
GEYT	**Alibeck**	**56.70**	**303**	P	**P**	**02 04 39.8**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=100,slow=7.7,SNR=3.6						
GEYT	**Alibeck**	**56.70**	**303**	P	**P**	**02 04 39.6**	**+1.4**
AKTO	**Aktyubinsk**	**57.68**	**318**	LR	LR	02 29 49.0	
	comp=Z,28nm,18.5s,baz=121,slow=36						
ARU	**Arti**	**58.43**	**325**	LR	LR	02 32 50.5	
	comp=Z,29nm,18.4s,baz=124,slow=39						
TOO	**Toolangi**	**61.56**	**158**	P	**P**	**02 05 12.8**	**+1.0**
AKH	**Akhalkalaki**	**67.75**	**308**	P	**P**	**02 05 53.6**	**+1.0**
AKH				IAmb	IAmb	02 05 55.9	
	comp=Z,6.2nm,0.9s						
KBZ	**Khabaz**	**67.92**	**310**	P	**P**	**02 05 54.2**	**+0.9**
	comp=Z,3.6nm,0.9s,baz=117,slow=3.6,SNR=9.0						
KIV	**Kislovodsk**	**68.05**	**310**	P	**P**	**02 05 54.8**	**+0.5**
IMAR	**Indian Mountai**	**70.47**	**26**	P	**P**	**02 06 09.2**	**+0.5**
KEV	**Kevo**	**72.97**	**339**	P	**P**	**02 06 24.6**	**+0.9**
KEV				IAmb	IAmb	02 06 29.7	
	comp=Z,14nm,1.3s						
ILAR	**Eielson Array**	**73.48**	**27**	P	**P**	**02 06 26.3**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=286,slow=5.6,SNR=5.7						
ARCES	**ARCESS Array B**	**73.53**	**339**	P	**P**	**02 06 26.9**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=86,slow=6.2,SNR=13						
BMAR	**Burnt Mountain**	**73.87**	**24**	P	**P**	**02 06 30.2**	**+1.1**
FINES	**FINESS Array B**	**75.07**	**330**	P	**P**	**02 06 36.9**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=57,slow=7.0,SNR=8.3						
FINES	**FINESS Array B**	**75.07**	**330**	P	**P**	**02 06 36.0**	**-0.2**
BRTR	**Keskin Array B**	**75.44**	**307**	P	**P**	**02 06 38.9**	**0.0**
	comp=Z,0.4nm,0.5s,baz=104,slow=2.7,SNR=3.6						
BRTR	**Keskin Array B**	**75.44**	**307**	P	**P**	**02 06 38.6**	**-0.2**
AKASG	**Malin Array Be**	**75.89**	**319**	P	**P**	**02 06 40.8**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=64,slow=5.4,SNR=5.6						
AKASG	**Malin Array Be**	**75.89**	**319**	P	**P**	**02 06 40.6**	**-0.5**
BCAR	**Beaver Creek A**	**76.07**	**28**	P	**P**	**02 06 42.5**	**+0.6**
ELL	**Elmali**	**79.04**	**305**	P	**P**	**02 06 59.3**	**+0.2**
BURAR	**Bucovina Array**	**79.25**	**317**	P	**P**	**02 07 00.1**	**+0.1**
NC405	**NORSAR Array S**	**81.71**	**332**	P	**P**	**02 07 12.8**	**0.0**
OJC	**Ojcow**	**81.79**	**320**	P	**P**	**02 07 13.3**	**-0.1**
OJC				IAmb	IAmb	02 07 15.2	
	comp=Z,3.8nm,0.6s						
NB2	**NORSAR Subarra**	**81.96**	**332**	P	**P**	**02 07 13.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=64,slow=5.3						
NOA	**NORSAR Array B**	**81.96**	**332**	P	**P**	**02 07 14.0**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=65,slow=5.2,SNR=5.0						
NOA				LR	LR	02 46 17.7	
	comp=Z,40nm,19.9s,baz=50,slow=38						
IDI	**Anoyia**	**83.36**	**305**	P	**P**	**02 07 21.3**	**-0.7**
IDI				IAmb	IAmb	02 07 34.8	
	comp=Z,5.1nm,1.2s						
GERES	**GERESS Array B**	**85.98**	**321**	P	**P**	**02 07 34.9**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=34,slow=5.0,SNR=3.6						
YKA	**Yellowknife Ar**	**87.34**	**22**	P	**P**	**02 07 41.5**	**+0.2**
	comp=Z,1.5nm,0.8s,baz=304,slow=4.3,SNR=7.1						

IDC ***18*** *02:23:12.2±14.0, 17°.42S×178°.64W, h543km±172km, mb3.2/6, mb1 3.6/6, mb1mx3.1/30, mbtmp4.1/6, Error ellipse: s-maj=100.3km s-min=46.3km az=167.0*
NEIC ***18*** *02:23:14.3±1.3, 17°.84S±0°.06×178°.4W±0°.1, h584km±10km, mb4.2/14, Error ellipse: s-maj=19.4km s-min=7.8km az=78.0*

ISC 18 02:23:14.0±0.7, 17°.8S±0°.2×178°.4W±0°.1, h579km, n29, σ0s85/29, mb4.2/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.42**	**271**	P	**P**	**02 24 35.4**	**+1.3**
AFI	**Afiamalu**	**7.45**	**59**	P	**P**	**02 25 06.1**	**-1.4**
DZM	**Mont Dzumac**	**14.89**	**251**	P	**P**	**02 26 23.1**	**+1.2**
OUZ	**Omahuta**	**18.73**	**201**	P	**P**	**02 26 57.6**	**+0.6**
EIDS	**Eidsvold**	**29.33**	**250**	P	**P**	**02 28 30.4**	**-0.8**
EIDS				IAmb	IAmb	02 28 34.1	
	comp=Z,7.3nm,1.1s						
ARMA	**Armidale**	**30.01**	**240**	P	**P**	**02 28 37.1**	**0.0**
ARMA				IAmb	IAmb	02 28 37.8	
	comp=Z,4.6nm,0.7s						
CTAO	**Charters Tower**	**33.50**	**260**	P	**P**	**02 29 06.3**	**-0.5**
CTAO				IAmb	IAmb	02 29 10.2	
	comp=Z,3.1nm,0.9s						
TOO	**Toolangi**	**37.24**	**231**	P	**P**	**02 29 37.6**	**0.0**
STKA	**Stephens Creek**	**38.70**	**241**	P	**P**	**02 29 49.3**	**-0.1**
	comp=Z,3.6nm,0.5s,baz=87,slow=9.6,SNR=10						
STKA	**Stephens Creek**	**38.70**	**241**	P	**P**	**02 29 49.4**	**0.0**
BBOO	**Buckleboo**	**43.48**	**241**	P	**P**	**02 30 26.4**	**-0.8**
BBOO				IAmb	IAmb	02 30 28.8	
	comp=Z,6.9nm,0.9s						
WB0	**Warramunga Arr**	**44.65**	**260**	P	**P**	**02 30 35.6**	**-0.8**
WB0				IAmb	IAmb	02 30 48.0	
	comp=Z,7.7nm,1.1s						
WB2	**Warramunga Arr**	**44.67**	**259**	P	**P**	**02 30 35.6**	**-1.0**
WRA	**Warramunga Arr**	**44.69**	**259**	P	**P**	**02 30 35.6**	**-1.1**
	comp=Z,2.0nm,0.7s,baz=96,slow=7.0,SNR=12						
WRA	**Warramunga Arr**	**44.69**	**259**	P	**P**	**02 30 35.3**	**-1.4**
AS31	**Alice Springs**	**44.85**	**254**	P	**P**	**02 30 37.3**	**-0.6**
AS31				IAmb	IAmb	02 30 38.4	
	comp=Z,3.8nm,0.5s						
ASAR	**Alice Springs**	**44.85**	**254**	P	**P**	**02 30 37.4**	**-0.5**
	comp=Z,13nm,0.6s,baz=88,slow=8.6,SNR=110						
ASAR	**Alice Springs**	**44.85**	**254**	P	**P**	**02 30 36.9**	**-1.0**
MTN	**Manton Dam**	**48.84**	**268**	P	**P**	**02 31 07.4**	**-0.6**
KNRA	**Kununurra**	**50.54**	**264**	P	**P**	**02 31 19.7**	**-0.7**
KNRA				IAmb	IAmb	02 31 34.3	
	comp=Z,8.8nm,0.9s						
QSPA	**South Pole Qui**	**72.21**	**180**	P	**P**	**02 33 40.6**	**-0.3**
ILAR	**Eielson Array**	**85.81**	**13**	P	**P**	**02 34 52.1**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=214,slow=5.0,SNR=4.9						
TXAR	**Lajitas Array**	**85.92**	**58**	P	**P**	**02 34 55.3**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=211,slow=7.1,SNR=4.4						
TXAR	**Lajitas Array**	**85.92**	**58**	P	**P**	**02 34 55.1**	**+1.2**
PDAR	**Pinedale Array**	**87.28**	**43**	P	**P**	**02 35 00.8**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=243,slow=2.9,SNR=2.7						
PDAR	**Pinedale Array**	**87.28**	**43**	P	**P**	**02 35 00.7**	**+0.5**
CLL	**Collm**	**145.41**	**347**	*e*PKPbc	**PKPdf**	**02 41 47.0**	**+0.5**
GERES	**GERESS Array B**	**147.56**	**345**	PKPbc	**PKPbc**	**02 41 53.6**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=30,slow=3.2,SNR=4.9						
GERES	**GERESS Array B**	**147.56**	**345**		**PKPbc**	**02 41 53.5**	**-0.5**

IDC ***18*** *02:26:30.7±5.0, 36°.17N×70°.25E, h171km±45km, mb3.5/7, mb1 3.5/12, mb1mx3.2/49, mbtmp4.0/12, MS4.3/1, Ms1 4.3/1, ms1mx2.5/35, Error ellipse: s-maj=37.0km s-min=26.7km az=168.0*
NEIC ***18*** *02:26:35.3±2.4, 36°.50N±0°.06×70°.22E±0°.09, h204km±6km, mb4.2/11, Error ellipse: s-maj=10.7km s-min=7.9km az=116.0*
NNC ***18*** *02:26:39.3±2.8, 36°.87N×70°.36E, h220km±31km, mb3.4, mpv4.4, Error ellipse: s-maj=24.8km s-min=19.0km az=32.0*

ISC 18 02:26:35.8±0.5, 36°.55N±0°.05×70°.25E±0°.06, h213km, n77, σ1s55/88, mb3.9/9, 5C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.23**	**206**	Pn	**Pn**	**02 27 16.5**	**-1.4**
KBL				Sn	**S**	**02 27 46.7**	**-3.6**
CHGR	**Chuyangaron**	**2.28**	**338**	Pn	**Pn**	**02 27 17.7**	**-0.5**
CHGR				Sn	**S**	**02 27 48.5**	**-2.6**
GAR	**Garm**	**2.45**	**1**	Pn	**Pn**	**02 27 19.6**	**-0.4**
GAR				Sn	**S**	**02 27 52.9**	**-1.6**
CEP	**Cherat**	**3.04**	**153**	P	**Pn**	**02 27 25.2**	**-1.5**
CEP				S	**S**	**02 28 02.0**	**-4.2**
BTK	**Batken**	**3.54**	**7**	Pn	**Pn**	**02 27 33.1**	**+0.7**
BTK				Sn	**S**	**02 28 16.9**	**+0.2**
CHCP	**Chirah Chowk**	**3.80**	**138**	⇑P	**Pn**	**02 27 34.2**	**-1.4**
NIL	**Nilore**	**3.80**	**139**	Pn	**Pn**	**02 27 34.5**	**-1.1**
THW	**Thamme Wali**	**3.94**	**161**	P	**Pn**	**02 27 35.7**	**-1.7**
TAS	**Tashkent**	**4.83**	**351**	Pn	**Pn**	**02 27 48.6**	**+0.4**
SARP	**Sargodha**	**5.03**	**156**	P	**Pn**	**02 27 48.4**	**-2.5**
ARSB	**Arslanbob**	**5.23**	**23**	Pn	**Pn**	**02 27 52.6**	**-0.8**
AML	**Almayashu**	**6.18**	**25**	P	**Pn**	**02 28 05.1**	**-0.7**
	SNR=263						
KK31	**Karatay Array**	**6.55**	**2**	⇓P	**Pn**	**02 28 09.4**	**-0.9**
	4.5nm,0.3s,baz=182,slow=13,SNR=182						
KK31				⇓S	**S**	**02 29 22.1**	**-3.2**
	4.2nm,0.3s,baz=186,slow=22,SNR=6.3						
KK31	**Karatay Array**	**6.55**	**2**	Pn	**Pn**	**02 28 09.6**	**-0.6**
KKAR	**Karatay Array**	**6.55**	**2**	Pn	**Pn**	**02 28 09.7**	**-0.5**
KKAR	**Karatay Array**	**6.55**	**2**	Pn	**Pn**	**02 28 09.8**	**-0.5**
UCH	**Uchtor**	**6.56**	**29**	P	**Pn**	**02 28 10.2**	**-0.6**
	SNR=112						
EKS2	**Erkin-Say**	**6.69**	**23**	P	**Pn**	**02 28 11.8**	**-0.2**
	SNR=20						
KZA	**Kyzart**	**6.75**	**34**	P	**Pn**	**02 28 12.0**	**-1.1**
	SNR=16						
HRA	**Herat**	**6.88**	**254**	Pn	**Pn**	**02 28 12.8**	**-1.8**
AAK	**Ala-Archa**	**6.91**	**27**	P	**Pn**	**02 28 14.8**	**-0.2**
	6.0nm,0.3s,baz=196,slow=7.0,SNR=32						
AAK				S	**S**	**02 29 30.3**	**-3.5**
	3.1nm,0.3s,baz=346,slow=20,SNR=20						
AAK	**Ala-Archa**	**6.91**	**27**	P	**Pn**	**02 28 14.5**	**-0.5**
	SNR=19						
AAK	**Ala-Archa**	**6.91**	**27**	⇓P	**Pn**	**02 28 14.2**	**-0.8**
	14nm,0.6s						
AAK				⇓S	**S**	**02 29 31.5**	**-2.3**
	28nm,0.5s						
AAK	**Ala-Archa**	**6.91**	**27**	Pn	**Pn**	**02 28 14.5**	**-0.5**
KBK	**Karagaybulak**	**7.10**	**29**	P	**Pn**	**02 28 17.3**	**-0.2**
	SNR=8.2						
BOOM	**Boomskoye usch**	**7.39**	**35**	Pn	**Pn**	**02 28 21.2**	**+0.1**
USP	**Ospenovka**	**7.46**	**25**	P	**Pn**	**02 28 21.4**	**-0.7**
	SNR=19						
TKM2	**Tokmak 2**	**7.58**	**31**	P	**Pn**	**02 28 23.4**	**-0.3**
	SNR=17						
TKM2	**Tokmak 2**	**7.58**	**31**	⇑P	**Pn**	**02 28 22.4**	**-1.3**
	29nm,0.5s						
TKM2				⇑S	**S**	**02 29 45.7**	**-4.0**
	16nm,0.7s						
KDJ	**Kajisay**	**7.74**	**42**	Pn	**Pn**	**02 28 24.9**	**-0.9**
TARG	**Taragay, Kyrgy**	**7.83**	**46**	Pn	**Pn**	**02 28 25.8**	**-1.2**
PRZ	**Przheval'sk**	**8.65**	**44**	Pn	**Pn**	**02 28 36.6**	**-0.9**
MAKZ	**Makanchi**	**13.47**	**37**		**Pn**	**02 29 40.0**	**+1.4**
MK31	**Makanchi Array**	**13.62**	**38**	Pn	**Pn**	**02 29 41.0**	**+0.7**
MKAR	**Makanchi Array**	**13.62**	**38**	P	**Pn**	**02 29 39.5**	**-0.8**
	0.5nm,0.3s,baz=200,slow=8.1,SNR=17						
MKAR	**Makanchi Array**	**13.62**	**38**		**Pn**	**02 29 41.7**	**+1.4**
PYUN	**Piuthan**	**13.67**	**124**	*e*P	**Pn**	**02 29 38.9**	**-2.4**
DANN	**Dangsing**	**14.03**	**122**	*e*P	**Pn**	**02 29 45.9**	**+0.1**
KOLN	**Koldanda**	**14.29**	**124**	*e*P	**Pn**	**02 29 47.2**	**-1.8**
	5.8nm,0.3s						
AB31	**Akbulak array**	**14.76**	**333**	⇓P	**P**	**02 29 57.0**	**+2.1**
	3.0nm,0.4s,baz=172,slow=12,SNR=12						
AB31				⇑S	**S**	**02 32 34.2**	**-3.2**
	2.1nm,0.4s,baz=157,slow=22,SNR=4.2						
ABKAR	**Akbulak array**	**14.76**	**333**		**Pn**	**02 29 54.3**	**0.0**
GKN	**Gorkha**	**14.85**	**121**	*e*P	**Pn**	**02 29 55.0**	**-0.7**
KURBB	**Kurchatov Arra**	**15.28**	**20**	P	**P**	**02 30 01.3**	**+0.6**
	0.1nm,0.3s,baz=210,slow=10,SNR=11						
DMN	**Daman**	**15.41**	**121**	*e*P	**P**	**02 30 02.3**	**-0.4**
	11nm,0.3s						
KKN	**Kakani**	**15.42**	**120**	*e*P	**P**	**02 30 02.9**	**+0.2**
PKIN	**Phulchoki**	**15.63**	**121**	*e*P	**P**	**02 30 04.6**	**-0.6**
	24nm,0.4s						
PKI	**Pulchoki**	**15.65**	**121**	*e*P	**P**	**02 30 04.8**	**-0.6**
	17nm,0.4s						
GUN	**Gumba**	**15.77**	**119**	*e*P	**Pn**	**02 30 08.1**	**+1.0**
	19nm,0.4s						
JIRN	**Jiri**	**16.14**	**119**	*e*P	**P**	**02 30 11.6**	**+0.8**
	61nm,0.6s						
AKTO	**Aktyubinsk**	**16.44**	**331**	P	**Pn**	**02 30 15.9**	**+1.3**
	1.0nm,0.3s,baz=142,slow=9.9,SNR=46						
AKTO				S	**S**	**02 33 11.9**	**-2.8**
	0.1nm,0.3s,baz=117,slow=21,SNR=1.6						
AKTO	**Aktyubinsk**	**16.44**	**331**	⇑P	**P**	**02 30 14.2**	**+0.7**
	14nm,0.9s						
AKTO				⇓S	**S**	**02 33 12.8**	**-1.9**
	2.0nm,1.0s						
BVAR	**Borovoye Array**	**16.48**	**0**	P	**Pn**	**02 30 15.6**	**+0.7**
	0.8nm,0.3s,baz=171,slow=7.9,SNR=8.9						
BRVK	**Borovoye**	**16.51**	**0**	P	**P**	**02 30 15.1**	**+0.8**
RAMN	**Ramite**	**16.86**	**120**	*e*P	**P**	**02 30 18.1**	**-0.5**
	19nm,0.6s						
TAPN	**Taplejung**	**17.41**	**117**	*e*P	**P**	**02 30 24.8**	**+0.2**
	15nm,0.7s						
ZALV	**Zalesovo Beam**	**20.13**	**26**	P	**P**	**02 30 53.6**	**+0.2**
	4.5nm,0.3s,baz=214,slow=11,SNR=21						
ZALV	**Zalesovo Beam**	**20.13**	**26**	P	**P**	**02 30 53.8**	**+0.4**
TBLG	**Delisi**	**20.42**	**292**	P	**P**	**02 30 56.7**	**+0.1**
TBLG				IAmb	IAmb	02 31 00.4	
	comp=Z,5.1nm,0.6s						
ARU	**Arti**	**21.40**	**342**	P	**P**	**02 31 09.5**	**+2.8**
	comp=Z,2.1nm,0.2s,baz=173,slow=7.4,SNR=6.1						
ARU	**Arti**	**21.40**	**342**	P	**P**	**02 31 07.3**	**+0.7**
ARU				IAmb	IAmb	02 31 10.3	
	comp=Z,7.1nm,0.9s						
SONM	**Songino Array**	**28.81**	**56**	P	**P**	**02 32 15.8**	**+1.8**
	comp=Z,0.3nm,0.4s,baz=12,slow=41,SNR=2.0						
FINES	**FINESS Array B**	**37.11**	**326**	P	**P**	**02 33 27.2**	**+1.8**
	comp=Z,1.0nm,0.4s,baz=114,slow=11,SNR=2.2						
FINES	**FINESS Array B**	**37.11**	**326**	P	**P**	**02 33 26.6**	**+1.2**
LVZ	**Lovozero**	**37.19**	**339**	P	**P**	**02 33 27.5**	**+1.4**
KEV	**Kevo**	**40.53**	**338**	P	**P**	**02 33 55.5**	**+1.8**
KEV				IAmb	IAmb	02 34 10.2	
	comp=Z,26nm,1.5s						
ARCES	**ARCESS Array B**	**40.87**	**338**	P	**P**	**02 33 58.5**	**+2.0**
	comp=Z,2.7nm,0.5s,baz=111,slow=7.7,SNR=30						
ARCES	**ARCESS Array B**	**40.87**	**338**	P	**P**	**02 33 58.4**	**+1.9**
ARE0	**ARCESS Array S**	**40.87**	**338**	P	**P**	**02 33 58.3**	**+1.8**
NC303	**NORSAR Array S**	**43.92**	**323**	P	**P**	**02 34 22.0**	**+0.9**
NB2	**NORSAR Subarra**	**43.98**	**323**	P	**P**	**02 34 22.8**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=95,slow=7.9						
NOA	**NORSAR Array B**	**43.98**	**323**	P	**P**	**02 34 21.8**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=96,slow=7.9,SNR=4.4						
MJAR	**Matsushiro Arr**	**53.50**	**68**	LR	LR	03 01 53.2	
	comp=Z,243nm,18.2s,baz=225,slow=40						
MJAR	**Matsushiro Arr**	**53.50**	**68**	P	**P**	**02 35 36.0**	**+1.6**
TOA0	**Torodi Ar. Sit**	**65.11**	**268**	P	**P**	**02 36 53.5**	**-0.5**
TOA0				IAmb	IAmb	02 37 00.9	
	comp=Z,7.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**65.11**	**268**	P	**P**	**02 36 53.4**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=52,slow=6.2,SNR=12						
TORD	**Torodi Ar. Bea**	**65.11**	**268**	P	**P**	**02 36 53.4**	**-0.7**
TSUM	**Tsumeb**	**74.47**	**231**	P	**P**	**02 37 52.7**	**+1.6**
TSUM				IAmb	IAmb	02 37 59.0	
	comp=Z,2.8nm,1.1s						

NIED ***18*** *02:47:00, 24°.30N×125°.20E, h26km, Mw5.0 Best double couple: M0 3.43000×10^16 NP1:φs40.00000°, δ81.00000°, λ67.00000°. NP2:φs289.00000°, δ24.00000°, λ157.00000°.*
BJI ***18*** *02:47:01.3±0.0, 23°.78N×125°.51E, h10km, mB4.9/53, mb4.7/62, Ms4.8/76, Ms7 4.8/69*
IDC ***18*** *02:47:05.6±0.5, 24°.26N×125°.06E, h0km, mb4.4/26, mb1 4.5/29, mb1mx4.5/45, mbtmp4.4/29, ML3.5/4, MS4.3/34, Ms1 4.3/34, ms1mx4.2/42, Error ellipse: s-maj=15.8km s-min=10.9km az=91.0*
MOS ***18*** *02:47:07.1±1.0, 24°.24N×125°.21E, h22km, mb5.2/68, MS4.4/20, Error ellipse: s-maj=7.1km s-min=4.1km az=124.1*
NEIC ***18*** *02:47:10.2±1.5, 24°.24N±0°.07×125°.21E±0°.07, h30km±4km, mb5.2/119, Error ellipse: s-maj=10.6km s-min=8.4km az=147.

comp=Z,91nm,3.5s
TIA LR LR
comp=N,3µm,14.9s
TIA LR LR
comp=E,1µm,13.5s
TIA LR LR
comp=Z,4µm,12.8s
DL2 Dalian 14.97 349 P **P** **02 50 44.5 -0.3**
DL2 S **Sn** **02 53 31.6 +7.2**
DL2 pmax pmax
comp=Z,69nm,1.0s
DL2 pmax pmax
comp=Z,560nm,3.5s
DL2 LR LR
comp=N,1µm,10.5s
DL2 LR LR
comp=E,1µm,11.7s
DL2 LR LR
comp=Z,2µm,11.7s
QIZ Qiongzhong 15.18 253 P **Pn** **02 50 42.0 -0.5**
QIZ S **Sn** **02 53 30.8 +1.2**
QIZ LR LR
comp=N,260nm,12.3s
QIZ LR LR
comp=E,1µm,17.2s
QIZ LR LR
comp=Z,2µm,16.9s
QIZ Qiongzhong 15.18 253 **Pn** **02 50 43.8 +1.3**
ENH Enshi 15.22 297 **Pn** **02 50 44.2 +1.1**
JHJ Hachijo jima 2 15.57 52 LR LR 02 56 29.6
comp=Z,681nm,19.6s,baz=290,slow=36
MAJO Matsushiro 16.63 39 P **Pn** **02 51 01.4 +0.3**
MAJO pmax pmax
comp=Z,71nm,1.0s
MAJO Matsushiro 16.63 39 **Pn** **02 51 01.4 +0.3**
MAT Matsushiro 16.63 39 P **P** **02 51 03.2 -0.1**
MAT S **Sn** **02 54 03.4 -1.4**
MJAR Matsushiro Arr 16.63 39 Pn **P** **02 51 02.8 -0.5**
comp=Z,0.2nm,0.3s,baz=231,slow=12,SNR=19
MJAR Matsushiro Arr 16.63 39 P **Pn** **02 51 01.3 +0.2**
MJAR pmax pmax
comp=Z,21nm,1.0s
MJAR Matsushiro Arr 16.63 39 **Pn** **02 51 01.3 +0.2**
MJB9 Matsu-Tunnel 16.63 39 P **Pn** **02 51 01.4 +0.3**
GYA Guiyang 16.91 282⇑*iP* **P** **02 51 07.6 +1.0**
GYA S **Sn** **02 54 06.6 -5.3**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,80nm,3.6s
GYA LR LR
comp=Z,1µm,13.2s
GYA LR LR
comp=Z,2µm,14.2s
GYA LR LR
comp=Z,2µm,14.9s
XAN Xi'an 17.25 308 P **Pn** **02 51 08.9 -0.1**
XAN pmax pmax
comp=Z,18nm,0.8s
XAN Xi'an 17.25 308 P **Pn** **02 51 08.9 -0.1**
TIY Taiyuan 17.33 324 *eP* **P** **02 51 12.8 +1.7**
TIY S **S** **02 54 26.6 -3.2**
TIY pmax pmax
comp=Z,14nm,0.6s
TIY pmax pmax
comp=Z,900nm,8.9s
TIY LR LR
comp=Z,3µm,13.2s
TIY LR LR
comp=Z,820nm,17.0s
TIY LR LR
comp=Z,2µm,16.8s
BJT Baijiatuau 17.51 336 P **Pn** **02 51 12.1 0.0**
BJT pmax pmax
comp=Z,27nm,1.1s
BJT Baijiatuau 17.51 336 P **Pn** **02 51 12.1 0.0**
BJI Beijing 17.53 336 P **P** **02 51 12.8 -0.3**
BJI S **Sn** **02 54 28.4 +2.0**
BJI pmax pmax
comp=Z,11nm,0.7s
BJI LR LR
comp=Z,2µm,14.7s
BJI LR LR
comp=Z,1µm,13.7s
BJI LR LR
comp=Z,1µm,17.5s
SNY Shenyang 17.63 356⇑P **Pn** **02 51 13.6 +0.1**
SNY S **S** **02 54 40.9 +5.2**
SNY pmax pmax
comp=Z,15nm,0.8s
SNY pmax pmax
comp=Z,230nm,4.0s
SNY LR LR
comp=Z,1µm,15.7s
SNY LR LR
comp=Z,390nm,12.6s
SNY LR LR
comp=Z,2µm,17.5s
MSHR Mys Shultsa 18.98 14⇑*iP* **Pn** **02 51 32.9 +2.9**
MSHR pmax pmax
comp=Z,9.0nm,1.1s
SLVN Son La 19.84 266 P **P** **02 51 38.4 -0.4**
DLV T Lat 20.00 235 P **P** **02 51 39.2 -1.5**
CD2 Chengdu 20.14 294 P **P** **02 51 41.1 -0.8**
CD2 sP pP 02 51 51.9 +1.9
CD2 PP **PnPn** **02 52 06.3 +7.6**
CD2 S Sn 02 55 28.8 -0.9
CD2 sS sS 02 55 33.8 -5.6
CD2 pmax pmax
comp=Z,360nm,6.5s
CD2 LR LR
comp=Z,2µm,12.2s
CD2 LR LR
comp=Z,3µm,15.8s
CD2 LR LR
comp=Z,4µm,15.8s
KMI Kunming 20.43 277 P Pn 02 51 48.0 +0.4
KMI pP pP 02 51 51.4 -1.9
KMI S **S** **02 55 22.9 -10**
KMI SS **SnSn** **02 55 58.8 +6.9**
KMI pmax pmax
comp=Z,54nm,0.9s
KMI pmax pmax
comp=Z,350nm,4.8s
KMI LR LR
comp=Z,1µm,16.7s
KMI LR LR
comp=Z,2µm,15.6s
KMI LR LR
comp=Z,2µm,16.4s
KMI Kunming 20.43 277 P Pn 02 51 46.5 -1.1
KMI pmax pmax
comp=Z,45nm,0.9s
KMI Kunming 20.43 277 P Pn 02 51 46.5 -1.1
MDJ Mudanjiang 20.68 9 P Pn 02 51 51.3 +1.2
MDJ pP pwP 02 51 57.9 +0.1
MDJ S **S** **02 55 38.3 +1.4**
MDJ sS pS 02 55 51.9 +0.2
MDJ pmax pmax
comp=Z,11nm,0.7s
MDJ pmax pmax
comp=Z,81nm,4.0s
MDJ LR LR
comp=Z,480nm,21.8s
MDJ LR LR
comp=Z,1µm,19.5s
MDJ LR LR
comp=Z,1µm,22.4s
USA0B Ussuriysk Arra 20.71 14 P **P** **02 51 47.4 -0.5**
USA0B pmax pmax
comp=Z,25nm,1.6s
USA0B Ussuriysk Arra 20.71 14 P **P** **02 51 47.4 -0.5**
USRK Ussuriysk Ar. 20.71 14 P **P** **02 51 46.9 -1.0**
comp=Z,1.3nm,0.5s,baz=185,slow=9.8,SNR=3.2
USRK LR LR 02 59 43.6
comp=Z,767nm,19.9s,baz=185,slow=37
BTO Baotou 20.73 326 *eP* **P** **02 51 49.6 +1.3**
GUMO Guam 21.37 116 P **P** **02 51 54.6 -0.6**
GUMO pmax pmax
comp=Z,156nm,1.3s
GUMO Guam 21.37 116 P **P** **02 51 54.6 -0.6**
GUMO IAmb IAmb 02 52 02.4
comp=Z,156nm,1.3s
LZH Lanzhou 21.89 308⇑P **P** **02 52 01.5 +0.6**
LZH pP pP 02 52 07.8 -1.1
LZH sP pwP 02 52 10.8 -0.7
LZH S **S** **02 56 00.3 -0.8**
LZH SS SnSn 02 56 43.4 +16
LZH pmax pmax
comp=Z,54nm,1.2s
LZH pmax pmax
comp=Z,310nm,5.4s
LZH LR LR
comp=Z,2µm,14.4s
LZH LR LR
comp=Z,3µm,14.6s
LZH LR LR
comp=Z,3µm,15.2s
ERM Erimo 23.20 36*d iP* **pP** **02 52 21.1 -1.6**
ERM pmax pmax
comp=Z,54nm,0.7s
ERM Erimo 23.20 36 P **P** **02 52 12.7 -1.7**
ERM IAmb IAmb 02 52 25.1
comp=Z,59nm,0.7s
MRSI Marisa 23.80 188 P **P** **02 52 24.3 +3.9**
comp=Z,1µmcomp=Z,42nm,0.9s
ASAJ Asahikawa 24.44 31 P **P** **02 52 27.2 +1.0**
comp=Z,10nm,0.8s,baz=273,slow=16,SNR=3.5
ASAJ LR LR 03 02 42.7
comp=Z,901nm,20.5s,baz=201,slow=38
ASAJ Asahikawa 24.44 31 P **P** **02 52 26.0 -0.2**
ASAJ pmax pmax
comp=Z,75nm,1.3s
JKA Kamikawa-asahi 24.44 31 P **P** **02 52 25.9 -0.2**
JKA IAmb IAmb 02 52 36.2
comp=Z,75nm,1.3s
CHTO Chiang Mai 24.99 263 P **P** **02 52 31.1 -0.3**
CHTO pmax pmax
comp=Z,31nm,0.7s
CHTO Chiang Mai 24.99 263 P **P** **02 52 31.1 -0.3**
CHTO IAmb IAmb 02 52 43.1
comp=Z,31nm,0.7s
SBUM Sibu 25.00 212 P **P** **02 52 31.2 -0.2**
SBUM Sibu 25.00 212 P **P** **02 52 34.0 +2.5**
CM31 Chiang Mai Arr 25.10 262 P **P** **02 52 31.8 -0.6**
CMAR Chiang Mai Arr 25.10 262 P **P** **02 52 32.1 -0.2**
comp=Z,4.4nm,0.7s,baz=61,slow=8.0,SNR=16
CMAR LR LR 03 04 06.3
comp=Z,746nm,18.1s,baz=106,slow=41
CMAR Chiang Mai Arr 25.10 262 P **P** **02 52 32.6 +0.2**
CMAR Chiang Mai Arr 25.10 262 P **P** **02 52 32.6 +0.2**
APSI Ampana 25.20 188 P pP 02 52 43.2 +1.3
LUWI Luwuk 25.20 186 P **P** **02 52 32.9 -0.4**
LUWI IAmb IAmb 02 53 31.9
comp=Z,47nm,1.1s
HIA Hailar 25.38 352 P **P** **02 52 33.6 -1.1**
HIA pmax pmax
comp=Z,77nm,1.3s
HIA Hailar 25.38 352 P **P** **02 52 33.6 -1.1**
HIA IAmb IAmb 02 52 44.7
comp=Z,77nm,1.3s
KLR Kul'dur 25.51 10 P **P** **02 52 35.6 -0.1**
comp=Z,1.5nm,0.5s,baz=254,slow=4.8,SNR=5.3
KLR LR LR 03 02 30.4
comp=Z,639nm,20.9s,baz=186,slow=36
KLR Kul'dur 25.51 10⇑*iP* **P** **02 52 37.4 +1.6**
KLR pmax pmax
comp=Z,4.0nm,0.9s
SIJI Sorong 25.61 166 P **P** **02 52 36.8 -0.2**
comp=Z,3.4nm,0.4s,baz=334,slow=10,SNR=3.9
SIJI LR LR 03 00 46.0
comp=Z,504nm,21.6s,baz=326,slow=32
YUK Yuzh-Kuril'sk 26.02 35 P **pP** **02 52 50.7 +1.4**
YUK pmax pmax
comp=Z,253nm,1.4s
YUK pmax pmax
comp=N,83nm,0.7s
YUK pmax pmax
comp=E,240nm,1.0s
YUK pmax pmax
comp=Z,231nm,1.3s
GTA Gaotai 26.25 311⇑P **P** **02 52 41.5 -1.3**
GTA pP pP 02 52 47.8 -3.7
GTA sP pwP 02 52 51.3 -2.5
GTA S **S** **02 57 16.3 +3.0**
GTA sS sS 02 57 29.0 +1.0
GTA pmax pmax
comp=Z,23nm,1.1s
GTA pmax pmax
comp=Z,97nm,6.5s
GTA LR LR
comp=Z,890nm,16.2s
GTA LR LR
comp=Z,2µm,13.6s
GTA LR LR
comp=Z,2µm,15.2s
YSS Yuzh-Sakhalins 26.70 27 *eP* **pP** **02 52 51.8 -3.6**
YSS *e**SP sP 02 52 58.7 -0.3
YSS *e* 02 53 30.4
YSS *eS* **S** **02 57 23.4 +3.5**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS Yuzh-Sakhalins 26.70 27 **P** **02 52 46.9 +0.4**
ULN Ulaanbaatar 27.67 333⇓*iP* **P** **02 52 53.9 -1.6**
ULN pmax pmax
comp=Z,16nm,1.4s
ULN Ulaanbaatar 27.67 333 P **P** **02 52 53.7 -1.7**
GRNR Gornyy 27.91 15⇓*iP* **P** **02 52 51.1 -6.3**
GRNR pmax pmax
comp=Z,2.0nm,1.0s
GRNR MLR MLR
comp=E,70nm,10.0s
SONM Songino Array 27.92 332 P **P** **02 52 55.2 -2.4**
comp=E,2.7nm,0.7s,baz=147,slow=9.4,SNR=13
SONM LR LR 03 05 32.4
comp=E,2µm,19.7s,baz=138,slow=40
SONM Songino Array 27.92 332 P **P** **02 52 55.7 -2.0**
SONM pmax pmax
comp=Z,14nm,1.3s
SONM Songino Array 27.92 332 P **P** **02 52 55.7 -2.0**
KMPI Kaimana, Papua 28.91 162 P sP 02 53 19.3 +0.4
KAPI Kappang 29.52 191 LR LR 03 05 01.4
comp=Z,311nm,21.7s,baz=16,slow=36
ZEA Zeya 29.54 2 *eP* **P** **02 53 16.2 +4.4**
ZEA pmax pmax
comp=Z,23nm,1.0s
ZEA MLR MLR
comp=N,1µm,14.0s
ZEA MLR MLR
comp=Z,2µm,14.0s
KULM Kulim 30.18 235 P **P** **02 53 20.0 +2.0**
SHL Shillong 30.21 280 P **P** **02 53 18.1 -0.3**
SHL pmax pmax
comp=Z,135nm,1.8s
SHL Shillong 30.21 280 P **P** **02 53 18.1 -0.3**
GENI Genyem 30.35 149 P sP 02 53 37.9 +6.1
MYKOM Kota Tinggi 30.38 226 P **P** **02 53 21.0 +1.3**
IPM Ipoh 30.44 234 P **P** **02 53 18.0 -2.2**
JAY Jayapura 30.54 148 LR LR 03 03 14.1
comp=Z,775nm,20.8s,baz=5.5,slow=32
LSA Lhasa 30.77 288 P **P** **02 53 23.9 +0.3**
LSA pmax pmax
comp=Z,15nm,1.1s
LSA Lhasa 30.77 288 P **P** **02 53 23.9 +0.3**
ZAK Zakamensk 31.18 333 *eP* **P** **02 53 23.1 -3.5**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
TLY Talaya 32.03 334 LR LR 03 08 15.2
comp=Z,2µm,18.0s,baz=134,slow=40
TLY Talaya 32.03 334 P **P** **02 53 34.0 +0.1**
TLY pmax pmax
comp=Z,10.0nm,0.7s
TLY Talaya 32.03 334 P **P** **02 53 34.0 +0.1**
MOY Mondy 33.11 332 *eP* **P** **02 53 41.7 -1.8**
MOY pmax pmax
comp=Z,66nm,1.9s
PSI Prapat 33.11 234 P **P** **02 53 43.7 -0.1**
comp=Z,14nm,0.9s,baz=360,slow=4.1,SNR=4.6
PSI LR LR 03 07 30.7
comp=Z,277nm,18.4s,baz=89,slow=37
PSI Prapat 33.11 234 P **P** **02 53 44.5 +0.6**
PSI pmax pmax
comp=Z,22nm,1.0s
RPSI Rantau Prapat 33.18 234 P **P** **02 53 44.5 +0.2**
RPSI IAmb IAmb 02 53 45.9
comp=Z,22nm,1.0s
BKNI Bangkinang 33.34 228 P **P** **02 53 46.3 +0.6**
PMBI Palembang 33.50 219 P **P** **02 53 45.6 -1.4**
TAPN Taplejung 33.82 283 *eP* **P** **02 53 51.3 +1.1**
comp=Z,43nm,0.6s
MNSI Mandailing Nat 34.02 231 P **P** **02 53 52.7 +1.1**
ODAN Odare 34.14 283 *eP* **P** **02 53 53.9 +1.0**
comp=Z,172nm,1.1s
RAMN Ramite 34.84 283 *eP* **P** **02 53 59.7 +0.8**
comp=Z,93nm,1.2s
JIRN Jiri 35.15 284 *eP* **P** **02 54 02.7 +0.9**
GUN Gumba 35.41 285 *eP* **P** **02 54 04.7 +0.7**
comp=Z,97nm,1.0s
SKR Severo-Kuril's 35.62 34⇓*iP* pP 02 54 10.9 -3.0
PKI Pulchoki 35.85 284 *eP* **P** **02 54 08.0 +0.2**
comp=Z,96nm,1.2s
PKIN Phulchoki 35.86 284 *eP* **P** **02 54 08.0 +0.2**
comp=Z,46nm,0.9s
DMN Daman 36.12 284 *eP* **P** **02 54 10.3 +0.4**
comp=Z,85nm,1.0s
PATS Pohnpei 36.13 113 P **P** **02 54 10.0 +0.1**
WMQ Urumqi 36.33 312 *eP* **P** **02 54 12.8 +1.4**
WMQ pP pP 02 54 20.6 +0.4
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,64nm,3.6s
WMQ LR LR
comp=Z,570nm,16.9s
WMQ LR LR
comp=Z,430nm,20.5s
WMQ LR LR
comp=Z,680nm,20.5s
WMQ Urumqi 36.33 312 P **P** **02 54 10.8 -0.5**
WMQ pmax pmax
comp=Z,25nm,0.9s
WMQ Urumqi 36.33 312 P **P** **02 54 10.8 -0.5**
WMQ IAmb IAmb 02 54 21.4
comp=Z,25nm,0.9s
GKN Gorkha 36.51 285 *eP* **P** **02 54 13.6 +0.4**
DANN Dangsing 37.26 286 *eP* **P** **02 54 20.4 +0.7**
comp=Z,131nm,0.8s
KOLN Koldanda 37.44 285 *eP* **P** **02 54 21.7 +0.6**
comp=Z,121nm,0.9s
PEA0B Petropavlovsk- 37.86 32*d iP* pP 02 54 29.6 -3.3
PEA0B Petropavlovsk- 37.86 32 P **P** **02 54 23.0 -1.1**
PEA0B IAmb IAmb 02 54 37.3
comp=Z,46nm,1.4s
PETK Petropavlovsk- 37.86 32 P **P** **02 54 22.9 -1.1**
comp=Z,2.6nm,0.7s,baz=194,slow=6.4,SNR=7.1
PETK LR LR 03 10 39.1
comp=Z,480nm,20.0s,baz=237,slow=37
PETK Petropavlovsk- 37.86 32 P **P** **02 54 23.1 -1.0**
PETK Petropavlovsk- 37.86 32 P **P** **02 54 23.1 -1.0**
YAK Yakutsk 37.94 3 LR LR 03 10 54.1
comp=Z,220nm,18.6s,baz=193,slow=38
YAK Yakutsk 37.94 3 *eP* P 02 54 14.8 -10
YAK *e**PP pP 02 54 27.0 -6.6
YAK *eS* **S** **03 00 08.1 -5.9**
YAK pmax pmax
comp=Z,18nm,0.6s
YAK pmax pmax
comp=N,4.0nm,0.7s
YAK pmax pmax
comp=E,2.0nm,0.6s
YAK smax smax
comp=N,20nm,1.6s
YAK smax smax
comp=E,51nm,2.7s
YAK MLR MLR
comp=Z,456nm,16.0s
YAK MLR MLR
comp=N,321nm,16.0s
YAK MLR MLR
comp=E,143nm,18.0s
PYUN Piuthan 37.95 285 *eP* **P** **02 54 26.4 +0.9**
comp=E,142nm,0.8s
PET Petropavlovsk 38.27 33 *eP* **pP** **02 54 37.1 +0.7**
PET *eS* **S** **03 00 27.5 +8.2**
PET pmax pmax
comp=Z,100nm,1.2s
PET MLR MLR
comp=Z,300nm,18.0s
H11N1 WAKE ISLAND Hy 38.82 88 T T 03 36 28.2
baz=231,slow=74,SNR=14
H11N2 WAKE ISLAND Hy 38.82 88 T T 03 35 45.2
SNR=21
H11N3 WAKE ISLAND Hy 38.84 88 T T 03 36 20.4
baz=282,slow=74,SNR=29
DGZ Jazzator, Alta 38.86 321⇓*iP* **P** **02 54 31.8 -0.9**
DGZ pmax pmax
comp=Z,5.0nm,0.7s
H11S3 WAKE ISLAND Hy 38.95 90 T T 03 36 50.2
baz=284,slow=74,SNR=24
H11S1 WAKE ISLAND Hy 38.96 90 T T 03 36 06.3
SNR=13
H11S2 WAKE ISLAND Hy 38.97 90 T T 03 36 51.7
baz=284,slow=74,SNR=13
ZSN Zaisan 39.48 316 *eP* **pP** **02 54 44.2 -2.5**
comp=Z,5.7nm,1.1s,baz=316
ZSN LR LR 03 11 34.8
comp=Z,78nm,10.8s,baz=316
ZSN Zaisan 39.48 316 *eP* **pP** **02 54 44.2 -2.5**
ZSN pmax pmax
comp=Z,6.0nm,1.1s
ZSN MLR MLR
comp=Z,78nm,11.0s
MA2 Magadan 39.63 20 LR LR 03 11 26.4
comp=Z,357nm,19.1s,baz=223,slow=37
KNRA Kununurra 39.79 175 P **P** **02 54 40.9 +0.3**
KNRA IAmb IAmb 02 55 34.0
comp=Z,124nm,1.9s
MK31 Makanchi Array 40.91 314 *i P* **P** **02 54 48.7 -1.0**
MK31 Makanchi Array 40.91 314 P **P** **02 54 48.7 -1.0**
MKAR Makanchi Array 40.91 314 P **P** **02 54 48.7 -1.0**
comp=Z,11nm,0.5s,baz=100,slow=10,SNR=124
MKAR LR LR 03 13 10.2
comp=Z,958nm,19.4s,baz=103,slow=38
MKAR Makanchi Array 40.91 314 P **P** **02 54 48.4 -1.3**
MAKZ Makanchi 41.12 314 P **P** **02 54 50.4 -1.0**
MAKZ Makanchi 41.12 314 P **P** **02 54 50.0 -1.4**
MAKZ IAmb IAmb 02 55 01.4
comp=Z,54nm,1.1s
COEN Coen 41.80 153 P **P** **02 54 57.4 +0.2**
COEN IAmb IAmb 02 55 06.7
comp=Z,53nm,1.6s
SHLS Shalkode 41.91 308 *eP* **P** **02 54 55.4 -2.6**
comp=Z,13nm,0.7s,baz=308
SHLS LR LR 03 12 59.1
comp=Z,204nm,14.2s,baz=308
SHLS Shalkode 41.91 308 *eP* **P** **02 54 55.4 -2.6**
SHLS pmax pmax
comp=Z,13nm,0.7s
SHLS MLR MLR
comp=Z,204nm,14.0s
FITZ Fitzroy Crossi 42.05 179 P **P** **02 54 58.1 -1.0**
comp=Z,4.0nm,0.9s,baz=344,slow=21,SNR=4.4
FITZ Fitzroy Crossi 42.05 179 P **P** **02 54 58.9 -0.3**
UZB Uzynbulak 42.22 308 *i P* **P** **02 55 00.4 -0.2**
comp=Z,14nm,1.2s,baz=307
UZB LR LR 03 13 13.2
comp=Z,206nm,14.4s,baz=307
UZB Uzynbulak 42.22 308 *i P* **P** **02 55 00.4 -0.2**
UZB pmax pmax
comp=Z,14nm,1.2s
UZB MLR MLR
comp=Z,206nm,14.0s
ZALV Zalesovo Beam 42.27 325 P **P** **02 54 58.9 -1.8**
comp=Z,7.3nm,0.6s,baz=112,slow=7.9,SNR=26
ZALV Zalesovo Beam 42.27 325 P **P** **02 54 58.7 -2.0**
KPKS Kokpek 42.53 309 *eP* **P** **02 55 02.6 -0.4**
comp=Z,9.3nm,0.7s,baz=308
KPKS LR LR 03 13 16.2
comp=Z,1µm,23.3s,baz=308
KPKS Kokpek 42.53 309 *eP* **P** **02 55 02.6 -0.4**
KPKS pmax pmax
comp=Z,9.0nm,0.7s
KPKS MLR MLR
comp=Z,1µm,23.0s
PRZ Przheval'sk 42.55 307 P **P** **02 55 03.7 +0.3**
PRZ pmax pmax
comp=Z,26nm,0.8s
PRZ Przheval'sk 42.55 307 P **P** **02 55 03.7 +0.3**
PRZ IAmb IAmb 02 55 16.2
comp=Z,26nm,0.8s
SATY Saty 42.65 308 *eP* **P** **02 55 04.2 +0.1**
comp=Z,13nm,1.0s,baz=307
SATY LR LR 03 13 10.9
comp=Z,91nm,12.4s,baz=307
SATY Saty 42.65 308 *eP* **P** **02 55 04.2 +0.1**
SATY pmax pmax
comp=Z,13nm,1.0s

SATY MLR MLR
comp=Z,91nm,12.0s
TARG Taragay, Kyrgy 42.86 306 P **P** **02 55 06.0 -0.2**
TDK Taldyqorghan 43.05 311 *e*P **P** **02 55 07.0 -0.1**
comp=Z,27nm,0.7s,baz=310
TDK LR LR 03 14 06.0
comp=Z,493nm,13.4s,baz=310
TDK Taldyqorghan 43.05 311 *e*P **P** **02 55 07.0 -0.1**
TDK pmax pmax
comp=Z,27nm,0.7s
TDK MLR MLR
comp=Z,493nm,13.0s
SEM Semipalatinsk 43.38 319 *e*P **P** **02 55 08.7 -1.4**
comp=Z,7.5nm,0.7s,baz=318
SEM Semipalatinsk 43.38 319 *e*P **P** **02 55 08.6 -1.4**
SEM pmax pmax
comp=Z,7.0nm,0.7s
KDJ Kajisay 43.38 306 P **P** **02 55 10.3 +0.2**
KDJ pmax pmax
comp=Z,28nm,1.1s
KDJ Kajisay 43.38 306 P **P** **02 55 10.3 +0.2**
MDOK Medeo 43.65 308 *i* P **P** **02 55 12.4 +0.2**
baz=307
MDOK LR LR 03 14 39.0
comp=Z,502nm,15.3s,baz=307
MDOK Medeo 43.65 308 *i* P **P** **02 55 12.4 +0.2**
MDOK MLR MLR
comp=Z,502nm,15.0s
TNSS Tian-Shan 43.70 308 *e*P **P** **02 55 13.5 +0.6**
baz=307
TNSS Tian-Shan 43.70 308 *e*P **P** **02 55 13.4 +0.6**
AAA Alma-Ata 43.75 308 LR LR 03 14 28.3
comp=Z,505nm,15.3s,baz=307
CHKK Chushkaly 43.81 309 *e*P **P** **02 55 13.2 -0.2**
comp=Z,57nm,0.6s,baz=308
CHKK Chushkaly 43.81 309 *e*P **P** **02 55 13.1 -0.2**
CHKK pmax pmax
comp=Z,57nm,0.6s
KSH Kashi 43.98 302 *e*P **P** **02 55 18.3 +3.5**
KSH sP sP 02 55 29.5 +2.2
KSH pmax pmax
comp=Z,78nm,1.2s
KSH pmax pmax
comp=Z,200nm,4.9s
KSH LR LR
comp=Z,1μm,13.5s
KSH LR LR
comp=Z,2μm,15.9s
KSH LR LR
comp=Z,3μm,16.0s
ULHL Ulahol 44.09 306 P **P** **02 55 16.8 +1.0**
SNR=5.8
KUU Kurty 44.28 309 *e*P **P** **02 55 17.0 -0.1**
comp=Z,20nm,1.4s,baz=308
KUU LR LR 03 14 39.0
comp=Z,476nm,17.4s,baz=308
KUU Kurty 44.28 309 *e*P **P** **02 55 16.9 -0.1**
KUU pmax pmax
comp=Z,20nm,1.4s
KUU MLR MLR
comp=Z,476nm,17.0s
BOOM Boomskoye usch 44.35 307 P **P** **02 55 18.0 +0.2**
BOOM pmax pmax
comp=Z,9.0nm,0.9s
BOOM Boomskoye usch 44.35 307 P **P** **02 55 18.0 +0.2**
KURK Kurchatov 44.47 319*c i*P **P** **02 55 17.5 -0.9**
KURK pmax pmax
comp=Z,35nm,1.5s
KURK Kurchatov 44.47 319 P **P** **02 55 17.2 -1.2**
KURK IAmb IAmb 02 55 27.9
comp=Z,75nm,1.2s
KURBB Kurchatov Arra 44.49 319 P **P** **02 55 17.2 -1.4**
WB0 Warramunga Arr 44.61 168 P **P** **02 55 20.2 +0.3**
TKM2 Tokmak 2 44.66 307 P **P** **02 55 20.9 +0.6**
SNR=15
TKM2 Tokmak 2 44.66 307 P **P** **02 55 20.4 0.0**
WRA Warramunga Arr 44.77 168 P **P** **02 55 21.7 +0.5**
comp=Z,9.5nm,0.7s,baz=348,slow=8.8,SNR=17
WRA Warramunga Arr 44.77 168 P **P** **02 55 21.3 +0.1**
WRA Warramunga Arr 44.77 168 P **P** **02 55 21.3 +0.1**
WB2 Warramunga Arr 44.77 168 P **P** **02 55 21.6 +0.5**
WB2 IAmb IAmb 02 55 22.9
comp=Z,27nm,1.1s
KZA Kyzart 44.80 306 P **P** **02 55 22.6 +0.8**
SNR=8.2
WR0 Warramunga Arr 44.83 167 P **P** **02 55 21.7 +0.1**
WR0 IAmb IAmb 02 55 29.7
comp=Z,61nm,1.6s
KBK Karagaybulak 45.09 307 P **P** **02 55 25.2 +1.4**
SNR=9.2
CHMS Chumysh 45.28 307 P **P** **02 55 25.4 +0.3**
SNR=6.7
UCH Uchtor 45.36 306 P **P** **02 55 27.5 +1.2**
SNR=42
AAK Ala-Archa 45.42 307 P **P** **02 55 26.5 +0.1**
AAK pmax pmax
comp=Z,10.0nm,0.9s
AAK Ala-Archa 45.42 307 P **P** **02 55 26.5 +0.1**
SGDS Sogindy 45.43 308 *e*P **P** **02 55 26.6 +0.2**
comp=Z,8.5nm,1.0s,baz=307
SGDS LR LR 03 15 28.8
comp=Z,322nm,16.0s,baz=307
SGDS Sogindy 45.43 308 *e*P **P** **02 55 26.6 +0.2**
SGDS pmax pmax
comp=Z,9.0nm,1.0s
SGDS MLR MLR
comp=Z,323nm,16.0s
USP Ospenovka 45.50 308 P **P** **02 55 27.6 +0.7**
SNR=5.2
EKS2 Erkin-Say 45.95 307 P **P** **02 55 30.8 +0.3**
SNR=8.0
AML Almayashu 45.95 306 P **P** **02 55 31.7 +0.9**
SNR=13
NIL Nilore 46.03 294 P **P** **02 55 31.2 +0.1**
NIL pmax pmax
comp=Z,48nm,0.8s
NIL Nilore 46.03 294 P **P** **02 55 31.2 +0.1**
BTLS Baital 46.09 310 *i* P **P** **02 55 30.9 -0.5**
comp=Z,14nm,1.7s,baz=309
BTLS LR LR 03 15 23.4
comp=Z,139nm,13.9s,baz=309
BTLS Baital 46.09 310 *i* P **P** **02 55 30.9 -0.5**
BTLS pmax pmax
comp=Z,14nm,1.7s
BTLS MLR MLR
comp=Z,139nm,14.0s
ARSB Arslanbob 46.41 305 P **P** **02 55 34.3 +0.1**
ARSB pmax pmax
comp=Z,20nm,1.1s
ARSB Arslanbob 46.41 305 P **P** **02 55 34.3 +0.1**
ARSB IAmb IAmb 02 55 44.8
comp=Z,20nm,1.1s
TIXI Tiksi 47.52 2*ce*P **P** **02 55 43.1 +0.9**
TIXI pmax pmax
comp=Z,10.0nm,1.7s
TIXI Tiksi 47.52 2 P **P** **02 55 40.9 -1.2**
DZA Taraz 47.77 307 *e*P **P** **02 55 45.1 +0.5**
baz=306
DZA LR LR 03 16 58.4
comp=Z,269nm,18.0s,baz=306
DZA Taraz 47.77 307 *e*P **P** **02 55 45.1 +0.5**
DZA MLR MLR
comp=Z,269nm,18.0s
OTUK Ortayu 47.80 314 P **P** **02 55 44.4 -0.4**
BTK Batken 47.97 303 P **P** **02 55 46.4 +0.1**
BTK pmax pmax
comp=Z,29nm,1.5s
BTK Batken 47.97 303 P **P** **02 55 46.4 +0.1**
BTK IAmb IAmb 02 56 04.9
comp=Z,30nm,1.5s
AS31 Alice Springs 48.33 169 P **P** **02 55 49.6 +0.6**
ASAR Alice Springs 48.33 169 P **P** **02 55 50.0 +1.0**
comp=Z,3.3nm,0.6s,baz=359,slow=7.4,SNR=26
ASAR LR LR 03 17 30.2
comp=Z,96nm,20.5s,baz=340,slow=38
ASAR Alice Springs 48.33 169 P **P** **02 55 49.3 +0.3**
ASAR Alice Springs 48.33 169 P **P** **02 55 49.3 +0.3**
GAR Garm 48.33 301 P **P** **02 55 49.2 +0.1**
KK31 Karatay Array 48.38 307 *e*P **P** **02 55 49.0 -0.3**
KK31 Karatay Array 48.38 307 P **P** **02 55 49.1 -0.3**
KK31 IAmb IAmb 02 55 51.0
comp=Z,22nm,1.4s
KKAR Karatay Array 48.38 307 P **P** **02 55 49.1 -0.3**
KKAR Karatay Array 48.38 307 P **P** **02 55 49.1 -0.3**
KKAR Karatay Array 48.38 307 P **P** **02 55 48.9 -0.4**
KKAR IAmb IAmb 02 55 51.0
comp=Z,22nm,1.4s
CHGR Chuyangaron 49.23 301 P **P** **02 55 56.1 0.0**
KBL Kabul 49.47 296 P **P** **02 55 58.4 +0.4**
KBL pmax pmax
comp=Z,63nm,1.3s
KBL Kabul 49.47 296 P **P** **02 55 58.4 +0.4**
BRVK Borovoye 50.07 320 P **P** **02 56 01.8 -0.3**
BRVK Borovoye 50.07 320 P **P** **02 56 01.4 -0.7**
BRVK IAmb IAmb 02 56 11.5
comp=Z,15nm,0.9s
NRIK Noril'sk 50.38 344 P **P** **02 56 02.5 -1.6**
comp=Z,3.2nm,0.6s,baz=160,slow=7.6,SNR=5.0
NRIK LR LR 03 19 50.8
comp=Z,842nm,18.9s,baz=136,slow=39
BILL Bilibino 50.46 19⇑ *e*P **P** **02 56 08.2 +3.5**
BILL *i* 02 56 15.4
BILL *e* 02 57 29.6
BILL *e* 02 58 04.8
BILL *e*S S 03 03 34.2 +18
BILL pmax pmax
comp=Z,9.0nm,1.0s
BILL MLR MLR
comp=Z,442nm,24.0s
BILL Bilibino 50.46 19 P **P** **02 56 04.9 +0.2**
BILL IAmb IAmb 02 56 15.8
comp=Z,33nm,1.3s
HRA Herat 55.07 296 P **P** **02 56 39.0 -0.7**
HRA IAmb IAmb 02 56 54.5
comp=Z,25nm,1.6s
ABKAR Akbulak array 56.06 314 P **P** **02 56 46.0 -0.3**
ABKAR Akbulak array 56.06 314 P **P** **02 56 46.1 -0.1**
ABKAR IAmb IAmb 02 56 57.1
comp=Z,38nm,0.9s
SVE Sverdlovsk 56.21 323 *e*P **P** **02 56 47.2 0.0**
SVE pmax pmax
comp=Z,62nm,1.2s
SVE MLR MLR
comp=Z,1μm,17.0s
ARU Arti 57.31 323*c i*P **P** **02 56 53.8 -1.2**
ARU S **S** **03 04 48.6 -0.4**
ARU SS **SS** **03 08 35.7 -2.5**
ARU pmax pmax
comp=Z,43nm,1.7s
ARU MLR MLR
comp=Z,858nm,21.0s
ARU Arti 57.31 323 P **P** **02 56 54.0 -1.0**
NWAO Narrogin (SRO) 57.32 188 P **P** **02 56 55.3 +0.1**
NWAO pmax pmax
comp=Z,116nm,1.5s
NWAO Narrogin (SRO) 57.32 188 P **P** **02 56 55.2 +0.1**
AKTO Aktyubinsk 57.33 316 P **P** **02 56 54.5 -0.7**
STKA Stephens Creek 57.92 164 P **P** **02 56 60.0 +0.4**
comp=Z,4.8nm,0.7s,baz=352,slow=4.9,SNR=8.0
STKA LR LR 03 24 37.2
comp=Z,126nm,18.1s,baz=345,slow=39
STKA Stephens Creek 57.92 164 P **P** **02 56 59.9 +0.4**
STKA pmax pmax
comp=Z,8.0nm,1.8s
STKA Stephens Creek 57.92 164 P **P** **02 56 59.9 +0.4**
GEYT Alibeck 57.95 301 P **P** **02 56 58.8 -1.1**
comp=Z,11nm,0.6s,baz=101,slow=1.5,SNR=29
GEYT LR LR 03 26 09.0
comp=Z,506nm,18.4s,baz=25,slow=40
GEYT Alibeck 57.95 301 P **P** **02 57 00.6 +0.8**
GYA0B ALIBECK ARRAY 57.95 301 P **P** **02 57 00.9 +1.0**
DZM Mont Dzumac 61.02 136 *e*S **S** **03 05 35.7 -2.2**
comp=Z,230nm,26.6s
DZM *e*LR LR 03 15 31.1
comp=Z,812nm,25.1s
RDOG Red Dog Mine 61.02 24 P **P** **02 57 21.8 +1.3**
KIRV Kirov 62.31 325 *i* P **P** **02 57 28.5 -0.8**
TTA Tatalina 63.66 30 P **P** **02 57 38.1 -0.2**
TTA pmax pmax
comp=Z,14nm,1.0s
TTA Tatalina 63.66 30 P **P** **02 57 38.1 -0.2**
TTA IAmb IAmb 02 57 52.4
comp=Z,14nm,1.0s
SVW2 Sparrevohn 63.94 32 P **P** **02 57 40.0 -0.1**
SVW2 IAmb IAmb 02 57 55.0
comp=Z,14nm,1.0s
IMAR Indian Mountai 64.53 27 P **P** **02 57 44.8 +0.9**
PPLA Purkeypile 65.41 30 P **P** **02 57 50.9 +1.1**
PPLA IAmb IAmb 02 58 04.8
comp=Z,50nm,1.6s
KDAK Kodiak Island 65.77 36 P **P** **02 57 52.5 +0.5**
KDAK pmax pmax
comp=Z,293nm,2.0s
KDAK Kodiak Island 65.77 36 P **P** **02 57 52.5 +0.5**
TOLK Toolik Lake Re 65.97 24 P **P** **02 57 54.5 +1.2**
TRF Thorofare Moun 66.21 29 P **P** **02 57 55.9 +0.9**
TRF IAmb IAmb 02 58 19.6
comp=Z,16nm,1.1s
LGD Lagodekhi 66.32 307 P **P** **02 57 57.0 +1.1**
GROC Groznyy 66.37 308 *e*P **P** **02 57 55.9 -0.3**
GROC *e* 02 58 27.7
GROC pmax pmax
comp=Z,29nm,1.0s
RND Reindeer 66.85 29 P **P** **02 57 59.0 0.0**
RND pmax pmax
comp=Z,38nm,0.9s
RND Reindeer 66.85 29 P **P** **02 57 59.0 0.0**
KLMR Klimovskoe 67.10 328 *e*P **P** **02 57 58.4 -2.0**
KLMR pmax pmax
comp=Z,33nm,1.5s
KLMR Klimovskoe 67.10 328 *e*P **P** **02 57 58.5 -2.0**
KLMR AMP 02 58 10.8
comp=Z,33nm,1.5s
KLMR LQ LQ 03 22 45.8
KLMR LQ LQ 03 22 45.8
KLMR LR LR 03 27 05.2
TMCR Tamitsa 67.28 332 *e*P **P** **02 58 00.8 -0.8**
TBLG Delisi 67.44 307 P **P** **02 58 02.9 -0.2**
TBLG pmax pmax
comp=Z,16nm,1.2s
TBLG Delisi 67.44 307 P **P** **02 58 02.9 -0.2**
TBLG IAmb IAmb 02 58 13.7
comp=Z,16nm,1.2s
IL31 67.51 28 P **P** **02 58 03.7 +0.7**
IL31 IAmb IAmb 02 58 33.8
comp=Z,26nm,1.9s
ILAR Eielson Array 67.51 28 P **P** **02 58 04.5 +1.4**
comp=Z,1.3nm,0.6s,baz=298,slow=9.9,SNR=20
ILAR LR LR 03 28 44.9
comp=Z,134nm,20.7s,baz=298,slow=37
ILAR Eielson Array 67.51 28 P **P** **02 58 03.3 +0.2**
ILAR Eielson Array 67.51 28 P **P** **02 58 03.2 +0.2**
VRH Novokhopyorsk 67.53 317 *e*P **P** **02 58 02.6 -0.8**
VRH *e*SP **pP** **02 58 12.1 -0.7**
VRH pmax pmax
comp=Z,30nm,0.8s
HDA Harding Lake 67.54 28 P **P** **02 58 02.8 -0.4**
HDA IAmb IAmb 02 58 15.9
comp=Z,18nm,0.9s
ZEI Tsey 67.81 308 *e*P **P** **02 58 03.1 -2.5**
ZEI pmax pmax
comp=Z,28nm,0.9s
GOF Gofitskoye 67.92 311⇑ *e*P **P** **02 58 06.3 +0.3**
GOF pmax pmax
comp=Z,22nm,0.7s
BMAR Burnt Mountain 67.99 25 P **P** **02 58 07.1 +1.0**
ONI Oni 68.18 308 P **P** **02 58 10.0 +2.2**
KBZ Khabaz 68.32 309 P **P** **02 58 08.2 -0.3**
comp=Z,3.2nm,0.4s,baz=79,slow=6.6,SNR=12
KBZ LR LR 03 32 36.1
comp=Z,555nm,18.2s,baz=64,slow=40
KBZ Khabaz 68.32 309⇓ *i*P **P** **02 58 09.2 +0.7**
KIV Kislovodsk 68.41 310 *e*P **P** **02 58 09.7 +0.5**
KIV pmax pmax
comp=Z,163nm,1.0s
KIV MLR MLR
comp=Z,517nm,17.0s
KIV Kislovodsk 68.41 310 P **P** **02 58 09.4 +0.1**
AKH Akhalkalaki 68.43 307⇓ P **P** **02 58 10.9 +1.4**
AKH Akhalkalaki 68.43 307 P **P** **02 58 10.0 +0.5**
AKH pmax pmax
comp=Z,29nm,0.9s
AKH Akhalkalaki 68.43 307 P **P** **02 58 10.0 +0.5**
AKH IAmb IAmb 02 58 21.6
comp=Z,29nm,0.9s
APA Apatity 68.56 336⇑ *i*P **P** **02 58 09.5 -0.1**
APA *i* 02 58 14.4
APA pmax pmax
comp=Z,11nm,0.8s
DOT Dot Lake 68.93 29 P **P** **02 58 12.4 +0.4**
DOT IAmb IAmb 02 58 25.1
comp=Z,18nm,1.0s
LPSR Galich'ya Gora 68.94 319 *e*P **P** **02 58 11.7 -0.5**
LPSR *e**SP **pP** **02 58 21.4 -0.2**
LPSR pmax pmax
comp=Z,20nm,0.8s
MOS Moscow 69.02 323 *e*P **P** **02 58 11.1 -1.5**
MOS *e* 02 58 21.1
VORD Divnogorie 69.08 318 *e*P **P** **02 58 12.5 -0.6**
VORD *e**SP **pP** **02 58 21.9 -0.6**
VORD pmax pmax
comp=Z,10.0nm,0.7s
VSR Storozhevoye 69.10 318 *e*P **P** **02 58 12.4 -0.9**
VSR *e**SP **pP** **02 58 21.7 -1.0**
VSR pmax pmax
comp=Z,10.0nm,0.9s
OBN Obninsk 69.75 322⇓ *i*P **P** **02 58 16.6 -0.5**
OBN *i* 02 58 25.1
OBN *i* 02 58 42.4
OBN *e* 03 00 51.6
OBN pmax pmax
comp=Z,46nm,1.6s
OBN MLR MLR
comp=Z,497nm,21.0s
OBN Obninsk 69.75 322 P **P** **02 58 16.6 -0.5**
OBN IAmb IAmb 02 58 26.9
comp=Z,26nm,0.8s
BCA Borcka 69.78 307⇑ P **P** **02 58 19.4 +1.7**
EGAK Eagle 69.91 27 P **P** **02 58 18.6 +0.7**
EGAK IAmb IAmb 02 58 31.4
comp=Z,17nm,1.1s
BCAR Beaver Creek A 70.06 29 P **P** **02 58 19.1 +0.1**
KEV Kevo 70.31 339 P **P** **02 58 19.4 -1.0**
KEV pmax pmax
comp=Z,97nm,2.0s
KEV Kevo 70.31 339 **P** **02 58 19.4 -1.0**
SOC Sochi 70.59 310 *e*P **P** **02 58 21.6 -1.0**
SOC *e* 03 00 54.2
SOC *e*PPP PPP 03 02 44.4
SOC *e*S **S** **03 07 33.1 -1.1**
SOC *e*SS **SS** **03 11 59.1 -6.5**
SOC *e*SSS SSS 03 15 16.9
SOC pmax pmax
comp=Z,21nm,0.9s
SOC MLR MLR
comp=Z,248nm,14.0s
DAWY Dawson 70.83 28 P **P** **02 58 24.8 +1.1**
DAWY IAmb IAmb 02 58 37.7
comp=Z,20nm,0.9s
ARCES ARCESS Array B 70.88 338 P **P** **02 58 23.4 -0.5**
comp=Z,3.4nm,0.8s,baz=65,slow=6.8,SNR=4.8
ARCES LR LR 03 34 07.6
comp=Z,492nm,19.0s,baz=100,slow=40
ARCES ARCESS Array B 70.88 338 P **P** **02 58 23.2 -0.7**
ARCES ARCESS Array B 70.88 338 P **P** **02 58 23.2 -0.7**
HSPB Hornsund (broa 70.88 347 *e*P **P** **02 58 25.5 +1.8**
HSPB *e*L L 03 35 07.3
comp=Z,456nm,19.0s
EPYK Eagle Plains 71.26 25 P **P** **02 58 27.4 +1.2**
INK Inuvik 71.82 23 P **P** **02 58 29.9 +0.4**
INK pmax pmax
comp=Z,32nm,1.0s
INK Inuvik 71.82 23 P **P** **02 58 29.9 +0.4**
INK IAmb IAmb 02 58 42.5
comp=Z,32nm,1.0s
NOR Nord 72.69 355 *i* P **P** **02 58 33.8 -0.7**
comp=Z,2.9nm,0.8s
NOR Nord 72.69 355 *i* P **P** **02 58 33.8 -0.7**
NOR pmax pmax
comp=Z,3.0nm,0.8s
FIA1 FINESS Array S 73.26 330 P **P** **02 58 37.7 -0.6**
FIA1 IAmb IAmb 02 58 39.8
comp=Z,16nm,0.8s
FINES FINESS Array B 73.27 330 P **P** **02 58 38.1 -0.1**
comp=Z,13nm,0.7s,baz=67,slow=6.4,SNR=34
FINES LR LR 03 34 26.0
comp=Z,1μm,18.0s,baz=76,slow=39
FINES FINESS Array B 73.27 330 P **P** **02 58 37.8 -0.4**
KVT Kavak 73.92 308 P **P** **02 58 46.2 +3.6**
VSU Vasula 73.97 327 *e*P **P** **02 58 42.8 +0.4**
GAZ Gaziantep 74.28 304 P **P** **02 58 44.9 +0.1**
GAZ IAmb IAmb 02 58 57.1
comp=Z,22nm,0.9s
DIKM Dikmen 74.30 309⇑ P **P** **02 58 46.6 +1.9**
MICGM Minsk 74.73 323⇓ *e*P **P** **02 58 48.0 +1.0**
MICGM *e*LR LR 03 32 46.0
MNK Minsk 74.73 323 *e*P **P** **02 58 48.0 +1.0**
IZAR Zarasai 75.17 325 *e*P **P** **02 58 48.4 -1.1**
NACGM Naroch 75.19 324 *e* **P** **02 58 49.0 -0.6**
NACGM *e*LQ LQ 03 30 46.0
NACGM *e*LR LR 03 33 52.0
NACGM LRM MLR 03 34 46.0
comp=Z,1.8nm,18.0s
AKASG Malin Array Be 75.28 319 P **P** **02 58 49.3 -0.8**
comp=Z,1.0nm,0.3s,baz=55,slow=5.9,SNR=16
AKASG Malin Array Be 75.28 319 *i* P **P** **02 58 49.2 -1.0**
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 75.28 319 P **P** **02 58 49.4 -0.7**
AKBB Malin Array Si 75.28 319 P **P** **02 58 48.9 -1.3**
AKBB pmax pmax
comp=Z,14nm,0.7s
AKBB Malin Array Si 75.28 319 P **P** **02 58 48.9 -1.3**
AKBB IAmb IAmb 02 59 00.1
comp=Z,14nm,0.7s
ISAL Salakas 75.30 325 *e*P **P** **02 58 50.0 -0.2**
IIGN Ignalina 75.33 324 *e*P **P** **02 58 51.7 +1.3**
ILGA Ilgaz 75.59 309 P **P** **02 58 52.5 0.0**
BR131 Keskin Array S 76.09 307*d i*P **P** **02 58 55.4 +0.1**
BR131 Keskin Array S 76.09 307 P **P** **02 58 55.2 0.0**
BR131 IAmb IAmb 02 59 06.9
comp=Z,40nm,1.2s
BRTR Keskin Array B 76.09 307 P **P** **02 58 55.5 +0.1**
comp=Z,2.2nm,0.7s,baz=93,slow=5.1,SNR=16
BRTR LR LR 03 37 29.1
comp=Z,133nm,19.5s,baz=56,slow=40
BRTR Keskin Array B 76.09 307 P **P** **02 58 54.8 -0.5**
PABE Paberze 76.46 325 *e*P **P** **02 58 57.6 +0.8**
SLIT Slitere, Latvi 76.47 327 *e*P **P** **02 58 53.6 -3.2**
ANTO Ankara 76.66 308 P **P** **02 58 58.5 +0.1**
ANTO pmax pmax
comp=Z,81nm,1.6s
ANTO Ankara 76.66 308 P **P** **02 58 58.5 +0.1**
SORM Soroca 76.72 317⇓ P **P** **02 59 00.9 +2.5**
SORM Soroca 76.72 317⇓ P **P** **02 59 00.9 +2.5**
SUW Suwalki 77.47 324 P **P** **02 59 02.4 -0.2**
SUW pmax pmax
comp=Z,99nm,1.0s
SUW Suwalki 77.47 324 P **P** **02 59 02.4 -0.2**
TLCR 77.50 314⇓ P **P** **02 59 05.2 +2.3**
TLCR 77.50 314⇓ P **P** **02 59 05.2 +2.3**
MDUB Mudurnu 77.59 309 P **P** **02 59 03.5 -0.1**
VASR Vaslui 77.62 316⇓ P **P** **02 59 05.8 +2.2**
VARL Varlezi 77.86 315⇓ P **P** **02 59 07.2 +2.3**
TOPG Topolog 77.90 314⇓ P **P** **02 59 05.4 +0.2**
CFR Carcaliu 77.95 314⇑ P **P** **02 59 07.3 +1.9**
CFR Carcaliu 77.95 314⇑ P **P** **02 59 07.3 +1.9**
CSS Mathiatis 77.99 303 P **P** **02 59 05.4 -0.5**
CSS IAmb IAmb 02 59 17.5
comp=Z,27nm,1.1s
RES Resolute Bay 78.03 10 P **P** **02 59 05.5 +0.2**
RES pmax pmax
comp=Z,14nm,1.0s
RES Resolute Bay 78.03 10 P **P** **02 59 05.5 +0.2**
RES IAmb IAmb 02 59 16.6
comp=Z,14nm,0.9s
TIRR Tirgusor 78.04 313⇓ P **P** **02 59 07.8 +1.9**
TIRR Tirgusor 78.04 313⇓ P **P** **02 59 07.8 +1.9**
ORH Orhaniye 78.24 310 P pP 02 59 24.5 +7.8
HARR Harsova 78.27 314⇓ P **P** **02 59 10.4 +3.2**
HARR Harsova 78.27 314⇓ P **P** **02 59 10.4 +3.2**
TESR Tescani 78.40 316⇓ P **P** **02 59 10.9 +3.0**
ICOR Ion Corvin 78.57 313⇑ P **P** **02 59 11.1 +2.2**
BIZ Bicaz 78.58 316⇑ P **P** **02 59 11.1 +2.2**
VRI Vrincioaia 78.60 315⇓ P **P** **02 59 11.7 +2.7**
VRI Vrincioaia 78.60 315⇓ P **P** **02 59 11.7 +2.7**
PLOR Plostina 78.66 315⇑ P **P** **02 59 12.0 +2.6**
PLOR Plostina 78.66 315⇑ P **P** **02 59 12.0 +2.6**
LVV L'vov 78.70 320 *e*P pP 02 59 18.7 -0.3
BUR08 Bucovina Ar. S 78.86 317 P **P** **02 59 11.6 +1.0**
BUR08 IAmb IAmb 02 59 22.3
comp=Z,25nm,1.4s
BURAR Bucovina Array 78.87 317⇓ P **P** **02 59 14.1 +3.5**

BURAR	Bucovina Array	78.87	317	⇓P		P	02 59 14.1	+3.5
BURAR	Bucovina Array	78.87	317	P		P	02 59 10.1	-0.5
OZUR		79.11	316	⇑P		P	02 59 15.0	+3.1
MLR	Muntele Rosu	79.25	315	⇑P		P	02 59 16.2	+3.5
MLR	Muntele Rosu	79.25	315	P		P	02 59 12.9	+0.1
MLR					pmax	pmax		
	comp=Z,16nm,0.8s							
MLR	Muntele Rosu	79.25	315	P		P	02 59 12.9	+0.1
MLR					IAmb	IAmb	02 59 24.5	
	comp=Z,16nm,0.8s							
SULR		79.38	314	⇓P		P	02 59 15.2	+2.0
DOPR	Dopca	79.42	316	⇑P		P	02 59 14.6	+1.1
KWP	Kalwaria Pacla	79.56	320	*e*P		P	02 59 14.4	+0.2
KWP				*e*PcP		pP	02 59 24.9	+1.1
KWP				*e*L		L	03 36 44.8	
	comp=Z,304nm,21.2s							
KWP	Kalwaria Pacla	79.56	320	P		P	02 59 13.6	-0.6
KWP					pmax	pmax		
	comp=Z,52nm,0.8s							
KWP	Kalwaria Pacla	79.56	320	P		P	02 59 13.6	-0.6
NC405	NORSAR Array S	79.65	333	P		P	02 59 13.9	-0.6
NC303	NORSAR Array S	79.73	333	P		P	02 59 14.5	-0.4
VOIR		79.85	315	⇓P		P	02 59 18.4	+2.5
VOIR		79.85	315	⇓P		P	02 59 18.4	+2.5
NB201	NORSAR Array S	79.86	333	P		P	02 59 15.6	0.0
NB2	NORSAR Subarra	79.89	333	P		P	02 59 14.8	-1.0
	comp=Z,2.5nm,0.6s,baz=57,slow=5.3							
NOA	NORSAR Array B	79.89	333	P		P	02 59 15.1	-0.7
	comp=Z,3.3nm,0.7s,baz=55,slow=5.5,SNR=19							
NOA				LR		LR	03 38 52.2	
	comp=Z,387nm,18.6s,baz=70,slow=39							
BMR	Baia Mare	79.90	318	⇑P		P	02 59 19.3	+3.2
BMR	Baia Mare	79.90	318	⇑P		P	02 59 19.3	+3.2
ELL	Elmali	79.91	306	P		P	02 59 16.1	-0.4
ELL					pmax	pmax		
	comp=Z,176nm,1.4s							
ELL	Elmali	79.91	306	P		P	02 59 16.1	-0.4
NC204	NORSAR Array S	79.95	333	P		P	02 59 16.2	+0.1
KOLS	Kolonicke sedl	80.11	319	*e*		pP	02 59 27.5	+0.7
ARR	Arges	80.15	315	⇓P		P	02 59 20.2	+2.6
MANT	Manisa	80.22	308	P		P	02 59 18.1	-0.2
UZH	Uzhgorod	80.23	319	*e*P		pP	02 59 26.3	-1.1
HUMR	Humele	80.27	314	⇑P		P	02 59 20.2	+2.1
TRPA	Tarpa	80.29	318	⇑P		P	02 59 21.3	+3.1
ELND	Elena	80.33	313	⇑P		P	02 59 20.6	+2.1
CRVS	Cervenica-Dubn	80.61	319	*e*		pP	02 59 31.0	+1.5
LOT	Lotru	80.67	316	⇑P		P	02 59 22.1	+1.7
DRGR		80.76	317	⇓P		P	02 59 23.6	+2.8
DRGR		80.76	317	⇓P		P	02 59 23.7	+2.8
DIM	Dimitrovgrad	80.92	312	*i* P		pP	02 59 32.6	+1.4
PLVB	Pleven	80.98	313	⇑P		P	02 59 23.9	+1.9
OJC	Ojcow	80.99	321	*e*P		P	02 59 22.4	+0.5
OJC				*e*PcP		pP	02 59 32.2	+0.7
OJC				*e*L		L	03 36 55.7	
	comp=Z,370nm,22.6s							
OJC	Ojcow	80.99	321	P		P	02 59 21.8	-0.1
OJC					pmax	pmax		
	comp=Z,28nm,0.8s							
OJC	Ojcow	80.99	321	P		P	02 59 21.8	-0.1
OJC					IAmb	IAmb	02 59 33.2	
	comp=Z,28nm,0.8s							
DEV	Deva	81.03	316	⇓P		P	02 59 24.9	+2.7
DEV	Deva	81.03	316	⇓P		P	02 59 24.9	+2.7
BSD	Bornholm Skovb	81.27	327	*i* P		pP	02 59 33.1	+0.3
	comp=Z,22nm,0.9s							
YKA	Yellowknife Ar	81.50	24	P		P	02 59 24.8	+0.5
	comp=Z,1.9nm,0.7s,baz=300,slow=5.2,SNR=6.7							
YKA				LR		LR	03 40 26.1	
	comp=Z,69nm,18.4s,baz=0.0,slow=39							
PGB	Panagyurishte	81.63	313	*i* P		pP	02 59 36.4	+1.3
SIRR	Siria	81.64	317	⇑P		P	02 59 27.3	+1.9
LANS	Liptovska Anna	81.67	320	*e*		pP	02 59 37.2	+2.0
PUNG	Punghina	81.70	315	⇑P		P	02 59 27.7	+1.9
HERR	Herculane	81.78	316	⇑P		P	02 59 28.0	+1.9
BZS	Buzias	81.96	316	⇑P		P	02 59 29.9	+2.8
BZS	Buzias	81.96	316	⇑P		P	02 59 29.9	+2.8
PSZ	Piszkesteto	81.98	319	⇑P		P	02 59 30.1	+2.8
PSZ	Piszkesteto	81.98	319	⇑P		P	02 59 30.1	+2.8
OKC	Ostrava-Krasne	82.11	321		AMS	AMS	03 39 30.0	
	comp=Z,300nm,20.2s							
VTS	Vitosha	82.22	313	⇑P		P	02 59 30.1	+1.4
VTS	Vitosha	82.22	313	*i* P		pP	02 59 39.1	+0.7
VTS	Vitosha	82.22	313	⇑P		P	02 59 30.1	+1.4
VTS	Vitosha	82.22	313	P		P	02 59 28.8	0.0
VTS					IAmb	IAmb	02 59 40.6	
	comp=Z,29nm,0.9s							
MDVR	Moldovita	82.27	316	⇑P		P	02 59 30.4	+1.6
MMB	Musomiste	82.34	312	*i* P		pP	02 59 39.3	+0.5
VYHS	Vyhne	82.34	320	*e*P		P	02 59 30.3	+1.2
VYHS				*e*			02 59 39.9	
VYHS					pmax	pmax		
	comp=Z,20nm,0.9s							
VYHS	Vyhne	82.34	320	*e*P		P	02 59 30.3	+1.2
VYHS				*e*			02 59 39.9	
MORC	Moravsky Berou	82.48	321	⇓P		P	02 59 33.1	+3.2
MORC	Moravsky Berou	82.48	321	*e*P		P	02 59 30.9	+1.1
MORC				*e*			02 59 40.2	
MORC	Moravsky Berou	82.48	321	P		P	02 59 30.5	+0.7
MORC					pmax	pmax		
	comp=Z,13nm,1.0s							
MORC	Moravsky Berou	82.48	321	P		P	02 59 30.5	+0.7
KKB	Krupnik	82.65	313	*i* P		pP	02 59 40.8	+0.3
KSP	Ksiaz	82.67	323	*e*P		P	02 59 32.1	+1.4
KSP				*e*L		L	03 39 10.8	
	comp=Z,572nm,19.6s							
SCO	Scoresbysund	82.75	349	*i* P		pP	02 59 40.8	+0.5
	comp=Z,43nm,1.2s							
SUMG	Summit	82.83	355	*i* P		pP	02 59 42.0	+0.7
SUMG	Summit	82.83	355	P		P	02 59 32.4	+0.8
SUMG					pmax	pmax		
	comp=Z,25nm,0.9s							
SUMG	Summit	82.83	355	P		P	02 59 32.4	+0.8
SUMG					IAmb	IAmb	02 59 43.1	
	comp=Z,25nm,0.9s							
JAVC	Velka Javorina	82.85	321	*e*P		P	02 59 32.9	+1.1
JAVC				*e*			02 59 43.6	
OSTC	Ostas	82.85	323	*e*P		pP	02 59 38.6	-2.7
OSTC				*ex*		x	02 59 42.9	
OSTC					AMS	AMS	03 39 20.0	
	comp=Z,500nm,22.0s							
DPC	Dobruska-Polom	82.89	322	*e*pP		pP	02 59 43.1	+1.5
DPC				*ex*		x	02 59 48.2	
DPC					AMS	AMS	03 39 20.0	
	comp=Z,500nm,20.4s							
CHVC	Chvalec	82.92	323	*e*pP		pP	02 59 42.7	+1.0
CHVC					AMS	AMS	03 39 30.0	
	comp=Z,500nm,17.3s							
GOET	G??ttrup	82.95	330	*i* P		pP	02 59 43.5	+1.9
	comp=Z,113nm,0.8s							
UPC	Upice	82.99	323		AMS	AMS	03 39 20.0	
	comp=Z,500nm,15.2s							
SMOL	Smolenice	83.16	320	*e*		pP	02 59 44.8	+1.9
RUE	Ruedersdorf	83.19	325	*e*P		P	02 59 34.4	+1.1
VRAC	Vranov	83.25	321	⇑P		P	02 59 37.6	+3.8
VRAC	Vranov	83.25	321	*e*P		P	02 59 33.6	-0.2
VRAC				*e*			02 59 44.3	
VRAC	Vranov	83.25	321	⇑P		P	02 59 37.6	+3.8
MUD	Monsted U'grnd	83.30	330	*i* P		pP	02 59 43.0	-0.4
	comp=Z,25nm,0.9s							
MUD	Monsted U'grnd	83.30	330	*i* P		pP	02 59 43.0	-0.4
MUD					pmax	pmax		
	comp=Z,25nm,0.9s							
MODS	Modra-Piesok	83.31	320	*e*		pP	02 59 44.7	+1.0
SANT	Santorini	83.34	307	⇓P		P	02 59 34.2	-0.3
KRUC	Moravsky	83.48	321	*e*P		P	02 59 35.3	+0.3
KRUC				*e*			02 59 45.6	
PVCC	Panska Ves	83.77	323		AMS	AMS	03 40 50.0	
	comp=Z,500nm,15.2s							
TREC	Trest	83.89	322		AMS	AMS	03 39 00.0	
	comp=Z,500nm,21.9s							
BRG	Berggiesshubel	83.94	324	*e*P		P	02 59 38.2	+1.0
	comp=Z,6.6nm,1.4s							
BRG				*e*			02 59 45.0	
	comp=Z,5.6nm,0.9s							
BRG	Berggiesshubel	83.94	324	*e*P		P	02 59 38.2	+1.0
BRG				*e*			02 59 45.0	
BRG					pmax	pmax		
	comp=Z,7.0nm,1.4s							
BRG					pmax	pmax		
	comp=Z,6.0nm,0.9s							
BRG	Berggiesshubel	83.94	324	*e*P		pP	02 59 47.8	+1.0
	baz=60,slow=5.0							
GOPC	GO Pecny, Ondr	83.97	322	*e*pP		pP	02 59 48.2	+1.1
GOPC					AMS	AMS	03 40 00.0	
	comp=Z,500nm,21.0s							
PRU	Pruhonice	84.06	323	*e*pP		pP	02 59 48.6	+1.1
PRU					AMS	AMS	03 39 50.0	
	comp=Z,500nm,17.9s							
PRA	Prague	84.08	323		AMS	AMS	03 39 50.0	
	comp=Z,300nm,20.6s							
BSEG	Bad Segeberg	84.17	327	*e*P		pP	02 59 49.7	+1.8
	comp=Z,35nm,1.1s,baz=60,slow=5.0							
CLL	Collm	84.21	324	*e*P		P	02 59 40.0	+1.4
CLL				*i* pP		pP	02 59 48.8	+0.5
	comp=Z,8.0nm,0.9s							
CLL				*i* sP		sP	02 59 53.4	+1.9
CLL				*e*PP		PP	03 03 00.0	+7.3
CLL				*e*PPP		PPP	03 05 00.0	
CLL				*e*S		S	03 10 00.0	-1.6
CLL				*e*PPS		PPS	03 11 11.0	
CLL				*e*SS		SS	03 15 54.0	+24
CLL				*e*			03 20 00.0	
CLL				*e*SSSS			03 22 00.0	
CLL					Lm	MLR	03 41 00.0	
	comp=N,300nm,19.2s							
CLL					Lm	MLR	03 41 00.0	
	comp=E,500nm,18.2s							
CLL					Lm	MLR	03 41 00.0	
	comp=Z,800nm,18.4s							
CLL	Collm	84.21	324	*e*P		P	02 59 42.0	+3.4
CLL				*i*			02 59 48.8	
CLL				*e*S		S	03 10 00.0	-1.6
CLL					MLR	MLR		
	comp=Z,800nm,18.4s							
CLL	Collm	84.21	324	*e*P		pP	02 59 49.1	+0.9
	baz=60,slow=5.0							
IDI	Anoyia	84.22	306	⇑P		P	02 59 39.7	+0.7
FBE	Freiberg	84.23	324	*e*P		pP	02 59 49.1	+0.8
	comp=Z,9.9nm,1.0s,baz=60,slow=5.0							
CONA	Conrad Observa	84.36	320	P		P	02 59 38.5	-1.0
	comp=Z,5.4nm,1.5s							
CONA				*e*pP		pwP	02 59 51.3	-0.1
	comp=Z,19nm,0.9s							
ARSA	Arzberg	84.90	320	*e*pP		pP	02 59 53.3	+1.4
	comp=Z,8.8nm,1.1s							
NEUB	Neuenburg	84.92	325	*e*P		pP	02 59 53.0	+1.2
	baz=60,slow=5.0							
ASSE	Asse, Remlinge	84.99	326	*e*P		pP	02 59 53.9	+1.8
	baz=60,slow=5.0							
KHC	Kasperske Hory	85.04	322	*e*P		P	02 59 42.0	-0.9
KHC				*e*pP		pP	02 59 53.4	+0.8
KHC				*e*sP		sP	02 59 59.0	+3.1
KHC				*ex*		x	03 10 19.1	
KHC					AMS	AMS	03 39 40.0	
	comp=Z,500nm,20.8s							
KHC	Kasperske Hory	85.04	322	*e*P		P	02 59 42.0	-0.9
KHC				*e*			02 59 53.4	
KHC					MLR	MLR		
	comp=Z,500nm,20.8s							
NRDL	Niedersach Rie	85.08	326	*e*P		pP	02 59 54.4	+2.0
	comp=Z,55nm,1.7s,baz=60,slow=5.0							
NKC	Novy Kostel	85.08	324		AMS	AMS	03 42 10.0	
	comp=Z,500nm,18.3s							
WERN	Wernitzgruen	85.09	324	*e*P		pP	02 59 53.9	+1.1
	comp=Z,7.4nm,0.9s,baz=60,slow=5.0							
PLN	Plauen	85.11	324	*e*P		pP	02 59 54.0	+1.1
	baz=60,slow=5.0							
GEC2	GERESS Array S	85.12	322	P		P	02 59 43.7	+0.3
GEC2					IAmb	IAmb	02 59 55.7	
	comp=Z,9.8nm,1.0s							
GERES	GERESS Array B	85.12	322	P		P	02 59 42.8	-0.6
	comp=Z,0.2nm,0.5s,baz=292,slow=26,SNR=12							
GERES					LR	LR	03 40 21.6	
	comp=Z,470nm,21.8s,baz=53,slow=38							
GERES	GERESS Array B	85.12	322	P		P	02 59 43.1	-0.3
GERES	GERESS Array B	85.12	322	P		P	02 59 43.1	-0.3
CLZ	Clausthal	85.31	326	*e*P		pP	02 59 55.6	+1.8
	comp=Z,60,slow=5.0							
RETH	Rethem/Aller,	85.32	327	*e*P		pP	02 59 55.9	+2.2
	baz=60,slow=5.0							
MOA	Molln	85.32	321	*i* P		P	02 59 43.2	-1.1
	comp=Z,4.6nm,0.8s							
MOA				*e*pP		pP	02 59 55.1	+1.1
	comp=Z,5.7nm,0.8s							
MANZ	Manzenberg	85.40	323	*e*P		pP	02 59 55.3	+1.0
	comp=Z,10nm,1.2s,baz=60,slow=5.0							
WET	Wetzell	85.43	322	*e*P		pP	02 59 55.2	+0.7
	baz=60,slow=5.0							
ROTZ	Rotzenmuhle	85.47	323	*e*P		pP	02 59 55.6	+1.0
	baz=60,slow=5.0							
SOKA	Soboth	85.48	320	*e*pP		pP	02 59 56.2	+1.4
	comp=Z,13nm,1.0s							
ITM	Ithomi	85.53	309	P		P	02 59 44.5	-1.1
ITM					IAmb	IAmb	02 59 58.9	
	comp=Z,22nm,0.9s							
OBKA	Obir	85.85	320	*e*pP		pP	02 59 57.0	+0.3
	comp=Z,5.5nm,0.9s							
GRF	Grafenberg Arr	86.04	324	*e*P		pP	02 59 58.5	+1.0
	baz=60,slow=5.0							
IBBN	Ibbenburen	86.37	327	*e*P		pP	03 00 00.7	+1.7
	comp=Z,64nm,1.3s,baz=60,slow=5.0							
FUR	Furstenfeldbru	86.85	322	*e*P		pP	03 00 01.9	+0.4
	baz=60,slow=5.0							
ABTA	Abfaltersbach	86.92	321	*e*P		P	02 59 51.5	-0.8
	comp=Z,9.0nm,1.2s							
BUG	Boum--Univer	87.12	326	*e*P		pP	03 00 04.0	+1.3
	comp=Z,32nm,1.2s,baz=60,slow=5.0							
WATA	Walderalm	87.14	321	*e*P		P	02 59 52.1	-1.3
	comp=Z,5.3nm,1.1s							
WATA				*e*pP		pP	03 00 04.2	+1.1
	comp=Z,6.7nm,0.9s							
WTTA	Wattenberg	87.14	321	*e*pP		pP	03 00 04.5	+1.3
	comp=Z,12nm,1.1s							
TNS	Taunus Mts	87.22	325	*e*P		pP	03 00 04.4	+1.0
	comp=Z,13nm,1.0s,baz=60,slow=5.0							
MOTA	Moosalm	87.40	322	*e*P		P	02 59 53.3	-1.4
	comp=Z,4.5nm,1.6s							
MOTA				*e*pP		pP	03 00 05.3	+0.9
	comp=Z,7.8nm,1.0s							
SQTA	Sankt Quirin	87.41	321	*e*pP		pP	03 00 05.5	+1.1
	comp=Z,9.1nm,0.9s							
RETA	Reutte	87.51	322	*e*pP		pP	03 00 06.0	+1.1
	comp=Z,3.5nm,1.1s							
B08A	Colville Reser	87.60	37	P		P	02 59 56.3	+0.8
B08A					IAmb	IAmb	03 00 09.1	
	comp=Z,18nm,1.6s							
UBR	Ueberruh	87.77	322	*e*P		pP	03 00 06.4	+0.3
	comp=Z,20nm,1.2s,baz=60,slow=5.0							
FETA	Feichten	87.79	321	PcP		P	02 59 57.1	+0.5
	comp=Z,4.8nm,1.2s							
FETA				*e*pP		pwP	03 00 07.6	-0.9
	comp=Z,7.3nm,1.0s							
DAVA	Damuels	88.12	322	*e*PcP		P	02 59 57.6	-0.6
	comp=Z,6.7nm,1.0s							
DAVA				*e*pP		pP	03 00 08.2	+0.3
	comp=Z,9.5nm,0.9s							
FUORN	Ofenpass-Fuorn	88.28	321	P		P	02 59 59.3	+0.2
FUORN					IAmb	IAmb	03 00 10.7	
	comp=Z,14nm,1.0s							
BFO	Black Forest	88.38	323	*e*P		pP	03 00 10.0	+1.1
	comp=Z,13nm,1.4s,baz=60,slow=5.0							
KMBO	Kilima Mbogo	88.58	268	P		P	03 00 01.1	+0.1
	comp=Z,0.9nm,0.6s,baz=20,slow=8.2,SNR=4.0							
WLF	Walferdange	88.75	325	*e*P		pP	03 00 12.6	+2.0
	comp=Z,11nm,0.9s,baz=60,slow=5.0							
BNI	Bardonecchia	91.23	321	P		P	03 00 13.9	+1.1
BNI					pmax	pmax		
	comp=Z,13nm,1.0s							
BNI	Bardonecchia	91.23	321	P		P	03 00 13.9	+1.1
BNI					IAmb	IAmb	03 00 29.3	
	comp=Z,13nm,1.0s							
FFC	Flin Flon	91.60	25	P		P	03 00 13.9	-0.2
FFC					pmax	pmax		
	comp=Z,15nm,1.0s							
FFC	Flin Flon	91.60	25	P		P	03 00 13.9	-0.2
FFC					IAmb	IAmb	03 00 28.0	
	comp=Z,15nm,1.0s							
MFID	Camas Ranch	92.47	40	P		P	03 00 19.4	+0.9
MFID					IAmb	IAmb	03 00 33.4	
	comp=Z,9.7nm,1.3s							
PPT	Papeete	92.85	108	LR		LR	03 33 37.9	
	comp=Z,77nm,21.3s,baz=318,slow=30							
PPT2	Papeete2	92.86	108	*e*S		S	03 11 21.0	-3.4
	comp=Z,98nm,26.8s							
PPT2	Papeete2	92.86	108	*e*LR		LR	03 30 17.3	
	comp=Z,383nm,30.8s							
DLMT	Dillon	93.09	37	P		P	03 00 22.3	+0.9
DLMT					IAmb	IAmb	03 00 38.7	
	comp=Z,24nm,1.8s							
HLID	Hailey	93.20	39	P		P	03 00 22.7	+0.8
HLID					IAmb	IAmb	03 00 40.9	
	comp=Z,18nm,1.6s							
NVAR	Mina Array Bea	93.88	45	LR		LR	03 37 55.9	
	comp=Z,44nm,19.6s,baz=269,slow=32							
KEST	Kesra	94.99	313	LR		LR	03 49 00.6	
	comp=Z,71nm,18.4s,baz=330,slow=39							
TBI	Tubuai	95.31	113	*e*LR		LR	03 31 24.6	
	comp=Z,338nm,34.0s							
PDAR	Pinedale Array	96.44	37	LR		LR	03 48 46.0	
	comp=Z,37nm,18.0s,baz=336,slow=38							
ULM	Lac du Bonnet	97.43	25	LR		LR	03 47 46.7	
	comp=Z,75nm,19.0s,baz=337,slow=37							
TAOE	Nuku Hiva Isla	97.79	96	*e*LR		LR	03 32 34.5	
	comp=Z,158nm,23.4s							
RKT	Rikitea	107.62	108	*e*LR		LR	03 37 05.8	
	comp=Z,243nm,30.0s							
SYO	Syowa Base	110.80	203	⇓*e*PP		PP	03 06 18.4	+1.2
RUSC	La Rusia	145.18	33			PKPbc	03 06 45.3	-0.5
BDFB	Brasilia	169.36	322	PKPab		PKPab	03 08 28.2	+0.3
	comp=Z,2.3nm,0.8s,baz=142,slow=6.5,SNR=3.2							

ISK ***18*** *02:49:20.5,35°.51N×26°.14E,h21km,ML2.6/15*
ATH ***18*** *02:49:20.4,35°.52N×26°.12E,h29km±1km,ML2.7/9, Error ellipse: s-maj=2.0km s-min=1.0km az=158.0*
THE ***18*** *02:49:21.2,35°.53N×26°.13E,h12km±1km,ML2.5/10, Error ellipse: s-maj=1.8km s-min=0.4km az=163.0*
DDA ***18*** *02:49:26.1,36°.11N×26°.23E,h6km±2km,ML2.1*

ISC 18 02:49:20.9±0.9,35°.56N±0'.02×26°.10E±0'.02,h16km±8km, n63,σ1°24/93,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
STIA	Sitia Lasithi	0.35	181	P	Pg	02 49 28.4	+0.2
STIA				S	Sg	02 49 33.0	-0.1
ZKR	Zakros	0.45	168	P	Pg	02 49 29.8	-0.1
ZKR				S	Sg	02 49 35.6	-0.5
	902nm,0.3s						
ZKR	Zakros	0.45	168	P	Pg	02 49 29.7	-0.1
ZKR				S	Sg	02 49 35.4	-0.6
ZKR				AML	AML	02 49 35.8	
	comp=E,2348μm,0.2s						
ZKR				AML	AML	02 49 36.3	
	comp=N,1116μm,0.2s						
ZKR	Zakros	0.45	168	PG	Pg	02 49 29.8	-0.1
ZKR				SG	Sg	02 49 35.5	-0.5
NPS	Neapolis	0.49	234	P	Pb	02 49 31.5	+0.3
NPS				S	Sg	02 49 38.2	+0.8
	comp=N,2μm,0.3s						
NPS	Neapolis	0.49	234	P	Pb	02 49 31.5	+0.3
NPS				S	Sg	02 49 37.7	+0.3
NPS				AML	AML	02 49 38.8	
	comp=E,4369μm,0.2s						
NPS				AML	AML	02 49 38.9	
	comp=N,3838μm,0.4s						
FRMA	Ierapetra Chan	0.62	209	P	Pg	02 49 32.1	-1.0
FRMA				S	Sg	02 49 39.9	-1.4
LAST	Lasithi	0.64	233	P	Pg	02 49 33.9	+0.3
LAST				S	Sg	02 49 42.7	+0.6
LAST	Lasithi	0.64	233	P	Pg	02 49 33.9	+0.3
LAST				S	Sg	02 49 42.4	+0.2
LAST				AML	AML	02 49 43.5	
	comp=E,1207μm,0.2s						
LAST				AML	AML	02 49 44.3	
	comp=N,1341μm,0.3s						
ANAF	Anafi Island	0.84	342	P	Pg	02 49 37.7	+0.4
ANAF				S	Sg	02 49 49.6	+1.2
	comp=N,2μm,0.3s						
ANAF	Anafi Island	0.84	342	P	Pg	02 49 37.7	+0.4
ANAF				S	Sb	02 49 50.1	+1.8
ANAF				AML	AML	02 49 52.9	
	comp=N,2960μm,0.3s						
ANAF				AML	AML	02 49 53.6	
	comp=E,2878μm,0.3s						
HRKL	Herakleio	0.85	254	P	Pg	02 49 37.5	0.0
HRKL				S	Sb	02 49 50.0	+1.5
HRKL	Herakleio	0.85	254	PG	Pb	02 49 38.1	+0.8
KARP	Karpathos	0.86	90	P	Pg	02 49 36.8	-0.9
KARP				S	Sb	02 49 49.2	+0.3
KARP	Karpathos	0.86	90	P	Pg	02 49 36.9	-0.9
KARP				S	Sb	02 49 49.2	+0.3
KARP				AML	AML	02 49 52.4	
	comp=E,846μm,0.1s						
KARP				AML	AML	02 49 52.9	
	comp=N,688μm,0.2s						
KARP	Karpathos	0.86	90	PG	Pg	02 49 37.5	-0.2
KARP				SG	Sb	02 49 49.3	+0.3
KSTL	Kastelli Herak	0.88	254	P	Pg	02 49 35.4	-2.6
KSTL				S	Sg	02 49 45.6	-3.9
SANT	Santorini	0.97	328	P	Pg	02 49 39.5	-0.1
SANT				S	Sg	02 49 52.8	+0.5
	comp=N,178nm,0.2s						
SANT	Santorini	0.97	328	P	Pg	02 49 39.5	-0.1
SANT				AML	AML	02 49 57.5	
	comp=E,518μm,0.2s						
SANT				AML	AML	02 49 58.0	
	comp=N,189μm,0.2s						
SANT	Santorini	0.97	328	PG	Pg	02 49 39.8	+0.2
THR6	Thira Island,	0.98	325	P	Pb	02 49 39.6	+0.1
THR8	Santorini-Mono	0.99	329	P	Pb	02 49 39.3	-0.3
THR9	Santorini-Faro	1.00	323	P	Pb	02 49 39.9	0.0
THR3	Thira Island,	1.02	326	P	Pb	02 49 40.1	-0.2
IDI	Anoyia	1.02	255	PG	Pb	02 49 40.2	-0.1
THR2	Thira island,	1.04	329	P	Pb	02 49 40.5	-0.1
THR5	Thira Island,	1.05	325	P	Pb	02 49 40.6	-0.2
CMBO	Columbo, Santo	1.07	328	P	Pb	02 49 41.3	+0.2
CMBO				S	Sb	02 49 56.1	+1.2
	comp=N,358nm,0.3s						
CMBO	Columbo, Santo

DGB				*i* S	**Sn**	**02 50 25.5**	**-7.3**	
FETY	**Fethiye**	**2.64**	**65**	PN	**Pn**	**02 50 02.9**	**0.0**	
FETY	**Fethiye**	**2.64**	**65**	*i* P	**Pn**	**02 50 04.9**	**+2.0**	
FETY				*i* S	**Sn**	**02 50 35.2**	**+0.6**	
VLI	**Veliai**	**2.81**	**295**	P	**Pn**	**02 50 05.7**	**+0.5**	
VLI				S	**Sn**	**02 50 38.1**	**-0.7**	
	comp=N,38nm,0.5s							
CHOS	**Chios island**	**2.83**	**359**	PN	**Pn**	**02 50 06.3**	**+0.8**	
URLA	**Izmir**	**2.83**	**8**	PN	**Pn**	**02 50 05.2**	**-0.2**	
TAVA	**DENIZLI_Tavas**	**2.96**	**49**	*i* P	**Pn**	**02 50 09.4**	**+2.1**	
TAVA				*i* S	**Sn**	**02 50 44.4**	**+1.8**	
TAVA				IAML		02 50 47.0		
	comp=E,7.2nm,0.3s							
GOLH	**Golhisar**	**3.26**	**58**	*i* P	**Pn**	**02 50 13.0**	**+1.6**	
GOLH				*i* S	**Sn**	**02 50 52.0**	**+2.1**	
GOLH				IAML		02 50 52.0		
	comp=E,15nm,0.5s							
GOLH				IAML		02 50 57.0		
	comp=N,8.5nm,0.6s							

IDC ***18*** *03:04:09.2±2.0,24°.59N×95°.18E,h104km±20km,mb3.6/13, mb1 3.7/15,mb1mx3.5/44,mbtmp4.0/15,Error ellipse: s-maj=17.6km s-min=11.7km az=49.0*

NEIC ***18*** *03:04:09.6±2.4,24°.72N±0°.07×95°.10E±0°.09,h101km±7km, mb4.3/13,Error ellipse: s-maj=11.6km s-min=9.8km az=107.0*

ISC 18 03:04:10.0±0.6,24°.64N±0°.07×95°.07E±0°.07,h112km,n39, σ1ᵍ43/44,mb4.0/18,Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHL	**Shillong**	**3.03**	**288**	*e*P		**Pn**	**03 04 55.4**	**-1.2**
SHL				*ex*		**Sn**	**03 05 28.8**	**-3.7**
SHL				IAML			03 05 30.6	
	comp=N,604nm,0.1s							
SHL				IAML			03 05 31.3	
	comp=E,461nm,0.1s							
SHL	**Shillong**	**3.03**	**288**	Pn		**Pn**	**03 04 54.9**	**-1.7**
SHL				Sn		**Sn**	**03 05 28.4**	**-4.1**
BRDH	**Bariadhala**	**3.70**	**239**	P		**Pn**	**03 05 05.5**	**+0.2**
	comp=E,12nm,0.3s,baz=94,slow=22,SNR=1.9							
BRDH				S		**Sn**	**03 05 48.8**	**+0.6**
	comp=E,58nm,0.3s,baz=110,slow=23,SNR=26							
LSA	**Lhasa**	**6.13**	**326**	Pn		**Pn**	**03 05 38.7**	**+0.2**
LSA				Sn		**Sn**	**03 06 44.7**	**-2.8**
CHTO	**Chiang Mai**	**6.83**	**147**			**Pn**	**03 05 48.2**	**+0.6**
CM31	**Chiang Mai Arr**	**7.13**	**149**	Pn		**Pn**	**03 05 52.4**	**+0.7**
CMAR	**Chiang Mai Arr**	**7.13**	**149**	P		**Pn**	**03 05 51.6**	**-0.2**
	comp=E,0.5nm,0.3s,baz=325,slow=13,SNR=36							
CMAR				S		**Sn**	**03 07 07.3**	**-4.0**
	comp=E,1.1nm,0.3s,baz=103,slow=33,SNR=7.9							
ENH	**Enshi**	**13.97**	**63**	Pn		**Pn**	**03 07 22.4**	**-0.7**
TARG	**Taragay, Kyrgy**	**22.27**	**324**	P		**P**	**03 08 59.0**	**+0.7**
TARG				IAmb		IAmb	03 09 06.6	
	comp=Z,6.0nm,0.7s							
PRZ	**Przheval'sk**	**22.50**	**326**	P		**P**	**03 09 01.1**	**+0.7**
PRZ				IAmb		IAmb	03 09 08.8	
	comp=Z,13nm,0.6s							
MK31	**Makanchi Array**	**24.36**	**338**	P		**P**	**03 09 18.4**	**+1.0**
MK31				IAmb		IAmb	03 09 19.4	
	comp=Z,7.0nm,0.6s							
MKAR	**Makanchi Array**	**24.36**	**338**	P		**P**	**03 09 18.7**	**+1.3**
	comp=Z,8.4nm,0.6s,baz=147,slow=9.6,SNR=95							
MKAR	**Makanchi Array**	**24.36**	**338**	P		**P**	**03 09 18.2**	**+0.8**
MAKZ	**Makanchi**	**24.47**	**338**	P		**P**	**03 09 19.5**	**+1.0**
MAKZ				IAmb		IAmb	03 09 21.9	
	comp=Z,8.1nm,0.9s							
AAK	**Ala-Archa**	**24.70**	**322**	P		**P**	**03 09 22.6**	**+1.9**
	comp=Z,2.0nm,0.7s,baz=173,slow=5.8,SNR=4.1							
AAK	**Ala-Archa**	**24.70**	**322**	P		**P**	**03 09 22.2**	**+1.4**
SONM	**Songino Array**	**24.83**	**18**	P		**P**	**03 09 21.2**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=188,slow=9.1,SNR=4.7							
SONM	**Songino Array**	**24.83**	**18**	P		**P**	**03 09 21.5**	**-0.4**
GAR	**Garm**	**25.34**	**310**	P		**P**	**03 09 27.5**	**+1.0**
GAR				IAmb		IAmb	03 09 30.4	
	comp=Z,12nm,0.9s							
KURBB	**Kurchatov Arra**	**28.92**	**338**	P		**P**	**03 09 58.1**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=148,slow=9.0,SNR=8.4							
KURK	**Kurchatov**	**28.97**	**338**	P		**P**	**03 09 59.3**	**+0.6**
ZALV	**Zalesovo Beam**	**30.26**	**348**	P		**P**	**03 10 10.6**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=157,slow=8.0,SNR=3.9							
ZALV	**Zalesovo Beam**	**30.26**	**348**	P		**P**	**03 10 11.1**	**+1.0**
BVAR	**Borovoye Array**	**33.91**	**333**	P		**P**	**03 10 42.1**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=125,slow=13,SNR=4.5							
ABKAR	**Akbulak array**	**36.78**	**321**	P		**P**	**03 11 07.9**	**+1.2**
WB0	**Warramunga Arr**	**58.43**	**136**	P		**P**	**03 13 53.8**	**-0.5**
WRA	**Warramunga Arr**	**58.52**	**136**	P		**P**	**03 13 53.6**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=325,slow=7.2,SNR=4.7							
WRA	**Warramunga Arr**	**58.52**	**136**	P		**P**	**03 13 54.2**	**-0.6**
WB2	**Warramunga Arr**	**58.53**	**136**	P		**P**	**03 13 54.2**	**-0.8**
FINES	**FINESS Array B**	**58.64**	**328**	P		**P**	**03 13 55.8**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=179,slow=30,SNR=1.6							
ASAR	**Alice Springs**	**61.03**	**139**	P		**P**	**03 14 11.8**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=321,slow=7.0,SNR=11							
ASAR				pP		**pP**	**03 14 40.8**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=323,slow=7.1,SNR=3.9							
ASAR	**Alice Springs**	**61.03**	**139**	P		**P**	**03 14 12.0**	**0.0**
NOA	**NORSAR Array B**	**65.82**	**328**	P		**P**	**03 14 43.9**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=236,slow=9.6,SNR=1.6							
GERES	**GERESS Array B**	**66.33**	**315**	P		**P**	**03 14 47.5**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=78,slow=8.3,SNR=2.6							
BOSA	**Boshof**	**85.49**	**236**	P		**P**	**03 16 36.4**	**+0.7**
	comp=Z,2.0nm,0.5s,baz=67,slow=3.9,SNR=7.5							
BOSA	**Boshof**	**85.49**	**236**	P		**P**	**03 16 36.6**	**+0.8**
BOSA				IAmb		IAmb	03 16 46.2	
	comp=Z,20nm,1.4s							
TORD	**Torodi Ar. Bea**	**87.62**	**283**	P		**P**	**03 16 46.5**	**+0.3**
	comp=Z,0.8nm,1.1s,baz=78,slow=3.5,SNR=4.7							
TORD	**Torodi Ar. Bea**	**87.62**	**283**	P		**P**	**03 16 46.7**	**+0.5**
BDFB	**Brasilia**	**144.29**	**277**	PKP		PKPbc	03 23 32.5	+0.2
	comp=Z,2.5nm,0.8s,baz=26,slow=14,SNR=4.3							

ROM ***18*** *03:07:10.6±0.1,37°.937N±0°.009×15°.88E±0°.01, h60km±1km,ML3.5/28,Error ellipse: s-maj=1.1km s-min=0.6km az=325.0*

BEO ***18*** *03:07:10.5±0.9,38°.25N×16°.10E,h0km,ML3.7/11*

ISC 18 03:07:08.0±1.4,37°.92N±0°.05×15°.97E±0°.04,h78km±6km, n101,σ1ᵍ92/83,3D,Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MPAZ	**Palizzi**	**0.04**	**45**	P		**Pn**	**03 07 20.0**	**+0.8**
MPAZ				S		**Sn**	**03 07 26.5**	**-1.0**
MPAZ				AML		AML		
	comp=N,13750μm,0.5s							
MPAZ				AML		AML		
	comp=E,8825μm,0.6s							
SOI	**Samo**	**0.16**	**25**	P		**Pn**	**03 07 20.2**	**+0.7**
SOI				S		**Sn**	**03 07 26.7**	**-1.2**
SOI				AML		AML		
	comp=E,4285μm,0.6s							
SOI				AML		AML		
	comp=N,2170μm,0.6s							
SOI				AML		AML		
	comp=E,4290μm,0.6s							
MTTG	**Motta San Giov**	**0.23**	**290**	P		**Pn**	**03 07 20.1**	**+0.4**
MTTG				S		**Sn**	**03 07 27.1**	**-1.4**
MTTG				AML		AML		
	comp=E,5030μm,0.6s							
MTTG				AML		AML		
	comp=N,4840μm,0.5s							
GMB	**Gambarie**	**0.27**	**336**	P		**Pn**	**03 07 20.6**	**+0.5**
GMB				S		**Sn**	**03 07 27.9**	**-1.2**
GMB				AML		AML		
	comp=N,22250μm,0.5s							
GMB				AML		AML		
	comp=E,21650μm,0.6s							
MSCL	**Scilla**	**0.34**	**335**	P		**Pn**	**03 07 21.1**	**+0.7**
MSCL				S		**Sn**	**03 07 28.8**	**-0.8**
MSCL				AML		AML		
	comp=E,14000μm,0.7s							
MSCL				AML		AML		
	comp=N,9400μm,0.7s							
CEL	**Celeste**	**0.34**	**350**	P		**Pn**	**03 07 21.2**	**+0.7**
CEL				AML		AML		
	comp=E,3050μm,0.8s							
CEL				AML		AML		
	comp=E,3635μm,0.8s							
CEL				AML		AML		
	comp=N,6620μm,0.7s							
CEL				AML		AML		
	comp=E,3055μm,0.8s							
CEL				AML		AML		
	comp=N,5460μm,0.7s							
MSRU	**Castanea**	**0.50**	**313**	P		**Pn**	**03 07 22.2**	**+0.6**
MSRU				S		**Sn**	**03 07 30.3**	**-1.3**
MSRU				AML		AML		
	comp=E,6580μm,0.3s							
MSRU				AML		AML		
	comp=N,7225μm,1.0s							
MPNC	**Port Mandanici**	**0.54**	**295**	P		**Pn**	**03 07 22.6**	**+0.6**
MPNC				S		**Sn**	**03 07 31.4**	**-0.8**
MPNC				AML		AML		
	comp=E,16650μm,0.4s							
MPNC				AML		AML		
	comp=N,11985μm,0.6s							
MCSR	**Castroreale**	**0.58**	**284**	P		**Pn**	**03 07 23.5**	**+1.0**
MCSR				S		**Sn**	**03 07 33.0**	**-0.2**
MCSR				AML		AML		
	comp=N,11055μm,0.3s							
MCSR				AML		AML		
	comp=E,8725μm,0.8s							
PLAC	**Placanica**	**0.64**	**35**	P		**Pn**	**03 07 25.2**	**+2.2**
PLAC				S		**Sn**	**03 07 35.4**	**+1.3**
PLAC				AML		AML		
	comp=E,2290μm,0.7s							
PLAC				AML		AML		
	comp=N,2225μm,0.9s							
PLAC				AML		AML		
	comp=E,2130μm,0.9s							
PLAC				AML		AML		
	comp=N,2215μm,0.7s							
PLAC				AML		AML		
	comp=E,2135μm,0.9s							
PLAC				AML		AML		
	comp=N,2210μm,0.7s							
NOV	**Novara**	**0.67**	**279**	P		**Pn**	**03 07 24.4**	**+1.2**
NOV				S		**Sn**	**03 07 34.1**	**-0.5**
NOV				AML		AML		
	comp=E,8350μm,0.5s							
NOV				AML		AML		
	comp=N,5105μm,0.6s							
MILZ	**Milazzo**	**0.68**	**301**	P		**Pn**	**03 07 23.7**	**+0.4**
MILZ				S		**Sn**	**03 07 33.5**	**-1.1**
MILZ				AML		AML		
	comp=N,2065μm,0.6s							
MILZ				AML		AML		
	comp=E,3215μm,0.4s							
JOPP	**Joppolo**	**0.69**	**355**	P		**Pn**	**03 07 24.7**	**+1.2**
JOPP				S		**Sn**	**03 07 34.5**	**-0.4**
JOPP				AML		AML		
	comp=N,1740μm,1.0s							
JOPP				AML		AML		
	comp=E,3395μm,0.7s							
MUCR	**Ucria**	**0.87**	**278**	P		**Pn**	**03 07 27.1**	**+1.6**
MUCR				AML		AML		
	comp=N,1350μm,0.9s							
MUCR				AML		AML		
	comp=E,1620μm,0.6s							
EPZF	**Pizzo Felice**	**0.89**	**264**	P		**Pn**	**03 07 27.2**	**+1.5**
EPZF				AML		AML		
	comp=E,2860μm,0.3s							
EPZF				AML		AML		
	comp=N,3300μm,0.4s							
AGST	**Augusta-Monte**	**0.89**	**222**	P		**Pn**	**03 07 26.2**	**+0.5**
AGST				AML		AML		
	comp=E,5120μm,0.9s							
AGST				AML		AML		
	comp=N,6860μm,0.8s							
VPL	**Vulcano Piano**	**0.90**	**301**	P		**Pn**	**03 07 26.5**	**+0.7**
VPL				AML		AML		
	comp=N,13750μm,0.6s							
VPL				AML		AML		
	comp=E,9830μm,0.5s							
HAGA	**Augusta**	**0.91**	**226**	P		**Pn**	**03 07 26.4**	**+0.5**
HAGA				AML		AML		
	comp=E,3245μm,0.6s							
HAGA				AML		AML		
	comp=N,1960μm,0.5s							
ESML	**S. M. di Licod**	**0.92**	**251**	AML		AML		
	comp=E,2725μm,0.4s							
ESML				AML		AML		
	comp=N,1975μm,0.3s							
LLI	**Lipari**	**0.96**	**303**	P		**Pn**	**03 07 27.3**	**+0.9**
LLI				AML		AML		
	comp=N,15800μm,0.5s							
LLI				AML		AML		
	comp=E,10095μm,0.4s							
GRI	**Girifalco**	**0.96**	**21**	P		**Pn**	**03 07 28.9**	**+2.3**
GRI				AML		AML		
	comp=E,1690μm,0.6s							
GRI				AML		AML		
	comp=N,1155μm,0.4s							
HCRL	**Carlentini**	**0.98**	**230**	AML		AML		
	comp=E,5135μm,0.4s							
HCRL				AML		AML		
	comp=N,4170μm,0.3s							
MNO	**Monte Soro**	**1.01**	**271**	AML		AML		
	comp=N,2380μm,0.6s							
MNO				AML		AML		
	comp=E,2750μm,0.6s							
MNO				AML		AML		
	comp=E,2745μm,0.6s							
MNO				AML		AML		
	comp=N,2375μm,0.6s							
HLNI	**Lentini**	**1.04**	**237**	P		**Pn**	**03 07 28.3**	**+0.9**
HLNI				AML		AML		
	comp=E,3375μm,0.7s							
HLNI				AML		AML		
	comp=N,3225μm,1.0s							
ECNV	**Catenanuova**	**1.05**	**252**	P		**Pn**	**03 07 29.7**	**+2.1**
ECNV				AML		AML		
	comp=E,1096μm,1.3s							
ECNV				AML		AML		
	comp=E,1096μm,1.3s							
ECNV				AML		AML		
	comp=N,1500μm,0.5s							
SSY	**Sortino**	**1.05**	**223**	AML		AML		
	comp=E,11150μm,0.6s							
SSY				AML		AML		
	comp=N,15200μm,1.0s							
IST3	**Stromboli F**	**1.05**	**327**	P		**Pn**	**03 07 28.4**	**+0.9**
IST3				AML		AML		
	comp=E,1890μm,0.3s							
IST3				AML		AML		
	comp=N,2595μm,1.4s							
IST3				AML		AML		
	comp=N,2600μm,1.4s							
ISTR	**Stromboli Gino**	**1.06**	**325**	P		**Pn**	**03 07 28.4**	**+0.7**
ISTR				AML		AML		
	comp=E,1570μm,0.3s							
ISTR				AML		AML		
	comp=E,1575μm,0.3s							
ISTR				AML		AML		
	comp=N,1755μm,0.3s							
ISTR				AML		AML		
	comp=N,1750μm,0.3s							
MSFR	**San Fratello**	**1.09**	**276**	P		**Pn**	**03 07 29.9**	**+1.7**
MSFR				AML		AML		
	comp=N,868μm,0.6s							
MSFR				AML		AML		
	comp=E,702μm,0.3s							
GALF	**Gagliano Caste**	**1.13**	**260**	P		**Pn**	**03 07 30.3**	**+1.7**
GALF				AML		AML		
	comp=E,1775μm,0.6s							
GALF				AML		AML		
	comp=N,1280μm,0.6s							
MEU	**Monte Lauro**	**1.16**	**225**	AML		AML		
	comp=E,7230μm,0.2s							
MEU				AML		AML		
	comp=N,6715μm,0.3s							
MEU				AML		AML		
	comp=N,6710μm,0.3s							
HAVL	**Avola**	**1.17**	**215**	P		**Pn**	**03 07 30.4**	**+1.3**
HAVL				AML		AML		
	comp=N,11400μm,1.1s							
HAVL				AML		AML		
	comp=E,6075μm,0.3s							
CAGR	**Agira**	**1.20**	**256**	AML		AML		
	comp=N,1225μm,0.6s							
CAGR				AML		AML		
	comp=E,1470μm,0.7s							
SERS	**Sersale**	**1.25**	**27**	P		**Pn**	**03 07 33.0**	**+2.9**
SERS				AML		AML		
	comp=E,504μm,0.6s							
SERS				AML		AML		
	comp=N,391μm,0.4s							
IFIL	**Filicudi I Eol**	**1.28**	**301**	AML		AML		
	comp=E,9475μm,0.3s							
IFIL				AML		AML		
	comp=N,3555μm,0.6s							
CAR1	**CAROLEI**	**1.34**	**8**	P		**Pn**	**03 07 33.3**	**+2.0**
CAR1				AML		AML		
	comp=E,1970μm,0.6s							
CAR1				AML		AML		
	comp=N,1700μm,0.7s							
CAR1				AML		AML		
	comp=E,1840μm,0.6s							
CAR1				AML		AML		
	comp=N,1595μm,0.7s							
TIP	**Timpagrande**	**1.40**	**26**	P		**Pn**	**03 07 34.9**	**+2.8**
TIP				AML		AML		
	comp=E,245μm,0.6s							
TIP				AML		AML		
	comp=N,342μm,0.5s							
TIP				AML		AML		
	comp=E,298μm,0.7s							
TIP				AML		AML		
	comp=N,439μm,0.5s							
HPAC	**Pachino**	**1.40**	**209**	AML		AML		
	comp=E,8185μm,0.3s							
HPAC				AML		AML		
	comp=N,7355μm,0.4s							
IACL	**Alicudi**	**1.41**	**296**	P		**Pn**	**03 07 32.9**	**+0.9**
IACL				AML		AML		
	comp=N,1445μm,0.3s							
IACL				AML		AML		
	comp=E,1270μm,0.8s							
HBSP	**Bosco Santo Pi**	**1.42**	**236**	AML		AML		
	comp=E,2485μm,1.6s							
HBSP				AML		AML		
	comp=N,2555μm,0.5s							
PETRA	**Petralia Sopra**	**1.47**	**267**	AML		AML		
	comp=N,892μm,0.9s							
PETRA				AML		AML		
	comp=E,810μm,1.2s							
CELI	**Celico**	**1.54**	**16**	AML		AML		
	comp=E,698μm,0.8s							
CELI				AML		AML		
	comp=N,812μm,1.0s							
LADO	**San Nicola del**	**1.57**	**30**	AML		AML		
	comp=N,216μm,1.2s							
LADO				AML		AML		
	comp=E,208μm,0.5s							
CET2	**Cetraro**	**1.60**	**360**	AML		AML		
	comp=E,2880μm,0.8s							
CET2				AML		AML		
	comp=N,3055μm,0.4s							
PIPA	**Pietrapaola**	**1.69**	**23**	AML		AML		
	comp=E,272μm,0.6s							
PIPA				AML		AML		
	comp=N,319μm,0.6s							
TDS	**Terranova Siba**	**1.76**	**9**	AML		AML		
	comp=N,231μm,1.1s							
TDS				AML		AML		
	comp=E,202μm,0.9s							
ALJA	**Alia**	**1.76**	**265**	AML		AML		
	comp=N,272μm,1.3s							
ALJA				AML		AML		
	comp=E,220μm,0.6s							
CLTA	**Licata**	**1.77**	**245**	AML		AML		
	comp=E,2135μm,0.4s							
CLTA				AML		AML		
	comp=N,2150μm,0.6s							
FAVR	**Favara**	**1.94**	**251**	AML		AML		
	comp=E,320μm,0.7s							
FAVR				AML		AML		
	comp=N,347μm,1.0s							
SALB	**San Lorenzo Be**	**1.97**	**8**	AML		AML		
	comp=E,278μm,0.8s							
SALB				AML		AML		
	comp=N,199μm,1.1s							
CUC	**Castrocucco**	**2.07**	**357**	AML		AML		
	comp=E,320μm,0.7s							
CUC				AML		AML		
	comp=E,261μm,0.7s							
CUC				AML		AML		
	comp=N,215μm,0.4s							
CUC				AML		AML		
	comp=N,256μm,0.4s							
BULG	**Bulgheria - Ca**	**2.20**	**348**	AML		AML		
	comp=E,358μm,1.5s							
BULG				AML		AML		
	comp=N,530μm,1.2s							
MGR	**Morigerati**	**2.23**	**352**	AML		AML		
	comp=E,435μm,0.9s							
MGR				AML		AML		
	comp=N,268μm,0.7s							
SIRI	**Monte Sirino -**	**2.26**	**358**	AML		AML		
	comp=E,300μm,1.2s							
SIRI				AML		AML		
	comp=N,320μm,0.8s							
MTSN	**Montesano sull**	**2.35**	**356**	AML		AML		
	comp=E,363μm,0.7s							
MTSN				AML		AML		
	comp=N,258μm,0.8s							
MCEL	**Monticello**	**2.40**	**357**	AML		AML		
	comp=N,288μm,0.7s							
MCEL				AML		AML		
	comp=E,178μm,0.5s							
CMPR	**Campora**	**2.45**	**348**	AML		AML		
	comp=E,192μm,0.5s							
CMPR				AML		AML		
	comp=N,252μm,1.3s							
SLCN	**Sala Consilina**	**2.48**	**354**	AML		AML		
	comp=E,992μm,1.6s							
SLCN				AML		AML		
	comp=N,1074μm,1.6s							
SLCN				AML		AML		
	comp=E,362μm,0.5s							
SLCN				AML		AML		
	comp=N,304μm,0.7s							
CDRU	**Civita di Ruta**	**2.61**	**349**	AML		AML		
	comp=E,239μm,1.4s							
CDRU				AML		AML		
	comp=N,90μm,1.3s							
MIGL	**Miglionico**	**2.70**	**8**	AML		AML		
	comp=E,628μm,1.5s							
MIGL				AML		AML		
	comp=N,646μm,1.6s							
MATE	**Matera**	**2.78**	**12**	AML		AML		
	comp=E,178μm,0.7s							
MATE				AML		AML		
	comp=N,219μm,1.2s							
TAR1	**Taranto**	**2.79**	**21**	⇓*i*Pn		**Pn**	**03 07 52.0**	**+1.5**
TAR1				Sn		**Sn**	**03 08 22.8**	**-0.3**
MRLC	**Muro Lucano**	**2.85**	**353**	AML		AML		
	comp=N,124μm,0.7s							
MRLC				AML		AML		
	comp=E,132μm,0.7s							
ACER	**Acerenza**	**2.86**	**360**	AML		AML		
	comp=E,288μm,0.6s							
ACER				AML		AML		
	comp=N,200μm,1.0s							
SCTE	**Santa Cesarea**	**2.90**	**41**	AML		AML		
	comp=E,285μm,0.5s							
SCTE				AML		AML		
	comp=N,334μm,1.1s							
SG1	**Sgolgore (BA)**	**2.96**	**10**	⇓*i*Pn		**Pn**	**03 07 55.3**	**+2.4**
SG1				Sn		**Sn**	**03 08 27.1**	**-0.3**
NOCI	**Noci**	**2.98**	**16**	AML		AML		
	comp=N,590μm,0.9s							
NOCI				AML		AML		
	comp=E,418μm,0.4s							
AMUR	**Altamura**	**3.02**	**9**	AML		AML		
	comp=E,212μm,0.5s							
AMUR				AML		AML		
	comp=N,232μm,1.3s							
MRVN	**Minervino Murg**	**3.14**	**3**	AML		AML		
	comp=N,111μm,1.3s							
MRVN				AML		AML		
	comp=E,96μm,1.5s							
BAI	**Bari**	**3.26**	**12**	⇓*i*Pn		**Pn**	**03 07 59.0**	**+2.2**
BAI				Sn		**Sn**	**03 08 33.4**	**-1.0**
VITU	**Vitulano (BN)**	**3.42**	**343**	AML		AML		
	comp=N,64μm,0.6s							
VITU				AML		AML		
	comp=E,70μm,0.5s							
KEK	**Kerkira**	**3.48**	**58**	AML		AML		
	comp=E,42μm,0.7s							
KEK				AML		AML		
	comp=N,41μm,0.2s							
VLS	**Valsamata**	**3.66**	**85**	AML		AML		
	comp=E,38μm,1.0s							
VLS				AML		AML		
	comp=N,58μm,0.4s							
TIR	**Tirane**	**4.55**	**40**	*e*Pn		**Pn**	**03 08 16.1**	**+1.7**

TIR				*e*Sn		**Sn**	**03 09 06.2**	**+0.1**
ITM	**Ithomi**	**4.79**	**97**	AML		AML		
	comp=E,24µm,0.7s							
ITM				AML		AML		
	comp=N,18µm,0.5s							
DBRK	**Dubrovnik**	**5.02**	**19**	*e*Pn		**Pn**	**03 08 21.4**	**+0.6**
TREB	**Trebinje**	**5.12**	**20**	*e*Pn		**Pn**	**03 08 23.2**	**+1.0**
TREB				*e*Sn		**Sn**	**03 09 16.6**	**-3.4**
PDG	**Podgorica**	**5.16**	**28**	*e*Pn		**Pn**	**03 08 24.0**	**+1.4**
PDG				*e*Sn		**Sn**	**03 09 18.5**	**-2.3**
HVAR	**Hvar**	**5.26**	**4**	*e*Pn		**Pn**	**03 08 25.1**	**+1.0**
RICI	**Ricice**	**5.63**	**9**	*e*Pn		**Pn**	**03 08 30.5**	**+1.3**
ZIRJ	**Zirje**	**5.73**	**358**	*e*Pn		**Pn**	**03 08 33.5**	**+3.0**
MORI	**Morici**	**5.94**	**358**	*e*Pn		**Pn**	**03 08 35.7**	**+2.4**
KIJV	**Kijevo**	**6.08**	**3**	*e*Pn		**Pn**	**03 08 36.6**	**+1.3**
STIP	**Stip**	**6.09**	**50**	*i* Pn		**Pn**	**03 08 39.9**	**+4.5**
DUGI	**Dugi Otok**	**6.10**	**354**	*e*Pn		**Pn**	**03 08 38.0**	**+2.5**
VAY	**Valandovo**	**6.12**	**54**	*e*Pn		**Pn**	**03 08 37.8**	**+2.0**
SJES	**Sjenica**	**6.14**	**28**	*e*Pn		**Pn**	**03 08 37.9**	**+1.7**
SJES				*e*Sn		**Sn**	**03 09 43.5**	**-1.5**
IVAS	**Ivanjica**	**6.48**	**28**	*e*Pn		**Pn**	**03 08 41.7**	**+1.0**
IVAS				*e*Sn		**Sn**	**03 09 50.5**	**-2.7**
BBLS	**Lazići**	**6.48**	**23**	*e*Sn		**Sn**	**03 09 51.0**	**-2.3**
HAPS	**Han Pijesak,BI**	**6.56**	**19**	*e*Sn		**Sn**	**03 09 52.5**	**-2.7**
BARS	**Barje**	**6.62**	**41**	*e*Pn		**Pn**	**03 08 44.1**	**+1.5**
BARS				*e*Sn		**Sn**	**03 09 54.9**	**-1.6**
NVLJ	**Novalja**	**6.69**	**353**	*e*Pn		**Pn**	**03 08 46.6**	**+3.2**
BOSS	**Bosilegrad**	**6.76**	**45**	*e*Sn		**Sn**	**03 09 57.1**	**-2.9**
DIVS	**Divibare**	**6.88**	**25**	*e*Sn		**Sn**	**03 09 59.0**	**-4.0**
BLY	**Banja Luka**	**6.88**	**7**	*e*Sn		**Sn**	**03 10 02.1**	**-0.8**
GRUS	**Gruza**	**6.96**	**30**	*e*Sn		**Sn**	**03 10 01.5**	**-3.3**
TRUS	**Trudelj**	**7.13**	**27**	*e*Sn		**Sn**	**03 10 05.5**	**-3.5**
TEKS	**Tekeris**	**7.14**	**21**	*e*Sn		**Sn**	**03 10 04.5**	**-4.8**
VTS	**Vitosha**	**7.27**	**48**	*e*Sn		**Sn**	**03 10 10.2**	**-2.5**
ZAPS	**Zavoj**	**7.37**	**41**	*e*Pn		**Pn**	**03 08 52.3**	**-0.5**
ZAPS				*e*Sn		**Sn**	**03 10 11.2**	**-3.7**
ZAGS	**Zajecar**	**7.56**	**37**	*e*Pn		**Pn**	**03 08 56.5**	**+1.1**

VAO 18 03:29:25.0,5.58S×36.10W,h0km,mbR3.5,Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**0.31**	**140**	*e*P	Pb	03 29 33.1	-0.4
RCBR				*e*S	Sb	03 29 38.3	-0.9
RCBR	**Riachuelo**	**0.31**	**140**	*e*P	Pb	03 29 33.1	-0.4
RCBR				*e*S	Sb	03 29 38.3	-0.9
ROSB	**Rosrio**	**8.43**	**288**	*e*P	Pn	03 31 27.6	-0.9
ROSB	**Rosrio**	**8.43**	**288**	*e*P	Pn	03 31 27.6	-0.9
GDU01	**Guandu, BA**	**8.78**	**203**	*e*P	Pn	03 31 31.7	-1.6
GDU01	**Guandu, BA**	**8.78**	**203**	*e*P	Pn	03 31 31.7	-1.6
NAN01	**Guarapari, ES**	**12.80**	**198**	*e*P	Pn	03 32 27.3	-1.1
NAN01	**Guarapari, ES**	**12.80**	**198**	*e*P	Pn	03 32 27.3	-1.1
PRPB	**Parauapebas**	**13.65**	**267**	*e*P	Pn	03 32 39.2	-0.9
PRPB	**Parauapebas**	**13.65**	**267**	*e*P	Pn	03 32 39.2	-0.9
SJMB	**Sao Joao De Ma**	**13.95**	**200**	*e*P	Pn	03 32 42.5	-1.6
SJMB	**Sao Joao De Ma**	**13.95**	**200**	*e*P	Pn	03 32 42.5	-1.6
BSFB	**Barra de Sao F**	**13.96**	**199**	*e*P	Pn	03 32 42.4	-1.8
BSFB				*e*S	Sn	03 35 19.4	-0.6
BSFB	**Barra de Sao F**	**13.96**	**199**	*e*P	Pn	03 32 42.4	-1.8
BSFB				*e*S	Sn	03 35 19.4	-0.6
RIB01	**Linhares ES**	**14.27**	**197**	*e*P	Pn	03 32 47.1	-1.4
RIB01	**Linhares ES**	**14.27**	**197**	*e*P	Pn	03 32 47.1	-1.4
IPMB	**Ipameri, GO**	**17.08**	**223**	*e*P	Pn	03 33 24.6	-0.9
IPMB	**Ipameri, GO**	**17.08**	**223**	*e*P	Pn	03 33 24.6	-0.9
BSCB	**Bom Sucesso**	**17.48**	**208**	*e*P	Pn	03 33 29.2	-1.2
BSCB	**Bom Sucesso**	**17.48**	**208**	*e*P	Pn	03 33 29.2	-1.2
ARAG	**Araguaiana, MT**	**18.41**	**236**	*e*P	Pn	03 33 40.8	-1.1
ARAG	**Araguaiana, MT**	**18.41**	**236**	*e*P	Pn	03 33 40.8	-1.1

*SJA **18** 04:02:22.7±0.6,20.21S×70.89W,h8km±3km,ML4.5, MW4.2*
*IDC **18** 04:02:23.1±0.9,20.05S×70.77W,h0km,mb4.0/8, mb1 4.3/11,mb1mx4.1/31,mbtmp4.1/11,ML4.1/3,MS3.6/11, Ms1 3.6/11,ms1mx3.5/23,Error ellipse: s-maj=26.5km s-min=20.7km az=43.0*
*VAO **18** 04:02:24.8±0.5,20.05S×70.87W,h15km,mb4.3*
*NEIC **18** 04:02:25.6±1.8,20.24S±0.03×70.84W±0.04,h17km±3km, mb4.6/23,Mwr4.4/37,ML4.5(GUC),Error ellipse: s-maj=5.7km s-min=3.7km az=64.0*
*NEIC **18** 04:02:25.6,20.24S×70.84W,h18km,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr3.86; Mθθ-0.25; Mϕϕ-3.61; Mrθ0.33; Mrϕ1.06; Mθϕ-2.78; Fault plane solution: Mo4.79000×10^15^ NP1:ϕs169.33000°, δ62.93000°,λ95.07000°. NP2:ϕs338.29000°,δ27.51000°, λ80.18000°. Principal axes: T 4.7829, Plg72.0000°, Azm91.0000°; N 0.0228, Plg5.0000°, Azm347.0000°; P -4.8057, Plg18.0000°, Azm256.0000°;*
*GUC **18** 04:02:26.5±0.7,20.21S×70.89W,h19km±6km,ML4.5*

ISC 18 04:02:25.4±1.1,20.24S±0.02×70.84W±0.04,h18km±5km, n212,σ1°26/230,mb4.4/15,MS3.9/8,9C-5D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.67**	**93**	⇓*i*P	**Pb**	**04 02 38.9**	**+0.3**
TA02				*i* S	**Sb**	**04 02 48.3**	**+0.8**
TA02				IAML		04 02 49.4	
	comp=E,117µm,0.4s						
TA01	**Diego Aracena**	**0.70**	**118**	⇓*i*P	**Pg**	**04 02 39.2**	**0.0**
TA01				*i* S	**Sb**	**04 02 49.0**	**+0.5**
TA01				IAML		04 02 51.5	
	comp=N,49µm,0.3s						
TA01	**Diego Aracena**	**0.70**	**118**		**Pg**	**04 02 39.2**	**0.0**
TA01				Sg	**Sb**	**04 02 49.3**	**+0.8**
PSGC	**Pisagua**	**0.93**	**47**	⇓*i*P	**Pb**	**04 02 42.6**	**-0.5**
PSGC				*i* S	**Sb**	**04 02 54.6**	**-0.5**
PSGCX	**Pisagua**	**0.93**	**47**		**Pb**	**04 02 42.6**	**-0.4**
PSGCX				Sg	**Sg**	**04 02 55.4**	**-0.5**
PSGCX	**Pisagua**	**0.93**	**47**	*e*P	**Pb**	**04 02 42.7**	**-0.4**
PSGCX				*e*S	**Sn**	**04 02 56.2**	**-0.4**
PSGCX				IAML		04 02 59.5	
	comp=Z,6µm,0.6s						
PB11	**IPOC Station P**	**1.21**	**67**	⇓*i*P	**Pn**	**04 02 47.4**	**-0.3**
PB11				*i* S	**Sb**	**04 03 03.4**	**+0.1**
PB11				IAML		04 03 05.0	
	comp=N,12µm,0.3s						
PB11	**IPOC Station P**	**1.21**	**67**	Pn	**Pn**	**04 02 47.3**	**-0.3**
PB11				Sn	**Sb**	**04 03 03.5**	**+0.1**
PB11	**IPOC Station P**	**1.21**	**67**	*e*P	**Pn**	**04 02 47.4**	**-0.3**
PB11				*e*S	**Sn**	**04 03 04.0**	**+0.3**
PB11				IAML		04 03 07.8	
	comp=Z,7µm,0.3s						
PB02	**IPOC Station P**	**1.40**	**141**	⇑*i*P	**Pn**	**04 02 50.2**	**+0.1**
PB02				*i* S	**Sb**	**04 03 08.8**	**+0.2**
PB02				IAML		04 03 17.4	
	comp=E,22µm,0.3s						
PB02	**IPOC Station P**	**1.40**	**141**	*e*P	**Pn**	**04 02 50.3**	**+0.1**
PB02				*e*S	**Sg**	**04 03 10.2**	**-0.4**
PB02				IAML		04 03 13.8	
	comp=Z,15µm,0.5s						
PB01	**IPOC Station P**	**1.50**	**123**	⇑*e*P	**Pn**	**04 02 51.9**	**+0.3**
PB01				*i* S	**Sb**	**04 03 11.7**	**+0.1**
PB01				IAML		04 03 19.2	
	comp=E,19µm,0.3s						
PB01	**IPOC Station P**	**1.50**	**123**		**Pn**	**04 02 52.0**	**+0.5**
PB01				Sn	**Sn**	**04 03 11.3**	**+0.6**
PB08	**IPOC Station P**	**1.59**	**87**	⇑*i*P	**Pn**	**04 02 53.7**	**+0.7**
PB08				*i* S	**Sb**	**04 03 14.7**	**+0.3**
PB08				IAML		04 03 18.4	
	comp=E,6µm,0.3s						
PB08	**IPOC Station P**	**1.59**	**87**		**Pn**	**04 02 53.5**	**+0.5**
PB08				Sn	**Sb**	**04 03 14.3**	**-0.1**
PB08	**IPOC Station P**	**1.59**	**87**	*e*P	**Pn**	**04 02 53.8**	**+0.7**
PB08				*e*S	**Sb**	**04 03 15.4**	**+1.0**
PB08				IAML		04 03 18.9	
	comp=Z,4µm,0.4s						
MNMC	**Minye Minye**	**1.61**	**47**	⇑*i*P	**Pn**	**04 02 53.5**	**+0.3**
MNMC				*i* S	**Sb**	**04 03 14.6**	**-0.3**
MNMC				IAML		04 03 18.9	
	comp=E,21µm,0.4s						
MNMC	**Minye Minye**	**1.61**	**47**		**Pn**	**04 02 53.4**	**+0.2**
MNMC				Sn	**Sb**	**04 03 15.7**	**+0.8**
MNMCX	**Minye Minye**	**1.61**	**47**	*e*P	**Pn**	**04 02 53.7**	**+0.5**
MNMCX				*e*S	**Sg**	**04 03 16.6**	**-0.9**
MNMCX				IAML		04 03 22.2	
	comp=Z,12µm,0.4s						
GO01	**Chusmiza**	**1.65**	**70**	*e*P	**Pn**	**04 02 54.6**	**+0.6**
GO01				*i* S	**Sb**	**04 03 16.9**	**+0.6**
GO01	**Chusmiza**	**1.65**	**70**	⇑*e*P	**Pn**	**04 02 54.5**	**+0.6**
PB12	**IPOC Station P**	**1.69**	**17**	⇑*e*P	**Pn**	**04 02 53.6**	**-0.4**
PB12				*e*S	**Sn**	**04 03 15.3**	**0.0**
PB12				IAML		04 03 27.6	
	comp=E,5µm,0.4s						
PB12	**IPOC Station P**	**1.69**	**17**	Pn	**Pn**	**04 02 54.2**	**+0.2**
PB12	**IPOC Station P**	**1.69**	**17**	*e*P	**Pn**	**04 02 53.9**	**-0.2**
PB12				*e*S	**Sb**	**04 03 17.5**	**+0.6**
PB12				IAML		04 03 24.9	
	comp=Z,3µm,0.6s						
PB07	**IPOC Station P**	**1.73**	**149**	⇑*i*P	**Pn**	**04 02 54.7**	**-0.1**
PB07				*i* S	**Sb**	**04 03 18.1**	**-0.2**
PB07				IAML		04 03 31.7	
	comp=E,5µm,0.5s						
PB07	**IPOC Station P**	**1.73**	**149**		**Pn**	**04 02 54.5**	**-0.3**
PB07	**IPOC Station P**	**1.73**	**149**	*e*P	**Pn**	**04 02 54.8**	**0.0**
PB07				*e*S	**Sg**	**04 03 20.8**	**-0.6**
PB07				IAML		04 03 32.1	
	comp=Z,6µm,0.5s						
AP01	**Chacalluta**	**1.92**	**14**	Pn	**Pn**	**04 02 57.8**	**+0.6**
PB03	**IPOC Station P**	**2.07**	**151**	⇑*i*P	**Pn**	**04 02 59.3**	**-0.1**
PB03				*i* S	**Sb**	**04 03 27.6**	**-0.4**
PB03				IAML		04 03 38.8	
	comp=E,3µm,0.5s						
PB03	**IPOC Station P**	**2.07**	**151**	*e*P	**Pn**	**04 02 59.5**	**0.0**
PB03				*e*S	**Sg**	**04 03 34.2**	**+2.0**
PB03				IAML		04 03 44.9	
	comp=Z,3µm,0.3s						
PB09	**IPOC Station P**	**2.16**	**136**		**Pn**	**04 03 01.9**	**+1.3**
PB09	**IPOC Station P**	**2.16**	**136**	*i* P	**Pn**	**04 03 02.1**	**+1.5**
PB09				*e*S	**Sg**	**04 03 34.0**	**-0.9**
PB09				IAML		04 03 42.9	
	comp=Z,7µm,0.5s						
PB04	**IPOC Station P**	**2.19**	**163**	⇑*e*P	**Pn**	**04 03 00.5**	**-0.5**
PB04				*i* S	**Sn**	**04 03 25.4**	**-2.4**
PB04				IAML		04 03 47.4	
	comp=N,4µm,0.7s						
PB04	**IPOC Station P**	**2.19**	**163**		**Pn**	**04 03 00.8**	**-0.2**
PB04	**IPOC Station P**	**2.19**	**163**	*i* P	**Pn**	**04 03 00.6**	**-0.5**
PB04				*e*S	**Sg**	**04 03 36.5**	**+0.7**
PB04				IAML		04 03 47.2	
	comp=Z,3µm,0.4s						
PB05	**IPOC Station P**	**2.67**	**167**	⇓*i*P	**Pn**	**04 03 06.8**	**-0.9**
PB05				*i* S	**Sn**	**04 03 40.6**	**+1.0**
PB05				IAML		04 04 00.9	
	comp=N,2µm,0.3s						
PB05	**IPOC Station P**	**2.67**	**167**	*i* P	**Pn**	**04 03 06.8**	**-0.9**
PB05				*e*S	**Sg**	**04 03 50.1**	**-1.2**
PB05				IAML		04 03 55.6	
	comp=Z,1µm,0.8s						
PB06	**IPOC Station P**	**2.73**	**154**	⇑*e*P	**Pn**	**04 03 08.0**	**-0.5**
PB06	**IPOC Station P**	**2.73**	**154**		**Pn**	**04 03 08.3**	**-0.2**
PB06	**IPOC Station P**	**2.73**	**154**	*i* P	**Pn**	**04 03 08.3**	**-0.2**
PB06				*e*S	**Sg**	**04 03 52.2**	**-1.0**
PB06				IAML		04 03 57.1	
	comp=Z,2µm,0.8s						
LVC	**Limon Verde**	**2.97**	**143**	Pn	**Pn**	**04 03 13.6**	**+1.6**
	comp=Z,17nm,0.3s,baz=329,slow=10,SNR=198						
LVC				LR	LR	04 03 46.3	
	comp=Z,184nm,21.4s,baz=314,slow=27						
LVC				Lg	Lg	04 03 57.1	
	comp=Z,109nm,0.3s,baz=249,slow=4.9,SNR=12						
LVC	**Limon Verde**	**2.97**	**143**	*i* P	**Pn**	**04 03 13.2**	**+1.2**
LVC	**Limon Verde**	**2.97**	**143**	*i* P	**Pn**	**04 03 13.6**	**+1.6**
LVC				*e*S	**Sb**	**04 03 56.5**	**+2.4**
LVC				IAML		04 04 05.4	
	comp=Z,1µm,0.7s						
LVC	**Limon Verde**	**2.97**	**143**	*e*P	**Pn**	**04 03 13.8**	**+1.8**
LVC				*e*S	**Sb**	**04 03 52.1**	**-2.1**
LVC	**Limon Verde**	**2.97**	**143**	*e*P	**Pn**	**04 03 13.8**	**+1.8**
LVC				*e*S	**Sb**	**04 03 52.1**	**-2.1**
PB15	**IPOC Station P**	**3.22**	**157**		**Pn**	**04 03 15.1**	**-0.2**
PB15	**IPOC Station P**	**3.22**	**157**	*i* P	**Pn**	**04 03 15.2**	**-0.2**
PB15				*e*S	**Sg**	**04 04 08.5**	**-0.5**
PB15				IAML		04 04 12.4	
	comp=Z,3µm,1.0s						
PB10	**IPOC Station P**	**3.27**	**175**	Pn	**Pn**	**04 03 14.6**	**-1.2**
PB10	**IPOC Station P**	**3.27**	**175**	*i* P	**Pn**	**04 03 14.7**	**-1.2**
PB10				*e*S	**Sg**	**04 04 11.3**	**+0.7**
PB10				IAML		04 04 20.1	
	comp=Z,314nm,1.4s						
LPAZ	**La Paz**	**4.70**	**34**	Pn	Pb	04 03 42.2	-5.4
	comp=Z,2.9nm,0.3s,baz=235,slow=7.8,SNR=88						
LPAZ				Lg	Lg	04 04 51.0	
	baz=231,slow=21,SNR=1.0						
GO02	**Mina Guanaco**	**5.04**	**167**	Pn	**Pn**	**04 03 40.1**	**-0.3**
YJA	**Yavi**	**5.33**	**112**	*i* P	**Pn**	**04 03 48.9**	**+4.3**
AC01	**Pan de Azucar**	**5.89**	**178**	Pn	**Pn**	**04 03 50.2**	**-1.6**
AC02	**Maricunga**	**6.75**	**167**	Pn	**Pn**	**04 04 03.8**	**-0.3**
GO03	**Copiap**	**7.34**	**176**	Pn	**Pn**	**04 04 12.2**	**+0.4**
AC04	**Llanos de Chal**	**7.94**	**181**	Pn	**Pn**	**04 04 17.6**	**-2.3**
AC05	**El Transito**	**8.58**	**177**	Pn	**Pn**	**04 04 27.4**	**-1.5**
CO01	**Juntas del Tor**	**9.72**	**176**	Pn	**Pn**	**04 04 43.7**	**-0.9**
GO04	**Tololo Observa**	**9.89**	**180**	Pn	**Pn**	**04 04 45.1**	**-1.8**
NNA	**Nana**	**10.02**	**324**	Pn	**Pn**	**04 04 52.5**	**+3.9**
	comp=Z,0.7nm,0.3s,baz=323,slow=22,SNR=1.6						
NNA				LR	LR	04 07 49.6	
	comp=Z,45nm,20.2s,baz=174,slow=33						
SIV	**San Ignacio**	**10.21**	**67**	Pn	**Pn**	**04 04 50.1**	**-1.0**
	comp=Z,3.3nm,0.3s,baz=265,slow=10,SNR=24						
PTLB	**Pontes e Lacer**	**12.12**	**69**	*e*P	**Pn**	**04 05 15.8**	**-1.5**
PTLB	**Pontes e Lacer**	**12.12**	**69**	*e*P	**Pn**	**04 05 15.8**	**-1.5**
VILB	**Vilhena**	**12.51**	**56**	*e*P	**Pn**	**04 05 22.7**	**+0.1**
VILB	**Vilhena**	**12.51**	**56**	*e*P	**Pn**	**04 05 22.7**	**+0.1**
SAML	**Samuel**	**13.44**	**35**		**Pn**	**04 05 33.7**	**-1.7**
SAML	**Samuel**	**13.44**	**35**	*e*P	**Pn**	**04 05 33.1**	**-2.3**
SAML	**Samuel**	**13.44**	**35**	*e*P	**Pn**	**04 05 33.1**	**-2.3**
CPUP	**Villa Florida**	**13.82**	**119**	Pn	**Pn**	**04 05 42.7**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=301,slow=12,SNR=4.9						
CPUP				LR	LR	04 11 52.2	
	comp=Z,244nm,20.4s,baz=296,slow=41						
CPUP	**Villa Florida**	**13.82**	**119**		**Pn**	**04 05 39.6**	**-0.8**
CPUP	**Villa Florida**	**13.82**	**119**	*e*P	**Pn**	**04 05 42.1**	**+1.7**
CPUP	**Villa Florida**	**13.82**	**119**	*e*P	**Pn**	**04 05 42.1**	**+1.7**
AQDB	**Aquidauana**	**14.21**	**94**	*e*P	**Pn**	**04 05 46.7**	**+0.9**
AQDB	**Aquidauana**	**14.21**	**94**	*e*P	**Pn**	**04 05 46.7**	**+0.9**
H03N1	**Juan Fernandez**	**14.98**	**207**	T	T	04 21 22.2	
	baz=33,slow=72,SNR=184						
H03N2	**Juan Fernandez**	**14.99**	**207**	T	T	04 21 29.8	
	baz=33,slow=72,SNR=133						
H03N3	**Juan Fernandez**	**15.00**	**207**	T	T	04 21 20.5	
	baz=33,slow=72,SNR=126						
SALV	**Santo Antonio**	**15.04**	**76**	*e*P	**Pn**	**04 05 56.4**	**-0.7**
SALV	**Santo Antonio**	**15.04**	**76**	*e*P	**Pn**	**04 05 56.4**	**-0.7**
ITQB	**Itaqui**	**15.94**	**129**	*e*P	**Pn**	**04 06 10.5**	**+1.7**
ITQB	**Itaqui**	**15.94**	**129**	*e*P	**Pn**	**04 06 10.5**	**+1.7**
C2SB	**Chapadao do Su**	**17.04**	**88**	*e*P	**Pn**	**04 06 22.7**	**-0.2**
C2SB	**Chapadao do Su**	**17.04**	**88**	*e*P	**Pn**	**04 06 22.7**	**-0.2**
CLDB	**Colider**	**17.21**	**60**	*e*P	**Pn**	**04 06 23.4**	**-1.7**
CLDB	**Colider**	**17.21**	**60**	*e*P	**Pn**	**04 06 23.4**	**-1.7**
PTGB	**Pitanga**	**17.92**	**108**	*e*P	**P**	**04 06 35.3**	**+0.9**
PTGB	**Pitanga**	**17.92**	**108**	*e*P	**P**	**04 06 35.3**	**+0.9**
PCMB	**Pacaembu**	**18.35**	**98**	*e*P	**Pn**	**04 06 39.4**	**+0.4**
PCMB	**Pacaembu**	**18.35**	**98**	*e*P	**Pn**	**04 06 39.4**	**+0.4**
ARAG	**Araguaiana, MT**	**18.65**	**79**	*e*P	**P**	**04 06 41.7**	**-0.8**
ARAG	**Araguaiana, MT**	**18.65**	**79**	*e*P	**P**	**04 06 41.7**	**-0.8**
CPSB	**Cacapava Do Su**	**18.69**	**126**	*e*P	**Pn**	**04 06 44.8**	**+1.6**
CPSB	**Cacapava Do Su**	**18.69**	**126**	*e*P	**Pn**	**04 06 44.8**	**+1.6**
ITRB	**Iturama**	**19.26**	**92**	*e*P	**P**	**04 06 49.0**	**-0.1**
ITRB	**Iturama**	**19.26**	**92**	*e*P	**P**	**04 06 49.0**	**-0.1**
MACA	**Manacapuru-AM**	**19.65**	**32**	*e*P	**P**	**04 06 52.1**	**-1.3**
MACA	**Manacapuru-AM**	**19.65**	**32**	*e*P	**P**	**04 06 52.1**	**-1.3**
NPGB	**Novo Progresso**	**19.93**	**51**	*e*P	**P**	**04 06 55.5**	**-1.0**
NPGB	**Novo Progresso**	**19.93**	**51**	*e*P	**P**	**04 06 55.5**	**-1.0**
FRTB	**Fartura**	**20.00**	**103**	*e*P	**P**	**04 06 57.2**	**0.0**
FRTB	**Fartura**	**20.00**	**103**	*e*P	**P**	**04 06 57.2**	**0.0**
CNLB	**Canela**	**20.25**	**120**	*e*P	**P**	**04 07 00.5**	**+0.6**
CNLB	**Canela**	**20.25**	**120**	*e*P	**P**	**04 07 00.5**	**+0.6**
PLCA	**Paso Flores**	**20.43**	**179**	P	Pn	04 07 03.2	-0.7
	comp=Z,3.8nm,0.8s,baz=348,slow=11,SNR=3.1						
PLCA	**Paso Flores**	**20.43**	**179**	P	**P**	**04 07 02.0**	**+0.2**
PLCA	**Paso Flores**	**20.43**	**179**	*e*P	Pn	04 07 03.7	-0.2
PLCA	**Paso Flores**	**20.43**	**179**	*e*P	Pn	04 07 03.7	-0.2
BB19B	**Bebedouro**	**20.90**	**96**	*e*P	**P**	**04 07 06.1**	**-0.9**
BB19B	**Bebedouro**	**20.90**	**96**	*e*P	**P**	**04 07 06.1**	**-0.9**
CASC	**Dorado de Casc**	**21.22**	**342**	*e*P	**P**	**04 07 11.4**	**+0.8**
IPMB	**Ipameri, GO**	**21.50**	**88**	*e*P	**P**	**04 07 12.9**	**-0.6**
IPMB	**Ipameri, GO**	**21.50**	**88**	*e*P	**P**	**04 07 12.9**	**-0.6**
RCLB	**Rio Claro- Sao**	**21.82**	**100**	*e*P	**P**	**04 07 16.0**	**-0.9**
RCLB	**Rio Claro- Sao**	**21.82**	**100**	*e*P	**P**	**04 07 16.0**	**-0.9**
SPB	**Sao Paulo**	**21.97**	**103**	*e*P	**P**	**04 07 19.4**	**+1.0**
SPB	**Sao Paulo**	**21.97**	**103**	*e*P	**P**	**04 07 19.4**	**+1.0**
PTGA	**Pitinga**	**22.11**	**30**	P	**P**	**04 07 18.3**	**-1.7**
	comp=Z,6.5nm,0.5s,baz=187,slow=12,SNR=14						
PTGA	**Pitinga**	**22.11**	**30**	P	**P**	**04 07 19.1**	**-1.0**
PTGA	**Pitinga**	**22.11**	**30**	*e*P	**P**	**04 07 19.0**	**-1.0**
PTGA	**Pitinga**	**22.11**	**30**	*e*P	**P**	**04 07 19.0**	**-1.0**
PET01	**Itanhaem-SP**	**22.17**	**105**	*e*P	**P**	**04 07 21.9**	**+1.3**
PET01	**Itanhaem-SP**	**22.17**	**105**	*e*P	**P**	**04 07 21.9**	**+1.3**
BDFB	**Brasilia**	**22.19**	**82**	P	**P**	**04 07 19.6**	**-1.4**
	comp=Z,7.4nm,0.9s,baz=260,slow=9.7,SNR=7.9						
BDFB				LR	LR	04 17 26.4	
	comp=Z,384nm,21.0s,baz=291,slow=41						
BDFB	**Brasilia**	**22.19**	**82**	P	**P**	**04 07 20.1**	**-0.9**
GCUF	**Volcan Galeras**	**22.26**	**343**	*e*P	**P**	**04 07 25.5**	**+3.4**
VAO	**Valinhos**	**22.36**	**101**	*e*P	**P**	**04 07 23.2**	**+0.4**
VAO	**Valinhos**	**22.36**	**101**	*e*P	**P**	**04 07 23.2**	**+0.4**
SOTA	**Rioblanco**	**22.94**	**345**	*e*P	**P**	**04 07 33.6**	**+4.3**
BBAC	**Balboa, Cauca**	**22.99**	**343**	*e*P	**P**	**04 07 31.6**	**+2.0**
PEXB	**Peixe**	**23.09**	**73**	*e*P	**P**	**04 07 30.0**	**-0.4**
PEXB	**Peixe**	**23.09**	**73**	*e*P	**P**	**04 07 30.0**	**-0.4**
PARB	**Paraibuna**	**23.61**	**102**	*e*P	**P**	**04 07 35.4**	**-0.3**
PARB	**Paraibuna**	**23.61**	**102**	*e*P	**P**	**04 07 35.4**	**-0.3**
PRAC	**Prado**	**24.13**	**350**	*e*P	**P**	**04 07 35.6**	**-4.9**
ORTC	**Ortega, Tolima**	**24.38**	**349**	*e*P	**P**	**04 07 37.6**	**-5.2**
BSCB	**Bom Sucesso**	**24.41**	**96**	*e*P	**P**	**04 07 42.8**	**-0.3**
BSCB	**Bom Sucesso**	**24.41**	**96**	*e*P	**P**	**04 07 42.8**	**-0.3**
MALB	**Monte Alegre**	**24.42**	**44**	*e*P	**P**	**04 07 42.0**	**-1.1**
MALB	**Monte Alegre**	**24.42**	**44**	*e*P	**P**	**04 07 42.0**	**-1.1**
ESAR	**Angra dos Reis**	**24.69**	**101**	*e*P	**P**	**04 07 46.4**	**+0.8**
ESAR	**Angra dos Reis**	**24.69**	**101**	*e*P	**P**	**04 07 46.4**	**+0.8**
PRPB	**Parauapebas**	**24.74**	**58**	*e*P	**P**	**04 07 45.5**	**-0.6**
PRPB	**Parauapebas**	**24.74**	**58**	*e*P	**P**	**04 07 45.5**	**-0.6**
MAN01	**Angra dos Reis**	**25.13**	**101**	*e*P	**P**	**04 07 49.0**	**-0.5**
MAN01	**Angra dos Reis**	**25.13**	**101**	*e*P	**P**	**04 07 49.0**	**-0.5**
SMTB	**Santa Maria do**	**25.15**	**67**	*e*P	**P**	**04 07 49.2**	**-0.6**
SMTB	**Santa Maria do**	**25.15**	**67**	*e*P	**P**	**04 07 49.2**	**-0.6**
GUY2C	**Guyana, Caldas**	**25.69**	**350**	*e*P	**P**	**04 07 53.8**	**-1.3**
MC01	**Montes Claros**	**25.75**	**87**	*e*P	**P**	**04 07 54.3**	**-0.9**
MC01	**Montes Claros**	**25.75**	**87**	*e*P	**P**	**04 07 54.3**	**-0.9**
JANB	**Januaria**	**

174nm,0.2s
SHLS eS Sn 04 16 34.5 -0.9
94nm,0.3s
SHLS Shalkode 1.82 321 P Pn 04 16 10.5 -1.1
174nm,0.2s
SHLS S Sn 04 16 34.5 -0.9
94nm,0.3s
UZB Uzynbulak 2.03 314 eP Pb 04 16 16.4 -0.5
91nm,0.3s
UZB eS Sg 04 16 44.3 -0.1
83nm,0.3s
UZB Uzynbulak 2.03 314 Pg Pb 04 16 16.4 -0.5
91nm,0.3s
UZB Lg Lg 04 16 44.3
83nm,0.3s
SATY Saty 2.33 305 eP Pg 04 16 23.4 -0.4
30nm,0.3s
SATY eS Sg 04 16 56.0 +1.9
67nm,0.5s
SATY Saty 2.33 305 Pg Pg 04 16 23.5 -0.4
30nm,0.3s
SATY Lg Lg 04 16 56.0
67nm,0.5s
KPKS Kokpek 2.43 316 eP Pb 04 16 24.8 +1.1
66nm,0.2s
KPKS eS Sg 04 16 58.8 +1.6
133nm,0.4s
KURS Kuram 2.73 311 eP Pb 04 16 30.0 +1.3
15nm,0.9s
KURS eS Sg 04 17 07.7 +1.0
39nm,0.8s
KURS Kuram 2.73 311 Pg Pb 04 16 30.0 +1.3
15nm,0.9s
KURS Lg Lg 04 17 07.7
39nm,0.8s
DJR Jarkent 2.74 341 eP Pb 04 16 30.6 +1.8
13nm,0.4s
DJR eS Sg 04 17 08.5 +1.5
37nm,0.5s
DJR Jarkent 2.74 341 Pg Pb 04 16 30.6 +1.8
13nm,0.4s
DJR Lg Lg 04 17 08.5
37nm,0.5s
KOTS Kotyrbulak 3.24 299 eP Pb 04 16 38.9 +1.3
25nm,0.3s
KOTS eS Sg 04 17 22.7 -0.6
23nm,0.4s
KOTS Kotyrbulak 3.24 299 Pg Pb 04 16 38.9 +1.3
25nm,0.3s
KOTS Lg Lg 04 17 22.7
23nm,0.4s
MDOK Medeo 3.26 297 eP Pb 04 16 39.3 +1.5
8.0nm,0.3s
MDOK eS Sg 04 17 23.1 -0.6
24nm,0.5s
MDOK Medeo 3.26 297 Pn Pn 04 16 32.1 +0.6
8.1nm,0.7s
MDOK Lg Lg 04 17 23.2
23nm,0.6s
MDOK Medeo 3.26 297 Pg Pb 04 16 39.3 +1.5
8.0nm,0.3s
MDOK Lg Lg 04 17 23.1
24nm,0.5s
TNSS Tian-Shan 3.27 295 eP Pb 04 16 39.9 +1.6
8.3nm,0.3s
TNSS eS Sg 04 17 24.0 -0.3
28nm,0.5s
TNSS Tian-Shan 3.27 295 Pg Pb 04 16 39.8 +1.6
8.3nm,0.3s
TNSS Lg Lg 04 17 24.0
28nm,0.5s
ARXS Arharly 3.40 318 eP Pb 04 16 41.9 +1.7
18nm,0.5s
ARXS eS Sg 04 17 28.1 -0.1
28nm,0.5s
ARXS Arharly 3.40 318 Pg Pb 04 16 41.9 +1.7
18nm,0.5s
ARXS Lg Lg 04 17 28.1
28nm,0.5s
IZV Izvestkoviy 3.50 293 eP Pb 04 16 43.6 +1.7
7.2nm,0.3s
IZV eS Sg 04 17 30.8 -0.9
35nm,0.5s
IZV Izvestkoviy 3.50 293 Pg Pb 04 16 43.7 +1.7
7.2nm,0.3s
IZV Lg Lg 04 17 30.8
35nm,0.5s
CHKK Chushkaly 3.63 307 eP Pb 04 16 46.6 +2.5
8.3nm,0.4s
CHKK eS Sg 04 17 36.2 +0.4
20nm,0.3s
CHKK Chushkaly 3.63 307 Pg Pb 04 16 46.6 +2.5
8.3nm,0.4s
CHKK Lg Lg 04 17 36.2
20nm,0.3s
MTBS Maitube 3.66 294 eP Pb 04 16 47.1 +2.5
12nm,0.4s
MTBS eS Sg 04 17 37.1 +0.3
12nm,0.4s
MTBS Maitube 3.66 294 Pg Pb 04 16 47.1 +2.5
12nm,0.4s
MTBS Lg Lg 04 17 37.1
12nm,0.4s
KTBS Karatobe 3.75 303 eP Pb 04 16 48.4 +2.4
9.1nm,0.3s
KTBS eS Sg 04 17 38.9 -0.5
38nm,0.6s
KTBS Karatobe 3.75 303 Pg Pb 04 16 48.4 +2.4
9.1nm,0.3s
KTBS Lg Lg 04 17 38.9
38nm,0.6s
KST Kastek 3.96 291 eP Pb 04 16 51.9 +2.1
12nm,0.5s
KST eS Sg 04 17 45.1 -1.1
21nm,0.8s
KST Kastek 3.96 291 Pg Pb 04 16 51.9 +2.1
12nm,0.5s
KST Lg Lg 04 17 45.1
21nm,0.8s
KUU Kurty 4.05 304 eP Pb 04 16 54.2 +3.0
7.1nm,0.3s
KUU eS Sg 04 17 48.8 -0.5
9.6nm,0.5s
KUU Kurty 4.05 304 Pg Pb 04 16 54.2 +3.0
7.1nm,0.3s
KUU Lg Lg 04 17 48.7
9.6nm,0.5s
DGS Degeres 4.15 293 eP Pb 04 16 55.5 +2.5
6.2nm,0.6s
DGS eS Sg 04 17 51.4 -1.0
10.0nm,0.6s
DGS Degeres 4.15 293 Pg Pb 04 16 55.5 +2.5
6.2nm,0.6s
DGS Lg Lg 04 17 51.4
10.0nm,0.6s
TKM2 Tokmak 2 4.18 288 ⇓Pn Pn 04 16 45.4 +1.2
2.5nm,0.3s
TKM2 ⇑Lg Lg 04 17 53.9
6.4nm,0.5s
KRBS Karabastau 4.39 298 eP Pb 04 16 59.9 +2.9
3.3nm,0.3s
KRBS eS Sg 04 17 58.6 -1.4
14nm,0.5s
KRBS Karabastau 4.39 298 Pg Pb 04 16 59.9 +2.9
3.3nm,0.3s
KRBS Lg Lg 04 17 58.6
14nm,0.5s
AAK Ala-Archa 4.92 283 ⇑Pg Pg 04 17 12.1 -1.3
3.0nm,0.8s
AAK ⇑Lg Lg 04 18 16.8
8.1nm,1.1s
SGDS Sogindy 5.01 292 Pg Pg 04 17 11.8 -3.2
3.2nm,0.6s
SGDS Lg Lg 04 18 18.6
5.0nm,0.7s
MAKZ Makanchi 5.11 7 ⇓Pn Pn 04 16 56.4 -0.4
2.0nm,0.4s
MAKZ ⇑Sn Sn 04 17 55.1 -1.4
1.8nm,0.3s
MAKZ ⇑Lg Lg 04 18 18.4
3.4nm,0.7s
MK31 Makanchi Array 5.13 10 ⇑Pn Pn 04 16 56.5 -0.6
1.4nm,0.5s,baz=196,slow=13,SNR=11
MK31 ⇑Sn Sn 04 17 57.4 +0.4
0.5nm,0.3s
MK31 ⇓Lg Lg 04 18 21.2
2.1nm,0.6s,baz=186,slow=26,SNR=3.7

TAP ***18*** *04:26:17.9,24.86N×121.99E,h9km,ML3.2,B*
JMA ***18*** *04:26:19.4±0.1,24.81N×121.92E,h27km,M2.4*
ISC 18 04:26:18.4±0.8**,24.86N**±0.02×**121.99E**±0.02**,h14**km±5km**,**
n64,σ0.52/88,5C-1D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NTC	**Toucheng**	**0.15**	**267**	⇑*i*P	**Pg**	**04 26 22.1**	**-0.1**
	baz=269						
NTC				S	**Sg**	**04 26 24.7**	**0.0**
	baz=269						
TWB1	**Santiao Chiao**	**0.15**	**359**	⇑*i*P	**Pg**	**04 26 21.9**	**-0.3**
	baz=3.0						
TWB1				S	**Sg**	**04 26 24.3**	**-0.4**
	baz=3.0						
TIPB	**Shuangxi**	**0.19**	**306**	⇑*i*P	**Pg**	**04 26 22.9**	**+0.1**
	baz=308						
TIPB				S	**Sg**	**04 26 25.9**	**+0.2**
	baz=308						
ILA	**Ilan**	**0.24**	**247**	*e*P	**Pg**	**04 26 23.6**	**0.0**
	baz=246						
ILA				*e*S	**Sg**	**04 26 27.9**	**+0.7**
	baz=246						
NWF	**Wu-fen Shan**	**0.28**	**318**	P	**Pb**	**04 26 24.9**	**-0.4**
	baz=318						
NWF				*i* S	**Sb**	**04 26 29.5**	**-0.5**
	baz=318						
TWC	**Suao**	**0.28**	**207**	⇑*i*P	**Pg**	**04 26 24.1**	**-0.2**
	baz=205						
TWC				*e*S	**Sg**	**04 26 27.6**	**-0.8**
	baz=205						
WFSB	**Wu-fen Shan**	**0.28**	**318**	P	**Pb**	**04 26 24.9**	**-0.4**
	baz=318						
WFSB				*i* S	**Sb**	**04 26 29.5**	**-0.4**
	baz=318						
TWE	**Neicheng**	**0.33**	**245**	⇓*i*P	**Pb**	**04 26 25.1**	**-0.9**
	baz=243						
TWE				*i* S	**Sb**	**04 26 30.2**	**-0.9**
	baz=243						
TWA	**Mucha**	**0.39**	**288**	*e*P	**Pb**	**04 26 26.8**	**-0.2**
	baz=288						
TWA				*e*S	**Sg**	**04 26 31.6**	**+0.1**
	baz=288						
NHDH	**Xindian Distri**	**0.43**	**284**	*e*P	**Pb**	**04 26 28.1**	**+0.3**
	baz=284						
NHDH				*e*S	**Sb**	**04 26 33.7**	**-0.6**
	baz=284						
ENTT	**Nioudou**	**0.44**	**240**	P	**Pb**	**04 26 27.3**	**-0.7**
	baz=240						
NWLT	**Wulai**	**0.45**	**259**	*e*P	**Pb**	**04 26 27.6**	**-0.5**
	baz=259						
NWLT				*e*S	**Sg**	**04 26 33.4**	**-0.1**
	baz=259						
TAP1	**Taipei**	**0.46**	**293**	*e*P	**Pb**	**04 26 27.8**	**-0.5**
	baz=292						
TAP1				S	**Sb**	**04 26 35.2**	**+0.3**
	baz=292						
TATO	**Taipei**	**0.47**	**284**	*e*P	**Pb**	**04 26 28.4**	**-0.1**
	baz=284						
TATO				*e*S	**Sb**	**04 26 34.5**	**-0.7**
	baz=284						
TAP	**Taipei**	**0.47**	**292**	*e*P	**Pb**	**04 26 27.8**	**-0.7**
	baz=292						
TAP				*i* S	**Sb**	**04 26 35.4**	**0.0**
	baz=292						
ENA	**Nanau**	**0.49**	**208**	*e*P	**Pb**	**04 26 28.7**	**-0.1**
	baz=206						
YM08	**YM08**	**0.49**	**312**	*e*P	**Pb**	**04 26 28.8**	**0.0**
	baz=312						
YM05	**YM05**	**0.49**	**308**	*e*P	**Pb**	**04 26 28.9**	**+0.1**
	baz=308						
NDT	**Datong Townshi**	**0.51**	**239**	⇑*i*P	**Pb**	**04 26 28.4**	**-0.7**
	baz=239						
YM04	**YM04**	**0.51**	**305**	*e*P	**Pb**	**04 26 29.3**	**+0.2**
	baz=305						
YM03	**YM03**	**0.52**	**308**	*e*P	**Pb**	**04 26 29.4**	**+0.1**
	baz=308						
ANP	**Anpu**	**0.54**	**307**	*e*P	**Pb**	**04 26 29.6**	**0.0**
	baz=308						
TWS1	**Kuangyinshan**	**0.57**	**295**	*e*P	**Pn**	**04 26 31.1**	**-1.0**
	baz=295						
YHNB	**Yeheng**	**0.59**	**251**	*i* P	**Pb**	**04 26 29.9**	**-0.7**
	baz=251						
YHNB				*i* S	**Sb**	**04 26 39.1**	**+0.3**
	baz=251						
NSK	**Sanguang**	**0.60**	**252**	P	**Pg**	**04 26 30.0**	**-0.2**
	baz=252						
NSK				*i* S	**Sb**	**04 26 39.3**	**+0.1**
	baz=252						
WLTB	**Daxi**	**0.67**	**269**	*e*S	**Sb**	**04 26 42.2**	**+1.2**
	baz=269						
NNS	**Nan Shan**	**0.70**	**233**	P	**Pb**	**04 26 32.4**	**-0.1**
	baz=232						
NNSB	**Datong**	**0.70**	**232**	*e*P	**Pb**	**04 26 32.3**	**-0.2**
	baz=232						
NNSH	**Datong**	**0.70**	**232**	*e*P	**Pb**	**04 26 32.2**	**-0.3**
	baz=232						
NCU	**National Centr**	**0.74**	**279**	*e*S	**Sn**	**04 26 45.5**	**0.0**
	baz=278						
NCUH	**Zhongli**	**0.74**	**278**	*e*P	**Pn**	**04 26 34.6**	**+0.1**
	baz=278						
PCYT	**Pengchaiyu**	**0.77**	**5**	*e*P	**Pn**	**04 26 34.3**	**-0.6**
	baz=6.0						
NACB	**Ninganchiao**	**0.77**	**208**	P	**Pb**	**04 26 33.6**	**0.0**
	baz=207						
NACB				*e*S	**Sb**	**04 26 43.9**	**-0.1**
	baz=207						
ETLH	**Xiulin Townshi**	**0.80**	**216**	*e*P	**Pb**	**04 26 33.9**	**-0.2**
	baz=215						
ETLH				*i* S	**Sb**	**04 26 45.5**	**+0.6**
	baz=215						
TWD	**Chiawan**	**0.86**	**205**	*e*P	**Pb**	**04 26 34.6**	**-0.5**
	baz=204						
NHW	**Xinwu Township**	**0.87**	**280**	*e*S	**Sn**	**04 26 49.4**	**+0.7**
	baz=280						
LIOB	**Emei**	**0.91**	**257**	*e*P	**Pn**	**04 26 37.1**	**+0.3**
	baz=256						
SBCB	**Hsinchu**	**0.92**	**266**	*e*S	**Sn**	**04 26 50.6**	**+0.7**
	baz=266						
NSTT	**Nanjuang**	**0.93**	**256**	*e*P	**Pn**	**04 26 37.9**	**+0.8**
	baz=255						
TWT	**Tachien**	**0.96**	**231**	*e*P	**Pn**	**04 26 37.6**	**0.0**
	baz=231						
JYNG	**Yonagunijimaku**	**0.96**	**115**	P	**Pn**	**04 26 37.5**	**0.0**
JYNG				*e*S	**Sb**	**04 26 49.8**	**+0.4**
TDCB	**Techi**	**0.97**	**232**	*e*P	**Pn**	**04 26 37.7**	**0.0**
	baz=231						
WHF	**Hehuan Shan**	**0.97**	**223**	*e*P	**Pn**	**04 26 38.3**	**+0.3**
	baz=222						
YOJ	**Yonaguni jima**	**1.01**	**113**	*i* P	**Pg**	**04 26 37.4**	**-0.5**
	baz=112						
YOJ				*e*S	**Sb**	**04 26 51.1**	**+0.3**
	baz=112						
YOJ	**Yonaguni jima**	**1.01**	**113**	P	**Pn**	**04 26 37.9**	**-0.3**
YOJ				*e*S	**Sb**	**04 26 51.4**	**+0.6**
CHGB	**Renai**	**1.09**	**223**	*e*P	**Pn**	**04 26 39.8**	**+0.3**
	baz=223						
CHGB				*e*S	**Sn**	**04 26 54.3**	**-0.2**
	baz=223						
WHP	**Taichung City**	**1.11**	**239**	*e*P	**Pn**	**04 26 40.4**	**+0.7**
	baz=238						
ESL	**Shilin**	**1.16**	**206**	*e*P	**Pn**	**04 26 40.9**	**+0.6**
	baz=205						
VWDT	**VWDT**	**1.35**	**215**	*e*P	**Pg**	**04 26 43.8**	**-0.6**
	baz=215						
SMLT	**Sun Moon Lake**	**1.39**	**226**	*e*P	**Pg**	**04 26 45.1**	**-0.1**
	baz=225						
SSLB	**Suanglung**	**1.43**	**222**	*e*P	**Pg**	**04 26 45.6**	**-0.3**
	baz=221						
YULB	**Yu-li**	**1.59**	**204**	*e*P	**Pg**	**04 26 48.0**	**-1.0**
	baz=203						
TWF1	**Yuli**	**1.63**	**203**	*e*P	**Pg**	**04 26 48.7**	**-1.1**
	baz=202						
IRIF	**Iriomote-Funau**	**1.67**	**108**	P	**Pn**	**04 26 46.8**	**-0.4**
IRIF				*e*S	**Sn**	**04 27 09.1**	**+0.7**
JKRS	**Kuro-shima**	**1.94**	**108**	P	**Pn**	**04 26 51.8**	**+0.8**
JKRS				S	**Sn**	**04 27 15.3**	**+0.2**
JIJ	**Ishigaki jima**	**2.02**	**104**	P	**Pn**	**04 26 53.3**	**+1.2**
PTTC	**Pingtan**	**2.11**	**288**	*e*P	**Pn**	**04 26 53.9**	**+0.6**
	baz=287						
MATB	**Ma-tsu**	**2.25**	**305**	*e*P	**Pn**	**04 26 55.6**	**+0.4**
	baz=304						
VWUC	**VWUC**	**2.31**	**274**	*e*P	**Pn**	**04 26 56.4**	**+0.3**
	baz=273						
PTMZ	**Houxiangcun**	**2.61**	**275**	*e*P	**Pn**	**04 27 01.0**	**+0.8**
	baz=274						
LYJJ	**Jianjiangzhen**	**2.62**	**310**	*e*P	**Pn**	**04 27 00.6**	**+0.3**
	baz=310						
XPSS	**Dashiqiu**	**2.62**	**322**	*e*P	**Pn**	**04 27 00.6**	**+0.2**
	baz=321						
MHZQ	**Yeshan**	**2.95**	**295**	*e*P	**Pn**	**04 27 05.1**	**+0.3**
	baz=294						
KNMB	**Chin-men Tao**	**3.30**	**264**	*e*P	**Pn**	**04 27 10.3**	**+0.6**
	baz=263						

NEIC ***18*** *04:43:44.6±1.0,30.9S±0.1×179.0W±0.2,h42km±12km,*
mb4.6/8,Error ellipse: s-maj=24.3km s-min=10.2km
az=125.0
IDC ***18*** *04:43:51.3±1.9,30.57S×178.84W,h115km±21km,mb3.7/4,*
mb1 3.8/4,mb1mx3.5/23,mbtmp4.0/4,Error ellipse:
s-maj=30.3km s-min=25.9km az=148.0
ISC 18 04:43:44.6±0.7**,30.9S**±0.1×**179.1W**±0.1**,h35**km**,n20,**
σ1§52/22,mb4.4/9,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.98**	**32**	P	**Pn**	**04 44 17.2**	**+1.6**
	27nm,0.3s,baz=233,slow=23,SNR=1.6						
RAO				S	**Sn**	**04 44 40.2**	**+1.1**
	134nm,0.3s,baz=94,slow=19,SNR=5.4						
RAO	**Raoul Island**	**1.98**	**32**		**Pn**	**04 44 14.6**	**-0.9**
RAO				Sn	**Sn**	**04 44 38.9**	**-0.2**
BKZ	**Black Stump Fm**	**8.96**	**202**	Pn	**Pn**	**04 45 52.2**	**+0.7**
LTZ	**Lake Taylor**	**13.67**	**208**	Pn	**Pn**	**04 46 56.0**	**+0.2**
LHI	**Lord Howe Isla**	**18.67**	**263**	P	**P**	**04 47 58.5**	**-1.1**
STKA	**Stephens Creek**	**33.42**	**258**	P	**P**	**04 50 22.7**	**+2.7**
	2.2nm,0.6s,baz=46,slow=10.0,SNR=3.5						
STKA	**Stephens Creek**	**33.42**	**258**	P	**P**		
BBOO	**Buckleboo**	**37.90**	**255**	P	**P**	**04 50 59.1**	**+0.7**
BBOO				IAmb	IAmb	04 51 02.1	
	comp=Z,22nm,1.2s						
ASAR	**Alice Springs**	**42.12**	**268**	P	**P**	**04 51 34.0**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=104,slow=7.1,SNR=8.3						
WB2	**Warramunga Arr**	**43.15**	**273**	P	**P**	**04 51 41.8**	**-0.2**
WB2				IAmb	IAmb	04 51 44.6	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**43.16**	**273**	P	**P**	**04 51 42.2**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=111,slow=8.0,SNR=6.7						
WRA	**Warramunga Arr**	**43.16**	**273**	P	**P**	**04 51 42.0**	**-0.1**
WB0	**Warramunga Arr**	**43.19**	**274**	P	**P**	**04 51 42.2**	**-0.1**
WB0				IAmb	IAmb	04 51 58.2	
	comp=Z,16nm,1.4s						
FITZ	**Fitzroy Crossi**	**51.40**	**271**	P	**P**	**04 52 46.2**	**0.0**
FITZ				IAmb	IAmb	04 53 04.6	
	comp=Z,14nm,1.5s						
QSPA	**South Pole Qui**	**59.17**	**180**	P	**P**	**04 53 42.5**	**+0.8**
	comp=Z,0.6nm,0.5s,baz=226,slow=1.7,SNR=8.3						
QSPA	**South Pole Qui**	**59.17**	**180**	P	**P**	**04 53 41.7**	**0.0**
SNAA	**Sanae**	**77.64**	**179**	P	**P**	**04 55 35.5**	**-1.5**
SNAA				IAmb	IAmb	04 55 48.4	
	comp=Z,6.0nm,1.5s						
FINES	**FINESS Array B**	**145.31**	**339**	PKPbc	**PKPbc**	**05 03 13.6**	**-4.1**
	comp=Z,2.4nm,0.4s,baz=47,slow=5.1,SNR=33						
NOA	**NORSAR Array B**	**149.13**	**350**	PKPbc	**PKPdf**	**05 03 23.5**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=49,slow=1.8,SNR=2.1						
BRTR	**Keskin Array B**	**152.00**	**297**	PKPbc	**PKPdf**	**05 03 32.6**	**+3.0**
	comp=Z,0.3nm,0.4s,baz=158,slow=2.5,SNR=2.7						

IDC ***18*** *04:44:31.4±3.0,54.25N×87.27E,h0km,mb1 3.1/2,*
mb1mx2.9/36,mbtmp3.1/2,ML2.8/2,Error ellipse:
s-maj=27.4km s-min=19.1km az=55.0
KRAR 18 04:44:24.8±0.1**,54.32N×86.35E,M2.4,Industrial**
explosion (after: The Earthquakes of Russia in 2012.
Obninsk, GS RAS, 224p + CD-ROM, 2014),
Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**248**	*i*		04 53 20.0	
	baz=77,slow=306,SNR=2.5						
ZALV	**Zalesovo Beam**	**0.97**	**248**	Pg	Pn	04 44 58.0	+12
	4.9nm,0.3s,baz=81,slow=15,SNR=40						
ZALV				Lg	Lg	04 45 18.7	
	1.6nm,0.3s,baz=75,slow=25,SNR=2.1						
KURBB	**Kurchatov Arra**	**6.04**	**235**	Pn	Pb	04 46 08.0	-2.9
	0.2nm,0.3s,baz=60,slow=15,SNR=10						
KURBB				Lg	Lg	04 47 55.7	
	0.0nm,0.3s,baz=61,slow=31,SNR=1.5						
MKAR	**Makanchi Array**	**7.96**	**201**	Pn	Pn	04 46 31.6	+10
	0.2nm,0.3s,baz=25,slow=14,SNR=5.8						
MKAR				Lg	Lg	04 48 47.5	
	0.1nm,0.3s,baz=38,slow=29,SNR=1.7						

RSNC ***18*** *04:49:08.9±0.7,11.70N×81.32W,h40km,ML3.5*
UPA ***18*** *04:49:09.6±2.5,11.61N×81.38W,h31km±52km,MW4.4*
ISC 18 04:49:06.8±2.2**,11.67N**±0.04×**81.34W**±0.04**,h24**km±21km**,**
n32,σ1§76/59,North of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRVC	**Isla de Provid**	**1.69**	**359**	*e*P	**Pn**	**04 49 35.1**	**+0.2**
PRVC				*e*S	**Sn**	**04 49 55.1**	**-0.8**
PRVC				*i*		04 49 57.0	
	comp=Z,561nm,0.2s						
CHGR2	**Aguacate**	**2.83**	**196**	*e*P	**Pn**	**04 49 51.2**	**+0.5**
CHGR2				*e*S	**Sn**	**04 50 22.0**	**-2.1**
BCIP	**Isla Barro Col**	**2.90**	**149**	*e*P	**Pn**	**04 49 51.8**	**+0.3**
BCIP				*e*S	**Sn**	**04 50 24.8**	**-0.8**
BCIP				*i*		04 50 27.4	
	comp=Z,77nm,0.4s						
BCIP	**Isla Barro Col**	**2.90**	**149**	*e*P	**Pn**	**04 49 52.4**	**+0.9**
BCIP				*e*S	**Sn**	**04 50 26.7**	**+1.1**
DRK0	**Durika**	**3.04**	**218**	*e*P	**Pn**	**04 49 53.1**	**-0.6**
DRK0				*e*S	**Sn**	**04 50 27.9**	**-1.6**
BCO2	**Palmira**	**3.16**	**202**	*e*P	**Pn**	**04 49 55.6**	**+0.2**
BCO2				*e*S	**Sn**	**04 50 31.3**	**-1.2**
CHOR3	**La Chorrera**	**3.16**	**151**	*i* P	**Pn**	**04 49 56.4**	**+1.2**
CHOR3				*e*S	**Sn**	**04 50 34.0**	**+1.8**
UPA	**Univ. de Panam**	**3.21**	**146**	*e*P	**Pn**	**04 49 56.7**	**+0.8**
UPA				*e*S	**Sn**	**04 50 33.1**	**-0.3**
UPA	**Univ. de Panam**	**3.21**	**146**	*e*P	**Pn**	**04 49 56.3**	**+0.4**
UPA				*e*S	**Sn**	**04 50 32.8**	**-0.6**
MLIR3	**Monte Lirio, C**	**3.21**	**207**	*e*P	**Pn**	**04 50 02.5**	**-0.8**
MLIR3				*e*S	**Sn**	**04 50 34.4**	**+0.8**
CNAZ3	**Canazas, Verag**	**3.31**	**178**	*i* P	**Pn**	**04 49 59.1**	**+1.9**
CNAZ3				*e*S	**Sn**	**04 50 35.8**	**+0.1**
CHPO	**Chepo, Panama**	**3.31**	**138**	*i* P	**Pn**	**04 49 58.4**	**+1.1**
CHPO				*e*S	**Sn**	**04 50 36.4**	**+0.5**
PNME	**Penonome**	**3.32**	**162**	*e*P	**Pn**	**04 49 58.7**	**+1.3**
CALO3	**Calobre, Verag**	**3.37**	**172**	*e*P	**Pn**	**04 49 59.9**	**+1.9**
CALO3				*e*S	**Sn**	**04 50 37.4**	**+0.1**
LOMA3	**Las Lomas, Chi**	**3.38**	**198**	*e*P	**Pn**	**04 50 00.8**	**+2.5**
LOMA3				*e*S	**Sn**	**04 50 34.0**	**-3.7**
DVD	**David**	**3.40**	**199**	*e*P	**Pn**	**04 49 59.8**	**+1.4**
DVD				*e*S	**Sn**	**04 50 39.0**	**+0.9**
CHIR3	**Chiriqui UPA,**	**3.40**	**197**	*i* P	**Pn**	**04 49 59.9**	**+1.4**
CHIR3				*e*S	**Sn**	**04 50 32.2**	**-5.9**
PEDE3	**Pedregal, Chir**	**3.44**	**198**	*e*P	**Pn**	**04 50 00.4**	**+1.4**
PEDE3				*e*S	**Sn**	**04 50 36.4**	**-2.6**
PVID3	**Puerto Vidal,**	**3.61**	**184**	*e*P	**Pn**	**04 50 03.2**	**+1.8**
PVID3				*e*S	**Sn**	**04 50 43.9**	**+0.6**
PTJ1	**Puerto Jimnez**	**3.67**	**212**	*e*S	**Sn**	**04 50 46.0**	**+1.3**
PONU3	**Ponuga, Veragu**	**3.78**	**175**	*e*S	**Sn**	**04 50 47.4**	**-0.2**
JTS	**Las Juntas de**	**3.81**	**249**	*e*P	**Pn**	**04 50 04.9**	**+0.8**
JTS	**Las Juntas de**	**3.81**	**249**	*e*P	**Pn**	**04 50 05.3**	**+1.3**
JTS				*e*S	**Sn**	**04 50 48.7**	**+0.5**
GMAL	**Guarumal, Vera**	**3.89**	**178**	*e*P	**Pn**	**04 50 05.9**	**+0.7**
GMAL				*e*S	**Sn**	**04 50 48.4**	**-1.7**
AZU	**Azuero**	**4.00**	**165**	*e*P	**Pn**	**04 50 07.8**	**+1.2**
AZU				*e*S	**Sn**	**04 50 52.2**	**-0.6**
AZU	**Azuero**	**4.00**	**165**	*e*P	**Pn**	**04 50 07.9**	**+1.2**
AZU				*e*S	**Sn**	**04 50 52.8**	**0.0**
CACAO	**El Cacao, Vera**	**4.33**	**174**	*e*P	**Pn**	**04 50 13.8**	**+2.6**
CACAO				*e*S	**Sn**	**04 50 59.7**	**-1.3**
UPD2	**Meteti**	**4.51**	**133**	*e*P	**Pn**	**04 50 16.3**	**+2.6**
UPD2				*e*S	**Sn**	**04 51 05.9**	**+0.4**
CAP2	**Capurgana**	**4.94**	**127**	*e*P	**Pn**	**04 50 21.8**	**+2.2**
CAP2				*e*S	**Sn**	**04 51 11.4**	**-4.6**
SJCC	**San Jacinto, C**	**6.30**	**106**	*e*P	**Pn**	**04 50 37.0**	**-1.4**
SJCC				*e*S	**Sn**	**04 51 48.5**	**-1.3**
SJCC				*i*		04 51 52.1	
	comp=Z,38nm,0.3s						
ZARC	**Zaragoza, Cauc**	**7.62**	**122**	*e*P	**Pn**	**04 50 57.8**	**+1.3**
ZARC				*e*S	**Sn**	**04 52 19.0**	**-3.2**
ZARC				*i*		04 52 23.0	
	comp=Z,8.8nm,0.3s						
PTBC	**PUERTO BERRIO,**	**8.49**	**126**	*e*P	**Pn**	**04 51 09.5**	**+1.0**

*ATH **18** 04:59:57.7, 38°.22N×20°.43E, h16$^{km}_{\pm}$1^{km}, ML2.5/3, Error ellipse: s-maj=2.4km s-min=1.1km az=266.0*
*THE **18** 04:59:58.0, 38°.22N×20°.42E, h12^{km}, ML2.5/4, Error ellipse: s-maj=1.3km s-min=0.4km az=87.0*

ISC 18 04:59:57.9±0.9, 38°.22N±0°.03×20°.44E±0°.05, h15$^{km}_{\pm}$5^{km}, n23, σ0°34/38, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEF4	**Livadi, Kephal**	**0.04**	**342**	P	**Pg**	**05 00 00.5**	**-0.2**
KEF4				S	**Sg**	**05 00 02.7**	**+0.1**
ARG2	**Argostoli**	**0.05**	**136**	P	**Pg**	**05 00 00.6**	**-0.1**
ARG2				S	**Sg**	**05 00 02.4**	**-0.2**
	15μm,0.1s						
KEF5	**Kardakata, Kep**	**0.07**	**19**	P	**Pg**	**05 00 00.7**	**-0.2**
KEF5				S	**Sg**	**05 00 02.7**	**-0.2**
KEF3	**Kipouria, Keph**	**0.07**	**260**	P	**Pg**	**05 00 00.8**	**-0.2**
KEF3				S	**Sg**	**05 00 02.9**	**0.0**
VLS	**Valsamata**	**0.12**	**108**	P	**Pg**	**05 00 01.3**	**-0.2**
VLS				S	**Sg**	**05 00 03.9**	**+0.1**
	5μm,0.2s						
VLS	**Valsamata**	**0.12**	**108**	P	**Pg**	**05 00 01.3**	**-0.2**
VLS				S	**Sg**	**05 00 03.9**	**+0.1**
VLS				AML	AML	05 00 04.0	
	comp=N,7098μm,0.2s						
VLS				AML	AML	05 00 04.1	
	comp=E,9255μm,0.1s						
VSK1	**VASILIKIADES**	**0.21**	**26**	P	**Pg**	**05 00 02.7**	**-0.1**
VSK1				S	**Sg**	**05 00 06.4**	**+0.2**
FSK	**Fiskardo**	**0.26**	**21**	P	**Pg**	**05 00 03.4**	**-0.1**
FSK				S	**Sg**	**05 00 07.5**	**+0.1**
	comp=E,560nm,0.1s						
FSK	**Fiskardo**	**0.26**	**21**	P	**Pg**	**05 00 03.4**	**-0.1**
FSK				S	**Sg**	**05 00 07.6**	**+0.2**
FSK				AML	AML	05 00 08.6	
	comp=E,1438μm,0.1s						
FSK				AML	AML	05 00 08.9	
	comp=N,763μm,0.2s						
VLMS	**Volimes, Zakyn**	**0.38**	**153**	P	**Pg**	**05 00 05.4**	**-0.3**
VLMS				S	**Sb**	**05 00 11.9**	**-0.1**
VLMS				AML	AML	05 00 12.7	
	comp=E,2686μm,0.2s						
VLMS				AML	AML	05 00 13.9	
	comp=N,1936μm,0.1s						
EVGI	**Lefkada island**	**0.44**	**23**	P	**Pg**	**05 00 06.4**	**-0.3**
EVGI				S	**Sb**	**05 00 13.3**	**-0.3**
EVGI	**Lefkada island**	**0.44**	**23**	P	**Pg**	**05 00 06.4**	**-0.3**
EVGI				S	**Sb**	**05 00 13.4**	**-0.3**
LKD2	**Lefkada island**	**0.60**	**16**	P	**Pg**	**05 00 09.8**	**+0.2**
LKD2				S	**Sb**	**05 00 18.7**	**+0.4**
LKD2	**Lefkada island**	**0.60**	**16**	P	**Pg**	**05 00 09.0**	**-0.7**
TSLK	**Tsoukalades, L**	**0.63**	**15**	P	**Pg**	**05 00 09.6**	**-0.7**
TSLK				S	**Sb**	**05 00 19.7**	**+0.5**
TSLK	**Tsoukalades, L**	**0.63**	**15**	P	**Pg**	**05 00 09.5**	**-0.7**
PVO	**Paravola**	**0.94**	**64**	P	**Pb**	**05 00 15.9**	**+0.1**
PVO				S	**Sn**	**05 00 30.1**	**+0.4**
	comp=N,78nm,0.6s						
PVO	**Paravola**	**0.94**	**64**	P	**Pb**	**05 00 15.9**	**+0.1**
RICI	**Ricice**	**5.84**	**336**	*e*Pn	**Pn**	**05 01 23.2**	**-0.6**
ZIRJ	**Zirje**	**6.53**	**328**	*e*Pn	**Pn**	**05 01 33.6**	**+0.2**
KIJV	**Kijevo**	**6.54**	**333**	*e*Pn	**Pn**	**05 01 33.3**	**-0.1**
MORI	**Morici**	**6.68**	**329**	*e*Pn	**Pn**	**05 01 35.5**	**+0.1**
DUGI	**Dugi Otok**	**7.06**	**327**	*e*Pn	**Pn**	**05 01 41.1**	**+0.6**

ATH 18 05:00:05.1, 38°.32N×22°.04E, h4$^{km}_{\pm}$2^{km}, ML1.4/3, Error ellipse: s-maj=3.0km s-min=0.9km az=67.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRIZ	**Trizonia**	**0.06**	**26**	P	Pg	05 00 06.3	0.0
TRIZ				S	Sg	05 00 07.3	+0.1
SERG	**Sergoula**	**0.10**	**6**	P	Pg	05 00 07.0	-0.1
SERG				S	Sg	05 00 09.0	+0.5
SERG				AML	AML	05 00 09.0	
	comp=N,870μm,0.2s						
SERG				AML	AML	05 00 09.1	
	comp=E,863μm,0.2s						
KALE	**Kalithea**	**0.11**	**45**	P	Pg	05 00 07.3	0.0
KALE				S	Sg	05 00 09.2	+0.5
KALE				AML	AML	05 00 09.6	
	comp=E,765μm,0.2s						
KALE				AML	AML	05 00 09.9	
	comp=N,1001μm,0.3s						
KLV	**Kalavryta, Ach**	**0.28**	**163**	P	Pg	05 00 10.4	-0.2
ANX	**Ano Chora**	**0.29**	**341**	P	Pg	05 00 10.6	-0.2
ANX				S	Sg	05 00 15.3	+0.7
ANX				AML	AML	05 00 15.8	
	comp=N,281μm,0.4s						
ANX				AML	AML	05 00 16.0	
	comp=E,209μm,0.2s						
GUR	**Goura**	**0.45**	**148**	P	Pg	05 00 13.5	-0.2
GUR				S	Sg	05 00 20.7	+1.2
DRO	**Drossia**	**0.45**	**216**	P	Pg	05 00 13.7	0.0

IDC 18 05:19:36.8±49.0, 16°.35S×173°.34W, h0^{km}, mb4.3/3, mb1 4.5/3, mb1mx3.8/37, mbtmp4.3/3, Error ellipse: s-maj=945.3km s-min=183.2km az=79.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.62**	**241**	P	P	05 27 43.4	+0.2
	1.9nm,0.4s,baz=77,slow=8.2,SNR=4.7						
WRA	**Warramunga Arr**	**49.69**	**258**	P	P	05 28 30.2	-0.7
	1.0nm,0.6s,baz=96,slow=6.8,SNR=11						
ASAR	**Alice Springs**	**49.88**	**253**	P	P	05 28 32.5	+0.2
	6.5nm,0.6s,baz=89,slow=8.5,SNR=64						

*DJA **18** 05:41:31.4±0.2, 1°.S±2°.×9°.9E±°, h49$^{km}_{\pm}$3^{km}, M4.7/18, mB5.5/3, mb4.8/17, MLv4.6/18, Mw(mB)4.9/3*
*IDC **18** 05:41:31.8±3.3, 0°.46S×99°.22E, h69$^{km}_{\pm}$29^{km}, mb4.1/18, mb1 4.2/20, mb1mx4.0/41, mbtmp4.4/20, ML3.9/2, MS3.2/5, Ms1 3.2/5, ms1mx2.9/45, Error ellipse: s-maj=21.0km s-min=12.4km az=53.0*
*NEIC **18** 05:41:32.0±1.9, 0°.48S±0°.08×99°.10E±0°.07, h74$^{km}_{\pm}$3^{km}, mb4.6/22, Error ellipse: s-maj=12.3km s-min=8.1km az=214.0*
*KLM **18** 05:41:32.0, 0°.50S×99°.05E, h47^{km}, mb4.6*

ISC 18 05:41:31.4±0.9, 0°.50S±0°.04×99°.06E±0°.05, h65$^{km}_{\pm}$8^{km}, n115, σ1°34/105, mb4.6/40, 1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SISI	**Saibi**	**0.82**	**178**	P	**Pn**	**05 41 47.0**	**-0.4**
SISI				S	**Sn**	**05 41 59.6**	**+0.5**
MNSI	**Mandailing Nat**	**1.39**	**22**	P	**Pn**	**05 41 54.3**	**-0.5**
MNSI				S	**Sn**	**05 42 12.8**	**+0.5**
PDSI	**Padang**	**1.46**	**106**	P	**Pn**	**05 41 54.7**	**-1.0**
PDSI				S	**Sn**	**05 42 13.2**	**-0.7**
SBSI	**Sibolga**	**2.05**	**355**	P	**Pn**	**05 42 01.6**	**-2.0**
SBSI				S	**Sn**	**05 42 25.8**	**-2.4**
BKNI	**Bangkinang**	**2.14**	**67**	P	**Pn**	**05 42 05.5**	**+0.6**
BKNI	**Bangkinang**	**2.14**	**67**		**Pn**	**05 42 05.0**	**+0.1**
GSI	**Gunungsitoli**	**2.33**	**320**	P	**Pn**	**05 42 07.7**	**+0.3**
GSI				S	**Sn**	**05 42 35.0**	**0.0**
GSI	**Gunungsitoli**	**2.33**	**320**		**Pn**	**05 42 07.7**	**+0.3**
SDSI	**Sungai Dareh**	**2.40**	**100**	P	**Pn**	**05 42 09.3**	**+0.9**
PPSI	**Pulau Pagai**	**2.44**	**157**	P	Pn	05 42 16.4	+7.5
PPSI				S	**Sn**	**05 42 36.2**	**-1.4**
KRJI	**Kerinci**	**2.87**	**123**	P	**Pn**	**05 42 16.2**	**+1.3**
KRJI				S	**Sn**	**05 42 49.4**	**+1.0**
RPSI	**Rantau Prapat**	**3.18**	**358**	Pn	**Pn**	**05 42 19.4**	**+0.3**
RPSI	**Rantau Prapat**	**3.18**	**358**		**Pn**	**05 42 19.1**	**+0.1**
RGRI	**Rengat**	**3.28**	**87**	P	Pn	05 42 29.0	+8.7
PSI	**Prapat**	**3.29**	**358**	P	**Pn**	**05 42 19.1**	**-1.4**
	5.7nm,0.3s,baz=180,slow=10,SNR=14						
TSI	**Tuntungan**	**4.01**	**353**	P	**Pn**	**05 42 34.0**	**+3.6**
MASI	**Maura Aman, Be**	**4.12**	**130**	P	Pn	05 42 44.9	+13
TPTI		**4.18**	**333**	P	**Pn**	**05 42 32.1**	**-0.7**
KCSI	**Kotacane, Aceh**	**4.20**	**342**	P	Pn	05 42 45.8	+13
MYKOM	**Kota Tinggi**	**5.30**	**65**	Pn	**Pn**	**05 42 48.0**	**0.0**
IPM	**Ipoh**	**5.33**	**22**	Pn	**Pn**	**05 42 49.3**	**+0.9**
IPM	**Ipoh**	**5.33**	**22**	P	**Pn**	**05 42 50.0**	**+1.6**
MNAI	**Manna**	**5.46**	**135**	P	**Pn**	**05 42 49.8**	**-0.4**
	4.7nm412nm,2.4s						
MNAI	**Manna**	**5.46**	**135**	Pn	**Pn**	**05 42 50.7**	**+0.5**
MNAI					**Sn**	**05 43 48.3**	**-3.4**
LHSI	**Lahat**	**5.55**	**127**	P	**Pn**	**05 42 54.9**	**+3.5**
KULM	**Kulim**	**5.97**	**15**	Pn	**Pn**	**05 42 56.8**	**-0.4**
KULM	**Kulim**	**5.97**	**15**	P	**Pn**	**05 42 57.0**	**-0.2**
MDSI	**Maura Dua**	**6.46**	**128**	P	**Pn**	**05 43 04.3**	**+0.3**
	0.2nm64nm,0.7s						
KASI	**Kota Agung**	**7.37**	**133**	P	Pn	05 43 26.6	+10
TNG	**Tangerang**	**9.43**	**127**	P	Pn	05 44 00.5	+16
SBUM	**Sibu**	**13.48**	**77**	Pn	**Pn**	**05 44 40.1**	**+0.3**
SBUM	**Sibu**	**13.48**	**77**	P	**Pn**	**05 44 42.0**	**+2.2**
KKM	**Kota Kinabalu**	**18.32**	**69**	P	P	**05 45 40.3**	**-0.3**
KKM				IAmb	IAmb	05 45 44.7	
	comp=Z,31nm,0.8s						
CMAR	**Chiang Mai Arr**	**18.84**	**360**	P	**P**	**05 45 45.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=188,slow=10,SNR=12						
CMAR				LR	LR	05 54 10.9	
	comp=Z,82nm,18.1s,baz=203,slow=40						
CMAR	**Chiang Mai Arr**	**18.84**	**360**	P	**P**	**05 45 46.3**	**+0.1**
MPSI	**Mapaga**	**20.85**	**88**	P	**P**	**05 46 08.8**	**+0.7**
	comp=Z,34nm,0.9s						
TTSI	**Tana Toraja**	**20.90**	**97**	P	Pn	05 46 21.1	+9.3
KAPI	**Kappang**	**21.14**	**103**	P	**P**	**05 46 10.7**	**-0.5**
	comp=Z,16nm,0.6s,baz=258,slow=10,SNR=9.5						
KAPI	**Kappang**	**21.14**	**103**	P	**P**	**05 46 12.4**	**+1.2**
KAPI				IAmb	IAmb	05 46 14.7	
	comp=Z,17nm,0.8s						
BNSI	**Bone**	**21.38**	**101**	P	**P**	**05 46 17.3**	**+3.6**
	comp=Z,51nm,1.2s						
SLVN	**Son La**	**22.21**	**12**	P	**P**	**05 46 23.1**	**+0.4**
SLVN				IAmb	IAmb	05 46 25.4	
	comp=Z,8.0nm,0.8s						
MRSI	**Marisa**	**22.90**	**88**	P	**P**	**05 46 30.3**	**+0.3**
	comp=Z,47nm,0.7s						
WSI	**Waingapu**	**23.01**	**114**	P	**P**	**05 46 27.0**	**-4.1**
KMI	**Kunming**	**25.72**	**8**	⇓P	**P**	**05 47 00.3**	**+4.2**
KMI				pmax	pmax		
	comp=Z,17nm,0.6s						
KMI				pmax	pmax		
	comp=Z,92nm,3.6s						
SHL	**Shillong**	**26.83**	**346**	P	**P**	**05 47 05.9**	**-0.1**
SHL				IAmb	IAmb	05 47 10.0	
	comp=Z,19nm,1.0s						
H08S2	**Diego Garcia H**	**27.42**	**254**	T	T	06 15 04.5	
	baz=76,slow=76,SNR=120						
H08S3	**Diego Garcia H**	**27.42**	**254**	T	T	06 15 06.9	
	baz=76,slow=76,SNR=107						
H08S1	**Diego Carcia H**	**27.44**	**254**	T	T	06 15 08.1	
	baz=76,slow=76,SNR=86						
CD2	**Chengdu**	**31.56**	**8**	*e*P	**P**	**05 47 48.0**	**+0.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN	**Xi'an**	**35.59**	**14**	P	**P**	**05 48 21.6**	**-1.1**
XAN				IAmb	IAmb	05 48 22.0	
	comp=Z,7.6nm,0.6s						
LZH	**Lanzhou**	**36.68**	**6**	*e*P	**P**	**05 48 33.0**	**+0.8**
LZH				pP	pP	05 48 50.0	+1.8
LZH				sP	sP	05 49 02.8	+7.0
LZH				PP	**PnPn**	**05 49 59.1**	**+1.7**
LZH				pmax	pmax		
	comp=Z,17nm,1.1s						
LZH				pmax	pmax		
	comp=Z,140nm,5.4s						
H01W3	**Cape Leeuwin H**	**36.99**	**159**	T	T	06 26 47.5	
	baz=335,slow=76,SNR=6.2						
H01W2	**Cape Leeuwin H**	**37.00**	**159**	T	T	06 26 48.9	
	baz=335,slow=76,SNR=5.8						
H01W1	**Cape Leeuwin H**	**37.00**	**159**	T	T	06 26 53.3	
	baz=335,slow=76,SNR=7.3						
WRKA	**Warakurna**	**37.32**	**133**	P	**P**	**05 48 38.4**	**+0.7**
	baz=37,SNR=8.7						
NJ2	**Nanjing**	**37.41**	**28**	*e*P	**P**	**05 48 38.6**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,18nm,0.5s						
WRA	**Warramunga Arr**	**39.56**	**121**	P	**P**	**05 48 55.3**	**-1.2**
	comp=Z,5.4nm,0.6s,baz=303,slow=8.9,SNR=31						
WRA	**Warramunga Arr**	**39.56**	**121**	IAmb	IAmb	05 48 55.4	
	comp=Z,0.5nm,1.4s						
WRAB	**Tennant Creek**	**39.57**	**121**	P	**P**	**05 48 54.6**	**-2.0**
WRAB				IAmb	IAmb	05 48 56.2	
	comp=Z,9.3nm,0.7s						
WB2	**Warramunga Arr**	**39.57**	**121**	P	**P**	**05 48 55.2**	**-1.4**
	baz=39						
WB2	**Warramunga Arr**	**39.57**	**121**	P	**P**	**05 48 55.4**	**-1.2**
GTA	**Gaotai**	**39.73**	**1**	P	**P**	**05 48 58.3**	**+0.5**
GTA				pP	pP	05 49 17.0	+3.1
GTA				sP	sP	05 49 25.9	+4.4
GTA				pmax	pmax		
	comp=Z,7.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,47nm,4.6s						
WR0	**Warramunga Arr**	**39.74**	**121**	P	**P**	**05 48 56.6**	**-1.4**
AS31	**Alice Springs**	**40.89**	**127**	P	**P**	**05 49 06.2**	**-1.3**
ASAR	**Alice Springs**	**40.89**	**127**	P	**P**	**05 49 06.4**	**-1.1**
	comp=Z,5.9nm,0.6s,baz=301,slow=7.8,SNR=77						
QIS	**Mount Isa**	**44.35**	**119**	P	**P**	**05 49 34.6**	**-1.0**
	baz=44						
JNU	**Nakatsue**	**44.90**	**39**	P	**P**	**05 49 38.5**	**-1.3**
	comp=Z,11nm,0.9s,baz=148,slow=6.1,SNR=5.2						
WMQ	**Urumqi**	**45.29**	**348**	*e*P	**P**	**05 49 44.0**	**+1.3**
WMQ				pP	pP	05 49 57.9	-1.3
WMQ				LR	LR		
	comp=Z,120nm,21.7s						
WMQ				LR	LR		
	comp=Z,73nm,20.1s						
KSAR	**Wonju Array Be**	**46.21**	**32**	P	**P**	**05 49 48.5**	**-1.5**
KSRS	**Korea Array**	**46.24**	**32**	P	**P**	**05 49 48.0**	**-2.2**
	comp=Z,3.7nm,0.7s,baz=223,slow=8.1,SNR=17						
KSRS				LR	LR	06 10 40.1	
	comp=Z,30nm,18.4s,baz=214,slow=38						
SHLS	**Shalkode**	**46.89**	**340**	*e*P	**P**	**05 49 55.3**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=340						
SHLS				*e*S	**S**	**05 56 40.4**	**-1.2**
	baz=340						
UZB	**Uzynbulak**	**47.03**	**340**	*e*P	**P**	**05 49 57.2**	**+0.7**
	comp=Z,2.2nm,1.0s,baz=339						
SATY	**Saty**	**47.17**	**339**	*e*P	**P**	**05 49 59.1**	**+1.5**
	comp=Z,5.0nm,1.0s,baz=339						
BBOO	**Buckleboo**	**47.37**	**136**	P	**P**	**05 49 59.5**	**+0.3**
	baz=47						
KPKS	**Kokpek**	**47.43**	**340**	*e*P	**P**	**05 50 00.4**	**+0.8**
	comp=Z,2.1nm,1.3s,baz=339						
TNSS	**Tian-Shan**	**47.68**	**338**	*e*P	**P**	**05 50 03.0**	**+1.1**
	baz=338						
MDOK	**Medeo**	**47.75**	**338**	*e*P	**P**	**05 50 03.7**	**+1.6**
	baz=338						
ARSB	**Arslanbob**	**47.88**	**333**	IAmb	IAmb	05 50 05.2	
	comp=Z,11nm,1.0s						
SONM	**Songino Array**	**48.57**	**7**	P	**P**	**05 50 09.1**	**+0.8**
	comp=Z,9.5nm,0.8s,baz=186,slow=9.8,SNR=46						
SONM	**Songino Array**	**48.57**	**7**	P	**P**	**05 50 08.8**	**+0.5**
KUU	**Kurty**	**48.64**	**338**	*e*P	**P**	**05 50 09.4**	**+0.6**
	comp=Z,5.3nm,0.9s,baz=338						
ULN	**Ulaanbaatar**	**48.67**	**7**	P	**P**	**05 50 09.3**	**+0.1**
ULN				IAmb	IAmb	05 50 10.7	
	comp=Z,7.3nm,0.8s						
SGDS	**Sogindy**	**48.93**	**336**	*e*P	**P**	**05 50 12.6**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=336						
SGDS				*e*S	**S**	**05 57 11.3**	**+0.9**
	baz=336						
MK31	**Makanchi Array**	**49.35**	**345**	P	**P**	**05 50 14.4**	**+0.2**
MKAR	**Makanchi Array**	**49.35**	**345**	P	**P**	**05 50 14.9**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=150,slow=7.8,SNR=15						
MKAR	**Makanchi Array**	**49.35**	**345**	P	**P**	**05 50 14.5**	**+0.3**
CN2	**Changchun**	**50.02**	**25**	*e*P	**P**	**05 50 21.3**	**+2.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KKAR	**Karatay Array**	**50.40**	**333**	P	**P**	**05 50 22.4**	**+0.1**
QLP	**Quilpie**	**50.57**	**125**	P	**P**	**05 50 23.7**	**-0.1**
	baz=50,SNR=4.9						
STKA	**Stephens Creek**	**50.84**	**132**	P	**P**	**05 50 25.0**	**-0.8**
	comp=Z,6.3nm,0.8s,baz=317,slow=7.8,SNR=10						
STKA	**Stephens Creek**	**50.84**	**132**	IAmb	IAmb	05 50 27.9	
	comp=Z,1.3nm,0.8s						
MJAR	**Matsushiro Arr**	**51.73**	**40**	P	**P**	**05 50 30.3**	**-2.0**
	comp=Z,0.9nm,0.3s,baz=212,slow=9.2,SNR=4.8						
MJAR				LR	LR	06 12 38.8	
	comp=Z,8.9nm,20.2s,baz=255,slow=36						
TLY	**Talaya**	**52.14**	**4**	P	**P**	**05 50 35.8**	**+0.7**
TLY				IAmb	IAmb	05 50 37.3	
	comp=Z,14nm,1.5s						
USRK	**Ussuriysk Ar.**	**53.30**	**29**	P	**P**	**05 50 43.0**	**-0.8**
	comp=Z,15nm,0.8s,baz=226,slow=5.0,SNR=23						
USRK	**Ussuriysk Ar.**	**53.30**	**29**	P	**P**	**05 50 42.9**	**-0.9**
CMSA	**Cobar Meteorol**	**53.78**	**130**	P	**P**	**05 50 47.8**	**+0.3**
	baz=54,SNR=8.7						
KURK	**Kurchatov**	**53.92**	**344**		pP	05 51 09.2	+4.2
ZALV	**Zalesovo Beam**	**55.54**	**350**	P	**P**	**05 50 59.1**	**-0.6**
	comp=Z,3.4nm,0.5s,baz=182,slow=7.0,SNR=14						
ZALV	**Zalesovo Beam**	**55.54**	**350**	P	**P**	**05 50 59.9**	**+0.1**
ABKAR	**Akbulak array**	**59.89**	**331**	P	**P**	**05 51 29.6**	**-0.8**
KBZ	**Khabaz**	**66.57**	**319**	P	**P**	**05 52 15.0**	**+0.3**
	comp=Z,4.7nm,0.8s,baz=115,slow=7.4,SNR=11						
BR131	**Keskin Array S**	**71.63**	**312**	P	**P**	**05 52 45.4**	**-1.0**
BRTR	**Keskin Array B**	**71.63**	**312**	P	**P**	**05 52 45.5**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=125,slow=6.4,SNR=9.0						
BRTR				LR	LR	06 27 24.3	
	comp=Z,23nm,18.1s,baz=70,slow=38						
TIXI	**Tiksi**	**74.54**	**9**	P	**P**	**05 53 01.8**	**-1.0**
	comp=Z,3.5nm,0.4s,baz=174,slow=6.0,SNR=4.2						
TIXI	**Tiksi**	**74.54**	**9**	P	**P**	**05 53 01.6**	**-1.2**
TIXI				IAmb	IAmb	05 53 02.4	
	comp=Z,11nm,1.3s						
BOSA	**Boshof**	**75.56**	**241**	P	**P**	**05 53 10.4**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=126,slow=3.6,SNR=4.2						
BOSA	**Boshof**	**75.56**	**241**	IAmb	IAmb	05 53 11.7	
	comp=Z,20nm,1.4s						
BURAR	**Bucovina Array**	**79.53**	**319**	P	**P**	**05 53 32.4**	**+1.0**
BUR08	**Bucovina Ar. S**	**79.54**	**319**	IAmb	IAmb	05 53 33.4	
	comp=Z,4.3nm,0.8s						
FINES	**FINESS Array B**	**82.36**	**332**	P	**P**	**05 53 46.0**	**0.0**
	comp=Z,0.9nm,0.5s,baz=93,slow=6.5,SNR=6.9						
ARCES	**ARCESS Array B**	**84.76**	**340**	P	**P**	**05 53 59.7**	**+1.5**
	comp=Z,2.2nm,0.8s,baz=108,slow=6.5,SNR=6.6						
GERES	**GERESS Array B**	**87.31**	**319**	P	**P**	**05 54 11.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=118,slow=4.8,SNR=6.0						
NOA	**NORSAR Array B**	**89.39**	**331**	LR	LR	06 37 14.7	
	comp=Z,11nm,20.7s,baz=35,slow=37						
TXAR	**Lajitas Array**	**144.06**	**35**	PKP	PKPbc	06 00 58.8	+0.2
	comp=Z,0.7nm,0.6s,baz=248,slow=1.3,SNR=10						
CPUP	**Villa Florida**	**144.93**	**219**	PKPbc	**PKPdf**	**06 01 01.9**	**0.0**
	comp=Z,3.3nm,0.7s,baz=94,slow=4.0,SNR=6.7						

*UCR **18** 05:46:25.0±1.4, 11°.46N×87°.21W, h20$^{km}_{\pm}$71^{km}, MD4.4*
*INET **18** 05:46:28.3, 11°.56N×87°.06W, h23^{km}, ML3.1*
*SNET **18** 05:46:41.5±0.6, 12°.42N×87°.82W, h17$^{km}_{\pm}$9^{km}, ML2.7*
*IDC **18** 05:47:13.2±15.0, 15°.90N×89°.34W, h0^{km}, mb3.6/2, mb1 4.0/3, mb1mx3.6/25, mbtmp3.5/3, ML4.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.5/24, Error ellipse: s-maj=289.0km s-min=183.3km az=4.0*

ISC 18 05:46:27.7±1.3, 11°.49N±0°.08×87°.14W±0°.08, h49^{km}, n34, σ1°10/35, mb3.5/3, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**1.21**	**4**	*e*P	**Pn**	**05 46 47.7**	**-0.6**
NY14	**Universidad de**	**1.79**	**118**	*i* P	**Pn**	**05 46 55.2**	**-1.0**
GBS3	**Finca Las Img**	**1.80**	**113**	*i* P	**Pn**	**05 46 55.1**	**-1.2**
LAPC	**Finca la Perla**	**1.82**	**113**	*i* P	**Pn**	**05 46 55.6**	**-1.1**
BUEV	**Buena Vista**	**1.84**	**112**	*i* P	**Pn**	**05 46 56.1**	**-0.8**
BUEV				*e*S	**Sn**	**05 47 20.9**	**+1.8**
GB1A	**Borinquen Arri**	**1.84**	**111**	*e*P	**Pn**	**05 46 56.1**	**-0.9**
MATN	**Matagalpa**	**1.86**	**40**	*e*P	**Pn**	**05 46 56.5**	**-0.8**
BUAI	**Buenos Aires**	**1.88**	**109**	*i* P	**Pn**	**05 46 56.8**	**-0.7**
GPS3	**Bodega del ICE**	**1.89**	**112**	*i* P	**Pn**	**05 46 56.7**	**-1.0**
GPS1	**Guardaparques**	**1.90**	**112**	*i* P	**Pn**	**05 46 56.8**	**-0.9**
GPS2	**Hotel Rincn d**	**1.90**	**112**	*e*P	**Pn**	**05 46 56.5**	**-1.3**
GPS2				*e*S	**Sn**	**05 47 19.5**	**-1.2**
LCND	**La Caada**	**1.95**	**338**	*e*P	**Pn**	**05 46 57.8**	**-0.7**
LCND				*e*S	Sn	05 47 10.2	-12
ACON	**Acoyapa**	**1.99**	**76**	*e*P	**Pn**	**05 46 57.0**	**-1.9**
GUAI	**GUAI**	**2.01**	**127**	*i* P	**Pn**	**05 46 57.1**	**-2.1**
LIM1	**Limonal**	**2.01**	**113**	*i* P	**Pn**	**05 46 58.1**	**-1.2**
JUCU	**Jucuarn**	**2.06**	**329**	*e*P	**Pn**	**05 46 58.8**	**-1.2**
JUCU				IAML		05 47 35.3	
	comp=Z,199nm,0.3s						
HORNC	**Hornillas**	**2.08**	**112**	*i* P	**Pn**	**05 46 59.7**	**-0.5**
PLVR	**Palo Verde**	**2.09**	**123**	*e*P	**Pn**	**05 46 58.7**	**-1.9**
CUI	**Cuipilapa**	**2.11**	**113**	⇑P	**Pn**	**05 46 60.0**	**-0.7**
CUI				*e*S	**Sn**	**05 47 27.7**	**+1.9**
ACAL	**Aguas Claras**	**2.24**	**112**	*i* P	**Pn**	**05 47 01.8**	**-0.6**
FAGO	**Alcalda de S**	**2.39**	**337**	*i* P	**Pn**	**05 47 04.0**	**-0.5**
TECA	**Tecapa**	**2.40**	**327**	*e*P	**Pn**	**05 47 04.4**	**-0.3**
COEB	**Comit de Eme**	**2.42**	**326**	*e*P	**Pn**	**05 47 04.1**	**-0.8**
JTS	**Las Juntas de**	**2.46**	**119**	*e*P	**Pn**	**05 47 04.3**	**-1.1**
ARE1	**Arenal

ellipse: s-maj=2.0km s-min=1.6km az=7.0
*SOME **18** 06:08:28.0, 43.02N×74.97E*
ISC 18 06:08:28.2±0.8, 43°05N±0.03×74°91E±0.02, h0km, n28, σ0.60/46, 12C-7D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
CHMS	**Chumysh**	**0.13**	**249**	⇑P	**Pg**	**06 08 30.2**	**-0.4**
	53nm,0.2s,SNR=68						
CHMS				⇑S	**Sg**	**06 08 32.2**	**0.0**
	104nm,0.2s						
USP	**Ospenovka**	**0.38**	**306**	P	**Pg**	**06 08 35.1**	**-0.2**
	30nm,0.1s,SNR=82						
USP				⇓S	**Sg**	**06 08 40.5**	**+0.3**
	30nm,0.1s						
KBK	**Karagaybulak**	**0.39**	**176**	⇑P	**Pg**	**06 08 35.7**	**+0.1**
	28nm,0.1s,SNR=14						
KBK				⇑S	**Sg**	**06 08 41.9**	**+1.2**
	39nm,0.2s						
SGDS	**Sogindy**	**0.46**	**333**	P	**Pg**	**06 08 36.7**	**-0.2**
	8.0nm,0.1s						
SGDS				S	**Sg**	**06 08 42.8**	**-0.1**
	23nm,0.5s						
AAK	**Ala-Archa**	**0.51**	**217**	⇑P	**Pg**	**06 08 37.7**	**-0.3**
	4.3nm,0.1s,SNR=8.6						
AAK				⇑S	**Sg**	**06 08 45.2**	**+0.6**
	12nm,0.2s						
AAK	**Ala-Archa**	**0.51**	**217**	⇓P	**Pg**	**06 08 37.5**	**-0.4**
	1.5nm,0.3s						
AAK				⇓S	**Sg**	**06 08 44.4**	**-0.2**
	2.0nm,0.3s						
TKM2	**Tokmak 2**	**0.52**	**104**	⇓P	**Pg**	**06 08 37.9**	**-0.2**
	7.5nm,0.1s,SNR=10						
TKM2				⇓S	**Sg**	**06 08 44.9**	**+0.1**
	33nm,0.1s						
TKM2	**Tokmak 2**	**0.52**	**104**	⇓P	**Pg**	**06 08 37.5**	**-0.6**
	0.7nm,0.3s						
TKM2				⇑S	**Sg**	**06 08 44.6**	**-0.2**
	1.7nm,0.3s						
DGS	**Degeres**	**0.66**	**72**	P	**Pg**	**06 08 40.9**	**+0.1**
	6.1nm,0.1s						
DGS				S	**Sg**	**06 08 50.2**	**+0.9**
	7.6nm,0.2s						
KST	**Kastek**	**0.77**	**90**	P	**Pg**	**06 08 42.9**	**-0.1**
	5.5nm,0.1s						
KST				S	**Sg**	**06 08 53.3**	**+0.3**
	6.6nm,0.3s						
KRBS	**Karabastau**	**0.86**	**40**	P	**Pg**	**06 08 45.0**	**+0.4**
	3.6nm,0.1s						
KRBS				S	**Sb**	**06 08 57.2**	**-0.9**
	12nm,0.6s						
UCH	**Uchtor**	**0.87**	**200**	⇑P	**Pg**	**06 08 44.2**	**-0.6**
	2.1nm,0.1s,SNR=14						
EKS2	**Erkin-Say**	**0.92**	**246**	⇑P	**Pg**	**06 08 45.3**	**-0.5**
	4.9nm,0.1s,SNR=17						
KZA	**Kyzart**	**1.00**	**165**	⇑P	**Pg**	**06 08 47.0**	**-0.4**
	1.7nm,0.1s,SNR=5.8						
IZV	**Izvestkoviy**	**1.25**	**90**	P	**Pg**	**06 08 51.7**	**-0.3**
	9.1nm,0.1s						
IZV				S	**Sg**	**06 09 08.4**	**+0.2**
	5.1nm,0.2s						
ULHL	**Ulahol**	**1.27**	**129**	⇑P	**Pg**	**06 08 51.3**	**-1.1**
	1.6nm,0.1s,SNR=12						
MRKS	**Merke**	**1.27**	**257**	P	**Pg**	**06 08 52.4**	**-0.3**
	2.8nm,0.1s						
MRKS				S	**Sb**	**06 09 09.5**	**-0.7**
	16nm,0.2s						
AML	**Almayashu**	**1.28**	**225**	P	**Pg**	**06 08 52.0**	**-0.7**
	SNR=10						
KUU	**Kurty**	**1.34**	**50**	P	**Pn**	**06 08 54.3**	**+0.1**
	4.8nm,0.1s						
KUU				S	**Sn**	**06 09 13.3**	**+0.5**
	8.0nm,0.2s						
KTBS	**Karatobe**	**1.45**	**62**	P	**Pn**	**06 08 55.0**	**-0.8**
	3.1nm,0.1s						
KTBS				S	**Sg**	**06 09 14.0**	**-0.9**
	14nm,0.2s						
TNSS	**Tian-Shan**	**1.49**	**90**	P	**Pn**	**06 08 56.0**	**-0.7**
	13nm,0.3s						
TNSS				S	**Sg**	**06 09 15.6**	**-0.5**
	4.2nm,0.2s						
MDOK	**Medeo**	**1.57**	**85**	Pg	**Pn**	**06 08 57.2**	**-0.3**
	7.7nm,0.2s						
MDOK				Lg	Lg	06 09 17.6	
	4.4nm,0.2s						
KOTS	**Kotyrbulak**	**1.62**	**83**	P	**Pn**	**06 08 58.5**	**+0.3**
	9.1nm,0.2s						
KOTS				S	**Sn**	**06 09 20.1**	**+0.2**
	14nm,0.4s						
CHKK	**Chushkaly**	**1.71**	**61**	P	**Pb**	**06 09 00.7**	**+0.1**
	2.2nm,0.1s						
CHKK				S	**Sg**	**06 09 23.9**	**+0.7**
	12nm,0.3s						
BTLS	**Baital**	**2.09**	**343**	Pg	**Pb**	**06 09 06.2**	**-0.8**
	3.0nm,0.2s						
BTLS				Lg	Lg	06 09 33.1	
	7.8nm,0.3s						
ARXS	**Arharly**	**2.42**	**60**	Pg	**Pb**	**06 09 13.2**	**+0.7**
	2.9nm,0.3s						
ARXS				Lg	Lg	06 09 45.5	
	3.8nm,0.3s						
SATY	**Saty**	**2.56**	**88**	Pg	**Pb**	**06 09 16.0**	**+0.9**
	2.1nm,0.2s						
SATY				Lg	Lg	06 09 50.1	
	7.4nm,0.2s						
KK31	**Karatay Array**	**3.23**	**273**	⇓Pn	**Pn**	**06 09 21.6**	**+1.5**
	0.2nm,0.3s,baz=34,slow=15,SNR=7.5						
KK31				⇑Lg	Lg	06 10 11.6	
	0.2nm,0.3s,baz=89,slow=28						

*TEH **18** 06:19:36.8, 33.99N×47.28E, h12km, ML4.1*
*IDC **18** 06:19:36.2±1.1, 34.11N×47.26E, h0km, mb3.9/15, mb1 4.0/23, mb1mx3.9/52, mbtmp3.9/23, ML3.9/7, MS3.2/10, Ms1 3.2/10, ms1mx2.9/43, Error ellipse: s-maj=26.0km s-min=11.8km az=164.0*
*ISN **18** 06:19:36.0±1.1, 33.97N×47.30E, h15km±8km, ML3.9*
*NEIC **18** 06:19:37.6±2.7, 34.0N±0.1×47.30E±0.09, h10km±1km, Error ellipse: s-maj=20.4km s-min=12.2km az=167.0*
*MOS **18** 06:19:37.9±1.4, 33.98N×47.19E, h24km, mb4.4/17, Error ellipse: s-maj=9.2km s-min=5.6km az=102.8*
*THR **18** 06:19:40.9±0.8, 33.99N×47.38E, h17km±9km, ML3.5*
*GII **18** 06:19:53.4±0.0, 34.04N×47.33E, h2km*
ISC 18 06:19:37.8±1.1, 33°98N±0.03×47°28E±0.03, h11km±7km, n189, σ1.983/176, mb4.2/32, 24C-6D, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
IKOM	**Komasi**	**0.27**	**45**	*e*Pg	**Pg**	**06 19 43.2**	**-0.3**
KCHF	**Cheshme Sefid,**	**0.35**	**326**	*e*Pg	**Pg**	**06 19 44.2**	**-0.8**
KCHF				*e*		06 19 50.9	
KER	**Kermanshah**	**0.42**	**343**	P	**Pg**	**06 19 45.7**	**-0.5**
KER	**Kermanshah**	**0.42**	**343**	*e*Pg	**Pg**	**06 19 45.5**	**-0.7**
IVIS	**Veis**	**0.65**	**327**	*e*Pg	**Pg**	**06 19 49.4**	**-1.1**
IVIS				*e*		06 20 04.1	
IKFM	**Kafar-mosalman**	**0.66**	**134**	*e*Pg	**Pg**	**06 19 49.2**	**-1.3**
IBZA	**Bozab**	**0.68**	**44**	*e*Pg	**Pg**	**06 19 50.0**	**-1.1**
IGHG	**Ghaleghazi**	**0.69**	**301**	*e*Pg	**Pg**	**06 19 50.2**	**-0.9**
IGHG				*e*		06 20 23.3	
IDOB	**Doab**	**0.77**	**104**	*e*Pg	**Pg**	**06 19 52.0**	**-0.8**
ILIN	**Lien**	**0.97**	**344**	*e*Pg	**Pg**	**06 19 56.0**	**-0.6**
ILIN				*e*		06 20 16.6	
IKMR	**Kamar-syah**	**1.03**	**116**	*e*Pg	**Pg**	**06 19 56.1**	**-1.5**
IDHR	**Dehrash**	**1.03**	**314**	*e*Pg	**Pg**	**06 19 56.0**	**-1.7**
IDHR				*e*		06 20 13.3	
HSAM	**Samen**	**1.12**	**78**	*e*Pg	**Pg**	**06 19 58.0**	**-1.4**
IALM	**Almabolaq**	**1.14**	**40**	*e*Pg	**Pg**	**06 19 58.8**	**-1.0**
BMDN	**Meydan**	**1.32**	**103**	*e*Pg	**Pn**	**06 20 02.0**	**-0.4**
IBDR	**Badra**	**1.42**	**233**	*e*Pg	**Pn**	**06 20 02.0**	**-1.6**
IBDR				*e*Sg	**Sn**	**06 20 21.0**	**-1.3**
IBDR				AML	AML	06 20 27.4	
	comp=N,939nm,0.4s						
IBDR				AML	AML	06 20 28.5	
	comp=E,5μm,0.6s						
HAGD	**Aghdareh**	**1.75**	**61**	*e*Pn	**Pb**	**06 20 10.3**	**+0.2**
HAGD				*e*		06 20 39.5	
KHMZ	**Khomeyn**	**2.24**	**95**	*e*Pn	**Pb**	**06 20 17.9**	**-0.6**
KHMZ	**Khomeyn**	**2.24**	**95**	*e*Pn	**Pb**	**06 20 17.9**	**-0.6**
SHGR	**Shooshtar-Gavs**	**2.26**	**145**	*e*Pn	**Pb**	**06 20 19.0**	**+0.3**
SHGR				*e*Sg	**Sg**	**06 20 50.7**	**+0.1**
SHGR				IAML		06 21 05.2	
	comp=E,256nm,0.4s						
SHGR				IAML		06 21 18.3	
	comp=N,270nm,0.6s						
SHGR	**Shooshtar-Gavs**	**2.26**	**145**	*e*Pn	**Pb**	**06 20 19.0**	**+0.3**

ASAO	**Ashtian**	**2.34**	**75**	*e*Pn	**Pb**	**06 20 19.8**	**-0.4**
ASAO				*e*Sg	**Sg**	**06 20 51.9**	**-1.2**
ASAO	**Ashtian**	**2.34**	**75**	*e*Pn	**Pb**	**06 20 19.8**	**-0.4**
BHD	**Baghdad**	**2.52**	**254**	*e*Pn	**Pn**	**06 20 18.0**	**-0.7**
BHD				*e*Sn	**Sn**	**06 20 50.0**	**+0.6**
QABG	**Abgarm-Qazvin**	**2.56**	**47**	*e*Pn	**Pn**	**06 20 21.6**	**+2.1**
IRAZ	**Razeghan**	**2.60**	**56**	*e*Pn	**Pb**	**06 20 22.8**	**-1.8**
IKRK	**Kirkuk**	**2.81**	**301**	*e*Pn	**Pn**	**06 20 23.0**	**+0.3**
IKRK				*e*Sn	**Sn**	**06 20 56.0**	**-0.5**
AHWZ	**Ahwaz**	**2.88**	**156**	*e*Pn	**Pn**	**06 20 25.5**	**+1.8**
ZNJK	**Zanjan**	**2.92**	**23**	*e*Pn	**Pb**	**06 20 28.8**	**-1.2**
QSDN	**Sirdan**	**2.96**	**31**	*e*Pn	**Pb**	**06 20 27.9**	**-2.8**
MAHB	**Mahabad**	**3.06**	**336**	*e*Pn	**Pn**	**06 20 28.3**	**+2.0**
MAHB				*e*		06 21 21.3	
IQOM	**Qom**	**3.25**	**74**	*e*Pn	**Pn**	**06 20 31.1**	**+2.1**
IQOM				*e*		06 20 44.5	
IMHD	**Mahdasht**	**3.26**	**58**	*e*Pn	**Pn**	**06 20 31.1**	**+2.0**
IMHD				*e*		06 21 38.2	
JHBN	**Jahan bin**	**3.33**	**121**	*e*Pn	**Pn**	**06 20 32.0**	**+1.8**
GHVR	**GHOM**	**3.36**	**80**	*e*Pn	**Pn**	**06 20 33.0**	**+2.6**
GHVR	**GHOM**	**3.36**	**80**	*e*Pn	**Pn**	**06 20 33.0**	**+2.6**
IGZV	**Ghazvin**	**3.40**	**44**	*e*Pn	**Pn**	**06 20 33.3**	**+2.3**
ROKH	**ROKH**	**3.55**	**116**	*e*Pn	**Pn**	**06 20 34.0**	**+1.0**
IKLH	**Kolahrood**	**3.65**	**99**	*e*Pn	**Pn**	**06 20 36.9**	**+2.5**
QALM	**Alamut, Qazvin**	**3.68**	**47**	*e*Pn	**Pn**	**06 20 37.2**	**+2.2**
QALM				*e*		06 21 46.8	
CHTH	**Charan**	**3.70**	**58**	*e*Pn	**Pn**	**06 20 38.1**	**+2.9**
CHTH	**Charan**	**3.70**	**58**	*e*Pn	**Pn**	**06 20 38.1**	**+2.9**
IVRN	**Varamin**	**3.81**	**73**	*e*Pn	**Pn**	**06 20 38.8**	**+2.3**
IDMV	**Damavand**	**4.22**	**67**	*e*Pn	**Pn**	**06 20 44.7**	**+2.3**
IGAR	**Gharneh**	**4.29**	**110**	*e*Pn	**Pn**	**06 20 44.8**	**+1.5**
IZEF	**Zefreh**	**4.36**	**103**	*e*Pn	**Pn**	**06 20 45.9**	**+1.7**
CUKT	**Cukurca**	**4.42**	**318**	*e*Pn	**Pn**	**06 20 46.3**	**+1.3**
KLNJ	**Kolanjah**	**4.70**	**128**	*e*Pn	**Pn**	**06 20 49.4**	**+0.4**
IRAM	**Ramesheh**	**4.81**	**115**	*e*Pn	**Pn**	**06 20 51.8**	**+1.4**
GRMI	**Germi**	**4.84**	**6**	*e*Pn	**Pn**	**06 20 54.8**	**+4.0**
GRMI	**Germi**	**4.84**	**6**	*e*Pn	**Pn**	**06 20 54.8**	**+4.0**
AKDM	**Akdamar-Van**	**5.56**	**323**	*e*Pn	**Pn**	**06 21 02.8**	**+2.1**
MAKU	**Maku**	**5.75**	**339**	*e*Pn	**Pn**	**06 21 07.7**	**+4.4**
MAKU	**Maku**	**5.75**	**339**	*e*Pn	**Pn**	**06 21 07.7**	**+4.4**
MAZI	**Mazidag**	**6.55**	**304**	*e*Pn	**Pn**	**06 21 14.5**	**+0.3**
ASF	**Jabal al Asfar**	**8.90**	**261**	Pn	**Pn**	**06 21 47.0**	**+0.6**
	comp=N,0.5nm,0.3s,baz=30,slow=6.3,SNR=2.3						
ASF				Lg	Lg	06 24 22.1	
	comp=N,0.6nm,0.3s,baz=61,slow=20,SNR=2.5						
MAK	**Makhachkala**	**8.97**	**1**	*e*P	**Pn**	**06 21 49.8**	**+2.6**
MAK				*e*S	**Sn**	**06 23 32.5**	**+4.3**
MAK				pmax	pmax		
	comp=Z,36nm,0.3s						
MAK				MLR	MLR		
	comp=Z,183nm,17.0s						
GEYT	**Alibeck**	**9.63**	**63**	Pn	**Pn**	**06 21 56.0**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=212,slow=30,SNR=1.1						
GEYT				LR	LR	06 26 04.5	
	comp=Z,251nm,18.7s,baz=220,slow=40						
NATI	**Neve Ativ**	**9.65**	**269**	Pn	Pn	06 22 14.7	+18
MMAI	**Mount Meron Ar**	**9.97**	**268**	Pn	**Pn**	**06 22 02.5**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=82,slow=11,SNR=1.7						
MMAI				Lg	Lg	06 24 54.4	
	comp=Z,1.5nm,0.3s,baz=147,slow=36,SNR=1.8						
HMDT	**Nahal Hemdat**	**10.01**	**263**	Pn	Pn	06 22 19.3	+18
MMLI	**Mount Malkishu**	**10.05**	**264**	Pn	Pn	06 22 20.0	+18
KBZ	**Khabaz**	**10.31**	**342**	LR	LR	06 25 29.2	
	comp=Z,34nm,21.4s,baz=148,slow=35						
KBZ	**Khabaz**	**10.31**	**342**	*ce*P	Pn	06 22 12.5	+6.8
KBZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KVAR	**Kislovodsk Arr**	**10.58**	**342**	LR	LR	06 25 59.6	
	comp=Z,239nm,21.1s,baz=53,slow=37						
YTIR	**Yattir**	**10.58**	**259**	Pn	Pn	06 22 26.8	+17
KIV	**Kislovodsk**	**10.58**	**342**	*e*P	**Pn**	**06 22 12.7**	**+3.3**
KIV				pmax	pmax		
	comp=Z,14nm,1.0s						
HRFI	**Mount Harif**	**11.11**	**253**	Pn	Pn	06 22 34.4	+18
SOC	**Sochi**	**11.25**	**331**	*e*P	**Pn**	**06 22 22.1**	**+3.6**
SOC				*e*		06 24 30.1	
SOC				MLR	MLR		
	comp=Z,103nm,13.0s						
MBRI	**Mt Berech**	**11.31**	**252**	Pn	Pn	06 22 36.9	+17
EIL	**Elat**	**11.33**	**251**	Pn	**Pn**	**06 22 19.4**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=80,slow=16,SNR=1.8						
EIL				LR	LR	06 27 43.1	
	comp=Z,111nm,19.4s,baz=96,slow=43						
EIL	**Elat**	**11.33**	**251**	Pn	Pn	06 22 37.4	+18
BRTR	**Keskin Array B**	**12.33**	**302**	Pn	**Pn**	**06 22 33.8**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=122,slow=15,SNR=2.0						
BRTR	**Keskin Array B**	**12.33**	**302**	*i* P	Pn	06 22 39.2	+5.7
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ELL	**Elmali**	**14.44**	**286**	P	**P**	**06 23 13.5**	**+4.3**
ELL	**Elmali**	**14.44**	**286**	P	**P**	**06 23 13.4**	**+4.3**
KARP	**Karpathos**	**16.61**	**281**	P	**P**	**06 23 36.7**	**+3.6**
KARP				IAmb	IAmb	06 23 39.4	
	comp=Z,21nm,0.8s						
ABKAR	**Akbulak array**	**17.92**	**28**	P	**P**	**06 23 49.6**	**+2.1**
APE	**Apeiranthos**	**17.97**	**286**	⇑P	**P**	**06 23 47.9**	**-0.2**
APE	**Apeiranthos**	**17.97**	**286**	P	**P**	**06 23 51.5**	**+3.3**
APE				pmax	pmax		
	comp=Z,14nm,0.8s						
SANT	**Santorini**	**18.00**	**284**	⇑P	**P**	**06 23 49.6**	**+1.2**
SANT	**Santorini**	**18.00**	**284**	P	**P**	**06 23 50.2**	**+1.7**
VSR	**Storozhevoye**	**18.21**	**343**	*e*P	**Pn**	**06 23 50.3**	**-0.1**
VSR				pmax	pmax		
	comp=Z,10.0nm,1.0s						
AKTO	**Aktyubinsk**	**18.23**	**22**	P	**Pn**	**06 23 50.7**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=228,slow=8.5,SNR=3.5						
AKTO				LR	LR	06 33 17.4	
	comp=Z,44nm,18.6s,baz=204,slow=45						
CFR	**Carcaliu**	**18.47**	**313**	⇓P	**P**	**06 23 52.8**	**-0.8**
CFR	**Carcaliu**	**18.47**	**313**	P	**P**	**06 23 52.7**	**-0.8**
IDI	**Anoyia**	**18.47**	**280**	P	**P**	**06 23 53.6**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=62,slow=13,SNR=10						
IDI	**Anoyia**	**18.47**	**280**	⇑P	**Pn**	**06 23 54.1**	**+0.3**
IDI	**Anoyia**	**18.47**	**280**	P	**Pn**	**06 23 54.2**	**+0.3**
IDI				IAmb	IAmb	06 24 02.5	
	comp=Z,14nm,0.7s						
GAR	**Garm**	**19.17**	**68**	P	**Pn**	**06 24 05.8**	**+3.4**
LPSR	**Galich'ya Gora**	**19.55**	**345**	*e*P	**P**	**06 24 04.8**	**-0.6**
LPSR				pmax	pmax		
	comp=Z,20nm,0.8s						
PLOR	**Plostina**	**19.71**	**313**	⇑P	**P**	**06 24 06.7**	**-0.6**
PLOR	**Plostina**	**19.71**	**313**	P	**P**	**06 24 06.6**	**-0.6**
BTK	**Batken**	**19.72**	**65**	P	**P**	**06 24 01.6**	**-5.9**
BTK				pmax	pmax		
	comp=Z,11nm,0.5s						
BTK	**Batken**	**19.72**	**65**	P	**P**	**06 24 01.6**	**-5.9**
BTK				IAmb	IAmb	06 24 02.4	
	comp=Z,11nm,0.5s						
MLR	**Muntele Rosu**	**19.97**	**311**	P	**P**	**06 24 09.1**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=315,slow=5.1,SNR=3.4						
MLR	**Muntele Rosu**	**19.97**	**311**	⇑P	**P**	**06 24 09.4**	**-0.7**
MLR	**Muntele Rosu**	**19.97**	**311**	P	**P**	**06 24 09.3**	**-0.9**
MLR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MLR	**Muntele Rosu**	**19.97**	**311**	P	**P**	**06 24 09.3**	**-0.9**
SORM	**Soroca**	**20.02**	**321**	⇓P	**P**	**06 24 09.5**	**-1.0**
SORM	**Soroca**	**20.02**	**321**	P	**P**	**06 24 09.5**	**-1.0**
TESR	**Tescani**	**20.04**	**315**	⇓P	**P**	**06 24 11.6**	**+0.8**
KKAR	**Karatay Array**	**20.27**	**56**	P	Pn	06 24 15.4	0.0
KKAR	**Karatay Array**	**20.27**	**56**	P	Pn	06 24 15.4	0.0
OZUR		**20.35**	**313**	⇓P	**P**	**06 24 15.0**	**+0.7**
VOIR		**20.51**	**310**	⇑P	**P**	**06 24 16.7**	**+0.8**
VOIR		**20.51**	**310**	P	**P**	**06 24 16.7**	**+0.8**
DOPR	**Dopca**	**20.54**	**312**	⇑P	**P**	**06 24 16.7**	**+0.5**
ARR	**Arges**	**20.74**	**310**	⇑P	**P**	**06 24 18.0**	**-0.5**
ITM	**Ithomi**	**20.85**	**286**	P	**P**	**06 24 18.9**	**-0.8**
ITM				IAmb	IAmb	06 24 23.0	
	comp=Z,14nm,0.7s						
KMPD	**K-Podol'skiy**	**21.28**	**319**	P	**P**	**06 24 23.0**	**-1.2**
AKASG	**Malin Array Be**	**21.29**	**327**	P	**P**	**06 24 23.4**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=134,slow=12,SNR=6.6						
AKASG	**Malin Array Be**	**21.29**	**327**	*ce*P	**P**	**06 24 27.0**	**+2.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**21.29**	**327**	IAmb	IAmb	06 24 29.8	
	comp=Z,2.2nm,1.2s						
AKBB	**Malin Array Si**	**21.29**	**327**	*ce*P	**P**	**06 24 27.1**	**+2.9**
AKBB	**Malin Array Si**	**21.29**	**327**	P	**P**	**06 24 27.6**	**+3.3**
KIEV	**Kiev**	**21.29**	**327**	P	**P**	**06 24 23.0**	**-1.3**
BURAR	**Bucovina Array**	**21.45**	**316**	⇑P	**P**	**06 24 26.2**	**0.0**
BURAR	**Bucovina Array**	**21.45**	**316**	P	**P**	**06 24 26.1**	**0.0**
BURAR	**Bucovina Array**	**21.45**	**316**	P	**P**	**06 24 25.2**	**-0.9**
BUR08	**Bucovina Ar. S**	**21.48**	**316**	P	**P**	**06 24 25.8**	**-0.7**
BUR08				IAmb	IAmb	06 24 31.1	
	comp=Z,7.9nm,0.9s						
ARSB	**Arslanbob**	**21.58**	**63**	P	**P**	**06 24 29.4**	**+1.8**
ARSB				pmax	pmax		
	comp=Z,10.0nm,0.9s						
ARSB	**Arslanbob**	**21.58**	**63**	P	**P**	**06 24 29.4**	**+1.8**
ARSB				IAmb	IAmb	06 24 39.9	
	comp=Z,9.7nm,0.9s						
HERR	**Herculane**	**21.99**	**307**	⇓P	**P**	**06 24 30.6**	**-1.2**
OBN	**Obninsk**	**22.41**	**344**	⇑eP	**P**	**06 24 39.6**	**+3.4**
OBN				*e*S	**S**	**06 28 37.5**	**-4.7**
OBN				pmax	pmax		
	comp=Z,11nm,1.0s						
OBN				MLR	MLR		
	comp=Z,41nm,18.0s						
MDVR	**Moldovita**	**22.42**	**306**	⇑P	**P**	**06 24 35.0**	**-1.6**
DRGR		**22.56**	**312**	⇑P	**P**	**06 24 36.1**	**-1.9**
DRGR		**22.56**	**312**	P	**P**	**06 24 36.1**	**-1.9**
ATD	**Arta Tunnel**	**22.71**	**191**	LR	LR	06 34 30.5	
	comp=Z,69nm,19.3s,baz=5.5,slow=39						
BZS	**Buzias**	**22.78**	**308**	⇑P	**P**	**06 24 37.5**	**-2.8**
AAK	**Ala-Archa**	**22.96**	**60**	LR	LR	06 34 54.3	
	comp=Z,89nm,19.4s,baz=240,slow=40						
AAK	**Ala-Archa**	**22.96**	**60**	*i* P	**P**	**06 24 42.7**	**+0.3**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.9s						
SIRR	**Siria**	**23.00**	**310**	⇑P	**P**	**06 24 39.7**	**-2.9**
ARU	**Arti**	**23.75**	**16**	P	**P**	**06 24 50.3**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=138,slow=8.3,SNR=3.7						
ARU	**Arti**	**23.75**	**16**	*d* P	**P**	**06 24 51.0**	**+1.1**
ARU				PPP	PPP	06 25 26.7	
ARU				S	**S**	**06 29 03.8**	**-1.2**
ARU				pmax	pmax		
	comp=Z,8.0nm,1.4s						
ARU	**Arti**	**23.75**	**16**	IAmb	IAmb	06 25 06.8	
	comp=Z,6.4nm,1.1s						
KOLS	**Kolonicke sedl**	**23.82**	**316**	*e*P	**P**	**06 24 51.8**	**+1.1**
KOLS	**Kolonicke sedl**	**23.82**	**316**	*e*P	**P**	**06 24 51.8**	**+1.1**
CRVS	**Cervenica-Dubn**	**24.27**	**316**	*e*P	**P**	**06 24 56.4**	**+1.4**
CRVS	**Cervenica-Dubn**	**24.27**	**316**	*e*P	**P**	**06 24 56.4**	**+1.4**
KIRV	**Kirov**	**24.65**	**3**	LR	LR	06 36 40.2	
	comp=Z,73nm,18.5s,baz=178,slow=42						
TIP	**Timpagrande**	**24.99**	**291**	P	**P**	**06 25 00.7**	**-0.9**
TIP				IAmb	IAmb	06 25 07.6	
	comp=Z,15nm,1.3s						
BRVK	**Borovoye**	**25.14**	**34**	*ce*P	**P**	**06 25 02.7**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
BVAR	**Borovoye Array**	**25.17**	**34**	P	**P**	**06 25 02.3**	**-0.7**
	comp=Z,1.8nm,1.0s,baz=215,slow=10,SNR=8.2						
KLMR	**Klimovskoe**	**27.36**	**352**	*e*P	**P**	**06 25 20.6**	**-2.1**
KLMR				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KLMR	**Klimovskoe**	**27.36**	**352**	*e*P	**P**	**06 25 20.6**	**-2.1**
KLMR				AMP		06 25 25.6	
	comp=Z,10.0nm,1.1s						
KURBB	**Kurchatov Arra**	**28.19**	**44**	P	**P**	**06 25 31.3**	**+1.1**
	comp=Z,3.3nm,0.8s,baz=249,slow=9.1,SNR=14						
KURK	**Kurchatov**	**28.28**	**44**	*ce*P	**P**	**06 25 32.6**	**+1.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KURK	**Kurchatov**	**28.28**	**44**	P	**P**	**06 25 32.9**	**+1.8**
KURK				IAmb	IAmb	06 25 39.5	
	comp=Z,3.6nm,0.8s						
KBA	**Koelnbreinsper**	**28.68**	**307**	P	P	06 25 40.3	+5.4
KBA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GERES	**GERESS Array B**	**28.96**	**311**	P	**P**	**06 25 36.5**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=177,slow=33,SNR=5.4						
MK31	**Makanchi Array**	**29.33**	**54**	P	**P**	**06 25 41.2**	**+0.7**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MK31	**Makanchi Array**	**29.33**	**54**	P	**P**	**06 25 41.2**	**+0.7**
MKAR	**Makanchi Array**	**29.33**	**54**	P	**P**	**06 25 40.4**	**0.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTX	**Valle De La Tr**	**0.23**	**254**⇑	*i*P	**Pg**	**06 42 47.0**	**+0.1**
VTX				*e*S	**Sg**	**06 42 51.0**	**+0.7**
VTX				⇑*e*		06 42 51.4	
VTX				IAML		06 42 51.4	
	comp=E,5μm,0.3s						
ECBX	**El Chinero**	**0.40**	**87**⇑	*i*P	**Pg**	**06 42 49.7**	**-0.2**
ECBX				*e*S	**Sg**	**06 42 54.8**	**-0.5**
SPIG	**San Pedro Mart**	**0.41**	**173**⇓	*e*P	**Pb**	**06 42 51.1**	**-0.1**
SPIG	**San Pedro Mart**	**0.41**	**173**	*i*P	**Pb**	**06 42 51.1**	**-0.1**
SPIG				*i*S	**Sg**	**06 42 55.6**	**-0.1**
SPX	**San Pedro Mart**	**0.42**	**173**⇓	*e*P	**Pb**	**06 42 51.2**	**-0.3**
SPX				*e*S	**Sb**	**06 42 57.7**	**-0.1**
SPX	**San Pedro Mart**	**0.42**	**173**		**Pb**	**06 42 51.2**	**-0.3**
SPX					**Sb**	**06 42 57.5**	**-0.3**
SPX	**San Pedro Mart**	**0.42**	**173**	*i*P	**Pb**	**06 42 51.1**	**-0.3**
SPX				*i*S	**Sb**	**06 42 57.4**	**-0.5**
SVX	**San Vicente**	**0.64**	**259**⇑	*e*P	**Pg**	**06 42 54.7**	**+0.4**
SVX				*e*S	**Sg**	**06 43 03.6**	**+0.9**
SFX	**San Felipe**	**0.71**	**126**⇑	*e*P	**Pg**	**06 42 55.9**	**+0.1**
SFX				*e*S	**Sb**	**06 43 05.9**	**0.0**
SFX	**San Felipe**	**0.71**	**126**		**Pg**	**06 42 55.8**	**+0.1**
SFX					**Sb**	**06 43 05.9**	**0.0**
GUVIX	**Guadalupe Vict**	**0.93**	**24**	*e*P	**Pb**	**06 42 59.7**	**-0.2**
GUVIX				*e*S	**Sb**	**06 43 12.2**	**0.0**
SQX	**San Quintin**	**0.93**	**199**⇑	*e*P	**Pb**	**06 42 58.9**	**-1.0**
SQX				*e*S	**Sg**	**06 43 11.7**	**-0.2**
SQX				IAML		06 43 12.4	
	comp=E,810nm,0.3s						
CPBX	**Cerro Prieto**	**0.98**	**11**⇑	*e*P	**Pb**	**06 42 59.7**	**-1.1**
CPBX	**Cerro Prieto**	**0.98**	**11**		**Pb**	**06 42 59.6**	**-1.1**
CPBX					**Sb**	**06 43 12.8**	**-0.8**
MBIG	**Mexicali**	**0.99**	**16**	*i*P	**Pb**	**06 42 59.6**	**-1.3**
MBIG				*i*P	**Pg**	**06 43 01.5**	**+0.5**
MBIG				*i*S	**Sb**	**06 43 13.2**	**-0.7**
MBIG				*e*S	**Sg**	**06 43 13.5**	**-0.4**
CCX	**Cicese**	**1.06**	**293**⇑	*e*P	**Pb**	**06 43 01.7**	**-0.4**
CCX				*e*S	**Sb**	**06 43 15.6**	**-0.3**
CCX	**Cicese**	**1.06**	**293**		**Pb**	**06 43 01.5**	**-0.5**
CCX					**Sb**	**06 43 15.6**	**-0.3**
ERMX	**Rumorosa**	**1.18**	**339**	*e*P	**Pn**	**06 43 03.4**	**-0.8**
ERMX				*e*S	**Sb**	**06 43 18.0**	**-1.5**
UABX	**UABC, Campus M**	**1.18**	**3**		**Sb**	**06 43 19.8**	**+0.5**
SGL	**Mount Signal**	**1.20**	**352**		**Pn**	**06 43 02.4**	**-2.1**
SGL					**Sb**	**06 43 18.7**	**-1.4**
YUH	**Yuha Desert**	**1.24**	**344**		**Pn**	**06 43 03.2**	**-1.7**
YUH					**Sb**	**06 43 19.9**	**-1.2**
RMX	**La Rumorosa**	**1.24**	**338**		**Pn**	**06 43 03.2**	**-1.9**
RMX					**Sb**	**06 43 18.0**	**-3.2**
IKP	**In-Ko-Pah, Jac**	**1.29**	**337**	*e*P	**Pn**	**06 43 05.0**	**-0.8**
IKP				*e*S	**Sb**	**06 43 21.3**	**-1.5**
IKP	**In-Ko-Pah, Jac**	**1.29**	**337**		**Pn**	**06 43 04.2**	**-1.6**
IKP					**Sb**	**06 43 21.3**	**-1.5**
CBX	**Cerro Bola**	**1.29**	**312**	*e*P	**Pn**	**06 43 05.5**	**-0.4**
CBX				*e*S	**Sb**	**06 43 22.2**	**-0.6**
CBX	**Cerro Bola**	**1.29**	**312**		**Pn**	**06 43 05.7**	**-0.2**
CBX					**Sb**	**06 43 22.2**	**-0.6**
CBX	**Cerro Bola**	**1.29**	**312**	*e*P	**Pn**	**06 43 05.5**	**-0.4**
CBX				*e*S	**Sb**	**06 43 22.3**	**-0.6**
WESC	**Westside Schoo**	**1.31**	**352**		**Sb**	**06 43 23.5**	**+0.3**
TJIG	**Tijuana**	**1.38**	**315**	*e*P	**Pn**	**06 43 06.5**	**-0.5**
TJIG				*e*S	**Sn**	**06 43 24.0**	**-1.1**
TKX	**Tecate**	**1.44**	**321**	*e*P	**Pn**	**06 43 07.7**	**-0.2**
TKX				*e*S	**Sn**	**06 43 25.8**	**-0.9**
TKX	**Tecate**	**1.44**	**321**		**Pn**	**06 43 07.7**	**-0.2**
TKX					**Sn**	**06 43 25.8**	**-0.9**
BAR	**Barrett**	**1.56**	**322**	*e*P	**Pn**	**06 43 09.5**	**0.0**
BAR	**Barrett**	**1.56**	**322**		**Pn**	**06 43 09.2**	**-0.3**
BAR					**Sn**	**06 43 28.6**	**-1.1**
MONP2	**Monument Peak**	**1.62**	**332**⇑	*e*P	**Pn**	**06 43 10.0**	**-0.4**
MONP2	**Monument Peak**	**1.62**	**332**		**Pn**	**06 43 11.3**	**+0.9**
OLP	**Otay Lakes Par**	**1.66**	**314**⇑	*e*P	**Pn**	**06 43 11.0**	**+0.2**
OLP	**Otay Lakes Par**	**1.66**	**314**		**Pn**	**06 43 10.9**	**+0.2**
GLA	**Glamis**	**1.70**	**20**		**Pn**	**06 43 12.3**	**+0.9**
SDRC	**San Diego Road**	**1.75**	**317**	*e*P	**Pn**	**06 43 12.6**	**+0.5**
SDRC				*e*S	**Sn**	**06 43 34.9**	**+0.6**
SDRC	**San Diego Road**	**1.75**	**317**		**Pn**	**06 43 12.6**	**+0.5**
SDRC					**Sn**	**06 43 34.7**	**+0.4**
EML	**El Monte Cty P**	**1.82**	**322**⇑	*e*P	**Pn**	**06 43 13.1**	**+0.2**
EML				*e*S	**Sn**	**06 43 36.1**	**+0.7**
EML	**El Monte Cty P**	**1.82**	**322**		**Pn**	**06 43 13.4**	**+0.4**
EML					**Sn**	**06 43 36.6**	**+0.7**
DPP	**Dos Picos Cty**	**1.95**	**322**	*e*P	**Pn**	**06 43 14.7**	**-0.1**
DPP				*e*S	**Sn**	**06 43 40.8**	**+1.5**
DPP	**Dos Picos Cty**	**1.95**	**322**		**Pn**	**06 43 14.7**	**-0.1**
DPP					**Sn**	**06 43 40.8**	**+1.5**
109C	**Camp Elliot, M**	**1.96**	**317**		**Pn**	**06 43 16.0**	**+1.1**
113A	**Mohawk Valley,**	**1.98**	**48**		**Pg**	**06 43 22.2**	**+2.3**
HWB	**Hans Werner Br**	**1.98**	**323**		**Pn**	**06 43 15.2**	**-0.1**
GORC	**Green Oak Ranc**	**2.23**	**320**		**Pb**	**06 43 20.9**	**-1.2**
XPFO	**Pion Flat**	**2.29**	**340**		**Pb**	**06 43 22.7**	**-0.5**
XPFO	**Pion Flat**	**2.29**	**340**		**Pg**	**06 43 26.8**	**+1.0**
PFO	**Pinyon Flats O**	**2.29**	**340**		**Pb**	**06 43 22.7**	**-0.6**
214A	**Organ Pipe Nat**	**2.37**	**77**		**Pn**	**06 43 19.0**	**-1.5**
Y14A	**Wickenburg**	**3.26**	**40**		**Pn**	**06 43 32.5**	**-0.3**
MWC	**Mount Wilson**	**3.49**	**323**	Pn	**Pn**	**06 43 36.2**	**+0.1**
PASC	**Pasadena Art C**	**3.52**	**321**	Pn	**Pn**	**06 43 37.3**	**+1.0**
W13A	**Hualapai Mount**	**3.88**	**20**		**Pg**	**06 43 60.0**	**+3.6**
LCMT	**Little Creek M**	**5.86**	**18**		**Pn**	**06 44 10.1**	**+1.5**

*IDC **18** 07:10:30.2±0.8,24˚27N×125˚00E,h0km,mb4.2/18, mb1 4.3/20,mb1mx4.1/44,mbtmp4.1/20,ML2.9/3,MS3.4/12, Ms1 3.5/12,ms1mx3.3/37,Error ellipse: s-maj=20.3km s-min=17.3km az=75.0*

*JMA **18** 07:10:34.7±0.1,24˚30N×125˚18E,h39km±4km,M3.9 JMA Felt I J1.*

*NEIC **18** 07:10:35.1±2.7,24˚22N±0˚10×125˚14E±0˚08,h32km±5km, mb4.6/18,Error ellipse: s-maj=15.3km s-min=8.5km az=153.0*

*BJI **18** 07:10:36.0±0.0,24˚14N×124˚98E,h54km,mB4.5/17, mb4.4/28,Ms3.9/12,Ms7 3.7/12*

ISC 18 07:10:34.5±1.6,24˚25N±0˚07×125˚19E±0˚05,h26km±9km, n77,σ1°§57/84,mb4.3/29,MS3.5/13,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ2	**Miyako jima3**	**0.50**	**15**	P	**Pb**	**07 10 44.5**	**-0.3**
JMJ2				S	**Sb**	**07 10 51.9**	**+0.1**
JOGS	**Gusukube**	**0.54**	**22**	P	**Pb**	**07 10 45.3**	**-0.2**
JOGS				S	**Sb**	**07 10 53.3**	**+0.4**
JIRB	**Irabujima**	**0.57**	**359**	P	**Pb**	**07 10 45.2**	**-0.8**
JIRB				S	**Sb**	**07 10 53.3**	**-0.5**
JTJ	**Tarama**	**0.59**	**311**	P	**Pn**	**07 10 45.9**	**-1.2**
JTJ				*e*S	**Sb**	**07 10 54.0**	**-0.2**
JIKM	**Ikemajima**	**0.67**	**5**	P	**Pn**	**07 10 46.9**	**-1.4**
JIKM				*e*S	**Sb**	**07 10 56.5**	**0.0**
JISG	**Ishigakijimahi**	**0.86**	**293**	P	**Pn**	**07 10 49.9**	**-1.0**
JISG				*e*S	**Sn**	**07 11 01.4**	**-1.3**
JIJ	**Ishigaki jima**	**0.96**	**277**	P	**Pn**	**07 10 51.9**	**-0.3**
JIJ				*e*S	**Sn**	**07 11 04.8**	**-0.2**
JKRS	**Kuro-shima**	**1.07**	**269**	P	**Pn**	**07 10 54.3**	**+0.5**
JKRS				S	**Sn**	**07 11 08.4**	**+0.5**
HATJ	**Hateruma jima**	**1.28**	**261**	P	**Pn**	**07 10 56.7**	**+0.1**
HATJ				S	**Sn**	**07 11 12.6**	**-0.3**
IRIF	**Iriomote-Funau**	**1.33**	**274**	P	**Pn**	**07 10 57.7**	**+0.4**
YOJ	**Yonaguni jima**	**2.00**	**276**		**Pn**	**07 11 06.8**	**+0.3**
NACB	**Ninganchiao**	**3.28**	**269**		**Pn**	**07 11 23.5**	**-0.7**
TATO	**Taipei**	**3.44**	**283**	Pn	**Pn**	**07 11 28.9**	**+2.5**
YHNB	**Yeheng**	**3.50**	**278**		**Pn**	**07 11 28.1**	**+0.9**
YULB	**Yu-li**	**3.66**	**257**		**Pn**	**07 11 28.3**	**-1.2**
JOW	**Kunigami**	**3.79**	**47**	Pn	**Pn**	**07 11 32.2**	**+1.0**
	0.5nm,0.3s,baz=90,slow=16,SNR=8.9						
JOW				Sn	**Sn**	**07 12 13.8**	**-1.2**
	1.4nm,0.3s,baz=118,slow=9.5,SNR=3.7						
SSLB	**Suanglung**	**3.90**	**264**	Pn	**Pn**	**07 11 32.0**	**-0.7**
TWG	**Pinlang**	**4.04**	**250**		**Pn**	**07 11 33.0**	**-1.6**
TPUB	**Ta-pu**	**4.28**	**258**	Pn	**Pn**	**07 11 38.8**	**+0.8**
KNMB	**Chin-men Tao**	**6.20**	**273**	Pn	**Pn**	**07 12 03.9**	**-0.5**
NJ2	**Nanjing**	**9.57**	**326**	*e*P	**Pn**	**07 12 52.9**	**+2.4**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
JNU	**Nakatsue**	**10.15**	**28**	LR	LR	07 17 31.2	
	comp=Z,44nm,18.2s,baz=187,slow=41						
KSRS	**Korea Array**	**13.37**	**9**	Pn	**Pn**	**07 13 42.1**	**-0.3**
	0.4nm,0.3s,baz=227,slow=9.1,SNR=2.0						
KSRS				LR	LR	07 19 18.2	
	comp=Z,100nm,18.0s,baz=186,slow=40						
MJAR	**Matsushiro Arr**	**16.60**	**39**	Pn	**P**	**07 14 27.1**	**-0.6**
	0.1nm,0.3s,baz=236,slow=10,SNR=7.8						
CN2	**Changchun**	**19.50**	**1**	*e*P	**Pn**	**07 15 05.5**	**+4.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2	**Chengdu**	**20.10**	**294**	*e*P	**P**	**07 15 05.5**	**-0.8**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**20.66**	**14**	LR	LR	07 22 58.5	
	comp=Z,88nm,19.1s,baz=171,slow=36						
LZH	**Lanzhou**	**21.85**	**308**	*e*P	**P**	**07 15 26.3**	**+1.1**
LZH				pP	sP	07 15 39.3	+4.3
LZH				PP	**PnPn**	**07 15 53.1**	**+6.2**
LZH				pmax	pmax		
	comp=Z,25nm,1.0s						
LZH				pmax	pmax		
	comp=Z,110nm,5.0s						
LZH				LR	LR		
	comp=N,190nm,13.0s						
LZH				LR	LR		
	comp=E,250nm,14.6s						
LZH				LR	LR		
	comp=Z,250nm,15.7s						
CMAR	**Chiang Mai Arr**	**25.09**	**262**	P	**P**	**07 15 56.1**	**-1.0**
	0.9nm,0.6s,baz=68,slow=9.8,SNR=1.1						
CMAR				LR	LR	07 27 12.4	
	comp=Z,110nm,18.4s,baz=141,slow=40						
GTA	**Gaotai**	**26.21**	**311**	P	**P**	**07 16 06.1**	**-1.1**
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,78nm,5.3s						
GTA				LR	LR		
	comp=N,85nm,15.9s						
GTA				LR	LR		
	comp=E,96nm,14.0s						
GTA				LR	LR		
	comp=Z,160nm,14.3s						
SONM	**Songino Array**	**27.87**	**332**	P	**P**	**07 16 20.4**	**-1.6**
	0.8nm,0.4s,baz=155,slow=8.9,SNR=4.7						
SONM				LR	LR	07 28 54.9	
	comp=Z,135nm,20.5s,baz=108,slow=40						
SONM	**Songino Array**	**27.87**	**332**	IAmb	IAmb	07 16 21.8	
	comp=Z,1.1nm,1.0s						
WMQ	**Urumqi**	**36.29**	**312**	*e*P	**P**	**07 17 37.3**	**+1.5**
WMQ				pP	sP	07 17 51.9	+5.8
WMQ				LR	LR		
	comp=Z,150nm,23.1s						
WMQ				LR	LR		
	comp=Z,220nm,21.1s						
WMQ				LR	LR		
	comp=Z,120nm,25.7s						
PETK	**Petropavlovsk-**	**37.82**	**32**	P	**P**	**07 17 47.6**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=226,slow=10,SNR=2.6						
PETK				LR	LR	07 33 53.8	
	comp=Z,40nm,20.1s,baz=241,slow=37						
MK31	**Makanchi Array**	**40.87**	**314**	P	**P**	**07 18 13.4**	**-0.8**
MKAR	**Makanchi Array**	**40.87**	**314**	P	**P**	**07 18 13.2**	**-0.9**
	comp=Z,3.8nm,0.4s,baz=101,slow=9.8,SNR=87						
MKAR				LR	LR	07 36 32.4	
	comp=Z,66nm,19.1s,baz=104,slow=38						
MKAR	**Makanchi Array**	**40.87**	**314**	P	**P**	**07 18 12.8**	**-1.4**
MAKZ	**Makanchi**	**41.08**	**314**	P	**P**	**07 18 15.2**	**-0.7**
MAKZ				IAmb	IAmb	07 18 16.3	
	comp=Z,7.6nm,0.9s						
ZALV	**Zalesovo Beam**	**42.22**	**325**	P	**P**	**07 18 23.0**	**-2.1**
	comp=Z,2.5nm,0.4s,baz=111,slow=8.1,SNR=10						
ZALV	**Zalesovo Beam**	**42.22**	**325**	P	**P**	**07 18 23.1**	**-2.0**
KURK	**Kurchatov**	**44.42**	**319**	P	**P**	**07 18 41.6**	**-1.3**
KURK				IAmb	IAmb	07 18 42.3	
	comp=Z,6.7nm,1.1s						
KURBB	**Kurchatov Arra**	**44.44**	**319**	P	**P**	**07 18 40.6**	**-2.5**
	comp=Z,2.3nm,0.6s,baz=107,slow=8.4,SNR=6.5						
WB0	**Warramunga Arr**	**44.66**	**168**	P	**P**	**07 18 45.0**	**-0.2**
WB0				IAmb	IAmb	07 18 53.1	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**44.82**	**168**	P	**P**	**07 18 46.1**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=349,slow=8.9,SNR=6.2						
WRA	**Warramunga Arr**	**44.82**	**168**	P	**P**	**07 18 46.2**	**-0.2**
WRA					**P**	**07 18 46.6**	**+0.2**
WB2	**Warramunga Arr**	**44.83**	**168**	P	**P**	**07 18 46.1**	**-0.3**
WB2				IAmb	IAmb	07 19 03.0	
	comp=Z,7.0nm,1.3s						
KK31	**Karatay Array**	**48.34**	**307**		**P**	**07 19 14.2**	**+0.3**
KKAR	**Karatay Array**	**48.34**	**307**	P	**P**	**07 19 13.9**	**0.0**
ASAR	**Alice Springs**	**48.38**	**169**	P	**P**	**07 19 14.2**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=354,slow=14,SNR=14						
ASAR	**Alice Springs**	**48.38**	**169**	P	**P**	**07 19 13.7**	**-0.6**
NRIK	**Noril'sk**	**50.33**	**344**	LR	LR	07 43 04.3	
	comp=Z,53nm,20.2s,baz=194,slow=39						
ABKAR	**Akbulak array**	**56.01**	**314**	P	**P**	**07 20 10.5**	**-0.2**
GEYT	**Alibeck**	**57.91**	**301**	P	**P**	**07 20 24.4**	**0.0**
	comp=Z,4.8nm,0.7s,baz=66,slow=1.8,SNR=9.7						
GEYT				LR	LR	07 47 51.6	
	comp=Z,40nm,20.8s,baz=75,slow=39						
IMAR	**Indian Mountai**	**64.49**	**27**	P	**P**	**07 21 09.6**	**+1.1**
PPLA	**Purkeypile**	**65.37**	**30**	P	**P**	**07 21 17.7**	**+3.2**
PPLA				IAmb	IAmb	07 21 19.8	
	comp=Z,10nm,1.2s						
BPAW	**Bear Paw Mtn.**	**65.79**	**29**	P	**P**	**07 21 20.0**	**+2.9**
TOLK	**Toolik Lake Re**	**65.93**	**24**	P	**P**	**07 21 19.7**	**+1.8**
TOLK				IAmb	IAmb	07 21 30.6	
	comp=Z,6.2nm,0.8s						
RND	**Reindeer**	**66.81**	**29**	P	**P**	**07 21 26.1**	**+2.4**
ILAR	**Eielson Array**	**67.47**	**28**	P	**P**	**07 21 28.3**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=238,slow=5.3,SNR=8.4						
ILAR	**Eielson Array**	**67.47**	**28**	P	**P**	**07 21 28.4**	**+0.7**
BMAR	**Burnt Mountain**	**67.95**	**25**	P	**P**	**07 21 33.6**	**+2.9**
KBZ	**Khabaz**	**68.28**	**309**	P	**P**	**07 21 33.3**	**+0.2**
	comp=Z,2.7nm,0.3s,baz=338,slow=1.4,SNR=6.2						
EGAK	**Eagle**	**69.87**	**27**	P	**P**	**07 21 45.2**	**+2.6**
EGAK				IAmb	IAmb	07 21 55.3	
	comp=Z,4.2nm,0.9s						
DAWY	**Dawson**	**70.80**	**28**	P	**P**	**07 21 51.4**	**+2.9**
ARCES	**ARCESS Array B**	**70.83**	**338**	P	**P**	**07 21 47.8**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=66,slow=5.9,SNR=3.9						
FIA1	**FINESS Array S**	**73.21**	**330**	P	**P**	**07 22 01.9**	**-1.0**
FIA1				IAmb	IAmb	07 22 02.8	
	comp=Z,7.3nm,0.7s						
FINES	**FINESS Array B**	**73.21**	**330**	P	**P**	**07 22 02.1**	**-0.7**
	comp=Z,5.8nm,0.6s,baz=61,slow=5.8,SNR=23						
FINES				LR	LR	07 57 48.6	
	comp=Z,101nm,18.4s,baz=68,slow=39						
WHY	**Whitehorse**	**73.86**	**30**	P	**P**	**07 22 09.6**	**+2.7**
WHY				IAmb	IAmb	07 22 20.0	
	comp=Z,8.4nm,1.4s						
AKASG	**Malin Array Be**	**75.23**	**319**	P	**P**	**07 22 13.0**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=291,slow=35,SNR=2.3						
BRTR	**Keskin Array B**	**76.05**	**307**	P	**P**	**07 22 18.8**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=101,slow=4.0,SNR=4.1						
BRTR	**Keskin Array B**	**76.05**	**307**	P	**P**	**07 22 19.4**	**-0.6**
NB2	**NORSAR Subarra**	**79.84**	**333**	P	**P**	**07 22 39.1**	**-1.4**
	comp=Z,3.3nm,0.8s,baz=61,slow=5.3						
NOA	**NORSAR Array B**	**79.84**	**333**	P	**P**	**07 22 39.2**	**-1.3**
	comp=Z,2.1nm,0.8s,baz=56,slow=5.5,SNR=7.9						
NOA				LR	LR	08 02 14.4	
	comp=Z,32nm,19.8s,baz=80,slow=39						
YKA	**Yellowknife Ar**	**81.46**	**24**	P	**P**	**07 22 50.9**	**+1.9**
	comp=Z,0.9nm,0.7s,baz=216,slow=17,SNR=4.1						
VYHS	**Vyhne**	**82.30**	**320**	*e*P	**P**	**07 22 55.1**	**+1.4**
GERES	**GERESS Array B**	**85.08**	**322**	P	**P**	**07 23 07.0**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=62,slow=3.6,SNR=4.9						
PPT	**Papeete**	**92.88**	**108**	LR	LR	08 01 46.4	
	comp=Z,12nm,18.1s,baz=200,slow=33						

TRN 18 07:31:45.4,15˚78N×60˚41W,h22km,MD3.6,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**0.82**	**310**	*e*P	Pn	07 32 03.0	+1.3
DEG	**La Desirade**	**0.82**	**310**	*e*	Sb	07 32 13.9	+2.2
DEG				*e*S	Sn	07 32 15.0	+1.8
MAGL	**Barre de l'ile**	**0.86**	**281**	*e*P	Pn	07 32 03.1	+0.9
DLPL	**La Plaine**	**0.92**	**241**	*e*P	Pn	07 32 04.8	+1.7
DLPL				*e*S	Sn	07 32 19.2	+3.5
MDPV	**Dominica, Penn**	**0.99**	**261**	*e*P	Pn	07 32 05.4	+1.4
MDPV				*e*S	Sn	07 32 20.4	+3.1
DSLB	**Salisbury**	**1.03**	**251**	*e*P	Pn	07 32 06.0	+1.3
MDN	**Morne-Daniel**	**1.05**	**244**	*e*P	Pb	07 32 06.6	+1.6
MDN				*e*S	Sn	07 32 22.0	+3.1
ILAM	**Ilet Lapin Mar**	**1.10**	**204**	*e*P	Pb	07 32 06.5	+0.8
TDBA	**Terre de Bas,**	**1.18**	**273**	*e*P	Pb	07 32 08.0	+0.9
SVN	**Savane Anatole**	**1.19**	**218**	*e*P	Pb	07 32 08.7	+1.4
CBE	**Ff, Capester**	**1.19**	**284**	*e*P	Pb	07 32 08.2	+0.9
BAMF	**Morne Balai**	**1.20**	**217**	*e*P	Pb	07 32 08.6	+1.2
CXM	**Morne La Croix**	**1.21**	**217**	*e*P	Pb	07 32 08.9	+1.1
GBMF	**Grand Be**	**1.22**	**217**	*e*P	Pb	07 32 08.8	+1.0
PCM	**Pelee Case Pet**	**1.23**	**219**	*e*P	Pb	07 32 08.7	+0.7
PCM	**Pelee Case Pet**	**1.23**	**219**	*e*P	Pb	07 32 09.1	+1.1
PML	**Morne Lenard**	**1.25**	**217**	*e*P	Pb	07 32 09.2	+0.9
ABD	**La Joyeuse, An**	**1.25**	**304**	*e*P	Pb	07 32 08.5	+0.3
FDF	**Fort de France**	**1.26**	**215**	*e*P	Pb	07 32 09.4	+0.8
MVM	**Montagne Vaucl**	**1.31**	**201**	*e*P	Pb	07 32 09.6	+0.3
LPMF	**Morne Lapointe**	**1.31**	**204**	*e*P	Pb	07 32 09.1	-0.3
ZAM	**Aeronautique**	**1.34**	**207**	*e*P	Pb	07 32 10.1	+0.3
MPOM	**Morne Pois Mar**	**1.40**	**198**	*e*P	Pb	07 32 10.6	-0.3
BIM	**Bigot**	**1.41**	**207**	*e*P	Pb	07 32 11.4	+0.4
SLW	**Petit Monier**	**1.82**	**196**	*e*P	Pb	07 32 17.6	-0.5
SLW				*e*S	Sb	07 32 41.3	+0.8
SLBI	**Saint Lucia, B**	**1.83**	**197**	*e*P	Pb	07 32 17.4	-0.8
SLBI				*e*S	Sb	07 32 40.5	-0.2
SLAC	**Saint Lucia, A**	**1.93**	**194**	*e*P	Pn	07 32 18.4	+1.5
SLAC				*e*S	Sb	07 32 43.4	-0.2
MLYT	**Lee's Yard**	**1.95**	**299**	*e*P	Pb	07 32 20.4	+0.1
MLYT				*e*S	Sb	07 32 44.7	+0.5
SLPA	**Patience**	**1.98**	**195**	*e*P	Pn	07 32 19.1	+1.5
SLPA				*e*S	Sb	07 32 44.6	-0.3
SLB	**Belfond**	**2.04**	**198**	*e*P	Pb	07 32 20.8	-0.9
SLB				*e*S	Sn	07 32 44.5	+1.2
SLDE	**Delcer**	**2.06**	**198**	*e*P	Pb	07 32 21.1	-1.1
SLDE				*e*S	Sb	07 32 46.1	-1.4
MCLT	**Moule a Chique**	**2.12**	**194**	*e*P	Pb	07 32 21.9	-1.3
MCLT				*e*S	Sn	07 32 47.0	+1.6
ANWB	**Willy Bob**	**2.29**	**325**	*e*P	Pb	07 32 24.5	-1.6
ANWB				*e*S	Sb	07 32 52.0	-2.1
SSV	**Crater Summit**	**2.56**	**197**	*e*P	Pb	07 32 29.0	-1.6
SSV				*e*S	Sn	07 32 57.9	+1.8
SVV	**Soufriere Volc**	**2.57**	**198**	*e*P	Pb	07 32 28.6	-2.2
SVV				*e*S	Sn	07 32 58.1	+1.7
SVCV	**St. Vincent, C**	**2.59**	**196**	*e*P	Pn	07 32 27.9	+1.8
SVCV				*e*S	Sn	07 32 59.8	+2.8
SVB	**Belmont**	**2.62**	**198**	*e*P	Pb	07 32 29.3	-2.4
SVB				*e*S	Sn	07 32 59.6	+1.9
SKI	**Saint Kitts**	**2.72**	**305**	*e*P	Pn	07 32 30.5	+2.7
SKI				*e*S	Sb	07 33 03.2	-3.0
GCMP	**Grenada, Carri**	**3.42**	**197**	*e*P	Pn	07 32 39.4	+1.9
GCMP				*e*S	Sn	07 33 19.5	+2.2
GRGR	**Grenville**	**3.82**	**199**	*e*P	Pn	07 32 45.1	+2.1
GRGR				*e*S	Sn	07 33 29.9	+2.5
TRN	**Trinidad (W)**	**5.19**	**191**	*e*P	Pn	07 33 01.0	-0.8
TRN	**Trinidad (W)**	**5.19**	**191**	*e*S	Sn	07 34 02.4	+1.2

*NIED **18** 07:34:00,41˚60N×143˚00E,h44km,Mw3.8 Best double couple: M0 5.02000×10^14 NP1:φ=144.00000°,δ=63.00000°, λ=-67.00000°. NP2:φ=281.00000°,δ=35.00000°, λ=-128.00000°.*

*JMA **18** 07:34:42.6±0.1,41˚66N×142˚95E,h44km±2km,M4.0 JMA Felt I J1.*

*IDC **18** 07:34:44.6±2.8,41˚65N×142˚92E,h66km±22km,mb3.3/5, mb1 3.6/7,mb1mx3.4/38,mbtmp3.6/7,MS2.6/4,Ms1 2.6/4, ms1mx2.4/29,Error ellipse: s-maj=29.8km s-min=18.6km az=110.0*

ISC 18 07:34:42.8±1.0,41˚66N±0˚05×142˚99E±0˚06,h45km±9km, n29,σ0°§92/31,mb3.5/5,6C-1D,Hokkaido region

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

	2.4nm,0.9s,baz=176,slow=11,SNR=6.0							
CMAR	**Chiang Mai Arr**	**24.10**	**282**	P		**P**	**07 42 55.0**	**+0.4**
	7.5nm,0.8s,baz=98,slow=8.0,SNR=26							
CMAR				LR		LR	07 51 38.0	
	comp=Z,60nm,18.1s,baz=185,slow=35							
MJAR	**Matsushiro Arr**	**25.00**	**28**	LR		LR	07 50 53.9	
	comp=Z,42nm,21.8s,baz=130,slow=32							
SONM	**Songino Array**	**35.81**	**340**	P		**P**	**07 44 39.0**	**+0.9**
	4.1nm,0.9s,baz=160,slow=8.7,SNR=16							
SONM	**Songino Array**	**35.81**	**340**	P		**P**	**07 44 38.6**	**+0.4**
WB0	**Warramunga Arr**	**36.05**	**163**	P		**P**	**07 44 39.0**	**-1.4**
WB0				IAmb		IAmb	07 44 46.6	
	comp=Z,4.8nm,0.8s							
WRA	**Warramunga Arr**	**36.21**	**163**	P		**P**	**07 44 40.1**	**-1.5**
	comp=Z,1.4nm,0.7s,baz=341,slow=9.1,SNR=4.0							
WRA	**Warramunga Arr**	**36.21**	**163**	IAmb		IAmb	07 44 44.7	
	comp=Z,0.3nm,1.2s							
WB2	**Warramunga Arr**	**36.21**	**163**	P		**P**	**07 44 40.7**	**-0.9**
WB2				IAmb		IAmb	07 44 56.8	
	comp=Z,13nm,1.3s							
WR0	**Warramunga Arr**	**36.28**	**163**	P		**P**	**07 44 40.9**	**-1.3**
AS31	**Alice Springs**	**39.65**	**165**	P		**P**	**07 45 11.2**	**+0.5**
ASAR	**Alice Springs**	**39.65**	**165**	P		**P**	**07 45 09.9**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=345,slow=6.7,SNR=13							
ASAR	**Alice Springs**	**39.65**	**165**	P		**P**	**07 45 11.9**	**+1.2**
H11S3	**WAKE ISLAND Hy**	**41.10**	**79**	T		T	08 29 15.2	
	baz=271,slow=75,SNR=126							
H11S1	**WAKE ISLAND Hy**	**41.11**	**79**	T		T	08 29 23.4	
	baz=271,slow=75,SNR=54							
H11S2	**WAKE ISLAND Hy**	**41.12**	**79**	T		T	08 29 21.2	
	baz=271,slow=75,SNR=37							
H11N1	**WAKE ISLAND Hy**	**41.27**	**77**	T		T	08 29 44.5	
	baz=266,slow=74,SNR=27							
H11N2	**WAKE ISLAND Hy**	**41.28**	**77**	T		T	08 29 38.9	
	baz=266,slow=74,SNR=39							
H11N3	**WAKE ISLAND Hy**	**41.28**	**77**	T		T	08 29 41.6	
	baz=266,slow=74,SNR=38							
PETK	**Petropavlovsk-**	**46.46**	**28**	LR		LR	08 04 25.1	
	comp=Z,21nm,19.7s,baz=243,slow=35							
MK31	**Makanchi Array**	**46.88**	**321**	P		**P**	**07 46 09.8**	**+0.9**
MK31				IAmb		IAmb	07 46 22.1	
	comp=Z,2.4nm,0.9s							
MKAR	**Makanchi Array**	**46.88**	**321**	P		**P**	**07 46 08.5**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=110,slow=10,SNR=11							
MKAR	**Makanchi Array**	**46.88**	**321**	P		**P**	**07 46 09.4**	**+0.5**
ZALV	**Zalesovo Beam**	**49.39**	**331**	P		**P**	**07 46 27.9**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=91,slow=6.4,SNR=3.8							
STKA	**Stephens Creek**	**49.60**	**160**	P		**P**	**07 46 29.4**	**-0.6**
	comp=Z,2.3nm,0.9s,baz=346,slow=12,SNR=2.2							
STKA	**Stephens Creek**	**49.60**	**160**	IAmb		IAmb	07 46 30.0	
	comp=Z,2.1nm,1.4s							
AAK	**Ala-Archa**	**50.37**	**313**	LR		LR	08 08 36.7	
	comp=Z,46nm,18.1s,baz=130,slow=37							
KURK	**Kurchatov**	**50.88**	**324**	P		**P**	**07 46 39.2**	**-0.2**
KURK				IAmb		IAmb	07 46 40.9	
	comp=Z,7.3nm,0.9s							
GAR	**Garm**	**52.52**	**308**	P		**P**	**07 46 50.9**	**-1.2**
KKAR	**Karatay Array**	**53.31**	**313**	P		**P**	**07 46 58.0**	**+0.3**
ABKAR	**Akbulak array**	**61.80**	**318**	P		**P**	**07 47 57.3**	**-0.1**
GEYT	**Alibeck**	**61.88**	**305**	P		**P**	**07 47 58.5**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=185,slow=11,SNR=4.6							
GEYT				LR		LR	08 17 23.8	
	comp=Z,46nm,18.1s,baz=200,slow=38							
GEYT	**Alibeck**	**61.88**	**305**	P		**P**	**07 47 59.3**	**+1.1**
KBZ	**Khabaz**	**73.32**	**312**	P		**P**	**07 49 10.1**	**-0.1**
	comp=Z,2.8nm,0.9s,baz=97,slow=5.4,SNR=4.0							
BPAW	**Bear Paw Mtn.**	**74.53**	**27**	P		**P**	**07 49 19.3**	**+2.3**
BPAW				IAmb		IAmb	07 49 21.8	
	comp=Z,4.5nm,0.9s							
BMAR	**Burnt Mountain**	**76.89**	**23**			**P**	**07 49 31.2**	**+0.8**
AKASG	**Malin Array Be**	**81.45**	**320**	P		**P**	**07 49 54.4**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=71,slow=3.8,SNR=1.9							
AKASG	**Malin Array Be**	**81.45**	**320**	IAmb		IAmb	07 50 02.8	
	comp=Z,0.7nm,0.8s							
PLCA	**Paso Flores**	**151.44**	**157**	PKPbc		**PKPbc**	**07 57 33.5**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=241,slow=4.8,SNR=3.3							

IDC 18 07:53:15.3±14.0, 11°01N×92°06E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.4/55, mbtmp3.6/3, MS3.3/1, Ms1 3.3/1, ms1mx2.5/39, Error ellipse: s-maj=757.5km s-min=29.7km az=60.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S3	**Diego Garcia H**	**26.88**	**227**	T	T	08 26 35.2	
	baz=46,slow=75,SNR=14						
H08S2	**Diego Garcia H**	**26.88**	**227**	T	T	08 26 28.8	
	baz=46,slow=75,SNR=13						
H08S1	**Diego Garcia H**	**26.89**	**227**	T	T	08 26 34.4	
	baz=46,slow=75,SNR=13						
MKAR	**Makanchi Array**	**36.61**	**349**	P	P	08 00 23.2	-0.1
	0.3nm,0.6s,baz=170,slow=8.6,SNR=5.0						
JNU	**Nakatsue**	**41.83**	**52**	LR	LR	08 21 33.1	
	comp=Z,35nm,18.9s,baz=208,slow=41						
WRA	**Warramunga Arr**	**51.76**	**126**	P	P	08 02 24.9	-0.1
	2.5nm,0.3s,baz=3.7,slow=7.6,SNR=3.6						
ASAR	**Alice Springs**	**53.50**	**130**	P	P	08 02 37.8	-0.1
	0.8nm,0.8s,baz=308,slow=6.5,SNR=6.4						

IDC 18 07:54:32.4±2.5, 27°.81N×139°.89E, h456km±29km, mb3.2/10, mb1 3.3/13, mb1mx3.1/55, mbtmp3.9/13, Error ellipse: s-maj=22.0km s-min=11.9km az=85.0
JMA 18 07:54:35.0±0.2, 28°.09N×140°.52E, h482km±3km, M3.8
ISC 18 07:54:34.0±0.7, 27°.89N±0°.08×139°.9E±0°.1, h478km, n22, σ1§56/25, mb3.6/10, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.15**	**111**	P	**P**	**07 55 38.1**	**+0.2**
CBIJ				eS	**S**	**07 56 27.6**	**-2.2**
JHH2	**Haha-jima-NKT2**	**2.36**	**122**	P	**P**	**07 55 39.3**	**+0.2**
JKN2	**Miekihoku**	**7.06**	**335**	P	**P**	**07 56 23.2**	**+3.2**
JHU	**Hanno**	**7.96**	**356**	eS	**S**	**07 58 00.8**	**-3.2**
JRY	**Ryogami san**	**8.15**	**354**	P	**P**	**07 56 33.0**	**+1.7**
JAG	**Ashikaga**	**8.52**	**357**	P	**P**	**07 56 35.5**	**+0.3**
JAG				eS	**S**	**07 58 11.5**	**-3.4**
JHO	**Hitachi**	**8.71**	**3**	P	**P**	**07 56 38.0**	**+0.7**
MJAR	**Matsushiro Arr**	**8.75**	**351**	P	**P**	**07 56 37.8**	**+0.1**
	0.2nm,0.3s,baz=194,slow=7.5,SNR=2.3						
MJAR				S	**S**	**07 58 19.6**	**+0.3**
	0.1nm,0.3s,baz=81,slow=24,SNR=1.5						
JMK	**Ichinoseki**	**11.09**	**5**	P	**P**	**07 57 04.2**	**+1.6**
KSRS	**Korea Array**	**13.89**	**316**	P	**P**	**07 57 32.2**	**-0.4**
	0.2nm,0.3s,baz=128,slow=11,SNR=2.3						
USRK	**Ussuriysk Ar.**	**17.48**	**341**	P	**P**	**07 58 08.0**	**-2.2**
	baz=147,slow=12,SNR=2.6						
WRA	**Warramunga Arr**	**47.86**	**187**	P	**P**	**08 02 26.9**	**-0.7**
	2.3nm,0.3s,baz=3.8,slow=7.6,SNR=34						
MKAR	**Makanchi Array**	**48.43**	**309**	P	**P**	**08 02 31.7**	**0.0**
	0.6nm,0.6s,baz=88,slow=10,SNR=9.3						
KURBB	**Kurchatov Arra**	**51.05**	**314**	P	**P**	**08 02 51.2**	**+0.3**
	2.4nm,0.5s,baz=91,slow=8.2,SNR=23						
ASAR	**Alice Springs**	**51.59**	**187**	P	**P**	**08 02 54.5**	**-0.7**
	1.3nm,0.3s,baz=359,slow=4.7,SNR=41						
BVAR	**Borovoye Array**	**56.10**	**317**	P	**P**	**08 03 27.4**	**+0.5**
	1.3nm,0.4s,baz=91,slow=7.1,SNR=6.8						
ILAR	**Eielson Array**	**57.98**	**29**	P	**P**	**08 03 41.2**	**+1.7**
	0.1nm,0.5s,baz=84,slow=9.0,SNR=1.7						
STKA	**Stephens Creek**	**59.46**	**178**	P	**P**	**08 03 49.5**	**-0.5**
	2.3nm,0.8s,baz=350,slow=11,SNR=2.9						
YKA	**Yellowknife Ar**	**72.39**	**28**	P	**P**	**08 05 10.3**	**-0.1**
	0.6nm,0.7s,baz=290,slow=5.8,SNR=2.4						
NVAR	**Mina Array Bea**	**81.59**	**51**	P	**P**	**08 06 02.4**	**+0.8**
	0.5nm,0.5s,baz=299,slow=5.7,SNR=6.3						
TXAR	**Lajitas Array**	**96.71**	**52**	P	**P**	**08 07 13.8**	**+0.9**
	0.2nm,0.6s,baz=298,slow=1.9,SNR=2.8						
LPAZ	**La Paz**	**151.62**	**72**	PKPbc	**PKiKP**	**08 13 35.5**	**+0.2**
	0.7nm,0.6s,baz=263,slow=5.9,SNR=7.1						

IDC 18 08:00:00.3±1.4, 52°.27N×35°.35E, h0km, mb1 3.9/3, mb1mx3.3/41, mbtmp3.8/3, ML3.1/4, Error ellipse: s-maj=20.2km s-min=13.9km az=69.0
VLA 18 07:59:58.0, 52°30N×35°44E, M3.2, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBN	**Obninsk**	**2.90**	**13**	Lg	Lg	08 01 28.8	
	1.5nm,0.3s,baz=10,slow=22,SNR=13						
OBN				Rg	Rg	08 01 49.2	
	4.3nm,0.3s,baz=130,slow=22,SNR=1.2						
AKASG	**Malin Array Be**	**4.20**	**250**	Pn	Pn	08 01 04.3	+1.0
	1.5nm,0.3s,baz=62,slow=15,SNR=4.3						
AKASG				Lg	Lg	08 02 09.8	
	1.7nm,0.3s,baz=68,slow=28,SNR=4.0						
KVAR	**Kislovodsk Arr**	**9.65**	**147**	Pn	Pn	08 02 17.9	-0.2
	baz=312,slow=16,SNR=1.7						
FINES	**FINESS Array B**	**10.49**	**335**	Pn	Pn	08 02 27.2	-2.2
	0.1nm,0.3s,baz=149,slow=14,SNR=2.0						
FINES				Sn	Sn	08 04 19.6	-7.9
	0.2nm,0.3s,baz=150,slow=25,SNR=1.4						
I26DE	**FREYUNG INFRAS**	**14.22**	**265**	*i*		09 22 05.0	
	baz=67,slow=314,SNR=6.3						
ARCES	**ARCESS Array B**	**17.91**	**349**	P	P	08 04 09.3	+0.5
	0.1nm,0.3s,baz=159,slow=13,SNR=5.0						

ASRS 18 08:31:55.0, 53°.56N×87°.81E, M1.6, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)
NNC 18 08:31:59.1±2.5, 53°.48N×87°.53E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=18.0km s-min=15.1km az=31.0, Suspected Mining explosion.
IDC 18 08:31:58.2±2.9, 53°60N×87°74E, h0km, mb1 3.3/2, mb1mx3.1/40, mbtmp3.3/2, ML3.0/2, 5C-7D, Error ellipse: s-maj=25.8km s-min=14.5km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.77**	**283**	*i*		08 43 15.2	
	baz=98,slow=310,SNR=4.2						
ZALV	**Zalesovo Beam**	**1.77**	**283**	Pg	Pn	08 32 29.9	-0.1
	5.7nm,0.3s,baz=102,slow=14,SNR=37						
ZALV				Lg	Lg	08 32 53.9	
	5.5nm,0.3s,baz=97,slow=26,SNR=12						
KURK	**Kurchatov**	**6.31**	**246**	⇓Pn	Pn	08 33 31.4	-0.9
	1.1nm,0.6s						
KURK				⇓Sn	Sn	08 34 42.9	-2.2
	1.1nm,0.7s						
KURK				⇓Lg	Lg	08 35 17.7	
	4.4nm,0.8s						
KURBB	**Kurchatov Arra**	**6.41**	**246**	Pn	Pn	08 33 34.5	+0.9
	0.2nm,0.3s,baz=63,slow=14,SNR=13						
KURBB				Lg	Lg	08 35 21.4	
	0.1nm,0.3s,baz=62,slow=32,SNR=8.9						
KURBB	**Kurchatov Arra**	**6.41**	**246**	⇑Pn	Pn	08 33 33.2	-0.5
	2.0nm,0.3s						
KURBB				⇑Sn	Sn	08 34 44.9	-2.5
	3.5nm,0.8s						
KURBB				⇓Lg	Lg	08 35 18.3	
	16nm,1.0s						
MK31	**Makanchi Array**	**7.66**	**209**	⇑Pn	Pn	08 33 50.5	-0.4
	0.1nm,0.3s,baz=27,slow=12,SNR=5.0						
MK31				⇓Sn	Sn	08 35 17.6	-0.7
	0.8nm,0.8s,baz=34,slow=23,SNR=4.4						
MK31				⇑Lg	Lg	08 35 58.4	
	2.8nm,0.9s,baz=33,slow=29,SNR=4.8						
MKAR	**Makanchi Array**	**7.66**	**209**	Pn	Pn	08 33 52.2	+1.3
	0.3nm,0.3s,baz=19,slow=12,SNR=8.9						
MKAR				Sn	Sn	08 35 17.7	-0.6
	0.1nm,0.3s,baz=30,slow=32,SNR=7.7						
MKAR				Lg	Lg	08 35 59.0	
	0.2nm,0.3s,baz=35,slow=29,SNR=7.2						
MAKZ	**Makanchi**	**7.74**	**211**	⇓Pn	Pn	08 33 48.8	-3.2
	0.4nm,0.3s						
MAKZ				⇑Sn	Sn	08 35 18.1	-2.2
	3.6nm,1.2s						
MAKZ				⇓Lg	Lg	08 35 57.8	
	2.8nm,1.2s						

WEL 18 08:36:36.5, 38°S±7°×17°6E±2°6, h253km±20km, M2.9/16, ML3.0/13, MLv2.9/16, Error ellipse: s-maj=0.0km s-min=0.0km az=93.5, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOZ	**Tahuroa Road**	**0.52**	**320**	P	Pn	08 37 04.5	-5.3
URZ	**Urewera**	**0.94**	**98**	P	Pn	08 37 10.9	-0.6
MTHZ	**Maungataniwha**	**1.02**	**135**	P	S	08 37 36.3	-3.7
BKZ	**Black Stump Fm**	**1.12**	**157**	P	Pn	08 37 13.0	+0.4
NMHZ	**Naumai**	**1.19**	**145**	P	Pn	08 37 09.7	-3.3
MKAZ	**Moumakai**	**1.19**	**329**	P	Pn	08 37 13.4	+0.3
RAHZ	**Arahi**	**1.20**	**131**	P	S	08 37 38.7	-3.1
RAGZ	**Rawiri**	**1.23**	**108**	P	Pn	08 37 13.4	+0.1
MWZ	**Matawai**	**1.28**	**100**	P	Pn	08 37 13.7	+0.1
BHHZ	**Black Hill Sta**	**1.36**	**176**	P	Pn	08 37 08.1	-2.0
RUGZ	**Raukumara Rang**	**1.39**	**84**	P	Pn	08 37 13.1	-1.4
KUZ	**Kuaotunu**	**1.39**	**353**	P	Pn	08 37 14.3	-0.1
MCHZ	**McNeill Hill**	**1.44**	**156**	P	Pn	08 37 19.1	+4.5
TKGZ	**Te Karaka**	**1.54**	**102**	P	Pn	08 37 15.8	+0.4
RIGZ	**Rimuhau**	**1.55**	**112**	P	Pn	08 37 15.5	0.0
PKGZ	**Pakihiroa**	**1.72**	**82**	P	Pn	08 37 16.9	0.0
CNGZ	**Carnagh Statio**	**1.83**	**102**	P	Pn	08 37 18.8	+1.1
TSZ	**Takapari Road**	**1.92**	**179**	P	Pn	08 37 18.8	+0.3
WMGZ	**Waiomatatini S**	**1.99**	**82**	P	Pn	08 37 19.1	0.0
PRHZ	**Porangahau**	**2.20**	**166**	P	Pn	08 37 25.9	+4.9
MRZ	**Mangatainoka R**	**2.54**	**186**	P	Pn	08 37 25.0	+0.7
BFZ	**Birch Farm**	**2.56**	**175**	P	Pn	08 37 26.7	+2.2
OGWZ	**Otaki Gorge**	**2.74**	**192**	P	Pn	08 37 27.4	+1.0
KIW	**Kapiti Island**	**2.84**	**196**	P	Pn	08 37 28.0	+0.7
CAW	**Cannon Point**	**3.04**	**192**	P	Pn	08 37 30.3	+0.7
TCW	**Tory Channel**	**3.33**	**202**	P	Pn	08 37 33.3	+0.6
PLWZ	**Palliser**	**3.47**	**188**	P	Pn	08 37 34.5	+0.2
TUWZ	**Tuamarina**	**3.63**	**204**	P	Pn	08 37 36.9	+0.8
KHZ	**Kahutara**	**4.65**	**202**	P	Pn	08 37 49.3	+1.2
LTZ	**Lake Taylor**	**5.42**	**210**	P	Pn	08 37 57.9	+0.5

DJA 18 08:51:16.9±0.4, 3°N±4°×12°9E±°, h223km±3km, M4.4/25, mB4.9/9, mb4.8/25, MLv4.6/13, Mw(mB)4.1/9
NEIC 18 08:51:16.9±1.4, 2°.47N±0°.07×128°.57E±0°.08, h234km±5km, mb4.8/53, Error ellipse: s-maj=13.1km s-min=8.0km az=50.0
IDC 18 08:51:17.1±1.0, 2°.46N×128°.51E, h231km±8km, mb4.0/21, mb1 4.2/23, mb1mx3.9/49, mbtmp4.6/23, Error ellipse: s-maj=14.5km s-min=6.5km az=73.0
KLM 18 08:51:18.0, 2°.46N×128°.54E, h224km, mb5.0
ISC 18 08:51:18.7±0.3, 2°.48N±0°.05×128°.52E±0°.06, h250km, n148, σ1§44/152, mb4.6/50, 4D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.05**	**214**	P	**Pn**	**08 51 58.7**	**-2.9**
TNTI	**Ternate**	**2.05**	**214**	Pn	**Pn**	**08 51 58.5**	**-3.1**
LBMI	**Labuha**	**3.26**	**198**	P	**Pn**	**08 52 12.6**	**-1.4**
SIJI	**Sorong**	**4.31**	**140**	P	**Pn**	**08 52 24.6**	**-1.6**
	31nm,0.3s,baz=331,slow=14,SNR=6.5						
SIJI				S	**S**	**08 53 17.9**	**-2.0**
	2.6nm,0.3s,baz=263,slow=24,SNR=0.9						
DDMP	**Don Marcelino,**	**4.56**	**322**	*eP*	**Pn**	**08 52 25.6**	**-3.6**
DDMP				*eS*	**S**	**08 53 23.0**	**-2.4**
KMSI	**Cibinong**	**4.92**	**247**	P	**Pn**	**08 52 31.5**	**-1.9**
	5.1nm327nm,0.6s						
SANI	**Sanana**	**5.16**	**209**	P	**Pn**	**08 52 33.9**	**-2.6**
	0.6nm3µm135nm,0.9s						
SKMP	**Bagumbayan, Su**	**5.64**	**316**	*eP*	**Pn**	**08 52 40.0**	**-2.4**
SKMP				*eS*	**S**	**08 53 46.6**	**-2.7**
KCP	**Kidapawan**	**5.65**	**323**	⇓*iP*	**Pn**	**08 52 40.4**	**-2.2**
KCP				*iS*	**S**	**08 53 47.5**	**-2.2**
CTBH	**Cotabato--PC H**	**6.35**	**318**	⇓*iP*	**Pn**	**08 52 47.7**	**-3.6**
BUKP	**Musuan**	**6.38**	**327**	*eP*	**Pn**	**08 52 48.7**	**-2.9**
FAKI	**Fak Fak**	**6.53**	**145**	P	**Pn**	**08 52 52.3**	**-1.2**
	0.4nm838nm103nm,0.8s						
FAKI	**Fak Fak**	**6.53**	**145**	Pn	**Pn**	**08 52 51.0**	**-2.5**
LUWI	**Luwuk**	**6.73**	**239**	P	**Pn**	**08 52 59.6**	**+3.7**
LUWI	**Luwuk**	**6.73**	**239**	Pn	**Pn**	**08 52 54.5**	**-1.5**
MRSI	**Marisa**	**6.87**	**253**	P	**Pn**	**08 52 56.4**	**-1.4**
	0.4nm2µm103nm,0.6s						
PAGZ	**Pagadian**	**7.39**	**316**	*eP*	**Pn**	**08 53 01.7**	**-2.6**
APSI	**Ampana**	**7.65**	**244**	P	**Pn**	**08 53 06.7**	**-0.9**
	0.4nm1µm96nm,0.9s						
MPSI	**Mapaga**	**8.88**	**256**	P	**Pn**	**08 53 22.1**	**-1.0**
	0.1nm564nm17nm,1.0s						
TTSI	**Tana Toraja**	**10.28**	**238**	P	**Pn**	**08 53 39.4**	**-1.5**
	69nm,0.7s						
SPSI	**Sidrap Palu**	**10.84**	**234**	P	**P**	**08 53 51.9**	**-0.5**
GENI	**Genyem**	**12.69**	**113**	P	**P**	**08 54 14.4**	**+1.4**
KKM	**Kota Kinabalu**	**12.77**	**287**	Pn	**Pn**	**08 54 11.4**	**-0.6**
SOEI	**Soe**	**12.87**	**199**	P	**P**	**08 54 14.4**	**-0.7**
	90nm,0.8s						
SOEI	**Soe**	**12.87**	**199**		**P**	**08 54 13.9**	**-1.2**
EDFI	**Ende, Flores**	**13.07**	**211**	P	**P**	**08 54 19.0**	**+1.7**
JAY	**Jayapura**	**13.15**	**112**	P	**P**	**08 54 17.9**	**-0.3**
	2.8nm,0.3s,baz=264,slow=6.5,SNR=12						
BATI	**Baumata**	**13.50**	**201**	P	**P**	**08 54 20.5**	**-1.5**
	16nm,0.3s,baz=15,slow=2.6,SNR=6.1						
MTN	**Manton Dam**	**15.44**	**170**	P	**P**	**08 54 41.8**	**-1.6**
SBUM	**Sibu**	**16.29**	**270**	Pn	**Pn**	**08 54 54.4**	**+0.1**
KNRA	**Kununurra**	**18.04**	**179**	P	**P**	**08 55 10.8**	**-1.0**
KSM	**Kuching**	**18.23**	**267**	P	**Pn**	**08 55 14.9**	**-2.2**
KSM	**Kuching**	**18.23**	**267**	P	**Pn**	**08 55 15.0**	**-2.2**
NGJI	**Ngawi**	**19.63**	**240**	P	Pn	08 55 42.9	+9.3
FITZ	**Fitzroy Crossi**	**20.64**	**188**	P	**P**	**08 55 37.8**	**-1.8**
	6.4nm,0.6s,baz=26,slow=9.8,SNR=29						
TWG	**Pinlang**	**21.48**	**341**	P	**P**	**08 55 45.4**	**-2.5**
COEN	**Coen**	**21.86**	**139**	P	**P**	**08 55 48.5**	**-3.0**
COEN				IAmb	IAmb	08 55 49.4	
	comp=Z,27nm,1.4s						
YULB	**Yu-li**	**21.94**	**342**	P	**P**	**08 55 49.9**	**-2.3**
DLV	**T Lat**	**21.97**	**296**	P	**P**	**08 55 53.4**	**+0.6**
DLV				IAmb	IAmb	08 55 54.8	
	comp=Z,29nm,0.8s						
TPUB	**Ta-pu**	**22.07**	**340**	P	**P**	**08 55 51.4**	**-1.9**
SSLB	**Suanglung**	**22.41**	**342**	P	**P**	**08 55 55.5**	**-1.1**
SSLB				IAmb	IAmb	08 55 58.5	
	comp=Z,22nm,0.5s						
YOJ	**Yonaguni jima**	**22.50**	**347**	P	**P**	**08 55 56.8**	**-0.4**
WB0	**Warramunga Arr**	**22.84**	**166**	P	**P**	**08 55 59.6**	**-0.9**
WRAB	**Tennant Creek**	**22.99**	**166**	P	**P**	**08 56 01.0**	**-0.9**
WRA	**Warramunga Arr**	**23.00**	**166**	P	**P**	**08 56 00.7**	**-1.3**
	comp=Z,23nm,0.4s,baz=344,slow=10.0,SNR=131						
WRA				S	**S**	**08 59 56.2**	**+2.7**
	comp=Z,4.2nm,1.0s,baz=345,slow=19,SNR=6.3						
WRA				ScP	**ScP**	**09 02 59.6**	**+1.8**
	comp=Z,2.2nm,0.6s,baz=342,slow=3.1,SNR=9.0						
WRA	**Warramunga Arr**	**23.00**	**166**	P	**P**	**08 56 00.4**	**-1.5**
WB2	**Warramunga Arr**	**23.00**	**166**	P	**P**	**08 56 01.0**	**-0.9**
WB2				IAmb	IAmb	08 56 03.2	
	comp=Z,38nm,0.8s						
WR0	**Warramunga Arr**	**23.07**	**165**	IAmb	IAmb	08 56 03.9	
	comp=Z,36nm,0.9s						
YHNB	**Yeheng**	**23.12**	**343**	P	**P**	**08 56 02.1**	**-0.9**
YHNB				IAmb	IAmb	08 56 04.0	
	comp=Z,35nm,0.9s						
KRVT	**Keravat (AS076**	**24.44**	**106**	P	**P**	**08 56 15.9**	**+0.9**
	comp=Z,29nm,0.4s,baz=240,slow=22,SNR=4.4						
PSA00	**Pilbara Seismi**	**25.36**	**199**	P	**P**	**08 56 22.6**	**-0.7**
PSA00				IAmb	IAmb	08 56 25.5	
	comp=Z,22nm,1.0s						
AS31	**Alice Springs**	**26.51**	**169**	P	**P**	**08 56 32.8**	**-0.8**
AS31				IAmb	IAmb	08 56 33.5	
	comp=Z,8.1nm,0.6s						
ASAR	**Alice Springs**	**26.51**	**169**	P	**P**	**08 56 32.8**	**-0.8**
	comp=Z,14nm,0.5s,baz=355,slow=8.0,SNR=343						
ASAR				PcP	**PcP**	**08 59 51.8**	**+0.2**
	comp=Z,4.9nm,0.4s,baz=355,slow=2.0,SNR=18						
ASAR				ScP	**ScP**	**09 03 09.0**	**+1.4**
	comp=Z,3.0nm,0.7s,baz=347,slow=2.4,SNR=15						
IPM	**Ipoh**	**27.51**	**275**	P	**P**	**08 56 43.0**	**+0.4**
KULM	**Kulim**	**27.94**	**277**	P	**P**	**08 56 47.1**	**+0.7**
KULM				IAmb	IAmb	08 56 47.8	
	comp=Z,9.6nm,0.8s						
KULM	**Kulim**	**27.94**	**277**	P	**P**	**08 56 47.0**	**+0.6**
CTA	**Charters Tower**	**28.39**	**143**	P	**P**	**08 56 50.2**	**-0.1**
	comp=Z,8.5nm,0.8s,baz=311,slow=14,SNR=2.4						
GIRL	**Giralia**	**28.60**	**208**	P	**P**	**08 56 51.7**	**-0.3**
PSI	**Prapat**	**29.57**	**271**	P	**P**	**08 57 01.1**	**+0.2**
	comp=Z,12nm,0.9s,baz=180,slow=0.4,SNR=3.6						
RPSI	**Rantau Prapat**	**29.57**	**271**	P	**P**	**08 57 01.1**	**+0.4**
SLVN	**Son La**	**30.42**	**310**	IAmb	IAmb	08 57 10.7	
	comp=Z,9.1nm,0.8s						
JNU	**Nakatsue**	**30.57**	**4**	P	**P**	**08 57 08.8**	**-0.5**
J

	comp=Z,61nm,17.1s							
GTA					LR		LR	
	comp=Z,81nm,18.4s							
GTA					LR		LR	
	comp=Z,64nm,18.1s							
TAPN	**Taplejung**	**46.19**	**306**	*eP*		**P**		**08 59 20.1 +0.7**
	comp=Z,33nm,0.7s							
ODAN	**Odare**	**46.25**	**306**	*eP*		**P**		**08 59 20.5 +0.7**
	comp=Z,68nm,0.6s							
KLR	**Kul'dur**	**46.66**	**3**	P		**P**		**08 59 21.9 -0.3**
	comp=Z,1.2nm,0.6s,baz=237,slow=7.6,SNR=3.7							
RAMN	**Ramite**	**46.93**	**305**	*eP*		**P**		**08 59 26.0 +1.0**
	comp=Z,87nm,0.5s							
JIRN	**Jiri**	**47.55**	**306**	*eP*		**P**		**08 59 30.7 +0.7**
	comp=Z,38nm,0.4s							
GUN	**Gumba**	**47.90**	**306**	*eP*		**P**		**08 59 33.3 +0.7**
	comp=Z,66nm,0.7s							
PKI	**Pulchoki**	**48.15**	**305**	*eP*		**P**		**08 59 34.6 +0.1**
PKIN	**Phulchoki**	**48.16**	**305**	*eP*		**P**		**08 59 34.6 +0.1**
	comp=Z,7.9nm,0.3s							
DMN	**Daman**	**48.41**	**305**	*eP*		**P**		**08 59 36.9 +0.5**
	comp=Z,32nm,0.7s							
ULN	**Ulaanbaatar**	**48.87**	**341**	P		**P**		**08 59 39.5 +0.1**
GKN	**Gorkha**	**48.95**	**306**	*eP*		**P**		**08 59 40.5 +0.2**
SONM	**Songino Array**	**49.06**	**340**	P		**P**		**08 59 41.2 +0.4**
	comp=Z,3.7nm,0.7s,baz=153,slow=9.0,SNR=15							
SONM					ScP		**ScP**	**09 04 33.7 +2.2**
	comp=Z,0.3nm,0.4s,baz=132,slow=2.1,SNR=3.6							
SONM	**Songino Array**	**49.06**	**340**	P		**P**		**08 59 41.1 +0.3**
KOLN	**Koldanda**	**49.70**	**305**	*eP*		**P**		**08 59 46.8 +0.7**
	comp=Z,82nm,0.6s							
DANN	**Dangsing**	**49.79**	**306**	*eP*		**P**		**08 59 47.5 +0.6**
	comp=Z,112nm,0.6s							
PYUN	**Piuthan**	**50.33**	**305**	*eP*		**P**		**08 59 51.7 +0.9**
	comp=Z,52nm,0.5s							
MSVF	**Nonsavu**	**52.77**	**114**	P		**P**		**09 00 06.5 -2.3**
MSVF					IAmb		IAmb	09 00 11.1
	comp=Z,17nm,0.8s							
WMQ	**Urumqi**	**54.77**	**325**	*eP*		**P**		**09 00 23.9 +1.1**
WMQ					LR		LR	
	comp=Z,20nm,27.1s							
WMQ					LR		LR	
	comp=Z,110nm,22.1s							
WMQ					LR		LR	
	comp=Z,68nm,28.5s							
PETK	**Petropavlovsk-**	**55.94**	**21**	P		**P**		**09 00 31.1 +0.3**
	comp=Z,1.7nm,0.7s,baz=190,slow=5.9,SNR=3.1							
PETK					PcP		**PcP**	**09 01 26.3 +0.1**
	comp=Z,3.2nm,0.6s,baz=203,slow=5.8,SNR=5.1							
MKAR	**Makanchi Array**	**59.60**	**325**	P		**P**		**09 00 56.7 +0.2**
	comp=Z,7.8nm,0.4s,baz=116,slow=8.4,SNR=121							
MKAR					ScP		**ScP**	**09 05 19.1 +1.5**
	comp=Z,1.4nm,0.8s,baz=121,slow=4.7,SNR=9.0							
MKAR	**Makanchi Array**	**59.60**	**325**	P		**P**		**09 00 56.4 0.0**
MAKZ	**Makanchi**	**59.79**	**325**	P		**P**		**09 00 57.9 +0.2**
MAKZ						**P**		**09 00 58.0 +0.3**
MAKZ					IAmb		IAmb	09 00 58.6
	comp=Z,9.5nm,0.6s							
KSH	**Kashi**	**60.19**	**315**	*eP*		**P**		**09 01 02.6 +1.9**
BKZ	**Black Stump Fm**	**60.46**	**138**	P		**P**		**09 01 02.0 -0.4**
BKZ					IAmb		IAmb	09 01 06.6
	comp=Z,21nm,1.2s							
ZALV	**Zalesovo Beam**	**62.51**	**333**	P		**P**		**09 01 14.9 -0.8**
	comp=Z,2.1nm,0.5s,baz=116,slow=6.8,SNR=7.5							
ZALV	**Zalesovo Beam**	**62.51**	**333**	P		**P**		**09 01 14.8 -1.0**
KURK	**Kurchatov**	**63.75**	**327**	P		**P**		**09 01 23.7 -0.3**
GAR	**Garm**	**64.08**	**313**	P		**P**		**09 01 26.9 +0.4**
GAR					IAmb		IAmb	09 01 27.3
	comp=Z,12nm,0.8s							
KK31	**Karatay Array**	**65.36**	**317**	P		**P**		**09 01 34.2 -0.3**
KKAR	**Karatay Array**	**65.36**	**317**	P		**P**		**09 01 34.5 -0.1**
KKAR	**Karatay Array**	**65.36**	**317**	IAmb		IAmb		09 01 35.3
	comp=Z,9.7nm,1.3s							
BRVK	**Borovoye**	**69.41**	**327**	P		**P**		**09 01 59.9 +0.3**
NRIK	**Noril'sk**	**72.07**	**346**	P		**P**		**09 02 15.4 +0.1**
	comp=Z,2.0nm,0.4s,baz=53,slow=3.8,SNR=4.7							
GEYT	**Alibeck**	**73.07**	**309**	P		**P**		**09 02 22.4 +0.5**
	comp=Z,2.2nm,0.6s,baz=173,slow=3.6,SNR=3.3							
GEYT	**Alibeck**	**73.07**	**309**	IAmb		IAmb		09 02 23.3
	comp=Z,2.0nm,0.8s							
ABKAR	**Akbulak array**	**74.25**	**321**	P		**P**		**09 02 27.8 -0.6**
VNDA	**Vanda**	**81.97**	**173**	P		**P**		**09 03 10.4 +0.3**
	comp=Z,11nm,0.8s,baz=317,slow=6.6,SNR=88							
VNDA	**Vanda**	**81.97**	**173**	P		**P**		**09 03 10.1 0.0**
VNDA					IAmb		IAmb	09 03 11.2
	comp=Z,13nm,0.9s							
IMAR	**Indian Mountai**	**82.76**	**24**	P		**P**		**09 03 15.5 +1.1**
MAW	**Mawson**	**83.21**	**201**	P		**P**		**09 03 17.3 +0.7**
	comp=Z,3.7nm,0.6s,baz=88,slow=6.9,SNR=17							
MAW	**Mawson**	**83.21**	**201**	P		**P**		**09 03 17.2 +0.6**
ILAR	**Eielson Array**	**85.46**	**25**	P		**P**		**09 03 27.2 -0.9**
	comp=Z,0.4nm,0.5s,baz=242,slow=4.7,SNR=5.3							
SYO	**Syowa Base**	**91.91**	**201**	⇓*eP*		**P**		**09 03 57.6 -0.7**
QSPA	**South Pole Qui**	**92.39**	**180**	P		**P**		**09 04 01.3 +0.6**
QSPA					IAmb		IAmb	09 04 02.2
	comp=Z,14nm,1.1s							
TXAR	**Lajitas Array**	**120.92**	**54**	PKP		**PKiKP**		**09 09 42.8 +0.5**
	comp=Z,0.6nm,0.7s,baz=104,slow=4.0,SNR=3.5							
TORD	**Torodi Ar. Bea**	**125.00**	**288**	PKP		**PKiKP**		**09 09 50.4 -0.1**
	comp=Z,0.9nm,0.6s,baz=52,slow=2.3,SNR=4.8							
CFA	**Coronel Fontan**	**147.00**	**153**	PKPbc		**PKPab**		**09 10 32.8 -1.8**
	comp=Z,17nm,0.5s,baz=231,slow=3.2,SNR=42							
NNA	**Nana**	**153.15**	**112**	PKPbc		**PKiKP**		**09 10 49.1 +1.1**
	comp=Z,3.6nm,0.5s,baz=252,slow=8.7,SNR=3.7							
CPUP	**Villa Florida**	**155.63**	**167**	PKPab		**PKPab**		**09 11 11.4 +0.9**
	comp=Z,3.0nm,0.8s,baz=203,slow=3.8,SNR=4.8							
LPAZ	**La Paz**	**158.62**	**131**	PKPab		**PKPab**		**09 11 26.5 +1.9**
	comp=Z,2.6nm,0.7s,baz=209,slow=6.1,SNR=9.7							
LPAZ	**La Paz**	**158.62**	**131**			**PKPab**		**09 11 25.9 +1.3**
SIV	**San Ignacio**	**163.58**	**145**	PKP		**PKPdf**		**09 10 53.2 +0.6**
	comp=Z,1.4nm,0.8s,baz=242,slow=3.4,SNR=6.5							
SIV					PKPab		**PKPab**	**09 11 46.2 +0.8**
	comp=Z,0.7nm,0.6s,baz=197,slow=5.0,SNR=5.0							

*NIED **18** 08:59:00.32˙80N×141˙70E, h5km, Mw4.0 Best double couple: M₀9.60000×10¹⁴ NP1:φ=234.00000°, δ60.00000°, λ99.00000°. NP2:φ=36.00000°, δ31.00000°, λ74.00000°.*
*IDC **18** 08:59:40.1±1.0, 32˚54N×141˚74E, h0km, mb3.8/8, mb1 3.9/10, mb1mx3.7/54, mbtmp3.8/10, ML3.1/2, MS3.1/8, Ms1 3.1/8, ms1mx2.8/40, Error ellipse: s-maj=24.8km s-min=18.8km az=59.0*
*NEIC **18** 08:59:41.4±1.1, 32˚58N±0˙10×141˙78E±0˙05, h10km±2km, mb4.3/2, Error ellipse: s-maj=17.2km s-min=4.5km az=198.0*
*JMA **18** 08:59:42.4±0.6, 32˚76N×141˙69E, h18km, M3.8*

ISC 18 08:59:42.1±1.1, 32.73N±0˙09×141.80E±0˙09, h10km, n42, σ1ˢ14/37, mb4.0/9, MS3.2/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.71**	**283**	P	**Pn**	**09 00 10.7**	**-1.2**
JHJ2	**Mitsune**	**1.71**	**283**	Pn	**Pn**	**09 00 10.5**	**-1.4**
JHJ	**Hachijo jima 2**	**1.74**	**283**	**Pn**	**Pn**	**09 00 11.2**	**-1.1**
	76nm,0.3s,baz=331,slow=17,SNR=19						
JHJ				Sn	**Sn**	**09 00 34.4**	**-0.2**
	110nm,0.3s,baz=86,slow=21,SNR=5.5						
BSO1	**Boso 1**	**2.04**	**341**	P	**Pn**	**09 00 16.5**	**+0.6**
JMKN	**Mikurajimanish**	**2.18**	**303**	P	**Pn**	**09 00 17.6**	**-0.8**
JMKN				*eS*	**Sn**	**09 00 43.4**	**-2.1**
JHU	**Hanno**	**3.75**	**327**	P	**Pn**	**09 00 39.6**	**-0.3**
JHO	**Hitachi**	**4.00**	**346**	P	**Pn**	**09 00 43.2**	**-0.2**
JRY	**Ryogami san**	**4.06**	**325**	P	**Pn**	**09 00 45.2**	**+0.9**
JAG	**Ashikaga**	**4.16**	**333**	P	**Pn**	**09 00 46.3**	**+0.6**
JIE	**Ise**	**4.56**	**293**	P	**Pn**	**09 00 50.8**	**-0.3**
JFK	**Kawauchi**	**4.69**	**351**	P	**Pn**	**09 00 52.3**	**-0.6**
JFK				S	**Sn**	**09 01 43.3**	**-4.1**
MJAR	**Matsushiro Arr**	**4.82**	**323**	Pn	**Pn**	**09 00 55.6**	**+0.9**
	0.3nm,0.3s,baz=124,slow=19,SNR=13						
MJAR				LR	LR	09 02 52.4	
	comp=Z,126nm,19.3s,baz=145,slow=39						
MJAR	**Matsushiro Arr**	**4.82**	**323**		**Pn**	**09 00 55.2**	**+0.5**
MAJO	**Matsushiro**	**4.82**	**323**		**Pn**	**09 00 55.7**	**+1.0**
MAT	**Matsushiro**	**4.82**	**323**	P	**Pn**	**09 00 55.5**	**+0.8**
MAT				*eS*	**Sn**	**09 01 50.2**	**-0.4**
MJB9	**Matsu-Tunnel**	**4.82**	**323**		**Pn**	**09 00 55.1**	**+0.4**
JFT	**Otama**	**4.92**	**346**	P	**Pn**	**09 00 56.7**	**+0.6**
JFT				*eS*	**Sn**	**09 01 52.3**	**-0.9**
JNU	**Nakatsue**	**9.19**	**275**	LR	LR	09 05 46.5	
	comp=Z,111nm,18.1s,baz=154,slow=40						
ERM	**Erimo**	**9.33**	**6**	Pn	**Pn**	**09 01 56.2**	**-0.4**
JKA	**Kamikawa-asahi**	**11.39**	**3**		**Pn**	**09 02 23.9**	**-0.8**
ASAJ	**Asahikawa**	**11.39**	**3**	Pn	**Pn**	**09 02 23.9**	**-0.8**
	0.7nm,0.3s,baz=100,slow=24,SNR=2.6						

KSRS	**Korea Array**	**12.30**	**296**	LR		LR		09 07 22.6
	comp=Z,52nm,19.1s,baz=212,slow=37							
KLR	**Kul'dur**	**18.12**	**338**	P		**Pn**		**09 03 55.3 +1.6**
	0.2nm,0.3s,baz=143,slow=10,SNR=3.7							
MA2	**Magadan**	**27.51**	**10**	LR		LR		09 16 46.1
	comp=Z,20nm,20.3s,baz=156,slow=37							
SONM	**Songino Array**	**30.62**	**310**	P		**P**		**09 05 58.0 +1.6**
	0.9nm,0.5s,baz=106,slow=8.3,SNR=4.3							
TLY	**Talaya**	**33.51**	**316**	LR		LR		09 22 11.2
	comp=Z,29nm,18.2s,baz=136,slow=40							
MK31	**Makanchi Array**	**46.78**	**306**	P		**P**		**09 08 11.7 +0.1**
MKAR	**Makanchi Array**	**46.78**	**306**	P		**P**		**09 08 11.5 -0.2**
	1.0nm,0.4s,baz=85,slow=10.0,SNR=14							
MKAR	**Makanchi Array**	**46.78**	**306**	P		**P**		**09 08 11.7 +0.1**
KURK	**Kurchatov**	**48.92**	**311**	P		**P**		**09 08 28.0 -0.1**
KURK	**Kurchatov**	**48.92**	**311**	IAmb		IAmb		09 08 42.5
	comp=Z,2.5nm,0.8s							
KURBB	**Kurchatov Arra**	**48.98**	**311**	P		**P**		**09 08 28.0 -0.5**
	comp=Z,0.6nm,0.4s,baz=89,slow=7.3,SNR=8.8							
WRA	**Warramunga Arr**	**52.86**	**189**	P		P		09 08 56.0 -2.0
	comp=Z,2.4nm,0.7s,baz=5.3,slow=7.6,SNR=10							
WRA	**Warramunga Arr**	**52.86**	**189**	IAmb		IAmb		09 08 57.0
	comp=Z,0.2nm,0.9s							
ILAR	**Eielson Array**	**52.99**	**31**	P		**P**		**09 08 59.3 +0.7**
	comp=Z,0.6nm,0.7s,baz=260,slow=6.2,SNR=5.7							
KKAR	**Karatay Array**	**55.64**	**303**	P		**P**		**09 09 18.3 +0.1**
ASAR	**Alice Springs**	**56.58**	**189**	P		**P**		**09 09 23.3 -1.7**
	comp=Z,1.2nm,1.2s,baz=2.3,slow=7.2,SNR=4.1							
INK	**Inuvik**	**58.09**	**26**	P		**P**		**09 09 36.1 +1.0**
	comp=Z,0.9nm,0.6s,baz=315,slow=6.5,SNR=1.4							
NOA	**NORSAR Array B**	**78.28**	**338**	LR		LR		09 50 24.7
	comp=Z,11nm,18.2s,baz=35,slow=39							
PFO	**Pinyon Flats O**	**81.18**	**56**	LR		LR		09 48 15.2
	comp=Z,11nm,19.1s,baz=190,slow=36							
BRTR	**Keskin Array B**	**81.95**	**312**	P		**P**		**09 12 02.7 +0.3**
	comp=Z,0.5nm,0.6s,baz=101,slow=5.0,SNR=3.5							
ANMO	**Albuquerque**	**87.12**	**50**	LR		LR		09 43 58.8
	comp=Z,22nm,21.9s,baz=202,slow=30							

UCR 18 09:05:40.0±1.1, 10.06N×84.24W, h73km±2km, MD3.7, MW3.3, 6C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJS	**Escuela Geolog**	**0.22**	**124**	*eP*	Pn	09 05 51.3	0.0
SJS				*eS*	Sn	09 06 00.3	+0.8
SRA1	**San Ramn**	**0.24**	**275**	*eP*	Pn	09 05 51.1	-0.2
SRA1				*eS*	Sn	09 06 00.0	+0.4
LCR2	**La Lucha 2**	**0.40**	**144**	⇑*eP*	Pn	09 05 52.2	-0.3
LCR2				*eS*	Sn	09 06 02.1	+0.5
CVTR	**Volcan Turrial**	**0.48**	**95**	*eP*	Pn	09 05 53.4	+0.1
CVTR				*eS*	Sn	09 06 03.7	+0.5
FORC	**Fortuna**	**0.58**	**314**	*iP*	Pn	09 05 54.2	+0.3
FORC				*iS*	Sn	09 06 04.8	+0.6
CASO	**Castillo**	**0.61**	**307**	*iP*	Pn	09 05 54.4	+0.2
CASO				*iS*	Sn	09 06 05.7	+1.0
ARE1	**Arenal 1**	**0.61**	**310**	⇑*iP*	Pn	09 05 54.7	+0.4
ARE1				*eS*	Sn	09 06 06.0	+1.2
CEDE	**Laguna Cedeo**	**0.62**	**313**	⇑*eP*	Pn	09 05 54.7	+0.3
CEDE				*iS*	Sn	09 06 06.2	+1.2
JTS	**Las Juntas de**	**0.74**	**288**	⇑*eP*	Pn	09 05 55.2	+0.1
JTS				*eS*	Sn	09 06 07.8	+0.8
EDDO	**Dominical**	**0.89**	**155**	*eP*	Pn	09 05 57.4	+0.1
EDDO				*iS*	Sn	09 06 10.8	+0.6
ACAL	**Aguas Claras**	**0.96**	**306**	*iP*	Pn	09 05 58.4	+0.1
PTEN	**Parque Tenorio**	**0.98**	**311**	*iP*	Pn	09 05 58.5	0.0
PTEN				*iS*	Sn	09 06 12.2	0.0
EDLM	**Las Mercedes**	**1.01**	**140**	*iP*	Pn	09 05 58.9	0.0
EDLM				*eS*	Sn	09 06 14.0	+1.1
CUI	**Cuipilapa**	**1.08**	**303**	⇑*iP*	Pn	09 05 60.0	+0.2
CUI				*eS*	Sn	09 06 15.7	+1.1
HORNC	**Hornillas**	**1.12**	**305**	*iP*	Pn	09 06 00.3	0.0
PLVR	**Palo Verde**	**1.13**	**285**	*eP*	Pn	09 06 01.4	+1.0
GUAB	**Guayabo de Bag**	**1.16**	**303**	*iP*	Pn	09 06 00.8	0.0
LIM1	**Limonal**	**1.18**	**302**	*iP*	Pn	09 06 00.9	-0.1
DRK0	**Durika**	**1.26**	**129**	⇑*eP*	Pn	09 06 01.8	-0.4
DRK0				*eS*	Sn	09 06 19.3	+0.5
GPS2	**Hotel Rincn d**	**1.29**	**302**	*eP*	Pn	09 06 02.5	+0.1
EDPN	**Palmar Norte**	**1.34**	**145**	*eP*	Pn	09 06 03.5	+0.5
EDPN				*eS*	Sn	09 06 21.7	+1.5
BUEV	**Buena Vista**	**1.36**	**303**	*eP*	Pn	09 06 03.4	+0.1
GB1A	**Borinquen Arri**	**1.36**	**303**	*eP*	Pn	09 06 03.8	+0.4
GBS3	**Finca Las Img**	**1.39**	**301**	*iP*	Pn	09 06 03.5	-0.2

*RSPR **18** 09:29:02.1, 19˚33N×68˚03W, h39km±12km, MD3.4/5*
*OSPL **18** 09:29:03.1±0.6, 19˚22N×67˚69W, h18km±3km, ML2.6*
*NEIC **18** 09:29:04.5±2.2, 19˚04N±0˙04×67˚75W±0˙03, h13km±7km, Error ellipse: s-maj=6.6km s-min=3.8km az=158.0*

ISC 18 09:28:57.5±1.6, 19.44N±0˙07×67.71W±0.03, h7km±11km, n40, σ1ˢ34/54, 10C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.12**	**150**	⇑*eP*	**Pn**	**09 29 19.8**	**+0.2**
AGPR	**Aguadilla, PR**	**1.12**	**150**		**Pn**	**09 29 20.0**	**+0.4**
AGPR				Sn	**Sg**	**09 29 33.0**	**-0.5**
AGPR	**Aguadilla, PR**	**1.12**	**150**	*iP*	**Pn**	**09 29 19.8**	**+0.2**
AGPR				*eS*	**Sg**	**09 29 31.4**	**-2.1**
AGPR				IAML		09 29 32.5	
	comp=Z,179nm,0.6s						
PCDR	**Punta Cana, DR**	**1.12**	**215**	⇑*eP*	**Pn**	**09 29 19.7**	**+0.2**
PCDR	**Punta Cana, DR**	**1.12**	**215**		**Pn**	**09 29 19.9**	**+0.3**
PCDR					**Sg**	**09 29 30.2**	**-3.3**
PCDR	**Punta Cana, DR**	**1.12**	**215**	*iP*	**Pn**	**09 29 19.8**	**+0.2**
PCDR				*eS*	**Sg**	**09 29 32.5**	**-0.9**
PCDR				IAML		09 29 37.0	
	comp=Z,327nm,0.6s						
MPR	**Mayaguez**	**1.33**	**156**		**Pg**	**09 29 23.3**	**+0.2**
MPR	**Mayaguez**	**1.33**	**156**	*iP*	**Pn**	**09 29 22.2**	**-0.3**
MPR				*eS*	**Sb**	**09 29 36.8**	**-3.3**
MPR				IAML		09 29 41.9	
	comp=Z,82nm,0.5s						
LSP	**Las Mesas**	**1.39**	**155**	⇑*eP*	**Pg**	**09 29 24.7**	**+0.6**
LSP	**Las Mesas**	**1.39**	**155**		**Pg**	**09 29 24.7**	**+0.6**
AOPR	**Arecibo Observ**	**1.41**	**140**	⇑*eP*	**Pg**	**09 29 26.2**	**+1.6**
AOPR	**Arecibo Observ**	**1.41**	**140**	*eS*	**Sg**	**09 29 45.3**	**+2.4**
AOPR	**Arecibo Observ**	**1.41**	**140**		**Pg**	**09 29 24.8**	**+0.2**
AOPR					**Pb**	**09 29 27.7**	**+3.5**
EMPR	**Esperanza - Ma**	**1.47**	**130**	Pn	**Pg**	**09 29 29.4**	**+3.7**
CRPR	**Cabo Rojo, PR**	**1.53**	**158**	⇑*eP*	**Pg**	**09 29 26.7**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.53**	**158**	*eS*	**Sg**	**09 29 46.3**	**-0.5**
CRPR	**Cabo Rojo, PR**	**1.53**	**158**		**Pg**	**09 29 27.9**	**+1.0**
CRPR					**Sg**	**09 29 46.2**	**-0.5**
MLPR	**Magueyes Islan**	**1.59**	**157**	⇑*eP*	**Pb**	**09 29 27.7**	**-0.4**
MLPR	**Magueyes Islan**	**1.59**	**157**	*eS*	**Sn**	**09 29 47.1**	**+0.2**
MLPR	**Magueyes Islan**	**1.59**	**157**		**Pg**	**09 29 28.1**	**+0.1**
MLPR					**Sn**	**09 29 46.6**	**-0.3**
DR12	**Loma Pena Alta**	**1.71**	**248**		**Pg**	**09 29 32.5**	**+2.2**
OBIP	**Obispado Ponce**	**1.74**	**143**	⇑*eP*	**Pg**	**09 29 30.8**	**0.0**
OBIP	**Obispado Ponce**	**1.74**	**143**	*eS*	**Sg**	**09 29 52.5**	**-0.8**
OBIP	**Obispado Ponce**	**1.74**	**143**		**Pg**	**09 29 31.2**	**+0.4**
OBIP					**Sg**	**09 29 52.9**	**-0.5**
GCPR	**Guaynabo City**	**1.90**	**126**		**Pg**	**09 29 33.9**	**-0.1**
ICMP	**Isla Caja de M**	**1.91**	**144**	Pn	**Pg**	**09 29 36.3**	**+2.3**
SJG	**San Juan**	**1.98**	**132**		**Pg**	**09 29 35.7**	**+0.2**
CBYP	**Canovanas**	**2.10**	**123**	⇑*eP*	**Pb**	**09 29 36.8**	**+0.8**
CBYP	**Canovanas**	**2.10**	**123**	*eS*	**Sg**	**09 30 04.2**	**-0.9**
CBYP	**Canovanas**	**2.10**	**123**	Pn	**Pb**	**09 29 36.6**	**+0.6**
CBYP					**Pg**	**09 29 37.3**	**-0.5**
HUMP	**Col San Antoni**	**2.18**	**126**		**Pg**	**09 29 38.9**	**-0.4**
MTP	**Monte Pirata**	**2.44**	**123**	⇑*eP*	**Pb**	**09 29 41.8**	**+0.1**
MTP	**Monte Pirata**	**2.44**	**123**	*eS*	**Sb**	**09 30 12.9**	**+1.0**
MTP	**Monte Pirata**	**2.44**	**123**		**Pb**	**09 29 41.6**	**-0.1**
MTP					**Pg**	**09 29 42.3**	**-1.9**
MTP				Sn	**Sb**	**09 30 12.8**	**+0.8**
MTP					LR	09 30 13.2	
CUPR	**Culebra, Puert**	**2.56**	**116**	⇑*eP*	**Pb**	**09 29 43.4**	**-0.3**
CUPR	**Culebra, Puert**	**2.56**	**116**	*eS*	**Sb**	**09 30 16.1**	**+0.7**
CUPR	**Culebra, Puert**	**2.56**	**116**		**Pb**	**09 29 43.9**	**+0.2**
CUPR					**Pg**	**09 29 44.7**	**-1.8**
CUPR				Sn	**Sb**	**09 30 14.1**	**-1.3**
CUPR					LR	09 30 14.9	
BANI	**BANI**	**2.72**	**248**		**Pg**	**09 29 48.9**	**-0.7**
STVI	**Saint Thomas**	**2.82**	**112**	Pn	**Pb**	**09 29 48.1**	**-0.1**
SDDR	**Presa de Saban**	**3.41**	**263**		**Pb**	**09 29 59.0**	**+0.7**

*IDC **18** 09:37:12.4±1.6, 41˚95S×88˚59E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/46, mbtmp3.9/4, MS3.9/17,*

Ms1 3.9/17, ms1mx3.8/26, Error ellipse: s-maj=46.2km s-min=38.3km az=105.0
*NEIC **18** 09:37:13.3±1.2, 41.84S±0˙08×88˚5E±0˙2, h10km±1km, mb4.7/14, Error ellipse: s-maj=28.6km s-min=10.9km az=254.0*

ISC 18 09:37:14.0±0.6, 41.9S±0˙1×88˚5E±0˙1, h15km, n52, σ1ˢ17/32, mb4.7/11, MS4.0/17, 1C-1D, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**21.24**	**79**	T	T	10 03 55.3	
	baz=243,slow=74,SNR=768						
H01W3	**Cape Leeuwin H**	**21.25**	**79**	T	T	10 03 55.9	
	baz=243,slow=74,SNR=711						
H01W1	**Cape Leeuwin H**	**21.26**	**79**	T	T	10 03 56.6	
	baz=243,slow=74,SNR=678						
NWAO	**Narrogin (SRO)**	**24.44**	**78**	LR	LR	09 50 00.9	
	comp=Z,302nm,20.6s,baz=244,slow=32						
MAW	**Mawson**	**29.27**	**200**	LR	LR	09 52 23.6	
	comp=Z,393nm,21.8s,baz=48,slow=31						
H08S2	**Diego Garcia H**	**36.91**	**333**	T	T	10 23 19.9	
	baz=160,slow=76,SNR=348						
H08S1	**Diego Carcia H**	**36.91**	**333**	T	T	10 23 21.3	
	baz=160,slow=76,SNR=165						
H08S3	**Diego Garcia H**	**36.92**	**333**	T	T	10 23 20.9	
	baz=160,slow=76,SNR=331						
FOMA	**Nahampoana Res**	**38.10**	**283**	P	**P**	**09 44 31.7**	**-0.6**
FITZ	**Fitzroy Crossi**	**39.52**	**65**	LR	LR	10 00 20.1	
	comp=Z,132nm,18.1s,baz=237,slow=35						
ABPO	**Ambohimpanom**	**41.70**	**290**	P	**P**	**09 45 02.1**	**-0.4**
ASAR	**Alice Springs**	**41.76**	**79**	P	**P**	**09 45 03.0**	**+0.2**
	2.3nm,0.8s,baz=228,slow=8.2,SNR=15						
ASAR				PcP	**PcP**	**09 47 00.3**	**+1.3**
	0.9nm,0.9s,baz=219,slow=2.4,SNR=4.1						
ASAR				LR	LR	10 00 17.4	
	comp=Z,365nm,21.7s,baz=234,slow=33						
ASAR	**Alice Springs**	**41.76**	**79**	P	**P**	**09 45 03.0**	**+0.2**
AS31	**Alice Springs**	**41.76**	**79**	P	**P**	**09 45 03.0**	**+0.2**
STKA	**Stephens Creek**	**43.05**	**94**	LR	LR	10 01 42.4	
	comp=Z,195nm,18.6s,baz=215,slow=34						
WRA	**Warramunga Arr**	**44.38**	**75**	P	**P**	**09 45 24.4**	**+0.3**
	10nm,0.7s,baz=230,slow=8.0,SNR=9.3						
WRA	**Warramunga Arr**	**44.38**	**75**	P	**P**	**09 45 22.8**	**-1.2**
WB2	**Warramunga Arr**	**44.39**	**75**	P	**P**	**09 45 23.8**	**-0.3**
WB2				IAmb	IAmb	09 45 30.8	
	comp=Z,12nm,0.8s						
WRAB	**Tennant Creek**	**44.39**	**75**	P	**P**	**09 45 22.7**	**-1.4**
WRAB				IAmb	IAmb	09 45 30.9	
	comp=Z,11nm,0.8s						
WR0	**Warramunga Arr**	**44.51**	**75**	P	**P**	**09 45 24.1**	**-1.0**
WR0				IAmb	IAmb	09 45 32.6	
	comp=Z,11nm,0.8s						
WB0	**Warramunga Arr**	**44.53**	**75**	P	**P**	**09 45 25.9

RPN	**Rapa Nui**	**17.58**	**305**	LR	LR	09 59 12.2			
	comp=Z,119nm,18.3s,baz=208,slow=28								
PLCA	**Paso Flores**	**17.63**	**105**	LR	LR	09 59 58.5			
	comp=Z,108nm,21.3s,baz=292,slow=31								
ZON	**Zonda**	**21.21**	**79**	P	**P**	**09 55 42.1**	**+0.3**		
ZON				IAmb	IAmb	09 55 43.8			
	comp=Z,21nm,1.4s								
CFA	**Coronel Fontan**	**21.53**	**79**	P	**P**	**09 55 45.6**	**+0.5**		
	comp=Z,8.2nm,1.1s,baz=234,slow=9.8,SNR=8.0								
CFA				LR	LR	10 01 50.5			
	comp=Z,120nm,20.5s,baz=248,slow=30								
LVC	**Limon Verde**	**26.09**	**60**	LR	LR	10 04 02.7			
	comp=Z,95nm,21.1s,baz=194,slow=30								
LPAZ	**La Paz**	**31.16**	**52**	P	**P**	**09 57 16.5**	**+0.8**		
	comp=Z,2.2nm,0.9s,baz=179,slow=5.4,SNR=6.2								
LPAZ				LR	LR	10 06 53.8			
	comp=Z,66nm,20.5s,baz=243,slow=31								
LPAZ	**La Paz**	**31.16**	**52**	P	**P**	**09 57 15.5**	**-0.1**		
CPUP	**Villa Florida**	**32.43**	**79**	LR	LR	10 08 57.4			
	comp=Z,57nm,19.1s,baz=206,slow=33								
ATAH	**Atahualpa**	**33.90**	**27**	P	**P**	**09 57 40.7**	**+1.3**		
	comp=Z,6.4nm,0.7s,baz=271,slow=2.5,SNR=5.7								
PAYG	**Puerto Ayora**	**37.65**	**5**	P	**P**	**09 58 10.9**	**-0.2**		
VNDA	**Vanda**	**55.95**	**195**	P	**P**	**10 00 34.4**	**+0.7**		
	comp=Z,0.6nm,0.7s,baz=118,slow=5.4,SNR=5.9								
TXAR	**Lajitas Array**	**68.09**	**350**	P	**P**	**10 01 55.7**	**-0.1**		
	comp=Z,0.4nm,0.6s,baz=166,slow=7.6,SNR=6.9								
TXAR				LR	LR	10 26 40.2			
	comp=Z,38nm,20.7s,baz=0.0,slow=32								
TX31	**Lajitas Ar. Si**	**68.09**	**350**	P	**P**	**10 01 55.7**	**-0.1**		
JCT	**Junction City**	**68.81**	**354**	P	**P**	**10 02 00.0**	**-0.1**		
ETX02	**Prairie Street**	**69.97**	**359**	P	**P**	**10 02 07.0**	**-0.2**		
LPAR	**Lepanto**	**73.69**	**2**	P	**P**	**10 02 29.4**	**-0.1**		
CLTN	**Cedars of Leba**	**74.40**	**6**	P	**P**	**10 02 32.0**	**-1.7**		
CLTN				IAmb	IAmb	10 03 56.1			
	comp=Z,11nm,1.6s								
U49A	**Red Boiling Sp**	**74.87**	**6**	P	**P**	**10 02 35.5**	**-0.9**		
U49A				IAmb	IAmb	10 02 54.7			
	comp=Z,5.8nm,1.2s								
NVAR	**Mina Array Bea**	**79.87**	**340**	P	**P**	**10 03 05.3**	**+0.7**		
	comp=Z,0.6nm,0.7s,baz=173,slow=6.4,SNR=4.5								
PDAR	**Pinedale Array**	**82.15**	**348**	P	**P**	**10 03 16.5**	**-0.2**		
	comp=Z,0.8nm,0.7s,baz=162,slow=6.2,SNR=7.9								
USRK	**Ussuriysk Ar.**	**145.88**	**294**	PKPbc	**PKPdf**	**10 10 33.6**	**-0.8**		
	comp=Z,2.1nm,0.8s,baz=141,slow=4.8,SNR=4.8								
USRK	**Ussuriysk Ar.**	**145.88**	**294**		**PKPdf**	**10 10 32.9**	**-1.5**		

*IDC **18** 09:52:45.9±3.8, 53.66N×87.95E, h0km, mb1 3.3/2, mb1mx3.0/45, mbtmp3.3/2, ML2.9/2, Error ellipse: s-maj=39.7km s-min=19.0km az=46.0*

KRAR 18 09:52:46.4±0.1, 53.65N×87.88E, M2.1, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.84**	**281**	*i*		10 03 10.0	
	baz=95,slow=299,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.84**	**281**	Pn	Pn	09 53 19.8	+0.6
	3.3nm,0.3s,baz=98,slow=14,SNR=13						
ZALV				Lg	Lg	09 53 45.2	
	4.8nm,0.3s,baz=105,slow=26,SNR=8.8						
KURBB	**Kurchatov Arra**	**6.50**	**246**	Pn	Pn	09 54 24.1	+0.8
	0.2nm,0.3s,baz=62,slow=14,SNR=9.3						
MKAR	**Makanchi Array**	**7.74**	**210**	Pn	Pn	09 54 41.1	+0.8
	0.2nm,0.3s,baz=28,slow=13,SNR=6.4						

TAP 18 09:58:00.3, 24.57N×121.74E, h66km, ML2.2, 2C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.11**	**68**	P	Pn	09 58 10.2	+0.1
TWC	baz=70			S	Sn	09 58 17.6	+0.5
	baz=70						
ENA	**Nanau**	**0.14**	**180**	P	Pn	09 58 10.7	+0.5
	baz=176						
ENA				S	Sn	09 58 18.0	+0.7
	baz=176						
TWE	**Neicheng**	**0.17**	**336**	*i* P	Pn	09 58 10.7	+0.5
	baz=340						
TWE				*i* S	Sn	09 58 17.7	+0.3
	baz=340						
ENTT	**Nioudou**	**0.17**	**294**	*i* P	Pn	09 58 10.8	+0.5
	baz=294						
ENTT				*i* S	Sn	09 58 18.2	+0.6
	baz=294						
NDT	**Datong Townshi**	**0.21**	**279**	*i* P	Pn	09 58 10.8	+0.3
	baz=279						
NDT				*i* S	Sn	09 58 18.4	+0.5
	baz=279						
NTC	**Toucheng**	**0.30**	**16**	*e*S	Sn	09 58 19.9	+1.2
	baz=15						
NWLT	**Wulai**	**0.30**	**314**	*e*P	Pn	09 58 11.2	+0.1
	baz=313						
NWLT				*i* S	Sn	09 58 19.2	+0.3
	baz=313						
YHNB	**Yeheng**	**0.35**	**287**	⇑P	Pn	09 58 11.7	+0.2
	baz=286						
YHNB				S	Sn	09 58 19.8	+0.2
	baz=286						
NNSB	**Datong**	**0.35**	**247**	⇑P	Pn	09 58 11.9	+0.3
	baz=246						
NNSB				S	Sn	09 58 20.3	+0.5
	baz=246						
NNSH	**Datong**	**0.35**	**247**	P	Pn	09 58 11.8	+0.3
	baz=246						
NNSH				*e*S	Sn	09 58 20.2	+0.4
	baz=246						
NNS	**Nan Shan**	**0.36**	**249**	*i* P	Pn	09 58 11.9	+0.3
	baz=248						
NNS				*i* S	Sn	09 58 20.4	+0.6
	baz=248						
NSK	**Sanguang**	**0.36**	**287**	*i* P	Pn	09 58 11.7	+0.1
	baz=287						
NSK				*i* S	Sn	09 58 19.8	0.0
	baz=287						
TIPB	**Shuangxi**	**0.41**	**11**	*i* P	Pn	09 58 12.4	+0.4
	baz=10.0						
TIPB				*i* S	Sn	09 58 21.2	+0.8
	baz=10.0						
NACB	**Ninganchiao**	**0.41**	**199**	P	Pn	09 58 11.1	-0.9
	baz=198						
NACB				S	Sn	09 58 20.9	+0.5
	baz=198						
ETLH	**Xiulin Townshi**	**0.43**	**213**	P	Pn	09 58 12.1	-0.1
	baz=213						
ETLH				S	Sn	09 58 21.1	+0.3
	baz=213						
TWA	**Mucha**	**0.43**	**341**	P	Pn	09 58 12.8	+0.6
	baz=341						
TWB1	**Santiao Chiao**	**0.49**	**27**	S	Sn	09 58 22.1	+0.4
	baz=28						
NWF	**Wu-fen Shan**	**0.50**	**4**	*e*P	Pn	09 58 13.1	+0.2
	baz=4.0						
TWD	**Chiawan**	**0.50**	**195**	*e*P	Pn	09 58 12.4	-0.4
	baz=194						
TWD				*e*S	Sn	09 58 23.0	+1.1
	baz=194						
TWS1	**Kuangyinshan**	**0.60**	**331**	*e*S	Sn	09 58 25.0	+1.3
	baz=331						
WHF	**Hehuan Shan**	**0.60**	**226**	P	Pn	09 58 14.2	-0.1
	baz=225						
WHF				S	Sn	09 58 25.0	+0.5
	baz=225						
YM04	**YM04**	**0.61**	**342**	P	Pn	09 58 14.0	0.0
	baz=342						
YM04				*e*S	Sn	09 58 24.4	+0.4
	baz=342						
TDCB	**Techi**	**0.62**	**239**	*e*P	Pn	09 58 14.7	+0.6
	baz=239						
TDCB				*e*S	Sn	09 58 24.9	+0.6
	baz=239						
CHGB	**Renai**	**0.72**	**226**	*e*P	Pn	09 58 15.7	+0.2
	baz=225						
CHGB				*e*S	Sn	09 58 26.7	+0.2
	baz=225						
WHP	**Taichung City**	**0.78**	**248**	*e*P	Pn	09 58 17.0	+1.0
	baz=248						
WHP				*e*S	Sn	09 58 29.3	+1.8
	baz=248						
VWDT	**VWDT**	**0.98**	**214**	*e*P	Pn	09 58 18.9	+0.5
	baz=213						
VWDT				*e*S	Sn	09 58 32.4	+0.7
	baz=213						

JMA 18 09:58:31.1±0.2, 24.94N×123.37E, h26km, M1.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.58**	**215**	P	Pb	09 58 42.2	-0.5
YOJ				*e*S	Sb	09 58 50.1	-0.4
JYNG	**Yonagunijimaku**	**0.62**	**219**	P	Pb	09 58 43.1	-0.3
JYNG				S	Sb	09 58 51.8	+0.1
IRIF	**Iriomote-Funau**	**0.69**	**151**	P	Pb	09 58 44.2	-0.3
IRIF				*e*S	Sb	09 58 53.9	+0.3
JIJ	**Ishigaki jima**	**0.91**	**129**	P	Pn	09 58 47.4	-0.8
JIJ				S	Sb	09 58 58.6	-1.3
JKRS	**Kuro-shima**	**0.91**	**140**	P	Pn	09 58 48.1	-0.1
JKRS				S	Sb	09 58 59.3	-0.6
JISG	**Ishigakijimahi**	**0.93**	**112**	*e*S	Sb	09 59 00.2	-0.2
HATJ	**Hateruma jima**	**0.96**	**156**	P	Pn	09 58 48.8	-0.2
HATJ				*e*S	Sb	09 59 01.2	-0.3

ISC 18 10:26:34.1±1.4, 49.00N±0.05×18.10E±0.04, h5km±13km, n7, σ0.47/12, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAVC	**Velka Javorina**	**0.32**	**243**	*e*PG	**Pg**	**10 26 40.4**	**+0.2**
JAVC				*e*SG	**Sb**	**10 26 46.6**	**-1.1**
KOLL	**Kolacno**	**0.47**	**154**	*e*PG	**Pg**	**10 26 43.3**	**+0.1**
KOLL				*e*SG	**Sg**	**10 26 48.9**	**-0.4**
VYHS	**Vyhne**	**0.71**	**136**	*e*PG	**Pg**	**10 26 47.4**	**-0.3**
VYHS				*e*SG	**Sb**	**10 26 59.0**	**+0.1**
MODS	**Modra-Piesok**	**0.83**	**221**	*e*PG	**Pb**	**10 26 51.5**	**+0.5**
MODS				*e*SG	**Sn**	**10 27 05.1**	**0.0**
MODS				*e*LG	Lg	10 27 06.3	
MORC	**Moravsky Berou**	**0.85**	**335**	*e*PG	**Pg**	**10 26 50.3**	**-0.2**
LANS	**Liptovska Anna**	**0.91**	**80**	*e*PG	**Pn**	**10 26 53.8**	**+0.2**
VRAC	**Vranov**	**1.03**	**288**	*e*PG	**Pg**	**10 26 54.0**	**+0.1**
VRAC				*e*SG	**Sb**	**10 27 08.2**	**-0.1**

*ECX **18** 10:28:26.7±0.6, 31.17N×115.60W, h6km±10km, MD2.6, ML2.8*

*MEX **18** 10:28:27.6±0.9, 31.05N×115.65W, h8km±28km, MD3.6*

ISC 18 10:28:24.9±1.0, 31.16N±0.04×115.62W±0.04, h13km±8km, n16, σ0.33/26, 8C-1D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPIG	**San Pedro Mart**	**0.18**	**130**	⇑*e*P	**Pb**	**10 28 30.0**	**-0.2**
SPIG				*e*S	**Sb**	**10 28 33.3**	**-0.4**
SPIG	**San Pedro Mart**	**0.18**	**130**	*e*P	**Pb**	**10 28 30.4**	**+0.2**
SPIG				*e*S	**Sb**	**10 28 33.4**	**-0.4**
SPX	**San Pedro Mart**	**0.18**	**132**	⇑*e*P	**Pb**	**10 28 30.4**	**+0.1**
SPX				⇑*e*		10 28 33.7	
SPX				IAML		10 28 33.7	
	comp=N,3μm,0.1s						
SPX	**San Pedro Mart**	**0.18**	**132**	*e*P	**Pb**	**10 28 30.1**	**-0.3**
SPX				*e*S	**Sg**	**10 28 32.9**	**+0.4**
VTX	**Valle De La Tr**	**0.27**	**329**	⇓*i*P	**Pg**	**10 28 30.4**	**-0.2**
VTX				*e*S	**Sg**	**10 28 33.9**	**-0.6**
SVX	**San Vicente**	**0.56**	**287**	⇑*e*P	**Pb**	**10 28 37.0**	**+0.4**
SVX				*e*S	**Sb**	**10 28 44.7**	**+0.2**
ECBX	**El Chinero**	**0.58**	**57**	⇑*i*P	**Pg**	**10 28 36.3**	**0.0**
SQX	**San Quintin**	**0.62**	**201**	⇑*e*P	**Pb**	**10 28 37.5**	**-0.1**
SQX				*e*S	**Sb**	**10 28 46.6**	**+0.4**
SFX	**San Felipe**	**0.67**	**100**	⇑*e*P	**Pb**	**10 28 38.5**	**0.0**
SFX				*e*S	**Sg**	**10 28 47.1**	**+0.1**
MBIG	**Mexicali**	**1.29**	**16**	*e*P	**Pg**	**10 28 50.5**	**+0.7**
MBIG				*e*S	**Sg**	**10 29 07.1**	**+0.4**
CBX	**Cerro Bola**	**1.45**	**323**	⇑*e*P	**Pb**	**10 28 51.9**	**0.0**
CBX				IAML		10 29 18.9	
	comp=E,155nm,0.4s						
CBX				*e*		10 29 18.9	
CBX	**Cerro Bola**	**1.45**	**323**	*e*P	**Pb**	**10 28 51.8**	**0.0**
CBX				*e*S	**Sn**	**10 29 09.7**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**1.54**	**345**	*e*P	**Pb**	**10 28 53.6**	**+0.2**
TJIG	**Tijuana**	**1.55**	**325**	*e*P	**Pb**	**10 28 53.5**	**-0.1**
TJIG				*e*S	**Sb**	**10 29 12.7**	**-0.4**
BAR	**Barrett**	**1.76**	**330**	*e*P	**Pb**	**10 28 57.0**	**-0.1**
SDRC	**San Diego Road**	**1.93**	**325**	*e*P	**Pb**	**10 28 59.7**	**-0.2**

UCR 18 10:47:12.3±1.9, 9.98N×86.29W, h14km±5km, MD3.9, 3C, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUAI	**GUAI**	**0.82**	**69**	*i* P	Pg	10 47 27.6	-0.7
GUAI				*i* S	Sb	10 47 39.6	+0.4
PLVR	**Palo Verde**	**0.99**	**68**	⇑*i*P	Pb	10 47 30.4	-1.0
PLVR				*e*S	Sg	10 47 44.8	+0.1
NY14	**Universidad de**	**1.00**	**48**	*i* P	Pb	10 47 30.9	-0.5
NY14				*e*S	Sn	10 47 45.9	+0.2
GBS3	**Finca Las Img**	**1.14**	**46**	*i* P	Pb	10 47 32.6	-1.3
GBS3				*e*S	Sb	10 47 47.9	-0.7
LAPC	**Finca la Perla**	**1.15**	**47**	*i* P	Pb	10 47 32.6	-1.4
LAPC				*e*S	Sb	10 47 48.4	-0.3
BUEV	**Buena Vista**	**1.19**	**47**	*e*P	Pn	10 47 33.4	-1.2
BUEV				*e*S	Sb	10 47 49.6	-0.4
GPS3	**Bodega del ICE**	**1.19**	**50**	*i* P	Pn	10 47 33.5	-1.1
GPS3				*e*S	Sb	10 47 49.8	-0.2
GPS2	**Hotel Rincn d**	**1.20**	**50**	⇑*e*P	Pn	10 47 33.6	-1.1
GPS2				*e*S	Sb	10 47 50.1	-0.2
GB1A	**Borinquen Arri**	**1.21**	**46**	*e*P	Pn	10 47 33.6	-1.2
GB1A				*e*S	Sb	10 47 49.8	-0.7
GPS1	**Guardaparques**	**1.22**	**49**	*i* P	Pn	10 47 33.8	-1.1
GPS1				*e*S	Sb	10 47 50.3	-0.5
LIM1	**Limonal**	**1.25**	**55**	*i* P	Pn	10 47 34.3	-1.0
LIM1				*e*S	Sb	10 47 51.2	-0.4
GUAB	**Guayabo de Bag**	**1.27**	**55**	*i* P	Pn	10 47 34.5	-1.2
GUAB				*e*S	Sb	10 47 51.6	-0.6
BUAI	**Buenos Aires**	**1.30**	**47**	*e*P	Pn	10 47 35.9	-0.1
CUI	**Cuipilapa**	**1.30**	**59**	⇑*e*P	Pn	10 47 35.2	-0.8
CUI				*e*S	Sb	10 47 52.6	-0.4
HORNC	**Hornillas**	**1.31**	**56**	*i* P	Pn	10 47 35.2	-1.1
HORNC				*e*S	Sb	10 47 52.4	-1.2
JTS	**Las Juntas de**	**1.35**	**77**	*e*P	Pn	10 47 35.6	-1.2
ACAL	**Aguas Claras**	**1.40**	**62**	*i* P	Pn	10 47 36.5	-0.9
ACAL				*e*S	Sb	10 47 56.6	+0.7
PTEN	**Parque Tenorio**	**1.48**	**60**	*i* P	Pn	10 47 37.8	-0.7
CASO	**Castillo**	**1.60**	**73**	*e*P	Pn	10 47 40.0	-0.2
CASO				*e*S	Sn	10 48 00.8	+0.2
ARE1	**Arenal 1**	**1.62**	**73**	*e*P	Pn	10 47 40.1	-0.3
ARE1				*e*S	Sb	10 48 03.4	+1.1
CEDE	**Laguna Cedeo**	**1.64**	**72**	*e*P	Pn	10 47 40.8	+0.1
CEDE				*e*S	Sb	10 48 02.7	-0.2
FORC	**Fortuna**	**1.67**	**73**	*e*P	Pn	10 47 41.2	+0.2
FORC				*e*S	Sb	10 48 03.3	-0.3
LCR2	**La Lucha 2**	**2.27**	**96**	*e*P	Pn	10 47 49.8	+0.3
LCR2				*e*S	Sn	10 48 19.2	+1.8
DRK0	**Durika**	**3.09**	**103**	*e*P	Pn	10 48 01.2	+0.5

*NEIC **18** 10:52:09.1±1.4, 20.35S±0.09×169.1E±0.1, h41km±11km, mb4.5/18, Error ellipse: s-maj=18.3km s-min=13.3km az=104.0*

*IDC **18** 10:52:22.0±22.0, 20.44S×168.80E, h153km±185km, mb3.8/5, mb1 4.0/5, mb1mx3.5/31, mbtmp4.3/5, MS3.6/2, Ms1 3.5/2, ms1mx2.9/21, Error ellipse: s-maj=100.7km s-min=38.6km az=60.0*

ISC 18 10:52:07.7±0.9, 20.35S±0.09×169.1E±0.1, h31km, n26, σ1.9/03/27, mb4.6/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.04**	**235**		**Pn**	**10 52 52.2**	**-1.5**
DZM				Sn	**Sn**	**10 53 29.6**	**+0.5**
SANVU	**Saraoutou**	**5.21**	**339**		**Pn**	**10 53 23.2**	**-0.3**
ARMA	**Armidale**	**18.70**	**234**	P	**Pn**	**10 56 26.1**	**+1.9**
BKZ	**Black Stump Fm**	**19.80**	**163**	P	**Pn**	**10 56 37.7**	**+0.4**
BKZ				IAmb	IAmb	10 56 38.1	
	comp=Z,29nm,1.2s						
CTA	**Charters Tower**	**21.47**	**267**	P	**P**	**10 56 55.7**	**+1.9**
	comp=Z,6.1nm,0.4s,baz=87,slow=12,SNR=14						
CTAO	**Charters Tower**	**21.47**	**267**	P	**P**	**10 56 53.9**	**0.0**
CTAO				IAmb	IAmb	10 57 01.4	
	comp=Z,28nm,1.1s						
STKA	**Stephens Creek**	**27.18**	**239**	P	**P**	**10 57 49.4**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=78,slow=12,SNR=6.3						
STKA				LR	LR	11 08 46.1	
	comp=Z,98nm,18.6s,baz=233,slow=37						
STKA	**Stephens Creek**	**27.18**	**239**	P	**P**	**10 57 49.5**	**+0.9**
WR0	**Warramunga Arr**	**32.44**	**265**	P	**P**	**10 58 34.2**	**-1.1**
WR0				IAmb	IAmb	10 58 51.3	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**32.60**	**265**	P	**P**	**10 58 36.2**	**-0.6**
WB0				IAmb	IAmb	10 58 37.2	
	comp=Z,14nm,1.2s						
WB2	**Warramunga Arr**	**32.62**	**265**	P	**P**	**10 58 35.8**	**-1.1**
WRAB	**Tennant Creek**	**32.62**	**265**	P	**P**	**10 58 36.0**	**-0.9**
WRAB				IAmb	IAmb	10 58 49.4	
	comp=Z,3.4nm,0.6s						
WRA	**Warramunga Arr**	**32.63**	**265**	P	**P**	**10 58 35.8**	**-1.3**
	comp=Z,2.0nm,0.5s,baz=94,slow=8.5,SNR=14						
WRA	**Warramunga Arr**	**32.63**	**265**	P	**P**	**10 58 34.4**	**-2.6**
AS31	**Alice Springs**	**32.78**	**258**		**P**	**10 58 38.0**	**-0.3**
AS31				IAmb	IAmb	10 58 38.4	
	comp=Z,4.9nm,0.6s						
ASAR	**Alice Springs**	**32.78**	**258**	P	**P**	**10 58 37.6**	**-0.6**
	comp=Z,12nm,0.7s,baz=84,slow=9.1,SNR=171						
ASAR				LR	LR	11 12 42.1	
	comp=Z,95nm,18.2s,baz=286,slow=38						
MTN	**Manton Dam**	**37.10**	**276**	P	**P**	**10 59 15.5**	**-0.2**
FORT	**Forrest**	**38.29**	**246**	P	**P**	**10 59 24.9**	**-0.7**
KNRA	**Kununurra**	**38.60**	**270**	P	**P**	**10 59 28.2**	**-0.1**
FAKI	**Fak Fak**	**39.91**	**291**	P	**P**	**10 59 38.9**	**-0.3**
FITZ	**Fitzroy Crossi**	**41.04**	**266**	P	**P**	**10 59 48.9**	**+0.3**
FITZ				IAmb	IAmb	10 59 49.6	
	comp=Z,9.3nm,0.7s						
VNDA	**Vanda**	**57.33**	**182**	P	**P**	**11 01 52.1**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=3.8,slow=5.9,SNR=2.6						
VNDA	**Vanda**	**57.33**	**182**	P	**P**	**11 01 52.5**	**+0.2**
QSPA	**South Pole Qui**	**69.71**	**180**	P	**P**	**11 03 14.5**	**+0.1**
QSPA				IAmb	IAmb	11 03 28.7	
	comp=Z,6.6nm,1.3s						
SNAA	**Sanae**	**88.06**	**183**	P	**P**	**11 04 54.5**	**-0.2**
SNAA				IAmb	IAmb	11 05 07.9	
	comp=Z,4.8nm,1.5s						
GERES	**GERESS Array B**	**145.41**	**331**	PKPbc	**PKPbc**	**11 11 41.6**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=61,slow=6.1,SNR=2.8						

*ANF **18** 10:53:01.9±1.1, 35.66N×97.36W, h9km±8km, ML5.3/17, Error ellipse: s-maj=2.5km s-min=1.8km az=166.0*

*IDC **18** 10:53:01.8±0.9, 35.71N×97.43W, h0km, mb3.9/1, mb1 4.1/9, mb1mx3.7/51, mbtmp3.8/9, ML3.6/8, MS3.3/16, Ms1 3.3/16, ms1mx3.1/48, Error ellipse: s-maj=14.0km s-min=12.3km az=138.0*

*TUL **18** 10:53:02.4±2.1, 35.60N±0.03×97.39W±0.05, h5km±1km, ML4.1, Mwr4.1/68(NEIC), Error ellipse: s-maj=7.1km s-min=4.5km az=125.0*

*UNK **18** 10:53:02.3, 35.61N×97.37W, h5km*

*NEIC **18** 10:53:02.1±2.0, 35.60N±0.04×97.39W±0.05, h5km±1km, Error ellipse: s-maj=7.1km s-min=6.2km az=91.0*

*NEIC **18** 10:53:02.3, 35.61N×97.37W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr=0.02; Mθθ=1.36; Mϕϕ=-1.34; Mrθ=0.86; Mrϕ=1.36; Mθϕ=0.07; Fault plane solution: M0=2.10000×10^15^ NP1:ϕs=20.64000°, δ=69.46000°, λ=171.57000°. NP2:ϕs=113.62000°, δ=82.11000°, λ=20.75000°. Principal axes: T 2.2239, Plg=20.0000°, Azm=339.0000°; N -0.2780, Plg=68.0000°, Azm=134.0000°; P -1.9459, Plg=9.0000°, Azm=246.0000°;*

ISC 18 10:53:02.1±0.8, 35.62N±0.03×97.38W±0.03, h8km±5km, n352, σ1.9/65/353, MS3.4/8, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADOK	**Arcadia Dam**	**0.04**	**7**	Pg	**Pg**	**10 53 04.2**	**+0.4**
ADOK				Sg	**Sg**	**10 53 05.6**	**+0.7**
OK009	**Oakdale Elemen**	**0.05**	**228**		**Pg**	**10 53 03.4**	**-0.5**
OK001	**Jones High Sch**	**0.09**	**127**	Pg	**Pg**	**10 53 04.8**	**+0.5**
OK005	**Luther M Schoo**	**0.16**	**75**		**Pg**	**10 53 06.4**	**+1.0**
OKCFA	**Oklahoma City**	**0.21**	**197**		**Pg**	**10 53 06.3**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**0.21**	**193**		**Pg**	**10 53 06.4**	**0.0**
FNO	**Franklin**	**0.36**	**183**	Pg	**Pg**	**10 53 09.6**	**+0.5**
W35A	**Tecumseh**	**0.62**	**138**		**Pg**	**10 53 14.2**	**+0.2**
X34A	**Smith Ranch, M**	**1.08**	**200**		**Pg**	**10 53 22.6**	**-0.2**
TUL1	**Leonard**	**1.32**	**77**	P	**Pn**	**10 53 26.4**	**-0.4**
	baz=257,SNR=1000						
TUL1				S	**Sg**	**10 53 44.8**	**+0.2**
	baz=257						
TUL1	**Leonard**	**1.32**	**77**	Pn	**Pn**	**10 53 26.4**	**-0.4**
WMOK	**Wichita Mounta**	**1.45**	**233**	P	**Pn**	**10 53 27.9**	**-0.7**
	baz=52,SNR=940						
WMOK				S	**Sb**	**10 53 46.8**	**-1.0**
	baz=52						
WMOK	**Wichita Mounta**	**1.45**	**233**		**Pn**	**10 53 27.9**	**-0.7**
WMOK				Sn	**Sb**	**10 53 47.2**	**-0.5**
T35A	**Sooner Cattle**	**1.48**	**28**		**Pn**	**10 53 29.6**	**+0.6**
U32A	**Winter Ranch,**	**1.52**	**301**		**Pn**	**10 53 29.9**	**+0.3**
X37A	**Clayton**	**1.94**	**121**		**Pn**	**10 53 36.4**	**+1.2**
Z35A	**Perchaven, San**	**2.28**	**177**		**Pn**	**10 53 40.8**	**+0.8**
U38A	**Gravette**	**2.56**	**70**		**Pn**	**10 53 45.4**	**+1.6**
HHAR	**Hobbs**	**2.87**	**76**		**Pn**	**10 53 49.2**	**+1.2**
W39A	**Magazine**	**2.96**	**97**	P	**Pn**	**10 53 50.3**	**+0.9**
	baz=279,SNR=84						
W39A				S	**Sn**	**10 54 26.7**	**+1.5**
	baz=279						
W39A	**Magazine**	**2.96**	**97**		**Pn**	**10 53 50.7**	**+1.3**
R32A	**Long Quarter,**	**3.00**	**340**		**Pn**	**10 53 51.5**	**+1.6**
Z38A	**Mt. Pleasant**	**3.07**	**139**		**Pn**	**10 53 51.4**

435B	Jarrell	4.82	182	P	Pn	10 54 15.3	+0.4
	baz=2.1,SNR=7.1						
435B	Jarrell	4.82	182		Pn	10 54 15.1	+0.2
R40A	Maddies Statio	4.88	55		Pn	10 54 16.6	+0.8
CCAR	Cane Creek	4.92	109		Pn	10 54 16.6	+0.4
P38A	Dawn	5.03	36		Pn	10 54 18.5	+0.7
LCAR	Lake Charles	5.08	83		Pn	10 54 17.9	-0.5
N33A	J Bar K, Exete	5.12	359		Pn	10 54 19.3	+0.3
T42A	Van Buren	5.27	73	Pn	Pn	10 54 22.0	+1.0
KSCO	Kaye Shedlock'	5.38	311	P	Pn	10 54 23.0	+0.2
	baz=128,SNR=21						
KSCO	Kaye Shedlock'	5.38	311	Pn	Pn	10 54 22.6	-0.2
X43A	Marvell	5.44	100	P	Pn	10 54 23.5	+0.1
	baz=284,SNR=8.1						
X43A	Marvell	5.44	100		Pn	10 54 24.4	+1.0
HBAR	Harrisburg	5.48	89	Pn	Pn	10 54 24.7	+0.8
CCM	Cathedral Cave	5.49	62	P	Pn	10 54 24.0	-0.1
	baz=245						
CCM	Cathedral Cave	5.49	62	Pn	Pn	10 54 24.7	+0.6
JCT	Junction City	5.51	202	P	Pn	10 54 24.6	+0.2
	baz=21,SNR=10						
JCT	Junction City	5.51	202	Pn	Pn	10 54 24.9	+0.5
143A	Socs Landing,	5.74	119		Pn	10 54 28.3	+0.8
P40A	Paris	5.76	46		Pn	10 54 28.5	+0.7
LPAR	Lepanto	5.76	88		Pn	10 54 27.9	0.0
HKT	Hockley	5.80	167		Pn	10 54 29.1	+0.8
BGNE	Belgrade	5.82	354	P	Pn	10 54 28.4	-0.2
	baz=174						
BGNE	Belgrade	5.82	354		Pn	10 54 29.0	+0.4
T25A	Trinidad	5.88	287	P	Pn	10 54 29.9	+0.3
	baz=103,SNR=16						
T25A	Trinidad	5.88	287		Pn	10 54 30.2	+0.6
GNAR	Gosnell	5.99	85		Pn	10 54 31.9	+1.0
PARMO	Parma	6.26	78	Pn	Pn	10 54 34.8	+0.2
HALT	Halls	6.54	85	Pn	Pn	10 54 38.5	0.0
OXF	Oxford	6.63	97	P	Pn	10 54 39.6	-0.1
	baz=282,SNR=49						
OXF	Oxford	6.63	97	Pn	Pn	10 54 40.0	+0.3
HICK	Hickman	6.66	80	Pn	Pn	10 54 41.6	+1.4
Y45A	Yeager Farm, C	6.68	103	Pn	Pn	10 54 40.6	+0.2
W45A	Hickory Valley	6.71	92		Pn	10 54 41.6	+0.8
735A	Kenedy	6.75	183		Pn	10 54 40.8	-0.6
S44A	Carbondale	6.85	70		Pn	10 54 43.4	+0.6
SDCO	Great Sand Dun	6.87	290	Pn	Pn	10 54 44.6	+1.4
344A	Westbrook Farm	6.93	125		Pn	10 54 44.9	+1.0
Q24A	Divide	7.04	301	P	Pn	10 54 45.8	+0.1
	baz=116,SNR=8.3						
Q24A	Divide	7.04	301		Pn	10 54 46.1	+0.4
SCIA	State Center	7.07	26	P	Pn	10 54 45.3	-0.6
	baz=209						
SCIA	State Center	7.07	26		Pn	10 54 45.4	-0.4
K31A	O'Neill	7.08	352	Pn	Pn	10 54 46.6	+0.7
N41A	Harden Midland	7.23	43		Pn	10 54 49.3	+1.4
P43A	Skaggs, Pawnee	7.42	55	Pn	Pn	10 54 51.0	+0.5
Q44A	Meyer Farm, Va	7.43	61	Pn	Pn	10 54 52.2	+1.5
ANMO	Albuquerque	7.46	267	P	Pn	10 54 51.7	+0.4
	baz=82						
ANMO	Albuquerque	7.46	267	Pn	Pn	10 54 52.6	+1.3
	0.3nm,0.3s,baz=78,slow=16,SNR=8.8						
ANMO				Lg	Lg	10 56 56.0	
	6.2nm,0.3s,baz=27,slow=21,SNR=3.0						
ANMO	Albuquerque	7.46	267	Pn	Pn	10 54 54.0	+2.7
833A	Chaparral WMA,	7.47	194	P	Pn	10 54 52.2	+0.9
	baz=13						
833A	Chaparral WMA,	7.47	194		Pn	10 54 53.6	+2.3
PLAL	Pickwick Lake	7.63	92		Pn	10 54 53.0	-0.5
MNTX	Cornudas Mount	7.73	242	P	Pn	10 54 54.9	0.0
	baz=57,SNR=22						
MNTX	Cornudas Mount	7.73	242	Pn	Pn	10 54 55.2	+0.3
BNM	Barren Site	7.74	262	Pn	Pn	10 54 55.6	+0.3
ISCO	Idaho Springs	7.75	305	P	Pn	10 54 55.3	-0.1
	baz=120,SNR=25						
ISCO	Idaho Springs	7.75	305	Pn	Pn	10 54 55.8	+0.3
WVT	Waverly	7.77	83	P	Pn	10 54 54.6	-0.8
	baz=269						
WVT	Waverly	7.77	83	Pn	Pn	10 54 54.8	-0.6
346A	Big Creek Wild	7.84	120	Pn	Pn	10 54 55.7	-0.6
K38A	Parkersburg	7.88	26		Pn	10 54 57.9	+0.9
S22A	4UR Ranch, Cre	7.89	288	P	Pn	10 54 58.7	+1.3
	baz=103						
S22A	4UR Ranch, Cre	7.89	288		Pn	10 54 58.6	+1.3
LENM	Lemitar	8.02	262	Pn	Pn	10 54 59.8	+0.8
L40A	Anamosa	8.03	35		Pn	10 54 58.7	-0.3
OLIL	Olney	8.03	64		Pn	10 54 59.2	+0.2
HDIL	Hopedale	8.06	50	P	Pn	10 54 59.1	-0.2
	baz=235,SNR=6.8						
HDIL	Hopedale	8.06	50	Pn	Pn	10 54 59.4	+0.1
Z47A	Carrollton	8.06	105		Pn	10 54 59.8	+0.4
ECSD	EROS Data Cent	8.13	4	P	Pn	10 54 59.2	-1.1
	baz=184,SNR=42						
ECSD	EROS Data Cent	8.13	4	Pn	Pn	10 54 59.6	-0.8
TXAR	Lajitas Array	8.21	222	Pn	Pn	10 55 00.9	-0.6
	0.3nm,0.3s,baz=40,slow=12,SNR=18						
TXAR				Lg	Lg	10 57 17.9	
	7.8nm,0.3s,baz=53,slow=24,SNR=2.0						
TXAR				LR	LR	10 58 34.7	
	comp=Z,206nm,19.0s,baz=0.0,slow=40						
TXAR	Lajitas Array	8.21	222	Pn	Pn	10 55 01.2	-0.4
TX31	Lajitas Ar. Si	8.21	222	Pn	Pn	10 55 01.6	0.0
TX32	Lajitas Array	8.21	222		Pn	10 55 01.6	0.0
T47A	Sharon Grove	8.40	78		Pn	10 55 04.0	-0.1
PHWY	Pilot Hill	8.51	314		Pn	10 55 06.3	+0.5
N23A	Red Feather La	8.55	311	P	Pn	10 55 06.6	+0.2
	baz=125,SNR=49						
N23A	Red Feather La	8.55	311		Pn	10 55 07.6	+1.2
X48A	Hartselle	8.55	95		Pn	10 55 05.7	-0.5
L42A	Oliver, Polo	8.77	41		Pn	10 55 09.3	+0.3
SUSD	Miller	8.90	353	P	Pn	10 55 10.7	-0.2
	baz=172						
SUSD	Miller	8.90	353	Pn	Pn	10 55 11.3	+0.4
I37A	Lemond, Waseca	8.93	19	Pn	Pn	10 55 12.4	+1.1
LRAL	Lakeview Retre	8.96	104	P	Pn	10 55 11.7	-0.1
	baz=290,SNR=6.6						
LRAL	Lakeview Retre	8.96	104	Pn	Pn	10 55 11.8	0.0
CLTN	Cedars of Leba	8.98	84	Pn	Pn	10 55 13.2	+1.2
P46A	Rosedale	9.00	61		Pn	10 55 12.9	+0.6
JFWS	Jewell Farm	9.14	35	P	Pn	10 55 14.2	0.0
	baz=219						
JFWS	Jewell Farm	9.14	35	Pn	Pn	10 55 14.8	+0.5
Y49A	Blount Mountai	9.19	98		Pn	10 55 15.0	0.0
WCI	Wyandotte Cave	9.25	70	P	Pn	10 55 15.8	+0.2
	baz=257						
WCI	Wyandotte Cave	9.25	70	Pn	Pn	10 55 15.9	+0.2
PV15	Paradox Valley	9.29	290	Pn	Pn	10 55 16.7	+0.2
PV01	Paradox Valley	9.31	289	Pn	Pn	10 55 17.4	+0.6
BLO	Bloomington	9.34	64		Pn	10 55 17.5	+0.6
SWET	Sewanee	9.35	89		Pn	10 55 18.3	+1.2
SFIN	Lafayette	9.40	57	P	Pn	10 55 17.9	+0.1
	baz=243						
SFIN	Lafayette	9.40	57		Pn	10 55 20.6	+2.9
PV07	Paradox Valley	9.44	291	Pn	Pn	10 55 20.5	+2.0
PV13	Radium Mtn., P	9.51	289	Pn	Pn	10 55 21.1	+1.5
PV12	Saucer Basin,	9.53	290	Pn	Pn	10 55 23.1	+3.3
PV03	Paradox Valley	9.55	289	Pn	Pn	10 55 22.5	+2.4
PV22	Blue Mesa, Par	9.57	291		Pn	10 55 22.7	+2.4
PV11	David Mesa, Pa	9.58	290	Pn	Pn	10 55 21.8	+1.3
PV18	Skein Mesa, Pa	9.60	289	Pn	Pn	10 55 22.3	+1.6
O20A	White River Ci	9.70	301	Pn	Pn	10 55 23.7	+1.6
FPAL	Fort Paine	9.70	93	Pn	Pn	10 55 21.9	-0.1
I40A	Norwalk	9.76	30	Pn	Pn	10 55 22.4	-0.3
RWWY	Rawlins	9.79	311		Pn	10 55 24.9	+1.5
L44A	Lake County Fo	9.86	46	P	Pn	10 55 23.8	-0.3
	baz=231						
RSSD	Black Hills	9.91	331	P	Pn	10 55 24.7	-0.3
	baz=147						
RSSD	Black Hills	9.91	331		Pn	10 55 25.4	+0.4
K43A	Burlington	9.97	42	Pn	Pn	10 55 25.4	-0.1
K22A	Casper	9.99	317	P	Pn	10 55 25.5	-0.4
	baz=132,SNR=8.7						
K22A	Casper	9.99	317		Pn	10 55 26.6	+0.7
R49A	Shelbyville	10.13	71	Pn	Pn	10 55 27.9	+0.2
SPMN	Marine on St.	10.21	19	P	Pn	10 55 27.8	-1.1
	baz=201						
SPMN	Marine on St.	10.21	19	Pn	Pn	10 55 27.7	-1.1
T50A	Nancy	10.21	78	Pn	Pn	10 55 29.5	+0.6
P48A	Milroy	10.24	64		Pn	10 55 29.6	+0.3
F33A	5 Mile Ranch,	10.25	4		Pn	10 55 27.9	-1.4
X51A	Calhoun	10.31	92		Pn	10 55 30.2	-0.1
Z51A	Franklin	10.33	99		Pn	10 55 30.6	0.0
CPCT	Cooper Cave	10.48	87		Pn	10 55 33.1	+0.5
I42A	Draeger Farm,	10.52	36	Pn	Pn	10 55 32.9	-0.1
N47A	Urbana	10.58	57	Pn	Pn	10 55 34.4	+0.5
V51A	Loudon	10.60	85		Pn	10 55 35.8	+1.6
F36A	Milaca	10.64	15		Pn	10 55 32.8	-1.9
O48A	Farmland	10.70	61	P	Pn	10 55 34.7	-1.0
	baz=248						
R50A	Paris	10.78	72		Pn	10 55 34.5	-2.1
P49A	Miami Univ. Ec	10.78	65	P	Pn	10 55 35.7	-0.9
	baz=253						
P49A	Miami Univ. Ec	10.78	65		Pn	10 55 35.8	-0.9
152A	Waverly Hall	10.89	102		Pn	10 55 39.5	+1.3
TKL	Tuckaleechee C	11.07	86	Pn	Pn	10 55 39.7	-0.9
	0.4nm,0.3s,baz=252,slow=13,SNR=5.6						
TKL				Lg	Lg	10 58 47.9	
	2.3nm,0.3s,baz=184,slow=22,SNR=13						
TKL	Tuckaleechee C	11.07	86		Pn	10 55 40.5	-0.2
G40A	Rib Lake	11.08	27		Pn	10 55 39.5	-1.2
V52A	Sevierville	11.21	85		Pn	10 55 42.8	+0.2
TZTN	Tazewell	11.23	81	P	Pn	10 55 41.9	-1.0
	baz=269						
TZTN	Tazewell	11.23	81		Pn	10 55 42.7	-0.2
S51A	Beattyville	11.26	76	Pn	Pn	10 55 43.0	-0.2
O49A	Covington	11.27	62		Pn	10 55 42.7	-0.6
P17A	Butcher Ranch,	11.29	294	Pn	Pn	10 55 46.8	+3.0
H43A	Windswept, Lux	11.50	37	Pn	Pn	10 55 46.1	-0.4
N49A	Columbus Grove	11.64	59	Pn	Pn	10 55 46.9	-1.5
Q51A	Peebles	11.68	69	Pn	Pn	10 55 47.9	-1.0
GOGA	Godfrey	11.68	97	P	Pn	10 55 47.4	-1.6
	baz=285						
GOGA	Godfrey	11.68	97	Pn	Pn	10 55 48.0	-1.0
E38A	The Farm, Brul	11.82	20	Pn	Pn	10 55 51.1	+0.3
BW06	Boulder Array	11.84	311	P	Pn	10 55 50.3	-1.0
	baz=123,SNR=13						
BW06	Boulder Array	11.84	311		Pn	10 55 51.2	-0.1
PD31	Pinedale Array	11.84	311		Pn	10 55 51.3	-0.1
PDAR	Pinedale Array	11.84	311	Pn	Pn	10 55 50.1	-1.3
	0.4nm,0.3s,baz=119,slow=13,SNR=29						
PDAR				Lg	Lg	10 59 09.7	
	0.7nm,0.3s,baz=116,slow=28,SNR=3.8						
PDAR				LR	LR	11 00 18.7	
	comp=Z,130nm,18.7s,baz=126,slow=37						
PDAR	Pinedale Array	11.84	311		Pn	10 55 51.2	-0.1
V53A	Saluda	11.85	85	Pn	Pn	10 55 51.5	+0.1
P51A	Williamsport	12.00	67	P	Pn	10 55 51.3	-2.1
	baz=256						
T53A	Wise	12.05	79	P	Pn	10 55 52.7	-1.5
	baz=268						
MPU	Maple Canyon	12.10	296	Pn	Pn	10 55 52.9	-1.9
JLU	Jordanelle	12.15	298	Pn	Pn	10 55 55.4	-0.2
COWI	Conover	12.18	28		Pn	10 55 54.6	-1.2
ACSO	Alum Creek Sta	12.26	64	P	Pn	10 55 54.9	-2.1
	baz=252,SNR=5.9						
ACSO	Alum Creek Sta	12.26	64		Pn	10 55 54.8	-2.1
J47A	Sunmer	12.33	48		Pn	10 55 57.8	0.0
W54A	Cherokee Point	12.42	88	P	Pn	10 55 58.0	-1.1
	baz=277						
S53A	Williamson	12.42	76	P	Pn	10 55 57.7	-1.5
	baz=265						
Q52A	Bidwell	12.49	70	P	Pn	10 55 58.8	-1.2
	baz=259,SNR=11						
O51A	Pataskala	12.51	64	P	Pn	10 55 58.6	-1.8
	baz=253,SNR=7.4						
HWUT	Hardware Ranch	12.60	303		Pn	10 56 02.2	+0.5
R53A	Hurricane	12.63	73	Pn	Pn	10 56 01.6	-0.4
AGMN	Agassiz Nation	12.72	5	P	Pn	10 55 59.9	-3.2
	baz=186						
AGMN	Agassiz Nation	12.72	5		Pn	10 56 00.0	-3.2
P52A	Corning	12.73	67	P	Pn	10 56 01.7	-1.6
	baz=256,SNR=9.8						
P52A	Corning	12.73	67		Pn	10 56 02.7	-0.6
T54A	Tazewell	12.82	79	P	Pn	10 56 03.3	-1.4
	baz=268						
H46A	Fife Lake	12.88	43	P	Pn	10 56 04.3	-1.1
	baz=230						
N51A	Ashland	12.92	61	P	Pn	10 56 04.5	-1.4
	baz=250						
N51A	Ashland	12.92	61	Pn	Pn	10 56 05.3	-0.6
SNOW	Snow King Moun	12.95	311	Pn	Pn	10 56 06.5	-0.1
G45A	Suttons Bay	12.97	40	P	Pn	10 56 05.8	-0.8
	baz=227						
G45A	Suttons Bay	12.97	40	Pn	Pn	10 56 06.2	-0.4
J48A	Bridge Port	13.00	50	P	Pn	10 56 04.9	-2.0
	baz=238						
B35A	Bob, Littlefor	13.02	11		Pn	10 56 04.2	-3.0
Q53A	Leroy	13.04	71	P	Pn	10 56 05.8	-1.8
	baz=260,SNR=6.7						
EYMN	Ely	13.07	18	P	Pn	10 56 04.2	-3.8
	baz=202						
O52A	Adamsville	13.07	65	Pn	Pn	10 56 07.3	-0.8
S54A	Dingess, Beckl	13.08	76	P	Pn	10 56 06.2	-2.0
	baz=265						
S54A	Dingess, Beckl	13.08	76	Pn	Pn	10 56 06.0	-2.1
TPAW	Teton Pass	13.09	311		Pn	10 56 08.3	-0.1
KMSC	Kings Mountain	13.10	87	P	Pn	10 56 07.0	-1.4
	baz=277						
RLMT	Red Lodge	13.12	320	P	Pn	10 56 06.9	-1.8
	baz=132						
RLMT	Red Lodge	13.12	320	Pn	Pn	10 56 08.6	-0.1
V55A	Taylorsville	13.14	84	P	Pn	10 56 06.9	-2.0
	baz=274						
V55A	Taylorsville	13.14	84	Pn	Pn	10 56 07.0	-1.9
D41A	Chassel	13.20	27		Pn	10 56 06.7	-3.0
FXWY	Fox Creek	13.21	311		Pn	10 56 09.2	-0.9
U55A	TA2, Sparta	13.24	81	P	Pn	10 56 08.0	-2.4
	baz=271						
P53A	Whipple	13.26	68	P	Pn	10 56 08.0	-2.6
	baz=258,SNR=7.5						
P53A	Whipple	13.26	68		Pn	10 56 08.6	-2.0
E43A	Lone Tree Farm	13.29	33	Pn	Pn	10 56 08.4	-2.6
JSC	Jenkinsville	13.29	91		Pn	10 56 10.8	-0.2
IMW	Indian Meadow	13.30	313	Pn	Pn	10 56 11.1	-0.3
R54A	Victor	13.37	74	P	Pn	10 56 10.6	-1.4
	baz=264						
YNE	Yellowstone No	13.44	318		Pn	10 56 13.0	-0.2
I48A	Sherman Twp	13.53	47	P	Pn	10 56 11.6	-2.6
	baz=235						
O53A	New Philadelph	13.57	65	P	Pn	10 56 11.7	-3.1
	baz=255						
O53A	New Philadelph	13.57	65		Pn	10 56 13.2	-1.6
G46A	Petoskey	13.57	41	P	Pn	10 56 12.2	-2.6
	baz=229						
Q54A	Coxs Mills	13.59	71	P	Pn	10 56 12.7	-2.4
	baz=261						
Q54A	Coxs Mills	13.59	71		Pn	10 56 13.4	-1.7
S55A	Lewisburg	13.71	76	P	Pn	10 56 13.9	-2.9
	baz=266						
V56A	Mocksville	13.72	84	P	Pn	10 56 13.7	-3.2
	baz=274						
BLA	Blacksburg	13.75	78	P	Pn	10 56 14.0	-3.3
	baz=268						
GCMT	Greycliff	13.78	321		Pn	10 56 17.8	+0.1
DGMT	Dagmar	13.80	341	Pn	Pn	10 56 16.4	-1.5
M52A	Chesterland	13.85	60	P	Pn	10 56 15.6	-3.0
	baz=250						
M52A	Chesterland	13.85	60	Pn	Pn	10 56 15.6	-3.0
P54A	Burton	13.97	68	P	Pn	10 56 17.9	-2.4
	baz=259						
N53A	Lisbon	13.99	63	P	Pn	10 56 16.9	-3.7
	baz=254						
N53A	Lisbon	13.99	63		Pn	10 56 18.2	-2.4
G47A	Hillman	14.03	43	P	Pn	10 56 17.6	-3.4
	baz=232						
H48A	Harrisville	14.05	46	P	Pn	10 56 19.0	-2.3
	baz=234						
R55A	Marlinton	14.06	74	P	Pn	10 56 19.2	-2.3
	baz=264						
T56A	Rocky Mt	14.06	79	P	Pn	10 56 20.0	-1.5
	baz=269						
E46A	Sault Ste Mari	14.56	39	Pn	Pn	10 56 25.7	-2.7
N54A	Moraine State	14.65	63	P	Pn	10 56 26.0	-3.6
	baz=254						
ULM	Lac du Bonnet	14.67	4	Pn	Pn	10 56 25.4	-4.4
	0.6nm,0.3s,baz=181,slow=15,SNR=3.9						
ULM				Lg	Lg	11 00 35.9	
	1.3nm,0.3s,baz=274,slow=20,SNR=3.0						
ULM				LR	LR	11 02 27.9	
	comp=Z,113nm,20.3s,baz=90,slow=39						
T57A	Hurt	14.68	79	P	Pn	10 56 26.7	-3.3
	baz=270						
Q56A	Snyder Ridge,	14.87	71	P	Pn	10 56 28.6	-3.9
	baz=262						
Q56A	Snyder Ridge,	14.87	71	Pn	Pn	10 56 32.3	-0.3
S57A	Dark Hollow, R	14.94	76	P	Pn	10 56 30.5	-3.0
	baz=267						
S57A	Dark Hollow, R	14.94	76	Pn	Pn	10 56 31.6	-1.8
ELK	Elko	14.95	295	Pn	P	10 56 39.3	-0.2
	0.1nm,0.3s,baz=122,slow=9.5,SNR=2.3						
ELK				Lg	Lg	11 00 56.3	
	0.1nm,0.3s,baz=43,slow=6.1,SNR=4.5						
ELK				LR	LR	11 02 28.2	
	comp=Z,76nm,18.7s,baz=114,slow=38						
M54A	Oil Creek Stat	15.04	62	P	Pn	10 56 32.2	-2.7
	baz=253						
M54A	Oil Creek Stat	15.04	62		Pn	10 56 34.7	-0.3
D46A	Sault St. Mari	15.06	38	P	Pn	10 56 32.5	-2.6
	baz=226						
F48A	Evansville	15.12	43	P	Pn	10 56 31.4	-4.4
	baz=233						
E47A	Iron Bridge	15.15	40	P	Pn	10 56 32.2	-4.1
	baz=229						
HLID	Hailey	15.33	306	Pn	Pn	10 56 40.9	+2.1
N55A	Marion Center	15.35	65	P	Pn	10 56 36.4	-2.5
	baz=256						
F49A	Sandfield	15.40	44	P	Pn	10 56 35.2	-4.4
	baz=234						
EGMT	Eagleton	15.43	327	Pn	Pn	10 56 39.5	-0.5
O56A	Blue Knob Stat	15.55	67	P	Pn	10 56 37.9	-3.7
	baz=258						
D47A	Chapleau	15.64	39	P	Pn	10 56 38.6	-4.1
	baz=228						
M55A	Ridgway	15.68	63	P	Pn	10 56 40.2	-3.1
	baz=254						
E48A	Lockeyer	15.77	42	P	Pn	10 56 40.1	-4.2
	baz=232						
R58B	Mineral	15.80	76	Pn	Pn	10 56 43.9	-0.8
PFO	Pinyon Flats O	15.84	268	LR	LR	11 03 05.2	
	comp=Z,61nm,19.1s,baz=70,slow=38						
LPIG	La Paz	16.03	228	LR	LR	11 03 07.2	
	comp=Z,82nm,18.8s,baz=88,slow=38						
M56A	Emporium	16.11	63	P	Pn	10 56 44.9	-3.9
	baz=255						
M56A	Emporium	16.11	63		Pn	10 56 45.9	-2.9
SSPA	Standing Stone	16.13	66	P	Pn	10 56 45.0	-4.0
	baz=258						
SSPA	Standing Stone	16.13	66		Pn	10 56 45.6	-3.5
O57A	Amberson	16.23	68	P	Pn	10 56 47.2	-3.2
	baz=260						
P58A	Pank, Wackersv	16.38	70	P	Pn	10 56 48.9	-3.3
	baz=263						
N57A	Milroy	16.40	66	P	Pn	10 56 48.6	-3.9
	baz=258						
SADO	Sadowa	16.64	51	LR	LR	11 03 20.8	
	comp=Z,175nm,18.6s,baz=279,slow=37						
F51A	Arnstein	16.73	47	P	Pn	10 56 52.6	-4.1
	baz=238						
L56A	Greenwood	16.73	61	P	Pn	10 56 53.2	-3.6
	baz=254						
L56A	Greenwood	16.73	61	Pn	Pn	10 56 54.8	-2.0
NVAR	Mina Array Bea	16.95	286	Pn	P	10 57 02.0	+0.4
	0.1nm,0.3s,baz=95,slow=7.4,SNR=3.0						
NVAR	Mina Array Bea	16.95	286		Pn	10 56 59.1	-0.5
TEIG	Tepich	17.30	150	P	P	10 57 07.3	+2.0
	0.7nm,0.3s,baz=319,slow=18,SNR=7.5						
TEIG	Tepich	17.30	150		Pn	10 57 03.1	-0.8
M58A	Price's Panora	17.34	64	P	Pn	10 57 00.7	-3.7
	baz=257						
D50A	G1974 Best Tow	17.46	43	P	Pn	10 57 01.7	-4.1
	baz=235						
D51A	Lot 18 Range I	17.68	44	P	Pn	10 57 03.2	-5.3
	baz=236						
BINY	Binghamton	17.88	62	P	Pn	10 57 07.9	-3.1
	baz=255						
L58A	Harry Jones Me	17.94	63	P	Pn	10 57 09.2	-2.5
	baz=256						
M59A	Waymart	18.13	64	P	Pn	10 57 10.7	-3.4
	baz=258						
J57A	Williamstown	18.21	58	P	Pn	10 57 12.6	-2.5
	baz=252						
K58A	Earlville	18.27	60	P	Pn	10 57 13.6	-2.3
	baz=254						
L59A	Walton	18.55	63	P	P	10 57 17.2	-2.0
	baz=257						
L59A	Walton	18.55	63	P	P	10 57 18.9	-0.4
CMIG	Matias Romero	18.58	172	P	Pn	10 57 23.2	+3.4
	0.1nm,0.3s,baz=342,slow=7.6,SNR=4.0						
E54A	Lac Daplat, Po	18.62	48	P	P	10 57 19.2	-0.7
	baz=242						
D53A	Lac Vacive, Po	18.64	46	P	P	10 57 18.5	-1.6
	baz=239						
D53A	Lac Vacive, Po	18.64	46	P	P	10 57 18.3	-1.8
J58A	Remsen	18.69	59	P	P	10 57 21.3	+0.7
K59A	Cooperstown	18.83	61	P	P	10 57 20.3	-1.9
	baz=255,SNR=5.5						
I58A	Old Forge	19.00	58	P	P	10 57 23.0	-1.1
	baz=252						
J59A	Piesco	19.26	59	P	P	10 57 26.8	-0.2
NEW	Newport	19.31	317	LR	LR	11 05 24.6	
	comp=Z,107nm,19.0s,baz=138,slow=39						
FFC	Flin Flon	19.38	352	P	P	10 57 29.2	+1.1
LONY	Lake Ozonia	19.57	56	P	P	10 57 29.4	-0.8
	baz=250						
LONY	Lake Ozonia	19.57	56	P	P	10 57 31.1	+0.8
KSCT	Kent School, K	19.60	65	P	Pn	10 57 32.8	+0.9
C09A	Chrisman Ranch	19.72	315	P	P	10 57 32.5

ISC 18 11:22:42.3±1.0, 36°93N±0°03×1°98W±0°02, h17km±8km, n32, σ1°49/48, 5C, Western Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENIJ	**Nijar**	**0.18**	**283**	⇑Pg	**Pg**	**11 22 46.4**	**-0.5**
	875nm,0.1s,SNR=18						
ENIJ				Lg	Lg	11 22 48.4	
	3μm,0.2s,SNR=7.9						
EBER	**Berja**	**0.73**	**268**	⇑Pg	**Pg**	**11 22 56.0**	**-0.5**
	29nm,0.2s,SNR=18						
EBER				Lg	Lg	11 23 05.3	
	102nm,0.1s,SNR=27						
TLOR	**Lorca, Murcia**	**0.76**	**18**	Pg	**Pb**	**11 22 58.0**	**+1.0**
	86nm,0.1s,SNR=7.9						
TLOR				Lg	Lg	11 23 08.1	
	532nm,0.1s,SNR=7.9						
GORA	**Gorafe**	**1.01**	**303**	Pg	**Pb**	**11 23 01.5**	**+0.2**
	8.6nm,0.1s,SNR=7.9						
GORA				Lg	Lg	11 23 14.9	
	68nm,0.1s,SNR=7.9						
CART	**Cartagena**	**1.02**	**50**	Pg	**Pg**	**11 23 01.1**	**-1.0**
CART				Lg	Lg	11 23 14.2	
CART	**Cartagena**	**1.02**	**50**	⇑*iP*	**Pg**	**11 23 01.1**	**-1.0**
CART				*e*S	**Sg**	**11 23 14.2**	**-1.3**
EMUR	**La Murta**	**1.08**	**33**	⇑Pg	**Pn**	**11 23 03.1**	**+0.4**
	4.2nm,0.1s,SNR=18						
EMUR				Lg	Lg	11 23 17.4	
	62nm,0.3s,SNR=5.0						
EQUE	**Quentar**	**1.20**	**284**	Pg	**Pb**	**11 23 04.6**	**0.0**
	7.6nm,0.1s,SNR=35						
EQUE				Lg	Lg	11 23 19.2	
	17nm,0.2s,SNR=5.0						
EQES	**Quesada**	**1.23**	**315**	Pg	**Pg**	**11 23 06.9**	**+0.9**
	0.4nm,0.2s,SNR=29						
EQES				Lg	Lg	11 23 22.1	
	18nm,0.3s,SNR=7.9						
SESP	**Santiago Espad**	**1.27**	**340**	Pg	**Pg**	**11 23 06.8**	**0.0**
	6.3nm,0.1s,SNR=7.9						
SESP				Lg	Lg	11 23 25.3	
	24nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**1.27**	**340**	P	**Pg**	**11 23 08.3**	**+1.5**
SESP				S	**Sn**	**11 23 26.6**	**+4.6**
EALB	**Alboran**	**1.30**	**221**	Pg	**Pn**	**11 23 05.6**	**0.0**
	0.7nm,0.3s,SNR=7.9						
EALB				Lg	Lg	11 23 23.4	
	50nm,0.2s,SNR=7.9						
ELGU	**Los Guajares,**	**1.32**	**268**	⇑Pg	**Pn**	**11 23 06.5**	**+0.6**
	21nm,0.1s,SNR=18						
ELGU				Lg	Lg	11 23 24.5	
	68nm,0.2s,SNR=7.9						
EGOR	**Sierra Gorda,**	**1.71**	**277**	Pg	**Pg**	**11 23 14.1**	**-1.1**
	0.7nm,0.1s,SNR=7.9						
EGOR				Lg	Lg	11 23 36.4	
	24nm,0.3s,SNR=4.0						
ETOB	**Tobarra**	**1.75**	**11**	Pn	**Pb**	**11 23 13.6**	**-0.3**
	0.8nm,0.1s,SNR=7.9						
ETOB				Sn	**Sn**	**11 23 34.7**	**+1.0**
	3.5nm,0.1s,SNR=7.9						
ETOB				Lg	Lg	11 23 39.7	
	9.2nm,0.2s,SNR=7.9						
GOG	**Mont Gurugu**	**1.89**	**206**	P	**Pg**	**11 23 17.2**	**-1.4**
GOG				S	**Sg**	**11 23 43.4**	**+0.2**
EMAL	**Malaga-Limoner**	**1.97**	**266**	*e*P	**Pb**	**11 23 17.1**	**-0.6**
EMAL				*e*S	**Sn**	**11 23 39.0**	**0.0**
TAF	**Taforalt**	**2.14**	**190**	P	**Pb**	**11 23 20.6**	**0.0**
TAF				S	**Sg**	**11 23 54.9**	**+3.7**
EMIJ	**Mijas**	**2.27**	**262**	Pn	**Pn**	**11 23 18.0**	**-1.0**
	0.3nm,0.3s,SNR=4.0						
EMIJ				Sn	**Sn**	**11 23 43.3**	**-3.2**
	1.1nm,0.1s,SNR=7.9						
OKGL	**Djebel Kef Gue**	**2.30**	**112**	Sn	**Sn**	**11 23 46.1**	**-1.1**
	16nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**2.40**	**302**	Pg	**Pb**	**11 23 25.8**	**+0.7**
	1.4nm,0.1s,SNR=7.9						
EADA				Lg	Lg	11 23 57.4	
	33nm,0.4s,SNR=7.9						
HORN	**Hornachuelos**	**2.76**	**290**	P	**Pn**	**11 23 26.5**	**+0.8**
HORN				S	**Sb**	**11 24 04.9**	**+0.2**
AKLM	**AKL**	**2.86**	**213**	P	**Pn**	**11 23 29.6**	**+2.4**
AKLM				S	**Sb**	**11 24 09.5**	**+2.0**
ESDC	**Sonseca Array**	**3.15**	**331**	Pg	**Pg**	**11 23 40.9**	**-1.7**
	1.0nm,0.2s,baz=149,slow=16,SNR=9.7						
ESDC				Sn	**Sn**	**11 24 08.1**	**-0.2**
	0.2nm,0.1s,baz=146,slow=16,SNR=7.9						
ESDC				Lg	Lg	11 24 23.8	
	10.0nm,0.8s,baz=152,slow=28,SNR=15						
PAB	**San Pablo**	**3.21**	**325**	Pn	**Pn**	**11 23 33.1**	**+1.2**
	0.1nm,0.2s,SNR=7.9						
PAB				Pg	**Pg**	**11 23 41.6**	**-2.2**
	0.8nm,0.2s,SNR=7.9						
PAB				Sn	**Sn**	**11 24 08.5**	**-1.2**
	0.5nm,0.2s,SNR=7.9						
PAB				Lg	Lg	11 24 25.4	
	4.2nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**3.36**	**50**	Pn	**Pn**	**11 23 34.4**	**+0.4**
	2.6nm,0.3s,SNR=7.9						
EIBI				Sn	**Sn**	**11 24 11.9**	**-1.5**
	1.4nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.83**	**284**	Pn	**Pn**	**11 23 40.2**	**-0.2**
	0.1nm,0.2s,SNR=7.9						
EMIN				Sn	**Sn**	**11 24 23.2**	**-1.8**
	0.4nm,0.3s,SNR=7.9						
PVAQ	**Vaqueiros**	**4.60**	**278**	Pn	**Pn**	**11 23 51.7**	**+0.7**
PVAQ				Sn	**Sn**	**11 24 42.9**	**-1.2**
	1.4nm,0.6s						
PVAQ	**Vaqueiros**	**4.60**	**278**	*e*Pn	**Pn**	**11 23 51.7**	**+0.7**
PVAQ				*e*Sn	**Sn**	**11 24 42.9**	**-1.2**
PVAQ				A	A	11 24 44.6	
	1.4nm,0.6s						
ETOS	**Mallorca**	**4.72**	**52**	Pn	**Pn**	**11 23 53.2**	**+0.6**
	0.6nm,0.1s,SNR=7.9						
ETOS				Sn	**Sn**	**11 24 45.0**	**-1.9**
	0.2nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**4.94**	**302**	Lg	Lg	11 25 19.3	
	3.8nm,0.5s						
PMRV	**Marv??o**	**4.94**	**302**	*e*Sg	**Sg**	**11 25 19.3**	**-1.4**
PMRV				A	A	11 25 30.3	
	3.8nm,0.5s						

*JMA **18** 11:43:35.8±0.1, 40°59N×142°43E, h37km±2km, M3.8*
JMA Felt I J1.
*IDC **18** 11:43:37.3±1.8, 41°11N×141°33E, h0km, mb3.7/3, mb1 3.7/5, mb1mx3.4/41, mbtmp3.6/5, ML3.2/2, Error ellipse: s-maj=44.3km s-min=18.0km az=106.0*

ISC 18 11:43:35.2±1.4, 40°62N±0°04×142°43E±0°06, h29km±11km, n24, σ0°96/28, mb3.8/3, 5C-3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.69**	**233**	⇑P	**Pb**	**11 43 48.8**	**+0.1**
JKEN				S	**Sb**	**11 43 57.7**	**-0.2**
JANG	**Nango**	**0.74**	**251**	⇓P	**Pb**	**11 43 49.8**	**+0.2**
JANG				S	**Sb**	**11 43 59.6**	**+0.3**
JTH	**Tanohata**	**0.81**	**212**	⇑P	**Pb**	**11 43 50.3**	**-0.4**
JTH				*e*S	**Sb**	**11 44 00.7**	**-0.6**
JARK	**Aomorirokkasho**	**0.89**	**296**	⇓P	**Pb**	**11 43 52.1**	**0.0**
JARK				*e*S	**Sb**	**11 44 04.0**	**+0.3**
JTM	**Tenmabayashi**	**1.05**	**279**	⇓P	**Pn**	**11 43 54.1**	**+0.2**
JTM				S	**Sb**	**11 44 07.1**	**-0.9**
JKZ	**Kuzumaki**	**1.05**	**233**	⇑P	**Pn**	**11 43 54.5**	**+0.4**
JKZ				*e*S	**Sb**	**11 44 07.7**	**-0.6**
JOT	**Ohata**	**1.29**	**306**	P	**Pn**	**11 43 57.6**	**+0.3**
JOT				S	**Sn**	**11 44 13.2**	**-0.4**
JAH	**Hinai**	**1.44**	**253**	P	**Pn**	**11 43 59.8**	**+0.5**
JAH				S	**Sn**	**11 44 17.8**	**+0.6**
JOM	**Ohasama**	**1.44**	**218**	⇑P	**Pn**	**11 44 00.0**	**+0.6**
JOM				S	**Sn**	**11 44 17.5**	**+0.2**
JEM	**Erimo**	**1.50**	**21**	P	**Pb**	**11 44 01.7**	**-0.6**
JKB	**Kayabe**	**1.64**	**321**	⇑P	**Pn**	**11 44 03.1**	**+1.0**
JKB				S	**Sn**	**11 44 23.3**	**+1.0**
JNBK	**Urakawa-nobuka**	**1.67**	**8**	P	**Pb**	**11 44 04.8**	**-0.5**
JSR	**Shiriuchi**	**1.77**	**301**	P	**Pn**	**11 44 04.6**	**+0.7**
JSR				*e*S	**Sn**	**11 44 26.3**	**+0.9**
ASAJ	**Asahikawa**	**3.49**	**2**	Pn	**Pn**	**11 44 29.8**	**+2.2**
	5.3nm,0.3s,baz=223,slow=8.2,SNR=29						
ASAJ				Lg	Lg	11 45 15.4	
	4.4nm,0.3s,baz=12,slow=27,SNR=7.0						
MJAR	**Matsushiro Arr**	**5.25**	**220**	Pn	**Pn**	**11 44 54.1**	**+2.4**
	0.1nm,0.3s,baz=31,slow=13,SNR=5.6						
H11N2	**WAKE ISLAND Hy**	**29.51**	**128**	T	T	12 20 30.6	
	baz=318,slow=75,SNR=21						
H11N1	**WAKE ISLAND Hy**	**29.52**	**128**	T	T	12 20 36.7	
	baz=318,slow=75,SNR=17						
H11N3	**WAKE ISLAND Hy**	**29.53**	**128**	T	T	12 20 37.5	
	baz=318,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**30.34**	**129**	T	T	12 21 48.4	
	baz=322,slow=74,SNR=4.5						
H11S3	**WAKE ISLAND Hy**	**30.34**	**129**	T	T	12 21 33.2	
	baz=322						
H11S2	**WAKE ISLAND Hy**	**30.35**	**129**	T	T	12 21 48.1	
	baz=322,slow=74,SNR=2.5						
MKAR	**Makanchi Array**	**42.98**	**299**	P	**P**	**11 51 30.3**	**-1.4**
	0.9nm,0.9s,baz=84,slow=9.7,SNR=4.7						
KURBB	**Kurchatov Arra**	**44.50**	**305**	P	**P**	**11 51 42.4**	**-1.3**
	0.9nm,0.5s,baz=79,slow=8.8,SNR=6.0						
WRA	**Warramunga Arr**	**60.72**	**189**	P	P	11 53 53.4	+9.3
	0.7nm,0.9s,baz=6.1,slow=7.1,SNR=1.9						

*EST **18** 12:24:48.2±0.0, 59°76N×22°34E, h0km, ML2.4(HEL), Explosion*
*IDC **18** 12:24:48.7±1.7, 59°81N×22°44E, h0km, mb1 3.1/4, mb1mx2.9/37, mbtmp3.0/4, ML2.4/4, Error ellipse: s-maj=22.9km s-min=7.0km az=155.0*
*HEL **18** 12:24:48.1±0.1, 59°77N×22°33E, h0km, ML2.5, Explosion*
*UPP **18** 12:24:49.2±1.1, 59°90N×22°21E, h0km, ML2.5, Suspected explosion*
*NAO **18** 12:24:49.0±1.2, 59°94N×22°21E, ML2.1*
*BER **18** 12:24:50.6±5.2, 60°01N×22°19E, h0km, ML2.1(NAO), Suspected explosion*

ISC 18 12:24:46.6±0.7, 59°87N±0°03×22°42E±0°02, h0km, n53, σ1s66/80, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.05**	**70**	*e*PB	**Pn**	**12 25 08.8**	**+0.3**
MEF				MSG		12 25 22.6	
	comp=Z,34nm,0.2s						
MEF				*e*S	**Sn**	**12 25 22.9**	**-1.0**
RAF	**Rauma**	**1.20**	**345**	*e*PB	**Pn**	**12 25 11.6**	**+0.9**
RAF				*e*S	**Sn**	**12 25 28.0**	**+0.4**
AAL	**Aland**	**1.26**	**285**	P	**Pg**	**12 25 10.6**	**-0.1**
AAL				S	**Sg**	**12 25 25.8**	**-1.2**
AAL	**Aland**	**1.26**	**285**	*e*P	**Pg**	**12 25 10.6**	**-0.1**
MTSE	**Matsula**	**1.36**	**148**	*e*PN	**Pb**	**12 25 13.1**	**+0.2**
MTSE				*e*SN	**Sn**	**12 25 31.4**	**-0.2**
PVF	**Pernaja**	**1.85**	**67**	*e*PG	**Pg**	**12 25 22.7**	**+0.8**
PVF				MSG		12 25 45.4	
	comp=Z,34nm,0.2s						
PVF				*e*SG	**Sg**	**12 25 47.3**	**+1.5**
ARBE	**Arbavere**	**1.86**	**102**	*e*PG	**Pg**	**12 25 22.8**	**+0.6**
NRTU	**Norrtaelje**	**1.93**	**266**	P	**Pn**	**12 25 21.6**	**+1.0**
NRTU				S	**Sb**	**12 25 46.7**	**-0.4**
GRAU	**Graesoe**	**2.00**	**285**	P	**Pn**	**12 25 22.8**	**+1.2**
GRAU				S	**Sn**	**12 25 47.7**	**+0.4**
FORU	**Forsmark**	**2.19**	**286**	P	**Pn**	**12 25 25.4**	**+1.3**
SLIT	**Slitere, Latvi**	**2.25**	**182**	*e*PG	**Pb**	**12 25 26.9**	**-1.1**
FLYU	**Flymyra**	**2.29**	**278**	P	**Pn**	**12 25 27.1**	**+1.4**
FIA0	**FINESS Array S**	**2.39**	**47**	Pn	**Pb**	**12 25 31.4**	**+0.9**
	baz=228,slow=14						
FIA0				Lg	Lg	12 26 03.5	
	baz=233,slow=28						
FIA0				Rg	Rg	12 26 18.6	
	baz=241,slow=37						
FIA0	**FINESS Array S**	**2.39**	**47**	*e*PB	**Pb**	**12 25 31.4**	**+0.9**
FIA0				*e*SB	**Sg**	**12 26 03.3**	**-0.1**
FIA0				MSG		12 26 07.4	
	comp=Z,14nm,0.1s						
FIA0	**FINESS Array S**	**2.39**	**47**	Pn	**Pb**	**12 25 31.4**	**+0.9**
	baz=228,slow=14						
FIA0				Sg	**Sg**	**12 26 03.5**	**0.0**
	baz=233,slow=28						
FIA0				Rg	Rg	12 26 18.6	
	baz=241,slow=37						
FINES	**FINESS Array B**	**2.39**	**47**	Pn	**Pb**	**12 25 31.4**	**+0.9**
	comp=Z,2.0nm,0.3s,baz=225,slow=14,SNR=87						
FINES				Lg	Lg	12 26 03.6	
	comp=Z,6.1nm,0.3s,baz=237,slow=23,SNR=32						
FIA1	**FINESS Array S**	**2.40**	**47**	*e*PB	**Pb**	**12 25 31.4**	**+0.9**
FIA1				*e*SB	**Sg**	**12 26 03.7**	**+0.2**
FIA1				MSG		12 26 07.5	
	comp=Z,13nm,0.1s						
NYNU	**Nynaeshamn**	**2.42**	**251**	P	**Pn**	**12 25 28.6**	**+1.3**
NYNU				S	**Sn**	**12 25 58.7**	**+1.1**
UPP	**Uppsala**	**2.42**	**272**	P	**Pn**	**12 25 29.1**	**+1.8**
FIBU	**Brunna**	**2.56**	**273**	P	**Pn**	**12 25 30.9**	**+1.7**
KEF	**Keuruu**	**2.59**	**26**	*e*PB	**Pb**	**12 25 35.0**	**+1.0**
KEF				*e*SB	**Sg**	**12 26 09.3**	**-0.6**
KEF				MSG		12 26 11.4	
	comp=Z,15nm,0.1s						
VSU	**Vasula**	**2.63**	**121**	Pn	**Pb**	**12 25 33.3**	**-1.3**
VSU				Sn	**Sb**	**12 26 07.7**	**+0.3**
VSU	**Vasula**	**2.63**	**121**	*e*SG	**Sg**	**12 26 09.4**	**-1.7**
VSU	**Vasula**	**2.63**	**121**	Pn	**Pb**	**12 25 33.3**	**-1.3**
VSU				Sn	**Sb**	**12 26 07.7**	**+0.3**
KAF	**Kangasniemi**	**2.94**	**38**	*e*PB	**Pb**	**12 25 39.4**	**-0.4**
KAF				*e*SB	**Sb**	**12 26 18.0**	**+1.8**
KAF				MSG		12 26 20.0	
	comp=Z,11nm,0.1s						
ESKU	**Eskilstuna**	**3.13**	**261**	P	**Pn**	**12 25 38.7**	**+1.5**
VAF	**Ylistaro**	**3.19**	**2**	*e*SB	**Sg**	**12 26 26.4**	**-2.4**
VIKU	**Vikbolandet**	**3.25**	**247**	P	**Pn**	**12 25 39.9**	**+1.1**
SUF	**Sumiainen**	**3.38**	**31**	*e*P	**Pb**	**12 25 44.9**	**-2.3**
SUF				MSG		12 26 32.6	
	comp=Z,8.1nm,0.1s						
VSTU	**Vaestervik**	**3.78**	**237**	P	**Pn**	**12 25 47.8**	**+1.8**
BYXU	**Byxelkrok**	**3.84**	**230**	P	**Pn**	**12 25 48.5**	**+1.6**
ASPU	**Aespoe**	**3.91**	**234**	P	**Pn**	**12 25 49.6**	**+1.7**
ASKU	**Askersund**	**4.00**	**259**	P	**Pn**	**12 25 50.2**	**+1.1**
OSKU	**Oskarshamn**	**4.26**	**234**	P	**Pn**	**12 25 53.7**	**+1.0**
HFS	**Hagfors**	**4.39**	**277**	Pn	**Pn**	**12 25 55.7**	**+1.3**
	baz=90,slow=16						
HFS				Sn	**Sn**	**12 26 44.1**	**-2.1**
	baz=106,slow=22						
HFS				Lg	Lg	12 26 58.9	
	baz=96,slow=37						
HFS	**Hagfors**	**4.39**	**277**	Pn	**Pn**	**12 25 55.7**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=93,slow=13,SNR=22						
HFS				Lg	Lg	12 27 04.8	
	comp=Z,1.6nm,0.3s,baz=96,slow=29,SNR=10						
HFS	**Hagfors**	**4.39**	**277**	Pn	**Pn**	**12 25 55.7**	**+1.3**
	baz=90,slow=16						
HFS				Sn	**Sn**	**12 26 44.1**	**-2.1**
	baz=106,slow=22						
HFS				Sg	**Sb**	**12 26 58.9**	**+1.0**
	baz=96,slow=37						
NASU	**Vaermlandsnaes**	**4.81**	**263**	P	**Pn**	**12 26 01.4**	**+1.2**
VXJU	**Vaexsjoe**	**4.92**	**236**	P	**Pn**	**12 26 02.5**	**+0.8**
JOF	**Joensuu**	**5.25**	**51**	*e*P	**Pn**	**12 26 09.4**	**+3.2**
NRA0	**NORESS Array S**	**5.48**	**284**	Pn	**Pn**	**12 26 10.5**	**+1.1**
	baz=96,slow=11						
NRA0				Sn	**Sn**	**12 27 13.4**	**+0.4**
	baz=88,slow=22						
NRA0				Lg	Lg	12 27 33.4	
	baz=104,slow=37						
NRA0	**NORESS Array S**	**5.48**	**284**	Pn	**Pn**	**12 26 10.5**	**+1.1**
	baz=96,slow=11						
NRA0				Sn	**Sn**	**12 27 13.4**	**+0.4**
	baz=88,slow=22						
NRA0				Sg	**Sb**	**12 27 33.4**	**+4.1**
	baz=104,slow=37						
VANU	**Vaenersborg**	**5.50**	**260**	P	**Pn**	**12 26 10.2**	**+0.6**
DEL	**Delary**	**5.67**	**237**	P	**Pn**	**12 26 12.1**	**+0.2**
NB2	**NORSAR Subarra**	**5.67**	**287**	Pn	**Pn**	**12 26 12.7**	**+0.6**
	baz=97,slow=14						
NB2				Sn	**Sn**	**12 27 17.0**	**-0.8**
	baz=105,slow=28						
NB2				Lg	Lg	12 27 38.9	
	baz=94,slow=37						
NB2	**NORSAR Subarra**	**5.67**	**287**	Pn	**Pn**	**12 26 12.7**	**+0.6**
	baz=97,slow=14						
NB2				Sn	**Sn**	**12 27 17.0**	**-0.8**
	baz=105,slow=28						
NB2				Sg	**Sb**	**12 27 38.9**	**+4.1**
	baz=94,slow=37						
NOA	**NORSAR Array B**	**5.67**	**287**	Pn	**Pn**	**12 26 12.8**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=97,slow=14,SNR=11						
STRU	**Stroemstad**	**5.79**	**267**	P	**Pn**	**12 26 14.0**	**+0.3**
APA0	**Apatity Array**	**9.05**	**27**	Pn	**Pn**	**12 26 59.1**	**+0.8**
APA0	**Apatity Array**	**9.05**	**27**	Pn	**Pn**	**12 26 59.1**	**+0.8**
ARA0	**ARCESS Array S**	**9.79**	**6**	Pn	**Pn**	**12 27 09.0**	**+0.5**
	baz=180,slow=16						
ARA0				Sn	**Sn**	**12 28 53.1**	**-5.9**
	baz=184,slow=28						
ARA0	**ARCESS Array B**	**9.79**	**6**	Pn	**Pn**	**12 27 08.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=185,slow=13,SNR=14						
ARA0				Sn	**Sn**	**12 28 56.1**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=192,slow=23,SNR=1.9						
ARA0				Lg	Lg	12 29 57.0	
	comp=Z,0.3nm,0.3s,baz=182,slow=33,SNR=4.1						

WEL 18 12:27:39.3, 37°S±3°×17°7E±°, h25km±7km, M3.5/26, ML3.7/26, MLv3.5/26, Error ellipse: s-maj=0.0km s-min=0.0km az=4.1, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.71**	**180**	P	**Pb**	**12 27 53.1**	**0.0**
WIZ				S	**Sn**	**12 28 03.4**	**-0.6**
HAZ	**Te Kaha**	**1.05**	**154**	P	**Pn**	**12 27 57.5**	**-1.0**
HAZ				S	**Sb**	**12 28 11.0**	**-1.3**
WHRZ	**Whale Island**	**1.06**	**189**	P	**Pn**	**12 27 58.8**	**+0.1**
OPRZ	**Ohinepanea**	**1.15**	**206**	P	**Pn**	**12 28 00.0**	**+0.2**
MXZ	**Matakaoa Point**	**1.16**	**130**	S	**Sn**	**12 28 13.4**	**-1.7**
TGRZ	**Tauranga**	**1.18**	**219**	P	**Pn**	**12 27 59.5**	**-0.8**
KUZ	**Kuaotunu**	**1.18**	**273**	P	**Pn**	**12 27 59.6**	**-0.6**
RUGZ	**Raukumara Rang**	**1.22**	**162**	P	**Pn**	**12 28 00.5**	**-0.4**
RUGZ				S	**Sn**	**12 28 16.6**	**0.0**
PKGZ	**Pakihiroa**	**1.29**	**147**	P	**Pn**	**12 28 01.2**	**-0.6**
EDRZ	**Edgecumbe**	**1.34**	**195**	P	**Pn**	**12 28 02.6**	**0.0**
WMGZ	**Waiomatatini S**	**1.40**	**136**	P	**Pn**	**12 28 03.6**	**+0.3**
WMGZ				S	**Sb**	**12 28 23.9**	**+1.6**
KARZ	**Kaharoa**	**1.42**	**212**	P	**Pn**	**12 28 04.1**	**+0.4**
KMRZ	**Kaimai**	**1.44**	**224**	P	**Pn**	**12 28 03.9**	**+0.1**
URZ	**Urewera**	**1.45**	**183**	P	**Pn**	**12 28 03.9**	**0.0**
OMRZ	**Omania**	**1.45**	**207**	P	**Pn**	**12 28 04.7**	**+0.7**
TWGZ	**Tauwhareparae**	**1.50**	**156**	P	**Pn**	**12 28 06.9**	**+0.3**
GRZ	**Great Barrier**	**1.50**	**291**	P	**Pn**	**12 28 04.6**	**-0.1**
PUZ	**Puketiti**	**1.52**	**146**	P	**Pb**	**12 28 06.7**	**-0.2**
TARZ	**Mount Tarawera**	**1.52**	**201**	P	**Pn**	**12 28 05.1**	**0.0**
MWZ	**Matawai**	**1.54**	**170**	P	**Pn**	**12 28 05.1**	**-0.3**
RRRZ	**Republican Roa**	**1.62**	**199**	P	**Pn**	**12 28 06.7**	**+0.4**
TOZ	**Tahuroa Road**	**1.63**	**235**	P	**Pn**	**12 28 07.2**	**+0.7**
WIAZ	**Waiheke Island**	**1.65**	**270**	P	**Pn**	**12 28 07.1**	**+0.3**
MKAZ	**Moumakai**	**1.65**	**259**	P	**Pn**	**12 28 07.1**	**+0.4**
HSRZ	**Hossack Road**	**1.68**	**206**	P	**Pn**	**12 28 07.5**	**+0.4**
RAGZ	**Rawiri**	**1.69**	**174**	P	**Pn**	**12 28 08.0**	**+0.6**
MUGZ	**Murupara**	**1.70**	**191**	P	**Pb**	**12 28 08.8**	**-1.0**
TKGZ	**Te Karaka**	**1.71**	**162**	P	**Pb**	**12 28 09.3**	**-0.8**
GRRZ	**Galatos Road**	**1.76**	**209**	P	**Pn**	**12 28 09.3**	**+1.0**
RTZ	**Ruatahuna**	**1.81**	**185**	P	**Pn**	**12 28 08.1**	**-0.9**
ETAZ	**East Tamaki Re**	**1.82**	**265**	P	**Pn**	**12 28 09.9**	**+0.9**
MBAZ	**Motutapu North**	**1.84**	**271**	P	**Pn**	**12 28 10.0**	**+0.6**
KBAZ	**Karaka Road Bo**	**1.87**	**261**	P	**Pn**	**12 28 11.2**	**-1.5**
ABAZ	**Army Bay**	**1.91**	**276**	P	**Pn**	**12 28 11.1**	**+0.9**
RIGZ	**Rimuhau**	**1.94**	**167**	P	**Pn**	**12 28 12.1**	**+1.2**
EPAZ	**Eden Park BICE**	**1.96**	**267**	P	**Pb**	**12 28 12.9**	**-1.5**
SNGZ	**Shannon Statio**	**1.97**	**177**	P	**Pb**	**12 28 13.6**	**-0.9**
HBAZ	**Herne Bay Bore**	**1.98**	**268**	P	**Pn**	**12 28 12.6**	**+1.4**
TLZ	**Tolley Road**	**2.01**	**220**	P	**Pn**	**12 28 12.5**	**+0.9**
AWAZ	**Awhitu Peninsu**	**2.06**	**262**	P	**Pn**	**12 28 13.6**	**+1.3**
MTHZ	**Maungataniwha**	**2.06**	**188**	P	**Pn**	**12 28 13.1**	**+0.7**
RVAZ	**Riverhead Bore**	**2.10**	**270**	P	**Pn**	**12 28 14.0**	**+1.2**
WTAZ	**Waiatarua**	**2.10**	**266**	P	**Pn**	**12 28 14.4**	**+1.4**
KNZ	**Kokohu**	**2.24**	**170**	P	**Pn**	**12 28 16.8**	**+1.9**
BKZ	**Black Stump Fm**	**2.42**	**193**	P	**Pn**	**12 28 18.9**	**+1.6**
WCZ	**Waipu Caves**	**2.46**	**290**	P	**Pn**	**12 28 18.6**	**+0.8**
HIZ	**Hauiti**	**2.51**	**227**	P	**Pn**	**12 28 20.1**	**+1.5**
PNHZ	**Pukenui**	**3.19**	**194**	P	**Pn**	**12 28 30.5**	**+2.5**
HOWZ	**Holdsworth Sta**	**4.29**	**197**	P	**Pn**	**12 28 44.3**	**+1.3**
KHZ	**Kahutara**	**6.27**	**206**	P	**Pn**	**12 29 10.7**	**+0.6**

TAP 18 12:34:01.4, 24°89N×121°99E, h9km, ML1.5, 2C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.07**	**227**	P	Pg	**12 34 02.8**	**-0.5**
	baz=218						
EGS				*i* S	Sg	12 34 05.6	+0.9
	baz=218						
TWB1	**Santiao Chiao**	**0.12**	**1**	⇑*iP*	Pg	12 34 04.8	+0.7
	baz=4.0						
TWB1				*i* S	Sg	12 34 07.1	+1.2
	baz=4.0						
NTC	**Toucheng**	**0.15**	**256**	*e*P	Pg	12 34 05.2	+0.7
	baz=255						
NTC				*e*S	Sg

NIED ***18*** *12:40:00.3, 38.°60N × 141.°90E, h50km, Mw4.2 Best double couple: M0 2.28000 × 10^15 NP1: φ 18.00000°, δ 70.00000°, λ 92.00000°. NP2: φ 193.00000°, δ 20.00000°, λ 85.00000°.*
MOS ***18*** *12:40:57.3 ± 0.8, 38.°64N × 141.°92E, h44km, mb4.7/27, Error ellipse: s-maj=7.7km s-min=5.1km az=93.5*
BJI ***18*** *12:40:58.0 ± 0.0, 38.°60N × 142.°00E, h35km, mB4.9/33, mb4.7/36, Ms4.2/7, Ms7 4.0/6*
NEIC ***18*** *12:40:60.0 ± 1.3, 38.°55N ± 0.°06 × 141.°9E ± 0.°1, h56km ± 6km, mb4.6/39, Error ellipse: s-maj=13.6km s-min=7.7km az=109.0*
JMA ***18*** *12:40:59.8, 38.°61N × 141.°91E, h48km ± 1km, M4.2*
JMA Felt III J1.
IDC ***18*** *12:41:01.5 ± 1.8, 38.°59N × 141.°81E, h61km ± 16km, mb3.8/18, mb1 4.0/23, mb1mx3.9/40, mbtmp4.1/23, MS3.2/15, Ms1 3.2/15, ms1mx3.0/41, Error ellipse: s-maj=16.6km s-min=11.3km az=106.0*
ISC 18 12:40:58.7 ± 0.8, 38.°56N ± 0.°04 × 142.°03E ± 0.°05, h44 km ± 6km, n211, σ1 $28/219, mb4.5/56, MS3.4/10, 14C-5D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.50**	**300**	P			**Pn**	**12 41 09.8**	**+0.2**
JKMT				S			**Sn**	**12 41 16.6**	**-0.8**
JIKH	**Ishinomakikobu**	**0.51**	**241**	P			**Pn**	**12 41 10.4**	**+0.7**
JIKH				S			**Sn**	**12 41 17.8**	**+0.3**
JIO	**Ouri**	**0.55**	**259**	P			**Pn**	**12 41 10.6**	**+0.4**
JIO				S			**Sn**	**12 41 17.9**	**-0.4**
OFUJ	**Ofunato**	**0.59**	**332**	P			**Pn**	**12 41 11.0**	**+0.2**
OFUJ				S			**Sn**	**12 41 18.7**	**-0.7**
JMK	**Ichinoseki**	**0.74**	**302**	P			**Pn**	**12 41 12.8**	**0.0**
JMK				S			**Sn**	**12 41 22.0**	**-1.0**
JOM	**Ohasama**	**1.08**	**328**	P			**Pn**	**12 41 17.5**	**+0.2**
JOM				eS			**Sn**	**12 41 30.5**	**-0.6**
JOU	**Okura**	**1.09**	**260**	P			**Pn**	**12 41 17.7**	**+0.2**
JOU				eS			**Sn**	**12 41 30.8**	**-0.7**
JMM	**Marumori**	**1.20**	**235**	P			**Pn**	**12 41 19.2**	**+0.3**
JMM				S			**Sn**	**12 41 33.5**	**-0.5**
JYK	**Kaneyama**	**1.36**	**286**	P			**Pn**	**12 41 21.1**	**0.0**
JRG	**Rokugo**	**1.37**	**308**	P			**Pn**	**12 41 21.2**	**-0.2**
JFK	**Kawauchi**	**1.50**	**218**	P			**Pn**	**12 41 24.0**	**+0.8**
JYS	**Shirataka**	**1.58**	**258**	P			**Pn**	**12 41 24.7**	**+0.5**
ERM	**Erimo**	**3.56**	**14**	*i* P			**Pn**	**12 41 52.2**	**+0.9**
ERM	**Erimo**	**3.56**	**14**	Pn			**Pn**	**12 41 52.0**	**+0.7**
MJAR	**Matsushiro Arr**	**3.65**	**238**	P			**Pn**	**12 41 54.9**	**+2.3**
	2.4nm,0.3s,baz=41,slow=11,SNR=94								
MJAR				LR			LR	12 43 40.5	
	comp=Z,212nm,19.4s,baz=50,slow=45								
MJAR	**Matsushiro Arr**	**3.65**	**238**	P			**Pn**	**12 41 54.0**	**+1.4**
MJAR	**Matsushiro Arr**	**3.65**	**238**	Pn			**Pn**	**12 41 54.0**	**+1.4**
MAJO	**Matsushiro**	**3.65**	**238**	*d* P			**Pn**	**12 41 54.6**	**+2.0**
MAJO	**Matsushiro**	**3.65**	**238**	Pn			**Pn**	**12 41 54.5**	**+2.0**
MAT	**Matsushiro**	**3.65**	**238**	P			**Pn**	**12 41 54.6**	**+2.0**
MAT				eS			**Sn**	**12 42 37.4**	**+3.0**
MJB9	**Matsu-Tunnel**	**3.65**	**238**				**Pn**	**12 41 54.8**	**+2.2**
NMR	**Nemuro--Hokkai**	**5.56**	**29**	⇓ *i* P			**Pn**	**12 42 18.2**	**-0.6**
NMR				*i* S			**Sn**	**12 43 17.9**	**-3.4**
JKA	**Kamikawa-asahi**	**5.57**	**4**				**Pn**	**12 42 19.6**	**+0.7**
JKA							**Sn**	**12 43 25.0**	**+3.4**
JKA	**Kamikawa-asahi**	**5.57**	**4**	Pn			**Pn**	**12 42 19.2**	**+0.3**
JKA				Sn			**Sn**	**12 43 23.4**	**+1.8**
ASAJ	**Asahikawa**	**5.57**	**4**	P			**Pn**	**12 42 19.6**	**+0.7**
	3.4nm,0.3s,baz=219,slow=14,SNR=27								
ASAJ				S			**Sn**	**12 43 25.0**	**+3.4**
	4.1nm,0.3s,baz=78,slow=31,SNR=5.6								
ASAJ				LR			LR	12 44 51.2	
	comp=Z,90nm,20.8s,baz=187,slow=41								
JHJ2	**Mitsune**	**5.73**	**199**	Pn			**Pn**	**12 42 21.4**	**+0.3**
JHJ	**Hachijo jima 2**	**5.73**	**199**	P			**Pn**	**12 42 22.7**	**+1.5**
	16nm,0.3s,baz=55,slow=17,SNR=1.3								
JHJ				S			**Sn**	**12 43 24.2**	**-1.4**
	30nm,0.3s,baz=263,slow=24,SNR=1.9								
GRPR	**Tuman**	**6.12**	**26**	P			**Pn**	**12 42 25.8**	**-0.6**
GRPR				eS			**Sn**	**12 43 30.7**	**-4.3**
GRPR				smax			smax		
	comp=N,592nm,0.3s								
GRPR				smax			smax		
	comp=E,131nm,0.4s								
LAGR	**Lagunnoye**	**6.17**	**26**	*e* P			**Pn**	**12 42 26.6**	**-0.6**
LAGR				eS			**Sn**	**12 43 32.7**	**-3.8**
LAGR				pmax			pmax		
	comp=Z,180nm,0.4s								
LAGR				pmax			pmax		
	comp=N,83nm,0.1s								
LAGR				pmax			pmax		
	comp=E,89nm,0.2s								
LAGR				smax			smax		
	comp=E,469nm,0.6s								
LAGR				smax			smax		
	comp=E,724nm,0.5s								
YUK	**Yuzh-Kuril'sk**	**6.18**	**27**	P			**Pn**	**12 42 26.8**	**-0.5**
YUK				eS			**Sn**	**12 43 32.8**	**-3.9**
YUK				smax			smax		
	comp=N,65nm,0.4s								
YUK				smax			smax		
	comp=E,377nm,0.4s								
TEY	**Ternei**	**7.63**	**330**	⇓ *i* P			Pn	12 42 52.7	+5.5
TEY				pmax			pmax		
	comp=N,50nm,0.8s								
TEY				pmax			pmax		
	comp=E,30nm,0.8s								
TEY				pmax			pmax		
	comp=Z,50nm,0.7s								
KUR	**Kuril'sk**	**7.96**	**31**	*e* P			**Pn**	**12 42 52.7**	**+1.0**
KUR				eS			**Sn**	**12 44 17.3**	**-3.0**
KUR				pmax			pmax		
	comp=Z,24nm,0.7s								
KUR				smax			smax		
	comp=E,66nm,0.3s								
KUR				smax			smax		
	comp=N,48nm,0.4s								
YSS	**Yuzh-Sakhalins**	**8.41**	**3**	⇓ *i* P			**Pn**	**12 42 59.0**	**+1.2**
YSS				eS			**Sn**	**12 44 29.5**	**-1.8**
YSS				pmax			pmax		
	comp=Z,20nm,1.2s								
YSS				MLR			MLR		
	comp=Z,100nm,13.0s								
YSS	**Yuzh-Sakhalins**	**8.41**	**3**	Pn			**Pn**	**12 42 59.3**	**+1.5**
USA0B	**Ussuriysk Arra**	**9.41**	**310**	*i* P			**Pn**	**12 43 11.6**	**-0.1**
USA0B	**Ussuriysk Arra**	**9.41**	**310**				**Pn**	**12 43 12.2**	**+0.6**
USRK	**Ussuriysk Ar.**	**9.41**	**310**	P			**Pn**	**12 43 12.3**	**+0.6**
	baz=120,slow=13,SNR=14								
USRK				LR			LR	12 46 38.3	
	comp=Z,133nm,20.1s,baz=146,slow=36								
USRK	**Ussuriysk Ar.**	**9.41**	**310**	P			**Pn**	**12 43 12.4**	**+0.8**
JNU	**Nakatsue**	**10.55**	**242**	P			**Pn**	**12 43 29.6**	**+2.3**
	comp=Z,0.7nm,0.3s,baz=86,slow=4.6,SNR=12								
JNU				LR			LR	12 47 50.8	
	comp=Z,159nm,19.8s,baz=22,slow=39								
JNU	**Nakatsue**	**10.55**	**242**				**Pn**	**12 43 27.6**	**+0.2**
MDJ	**Mudanjiang**	**11.10**	**307**	P			**Pn**	**12 43 38.4**	**+3.7**
MDJ				pP				12 43 46.5	
MDJ				sP				12 43 50.8	
MDJ				pmax			pmax		
	comp=Z,10.0nm,1.1s								
MDJ				pmax			pmax		
	comp=Z,92nm,5.0s								
MDJ	**Mudanjiang**	**11.10**	**307**	Pn			**Pn**	**12 43 33.9**	**-0.8**
KSRS	**Korea Array**	**11.19**	**269**	P			**Pn**	**12 43 39.2**	**+3.3**
	comp=Z,0.6nm,0.3s,baz=81,slow=14,SNR=16								
KSRS				LR			LR	12 47 32.5	
	comp=Z,114nm,20.2s,baz=94,slow=35								
KSAR	**Wonju Array Be**	**11.22**	**269**	P			**Pn**	**12 43 34.9**	**-1.5**
KSAR	**Wonju Array Be**	**11.22**	**269**	Pn			**Pn**	**12 43 34.9**	**-1.5**
KS19	**Wonju Array Si**	**11.22**	**269**				**Pn**	**12 43 34.8**	**-1.6**
JCJ	**Chichijima**	**11.43**	**179**	Pn			**Pn**	**12 43 38.1**	**-1.3**
KLR	**Kul'dur**	**12.97**	**329**	LR			LR	12 48 44.1	
	comp=Z,92nm,21.5s,baz=142,slow=36								
KLR	**Kul'dur**	**12.97**	**329**	*i* P			**Pn**	**12 43 59.5**	**-0.8**
KLR				pmax			pmax		
	comp=Z,2.0nm,0.9s								
CN2	**Changchun**	**13.54**	**298**	*e* P			**Pn**	**12 44 08.4**	**+0.4**
CN2				pmax			pmax		
	comp=Z,10.0nm,0.5s								
PETK	**Petropavlovsk-**	**18.13**	**32**	LR			LR	12 51 45.3	
	comp=Z,24nm,20.5s,baz=240,slow=35								
ZEA	**Zeya**	**18.25**	**331**	*e* P			**P**	**12 45 07.2**	**-1.0**
ZEA				pmax			pmax		
	comp=Z,23nm,1.0s								
PET	**Petropavlovsk**	**18.47**	**33**	*i* P			**Pn**	**12 45 10.9**	**-0.1**
PET				pmax			pmax		
	comp=Z,18nm,1.1s								
NJ2	**Nanjing**	**19.97**	**258**	*e* P			**P**	**12 45 27.3**	**+0.1**
NJ2				pmax			pmax		
	comp=Z,22nm,0.5s								
BJT	**Baijiatuau**	**20.05**	**282**	P			**P**	**12 45 26.4**	**-1.6**
BJT				pmax			pmax		
	comp=Z,7.0nm,0.6s								
BJT	**Baijiatuau**	**20.05**	**282**	P			**P**	**12 45 26.4**	**-1.6**
YOJ	**Yonaguni jima**	**21.40**	**234**	P			**P**	**12 45 41.8**	**-0.9**
YOJ				pmax			pmax		
	comp=Z,79nm,1.1s								
YOJ	**Yonaguni jima**	**21.40**	**234**	P			**P**	**12 45 41.8**	**-0.9**
MA2	**Magadan**	**21.76**	**12**	LR			LR	12 53 51.8	
	comp=Z,29nm,19.4s,baz=226,slow=35								
MA2	**Magadan**	**21.76**	**12**	P			**P**	**12 45 46.7**	**+0.5**
MA2				pmax			pmax		
	comp=Z,27nm,1.1s								
MA2	**Magadan**	**21.76**	**12**	P			**P**	**12 45 46.7**	**+0.5**
MA2				lAmb			lAmb	12 46 02.0	
	comp=Z,27nm,1.1s								
NACB	**Ninganchiao**	**22.52**	**236**	P			**P**	**12 45 53.5**	**-1.2**
NACB				lAmb			lAmb	12 46 11.6	
	comp=Z,16nm,0.8s								
YULB	**Yu-li**	**23.26**	**235**	P			**P**	**12 46 00.7**	**-1.6**
TPUB	**Ta-pu**	**23.76**	**236**	P			**P**	**12 46 04.8**	**-2.2**
TPUB				lAmb			lAmb	12 46 12.4	
	comp=Z,15nm,1.0s								
YAK	**Yakutsk**	**24.70**	**346**	*i* P			**P**	**12 46 15.0**	**-0.3**
YAK				pmax			pmax		
	comp=Z,14nm,1.2s								
YAK	**Yakutsk**	**24.70**	**346**	P			**P**	**12 46 15.0**	**-0.3**
YAK				lAmb			lAmb	12 46 34.2	
	comp=Z,15nm,0.6s								
SMY	**Shemya**	**26.26**	**47**	P			**P**	**12 46 29.8**	**+0.3**
SMY				pmax			pmax		
	comp=Z,50nm,1.0s								
SMY	**Shemya**	**26.26**	**47**	P			**P**	**12 46 29.8**	**+0.3**
ULN	**Ulaanbaatar**	**26.94**	**302**	*ce* P			**P**	**12 46 35.3**	**-0.6**
ULN				pmax			pmax		
	comp=Z,5.0nm,1.3s								
SONM	**Songino Array**	**27.37**	**301**	P			**P**	**12 46 39.1**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=117,slow=8.8,SNR=6.7								
SONM	**Songino Array**	**27.37**	**301**	P			**P**	**12 46 39.4**	**-0.4**
SONM				pmax			pmax		
	comp=Z,1.0nm,0.7s								
SONM	**Songino Array**	**27.37**	**301**	P			**P**	**12 46 39.4**	**-0.4**
ENH	**Enshi**	**27.98**	**263**	P			**P**	**12 46 44.6**	**-0.7**
H11N2	**WAKE ISLAND Hy**	**28.55**	**124**	T			T	13 17 20.9	
	baz=317,slow=75,SNR=1054								
H11N1	**WAKE ISLAND Hy**	**28.56**	**124**	T			T	13 17 21.5	
	baz=317,slow=75,SNR=1752								
H11N3	**WAKE ISLAND Hy**	**28.57**	**124**	T			T	13 17 20.7	
	baz=317,slow=75,SNR=1242								
H11S1	**WAKE ISLAND Hy**	**29.32**	**126**	T			T	13 18 20.1	
	baz=318,slow=76,SNR=172								
H11S3	**WAKE ISLAND Hy**	**29.32**	**126**	T			T	13 18 06.1	
	baz=318,slow=76,SNR=196								
H11S2	**WAKE ISLAND Hy**	**29.33**	**126**	T			T	13 18 07.2	
	baz=318,slow=76,SNR=81								
TLY	**Talaya**	**29.73**	**309**	LR			LR	12 59 33.2	
	comp=Z,71nm,18.5s,baz=137,slow=38								
TLY	**Talaya**	**29.73**	**309**	*i* P			**P**	**12 47 00.3**	**-0.3**
TLY				pmax			pmax		
	comp=Z,6.0nm,0.7s								
ZAK	**Zakamensk**	**29.74**	**306**	*e* P			**P**	**12 47 00.1**	**-0.6**
ZAK				pmax			pmax		
	comp=Z,5.0nm,0.9s								
LZH	**Lanzhou**	**30.33**	**277**	*e* P			**P**	**12 47 06.3**	**+0.1**
LZH				sP			pP	12 47 17.4	-0.5
LZH				PP			**PnPn**	**12 48 03.6**	**-1.8**
LZH				pmax			pmax		
	comp=Z,20nm,1.2s								
LZH				pmax			pmax		
	comp=Z,84nm,4.9s								
LZH				LR			LR		
	comp=Z,200nm,13.6s								
LZH				LR			LR		
	comp=Z,210nm,14.2s								
LZH				LR			LR		
	comp=Z,280nm,15.5s								
GYA	**Guiyang**	**31.98**	**258**	⇓ *i* P			**P**	**12 47 20.3**	**-0.5**
GYA				S			**S**	**12 52 24.6**	**-4.8**
GYA				ScP			**ScP**	**12 53 47.3**	**-2.6**
GYA				SS			**SnSn**	**12 54 23.6**	**+2.4**
GYA				pmax			pmax		
	comp=Z,10.0nm,1.0s								
GYA				pmax			pmax		
	comp=Z,90nm,4.0s								
GYA				LR			LR		
	comp=Z,120nm,4.0s								
GYA				LR			LR		
	comp=Z,120nm,3.9s								
GYA				LR			LR		
	comp=Z,80nm,3.9s								
CD2	**Chengdu**	**32.19**	**268**	*e* P			**P**	**12 47 22.5**	**0.0**
CD2				pmax			pmax		
	comp=Z,10.0nm,0.5s								
BILL	**Bilibino**	**32.43**	**17**	*e* P			**P**	**12 47 25.2**	**+1.1**
BILL				pmax			pmax		
	comp=Z,4.0nm,1.6s								
BILL	**Bilibino**	**32.43**	**17**	P			**P**	**12 47 24.9**	**+0.8**
TIXI	**Tiksi**	**33.84**	**353**	LR			LR	13 04 53.6	
	comp=Z,28nm,18.2s,baz=180,slow=42								
TIXI	**Tiksi**	**33.84**	**353**	*ce* P			**P**	**12 47 36.5**	**+0.2**
TIXI				pmax			pmax		
	comp=Z,8.0nm,2.5s								
TIXI	**Tiksi**	**33.84**	**353**	P			**P**	**12 47 36.0**	**-0.4**
KMI	**Kunming**	**35.70**	**260**	P			**P**	**12 47 51.3**	**-1.9**
KMI				pmax			pmax		
	comp=Z,18nm,1.1s								
KMI	**Kunming**	**35.70**	**260**	P			**P**	**12 47 51.3**	**-1.9**
DGZ	**Jazzator, Alta**	**39.91**	**304**	*i* P			**P**	**12 48 29.1**	**+0.7**
DGZ				pmax			pmax		
	comp=Z,30nm,0.7s								
WMQ	**Urumqi**	**40.61**	**295**	*e* P			**P**	**12 48 35.6**	**+1.4**
WMQ				pP			pP	12 48 46.3	+0.2
WMQ				sP			sP	12 48 50.3	-1.0
WMQ				pmax			pmax		
	comp=Z,19nm,0.9s								
WMQ				pmax			pmax		
	comp=Z,64nm,3.8s								
WMQ				LR			LR		
	comp=Z,120nm,15.1s								
WMQ				LR			LR		
	comp=Z,210nm,20.1s								
WMQ				LR			LR		
	comp=Z,180nm,20.1s								
ZAA0	**Zalesovo Array**	**41.27**	**311**	P			**P**	**12 48 38.6**	**-0.7**
ZAA0				lAmb			lAmb	12 48 40.4	
	comp=Z,7.0nm,0.7s								
ZALV	**Zalesovo Beam**	**41.27**	**311**	P			**P**	**12 48 39.2**	**-0.1**
	comp=Z,5.6nm,0.5s,baz=88,slow=7.1,SNR=29								
ZALV				PcP			**PcP**	**12 50 37.4**	**+0.1**
	comp=Z,1.6nm,0.3s,baz=112,slow=3.1,SNR=7.8								
ZALV				LR			LR	13 06 29.7	
	comp=Z,26nm,19.5s,baz=88,slow=37								
ZALV	**Zalesovo Beam**	**41.27**	**311**	P			**P**	**12 48 38.6**	**-0.7**
CMAR	**Chiang Mai Arr**	**42.37**	**254**	P			**P**	**12 48 48.7**	**0.0**
	comp=Z,0.4nm,0.4s,baz=40,slow=7.1,SNR=2.8								
MK31	**Makanchi Array**	**43.74**	**301**	P			**P**	**12 48 59.3**	**-0.3**
MK31				pmax			pmax		
	comp=Z,7.0nm,1.1s								
MK31	**Makanchi Array**	**43.74**	**301**	P			**P**	**12 48 59.3**	**-0.3**
MK31				lAmb			lAmb	12 49 00.4	
	comp=Z,7.3nm,1.1s								
MKAR	**Makanchi Array**	**43.74**	**301**	P			**P**	**12 48 59.4**	**-0.2**
	comp=Z,4.4nm,0.8s,baz=88,slow=9.6,SNR=35								
MKAR	**Makanchi Array**	**43.74**	**301**	*ce* P			**P**	**12 48 59.4**	**-0.2**
MKAR				pmax			pmax		
	comp=Z,5.0nm,0.8s								
MKAR	**Makanchi Array**	**43.74**	**301**	P			**P**	**12 48 59.2**	**-0.3**
MAKZ	**Makanchi**	**43.95**	**301**	P			**P**	**12 49 01.4**	**+0.2**
MAKZ				pmax			pmax		
	comp=Z,7.0nm,1.1s								
MAKZ	**Makanchi**	**43.95**	**301**	P			**P**	**12 49 01.4**	**+0.2**
MAKZ				lAmb			lAmb	12 49 02.7	
	comp=Z,7.2nm,1.1s								
SVW2	**Sparrevohn**	**44.02**	**38**	P			**P**	**12 49 01.9**	**+0.3**
IMAR	**Indian Mountai**	**45.09**	**31**	P			**P**	**12 49 11.1**	**+1.0**
KURK	**Kurchatov**	**45.39**	**307**	*ce* P			**P**	**12 49 12.0**	**-0.6**
KURK				pmax			pmax		
	comp=Z,23nm,0.7s								
KURK	**Kurchatov**	**45.39**	**307**	P			**P**	**12 49 12.4**	**-0.2**
HOM	**Homer**	**46.00**	**40**	P			**P**	**12 49 15.9**	**-1.4**
TAPN	**Taplejung**	**46.34**	**273**	*e* P			**P**	**12 49 21.1**	**+0.3**
	comp=Z,7.8nm,0.5s								
TRF	**Thorofare Moun**	**46.50**	**35**	P			**P**	**12 49 20.7**	**-0.7**
TRF				lAmb			lAmb	12 49 39.6	
	comp=Z,18nm,1.5s								
ODAN	**Odare**	**46.82**	**272**	*e* P			**P**	**12 49 22.9**	**-1.6**
RAMN	**Ramite**	**47.40**	**273**	*e* P			**P**	**12 49 28.6**	**-0.4**
	comp=Z,36nm,0.6s								
GUN	**Gumba**	**47.51**	**275**	*e* P			**P**	**12 49 29.7**	**-0.2**
IL31		**47.95**	**33**	P			**P**	**12 49 32.5**	**+0.2**
ILAR	**Eielson Array**	**47.95**	**33**	P			**P**	**12 49 33.8**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=267,slow=5.9,SNR=12								
ILAR	**Eielson Array**	**47.95**	**33**	P			**P**	**12 49 32.5**	**+0.1**
KKN	**Kakani**	**48.03**	**275**	*e* P			**P**	**12 49 33.7**	**-0.2**
	comp=Z,24nm,0.8s								
PKI	**Pulchoki**	**48.03**	**274**	*e* P			**P**	**12 49 33.6**	**-0.4**
	comp=Z,6.4nm,0.5s								
PKIN	**Phulchoki**	**48.04**	**274**	*e* P			**P**	**12 49 33.6**	**-0.4**
GLI	**Glacier Island**	**48.16**	**38**	P			**P**	**12 49 34.5**	**+0.4**
TARG	**Taragay, Kyrgy**	**48.18**	**295**	P			**P**	**12 49 34.9**	**-0.1**
TARG				lAmb			lAmb	12 49 36.8	
	comp=Z,6.1nm,0.8s								
DMN	**Daman**	**48.25**	**275**	*e* P			**P**	**12 49 35.6**	**0.0**
GKN	**Gorkha**	**48.43**	**275**	*e* P			**P**	**12 49 37.2**	**+0.3**
BMAR	**Burnt Mountain**	**48.76**	**29**	P			**P**	**12 49 41.7**	**+3.0**
DANN	**Dangsing**	**48.96**	**276**	*e* P			**P**	**12 49 41.1**	**0.0**
	comp=Z,29nm,0.5s								
DOT	**Dot Lake**	**49.27**	**34**	P			**P**	**12 49 43.7**	**+1.1**
DOT				lAmb			lAmb	12 50 00.7	
	comp=Z,4.8nm,1.3s								
KOLN	**Koldanda**	**49.35**	**276**	*e* P			**P**	**12 49 42.8**	**-1.2**
PYUN	**Piuthan**	**49.67**	**276**	*e* P			**P**	**12 49 46.2**	**-0.2**
	comp=Z,21nm,0.5s								
BRVK	**Borovoye**	**49.97**	**312**	*ce* P			**P**	**12 49 48.5**	**+0.4**
BRVK				pmax			pmax		
	comp=Z,4.0nm,0.6s								
BRVK	**Borovoye**	**49.97**	**312**	P			**P**	**12 49 47.9**	**-0.2**
BRVK				lAmb			lAmb	12 49 49.2	
	comp=Z,5.1nm,0.8s								
ARSB	**Arslanbob**	**51.72**	**296**	P			**P**	**12 50 01.9**	**+0.3**
ARSB	**Arslanbob**	**51.72**	**296**	P			**P**	**12 50 01.9**	**+0.3**
KK31	**Karatay Array**	**52.80**	**299**	P			**P**	**12 50 09.4**	**0.0**
KK31				pmax			pmax		
	comp=Z,4.0nm,0.8s								
KK31	**Karatay Array**	**52.80**	**299**	P			**P**	**12 50 09.4**	**0.0**
KK31				lAmb			lAmb	12 50 09.9	
	comp=Z,3.9nm,0.8s								
KKAR	**Karatay Array**	**52.80**	**299**	P			**P**	**12 50 09.1**	**-0.3**
KKAR				pmax			pmax		
	comp=Z,4.0nm,0.8s								
KKAR	**Karatay Array**	**52.80**	**299**	P			**P**	**12 50 09.1**	**-0.3**
KKAR	**Karatay Array**	**52.80**	**299**	P			**P**	**12 50 09.3**	**-0.1**
KKAR				lAmb			lAmb	12 50 09.9	
	comp=Z,3.9nm,0.8s								
INK	**Inuvik**	**52.81**	**28**	P			**P**	**12 50 10.9**	**+1.8**
	comp=Z,0.8nm,0.4s,baz=300,slow=6.6,SNR=4.8								
INK	**Inuvik**	**52.81**	**28**	P			**P**	**12 50 09.5**	**+0.5**
NIL	**Nilore**	**54.61**	**287**	P			**P**	**12 50 22.1**	**-0.8**
NIL				pmax			pmax		
	comp=Z,10.0nm,1.0s								
NIL	**Nilore**	**54.61**	**287**	P			**P**	**12 50 22.1**	**-0.8**
NIL				lAmb			lAmb	12 50 26.6	
	comp=Z,10.0nm,0.9s								
CHGR	**Chuyangaron**	**55.46**	**295**	P			**P**	**12 50 28.3**	**-0.7**
ARU	**Arti**	**55.55**	**318**	*c i* P			**P**	**12 50 28.9**	**-0.3**
ARU								12 51 26.0	
ARU								12 52 29.7	
ARU				S			**S**	**12 58 14.3**	**+3.0**
ARU				SS			**SS**	**13 01 56.1**	**0.0**
ARU				pmax			pmax		
	comp=Z,9.0nm,0.9s								
ARU	**Arti**	**55.55**	**318**	P			**P**	**12 50 28.9**	**-0.3**
ARU				lAmb			lAmb	12 50 29.9	
	comp=Z,8.7nm,0.9s								
KBL	**Kabul**	**57.34**	**290**	P			**P**	**12 50 42.5**	**-0.1**
KBL				pmax			pmax		
	comp=Z,7.0nm,1.1s								
KBL	**Kabul**	**57.34**	**290**	P			**P**	**12 50 42.5**	**-0.1**
KBL				lAmb			lAmb	12 50 51.8	
	comp=Z,7.4nm,1.1s								
ABKAR	**Akbulak array**	**57.34**	**310**	P			**P**	**12 50 41.1**	**-1.0**
WRA	**Warramunga Arr**	**58.64**	**188**	P			**P**	**12 50 51.7**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=8.9,slow=4.7,SNR=12								
WRA	**Warramunga Arr**	**58.64**	**188**	*ce* P			**P**	**12 50 52.0**	**+0.6**
WRA				pmax			pmax		
	comp=Z,1.0nm,0.4s								
WRA	**Warramunga Arr**	**58.64**	**188**	P			**P**	**12 50 49.1**	**-2.2**
KIRV	**Kirov**	**59.33**	**323**	⇑ *e* P			**P**	**12 50 56.4**	**+0.6**
ASAR	**Alice Springs**	**62.37**	**188**	P			**P**	**12 51 17.6**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=12,slow=5.2,SNR=14								
ASAR	**

CLL	**Collm**	**80.02**	**330**	*i* P		**P**	**12 53 03.1**	**-0.1**
CLL				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KHC	**Kasperske Hory**	**81.50**	**329**	*ce*P		**P**	**12 53 11.5**	**+0.3**
KHC				pmax	pmax			
	comp=Z,8.0nm,1.3s							
GERES	**GERESS Array B**	**81.67**	**328**	P		**P**	**12 53 12.3**	**0.0**
	comp=Z,0.7nm,0.4s,baz=55,slow=5.1,SNR=4.8							
GERES	**GERESS Array B**	**81.67**	**328**	P		**P**	**12 53 12.1**	**-0.1**
FUORN	**Ofenpass-Fuorn**	**84.85**	**329**	P		**P**	**12 53 29.4**	**+0.6**
FUORN				IAmb	IAmb		12 53 30.0	
	comp=Z,6.9nm,0.8s							
TXAR	**Lajitas Array**	**88.81**	**53**	P		**P**	**12 53 50.0**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=259,slow=2.6,SNR=3.8							
TXAR	**Lajitas Array**	**88.81**	**53**	P		**P**	**12 53 50.0**	**+1.8**
TXAR	**Lajitas Array**	**88.81**	**53**	P		**P**	**12 53 50.0**	**+1.8**
ESDC	**Sonseca Array**	**96.13**	**334**	LR	LR		13 41 10.2	
	comp=Z,28nm,18.7s,baz=125,slow=38							
NNA	**Nana**	**136.50**	**63**	*c* PKIKP		**PKiKP**	**13 00 21.0**	**+3.0**
NNA				pmax	pmax			
	comp=Z,21nm,1.3s							
VNA2	**Neumayer--Watz**	**143.92**	**196**	PKPdf		PKPbc	13 00 26.5	+0.6
VNA3	**Neumayer Olymp**	**144.16**	**195**	PKPdf		PKPbc	13 00 27.0	+0.3
LPAZ	**La Paz**	**145.49**	**58**	PKPbc		**PKPab**	**13 00 34.6**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=27,slow=8.4,SNR=4.9							
LPAZ	**La Paz**	**145.49**	**58**			**PKPab**	**13 00 33.6**	**+0.2**
H03N2	**Juan Fernandez**	**146.67**	**94**	T		T	15 45 08.0	
	baz=291,slow=76,SNR=7.7							
H03N3	**Juan Fernandez**	**146.68**	**94**	T		T	15 45 12.9	
	baz=291,slow=76,SNR=12							
H03N1	**Juan Fernandez**	**146.68**	**94**	T		T	15 45 11.7	
	baz=291,slow=76,SNR=21							
SIV	**San Ignacio**	**149.71**	**48**	PKPbc		**PKiKP**	**13 00 45.0**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=241,slow=5.6,SNR=4.1							

INET ***18*** *12:59:32.2, 10°.45N × 86°.15W, h15km, ML3.0*
IDC 18 12:59:30.0±1.9, 11°.56N × 84°.89W, h0km, mb3.7/4, mb1 4.1/4, mb1mx3.7/34, mbtmp3.7/4, MS2.7/3, Ms1 2.7/3, ms1mx2.5/29, Error ellipse: s-maj=66.4km s-min=12.3km az=83.0, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTS	**Las Juntas de**	**1.26**	**183**	Pg		Pg	12 59 52.9	-1.3
	50nm,0.3s,baz=6.0,slow=19,SNR=84							
JTS				Lg		Lg	13 00 11.8	
	70nm,0.3s,baz=39,slow=22,SNR=6.7							
TEIG	**Tepich**	**9.22**	**340**	LR		LR	13 05 53.1	
	comp=Z,52nm,20.1s,baz=48,slow=42							
ATAH	**Atahualpa**	**19.66**	**161**	LR		LR	13 10 38.8	
	comp=Z,41nm,20.4s,baz=344,slow=34							
NNA	**Nana**	**24.72**	**161**	LR		LR	13 13 29.9	
	comp=Z,11nm,21.5s,baz=194,slow=34							
TXAR	**Lajitas Array**	**24.88**	**318**	P		P	13 04 53.6	-1.1
	1.1nm,0.5s,baz=135,slow=10,SNR=10							
PDAR	**Pinedale Array**	**37.77**	**330**	P		P	13 06 48.4	+0.3
	0.3nm,0.6s,baz=131,slow=8.7,SNR=3.9							
NVAR	**Mina Array Bea**	**40.03**	**318**	P		P	13 07 07.5	+0.3
	1.0nm,0.7s,baz=132,slow=7.4,SNR=8.5							
NVAR				PcP		PcP	13 09 12.2	-0.1
	0.3nm,0.5s,baz=137,slow=4.7,SNR=4.2							
YKA	**Yellowknife Ar**	**55.15**	**344**	P		P	13 09 04.5	+0.6
	1.0nm,0.9s,baz=132,slow=8.1,SNR=2.4							

NNC 18 13:15:57.4±0.5, 49°.98N × 78°.68E, h0km, mb3.6, mpv3.3, 5C-4D, Error ellipse: s-maj=5.3km s-min=2.6km az=76.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**0.65**	**352**	⇑P		Pg	13 16 10.0	+0.1
	45nm,0.3s							
KURBB				⇓S		Sg	13 16 19.1	+0.7
	84nm,0.6s							
KURK	**Kurchatov**	**0.74**	**357**	⇑P		Pg	13 16 11.4	-0.2
	14nm,0.3s							
KURK				⇑S		Sb	13 16 22.8	-1.0
	28nm,0.5s							
SEM	**Semipalatinsk**	**1.10**	**66**	P		Pg	13 16 18.7	+0.2
	11nm,0.1s							
SEM				S		Sg	13 16 33.0	+0.3
	64nm,0.5s							
MAKZ	**Makanchi**	**3.86**	**144**	⇑Pg		Pb	13 17 06.9	+0.5
	3.0nm,0.6s							
MAKZ				⇑Lg		Lg	13 17 57.2	
	6.5nm,0.5s							
BRZS	**Berezniki**	**3.87**	**272**	Pg		Pb	13 17 07.6	+1.1
	6.1nm,0.2s							
BRZS				Lg		Lg	13 17 59.8	
	8.7nm,0.3s							
MK31	**Makanchi Array**	**3.99**	**142**	⇓Pn		Pn	13 17 02.0	+2.1
	0.2nm,0.3s,baz=321,slow=10,SNR=41							
MK31				⇓Pg		Pg	13 17 11.3	-2.6
	2.2nm,0.5s,baz=335,slow=16,SNR=16							
MK31				⇓Lg		Lg	13 18 04.8	
	12nm,0.6s,baz=332,slow=33,SNR=16							
OTUK	**Ortayu**	**4.51**	**250**	Pg		Pg	13 17 20.9	-2.9
	1.5nm,0.3s							
OTUK				Lg		Lg	13 18 22.5	
	2.7nm,0.5s							
OTUK	**Ortayu**	**4.51**	**250**	Pn		Pn	13 17 06.4	-0.6
	2.9nm,1.1s							
OTUK				Lg		Lg	13 18 21.3	
	4.7nm,0.6s							
KAPS	**Kapalarasan**	**4.72**	**174**	Pg		Pb	13 17 23.8	+2.8
	1.4nm,0.3s							
KAPS				Lg		Lg	13 18 26.3	
	14nm,0.5s							
DJR	**Jarkent**	**5.70**	**172**	Pg		Pg	13 17 43.5	-3.1
	2.4nm,0.3s							
DJR				Lg		Lg	13 18 59.8	
	3.8nm,0.3s							
KUU	**Kurty**	**6.29**	**196**	Pg		Pg	13 17 53.8	-4.2
	1.2nm,0.2s							
KUU				Lg		Lg	13 19 18.2	
	9.8nm,0.4s							

KRNET 18 13:17:06.2±0.1, 42°.94N × 77°.48E, h17km, mb2.0, 12C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ANVS	**Anan'yevo**	**0.21**	**138**	⇑*i*P		Pg	13 17 11.0	-0.3
	baz=37							
ANVS				⇑*i*S		Sg	13 17 14.3	-0.4
	baz=37							
PRZ	**Przheval'sk**	**0.82**	**123**	⇑*i*P		Pb	13 17 21.5	-0.5
	baz=23							
PRZ				⇑*i*S		Sb	13 17 32.8	0.0
	baz=23							
KDJ	**Kajisay**	**0.84**	**195**	⇓*i*P		Pb	13 17 22.0	-0.3
	baz=95							
KDJ				⇓*i*S		Sg	13 17 33.7	+0.1
	baz=95							
ULHL	**Ulahol**	**1.15**	**233**	⇑*i*P		Pb	13 17 27.8	+0.2
	baz=33							
ULHL				⇑*i*S		Sb	13 17 42.5	+0.2
	baz=33							
BOOM	**Boomskoye usch**	**1.22**	**249**	⇑*i*P		Pn	13 17 28.4	-0.2
	baz=49							
BOOM				⇑*i*S		Sn	13 17 44.8	0.0
	baz=49							
TARG	**Taragay, Kyrgy**	**1.23**	**169**	⇑*i*P		Pg	13 17 29.7	-0.3
	baz=69							
TARG				⇑*i*S		Sb	13 17 45.0	0.0
	baz=69							
TKM2	**Tokmak 2**	**1.38**	**270**	⇑*i*P		Pb	13 17 32.1	+0.4
	baz=70							
TKM2				⇑*i*S		Sb	13 17 49.6	+0.5
	baz=70							

IDC ***18*** *13:17:32.3±4.3, 2°.70S × 100°.37E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.6/41, mbtmp3.9/6, Error ellipse: s-maj=186.7km s-min=20.1km az=55.0*
NEIC ***18*** *13:17:39.8±1.4, 2°.7S±0°.1 × 100°.4E±0°.1, h61km±9km, mb4.6/8, Error ellipse: s-maj=21.4km s-min=10.2km az=48.0*
DJA ***18*** *13:17:39.3±0.3, 2°.S±3° × 10°.1E±°, h12km±4km, M3.8/6, MLv3.8/6*
ISC 18 13:17:39.8±0.8, 2°.56S±0°.06 × 100°.61E±0°.06, h50km, n32, σ1§31/31, mb4.1/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PPSI	**Pulau Pagai**	**0.63**	**251**	P		**Pn**	**13 17 53.0**	**+0.3**
PPSI				S		**Sn**	**13 18 04.1**	**+2.2**
KRJI	**Kerinci**	**0.97**	**61**	P		**Pn**	**13 17 57.2**	**-0.1**
PDSI	**Padang**	**1.65**	**355**	P		**Pn**	**13 18 06.0**	**-0.4**
PDSI				S		**Sn**	**13 18 26.1**	**-0.3**
SDSI	**Sungai Dareh**	**1.81**	**27**	P		**Pn**	**13 18 09.0**	**+0.4**
RGRI	**Rengat**	**2.79**	**38**	P		Pn	13 18 28.3	+6.2
BKNI	**Bangkinang**	**2.90**	**9**	P		Pn	13 18 29.6	+6.1
BKNI	**Bangkinang**	**2.90**	**9**	Pn		**Pn**	**13 18 25.2**	**+1.6**
MNAI	**Manna**	**2.95**	**127**	Pn		**Pn**	**13 18 25.7**	**+1.5**
LHSI	**Lahat**	**3.17**	**113**	P		**Pn**	**13 18 29.3**	**+2.1**
MDSI	**Maura Dua**	**4.04**	**118**	P		**Pn**	**13 18 41.3**	**+2.1**
GSI	**Gunungsitoli**	**4.89**	**322**	Pn		**Pn**	**13 18 49.9**	**-1.0**
MYKOM	**Kota Tinggi**	**5.40**	**37**	Pn		**Pn**	**13 18 58.8**	**+0.9**
IPM	**Ipoh**	**7.01**	**3**	Pn		**Pn**	**13 19 23.1**	**+3.2**
KULM	**Kulim**	**7.80**	**0**	Pn		**Pn**	**13 19 34.2**	**+3.4**
FITZ	**Fitzroy Crossi**	**29.00**	**124**	P		**P**	**13 23 35.6**	**+0.5**
	1.3nm,0.9s,baz=270,slow=9.1,SNR=1.5							
FITZ	**Fitzroy Crossi**	**29.00**	**124**	IAmb		IAmb	13 24 33.8	
	comp=Z,38nm,2.0s							
WB0	**Warramunga Arr**	**37.17**	**120**	P		**P**	**13 24 45.3**	**-1.0**
WRA	**Warramunga Arr**	**37.19**	**120**	P		**P**	**13 24 46.2**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=306,slow=8.7,SNR=4.5							
WRAB	**Tennant Creek**	**37.19**	**120**	P		**P**	**13 24 46.1**	**-0.4**
WB2	**Warramunga Arr**	**37.20**	**120**	P		**P**	**13 24 45.8**	**-0.8**
WR0	**Warramunga Arr**	**37.37**	**120**	P		**P**	**13 24 47.3**	**-0.8**
WR0				IAmb		IAmb	13 24 59.3	
	comp=Z,22nm,1.6s							
AS31	**Alice Springs**	**38.43**	**126**	P		**P**	**13 24 56.8**	**-0.3**
AS31				IAmb		IAmb	13 24 58.2	
	comp=Z,3.8nm,1.6s							
ASAR	**Alice Springs**	**38.43**	**126**	P		**P**	**13 24 56.9**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=299,slow=7.6,SNR=22							
SONM	**Songino Array**	**50.44**	**5**	P		**P**	**13 26 32.8**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=183,slow=7.1,SNR=4.2							
SONM	**Songino Array**	**50.44**	**5**	P		**P**	**13 26 32.4**	**-0.1**
MKAR	**Makanchi Array**	**51.73**	**344**	P		**P**	**13 26 42.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=143,slow=10,SNR=5.6							
MKAR	**Makanchi Array**	**51.73**	**344**	P		**P**	**13 26 41.3**	**-0.8**
ZALV	**Zalesovo Beam**	**57.83**	**349**	P		**P**	**13 27 25.9**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=172,slow=5.7,SNR=5.0							
ZALV	**Zalesovo Beam**	**57.83**	**349**	P		**P**	**13 27 25.4**	**-0.7**
ABKAR	**Akbulak array**	**62.42**	**331**	P		**P**	**13 27 56.9**	**-0.8**
TXAR	**Lajitas Array**	**144.77**	**38**	PKPbc		**PKPdf**	**13 37 11.5**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=294,slow=0.7,SNR=7.3							
TXAR	**Lajitas Array**	**144.77**	**38**			**PKPdf**	**13 37 11.1**	**-1.0**

ISN ***18*** *13:38:56.3±0.3, 34°.61N × 47°.63E, h0km, ML3.3*
TEH ***18*** *13:39:05.0, 34°.67N × 47°.66E, h8km, ML3.5*
THR ***18*** *13:39:06.9±0.4, 34°.60N × 47°.70E, h14km±9km, ML3.4*
ISC 18 13:39:06.9±0.9, 34°.62N±0°.04 × 47°.64E±0°.03, h10km, n34, σ1§41/38, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
IBZA	**Bozab**	**0.24**	**130**	*e*Pg		**Pg**	**13 39 11.0**	**-0.9**
IKOM	**Komasi**	**0.46**	**194**	*e*Pg		**Pg**	**13 39 15.3**	**-0.6**
IKOM				*e*			13 39 27.9	
KER	**Kermanshah**	**0.48**	**241**	*e*Pg		**Pg**	**13 39 15.4**	**-0.9**
KER				*e*			13 39 24.2	
IALM	**Almabolaq**	**0.49**	**61**	*e*Pg		**Pg**	**13 39 14.7**	**-1.9**
KCHF	**Cheshme Sefid,**	**0.61**	**235**	*e*Pg		**Pg**	**13 39 18.1**	**-0.6**
KCHF				*e*			13 39 30.9	
ILIN	**Lien**	**0.63**	**298**	*e*Pg		**Pg**	**13 39 17.4**	**-1.8**
IVIS	**Veis**	**0.66**	**262**	*e*Pg		**Pg**	**13 39 18.0**	**-1.7**
IVIS				*e*			13 39 33.3	
HSAM	**Samen**	**0.90**	**117**	*e*Pg		**Pg**	**13 39 22.2**	**-1.9**
IGHG	**Ghaleghazi**	**0.93**	**252**	*e*Pg		**Pg**	**13 39 23.8**	**-1.1**
IGHG				*e*			13 39 42.4	
IDOB	**Doab**	**0.94**	**152**	*e*Pg		**Pg**	**13 39 24.6**	**-0.5**
IDHR	**Dehrash**	**1.04**	**275**	*e*Pg		**Pg**	**13 39 25.3**	**-1.5**
IDHR				*e*			13 39 47.0	
IKFM	**Kafar-mosalman**	**1.11**	**171**	*e*Pg		**Pb**	**13 39 27.4**	**-0.7**
IKFM				*e*			13 39 50.4	
HAGD	**Aghdareh**	**1.25**	**80**	*e*Pg		**Pn**	**13 39 27.6**	**-3.0**
HAGD				*e*			13 39 45.6	
IKMR	**Kamar-syah**	**1.26**	**151**	*e*Pg		**Pn**	**13 39 29.7**	**-0.8**
IKMR				*e*			13 39 54.7	
BMDN	**Meydan**	**1.37**	**134**	*e*Pg		**Pn**	**13 39 32.0**	**-0.2**
BMDN				*e*			13 40 01.4	
QABG	**Abgarm-Qazvin**	**1.92**	**55**	*e*Pn		**Pn**	**13 39 38.8**	**-1.1**
ASAO	**Ashtian**	**1.97**	**92**	*e*Pn		**Pn**	**13 39 41.4**	**+0.9**
ASAO				*e*Sg		**Sb**	**13 40 07.7**	**+0.1**
ASAO				IAML			13 40 13.9	
	comp=E,456nm,0.9s							
ASAO	**Ashtian**	**1.97**	**92**	*e*Pn		**Pn**	**13 39 41.4**	**+0.9**
IRAZ	**Razeghan**	**2.03**	**67**	*e*Pn		**Pn**	**13 39 41.5**	**+0.1**
IRAZ				*e*			13 40 18.2	
IBDR	**Badra**	**2.08**	**224**	*e*Pg		**Pn**	**13 39 42.0**	**+0.3**
	baz=43							
IBDR				*e*Sg		**Sg**	**13 40 14.0**	**+0.4**
IBDR				AML		AML	13 40 18.7	
	comp=E,283nm,0.4s							
IBDR				AML		AML	13 40 18.9	
	comp=N,257nm,0.4s							
KHMZ	**Khomeyn**	**2.12**	**114**	*e*Pn		**Pn**	**13 39 43.2**	**+0.7**
KHMZ				*e*Sg		**Sb**	**13 40 12.1**	**+0.3**
KHMZ				IAML			13 40 18.6	
	comp=E,192nm,0.4s							
KHMZ	**Khomeyn**	**2.12**	**114**	*e*Pn		**Pn**	**13 39 43.2**	**+0.7**
ZNJK	**Zanjan**	**2.21**	**22**	*e*Pn		**Pn**	**13 39 45.4**	**+1.5**
ZNJK	**Zanjan**	**2.21**	**22**	*e*Pn		**Pn**	**13 39 45.4**	**+1.5**
IGZV	**Ghazvin**	**2.74**	**49**	*e*		**Sb**	**13 40 34.4**	**+4.5**
GHVR	**GHOM**	**3.02**	**92**	*e*Pn		**Pn**	**13 39 55.2**	**+0.4**
GHVR				*e*Sg		**Sb**	**13 40 38.1**	**+0.4**
GHVR	**GHOM**	**3.02**	**92**	*e*Pn		**Pn**	**13 39 55.2**	**+0.4**
CHTH	**Charan**	**3.13**	**65**	*e*Pn		**Pn**	**13 39 57.5**	**+1.1**
CHTH	**Charan**	**3.13**	**65**	*e*Pn		**Pn**	**13 39 57.6**	**+1.1**
IPIR	**Pirpir**	**3.33**	**125**	*e*Pn		**Pn**	**13 40 00.3**	**+1.0**
JHBN	**Jahan bin**	**3.48**	**132**	*e*Pn		**Pn**	**13 40 02.6**	**+1.3**
ROKH	**ROKH**	**3.63**	**128**	*e*Pn		**Pn**	**13 40 05.3**	**+1.9**
IDMV	**Damavand**	**3.72**	**74**	*e*Pn		**Pn**	**13 40 05.4**	**+0.7**
IGAR	**Gharneh**	**4.29**	**120**	*e*Pn		**Pn**	**13 40 13.5**	**+1.1**

TUL ***18*** *14:08:33.8, 35°.98N × 97°.18W, h6km, ML3.7, MWR3.2(NEIC), MWR3.2(SLM), MWR3.2(NEIC), MWR3.2(SLM), MWR3.2(NEIC), MWR3.2(SLM), MWR3.2(SLM), MWR3.2(NEIC)*
ANF ***18*** *14:08:33.5±0.7, 35°.94N × 97°.15W, h3km±4km, ML4.3/16, Error ellipse: s-maj=2.8km s-min=2.0km az=171.0*
UNK ***18*** *14:08:33.8, 35°.98N × 97°.18W, h6km*
ISC 18 14:08:33.6±0.7, 35°.98N±0°.03 × 97°.15W±0°.03, h4km, n68, σ0§94/79, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OK005	**Luther M Schoo**	**0.33**	**186**	Pg		**Pb**	**14 08 40.6**	**-1.4**
ADOK	**Arcadia Dam**	**0.38**	**209**			**Pg**	**14 08 41.1**	**+0.3**
OK001	**Jones High Sch**	**0.43**	**196**	Pg		**Pg**	**14 08 42.3**	**+0.4**
OK009	**Oakdale Elemen**	**0.46**	**209**			**Pg**	**14 08 42.6**	**+0.3**
OKCFA	**Oklahoma City**	**0.62**	**204**			**Pg**	**14 08 45.5**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**0.62**	**203**			**Pg**	**14 08 45.6**	**+0.1**
FNO	**Franklin**	**0.75**	**196**	Pg		**Pb**	**14 08 48.3**	**-0.9**
W35A	**Tecumseh**	**0.85**	**165**			**Pg**	**14 08 49.7**	**-0.3**
T35A	**Sooner Cattle**	**1.06**	**29**			**Pg**	**14 08 54.0**	**0.0**
TUL1	**Leonard**	**1.10**	**93**	P		**Pg**	**14 08 54.4**	**-0.3**
	baz=274,SNR=12							
TUL1				S		**Sb**	**14 09 10.0**	**0.0**
	baz=274							
TUL1	**Leonard**	**1.10**	**93**			**Pg**	**14 08 54.4**	**-0.3**
X34A	**Smith Ranch, M**	**1.49**	**202**			**Pb**	**14 09 01.2**	**-0.5**
U32A	**Winter Ranch,**	**1.55**	**285**			**Pn**	**14 09 01.6**	**-0.4**
WMOK	**Wichita Mounta**	**1.82**	**228**	P		**Pn**	**14 09 05.9**	**+0.1**
	baz=46							
WMOK				S		**Sb**	**14 09 30.3**	**-0.3**
	baz=46							
WMOK	**Wichita Mounta**	**1.82**	**228**			**Pn**	**14 09 05.8**	**+0.1**
X37A	**Clayton**	**2.01**	**133**			**Pn**	**14 09 08.6**	**+0.3**
U38A	**Gravette**	**2.28**	**78**			**Pn**	**14 09 12.5**	**+0.5**
HHAR	**Hobbs**	**2.61**	**82**			**Pn**	**14 09 16.6**	**0.0**
Z35A	**Perchaven, San**	**2.64**	**182**	Pn		**Pn**	**14 09 16.5**	**-0.5**
W39A	**Magazine**	**2.85**	**105**	P		**Pn**	**14 09 20.4**	**+0.6**
	baz=287,SNR=15							
W39A				S		**Sn**	**14 09 55.9**	**+1.3**
	baz=287							
W39A	**Magazine**	**2.85**	**105**			**Pn**	**14 09 20.2**	**+0.3**
KSU1	**Kansas State U**	**3.15**	**8**	Pb		**Pb**	**14 09 31.0**	**+0.9**
	baz=188							
KSU1				Sb		**Sg**	**14 10 12.6**	**-2.0**
	baz=188							
KSU1	**Kansas State U**	**3.15**	**8**	Pn		**Pn**	**14 09 23.7**	**-0.1**
Z38A	**Mt. Pleasant**	**3.25**	**146**	Pn		**Pn**	**14 09 25.1**	**-0.1**
MIAR	**Mount Ida**	**3.25**	**115**	P		**Pn**	**14 09 26.3**	**+0.9**
	baz=297,SNR=8.0							
MIAR				S		**Sn**	**14 10 05.3**	**+0.7**
	baz=297							
MIAR	**Mount Ida**	**3.25**	**115**	Pn		**Pn**	**14 09 26.4**	**+1.0**
U40A	**Yellville**	**3.49**	**83**	P		**Pn**	**14 09 29.1**	**+0.3**
	baz=265							
U40A				S		**Sn**	**14 10 11.5**	**+1.0**
	baz=265							
U40A	**Yellville**	**3.49**	**83**			**Pn**	**14 09 29.1**	**+0.3**
CBKS	**Cedar Bluff**	**3.50**	**325**	P		**Pn**	**14 09 29.3**	**+0.4**
	baz=144,SNR=8.9							
CBKS				Sb		**Sg**	**14 10 23.1**	**-2.9**
	baz=144							
CBKS	**Cedar Bluff**	**3.50**	**325**	Pn		**Pn**	**14 09 28.6**	**-0.2**
S39A	**Bolivar**	**3.51**	**60**	Pn		**Pn**	**14 09 29.3**	**+0.3**
X40A	**Basin Creek Fa**	**3.83**	**112**	P		**Pn**	**14 09 34.4**	**+1.1**
	baz=294,SNR=14							
X40A				S		**Sn**	**14 10 19.6**	**+0.8**
	baz=294							
X40A	**Basin Creek Fa**	**3.83**	**112**			**Pn**	**14 09 34.2**	**+0.8**
AMTX	**Amarillo**	**3.86**	**255**	Pb		**Pb**	**14 09 41.5**	**-0.8**
	baz=72							
AMTX				Sb		**Sb**	**14 10 32.3**	**+2.9**
	baz=72							
AMTX	**Amarillo**	**3.86**	**255**	Pn		**Pn**	**14 09 33.0**	**-0.9**
ABTX	**Abilene, Hawle**	**3.93**	**212**	Sb		**Sb**	**14 10 34.2**	**+2.7**
	baz=31							
ABTX	**Abilene, Hawle**	**3.93**	**212**	Pn		**Pn**	**14 09 34.6**	**-0.2**
WHTX	**Lake Whitney,**	**3.99**	**184**	Sb		**Sb**	**14 10 35.1**	**+2.1**
	baz=3.2							
WHTX	**Lake Whitney,**	**3.99**	**184**	Pn		**Pn**	**14 09 35.5**	**0.0**
WHAR	**Wooly Hollow**	**4.02**	**98**			**Pn**	**14 09 36.7**	**+0.9**
W41B	**Gary Mavity, V**	**4.07**	**100**	P		**Pn**	**14 09 37.5**	**+0.8**
	baz=283,SNR=9.6							
W41B				S		**Sn**	**14 10 25.6**	**+0.8**
	baz=283							
W41B	**Gary Mavity, V**	**4.07**	**100**			**Pn**	**14 09 36.3**	**-0.3**
UALR	**University of**	**4.11**	**106**	Pn		**Pn**	**14 09 37.2**	**+0.2**
Z41A	**Richland Creek**	**4.50**	**126**	Pn		**Pn**	**14 09 42.5**	**+0.1**
R40A	**Maddies Statio**	**4.53**	**58**			**Pn**	**14 09 43.2**	**+0.3**
NATX	**Nacogdoches**	**4.69**	**153**	S		**Sn**	**14 10 38.2**	**-1.8**
	baz=334							
LCAR	**Lake Charles**	**4.86**	**87**	Pn		**Pn**	**14 09 47.7**	**+0.3**
T42A	**Van Buren**	**4.99**	**76**	Pn		**Pn**	**14 09 49.3**	**+0.1**
MSTX	**Muleshoe**	**5.04**	**248**	S		**Sn**	**14 10 49.1**	**+0.4**
	baz=65							
CCM	**Cathedral Cave**	**5.16**	**65**	P		**Pn**	**14 09 51.7**	**+0.1**
	baz=248							
CCM				S		**Sn**	**14 10 53.5**	**+2.0**
	baz=248							
KSCO	**Kaye Shedlock'**	**5.30**	**306**	P		**Pn**	**14 09 54.6**	**+0.9**
	baz=123,SNR=20							
P40A	**Paris**	**5.37**	**47**	Pn		**Pn**	**14 09 55.1**	**+0.6**
BGNE	**Belgrade**	**5.48**	**352**	Pn		**Pn**	**14 09 55.8**	**-0.2**
JCT	**Junction City**	**5.92**	**203**	Pn		**Pn**	**14 10 01.4**	**-0.7**
T25A	**Trinidad**	**5.96**	**283**	P		**Pn**	**14 10 02.3**	**-0.5**
	baz=99							
T25A	**Trinidad**	**5.96**	**283**			**Pn**	**14 10 01.6**	**-1.2**
Q24A	**Divide**	**7.03**	**297**	Pn		**Pn**	**14 10 16.5**	**-1.0**
L40A	**Anamosa**	**7.62**	**35**	Pn		**Pn**	**14 10 24.9**	**-0.6**
ISCO	**Idaho Springs**	**7.70**	**302**	P		**Pn**	**14 10 27.5**	**+0.7**
	baz=117							
ECSD	**EROS Data Cent**	**7.75**	**3**	P		**Pn**	**14 10 26.7**	**-0.6**
	baz=183							
ECSD	**EROS Data Cent**	**7.75**	**3**	Pn		**Pn**	**14 10 26.6**	**-0.6**
MNTX	**Cornudas Mount**	**8.07**	**240**	P		**Pn**	**14 10 31.5**	**-0.1**
	baz=56							
MNTX	**Cornudas Mount**	**8.07**	**240**	Pn		**Pn**	**14 10 31.2**	**-0.4**
L42A	**Oliver, Polo**	**8.37**	**42**	Pn		**Pn**	**14 10 34.7**	**-1.0**
N23A	**Red Feather La**	**8.47**	**308**	P		**Pn**	**14 10 38.0**	**+0.8**
	baz=123							
N23A	**Red Feather La**	**8.47**	**308**			**

	86nm,0.1s							
KAPS	**Kapalarasan**	**1.46**	**8**	P		**Pg**	**14 35 53.7**	**-0.4**
	4.8nm,0.1s							
KAPS				S		**Sg**	**14 36 13.6**	**+0.7**
	86nm,0.1s							
ANVS	**Anan'yevo**	**1.47**	**224**	⇓*i*P		**Pb**	**14 35 52.8**	**-0.8**
	baz=24							
ANVS				⇓*i*S		**Sb**	**14 36 11.7**	**-0.7**
	baz=24							
CHKK	**Chushkaly**	**1.49**	**271**	*e*P		**Pb**	**14 35 53.0**	**-1.0**
	baz=72							
CHKK				*e*S		**Sb**	**14 36 12.6**	**-0.4**
	baz=72							
CHKK	**Chushkaly**	**1.49**	**271**	*e*P		**Pb**	**14 35 53.0**	**-1.0**
	14nm,0.1s							
CHKK				*e*S		**Sb**	**14 36 12.6**	**-0.4**
	333nm,0.2s							
CHKK	**Chushkaly**	**1.49**	**271**	P		**Pb**	**14 35 53.0**	**-1.0**
	14nm,0.1s							
CHKK				S		**Sb**	**14 36 12.6**	**-0.4**
	333nm,0.2s							
KOTS	**Kotyrbulak**	**1.54**	**247**	*e*P		**Pb**	**14 35 54.4**	**-0.4**
	baz=47							
KOTS				*e*S		**Sg**	**14 36 14.5**	**-1.1**
	baz=47							
KOTS	**Kotyrbulak**	**1.54**	**247**	*e*P		**Pb**	**14 35 54.4**	**-0.4**
	57nm,0.1s							
KOTS				*e*S		**Sg**	**14 36 14.6**	**-1.1**
	284nm,0.2s							
KOTS	**Kotyrbulak**	**1.54**	**247**	P		**Pb**	**14 35 54.4**	**-0.4**
	57nm,0.1s							
KOTS				S		**Sg**	**14 36 14.5**	**-1.1**
	284nm,0.2s							
MDOK	**Medeo**	**1.61**	**246**	*e*P		**Pb**	**14 35 55.4**	**-0.6**
	baz=46							
MDOK				*e*S		**Sb**	**14 36 16.3**	**-0.2**
	baz=46							
MDOK	**Medeo**	**1.61**	**246**	*e*P		**Pb**	**14 35 55.4**	**-0.6**
	44nm,0.3s							
MDOK				*e*S		**Sb**	**14 36 16.3**	**-0.2**
	161nm,0.3s							
MDOK	**Medeo**	**1.61**	**246**	⇓P		**Pb**	**14 35 55.4**	**-0.6**
	28nm,0.5s							
MDOK				⇑S		**Sb**	**14 36 16.0**	**-0.5**
	91nm,0.4s							
MDOK	**Medeo**	**1.61**	**246**	Pg		**Pb**	**14 35 55.4**	**-0.6**
	44nm,0.3s							
MDOK				Lg		Lg	14 36 16.3	
	161nm,0.3s							
KNDC	**Almaty**	**1.64**	**248**	⇓P		**Pg**	**14 35 58.3**	**+0.7**
	16nm,0.3s							
KNDC				⇓S		**Sg**	**14 36 17.6**	**-1.4**
	129nm,0.5s							
AAA	**Alma-Ata**	**1.68**	**248**	*e*P		**Pg**	**14 35 57.3**	**-1.1**
	baz=49							
AAA				*e*S		**Sg**	**14 36 19.2**	**-0.9**
	baz=49							
AAA	**Alma-Ata**	**1.68**	**248**	*e*P		**Pg**	**14 35 57.2**	**-1.1**
	36nm,0.1s							
AAA				*e*S		**Sg**	**14 36 19.2**	**-0.9**
	171nm,0.2s							
AAA	**Alma-Ata**	**1.68**	**248**	P		**Pg**	**14 35 57.3**	**-1.1**
	36nm,0.1s							
AAA				S		**Sg**	**14 36 19.2**	**-0.9**
	171nm,0.2s							
KTBS	**Karatobe**	**1.72**	**266**	*e*P		**Pb**	**14 35 57.1**	**-0.7**
	11nm,0.2s							
KTBS				*e*S		**Sb**	**14 36 19.4**	**-0.2**
	144nm,0.2s							
KTBS	**Karatobe**	**1.72**	**266**	P		**Pb**	**14 35 57.1**	**-0.7**
	11nm,0.2s							
KTBS				S		**Sb**	**14 36 19.4**	**-0.2**
	144nm,0.2s							
IZV	**Izvestkoviy**	**1.95**	**246**	*e*P		**Pb**	**14 36 01.3**	**-0.6**
	baz=46							
IZV				*e*S		**Sb**	**14 36 26.9**	**+0.6**
	baz=46							
IZV	**Izvestkoviy**	**1.95**	**246**	*e*P		**Pb**	**14 36 01.3**	**-0.6**
	15nm,0.1s							
IZV				*e*S		**Sb**	**14 36 26.9**	**+0.6**
	108nm,0.3s							
IZV	**Izvestkoviy**	**1.95**	**246**	P		**Pb**	**14 36 01.3**	**-0.6**
	15nm,0.1s							
IZV				S		**Sb**	**14 36 27.0**	**+0.6**
	108nm,0.3s							
KUU	**Kurty**	**1.96**	**272**	*e*P		**Pb**	**14 36 00.9**	**-1.1**
	baz=73							
KUU				*e*S		**Sb**	**14 36 26.2**	**-0.3**
	baz=73							
KUU	**Kurty**	**1.96**	**272**	*e*P		**Pb**	**14 36 00.9**	**-1.1**
	11nm,0.2s							
KUU				*e*S		**Sb**	**14 36 26.2**	**-0.3**
	135nm,0.2s							
KUU	**Kurty**	**1.96**	**272**	Pg		**Pb**	**14 36 00.9**	**-1.1**
	11nm,0.2s							
KUU				Lg		Lg	14 36 26.2	
	135nm,0.2s							
MTBS	**Maitube**	**2.04**	**250**	*e*P		**Pb**	**14 36 02.8**	**-0.5**
	baz=50							
MTBS				*e*S		**Sb**	**14 36 28.9**	**+0.1**
	baz=50							
MTBS	**Maitube**	**2.04**	**250**	*e*P		**Pb**	**14 36 02.8**	**-0.5**
	38nm,0.1s							
MTBS				*e*S		**Sb**	**14 36 28.9**	**+0.1**
	192nm,0.3s							
MTBS	**Maitube**	**2.04**	**250**	Pg		**Pb**	**14 36 02.8**	**-0.5**
	38nm,0.1s							
MTBS				Lg		Lg	14 36 28.9	
	192nm,0.3s							
KDJ	**Kajisay**	**2.20**	**219**	⇑*i*P		**Pb**	**14 36 05.2**	**-0.9**
	baz=19							
KDJ				⇑*i*S		**Sb**	**14 36 33.8**	**+0.4**
	baz=19							
TARG	**Taragay, Kyrgy**	**2.31**	**204**	⇓*i*P		**Pb**	**14 36 07.1**	**-1.0**
	baz=4.0							
TARG				⇓*i*S		**Sb**	**14 36 37.3**	**+0.5**
	baz=4.0							
KST	**Kastek**	**2.39**	**251**	*e*P		**Pb**	**14 36 09.1**	**-0.2**
	22nm,0.2s							
KST				*e*S		**Sb**	**14 36 39.1**	**+0.2**
	69nm,0.3s							
KST	**Kastek**	**2.39**	**251**	Pg		**Pb**	**14 36 09.1**	**-0.2**
	22nm,0.2s							
KST				Lg		Lg	14 36 39.1	
	69nm,0.3s							
KRBS	**Karabastau**	**2.45**	**268**	*e*P		**Pb**	**14 36 10.0**	**-0.3**
	12nm,0.3s							
KRBS				*e*S		**Sb**	**14 36 41.3**	**+0.7**
	8.2nm,0.1s							
KRBS	**Karabastau**	**2.45**	**268**	Pg		**Pb**	**14 36 10.0**	**-0.3**
	12nm,0.3s							
KRBS				Lg		Lg	14 36 41.3	
	8.2nm,0.1s							
DGS	**Degeres**	**2.46**	**257**	*e*P		**Pb**	**14 36 10.2**	**-0.3**
	20nm,0.2s							
DGS				*e*S		**Sb**	**14 36 41.1**	**+0.2**
	108nm,0.3s							
DGS	**Degeres**	**2.46**	**257**	Pg		**Pb**	**14 36 10.2**	**-0.3**
	20nm,0.2s							
DGS				Lg		Lg	14 36 41.1	
	108nm,0.3s							
ULHL	**Ulahol**	**2.61**	**233**	⇑*e*P		**Pb**	**14 36 10.9**	**-2.2**
	baz=33							
ULHL				⇑*i*S		**Sb**	**14 36 43.3**	**-2.0**
	baz=33							
BOOM	**Boomskoye usch**	**2.65**	**240**	⇑*i*P		**Pb**	**14 36 11.1**	**-2.7**
	baz=40							
BOOM				⇑*i*S		**Sb**	**14 36 43.8**	**-2.6**
	baz=40							
TKM2	**Tokmak 2**	**2.68**	**251**	⇑*i*P		**Pb**	**14 36 11.5**	**-2.9**
	baz=51							
TKM2				⇑*i*S		**Sb**	**14 36 44.9**	**-2.5**
	baz=51							
TKM2	**Tokmak 2**	**2.68**	**251**	⇑Pg		**Pb**	**14 36 14.9**	**+0.6**
	12nm,0.6s							
TKM2				⇑Lg		Lg	14 36 48.0	
	19nm,0.3s							
KBK	**Karagaybulak**	**3.23**	**250**	⇑*i*P		**Pn**	**14 36 19.1**	**+2.1**
	baz=50							
KBK				⇑*i*S		**Sn**	**14 36 57.4**	**+1.8**
	baz=50							
SGDS	**Sogindy**	**3.23**	**265**	Pg		**Pb**	**14 36 24.6**	**+0.9**
	4.3nm,0.3s							
SGDS				Lg		Lg	14 37 04.7	
	15nm,0.3s							
CHMS	**Chumysh**	**3.25**	**256**	⇑*i*P		**Pn**	**14 36 19.2**	**+2.1**
	baz=56							
CHMS				⇑*i*S		**Sn**	**14 36 57.6**	**+1.7**
	baz=56							
KZA	**Kyzart**	**3.30**	**239**	⇓*i*P		**Pn**	**14 36 20.7**	**+2.4**
	baz=39							
KZA				⇓*i*S		**Sn**	**14 37 00.2**	**+2.4**
	baz=39							
AAK	**Ala-Archa**	**3.54**	**252**	⇓Pg		**Pb**	**14 36 30.6**	**+1.6**
	2.4nm,0.5s							
AAK				Lg		Lg	14 37 14.6	
	18nm,0.7s							
MAKZ	**Makanchi**	**3.61**	**34**	⇑Pg		**Pg**	**14 36 34.4**	**-0.9**
	1.0nm,0.4s							
MAKZ				⇑Lg		Lg	14 37 19.8	
	4.4nm,0.6s							
MK31	**Makanchi Array**	**3.73**	**37**	Pn		**Pn**	**14 36 26.5**	**+2.8**
	0.3nm,0.3s,baz=28,slow=1.4,SNR=53							
MK31				⇑Pg		**Pg**	**14 36 39.7**	**+2.2**
	1.4nm,0.3s,baz=211,slow=16,SNR=16							
MK31				⇑Lg		Lg	14 37 23.3	
	2.5nm,0.3s,baz=216,slow=28,SNR=7.8							
MRKS	**Merke**	**4.39**	**258**	*e*P		**Pg**	**14 36 47.3**	**-3.0**
	10nm,0.4s							
MRKS				*e*S		**Sg**	**14 37 44.8**	**-2.4**
	18nm,0.3s							
MRKS	**Merke**	**4.39**	**258**	Pg		**Pg**	**14 36 47.3**	**-3.0**
	10nm,0.4s							
MRKS				Lg		Lg	14 37 44.8	
	18nm,0.3s							
ZSN	**Zaisan**	**5.44**	**46**	*e*P		**Pb**	**14 37 03.4**	**+2.2**
	3.2nm,0.1s							
ZSN				*e*S		**Sg**	**14 38 14.2**	**-6.5**
	12nm,0.5s							
ZSN	**Zaisan**	**5.44**	**46**	Pg		**Pg**	**14 37 05.7**	**-4.6**
	3.4nm,0.2s							
ZSN				Lg		Lg	14 38 15.9	
	12nm,0.5s							
KK31	**Karatay Array**	**6.26**	**266**	Pg		**Pg**	**14 37 22.0**	**-3.9**
	0.3nm,0.3s,baz=84,slow=17,SNR=5.6							
KK31				Lg		Lg	14 38 41.1	
	2.2nm,0.5s,baz=79,slow=28,SNR=3.6							
OTUK	**Ortayu**	**6.42**	**316**	⇑Pg		**Pb**	**14 37 17.5**	**-0.3**
	0.6nm,0.6s							
OTUK				⇓Lg		Lg	14 38 41.4	
	9.5nm,1.0s							
KURBB	**Kurchatov Arra**	**6.79**	**357**	⇓Lg		Lg	14 38 57.7	
	9.2nm,0.7s							
KURK	**Kurchatov**	**6.88**	**358**	⇓Lg		Lg	14 39 01.7	
	9.0nm,1.2s							

*IDC **18** 14:35:52.8±4.3,5.˚87S×152.˚09E,h51km±32km, mb3.8/4, mb1 4.1/5, mb1mx3.5/27, mbtmp4.1/5, ML2.1/1, MS4.0/1, Ms1 4.0/1, ms1mx2.6/28, Error ellipse: s-maj=63.3km s-min=12.6km az=112.0*

*NEIC **18** 14:35:53.1±0.8,5.˚8S±0.˚1×152.˚0E±0.˚2, h53km±9km, mb4.4/10, Error ellipse: s-maj=28.5km s-min=9.9km az=113.0*

ISC 18 14:35:51.4±1.4, 5.˚9S±0.˚1×152.˚1E±0.˚2, h36km, n21, σ1§45/22, mb4.4/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.60**	**359**	P		**Pn**	**14 36 17.9**	**+0.7**
	127nm,0.3s,baz=62,slow=0.8,SNR=176							
KRVT				S		**Sn**	**14 36 37.3**	**+0.6**
	529nm,0.3s,baz=139,slow=20,SNR=14							
RABL	**Rabaul**	**1.72**	**4**	Pn		**Pn**	**14 36 19.4**	**+0.5**
PMG	**Port Moresby**	**5.96**	**234**	P		**Pn**	**14 37 19.1**	**+1.9**
	3.3nm,0.3s,baz=39,slow=7.6,SNR=12							
PMG				S		**Sn**	**14 38 21.7**	**-2.5**
	7.4nm,0.3s,baz=165,slow=23,SNR=9.1							
COEN	**Coen**	**11.84**	**227**	Pn		**Pn**	**14 38 39.0**	**+1.1**
FAKI	**Fak Fak**	**19.97**	**278**	P		**P**	**14 40 20.0**	**-0.8**
FAKI				IAmb		IAmb	14 41 19.0	
	comp=Z,32nm,1.4s							
MTN	**Manton Dam**	**21.74**	**250**	P		**P**	**14 40 40.6**	**+0.7**
MTN				IAmb		IAmb	14 41 01.7	
	comp=Z,20nm,1.2s							
WB0	**Warramunga Arr**	**22.01**	**230**	P		**P**	**14 40 45.0**	**+2.2**
WB0				IAmb		IAmb	14 41 01.1	
	comp=Z,27nm,1.6s							
WR0	**Warramunga Arr**	**22.01**	**229**	P		**P**	**14 40 45.0**	**+2.2**
WRAB	**Tennant Creek**	**22.14**	**229**	P		**P**	**14 40 42.5**	**-1.7**
WRAB				IAmb		IAmb	14 41 12.7	
	comp=Z,8.4nm,0.5s							
WB2	**Warramunga Arr**	**22.14**	**229**	P		**P**	**14 40 45.2**	**+1.0**
WRA	**Warramunga Arr**	**22.15**	**229**	P		**P**	**14 40 46.2**	**+1.9**
	comp=Z,3.0nm,0.5s,baz=53,slow=9.9,SNR=24							
WRA	**Warramunga Arr**	**22.15**	**229**	P		**P**	**14 40 45.3**	**+1.0**
KNRA	**Kununurra**	**24.82**	**245**	P		**P**	**14 41 12.4**	**+1.9**
ASAR	**Alice Springs**	**24.82**	**223**	P		**P**	**14 41 11.4**	**+0.9**
	comp=Z,1.6nm,0.5s,baz=59,slow=8.6,SNR=21							
FITZ	**Fitzroy Crossi**	**28.48**	**243**	P		**P**	**14 41 42.6**	**-0.8**
	comp=Z,3.2nm,0.4s,baz=54,slow=7.8,SNR=18							
FITZ	**Fitzroy Crossi**	**28.48**	**243**	P		**P**	**14 41 42.2**	**-1.2**
FORT	**Forrest**	**33.45**	**219**	P		**P**	**14 42 27.6**	**+0.4**
PSI	**Prapat**	**53.76**	**278**	LR		LR	15 12 05.2	
	comp=Z,135nm,18.2s,baz=141,slow=40							
ILAR	**Eielson Array**	**83.47**	**22**	P		**P**	**14 48 14.2**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=246,slow=5.0,SNR=6.1							
TORD	**Torodi Ar. Bea**	**149.92**	**286**	PKPbc		**PKPbc**	**14 55 38.6**	**-0.5**
	comp=Z,1.9nm,0.4s,baz=85,slow=2.4,SNR=17							
TORD	**Torodi Ar. Bea**	**149.92**	**286**			**PKPbc**	**14 55 38.4**	**-0.7**

*NEIC **18** 14:37:08.6±0.7,37.˚7S±0.˚1×176.˚3E±0.˚1, h315km±3km, mb4.2/7, Error ellipse: s-maj=15.9km s-min=14.4km az=200.0*

*WEL **18** 14:37:09.4,38˚±4˚×17˚6E±˚, h310km±7km, M3.3/63, MLv3.3/63, Error ellipse: s-maj=0.0km s-min=0.0km az=3.9*

ISC 18 14:37:08.4±0.9, 37.˚73S±0.˚06×176.˚22E±0.˚06, h314km±6km, n169, σ1§05/187, mb4.2/4, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TGRZ	**Tauranga**	**0.04**	**95**	P		**Pn**	**14 37 48.3**	**+0.3**
KMRZ	**Kaimai**	**0.25**	**241**	P		**Pn**	**14 37 49.0**	**+0.8**
OPRZ	**Ohinepanea**	**0.29**	**114**	P		**Pn**	**14 37 48.1**	**0.0**
KARZ	**Kaharoa**	**0.29**	**176**	P		**Pn**	**14 37 48.8**	**+0.6**
OMRZ	**Omania**	**0.40**	**162**	P		**Pn**	**14 37 48.9**	**+0.5**
UTU	**Utuhina**	**0.45**	**182**	P		**Pn**	**14 37 49.4**	**+0.9**
HLRZ	**Highlands Stat**	**0.54**	**169**	P		**Pn**	**14 37 49.7**	**+1.0**
TARZ	**Mount Tarawera**	**0.56**	**156**	P		**Pn**	**14 37 49.5**	**+0.7**
EDRZ	**Edgecumbe**	**0.56**	**133**	P		**Pn**	**14 37 49.4**	**+0.6**
TOZ	**Tahuroa Road**	**0.57**	**269**	P		**Pn**	**14 37 49.8**	**+1.0**
HSRZ	**Hossack Road**	**0.58**	**178**	P		**Pn**	**14 37 49.6**	**+0.9**
GRRZ	**Galatos Road**	**0.63**	**188**	P		**Pn**	**14 37 49.9**	**+1.0**
RRRZ	**Republican Roa**	**0.66**	**159**	P		**Pn**	**14 37 49.4**	**+0.8**
HRRZ	**Handcock Road**	**0.67**	**175**	P		**Pn**	**14 37 49.8**	**+0.8**
PRRZ	**Plateau Road**	**0.78**	**170**	P		**Pn**	**14 37 49.9**	**+0.6**
PRRZ				S		**S**	**14 38 21.1**	**-1.0**
WPRZ	**Whakapapatarin**	**0.79**	**183**	P		**Pn**	**14 37 50.3**	**+0.9**
TLZ	**Tolley Road**	**0.81**	**221**	P		**Pn**	**14 37 50.7**	**+1.2**
KUTZ	**Kaahu Road**	**0.82**	**202**	P		**Pn**	**14 37 50.6**	**+1.1**
ALRZ	**Allen Road**	**0.84**	**173**	P		**Pn**	**14 37 50.4**	**+0.8**
MUGZ	**Murupara**	**0.87**	**150**	P		**Pn**	**14 37 49.9**	**+0.3**
URZ	**Urewera**	**0.89**	**127**	P		**Pn**	**14 37 49.6**	**-0.1**
WHTZ	**Whakaora**	**0.96**	**192**	P		**Pn**	**14 37 51.3**	**+1.2**
MKAZ	**Moumakai**	**1.04**	**306**	P		**Pn**	**14 37 51.3**	**+0.8**
WATZ	**Wairara**	**1.05**	**201**	P		**Pn**	**14 37 51.6**	**+1.2**
KUZ	**Kuaotunu**	**1.06**	**338**	P		**Pn**	**14 37 50.5**	**-0.1**
RTZ	**Ruatahuna**	**1.07**	**146**	P		**Pn**	**14 37 51.2**	**+0.5**
RTZ				S		**S**	**14 38 22.2**	**-2.1**
MRHZ	**Matea Rd**	**1.12**	**172**	P		**Pn**	**14 37 51.4**	**+0.6**
MRHZ				S		**S**	**14 38 22.3**	**-2.4**
HATZ	**Hinemaiaia**	**1.17**	**185**	P		**Pn**	**14 37 51.7**	**+0.7**
RUGZ	**Raukumara Rang**	**1.18**	**102**	P		**Pn**	**14 37 50.5**	**-0.7**
RATZ	**Rangitukua**	**1.19**	**197**	P		**Pn**	**14 37 52.0**	**+0.9**
MWZ	**Matawai**	**1.20**	**121**	P		**Pn**	**14 37 51.5**	**+0.3**
RAGZ	**Rawiri**	**1.22**	**129**	P		**Pn**	**14 37 52.2**	**+0.8**
RAGZ				S		**S**	**14 38 23.7**	**-2.0**
MTHZ	**Maungataniwha**	**1.23**	**157**	P		**Pn**	**14 37 52.0**	**+0.7**
KBAZ	**Karaka Road Bo**	**1.23**	**300**	P		**Pn**	**14 37 52.5**	**+1.1**
HAZ	**Te Kaha**	**1.24**	**92**	P		**Pn**	**14 37 51.1**	**-0.3**
HAZ				S		**S**	**14 38 21.9**	**-3.8**
WIAZ	**Waiheke Island**	**1.27**	**317**	P		**Pn**	**14 37 52.1**	**+0.4**
RITZ	**Rihia Road**	**1.28**	**193**	P		**Pn**	**14 37 52.9**	**+1.3**
ETAZ	**East Tamaki Re**	**1.28**	**306**	P		**Pn**	**14 37 52.4**	**+0.7**
KATZ	**Kakaramea**	**1.31**	**198**	P		**Pn**	**14 37 53.1**	**+1.1**
HIZ	**Hauiti**	**1.33**	**233**	P		**Pn**	**14 37 53.3**	**+1.4**
HIZ	**Hauiti**	**1.33**	**233**	Pn		**Pn**	**14 37 53.2**	**+1.4**
RAHZ	**Arahi**	**1.37**	**150**	P		**Pn**	**14 37 53.2**	**+1.1**
SNGZ	**Shannon Statio**	**1.38**	**140**	P		**Pn**	**14 37 53.1**	**+0.9**
AWAZ	**Awhitu Peninsu**	**1.42**	**297**	P		**Pn**	**14 37 53.4**	**+1.0**
MBAZ	**Motutapu North**	**1.42**	**312**	P		**Pn**	**14 37 53.0**	**+0.5**
NMHZ	**Naumai**	**1.45**	**161**	P		**Pn**	**14 37 54.2**	**+1.5**
BKZ	**Black Stump Fm**	**1.45**	**172**	P		**Pn**	**14 37 53.4**	**+0.8**
BKZ	**Black Stump Fm**	**1.45**	**172**	Pn		**Pn**	**14 37 53.4**	**+0.8**
TWGZ	**Tauwhareparae**	**1.47**	**108**	P		**Pn**	**14 37 53.7**	**+1.0**
TKGZ	**Te Karaka**	**1.47**	**119**	P		**Pn**	**14 37 53.4**	**+0.7**
WTVZ	**West Tongariro**	**1.47**	**199**	P		**Pn**	**14 37 53.8**	**+1.0**
TWVZ	**Taurewa**	**1.48**	**204**	P		**Pn**	**14 37 53.8**	**+0.9**
PKGZ	**Pakihiroa**	**1.48**	**97**	P		**Pn**	**14 37 53.3**	**+0.4**
NGZ	**Ngauruhoe**	**1.53**	**198**	P		**Pn**	**14 37 54.3**	**+1.1**
WTAZ	**Waiatarua**	**1.53**	**301**	P		**Pn**	**14 37 54.4**	**+1.2**
RIGZ	**Rimuhau**	**1.56**	**129**	P		**Pn**	**14 37 53.6**	**+0.3**
WHHZ	**Waihua**	**1.57**	**150**	P		**Pn**	**14 37 54.4**	**+1.1**
ABAZ	**Army Bay**	**1.58**	**315**	P		**Pn**	**14 37 54.2**	**+0.7**
GRZ	**Great Barrier**	**1.59**	**337**	P		**Pn**	**14 37 53.1**	**-0.5**
TUVZ	**Tukino**	**1.60**	**196**	P		**Pn**	**14 37 54.7**	**+1.0**
FWVZ	**Far West T-bar**	**1.61**	**199**	P		**Pn**	**14 37 54.7**	**+0.8**
RVAZ	**Riverhead Bore**	**1.62**	**306**	P		**Pn**	**14 37 54.4**	**+0.7**
WHVZ	**Whangaehu Hut**	**1.63**	**197**	P		**Pn**	**14 37 55.0**	**+1.0**
PUZ	**Puketiti**	**1.65**	**103**	P		**Pn**	**14 37 54.0**	**+0.1**
PUZ				S		**S**	**14 38 26.8**	**-3.4**
ARHZ	**Aropaoanui**	**1.65**	**159**	P		**Pn**	**14 37 55.1**	**+1.3**
TRVZ	**Turoa**	**1.66**	**198**	P		**Pn**	**14 37 55.2**	**+1.1**
MXZ	**Matakaoa Point**	**1.67**	**85**	P		**Pn**	**14 37 54.1**	**+0.1**
MXZ	**Matakaoa Point**	**1.67**	**85**	Pn		**Pn**	**14 37 54.0**	**0.0**
KWHZ	**Kaweka Forest**	**1.70**	**175**	P		**Pn**	**14 37 55.4**	**+1.1**
PKVZ	**Pokaka**	**1.70**	**203**	P		**Pn**	**14 37 55.2**	**+0.9**
MOVZ	**Moawhango**	**1.72**	**192**	P		**Pn**	**14 37 55.0**	**+0.7**
KNZ	**Kokohu**	**1.73**	**139**	P		**Pn**	**14 37 55.1**	**+0.8**
CNGZ	**Carnagh Statio**	**1.74**	**116**	P		**Pn**	**14 37 55.5**	**+1.0**
WMGZ	**Waiomatatini S**	**1.74**	**94**	P		**Pn**	**14 37 54.6**	**0.0**
MCHZ	**McNeill Hill**	**1.76**	**168**	P		**Pn**	**14 37 54.4**	**-0.2**
MTVZ	**Mangateitei**	**1.76**	**199**	P		**Pn**	**14 37 55.9**	**+1.2**
BHHZ	**Black Hill Sta**	**1.77**	**184**	P		**Pn**	**14 37 55.6**	**+0.9**
PRGZ	**Paritu Road**	**1.77**	**133**	P		**Pn**	**14 37 55.5**	**+0.8**
VRZ	**Vera Road**	**1.81**	**219**	P		**Pn**	**14 37 56.2**	**+1.3**
MHGZ	**Mahia Peninsul**	**1.95**	**138**	P		**Pn**	**14 37 57.0**	**+1.1**
MHEZ	**Mangahewa**	**2.01**	**227**	P		**Pn**	**14 37 58.5**	**+2.1**
CKHZ	**Cape Kidnapper**	**2.04**	**161**	P		**Pn**	**14 37 58.0**	**+1.3**
CKHZ				S		**S**	**14 38 33.7**	**-1.5**
DREZ	**Durham Road**	**2.15**	**227**	P		**Pn**	**14 37 59.3**	**+1.7**
LREZ	**Lake Rotokare**	**2.24**	**219**	P		**Pn**	**14 37 59.8**	**+1.5**
WAZ	**Wanganui**	**2.24**	**205**	P		**Pn**	**14 37 59.1**	**+0.8**
WAZ				S		**S**	**14 38 38.5**	**+0.3**
PREZ	**Palmer Road**	**2.28**	**224**	P		**Pn**	**14 38 00.3**	**+1.7**
PKE	**Pukeiti**	**2.28**	**229**	P		**Pn**	**14 38 00.5**	**+1.9**
WCZ	**Waipu Caves**	**2.33**	**319**	P		**Pn**	**14 37 59.5**	**+0.4**
PXZ	**Pawanui**	**2.36**	**168**	P		**Pn**	**14 38 00.4**	**+1.2**
PXZ				S		**S**	**14 38 39.9**	**+0.1**
NMEZ	**Namu Road**	**2.49**	**227**	P		**Pn**	**14 38 01.9**	**+1.6**
PRHZ	**Porangahau**	**2.56**	**173**	P		**Pn**	**14 38 02.2**	**+1.3**
DVHZ	**Dannevirke**	**2.57**	**181**	P		**Pn**	**14 38 01.8**	**+0.8**
DVHZ				P		**Pn**	**14 38 01.8**	**+0.8**
DVHZ				S		**S**	**14 38 42.2**	**-1.0**
POWZ	**Post Office Ro**	**2.69**	**187**	P		**Pn**	**14 38 02.7**	**+0.6**
ANWZ	**Angora Road**	**2.74**	**176**	S		**S**	**14 38 46.3**	**+0.5**
PRWZ	**Pori Road**	**2.83**	**184**	P		**Pn**	**14 38 04.5**	**+1.1**
BFZ	**Birch Farm**	**2.95**	**180**	P		**Pn**	**14 38 05.5**	**+0.9**
BFZ				S		**S**	**14 38 47.5**	**-2.0**
BFZ	**Birch Farm**	**2.95**	**180**	Pn		**Pn**	**14 38 05.3**	**+0.8**
MRZ	**Mangatainoka R**	**2.97**	**189**	P		**Pn**	**14 38 05.2**	**+0.5**
MRZ				S		**S**	**14 38 48.4**	**-1.5**
TIWZ	**Tintock**	**3.06**	**185**	P		**Pn**	**14 38 06.5**	**+0.9**
CPWZ	**Castlepoint**	**3.18**	**180**	P		**Pn**	**14 38 08.3**	**+1.6**
OGWZ	**Otaki Gorge**	**3.19**	**194**	S		**S**	**14 38 52.8**	**-0.9**
HOWZ	**Holdsworth Sta**	**3.21**	**190**	P		**Pn**	**14 38 07.4**	**+0.2**
HOWZ				S		**S**	**14 38 53.2**	**-1.0**
OUZ	**Omahuta**	**3.27**	**319**	P		**Pn**	**14 38 07.9**	**+0.1**
OUZ	**Omahuta**	**3.27**	**319**	Pn		**Pn**	**14

	comp=Z,1µm,19.3s,baz=306,slow=71							
WRA	**Warramunga Arr**	**18.96 200**	P		**Pn**	**14 59 32.7**	**-0.4**
	0.2nm,0.3s,baz=14,slow=12,SNR=6.2							
FITZ	**Fitzroy Crossi**	**22.00 223**	P		**P**	**15 00 05.1**	**-0.2**
	1.9nm,0.9s,baz=54,slow=14,SNR=1.8							
ASAR	**Alice Springs**	**22.58 197**	P		**P**	**15 00 12.1**	**+0.5**
	0.9nm,0.6s,baz=30,slow=10,SNR=23							
H11S3	**WAKE ISLAND Hy 32.43**	**50**	T		T	15 36 53.9		
	baz=232,slow=75,SNR=10							
H11S2	**WAKE ISLAND Hy 32.44**	**50**	T		T	15 36 53.7		
	baz=232,slow=75,SNR=7.7							
H11S1	**WAKE ISLAND Hy 32.45**	**50**	T		T	15 36 49.0		
	baz=232,slow=75,SNR=6.5							
CMAR	**Chiang Mai Arr**	**46.20 298**	P		**P**	**15 03 36.5**	**+0.3**
	0.7nm,0.7s,baz=127,slow=6.9,SNR=4.3							
MKAR	**Makanchi Array**	**70.74 322**	P		**P**	**15 06 26.8**	**-0.3**
	0.3nm,0.9s,baz=102,slow=4.1,SNR=1.9							

*IDC **18** 14:58:16.4±1.9,6°.19N×127°.10E,h0^{km}, mb3.7/5, mb1 3.9/6, mb1mx3.5/38, mbtmp3.8/6, ML3.9/1, Error ellipse: s-maj=92.0km s-min=26.1km az=65.0*

*MAN **18** 14:58:20.4, 6°.23N×127°.53E, h69^{km}, mb5.0, ML3.9, MS4.0*

*DJA **18** 14:58:20.5±4.4, 7°.N±37°×12°.7E±1°.1, h71km±63km, MA4.2/6, mB4.8/4, mb4.3/6, MLv4.2/6, Mw(mB)4.0/4*

*NEIC **18** 14:58:24.6±1.2, 6°.3N±0°.1×127°.7E±0°.1, h78km±6km, mb4.3/13, Error ellipse: s-maj=23.0km s-min=14.3km az=62.0*

ISC 18 14:58:21.5±0.8, 6°.30N±0°.08×127°.60E±0°.08, h47^{km}, n35, σ1§89/40, mb4.0/9, 1C-2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.89**	**264**	*eP*		**Pn**	**14 58 50.0**	**-1.3**
DDMP				*eS*		**Sn**	**14 59 13.3**	**-0.7**
DMPH	**Davao City--Mi**	**2.22**	**291**	*eP*		**Pn**	**14 59 00.6**	**+4.7**
DMPH				*eS*		**Sn**	**14 59 23.4**	**+1.2**
KCP	**Kidapawan**	**2.59**	**286**	*iP*		**Pn**	**14 59 01.2**	**+0.1**
KCP				*iS*		**Sn**	**14 59 30.6**	**-0.8**
GSPH	**General Santos**	**2.65**	**266**	*iP*		**Pn**	**14 58 59.7**	**-2.1**
BUKP	**Musuan**	**2.97**	**302**	*eP*		**Pn**	**14 59 06.5**	**+0.3**
BUKP				*eS*		**Sn**	**14 59 40.6**	**0.0**
SKMP	**Bagumbayan, Su**	**3.05**	**274**	*eP*		**Pn**	**14 59 06.5**	**-0.7**
SKMP				*eS*		Sn	14 59 31.8	-11
CGP	**Cagayan de Oro**	**3.59**	**307**	*eP*		Pn	14 59 25.0	+10
CGP				*eS*		**Sn**	**14 59 53.4**	**-2.5**
PAGZ	**Pagadian**	**4.46**	**290**	*eP*		**Pn**	**14 59 26.5**	**-0.2**
TNTI	**Ternate**	**5.50**	**182**	P		**Pn**	**14 59 43.4**	**+2.5**
	0.1nm606nm16nm,0.6s							
TNTI	**Ternate**	**5.50**	**182**			**Pn**	**14 59 43.0**	**+2.2**
LBMI	**Labuha**	**6.89**	**181**	P		**Pn**	**15 00 02.9**	**+2.9**
	0.1nm35nm,0.7s							
SIJI	**Sorong**	**8.01**	**153**	Pn		**Pn**	**15 00 17.9**	**+2.6**
	1.6nm,0.3s,baz=352,slow=19,SNR=2.7							
SIJI				Sn		**Sn**	**15 01 39.8**	**-4.8**
	2.0nm,0.3s,baz=180,slow=23,SNR=8.8							
MRSI	**Marisa**	**8.09**	**225**	P		**Pn**	**15 00 15.3**	**-1.1**
	2µm24nm,0.7s							
LUWI	**Luwuk**	**8.74**	**214**	Pn		**Pn**	**15 00 29.7**	**+4.3**
APSI	**Ampana**	**9.31**	**220**	P		**Pn**	**15 00 34.2**	**+1.1**
FAKI	**Fak Fak**	**10.27**	**153**	Pn		**Pn**	**15 00 49.4**	**+3.1**
SBUM	**Sibu**	**15.80**	**257**	P		**P**	**15 02 04.9**	**+0.7**
MTN	**Manton Dam**	**19.34**	**170**	P		**P**	**15 02 42.6**	**-0.6**
MTN				IAmb		IAmb	15 02 52.0	
	comp=Z,24nm,1.4s							
KNRA	**Kununurra**	**21.86**	**177**	P		**P**	**15 03 11.5**	**+1.1**
KNRA				IAmb		IAmb	15 04 02.9	
	comp=Z,24nm,1.4s							
FITZ	**Fitzroy Crossi**	**24.32**	**185**	P		**P**	**15 03 35.0**	**+0.1**
	comp=Z,1.5nm,0.5s,baz=359,slow=7.2,SNR=12							
WB0	**Warramunga Arr**	**26.75**	**166**	P		**P**	**15 03 57.1**	**+0.2**
WB0				IAmb		IAmb	15 04 21.2	
	comp=Z,14nm,1.4s							
WRA	**Warramunga Arr**	**26.91**	**166**	P		**P**	**15 03 58.9**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=345,slow=10,SNR=17							
WRA	**Warramunga Arr**	**26.91**	**166**	P		**P**	**15 03 58.5**	**+0.1**
WB2	**Warramunga Arr**	**26.91**	**166**	P		**P**	**15 03 58.7**	**+0.3**
WR0	**Warramunga Arr**	**26.97**	**165**	P		**P**	**15 03 59.5**	**+0.5**
ASAR	**Alice Springs**	**30.41**	**169**	P		**P**	**15 04 30.9**	**+1.4**
	comp=Z,0.4nm,0.5s,baz=339,slow=6.9,SNR=7.2							
ASAR	**Alice Springs**	**30.41**	**169**	P		**P**	**15 04 29.5**	**-0.1**
FORT	**Forrest**	**36.87**	**179**	P		**P**	**15 05 26.5**	**+0.9**
STKA	**Stephens Creek**	**40.24**	**161**	P		**P**	**15 05 55.0**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=346,slow=12,SNR=4.6							
STKA	**Stephens Creek**	**40.24**	**161**	P		**P**	**15 05 54.3**	**+0.4**
STKA				IAmb		IAmb	15 06 24.1	
	comp=Z,6.3nm,1.8s							
SANVU	**Saraoutou**	**44.79**	**119**	P		**P**	**15 06 28.2**	**-2.7**
MK31	**Makanchi Array**	**55.98**	**324**	P		**P**	**15 07 55.1**	**-0.1**
MK31				IAmb		IAmb	15 07 56.4	
	comp=Z,4.7nm,1.9s							
MKAR	**Makanchi Array**	**55.98**	**324**	P		**P**	**15 07 55.4**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=123,slow=7.9,SNR=2.8							
TARG	**Taragay, Kyrgy**	**56.46**	**317**	P		**P**	**15 07 58.5**	**-0.7**
TARG				IAmb		IAmb	15 08 13.5	
	comp=Z,2.7nm,0.8s							
ABKAR	**Akbulak array**	**70.74**	**320**	P		**P**	**15 09 32.4**	**-0.4**

*IDC **18** 15:20:55.5±19.0, 37°.67N×20°.04E, h0^{km}, mb3.9/4, mb1 3.8/5, mb1mx3.5/33, mbtmp3.8/5, ML3.7/1, MS2.4/1, Ms1 2.4/1, ms1mx2.1/36, Error ellipse: s-maj=375.5km s-min=34.5km az=37.0*

*PDG **18** 15:21:00.1±0.4, 38°.12N×20°.28E, h7km±1km, ML3.5/13, Error ellipse: s-maj=1.3km s-min=1.6km az=0.0*

*THE **18** 15:21:01.4, 38°.15N×20°.37E, h0^{km}±2^{km}, ML3.3/13, Error ellipse: s-maj=2.3km s-min=0.8km az=249.0*

*ATH **18** 15:21:01.1, 38°.15N×20°.39E, h12km±1km, ML3.3/11, Error ellipse: s-maj=1.3km s-min=0.7km az=243.0*

ISC 18 15:21:01.3±0.8, 38°.16N±0°.02×20°.36E±0°.03, h11km±4km, n117, σ1§33/171, mb3.9/4, 7C-7D, Greece

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.05**	**346**	P		**Pg**	**15 21 03.5**	**+0.1**
KEF3				S		**Sg**	**15 21 05.1**	**+0.1**
ARGA	**Argostoli. Kep**	**0.09**	**77**	P		**Pg**	**15 21 03.5**	**-0.4**
ARGA				S		**Sg**	**15 21 05.0**	**-0.8**
ARG2	**Argostoli**	**0.10**	**77**	P		**Pg**	**15 21 03.6**	**-0.4**
ARG2				S		**Sg**	**15 21 05.1**	**-0.9**
	153µm,0.3s							
KEF4	**Livadi, Kephal**	**0.11**	**26**	P		**Pg**	**15 21 04.2**	**0.0**
KEF4				S		**Sg**	**15 21 06.4**	**+0.1**
KEF5	**Kardakata, Kep**	**0.15**	**34**	P		**Pg**	**15 21 04.6**	**-0.1**
KEF5				S		**Sg**	**15 21 06.8**	**-0.3**
VLS	**Valsamata**	**0.18**	**83**	P		**Pg**	**15 21 04.7**	**-0.5**
VLS				S		**Sg**	**15 21 07.2**	**-0.8**
VLS	**Valsamata**	**0.18**	**83**	P		**Pg**	**15 21 04.8**	**-0.5**
VLS				S		**Sg**	**15 21 07.2**	**-0.8**
VLS				AML	AML		15 21 07.5	
	comp=E,77100µm,0.1s							
VLS				AML	AML		15 21 07.6	
	comp=N,62872µm,0.1s							
VSK1	**VASILIKIADES**	**0.30**	**32**	P		**Pg**	**15 21 07.2**	**-0.1**
VSK1				S		**Sg**	**15 21 11.9**	**+0.5**
	comp=N,15µm,0.3s							
FSK	**Fiskardo**	**0.34**	**27**	P		**Pg**	**15 21 08.0**	**-0.1**
FSK				S		**Sg**	**15 21 13.6**	**+0.9**
	comp=N,5µm,0.3s							
FSK	**Fiskardo**	**0.34**	**27**	P		**Pg**	**15 21 08.0**	**-0.1**
FSK				S		**Sg**	**15 21 12.4**	**-0.3**
FSK				AML	AML		15 21 15.2	
	comp=N,9147µm,0.4s							
FSK				AML	AML		15 21 15.8	
	comp=E,10489µm,0.2s							
VLMS	**Volimes, Zakyn**	**0.37**	**140**	P		**Pg**	**15 21 08.4**	**-0.2**
VLMS				S		**Sg**	**15 21 13.6**	**+0.1**
VLMS				AML	AML		15 21 15.0	
	comp=N,26554µm,0.3s							
VLMS				AML	AML		15 21 17.3	
	comp=E,21261µm,0.2s							
EVGI	**Lefkada island**	**0.52**	**26**	P		**Pg**	**15 21 11.2**	**-0.2**
EVGI				S		**Sb**	**15 21 19.4**	**-0.5**
EVGI	**Lefkada island**	**0.52**	**26**	P		**Pg**	**15 21 11.3**	**-0.2**
EVGI				S		**Sb**	**15 21 18.9**	**-1.0**
ZAK2	**Zakynthos**	**0.56**	**131**	P		**Pg**	**15 21 12.1**	**-0.1**
MGNA	**Meganis**	**0.60**	**34**	P		**Pg**	**15 21 12.5**	**-0.4**
MGNA				S		**Sb**	**15 21 21.1**	**-1.2**
MGNA				AML	AML		15 21 22.2	
	comp=E,10527µm,0.4s							
MGNA				AML	AML		15 21 22.2	
	comp=N,6973µm,0.3s							

KRI1	**kERI**	**0.61**	**144**	P		**Pg**	**15 21 12.6**	**-0.5**
KRI1				S		**Sg**	**15 21 21.9**	**+0.7**
LKD2	**Lefkada island**	**0.67**	**20**	P		**Pg**	**15 21 13.8**	**-0.6**
LKD2	**Lefkada island**	**0.67**	**20**	P		**Pg**	**15 21 13.8**	**-0.6**
LKD2				S		**Sb**	**15 21 24.1**	**-0.3**
LKD2				AML	AML		15 21 29.7	
	comp=E,2189µm,0.5s							
LKD2				AML	AML		15 21 33.6	
	comp=N,3393µm,0.7s							
AST1	**Astakos**	**0.69**	**56**	P		**Pb**	**15 21 14.2**	**-1.1**
AST1				S		**Sn**	**15 21 25.1**	**-2.5**
	comp=N,4µm,0.4s							
VTN	**Vitineika**	**0.69**	**110**	P		**Pg**	**15 21 14.5**	**-0.1**
VTN	**Vitineika**	**0.69**	**110**	P		**Pg**	**15 21 14.6**	**-0.1**
VTN				S		**Sg**	**15 21 23.4**	**-0.4**
TSLK	**Tsoukalades, L**	**0.71**	**19**	P		**Pg**	**15 21 14.5**	**-0.4**
TSLK				S		**Sb**	**15 21 25.5**	**+0.2**
	comp=N,2µm,0.5s							
TSLK	**Tsoukalades, L**	**0.71**	**19**	P		**Pg**	**15 21 14.6**	**-0.4**
TSLK				S		**Sg**	**15 21 23.0**	**-1.3**
TSLK				AML	AML		15 21 32.4	
	comp=E,3872µm,0.4s							
TSLK				AML	AML		15 21 34.8	
	comp=N,3671µm,0.5s							
RLS	**Riolos of Patr**	**0.88**	**96**	P		**Pg**	**15 21 17.3**	**-0.8**
RLS				S		**Sn**	**15 21 31.4**	**-0.8**
	comp=N,1µm,0.6s							
RLS	**Riolos of Patr**	**0.88**	**96**	P		**Pg**	**15 21 17.3**	**-0.8**
RLS				S		**Sb**	**15 21 29.7**	**-0.4**
RLS				AML	AML		15 21 33.6	
	comp=E,2097µm,0.7s							
RLS				AML	AML		15 21 34.3	
	comp=N,1811µm,0.4s							
PVO	**Paravola**	**1.02**	**63**	P		**Pb**	**15 21 20.5**	**-0.5**
PVO				S		**Sn**	**15 21 36.6**	**+0.7**
	comp=N,4µm,0.4s							
PVO	**Paravola**	**1.02**	**63**	P		**Pb**	**15 21 20.5**	**-0.5**
DRO	**Drossia**	**1.08**	**100**	P		**Pg**	**15 21 21.3**	**-0.8**
DRO				S		**Sb**	**15 21 37.0**	**+0.8**
	comp=N,2µm,0.4s							
DRO	**Drossia**	**1.08**	**100**	P		**Pg**	**15 21 21.4**	**-0.7**
DRO				AML	AML		15 21 47.9	
	comp=E,1582µm,0.4s							
DRO				AML	AML		15 21 48.1	
	comp=N,5612µm,0.5s							
AMT	**Artemida-Makis**	**1.23**	**120**	P		**Pn**	**15 21 26.6**	**+2.1**
AMT	**Artemida-Makis**	**1.23**	**120**	P		**Pg**	**15 21 25.2**	**+0.2**
AMT				S		**Sg**	**15 21 40.3**	**-0.8**
AMT				AML	AML		15 21 48.0	
	comp=N,3591µm,0.6s							
AMT				AML	AML		15 21 49.2	
	comp=E,3243µm,0.8s							
LAKA	**Lakka**	**1.28**	**86**	P		**Pg**	**15 21 25.1**	**-0.7**
LAKA				AML	AML		15 21 46.5	
	comp=E,1043µm,0.3s							
LAKA				AML	AML		15 21 50.5	
	comp=N,1465µm,0.4s							
ANX	**Ano Chora**	**1.30**	**70**	P		**Pg**	**15 21 25.0**	**-1.3**
ANX				S		**Sn**	**15 21 44.4**	**+1.5**
	comp=N,2µm,0.6s							
ANX	**Ano Chora**	**1.30**	**70**	P		**Pg**	**15 21 25.0**	**-1.3**
ANX				S		**Sn**	**15 21 42.0**	**-0.9**
ANX				AML	AML		15 21 50.6	
	comp=N,4308µm,0.6s							
ANX				AML	AML		15 21 51.1	
	comp=E,4637µm,0.7s							
SERG	**Sergoula**	**1.36**	**79**	P		**Pg**	**15 21 25.4**	**-1.9**
SERG				S		**Sn**	**15 21 45.7**	**+1.5**
	comp=E,1µm,0.6s							
SERG	**Sergoula**	**1.36**	**79**	P		**Pg**	**15 21 25.6**	**-1.8**
TRIZ	**Trizonia**	**1.36**	**81**	P		**Pg**	**15 21 25.5**	**-1.9**
TRIZ	**Trizonia**	**1.36**	**81**	P		**Pg**	**15 21 25.5**	**-1.9**
EVR	**Evrytania**	**1.36**	**56**	P		**Pg**	**15 21 26.4**	**-1.1**
EVR	**Evrytania**	**1.36**	**56**	P		**Pg**	**15 21 26.3**	**-1.2**
IGT	**Igoumenitsa**	**1.37**	**359**	P		**Pg**	**15 21 26.9**	**-0.7**
IGT				S		**Sn**	**15 21 46.9**	**+2.3**
	comp=E,372nm,0.4s							
IGT	**Igoumenitsa**	**1.37**	**359**	P		**Pg**	**15 21 27.0**	**-0.7**
ALIK	**Aliki, Aigiali**	**1.38**	**85**	P		**Pg**	**15 21 26.6**	**-1.2**
KLV	**Kalavryta, Ach**	**1.42**	**94**	P		**Pg**	**15 21 26.5**	**-1.9**
KLV	**Kalavryta, Ach**	**1.42**	**94**	P		**Pg**	**15 21 26.9**	**-1.5**
KALE	**Kalithea**	**1.42**	**80**	P		**Pg**	**15 21 26.3**	**-2.2**
KALE	**Kalithea**	**1.42**	**80**	P		**Pg**	**15 21 26.2**	**-2.2**
JAN	**Janina**	**1.55**	**14**	P		**Pg**	**15 21 30.6**	**-0.3**
GUR	**Goura**	**1.58**	**97**	P		**Pn**	**15 21 29.8**	**+0.5**
GUR	**Goura**	**1.58**	**97**	P		**Pn**	**15 21 30.0**	**+0.7**
ITM	**Ithomi**	**1.58**	**128**	P		**Pn**	**15 21 29.6**	**+0.4**
ITM				S		**Sg**	**15 21 52.5**	**+0.5**
	comp=E,455nm,0.8s							
ITM	**Ithomi**	**1.58**	**128**	P		**Pn**	**15 21 29.9**	**+0.7**
KEK	**Kerkira**	**1.62**	**344**	P		**Pn**	**15 21 30.9**	**+1.2**
KEK	**Kerkira**	**1.62**	**344**	P		**Pn**	**15 21 31.1**	**+1.4**
MAKR	**Makrakomi, Fth**	**1.63**	**58**	P		**Pg**	**15 21 32.4**	**-0.2**
TRIP	**Tripoli**	**1.64**	**112**	P		**Pn**	**15 21 32.0**	**+2.0**
TRIP	**Tripoli**	**1.64**	**112**	P		**Pn**	**15 21 32.2**	**+0.7**
PYL	**PYLOS**	**1.67**	**139**	P		**Pn**	**15 21 30.8**	**+0.4**
MEV	**Metsovon**	**1.76**	**22**	P		**Pg**	**15 21 35.4**	**+0.3**
AGG	**Agios Georgios**	**1.77**	**60**	P		**Pb**	**15 21 33.5**	**-0.2**
AGG				S		**Sg**	**15 21 56.5**	**-1.6**
	comp=E,518nm,0.7s							
AGG	**Agios Georgios**	**1.77**	**60**	P		**Pg**	**15 21 34.1**	**-1.1**
AXAR	**Agios Charalam**	**1.90**	**71**	P		**Pb**	**15 21 35.2**	**-0.8**
AXAR	**Agios Charalam**	**1.90**	**71**	P		**Pb**	**15 21 36.1**	**+0.1**
THL	**Klokotos Trika**	**1.91**	**42**	P		**Pb**	**15 21 35.8**	**-0.2**
THL	**Klokotos Trika**	**1.91**	**42**	P		**Pb**	**15 21 35.9**	**-0.2**
KPRO	**Kipourio**	**1.96**	**23**	P		**Pn**	**15 21 36.0**	**+1.6**
PROD	**Prodromos**	**2.00**	**86**	P		**Pn**	**15 21 36.7**	**+1.7**
LTK	**Loutraki**	**2.06**	**93**	P		**Pn**	**15 21 37.6**	**+1.8**
LTK	**Loutraki**	**2.06**	**93**	P		**Pn**	**15 21 37.7**	**+1.8**
LOUT	**Loutraki**	**2.07**	**94**	P		**Pn**	**15 21 37.8**	**+1.9**
LKR	**Lokris**	**2.13**	**76**	P		**Pn**	**15 21 38.9**	**-0.6**
LKR	**Lokris**	**2.13**	**76**	P		**Pn**	**15 21 38.6**	**+1.9**
VIL2	**Platees**	**2.29**	**88**	P		**Pn**	**15 21 40.9**	**+1.9**
NEST	**Nestorio**	**2.32**	**13**	P		**Pn**	**15 21 41.8**	**+2.3**
VILL	**Villia**	**2.33**	**89**	P		**Pn**	**15 21 40.7**	**+1.2**
DID	**Didima**	**2.37**	**105**	P		**Pn**	**15 21 41.9**	**+1.9**
DID	**Didima**	**2.37**	**105**	P		**Pn**	**15 21 40.7**	**+0.6**
VLI	**Veliai**	**2.50**	**124**	P		**Pn**	**15 21 45.5**	**+3.6**
XOR	**Xorichti**	**2.52**	**60**	P		**Pn**	**15 21 43.8**	**+1.7**
MRKA	**Markates**	**2.59**	**77**	P		**Pn**	**15 21 45.1**	**+1.9**
SKIA	**Skiathos**	**2.63**	**66**	P		**Pn**	**15 21 45.8**	**+2.1**
ATHU	**Athens Univers**	**2.71**	**93**	P		**Pn**	**15 21 46.4**	**+1.7**
VLY	**Voula,Athens**	**2.73**	**95**	P		**Pn**	**15 21 46.4**	**+1.4**
DION	**Dionisos Attik**	**2.82**	**90**	P		**Pn**	**15 21 48.1**	**+1.9**
DION	**Dionisos Attik**	**2.82**	**90**	P		**Pn**	**15 21 48.1**	**+1.9**
KTHA	**Kythira Island**	**2.87**	**131**	P		**Pn**	**15 21 49.6**	**+2.6**
ULC	**Ulcinj**	**3.90**	**348**	*i*P	n	**Pn**	**15 22 01.8**	**+0.7**
ULC				*i*	S	**Sn**	**15 22 49.3**	**+2.4**
DRME	**Dracevica, Mon**	**4.13**	**348**	*i*P	n	**Pn**	**15 22 04.9**	**+0.7**
DRME				*i*	Sn	**Sn**	**15 22 55.0**	**+2.6**
BUM	**Brajici-Budva**	**4.29**	**345**	*i*P	n	**Pn**	**15 22 07.0**	**+0.5**
BUM				*i*	Sn	**Sn**	**15 22 58.4**	**+1.8**
TTG	**Podgorica**	**4.35**	**349**	*i*P	n	**Pn**	**15 22 08.1**	**+0.8**
TTG				*i*	Sn	**Sn**	**15 23 00.3**	**+2.3**
PVY	**Plav**	**4.44**	**356**	*i*P	n	**Pn**	**15 22 10.1**	**+1.4**
PVY				*i*	Sn	**Sn**	**15 23 02.8**	**+2.3**
HCY	**Herceg Novi**	**4.52**	**342**	*i*P	n	**Pn**	**15 22 09.7**	**+0.1**
HCY				*i*	Sn	**Sn**	**15 23 03.6**	**+1.5**
CEME	**Cevo**	**4.52**	**346**	*i*P	n	**Pn**	**15 22 10.0**	**+0.3**
CEME				*i*	Sn	**Sn**	**15 23 04.1**	**+1.8**
IVA	**Berane**	**4.72**	**356**	*i*P	n	**Pn**	**15 22 13.4**	**+0.9**
IVA				*i*	Sn	**Sn**	**15 23 09.1**	**+1.8**
NKME	**Niksic**	**4.73**	**347**	*i*P	n	**Pn**	**15 22 13.1**	**+0.6**
NKME				*i*	Sn	**Sn**	**15 23 09.4**	**+2.0**
KOME	**Kolasin**	**4.73**	**352**	*i*P	n	**Pn**	**15 22 13.3**	**+0.7**
KOME				*i*	Sn	**Sn**	**15 23 09.3**	**+1.8**
NKY	**Niksic**	**4.77**	**348**	*i*P	n	**Pn**	**15 22 14.2**	**+1.1**
NKY				*i*	Sn	**Sn**	**15 23 10.3**	**+1.9**
DBRK	**Dubrovnik**	**4.81**	**340**	*e*Pn		**Pn**	**15 22 13.8**	**+0.2**
DBRK					Sn	**Sn**	**15 23 08.9**	**-0.5**
BRY	**Bratogost**	**4.94**	**344**	*i*P	n	**Pn**	**15 22 15.9**	**+0.4**
BRY				*i*	Sn	**Sn**	**15 23 13.8**	**+1.1**
UPM	**Unac-Piva**	**5.16**	**348**	*i*P	n	**Pn**	**15 22 19.6**	**+1.0**
UPM				*i*	Sn	**Sn**	**15 23 19.6**	**+1.4**
PLE	**Pljevlja**	**5.22**	**352**	*i*P	n	**Pn**	**15 22 20.1**	**+0.7**
PLE				*i*	Sn	**Sn**	**15 23 21.5**	**+1.9**
MAKA	**Makarska**	**5.72**	**335**	*e*Pn		**Pn**	**15 22 26.5**	**+0.4**
MAKA					Sn	**Sn**	**15 23 29.5**	**-2.2**
HVAR	**Hvar**	**5.83**	**331**	*e*Pn		**Pn**	**15 22 26.8**	**-0.9**
HVAR					Sn	**Sn**	**15 23 32.2**	**-2.2**
RICI	**Ricice**	**5.87**	**336**	*e*Pn		**Pn**	**15 22 28.2**	**+0.1**
RICI					Sn	**Sn**	**15 23 33.0**	**-2.3**

ZIRJ	**Zirje**	**6.55**	**328**	*e*Pn		**Pn**	**15 22 37.0**	**-0.5**
ZIRJ					Sn	**Sn**	**15 23 49.7**	**-2.5**
KIJV	**Kijevo**	**6.56**	**334**	*e*Pn		**Pn**	**15 22 38.4**	**+0.8**
KIJV					Sn	**Sn**	**15 23 50.3**	**-2.1**
MORI	**Morici**	**6.70**	**330**	*e*Pn		**Pn**	**15 22 40.3**	**+0.8**
MORI					Sn	**Sn**	**15 23 53.7**	**-2.2**
DUGI	**Dugi Otok**	**7.07**	**327**	*e*Pn		**Pn**	**15 22 44.9**	**+0.2**
DUGI					Sn	**Sn**	**15 24 02.4**	**-2.6**
UDBI	**Udbina**	**7.24**	**333**	*e*Pn		**Pn**	**15 22 48.4**	**+1.4**
NVLJ	**Novalja**	**7.62**	**329**	*e*Pn		**Pn**	**15 22 52.4**	**+0.3**
NVLJ					Sn	**Sn**	**15 24 15.1**	**-3.2**
BRJN	**Brijuni**	**8.37**	**326**	*e*Pn		**Pn**	**15 23 03.2**	**+0.8**
BRJN					Sn	**Sn**	**15 24 34.1**	**-2.7**
BRTR	**Keskin Array B**	**10.46**	**77**	LR		LR	15 28 37.4	
	comp=E,18nm,19.7s,baz=193,slow=43							
GERES	**GERESS Array B**	**11.72**	**338**	Pn		**Pn**	**15 23 49.0**	**+0.6**
	comp=E,0.2nm,0.3s,baz=162,slow=14,SNR=2.5							
FINES	**FINESS Array B**	**23.58**	**7**	P		**P**	**15 26 13.5**	**+1.8**
	comp=E,0.6nm,0.4s,baz=181,slow=11,SNR=6.2							
ARCES	**ARCESS Array B**	**31.56**	**3**	P		**P**	**15 27 24.1**	**+0.9**
	comp=E,1.4nm,0.8s,baz=189,slow=11,SNR=4.1							
MKAR	**Makanchi Array**	**45.42**	**58**	P		**P**	**15 29 19.3**	**-0.6**
	comp=E,0.7nm,0.5s,baz=272,slow=6.4,SNR=13							
ZALV	**Zalesovo Beam**	**45.80**	**48**	P		**P**	**15 29 22.4**	**-0.4**
	comp=E,1.5nm,0.4s,baz=274,slow=8.1,SNR=7.4							

*DJA **18** 15:21:39.8±0.7, 2°.S±6°×13°.9E±°, h64km±6km, M3.5/5, MLv3.5/5*

*IDC **18** 15:21:41.1±0.9, 2°.45S×138°.96E, h0^{km}, mb3.8/7, mb1 4.1/8, mb1mx3.8/23, mbtmp3.8/8, ML3.9/1, MS3.3/10, Ms1 3.4/10, ms1mx3.1/25, Error ellipse: s-maj=20.8km s-min=15.0km az=103.0*

*NEIC **18** 15:21:46.0±1.2, 2°.42S±0°.09×139°.01E±0°.08, h42km±10km, mb4.3/10, Error ellipse: s-maj=14.4km s-min=8.7km az=145.0*

ISC 18 15:21:46.1±0.6, 2°.44S±0°.06×138°.89E±0°.05, h37^{km}, n37, σ2§54/34, mb3.8/7, MS3.4/8, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.48**	**338**	P		Pn	15 21 50.9	-5.5
SMPI				S		**Sn**	**15 21 59.7**	**-4.0**
GENI	**Genyem**	**1.28**	**97**	P		**Pn**	**15 22 05.1**	**-2.3**
GENI				S		**Sn**	**15 22 26.3**	**+2.9**
JAY	**Jayapura**	**1.81**	**92**	Pn		**Pn**	**15 22 12.9**	**-1.8**
	21nm,0.3s,baz=235,slow=9.8,SNR=134							
JAY				Sn		**Sn**	**15 22 38.0**	**+1.5**
	22nm,0.3s,baz=112,slow=20,SNR=9.4							
JAY	**Jayapura**	**1.81**	**92**	P		**Pn**	**15 22 12.3**	**-2.5**
JAY				S		**Sn**	**15 22 38.7**	**+2.2**
SRPI	**Serui, Papua**	**2.71**	**282**	P		Pn	15 22 18.3	-8.8
FAKI	**Fak Fak**	**6.65**	**266**	Pn		**Pn**	**15 23 22.9**	**+1.5**
SIJI	**Sorong**	**7.78**	**281**	LR		LR	15 26 29.6	
	comp=Z,274nm,21.8s,baz=162,slow=37							
PMG	**Port Moresby**	**10.74**	**130**	LR		LR	15 29 51.3	

	comp=Z,24µm,0.4s									
LCND					*e*S		Sn	15 37 13.2	+0.8	
LCND					*e*S			15 37 13.5		
TECA	**Tecapa**	**0.68**	**345**		*e*P		Pn	15 37 02.3	-0.4	
TECA	**Tecapa**	**0.68**	**345**		*e*P		Pn	15 37 02.3	-0.4	
COEB	**Comit de Eme**	**0.69**	**343**⇓		*e*P		Pn	15 37 02.4	-0.4	
COEB					*e*S		Sn	15 37 12.8	-0.9	
COEB					IAML			15 37 19.0		
	comp=Z,12µm,0.3s									
COEB	**Comit de Eme**	**0.69**	**343**⇓		*e*P		Pn	15 37 02.4	-0.4	
COEB					*e*S		Sn	15 37 12.8	-0.9	
COEB					IAML			15 37 19.0		
	comp=Z,12µm,0.3s									
FAGO	**Alcalda de S**	**0.88**	**14**⇓		*e*P		Pn	15 37 05.1	+0.1	
FAGO	**Alcalda de S**	**0.88**	**14**⇓		*e*P		Pn	15 37 05.1	+0.1	
PAVA	**Las Pavas**	**1.06**	**326**		*e*P		Pn	15 37 07.3	0.0	
PAVA					*e*S		Sn	15 37 22.4	+0.8	
PAVA	**Las Pavas**	**1.06**	**326**		*e*P		Pn	15 37 07.3	0.0	
PAVA					*e*S		Sn	15 37 22.4	+0.8	
LFRS	**El Faro**	**1.06**	**318**		*e*P		Pn	15 37 06.9	-0.4	
LFRS	**El Faro**	**1.06**	**318**		*e*P		Pn	15 37 06.9	-0.4	
LBRS	**Las Brisas**	**1.14**	**322**		*e*P		Pn	15 37 08.3	0.0	
LBRS	**Las Brisas**	**1.14**	**322**		*e*P		Pn	15 37 08.3	0.0	
AEIL	**Aeropuerto Ilo**	**1.15**	**318**		*e*P		Pn	15 37 08.4	-0.1	
AEIL					*e*S		Sn	15 37 24.4	+0.7	
AEIL					IAML			15 37 31.2		
	comp=Z,12µm,0.3s									
AEIL	**Aeropuerto Ilo**	**1.15**	**318**		*e*P		Pn	15 37 08.4	-0.1	
AEIL					*e*S		Sn	15 37 24.4	+0.7	
AEIL					IAML			15 37 31.2		
	comp=Z,12µm,0.3s									
LALI	**Alcalda de L**	**1.17**	**304**		*e*P		Pn	15 37 07.6	-0.9	
LALI					*e*S		Sn	15 37 22.7	-1.2	
LALI	**Alcalda de L**	**1.17**	**304**		*e*P		Pn	15 37 07.6	-0.9	
LALI					*e*S		Sn	15 37 22.7	-1.2	
OPAM	**Oficina de Pla**	**1.22**	**316**		*e*P		Pn	15 37 09.2	-0.1	
OPAM	**Oficina de Pla**	**1.22**	**316**		*e*P		Pn	15 37 09.2	-0.1	
SNET	**Serv Nac Est T**	**1.22**	**314**		*e*P		Pn	15 37 08.9	-0.4	
SNET					IAML			15 37 28.3		
	comp=Z,10µm,0.2s									
SNET	**Serv Nac Est T**	**1.22**	**314**				Pn	15 37 08.9	-0.4	
SNET	**Serv Nac Est T**	**1.22**	**314**		*e*P		Pn	15 37 08.9	-0.4	
SNET					IAML			15 37 28.3		
	comp=Z,10µm,0.2s									
CRIN	**San Cristobal**	**1.25**	**96**				Pn	15 37 10.2	+0.6	
BOQS	**Boqueron**	**1.29**	**314**		*e*P		Pn	15 37 10.4	0.0	
BOQS					*e*S		Sn	15 37 27.0	-0.1	
BOQS	**Boqueron**	**1.29**	**314**		*e*P		Pn	15 37 10.4	0.0	
BOQS					*e*S		Sn	15 37 27.0	-0.1	
CEDA	**San Andres**	**1.42**	**313**		*e*P		Pn	15 37 11.7	-0.2	
CEDA	**San Andres**	**1.42**	**313**		*e*P		Pn	15 37 11.7	-0.2	
LLGN	**La Laguna**	**1.45**	**336**		*e*P		Pn	15 37 11.9	-0.5	
LLGN	**La Laguna**	**1.45**	**336**		*e*P		Pn	15 37 11.9	-0.5	
TACO	**Tacachico**	**1.51**	**319**		*e*P		Pn	15 37 13.2	+0.1	
TACO					*e*S		Sn	15 37 31.8	-0.2	
TACO	**Tacachico**	**1.51**	**319**		*e*P		Pn	15 37 13.2	+0.1	
TACO					*e*S		Sn	15 37 31.8	-0.2	
TGUH	**Tegucigalpa,Un**	**1.59**	**40**				Pn	15 37 14.8	+0.6	
SBLS	**San Blas**	**1.61**	**308**		*e*P		Pn	15 37 14.8	+0.2	
SBLS	**San Blas**	**1.61**	**308**		*e*P		Pn	15 37 14.8	+0.2	
SNJE	**San Jose**	**1.62**	**310**		*e*P		Pn	15 37 14.6	0.0	
SNJE	**San Jose**	**1.62**	**310**		*e*P		Pn	15 37 14.6	0.0	
NUBE	**Las Nubes**	**1.77**	**307**		*e*P		Pn	15 37 16.6	0.0	
NUBE					*e*S		Sn	15 37 38.1	-0.2	
NUBE	**Las Nubes**	**1.77**	**307**		*e*P		Pn	15 37 16.6	0.0	
NUBE					*e*S		Sn	15 37 38.1	-0.2	
MTO3	**Montecristo**	**1.85**	**327**		*e*P		Pn	15 37 18.2	+0.4	
MTO3	**Montecristo**	**1.85**	**327**				Pn	15 37 18.0	+0.2	
MTO3	**Montecristo**	**1.85**	**327**		*e*P		Pn	15 37 18.2	+0.4	
ESQI	**Esquipulas**	**1.98**	**330**		*e*P		Pn	15 37 20.3	+0.9	
ESQI					*e*S		Sn	15 37 44.8	+1.4	
MATN	**Matagalpa**	**2.34**	**87**	Pn			Pn	15 37 24.3	0.0	
IXG	**Ixpaco**	**2.45**	**303**⇓		*e*P		Pn	15 37 26.8	+1.0	
MRL	**Marmol**	**2.59**	**330**		*e*P		Pn	15 37 34.9	+7.0	
BOAB	**BOACO BROADBAN**	**2.62**	**98**				Pn	15 37 27.8	-0.3	
NBG	**Las Nubes**	**2.63**	**312**		*e*P		Pn	15 37 30.3	+1.9	
PCG	**Pacaya**	**2.71**	**305**		*e*P		Pn	15 37 31.1	+1.7	
FUG	**Fuego 3**	**2.93**	**304**		*e*P		Pn	15 37 34.5	+2.2	
ACON	**Acoyapa**	**3.20**	**105**				Pn	15 37 35.1	-0.7	
NY14	**Universidad de**	**3.49**	**128**		*e*P		Pn	15 37 42.2	+2.3	
LAPC	**Finca la Perla**	**3.50**	**126**		*e*P		Pn	15 37 41.8	+1.8	
BUEV	**Buena Vista**	**3.50**	**125**		*e*P		Pn	15 37 43.4	+3.3	
GPS2	**Hotel Rincn d**	**3.57**	**125**		*e*P		Pn	15 37 44.1	+3.0	
COLC	**Colonia**	**3.74**	**125**		*e*P		Pn	15 37 46.1	+2.8	
GUAI	**GUAI**	**3.75**	**132**		*e*P		Pn	15 37 45.3	+1.8	
PTEN	**Parque Tenorio**	**3.89**	**122**		*e*P		Pn	15 37 48.0	+2.6	
JTS	**Las Juntas de**	**4.16**	**127**	P			Pn	15 37 50.4	+1.4	
	comp=Z,7.0nm,0.3s,baz=27,slow=12,SNR=16									
JTS				S			Sn	15 38 34.7	-1.8	
	baz=12,slow=19,SNR=0.9									
JTS	**Las Juntas de**	**4.16**	**127**	Pn			Pn	15 37 50.2	+1.1	
CCIG	**Comitan**	**5.04**	**313**	Pn			Pn	15 38 02.7	+1.5	
TEIG	**Tepich**	**7.35**	**0**	P			Pn	15 38 35.6	+2.9	
	comp=Z,4.3nm,0.3s,baz=139,slow=6.5,SNR=32									
TEIG				LR		LR		15 41 48.0		
	comp=Z,149nm,18.4s,baz=139,slow=41									
TEIG	**Tepich**	**7.35**	**0**				Pn	15 38 34.8	+2.2	
CMIG	**Matias Romero**	**7.62**	**305**		P		Pn	15 38 39.3	+3.0	
	comp=Z,1.6nm,0.3s,baz=146,slow=9.6,SNR=14									
CMIG				S			Sn	15 40 00.9	-0.4	
	comp=Z,0.9nm,0.3s,baz=72,slow=16,SNR=1.3									
441A	**DeRidder**	**18.39**	**347**	P			Pn	15 40 58.7	+0.5	
352A	**Blakely**	**18.82**	**9**	P			P	15 41 02.2	0.0	
152A	**Waverly Hall**	**20.02**	**9**				Pn	15 41 17.9	+0.4	
LRAL	**Lakeview Retre**	**20.14**	**3**				Pn	15 41 19.8	+0.8	
237A	**Washetta, Mont**	**20.28**	**341**	P			P	15 41 18.6	+0.6	
237A				IAmb		IAmb		15 41 34.4		
	comp=Z,20nm,0.6s									
GOGA	**Godfrey**	**20.96**	**11**	P			P	15 41 26.2	+0.8	
GOGA				IAmb		IAmb		15 41 29.7		
	comp=Z,7.3nm,0.6s									
Y49A	**Blount Mountai**	**21.00**	**4**	P			P	15 41 26.7	+0.9	
Y52A	**Lilburn**	**21.29**	**10**	P			P	15 41 30.9	+1.9	
Y52A				IAmb		IAmb		15 41 33.2		
	comp=Z,6.3nm,0.7s									
TX31	**Lajitas Ar. Si**	**21.74**	**321**				P	15 41 34.6	+0.7	
TX32	**Lajitas Array**	**21.74**	**321**	P			P	15 41 34.8	+0.9	
TXAR	**Lajitas Array**	**21.74**	**321**	P			P	15 41 36.5	+2.6	
	comp=Z,3.1nm,0.6s,baz=137,slow=9.5,SNR=31									
TXAR				pP			pP	15 41 51.1	+2.6	
	comp=Z,1.4nm,0.7s,baz=143,slow=11,SNR=4.9									
TXAR				LR		LR		15 49 58.8		
	comp=Z,17nm,20.9s,baz=0.0,slow=36									
TXAR	**Lajitas Array**	**21.74**	**321**				P	15 41 34.2	+0.3	
HODGE	**Hodges**	**22.00**	**14**	P			P	15 41 37.5	+1.0	
HODGE				IAmb		IAmb		15 41 39.9		
	comp=Z,7.9nm,0.7s									
MIAR	**Mount Ida**	**22.14**	**348**	P			P	15 41 38.7	+0.7	
MIAR				IAmb		IAmb		15 42 05.9		
	comp=Z,7.2nm,0.8s									
ATAH	**Atahualpa**	**22.16**	**153**	LR		LR		15 49 08.7		
	comp=Z,28nm,20.9s,baz=2.1,slow=34									
JSC	**Jenkinsville**	**22.30**	**16**	P			P	15 41 41.5	+1.7	
W41B	**Gary Mavity, V**	**22.52**	**352**	P			P	15 41 42.8	+0.7	
W41B				IAmb		IAmb		15 42 02.9		
	comp=Z,17nm,1.6s									
WHAR	**Wooly Hollow**	**22.64**	**352**	P			P	15 41 43.6	+0.2	
BIRD	**Birdtown, Kers**	**22.86**	**17**	P			P	15 41 46.8	+1.2	
BIRD				IAmb		IAmb		15 41 47.7		
	comp=Z,11nm,0.6s									
TKL	**Tuckaleechee C**	**23.09**	**9**	P			P	15 41 48.3	+0.2	
	comp=Z,3.8nm,0.5s,baz=184,slow=12,SNR=4.1									
TKL				LR		LR		15 51 39.9		
	comp=Z,21nm,18.9s,baz=204,slow=39									
TKL	**Tuckaleechee C**	**23.09**	**9**	P			P	15 41 48.8	+0.8	
STVI	**Saint Thomas**	**23.16**	**73**	P			P	15 41 48.0	-0.8	
STVI				IAmb		IAmb		15 41 48.7		
	comp=Z,20nm,0.6s									
FCAR	**Ozark Folk Cen**	**23.21**	**352**	P			P	15 41 49.7	+0.5	
V53A	**Saluda**	**23.27**	**11**	P			P	15 41 50.5	+0.7	
W57A	**Gilead**	**23.47**	**17**	P			P	15 41 52.0	+0.5	
LPIG	**La Paz**	**23.63**	**301**	LR		LR		15 50 59.9		
	comp=Z,17nm,20.8s,baz=198,slow=36									
U49A	**Red Boiling Sp**	**23.69**	**5**	P			P	15 41 54.0	+0.4	
U40A	**Yellville**	**23.77**	**351**	P			P	15 41 55.2	+0.9	
U40A				IAmb		IAmb		15 42 20.7		
	comp=Z,11nm,0.9s									
WMOK	**Wichita Mounta**	**23.78**	**338**	P			P	15 41 54.9	+0.5	
WMOK				IAmb		IAmb		15 41 59.0		
	comp=Z,16nm,1.4s									
FNO	**Franklin**	**23.79**	**341**	P			P	15 41 55.4	+0.9	
OKCSW	**OKLAHOMA CITY**	**23.94**	**341**	P			P	15 41 55.9	+0.1	
OKCFA	**Oklahoma City**	**23.95**	**341**	P			P	15 41 55.4	-0.5	
TZTN	**Tazewell**	**24.00**	**9**	P			P	15 41 56.3	0.0	
V58A	**Windy Hill, Pi**	**24.32**	**18**	P			P	15 41 59.6	+0.3	
V58A				IAmb		IAmb		15 42 01.0		
	comp=Z,14nm,0.6s									
MNTX	**Cornudas Mount**	**24.46**	**323**	P			P	15 42 00.5	-0.2	
MSTX	**Muleshoe**	**24.81**	**330**	P			P	15 42 05.1	+1.2	
MSTX				IAmb		IAmb		15 42 22.1		
	comp=Z,4.6nm,0.6s									
S39A	**Bolivar**	**25.15**	**351**	P			P	15 42 06.8	0.0	
S39A				IAmb		IAmb		15 42 33.6		
	comp=Z,12nm,0.8s									
CCM	**Cathedral Cave**	**25.25**	**355**	P			P	15 42 07.6	-0.1	
Q51A	**Peebles**	**26.46**	**9**	P			P	15 42 17.9	-0.7	
Q51A				IAmb		IAmb		15 42 25.6		
	comp=Z,7.2nm,0.8s									
Q54A	**Coxs Mills**	**26.88**	**13**	P			P	15 42 23.1	+0.7	
Q54A				IAmb		IAmb		15 43 08.8		
	comp=Z,11nm,1.1s									
NNA	**Nana**	**27.16**	**155**	LR		LR		15 52 53.3		
	comp=Z,25nm,18.8s,baz=326,slow=36									
M53A	**Wl Miller and**	**29.27**	**12**	P			P	15 42 44.7	+1.0	
N59A	**State Game Lan**	**30.06**	**19**	P			P	15 42 51.5	+0.8	
N59A				IAmb		IAmb		15 43 07.1		
	comp=Z,16nm,1.2s									
ERPA	**Erie**	**30.06**	**12**	P			P	15 42 51.2	+0.5	
PV03	**Paradox Valley**	**31.22**	**328**	P			P	15 43 02.5	+1.3	
PV12	**Saucer Basin,**	**31.24**	**328**	P			P	15 43 02.9	+1.5	
PV12				IAmb		IAmb		15 43 04.2		
	comp=Z,3.3nm,0.7s									
SADO	**Sadowa**	**32.78**	**12**	P			P	15 43 13.8	-0.7	
SADO				IAmb		IAmb		15 43 57.2		
	comp=Z,7.5nm,0.7s									
E43A	**Lone Tree Farm**	**33.45**	**2**	P			P	15 43 19.3	-1.1	
E43A				IAmb		IAmb		15 43 22.9		
	comp=Z,5.8nm,1.0s									
F33A	**5 Mile Ranch,**	**33.59**	**350**	P			P	15 43 20.9	-0.6	
F33A				IAmb		IAmb		15 43 22.4		
	comp=Z,5.2nm,0.7s									
D41A	**Chassel**	**34.12**	**360**	P			P	15 43 26.3	+0.2	
PDAR	**Pinedale Array**	**35.03**	**332**	P			P	15 43 35.4	+1.0	
	comp=Z,0.7nm,0.6s,baz=129,slow=8.6,SNR=8.0									
PDAR				pP			**pP**	15 43 50.9	-0.2	
	comp=Z,0.2nm,0.3s,baz=98,slow=6.6,SNR=1.8									
PDAR	**Pinedale Array**	**35.03**	**332**	P			P	15 43 34.6	+0.2	
LPAZ	**La Paz**	**35.16**	**145**	LR		LR		15 57 52.9		
	comp=Z,34nm,19.0s,baz=344,slow=36									
AHID	**Auburn Hatcher**	**35.75**	**331**	P			P	15 43 41.5	+1.0	
AHID				IAmb		IAmb		15 43 43.9		
	comp=Z,5.6nm,0.7s									
SNOW	**Snow King Moun**	**36.13**	**332**	P			P	15 43 45.1	+1.3	
TPAW	**Teton Pass**	**36.24**	**332**	P			P	15 43 46.0	+1.2	
TPAW				IAmb		IAmb		15 43 48.3		
	comp=Z,4.2nm,0.6s									
VLDQ	**Val d'Or**	**36.32**	**12**	P			P	15 43 46.4	+1.3	
FXWY	**Fox Creek**	**36.39**	**332**	P			P	15 43 47.1	+1.1	
NVAR	**Mina Array Bea**	**36.85**	**319**	P			P	15 43 51.9	+1.9	
	comp=Z,0.7nm,0.7s,baz=130,slow=7.5,SNR=6.8									
NVAR				pP			**pP**	15 44 08.8	+2.0	
	comp=Z,0.3nm,0.6s,baz=128,slow=8.2,SNR=2.2									
NVAR	**Mina Array Bea**	**36.85**	**319**	P			P	15 43 51.3	+1.2	
YHL	**Hebgen Lake**	**37.40**	**333**	P			P	15 43 56.2	+1.5	
GCMT	**Greycliff**	**37.50**	**335**	P			P	15 43 56.2	+0.9	
ULM	**Lac du Bonnet**	**37.82**	**352**	LR		LR		16 00 13.6		
	comp=Z,44nm,21.2s,baz=93,slow=37									
DGMT	**Dagmar**	**37.90**	**343**	P			P	15 43 58.9	+0.4	
MCMT	**McKenzie Canyo**	**38.14**	**331**	P			P	15 44 02.5	+1.6	
BOZ	**Bozeman (W)**	**38.18**	**333**	P			P	15 44 02.3	+1.2	
BOZ				IAmb		IAmb		15 44 48.7		
	comp=Z,4.1nm,0.8s									
DLMT	**Dillon**	**38.43**	**332**	P			P	15 44 04.6	+1.4	
DLMT				IAmb		IAmb		15 44 06.2		
	comp=Z,2.1nm,0.7s									
LRM	**Limekiln Ridge**	**38.72**	**333**	P			P	15 44 06.7	+1.0	
BMO	**Blue Mountains**	**40.36**	**328**	P			P	15 44 19.8	+0.7	
BMO				IAmb		IAmb		15 44 21.0		
	comp=Z,7.7nm,1.9s									
NEW	**Newport**	**42.67**	**332**	P			P	15 44 37.9	0.0	
	comp=Z,1.1nm,0.5s,baz=241,slow=23,SNR=2.0									
RPN	**Rapa Nui**	**44.65**	**207**	P			P	15 44 54.1	+0.1	
	comp=Z,98nm,0.6s,baz=256,slow=4.2,SNR=2.3									
SCHQ	**Schefferville**	**45.16**	**17**	P			P	15 44 57.2	-0.5	
	comp=Z,2.5nm,0.5s,baz=232,slow=12,SNR=2.4									
SCHQ	**Schefferville**	**45.16**	**17**	IAmb		IAmb		15 45 26.3		
	comp=Z,17nm,1.6s									
FCC	**Fort Churchill**	**46.05**	**356**	P			P	15 45 03.8	-0.8	
FCC				IAmb		IAmb		15 45 04.6		
	comp=Z,3.6nm,0.6s									
H03N2	**Juan Fernandez**	**46.88**	**169**	T		T		16 35 31.7		
	baz=345									
H03N1	**Juan Fernandez**	**46.88**	**169**	T		T		16 35 26.3		
	baz=345,slow=74									
H03N3	**Juan Fernandez**	**46.90**	**169**	T		T		16 35 24.8		
	baz=345,slow=74									
YKA	**Yellowknife Ar**	**53.02**	**345**	P			P	15 45 57.0	-0.6	
	comp=Z,0.6nm,0.5s,baz=152,slow=7.2,SNR=4.9									
YKA				pP			**pP**	15 46 14.1	-1.1	
	comp=Z,2.7nm,0.9s,baz=144,slow=7.9,SNR=4.7									
DLBC	**Dease Lake**	**55.20**	**335**	P			P	15 46 15.2	+1.5	
	comp=Z,3.3nm,0.5s,baz=128,slow=6.4,SNR=7.3									
DLBC	**Dease Lake**	**55.20**	**335**	P			P	15 46 14.3	+0.6	
RES	**Resolute Bay**	**61.95**	**358**	P			P	15 46 59.1	-1.1	
	comp=Z,0.8nm,0.5s,baz=182,slow=13,SNR=4.4									
RES	**Resolute Bay**	**61.95**	**358**	IAmb		IAmb		15 48 02.8		
	comp=Z,13nm,1.6s									
BCAR	**Beaver Creek A**	**62.55**	**336**	P			P	15 47 05.0	+0.4	
DOT	**Dot Lake**	**63.73**	**336**	P			P	15 47 12.6	+0.2	
DOT				IAmb		IAmb		15 48 08.1		
	comp=Z,19nm,1.9s									
PRP	**Porcupine Dome**	**65.11**	**337**	P			P	15 47 21.0	-0.4	
PRP				IAmb		IAmb		15 47 55.0		
	comp=Z,7.5nm,1.5s									
RC01	**Rabbit Creek A**	**65.19**	**332**	P			P	15 47 22.1	+0.3	
ILAR	**Eielson Array**	**65.33**	**336**	P			P	15 47 21.7	-1.0	
	comp=Z,0.7nm,0.8s,baz=158,slow=4.8,SNR=7.4									
ILAR				pP			**pP**	15 47 40.0	-0.8	
	comp=Z,0.9nm,1.0s,baz=124,slow=4.4,SNR=5.0									
ILAR	**Eielson Array**	**65.33**	**336**	P			P	15 47 21.4	-1.2	
BMAR	**Burnt Mountain**	**65.62**	**339**	P			P	15 47 24.4	-0.1	
BMAR				pP			**pP**	15 47 42.9	+0.2	
HON	**Honolulu**	**66.69**	**288**	P			P	15 47 30.5	-1.6	
ESK	**Eskdalemuir**	**76.79**	**36**	P			P	15 48 32.0	-0.1	
LZH	**Lanzhou**	**130.00**	**347**	*e*PKP			**PKPdf**	15 55 45.3	-5.4	
LZH				pPKP		pPKPdf		15 56 11.6	+1.2	
LZH				sPKP				15 56 20.3		
WRA	**Warramunga Arr**	**138.55**	**254**	PKP			**PKPdf**	15 56 06.4	-0.4	
	comp=Z,2.0nm,1.0s,baz=95,slow=2.4,SNR=3.9									
WRA				pPKP			**pPKPdf**	15 56 27.7	+1.2	
	comp=Z,1.4nm,0.9s,baz=63,slow=1.5,SNR=3.2									
ASAR	**Alice Springs**	**138.61**	**249**	PKP			**PKPdf**	15 56 07.5	+0.6	
	comp=Z,0.5nm,0.7s,baz=82,slow=2.0,SNR=6.0									
CMAR	**Chiang Mai Arr**	**148.09**	**347**	PKPbc			**PKPbc**	15 56 25.8	-1.0	
	comp=Z,0.4nm,0.4s,baz=343,slow=3.1,SNR=2.0									

*IDC **18** 15:38:47.4±1.7, 67.76N×162.91W, h0km, mb3.4/5, mb1 3.9/7, mb1mx3.5/45, mbtmp3.5/7, ML3.4/2, MS2.7/3, Ms1 2.7/3, ms1mx2.4/33, Error ellipse: s-maj=68.5km s-min=23.9km az=24.0*

*AEIC **18** 15:38:49.4±1.5, 67.69N±0.06×162.07W±0.10, h13km±4km, ML3.3/24, Error ellipse: s-maj=8.6km s-min=4.5km az=156.0*

ISC 18 15:38:49.8±0.8, 67.69N±0.06×162.10W±0.05, h10km, n42, σ1§40/43, mb3.6/4, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.48**	**320**		**Pg**	**15 38 58.7**	**-0.4**
RDOG					**Sg**	**15 39 06.3**	**+0.9**
ANM	**Nome**	**3.41**	**204**		**Pn**	**15 39 43.6**	**+0.7**
ANM					**Sn**	**15 40 23.9**	**+0.5**
IM03		**3.72**	**114**		**Pn**	**15 39 47.1**	**0.0**
IMAR	**Indian Mountai**	**3.72**	**114**	Pn	**Pn**	**15 39 46.9**	**-0.3**
COLD	**Coldfoot**	**4.60**	**90**		**Pn**	**15 40 00.2**	**+0.9**
TOLK	**Toolik Lake Re**	**4.77**	**73**		**Sn**	**15 40 58.5**	**+1.4**
TOLK	**Toolik Lake Re**	**4.77**	**73**		**Pn**	**15 40 01.7**	**0.0**
PS04	**TAPS Pump Stn4**	**4.84**	**75**		**Sn**	**15 41 00.5**	**+1.9**
TTA	**Tatalina**	**5.42**	**149**		**Pn**	**15 40 11.0**	**+0.4**
TT01	**Tatalina**	**5.44**	**149**		**Pn**	**15 40 11.3**	**+0.6**
BPAW	**Bear Paw Mtn.**	**5.80**	**123**		**Sn**	**15 41 21.9**	**-0.4**
BPAW	**Bear Paw Mtn.**	**5.80**	**123**	Pn	**Pn**	**15 40 16.3**	**+0.5**
PPLA	**Purkeypile**	**6.35**	**135**	Pn	**Pn**	**15 40 24.0**	**+0.5**
TRF	**Thorofare Moun**	**6.48**	**125**		**Sn**	**15 41 38.6**	**-0.7**
TRF	**Thorofare Moun**	**6.48**	**125**	Pn	**Pn**	**15 40 25.9**	**+0.6**
CCB	**Clear Creek Bu**	**6.54**	**111**		**Pn**	**15 40 26.4**	**+0.5**
WRH	**Wood River Hil**	**6.54**	**113**		**Pn**	**15 40 26.4**	**+0.5**
FYU	**Fort Yukon**	**6.67**	**92**	Pn	**Pn**	**15 40 28.4**	**+0.8**
BM03	**Burnt Mountain**	**6.70**	**84**		**Pn**	**15 40 28.6**	**+0.5**
BMAR	**Burnt Mountain**	**6.71**	**84**		**Pn**	**15 40 28.0**	**-0.2**
IL31		**6.80**	**108**		**Pn**	**15 40 30.0**	**+0.5**
ILAR	**Eielson Array**	**6.80**	**108**	Pn	**Pn**	**15 40 29.6**	**+0.1**
	1.9nm,0.3s,baz=303,slow=14,SNR=108						
ILAR				Sn	**Sn**	**15 41 45.0**	**-1.9**
	0.4nm,0.3s,baz=307,slow=24,SNR=3.3						
ILAR				Lg	Lg	15 42 27.4	
	baz=288,slow=29,SNR=4.2						
ILAR	**Eielson Array**	**6.80**	**108**	Pn	**Pn**	**15 40 29.8**	**+0.3**
PRP	**Porcupine Dome**	**6.95**	**101**	Pn	**Pn**	**15 40 31.9**	**+0.4**
HDA	**Harding Lake**	**6.98**	**111**		**Pn**	**15 40 31.2**	**-0.8**
SVW2	**Sparrevohn**	**7.19**	**154**		**Pn**	**15 40 34.8**	**-0.1**
DHY	**Denali Highway**	**7.68**	**120**		**Pn**	**15 40 41.8**	**+0.1**
SML	**Sawmill**	**8.32**	**129**	Pn	**Pn**	**15 40 50.0**	**-0.3**
DOT	**Dot Lake**	**8.46**	**110**		**Pn**	**15 40 52.0**	**-0.3**
BCAR	**Beaver Creek A**	**9.63**	**109**		**Pn**	**15 41 07.7**	**-0.6**
INK	**Inuvik**	**10.69**	**74**	Pn	**Pn**	**15 41 23.7**	**+1.1**
	0.1nm,0.3s,baz=265,slow=11,SNR=5.3						
INK				Sn	**Sn**	**15 43 15.3**	**-6.8**
	0.2nm,0.3s,baz=79,slow=16,SNR=2.3						
KDAK	**Kodiak Island**	**10.84**	**152**	LR	LR	15 46 05.2	
	comp=Z,48nm,20.3s,baz=28,slow=40						
YKA	**Yellowknife Ar**	**20.22**	**82**	P	**P**	**15 43 25.8**	**+1.3**
	0.7nm,0.7s,baz=306,slow=9.9,SNR=2.8						
YAK	**Yakutsk**	**28.13**	**292**	LR	LR	15 56 01.3	
	comp=Z,22nm,20.7s,baz=127,slow=37						
PDAR	**Pinedale Array**	**37.22**	**105**	P	**P**	**15 46 02.9**	**+1.7**
	0.2nm,0.4s,baz=331,slow=7.2,SNR=2.0						
NVAR	**Mina Array Bea**	**37.95**	**118**	P	**P**	**15 46 08.6**	**+1.2**

LRAL	**Lakeview Retre**	**22.46**	**358**	P	**P**	**16 18 05.7**	**+1.1**
LRAL				IAmb	IAmb	16 18 07.8	
	comp=Z,11nm,0.8s						
Z51A	**Franklin**	**22.75**	**2**	P	**P**	**16 18 06.8**	**-0.7**
Z51A				IAmb	IAmb	16 18 09.9	
	comp=Z,10nm,0.6s						
GOGA	**Godfrey**	**22.96**	**6**	P	**P**	**16 18 08.9**	**-0.7**
Y49A	**Blount Mountai**	**23.27**	**359**	P	**P**	**16 18 13.2**	**+0.4**
Y49A				IAmb	IAmb	16 18 15.2	
	comp=Z,13nm,0.6s						
Y52A	**Lilburn**	**23.36**	**4**	P	**P**	**16 18 13.7**	**0.0**
Y52A				IAmb	IAmb	16 18 16.1	
	comp=Z,8.1nm,0.7s						
X48A	**Hartselle**	**23.88**	**358**	P	**P**	**16 18 18.1**	**-0.4**
FPAL	**Fort Paine**	**23.96**	**1**	P	**P**	**16 18 18.9**	**-0.4**
FPAL				IAmb	IAmb	16 18 23.2	
	comp=Z,5.6nm,0.6s						
X51A	**Calhoun**	**24.01**	**3**	P	**P**	**16 18 19.8**	**+0.1**
X51A				IAmb	IAmb	16 18 20.8	
	comp=Z,12nm,0.8s						
PLAL	**Pickwick Lake**	**24.46**	**356**	P	**P**	**16 18 24.4**	**+0.6**
PLAL				IAmb	IAmb	16 18 25.3	
	comp=Z,8.9nm,0.8s						
W50A	**Signal Mountai**	**24.62**	**2**	P	**P**	**16 18 25.0**	**-0.3**
W50A				IAmb	IAmb	16 18 26.2	
	comp=Z,10nm,0.6s						
SWET	**Sewanee**	**24.63**	**0**	P	**P**	**16 18 24.8**	**-0.6**
SWET				IAmb	IAmb	16 18 26.4	
	comp=Z,8.1nm,0.6s						
UALR	**University of**	**24.84**	**348**	P	**P**	**16 18 26.9**	**-0.4**
UALR				IAmb	IAmb	16 18 27.9	
	comp=Z,11nm,0.8s						
CPCT	**Cooper Cave**	**24.90**	**3**	P	**P**	**16 18 28.1**	**+0.3**
MIAR	**Mount Ida**	**24.91**	**345**	P	**P**	**16 18 27.6**	**-0.3**
MIAR				IAmb	IAmb	16 18 29.4	
	comp=Z,9.4nm,0.7s						
TX31	**Lajitas Ar. Si**	**24.92**	**321**	P	**P**	**16 18 28.9**	**+0.7**
TX31				IAmb	IAmb	16 18 33.3	
	comp=Z,10nm,0.8s						
TX32	**Lajitas Array**	**24.92**	**321**	P	**P**	**16 18 29.4**	**+1.3**
TXAR	**Lajitas Array**	**24.92**	**321**	P	**P**	**16 18 29.8**	**+1.6**
	comp=Z,2.7nm,0.5s,baz=142,slow=10,SNR=25						
TXAR				PcP	**PcP**	**16 22 06.1**	**+3.2**
	comp=Z,0.6nm,0.7s,baz=131,slow=5.7,SNR=4.9						
TXAR				LR	LR	16 29 52.3	
	comp=Z,37nm,18.8s,baz=0.0,slow=40						
TXAR	**Lajitas Array**	**24.92**	**321**	P	**P**	**16 18 29.2**	**+1.0**
W41B	**Gary Mavity, V**	**25.21**	**348**	P	**P**	**16 18 29.4**	**-1.2**
ABTX	**Abilene, Hawle**	**25.32**	**333**	P	**P**	**16 18 31.0**	**-0.7**
ABTX				IAmb	IAmb	16 18 34.5	
	comp=Z,10.0nm,0.6s						
WHAR	**Wooly Hollow**	**25.33**	**348**	P	**P**	**16 18 30.7**	**-1.0**
CLTN	**Cedars of Leba**	**25.50**	**360**	P	**P**	**16 18 33.0**	**-0.3**
CLTN				IAmb	IAmb	16 18 36.3	
	comp=Z,6.2nm,0.8s						
W39A	**Magazine**	**25.58**	**345**	P	**P**	**16 18 33.6**	**-0.3**
W39A				IAmb	IAmb	16 18 34.6	
	comp=Z,6.5nm,0.8s						
WVT	**Waverly**	**25.59**	**357**	P	**P**	**16 18 33.3**	**-0.7**
LCAR	**Lake Charles**	**25.88**	**351**	P	**P**	**16 18 35.7**	**-1.0**
U49A	**Red Boiling Sp**	**25.92**	**1**	P	**P**	**16 18 35.8**	**-1.3**
T47A	**Sharon Grove**	**26.41**	**358**	P	**P**	**16 18 40.8**	**-0.7**
T47A				IAmb	IAmb	16 18 41.7	
	comp=Z,10.0nm,0.9s						
V60A	**Jim Taylor Roa**	**26.43**	**16**	P	**P**	**16 18 40.9**	**-0.8**
U40A	**Yellville**	**26.48**	**348**	P	**P**	**16 18 41.9**	**-0.2**
T42A	**Van Buren**	**26.82**	**351**	P	**P**	**16 18 44.0**	**-1.1**
T42A				IAmb	IAmb	16 18 45.2	
	comp=Z,5.3nm,0.8s						
U38A	**Gravette**	**26.91**	**345**	P	**P**	**16 18 45.4**	**-0.6**
BLA	**Blacksburg**	**27.11**	**10**	P	**P**	**16 18 46.4**	**-1.4**
WCI	**Wyandotte Cave**	**27.63**	**360**	P	**P**	**16 18 51.5**	**-1.0**
CCM	**Cathedral Cave**	**27.84**	**351**	P	**P**	**16 18 53.3**	**-1.0**
S39A	**Bolivar**	**27.86**	**348**	P	**P**	**16 18 53.4**	**-1.1**
S39A				IAmb	IAmb	16 19 50.0	
	comp=Z,14nm,1.8s						
Q44A	**Meyer Farm, Va**	**28.43**	**355**	P	**P**	**16 18 58.4**	**-1.1**
ANMO	**Albuquerque**	**30.61**	**326**	P	**P**	**16 19 16.1**	**-3.1**
	comp=Z,0.8nm,0.5s,baz=127,slow=5.1,SNR=2.1						
I37A	**Lemond, Waseca**	**34.00**	**351**	P	**P**	**16 19 47.2**	**-1.3**
PB11	**IPOC Station P**	**34.15**	**152**	P	**P**	**16 19 48.2**	**-2.0**
PV03	**Paradox Valley**	**34.35**	**327**	P	**P**	**16 19 51.7**	**-0.2**
PV03				IAmb	IAmb	16 19 54.0	
	comp=Z,2.0nm,0.6s						
PV12	**Saucer Basin,**	**34.37**	**328**	P	**P**	**16 19 52.9**	**+0.8**
PV12				IAmb	IAmb	16 19 54.5	
	comp=Z,4.5nm,0.7s						
PV18	**Skein Mesa, Pa**	**34.37**	**327**	P	**P**	**16 19 53.1**	**+1.0**
PV18				IAmb	IAmb	16 19 54.5	
	comp=Z,3.8nm,0.6s						
PV17	**East Wray Mesa**	**34.43**	**327**	P	**P**	**16 19 52.8**	**+0.2**
PV20	**West Nyswonger**	**34.48**	**327**	P	**P**	**16 19 53.1**	**+0.1**
PV20				IAmb	IAmb	16 19 54.9	
	comp=Z,2.9nm,0.6s						
G40A	**Rib Lake**	**34.84**	**355**	P	**P**	**16 19 54.4**	**-1.4**
G40A				IAmb	IAmb	16 20 38.2	
	comp=Z,8.3nm,1.1s						
COWI	**Conover**	**35.59**	**356**	P	**P**	**16 20 00.8**	**-1.4**
E43A	**Lone Tree Farm**	**35.78**	**359**	P	**P**	**16 20 02.4**	**-1.4**
F36A	**Milaca**	**35.83**	**351**	P	**P**	**16 20 02.2**	**-2.0**
PD31	**Pinedale Array**	**38.12**	**332**		**P**	**16 20 23.4**	**-0.6**
PD31				IAmb	IAmb	16 20 37.3	
	comp=Z,7.4nm,1.8s						
PDAR	**Pinedale Array**	**38.12**	**332**	P	**P**	**16 20 24.1**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=129,slow=11,SNR=7.8						
PDAR				PcP	**PcP**	**16 22 41.0**	**+2.7**
	comp=Z,0.2nm,0.5s,baz=151,slow=3.9,SNR=2.6						
PDAR	**Pinedale Array**	**38.12**	**332**	P	**P**	**16 20 23.8**	**-0.2**
REDW	**Red Top Meadow**	**39.18**	**331**	P	**P**	**16 20 33.0**	**+0.1**
REDW				IAmb	IAmb	16 20 34.5	
	comp=Z,3.5nm,0.6s						
NVAR	**Mina Array Bea**	**40.03**	**319**	P	**P**	**16 20 42.9**	**+2.8**
	comp=Z,2.9nm,0.7s,baz=132,slow=7.5,SNR=23						
NVAR				PcP	**PcP**	**16 22 48.1**	**+3.7**
	comp=Z,1.0nm,0.7s,baz=135,slow=4.8,SNR=8.2						
NVAR	**Mina Array Bea**	**40.03**	**319**	P	**P**	**16 20 40.0**	**-0.1**
HLID	**Hailey**	**41.09**	**328**	P	**P**	**16 20 49.4**	**+0.7**
MCMT	**McKenzie Canyo**	**41.23**	**331**	P	**P**	**16 20 51.3**	**+1.4**
LRM	**Limekiln Ridge**	**41.79**	**332**	P	**P**	**16 20 54.8**	**+0.3**
PINE	**Pine Mountain**	**44.82**	**324**	P	**P**	**16 21 18.9**	**0.0**
PINE				IAmb	IAmb	16 21 21.8	
	comp=Z,4.1nm,1.0s						
SCHQ	**Schefferville**	**46.81**	**15**	P	P	16 21 25.4	-8.8
	comp=Z,1.7nm,0.6s,baz=248,slow=19,SNR=2.5						
SCHQ				LR	LR	16 40 48.0	
	comp=Z,27nm,19.5s,baz=4.5,slow=36						
SCHQ	**Schefferville**	**46.81**	**15**	P	**P**	**16 21 33.6**	**-0.5**
E03A	**Lebam**	**47.95**	**326**	P	**P**	**16 21 42.1**	**-1.1**
IVI	**Ivigtut**	**57.76**	**21**	P	**P**	**16 22 54.3**	**-0.9**
ILAR	**Eielson Array**	**68.34**	**336**	P	**P**	**16 24 03.8**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=102,slow=3.2,SNR=4.9						
ILAR	**Eielson Array**	**68.34**	**336**	P	**P**	**16 24 04.3**	**-1.1**
LANS	**Liptovska Anna**	**92.14**	**39**	*eP*	**P**	**16 26 13.8**	**0.0**
KSRS	**Korea Array**	**122.62**	**328**	PKP	**PKiKP**	**16 32 01.9**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=2.6,slow=1.7,SNR=5.9						
WMQ	**Urumqi**	**125.67**	**6**	*eP*	**PKPdf**	**16 32 04.9**	**-1.1**
LZH	**Lanzhou**	**132.74**	**349**	*e*PKP	**PKiKP**	**16 32 21.4**	**+0.5**
LZH				pPKP	pPKPdf	16 32 29.3	-5.2
LZH				sPKP		16 32 35.5	
CMAR	**Chiang Mai Arr**	**150.82**	**350**	PKP	**PKPdf**	**16 32 52.6**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=335,slow=3.7,SNR=2.2						
CMAR				PKPbc	**PKiKP**	**16 32 59.0**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=325,slow=3.2,SNR=4.9						

IDC ***18*** *16:20:04.7±1.9,22.92N×12.34W,h0km,mb3.8/9, mb1 3.9/11,mb1mx3.7/50,mbtmp3.7/11,ML3.5/2, Error ellipse: s-maj=64.2km s-min=31.5km az=107.0*

NEIC ***18*** *16:20:06.5±0.9,22.8N±0.1×12.3W±0.2,h15km±6km, mb4.2/12,Error ellipse: s-maj=23.9km s-min=17.0km az=97.0*

ISC 18 16:20:06.1±1.0,22.70N±0.06×12.0W±0.1,h10km,n44, σ1s74/44,mb4.0/12,Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TANT	**Tantan**	**5.72**	**6**	P	Pn	16 21 25.4	-5.6
TANT				S	**Sg**	**16 23 12.9**	**+3.2**
TTIG	**Tnine Tigouga,**	**8.42**	**21**	P	**Pn**	**16 22 10.2**	**+1.9**
TTIG				S	**Sg**	**16 24 31.0**	**-5.3**
EAH	**EAH**	**9.16**	**13**	P	**Pn**	**16 22 16.7**	**-1.5**
EAH				S	Sn	16 24 46.0	+45
OUK	**Oukaimeden**	**9.22**	**22**	P	**Pn**	**16 22 18.7**	**-0.7**
OUK				S	Sn	16 24 53.9	+50
ZGR	**Zagora**	**9.31**	**36**	P	**Pn**	**16 22 21.1**	**+0.6**
ZGR				S	Sn	16 25 03.1	+58
OUZM	**OUZ**	**9.39**	**28**	P	**Pn**	**16 22 20.0**	**-1.6**
OUZM				S	Sn	16 24 55.2	+48
TZRR	**Tazzarine**	**9.86**	**34**	P	**Pn**	**16 22 27.7**	**-0.3**
TZRR				S	Sn	16 25 12.9	+54
ARF	**Arif**	**11.09**	**37**	P	**Pn**	**16 22 45.8**	**+0.9**
ARF				S	Sn	16 25 46.6	+58
PMOZ	**Porto Moniz, M**	**11.10**	**336**	Pn	**Pn**	**16 22 41.5**	**-3.5**
ZHG	**ZHG**	**11.68**	**22**	P	**Pn**	**16 22 51.7**	**-1.2**
ZHG				S	Sn	16 25 48.7	+45
MD31	**MD31**	**11.95**	**31**	P	**Pn**	**16 22 58.3**	**+1.6**
MD31				S	Sn	16 26 01.3	+51
CZD	**Col de Zad**	**11.96**	**29**	P	**Pn**	**16 22 57.6**	**+0.6**
CZD				S	Sn	16 26 06.1	+55
MDT	**Midelt**	**11.98**	**31**	Pn	**Pn**	**16 22 58.4**	**+1.3**
	0.1nm,0.3s,baz=238,slow=9.7,SNR=1.7						
MDT				Sn	**Sn**	**16 25 12.3**	**+1.4**
	0.1nm,0.3s,baz=333,slow=11,SNR=1.9						
MDT				Lg	Lg	16 26 12.5	
	0.2nm,0.3s,baz=308,slow=12,SNR=3.7						
MDT	**Midelt**	**11.98**	**31**	P	**Pn**	**16 22 59.7**	**+2.6**
MDT				S	Sn	16 26 03.0	+52
TOA0	**Torodi Ar. Sit**	**16.07**	**124**	P	**Pn**	**16 23 52.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**16.07**	**124**	Pn	**Pn**	**16 23 52.8**	**+0.4**
	0.2nm,0.3s,baz=310,slow=11,SNR=9.8						
TORD				Sn	**Sn**	**16 26 47.1**	**-3.6**
	0.1nm,0.3s,baz=309,slow=24,SNR=3.5						
TORD				Lg	Lg	16 28 43.7	
	baz=308,slow=26,SNR=2.0						
TORD	**Torodi Ar. Bea**	**16.07**	**124**	Pn	**Pn**	**16 23 51.4**	**-0.9**
DBIC	**Dimbokro**	**17.34**	**156**	P	**Pn**	**16 24 05.6**	**-2.8**
	0.2nm,0.3s,baz=333,slow=14,SNR=1.8						
DBIC				Lg	Lg	16 29 22.0	
	0.1nm,0.3s,baz=41,slow=23,SNR=1.7						
DBIC	**Dimbokro**	**17.34**	**156**	P	**Pn**	**16 24 10.0**	**+1.6**
MTE	**Manteigas**	**18.04**	**11**		**Pn**	**16 24 16.6**	**-0.3**
ESDC	**Sonseca Array**	**18.23**	**20**	P	**Pn**	**16 24 19.1**	**-0.2**
	0.1nm,0.3s,baz=201,slow=13,SNR=5.1						
ESDC	**Sonseca Array**	**18.23**	**20**	IAmb	IAmb	16 24 27.8	
	comp=Z,6.2nm,1.5s						
I42PT	**GRACIOSA ISLAN**	**21.29**	**324**	*i*		18 29 10.0	
	baz=139,slow=325,SNR=4.0						
KEST	**Kesra**	**22.61**	**50**	P	**P**	**16 25 09.0**	**+1.9**
	comp=Z,1.9nm,0.5s,baz=176,slow=16,SNR=2.0						
KEST	**Kesra**	**22.61**	**50**	IAmb	IAmb	16 25 50.1	
	comp=Z,10nm,1.4s						
GEC2	**GERESS Array S**	**33.07**	**32**	P	**P**	**16 26 40.4**	**-1.6**
GEC2				IAmb	IAmb	16 26 42.0	
	comp=Z,2.2nm,0.7s						
GERES	**GERESS Array B**	**33.07**	**32**	P	**P**	**16 26 41.3**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=223,slow=9.2,SNR=10						
GERES	**GERESS Array B**	**33.07**	**32**	P	**P**	**16 26 40.8**	**-1.1**
EKA	**Eskdalemuir Ar**	**33.24**	**9**	P	**P**	**16 26 41.7**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=25,slow=10,SNR=2.1						
BURAR	**Bovina Array**	**38.70**	**41**	P	**P**	**16 27 32.0**	**+1.8**
BRTR	**Keskin Array B**	**42.04**	**55**	P	**P**	**16 27 59.4**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=224,slow=6.0,SNR=3.7						
FINES	**FINESS Array B**	**46.68**	**24**	P	**P**	**16 28 34.5**	**-0.2**
	comp=Z,1.9nm,1.0s,baz=224,slow=5.3,SNR=7.6						
FINES	**FINESS Array B**	**46.68**	**24**	P	**P**	**16 28 33.7**	**-1.0**
KBZ	**Khabaz**	**49.47**	**51**	P	**P**	**16 28 57.9**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=243,slow=4.6,SNR=3.8						
BRVK	**Borovoye**	**67.58**	**40**	P	**P**	**16 31 03.2**	**+0.4**
KURK	**Kurchatov**	**73.12**	**42**	P	**P**	**16 31 36.7**	**+0.1**
KURK				IAmb	IAmb	16 31 38.4	
	comp=Z,4.1nm,1.4s						
ZALV	**Zalesovo Beam**	**75.81**	**37**	P	**P**	**16 31 52.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=279,slow=2.8,SNR=2.2						
MAKZ	**Makanchi**	**76.38**	**45**	P	**P**	**16 31 56.2**	**+0.5**
MAKZ				IAmb	IAmb	16 31 56.8	
	comp=Z,1.3nm,0.7s						
MK31	**Makanchi Array**	**76.59**	**45**	P	**P**	**16 31 57.2**	**+0.3**
MK31				IAmb	IAmb	16 32 19.2	
	comp=Z,4.9nm,1.9s						
MKAR	**Makanchi Array**	**76.59**	**45**	P	**P**	**16 31 57.6**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=286,slow=5.2,SNR=13						
MKAR	**Makanchi Array**	**76.59**	**45**	P	**P**	**16 31 57.3**	**+0.4**
SONM	**Songino Array**	**90.68**	**36**	P	**P**	**16 33 10.8**	**+1.5**
	comp=Z,0.3nm,0.5s,baz=241,slow=3.0,SNR=2.5						
WRA	**Warramunga Arr**	**148.51**	**91**	PKPbc	**PKPbc**	**16 39 54.5**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=289,slow=2.1,SNR=1.6						
ASAR	**Alice Springs**	**148.63**	**99**	PKPbc	**PKPbc**	**16 39 55.1**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=293,slow=2.4,SNR=13						

IDC ***18*** *16:23:36.9±0.8,4.64S×105.93W,h0km,mb4.1/18, mb1 4.3/18,mb1mx4.3/31,mbtmp4.1/18,MS4.2/19, Ms1 4.2/19,ms1mx4.2/20,Error ellipse: s-maj=26.4km s-min=13.8km az=55.0*

UNK ***18*** *16:23:37.1,4.60S×105.94W,h10km*

NEIC ***18*** *16:23:37.5±1.8,4.6S±0.1×105.9W±0.2,h10km±1km, mb4.8/128,Error ellipse: s-maj=28.2km s-min=19.0km az=242.0*

GCMT ***18*** *16:23:41.5±0.2,4.46S±0.01×105.87W±0.01,h14km±1km, MW4.9/125,Moment Tensor Solution. s47,c58; s125,c179; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.49±.08; Mθθ 1.34±.07; Mϕϕ-0.84±.07; Mrθ 0.28±.15; Mθϕ2.91±.08; Mϕr-0.21±.16; Best double couple: Mo3.13300×10¹⁶ NP1:ϕ1 11.00000°,δ83.00000°, λ-176.00000°. NP2:ϕ2 280.00000°,δ86.00000°, λ-7.00000°. Principal axes: T 3.3580, Plg2.0000°, Azm325.0000°; N -0.4500, Plg82.0000°, Azm67.0000°; P -2.9090, Plg8.0000°, Azm235.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 16:23:38.8±0.6,4.61S±0.09×106.0W±0.1,h17km,n256, σ1s35/232,mb4.7/70,MS4.2/24,Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H06S1	**SOCORRO T**	**23.71**	**348**	T	T	16 53 26.1	
	SNR=13						
CMIG	**Matias Romero**	**24.18**	**27**	P	**P**	**16 28 55.3**	**+0.8**
	1.0nm,0.4s,baz=210,slow=11,SNR=2.0						
CMIG				LR	LR	16 35 20.4	
	comp=Z,119nm,20.8s,baz=200,slow=29						
CCIG	**Comitan**	**24.85**	**33**	P	**P**	**16 28 58.9**	**-1.9**
MTO3	**Montecristo**	**25.05**	**41**	P	**P**	**16 29 00.4**	**-2.3**
JTS	**Las Juntas de**	**25.63**	**55**	P	**P**	**16 29 08.7**	**+1.0**
	30nm,1.1s,baz=321,slow=6.1,SNR=11						
JTS				LR	LR	16 36 30.8	
	comp=Z,1μm,21.6s,baz=298,slow=30						
JTS	**Las Juntas de**	**25.63**	**55**	P	**P**	**16 29 08.1**	**+0.3**
TGUH	**Tegucigalpa,Un**	**26.22**	**45**	P	**P**	**16 29 14.8**	**+1.6**
BOAB	**BOACO BROADBA**	**26.34**	**50**	P	**P**	**16 29 14.3**	**+0.2**
ACON	**Acoyapa**	**26.43**	**51**	P	**P**	**16 29 14.7**	**-0.2**
MATN	**Matagalpa**	**26.45**	**49**	P	**P**	**16 29 14.9**	**-0.3**
ESPN	**Las Esperanzas**	**27.24**	**52**	P	**P**	**16 29 23.2**	**+0.9**
ESPN				IAmb	IAmb	16 29 24.8	
	comp=Z,27nm,1.1s						
ZAIG	**Zacatecas**	**27.41**	**7**	P	**P**	**16 29 24.1**	**0.0**
ATAH	**Atahualpa**	**27.53**	**97**	LR	LR	16 37 31.5	
	comp=Z,288nm,19.2s,baz=268,slow=30						
LPIG	**La Paz**	**28.85**	**352**	LR	LR	16 38 08.3	
	comp=Z,791nm,20.2s,baz=172,slow=30						
NNA	**Nana**	**29.70**	**106**	LR	LR	16 38 18.7	
	comp=Z,447nm,20.9s,baz=274,slow=30						
TEIG	**Tepich**	**30.18**	**35**	LR	LR	16 40 04.0	
	comp=Z,538nm,20.1s,baz=50,slow=33						
ROSC	**El Rosal**	**32.96**	**74**	LR	LR	16 40 51.6	
	comp=Z,496nm,21.2s,baz=250,slow=31						
RKT	**Rikitea**	**33.52**	**234**	*e*LR	LR	16 39 07.7	
	comp=Z,526nm,25.8s						
RKT	**Rikitea**	**33.52**	**234**	*e*T	T	17 05 26.8	
	comp=Z,3.8nm,0.3s						
HSIG		**33.78**	**352**	P	**P**	**16 30 21.2**	**+1.3**
TXAR	**Lajitas Array**	**33.82**	**4**	P	**P**	**16 30 21.9**	**+1.5**
	comp=Z,2.0nm,0.5s,baz=192,slow=12,SNR=4.0						
TXAR				PcP	**PcP**	**16 32 59.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=189,slow=3.6,SNR=1.6						
TXAR				LR	LR	16 41 40.6	
	comp=Z,335nm,20.7s,baz=0.0,slow=32						
TXAR	**Lajitas Array**	**33.82**	**4**	P	**P**	**16 30 21.2**	**+0.9**
TX31	**Lajitas Ar. Si**	**33.82**	**4**	P	**P**	**16 30 21.5**	**+1.1**
TX31				IAmb	IAmb	16 30 46.1	
	comp=Z,14nm,1.4s						
TAOE	**Nuku Hiva Isla**	**34.21**	**261**	*e*LR	LR	16 39 23.2	
	comp=Z,585nm,24.2s						
319A	**Douglas**	**35.92**	**355**	P	**P**	**16 30 37.6**	**-0.9**
MNTX	**Cornudas Mount**	**36.11**	**1**	P	**P**	**16 30 40.8**	**+0.8**
	baz=181,SNR=5.5						
MNTX	**Cornudas Mount**	**36.11**	**1**	P	**P**	**16 30 39.7**	**-0.3**
214A	**Organ Pipe Nat**	**36.94**	**350**	P	**P**	**16 30 48.6**	**+1.5**
	baz=169						
121A	**Cookes Peak, D**	**36.98**	**357**	P	**P**	**16 30 49.3**	**+1.7**
	baz=177						
121A	**Cookes Peak, D**	**36.98**	**357**	P	**P**	**16 30 47.1**	**-0.5**
TUC	**Tucson**	**37.00**	**353**	P	**P**	**16 30 49.3**	**+1.6**
	baz=172						
TUC	**Tucson**	**37.00**	**353**	P	**P**	**16 30 47.1**	**-0.6**
113A	**Mohawk Valley,**	**37.91**	**349**	P	**P**	**16 30 57.0**	**+1.8**
113A				IAmb	IAmb	16 30 58.5	
	comp=Z,14nm,1.2s						
H03N2	**Juan Fernandez**	**38.16**	**142**	T	T	17 11 24.2	
	baz=314,slow=77,SNR=12						
H03N1	**Juan Fernandez**	**38.17**	**142**	T	T	17 11 26.0	
	baz=314,slow=77,SNR=20						
H03N3	**Juan Fernandez**	**38.18**	**142**	T	T	17 11 18.4	
	baz=314,slow=77,SNR=15						
IKP	**In-Ko-Pah, Jac**	**38.29**	**346**	P	**P**	**16 31 00.6**	**+2.0**
	baz=164						
GLA	**Glamis**	**38.39**	**348**	P	**P**	**16 31 01.2**	**+1.8**
	baz=166						
GLA	**Glamis**	**38.39**	**348**	P	**P**	**16 31 00.2**	**+0.8**
GLA				IAmb	IAmb	16 31 03.4	
	comp=Z,34nm,1.5s						
PB11	**IPOC Station P**	**38.42**	**116**	P	**P**	**16 30 59.9**	**-0.2**
PB11				IAmb	IAmb	16 31 07.3	
	comp=Z,11nm,0.9s						
BAR	**Barrett**	**38.46**	**345**	P	**P**	**16 30 59.4**	**-0.5**
BAR				IAmb	IAmb	16 31 03.0	
	comp=Z,35nm,1.6s						
SWSC	**Sam W. Stewart**	**38.50**	**347**	P	**P**	**16 31 02.3**	**+2.0**
	baz=164						
BNM	**Barren Site**	**38.56**	**359**	P	**P**	**16 31 01.8**	**+0.8**
MONP2	**Monument Peak**	**38.60**	**346**	P	**P**	**16 31 03.1**	**+1.8**
	baz=163,SNR=5.2						
LPAZ	**La Paz**	**38.88**	**110**	P	**P**	**16 31 04.3**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=286,slow=6.6,SNR=3.6						
LPAZ				LR	LR	16 44 42.9	
	comp=Z,164nm,19.0s,baz=279,slow=33						
LPAZ	**La Paz**	**38.88**	**110**	P	**P**	**16 31 03.8**	**-0.7**
Y14A	**Wickenburg**	**38.91**	**351**	P	**P**	**16 31 03.1**	**-0.7**
PB08	**IPOC Station P**	**38.99**	**117**	P	**P**	**16 31 04.3**	**-0.8**
PB08				IAmb	IAmb	16 31 08.2	
	comp=Z,31nm,1.7s						
BC3	**Big Chuckawall**	**39.10**	**347**	P	**P**	**16 31 07.1**	**+1.7**
	baz=165,SNR=6.6						
XPFO	**Pion Flat**	**39.29**	**346**	P	**P**	**16 31 08.0**	**+0.9**
XPFO				IAmb	IAmb	16 31 10.3	
	comp=Z,17nm,1.1s						
PFO	**Pinyon Flats O**	**39.29**	**346**	P	**P**	**16 31 09.2**	**+2.1**
	baz=163,SNR=5.8						
PFO	**Pinyon Flats O**	**39.29**	**346**	P	**P**	**16 31 09.4**	**+2.3**
	comp=Z,9.2nm,1.0s,baz=194,slow=7.6,SNR=7.7						
PFO	**Pinyon Flats O**	**39.29**	**346**	P	**P**	**16 31 08.0**	**+0.9**
PFO				IAmb	IAmb	16 31 10.3	
	comp=Z,19nm,1.2s						
ANMO	**Albuquerque**	**39.35**	**359**	P	**P**	**16 31 08.8**	**+1.2**
	baz=179						
MURC	**Murrieta**	**39.46**	**345**	P	**P**	**16 31 09.9**	**+1.5**
	baz=162						
PDMCI	**Parker Dam,Lak**	**39.47**	**349**	P	**P**	**16 31 09.9**	**+1.6**
	baz=167						
IRM	**Iron Mountain**	**39.52**	**348**	P	**P**	**16 31 10.8**	**+2.0**
	baz=166,SNR=9.6						
BELC	**Belle Mtn. Jos**	**39.56**	**347**	P	**P**	**16 31 11.4**	**+2.1**
	baz=164						
W18A	**Petrified Fore**	**39.68**	**355**	P	**P**	**16 31 12.3**	**+2.0**
	baz=174						
WMOK	**Wichita Mounta**	**39.72**	**9**	P	**P**	**16 31 08.6**	**-1.9**
LVC	**Limon Verde**	**40.03**	**120**	P	**P**	**16 31 14.5**	**+0.8**
	comp=Z,5.3nm,0.7s,baz=270,slow=3.9,SNR=4.3						
BFSC	**Mount Baldy Ra**	**40.19**	**345**	P	**P**	**16 31 16.6**	**+2.0**
	baz=162,SNR=6.6						
GMRC	**Granite Mounta**	**40.24**	**348**	P	**P**	**16 31 16.5**	**

PCRV Puerto La Cruz 43.70 70 P P 16 31 43.7 +0.3
comp=Z,9.4nm,0.8s,baz=358,slow=7.9,SNR=3.2
S39A Bolivar 43.70 15 P P 16 31 42.8 -0.2
S39A IAmb IAmb 16 31 50.4
comp=Z,17nm,1.3s
SRU San Rafael Swe 43.71 355 P P 16 31 43.3 +0.1
OMMB Old Mammoth Mi 43.73 345 P P 16 31 43.8 +0.2
OMMB IAmb IAmb 16 31 46.7
comp=Z,22nm,1.6s
PLCV Puerto La Cruz 43.74 70 P P 16 31 43.7 0.0
TMUT Trail Mountain 43.96 354 P P 16 31 45.0 -0.4
V48A Smith Brothers 43.97 23 P P 16 31 44.9 -0.3
P17A Butcher Ranch, 44.09 355 P P 16 31 44.6 -1.6
ISCO Idaho Springs 44.19 0 P P 16 31 45.5 -1.7
BO02 Sierra Bellavi 44.28 137 P P 16 31 46.5 -1.4
NV11 Mina Array Sit 44.29 346 P P 16 31 46.5 -1.4
NV11 IAmb IAmb 16 31 53.3
comp=Z,20nm,1.9s
NVAR Mina Array Bea 44.33 346 P P 16 31 50.9 +2.6
comp=Z,1.8nm,0.8s,baz=175,slow=8.9,SNR=17
NVAR LR LR 16 46 31.3
comp=Z,284nm,18.5s,baz=178,slow=31
NVAR Mina Array Bea 44.33 346 P P 16 31 47.3 -1.0
CFA Coronel Fontan 44.40 132 P P 16 31 48.9 +0.1
comp=Z,3.1nm,0.7s,baz=239,slow=3.3,SNR=4.1
CMB Columbia Colle 44.50 344 P P 16 31 47.1 -2.4
CMB IAmb IAmb 16 31 52.6
comp=Z,27nm,1.6s
RYN Ryan 44.57 346 P P 16 31 49.5 -0.7
RYN IAmb IAmb 16 31 53.8
comp=Z,17nm,1.3s
O20A White River Ci 44.57 358 P P 16 31 52.1 +1.8
baz=177
O20A White River Ci 44.57 358 P P 16 31 49.7 -0.6
O20A IAmb IAmb 16 32 21.0
comp=Z,18nm,1.2s
PPT2 Papeete2 44.58 250 *e*S **S 16 38 24.3 -1.7**
comp=Z,106nm,25.5s
PPT2 *e*LQ LQ 16 42 24.1
comp=Z,485nm,27.0s
PPT2 *e*LR LR 16 44 16.4
comp=Z,806nm,26.2s,baz=77
Y55A Saluda 44.59 29 P P 16 31 51.1 +0.9
baz=215
W52A Murphy 44.60 26 P P 16 31 49.6 -0.7
W52A IAmb IAmb 16 31 58.3
comp=Z,20nm,1.2s
HODGE Hodges 44.64 28 P P 16 31 50.0 -0.6
HODGE IAmb IAmb 16 31 57.4
comp=Z,10nm,1.2s
CPCT Cooper Cave 44.65 25 P P 16 31 48.9 -1.8
NLU North Lily Min 44.70 353 P P 16 31 50.2 -1.0
MPU Maple Canyon 44.71 354 P P 16 31 50.4 -1.0
KVN Kaiserville 44.87 347 P P 16 31 51.3 -1.3
DUG Dugway, Tooele 45.03 353 P P 16 31 55.8 +2.0
baz=170,SNR=8.9
DUG Dugway, Tooele 45.03 353 P P 16 31 52.1 -1.6
DUG IAmb IAmb 16 31 57.1
comp=Z,24nm,1.4s
RDMU Red Mountain 45.08 356 P P 16 31 53.4 -0.9
YERR Yerington 45.08 345 P P 16 31 52.5 -1.8
X55A Gracelyn & Ava 45.13 29 P P 16 31 55.7 +1.2
baz=215
TKL Tuckaleechee C 45.14 26 P P 16 31 53.0 -1.6
TKL IAmb IAmb 16 32 01.9
comp=Z,8.5nm,1.0s
JSC Jenkinsville 45.16 29 P P 16 31 52.3 -2.5
W54A Cherokee Point 45.38 28 P P 16 31 57.6 +1.1
baz=214
SIV San Ignacio 45.48 108 P P 16 31 57.7 0.0
comp=Z,1.0nm,0.8s,baz=264,slow=14,SNR=3.3
AFDM Forest Hills D 45.51 344 P P 16 31 54.6 -2.9
AFDM IAmb IAmb 16 32 01.7
comp=Z,8.8nm,1.0s
P40A Paris 45.76 15 P P 16 31 57.9 -1.5
BGU Big Grassy Mou 45.78 353 P P 16 31 58.1 -1.6
TBI Tubuai 45.90 242 *e*LR LR 16 44 53.8
comp=Z,619nm,29.0s
TBI Tubuai 45.90 242 *e*T T 17 20 54.0
comp=Z,8.2nm,0.3s
PTGA Pitinga 46.09 87 P P 16 32 00.7 -1.8
RWWY Rawlins 46.09 359 P P 16 32 01.3 -1.0
RWWY IAmb IAmb 16 32 05.5
comp=Z,8.2nm,0.8s
W56A Indian Trail 46.18 29 P P 16 32 03.3 +0.6
baz=216
HWUT Hardware Ranch 46.28 354 P P 16 32 03.0 -0.7
HWUT IAmb IAmb 16 32 09.1
comp=Z,11nm,1.1s
PDAR Pinedale Array 47.27 356 P P 16 32 12.2 +0.7
comp=Z,1.0nm,0.7s,baz=163,slow=6.6,SNR=1.6
PDAR LR LR 16 49 41.4
comp=Z,379nm,18.6s,baz=179,slow=33
WDC Whiskeytown Da 47.48 343 P P 16 32 11.3 -1.6
WDC IAmb IAmb 16 32 15.8
comp=Z,8.1nm,0.9s
PLCA Paso Flores 47.98 144 P P 16 32 17.4 +0.4
comp=Z,0.7nm,0.5s,baz=344,slow=8.7,SNR=1.7
PLCA LR LR 16 47 22.3
comp=Z,594nm,19.6s,baz=316,slow=30
MOD Modoc Plateau 48.10 346 P P 16 32 15.8 -2.1
WVOR Wild Horse Val 48.22 347 P P 16 32 17.8 -1.0
FXWY Fox Creek 48.24 355 P P 16 32 18.3 -0.8
FXWY IAmb IAmb 16 32 22.3
comp=Z,7.0nm,1.1s
M02C Callahan 48.32 343 P P 16 32 21.6 +2.2
baz=157
S55A Lewisburg 48.35 27 P P 16 32 20.4 +0.6
baz=215
M04C Macdoel 48.39 344 P P 16 32 21.9 +1.9
baz=159,SNR=10
IMW Indian Meadow 48.49 355 P P 16 32 19.1 -1.9
RSSD Black Hills 48.54 2 P P 16 32 19.0 -2.3
RSSD IAmb IAmb 16 32 32.7
comp=Z,19nm,1.6s
HLID Hailey 48.55 352 P P 16 32 22.7 +1.4
baz=169,SNR=6.5
HLID Hailey 48.55 352 P P 16 32 19.6 -1.8
HLID IAmb IAmb 16 32 24.3
comp=Z,10nm,1.1s
M44A Midewin, Midew 48.62 18 P P 16 32 20.9 -0.7
MFID Camas Ranch 48.63 350 P P 16 32 22.8 +0.9
FLWY Flagg Ranch 48.66 355 P P 16 32 21.6 -0.6
L04D Klamath Falls 48.92 344 P P 16 32 25.9 +1.7
baz=158
J08A Circle Bar Ran 49.07 348 P P 16 32 25.1 -0.1
J08A IAmb IAmb 16 32 28.3
comp=Z,12nm,1.1s
T59A Double "B" Far 49.12 30 P P 16 32 25.5 -0.1
T59A IAmb IAmb 16 32 36.3
comp=Z,5.4nm,0.7s
YHH Holmes Hill 49.37 355 P P 16 32 28.4 +0.6
MCMT McKenzie Canyo 49.60 354 P P 16 32 30.3 +0.8
J05D Fort Rock, OR 49.64 345 P P 16 32 31.9 +2.3
baz=160,SNR=16
K02D Willamette Mer 49.75 343 P P 16 32 32.5 +2.1
baz=157
J04D Umpqua Nationa 49.82 345 P P 16 32 32.9 +1.8
baz=159
PINE Pine Mountain 50.04 346 P P 16 32 30.7 -2.1
I40A Norwalk 50.22 14 P P 16 32 32.9 -1.0
I40A IAmb IAmb 16 32 41.2
comp=Z,7.7nm,0.8s
BMO Blue Mountains 50.28 350 P P 16 32 33.9 -0.5
L48A N Adams 50.31 21 P P 16 32 32.1 -2.5
I04A Tendick Farm, 50.42 345 P P 16 32 36.9 +1.5
baz=159
I03D Drain, OR 50.58 344 P P 16 32 38.7 +2.1
baz=157
G08A Pilot Rock 51.02 348 P P 16 32 38.8 -1.3
G08A IAmb IAmb 16 32 44.7
comp=Z,12nm,1.2s
LAO LASA Array 51.08 360 P P 16 32 39.7 -0.7
LAO IAmb IAmb 16 33 02.2
comp=Z,28nm,1.7s
CPUP Villa Florida 51.21 120 P P 16 32 42.6 +0.9
comp=Z,1.9nm,0.8s,baz=249,slow=7.9,SNR=1.9
CPUP LR LR 16 50 53.1
comp=Z,230nm,20.7s,baz=267,slow=32
CPUP Villa Florida 51.21 120 IAmb IAmb 16 32 44.8
comp=Z,25nm,1.7s
G06A Carlson Farm, 51.33 347 P P 16 32 41.6 -0.7
G06A IAmb IAmb 16 32 45.2
comp=Z,27nm,1.7s
MSO Missoula 51.70 353 P P 16 32 46.3 +1.2
baz=170
MSO Missoula 51.70 353 P P 16 32 43.5 -1.6
MSO IAmb IAmb 16 32 51.9
comp=Z,21nm,1.9s
M54A Oil Creek Stat 51.79 25 P P 16 32 46.8 +1.0
baz=214
M54A Oil Creek Stat 51.79 25 P P 16 32 45.2 -0.6
M54A IAmb IAmb 16 33 11.8
comp=Z,21nm,1.4s
SSPA Standing Stone 51.86 27 P P 16 32 47.2 +0.9
baz=216
SSPA Standing Stone 51.86 27 P P 16 32 44.4 -1.8
SSPA IAmb IAmb 16 32 53.5
comp=Z,15nm,1.2s
JTMT Jette 52.65 353 P P 16 32 51.0 -1.1
COWI Conover 52.66 15 P P 16 32 50.7 -1.4
COWI IAmb IAmb 16 33 01.2
comp=Z,17nm,1.1s
D08A Wollman Farm, 52.71 349 P P 16 32 52.3 -0.1
LON Longmire 53.03 346 P P 16 32 54.9 0.0
E04D Cinebar 53.03 346 P P 16 32 56.9 +2.1
baz=159
M58A Price's Panora 53.10 28 P P 16 32 55.9 +0.4
baz=218
L56A Greenwood 53.21 26 P P 16 32 56.6 +0.2
baz=216
C09A Chrisman Ranch 53.30 350 P P 16 32 55.5 -1.3
C09A IAmb IAmb 16 32 59.2
comp=Z,10nm,0.8s
MMNY Mt. Morris Dam 53.54 26 P P 16 32 57.8 -0.9
MMNY IAmb IAmb 16 33 00.9
comp=Z,10nm,0.8s
NEW Newport 53.56 351 P P 16 32 59.7 +1.0
baz=166
NEW Newport 53.56 351 P P 16 32 57.0 -1.8
NEW IAmb IAmb 16 33 00.6
comp=Z,9.2nm,0.9s
D41A Chassel 53.70 15 P P 16 32 58.9 -0.8
EYMN Ely 53.85 12 P P 16 33 01.7 +0.9
baz=198
B08A Colville Reser 54.03 349 P P 16 33 00.3 -1.9
B08A IAmb IAmb 16 33 03.7
comp=Z,15nm,1.7s
D03D Eldon 54.07 346 P P 16 33 04.0 +1.5
baz=159
MDP Montagnes des 54.12 80 P P 16 33 03.8 +0.4
baz=276,slow=12
F49A Sandfield 54.49 20 P P 16 33 05.7 +0.1
baz=210
B05A Bryant 54.52 347 P P 16 33 06.8 +1.1
baz=160
G53A Haliburton 55.21 23 P P 16 33 11.3 +0.5
baz=214
M63A Gales Ferry 55.27 31 P P 16 33 11.4 +0.2
baz=222
ULM Lac du Bonnet 55.33 8 P P 16 33 12.6 +1.1
comp=Z,4.3nm,0.7s,baz=136,slow=5.5,SNR=3.2
ULM LR LR 16 55 11.4
comp=Z,356nm,19.9s,baz=206,slow=34
ULM Lac du Bonnet 55.33 8 IAmb IAmb 16 33 18.7
comp=Z,11nm,1.2s
K61A Williamstown 55.61 29 P P 16 33 13.5 -0.3
baz=221
G54A Lake Saint Pet 55.65 24 P P 16 33 14.5 +0.6
baz=214
E52A Mattawa 56.17 23 P P 16 33 17.8 +0.2
baz=213
I60A Shoreham 56.49 28 P P 16 33 19.9 0.0
baz=220
D52A ZEK Kipawa Sen 56.84 22 P P 16 33 22.7 +0.3
baz=213
E54A Lac Daplat, Po 56.86 23 P P 16 33 23.2 +0.6
baz=215
BDFB Brasilia 57.92 105 LR LR 16 56 00.4
comp=Z,207nm,18.9s,baz=281,slow=34
CHGQ Chibougamau 60.78 23 P P 16 33 50.4 +0.6
baz=217
FCC Fort Churchill 63.88 7 P P 16 34 09.8 -0.5
YKA Yellowknife Ar 67.24 356 P P 16 34 31.9 -0.1
comp=Z,4.2nm,0.8s,baz=164,slow=6.9,SNR=10
YKA LR LR 17 01 47.3
comp=Z,225nm,18.7s,baz=0.0,slow=34
SCHQ Schefferville 67.52 23 LR LR 17 02 56.7
comp=Z,98nm,21.2s,baz=333,slow=35
BCAR Beaver Creek A 72.72 344 P P 16 35 06.1 +0.3
EPYK Eagle Plains 74.20 348 P P 16 35 15.6 +1.2
baz=148
INK Inuvik 75.26 350 P P 16 35 19.8 -0.6
comp=Z,3.5nm,0.8s,baz=111,slow=7.0,SNR=5.1
INK Inuvik 75.26 350 P P 16 35 20.1 -0.3
ILAR Eielson Array 75.49 343 P P 16 35 22.1 +0.4
comp=Z,1.8nm,0.8s,baz=155,slow=5.2,SNR=16
ILAR Eielson Array 75.49 343 P P 16 35 20.8 -1.0
PRP Porcupine Dome 75.66 344 P P 16 35 22.9 -0.1
PRP IAmb IAmb 16 35 33.6
comp=Z,15nm,1.3s
PPLA Purkeypile 75.83 340 P P 16 35 24.1 +0.1
BMAR Burnt Mountain 76.88 346 P P 16 35 28.1 -1.6
COLD Coldfoot 78.20 344 P P 16 35 38.6 +1.6
baz=135
IMAR Indian Mountai 78.39 342 P P 16 35 37.8 -0.4
VNDA Vanda 86.01 193 P P 16 36 20.0 +2.1
comp=Z,0.6nm,1.0s,baz=30,slow=6.1,SNR=2.7
VNDA LR LR 17 06 46.0
comp=Z,54nm,18.9s,baz=72,slow=30
DZM Mont Dzumac 86.07 248 *e*LR LR 17 03 28.9
comp=Z,100nm,21.9s
H11N3 WAKE ISLAND Hy 88.84 290 T T 18 14 55.3
baz=96,slow=74,SNR=181
H11N2 WAKE ISLAND Hy 88.86 290 T T 18 14 56.3
baz=96,slow=74,SNR=169
H11N1 WAKE ISLAND Hy 88.86 290 T T 18 14 52.6
baz=96,slow=74,SNR=134
H11S2 WAKE ISLAND Hy 88.93 289 T T 18 15 01.3
baz=93,slow=74,SNR=116
H11S1 WAKE ISLAND Hy 88.93 289 T T 18 14 58.5
baz=93,slow=74,SNR=114
H11S3 WAKE ISLAND Hy 88.94 289 T T 18 15 02.6
baz=93,slow=74,SNR=81
PETK Petropavlovsk- 97.48 323 LR LR 17 13 29.3
comp=Z,137nm,20.8s,baz=61,slow=31
SONM Songino Array 128.78 332 PKP **PKiKP 16 42 46.5 +0.1**
comp=Z,0.4nm,0.4s,baz=63,slow=6.6,SNR=2.3
BRTR Keskin Array B 129.51 40 PKP **PKiKP 16 42 48.2 +0.1**
comp=Z,0.6nm,0.8s,baz=337,slow=6.3,SNR=2.9
ZALV Zalesovo Beam 130.03 352 PKP **PKiKP 16 42 48.4 -0.1**
comp=Z,0.4nm,0.4s,baz=35,slow=5.3,SNR=1.8
MKAR Makanchi Array 137.38 352 PKP **PKPdf 16 43 01.9 +0.1**
comp=Z,0.3nm,0.8s,baz=349,slow=4.7,SNR=2.7
MKAR PP **PP 16 45 46.2 +0.4**
comp=Z,0.1nm,0.4s,baz=1.4,slow=4.9,SNR=4.1
LZH Lanzhou 138.37 323 *e*PKP **PKPdf 16 42 59.6 -4.5**
LZH pPKP sPKPdf 16 43 10.4 -0.1
LZH sPKP 16 43 14.8
GEYT Alibeck 143.79 22 PKP **PKPdf 16 43 13.9 +0.3**
comp=Z,0.6nm,0.4s,baz=205,slow=3.0,SNR=1.5
CMAR Chiang Mai Arr 152.05 302 PKPbc **PKPbc 16 43 34.5 +0.2**
comp=Z,1.4nm,1.0s,baz=299,slow=0.4,SNR=4.5

IDC 18 16:24:10.4±32.0, **43.69S**×**86.80E**, **h0**km, **mb3.9**/3, **mb1 4.1**/3, **mb1mx3.6**/22, **mbtmp3.9**/3, **MS3.8**/6, **Ms1 3.8**/6, **ms1mx3.4**/19, **Error ellipse: s-maj=768.4km s-min=56.5km az=37.0, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W2	**Cape Leeuwin H**	**22.82**	**77**	T	T	16 51 01.3	
	baz=244						
H01W3	**Cape Leeuwin H**	**22.83**	**77**	T	T	16 50 59.4	
	baz=244,slow=74						
H01W1	**Cape Leeuwin H**	**22.84**	**77**	T	T	16 51 00.0	
	baz=244,slow=74						
H08S2	**Diego Garcia H**	**38.02**	**337**	T	T	17 10 26.0	
	baz=161						
H08S1	**Diego Garcia H**	**38.03**	**337**	T	T	17 10 26.5	
	baz=161						
H08S3	**Diego Garcia H**	**38.04**	**337**	T	T	17 10 27.5	
	baz=161						
ASAR	**Alice Springs**	**43.33**	**78**	P	P	16 32 14.2	-0.1
	1.5nm,0.9s,baz=224,slow=7.4,SNR=12						
ASAR				LR	LR	16 47 39.9	
	comp=Z,184nm,21.5s,baz=245,slow=32						
STKA	**Stephens Creek**	**44.15**	**94**	LR	LR	16 46 58.5	
	comp=Z,113nm,20.0s,baz=210,slow=31						
VNDA	**Vanda**	**44.56**	**163**	LR	LR	16 48 34.0	
	comp=Z,62nm,21.6s,baz=284,slow=33						
WRA	**Warramunga Arr**	**46.05**	**75**	P	P	16 32 35.6	-0.3
	2.8nm,1.0s,baz=233,slow=7.7,SNR=3.5						
BOSA	**Boshof**	**50.81**	**266**	LR	LR	16 52 11.5	
	comp=Z,114nm,18.4s,baz=136,slow=33						
CMAR	**Chiang Mai Arr**	**62.83**	**13**	P	P	16 34 37.9	+0.1
	0.6nm,0.7s,baz=220,slow=8.2,SNR=2.5						
CMAR				LR	LR	16 57 49.4	
	comp=Z,50nm,19.6s,baz=236,slow=32						
PLCA	**Paso Flores**	**93.52**	**197**	LR	LR	17 16 43.9	
	comp=Z,36nm,19.7s,baz=132,slow=34						

GEN ***18*** *16:58:01.0, 44.47N×6.65E, h7km±2km, Ml0.7*
ROM ***18*** *16:58:01.1±0.2, 44.483N±0.009×6.69E±0.02, h10km, ML1.0/2, Error ellipse: s-maj=1.6km s-min=0.7km az=237.0*
LDG 18 16:58:01.5±0.0, **44.50N**×**6.68E**, **h2**km, **Md1.7**/4, **Ml1.6**/8, **Error ellipse: s-maj=1.0km s-min=0.7km az=62.0, France**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBDF	**Montbardon**	**0.24**	**15**	*e*Pg	Pg	16 58 06.3	+0.2
MBDF				*e*Sg	Sg	16 58 09.8	+0.6
	2.7nm,0.1s						
PZZ	**Stroppo**	**0.31**	**88**	P	Pg	16 58 07.7	+0.3
PZZ				S	Sg	16 58 12.4	+0.9
PZZ	**Stroppo**	**0.31**	**88**	P	Pg	16 58 07.8	+0.3
PZZ				S	Sg	16 58 12.9	+1.3
PZZ				AML	AML		
	comp=N,63μm,0.2s						
PZZ				AML	AML		
	comp=E,63μm,0.1s						
DOI	**San Damiano**	**0.40**	**89**	P	Pg	16 58 09.4	+0.1
DOI				S	Sg	16 58 15.8	+1.3
RRL	**Rocca Remolon**	**0.43**	**10**	P	Pg	16 58 09.9	+0.2
RRL				S	Sg	16 58 16.6	+1.2
RRL	**Rocca Remolon**	**0.43**	**10**	P	Pg	16 58 10.3	+0.5
RRL				S	Sg	16 58 16.9	+1.5
STV	**Sant Anna di V**	**0.53**	**118**	P	Pg	16 58 11.2	-0.4
STV				S	Sg	16 58 18.2	-0.2
STV	**Sant Anna di V**	**0.53**	**118**	P	Pg	16 58 11.3	-0.2
STV				S	Sg	16 58 18.6	+0.2
STV				AML	AML		
	comp=E,13μm,0.9s						
STV				AML	AML		
	comp=N,17μm,1.6s						
BHB	**Bricherasio**	**0.54**	**50**	P	Pg	16 58 11.9	+0.1
BHB				S	Sg	16 58 19.3	+0.5
ENR	**Entracque**	**0.59**	**117**	P	Pg	16 58 12.8	0.0
ENR				S	Sg	16 58 20.5	-0.1
ENR	**Entracque**	**0.59**	**117**	P	Pg	16 58 13.0	+0.1
ORIF	**Oris-en-Rattie**	**0.71**	**307**	*e*Pg	Pg	16 58 15.1	0.0
ORIF	**Oris-en-Rattie**	**0.71**	**307**	*e*Pn	Pg	16 58 15.1	0.0
SBF	**Sospel**	**0.83**	**139**	*e*Pg	Pg	16 58 17.6	+0.1
SBF				*e*Sg	Sg	16 58 28.5	+0.2
	comp=N,2.6nm,0.2s						
FRF	**La Foret Royal**	**0.94**	**182**	*e*Pg	Pg	16 58 19.4	-0.1
FRF				*e*Sg	Sg	16 58 31.5	-0.1
	comp=N,0.9nm,0.1s						
SMRF	**Simiane la Rot**	**0.95**	**237**	*e*Pg	Pg	16 58 19.4	-0.3
SMRF				*e*Sg	Sg	16 58 31.8	-0.3
	comp=N,0.7nm,0.2s						
LPG	**La Plagne**	**1.00**	**3**	*e*Pg	Pg	16 58 20.6	-0.1
LPG				*e*Sg	Sg	16 58 33.6	-0.1
	comp=N,0.2nm,0.2s						
LPL	**La Plagne**	**1.02**	**2**	*e*Pg	Pg	16 58 20.8	-0.2
LPL				*e*Sg	Sg	16 58 34.0	-0.3
	comp=N,0.7nm,0.2s						
LMR	**La Mourre**	**1.17**	**186**	*e*Pg	Pg	16 58 23.9	0.0
LMR				*e*Sg	Sg	16 58 38.7	-0.4
	comp=N,2.8nm,0.2s						
VIVF	**Saint-Julien-l**	**1.48**	**285**	*e*Pn	Pn	16 58 27.7	-1.5
VIVF				*e*Sn	Sb	16 58 46.1	-2.8
	comp=N,0.4nm,0.2s						
PGF	**Pioggiola**	**2.58**	**138**	*e*Pn	Pn	16 58 42.8	-1.5
PGF				*e*Sn	Sn	16 59 12.9	-3.4
	comp=N,2.0nm,0.4s						

IDC ***18*** *17:19:35.1±2.2, 8.71S×121.81E, h0km, mb3.7/2, mb1 3.5/4, mb1mx3.3/22, mbtmp3.4/4, ML3.3/2, Error ellipse: s-maj=222.9km s-min=27.8km az=55.0*
DJA ***18*** *17:19:45.1±0.4, 10.S±4.×12.1E±., h54km±7km, M4.0/7, MLv4.0/7*
ISC 18 17:19:42.4±0.9, **9.71S**±0.06×**120.86E**±0.04, **h35**km, **n11**, σ**4**.**83**/15, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSI	**Waingapu**	**0.55**	**274**	P	**Pn**	**17 19 57.5**	**+3.7**
WSI				S	**Sn**	**17 20 07.5**	**+5.7**
BASI	**Baing, Sumba**	**0.58**	**208**	P	**Pn**	**17 19 58.0**	**+3.8**
BASI				S	**Sn**	**17 20 08.6**	**+6.2**
EDFI	**Ende, Flores**	**1.26**	**41**	P	**Pn**	**17 20 06.9**	**+3.3**
EDFI				S	**Sn**	**17 20 23.8**	**+4.4**
WBSI	**Waikabubak, Su**	**1.45**	**272**	P	**Pn**	**17 20 07.5**	**+1.4**
WBSI				S	**Sn**	**17 20 25.0**	**+1.1**
BATI	**Baumata**	**2.81**	**100**	P	**Pn**	**17 20 29.2**	**+4.3**
PLAI	**Plampang**	**3.16**	**286**	P	**Pn**	**17 20 31.4**	**+1.7**
SOEI	**Soe**	**3.36**	**91**	P	**Pn**	**17 20 36.9**	**+4.3**
WRA	**Warramunga Arr**	**16.52**	**130**	Pn	**Pn**	**17 23 29.1**	**-2.5**
	0.1nm,0.3s,baz=308,slow=15,SNR=1.4						
WRA				Sn	Sn	17 26 20.7	-13
	0.2nm,0.3s,baz=300,slow=23,SNR=3.6						
ASAR	**Alice Springs**	**18.66**	**140**	P	**P**	**17 23 56.8**	**-0.7**
	0.1nm,0.3s,baz=320,slow=12,SNR=8.9						
ASAR				S	**Sn**	**17 27 16.9**	**-8.9**
	0.1nm,0.3s,baz=323,slow=25,SNR=6.0						
MKAR	**Makanchi Array**	**65.93**	**332**	P	**P**	**17 30 20.3**	**-4.6**
	0.1nm,0.4s,baz=142,slow=6.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**70.36**	**338**	P	P	17 30 47.0	-5.5
	0.8nm,0.5s,baz=149,slow=5.7,SNR=4.5						

IDC 18 17:35:10.6±2.1, **2.64N**×**126.44E**, **h0**km, **mb3.4**/4, **mb1 3.7**/4, **mb1mx3.3**/38, **mbtmp3.5**/4, **Error ellipse: s-maj=128.2km s-min=26.9km az=69.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**20.63**	**182**	P	P	17 39 51.4	-0.3
	2.0nm,0.9s,baz=6.9,slow=14,SNR=2.0						
WRA	**Warramunga Arr**	**23.75**	**161**	P	P	17 40 24.2	-0.5
	0.6nm,0.4s,baz=341,slow=11,SNR=5.4						
ASAR	**Alice Springs**	**27.14**	**165**	P	P	17 40 56.5	+0.8
	0.2nm,0.4s,baz=340,slow=9.9,SNR=14						
MKAR	**Makanchi Array**	**58.28**	**326**	P	P	17 45 06.7	-0.4
	0.1nm,0.4s,baz=117,slow=7.7,SNR=1.7						

IDC ***18*** *18:05:12.5±1.0, 23.57N×45.08W, h0km, mb4.0/9, mb1 4.2/9, mb1mx3.9/30, mbtmp4.0/9, MS3.3/5, Ms1 3.3/5, ms1mx2.9/37, Error ellipse: s-maj=30.9km s-min=22.6km az=171.0*
NEIC ***18*** *18:05:14.4±2.5, 23.6N±0.1×45.1W±0.1, h10km±1km, mb4.5/29, Error ellipse: s-maj=24.1km s-min=22.7km az=197.0*
ISC 18 18:05:14.7±0.8, **23.5N**±0.2×**45.1W**±0.1, **h15**km, **n48**, σ**1**.**01**/41, **mb4.3**/20, **MS3.4**/5, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
E46A	**Sault Ste Mari**	**38.85**	**316**	P	**P**	**18 12 39.5**	**+0.2**
DBIC	**Dimbokro**	**42.10**	**107**	LR	LR	18 28 24.4	
	comp=Z,47nm,19.6s,baz=126,slow=33						
H10N2	**ASCENSION HYDR**	**43.19**	**133**	T	T	18 59 09.7	
	baz=317,slow=75,SNR=67						
H10N3	**ASCENSION HYDR**	**43.19**	**133**	T	T	18 59 09.7	
	baz=317,slow=75,SNR=68						
H10N1	**ASCENSION HYDR**	**43.21**	**133**	T	T	18 59 11.0	
	baz=317,slow=75,SNR=60						
X37A	**Clayton**	**44.92**	**296**	P	**P**	**18 13 30.0**	**+0.9**
TORD	**Torodi Ar. Bea**	**45.40**	**95**	P	**P**	**18 13 32.8**	**-0.4**
	1.7nm,1.0s,baz=299,slow=9.2,SNR=4.5						
TORD	**Torodi Ar. Bea**	**45.40**	**95**	P	**P**	**18 13 33.1**	**0.0**
LPAZ	**La Paz**	**45.55**	**212**	P	**P**	**18 13 35.0**	**+0.1**
	1.9nm,0.8s,baz=21,slow=6.7,SNR=5.6						
LPAZ	**La Paz**	**45.55**	**212**	P	**P**	**18 13 34.5**	**-0.4**
LPAZ				IAmb	IAmb	18 13 38.0	
	comp=Z,14nm,1.9s						

AGMN	**Agassiz Nation**	**46.92**	**315**	P	**P**	**18 13 44.0**	**-0.7**
AGMN				IAmb	IAmb	18 13 45.1	
	comp=Z,9.1nm,1.2s						
ULM	**Lac du Bonnet**	**47.40**	**317**	LR	LR	18 32 05.9	
	comp=Z,51nm,20.0s,baz=97,slow=34						
SUMG	**Summit**	**49.20**	**3**		**P**	**18 14 02.2**	**-0.2**
SUMG				IAmb	IAmb	18 14 04.8	
	comp=Z,6.5nm,1.1s						
FCC	**Fort Churchill**	**49.26**	**329**	P	**P**	**18 14 02.2**	**-0.3**
FCC				IAmb	IAmb	18 14 03.5	
	comp=Z,3.7nm,0.8s						
PB11	**IPOC Station P**	**49.27**	**211**	P	**P**	**18 14 02.5**	**-0.8**
NOA	**NORSAR Array B**	**53.49**	**30**	LR	LR	18 33 54.6	
	comp=Z,9.1nm,18.8s,baz=355,slow=32						
RLMT	**Red Lodge**	**55.71**	**310**	P	**P**	**18 14 51.5**	**+0.6**
RLMT				IAmb	IAmb	18 14 54.4	
	comp=Z,4.7nm,1.1s						
BW06	**Boulder Array**	**55.96**	**307**	P	**P**	**18 14 52.6**	**-0.1**
BW06				IAmb	IAmb	18 14 54.6	
	comp=Z,3.9nm,1.1s						
PD31	**Pinedale Array**	**55.96**	**307**	P	**P**	**18 14 52.7**	**-0.1**
PDAR	**Pinedale Array**	**55.96**	**307**	P	**P**	**18 14 52.8**	**0.0**
	comp=Z,2.1nm,1.0s,baz=75,slow=6.9,SNR=12						
PDAR	**Pinedale Array**	**55.96**	**307**	P	**P**	**18 14 52.1**	**-0.7**
SRU	**San Rafael Swe**	**56.90**	**302**	P	**P**	**18 15 01.0**	**+1.6**
YMR	**Madison River**	**56.92**	**309**	P	**P**	**18 14 57.2**	**-2.5**
IMW	**Indian Meadow**	**56.93**	**308**	P	**P**	**18 14 58.4**	**-1.3**
TPAW	**Teton Pass**	**56.95**	**308**	P	**P**	**18 14 59.1**	**-0.8**
TPAW				IAmb	IAmb	18 15 02.3	
	comp=Z,3.4nm,1.0s						
TCUT	**Toone Canyon**	**57.42**	**305**	P	**P**	**18 15 02.0**	**-1.2**
DUG	**Dugway, Tooele**	**58.56**	**304**	P	**P**	**18 15 11.5**	**+0.4**
DUG				IAmb	IAmb	18 15 13.1	
	comp=Z,4.8nm,1.1s						
BGU	**Big Grassy Mou**	**58.66**	**305**	P	**P**	**18 15 12.6**	**+0.8**
CCUT	**Cedar City**	**59.28**	**301**	P	**P**	**18 15 17.8**	**+1.6**
HLID	**Hailey**	**59.46**	**308**	P	**P**	**18 15 18.4**	**+1.0**
YKA	**Yellowknife Ar**	**59.95**	**330**	LR	LR	18 38 05.8	
	comp=Z,19nm,21.9s,baz=0.0,slow=33						
ELK	**Elko**	**60.34**	**305**	P	**P**	**18 15 24.3**	**+0.8**
MFID	**Camas Ranch**	**60.50**	**308**	P	**P**	**18 15 25.4**	**+1.0**
MFID				IAmb	IAmb	18 15 27.3	
	comp=Z,5.9nm,1.4s						
MLR	**Muntele Rosu**	**60.51**	**50**	P	**P**	**18 15 24.8**	**+0.4**
MLR				IAmb	IAmb	18 15 26.3	
	comp=Z,2.6nm,0.7s						
NEW	**Newport**	**61.02**	**313**	P	**P**	**18 15 27.1**	**-0.7**
ARCES	**ARCESS Array B**	**61.37**	**22**	P	**P**	**18 15 29.4**	**-0.3**
	comp=Z,2.1nm,0.9s,baz=250,slow=5.4,SNR=4.4						
TPNV	**Topopah Spring**	**61.65**	**300**	P	**P**	**18 15 33.3**	**+1.0**
TPNV				IAmb	IAmb	18 15 34.9	
	comp=Z,4.0nm,1.1s						
AKASG	**Malin Array Be**	**62.32**	**44**	P	**P**	**18 15 35.9**	**-0.5**
	comp=Z,1.3nm,0.6s,baz=278,slow=6.2,SNR=5.8						
D08A	**Wollman Farm,**	**62.33**	**312**	P	**P**	**18 15 35.1**	**-1.4**
D08A				IAmb	IAmb	18 15 38.3	
	comp=Z,6.2nm,1.0s						
NVAR	**Mina Array Bea**	**63.01**	**302**	P	**P**	**18 15 42.0**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=100,slow=6.5,SNR=2.6						
NVAR				LR	LR	18 41 46.6	
	comp=Z,42nm,19.2s,baz=298,slow=35						
ISA	**Isabella, Lake**	**63.64**	**299**	P	**P**	**18 15 47.8**	**+2.2**
K05A	**Summer Lake**	**64.27**	**308**	P	**P**	**18 15 50.7**	**+1.0**
BRTR	**Keskin Array B**	**66.96**	**55**	P	**P**	**18 16 08.0**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=284,slow=5.8,SNR=3.6						
BCAR	**Beaver Creek A**	**72.26**	**332**	P	**P**	**18 16 37.5**	**-1.7**
KBZ	**Khabaz**	**72.71**	**49**	P	**P**	**18 16 43.4**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=342,slow=2.5,SNR=4.0						
ILAR	**Eielson Array**	**73.84**	**334**	P	**P**	**18 16 48.0**	**-0.5**
	comp=Z,2.3nm,1.0s,baz=53,slow=4.5,SNR=13						
ILAR	**Eielson Array**	**73.84**	**334**	P	**P**	**18 16 47.5**	**-1.0**
IMAR	**Indian Mountai**	**75.99**	**336**	P	**P**	**18 17 01.6**	**+0.7**

MAN 18 18:20:41.3, 9.89N×124.12E, h1km, mb3.9, ML2.7, MS2.2, 1C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.45**	**340**	⇑*i*	P	18 20 50.2	+0.3
MSLP	**Maasin**	**0.76**	**71**	*e*	P	18 20 56.5	+0.5
MSLP				*e*	S	18 21 08.0	-0.3
SNPH	**Sibulan**	**1.03**	**238**	⇓*i*	P	18 21 01.7	-0.3
SNPH				*i*	S	18 21 17.6	-0.4
OCLP	**Ormoc**	**1.25**	**22**	*e*	P	18 21 04.9	-0.4
CNOP	**Candoni, Negro**	**1.46**	**268**	*e*	P	18 21 08.8	0.0
CNOP				*e*	S	18 21 29.7	+1.0

*BJI **18** 18:22:45.3±0.0, 24.°97N×97.°83E, h13km, mb3.7/3, ML3.7/6, Ms3.7/6, Ms7 3.7/4*
*IDC **18** 18:22:46.8±1.4, 24.°97N×98.°19E, h0km, mb3.6/5, mb1 3.7/6, mb1mx3.4/50, mbtmp3.6/6, ML4.3/1, MS3.1/5, Ms1 3.2/5, ms1mx2.8/41, Error ellipse: s-maj=48.9km s-min=17.9km az=80.0*
ISC 18 18:22:48.6±1.0, 25.0N±0.1×97.94E±0.07, h10km, n13, σ1$91/12, mb3.7/5, MS3.1/4, 1C, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**4.36**	**87**	⇑Pn	**Pn**	**18 23 55.9**	**+0.8**
KMI				Sg	**Sg**	**18 25 08.3**	**-0.3**
KMI				smax	smax		
	comp=N,83nm,0.9s						
KMI				smax	smax		
	comp=E,99nm,1.0s						
CMAR	**Chiang Mai Arr**	**6.54**	**172**	Pn	**Pn**	**18 24 24.6**	**-0.4**
	1.6nm,0.3s,baz=346,slow=13,SNR=43						
CMAR				Pg	Pb	18 24 46.7	+4.1
	0.5nm,0.3s,baz=346,slow=17,SNR=5.6						
CMAR				Lg	Lg	18 26 12.2	
	1.2nm,0.3s,baz=357,slow=32,SNR=4.6						
CMAR				LR	LR	18 27 11.1	
	comp=Z,162nm,18.0s,baz=52,slow=40						
LSA	**Lhasa**	**7.66**	**309**	P	**Pn**	**18 24 41.4**	**+0.8**
GYA	**Guiyang**	**8.01**	**77**	P	**Pn**	**18 24 45.6**	**+0.4**
GYA				S	**Sn**	**18 26 16.0**	**+0.1**
GYA				LR	LR		
	comp=E,240nm,6.2s						
GYA				LR	LR		
	comp=Z,320nm,8.3s						
WMQ	**Urumqi**	**20.59**	**339**	*e*P	**P**	**18 27 25.3**	**-2.4**
SONM	**Songino Array**	**23.79**	**14**	P	**P**	**18 28 01.0**	**-0.5**
	0.6nm,0.8s,baz=198,slow=8.9,SNR=2.6						
SONM				LR	LR	18 37 54.9	
	comp=Z,320nm,20.8s,baz=158,slow=38						
MKAR	**Makanchi Array**	**25.11**	**334**	P	**P**	**18 28 13.9**	**+0.4**
	1.4nm,0.8s,baz=145,slow=8.7,SNR=15						
AAK	**Ala-Archa**	**26.13**	**318**	P	**P**	**18 28 23.7**	**+0.7**
	1.3nm,0.3s,baz=113,slow=7.7,SNR=4.1						
TLY	**Talaya**	**27.03**	**8**	LR	LR	18 40 07.5	
	comp=Z,52nm,19.1s,baz=178,slow=39						
KSRS	**Korea Array**	**28.38**	**57**	LR	LR	18 42 18.8	
	comp=Z,48nm,18.4s,baz=222,slow=42						
KURBB	**Kurchatov Arra**	**29.67**	**335**	P	**P**	**18 28 54.9**	**+0.5**
	0.2nm,0.7s,baz=143,slow=9.1,SNR=2.7						
ZALV	**Zalesovo Beam**	**30.56**	**345**	P	**P**	**18 29 02.8**	**+0.6**
	0.8nm,0.6s,baz=172,slow=9.2,SNR=5.0						
MJAR	**Matsushiro Arr**	**36.24**	**62**	LR	LR	18 44 05.9	
	comp=Z,28nm,19.5s,baz=255,slow=36						

*IDC **18** 18:26:27.1±9.3, 11.°91S×166.°83E, h189km±79km, mb3.6/10, mb1 3.7/10, mb1mx3.4/48, mbtmp4.1/10, Error ellipse: s-maj=51.0km s-min=24.8km az=115.0*
*NEIC **18** 18:26:30.2±0.9, 11.°9S±0.°1×166.°8E±0.°2, h215km±8km, mb4.6/15, Error ellipse: s-maj=26.4km s-min=18.0km az=96.0*
ISC 18 18:26:28.9±0.8, 11.°8S±0.°1×166.°7E±0.°2, h200km, n33, σ0$74/34, mb4.3/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**3.68**	**172**		**Pn**	**18 27 27.8**	**+1.1**
HNR	**Honiara**	**7.03**	**289**	Pn	Pn	18 28 06.8	-2.8
EIDS	**Eidsvold**	**20.01**	**225**	P	**P**	**18 30 47.9**	**+1.4**
CTA	**Charters Tower**	**21.30**	**245**	P	**P**	**18 31 00.5**	**+0.2**
	2.5nm,0.6s,baz=76,slow=13,SNR=8.9						
CTAO	**Charters Tower**	**21.30**	**245**	P	**P**	**18 31 00.5**	**+0.2**
CTAO				IAmb	IAmb	18 31 45.3	
	comp=Z,26nm,1.3s						
ARMA	**Armidale**	**23.21**	**215**	P	**P**	**18 31 18.2**	**-0.2**
ARMA				IAmb	IAmb	18 31 41.5	
	comp=Z,28nm,1.6s						
BKZ	**Black Stump Fm**	**28.63**	**164**	P	**P**	**18 32 06.1**	**-0.7**
STKA	**Stephens Creek**	**30.56**	**225**	P	**P**	**18 32 24.2**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=68,slow=15,SNR=3.8						
STKA	**Stephens Creek**	**30.56**	**225**	P	**P**	**18 32 22.6**	**-1.4**
WR0	**Warramunga Arr**	**31.93**	**251**	P	**P**	**18 32 35.4**	**-0.7**
WR0				IAmb	IAmb	18 33 03.9	
	comp=Z,30nm,1.7s						
WB0	**Warramunga Arr**	**32.03**	**252**	P	**P**	**18 32 36.4**	**-0.7**
WB0				IAmb	IAmb	18 33 20.6	
	comp=Z,40nm,2.0s						
WB2	**Warramunga Arr**	**32.10**	**251**	P	**P**	**18 32 36.8**	**-0.8**
WB2				IAmb	IAmb	18 33 17.5	
	comp=Z,18nm,1.6s						
WRA	**Warramunga Arr**	**32.11**	**251**	P	**P**	**18 32 37.0**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=83,slow=9.5,SNR=2.6						
WRA	**Warramunga Arr**	**32.11**	**251**	P	**P**	**18 32 36.9**	**-0.8**
AS31	**Alice Springs**	**33.30**	**245**	P	**P**	**18 32 46.5**	**-1.5**
ASAR	**Alice Springs**	**33.30**	**245**	P	**P**	**18 32 46.6**	**-1.4**
	comp=Z,1.4nm,0.6s,baz=67,slow=10,SNR=36						
ASAR				PcP	**PcP**	**18 35 24.9**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=79,slow=1.9,SNR=2.8						
BBOO	**Buckleboo**	**35.02**	**228**	P	**P**	**18 33 02.8**	**+0.2**
KNRA	**Kununurra**	**37.01**	**260**	P	**P**	**18 33 19.6**	**-0.1**
KNRA				IAmb	IAmb	18 34 40.7	
	comp=Z,25nm,1.4s						
FITZ	**Fitzroy Crossi**	**40.09**	**256**	P	**P**	**18 33 45.8**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=61,slow=8.2,SNR=11						
FITZ	**Fitzroy Crossi**	**40.09**	**256**	P	**P**	**18 33 45.7**	**+0.4**
FITZ				IAmb	IAmb	18 34 08.5	
	comp=Z,13nm,1.4s						
JKA	**Kamikawa-asahi**	**59.79**	**340**	P	**P**	**18 36 13.7**	**+0.7**
ASAJ	**Asahikawa**	**59.80**	**340**	P	**P**	**18 36 13.7**	**+0.7**
	comp=Z,3.2nm,0.5s,baz=186,slow=6.2,SNR=9.0						
CMAR	**Chiang Mai Arr**	**73.25**	**293**	P	**P**	**18 37 39.6**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=121,slow=4.8,SNR=4.1						
CMAR	**Chiang Mai Arr**	**73.25**	**293**	P	**P**	**18 37 39.3**	**+0.5**
SONM	**Songino Array**	**79.81**	**324**	P	**P**	**18 38 15.2**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=132,slow=7.4,SNR=4.5						
SONM	**Songino Array**	**79.81**	**324**	P	**P**	**18 38 15.2**	**+0.1**
ILAR	**Eielson Array**	**83.92**	**18**	P	**P**	**18 38 35.6**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=231,slow=5.6,SNR=18						
MK31	**Makanchi Array**	**94.69**	**317**	P	**P**	**18 39 27.5**	**0.0**
MKAR	**Makanchi Array**	**94.69**	**317**	P	**P**	**18 39 27.2**	**-0.2**
	comp=Z,1.7nm,0.8s,baz=89,slow=6.4,SNR=16						
ARCES	**ARCESS Array B**	**117.28**	**346**	PKP	**PKPdf**	**18 44 49.0**	**-0.9**
	comp=Z,2.0nm,0.9s,baz=72,slow=2.9,SNR=5.6						
ARCES	**ARCESS Array B**	**117.28**	**346**		**PKPdf**	**18 44 49.5**	**-0.4**
FINES	**FINESS Array B**	**122.79**	**339**	PKP	**PKPdf**	**18 44 59.8**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=90,slow=4.2,SNR=3.9						
ESDC	**Sonseca Array**	**151.01**	**345**	PKPbc	**PKPbc**	**18 45 58.5**	**0.0**
	comp=Z,0.8nm,0.9s,baz=359,slow=2.1,SNR=5.3						
ESDC				PKPab	**PKPab**	**18 46 07.2**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=1.4,slow=3.7,SNR=4.1						

*DJA **18** 18:32:36.2±0.6, 8.°S±3.°×10.°8E±.°, h12km±4km, M4.2/10, MLv4.2/10*
*NEIC **18** 18:32:38.6±2.8, 8.°25S±0.°04×107.°53E±0.°08, h45km±10km, mb4.2/7, Error ellipse: s-maj=11.0km s-min=6.2km az=81.0*
*IDC **18** 18:32:40.4±5.3, 8.°13S×107.°31E, h74km±42km, mb3.5/5, mb1 3.6/5, mb1mx3.2/35, mbtmp3.8/5, Error ellipse: s-maj=72.7km s-min=18.0km az=56.0*
ISC 18 18:32:38.4±1.3, 8.24S±0.06×107.61E±0.05, h48km±14km, n34, σ1$87/36, mb4.1/7, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.71**	**17**	P	**Pn**	**18 32 51.5**	**-0.7**
CISI				S	**Sn**	**18 32 59.0**	**-3.2**
CISI	**Cisompet, Garu**	**0.71**	**17**		**Sn**	**18 32 51.5**	**-0.7**
CNJI	**Cibinong**	**1.04**	**333**	P	**Pn**	**18 32 56.3**	**-0.3**
CNJI				S	**Sn**	**18 33 09.1**	**-0.9**
LEM	**Lembang**	**1.40**	**0**	P	**Pn**	**18 33 02.6**	**+0.9**
	466nm,0.3s,baz=122,slow=9.5,SNR=157						
LEM				S	**Sn**	**18 33 20.7**	**+1.5**
	203nm,0.3s,baz=157,slow=23,SNR=31						
LEM				LR	LR	18 33 39.7	
	comp=Z,360nm,18.3s,baz=205,slow=45						
LEM	**Lembang**	**1.40**	**0**	P	**Pn**	**18 33 02.3**	**+0.6**
LEM				S	**Sn**	**18 33 22.3**	**+3.1**
SKJI	**Sukabumi**	**1.61**	**320**	P	**Pn**	**18 33 05.2**	**+0.8**
SKJI				S	**Sn**	**18 33 24.2**	**+0.2**
DBJI	**Dramaga**	**1.88**	**333**	P	**Pn**	**18 33 08.6**	**+0.5**
DBJI				S	**Sn**	**18 33 32.3**	**+1.7**
UGM	**Wanagama**	**2.90**	**84**	P	**Pn**	**18 33 21.3**	**-0.8**
UGM	**Wanagama**	**2.90**	**84**		**Pn**	**18 33 22.9**	**+0.7**
XMIS	**Christmas Isla**	**2.95**	**221**	Pn	**Pn**	**18 33 22.7**	**0.0**
SMRI	**Semarang**	**3.04**	**67**	P	**Pn**	**18 33 25.1**	**+1.0**
SMRI	**Semarang**	**3.04**	**67**		**Pn**	**18 33 26.2**	**+2.2**
WOJI	**Wonogiri, Jawa**	**3.31**	**83**	P	**Pn**	**18 33 27.8**	**+0.2**
KASI	**Kota Agung**	**4.10**	**311**	P	**Pn**	**18 33 39.1**	**+0.5**
MNAI	**Manna**	**6.02**	**310**	Pn	**Pn**	**18 34 05.6**	**+0.6**
JAGI	**Jajag, Banyuwa**	**6.48**	**92**	Pn	**Pn**	**18 34 13.2**	**+2.0**
FITZ	**Fitzroy Crossi**	**20.09**	**121**	P	Pn	18 37 10.7	+0.5
	2.6nm,0.7s,baz=295,slow=9.1,SNR=7.5						
FITZ				S	**S**	**18 40 45.4**	**-5.9**
	1.9nm,1.1s,baz=270,slow=20,SNR=1.4						
FITZ	**Fitzroy Crossi**	**20.09**	**121**	P	**P**	**18 37 09.6**	**+1.5**
FITZ				IAmb	IAmb	18 37 21.1	
	comp=Z,6.1nm,1.1s						
KNRA	**Kununurra**	**21.96**	**112**	P	**P**	**18 37 28.3**	**0.0**
KNRA				IAmb	IAmb	18 37 30.1	
	comp=Z,15nm,1.1s						
MTN	**Manton Dam**	**23.57**	**103**	P	**P**	**18 37 44.6**	**-0.3**
WRA	**Warramunga Arr**	**28.36**	**117**	P	**P**	**18 38 30.8**	**+2.5**
	comp=Z,0.7nm,0.6s,baz=291,slow=11,SNR=7.2						
WRA	**Warramunga Arr**	**28.36**	**117**	P	**P**	**18 38 29.4**	**+1.1**
WB2	**Warramunga Arr**	**28.37**	**117**	P	**P**	**18 38 28.7**	**+0.4**
WB2				IAmb	IAmb	18 38 43.6	
	comp=Z,14nm,1.4s						
ASAR	**Alice Springs**	**29.49**	**124**	P	**P**	**18 38 40.7**	**+2.5**
	comp=Z,0.2nm,0.6s,baz=302,slow=7.9,SNR=4.4						
H08S2	**Diego Garcia H**	**34.78**	**268**	T	T	19 16 24.2	
	baz=92,slow=76,SNR=61						
H08S3	**Diego Garcia H**	**34.79**	**268**	T	T	19 16 19.7	
	baz=92,slow=76,SNR=27						
H08S1	**Diego Garcia H**	**34.80**	**268**	T	T	19 16 20.1	
	baz=92,slow=76,SNR=38						
STKA	**Stephens Creek**	**39.37**	**131**	P	**P**	**18 40 05.4**	**+1.9**
	comp=Z,1.3nm,0.5s,baz=310,slow=10,SNR=7.9						
STKA	**Stephens Creek**	**39.37**	**131**	P	**P**	**18 40 05.4**	**+1.9**
HIA	**Hailar**	**58.24**	**9**		pP	18 42 41.2	+0.7
MK31	**Makanchi Array**	**59.25**	**340**	P	**P**	**18 42 33.8**	**-1.1**
MK31				IAmb	IAmb	18 42 42.7	
	comp=Z,2.5nm,1.5s						
MKAR	**Makanchi Array**	**59.25**	**340**	P	**P**	**18 42 32.5**	**-2.4**
	comp=Z,1.1nm,0.6s,baz=149,slow=7.8,SNR=15						
MKAR	**Makanchi Array**	**59.25**	**340**	P	**P**	**18 42 33.0**	**-1.9**
ABKAR	**Akbulak array**	**70.78**	**329**	P	**P**	**18 43 48.7**	**-1.0**

*IDC **18** 18:58:36.9±1.2, 43.°61N×105.°24W, h0km, mb4.1/5, mb1 4.1/11, mb1mx3.7/57, mbtmp3.9/11, ML3.5/5, MS3.1/2, Ms1 3.0/2, ms1mx2.3/53, Error ellipse: s-maj=32.2km s-min=9.8km az=146.0*
*NEIC **18** 18:58:38.6±1.2, 43.°82N±0.°05×105.°20W±0.°08, h0km±1km, ML3.7/64, Error ellipse: s-maj=10.3km s-min=7.9km az=96.0*
ISC 18 18:58:38.2±0.7, 43.°81N±0.°06×105.°23W±0.°07, h0km, n112, σ0$89/110, mb4.2/5, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.92**	**70**	Pg	**Pg**	**18 58 56.4**	**+0.7**
K22A	**Casper**	**1.50**	**220**		**Pn**	**18 59 05.2**	**-1.3**
K22A				IAML		18 59 28.6	
	comp=N,1µm,0.3s						
PHWY	**Pilot Hill**	**2.51**	**184**		**Pn**	**18 59 20.8**	**+0.2**
RWWY	**Rawlins**	**2.58**	**215**		**Pn**	**18 59 22.6**	**+1.2**
RWWY				IAML		18 59 58.5	
	comp=N,490nm,0.8s						
LAO	**LASA Array**	**2.96**	**347**	Pn	**Pn**	**18 59 26.9**	**+0.4**
LAO				IAML		19 00 16.0	
	comp=N,316nm,0.6s						
N23A	**Red Feather La**	**2.96**	**191**		**Pn**	**18 59 27.4**	**+0.7**
N23A				IAML		19 00 13.8	
	comp=N,185nm,0.7s						
RLMT	**Red Lodge**	**3.17**	**296**	Pn	**Pn**	**18 59 30.3**	**+0.8**
RLMT				IAML		19 00 21.9	
	comp=N,133nm,0.4s						
RLMT				IAML		19 00 22.7	
	comp=N,155nm,0.3s						
BW06	**Boulder Array**	**3.33**	**253**		**Pn**	**18 59 32.3**	**+0.6**
PD31	**Pinedale Array**	**3.33**	**253**		**Pn**	**18 59 32.1**	**+0.4**
PDAR	**Pinedale Array**	**3.33**	**253**	Pn	**Pn**	**18 59 31.9**	**+0.2**
	comp=N,20nm,0.3s,baz=72,slow=14,SNR=85						
PDAR				Lg	Lg	19 00 16.7	
	comp=N,19nm,0.3s,baz=67,slow=34,SNR=4.1						
PDAR				LR	LR	19 00 57.6	
	comp=N,56nm,18.3s,baz=296,slow=43						
PDAR	**Pinedale Array**	**3.33**	**253**		**Pn**	**18 59 32.5**	**+0.7**
YNE	**Yellowstone No**	**3.63**	**291**		**Pn**	**18 59 36.1**	**+0.2**
YMP	**Mirror Lake Pl**	**3.66**	**286**		**Pn**	**18 59 36.9**	**+0.6**
GCMT	**Greycliff**	**3.73**	**304**		**Pn**	**18 59 38.3**	**+1.2**
H17A	**Grant Village**	**3.90**	**280**		**Pn**	**18 59 41.2**	**+1.6**
H17A				IAML		19 00 44.6	
	comp=N,74nm,0.8s						
FLWY	**Flagg Ranch**	**3.96**	**276**		**Pn**	**18 59 41.1**	**+0.8**
FLWY				IAML		19 00 53.5	
	comp=N,81nm,1.0s						
FLWY				IAML		19 01 20.0	
	comp=N,72nm,1.1s						
ISCO	**Idaho Springs**	**4.02**	**184**	Pn	**Pn**	**18 59 41.8**	**+0.5**
SNOW	**Snow King Moun**	**4.03**	**267**		**Pn**	**18 59 42.6**	**+1.3**
SNOW				IAML		19 01 08.0	
	comp=N,77nm,1.4s						
SNOW				IAML		19 01 12.5	
	comp=N,80nm,0.9s						
YPP	**Pitchstone Pla**	**4.05**	**278**		**Pn**	**18 59 42.5**	**+0.9**
REDW	**Red Top Meadow**	**4.11**	**266**		**Pn**	**18 59 43.3**	**+0.8**
REDW				IAML		19 00 55.5	
	comp=N,100nm,1.2s						
REDW				IAML		19 00 58.9	
	comp=N,88nm,0.7s						
IMW	**Indian Meadow**	**4.13**	**273**	Pn	**Pn**	**18 59 43.6**	**+0.8**
IMW				IAML		19 00 15.4	
	comp=N,76nm,0.5s						
IMW				IAML		19 00 54.4	
	comp=N,68nm,0.7s						
YHH	**Holmes Hill**	**4.15**	**286**		**Pn**	**18 59 42.7**	**-0.4**
TPAW	**Teton Pass**	**4.17**	**268**	Pn	**Pn**	**18 59 44.7**	**+1.4**
TPAW				IAML		19 01 02.0	
	comp=N,92nm,0.9s						
FXWY	**Fox Creek**	**4.21**	**270**	Pn	**Pn**	**18 59 44.7**	**+0.9**
YMR	**Madison River**	**4.21**	**284**		**Pn**	**18 59 43.4**	**-0.4**
E28A	**Huff**	**4.23**	**48**		**Pn**	**18 59 45.9**	**+1.9**
E28A				IAML		19 01 11.4	
	comp=E,126nm,0.6s						
O20A	**White River Ci**	**4.31**	**212**		**Pn**	**18 59 45.7**	**+0.5**
O20A				IAML		19 00 56.9	
	comp=E,122nm,0.8s						
O20A				IAML		19 00 59.3	
	comp=N,102nm,0.9s						
YHB	**Horse Butte**	**4.39**	**284**		**Pn**	**18 59 46.7**	**+0.4**
YHL	**Hebgen Lake**	**4.40**	**286**	Pn	**Pn**	**18 59 46.6**	**+0.2**
AHID	**Auburn Hatcher**	**4.41**	**258**		**Pn**	**18 59 47.0**	**+0.4**
QLMT	**Earthquake Lak**	**4.56**	**285**		**Pn**	**18 59 49.7**	**+1.0**
RDMU	**Red Mountain**	**4.57**	**226**		**Pn**	**18 59 48.8**	**0.0**
DGMT	**Dagmar**	**4.71**	**8**	Pn	**Pn**	**18 59 50.4**	**-0.2**
Q24A	**Divide**	**4.84**	**179**	Pn	**Pn**	**18 59 52.8**	**+0.2**
Q24A					**Pb**	**19 00 03.8**	**-0.3**
Q24A				IAML		19 01 15.5	
	comp=E,46nm,0.8s						
K31A	**O'Neill**	**4.88**	**102**		**Pn**	**18 59 54.8**	**+2.0**
BOZ	**Bozeman (W)**	**4.90**	**294**		**Pn**	**18 59 53.5**	**+0.3**
BOZ				IAML		19 01 11.0	
	comp=E,31nm,0.9s						
BOZ				IAML		19 01 13.7	
	comp=E,38nm,0.8s						
HWUT	**Hardware Ranch**	**5.16**	**247**	Pn	**Pn**	**18 59 57.4**	**+0.5**
HWUT				IAML		19 01 26.1	
	comp=E,58nm,1.1s						
HWUT				IAML		19 01 31.9	
	comp=E,57nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.18**	**157**	Pn	**Pn**	**18 59 57.2**	**+0.2**
EGMT	**Eagleton**	**5.26**	**325**	Pn	**Pn**	**18 59 58.5**	**+0.3**
TCUT	**Toone Canyon**	**5.30**	**242**		**Pn**	**18 59 58.9**	**0.0**
DLMT	**Dillon**	**5.49**	**289**		**Pn**	**19 00 02.3**	**+1.0**
LRM	**Limekiln Ridge**	**5.52**	**294**	Pn	**Pn**	**19 00 02.3**	**+0.5**
MCMT	**McKenzie Canyo**	**5.56**	**283**	Pn	**Pn**	**19 00 03.4**	**+1.0**
JLU	**Jordanelle**	**5.62**	**237**		**Pn**	**19 00 03.3**	**0.0**
MDND	**Maddock**	**5.63**	**42**		**Pn**	**19 00 03.8**	**+0.6**
CTU	**Camp Tracy**	**5.76**	**239**		**Pn**	**19 00 05.6**	**+0.6

ZALV	**Zalesovo Beam**	**82.24**	**354**	P		**P**	**19 11 00.3**	**-0.6**
	comp=E,0.7nm,0.4s,baz=0.5,slow=4.3,SNR=4.4							
SONM	**Songino Array**	**84.58**	**339**	P		**P**	**19 11 13.8**	**+0.5**
	comp=E,0.3nm,0.5s,baz=32,slow=5.8,SNR=2.2							
MKAR	**Makanchi Array**	**89.53**	**355**	P		**P**	**19 11 36.7**	**-0.6**
	comp=E,0.7nm,0.7s,baz=22,slow=5.7,SNR=9.2							

IDC 18 18:59:12.2±11.0, 13°26N×146°50E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.3/48, mbtmp3.5/3, Error ellipse: s-maj=416.8km s-min=33.6km az=82.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**35.10**	**200**	P	P	19 06 07.4	-0.1
	1.2nm,0.8s,baz=25,slow=10.0,SNR=2.4						
ASAR	**Alice Springs**	**38.72**	**199**	P	P	19 06 38.2	-0.1
	0.2nm,0.7s,baz=11,slow=10,SNR=4.8						
MKAR	**Makanchi Array**	**62.83**	**316**	P	P	19 09 39.9	-0.1
	0.2nm,0.5s,baz=102,slow=6.7,SNR=4.5						

*IDC **18** 19:07:02.9±3.2, 35°.25N×23°.13E, h0km, mb3.7/7, mb1 3.8/10, mb1mx3.6/51, mbtmp3.7/10, ML3.3/2, MS3.0/4, Ms1 3.0/4, ms1mx2.5/49, Error ellipse: s-maj=61.7km s-min=24.8km az=26.0*
*ISK **18** 19:07:03.4, 35°.19N×23°.09E, h12km, ML3.7/5*
*ATH **18** 19:07:04.7, 35°.25N×23°.19E, h6km±1km, ML3.2/15, Error ellipse: s-maj=2.7km s-min=0.8km az=45.0*
*THE **18** 19:07:04.1, 35°.22N×23°.15E, h0km±2km, ML3.2/8, Error ellipse: s-maj=3.0km s-min=0.7km az=234.0*
*DDA **18** 19:07:10.0, 35°.23N×23°.24E, h35km±82km, MW3.5*
ISC 18 19:07:04.1±1.3, 35°.23N±0°.03×23°.17E±0°.03, h8km±8km, n107, σ1°9.44/130, mb3.7/7, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.42**	**90**	P	**Pg**	**19 07 11.6**	**-0.8**
KNDR				S	**Sg**	**19 07 17.1**	**-0.9**
KNDR	**Palaiochora Ch**	**0.42**	**90**	PG	**Pg**	**19 07 12.0**	**-0.4**
RODP	**Rodopos**	**0.58**	**56**	P	**Pg**	**19 07 15.8**	**+0.4**
RODP				S	**Sb**	**19 07 25.3**	**+0.2**
	932nm,0.7s						
RODP	**Rodopos**	**0.58**	**56**	PG	**Pb**	**19 07 16.4**	**-0.2**
ANKY	**Antikythira Is**	**0.64**	**10**	P	**Pg**	**19 07 16.9**	**+0.3**
ANKY				S	**Sb**	**19 07 26.5**	**-0.2**
	2µm,0.6s						
ANKY	**Antikythira Is**	**0.64**	**10**	P	**Pg**	**19 07 16.8**	**+0.3**
ANKY				S	**Sg**	**19 07 24.9**	**0.0**
ANKY				AML	AML	19 07 28.2	
	comp=E,5978µm,0.9s						
ANKY				AML	AML	19 07 34.0	
	comp=N,2771µm,0.4s						
IMMV	**Iera Moni Meta**	**0.70**	**71**	P	**Pg**	**19 07 18.2**	**+0.5**
IMMV				S	**Sb**	**19 07 29.3**	**+0.8**
	comp=N,3µm,0.5s						
IMMV	**Iera Moni Meta**	**0.70**	**71**	P	**Pg**	**19 07 17.7**	**0.0**
IMMV				S	**Sg**	**19 07 26.9**	**0.0**
IMMV				AML	AML	19 07 32.8	
	comp=N,4976µm,0.5s						
IMMV				AML	AML	19 07 37.0	
	comp=E,6088µm,0.7s						
IMMV	**Iera Moni Meta**	**0.70**	**71**	PG	**Pb**	**19 07 18.7**	**0.0**
IMMV				SG	**Sb**	**19 07 30.1**	**+1.6**
CHAN	**Chania**	**0.77**	**68**	P	**Pg**	**19 07 19.6**	**+0.7**
CHAN				S	**Sb**	**19 07 30.8**	**+0.4**
	comp=E,1µm,0.7s						
GVD	**Gavdhos**	**0.85**	**117**	P	**Pg**	**19 07 20.0**	**-0.5**
GVD				S	**Sb**	**19 07 33.9**	**+1.1**
	comp=E,2µm,0.4s						
GVD	**Gavdhos**	**0.85**	**117**	P	**Pg**	**19 07 20.0**	**-0.5**
GVD				S	**Sg**	**19 07 31.2**	**-0.3**
GVD				AML	AML	19 07 35.0	
	comp=E,3171µm,0.5s						
GVD				AML	AML	19 07 40.9	
	comp=N,3652µm,0.4s						
GVD	**Gavdhos**	**0.85**	**117**	PG	**Pg**	**19 07 20.5**	**0.0**
GVD				SG	**Sb**	**19 07 34.2**	**+1.4**
VAM	**Vamos**	**0.86**	**78**	P	**Pg**	**19 07 20.8**	**+0.1**
VAM				S	**Sb**	**19 07 34.1**	**+1.0**
	comp=N,2µm,0.7s						
VAM	**Vamos**	**0.86**	**78**	P	**Pg**	**19 07 20.9**	**+0.1**
VAM				S	**Sg**	**19 07 32.7**	**+0.8**
VAM				AML	AML	19 07 35.8	
	comp=N,5808µm,0.8s						
VAM				AML	AML	19 07 39.7	
	comp=E,4200µm,0.6s						
KTHA	**Kythira Island**	**1.02**	**355**	P	**Pb**	**19 07 24.2**	**0.0**
KTHA				S	**Sn**	**19 07 39.1**	**-0.3**
	comp=E,1µm,0.8s						
KTHA	**Kythira Island**	**1.02**	**355**	P	**Pb**	**19 07 24.6**	**+0.5**
KTHA				S	**Sg**	**19 07 37.4**	**+0.2**
KTHA				AML	AML	19 07 46.4	
	comp=E,3143µm,0.5s						
KTHA				AML	AML	19 07 51.8	
	comp=N,1642µm,0.5s						
KTHA	**Kythira Island**	**1.02**	**355**	PG	**Pb**	**19 07 24.6**	**+0.5**
KTHA				SG	**Sn**	**19 07 39.4**	**0.0**
PRNS	**Prines Rethymn**	**1.10**	**83**	P	**Pg**	**19 07 24.7**	**-0.5**
SIVA	**Sivas**	**1.36**	**99**	P	**Pn**	**19 07 29.8**	**+0.3**
SIVA	**Sivas**	**1.36**	**99**	P	**Pb**	**19 07 30.3**	**+0.4**
SIVA				S	**Sg**	**19 07 48.7**	**+0.7**
SIVA				AML	AML	19 07 58.1	
	comp=N,2248µm,0.6s						
SIVA				AML	AML	19 07 59.2	
	comp=E,3570µm,1.0s						
IDI	**Anoyia**	**1.41**	**87**	P	**Pn**	**19 07 30.5**	**+0.3**
IDI	**Anoyia**	**1.41**	**87**	Pn	**Pn**	**19 07 30.2**	**0.0**
	comp=E,24nm,0.3s,baz=270,slow=13,SNR=145						
IDI				Sn	**Sb**	**19 07 49.2**	**+0.3**
	comp=E,25nm,0.3s,baz=292,slow=9,SNR=5.9						
IDI				LR	LR	19 08 05.4	
	comp=E,60nm,19.4s,baz=280,slow=43						
IDI	**Anoyia**	**1.41**	**87**	P	**Pn**	**19 07 30.7**	**+0.5**
IDI				S	**Sg**	**19 07 49.8**	**+0.3**
IDI				AML	AML	19 07 57.6	
	comp=N,900µm,0.8s						
IDI				AML	AML	19 08 04.8	
	comp=E,854µm,1.1s						
IDI	**Anoyia**	**1.41**	**87**	PN	**Pb**	**19 07 30.9**	**+0.1**
VLI	**Veliai**	**1.49**	**353**	P	**Pg**	**19 07 32.9**	**+0.1**
VLI				S	**Sg**	**19 07 53.2**	**+1.0**
	comp=E,755nm,0.7s						
VLI	**Veliai**	**1.49**	**353**	P	**Pg**	**19 07 33.1**	**+0.3**
VLI				S	**Sg**	**19 07 52.7**	**+0.6**
VLI				AML	AML	19 08 04.2	
	comp=E,1217µm,0.8s						
VLI				AML	AML	19 08 06.0	
	comp=N,1781µm,0.7s						
HRKL	**Herakleio**	**1.58**	**87**	PN	**Pn**	**19 07 33.1**	**+0.6**
MHLO	**Agia Marina, M**	**1.77**	**34**	P	**Pg**	**19 07 38.2**	**+0.2**
MHLO	**Agia Marina, M**	**1.77**	**34**	P	**Pg**	**19 07 37.8**	**-0.1**
MHLO				AML	AML	19 08 09.6	
	comp=N,2315µm,0.6s						
MHLO				AML	AML	19 08 09.7	
	comp=E,3545µm,0.6s						
MHLA	**Plaka, Milos I**	**1.82**	**34**	P	**Pb**	**19 07 38.5**	**+0.8**
MHLA				AML	AML	19 08 14.1	
	comp=N,2053µm,0.8s						
MHLA				AML	AML	19 08 19.4	
	comp=E,1496µm,1.1s						
LAST	**Lasithi**	**1.89**	**92**	P	**Pb**	**19 07 39.4**	**+0.4**
LAST	**Lasithi**	**1.89**	**92**	P	**Pb**	**19 07 39.6**	**+0.6**
LAST				AML	AML	19 08 19.5	
	comp=N,756µm,1.0s						
LAST				AML	AML	19 08 24.2	
	comp=E,412µm,0.9s						
NPS	**Neapolis**	**2.00**	**88**	P	**Pb**	**19 07 41.9**	**+1.1**
NPS	**Neapolis**	**2.00**	**88**	P	**Pb**	**19 07 41.5**	**+0.7**
NPS				AML	AML	19 08 18.3	
	comp=E,799µm,1.1s						
NPS				AML	AML	19 08 18.9	
	comp=N,631µm,1.1s						
PYL	**PYLOS**	**2.02**	**326**	P	**Pb**	**19 07 40.7**	**-0.4**
THR9	**Santorini-Faro**	**2.10**	**57**	P	**Pb**	**19 07 42.5**	**0.0**
THR9	**Santorini-Faro**	**2.10**	**57**	P	**Pb**	**19 07 42.6**	**0.0**
THR5	**Thira Island,**	**2.13**	**56**	P	**Pb**	**19 07 42.8**	**-0.2**
THR5	**Thira Island,**	**2.13**	**56**	P	**Pb**	**19 07 42.6**	**-0.4**
THR6	**Thira Island,**	**2.13**	**58**	P	**Pb**	**19 07 43.2**	**+0.2**
THR6	**Thira Island,**	**2.13**	**58**	P	**Pb**	**19 07 43.1**	**+0.2**
SAP3	**Santorini-Thir**	**2.14**	**55**	P	**Pb**	**19 07 43.1**	**0.0**
KRND	**KRANIDI**	**2.15**	**360**	P	**Pb**	**19 07 43.8**	**+0.5**
KRND				AML	AML	19 08 21.2	
	comp=E,416µm,0.9s						
KRND				AML	AML	19 08 26.8	
	comp=N,365µm,0.7s						
STAX	**Taxiarchis Har**	**2.16**	**57**	P	**Pb**	**19 07 43.4**	**-0.1**
STAX	**Taxiarchis Har**	**2.16**	**57**	P	**Pb**	**19 07 43.0**	**-0.5**
STAX				AML	AML	19 08 25.0	
	comp=N,713µm,0.8s						
STAX				AML	AML	19 08 37.0	
	comp=E,1144µm,0.8s						
THR3	**Thira Island,**	**2.16**	**56**	P	**Pb**	**19 07 43.1**	**-0.4**
THR3	**Thira Island,**	**2.16**	**56**	P	**Pb**	**19 07 42.6**	**-0.9**
SANT	**Santorini**	**2.18**	**58**	PN	**Pn**	**19 07 41.9**	**+1.1**
SANT	**Santorini**	**2.18**	**58**	*i* P	**Pb**	**19 07 43.2**	**-0.7**
SANT				*i* S	**Sn**	**19 08 08.6**	**+0.5**
ITM	**Ithomi**	**2.19**	**333**	PN	**Pn**	**19 07 41.6**	**+0.8**
SERI	**Serifos**	**2.20**	**29**	P	**Pb**	**19 07 43.1**	**-1.0**
THR8	**Santorini-Mono**	**2.21**	**57**	P	**Pb**	**19 07 43.9**	**-0.5**
THR8	**Santorini-Mono**	**2.21**	**57**	P	**Pb**	**19 07 43.7**	**-0.7**
VLX	**Vlachokerasia**	**2.23**	**344**	P	**Pg**	**19 07 47.1**	**+0.3**
DID	**Didima**	**2.27**	**1**	P	**Pb**	**19 07 44.3**	**-1.1**
DID	**Didima**	**2.27**	**1**	P	**Pb**	**19 07 45.0**	**-0.4**
DID				AML	AML	19 08 26.9	
	comp=N,407µm,0.8s						
DID				AML	AML	19 08 30.9	
	comp=E,491µm,0.5s						
IOSP	**Ios island**	**2.27**	**49**	P	**Pb**	**19 07 44.9**	**-0.5**
IOSP	**Ios island**	**2.27**	**49**	P	**Pn**	**19 07 43.9**	**+1.8**
STIA	**Sitia Lasithi**	**2.39**	**90**	P	**Pb**	**19 07 48.5**	**+1.0**
ANAF	**Anafi Island**	**2.40**	**61**	P	**Pn**	**19 07 45.9**	**+2.2**
ANAF	**Anafi Island**	**2.40**	**61**	P	**Pb**	**19 07 46.1**	**-1.5**
ZKR	**Zakros**	**2.50**	**92**	P	**Pn**	**19 07 47.4**	**+2.3**
ZKR	**Zakros**	**2.50**	**92**	PN	**Pn**	**19 07 46.4**	**+1.3**
APE	**Apeiranthos**	**2.65**	**46**	P	**Pn**	**19 07 49.7**	**+2.5**
APE	**Apeiranthos**	**2.65**	**46**	PN	**Pb**	**19 07 50.1**	**-1.8**
APE	**Apeiranthos**	**2.65**	**46**	*i* P	**Pn**	**19 07 49.7**	**+2.5**
APE				*i* S	**Sn**	**19 08 19.1**	**-0.5**
VLY	**Voula,Athens**	**2.66**	**11**	P	**Pn**	**19 07 50.0**	**+2.6**
AMGA	**Amorgos Island**	**2.73**	**53**	P	**Pn**	**19 07 50.5**	**+2.3**
AMGA	**Amorgos Island**	**2.73**	**53**	P	**Pb**	**19 07 50.4**	**+2.2**
GUR	**Goura**	**2.78**	**346**	P	**Pb**	**19 07 54.5**	**+0.4**
GUR	**Goura**	**2.78**	**346**	P	**Pb**	**19 07 53.2**	**-0.9**
LTK	**Loutraki**	**2.79**	**357**	P	**Pb**	**19 07 52.9**	**-1.4**
DION	**Dionisos Attik**	**2.91**	**12**	P	**Pn**	**19 07 53.4**	**+2.7**
DION	**Dionisos Attik**	**2.91**	**12**	P	**Pb**	**19 07 53.9**	**-2.4**
KLV	**Kalavryta, Ach**	**2.92**	**344**	P	**Pb**	**19 07 56.4**	**-0.1**
DRO	**Drossia**	**2.96**	**337**	P	**Pg**	**19 07 59.7**	**-1.1**
KARP	**Karpathos**	**3.28**	**83**	P	**Pn**	**19 07 58.8**	**+3.0**
KARP	**Karpathos**	**3.28**	**83**	P	**Pn**	**19 07 58.9**	**+3.0**
AGG	**Agios Georgios**	**3.84**	**350**	P	**Pn**	**19 08 07.2**	**+3.6**
AGG	**Agios Georgios**	**3.84**	**350**	*i* P	**Pn**	**19 08 07.1**	**+3.5**
AGG				*i* S	**Sb**	**19 08 59.5**	**+0.6**
BDRM	**Kayabasi**	**3.91**	**61**	*i* P	**Pn**	**19 08 06.5**	**+2.0**
BDRM				*i* S	Sn	19 08 33.6	-17
GCAM	**G?zelcaml?**	**4.10**	**52**	*i* P	**Pn**	**19 08 10.6**	**+3.5**
GCAM				*i* S	**Sg**	**19 09 15.7**	**-0.5**
DGB	**zmir**	**4.10**	**46**	*i* P	**Pn**	**19 08 05.7**	**-1.5**
DGB				*i* S	**Sn**	**19 08 57.7**	**+2.4**
URLA	**Izmir**	**4.16**	**40**	*i* P	**Pn**	**19 08 07.8**	**-0.1**
URLA				*i* S	**Sn**	**19 08 53.5**	**-3.3**
AYDN	**Tasoluk**	**4.50**	**56**	*i* P	**Pn**	**19 08 16.6**	**+3.9**
TURN	**Turunc**	**4.70**	**68**	*i* P	**Pn**	**19 08 13.3**	**-2.0**
TURN				*i* S	Sn	19 09 00.4	-10
BOZC	**Bozcaada**	**5.14**	**26**	*i* P	Pn	19 08 11.4	-10
TAVA	**DENIZLI_Tavas**	**5.14**	**63**	*i* P	**Pn**	**19 08 24.7**	**+3.2**
TAVA				*i* S	**Sb**	**19 09 34.6**	**-1.8**
MANT	**Manisa**	**5.41**	**51**	*i* P	**Pn**	**19 08 28.9**	**+3.6**
USAK	**Uak-Merkez**	**5.83**	**52**	*i* P	**Pn**	**19 08 34.7**	**+3.8**
KHAL	**Karahalli**	**5.96**	**56**	*i* P	**Pn**	**19 08 33.3**	**+0.5**
BRTR	**Keskin Array B**	**9.45**	**59**	Pn	**Pn**	**19 09 24.1**	**+3.4**
	comp=E,0.1nm,0.3s,baz=236,slow=13,SNR=17						
MLR	**Muntele Rosu**	**10.46**	**11**	LR	LR	19 14 26.8	
	comp=E,43nm,20.2s,baz=121,slow=42						
VYHS	**Vyhne**	**13.63**	**348**	*e*PN	**Pn**	**19 10 14.5**	**-3.2**
VRAC	**Vranov**	**14.87**	**343**	LR	LR	19 17 42.2	
	comp=E,33nm,20.6s,baz=166,slow=43						
GERES	**GERESS Array B**	**15.29**	**336**	LR	LR	19 17 40.2	
	comp=E,27nm,18.2s,baz=126,slow=42						
AKASG	**Malin Array Be**	**16.07**	**14**	Pn	**Pn**	**19 10 49.0**	**-1.4**
	comp=E,0.2nm,0.3s,baz=204,slow=11,SNR=1.6						
KBZ	**Khabaz**	**17.40**	**55**	P	**Pn**	**19 11 07.7**	**+0.5**
	baz=204,slow=10.0,SNR=2.0						
HFS	**Hagfors**	**25.66**	**349**	P	**P**	**19 12 34.3**	**+0.1**
	comp=E,1.4nm,0.6s,baz=159,slow=12,SNR=2.4						
FINES	**FINESS Array B**	**26.30**	**3**	P	**P**	**19 12 39.6**	**-0.3**
	comp=E,1.5nm,0.9s,baz=165,slow=12,SNR=1.9						
ARCES	**ARCESS Array B**	**34.38**	**1**	P	**P**	**19 13 50.4**	**-1.0**
	comp=E,0.7nm,0.5s,baz=181,slow=8.2,SNR=7.8						
MKAR	**Makanchi Array**	**45.09**	**56**	P	**P**	**19 15 20.6**	**-0.2**
	comp=E,0.3nm,0.4s,baz=265,slow=8.8,SNR=4.8						
ZALV	**Zalesovo Beam**	**46.13**	**46**	P	**P**	**19 15 27.9**	**-0.9**
	comp=E,0.6nm,0.3s,baz=280,slow=8.9,SNR=3.2						
KSRS	**Korea Array**	**79.52**	**52**	P	**P**	**19 19 11.7**	**+0.2**
	comp=E,0.6nm,0.7s,baz=306,slow=5.2,SNR=2.3						
ILAR	**Eielson Array**	**80.02**	**356**	P	**P**	**19 19 14.7**	**+1.0**
	comp=E,0.2nm,0.7s,baz=28,slow=4.1,SNR=1.6						
JNU	**Nakatsue**	**84.07**	**53**	LR	LR	20 01 36.2	
	comp=E,32nm,18.1s,baz=247,slow=39						

*IDC **18** 19:11:32.5±1.1, 36°.87N×98°.01W, h0km, mb3.4/1, mb1 3.9/4, mb1mx3.5/39, mbtmp3.5/4, ML4.0/3, Error ellipse: s-maj=16.7km s-min=12.8km az=7.0*
*TUL **18** 19:11:33.1±1.3, 36°.72N±0°.02×97°.90W±0°.06, h5km±6km, ML3.6, Error ellipse: s-maj=7.3km s-min=2.9km az=80.0*
*NEIC **18** 19:11:33.4±1.2, 36°.69N±0°.02×97°.88W±0°.06, h7km±6km, Error ellipse: s-maj=7.5km s-min=3.0km az=81.0*
ISC 18 19:11:33.3±0.8, 36°.70N±0°.04×97°.90W±0°.05, h10km, n52, σ0°.92/51, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
U32A	**Winter Ranch,**	**0.95**	**250**	Pg	**Pg**	**19 11 51.1**	**-0.4**
ADOK	**Arcadia Dam**	**1.13**	**158**	Pg	**Pb**	**19 11 54.6**	**-0.4**
T35A	**Sooner Cattle**	**1.13**	**79**		**Pb**	**19 11 54.5**	**-0.6**
OK009	**Oakdale Elemen**	**1.18**	**161**	Pg	**Pb**	**19 11 55.5**	**-0.3**
OKCFA	**Oklahoma City**	**1.33**	**164**		**Pn**	**19 11 57.9**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**1.34**	**164**		**Pn**	**19 11 58.2**	**0.0**
FNO	**Franklin**	**1.50**	**164**	Pn	**Pn**	**19 12 00.9**	**+0.6**
W35A	**Tecumseh**	**1.75**	**151**		**Pn**	**19 12 04.6**	**+0.8**
R32A	**Long Quarter,**	**1.84**	**340**		**Pb**	**19 12 06.4**	**-0.6**
TUL1	**Leonard**	**1.88**	**114**		**Pn**	**19 12 06.1**	**+0.6**
WMOK	**Wister Mounta**	**2.09**	**200**	Pn	**Pn**	**19 12 09.4**	**+1.0**
X34A	**Smith Ranch, M**	**2.10**	**179**	Pn	**Pn**	**19 12 10.2**	**+1.7**
CBKS	**Cedar Bluff**	**2.56**	**326**	Pn	**Pn**	**19 12 16.8**	**+1.8**
KSU1	**Kansas State U**	**2.60**	**23**	Pn	**Pn**	**19 12 16.5**	**+1.0**
U38A	**Gravette**	**2.84**	**94**		**Pn**	**19 12 19.6**	**+0.8**
X37A	**Clayton**	**2.94**	**135**		**Pn**	**19 12 21.8**	**+1.6**
HHAR	**Hobbs**	**3.22**	**96**		**Pn**	**19 12 24.9**	**+0.9**
AMTX	**Amarillo**	**3.57**	**241**	Pn	**Pn**	**19 12 31.1**	**+2.2**
S39A	**Bolivar**	**3.78**	**73**		**Pn**	**19 12 32.3**	**+0.6**
U40A	**Yellville**	**4.08**	**93**		**Pn**	**19 12 36.5**	**+0.7**
MIAR	**Mount Ida**	**4.12**	**120**	Pn	**Pn**	**19 12 37.2**	**+0.8**
Z38A	**Mt. Pleasant**	**4.18**	**144**		**Pn**	**19 12 38.1**	**+0.9**
ABTX	**Abilene, Hawle**	**4.31**	**200**		**Pn**	**19 12 38.8**	**-0.3**
KSCO	**Kaye Shedlock'**	**4.40**	**303**		**Pn**	**19 12 41.2**	**+0.9**
P38A	**Dawn**	**4.51**	**48**	Pn	**Pn**	**19 12 42.8**	**+1.1**
WHTX	**Lake Whitney,**	**4.71**	**175**	Pn	**Pn**	**19 12 45.4**	**+0.9**
FCAR	**Ozark Folk Cen**	**4.73**	**98**	Pn	**Pn**	**19 12 44.8**	**+0.1**
R40A	**Maddies Statio**	**4.75**	**69**		**Pn**	**19 12 45.2**	**+0.3**
WHAR	**Wooly Hollow**	**4.76**	**106**	Pn	**Pn**	**19 12 45.4**	**+0.3**
P40A	**Paris**	**5.41**	**57**		**Pn**	**19 12 54.4**	**+0.4**
T42A	**Van Buren**	**5.47**	**85**		**Pn**	**19 12 55.4**	**+0.6**
CCM	**Cathedral Cave**	**5.47**	**74**	Pn	**Pn**	**19 12 54.9**	**+0.1**
N38A	**Joes South For**	**5.47**	**40**		**Pn**	**19 12 55.1**	**+0.2**
LCAR	**Lake Charles**	**5.48**	**95**		**Pn**	**19 12 55.8**	**+0.9**
PEBM	**Pemiscott Bayo**	**6.51**	**93**	Pn	**Pn**	**19 13 11.0**	**+1.9**
N41A	**Harden Midland**	**6.80**	**52**		**Pn**	**19 13 13.8**	**+0.6**
ISCO	**Idaho Springs**	**6.81**	**299**	Pn	**Pn**	**19 13 16.1**	**+2.5**
ECSD	**EROS Data Cent**	**7.09**	**8**	Pn	**Pn**	**19 13 16.2**	**-1.0**
ANMO	**Albuquerque**	**7.17**	**258**	Lg	Lg	19 15 14.7	
	0.8nm,0.3s,baz=343,slow=13,SNR=6.4						
OXF	**Oxford**	**7.25**	**105**	Pn	**Pn**	**19 13 20.6**	**+1.3**
Q44A	**Meyer Farm, Va**	**7.37**	**70**		**Pn**	**19 13 21.2**	**+0.3**
L40A	**Anamosa**	**7.44**	**42**		**Pn**	**19 13 21.8**	**-0.1**
HDIL	**Hopedale**	**7.75**	**58**		**Pn**	**19 13 26.7**	**+0.4**
WVT	**Waverly**	**8.14**	**91**	Pn	**Pn**	**19 13 32.1**	**+0.6**
L42A	**Oliver, Polo**	**8.29**	**48**	Pn	**Pn**	**19 13 33.9**	**+0.3**
JFWS	**Jewell Farm**	**8.55**	**41**		**Pn**	**19 13 37.5**	**+0.3**
TXAR	**Lajitas Array**	**8.80**	**215**	Pn	**Pn**	**19 13 40.3**	**-0.4**
	0.1nm,0.3s,baz=38,slow=12,SNR=4.5						
TXAR				Lg	Lg	19 16 07.9	
	0.4nm,0.3s,baz=20,slow=31,SNR=2.4						
PDAR	**Pinedale Array**	**10.83**	**308**	Pn	**Pn**	**19 14 08.0**	**-0.6**
	0.3nm,0.3s,baz=120,slow=10,SNR=4.4						
PDAR				Lg	Lg	19 17 02.5	
	0.2nm,0.3s,baz=104,slow=33,SNR=4.8						
S51A	**Beattyville**	**11.45**	**81**		**Pn**	**19 14 17.3**	**+0.4**
TKL	**Tuckaleechee C**	**11.46**	**91**	Pn	**Pn**	**19 14 17.5**	**+0.4**
	1.0nm,0.3s,baz=303,slow=17,SNR=8.0						
TKL				Lg	Lg	19 17 30.1	
	0.6nm,0.3s,baz=353,slow=19,SNR=5.1						
TKL	**Tuckaleechee C**	**11.46**	**91**		**Pn**	**19 14 17.2**	**+0.1**
ILAR	**Eielson Array**	**40.21**	**330**	P	**P**	**19 19 09.5**	**-0.1**
	0.4nm,0.8s,baz=106,slow=6.8,SNR=5.2						

*RSNC **18** 19:26:00.8±1.2, 6°.79N×73°.10W, h144km±4km, ML3.7, Mw3.8*
*IDC **18** 19:26:00.8±1.4, 6°.79N×73°.02W, h165km±15km, mb3.0/1, mb1 3.7/4, mb1mx3.2/33, mbtmp4.0/4, Error ellipse: s-maj=39.0km s-min=20.8km az=136.0*
ISC 18 19:25:59.3±0.9, 6°.80N±0°.03×73°.09W±0°.04, h153km±6km, n39, σ1°9.63/75, 5C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.23**	**204**	⇓ *i*P	**Pn**	**19 26 20.4**	**+0.1**
BARC				*e*S	**Sn**	**19 26 34.8**	**-1.5**
BARC				*i*		19 26 35.8	
	comp=Z,927nm,0.4s						
PAMC	**Pamplona, Colo**	**0.66**	**36**	⇑ *i*P	**Pn**	**19 26 23.4**	**+0.9**
PAMC				*e*S	**Sn**	**19 26 40.1**	**0.0**
PAMC				*i*		19 26 42.4	
	comp=Z,983nm,0.4s						
BRRC	**Barranca, Sant**	**0.69**	**296**	⇑ *e*P	**Pn**	**19 26 22.4**	**+0.4**
BRRC				*e*S	**Sn**	**19 26 39.2**	**-0.2**
BRRC				*i*		19 26 42.2	
	comp=Z,957nm,0.3s						
RUSC	**La Rusia**	**0.90**	**180**	⇑ *e*P	**Pn**	**19 26 24.3**	**+0.2**
RUSC				*e*S	**Sn**	**19 26 42.8**	**-0.3**
RUSC				*i*		19 26 44.0	
	comp=Z,917nm,0.3s						
TAMC	**Tame, Arauca**	**1.34**	**106**	⇑ *i*P	**Pn**	**19 26 28.8**	**+1.3**
TAMC				*e*S	**Sn**	**19 26 49.8**	**+0.8**
TAMC				*i*		19 26 50.8	
	comp=Z,549nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.38**	**259**	⇓ *e*P	**Pn**	**19 26 27.0**	**-0.9**
PTBC				*e*S	**Sn**	**19 26 47.9**	**-1.9**
PTBC				*i*		19 26 56.5	
	comp=Z,351nm,0.4s						
OCAC	**Ocana**	**1.45**	**351**	*e*P	**Pn**	**19 26 28.9**	**+0.2**
OCAC				*e*S	**Sn**	**19 26 50.5**	**-0.8**
OCAC				*i*		19 26 54.0	
	comp=Z,915nm,0.3s						
SPBC	**San Pablo de B**	**1.50**	**221**	⇓ *i*P	**Pn**	**19 26 29.4**	**+0.2**
SPBC				*e*S	**Sn**	**19 26 51.3**	**-0.9**
SPBC				*i*		19 26 53.7	
	comp=Z,647nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.89**	**291**	*e*P	**Pn**	**19 26 33.4**	**+0.1**
ZARC				*e*S	**Sn**	**19 26 59.1**	**-0.3**
ZARC				*i*		19 27 04.5	
	comp=Z,627nm,0.3s						
NORC	**Norcasia**	**2.15**	**235**	*e*P	**Pn**	**19 26 36.2**	**-0.3**
NORC				*e*S	**Sn**	**19 27 03.7**	**-1.4**
NORC				*i*		19 27 10.2	
	comp=Z,287nm,0.3s						
SMLC	**San Martn de**	**2.21**	**334**	*e*P	**Pn**	**19 26 36.9**	**-0.2**
SMLC				*e*S	**Sn**	**19 27 06.6**	**+0.3**
SMLC				*i*		19 27 15.1	
	comp=Z,382nm,0.2s						
CHIC	**Chingaza**	**2.25**	**197**	*

PCRV				S	Sn	19 29 45.1	-1.1
	comp=Z,1.6nm,0.3s,baz=218,slow=18,SNR=1.8						
TXAR	**Lajitas Array**	**36.50**	**312**	P	**P**	19 32 51.1	+1.0
	comp=Z,0.1nm,0.3s,baz=129,slow=8.5,SNR=3.5						
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	**PKiKP**	19 45 30.0	-1.6
	comp=Z,0.6nm,0.5s,baz=115,slow=3.7,SNR=13						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	**PKiKP**	19 45 33.2	-1.1
	comp=Z,0.5nm,0.4s,baz=108,slow=2.8,SNR=12						

GUC ***18*** *19:28:32.0±0.5, 18°.31S×69°.32W, h127km±3km, ML3.6*
NEIC ***18*** *19:28:32.1±0.7, 18°.37S±0'.06×69°.41W±0'.08, h130km±5km, mb4.1/2, Error ellipse: s-maj=12.3km s-min=8.1km az=59.0*
IDC ***18*** *19:28:33.0±1.9, 18°.37S×68°.91W, h136km±16km, mb3.7/2, mb1 3.7/6, mb1mx3.3/32, mbtmp4.0/6, Error ellipse: s-maj=39.2km s-min=21.6km az=105.0*

ISC 18 19:28:30.9±0.8, 18°.36S±0'.04×69°.34W±0'.07, h135km±7km, n43, σ1s 20/58, 8C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MNMC	**Minye Minye**	**0.80**	**198**	⇓*e*P		**Pn**	**19 28 53.4**	**+0.5**
MNMC				*e*S		**Sn**	**19 29 09.8**	**+0.2**
MNMC				IAML			19 29 10.7	
	comp=E,3μm,0.3s							
MNMC	**Minye Minye**	**0.80**	**198**	Pn		**Pn**	**19 28 53.3**	**+0.4**
MNMC				Sn		**Sn**	**19 29 09.4**	**-0.2**
AP01	**Chacalluta**	**0.95**	**269**	⇑*i*P		**Pn**	**19 28 53.7**	**-0.1**
AP01				*e*S		**Sn**	**19 29 11.2**	**0.0**
AP01	**Chacalluta**	**0.95**	**269**	Pn		**Pn**	**19 28 54.0**	**+0.2**
AP01				Sn		**Sn**	**19 29 10.7**	**-0.4**
PB12	**IPOC Station P**	**0.97**	**255**	⇑*i*P		**Pn**	**19 28 53.9**	**-0.2**
PB12				*e*S		**Sn**	**19 29 11.0**	**-0.7**
PB12				IAML			19 29 11.7	
	comp=N,1μm,0.4s							
PB12	**IPOC Station P**	**0.97**	**255**			**Pn**	**19 28 54.0**	**-0.1**
PB12				Sn		**Sn**	**19 29 10.7**	**-1.0**
GO01	**Chusmiza**	**1.31**	**174**	⇑*i*P		**Pn**	**19 28 58.9**	**+1.1**
GO01				*e*S		**Sn**	**19 29 19.4**	**+1.1**
GO01				IAML			19 29 20.0	
	comp=N,1μm,0.2s							
GO01	**Chusmiza**	**1.31**	**174**			**Pn**	**19 28 58.9**	**+1.1**
PB11	**IPOC Station P**	**1.42**	**192**	⇓*e*P		**Pn**	**19 28 59.2**	**+0.6**
PB11				*e*S		**Sn**	**19 29 19.9**	**0.0**
PB11				IAML			19 29 23.3	
	comp=E,660nm,0.2s							
PB11	**IPOC Station P**	**1.42**	**192**			**Pn**	**19 28 59.3**	**+0.6**
PSGC	**Pisagua**	**1.44**	**211**	⇓*e*P		**Pn**	**19 28 58.9**	**+0.2**
PSGC				*e*S		**Sn**	**19 29 19.8**	**-0.2**
PSGCX	**Pisagua**	**1.44**	**211**			**Pn**	**19 28 58.9**	**+0.1**
PB08	**IPOC Station P**	**1.78**	**174**	⇑*i*P		**Pn**	**19 29 04.0**	**+1.1**
PB08				*e*S		**Sn**	**19 29 28.3**	**+0.9**
PB08				IAML			19 29 31.5	
	comp=N,246nm,0.5s							
PB08	**IPOC Station P**	**1.78**	**174**			**Pn**	**19 29 04.1**	**+1.1**
TA01	**Diego Aracena**	**2.33**	**200**			**Pn**	**19 29 10.0**	**+0.8**
LPAZ	**La Paz**	**2.36**	**29**	P		**Pn**	**19 29 10.9**	**+0.6**
	comp=N,4.1nm,0.3s,baz=222,slow=6.5,SNR=31							
LPAZ				S		**Sn**	**19 29 39.4**	**-0.9**
	comp=N,1.4nm,0.3s,baz=164,slow=21,SNR=4.0							
LPAZ	**La Paz**	**2.36**	**29**	Pn		**Pn**	**19 29 11.3**	**+1.1**
PB01	**IPOC Station P**	**2.67**	**183**	⇑*i*P		**Pn**	**19 29 14.2**	**+0.7**
PB01				*e*S		**Sn**	**19 29 46.0**	**-0.4**
PB01				IAML			19 29 52.9	
	comp=E,162nm,0.2s							
PB01	**IPOC Station P**	**2.67**	**183**			**Pn**	**19 29 14.5**	**+0.9**
PB02	**IPOC Station P**	**2.99**	**190**	⇑*i*P		**Pn**	**19 29 18.4**	**+0.7**
PB02				*i* S		**Sn**	**19 29 52.7**	**-1.1**
PB07	**IPOC Station P**	**3.39**	**189**	⇑*i*P		**Pn**	**19 29 23.7**	**+0.8**
PB07				*i* S		**Sn**	**19 30 01.3**	**-1.8**
PB07	**IPOC Station P**	**3.39**	**189**			**Pn**	**19 29 24.0**	**+1.1**
PB09	**IPOC Station P**	**3.42**	**178**	⇓*i*P		**Pn**	**19 29 24.5**	**+1.2**
PB09				*i* S		**Sn**	**19 30 03.7**	**-0.2**
PB09				IAML			19 30 29.3	
	comp=N,72nm,0.4s							
PB09	**IPOC Station P**	**3.42**	**178**			**Pn**	**19 29 24.5**	**+1.2**
PB03	**IPOC Station P**	**3.69**	**186**	⇑*i*P		**Pn**	**19 29 27.3**	**+0.4**
PB04	**IPOC Station P**	**4.02**	**191**			**Pn**	**19 29 31.5**	**+0.3**
LVC	**Limon Verde**	**4.25**	**175**	P		**Pn**	**19 29 35.8**	**+1.4**
	comp=N,7.3nm,0.3s,baz=2.6,slow=10.0,SNR=74							
LVC				S		**Sn**	**19 30 22.2**	**-1.4**
	comp=N,4.6nm,0.3s,baz=148,slow=20,SNR=9.6							
LVC	**Limon Verde**	**4.25**	**175**			**Pn**	**19 29 35.7**	**+1.3**
PB06	**IPOC Station P**	**4.33**	**183**	Pn		**Pn**	**19 29 35.6**	**+0.3**
PB15	**IPOC Station P**	**4.82**	**181**			**Pn**	**19 29 42.1**	**+0.2**
PB10	**IPOC Station P**	**5.25**	**192**	Pn		**Pn**	**19 29 46.5**	**-1.0**
GO02	**Mina Guanaco**	**6.77**	**182**			**Pn**	**19 30 06.9**	**-1.2**
SIV	**San Ignacio**	**8.25**	**75**	P		**Pn**	**19 30 24.7**	**-3.0**
	comp=N,0.5nm,0.3s,baz=260,slow=8.0,SNR=7.2							
AC02	**Maricunga**	**8.44**	**179**			**Pn**	**19 30 29.9**	**-0.8**
AC05	**El Transito**	**10.46**	**185**	Pn		**Pn**	**19 30 54.8**	**-2.6**
GO04	**Tololo Observa**	**11.83**	**186**	Pn		**Pn**	**19 31 11.2**	**-4.5**
PTGA	**Pitinga**	**19.79**	**29**	P		**P**	**19 32 49.9**	**-1.0**
	comp=N,0.9nm,0.3s,baz=112,slow=18,SNR=5.1							
PTGA	**Pitinga**	**19.79**	**29**	IAmb		IAmb	19 33 35.7	
	comp=Z,14nm,1.6s							
TORD	**Torodi Ar. Bea**	**76.71**	**71**	P		**P**	**19 40 07.6**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=256,slow=4.9,SNR=5.5							
YKA	**Yellowknife Ar**	**88.11**	**341**	P		**P**	**19 41 07.8**	**+2.0**
	comp=Z,1.1nm,0.5s,baz=130,slow=4.5,SNR=4.7							
ASAR	**Alice Springs**	**132.46**	**209**	PKP		**PKiKP**	**19 47 32.0**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=149,slow=2.0,SNR=1.3							
WRA	**Warramunga Arr**	**135.40**	**213**	PKP		**PKiKP**	**19 47 37.9**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=163,slow=1.5,SNR=1.1							
SONM	**Songino Array**	**150.40**	**6**	PKPbc		**PKiKP**	**19 48 09.0**	**+1.6**
	comp=Z,0.9nm,0.6s,baz=348,slow=0.4,SNR=5.3							

TAP ***18*** *19:41:17.6, 23°.89N×121°.93E, h35km, ML2.6, C*
JMA ***18*** *19:41:17.0, 23°.85N×121°.94E, h35km±2km, M2.1*

ISC 18 19:41:17.3±1.1, 23°.86N±0'.02×121°.94E±0'.02, h33km±2km, n87, σ0s 66/167, 2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HWA	**Hwalien**	**0.32**	**290**	*e*P		**Pb**	**19 41 25.9**	**+0.5**
	baz=281							
HWA				*e*S		**Sn**	**19 41 30.6**	**-0.2**
	baz=281							
TWD	**Chiawan**	**0.38**	**305**	P		**Pb**	**19 41 26.0**	**-0.1**
	baz=295							
TWD				S		**Sn**	**19 41 32.0**	**-0.5**
	baz=295							
NACB	**Ninganchiao**	**0.44**	**315**	P		**Pb**	**19 41 26.7**	**-0.3**
	baz=312							
NACB				S		**Sb**	**19 41 33.4**	**-0.4**
	baz=312							
ESL	**Shilin**	**0.46**	**264**	P		**Pb**	**19 41 27.1**	**-0.3**
	baz=260							
ESL				*e*S		**Sn**	**19 41 34.6**	**-0.1**
	baz=260							
EGFH	**Guangfu**	**0.51**	**247**	P		**Pn**	**19 41 28.0**	**-0.2**
	baz=244							
EGFH				*e*S		**Sb**	**19 41 35.9**	**+0.5**
	baz=244							
ETLH	**Xiulin Townshi**	**0.54**	**309**	P		**Pn**	**19 41 28.2**	**-0.5**
	baz=307							
ETLH				S		**Sn**	**19 41 36.1**	**-0.6**
	baz=307							
ENA	**Nanau**	**0.59**	**342**	P		**Pn**	**19 41 29.1**	**-0.2**
	baz=333							
ENA				S		**Sn**	**19 41 37.5**	**-0.3**
	baz=333							
EHY	**Hungye**	**0.67**	**238**	P		**Pn**	**19 41 30.1**	**-0.3**
	baz=248							
EHY				*e*S		**Sn**	**19 41 39.3**	**-0.4**
	baz=248							
WHF	**Hehuan Shan**	**0.68**	**295**	P		**Pn**	**19 41 30.5**	**-0.4**
	baz=284							
WHF				*e*S		**Sn**	**19 41 40.1**	**-0.4**
	baz=284							
OWD	**Renai**	**0.70**	**277**	*e*P		**Pb**	**19 41 31.1**	**-0.2**
	baz=279							
OWD				*e*S		**Sn**	**19 41 40.5**	**-0.3**
	baz=279							
CHGB	**Renai**	**0.72**	**286**	P		**Pn**	**19 41 31.4**	**0.0**
	baz=283							
CHGB				*e*S		**Sn**	**19 41 41.3**	**-0.1**
	baz=283							
VWDT	**VWDT**	**0.74**	**262**	P		**Pb**	**19 41 31.8**	**0.0**
	baz=259							
VWDT				*e*S		**Sb**	**19 41 42.0**	**+0.3**
	baz=259							
TWC	**Suao**	**0.75**	**354**	*e*P		**Pb**	**19 41 31.8**	**-0.2**
	baz=354							
TWC				*e*S		**Sb**	**19 41 42.0**	**+0.1**
	baz=354							
YULB	**Yu-li**	**0.75**	**231**	P		**Pn**	**19 41 31.2**	**-0.4**
	baz=242							
YULB				*e*S		**Sn**	**19 41 41.1**	**-0.8**
	baz=242							
NNSB	**Datong**	**0.76**	**318**	*e*P		**Pn**	**19 41 31.9**	**+0.1**
	baz=316							
NNSB				*e*S		**Sn**	**19 41 41.8**	**-0.3**
	baz=316							
NNSH	**Datong**	**0.76**	**318**	P		**Pn**	**19 41 31.7**	**-0.1**
	baz=316							
NNSH				S		**Sn**	**19 41 41.8**	**-0.3**
	baz=316							
NNS	**Nan Shan**	**0.77**	**318**	*e*P		**Pn**	**19 41 32.0**	**0.0**
	baz=317							
NNS				*e*S		**Sb**	**19 41 42.5**	**-0.2**
	baz=317							
TWF1	**Yuli**	**0.78**	**229**	*e*P		**Pn**	**19 41 31.8**	**-0.2**
	baz=241							
TWF1				*e*S		**Sn**	**19 41 42.5**	**+0.1**
	baz=241							
TDCB	**Techi**	**0.81**	**299**	*e*P		**Pb**	**19 41 32.8**	**-0.3**
	baz=297							
TDCB				*e*S		**Sn**	**19 41 43.2**	**-0.3**
	baz=297							
NDT	**Datong Townshi**	**0.83**	**332**	*e*P		**Pb**	**19 41 32.9**	**-0.5**
	baz=331							
NDT				*e*S		**Sn**	**19 41 43.7**	**-0.1**
	baz=331							
ENTT	**Nioudou**	**0.84**	**336**	*e*P		**Pb**	**19 41 33.1**	**-0.5**
	baz=336							
ENTT				*e*S		**Sb**	**19 41 44.3**	**-0.4**
	baz=336							
FULB	**Fuli**	**0.89**	**222**	*e*P		**Pn**	**19 41 33.2**	**-0.2**
	baz=210							
FULB				*e*S		**Sn**	**19 41 45.4**	**+0.2**
	baz=210							
TWE	**Neicheng**	**0.89**	**344**	⇓*e*P		**Pb**	**19 41 33.9**	**-0.4**
	baz=344							
TWE				*e*S		**Sb**	**19 41 45.6**	**-0.3**
	baz=344							
SSLB	**Suanglung**	**0.90**	**265**	*e*P		**Pn**	**19 41 34.0**	**+0.3**
	baz=263							
SSLB				*e*S		**Sb**	**19 41 46.1**	**-0.3**
	baz=263							
CHKT	**Chengkung**	**0.93**	**215**	*e*P		**Pn**	**19 41 33.1**	**-0.8**
	baz=203							
CHKT				*e*S		**Sn**	**19 41 44.4**	**-1.7**
	baz=203							
DPDB	**Guoxing**	**0.94**	**281**	*e*P		**Pb**	**19 41 35.0**	**-0.2**
	baz=273							
DPDB				*e*S		**Sb**	**19 41 47.2**	**-0.3**
	baz=273							
SMLT	**Sun Moon Lake**	**0.95**	**271**	P		**Pb**	**19 41 35.0**	**-0.4**
	baz=269							
SMLT				*e*S		**Sb**	**19 41 48.0**	**+0.3**
	baz=269							
YHNB	**Yeheng**	**0.95**	**328**	*e*P		**Pn**	**19 41 34.7**	**+0.3**
	baz=316							
YHNB				*e*S		**Sn**	**19 41 46.7**	**-0.2**
	baz=316							
NSK	**Sanguang**	**0.96**	**327**	P		**Pb**	**19 41 35.1**	**-0.6**
	baz=316							
NSK				*e*S		**Sn**	**19 41 46.9**	**-0.3**
	baz=316							
EGS		**0.98**	**360**	*e*P		**Pb**	**19 41 36.9**	**+1.1**
	baz=12							
EGS				*e*S		**Sb**	**19 41 48.4**	**-0.1**
	baz=12							
TYC	**Yuchr**	**0.99**	**272**	*e*P		**Pb**	**19 41 35.4**	**-0.6**
	baz=270							
TYC				*e*S		**Sb**	**19 41 49.0**	**+0.2**
	baz=270							
NWLT	**Wulai**	**0.99**	**337**	*e*P		**Pn**	**19 41 35.3**	**+0.4**
	baz=323							
NWLT				*e*S		**Sn**	**19 41 48.1**	**+0.3**
	baz=323							
WHP	**Taichung City**	**0.99**	**295**	*e*P		**Pb**	**19 41 36.1**	**-0.1**
	baz=293							
WHP				*e*S		**Sb**	**19 41 48.8**	**-0.2**
	baz=293							
WHYT	**Xinyi Township**	**1.01**	**261**	*e*P		**Pb**	**19 41 36.1**	**-0.3**
	baz=249							
WHYT				*e*S		**Sb**	**19 41 50.0**	**+0.6**
	baz=249							
ELDTW	**Lidau**	**1.08**	**232**	*e*P		**Pn**	**19 41 35.9**	**-0.3**
	baz=219							
ELDTW				*e*S		**Sn**	**19 41 49.4**	**-0.7**
	baz=219							
JYNG	**Yonaguni jima**	**1.09**	**57**	P		**Pn**	**19 41 36.4**	**+0.1**
JYNG				*e*S		**Sn**	**19 41 50.6**	**+0.4**
ALS	**Alishan**	**1.10**	**251**	P		**Pb**	**19 41 37.6**	**-0.4**
	baz=249							
ALS				*e*S		**Sb**	**19 41 51.7**	**-0.4**
	baz=249							
TIPB	**Shuangxi**	**1.11**	**355**	P		**Pb**	**19 41 37.2**	**-0.8**
	baz=7.0							
TIPB				*e*S		**Sn**	**19 41 51.1**	**+0.4**
	baz=7.0							
WJS	**Zhushan**	**1.11**	**268**	*e*P		**Pb**	**19 41 39.0**	**+1.0**
	baz=266							
TWB1	**Santiao Chiao**	**1.14**	**2**	*e*P		**Pn**	**19 41 37.2**	**+0.3**
	baz=3.0							
TWB1				*e*S		**Sn**	**19 41 51.5**	**0.0**
	baz=3.0							
LIOB	**Emei**	**1.15**	**313**	*e*P		**Pb**	**19 41 38.7**	**0.0**
	baz=311							
LIOB				*e*S		**Sb**	**19 41 53.0**	**-0.2**
	baz=311							
NSTT	**Nanjuang**	**1.15**	**312**	*e*P		**Pb**	**19 41 38.6**	**-0.1**
	baz=310							
NSTT				*e*S		**Sb**	**19 41 53.0**	**-0.3**
	baz=310							
WNT	**Mingjian**	**1.15**	**271**	*e*P		**Pb**	**19 41 38.8**	**+0.2**
	baz=269							
WNT				*e*S		**Sb**	**19 41 54.5**	**+1.2**
	baz=269							
YOJ	**Yonaguni jima**	**1.15**	**59**	P		**Pn**	**19 41 37.3**	**+0.3**
	baz=60							
YOJ				S		**Sn**	**19 41 51.6**	**+0.1**
	baz=60							
YOJ	**Yonaguni jima**	**1.15**	**59**	P		**Pn**	**19 41 37.4**	**+0.3**
YOJ				*e*S		**Sn**	**19 41 51.7**	**+0.1**
NHDH	**Xindian Distri**	**1.16**	**341**	*e*P		**Pb**	**19 41 38.3**	**-0.5**
	baz=329							
NHDH				*e*S		**Sb**	**19 41 53.2**	**-0.4**
	baz=329							
WLTB	**Daxi**	**1.17**	**328**	*e*P		**Pb**	**19 41 38.7**	**-0.3**
	baz=327							
WLTB				*e*S		**Sb**	**19 41 55.0**	**+1.3**
	baz=327							
TWQ1	**Liyutan**	**1.17**	**295**	*e*P		**Pb**	**19 41 39.1**	**+0.1**
	baz=293							
TWQ1				*e*S		**Sn**	**19 41 52.3**	**+0.1**
	baz=293							
TATO	**Taipei**	**1.18**	**340**	*e*P		**Pn**	**19 41 37.2**	**-0.2**
	baz=339							
TATO				*e*S		**Sb**	**19 41 53.1**	**-1.0**
	baz=339							
CHN5	**Tsauling**	**1.18**	**257**	*e*P		**Pb**	**19 41 39.2**	**-0.1**
	baz=255							
CHN5				*e*S		**Sb**	**19 41 55.9**	**+1.5**
	baz=255							
TCU	**Taichung**	**1.19**	**284**	*e*P		**Pb**	**19 41 39.7**	**+0.4**
	baz=282							
TCU				*e*S		**Sb**	**19 41 56.0**	**+1.6**
	baz=282							
NWF	**Wu-fen Shan**	**1.21**	**353**	⇓*e*P		**Pb**	**19 41 39.3**	**-0.5**
	baz=353							
NWF				*e*S		**Sb**	**19 41 55.8**	**+0.7**
	baz=353							
WFSB	**Wu-fen Shan**	**1.21**	**353**	*e*P		**Pb**	**19 41 39.4**	**-0.3**
	baz=353							
WFSB				*e*S		**Sb**	**19 41 54.5**	**-0.5**
	baz=353							
WGK	**Gukeng**	**1.27**	**262**	P		**Pb**	**19 41 40.7**	**-0.1**
	baz=260							
WGK				*e*S		**Sb**	**19 41 58.5**	**+1.6**
	baz=260							
WDLH	**Douliu**	**1.29**	**263**	P		**Pb**	**19 41 40.7**	**-0.4**
	baz=260							
WDLH				*e*S		**Sb**	**19 41 59.1**	**+1.7**
	baz=260							
TPUB	**Ta-pu**	**1.32**	**245**	*e*P		**Pb**	**19 41 41.1**	**-0.5**
	baz=243							
TPUB				*e*S		**Sb**	**19 41 58.3**	**0.0**
	baz=243							
YM04	**YM04**	**1.33**	**344**	*e*P		**Pn**	**19 41 40.5**	**+0.8**
	baz=329							
YM04				*e*S		**Sn**	**19 41 57.1**	**+0.8**
	baz=329							
WTP	**Ta-pu**	**1.36**	**243**	*e*P		**Pb**	**19 41 41.6**	**-0.7**
	baz=241							
WTP				*e*S		**Sb**	**19 42 00.0**	**+0.6**
	baz=241							
RLNB	**Erlin**	**1.44**	**271**	*e*P		**Pn**	**19 41 41.9**	**+0.8**
	baz=282							
RLNB				*e*S		**Sb**	**19 42 01.1**	**-0.7**
	baz=282							
TWK	**Hsinying**	**1.46**	**246**	*e*P		**Pb**	**19 41 43.3**	**-0.6**
	baz=244							
TWK				*e*S		**Sb**	**19 42 02.3**	**+0.2**
	baz=244							
CHN1	**Nanshi**	**1.46**	**243**	*e*P		**Pb**	**19 41 43.5**	**-0.5**
	baz=240							
CHN1				*e*S		**Sb**	**19 42 02.8**	**+0.6**
	baz=240							
SGST	**Jiashian**	**1.47**	**238**	*e*P		**Pn**	**19 41 42.2**	**+0.8**
	baz=236							
SGST				*e*S		**Sb**	**19 42 01.2**	**-1.2**
	baz=236							
SLGT	**Liugui**	**1.47**	**234**	*e*P		**Pb**	**19 41 42.9**	**-1.2**
	baz=222							
SLGT				*e*S		**Sb**	**19 42 02.8**	**+0.3**
	baz=222							
SNST	**Tainan City**	**1.47**	**244**	*e*P		**Pb**	**19 41 43.4**	**-0.7**
	baz=242							
SNST				*e*S		**Sb**	**19 42 02.8**	**+0.3**
	baz=242							
ECL	**Taimali**	**1.55**	**216**	*e*P		**Pn**	**19 41 43.3**	**+0.7**
	baz=214							
ECL				*e*S		**Sn**	**19 42 00.2**	**-1.4**
	baz=214							
WSF	**Szhu**	**1.59**	**262**	*e*P		**Pb**	**19 41 44.8**	**-1.3**
	baz=260							
WSF				*e*S		**Sb**	**19 42 05.8**	**0.0**
	baz=260							
SSD	**Sandimen**	**1.64**	**227**	P		**Pb**	**19 41 45.6**	**-1.3**
	baz=225							
SSD				S		**Sb**	**19 42 06.1**	**-1.1**
	baz=225							
IRIF	**Iriomote-Funau**	**1.70**	**74**	P		**Pn**	**19 41 45.5**	**+0.8**
IRIF				*e*S		**Sn**	**19 42 06.1**	**+0.8**
HATJ	**Hateruma jima**	**1.72**	**83**	P		**Pn**	**19 41 45.2**	**+0.3**
MASBT	**Mashibuluo**	**1.73**	**224**	P		**Pn**	**19 41 45.8**	**+0.7**
	baz=220							
MASBT				*e*S		**Sn**	**19 42 07.1**	**+1.1**
	baz=220							
SGLT	**Jiouru**	**1.75**	**230**	*e*S		**Sn**	**19 42 08.2**	**+1.8**
	baz=228							
TAW	**Tawu**	**1.78**	**213**	*e*P		**Pn**	**19 41 46.0**	**+0.3**
	baz=211							
TAW				*e*S		**Sn**	**19 42 08.1**	**+0.9**
	baz=211							
SCZT	**Fangliau**	**1.92**	**219**	*e*P		**Pn**	**19 41 49.3**	**+1.7**
	baz=215							
SCZT				*e*S		**Sb**	**19 42 14.1**	**-1.2**
	baz=215							
JKRS	**Kuro-shima**	**1.93**	**78**	P		**Pn**	**19 41 48.5**	**+0.7**
JIJ	**Ishigaki jima**	**2.08**	**76**	P		**Pn**	**19 41 49.8**	**0.0**
JIJ				*e*S		**Sn**	**19 42 14.0**	**-0.5**
HEN	**Hengchun**	**2.15**	**211**	*e*S		**Sn**	**19 42 17.6**	**+1.1**
	baz=198							
PHUB	**P'eng-hu**	**2.20**	**261**	*e*P		**Pn**	**19 41 52.5**	**+1.0**
	baz=259							
PHUB				*e*S		**Sn**	**19 42 18.6**	**+1.1**
	baz=259							
PNG	**Penghu**	**2.20**	**263**	*e*P		**Pn**	**19 41 52.5**	**+1.0**
	baz=260							
PNG				*e*S		**Sn**	**19 42 18.4**	**+0.8**
	baz=260							
JISG	**Ishigakijimahi**	**2.28**	**71**	P		**Pn**	**19 41 52.6**	**-0.1**
JISG				*e*S		**Sn**	**19 42 18.9**	**-0.7**
VCHM	**Qimei**	**2.39**	**255**	P		**Pn**	**19 41 55.0**	**+0.8**
	baz=252							
VCHM				*e*S		**Sn**	**19 42 23.4**	**+1.0**
	baz=252							
VWUC	**VWUC**	**2.53**	**297**	*e*P		**Pn**	**19 41 56.1**	**+0.1**
	baz=295							
VWUC				*e*S		**Sn**	**19 42 25.0**	**-0.7**
	baz=295							
PTTC	**Pingtan**	**2.56**	**310**	*e*P		**Pn**	**19 41 56.4**	**0.0**
	baz=309							
PTTC				*e*S		**Sn**	**19 42 25.5**	**-0.9**
	baz=309							
PTMZ	**Houxiangcun**	**2.82**	**295**	*e*P		**Pn**	**19 42 00.2**	**+0.1**
	baz=293							
PTMZ				*e*S		**Sn**	**19 42 31.5**	**-1.5**
	baz=293							
MATB	**Ma-tsu**	**2.91**	**322**	*e*S		**Sn**	**19 42 36.0**	**+1.0**
	baz=321							
KNMB	**Chin-men Tao**	**3.30**	**281**	*e*P		**Pn**	**19 42 06.9**	**+0.3**
	baz=278							
KNMB				*e*S		**Sn**	**19 42 45.1**	**+0.4**
	baz=278							
MHZQ	**Yeshan**	**3.45**	**311**	*e*S		**Sn**	**19 42 47.9**	**-0.6**
	baz=309							
AXDP	**Jialang**	**3.76**	**287**	*e*P		**Pn**	**19 42 13.4**	**+0.4**
	baz=284							
AXDP				*e*S		**Sn**	**19 42 55.9**	**-0.2**
	baz=284							

IDC 18 20:27:01.9±2.7, 9°.65S×118°.92E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/30, mbtmp3.3/4, ML3.3/2, Error ellipse: s-maj=239.5km s-min=25.7km az=49.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**18.06**	**126**	P		Pn	20 31 14.3	-0.2
	0.1nm,0.3s,baz=295,slow=14,SNR=2.2							
ASAR	**Alice Springs**	**19.98**	**136**	P		P	20 31 36.6	+0.6
	0.1nm,0.3s,baz=313,slow=9.6,SNR=7.6							
CMAR	**Chiang Mai Arr**	**34.19**	**325**	P		P	20 33 50.2	+0.9
	0.2nm,0.4s,baz=157,slow=7.4,SNR=2.0							
MKAR	**Makanchi Array**	**65.00**	**333**	P		P	20 37 42.7	-1.0
	0.2nm,0.6s,baz=150,slow=7.5,SNR=2.2							

**IDC 18 20:33:42.4±3.3, 11°.72S×162°.61E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/25, mbtmp3.8/5,

SPSI				S	Sn	20 56 16.9	+0.3		
TTSI	**Tana Toraja**	**3.54**	**335**	P	Pn	20 55 51.6	+1.7		
TTSI				S	Sn	20 56 35.8	+2.3		
WBSI	**Waikabubak, Su**	**3.84**	**210**	P	Pn	20 55 53.9	+0.2		
WBSI				S	Sn	20 56 40.6	+0.3		
BASI	**Baing, Sumba**	**3.98**	**190**	P	Pn	20 55 55.3	0.0		
PLAI	**Plampang**	**4.32**	**234**	P	Pn	20 56 06.4	+6.7		
KMSI	**Cibinong**	**7.31**	**21**	P	Pn	20 56 40.4	+1.9		
	2.7nm10µm488nm,0.6s								

*IDC **18** 21:12:00.7±1.0,22°.78S×66°.28W, h230km±9km, mb3.9/10, mb1 4.0/19,mb1mx3.9/34,mbtmp4.5/19, Error ellipse: s-maj=12.4km s-min=10.8km az=61.0*
*VAO **18** 21:12:00.8±0.3,22°.75S×66°.50W, h252km±5km, mb4.8*
*SJA **18** 21:12:00.2±0.7,22°.86S×66°.40W, h247km±5km, ML4.3, MW4.0*
*NEIC **18** 21:12:00.6±1.5,22°.79S±0°.06×66°.35W±0°.09, h229km±6km, mb4.5/52, Md4.0(SJA), ML4.8(GUC), Error ellipse: s-maj=11.6km s-min=9.0km az=84.0*
*GUC **18** 21:12:02.1±0.5,22°.74S×66°.92W, h290km±8km, ML4.8*

ISC 18 21:12:00.5±0.5,22°.79S±0°.04×66°.44W±0°.04, h234km±5km, n236, σ1s21/275, mb4.5/33, 15C-3D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YJA	**Yavi**	**1.05**	**54**	*i* P		**Pn**	**21 12 37.0**	**+2.2**
YJA				*e*S		**S**	**21 13 03.0**	**+1.5**
YJA				IAML			21 13 05.0	
	comp=Z,652nm,0.6s							
LVC	**Limon Verde**	**2.29**	**274**	P		**Pn**	**21 12 46.3**	**+1.3**
	comp=Z,238nm,0.3s,baz=98,slow=5.6,SNR=1158							
LVC				S		**S**	**21 13 20.0**	**+0.3**
	comp=Z,47nm,0.3s,baz=241,slow=20,SNR=20							
LVC	**Limon Verde**	**2.29**	**274**	ǁ *i* P		**Pn**	**21 12 46.3**	**+1.3**
LVC				*i* S		**S**	**21 13 20.2**	**+0.5**
LVC	**Limon Verde**	**2.29**	**274**	*i* P		**Pn**	**21 12 46.5**	**+1.5**
LVC				*e*S		**S**	**21 13 20.4**	**+0.7**
LVC				IAML			21 13 25.4	
	comp=Z,80nm,1.5s							
LVC	**Limon Verde**	**2.29**	**274**	*e*P		**Pn**	**21 12 46.5**	**+1.5**
LVC				*e*S		**S**	**21 13 20.6**	**+0.9**
LVC	**Limon Verde**	**2.29**	**274**	*e*P		**Pn**	**21 12 46.5**	**+1.5**
LVC				*e*S		**S**	**21 13 20.6**	**+0.9**
PB09	**IPOC Station P**	**2.78**	**290**	⇑ *i* P		**Pn**	**21 12 51.6**	**+1.7**
PB09				*e*S		**S**	**21 13 29.0**	**+0.3**
PB09	**IPOC Station P**	**2.78**	**290**			**Pn**	**21 12 51.4**	**+1.5**
PB09				S		**S**	**21 13 28.9**	**+0.3**
PB09	**IPOC Station P**	**2.78**	**290**	*i* P		**Pn**	**21 12 51.7**	**+1.7**
PB09				*e*S		**S**	**21 13 28.9**	**+0.3**
PB09				IAML			21 13 30.4	
	comp=Z,428nm,0.5s							
PB15	**IPOC Station P**	**2.83**	**261**	⇑ *i* P		**Pn**	**21 12 51.7**	**+1.2**
PB15				*e*S		**S**	**21 13 30.0**	**+0.5**
PB15	**IPOC Station P**	**2.83**	**261**			**Pn**	**21 12 51.6**	**+1.2**
PB15				S		**S**	**21 13 29.4**	**0.0**
PB15	**IPOC Station P**	**2.83**	**261**	*i* P		**Pn**	**21 12 51.6**	**+1.2**
PB15				*e*S		**S**	**21 13 29.5**	**0.0**
PB15				IAML			21 13 30.6	
	comp=Z,2µm,0.2s							
PB06	**IPOC Station P**	**2.90**	**271**	ǁ *i* P		**Pn**	**21 12 52.0**	**+0.9**
PB06				*e*S		**S**	**21 13 30.6**	**-0.1**
PB06				IAML			21 13 34.7	
	comp=N,681nm,0.6s							
PB06	**IPOC Station P**	**2.90**	**271**			**Pn**	**21 12 52.0**	**+0.9**
PB06				S		**S**	**21 13 30.7**	**-0.1**
PB06	**IPOC Station P**	**2.90**	**271**	*i* P		**Pn**	**21 12 52.1**	**+0.9**
PB06				IAML			21 13 35.0	
	comp=Z,411nm,0.2s							
PB03	**IPOC Station P**	**3.16**	**283**	⇑ *i* P		**Pn**	**21 12 55.0**	**+1.0**
PB03				*e*S		**S**	**21 13 34.8**	**-1.3**
PB03				IAML			21 13 36.1	
	comp=N,1µm,0.3s							
PB03	**IPOC Station P**	**3.16**	**283**	*i* P		**Pn**	**21 12 55.0**	**+1.0**
PB03				IAML			21 13 39.0	
	comp=Z,730nm,0.3s							
PB01	**IPOC Station P**	**3.33**	**301**	⇑ *i* P		**Pn**	**21 12 56.6**	**+0.7**
PB01				*e*S		**S**	**21 13 38.6**	**-0.8**
PB01	**IPOC Station P**	**3.33**	**301**			**Pn**	**21 12 56.6**	**+0.7**
PB01				S		**S**	**21 13 38.6**	**-0.8**
PB07	**IPOC Station P**	**3.37**	**288**	⇑ *i* P		**Pn**	**21 12 57.2**	**+0.8**
PB07				*e*S		**S**	**21 13 38.5**	**-1.9**
PB07	**IPOC Station P**	**3.37**	**288**			**Pn**	**21 12 57.1**	**+0.6**
PB07				S		**S**	**21 13 38.6**	**-1.9**
PB07	**IPOC Station P**	**3.37**	**288**	*i* P		**Pn**	**21 12 57.4**	**+0.9**
PB07				IAML			21 13 44.1	
	comp=Z,383nm,0.4s							
PB04	**IPOC Station P**	**3.46**	**277**	⇑ *i* P		**Pn**	**21 12 58.2**	**+0.6**
PB04				*e*S		**S**	**21 13 40.2**	**-2.2**
PB04	**IPOC Station P**	**3.46**	**277**			**Pn**	**21 12 58.1**	**+0.6**
PB04				S		**S**	**21 13 40.8**	**-1.6**
PB05	**IPOC Station P**	**3.47**	**268**	⇑ *i* P		**Pn**	**21 12 58.2**	**+0.6**
PB05				*e*S		**S**	**21 13 40.2**	**-2.3**
PB02	**IPOC Station P**	**3.53**	**294**	⇑ *i* P		**Pn**	**21 12 58.6**	**+0.4**
PB02				*e*S		**S**	**21 13 41.2**	**-2.5**
PB02	**IPOC Station P**	**3.53**	**294**	*i* P		**Pn**	**21 12 59.3**	**+1.0**
PB02				IAML			21 13 46.9	
	comp=Z,674nm,0.2s							
PB08	**IPOC Station P**	**3.66**	**316**	⇑ *i* P		**Pn**	**21 13 01.7**	**+1.7**
PB08				*e*S		**S**	**21 13 47.1**	**+0.3**
PB08	**IPOC Station P**	**3.66**	**316**			**Pn**	**21 13 01.8**	**+1.7**
PB08	**IPOC Station P**	**3.66**	**316**	*i* P		**Pn**	**21 13 01.7**	**+1.7**
PB08				IAML			21 13 51.3	
	comp=Z,232nm,0.6s							
GO02	**Mina Guanaco**	**3.73**	**230**			**Pn**	**21 13 01.5**	**+0.8**
PB10	**IPOC Station P**	**3.86**	**259**	⇑ *i* P		**Pn**	**21 13 02.5**	**+0.5**
PB10				*e*S		**S**	**21 13 47.9**	**-2.5**
PB10	**IPOC Station P**	**3.86**	**259**			**Pn**	**21 13 02.4**	**+0.4**
GO01	**Chusmiza**	**4.04**	**320**	⇑ *i* P		**Pn**	**21 13 05.7**	**+1.1**
GO01				*e*S		**S**	**21 13 55.0**	**-0.2**
GO01	**Chusmiza**	**4.04**	**320**			**Pn**	**21 13 05.7**	**+1.1**
TA01	**Diego Aracena**	**4.13**	**302**	⇑ *i* P		**Pn**	**21 13 04.9**	**-0.4**
TA01				*i* S		**S**	**21 13 53.4**	**-2.9**
TA01	**Diego Aracena**	**4.13**	**302**			**Pn**	**21 13 05.0**	**-0.2**
PB11	**IPOC Station P**	**4.26**	**315**	⇑ *i* P		**Pn**	**21 13 06.9**	**-0.1**
PB11				*i* S		**S**	**21 13 57.1**	**-2.3**
PB11	**IPOC Station P**	**4.26**	**315**			**Pn**	**21 13 06.9**	**-0.1**
TA02	**Huaiquique**	**4.26**	**305**	*e*P		**Pn**	**21 13 05.3**	**-1.5**
TA02				*i* S		**S**	**21 13 57.0**	**-2.2**
PSGC	**Pisagua**	**4.69**	**312**	⇑ *i* P		**Pn**	**21 13 11.2**	**-1.0**
PSGC				*e*S		**S**	**21 14 05.2**	**-3.6**
PSGCX	**Pisagua**	**4.69**	**312**	Pn		**Pn**	**21 13 11.7**	**-1.0**
MNMC	**Minye Minye**	**4.69**	**320**			**Pn**	**21 13 12.8**	**+0.4**
AC02	**Maricunga**	**4.71**	**211**			**Pn**	**21 13 13.6**	**+0.8**
AC01	**Pan de Azucar**	**5.05**	**228**			**Pn**	**21 13 15.7**	**-0.8**
PB12	**IPOC Station P**	**5.53**	**318**			**Pn**	**21 13 21.0**	**-1.6**
GO03	**Copiap**	**5.89**	**215**			**Pn**	**21 13 26.0**	**-1.0**
GO03	**Copiap**	**5.89**	**215**	*i* P		**Pn**	**21 13 26.3**	**-0.7**
ACLC	**CERRO LA CRUZ**	**6.62**	**184**	*i* P		**Pn**	**21 13 37.3**	**+0.9**
LPAZ	**La Paz**	**6.67**	**346**	P		**Pn**	**21 13 38.2**	**+0.7**
	comp=Z,5.2nm,0.3s,baz=237,slow=3.3,SNR=64							
LPAZ				S		**S**	**21 14 53.2**	**-1.6**
	comp=Z,1.2nm,0.3s,baz=79,slow=19,SNR=11							
LPAZ	**La Paz**	**6.67**	**346**			**Pn**	**21 13 38.5**	**+1.0**
LPAZ	**La Paz**	**6.67**	**346**	*e*P		**Pn**	**21 13 38.4**	**+0.9**
LPAZ				*e*S		**S**	**21 14 52.9**	**-1.9**
LPAZ	**La Paz**	**6.67**	**346**	*e*P		**Pn**	**21 13 38.4**	**+0.9**
LPAZ				*e*S		**S**	**21 14 52.9**	**-1.9**
AC04	**Llanos de Chal**	**6.82**	**217**			**Pn**	**21 13 37.4**	**-1.4**
AGUA	**GUANDACOL**	**6.92**	**195**	*i* P		**Pn**	**21 13 40.2**	**+0.2**
AGUA				IAML			21 15 04.8	
	comp=Z,39nm,0.9s							
AC05	**El Transito**	**6.94**	**209**			**Pn**	**21 13 39.8**	**-0.6**
APLL	**PUNTA DE LOS L**	**7.57**	**181**	*i* P		**Pn**	**21 13 47.0**	**-1.4**
AROD	**Rodeo**	**7.83**	**200**	*i* P		**Pn**	**21 13 52.3**	**+0.4**
CO01	**Juntas del Tor**	**7.87**	**204**			**Pn**	**21 13 52.9**	**+0.5**
ACCO	**Cerro Coronel**	**8.11**	**196**	*i* P		**Pn**	**21 13 54.9**	**-0.6**
ACCO				IAML			21 15 27.5	
	comp=Z,35nm,0.6s							
GO04	**Tololo Observa**	**8.32**	**207**			**Pn**	**21 13 56.9**	**-1.2**
GO04	**Tololo Observa**	**8.32**	**207**	*i* P		**Pn**	**21 13 57.9**	**-0.2**
SIV	**San Ignacio**	**8.45**	**38**	P		**Pn**	**21 13 58.9**	**-0.8**
	comp=Z,29nm,0.3s,baz=230,slow=12,SNR=354							
TCA	**Tanti**	**8.67**	**169**	*i* P		**Pn**	**21 14 01.6**	**-0.8**
CO03	**El Pedregal**	**8.87**	**204**			**Pn**	**21 14 03.6**	**-1.3**
CFA	**Coronel Fontan**	**8.92**	**190**	P		**Pn**	**21 14 04.2**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=50,slow=17,SNR=49							
CFA				S		**S**	**21 15 39.0**	**-7.3**
	comp=Z,12nm,0.3s,baz=299,slow=22,SNR=18							
CPUP	**Villa Florida**	**9.01**	**115**	P		**Pn**	**21 14 06.1**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=314,slow=14,SNR=7.6							
CPUP	**Villa Florida**	**9.01**	**115**			**Pn**	**21 14 06.8**	**+0.2**
MRA	**San Martin**	**9.61**	**176**	*i* P		**Pn**	**21 14 13.1**	**-1.3**
ASAL	**Salagasta**	**9.99**	**192**	*i* P		**Pn**	**21 14 18.6**	**-0.5**
PTLB	**Pontes e Lacer**	**10.05**	**45**	*e*P		**Pn**	**21 14 19.2**	**-0.8**
PTLB	**Pontes e Lacer**	**10.05**	**45**	*e*P		**Pn**	**21 14 19.2**	**-0.8**
ARCO	**CERRO ARCO**	**10.25**	**192**	*i* P		**Pn**	**21 14 22.8**	**+0.2**
AQDB	**Aquidauana**	**10.25**	**79**	*e*P		**Pn**	**21 14 23.1**	**+0.6**
AQDB	**Aquidauana**	**10.25**	**79**	*e*P		**Pn**	**21 14 23.1**	**+0.6**
AAGR	**Agrelo**	**10.47**	**191**	*i* P		**Pn**	**21 14 24.9**	**-0.4**
VA03	**San Esteban**	**10.58**	**199**			**Pn**	**21 14 27.5**	**+0.9**
ROC1	**El Roble**	**10.92**	**201**			**Pn**	**21 14 31.6**	**+0.5**
PEL	**Peldehue**	**10.97**	**199**	Pn		**Pn**	**21 14 32.5**	**+0.9**
MT02	**Curacav**	**11.22**	**201**			**Pn**	**21 14 33.5**	**-1.2**
VILB	**Vilhena**	**11.44**	**32**	*e*P		**Pn**	**21 14 38.5**	**+0.8**
VILB	**Vilhena**	**11.44**	**32**	*e*P		**Pn**	**21 14 38.5**	**+0.8**
MT01	**Popeta**	**11.81**	**200**			**Pn**	**21 14 42.4**	**+0.3**
SALV	**Santo Antonio**	**12.24**	**58**	*e*P		**Pn**	**21 14 47.3**	**-0.2**
SALV	**Santo Antonio**	**12.24**	**58**	*e*P		**Pn**	**21 14 47.3**	**-0.2**
BO02	**Sierra Bellavi**	**12.54**	**197**			**Pn**	**21 14 51.8**	**+0.5**
TRCB	**Terra Rica**	**12.73**	**93**	*e*P		**Pn**	**21 14 53.7**	**-0.1**
TRCB	**Terra Rica**	**12.73**	**93**	*e*P		**Pn**	**21 14 53.7**	**-0.1**
PTGB	**Pitanga**	**13.30**	**101**	*e*P		**P**	**21 15 01.8**	**-0.9**
PTGB	**Pitanga**	**13.30**	**101**	*e*P		**P**	**21 15 01.8**	**-0.9**
C2SB	**Chapadao do Su**	**13.33**	**75**	*e*P		**P**	**21 15 02.5**	**-0.4**
C2SB	**Chapadao do Su**	**13.33**	**75**	*e*P		**P**	**21 15 02.5**	**-0.4**
PCMB	**Pacaembu**	**14.11**	**88**	*e*P		**Pn**	**21 15 10.8**	**+0.2**
PCMB	**Pacaembu**	**14.11**	**88**	*e*P		**Pn**	**21 15 10.8**	**+0.2**
SAML	**Samuel**	**14.12**	**13**	P		**Pn**	**21 15 11.2**	**+0.4**
SAML	**Samuel**	**14.12**	**13**	*e*P		**Pn**	**21 15 10.4**	**-0.3**
SAML	**Samuel**	**14.12**	**13**	*e*P		**Pn**	**21 15 10.4**	**-0.3**
BI02	**San Fabin de**	**14.44**	**196**	P		**P**	**21 15 16.0**	**+0.8**
PLTB	**Pedras Altas**	**14.48**	**131**	*e*P		**Pn**	**21 15 14.4**	**-0.7**
PLTB	**Pedras Altas**	**14.48**	**131**	*e*P		**Pn**	**21 15 14.4**	**-0.7**
NNA	**Nana**	**14.62**	**316**	P		**P**	**21 15 18.4**	**+1.1**
	comp=Z,1.8nm,0.3s,baz=146,slow=11,SNR=6.7							
NNA	**Nana**	**14.62**	**316**	P		**P**	**21 15 18.2**	**+0.9**
ITRB	**Iturama**	**15.30**	**81**	*e*P		**P**	**21 15 24.7**	**0.0**
ITRB	**Iturama**	**15.30**	**81**	*e*P		**P**	**21 15 24.7**	**0.0**
ARAG	**Araguaiana, MT**	**15.50**	**66**	*e*P		**P**	**21 15 26.5**	**-0.4**
ARAG	**Araguaiana, MT**	**15.50**	**66**	*e*P		**P**	**21 15 26.5**	**-0.4**
FRTB	**Fartura**	**15.54**	**95**	*e*P		**P**	**21 15 27.4**	**0.0**
FRTB	**Fartura**	**15.54**	**95**	*e*P		**P**	**21 15 27.4**	**0.0**
CLDB	**Colider**	**15.62**	**42**	*e*P		**P**	**21 15 27.2**	**-1.1**
CLDB	**Colider**	**15.62**	**42**	*e*P		**P**	**21 15 27.2**	**-1.1**
BB19B	**Bebedouro**	**16.71**	**87**	*e*P		**P**	**21 15 40.4**	**+0.2**
BB19B	**Bebedouro**	**16.71**	**87**	*e*P		**P**	**21 15 40.4**	**+0.2**
PET01	**Itanhaem-SP**	**17.64**	**99**	*e*P		**P**	**21 15 50.5**	**+0.3**
PET01	**Itanhaem-SP**	**17.64**	**99**	*e*P		**P**	**21 15 50.5**	**+0.3**
IPMB	**Ipameri, GO**	**17.74**	**78**	*e*P		**P**	**21 15 51.2**	**-0.3**
IPMB	**Ipameri, GO**	**17.74**	**78**	*e*P		**P**	**21 15 51.2**	**-0.3**
VAO	**Valinhos**	**17.94**	**94**	*e*P		**P**	**21 15 53.8**	**+0.2**
VAO	**Valinhos**	**17.94**	**94**	*e*P		**P**	**21 15 53.8**	**+0.2**
PLCA	**Paso Flores**	**18.22**	**190**	P		**P**	**21 15 57.0**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=12,slow=12,SNR=7.9							
PLCA	**Paso Flores**	**18.22**	**190**	P		**P**	**21 15 56.1**	**-0.4**
BDFB	**Brasilia**	**18.79**	**71**	P		**P**	**21 16 02.8**	**-0.1**
	comp=Z,6.7nm,0.3s,baz=248,slow=11,SNR=134							
BDFB	**Brasilia**	**18.79**	**71**	P		**P**	**21 16 02.8**	**-0.1**
NPGB	**Novo Progresso**	**18.95**	**36**	*e*P		**P**	**21 16 02.7**	**-1.9**
NPGB	**Novo Progresso**	**18.95**	**36**	*e*P		**P**	**21 16 02.7**	**-1.9**
PARB	**Paraibuna**	**19.16**	**96**	*e*P		**P**	**21 16 06.6**	**-0.2**
PARB	**Paraibuna**	**19.16**	**96**	*e*P		**P**	**21 16 06.6**	**-0.2**
ATAH	**Atahualpa**	**19.36**	**322**	P		**P**	**21 16 11.3**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=196,slow=6.4,SNR=4.2							
BSCB	**Bom Sucesso**	**20.18**	**89**	*e*P		**P**	**21 16 17.1**	**-0.6**
BSCB	**Bom Sucesso**	**20.18**	**89**	*e*P		**P**	**21 16 17.1**	**-0.6**
PEXB	**Peixe**	**20.28**	**61**	*e*P		**P**	**21 16 18.1**	**-0.7**
PEXB	**Peixe**	**20.28**	**61**	*e*P		**P**	**21 16 18.1**	**-0.7**
MAN01	**Angra dos Reis**	**20.71**	**95**	*e*P		**P**	**21 16 22.8**	**-0.5**
MAN01	**Angra dos Reis**	**20.71**	**95**	*e*P		**P**	**21 16 22.8**	**-0.5**
VAS01	**Vassouras-RJ**	**21.24**	**93**	*e*P		**P**	**21 16 28.9**	**+0.1**
VAS01	**Vassouras-RJ**	**21.24**	**93**	*e*P		**P**	**21 16 28.9**	**+0.1**
MC01	**Montes Claros**	**22.01**	**78**	*e*P		**P**	**21 16 34.8**	**-1.4**
MC01	**Montes Claros**	**22.01**	**78**	*e*P		**P**	**21 16 34.8**	**-1.4**
JANB	**Januaria**	**22.28**	**74**	*e*P		**P**	**21 16 37.7**	**-0.9**
JANB	**Januaria**	**22.28**	**74**	*e*P		**P**	**21 16 37.7**	**-0.9**
SMTB	**Santa Maria do**	**22.78**	**56**	*e*P		**P**	**21 16 42.1**	**-1.0**
SMTB	**Santa Maria do**	**22.78**	**56**	*e*P		**P**	**21 16 42.1**	**-1.0**
PTGA	**Pitinga**	**22.82**	**17**	P		**P**	**21 16 42.4**	**-1.1**
	comp=Z,4.7nm,0.7s,baz=196,slow=11,SNR=12							
PTGA	**Pitinga**	**22.82**	**17**	P		**P**	**21 16 42.8**	**-0.7**
PTGA				IAmb		IAmb	21 16 43.4	
	comp=Z,9.6nm,0.9s							
PTGA	**Pitinga**	**22.82**	**17**	*e*P		**P**	**21 16 42.2**	**-1.3**
PTGA	**Pitinga**	**22.82**	**17**	*e*P		**P**	**21 16 42.2**	**-1.3**
PRPB	**Paraupebas**	**23.02**	**47**	*e*P		**P**	**21 16 43.7**	**-1.7**
PRPB	**Paraupebas**	**23.02**	**47**	*e*P		**P**	**21 16 43.7**	**-1.7**
MALB	**Monte Alegre**	**23.94**	**31**	*e*P		**P**	**21 16 52.3**	**-1.3**
MALB	**Monte Alegre**	**23.94**	**31**	*e*P		**P**	**21 16 52.3**	**-1.3**
SJMB	**Sao Joao De Ma**	**23.95**	**85**	*e*P		**P**	**21 16 53.0**	**-0.8**
SJMB	**Sao Joao De Ma**	**23.95**	**85**	*e*P		**P**	**21 16 53.0**	**-0.8**
BSFB	**Barra de Sao F**	**24.23**	**85**	*e*P		**P**	**21 16 55.3**	**-1.0**
BSFB	**Barra de Sao F**	**24.23**	**85**	*e*P		**P**	**21 16 55.3**	**-1.0**
RIB01	**Linhares ES**	**24.54**	**87**	*e*P		**P**	**21 16 58.0**	**-1.1**
RIB01	**Linhares ES**	**24.54**	**87**	*e*P		**P**	**21 16 58.0**	**-1.1**
RUSC	**La Rusia**	**29.24**	**346**	P		**P**	**21 17 41.4**	**-0.1**
EFI	**East Falkland**	**29.55**	**169**	P		**P**	**21 17 44.1**	**+0.8**
RCBR	**Riachuelo**	**33.94**	**65**	P		**P**	**21 18 21.8**	**-0.2**
	comp=Z,12nm,0.5s,baz=230,slow=8.4,SNR=14							
RCBR	**Riachuelo**	**33.94**	**65**	P		**P**	**21 18 21.5**	**-0.6**
FDF	**Fort de France**	**37.65**	**8**	P		**P**	**21 18 52.7**	**-0.7**
MTO3	**Montecristo**	**43.25**	**327**	P		**P**	**21 19 40.8**	**+1.4**
MTO3				IAmb		IAmb	21 19 41.8	
	comp=Z,10nm,0.8s							
TEIG	**Tepich**	**47.78**	**332**	P		**P**	**21 20 14.9**	**+0.4**
TEIG				IAmb		IAmb	21 20 16.4	
	comp=Z,24nm,1.2s							
VNA3	**Neumayer Olymp**	**58.12**	**161**	P		**P**	**21 21 30.6**	**+1.3**
VNA1	**Neumayer--Stat**	**58.30**	**161**	P		**P**	**21 21 32.4**	**+1.9**
VNA2	**Neumayer--Watz**	**58.68**	**161**	P		**P**	**21 21 34.6**	**+1.5**
	baz=299,slow=8.2							
V55A	**Taylorsville**	**59.98**	**346**	P		**P**	**21 21 43.2**	**+0.8**
V55A				IAmb		IAmb	21 21 44.1	
	comp=Z,12nm,0.7s							
SNAA	**Sanae**	**60.31**	**161**	P		**P**	**21 21 45.4**	**+1.0**
SNAA	**Sanae**	**60.31**	**161**	P		**P**	**21 21 45.3**	**+1.0**
	comp=Z,5.9nm,0.8s,baz=287,slow=8.7,SNR=38							
SNAA	**Sanae**	**60.31**	**161**	P		**P**	**21 21 45.3**	**+1.0**
SNAA				IAmb		IAmb	21 21 46.5	
	comp=Z,6.3nm,0.9s							
U54A	**Nelsons Funny**	**60.76**	**346**	P		**P**	**21 21 48.2**	**+0.5**
U54A				IAmb		IAmb	21 21 49.5	
	comp=Z,12nm,0.9s							
TXAR	**Lajitas Array**	**63.01**	**324**	P		**P**	**21 22 02.6**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=153,slow=7.4,SNR=7.1							
TXAR	**Lajitas Array**	**63.01**	**324**	P		**P**	**21 22 03.0**	**+0.1**
CCM	**Cathedral Cave**	**64.86**	**339**	P		**P**	**21 22 14.8**	**+0.1**
CCM				IAmb		IAmb	21 22 15.3	
	comp=Z,8.3nm,0.7s							
S39A	**Bolivar**	**65.27**	**337**	P		**P**	**21 22 17.5**	**+0.3**
S39A				IAmb		IAmb	21 22 18.3	
	comp=Z,7.3nm,0.8s							
MNTX	**Cornudas Mount**	**65.77**	**324**	P		**P**	**21 22 20.9**	**+0.2**
K58A	**Earlville**	**65.78**	**353**	P		**P**	**21 22 21.4**	**+1.0**
K58A				IAmb		IAmb	21 22 24.9	
	comp=Z,8.4nm,0.8s							
MSTX	**Muleshoe**	**66.20**	**327**	P		**P**	**21 22 24.0**	**+0.6**
MSTX				IAmb		IAmb	21 22 25.3	
	comp=Z,10nm,0.8s							
J59A	**Piesco**	**66.35**	**354**	P		**P**	**21 22 24.9**	**+0.9**
J59A				IAmb		IAmb	21 22 28.8	
	comp=Z,8.6nm,0.8s							
LIC	**Lamto**	**66.57**	**72**	*e*P		**P**	**21 22 26.4**	**+0.3**
	comp=Z,19nm,0.7s							
TIC	**Toumodi**	**66.78**	**72**	*e*P		**P**	**21 22 23.2**	**-4.2**
KIC	**Kosan Boka**	**66.89**	**72**	*e*P		**P**	**21 22 26.5**	**-1.6**
	comp=Z,3.0nm,0.4s							
DBIC	**Dimbokro**	**66.93**	**72**	P		**P**	**21 22 27.2**	**-1.1**
	comp=Z,11nm,0.8s,baz=216,slow=7.6,SNR=12							
DBIC	**Dimbokro**	**66.93**	**72**	P		**P**	**21 22 27.4**	**-1.0**
LMN	**Caledonia Moun**	**68.33**	**1**	P		**P**	**21 22 36.7**	**+0.4**
LMN				IAmb		IAmb	21 22 50.1	
	comp=Z,7.2nm,1.1s							
ANMO	**Albuquerque**	**68.84**	**325**	P		**P**	**21 22 41.4**	**+1.4**
E62A	**Clayton Lake**	**69.14**	**358**	P		**P**	**21 22 42.4**	**+1.0**
D62A	**Allapoint, AI**	**69.59**	**358**	P		**P**	**21 22 44.5**	**+0.5**
D62A				IAmb		IAmb	21 22 58.4	
	comp=Z,19nm,1.5s							
BATG	**Bathurst New B**	**69.74**	**0**	P		**P**	**21 22 45.8**	**+0.8**
BATG				IAmb		IAmb	21 22 48.9	
	comp=Z,12nm,1.2s							
SDCO	**Great Sand Dun**	**70.54**	**328**	P		**P**	**21 22 51.4**	**+1.0**
KNB	**Kanab**	**73.82**	**323**	P		**P**	**21 23 10.9**	**+1.2**
SRU	**San Rafael Swe**	**74.12**	**326**	P		**P**	**21 23 12.8**	**+1.4**
MTPU	**Mount Pierson**	**74.21**	**324**	P		**P**	**21 23 13.3**	**+1.1**
SYO	**Syowa Base**	**74.48**	**159**	ǁ *e*P		**P**	**21 23 12.8**	**0.0**
SYO	**Syowa Base**	**74.48**	**159**	ǁ *e*P		**P**	**21 23 14.0**	**+1.2**
MSU	**Marysvale**	**74.55**	**324**	P		**P**	**21 23 15.8**	**+1.9**
PSUT	**Pine Spring**	**75.48**	**323**	P		**P**	**21 23 21.0**	**+1.8**
TOA0	**Torodi Ar. Sit**	**75.65**	**69**	P		**P**	**21 23 19.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**75.65**	**69**	P		**P**	**21 23 19.2**	**-1.2**
	comp=Z,5.3nm,0.4s,baz=261,slow=5.7,SNR=124							
TORD				pP		**pP**	**21 24 14.7**	**-2.3**
	comp=Z,2.6nm,0.7s,baz=255,slow=5.7,SNR=2.0							
TORD	**Torodi Ar. Bea**	**75.65**	**69**	P		**P**	**21 23 19.4**	**-1.1**
TPNV	**Topopah Spring**	**75.73**	**321**	P		**P**	**21 23 22.6**	**+2.0**
SUR	**Sutherland**	**75.95**	**119**	P		**P**	**21 23 22.1**	**0.0**
R11A	**Troy Canyon, C**	**76.31**	**322**	P		**P**	**21 23 25.3**	**+1.4**
PD31	**Pinedale Array**	**76.39**	**329**	P		**P**	**21 23 24.6**	**+0.3**
PDAR	**Pinedale Array**	**76.39**	**329**	P		**P**	**21 23 25.1**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=156,slow=7.5,SNR=4.8							
SPUT	**South Promonto**	**76.73**	**326**	P		**P**	**21 23 27.6**	**+1.5**
BGU	**Big Grassy Mou**	**76.75**	**326**	P		**P**	**21 23 27.0**	**+0.7**
TSUM	**Tsumeb**	**77.48**	**106

EAZ	**Earnscleugh**	**1.86**	**82**	P	**Pn**	**21 45 03.9**	**+1.3**
EAZ				S	**Sn**	**21 45 25.9**	**-0.2**
SYZ	**Scrubby Hill**	**1.99**	**122**	P	**Pb**	**21 45 06.5**	**-0.5**
JCZ	**Jackson Bay**	**2.06**	**47**	P	**Pn**	**21 45 05.7**	**+0.1**
TUZ	**Tuapeka**	**2.10**	**103**	P	**Pb**	**21 45 08.2**	**-0.8**
LBZ	**Lake Benmore**	**2.71**	**67**	P	**Pn**	**21 45 14.3**	**-0.1**
LBZ	**Lake Benmore**	**2.71**	**67**		**Pn**	**21 45 14.7**	**+0.3**
LBZ				Pg	**Pg**	**21 45 23.9**	**+1.0**
HHSZ	**Highcliff Hill**	**2.76**	**99**	P	**Pn**	**21 45 16.8**	**+1.8**
ODZ	**Otahua Downs**	**2.82**	**82**	P	**Pn**	**21 45 16.1**	**+0.2**
ODZ	**Otahua Downs**	**2.82**	**82**		**Pn**	**21 45 16.1**	**+0.2**
FOZ	**Fox Glacier**	**2.98**	**50**	P	**Pn**	**21 45 18.5**	**+0.5**
FOZ	**Fox Glacier**	**2.98**	**50**	Pn	**Pn**	**21 45 19.3**	**+1.3**
RPZ	**Rata Peaks**	**3.59**	**62**	Pn	**Pn**	**21 45 25.5**	**-0.9**
	47nm,0.3s,baz=256,slow=3.1,SNR=167						
RPZ				Sn	**Sn**	**21 46 10.4**	**+1.6**
	58nm,0.3s,baz=342,slow=20,SNR=7.0						
RPZ	**Rata Peaks**	**3.59**	**62**	P	**Pn**	**21 45 25.8**	**-0.6**
RPZ	**Rata Peaks**	**3.59**	**62**		**Pn**	**21 45 27.2**	**+0.7**
RPZ					**Sn**	**21 46 07.4**	**-1.4**
OXZ	**Oxford**	**4.40**	**62**	P	**Pn**	**21 45 37.6**	**+0.1**
OXZ				S	**Sn**	**21 46 27.0**	**-1.8**
OXZ	**Oxford**	**4.40**	**62**		**Pn**	**21 45 36.9**	**-0.7**
INZ	**Inchbonnie**	**4.40**	**53**	P	**Pn**	**21 45 37.5**	**-0.1**
MQZ	**McQueen's Vall**	**4.62**	**69**	P	**Pn**	**21 45 41.1**	**+0.6**
MQZ	**McQueen's Vall**	**4.62**	**69**		**Pn**	**21 45 41.0**	**+0.5**
AKCZ	**Akaroa Harbour**	**4.72**	**72**	P	**Pn**	**21 45 43.3**	**+1.3**
LTZ	**Lake Taylor**	**4.84**	**59**		**Pn**	**21 45 44.5**	**+0.7**
AMCZ	**Amberley**	**4.86**	**63**	P	**Pn**	**21 45 43.4**	**-0.5**
OKCZ	**Okains Bay**	**4.88**	**71**	P	**Pn**	**21 45 45.3**	**+1.1**
GVZ	**Greta Valley S**	**5.21**	**63**	P	**Pn**	**21 45 47.6**	**-1.1**
DSZ	**Dennistoun Nort**	**5.28**	**46**	P	**Pn**	**21 45 48.8**	**-0.9**
KHZ	**Kahutara**	**5.82**	**60**	P	**Pn**	**21 45 57.9**	**+0.8**
KHZ	**Kahutara**	**5.82**	**60**	Pn	**Pn**	**21 45 58.2**	**+1.2**
THZ	**Tophouse**	**5.85**	**52**	P	**Pn**	**21 45 57.8**	**+0.2**
THZ	**Tophouse**	**5.85**	**52**		**Pn**	**21 45 58.1**	**+0.5**
THZ				Sn	**Sn**	**21 47 02.8**	**-1.9**
QRZ	**Quartz Range**	**6.33**	**44**	P	**Pn**	**21 46 04.5**	**+0.5**
QRZ	**Quartz Range**	**6.33**	**44**		**Pn**	**21 46 03.6**	**-0.4**
QRZ					**Sn**	**21 47 12.0**	**-4.2**
NNZ	**Nelson**	**6.48**	**51**	P	**Pn**	**21 46 06.3**	**+0.1**
NNZ	**Nelson**	**6.48**	**51**	Pn	**Pn**	**21 46 06.2**	**0.0**
NNZ				Sn	**Sn**	**21 47 17.5**	**-2.6**
TUWZ	**Tuamarina**	**6.66**	**55**	P	**Pn**	**21 46 11.1**	**+2.6**
TUWZ	**Tuamarina**	**6.66**	**55**		**Pn**	**21 46 11.2**	**+2.6**
TUWZ				Sn	**Sn**	**21 47 22.2**	**-2.3**
TCW	**Tory Channel**	**6.99**	**55**	P	**Pn**	**21 46 16.3**	**+3.1**
DUWZ	**D'Urville Isla**	**7.07**	**51**	P	**Pn**	**21 46 15.4**	**+1.2**
SNZO	**South Karori**	**7.18**	**57**	Pn	**Pn**	**21 46 16.8**	**+1.1**
BHW	**Baring Head**	**7.22**	**58**	Pn	**Pn**	**21 46 17.7**	**+1.4**
PLWZ	**Palliser**	**7.35**	**61**	Pn	**Pn**	**21 46 19.8**	**+1.7**
PLWZ				Sn	**Sn**	**21 47 40.8**	**-0.8**
MSWZ	**Moikau Station**	**7.44**	**60**	P	**Pn**	**21 46 20.1**	**+0.7**
MSWZ	**Moikau Station**	**7.44**	**60**	Pn	**Pn**	**21 46 19.9**	**+0.5**
CAW	**Cannon Point**	**7.52**	**57**	P	**Pn**	**21 46 22.4**	**+2.0**
KIW	**Kapiti Island**	**7.58**	**55**	P	**Pn**	**21 46 22.8**	**+1.5**
HOWZ	**Holdsworth Sta**	**7.91**	**58**	P	**Pn**	**21 46 27.8**	**+2.0**
MRZ	**Mangatainoka R**	**8.10**	**56**	P	**Pn**	**21 46 29.0**	**+0.6**
NBEZ	**Newall Road No**	**8.18**	**43**	P	**Pn**	**21 46 29.6**	**+0.1**
KHEZ	**Kahui Hut**	**8.23**	**44**	P	**Pn**	**21 46 30.7**	**+0.4**
BFZ	**Birch Farm**	**8.48**	**59**	Pn	**Pn**	**21 46 34.3**	**+0.7**
BFZ				Sn	**Sn**	**21 48 05.9**	**-3.5**
VRZ	**Vera Road**	**8.73**	**46**	P	**Pn**	**21 46 38.9**	**+1.9**
PKVZ	**Pokaka**	**8.91**	**49**	P	**Pn**	**21 46 41.4**	**+1.8**
FWVZ	**Far West T-bar**	**9.05**	**49**	P	**Pn**	**21 46 43.7**	**+2.1**
TWVZ	**Taurewa**	**9.12**	**48**	P	**Pn**	**21 46 44.2**	**+1.7**
NGZ	**Ngauruhoe**	**9.13**	**49**	P	**Pn**	**21 46 45.2**	**+2.5**
WTVZ	**West Tongariro**	**9.17**	**49**	P	**Pn**	**21 46 45.4**	**+2.3**
HIZ	**Hauiti**	**9.25**	**44**	P	**Pn**	**21 46 44.7**	**+0.6**
HIZ	**Hauiti**	**9.25**	**44**	Pn	**Pn**	**21 46 44.9**	**+0.7**
PXZ	**Pawanui**	**9.26**	**57**	P	**Pn**	**21 46 45.4**	**+1.2**
BKZ	**Black Stump Fm**	**9.62**	**52**	Pn	**Pn**	**21 46 52.5**	**+3.2**
TLZ	**Tolley Road**	**9.73**	**46**	P	**Pn**	**21 46 52.2**	**+1.4**
TOZ	**Tahuroa Road**	**10.18**	**43**	P	**Pn**	**21 46 58.3**	**+1.5**
AWAZ	**Awhitu Peninsu**	**10.33**	**38**	P	**Pn**	**21 46 59.1**	**+0.2**
LIRZ	**Lichensteins R**	**10.41**	**47**	P	**Pn**	**21 46 58.6**	**-1.4**
WTAZ	**Waiatarua**	**10.41**	**37**	P	**Pn**	**21 47 00.7**	**+0.7**
MKAZ	**Moumakai**	**10.53**	**40**	P	**Pn**	**21 47 02.7**	**+1.1**
MBAZ	**Motutapu North**	**10.69**	**38**	P	**Pn**	**21 47 04.8**	**+0.9**
WCZ	**Waipu Caves**	**11.17**	**34**	P	**Pn**	**21 47 10.2**	**-0.2**
OUZ	**Omahuta**	**11.54**	**29**	P	**Pn**	**21 47 15.3**	**-0.2**
OUZ	**Omahuta**	**11.54**	**29**	Pn	**Pn**	**21 47 15.2**	**-0.2**
WRA	**Warramunga Arr**	**36.88**	**303**	P	**P**	**21 51 39.3**	**-0.2**
	1.1nm,0.3s,baz=136,slow=8.1,SNR=11						
H01W1	**Cape Leeuwin H**	**40.85**	**266**	T	T	22 35 33.2	
	baz=121,slow=75,SNR=916						
H01W2	**Cape Leeuwin H**	**40.86**	**266**	T	T	22 35 33.9	
	baz=121,slow=75,SNR=1366						
H01W3	**Cape Leeuwin H**	**40.87**	**266**	T	T	22 35 34.5	
	baz=121,slow=75,SNR=1102						
H08S2	**Diego Garcia H**	**87.55**	**262**	T	T	23 33 47.2	
	baz=136,slow=76,SNR=205						
H08S1	**Diego Garcia H**	**87.56**	**262**	T	T	23 33 49.0	
	baz=136,slow=76,SNR=186						
H08S3	**Diego Garcia H**	**87.56**	**262**	T	T	23 33 48.6	
	baz=136,slow=76,SNR=212						
TORD	**Torodi Ar. Bea**	**145.33**	**206**	PKPbc	**PKPdf**	**22 04 09.7**	**+0.7**
	2.4nm,0.4s,baz=140,slow=2.1,SNR=41						
TORD	**Torodi Ar. Bea**	**145.33**	**206**		**PKPdf**	**22 04 09.6**	**+0.6**
BRTR	**Keskin Array B**	**145.38**	**277**	PKPbc	**PKPab**	**22 04 09.8**	**+1.2**
	1.3nm,0.7s,baz=141,slow=5.4,SNR=9.4						
ARCES	**ARCESS Array B**	**149.12**	**335**	PKPbc	**PKPbc**	**22 04 18.5**	**+0.6**
	2.1nm,0.7s,baz=57,slow=4.5,SNR=9.2						
ARCES	**ARCESS Array B**	**149.12**	**335**		**PKPbc**	**22 04 18.3**	**+0.4**
AKASG	**Malin Array Be**	**151.44**	**296**	PKPbc	**PKiKP**	**22 04 24.9**	**+0.5**
	1.2nm,0.5s,baz=80,slow=2.4,SNR=5.8						
FINES	**FINESS Array B**	**152.22**	**319**	PKPbc	**PKiKP**	**22 04 26.0**	**+0.3**
	1.5nm,0.5s,baz=90,slow=3.9,SNR=16						

*DRS **18** 22:43:14.5±0.0, 42°.94N×47°.19E, h24km*
*NORS **18** 22:43:15.5±0.0, 42°.94N×47°.24E, h8km, MPVA3.5*
*MOS **18** 22:43:15.1±0.0, 42°.97N×47°.28E, h7km, MPVA3.7*
ISC 18 22:43:16.5±1.1, 43°.02N±0°.03×47°.27E±0°.02, h4km±9km, n33,σ1°.14/58, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAK	**Makhachkala**	**0.18**	**108**	*e*Pg	**Pg**	**22 43 19.2**	**-0.9**
MAK				*e*Sg	**Sg**	**22 43 22.7**	**+0.3**
BUJR	**Buynaksk**	**0.23**	**212**	*i* Pg	**Pg**	**22 43 20.8**	**-0.1**
BUJR				*e*Sg	**Sg**	**22 43 25.0**	**+1.2**
KANR	**Karaman**	**0.24**	**42**	*e*Pg	**Pg**	**22 43 21.8**	**+0.6**
KANR				*e*Sg	**Sg**	**22 43 26.7**	**+2.4**
DBC	**Dubki**	**0.32**	**271**	*e*Pg	**Pg**	**22 43 22.8**	**+0.1**
DBC				*e*Sg	**Sb**	**22 43 28.8**	**-1.6**
KRNR	**Karanay**	**0.33**	**235**	*e*Pg	**Pg**	**22 43 22.5**	**-0.3**
KRNR				*e*Sg	**Sg**	**22 43 27.5**	**+0.4**
ARKR	**Arakani**	**0.46**	**206**	*i* Pg	**Pg**	**22 43 25.0**	**-0.4**
ARKR				*i* Sg	**Sg**	**22 43 32.0**	**+0.7**
UNCR	**Uncukul**	**0.46**	**229**	*i* Pg	**Pg**	**22 43 25.0**	**-0.4**
UNCR				*e*Sg	**Sg**	**22 43 32.0**	**+0.6**
XNZR	**Khunzakh**	**0.63**	**221**	*e*Pg	**Pg**	**22 43 28.5**	**-0.1**
XNZR				*e*Sg	**Sg**	**22 43 37.8**	**+1.0**
GNBR	**Gunib**	**0.67**	**200**	*i* Pg	**Pg**	**22 43 29.3**	**0.0**
GNBR				*e*Sg	**Sb**	**22 43 39.1**	**-1.2**
BTLR	**Botlikh**	**0.85**	**246**	*e*Pg	**Pg**	**22 43 33.0**	**+0.3**
BTLR				*e*Sg	**Sb**	**22 43 46.2**	**+0.7**
URKR	**Urkarakh**	**0.89**	**162**	*e*Pg	**Pg**	**22 43 33.1**	**-0.5**
URKR				*e*Sg	**Sb**	**22 43 47.2**	**+0.4**
KMKR	**Kumukh**	**0.89**	**188**	*i* Pg	**Pb**	**22 43 34.5**	**-0.2**
KMKR				*e*Sg	**Sb**	**22 43 47.0**	**0.0**
GROC	**Groznyy**	**1.09**	**280**	*e*Pg	**Pn**	**22 43 40.5**	**+1.9**
GROC				*e*Sg	**Sn**	**22 43 56.7**	**+2.5**
DRN	**Derbent**	**1.26**	**141**	*e*Pg	**Pn**	**22 43 40.2**	**-0.6**
DRN				*e*Sg	**Sn**	**22 43 59.1**	**+0.9**
LGD	**Lagodekhi**	**1.41**	**213**	P	**Pn**	**22 43 42.5**	**-0.4**
LGD				S	**Sg**	**22 44 02.1**	**+0.5**
LGD	**Lagodekhi**	**1.41**	**213**	*e*Pg	**Pn**	**22 43 42.4**	**-0.4**
LGD				*e*Sg	**Sb**	**22 44 01.2**	**-0.3**
KSMR	**Kasumkent**	**1.55**	**155**	*e*Pg	**Pn**	**22 43 45.0**	**+0.1**
KSMR				*e*Sg	**Sg**	**22 44 06.0**	**-0.3**
AKT	**Akhty**	**1.57**	**167**	*e*Pg	**Pn**	**22 43 45.0**	**-0.3**
AKT				*e*Sg	**Sg**	**22 44 06.7**	**-0.3**
DDFL	**Dedoflistskaro**	**1.79**	**209**	P	**Pg**	**22 43 52.0**	**+1.2**
DDFL				S	**Sg**	**22 44 17.2**	**+3.3**
TRKR	**Terskaya**	**1.98**	**292**	*e*Sg	**Sg**	**22 44 19.3**	**-0.8**
PNSH	**Pansheti**	**1.99**	**260**	P	**Pb**	**22 43 53.3**	**0.0**
PNSH				S	**Sg**	**22 44 19.3**	**-1.1**
LACR	**Lac**	**2.19**	**266**	*e*Pg	**Pn**	**22 43 55.0**	**+1.2**
LACR				*e*Sg	**Sn**	**22 44 22.2**	**+0.8**
PRTR	**Priterechnaya**	**2.30**	**290**	*e*Pn	**Pb**	**22 43 56.9**	**-1.6**
PRTR				*e*Sn	**Sb**	**22 44 27.6**	**+0.3**
KORR	**Kora**	**2.35**	**273**	*e*Pn	**Sn**	**22 44 26.4**	**+1.3**
STDR	**Stavd-Durt**	**2.37**	**280**	*e*Pn	**Pb**	**22 43 58.0**	**-1.7**
LSNR	**Lesken**	**2.53**	**277**	*e*Sn	**Sb**	**22 44 31.6**	**-2.5**
DIGR	**Digorskoe uzhe**	**2.71**	**269**	*e*Pn	**Pb**	**22 44 03.5**	**-2.1**
DIGR				*e*Sn	**Sn**	**22 44 35.1**	**+0.7**
KBZ	**Khabaz**	**3.27**	**284**	*e*Pn	**Pn**	**22 44 09.0**	**+0.6**
KBZ				*e*Sn	**Sn**	**22 44 48.1**	**+0.5**
NEY	**Neytrino**	**3.34**	**276**	*e*Pn	**Pn**	**22 44 10.6**	**+1.0**
NEY				*e*Sn	**Sn**	**22 44 50.4**	**+0.6**
BEYR	**Belyy Ugol+**	**3.39**	**289**	*e*Sn	**Sn**	**22 44 50.3**	**-0.5**
KIV1	**Kislovodsk Arr**	**3.46**	**287**	*e*Pn	**Pn**	**22 44 11.8**	**+0.6**
KIV	**Kislovodsk**	**3.46**	**287**	*e*Pn	**Pn**	**22 44 09.1**	**-2.2**
GOF	**Gofitskoye**	**3.67**	**305**	*e*Sn	**Sn**	**22 44 58.3**	**+0.6**

NNC 18 22:49:22.3±10.0, 37°.12N×70°.88E, h0km, mb3.8, mpv3.5, 3C-1D, Error ellipse: s-maj=79.3km s-min=66.2km az=170.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.46**	**23**	P	Pn	22 50 46.5	+1.2
	SNR=64						
UCH	**Uchtor**	**5.83**	**28**	P	Pn	22 50 50.9	+0.6
	SNR=18						
EKS2	**Erkin-Say**	**5.97**	**21**	P	Pn	22 50 53.5	+1.4
	SNR=6.9						
KK31	**Karatay Array**	**5.99**	**357**	⇑P	Pn	22 50 55.1	+2.9
	0.6nm,0.3s,baz=174,slow=12,SNR=12						
KK31				⇓S	Sn	22 52 02.6	+1.1
	0.7nm,0.3s,baz=183,slow=25,SNR=12						
KZA	**Kyzart**	**6.00**	**33**	P	Pn	22 50 52.0	-0.7
	SNR=6.9						
AAK	**Ala-Archa**	**6.18**	**26**	P	Pn	22 50 54.5	-0.5
	1.8nm,0.5s						
AAK				S	Sn	22 52 08.4	+2.0
	6.3nm,0.9s						
KBK	**Karagaybulak**	**6.36**	**28**	P	Pn	22 50 58.2	+0.8
	SNR=5.6						
TKM2	**Tokmak 2**	**6.84**	**31**	P	Pn	22 51 03.9	-0.2
	SNR=6.9						
TKM2	**Tokmak 2**	**6.84**	**31**	⇑P	Pn	22 51 02.1	-1.9
	4.8nm,0.6s						
TKM2				⇑S	Sn	22 52 22.0	-0.6
	2.9nm,1.1s						

IDC 18 22:51:04.9±8.5, 9°.14S×154°.29E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.5/18, mbtmp3.6/5, Error ellipse: s-maj=257.0km s-min=34.4km az=116.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.07**	**239**	P	P	22 56 01.5	-0.2
	0.7nm,0.2s,baz=63,slow=10,SNR=2.0						
ASAR	**Alice Springs**	**24.26**	**231**	P	P	22 56 24.1	+0.1
	0.3nm,0.5s,baz=66,slow=9.3,SNR=1.9						
SONM	**Songino Array**	**70.76**	**328**	P	P	23 02 22.9	-0.3
	0.6nm,0.6s,baz=128,slow=5.7,SNR=3.6						
MKAR	**Makanchi Array**	**84.55**	**319**	P	P	23 03 40.7	+0.5
	0.4nm,0.8s,baz=126,slow=3.7,SNR=3.1						
ZALV	**Zalesovo Beam**	**85.56**	**326**	P	P	23 03 44.9	-0.1
	0.5nm,0.3s,baz=117,slow=5.4,SNR=1.9						

*KRNET **18** 22:55:11.5±0.1, 39°.14N×78°.12E, mb2.5*
SOME 18 22:55:09.7, 42°.33N×80°.92E, h0km, 6C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.35**	**308**	*e*P	Pg	22 55 32.0	-3.6
	2.8nm,0.3s						
SHLS				*e*S	Sg	22 55 47.7	-5.5
	8.4nm,0.5s						
UZB	**Uzynbulak**	**1.62**	**301**	*e*P	Pg	22 55 40.9	+0.3
	1.4nm,0.2s						
UZB				*e*S	Sg	22 56 04.1	+2.5
	1.7nm,0.3s						
KPKS	**Kokpek**	**1.99**	**305**	*e*P	Pb	22 55 46.4	-0.5
	5.5nm,0.3s						
KPKS				*e*S	Sg	22 56 13.2	-0.5
	8.0nm,0.5s						
DJR	**Jarkent**	**2.16**	**338**	*e*P	Pg	22 55 50.8	-0.3
	1.1nm,0.4s						
DJR				*e*S	Sg	22 56 20.3	+1.2
	2.3nm,0.6s						
TARG	**Taragay, Kyrgy**	**2.40**	**256**	⇓*e*P	Pb	22 55 54.0	+0.1
	baz=55						
TARG				⇓*i*S	Sb	22 56 24.9	+0.7
	baz=55						
KDJ	**Kajisay**	**2.78**	**267**	⇑*e*P	Pb	22 56 00.4	0.0
	baz=47						
KDJ				⇑*i*S	Sb	22 56 36.2	+1.1
	baz=47						
KAPS	**Kapalarasan**	**3.16**	**340**	*e*P	Pb	22 56 07.4	+0.7
	0.6nm,0.4s						
KAPS				*e*S	Sg	22 56 49.7	-1.5
	1.0nm,0.3s						
ULHL	**Ulahol**	**3.47**	**270**	⇑*i*P	Pn	22 56 05.3	+0.1
	baz=36						
ULHL				⇑*i*S	Sn	22 56 44.6	-2.5
	baz=36						
BOOM	**Boomskoye usch**	**3.69**	**274**	⇑*i*P	Pn	22 56 09.6	+1.5
	baz=34						
BOOM				⇑*i*S	Sn	22 56 52.1	-0.3
	baz=34						

*IDC **18** 23:04:08.0±1.1, 41°.68S×174°.39E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.9/20, mbtmp3.9/4, ML3.5/1, MS3.4/3, Ms1 3.4/3, ms1mx3.1/23, Error ellipse: s-maj=37.1km s-min=28.5km az=58.0*
*NEIC **18** 23:04:11.7±1.8, 41°.95S±0°.05×174°.51E±0°.05, h34km±5km, Error ellipse: s-maj=8.2km s-min=4.7km az=150.0*
*WEL **18** 23:04:11.6, 42°.5S±1°×17°.4E±°, h38km±2km, M4.3/22, ML4.5/22, MLv4.3/22, Error ellipse: s-maj=0.0km s-min=0.0km az=114.0*
ISC 18 23:04:11.9±1.0, 41°.97S±0°.03×174°.52E±0°.03, h33km±3km, n104,σ1°.17/111, mb4.3/7, 1D, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.31**	**313**	P	**Pb**	**23 04 19.5**	**-0.3**
CMWZ				S	**Sn**	**23 04 25.3**	**+0.2**
CMWZ	**Cape Campbell**	**0.31**	**313**	Pn	**Pb**	**23 04 19.7**	**-0.2**
BSWZ	**Blackbirch Sta**	**0.54**	**297**	P	**Pb**	**23 04 22.8**	**-0.4**
BSWZ				S	**Sb**	**23 04 30.4**	**-0.5**
BSWZ	**Blackbirch Sta**	**0.54**	**297**	Pn	**Pb**	**23 04 22.7**	**-0.4**
BHW	**Baring Head**	**0.62**	**26**	P	**Pn**	**23 04 24.3**	**+0.1**
BHW				S	**Sb**	**23 04 32.9**	**0.0**
BHW	**Baring Head**	**0.62**	**26**		**Pn**	**23 04 24.3**	**+0.1**
SNZO	**South Karori**	**0.67**	**12**		**Pn**	**23 04 24.8**	**-0.1**
PLWZ	**Palliser**	**0.68**	**55**	P	**Pn**	**23 04 25.4**	**+0.2**
PLWZ	**Palliser**	**0.68**	**55**		**Pn**	**23 04 25.4**	**+0.2**
TUWZ	**Tuamarina**	**0.69**	**321**	P	**Pn**	**23 04 24.7**	**-0.5**
TUWZ	**Tuamarina**	**0.69**	**321**	Pn	**Pn**	**23 04 24.6**	**-0.6**
WEL	**Wellington**	**0.71**	**16**	P	**Pn**	**23 04 25.5**	**0.0**
WEL				S	**Sn**	**23 04 35.3**	**0.0**
TCW	**Tory Channel**	**0.78**	**346**	P	**Pn**	**23 04 26.1**	**-0.4**
TCW				S	**Sn**	**23 04 35.6**	**-1.3**
MSWZ	**Moikau Station**	**0.78**	**45**	P	**Pn**	**23 04 26.8**	**+0.2**
MSWZ	**Moikau Station**	**0.78**	**45**		**Pn**	**23 04 26.7**	**+0.2**
KHZ	**Kahutara**	**0.85**	**238**	P	**Pb**	**23 04 28.3**	**0.0**
KHZ	**Kahutara**	**0.85**	**238**		**Pb**	**23 04 28.5**	**+0.2**
CAW	**Cannon Point**	**0.95**	**26**	P	**Pn**	**23 04 29.2**	**+0.3**
TRWZ	**Traveller**	**1.04**	**58**	P	**Pn**	**23 04 30.2**	**0.0**
NNZ	**Nelson**	**1.13**	**311**	P	**Pn**	**23 04 31.2**	**-0.2**
NNZ	**Nelson**	**1.13**	**311**		**Pn**	**23 04 31.3**	**-0.2**
KIW	**Kapiti Island**	**1.14**	**15**	P	**Pn**	**23 04 31.9**	**+0.4**
THZ	**Tophouse**	**1.22**	**279**	P	**Pn**	**23 04 32.8**	**+0.1**
THZ	**Tophouse**	**1.22**	**279**		**Pn**	**23 04 32.8**	**+0.1**
DUWZ	**D'Urville Isla**	**1.25**	**339**	P	**Pn**	**23 04 33.2**	**+0.2**
OGWZ	**Otaki Gorge**	**1.25**	**23**	P	**Pn**	**23 04 33.3**	**+0.3**
HOWZ	**Holdsworth Sta**	**1.30**	**35**	P	**Pn**	**23 04 33.8**	**0.0**
TMWZ	**Te Maipa**	**1.34**	**51**	P	**Pn**	**23 04 34.1**	**-0.3**
GVZ	**Greta Valley S**	**1.48**	**227**	P	**Pn**	**23 04 37.2**	**+0.9**
MRZ	**Mangatainoka R**	**1.53**	**32**	P	**Pn**	**23 04 36.9**	**0.0**
TIWZ	**Tintock**	**1.57**	**41**	P	**Pn**	**23 04 37.2**	**-0.3**
CPWZ	**Castlepoint**	**1.65**	**51**	P	**Pn**	**23 04 38.5**	**0.0**
PRWZ	**Pori Road**	**1.79**	**38**	P	**Pn**	**23 04 40.3**	**-0.1**
BFZ	**Birch Farm**	**1.83**	**46**	P	**Pn**	**23 04 40.3**	**-0.7**
BFZ	**Birch Farm**	**1.83**	**46**	Pn	**Pn**	**23 04 40.3**	**-0.7**
AMCZ	**Amberley**	**1.83**	**228**	P	**Pn**	**23 04 41.8**	**+0.8**
POWZ	**Post Office Ro**	**1.83**	**31**	P	**Pn**	**23 04 41.1**	**0.0**
LTZ	**Lake Taylor**	**1.85**	**243**	P	**Pn**	**23 04 42.0**	**+0.6**
LTZ	**Lake Taylor**	**1.85**	**243**	Pn	**Pn**	**23 04 42.0**	**+0.6**
OHWZ	**Ohakea**	**1.86**	**19**	P	**Pn**	**23 04 43.4**	**+2.0**
QRZ	**Quartz Range**	**1.88**	**307**	P	**Pn**	**23 04 42.4**	**+0.8**
QRZ	**Quartz Range**	**1.88**	**307**	Pn	**Pn**	**23 04 42.5**	**+0.8**
DSZ	**Denniston Nort**	**2.04**	**275**	P	**Pn**	**23 04 44.7**	**+0.8**
OKCZ	**Okains Bay**	**2.06**	**211**	P	**Pn**	**23 04 44.4**	**+0.3**
DVHZ	**Dannevirke**	**2.08**	**37**	P	**Pn**	**23 04 43.7**	**-0.7**
ANWZ	**Angora Road**	**2.11**	**45**	P	**Pn**	**23 04 44.3**	**-0.5**
TSZ	**Takapari Road**	**2.20**	**30**	P	**Pn**	**23 04 45.9**	**-0.1**
MQZ	**McQueen's Vall**	**2.21**	**218**	P	**Pn**	**23 04 46.0**	**-0.3**
MQZ	**McQueen's Vall**	**2.21**	**218**	Pn	**Pn**	**23 04 45.9**	**-0.3**
WAZ	**Wanganui**	**2.24**	**9**	P	**Pn**	**23 04 48.7**	**+2.1**
AKCZ	**Akaroa Harbour**	**2.24**	**211**	P	**Pn**	**23 04 47.0**	**+0.3**
OXZ	**Oxford**	**2.28**	**233**	P	**Pn**	**23 04 46.9**	**-0.3**
OXZ	**Oxford**	**2.28**	**233**	Pn	**Pn**	**23 04 46.9**	**-0.3**
PRHZ	**Porangahau**	**2.33**	**44**	P	**Pn**	**23 04 47.2**	**-0.7**
WPHZ	**Waipukurau**	**2.39**	**38**	P	**Pn**	**23 04 48.2**	**-0.6**
INZ	**Inchbonnie**	**2.40**	**251**	P	**Pn**	**23 04 49.5**	**+0.6**
PNHZ	**Pukenui**	**2.41**	**32**	P	**Pn**	**23 04 48.6**	**-0.5**
NMEZ	**Namu Road**	**2.59**	**349**	P	**Pb**	**23 04 55.4**	**-2.4**
MTVZ	**Mangateitei**	**2.68**	**16**	P	**Pn**	**23 04 54.6**	**+1.9**
KRHZ	**Kereru**	**2.71**	**32**	P	**Pn**	**23 04 52.4**	**-0.7**
MOVZ	**Moawhango**	**2.72**	**21**	P	**Pn**	**23 04 53.8**	**+0.4**
BHHZ	**Black Hill Sta**	**2.74**	**26**	P	**Pn**	**23 04 53.5**	**0.0**
PKVZ	**Pokaka**	**2.75**	**14**	P	**Pn**	**23 04 54.8**	**+1.2**
KAHZ	**Kahuranaki**	**2.81**	**40**	P	**Pn**	**23 04 53.4**	**-1.1**
TUVZ	**Tukino**	**2.83**	**18**	P	**Pn**	**23 04 56.1**	**+1.2**
VRZ	**Vera Road**	**2.84**	**4**	P	**Pn**	**23 04 56.7**	**+1.8**
TWVZ	**Taurewa**	**2.98**	**14**	P	**Pn**	**23 04 57.8**	**+0.9**
KRVZ	**Karewarewa**	**2.99**	**17**	P	**Pn**	**23 04 58.4**	**+1.3**
MCHZ	**McNeill Hill**	**3.01**	**34**	P	**Pn**	**23 04 57.1**	**-0.2**
RPZ	**Rata Peaks**	**3.09**	**234**	Pn	**Pn**	**23 04 58.2**	**-0.1**
	5.5nm,0.3s,baz=193,slow=1.4,SNR=27						
RPZ				Sn	**Sn**	**23 05 32.0**	**-2.1**
	48nm,0.3s,baz=22,slow=22,SNR=29						
RPZ	

NDT	**Datong Townshi**	**1.32**	**318**	*eP*		**Pn**	**23 18 56.5**	**+0.4**
	baz=322							
NDT				*eS*		**Sb**	**23 19 14.6**	**+1.2**
	baz=322							
IRIF	**Iriomote-Funau**	**1.34**	**58**	P		**Pn**	**23 18 56.7**	**+0.3**
IRIF				*eS*		**Sb**	**23 19 13.3**	**-0.7**
SSLB	**Suanglung**	**1.42**	**277**	*eP*		**Pn**	**23 18 57.5**	**+0.1**
	baz=276							
SSLB				*eS*		**Sn**	**23 19 15.7**	**-0.4**
	baz=276							
YHNB	**Yeheng**	**1.45**	**316**	*eP*		**Pn**	**23 18 59.0**	**+1.0**
	baz=313							
TIPB	**Shuangxi**	**1.47**	**336**	*eP*		**Pn**	**23 18 59.1**	**+0.9**
	baz=344							
TIPB				*eS*		**Sn**	**23 19 17.7**	**+0.3**
	baz=344							
JKRS	**Kuro-shima**	**1.52**	**66**	P		**Pn**	**23 18 59.3**	**+0.4**
JKRS				*eS*		**Sn**	**23 19 17.5**	**-1.1**
WHP	**Taichung City**	**1.55**	**295**	*eP*		**Pn**	**23 19 01.2**	**+1.8**
	baz=288							
WHP				*eS*		**Sn**	**23 19 19.2**	**-0.3**
	baz=288							
JIJ	**Ishigaki jima**	**1.68**	**64**	P		**Pn**	**23 19 01.5**	**+0.4**
JISG	**Ishigakijimahi**	**1.92**	**60**	P		**Pn**	**23 19 04.9**	**+0.5**
JISG				*eS*		**Sn**	**23 19 27.9**	**-0.6**

*SJA **18** 23:24:58.7±1.2,20.°23S×70.°92W,h29km±7km, ML4.1, MW4.3*
*NEIC **18** 23:24:59.1±2.1,20.°24S±0.°04×71.°08W±0.°06,h25km±7km, mb3.8/3,ML4.1(GUC), Error ellipse: s-maj=8.1km s-min=5.3km az=103.0*
*IDC **18** 23:24:59.2±1.9, 19.°97S×70.°45W,h0km,mb4.0/2, mb1 3.8/4,mb1mx3.6/36,mbtmp3.8/4,ML3.4/2,Error ellipse: s-maj=51.4km s-min=18.1km az=73.0*
*GUC **18** 23:25:01.2±0.7,20.°25S×70.°92W,h35km±3km, ML3.9*

ISC 18 23:24:57.9±1.2,20.°25S±0.°02×70.°97W±0.°05,h19km±3km, n71,σ1§27/85,12C-3D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.79**	**91**	⇓*eP*		**Pn**	**23 25 14.1**	**+0.1**
TA02				*eS*		**Sg**	**23 25 24.1**	**+0.3**
TA02				IAML			23 25 24.8	
	comp=E,21μm,0.2s							
TA01	**Diego Aracena**	**0.80**	**113**	⇑*iP*		**Pn**	**23 25 14.7**	**+0.5**
TA01				*eS*		**Sn**	**23 25 25.2**	**-0.5**
TA01				IAML			23 25 27.0	
	comp=N,8μm,0.3s							
TA01	**Diego Aracena**	**0.80**	**113**	Pn		**Pn**	**23 25 14.7**	**+0.5**
TA01				Sn		**Sg**	**23 25 25.0**	**+0.7**
PSGC	**Pisagua**	**1.03**	**51**	*eP*		**Pn**	**23 25 17.7**	**+0.3**
PSGC				*eS*		**Sn**	**23 25 31.0**	**-0.3**
PSGCX	**Pisagua**	**1.03**	**51**	Pn		**Pn**	**23 25 17.7**	**+0.3**
PSGCX				Sn		**Sb**	**23 25 30.7**	**+0.3**
PSGCX	**Pisagua**	**1.03**	**51**	*iP*		**Pn**	**23 25 17.8**	**+0.4**
PSGCX				*eS*		**Sg**	**23 25 31.8**	**+0.3**
PB11	**IPOC Station P**	**1.33**	**69**	⇓*eP*		**Pb**	**23 25 22.7**	**+0.3**
PB11				*eS*		**Sb**	**23 25 39.1**	**+0.1**
PB11				IAML			23 25 44.4	
	comp=N,3μm,0.3s							
PB11	**IPOC Station P**	**1.33**	**69**	Pn		**Pb**	**23 25 22.6**	**+0.3**
PB11				Sn		**Sn**	**23 25 38.9**	**+0.1**
PB11	**IPOC Station P**	**1.33**	**69**	*iP*		**Pb**	**23 25 22.6**	**+0.3**
PB11				*eS*		**Sb**	**23 25 39.9**	**+0.8**
PB02	**IPOC Station P**	**1.46**	**137**	⇑*iP*		**Pb**	**23 25 25.6**	**+1.0**
PB02				*iS*		**Sb**	**23 25 43.0**	**+0.2**
PB02				IAML			23 25 47.2	
	comp=E,4μm,0.5s							
PB02	**IPOC Station P**	**1.46**	**137**	*iP*		**Pg**	**23 25 25.7**	**-0.4**
PB02				IAML			23 25 49.9	
	comp=Z,5μm,0.4s							
PB01	**IPOC Station P**	**1.60**	**120**	⇑*iP*		**Pb**	**23 25 27.5**	**+0.6**
PB01				*iS*		**Sb**	**23 25 46.9**	**+0.2**
PB01	**IPOC Station P**	**1.60**	**120**	Pn		**Pb**	**23 25 27.6**	**+0.8**
MNMC	**Minye Minye**	**1.71**	**50**	⇑*iP*		**Pb**	**23 25 28.8**	**-0.1**
MNMC				*eS*		**Sb**	**23 25 50.5**	**+0.4**
MNMC	**Minye Minye**	**1.71**	**50**	Pn		**Pb**	**23 25 28.6**	**-0.2**
MNMCX	**Minye Minye**	**1.71**	**50**	*iP*		**Pb**	**23 25 29.5**	**+0.6**
MNMCX				IAML			23 26 00.8	
	comp=Z,3μm,0.8s							
PB08	**IPOC Station P**	**1.71**	**87**	⇑*iP*		**Pb**	**23 25 29.1**	**+0.2**
PB08				*eS*		**Sb**	**23 25 50.2**	**-0.1**
PB08	**IPOC Station P**	**1.71**	**87**			**Pb**	**23 25 28.9**	**0.0**
PB08	**IPOC Station P**	**1.71**	**87**	*iP*		**Pb**	**23 25 29.1**	**+0.2**
PB12	**IPOC Station P**	**1.74**	**21**	⇑*iP*		**Pb**	**23 25 28.9**	**-0.5**
PB12				*eS*		**Sb**	**23 25 50.8**	**+0.1**
PB12	**IPOC Station P**	**1.74**	**21**			**Pb**	**23 25 28.8**	**-0.5**
PB12	**IPOC Station P**	**1.74**	**21**	*iP*		**Pb**	**23 25 28.8**	**-0.5**
GO01	**Chusmiza**	**1.77**	**71**	⇑*iP*		**Pb**	**23 25 29.7**	**-0.3**
GO01				*eS*		**Sb**	**23 25 52.4**	**+0.4**
GO01				IAML			23 25 54.0	
	comp=N,3μm,0.1s							
GO01	**Chusmiza**	**1.77**	**71**	Pn		**Pb**	**23 25 29.6**	**-0.3**
PB07	**IPOC Station P**	**1.78**	**146**	*eP*		**Pb**	**23 25 29.9**	**-0.2**
PB07				*eS*		**Sb**	**23 25 51.9**	**-0.2**
PB07				IAML			23 26 03.5	
	comp=E,1μm,0.4s							
PB07	**IPOC Station P**	**1.78**	**146**	Pn		**Pb**	**23 25 30.1**	**+0.1**
PB07	**IPOC Station P**	**1.78**	**146**	*iP*		**Pb**	**23 25 30.1**	**+0.1**
AP01	**Chacalluta**	**1.96**	**18**	*eP*		**Pn**	**23 25 31.4**	**+1.2**
AP01				*iS*		**Sb**	**23 25 56.0**	**-1.1**
AP01				IAML			23 26 10.3	
	comp=E,4μm,0.5s							
AP01	**Chacalluta**	**1.96**	**18**	Pn		**Pn**	**23 25 31.0**	**+0.8**
PB03	**IPOC Station P**	**2.12**	**148**	⇑*eP*		**Pb**	**23 25 34.6**	**-1.2**
PB03				*iS*		**Sn**	**23 25 59.9**	**+1.6**
PB03				IAML			23 26 13.9	
	comp=N,578nm,0.5s							
PB03	**IPOC Station P**	**2.12**	**148**	*iP*		**Pb**	**23 25 34.9**	**-0.9**
PB04	**IPOC Station P**	**2.21**	**160**	⇑*iP*		**Pb**	**23 25 35.9**	**-1.5**
PB04	**IPOC Station P**	**2.21**	**160**	Pn		**Pb**	**23 25 35.9**	**-1.5**
PB04	**IPOC Station P**	**2.21**	**160**	*iP*		**Pb**	**23 25 35.8**	**-1.5**
PB09	**IPOC Station P**	**2.23**	**134**	⇑*iP*		**Pb**	**23 25 37.6**	**-0.1**
PB09				*eS*		**Sg**	**23 26 08.8**	**-0.9**
PB09				IAML			23 26 17.2	
	comp=E,2μm,0.6s							
PB09	**IPOC Station P**	**2.23**	**134**	Pn		**Pb**	**23 25 36.9**	**-0.7**
PB09	**IPOC Station P**	**2.23**	**134**	*iP*		**Pb**	**23 25 37.5**	**-0.2**
PB09				IAML			23 26 15.8	
	comp=Z,994nm,0.4s							
PB05	**IPOC Station P**	**2.69**	**165**	*iP*		**Pn**	**23 25 41.8**	**+1.5**
PB05				*iS*		**Sn**	**23 26 10.5**	**-1.8**
PB05				IAML			23 26 35.6	
	comp=N,252nm,0.7s							
PB05	**IPOC Station P**	**2.69**	**165**	*iP*		**Pn**	**23 25 42.1**	**+1.9**
PB06	**IPOC Station P**	**2.77**	**152**	⇑*iP*		**Pn**	**23 25 43.1**	**+1.7**
PB06				*iS*		**Sn**	**23 26 16.5**	**+2.1**
PB06				IAML			23 26 43.2	
	comp=E,394nm,0.2s							
PB06	**IPOC Station P**	**2.77**	**152**	Pn		**Pn**	**23 25 43.4**	**+2.0**
PB06	**IPOC Station P**	**2.77**	**152**	*iP*		**Pn**	**23 25 43.5**	**+2.1**
PB06				IAML			23 26 32.8	
	comp=Z,502nm,1.1s							
LVC	**Limon Verde**	**3.03**	**141**	Pn		**Pb**	**23 25 49.1**	**-2.4**
	comp=Z,9.5nm,0.3s,baz=338,slow=8.5,SNR=56							
LVC				Sn		**Sb**	**23 26 25.1**	**-3.2**
	comp=Z,20nm,0.3s,baz=145,slow=23,SNR=6.8							
LVC				Lg		Lg	23 26 34.9	
	comp=Z,62nm,0.3s,baz=242,slow=23,SNR=5.8							
LVC	**Limon Verde**	**3.03**	**141**			**Pb**	**23 25 48.8**	**-2.7**
LVC	**Limon Verde**	**3.03**	**141**	*iP*		**Pb**	**23 25 49.0**	**-2.4**
PB15	**IPOC Station P**	**3.25**	**155**	Pn		**Pn**	**23 25 50.3**	**+2.2**
PB15	**IPOC Station P**	**3.25**	**155**	*iP*		**Pn**	**23 25 50.1**	**+2.0**
PB15				IAML			23 26 52.6	
	comp=Z,481nm,0.4s							
PB10	**IPOC Station P**	**3.27**	**173**	⇓*iP*		**Pn**	**23 25 49.9**	**+1.8**
PB10				*iS*		**Sn**	**23 26 28.1**	**+1.6**
PB10				IAML			23 26 32.2	
	comp=E,128nm,0.4s							
PB10	**IPOC Station P**	**3.27**	**173**	Pn		**Pn**	**23 25 49.5**	**+1.4**
PB10	**IPOC Station P**	**3.27**	**173**	*iP*		**Pn**	**23 25 50.0**	**+1.8**
LPAZ	**La Paz**	**4.78**	**35**	Pn		Pn	23 26 14.5	+5.1
	comp=E,1.2nm,0.3s,baz=222,slow=6.4,SNR=14							
LPAZ				Lg		Lg	23 27 27.7	
	baz=218,slow=12,SNR=1.3							
LPAZ	**La Paz**	**4.78**	**35**	*iP*		Pb	23 26 17.2	-4.2
GO02	**Mina Guanaco**	**5.05**	**166**	Pn		**Pn**	**23 26 15.1**	**+2.2**
YJA	**Yavi**	**5.44**	**112**	*iP*		Pb	23 26 26.3	-6.3
AC01	**Pan de Azucar**	**5.88**	**177**	Pn		**Pn**	**23 26 25.3**	**+1.2**
AC02	**Maricunga**	**6.77**	**166**	Pn		**Pn**	**23 26 39.0**	**+2.4**
AC04	**Llanos de Chal**	**7.92**	**181**	Pn		**Pn**	**23 26 52.7**	**+0.7**

SIV	**San Ignacio**	**10.32**	**67**	Pn		**Pn**	**23 27 22.1**	**-2.9**
	comp=E,0.2nm,0.3s,baz=241,slow=12,SNR=3.3							
ROC1	**El Roble**	**12.67**	**180**	Pn		**Pn**	**23 27 57.2**	**-0.2**
H03N1	**Juan Fernandez**	**14.92**	**207**	T		T	23 44 01.3	
	baz=32							
H03N2	**Juan Fernandez**	**14.92**	**207**	T		T	23 43 52.0	
	baz=32							
H03N3	**Juan Fernandez**	**14.93**	**207**	T		T	23 44 13.4	
	baz=32							
PTGA	**Pitinga**	**22.19**	**30**	P		**P**	**23 29 52.4**	**-0.8**
	comp=E,1.0nm,0.3s,baz=217,slow=16,SNR=3.7							
PTGA	**Pitinga**	**22.19**	**30**	P		**P**	**23 29 53.2**	**0.0**
PTGA				IAmb		IAmb	23 30 07.3	
	comp=Z,3.4nm,0.9s							
RUSC	**La Rusia**	**26.06**	**355**	P		**P**	**23 30 30.9**	**0.0**
TORD	**Torodi Ar. Bea**	**78.77**	**71**	P		**P**	**23 37 00.5**	**+0.7**
	comp=Z,3.1nm,1.0s,baz=247,slow=5.4,SNR=17							
H11S2	**WAKE ISLAND Hyd**	**25.80**	**279**	T		T	02 03 32.2	
	baz=102,slow=74,SNR=12							
H11S1	**WAKE ISLAND Hyd**	**25.81**	**279**	T		T	02 03 22.6	
	baz=102,slow=74,SNR=7.6							
H11S3	**WAKE ISLAND Hyd**	**25.82**	**279**	T		T	02 03 31.6	
	baz=102,slow=74,SNR=8.5							
MKAR	**Makanchi Array**	**145.71**	**33**	PKPbc		**PKiKP**	**23 44 38.4**	**-0.8**
	comp=Z,2.5nm,0.9s,baz=320,slow=3.2,SNR=14							
SONM	**Songino Array**	**152.40**	**4**	PKPbc		**PKiKP**	**23 44 56.3**	**+3.2**
	comp=Z,0.2nm,0.3s,baz=358,slow=4.3,SNR=1.9							

*GCG **18** 23:24:52.6±0.7, 12.°74N×89.°08W,h3km±999km, MD4.0*
*INET **18** 23:24:59.8, 13.°08N×89.°30W,h15km, MD3.0*
*UCR **18** 23:25:00.6±1.5, 13.°15N×89.°29W,h52km±12km, ML3.9*
*SNET **18** 23:25:00.5±1.4, 13.°15N×89.°29W,h52km±12km, ML3.9*

ISC 18 23:25:01.7±1.6,13.°13N±0.°09×89.°27W±0.°04,h42km±14km, n43,σ0§81/66,1C-2D,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.36**	**352**	*eP*		**Pn**	**23 25 10.4**	**-0.5**
LALI				*eS*		**Sn**	**23 25 17.6**	**+0.4**
LALI				IAML			23 25 17.8	
	comp=Z,5μm,0.3s							
LALI	**Alcalda de L**	**0.36**	**352**	*eP*		**Pn**	**23 25 10.4**	**-0.5**
LALI				*eS*		**Sn**	**23 25 17.6**	**+0.4**
LALI				IAML			23 25 17.8	
	comp=Z,5μm,0.3s							
LFRS	**El Faro**	**0.53**	**22**	*eP*		**Pn**	**23 25 12.6**	**-0.5**
LFRS	**El Faro**	**0.53**	**22**	*eP*		**Pn**	**23 25 12.6**	**-0.5**
SNET	**Serv Nac Est T**	**0.56**	**4**	*eP*		**Pn**	**23 25 12.7**	**-0.7**
SNET				*eS*		**Sn**	**23 25 22.1**	**+0.5**
SNET				IAML			23 25 23.2	
	comp=Z,9μm,0.3s							
SNET	**Serv Nac Est T**	**0.56**	**4**	*eP*		**Pn**	**23 25 12.7**	**-0.7**
SNET				*eS*		**Sn**	**23 25 22.1**	**+0.5**
SNET				IAML			23 25 23.2	
	comp=Z,9μm,0.3s							
UEES	**Universidad Ev**	**0.58**	**3**	*eP*		**Pn**	**23 25 13.2**	**-0.6**
UEES				*eS*		**Sn**	**23 25 23.0**	**+0.7**
UEES				IAML			23 25 25.6	
	comp=Z,9μm,0.3s							
UEES	**Universidad Ev**	**0.58**	**3**	*eP*		**Pn**	**23 25 13.2**	**-0.6**
UEES				*eS*		**Sn**	**23 25 23.0**	**+0.7**
UEES				IAML			23 25 25.6	
	comp=Z,9μm,0.3s							
BOQS	**Boqueron**	**0.60**	**359**	⇓*iP*		**Pn**	**23 25 13.7**	**-0.5**
BOQS	**Boqueron**	**0.60**	**359**	⇓*iP*		**Pn**	**23 25 13.7**	**-0.5**
LBRS	**Las Brisas**	**0.64**	**20**	*eP*		**Pn**	**23 25 14.7**	**+0.1**
LBRS	**Las Brisas**	**0.64**	**20**	*eP*		**Pn**	**23 25 14.7**	**+0.1**
PAVA	**Las Pavas**	**0.66**	**29**	*eP*		**Pn**	**23 25 14.4**	**-0.5**
PAVA				*eS*		**Sn**	**23 25 24.9**	**+0.6**
PAVA				IAML			23 25 27.9	
	comp=Z,4μm,0.4s							
PAVA	**Las Pavas**	**0.66**	**29**	*eP*		**Pn**	**23 25 14.4**	**-0.5**
PAVA				*eS*		**Sn**	**23 25 24.9**	**+0.6**
PAVA				IAML			23 25 27.9	
	comp=Z,4μm,0.4s							
CEDA	**San Andres**	**0.68**	**350**	*eP*		**Pn**	**23 25 14.3**	**-0.7**
CEDA				*eS*		**Sn**	**23 25 25.0**	**+0.5**
CEDA				IAML			23 25 34.5	
	comp=Z,7μm,0.6s							
CEDA	**San Andres**	**0.68**	**350**	*eP*		**Pn**	**23 25 14.3**	**-0.7**
CEDA				*eS*		**Sn**	**23 25 25.0**	**+0.5**
CEDA				IAML			23 25 34.5	
	comp=Z,7μm,0.6s							
CEVE	**Cerro Verde**	**0.77**	**334**	*eP*		**Pn**	**23 25 13.7**	**-2.8**
CEVE				*eS*		**Sn**	**23 25 27.4**	**+0.3**
CEVE				IAML			23 25 30.1	
	comp=Z,5μm,0.3s							
CEVE	**Cerro Verde**	**0.77**	**334**	*eP*		**Pn**	**23 25 13.7**	**-2.8**
CEVE				*eS*		**Sn**	**23 25 27.4**	**+0.3**
CEVE				IAML			23 25 30.1	
	comp=Z,5μm,0.3s							
SBLS	**San Blas**	**0.78**	**334**	*eP*		**Pn**	**23 25 15.8**	**-0.8**
SBLS	**San Blas**	**0.78**	**334**	*eP*		**Pn**	**23 25 15.8**	**-0.8**
SNJE	**San Jose**	**0.80**	**336**	*eP*		**Pn**	**23 25 16.1**	**-0.8**
SNJE	**San Jose**	**0.80**	**336**	*eP*		**Pn**	**23 25 16.1**	**-0.8**
COEB	**Comit de Eme**	**0.81**	**63**	*eP*		**Pn**	**23 25 16.3**	**-0.5**
COEB				*eS*		**Sn**	**23 25 28.0**	**+0.3**
COEB				IAML			23 25 31.9	
	comp=Z,2μm,0.4s							
COEB	**Comit de Eme**	**0.81**	**63**	*eP*		**Pn**	**23 25 16.3**	**-0.5**
COEB				*eS*		**Sn**	**23 25 28.0**	**+0.3**
COEB				IAML			23 25 31.9	
	comp=Z,2μm,0.4s							
TECA	**Tecapa**	**0.83**	**64**	*eP*		**Pn**	**23 25 16.9**	**-0.3**
TECA	**Tecapa**	**0.83**	**64**	*eP*		**Pn**	**23 25 16.9**	**-0.3**
RTR	**El Retiro**	**0.84**	**334**	*eP*		**Pn**	**23 25 16.8**	**-0.6**
RTR	**El Retiro**	**0.84**	**334**	*eP*		**Pn**	**23 25 16.8**	**-0.6**
NUBE	**Las Nubes**	**0.91**	**327**	*eP*		**Pn**	**23 25 17.1**	**-1.1**
NUBE				*eS*		**Sn**	**23 25 29.8**	**-0.5**
NUBE	**Las Nubes**	**0.91**	**327**	*eP*		**Pn**	**23 25 17.1**	**-1.1**
NUBE				*eS*		**Sn**	**23 25 29.8**	**-0.5**
JUCU	**Jucuaŗn**	**1.00**	**83**	*eP*		**Pn**	**23 25 18.6**	**-0.8**
JUCU				*eS*		**Sn**	**23 25 32.5**	**+0.1**
JUCU				IAML			23 25 35.7	
	comp=Z,1μm,0.2s							
JUCU	**Jucuaŗn**	**1.00**	**83**	*eP*		**Pn**	**23 25 18.6**	**-0.8**
JUCU				*eS*		**Sn**	**23 25 32.5**	**+0.1**
JUCU				IAML			23 25 35.7	
	comp=Z,1μm,0.2s							
FAGO	**Alcalda de S**	**1.26**	**63**	*eP*		**Pn**	**23 25 22.1**	**-0.8**
FAGO				*eS*		**Sn**	**23 25 38.5**	**-0.3**
FAGO	**Alcalda de S**	**1.26**	**63**	*eP*		**Pn**	**23 25 22.1**	**-0.8**
FAGO				*eS*		**Sn**	**23 25 38.5**	**-0.3**
MTO3	**Montecristo**	**1.26**	**356**	*eP*		**Pn**	**23 25 22.4**	**-0.8**
MTO3	**Montecristo**	**1.26**	**356**	*eP*		**Pn**	**23 25 22.4**	**-0.8**
LCND	**La Caada**	**1.36**	**82**	*eP*		**Pn**	**23 25 24.2**	**0.0**
LCND				*eS*		**Sn**	**23 25 41.9**	**+0.9**
LCND	**La Caada**	**1.36**	**82**	*eP*		**Pn**	**23 25 24.2**	**0.0**
LCND				*eS*		**Sn**	**23 25 41.9**	**+0.9**
IXG	**Ixpaco**	**1.54**	**312**	*eP*		**Pn**	**23 25 26.4**	**-0.4**
NBG	**Las Nubes**	**1.79**	**324**	*eP*		**Pn**	**23 25 31.0**	**+0.6**
PCG	**Pacaya**	**1.81**	**314**	*eP*		**Pn**	**23 25 31.3**	**+0.7**
MRL	**Marmol**	**1.98**	**348**	*eP*		**Pn**	**23 25 33.2**	**+0.3**
FUG	**Fuego 3**	**2.01**	**311**	*eP*		**Pn**	**23 25 33.2**	**-0.2**
FUG				*eS*		**Sn**	**23 25 59.4**	**+2.0**

*KRNET **18** 23:25:14.2±0.1, 39.°13N×71.°36E,h18km,mb3.0*
*NNC **18** 23:25:21.1±3.2, 39.°30N×71.°71E,h0km,mb3.7,mpv3.5, Error ellipse: s-maj=25.2km s-min=17.3km az=14.0*

ISC 18 23:25:15.4±1.1,39.°29N±0.°07×71.°29E±0.°05,h10km,n23, σ2§66/31,20C-5D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.81**	**250**	⇑*iP*		**Pg**	**23 25 29.6**	**-1.4**
	baz=61							
GAR				⇑*iS*		**Sg**	**23 25 41.3**	**-0.3**
	baz=61							
BTK	**Batken**	**0.85**	**335**	⇑*iP*		**Pn**	**23 25 33.5**	**-0.1**
	baz=36							
BTK				⇑*iS*		**Sn**	**23 25 47.7**	**+1.5**
	baz=36							
OHH	**Osh**	**1.69**	**43**	⇑*iP*		**Pg**	**23 25 46.6**	**-1.3**
	baz=38							
OHH				⇑*iS*		**Sg**	**23 26 10.6**	**+0.8**
	baz=38							
CHGR	**Chuyangaron**	**1.77**	**250**	⇑*iP*		**Pb**	**23 25 47.2**	**-0.9**
	baz=55							
CHGR				⇑*iS*		**Sb**	**23 26 10.7**	**+0.2**
	baz=55							
ARSB	**Arslanbob**	**2.41**	**32**	⇓*eP*		**Pb**	**23 25 57.6**	**-1.4**
	baz=29							
ARSB				⇓*iS*		**Sb**	**23 26 29.8**	**+0.9**
	baz=29							
ARK	**Arkit**	**2.56**	**11**	⇓*iP*		**Pb**	**23 25 59.6**	**-2.0**
	baz=10.0							
ARK				⇓*iS*		**Sb**	**23 26 33.2**	**+0.1**
	baz=10.0							
AML	**Almayashu**	**3.38**	**32**	⇑*iP*		**Pb**	**23 26 11.6**	**-4.1**
	baz=30							
AML				⇑*iS*		**Sb**	**23 26 53.0**	**-4.0**
	baz=30							
AML	**Almayashu**	**3.38**	**32**	P		**Pb**	**23 26 14.0**	**-1.7**
	SNR=12							
MRKS	**Merke**	**3.75**	**22**	Pg		**Pb**	**23 26 20.5**	**-1.3**
	4.9nm,0.3s							
MRKS				Lg		Lg	23 27 08.3	
	5.0nm,0.4s							
UCH	**Uchtor**	**3.83**	**39**	⇑*iP*		**Pn**	**23 26 17.4**	**+2.6**
	baz=37							
UCH				⇑*iS*		**Sn**	**23 27 04.0**	**+3.9**
	baz=37							
UCH	**Uchtor**	**3.83**	**39**	P		**Pb**	**23 26 20.1**	**-3.2**
	SNR=11							
KK31	**Karatay Array**	**3.86**	**352**	Pn		**Pb**	**23 26 21.1**	**-2.5**
	1.0nm,0.3s,baz=168,slow=12,SNR=14							
KK31				⇑Sn		**Sb**	**23 27 11.2**	**+0.9**
	6.3nm,0.7s,baz=180,slow=23,SNR=4.2							
KK31				⇑Lg		Lg	23 27 21.5	
	2.3nm,0.3s,baz=165,slow=28,SNR=5.7							
EKS2	**Erkin-Say**	**3.86**	**28**	⇑*iP*		**Pn**	**23 26 18.1**	**+3.1**
	baz=27							
EKS2				⇑*iS*		**Sn**	**23 27 04.8**	**+4.3**
	baz=27							
EKS2	**Erkin-Say**	**3.86**	**28**	P		**Pb**	**23 26 21.7**	**-2.0**
	SNR=7.1							
KZA	**Kyzart**	**4.10**	**46**	⇑*iP*		**Pn**	**23 26 21.0**	**+2.4**
	baz=44							
KZA				⇑*iS*		**Sn**	**23 27 09.6**	**+2.7**
	baz=44							
KZA	**Kyzart**	**4.10**	**46**	P		**Pb**	**23 26 24.1**	**-4.0**
	SNR=13							
AAK	**Ala-Archa**	**4.13**	**35**	P		**Pb**	**23 26 24.9**	**-3.5**
	SNR=7.0							
AAK	**Ala-Archa**	**4.13**	**35**	Pn		**Pb**	**23 26 24.1**	**-4.3**
	2.6nm,0.3s							
AAK				⇑Lg		Lg	23 27 26.1	
	3.3nm,0.8s							
CHMS	**Chumysh**	**4.54**	**34**	P		Pb	23 26 29.8	-5.3
	SNR=6.9							
USP	**Ospenovka**	**4.66**	**30**	P		Pn	23 26 30.9	+5.0
	SNR=6.4							
SGDS	**Sogindy**	**4.86**	**30**	Pg		**Pb**	**23 26 43.5**	**+2.8**
	2.0nm,0.4s							
SGDS				Lg		Lg	23 27 48.8	
	3.2nm,0.8s							
TKM2	**Tokmak 2**	**4.88**	**40**	⇑Pn		Pn	23 26 33.5	+4.4
	1.9nm,0.6s							
TKM2				⇓Lg		Lg	23 27 49.2	
	1.6nm,0.8s							
DGS	**Degeres**	**5.20**	**39**	Pg		**Pg**	**23 26 52.2**	**-2.8**
	3.0nm,0.5s							
DGS				Lg		Lg	23 28 03.4	
	2.4nm,0.5s							

SOME 18 23:26:19.8,42.°40N×81.°02E,h0km,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.37**	**304**	*eP*		Pg	23 26 42.4	-3.7
	3.3nm,0.3s							
SHLS				*eS*		Sg	23 26 58.8	-5.1
	7.3nm,0.4s							
UZB	**Uzynbulak**	**1.65**	**298**	*eP*		Pg	23 26 52.2	+0.8
	1.7nm,0.3s							
UZB				*eS*		Sg	23 27 15.7	+2.9
	2.3nm,0.3s							
KPKS	**Kokpek**	**2.02**	**303**	*eP*		Pb	23 26 57.6	+0.2
	6.3nm,0.1s							
KPKS				*eS*		Sg	23 27 24.9	+0.3
	6.5nm,0.2s							
DJR	**Jarkent**	**2.13**	**336**	*eP*		Pg	23 27 01.3	+0.7
	0.9nm,0.1s							
DJR				*eS*		Sg	23 27 31.3	+3.1
	0.9nm,0.2s

PB08 *i* S **Sg** **23 28 05.3 -1.5**
PB08 IAML 23 28 11.6
comp=N,3µm,0.7s
PB08 IPOC Station P 1.60 90 Pn **Pb** **23 27 44.4 -0.4**
PB08 IPOC Station P 1.60 90 *i* P **Pb** **23 27 44.4 -0.4**
PB08 IAML 23 28 13.6
comp=Z,2µm,1.1s
PB12 IPOC Station P 1.61 18⇑ *i* P **Pn** **23 27 43.9 +0.5**
PB12 *i* S **Sb** **23 28 05.7 +0.6**
PB12 IAML 23 28 13.7
comp=E,3µm,0.5s
PB12 IPOC Station P 1.61 18 Pn **Pb** **23 27 45.0 +0.2**
PB12 IPOC Station P 1.61 18 *i* P **Pn** **23 27 44.2 +0.8**
PB12 *e*S **Sg** **23 28 07.1 -0.1**
PB12 IAML 23 28 15.0
comp=Z,3µm,0.6s
GO01 Chusmiza 1.63 73⇑ *i* P **Pb** **23 27 45.0 -0.6**
GO01 *i* S **Sg** **23 28 07.4 -0.6**
GO01 IAML 23 28 08.3
comp=N,11µm,0.3s
GO01 Chusmiza 1.63 73 Pn **Pb** **23 27 45.1 -0.4**
PB07 IPOC Station P 1.81 150⇑ *i* P **Pn** **23 27 45.6 -0.7**
PB07 IAML 23 28 19.9
comp=E,4µm,0.4s
PB07 IPOC Station P 1.81 150 Pn **Pn** **23 27 46.0 -0.2**
PB07 IPOC Station P 1.81 150 *i* P **Pn** **23 27 45.9 -0.4**
PB07 IAML 23 28 18.3
comp=Z,3µm,0.4s
AP01 Chacalluta 1.84 15 IAML 23 28 24.6
comp=N,10µm,0.6s
PB03 IPOC Station P 2.15 152 IAML 23 28 31.9
comp=E,2µm,0.8s
PB03 IPOC Station P 2.15 152 *i* P **Pn** **23 27 50.5 -0.4**
PB03 IAML 23 28 28.2
comp=Z,2µm,0.6s
PB09 IPOC Station P 2.22 138 IAML 23 28 32.9
comp=E,4µm,0.6s
PB09 IPOC Station P 2.22 138 Pn **Pn** **23 27 52.3 +0.4**
PB09 IPOC Station P 2.22 138 *i* P **Pn** **23 27 52.3 +0.4**
PB09 IAML 23 28 37.1
comp=Z,3µm,0.5s
PB04 IPOC Station P 2.27 163 IAML 23 28 37.4
comp=N,3µm,0.6s
PB04 IPOC Station P 2.27 163 Pn **Pn** **23 27 52.3 -0.3**
PB04 IPOC Station P 2.27 163 *i* P **Pn** **23 27 51.6 -0.9**
PB04 IAML 23 28 37.7
comp=Z,2µm,0.7s
PB05 IPOC Station P 2.75 167 *i* P **Pn** **23 27 57.7 -1.5**
PB05 IAML 23 29 04.5
comp=Z,542nm,0.6s
PB06 IPOC Station P 2.81 155 Pn **Pn** **23 27 59.1 -0.9**
PB06 IPOC Station P 2.81 155 *i* P **Pn** **23 27 59.0 -0.9**
PB06 IAML 23 28 52.2
comp=Z,1µm,0.4s
LVC Limon Verde 3.04 144 Pn **Pn** **23 28 04.3 +1.0**
comp=Z,54nm,0.3s,baz=346,slow=8.7,SNR=16
LVC Sn **Sn** **23 28 41.2 +1.4**
comp=Z,73nm,0.3s,baz=121,slow=19,SNR=2.5
LVC Lg Lg 23 28 48.6
comp=Z,194nm,0.3s,baz=43,slow=18,SNR=14
LVC Limon Verde 3.04 144 **Pn** **23 28 03.4 0.0**
LVC Limon Verde 3.04 144 *i* P **Pn** **23 28 04.4 +1.0**
PB15 IPOC Station P 3.30 157 *i* P **Pn** **23 28 06.6 -0.2**
PB10 IPOC Station P 3.36 175 Pn **Pn** **23 28 07.1 -0.2**
PB10 IPOC Station P 3.36 175 *i* P **Pn** **23 28 05.5 -1.9**
LPAZ La Paz 4.63 34 Pn **Pn** 23 28 30.9 +5.4
comp=Z,3.8nm,0.3s,baz=349,slow=3.5,SNR=17
LPAZ Lg Lg 23 29 43.4
baz=261,slow=8.8,SNR=0.9
LPAZ La Paz 4.63 34 *i* P **Pb** **23 28 33.0 -3.8**
YJA Yavi 5.37 113 *i* P **Pn** **23 28 38.9 +3.4**
AC04 Llanos de Chal 8.02 181 **Pn** **23 29 10.5 -0.9**
AC05 El Transito 8.66 177 **Pn** **23 29 22.0 +1.6**
SIV San Ignacio 10.18 68 Pn **Pn** **23 29 39.1 -2.1**
comp=Z,0.9nm,0.3s,baz=289,slow=11,SNR=3.7
SIV LR LR 23 34 12.1
comp=Z,325nm,18.7s,baz=279,slow=42
CFA Coronel Fontan 11.64 169 Pn **Pn** **23 30 04.1 +2.9**
comp=Z,0.5nm,0.3s,baz=332,slow=4.5,SNR=1.9
CFA LR LR 23 34 41.6
comp=Z,152nm,20.4s,baz=336,slow=38
CPUP Villa Florida 13.86 119 Pn **Pn** **23 30 31.7 +0.2**
comp=Z,0.1nm,0.3s,baz=9.5,slow=17,SNR=1.0
CPUP Villa Florida 13.86 119 **Pn** **23 30 34.1 +2.6**
BO02 Sierra Bellavi 14.58 180 **P** **23 30 46.1 -1.7**
ATAH Atahualpa 14.86 329 LR LR 23 36 21.7
comp=Z,111nm,21.1s,baz=0.1,slow=37
H03N1 Juan Fernandez 15.05 207 Pn **Pn** **23 30 45.2 -2.2**
baz=104
H03N1 T T 23 46 11.0
baz=33,slow=72,SNR=26
H03N2 Juan Fernandez 15.06 207 Pn **Pn** **23 30 46.7 -0.8**
baz=104
H03N2 T T 23 46 12.9
baz=33,slow=72,SNR=22
H03N3 Juan Fernandez 15.07 207 Pn **Pn** **23 30 46.3 -1.4**
baz=104
H03N3 T T 23 46 28.2
baz=33,slow=72,SNR=171
PLCA Paso Flores 20.52 179 P **P** **23 31 54.0 +0.9**
comp=Z,2.1nm,0.8s,baz=356,slow=15,SNR=3.7
PLCA Paso Flores 20.52 179 P **P** **23 31 52.6 -0.6**
PTGA Pitinga 22.05 30 P **P** **23 32 07.1 -2.7**
comp=Z,5.3nm,0.5s,baz=209,slow=16,SNR=14
PTGA LR LR 23 41 47.6
comp=Z,51nm,18.3s,baz=208,slow=40
PTGA Pitinga 22.05 30 P **P** **23 32 08.0 -1.8**
PTGA IAmb IAmb 23 32 12.2
comp=Z,10nm,1.0s
BDFB Brasilia 22.18 82 P **P** **23 32 09.9 -1.5**
comp=Z,1.2nm,0.4s,baz=126,slow=14,SNR=1.9
BDFB Brasilia 22.18 82 P **P** **23 32 09.9 -1.5**
RUSC La Rusia 25.98 355 P **P** **23 32 49.6 +1.3**
MDP Montagnes des 30.83 37 P **P** **23 33 30.6 -0.5**
comp=Z,2.9nm,0.6s,baz=222,slow=11,SNR=4.9
TXAR Lajitas Array 58.50 326 P **P** **23 37 10.9 -0.5**
comp=Z,0.3nm,0.7s,baz=158,slow=10,SNR=3.9
TXAR Lajitas Array 58.50 326 P **P** **23 37 11.0 -0.3**
S39A Bolivar 61.30 340 P **P** **23 37 30.7 +0.3**
S39A IAmb IAmb 23 37 32.3
comp=Z,7.6nm,1.4s
WVNY West Valley, N 62.65 354 P **P** **23 37 40.3 +0.9**
SNAA Sanae 64.14 161 P **P** **23 37 49.8 +0.8**
SNAA IAmb IAmb 23 37 56.7
comp=Z,4.6nm,1.4s
QSPA South Pole Qui 70.03 180 P **P** **23 38 28.0 +1.5**
QSPA IAmb IAmb 23 38 43.8
comp=Z,2.8nm,1.1s
NVAR Mina Array Bea 73.32 323 P **P** **23 38 47.7 +0.8**
comp=Z,0.5nm,0.6s,baz=143,slow=5.7,SNR=4.8
NVAR Mina Array Bea 73.32 323 P **P** **23 38 48.7 +1.8**
TOA0 Torodi Ar. Sit 78.63 71 P **P** **23 39 16.5 -0.8**
TOA0 IAmb IAmb 23 39 17.5
comp=Z,8.2nm,1.0s
TORD Torodi Ar. Bea 78.63 71 P **P** **23 39 16.6 -0.8**
comp=Z,5.4nm,0.7s,baz=250,slow=5.2,SNR=28
TORD Torodi Ar. Bea 78.63 71 P **P** **23 39 16.4 -1.0**
WALA Waterton Lakes 78.84 333 P **P** **23 39 18.2 +0.3**
BOSA Boshof 85.68 119 LR LR 00 12 17.0
comp=Z,20nm,20.3s,baz=39,slow=32
TAM Tamanrasset 85.85 64 P **P** **23 39 55.5 +0.3**
TAM IAmb IAmb 23 39 57.1
comp=Z,4.4nm,1.1s
ESDC Sonseca Array 86.17 45 P **P** **23 39 55.7 -0.6**
comp=Z,0.8nm,1.0s,baz=227,slow=5.0,SNR=4.6
YKA Yellowknife Ar 89.33 341 P **P** **23 40 10.8 0.0**
comp=Z,2.2nm,0.9s,baz=134,slow=3.5,SNR=6.8
H11S2 WAKE ISLAND Hyl 25.89 279 T T 02 05 49.9
baz=102,slow=74,SNR=43
H11S1 WAKE ISLAND Hyl 25.90 279 T T 02 05 46.5
baz=102,slow=74,SNR=34
H11S3 WAKE ISLAND Hyl 25.91 279 T T 02 05 45.6
baz=102,slow=74,SNR=36
H11N3 WAKE ISLAND Hyl 25.94 280 T T 02 05 48.1
baz=101,slow=74,SNR=34
H11N2 WAKE ISLAND Hyl 25.96 280 T T 02 05 48.5
baz=101,slow=74,SNR=19
H11N1 WAKE ISLAND Hyl 25.96 280 T T 02 05 39.2
baz=101,slow=74,SNR=22
ZALV Zalesovo Beam 141.47 23 PKP **PKPdf** **23 46 45.9 +0.2**
comp=Z,1.0nm,0.5s,baz=274,slow=5.0,SNR=4.3
MKAR Makanchi Array 145.56 33 PKPbc **PKPbc** **23 46 53.8 +0.4**
comp=Z,4.4nm,0.8s,baz=323,slow=3.5,SNR=29
MJAR Matsushiro Arr 149.81 309 PKPbc **PKPbc** **23 47 05.6 +0.3**
comp=Z,1.1nm,0.5s,baz=107,slow=2.0,SNR=2.6
SONM Songino Array 152.30 4 PKPbc **PKPbc** **23 47 11.0 +0.1**
comp=Z,0.3nm,0.4s,baz=274,slow=1.8,SNR=3.8
SONM Songino Array 152.30 4 **PKPbc** **23 47 11.1 +0.2**

NEIC ***18*** *23:30:48.6±2.1,20.2°S±0.0°×70.7°W±0.0°,4,h15km±4km, mb4.1/7,Mwr3.9/27,ML4.3(GUC),Error ellipse: s-maj=5.1km s-min=2.7km az=97.0*
IDC ***18*** *23:30:48.0±1.3,19.98°S×70.42°W,h0km,mb3.8/4, mb1 4.0/6,mb1mx3.7/39,mbtmp3.9/6,ML3.8/2,MS2.8/1, Ms1 2.8/1,ms1mx2.4/34,Error ellipse: s-maj=36.8km s-min=16.5km az=74.0*
NEIC ***18*** *23:30:48.6,20.2°S×70.81W,h17km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}7.38; $M_{\theta\theta}$-0.58; $M_{\phi\phi}$-6.80; $M_{r\theta}$2.39; $M_{r\phi}$-0.78; $M_{\theta\phi}$-5.62; Fault plane solution: $M_0$9.40000×10^{14} NP1:ϕ_s169.31000°, δ65.39000°,λ76.17000°. NP2:ϕ_s19.91000°,δ28.02000°, λ117.57000°. Principal axes: T 9.9355, Plg67.0000°, Azm54.0000°; N -1.1767, Plg13.0000°, Azm175.0000°; P -8.7588, Plg19.0000°, Azm270.0000°;*
GUC ***18*** *23:30:49.3±0.6,20.23S×70.89W,h33km±2km,ML4.1*
ISC 18 23:30:48.9±1.5,20.22S±0.03×70.79W±0.06,h15km±9km, n53,σ1s18/65,mb3.9/5,13C,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.62**	**95**	⇑ *i* P		**Pb**	**23 31 01.5**	**0.0**
TA02				*e*S		**Sn**	**23 31 11.7**	**-1.2**
TA02				IAML			23 31 12.1	
comp=E,28µm,0.3s								
TA01	**Diego Aracena**	**0.67**	**121**	⇑ *i* P		**Pg**	**23 31 01.9**	**-0.1**
TA01				*e*S		**Sb**	**23 31 12.1**	**+0.8**
TA01	**Diego Aracena**	**0.67**	**121**			**Pg**	**23 31 02.1**	**+0.1**
PSGC	**Pisagua**	**0.88**	**46**	⇑ *i* P		**Pb**	**23 31 05.6**	**-0.4**
PSGC				*e*S		**Sg**	**23 31 18.1**	**+0.6**
PSGCX	**Pisagua**	**0.88**	**46**	Sn		**Sn**	**23 31 18.5**	**-0.9**
PB11	**IPOC Station P**	**1.16**	**67**	⇑ *e*P		**Pn**	**23 31 10.4**	**-0.3**
PB11				*e*S		**Sg**	**23 31 26.6**	**+0.1**
PB11	**IPOC Station P**	**1.16**	**67**			**Pn**	**23 31 10.4**	**-0.3**
PB02	**IPOC Station P**	**1.38**	**143**	⇑ *e*P		**Pn**	**23 31 12.7**	**-1.1**
PB02				*i* S		**Sn**	**23 31 31.3**	**-0.5**
PB02				IAML			23 31 41.1	
comp=E,6µm,0.5s								
PB01	**IPOC Station P**	**1.47**	**124**	⇑ *i* P		**Pn**	**23 31 14.7**	**-0.3**
PB01				*e*S		**Sn**	**23 31 34.6**	**+0.6**
PB01				IAML			23 31 40.0	
comp=N,6µm,0.3s								
PB01	**IPOC Station P**	**1.47**	**124**			**Pn**	**23 31 15.4**	**+0.5**
PB01						**Sn**	**23 31 34.1**	**+0.1**
PB08	**IPOC Station P**	**1.54**	**88**	⇑ *i* P		**Pb**	**23 31 16.8**	**-0.5**
PB08				*i* S		**Sb**	**23 31 37.6**	**+0.8**
PB08				IAML			23 31 42.2	
comp=E,1µm,0.4s								
PB08	**IPOC Station P**	**1.54**	**88**			**Pb**	**23 31 17.0**	**-0.3**
PB08				Sg		**Sb**	**23 31 37.5**	**+0.8**
MNMC	**Minye Minye**	**1.56**	**46**	⇑ *i* P		**Pn**	**23 31 16.6**	**+0.3**
MNMC				*e*S		**Sb**	**23 31 37.8**	**+0.5**
MNMC	**Minye Minye**	**1.56**	**46**			**Pb**	**23 31 17.2**	**-0.4**
GO01	**Chusmiza**	**1.60**	**70**	⇑ *i* P		**Pn**	**23 31 17.6**	**+0.6**
GO01				*e*S		**Sg**	**23 31 39.8**	**-0.7**
GO01				IAML			23 31 42.0	
comp=N,5µm,0.4s								
GO01	**Chusmiza**	**1.60**	**70**			**Pb**	**23 31 18.1**	**-0.3**
PB12	**IPOC Station P**	**1.65**	**15**	⇑ *i* P		**Pn**	**23 31 16.5**	**-0.9**
PB07	**IPOC Station P**	**1.72**	**151**	*e*P		**Pn**	**23 31 17.8**	**-0.7**
PB07				*i* S		**Sn**	**23 31 40.2**	**-0.2**
PB07				IAML			23 31 50.8	
comp=E,2µm,0.4s								
PB07	**IPOC Station P**	**1.72**	**151**			**Pn**	**23 31 18.8**	**+0.3**
AP01	**Chacalluta**	**1.88**	**13**	⇑ *e*P		**Pn**	**23 31 20.9**	**+0.4**
AP01				*i* S		**Sn**	**23 31 44.4**	**+0.4**
AP01				IAML			23 31 57.5	
comp=N,3µm,0.5s								
PB03	**IPOC Station P**	**2.06**	**152**	*e*P		**Pn**	**23 31 22.8**	**-0.4**
PB03				IAML			23 32 04.8	
comp=E,750nm,0.5s								
PB09	**IPOC Station P**	**2.14**	**138**	⇑ *i* P		**Pn**	**23 31 22.6**	**-1.6**
PB09				*e*S		**Sn**	**23 31 51.0**	**+0.4**
PB09				IAML			23 32 05.0	
comp=E,2µm,0.5s								
PB09	**IPOC Station P**	**2.14**	**138**	Pn		**Pn**	**23 31 25.6**	**+1.4**
PB04	**IPOC Station P**	**2.19**	**164**	⇑ *e*P		**Pn**	**23 31 23.9**	**-1.1**
PB04				*i* S		**Sn**	**23 31 51.0**	**-0.9**
PB04				IAML			23 32 09.5	
comp=N,1µm,0.6s								
PB05	**IPOC Station P**	**2.68**	**168**	*e*P		**Pn**	**23 31 29.4**	**-2.3**
PB06	**IPOC Station P**	**2.73**	**156**	*e*P		**Pn**	**23 31 32.1**	**-0.9**
PB06				*i* S		**Sn**	**23 32 05.3**	**+0.2**
PB06				IAML			23 32 19.2	
comp=E,479nm,0.4s								
PB06	**IPOC Station P**	**2.73**	**156**	Pn		**Pn**	**23 31 31.8**	**-0.5**
LVC	**Limon Verde**	**2.96**	**144**	Pn		**Pn**	**23 31 37.1**	**+1.4**
comp=E,10nm,0.3s,baz=330,slow=15,SNR=2.0								
LVC				Sn		**Sn**	**23 32 12.8**	**+1.7**
comp=E,29nm,0.3s,baz=7.2,slow=16,SNR=2.0								
LVC				Lg		Lg	23 32 23.3	
comp=E,97nm,0.3s,baz=42,slow=17,SNR=9.7								
LVC				LR		LR	23 33 06.5	
comp=E,162nm,21.7s,baz=298,slow=47								
LVC	**Limon Verde**	**2.96**	**144**			**Pn**	**23 31 37.4**	**+1.7**
PB15	**IPOC Station P**	**3.22**	**158**	Pn		**Pn**	**23 31 38.2**	**-1.0**
PB10	**IPOC Station P**	**3.29**	**176**	Pn		**Pn**	**23 31 38.7**	**-1.2**
LPAZ	**La Paz**	**4.65**	**33**	Pn		**Pn**	**23 32 03.0**	**+3.8**
comp=E,1.2nm,0.3s,baz=159,slow=2.0,SNR=1.9								
LPAZ				Lg		Lg	23 33 18.4	
comp=E,1.2nm,0.3s,baz=117,slow=23,SNR=1.0								
AC02	**Maricunga**	**6.76**	**167**	Pn		**Pn**	**23 32 28.2**	**+0.1**
SIV	**San Ignacio**	**10.15**	**67**	Pn		**Pn**	**23 33 10.6**	**-3.6**
comp=E,1.3nm,0.3s,baz=249,slow=14,SNR=3.0								
BO02	**Sierra Bellavi**	**14.52**	**180**	Pn		**Pn**	**23 34 14.7**	**+0.7**
H03N1	**Juan Fernandez**	**15.03**	**207**	T		T	23 49 43.5	
baz=33,slow=72,SNR=10								
H03N2	**Juan Fernandez**	**15.03**	**207**	T		T	23 49 42.6	
baz=33,slow=72,SNR=10.0								
H03N3	**Juan Fernandez**	**15.04**	**207**	T		T	23 49 54.7	
baz=33,slow=72,SNR=8.0								
PLCA	**Paso Flores**	**20.45**	**179**	P		Pn	23 35 30.0	+1.9
comp=E,1.4nm,0.7s,baz=351,slow=19,SNR=3.6								
PLCA	**Paso Flores**	**20.45**	**179**			Pn	23 35 27.8	-0.3
PTGA	**Pitinga**	**22.07**	**30**	P		**P**	**23 35 41.7**	**-1.8**
comp=E,1.9nm,0.4s,baz=187,slow=23,SNR=3.7								
PTGA	**Pitinga**	**22.07**	**30**	P		**P**	**23 35 41.7**	**-1.8**
PTGA				IAmb		IAmb	23 35 51.6	
comp=Z,4.7nm,1.1s								
RUSC	**La Rusia**	**26.04**	**355**	P		**P**	**23 36 21.9**	**-0.4**
TXAR	**Lajitas Array**	**58.58**	**326**	P		**P**	**23 40 45.4**	**0.0**
SNAA	**Sanae**	**64.06**	**161**	P		**P**	**23 41 22.2**	**+0.3**
SNAA				IAmb		IAmb	23 41 38.5	
comp=Z,4.6nm,1.2s								
QSPA	**South Pole Qui**	**69.97**	**180**	P		**P**	**23 42 00.8**	**+1.2**
QSPA				IAmb		IAmb	23 42 11.2	
comp=Z,1.0nm,1.1s								
PDAR	**Pinedale Array**	**72.13**	**331**	P		**P**	**23 42 14.2**	**+1.1**
comp=Z,0.3nm,0.4s,baz=108,slow=5.8,SNR=1.8								
TOA0	**Torodi Ar. Sit**	**78.60**	**71**	P		**P**	**23 42 48.6**	**-2.0**
TORD	**Torodi Ar. Bea**	**78.60**	**71**	P		**P**	**23 42 49.0**	**-1.5**
comp=Z,2.6nm,0.7s,baz=250,slow=5.2,SNR=10								
TORD	**Torodi Ar. Bea**	**78.60**	**71**	P		**P**	**23 42 48.8**	**-1.7**
MKAR	**Makanchi Array**	**145.58**	**33**	PKPbc		**PKPab**	**23 50 26.7**	**-0.4**
comp=Z,1.9nm,0.7s,baz=331,slow=3.8,SNR=12								
MKAR	**Makanchi Array**	**145.58**	**33**			**PKPdf**	**23 50 25.8**	**-0.9**
SONM	**Songino Array**	**152.35**	**4**	PKP		**PKPdf**	**23 50 39.4**	**+1.8**
comp=Z,0.2nm,0.3s,baz=12,slow=3.4,SNR=2.0								

BGR ***18*** *23:38:17.1±0.0,22.2°S×175.05°W,h33km*
NEIC ***18*** *23:39:20.7±0.8,20.5°S±0.1°×178.0°W±0.1°,h533km±7km, mb4.2/53,Error ellipse: s-maj=19.6km s-min=17.6km az=105.0*
IDC ***18*** *23:39:21.7±3.5,20.46°S×177.96°W,h548km±36km, mb3.5/14,mb1 3.7/14,mb1mx3.5/35,mbtmp4.3/14,Error ellipse: s-maj=30.3km s-min=12.3km az=155.0*
ISC 18 23:39:20.4±0.5,20.44S±0.10×177.99W±0.09,h534km, n144,σ0s65/150,mb4.1/38,13C-2D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.61**	**305**	P		**P**	**23 40 44.3**	**-2.0**
MSVF				S		**S**	**23 41 55.3**	**-0.8**
BFZ	**Birch Farm**	**20.77**	**192**	P		**P**	**23 43 24.0**	**0.0**
QRZ	**Quartz Range**	**21.87**	**200**	P		**P**	**23 43 33.0**	**-1.0**

CTAO Charters Tower 33.50 264 P **P** **23 45 16.2 +0.3**
CTAO IAmb IAmb 23 45 20.1
comp=Z,11nm,1.1s
STKA Stephens Creek 37.82 244 P **P** **23 45 51.4 -0.1**
BBOO Buckleboo 42.58 243 P **P** **23 46 30.0 +0.4**
BBOO IAmb IAmb 23 46 38.9
comp=Z,12nm,1.1s
JAY Jayapura 44.03 288 P **P** **23 46 41.9 +0.8**
comp=Z,2.1nm,0.4s,baz=11,slow=22,SNR=2.2
AS31 Alice Springs 44.54 257 P **P** **23 46 46.0 +1.1**
ASAR Alice Springs 44.54 257 P **P** **23 46 45.5 +0.5**
comp=Z,3.1nm,0.7s,baz=94,slow=7.8,SNR=24
ASAR PcP **PcP** **23 48 17.3 +0.6**
comp=Z,1.4nm,0.6s,baz=105,slow=4.2,SNR=9.1
ASAR S **S** **23 52 42.3 +0.4**
comp=Z,0.7nm,0.8s,baz=93,slow=14,SNR=2.8
ASAR Alice Springs 44.54 257 P **P** **23 46 44.8 -0.2**
WB0 Warramunga Arr 44.59 262 P **P** **23 46 45.7 +0.3**
WB2 Warramunga Arr 44.60 262 P **P** **23 46 45.8 +0.3**
WB2 IAmb IAmb 23 46 48.2
comp=Z,6.0nm,1.1s
WRA Warramunga Arr 44.62 262 P **P** **23 46 45.5 -0.1**
comp=Z,1.0nm,0.5s,baz=98,slow=7.7,SNR=8.9
WRA Warramunga Arr 44.62 262 P **P** **23 46 45.3 -0.3**
KNRA Kununurra 50.67 266 P **P** **23 47 31.5 +0.5**
KNRA IAmb IAmb 23 47 49.1
comp=Z,11nm,1.1s
FITZ Fitzroy Crossi 53.04 262 P **P** **23 47 47.6 -0.4**
PSA00 Pilbara Seismi 57.69 257 P **P** **23 48 20.6 +0.3**
PSA00 IAmb IAmb 23 48 21.5
comp=Z,12nm,0.8s
MORW Morawa 59.86 248 P **P** **23 48 35.2 +0.3**
MORW IAmb IAmb 23 48 37.7
comp=Z,9.8nm,1.1s
QSPA South Pole Qui 69.62 180 P **P** **23 49 36.8 +0.8**
UGM Wanagama 69.97 269 P **P** **23 49 39.8 +0.9**
PEA0B Petropavlovsk- 76.22 345 P **P** **23 50 14.4 +0.8**
PEA0B IAmb IAmb 23 50 14.8
comp=Z,5.4nm,0.8s
PETK Petropavlovsk- 76.22 345 P **P** **23 50 13.8 +0.2**
comp=Z,3.2nm,0.7s,baz=156,slow=8.1,SNR=6.8
PETK Petropavlovsk- 76.22 345 P **P** **23 50 14.2 +0.6**
USRK Ussuriysk Ar. 76.92 326 P **P** **23 50 28.8 +0.4**
comp=Z,0.9nm,0.6s,baz=151,slow=4.4,SNR=4.6
USRK Ussuriysk Ar. 78.92 326 P **P** **23 50 29.1 +0.7**
YBH Yreka Blue Hor 80.24 39 P **P** **23 50 35.7 +0.1**
comp=Z,3.9nm,0.7s,baz=344,slow=0.7,SNR=8.1
YBH Yreka Blue Hor 80.24 39 P **P** **23 50 36.7 +1.0**
YBH IAmb IAmb 23 50 37.5
comp=Z,4.9nm,0.8s
WAKR Walker 80.30 43 P **P** **23 50 36.9 +0.7**
PNTR Pine Nut 80.53 42 P **P** **23 50 37.9 +0.5**
PNTR IAmb IAmb 23 50 38.9
comp=Z,8.7nm,0.9s
YERR Yerington 80.70 42 P **P** **23 50 38.6 +0.4**
YERR IAmb IAmb 23 50 39.6
comp=Z,9.7nm,1.2s
NVAR Mina Array Bea 80.98 43 P **P** **23 50 39.7 0.0**
comp=Z,2.7nm,0.8s,baz=230,slow=9.2,SNR=12
NVAR Mina Array Bea 80.98 43 P **P** **23 50 40.0 +0.3**
NV11 Mina Array Sit 81.08 43 P **P** **23 50 40.6 +0.4**
KVN Kaiserville 81.46 43 P **P** **23 50 42.5 +0.3**
KVN IAmb IAmb 23 50 43.4
comp=Z,4.1nm,0.9s
MOD Modoc Plateau 81.77 40 P **P** **23 50 44.0 +0.4**
K05A Summer Lake 81.92 39 P **P** **23 50 45.4 +1.1**
K05A IAmb IAmb 23 50 45.9
comp=Z,6.8nm,0.6s
W13A Hualapai Mount 82.12 48 P **P** **23 50 45.9 +0.3**
Y14A Wickenburg 82.14 50 P **P** **23 50 45.9 +0.4**
PINE Pine Mountain 82.53 38 P **P** **23 50 48.3 +0.8**
PINE IAmb IAmb 23 50 49.5
comp=Z,9.7nm,0.9s
TUC Tucson 82.94 52 P **P** **23 50 50.8 +1.1**
TUC IAmb IAmb 23 50 51.9
comp=Z,5.4nm,0.9s
WVOR Wild Horse Val 83.08 40 P **P** **23 50 50.7 +0.5**
WVOR IAmb IAmb 23 50 51.8
comp=Z,5.6nm,1.1s
I07A Izee 83.54 38 P **P** **23 50 53.0 +0.6**
I07A IAmb IAmb 23 50 54.2
comp=Z,3.9nm,0.9s
J08A Circle Bar Ran 83.72 39 P **P** **23 50 53.9 +0.6**
J08A IAmb IAmb 23 50 54.9
comp=Z,6.3nm,1.1s
CCUT Cedar City 83.76 46 P **P** **23 50 54.9 +1.1**
U15A North Rim 83.92 48 P **P** **23 50 55.1 +0.5**
U15A IAmb IAmb 23 50 56.6
comp=Z,5.7nm,0.8s
ELK Elko 84.23 43 P **P** **23 50 55.9 -0.2**
comp=Z,0.9nm,0.7s,baz=111,slow=9.8,SNR=3.7
G08A Pilot Rock 84.57 37 P **P** **23 50 57.9 +0.4**
G08A IAmb IAmb 23 50 59.6
comp=Z,5.3nm,1.1s
HAWA Hanford 84.90 36 P **P** **23 50 59.5 +0.6**
HAWA IAmb IAmb 23 51 01.2
comp=Z,5.4nm,1.1s
SCM Sheep Creek Mo 85.58 14 P **P** **23 51 02.3 +0.4**
F10A Beach Ranch, E 85.95 38 P **P** **23 51 04.3 +0.2**
BALM Baldy 86.12 17 P **P** **23 51 05.2 +0.6**
BALM IAmb IAmb 23 51 11.0
comp=Z,6.7nm,0.9s
TRF Thorofare Moun 86.39 12 P **P** **23 51 05.7 -0.1**
SRU San Rafael Swe 86.48 46 P **P** **23 51 07.3 +0.4**
RND Reindeer 86.64 13 P **P** **23 51 06.7 -0.2**
MNTX Cornudas Mount 86.71 55 P **P** **23 51 08.5 +0.5**
MNTX IAmb IAmb 23 51 09.7
comp=Z,4.5nm,1.0s
TX31 Lajitas Ar. Si 87.02 57 P **P** **23 51 10.5 +1.0**
TX32 Lajitas Array 87.02 57 P **P** **23 51 10.5 +0.9**
TX32 IAmb IAmb 23 51 11.4
comp=Z,3.3nm,1.0s
TXAR Lajitas Array 87.02 57 P **P** **23 51 10.4 +0.8**
comp=Z,1.9nm,0.8s,baz=220,slow=6.6,SNR=22
TXAR Lajitas Array 87.02 57 P **P** **23 51 10.2 +0.7**
NEW Newport 87.32 36 P **P** **23 51 10.2 -0.3**
comp=Z,1.2nm,0.3s,baz=142,slow=5.5,SNR=4.1
ANMO Albuquerque 87.36 51 P **P** **23 51 11.3 +0.1**
comp=Z,2.9nm,1.1s,baz=191,slow=6.1,SNR=4.7
ANMO Albuquerque 87.36 51 P **P** **23 51 11.5 +0.3**
GDL2 Guadalupe Moun 87.71 54 P **P** **23 51 13.3 +0.5**
WRH Wood River Hil 87.75 12 P **P** **23 51 11.8 -0.2**
MCMT McKenzie Canyo 87.90 40 P **P** **23 51 14.2 +0.7**
HDA Harding Lake 87.93 13 P **P** **23 51 12.5 -0.3**
CCB Clear Creek Bu 87.96 13 P **P** **23 51 12.5 -0.5**
BCAR Beaver Creek A 87.97 16 P **P** **23 51 13.5 +0.4**
SNAA Sanae 88.07 178 P **P** **23 51 13.0 -0.7**
SNAA Sanae 88.07 178 P **P** **23 51 12.9 -0.7**
IMAR Indian Mountai 88.10 10 P **P** **23 51 13.4 -0.2**
VNA3 Neumayer Olymp 88.20 176 P **P** **23 51 13.9 -0.3**
ILAR Eielson Array 88.26 13 P **P** **23 51 13.7 -0.7**
comp=Z,1.2nm,0.6s,baz=225,slow=5.5,SNR=11
DLMT Dillon 88.34 40 P **P** **23 51 15.9 +0.5**
DLMT IAmb IAmb 23 51 17.7
comp=Z,3.2nm,0.9s
IMW Indian Meadow 88.60 42 P **P** **23 51 17.2 +0.4**
IMW IAmb IAmb 23 51 18.5
comp=Z,3.4nm,0.9s
VNA2 Neumayer--Watz 88.64 177 P **P** **23 51 16.3 0.0**
baz=195,slow=3.1
VNA1 Neumayer--Stat 88.87 177 P **P** **23 51 17.1 -0.2**
PD31 Pinedale Array 88.92 43 P **P** **23 51 18.2 -0.1**
PD31 IAmb IAmb 23 51 19.1
comp=Z,2.5nm,1.1s
PDAR Pinedale Array 88.92 43 P **P** **23 51 18.4 +0.1**
comp=Z,1.7nm,0.8s,baz=207,slow=3.0,SNR=11
PDAR Pinedale Array 88.92 43 P **P** **23 51 18.2 -0.1**
CMAR Chiang Mai Arr 90.10 290 P **P** **23 51 24.2 +0.2**
comp=Z,

BSEG	**Bad Segeberg**	**145.96**	**351**	*e*PKPbc	**PKPab**	**23 58 01.2**	**-0.7**
	baz=11,slow=2.4							
RUE	**Ruedersdorf**	**146.74**	**347**	*e*PKPbc	**PKiKP**	**23 58 03.6**	**-0.7**
	baz=11,slow=2.4							
BR131	**Keskin Array S**	**146.81**	**312**		**PKPbc**	**23 58 03.5**	**+0.4**
BRTR	**Keskin Array B**	**146.81**	**312**	PKPbc	**PKPbc**	**23 58 02.7**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=136,slow=4.4,SNR=17							
BRTR	**Keskin Array B**	**146.81**	**312**		**PKPbc**	**23 58 02.9**	**-0.2**
BUR08	**Bucovina Ar. S**	**147.00**	**331**		**PKPbc**	**23 58 03.4**	**+0.1**
BURAR	**Bucovina Array**	**147.01**	**331**	⇑P	**PKiKP**	**23 58 03.8**	**+0.4**
BURAR	**Bucovina Array**	**147.01**	**331**		**PKPbc**	**23 58 04.2**	**+0.8**
GHRR		**147.04**	**327**	⇑P	**PKiKP**	**23 58 05.1**	**-0.1**
BIZ	**Bicaz**	**147.09**	**329**	⇑P	**PKiKP**	**23 58 04.8**	**-0.5**
NRDL	**Niedersach Rie**	**147.40**	**351**	*e*PKPbc	**PKPbc**	**23 58 04.6**	**+0.7**
	baz=11,slow=2.4							
ASSE	**Asse, Remlinge**	**147.66**	**350**	*e*PKPbc	**PKPbc**	**23 58 05.1**	**+0.5**
	baz=11,slow=2.4							
TRPA	**Tarpa**	**147.79**	**334**	⇓P	**PKPbc**	**23 58 05.8**	**+0.7**
IBBN	**Ibbenburen**	**147.88**	**353**	*e*PKPbc	**PKPbc**	**23 58 05.1**	**-0.1**
	baz=11,slow=2.4							
OSTC	**Ostas**	**147.92**	**343**	⇑*e*PKP	**PKiKP**	**23 58 06.8**	**-0.1**
CLZ	**Clausthal**	**147.99**	**350**	*e*PKPbc	**PKPbc**	**23 58 05.9**	**+0.3**
	baz=11,slow=2.4							
CLL	**Collm**	**148.01**	**347**	⇓*i*PKPbc	**PKPbc**	**23 58 06.1**	**+0.5**
	comp=Z,12nm,0.9s							
CLL	**Collm**	**148.01**	**347**		**PKPbc**	**23 58 05.8**	**+0.2**
CLL	**Collm**	**148.01**	**347**	*e*PKPbc	**PKiKP**	**23 58 06.4**	**-0.6**
	baz=11,slow=2.4							
DPC	**Dobruska-Polom**	**148.07**	**343**	⇑*e*PKP	**PKiKP**	**23 58 06.7**	**-0.5**
DOPR	**Dopca**	**148.12**	**328**	⇑P	**PKiKP**	**23 58 07.2**	**-0.2**
MLR	**Muntele Rosu**	**148.18**	**327**	⇑P	**PKPbc**	**23 58 06.9**	**+0.5**
BRG	**Berggiesshubel**	**148.21**	**346**	*i* PKP	**PKiKP**	**23 58 06.8**	**-0.6**
	comp=Z,5.4nm,0.7s							
BRG	**Berggiesshubel**	**148.21**	**346**	*e*PKPbc	**PKiKP**	**23 58 07.2**	**-0.2**
	baz=11,slow=2.4							
MORC	**Moravsky Berou**	**148.22**	**341**	*e*PKP	**PKiKP**	**23 58 07.2**	**-0.3**
FBE	**Freiberg**	**148.30**	**346**	*e*PKPbc	**PKiKP**	**23 58 07.3**	**-0.2**
	baz=11,slow=2.4							
GTTG	**Gottingen**	**148.34**	**351**	*e*PKPbc	**PKPbc**	**23 58 07.0**	**+0.6**
	baz=11,slow=2.4							
NEUB	**Neuenburg**	**148.35**	**348**	*e*PKPbc	**PKPbc**	**23 58 07.1**	**+0.6**
	baz=11,slow=2.4							
PVCC	**Panska Ves**	**148.38**	**345**	⇑*e*PKP	**PKiKP**	**23 58 07.3**	**-0.5**
BUG	**Bochum--Univer**	**148.79**	**354**	*e*PKPbc	**PKPbc**	**23 58 07.9**	**+0.4**
	baz=11,slow=2.4							
PRU	**Pruhonice**	**148.88**	**344**	⇑*e*PKP	**PKiKP**	**23 58 08.6**	**-0.2**
GOPC	**GO Pecny, Ondr**	**148.88**	**344**	⇑*e*PKP	**PKiKP**	**23 58 09.0**	**+0.1**
MOX	**Moxa**	**148.92**	**348**	*e*PKPbc	**PKiKP**	**23 58 08.7**	**-0.2**
	baz=11,slow=2.4							
VRAC	**Vranov**	**148.93**	**341**	*e*PKP	**PKiKP**	**23 58 08.9**	**-0.1**
TANN	**Tannenbergstha**	**148.97**	**347**	*e*PKPbc	**PKiKP**	**23 58 08.9**	**-0.2**
	baz=11,slow=2.4							
JAVC	**Velka Javorina**	**148.99**	**340**	*e*PKP	**PKiKP**	**23 58 10.2**	**+1.0**
GUNZ	**Gunzen**	**149.04**	**347**	*e*PKPbc	**PKiKP**	**23 58 09.2**	**0.0**
	baz=11,slow=2.4							
WERN	**Wernitzgruen**	**149.10**	**347**	*e*PKPbc	**PKiKP**	**23 58 09.4**	**+0.1**
	baz=11,slow=2.4							
KRUC	**Moravsky**	**149.21**	**341**	*e*PKP	**PKiKP**	**23 58 09.4**	**-0.1**
TREC	**Trest**	**149.26**	**343**	⇑*e*PKP	**PKiKP**	**23 58 09.5**	**-0.2**
MANZ	**Manzenberg**	**149.45**	**347**	*e*PKPbc	**PKiKP**	**23 58 10.0**	**0.0**
	baz=11,slow=2.4							
ROTZ	**Rotzenmuhle**	**149.63**	**347**	*e*PKPbc	**PKiKP**	**23 58 10.2**	**-0.2**
	baz=11,slow=2.4							
TNS	**Taunus Mts**	**149.85**	**352**	*e*PKPbc	**PKPbc**	**23 58 10.6**	**+0.3**
	baz=11,slow=2.4							
KHC	**Kasperske Hory**	**149.91**	**345**	⇑*e*PKP	**PKiKP**	**23 58 11.0**	**0.0**
KHC				*e*PKPAB	**PKPab**	**23 58 19.1**	**+0.8**
KHC	**Kasperske Hory**	**149.91**	**345**		**PKPbc**	**23 58 10.7**	**+0.3**
GEC2	**GERESS Array S**	**150.15**	**344**	*e*PKPbc	**PKiKP**	**23 58 11.6**	**0.0**
	baz=11,slow=2.4							
GERES	**GERESS Array B**	**150.15**	**344**	PKPbc	**PKPbc**	**23 58 11.0**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=48,slow=2.0,SNR=15							
GERES	**GERESS Array B**	**150.15**	**344**		**PKPbc**	**23 58 11.2**	**+0.2**
GERES				PKPab	**PKPab**	**23 58 19.7**	**+0.4**
FUR	**Furstenfeldbru**	**151.35**	**347**	*e*PKPbc	**PKiKP**	**23 58 14.1**	**+0.1**
	baz=11,slow=2.4							
BFO	**Black Forest**	**151.71**	**351**	*e*PKPbc	**PKPbc**	**23 58 14.7**	**+0.1**
	baz=11,slow=2.4							
UBR	**Ueberruh**	**152.04**	**348**	*e*PKPbc	**PKiKP**	**23 58 15.7**	**+0.2**
	baz=11,slow=2.4							
TORD	**Torodi Ar. Bea**	**172.74**	**178**	PKP	**PKPdf**	**23 58 28.2**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=335,slow=0.9,SNR=3.7							
TORD				PKPab	**PKPab**	**23 59 57.3**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=205,slow=2.9,SNR=2.8							
TORD	**Torodi Ar. Bea**	**172.74**	**178**		**PKPdf**	**23 58 27.9**	**-1.1**
TORD					**PKPab**	**23 59 58.0**	**-0.5**

*IDC **18** 23:44:27.2±2.0,21˚.24S×70˚.31W,h0km,mb3.4/2,*
mb1 3.6/3,mb1mx3.4/30,mbtmp3.4/3,ML3.5/1,Error
ellipse: s-maj=48.9km s-min=45.4km az=98.0
*GUC **18** 23:44:28.9±0.6,20˚.21S×70˚.97W,h12km±4km,ML3.3*
ISC 18 23:44:28.3±2.1,20˚.16S±0˚.04×70˚.85W±0˚.08,h10km±12km,
n23,σ1°29/30,8C-4D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TA02	**Huaiquique**	**0.68**	**99**	*e*P		**Pb**	**23 44 42.5**	**+0.3**
TA02				IAML			23 44 54.6	
	comp=E,5μm,0.3s							
TA01	**Diego Aracena**	**0.74**	**123**	⇓*i*P		**Pb**	**23 44 43.3**	**0.0**
TA01				*i* S		**Sn**	**23 44 54.0**	**-2.1**
TA01				IAML			23 44 56.8	
	comp=N,2μm,0.2s							
PSGC	**Pisagua**	**0.88**	**51**	⇓*i*P		**Pb**	**23 44 46.2**	**+0.5**
PSGC				*i* S		**Sn**	**23 44 59.3**	**-0.4**
PSGC				IAML			23 45 03.0	
	comp=N,696nm,0.4s							
PB11	**IPOC Station P**	**1.19**	**71**	⇓*i*P		**Pb**	**23 44 51.0**	**0.0**
PB11				*i* S		**Sn**	**23 45 08.2**	**+0.8**
PB11				IAML			23 45 14.2	
	comp=N,874nm,0.2s							
PB02	**IPOC Station P**	**1.46**	**142**	⇑*i*P		**Pn**	**23 44 54.1**	**-0.6**
PB02				*i* S		**Sb**	**23 45 13.0**	**-1.2**
PB02				IAML			23 45 20.0	
	comp=E,2μm,0.2s							
PB01	**IPOC Station P**	**1.55**	**125**	⇑*i*P		**Pn**	**23 44 56.0**	**0.0**
PB01				*i* S		**Sg**	**23 45 16.8**	**-1.3**
PB01				IAML			23 45 23.7	
	comp=N,1μm,0.4s							
MNMC	**Minye Minye**	**1.56**	**49**	IAML			23 45 24.7	
	comp=N,2μm,0.4s							
PB08	**IPOC Station P**	**1.59**	**90**	⇑*i*P		**Pb**	**23 44 57.4**	**-0.6**
PB08				*e*S		**Sg**	**23 45 20.2**	**+0.7**
PB08				IAML			23 45 24.3	
	comp=N,267nm,0.4s							
PB12	**IPOC Station P**	**1.61**	**18**	*i* S		**Sn**	**23 45 18.9**	**+1.0**
PB12				IAML			23 45 22.9	
	comp=N,280nm,0.4s							
GO01	**Chusmiza**	**1.63**	**73**	⇓*e*P		**Pb**	**23 44 58.7**	**0.0**
GO01				*i* S		**Sg**	**23 45 21.8**	**+1.0**
GO01				IAML			23 45 25.4	
	comp=N,872nm,0.2s							
PB07	**IPOC Station P**	**1.80**	**150**	⇑*i*P		**Pn**	**23 44 59.0**	**-0.5**
PB07				IAML			23 45 34.6	
	comp=E,368nm,0.5s							
PB03	**IPOC Station P**	**2.14**	**152**	⇑*e*P		**Pn**	**23 45 03.6**	**-0.5**
PB09	**IPOC Station P**	**2.21**	**138**	⇑*e*P		**Pn**	**23 45 05.9**	**+0.7**
PB09				*i* S		**Sb**	**23 45 35.2**	**-0.8**
PB09				IAML			23 45 47.5	
	comp=E,530nm,0.3s							
PB04	**IPOC Station P**	**2.26**	**163**	*e*P		**Pn**	**23 45 05.4**	**-0.4**
PB05	**IPOC Station P**	**2.75**	**167**	⇑*e*P		**Pn**	**23 45 11.9**	**-0.5**
PB05				*i* S		**Sn**	**23 45 45.7**	**-0.1**
PB05				IAML			23 46 06.4	
	comp=N,81nm,0.4s							
PB15	**IPOC Station P**	**3.29**	**157**	⇑*e*P		**Pn**	**23 45 20.4**	**+0.3**
PB15				*i* S		**Sn**	**23 46 01.2**	**+1.8**
LPAZ	**La Paz**	**4.64**	**34**	Pn		**Pb**	**23 45 48.5**	**-1.6**
	comp=N,0.9nm,0.3s,baz=198,slow=5.3,SNR=10							
LPAZ				Pg		**Pg**	**23 45 58.9**	**+1.7**
	comp=N,0.6nm,0.3s,baz=222,slow=12,SNR=8.8							
LPAZ				Sn		**Sg**	**23 46 53.2**	**-4.2**
	comp=N,0.3nm,0.3s,baz=140,slow=22,SNR=1.6							
H03N1	**Juan Fernandez**	**15.05**	**207**	T		T	00 03 22.6	
	baz=33,slow=72,SNR=19							
H03N2	**Juan Fernandez**	**15.06**	**207**	T		T	00 03 31.8	
	baz=33,slow=72,SNR=13							
H03N3	**Juan Fernandez**	**15.07**	**207**	T		T	00 03 21.8	
	baz=33,slow=72,SNR=14							
TXAR	**Lajitas Array**	**58.51**	**326**	P		P	23 54 33.6	+8.6
	comp=N,0.1nm,0.5s,baz=141,slow=5.8,SNR=1.7							
TORD	**Torodi Ar. Bea**	**78.63**	**71**	P		**P**	**23 56 30.8**	**-0.1**
	comp=N,0.8nm,0.8s,baz=248,slow=4.5,SNR=7.2							
MKAR	**Makanchi Array**	**145.57**	**33**	PKPbc		**PKPab**	**00 04 08.9**	**+1.7**

comp=N,0.3nm,1.0s,baz=338,slow=3.1,SNR=3.9

*JMA **18** 23:55:05.6,23˚.99N×122˚.49E,h39km±3km,M2.5*
*TAP **18** 23:55:06.1,24˚.09N×122˚.46E,h33km±1km,ML3.0,D*
ISC 18 23:55:05.8±1.0,24˚.06N±0˚.03×122˚.47E±0˚.02,h32km±11km,
n76,σ0°93/128,8D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JYNG	**Yonagunijimaku**	**0.58**	**48**	P		**Pn**	**23 55 17.9**	**+0.1**
JYNG				S		**Sn**	**23 55 26.4**	**+0.1**
YOJ	**Yonaguni jima**	**0.64**	**51**	⇓P		**Pb**	**23 55 18.7**	**+0.1**
	baz=53							
YOJ				S		**Sn**	**23 55 27.9**	**+0.2**
	baz=53							
YOJ	**Yonaguni jima**	**0.64**	**51**	P		**Pb**	**23 55 18.6**	**+0.1**
YOJ				S		**Sn**	**23 55 27.8**	**+0.2**
ENA	**Nanau**	**0.76**	**299**	*e*P		**Pb**	**23 55 21.5**	**+0.9**
	baz=297							
ENA				*e*S		**Sb**	**23 55 32.2**	**+1.5**
	baz=297							
TWC	**Suao**	**0.79**	**314**	*e*P		**Pb**	**23 55 20.9**	**-0.2**
	baz=304							
TWC				*e*S		**Sn**	**23 55 30.9**	**-0.5**
	baz=304							
HWA	**Hwalien**	**0.80**	**264**	*e*P		**Pb**	**23 55 21.2**	**0.0**
	baz=261							
HWA				*e*S		**Sb**	**23 55 32.1**	**+0.4**
	baz=261							
TWD	**Chiawan**	**0.80**	**272**	⇓*i*P		**Pn**	**23 55 20.8**	**0.0**
	baz=269							
TWD				S		**Sn**	**23 55 31.6**	**0.0**
	baz=269							
NACB	**Ninganchiao**	**0.81**	**278**	*e*P		**Pn**	**23 55 21.1**	**+0.1**
	baz=262							
NACB				*e*S		**Sn**	**23 55 31.4**	**-0.5**
	baz=262							
ETLH	**Xiulin Townshi**	**0.92**	**280**	⇓*i*P		**Pn**	**23 55 22.7**	**+0.2**
	baz=265							
ETLH				*e*S		**Sb**	**23 55 34.9**	**-0.3**
	baz=265							
ESL	**Shilin**	**0.98**	**256**	*i* P		**Pn**	**23 55 23.0**	**-0.3**
	baz=244							
ESL				*e*S		**Sn**	**23 55 35.8**	**-0.3**
	baz=244							
NTC	**Toucheng**	**0.99**	**324**	*e*P		**Pb**	**23 55 24.1**	**-0.3**
	baz=323							
NTC				*e*S		**Sb**	**23 55 36.8**	**-0.2**
	baz=323							
TWE	**Neicheng**	**0.99**	**312**	*e*P		**Pb**	**23 55 24.5**	**+0.1**
	baz=311							
TWE				*e*S		**Sb**	**23 55 36.9**	**-0.2**
	baz=311							
ENTT	**Nioudou**	**1.01**	**305**	*e*P		**Pb**	**23 55 24.7**	**-0.1**
	baz=291							
ENTT				*e*S		**Sb**	**23 55 37.1**	**-0.7**
	baz=291							
NDT	**Datong Townshi**	**1.03**	**302**	*e*P		**Pb**	**23 55 25.0**	**-0.1**
	baz=288							
NDT				*e*S		**Sb**	**23 55 38.7**	**+0.4**
	baz=288							
EGFH	**Guangfu**	**1.03**	**248**	*e*P		**Pn**	**23 55 24.0**	**0.0**
	baz=245							
EGFH				*e*S		**Sn**	**23 55 37.5**	**+0.2**
	baz=245							
TWB1	**Santiao Chiao**	**1.04**	**335**	P		**Pb**	**23 55 24.6**	**-0.8**
	baz=335							
NNSB	**Datong**	**1.06**	**291**	*e*P		**Pb**	**23 55 25.2**	**-0.5**
	baz=277							
NNSB				*e*S		**Sb**	**23 55 39.0**	**-0.3**
	baz=277							
NNSH	**Datong**	**1.06**	**291**	*e*P		**Pb**	**23 55 25.4**	**-0.3**
	baz=288							
NNSH				*e*S		**Sb**	**23 55 39.0**	**-0.3**
	baz=288							
NNS	**Nan Shan**	**1.07**	**291**	*e*P		**Pn**	**23 55 25.0**	**+0.3**
	baz=278							
NNS				*e*S		**Sb**	**23 55 38.9**	**-0.8**
	baz=278							
TIPB	**Shuangxi**	**1.08**	**327**	*e*P		**Pb**	**23 55 25.6**	**-0.4**
	baz=318							
TIPB				*e*S		**Sn**	**23 55 38.1**	**-0.6**
	baz=318							
WHF	**Hehuan Shan**	**1.11**	**275**	⇓*i*P		**Pn**	**23 55 25.7**	**+0.3**
	baz=260							
WHF				*e*S		**Sn**	**23 55 39.9**	**+0.1**
	baz=260							
NWLT	**Wulai**	**1.14**	**309**	P		**Pb**	**23 55 26.8**	**-0.1**
	baz=308							
NWLT				*e*S		**Sb**	**23 55 41.3**	**-0.1**
	baz=308							
YHNB	**Yeheng**	**1.17**	**302**	*e*P		**Pb**	**23 55 27.2**	**-0.3**
	baz=288							
YHNB				*e*S		**Sb**	**23 55 41.6**	**-0.8**
	baz=288							
IRIF	**Iriomote-Funau**	**1.18**	**76**	P		**Pn**	**23 55 26.2**	**+0.1**
IRIF				*e*S		**Sn**	**23 55 41.3**	**+0.2**
CHGB	**Renai**	**1.19**	**270**	⇓P		**Pn**	**23 55 27.0**	**+0.7**
	baz=257							
CHGB				*e*S		**Sn**	**23 55 42.0**	**+0.5**
	baz=257							
EHY	**Hungye**	**1.19**	**243**	P		**Pn**	**23 55 26.1**	**0.0**
	baz=253							
EHY				*e*S		**Sn**	**23 55 40.9**	**-0.3**
	baz=253							
NSK	**Sanguang**	**1.19**	**301**	P		**Pb**	**23 55 27.4**	**-0.4**
	baz=285							
NSK				*e*S		**Sb**	**23 55 42.1**	**-0.8**
	baz=285							
NWF	**Wu-fen Shan**	**1.19**	**328**	*e*P		**Pn**	**23 55 26.8**	**+0.5**
	baz=328							
OWD	**Renai**	**1.19**	**265**	*e*P		**Pn**	**23 55 27.0**	**+0.7**
	baz=253							
WFSB	**Wu-fen Shan**	**1.19**	**328**	*e*P		**Pb**	**23 55 27.0**	**-0.8**
	baz=328							
TDCB	**Techi**	**1.22**	**280**	*e*P		**Pn**	**23 55 27.4**	**+0.7**
	baz=266							
TDCB				*e*S		**Sn**	**23 55 42.8**	**+0.7**
	baz=266							
HATJ	**Hateruma jima**	**1.22**	**90**	P		**Pn**	**23 55 26.6**	**0.0**
HATJ				*e*S		**Sn**	**23 55 42.4**	**+0.4**
TWA	**Mucha**	**1.22**	**319**	*e*P		**Pb**	**23 55 28.0**	**-0.4**
	baz=334							
NHDH	**Xindian Distri**	**1.25**	**316**	*e*P		**Pb**	**23 55 29.1**	**+0.4**
	baz=329							
VWDT	**VWDT**	**1.25**	**256**	⇓P		**Pn**	**23 55 27.8**	**+0.7**
	baz=253							
VWDT				*e*S		**Sn**	**23 55 42.0**	**-0.9**
	baz=253							
YULB	**Yu-li**	**1.26**	**239**	⇓P		**Pn**	**23 55 27.3**	**+0.1**
	baz=250							
YULB				*e*S		**Sn**	**23 55 42.9**	**-0.2**
	baz=250							
TWF1	**Yuli**	**1.28**	**237**	P		**Pn**	**23 55 27.8**	**+0.3**
	baz=224							
TWF1				*e*S		**Sn**	**23 55 43.6**	**0.0**
	baz=224							
FULB	**Fuli**	**1.38**	**232**	P		**Pn**	**23 55 28.4**	**-0.4**
	baz=218							
FULB				*e*S		**Sn**	**23 55 45.7**	**-0.2**
	baz=218							
CHKT	**Chengkung**	**1.39**	**227**	*e*P		**Pn**	**23 55 28.4**	**-0.6**
	baz=224							
CHKT				*e*S		**Sn**	**23 55 44.6**	**-1.6**
	baz=224							
WHP	**Taichung City**	**1.41**	**279**	*e*P		**Pb**	**23 55 31.3**	**-0.3**
	baz=266							
WHP				*e*S		**Sb**	**23 55 48.6**	**-0.6**
	baz=266							
DPDB	**Guoxing**	**1.41**	**269**	*e*P		**Pn**	**23 55 30.6**	**+1.3**
	baz=259							
DPDB				*e*S		**Sb**	**23 55 49.4**	**+0.1**
	baz=259							
SSLB	**Suanglung**	**1.41**	**259**	*e*P		**Pn**	**23 55 30.2**	**+0.9**
	baz=246							
JKRS	**Kuro-shima**	**1.42**	**82**	P		**Pn**	**23 55 29.9**	**+0.6**
SMLT	**Sun Moon Lake**	**1.45**	**263**	⇓P		**Pn**	**23 55 31.0**	**+1.2**
	baz=261							
NSTT	**Nanjuang**	**1.46**	**293**	*e*P		**Pb**	**23 55 31.6**	**-0.8**
	baz=291							
NSTT				*e*S		**Sb**	**23 55 50.4**	**-0.1**
	baz=291							
TYC	**Yuchr**	**1.48**	**264**	*e*P		**Pn**	**23 55 31.5**	**+1.2**
	baz=262							
WHYT	**Xinyi Township**	**1.52**	**257**	*e*P		**Pn**	**23 55 32.3**	**+1.5**
	baz=247							
JIJ	**Ishigaki jima**	**1.56**	**78**	P		**Pn**	**23 55 31.3**	**+0.1**
JIJ				*e*S		**Sn**	**23 55 50.6**	**+0.3**
TWQ1	**Liyutan**	**1.58**	**281**	*e*P		**Pb**	**23 55 34.0**	**-0.4**
	baz=278							
TWQ1				*e*S		**Sb**	**23 55 54.1**	**+0.2**
	baz=278							
ELDTW	**Lidau**	**1.59**	**237**	P		**Pn**	**23 55 31.6**	**-0.2**
	baz=234							
ELDTW				*e*S		**Sn**	**23 55 50.5**	**-0.8**
	baz=234							
PCYT	**Pengchaiyu**	**1.61**	**347**	*e*P		**Pn**	**23 55 32.6**	**+0.7**
	baz=348							
WJS	**Zhushan**	**1.61**	**262**	*e*P		**Pb**	**23 55 34.3**	**-0.7**
	baz=259							
WJS				*e*S		**Sb**	**23 55 57.2**	**+2.2**
	baz=259							
ALS	**Alishan**	**1.62**	**251**	*e*P		**Pn**	**23 55 33.8**	**+1.4**
	baz=247							
ALS				*e*S		**Sn**	**23 55 53.7**	**+1.4**
	baz=247							
TCU	**Taichung**	**1.64**	**274**	*e*P		**Pb**	**23 55 34.9**	**-0.5**
	baz=270							
WNT	**Mingjian**	**1.65**	**264**	*e*P		**Pb**	**23 55 35.1**	**-0.4**
	baz=261							
CHN5	**Tsauling**	**1.71**	**255**	P		**Pb**	**23 55 35.3**	**-1.3**
	baz=242							
CHN5				*e*S		**Sb**	**23 55 59.1**	**+1.5**
	baz=242							
JISG	**Ishigakijimahi**	**1.76**	**72**	P		**Pn**	**23 55 33.9**	**-0.1**
JISG				S		**Sn**	**23 55 55.1**	**-0.2**
STYT	**Tauyuan**	**1.81**	**241**	*e*P		**Pn**	**23 55 35.9**	**+1.2**
	baz=229							
STYT				*e*S		**Sn**	**23 55 57.5**	**+0.9**
	baz=229							
WDLH	**Douliu**	**1.81**	**259**	*e*P		**Pb**	**23 55 37.1**	**-1.1**
	baz=255							
WDLH				*e*S		**Sb**	**23 56 00.7**	**+0.2**
	baz=255							
TPUB	**Ta-pu**	**1.85**	**246**	*e*P		**Pn**	**23 55 37.3**	**+2.0**
	baz=243							
TPUB				*e*S		**Sb**	**23 56 00.8**	**-0.9**
	baz=243							
CHN4	**Tsaushan**	**1.86**	**248**	*e*P		**Pn**	**23 55 37.6**	**+2.2**
	baz=245							
CHN4				*e*S		**Sb**	**23 56 02.0**	**0.0**
	baz=245							
WTP	**Ta-pu**	**1.89**	**245**	*e*P		**Pn**	**23 55 37.8**	**+2.0**
	baz=241							
WTP				*e*S		**Sb**	**23 56 01.9**	**-0.9**
	baz=241							
RLNB	**Erlin**	**1.94**	**266**	*e*P		**Pb**	**23 55 39.0**	**-1.4**
	baz=262							
CHY	**Chiayi**	**1.96**	**254**	*e*P		**Pb**	**23 55 39.1**	**-1.7**
	baz=251							
TWK	**Hsinying**	**1.98**	**247**	*e*P		**Pn**	**23 55 39.5**	**+2.3**
	baz=243							
TWK				*e*S		**Sb**	**23 56 04.2**	**-1.4**
	baz=243							
CHN1	**Nanshi**	**1.98**	**244**	*e*P		**Pb**	**23 55 39.6**	**-1.6**
	baz=241							
CHN1				*e*S		**Sb**	**23 56 04.4**	**-1.2**
	baz=241							
SLGT	**Liugui**	**1.98**	**238**	*e*P		**Pn**	**23 55 38.9**	**+1.8**
	baz=227							
SGST	**Jiashian**	**1.99**	**241**	*e*P		**Pn**	**23 55 39.1**	**+1.9**
	baz=238							
SGST				*e*S		**Sn**	**23 56 03.4**	**+2.4**
	baz=238							
ECL	**Taimali**	**2.01**	**224**	*e*P		**Pn**	**23 55 39.3**	**+1.8**
	baz=231							
SSD	**Sandimen**	**2.13**	**233**	*e*P		**Pn**	**23 55 40.5**	**+1.3**
	baz=222							
MASBT	**Mashibuluo**	**2.22**	**230**	*e*P		**Pn**	**23 55 41.6**	**+1.3**
	baz=223							
MASBT				*e*S		**Sn**	**23 56 07.0**	**+0.3**
	baz=223							
SCZT	**Fangliau**	**2.39**	**226**	*e*P		**Pn**	**23 55 45.9**	**+3.2**
	baz=223							
TWKBT	**Hengchun**	**2.60**	**216**	*e*P		**Pn**	**23 55 46.5**	**+0.9**
	baz=214							
PTTC	**Pingtan**	**2.84**	**301**	*e*S		**Sn**	**23 56 21.0**	**-1.1**
	baz=298							
VWUC	**VWUC**	**2.91**	**289**	*e*P		**Pn**	**23 55 50.3**	**+0.5**
	baz=286							
PTMZ	**Houxiangcun**	**3.21**	**288**	*e*P		**Pn**	**23 55 54.4**	**+0.5**
	baz=285							

*IDC **19** 00:02:28.9±1.1,52˚.08N×96˚.05E,h0km,mb3.7/3,*
mb1 3.6/7,mb1mx3.3/47,mbtmp3.5/7,ML2.9/4,Error
ellipse: s-maj=27.5km s-min=12.8km az=176.0
*MOS **19** 00:02:29.8±2.4,52˚.09N×95˚.72E,h5km,mb4.1/3,Error*
ellipse: s-maj=9.5km s-min=7.4km az=0.7
*ASRS **19** 00:02:30.8±0.4,52˚.N±2˚×9˚.6E±˚,h10km,MLh4.3/8,*
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/iasp91 confirmed
*NNC **19** 00:02:30.8±10.0,50˚.69N×96˚.30E,h0km,mb4.0,Error*
ellipse: s-maj=106.5km s-min=90.5km az=45.0
**

comp=Z,24nm,0.5s
ZAK smax smax
comp=N,232nm,1.2s
IRK Irkutsk 5.14 83 *e*PN **Pb 00 03 59.2 0.0**
IRK *e* 00 05 04.1
IRK pmax pmax
comp=Z,190nm,0.1s
IRK smax smax
comp=E,476nm,0.8s
DGZ Jazzator, Alta 5.84 251 *i* PN **Pn 00 03 56.5 +0.1**
ZALV Zalesovo Beam 7.04 291 Pn **Pn 00 04 14.0 +1.4**
comp=E,0.3nm,0.3s,baz=95,slow=12,SNR=1.1
ZALV Lg Lg 00 06 04.7
comp=E,3.8nm,0.3s,baz=118,slow=25,SNR=9.1
ZALV Zalesovo Beam 7.04 291 PN **Pn 00 04 14.0 +1.4**
OGRR Ongureny 7.27 72 *e*P **Pn 00 04 17.8 +2.0**
OGRR pmax pmax
comp=Z,11nm,0.6s
SONM Songino Array 7.88 117 Pg **Pb 00 04 47.5 +1.5**
comp=Z,0.3nm,0.3s,baz=308,slow=20,SNR=5.5
SONM Lg Lg 00 06 36.1
comp=Z,1.0nm,0.3s,baz=306,slow=29,SNR=13
MK31 Makanchi Array 10.28 245 ⇑Pn **Pn 00 04 57.8 +0.7**
comp=Z,1.7nm,0.8s,baz=57,slow=14,SNR=8.0
MK31 ⇑Lg Lg 00 07 52.5
comp=Z,19nm,1.1s,baz=66,slow=28,SNR=4.0
MK31 Makanchi Array 10.28 245 *i* P **Pn 00 04 57.4 +0.3**
MKAR Makanchi Array 10.28 245 Pn **Pn 00 04 58.4 +1.3**
comp=Z,0.2nm,0.3s,baz=48,slow=15,SNR=7.4
MKAR Pg 00 05 42.0
comp=Z,0.2nm,0.3s,baz=49,slow=17,SNR=6.0
MKAR Lg Lg 00 07 50.0
comp=Z,0.2nm,0.3s,baz=44,slow=23,SNR=2.1
MAKZ Makanchi 10.45 246 ⇑Pn **Pn 00 04 59.5 +0.1**
comp=Z,3.7nm,1.2s
MAKZ ⇑Lg Lg 00 07 55.1
comp=Z,17nm,1.4s
MAKZ Makanchi 10.45 246 P **Pn 00 04 59.5 +0.1**
KURK Kurchatov 10.92 271 ⇑Lg Lg 00 08 23.7
comp=Z,14nm,0.9s
KURK Kurchatov 10.92 271 *i* P **Pn 00 05 05.7 -0.1**
KURBB Kurchatov Arra 11.00 270 Pn **Pn 00 05 08.9 +2.0**
comp=Z,0.1nm,0.3s,baz=75,slow=16,SNR=6.1
KURBB Lg Lg 00 08 13.3
comp=Z,0.1nm,0.3s,baz=78,slow=32,SNR=6.9
KURBB Kurchatov Arra 11.00 270 ⇑Pn **Pn 00 05 10.9 +4.0**
comp=Z,2.5nm,0.8s
KURBB ⇑Lg Lg 00 08 27.1
comp=Z,22nm,0.7s
KURBB Kurchatov Arra 11.00 270 P **Pn 00 05 10.9 +4.0**
BVAR Borovoye Array 15.60 284 Pn **Pn 00 06 08.7 -0.7**
comp=Z,0.1nm,0.3s,baz=86,slow=11,SNR=3.3
BRVK Borovoye 15.66 284 *i* P **Pn 00 06 10.4 +0.2**
BRVK pmax pmax
comp=Z,3.0nm,1.4s
NRIK Noril'sk 17.93 350 *i* P **Pn 00 06 38.9 +0.2**
NRIK pmax pmax
comp=Z,2.0nm,0.9s
YAK Yakutsk 20.73 48 *i* P **P 00 07 09.5 -0.6**
YAK pmax pmax
comp=Z,9.0nm,0.5s
ARU Arti 22.16 297 *c i*P **P 00 07 25.3 -0.2**
ARU S **S 00 11 30.2 +0.3**
ARU SS **SnSn 00 11 54.5 -1.4**
ARU pmax pmax
comp=Z,4.0nm,1.1s
KLR Kul'dur 22.75 83 *i* P **P 00 07 31.6 -0.2**
TIXI Tiksi 24.58 24 *i* P **P 00 07 48.8 -0.7**
TIXI pmax pmax
comp=Z,4.0nm,0.7s
ARCES ARCESS Array B 36.12 326 P **P 00 09 30.6 -0.9**
comp=Z,1.7nm,0.9s,baz=74,slow=9.5,SNR=8.4
ARCES ARCESS Array B 36.12 326 *e*P **P 00 09 29.5 -2.0**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 37.73 312 P **P 00 09 44.7 -0.6**
comp=Z,0.3nm,0.4s,baz=64,slow=9.4,SNR=4.3
NOA NORSAR Array B 44.48 316 P **P 00 10 40.0 -0.9**
comp=Z,1.0nm,0.7s,baz=60,slow=7.9,SNR=5.3
NOA NORSAR Array B 44.48 316 *e*P **P 00 10 40.2 -0.7**
NOA pmax pmax
comp=Z,1.0nm,0.7s

IDC ***19*** *00:08:22.4±3.6, 17.°63N×102.°38W, h0km, mb3.6/4, mb1 4.0/6, mb1mx3.7/31, mbtmp3.7/6, ML3.9/2, MS3.1/8, Ms1 3.1/8, ms1mx2.8/41, Error ellipse: s-maj=90.3km s-min=31.1km az=34.0*
NEIC ***19*** *00:08:31.0±1.6, 18.°00N±0.°08×102.°09W±0.°06, h46km±13km, Error ellipse: s-maj=13.0km s-min=6.0km az=205.0*
MEX ***19*** *00:08:34.4±1.1, 18.°00N×102.°02W, h30km, MD4.4*
ISC 19 00:08:29.2±1.2, 17.°96N±0.°05×102.°11W±0.°03, h30km±11km**, n58,** σ1**§68/67, mb3.4/4, MS3.0/3, 1C, Near coast of Michoacan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ZIIG	**Zihuatanejo**	**0.70**	**120**			**Pn**	**00 08 45.0**	**+1.8**
ZIIG						**Sn**	**00 08 54.9**	**+1.9**
ZIIG	**Zihuatanejo**	**0.70**	**120**	⇑*e*P		**Pn**	**00 08 45.0**	**+1.8**
	baz=306,slow=10							
ZIIG				*e*S		**Sn**	**00 08 54.6**	**+1.6**
MMIG	**Aquila**	**1.22**	**286**			**Sn**	**00 09 08.5**	**+2.7**
MMIG	**Aquila**	**1.22**	**286**	*e*P		**Pb**	**00 08 54.5**	**+2.7**
MMIG				*i* S		**Sn**	**00 09 09.9**	**+4.1**
COIG	**Colima**	**1.93**	**309**	*e*P		**Pb**	**00 09 03.9**	**+0.1**
COIG				*i* S		**Sb**	**00 09 27.9**	**+0.4**
CAIG	**El Cayaco**	**1.98**	**117**			**Pn**	**00 09 01.5**	**+0.9**
CAIG						**Sb**	**00 09 26.8**	**-1.9**
CAIG	**El Cayaco**	**1.98**	**117**	*e*P		**Pn**	**00 09 01.5**	**+0.9**
CAIG				*i* S		**Sb**	**00 09 26.0**	**-2.7**
EZ5V		**2.07**	**317**	*e*P		**Pb**	**00 09 05.7**	**-0.6**
EZ5V				*i* S		**Sb**	**00 09 30.6**	**-1.1**
R15V		**2.15**	**304**	*e*P		**Pb**	**00 09 07.5**	**0.0**
R15V				*e*S		**Sb**	**00 09 33.5**	**-0.3**
PLIG	**Platanillo**	**2.51**	**80**			**Pn**	**00 09 07.7**	**-0.4**
PLIG	**Platanillo**	**2.51**	**80**	*e*P		**Pn**	**00 09 07.7**	**-0.4**
UNM	**Universidad Na**	**3.09**	**63**			**Pn**	**00 09 17.7**	**+1.4**
UNM				Sn		**Sn**	**00 09 54.0**	**+1.6**
UNM	**Universidad Na**	**3.09**	**63**	*i* P		**Pn**	**00 09 18.2**	**+1.9**
UNM				*i* S		**Sn**	**00 09 54.9**	**+2.5**
CJM	**Chamela**	**3.18**	**299**	*e*P		**Pb**	**00 09 21.9**	**-3.1**
CJM				*i* S		**Sb**	**00 09 60.0**	**-3.3**
TLIG	**Tlapa**	**3.40**	**96**			**Pn**	**00 09 21.1**	**+0.8**
TLIG						**Sn**	**00 10 00.5**	**+0.8**
TLIG	**Tlapa**	**3.40**	**96**	*e*P		**Pn**	**00 09 21.1**	**+0.8**
TLIG				*i* S		**Sn**	**00 10 00.5**	**+0.8**
PPM	**Popocatepetl**	**3.48**	**71**	*e*P		**Pn**	**00 09 21.3**	**-0.5**
PPM				*e*S		**Sn**	**00 10 04.3**	**+2.0**
DEIG	**Demacu**	**3.72**	**51**	*e*P		**Pn**	**00 09 26.0**	**+1.1**
DEIG				*i* S		**Sn**	**00 10 10.9**	**+3.0**
YOIG	**Yosondua**	**4.49**	**103**	*e*P		**Pn**	**00 09 37.1**	**+1.6**
YOIG				*e*P		Pb	00 09 37.1	-10
YOIG				*e*S		**Sn**	**00 10 30.2**	**+3.3**
TPIG	**Tehuac#an**	**4.53**	**83**	*e*P		Pb	00 09 54.8	+6.6
TPIG				*i* S		**Sb**	**00 10 46.2**	**+3.7**
ZAIG	**Zacatecas**	**4.80**	**355**	Pn		**Pn**	**00 09 38.7**	**-1.1**
CMIG	**Matias Romero**	**6.95**	**96**	Pn		**Pn**	**00 10 09.8**	**+0.8**
	3.4nm,0.3s,baz=272,slow=13,SNR=41							
CMIG					Sn	**Sn**	**00 11 23.4**	**-3.6**
	1.3nm,0.3s,baz=338,slow=9.9,SNR=3.7							
CMIG					LR	LR	00 12 59.0	
	comp=Z,133nm,18.6s,baz=310,slow=38							
LPIG	**La Paz**	**9.80**	**310**	LR		LR	00 13 48.8	
	comp=Z,36nm,20.8s,baz=87,slow=33							
TXAR	**Lajitas Array**	**11.41**	**353**	Pn		**Pn**	**00 11 12.4**	**+2.0**
	0.1nm,0.3s,baz=171,slow=14,SNR=17							
TXAR					LR	LR	00 15 58.2	
	comp=Z,87nm,18.8s,baz=0.0,slow=39							
TXAR	**Lajitas Array**	**11.41**	**353**			**Pn**	**00 11 09.5**	**-0.8**
TX31	**Lajitas Ar. Si**	**11.41**	**353**			**Pn**	**00 11 09.8**	**-0.6**
JCT	**Junction City**	**12.64**	**9**	Pn		**Pn**	**00 11 27.6**	**+0.6**
TEIG	**Tepich**	**13.27**	**78**	LR		LR	00 17 33.0	
	comp=Z,35nm,18.3s,baz=229,slow=40							
MNTX	**Cornudas Mount**	**14.00**	**348**	Pn		**Pn**	**00 11 44.4**	**-1.1**
GDL2	**Guadalupe Moun**	**14.33**	**352**	Pn		**Pn**	**00 11 50.7**	**+0.5**
ABTX	**Abilene, Hawle**	**14.77**	**8**	Pn		**Pn**	**00 11 54.6**	**-1.5**
NATX	**Nacogdoches**	**15.30**	**25**	Pn		**Pn**	**00 12 03.8**	**+0.7**
MSTX	**Muleshoe**	**15.96**	**358**	P		**Pn**	**00 12 14.0**	**+2.3**
BNM	**Barren Site**	**16.62**	**347**	P		**P**	**00 12 22.3**	**-0.3**
AMTX	**Amarillo**	**16.86**	**1**			**Pn**	**00 12 22.9**	**-0.2**
X34A	**Smith Ranch, M**	**17.01**	**12**	P		**P**	**00 12 26.4**	**-0.1**
ANMO	**Albuquerque**	**17.36**	**348**	LR		LR	00 19 33.0	
	comp=Z,61nm,20.2s,baz=102,slow=38							
Z41A	**Richland Creek**	**17.38**	**27**	P		**P**	**00 12 31.3**	**+0.7**
WLAR	**White Oak Lake**	**17.62**	**26**	P		**Pn**	**00 12 32.9**	**+0.4**
MIAR	**Mount Ida**	**18.19**	**23**	P		**Pn**	**00 12 39.4**	**-0.1**
X40A	**Basin Creek Fa**	**18.43**	**25**			**P**	**00 12 42.8**	**+0.7**
FCAR	**Ozark Folk Cen**	**19.93**	**24**	Pn		**Pn**	**00 13 00.9**	**+0.4**
LCAR	**Lake Charles**	**20.48**	**26**	P		**P**	**00 13 05.5**	**+0.9**
DUG	**Dugway, Tooele**	**24.01**	**340**	P		**P**	**00 13 41.2**	**-0.4**
NVAR	**Mina Array Bea**	**24.82**	**329**	P		**P**	**00 13 48.2**	**-0.9**
	0.4nm,0.6s,baz=133,slow=9.2,SNR=2.9							
NVAR					LR	LR	00 23 57.2	
	comp=Z,36nm,21.0s,baz=160,slow=38							
NVAR	**Mina Array Bea**	**24.82**	**329**	P		**P**	**00 13 49.0**	**-0.1**
ELK	**Elko**	**25.37**	**336**	LR		LR	00 23 38.3	
	comp=Z,46nm,21.1s,baz=112,slow=36							
PDAR	**Pinedale Array**	**25.53**	**347**	P		**P**	**00 13 55.1**	**-0.3**
	0.7nm,0.8s,baz=166,slow=8.4,SNR=2.6							
PDAR	**Pinedale Array**	**25.53**	**347**	P		**P**	**00 13 54.5**	**-0.9**
ILAR	**Eielson Array**	**55.50**	**339**	P		**P**	**00 18 00.8**	**-0.3**
	0.2nm,0.5s,baz=156,slow=7.4,SNR=4.9							
ILAR	**Eielson Array**	**55.50**	**339**	P		**P**	**00 18 00.6**	**-0.5**
H03N2	**Juan Fernandez**	**55.69**	**157**	T		T	01 18 12.4	
	baz=334,slow=77,SNR=33							
H03N1	**Juan Fernandez**	**55.70**	**157**	T		T	01 18 18.0	
	baz=334,slow=77,SNR=52							
H03N3	**Juan Fernandez**	**55.71**	**157**	T		T	01 18 15.4	
	baz=334,slow=77,SNR=43							
TRF	**Thorofare Moun**	**56.01**	**336**	P		**P**	**00 18 04.8**	**-0.2**
IMAR	**Indian Mountai**	**58.58**	**338**	P		**P**	**00 18 21.7**	**-1.2**
CFA	**Coronel Fontan**	**59.03**	**146**	LR		LR	00 38 47.1	
	comp=Z,76nm,19.0s,baz=302,slow=31							
TORD	**Torodi Ar. Bea**	**98.74**	**73**	P		**P**	**00 22 04.6**	**-2.1**
	0.3nm,0.8s,baz=291,slow=5.0,SNR=1.6							

IDC ***19*** *00:20:53.7±1.8, 1.°85N×127.°37E, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.5/45, mbtmp3.8/5, ML3.7/1, Error ellipse: s-maj=118.5km s-min=20.9km az=70.0*
DJA ***19*** *00:21:03.0±0.7, 2.°N±4.×12.°7E±., h72km±9km, M3.9/6, MLv3.9/6*
NEIC ***19*** *00:21:04.6±0.9, 1.°74N±0.°09×127.°4E±0.°2, h93km±10km, mb4.1/13, Error ellipse: s-maj=25.2km s-min=13.2km az=81.0*
ISC 19 00:21:04.8±0.8, 1.°75N±0.°06×127.°28E±0.°09, h100km**, n25,** σ1§**00/28, mb4.0/9, 1C, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNTI	**Ternate**	**0.98**	**175**	P		**Pn**	**00 21 23.0**	**-2.0**
TNTI				S		**Sn**	**00 21 39.4**	**-0.8**
TNTI	**Ternate**	**0.98**	**175**			**Pn**	**00 21 23.9**	**-1.0**
TNTI					Sn	**Sn**	**00 21 39.3**	**-0.9**
KMSI	**Cibinong**	**3.50**	**251**	P		**Pn**	**00 21 56.4**	**-0.8**
KMSI				S		**Sn**	**00 22 37.3**	**-0.5**
SANI	**Sanana**	**3.99**	**199**	P		**Pn**	**00 22 02.2**	**-1.7**
DDMP	**Don Marcelino,**	**4.60**	**340**	*e*P		Pn	00 22 07.5	-4.6
DDMP				*e*S		Sn	00 22 55.2	-9.1
KCP	**Kidapawan**	**5.66**	**337**	⇑*e*P		**Pn**	**00 22 25.7**	**-0.9**
KCP				*i* S		**Sn**	**00 23 27.8**	**-2.5**
JAGI	**Jajag, Banyuwa**	**16.57**	**232**			**P**	**00 24 52.5**	**+0.5**
KNRA	**Kununurra**	**17.38**	**175**			**P**	**00 25 00.5**	**-0.4**
FITZ	**Fitzroy Crossi**	**19.79**	**185**	P		**P**	**00 25 27.1**	**-0.1**
	0.2nm,0.3s,baz=7.6,slow=12,SNR=2.2							
FITZ	**Fitzroy Crossi**	**19.79**	**185**	P		**P**	**00 25 27.4**	**+0.1**
FITZ				IAmb		IAmb	00 25 36.4	
	comp=Z,10nm,1.3s							
WB0	**Warramunga Arr**	**22.50**	**162**	P		**P**	**00 25 56.3**	**+0.1**
WB0				IAmb		IAmb	00 26 09.7	
	comp=Z,25nm,1.5s							
WRA	**Warramunga Arr**	**22.65**	**163**	P		**P**	**00 25 57.5**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=342,slow=10,SNR=21							
WRA	**Warramunga Arr**	**22.65**	**163**	P		**P**		
WB2	**Warramunga Arr**	**22.65**	**163**	P		**P**	**00 25 57.3**	**-0.4**
WR0	**Warramunga Arr**	**22.72**	**162**	P		**P**	**00 25 57.6**	**-0.2**
WR0				IAmb		IAmb	**00 25 58.4**	**-0.1**
	comp=Z,9.8nm,1.2s						00 26 02.5	
PSAA1	**Pilbara Seismi**	**24.30**	**197**	P		**P**	**00 26 13.2**	**+0.1**
PSAA1				IAmb		IAmb	00 26 18.4	
	comp=Z,15nm,1.2s							
AS31	**Alice Springs**	**26.07**	**166**	P		**P**	**00 26 29.7**	**+0.5**
ASAR	**Alice Springs**	**26.08**	**166**	P		**P**	**00 26 29.4**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=352,slow=15,SNR=7.2							
BBOO	**Buckleboo**	**35.37**	**167**	P		**P**	**00 27 51.0**	**+0.2**
STKA	**Stephens Creek**	**36.10**	**159**	P		**P**	**00 27 57.6**	**+0.5**
STKA				IAmb		IAmb	00 28 15.2	
	comp=Z,3.0nm,1.4s							
MKAR	**Makanchi Array**	**59.48**	**326**	P		**P**	**00 30 59.0**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=108,slow=7.8,SNR=5.8							
MKAR	**Makanchi Array**	**59.48**	**326**	P		**P**	**00 30 58.7**	**+1.3**
KURBB	**Kurchatov Arra**	**63.69**	**328**	P		**P**	**00 31 26.3**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=126,slow=6.1,SNR=2.3							
KURK	**Kurchatov**	**63.69**	**328**	P		**P**	**00 31 26.6**	**+1.1**
KURK				IAmb		IAmb	00 31 29.8	
	comp=Z,4.1nm,1.4s							
VNDA	**Vanda**	**81.41**	**173**	P		**P**	**00 33 10.9**	**+0.8**

IDC ***19*** *00:21:44.2±0.9, 11.°52S×162.°49E, h0km, mb4.0/10, mb1 4.2/12, mb1mx4.0/39, mbtmp4.1/12, ML4.0/2, MS3.3/14, Ms1 3.4/14, ms1mx3.3/33, Error ellipse: s-maj=23.7km s-min=21.3km az=105.0*
NEIC ***19*** *00:21:47.9±0.9, 11.°79S±0.°09×162.°53E±0.°06, h29km±4km, mb4.4/16, Error ellipse: s-maj=13.3km s-min=7.7km az=199.0*
ISC 19 00:21:49.1±0.5, 11.°70S±0.°08×162.°53E±0.°08, h39km**, n61,** σ1§**10/48, mb4.3/17, MS3.6/13, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**3.40**	**311**	Pn		**Pn**	**00 22 38.6**	**-1.1**
	36nm,0.3s,baz=158,slow=4.6,SNR=5.8							
HNR					Sn	**Sn**	**00 23 16.2**	**-2.5**
	55nm,0.3s,baz=58,slow=23,SNR=6.2							
HNR					LR	LR	00 24 04.5	
	comp=Z,775nm,20.2s,baz=105,slow=43							
HNR	**Honiara**	**3.40**	**311**			**Pn**	**00 22 39.5**	**-0.1**
HNR					Sn	**Sn**	**00 23 17.7**	**-1.0**
SANVU	**Saraoutou**	**5.87**	**130**			**Pn**	**00 23 12.1**	**-1.6**
SANVU					Sn	**Sn**	**00 24 16.2**	**-3.6**
DZM	**Mont Dzumac**	**10.97**	**161**	*e*Pn		**Pn**	**00 24 24.3**	**+0.6**
	1.3nm,0.2s							
DZM				*e*LR		LR	00 26 56.7	
	comp=Z,723nm,26.2s							
PMG	**Port Moresby**	**15.28**	**277**	LR		LR	00 30 27.3	
	comp=Z,111nm,21.7s,baz=359,slow=34							
EIDS	**Eidsvold**	**17.38**	**217**			**Pn**	**00 25 48.6**	**-0.1**
CTA	**Charters Tower**	**17.72**	**240**	P		**Pn**	**00 25 52.3**	**-0.8**
	0.2nm,0.3s,baz=329,slow=11,SNR=1.9							
CTAO	**Charters Tower**	**17.72**	**240**			**Pn**	**00 25 51.7**	**-1.4**
COEN	**Coen**	**19.00**	**261**	P		**P**	**00 26 07.6**	**-0.2**
COEN				IAmb		IAmb	00 26 24.0	
	comp=Z,21nm,1.0s							
ARMA	**Armidale**	**21.19**	**207**	P		**P**	**00 26 31.1**	**-0.4**
ARMA				IAmb		IAmb	00 26 36.3	
	comp=Z,16nm,1.1s							
JAY	**Jayapura**	**23.48**	**291**	P		**P**	**00 26 54.5**	**-1.1**
	comp=Z,3.4nm,0.5s,baz=215,slow=17,SNR=1.9							
STKA	**Stephens Creek**	**27.84**	**221**	LR		LR	00 37 16.9	
	comp=Z,103nm,18.9s,baz=15,slow=33							
WB0	**Warramunga Arr**	**28.21**	**250**	P		**P**	**00 27 37.7**	**-0.8**
WB0				IAmb		IAmb	00 27 51.7	
	comp=Z,11nm,1.2s							
WRA	**Warramunga Arr**	**28.30**	**250**	P		**P**	**00 27 39.6**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=80,slow=8.6,SNR=1.8							
AS31	**Alice Springs**	**29.68**	**242**	P		**P**	**00 27 51.3**	**-0.3**
ASAR	**Alice Springs**	**29.69**	**242**	P		**P**	**00 27 52.6**	**+1.0**
	comp=Z,2.1nm,0.8s,baz=68,slow=9.7,SNR=12							
ASAR					LR	LR	00 38 00.5	
	comp=Z,45nm,20.5s,baz=298,slow=33							
ASAR	**Alice Springs**	**29.69**	**242**	P		**P**	**00 27 50.8**	**-0.8**
H11S2	**WAKE ISLAND Hy**	**30.29**	**8**	T		T	00 59 36.4	
	baz=188,slow=76,SNR=50							
H11S3	**WAKE ISLAND Hy**	**30.29**	**8**	T		T	00 59 36.1	
	baz=188,slow=76,SNR=41							
H11S1	**WAKE ISLAND Hy**	**30.30**	**8**	T		T	00 59 39.4	
	baz=188,slow=76,SNR=9.6							
H11N1	**WAKE ISLAND Hy**	**31.52**	**8**	T		T	01 01 09.1	
	baz=188,slow=76,SNR=9.6							
H11N3	**WAKE ISLAND Hy**	**31.52**	**8**	T		T	01 01 09.0	
	baz=188,slow=76,SNR=26							
H11N2	**WAKE ISLAND Hy**	**31.53**	**8**	T		T	01 01 10.0	
	baz=188,slow=76,SNR=19							
FITZ	**Fitzroy Crossi**	**36.16**	**255**	P		**P**	**00 28 47.8**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=101,slow=6.8,SNR=1.5							
FITZ	**Fitzroy Crossi**	**36.16**	**255**	P		**P**	**00 28 47.9**	**-0.3**
FITZ				IAmb		IAmb	00 29 02.4	
	comp=Z,9.2nm,1.3s							
PPT	**Papeete**	**46.61**	**103**	LR		LR	00 47 15.8	
	comp=Z,8.7nm,21.3s,baz=2,5,slow=33							
PPT2	**Papeete2**	**46.61**	**103**	*e*LR		LR	00 43 43.5	
	comp=Z,91nm,28.2s							
MJAR	**Matsushiro Arr**	**53.18**	**336**	LR		LR	00 51 35.4	
	comp=Z,17nm,21.5s,baz=180,slow=34							
KSRS	**Korea Array**	**58.70**	**328**	LR		LR	00 53 59.5	
	comp=Z,24nm,21.1s,baz=160,slow=33							
USRK	**Ussuriysk Ar.**	**62.18**	**336**	P		**P**	**00 32 06.1**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=166,slow=6.7,SNR=6.3							
USRK	**Ussuriysk Ar.**	**62.18**	**336**	P		**P**	**00 32 06.5**	**-0.1**
PETK	**Petropavlovsk-**	**64.68**	**357**	LR		LR	00 56 45.6	
	comp=Z,19nm,20.1s,baz=241,slow=33							
VNDA	**Vanda**	**65.81**	**180**	P		**P**	**00 32 32.9**	**+2.9**
	comp=Z,2.7nm,1.0s,baz=346,slow=6.2,SNR=11							
VNDA					LR	LR	00 55 54.8	
	comp=Z,40nm,21.3s,baz=350,slow=31							
VNDA	**Vanda**	**65.81**	**180**	P		**P**	**00 32 30.6**	**+0.7**
HIA	**Hailar**	**71.42**	**332**	P		**P**	**00 33 07.4**	**+2.0**
ULN	**Ulaanbaatar**	**77.01**	**325**	P		**P**	**00 33 39.0**	**+0.9**
ULN				IAmb		IAmb	00 33 48.8	
	comp=Z,4.2nm,0.9s							
SONM	**Songino Array**	**77.36**	**325**	P		**P**	**00 33 41.1**	**+1.0**
	comp=Z,1.4nm,0.8s,baz=145,slow=5.7,SNR=6.7							
SONM					LR	LR	01 05 52.4	
	comp=Z,38nm,21.6s,baz=166,slow=34							
SONM	**Songino Array**	**77.36**	**325**	P		**P**	**00 33 40.5**	**+0.4**
QSPA	**South Pole Qui**	**78.30**	**180**	P		**P**	**00 33 46.3**	**+1.2**
QSPA				IAmb		IAmb	00 33 58.4	
	comp=Z,3.1nm,0.9s							
BILL	**Bilibino**	**79.58**	**1**	P		**P**	**00 33 52.6**	**+1.0**
BILL				IAmb		IAmb	00 33 54.3	
	comp=Z,3.9nm,0.9s							
TLY	**Talaya**	**80.94**	**327**	P		**P**	**00 33 59.8**	**+0.4**
TLY				IAmb		IAmb	00 34 10.0	
	comp=Z,3.7nm,1.0s							
IMAR	**Indian Mountai**	**83.93**	**17**	P		**P**	**00 34 14.9**	**+0.3**
HDA	**Harding Lake**	**84.90**	**20**	P		**P**	**00 34 19.8**	**+0.1**
ILAR	**Eielson Array**	**85.16**	**19**	P		**P**	**00 34 19.6**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=230,slow=8.1,SNR=2.4							
ILAR					LR	LR	01 05 22.5	
	comp=Z,26nm,21.6s,baz=295,slow=31							
BCAR	**Beaver Creek A**	**85.87**	**22**	P		**P**	**00 34 25.1**	**+0.6**
NVAR	**Mina Array Bea**	**88.86**	**50**	P		**P**	**00 34 40.5**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=229,slow=6.9,SNR=2.9							
NVAR	**Mina Array Bea**	**88.86**	**50**	P		**P**	**00 34 40.2**	**+0.4**
MK31	**Makanchi Array**	**91.85**	**317**	P		**P**	**00 34 53.6**	**+0.3**
MK31				IAmb		IAmb	00 35 03.1	
	comp=Z,1.3nm,0.6s							
MKAR	**Makanchi Array**	**91.85**	**317**	P		**P**	**00 34 54.0**	**+0.7**
	comp=Z,1.5nm,0.7s,baz=101,slow=6.2,SNR=14							
MKAR	**Makanchi Array**	**91.85**	**317**	P		**P**	**00 34 53.3**	**0.0**
ZALV	**Zalesovo Beam**	**92.25**	**325**	LR		LR	01 15 16.5	
	comp=Z,26nm,20.7s,baz=104,slow=35							
ZALV	**Zalesovo Beam**	**92.25**	**325**	P		**P**	**00 34 55.9**	**+1.0**
NRIK	**Noril'sk**	**95.64**	**340**	LR		LR	01 16 28.0	
	comp=Z,29nm,21.8s,baz=98,slow=34							
YKA	**Yellowknife Ar**	**97.01**	**28**	LR		LR	01 11 44.9	
	comp=Z,20nm,21.0s,baz=0.0,slow=31							
AKASG	**Malin Array Be**	**125.64**	**325**	PKP		**PKiKP**	**00 40 46.7**	**0.0**
	comp=Z,0.5nm,0.4s,baz=67,slow=1.2,SNR=1.8							
AKASG	**Malin Array Be**	**125.64**	**325**			**PKPdf**	**00 40 46.4**	**0.0**
GERES	**GERESS Array B**	**134.82**	**331**	PKP		**PKPdf**	**00 41 04.6**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=287,slow=6.8,SNR=3.5							
KEST	**Kesra**	**145.93**	**319**	PKPbc		**PKPbc**	**00 41 25.1**	**-0.1**
	comp=Z,7.5nm,1.1s,baz=237,slow=9.1,SNR=4.1							
KEST	**Kesra**	**145.93**	**319**			**PKPdf**	**00 41 24.7**	**+0.3**
ESDC	**Sonseca Array**	**149.68**	**339**	PKPbc		**PKPbc**	**00 41 34.9**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=355,slow=3.0,SNR=5.0							
ESDC	**Sonseca Array**	**149.68**	**339**			**PKPbc**	**00 41 34.0**	**-1.1**

IDC ***19*** *00:31:20.6±1.2, 20.°08S×70.°65W, h0km, mb3.9/6, mb1 4.1/8, mb1mx3.9/35, mbtmp4.0/8, ML3.8/2, MS3.3/5, Ms1 3.3/5, ms1mx3.0/30, Error ellipse: s-maj=30.6km s-min=15.9km az=67.0*
NEIC ***19*** *00:31:22.1±1.6, 20.°22S±0.°03×70.°87W±0.°05, h15km±4km, mb4.3/10, Mwr4.1/43, ML4.5(GUC), Error ellipse: s-ma

PB09	**IPOC Station P**	**2.21**	**135**			**Pn**	**00 31 59.7**	**+1.6**
PB05	**IPOC Station P**	**2.69**	**166**	⇑	*i* P	**Pn**	**00 32 04.3**	**-0.4**
PB05					*i* S	**Sb**	**00 32 40.5**	**-2.1**
PB05					IAML		00 33 00.4	
	comp=N,365nm,0.6s							
PB06	**IPOC Station P**	**2.76**	**153**	⇑	*e*P	**Pn**	**00 32 05.7**	**-0.1**
PB06					*i* S	**Sb**	**00 32 42.7**	**-2.2**
PB06					IAML		00 33 01.9	
	comp=N,496nm,0.3s							
PB06	**IPOC Station P**	**2.76**	**153**			**Pn**	**00 32 05.6**	**-0.1**
LVC	**Limon Verde**	**3.02**	**142**		Pn	**Pn**	**00 32 11.3**	**+1.8**
	comp=N,8.6nm,0.3s,baz=305,slow=9.4,SNR=66							
LVC					Sn	**Sn**	**00 32 47.4**	**+1.1**
	comp=N,27nm,0.3s,baz=22,slow=14,SNR=5.8							
LVC					Lg	Lg	00 32 55.0	
	comp=N,36nm,0.3s,baz=223,slow=6.4,SNR=9.5							
LVC	**Limon Verde**	**3.02**	**142**	⇑	*e*P	**Pn**	**00 32 11.1**	**+1.6**
LVC					*i* S	**Sb**	**00 32 49.7**	**-2.8**
LVC	**Limon Verde**	**3.02**	**142**			**Pn**	**00 32 10.8**	**+1.4**
LVC	**Limon Verde**	**3.02**	**142**		*e*P	**Pn**	**00 32 11.2**	**+1.8**
LVC	**Limon Verde**	**3.02**	**142**		*e*P	**Pn**	**00 32 11.2**	**+1.8**
PB15	**IPOC Station P**	**3.25**	**156**			**Pn**	**00 32 12.5**	**0.0**
PB10	**IPOC Station P**	**3.28**	**174**			**Pn**	**00 32 12.4**	**-0.3**
LPAZ	**La Paz**	**4.75**	**35**		Pn	Pb	00 32 39.7	-4.9
	comp=N,1.6nm,0.3s,baz=186,slow=3.3,SNR=45							
LPAZ					Lg	Lg	00 33 50.1	
	baz=237,slow=20,SNR=0.8							
GO02	**Mina Guanaco**	**5.05**	**166**			**Pn**	**00 32 37.4**	**0.0**
AC01	**Pan de Azucar**	**5.89**	**177**			**Pn**	**00 32 48.4**	**-0.2**
AC02	**Maricunga**	**6.77**	**166**			**Pn**	**00 33 01.3**	**+0.2**
AC04	**Llanos de Chal**	**7.93**	**181**		Pn	**Pn**	**00 33 17.0**	**+0.4**
SIV	**San Ignacio**	**10.28**	**67**		Pn	**Pn**	**00 33 47.1**	**-1.8**
	comp=N,1.4nm,0.3s,baz=274,slow=9.0,SNR=26							
PTLB	**Pontes e Lacer**	**12.20**	**69**		*e*P	**Pn**	**00 34 14.3**	**-0.8**
PTLB	**Pontes e Lacer**	**12.20**	**69**		*e*P	**Pn**	**00 34 14.3**	**-0.8**
VILB	**Vilhena**	**12.58**	**56**		*e*P	**Pn**	**00 34 22.1**	**+1.8**
VILB	**Vilhena**	**12.58**	**56**		*e*P	**Pn**	**00 34 22.1**	**+1.8**
SAML	**Samuel**	**13.49**	**35**		Pn	**Pn**	**00 34 31.2**	**-1.6**
SAML	**Samuel**	**13.49**	**35**		*e*P	**Pn**	**00 34 34.7**	**+1.9**
SAML	**Samuel**	**13.49**	**35**		*e*P	**Pn**	**00 34 34.7**	**+1.9**
CPUP	**Villa Florida**	**13.89**	**118**		LR	LR	00 41 11.0	
	comp=N,84nm,19.2s,baz=306,slow=43							
H03N1	**Juan Fernandez**	**14.95**	**207**		T	T	00 50 38.5	
	baz=33,slow=72,SNR=69							
H03N2	**Juan Fernandez**	**14.95**	**207**		T	T	00 50 30.0	
	baz=33,slow=72,SNR=35							
H03N3	**Juan Fernandez**	**14.96**	**207**		T	T	00 50 35.3	
	baz=33,slow=72,SNR=48							
SALV	**Santo Antonio**	**15.12**	**76**		*e*P	**Pn**	**00 34 54.5**	**-0.5**
SALV	**Santo Antonio**	**15.12**	**76**		*e*P	**Pn**	**00 34 54.5**	**-0.5**
ITQB	**Itaqui**	**16.00**	**129**		*e*P	**P**	**00 35 08.9**	**-1.2**
ITQB	**Itaqui**	**16.00**	**129**		*e*P	**P**	**00 35 08.9**	**-1.2**
PTGB	**Pitanga**	**17.99**	**108**		*e*P	**P**	**00 35 33.5**	**+1.2**
PTGB	**Pitanga**	**17.99**	**108**		*e*P	**P**	**00 35 33.5**	**+1.2**
LC01	**Cunco**	**18.61**	**182**		P	**P**	**00 35 39.0**	**+0.1**
ITRB	**Iturama**	**19.34**	**92**		*e*P	**Pn**	**00 35 48.6**	**+0.4**
ITRB	**Iturama**	**19.34**	**92**		*e*P	**Pn**	**00 35 48.6**	**+0.4**
FRTB	**Fartura**	**20.08**	**103**		*e*P	Pn	00 35 57.3	+0.4
FRTB	**Fartura**	**20.08**	**103**		*e*P	Pn	00 35 57.3	+0.4
PLCA	**Paso Flores**	**20.43**	**179**		P	Pn	00 36 00.6	-0.4
	comp=N,1.7nm,0.8s,baz=321,slow=4.3,SNR=2.5							
PLCA	**Paso Flores**	**20.43**	**179**		*e*P	Pn	00 36 01.1	+0.1
PLCA	**Paso Flores**	**20.43**	**179**		*e*P	Pn	00 36 01.1	+0.1
IPMB	**Ipameri, GO**	**21.58**	**88**		*e*P	**P**	**00 36 13.3**	**+1.8**
IPMB	**Ipameri, GO**	**21.58**	**88**		*e*P	**P**	**00 36 13.3**	**+1.8**
PTGA	**Pitinga**	**22.16**	**30**		P	**P**	**00 36 14.3**	**-3.3**
	comp=N,2.8nm,0.4s,baz=208,slow=12,SNR=8.6							
PTGA					LR	LR	00 45 15.3	
	comp=N,55nm,19.7s,baz=218,slow=38							
PTGA	**Pitinga**	**22.16**	**30**		P	**P**	**00 36 15.3**	**-2.3**
BDFB	**Brasilia**	**22.27**	**82**		P	**P**	**00 36 16.1**	**-2.8**
	comp=N,1.4nm,0.5s,baz=262,slow=16,SNR=1.9							
BDFB					LR	LR	00 46 23.9	
	comp=N,142nm,19.5s,baz=306,slow=41							
BDFB	**Brasilia**	**22.27**	**82**		P	**P**	**00 36 16.9**	**-2.0**
BDFB					IAmb	IAmb	00 36 28.0	
	comp=Z,8.3nm,1.3s							
ROSC	**El Rosal**	**25.14**	**352**		LR	LR	00 46 58.9	
	comp=Z,71nm,18.7s,baz=166,slow=38							
SMTB	**Santa Maria do**	**25.23**	**67**		*e*P	**P**	**00 36 49.2**	**+1.4**
SMTB	**Santa Maria do**	**25.23**	**67**		*e*P	**P**	**00 36 49.2**	**+1.4**
JANB	**Januaria**	**25.87**	**83**		*e*P	**P**	**00 36 54.2**	**+0.6**
JANB	**Januaria**	**25.87**	**83**		*e*P	**P**	**00 36 54.2**	**+0.6**
RUSC	**La Rusia**	**26.05**	**355**		P	**P**	**00 36 56.6**	**+0.9**
MDP	**Montagnes des**	**30.94**	**37**		LR	LR	00 49 54.1	
	comp=Z,40nm,18.2s,baz=224,slow=36							
ROSB	**Rosrio**	**31.32**	**60**		*e*P	**P**	**00 37 43.6**	**+1.4**
ROSB	**Rosrio**	**31.32**	**60**		*e*P	**P**	**00 37 43.6**	**+1.4**
M56A	**Emporium**	**61.77**	**354**		P	**P**	**00 41 40.8**	**+0.5**
P43A	**Skaggs, Pawnee**	**62.05**	**344**		P	**P**	**00 41 41.5**	**-0.7**
SNAA	**Sanae**	**64.08**	**161**		P	**P**	**00 41 56.0**	**+0.6**
SNAA					IAmb	IAmb	00 41 56.1	
	comp=Z,4.8nm,1.4s							
QSPA	**South Pole Qui**	**69.94**	**180**		P	**P**	**00 42 34.3**	**+1.4**
QSPA					IAmb	IAmb	00 42 39.5	
	comp=Z,2.0nm,1.1s							
PDAR	**Pinedale Array**	**72.09**	**331**		P	**P**	**00 42 47.1**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=134,slow=7.6,SNR=3.5							
TOA0	**Torodi Ar. Sit**	**78.73**	**71**		P	**P**	**00 43 23.5**	**-1.3**
TOA0					IAmb	IAmb	00 43 24.5	
	comp=Z,5.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**78.73**	**71**		P	**P**	**00 43 23.5**	**-1.3**
	comp=Z,3.2nm,0.8s,baz=249,slow=5.3,SNR=23							
TORD	**Torodi Ar. Bea**	**78.73**	**71**		P	**P**	**00 43 23.4**	**-1.3**
YKA	**Yellowknife Ar**	**89.38**	**341**		P	**P**	**00 44 17.9**	**0.0**
	comp=Z,1.1nm,0.9s,baz=138,slow=4.7,SNR=4.1							
H11S2	**WAKE ISLAND Hyd**	**25.83**	**279**		T	T	03 09 55.1	
	baz=102,slow=74,SNR=44							
H11S1	**WAKE ISLAND Hyd**	**25.84**	**279**		T	T	03 09 50.7	
	baz=102,slow=74,SNR=16							
H11S3	**WAKE ISLAND Hyd**	**25.85**	**279**		T	T	03 09 59.3	
	baz=102,slow=74,SNR=22							
ZALV	**Zalesovo Beam**	**141.58**	**23**		PKP	**PKPdf**	**00 50 50.8**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=305,slow=2.2,SNR=2.2							
ZALV	**Zalesovo Beam**	**141.58**	**23**			**PKPdf**	**00 50 52.6**	**-0.3**
MKAR	**Makanchi Array**	**145.67**	**33**		PKPbc	**PKPab**	**00 51 01.1**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=328,slow=3.7,SNR=20							
MKAR	**Makanchi Array**	**145.67**	**33**			**PKPdf**	**00 51 00.4**	**+0.1**

HEL ***19*** *00:43:58.2±0.1, 60.˚18N×17.˚87E, h0km, ML1.5(UPP), Explosion*
IDC ***19*** *00:43:59.4±2.5, 60.˚06N×18.˚05E, h0km, mb1 3.0/2, mb1mx2.9/35, mbtmp2.9/2, ML2.0/2, Error ellipse: s-maj=39.1km s-min=8.8km az=176.0*

ISC 19 00:43:56.2±0.8, 60.˚13N±0.˚04×17.˚72E±0.˚03, h0km, n14, σ1§31/24, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UPP	**Uppsala**	**0.27**	**190**		*i* P		**Pb**	**00 44 04.4**	**+0.4**
UPP					*i* S		**Sb**	**00 44 09.5**	**+0.3**
FIBU	**Brunna**	**0.29**	**220**		*i* P		**Pb**	**00 44 04.9**	**+0.6**
OSTU	**Oestervaala**	**0.31**	**290**		*i* P		**Pb**	**00 44 04.3**	**-0.4**
OSTU					*i* S		**Sb**	**00 44 10.1**	**-0.2**
FORU	**Forsmark**	**0.35**	**41**		*i* S		**Sg**	**00 44 05.0**	**-2.3**
BACU	**Backbrunna**	**0.41**	**229**		*i* P		**Pb**	**00 44 07.1**	**+0.7**
BACU					*i* S		**Sb**	**00 44 13.8**	**+0.6**
GRAU	**Graesoe**	**0.46**	**63**		*i* P		**Pg**	**00 44 05.3**	**+0.3**
AAL	**Aland**	**1.14**	**86**		*e*P		**Pg**	**00 44 16.2**	**-1.8**
AAL					*e*S		**Sg**	**00 44 29.8**	**-2.9**
RAF	**Rauma**	**2.19**	**64**		*e*P		**Pn**	**00 44 34.2**	**+0.4**
RAF					*e*S		**Sn**	**00 45 00.6**	**-1.0**
HEMU	**Hemsoen**	**2.56**	**3**		*e*P		**Pn**	**00 44 40.2**	**+1.3**
HEMU					*e*S		**Sn**	**00 45 12.0**	**+1.2**
NOA	**NORSAR Array B**	**3.34**	**289**		Pg		**Pg**	**00 44 59.5**	**-0.7**
	0.0nm,0.3s,baz=99,slow=18,SNR=7.8								
NOA					Sn		**Sb**	**00 45 37.3**	**-0.2**
	0.0nm,0.3s,baz=56,slow=11,SNR=1.8								
VAF	**Ylistaro**	**3.76**	**37**		*e*PG		**Pb**	**00 45 04.4**	**+1.0**
VAF					*e*SB		**Sb**	**00 45 48.1**	**-1.4**
KEF	**Keuruu**	**4.02**	**56**		*e*PG		**Pb**	**00 45 09.1**	**+1.1**
KEF					*e*SG		**Sb**	**00 45 59.4**	**+2.3**
FINES	**FINESS Array B**	**4.30**	**69**		Pn		**Pn**	**00 45 04.1**	**+1.3**
	0.1nm,0.3s,baz=257,slow=11,SNR=1.3								
FINES					Sn		**Sn**	**00 45 54.8**	**+1.1**
	0.2nm,0.3s,baz=254,slow=20,SNR=6.6								
FINES					Lg		Lg	00 46 09.3	
	0.4nm,0.3s,baz=256,slow=25,SNR=8.5								
ARCES	**ARCESS Array B**	**10.00**	**16**		Pn		**Pn**	**00 46 21.3**	**+0.4**
	0.1nm,0.3s,baz=196,slow=13,SNR=1.7								

IDC 19 00:48:33.8±13.0, 20.˚43S×176.˚99W, h494km±134km, mb3.5/7, mb1 3.7/7, mb1mx3.2/42, mbtmp4.4/7, Error ellipse: s-maj=66.3km s-min=23.8km az=85.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.67**	**244**		P	P	P	00 55 14.9	+0.5
	0.8nm,0.4s,baz=65,slow=9.7,SNR=3.8								
JAY	**Jayapura**	**44.92**	**288**		P	P	P	00 56 03.5	-0.6
	10nm,0.6s,baz=143,slow=4.3,SNR=8.3								
ASAR	**Alice Springs**	**45.46**	**257**		P	P	P	00 56 08.5	+0.3
	5.2nm,0.8s,baz=92,slow=7.7,SNR=32								
WRA	**Warramunga Arr**	**45.55**	**262**		P	P	P	00 56 08.4	-0.6
	2.2nm,0.4s,baz=96,slow=7.6,SNR=69								
MJAR	**Matsushiro Arr**	**70.72**	**323**		P	P	P	00 58 58.7	-0.8
	0.8nm,0.4s,baz=178,slow=2.1,SNR=4.1								
MAW	**Mawson**	**81.95**	**200**		P	P	P	01 00 01.4	+0.6
	4.2nm,0.3s,baz=93,slow=7.0,SNR=32								
ILAR	**Eielson Array**	**88.04**	**12**		P	P	P	01 00 31.5	+1.2
	0.4nm,0.5s,baz=225,slow=5.9,SNR=5.6								
AKASG	**Malin Array Be**	**143.40**	**332**		PKP	PKPab	PKPbc	01 07 09.1	-0.3
	0.3nm,0.3s,baz=43,slow=4.2,SNR=4.0								
BRTR	**Keskin Array B**	**147.49**	**313**		PKPbc	PKPbc	PKPdf	01 07 22.7	+0.5
	0.5nm,0.7s,baz=138,slow=5.6,SNR=2.8								
GERES	**GERESS Array B**	**150.38**	**346**		PKPbc	PKPbc	PKPdf	01 07 28.7	-0.2
	0.7nm,0.8s,baz=34,slow=5.0,SNR=3.7								
TORD	**Torodi Ar. Bea**	**172.65**	**170**		PKPab	PKPab	PKPdf	01 09 12.9	-2.3
	0.5nm,0.6s,baz=188,slow=0.8,SNR=5.3								

BGR ***19*** *00:51:12.5±0.0, 3.˚23S×103.˚13E, h144km±2km, mb5.3*
BJI ***19*** *00:51:16.0±0.0, 2.˚80S×102.˚30E, h166km, mB4.9/44, mb5.1/68*
NEIC ***19*** *00:51:17.4±1.4, 2.˚78S±0.˚05×102.˚37E±0.˚06, h170km±4km, mb5.1/156, Error ellipse: s-maj=9.4km s-min=7.4km az=75.0*
MOS ***19*** *00:51:17.2±0.9, 2.˚63S×102.˚40E, h174km, mb5.2/109, Error ellipse: s-maj=6.8km s-min=3.4km az=116.6*
UNK ***19*** *00:51:17.6, 2.˚76S×102.˚35E, h169km*
DJA ***19*** *00:51:17.0±0.2, 3.˚S×3.˚×10.˚2E+, h175km±3km, M5.2/24, mB5.6/19, mb5.5/24, MLv5.2/9, MLv5.4/24, Mw(mB)5.1/19, Mwp4.8/1*
KLM ***19*** *00:51:17.0, 2.˚87S×102.˚11E, h180km, mb4.9*
GCMT ***19*** *00:51:19.4±0.3, 2.˚78S±0.˚02×102.˚42E±0.˚02, h164km±2km, MW5.0/103, Moment Tensor Solution. s29,c32; s103,c146; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.76±. 10; Mθθ 0.53±. 13; Mϕϕ -2.28±. 14; Mrθ 1.55±. 07; Mθϕ -2.20±. 11; Mϕr -0.57±. 10; Best double couple: Mo 3.44200×10^16 NP1:ϕs 174.00000°, δ57.00000°, λ34.00000°. NP2:ϕs 64.00000°, δ62.00000°, λ142.00000°. Principal axes: T 3.3850, Plg45.0000°, Azm27.0000°; N 0.1190, Plg45.0000°, Azm213.0000°; P -3.4990, Plg3.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***19*** *00:51:19.2±0.9, 2.˚70S×102.˚41E, h180km±7km, mb4.7/47, mb1 4.7/50, mb1mx4.7/56, mbtmp5.2/50, MS3.4/2, Ms1 3.4/2, ms1mx2.8/44 Error ellipse: s-maj=8.8km s-min=6.0km az=59.0*

ISC 19 00:51:17.5±0.3, 2.˚78S±0.˚03×102.˚37E±0.˚03, h171km±2km, h171km:pP-P, n1272, σ1§08/1387, mb5.1/247, 105C-23D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRJI	**Kerinci**	**1.13**	**307**		P	Pn	Pn	**00 51 46.7**	**+1.2**
KRJI					S	Sn	**Sn**	**00 52 08.9**	**+1.8**
LHSI	**Lahat**	**1.56**	**132**		P	Pn	**Pn**	**00 51 49.6**	**+0.3**
LHSI					S	Sn	**Sn**	**00 52 13.4**	**-0.4**
MNAI	**Manna**	**1.68**	**160**		P	Pn	**Pn**	**00 51 50.4**	**-0.2**
MNAI					S	Sn	**Sn**	**00 52 14.7**	**-1.5**
MNAI	**Manna**	**1.68**	**160**				**Pn**	**00 51 50.3**	**-0.2**
MNAI					Sn	Sn	**Sn**	**00 52 14.9**	**-1.3**
SDSI	**Sungai Dareh**	**2.06**	**333**		P	Pn	**Pn**	**00 51 55.1**	**+0.4**
PPSI	**Pulau Pagai**	**2.35**	**270**		P	Pn	**Pn**	**00 51 59.0**	**+1.0**
PPSI					S	Sn	**Sn**	**00 52 27.8**	**-1.6**
PMBI	**Palembang**	**2.41**	**94**		P	Pn	**Pn**	**00 51 58.2**	**-0.5**
PMBI	**Palembang**	**2.41**	**94**				**Pn**	**00 51 58.1**	**-0.5**
PMBI					Sn	Sn	**Sn**	**00 52 29.1**	**-1.3**
RGRI	**Rengat**	**2.41**	**359**		P	Pn	**Pn**	**00 52 00.3**	**+1.6**
PDSI	**Padang**	**2.66**	**314**		P	Pn	**Pn**	**00 52 01.9**	**+0.2**
LWLI	**Liwa**	**2.79**	**143**		P	Pn	**Pn**	**00 52 02.8**	**-0.6**
KASI	**Kota Agung**	**3.46**	**142**		P	Pn	**Pn**	**00 52 10.4**	**-1.1**
SISI	**Saibi**	**3.58**	**294**		P	Pn	**Pn**	**00 52 13.3**	**+0.3**
BLSI	**Bandar Lampung**	**3.85**	**132**		P	Pn	**Pn**	**00 52 16.3**	**-0.3**
MNSI	**Mandailing Nat**	**4.51**	**322**		P	Pn	**Pn**	**00 52 25.3**	**+0.3**
MYKOM	**Kota Tinggi**	**4.77**	**18**				**Pn**	**00 52 29.5**	**+1.1**
MYKOM					Sn	Sn	**Sn**	**00 53 24.5**	**+0.6**
MYKOM	**Kota Tinggi**	**4.77**	**18**		P	Pn	**Pn**	**00 52 30.0**	**+1.6**
TPI	**Tanjungpandan**	**5.28**	**90**		P	Pn	**Pn**	**00 52 36.0**	**+1.0**
	4.3nm13μm1μm,0.9s								
DBJI	**Dramaga**	**5.76**	**131**		P	Pn	**Pn**	**00 52 40.6**	**-0.7**
	2.0nm16μm369nm,1.2s								
SKJI	**Sukabumi**	**5.92**	**135**		P	Pn	**Pn**	**00 52 41.3**	**-2.2**
	3.5nm11μm603nm,0.7s								
GSI	**Gunungsitoli**	**6.28**	**310**		P	Pn	**Pn**	**00 52 47.5**	**-0.6**
	60nm188μm15μm,0.7s								
GSI	**Gunungsitoli**	**6.28**	**310**				**Pn**	**00 52 47.2**	**-0.9**
RPSI	**Rantau Prapat**	**6.43**	**328**				**Pn**	**00 52 50.0**	**-0.2**
RPSI	**Rantau Prapat**	**6.43**	**328**				**Sn**	**00 54 00.3**	**-2.8**
PSI	**Prapat**	**6.52**	**328**		P	Pn	**Pn**	**00 52 50.6**	**-0.9**
	14nm,0.3s,baz=180,slow=8.9,SNR=108								
PSI					S	Sn	**Sn**	**00 54 00.4**	**-5.1**
	3.1nm,0.3s,baz=180,slow=14,SNR=1.2								
CNJI	**Cibinong**	**6.54**	**134**		P	Pn	**Pn**	**00 52 48.9**	**-2.7**
	2.8nm13μm535nm,0.6s								
LEM	**Lembang**	**6.60**	**128**		P	Pn	**Pn**	**00 52 52.6**	**+0.1**
	27nm,0.3s,baz=331,slow=8.6,SNR=28								
LEM	**Lembang**	**6.60**	**128**		P	Pn	**Pn**	**00 52 52.9**	**+0.3**
	0.8nm3μm244nm,0.8s								
CISI	**Cisompet, Garu**	**7.21**	**131**		P	Pn	**Pn**	**00 52 57.7**	**-2.8**
	2.9nm12μm570nm,0.9s								
CISI	**Cisompet, Garu**	**7.21**	**131**				**Pn**	**00 52 57.8**	**-2.8**
IPM	**Ipoh**	**7.33**	**349**				**Pn**	**00 53 04.0**	**+1.9**
IPM	**Ipoh**	**7.33**	**349**		P	Pn	**Pn**	**00 53 04.0**	**+1.9**
KCSI	**Kotacane, Aceh**	**7.76**	**324**		P	Pn	**Pn**	**00 53 05.9**	**-1.9**
	2.5nm5μm215nm,0.5s								
KULM	**Kulim**	**8.20**	**348**				**Pn**	**00 53 13.9**	**+0.4**
KULM	**Kulim**	**8.20**	**348**		P	Pn	**Pn**	**00 53 15.0**	**+1.5**
SMRI	**Semarang**	**9.09**	**118**		P	Pn	**Pn**	**00 53 26.9**	**+1.5**
	12μm1μm,0.9s								
SMRI	**Semarang**	**9.09**	**118**				**Pn**	**00 53 26.7**	**+1.3**
MLSI	**Meulaboh, Aceh**	**9.19**	**320**		P	Pn	**Pn**	**00 53 24.9**	**-1.8**
	18μm931nm,0.6s								
UGM	**Wanagama**	**9.59**	**122**		P	Pn	**Pn**	**00 53 30.3**	**-1.7**
	10μm443nm,0.7s								
UGM	**Wanagama**	**9.59**	**122**				**Pn**	**00 53 30.2**	**-1.7**
LHMI	**Lhok Sumawe**	**9.62**	**326**		P	Pn	**Pn**	**00 53 30.3**	**-2.0**
	6μm476nm,0.7s								
LHMI	**Lhok Sumawe**	**9.62**	**326**				**Pn**	**00 53 30.0**	**-2.3**
WOJI	**Wonogiri, Jawa**	**9.89**	**121**		P	Pn	**Pn**	**00 53 34.7**	**-1.2**
	3μm270nm,0.9s								
NGJI	**Ngawi**	**10.14**	**117**		P	Pn	**Pn**	**00 53 40.2**	**+1.1**
	653nm,0.9s								
GRJI	**Gresik**	**10.88**	**113**		P	Pn	**Pn**	**00 53 49.9**	**+1.1**
	2μm222nm,0.8s								
SBUM	**Sibu**	**11.13**	**62**				**Pn**	**00 53 53.8**	**+1.6**
SBUM	**Sibu**	**11.13**	**62**		P	P	**P**	**00 53 56.0**	**-3.5**
KMMI	**Kalianget**	**12.31**	**111**		P	Pn	**Pn**	**00 54 08.2**	**+0.9**
	311nm,0.9s								
JAGI	**Jajag, Banyuwa**	**13.02**	**116**		P	Pn	**Pn**	**00 54 13.6**	**-2.8**
	5μm208nm,0.4s								
JAGI	**Jajag, Banyuwa**	**13.02**	**116**				**Pn**	**00 54 13.6**	**-2.8**
KBKI	**Kotabaru**	**13.79**	**93**		P	P	**P**	**00 54 27.6**	**-1.4**
	79nm,0.8s								
SRBI	**Singaraja**	**13.83**	**113**		P	Pn	**Pn**	**00 54 27.5**	**+0.9**
	4μm538nm,0.7s								
DLV	**T Lat**	**15.84**	**22**		P	Pn	**Pn**	**00 54 50.8**	**-0.8**
DLV					IAmb	IAmb	IAmb	00 54 57.2	
	comp=Z,49nm,0.8s								
SPMM	**Sapulut**	**15.93**	**62**		P	P	**P**	**00 54 56.0**	**+3.2**
KKM	**Kota Kinabalu**	**16.37**	**58**		P	Pn	**Pn**	**00 54 58.0**	**0.0**
KKM					IAmb	IAmb	IAmb	00 55 02.6	
	comp=Z,116nm,1.5s								
PLAI	**Plampang**	**16.46**	**112**		P	P	**P**	**00 54 57.7**	**-0.9**
KAPI	**Kappang**	**17.48**	**98**		P	Pn	**Pn**	**00 55 11.6**	**+0.3**
	comp=Z,16nm,0.3s,baz=262,slow=7.1,SNR=16								
KAPI	**Kappang**	**17.48**	**98**		P	P	**P**	**00 55 09.9**	**0.0**
LUWI	**Luwuk**	**20.46**	**86**		P	P	**P**	**00 55 42.8**	**+0.6**
LUWI					IAmb	IAmb	IAmb	00 56 03.1	
	comp=Z,71nm,0.8s								
CM31	**Chiang Mai Arr**	**21.37**	**351**		P	P	**P**	**00 55 50.5**	**-1.2**
CM31					IAmb	IAmb	IAmb	00 55 55.7	
	comp=Z,98nm,0.8s								
CMAR	**Chiang Mai Arr**	**21.37**	**351**		P	P	**P**	**00 55 51.8**	**+0.1**
	comp=Z,71nm,0.8s,baz=182,slow=9.0,SNR=66								
CMAR					S	S	**S**	**00 59 34.8**	**-3.8**
	comp=Z,1.4nm,0.4s,baz=176,slow=16,SNR=3.2								
CMAR					PcP	PcP	**PcP**	**00 59 50.1**	**+1.3**
	comp=Z,6.9nm,0.8s,baz=206,slow=3.1,SNR=11								
CMAR					ScP	ScP	**ScP**	**01 03 09.7**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=210,slow=3.8,SNR=17								
CMAR	**Chiang Mai Arr**	**21.37**	**351**		P	P	**P**	**00 55 51.0**	**-0.7**
CMAR							**PcP**	**00 59 49.7**	**+0.9**
CMAR							**ScP**	**01 03 08.7**	**-1.2**
CHTO	**Chiang Mai**	**21.72**	**351**		P	P	**P**	**00 55 55.1**	**-0.3**
CHTO					pmax	pmax			
	comp=Z,107nm,1.3s								
CHTO	**Chiang Mai**	**21.72**	**351**		P	P	**P**	**00 55 55.1**	**-0.3**
CHTO					IAmb	IAmb	IAmb	00 55 58.1	
	comp=Z,107nm,1.3s								
CHTO					ScP	ScP	**ScP**	**01 03 10.1**	**-0.6**
BATI	**Baumata**	**22.40**	**110**		P	P	**P**	**00 56 02.0**	**-0.1**
	comp=Z,31nm,0.4s,baz=126,slow=2.1,SNR=4.7								
BATI					S	S	**S**	**00 59 50.1**	**-5.5**
	comp=Z,63nm,0.7s,baz=267,slow=15,SNR=6.2								
SOEI	**Soe**	**22.83**	**109**		P	P	**P**	**00 56 05.5**	**-0.8**
SOEI					IAmb	IAmb	IAmb	00 56 32.6	
	comp=Z,46nm,0.7s								
GIRL	**Giralia**	**22.86**	**151**		P	P	**P**	**00 56 08.7**	**+2.4**
	baz=23,SNR=5.8								
GIRL	**Giralia**	**22.86**	**151**		P	P	**P**	**00 56 07.9**	**+1.7**
QIZ	**Qiongzhong**	**22.88**	**18**		P	P	**P**	**00 56 08.5**	**+2.0**
QIZ					sP	sP	**sP**	**00 56 59.8**	**+0.5**
QIZ					pmax	pmax			
	comp=Z,35nm,0.8s								
QIZ	**Qiongzhong**	**22.88**	**18**		P	P	**P**	**00 56 08.2**	**+1.7**
QIZ					IAmb	IAmb	IAmb	00 56 10.2	
	comp=Z,67nm,1.0s								
SLVN	**Son La**	**24.01**	**4**		P	P	**P**	**00 56 18.3**	**+1.5**
KCP	**Kidapawan**	**24.68**	**67**	⇑	*i*P	P	**P**	**00 56 25.7**	**+2.7**
**TG

comp=Z,21nm,0.3s
KKN Kakani 34.56 333 *e*P **P 00 57 50.4 +0.2**
comp=Z,1.2nm,0.6s
GKN Gorkha 35.04 332 *e*P **P 00 57 54.7 +0.4**
comp=Z,144nm,0.3s
WHN Wuhan 35.05 18⇑ *i*P **P 00 57 55.8 +1.7**
WHN pmax pmax
comp=Z,74nm,0.9s
KOLN Koldanda 35.34 330 *e*P **P 00 57 57.2 +0.3**
comp=Z,206nm,0.8s
WB0 Warramunga Arr 35.54 121 P **P 00 57 57.1 -1.4**
WRA Warramunga Arr 35.56 121 P **P 00 57 58.0 -0.7**
comp=Z,5.3nm,0.3s,baz=318,slow=10,SNR=53
WRA PcP **PcP 01 00 24.4 +0.3**
comp=Z,10nm,0.6s,baz=304,slow=2.4,SNR=14
WRA S **S 01 03 15.7 -6.4**
comp=Z,5.5nm,0.9s,baz=295,slow=16,SNR=8.5
WRA ScP **ScP 01 03 52.5 -1.6**
comp=Z,9.2nm,0.7s,baz=310,slow=3.1,SNR=22
WRA Warramunga Arr 35.56 121 P **P 00 57 57.4 -1.3**
WRA **PcP 01 00 24.4 +0.3**
WRA **ScP 01 03 52.3 -1.8**
WRAB Tennant Creek 35.57 121 *d i*P **P 00 57 59.0 +0.2**
WRAB pmax pmax
comp=Z,13nm,0.8s
WB2 Warramunga Arr 35.58 121 P **P 00 57 57.5 -1.3**
WB2 PcP **PcP 01 00 24.8 +0.7**
WC3 Warramunga Arr 35.60 121 P **P 00 57 58.1 -0.9**
baz=36
DANN Dangsing 35.75 331 *e*P **P 00 58 01.0 +0.5**
comp=Z,464nm,0.4s
PYUN Piuthan 35.92 330 *e*P **P 00 58 02.4 +0.6**
comp=Z,153nm,0.5s
AS31 Alice Springs 36.89 127 P **P 00 58 09.7 -0.3**
AS31 PcP **PcP 01 00 28.3 +0.3**
AS31 ScP **ScP 01 03 57.8 -1.2**
ASAR Alice Springs 36.89 127 P **P 00 58 09.3 -0.7**
comp=Z,9.1nm,0.3s,baz=299,slow=8.2,SNR=78
ASAR PP **PP 00 59 29.1 -8.7**
comp=Z,3.7nm,0.6s,baz=302,slow=8.8,SNR=5.5
ASAR PcP **PcP 01 00 28.4 +0.4**
comp=Z,6.8nm,0.5s,baz=313,slow=2.6,SNR=14
ASAR S **S 01 03 36.5 -5.7**
comp=Z,8.4nm,1.0s,baz=297,slow=14,SNR=12
ASAR ScP **ScP 01 03 57.7 -1.3**
comp=Z,17nm,0.7s,baz=305,slow=3.6,SNR=37
FORT Forrest 36.95 142 P **P 00 58 11.2 +0.9**
baz=37,SNR=8.3
FORT Forrest 36.95 142 P **P 00 58 11.2 +0.9**
FORT IAmb IAmb 00 58 17.1
comp=Z,45nm,0.7s
FORT PcP **PcP 01 00 29.1 +1.2**
XAN Xi'an 37.14 9 P **P 00 58 12.1 +0.2**
XAN pmax pmax
comp=Z,38nm,0.7s
XAN Xi'an 37.14 9 P **P 00 58 12.1 +0.2**
XAN IAmb IAmb 00 58 13.4
comp=Z,38nm,0.7s
NJ2 Nanjing 38.01 23 *e*P **P 00 58 20.8 +1.6**
NJ2 pmax pmax
comp=Z,21nm,0.7s
JAY Jayapura 38.30 91 P **P 00 58 21.9 0.0**
comp=Z,3.9nm,0.4s,baz=183,slow=8.4,SNR=2.2
JOW Kunigami 38.63 39 P **P 00 58 26.1 +1.6**
comp=Z,1.8nm,0.5s,baz=100,slow=13,SNR=12
JOW Kunigami 38.63 39 P **P 00 58 25.6 +1.1**
LZH Lanzhou 38.69 2⇑ P **P 00 58 26.3 +1.3**
LZH sP sP 00 59 22.1 +0.9
LZH PP **PnPn 00 59 59.8 -1.6**
LZH pmax pmax
comp=Z,28nm,1.2s
LZH pmax pmax
comp=Z,90nm,4.9s
QIS Mount Isa 40.36 119 P **P 00 58 38.7 -0.3**
baz=40,SNR=5.0
TIA Tai'an 41.16 18 P **P 00 58 45.8 +0.6**
TIA pmax pmax
comp=Z,19nm,0.9s
TIY Taiyuan 41.35 12 *e*P **P 00 58 48.0 +1.2**
TIY sP **sP 00 59 42.4 -0.9**
TIY pmax pmax
comp=Z,26nm,0.6s
TIY pmax pmax
comp=Z,88nm,4.9s
COEN Coen 41.80 108 P **P 00 58 50.8 +0.1**
COEN IAmb IAmb 00 59 51.8
comp=Z,68nm,1.7s
COEN PcP **PcP 01 00 44.5 +0.8**
GTA Gaotai 42.05 357⇑ P **P 00 58 53.4 +0.9**
GTA pP pP 00 59 33.8 +4.1
GTA PcP **PcP 01 00 45.0 +0.8**
GTA pmax pmax
comp=Z,31nm,1.5s
GTA pmax pmax
comp=Z,95nm,5.4s
GTA LR LR
comp=Z,75nm,17.4s
GTA LR LR
comp=Z,84nm,17.0s
GTA LR LR
comp=Z,110nm,14.5s
BBOO Buckleboo 43.46 137 P **P 00 59 04.0 +0.1**
baz=44,SNR=7.2
BBOO Buckleboo 43.46 137 P **P 00 59 03.8 -0.1**
BBOO IAmb IAmb 00 59 20.2
comp=Z,83nm,1.6s
BTO Baotou 43.74 8 *e*P **P 00 59 07.8 +1.8**
BJT Baijiatuau 44.43 15 P **P 00 59 12.4 +1.0**
BJT pmax pmax
comp=Z,22nm,0.7s
BJT Baijiatuau 44.43 15 P **P 00 59 12.3 +1.0**
BJI Beijing 44.45 15 P **P 00 59 12.9 +1.3**
BJI pmax pmax
comp=Z,31nm,0.8s
JNU Nakatsue 44.73 35 P **P 00 59 14.6 +0.6**
comp=Z,49nm,1.1s,baz=274,slow=2.1,SNR=12
JNU Nakatsue 44.73 35 P **P 00 59 14.5 +0.5**
JNU IAmb IAmb 00 59 16.2
comp=Z,98nm,1.3s
TJN Taejon 45.40 29 *ce*P **P 00 59 18.6 -0.5**
NIL Nilore 45.46 325 P **P 00 59 19.5 -0.3**
NIL pmax pmax
comp=Z,96nm,0.8s
NIL Nilore 45.46 325 P **P 00 59 19.5 -0.3**
HTT Hallett 45.78 136 P **P 00 59 23.6 +1.3**
baz=46,SNR=9.2
CTA Charters Tower 46.13 115 P **P 00 59 26.1 +0.9**
comp=Z,3.4nm,0.8s,baz=36,slow=12,SNR=1.7
CTA PcP **PcP 01 00 58.7 +0.3**
comp=Z,4.8nm,0.6s,baz=271,slow=6.2,SNR=1.8
CTAO Charters Tower 46.13 115 P **P 00 59 26.0 +0.9**
CTAO pmax pmax
comp=Z,28nm,1.3s
CTAO Charters Tower 46.13 115 P **P 00 59 26.0 +0.9**
KSAR Wonju Array Be 46.50 28 P **P 00 59 28.7 +1.0**
KSAR 01 00 59.4
KSAR Wonju Array Be 46.50 28 P **P 00 59 28.7 +1.0**
KSAR PcP **PcP 01 00 59.4 +0.1**
KSRS Korea Array 46.53 28 P **P 00 59 28.9 +1.0**
comp=Z,16nm,0.8s,baz=212,slow=8.1,SNR=52
KSRS PcP **PcP 01 00 59.6 +0.2**
comp=Z,2.4nm,0.7s,baz=195,slow=3.8,SNR=4.5
KS19 Wonju Array Si 46.54 28 P **P 00 59 29.0 +1.0**
STKA Stephens Creek 46.88 133 P **P 00 59 31.1 +0.3**
baz=47,SNR=8.1
STKA Stephens Creek 46.88 133 P **P 00 59 31.1 +0.3**
comp=Z,6.4nm,0.5s,baz=313,slow=8.9,SNR=14
STKA PcP **PcP 01 01 00.7 -0.2**
comp=Z,4.8nm,0.5s,baz=292,slow=4.5,SNR=3.0
STKA ScP **ScP 01 04 37.3 -1.3**
comp=Z,1.4nm,0.5s,baz=315,slow=10.0,SNR=3.0
STKA Stephens Creek 46.88 133 P **P 00 59 31.1 +0.3**
STKA **PcP 01 01 01.0 +0.1**
STKA **ScP 01 04 37.5 -1.1**
WMQ Urumqi 48.23 346 *e*P **P 00 59 42.3 +1.3**
WMQ pP pP 01 00 19.9 +0.7
WMQ pmax pmax
comp=Z,59nm,1.1s
WMQ pmax pmax
comp=Z,87nm,4.3s
WMQ LR LR
comp=Z,140nm,5.5s
WMQ LR LR
comp=Z,110nm,5.5s
WMQ LR LR
comp=Z,110nm,6.3s

KBL Kabul 48.56 323 P **P 00 59 43.8 -0.1**
KBL pmax pmax
comp=Z,34nm,1.2s
KBL Kabul 48.56 323 P **P 00 59 43.8 -0.1**
KSH Kashi 48.58 333 *e*P **P 00 59 42.9 -1.0**
KSH pP pP 01 00 22.6 +0.3
KSH S **S 01 06 28.8 -3.8**
KSH pmax pmax
comp=Z,27nm,0.5s
KSH pmax pmax
comp=Z,220nm,5.6s
KSH LR LR
comp=Z,190nm,7.9s
KSH LR LR
comp=Z,180nm,10.3s
KSH LR LR
comp=Z,140nm,9.0s
TARG Taragay, Kyrgy 49.60 336 P **P 00 59 52.2 +0.2**
TARG IAmb IAmb 00 59 55.6
comp=Z,47nm,1.3s
CMSA Cobar Meteorol 49.80 130 P **P 00 59 53.7 +0.6**
baz=50,SNR=14
WSAR Wadi Sarin 49.84 304 P **P 00 59 55.7 +2.1**
comp=Z,5.6nm,0.6s,baz=163,slow=5.7,SNR=8.6
PRZ Przheval'sk 50.00 337 P **P 00 59 55.7 +1.0**
PRZ pmax pmax
comp=Z,33nm,0.5s
PRZ Przheval'sk 50.00 337 P **P 00 59 55.7 +1.0**
PRZ IAmb IAmb 00 59 58.4
comp=Z,33nm,0.5s
SHLS Shalkode 50.17 338⇑ *i*P **P 00 59 55.7 -0.2**
comp=Z,19nm,0.5s,baz=339
SHLS *e*S **S 01 06 51.4 -3.3**
baz=339
SHLS Shalkode 50.17 338 *c i*P **P 00 59 55.7 -0.2**
SHLS *e*S **S 01 06 51.4 -3.3**
SHLS pmax pmax
comp=Z,19nm,0.5s
KDJ Kajisay 50.19 336 P **P 00 59 56.6 +0.5**
KDJ pmax pmax
comp=Z,42nm,0.8s
KDJ Kajisay 50.19 336 P **P 00 59 56.6 +0.5**
KDJ IAmb IAmb 00 59 57.9
comp=Z,42nm,0.8s
SOCY Socotra 50.31 288 P **P 00 59 57.6 +0.2**
UZB Uzynbulak 50.33 338⇑ *i*P **P 00 59 57.8 +0.6**
comp=Z,15nm,0.4s,baz=338
UZB *e*S **S 01 06 55.6 -1.3**
baz=338
UZB Uzynbulak 50.33 338 *c i*P **P 00 59 57.7 +0.6**
UZB *e*S **S 01 06 55.5 -1.3**
UZB pmax pmax
comp=Z,15nm,0.4s
SHAO Shalim 50.47 296 P **P 00 59 59.4 +1.0**
SATY Saty 50.49 337⇑ *i*P **P 00 59 59.0 +0.7**
comp=Z,11nm,0.6s,baz=338
SATY *e*S **S 01 06 57.7 -1.3**
baz=338
SATY Saty 50.49 337 *c i*P **P 00 59 59.0 +0.7**
SATY *e*S **S 01 06 57.6 -1.4**
SATY pmax pmax
comp=Z,11nm,0.6s
SONM Songino Array 50.52 4 P **P 01 00 00.1 +1.6**
comp=Z,84nm,0.7s,baz=184,slow=9.2,SNR=389
SONM PcP **PcP 01 01 14.0 +0.1**
comp=Z,7.4nm,0.5s,baz=188,slow=4.3,SNR=10
SONM Songino Array 50.52 4 P **P 00 59 59.8 +1.4**
SONM **PcP 01 01 13.9 +0.1**
ULN Ulaanbaatar 50.60 4 *ce*P **P 01 00 00.3 +1.3**
ULN pmax pmax
comp=Z,65nm,1.1s
ULN Ulaanbaatar 50.60 4 P **P 01 00 00.3 +1.3**
ULN IAmb IAmb 01 00 01.5
comp=Z,64nm,1.1s
ULHL Ulahol 50.68 335 P **P 01 00 00.2 +0.3**
SNR=13
KPKS Kokpek 50.73 338⇑ *i*P **P 01 00 00.4 +0.4**
comp=Z,13nm,0.6s,baz=338
KPKS *e*S **S 01 07 01.2 -1.1**
baz=338
KPKS Kokpek 50.73 338 *c i*P **P 01 00 00.4 +0.4**
KPKS *e*S **S 01 07 01.1 -1.1**
KPKS pmax pmax
comp=Z,13nm,0.6s
CN2 Changchun 50.79 21⇑ P **P 01 00 00.6 +0.3**
CN2 *e*sP sP 01 00 55.4 -2.5
CN2 pmax pmax
comp=Z,50nm,1.1s
CN2 pmax pmax
comp=Z,110nm,3.0s
KZA Kyzart 50.97 334 P **P 01 00 02.8 +0.6**
SNR=36
GAR Garm 50.99 328 P **P 01 00 01.0 -1.0**
GAR IAmb IAmb 01 00 05.0
comp=Z,50nm,1.0s
BOOM Boomskoye usch 51.01 335 P **P 01 00 02.2 -0.1**
BOOM pmax pmax
comp=Z,47nm,1.3s
BOOM Boomskoye usch 51.01 335 P **P 01 00 02.1 -0.1**
BOOM IAmb IAmb 01 00 05.8
comp=Z,47nm,1.3s
TNSS Tian-Shan 51.05 336⇑ *i*P **P 01 00 03.0 +0.2**
baz=336
TNSS *e*S **S 01 07 05.4 -1.9**
baz=336
TNSS Tian-Shan 51.05 336 *c i*P **P 01 00 02.9 +0.2**
TNSS *e*S **S 01 07 05.4 -1.9**
MDOK Medeo 51.11 336 *i*P **P 01 00 03.9 +0.9**
baz=337
MDOK *e*S **S 01 07 06.7 -0.9**
baz=337
MDOK Medeo 51.11 336 *i*P **P 01 00 03.8 +0.9**
MDOK *e*S **S 01 07 06.7 -0.9**
AAA Alma-Ata 51.20 336 *e*P **P 01 00 03.8 +0.3**
comp=Z,12nm,0.5s,baz=336
AAA *e*S **S 01 07 07.2 -1.5**
baz=336
AAA Alma-Ata 51.20 336 *e*P **P 01 00 03.8 +0.3**
AAA *e*S **S 01 07 07.2 -1.5**
AAA pmax pmax
comp=Z,12nm,0.5s
MTBS Maitube 51.33 336 *e*P **P 01 00 05.1 +0.6**
baz=336
MTBS Maitube 51.33 336 *e*P **P 01 00 05.1 +0.6**
CHGR Chuyangaron 51.36 327 P **P 01 00 03.6 -1.2**
CHGR PcP **PcP 01 01 18.1 +1.0**
UCH Uchtor 51.41 334 P **P 01 00 05.8 +0.2**
SNR=33
MAJO Matsushiro 51.42 37 P **P 01 00 04.7 -0.5**
MAJO pmax pmax
comp=Z,17nm,0.8s
MAJO Matsushiro 51.42 37 P **P 01 00 04.7 -0.5**
MAT Matsushiro 51.42 37 P **P 01 00 04.8 -0.4**
MJB9 Matsu-Tunnel 51.42 37 P **P 01 00 04.9 -0.3**
MJAR Matsushiro Arr 51.42 37 P **P 01 00 05.5 +0.2**
comp=Z,17nm,1.0s,baz=219,slow=9.1,SNR=36
MJAR PcP **PcP 01 01 17.1 -0.2**
comp=Z,4.4nm,0.8s,baz=208,slow=3.6,SNR=5.2
MJAR Matsushiro Arr 51.42 37 P **P 01 00 04.6 -0.6**
MJAR **PcP 01 01 17.8 +0.4**
TKM2 Tokmak 2 51.51 335 P **P 01 00 06.3 +0.4**
SNR=118
TKM2 Tokmak 2 51.51 335 P **P 01 00 05.8 -0.2**
KBK Karagaybulak 51.57 334 P **P 01 00 07.3 +0.9**
SNR=77
AML Almayashu 51.70 333 P **P 01 00 08.1 +0.4**
SNR=58
CHKK Chushkaly 51.71 337 *e*P **P 01 00 07.1 -0.2**
baz=337
CHKK *e*S **S 01 07 13.6 -2.0**
baz=337
CHKK Chushkaly 51.71 337 *e*P **P 01 00 07.0 -0.2**
CHKK *e*S **S 01 07 13.6 -2.0**
AAK Ala-Archa 51.75 334 LR LR 01 25 49.3
comp=Z,38nm,19.8s,baz=143,slow=40
AAK Ala-Archa 51.75 334 P **P 01 00 08.2 +0.5**
SNR=8.7
AAK Ala-Archa 51.75 334 *i*P **P 01 00 08.3 +0.5**
SNR=10
AAK Ala-Archa 51.75 334 *ce*P **P 01 00 08.2 +0.5**
AAK pmax pmax
comp=Z,12nm,0.7s
AAK Ala-Archa 51.75 334 P **P 01 00 06.5 -1.2**
AAK PcP **PcP 01 01 19.6 +1.0**
FRU1 Bishkek 51.83 334 P **P 01 00 08.5 +0.3**
FRU1 pmax pmax
comp=Z,32nm,0.5s
FRU1 Bishkek 51.83 334 P **P 01 00 08.5 +0.3**
FRU1 IAmb IAmb 01 01 20.5
comp=Z,32nm,0.5s
EIDS Eidsvold 51.92 120 P **P 01 00 08.7 -0.4**
SOHO SOHO 51.96 304 P **P 01 00 10.9 +1.6**
KUU Kurty 52.00 336 *e*P **P 01 00 09.2 -0.2**
comp=Z,26nm,0.4s,baz=337
KUU *e*S **S 01 07 17.6 -2.0**
baz=337
KUU Kurty 52.00 336 *e*P **P 01 00 09.2 -0.2**
KUU *e*S **S 01 07 17.6 -2.0**
KUU pmax pmax
comp=Z,25nm,0.4s
EKS2 Erkin-Say 52.09 333 P **P 01 00 10.8 +0.6**
SNR=58
MSHR Mys Shultsa 52.11 27 *de*P **P 01 00 11.3 +1.1**
MSHR pmax pmax
comp=Z,26nm,0.9s
TDK Taldyqorghan 52.15 339 *e*P **P 01 00 10.3 -0.1**
comp=Z,24nm,0.6s,baz=339
TDK *e*S **S 01 07 19.7 -1.9**
baz=339
TDK Taldyqorghan 52.15 339 *e*P **P 01 00 10.3 -0.1**
TDK *e*S **S 01 07 19.6 -1.9**
TDK pmax pmax
comp=Z,24nm,0.6s
USP Ospenovka 52.26 334 P **P 01 00 11.5 +0.2**
SNR=9.8
ZSN Zaisan 52.33 345 *i*P **P 01 00 12.6 +0.9**
comp=Z,26nm,0.6s,baz=345
ZSN *e*S **S 01 07 23.3 -0.6**
baz=345
ZSN Zaisan 52.33 345 *i*P **P 01 00 12.6 +0.9**
ZSN *e*S **S 01 07 23.2 -0.6**
ZSN pmax pmax
comp=Z,26nm,0.6s
SGDS Sogindy 52.35 335 *i*P **P 01 00 11.8 -0.3**
comp=Z,3.8nm,0.5s,baz=335
SGDS *e*S **S 01 07 22.4 -2.1**
baz=335
SGDS Sogindy 52.35 335 *i*P **P 01 00 11.7 -0.3**
SGDS *e*S **S 01 07 22.3 -2.1**
SGDS pmax pmax
comp=Z,4.0nm,0.5s
MK31 Makanchi Array 52.44 343 *i*P **P 01 00 12.1 -0.5**
MK31 Makanchi Array 52.44 343 P **P 01 00 12.3 -0.2**
MK31 IAmb IAmb 01 00 14.2
comp=Z,27nm,0.7s
MKAR Makanchi Array 52.44 343 P **P 01 00 12.6 0.0**
comp=Z,32nm,0.6s,baz=150,slow=8.1,SNR=332
MKAR S **S 01 07 27.8 +2.4**
comp=Z,0.6nm,0.8s,baz=156,slow=16,SNR=3.6
MKAR Makanchi Array 52.44 343 *ce*P **P 01 00 12.6 0.0**
MKAR pmax pmax
comp=Z,33nm,0.6s
MKAR Makanchi Array 52.44 343 P **P 01 00 12.2 -0.4**
MAKZ Makanchi 52.55 342 P **P 01 00 12.9 -0.4**
MAKZ pmax pmax
comp=Z,20nm,0.9s
MAKZ Makanchi 52.55 342 P **P 01 00 12.9 -0.4**
UOSS Minazif 52.57 304 P **P 01 00 14.6 +0.7**
HATD Hatta, Dubai 52.58 304 P **P 01 00 15.9 +1.9**
ALNE Al Ain 52.58 303 *i*P **P 01 00 15.4 +1.4**
SNR=7.1
ASHO Ashiyiah 52.58 304 P **P 01 00 15.9 +1.9**
MDH Madha 52.64 305 P **P 01 00 15.0 +0.6**
HRA Herat 52.80 318 P **P 01 00 15.3 -0.4**
HRA **PcP 01 01 23.6 +0.8**
ZAK Zakamensk 52.96 1 *e*P **P 01 00 16.8 +0.4**
ZAK *e* 01 01 22.9
ZAK pmax pmax
comp=Z,15nm,1.1s
ZAK pmax pmax
comp=Z,5.0nm,1.0s
FAQ Al Faqa, Dubai 52.99 304 P **P 01 00 19.2 +2.3**
MDJ Mudanjiang 53.08 24 P **P 01 00 17.9 +0.6**
MDJ S **S 01 07 35.0 +0.8**
MDJ pmax pmax
comp=Z,23nm,0.9s
MDJ pmax pmax
comp=Z,170nm,3.6s
MDJ LR LR
comp=Z,100nm,4.0s
MDJ LR LR
comp=Z,85nm,4.4s
MDJ LR LR
comp=Z,120nm,5.4s
MDJ Mudanjiang 53.08 24 P **P 01 00 18.2 +0.9**
TAS Tashkent 53.22 329 P **P 01 00 18.2 -0.2**
TAS pmax pmax
comp=Z,44nm,0.6s
TAS Tashkent 53.22 329 P **P 01 00 18.2 -0.2**
DZA Taraz 53.39 332 *e*P **P 01 00 19.1 -0.5**
comp=Z,12nm,0.7s,baz=332
DZA *e*S **S 01 07 36.5 -2.0**
baz=332
DZA Taraz 53.39 332 *e*P **P 01 00 19.1 -0.5**
DZA *e*S **S 01 07 36.5 -2.0**
DZA pmax pmax
comp=Z,12nm,0.7s
IUG Iuzhnay 53.46 330⇑ *i*P **P 01 00 20.3 +0.1**
comp=Z,1.7nm,0.5s,baz=331
IUG *e*S **S 01 07 37.8 -1.8**
baz=331
IUG Iuzhnay 53.46 330 *c i*P **P 01 00 20.3 +0.1**
IUG *e*S **S 01 07 37.7 -1.8**
IUG pmax pmax
comp=Z,2.0nm,0.5s
USA0B Ussuriysk Arra 53.77 26 *c i*P **P 01 00 23.1 +0.9**
USA0B Ussuriysk Arra 53.77 26 P **P 01 00 22.9 +0.7**
USRK Ussuriysk Ar. 53.77 26 P **P 01 00 23.1 +0.9**
comp=Z,60nm,0.7s,baz=221,slow=5.9,SNR=104
USRK Ussuriysk Ar. 53.77 26 P **P 01 00 22.9 +0.6**
DGZ Jazzator, Alta 53.84 348 *c i*P **P 01 00 23.6 +0.7**
DGZ pmax pmax
comp=Z,80nm,0.6s
BTLS Baital 53.88 335⇑ *i*P **P 01 00 22.5 -0.7**
comp=Z,3.4nm,0.4s,baz=336
BTLS *e*S **S 01 07 42.5 -2.4**
baz=336
BTLS Baital 53.88 335 *c i*P **P 01 00 22.4 -0.7**
BTLS *e*S **S 01 07 42.5 -2.4**
BTLS pmax pmax
comp=Z,3.0nm,0.4s
KK31 Karatay Array 53.94 331 *i*P **P 01 00 22.6 -1.0**
KK31 Karatay Array 53.94 331 P **P 01 00 23.0 -0.6**
KKAR Karatay Array 53.94 331 P **P 01 00 23.0 -0.6**
KKAR pmax pmax
comp=Z,11nm,1.0s
KKAR Karatay Array 53.94 331 P **P 01 00 23.0 -0.6**
KKAR Karatay Array 53.94 331 P **P 01 00 23.0 -0.6**
KKAR IAmb IAmb 01 00 25.7
comp=Z,11nm,0.9s
HIA Hailar 53.98 14 P **P 01 00 24.1 +0.3**
HIA pmax pmax
comp=Z,21nm,0.8s
HIA Hailar 53.98 14 P **P 01 00 24.1 +0.3**
HIA IAmb IAmb 01 00 24.9
comp=Z,21nm,0.8s
BRLS Borolday 54.21 331 *e*S **S 01 07 44.2 -5.3**
baz=331
MOY Mondy 54.25 359 *e*P **P 01 00 26.8 +1.0**
MOY pmax pmax
comp=Z,32nm,2.2s
TLY Talaya 54.26 1 P **P 01 00 27.7 +2.0**
comp=Z,24nm,0.7s,baz=188,slow=7.7,SNR=11
TLY LR LR 01 25 46.5
comp=Z,42nm,19.4s,baz=174,slow=38
TLY Talaya 54.26 1 *c i*P **P 01 00 27.2 +1.4**
TLY pmax pmax
comp=Z,35nm,0.8s
TLY Talaya 54.26 1 P **P 01 00 27.4 +1.6**
TLY IAmb IAmb 01 00 28.6
comp=Z,30nm,0.8s
OPO Ambohidratompo 56.20 250 P **P 01 00 43.1 +2.6**
comp=Z,5.8nm,0.8s,baz=11,slow=6.5,SNR=4.8
KURBB Kurchatov Arra 56.98 342 P **P 01 00 45.0 -0.1**
comp=Z,48nm,0.8s,baz=159,slow=6.6,SNR=190
KURBB PcP **PcP 01 01 38.4 +0.1**
comp=Z,8.0nm,0.7s,baz=155,slow=3.7,SNR=7.7
KURBB Kurchatov Arra 56.98 342 P **P 01 00 44.6 -0.5**
KURK Kurchatov 57.04 342 *ce*P **P 01 00 45.3 -0.2**
KURK pmax pmax

comp=Z,53nm,0.7s
KURK Kurchatov 57.04 342 P P 01 00 45.6 +0.1
OTUK Ortayu 57.16 337 P P 01 00 45.9 -0.6
GEYT Alibeck 57.57 319 P P 01 00 49.7 +0.1
comp=Z,29nm,0.8s,baz=147,slow=8.3,SNR=53
GEYT Alibeck 57.57 319 P P 01 00 49.5 0.0
GYA0 ALIBECK ARRAY 57.57 319 P P 01 00 49.1 -0.4
GYA0B ALIBECK ARRAY 57.57 319 P P 01 00 49.5 -0.1
GYA0B IAmb IAmb 01 00 50.6
comp=Z,38nm,1.0s
KLR Kul'dur 57.71 22 P P 01 00 51.0 +0.7
comp=Z,35nm,0.7s,baz=229,slow=5.7,SNR=132
KLR Kul'dur 57.71 22*ce*P **P 01 00 50.8 +0.6**
KLR pmax pmax
comp=Z,38nm,0.9s
ERM Erimo 57.90 35*ce*P **P 01 00 52.8 +1.1**
ERM pmax pmax
comp=Z,16nm,0.7s
ERM Erimo 57.90 35 P P **P 01 00 52.6 +1.0**
ERM IAmb IAmb 01 00 53.5
comp=Z,19nm,0.8s
ZAA0 Zalesovo Array 58.39 348 P P 01 00 54.6 -0.3
ZALV Zalesovo Beam 58.39 348 P P 01 00 54.7 -0.2
comp=Z,75nm,0.6s,baz=171,slow=5.5,SNR=323
ZALV S **S 01 08 42.1 -2.0**
comp=Z,1.4nm,0.7s,baz=153,slow=8.1,SNR=6.7
ZALV Zalesovo Beam 58.39 348 P P 01 00 54.6 -0.3
BRZS Berezniki 58.44 338 *e*P **P 01 00 54.7 -0.6**
comp=Z,7.3nm,0.6s,baz=338
BRZS Berezniki 58.44 338 *e*P **P 01 00 54.7 -0.6**
BRZS pmax pmax
comp=Z,7.0nm,0.6s
ASAJ Asahikawa 58.95 33 P P 01 00 59.3 +0.4
comp=Z,18nm,0.5s,baz=251,slow=9.6,SNR=14
JKA Kamikawa-asahi 58.95 33 P P 01 00 59.0 +0.1
JKA IAmb IAmb 01 01 00.8
comp=Z,26nm,0.5s
DAMY Dhamar 59.95 288 P P 01 01 08.8 +2.2
DAMY IAmb IAmb 01 01 10.8
comp=Z,26nm,0.8s
ZEA Zeya 60.03 17 *e*P **P 01 01 06.8 +0.7**
ZEA pmax pmax
comp=E,29nm,0.6s
ZEA pmax pmax
comp=N,52nm,0.8s
ZEA pmax pmax
comp=Z,61nm,0.8s
GRNR Gornyy 60.77 24⇑*i*P **P 01 01 10.5 -0.7**
GRNR pmax pmax
comp=Z,8.0nm,0.8s
GRNR MLR MLR
comp=Z,40nm,12.0s
YSS Yuzh-Sakhalins 60.91 31⇑*i*P **P 01 01 13.2 +1.0**
YSS pmax pmax
comp=Z,110nm,0.9s
YSS Yuzh-Sakhalins 60.91 31 P P 01 01 12.8 +0.5
BOD Bodaibo 61.12 7 *e*P **P 01 01 13.1 -0.4**
BOD pmax pmax
comp=Z,47nm,1.1s
BVA2 Borovoye Array 61.74 339 P P 01 01 16.7 -1.0
BVAR Borovoye Array 61.74 339 P P 01 01 17.0 -0.7
comp=Z,33nm,0.6s,baz=145,slow=9.3,SNR=236
BVAR PcP **pP 01 01 57.5 -0.3**
comp=Z,9.1nm,0.8s,baz=145,slow=5.4,SNR=6.2
BVAR S **S 01 09 23.1 -3.9**
comp=Z,0.5nm,0.5s,baz=114,slow=14,SNR=3.6
BRVK Borovoye 61.81 339*ce*P **P 01 01 17.3 -0.9**
BRVK pmax pmax
comp=Z,17nm,0.5s
BRVK Borovoye 61.81 339 P P 01 01 17.3 -0.9
AB31 Akbulak array 63.47 330 P P 01 01 28.1 -1.1
ABKAR Akbulak array 63.47 330 P P 01 01 28.3 -0.9
ABKAR Akbulak array 63.47 330 P P 01 01 28.9 -0.3
ABKAR IAmb IAmb 01 03 18.8
comp=Z,83nm,0.5s
TYV Tymovskoe 63.54 27 *e*P **P 01 01 31.7 +2.1**
TYV pmax pmax
comp=Z,18nm,0.5s
KMBO Kilima Mbogo 65.09 270 P P 01 01 44.3 +3.5
comp=Z,6.3nm,0.5s,baz=69,slow=7.7,SNR=23
KMBO Kilima Mbogo 65.09 270 *i* P **P 01 01 43.1 +2.3**
SNR=8.8
KMBO Kilima Mbogo 65.09 270 P P 01 01 43.0 +2.2
KMBO pmax pmax
comp=Z,8.0nm,0.7s
KMBO Kilima Mbogo 65.09 270 P P 01 01 43.0 +2.2
CUKT Cukurca 67.39 312 *e*P **P 01 01 54.1 -0.8**
CLDR Caldiran 67.90 314 *e*P **P 01 01 58.3 +0.1**
YAK Yakutsk 67.92 14 *e*P **P 01 01 56.4 -1.0**
YAK pmax pmax
comp=Z,149nm,0.9s
YAK pmax pmax
comp=E,21nm,1.0s
YAK pmax pmax
comp=N,64nm,1.0s
YAK Yakutsk 67.92 14 P P 01 01 56.9 -0.5
TASB TASBURUN-IGDIR 68.01 315 *e*P **P 01 01 59.1 +0.5**
AKDM Akdamar-Van 68.27 313 *e*P **P 01 02 01.1 +0.8**
SVE Sverdlovsk 68.31 337 *d*iP **P 01 02 00.1 +0.1**
SVE pmax pmax
comp=Z,53nm,1.0s
GROC Groznyy 68.31 319 *e*P **P 01 01 59.8 -0.5**
GROC *e* 01 02 24.0
GROC *e**SP **sP 01 02 57.2 -2.5**
GROC *e* 01 04 34.5
GROC *e*S **S 01 10 48.1 +0.6**
GROC pmax pmax
comp=Z,85nm,0.9s
TBLG Delisi 68.39 317 P P 01 02 01.3 +0.4
TBLG Delisi 68.39 317 P P 01 02 01.2 +0.4
KZRT Kazreti 68.47 317 P P 01 02 01.9 +0.5
AGRB Hanur-Agry 68.73 314 *e*P **P 01 02 03.7 +0.5**
ARU Arti 68.87 336 P P 01 02 03.1 -0.4
comp=Z,7.0nm,0.6s,baz=152,slow=3.5,SNR=36
ARU Arti 68.87 336*c iP* **P 01 02 02.9 -0.6**
ARU 01 02 27.1
ARU *PP **pP 01 02 43.4 -1.0**
ARU 01 04 33.6
ARU S **S 01 10 54.4 +0.8**
ARU pmax pmax
comp=Z,31nm,0.8s
ARU Arti 68.87 336 P P 01 02 02.8 -0.7
ARU IAmb IAmb 01 02 05.0
comp=Z,38nm,1.0s
BGD Bogdanovka 68.97 316 P P 01 02 05.4 +0.7
GURO Guroymak-BITLI 69.04 313 *e*P **P 01 02 05.9 +0.8**
KARS Kars 69.08 316 *e*P **P 01 02 05.8 +0.5**
KARS Kars 69.08 316 P P 01 02 06.3 +1.0
AKH Akhalkalaki 69.11 316⇑P **P 01 02 06.7 +1.2**
AKH Akhalkalaki 69.11 316 P P 01 02 06.0 +0.5
AKH pmax pmax
comp=Z,19nm,0.9s
AKH Akhalkalaki 69.11 316 P P 01 02 06.0 +0.5
ZEI Tsey 69.39 318 *e*P **P 01 02 06.9 -0.4**
ZEI pmax pmax
comp=Z,58nm,0.6s
SENK Senkaya-Erzuru 69.57 315 *e*P **P 01 02 08.3 -0.1**
ONI Oni 69.61 318 P P 01 02 09.5 +1.1
KOPR Koprukoy-ERZUR 69.70 315 *e*P **P 01 02 09.9 +0.7**
MAW Mawson 70.14 195 P P 01 02 14.0 +3.0
baz=70,SNR=6.2
MAW Mawson 70.14 195 P P 01 02 13.6 +2.6
comp=Z,6.5nm,0.9s,baz=0.1,slow=9.4,SNR=9.0
MAW Mawson 70.14 195 P P 01 02 13.1 +2.1
MAW Mawson 70.14 195 P P 01 02 13.1 +2.1
BNGB Bingl 70.18 313 *e*P **P 01 02 12.1 0.0**
SKR Severo-Kuril's 70.21 33 *e*P **P 01 02 12.5 +0.7**
SKR *e**PP **PcP 01 02 36.3 +3.8**
SKR *e*S **S 01 11 12.3 +2.9**
SKR pmax pmax
comp=Z,100nm,2.8s
SKR pmax pmax
comp=Z,84nm,0.8s
BCA Borcka 70.41 316⇑P **P 01 02 13.8 +0.5**
BCA Borcka 70.41 316 *e*P **P 01 02 13.1 -0.2**
BATM Batumi 70.42 316 P P 01 02 13.8 +0.5
YEDI Yedisu-Bingol 70.44 314 *e*P **P 01 02 13.9 +0.2**
KBZ Khabaz 70.45 318 P P 01 02 14.1 +0.7
comp=Z,59nm,0.8s,baz=119,slow=4.8,SNR=160
KBZ Khabaz 70.45 318*ce*P **P 01 02 13.9 +0.5**
KBZ pmax pmax
comp=Z,68nm,0.8s
KIV Kislovodsk 70.68 319 *i* P **P 01 02 15.2 +0.3**
SNR=22
KIV Kislovodsk 70.68 319 *e*P **P 01 02 15.1 +0.2**
KIV pmax pmax
comp=Z,138nm,1.0s
KIV Kislovodsk 70.68 319 P P 01 02 15.2 +0.3
KIV IAmb IAmb 01 02 16.9
comp=Z,38nm,0.8s
CHOM Cayeli-Rize 70.89 315 *e*P **P 01 02 16.6 +0.5**
GOF Gofitskoye 70.90 320⇓*e*P **P 01 02 16.3 +0.2**
GOF pmax pmax
comp=Z,35nm,0.6s
PTK Pertek 71.09 313 *e*P **P 01 02 17.6 -0.1**
WHZ Wether Hill Ro 71.17 138 P P 01 02 17.9 +0.2
MALT Malatya 71.61 312 *e*P **P 01 02 21.1 +0.4**
MALT Malatya 71.61 312 P P 01 02 21.5 +0.8
MBAR Mbarara 71.62 270 *i* P **P 01 02 22.9 +1.6**
MBAR pmax pmax
comp=Z,10.0nm,0.7s
MBAR Mbarara 71.62 270 P P 01 02 22.8 +1.4
GAZ Gaziantep 72.17 310 *e*P **P 01 02 25.0 +1.0**
GAZ Gaziantep 72.17 310 P P 01 02 24.6 +0.7
GAZ IAmb IAmb 01 02 26.0
comp=Z,33nm,0.9s
PEA0B Petropavlovsk- 72.29 31*ce*P **P 01 02 25.0 +0.7**
PEA0B Petropavlovsk- 72.29 31 P P **01 02 24.3 0.0**
PEA0B IAmb IAmb 01 02 25.4
comp=Z,33nm,0.7s
PETK Petropavlovsk- 72.29 31 P P 01 02 24.5 +0.2
comp=Z,24nm,0.6s,baz=208,slow=6.0,SNR=67
PETK Petropavlovsk- 72.29 31 P P 01 02 24.2 -0.1
KMRS Kahramanmaras 72.50 311 *e*P **P 01 02 25.8 -0.1**
SOC Sochi 72.52 317 *e*P **P 01 02 24.4 -1.4**
SOC *e* 01 05 04.9
SOC *e*PPP PPP 01 06 52.7
SOC *e*S **S 01 11 36.9 +0.7**
SOC *e*SS **SS 01 16 17.0 -1.9**
SOC *e*SSS SSS 01 19 37.0
SOC pmax pmax
comp=Z,66nm,0.6s
NRIK Noril'sk 72.68 355 P P **01 02 25.8 -0.4**
comp=Z,10nm,0.4s,baz=151,slow=4.0,SNR=19
NRIK Noril'sk 72.68 355⇑*e*P **P 01 02 25.6 -0.6**
NRIK pmax pmax
comp=Z,38nm,1.4s
PET Petropavlovsk 72.75 32 *e*P **P 01 02 26.9 0.0**
PET pmax pmax
comp=Z,115nm,0.6s
PET Petropavlovsk 72.75 32 P P 01 02 27.2 +0.3
MA2 Magadan 72.78 23 P P 01 02 28.0 +1.0
comp=Z,43nm,0.7s,baz=209,slow=7.0,SNR=9.1
MA2 Magadan 72.78 23*ce*P **P 01 02 27.9 +0.9**
MA2 pmax pmax
comp=Z,40nm,0.9s
MA2 Magadan 72.78 23 P P 01 02 27.7 +0.7
RSDY Resadiye-TOKAT 73.09 314 *e*P **P 01 02 29.6 +0.3**
SVSK Karacayir 73.18 313 *e*P **P 01 02 30.1 +0.4**
BNN Bunyan 73.70 312 *e*P **P 01 02 32.9 -0.1**
KARA Karaisali 73.84 310 *e*P **P 01 02 32.9 -0.8**
LSZ Lusaka 74.01 255 P P 01 02 36.9 +1.6
LSZ pmax pmax
comp=Z,8.0nm,0.6s
LSZ Lusaka 74.01 255 P P 01 02 36.9 +1.6
KIRV Kirov 74.08 334 P P 01 02 34.8 +0.2
comp=Z,69nm,0.7s,baz=96,slow=1.3,SNR=23
KVT Kavak 74.23 314 *e*P **P 01 02 35.9 -0.1**
KVT Kavak 74.23 314 P P 01 02 36.7 +0.7
VRH Novokhopyorsk 74.30 325 *e*P **P 01 02 35.1 -0.9**
VRH pmax pmax
comp=Z,90nm,0.7s
CSS Mathiatis 74.57 307 P P 01 02 37.9 -0.1
CSS IAmb IAmb 01 02 39.7
comp=Z,76nm,1.3s
DIKM Dikmen 74.97 314⇑P **P 01 02 39.3 -0.8**
CORM Corum 74.99 313 *e*P **P 01 02 40.2 -0.2**
SULT Sultanhani-AKS 75.27 311 *e*P **P 01 02 41.9 -0.1**
BRTR Keskin Array B 75.59 312 P P 01 02 43.5 -0.4
comp=Z,31nm,0.8s,baz=132,slow=6.8,SNR=149
BR131 Keskin Array S 75.59 312 P P 01 02 43.5 -0.4
BR131 pmax pmax
comp=Z,35nm,0.9s
BR131 Keskin Array S 75.59 312 P P 01 02 43.5 -0.4
BR131 IAmb IAmb 01 02 44.5
comp=Z,35nm,0.9s
VORD Divnogorie 75.60 324 *e*P **P 01 02 42.7 -0.8**
VORD pmax pmax
comp=Z,20nm,0.5s
VSR Storozhevoye 75.77 325 *e*P **P 01 02 43.6 -0.9**
VSR pmax pmax
comp=Z,40nm,0.5s
ILGA Ilgaz 75.91 313 P P 01 02 45.7 0.0
ILGA IAmb IAmb 01 02 47.7
comp=Z,35nm,1.0s
AFSR Afar-Bala (An 75.94 312 *e*P **P 01 02 45.2 -0.6**
BKZ Black Stump Fm 75.96 130 P P 01 02 45.9 0.0
BKZ IAmb IAmb 01 02 46.8
comp=Z,23nm,0.7s
BZK Bozkurt 75.96 314⇑P **P 01 02 46.2 +0.5**
BFZ Birch Farm 75.98 131 P P 01 02 46.0 0.0
KONT Konya--Tatoy 76.08 310 *e*P **P 01 02 46.9 +0.3**
LADK Ladik-KONYA 76.14 310 *e*P **P 01 02 46.3 -0.7**
ANTO Ankara 76.26 312 P P 01 02 47.4 -0.2
ANTO pmax pmax
comp=Z,32nm,1.0s
ANTO Ankara 76.26 312 P P 01 02 47.4 -0.2
ANTO IAmb IAmb 01 02 48.6
comp=Z,32nm,1.0s
TIXI Tiksi 76.26 8 P P 01 02 45.9 -0.9
comp=Z,10nm,0.4s,baz=182,slow=3.3,SNR=17
TIXI Tiksi 76.26 8*c iP* **P 01 02 45.6 -1.2**
TIXI pmax pmax
comp=Z,24nm,0.8s
TIXI Tiksi 76.26 8 P P 01 02 46.0 -0.8
TIXI IAmb IAmb 01 02 47.0
comp=Z,23nm,0.9s
BR231 Keskin MP Arra 76.26 312 P P 01 02 47.7 0.0
BR231 IAmb IAmb 01 02 48.7
comp=Z,28nm,0.9s
LPSR Galich'ya Gora 76.45 326 *e*P **P 01 02 47.6 -0.7**
LPSR pmax pmax
comp=Z,50nm,0.9s
LBTB Lobatse 76.84 245 P P 01 02 52.8 +1.5
LBTB pmax pmax
comp=Z,79nm,1.9s
LBTB Lobatse 76.84 245 P P 01 02 52.8 +1.5
LBTB IAmb IAmb 01 02 54.1
comp=Z,80nm,1.9s
SVRH Sivrihisar-ESK 77.09 311 *e*P **P 01 02 51.9 -0.4**
BOSA Boshof 77.36 241 P P 01 02 55.8 +1.7
comp=Z,20nm,0.8s,baz=95,slow=4.3,SNR=37
BOSA Boshof 77.36 241 P P 01 02 55.7 +1.6
BOSA pmax pmax
comp=Z,24nm,0.9s
BOSA Boshof 77.36 241 P P 01 02 55.7 +1.6
BOSA IAmb IAmb 01 02 56.6
comp=Z,24nm,0.8s
MDUB Mudurnu 77.59 312 *e*P **P 01 02 54.9 -0.2**
MDUB Mudurnu 77.59 312 P P 01 02 55.1 0.0
ELL Elmali 77.69 308 P P 01 02 55.5 -0.2
ELL pmax pmax
comp=Z,74nm,1.1s
ELL Elmali 77.69 308 P P 01 02 55.5 -0.2
ELL IAmb IAmb 01 02 57.0
comp=Z,74nm,1.1s
SYO Syowa Base 77.90 199⇑*i*P **P 01 02 57.0 +1.0**
SYO Syowa Base 77.90 199⇑*e*PcP **PcP 01 03 06.6 +1.4**
SYO Syowa Base 77.90 199⇓*e*pP pP 01 03 38.0 +0.1
GULT Gulveren 78.09 312 *e*P **P 01 02 57.7 -0.1**
MOS Moscow 78.38 329 *e*P **P 01 02 58.2 -0.7**
MOS *e* 01 03 12.5
MOS *e*S **S 01 12 36.0 -4.2**
MOS pmax pmax
comp=Z,100nm,0.9s
MOS pmax pmax
comp=Z,74nm,0.8s
OBN Obninsk 78.70 328 P P 01 03 00.2 -0.5
comp=Z,8.6nm,0.5s,baz=80,slow=4.0,SNR=4.4
OBN Obninsk 78.70 328 *i* P **P 01 03 00.1 -0.5**
OBN *i* 01 03 10.3
OBN *i**PP **pP 01 03 44.8 +2.2**
OBN pmax pmax
comp=Z,61nm,0.9s
OBN Obninsk 78.70 328 P P 01 03 00.4 -0.2
OBN IAmb IAmb 01 03 01.8
comp=Z,58nm,0.9s
TURN Turunc 78.74 308 *e*P **P 01 03 03.3 +2.0**
ARG Arkhangelos 78.98 308 P P 01 03 03.8 +1.1
MANT Manisa 79.12 310 P P 01 03 03.5 -0.2
KLMR Klimovskoe 79.56 334 *e*P **P 01 03 01.5 -3.7**
KLMR pmax pmax
comp=Z,70nm,1.3s
KLMR Klimovskoe 79.56 334 *e*P **P 01 03 01.5 -3.7**
KLMR AMP 01 03 06.4
comp=Z,70nm,1.3s
KARP Karpathos 79.62 307 P P 01 03 06.6 +0.4
KARP IAmb IAmb 01 03 08.0
comp=Z,53nm,0.8s
TLCR 80.45 317⇓P **P 01 03 10.8 +0.5**
TLCR 80.45 317 P P 01 03 10.8 +0.5
TIRR Tirgusor 80.55 316⇑P **P 01 03 11.4 +0.5**
TIRR Tirgusor 80.55 316 P P 01 03 11.0 +0.1
TIRR pmax pmax
comp=Z,75nm,0.8s
TIRR Tirgusor 80.55 316 P P 01 03 11.0 +0.1
TOPG Topolog 80.67 316⇑P **P 01 03 11.5 -0.1**
TLBR Topalu 80.83 316⇓P **P 01 03 13.2 +0.8**
KIS Kishinev 80.88 318⇑P **P 01 03 12.7 +0.1**
ICOR Ion Corvin 80.91 315⇑P **P 01 03 14.2 +1.4**
CFR Carcaliu 80.91 316⇓P **P 01 03 13.5 +0.6**
CFR Carcaliu 80.91 316 P P 01 03 13.4 +0.6
HARR Harsova 80.94 316⇑P **P 01 03 14.0 +1.1**
VNDA Vanda 80.95 169 P P 01 03 13.4 +1.0
comp=Z,3.1nm,0.6s,baz=317,slow=6.1,SNR=26
VNDA Vanda 80.95 169 P P 01 03 13.5 +1.1
VNDA pmax pmax
comp=Z,3.0nm,0.8s
VNDA Vanda 80.95 169 P P 01 03 13.5 +1.1
PRD Provadia 80.99 314 *i* P **P 01 03 13.8 +0.5**
NEF NEVSHA 81.09 314 *i* P **P 01 03 14.6 +0.8**
SANT Santorini 81.13 307⇑P **P 01 03 13.7 -0.6**
SANT Santorini 81.13 307 P P 01 03 14.1 -0.2
SANT IAmb IAmb 01 03 15.8
comp=Z,35nm,0.9s
LEOM Leova 81.14 318⇑P **P 01 03 14.7 +0.8**
LEOM Leova 81.14 318 P P 01 03 14.7 +0.8
VARL Varlezi 81.27 317⇑P **P 01 03 16.1 +1.4**
SUR Sutherland 81.39 238 P P 01 03 17.7 +1.8
IDI Anoyia 81.40 306⇓P **P 01 03 16.4 +0.7**
IDI Anoyia 81.40 306 P P 01 03 16.5 +0.7
IDI IAmb IAmb 01 03 17.5
comp=Z,28nm,0.9s
SORM Soroca 81.46 319⇓P **P 01 03 15.6 -0.1**
SORM Soroca 81.46 319 P P 01 03 15.5 -0.1
VASR Vaslui 81.48 318⇑P **P 01 03 16.8 +1.0**
ALN Alexandroupoli 81.51 312 P P 01 03 16.3 +0.2
ALN pmax pmax
comp=Z,21nm,1.0s
ALN Alexandroupoli 81.51 312 P P 01 03 16.3 +0.2
AKASG Malin Array Be 81.54 322 P P 01 03 15.7 -0.4
comp=Z,6.9nm,0.3s,baz=89,slow=4.9,SNR=54
AKASG PP **PP 01 06 20.4 -4.5**
comp=Z,1.1nm,0.6s,baz=98,slow=6.6,SNR=2.2
AKASG Malin Array Be 81.54 322 *i* P **P 01 03 15.6 -0.4**
AKASG pmax pmax
comp=Z,18nm,0.5s
AKASG Malin Array Be 81.54 322 P P 01 03 15.7 -0.4
AKBB Malin Array Si 81.54 322*ce*P **P 01 03 15.6 -0.4**
AKBB Malin Array Si 81.54 322 P P 01 03 15.6 -0.4
AKBB IAmb IAmb 01 03 16.5
comp=Z,30nm,0.8s
KIEV Kiev 81.55 322 P P 01 03 15.0 -1.0
TMCR Tamitsa 81.59 336 *e*P **P 01 03 14.6 -1.3**
TMCR pmax pmax
comp=Z,49nm,0.6s
GHRR 81.61 317⇓P **P 01 03 18.0 +1.6**
RAZG Razgrad 81.70 315⇑P **P 01 03 17.8 +0.7**
IAS Iasi 81.76 318⇑P **P 01 03 17.2 0.0**
IAS Iasi 81.76 318 P P 01 03 17.2 0.0
ODBI Odobesti 81.78 317⇓P **P 01 03 18.9 +1.5**
ELND Elena 82.03 314⇑P **P 01 03 19.4 +0.7**
VRI Vrincioaia 82.03 317⇓P **P 01 03 19.8 +1.1**
VRI Vrincioaia 82.03 317 P P 01 03 19.8 +1.1
PLOR Plostina 82.08 317⇑P **P 01 03 20.1 +1.0**
PLOR Plostina 82.08 317 P P 01 03 20.0 +1.0
DIM Dimitrovgrad 82.11 313 *i* P **P 01 03 19.6 +0.4**
TESR Tescani 82.22 318⇑P **P 01 03 20.5 +0.8**
SECR 82.31 316⇓P **P 01 03 20.8 +0.7**
MLR Muntele Rosu 82.49 316 P P 01 03 22.0 +0.8
comp=Z,38nm,0.9s,baz=31,slow=0.7,SNR=57
MLR Muntele Rosu 82.49 316⇑P **P 01 03 22.2 +0.9**
MLR Muntele Rosu 82.49 316 P P 01 03 22.1 +0.9
MLR pmax pmax
comp=Z,70nm,1.1s
MLR Muntele Rosu 82.49 316 P P 01 03 22.1 +0.9
MLR IAmb IAmb 01 03 23.2
comp=Z,70nm,1.1s
ZIMR 82.53 314⇑P **P 01 03 21.5 +0.1**
RZN Rozhen 82.64 312 *i* P **P 01 03 22.6 +0.4**
BIZ Bicaz 82.68 318⇑P **P 01 03 23.1 +1.1**
PRAR RASCA 82.68 318⇓P **P 01 03 22.8 +0.8**
PLD Plovdiv 82.72 313 P P 01 03 22.8 +0.4
PLD pmax pmax
comp=Z,133nm,0.9s
KMPD K-Podol'skiy 82.78 320 P P 01 03 23.0 +0.5
DOPR Dopca 82.97 317⇑P **P 01 03 24.0 +0.5**
HUMR Humele 82.97 315⇑P **P 01 03 23.7 +0.1**
PLVB Pleven 83.02 314⇑P **P 01 03 24.7 +0.8**
BILL Bilibino 83.07 20*c iP* **P 01 03 23.5 -0.1**
BILL pmax pmax
comp=Z,10.0nm,0.9s
BILL Bilibino 83.07 20 P P 01 03 23.6 0.0
VOIR 83.09 316⇓P **P 01 03 24.5 +0.2**
VOIR 83.09 316 P P 01 03 24.5 +0.2
PGB Panagyurishte 83.19 313 *i* P **P 01 03 25.1 +0.2**
VLAD Vladila 83.28 315⇑P **P 01 03 26.0 +0.8**
MICGM Minsk 83.30 326⇓*e*P **P 01 03 25.0 0.0**
MICGM PM 01 03 26.0
comp=Z,0.2nm,1.0s
MNK Minsk 83.30 326⇓*e*P **P 01 03 25.0 0.0**
MNK pmax pmax
comp=Z,230nm,1.0s
MMB Musomiste 83.35 312 *i* P **P 01 03 25.6 -0.1**
ARR Arges 83.37 316⇑P **P 01 03 26.0 +0.3**
SRS Serrai 83.38 312 P P 01 03 25.5 -0.3
SRS pmax pmax
comp=Z,17nm,1.1s
BURAR Bucovina Array 83.41 318⇑P **P 01 03 27.4 +1.5**
BURAR Bucovina Array 83.41 318 P P 01 03 27.3 +1.5
BURAR Bucovina Array 83.41 318 P P 01 03 26.8 +0.9
BUR08 Bucovina Ar. S 83.42 318 P P 01 03 27.1 +1.1
BUR08 IAmb IAmb 01 03 28.3
comp=Z,34nm,0.8s
PUL Pulkovo 83.44 331*ce*P **P 01 03 26.5 +0.9**
PUL pmax pmax
comp=Z,93nm,0.5s
KSV Kosov 83.64 319 P P 01 03 27.2 +0.2
MPEP Malo Peshtene 83.64 314 *i* P **P 01 03 27.7 +0.6**
KKB Krupnik 83.87 312 *i* P **P 01 03 28.5 +0.2**
ARCR ARCALIA 83.88 318⇓P **P 01 03 29.6 +1.4**
VTS Vitosha 83.88 313⇑P **P 01 03 28.9 +0.4**
VTS Vitosha 83.88 313 *i* P **P 01 03 28.7 +0.2**
VTS Vitosha 83.88 313 P P 01 03 28.5 0.0
VTS pmax pmax
comp=Z,27nm,0.7s
VTS Vitosha 83.88 313 P P 01 03 28.5 0.0
VTS IAmb IAmb 01 03 29.8
comp=Z,27nm,0.7s
LOT Lotru 83.98 316⇑P **P 01 03 29.1 +0.2**
AGG Agios Georgios 84.00 310 P P 01 03 28.3 -0.7
AGG pmax pmax
comp=Z,21nm,1.4s
AGG Agios Georgios 84.00 310 P P 01 03 28.3 -0.7
NACGM Naroch 84.01 326 *e* P **P 01 03 29.0 +0.4**
ITM Ithomi 84.06 308 *i* P **P 01 03 29.4 +0.1**
VAY Valandovo 84.17 312 *i* P **P 01 03 28.8 -0.9**
VAY Valandovo 84.17 312 P P 01 03 30.5 +0.7
VAY pmax pmax
comp=Z,28nm,1.1s
TSUM Tsumeb 84.17 251 P P 01 03 32.6 +2.2
CJR Cluj-Napoca 84.32 317⇑P **P 01 03 32.0 +1.4**
CJR Cluj-Napoca 84.32 317 P P 01 03 31.9 +1.4
LVZ Lovozero 84.33 339 P P 01 03 30.1 0.0
LVZ pmax pmax
comp=Z,125nm,1.8s
LVZ Lovozero 84.33 339 P P 01 03 30.1 0.0
IIGN Ignalina 84.43 326 *e*P **P 01 03 31.4 +0.6**
IZAR Zarasai 84.50 327 *e*P **P 01 03 31.8 +0.7**
STIP Stip 84.51 312 *i* P **P 01 03 30.7 -0.8**

ISAL	Salakas	84.53 326	*e*P		P		01 03 31.8	+0.6
BMR	Baia Mare	84.56 318	⇓P		P		01 03 33.2	+1.6
MORS	Morshin	84.56 320	P		P		01 03 32.5	+1.0
LVV	L'vov	84.60 320	*e*P		P		01 03 31.9	+0.2
DEV	Deva	84.66 316	⇑P		P		01 03 33.3	+1.2
DEV	Deva	84.66 316	P		P		01 03 33.3	+1.2
HERR	Herculane	84.83 315	⇑P		P		01 03 33.6	+0.6
VSU	Vasula	84.88 329	*e*P		P		01 03 33.4	+0.5
VSU	Vasula	84.88 329	*i* P		P		01 03 33.3	+0.5
VSU				pmax	pmax			
	comp=Z,92nm,0.8s							
DRGR		84.94 317	⇑P		P		01 03 34.5	+1.0
DRGR		84.94 317	P		P		01 03 34.4	+0.8
DRGR				pmax	pmax			
	comp=Z,21nm,1.7s							
TRSU	Trosnyk	84.99 319	P		P		01 03 35.0	+1.3
SKO	Skopje	85.10 312	*i* P		P		01 03 34.2	-0.2
TRPA	Tarpa	85.27 319	⇑P		P		01 03 35.8	+0.7
MDVR	Moldovita	85.31 315	⇑P		P		01 03 36.2	+0.7
KWP	Kalwaria Pacla	85.41 320	*e*P		P		01 03 36.5	+0.7
KWP			*e*PP		PP		01 06 56.7	+0.2
KWP	Kalwaria Pacla	85.41 320	P		P		01 03 36.4	+0.6
KWP				pmax	pmax			
	comp=Z,66nm,1.3s							
KWP	Kalwaria Pacla	85.41 320	P		P		01 03 36.4	+0.6
KWP			IAmb		IAmb		01 03 37.6	
	comp=Z,66nm,1.3s							
OHR	Ohrid	85.46 311	*i* P		P		01 03 36.0	-0.3
BZS	Buzias	85.50 316	⇓P		P		01 03 37.3	+1.0
UZH	Uzhgorod	85.51 319	⇓*i*P		P		01 03 36.4	+0.1
UZH			*i*				01 06 58.2	
SIRR	Siria	85.57 317	⇑P		P		01 03 37.8	+1.1
KOLS	Kolonicke sedl	85.58 319	*e*P		P		01 03 37.9	+1.3
KOLS				pmax	pmax			
	comp=Z,57nm,0.9s							
KOLS	Kolonicke sedl	85.58 319	*e*P		P		01 03 37.9	+1.3
IGT	Igoumenitsa	85.61 310	P		P		01 03 37.0	0.0
IGT				pmax	pmax			
	comp=Z,35nm,1.0s							
PABE	Paberza	85.72 326	*e*P		P		01 03 37.7	+0.6
BANR	Banloc	85.80 316	⇑P		P		01 03 38.2	+0.4
SUW	Suwalki	85.89 324	*e*P		P		01 03 38.1	+0.1
SUW	Suwalki	85.89 324	P		P		01 03 37.8	-0.2
SUW				pmax	pmax			
	comp=Z,100nm,0.8s							
SUW	Suwalki	85.89 324	P		P		01 03 37.8	-0.2
FIA1	FINESS Array S	85.90 332	P		P		01 03 38.1	+0.2
FIA1			IAmb		IAmb		01 03 39.1	
	comp=Z,69nm,1.6s							
FINES	FINESS Array B	85.90 332	P		P		01 03 38.1	+0.2
	comp=Z,15nm,0.7s,baz=107,slow=6.1,SNR=68							
FINES			PKiKP		PKiKP		01 08 45.3	-0.5
	comp=Z,0.6nm,0.4s,baz=104,slow=3.6,SNR=6.1							
FINES			PKKP		PKKPbc		01 21 38.0	-2.8
	comp=Z,4.5nm,1.2s,baz=232,slow=2.2,SNR=4.1							
FINES	FINESS Array B	85.90 332	P		P		01 03 37.9	0.0
CRVS	Cervenica-Dubn	86.10 319	*e*P		P		01 03 40.0	+0.8
CRVS				pmax	pmax			
	comp=Z,31nm,1.3s							
CRVS	Cervenica-Dubn	86.10 319	*e*P		P		01 03 40.0	+0.8
DIVS	Divibare	86.44 314	P		P		01 03 41.3	+0.2
DIVS			IAmb		IAmb		01 03 42.9	
	comp=Z,44nm,1.5s							
DIVS	Divibare	86.44 314	⇑*i*P		P		01 03 41.5	+0.4
KECS	Kecovo	86.68 319	*e*P		P		01 03 42.8	+0.8
KECS				pmax	pmax			
	comp=Z,12nm,0.8s							
KECS	Kecovo	86.68 319	*e*P		P		01 03 42.8	+0.8
FRGS	Fruska Gora	86.70 315	⇑*i*P		P		01 03 42.3	0.0
PDG	Podgorica	86.77 313	⇑P		P		01 03 42.5	-0.1
PDG	Podgorica	86.77 313	P		P		01 03 42.5	-0.1
PDG			IAmb		IAmb		01 03 43.7	
	comp=Z,21nm,0.9s							
PDG	Podgorica	86.77 313	⇑*i*P		P		01 03 42.5	-0.1
DRME	Dracevica, Mon	86.80 312	⇑*i*P		P		01 03 42.6	-0.1
BBLS	Lazići	86.83 314	⇑*i*P		P		01 03 43.7	+0.7
NIE	Niedzica	86.93 320	*e*P		P		01 03 44.0	+0.7
NIE			*e*PP		PP		01 07 10.2	+1.4
PBUR	Paburge	86.94 326	*e*P		P		01 03 43.8	+0.7
BEL	Belsk	86.96 322	*e*P		P		01 03 44.4	+1.1
PSZ	Piszkesteto	87.00 318	⇑P		P		01 03 44.4	+0.8
PSZ	Piszkesteto	87.00 318	P		P		01 03 44.0	+0.3
PSZ				pmax	pmax			
	comp=Z,29nm,1.0s							
PSZ	Piszkesteto	87.00 318	P		P		01 03 44.0	+0.3
PSZ			IAmb		IAmb		01 03 45.3	
	comp=Z,29nm,1.0s							
UPM	Unac-Piva	87.11 313	*e*P		P		01 03 43.8	-0.7
HAPS	Han Pijesak,BI	87.18 314	*e*P		P		01 03 44.7	0.0
QSPA	South Pole Qui	87.19 180	P		P		01 03 44.4	+1.1
HCY	Herceg Novi	87.33 313	*e*P		P		01 03 42.7	-2.6
BRY	Bratogost	87.35 313	*e*P		P		01 03 45.0	-0.6
OJC	Ojcow	87.36 320	*e*P		P		01 03 45.9	+0.6
OJC	Ojcow	87.36 320	P		P		01 03 45.6	+0.3
OJC				pmax	pmax			
	comp=Z,30nm,1.2s							
OJC	Ojcow	87.36 320	P		P		01 03 45.6	+0.3
OJC			IAmb		IAmb		01 03 47.1	
	comp=Z,30nm,1.2s							
LANS	Liptovska Anna	87.43 319	*e*P		P		01 03 46.7	+1.0
LANS				pmax	pmax			
	comp=Z,6.0nm,0.8s							
LANS	Liptovska Anna	87.43 319	*e*P		P		01 03 46.7	+1.0
TREB	Trebinje	87.47 313	*e*P		P		01 03 44.7	-1.3
BUD	Budapest	87.53 318	P		P		01 03 47.7	+1.6
BUD				pmax	pmax			
	comp=Z,13nm,1.1s							
KEV	Kevo	87.55 340	P		P		01 03 45.6	-0.1
KEV				pmax	pmax			
	comp=Z,32nm,0.9s							
KEV	Kevo	87.55 340	P		P		01 03 45.6	-0.1
KEV			IAmb		IAmb		01 03 46.5	
	comp=Z,32nm,0.9s							
MORH	Mrgy, Hungar	87.64 316	⇑*i*P		P		01 03 47.1	+0.4
KLNR	Kaliningrad	87.70 325	*i* P		P		01 03 47.2	+0.5
KLNR				pmax	pmax			
	comp=Z,134nm,0.7s							
VYHS	Vyhne	87.77 319	*e*P		P		01 03 47.9	+0.6
VYHS				pmax	pmax			
	comp=Z,26nm,1.4s							
VYHS	Vyhne	87.77 319	*e*P		P		01 03 47.9	+0.6
SRO2	Moca	87.98 318	*e*P		P		01 03 48.6	+0.4
SRO2				pmax	pmax			
	comp=Z,39nm,0.8s							
SRO2	Moca	87.98 318	*e*P		P		01 03 48.6	+0.4
ARCES	ARCESS Array B	88.01 340	P		P		01 03 47.9	0.0
	comp=Z,32nm,0.8s,baz=96,slow=6.0,SNR=90							
ARE0	ARCESS Array S	88.01 340	P		P		01 03 48.2	+0.2
ARE0	ARCESS Array S	88.01 340	*e*P		P		01 03 48.4	+0.5
SRO	Srobarova	88.04 318	*e*P		P		01 03 50.0	+1.5
SRO				pmax	pmax			
	comp=Z,33nm,0.8s							
SRO	Srobarova	88.04 318	*e*P		P		01 03 50.0	+1.5
TIP	Timpagrande	88.33 309	⇑P		P		01 03 51.7	+1.5
TIP	Timpagrande	88.33 309	P		P		01 03 51.3	+1.1
TIP			IAmb		IAmb		01 03 52.8	
	comp=Z,22nm,1.2s							
OKC	Ostrava-Krasne	88.37 320	*e*P		P		01 03 50.9	+0.9
OKC	Ostrava-Krasne	88.37 320	*e*P		P		01 03 50.9	+0.9
RICI	Ricice	88.43 313	P		P		01 03 50.1	-0.4
MAKA	Makarska	88.49 313	P		P		01 03 50.8	0.0
MATE	Matera	88.50 311	⇑P		P		01 03 52.0	+1.2
BLY	Banja Luka	88.51 315	⇑*i*P		P		01 03 51.7	+0.9
MGRS	Mrkonjic Grad	88.55 314	*e*P		P		01 03 52.3	+1.2
JAVC	Velka Javorina	88.58 319	*e*P		P		01 03 52.6	+1.5
KTK1	Kautokeino	88.68 339	*e*P		P		01 03 51.5	+0.4
SMOL	Smolenice	88.70 319	*e*P		P		01 03 52.4	+0.7
SMOL				pmax	pmax			
	comp=Z,6.0nm,0.9s							
SMOL	Smolenice	88.70 319	*e*P		P		01 03 52.4	+0.7
MORC	Moravsky Berou	88.75 320	⇓P		P		01 03 52.9	+0.9
MORC	Moravsky Berou	88.75 320	*e*P		P		01 03 52.8	+0.9
MORC	Moravsky Berou	88.75 320	P		P		01 03 52.8	+0.9
MORC				pmax	pmax			
	comp=Z,28nm,0.7s							
MORC	Moravsky Berou	88.75 320	P		P		01 03 52.8	+0.9
MODS	Modra-Piesok	88.79 318	*e*P		P		01 03 51.9	-0.2
MODS				pmax	pmax			
	comp=Z,45nm,1.3s							
MODS	Modra-Piesok	88.79 318	*e*P		P		01 03 51.9	-0.2
HAMF	Hammerfest	88.86 341	*e*P		P		01 03 52.1	+0.2
PRIJ	Prijedor	88.86 315	*e*P		P		01 03 56.5	+4.0
ZST	Bratislava	88.89 318	*e*P		P		01 03 52.5	0.0
ZST				pmax	pmax			
	comp=Z,45nm,1.3s							
ZST	Bratislava	88.89 318	*e*P		P		01 03 52.5	0.0
HVAR	Hvar	88.90 313	P		P		01 03 52.7	0.0
CEL	Celeste	88.93 308	P		P		01 03 53.9	+0.9
BEHE	Becsehely	88.95 316	⇑*i*P		P		01 03 56.0	+3.1
KIJV	Kijevo	89.00 314	P		P		01 03 53.0	-0.2
KALN	Kalnik	89.14 316	P		P		01 03 54.6	+0.8
SOP	Sopron	89.21 318	P		P		01 03 54.8	+0.8
SOP				pmax	pmax			
	comp=Z,16nm,0.8s							
GKP	Gorka Klasztor	89.29 323	*e*P		P		01 03 54.6	+0.4
KOGS	Kog	89.31 316	⇑*i*P		P		01 03 55.5	+1.0
VRAC	Vranov	89.32 319	P		P		01 03 55.3	+0.7
	comp=Z,4.0nm,0.8s,baz=113,slow=5.5,SNR=9.0							
VRAC	Vranov	89.32 319	⇑P		P		01 03 55.2	+0.7
VRAC	Vranov	89.32 319	*e*P		P		01 03 55.4	+0.8
KRUC	Moravsky	89.43 319	*e*P		P		01 03 55.7	+0.6
ZAG	Zagreb	89.44 316	⇑*i*P		P		01 03 56.5	+1.3
PTJ	Puntijarka	89.46 316	P		P		01 03 55.7	+0.3
MORI	Morici	89.49 314	P		P		01 03 55.7	+0.3
UDBI	Udbina	89.50 314	P		P		01 03 56.0	+0.4
ZIRJ	Zirje	89.52 314	P		P		01 03 55.4	-0.2
DPC	Dobruska-Polom	89.59 320	*e*P		P		01 03 56.9	+1.1
DPC	Dobruska-Polom	89.59 320	*e*P		P		01 03 56.9	+1.1
KSP	Ksiaz	89.65 321	*e*P		P		01 03 57.2	+1.1
OSTC	Ostas	89.67 320	*e*P		P		01 03 57.1	+0.9
CONA	Conrad Observa	89.69 318	*i* PcP		P		01 03 56.9	+0.4
	comp=Z,9.9nm,0.9s,SNR=6.5							
CHVC	Chvalec	89.78 320	*e*P		P		01 03 57.9	+1.2
UPC	Upice	89.80 320	*e*P		P		01 03 57.8	+1.1
UPC	Upice	89.80 320	*e*P		P		01 03 57.8	+1.1
CRES	Cresnjev	89.81 316	⇑*i*P		P		01 03 57.6	+0.7
ARSA	Arzberg	89.87 317	*i* PcP		P		01 03 58.3	+1.1
	comp=Z,18nm,0.8s,SNR=9.5							
BOJS	Bojanci	89.94 315	⇑*i*P		P		01 03 58.4	+0.9
DUGI	Dugi Otok	89.97 314	P		P		01 03 57.9	+0.2
TREC	Trest	90.05 319	*e*P		P		01 03 58.9	+1.0
TREC	Trest	90.05 319	*e*P		P		01 03 58.9	+1.0
PERS	Pernice	90.11 317	⇑*i*P		P		01 03 59.1	+0.8
NVLJ	Novalja	90.14 314	P		P		01 03 58.5	+0.1
SOKA	Soboth	90.17 317	*i* PcP		P		01 03 59.5	+0.8
	comp=Z,31nm,0.9s,SNR=20							
TRO	Tromso	90.29 340	*e*P		P		01 03 58.4	-0.2
RIY	Rijeka	90.46 315	*e*P		P		01 03 59.8	-0.1
LJU	Ljubljana	90.48 316	⇑*i*P		P		01 04 01.1	+1.1
LJU	Ljubljana	90.48 316	⇑*i*P		P		01 04 01.1	+1.1
OBKA	Obir	90.49 316	*i* PcP		P		01 04 01.0	+0.9
	comp=Z,11nm,0.8s,SNR=5.2							
GOPC	GO Pecny, Ondr	90.54 320	*e*P		P		01 04 00.4	+0.2
GOPC	GO Pecny, Ondr	90.54 320	*e*P		P		01 04 00.4	+0.2
PRU	Pruhonice	90.70 320	*e*P		P		01 04 01.6	+0.6
PRU	Pruhonice	90.70 320	*e*P		P		01 04 01.6	+0.6
PVCC	Panska Ves	90.72 320	*e*P		P		01 04 01.9	+0.9
PVCC	Panska Ves	90.72 320	*e*P		P		01 04 01.9	+0.9
MOA	Molln	90.76 318	*i* PcP		P		01 04 01.9	+0.5
	comp=Z,7.2nm,0.9s,SNR=5.4							
PRA	Prague	90.78 320	*e*P		P		01 04 02.2	+0.9
PRA	Prague	90.78 320	*e*P		P		01 04 02.2	+0.9
TRI	Trieste	90.99 316	P		P		01 04 02.3	-0.1
TRI				pmax	pmax			
	comp=Z,16nm,0.7s							
TRI	Trieste	90.99 316	P		P		01 04 02.3	-0.1
TRI			IAmb		IAmb		01 04 03.3	
	comp=Z,16nm,0.7s							
CLTB	Caltabellotta	91.00 307	P		P		01 04 03.2	+0.5
CLTB			IAmb		IAmb		01 04 04.7	
	comp=Z,13nm,0.8s							
CADS	Cadrg	91.03 316	⇑*i*P		P		01 04 03.0	+0.3
PBCC	Pribram	91.04 320	*e*P		P		01 04 03.3	+0.8
AQU	L'Aquila	91.08 312	P		P		01 04 02.5	-0.5
AQU				pmax	pmax			
	comp=Z,16nm,0.9s							
AQU	L'Aquila	91.08 312	P		P		01 04 02.5	-0.5
AQU			IAmb		IAmb		01 04 04.8	
	comp=Z,16nm,0.9s							
AQU	L'Aquila	91.08 312	*e*P		P		01 04 02.8	-0.2
MYKA	Terra Mystica	91.12 316	*i* PcP		P		01 04 03.5	+0.4
	comp=Z,8.4nm,0.7s							
BRG	Berggiesshubel	91.14 321	*i* P		P		01 04 03.9	+0.9
	comp=Z,15nm,0.7s							
BRG			*e*pP		pP		01 04 44.1	-1.9
	comp=Z,4.6nm,1.1s							
BRG			*e*sP		sP		01 05 04.2	+0.3
	comp=Z,3.0nm,1.0s							
BRG			*e*PP		PP		01 07 41.9	-0.1
	comp=Z,4.8nm,0.9s							
BRG	Berggiesshubel	91.14 321	*i* P		P		01 04 03.8	+0.9
BRG			*e**PP		pP		01 04 44.1	-1.9
BRG			*e**SP		sP		01 05 04.2	+0.3
BRG			*e*				01 07 41.9	
BRG				pmax	pmax			
	comp=Z,15nm,0.7s							
BRG	Berggiesshubel	91.14 321	*e*P		P		01 04 03.8	+0.9
	comp=Z,15nm,0.7s,baz=91,slow=4.5							
PRED	Cave del Predi	91.17 316	P		P		01 04 04.0	+0.7
GEC2	GERESS Array S	91.19 319	P		P		01 04 03.5	+0.1
GEC2			IAmb		IAmb		01 04 05.1	
	comp=Z,22nm,1.2s							
GEC2	GERESS Array S	91.19 319	*e*P		P		01 04 04.0	+0.7
	comp=Z,14nm,1.0s,baz=91,slow=4.5							
GERES	GERESS Array B	91.19 319	P		P		01 04 04.0	+0.7
	comp=Z,7.3nm,0.9s,baz=86,slow=5.6,SNR=60							
GERES	GERESS Array B	91.19 319	P		P		01 04 03.7	+0.4
KHC	Kasperske Hory	91.28 319	*e*P		P		01 04 03.8	+0.1
KHC			*ex*		x		01 04 12.7	
KHC	Kasperske Hory	91.28 319	*ce*P		P		01 04 04.3	+0.6
KHC				pmax	pmax			
	comp=Z,12nm,0.8s							
KHC	Kasperske Hory	91.28 319	P		P		01 04 03.6	-0.1
KBA	Koelnbreinsper	91.35 317	*i* P		P		01 04 03.8	-0.4
	comp=Z,9.0nm,1.1s							
NIKH	Nikolski High	91.46 37	P		P		01 04 04.2	-0.2
STEI	Steigen	91.47 338	*e*P		P		01 04 04.4	+0.3
FBE	Freiberg	91.51 321	*e*P		P		01 04 05.5	+0.8
	comp=Z,13nm,0.8s,baz=91,slow=4.5							
ZOU	Zoufplan	91.58 316	P		P		01 04 04.9	-0.4
ZOU			IAmb		IAmb		01 04 06.5	
	comp=Z,38nm,1.7s							
MOR8	Moi Rana	91.68 336	*e*P		P		01 04 03.9	-1.3
HFS	Hagfors	91.72 330	P		P		01 04 05.6	+0.2
	comp=Z,6nm,0.6s,baz=149,slow=3.1,SNR=54							
WET	Wettzell	91.75 319	*e*P		P		01 04 06.4	+0.6
	comp=Z,16nm,1.1s,baz=91,slow=4.5							
STAL	STALIGIAL	91.75 316	P		P		01 04 06.3	+0.4
CLL	Collm	91.75 321	*i* P		P		01 04 05.8	+0.1
	comp=Z,7.0nm,1.1s							
CLL	Collm	91.75 321	*i* P		P		01 04 05.8	+0.1
CLL				pmax	pmax			
	comp=Z,7.0nm,1.1s							
CLL	Collm	91.75 321	*e*P		P		01 04 06.0	+0.3
	baz=91,slow=4.5							
SPA0	Spitsbergen Ar	91.88 348	P		P		01 04 05.5	-0.4
SPA0			IAmb		IAmb		01 06 24.8	
	comp=Z,38nm,1.2s							
SPA0	Spitsbergen Ar	91.88 348	*e*P		P		01 04 05.4	-0.4
SPITS	Spitsbergen Ar	91.88 348	P		P		01 04 05.2	-0.6
	comp=Z,2.6nm,0.3s,baz=116,slow=9.4,SNR=33							
ABTA	Abfaltersbach	91.90 317	*i* P		P		01 04 06.4	-0.3
	comp=Z,12nm,1.1s,SNR=6.1							
CIMO	Cimolais	91.94 316	P		P		01 04 07.2	+0.4
HSPB	Hornsund (broa	91.97 347	*e*P		P		01 04 07.0	+0.8
TANN	Tannenbergstha	92.06 320	*e*P		P		01 04 07.4	+0.1
	comp=Z,10nm,0.9s,baz=91,slow=4.5							
NKC	Novy Kostel	92.06 320	*e*P		P		01 04 07.9	+0.6
NKC	Novy Kostel	92.06 320	*e*P		P		01 04 07.9	+0.6
WERN	Wernitzgruen	92.11 320	*e*P		P		01 04 08.1	+0.5
	comp=Z,5.5nm,0.8s,baz=91,slow=4.5							
LOF	Lofoten	92.12 338	*e*P		P		01 04 08.6	+1.6
SNAA	Sanae	92.13 198	P		P		01 04 09.5	+2.2
SNAA	Sanae	92.13 198	*i* P		P		01 04 08.0	+0.8
SNAA				pmax	pmax			
	comp=Z,1.0nm,0.9s							
GUNZ	Gunzen	92.14 320	*e*P		P		01 04 08.4	+0.7
	comp=Z,7.2nm,0.8s,baz=91,slow=4.5							
ROTZ	Rotzenmuhle	92.20 320	*e*P		P		01 04 08.7	+0.8
	comp=Z,9.5nm,0.8s,baz=91,slow=4.5							
KONS	Konsvik	92.22 336	*e*P		P		01 04 08.3	+0.7
PLN	Plauen	92.26 320	*e*P		P		01 04 08.9	+0.8
	comp=Z,6.7nm,0.8s,baz=91,slow=4.5							
STOK	Stokkvaagen	92.26 336	*e*P		P		01 04 08.6	+0.8
MANZ	Manzenberg	92.27 320	*e*P		P		01 04 08.9	+0.6
	comp=Z,13nm,1.1s,baz=91,slow=4.5							
CTI	Castel Tesino	92.48 316	P		P		01 04 10.4	+1.0
CTI				pmax	pmax			
	comp=Z,26nm,0.9s							
CTI	Castel Tesino	92.48 316	P		P		01 04 10.4	+1.0
NEUB	Neuenburg	92.52 321	*e*P		P		01 04 09.9	+0.7
	comp=Z,23nm,0.9s,baz=91,slow=4.5							
WTTA	Wattenberg	92.52 317	*i* PcP		P		01 04 09.6	0.0
	comp=Z,14nm,0.7s,SNR=7.7							
WTTA	Wattenberg	92.52 317	P		P		01 04 09.6	0.0
WATA	Walderalm	92.56 317	*i* P		P		01 04 09.5	-0.3
	comp=Z,7.4nm,0.6s,SNR=5.0							
MOX	Moxa	92.61 320	*e*P		P		01 04 10.4	+0.6
	baz=91,slow=4.5							
NSS	Namsos	92.66 334	*e*P		P		01 04 09.8	+0.2
FUR	Furstenfeldbru	92.78 318	*e*P		P		01 04 11.2	+0.5
	baz=91,slow=4.5							
KBS	Kingsbay	92.79 349	*e*P		P		01 04 11.3	+1.3
SQTA	Sankt Quirin	92.81 317	*i* PcP		P		01 04 10.9	0.0
	comp=Z,13nm,0.6s,SNR=7.6							
NC602	NORSAR Array S	92.81 331	P		P		01 04 10.3	-0.1
NC602	NORSAR Array S	92.81 331	*e*P		P		01 04 10.4	-0.1
NORES	NORESS Array B	92.81 331	P		P		01 04 10.5	+0.1
NORES				pmax	pmax			
	comp=Z,4.0nm,0.4s							
GRA1	Grafenberg Arr	92.84 319	P		P		01 04 11.3	+0.4
GRA1			IAmb		IAmb		01 04 12.8	
	comp=Z,15nm,0.8s							
GRF	Grafenberg Arr	92.84 319	P		P		01 04 11.3	+0.4
GRF				pmax	pmax			
	comp=Z,15nm,0.8s							
GRF	Grafenberg Arr	92.84 319	*e*P		P		01 04 11.4	+0.5
	comp=Z,16nm,0.8s,baz=91,slow=4.5							
MOTA	Moosalm	92.88 317	*i* PcP		P		01 04 11.3	0.0
	comp=Z,18nm,1.0s,SNR=7.0							
NB2	NORSAR Subarra	92.97 331	P		P		01 04 11.2	0.0
	comp=Z,3.7nm,0.6s,baz=92,slow=4.6							
NB2	NORSAR Subarra	92.97 331	P		P		01 04 11.2	0.0
	baz=92,slow=4.6							
NOA	NORSAR Array B	92.97 331	P		P		01 04 10.8	-0.4
	comp=Z,5.8nm,0.7s,baz=117,slow=3.9,SNR=21							
NOA			PP		PP		01 07 56.9	+0.7
	comp=Z,0.7nm,0.7s,baz=100,slow=7.7,SNR=3.3							
RETA	Reutte	93.11 317	*i* PcP		P		01 04 12.5	+0.2
	comp=Z,11nm,0.7s,SNR=8.4							
FETA	Feichten	93.13 317	*i* PcP		P		01 04 12.6	+0.1
	comp=Z,8.8nm,0.9s,SNR=5.9							
NC204	NORSAR Array S	93.19 331	P		P		01 04 12.4	+0.1
OSL	Oslo	93.21 330	*e*P		P		01 04 12.7	+0.4
ASSE	Asse, Remlinge	93.22 322	*e*P		P		01 04 12.6	+0.2
	baz=91,slow=4.5							
SALO	Salr	93.26 315	P		P		01 04 13.5	+0.6
CLZ	Clausthal	93.40 322	*e*P		P		01 04 13.7	+0.3
	comp=Z,9.2nm,0.9s,baz=91,slow=4.5							
CLZ			*e*pP		pP		01 04 51.0	-5.5
BSEG	Bad Segeberg	93.44 324	*e*P		P		01 04 14.1	+0.6
	baz=91,slow=4.5							
FUORN	Ofenpass-Fuorn	93.45 316	P		P		01 04 14.8	+0.7
FUORN			IAmb		IAmb		01 04 15.7	
	comp=Z,14nm,0.8s							
UBR	Ueberruh	93.56 317	*e*P		P		01 04 14.5	+0.2
	comp=Z,11nm,1.1s,baz=91,slow=4.5							
NRDL	Niedersach Rie	93.56 322	*e*P		P		01 04 14.5	+0.5
	baz=91,slow=4.5							
DAVA	Damuels	93.71 317	*i* PcP		P		01 04 15.8	+0.6
	comp=Z,17nm,0.9s,SNR=9.1							
DAVOX	Davos/Dischmat	93.71 317	P		P		01 04 15.9	+0.7
	comp=Z,11nm,0.6s,baz=122,slow=7.0,SNR=24							
VNA2	Neumayer--Watz	93.76 198	P		P		01 04 16.4	+1.7
	baz=88,slow=4.0							
KONO	Kongsberg	93.78 329	P		P		01 04 15.1	+0.2
KONO				pmax	pmax			
	comp=Z,48nm,1.6s							
KONO	Kongsberg	93.78 329	P		P		01 04 15.1	+0.2
KONO	Kongsberg	93.78 329	*e*P		P		01 04 15.3	+0.3
DOMB	Dombas	93.99 332	*e*P		P		01 04 16.0	+0.1
KEST	Kesra	94.06 305	P		P		01 04 18.3	+1.4
	comp=Z,6.2nm,1.0s,baz=74,slow=2.9,SNR=6.2							
KEST	Kesra	94.06 305	P		P		01 04 18.2	+1.4
TNS	Taunus Mts	94.63 320	*e*P		P		01 04 19.4	+0.3
	comp=Z,12nm,0.9s,baz=91,slow=4.5							
TNS			*e*pP		pP		01 04 55.6	-6.6
BFO	Black Forest	94.75 318	P	

G05D	Wamic, OR	122.98	36	P		PKiKP	01 09 54.1	0.0
	baz=305							
I04A	Tendick Farm,	123.14	38	P		PKiKP	01 09 54.3	-0.1
	baz=303							
D08A	Wollman Farm,	123.25	33			PKiKP	01 09 54.3	-0.2
HAWA	Hanford	123.32	34			PKiKP	01 09 54.5	-0.2
NEW	Newport	123.43	31	P		PKiKP	01 09 54.9	0.0
	baz=311							
I05D	Terrebonne, OR	123.48	36	P		PKiKP	01 09 55.0	-0.1
	baz=304							
E08A	Dider Farm, El	123.52	33			PKiKP	01 09 55.1	+0.1
J04D	Umpqua Nationa	123.62	38	P		PKPdf	01 09 55.3	0.0
	baz=303,SNR=5.2							
PINE	Pine Mountain	124.02	37			PKiKP	01 09 56.9	+0.5
L04D	Klamath Falls	124.05	39	P		PKPdf	01 09 56.1	0.0
	baz=302							
J05D	Fort Rock, OR	124.13	37	P		PKiKP	01 09 56.3	-0.2
	baz=304							
N02D	Trinity Center	124.44	41	P		PKiKP	01 09 56.9	-0.2
	baz=301							
FFC	Flin Flon	124.55	17	PKIKP		PKiKP	01 09 56.6	-0.2
FFC	Flin Flon	124.55	17			PKiKP	01 09 56.6	-0.2
M04C	Macdoel	124.57	39	P		PKiKP	01 09 57.2	-0.2
	baz=302							
K05A	Summer Lake	124.65	38			PKiKP	01 09 58.1	+0.4
I07A	Izee	124.71	36			PKiKP	01 09 57.5	-0.1
O02D	Mt. Diablo Mer	124.79	41	P		PKPdf	01 09 57.6	0.0
	baz=300							
F10A	Beach Ranch, E	124.84	33			PKPdf	01 09 57.5	0.0
O03E	Paynes Creek	125.38	41	P		PKPdf	01 09 58.5	-0.1
	baz=302							
MOD	Modoc Plateau	125.47	38			PKiKP	01 09 59.1	-0.1
J08A	Circle Bar Ran	125.74	36			PKiKP	01 10 00.0	+0.3
MSO	Missoula	125.99	30	P		PKPdf	01 09 59.3	-0.4
	baz=313							
MSO	Missoula	125.99	30	PKPdf		PKPdf	01 09 59.1	-0.6
WVOR	Wild Horse Val	126.19	37	PKIKP		PKiKP	01 10 00.8	+0.2
WVOR	Wild Horse Val	126.19	37			PKiKP	01 10 00.8	+0.2
HRY	Holter Researc	127.11	29			PKiKP	01 10 02.7	+0.3
EGMT	Eagleton	127.12	27	P		PKiKP	01 10 01.9	-0.3
	baz=318							
EGMT	Eagleton	127.12	27			PKPdf	01 10 01.4	-0.3
MFID	Camas Ranch	127.23	34			PKiKP	01 10 02.4	-0.3
PAHR	Pah Rah Range	127.26	40			PKPdf	01 10 02.4	0.0
VCNR	Virginia City	127.31	41			PKiKP	01 10 03.2	+0.1
SCHQ	Schefferville	127.37	352	PKP		PKPdf	01 10 01.3	-0.6
	comp=Z,7.1nm,0.8s,baz=13,slow=2.4,SNR=9.1							
SCHQ	Schefferville	127.37	352			PKPdf	01 10 01.7	-0.2
DLMT	Dillon	127.68	31			PKiKP	01 10 03.5	0.0
MCMT	McKenzie Canyo	127.92	31			PKiKP	01 10 04.2	0.0
HLID	Hailey	127.92	33	P		PKPdf	01 10 03.7	+0.1
	baz=311							
HLID	Hailey	127.92	33			PKiKP	01 10 04.4	+0.2
BOZ	Bozeman (W)	128.00	30	P		PKPdf	01 10 03.5	-0.1
	baz=315							
KVN	Kaiserville	128.45	40	PKIKP		PKPdf	01 10 04.8	+0.1
KVN	Kaiserville	128.45	40			PKPdf	01 10 04.8	+0.1
NVAR	Mina Array Bea	128.67	41	PKP		PKiKP	01 10 06.5	+0.7
	comp=Z,1.9nm,0.7s,baz=269,slow=1.9,SNR=13							
NVAR				SKPbc	SKPbc		01 13 10.8	
	comp=Z,1.0nm,0.8s,baz=268,slow=6.5,SNR=4.9							
NVAR	Mina Array Bea	128.67	41			PKiKP	01 10 05.6	-0.2
ELK	Elko	129.24	37	PKP		PKiKP	01 10 07.2	+0.3
ELK				SKPbc	SKPbc		01 13 11.7	-0.1
	comp=Z,0.4nm,0.4s,baz=321,slow=1.6,SNR=3.2							
ELK	Elko	129.24	37	PKIKP		PKiKP	01 10 06.9	-0.1
ELK	Elko	129.24	37			PKiKP	01 10 06.9	-0.1
RLMT	Red Lodge	129.50	29	P		PKiKP	01 10 07.2	-0.2
	baz=317							
FXWY	Fox Creek	129.68	31			PKiKP	01 10 07.5	-0.3
REDW	Red Top Meadow	129.97	31			PKPdf	01 10 07.8	+0.2
GRAC	Grapevine Rang	130.08	42	P		PKiKP	01 10 08.3	-0.2
	baz=304							
ULM	Lac du Bonnet	130.23	15	PKP		PKPdf	01 10 07.3	-0.1
	comp=Z,6.5nm,0.6s,baz=7.0,slow=4.5,SNR=6.0							
ULM				SKPbc	SKPbc		SKPab 01 13 11.9	-2.7
	comp=Z,1.6nm,0.4s,baz=17,slow=7.4,SNR=2.9							
ULM	Lac du Bonnet	130.23	15	PKIKP		PKPdf	01 10 07.6	+0.1
ULM	Lac du Bonnet	130.23	15			PKPdf	01 10 07.6	+0.1
BGU	Big Grassy Mou	130.42	35			PKiKP	01 10 09.1	-0.1
R11A	Troy Canyon, C	130.47	39	P		PKiKP	01 10 08.9	-0.5
	baz=306,SNR=11							
R11A	Troy Canyon, C	130.47	39			PKiKP	01 10 09.4	-0.1
MPMC	Manual Prospec	130.50	43	P		PKiKP	01 10 09.3	-0.2
	baz=303,SNR=5.3							
LRMC	Laurel Mtn Rad	130.68	44	P		PKiKP	01 10 09.4	-0.5
	baz=302							
FURC	Furnace Creek,	130.71	42	P		PKiKP	01 10 09.6	0.0
	baz=304							
EDW2	Edwards Air Fo	130.78	45	P		PKiKP	01 10 09.8	-0.2
	baz=302							
HWUT	Hardware Ranch	130.79	34			PKiKP	01 10 09.8	-0.2
TPNV	Topopah Spring	130.84	41	P		PKiKP	01 10 09.7	-0.5
	baz=305							
DUG	Dugway, Tooele	131.02	36	P		PKiKP	01 10 10.0	-0.4
	baz=310							
DUG	Dugway, Tooele	131.02	36	PKIKP		PKiKP	01 10 10.3	-0.1
DUG	Dugway, Tooele	131.02	36			PKiKP	01 10 10.3	-0.1
BW06	Boulder Array	131.06	31	P		PKPdf	01 10 09.8	+0.2
	baz=316							
PD31	Pinedale Array	131.06	31			PKPdf	01 10 09.9	+0.3
PDAR	Pinedale Array	131.06	31	PKP		PKPdf	01 10 09.1	-0.5
	comp=Z,1.3nm,0.6s,baz=270,slow=0.9,SNR=10.0							
GSC	Goldstone, Bar	131.38	44	P		PKiKP	01 10 10.9	-0.3
	baz=303							
GSC	Goldstone, Bar	131.38	44	PKIKP		PKiKP	01 10 11.1	-0.1
GSC	Goldstone, Bar	131.38	44			PKiKP	01 10 11.1	-0.1
PSUT	Pine Spring	131.44	38			PKiKP	01 10 11.7	+0.3
GMRC	Granite Mounta	132.45	43	P		PKPdf	01 10 12.3	0.0
	baz=304,SNR=6.8							
MSU	Marysvale	132.48	37	PKIKP		PKiKP	01 10 13.6	+0.1
MSU	Marysvale	132.48	37			PKiKP	01 10 13.6	+0.1
PFO	Pinyon Flats O	132.52	45	SKPbc		SKPbc	01 13 22.9	-0.8
	comp=Z,3.2nm,0.8s,baz=303,slow=8.9,SNR=3.7							
BELC	Belle Mtn. Jos	132.64	45	P		PKPdf	01 10 12.9	+0.2
	baz=303							
K22A	Casper	132.66	29	P		PKPdf	01 10 12.8	+0.2
	baz=319							
K22A	Casper	132.66	29			PKPdf	01 10 12.6	0.0
RSSD	Black Hills	132.66	26	P		PKPdf	01 10 12.4	-0.1
	baz=329							
RSSD	Black Hills	132.66	26	PKIKP		PKPdf	01 10 12.3	-0.3
RSSD	Black Hills	132.66	26			PKPdf	01 10 12.3	-0.3
MATQ	Matagami	133.19	0	P		PKPdf	01 10 13.3	+0.3
BC3	Big Chuckawall	133.21	45	P		PKPdf	01 10 14.2	+0.4
	baz=303							
EYMN	Ely	133.44	13	P		PKiKP	01 10 14.2	-0.7
	baz=341							
O20A	White River Ci	133.63	33	P		PKPdf	01 10 14.5	0.0
	baz=316							
O20A	White River Ci	133.63	33			PKPdf	01 10 14.5	0.0
U15A	North Rim	133.72	39			PKiKP	01 10 15.9	-0.2
PDMCI	Parker Dam,Lak	133.76	43	P		PKiKP	01 10 15.4	-0.5
	baz=305							
PHWY	Pilot Hill	134.20	29			PKPdf	01 10 15.2	-0.5
N23A	Red Feather La	134.27	30	P		PKPdf	01 10 15.8	+0.1
	baz=319							
PV13	Radium Mtn., P	134.69	35			PKPdf	01 10 16.9	+0.3
F36A	Milaca	134.89	16			PKPdf	01 10 16.7	+0.3
ISCO	Idaho Springs	135.25	31	P		PKPdf	01 10 17.5	-0.2
	baz=318							
D61A	St Aubert, Com	135.28	353	P		PKPdf	01 10 17.4	+0.4
	baz=11							
D49A	Beulah Townshi	135.56	4	P		PKPdf	01 10 18.2	+0.5
	baz=355							
D47A	Chapleau	135.64	5	P		PKPdf	01 10 18.0	+0.2
	baz=352							
D60A	Saint Jean D'O	135.65	353	P		PKPdf	01 10 18.0	+0.3
	baz=9.6							
D58A	Chemin du LacG	135.66	355	P		PKPdf	01 10 18.1	+0.3
	baz=6.8							
D46A	Sault St. Mari	135.71	6	P		PKPdf	01 10 18.4	+0.5
	baz=351							
D50A	G1974 Best Tow	135.74	2	P		PKPdf	01 10 18.4	+0.4
	baz=357							
E62A	Clayton Lake	135.76	352	P		PKiKP	01 10 18.7	-0.9
	baz=12							
D54A	Lac Fusel, La	135.79	359	P		PKiKP	01 10 18.8	-0.9
	baz=1.4							
D57A	Chemin Vers le	135.81	356	P		PKiKP	01 10 18.8	-0.9
	baz=5.4							
D56A	ZEC Mazanza, M	135.83	357	P		PKiKP	01 10 18.9	-0.9
	baz=4.1							
D51A	Lot 18 Range I	135.83	2	P		PKiKP	01 10 18.9	-0.9
	baz=358							
D53A	Lac Vacive, Po	135.87	0	P		PKPdf	01 10 18.7	+0.5
	baz=360							
D53A	Lac Vacive, Po	135.87	0			PKPdf	01 10 18.0	-0.2
ECSD	EROS Data Cent	135.88	20	P		PKiKP	01 10 19.4	-0.6
	baz=332							
D55A	Sainte-Anne-du	135.89	358	P		PKiKP	01 10 19.1	-0.8
	baz=3.1							
D52A	ZEK Kipawa Sen	135.97	1	P		PKPdf	01 10 18.8	+0.4
	baz=359							
214A	Organ Pipe Nat	136.00	45	P		PKPdf	01 10 19.4	+0.4
	baz=304							
E61A	Lac Etchemin	136.07	353	P		PKPdf	01 10 19.0	+0.4
	baz=10							
S22A	4UR Ranch, Cre	136.10	34	P		PKiKP	01 10 20.2	-0.8
	baz=316							
S22A	4UR Ranch, Cre	136.10	34			PKPdf	01 10 19.3	0.0
E46A	Sault Ste Mari	136.19	7			PKPdf	01 10 18.7	-0.1
PLCA	Paso Flores	136.22	188	SKPbc		SKPbc	01 13 33.8	-1.6
	comp=Z,0.9nm,0.5s,baz=201,slow=5.2,SNR=4.1							
E47A	Iron Bridge	136.22	6	P		PKPdf	01 10 19.1	+0.3
	baz=352							
E60A	Ste Agathe de	136.25	354	P		PKiKP	01 10 19.8	-0.8
	baz=8.9							
E48A	Lockeyer	136.29	5	P		PKiKP	01 10 20.0	-0.7
	baz=354							
F64A	Sherman	136.32	351	P		PKiKP	01 10 20.1	-0.7
	baz=14							
E58A	La Victoria	136.41	356	P		PKPdf	01 10 19.9	+0.7
	baz=6.3							
E50A	Wahnapitae	136.44	3	P		PKiKP	01 10 20.4	-0.6
	baz=356							
E55A	Montcerf-Lytto	136.47	358	P		PKiKP	01 10 20.4	-0.7
	baz=2.3							
E54A	Lac Daplat, Po	136.51	360	P		PKPdf	01 10 19.7	+0.3
	baz=0.7							
F62A	Pittston Farm,	136.53	352	P		PKiKP	01 10 20.6	-0.6
	baz=11							
E53A	Dumoine, Ponti	136.57	0	P		PKiKP	01 10 20.5	-0.7
	baz=360							
F61A	St Evariste	136.59	353	P		PKiKP	01 10 20.8	-0.5
	baz=9.7							
F63A	Nahmakanta, Br	136.60	351	P		PKiKP	01 10 20.4	-1.0
	baz=12							
I37A	Lemond, Waseca	136.62	17			PKPdf	01 10 19.5	-0.2
E52A	Mattawa	136.66	1	P		PKiKP	01 10 20.5	-1.0
	baz=358							
F60A	Warwick	136.69	354	P		PKPdf	01 10 20.5	+0.7
	baz=8.3							
F45A	CMU Biological	136.71	8	P		PKiKP	01 10 21.2	-0.4
	baz=348							
F48A	Evansville	136.90	5	P		PKiKP	01 10 21.0	-0.9
	baz=353							
F51A	Arnstein	136.98	2	P		PKPdf	01 10 20.9	+0.7
	baz=357							
F49A	Sandfield	137.01	5	P		PKPdf	01 10 21.1	+0.8
	baz=354							
G46A	Petoskey	137.16	8	P		PKiKP	01 10 21.9	-0.6
	baz=349							
G47A	Hillman	137.42	7	P		PKiKP	01 10 22.7	-0.3
	baz=351							
H65A	Eastbrook	137.44	350	P		PKiKP	01 10 22.7	-0.4
	baz=14							
G54A	Lake Saint Pet	137.55	0	P		PKiKP	01 10 22.6	-0.7
	baz=359							
H63A	New Sharon	137.75	352	P		PKiKP	01 10 23.0	-0.7
	baz=11							
G53A	Haliburton	137.82	1	P		PKiKP	01 10 23.7	-0.2
	baz=359							
T25A	Trinidad	137.86	32			PKPdf	01 10 22.9	+0.4
H46A	Fife Lake	137.88	8	P		PKiKP	01 10 23.4	-0.6
	baz=349							
H59A	Cadyville	138.16	356	P		PKiKP	01 10 23.7	-0.9
	baz=5.9							
SADO	Sadowa	138.16	2	SKPbc		SKPbc	01 13 38.1	-2.8
	comp=Z,4.3nm,0.7s,baz=53,slow=4.5,SNR=5.4							
SADO	Sadowa	138.16	2	PKPdf		PKPdf	01 10 23.4	+0.9
H60A	Morristown	138.16	355	P		PKPdf	01 10 23.4	+0.9
	baz=7.4							
LONY	Lake Ozonia	138.24	357	P		PKPdf	01 10 23.4	+0.7
	baz=4.6							
H52A	Wyevale	138.26	2	P		PKPdf	01 10 23.5	+0.9
	baz=357							
ANMO	Albuquerque	138.27	37	P		PKPdf	01 10 24.0	+0.7
	baz=314							
ANMO	Albuquerque	138.27	37	PKP		PKPdf	01 10 23.6	+0.4
	comp=Z,2.4nm,0.8s,baz=330,slow=3.4,SNR=6.6							
ANMO				SKPbc		SKPbc	01 13 40.1	-1.6
	comp=Z,2.0nm,0.8s,baz=281,slow=3.3,SNR=6.2							
H56A	Elgin	138.34	359	P		PKPdf	01 10 23.4	+0.6
	baz=2.1							
H53A	Bobcaygeon	138.37	1	P		PKPdf	01 10 23.8	+0.9
	baz=359							
LBNH	Lisbon	138.40	354	P		PKPdf	01 10 23.9	+0.9
	baz=8.6							
I48A	Sherman Twp	138.41	7	P		PKiKP	01 10 24.4	-0.6
	baz=351							
JFWS	Jewell Farm	138.48	14	P		PKPdf	01 10 23.8	+0.7
	baz=341							
I55A	Frankford	138.74	0	P		PKiKP	01 10 24.8	-0.9
	baz=360							
I60A	Shoreham	138.93	355	P		PKiKP	01 10 25.1	-1.0
	baz=6.6							
I57A	Carthage	138.98	358	P		PKiKP	01 10 25.2	-1.0
	baz=3.0							
I59A	Olmsteadville	139.02	356	P		PKiKP	01 10 25.2	-1.2
	baz=5.7							
121A	Cookes Peak, D	139.06	40	P		PKPdf	01 10 25.6	+0.9
	baz=310							
I58A	Old Forge	139.19	357	P		PKiKP	01 10 25.7	-1.0
	baz=4.1							
J48A	Bridge Port	139.28	7	P		PKiKP	01 10 25.8	-1.1
	baz=351							
J49A	Marlette	139.29	6	P		PKiKP	01 10 25.9	-1.0
	baz=352							
J61A	Chester	139.35	354	P		PKiKP	01 10 26.0	-1.0
	baz=7.8							
J59A	Piesco	139.39	356	P		PKPdf	01 10 25.9	+1.1
	baz=4.8							
J56A	Wolcott	139.67	359	P		PKiKP	01 10 26.5	-1.2
	baz=1.2							
L44A	Lake County Fo	139.70	12	P		PKPdf	01 10 26.5	+1.1
	baz=344							
K63A	Dunstable	139.89	353	P		PKiKP	01 10 27.0	-1.1
	baz=9.5							
KSU1	Kansas State U	139.92	23	P		PKiKP	01 10 27.7	-0.6
	baz=330							
K61A	Williamstown	140.09	355	P		PKiKP	01 10 27.8	-0.8
	baz=6.8							
K59A	Cooperstown	140.10	357	P		PKiKP	01 10 27.7	-1.0
	baz=4.3							
K58A	Earlville	140.15	358	P		PKiKP	01 10 27.7	-1.1
	baz=3.1							
K60A	Five Rivers En	140.19	356	P		PKiKP	01 10 28.1	-0.7
	baz=5.8							
K57A	Scipio Center	140.21	359	P		PKiKP	01 10 28.2	-0.6
	baz=1.8							
K55A	Perry	140.22	1	P		PKiKP	01 10 28.2	-0.7
	baz=359							
K56A	Middlesex	140.25	360	P		PKiKP	01 10 28.4	-0.6
	baz=0.5							
L64A	Middleborough	140.54	352	P		PKiKP	01 10 29.2	-0.3
	baz=11							
L61A	Hillsdale 1, H	140.59	355	P		PKiKP	01 10 28.8	-0.8
	baz=6.4							
L54A	Sinclairville	140.69	2	P		PKiKP	01 10 28.7	-1.1
	baz=357							
BINY	Binghamton	140.72	358	P		PKiKP	01 10 29.1	-0.8
	baz=2.6							
L55A	Hinsdale	140.76	1	P		PKiKP	01 10 29.2	-0.8
	baz=359							
L56A	Greenwood	140.81	360	P		PKiKP	01 10 29.4	-0.8
	baz=0.1							
L58A	Harry Jones Me	140.87	358	P		PKiKP	01 10 29.7	-0.5
	baz=2.8							
HDIL	Hopedale	140.94	14	P		PKiKP	01 10 29.2	-1.2
	baz=341							
MSTX	Muleshoe	141.10	34			PKPdf	01 10 28.0	-0.3
MNTX	Cornudas Mount	141.14	39			PKPdf	01 10 27.6	-0.7
M59A	Waymart	141.36	357	P		PKiKP	01 10 30.3	-0.9
	baz=3.5							
M54A	Oil Creek Stat	141.40	2	P		PKiKP	01 10 30.1	-1.2
	baz=357							
M56A	Emporium	141.46	1	P		PKiKP	01 10 30.4	-1.0
	baz=359							
M56A	Emporium	141.46	1			PKPdf	01 10 27.8	-0.8
M58A	Price's Panora	141.56	359	P		PKiKP	01 10 30.9	-0.8
	baz=1.9							
SFIN	Lafayette	141.60	12	P		PKiKP	01 10 30.9	-0.8
	baz=345							
M57A	Sunshine Farm,	141.61	359	P		PKiKP	01 10 31.1	-0.6
	baz=0.8							
N59A	State Game Lan	142.00	358	P		PKiKP	01 10 31.8	-0.8
	baz=3.0							
N60A	Cedar Hill Far	142.01	357	P		PKiKP	01 10 31.8	-0.7
	baz=4.1							
N56A	West Decatur	142.03	1	P		PKiKP	01 10 31.7	-0.9
	baz=359							
O48A	Farmland	142.07	9	P		PKiKP	01 10 31.9	-0.8
	baz=348							
N58A	Sunbury	142.10	359	P		PKiKP	01 10 32.1	-0.7
	baz=1.5							
N57A	Milroy	142.19	360	P		PKiKP	01 10 32.7	-0.3
	baz=0.2							
SSPA	Standing Stone	142.31	0	P		PKiKP	01 10 32.7	-0.5
	baz=360							
S39A	Bolivar	142.39	21			PKPdf	01 10 29.2	-1.2
ACSO	Alum Creek Sta	142.40	7	P		PKiKP	01 10 32.9	-0.5
	baz=351							
O51A	Pataskala	142.53	6	P		PKiKP	01 10 32.8	-0.8
	baz=352							
O53A	New Philadelph	142.56	5	P		PKiKP	01 10 32.8	-0.9
	baz=354							
O60A	Telford	142.58	357	P		PKiKP	01 10 33.1	-0.6
	baz=3.7							
O59A	Robesonia	142.61	358	P		PKiKP	01 10 32.8	-1.1
	baz=2.4							
O52A	Adamsville	142.64	5	P		PKiKP	01 10 32.8	-1.1
	baz=353							
O56A	Blue Knob Stat	142.67	1	P		PKiKP	01 10 33.2	-0.8
	baz=358							
O55A	Ligonier	142.71	2	P		PKiKP	01 10 33.2	-0.9
	baz=357							
O57A	Amberson	142.74	0	P		PKiKP	01 10 33.6	-0.5
P48A	Milroy	142.81	10			PKPdf	01 10 29.8	-1.2
O58A	Lewisberry	142.82	359	P		PKPdf	01 10 32.5	+1.5
	baz=1.2							
P52A	Corning	143.09	6	P		PKPdf	01 10 33.0	+1.5
	baz=353							
P60A	Greenville	143.09	357	P		PKPdf	01 10 32.9	+1.4
	baz=3.3							
P59A	Jarrettsville	143.32	358	P		PKiKP	01 10 33.6	-1.7
	baz=2.0							
P55A	Reedsville	143.38	3	P		PKPdf	01 10 33.6	+1.5
	baz=356							
P56A	Dayton Farm, R	143.43	2	P		PKPab	01 10 28.7	+0.1
	baz=358							
P58A	Pank, Wackersv	143.46	360	P		PKPab	01 10 28.6	-0.1
	baz=0.6							
P57A	Homestead Farm	143.46	0	P		PKPab	01 10 28.6	-0.2
	baz=359							
ARCO	CERRO ARCO	143.63	192	eP		PKPdf	01 10 31.9	-1.1
MT02	Curacav	143.64	189			PKPbc	01 10 31.1	+0.5
PEL	Peldehue	143.67	190	PKIKP		PKPbc	01 10 31.5	+0.8
PEL	Peldehue	143.67	190			PKPbc	01 10 31.5	+0.8
Q52A	Bidwell	143.74	6	P		PKPab	01 10 29.2	-0.6
	baz=352							
U40A	Yellville	143.75	21	P		PKPab	01 10 29.7	-0.3
	baz=334							
TX31	Lajitas Ar. Si	143.81	40			PKPbc	01 10 32.0	+0.6
TX32	Lajitas Array	143.82	40			PKPbc	01 10 32.0	+0.6
TXAR	Lajitas Array	143.82	40	PKP		PKPbc	01 10 31.9	+0.6
	comp=Z,8.5nm,0.6s,baz=300,slow=1.1,SNR=74							
TXAR				SKPbc		SKPbc	01 13 54.7	-1.4
	comp=Z,1.3nm,0.7s,baz=207,slow=1.2,SNR=4.1							
TXAR	Lajitas Array	143.82	40			PKPbc	01 10 31.7	+0.3
ABTX	Abilene, Hawle	143.83	32	P		PKPab	01 10 30.6	+0.2
	baz=321							
WCI	Wyandotte Cave	143.84	12	P		PKPab	01 10 29.8	-0.4
	baz=345							
Q54A	Coxs Mills	143.84	4	P		PKPab	01 10 29.8	-0.5
	baz=355							
ASAL	Salagasta	143.85	193	eP		PKPdf	01 10 32.7	-0.5
TCA	Tanti	143.88	199	eP		PKPdf	01 10 32.9	-0.4
Q56A	Snyder Ridge,	143.88	2	P		PKPab	01 10 30.0	-0.4
	baz=357							
Q55A	Buckhannon	143.88	3	P		PKPab	01 10 30.1	-0.4
	baz=356							
ROC1	El Roble	143.89	189			PKPdf	01 10 32.6	-0.9
Q57A	Strasburg	143.90	1	P		PKPab	01 10 30.2	-0.3
	baz=359							
Q60A	Greensboro	143.91	358	P		PKPab	01 10 30.3	-0.2
	baz=3.0							
Q53A	Leroy	143.91	5	P		PKPab	01 10 30.1	-0.4
	baz=353							
VA03	San Esteban	144.02	190			PKPdf	01 10 32.8	-0.7
Q59A	Harwood	144.07	359	P		PKPab	01 10 30.9	-0.2
	baz=1.7							
AUSP	Uspallata	144.32	192	eP		PKPdf	01 10 34.4	+0.1
R53A	Hurricane	144.40	6	P		PKPab	01 10 31.9	-0.5
	baz=353,SNR=20							
W39A	Magazine	144.43	23	P		PKPab	01 10 32.1	-0.4
	baz=332,SNR=18							
T45A	Paducah	144.45	15			PKPab	01 10 32.5	-0.1
Z35A	Perchaven, San	144.49	29			PKPab	01 10 32.7	-0.2
R56A	Bull Pasture M	144.50	2	P		PKPab	01 10 32.0	-0.9
	baz=357,SNR=13							
LCAR	Lake Charles	144.59	19			PKPab	01 10 32.7	-0.4
R55A	Marlinton	144.59	3	P		PKPab	01 10 32.5	-0.7
	baz=356							
R54A	Victor

X40A	Basin Creek Fa	145.42	22		PKPbc	01 10 35.9	-0.1	
BDFB	Brasilia	145.46	237	PKPbc	PKPab	01 10 38.0	+0.9	
	comp=Z,22nm,0.6s,baz=137,slow=3.8,SNR=38							
BDFB				SKPbc	SKPbc	01 13 58.6	-1.6	
	comp=Z,3.4nm,0.6s,baz=54,slow=3.6,SNR=3.9							
BDFB	Brasilia	145.46	237	PKP2	PKPab	01 10 37.1	0.0	
BDFB	Brasilia	145.46	237		PKPab	01 10 37.1	0.0	
WHTX	Lake Whitney,	145.47	31	P	PKPdf	01 10 35.7	-0.2	
	baz=324,SNR=5.6							
WHTX	Lake Whitney,	145.47	31		PKPbc	01 10 36.0	-0.2	
WVT	Waverly	145.50	15	P	PKPdf	01 10 35.6	-0.2	
	baz=342							
WVT	Waverly	145.50	15	PKP2	PKPdf	01 10 35.6	-0.2	
WVT	Waverly	145.50	15		PKPdf	01 10 35.6	-0.2	
U49A	Red Boiling Sp	145.60	12		PKPdf	01 10 35.6	-0.4	
CO02	Combarbal	145.62	190		PKPdf	01 10 36.4	0.0	
BLA	Blacksburg	145.64	4	P	PKPdf	01 10 35.5	-0.6	
	baz=355							
T53A	Wise	145.66	7	P	PKPdf	01 10 36.0	-0.2	
	baz=351,SNR=10							
T54A	Tazewell	145.69	6	P	PKPdf	01 10 36.0	-0.3	
	baz=353,SNR=14							
T55A	Pulaski	145.70	4	P	PKPdf	01 10 35.8	-0.4	
	baz=354,SNR=10							
T60A	Surry	145.79	359	P	PKPdf	01 10 36.2	-0.1	
	baz=1.6							
T60A	Surry	145.79	359		PKPdf	01 10 36.4	+0.1	
ACCO	Cerro Coronel	145.83	193	eP	PKPab	01 10 38.9	+0.4	
T56A	Rocky Mt	145.84	3	P	PKPdf	01 10 36.1	-0.3	
	baz=356,SNR=19							
CLTN	Cedars of Leba	145.89	13		PKPdf	01 10 36.1	-0.3	
T57A	Hurt	145.91	2	P	PKPdf	01 10 36.6	+0.1	
	baz=357,SNR=12							
T57A	Hurt	145.91	2		PKPdf	01 10 36.5	+0.1	
CO03	El Pedregal	145.92	191		PKPbc	01 10 37.9	+0.1	
TZTN	Tazewell	145.96	9	P	PKPdf	01 10 36.7	0.0	
	baz=350,SNR=17							
TZTN	Tazewell	145.96	9		PKPdf	01 10 36.5	-0.1	
T59A	Double "B" Far	145.97	360	P	PKPdf	01 10 36.6	0.0	
	baz=0.2,SNR=13							
T59A	Double "B" Far	145.97	360		PKPdf	01 10 36.8	+0.2	
T58A	Grand View Acr	145.99	1	P	PKPdf	01 10 36.9	+0.3	
	baz=358,SNR=8							
WLAR	White Oak Lake	146.01	23		PKPdf	01 10 36.2	-0.6	
W45A	Hickory Valley	146.04	17		PKPdf	01 10 37.0	+0.2	
V48A	Smith Brothers	146.11	13		PKPdf	01 10 36.5	-0.4	
U54A	Nelsons Funny	146.20	6	P	PKPdf	01 10 37.2	0.0	
	baz=352,SNR=5.2							
U54A	Nelsons Funny	146.20	6		PKPdf	01 10 36.9	-0.3	
ACDV	Cuesta del Vie	146.24	193	eP	PKPab	01 10 39.9	+0.1	
237A	Washetta, Mont	146.27	29		PKPbc	01 10 38.5	-0.1	
U55A	TA2, Sparta	146.29	5	P	PKPdf	01 10 37.7	+0.4	
	baz=354,SNR=22							
CCAR	Cane Creek	146.32	21		PKPbc	01 10 38.6	-0.1	
AROD	Rodeo	146.33	193	eP	PKPab	01 10 40.8	+0.4	
435B	Jarrell	146.36	32	P	PKPbc	01 10 38.3	-0.6	
	baz=322							
435B	Jarrell	146.36	32		PKPdf	01 10 37.7	+0.2	
ACLC	CERRO LA CRUZ	146.38	197	eP	PKPbc	01 10 38.6	-0.7	
U60A	Pendleton	146.47	359	P	PKPbc	01 10 38.6	-0.5	
	baz=0.9,SNR=12							
U57A	Blanch	146.47	2	P	PKPbc	01 10 38.3	-0.8	
	baz=357,SNR=14							
U56A	King	146.50	4	P	PKPbc	01 10 38.3	-0.9	
	baz=355,SNR=5.4							
U56A	King	146.50	4		PKPdf	01 10 37.8	+0.2	
Z41A	Richland Creek	146.51	23	P	PKPbc	01 10 38.8	-0.5	
	baz=332							
Z41A	Richland Creek	146.51	23		PKPdf	01 10 36.8	-0.8	
Z41A				PKPbc	PKPbc	01 10 39.3	0.0	
PLAL	Pickwick Lake	146.52	16		PKPdf	01 10 36.8	-0.8	
PLAL				PKPbc	PKPbc	01 10 38.8	-0.5	
U58A	Oxford	146.54	1	P	PKPbc	01 10 38.6	-0.6	
	baz=358,SNR=19							
V51A	Loudon	146.55	10		PKPdf	01 10 37.5	-0.2	
OXF	Oxford	146.57	18	P	PKPbc	01 10 38.5	-0.9	
	baz=338,SNR=9.9							
OXF	Oxford	146.57	18	PKIKP	PKPdf	01 10 37.6	-0.1	
OXF	Oxford	146.57	18		PKPdf	01 10 37.6	-0.1	
U59A	Littleton	146.59	0	P	PKPbc	01 10 38.9	-0.5	
	baz=360,SNR=5.1							
U59A	Littleton	146.59	0		PKPbc	01 10 39.2	-0.2	
GO04	Tololo Observa	146.59	191		PKPdf	01 10 38.4	+0.2	
U61A	Possum Corner	146.59	358	P	PKPbc	01 10 39.0	-0.4	
	baz=2.2							
U61A	Possum Corner	146.59	358		PKPbc	01 10 39.3	-0.1	
V52A	Sevierville	146.64	9		PKPdf	01 10 38.2	+0.5	
CO01	Juntas del Tor	146.64	192		PKPab	01 10 41.1	-0.3	
AGUA	GUANDACOL	146.75	195	eP	PKPab	01 10 41.4	-0.3	
TKL	Tuckaleechee C	146.79	9	SKPbc	SKPbc	01 13 59.7	-2.9	
	comp=Z,6.5nm,1.1s,baz=67,slow=3.7,SNR=4.2							
TKL	Tuckaleechee C	146.79	9	PKP2	PKPdf	01 10 38.8	+0.8	
TKL	Tuckaleechee C	146.79	9		PKPdf	01 10 38.8	+0.8	
SWET	Sewanee	146.82	12		PKPdf	01 10 37.1	-1.0	
SWET				PKPbc	PKPbc	01 10 39.1	-1.1	
CPCT	Cooper Cave	146.87	10		PKPdf	01 10 38.1	-0.1	
CPCT				PKPbc	PKPbc	01 10 39.9	-0.3	
V53A	Saluda	146.92	8		PKPdf	01 10 38.3	0.0	
V53A				PKPbc	PKPbc	01 10 40.2	-0.3	
V54A	Nebo	146.92	6	P	PKPbc	01 10 39.3	-1.1	
	baz=352,SNR=14							
V55A	Taylorsville	146.92	5	P	PKPbc	01 10 39.4	-1.0	
	baz=354,SNR=15							
V55A	Taylorsville	146.92	5		PKPdf	01 10 38.4	+0.1	
CYA	Choya	146.94	199	eP	PKPbc	01 10 41.2	+0.5	
V57A	Coltrane Farms	146.99	3	P	PKPbc	01 10 39.6	-0.9	
	baz=356,SNR=9.7							
NATX	Nacogdoches	147.01	27	P	PKPbc	01 10 40.4	-0.3	
	baz=328							
V56A	Mocksville	147.02	4	P	PKPbc	01 10 39.9	-0.8	
	baz=355,SNR=8.1							
V58A	Windy Hill, Pi	147.12	2	P	PKPbc	01 10 40.4	-0.6	
	baz=357,SNR=12							
V58A	Windy Hill, Pi	147.12	2		PKPbc	01 10 40.3	-0.6	
Y45A	Yeager Farm, C	147.13	18		PKPbc	01 10 40.6	-0.4	
V61A	Roper	147.13	358	P	PKPbc	01 10 41.0	0.0	
	baz=2.0							
V59A	Middlesex	147.17	1	P	PKPbc	01 10 40.6	-0.5	
	baz=359,SNR=11							
V60A	Jim Taylor Roa	147.17	359	P	PKPbc	01 10 40.8	-0.3	
	baz=0.7							
X48A	Hartselle	147.29	14	PKPdf	PKPdf	01 10 37.9	-1.0	
X48A					PKPbc	01 10 40.3	-1.1	
V62A	Hyde County Ai	147.34	357	P	PKPbc	01 10 41.1	-0.4	
	baz=3.1							
VCA	Vinchina	147.38	195	eP	PKiKP	01 10 43.3	-0.9	
FPAL	Fort Paine	147.54	12		PKPbc	01 10 40.9	-1.3	
BG3	Lake Jocassee	147.57	8		PKPdf	01 10 39.3	0.0	
BG3				PKPbc	PKPbc	01 10 41.6	-0.6	
W54A	Cherokee Point	147.58	7	P	PKPbc	01 10 41.4	-0.8	
	baz=352,SNR=5.9							
KMSC	Kings Mountain	147.61	6	P	PKPbc	01 10 41.5	-0.8	
	baz=353,SNR=13							
KMSC	Kings Mountain	147.61	6		PKPdf	01 10 39.4	0.0	
X51A	Calhoun	147.66	11		PKPdf	01 10 38.8	-0.7	
X51A				PKPbc	PKPbc	01 10 42.1	-0.3	
W56A	Indian Trail	147.69	5	P	PKPbc	01 10 41.6	-0.8	
	baz=354							
CNNC	Cliffs of the	147.70	0	P	PKPbc	01 10 42.1	-0.4	
	baz=360							
W57A	Gilead	147.71	4	P	PKPbc	01 10 41.8	-0.7	
	baz=356							
W57A	Gilead	147.71	4		PKPdf	01 10 38.8	-0.8	
W61A	Ground Anchor	147.76	359	P	PKPbc	01 10 42.4	-0.2	
	baz=1.2							
W59A	Clinton	147.76	1	P	PKPbc	01 10 42.4	-0.3	
	baz=358							
AC05	El Transito	147.78	192		PKPbc	01 10 43.5	+0.3	
PAULI	Pauline	147.88	6		PKPdf	01 10 39.6	-0.2	
PAULI				PKPbc	PKPbc	01 10 42.4	-0.6	
W58A	Raeford	147.88	2	P	PKPbc	01 10 42.5	-0.5	
	baz=357							
W60A	Pink Hill	147.89	0	P	PKPbc	01 10 42.7	-0.3	
	baz=360							
HKT	Hockley	147.93	31	PKP2	PKPbc	01 10 42.4	-0.8	
HKT	Hockley	147.93	31		PKPbc	01 10 42.4	-0.8	
Y49A	Blount Mountai	148.01	14		PKPdf	01 10 39.5	-0.6	
Y49A				PKPbc	PKPbc	01 10 42.6	-0.8	
X54A	Belton	148.08	7	P	PKPbc	01 10 43.0	-0.6	
	baz=351							
BBSR	BB Station	148.15	339		PKPbc	01 10 43.5	-0.3	
BIRD	Birdtown, Kers	148.18	4		PKPdf	01 10 40.3	0.0	
BIRD				PKPbc	PKPbc	01 10 43.3	-0.5	
Z47A	Carrollton	148.20	17		PKPbc	01 10 43.1	-0.8	
X55A	Gracelyn & Ava	148.25	6	P	PKPbc	01 10 43.3	-0.7	
	baz=352							
X56A	White Oak	148.29	5	P	PKPbc	01 10 43.4	-0.6	
	baz=354							
VBMS	Vicksburg	148.31	21	P	PKPbc	01 10 44.1	0.0	
	baz=335							
VBMS	Vicksburg	148.31	21		PKPbc	01 10 43.6	-0.6	
X58A	Rowland	148.34	3	P	PKPbc	01 10 43.6	-0.6	
	baz=357							
X59A	McDuffie Farm,	148.35	2	P	PKPbc	01 10 43.7	-0.5	
	baz=358							
X60A	Albert Glenn T	148.36	1	P	PKPbc	01 10 43.9	-0.3	
	baz=359							
X57A	Johnson Farm,	148.39	4	P	PKPbc	01 10 43.7	-0.7	
	baz=355							
HODGE	Hodges	148.41	7		PKPdf	01 10 40.8	0.0	
HODGE				PKPbc	PKPbc	01 10 44.0	-0.4	
146A	Union	148.42	19	PKPdf	PKPdf	01 10 40.8	0.0	
146A					PKPbc	01 10 44.7	+0.2	
JSC	Jenkinsville	148.47	6	PKIKP	PKPdf	01 10 40.7	-0.1	
JSC						01 10 44.1		
JSC	Jenkinsville	148.47	6		PKPdf	01 10 40.7	-0.1	
JSC				PKPbc	PKPbc	01 10 44.1	-0.5	
Y52A	Lilburn	148.49	10		PKPdf	01 10 40.7	-0.2	
Y52A				PKPbc	PKPbc	01 10 44.7	0.0	
LRAL	Lakeview Retre	148.65	15	P	PKPbc	01 10 44.1	-1.0	
	baz=342							
LRAL	Lakeview Retre	148.65	15		PKPbc	01 10 43.8	-1.3	
Y55A	Saluda	148.75	7	P	PKPbc	01 10 44.7	-0.6	
	baz=352							
Z51A	Franklin	148.81	12	PKPdf	PKPdf	01 10 41.4	0.0	
Z51A					PKPbc	01 10 45.2	-0.3	
Y57A	Sumter	148.81	4	P	PKPbc	01 10 44.8	-0.6	
	baz=355							
Y57A	Sumter	148.81	4		PKPbc	01 10 45.0	-0.5	
344A	Westbrook Farm	148.92	22	PKPdf	PKPdf	01 10 41.8	+0.1	
344A					PKPbc	01 10 46.1	+0.4	
Y59A	Loris	148.93	2	P	PKPbc	01 10 45.3	-0.4	
	baz=358							
Y60A	Bolivia	148.93	1	P	PKPbc	01 10 45.1	-0.6	
	baz=359							
Y56A	Pelion	148.95	6	P	PKPbc	01 10 45.6	-0.2	
	baz=353							
Y58A	Scranton	148.97	3	P	PKPbc	01 10 45.5	-0.3	
	baz=356							
GO03	Copiap	148.97	193		PKPbc	01 10 46.2	+0.1	
GOGA	Godfrey	149.04	10	P	PKPbc	01 10 45.5	-0.5	
	baz=349							
GOGA	Godfrey	149.04	10	PKP2	PKPbc	01 10 45.9	-0.1	
GOGA	Godfrey	149.04	10		PKPdf	01 10 41.9	+0.1	
GOGA				PKPbc	PKPbc	01 10 45.9	-0.1	
Z56A	Williston	149.41	6	P	PKPbc	01 10 46.4	-0.5	
	baz=353							
346A	Big Creek Wild	149.43	20		PKPbc	01 10 47.1	+0.1	
Z57A	Bowman	149.50	5	P	PKPbc	01 10 46.8	-0.4	
	baz=354							
Z58A	St. Stephen	149.53	4	P	PKPbc	01 10 46.9	-0.3	
	baz=356							
Z59A	Georgetown, SC	149.65	3	P	PKPbc	01 10 47.1	-0.5	
	baz=357							
NHSC	New Hope	149.73	4	P	PKPbc	01 10 47.4	-0.4	
	baz=355							
154A	Montrose	149.88	9		PKPbc	01 10 47.8	-0.3	
157A	Early Branch	150.09	6	P	PKPbc	01 10 48.2	-0.4	
	baz=353							
158A	Hollywood	150.10	4	P	PKPbc	01 10 48.3	-0.3	
	baz=355							
352A	Blakely	150.63	13		PKPdf	01 10 44.5	+0.2	
352A				PKPbc	PKPbc	01 10 49.9	0.0	
352A				PKPab	PKPab	01 10 57.0	-0.2	
TIGA	Tifton	150.94	11	P	PKPbc	01 10 50.4	-0.2	
	baz=348							
GO02	Mina Guanaco	151.15	195		PKiKP	01 10 52.3	+0.1	
451A	Vernon	151.27	15	PKPdf	PKPdf	01 10 45.0	-0.4	
451A					PKiKP	01 10 51.9	0.0	
451A					PKPab	01 11 00.1	+0.3	
553A	Crawfordville	151.99	13		PKPbc	01 10 53.0	-0.1	
PB15	IPOC Station P	152.97	197		PKiKP	01 10 56.4	+0.5	
LPAZ	La Paz	158.86	206	PKP	PKPdf	01 10 57.5	+0.7	
	comp=Z,1.8nm,0.8s,baz=338,slow=2.4,SNR=8.1							
LPAZ				PKPab	PKPab	01 11 34.6	+1.2	
	comp=Z,2.2nm,0.7s,baz=322,slow=0.7,SNR=6.7							
OBIP	Obispado Ponce	161.37	325		PKPdf	01 10 58.7	0.0	
PTGA	Pitinga	162.00	259		PKPab	01 11 47.5	+0.8	
SDDR	Presa de Saban	162.74	339		PKPab	01 11 49.7	+0.2	
TGUH	Tegucigalpa,Un	165.29	40	PKPdf	PKPdf	01 11 01.9	-0.8	
TGUH					PKPab	01 12 01.6	+0.5	
RUSC	La Rusia	174.51	304		PKPdf	01 11 07.1	-1.4	

*NNC **19** 01:25:37.3±1.8, 49°.50N×73°.04E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=23.8km s-min=9.9km az=118.0*
*SOME **19** 01:25:39.0, 49°.53N×73°.02E, h15km*

ISC 19 01:25:35.7±0.9, 49°.59N±0°.04×72°.98E±0°.06, h10km, n9, σ2s33/12, 5C-5D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRZS	Berezniki	0.44	334	⇓*i*P	Pn	01 25 47.9	-0.2
	105nm,0.0s						
BRZS				*e*S	Sb	01 25 54.6	+2.4
	145nm,0.0s						
OTUK	Ortayu	1.41	198	⇓P	Pg	01 26 03.3	+0.6
	3.5nm,0.2s						
OTUK				⇑S	Sg	01 26 20.5	-0.5
	7.0nm,0.2s						
KURBB	Kurchatov Arra	3.72	72	⇑Pg	Pb	01 26 43.4	+2.1
	1.7nm,0.9s						
KURBB				⇓Lg	Lg	01 27 35.0	
	9.4nm,0.7s						
KURK	Kurchatov	3.80	71	⇑Lg	Lg	01 27 36.5	
	3.0nm,0.7s						
BRVK	Borovoye	3.86	335	⇑Pg	Pg	01 26 48.1	-1.6
	1.0nm,0.6s						
BRVK				⇑Lg	Lg	01 27 41.8	
	2.9nm,0.7s						
BTLS	Baital	4.61	171	*e*P	Pg	01 27 01.3	-2.6
	0.5nm,0.1s						
BTLS				*e*S	Sg	01 28 00.0	-3.5
	2.6nm,0.3s						
KAPS	Kapalarasan	6.10	132	*e*P	Pg	01 27 30.4	-2.1
	0.7nm,0.4s						
KAPS				*e*S	Sg	01 28 49.8	-1.6
	2.6nm,0.7s						
CHKK	Chushkaly	6.36	153	*e*S	Pn	01 27 11.2	+1.7
MK31	Makanchi Array	6.82	111	⇓Pn	Pn	01 27 18.4	+2.6
	0.1nm,0.2s,baz=288,slow=13,SNR=4.4						
MK31				⇓Lg	Lg	01 29 12.7	
	0.7nm,0.5s,baz=293,slow=27,SNR=3.8						

INET 19 02:25:12.5, 12°.35N×86°.49W, h5km, ML1.0, Nicaragua

*UPA **19** 02:29:04.9±2.0, 7°.24N×77°.27W, h10km±9km, MW4.1*
*RSNC **19** 02:29:06.0±1.3, 7°.21N×77°.30W, h28km±8km, ML2.8, Mw3.6*

ISC 19 02:29:04.4±1.3, 7°.26N±0°.03×77°.27W±0°.02, h13km±10km, n43, σ1s55/75, 1C-1D, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTAC	Punta Ardita,	0.55	258	⇑*i*P	Pg	02 29 15.6	+0.4
PTAC				*e*S	Sb	02 29 23.6	0.0
DBBC	Dabeiba	1.08	103	*e*P	Pg	02 29 24.3	-0.9
DBBC				*e*S	Sg	02 29 38.8	-0.6
CAPC	Capurgana	1.37	357	*e*P	Pn	02 29 27.8	-1.5
CAPC				*e*S	Sn	02 29 46.8	-0.5
CAPC				*i*		02 29 54.7	
	comp=Z,146nm,0.4s						
CAP2	Capurgana	1.39	356	*e*P	Pn	02 29 28.4	-1.1
CAP2				*e*S	Sn	02 29 46.9	-0.8
UPD2	Meteti	1.48	330	*e*P	Pn	02 29 30.9	+0.1
UPD2				*e*S	Sn	02 29 49.6	-0.3
UPD2	Meteti	1.48	330	*e*P	Pn	02 29 31.4	+0.6
UPD2				*e*S	Sn	02 29 52.1	+2.1
UREC	San Jos de Ur	1.79	74	*e*P	Pn	02 29 35.4	+0.3
UREC				*e*S	Sn	02 29 57.8	+0.2
UREC				*i*		02 30 07.2	
	comp=Z,77nm,0.4s						
LCBC	Los crdobas,	1.82	29	*e*P	Pn	02 29 35.8	+0.3
LCBC				*e*S	Sn	02 29 58.6	+0.2
LCBC				*i*		02 30 09.4	
	comp=Z,155nm,0.5s						
CBOC	Ciudad Bolivar	1.86	138	*e*P	Pn	02 29 35.0	-1.2
CBOC				*e*S	Sn	02 29 57.6	-2.1
CBOC				*i*		02 30 04.7	
	comp=Z,61nm,0.5s						
HELC	Santa Helena	2.03	121	*e*P	Pn	02 29 38.5	-0.1
HELC				*e*S	Sn	02 30 03.2	-0.8
HELC				*i*		02 30 09.6	
	comp=Z,86nm,0.6s						
HELC	Santa Helena	2.03	121	*i*P	Pn	02 29 39.7	+1.1
HELC				*e*S	Sn	02 30 04.5	+0.5
ZARC	Zaragoza, Cauc	2.40	84	*e*S	Sn	02 30 12.5	-0.3
ZARC				*i*		02 30 22.6	
	comp=Z,89nm,0.6s						
CNTA3	Canitas, Panam	2.52	321	*e*P	Pn	02 29 46.5	+1.4
CHPO	Chepo, Panama	2.64	316	*e*P	Pn	02 29 47.4	+0.7
CHPO				*e*S	Sn	02 30 21.5	+3.0
GUY2C	Guyana, Caldas	2.77	137	*e*P	Pn	02 29 50.3	+1.4
GUY2C				*e*S	Sn	02 30 18.4	-4.1
GUY2C				*i*		02 30 28.6	
	comp=Z,44nm,0.5s						
FLAM	Flamenco Islan	2.78	306	*e*P	Pn	02 29 48.3	-0.4
FLAM				*e*S	Sn	02 30 23.0	+0.8
UPA	Univ. de Panam	2.82	308	*e*P	Pn	02 29 48.1	-1.1
UPA				*i*		02 30 46.0	
	comp=Z,26nm,0.5s						
UPA	Univ. de Panam	2.82	308	*e*P	Pn	02 29 49.3	+0.1
UPA				*e*S	Sb	02 30 30.8	+1.7
PCRI3	Pocri, Los San	2.85	278	*e*P	Pn	02 29 50.3	+0.7
PCRI3				*e*S	Sn	02 30 22.5	-1.4
PTBC	PUERTO BERRIO,	2.88	104	*e*P	Pn	02 29 51.3	+1.2
PTBC				*e*S	Sn	02 30 23.6	-1.1
PTBC				*i*		02 30 41.7	
	comp=Z,36nm,0.6s						
ACHO3	Achotines, Los	2.88	273	*e*P	Pn	02 29 50.7	+0.6
ACHO3				*e*S	Sn	02 30 21.8	-2.9
NORC	Norcasia	2.92	125	*e*P	Pn	02 29 53.0	+2.3
NORC				*i*		02 30 41.4	
	comp=Z,18nm,0.6s						
CHOR3	La Chorrera	2.96	304	*e*P	Pn	02 29 51.9	+0.7
CHOR3				*e*S	Sn	02 30 27.9	+1.4
RREF	El Recreo	3.02	141	*e*P	Pn	02 29 54.1	+1.6
RREF				*e*S	Sn	02 30 32.1	+3.2
RREF				*i*		02 30 41.7	
	comp=Z,28nm,0.5s						
AZU	Azuero	3.03	280	*e*P	Pn	02 29 52.1	+0.1
AZU				*e*S	Sn	02 30 26.1	-2.0
AZU	Azuero	3.03	280	⇓*i*P	Pn	02 29 52.5	+0.5
AZU				*e*S	Sn	02 30 24.8	-3.3
ZANG	Zanguenga, Cho	3.08	303	*e*P	Pn	02 29 53.1	+0.4
ZANG				*e*S	Sn	02 30 31.5	+2.1
FRIJ	El Hiral	3.12	309	*e*P	Pn	02 29 53.3	0.0
VTON	El Valle, Cocl	3.12	296	*e*P	Pn	02 29 53.9	+0.5
VTON				*e*S	Sn	02 30 31.9	+1.3
BCIP	Isla Barro Col	3.17	307	*e*P	Pn	02 29 53.5	-0.5
BCIP				*e*S	Sn	02 30 29.0	-2.8
BCIP	Isla Barro Col	3.17	307	*e*P	Pn	02 29 54.1	+0.1
BCIP				*e*S	Sn	02 30 29.9	-1.9
PNME	Penonome	3.27	292	*e*P	Pn	02 29 55.4	+0.1
PNME				*e*S	Sn	02 30 34.2	+0.1
TOLC	Tolima	3.29	144	*e*P	Pn	02 29 57.6	+1.6
ANIL	Santa Ana	3.32	146	*e*P	Pn	02 29 57.8	+1.5
ANIL				*i*		02 30 52.5	
	comp=Z,32nm,0.5s						
SJCC	San Jacinto, C	3.34	38	*e*P	Pn	02 29 55.3	-1.1
SJCC				*e*S	Sn	02 30 33.0	-2.9
SJCC				*i*		02 30 40.6	
	comp=Z,38nm,0.5s						
SJCC	San Jacinto, C	3.34	38	*e*P	Pn	02 29 57.1	+0.7
SJCC				*e*S	Sn	02 30 36.1	+0.2
YOTC	Yotoco, Valle	3.38	164	*e*P	Pn	02 29 56.5	-0.5
SPBC	San Pablo de B	3.56	116	*e*P	Pn	02 30 01.3	+1.9
SPBC				*i*		02 30 58.5	
	comp=Z,12nm,0.5s						
CACAO	El Cacao, Vera	3.56	272	*e*P	Pn	02 29 59.4	-0.1
CACAO				*e*S	Sn	02 30 37.6	-3.9
ORTC	Ortega, Tolima	3.89	149	*e*P	Pn	02 30 06.7	+2.8
ORTC				*i*		02 30 57.6	
	comp=Z,8.1nm,0.5s						
GMAL	Guarumal, Vera	3.96	278	*e*P	Pn	02 30 06.3	+1.4
GMAL				*e*S	Sn	02 30 51.0	-0.3
OCAC	Ocana	4.03	76	*e*P	Pn	02 30 07.8	+1.8
OCAC				*e*S	Sn	02 30 51.5	-1.7
OCAC				*i*		02 30 57.1	
	comp=Z,38nm,0.5s						
BRU2	Volcan	5.58	286	*e*S	Sb	02 31 48.8	0.0

*IDC **19** 02:30:08.9±1.1, 38°.98N×110°.73E, h0km, mb3.7/9, mb1 4.0/10, mb1mx3.8/35, mbtmp3.8/10, ML3.5/1, Error ellipse: s-maj=33.9km s-min=19.4km az=66.0*
*MOS **19** 02:30:09.8±1.2, 39°.01N×110°.58E, h13km, mb4.3/14, Error ellipse: s-maj=13.4km s-min=7.6km az=106.5*
*NEIC **19** 02:30:10.6±0.8, 39°.00N±0°.07×110°.6E±0°.1, h10km±3km, mb4.2/7, Error ellipse: s-maj=12.5km s-min=10.2km az=76.0*

**ISC 19 02:30:11.5±0.4, 38°.99N±0°.04×110°.69E±0°.04, h10km, n57, σ2s12/66, mb4.0/22, 8C

	comp=N,130nm,6.0s									
GYA					LR	LR				
	comp=E,80nm,4.9s									
GYA					LR	LR				
	comp=Z,120nm,7.9s									
TLY	**Talaya**	**13.61**	**341**	*i* P		**Pn**	**02 33 22.5**	**-2.0**		
TLY				pmax	pmax					
	comp=Z,1.0nm,0.5s									
MSHR	**Mys Shultsa**	**15.91**	**70**	*i* P		**P**	**02 34 02.6**	**+3.6**		
MSHR				pmax	pmax					
	comp=Z,5.0nm,0.8s									
WMQ	**Urumqi**	**17.89**	**293**	*e*P		**Pn**	**02 34 19.9**	**-0.5**		
KLR	**Kul'dur**	**18.20**	**49**	*i* P		**Pn**	**02 34 24.2**	**+0.1**		
KLR				pmax	pmax					
	comp=Z,7.0nm,2.3s									
DGZ	**Jazzator, Alta**	**19.70**	**310**	*i* P		**Pn**	**02 34 43.0**	**+0.6**		
DGZ				pmax	pmax					
	comp=Z,3.0nm,0.8s									
MK31	**Makanchi Array**	**22.13**	**300**	P		**P**	**02 35 05.5**	**-1.7**		
MK31				pmax	pmax					
	comp=Z,3.0nm,1.1s									
MK31	**Makanchi Array**	**22.13**	**300**	P		**P**	**02 35 05.5**	**-1.7**		
MKAR	**Makanchi Array**	**22.13**	**300**	P		**P**	**02 35 06.2**	**-0.9**		
	comp=Z,2.4nm,1.0s,baz=96,slow=12,SNR=16									
MKAR	**Makanchi Array**	**22.13**	**300**	P		**P**	**02 35 05.6**	**-1.5**		
MAKZ	**Makanchi**	**22.35**	**300**	P		**P**	**02 35 07.7**	**-1.8**		
MAKZ				pmax	pmax					
	comp=Z,6.0nm,1.2s									
MAKZ	**Makanchi**	**22.35**	**300**	P		**P**	**02 35 07.7**	**-1.8**		
MAKZ				IAmb	IAmb		02 35 09.4			
	comp=Z,6.1nm,1.1s									
CHTO	**Chiang Mai**	**22.54**	**210**	P		**P**	**02 35 10.1**	**-1.6**		
CHTO				pmax	pmax					
	comp=Z,14nm,1.5s									
CHTO	**Chiang Mai**	**22.54**	**210**	P		**P**	**02 35 10.1**	**-1.6**		
CHTO				IAmb	IAmb		02 35 16.1			
	comp=Z,14nm,1.4s									
CM31	**Chiang Mai Arr**	**22.87**	**210**	P		**P**	**02 35 12.7**	**-2.3**		
CM31				IAmb	IAmb		02 35 15.1			
	comp=Z,8.4nm,0.8s									
CMAR	**Chiang Mai Arr**	**22.87**	**210**	P		**P**	**02 35 14.0**	**-1.1**		
	comp=Z,6.6nm,0.7s,baz=13,slow=9.5,SNR=23									
CMAR	**Chiang Mai Arr**	**22.87**	**210**	*ce*P		**P**	**02 35 22.0**	**+6.9**		
CMAR				pmax	pmax					
	comp=Z,1.0nm,0.5s									
CMAR	**Chiang Mai Arr**	**22.87**	**210**	P		**P**	**02 35 13.6**	**-1.5**		
ZALV	**Zalesovo Beam**	**23.08**	**319**	P		**P**	**02 35 16.4**	**-0.7**		
	comp=Z,0.8nm,0.5s,baz=132,slow=11,SNR=4.4									
ZALV	**Zalesovo Beam**	**23.08**	**319**	P		**P**	**02 35 15.8**	**-1.3**		
TARG	**Taragay, Kyrgy**	**25.12**	**287**	P		**P**	**02 35 36.6**	**-0.3**		
TARG				IAmb	IAmb		02 35 38.7			
	comp=Z,6.3nm,0.9s									
KURK	**Kurchatov**	**25.37**	**308**	*ce*P		**P**	**02 35 38.1**	**-0.5**		
KURK				pmax	pmax					
	comp=Z,3.0nm,1.0s									
KURK	**Kurchatov**	**25.37**	**308**	P		**P**	**02 35 37.4**	**-1.2**		
KURK				IAmb	IAmb		02 35 49.3			
	comp=Z,3.3nm,1.0s									
KURBB	**Kurchatov Arra**	**25.40**	**308**	P		**P**	**02 35 38.0**	**-0.9**		
	comp=Z,1.2nm,0.9s,baz=107,slow=9.8,SNR=7.4									
YAK	**Yakutsk**	**25.84**	**21**	*i* P		**P**	**02 35 43.6**	**+0.9**		
YAK				pmax	pmax					
	comp=Z,7.0nm,0.5s									
BRVK	**Borovoye**	**30.93**	**310**	*i* P		**P**	**02 36 26.8**	**-1.5**		
BRVK				pmax	pmax					
	comp=Z,2.0nm,0.9s									
TIXI	**Tiksi**	**34.01**	**10**	*ce*P		**P**	**02 36 55.0**	**0.0**		
TIXI				pmax	pmax					
	comp=Z,5.0nm,0.8s									
TIXI	**Tiksi**	**34.01**	**10**	P		**P**	**02 36 53.9**	**-1.1**		
ARU	**Arti**	**38.11**	**315**	*i* P		**P**	**02 37 30.4**	**+0.1**		
ARU				pmax	pmax					
	comp=Z,4.0nm,1.0s									
BILL	**Bilibino**	**41.73**	**28**	*i* P		**P**	**02 38 02.2**	**+2.0**		
BILL				*i*			02 39 42.0			
BILL				*i*			02 39 59.4			
BILL				pmax	pmax					
	comp=Z,2.0nm,1.2s									
OBN	**Obninsk**	**50.55**	**314**	*i* P		**P**	**02 39 09.7**	**-0.1**		
OBN				pmax	pmax					
	comp=Z,5.0nm,0.9s									
MSF	**Maaselka**	**51.84**	**329**	P		**P**	**02 39 19.3**	**0.0**		
FINES	**FINESS Array B**	**54.22**	**324**	*ce*P		**P**	**02 39 37.4**	**+0.5**		
FINES				pmax	pmax					
	comp=Z,2.0nm,0.9s									
AKASG	**Malin Array Be**	**56.14**	**311**	P		**P**	**02 39 49.9**	**-1.0**		
	comp=Z,0.2nm,0.3s,baz=54,slow=7.4,SNR=1.6									
BRTR	**Keskin Array B**	**57.75**	**297**	P		**P**	**02 40 02.1**	**-0.6**		
	comp=Z,0.9nm,0.8s,baz=16,slow=5.4,SNR=5.5									
BRTR	**Keskin Array B**	**57.75**	**297**	*ce*P		**P**	**02 40 02.7**	**-0.1**		
BRTR				pmax	pmax					
	comp=Z,1.0nm,0.7s									
BRTR	**Keskin Array B**	**57.75**	**297**	P		**P**	**02 40 01.8**	**-0.9**		
CLL	**Collm**	**65.02**	**317**	*e*P		**P**	**02 40 51.0**	**-0.5**		
CLL	**Collm**	**65.02**	**317**	*e*P		**P**	**02 40 51.0**	**-0.5**		
KHC	**Kasperske Hory**	**65.85**	**314**	*ce*P		**P**	**02 40 58.4**	**+1.4**		
KHC				pmax	pmax					
	comp=Z,11nm,2.5s									
ASAR	**Alice Springs**	**66.01**	**157**	P		**P**	**02 40 57.2**	**-1.0**		
	comp=Z,1.1nm,0.8s,baz=333,slow=6.0,SNR=8.6									
YKA	**Yellowknife Ar**	**72.51**	**20**	P		**P**	**02 41 37.0**	**-1.0**		
	comp=Z,1.0nm,0.8s,baz=316,slow=5.1,SNR=4.2									
ESDC	**Sonseca Array**	**81.51**	**315**	P		**P**	**02 42 28.7**	**-0.5**		
	comp=Z,0.7nm,0.8s,baz=29,slow=5.7,SNR=5.2									

*IDC **19** 02:43:21.0±2.5, 37.64S×177.32E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/35, mbtmp3.8/2, Error ellipse: s-maj=115.8km s-min=40.0km az=29.0*
*WEL **19** 02:43:43.2, 38.2°×17.6E±, h157km±3km, M3.7/66, MLv3.7/66, Error ellipse: s-maj=0.0km s-min=0.0km az=13.0*
ISC 19 02:43:42.2±0.9, 38.00S±0.04×176.50E±0.05, h169km±6km, n143, σ1°14/151, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LIRZ	**Lichensteins R**	**0.09**	**265**	P		**Pn**	**02 44 04.2**	**-0.5**
MARZ	**Manawahe**	**0.14**	**86**	P		**Pn**	**02 44 04.3**	**-0.5**
MKRZ	**Makatiti**	**0.14**	**190**	P		**Pn**	**02 44 05.1**	**+0.2**
OMRZ	**Omania**	**0.15**	**222**	P		**Pn**	**02 44 04.4**	**-0.4**
OPRZ	**Ohinepanea**	**0.16**	**16**	P		**Pn**	**02 44 03.9**	**-1.0**
KARZ	**Kaharoa**	**0.20**	**263**	P		**Pn**	**02 44 04.3**	**-0.6**
EDRZ	**Edgecumbe**	**0.22**	**120**	P		**Pn**	**02 44 04.5**	**-0.5**
TARZ	**Mount Tarawera**	**0.24**	**179**	P		**Pn**	**02 44 04.9**	**-0.1**
NGRZ	**Ngongotaha**	**0.27**	**247**	P		**Pn**	**02 44 04.9**	**-0.2**
HLRZ	**Highlands Stat**	**0.28**	**204**	P		**Pn**	**02 44 05.0**	**-0.1**
UTU	**Utuhina**	**0.30**	**233**	P		**Pn**	**02 44 05.1**	**0.0**
TGRZ	**Tauranga**	**0.33**	**325**	P		**Pn**	**02 44 04.3**	**-0.8**
RRRZ	**Republican Roa**	**0.34**	**178**	P		**Pn**	**02 44 05.0**	**-0.3**
HSRZ	**Hossack Road**	**0.37**	**212**	P		**Pn**	**02 44 05.4**	**+0.1**
WHRZ	**Whale Island**	**0.40**	**70**	P		**Pn**	**02 44 05.1**	**-0.4**
HRRZ	**Handcock Road**	**0.43**	**203**	P		**Pn**	**02 44 05.5**	**0.0**
KMRZ	**Kaimai**	**0.47**	**289**	P		**Pn**	**02 44 05.2**	**-0.5**
GRRZ	**Galatos Road**	**0.47**	**221**	P		**Pn**	**02 44 05.8**	**+0.1**
PRRZ	**Plateau Road**	**0.51**	**189**	P		**Pn**	**02 44 05.7**	**-0.1**
MUGZ	**Murupara**	**0.53**	**156**	P		**Pn**	**02 44 05.5**	**-0.4**
URZ	**Urewera**	**0.55**	**119**	P		**Pn**	**02 44 05.3**	**-0.7**
ALRZ	**Allen Road**	**0.58**	**192**	P		**Pn**	**02 44 06.1**	**0.0**
WPRZ	**Whakapapatarin**	**0.59**	**207**	P		**Pn**	**02 44 06.4**	**+0.2**
KUTZ	**Kaahu Road**	**0.72**	**227**	P		**Pn**	**02 44 07.3**	**+0.3**
RTZ	**Ruatahuna**	**0.72**	**149**	P		**Pn**	**02 44 07.1**	**0.0**
RTZ				S		**Sn**	**02 44 24.6**	**-1.7**
WHTZ	**Whakaora**	**0.79**	**212**	P		**Pn**	**02 44 08.2**	**+0.7**
TLZ	**Tolley Road**	**0.83**	**246**	P		**Pn**	**02 44 07.9**	**+0.2**
TOZ	**Tahuroa Road**	**0.83**	**288**	P		**Pn**	**02 44 07.3**	**-0.3**
MRHZ	**Matea Rd**	**0.84**	**184**	P		**Pn**	**02 44 08.0**	**+0.2**
MRHZ				S		**Sn**	**02 44 25.9**	**-1.7**
RAGZ	**Rawiri**	**0.88**	**125**	P		**Pn**	**02 44 08.3**	**+0.2**
MWZ	**Matawai**	**0.88**	**113**	P		**Pn**	**02 44 07.6**	**-0.4**
MTHZ	**Maungataniwha**	**0.90**	**163**	P		**Pn**	**02 44 08.4**	**+0.3**
RUGZ	**Raukumara Rang**	**0.93**	**88**	P		**Pn**	**02 44 07.2**	**-1.3**
WATZ	**Wairara**	**0.93**	**220**	P		**Pn**	**02 44 08.9**	**+0.5**
HATZ	**Hinemaiaia**	**0.95**	**200**	P		**Pn**	**02 44 08.9**	**+0.4**
SNGZ	**Shannon Statio**	**1.03**	**140**	P		**Pn**	**02 44 09.7**	**+0.7**
RAHZ	**Arahi**	**1.03**	**154**	P		**Pn**	**02 44 09.9**	**+0.8**
RATZ	**Rangitukua**	**1.04**	**213**	P		**Pn**	**02 44 09.7**	**+0.5**
HAZ	**Te Kaha**	**1.04**	**77**	P		**Pn**	**02 44 08.2**	**-0.9**
HAZ				S		**Sn**	**02 44 27.0**	**-2.9**
RITZ	**Rihia Road**	**1.10**	**207**	P		**Pn**	**02 44 10.6**	**+0.9**
NMHZ	**Naumai**	**1.13**	**168**	P		**Pn**	**02 44 11.2**	**+1.3**
TKGZ	**Te Karaka**	**1.15**	**113**	P		**Pn**	**02 44 10.5**	**+0.4**
KATZ	**Kakaramea**	**1.16**	**213**	P		**Pn**	**02 44 11.0**	**+0.7**
BKZ	**Black Stump Fm**	**1.17**	**180**	P		**Pn**	**02 44 10.6**	**+0.3**
TWGZ	**Tauwhareparae**	**1.18**	**99**	P		**Pn**	**02 44 10.8**	**+0.4**
TWGZ				S		**Sn**	**02 44 30.6**	**-1.5**
RIGZ	**Rimuhau**	**1.22**	**126**	P		**Pn**	**02 44 10.8**	**+0.1**
WHHZ	**Waihua**	**1.22**	**152**	P		**Pn**	**02 44 11.6**	**+0.9**
PKGZ	**Pakihiroa**	**1.25**	**86**	P		**Pn**	**02 44 10.7**	**-0.3**
KRVZ	**Karewarewa**	**1.29**	**211**	P		**Pn**	**02 44 12.0**	**+0.6**
ARHZ	**Aropaoanui**	**1.32**	**163**	P		**Pn**	**02 44 12.7**	**+1.1**
WTVZ	**West Tongariro**	**1.33**	**212**	P		**Pn**	**02 44 12.4**	**+0.6**
TWVZ	**Taurewa**	**1.36**	**217**	P		**Pn**	**02 44 12.7**	**+0.7**
KNZ	**Kokohu**	**1.38**	**138**	P		**Pn**	**02 44 12.7**	**+0.7**
KNZ				S		**Sn**	**02 44 34.3**	**-0.9**
MKAZ	**Moumakai**	**1.39**	**310**	P		**Pn**	**02 44 11.9**	**-0.3**
PUZ	**Puketiti**	**1.39**	**94**	P		**Pn**	**02 44 12.1**	**-0.1**
HIZ	**Hauiti**	**1.39**	**248**	P		**Pn**	**02 44 12.9**	**+0.7**
KUZ	**Kuaotunu**	**1.39**	**333**	P		**Pn**	**02 44 11.4**	**-0.9**
PRGZ	**Paritu Road**	**1.43**	**131**	P		**Pn**	**02 44 13.3**	**+0.7**
KWHZ	**Kaweka Forest**	**1.43**	**182**	P		**Pn**	**02 44 13.5**	**+0.9**
KWHZ				S		**Sn**	**02 44 35.6**	**-0.7**
CNGZ	**Carnagh Statio**	**1.43**	**110**	P		**Pn**	**02 44 13.8**	**+1.2**
TUVZ	**Tukino**	**1.43**	**207**	P		**Pn**	**02 44 13.5**	**+0.7**
MCHZ	**McNeill Hill**	**1.46**	**174**	P		**Pn**	**02 44 14.1**	**+1.2**
MCHZ				S		**Sn**	**02 44 37.1**	**+0.5**
FWVZ	**Far West T-bar**	**1.46**	**210**	P		**Pn**	**02 44 13.6**	**+0.4**
WHVZ	**Whangaehu Hut**	**1.47**	**209**	P		**Pn**	**02 44 13.8**	**+0.5**
MXZ	**Matakaoa Point**	**1.50**	**74**	P		**Pn**	**02 44 13.3**	**0.0**
MXZ				S		**Sn**	**02 44 36.9**	**-0.3**
TRVZ	**Turoa**	**1.50**	**210**	P		**Pn**	**02 44 14.0**	**+0.5**
MOVZ	**Moawhango**	**1.52**	**202**	P		**Pn**	**02 44 13.8**	**+0.2**
WMGZ	**Waiomatatini S**	**1.52**	**84**	P		**Pn**	**02 44 13.5**	**0.0**
BHHZ	**Black Hill Sta**	**1.53**	**193**	P		**Pn**	**02 44 14.1**	**+0.4**
PKVZ	**Pokaka**	**1.58**	**215**	P		**Pn**	**02 44 14.8**	**+0.7**
MHGZ	**Mahia Peninsul**	**1.60**	**137**	P		**Pn**	**02 44 15.4**	**+1.2**
MTVZ	**Mangateitei**	**1.60**	**210**	P		**Pn**	**02 44 15.2**	**+0.8**
WIAZ	**Waiheke Island**	**1.62**	**317**	P		**Pn**	**02 44 14.1**	**-0.4**
ETAZ	**East Tamaki Re**	**1.63**	**309**	P		**Pn**	**02 44 14.4**	**-0.2**
KRHZ	**Kereru**	**1.65**	**183**	P		**Pn**	**02 44 15.3**	**+0.5**
CKHZ	**Cape Kidnapper**	**1.72**	**165**	P		**Pn**	**02 44 16.6**	**+1.1**
AWAZ	**Awhitu Peninsu**	**1.75**	**302**	P		**Pn**	**02 44 15.5**	**-0.3**
MBAZ	**Motutapu North**	**1.77**	**313**	P		**Pn**	**02 44 15.9**	**-0.2**
VRZ	**Vera Road**	**1.77**	**230**	P		**Pn**	**02 44 17.2**	**+1.2**
EPAZ	**Eden Park BICE**	**1.79**	**308**	P		**Pn**	**02 44 16.0**	**-0.3**
HBAZ	**Herne Bay Bore**	**1.81**	**309**	P		**Pn**	**02 44 16.1**	**-0.4**
KAHZ	**Kahuranaki**	**1.82**	**171**	P		**Pn**	**02 44 17.6**	**+1.0**
WTAZ	**Waiatarua**	**1.86**	**304**	P		**Pn**	**02 44 16.9**	**-0.2**
ABAZ	**Army Bay**	**1.93**	**316**	P		**Pn**	**02 44 17.7**	**0.0**
PNHZ	**Pukenui**	**1.93**	**187**	P		**Pn**	**02 44 17.9**	**+0.1**
GRZ	**Great Barrier**	**1.93**	**334**	P		**Pn**	**02 44 17.2**	**-0.6**
MHEZ	**Mangahewa**	**2.02**	**237**	P		**Pn**	**02 44 20.6**	**+1.9**
PXZ	**Pawanui**	**2.05**	**172**	P		**Pn**	**02 44 19.7**	**+0.7**
WPHZ	**Waipukurau**	**2.07**	**181**	P		**Pn**	**02 44 19.6**	**+0.4**
TSZ	**Takapari Road**	**2.10**	**191**	P		**Pn**	**02 44 19.9**	**+0.1**
WAZ	**Wanganui**	**2.12**	**213**	P		**Pn**	**02 44 20.6**	**+0.8**
DREZ	**Durham Road**	**2.16**	**236**	P		**Pn**	**02 44 22.0**	**+1.7**
LREZ	**Lake Rotokare**	**2.20**	**228**	P		**Pn**	**02 44 22.1**	**+1.3**
PRHZ	**Porangahau**	**2.27**	**177**	P		**Pn**	**02 44 22.1**	**+0.5**
PKE	**Pukeiti**	**2.30**	**238**	P		**Pn**	**02 44 23.6**	**+1.6**
DVHZ	**Dannevirke**	**2.31**	**186**	P		**Pn**	**02 44 22.0**	**-0.1**
KHEZ	**Kahui Hut**	**2.34**	**236**	P		**Pn**	**02 44 24.1**	**+1.6**
OHWZ	**Ohakea**	**2.39**	**202**	P		**Pn**	**02 44 24.1**	**+1.1**
NBEZ	**Newall Road No**	**2.42**	**238**	P		**Pn**	**02 44 24.9**	**+1.6**
POWZ	**Post Office Ro**	**2.46**	**193**	P		**Pn**	**02 44 23.7**	**-0.1**
ANWZ	**Angora Road**	**2.46**	**180**	P		**Pn**	**02 44 24.2**	**+0.4**
PRWZ	**Pori Road**	**2.59**	**189**	P		**Pn**	**02 44 25.6**	**+0.3**
WCZ	**Waipu Caves**	**2.68**	**319**	P		**Pn**	**02 44 26.4**	**-0.1**
BFZ	**Birch Farm**	**2.69**	**184**	P		**Pn**	**02 44 26.4**	**-0.1**
MRZ	**Mangatainoka R**	**2.75**	**195**	P		**Pn**	**02 44 26.8**	**-0.5**
TIWZ	**Tinitock**	**2.82**	**190**	P		**Pn**	**02 44 27.9**	**-0.2**
CPWZ	**Castlepoint**	**2.92**	**184**	P		**Pn**	**02 44 29.7**	**+0.4**
HOWZ	**Holdsworth Sta**	**3.00**	**194**	P		**Pn**	**02 44 29.5**	**-0.8**
OGWZ	**Otaki Gorge**	**3.00**	**200**	P		**Pn**	**02 44 29.7**	**-0.6**
KIW	**Kapiti Island**	**3.12**	**203**	P		**Pn**	**02 44 30.7**	**-1.1**
TMWZ	**Te Maipa**	**3.14**	**188**	P		**Pn**	**02 44 31.4**	**-0.7**
MTW	**Mount Morrison**	**3.25**	**193**	P		**Pn**	**02 44 32.4**	**-1.1**
CAW	**Cannon Point**	**3.30**	**199**	P		**Pn**	**02 44 33.0**	**-1.0**
DUWZ	**D'Urville Isla**	**3.44**	**215**	P		**Pn**	**02 44 34.5**	**-1.3**
TRWZ	**Traveller**	**3.46**	**190**	P		**Pn**	**02 44 35.0**	**-1.0**
PAWZ	**Paruwai Farm**	**3.48**	**193**	P		**Pn**	**02 44 35.1**	**-1.3**
WEL	**Wellington**	**3.55**	**202**	P		**Pn**	**02 44 35.9**	**-1.3**
MSWZ	**Moikau Station**	**3.55**	**195**	P		**Pn**	**02 44 35.8**	**-1.4**
OUZ	**Omahuta**	**3.62**	**319**	P		**Pn**	**02 44 38.5**	**+0.3**
BHW	**Baring Head**	**3.63**	**200**	P		**Pn**	**02 44 36.7**	**-1.6**
TCW	**Tory Channel**	**3.64**	**207**	P		**Pn**	**02 44 36.8**	**-1.5**
PLWZ	**Palliser**	**3.70**	**195**	P		**Pn**	**02 44 37.5**	**-1.6**
TWZ	**Tuamarina**	**3.98**	**209**	P		**Pn**	**02 44 40.9**	**-1.7**
NNZ	**Nelson**	**4.02**	**216**	P		**Pn**	**02 44 41.3**	**-1.8**
CMWZ	**Cape Campbell**	**4.14**	**204**	P		**Pn**	**02 44 44.1**	**-0.7**
QRZ	**Quartz Range**	**4.18**	**226**	P		**Pn**	**02 44 43.3**	**-1.9**
BSWZ	**Blackbirch Sta**	**4.23**	**208**	P		**Pn**	**02 44 44.4**	**-1.5**
THZ	**Tophouse**	**4.67**	**215**	P		**Pn**	**02 44 49.8**	**-1.8**
KHZ	**Kahutara**	**4.96**	**206**	P		**Pn**	**02 44 53.4**	**-2.0**
GVZ	**Greta Valley S**	**5.62**	**207**	P		**Pn**	**02 45 01.6**	**-2.5**
LTZ	**Lake Taylor**	**5.77**	**213**	P		**Pn**	**02 45 03.3**	**-2.7**
AMCZ	**Amberley**	**5.95**	**208**	P		**Pn**	**02 45 06.0**	**-2.3**
INZ	**Inchbonnie**	**6.10**	**218**	P		**Pn**	**02 45 07.1**	**-3.2**
OKCZ	**Okains Bay**	**6.29**	**203**	P		**Pn**	**02 45 10.4**	**-2.4**
OXZ	**Oxford**	**6.31**	**211**	P		**Pn**	**02 45 09.7**	**-3.4**
MQZ	**McQueen's Vall**	**6.41**	**206**	P		**Pn**	**02 45 10.7**	**-3.6**
AKCZ	**Akaroa Harbour**	**6.47**	**204**	P		**Pn**	**02 45 12.7**	**-2.5**
ODZ	**Otahua Downs**	**8.30**	**210**	P		**Pn**	**02 45 36.6**	**-2.7**
ASAR	**Alice Springs**	**38.93**	**279**	P		**P**	**02 50 53.5**	**+1.9**
	comp=Z,8.9nm,0.5s,baz=124,slow=8.5,SNR=9.8							
WRA	**Warramunga Arr**	**40.64**	**284**	P		**P**	**02 51 07.3**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=127,slow=6.8,SNR=1.5							
ARCES	**ARCESS Array B**	**144.77**	**343**	PKP		**PKPdf**	**03 02 57.7**	**0.0**
	comp=Z,0.3nm,0.3s,baz=46,slow=3.5,SNR=6.7							
DBIC	**Dimbokro**	**148.79**	**177**	PKPbc		**PKiKP**	**03 03 11.5**	**0.0**
	comp=Z,2.2nm,0.6s,baz=317,slow=16,SNR=1.5							
TORD	**Torodi Ar. Bea**	**154.82**	**192**	PKPab		**PKPab**	**03 03 41.2**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=179,slow=3.0,SNR=4.6							

*IDC **19** 02:52:24.6±4.3, 10.40N×127.09E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/38, mbtmp3.5/3, Error ellipse: s-maj=322.2km s-min=29.6km az=66.0*
*MAN **19** 02:52:29.1, 9.57N×125.46E, h23km, mb5.0, ML3.9, MS3.9 MAN Intensity II - Surigao City.*
ISC 19 02:52:29.0±0.8, 9.58N±0.03×125.28E±0.04, h10km, n16, σ2°8 03/26, mb3.5/3, 2C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SCPH	**Surigao**	**0.29**	**46**	*i*	*i*P	**Pg**	**02 52 35.1**	**+0.2**
SCPH					*i* S	**Sb**	**02 52 39.4**	**-1.8**
MSLP	**Maasin**	**0.69**	**323**	*e*P		**Pn**	**02 52 44.7**	**-0.2**
MSLP				*e*S		**Sn**	**02 52 56.8**	**+1.2**
CGP	**Cagayan de Oro**	**1.26**	**207**	↓*i*	*i*P	**Pn**	**02 52 51.0**	**-1.7**
CGP				*i*	*i* S	**Sn**	**02 53 10.1**	**+0.4**
TBP	**Tagbilaran**	**1.40**	**275**	*e*P		**Pg**	**02 52 56.0**	**+0.1**
TBP				*i*	S	**Sg**	**02 53 15.9**	**+1.7**
LLP	**Lapu-Lapu**	**1.49**	**300**	↓*e*P		**Pg**	**02 52 57.4**	**-0.2**
LLP				*e*S		**Sg**	**02 53 17.6**	**+0.7**
OCLP	**Ormoc**	**1.60**	**336**	*e*P		**Pb**	**02 52 57.9**	**-0.9**
OCLP				*e*S		**Sg**	**02 53 24.0**	**+3.3**
BUKP	**Musuan**	**1.70**	**187**	*e*P		**Pn**	**02 52 58.0**	**-0.9**
BUKP				*e*S		**Sn**	**02 53 17.6**	**-3.2**
DCPH	**Dipolog City**	**2.15**	**243**	↑*e*P		**Pn**	**02 53 06.2**	**+1.3**
PAGZ	**Pagadian**	**2.54**	**228**	*e*P		**Pn**	**02 53 11.1**	**+0.7**
KCP	**Kidapawan**	**2.56**	**184**	↓*i*P		**Pn**	**02 53 11.8**	**+1.1**
KCP				*i* S		**Sg**	**02 53 55.3**	**+3.9**
CNOP	**Candoni, Negro**	**2.61**	**276**	*e*P		**Pn**	**02 53 12.3**	**+1.0**
CNOP				*e*S		**Sn**	**02 53 39.5**	**-3.7**
GUIM	**Jordan**	**2.85**	**292**	*e*P		**Pn**	**02 53 16.3**	**+1.8**
GUIM				*e*S		**Sn**	**02 53 44.2**	**-4.7**
DDMP	**Don Marcelino,**	**3.48**	**173**	*e*P		**Pn**	**02 53 23.2**	**-0.1**
WRA	**Warramunga Arr**	**30.66**	**163**	P		**P**	**02 58 45.4**	**+1.5**
	0.7nm,1.0s,baz=349,slow=9.4,SNR=1.8							
ASAR	**Alice Springs**	**34.10**	**166**	P		**P**	**02 59 13.5**	**-0.6**
	0.3nm,0.4s,baz=340,slow=7.0,SNR=5.2							
MKAR	**Makanchi Array**	**51.99**	**324**	P		**P**	**03 01 38.9**	**+0.3**
	0.3nm,0.6s,baz=120,slow=8.5,SNR=3.9							

*IDC **19** 02:54:47.2±2.0, 20.96S×168.67E, h0km, mb4.0/7, mb1 4.1/7, mb1mx3.8/33, mbtmp4.0/7, MS3.5/1, Ms1 3.5/1, ms1mx2.7/21, Error ellipse: s-maj=72.4km s-min=26.4km az=146.0*
ISC 19 02:54:51.7±1.5, 21.0S±0.4×168.7E±0.3, h30km, n25, σ0°71/23, mb4.0/7, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
STKA	**Stephens Creek**	**26.49**	**240**	P		**P**	**03 00 27.5**	**+1.0**
	1.5nm,0.7s,baz=71,slow=8.2,SNR=4.0							
WRA	**Warramunga Arr**	**32.13**	**266**	P		**P**	**03 01 16.2**	**-0.6**
	0.5nm,0.7s,baz=102,slow=8.3,SNR=1.7							
ASAR	**Alice Springs**	**32.22**	**259**	P		**P**	**03 01 16.8**	**-0.7**
	1.4nm,0.7s,baz=87,slow=9.0,SNR=12							
ASAR				LR		LR	03 15 21.2	
	comp=Z,69nm,18.7s,baz=318,slow=38							
FITZ	**Fitzroy Crossi**	**40.55**	**266**	P		**P**	**03 02 28.5**	**-0.1**
	2.8nm,0.7s,baz=132,slow=7.1,SNR=5.5							
USRK	**Ussuriysk Ar.**	**73.02**	**333**	P		**P**	**03 06 19.3**	**+0.8**
	2.7nm,0.8s,baz=112,slow=6.3,SNR=5.2							
SONM	**Songino Array**	**88.27**	**323**	P		**P**	**03 07 40.2**	**0.0**
	0.9nm,0.9s,baz=130,slow=2.3,SNR=4.3							
NVAR	**Mina Array Bea**	**90.35**	**49**	P		**P**	**03 07 50.0**	**-0.4**
	0.5nm,0.7s,baz=215,slow=7.6,SNR=5.1							
NKC	**Novy Kostel**	**145.27**	**333**	*ex*		x	03 14 39.6	
NKC	**Novy Kostel**	**145.27**	**333**	*e*PKP		**PKPdf**	**03 14 26.8**	**+0.4**
CONA	**Conrad Observa**	**145.31**	**327**	*i* PKPab		**PKPdf**	**03 14 26.8**	**+0.2**
	3.7nm,0.9s							
KHC	**Kasperske Hory**	**145.58**	**331**	*ex*		x	03 14 40.6	
KHC	**

SNAA	**Sanae**	**50.11**	**157**	P	**P**	**03 04 44.1**	**+0.3**
PPT	**Papeete**	**68.77**	**263**	LR	LR	03 29 25.0	
	comp=Z,31nm,19.6s,baz=166,slow=29						
TXAR	**Lajitas Array**	**71.00**	**332**	P	**P**	**03 07 07.5**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=152,slow=8.6,SNR=12						
TX31	**Lajitas Ar. Si**	**71.00**	**332**	P	**P**	**03 07 07.5**	**+0.7**
TX31				IAmb	IAmb	03 07 08.1	
	comp=Z,2.9nm,0.7s						
TX32	**Lajitas Array**	**71.00**	**332**	P	**P**	**03 07 07.5**	**+0.7**
TX32				IAmb	IAmb	03 07 08.1	
	comp=Z,1.0nm,0.7s						
DBIC	**Dimbokro**	**77.00**	**72**	P	**P**	**03 07 41.2**	**-1.0**
	comp=Z,8.7nm,1.0s,baz=236,slow=9.3,SNR=3.5						
DBIC	**Dimbokro**	**77.00**	**72**	IAmb	IAmb	03 07 41.3	
	comp=Z,11nm,1.1s						
NVAR	**Mina Array Bea**	**84.93**	**326**	P	**P**	**03 08 25.4**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=163,slow=5.3,SNR=3.6						
PDAR	**Pinedale Array**	**85.10**	**334**	P	**P**	**03 08 25.9**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=90,slow=7.2,SNR=1.9						
TORD	**Torodi Ar. Bea**	**86.06**	**71**	P	**P**	**03 08 29.5**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=226,slow=4.9,SNR=2.3						
ZALV	**Zalesovo Beam**	**156.65**	**33**	PKPab	**PKPab**	**03 16 13.4**	**+0.7**
	comp=Z,1.0nm,0.5s,baz=283,slow=7.2,SNR=1.9						
MKAR	**Makanchi Array**	**159.04**	**52**	PKPab	**PKPab**	**03 16 23.3**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=291,slow=5.6,SNR=2.9						

*IDC **19** 03:07:08.7±2.6, 19°.94S×169°.05E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.8/31, mbtmp3.9/6, MS2.8/1, Ms1 2.8/1, ms1mx2.5/23, Error ellipse: s-maj=121.2km s-min=26.0km az=156.0*

ISC 19 03:07:14.5±2.0, 19°.9S±0°.6×169°.0E±0°.3, h35km, n19, σ0°59/18, mb3.8/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**13.53**	**319**	LR	LR			03 14 58.2	
	comp=Z,36nm,19.5s,baz=13,slow=34								
CTA	**Charters Tower**	**21.34**	**265**	P		**P**		**03 11 58.8**	**+0.1**
	4.2nm,0.9s,baz=73,slow=10,SNR=2.2								
WRA	**Warramunga Arr**	**32.52**	**264**	P		**P**		**03 13 41.3**	**-1.0**
	0.5nm,0.5s,baz=100,slow=8.6,SNR=5.4								
ASAR	**Alice Springs**	**32.73**	**257**	P		**P**		**03 13 44.4**	**+0.3**
	1.6nm,0.5s,baz=86,slow=9.1,SNR=28								
SONM	**Songino Array**	**87.54**	**323**	P		**P**		**03 19 58.6**	**-0.2**
	1.2nm,0.8s,baz=139,slow=4.4,SNR=6.1								
NVAR	**Mina Array Bea**	**89.40**	**49**	P		**P**		**03 20 07.2**	**-0.8**
	0.3nm,0.5s,baz=237,slow=6.8,SNR=4.3								
ILAR	**Eielson Array**	**90.89**	**17**	P		**P**		**03 20 14.2**	**+0.2**
	0.2nm,0.6s,baz=239,slow=4.4,SNR=4.4								
ARCES	**ARCESS Array B**	**125.58**	**345**	PKP		**PKPdf**		**03 26 11.0**	**-0.4**
	3.6nm,1.1s,baz=16,slow=1.8,SNR=3.8								
CONA	**Conrad Observa**	**144.52**	**328**	*i* PKPdf		**PKPdf**		**03 26 47.0**	**-0.3**
	2.6nm,0.7s								
GERES	**GERESS Array B**	**144.89**	**331**	PKPbc		**PKPdf**		**03 26 47.7**	**-0.2**
	2.3nm,0.6s,baz=35,slow=4.3,SNR=27								
MOA	**Molln**	**145.35**	**330**	*i* PKPdf		**PKPab**		**03 26 49.7**	**+1.0**
	6.1nm,0.8s								
MYKA	**Terra Mystica**	**146.51**	**329**	*i* PKPbc		**PKPbc**		**03 26 51.8**	**-0.3**
	2.3nm,0.8s								
WATA	**Walderalm**	**146.97**	**331**	*i* PKPdf		**PKPbc**		**03 26 53.7**	**+0.2**
	2.6nm,0.6s								
WTTA	**Wattenberg**	**147.00**	**331**	*i* PKPab		**PKiKP**		**03 26 57.2**	**+1.0**
	1.5nm,0.5s								
MOTA	**Moosalm**	**147.18**	**332**	*i* PKPdf		**PKPbc**		**03 26 54.0**	**-0.1**
	2.1nm,0.6s								
RETA	**Reutte**	**147.22**	**332**	*i* PKPdf		**PKPbc**		**03 26 54.2**	**+0.1**
	0.7nm,0.5s								
SQTA	**Sankt Quirin**	**147.22**	**332**	*i* PKPdf		**PKPbc**		**03 26 54.8**	**+0.5**
	3.4nm,0.5s								
FETA	**Feichten**	**147.59**	**332**	*i* PKPdf		**PKPdf**		**03 26 53.5**	**+0.9**
	1.7nm,0.5s								
DAVA	**Damuels**	**147.75**	**333**	*i* PKPdf		**PKPbc**		**03 26 56.0**	**+0.3**
	2.5nm,0.8s								

JMA 19 03:49:29.8±0.2, 24°.88N×123°.37E, h31km, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.53**	**218**	P			Pb	03 49 40.2	-0.5
YOJ				S			Sb	03 49 47.7	-0.5
JYNG	**Yonagunijimaku**	**0.58**	**222**	P			Pb	03 49 41.3	-0.2
IRIF	**Iriomote-Funau**	**0.63**	**149**	P			Pb	03 49 42.1	-0.4
IRIF				S			Sb	03 49 50.6	-0.5
JKRS	**Kuro-shima**	**0.86**	**138**	P			Pn	03 49 45.5	-0.3
JKRS				S			Sn	03 49 56.5	-0.9
JIJ	**Ishigaki jima**	**0.87**	**126**	eS			Sn	03 49 56.9	-0.7
JISG	**Ishigakijimahi**	**0.90**	**109**	eS			Sn	03 49 57.1	-1.3

TAP 19 03:50:28.2, 24°.87N×121°.98E, h10km, ML2.0, 2C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EGS		**0.05**	**235**	*e*P			Pg	03 50 30.9	+0.6
	baz=224								
EGS				*i* S			Sg	03 50 32.5	+0.7
	baz=224								
NTC	**Toucheng**	**0.13**	**262**	*i* P			Pg	03 50 32.1	+0.7
	baz=262								
NTC				*e*S			Sg	03 50 34.4	+0.8
	baz=262								
TWB1	**Santiao Chiao**	**0.14**	**5**	↑*i*P			Pb	03 50 32.2	-0.7
	baz=8.0								
TWB1				S			Sg	03 50 34.5	+0.8
	baz=8.0								
TIPB	**Shuangxi**	**0.17**	**306**	↑*i*P			Pb	03 50 33.1	-0.4
	baz=305								
TIPB				*i* S			Sg	03 50 36.0	+1.4
	baz=305								
ILA	**Ilan**	**0.23**	**243**	*e*P			Pb	03 50 33.8	-0.7
	baz=241								
NWF	**Wu-fen Shan**	**0.27**	**318**	*e*P			Pb	03 50 34.9	-0.2
	baz=318								
WFSB	**Wu-fen Shan**	**0.27**	**318**	*e*P			Pb	03 50 35.0	-0.1
	baz=318								
TWC	**Suao**	**0.29**	**204**	*e*P			Pg	03 50 34.1	0.0
	baz=201								
TWC				*e*S			Sb	03 50 39.9	-0.4
	baz=201								
TWE	**Neicheng**	**0.32**	**242**	*e*P			Pb	03 50 35.4	-0.6
	baz=240								
ENTT	**Nioudou**	**0.44**	**238**	*e*P			Pb	03 50 37.6	-0.5
	baz=237								
NWLT	**Wulai**	**0.44**	**258**	*e*P			Pb	03 50 37.7	-0.4
	baz=257								

*BGR **19** 04:39:10.6±0.4, 49°.92N×18°.74E, h1km, ML3.7/14, Error ellipse: s-maj=11.1km s-min=5.6km az=179.0*
*LDG **19** 04:39:10.3±0.1, 49°.98N×18°.61E, h1km, Ml3.3/4, Error ellipse: s-maj=5.0km s-min=2.1km az=15.0, Suspected Mining induced.*
*IPEC **19** 04:39:11.6±0.1, 49°.96N×18°.66E, h0km, ML3.2/3, Error ellipse: s-maj=1.9km s-min=0.6km az=163.0*
*IDC **19** 04:39:11.1±0.7, 49°.74N×18°.72E, h0km, mb3.2/2, mb1 3.6/9, mb1mx3.4/36, mbtmp3.4/9, ML3.1/7, Error ellipse: s-maj=13.7km s-min=7.6km az=158.0*
*PRU **19** 04:39:11.7±0.0, 49°.98N×18°.58E, h0km*

ISC 19 04:39:09.6±0.6, 50°.00N±0°.02×18°.66E±0°.02, h0km, n96, σ1°93/152, 8C-7D, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.37**	**244**	*e*PG			**Pb**	**04 39 18.5**	**-0.5**
OKC	**Ostrava-Krasne**	**0.37**	**244**	*e*Pg			**Pb**	**04 39 18.8**	**-0.2**
MORC	**Moravsky Berou**	**0.76**	**253**	*e*Pg			**Pb**	**04 39 25.5**	**-0.2**
MORC				*e*Sg			**Sb**	**04 39 36.3**	**-0.2**
MORC	**Moravsky Berou**	**0.76**	**253**	↓P			**Pb**	**04 39 25.5**	**-0.2**
MORC				↑S			**Sb**	**04 39 37.1**	**+0.5**
MORC	**Moravsky Berou**	**0.76**	**253**	*e*PG			**Pb**	**04 39 25.4**	**-0.2**
MORC				*e*SG			**Sg**	**04 39 35.0**	**+1.1**
MORC	**Moravsky Berou**	**0.76**	**253**	*e*Pg			**Pb**	**04 39 25.4**	**-0.2**
	baz=75								
MORC				*e*Sg			**Sg**	**04 39 34.9**	**+1.1**
	294nm,1.0s,baz=75								
OJC	**Ojcow**	**0.77**	**73**	*e*Pn			**Pb**	**04 39 26.7**	**+0.8**
OJC	**Ojcow**	**0.77**	**73**	*e*Pg			**Pb**	**04 39 26.7**	**+0.8**
OJC				*e*Sg			**Sb**	**04 39 37.9**	**+1.0**
LANS	**Liptovska Anna**	**1.00**	**148**	*e*PG			**Pn**	**04 39 30.9**	**0.0**
LANS				*e*SG			**Sb**	**04 39 44.5**	**+1.0**
LANS				*e*LG			Lg	04 39 54.6	

NIE	**Niedzica**	**1.21**	**118**	*e*Pg		**Pn**	**04 39 34.7**	**+0.8**
NIE				*e*Sg		**Sn**	**04 39 53.3**	**+2.3**
JAVC	**Velka Javorina**	**1.31**	**210**	*e*PG		**Pn**	**04 39 36.0**	**+0.8**
JAVC	**Velka Javorina**	**1.31**	**210**	*e*Pg		**Pn**	**04 39 36.0**	**+0.8**
	baz=30							
KOLL	**Kolacno**	**1.43**	**187**	*e*PG		**Pb**	**04 39 37.6**	**+0.5**
VRAC	**Vranov**	**1.51**	**244**	Pn		**Pn**	**04 39 38.4**	**+0.5**
	11nm,0.3s,baz=66,slow=16,SNR=113							
VRAC				Lg		Lg	04 39 59.2	
	20nm,0.3s,baz=163,slow=22,SNR=11							
VRAC	**Vranov**	**1.51**	**244**	↑P		**Pn**	**04 39 38.3**	**+0.3**
VRAC				↓S		**Sn**	**04 39 59.2**	**+1.0**
VRAC	**Vranov**	**1.51**	**244**	*e*PG		**Pn**	**04 39 38.6**	**+0.6**
VRAC				*e*SG		**Sg**	**04 39 58.5**	**+0.4**
VRAC	**Vranov**	**1.51**	**244**	*e*Pg		**Pn**	**04 39 38.5**	**+0.6**
	baz=63							
VRAC				*e*Sg		**Sg**	**04 39 58.4**	**+0.4**
	272nm,0.9s,baz=63							
VYHS	**Vyhne**	**1.51**	**175**	*e*PG		**Pn**	**04 39 38.4**	**+0.5**
VYHS				*e*SG		**Sn**	**04 39 59.4**	**+1.1**
DPC	**Dobruska-Polom**	**1.54**	**284**	*e*PG		**Pb**	**04 39 39.5**	**+0.4**
DPC				*e*SG		**Sn**	**04 39 59.6**	**+0.4**
	comp=Z,155nm,0.6s							
DPC	**Dobruska-Polom**	**1.54**	**284**	*e*Pn		**Pb**	**04 39 39.5**	**+0.4**
DPC				*e*Sg		**Sb**	**04 40 00.7**	**+1.6**
OSTC	**Ostas**	**1.66**	**291**	*e*PG		**Pb**	**04 39 41.1**	**0.0**
OSTC				*e*SG		**Sg**	**04 40 03.7**	**+0.7**
	comp=Z,391nm,0.9s							
SMOL	**Smolenice**	**1.69**	**209**	*e*PG		**Pn**	**04 39 40.8**	**+0.4**
SMOL				*e*SG		**Sg**	**04 40 04.0**	**+0.1**
SMOL				*e*LG		Lg	04 40 15.9	
KSP	**Ksiaz**	**1.73**	**300**	*e*Pn		**Pn**	**04 39 42.0**	**+1.0**
KSP	**Ksiaz**	**1.73**	**300**	*e*Pn		**Pn**	**04 39 41.9**	**+0.9**
KSP				*e*Pg		**Pg**	**04 39 44.5**	**+1.7**
KSP				*e*Sg		**Sg**	**04 40 06.6**	**+1.3**
KRUC	**Moravsky**	**1.75**	**238**	*e*PG		**Pb**	**04 39 43.2**	**+0.7**
KRUC				*e*SG		**Sb**	**04 40 05.7**	**+0.7**
KRUC	**Moravsky**	**1.75**	**238**	*e*Pg		**Pb**	**04 39 43.1**	**+0.6**
	baz=58							
KRUC				*e*Sg		**Sb**	**04 40 05.6**	**+0.6**
	267nm,0.9s,baz=58							
CHVC	**Chvalec**	**1.77**	**290**	*e*PG		**Pn**	**04 39 42.4**	**+0.9**
CHVC				*e*SG		**Sb**	**04 40 05.8**	**+0.1**
	comp=Z,471nm,1.0s							
UPC	**Upice**	**1.77**	**288**	*e*PG		**Pb**	**04 39 43.5**	**+0.5**
UPC				*e*SG		**Sg**	**04 40 07.2**	**+0.6**
	comp=Z,138nm,0.6s							
MODS	**Modra-Piesok**	**1.86**	**210**	*e*PN		**Pn**	**04 39 42.6**	**-0.2**
MODS				*e*LG		Lg	04 40 14.7	
KECS	**Kecovo**	**1.93**	**141**	*e*PN		**Pn**	**04 39 44.8**	**+1.1**
KECS				*e*LG		Lg	04 40 21.6	
CRVS	**Cervenica-Dubn**	**2.13**	**120**	*e*PN		**Pb**	**04 39 49.5**	**+0.4**
CRVS				*e*LG		Lg	04 40 27.9	
TREC	**Trest**	**2.18**	**252**	*e*PG		**Pb**	**04 39 49.7**	**-0.2**
TREC				*e*SG		**Sg**	**04 40 21.0**	**+1.4**
	comp=Z,109nm,0.9s							
PSZ	**Piszkesteto**	**2.24**	**158**	↓P		**Pn**	**04 39 49.5**	**+1.5**
PSZ				↑S		**Sb**	**04 40 18.7**	**-0.5**
GOPC	**GO Pecny, Ondr**	**2.50**	**270**	*e*PG		**Pb**	**04 39 55.5**	**+0.1**
GOPC				*e*SG		**Sg**	**04 40 29.7**	**-0.2**
	comp=Z,111nm,0.9s							
KOLS	**Kolonicke sedl**	**2.59**	**113**	*e*PN		**Pn**	**04 39 54.2**	**+1.4**
KOLS				*e*PG		**Pg**	**04 40 01.1**	**+1.9**
KOLS				*e*LG		Lg	04 40 58.9	
PRU	**Pruhonice**	**2.66**	**271**	*e*PG		**Pb**	**04 39 58.4**	**+0.4**
PRU				*e*SG		**Sg**	**04 40 34.3**	**-0.6**
	comp=Z,110nm,0.9s							
PVCC	**Panska Ves**	**2.68**	**283**	*e*PG		**Pb**	**04 39 59.7**	**+1.3**
PVCC				*e*SG		**Sg**	**04 40 35.9**	**+0.3**
	comp=Z,173nm,0.7s							
PRA	**Prague**	**2.73**	**273**	*e*PG		**Pb**	**04 40 00.8**	**+1.6**
PRA				*e*SG		**Sg**	**04 40 37.4**	**+0.3**
	comp=Z,159nm,1.3s							
CONA	**Conrad Observa**	**2.77**	**223**	Pn		**Pn**	**04 39 55.5**	**+0.1**
	3.2nm,0.4s,SNR=12							
CONA				*i* Sn		**Sb**	**04 40 34.0**	**-0.6**
	28nm,0.6s							
PBCC	**Pribram**	**3.03**	**266**	*e*PG		**Pb**	**04 40 06.2**	**+1.7**
PBCC				*e*SG		**Sg**	**04 40 47.2**	**+0.2**
BRG	**Berggiesshubel**	**3.14**	**288**	PN		**Pg**	**04 40 08.8**	**-1.0**
BRG				PG		**Pg**	**04 40 08.8**	**-1.0**
BRG				SG		**Sg**	**04 40 50.0**	**-0.4**
	75nm,0.9s							
BRG	**Berggiesshubel**	**3.14**	**288**	*e*Pg		**Pg**	**04 40 09.7**	**-0.1**
TRPA	**Tarpa**	**3.16**	**125**	↑P		**Pn**	**04 40 01.9**	**+1.3**
KHC	**Kasperske Hory**	**3.42**	**257**	*e*PN		**Pn**	**04 40 05.0**	**+0.8**
KHC				*e*SG		**Sg**	**04 40 59.8**	**+0.4**
	comp=Z,54nm,0.6s							
GEC2	**GERESS Array S**	**3.44**	**252**	*e*Pn		**Pn**	**04 40 05.3**	**+0.9**
GEC2				*e*Pg		**Pg**	**04 40 14.6**	**-0.8**
GERES	**GERESS Array B**	**3.44**	**252**	Pn		**Pn**	**04 40 05.3**	**+0.9**
	1.2nm,0.3s,baz=60,slow=15,SNR=35							
GERES				Pg		**Pb**	**04 40 12.5**	**+1.1**
	7.1nm,0.3s,baz=68,slow=16,SNR=49							
GERES				Lg		Lg	04 40 55.1	
	4.2nm,0.3s,baz=64,slow=28,SNR=7.1							
ARSA	**Arzberg**	**3.45**	**218**	*i* Pn		**Pn**	**04 40 05.7**	**+1.1**
	1.9nm,0.3s							
ARSA				*i* Sn		**Sn**	**04 40 49.3**	**+3.1**
	9.2nm,0.8s							
FBE	**Freiberg**	**3.51**	**287**	*e*Pn		**Pn**	**04 40 07.0**	**+1.5**
FBE				*e*Pg		**Pg**	**04 40 16.5**	**-0.4**
FBE				*e*Sg		**Sg**	**04 41 05.0**	**+2.6**
MOA	**Molln**	**3.61**	**235**	*i* Pn		**Pn**	**04 40 06.6**	**-0.2**
	0.5nm,0.2s							
MOA				*i* Sg		**Sg**	**04 41 02.9**	**-2.5**
	21nm,0.7s							
CLL	**Collm**	**3.83**	**292**	*e*Pn		**Pn**	**04 40 09.1**	**-0.7**
CLL				*e*Sg		**Sg**	**04 41 15.3**	**+2.7**
CLL	**Collm**	**3.83**	**292**	*e*Pg		**Pg**	**04 40 24.0**	**+1.0**
CLL				*e*			04 41 00.0	
CLL				*e*Sg		**Sg**	**04 41 15.0**	**+2.4**
	comp=Z,112nm,0.9s							
WET	**Wettzell**	**3.86**	**259**	*e*Pn		**Pn**	**04 40 10.9**	**+0.7**
WET				*e*Sg		**Sg**	**04 41 12.7**	**-0.8**
TANN	**Tannenbergstha**	**4.00**	**278**	*e*Pn		**Pn**	**04 40 12.6**	**+0.3**
NKC	**Novy Kostel**	**4.00**	**276**	*e*PN		**Pn**	**04 40 13.6**	**+1.4**
NKC				*e*PG		**Pb**	**04 40 22.9**	**+1.9**
NKC				*e*SG		**Sg**	**04 41 16.6**	**-1.6**
	comp=Z,68nm,0.7s							
SOKA	**Soboth**	**4.11**	**217**	*i* Pn		**Pn**	**04 40 15.4**	**+1.7**
	comp=Z,0.6nm,0.4s							
SOKA				*i* Sn		**Sn**	**04 41 02.6**	**+0.1**
	comp=Z,3.4nm,0.7s							
ROTZ	**Rotzenmuhle**	**4.18**	**269**	*e*Pn		**Pn**	**04 40 15.2**	**+0.6**
ROTZ				*e*Pg		**Pb**	**04 40 27.2**	**+3.2**
DRGR		**4.19**	**138**	↓P		**Pn**	**04 40 16.4**	**+1.6**
MANZ	**Manzenberg**	**4.23**	**272**	*e*Pn		**Pn**	**04 40 16.4**	**+1.1**
MANZ				*e*Sg		**Sg**	**04 41 26.1**	**+0.7**
SIRR	**Siria**	**4.24**	**151**	↓P		**Pn**	**04 40 16.9**	**+1.5**
OBKA	**Obir**	**4.44**	**220**	*i* Pn		**Pn**	**04 40 19.8**	**+1.5**
	comp=Z,0.4nm,0.2s							
OBKA				*i* Sg		**Sg**	**04 41 37.3**	**+5.1**
	comp=Z,15nm,0.8s							
MOX	**Moxa**	**4.56**	**281**	*e*Pn		**Pn**	**04 40 20.7**	**+0.8**
MOX				*e*Pg		**Pg**	**04 40 37.2**	**+0.3**
KBA	**Koelnbreinsper**	**4.58**	**232**	*i* Pn		**Pn**	**04 40 20.9**	**+0.6**
	comp=Z,1.6nm,0.3s							
KBA				*i* Sn		**Sn**	**04 41 15.5**	**+1.2**
	comp=Z,6.4nm,0.6s							
MYKA	**Terra Mystica**	**4.75**	**227**	*i* Sg		**Sg**	**04 41 45.3**	**+3.2**
	comp=Z,9.3nm,0.6s							
BZS	**Buzias**	**4.82**	**154**	↑P		**Pn**	**04 40 24.9**	**+1.6**
GRF	**Grafenberg Arr**	**4.82**	**269**	*e*Pn		**Pn**	**04 40 24.7**	**+1.2**
GRF				*e*Pg		**Pg**	**04 40 41.5**	**-0.5**
BURAR	**Bucovina Array**	**4.95**	**116**	↑P		**Pn**	**04 40 24.9**	**-0.3**
ABTA	**Abfaltersbach**	**5.23**	**234**	*i* Pg		**Pg**	**04 40 49.4**	**-0.3**
	comp=Z,3.8nm,0.4s							
ABTA				*i* Sg		**Sg**	**04 41 54.7**	**-2.8**
	comp=Z,18nm,0.8s							
WATA	**Walderalm**	**5.39**	**243**	*i* Pn		**Pn**	**04 40 34.5**	**+3.1**
	comp=Z,1.1nm,0.4s							
WATA				*i* Sg		**Sg**	**04 42 00.1**	**-2.8**
	comp=Z,18nm,0.8s							
WTTA	**Wattenberg**	**5.40**	**242**	*i* Pn		**Pn**	**04 40 32.2**	**+0.7**
	comp=Z,0.9nm,0.4s							
WTTA				*i* Sn		**Sn**	**04 41 36.5**	**+2.0**
	comp=Z,12nm,0.7s							
MDVR	**Moldovita**	**5.62**	**157**	↓P		**Pn**	**04 40 36.2**	**+1.8**
MOTA	**Moosalm**	**5.66**	**245**	*i* Pn		**Pn**	**04 40 34.7**	**-0.5**
	comp=Z,1.6nm,0.6s							
MOTA				*i* Sg		**Sb**	**04 42 03.2**	**+5.4**
	comp=Z,28nm,0.8s							
SQTA	**Sankt Quirin**	**5.67**	**243**	*i* Pn		**Pn**	**04 40 36.7**	**+1.6**
	comp=Z,1.3nm,0.3s							
SQTA				*i* Sg		**Sb**	**04 42 03.9**	**+6.0**
	comp=Z,41nm,0.7s							
LOT	**Lotru**	**5.71**	**141**	↓P		**Pn**	**04 40 38.1**	**+2.3**
RETA	**Reutte**	**5.79**	**247**	*i* Pn		**Pn**	**04 40 37.7**	**+0.8**
	comp=Z,0.9nm,0.3s							
RETA				*i* Sg		**Sb**	**04 42 07.8**	**+6.3**
	comp=Z,13nm,0.6s							
FETA	**Feichten**	**6.05**	**244**	*i* Sg		**Sb**	**04 42 12.3**	**+3.3**
	comp=Z,3.3nm,0.6s							
VOIR		**6.28**	**134**	↑P		**Pn**	**04 40 43.0**	**-0.5**
DAVA	**Damuels**	**6.42**	**248**	*i* Pn		**Pn**	**04 40 44.8**	**-0.7**
	comp=Z,1.7nm,0.4s							
DAVA				*i* Sg		**Sb**	**04 42 23.5**	**+4.0**
	comp=Z,17nm,1.1s							
MLR	**Muntele Rosu**	**6.67**	**130**	Pn		**Pn**	**04 40 48.0**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=16,slow=18,SNR=3.1							
MLR	**Muntele Rosu**	**6.67**	**130**	↑P		**Pn**	**04 40 48.9**	**0.0**
DAVOX	**Davos/Dischmat**	**6.67**	**244**	Pn		**Pn**	**04 40 48.6**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=52,slow=16,SNR=7.9							
DAVOX				Lg		Lg	04 42 33.7	
	comp=Z,0.3nm,0.3s,baz=68,slow=16,SNR=4.0							
AKASG	**Malin Array Be**	**6.80**	**80**	Pn		**Pn**	**04 40 50.6**	**+0.1**
	comp=Z,1.7nm,0.3s,baz=262,slow=13,SNR=6.4							
AKASG				Lg		Lg	04 42 43.1	
	comp=Z,1.6nm,0.3s,baz=258,slow=27,SNR=4.5							
NACGM	**Naroch**	**6.98**	**42**	*e*P		**Pg**	**04 41 21.0**	**-2.3**
NACGM				*e*S		**Sg**	**04 43 02.0**	**+8.3**
CDF	**Champ du Feu**	**7.62**	**262**	*e*Pn		**Pn**	**04 41 01.0**	**-1.0**
CDF	**Champ du Feu**	**7.62**	**262**	*e*Pg		Pg	04 41 30.8	-4.8
CDF				*e*Sn		Sn	04 42 20.0	-9.1
	comp=Z,12nm,1.1s							
HINF	**Hinteralfeld**	**8.08**	**259**	*e*Pn		**Pn**	**04 41 05.4**	**-2.8**
HINF	**Hinteralfeld**	**8.08**	**259**	*e*Pg		Pg	04 41 38.8	-5.5
HINF				*e*Sn		**Sn**	**04 42 32.4**	**-7.8**
	comp=Z,2.5nm,0.5s							
HINF				*e*S		Sb	04 42 43.8	-23
HAU	**Haudompre**	**8.34**	**261**	*e*Pn		**Pn**	**04 41 09.6**	**-2.1**
HAU	**Haudompre**	**8.34**	**261**	*e*Pg		Pg	04 41 43.5	-5.7
HAU				*e*Sn		Sn	04 42 37.7	-8.8
	comp=Z,5.7nm,0.8s							
HAU				*e*S		Sb	04 42 50.0	-25
SFTF	**Sexfontaines**	**9.12**	**264**	*e*Sn		Sn	04 42 55.8	-10
	comp=Z,3.7nm,0.3s							
HFS	**Hagfors**	**10.54**	**346**	Pn		**Pn**	**04 41 41.4**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=144,slow=12,SNR=2.2							
NOA	**NORSAR Array B**	**11.83**	**342**	Pn		**Pn**	**04 41 57.8**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=150,slow=12,SNR=7.6							
FINES	**FINESS Array B**	**12.20**	**17**	Pn		**Pn**	**04 42 03.1**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=195,slow=12,SNR=27							
FINES				Sn		Sn	04 44 12.0	-9.0
	comp=Z,0.3nm,0.3s,baz=204,slow=23,SNR=3.6							
KLMR	**Klimovskoe**	**15.99**	**39**	*e*Pn		**Pn**	**04 42 48.9**	**-6.7**
KLMR				AMP			04 42 53.0	
	comp=Z,22nm,1.3s							
ARCES	**ARCESS Array B**	**19.87**	**7**	P		**P**	**04 43 40.8**	**-1.3**
	comp=Z,5.0nm,1.1s,baz=192,slow=13,SNR=6.1							
TORD	**Torodi Ar. Bea**	**39.29**	**207**	P		**P**	**04 46 37.9**	**-2.2**
	comp=Z,0.3nm,0.7s,baz=14,slow=9.1,SNR=2.8							
MKAR	**Makanchi Array**	**41.24**	**69**	P		**P**	**04 46 57.9**	**+1.8**
	comp=Z,0.2nm,0.4s,baz=296,slow=7.6,SNR=2.5							

*DJA **19**

*NNC **19** 05:50:34.3±1.5,44.66N×81.99E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=16.1km s-min=6.1km az=131.0*
*SOME **19** 05:50:35.0,44.73N×82.13E,h25km*
ISC 19 05:50:36.3±2.4,**44.66N**±0.06×**82.09E**±0.07,**h10**km±17km, **n17**,σ1§10/27,**4C,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.68**	**260**	*eP*	**Pb**	**05 51 07.2**	**-0.1**
	16nm,0.2s						
DJR				*eS*	**Sg**	**05 51 29.9**	**-0.3**
	7.3nm,0.3s						
KTMS	**Ketmen**	**1.74**	**227**	*eP*	**Pb**	**05 51 09.0**	**+0.5**
	4.6nm,0.1s						
KTMS				*eS*	**Sg**	**05 51 33.1**	**+0.8**
	33nm,0.4s						
KAPS	**Kapalarasan**	**2.04**	**289**	*eP*	**Pb**	**05 51 12.3**	**-1.1**
	2.5nm,0.1s						
KAPS				*eS*	**Sb**	**05 51 38.9**	**+0.1**
	6.5nm,0.3s						
KAPS	**Kapalarasan**	**2.04**	**289**	Pg	**Pn**	**05 51 12.0**	**+1.3**
	2.2nm,0.1s						
KAPS				Lg	Lg	05 51 38.6	
	6.5nm,0.3s						
MK31	**Makanchi Array**	**2.14**	**4**	⇑Pn	**Pn**	**05 51 11.8**	**-0.3**
	3.4nm,0.2s,baz=184,slow=13,SNR=173						
MK31				⇑Lg	Lg	05 51 39.9	
	2.1nm,0.2s,baz=184,slow=27,SNR=14						
MAKZ	**Makanchi**	**2.15**	**358**	⇑Pn	**Pn**	**05 51 11.8**	**-0.5**
	6.0nm,0.7s						
MAKZ				⇑Lg	Lg	05 51 40.1	
	9.7nm,0.5s						
SHLS	**Shalkode**	**2.42**	**233**	*eP*	**Pn**	**05 51 15.0**	**-1.0**
	9.1nm,0.2s						
SHLS				*eS*	**Sn**	**05 51 44.3**	**-1.4**
	44nm,0.3s						
UZB	**Uzynbulak**	**2.68**	**237**	*eP*	**Pb**	**05 51 22.9**	**-1.6**
	2.7nm,0.2s						
UZB				*eS*	**Sb**	**05 51 57.1**	**-0.3**
	5.1nm,0.3s						
UZB	**Uzynbulak**	**2.68**	**237**	Pg	**Pn**	**05 51 20.8**	**+1.1**
	3.3nm,0.3s						
UZB				Lg	Lg	05 51 55.3	
	3.9nm,0.2s						
KPKS	**Kokpek**	**2.73**	**245**	*eP*	**Pb**	**05 51 23.7**	**-1.5**
	11nm,0.1s						
KPKS				*eS*	**Sb**	**05 51 59.1**	**+0.4**
	20nm,0.3s						
ARXS	**Arharly**	**3.08**	**263**	*eP*	**Pb**	**05 51 30.6**	**-0.7**
	2.9nm,0.2s						
ARXS				*eS*	**Sb**	**05 52 10.5**	**+1.5**
	10nm,0.5s						
ARXS	**Arharly**	**3.08**	**263**	Pg	**Pb**	**05 51 30.6**	**-0.7**
	2.0nm,0.2s						
ARXS				Lg	Lg	05 52 10.5	
	10nm,0.5s						
ZSN	**Zaisan**	**3.40**	**34**	*eP*	**Pn**	**05 51 30.3**	**+0.9**
	5.0nm,0.2s						
ZSN				*eS*	**Sn**	**05 52 09.9**	**+0.2**
	3.2nm,0.2s						
CHKK	**Chushkaly**	**3.75**	**259**	*eP*	**Pb**	**05 51 41.3**	**-1.3**
	0.9nm,0.1s						
CHKK				*eS*	**Sb**	**05 52 28.7**	**+0.6**
	6.9nm,0.2s						
CHKK	**Chushkaly**	**3.75**	**259**	Pg	**Pb**	**05 51 41.3**	**-1.3**
	0.9nm,0.1s						
CHKK				Lg	Lg	05 52 28.7	
	6.9nm,0.2s						
KTBS	**Karatobe**	**4.00**	**258**	*eP*	**Pb**	**05 51 46.8**	**-0.1**
	2.1nm,0.6s						
KTBS				*eS*	**Sb**	**05 52 37.8**	**+2.5**
	6.6nm,0.4s						
KTBS	**Karatobe**	**4.00**	**258**	Pg	**Pb**	**05 51 46.5**	**-0.4**
	2.1nm,0.6s						
KTBS				Lg	Lg	05 52 37.6	
	6.6nm,0.4s						

*IDC **19** 05:59:48.4±1.4,59.73N×22.48E,h0km,mb3.3/1, mb1 3.3/5,mb1mx3.1/49,mbtmp3.2/5,ML2.5/4,Error ellipse: s-maj=22.6km s-min=7.3km az=153.0*
*HEL **19** 05:59:49.7±0.0,59.82N×22.30E,h0km,ML2.5, ML2.8(UPP),Explosion*
*NAO **19** 05:59:50.3±1.2,59.96N×22.26E,ML2.3*
*UPP **19** 05:59:50.5±1.1,59.85N×22.14E,h0km,ML2.8,Suspected explosion*
*BER **19** 05:59:51.9±3.6,59.97N×22.19E,h0km,ML2.3(NAO), Suspected explosion*
ISC 19 05:59:46.8±0.6,**59.85N**±0.03×**22.36E**±0.02,**h0km**,**n73**, σ2§03/104,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**1.09**	**69**	*eP*	**Pn**	**06 00 09.7**	**+0.4**
RAF	**Rauma**	**1.21**	**346**	*eP*	**Pn**	**06 00 11.9**	**+0.9**
RAF				*eS*	**Sn**	**06 00 28.0**	**-0.1**
RAF				MSG		06 00 33.9	
	comp=Z,60nm,0.2s						
AAL	**Aland**	**1.23**	**287**	P	**Pb**	**06 00 11.3**	**+0.4**
AAL				S	**Sg**	**06 00 27.1**	**+0.8**
AAL	**Aland**	**1.23**	**287**	*eP*	**Pb**	**06 00 11.3**	**+0.4**
AAL				*eS*	**Sg**	**06 00 26.8**	**+0.4**
MTSE	**Matsula**	**1.36**	**146**	*eP*	**Pg**	**06 00 13.9**	**+1.0**
MTSE				*eS*	**Sg**	**06 00 31.6**	**+1.0**
PVF	**Pernaja**	**1.88**	**67**	*eP*	**Pg**	**06 00 23.5**	**+0.6**
PVF				*eS*	**Sg**	**06 00 47.5**	**+0.2**
PVF				MSG		06 00 51.2	
	comp=Z,31nm,0.1s						
ARBE	**Arbavere**	**1.89**	**101**	*eP*	**Pg**	**06 00 23.3**	**+0.4**
ARBE				*eS*	**Sg**	**06 00 48.2**	**+0.8**
NRTU	**Norrtaelje**	**1.89**	**266**	P	**Pb**	**06 00 22.4**	**+0.2**
NRTU				S	**Sb**	**06 00 47.6**	**+1.2**
NRTU	**Norrtaelje**	**1.89**	**266**	*eP*	**Pb**	**06 00 22.4**	**+0.2**
NRTU				*eS*	**Sb**	**06 00 47.6**	**+1.2**
GRAU	**Graesoe**	**1.97**	**286**	P	**Pb**	**06 00 23.6**	**0.0**
GRAU				S	**Sb**	**06 00 49.7**	**+1.0**
GRAU	**Graesoe**	**1.97**	**286**	*eP*	**Pb**	**06 00 23.6**	**0.0**
GRAU				*eS*	**Sb**	**06 00 49.7**	**+1.0**
FORU	**Forsmark**	**2.16**	**286**	P	**Pb**	**06 00 26.8**	**+0.1**
FORU	**Forsmark**	**2.16**	**286**	*eP*	**Pb**	**06 00 26.8**	**+0.1**
SLIT	**Slitere, Latvi**	**2.23**	**181**	*eP*	**Sg**	**06 00 57.2**	**-1.1**
SLIT				IAML		06 01 01.2	
	comp=Z,527nm,0.1s						
SLIT				IAML		06 01 14.3	
	comp=Z,147nm,0.1s						
FLYU	**Flymyra**	**2.27**	**279**	P	**Pb**	**06 00 27.9**	**-0.7**
FLYU	**Flymyra**	**2.27**	**279**	*eP*	**Pb**	**06 00 27.9**	**-0.7**
NYNU	**Nynaeshamn**	**2.38**	**251**	P	**Pn**	**06 00 29.6**	**+2.6**
NYNU	**Nynaeshamn**	**2.38**	**251**	*eP*	**Pn**	**06 00 29.6**	**+2.6**
UPP	**Uppsala**	**2.39**	**272**	P	**Pb**	**06 00 29.7**	**-0.9**
UPP	**Uppsala**	**2.39**	**272**	*eP*	**Pb**	**06 00 29.7**	**-0.9**
FIA0	**FINESS Array S**	**2.43**	**47**	Pn	**Pb**	**06 00 32.2**	**+0.8**
	baz=227,slow=14						
FIA0				Lg	Lg	06 01 04.2	
	baz=235,slow=28						
FIA0				Rg	Rg	06 01 19.6	
	baz=212,slow=37						
FIA0	**FINESS Array S**	**2.43**	**47**	*e*PB	**Pb**	**06 00 32.5**	**+1.1**
FIA0				*e*SB	**Sg**	**06 01 04.3**	**-0.6**
FIA0				MSG		06 01 07.2	
	comp=Z,14nm,0.1s						
FIA0	**FINESS Array S**	**2.43**	**47**	Pn	**Pb**	**06 00 32.2**	**+0.8**
	baz=227,slow=14						
FIA0				Sg	**Sg**	**06 01 04.2**	**-0.6**
	baz=235,slow=28						
FINES	**FINESS Array B**	**2.43**	**47**	Pn	**Pb**	**06 00 32.2**	**+0.8**
	comp=Z,2.9nm,0.3s,baz=227,slow=14,SNR=142						
FINES				Lg	Lg	06 01 04.8	
	comp=Z,7.4nm,0.3s,baz=231,slow=25,SNR=28						
FIBU	**Brunna**	**2.52**	**273**	P	**Pb**	**06 00 31.9**	**-1.1**
KEF	**Keuruu**	**2.63**	**27**	*e*PB	**Pb**	**06 00 35.6**	**+0.9**
KEF				*e*SB	**Sg**	**06 01 09.4**	**-1.7**
KEF				MSG		06 01 12.9	
	comp=Z,20nm,0.1s						
OSTU	**Oestervaala**	**2.65**	**281**	P	**Pn**	**06 00 33.2**	**+2.4**
OSTU	**Oestervaala**	**2.65**	**281**	*eP*	**Pn**	**06 00 33.2**	**+2.4**
BACU	**Backbrunna**	**2.65**	**272**	P	**Pn**	**06 00 33.3**	**+2.6**
BACU	**Backbrunna**	**2.65**	**272**	*eP*	**Pn**	**06 00 33.3**	**+2.6**
VSU	**Vasula**	**2.65**	**120**	Pn	**Pb**	**06 00 34.4**	**-0.7**
VSU				Sn	**Sb**	**06 01 09.0**	**+0.9**
VSU	**Vasula**	**2.65**	**120**	*eP*	**Sg**	**06 01 10.8**	**-1.1**
VSU	**Vasula**	**2.65**	**120**	Pn	**Pb**	**06 00 34.4**	**-0.7**
VSU				Sn	**Sb**	**06 01 09.0**	**+0.9**
IGGU	**Iggoen**	**2.71**	**294**	P	**Pn**	**06 00 34.3**	**+2.7**
IGGU				S	**Sb**	**06 01 08.2**	**-1.6**
IGGU	**Iggoen**	**2.71**	**294**	*eP*	**Pn**	**06 00 34.3**	**+2.7**
IGGU				*eS*	**Sb**	**06 01 08.2**	**-1.6**
KAF	**Kangasniemi**	**2.98**	**39**	*e*PB	**Pb**	**06 00 40.6**	**0.0**
KAF				*e*SB	**Sg**	**06 01 19.9**	**-2.5**
KAF				MSG		06 01 21.0	
	comp=Z,14nm,0.1s						
VAF	**Ylistaro**	**3.21**	**3**	*e*PB	**Pb**	**06 00 45.2**	**+0.6**
VAF				*e*SB	**Sb**	**06 01 26.3**	**+2.1**
HFS	**Hagfors**	**4.36**	**277**	Pn	**Pn**	**06 00 56.7**	**+2.4**
	baz=84,slow=16						
HFS				Pg	**Pb**	**06 01 06.6**	**+2.4**
	baz=96,slow=16						
HFS				Sn	**Sn**	**06 01 43.8**	**-1.9**
	baz=101,slow=22						
HFS				Lg	Lg	06 02 04.2	
	baz=92,slow=28						
HFS	**Hagfors**	**4.36**	**277**	Pn	**Pn**	**06 00 56.2**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=96,slow=15,SNR=32						
HFS				Pg	**Pb**	**06 01 05.6**	**+1.3**
	comp=Z,0.7nm,0.3s,baz=97,slow=16,SNR=11						
HFS				Lg	Lg	06 02 02.9	
	comp=Z,2.0nm,0.3s,baz=89,slow=30,SNR=11						
HFS	**Hagfors**	**4.36**	**277**	Pn	**Pn**	**06 00 56.7**	**+2.4**
	baz=84,slow=16						
HFS				Pg	**Pb**	**06 01 06.6**	**+2.4**
	baz=96,slow=16						
HFS				Sn	**Sn**	**06 01 43.8**	**-1.9**
	baz=101,slow=22						
HFS				Sg	**Sg**	**06 02 04.2**	**-2.5**
	baz=92,slow=28						
PABE	**Paberze**	**4.44**	**168**	*eP*	**Pn**	**06 00 58.3**	**+2.9**
IZAR	**Zarasai**	**4.61**	**151**	*eP*	**Pb**	**06 01 05.3**	**-3.1**
ISAL	**Salakas**	**4.74**	**153**	*eP*	Pn	06 01 05.7	+6.2
IIGN	**Ignalina**	**4.97**	**154**	*eP*	**Pn**	**06 01 06.2**	**+3.6**
NC602	**NORSAR Array S**	**5.45**	**284**	*eP*	**Pn**	**06 01 11.0**	**+1.8**
NRA0	**NORESS Array S**	**5.45**	**284**	Pn	**Pn**	**06 01 11.3**	**+2.1**
	baz=96,slow=14						
NRA0				Sn	**Sn**	**06 02 12.7**	**+0.1**
	baz=84,slow=28						
NRA0				Lg	Lg	06 02 37.4	
	baz=103,slow=28						
NRA0	**NORESS Array S**	**5.45**	**284**	Pn	**Pn**	**06 01 11.3**	**+2.1**
	baz=96,slow=14						
NRA0				Sn	**Sn**	**06 02 12.7**	**+0.1**
	baz=84,slow=28						
NRA0				Sg	**Sg**	**06 02 37.4**	**-4.4**
	baz=103,slow=28						
NC303	**NORSAR Array S**	**5.60**	**289**	*eP*	**Pn**	**06 01 12.8**	**+1.6**
NB201	**NORSAR Array S**	**5.61**	**287**	*eP*	**Pn**	**06 01 12.7**	**+1.3**
NB2	**NORSAR Subarra**	**5.64**	**287**	Pn	**Pn**	**06 01 13.3**	**+1.4**
	baz=96,slow=12						
NB2				Sn	**Sn**	**06 02 15.1**	**-2.3**
NB2				Lg	Lg	06 02 41.3	
	baz=98,slow=37						
NB2	**NORSAR Subarra**	**5.64**	**287**	Pn	**Pn**	**06 01 13.3**	**+1.4**
	baz=96,slow=12						
NB2				Sn	**Sn**	**06 02 15.1**	**-2.3**
NB2				Sg	**Sb**	**06 02 41.3**	**+7.0**
	baz=98,slow=37						
NOA	**NORSAR Array B**	**5.64**	**287**	Pn	**Pn**	**06 01 11.9**	**0.0**
	comp=Z,0.0nm,0.3s,baz=100,slow=15,SNR=16						
NOA				Lg	Lg	06 02 40.7	
	comp=Z,0.1nm,0.3s,baz=71,slow=16,SNR=4.4						
STRU	**Stroemstad**	**5.76**	**267**	*eP*	**Pn**	**06 01 14.6**	**+1.1**
NAO01	**NORSAR Array S**	**5.78**	**285**	*eP*	**Pn**	**06 01 14.8**	**+1.0**
NBO00	**NORSAR Array S**	**5.85**	**287**	*eP*	**Pn**	**06 01 15.7**	**+1.0**
NC204	**NORSAR Array S**	**5.89**	**289**	*eP*	**Pn**	**06 01 16.5**	**+1.1**
BSD	**Bornholm Skovb**	**6.21**	**223**	*i* P	Pn	06 01 15.3	-4.4
NSS	**Namsos**	**6.75**	**318**	*eP*	**Pn**	**06 01 29.2**	**+2.2**
MOR8	**Moi Rana**	**7.29**	**334**	*eP*	**Pn**	**06 01 37.7**	**+3.2**
HOMB	**Homborsund**	**7.32**	**264**	*eP*	**Pn**	**06 01 34.8**	**0.0**
KONS	**Konsvik**	**7.86**	**332**	*eP*	**Pn**	**06 01 44.5**	**+2.2**
SNART	**Snartemo**	**7.95**	**266**	*eP*	**Pn**	**06 01 43.7**	**+0.3**
HEF	**Hetta**	**8.61**	**3**	*eP*	**Pn**	**06 01 54.4**	**+1.8**
STEI	**Steigen**	**8.69**	**342**	*eP*	**Pn**	**06 01 55.0**	**+1.4**
APA0	**Apatity Array**	**9.09**	**27**	Pn	**Pn**	**06 02 02.1**	**+3.1**
	baz=201,slow=14						
APA0	**Apatity Array**	**9.09**	**27**	Pn	**Pn**	**06 02 02.1**	**+3.1**
	baz=201,slow=14						
KTK1	**Kautokeino**	**9.21**	**2**	*eP*	**Pn**	**06 02 02.6**	**+1.9**
KIF	**Kilpisjarvi**	**9.22**	**356**	*eP*	**Pn**	**06 02 03.3**	**+2.5**
ARE0	**ARCESS Array S**	**9.82**	**7**	*eP*	**Pn**	**06 02 10.0**	**+1.0**
ARA0	**ARCESS Array S**	**9.82**	**7**	Pn	**Pn**	**06 02 09.6**	**+0.5**
	baz=184,slow=16						
ARA0				Sn	**Sn**	**06 03 53.2**	**-6.6**
	baz=200,slow=18						
ARA0	**ARCESS Array S**	**9.82**	**7**	Pn	**Pn**	**06 02 09.6**	**+0.5**
	baz=184,slow=16						
ARA0				Sn	**Sn**	**06 03 53.2**	**-6.6**
	baz=200,slow=18						
ARCES	**ARCESS Array B**	**9.82**	**7**	Pn	**Pn**	**06 02 09.3**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=184,slow=14,SNR=22						
ARCES				Lg	Lg	06 04 53.7	
	comp=Z,0.1nm,0.3s,baz=184,slow=32,SNR=2.2						
TORD	**Torodi Ar. Bea**	**49.06**	**207**	P	**P**	**06 08 35.3**	**-0.2**
	comp=Z,0.4nm,1.0s,baz=10,slow=6.9,SNR=1.8						

*BGR **19** 06:00:57.4±0.0,26.76N×129.67E,h33km,mb4.4*
*IDC **19** 06:00:59.2±0.5,26.51N×127.16E,h0km,mb4.3/24, mb1 4.4/24,mb1mx4.3/53,mbtmp4.3/24,MS3.4/11, Ms1 3.5/11,ms1mx3.2/41,Error ellipse: s-maj=14.6km s-min=12.4km az=78.0*
*BJI **19** 06:01:00.1±0.0,25.96N×127.36E,h40km,mB4.7/30, mb4.5/39,Ms4.0/30,Ms7 3.8/27*
*NIED **19** 06:01:00,26.40N×127.20E,h8km,Mw4.3 Best double couple: M0 2.95000×10^15^ NP1:ϕ=130.00000°,δ60.00000°, λ=-64.00000°. NP2:ϕ=266.00000°,δ39.00000°, λ=-127.00000°.*
*JMA **19** 06:01:01.4±0.1,26.38N×127.20E,h10km±3km,M4.5*
JMA Felt III J1.
*NEIC **19** 06:01:05.9±1.6,26.44N±0.07×127.16E±0.05,h45km±6km, mb4.7/100,Error ellipse: s-maj=10.7km s-min=6.4km az=163.0*
ISC 19 06:01:02.2±0.9,**26.41N**±0.04×**127.19E**±0.03,**h19**km±3km, **n202**,σ1§18/212,**mb4.6**/83,**MS3.6**/10,**9C,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.18**	**16**	P	**Pg**	**06 01 06.1**	**-0.9**
JAGN				S	**Sg**	**06 01 09.3**	**-1.0**
JKE	**Kume jima 2**	**0.37**	**256**	P	**Pb**	**06 01 08.9**	**-1.3**
JKE				S	**Sg**	**06 01 14.3**	**-1.1**
JJT3	**Tamagusuku3**	**0.60**	**117**	P	**Pb**	**06 01 13.1**	**-0.9**
JJT3				S	**Sb**	**06 01 21.0**	**-1.0**
JNTH	**Nagotoyohara**	**0.76**	**82**	P	**Pb**	**06 01 15.1**	**-1.6**
JNTH				*eS*	**Sb**	**06 01 24.9**	**-1.7**
JIH	**Iheya**	**0.93**	**48**	P	**Pb**	**06 01 18.2**	**-1.5**
JIH				*eS*	**Sb**	**06 01 30.9**	**-0.8**
JOW	**Kunigami**	**1.06**	**67**	Pn	**Pb**	**06 01 20.6**	**-1.3**
	209nm,0.3s,baz=341,slow=22,SNR=1110						
JOW				Sn	**Sb**	**06 01 34.7**	**-0.6**
	790nm,0.3s,baz=86,slow=21,SNR=15						
JOW	**Kunigami**	**1.06**	**67**	P	**Pb**	**06 01 20.5**	**-1.3**
JOW				*eS*	**Sb**	**06 01 34.2**	**-1.1**
JOW	**Kunigami**	**1.06**	**67**		**Pb**	**06 01 20.6**	**-1.3**
JOW					**Sn**	**06 01 37.5**	**+1.3**
YOJ	**Yonaguni jima**	**4.25**	**244**		**Pn**	**06 02 06.5**	**+0.7**
YHNB	**Yeheng**	**5.53**	**253**	Pn	**Pn**	**06 02 26.8**	**+3.3**
NACB	**Ninganchiao**	**5.53**	**247**		**Pn**	**06 02 24.6**	**+1.0**
YULB	**Yu-li**	**6.14**	**242**		**Pn**	**06 02 30.8**	**-1.1**
SSLB	**Suanglung**	**6.23**	**247**	Pn	**Pn**	**06 02 34.9**	**+1.8**
TWG	**Pinlang**	**6.62**	**239**		**Pn**	**06 02 36.8**	**-1.6**
TPUB	**Ta-pu**	**6.71**	**244**		**Pn**	**06 02 41.0**	**+1.2**
JNU	**Nakatsue**	**7.41**	**25**	Pn	**Pn**	**06 02 52.5**	**+3.2**
	6.8nm,0.3s,baz=211,slow=4.2,SNR=48						
JNU				LR	LR	06 05 48.3	
	comp=Z,276nm,20.0s,baz=198,slow=39						
JNU	**Nakatsue**	**7.41**	**25**	Pn	**Pn**	**06 02 53.0**	**+3.6**
NJ2	**Nanjing**	**9.19**	**310**	*eP*	**Pn**	**06 03 15.3**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,14nm,1.0s						
NJ2				LR	LR		
	comp=N,390nm,8.5s						
NJ2				LR	LR		
	comp=E,160nm,7.1s						
NJ2				LR	LR		
	comp=Z,560nm,13.3s						
KSAR	**Wonju Array Be**	**11.01**	**3**	Pn	Pn	06 03 44.0	+5.4
KSRS	**Korea Array**	**11.03**	**3**	Pn	Pn	06 03 43.5	+4.7
	0.2nm,0.3s,baz=181,slow=14,SNR=42						
KSRS				LR	LR	06 08 06.2	
	comp=Z,226nm,18.1s,baz=171,slow=39						
KS19	**Wonju Array Si**	**11.07**	**3**		Pn	06 03 44.1	+4.7
JHJ2	**Mitsune**	**12.84**	**56**	Pn	**Pn**	**06 04 07.0**	**+3.5**
MAJO	**Matsushiro**	**13.79**	**40**	Pn	**P**	**06 04 20.5**	**-4.5**
MJAR	**Matsushiro Arr**	**13.79**	**40**	LR	LR	06 09 37.5	
	comp=Z,92nm,18.6s,baz=220,slow=38						
MJAR	**Matsushiro Arr**	**13.79**	**40**	Pn	**Pn**	**06 04 17.9**	**+1.3**
BJT	**Baijiatuau**	**16.38**	**329**	Pn	**Pn**	**06 04 51.6**	**+0.6**
BJI	**Beijing**	**16.40**	**329**	P	**P**	**06 04 58.3**	**+4.4**
BJI				S	**Sn**	**06 07 55.0**	**+2.4**
BJI				pmax	pmax		
	comp=Z,12nm,1.1s						
CN2	**Changchun**	**17.41**	**356**	*eP*	**P**	**06 05 07.8**	**+2.7**
XAN	**Xi'an**	**17.50**	**300**	P	**P**	**06 05 08.4**	**+2.1**
XAN				pP	sP	06 05 14.5	+0.5
XAN				pmax	pmax		
	comp=Z,6.0nm,0.7s						
XAN	**Xi'an**	**17.50**	**300**	P	**P**	**06 05 06.4**	**0.0**
QIZ	**Qiongzhong**	**17.60**	**249**	P	**Pn**	**06 05 05.4**	**-1.0**
QIZ				S	**Sn**	**06 08 21.4**	**-0.6**
QIZ				LR	LR		
	comp=N,190nm,12.3s						
QIZ				LR	LR		
	comp=E,220nm,12.3s						
QIZ	**Qiongzhong**	**17.60**	**249**	P	**Pn**	**06 05 03.1**	**-3.3**
USA0B	**Ussuriysk Arra**	**18.17**	**11**	P	**Pn**	**06 05 11.8**	**-1.5**
USRK	**Ussuriysk Ar.**	**18.17**	**11**	P	**Pn**	**06 05 12.7**	**-0.5**
BTO	**Baotou**	**20.08**	**319**	*eP*	Pn	06 05 41.4	+5.0
ERM	**Erimo**	**20.36**	**36**	P	Pn	06 05 38.7	-0.8
CD2	**Chengdu**	**21.03**	**288**	P	**P**	**06 05 45.3**	**+0.4**
CD2				S	**S**	**06 09 36.5**	**-1.9**
CD2				pmax	pmax		
	comp=Z,20nm,0.6s						
CD2				LR	LR		
	comp=E,420nm,7.3s						
CD2				LR	LR		
	comp=Z,540nm,8.0s						
ASAJ	**Asahikawa**	**21.62**	**31**	P	**P**	**06 05 51.0**	**-0.1**
	2.0nm,0.3s,baz=24,slow=27,SNR=4.0						
SLVN	**Son La**	**21.87**	**262**	P	**P**	**06 05 53.5**	**-0.6**
KMI	**Kunming**	**22.05**	**272**	P	**P**	**06 05 55.6**	**-0.5**
KMI				pmax	pmax		
	comp=Z,15nm,0.7s						
LZH	**Lanzhou**	**22.12**	**302**	*eP*	**P**	**06 05 57.3**	**+0.6**
LZH				pP	sP	06 06 05.5	+1.0
LZH				sP	pP	06 06 13.4	+12
LZH				PP	PnPn	06 06 30.3	+11
LZH				pmax	pmax		
	comp=Z,17nm,1.2s						
LZH				pmax	pmax		
	comp=Z,55nm,4.3s						
LZH				LR	LR		
	comp=N,250nm,14.6s						
LZH				LR	LR		
	comp=E,230nm,13.0s						
LZH				LR	LR		
	comp=Z,270nm,15.2s						
KKM	**Kota Kinabalu**	**22.80**	**209**	P	**P**	**06 06 04.9**	**+0.9**
KLR	**Kul'dur**	**23.05**	**8**	P	**P**	**06 06 05.9**	**-0.3**
	1.5nm,0.7s,baz=243,slow=4.8,SNR=5.8						
KLR				PcP	**PcP**	**06 09 56.1**	**+1.0**
	1.6nm,0.6s,baz=170,slow=0.7,SNR=5.1						
YSS	**Yuzh-Sakhalins**	**23.92**	**27**	P	**P**	**06 06 15.4**	**+0.7**
GTA	**Gaotai**	**26.27**	**306**	*eP*	**P**	**06 06 35.3**	**-1.1**
GTA				pP	sP	06 06 45.0	+0.5
GTA				sP	pP	06 06 49.3	+7.2
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
GTA				pmax	pmax		
	comp=Z,130nm,5.3s						
GTA				LR	LR		
	comp=N,140nm,15.3s						
GTA				LR	LR		
	comp=E,160nm,11.9s						
GTA				LR	LR		
	comp=Z,160nm,8.9s						
ULN	**Ulaanbaatar**	**26.61**	**329**	P	**P**	**06 06 39.6**	**+0.1**
SONM	**Songino Array**	**26.90**	**328**	P	**P**	**06 06 41.5**	**-0.5**
	5.2nm,0.6s,baz=139,slow=10,SNR=22						
SONM				PcP	**PcP**	**06 10 04.6**	**+0.7**
	0.9nm,0.6s,baz=112,slow=1.6,SNR=4.2						
SONM	**Songino Array**	**26.90**	**328**	P	**P**	**06 06 41.5**	**-0.5**
CHTO	**Chiang Mai**	**27.11**	**260**	P	**P**	**06 06 44.4**	**+0.4**
CHTO				IAmb	IAmb	06 06 46.0	
	comp=Z,9.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**27.24**	**259**	P	**P**	**06 06 46.0**	**+0.8**
	comp=Z,1.9nm,0.3s,baz=59,slow=7.8,SNR=14						
CMAR				PcP	**PcP**	**06 10 06.1**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=52,slow=2.0,SNR=6.0						
CMAR				LR	LR	06 18 44.9	
	comp=Z,62nm,18.2s,baz=190,slow=39						
CMAR	**Chiang Mai Arr**	**27.24**	**259**	P	**P**	**06 06 46.3**	**+1.1**
SBUM	**Sibu**	**27.83**	**214**	P	**P**	**06 06 53.4**	**+3.0**
TLY	**Talaya**	**30.89**	**331**	LR	LR	06 19 33.4	
	comp=Z,40nm,19.8s,baz=142,slow=36						
TLY	**Talaya**	**30.89**	**331**	P	**P**	**06 07 18.0**	**+0.6**
KULM	**Kulim**	**32.92**	**235**	P	**P**	**06 07 36.1**	**+0.6**
KULM				IAmb	IAmb	06 07 38.9	
	comp=Z,15nm,0.8s						
IPM	**Ipoh**	**33.20**	**233**	P	**P**	**06 07 37.6**	**-0.4**
IPM				IAmb	IAmb	06 07 42.0	
	comp=Z,9.6nm,0.9s						
PETK	**Petropavlovsk-**	**35.03**	**32**	P	**P**	**06 07 52.1**	**-1.4**
	comp=Z,4.7nm,

comp=Z,77nm,20.1s,baz=312,slow=36
ASAR Alice Springs 50.21 172 P P 06 09 57.5 +0.6
ABKAR Akbulak array 55.84 313 P P 06 10 36.9 -1.3
STKA Stephens Creek 59.57 166 P P 06 11 05.2 +0.7
comp=Z,2.6nm,0.6s,baz=355,slow=8.4,SNR=6.3
STKA Stephens Creek 59.57 166 P P 06 11 05.4 +0.8
TTA Tatalina 60.85 31 P P 06 11 14.1 +1.0
SVW2 Sparrevohn 61.12 33 P P 06 11 16.2 +1.3
SVW2 IAmb IAmb 06 11 28.3
comp=Z,8.2nm,1.1s
IMAR Indian Mountai 61.75 27 P P 06 11 19.8 +0.8
PPLA Purkeypile 62.60 31 P P 06 11 26.2 +1.3
KDAK Kodiak Island 62.92 36 P P 06 11 27.2 +0.2
BPAW Bear Paw Mtn. 63.03 29 P P 06 11 28.8 +1.1
TOLK Toolik Lake Re 63.23 24 P P 06 11 30.0 +1.0
TOLK IAmb IAmb 06 11 34.2
comp=Z,7.7nm,0.9s
TRF Thorofare Moun 63.40 30 P P 06 11 31.7 +1.4
TRF IAmb IAmb 06 11 36.8
comp=Z,12nm,1.3s
CNPM China Poot 63.41 34 P P 06 11 31.4 +1.1
RC01 Rabbit Creek A 63.94 32 P P 06 11 34.2 +0.5
MCK McKinley 63.97 29 P P 06 11 34.5 +0.6
RND Reindeer 64.05 30 P P 06 11 35.0 +0.5
PMR Palmer 64.16 32 P P 06 11 36.1 +0.9
CCB Clear Creek Bu 64.34 28 P P 06 11 37.1 +0.8
CCB IAmb IAmb 06 11 37.2
comp=Z,8.0nm,1.3s
IL31 64.72 28 P P 06 11 38.1 -0.5
ILAR Eielson Array 64.72 28 P P 06 11 38.1 -0.6
comp=Z,1.2nm,0.7s,baz=304,slow=9.7,SNR=15
ILAR Eielson Array 64.72 28 P P 06 11 38.4 -0.3
HDA Harding Lake 64.75 29 P P 06 11 39.0 +0.1
DHY Denali Highway 64.76 30 P P 06 11 39.6 +0.4
DHY IAmb IAmb 06 11 48.2
comp=Z,7.1nm,1.2s
FYU Fort Yukon 65.12 26 P P 06 11 42.9 +1.6
PRP Porcupine Dome 65.17 27 P P 06 11 40.8 -1.1
PRP IAmb IAmb 06 11 48.3
comp=Z,5.7nm,0.9s
BMAR Burnt Mountain 65.24 25 P P 06 11 43.4 +1.3
PAX Paxson 65.63 30 P P 06 11 45.7 +0.9
PAX IAmb IAmb 06 11 55.7
comp=Z,6.3nm,1.0s
KNTN Kanton 65.69 106 P P 06 11 46.0 +0.2
SCRK Sand Creek 66.10 29 P P 06 11 47.9 0.0
SCRK IAmb IAmb 06 11 48.2
comp=Z,7.9nm,1.0s
DOT Dot Lake 66.13 29 P P 06 11 48.2 +0.3
DOT IAmb IAmb 06 11 48.8
comp=Z,10nm,1.0s
MENT Mentasta 66.42 30 P P 06 11 50.7 +0.8
GLB Gilahina Butte 66.70 32 P P 06 11 52.6 +0.9
VRDI Verde Repeater 66.92 32 P P 06 11 53.7 +0.5
VRDI IAmb IAmb 06 11 54.4
comp=Z,9.2nm,1.0s
BCAR Beaver Creek A 67.26 30 P P 06 11 56.2 +1.1
CTGM Chitina Glacie 67.98 32 P P 06 12 00.6 +0.8
DAWY Dawson 68.05 28 P P 06 12 00.5 +0.4
KBZ Khabaz 68.32 309 P P 06 12 02.4 +0.3
comp=Z,3.6nm,0.8s,baz=118,slow=1.9,SNR=7.8
EPYK Eagle Plains 68.50 26 P P 06 12 03.3 +0.4
INK Inuvik 69.09 23 P P 06 12 06.7 +0.2
INK IAmb IAmb 06 12 08.0
comp=Z,13nm,1.0s
ARCES ARCESS Array B 69.49 338 P P 06 12 08.0 -1.0
comp=Z,0.5nm,0.4s,baz=67,slow=7.5,SNR=7.7
NOR Nord 70.66 355 *i* P P 06 12 15.6 -0.4
FINES FINESS Array B 72.24 330 P P 06 12 25.0 -0.8
comp=Z,1.4nm,0.3s,baz=54,slow=6.1,SNR=26
FINES LR LR 06 46 53.7
comp=Z,48nm,18.9s,baz=166,slow=38
FINES FINESS Array B 72.24 330 P P 06 12 25.8 0.0
AKASG Malin Array Be 74.78 319 P P 06 12 39.6 -1.4
comp=Z,0.9nm,0.3s,baz=64,slow=6.2,SNR=4.9
DAG Danmarks Havn 74.95 352 *i* P P 06 12 40.3 -1.2
RES Resolute Bay 75.54 11 P P 06 12 45.1 +0.2
RES IAmb IAmb 06 12 45.8
comp=Z,14nm,1.1s
BR131 Keskin Array S 76.18 308 P P 06 12 48.9 -0.5
BR131 IAmb IAmb 06 12 51.3
comp=Z,5.8nm,0.8s
BRTR Keskin Array B 76.18 308 P P 06 12 48.9 -0.5
comp=Z,4.2nm,0.9s,baz=102,slow=4.2,SNR=16
BRTR LR LR 06 51 10.0
comp=Z,16nm,18.8s,baz=160,slow=40
ASF Jabal al Asfar 76.67 299 P P 06 12 51.9 -0.3
comp=Z,1.1nm,0.3s,baz=190,slow=2.5,SNR=3.7
TESR Tescani 78.07 316 ⇑P P 06 12 59.5 -0.2
BIZ Bicaz 78.22 317 ⇑P P 06 12 59.2 -1.4
VRI Vrincioaia 78.30 315 ⇑P P 06 12 03.3 +1.2
BURAR Bucovina Array 78.47 318 ⇑P P 06 13 02.0 0.0
BURAR Bucovina Array 78.47 318 P P 06 13 01.8 -0.2
NB2 NORSAR Subarra 78.73 334 P P 06 13 01.4 -1.7
comp=Z,1.3nm,0.6s,baz=54,slow=6.2
NOA NORSAR Array B 78.73 334 P P 06 13 01.7 -1.4
comp=Z,0.8nm,0.6s,baz=54,slow=5.4,SNR=5.0
NOA LR LR 06 50 48.5
comp=Z,19nm,18.0s,baz=355,slow=38
YKA Yellowknife Ar 78.75 25 P P 06 13 03.5 +0.3
comp=Z,3.6nm,0.8s,baz=300,slow=5.3,SNR=14
MLR Muntele Rosu 78.96 315 ⇑P P 06 13 04.8 0.0
DOPR Dopca 79.10 316 ⇑P P 06 13 05.5 +0.1
DRGR 80.36 318 ⇑P P 06 13 13.1 +0.7
SUMG Summit 80.78 356 *i* P P 06 13 14.7 +0.2
comp=Z,33nm,1.1s
SUMG Summit 80.78 356 P P 06 13 14.7 +0.2
SUMG IAmb IAmb 06 13 15.7
comp=Z,11nm,1.0s
VYHS Vyhne 81.80 320 *e*P P 06 13 20.2 +0.3
MDVR Moldovita 81.94 316 ⇑P P 06 13 20.4 -0.3
VTS Vitosha 82.02 314 P P 06 13 21.2 -0.1
VTS IAmb IAmb 06 13 22.9
comp=Z,5.3nm,0.8s
DIVS Divibare 83.35 316 P P 06 13 27.7 -0.5
B06A Marblemount 83.47 39 P P 06 13 29.4 +0.9
B06A IAmb IAmb 06 13 30.7
comp=Z,13nm,1.1s
CONA Conrad Observa 83.79 321 *i* P P 06 13 29.8 -0.5
comp=Z,3.6nm,1.1s
F04A Amboy 84.33 41 P P 06 13 33.4 +0.4
GERES GERESS Array B 84.49 323 P P 06 13 33.1 -0.8
comp=Z,1.2nm,0.8s,baz=57,slow=4.9,SNR=10
GERES GERESS Array B 84.49 323 P P 06 13 33.2 -0.6
LTY Liberty 84.62 39 P P 06 13 34.4 -0.2
PDG Podgorica 84.66 315 ⇑P P 06 13 34.3 -0.4
B08A Colville Reser 84.76 38 P P 06 13 36.0 +0.8
B08A IAmb IAmb 06 13 36.9
comp=Z,6.5nm,0.8s
H04A Detroit Lake 85.14 42 P P 06 13 38.0 +0.9
H04A IAmb IAmb 06 13 39.0
comp=Z,3.8nm,0.9s
OBKA Obir 85.32 320 *i* P P 06 13 38.0 -0.1
comp=Z,4.1nm,1.2s
GRF Grafenberg Arr 85.33 324 *e*P P 06 13 38.6 +0.6
comp=Z,2.0nm,0.7s,baz=60,slow=4.5
ITM Ithomi 85.54 309 P P 06 13 37.8 -1.5
KBA Koelnbreinsper 85.69 321 *i* P P 06 13 38.8 -1.2
comp=Z,2.8nm,0.8s
D08A Wollman Farm, 85.72 39 P P 06 13 41.2 +1.2
D08A IAmb IAmb 06 13 42.0
comp=Z,4.4nm,0.8s
G06A Carlson Farm, 85.76 41 P P 06 13 41.5 +1.3
G06A IAmb IAmb 06 13 43.0
comp=Z,4.5nm,0.9s
NEW Newport 86.02 37 P P 06 13 42.0 +0.5
NEW IAmb IAmb 06 13 43.2
comp=Z,4.3nm,0.9s
ABTA Abfaltersbach 86.34 321 *i* P P 06 13 42.0 -1.2
comp=Z,1.8nm,0.6s
PINE Pine Mountain 86.38 42 P P 06 13 43.9 +0.4
PINE IAmb IAmb 06 13 46.2
comp=Z,8.0nm,1.0s
WTTA Wattenberg 86.53 322 *i* P P 06 13 43.4 -0.7
comp=Z,4.7nm,0.9s
MOTA Moosalm 86.78 322 *i* PcP P 06 13 45.0 -0.4
comp=Z,3.9nm,1.1s
SQTA Sankt Quirin 86.79 322 *i* P P 06 13 43.4 -2.0
comp=Z,2.2nm,0.8s
RETA Reutte 86.88 323 *i* P P 06 13 42.9 -2.9
comp=Z,2.7nm,1.1s
K05A Summer Lake 86.99 43 P P 06 13 48.4 +1.9
DAVA Damuels 87.48 323 *i* P P 06 13 45.8 -2.9
comp=Z,3.4nm,0.9s
MOD Modoc Plateau 87.81 44 P P 06 13 51.1 +0.7
MOD IAmb IAmb 06 13 52.6
comp=Z,6.6nm,0.9s
BMO Blue Mountains 87.92 40 P P 06 13 51.7 +0.9
J08A Circle Bar Ran 88.10 42 P P 06 13 52.6 +0.9
J08A IAmb IAmb 06 13 53.7
comp=Z,3.7nm,0.8s
FCC Fort Churchill 88.49 20 P P 06 13 53.3 +0.3
WVOR Wild Horse Val 88.53 43 P P 06 13 53.6 -0.3
FFC Flin Flon 88.84 26 P P 06 13 54.9 0.0
BEKR Beckworth 88.92 45 P P 06 13 56.9 +1.1
BEKR IAmb IAmb 06 13 57.6
comp=Z,5.1nm,1.1s
MFID Camas Ranch 89.63 40 P P 06 13 59.6 +0.7
MFID IAmb IAmb 06 14 01.2
comp=Z,3.8nm,1.0s
CMB Columbia Colle 89.92 47 P P 06 14 00.7 +0.3
CMB IAmb IAmb 06 14 01.5
comp=Z,4.6nm,1.1s
EGMT Eagleton 90.03 34 P P 06 14 01.2 +0.5
DLMT Dillon 90.25 38 P P 06 14 02.5 +0.7
DLMT IAmb IAmb 06 14 04.2
comp=Z,5.5nm,0.9s
HLID Hailey 90.36 40 P P 06 14 03.2 +0.7
HLID IAmb IAmb 06 14 05.1
comp=Z,3.2nm,0.8s
NVAR Mina Array Bea 91.05 46 P P 06 14 07.0 +1.2
comp=Z,1.0nm,0.7s,baz=290,slow=4.2,SNR=9.6
NVAR Mina Array Bea 91.05 46 P P 06 14 06.5 +0.6
IMW Indian Meadow 92.10 38 P P 06 14 11.4 +0.7
IMW IAmb IAmb 06 14 13.5
comp=Z,2.5nm,0.8s
FLWY Flagg Ranch 92.11 38 P P 06 14 10.6 0.0
RLMT Red Lodge 92.20 36 P P 06 14 11.2 +0.1
HWUT Hardware Ranch 93.22 40 P P 06 14 15.8 0.0
HWUT IAmb IAmb 06 14 18.1
comp=Z,5.0nm,1.0s
BW06 Boulder Array 93.60 38 P P 06 14 18.2 +0.6
BW06 IAmb IAmb 06 14 19.3
comp=Z,2.3nm,1.0s
PDAR Pinedale Array 93.60 38 P P 06 14 17.8 +0.3
comp=Z,1.3nm,0.8s,baz=333,slow=1.7,SNR=9.3
PDAR Pinedale Array 93.60 38 P P 06 14 17.9 +0.4
GSC Goldstone, Bar 93.85 47 P P 06 14 19.6 +1.0
GSC IAmb IAmb 06 14 20.6
comp=Z,4.6nm,0.9s
SHPR Sheep Range 94.20 46 P P 06 14 22.5 +2.2
SHPR IAmb IAmb 06 14 22.8
comp=Z,3.8nm,1.2s
PFO Pinyon Flats O 95.07 49 P P 06 14 24.7 +0.4
PFO IAmb IAmb 06 14 28.4
comp=Z,4.2nm,1.0s
XPFO Pion Flat 95.08 49 P P 06 14 24.3 -0.1
XPFO IAmb IAmb 06 14 28.4
comp=Z,4.3nm,1.0s
KNB Kanab 95.37 44 P P 06 14 26.4 +0.8
TORD Torodi Ar. Bea 114.03 300 PKiKP PKPdf 06 19 40.4 -0.4
comp=Z,0.6nm,0.3s,baz=139,slow=1.9,SNR=14
DBIC Dimbokro 123.06 298 PKP PKPdf 06 19 58.2 0.0
comp=Z,1.4nm,0.4s,baz=4.0,slow=2.6,SNR=6.9
VNA2 Neumayer--Watz 128.67 197 PKPdf PKPdf 06 20 08.0 +0.8
VNA3 Neumayer Olymp 129.08 197 PKPdf PKPdf 06 20 08.3 +0.3

*IDC **19** 06:15:12.9±1.4,59°.24N×145°.56W,h0km,mb3.7/3, mb1 3.8/6,mb1mx3.5/42,mbtmp3.6/6,ML3.4/3,MS2.6/1, Ms1 2.7/1,ms1mx2.3/39,Error ellipse: s-maj=28.8km s-min=19.0km az=12.0*
*NEIC **19** 06:15:13.8±1.1,59°.14N±0°.05×145°.64W±0°.05,h20km±5km, Error ellipse: s-maj=7.0km s-min=3.7km az=184.0*
*AEIC **19** 06:15:15±1.1,59°.15N±0°.04×145°.70W±0°.06,h29km±5km, ML3.3,Error ellipse: s-maj=6.4km s-min=4.1km az=195.0*
ISC 19 06:15:14.9±2.0,59°.15N±0°.06×145°.64W±0°.03,h20km±7km, n112,σ1§17/120,mb3.8/3,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MID	Middleton Isla	0.45	308			Pb	06 15 24.1	+0.1
MID				Sg		Sb	06 15 30.4	+0.1
HIN	Hinchinbrook I	1.32	341			Pn	06 15 36.9	-1.3
HIN						Sn	06 15 53.7	-1.5
RAGM	Ragged Mountai	1.33	21			Pn	06 15 37.0	-1.4
RAGM				Sn		Sn	06 15 54.9	-0.6
EYAK	Cordova Ski Ar	1.40	358			Pn	06 15 38.0	-1.2
EYAK	Cordova Ski Ar	1.40	358			Sn	06 15 55.6	-1.5
EYAK	Cordova Ski Ar	1.40	358			Sn	06 15 56.0	-1.0
GOAT	Goat Mountain	1.51	17			Pn	06 15 39.7	-1.0
GOAT						Sn	06 15 59.0	-0.8
BGLC	Bering Glacier	1.54	50			Pn	06 15 40.4	-0.8
BGLC						Sb	06 16 01.2	-0.6
BERG	Berg Lake	1.58	37			Pn	06 15 40.6	-1.2
BERG						Sn	06 16 00.6	-1.1
GRIN	Grindle Hills	1.63	45			Pn	06 15 41.9	-0.6
GRIN						Sn	06 16 00.3	+0.5
FID	Port Fidalgo	1.66	346			Pn	06 15 41.4	-1.4
KHIT	Khitrov Hills	1.77	42			Pn	06 15 43.4	-1.0
KHIT						Sn	06 16 06.5	+0.2
CYK	Cape Yakataga	1.86	58			Pn	06 15 44.9	-0.6
GLI	Glacier Island	1.88	338			Pn	06 15 44.3	-1.5
WAX	Waxell Ridge	1.92	46			Pn	06 15 45.3	-1.1
VMT	TAPS TI Valdez	1.97	350			Pn	06 15 45.8	-1.2
CRQM	Cirque	2.04	37			Pn	06 15 47.4	-0.8
MESA	MESA	2.14	60			Pn	06 15 48.3	-1.2
TGL	Tana Glacier	2.14	40			Pn	06 15 48.8	-0.8
SEW	Seward	2.16	298			Pn	06 15 48.4	-1.2
SEW				Sn		Sn	06 16 13.5	-2.2
PWL	Port Wells	2.18	323			Pn	06 15 48.1	-1.9
YAH	Yahtse	2.32	57			Pn	06 15 51.0	-1.0
PS12	TAPS Pump St12	2.34	6			Pn	06 15 51.3	-0.9
VRDI	Verde Repeater	2.35	27			Pn	06 15 51.5	-1.0
KIAG	Kiagna River	2.42	41			Pn	06 15 52.5	-0.9
O22K	Cooper Landing	2.46	305			Pn	06 15 52.1	-1.6
RKAV	Rock Avalanche	2.46	60			Pn	06 15 53.5	-0.5
GLB	Gilahina Butte	2.47	21			Pn	06 15 53.2	-0.8
BALM	Baldy	2.51	40			Pn	06 15 53.7	-0.9
GRNC	Granite Creek	2.52	49			Pn	06 15 53.9	-0.9
PTPK	Patty Peak	2.59	37			Pn	06 15 55.1	-0.6
MCARA	McCarthy VSAT	2.59	29			Pn	06 15 54.8	-0.8
KNK	Knik Glacier	2.67	329			Pn	06 15 55.6	-1.0
SLKM	Skilak Lake	2.68	302			Pn	06 15 55.8	-1.1
BRLK	Bradley Lake	2.75	285			Pn	06 15 57.1	-0.7
BARN	Barnard Glacie	2.76	44			Pn	06 15 57.6	-0.5
SCM	Sheep Creek Mo	2.82	343			Pn	06 15 58.0	-0.7
CTGM	Chitina Glacie	2.82	48			Pn	06 15 58.2	-0.7
RC01	Rabbit Creek A	2.82	315			Pn	06 15 57.4	-1.4
LOGN	Logan Glacier	2.87	52			Pn	06 15 58.8	-0.8
CNPM	China Poot	2.89	280			Pn	06 15 59.0	-0.7
PCA	Pinnacle	2.90	69			Pn	06 15 59.4	-0.4
SML	Sawmill	2.98	335			Pn	06 16 00.4	-0.6
PMR	Palmer	3.00	326			Pn	06 16 00.2	-1.0
GHO	Glory Hole Cre	3.09	330			Pn	06 16 01.6	-0.9
PNL	Peninsula	3.23	78			Pn	06 16 03.3	-1.2
SPU	Mount Spurr	3.80	305			Pn	06 16 11.0	-1.2
RSO	Redoubt South	3.83	293			Pn	06 16 11.9	-0.8
PAX	Paxson	3.83	1			Pn	06 16 12.0	-0.7
SPCG	Spurr Capps Gl	3.84	307			Pn	06 16 11.8	-1.0
IVE	Iliamna Volcan	3.85	286			Pn	06 16 13.0	0.0
RDWB	Redoubt West	3.87	293			Pn	06 16 12.8	-0.6
STLK	Strandline Lak	3.88	310			Pn	06 16 12.6	-0.7
RDJH	Redoubt Jeurge	3.89	295			Pn	06 16 12.9	-0.6
KDAK	Kodiak Island	3.90	252	Pn		Pn	06 16 12.9	-0.6
	2.1nm,0.3s,baz=54,slow=10,SNR=45							
KDAK				Sn		Sn	06 16 55.0	-3.5
	4.1nm,0.3s,baz=228,slow=20,SNR=17							
KDAK	Kodiak Island	3.90	252			Pn	06 16 12.6	-0.9
WAT1	Susitna Watana	3.95	340			Pn	06 16 13.5	-0.8
BVCY	Beaver Creek	4.03	34			Pn	06 16 15.4	+0.1
DHY	Denali Highway	4.03	349			Pn	06 16 14.8	-0.7
YUK4	Talbot Arm	4.12	55			Pn	06 16 18.4	+1.6
SPNN	North Nagishla	4.16	305			Pn	06 16 16.6	-0.6
BC03		4.35	24			Pn	06 16 19.1	-0.6
BCAR	Beaver Creek A	4.35	24	Pn		Pn	06 16 18.4	-1.4
YUK5	Granite Creek	4.37	60			Pn	06 16 20.5	+0.4
HYT	Haines Junctio	4.42	64	Pn		Pn	06 16 21.1	+0.3
OHAK	Old Harbor	4.49	248			Pn	06 16 20.6	-1.0
RND	Reindeer	4.54	341	Pn		Pn	06 16 22.7	+0.3
DOT	Dot Lake	4.58	9			Pn	06 16 22.8	-0.1
RIDG	Independent Ri	4.62	4			Pn	06 16 23.6	+0.1
TRF	Thorofare Moun	4.86	335			Pn	06 16 27.3	+0.4
MCK	McKinley	4.86	342			Pn	06 16 26.9	+0.1
KAHC	Katmai Hardscr	4.88	268			Pn	06 16 26.8	-0.4
SCRK	Sand Creek	4.91	9			Pn	06 16 26.7	-0.8
PPLA	Purkeypile	4.92	323			Pn	06 16 27.8	+0.1
HDA	Harding Lake	5.31	354			Pn	06 16 31.8	-1.2
SVW2	Sparrevohn	5.34	296			Pn	06 16 32.3	-1.0
WRH	Wood River Hil	5.46	349	Pn		Pn	06 16 34.3	-0.7
BPAW	Bear Paw Mtn.	5.58	335			Pn	06 16 36.5	-0.1
CCB	Clear Creek Bu	5.61	350			Pn	06 16 35.6	-1.3
WHY	Whitehorse	5.62	70			Pn	06 16 36.5	-0.9
BESE	Bessie Mountai	5.63	91			Sb	06 17 58.2	-1.1
IL31		5.67	355			Pn	06 16 36.2	-1.6
ILAR	Eielson Array	5.67	355	Pn		Pn	06 16 35.5	-2.3
	0.5nm,0.3s,baz=178,slow=13,SNR=26							
ILAR				LR		LR	06 19 11.6	
	comp=Z,60nm,19.3s,baz=199,slow=43							
ILAR	Eielson Array	5.67	355	Pn		Pn	06 16 36.0	-1.8
NEA2	Nenana	5.70	345			Pn	06 16 36.8	-1.4
DAWY	Dawson	5.76	28			Pn	06 16 38.7	-0.4
COLA	College	5.84	351			Pn	06 16 38.9	-1.1
JIS	Juneau Island	5.93	94	Pn		Pn	06 16 40.9	-0.5
MDM	Murphy Dome	5.95	349			Pn	06 16 40.4	-1.3
EGAK	Eagle	6.03	19	Pn		Pn	06 16 42.9	+0.1
TT01	Tatalina	6.29	311			Pn	06 16 44.9	-1.5
TTA	Tatalina	6.30	311	Pn		Pn	06 16 45.4	-1.1
WRAK	Wrangell Islan	7.62	105	Pn		Pn	06 17 03.7	-0.8
CRAG	Craig	7.72	113	Pn		Pn	06 17 03.8	-2.0
IM03		7.80	335			Pn	06 17 05.9	-1.1
IMAR	Indian Mountai	7.80	335	Pn		Pn	06 17 07.4	+0.3
DLBC	Dease Lake	8.14	88	Pn		Pn	06 17 12.1	+0.3
	0.5nm,0.3s,baz=298,slow=8.7,SNR=13							
DLBC				Sn		Sn	06 18 39.3	-3.9
	0.3nm,0.3s,baz=80,slow=24,SNR=3.5							
DLBC	Dease Lake	8.14	88			Pn	06 17 11.5	-0.4
BM03	Burnt Mountain	8.31	3			Pn	06 17 12.8	-1.3
BMAR	Burnt Mountain	8.32	3	Pn		Pn	06 17 13.5	-0.7
H02N1	VAN INLET T-PH	9.38	123	Pn		Pn	06 17 28.5	-0.4
H02N1				T		T	06 27 27.7	
	SNR=2.4							
DIB	Dawson Inlet,	9.45	123			Pn	06 17 27.3	-2.3
H02S1	DAWSON INLET T	9.45	123	Pn		Pn	06 17 28.3	-1.3
H02S1				T		T	06 27 12.9	
	SNR=3.5							
MOBC	Moresby Island	9.71	122			Pn	06 17 32.3	-0.9
YKA	Yellowknife Ar	15.41	64	Pn		P	06 18 56.3	+1.1
	0.2nm,0.3s,baz=268,slow=10,SNR=9.5							
HRY	Holter Researc	23.59	107	P		P	06 20 21.1	-2.9
H11N2	WAKE ISLAND Hy	51.99	242	T		T	07 21 45.5	
	baz=32,slow=74,SNR=6.6							
H11N3	WAKE ISLAND Hy	52.00	242	T		T	07 21 45.6	
	baz=32,slow=74,SNR=7.8							
H11N1	WAKE ISLAND Hy	52.01	242	T		T	07 22 06.3	
	baz=32							
SONM	Songino Array	58.25	311	P		P	06 25 09.5	+1.9
	0.5nm,0.5s,baz=49,slow=7.7,SNR=4.6							
MKAR	Makanchi Array	67.33	326	P		P	06 26 07.6	-0.3
	0.3nm,0.6s,baz=38,slow=8.0,SNR=2.9							
ESDC	Sonseca Array	76.53	29	P		P	06 27 04.8	+1.6
	0.6nm,0.7s,baz=339,slow=6.2,SNR=4.8							

*SNET **19** 06:33:04.2±0.6,13°.76N×90°.77W,h165km±9km,ML2.2*
*GCG **19** 06:33:07.0±0.5,14°.04N×91°.32W,h50km±20km,MD3.1*
ISC 19 06:33:00.9±3.0,13°.8N±0°.2×91°.5W±0°.1,h94km±31km,n10, σ1§92/18,Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RTAL	Retalhuleu	0.73	343	*eP*		Pn	06 33 19.4	+1.3
RTAL				*eS*		Sn	06 33 30.1	-0.8
FUG	Fuego 3	0.88	44	*eP*		Pn	06 33 20.4	+0.6
FUG				*eS*		Sn	06 33 30.4	-3.5
STG3	Santiaguito 3,	0.89	354	*eP*		Pn	06 33 21.5	+1.5
STG3				*eS*		Sn	06 33 31.7	-2.5
PCG	Pacaya	1.02	56	*eP*		Pn	06 33 22.8	+1.4
PCG				*eS*		Sn	06 33 34.9	+1.9
IXG	Ixpaco	1.07	71	*eP*		Pn	06 33 23.3	+1.5
NBG	Las Nubes	1.34	55	*eP*		Pn	06 33 26.7	+1.6
NBG				*eS*		Sn	06 33 45.1	+1.7
NUBE	Las Nubes	1.65	87	*eP*		Pn	06 33 30.9	+2.0
NUBE				IAML			06 33 32.0	
	comp=Z,50nm,0.1s							
NUBE				*eS*		Sn	06 33 50.4	+0.2
CEVE	Cerro Verde	1.80	89	*eP*		Pn	06 33 32.2	+1.2
CEVE				*eS*		Sn	06 33 54.8	+1.0
MTO3	Montecristo	2.13	74	*eP*		Pn	06 33 36.1	+0.8
MTO3				*eS*		Sn	06 33 59.8	-1.7
MTO3				IAML			06 34 09.9	
	comp=Z,9.3nm,0.4s							
BLLM	Bellamira	3.17	96	*eP*		Pn	06 33 46.6	-2.3

*NEIC **19** 06:33:40.1±1.5,59°.14N±0°.05×145°.68W±0°.07, h23km±10km,Error ellipse: s-maj=7.7km s-min=5.3km az=184.0*
AEIC 19 06:33:39±1.4,59°.12N±0°.05×145°.65W±0°.07,h11km±7km, ML3.1,Error ellipse: s-maj=7.6km s-min=5.2km az=175.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MID	Middleton Isla	0.47	312			Pb	06 33 49.6	+0.3
HIN	Hinchinbrook I	1.36	342			Pn	06 34 02.6	-1.2
HIN						Sb	06 34 19.8	-2.0
RAGM	Ragged Mountai	1.37	21			Pn	06 34 03.0	-1.0
RAGM				Sn		Sb	06 34 22.0	-0.1
EYAK	Cordova Ski Ar	1.44	358			Pn	06 34 03.6	-1.3
EYAK				Sn		Sn	06 34 22.3	-1.5
GOAT	Goat Mountain	1.54	17			Pn	06 34 05.5	-1.0
GOAT						Sn	06 34 25.4	-1.1
BGLC	Bering Glacier	1.57	49			Pn	06 34 06.3	-0.4
BERG	Berg Lake	1.62	37			Pn	06 34 06.6	-0.8
BERG						Sn	06 34 26.2	-2.0
GRIN	Grindle Hills	1.66	44			Pn	06 34 07.5	-0.5
GRIN						Sn	06 34 28.7	-0.6
FID	Port Fidalgo	1.69	346			Pn	06 34 07.0	-1.4
FID						Sn	06 34 28.6	-1.5
KHIT	Khitrov Hills	1.80	41			Pn	06 34 09.1	-1.0
KHIT						Sn	06 34 32.3	-0.6
GLI	Glacier Island	1.91	338			Pn	06 34 10.0	-1.5
WAX	Waxell Ridge	1.95	45			Pn	06 34 11.2	-0.9
WAX				Sn		Sn	06 34 34.2	-2.3
JPK	Jack Peak	2.00	347			Pn	06 34 11.6	-1.1
VMT	TAPS TI Valdez	2.01	350			Pn	06 34 12.1	-0.6
CRQM	Cirque	2.08	36			Pn	06 34 12.9	-0.9
CRQM				Sn		Sn	06 34 40.5	+0.7
MESA	MESA	2.16	59			Pn	06 34 14.2	-0.8
SEW	Seward	2.17	299			Pn	06 34 13.9	-1.1
SEW				Sn		Sn	06 34 39.1	-2.8
TGL	Tana Glacier	2.17	40			Pn	06 34 14.3	-0.9
PWL	Port Wells	2.21	323			Pn	06 34 13.8	-1.7
YAH	Yahtse	2.34	56			Pn	06 34 16.6	-0.9
PS12	TAPS Pump St12	2.38	6			Pn	06 34 17.0	-0.9
VRDI	Verde Repeater	2.39	26			Pn	06 34 17.1	-1.1
KIAG	Kiagna River	2.45	41			Pn	06 34 18.0	-1.1
O22K	Cooper Landing	2.47	305			Pn	06 34 19.2	0.0
RKAV	Rock Avalanche	2.48	60			Pn	06 34 19.1	-0.3
GLB	Gilahina Butte	2.51	21			Pn	06 34 18.6	-1.1
BALM	Baldy	2.54	39			Pn	06 34 19.2	-1.0
GRNC	Granite Creek	2.54	49			Pn	06 34 19.6	-0.8

RSO	Redoubt South	3.84	294			Pn	06 34 38.5	+0.5
IVE	Iliamna Volcan	3.86	287			Pn	06 34 38.8	+0.6
SPCG	Spurr Capps Gl	3.86	307			Pn	06 34 37.5	-0.8
PAX	Paxson	3.87	1			Pn	06 34 38.0	-0.4
KDAK	Kodiak Island	3.88	253		Pn	Pn	06 34 39.3	+0.8
RDWB	Redoubt West	3.88	294			Pn	06 34 38.1	-0.5
STLK	Strandline Lak	3.90	310			Pn	06 34 38.0	-0.7
RDJH	Redoubt Jeurge	3.90	295			Pn	06 34 38.5	-0.4
MENT	Mentasta	3.95	13			Pn	06 34 39.9	+0.5
YUK7	Dusty Glacier	4.05	66			Pn	06 34 41.2	+0.2
BVCY	Beaver Creek	4.06	33			Pn	06 34 40.5	-0.5
DHY	Denali Highway	4.06	349			Pn	06 34 40.9	-0.2
WAT2	Susitna Watana	4.12	341			Pn	06 34 40.8	-1.0
YUK4	Talbot Arm	4.15	54			Pn	06 34 43.8	+1.4
SPNN	North Nagishla	4.18	306			Pn	06 34 42.2	-0.5
BC03		4.38	24			Pn	06 34 44.9	-0.5
BCAR	Beaver Creek A	4.38	24		Pn	Pn	06 34 44.7	-0.8
HYT	Haines Junctio	4.44	64			Pn	06 34 46.1	-0.2
OHAK	Old Harbor	4.47	248			Pn	06 34 46.2	-0.3
RND	Reindeer	4.58	342			Pn	06 34 48.3	+0.2
DOT	Dot Lake	4.61	9			Pn	06 34 48.5	-0.1
RIDG	Independent Ri	4.66	4			Pn	06 34 49.1	-0.1
KAHC	Katmai Hardscr	4.88	269			Pn	06 34 52.2	-0.1
TRF	Thorofare Moun	4.89	335			Pn	06 34 53.1	+0.6
MCK	McKinley	4.89	343			Pn	06 34 52.4	0.0
SCRK	Sand Creek	4.94	9			Pn	06 34 52.5	-0.7
PPLA	Purkeypile	4.95	323			Pn	06 34 53.8	+0.5
HDA	Harding Lake	5.35	354			Pn	06 34 57.1	-1.5
SVW2	Sparrevohn	5.35	296			Pn	06 34 59.0	+0.3
WRH	Wood River Hil	5.50	349			Pn	06 35 01.1	+0.4
BPAW	Bear Paw Mtn.	5.61	335			Pn	06 35 02.2	0.0
BESE	Bessie Mountai	5.63	91		Pn	Pn	06 35 01.5	-1.0
WHY	Whitehorse	5.64	69			Pn	06 35 02.6	-0.1
CCB	Clear Creek Bu	5.64	351			Pn	06 35 01.6	-1.1
IL31		5.71	355			Pn	06 35 01.9	-1.6
ILAR	Eielson Array	5.71	355		Pn	Pn	06 35 01.8	-1.8
NEA2	Nenana	5.73	345			Pn	06 35 02.6	-1.3
CHUM	Lake Minchumin	5.75	329			Pn	06 35 03.6	-0.5
DAWY	Dawson	5.79	28			Pn	06 35 04.6	-0.2
SIT	Sitka	5.85	106		Pn	Pn	06 35 04.2	-1.3
COLA	College	5.87	351			Pn	06 35 07.0	+1.3
MDM	Murphy Dome	5.99	349		Pn	Pn	06 35 06.3	-1.1
EGAK	Eagle	6.06	19		Pn	Pn	06 35 08.3	-0.1
TT01	Tatalina	6.31	311			Pn	06 35 10.8	-1.0
FYU	Fort Yukon	7.48	1		Pn	Pn	06 35 28.2	+0.3
CRAG	Craig	7.70	113		Pn	Pn	06 35 28.8	-2.2
IM03		7.84	335			Pn	06 35 32.3	-0.4
IMAR	Indian Mountai	7.84	335		Pn	Pn	06 35 33.3	+0.6
DLBC	Dease Lake	8.15	88		Pn	Pn	06 35 38.0	+0.9
BM03	Burnt Mountain	8.35	3			Pn	06 35 39.0	-0.9
BMAR	Burnt Mountain	8.36	3		Pn	Pn	06 35 39.4	-0.5
MOBC	Moresby Island	9.69	122		Pn	Pn	06 35 58.1	-0.1
TOLK	Toolik Lake Re	9.72	351		Pn	Pn	06 36 00.5	+2.0

IDC ***19*** *06:43:34.3±12.0,* **5°98S×128°69E, h257**$_{km\pm}$141$_{km}$, **mb2.6**/1,**mb1 2.9**/4,**mb1mx2.8**/32,**mbtmp3.5**/4,**Error ellipse: s-maj=81.7km s-min=48.1km az=43.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.40**	**194**	P	Pn	06 46 23.4	+0.7
	0.1nm,0.3s,baz=10,slow=11,SNR=1.2						
FITZ				S	S	06 48 41.7	+0.8
	0.1nm,0.3s,baz=63,slow=11,SNR=2.4						
WRA	**Warramunga Arr**	**14.93**	**159**	P	P	06 46 52.6	-0.4
	0.2nm,0.3s,baz=337,slow=12,SNR=6.6						
ASAR	**Alice Springs**	**18.29**	**165**	P	P	06 47 29.6	-0.1
	0.2nm,0.3s,baz=346,slow=12,SNR=13						
MKAR	**Makanchi Array**	**66.67**	**327**	P	P	06 53 57.6	0.0
	0.2nm,0.7s,baz=147,slow=6.2,SNR=2.4						

AEIC ***19*** *06:49:08±3.0,52°.28N×0°.08×170°.11W±0°.09,h4*$_{km\pm}$*4km, ML3.5,mb3.9/4(NEIC),Error ellipse: s-maj=13.7km s-min=2.0km az=143.0*

IDC ***19*** *06:49:10.2±5.7,52°.23N×170°.22W,h40*$_{km\pm}$*50km,mb3.4/8, mb1 3.7/11,mb1mx3.5/38,mbtmp3.7/11,ML3.2/3,Error ellipse: s-maj=37.2km s-min=19.4km az=5.0*

NEIC ***19*** *06:49:11.9±2.1,52°.29N±0°.10×170°.09W±0°.09, h48*$_{km\pm}$*14km,Error ellipse: s-maj=15.0km s-min=6.6km az=158.0*

ISC 19 06:49:11.6±1.0,52°.3N±0°.1×170°.12W±0°.05,h52$_{km\pm}$**10km, n53,σ1°91/57,mb3.7/8,Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.03**	**48**		**Pn**	**06 49 28.2**	**-1.6**
NIKH				Sg	**Sn**	**06 49 42.6**	**-0.6**
NIKH	**Nikolski High**	**1.03**	**48**		**Sn**	**06 49 43.1**	**-0.1**
OKSP	**Okmok Steeple**	**1.47**	**48**		**Pn**	**06 49 35.2**	**-0.7**
OKCE	**Okmok Cone E**	**1.65**	**45**		**Pn**	**06 49 37.8**	**-0.4**
OKWE	**Okmok W'ng Wal**	**1.65**	**43**		**Pn**	**06 49 38.0**	**-0.2**
OKFG	**Magazine Ridge**	**1.75**	**49**		**Pn**	**06 49 39.3**	**-0.2**
KOSE	**Korovin Southe**	**2.41**	**273**		**Pn**	**06 49 49.4**	**+0.7**
KOFP	**Korovin Flat P**	**2.44**	**271**		**Pn**	**06 49 49.7**	**+0.6**
ATKA	**Atka Island**	**2.51**	**270**		**Pn**	**06 49 49.5**	**-0.4**
ATKA	**Atka Island**	**2.51**	**270**		**Sn**	**06 50 21.9**	**+2.8**
MREP	**Makushin Rep't**	**2.54**	**52**		**Pn**	**06 49 50.3**	**-0.2**
MSW	**Makushin Switc**	**2.59**	**50**		**Pn**	**06 49 51.8**	**+0.8**
MSW					**Sn**	**06 50 26.5**	**+5.3**
MNAT	**Makushin Natee**	**2.62**	**51**		**Pn**	**06 49 52.7**	**+1.2**
MNAT					**Sn**	**06 50 26.4**	**+4.4**
MTBL	**Makushin Table**	**2.67**	**50**		**Pn**	**06 49 53.0**	**+0.8**
UNV	**Unalaska Valle**	**2.68**	**53**		**Pn**	**06 49 51.7**	**-0.5**
UNV				Sn	**Sn**	**06 50 24.5**	**+1.0**
UNV	**Unalaska Valle**	**2.68**	**53**		**Sn**	**06 50 28.4**	**+4.9**
AKRB	**Akutan Reef Bi**	**3.06**	**51**		**Pn**	**06 49 58.8**	**+1.3**
AKRB					**Sn**	**06 50 36.9**	**+4.2**
AKUT	**Akutan**	**3.20**	**53**	Pn	**Pn**	**06 50 01.9**	**+2.5**
GSTR	**Great Sitkin T**	**3.66**	**269**	Pn	**Pn**	**06 50 06.2**	**+0.4**
GSMY	**Great Sitkin M**	**3.69**	**269**		**Pn**	**06 50 06.0**	**+0.3**
GSTD	**Great Sitkin T**	**3.72**	**269**		**Pn**	**06 50 06.2**	**-0.3**
ADK	**Adak**	**4.07**	**267**		**Pn**	**06 50 08.9**	**-2.4**
ADK	**Adak**	**4.07**	**267**	Pn	**Pn**	**06 50 08.6**	**-2.7**
KIMD	**Kanaga Island**	**4.43**	**266**		**Pn**	**06 50 16.7**	**+0.5**
SPIA	**Saint Paul Isl**	**4.90**	**359**		**Pn**	**06 50 21.4**	**-1.2**
SDPT	**Sand Point**	**6.48**	**58**	Pn	**Pn**	**06 50 44.8**	**+0.4**
OHAK	**Old Harbor**	**10.90**	**56**	Pn	**Pn**	**06 51 41.6**	**-3.1**
KDAK	**Kodiak Island**	**11.45**	**54**	P	**Pn**	**06 51 50.2**	**-2.0**
	0.2nm,0.3s,baz=250,slow=3.4,SNR=5.4						
KDAK				S	**Sn**	**06 53 52.2**	**-6.3**
	0.1nm,0.3s,baz=82,slow=21,SNR=1.5						
KDAK	**Kodiak Island**	**11.45**	**54**		**Pn**	**06 51 50.5**	**-1.8**
BPAW	**Bear Paw Mtn.**	**15.46**	**33**		**P**	**06 52 49.0**	**-0.8**
BPAW				IAmb	IAmb	06 52 55.4	
	comp=Z,4.1nm,0.7s						
ILAR	**Eielson Array**	**17.28**	**35**	P	**P**	**06 53 10.3**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=215,slow=11,SNR=2.2						
ILAR	**Eielson Array**	**17.28**	**35**	P	**Pn**	**06 53 09.5**	**+0.6**
PETK	**Petropavlovsk-**	**19.44**	**285**	P	**P**	**06 53 33.5**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=95,slow=12,SNR=9.8						
PETK	**Petropavlovsk-**	**19.44**	**285**	P	**P**	**06 53 34.5**	**+0.9**
BMAR	**Burnt Mountain**	**19.63**	**30**	P	**Pn**	**06 53 37.9**	**+0.6**
HYT	**Haines Junctio**	**19.71**	**52**	P	**Pn**	**06 53 38.8**	**+0.3**
INK	**Inuvik**	**23.67**	**34**	P	**P**	**06 54 18.0**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=231,slow=6.0,SNR=4.2						
INK	**Inuvik**	**23.67**	**34**	P	**P**	**06 54 18.5**	**+0.6**
YKA	**Yellowknife Ar**	**30.64**	**49**	P	**P**	**06 55 21.3**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=265,slow=7.3,SNR=4.2						
MCMT	**McKenzie Canyo**	**37.74**	**78**	P	**P**	**06 56 23.5**	**+1.0**
NVAR	**Mina Array Bea**	**38.12**	**90**	P	**P**	**06 56 26.6**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=301,slow=9.0,SNR=5.0						
NVAR	**Mina Array Bea**	**38.12**	**90**	P	**P**	**06 56 25.7**	**0.0**
H11S1	**WAKE ISLAND Hy**	**38.30**	**217**	T	T	07 37 37.9	
	baz=23,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**38.31**	**217**	T	T	07 37 30.1	
	baz=23,slow=76,SNR=13						
H11S3	**WAKE ISLAND Hy**	**38.31**	**217**	T	T	07 37 38.8	
	baz=23,slow=76,SNR=13						
PD31	**Pinedale Array**	**40.87**	**79**	P	**P**	**06 56 49.1**	**+0.6**
PD31				IAmb	IAmb	06 56 49.6	
	comp=Z,1.5nm,0.7s						
PDAR	**Pinedale Array**	**40.87**	**79**	P	**P**	**06 56 48.6**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=309,slow=3.8,SNR=17						
PDAR				pP	**pP**	**06 57 02.0**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=299,slow=3.7,SNR=4.6						
PDAR	**Pinedale Array**	**40.87**	**79**	P	**P**	**06 56 48.5**	**-0.1**
TXAR	**Lajitas Array**	**53.21**	**88**	P	**P**	**06 58 24.8**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=308,slow=5.2,SNR=7.1						
ARCES	**ARCESS Array B**	**57.95**	**354**	P	**P**	**06 58 58.2**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=30,slow=7.3,SNR=3.6						
MKAR	**Makanchi Array**	**63.52**	**313**	P	**P**	**06 59 35.3**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=46,slow=6.6,SNR=2.1						
ASAR	**Alice Springs**	**89.99**	**229**	P	**P**	**07 02 04.4**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=22,slow=4.6,SNR=5.2						

IDC ***19*** *07:44:22.1±1.4,3°.67N×126°.16E,h0km,mb4.0/7, mb1 4.2/7,mb1mx3.7/48,mbtmp4.0/7,Error ellipse: s-maj=78.9km s-min=17.5km az=64.0*

NEIC ***19*** *07:44:41.5±2.8,3°.37N±0°.05×125°.9E±0°.1,h175km±10km, mb4.2/12,Error ellipse: s-maj=15.9km s-min=6.7km az=90.0*

DJA ***19*** *07:44:43.1±0.5,3°.N±4°×12°6E±°,h177km±5km,M4.3/13, mB5.2/4,mb4.4/6,MLv4.2/13,Mw(mB)4.6/4*

ISC 19 07:44:43.7±0.7,3°.17N±0°.05×125°.76E±0°.07,h200$_{km}$**,n33, σ1°72/38,mb4.1/12,1D,Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.87**	**146**	P	**Pn**	**07 45 31.1**	**-0.8**
TNTI				S	**Sn**	**07 46 07.9**	**-1.6**
TNTI	**Ternate**	**2.87**	**146**		**Pn**	**07 45 31.1**	**-0.8**
TNTI				Sn	**Sn**	**07 46 07.7**	**-1.8**
KMSI	**Cibinong**	**3.13**	**215**	P	**Pn**	**07 45 32.0**	**-2.9**
KCP	**Kidapawan**	**3.88**	**350**	*eP*	**Pn**	**07 45 47.4**	**+3.3**
KCP				*i* S	**Sn**	**07 46 28.5**	**-3.0**
LBMI	**Labuha**	**4.16**	**155**	P	**Pn**	**07 45 47.4**	**-0.2**
LBMI				S	**Sn**	**07 46 36.1**	**-1.7**
MRSI	**Marisa**	**4.66**	**235**	P	**Pn**	**07 45 51.5**	**-2.3**
LUWI	**Luwuk**	**5.14**	**216**	P	**Pn**	**07 45 57.9**	**-2.0**
	0.5nm3μm73nm,0.9s						
LUWI	**Luwuk**	**5.14**	**216**	Pn	**Pn**	**07 45 59.1**	**-0.8**
LUWI				Sn	**Sn**	**07 47 03.2**	**+3.1**
SANI	**Sanana**	**5.19**	**177**	P	**Pn**	**07 45 57.7**	**-2.9**
	0.6nm4μm131nm,0.8s						
NLAI	**Namlea**	**6.50**	**168**	P	**Pn**	**07 46 15.9**	**-1.6**
	0.9nm2μm36nm,0.7s						
KNRA	**Kununurra**	**18.96**	**171**	P	**Pn**	**07 48 51.3**	**-1.8**
KNRA				IAmb	IAmb	07 48 53.6	
	comp=Z,8.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**21.13**	**180**	P	**P**	**07 49 14.1**	**+0.9**
	comp=Z,5.5nm,0.7s,baz=357,slow=8.9,SNR=20						
FITZ	**Fitzroy Crossi**	**21.13**	**180**	P	**P**	**07 49 14.1**	**+0.9**
FITZ				IAmb	IAmb	07 49 16.4	
	comp=Z,6.4nm,0.8s						
WB0	**Warramunga Arr**	**24.32**	**160**	P	**P**	**07 49 43.6**	**+0.4**
WB0				IAmb	IAmb	07 49 46.9	
	comp=Z,11nm,1.1s						
WRAB	**Tennant Creek**	**24.46**	**160**	P	**P**	**07 49 46.2**	**+1.7**
WRAB				IAmb	IAmb	07 49 48.9	
	comp=Z,7.0nm,1.0s						
WRA	**Warramunga Arr**	**24.46**	**160**	P	**P**	**07 49 46.0**	**+1.5**
	comp=Z,2.5nm,0.5s,baz=339,slow=9.9,SNR=13						
WRA	**Warramunga Arr**	**24.46**	**160**	P	**P**	**07 49 44.8**	**+0.3**
WB2	**Warramunga Arr**	**24.47**	**160**	P	**P**	**07 49 46.0**	**+1.5**
WB2				IAmb	IAmb	07 49 58.0	
	comp=Z,6.2nm,1.2s						
WR0	**Warramunga Arr**	**24.55**	**160**	P	**P**	**07 49 45.7**	**+0.4**
WR0				IAmb	IAmb	07 49 47.6	
	comp=Z,9.1nm,1.2s						
ASAR	**Alice Springs**	**27.82**	**164**	P	**P**	**07 50 16.1**	**+1.4**
	comp=Z,0.5nm,0.7s,baz=344,slow=6.8,SNR=6.1						
CMAR	**Chiang Mai Arr**	**30.33**	**302**	P	**P**	**07 50 37.1**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=119,slow=7.3,SNR=4.2						
CMAR	**Chiang Mai Arr**	**30.33**	**302**	P	**P**	**07 50 36.8**	**-0.1**
FORT	**Forrest**	**33.83**	**176**	P	**P**	**07 51 07.7**	**+0.6**
BBOO	**Buckleboo**	**37.09**	**166**	P	**P**	**07 51 36.6**	**+1.7**
STKA	**Stephens Creek**	**37.96**	**158**	P	**P**	**07 51 44.7**	**+2.5**
	comp=Z,1.4nm,0.6s,baz=359,slow=8.9,SNR=4.0						
STKA	**Stephens Creek**	**37.96**	**158**	P	**P**	**07 51 44.5**	**+2.2**
MK31	**Makanchi Array**	**57.47**	**326**	P	**P**	**07 54 11.9**	**0.0**
MKAR	**Makanchi Array**	**57.47**	**326**	P	**P**	**07 54 11.6**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=126,slow=8.9,SNR=4.0						
MKAR	**Makanchi Array**	**57.47**	**326**	P	**P**	**07 54 12.6**	**+0.7**
KURBB	**Kurchatov Arra**	**61.69**	**328**	P	**P**	**07 54 40.2**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=128,slow=6.3,SNR=6.2						
KURK	**Kurchatov**	**61.70**	**328**	P	**P**	**07 54 40.0**	**-0.6**
KURK				IAmb	IAmb	07 54 42.1	
	comp=Z,4.5nm,0.8s						
ABKAR	**Akbulak array**	**71.97**	**321**	P	**P**	**07 55 46.6**	**+1.1**
IMAR	**Indian Mountai**	**83.25**	**24**	P	**P**	**07 56 46.0**	**-1.5**

IDC ***19*** *07:45:46.5±1.4,49°.33N×86°.68E,h0km,mb3.9/7, mb1 4.0/12,mb1mx3.7/49,mbtmp4.0/12,ML3.6/5,Error ellipse: s-maj=16.9km s-min=12.9km az=96.0*

MOS ***19*** *07:45:46.4±1.5,49°.28N×86°.48E,h8km,mb4.5/6,Error ellipse: s-maj=9.3km s-min=7.0km az=63.2*

SOME ***19*** *07:45:47.4,48°.85N×86°.53E,h5km*

ASRS ***19*** *07:45:48.2±0.2,49°.N±1°×8°7E±°,h10km,MLh4.3/14, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

NEIC ***19*** *07:45:48.2±2.5,49°.24N±0°.07×86°.5E±0°.2,h10km±2km, mb4.3/7,Error ellipse: s-maj=19.4km s-min=11.5km az=108.0*

NNC ***19*** *07:45:49.8±1.0,49°.35N×86°.35E,h0km,mb4.3,mpv3.9, Error ellipse: s-maj=8.9km s-min=3.8km az=103.0*

BJI ***19*** *07:45:50.3±0.0,48°.93N×86°.47E,h7km,mb4.3/2,ML3.7/8, Ms3.5/2*

ISC 19 07:45:48.1±0.8,49°.28N±0°.02×86°.63E±0°.02,h10$_{km\pm}$**5km, n115,σ2°15/173,mb4.1/12,23C-13D, Kazakhstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGZ	**Jazzator, Alta**	**0.67**	**51**	Pg	**Pg**	**07 46 00.8**	**-0.5**
DGZ				Sg	**Sg**	**07 46 10.2**	**+0.1**
DGZ	**Jazzator, Alta**	**0.67**	**51**	*d* PG	**Pg**	**07 46 00.7**	**-0.5**
TUNR	**Tungur**	**0.90**	**348**	Pg	**Pg**	**07 46 05.5**	**0.0**
TUNR				Sg	**Sb**	**07 46 17.9**	**-0.1**
CHBI	**Chibit, Altay**	**1.18**	**28**	Pg	**Pg**	**07 46 10.6**	**-0.2**
CHBI				Sg	**Sg**	**07 46 27.2**	**+1.1**
CHBI	**Chibit, Altay**	**1.18**	**28**	PG	**Pg**	**07 46 10.6**	**-0.2**
CHBI						07 46 27.2	
AKAR	**Aktash**	**1.23**	**31**	Pg	**Pn**	**07 46 11.4**	**0.0**
AKAR				Sg	**Sg**	**07 46 28.6**	**+1.0**
AKAR	**Aktash**	**1.23**	**31**	PG	**Pn**	**07 46 11.4**	**0.0**
AKAR						07 46 28.8	
CUR	**Chagan-Uzun**	**1.39**	**53**	Pg	**Pn**	**07 46 14.0**	**+0.2**
CUR				Sg	**Sn**	**07 46 33.1**	**+0.9**
CUR	**Chagan-Uzun**	**1.39**	**53**	PG	**Pn**	**07 46 13.9**	**+0.2**
CUR						07 46 33.1	
ELDR	**Elanda**	**1.97**	**350**	Pg	**Pb**	**07 46 24.5**	**+0.4**
ELDR				Sg	**Sg**	**07 46 51.5**	**+0.1**
UKR	**Ust'-Kan**	**2.04**	**325**	Pg	**Pg**	**07 46 26.7**	**-0.7**
UKR				Sg	**Sg**	**07 46 54.8**	**+1.0**
UKR	**Ust'-Kan**	**2.04**	**325**	PN	**Pg**	**07 46 26.6**	**-0.7**
UKR						07 46 54.7	
ZSN	**Zaisan**	**2.17**	**213**	*eP*	**Pb**	**07 46 25.8**	**-1.8**
	566nm,0.5s						
ZSN				*eS*	**Sb**	**07 46 54.5**	**0.0**
	1μm,0.4s						
ZSN	**Zaisan**	**2.17**	**213**	*e*PN	**Pb**	**07 46 25.8**	**-1.8**
ZSN				*eS*	**Sb**	**07 46 54.6**	**0.0**
ARTR	**Artybash**	**2.56**	**9**	Pg	**Pb**	**07 46 35.3**	**+1.2**
ARTR				Sg	**Sg**	**07 47 09.6**	**-0.6**
ARTR	**Artybash**	**2.56**	**9**	PN	**Pb**	**07 46 35.4**	**+1.3**
ARTR						07 47 09.5	
GALT	**Gorno-Altaysk,**	**2.72**	**351**	Sg	**Sg**	**07 47 14.8**	**-0.6**
TASR	**Tashtagol**	**3.57**	**12**	Pg	**Pb**	**07 46 54.2**	**+2.8**
TASR				Sg	**Sg**	**07 47 40.7**	**-2.1**
TASR	**Tashtagol**	**3.57**	**12**	PN	**Pb**	**07 46 53.9**	**+2.5**
MK31	**Makanchi Array**	**3.83**	**231**	P	**Pn**	**07 46 49.0**	**+1.9**
	5.5nm,0.2s,baz=55,slow=12,SNR=1427						
MK31				Pg	**Pb**	**07 46 57.4**	**+1.7**
	16nm,0.3s,baz=59,slow=15,SNR=28						
MK31				Sn	**Sn**	**07 47 34.6**	**+2.4**
	70nm,0.5s,baz=46,slow=22,SNR=7.8						
MK31				Lg	Lg	07 47 47.1	
	98nm,0.6s,baz=59,slow=27,SNR=4.2						
MK31	**Makanchi Array**	**3.83**	**231**	PN	**Pn**	**07 46 49.0**	**+1.9**
MK31	**Makanchi Array**	**3.83**	**231**		**Pn**	**07 46 49.0**	**+1.9**
MKAR	**Makanchi Array**	**3.83**	**231**	Pn	**Pn**	**07 46 49.0**	**+1.9**
	14nm,0.3s,baz=53,slow=14,SNR=901						
MKAR				Sn	**Sn**	**07 47 34.7**	**+2.5**
	66nm,0.3s,baz=56,slow=26,SNR=12						
MKAR	**Makanchi Array**	**3.83**	**231**	Pn	**Pn**	**07 46 48.9**	**+1.9**
MKAR				Pg	**Pg**	**07 46 59.0**	**-2.4**
MKAR				S	**Sn**	**07 47 35.0**	**+2.9**
MKAR				Sg	**Sg**	**07 47 52.3**	**+1.3**
MKAR	**Makanchi Array**	**3.83**	**231**	*i* PN	**Pn**	**07 46 49.0**	**+1.9**
MKAR				pmax	pmax		
	comp=Z,21nm,0.3s						
MAKZ	**Makanchi**	**3.98**	**233**	Pg	**Pn**	**07 46 51.0**	**+1.8**
MAKZ				Pg	**Pg**	**07 47 00.9**	**-3.5**
MAKZ				S	**Sn**	**07 47 37.9**	**+2.0**
MAKZ				Sg	**Sg**	**07 47 56.2**	**+0.4**
MAKZ	**Makanchi**	**3.98**	**233**	⇓Pn	**Pn**	**07 46 50.9**	**+1.8**
	comp=Z,11nm,0.4s						
MAKZ				⇑Pg	**Pb**	**07 47 00.0**	**+1.7**
	comp=Z,30nm,0.5s						
MAKZ				⇓Sn	**Sn**	**07 47 38.4**	**+2.5**
	comp=Z,83nm,0.6s						
MAKZ				⇑Lg	Lg	07 47 51.2	
	comp=Z,117nm,0.8s						
MAKZ	**Makanchi**	**3.98**	**233**	PN	**Pn**	**07 46 50.4**	**+1.2**
MAKZ	**Makanchi**	**3.98**	**233**		**Pn**	**07 46 50.4**	**+1.2**
ELT	**Eltsovka**	**4.00**	**357**	Pn	**Pn**	**07 46 53.4**	**+4.1**
ELT				Pg	**Pb**	**07 47 00.7**	**+2.1**
ELT				S	**Sn**	**07 47 39.8**	**+3.6**
ELT				Sg	**Sg**	**07 47 54.6**	**-1.7**
ELT	**Eltsovka**	**4.00**	**357**	PN	**Pb**	**07 47 01.4**	**+2.8**
SEM	**Semipalatinsk**	**4.28**	**288**	*eP*	**Pg**	**07 47 06.5**	**-3.6**
	comp=Z,21nm,0.2s						
SEM				*eS*	**Sg**	**07 48 03.6**	**-1.9**
	comp=Z,166nm,0.4s						
SEM	**Semipalatinsk**	**4.28**	**288**	*e*PN	**Pg**	**07 47 06.5**	**-3.6**
SEM				*eS*	**Sg**	**07 48 03.6**	**-1.9**
DJO	**Djoy, Khakassi**	**4.55**	**38**	Pg	**Pb**	**07 47 12.1**	**+4.1**
DJO				Sg	**Sg**	**07 48 11.4**	**-2.7**
DJO	**Djoy, Khakassi**	**4.55**	**38**	PN	**Pb**	**07 47 12.1**	**+4.1**
DJO						07 48 11.3	
VEH	**Verkhnyaya Baz**	**4.60**	**29**	Pn	**Pn**	**07 47 01.6**	**+3.8**
VEH				Pg	**Pb**	**07 47 11.5**	**+2.4**
VEH				Sg	**Sg**	**07 48 12.6**	**-3.2**
VEH	**Verkhnyaya Baz**	**4.60**	**29**	PN	**Pb**	**07 47 11.4**	**+2.4**
LUZB	**Luzhba, Kemero**	**4.61**	**17**	P	**Pn**	**07 47 01.9**	**+4.0**
LUZB				Pg	**Pb**	**07 47 12.7**	**+3.6**
LUZB				S	**Sn**	**07 47 56.1**	**+4.6**
LUZB				Sg	**Sg**	**07 48 15.7**	**-0.4**
DJOS	**Djoyskaya Sosn**	**4.63**	**39**	Pg	Pb	07 47 14.4	+4.9
DJOS				Sg	**Sg**	**07 48 16.2**	**-0.5**
DJOS	**Djoyskaya Sosn**	**4.63**	**39**	PN	Pb	07 47 14.3	+4.9
CERR	**Cheremushki**	**4.68**	**38**	Pg	**Pb**	**07 47 14.0**	**+3.8**
CERR				Sg	**Sg**	**07 48 18.6**	**+0.3**
CERR	**Cheremushki**	**4.68**	**38**	PN	**Pb**	**07 47 14.0**	**+3.8**
ZAA0	**Zalesovo Array**	**4.81**	**347**	⇑Pn	**Pn**	**07 47 03.0**	**+2.5**
	comp=Z,3.5nm,0.5s						
ZAA0				⇓Sn	**Sn**	**07 47 58.2**	**+2.0**
	comp=Z,4.9nm,0.3s						
ZAA0				⇑Lg	Lg	07 48 18.3	
	comp=Z,13nm,0.6s						
ZAA0	**Zalesovo Array**	**4.81**	**347**		**Pn**	**07 47 02.7**	**+2.2**
ZALV	**Zalesovo Beam**	**4.81**	**347**	Pn	**Pn**	**07 47 02.9**	**+2.3**
	comp=Z,12nm,0.3s,baz=169,slow=14,SNR=83						
ZALV				Sn	**Sn**	**07 47 58.4**	**+2.1**
	comp=Z,21nm,0.3

BRVK	**Borovoye**	**10.93**	**296**		**Pn**	**Pn**	**07 48 23.8 -0.7**
KK31	**Karatay Array**	**12.75**	**247**	⇑Pn	**Pn**	**Pn**	**07 48 48.2 -1.1**
	comp=Z,0.7nm,0.3s,baz=56,slow=13,SNR=19						
KK31				⇓Sn	**Sn**	**Sn**	**07 51 10.0 -1.4**
	comp=Z,3.1nm,0.7s						
KK31				⇓⇓Lg	Lg	Lg	07 52 33.0
	comp=Z,5.7nm,0.6s,baz=48,slow=28,SNR=4.5						
KK31	**Karatay Array**	**12.75**	**247**	P	**Pn**	**Pn**	**07 48 46.8 -2.6**
KK31	**Karatay Array**	**12.75**	**247**		**Pn**	**Pn**	**07 48 46.8 -2.6**
KKAR	**Karatay Array**	**12.75**	**247**	Pn	**Pn**	**Pn**	**07 48 46.8 -2.6**
KKAR				S	**Sn**	**Sn**	**07 51 06.3 -5.0**
KKAR	**Karatay Array**	**12.75**	**247**	P	**Pn**	**Pn**	**07 48 47.4 -2.0**
KKAR	**Karatay Array**	**12.75**	**247**		**Pn**	**Pn**	**07 48 47.4 -2.0**
KKAR	**Karatay Array**	**12.75**	**247**		**Pn**	**Pn**	**07 48 47.6 -1.8**
GTA	**Gaotai**	**13.63**	**131**	*e*P	**Pn**	**Pn**	**07 49 05.1 +3.6**
GTA				pP	P	P	07 49 09.5 -1.0
GTA				sP			07 49 12.3
GTA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
ABKAR	**Akbulak array**	**17.39**	**280**	Pn	**Pn**	**Pn**	**07 49 48.7 -2.0**
ARU	**Arti**	**18.30**	**304**	P	**P**	**P**	**07 50 03.3 +1.3**
	comp=Z,0.0nm,0.3s,baz=144,slow=15,SNR=3.2						
ARU	**Arti**	**18.30**	**304**	P	**P**	**P**	**07 50 02.9 +0.9**
NRIK	**Noril'sk**	**20.13**	**1**	⇑eP	Pn	Pn	07 50 24.5 +0.8
HIA	**Hailar**	**21.52**	**77**	⇑eP	**P**	**P**	**07 50 36.3 -0.8**
HIA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GEYT	**Alibeck**	**23.41**	**252**	P	**P**	**P**	**07 50 58.3 +1.1**
	comp=Z,1.5nm,0.6s,baz=101,slow=2.9,SNR=3.8						
GEYT	**Alibeck**	**23.41**	**252**	P	**P**	**P**	**07 50 57.0 -0.2**
KIRV	**Kirov**	**23.52**	**307**	⇓eP	**P**	**P**	**07 50 56.9 -1.0**
KBZ	**Khabaz**	**30.27**	**276**	⇑eP	**P**	**P**	**07 51 59.1 0.0**
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.4s						
KIV	**Kislovodsk**	**30.31**	**277**	eP	**P**	**P**	**07 52 00.1 +0.5**
KIV				pmax	pmax		
	comp=Z,11nm,0.9s						
OBN	**Obninsk**	**30.67**	**300**	*i* P	**P**	**P**	**07 52 01.4 -1.1**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ARCES	**ARCESS Array B**	**35.05**	**328**	P	**P**	**P**	**07 52 41.3 +0.7**
	comp=Z,2.8nm,0.9s,baz=81,slow=8.3,SNR=6.8						
FINES	**FINESS Array B**	**35.17**	**313**	P	**P**	**P**	**07 52 41.7 0.0**
	comp=Z,2.6nm,1.1s,baz=90,slow=7.1,SNR=1.2						
AKASG	**Malin Array Be**	**36.14**	**295**	P	**P**	**P**	**07 52 49.1 -1.0**
	comp=Z,0.9nm,0.3s,baz=65,slow=8.7,SNR=4.3						
AKASG	**Malin Array Be**	**36.14**	**295**	P	**P**	**P**	**07 52 49.0 -1.2**
BRTR	**Keskin Array B**	**38.27**	**276**	P	**P**	**P**	**07 53 08.7 +0.1**
	comp=Z,0.9nm,0.7s,baz=75,slow=6.3,SNR=3.8						
BRTR	**Keskin Array B**	**38.27**	**276**	*i* P	**P**	**P**	**07 53 07.6 -1.0**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BRTR	**Keskin Array B**	**38.27**	**276**	P	**P**	**P**	**07 53 07.9 -0.6**
OJC	**Ojcow**	**41.87**	**298**	P	**P**	**P**	**07 53 38.2 +0.1**
OJC				pmax	pmax		
	comp=Z,5.0nm,1.1s						
OJC	**Ojcow**	**41.87**	**298**	P	**P**	**P**	**07 53 38.2 +0.1**
OJC				IAmb	IAmb	IAmb	07 53 38.9
	comp=Z,5.0nm,1.1s						
NOA	**NORSAR Array B**	**42.23**	**316**	P	**P**	**P**	**07 53 40.2 -0.8**
	comp=Z,0.5nm,0.7s,baz=72,slow=8.8,SNR=5.2						
VYHS	**Vyhne**	**43.20**	**296**	*e*P	**P**	**P**	**07 53 48.1 -0.9**
VYHS	**Vyhne**	**43.20**	**296**	*e*P	**P**	**P**	**07 53 48.1 -0.9**
ITM	**Ithomi**	**47.29**	**281**	P	**P**	**P**	**07 54 19.8 -1.8**
TOA0	**Torodi Ar. Sit**	**76.87**	**275**	P	**P**	**P**	**07 57 39.4 -1.1**
TOA0				IAmb	IAmb	IAmb	07 57 39.9
	comp=Z,3.2nm,1.0s						
TORD	**Torodi Ar. Bea**	**76.87**	**275**	P	**P**	**P**	**07 57 39.3 -1.3**
	comp=Z,1.3nm,0.4s,baz=40,slow=4.8,SNR=15						
TORD	**Torodi Ar. Bea**	**76.87**	**275**	P	**P**	**P**	**07 57 39.2 -1.3**
WRA	**Warramunga Arr**	**80.89**	**135**	*i* P	**P**	**P**	**07 58 02.4 +0.1**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.1s						

IDC 19 08:03:29.7±2.2, 7.58S×130.61E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.2/33, mbtmp3.6/3, ML3.4/2, MS3.6/1, Ms1 3.5/1, ms1mx2.6/21, Error ellipse: s-maj=69.3km s-min=27.5km az=84.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**11.52**	**204**	Pn	Pn	08 06 15.1	-0.6
	baz=21,slow=10						
FITZ				Sn	Sn	08 08 27.2	+2.1
	0.1nm,0.3s,baz=90,slow=23,SNR=1.8						
WRA	**Warramunga Arr**	**12.81**	**164**	Pn	Pn	08 06 33.9	+0.5
	0.2nm,0.3s,baz=347,slow=13,SNR=6.4						
WRA				Sn	Sn	08 09 02.8	+5.9
	0.2nm,0.3s,baz=354,slow=23,SNR=1.9						
ASAR	**Alice Springs**	**16.31**	**169**	Pn	Pn	08 07 20.1	-0.3
	0.2nm,0.3s,baz=352,slow=10,SNR=14						
STKA	**Stephens Creek**	**26.26**	**158**	LR	LR	08 20 47.6	
	comp=Z,116nm,19.2s,baz=193,slow=40						
MKAR	**Makanchi Array**	**69.03**	**327**	P	P	08 14 37.4	+0.1
	0.4nm,0.8s,baz=140,slow=7.6,SNR=4.4						

IDC 19 08:06:19.2±1.7, 5.07S×152.15E, h79km±13km, mb3.4/4, mb1 3.6/4, mb1mx3.1/38, mbtmp3.7/4, Error ellipse: s-maj=34.0km s-min=18.5km az=132.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**0.77**	**351**	P	Pn	08 06 34.3	-1.3
	338nm,0.3s,baz=171,slow=1.9,SNR=154						
KRVT				S	Sn	08 06 49.0	+1.3
	388nm,0.3s,baz=172,slow=23,SNR=23						
WRA	**Warramunga Arr**	**22.78**	**228**	P	P	08 11 15.8	+0.3
	0.8nm,0.4s,baz=53,slow=10,SNR=6.7						
ASAR	**Alice Springs**	**25.51**	**222**	P	P	08 11 41.3	+0.8
	0.7nm,0.5s,baz=57,slow=9.1,SNR=8.4						
SONM	**Songino Array**	**66.21**	**328**	P	P	08 16 58.2	-0.6
	1.0nm,0.6s,baz=144,slow=6.3,SNR=4.8						
ILAR	**Eielson Array**	**82.66**	**22**	P	P	08 18 34.2	+0.5
	0.4nm,0.8s,baz=241,slow=5.0,SNR=3.5						

*TAP **19** 08:28:41.5, 23.18N×120.84E, h5km, ML3.6, C*
*JMA **19** 08:28:41.0, 23.21N×120.85E, h0km, M3.4*
ISC 19 08:28:42.1±0.9, 23.20N±0.01×120.84E±0.01, h7km±6km, n103, σ092/169, 11C-7D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STYT	**Tauyuan**	**0.09**	**242**	⇑*i* P	**Pg**	**08 28 43.7**	**-0.5**
	baz=254						
STYT				*i* S	**Sg**	**08 28 45.0**	**-0.7**
	baz=254						
ELDTW	**Lidau**	**0.16**	**95**	P	**Pg**	**08 28 45.8**	**+0.3**
	baz=88						
ELDTW				*e*S	**Sg**	**08 28 48.6**	**+0.7**
	baz=88						
WTP	**Ta-pu**	**0.21**	**282**	⇓*i* P	**Pg**	**08 28 46.8**	**+0.4**
	baz=287						
WTP				S	**Sg**	**08 28 50.4**	**+1.2**
	baz=287						
TPUB	**Ta-pu**	**0.22**	**297**	⇓*i* P	**Pg**	**08 28 47.0**	**+0.6**
	baz=301						
TPUB				*i* S	**Sg**	**08 28 50.6**	**+1.2**
	baz=301						
SGST	**Jiashian**	**0.27**	**243**	⇑*i* P	**Pg**	**08 28 46.8**	**-0.6**
	baz=245						
SGST				S	**Sg**	**08 28 50.8**	**-0.1**
	baz=245						
CHN4	**Tsaushan**	**0.27**	**303**	⇓*i* P	**Pg**	**08 28 48.3**	**+0.8**
	baz=315						
CHN4				*e*S	**Sb**	**08 28 53.0**	**-1.2**
	baz=315						
SLGT	**Liugui**	**0.27**	**220**	⇑*i* P	**Pg**	**08 28 47.6**	**+0.1**
	baz=218						
SLGT				*e*S	**Sg**	**08 28 51.9**	**+0.7**
	baz=218						
CHN1	**Nanshi**	**0.29**	**266**	⇓*i* P	**Pg**	**08 28 48.6**	**+0.8**
	baz=270						
CHN1				*e*S	**Sb**	**08 28 53.5**	**-1.1**
	baz=270						
ALS	**Alishan**	**0.31**	**354**	⇑*i* P	**Pg**	**08 28 48.7**	**+0.4**
	baz=355						
ALS				*e*S	**Sg**	**08 28 53.6**	**+1.2**
	baz=355						
SNST	**Tainan City**	**0.32**	**273**	⇓*i* P	**Pb**	**08 28 49.3**	**-0.8**
	baz=276						
SNST				*e*S	**Sb**	**08 28 54.9**	**-0.5**
	baz=276						
TWK	**Hsinying**	**0.33**	**281**	⇓*i* P	**Pb**	**08 28 49.5**	**-0.9**
	baz=284						
TWK				*e*S	**Sb**	**08 28 55.4**	**-0.5**
	baz=284						
FULB	**Fuli**	**0.42**	**91**	P	**Pb**	**08 28 51.2**	**-0.7**
	baz=78						
FULB				*e*S	**Sb**	**08 28 57.7**	**-0.8**
	baz=78						
CHN5	**Tsauling**	**0.42**	**339**	⇑*i* P	**Pb**	**08 28 51.1**	**-0.9**
	baz=349						
CHN5				*e*S	**Sb**	**08 28 58.0**	**-0.6**
	baz=349						
TWG	**Pinlang**	**0.44**	**151**	P	**Pg**	**08 28 50.7**	**+0.1**
	baz=149						
TWG				*e*S	**Sg**	**08 28 56.5**	**+0.1**
	baz=149						
TWGBT	**Beinan**	**0.44**	**150**	*e*P	**Pg**	**08 28 50.6**	**-0.1**
	baz=149						
TWGBT				S	**Sg**	**08 28 56.5**	**0.0**
	baz=149						
TWF1	**Yuli**	**0.45**	**71**	⇑*i* P	**Pg**	**08 28 51.2**	**+0.4**
	baz=69						
TWF1				S	**Sg**	**08 28 56.7**	**0.0**
	baz=69						
CHN3	**Shinhua**	**0.45**	**254**	*e*P	**Pb**	**08 28 53.4**	**+0.9**
	baz=255						
CHN3				*e*S	**Sb**	**08 29 02.2**	**+2.8**
	baz=255						
YULB	**Yu-li**	**0.46**	**66**	⇑*i* P	**Pg**	**08 28 51.2**	**+0.1**
	baz=65						
YULB				*e*S	**Sg**	**08 28 56.8**	**-0.3**
	baz=65						
CHY	**Chiayi**	**0.48**	**308**	⇓*i* P	**Pb**	**08 28 52.8**	**-0.1**
	baz=309						
CHY				S	**Sb**	**08 29 00.8**	**+0.6**
	baz=309						
WHYT	**Xinyi Township**	**0.49**	**2**	⇑*i* P	**Pg**	**08 28 52.1**	**+0.4**
	baz=10.0						
WHYT				*e*S	**Sg**	**08 28 59.1**	**+1.0**
	baz=10.0						
SSD	**Sandimen**	**0.49**	**203**	⇑*i* P	**Pg**	**08 28 51.3**	**-0.4**
	baz=198						
SSD				*e*S	**Sg**	**08 28 57.5**	**-0.6**
	baz=198						
CHKT	**Chengkung**	**0.49**	**102**	*e*P	**Pb**	**08 28 53.0**	**-0.1**
	baz=100						
CHKT				*e*S	**Sb**	**08 29 01.5**	**+0.9**
	baz=100						
TTN	**Taitung**	**0.53**	**148**	*e*P	**Pb**	**08 28 53.4**	**-0.4**
	baz=157						
TTN				*e*S	**Sb**	**08 29 01.7**	**+0.1**
	baz=157						
EHY	**Hungye**	**0.54**	**56**	*i* P	**Pg**	**08 28 52.7**	**+0.2**
	baz=55						
EHY				*e*S	**Sg**	**08 28 59.5**	**-0.1**
	baz=55						
TWM1	**Shoushan**	**0.54**	**225**	*e*P	**Pb**	**08 28 54.0**	**+0.1**
	baz=218						
TWM1				*e*S	**Sb**	**08 29 02.3**	**+0.4**
	baz=218						
WGK	**Gukeng**	**0.54**	**332**	*e*P	**Pb**	**08 28 54.1**	**+0.1**
	baz=332						
WGK				*e*S	**Sb**	**08 29 03.2**	**+1.2**
	baz=332						
WDLH	**Douliu**	**0.56**	**330**	P	**Pb**	**08 28 54.7**	**+0.5**
	baz=330						
WDLH				*e*S	**Sb**	**08 29 03.8**	**+1.4**
	baz=330						
WLGB	**Puzi**	**0.57**	**299**	*e*S	**Sn**	**08 29 04.6**	**-1.6**
	baz=300						
SSLB	**Suanglung**	**0.59**	**10**	P	**Pg**	**08 28 53.3**	**-0.2**
	baz=17						
SSLB				*e*S	**Sb**	**08 29 02.9**	**-0.6**
	baz=17						
SCLT	**Jiali**	**0.59**	**267**	*e*P	**Pg**	**08 28 53.9**	**+0.3**
	baz=268						
SCLT				*e*S	**Sn**	**08 29 06.5**	**-0.4**
	baz=268						
CHN8	**Yiju**	**0.59**	**284**	*e*P	**Pg**	**08 28 53.3**	**-0.3**
	baz=285						
CHN8				*e*S	**Sn**	**08 29 05.5**	**-1.5**
	baz=285						
ECL	**Taimali**	**0.61**	**170**	*e*P	**Pg**	**08 28 53.5**	**-0.4**
	baz=159						
ECL				*e*S	**Sb**	**08 29 03.0**	**-1.0**
	baz=159						
VWDT	**VWDT**	**0.61**	**27**	⇑*i* P	**Pg**	**08 28 54.1**	**+0.1**
	baz=28						
VWDT				*e*S	**Sg**	**08 29 02.0**	**0.0**
	baz=28						
MASBT	**Mashibuluo**	**0.62**	**198**	⇑*i* P	**Pg**	**08 28 53.5**	**-0.5**
	baz=204						
MASBT				*e*S	**Sg**	**08 29 00.7**	**-1.5**
	baz=204						
WJS	**Zhushan**	**0.62**	**351**	*e*P	**Pb**	**08 28 55.4**	**0.0**
	baz=350						
WJS				*e*S	**Sb**	**08 29 05.2**	**+0.8**
	baz=350						
SNJT	**Kaohsiung City**	**0.65**	**226**	P	**Pn**	**08 28 57.9**	**+0.2**
	baz=227						
SNJT				*e*S	**Sn**	**08 29 09.4**	**+1.3**
	baz=227						
SMLT	**Sun Moon Lake**	**0.68**	**5**	*i* P	**Pb**	**08 28 55.8**	**-0.6**
	baz=14						
SMLT				*e*S	**Sb**	**08 29 06.6**	**+0.6**
	baz=14						
WNT	**Mingjian**	**0.69**	**348**	P	**Pb**	**08 28 57.1**	**+0.6**
	baz=348						
WNT				*e*S	**Sn**	**08 29 07.8**	**-1.4**
	baz=348						
TYC	**Yuchr**	**0.70**	**1**	*i* P	**Pb**	**08 28 56.3**	**-0.3**
	baz=11						
TYC				*e*S	**Sn**	**08 29 08.3**	**-1.2**
	baz=11						
EGFH	**Guangfu**	**0.71**	**49**	*e*P	**Pg**	**08 28 56.1**	**+0.2**
	baz=57						
EGFH				*e*S	**Sg**	**08 29 04.7**	**-0.4**
	baz=57						
WSF	**Szhu**	**0.71**	**307**	*e*P	**Pn**	**08 28 58.4**	**-0.3**
	baz=308						
WSF				*e*S	**Sn**	**08 29 08.7**	**-1.2**
	baz=308						
SSPT	**Xinbi**	**0.76**	**199**	*i* P	**Pg**	**08 28 56.9**	**+0.1**
	baz=203						
EAST	**Anshuo**	**0.82**	**179**	P	**Pg**	**08 28 57.1**	**-0.7**
	baz=172						
EAST				*e*S	**Sg**	**08 29 07.2**	**-1.3**
	baz=172						
ESL	**Shilin**	**0.82**	**42**	P	**Pb**	**08 28 58.2**	**-0.5**
	baz=43						
ESL				*e*S	**Sg**	**08 29 08.9**	**+0.4**
	baz=43						
DPDB	**Guoxing**	**0.83**	**6**	P	**Pb**	**08 28 58.6**	**-0.4**
	baz=15						
DPDB				*e*S	**Sn**	**08 29 11.5**	**-1.4**
	baz=15						
WTCT	**Ta-eh'eng**	**0.83**	**322**	*e*P	**Pn**	**08 28 59.7**	**-0.6**
	baz=322						
WTCT				*e*S	**Sn**	**08 29 12.0**	**-0.9**
	baz=322						
TAW	**Tawu**	**0.84**	**176**	*e*P	**Pg**	**08 28 58.0**	**-0.4**
	baz=169						
SCZT	**Fangliau**	**0.85**	**194**	P	**Pg**	**08 28 58.0**	**-0.5**
	baz=187						
CHGB	**Renai**	**0.91**	**20**	*e*P	**Pg**	**08 28 59.0**	**-0.6**
	baz=28						
WCHH	**Zhanghua**	**0.91**	**344**	*e*P	**Pg**	**08 28 59.8**	**+0.1**
	baz=345						
WLCH	**Liuqiu**	**0.95**	**207**	*e*P	**Pn**	**08 29 03.9**	**+2.0**
	baz=207						
TCU	**Taichung**	**0.95**	**351**	*e*P	**Pn**	**08 29 01.9**	**0.0**
	baz=352						
TWP	**Hsiaoliuchiu**	**0.96**	**207**	*e*P	**Pn**	**08 29 04.1**	**+2.0**
	baz=206						
TWP				*e*S	**Sn**	**08 29 20.4**	**+4.5**
	baz=206						
WHF	**Hehuan Shan**	**1.01**	**23**	*e*P	**Pg**	**08 29 01.1**	**-0.5**
	baz=23						
WHF				*e*S	**Sb**	**08 29 16.2**	**+0.2**
	baz=23						
HWA	**Hwalien**	**1.04**	**42**	*e*P	**Pn**	**08 29 03.3**	**+0.1**
	baz=41						
WHP	**Taichung City**	**1.07**	**5**	*e*P	**Pn**	**08 29 03.7**	**0.0**
	baz=22						
WHP				*e*S	**Sn**	**08 29 19.3**	**+0.4**
	baz=22						
TDCB	**Techi**	**1.08**	**16**	*e*P	**Pg**	**08 29 02.8**	**-0.2**
	baz=23						
TDCB				*e*S	**Sn**	**08 29 19.4**	**+0.1**
	baz=23						
WDGT	**Dungji**	**1.09**	**273**	*e*P	**Pg**	**08 29 02.6**	**-0.4**
	baz=273						
WDGT				*e*S	**Sb**	**08 29 18.0**	**+0.4**
	baz=273						
TWD	**Chiawan**	**1.11**	**38**	*e*P	**Pg**	**08 29 02.3**	**-1.3**
	baz=41						
TWD				*e*S	**Sn**	**08 29 19.2**	**-0.6**
	baz=41						
WDJ	**Dajia District**	**1.15**	**351**	*e*P	**Pn**	**08 29 04.9**	**+0.2**
	baz=350						
WDJ				*e*S	**Sn**	**08 29 22.0**	**+1.2**
	baz=350						
ETLH	**Xiulin Townshi**	**1.16**	**30**	P	**Pg**	**08 29 03.8**	**-0.6**
	baz=44						
ETLH				*e*S	**Sn**	**08 29 21.3**	**+0.2**
	baz=44						
NACB	**Ninganchiao**	**1.19**	**35**	P	**Pb**	**08 29 04.7**	**-0.4**
	baz=48						
NACB				*e*S	**Sn**	**08 29 21.4**	**-0.2**
	baz=48						
HEN	**Hengchun**	**1.20**	**184**	*e*P	**Pn**	**08 29 05.7**	**+0.4**
	baz=178						
PHUB	**P'eng-hu**	**1.21**	**285**	*e*P	**Pb**	**08 29 03.8**	**-1.5**
	baz=284						
PHUB				*e*S	**Sb**	**08 29 21.2**	**+0.1**
	baz=284						
NSY	**Sanyi**	**1.21**	**357**	*e*P	**Pn**	**08 29 06.5**	**+1.0**
	baz=356						
NSY				*e*S	**Sn**	**08 29 25.1**	**+2.9**
	baz=356						
PNG	**Penghu**	**1.23**	**287**	P	**Pn**	**08 29 04.9**	**-0.9**
	baz=272						
PNG				S	**Sg**	**08 29 21.9**	**+0.1**
	baz=272						
PTSB	**Yuanli**	**1.24**	**354**	*e*P	**Pg**	**08 29 07.0**	**+1.0**
	baz=353						
PTSB				*e*S	**Sn**	**08 29 25.2**	**+2.2**
	baz=353						
TWK1	**Hengchun**	**1.25**	**181**	*e*P	**Pg**	**08 29 06.6**	**+0.4**
	baz=182						
TWKBT	**Hengchun**	**1.26**	**181**	*e*P	**Pg**	**08 29 06.3**	**+0.1**
	baz=179						
TWKBT				*e*S	**Sn**	**08 29 25.2**	**+1.9**
	baz=179						
VCHM	**Qimei**	**1.30**	**271**	*e*P	**Pn**	**08 29 04.1**	**-2.6**
	baz=270						
VCHM				*e*S	**Sb**	**08 29 23.3**	**-0.4**
	baz=270						
TSEB	**Hengchuen, Pin**	**1.30**	**178**	*e*P	**Pg**	**08 29 07.8**	**+0.7**
	baz=177						
NNSB	**Datong**	**1.32**	**22**	*e*P	**Pn**	**08 29 06.5**	**-0.6**
	baz=17						
NNSB				*e*S	**Sn**	**08 29 24.8**	**-0.2**
	baz=17						
NNSH	**Datong**	**1.32**	**22**	*e*P	**Pn**	**08 29 06.2**	**-0.8**
	baz=17						
NNSH				*e*S	**Sn**	**08 29 25.8**	**+0.8**
	baz=17						
NNS	**Nan Shan**	**1.32**	**22**	P	**Pn**	**08 29 06.7**	**-0.5**
	baz=26						
NMLH	**Miaoli**	**1.33**	**358**	*e*P	**Pg**	**08 29 08.9**	**+1.3**
	baz=359						
LAY	**Lan-yu**	**1.33**	**150**	*e*P	**Pn**	**08 29 06.7**	**-0.5**
	baz=149						
NSTT	**Nanjuang**	**1.43**	**6**	*e*P	**Pg**	**08 29 09.7**	**+0.1**
	baz=351						
NSTT				*e*S	**Sg**	**08 29 28.1**	**0.0**
	baz=351						
LIOB	**Emei**	**1.45**	**6**	*e*P	**Pg**	**08 29 09.9**	**0.0**
	baz=354						
ENA	**Nanau**	**1.47**	**34**	*e*P	**Pb**	**08 29 09.4**	**-0.5**
	baz=35						
NDT	**Datong Townshi**	**1.52**	**24**	*e*P	**Pb**	**08 29 10.1**	**-0.6**
	baz=35						
YHNB	**Yeheng**	**1.54**	**18**	*e*P	**Pb**	**08 29 10.6**	**-0.5**
	baz=6.0						
YHNB				*e*S	**Sg**	**08 29 32.4**	**+0.7**
	baz=6.0						
NSK	**Sanguang**	**1.54**	**18**	*e*P	**Pb**	**08 29 10.8**	**-0.2**
	baz=4.0						
ENTT	**Nioudou**	**1.58**	**25**	*e*P	**Pb**	**08 29 11.7**	**+0.1**
	baz=25						
TWC	**Suao**	**1.68**	**33**	*e*P	**Pb**	**08 29 13.1**	**-0.2**
	baz=34						
NWLT	**Wulai**	**1.68**	**21**	*e*P	**Pb**	**08 29 13.3**	**-0.1**
	baz=9.0						
NTC	**Toucheng**	**1.88**	**29**	*e*P	**Pg**	**08 29 18.3**	**+0.2**
	baz=47						
TWA	**Mucha**	**1.90**	**21**	*e*P	**Pb**	**08 29 16.9**	**-0.2**
	baz=2.0						
TWS1	**Kuangyinshan**	**1.96**	**16**	*e*P	**Pg**	**08 29 19.3**	**-0.5**
	baz=19						
TIPB	**Shuangxi**	**1.98**	**27**	*e*P	**Pg**	**08 29 19.3**	**-0.8**
	baz=43						
YM04	**YM04**	**2.04**	**18**	*e*P	**Pg**	**08 29 21.1**	**-0.2**
	baz=3.0						
NWF	**Wu-fen Shan**	**2.05**	**25**	*e*P	**Pg**	**08 29 20.8**	**-0.7**
	baz=47						
WFSB	**Wu-fen Shan**	**2.05**	**25**	*e*P	**Pg**	**08 29 20.8**	**-0.6**
	baz=47						
YM03	**YM03**	**2.07**	**18**	*e*P	**Pb**	**08 29 19.8**	**-0.3**
	baz=3.0						
TWB1	**Santiao Chiao**	**2.08**	**30**	*e*P	**Pb**	**08 29 20.9**	**+0.6**
	baz=45						
YM08	**YM08**	**2.09**	**19**	*e*P	**Pb**	**08 29 19.3**	**-1.1**
	baz=23						
VWUC	**VWUC**	**2.19**	**325**	*e*P	**Pn**	**08 29 18.2**	**-0.7**
	baz=327						
JYNG	**Yonagunijimaku**	**2.29**	**57**	P	**Pn**	**08 29 20.7**	**+0.3**
JYNG				S	**Sn**	**08 29 50.3**	**+1.4**
PCYT	**Pengchaiyu**	**2.66**	**25**	*e*P	**Pn**	**08 29 27.2**	**+1.8**
	baz=43						
HATJ	**Hateruma jima**	**2.85**	**72**	P	**Pn**	**08 29 28.0**	**0.0**
HATJ				*e*S	**Sn**	**08 30 02.4**	**-0.2**
ZPLA	**Ao Xicun**	**2.92**	**285**	*e*P	**Pn**	**08 29 28.1**	**-0.9**
	baz=286						
JKRS	**Kuro-shima**	**3.08**	**70**	P	**Pn**	**08 29 31.8**	**+0.6**
JIJ	**Ishigaki jima**	**3.24**	**68**	P	**Pn**	**08 29 33.5**	**+0.1**
JISG	**Ishigakijimahi**	**3.46**	**66**	P	**Pn**	**08 29 36.8**	**+0.3**
JISG				S	**Sn**	**08 30 15.2**	**-2.6**

UCR 19 08:37:36.8±1.8, 9.52N×85.20W, h6km±6km, MD4.0, 2C-1D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**Las Juntas de**	**0.80**	**17**	⇓*e*P	Pg	08 37 51.2	-1.1
JTS				*e*S	Sg	08 38 01.8	-0.9
GUAI	**GUAI**	**0.81**	**337**	*i* P	Pg	08 37 52.2	-0.1
PLVR	**Palo Verde**	**0.84**	**349**	⇑*e*P	Pg	08 37 52.8	-0.1
PLVR				*e*S	Sg	08 38 04.3	+0.4
SRA1	**San Ramn**	**0.90**	**51**	*e*P	Pg	08 37 53.0	-1.1
CASO	**Castillo**	**1.02**	**27**	*i* P	Pg

DRK0 eS Sn 08 38 33.0 -2.3

*IDC **19** 08:49:32.5±2.9,21°.65S×179°.07W,h572^{km}×30^{km}, mb3.4/11,mb1 3.7/11,mb1mx3.5/23,mbtmp4.3/11,Error ellipse: s-maj=30.3km s-min=15.6km az=148.0*

*NEIC **19** 08:49:33.8±2.2,21°.65±0°.1×179°.1W±0°.1,h591^{km}±6^{km}, mb4.3/57,Error ellipse: s-maj=16.1km s-min=14.7km az=120.0*

ISC 19 08:49:34.5±0.4,21°.58S±0°.08×179°.12W±0°.08,h602^{km}, n139,σ1^{s}40/146,mb4.2/34,14C-6D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.67**	**325**	P	**P**	**08 51 04.2**	**-0.9**
NIUE	**Niue**	**8.98**	**76**	P	**P**	**08 51 40.5**	**-2.8**
AFI	**Afiamalu**	**10.35**	**44**	P	**P**	**08 51 54.5**	**-2.4**
FUNA	**Funafuti**	**13.08**	**353**	P	**P**	**08 52 21.0**	**-3.2**
SANVU	**Saraoutou**	**14.33**	**293**	P	**P**	**08 52 34.6**	**-1.9**
OUZ	**Omahuta**	**15.02**	**204**	P	**P**	**08 52 40.6**	**-1.9**
MXZ	**Matakaoa Point**	**16.08**	**187**	P	**P**	**08 52 50.5**	**-1.8**
URZ	**Urewera**	**16.94**	**190**	P	**P**	**08 52 56.4**	**-3.7**
URZ				IAmb	IAmb	08 52 58.1	
	comp=Z,31nm,1.2s						
BKZ	**Black Stump Fm**	**17.93**	**191**	P	**P**	**08 53 05.2**	**-4.0**
BKZ				IAmb	IAmb	08 53 23.8	
	comp=Z,26nm,1.3s						
BFZ	**Birch Farm**	**19.45**	**191**	P	**P**	**08 53 19.7**	**-3.2**
QRZ	**Quartz Range**	**20.45**	**198**	P	**P**	**08 53 31.1**	**-0.8**
PLWZ	**Palliser**	**20.49**	**192**	P	**P**	**08 53 29.4**	**-2.9**
NNZ	**Nelson**	**20.58**	**196**	P	**P**	**08 53 31.3**	**-1.8**
TUWZ	**Tuamarina**	**20.64**	**195**	P	**P**	**08 53 31.1**	**-2.6**
BSWZ	**Blackbirch Sta**	**20.93**	**195**	P	**P**	**08 53 33.6**	**-2.6**
THZ	**Tophouse**	**21.22**	**197**	P	**P**	**08 53 36.7**	**-2.2**
KHZ	**Kahutara**	**21.67**	**195**	P	**P**	**08 53 39.9**	**-3.0**
KHZ				IAmb	IAmb	08 53 41.7	
	comp=Z,22nm,1.1s						
LTZ	**Lake Taylor**	**22.34**	**197**	P	**P**	**08 53 45.7**	**-3.2**
WHZ	**Wether Hill Ro**	**26.46**	**201**	P	**P**	**08 54 25.1**	**0.0**
EIDS	**Eidsvold**	**27.57**	**256**	P	**P**	**08 54 35.0**	**-0.2**
EIDS				IAmb	IAmb	08 54 47.1	
	comp=Z,18nm,1.4s						
ARMA	**Armidale**	**27.66**	**245**	P	**P**	**08 54 36.5**	**+0.4**
ARMA				IAmb	IAmb	08 54 39.1	
	comp=Z,22nm,1.4s						
PPTF	**Pamatai, Papee**	**28.10**	**87**	P	**P**	**08 54 40.4**	**+0.4**
CAN	**Canberra**	**31.05**	**237**	P	**P**	**08 55 04.7**	**-0.4**
CAN				IAmb	IAmb	08 55 07.7	
	comp=Z,17nm,1.4s						
CTAO	**Charters Tower**	**32.36**	**266**	P	**P**	**08 55 16.9**	**+0.6**
CTAO				IAmb	IAmb	08 55 19.7	
	comp=Z,23nm,1.4s						
STKA	**Stephens Creek**	**36.38**	**245**	P	**P**	**08 55 50.0**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=83,slow=12,SNR=11						
STKA	**Stephens Creek**	**36.38**	**245**	P	**P**	**08 55 49.9**	**+0.3**
WR0	**Warramunga Arr**	**43.24**	**263**	P	**P**	**08 56 44.1**	**-0.4**
WR0				IAmb	IAmb	08 56 44.3	
	comp=Z,6.7nm,1.1s						
AS31	**Alice Springs**	**43.26**	**258**	P	**P**	**08 56 44.7**	**0.0**
ASAR	**Alice Springs**	**43.26**	**258**	P	**P**	**08 56 44.6**	**0.0**
	comp=Z,4.6nm,0.8s,baz=94,slow=8.0,SNR=41						
ASAR				PcP	**PcP**	08 58 20.4	**+0.6**
	comp=Z,1.5nm,0.5s,baz=101,slow=4.6,SNR=10.0						
ASAR				ScP	**ScP**	**09 01 19.5**	**+5.0**
	comp=Z,0.7nm,0.8s,baz=107,slow=4.4,SNR=4.3						
ASAR				S	**S**	**09 02 28.9**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=91,slow=15,SNR=13						
WB0	**Warramunga Arr**	**43.41**	**264**	P	**P**	**08 56 45.4**	**-0.4**
WB0				IAmb	IAmb	08 56 46.0	
	comp=Z,5.2nm,0.6s						
JAY	**Jayapura**	**43.41**	**290**	P	**P**	**08 56 46.2**	**+0.3**
	comp=Z,6.1nm,0.7s,baz=186,slow=22,SNR=4.5						
WB2	**Warramunga Arr**	**43.42**	**263**	P	**P**	**08 56 45.5**	**-0.3**
WB2				IAmb	IAmb	08 56 46.1	
	comp=Z,13nm,1.1s						
WRAB	**Tennant Creek**	**43.42**	**263**	P	**P**	**08 56 45.3**	**-0.6**
WRAB				IAmb	IAmb	08 56 46.0	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**43.43**	**263**	P	**P**	**08 56 45.4**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=92,slow=5.8,SNR=37						
WRA	**Warramunga Arr**	**43.43**	**263**	P	**P**	**08 56 45.1**	**-0.9**
KNRA	**Kununurra**	**49.56**	**267**	P	**P**	**08 57 31.7**	**-0.3**
KNRA				IAmb	IAmb	08 57 32.9	
	comp=Z,6.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**51.86**	**263**	P	**P**	**08 57 49.4**	**+0.7**
VNDA	**Vanda**	**56.75**	**185**	P	**P**	**08 58 23.8**	**+2.0**
QSPA	**South Pole Qui**	**68.49**	**180**	P	**P**	**08 59 38.3**	**+0.7**
MJAR	**Matsushiro Arr**	**70.47**	**325**	P	**P**	**08 59 50.7**	**+1.0**
	comp=Z,1.1nm,0.5s,baz=156,slow=6.3,SNR=3.3						
MJAR	**Matsushiro Arr**	**70.47**	**325**	P	**P**	**08 59 50.8**	**+1.2**
ADK	**Adak**	**73.18**	**2**	P	**P**	**09 00 05.6**	**+0.7**
ATKA	**Atka Island**	**73.59**	**3**	P	**P**	**09 00 07.8**	**+0.6**
SMY	**Shemya**	**74.23**	**356**	P	**P**	**09 00 09.5**	**-1.3**
AKUT	**Akutan**	**76.28**	**8**	P	**P**	**09 00 22.2**	**+0.2**
PETK	**Petropavlovsk-**	**77.05**	**346**	P	**P**	**09 00 27.6**	**+1.2**
	comp=Z,3.8nm,0.7s,baz=136,slow=7.7,SNR=6.5						
YBH	**Yreka Blue Hor**	**81.78**	**39**		**P**	**09 00 54.1**	**+2.4**
WAKR	**Walker**	**81.84**	**43**	P	**P**	**09 00 54.3**	**+2.1**
PNTR	**Pine Nut**	**82.08**	**43**	P	**P**	**09 00 55.1**	**+1.7**
PNTR				IAmb	IAmb	09 00 56.0	
	comp=Z,8.8nm,0.9s						
KDAK	**Kodiak Island**	**82.11**	**14**	P	**P**	**09 00 53.1**	**+0.4**
YERR	**Yerington**	**82.25**	**43**	P	**P**	**09 00 56.0**	**+1.9**
YERR				IAmb	IAmb	09 00 56.5	
	comp=Z,3.6nm,0.7s						
NVAR	**Mina Array Bea**	**82.52**	**44**	P	**P**	**09 00 57.0**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=222,slow=8.5,SNR=17						
PAHR	**Pah Rah Range**	**82.58**	**42**	P	**P**	**09 00 56.4**	**+0.6**
NV11	**Mina Array Sit**	**82.62**	**44**	P	**P**	**09 00 57.9**	**+1.9**
KVN	**Kaiserville**	**83.01**	**43**		**P**	**09 00 59.0**	**+1.0**
MOD	**Modoc Plateau**	**83.31**	**40**		**P**	**09 01 01.4**	**+2.0**
MOD				IAmb	IAmb	09 01 01.9	
	comp=Z,6.1nm,1.2s						
K05A	**Summer Lake**	**83.46**	**39**	P	**P**	**09 01 01.2**	**+1.1**
K05A				IAmb	IAmb	09 01 03.2	
	comp=Z,5.5nm,0.9s						
H04A	**Detroit Lake**	**83.91**	**37**	P	**P**	**09 01 03.8**	**+1.6**
H04A				IAmb	IAmb	09 01 04.0	
	comp=Z,3.9nm,0.7s						
PINE	**Pine Mountain**	**84.08**	**38**		**P**	**09 01 04.2**	**+1.1**
PINE				IAmb	IAmb	09 01 06.3	
	comp=Z,8.7nm,1.1s						
I07A	**Izee**	**85.08**	**39**		**P**	**09 01 09.8**	**+1.8**
LCMT	**Little Creek M**	**85.11**	**47**	P	**P**	**09 01 09.6**	**+1.3**
U15A	**North Rim**	**85.46**	**48**		**P**	**09 01 11.8**	**+1.6**
U15A				IAmb	IAmb	09 01 12.9	
	comp=Z,3.3nm,0.7s						
G08A	**Pilot Rock**	**86.11**	**38**		**P**	**09 01 14.0**	**+1.2**
G08A				IAmb	IAmb	09 01 15.3	
	comp=Z,2.7nm,0.8s						
MTPU	**Mount Pierson**	**86.36**	**47**	P	**P**	**09 01 15.9**	**+1.4**
MFID	**Camas Ranch**	**86.88**	**41**		**P**	**09 01 17.6**	**+1.1**
D08A	**Wollman Farm,**	**87.17**	**36**		**P**	**09 01 18.0**	**+0.5**
D08A				IAmb	IAmb	09 01 20.2	
	comp=Z,4.5nm,0.9s						
F10A	**Beach Ranch, E**	**87.49**	**38**	P	**P**	**09 01 20.3**	**+1.0**
F10A				IAmb	IAmb	09 01 21.3	
	comp=Z,4.9nm,0.8s						
B08A	**Colville Reser**	**87.71**	**35**		**P**	**09 01 21.3**	**+1.1**
B08A				IAmb	IAmb	09 01 22.0	
	comp=Z,3.9nm,0.8s						
TRF	**Thorofare Moun**	**87.72**	**13**	P	**P**	**09 01 20.0**	**0.0**
TRF				IAmb	IAmb	09 01 21.2	
	comp=Z,9.1nm,0.7s						
HLID	**Hailey**	**87.82**	**41**		**P**	**09 01 22.8**	**+1.8**
MNTX	**Cornudas Mount**	**88.22**	**55**		**P**	**09 01 24.4**	**+1.4**
TXAR	**Lajitas Array**	**88.51**	**58**	P	**P**	**09 01 26.5**	**+2.1**
	comp=Z,1.2nm,0.8s,baz=216,slow=4.0,SNR=8.7						
TXAR	**Lajitas Array**	**88.51**	**58**		**P**	**09 01 24.6**	**+0.2**
CCB	**Clear Creek Bu**	**89.29**	**13**	P	**P**	**09 01 27.2**	**+0.1**
CCB				IAmb	IAmb	09 01 27.8	
	comp=Z,3.7nm,0.6s						
IMAR	**Indian Mountai**	**89.39**	**10**	P	**P**	**09 01 28.4**	**+0.9**
MCMT	**McKenzie Canyo**	**89.45**	**41**		**P**	**09 01 28.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**89.50**	**290**	P	**P**	**09 01 31.6**	**+2.6**
	comp=Z,2.1nm,0.6s,baz=121,slow=2.6,SNR=10						
CMAR	**Chiang Mai Arr**	**89.50**	**290**	P	**P**	**09 01 29.0**	**-0.1**
ILAR	**Eielson Array**	**89.60**	**13**	P	**P**	**09 01 28.7**	**+0.2**
	comp=Z,0.8nm,0.4s,baz=219,slow=5.0,SNR=11						
PD31	**Pinedale Array**	**90.46**	**44**	P	**P**	**09 01 34.1**	**+0.8**
PD31				IAmb	IAmb	09 01 34.5	
	comp=Z,3.7nm,1.2s						
PDAR	**Pinedale Array**	**90.46**	**44**	P	**P**	**09 01 33.7**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=228,slow=3.6,SNR=11						
PDAR	**Pinedale Array**	**90.46**	**44**	P	**P**	**09 01 33.4**	**+0.1**
MKAR	**Makanchi Array**	**111.18**	**313**	PKiKP	**PKiKP**	**09 07 00.4**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=201,slow=1.1,SNR=7.1						
ARCES	**ARCESS Array B**	**129.78**	**349**	PKP	**PKPdf**	**09 07 36.1**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=45,slow=1.9,SNR=18						
ARCES	**ARCESS Array B**	**129.78**	**349**		**PKPdf**	**09 07 36.4**	**+0.8**
FINES	**FINESS Array B**	**136.50**	**343**	PKP	**PKPdf**	**09 07 47.5**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=64,slow=3.2,SNR=7.6						
FINES	**FINESS Array B**	**136.50**	**343**		**PKPdf**	**09 07 48.8**	**+0.4**
AKASG	**Malin Array Be**	**143.43**	**330**	PKP	PKPab	09 07 59.9	0.0
	comp=Z,2.0nm,0.3s,baz=42,slow=4.5,SNR=16						
AKBB	**Malin Array Si**	**143.43**	**330**		PKPab	09 08 00.0	+0.1
SORM	**Soroca**	**145.56**	**327**	⇑P	**PKPbc**	**09 08 07.3**	**+0.8**
BR131	**Keskin Array S**	**146.77**	**310**		**PKPbc**	**09 08 10.7**	**+0.3**
BRTR	**Keskin Array B**	**146.77**	**310**	PKPbc	**PKPbc**	**09 08 10.9**	**+0.6**
	comp=Z,2.6nm,0.7s,baz=135,slow=4.2,SNR=13						
BRTR	**Keskin Array B**	**146.77**	**310**	PKPdf	**PKPdf**	**09 08 06.3**	**-1.2**
BRTR					**PKPbc**	**09 08 10.3**	**-0.1**
TLCR		**147.15**	**322**	⇑P	**PKPbc**	**09 08 10.2**	**-0.8**
BUR08	**Bucovina Ar. S**	**147.45**	**329**	PKPdf	**PKPdf**	**09 08 08.1**	**-0.2**
BUR08					**PKPbc**	**09 08 12.0**	**+0.2**
BURAR	**Bucovina Array**	**147.46**	**329**	⇓P	**PKiKP**	**09 08 13.7**	**+0.3**
BURAR	**Bucovina Array**	**147.46**	**329**	PKPdf	**PKPdf**	**09 08 08.1**	**-0.2**
BURAR					**PKPbc**	**09 08 11.9**	**+0.1**
BIZ	**Bicaz**	**147.49**	**327**	⇓P	**PKiKP**	**09 08 13.3**	**-0.1**
DOPR	**Dopca**	**148.51**	**326**	⇓P	**PKiKP**	**09 08 16.0**	**+0.5**
MLR	**Muntele Rosu**	**148.54**	**325**	⇑P	**PKiKP**	**09 08 16.1**	**+0.4**
RASA	**Rasa**	**148.68**	**322**	⇑P	**PKPab**	**09 08 22.6**	**+1.6**
DPC	**Dobruska-Polom**	**148.82**	**341**	⇑*e*PKP	**PKiKP**	**09 08 16.6**	**+0.6**
DPC				*ex*	x	09 08 23.4	
CLL	**Collm**	**148.85**	**345**	*i* PKPbc	**PKPbc**	**09 08 15.7**	**+0.7**
	comp=Z,17nm,1.2s						
CLL	**Collm**	**148.85**	**345**	PKPdf	**PKPdf**	**09 08 09.7**	**-0.6**
CLL					**PKPbc**	**09 08 15.7**	**+0.7**
MORC	**Moravsky Berou**	**148.92**	**339**	*e*PKP	**PKiKP**	**09 08 16.6**	**+0.3**
MORC	**Moravsky Berou**	**148.92**	**339**		**PKiKP**	**09 08 16.5**	**+0.2**
BRG	**Berggiesshub**	**149.02**	**344**	*i* PKP	**PKiKP**	**09 08 16.6**	**+0.2**
	comp=Z,10.0nm,1.1s						
VOIR		**149.04**	**326**	⇑P	**PKiKP**	**09 08 16.8**	**+0.1**
DRGR		**149.24**	**330**	⇑P	**PKiKP**	**09 08 17.4**	**+0.3**
ARR	**Arges**	**149.31**	**326**	⇓P	**PKiKP**	**09 08 18.5**	**+1.3**
VRAC	**Vranov**	**149.64**	**339**	⇑P	**PKiKP**	**09 08 18.0**	**+0.3**
VRAC	**Vranov**	**149.64**	**339**	*e*PKP	**PKiKP**	**09 08 18.3**	**+0.6**
GOPC	**GO Pecny, Ondr**	**149.66**	**342**	⇑*e*PKP	**PKiKP**	**09 08 18.2**	**+0.5**
JAVC	**Velka Javorina**	**149.66**	**338**	*e*PKP	**PKiKP**	**09 08 19.6**	**+1.8**
PRU	**Pruhonice**	**149.66**	**342**	⇑*e*PKP	**PKPbc**	**09 08 17.7**	**+0.7**
PRU				*ex*	x	09 08 25.9	
KRUC	**Moravsky**	**149.92**	**339**	*e*PKP	**PKiKP**	**09 08 18.8**	**+0.5**
SIRR	**Siria**	**150.12**	**330**	⇓P	**PKiKP**	**09 08 19.5**	**+0.7**
BZS	**Buzias**	**150.62**	**330**	⇓P	**PKPbc**	**09 08 19.9**	**+0.5**
PLVB	**Pleven**	**150.62**	**323**	⇑P	**PKiKP**	**09 08 20.7**	**+0.8**
KHC	**Kasperske Hory**	**150.71**	**343**	⇑*e*PKP	**PKiKP**	**09 08 20.5**	**+0.6**
KHC				*ex*	x	09 08 31.1	
KHC	**Kasperske Hory**	**150.71**	**343**		**PKiKP**	**09 08 20.6**	**+0.6**
GEC2	**GERESS Array S**	**150.93**	**342**		**PKiKP**	**09 08 21.1**	**+0.6**
GERES	**GERESS Array B**	**150.93**	**342**	PKPbc	**PKiKP**	**09 08 20.9**	**+0.4**
	comp=Z,2.2nm,0.6s,baz=45,slow=2.1,SNR=14						
CONA	**Conrad Observa**	**151.08**	**339**	*i* PKiKP	**PKiKP**	**09 08 21.4**	**+0.6**
	comp=Z,7.5nm,1.2s						
MDVR	**Moldovita**	**151.19**	**328**	⇑P	**PKiKP**	**09 08 21.4**	**+0.3**
MOA	**Molln**	**151.66**	**341**	*i* PKiKP	**PKPbc**	**09 08 22.2**	**+0.5**
	comp=Z,0.5nm,0.4s						
SOKA	**Soboth**	**152.45**	**339**	*i* PKPbc	**PKPbc**	**09 08 20.3**	**-3.3**
	comp=Z,2.8nm,1.3s						
KBA	**Koelnbreinsper**	**152.63**	**341**	*i* PKPbc	**PKPbc**	**09 08 22.8**	**-1.3**
	comp=Z,1.5nm,0.6s						
WATA	**Walderalm**	**152.89**	**344**	*i* PKPbc	**PKPbc**	**09 08 23.3**	**-1.3**
	comp=Z,2.2nm,0.5s						
WTTA	**Wattenberg**	**152.94**	**344**	*i* PKPbc	**PKPbc**	**09 08 24.0**	**-0.7**
	comp=Z,2.5nm,0.4s						
RETA	**Reutte**	**152.95**	**345**	*i* PKiKP	**PKiKP**	**09 08 28.3**	**+3.6**
	comp=Z,1.0nm,0.4s						
MOTA	**Moosalm**	**153.00**	**345**	*i* PKiKP	**PKiKP**	**09 08 25.6**	**+0.7**
	comp=Z,1.9nm,0.7s						
ABTA	**Abfaltersbach**	**153.17**	**342**	*i* PKPbc	**PKPbc**	**09 08 24.8**	**-0.3**
	comp=Z,5.8nm,1.5s						
DAVA	**Damuels**	**153.34**	**346**	*i* PKPbc	**PKPbc**	**09 08 25.4**	**-0.2**
	comp=Z,3.2nm,1.0s						
FETA	**Feichten**	**153.39**	**345**	*i* PKPdf	**PKPdf**	**09 08 18.3**	**+0.8**
	comp=Z,3.6nm,1.0s						
IDI	**Anoyia**	**154.94**	**308**	⇑P	**PKiKP**	**09 08 28.4**	**-0.8**
KEST	**Kesra**	**164.07**	**334**	PKP	**PKPdf**	**09 08 29.1**	**-1.0**
	comp=Z,4.2nm,0.6s,baz=31,slow=2.5,SNR=5.0						
TORD	**Torodi Ar. Bea**	**171.58**	**185**	PKP	**PKPdf**	**09 08 34.9**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=79,slow=0.7,SNR=3.8						
TORD				PKPab	**PKPab**	**09 10 01.2**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=164,slow=4.4,SNR=3.1						
TORD	**Torodi Ar. Bea**	**171.58**	**185**		**PKPdf**	**09 08 34.3**	**-1.3**
TORD					**PKPab**	**09 10 00.9**	**-0.2**

*NEIC **19** 09:20:04.2±1.9,47°.6N±0°.1×152°.5E±0°.2,h138^{km}±8^{km}, mb4.2/9,Error ellipse: s-maj=22.8km s-min=12.8km az=140.0*

*IDC **19** 09:20:05.4±2.3,47°.73N×152°.49E,h144^{km}±21^{km}, mb3.6/16,mb1 3.7/19,mb1mx3.5/48,mbtmp4.0/19,Error ellipse: s-maj=20.7km s-min=12.6km az=150.0*

ISC 19 09:20:03.7±0.8,47.7N±0°.1×152°.5E±0°.1,h128^{km},n65, σ0^{s}93/54,mb4.2/31,1C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEA0B	**Petropavlovsk-**	**6.39**	**29**	Pn	**Pn**	**09 21 36.6**	**+1.4**
PETK	**Petropavlovsk-**	**6.39**	**29**	P	**Pn**	**09 21 36.2**	**+0.9**
	0.3nm,0.3s,baz=197,slow=13,SNR=11						
PETK	**Petropavlovsk-**	**6.39**	**29**		**Pn**	**09 21 37.2**	**+1.9**
JKA	**Kamikawa-asahi**	**7.78**	**247**		**Pn**	**09 21 54.9**	**+0.9**
ASAJ	**Asahikawa**	**7.78**	**247**	P	**Pn**	**09 21 56.5**	**+2.4**
	0.8nm,0.3s,baz=78,slow=14,SNR=8.3						
ERM	**Erimo**	**8.72**	**233**	Pn	**Pn**	**09 22 06.5**	**-0.1**
USA0B	**Usuriysk Arra**	**14.70**	**264**		**Pn**	**09 23 26.2**	**+1.0**
USRK	**Ussuriysk Ar.**	**14.70**	**264**	P	**Pn**	**09 23 25.3**	**+0.2**
	baz=72,slow=13,SNR=5.8						
KSRS	**Korea Array**	**20.71**	**250**	P	**P**	**09 24 34.2**	**+0.5**
	3.1nm,0.8s,baz=54,slow=11,SNR=11						
H11N2	**WAKE ISLAND Hy**	**30.20**	**152**	T	T	09 57 41.2	
	baz=340,slow=76,SNR=211						
H11N1	**WAKE ISLAND Hy**	**30.21**	**152**	T	T	09 57 48.3	
	baz=340,slow=76,SNR=68						
H11N3	**WAKE ISLAND Hy**	**30.21**	**152**	T	T	09 57 45.4	
	baz=340,slow=76,SNR=122						
H11S1	**WAKE ISLAND Hy**	**31.29**	**153**	T	T	09 59 19.6	
	baz=341,slow=76,SNR=67						
H11S3	**WAKE ISLAND Hy**	**31.30**	**153**	T	T	09 59 05.8	
	baz=341,slow=76,SNR=78						
H11S2	**WAKE ISLAND Hy**	**31.31**	**153**	T	T	09 59 06.3	
	baz=341,slow=76,SNR=60						
IMAR	**Indian Mountai**	**33.28**	**37**	P	**P**	**09 26 28.2**	**-0.3**
TRF	**Thorofare Moun**	**34.63**	**42**	P	**P**	**09 26 40.6**	**+0.3**
TRF				IAmb	IAmb	09 26 41.0	
	comp=Z,7.0nm,1.3s						
TOLK	**Toolik Lake Re**	**35.20**	**33**	P	**P**	**09 26 44.4**	**-0.7**
TOLK				IAmb	IAmb	09 26 46.2	
	comp=Z,3.1nm,0.8s						
SML	**Sawmill**	**35.60**	**44**	P	**P**	**09 26 48.9**	**+0.3**
CCB	**Clear Creek Bu**	**35.71**	**40**	P	**P**	**09 26 50.2**	**+0.9**
IL31		**36.10**	**39**	P	**P**	**09 26 52.2**	**-0.4**
IL31				IAmb	IAmb	09 26 54.7	
	comp=Z,6.3nm,1.4s						
ILAR	**Eielson Array**	**36.10**	**39**	P	**P**	**09 26 52.3**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=264,slow=6.6,SNR=20						
ILAR	**Eielson Array**	**36.10**	**39**	P	**P**	**09 26 51.8**	**-0.9**
BMAR	**Burnt Mountain**	**37.01**	**35**	P	**P**	**09 27 01.4**	**+1.0**
DOT	**Dot Lake**	**37.40**	**41**	P	**P**	**09 27 03.0**	**-0.8**
BCAR	**Beaver Creek A**	**38.49**	**42**	P	**P**	**09 27 14.1**	**+1.1**
MKAR	**Makanchi Array**	**46.18**	**296**	P	**P**	**09 28 14.2**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=74,slow=11,SNR=3.5						
BVAR	**Borovoye Array**	**49.98**	**309**	P	**P**	**09 28 44.3**	**-0.1**
	comp=Z,1.3nm,0.3s,baz=60,slow=8.0,SNR=4.1						
RES	**Resolute Bay**	**50.11**	**19**	P	**P**	**09 28 45.6**	**+0.6**
RES				IAmb	IAmb	09 28 47.4	
	comp=Z,6.7nm,1.1s						
YKA	**Yellowknife Ar**	**50.44**	**37**	P	**P**	**09 28 47.9**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=295,slow=6.8,SNR=8.9						
CMAR	**Chiang Mai Arr**	**52.20**	**255**	P	**P**	**09 29 02.2**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=45,slow=6.6,SNR=5.1						
ARU	**Arti**	**54.08**	**317**	P	**P**	**09 29 13.4**	**-1.2**
	comp=Z,2.2nm,0.4s,baz=72,slow=8.0,SNR=5.6						
ARU	**Arti**	**54.08**	**317**	IAmb	IAmb	09 29 15.0	
	comp=Z,4.7nm,0.6s						
ARCES	**ARCESS Array B**	**56.87**	**340**	P	**P**	**09 29 33.7**	**-0.7**
	comp=Z,2.4nm,0.7s,baz=30,slow=7.5,SNR=4.3						
NVAR	**Mina Array Bea**	**62.37**	**62**	P	**P**	**09 30 12.6**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=294,slow=6.5,SNR=3.1						
FINES	**FINESS Array B**	**63.06**	**334**	P	**P**	**09 30 15.8**	**-0.9**
	comp=Z,2.8nm,0.6s,baz=37,slow=7.1,SNR=14						
PDAR	**Pinedale Array**	**64.54**	**54**	P	**P**	**09 30 26.9**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=90,slow=0.3,SNR=4.4						
NB2	**NORSAR Subarra**	**67.25**	**341**	P	**P**	**09 30 43.5**	**-0.4**
	comp=Z,4.3nm,0.7s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**67.25**	**341**	P	**P**	**09 30 43.4**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=27,slow=6.3,SNR=9.2						
AKASG	**Malin Array Be**	**70.58**	**326**	P	**P**	**09 31 03.6**	**-0.9**
	comp=Z,3.2nm,0.5s,baz=34,slow=6.5,SNR=8.0						
AKASG	**Malin Array Be**	**70.58**	**326**	IAmb	IAmb	09 31 12.1	
	comp=Z,0.8nm,1.1s						
ASAR	**Alice Springs**	**72.94**	**198**	P	**P**	**09 31 18.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=12,slow=6.6,SNR=5.4						
DPC	**Dobruska-Polom**	**75.34**	**333**	*eP*	**P**	**09 31 32.6**	**-0.1**
CLL	**Collm**	**75.48**	**335**	⇑*iP*	**P**	**09 31 32.9**	**-0.5**
	comp=Z,10.0nm,0.7s						
KHC	**Kasperske Hory**	**77.26**	**334**	*eP*	**P**	**09 31 43.0**	**-0.5**
BRTR	**Keskin Array B**	**77.47**	**316**	P	**P**	**09 31 45.4**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=66,slow=3.1,SNR=6.1						
BRTR	**Keskin Array B**	**77.47**	**316**	P	**P**	**09 31 45.1**	**+0.2**
GERES	**GERESS Array B**	**77.47**	**334**	P	**P**	**09 31 44.2**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=40,slow=5.8,SNR=12						
GERES	**GERESS Array B**	**77.47**	**334**	P	**P**	**09 31 43.8**	**-0.9**
CONA	**Conrad Observa**	**77.62**	**332**	*i P*	**P**	**09 31 45.9**	**+0.3**
	comp=Z,3.9nm,0.6s						
MOA	**Molln**	**78.19**	**333**	*i P*	**P**	**09 31 48.9**	**+0.3**
	comp=Z,2.3nm,0.8s						
ARSA	**Arzberg**	**78.32**	**332**	*i P*	**P**	**09 31 49.2**	**-0.2**
	comp=Z,0.9nm,0.5s						
SOKA	**Soboth**	**78.99**	**332**	*i P*	**P**	**09 31 53.1**	**0.0**
	comp=Z,6.1nm,1.2s						
KBA	**Koelnbreinsper**	**79.16**	**333**	*i P*	**P**	**09 31 54.7**	**+0.5**
	comp=Z,7.7nm,1.0s						
OBKA	**Obir**	**79.29**	**332**	*i P*	**P**	**09 31 51.7**	**-3.0**
	comp=Z,1.0nm,0.5s						
WATA	**Walderalm**	**79.46**	**334**	*i P*	**P**	**09 31 56.0**	**+0.3**
	comp=Z,3.4nm,0.6s						
WTTA	**Wattenberg**	**79.51**

UNK ***19*** *09:38:37.2,19.96S×70.94W,h19km*
NEIC ***19*** *09:38:39,19.86S×71.05W,h24km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr4.36; Mθθ-0.21; Mϕϕ-4.14; Mrθ0.87; Mθϕ1.15; Mϕr-2.73; Fault plane solution: M₀5.26000×10¹⁷ NP1:ϕs346.00000°, δ28.00000°, λ92.00000°. NP2:ϕs163.00000°, δ61.00000°, λ89.00000°. Principal axes: T 5.2103, Plg73.0000°, Azm70.0000°; N 0.0966, Plg1.0000°, Azm164.0000°; P -5.3069, Plg17.0000°, Azm254.0000°;*
IDC ***19*** *09:38:39.8±2.1,19.81S×70.59W,h30km±14km,mb4.9/24, mb1 5.0/27,mb1mx4.9/34,mbtmp5.1/27,ML4.5/3,MS5.5/21, Ms1 5.4/21,ms1mx5.3/32 Error ellipse: s-maj=14.4km s-min=10.9km az=64.0*
NEIC ***19*** *09:38:44,19.94S×71.15W,h20km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr4.03; Mθθ0.17; Mϕϕ-4.20; Mrθ1.12; Mθϕ0.97; Mϕr-4.69; Fault plane solution: M₀6.41000×10¹⁷ NP1:ϕs349.00000°, δ21.00000°, λ92.00000°. NP2:ϕs167.00000°, δ69.00000°, λ89.00000°. Principal axes: T 6.2181, Plg66.0000°, Azm75.0000°; N 0.3756, Plg1.0000°, Azm167.0000°; P -6.5937, Plg24.0000°, Azm258.0000°;*
GCMT ***19*** *09:38:44.2±0.1,19.88S±0.01×71.13W±0.01,h22km, MW5.8/149,Moment Tensor Solution. s143,c279; s149,c317; Duration: 189 Moment tensor: Scale 10¹⁷ Nm; Mrr4.10±.06; Mθθ0.22±.04; Mϕϕ-4.33±.05; Mrθ0.68±.07; Mθϕ0.88±.03; Mϕr-3.89±.11; Best double couple: M₀5.83600×10¹⁷ NP1:ϕs349.00000°,δ24.00000°, λ89.00000°. NP2:ϕs170.00000°,δ66.00000°,λ90.00000°. Principal axes: T 5.6400, Plg69.0000°, Azm81.0000°; N 0.3870, Plg0.0000°, Azm350.0000°; P -6.0330, Plg21.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 19 09:38:35.2±0.5,19.97S±0.02×70.82W±0.03,h5km±2km, h5km:pP-P,n1566,σ1§67/1202,mb5.5/282,MS5.5/438, 39C-13D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.71**	**115**	⇓*iP*		**Pn**	**09 38 52.0**	**+0.1**
TA02				*i* S		**Sn**	**09 39 03.7**	**+0.6**
TA02				IAML			09 39 05.7	
	comp=E,147μm,0.4s							
PSGC	**Pisagua**	**0.75**	**60**	⇓*iP*		**Pn**	**09 38 52.0**	**-0.5**
PSGC				*i* S		**Sn**	**09 39 03.3**	**-0.9**
PSGCX	**Pisagua**	**0.75**	**60**			**Pn**	**09 38 52.4**	**0.0**
PSGCX				Sg		**Sn**	**09 39 03.2**	**-1.0**
PSGCX	**Pisagua**	**0.75**	**60**	*eP*		**Pn**	**09 38 52.2**	**-0.3**
PSGCX				*eS*		**Sn**	**09 39 03.4**	**-0.9**
PSGCX				IAML			09 39 04.8	
	comp=Z,84μm,0.8s							
TA01	**Diego Aracena**	**0.84**	**135**	⇑*iP*		**Pn**	**09 38 54.0**	**+0.4**
TA01				*i* S		**Sn**	**09 39 06.5**	**+0.2**
TA01				IAML			09 39 10.9	
	comp=E,128μm,0.4s							
TA01	**Diego Aracena**	**0.84**	**135**	Pg		**Pn**	**09 38 54.1**	**+0.4**
TA01				Sg		**Sn**	**09 39 07.2**	**+0.8**
PB11	**IPOC Station P**	**1.11**	**79**	⇓*iP*		**Pn**	**09 38 58.5**	**+1.0**
PB11				*i* S		**Sn**	**09 39 14.3**	**+1.1**
PB11				IAML			09 39 18.9	
	comp=N,127μm,0.4s							
PB11	**IPOC Station P**	**1.11**	**79**	Pn		**Pn**	**09 38 59.0**	**+1.4**
PB11	**IPOC Station P**	**1.11**	**79**	*eP*		**Pn**	**09 38 58.7**	**+1.2**
PB11				*eS*		**Sb**	**09 39 12.1**	**+0.3**
PB11				IAML			09 39 15.9	
	comp=Z,193μm,0.9s							
MNMC	**Minye Minye**	**1.42**	**54**	*eP*		**Pg**	**09 39 03.2**	**+0.7**
MNMC				*i* S		**Sn**	**09 39 23.1**	**+2.0**
MNMC				IAML			09 39 29.5	
	comp=E,152μm,0.6s							
MNMC	**Minye Minye**	**1.42**	**54**			**Pg**	**09 39 03.4**	**+1.0**
MNMCX	**Minye Minye**	**1.42**	**54**	*eP*		**Pg**	**09 39 03.4**	**+1.0**
MNMCX				*eS*		**Sn**	**09 39 24.1**	**+3.1**
MNMCX				IAML			09 39 37.5	
	comp=Z,77μm,0.8s							
PB12	**IPOC Station P**	**1.43**	**19**	⇑*iP*		**Pn**	**09 39 01.8**	**+0.1**
PB12				*i* S		**Sb**	**09 39 20.7**	**0.0**
PB12				IAML			09 39 29.2	
	comp=N,122μm,0.4s							
PB12	**IPOC Station P**	**1.43**	**19**	Pn		**Pb**	**09 39 02.2**	**-0.1**
PB12				Sn		**Sg**	**09 39 22.0**	**+1.0**
PB12	**IPOC Station P**	**1.43**	**19**	*eP*		**Pb**	**09 39 02.2**	**-0.1**
PB12				*eS*		**Sg**	**09 39 23.5**	**+2.5**
PB12				IAML			09 39 26.7	
	comp=Z,63μm,0.5s							
GO01	**Chusmiza**	**1.56**	**79**	⇑*iP*		**Pg**	**09 39 05.9**	**+0.8**
GO01				*i* S		**Sg**	**09 39 27.8**	**+2.5**
GO01				IAML			09 39 31.7	
	comp=N,123μm,0.4s							
GO01	**Chusmiza**	**1.56**	**79**			**Pg**	**09 39 05.8**	**+0.8**
PB08	**IPOC Station P**	**1.57**	**96**	⇑*iP*		**Pg**	**09 39 05.9**	**+0.5**
PB08				*i* S		**Sg**	**09 39 28.3**	**+2.6**
PB08				IAML			09 39 30.7	
	comp=N,45μm,0.4s							
PB08	**IPOC Station P**	**1.57**	**96**	Pn		**Pg**	**09 39 06.1**	**+0.7**
PB08	**IPOC Station P**	**1.57**	**96**	*eP*		**Pg**	**09 39 06.2**	**+0.8**
PB08				*eS*		**Sg**	**09 39 28.1**	**+2.4**
PB08				IAML			09 39 30.6	
	comp=Z,82μm,1.4s							
PB01	**IPOC Station P**	**1.64**	**131**	⇑*iP*		**Pb**	**09 39 06.1**	**+0.1**
PB01				*i* S		**Sg**	**09 39 28.9**	**+1.0**
PB01				IAML			09 39 36.6	
	comp=N,76μm,0.4s							
PB01	**IPOC Station P**	**1.64**	**131**			**Pg**	**09 39 06.6**	**-0.1**
AP01	**Chacalluta**	**1.65**	**16**	*eP*		**Pn**	**09 39 05.0**	**+0.2**
AP01				*i* S		**Sn**	**09 39 26.4**	**0.0**
AP01	**Chacalluta**	**1.65**	**16**			**Pn**	**09 39 05.0**	**+0.2**
PB07	**IPOC Station P**	**1.95**	**154**	⇑*iP*		**Pn**	**09 39 09.4**	**+0.3**
PB07				*i* S		**Sb**	**09 39 36.5**	**+0.5**
PB07				IAML			09 39 53.4	
	comp=E,54μm,0.6s							
PB07	**IPOC Station P**	**1.95**	**154**			**Pb**	**09 39 10.4**	**-0.8**
PB07	**IPOC Station P**	**1.95**	**154**	*eP*		**Pb**	**09 39 10.5**	**-0.8**
PB07				*eS*		**Sg**	**09 39 41.8**	**+3.8**
PB07				IAML			09 39 56.3	
	comp=Z,27μm,1.5s							
PB03	**IPOC Station P**	**2.29**	**155**	⇑*iP*		**Pn**	**09 39 14.0**	**+0.2**
PB03				*i* S		**Sb**	**09 39 45.6**	**-0.3**
PB03				IAML			09 40 05.6	
	comp=N,16μm,0.5s							
PB03	**IPOC Station P**	**2.29**	**155**	*eP*		**Pn**	**09 39 14.2**	**+0.5**
PB03				*eS*		**Sg**	**09 39 51.0**	**+2.1**
PB03				IAML			09 39 56.5	
	comp=Z,22μm,1.2s							
PB09	**IPOC Station P**	**2.34**	**141**			**Pb**	**09 39 16.7**	**-1.2**
PB09	**IPOC Station P**	**2.34**	**141**	*iP*		**Pb**	**09 39 16.4**	**-1.5**
PB09				*eS*		**Sg**	**09 39 53.9**	**+3.5**
PB09				IAML			09 39 59.1	
	comp=Z,59μm,0.7s							
PB04	**IPOC Station P**	**2.43**	**165**	⇑*iP*		**Pn**	**09 39 15.2**	**-0.5**
PB04				*i* S		**Sn**	**09 39 43.8**	**-2.2**
PB04				IAML			09 40 03.0	
	comp=N,36μm,0.8s							
PB04	**IPOC Station P**	**2.43**	**165**			**Pn**	**09 39 16.0**	**+0.3**
PB04	**IPOC Station P**	**2.43**	**165**	*iP*		**Pn**	**09 39 15.4**	**-0.3**
PB04				IAML			09 40 09.1	
	comp=Z,21μm,0.9s							
PB05	**IPOC Station P**	**2.92**	**169**	*iP*		**Pn**	**09 39 21.5**	**-0.9**
PB05				*eS*		**Sg**	**09 40 12.7**	**+3.5**
PB05				IAML			09 40 20.5	
	comp=Z,11μm,1.5s							
PB06	**IPOC Station P**	**2.96**	**157**			**Pn**	**09 39 23.2**	**+0.3**
PB06	**IPOC Station P**	**2.96**	**157**	*iP*		**Pn**	**09 39 22.9**	**0.0**
PB06				*eS*		**Sg**	**09 40 09.8**	**-0.5**
PB06				IAML			09 40 17.7	
	comp=Z,23μm,0.7s							
LVC	**Limon Verde**	**3.17**	**146**	Pn		**Pn**	**09 39 28.1**	**+2.0**
	comp=Z,80nm,0.3s,baz=345,slow=8.1,SNR=291							
LVC				Sn		**Sb**	**09 40 09.4**	**-2.0**
	comp=Z,691nm,0.3s,baz=13,slow=12,SNR=5.8							
LVC				LR		LR	09 40 13.5	
	comp=Z,9μm,20.3s,baz=322,slow=29							
LVC	**Limon Verde**	**3.17**	**146**	Pn		**Pn**	**09 39 28.0**	**+2.0**
LVC	**Limon Verde**	**3.17**	**146**	*eP*		**Pn**	**09 39 28.5**	**+2.5**
LVC				*eS*		**Sg**	**09 40 21.6**	**+4.5**
LVC				IAML			09 40 30.0	
	comp=Z,6μm,1.2s							
LVC	**Limon Verde**	**3.17**	**146**	*eP*		**Pn**	**09 39 27.8**	**+1.8**
LVC	**Limon Verde**	**3.17**	**146**	*eP*		**Pn**	**09 39 27.8**	**+1.8**
PB15	**IPOC Station P**	**3.46**	**159**			**Pn**	**09 39 29.6**	**-0.2**
PB15	**IPOC Station P**	**3.46**	**159**	*i* P		**Pn**	**09 39 29.8**	**-0.1**
PB15				*eS*		**Sg**	**09 40 25.7**	**-0.6**
PB15				IAML			09 40 38.3	
	comp=Z,20μm,0.4s							
PB10	**IPOC Station P**	**3.53**	**176**	Pn		**Pn**	**09 39 29.4**	**-1.4**
PB10	**IPOC Station P**	**3.53**	**176**	*iP*		**Pn**	**09 39 29.3**	**-1.4**
PB10				IAML			09 40 43.5	
	comp=Z,3μm,0.7s							
I08BO	**LAS PENAS INFR**	**4.36**	**31**	Pn		**Pb**	**09 39 52.6**	**0.0**
	baz=221,slow=22,SNR=1.4							
I08BO				*i*			09 52 30.0	
	baz=214,slow=328,SNR=1.3							
LPAZ	**La Paz**	**4.46**	**35**	Pn		**Pn**	**09 39 48.3**	**+4.2**
	comp=Z,4.5nm,0.3s,baz=234,slow=7.7,SNR=74							
LPAZ				LR		LR	09 41 40.0	
	comp=Z,60μm,20.0s,baz=241,slow=43							
LPAZ	**La Paz**	**4.46**	**35**	⇑*iP*		**Pn**	**09 39 46.6**	**+2.6**
LPAZ				*i* S		**Sn**	**09 40 40.9**	**+4.2**
LPAZ	**La Paz**	**4.46**	**35**	P		**Pn**	**09 39 48.0**	**+4.0**
LPAZ	**La Paz**	**4.46**	**35**	Pn		**Pn**	**09 39 48.0**	**+4.0**
LPAZ	**La Paz**	**4.46**	**35**	*iP*		**Pn**	**09 39 48.2**	**+4.2**
GO02	**Mina Guanaco**	**5.29**	**168**	Pn		**Pn**	**09 39 54.8**	**-0.4**
YJA	**Yavi**	**5.42**	**115**	*iP*		**Pn**	**09 40 01.2**	**+4.3**
YJA				IAML			09 41 45.3	
	comp=Z,532nm,1.6s							
HJA	**Humahuaca**	**5.97**	**124**	*iP*		**Pn**	**09 40 09.3**	**+4.7**
HJA				IAML			09 41 54.2	
	comp=Z,596nm,1.5s							
AC01	**Pan de Azucar**	**6.15**	**178**	Pn		**Pn**	**09 40 04.7**	**-2.0**
AC02	**Maricunga**	**7.01**	**168**	Pn		**Pn**	**09 40 18.8**	**-0.1**
GO03	**Copiap**	**7.61**	**176**			**Pn**	**09 40 25.6**	**-1.2**
AC04	**Llanos de Chal**	**8.20**	**182**	Pn		**Pn**	**09 40 33.1**	**-1.7**
AC05	**El Transito**	**8.84**	**177**	Pn		**Pn**	**09 40 43.0**	**-0.8**
NNA	**Nana**	**9.82**	**323**	Pn		**Pn**	**09 40 58.4**	**+1.2**
	comp=Z,3.9nm,0.3s,baz=214,slow=12,SNR=4.9							
NNA				Sn		**Sn**	**09 42 42.0**	**-6.0**
	comp=Z,20nm,0.3s,baz=222,slow=14,SNR=4.9							
NNA				LR		LR	09 44 25.2	
	comp=Z,11μm,21.7s,baz=155,slow=35							
NNA	**Nana**	**9.82**	**323**	⇓*eP*		**Pn**	**09 40 58.8**	**+1.6**
NNA	**Nana**	**9.82**	**323**	Pn		**Pn**	**09 40 56.9**	**-0.3**
CO01	**Juntas del Tor**	**9.98**	**176**			**Pn**	**09 41 00.5**	**+1.0**
SIV	**San Ignacio**	**10.08**	**68**	Pn		**Pn**	**09 40 59.8**	**-0.9**
	comp=Z,4.7nm,0.3s,baz=266,slow=11,SNR=90							
CO03	**El Pedregal**	**10.82**	**179**	Pn		**Pn**	**09 41 09.9**	**-1.0**
CO02	**Combarbal**	**11.19**	**181**			**Pn**	**09 41 16.3**	**+0.4**
CFA	**Coronel Fontan**	**11.82**	**169**	Pn		**Pn**	**09 41 23.1**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=332,slow=15,SNR=13							
CFA				LR		LR	09 46 21.0	
	comp=Z,23μm,18.8s,baz=340,slow=39							
PTLB	**Pontes e Lacer**	**12.00**	**70**	*eP*		**Pn**	**09 41 26.3**	**-0.6**
PTLB	**Pontes e Lacer**	**12.00**	**70**	*eP*		**Pn**	**09 41 26.3**	**-0.6**
VILB	**Vilhena**	**12.34**	**57**	*eP*		**Pn**	**09 41 31.1**	**-0.5**
VILB	**Vilhena**	**12.34**	**57**	*eP*		**Pn**	**09 41 31.1**	**-0.5**
VA03	**San Esteban**	**12.74**	**179**			**Pn**	**09 41 37.6**	**+0.5**
PEL	**Peldehue**	**13.12**	**180**	P		**Pn**	**09 41 46.0**	**+3.7**
PEL				pmax		pmax		
	comp=Z,87nm,1.1s							
SAML	**Samuel**	**13.21**	**35**	P		**Pn**	**09 41 42.8**	**-0.7**
SAML	**Samuel**	**13.21**	**35**			**Pn**	**09 41 42.8**	**-0.7**
SAML	**Samuel**	**13.21**	**35**	*eP*		**Pn**	**09 41 43.0**	**-0.5**
SAML				*eS*		**Sn**	**09 44 08.7**	**-2.2**
SAML	**Samuel**	**13.21**	**35**	*eP*		**Pn**	**09 41 43.0**	**-0.5**
SAML				*eS*		**Sn**	**09 44 08.7**	**-2.2**
MT02	**Curacav**	**13.24**	**181**	Pn		**Pn**	**09 41 45.0**	**+1.2**
CPUP	**Villa Florida**	**13.92**	**120**	Pn		**Pn**	**09 41 51.2**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=261,slow=8.5,SNR=2.8							
CPUP				LR		LR	09 48 20.6	
	comp=Z,18μm,19.9s,baz=299,slow=42							
CPUP	**Villa Florida**	**13.92**	**120**	P		**Pn**	**09 41 55.4**	**+2.3**
CPUP	**Villa Florida**	**13.92**	**120**	Pn		**Pn**	**09 41 55.4**	**+2.3**
AQDB	**Aquidauana**	**14.20**	**95**	*eP*		**Pn**	**09 41 56.7**	**-0.3**
AQDB				*eS*		**Sn**	**09 44 35.0**	**0.0**
AQDB	**Aquidauana**	**14.20**	**95**	*eP*		**Pn**	**09 41 56.7**	**-0.3**
AQDB				*eS*		**Sn**	**09 44 35.0**	**0.0**
ATAH	**Atahualpa**	**14.73**	**329**	Pn		**P**	**09 42 09.3**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=150,slow=9.9,SNR=6.8							
ATAH				LR		LR	09 48 05.5	
	comp=Z,10μm,18.4s,baz=127,slow=38							
BO02	**Sierra Bellavi**	**14.77**	**180**			**Pn**	**09 42 06.4**	**+1.7**
SALV	**Santo Antonio**	**14.95**	**77**	*eP*		**Pn**	**09 42 06.3**	**-0.9**
SALV	**Santo Antonio**	**14.95**	**77**	*eP*		**Pn**	**09 42 06.3**	**-0.9**
GO05	**Huala**	**15.02**	**184**	IAmb		IAmb	09 42 37.8	
	comp=Z,316nm,1.4s							
H03N1	**Juan Fernandez**	**15.23**	**207**	Pn		**Pn**	**09 42 08.8**	**-1.9**
H03N1				T		T	09 57 57.4	
	baz=32,slow=72,SNR=816							
H03N2	**Juan Fernandez**	**15.24**	**207**	Pn		**Pn**	**09 42 08.6**	**-2.1**
	baz=109,slow=14,SNR=81							
H03N2				T		T	09 57 57.3	
	baz=32,slow=72,SNR=1088							
H03N3	**Juan Fernandez**	**15.25**	**207**	Pn		**Pn**	**09 42 08.5**	**-2.5**
	baz=109,slow=14,SNR=136							
H03N3				T		T	09 57 56.3	
	baz=32,slow=72,SNR=530							
H03S3	**Juan Fernandez**	**15.56**	**206**	Pn		**Pn**	**09 42 12.2**	**-2.8**
	baz=9.0,slow=20,SNR=26							
H03S1	**Juan Fernandez**	**15.58**	**206**	Pn		**Pn**	**09 42 12.2**	**-3.0**
	baz=9.0,slow=20,SNR=35							
H03S2	**Juan Fernandez**	**15.58**	**206**	Pn		**Pn**	**09 42 12.6**	**-2.6**
	baz=9.0,slow=20,SNR=65							
BI02	**San Fabin de**	**16.64**	**181**	P		**Pn**	**09 42 30.2**	**+1.0**
C2SB	**Chapadao do Su**	**17.01**	**89**	*eP*		**Pn**	**09 42 33.9**	**0.0**
C2SB	**Chapadao do Su**	**17.01**	**89**	*eP*		**Pn**	**09 42 33.9**	**0.0**
CLDB	**Colider**	**17.06**	**60**	*eP*		**Pn**	**09 42 33.3**	**-1.3**
CLDB	**Colider**	**17.06**	**60**	*eP*		**Pn**	**09 42 33.3**	**-1.3**
TRCB	**Terra Rica**	**17.16**	**103**	*eP*		**Pn**	**09 42 35.1**	**-0.8**
TRCB	**Terra Rica**	**17.16**	**103**	*eP*		**Pn**	**09 42 35.1**	**-0.8**
PCMB	**Pacaembu**	**18.36**	**99**	*eP*		**Pn**	**09 42 50.0**	**-0.6**
PCMB	**Pacaembu**	**18.36**	**99**	*eP*		**Pn**	**09 42 50.0**	**-0.6**
ARAG	**Araguaiana, MT**	**18.58**	**80**	*eP*		**P**	**09 42 52.1**	**-1.1**
ARAG	**Araguaiana, MT**	**18.58**	**80**	*eP*		**P**	**09 42 52.1**	**-1.1**
LPA	**La Plata**	**18.74**	**145**	*eP*		**P**	**09 42 47.9**	**-6.9**
LPA				PPP		PPP	09 43 14.8	
LPA				S		**Sn**	**09 46 22.4**	**-2.7**
LPA				SS		**SnSn**	**09 46 41.0**	**+1.9**
LPA				SSS		SSS	09 46 55.4	
LPA				PCP		**PcP**	**09 47 20.0**	**-2.7**
LPA				PKIKP		**PKiKP**	**09 55 14.4**	**+1.0**
ITRB	**Iturama**	**19.25**	**93**	*eP*		**P**	**09 43 00.8**	**+0.2**
ITRB	**Iturama**	**19.25**	**93**	*eP*		**P**	**09 43 00.8**	**+0.2**
PLTB	**Pedras Altas**	**19.41**	**131**	*eP*		**Pn**	**09 43 03.2**	**-0.1**
PLTB	**Pedras Altas**	**19.41**	**131**	*eP*		**Pn**	**09 43 03.2**	**-0.1**
MACA	**Manacapuru-AM**	**19.41**	**32**	*eP*		**P**	**09 43 01.6**	**-0.8**
MACA	**Manacapuru-AM**	**19.41**	**32**	*eP*		**P**	**09 43 01.6**	**-0.8**
NPGB	**Novo Progresso**	**19.75**	**52**	*eP*		**P**	**09 43 03.9**	**-2.1**
NPGB	**Novo Progresso**	**19.75**	**52**	*eP*		**P**	**09 43 03.9**	**-2.1**
FRTB	**Fartura**	**20.03**	**103**	*eP*		**P**	**09 43 09.8**	**+0.6**
FRTB	**Fartura**	**20.03**	**103**	*eP*		**P**	**09 43 09.8**	**+0.6**
CNLB	**Canela**	**20.37**	**121**	*eP*		**P**	**09 43 12.5**	**-0.2**
CNLB	**Canela**	**20.37**	**121**	*eP*		**P**	**09 43 12.5**	**-0.2**
PLCA	**Paso Flores**	**20.70**	**179**	P		Pn	09 43 17.8	-0.7
	comp=Z,48nm,0.9s,baz=0.2,slow=12,SNR=23							
PLCA				LR		LR	09 50 40.8	
	comp=Z,6μm,18.8s,baz=358,slow=35							
PLCA	**Paso Flores**	**20.70**	**179**			Pn	09 43 18.3	-0.3
PLCA	**Paso Flores**	**20.70**	**179**	*eP*		Pn	09 43 18.0	-0.5
PLCA	**Paso Flores**	**20.70**	**179**	*eP*		Pn	09 43 18.0	-0.5
TIJ01	**Guaruva-PR**	**20.81**	**109**	*eP*		**P**	**09 43 17.8**	**+0.1**
TIJ01	**Guaruva-PR**	**20.81**	**109**	*eP*		**P**	**09 43 17.8**	**+0.1**
BB19B	**Bebedouro**	**20.90**	**97**	*eP*		**P**	**09 43 18.3**	**-0.3**
BB19B	**Bebedouro**	**20.90**	**97**	*eP*		**P**	**09 43 18.3**	**-0.3**
PUAC	**Puerto Asis, P**	**21.16**	**344**	*eP*		**P**	**09 43 21.9**	**+0.6**
ITTB	**Itaituba**	**21.36**	**45**	*eP*		**P**	**09 43 21.5**	**-2.1**
ITTB	**Itaituba**	**21.36**	**45**	*eP*		**P**	**09 43 21.5**	**-2.1**
IPMB	**Ipameri, GO**	**21.46**	**88**	*eP*		**P**	**09 43 24.1**	**-0.6**
IPMB	**Ipameri, GO**	**21.46**	**88**	*eP*		**P**	**09 43 24.1**	**-0.6**
PAC1	**Pacto, Paraso**	**21.58**	**338**	*eP*		**P**	**09 43 31.3**	**+5.3**
PTGA	**Pitinga**	**21.87**	**30**	P		**P**	**09 43 26.6**	**-2.4**
	comp=Z,58nm,0.5s,baz=260,slow=21,SNR=70							
PTGA				LR		LR	09 52 41.7	
	comp=Z,28μm,18.7s,baz=208,slow=39							
PTGA	**Pitinga**	**21.87**	**30**	P		**P**	**09 43 26.8**	**-2.1**
PTGA				IAmb		IAmb	09 43 42.6	
	comp=Z,138nm,0.8s							
PTGA	**Pitinga**	**21.87**	**30**	*eP*		**P**	**09 43 27.7**	**-1.3**
PTGA	**Pitinga**	**21.87**	**30**	*eP*		**P**	**09 43 27.7**	**-1.3**
GCUF	**Volcan Galeras**	**22.02**	**342**	*eP*		**P**	**09 43 37.6**	**+6.5**
BDFB	**Brasilia**	**22.12**	**82**	P		**P**	**09 43 29.1**	**-2.8**
	comp=Z,23nm,0.6s,baz=247,slow=14,SNR=18							
BDFB				LR		LR	09 53 40.3	
	comp=Z,22μm,19.9s,baz=260,slow=41							
BDFB	**Brasilia**	**22.12**	**82**	P		**P**	**09 43 31.1**	**-0.8**
BDFB				pmax		pmax		
	comp=Z,112nm,0.9s							
BDFB				MLR		MLR		
	comp=Z,42μm,18.0s							
BDFB	**Brasilia**	**22.12**	**82**	P		**P**	**09 43 31.1**	**-0.8**
BDFB				IAmb		IAmb	09 43 46.2	
	comp=Z,112nm,0.9s							
PET01	**Itanhaem-SP**	**22.22**	**105**	*eP*		**P**	**09 43 32.3**	**-0.4**
PET01	**Itanhaem-SP**	**22.22**	**105**	*eP*		**P**	**09 43 32.3**	**-0.4**
CRUC	**La Cruz**	**22.23**	**344**	*eP*		**P**	**09 43 37.6**	**+4.3**
LL01	**San Ignacio de**	**22.38**	**183**	P		**P**	**09 43 36.8**	**+2.6**
VAO	**Valinhos**	**22.39**	**102**	*eP*		**P**	**09 43 33.3**	**-1.3**
VAO	**Valinhos**	**22.39**	**102**	*eP*		**P**	**09 43 33.3**	**-1.3**
GARC	**Garzon, Huila**	**22.49**	**348**	*eP*		**P**	**09 43 36.8**	**+0.9**
SOTA	**Rioblanco**	**22.69**	**345**	*eP*		**P**	**09 43 40.0**	**+1.7**
BBAC	**Balboa, Cauca**	**22.75**	**343**	*eP*		**P**	**09 43 38.4**	**-0.2**
PCON	**Cinco Dias**	**22.83**	**345**	*eP*		**P**	**09 43 40.9**	**+1.1**
BETC	**Betania**	**22.96**	**348**	*eP*		**P**	**09 43 41.2**	**+0.5**
MARP	**Paez Belalcaza**	**23.23**	**347**	*eP*		**P**	**09 43 42.8**	**-0.9**
PARB	**Paraibuna**	**23.64**	**103**	*eP*		**P**	**09 43 47.6**	**0.0**
PARB	**Paraibuna**	**23.64**	**103**	*eP*		**P**	**09 43 47.6**	**0.0**
PRAC	**Prado**	**23.87**	**350**	*eP*		**P**	**09 43 48.3**	**-1.4**
PTGC	**Puerto Gaitan,**	**24.05**	**357**	*eP*		**P**	**09 43 49.8**	**-1.7**
ORTC	**Ortega, Tolima**	**24.13**	**349**	*eP*		**P**	**09 43 51.7**	**-0.4**
MALB	**Monte Alegre**	**24.21**	**44**	*eP*		**P**	**09 43 51.8**	**-1.1**
MALB	**Monte Alegre**	**24.21**	**44**	*eP*		**P**	**09 43 51.8**	**-1.1**
BSCB	**Bom Sucesso**	**24.41**	**97**	*eP*		**P**	**09 43 54.4**	**-0.4**
BSCB	**Bom Sucesso**	**24.41**	**97**	*eP*		**P**	**09 43 54.4**	**-0.4**
YOTC	**Yotoco, Valle**	**24.42**	**347**	*eP*		**P**	**09 43 53.9**	**-1.0**
PRPB	**Parauapebas**	**24.58**	**59**	*eP*		**P**	**09 43 55.6**	**-0.7**
PRPB				*eS*		**S**	**09 48 18.3**	**+0.3**
PRPB	**Parauapebas**	**24.58**	**59**	*eP*		**P**	**09 43 55.6**	**-0.7**
PRPB				*eS*		**S**	**09 48 18.3**	**+0.3**
CHIC	**Chingaza**	**24.61**	**353**	*eP*		**P**	**09 43 55.8**	**-1.2**
MALC	**Bahia Malaga**	**24.68**	**344**	*eP*		**P**	**09 43 56.7**	**-0.4**
ANIL	**Santa Ana**	**24.72**	**349**	*eP*		**P**	**09 43 57.0**	**-0.9**
TOLC	**Tolima**	**24.80**	**349**	*eP*		**P**	**09 43 58.9**	**+0.3**
ROSC	**El Rosal**	**24.89**	**352**	P		**P**	**09 44 01.1**	**+1.6**
	comp=Z,27nm,0.5s,baz=248,slow=20,SNR=12							
ROSC				LR		LR	09 55 25.8	
	comp=Z,17μm,18.3s,baz=200,slow=41							
ROSC	**El Rosal**	**24.89**	**352**	*eP*		**P**	**09 43 59.9**	**+0.3**
ROSC	**El Rosal**	**24.89**	**352**	P		**P**	**09 44 00.1**	**+0.6**
ROSC				IAmb		IAmb	09 44 33.1	
	comp=Z,110nm,0.9s							
ROSC				IAMs_20		IAMs_20	09 55 04.1	
	comp=Z,19μm,20.0s							
SMTB	**Santa Maria do**	**25.02**	**67**	*eP*		**P**	**09 43 59.5**	**-0.8**
SMTB		

RCBR **Riachuelo** 36.72 72 P P 09 45 43.7 +0.2
RCBR IAmb IAmb 09 45 46.5
comp=Z,135nm,1.0s
RCBR **Riachuelo** 36.72 72 eP P 09 45 43.5 -0.1
RCBR **Riachuelo** 36.72 72 eP P 09 45 43.5 -0.1
TDBA **Terre de Bas,** 36.72 15 eP P 09 45 38.1 -5.3
MAGL **Barre de l'ile** 36.90 15 eP P 09 45 41.4 -3.6
CBE **Ff, Capester** 36.94 15 eP P 09 45 40.3 -5.0
ABD **La Joyeuse, An** 37.36 15 eP P 09 45 43.6 -5.2
TGUH **Tegucigalpa,Un** 37.49 333 IAMs_20 IAMs_20 10 03 14.1
comp=Z,5µm,18.0s
MLPR **Magueyes Islan** 37.88 6 P P 09 45 51.2 -2.0
CDVI **St. Croix** 37.95 9 eP P 09 45 47.6 -6.2
OBIP **Obispado Ponce** 38.00 7 IAmb IAmb 09 46 08.3
comp=Z,84nm,0.8s
OBIP IAMs_20 IAMs_20 10 03 08.9
comp=Z,6µm,19.0s
SJG **San Juan** 38.12 7 P P 09 45 53.5 -1.7
comp=Z,48nm,0.9s,baz=212,slow=2.2,SNR=14
SJG **San Juan** 38.12 7 P P 09 45 53.3 -1.9
SJG IAmb IAmb 09 46 07.9
comp=Z,72nm,0.8s
SJG **San Juan** 38.12 7 IAMs_20 IAMs_20 10 03 56.0
comp=Z,7µm,18.0s
MTP **Monte Pirata** 38.18 8 P P 09 45 53.8 -2.0
MTP IAmb IAmb 09 46 07.2
comp=Z,73nm,0.9s
HUMP **Col San Antoni** 38.19 8 IAmb IAmb 09 46 05.9
comp=Z,70nm,1.1s
AOPR **Arecibo Observ** 38.29 6 IAmb IAmb 09 46 13.2
comp=Z,67nm,0.7s
CBYP **Canovanas** 38.31 8 IAmb IAmb 09 46 08.2
comp=Z,96nm,0.8s
CUPR **Culebra, Puert** 38.42 8 IAmb IAmb 09 46 10.0
comp=Z,99nm,1.1s
EMPR **Esperanza - Ma** 38.44 7 IAmb IAmb 09 46 10.4
comp=Z,168nm,1.1s
ANWB **Willy Bob** 38.44 14 IAMs_20 IAMs_20 10 03 26.8
comp=Z,11µm,19.0s
STVI **Saint Thomas** 38.52 9 P P 09 45 57.3 -1.3
MTDJ **Mount Denham** 38.53 350 P P 09 45 59.2 +0.4
MTDJ IAmb IAmb 09 46 18.5
comp=Z,130nm,1.3s
DR12 **Loma Pena Alta** 38.54 2 P P 09 45 57.5 -1.4
SDDR **Presa de Saban** 38.71 359 P P 09 46 01.0 +0.7
SDDR IAMs_20 IAMs_20 10 04 45.4
comp=Z,7µm,18.0s
SC01 **Santiago de lo** 39.15 0 IAMs_20 IAMs_20 10 03 15.1
comp=Z,6µm,21.0s
GTBY **Guantanamo Bay** 39.87 354 P P 09 46 08.9 -1.0
GTBY IAMs_20 IAMs_20 10 03 36.9
comp=Z,5µm,20.0s
CCIG **Comitan** 41.67 328 IAMs_20 IAMs_20 10 01 15.8
comp=Z,6µm,22.0s
TEIG **Tepich** 43.45 336 P P 09 46 39.5 +0.2
comp=Z,24nm,0.6s,baz=139,slow=3.3,SNR=19
TEIG **Tepich** 43.45 336 P P 09 46 39.7 +0.4
TEIG IAmb IAmb 09 46 53.1
comp=Z,77nm,0.8s
TEIG **Tepich** 43.45 336 IAMs_20 IAMs_20 10 07 02.2
comp=Z,5µm,18.0s
PMSA **Palmer Station** 45.01 176 LR LR 10 05 24.8
comp=Z,2µm,18.6s,baz=352,slow=36
TLIG **Tlapa** 46.19 322 IAMs_20 IAMs_20 10 05 26.2
comp=Z,5µm,19.0s
061Z **Ochoppi** 46.60 347 IAMs_20 IAMs_20 10 08 04.0
comp=Z,4µm,19.0s
UNM **Universidad Na** 47.94 323 IAMs_20 IAMs_20 10 05 39.0
comp=Z,4µm,19.0s
DWPF **Disney Wildern** 48.89 348 P P 09 47 21.6 -0.4
baz=167
DWPF **Disney Wildern** 48.89 348 IAMs_20 IAMs_20 10 08 59.5
comp=Z,4µm,21.0s
656A **Willston** 50.34 347 IAmb IAmb 09 47 37.7
comp=Z,96nm,1.1s
656A IAMs_20 IAMs_20 10 09 46.9
comp=Z,4µm,21.0s
456A **Hilliard** 51.54 348 IAMs_20 IAMs_20 10 13 28.8
comp=Z,3µm,18.0s
451A **Vernon** 52.30 344 IAmb IAmb 09 47 52.5
comp=Z,131nm,1.3s
BBSR **BB Station** 52.37 7 P P 09 47 47.1 -1.1
BBSR IAmb IAmb 09 47 51.4
comp=Z,38nm,0.8s
TIGA **Tifton** 52.56 346 P P 09 47 49.3 -0.4
baz=165
TIGA **Tifton** 52.56 346 IAMs_20 IAMs_20 10 10 54.8
comp=Z,4µm,21.0s
257A **Skidaway Islan** 52.57 349 IAMs_20 IAMs_20 10 11 05.0
comp=Z,3µm,20.0s
ZAIG **Zacatecas** 52.58 322 IAMs_20 IAMs_20 10 07 50.7
comp=Z,4µm,19.0s
255A **Hazlehurst** 52.80 348 IAmb IAmb 09 47 55.9
comp=Z,55nm,0.9s
255A IAMs_20 IAMs_20 10 13 41.0
comp=Z,3µm,18.0s
352A **Blakely** 52.92 345 IAmb IAmb 09 48 30.6
comp=Z,68nm,0.8s
352A IAMs_20 IAMs_20 10 10 54.1
comp=Z,3µm,22.0s
158A **Hollywood** 53.17 350 P P 09 47 54.2 +0.1
baz=169
545A **Edgard** 53.21 339 IAMs_20 IAMs_20 10 11 03.7
comp=Z,4µm,20.0s
157A **Early Branch** 53.25 349 P P 09 47 54.6 -0.1
baz=168
CSU **Charleston Sou** 53.40 350 P P 09 47 56.0 +0.2
Z59A **Georgetown, SC** 53.53 351 P P 09 47 56.2 -0.5
baz=170
NHSC **New Hope** 53.53 350 P P 09 47 56.8 0.0
baz=169,SNR=11
NHSC **New Hope** 53.53 350 IAMs_20 IAMs_20 10 11 52.5
comp=Z,6µm,20.0s
154A **Montrose** 53.59 347 IAMs_20 IAMs_20 10 15 00.6
comp=Z,4µm,18.0s
Z58A **St. Stephen** 53.70 351 P P 09 47 57.7 -0.3
baz=170
250A **Grady** 53.73 344 IAmb IAmb 09 48 02.3
comp=Z,96nm,1.2s
Z57A **Bowman** 53.80 350 P P 09 47 58.5 -0.2
baz=169,SNR=12
Z56A **Williston** 53.95 349 P P 09 47 59.4 -0.4
baz=168
Z56A **Williston** 53.95 349 IAmb IAmb 09 48 30.4
comp=Z,55nm,0.8s
Z56A IAMs_20 IAMs_20 10 10 30.0
comp=Z,5µm,22.0s
152A **Waverly Hall** 54.01 345 IAmb IAmb 09 48 47.1
comp=Z,30nm,0.9s
152A IAMs_20 IAMs_20 10 12 24.4
comp=Z,5µm,20.0s
Y60A **Bolivia** 54.13 352 P P 09 48 01.1 0.0
baz=172,SNR=5.6
Y60A **Bolivia** 54.13 352 P P 09 48 00.7 -0.5
Y60A IAMs_20 IAMs_20 10 12 22.2
comp=Z,4µm,20.0s
Y59A **Loris** 54.20 352 P P 09 48 01.4 -0.3
baz=171
Y59A **Loris** 54.20 352 IAMs_20 IAMs_20 10 11 42.0
comp=Z,5µm,21.0s
Y58A **Scranton** 54.23 351 P P 09 48 01.5 -0.4
baz=170
Y56A **Pelion** 54.39 349 P P 09 48 02.5 -0.6
baz=168
GOGA **Godfrey** 54.44 347 P P 09 48 02.4 -1.0
baz=166,SNR=6.4
GOGA **Godfrey** 54.44 347 P P 09 48 02.7 -0.7
GOGA pmax pmax
comp=Z,28nm,1.2s
GOGA **Godfrey** 54.44 347 IAMs_20 IAMs_20 10 15 36.0
comp=Z,4µm,18.0s
Y57A **Sumter** 54.46 350 P P 09 48 03.3 -0.2
baz=169
Y57A **Sumter** 54.46 350 IAmb IAmb 09 48 34.2
comp=Z,65nm,0.8s
Y57A IAMs_20 IAMs_20 10 11 59.6
comp=Z,5µm,20.0s
344A **Westbrook Farm** 54.59 339 IAmb IAmb 09 48 21.6
comp=Z,66nm,1.1s
Y55A **Saluda** 54.63 349 P P 09 48 04.0 -0.8
baz=167,SNR=24
X60A **Albert Glenn T** 54.67 353 P P 09 48 04.9 -0.1
baz=172,SNR=9.1
Z51A **Franklin** 54.73 345 IAMs_20 IAMs_20 10 12 46.7
comp=Z,5µm,21.0s
X59A **McDuffie Farm,** 54.74 352 P P 09 48 05.1 -0.5
baz=171
X58A **Rowland** 54.83 351 P P 09 48 06.0 -0.2
baz=170
X58A **Rowland** 54.83 351 P P 09 48 06.2 0.0
X58A IAmb IAmb 09 48 10.8
comp=Z,55nm,1.0s
X58A IAMs_20 IAMs_20 10 12 22.4
comp=Z,5µm,21.0s
X57A **Johnson Farm,** 54.85 351 P P 09 48 05.9 -0.4
baz=170
LRAL **Lakeview Retre** 54.93 343 P P 09 48 05.5 -1.5
baz=162,SNR=16
HODGE **Hodges** 54.99 348 IAMs_20 IAMs_20 10 11 02.7
comp=Z,4µm,22.0s
Y52A **Lilburn** 55.00 347 IAMs_20 IAMs_20 10 12 17.9
comp=Z,3µm,19.0s
X56A **White Oak** 55.03 350 P P 09 48 06.9 -0.8
baz=168,SNR=13
BIRD **Birdtown, Kers** 55.08 350 IAmb IAmb 09 48 38.7
comp=Z,55nm,0.9s
BIRD IAMs_20 IAMs_20 10 12 28.2
comp=Z,4µm,21.0s
X55A **Gracelyn & Ava** 55.11 349 P P 09 48 07.4 -0.8
baz=168,SNR=17
W60A **Pink Hill** 55.11 353 P P 09 48 07.9 -0.3
baz=172
146A **Union** 55.14 341 IAmb IAmb 09 48 21.4
comp=Z,62nm,1.1s
W61A **Ground Anchor** 55.16 354 P P 09 48 08.2 -0.3
baz=173
HKT **Hockley** 55.17 333 P P 09 48 08.8 +0.1
HKT pmax pmax
comp=Z,24nm,1.0s
HKT MLR MLR
comp=Z,2µm,22.0s
HKT **Hockley** 55.17 333 P P 09 48 08.8 +0.1
VBMS **Vicksburg** 55.22 340 P P 09 48 08.5 -0.6
baz=158
W58A **Raeford** 55.27 352 P P 09 48 09.1 -0.3
baz=170,SNR=34
W59A **Clinton** 55.31 352 P P 09 48 09.8 +0.1
baz=171
CNNC **Cliffs of the** 55.31 353 P P 09 48 09.3 -0.5
baz=172
X54A **Belton** 55.32 348 P P 09 48 09.3 -0.5
baz=167,SNR=13
Z47A **Carrollton** 55.38 342 IAmb IAmb 09 48 38.8
comp=Z,29nm,0.8s
Z47A IAMs_20 IAMs_20 10 14 18.2
comp=Z,3µm,19.0s
833A **Chaparral WMA,** 55.39 329 P P 09 48 10.2 -0.2
baz=147
833A **Chaparral WMA,** 55.39 329 IAmb IAmb 09 48 26.1
comp=Z,51nm,1.1s
V62A **Hyde County Ai** 55.44 355 P P 09 48 10.1 -0.5
baz=174
V62A **Hyde County Ai** 55.44 355 IAMs_20 IAMs_20 10 12 42.9
comp=Z,3µm,20.0s
PAULI **Pauline** 55.48 349 IAmb IAmb 09 48 15.4
comp=Z,43nm,1.1s
PAULI IAMs_20 IAMs_20 10 12 55.7
comp=Z,4µm,21.0s
W57A **Gilead** 55.51 351 P P 09 48 10.5 -0.6
baz=170,SNR=18
W57A **Gilead** 55.51 351 IAmb IAmb 09 48 41.6
comp=Z,46nm,0.9s
W57A IAMs_20 IAMs_20 10 12 42.9
comp=Z,4µm,22.0s
W56A **Indian Trail** 55.58 350 P P 09 48 10.9 -0.8
baz=169,SNR=12
KMSC **Kings Mountain** 55.71 350 P P 09 48 12.1 -0.5
baz=168,SNR=12
KMSC **Kings Mountain** 55.71 350 IAmb IAmb 09 48 17.0
comp=Z,43nm,1.1s
KMSC IAMs_20 IAMs_20 10 12 59.2
comp=Z,5µm,20.0s
V61A **Roper** 55.72 354 P P 09 48 12.9 +0.3
baz=174
V61A **Roper** 55.72 354 P P 09 48 14.7 +2.0
V60A **Jim Taylor Roa** 55.77 354 P P 09 48 12.5 -0.4
baz=173
V60A **Jim Taylor Roa** 55.77 354 IAmb IAmb 09 48 17.6
comp=Z,61nm,1.1s
V60A IAMs_20 IAMs_20 10 13 09.9
comp=Z,3µm,21.0s
W54A **Cherokee Point** 55.81 349 P P 09 48 13.1 -0.1
baz=167,SNR=22
X51A **Calhoun** 55.85 346 IAmb IAmb 09 48 39.0
comp=Z,36nm,1.1s
V59A **Middlesex** 55.88 353 P P 09 48 13.6 -0.1
baz=172,SNR=26
FPAL **Fort Paine** 56.01 345 IAMs_20 IAMs_20 10 13 24.4
comp=Z,4µm,20.0s
V58A **Windy Hill, Pi** 56.01 352 P P 09 48 14.2 -0.5
baz=171,SNR=26
V58A **Windy Hill, Pi** 56.01 352 IAmb IAmb 09 48 19.2
comp=Z,71nm,1.2s
V58A IAMs_20 IAMs_20 10 12 57.3
comp=Z,5µm,21.0s
W52A **Murphy** 56.16 347 P P 09 48 14.5 -1.3
W52A IAmb IAmb 09 48 41.4
comp=Z,38nm,1.0s
W52A IAMs_20 IAMs_20 10 13 14.0
comp=Z,3µm,20.0s
V57A **Coltrane Farms** 56.20 351 P P 09 48 15.5 -0.5
baz=170,SNR=16
V56A **Mocksville** 56.23 351 P P 09 48 15.9 -0.4
baz=169,SNR=24
U61A **Possum Corner** 56.25 355 P P 09 48 16.3 -0.1
baz=174
X48A **Hartselle** 56.28 344 IAmb IAmb 09 48 20.4
comp=Z,58nm,1.2s
X48A IAMs_20 IAMs_20 10 12 20.1
comp=Z,3µm,22.0s
NATX **Nacogdoches** 56.29 336 P P 09 48 17.0 +0.2
baz=153
NATX **Nacogdoches** 56.29 336 P P 09 48 17.8 +0.9
NATX IAmb IAmb 09 48 31.4
comp=Z,70nm,0.9s
V55A **Taylorsville** 56.38 350 P P 09 48 17.1 -0.3
baz=168,SNR=23
V55A **Taylorsville** 56.38 350 IAmb IAmb 09 48 33.3
comp=Z,41nm,0.9s
V55A IAMs_20 IAMs_20 10 13 50.1
comp=Z,4µm,21.0s
U59A **Littleton** 56.40 353 P P 09 48 17.3 -0.2
baz=172,SNR=19
Y45A **Yeager Farm, C** 56.43 341 P P 09 48 16.0 -1.7
Y45A IAmb IAmb 09 48 30.5
comp=Z,56nm,1.0s
V54A **Nebo** 56.44 349 P P 09 48 17.4 -0.4
baz=168,SNR=33
U60A **Pendleton** 56.45 354 P P 09 48 17.4 -0.4
baz=173
V53A **Saluda** 56.49 348 P P 09 48 17.5 -0.8
V53A IAMs_20 IAMs_20 10 11 58.8
comp=Z,5µm,22.0s
U58A **Oxford** 56.53 353 P P 09 48 18.3 -0.1
baz=171,SNR=22
W50A **Signal Mountai** 56.57 346 IAmb IAmb 09 48 31.2
comp=Z,28nm,0.8s
W50A IAMs_20 IAMs_20 10 13 08.7
comp=Z,4µm,20.0s
CPCT **Cooper Cave** 56.63 347 IAMs_20 IAMs_20 10 12 51.0
comp=Z,3µm,20.0s
435B **Jarrell** 56.64 332 P P 09 48 18.5 -0.9
baz=150
TKL **Tuckaleechee C** 56.67 347 IAmb IAmb 09 48 45.2
comp=Z,34nm,0.8s
TKL IAMs_20 IAMs_20 10 13 28.6
comp=Z,3µm,19.0s
U57A **Blanch** 56.67 352 P P 09 48 18.9 -0.5
baz=171,SNR=16
SWET **Sewanee** 56.73 345 IAmb IAmb 09 48 32.1
comp=Z,25nm,0.8s
SWET IAMs_20 IAMs_20 10 13 47.0
comp=Z,4µm,22.0s
U56A **King** 56.74 351 P P 09 48 19.7 -0.2
baz=169,SNR=12
U56A **King** 56.74 351 IAmb IAmb 09 48 24.9
comp=Z,69nm,1.1s
U56A IAMs_20 IAMs_20 10 13 30.5
comp=Z,5µm,22.0s
V52A **Sevierville** 56.81 348 IAmb IAmb 09 48 46.3
comp=Z,55nm,0.9s
V51A **Loudon** 56.93 347 P P 09 48 20.2 -1.1
V51A IAmb IAmb 09 48 46.5
comp=Z,40nm,1.1s
V51A IAMs_20 IAMs_20 10 17 10.5
comp=Z,4µm,18.0s
Z41A **Richland Creek** 56.94 338 P P 09 48 21.5 +0.1
baz=155,SNR=7.4
Z41A **Richland Creek** 56.94 338 IAmb IAmb 09 48 35.6
comp=Z,82nm,1.0s
T59A **Double "B" Far** 56.99 354 P P 09 48 21.5 -0.2
baz=173,SNR=31
T59A **Double "B" Far** 56.99 354 IAMs_20 IAMs_20 10 14 06.3
comp=Z,4µm,21.0s
U55A **TA2, Sparta** 56.99 350 P P 09 48 21.3 -0.5
baz=169,SNR=14
OXF **Oxford** 56.99 342 P P 09 48 19.8 -1.9
baz=159
T58A **Grand View Acr** 57.08 353 P P 09 48 22.0 -0.2
baz=172,SNR=47
T60A **Surry** 57.08 354 P P 09 48 22.2 -0.1
baz=174
U54A **Nelsons Funny** 57.14 349 P P 09 48 22.1 -0.8
baz=168,SNR=17
U54A **Nelsons Funny** 57.14 349 IAmb IAmb 09 48 55.0
comp=Z,45nm,0.9s
U54A IAMs_20 IAMs_20 10 13 44.0
comp=Z,4µm,20.0s
CCAR **Cane Creek** 57.19 339 IAmb IAmb 09 48 40.3
comp=Z,60nm,1.1s
T57A **Hurt** 57.22 352 P P 09 48 23.2 -0.1
baz=171,SNR=21
T57A **Hurt** 57.22 352 IAmb IAmb 09 48 28.0
comp=Z,76nm,1.1s
T57A IAMs_20 IAMs_20 10 14 16.2
comp=Z,4µm,21.0s
T56A **Rocky Mt** 57.35 351 P P 09 48 24.2 -0.1
baz=170,SNR=16
JCT **Junction City** 57.39 330 P P 09 48 24.0 -0.7
baz=148
V48A **Smith Brothers** 57.45 345 IAmb IAmb 09 48 41.0
comp=Z,121nm,1.6s
V48A IAMs_20 IAMs_20 10 12 47.9
comp=Z,4µm,22.0s
X43A **Marvell** 57.45 340 P P 09 48 24.1 -0.8
baz=158
X43A **Marvell** 57.45 340 P P 09 48 24.5 -0.5
X43A IAmb IAmb 09 48 38.5
comp=Z,68nm,0.9s
TZTN **Tazewell** 57.48 348 P P 09 48 24.1 -1.1
baz=166,SNR=12
TZTN **Tazewell** 57.48 348 IAmb IAmb 09 48 41.2
comp=Z,44nm,1.1s
T55A **Pulaski** 57.55 351 P P 09 48 25.6 -0.1
baz=169,SNR=23
BLA **Blacksburg** 57.59 351 P P 09 48 25.8 -0.2
baz=170,SNR=11
BLA **Blacksburg** 57.59 351 IAmb IAmb 09 48 32.3
comp=Z,34nm,0.9s
BLA IAMs_20 IAMs_20 10 14 08.0
comp=Z,4µm,21.0s
T54A **Tazewell** 57.62 350 P P 09 48 25.4 -0.9
baz=168,SNR=14
S60A **Water View** 57.63 355 P P 09 48 25.9 -0.3
baz=174
WHTX **Lake Whitney,** 57.63 333 P P 09 48 25.8 -0.5
baz=150,SNR=6.7
WHTX **Lake Whitney,** 57.63 333 IAmb IAmb 09 48 54.3
comp=Z,48nm,0.9s
CLTN **Cedars of Leba** 57.66 345 IAmb IAmb 09 48 30.1
comp=Z,50nm,1.2s
CLTN IAMs_20 IAMs_20 10 14 03.6
comp=Z,4µm,22.0s
S58A **Poland Farm, P** 57.68 353 P P 09 48 26.4 -0.1
baz=172,SNR=9.5
S58A **Poland Farm, P** 57.68 353 IAmb IAmb 09 48 30.6
comp=Z,62nm,1.2s
T53A **Wise** 57.72 349 P P 09 48 26.0 -0.9
baz=167,SNR=22
MET **Memphis--Engin** 57.72 341 IAMs_20 IAMs_20 10 15 34.1
comp=Z,2µm,19.0s
Z38A **Mt. Pleasant** 57.74 336 IAmb IAmb 09 48 40.9
comp=Z,67nm,0.9s
S59A **Mechanicsville** 57.75 354 P P 09 48 26.8 -0.2
baz=173
SLBS **Sierra La Lagu** 57.77 317 P P 09 48 27.9 +0.3
S56A **Natural Bridge** 57.93 352 P P 09 48 27.7 -0.6
baz=170
S57A **Dark Hollow, R** 57.93 352 P P 09 48 28.3 0.0
baz=171,SNR=18
S57A **Dark Hollow, R** 57.93 352 IAmb IAmb 09 48 33.2
comp=Z,73nm,1.1s
S57A IAMs_20 IAMs_20 10 14 45.1
comp=Z,4µm,20.0s
U49A **Red Boiling Sp** 57.93 346 IAMs_20 IAMs_20 10 14 56.8
comp=Z,4µm,21.0s
R58B **Mineral** 58.01 353 P P 09 48 28.8 0.0
baz=172,SNR=24
R58B **Mineral** 58.01 353 IAmb IAmb 09 48 33.8
comp=Z,74nm,1.1s
R58B IAMs_20 IAMs_20 10 14 35.2
comp=Z,3µm,20.0s
X40A **Basin Creek Fa** 58.07 339 P P 09 48 28.6 -0.7
baz=156
WVT **Waverly** 58.07 344 P P 09 48 27.6 -1.7
baz=161
WVT **Waverly** 58.07 344 P P 09 48 27.7 -1.6
WVT pmax pmax
comp=Z,33nm,0.7s
WVT MLR MLR
comp=Z,2µm,20.0s
WVT **Waverly** 58.07 344 P P 09 48 27.7 -1.6
WVT IAmb IAmb 09 48 45.4
comp=Z,33nm,0.7s
R61A **Willards** 58.15 356 P P 09 48 29.6 -0.1
baz=175
S55A **Lewisburg** 58.15 351 P P 09 48 29.9 0.0
baz=169,SNR=23
R59A **King George, V** 58.16 354 P P 09 48 29.8 0.0
baz=173
UALR **University of** 58.16 339 IAmb IAmb 09 48 53.2
comp=Z,56nm,1.2s
CBN **Corbin Frederi** 58.19 354 P P 09 48 30.0 -0.1
baz=173
CBN **Corbin Frederi** 58.19 354 IAMs_20 IAMs_20 10 14 31.1
comp=Z,3µm,20.0s
T50A **Nancy** 58.21 347 IAmb IAmb 09 48 55.4
comp=Z,30nm,0.9s
T50A IAMs_20 IAMs_20 10 13 51.2
comp=Z,3µm,20.0s
S54A **Dingess, Beckl** 58.30 350 P P 09 48 30.3 -0.7
baz=169,SNR=15
S54A **Dingess, Beckl** 58.30 350 P P 09 48 30.3 -0.7
S54A IAmb IAmb 09 49 02.7
comp=Z,54nm,0.8s
S54A IAMs_20 IAMs_20 10 17 20.9
comp=Z,3µm,18.0s
S53A **Williamson** 58.32 349 P P 09 48 30.1 -1.0
baz=168,SNR=11
R58A **Rapidan** 58.35 353 P P 09 48 31.4 +0.1
baz=172,SNR=16
TXAR **Lajitas Array** 58.37 326 P P 09 48 31.7 0.0
comp=Z,3.9nm,0.7s,baz=154,slow=8.1,SNR=13
TXAR LR LR 10 13 16.8
comp=Z,2µm,18.2s,baz=0.0,slow=36
MIAR **Mount Ida** 58.38 338 P P 09 48 31.0 -0.5
baz=155,SNR=33
MIAR **Mount Ida** 58.38 338 P P 09 48 31.5 0.0
MIAR pmax pmax
comp=Z,80nm,1.1s
MIAR **Mount Ida** 58.38 338 IAmb IAmb 09 48 45.1
comp=Z,74nm,1.1s
R57A **Stanardsville** 58.41 353 P P 09 48 31.9 +0.2
baz=172,SNR=23
W41B **Gary Mavity, V** 58.49 339 P P 09 48 31.7 -0.6
baz=156,SNR=13
S51A **Beattyville** 58.55 348 IAMs_20 IAMs_20 10 12 25.4
comp=Z,4µm,22.0s
R55A **Marlinton** 58.60 351 P P 09 48 33.5 +0.4
baz=170
R55A **Marlinton** 58.60 351 P P 09 48 33.0 0.0
R55A IAMs_20 IAMs_20 10 14 37.8
comp=Z,5µm,22.0s
WHAR **Wooly Hollow** 58.61 339 IAmb IAmb 09 48 46.0
comp=Z,32nm,1.0s
PEBM **Pemiscott Bayo** 58.62 342 P P 09 48 32.4 -0.8
R56A **Bull Pasture M** 58.62 352 P P 09 48 33.6 +0.3
baz=171
R54A **Victor** 58.63 351 P P 09 48 32.8 -0.4
baz=169,SNR=18
Q61A **Milford** 58.69 356 P P 09 48 34.0 +0.5
baz=175
T47A **Sharon Grove** 58.70 345 IAMs_20 IAMs_20 10 14 58.2

	comp=Z,3µm,22.0s						
Q59A	**Harwood** baz=174	**58.78**	**355**	P	**P**	**09 48 34.2**	**0.0**
Q60A	**Greensboro** baz=175	**58.85**	**355**	P	**P**	**09 48 35.0**	**+0.3**
PVMO	**Portageville** comp=Z,3µm,20.0s	**58.85**	**342**	IAMs_20	IAMs_20	10 15 26.1	
PENMO	**Penman** comp=Z,3µm,20.0s	**58.87**	**342**	IAMs_20	IAMs_20	10 15 25.5	
R53A	**Hurricane** baz=168	**58.93**	**350**	P	**P**	**09 48 35.5**	**+0.3**
R53A	**Hurricane** comp=Z,34nm,0.9s	**58.93**	**350**	IAmb	IAmb	09 49 07.4	
R53A				IAMs_20	IAMs_20	10 17 43.4	
	comp=Z,3µm,18.0s						
Q58A	**Fox Den Farm,** baz=179,SNR=18	**58.95**	**354**	P	**P**	**09 48 35.5**	**0.0**
W39A	**Magazine** baz=155,SNR=25	**59.04**	**338**	P	**P**	**09 48 35.9**	**-0.2**
W39A	**Magazine** comp=Z,36nm,0.9s	**59.04**	**338**	IAmb	IAmb	09 48 50.3	
X37A	**Clayton** comp=Z,54nm,0.9s	**59.07**	**336**	IAmb	IAmb	09 48 47.1	
X37A				IAMs_20	IAMs_20	10 14 50.7	
	comp=Z,3µm,20.0s						
PARMO	**Parma** comp=Z,3µm,20.0s	**59.10**	**342**	IAMs_20	IAMs_20	10 15 31.7	
FCAR	**Ozark Folk Cen**	**59.11**	**340**	P	**P**	**09 48 35.8**	**-0.8**
ABTX	**Abilene, Hawle** baz=148,SNR=7.2	**59.12**	**332**	P	**P**	**09 48 36.5**	**-0.2**
ABTX	**Abilene, Hawle** comp=Z,42nm,0.9s	**59.12**	**332**	IAmb	IAmb	09 48 52.7	
Q57A	**Strasburg** baz=172,SNR=32	**59.12**	**353**	P	**P**	**09 48 37.1**	**+0.5**
Q56A	**Snyder Ridge,** baz=171,SNR=24	**59.22**	**352**	P	**P**	**09 48 37.9**	**+0.5**
Q56A	**Snyder Ridge,** comp=Z,2µm,20.0s	**59.22**	**352**	IAMs_20	IAMs_20	10 15 42.3	
Q55A	**Buckhannon** baz=170,SNR=13	**59.29**	**352**	P	**P**	**09 48 38.0**	**+0.1**
R50A	**Paris** comp=Z,47nm,1.2s	**59.32**	**348**	IAmb	IAmb	09 49 03.2	
R50A				IAMs_20	IAMs_20	10 15 30.6	
	comp=Z,3µm,20.0s						
RKT	**Rikitea** comp=Z,2µm,26.2s	**59.34**	**254**	*e*S	**S**	**09 56 54.1**	**+6.2**
RKT				*e*LR	LR	10 06 09.8	
	comp=Z,6µm,29.0s						
RKT	**Rikitea** comp=Z,1.2nm,0.2s	**59.34**	**254**	*e*T	T	10 52 52.4	
Q53A	**Leroy** baz=168,SNR=17	**59.37**	**350**	P	**P**	**09 48 37.6**	**-0.7**
Q54A	**Coxs Mills** baz=169,SNR=9.7	**59.39**	**351**	P	**P**	**09 48 37.6**	**-0.8**
Q54A	**Coxs Mills** comp=Z,39nm,1.1s	**59.39**	**351**	IAmb	IAmb	09 48 42.5	
Q54A				IAMs_20	IAMs_20	10 15 13.7	
	comp=Z,4µm,22.0s						
P61A	**Hammonton** baz=176	**59.45**	**356**	P	**P**	**09 48 38.5**	**-0.3**
P58A	**Pank, Wackersv** baz=173,SNR=13	**59.46**	**354**	P	**P**	**09 48 39.0**	**+0.1**
P59A	**Jarrettsville** baz=174,SNR=13	**59.50**	**355**	P	**P**	**09 48 39.2**	**0.0**
R49A	**Shelbyville** comp=Z,31nm,1.1s	**59.50**	**347**	IAmb	IAmb	09 49 04.2	
R49A				IAMs_20	IAMs_20	10 14 30.5	
	comp=Z,4µm,20.0s						
P57A	**Homestead Farm** baz=172,SNR=16	**59.52**	**354**	P	**P**	**09 48 39.9**	**+0.5**
P57A	**Homestead Farm**	**59.52**	**354**	P	**P**	**09 48 40.0**	**+0.7**
Q52A	**Bidwell** baz=168	**59.60**	**350**	P	**P**	**09 48 38.9**	**-1.0**
P56A	**Dayton Farm, R** baz=171,SNR=20	**59.64**	**353**	P	**P**	**09 48 41.0**	**+0.8**
P60A	**Greenville** baz=175	**59.64**	**356**	P	**P**	**09 48 39.9**	**-0.2**
P60A	**Greenville** comp=Z,23nm,0.8s	**59.64**	**356**	IAmb	IAmb	09 48 53.6	
P60A				IAMs_20	IAMs_20	10 17 32.5	
	comp=Z,2µm,18.0s						
WCI	**Wyandotte Cave** baz=163	**59.69**	**346**	P	**P**	**09 48 39.0**	**-1.5**
WCI	**Wyandotte Cave**	**59.69**	**346**	P	**P**	**09 48 39.1**	**-1.4**
WCI				pmax	pmax		
	comp=Z,48nm,1.1s						
WCI				MLR	MLR		
	comp=Z,4µm,22.0s						
WCI	**Wyandotte Cave**	**59.69**	**346**	P	**P**	**09 48 39.1**	**-1.4**
WCI				IAmb	IAmb	09 49 05.5	
	comp=Z,48nm,1.1s						
WCI	**Wyandotte Cave** comp=Z,4µm,22.0s	**59.69**	**346**	IAMs_20	IAMs_20	10 15 28.1	
P55A	**Reedsville** baz=170,SNR=13	**59.76**	**352**	P	**P**	**09 48 41.0**	**-0.1**
USIN	**University of** comp=Z,59nm,0.9s	**59.77**	**345**	IAmb	IAmb	09 49 06.6	
USIN				IAMs_20	IAMs_20	10 14 07.4	
	comp=Z,3µm,22.0s						
U40A	**Yellville** baz=156,SNR=17	**59.77**	**339**	P	**P**	**09 48 40.4**	**-0.8**
U40A	**Yellville** comp=Z,32nm,0.9s	**59.77**	**339**	IAmb	IAmb	09 49 07.0	
Q51A	**Peebles** comp=Z,33nm,1.0s	**59.85**	**349**	IAmb	IAmb	09 49 07.8	
Q51A				IAMs_20	IAMs_20	10 15 18.7	
	comp=Z,3µm,21.0s						
O61A	**Allentown** baz=176	**59.85**	**357**	P	**P**	**09 48 41.3**	**-0.3**
MVL	**Millersville**	**59.88**	**355**	P	**P**	**09 48 41.7**	**-0.1**
MVL				IAmb	IAmb	09 49 08.9	
	comp=Z,38nm,1.0s						
MCWV	**Mont Chateau** baz=170	**59.91**	**352**	P	**P**	**09 48 41.8**	**-0.2**
P54A	**Burton** baz=170,SNR=28	**59.95**	**351**	P	**P**	**09 48 42.0**	**-0.3**
P53A	**Whipple** baz=169,SNR=17	**59.97**	**351**	P	**P**	**09 48 41.7**	**-0.7**
P53A	**Whipple** comp=Z,40nm,0.8s	**59.97**	**351**	IAmb	IAmb	09 49 14.9	
P53A				IAMs_20	IAMs_20	10 15 32.9	
	comp=Z,3µm,21.0s						
X34A	**Smith Ranch, M** comp=Z,42nm,0.8s	**60.05**	**334**	IAmb	IAmb	09 49 10.2	
O58A	**Lewisberry** baz=174,SNR=6.0	**60.05**	**355**	P	**P**	**09 48 43.1**	**0.0**
HHAR	**Hobbs** comp=Z,39nm,1.1s	**60.07**	**339**	IAmb	IAmb	09 49 10.0	
O60A	**Telford** baz=175	**60.13**	**356**	P	**P**	**09 48 43.6**	**+0.1**
O59A	**Robesonia** baz=174	**60.18**	**355**	P	**P**	**09 48 43.7**	**-0.2**
O57A	**Amberson** baz=173,SNR=21	**60.20**	**354**	P	**P**	**09 48 44.3**	**+0.3**
P52A	**Corning** baz=168,SNR=11	**60.23**	**350**	P	**P**	**09 48 43.1**	**-1.1**
P52A	**Corning** comp=Z,82nm,1.4s	**60.23**	**350**	IAmb	IAmb	09 49 00.1	
P52A				IAMs_20	IAMs_20	10 15 41.5	
	comp=Z,4µm,21.0s						
P51A	**Williamsport** baz=167	**60.24**	**349**	P	**P**	**09 48 43.0**	**-1.3**
P51A	**Williamsport**	**60.24**	**349**	P	**P**	**09 48 43.5**	**-0.8**
P51A				IAmb	IAmb	09 49 16.0	
	comp=Z,39nm,1.1s						
P51A				IAMs_20	IAMs_20	10 15 30.1	
	comp=Z,4µm,21.0s						
O56A	**Blue Knob Stat** baz=172,SNR=26	**60.36**	**353**	P	**P**	**09 48 45.1**	**0.0**
O55A	**Ligonier** baz=171,SNR=23	**60.39**	**353**	P	**P**	**09 48 45.4**	**+0.1**
TUL1	**Leonard** baz=153,SNR=14	**60.40**	**337**	P	**P**	**09 48 45.0**	**-0.5**
BRNJ	**Basking Ridge**	**60.44**	**357**	P	**P**	**09 48 44.8**	**-0.8**
BRNJ				IAmb	IAmb	09 49 01.0	
	comp=Z,48nm,1.1s						
BRNJ				IAMs_20	IAMs_20	10 14 57.7	
	comp=Z,3µm,20.0s						
N61A	**South Mountain** baz=176	**60.49**	**357**	P	**P**	**09 48 45.9**	**-0.1**
O54A	**Avella** baz=170	**60.50**	**352**	P	**P**	**09 48 45.5**	**-0.6**
O54A	**Avella** comp=Z,20nm,0.8s	**60.50**	**352**	IAmb	IAmb	09 49 18.9	
O54A				IAMs_20	IAMs_20	10 15 57.1	
	comp=Z,5µm,20.0s						
WMOK	**Wichita Mounta** baz=150,SNR=10	**60.55**	**334**	P	**P**	**09 48 45.3**	**-1.3**
OLIL	**Olney** comp=Z,40nm,1.1s	**60.60**	**345**	IAmb	IAmb	09 49 11.7	
OLIL				IAMs_20	IAMs_20	10 14 43.5	
	comp=Z,3µm,22.0s						
P49A	**Miami Univ. Ec** baz=165	**60.60**	**348**	P	**P**	**09 48 44.9**	**-1.9**
P49A	**Miami Univ. Ec**	**60.60**	**348**	P	**P**	**09 48 45.2**	**-1.6**
P49A				IAmb	IAmb	09 49 12.1	
	comp=Z,37nm,1.0s						
P49A				IAMs_20	IAMs_20	10 16 18.7	
	comp=Z,3µm,20.0s						
N62A	**Caumsett State** baz=177	**60.64**	**358**	P	**P**	**09 48 46.2**	**-0.8**
BLO	**Bloomington** comp=Z,32nm,0.9s	**60.64**	**346**	IAmb	IAmb	09 49 12.6	
BLO				IAMs_20	IAMs_20	10 15 36.6	
	comp=Z,3µm,20.0s						
O52A	**Adamsville** baz=168	**60.65**	**350**	P	**P**	**09 48 46.3**	**-0.8**
O52A	**Adamsville** comp=Z,81nm,1.4s	**60.65**	**350**	IAmb	IAmb	09 49 03.1	
O52A				IAMs_20	IAMs_20	10 15 53.0	
	comp=Z,3µm,21.0s						
SSPA	**Standing Stone**	**60.65**	**354**	P	**P**	**09 48 47.5**	**+0.4**
SSPA				IAmb	IAmb	09 48 52.1	
	comp=Z,55nm,1.1s						
SSPA	**Standing Stone** comp=Z,4µm,22.0s	**60.65**	**354**	IAMs_20	IAMs_20	10 15 56.4	
N60A	**Cedar Hill Far** baz=176,SNR=5.2	**60.66**	**356**	P	**P**	**09 48 46.8**	**-0.3**
N63A	**Mattituck** baz=178	**60.66**	**359**	P	**P**	**09 48 47.1**	**-0.1**
P48A	**Milroy** comp=Z,57nm,1.5s	**60.68**	**347**	IAmb	IAmb	09 48 49.5	
P48A				IAMs_20	IAMs_20	10 14 20.6	
	comp=Z,4µm,22.0s						
O53A	**New Philadelph** baz=169	**60.69**	**351**	P	**P**	**09 48 46.4**	**-0.9**
O53A	**New Philadelph**	**60.69**	**351**	P	**P**	**09 48 46.5**	**-0.9**
O53A				IAmb	IAmb	09 49 19.5	
	comp=Z,23nm,0.8s						
O53A				IAMs_20	IAMs_20	10 16 26.0	
	comp=Z,4µm,21.0s						
PAL	**Palisades** baz=177	**60.73**	**357**	P	**P**	**09 48 47.1**	**-0.5**
PAL	**Palisades** comp=Z,50nm,1.1s	**60.73**	**357**	IAmb	IAmb	09 48 52.0	
PAL				IAMs_20	IAMs_20	10 15 02.4	
	comp=Z,4µm,22.0s						
N57A	**Milroy** baz=173,SNR=27	**60.74**	**354**	P	**P**	**09 48 47.6**	**-0.1**
N58A	**Sunbury** baz=174,SNR=17	**60.74**	**355**	P	**P**	**09 48 47.8**	**+0.1**
N58A	**Sunbury** comp=Z,77nm,1.2s	**60.74**	**355**	IAmb	IAmb	09 49 13.8	
N59A	**State Game Lan** baz=175	**60.75**	**356**	P	**P**	**09 48 47.5**	**-0.3**
N59A	**State Game Lan** comp=Z,47nm,1.4s	**60.75**	**356**	IAmb	IAmb	09 48 52.1	
N59A				IAMs_20	IAMs_20	10 19 17.8	
	comp=Z,2µm,18.0s						
O51A	**Pataskala** baz=168,SNR=8.5	**60.81**	**350**	P	**P**	**09 48 46.9**	**-1.3**
CCM	**Cathedral Cave** baz=158	**60.83**	**342**	P	**P**	**09 48 47.2**	**-1.1**
CCM	**Cathedral Cave**	**60.83**	**342**	P	**P**	**09 48 47.4**	**-0.9**
CCM				pmax	pmax		
	comp=Z,34nm,0.9s						
CCM				MLR	MLR		
	comp=Z,2µm,20.0s						
CCM	**Cathedral Cave**	**60.83**	**342**	P	**P**	**09 48 47.4**	**-0.9**
CCM				IAmb	IAmb	09 49 14.5	
	comp=Z,34nm,0.9s						
ODNJ	**Ogdensburg**	**60.84**	**357**	P	**P**	**09 48 48.0**	**-0.4**
ODNJ				IAmb	IAmb	09 48 53.0	
	comp=Z,80nm,1.7s						
ODNJ				IAMs_20	IAMs_20	10 15 08.3	
	comp=Z,3µm,21.0s						
WSPT	**Westport, CT** comp=Z,3µm,20.0s	**60.87**	**358**	IAMs_20	IAMs_20	10 16 14.2	
N55A	**Marion Center** baz=171,SNR=62	**60.91**	**353**	P	**P**	**09 48 49.1**	**+0.2**
M66A	**Nantucket** baz=181	**60.92**	**1**	P	**P**	**09 48 48.5**	**-0.4**
ACSO	**Alum Creek Sta** baz=167,SNR=16	**60.95**	**349**	P	**P**	**09 48 48.0**	**-1.2**
ACSO	**Alum Creek Sta** comp=Z,74nm,1.1s	**60.95**	**349**	IAmb	IAmb	09 48 52.8	
ACSO				IAMs_20	IAMs_20	10 16 03.0	
	comp=Z,4µm,21.0s						
N56A	**West Decatur** baz=172,SNR=20	**60.97**	**354**	P	**P**	**09 48 49.5**	**+0.2**
YLE	**Yale** comp=Z,3µm,19.0s	**61.00**	**358**	IAMs_20	IAMs_20	10 19 03.7	
M61A	**Granite Spring** baz=177	**61.03**	**357**	P	**P**	**09 48 49.9**	**+0.2**
M63A	**Gales Ferry** baz=179	**61.07**	**359**	P	**P**	**09 48 50.0**	**+0.1**
M60A	**Port Jervis** baz=176	**61.09**	**357**	P	**P**	**09 48 49.9**	**-0.1**
M62A	**Hamden** baz=178,SNR=5.2	**61.13**	**358**	P	**P**	**09 48 50.5**	**+0.2**
MNTX	**Cornudas Mount** baz=143,SNR=24	**61.14**	**326**	P	**P**	**09 48 49.7**	**-0.9**
MNTX	**Cornudas Mount**	**61.14**	**326**	P	**P**	**09 48 50.3**	**-0.4**
S39A	**Bolivar** comp=Z,62nm,1.1s	**61.14**	**340**	IAmb	IAmb	09 49 16.4	
O49A	**Covington** comp=Z,58nm,1.4s	**61.16**	**348**	IAmb	IAmb	09 48 53.3	
O49A				IAMs_20	IAMs_20	10 16 34.4	
	comp=Z,3µm,20.0s						
N53A	**Lisbon** baz=169,SNR=5.7	**61.18**	**351**	P	**P**	**09 48 50.1**	**-0.6**
N53A	**Lisbon** comp=Z,58nm,1.2s	**61.18**	**351**	IAmb	IAmb	09 48 54.4	
N53A				IAMs_20	IAMs_20	10 16 49.0	
	comp=Z,5µm,20.0s						
M64A	**Tiverton** baz=180	**61.21**	**360**	P	**P**	**09 48 50.8**	**0.0**
N54A	**Moraine State** baz=170,SNR=22	**61.22**	**352**	P	**P**	**09 48 50.9**	**0.0**
N54A	**Moraine State** comp=Z,4µm,22.0s	**61.22**	**352**	IAMs_20	IAMs_20	10 15 58.0	
M65A	**Busby, Falmout** baz=180	**61.22**	**0**	P	**P**	**09 48 50.4**	**-0.5**
M65A	**Busby, Falmout** comp=Z,2µm,19.0s	**61.22**	**0**	IAMs_20	IAMs_20	10 18 08.5	
P46A	**Rosedale** comp=Z,55nm,1.1s	**61.23**	**346**	IAmb	IAmb	09 49 15.7	
P46A				IAMs_20	IAMs_20	10 16 27.0	
	comp=Z,4µm,21.0s						
M58A	**Price's Panora** baz=174,SNR=31	**61.25**	**355**	P	**P**	**09 48 51.5**	**+0.3**
M57A	**Sunshine Farm,** baz=173,SNR=21	**61.27**	**355**	P	**P**	**09 48 51.6**	**+0.3**
M57A	**Sunshine Farm,** comp=Z,62nm,1.1s	**61.27**	**355**	IAmb	IAmb	09 48 56.5	
N52A	**McGinn's Farm,** baz=168	**61.31**	**351**	P	**P**	**09 48 50.3**	**-1.3**
M59A	**Waymart** baz=175,SNR=24	**61.35**	**356**	P	**P**	**09 48 51.7**	**-0.2**
R40A	**Maddies Statio**	**61.36**	**341**	P	**P**	**09 48 50.2**	**-1.7**
O48A	**Farmland** baz=165,SNR=5.8	**61.39**	**348**	P	**P**	**09 48 50.6**	**-1.5**
KSCT	**Kent School, K** comp=Z,74nm,1.4s	**61.43**	**358**	IAmb	IAmb	09 48 56.4	
KSCT				IAMs_20	IAMs_20	10 15 41.0	
	comp=Z,3µm,20.0s						
M56A	**Emporium** baz=172,SNR=29	**61.52**	**354**	P	**P**	**09 48 52.7**	**-0.3**
M56A	**Emporium** comp=Z,3µm,22.0s	**61.52**	**354**	IAMs_20	IAMs_20	10 16 21.2	
N51A	**Ashland** baz=168	**61.52**	**350**	P	**P**	**09 48 51.8**	**-1.2**
N51A	**Ashland** comp=Z,22nm,0.8s	**61.52**	**350**	IAmb	IAmb	09 49 04.5	
N51A				IAMs_20	IAMs_20	10 16 21.1	
	comp=Z,3µm,20.0s						
L63A	**North Scituate** baz=179,SNR=16	**61.52**	**359**	P	**P**	**09 48 52.9**	**0.0**
T35A	**Sooner Cattle** comp=Z,69nm,1.1s	**61.56**	**337**	IAmb	IAmb	09 49 07.1	
M55A	**Ridgway** baz=172,SNR=34	**61.57**	**353**	P	**P**	**09 48 53.1**	**-0.2**
L64A	**Middleborough** baz=180,SNR=7.3	**61.59**	**360**	P	**P**	**09 48 52.9**	**-0.5**
MSTX	**Muleshoe** baz=146,SNR=13	**61.68**	**330**	P	**P**	**09 48 53.5**	**-0.8**
MSTX	**Muleshoe**	**61.68**	**330**	P	**P**	**09 48 54.0**	**-0.4**
L65A	**Cape Cod Natio** baz=181	**61.69**	**1**	P	**P**	**09 48 53.4**	**-0.7**
L62A	**Suffield** baz=178	**61.71**	**358**	P	**P**	**09 48 53.8**	**-0.4**
M54A	**Oil Creek Stat** baz=171,SNR=38	**61.71**	**352**	P	**P**	**09 48 54.1**	**-0.2**
L60A	**Shokan** baz=176,SNR=8.2	**61.73**	**357**	P	**P**	**09 48 54.5**	**+0.1**
M53A	**WI Miller and** baz=170,SNR=9.6	**61.78**	**352**	P	**P**	**09 48 54.0**	**-0.7**
M53A	**WI Miller and** comp=Z,49nm,1.0s	**61.78**	**352**	IAmb	IAmb	09 49 07.0	
M53A				IAMs_20	IAMs_20	10 16 25.9	
	comp=Z,4µm,21.0s						
EPT	**El Paso** comp=Z,2µm,19.0s	**61.79**	**326**	IAMs_20	IAMs_20	10 14 22.3	
N49A	**Columbus Grove**	**61.84**	**349**	P	**P**	**09 48 54.3**	**-0.9**
L58A	**Harry Jones Me** baz=175,SNR=21	**61.88**	**356**	P	**P**	**09 48 55.5**	**+0.1**
M51A	**Elyria** baz=168	**61.90**	**350**	P	**P**	**09 48 54.7**	**-0.8**
L61A	**Hillsdale 1, H** baz=177	**61.90**	**358**	P	**P**	**09 48 55.1**	**-0.4**
L57A	**Andrews Acres** baz=174,SNR=8.9	**61.91**	**355**	P	**P**	**09 48 55.7**	**0.0**
ALLY	**Alegheny Colle** comp=Z,3µm,21.0s	**61.91**	**352**	IAMs_20	IAMs_20	10 16 41.5	
SFIN	**Lafayette** baz=163,SNR=9.2	**61.92**	**346**	P	**P**	**09 48 53.6**	**-2.1**
SFIN	**Lafayette** comp=Z,43nm,0.8s	**61.92**	**346**	IAmb	IAmb	09 49 20.7	
SFIN				IAMs_20	IAMs_20	10 16 15.6	
	comp=Z,5µm,20.0s						
AMTX	**Amarillo** baz=147	**61.94**	**331**	P	**P**	**09 48 55.0**	**-1.1**
L59A	**Walton** baz=176,SNR=22	**61.97**	**356**	P	**P**	**09 48 56.0**	**-0.1**
L59A	**Walton** comp=Z,3µm,20.0s	**61.97**	**356**	IAMs_20	IAMs_20	10 16 45.2	
M52A	**Chesterland** baz=169	**61.97**	**351**	P	**P**	**09 48 55.2**	**-0.8**
M52A	**Chesterland** comp=Z,54nm,1.1s	**61.97**	**351**	IAmb	IAmb	09 49 00.0	
M52A				IAMs_20	IAMs_20	10 17 14.1	
	comp=Z,5µm,21.0s						
O44A	**Mansfield**	**62.03**	**345**	P	**P**	**09 48 55.0**	**-1.5**
O44A				IAmb	IAmb	09 49 21.0	
	comp=Z,31nm,0.9s						
O44A				IAMs_20	IAMs_20	10 17 35.5	
	comp=Z,3µm,19.0s						
BINY	**Binghamton** baz=175,SNR=19	**62.04**	**356**	P	**P**	**09 48 56.4**	**-0.1**
WES	**Weston** comp=Z,50nm,1.1s	**62.04**	**360**	IAmb	IAmb	09 49 10.1	
WES				IAMs_20	IAMs_20	10 13 59.6	
	comp=Z,2µm,22.0s						
VNA3	**Neumayer Olymp**	**62.09**	**161**	P	**P**	**09 48 57.7**	**+1.2**
N47A	**Urbana** comp=Z,3µm,20.0s	**62.10**	**347**	IAMs_20	IAMs_20	10 17 04.9	
M50A	**Fremont** comp=Z,55nm,1.1s	**62.10**	**350**	IAmb	IAmb	09 49 00.6	
M50A				IAMs_20	IAMs_20	10 16 38.5	
	comp=Z,4µm,20.0s						
L56A	**Greenwood** baz=173,SNR=18	**62.11**	**354**	P	**P**	**09 48 56.7**	**-0.2**
L56A	**Greenwood** comp=Z,2µm,19.0s	**62.11**	**354**	IAMs_20	IAMs_20	10 19 06.7	
L61B	**Northampton** baz=178,SNR=9.6	**62.13**	**358**	P	**P**	**09 48 57.0**	**-0.1**
HRV	**Adam Dziewonsk** baz=179	**62.16**	**359**	P	**P**	**09 48 57.0**	**-0.3**
HRV	**Adam Dziewonsk**	**62.16**	**359**	P	**P**	**09 48 56.8**	**-0.5**
HRV				pmax	pmax		
	comp=Z,71nm,1.0s						
HRV	**Adam Dziewonsk**	**62.16**	**359**	P	**P**	**09 48 56.8**	**-0.5**
HRV	**Adam Dziewonsk** comp=Z,2µm,20.0s	**62.16**	**359**	IAMs_20	IAMs_20	10 15 01.5	
L53A	**Girard** baz=170,SNR=11	**62.23**	**352**	P	**P**	**09 48 57.1**	**-0.7**
L55A	**Hinsdale** baz=172,SNR=24	**62.24**	**354**	P	**P**	**09 48 57.7**	**-0.1**
VNA1	**Neumayer--Stat**	**62.31**	**160**	P	**P**	**09 48 59.8**	**+1.8**
K62A	**Royalston** baz=179	**62.33**	**359**	P	**P**	**09 48 58.3**	**-0.1**
K62A	**Royalston** comp=Z,2µm,20.0s	**62.33**	**359**	IAMs_20	IAMs_20	10 17 04.9	
K60A	**Five Rivers En** baz=177	**62.34**	**357**	P	**P**	**09 48 58.5**	**+0.1**
K63A	**Dunstable** baz=179,SNR=8.3	**62.35**	**359**	P	**P**	**09 48 58.6**	**+0.1**
ERPA	**Erie** baz=170,SNR=11	**62.35**	**352**	P	**P**	**09 48 57.8**	**-0.8**
K61A	**Williamstown** baz=178,SNR=5.9	**62.37**	**358**	P	**P**	**09 48 58.5**	**-0.1**
L54A	**Sinclairville** baz=171,SNR=33	**62.39**	**353**	P	**P**	**09 48 58.8**	**0.0**
P40A	**Paris**	**62.43**	**342**	P	**P**	**09 48 57.7**	**-1.4**
P40A				IAmb	IAmb	09 49 24.8	
	comp=Z,52nm,1.1s						
TRY	**Troy** comp=Z,3µm,21.0s	**62.44**	**358**	IAMs_20	IAMs_20	10 15 50.7	
WVNY	**West Valley, N** comp=Z,3µm,22.0s	**62.48**	**354**	IAMs_20	IAMs_20	10 16 51.5	
K59A	**Cooperstown** baz=176,SNR=39	**62.54**	**357**	P	**P**	**09 49 00.0**	**+0.2**
K58A	**Earlville** baz=175,SNR=23	**62.58**	**356**	P	**P**	**09 49 00.2**	**+0.1**
K58A	**Earlville** comp=Z,2µm,18.0s	**62.58**	**356**	IAMs_20	IAMs_20	10 20 36.3	
K57A	**Scipio Center** baz=174,SNR=15	**62.61**	**355**	P	**P**	**09 48 59.9**	**-0.4**
HDIL	**Hopedale** baz=161,SNR=5.3	**62.62**	**344**	P	**P**	**09 48 58.5**	**-1.9**
HDIL	**Hopedale**	**62.62**	**344**	P	**P**	**09 48 58.9**	**-1.5**
HDIL				IAMs_20	IAMs_20	10 20 50.0	
	comp=Z,3µm,18.0s						
K56A	**Middlesex** baz=173,SNR=12	**62.64**	**355**	P	**P**	**09 49 00.3**	**-0.2**
K54A	**Basiliko Farm,** baz=172,SNR=26	**62.69**	**353**	P	**P**	**09 49 00.7**	**-0.1**
L50A	**Kingsville** baz=166	**62.69**	**350**	P	**P**	**09 48 59.4**	**-1.4**
MMNY	**Mt. Morris Dam** comp=Z,2µm,18.0s	**62.73**	**354**	IAMs_20	IAMs_20	10 19 36.2	
K55A	**Perry** baz=172,SNR=16	**62.74**	**354**	P	**P**	**09 49 01.0**	**-0.2**
L48A	**N Adams** comp=Z,52nm,1.1s	**62.88**	**349**	IAmb	IAmb	09 49 05.4	
L48A				IAMs_20	IAMs_20	10 18 05.9	
	comp=Z,3µm,22.0s						
J62A	**Henniker** baz=179	**62.89**	**359**	P	**P**	**09 49 02.5**	**+0.4**
J63A	**Strafford** baz=180	**62.94**	**360**	P	**P**	**09 49 03.6**	**+1.2**
J60A	**Lant Hill Farm** baz=177,SNR=5.6	**62.94**	**358**	P	**P**	**09 49 04.3**	**+1.9**
P38A	**Dawn**	**62.97**	**340**	P	**P**	**09 49 01.9**	**-0.9**
P38A				IAmb	IAmb	09 49 29.0	
	comp=Z,33nm,0.9s						
319A	**Douglas** comp=Z,59nm,1.1s	**63.00**	**323**	IAmb	IAmb	09 49 19.7	
319A				IAMs_20	IAMs_20	10 19 26.3	
	comp=Z,3µm,18.0s						
J61A	**Chester** baz=178,SNR=5.1	**63.02**	**359**	P	**P**	**09 49 03.4**	**+0.4**
121A	**Cookes Peak, D** baz=141,SNR=8.2	**63.06**	**325**	P	**P**	**09 49 04.3**	**+0.6**
121A	**Cookes Peak, D** comp=Z,55nm,1.4s	**63.06**	**325**	IAmb	IAmb	09 49 20.5	
121A				IAMs_20	IAMs_20	10 14 49.9	
	comp=Z,3µm,19.0s						
AAM	**Ann Arbor** baz=167	**63.08**	**349**	P	**P**	**09 49 02.1**	**-1.3**
AAM	**Ann Arbor** comp=Z,3µm,20.0s	**63.08**	**349**	IAMs_20	IAMs_20	10 17 09.4	
ACCN	**Adirondack Com** comp=Z,73nm,1.3s	**63.09**	**358**	IAmb	IAmb	09 49 08.0	
ACCN				IAMs_20	IAMs_20	10 18 26.0	
	comp=Z,2µm,19.0s						
K52A	**Tillsonburg** baz=170	**63.10**	**352**	P	**P**	**09 49 02.4**	**-1.1**
M44A	**Midewin, Midew** comp=Z,67nm,1.4s	**63.10**	**346**	IAmb	IAmb	09 49 05.7	
M44A				IAMs_20	IAMs_20	10 20 39.8	
	comp=Z,3µm,18.0s						
J58A	**Remsen** baz=175,SNR=8.6	**63.15**	**356**	P	**P**	**09 49 03.6**	**-0.2**

J58A	**Remsen**	**63.15**	**356**	IAmb	IAmb	09 49 07.3			
	comp=Z,51nm,1.4s								
J58A				IAMs_20	IAMs_20	10 17 31.4			
	comp=Z,3µm,20.0s								
K51A	**Iona Station**	**63.15**	**351**	P	**P**	**09 49 02.8**	**-1.1**		
	baz=169								
J56A	**Wolcott**	**63.18**	**355**	P	**P**	**09 49 03.4**	**-0.5**		
	baz=174,SNR=22								
J56A	**Wolcott**	**63.18**	**355**	P	**P**	**09 49 03.5**	**-0.5**		
N41A	**Harden Midland**	**63.18**	**343**	IAMs_20	IAMs_20	10 20 31.7			
	comp=Z,2µm,19.0s								
J59A	**Piesco**	**63.21**	**357**	P	**P**	**09 49 04.5**	**+0.2**		
	baz=176,SNR=34								
J59A	**Piesco**	**63.21**	**357**	IAMs_20	IAMs_20	10 16 49.1			
	comp=Z,3µm,20.0s								
J57A	**Williamstown**	**63.24**	**356**	P	**P**	**09 49 04.0**	**-0.4**		
	baz=175,SNR=18								
J57A	**Williamstown**	**63.24**	**356**	IAMs_20	IAMs_20	10 21 05.9			
	comp=Z,2µm,19.0s								
J55A	**Hilton**	**63.25**	**354**	P	**P**	**09 49 03.7**	**-0.8**		
	baz=173,SNR=18								
J55A	**Hilton**	**63.25**	**354**	IAMs_20	IAMs_20	10 19 50.0			
	comp=Z,3µm,18.0s								
L46A	**Eue Claire**	**63.31**	**347**	IAMs_20	IAMs_20	10 19 15.3			
	comp=Z,3µm,19.0s								
J54A	**Appleton**	**63.34**	**354**	P	**P**	**09 49 04.6**	**-0.5**		
	baz=172,SNR=8.4								
J54A	**Appleton**	**63.34**	**354**	IAMs_20	IAMs_20	10 17 15.3			
	comp=Z,3µm,22.0s								
K50A	**Casco**	**63.37**	**350**	P	**P**	**09 49 03.7**	**-1.6**		
	baz=168								
K50A	**Casco**	**63.37**	**350**	IAMs_20	IAMs_20	10 17 39.1			
	comp=Z,5µm,20.0s								
I58A	**Old Forge**	**63.46**	**357**	P	**P**	**09 49 05.8**	**-0.2**		
	baz=176,SNR=15								
I59A	**Olmsteadville**	**63.51**	**358**	P	**P**	**09 49 06.4**	**+0.1**		
	baz=177,SNR=19								
K49A	**Clarkson**	**63.52**	**350**	P	**P**	**09 49 04.7**	**-1.6**		
	baz=167								
J52A	**Paris**	**63.52**	**352**	P	**P**	**09 49 05.5**	**-0.8**		
	baz=170,SNR=21								
I62A	**Tamworth**	**63.53**	**360**	P	**P**	**09 49 06.6**	**+0.3**		
	baz=180								
KSU1	**Kansas State U**	**63.53**	**338**	P	**P**	**09 49 05.2**	**-1.2**		
	baz=153								
KSU1	**Kansas State U**	**63.53**	**338**	P	**P**	**09 49 05.7**	**-0.8**		
KSU1				IAmb	IAmb	09 49 39.4			
	comp=Z,30nm,0.9s								
I60A	**Shoreham**	**63.54**	**358**	P	**P**	**09 49 06.6**	**+0.2**		
	baz=178,SNR=15								
I64A	**Boothbay**	**63.58**	**1**	P	**P**	**09 49 07.2**	**+0.6**		
	baz=181								
I61A	**Oroboro, Fairl**	**63.60**	**359**	P	**P**	**09 49 07.4**	**+0.6**		
	baz=179,SNR=21								
NCB	**Newcomb**	**63.70**	**357**	IAmb	IAmb	09 49 12.3			
NCB	comp=Z,60nm,1.3s			IAMs_20	IAMs_20	10 17 12.1			
	comp=Z,2µm,20.0s								
I63A	**Otisfield**	**63.71**	**0**	P	**P**	**09 49 08.4**	**+0.9**		
	baz=180								
R32A	**Long Quarter,**	**63.71**	**336**	IAmb	IAmb	09 49 21.5			
	comp=Z,52nm,1.0s								
I57A	**Carthage**	**63.75**	**356**	P	**P**	**09 49 07.5**	**-0.3**		
	baz=175,SNR=12								
Y22D	**IRIS PASSCAL I**	**63.80**	**327**	IAmb	IAmb	09 50 43.5			
	comp=Z,40nm,1.1s								
L44A	**Lake County Fo**	**63.82**	**346**	P	**P**	**09 49 06.7**	**-1.6**		
	baz=162								
L44A	**Lake County Fo**	**63.82**	**346**	IAMs_20	IAMs_20	10 17 23.8			
	comp=Z,5µm,21.0s								
PECO	**Prince Edward**	**63.84**	**355**	P	**P**	**09 49 08.2**	**-0.2**		
LBNH	**Lisbon**	**63.90**	**359**	P	**P**	**09 49 09.2**	**+0.4**		
	baz=179,SNR=12								
LBNH	**Lisbon**	**63.90**	**359**	IAMs_20	IAMs_20	10 17 50.5			
	comp=Z,2µm,20.0s								
N38A	**Joes South For**	**63.95**	**341**	IAmb	IAmb	09 49 35.4			
	comp=Z,50nm,0.9s								
VT1	**Waterbury**	**64.01**	**358**	IAmb	IAmb	09 49 13.9			
	comp=Z,29nm,1.0s								
J49A	**Marlette**	**64.03**	**350**	P	**P**	**09 49 07.7**	**-2.0**		
	baz=167								
J48A	**Bridge Port**	**64.08**	**350**	P	**P**	**09 49 08.5**	**-1.5**		
	baz=167,SNR=6.9								
J48A	**Bridge Port**	**64.08**	**350**	IAmb	IAmb	09 49 21.4			
	comp=Z,47nm,0.9s								
J48A				IAMs_20	IAMs_20	10 17 50.6			
	comp=Z,3µm,21.0s								
L42A	**Oliver, Polo**	**64.08**	**344**	IAmb	IAmb	09 49 24.0			
	comp=Z,23nm,0.8s								
L42A				IAMs_20	IAMs_20	10 16 43.6			
	comp=Z,2µm,21.0s								
H58A	**Gabriels**	**64.15**	**357**	P	**P**	**09 49 10.3**	**-0.1**		
	baz=177,SNR=20								
I51A	**Listowel**	**64.15**	**352**	P	**P**	**09 49 09.5**	**-0.9**		
	baz=170,SNR=14								
I55A	**Frankford**	**64.18**	**355**	P	**P**	**09 49 10.3**	**-0.3**		
	baz=173,SNR=22								
H61A	**Lyndonville**	**64.20**	**359**	P	**P**	**09 49 11.4**	**+0.6**		
	baz=179,SNR=13								
J47A	**Sunmer**	**64.20**	**349**	P	**P**	**09 49 09.1**	**-1.6**		
	baz=166								
WVL	**Waterville**	**64.23**	**1**	P	**P**	**09 49 09.8**	**-1.1**		
WVL				IAmb	IAmb	09 49 25.6			
	comp=Z,36nm,0.9s								
WVL				IAMs_20	IAMs_20	10 15 56.2			
	comp=Z,3µm,21.0s								
H62A	**Milan**	**64.23**	**360**	P	**P**	**09 49 11.5**	**+0.5**		
	baz=180								
H60A	**Morristown**	**64.24**	**359**	P	**P**	**09 49 11.2**	**+0.1**		
	baz=178								
ANMO	**Albuquerque**	**64.25**	**328**	P	**P**	**09 49 11.7**	**+0.1**		
	baz=143								
ANMO	**Albuquerque**	**64.25**	**328**	*ce*P	**P**	**09 49 11.9**	**+0.3**		
ANMO				pmax	pmax				
	comp=Z,9.0nm,1.9s								
ANMO				MLR	MLR				
	comp=Z,1µm,18.0s								
ANMO	**Albuquerque**	**64.25**	**328**	P	**P**	**09 49 11.6**	**+0.1**		
SNAA	**Sanae**	**64.30**	**161**	P	**P**	**09 49 12.1**	**+0.8**		
SNAA	**Sanae**	**64.30**	**161**	P	**P**	**09 49 12.3**	**+1.0**		
	comp=Z,47nm,1.1s,baz=279,slow=6.8,SNR=61								
SNAA	**Sanae**	**64.30**	**161**	*c iP*	**P**	**09 49 11.9**	**+0.6**		
SNAA				pmax	pmax				
	comp=Z,78nm,1.2s								
SNAA				MLR	MLR				
	comp=Z,2µm,18.0s								
SNAA	**Sanae**	**64.30**	**161**	P	**P**	**09 49 11.5**	**+0.2**		
SNAA				IAMs_20	IAMs_20	10 14 48.5			
	comp=Z,2µm,21.0s								
H64A	**Troy**	**64.31**	**1**	P	**P**	**09 49 11.9**	**+0.4**		
	baz=182								
H63A	**New Sharon**	**64.32**	**1**	P	**P**	**09 49 12.4**	**+0.9**		
	baz=181								
H59A	**Cadyville**	**64.35**	**358**	P	**P**	**09 49 11.8**	**0.0**		
	baz=177,SNR=19								
LONY	**Lake Ozonia**	**64.37**	**357**	P	**P**	**09 49 11.9**	**0.0**		
	baz=176,SNR=16								
LONY	**Lake Ozonia**	**64.37**	**357**	IAMs_20	IAMs_20	10 17 33.6			
	comp=Z,3µm,20.0s								
H65A	**Eastbrook**	**64.39**	**2**	P	**P**	**09 49 12.3**	**+0.3**		
	baz=183,SNR=5.3								
K43A	**Burlington**	**64.42**	**346**	IAMs_20	IAMs_20	10 21 35.6			
	comp=Z,5µm,18.0s								
EMMW	**East Machias**	**64.44**	**3**	IAMs_20	IAMs_20	10 21 19.7			
	comp=Z,3µm,19.0s								
H56A	**Elgin**	**64.44**	**356**	P	**P**	**09 49 12.1**	**-0.2**		
	baz=174,SNR=15								
CBKS	**Cedar Bluff**	**64.45**	**335**	P	**P**	**09 49 12.1**	**-0.5**		
	baz=150								
H55A	**Tweed**	**64.47**	**355**	P	**P**	**09 49 11.9**	**-0.6**		
	baz=174,SNR=16								
DELO	**Deloro Mine**	**64.47**	**355**	IAmb	IAmb	09 49 16.2			
	comp=Z,52nm,1.2s								
DELO				IAMs_20	IAMs_20	10 18 33.4			
	comp=Z,3µm,21.0s								
H66A	**Whiting**	**64.52**	**3**	P	**P**	**09 49 13.1**	**+0.2**		
	baz=184								
I49A	**Point Hope**	**64.54**	**350**	P	**P**	**09 49 11.5**	**-1.5**		
	baz=168								
I49A	**Point Hope**	**64.54**	**350**	IAMs_20	IAMs_20	10 18 14.0			
	comp=Z,5µm,20.0s								
L40A	**Anamosa**	**64.54**	**343**	P	**P**	**09 49 11.7**	**-1.3**		
L40A				IAMs_20	IAMs_20	10 22 03.4			
	comp=Z,3µm,18.0s								
TUC	**Tucson**	**64.54**	**323**	P	**P**	**09 49 13.4**	**0.0**		
	baz=138								
TUC	**Tucson**	**64.54**	**323**	P	**P**	**09 49 14.2**	**+0.8**		
TUC				pmax	pmax				
	comp=Z,8.0nm,1.0s								
TUC				MLR	MLR				
	comp=Z,3µm,19.0s								
TUC	**Tucson**	**64.54**	**323**	P	**P**	**09 49 14.2**	**+0.8**		
TUC	**Tucson**	**64.54**	**323**	IAMs_20	IAMs_20	10 18 19.2			
	comp=Z,3µm,19.0s								
H53A	**Bobcaygeon**	**64.62**	**354**	P	**P**	**09 49 12.8**	**-0.7**		
	baz=172,SNR=22								
J45A	**Montague**	**64.69**	**348**	IAMs_20	IAMs_20	10 18 52.0			
	comp=Z,3µm,21.0s								
G60A	**Masonville**	**64.77**	**359**	P	**P**	**09 49 14.8**	**+0.4**		
	baz=179								
G59A	**Clarenceville**	**64.77**	**358**	P	**P**	**09 49 14.6**	**+0.2**		
	baz=178								
G63A	**Kingsbury**	**64.78**	**1**	P	**P**	**09 49 15.0**	**+0.4**		
	baz=181,SNR=6.0								
H52A	**Wyevale**	**64.83**	**353**	P	**P**	**09 49 14.1**	**-0.7**		
	baz=171,SNR=10								
G57A	**Newington**	**64.87**	**357**	P	**P**	**09 49 15.1**	**0.0**		
	baz=176,SNR=16								
G58A	**Ormstown**	**64.87**	**357**	P	**P**	**09 49 14.4**	**-0.7**		
	baz=177								
SADO	**Sadowa**	**64.87**	**353**	IAMs_20	IAMs_20	10 22 31.9			
	comp=Z,2µm,19.0s								
G62A	**West of Eustis**	**64.87**	**0**	P	**P**	**09 49 15.8**	**+0.6**		
	baz=180,SNR=29								
G62A	**West of Eustis**	**64.87**	**0**	IAMs_20	IAMs_20	10 16 40.2			
	comp=Z,3µm,21.0s								
GGN	**Saint George**	**64.87**	**3**	IAMs_20	IAMs_20	10 16 09.4			
	comp=Z,3µm,22.0s								
I47A	**Gladwin**	**64.90**	**349**	P	**P**	**09 49 13.9**	**-1.4**		
	baz=166								
I47A	**Gladwin**	**64.90**	**349**	IAmb	IAmb	09 49 42.4			
	comp=Z,36nm,0.9s								
I47A				IAMs_20	IAMs_20	10 18 05.5			
	comp=Z,3µm,21.0s								
G65A	**Princeton**	**64.92**	**3**	P	**P**	**09 49 15.7**	**+0.2**		
	baz=184								
G65A	**Princeton**	**64.92**	**3**	P	**P**	**09 49 15.2**	**-0.2**		
G65A				IAMs_20	IAMs_20	10 21 52.6			
	comp=Z,3µm,18.0s								
I48A	**Sherman Twp**	**64.92**	**350**	P	**P**	**09 49 14.3**	**-1.1**		
	baz=167,SNR=7.7								
G64A	**Maxfield**	**64.93**	**2**	P	**P**	**09 49 15.7**	**+0.2**		
	baz=182								
PKME	**Peaks-Kenny Pk**	**64.93**	**1**	P	**P**	**09 49 15.6**	**+0.1**		
	baz=182								
PKME	**Peaks-Kenny Pk**	**64.93**	**1**	IAMs_20	IAMs_20	10 16 37.8			
	comp=Z,3µm,22.0s								
G61A	**St-Isidore-de-**	**64.94**	**359**	P	**P**	**09 49 16.3**	**+0.7**		
	baz=179,SNR=16								
PLVO	**Plevna**	**64.95**	**355**	IAmb	IAmb	09 49 30.8			
	comp=Z,29nm,1.0s								
SCIA	**State Center**	**64.96**	**342**	P	**P**	**09 49 15.1**	**-0.7**		
	baz=157								
SCIA	**State Center**	**64.96**	**342**	IAMs_20	IAMs_20	10 17 23.8			
	comp=Z,2µm,21.0s								
I46A	**Reed City**	**65.00**	**348**	P	**P**	**09 49 14.1**	**-1.9**		
	baz=165								
T25A	**Trinidad**	**65.04**	**331**	P	**P**	**09 49 17.2**	**+0.5**		
	baz=145,SNR=14								
T25A	**Trinidad**	**65.04**	**331**	IAmb	IAmb	09 49 45.4			
	comp=Z,34nm,1.2s								
JFWS	**Jewell Farm**	**65.08**	**344**	P	**P**	**09 49 15.4**	**-1.2**		
	baz=160,SNR=14								
JFWS	**Jewell Farm**	**65.08**	**344**	IAmb	IAmb	09 49 32.6			
	comp=Z,28nm,0.8s								
JFWS	**Jewell Farm**	**65.08**	**344**	IAMs_20	IAMs_20	10 17 24.1			
	comp=Z,3µm,21.0s								
G55A	**Calabogie**	**65.13**	**355**	P	**P**	**09 49 16.2**	**-0.6**		
	baz=174,SNR=23								
G53A	**Haliburton**	**65.17**	**354**	P	**P**	**09 49 16.5**	**-0.6**		
	baz=172,SNR=33								
I45A	**Fountain**	**65.24**	**348**	IAMs_20	IAMs_20	10 19 18.4			
	comp=Z,3µm,21.0s								
H48A	**Harrisville**	**65.36**	**350**	P	**P**	**09 49 16.9**	**-1.5**		
	baz=167								
H48A	**Harrisville**	**65.36**	**350**	IAMs_20	IAMs_20	10 18 38.7			
	comp=Z,4µm,20.0s								
F63A	**Nahmakanta, Br**	**65.38**	**1**	P	**P**	**09 49 18.6**	**+0.2**		
	baz=182								
F63A	**Nahmakanta, Br**	**65.38**	**1**	IAMs_20	IAMs_20	10 17 02.6			
	comp=Z,3µm,21.0s								
G54A	**Lake Saint Pet**	**65.39**	**354**	P	**P**	**09 49 18.0**	**-0.5**		
	baz=173,SNR=17								
H47A	**Mio**	**65.41**	**350**	P	**P**	**09 49 17.4**	**-1.3**		
	baz=166								
214A	**Organ Pipe Nat**	**65.46**	**321**	P	**P**	**09 49 20.2**	**+0.9**		
	baz=136,SNR=10								
214A	**Organ Pipe Nat**	**65.46**	**321**	IAmb	IAmb	09 49 36.3			
	comp=Z,28nm,1.1s								
K38A	**Parkersburg**	**65.51**	**342**	IAmb	IAmb	09 49 33.9			
	comp=Z,40nm,1.0s								
K38A				IAMs_20	IAMs_20	10 22 32.4			
	comp=Z,3µm,18.0s								
F59A	**Saint Guilaume**	**65.53**	**358**	P	**P**	**09 49 18.9**	**-0.5**		
	baz=178								
H46A	**Fife Lake**	**65.53**	**349**	P	**P**	**09 49 17.7**	**-1.8**		
	baz=165,SNR=9.2								
F62A	**Pittston Farm,**	**65.56**	**1**	P	**P**	**09 49 20.0**	**+0.4**		
	baz=181								
F62A	**Pittston Farm,**	**65.56**	**1**	IAMs_20	IAMs_20	10 17 32.3			
	comp=Z,2µm,21.0s								
F64A	**Sherman**	**65.56**	**2**	P	**P**	**09 49 19.5**	**0.0**		
	baz=183,SNR=9.8								
F61A	**St Evariste**	**65.63**	**360**	P	**P**	**09 49 20.0**	**-0.1**		
	baz=180								
F60A	**Warwick**	**65.63**	**359**	P	**P**	**09 49 19.9**	**-0.2**		
	baz=179,SNR=17								
I42A	**Draeger Farm,**	**65.68**	**346**	IAMs_20	IAMs_20	10 19 12.9			
	comp=Z,4µm,21.0s								
F55A	**Otter Lake**	**65.68**	**356**	P	**P**	**09 49 19.8**	**-0.6**		
	baz=174								
GLMI	**Grayling**	**65.70**	**349**	IAMs_20	IAMs_20	10 18 28.7			
	comp=Z,3µm,21.0s								
LMN	**Caledonia Moun**	**65.73**	**5**	IAmb	IAmb	09 49 24.9			
	comp=Z,53nm,1.1s								
LMN				IAMs_20	IAMs_20	10 17 16.2			
	comp=Z,2µm,19.0s								
X18A	**Snowflake**	**65.75**	**325**	P	**P**	**09 49 21.7**	**+0.4**		
X18A				IAmb	IAmb	09 49 38.1			
	comp=Z,27nm,1.1s								
X18A				IAMs_20	IAMs_20	10 16 17.1			
	comp=Z,3µm,21.0s								
H45A	**Beulah**	**65.77**	**348**	P	**P**	**09 49 19.3**	**-1.7**		
	baz=164								
KSCO	**Kaye Shedlock'**	**65.80**	**333**	P	**P**	**09 49 21.7**	**+0.2**		
	baz=147,SNR=8.1								
F52A	**Sundridge**	**65.91**	**353**	P	**P**	**09 49 21.1**	**-0.7**		
	baz=171								
G47A	**Hillman**	**65.91**	**350**	P	**P**	**09 49 20.7**	**-1.2**		
	baz=167								
ALGO	**Algonquin Park**	**65.94**	**354**	P	**P**	**09 49 22.9**	**+0.9**		
	baz=173,SNR=11								
H43A	**Windswept, Lux**	**65.97**	**347**	IAmb	IAmb	09 49 33.9			
	comp=Z,30nm,0.8s								
H43A				IAMs_20	IAMs_20	10 18 28.8			
	comp=Z,4µm,21.0s								
E60A	**Ste Agathe de**	**66.03**	**360**	P	**P**	**09 49 22.5**	**0.0**		
	baz=180								
E58A	**La Victoria**	**66.06**	**358**	P	**P**	**09 49 22.8**	**-0.1**		
	baz=178,SNR=11								
W18A	**Petrified Fore**	**66.08**	**326**	P	**P**	**09 49 24.1**	**+0.7**		
	baz=140,SNR=9.5								
W18A	**Petrified Fore**	**66.08**	**326**	P	**P**	**09 49 24.4**	**+1.0**		
W18A				IAMs_20	IAMs_20	10 17 34.9			
	comp=Z,3µm,18.0s								
E61A	**Lac Etchemin**	**66.09**	**0**	P	**P**	**09 49 22.9**	**-0.1**		
	baz=180								
I40A	**Norwalk**	**66.09**	**344**	IAmb	IAmb	09 49 48.6			
	comp=Z,51nm,1.2s								
I40A				IAMs_20	IAMs_20	10 22 36.8			
	comp=Z,3µm,18.0s								
G45A	**Suttons Bay**	**66.10**	**349**	P	**P**	**09 49 21.5**	**-1.5**		
	baz=165								
G45A	**Suttons Bay**	**66.10**	**349**	IAmb	IAmb	09 49 47.9			
	comp=Z,29nm,0.6s								
F51A	**Arnstein**	**66.10**	**353**	P	**P**	**09 49 22.1**	**-1.0**		
	baz=171,SNR=8.1								
E63A	**Oxbow**	**66.11**	**2**	P	**P**	**09 49 23.0**	**-0.1**		
	baz=183								
E63A	**Oxbow**	**66.11**	**2**	IAmb	IAmb	09 49 48.4			
	comp=Z,41nm,1.1s								
E63A				IAMs_20	IAMs_20	10 17 14.1			
	comp=Z,3µm,22.0s								
BGNE	**Belgrade**	**66.12**	**338**	P	**P**	**09 49 22.9**	**-0.5**		
	baz=152								
E64A	**Bridgewater**	**66.13**	**2**	P	**P**	**09 49 23.0**	**-0.2**		
	baz=183								
E57A	**Chemin Saint G**	**66.14**	**357**	P	**P**	**09 49 23.0**	**-0.4**		
	baz=177,SNR=10.0								
F49A	**Sandfield**	**66.21**	**351**	P	**P**	**09 49 22.2**	**-1.6**		
	baz=169,SNR=5.4								
G46A	**Petoskey**	**66.22**	**349**	P	**P**	**09 49 22.6**	**-1.3**		
	baz=166								
E55A	**Montcerf-Lytto**	**66.28**	**356**	P	**P**	**09 49 23.9**	**-0.3**		
	baz=175								
E62A	**Clayton Lake**	**66.28**	**1**	P	**P**	**09 49 24.4**	**+0.2**		
	baz=181								
E62A	**Clayton Lake**	**66.28**	**1**	IAmb	IAmb	09 49 37.4			
	comp=Z,38nm,1.0s								
E62A				IAMs_20	IAMs_20	10 17 19.6			
	comp=Z,2µm,21.0s								
E56A	**St. Veronique**	**66.31**	**357**	P	**P**	**09 49 24.1**	**-0.3**		
	baz=176,SNR=18								
E52A	**Mattawa**	**66.32**	**354**	P	**P**	**09 49 23.7**	**-0.8**		
	baz=172,SNR=12								
E53A	**Dumoine, Ponti**	**66.32**	**355**	P	**P**	**09 49 23.8**	**-0.7**		
	baz=173,SNR=10								
E54A	**Lac Daplat, Po**	**66.34**	**355**	P	**P**	**09 49 24.0**	**-0.6**		
	baz=174,SNR=15								
F48A	**Evansville**	**66.36**	**351**	P	**P**	**09 49 23.4**	**-1.3**		
	baz=168,SNR=7.0								
PQI	**Presque Isle**	**66.37**	**2**	IAMs_20	IAMs_20	10 22 48.0			
	comp=Z,2µm,18.0s								
D60A	**Saint Jean D'O**	**66.57**	**360**	P	**P**	**09 49 25.9**	**-0.1**		
	baz=180								
113A	**Mohawk Valley,**	**66.60**	**321**	P	**P**	**09 49 26.9**	**+0.3**		
E51A	**G1948 Merrick**	**66.65**	**353**	P	**P**	**09 49 26.2**	**-0.4**		
	baz=171,SNR=13								
S22A	**4UR Ranch, Cre**	**66.66**	**329**	P	**P**	**09 49 27.2**	**0.0**		
	baz=143,SNR=8.0								
D59A	**Saint-Raymond**	**66.67**	**359**	P	**P**	**09 49 26.4**	**-0.3**		
	baz=179								
E50A	**Wahnapitae**	**66.69**	**353**	P	**P**	**09 49 25.8**	**-1.0**		
	baz=170,SNR=8.4								
F45A	**CMU Biological**	**66.69**	**349**	P	**P**	**09 49 25.5**	**-1.4**		
	baz=165,SNR=6.0								
D57A	**Chemin Vers le**	**66.73**	**358**	P	**P**	**09 49 27.1**	**0.0**		
	baz=177,SNR=17								
D63A	**Stockholm**	**66.74**	**2**	P	**P**	**09 49 27.0**	**-0.1**		
	baz=183								
D62A	**Allapoint, All**	**66.76**	**1**	P	**P**	**09 49 27.4**	**+0.2**		
	baz=182								
D62A	**Allapoint, All**	**66.76**	**1**	P	**P**	**09 49 27.7**	**+0.4**		
D62A				IAmb	IAmb	09 49 52.5			
	comp=Z,51nm,1.0s								
D62A				IAMs_20	IAMs_20	10 17 33.1			
	comp=Z,3µm,21.0s								
D58A	**Chemin du LacG**	**66.78**	**358**	P	**P**	**09 49 27.4**	**0.0**		
	baz=178,SNR=18								
D56A	**ZEC Mazanza, M**	**66.80**	**357**	P	**P**	**09 49 27.1**	**-0.5**		
	baz=176,SNR=11								
D55A	**Sainte-Anne-du**	**66.81**	**357**	P	**P**	**09 49 27.0**	**-0.6**		
	baz=175,SNR=18								
D61A	**St Aubert, Com**	**66.86**	**0**	P	**P**	**09 49 28.4**	**+0.5**		
	baz=181								
Q24A	**Divide**	**66.86**	**331**	P	**P**	**09 49 28.3**	**-0.2**		
	baz=145								
E48A	**Lockeyer**	**66.93**	**352**	P	**P**	**09 49 27.3**	**-1.1**		
	baz=169,SNR=9.0								
I37A	**Lemoine, Waseca**	**66.95**	**342**	IAMs_20	IAMs_20	10 22 11.5			
	comp=Z,2µm,20.0s								
D52A	**ZEK Kipawa Sen**	**66.98**	**354**	P	**P**	**09 49 28.6**	**-0.2**		
	baz=172,SNR=14								
D54A	**Lac Fusel, La**	**67.02**	**356**	P	**P**	**09 49 27.9**	**-1.1**		
	baz=174,SNR=9.6								
D53A	**Lac Vacive, Po**	**67.02**	**355**	P	**P**	**09 49 28.6**	**-0.4**		
	baz=173,SNR=13								
D53A	**Lac Vacive, Po**	**67.02**	**355**	IAmb	IAmb	09 49 41.4			
	comp=Z,24nm,0.8s								
D53A				IAMs_20	IAMs_20	10 19 53.9			
	comp=Z,2µm,20.0s								
MVCO	**Mesa Verde**	**67.05**	**328**	P	**P**	**09 49 30.2**	**+0.5**		
	baz=142,SNR=9.4								
MVCO	**Mesa Verde**	**67.05**	**328**	P	**P**	**09 49 30.1**	**+0.4**		
MVCO				IAMs_20	IAMs_20	10 18 39.8			
	comp=Z,2µm,18.0s								
LATQ	**La Tuque**	**67.06**	**359**	P	**P**	**09 49 28.7**	**-0.5**		
	baz=178								
E47A	**Iron Bridge**	**67.07**	**351**	P	**P**	**09 49 28.1**	**-1.1**		
	baz=167								
BATG	**Bathurst New B**	**67.07**	**4**	P	**P**	**09 49 29.8**	**+0.5**		
BATG				IAmb	IAmb	09 49 54.2			
	comp=Z,44nm,1.0s								
BATG				IAMs_20	IAMs_20	10 19 52.5			
	comp=Z,2µm,20.0s								
E46A	**Sault Ste Mari**	**67.14**	**350**	IAmb	IAmb	09 49 35.9			
	comp=Z,23nm,0.9s								
E46A				IAMs_20	IAMs_20	10 19 43.8			
	comp=Z,4µm,20.0s								
D51A	**Lot 18 Range I**	**67.19**	**354**	P	**P**	**09 49 29.3**	**-0.7**		
	baz=171								
**W

comp=Z,4µm,20.0s
PV03 Paradox Valley 68.04 328 IAMs_20 IAMs_20 10 24 00.9
comp=Z,2µm,18.0s
PV12 Saucer Basin, 68.07 329 IAmb IAmb 09 49 58.4
comp=Z,83nm,2.0s
PV12 IAMs_20 IAMs_20 10 24 01.7
comp=Z,3µm,18.0s
PV07 Paradox Valley 68.09 329 P **P** **09 49 36.6 +0.5**
PV07 IAMs_20 IAMs_20 10 24 14.2
comp=Z,2µm,19.0s
PV11 David Mesa, Pa 68.09 328 IAMs_20 IAMs_20 10 19 57.2
comp=Z,3µm,18.0s
PV19 Morning Glory 68.15 328 IAMs_20 IAMs_20 10 19 41.8
comp=Z,2µm,18.0s
PV20 West Nyswonger 68.17 328 IAMs_20 IAMs_20 10 23 44.3
comp=Z,2µm,22.0s
PV04 Paradox Valley 68.18 329 IAMs_20 IAMs_20 10 24 04.5
comp=Z,3µm,19.0s
PV14 Lion Creek, Pa 68.22 328 IAMs_20 IAMs_20 10 18 36.7
comp=Z,2µm,19.0s
BC3 Big Chuckawall 68.22 321 P **P** **09 49 38.1 +1.1**
baz=135,SNR=9.0
PV22 Blue Mesa, Par 68.23 329 P **P** **09 49 37.8 +0.8**
PV22 IAMs_20 IAMs_20 10 24 18.0
comp=Z,2µm,18.0s
MONP2 Monument Peak 68.28 320 P **P** **09 49 38.8 +1.3**
baz=134,SNR=6.9
BAR Barrett 68.28 319 P **P** **09 49 38.5 +1.2**
BAR IAmb IAmb 09 49 54.3
comp=Z,28nm,0.9s
PV21 Cone Mtn., Par 68.34 329 IAMs_20 IAMs_20 10 19 25.9
comp=Z,2µm,18.0s
IRM Iron Mountain 68.39 321 P **P** **09 49 39.2 +1.3**
baz=135,SNR=23
U15A North Rim 68.43 325 IAmb IAmb 09 49 55.7
comp=Z,45nm,1.1s
U15A IAMs_20 IAMs_20 10 18 01.2
comp=Z,3µm,20.0s
NEE2 Needles Airpor 68.52 322 P **P** **09 49 39.4 +0.7**
baz=136
D41A Chassel 68.61 347 P **P** **09 49 38.4 -0.5**
D41A IAmb IAmb 09 50 04.7
comp=Z,50nm,1.1s
D41A IAMs_20 IAMs_20 10 19 59.6
comp=Z,4µm,22.0s
F36A Milaca 68.69 343 P **P** **09 49 39.4 -0.1**
F36A IAmb IAmb 09 50 05.1
comp=Z,28nm,0.8s
F36A IAMs_20 IAMs_20 10 24 15.4
comp=Z,3µm,18.0s
109C Camp Elliot, M 68.69 319 P **P** **09 49 39.5 -0.3**
baz=133
BELC Belle Mtn. Jos 68.79 321 P **P** **09 49 41.7 +1.1**
baz=134
N23A Red Feather La 68.79 332 P **P** **09 49 40.7 +0.1**
baz=145,SNR=11
N23A Red Feather La 68.79 332 IAmb IAmb 09 50 29.9
comp=Z,29nm,1.1s
XPFO Pion Flat 68.79 320 P **P** **09 49 41.7 +1.1**
PFO Pinyon Flats O 68.80 320 P **P** **09 49 41.9 +1.3**
baz=134,SNR=8.0
PFO Pinyon Flats O 68.80 320 *ce*P **P** **09 49 41.5 +0.9**
PFO pmax pmax
comp=Z,18nm,1.0s
PFO Pinyon Flats O 68.80 320 P **P** **09 49 41.7 +1.1**
E38A The Farm, Brul 68.87 345 IAMs_20 IAMs_20 10 21 04.2
comp=Z,4µm,21.0s
NVL N'lazarevskaya 68.89 159 *e*P **P** **09 49 41.9 +1.4**
NVL *e*S **S** **09 58 46.2 +1.3**
NVL *e*SS **SS** **10 03 08.6 -0.9**
NVL pmax pmax
comp=Z,93nm,1.4s
PHWY Pilot Hill 68.91 333 IAmb IAmb 09 50 02.9
comp=Z,36nm,1.4s
SUSD Miller 69.07 339 P **P** **09 49 41.4 -0.5**
baz=152
SUSD Miller 69.07 339 IAmb IAmb 09 49 55.4
comp=Z,54nm,1.1s
SUSD IAMs_20 IAMs_20 10 25 44.5
comp=Z,2µm,19.0s
GMRC Granite Mounta 69.14 322 P **P** **09 49 44.1 +1.4**
baz=135,SNR=20
O20A White River Ci 69.23 330 P **P** **09 49 43.9 +0.7**
baz=142,SNR=11
O20A White River Ci 69.23 330 IAmb IAmb 09 49 58.1
comp=Z,32nm,1.2s
O20A IAMs_20 IAMs_20 10 20 51.3
comp=Z,3µm,18.0s
MURC Murrieta 69.23 320 P **P** **09 49 43.9 +0.7**
baz=134
LCMT Little Creek M 69.38 325 P **P** **09 49 44.9 +0.8**
F33A 5 Mile Ranch, 69.46 341 IAMs_20 IAMs_20 10 25 15.9
comp=Z,2µm,18.0s
BBRC Big Bear Solar 69.52 320 P **P** **09 49 45.5 +0.3**
baz=134
HEC Hector,Ludlow 69.56 321 P **P** **09 49 46.4 +1.1**
baz=134
CHGQ Chibougamau 69.64 358 P **P** **09 49 45.0 -0.3**
baz=177,SNR=6.3
MATQ Matagami 69.68 355 P **P** **09 49 45.7 +0.2**
baz=173,SNR=11
LIC Lamto 69.70 75 *e*P **P** **09 49 44.9 -1.6**
comp=Z,74nm,1.2s
TUQ Turquoise Moun 69.75 322 P **P** **09 49 47.8 +1.3**
baz=135,SNR=14
CIS Catalina Islan 69.85 319 P **P** **09 49 46.9 -0.1**
baz=132
TIC Toumodi 69.88 75 *e*P **P** **09 49 46.2 -1.4**
DRLN Deer Lake 69.93 9 P **P** **09 49 46.4 -0.7**
DRLN IAMs_20 IAMs_20 10 26 14.3
comp=Z,2µm,18.0s
BFSC Mount Baldy Ra 69.95 320 P **P** **09 49 48.5 +0.7**
baz=133
FMP Fort Macarthur 69.98 319 P **P** **09 49 48.3 +0.5**
baz=133
RRX Edison Barstow 69.99 321 P **P** **09 49 49.3 +1.5**
baz=134
RWWY Rawlins 69.99 332 IAmb IAmb 09 50 02.2
comp=Z,39nm,1.4s
RWWY IAMs_20 IAMs_20 10 20 17.7
comp=Z,2µm,19.0s
KIC Kosan Boka 70.01 75 *e*P **P** **09 49 47.2 -1.2**
comp=Z,218nm,1.2s
DBIC Dimbokro 70.03 75 P **P** **09 49 47.4 -1.1**
comp=Z,67nm,1.1s,baz=224,slow=6.5,SNR=20
DBIC LR LR 10 19 10.6
comp=Z,7µm,19.6s,baz=226,slow=35
SHPR Sheep Range 70.07 323 IAmb IAmb 09 50 05.7
comp=Z,30nm,1.0s
EYMN Ely 70.11 345 P **P** **09 49 48.9 +0.7**
baz=160
EYMN Ely 70.11 345 IAMs_20 IAMs_20 10 21 38.0
comp=Z,3µm,21.0s
GSC Goldstone, Bar 70.17 321 P **P** **09 49 50.2 +1.2**
baz=134,SNR=7.4
GSC Goldstone, Bar 70.17 321 IAmb IAmb 09 50 06.2
comp=Z,76nm,1.9s
MWC Mount Wilson 70.18 320 P **P** **09 49 49.9 +0.6**
MWC pmax pmax
comp=Z,38nm,1.1s
MWC Mount Wilson 70.18 320 P **P** **09 49 49.9 +0.6**
MWC IAmb IAmb 09 50 06.3
comp=Z,38nm,1.1s
QSPA South Pole Qui 70.21 180 P **P** **09 49 50.5 +1.5**
QSPA IAmb IAmb 09 49 55.1
comp=Z,66nm,1.3s
PASC Pasadena Art C 70.22 320 P **P** **09 49 51.7 +2.5**
PASC IAmb IAmb 09 50 06.4
comp=Z,29nm,1.0s
SHOC Shoshone, Teco 70.28 322 P **P** **09 49 50.9 +1.3**
baz=135,SNR=7.5
DECC Green Verdugo 70.37 320 P **P** **09 49 50.6 +0.4**
baz=133
SNCC San Nicolas Is 70.44 318 P **P** **09 49 49.9 -0.7**
baz=132
K22A Casper 70.47 333 P **P** **09 49 51.2 +0.4**
baz=145,SNR=8.9
K22A Casper 70.47 333 IAMs_20 IAMs_20 10 22 19.4
comp=Z,2µm,19.0s
EDW2 Edwards Air Fo 70.59 320 P **P** **09 49 52.7 +1.2**
baz=133,SNR=7.7
RSSD Black Hills 70.66 335 P **P** **09 49 52.3 +0.3**
baz=147
RSSD Black Hills 70.66 335 P **P** **09 49 52.5 +0.5**
RSSD pmax pmax
comp=Z,27nm,1.1s
RSSD MLR MLR
comp=Z,2µm,20.0s
RSSD Black Hills 70.66 335 P **P** **09 49 52.5 +0.5**
RSSD Black Hills 70.66 335 IAMs_20 IAMs_20 10 24 03.4
comp=Z,2µm,20.0s
ROSA Rosais 70.71 34 *e*P **P** **09 49 54.4 +2.3**
LRMC Laurel Mtn Rad 70.81 321 P **P** **09 49 54.0 +1.0**
baz=134
PSUT Pine Spring 70.82 325 P **P** **09 49 54.8 +1.7**
D32A Dogwood Acres, 70.85 341 IAMs_20 IAMs_20 10 24 43.5
comp=Z,2µm,18.0s
OSI Osito Audit: C 70.85 320 P **P** **09 49 54.1 +0.9**
baz=133
NLU North Lily Min 70.95 328 pP **P** **09 49 54.5 +0.6**
SCZ2 Santa Cruz Isl 71.00 319 P **P** **09 49 55.2 +1.1**
baz=132
TPNV Topopah Spring 71.00 323 P **P** **09 49 55.7 +1.5**
baz=135,SNR=18
TPNV Topopah Spring 71.00 323 IAmb IAmb 09 50 11.6
comp=Z,47nm,1.0s
FURC Furnace Creek, 71.01 322 P **P** **09 49 55.7 +1.7**
baz=134,SNR=30
B35A Bob, Littlefor 71.04 344 IAmb IAmb 09 50 19.9
comp=Z,30nm,1.1s
B35A IAMs_20 IAMs_20 10 22 33.8
comp=Z,3µm,21.0s
PGRA Graciosa 71.08 34 *e*P **P** **09 49 56.6 +2.3**
MACI Morro de la Ar 71.08 49 P **P** **09 49 58.3 +3.5**
MPMC Manual Prospec 71.09 321 P **P** **09 49 55.6 +0.8**
baz=134,SNR=13
PSMN Pico do Norte, 71.22 37 *e*P **P** **09 49 58.5 +3.2**
ARVC Arvin 71.26 320 P **P** **09 49 55.1 -0.5**
baz=133
ISA Isabella, Lake 71.41 321 P **P** **09 49 58.1 +1.5**
baz=133,SNR=14
ISA Isabella, Lake 71.41 321 IAmb IAmb 09 50 13.8
comp=Z,40nm,0.9s
PSET Sete Cidades 71.43 36 *e*P **P** **09 49 57.4 +0.9**
CMLA Cha da Macela 71.50 36 *e*P **P** **09 49 57.4 +0.5**
CMLA Cha da Macela 71.50 36 IAMs_20 IAMs_20 10 18 45.4
comp=Z,3µm,19.0s
DUG Dugway, Tooele 71.51 327 P **P** **09 49 58.4 +1.3**
baz=139,SNR=14
DUG Dugway, Tooele 71.51 327 P **P** **09 49 58.6 +1.5**
DUG pmax pmax
comp=Z,55nm,1.1s
DUG Dugway, Tooele 71.51 327 IAmb IAmb 09 50 14.1
comp=Z,60nm,1.2s
DUG IAMs_20 IAMs_20 10 22 25.7
comp=Z,2µm,19.0s
E28A Huff 71.53 339 P **P** **09 49 57.4 +0.4**
AGMN Agassiz Nation 71.56 343 IAmb IAmb 09 50 22.9
comp=Z,36nm,1.1s
AGMN IAMs_20 IAMs_20 10 26 12.5
comp=Z,3µm,18.0s
R11A Troy Canyon, C 71.62 324 P **P** **09 49 59.7 +1.8**
baz=136,SNR=17
R11A Troy Canyon, C 71.62 324 IAMs_20 IAMs_20 10 22 57.7
comp=Z,2µm,18.0s
PKM Mcpherson Peak 71.70 319 P **P** **09 49 59.5 +1.1**
baz=132
CWC Cottonwood Cre 71.70 321 P **P** **09 49 59.8 +1.3**
baz=134
VES Vestal, Richgr 71.89 320 P **P** **09 50 00.6 +1.3**
baz=133,SNR=11
BW06 Boulder Array 71.91 331 P **P** **09 49 59.7 +0.1**
baz=142,SNR=10
BW06 Boulder Array 71.91 331 IAMs_20 IAMs_20 10 22 38.3
comp=Z,2µm,18.0s
PDAR Pinedale Array 71.91 331 P **P** **09 49 59.5 -0.1**
comp=Z,1.8nm,0.6s,baz=131,slow=7.2,SNR=20
PDAR Pinedale Array 71.91 331 P **P** **09 49 59.1 -0.5**
HWUT Hardware Ranch 71.95 329 IAmb IAmb 09 50 16.3
comp=Z,27nm,0.9s
HWUT IAMs_20 IAMs_20 10 22 35.6
comp=Z,2µm,19.0s
SMMC Simmler 72.09 319 P **P** **09 50 02.6 +2.0**
baz=132,SNR=6.2
SPUT South Promonto 72.16 328 P **P** **09 50 01.6 +0.6**
TIN Tinemaha, Big 72.21 322 P **P** **09 50 02.6 +1.2**
baz=134
MDND Maddock 72.28 340 P **P** **09 50 01.6 +0.2**
baz=152
MDND Maddock 72.28 340 P **P** **09 50 01.2 -0.2**
TBI Tubuai 72.30 251 *e*S **S** **09 59 29.9 +3.7**
comp=Z,2µm,26.8s
TBI Tubuai 72.30 251 *e*LR LR 10 12 10.2
comp=Z,7µm,27.2s,baz=105
TBI Tubuai 72.30 251 *e*T T 11 09 04.8
comp=Z,2.5nm,0.2s
PAGB Antelope Grade 72.52 320 IAmb IAmb 09 50 28.8
comp=Z,31nm,1.0s
AHID Auburn Hatcher 72.62 330 IAMs_20 IAMs_20 10 21 28.2
comp=Z,2µm,20.0s
MLAC Mammoth, Mammo 72.96 322 P **P** **09 50 07.0 +1.0**
baz=133
SNOW Snow King Moun 73.00 331 IAMs_20 IAMs_20 10 23 37.3
comp=Z,2µm,18.0s
OMMB Old Mammoth Mi 73.04 322 IAmb IAmb 09 50 23.5
comp=Z,47nm,1.0s
MDPB Devils Postpil 73.10 322 P **P** **09 50 08.0 +1.1**
MDPB IAmb IAmb 09 50 23.8
comp=Z,37nm,1.0s
ELK Elko 73.16 326 IAMs_20 IAMs_20 10 22 44.5
comp=Z,2µm,18.0s
PMPB Monarch Peak 73.18 320 IAmb IAmb 09 50 27.2
comp=Z,55nm,1.1s
NVAR Mina Array Bea 73.20 323 P **P** **09 50 08.8 +1.4**
comp=Z,5.4nm,0.8s,baz=156,slow=6.5,SNR=46
ULM Lac du Bonnet 73.34 344 P **P** **09 50 06.5 -1.1**
comp=Z,12nm,0.9s,baz=164,slow=4.9,SNR=9.9
ULM LR LR 10 24 16.2
comp=Z,3µm,21.4s,baz=140,slow=37
ULM Lac du Bonnet 73.34 344 *de*P **P** **09 50 06.9 -0.7**
ULM Lac du Bonnet 73.34 344 IAMs_20 IAMs_20 10 24 04.5
comp=Z,3µm,21.0s
PMOZ Porto Moniz, M 73.34 45 *e*LR LR 10 12 46.6
comp=Z,2µm,20.0s
IMW Indian Meadow 73.42 331 P **P** **09 50 09.1 +0.5**
FLWY Flagg Ranch 73.45 331 IAmb IAmb 09 50 23.4
comp=Z,75nm,1.2s
KVN Kaiserville 73.51 323 IAmb IAmb 09 50 25.9
comp=Z,40nm,1.0s
TVO Taravao 73.58 257 *e*T T 11 10 40.0
comp=Z,0.8nm,0.3s
RLMT Red Lodge 73.64 333 P **P** **09 50 10.4 +0.6**
baz=143
H17A Grant Village 73.64 331 P **P** **09 50 11.5 +1.6**
baz=141
H17A Grant Village 73.64 331 IAMs_20 IAMs_20 10 25 01.2
comp=Z,4µm,20.0s
LAO LASA Array 73.65 335 P **P** **09 50 10.0 +0.4**
baz=146,SNR=16
LAO LASA Array 73.65 335 P **P** **09 50 10.1 +0.4**
LAO IAmb IAmb 09 50 37.7
comp=Z,63nm,1.2s
LAO IAMs_20 IAMs_20 10 25 36.5
comp=Z,2µm,20.0s
PPT2 Papeete2 73.93 257 *e*S **S** **09 59 48.8 +3.7**
comp=Z,3µm,24.8s
PPT2 Papeete2 73.93 257 *e*LR LR 10 12 58.2
comp=Z,5µm,24.5s,baz=110
YMR Madison River 74.03 331 P **P** **09 50 13.8 +1.7**
CMB Columbia Colle 74.14 321 P **P** **09 50 13.5 +0.8**
CMB pmax pmax
comp=Z,11nm,1.0s
CMB Columbia Colle 74.14 321 P **P** **09 50 13.5 +0.8**
DGMT Dagmar 74.38 338 P **P** **09 50 14.2 +0.4**
baz=148
DGMT Dagmar 74.38 338 IAmb IAmb 09 50 41.3
comp=Z,67nm,1.1s
PNTR Pine Nut 74.39 323 IAmb IAmb 09 50 31.2
comp=Z,35nm,1.0s
SCHQ Schefferville 74.58 2 P **P** **09 50 14.3 -0.5**
comp=Z,7.7nm,0.7s,baz=205,slow=4.3,SNR=13
SCHQ LR LR 10 25 14.4
comp=Z,2µm,19.2s,baz=191,slow=38
SCHQ Schefferville 74.58 2 P **P** **09 50 13.7 -1.1**
SCHQ IAMs_20 IAMs_20 10 24 55.0
comp=Z,2µm,20.0s
PAHR Pah Rah Range 74.69 323 IAmb IAmb 09 50 33.3
comp=Z,49nm,1.0s
HLID Hailey 74.81 329 P **P** **09 50 17.8 +1.2**
baz=138,SNR=33
BOZ Bozeman (W) 75.05 332 P **P** **09 50 18.5 +0.5**
baz=141,SNR=20
BOZ Bozeman (W) 75.05 332 IAMs_20 IAMs_20 10 23 20.4
comp=Z,2µm,22.0s
DLMT Dillon 75.30 331 P **P** **09 50 20.1 +0.7**
DLMT IAmb IAmb 09 50 36.7
comp=Z,42nm,1.2s
DLMT IAMs_20 IAMs_20 10 24 26.2
comp=Z,2µm,20.0s
MFID Camas Ranch 75.40 328 IAmb IAmb 09 50 37.0
comp=Z,39nm,1.0s
MFID IAMs_20 IAMs_20 10 23 04.7
comp=Z,2µm,19.0s
ORV Oroville 75.80 322 P **P** **09 50 23.0 +0.8**
ORV pmax pmax
comp=Z,54nm,1.1s
ORV Oroville 75.80 322 P **P** **09 50 23.0 +0.8**
ORV IAmb IAmb 09 50 39.4
comp=Z,54nm,1.1s
EGMT Eagleton 76.14 334 P **P** **09 50 24.2 +0.2**
baz=143,SNR=19
EGMT Eagleton 76.14 334 IAmb IAmb 09 50 37.9
comp=Z,46nm,1.1s
EGMT IAMs_20 IAMs_20 10 25 51.5
comp=Z,2µm,20.0s
WVOR Wild Horse Val 76.15 326 P **P** **09 50 25.1 +0.8**
WVOR pmax pmax
comp=Z,13nm,1.0s
WVOR Wild Horse Val 76.15 326 IAMs_20 IAMs_20 10 22 50.6
comp=Z,2µm,20.0s
HOPS Hopland Field 76.35 321 IAMs_20 IAMs_20 10 30 25.9
comp=Z,2µm,18.0s
O03E Paynes Creek 76.46 322 P **P** **09 50 25.9 -0.1**
baz=132
J08A Circle Bar Ran 76.71 326 IAMs_20 IAMs_20 10 31 01.4
comp=Z,2µm,21.0s
O02D Mt. Diablo Mer 76.95 322 P **P** **09 50 29.1 +0.3**
baz=131
MSO Missoula 77.02 331 P **P** **09 50 30.1 +1.0**
baz=139,SNR=17
MSO Missoula 77.02 331 IAMs_20 IAMs_20 10 25 37.7
comp=Z,2µm,21.0s
WDC Whiskeytown Da 77.07 322 P **P** **09 50 28.6 -0.8**
WDC pmax pmax
comp=Z,12nm,0.9s
WDC Whiskeytown Da 77.07 322 P **P** **09 50 28.6 -0.8**
KCPM Cahto Peak 77.10 321 IAMs_20 IAMs_20 10 30 36.7
comp=Z,2µm,22.0s
BMO Blue Mountains 77.17 328 IAMs_20 IAMs_20 10 31 06.7
comp=Z,2µm,22.0s
N02D Trinity Center 77.42 322 P **P** **09 50 31.5 +0.1**
baz=131
M04C Macdoel 77.46 323 P **P** **09 50 32.5 +0.8**
baz=132,SNR=6.3
KMRM Mail Ridge 77.52 321 IAMs_20 IAMs_20 10 30 37.4
comp=Z,2µm,22.0s
K05A Summer Lake 77.57 325 IAmb IAmb 09 50 50.2
comp=Z,40nm,1.1s
I07A Izee 77.75 326 IAMs_20 IAMs_20 10 27 48.0
comp=Z,2µm,20.0s
M02C Callahan 77.78 323 P **P** **09 50 34.1 +0.7**
baz=131
JTMT Jette 77.87 332 IAMs_20 IAMs_20 10 28 48.0
comp=Z,2µm,21.0s
KHMM Horse Mountain 77.95 322 IAMs_20 IAMs_20 10 30 51.1
comp=Z,2µm,21.0s
K04D Chiloquin, OR 77.97 324 P **P** **09 50 35.0 +0.5**
baz=132
L04D Klamath Falls 78.01 324 P **P** **09 50 35.2 +0.4**
baz=131
VNDA Vanda 78.04 190 P **P** **09 50 36.7 +2.4**
comp=Z,3.7nm,1.0s,baz=132,slow=4.0,SNR=11
VNDA Vanda 78.04 190 P **P** **09 50 35.5 +1.2**
VNDA pmax pmax
comp=Z,12nm,1.1s
VNDA Vanda 78.04 190 P **P** **09 50 35.5 +1.2**
JCC Jacoby Creek, 78.09 322 IAMs_20 IAMs_20 10 30 26.7
comp=Z,3µm,21.0s
J05D Fort Rock, OR 78.13 325 P **P** **09 50 36.5 +1.0**
baz=132,SNR=7.3
TORD Torodi Ar. Bea 78.54 71 P **P** **09 50 37.1 -1.0**
comp=Z,117nm,1.1s,baz=256,slow=5.0,SNR=182
TORD S **S** **10 00 31.4 -4.3**
comp=Z,2.0nm,1.2s,baz=246,slow=9.3,SNR=3.5
TORD LR LR 10 23 46.7
comp=Z,7µm,20.9s,baz=230,slow=35
TORD Torodi Ar. Bea 78.54 71 P **P** **09 50 36.8 -1.3**
SYO Syowa Base 78.55 160 ‖ *e*P **P** **09 50 36.8 -0.4**
SYO Syowa Base 78.55 160 ‖ *r*pP pP 09 50 38.6 +0.1
SYO Syowa Base 78.55 160 ‖ *i*sP sP 09 50 40.8 +1.8
J04D Umpqua Nationa 78.58 324 P **P** **09 50 38.6 +0.6**
baz=132
WALA Waterton Lakes 78.69 333 P **P** **09 50 38.6 +0.3**
WALA IAmb IAmb 09 50 55.2
comp=Z,35nm,1.0s
I05D Terrebonne, OR 78.89 326 P **P** **09 50 40.6 +1.1**
baz=132,SNR=6.4
FFC Flin Flon 79.03 342 P **P** **09 50 39.8 -0.1**
FFC pmax pmax
comp=Z,23nm,1.3s
FFC MLR MLR
comp=Z,3µm,21.0s
FFC Flin Flon 79.03 342 P **P** **09 50 39.8 -0.1**
FFC Flin Flon 79.03 342 IAMs_20 IAMs_20 10 27 51.9
comp=Z,3µm,21.0s
K02D Willamette Mer 79.08 323 P **P** **09 50 40.8 +0.2**
baz=130
I04A Tendick Farm, 79.11 325 P **P** **09 50 41.0 +0.3**
baz=132
G06A Carlson Farm, 79.13 327 IAMs_20 IAMs_20 10 26 43.4
comp=Z,2µm,20.0s
E08A Dider Farm, El 79.20 328 IAMs_20 IAMs_20 10 31 15.3
comp=Z,2µm,19.0s
F07A Phinny Hill Vi 79.22 327 IAMs_20 IAMs_20 10 31 12.8
comp=Z,2µm,19.0s
HAWA Hanford 79.37 328 IAMs_20 IAMs_20 10 28 21.7
comp=Z,2µm,18.0s
G05D Wamic, OR 79.49 326 P **P** **09 50 43.8 +1.1**
baz=133
D08A Wollman Farm, 79.53 329 IAMs_20 IAMs_20 10 31 05.1
comp=Z,2µm,22.0s
J01E Myrtle Point 79.53 323 P **P** **09 50 44.2 +1.3**
baz=130
NEW Newport 79.54 331 P **P** **09 50 42.9 0.0**
baz=136
NEW Newport 79.54 331 P **P** **09 50 42.9 0.0**
NEW pmax pmax
comp=Z,15nm,1.3s
NEW Newport 79.54 331 IAMs_20 IAMs_20 10 31 24.3
comp=Z,2µm,20.0s
I03D Drain, OR 79.56 324 P **P** **09 50 43.8 +0.7**
baz=131
H04A Detroit Lake 79.58 325 IAMs_20 IAMs_20 10 30 52.1
comp=Z,2µm,22.0s
E07A Sunnyside 79.64 328 IAMs_20 IAMs_20 10 28 31.0
comp=Z,2µm,18.0s
C09A Chrisman Ranch 79.75 330 P **P** **09 50 45.2 +1.2**
C09A IAmb IAmb 09 50 58.5
comp=Z,62nm,1.5s
H04D Lebanon 79.76 325 P **P** **09 50 44.1 0.0**
baz=131
F05D White Salmon 80.00 327 P **P** **09 50 46.5 +1.0**
baz=133
I02D Swisshome 80.09 324 P **P** **09 50 46.8 +0.9**
baz=130
COR Corvallis 80.11 325 P **P** **09 50 47.9 +1.9**
COR pmax pmax
comp=Z,50nm,1.4s
COR Corvallis 80.11 325 P **P** **09 50 47.9 +1.9**
AVE Averroes 80.38 49 *i*P **P** **09 50 47.9 +0.1**
AVE *e*S **S** **10 00 54.5 +0.1**
G03D McMinnville, O 80.50 325 P **P** **09 50 48.8 +0.7**
baz=131
F04A Amboy 80.53 326 IAMs_20 IAMs_20 10 25 32.4
comp=Z,2µm,22.0s
LTY Liberty 80.53 328 P **P** **09 50 48.6 +0.2**
LTY IAMs_20 IAMs_20 10 27 24.4
comp=Z,2µm,18.0s
B08A Colville Reser 80.64 330 IAMs_20 IAMs_20 10 31 06.5
comp=Z,2µm,22.0s
F04D Rainier, OR 80.94 326 P **P** **09 50 51.2 +0.8**
baz=131
E04D Cinebar 81.02 327 P **P** **09 50 51.0 +0.1**
baz=132
F03A Seaside 81.12 326 IAMs_20 IAMs_20 10 30 39.2
comp=Z,2µm,20.0s
PFVI Vila Bisbo 81.43 46 *e*P **P** **09 50 53.7 +0.4**
comp=Z,56nm,1.4s
PFVI Vila Bisbo 81.43 46 *e*SKS **SKSac** **10 01 11.2 -2.3**
PFVI Vila Bisbo 81.43 46 IAMs_20 IAMs_20 10 22 08.0
comp=Z,2µm,22.0s

E03A Lebam 81.53 326 IAmb IAmb 09 51 10.3
comp=Z,30nm,0.9s
E03A IAMs_20 IAMs_20 10 30 40.9
comp=Z,2µm,19.0s
MORF Marmelete 81.64 45 eP P 09 50 54.5 0.0
MORF eS S 10 01 07.1 -0.5
MORF AMS AMS 10 23 09.8
comp=Z,2µm,21.8s
MORF Marmelete 81.64 45 eP P 09 50 54.5 0.0
MORF Marmelete 81.64 45 eP P 09 50 54.9 +0.4
comp=Z,52nm,1.3s
MORF Marmelete 81.64 45 eSKS SKSac 10 01 12.3 -2.8
PTEO Sao Teotonio 81.72 45 eP P 09 50 55.6 +0.8
comp=Z,101nm,1.5s
B06A Marblemount 81.79 329 IAMs_20 IAMs_20 10 31 00.8
comp=Z,2µm,20.0s
B05A Bryant 81.92 328 P P 09 50 55.3 -0.3
baz=132
D03D Eldon 81.93 327 P P 09 50 56.4 +0.7
baz=132
LIS Lisbon 82.08 44 eP P 09 50 56.8 +0.1
LIS ePP PP 09 54 04.7 -0.2
LIS AMS AMS 10 30 32.1
comp=Z,4µm,10.1s
LIS Lisbon 82.08 44 eP P 09 50 56.8 +0.1
LIS e 09 54 04.7
PBDV Barranco-do-Ve 82.09 46 eP P 09 50 57.8 +1.0
comp=Z,49nm,1.4s
PBDV Barranco-do-Ve 82.09 46 eSKS SKSac 10 01 17.1 -1.0
PMAFR Mafra 82.13 44 eSKS SKSac 10 01 17.5 -0.7
IFR Ifrane 82.13 50⇑ iP P 09 50 59.1 +1.8
IFR eS S 10 01 15.1 +2.0
PNCL Nicolau / Gran 82.16 45 eP P 09 50 57.3 +0.2
comp=Z,36nm,1.9s
PNCL Nicolau / Gran 82.16 45 eSKS SKSac 10 01 20.3 +1.9
TSUM Tsumeb 82.19 108 P P 09 50 58.4 +0.5
TSUM IAmb IAmb 09 51 11.7
comp=Z,46nm,1.1s
MESJ Messejana 82.22 45 eP P 09 50 57.5 +0.1
MESJ ePP PP 09 54 05.9 -0.2
MESJ eS S 10 01 12.8 -0.5
MESJ AMS AMS 10 29 27.4
comp=Z,2µm,18.8s
MESJ Messejana 82.22 45 eP P 09 50 57.5 +0.1
MESJ e 09 54 05.8
MESJ eS S 10 01 12.8 -0.5
MESJ Messejana 82.22 45 eP P 09 50 57.9 +0.5
comp=Z,30nm,1.6s
PCVE Castro Verde 82.23 45 eP P 09 50 57.8 +0.3
comp=Z,38nm,1.3s
PCVE Castro Verde 82.23 45 eSKS SKSac 10 01 18.3 -0.6
NLWA Neilton Lookou 82.24 327 IAMs_20 IAMs_20 10 28 43.7
comp=Z,2µm,20.0s
PVAQ Vaqueiros 82.33 46 eP P 09 50 58.5 +0.5
comp=Z,24nm,1.5s
PVAQ Vaqueiros 82.33 46 eSKS SKSac 10 01 20.4 +0.9
PVAQ Vaqueiros 82.33 46 eLR LR 10 16 51.5
comp=Z,2µm,22.0s
PVAQ Vaqueiros 82.33 46 IAmb IAmb 09 51 02.0
comp=Z,72nm,1.9s
PVAQ IAMs_20 IAMs_20 10 22 45.6
comp=Z,2µm,21.0s
A04D Lummi Island 82.53 328 P P 09 50 59.4 +0.7
baz=132
PBEJ Beja 82.56 45 eP P 09 50 59.9 +0.7
comp=Z,28nm,1.4s
EVO Evora 82.73 45⇑ iP P 09 51 01.9 +1.8
EVO eS S 10 01 24.2 +5.7
EVO Evora 82.73 45 eP P 09 51 00.4 +0.3
comp=Z,40nm,1.8s
PSBE So Bento 82.75 44 eP P 09 50 57.9 -2.3
comp=Z,79nm,1.6s
PSBE So Bento 82.75 44 eSKS SKSac 10 01 22.8 +0.4
SFS San Fernando 82.86 47⇑ iP P 09 51 01.7 +0.9
SFS eS S 10 01 32.8 +13
PMTG Montargil 82.88 44 eP P 09 51 00.9 +0.1
comp=Z,75nm,1.8s
PMTG Montargil 82.88 44 eSKS SKSac 10 01 24.4 +1.2
IVI Ivigtut 82.92 11 P P 09 50 59.6 -0.9
IVI IAmb IAmb 09 51 21.5
comp=Z,39nm,0.9s
IVI IAMs_20 IAMs_20 10 28 58.1
comp=Z,1µm,19.0s
CEU Ceuta 83.15 48 iP P 09 51 01.8 -0.5
CEU eS S 10 01 25.1 +2.2
PCAS Casmilo, Conde 83.23 43 eP P 09 50 58.8 -3.9
comp=Z,38nm,1.6s
PCAS Casmilo, Conde 83.23 43 eSKS SKSac 10 01 27.1 +1.6
COI Coimbra 83.37 43 eSKS SKSac 10 01 28.5 +2.1
NRS Narsarsuaq 83.39 12 IAMs_20 IAMs_20 10 27 08.6
comp=Z,2µm,20.0s
LLLB Lillooet 83.40 330 IAmb IAmb 09 51 20.4
comp=Z,26nm,1.1s
LLLB IAMs_20 IAMs_20 10 34 24.4
comp=Z,1µm,19.0s
FRB Frobisher Bay 83.46 1 P P 09 51 05.7 +2.5
FRB pmax pmax
comp=Z,11nm,1.1s
PVLZ Peæn de 83.55 49 eP P 09 51 01.0 -3.3
PVLZ eS S 10 01 29.1 +2.1
PMRV Marv??o 83.62 44 eP P 09 51 04.7 0.0
comp=Z,34nm,1.3s
PMRV Marv??o 83.62 44 eSKS SKSac 10 01 36.9 +8.8
PMRV Marv??o 83.62 44 eLR LR 10 18 59.1
comp=Z,4µm,18.0s
PCBR Castelo Branco 83.78 44 eP P 09 51 05.6 +0.1
comp=Z,46nm,1.6s
PVIS Viseu 83.98 43 eP P 09 51 07.3 +0.7
comp=Z,67nm,1.5s
MTE Manteigas 84.04 43 eP P 09 51 06.9 0.0
comp=Z,84nm,1.3s
MTE Manteigas 84.04 43 eSKS SKSac 10 01 45.3 +14
MTE Manteigas 84.04 43 eLR LR 10 19 10.2
comp=Z,5µm,18.0s
EMAL Malaga-Limoner 84.25 48⇑ iP P 09 51 08.7 +0.7
EMAL eS S 10 01 37.3 +3.3
PGAV Gavieira, Arco 84.42 42 eSKS SKSac 10 01 41.6 +8.3
PGAV Gavieira, Arco 84.42 42 eLR LR 10 19 15.5
comp=Z,5µm,20.0s
PCAB Cabril 84.43 42 eP P 09 51 08.9 +0.1
comp=Z,72nm,1.4s
MELI Melilla 84.58 50⇑ iP P 09 51 07.9 -1.8
MELI eS S 10 01 44.4 +7.0
MVO Moncorvo 84.78 43 eP P 09 51 10.8 +0.2
comp=Z,92nm,1.3s
MVO Moncorvo 84.78 43 eSKS SKSac 10 01 36.2 +0.6
MVO Moncorvo 84.78 43 eLR LR 10 21 49.0
comp=Z,4µm,20.0s
PBRG Braganca 85.30 42 eP P 09 51 12.9 -0.3
comp=Z,92nm,1.5s
PAB San Pablo 85.69 45 P P 09 51 14.7 -0.5
PAB pmax pmax
comp=Z,54nm,1.3s
PAB San Pablo 85.69 45 P P 09 51 14.7 -0.5
PAB IAmb IAmb 09 51 19.3
comp=Z,54nm,1.2s
PAB San Pablo 85.69 45 IAMs_20 IAMs_20 10 27 43.0
comp=Z,2µm,20.0s
BOSA Boshof 85.74 119 P P 09 51 16.4 +0.5
comp=Z,24nm,1.1s,baz=193,slow=2.7,SNR=5.0
BOSA LR LR 10 26 33.9
comp=Z,2µm,19.5s,baz=236,slow=34
BOSA Boshof 85.74 119 P P 09 51 17.1 +1.1
BOSA pmax pmax
comp=Z,84nm,1.5s
BOSA Boshof 85.74 119 P P 09 51 17.1 +1.1
BOSA IAmb IAmb 09 52 11.7
comp=Z,84nm,1.5s
TAM Tamanrasset 85.74 64 P P 09 51 16.3 +0.3
TAM pmax pmax
comp=Z,83nm,1.2s
TAM MLR MLR
comp=Z,8µm,20.0s
TAM Tamanrasset 85.74 64 P P 09 51 16.3 +0.3
ES15 SONSECA Array 85.99 45 IAMs_20 IAMs_20 10 24 55.5
comp=Z,2µm,21.0s
ES14 SONSECA Array 85.99 45 IAMs_20 IAMs_20 10 25 09.6
comp=Z,2µm,22.0s
ES16 SONSECA Array 86.00 45 IAMs_20 IAMs_20 10 24 55.9
comp=Z,2µm,21.0s
ES13 SONSECA Array 86.00 45 IAMs_20 IAMs_20 10 24 54.9
comp=Z,2µm,22.0s
ES12 SONSECA Array 86.01 45 IAMs_20 IAMs_20 10 24 54.2
comp=Z,2µm,22.0s
ES05 SONSECA Array 86.01 45 IAMs_20 IAMs_20 10 24 55.2
comp=Z,3µm,22.0s

ESDC Sonseca Array 86.02 45 P P 09 51 16.4 -0.4
comp=Z,22nm,1.1s,baz=247,slow=5.8,SNR=33
ESDC LR LR 10 25 41.6
comp=Z,2µm,21.2s,baz=230,slow=33
ESDC Sonseca Array 86.02 45 P P 09 51 16.8 0.0
ESBB Sonseca Array 86.02 45 IAmb IAmb 09 51 21.0
comp=Z,38nm,1.3s
ESBB IAMs_20 IAMs_20 10 25 08.4
comp=Z,2µm,22.0s
ES04 SONSECA Array 86.02 45 IAMs_20 IAMs_20 10 25 33.4
comp=Z,2µm,21.0s
ES17 SONSECA Array 86.02 45 IAMs_20 IAMs_20 10 25 18.5
comp=Z,2µm,22.0s
ES01 SONSECA Array 86.02 45 IAMs_20 IAMs_20 10 25 33.5
comp=Z,2µm,21.0s
ES06 SONSECA Array 86.02 45 IAMs_20 IAMs_20 10 31 03.5
comp=Z,2µm,20.0s
ES07 SONSECA Array 86.03 45 IAMs_20 IAMs_20 10 24 55.7
comp=Z,2µm,21.0s
ES03 SONSECA Array 86.03 45 IAMs_20 IAMs_20 10 25 35.7
comp=Z,2µm,21.0s
ES11 SONSECA Array 86.03 45 IAMs_20 IAMs_20 10 25 34.7
comp=Z,2µm,21.0s
ES02 SONSECA Array 86.03 45 IAMs_20 IAMs_20 10 25 34.8
comp=Z,2µm,21.0s
ES18 SONSECA Array 86.04 45 IAMs_20 IAMs_20 10 25 34.0
comp=Z,2µm,21.0s
ES10 SONSECA Array 86.05 45 IAMs_20 IAMs_20 10 24 55.2
comp=Z,2µm,21.0s
ES08 SONSECA Array 86.05 45 IAMs_20 IAMs_20 10 25 33.2
comp=Z,2µm,21.0s
ES09 SONSECA Array 86.06 45 IAMs_20 IAMs_20 10 25 34.5
comp=Z,2µm,21.0s
ES19 SONSECA Array 86.07 45 IAMs_20 IAMs_20 10 25 35.8
comp=Z,2µm,21.0s
MAW Mawson 86.29 164 P P 09 51 19.1 +1.4
comp=Z,27nm,1.1s,baz=188,slow=5.0,SNR=16
MAW Mawson 86.29 164 P P 09 51 19.1 +1.4
MAW pmax pmax
comp=Z,9.0nm,1.2s
MAW MLR MLR
comp=Z,400nm,18.0s
MAW Mawson 86.29 164 P P 09 51 19.1 +1.4
GUD Guadarrama 86.37 44 P P 09 51 21.6 +2.9
GUD pmax pmax
comp=Z,17nm,1.7s
UCM Universidad Co 86.81 45⇑ iP P 09 51 20.8 +0.1
UCM eS S 10 01 56.0 -3.2
CART Cartagena 87.04 48⇑ iP P 09 51 20.6 -1.2
CART eS S 10 02 01.3 -0.1
LBTB Lobatse 87.28 115 P P 09 51 24.4 +0.8
LBTB Lobatse 87.28 115 P P 09 51 24.4 +0.8
LBTB IAmb IAmb 09 51 50.1
comp=Z,23nm,0.9s
BBB Bella Bella 87.40 329 IAMs_20 IAMs_20 10 35 02.2
comp=Z,2µm,20.0s
SFJD Kangerlussuaq 88.01 8 IAMs_20 IAMs_20 10 31 57.3
comp=Z,2µm,20.0s
ANGG Ammassalik, Gr 88.97 13 IAMs_20 IAMs_20 10 30 01.1
comp=Z,2µm,20.0s
YKA Yellowknife Ar 89.17 341 P P 09 51 30.9 -0.4
comp=Z,33nm,1.2s,baz=137,slow=4.8,SNR=56
ETSF Etsaut 89.81 44 eP P 09 51 34.7 -0.3
ETSF pmax pmax
comp=Z,30nm,1.4s
MOBC Moresby Island 89.86 328 IAMs_20 IAMs_20 10 30 40.4
comp=Z,2µm,19.0s
ILULI Iluliesat 90.06 7 IAMs_20 IAMs_20 10 27 51.5
comp=Z,2µm,22.0s
DIB Dawson Inlet, 90.15 328 IAMs_20 IAMs_20 10 30 29.9
comp=Z,3µm,20.0s
EPF Esparros 90.46 44 eP P 09 51 37.6 -0.4
EPF pmax pmax
comp=Z,19nm,1.3s
QUIF Quistinic 90.61 38 eP P 09 51 37.0 -1.4
QUIF pmax pmax
comp=Z,38nm,1.4s
ROSF Rostrenen 90.75 38 P P 09 51 41.5 +2.4
ROSF pmax pmax
comp=Z,29nm,1.2s
DSB Dublin 91.57 33 IAMs_20 IAMs_20 10 40 13.4
comp=Z,2µm,20.0s
MAHO Mahon 91.75 48⇑ iP P 09 51 44.0 +0.1
MAHO eS SKSac 10 02 22.1 +4.7
DLBC Dease Lake 92.03 333 IAmb IAmb 09 53 43.6
comp=Z,12nm,0.7s
DLBC IAMs_20 IAMs_20 10 35 31.8
comp=Z,3µm,21.0s
GRR Gorron 92.19 39 eP P 09 51 44.3 -1.4
GRR pmax pmax
comp=Z,24nm,1.2s
RJF Les Rejaudoux 92.24 42 eP P 09 51 45.0 -1.1
RJF pmax pmax
comp=Z,40nm,1.3s
CAF Calviac 92.42 43 eP P 09 51 45.9 -1.1
CAF pmax pmax
comp=Z,39nm,1.5s
BORG Borgarnes 92.56 19 IAMs_20 IAMs_20 10 32 38.3
comp=Z,2µm,20.0s
FLN La Foliniere 92.58 39 eP P 09 51 48.7 +1.1
FLN pmax pmax
comp=Z,31nm,1.2s
TCF Toulx Ste Croi 93.11 42 eP P 09 51 52.2 +2.1
TCF pmax pmax
comp=Z,20nm,1.5s
KEST Kesra 93.82 53 P P 09 51 53.5 -0.2
comp=Z,4.0nm,0.7s,baz=243,slow=4.5,SNR=3.4
KEST LR LR 10 34 52.6
comp=Z,4µm,20.1s,baz=201,slow=36
JIS Juneau Island 93.84 332 IAMs_20 IAMs_20 10 36 39.6
comp=Z,2µm,20.0s
CLF Chambon-Foret 93.89 40 IAMs_20 IAMs_20 10 31 19.3
comp=Z,2µm,20.0s
URZ Urewera 93.95 227 IAMs_20 IAMs_20 10 32 08.0
comp=Z,30µm,21.0s
CASY Casey 94.01 181 IAMs_20 IAMs_20 10 37 31.4
comp=Z,3µm,21.0s
SNZO South Karori 94.03 223 IAMs_20 IAMs_20 10 35 00.3
comp=Z,23µm,18.0s
VIVF Saint-Julien-l 94.07 44 eP P 09 51 54.1 -0.5
VIVF pmax pmax
comp=Z,19nm,1.2s
BESE Bessie Mountai 94.21 332 IAMs_20 IAMs_20 10 37 00.4
comp=Z,3µm,20.0s
ESK Eskdalemuir 94.23 32 IAMs_20 IAMs_20 10 31 35.6
comp=Z,2µm,19.0s
RAO Raoul Island 94.40 237 IAMs_20 IAMs_20 10 30 10.2
comp=Z,24µm,18.0s
HON Honolulu 94.57 291 IAMs_20 IAMs_20 10 41 59.4
comp=Z,12µm,22.0s
KIP Kipapa 94.61 291 IAMs_20 IAMs_20 10 42 23.0
comp=Z,11µm,21.0s
SUMG Summit 94.84 9 iP P 09 51 58.0 +0.1
SUMG Summit 94.84 9 iP P 09 51 58.0 +0.1
SUMG Summit 94.84 9 IAmb IAmb 09 52 28.8
comp=Z,13nm,0.9s
SUMG IAMs_20 IAMs_20 10 37 17.9
comp=Z,2µm,19.0s
ORIF Oris-en-Rattie 94.88 44 P P 09 51 58.9 +0.5
ORIF pmax pmax
comp=Z,14nm,1.3s
SKAG Skagway 94.89 332 IAMs_20 IAMs_20 10 30 41.2
comp=Z,2µm,20.0s
NNZ Nelson 94.94 223 IAMs_20 IAMs_20 10 34 43.2
comp=Z,21µm,18.0s
AFI Afiamalu 95.31 253 IAMs_20 IAMs_20 10 28 32.7
comp=Z,47µm,22.0s
WHY Whitehorse 95.33 334 IAMs_20 IAMs_20 10 42 29.9
comp=Z,2µm,20.0s
MBDF Montbardon 95.39 44 eP P 09 52 03.9 +3.1
MBDF pmax pmax
comp=Z,18nm,1.4s
LPL La Plagne 95.67 44 eP P 09 52 05.2 +3.1
LPL pmax pmax
comp=Z,19nm,1.2s
LPG La Plagne 95.68 44 eP P 09 52 05.5 +3.2
LPG pmax pmax
comp=Z,23nm,1.3s
RES Resolute Bay 95.69 354 LR LR 10 36 58.5
comp=Z,2µm,21.1s,baz=156,slow=37
DOU Dourbes 96.15 39 P P 09 52 05.2 +1.3
GIVF Givet 96.29 39 eP P 09 52 06.8 +2.3
GIVF pmax pmax
comp=Z,34nm,1.3s
UCC Uccle 96.30 38 IAMs_20 IAMs_20 10 40 40.8
comp=Z,2µm,19.0s
TULEG Thule 96.31 0 IAMs_20 IAMs_20 10 35 05.2
comp=Z,2µm,20.0s

BMRD Maredsous 96.33 39 P P 09 52 06.1 +1.4
SCO Scoresbysund 96.42 15 IAMs_20 IAMs_20 10 38 22.1
comp=Z,1µm,21.0s
WLF Walferdange 96.91 40 P P 09 52 07.9 +0.6
WLF Walferdange 96.91 40 P P 09 52 07.9 +0.6
WLF pmax pmax
comp=Z,115nm,1.2s
ECH Echery 96.97 41 P P 09 52 07.3 -0.4
ECH pmax pmax
comp=Z,13nm,1.2s
ECH Echery 96.97 41 IAmb IAmb 09 52 10.7
comp=Z,27nm,1.4s
ECH IAMs_20 IAMs_20 10 32 42.8
comp=Z,2µm,21.0s
CDF Champ du Feu 97.11 41 eP Pdif 09 52 10.5 +1.9
CDF pmax pmax
comp=Z,14nm,1.0s
PCA Pinnacle 97.37 332 IAMs_20 IAMs_20 10 43 02.8
comp=Z,2µm,19.0s
BFO Black Forest 97.74 41 IAMs_20 IAMs_20 10 33 06.2
comp=Z,3µm,21.0s
OSSC Osservatorio P 97.96 47 IAMs_20 IAMs_20 10 38 24.5
comp=Z,2µm,18.0s
YAH Yahtse 98.16 332 IAMs_20 IAMs_20 10 40 51.6
comp=Z,2µm,22.0s
DAVOX Davos/Dischmat 98.17 43 P P 09 52 13.4 0.0
comp=Z,5.9nm,0.8s,baz=194,slow=5.4,SNR=8.0
BUG Bochum--Univer 98.23 38 P P 09 52 13.2 -0.1
BUG pmax pmax
comp=Z,18nm,1.4s
CTGM Chitina Glacie 98.24 332 IAMs_20 IAMs_20 10 40 52.9
comp=Z,2µm,20.0s
DAVA Damuels 98.35 43 i Pdiff P 09 52 13.9 -0.2
comp=Z,8.5nm,1.1s
DAVA i PP PP 09 56 15.1 +0.7
comp=Z,6.6nm,1.4s
BARN Barnard Glacie 98.43 332 IAMs_20 IAMs_20 10 30 32.7
comp=Z,2µm,21.0s
TNS Taunus Mts 98.49 40 P P 09 52 14.5 -0.1
TNS pmax pmax
comp=Z,10.0nm,0.8s
WAX Waxell Ridge 98.69 332 IAMs_20 IAMs_20 10 41 38.7
comp=Z,2µm,20.0s
BALM Baldy 98.72 332 IAMs_20 IAMs_20 10 41 45.4
comp=Z,2µm,19.0s
FETA Feichten 98.80 43 i Pdiff Pdif 09 52 17.9 +1.7
comp=Z,10nm,1.2s
FETA i PP PP 09 56 14.6 -3.2
comp=Z,6.5nm,1.4s
TGL Tana Glacier 98.81 332 IAMs_20 IAMs_20 10 30 51.8
comp=Z,2µm,22.0s
DAWY Dawson 98.85 336 IAMs_20 IAMs_20 10 43 04.9
comp=Z,3µm,22.0s
CRQM Cirque 98.95 332 IAMs_20 IAMs_20 10 41 13.9
comp=Z,2µm,20.0s
EPYK Eagle Plains 98.97 338 IAMs_20 IAMs_20 10 39 33.1
comp=Z,2µm,19.0s
RETA Reutte 98.98 43 i Pdiff Pdif 09 52 17.1 +0.3
comp=Z,12nm,1.3s
RETA i PP PP 09 56 15.6 -3.5
comp=Z,3.5nm,0.9s
MOTA Moosalm 99.15 43 i Pdiff Pdif 09 52 17.2 -0.6
comp=Z,15nm,1.8s
MOTA i PP PP 09 56 20.8 +0.4
comp=Z,14nm,1.5s
MCARA McCarthy VSAT 99.16 332 IAMs_20 IAMs_20 10 42 55.2
comp=Z,2µm,19.0s
SQTA Sankt Quirin 99.17 43 i Pdiff Pdif 09 52 17.5 -0.3
comp=Z,15nm,1.2s
SQTA i PP PP 09 56 18.8 -1.9
comp=Z,9.4nm,1.4s
VRDI Verde Repeater 99.28 332 IAMs_20 IAMs_20 10 42 06.4
comp=Z,2µm,19.0s
BCAR Beaver Creek A 99.36 334 Pdif 09 52 17.5 -0.7
WATA Walderalm 99.45 43 i Pdiff Pdif 09 52 17.9 -1.1
comp=Z,15nm,1.4s
WATA i PP PP 09 56 22.8 0.0
comp=Z,11nm,1.3s
WTTA Wattenberg 99.47 43 i Pdiff Pdif 09 52 18.8 -0.3
comp=Z,16nm,1.3s
WTTA i PP PP 09 56 20.0 -2.9
comp=Z,5.6nm,1.3s
WTTA Wattenberg 99.47 43 P Pdif 09 52 19.2 0.0
WTTA pmax pmax
comp=Z,13nm,1.4s
GLB Gilahina Butte 99.53 332 IAMs_20 IAMs_20 10 42 08.9
comp=Z,2µm,20.0s
CEL Celeste 99.61 53 IAMs_20 IAMs_20 10 40 57.6
comp=Z,2µm,21.0s
CIMO Cimolais 99.68 44 IAMs_20 IAMs_20 10 41 00.9
comp=Z,2µm,19.0s
EGAK Eagle 99.86 336 IAMs_20 IAMs_20 10 41 58.5
comp=Z,2µm,20.0s
ABTA Abfaltersbach 99.87 44 i Pdiff Pdif 09 52 20.0 -0.8
comp=Z,11nm,1.3s
GRA1 Grafenberg Arr 99.99 41 IAMs_20 IAMs_20 10 40 32.8
comp=Z,2µm,22.0s
MENT Mentasta 100.11 334 IAMs_20 IAMs_20 10 30 34.1
comp=Z,2µm,21.0s
HIN Hinchinbrook I 100.33 331 IAMs_20 IAMs_20 10 30 45.0
comp=Z,2µm,20.0s
FID Port Fidalgo 100.45 331 IAMs_20 IAMs_20 10 46 47.4
comp=Z,2µm,20.0s
DOT Dot Lake 100.53 334 IAMs_20 IAMs_20 10 47 11.5
comp=Z,2µm,20.0s
MYKA Terra Mystica 100.57 44 i Pdiff Pdif 09 52 23.9 -0.1
comp=Z,7.8nm,1.0s
MYKA i PP PP 09 56 30.0 -1.2
comp=Z,0.8nm,0.3s
SCRK Sand Creek 100.64 335 IAMs_20 IAMs_20 10 41 21.2
comp=Z,3µm,22.0s
DUGI Dugi Otok 100.73 47 P PP 09 56 29.3 -3.1
GLI Glacier Island 100.78 331 IAMs_20 IAMs_20 10 30 43.9
comp=Z,2µm,22.0s
WET Wettzell 100.85 42 P Pdif 09 52 25.0 -0.1
WET pmax pmax
comp=Z,5.0nm,1.2s
PAX Paxson 100.85 333 IAMs_20 IAMs_20 10 45 03.9
comp=Z,2µm,18.0s
RIDG Independent Ri 100.89 334 IAMs_20 IAMs_20 10 40 43.9
comp=Z,2µm,19.0s
NKC Novy Kostel 100.92 41 ePP PP 09 56 25.1 -8.6
NKC eSKS 10 03 02.2
NKC AMS AMS 10 36 00.0
comp=Z,2µm,20.1s
ZIRJ Zirje 101.03 48 P PP 09 56 24.1 -11
OBKA Obir 101.13 45 i Pdiff Pdif 09 52 27.5 +1.1
comp=Z,7.6nm,1.4s
OBKA i PP PP 09 56 33.7 -1.7
comp=Z,7.7nm,1.3s
MORI Morici 101.14 47 P PP 09 56 31.9 -3.6
GERES GERESS Array B 101.28 42 P Pdif 09 52 26.6 -0.5
comp=Z,1.8nm,0.9s,baz=242,slow=2.9,SNR=9.5
KHC Kasperske Hory 101.28 42 ePDIFF Pdif 09 52 22.4 -4.6
KHC ePP PP 09 56 30.8 -5.7
KHC eSKS SKSac 10 03 04.7 -2.2
KHC AMS AMS 10 40 10.0
comp=Z,3µm,23.1s
KHC Kasperske Hory 101.28 42‖ eP Pdif 09 52 26.4 -0.6
KHC Kasperske Hory 101.28 42 IAMs_20 IAMs_20 10 40 32.0
comp=Z,1µm,22.0s
BOJS Bojanci 101.30 46 ePdiff Pdif 09 52 24.4 -2.7
BOJS ePP PP 09 56 35.0 -1.6
BOJS eSKSac SKSac 10 03 06.9 -0.2
BOJS eSdiff Sdif 10 04 14.7 +7.2
BOJS e 10 05 45.5
BOJS eSS SS 10 11 15.1 +6.8
MOA Molln 101.34 43 i Pdiff Pdif 09 52 25.0 -2.3
comp=Z,5.9nm,1.2s
MOA i PP PP 09 56 34.1 -2.8
comp=Z,4.3nm,1.1s
SOKA Soboth 101.50 44 i Pdiff Pdif 09 52 26.3 -1.8
comp=Z,3.1nm,1.3s
SOKA i PP PP 09 56 38.7 +0.5
comp=Z,0.2nm,0.4s
CLL Collm 101.58 40 ePdif Pdif 09 52 28.0 -0.2
CLL epPdif sPdif 09 52 31.0 +1.0
CLL ePP PP 09 56 36.0 -2.6
CLL ePPP PPP 09 58 54.0
CLL eSKSac SKSac 10 03 11.0 +2.9
CLL eSdif Sdif 10 04 15.0 +5.5
CLL e 10 05 07.0
CLL ePS PS 10 05 48.0 +5.7
CLL ePPS PPS 10 06 33.0
CLL eSS SS 10 11 06.0 -5.8

CLL eSSS SSS 10 15 06.0
CLL eSSSS 10 18 30.0
CLL e 10 21 00.0
CLL Lm MLR 10 34 00.0
comp=N,1μm,20.2s
CLL Lm MLR 10 34 00.0
comp=E,2μm,21.9s
CLL Lm MLR 10 34 00.0
comp=Z,3μm,21.3s
CLL Collm 101.58 40 eP Pdif 09 52 28.0 -0.2
CLL e 09 56 36.0
CLL e 10 03 11.0
CLL MLR MLR
comp=Z,3μm,21.3s
KNK Knik Glacier 101.59 331 IAMs_20 IAMs_20 10 46 10.3
comp=Z,2μm,19.0s
SEW Seward 101.60 330 IAMs_20 IAMs_20 10 30 36.6
comp=Z,2μm,21.0s
KIJV Kijevo 101.66 47 P PP 09 56 35.7 -3.7
DHY Denali Highway 101.70 333 IAMs_20 IAMs_20 10 30 29.2
comp=Z,2μm,21.0s
PRP Porcupine Dome 101.84 336 IAMs_20 IAMs_20 10 42 49.1
comp=Z,2μm,19.0s
GHO Glory Hole Cre 101.92 332 IAMs_20 IAMs_20 10 30 44.1
comp=Z,2μm,22.0s
ARSA Arzberg 101.98 44 *i* Pdiff **Pdif 09 52 28.4 -1.8**
comp=Z,1.6nm,0.8s
ARSA *i* PP **PP 09 56 39.6 -2.2**
comp=Z,4.4nm,1.3s
HDA Harding Lake 102.00 334 IAMs_20 IAMs_20 10 42 29.2
comp=Z,2μm,20.0s
BRG Berggiesshubel 102.02 40 *e*PDIFF **Pdif 09 52 33.1 +2.9**
comp=Z,1.8nm,0.3s
BRG SKS **SKSac 10 03 13.0 +2.8**
BRG SDIFF **Sdif 10 04 10.0 -3.2**
comp=N,2μm,26.6s
comp=E,816nm,14.2s
comp=Z,3μm,19.2s
BRG Berggiesshubel 102.02 40 *e*P **Pdif 09 52 33.1 +2.9**
BRG 10 03 13.0
BRG S **Sdif 10 04 10.0 -3.2**
BRG pmax pmax
comp=Z,2.0nm,0.3s
BRG MLR MLR
comp=N,2μm,26.6s
BRG MLR MLR
comp=E,816nm,14.2s
BRG MLR MLR
comp=Z,3μm,19.2s
RICI Ricice 102.03 48 P **PP 09 56 38.1 -4.1**
RC01 Rabbit Creek A 102.06 331 IAMs_20 IAMs_20 10 41 26.8
comp=Z,2μm,22.0s
PRA Prague 102.09 41 *e*PDIFF **Pdif 09 52 26.1 -4.4**
PRA *e*PP PP 09 56 30.8 -12
PRA *e*SKS 10 03 06.0
PRA AMS AMS 10 48 10.0
comp=Z,700nm,15.7s
PRA Prague 102.09 41 *e*P **Pdif 09 52 26.1 -4.4**
PRA *e* 10 03 06.0
PRA MLR MLR
comp=Z,700nm,15.7s
ILAR Eielson Array 102.11 335 PP **PP 09 56 40.9 -1.3**
comp=Z,1.2nm,0.9s,baz=116,slow=5.5,SNR=5.5
FYU Fort Yukon 102.13 337 IAMs_20 IAMs_20 10 48 11.6
comp=Z,1μm,18.0s
PRU Pruhonice 102.13 41 *e*PDIFF **Pdif 09 52 24.2 -6.5**
PRU *e*PP PP 09 56 32.6 -10
PRU *e*SKS **SKSac 10 03 09.7 -1.1**
PRU AMS AMS 10 35 30.0
comp=Z,2μm,20.5s
PRU Pruhonice 102.13 41 *e*P **Pdif 09 52 24.2 -6.5**
PRU *e* 10 03 09.7
PRU MLR MLR
comp=Z,2μm,20.5s
BRLK Bradley Lake 102.17 329 IAMs_20 IAMs_20 10 30 32.8
comp=Z,2μm,22.0s
CNPM China Poot 102.26 329 IAMs_20 IAMs_20 10 30 31.1
comp=Z,3μm,22.0s
GOPC GO Pecny, Ondr 102.26 41 *e*PDIFF **Pdif 09 52 28.0 -3.3**
GOPC *e*PP PP 09 56 30.8 -13
GOPC *e*SKS **SKSac 10 03 13.5 +2.0**
GOPC AMS AMS 10 40 00.0
comp=Z,2μm,13.0s
GOPC GO Pecny, Ondr 102.26 41 *e*P **Pdif 09 52 28.0 -3.3**
GOPC *e* 10 03 13.5
GOPC MLR MLR
comp=Z,2μm,13.0s
PVCC Panska Ves 102.30 41 *e*PP **PP 09 56 38.3 -5.7**
PVCC AMS AMS 10 37 10.0
comp=Z,2μm,20.1s
ALE Alert 102.38 1 IAMs_20 IAMs_20 10 46 28.7
comp=Z,1μm,19.0s
CONA Conrad Observa 102.39 43 *i* Pdiff **Pdif 09 52 33.4 +1.3**
comp=Z,2.7nm,1.3s
CCB Clear Creek Bu 102.43 335 IAMs_20 IAMs_20 10 39 59.6
comp=Z,2μm,21.0s
RND Reindeer 102.44 333 IAMs_20 IAMs_20 10 46 52.6
comp=Z,2μm,19.0s
WRH Wood River Hil 102.49 334 IAMs_20 IAMs_20 10 42 23.1
comp=Z,2μm,20.0s
HOM Homer 102.50 329 IAMs_20 IAMs_20 10 42 30.5
comp=Z,2μm,21.0s
COLA College 102.53 335 IAMs_20 IAMs_20 10 43 47.3
comp=Z,2μm,19.0s
TREC Trest 102.53 42 *e*PDIFF **Pdif 09 52 29.9 -2.6**
TREC *e*PP PP 09 56 34.5 -11
TREC AMS AMS 10 35 50.0
comp=Z,2μm,21.2s
TREC Trest 102.53 42 *e*P **Pdif 09 52 29.9 -2.6**
TREC MLR MLR
comp=Z,2μm,21.2s
OHAK Old Harbor 102.58 326 IAMs_20 IAMs_20 10 30 17.7
comp=Z,2μm,21.0s
UPC Upice 103.18 41 *e*PDIFF **Pdif 09 52 29.9 -5.5**
UPC *e*PP **PP 09 56 43.9 -6.8**
UPC *e*SKS **SKSac 10 03 15.4 -0.4**
UPC AMS AMS 10 39 50.0
comp=Z,2μm,25.1s
UPC Upice 103.18 41 *e*P **Pdif 09 52 29.9 -5.5**
UPC *e* 10 03 15.4
UPC MLR MLR
comp=Z,2μm,25.1s
CHVC Chvalec 103.23 41 AMS AMS 10 40 00.0
comp=Z,2μm,24.4s
PDG Podgorica 103.24 50 IAMs_20 IAMs_20 10 42 44.7
comp=Z,2μm,18.0s
DPC Dobruska-Polom 103.33 41 *e*PDIFF **Pdif 09 52 35.5 -0.6**
DPC *e*PP PP 09 56 42.1 -10
DPC *e*SKS **SKSac 10 03 16.3 -0.3**
DPC AMS AMS 10 40 00.0
comp=Z,2μm,24.3s
DPC Dobruska-Polom 103.33 41 *e*P **Pdif 09 52 35.5 -0.6**
DPC *e* 10 03 16.3
DPC MLR MLR
comp=Z,2μm,24.3s
TIR Tirane 103.41 51 IAMs_20 IAMs_20 10 43 19.0
comp=Z,2μm,19.0s
JOHN Johnston Islan 103.51 283 IAMs_20 IAMs_20 10 36 51.3
comp=Z,18μm,21.0s
BPAW Bear Paw Mtn. 103.56 334 IAMs_20 IAMs_20 10 30 49.5
comp=Z,2μm,21.0s
PPLA Purkeypile 103.72 332 IAMs_20 IAMs_20 10 30 19.7
comp=Z,2μm,22.0s
MORC Moravsky Berou 103.95 42 IAMs_20 IAMs_20 10 36 54.5
comp=Z,2μm,20.0s
OKC Ostrava-Krasne 104.34 42 *e*PDIFF **Pdif 09 52 41.2 +0.7**
OKC *e*PP PP 09 56 42.1 -17
OKC *e*SKS **SKSac 10 03 13.5 -7.6**
OKC AMS AMS 10 36 50.0
comp=Z,2μm,20.9s
OKC Ostrava-Krasne 104.34 42 *e*P **Pdif 09 52 41.2 +0.7**
OKC *e* 10 03 13.5
OKC MLR MLR
comp=Z,2μm,20.0s
TOLK Toolik Lake Re 104.40 338 IAMs_20 IAMs_20 10 43 33.7
comp=Z,2μm,19.0s
PSZ Piszkesteto 105.01 44 IAMs_20 IAMs_20 10 38 17.9
comp=Z,2μm,20.0s
CNBA Chernabura Isl 105.38 323 IAMs_20 IAMs_20 10 49 30.8
comp=Z,2μm,21.0s
SDPT Sand Point 105.99 324 IAMs_20 IAMs_20 10 44 28.9
comp=Z,2μm,22.0s
VTS Vitosha 106.15 50 IAMs_20 IAMs_20 10 40 13.5
comp=Z,2μm,21.0s
KWP Kalwaria Pacla 107.19 43 IAMs_20 IAMs_20 10 48 34.3
comp=Z,1μm,19.0s

KARP Karpathos 107.63 58 IAMs_20 IAMs_20 10 46 59.5
comp=Z,2μm,19.0s
SUW Suwalki 108.23 38 IAMs_20 IAMs_20 10 42 16.5
comp=Z,2μm,18.0s
TAU Tasmania Unive 108.25 209 IAMs_20 IAMs_20 10 34 59.9
comp=Z,37μm,22.0s
MLR Muntele Rosu 108.61 47 IAMs_20 IAMs_20 10 43 20.6
comp=Z,2μm,20.0s
ISP Isparta 110.72 56 IAMs_20 IAMs_20 10 51 50.8
comp=Z,2μm,19.0s
ARCES ARCESS Array B 110.75 22 PKKPbc PKKPbc 10 08 07.9 -1.5
comp=Z,1.8nm,0.9s,baz=308,slow=2.8,SNR=4.6
FURI Furi 111.24 88 *e*P **PS 10 07 22.5 -0.6**
KEV Kevo 111.27 22 IAMs_20 IAMs_20 10 47 49.2
comp=Z,2μm,21.0s
AAE Adis Abeba 111.36 88 *e*P **PS 10 07 14.6 -10**
AKBB Malin Array Si 111.49 42 IAMs_20 IAMs_20 10 52 26.0
comp=Z,1μm,20.0s
CSS Mathiatis 112.49 60 IAMs_20 IAMs_20 10 51 37.2
comp=Z,2μm,21.0s
GAMB Gambell 112.53 332 IAMs_20 IAMs_20 10 30 25.5
comp=Z,2μm,21.0s
ANTO Ankara 112.78 54 IAMs_20 IAMs_20 10 52 06.3
comp=Z,2μm,22.0s
MIDW Midway 113.34 293 IAMs_20 IAMs_20 10 42 24.2
comp=Z,21μm,19.0s
BR131 Keskin Array S 113.40 54 ⇓ *i*PKIKP **PKiKP 09 57 14.1 -0.5**
BRTR Keskin Array B 113.40 54 PKiKP **PKiKP 09 57 14.4 -0.2**
comp=Z,3.3nm,1.0s,baz=191,slow=3.8,SNR=10.0
APA Apatity 113.72 24 ⇓ *i*PKIKP **PKiKP 09 57 07.8 -6.3**
APA pmax pmax
comp=Z,7.0nm,0.9s
ADK Adak 115.20 319 IAMs_20 IAMs_20 10 51 57.5
comp=Z,14μm,21.0s
ATD Arta Tunnel 115.94 87 IAMs_20 IAMs_20 10 42 53.7
comp=Z,2μm,22.0s
ATD Arta Tunnel 115.94 87 *e*P **PS 10 08 06.4 +0.7**
OBN Obninsk 116.06 38 *i* PKIKP **PKiKP 09 57 20.9 +2.0**
OBN pmax pmax
comp=Z,9.0nm,0.8s
OBN MLR MLR
comp=Z,2μm,19.0s
ANN Anapa 116.62 49 *e*PKIKP **PKPdf 09 57 16.1 -4.3**
ANN *e* 09 58 29.2
ANN *e* 10 00 52.7
ANN *e*SP SP 10 08 15.4 +5.8
KLMR Klimovskoe 117.13 31 *e*PKIKP **PKPdf 09 57 17.5 -3.3**
KLMR pmax pmax
comp=Z,29nm,1.4s
KLMR Klimovskoe 117.13 31 *e*PKPdf **PKPdf 09 57 17.5 -3.3**
KLMR AMP 09 57 25.4
comp=Z,29nm,1.4s
KLMR *e*PP **PP 09 58 24.4 -6.6**
LPSR Galich'ya Gora 117.57 40 *i* PKIKP **PKPdf 09 57 21.5 -0.4**
LPSR pmax pmax
comp=Z,20nm,1.0s
LPSR MLR MLR
comp=Z,2μm,22.0s
VSR Storozhevoye 117.78 42 *i* PKIKP **PKPdf 09 57 21.3 -1.1**
VSR pmax pmax
comp=Z,6.0nm,0.5s
VORD Divnogorie 117.87 42 *e*PKIKP **PKPdf 09 57 20.9 -1.7**
VORD pmax pmax
comp=Z,6.0nm,0.4s
SOC Sochi 118.23 51 *i* PKIKP **PKPdf 09 57 23.0 -0.5**
SOC *e* 09 58 36.5
SOC *e*PPP PPP 10 01 09.9
SOC *e* 10 04 16.4
SOC *e*PS **PS 10 08 21.6 -3.9**
SOC *e*SS SS 10 14 53.0 -2.6
VRH Novokhopyorsk 119.39 42 *i* PKIKP **PKPdf 09 57 24.5 -1.0**
VRH pmax pmax
comp=Z,7.0nm,0.4s
VRH MLR MLR
comp=Z,2μm,22.0s
STKA Stephens Creek 119.81 212 IAMs_20 IAMs_20 10 35 16.8
comp=Z,14μm,20.0s
KIV Kislovodsk 120.38 50 *e*P **Pdif 09 53 51.5 -0.6**
KIV *i* 09 57 27.7
KIV *e* 09 58 53.9
KIV *e*PS **PS 10 08 45.0 -0.1**
KIV *e*SS SS 10 15 21.6 -1.9
KIV pmax pmax
comp=Z,44nm,1.1s
KIV MLR MLR
comp=Z,3μm,22.0s
KIV Kislovodsk 120.38 50 IAMs_20 IAMs_20 10 49 17.1
comp=Z,971nm,20.0s
BILL Bilibino 120.45 339 ⇓ *i*PKIKP **PKiKP 09 57 27.5 +0.3**
BILL *i* 09 58 53.3
BILL pmax pmax
comp=Z,3.0nm,1.1s
KBZ Khabaz 120.54 50 PKP **PKiKP 09 57 28.4 +0.4**
comp=Z,14nm,1.0s,baz=215,slow=2.6,SNR=12
AKH Akhalkalaki 121.00 53 IAMs_20 IAMs_20 10 56 14.7
comp=Z,1μm,21.0s
ZEI Tsey 121.29 51 *i* PKIKP **PKPdf 09 57 29.5 -0.2**
ZEI pmax pmax
comp=Z,14nm,0.8s
KIRV Kirov 122.50 32 ⇑ *e*PKIKP **PKPdf 09 57 31.3 +0.1**
MAK Makhachkala 123.92 51 *e*P **Pdif 09 54 04.9 -2.9**
MAK *i* 09 57 32.7
MAK *e* 10 04 40.6
MAK *e*SS SS 10 16 06.9 -1.6
MAK pmax pmax
comp=Z,35nm,0.3s
H11S2 WAKE ISLAND Hyl 125.90 279 T T 12 17 07.0
baz=101,slow=74,SNR=501
H11S1 WAKE ISLAND Hyl 125.91 279 T T 12 16 59.5
baz=101,slow=74,SNR=150
H11S3 WAKE ISLAND Hyl 125.92 279 T T 12 17 01.0
baz=101,slow=74,SNR=125
H11N3 WAKE ISLAND Hyl 125.95 280 T T 12 17 15.6
baz=101,slow=74,SNR=207
H11N2 WAKE ISLAND Hyl 125.96 280 T T 12 17 09.8
baz=101,slow=74,SNR=179
H11N1 WAKE ISLAND Hyl 125.96 280 T T 12 17 16.6
baz=101,slow=74,SNR=211
TIXI Tiksi 127.05 352 PKP **PKPdf 09 57 39.3 -0.3**
comp=Z,4.0nm,0.8s,baz=49,slow=2.2,SNR=9.0
TIXI Tiksi 127.05 352 ⇓ *i*PKIKP **PKPdf 09 57 39.2 -0.4**
TIXI Tiksi 127.05 352 PKPdf **PKPdf 09 57 39.4 -0.3**
ARU Arti 127.87 33 *i* PKIKP **PKiKP 09 57 42.4 +0.2**
ARU 09 59 41.0
ARU 10 04 50.7
ARU SP SP 10 09 39.7 -8.8
ARU Arti 127.87 33 PKPdf **PKiKP 09 57 42.6 +0.4**
ARU IAMs_20 IAMs_20 10 50 36.0
comp=Z,2μm,20.0s
NRIK Noril'sk 128.88 10 PKP **PKiKP 09 57 43.8 -0.1**
comp=Z,4.9nm,0.9s,baz=6.2,slow=3.4,SNR=5.0
PETK Petropavlovsk- 130.28 324 PKP **PKiKP 09 57 47.0 -0.2**
comp=Z,10nm,1.0s,baz=83,slow=3.3,SNR=10
PETK Petropavlovsk- 130.28 324 PKIKP **PKPdf 09 57 46.2 -0.1**
PETK Petropavlovsk- 130.28 324 **PKPdf 09 57 46.2 -0.1**
ASAR Alice Springs 130.38 210 PKP **PKPdf 09 57 47.0 -0.6**
comp=Z,2.4nm,0.8s,baz=104,slow=0.9,SNR=4.1
ASAR Alice Springs 130.38 210 PKPdf **PKPdf 09 57 47.1 -0.4**
GEYT Alibeck 132.47 57 PKP **PKiKP 09 57 52.1 0.0**
comp=Z,4.2nm,0.8s,baz=180,slow=1.5,SNR=7.1
GEYT Alibeck 132.47 57 PKPdf **PKiKP 09 57 54.8 +2.7**
WRA Warramunga Arr 133.30 213 PKP **PKPdf 09 57 53.3 +0.2**
comp=Z,2.9nm,0.7s,baz=151,slow=1.9,SNR=16
WRA Warramunga Arr 133.30 213 PKIKP **PKPdf 09 57 51.4 -1.7**
WRA Warramunga Arr 133.30 213 **PKPdf 09 57 51.4 -1.7**
DGAR Diego Garcia 134.76 123 IAMs_20 IAMs_20 11 09 58.1
comp=Z,11μm,22.0s
BRVK Borovoye 135.44 33 ⇑ *i*PKIKP **PKPdf 09 57 55.2 -0.8**
BRVK pmax pmax
comp=Z,13nm,1.7s
BRVK MLR MLR
comp=Z,2μm,20.0s
BRVK Borovoye 135.44 33 PKPdf **PKPdf 09 57 55.7 -0.3**
BVAR Borovoye Array 135.51 33 PKP **PKPdf 09 57 56.9 +0.7**
comp=Z,3.4nm,0.8s,baz=285,slow=2.3,SNR=13
BVAR SKP 10 01 27.9
comp=Z,1.4nm,0.6s,baz=91,slow=11,SNR=3.7
YAK Yakutsk 135.63 346 ⇑ *e*PKIKP **PKPdf 09 57 56.3 +0.2**
PSAD2 Pilbara Seismi 137.34 195 IAMs_20 IAMs_20 10 45 12.6
comp=Z,80μm,19.0s
PSAD3 Pilbara Seismi 137.36 195 IAMs_20 IAMs_20 10 45 26.2
comp=Z,86μm,18.0s
PSAC3 Pilbara Seismi 137.37 195 IAMs_20 IAMs_20 10 45 24.9
comp=Z,81μm,18.0s
PSAB3 Pilbara Seismi 137.39 195 IAMs_20 IAMs_20 10 45 33.3
comp=Z,84μm,18.0s
PSAA3 Pilbara Seismi 137.41 195 IAMs_20 IAMs_20 10 45 33.2
comp=Z,84μm,18.0s
PSAC2 Pilbara Seismi 137.41 195 IAMs_20 IAMs_20 10 45 13.1
comp=Z,80μm,20.0s
PSAA1 Pilbara Seismi 137.41 195 IAMs_20 IAMs_20 10 45 33.7
comp=Z,84μm,18.0s
PSAA2 Pilbara Seismi 137.43 195 IAMs_20 IAMs_20 10 45 24.4
comp=Z,81μm,18.0s
PSAB1 Pilbara Seismi 137.43 195 IAMs_20 IAMs_20 10 45 34.0
comp=Z,84μm,18.0s
PSAB2 Pilbara Seismi 137.43 195 IAMs_20 IAMs_20 10 45 14.1
comp=Z,78μm,20.0s
PSAC1 Pilbara Seismi 137.46 195 IAMs_20 IAMs_20 10 45 25.3
comp=Z,84μm,18.0s
PSAD1 Pilbara Seismi 137.53 195 IAMs_20 IAMs_20 10 45 24.7
comp=Z,80μm,18.0s
MBWA Marble Bar 137.84 195 IAMs_20 IAMs_20 10 45 33.9
comp=Z,60μm,18.0s
KKAR Karatay Array 140.26 46 PKIKP **PKPdf 09 58 05.9 +0.6**
KKAR Karatay Array 140.26 46 PKPdf **PKPdf 09 58 05.9 +0.6**
KURK Kurchatov 140.98 31 ⇑ *i*PKIKP **PKiKP 09 58 08.5 -0.4**
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 140.98 31 PKPdf **PKPdf 09 58 06.0 -0.3**
KURK Kurchatov 140.98 31 IAMs_20 IAMs_20 11 14 40.5
comp=Z,5μm,22.0s
KURBB Kurchatov Arra 141.00 31 PKP **PKPdf 09 58 06.2 -0.1**
comp=Z,4.7nm,0.8s,baz=310,slow=2.4,SNR=18
ZALV Zalesovo Beam 141.29 23 PKP **PKPdf 09 58 07.2 +0.4**
comp=Z,12nm,0.6s,baz=295,slow=2.4,SNR=23
ZALV Zalesovo Beam 141.29 23 PKPpre 09 58 02.2
YSS Yuzh-Sakhalins 141.65 322 *i* PKIKP **PKPdf 09 58 07.5 -0.1**
YSS *e*PPP PPP 10 04 22.0
BTLS Baital 141.70 41 *e*PKP **PKPdf 09 58 08.1 +0.3**
baz=42
BTLS *e*PP **PP 10 01 13.2 +1.5**
baz=42
BTLS Baital 141.70 41 *e*PKIKP **PKPdf 09 58 08.9 +1.1**
BTLS *e* 10 01 13.1
SEM Semipalatinsk 141.97 30 LR LR 11 09 02.3
comp=Z,2μm,24.7s,baz=31
SGDS Sogindy 142.83 43 *e*PKP **PKPdf 09 58 10.7 +0.7**
comp=Z,22nm,1.7s,baz=44
SGDS Sogindy 142.83 43 *e*PKIKP **PKPdf 09 58 10.6 +0.7**
SGDS pmax pmax
comp=Z,22nm,1.7s
AAK Ala-Archa 143.11 44 PKP **PKPdf 09 58 09.7 -0.9**
comp=Z,13nm,0.9s,baz=240,slow=1.5,SNR=11
AAK Ala-Archa 143.11 44 ⇑ *e*PKIKP **PKPdf 09 58 09.6 -1.0**
AAK pmax pmax
comp=Z,15nm,1.3s
AAK MLR MLR
comp=Z,1μm,20.0s
AAK Ala-Archa 143.11 44 PKPdf PKPbc 09 58 09.0 +1.5
ZEA Zeya 143.55 342 *e*PKIKP PKPab 09 58 07.2 +0.1
ZEA pmax pmax
comp=Z,32nm,0.8s
KUU Kurty 143.69 41 ⇑ *e*PKP **PKPdf 09 58 12.8 +1.4**
comp=Z,60nm,1.2s,baz=42
KUU LR LR 10 59 59.1
comp=Z,606nm,15.7s,baz=42
KUU Kurty 143.69 41 *ce*PKIKP **PKPdf 09 58 12.8 +1.4**
KUU pmax pmax
comp=Z,60nm,1.2s
KUU MLR MLR
comp=Z,606nm,16.0s
ERM Erimo 143.87 315 IAMs_20 IAMs_20 10 48 42.5
comp=Z,15μm,21.0s
CHKK Chushkaly 144.12 41 *e*PKP **PKPdf 09 58 11.3 -0.8**
baz=42
CHKK Chushkaly 144.12 41 *e*PKIKP **PKPdf 09 58 11.3 -0.8**
BOOM Boomskoye usch 144.13 44 PKIKP **PKPdf 09 58 12.4 0.0**
BOOM Boomskoye usch 144.13 44 **PKPdf 09 58 12.4 0.0**
MTBS Maitube 144.13 43 *e*PKP **PKPdf 09 58 12.4 +0.1**
baz=43
MTBS Maitube 144.13 43 *e*PKIKP **PKPdf 09 58 12.3 +0.1**
TDK Taldyqorghan 144.35 39 *e*PKP **PKPdf 09 58 13.9 +1.4**
baz=39
TDK LR LR 11 00 52.1
comp=Z,2μm,18.6s,baz=39
TDK Taldyqorghan 144.35 39 *e*PKIKP **PKPdf 09 58 13.9 +1.4**
TDK MLR MLR
comp=Z,2μm,19.0s
AAA Alma-Ata 144.40 42 *e*PKP **PKPdf 09 58 12.9 +0.2**
baz=43
AAA Alma-Ata 144.40 42 *e*PKIKP **PKPdf 09 58 12.9 +0.2**
MDOK Medeo 144.51 42 *e*PKP **PKPdf 09 58 12.9 -0.2**
comp=Z,773nm,1.6s,baz=43
MDOK *e*PP **PP 10 01 29.8 +1.0**
baz=43
MDOK Medeo 144.51 42 *e*PKIKP **PKPdf 09 58 12.8 -0.2**
MDOK *e* 10 01 29.8
MDOK pmax pmax
comp=Z,773nm,1.6s
TNSS Tian-Shan 144.51 42 *e*PKP **PKPdf 09 58 13.5 +0.2**
baz=43
TNSS Tian-Shan 144.51 42 *e*PKIKP **PKPdf 09 58 13.5 +0.2**
MAKZ Makanchi 145.22 33 PKIKP **PKPbc 09 58 13.4 -0.2**
MAKZ Makanchi 145.22 33 **PKPbc 09 58 13.4 -0.2**
NIL Nilore 145.34 59 PKIKP **PKPbc 09 58 14.3 -0.1**
NIL Nilore 145.34 59 **PKPbc 09 58 14.3 -0.1**
NIL Nilore 145.34 59 IAMs_20 IAMs_20 11 08 12.6
comp=Z,3μm,22.0s
KPKS Kokpek 145.37 41 *e*PKP **PKPdf 09 58 15.3 +0.8**
comp=Z,197nm,1.3s,baz=41
KPKS Kokpek 145.37 41 *e*PKIKP **PKPdf 09 58 15.2 +0.8**
KPKS pmax pmax
comp=Z,197nm,1.3s
MKAR Makanchi Array 145.39 33 PKPbc **PKPab 09 58 14.3 0.0**
comp=Z,32nm,0.8s,baz=325,slow=4.6,SNR=186
MKAR Makanchi Array 145.39 33 **PKPbc 09 58 12.4 -1.7**
SATY Saty 145.41 41 ⇑ *e*PKP **PKPab 09 58 15.2 +0.5**
comp=Z,57nm,1.1s,baz=42
SATY Saty 145.41 41 *ce*PKIKP **PKPab 09 58 15.1 +0.5**
SATY pmax pmax
comp=Z,57nm,1.1s
KSH Kashi 145.48 48 PKPbc **PKPab 09 58 15.8 +0.8**
KSH PP **PP 10 01 39.9 +5.1**
KSH AMB AMB
comp=Z,610nm,6.3s
KSH LR LR
comp=Z,2μm,15.8s
KSH LR LR
comp=Z,760nm,12.1s
KSH LR LR
comp=Z,770nm,12.0s
DGZ Jazzator, Alta 145.63 25 *ce*PKIKP **PKPbc 09 58 14.9 -0.1**
KLR Kul'dur 145.67 334 *ce*PKIKP **PKPab 09 58 15.0 -0.1**
comp=Z,32nm,1.1s,baz=58,slow=3.2,SNR=45
KLR Kul'dur 145.67 334 *ce*PKIKP **PKPdf 09 58 14.6 0.0**
TARG Taragay, Kyrgy 145.71 44 **PKPab 09 58 16.9 +0.8**
UZB Uzynbulak 145.75 41 ⇑ *e*PKP **PKPab 09 58 16.1 +0.1**
comp=Z,80nm,1.3s,baz=42
UZB Uzynbulak 145.75 41 *ce*PKP2 **PKPab 09 58 16.0 +0.1**
UZB pmax pmax
comp=Z,79nm,1.3s
SHLS Shalkode 146.01 40 *e*PKP **PKPbc 09 58 16.6 +0.2**
comp=Z,1.7nm,0.1s,baz=41
SHLS *e*PP **PP 10 01 40.5 +2.8**
baz=41
SHLS Shalkode 146.01 40 *e*PKP2 **PKPbc 09 58 16.5 +0.2**
SHLS *e* 10 01 40.4
SHLS pmax pmax
comp=Z,2.0nm,0.1s
ZSN Zaisan 146.21 30 *e*PKP **PKPbc 09 58 16.3 -0.3**
baz=31
ZSN Zaisan 146.21 30 *e*PKP2 **PKPbc 09 58 16.3 -0.3**
TEY Ternei 146.24 324 ⇑ *e*PKP2 **PKPab 09 58 17.2 -0.3**
TEY pmax pmax
comp=E,10.0nm,1.3s
TEY pmax pmax
comp=Z,20nm,1.3s
IRK Irkutsk 147.56 6 *e*PKIKP **PKPdf 09 58 18.4 +0.7**
IRK pmax pmax
comp=Z,72nm,1.9s
THN Thein Dam 147.64 61 *e*P **PKPbc 09 58 22.0 +0.9**
MOY Mondy 147.72 10 *e*PKP2 **PKPbc 09 58 20.2 -0.7**
MOY pmax pmax
comp=Z,75nm,1.9s
FAKI Fak Fak 147.90 227 **PKPbc 09 58 22.3 -0.1**
TLY Talaya 148.06 7 *c i*PKP2 **PKPbc 09 58 22.4 +0.7**
TLY *e* 10 01 48.8
TLY *e*SS SS 10 20 48.6 -6.1
TLY pmax pmax
comp=Z,88nm,1.4s

TLY	**Talaya**	**148.06**	**7**	PKPdf	**PKPdf**	**09 58 18.6**	**0.0**		
USRK	**Ussuriysk Ar.**	**149.26**	**327**	PKP	**PKPdf**	**09 58 21.4**	**+0.6**		
	comp=Z,4.5nm,0.6s,baz=148,slow=40,SNR=12								
USRK				PKPbc	**PKPbc**	**09 58 25.6**	**+0.6**		
	comp=Z,27nm,0.9s,baz=33,slow=1.6,SNR=34								
ZAK	**Zakamensk**	**149.29**	**7**	*e*PKIKP	**PKPdf**	**09 58 21.7**	**+1.0**		
ZAK				pmax	pmax				
	comp=Z,23nm,1.3s								
HIA	**Hailar**	**149.57**	**346**	IAMs_20	IAMs_20	11 00 01.9			
	comp=Z,5μm,22.0s								
MJAR	**Matsushiro Arr**	**149.73**	**309**	PKPbc	**PKPbc**	**09 58 26.9**	**+0.4**		
	comp=Z,18nm,0.8s,baz=91,slow=1.3,SNR=25								
MJAR	**Matsushiro Arr**	**149.73**	**309**		**PKPbc**	**09 58 25.3**	**-1.1**		
MAJO	**Matsushiro**	**149.73**	**309**	PKP2	**PKiKP**	**09 58 27.2**	**-0.2**		
MAJO	**Matsushiro**	**149.73**	**309**		**PKiKP**	**09 58 27.2**	**-0.2**		
MAT	**Matsushiro**	**149.73**	**309**	PKP	**PKPbc**	**09 58 26.7**	**+0.3**		
MJB9	**Matsu-Tunnel**	**149.73**	**309**		**PKiKP**	**09 58 27.2**	**-0.2**		
SIJI	**Sorong**	**150.04**	**229**	PKPbc	**PKPbc**	**09 58 28.2**	**+0.3**		
	comp=Z,16nm,0.7s,baz=10,slow=4.7,SNR=12								
MDJ	**Mudanjiang**	**150.14**	**330**	PKPbc	**PKPbc**	**09 58 25.5**	**-1.6**		
MDJ				PP	**PP**	**10 02 04.1**	**+2.8**		
MDJ				SS	SS	10 21 21.3	+2.4		
MDJ				AMB	AMB				
	comp=Z,310nm,6.6s								
MDJ				LR	LR				
	comp=Z,4μm,21.9s								
MDJ				LR	LR				
	comp=Z,3μm,20.2s								
MDJ				LR	LR				
	comp=Z,8μm,23.1s								
WMQ	**Urumqi**	**150.20**	**32**	PKPbc	**PKPdf**	**09 58 21.8**	**-0.5**		
WMQ				PKPab	**sPKPbc**	**09 58 31.1**	**+1.8**		
WMQ				PP	**PP**	**10 02 08.3**	**+6.5**		
WMQ				SS	SS	10 21 16.8	-3.1		
WMQ				AMB	AMB				
	comp=Z,240nm,11.8s								
WMQ				LR	LR				
	comp=Z,1μm,18.1s								
WMQ				LR	LR				
	comp=Z,1μm,19.5s								
WMQ				LR	LR				
	comp=Z,6μm,21.1s								
HYB	**Hyderabad**	**150.89**	**90**	*i* PKP	**PKPdf**	**09 58 26.0**	**+1.9**		
SONM	**Songino Array**	**152.11**	**4**	PKP	**PKPdf**	**09 58 25.9**	**+0.7**		
	comp=Z,5.7nm,1.1s,baz=118,slow=1.1,SNR=12								
SONM				PKPbc	**PKiKP**	**09 58 32.1**	**-0.1**		
	comp=Z,16nm,0.6s,baz=319,slow=1.4,SNR=43								
ULN	**Ulaanbaatar**	**152.12**	**3**	PKIKP	**PKPdf**	**09 58 26.4**	**+1.2**		
ULN	**Ulaanbaatar**	**152.12**	**3**	PKPdf	**PKPdf**	**09 58 26.4**	**+1.2**		
CN2	**Changchun**	**152.62**	**334**	PP	PP	10 02 12.8	-2.5		
CN2	**Changchun**	**152.62**	**334**	AMB	AMB				
	comp=Z,90nm,6.0s								
CN2	**Changchun**	**152.62**	**334**	*e*PKPbc	**PKPdf**	**09 58 18.8**	**-7.1**		
CN2	**Changchun**	**152.62**	**334**	*e*SS	SS	10 21 37.6	-8.5		
CN2	**Changchun**	**152.62**	**334**	LR	LR				
	comp=N,1μm,17.0s								
CN2	**Changchun**	**152.62**	**334**	LR	LR				
	comp=Z,2μm,18.0s								
CN2	**Changchun**	**152.62**	**334**	LR	LR				
	comp=E,1μm,17.0s								
KSRS	**Korea Array**	**156.13**	**321**	PKP	**PKPdf**	**09 58 31.9**	**+0.9**		
	comp=E,5.5nm,0.9s,baz=55,slow=1.4,SNR=18								
KSAR	**Wonju Array Be**	**156.16**	**321**	PKIKP	**PKPdf**	**09 58 31.5**	**+0.5**		
KSAR	**Wonju Array Be**	**156.16**	**321**	PKPdf	**PKPdf**	**09 58 31.5**	**+0.5**		
PMBI	**Palembang**	**156.84**	**169**	IAMs_20	IAMs_20	10 55 14.2			
	comp=Z,9μm,20.0s								
DL2	**Dalian**	**158.28**	**333**	PKP	**PKPdf**	**09 58 34.8**	**+1.1**		
DL2				PP	**PP**	**10 02 53.6**	**+6.7**		
DL2				SS	SS	10 22 50.6	+3.3		
DL2				AMB	AMB				
	comp=Z,230nm,7.5s								
DL2				LR	LR				
	comp=Z,900nm,17.5s								
DL2				LR	LR				
	comp=Z,1μm,17.5s								
DL2				LR	LR				
	comp=Z,2μm,17.1s								
GTA	**Gaotai**	**159.01**	**21**	PKP	**PKPdf**	**09 58 35.5**	**+0.8**		
GTA				PKPab	**pPKPab**	**09 59 12.4**	**+0.1**		
GTA				PP	**PP**	**10 02 52.1**	**+1.2**		
GTA				SS	SS	10 22 59.8	+4.7		
GTA				AMB	AMB				
	comp=Z,280nm,7.8s								
GTA				LR	LR				
	comp=Z,2μm,20.0s								
GTA				LR	LR				
	comp=Z,2μm,21.3s								
GTA				LR	LR				
	comp=Z,4μm,21.3s								
BJI	**Beijing**	**159.12**	**345**	PKP	**PKPdf**	**09 58 35.8**	**+1.2**		
BJI				PP	**PP**	**10 02 50.8**	**-0.3**		
BJI				SS	SS	10 22 56.8	+1.2		
BJI				AMB	AMB				
	comp=Z,160nm,6.6s								
BJT	**Baijiatuan**	**159.14**	**345**	IAMs_20	IAMs_20	10 56 34.5			
	comp=Z,10μm,22.0s								
TIA	**Tai'an**	**162.38**	**338**	PKP	**PKPdf**	**09 58 39.4**	**+1.1**		
LZH	**Lanzhou**	**163.27**	**15**	⇑PKP	**PKPdf**	**09 58 40.3**	**+0.9**		
LZH				pPKP	sPKPdf	09 58 45.1	+3.8		
LZH				PP	**PP**	**10 03 20.6**	**+6.9**		
LZH				SKKS		10 09 56.8			
LZH				SS	**SS**	**10 23 35.9**	**-3.6**		
LZH				AMB	AMB				
	comp=Z,620nm,11.0s								
LZH				LR	LR				
	comp=Z,1μm,18.4s								
LZH				LR	LR				
	comp=Z,1μm,19.5s								
LZH				LR	LR				
	comp=Z,1μm,20.5s								
NJ2	**Nanjing**	**165.17**	**326**	*e*PKP	**PKPdf**	**09 58 41.1**	**+0.1**		
NJ2				PP	**PP**	**10 03 25.3**	**+1.4**		
NJ2				AMB	AMB				
	comp=Z,470nm,7.6s								
NJ2				LR	LR				
	comp=Z,750nm,14.7s								
NJ2				LR	LR				
	comp=Z,900nm,15.6s								
NJ2				LR	LR				
	comp=Z,2μm,21.8s								
XAN	**Xi'an**	**165.98**	**1**	PKP	**PKPdf**	**09 58 41.9**	**+0.2**		
XAN				pPKP	sPKPdf	09 58 53.6	+10		
CD2	**Chengdu**	**168.06**	**23**	PKP	**PKPdf**	**09 58 42.0**	**-1.3**		
CD2				pPKP	sPKPdf	09 58 49.3	+4.1		
CD2				SKS	**SKSdf**	**10 05 45.0**	**-3.0**		
CD2				SKKS	**SKKSac**	**10 10 26.9**	**-0.7**		
CD2				SS	**SS**	**10 24 29.4**	**+1.0**		
CD2				AMB	AMB				
	comp=Z,670nm,9.4s								
WHN	**Wuhan**	**168.48**	**337**	⇑PKP	**PKPdf**	**09 58 47.8**	**+4.3**		
WHN				PP	**PP**	**10 03 39.6**	**-1.0**		
WHN				AMB	AMB				
	comp=Z,690nm,7.4s								
QZH	**Quanzhou**	**169.99**	**301**	*i* PKP	**PKPdf**	**09 58 46.3**	**+1.7**		
QZH				PP	**PP**	**10 03 47.8**	**-1.8**		
QZH				SKKS		10 10 34.3			
QZH				AMB	AMB				
	comp=Z,290nm,8.3s								
QZH				LR	LR				
	comp=Z,800nm,17.0s								
QZH				LR	LR				
	comp=Z,1μm,16.6s								
QZH				LR	LR				
	comp=Z,1μm,16.6s								
CMAR	**Chiang Mai Arr**	**170.21**	**97**	PKP	**PKPdf**	**09 58 44.5**	**-0.4**		
	comp=Z,2.1nm,1.0s,baz=279,slow=1.5,SNR=9.3								
CMAR				PKPab	**pPKPab**	**10 00 02.4**	**+0.2**		
	comp=Z,6.0nm,1.1s,baz=259,slow=5.3,SNR=8.0								
CMAR				PP	**PP**	**10 03 53.7**	**+2.4**		
	comp=Z,0.6nm,0.5s,baz=260,slow=5.3,SNR=1.7								
CMAR	**Chiang Mai Arr**	**170.21**	**97**	PKIKP	**PKPdf**	**09 58 44.1**	**-0.8**		
CMAR						10 03 53.7			
CMAR	**Chiang Mai Arr**	**170.21**	**97**		**PKPdf**	**09 58 44.1**	**-0.8**		
CMAR					**sPKPab**	**10 00 02.8**	**+0.2**		
KMI	**Kunming**	**172.14**	**48**	P	**PKPdf**	**09 58 41.0**	**-5.1**		
KMI				pmax	pmax				
	comp=Z,16nm,1.5s								
GYA	**Guiyang**	**173.14**	**19**	PKP	**PKPdf**	**09 58 46.6**	**+0.3**		
GYA				PKPab	**sPKPab**	**10 00 16.0**	**+0.7**		
GYA				PKS	**PKSdf**	**10 02 20.4**	**+1.6**		
GYA				PP	**PP**	**10 04 03.8**	**-0.1**		
GYA				SKKS		10 10 48.3			
GYA				AMB	AMB				
	comp=Z,520nm,12.1s								
GYA				LR	LR				
	comp=Z,840nm,18.2s								
GYA				LR	LR				
	comp=Z,720nm,17.6s								
GYA				LR	LR				
	comp=Z,1μm,20.7s								
QIZ	**Qiongzhong**	**178.88**	**214**	PKP	**PKPdf**	**09 58 48.9**	**+1.2**		
QIZ				PP	**PP**	**10 04 33.5**	**+1.8**		
QIZ				SS	SS	10 26 15.3	+1.4		
QIZ				AMB	AMB				
	comp=Z,610nm,9.6s								
QIZ				LR	LR				
	comp=Z,2μm,22.6s								
QIZ				LR	LR				
	comp=Z,3μm,29.4s								
QIZ				LR	LR				
	comp=Z,6μm,32.8s								

MEX 19 09:40:54.8±0.4, 15°.07N×93°.70W, h15km±12km, MD3.8, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**0.78**	**36**	*e*P	Pg	09 41 07.3	-2.7
PCIG				*e*S	Sg	09 41 17.1	-3.2
THIG		**1.40**	**97**	*i* P	Pn	09 41 16.1	-3.6
THIG				*e*S	Sn	09 41 33.5	-4.4
CCIG	**Comitan**	**1.93**	**51**	*e*P	Pn	09 41 24.7	-2.5
CCIG				*e*S	Sn	09 41 46.8	-4.4
CMIG	**Matias Romero**	**2.31**	**331**	*i* P	Pn	09 41 28.7	-3.6
CMIG				*i* S	Sn	09 41 55.2	-5.2

IDC 19 09:42:20.4±6.1, 18°.72S×174°.39W, h0km, mb4.1/4, mb1 4.4/4, mb1mx3.9/42, mbtmp4.1/4, Error ellipse: s-maj=257.7km s-min=34.5km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**37.09**	**261**	P	P	09 49 33.2	+0.5
	3.5nm,0.6s,baz=89,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**48.24**	**260**	P	P	09 51 02.9	-0.6
	1.1nm,0.3s,baz=97,slow=7.3,SNR=35						
ASAR	**Alice Springs**	**48.25**	**255**	P	P	09 51 03.4	-0.1
	2.3nm,0.6s,baz=89,slow=8.4,SNR=43						
ILAR	**Eielson Array**	**85.87**	**11**	P	P	09 55 01.6	0.0
	0.4nm,0.7s,baz=223,slow=6.5,SNR=7.4						

*NIED **19** 09:50:00, 38°.20N×141°.70E, h53km, Mw3.9 Best double couple: M₀8.12000×10¹⁴ NP1:φ₀16.00000°, δ68.00000°, λ73.00000°. NP2:φ₀235.00000°, δ27.00000°, λ126.00000°.*
*JMA **19** 09:50:15.4±0.1, 38°.19N×141°.69E, h50km±1km, M3.8*
JMA Felt II J1.
*IDC **19** 09:50:15.3±2.6, 38°.13N×141°.76E, h52km±23km, mb3.6/5, mb1 3.8/9, mb1mx3.5/46, mbtmp3.9/9, ML3.1/4, MS2.6/1, Ms1 2.6/1, ms1mx2.3/45, Error ellipse: s-maj=33.1km s-min=14.4km az=89.0*
ISC 19 09:50:14.5±1.4, 38°.16N±0°.05×141°.83E±0°.10, h43km±11km, n32, σ1°32/35, mb4.0/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.32**	**298**	P	**Pn**	**09 50 23.9**	**+0.7**
JIKH				S	**Sn**	**09 50 29.6**	**+0.2**
JIO	**Ouri**	**0.48**	**308**	P	**Pn**	**09 50 25.4**	**+0.3**
JIO				S	**Sn**	**09 50 32.2**	**-0.3**
JKMT	**Kesennumamotoy**	**0.71**	**337**	P	**Pn**	**09 50 28.3**	**+0.2**
JKMT				S	**Sn**	**09 50 37.5**	**-0.4**
JMM	**Marumori**	**0.87**	**251**	P	**Pn**	**09 50 29.7**	**-0.5**
JMM				S	**Sn**	**09 50 39.8**	**-2.0**
JMK	**Ichinoseki**	**0.93**	**329**	P	**Pn**	**09 50 31.3**	**+0.3**
JMK				S	**Sn**	**09 50 42.5**	**-0.6**
JOU	**Okura**	**0.94**	**283**	P	**Pn**	**09 50 31.0**	**-0.2**
JOU				S	**Sn**	**09 50 42.2**	**-1.3**
JFK	**Kawauchi**	**1.09**	**224**	P	**Pn**	**09 50 33.3**	**-0.1**
JFK				S	**Sn**	**09 50 46.6**	**-0.7**
JFT	**Otama**	**1.34**	**242**	P	**Pn**	**09 50 36.9**	**+0.1**
JFT				S	**Sn**	**09 50 52.7**	**-0.7**
JOM	**Ohasama**	**1.38**	**342**	P	**Pn**	**09 50 37.7**	**+0.5**
JOM				S	**Sn**	**09 50 54.2**	**0.0**
JYK	**Kaneyama**	**1.38**	**304**	P	**Pn**	**09 50 37.0**	**-0.2**
JYS	**Shirataka**	**1.39**	**273**	P	**Pn**	**09 50 37.2**	**-0.2**
JRG	**Rokugo**	**1.55**	**323**	P	**Pn**	**09 50 40.1**	**+0.5**
JRG				S	**Sn**	**09 50 58.9**	**+0.4**
JYA	**Atsumi**	**1.72**	**285**	P	**Pn**	**09 50 41.7**	**-0.2**
MJAR	**Matsushiro Arr**	**3.31**	**242**	P	**Pn**	**09 51 04.9**	**+1.2**
	0.7nm,0.3s,baz=52,slow=11,SNR=22						
MJAR				LR	LR	09 52 35.0	
	comp=Z,100nm,20.4s,baz=275,slow=43						
MAT	**Matsushiro**	**3.31**	**242**	P	**Pn**	**09 51 05.0**	**+1.3**
MAT				S	**Sn**	**09 51 47.7**	**+5.9**
JHJ	**Hachijo jima 2**	**5.30**	**199**	P	**Pn**	**09 51 32.6**	**+1.6**
	14nm,0.3s,baz=73,slow=21,SNR=2.1						
JHJ				S	**Sn**	**09 52 29.4**	**-1.4**
	33nm,0.3s,baz=250,slow=22,SNR=6.2						
ASAJ	**Asahikawa**	**5.98**	**5**	P	**Pn**	**09 51 40.7**	**+0.3**
	0.5nm,0.3s,baz=194,slow=18,SNR=6.6						
USRK	**Ussuriysk Ar.**	**9.56**	**312**	P	**Pn**	**09 52 30.1**	**+0.7**
	baz=120,slow=13,SNR=14						
H11N2	**WAKE ISLAND Hy**	**28.46**	**123**	T	T	10 26 18.6	
	baz=316,slow=75,SNR=448						
H11N1	**WAKE ISLAND Hy**	**28.47**	**123**	T	T	10 26 19.4	
	baz=316,slow=75,SNR=504						
H11N3	**WAKE ISLAND Hy**	**28.48**	**123**	T	T	10 26 20.1	
	baz=316,slow=75,SNR=263						
H11S1	**WAKE ISLAND Hy**	**29.21**	**125**	T	T	10 27 16.4	
	baz=318,slow=76,SNR=100						
H11S3	**WAKE ISLAND Hy**	**29.22**	**125**	T	T	10 27 16.6	
	baz=318,slow=76,SNR=107						
H11S2	**WAKE ISLAND Hy**	**29.23**	**125**	T	T	10 27 17.8	
	baz=318,slow=76,SNR=64						
ZALV	**Zalesovo Beam**	**41.41**	**311**	P	**P**	**09 57 55.9**	**-0.5**
	2.6nm,0.6s,baz=80,slow=7.8,SNR=7.0						
KURBB	**Kurchatov Arra**	**45.58**	**307**	P	**P**	**09 58 29.1**	**-0.9**
	3.1nm,0.6s,baz=85,slow=8.3,SNR=6.7						
WRA	**Warramunga Arr**	**58.22**	**188**	P	**P**	**10 00 04.0**	**-0.4**
	0.7nm,0.5s,baz=5.1,slow=7.0,SNR=5.4						
ASAR	**Alice Springs**	**61.95**	**188**	P	**P**	**10 00 29.9**	**+0.1**
	0.5nm,0.7s,baz=6.1,slow=4.2,SNR=4.4						
PDAR	**Pinedale Array**	**76.64**	**46**	P	**P**	**10 02 01.3**	**+0.3**
	0.2nm,0.6s,baz=295,slow=8.6,SNR=2.4						
H03N2	**Juan Fernandez**	**146.80**	**94**	T	T	12 54 33.0	
	baz=289,slow=76,SNR=6.2						
H03N3	**Juan Fernandez**	**146.81**	**94**	T	T	12 54 34.2	
	baz=289,slow=76,SNR=9.6						
H03N1	**Juan Fernandez**	**146.81**	**94**	T	T	12 54 38.4	
	baz=289,slow=76,SNR=7.7						

*SOME **19** 09:51:31.8, 40°.62N×77°.53E, h5km*
*NNC **19** 09:51:32.9±0.7, 40°.62N×77°.49E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=4.8km s-min=3.4km az=177.0*
*KRNET **19** 09:51:33.9±0.1, 40°.68N×77°.49E, h19km, mb2.9*
ISC 19 09:51:29.6±2.1, 40°.53N±0°.08×77°.48E±0°.03, h3km±13km, n53, σ1°33/85, 18C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.22**	**12**	⇑*i*P	**Pn**	**09 51 54.5**	**+0.4**
	baz=13						
TARG				⇑*i*S	**Sn**	**09 52 09.8**	**-1.5**
	baz=13						
KDJ	**Kajisay**	**1.61**	**352**	⇓*i*P	**Pg**	**09 52 01.6**	**+1.1**
	baz=51						
KDJ				⇓*i*S	**Sg**	**09 52 21.7**	**+0.3**
	baz=51						
ULHL	**Ulahol**	**1.95**	**332**	⇑*i*P	**Pg**	**09 52 07.7**	**+0.7**
	baz=29						
ULHL				⇑*i*S	**Sg**	**09 52 32.8**	**+0.6**
	baz=29						
PRZ	**Przheval'sk**	**2.07**	**19**	⇓*i*P	**Pg**	**09 52 09.7**	**+0.4**
	baz=21						
PRZ				⇓*i*S	**Sg**	**09 52 35.9**	**-0.2**
	baz=21						
ANVS	**Anan'yevo**	**2.25**	**4**	⇓*i*P	**Pg**	**09 52 12.4**	**-0.4**
	baz=4.0						
ANVS				⇓*i*S	**Sg**	**09 52 40.3**	**-1.7**
	baz=4.0						
BOOM	**Boomskoye usch**	**2.27**	**330**	⇓*i*P	**Pg**	**09 52 13.6**	**+0.4**
	baz=28						
BOOM				⇓*i*S	**Sg**	**09 52 42.2**	**-0.4**
	baz=28						
KZA	**Kyzart**	**2.28**	**313**	⇑*i*P	**Pb**	**09 52 13.7**	**+2.0**
	baz=10.0						
KZA				⇑*i*S	**Sg**	**09 52 42.8**	**-0.1**
	baz=10.0						
TNSS	**Tian-Shan**	**2.53**	**351**	*e*P	**Pg**	**09 52 18.2**	**0.0**
	31nm,0.6s						
TNSS				*e*S	**Sg**	**09 52 52.0**	**+0.9**
	21nm,0.5s						
TNSS	**Tian-Shan**	**2.53**	**351**	Pg	**Pg**	**09 52 18.2**	**0.0**
	31nm,0.6s						
TNSS				Lg	Lg	09 52 52.0	
	21nm,0.5s						
IZV	**Izvestkoviy**	**2.58**	**346**	*e*P	**Pg**	**09 52 19.0**	**-0.1**
	16nm,0.6s						
IZV				*e*S	**Sg**	**09 52 53.0**	**+0.3**
	16nm,0.6s						
IZV	**Izvestkoviy**	**2.58**	**346**	Pg	**Pg**	**09 52 19.0**	**-0.1**
	16nm,0.6s						
IZV				Lg	Lg	09 52 53.0	
	16nm,0.6s						
SATY	**Saty**	**2.62**	**15**	*e*P	**Pg**	**09 52 19.7**	**-0.1**
	5.6nm,0.8s						
SATY				*e*S	**Sg**	**09 52 54.5**	**+0.7**
	22nm,0.3s						
SATY	**Saty**	**2.62**	**15**	Pg	**Pg**	**09 52 19.7**	**-0.1**
	5.6nm,0.8s						
SATY				Lg	Lg	09 52 54.5	
	22nm,0.3s						
MDOK	**Medeo**	**2.65**	**353**	*e*P	**Pg**	**09 52 19.6**	**-0.8**
	9.2nm,0.3s						
MDOK				*e*S	**Sg**	**09 52 54.2**	**-0.5**
	19nm,0.5s						
MDOK	**Medeo**	**2.65**	**353**	⇑Pg	**Pb**	**09 52 18.8**	**+0.9**
	7.1nm,0.4s						
MDOK				Lg	Lg	09 52 54.7	
	27nm,0.7s						
MDOK	**Medeo**	**2.65**	**353**	Pg	**Pg**	**09 52 19.6**	**-0.8**
	9.2nm,0.3s						
MDOK				Lg	Lg	09 52 54.2	
	19nm,0.5s						
MTBS	**Maitube**	**2.71**	**344**	*e*P	**Pg**	**09 52 21.5**	**-0.1**
	7.8nm,0.3s						
MTBS				*e*S	**Sg**	**09 52 56.9**	**+0.2**
	14nm,0.4s						
MTBS	**Maitube**	**2.71**	**344**	Pg	**Pg**	**09 52 21.2**	**-0.3**
	7.7nm,0.3s						
MTBS				Lg	Lg	09 52 57.0	
	14nm,0.2s						
KOTS	**Kotyrbulak**	**2.71**	**354**	*e*P	**Pg**	**09 52 21.5**	**-0.2**
	52nm,0.4s						
KOTS				*e*S	**Sg**	**09 52 57.2**	**+0.4**
	36nm,0.4s						
KOTS	**Kotyrbulak**	**2.71**	**354**	Pg	**Pg**	**09 52 21.5**	**-0.2**
	52nm,0.4s						
KOTS				Lg	Lg	09 52 57.2	
	36nm,0.4s						
ARLS	**Aral**	**2.73**	**300**	⇑*i*P	**Pb**	**09 52 20.4**	**+1.3**
	baz=98						
ARLS				⇑*i*S	**Sb**	**09 52 54.6**	**+1.6**
	baz=98						
KST	**Kastek**	**2.75**	**336**	*e*P	**Pg**	**09 52 22.0**	**-0.4**
	12nm,0.6s						
KST				*e*S	**Sg**	**09 52 58.0**	**0.0**
	8.2nm,0.6s						
KST	**Kastek**	**2.75**	**336**	Pg	**Pg**	**09 52 22.0**	**-0.4**
	12nm,0.8s						
KST				Lg	Lg	09 52 58.0	
	5.9nm,0.3s						
TKM2	**Tokmak 2**	**2.77**	**330**	⇑*i*P	**Pb**	**09 52 19.8**	**-0.2**
	baz=28						
TKM2				⇑*i*S	**Sb**	**09 52 53.9**	**-0.5**
	baz=28						
TKM2	**Tokmak 2**	**2.77**	**330**	⇑Pg	**Pb**	**09 52 21.3**	**+1.4**
	6.9nm,0.8s						
TKM2				⇓Lg	Lg	09 52 58.8	
	7.0nm,0.7s						
UCH	**Uchtor**	**2.80**	**308**	⇑*i*P	**Pb**	**09 52 21.0**	**+0.4**
	baz=6.0						
UCH				⇑*i*S	**Sb**	**09 52 55.7**	**+0.2**
	baz=6.0						
KBK	**Karagaybulak**	**2.85**	**319**	⇓*i*P	**Pb**	**09 52 21.1**	**-0.1**
	baz=17						
KBK				⇓*i*S	**Sb**	**09 52 56.0**	**-0.6**
	baz=17						
UZB	**Uzynbulak**	**2.86**	**23**	*e*P	**Pb**	**09 52 22.8**	**+1.4**
	3.6nm,0.3s						
UZB				*e*S	**Sg**	**09 52 59.8**	**-1.6**
	17nm,0.6s						
UZB	**Uzynbulak**	**2.86**	**23**	Pg	**Pg**	**09 52 23.1**	**-1.3**
	3.5nm,0.3s						
UZB				Lg	Lg	09 53 00.5	
	16nm,0.5s						
DGS	**Degeres**	**2.99**	**335**	*e*P	**Pb**	**09 52 25.8**	**+2.1**
	11nm,0.6s						
DGS				*e*S	**Sg**	**09 53 04.8**	**-1.0**
	7.8nm,0.7s						
DGS	**Degeres**	**2.99**	**335**	Pg	**Pb**	**09 52 25.8**	**+2.1**
	11nm,0.8s						
DGS				Lg	Lg	09 53 04.6	
	4.5nm,0.6s						
KURS	**Kuram**	**3.00**	**10**	*e*P	**Pg**	**09 52 26.2**	**-0.9**
	6.2nm,0.6s						
KURS				*e*S	**Sg**	**09 53 05.4**	**-0.6**
	11nm,0.5s						
KURS	**Kuram**	**3.00**	**10**	Pg	**Pg**	**09 52 26.2**	**-0.9**
	6.2nm,0.6s						
KURS				Lg	Lg	09 53 05.4	
	11nm,0.5s						
SHLS	**Shalkode**	**3.01**	**29**	*e*P	**Pg**	**09 52 29.1**	**+1.8**
	4.0nm,0.2s						
SHLS				*e*S	**Sg**	**09 53 10.4**	**+4.0**
	30nm,0.6s						
SHLS	**Shalkode**	**3.01**	**29**	Pg	**Pg**	**09 52 29.1**	**+1.8**
	4.0nm,0.2s						
SHLS				Lg	Lg	09 53 11.5	
	30nm,0.6s						
KPKS	**Kokpek**	**3.07**	**17**	*e*P	**Pg**	**09 52 27.4**	**-1.0**
	11nm,0.1s						
KPKS				*e*S	**Sg**	**09 53 07.4**	**-0.7**
	32nm,0.4s						
AAK	**Ala-Archa**	**3.07**	**314**	⇑Pg	**Pg**	**09 52 28.6**	**+0.1**
	3.2nm,0.3s						
AAK				⇑Lg	Lg	09 53 08.0	
	12nm,0.8s						
KTBS	**Karatobe**	**3.23**	**350**	*e*P	**Pg**	**09 52 30.3**	**-1.3**
	6.5nm,0.3s						
KTBS				*e*S	**Sg**	**09 53 12.4**	**-1.1**
	22nm,0.4s						
KTBS	**

ARXS	**Arharly**	**3.69**	**4**	*eP*		**Pb**	**09 52 38.2**	**+2.7**	
	2.9nm,0.3s								
ARXS				*eS*		**Sg**	**09 53 25.7**	**-2.4**	
	17nm,0.5s								
ARXS	**Arharly**	**3.69**	**4**	Pg		**Pb**	**09 52 38.2**	**+2.7**	
	2.9nm,0.3s								
ARXS				Lg		Lg	09 53 25.7		
	17nm,0.5s								
MRKS	**Merke**	**3.88**	**306**	*eP*		**Pg**	**09 52 43.2**	**-0.8**	
	1.7nm,0.3s								
MRKS				*eS*		**Sg**	**09 53 34.4**	**+0.2**	
	2.7nm,0.3s								
DJR	**Jarkent**	**4.17**	**24**	*eP*		**Pg**	**09 52 46.8**	**-2.7**	
	2.5nm,0.4s								
DJR				*eS*		**Sg**	**09 53 40.6**	**-2.8**	
	4.9nm,0.3s								
DJR	**Jarkent**	**4.17**	**24**	Pg		**Pg**	**09 52 46.8**	**-2.7**	
	2.5nm,0.4s								
DJR				Lg		Lg	09 53 40.6		
	4.9nm,0.3s								

*IDC **19** 10:00:36.6±2.2, 19˚.56S×70˚.66W, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.7/26, mbtmp4.0/5, ML3.7/2, Error ellipse: s-maj=59.7km s-min=26.4km az=102.0*
*GUC **19** 10:00:38.8±0.7, 19˚.92S×70˚.91W, h26km, ML3.7*
ISC 19 10:00:39.4±1.7, **19˚.85S**±0˚.03×**70˚.85W**±0˚.08, **h25**km±12km, **n32**, σ1°**53**/36, **5C-6D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PSGC	**Pisagua**	**0.73**	**70**	⇓*iP*		**Pb**	**10 00 53.4**	**-0.1**
PSGC				*i* S		**Sn**	**10 01 04.0**	**-0.5**
TA02	**Huaiquique**	**0.79**	**122**	*eP*		**Pb**	**10 00 53.3**	**-1.1**
TA02				*i* S		**Sb**	**10 01 04.2**	**-0.6**
TA02				IAML			10 01 07.8	
	comp=N,4μm,0.4s							
TA01	**Diego Aracena**	**0.94**	**139**	⇓*iP*		**Pn**	**10 00 56.6**	**-0.5**
TA01				*e*S		**Sb**	**10 01 07.6**	**-1.6**
TA01				IAML			10 01 10.7	
	comp=E,2μm,0.4s							
PB11	**IPOC Station P**	**1.13**	**85**	⇓*iP*		**Pb**	**10 00 60.0**	**-0.3**
PB11				*i* S		**Sb**	**10 01 15.6**	**+1.0**
PB11				IAML			10 01 21.3	
	comp=N,4μm,0.4s							
PB12	**IPOC Station P**	**1.33**	**22**	⇑*iP*		**Pn**	**10 01 02.5**	**+0.1**
PB12				*i* S		**Sb**	**10 01 21.1**	**+0.8**
PB12				IAML			10 01 24.7	
	comp=N,3μm,0.3s							
MNMC	**Minye Minye**	**1.38**	**59**	*i* P		**Pb**	**10 01 04.3**	**-0.4**
MNMC				*i* S		**Sb**	**10 01 23.4**	**+1.4**
AP01	**Chacalluta**	**1.55**	**18**	⇓*iP*		**Pb**	**10 01 06.7**	**-0.8**
AP01				*i* S		**Sb**	**10 01 27.2**	**+0.6**
GO01	**Chusmiza**	**1.57**	**84**	⇑*iP*		**Pb**	**10 01 07.3**	**-0.7**
GO01				*i* S		**Sb**	**10 01 28.8**	**+1.2**
PB08	**IPOC Station P**	**1.62**	**100**	⇑*iP*		**Pn**	**10 01 07.5**	**+0.9**
PB08				*i* S		**Sb**	**10 01 29.6**	**+0.6**
PB08				IAML			10 01 38.5	
	comp=N,1μm,0.6s							
PB01	**IPOC Station P**	**1.74**	**133**	⇑*eP*		**Pn**	**10 01 08.4**	**+0.3**
PB01				⇓*i*S		**Sn**	**10 01 31.0**	**+1.5**
PB07	**IPOC Station P**	**2.07**	**154**	*eP*		**Pn**	**10 01 12.5**	**-0.2**
PB07				*i* S		**Sn**	**10 01 39.0**	**+1.2**
PB07				IAML			10 01 49.5	
	comp=E,888nm,0.4s							
PB03	**IPOC Station P**	**2.41**	**155**	⇓*eP*		**Pn**	**10 01 17.7**	**+0.3**
PB03				*i* S		**Sn**	**10 01 47.8**	**+1.5**
PB03				IAML			10 02 01.4	
	comp=E,520nm,0.4s							
PB09	**IPOC Station P**	**2.45**	**142**	⇑*eP*		**Pn**	**10 01 18.9**	**+1.0**
PB09				*i* S		**Sb**	**10 01 54.3**	**+1.7**
LVC	**Limon Verde**	**3.28**	**147**	Pn		**Pn**	**10 01 30.9**	**+1.3**
	comp=E,6.1nm,0.3s,baz=318,slow=8.4,SNR=28							
LVC				Sn		**Sn**	**10 02 08.9**	**+0.8**
	comp=E,10nm,0.3s,baz=28,slow=3.7,SNR=3.1							
PB15	**IPOC Station P**	**3.58**	**159**	*eP*		**Pn**	**10 01 33.3**	**-0.2**
PB15				*i* S		**Sn**	**10 02 20.0**	**+5.0**
LPAZ	**La Paz**	**4.39**	**37**	Pn		**Pn**	**10 01 49.0**	**+4.0**
	comp=E,2.0nm,0.3s,baz=238,slow=9.2,SNR=40							
SIV	**San Ignacio**	**10.07**	**69**	Pn		**Pn**	**10 03 00.6**	**-1.9**
	comp=E,0.8nm,0.3s,baz=275,slow=8.6,SNR=20							
CFA	**Coronel Fontan**	**11.94**	**169**	Pn		Pn	10 03 37.0	+9.0
	comp=E,0.1nm,0.3s,baz=25,slow=9.2,SNR=1.8							
H03N1	**Juan Fernandez**	**15.33**	**206**	T		T	10 19 59.9	
	baz=32,slow=72,SNR=38							
H03N2	**Juan Fernandez**	**15.33**	**206**	T		T	10 20 02.2	
	baz=32,slow=72,SNR=17							
H03N3	**Juan Fernandez**	**15.34**	**206**	T		T	10 19 58.7	
	baz=32,slow=72,SNR=17							
PLCA	**Paso Flores**	**20.81**	**179**	P		Pn	10 05 24.8	+3.2
	comp=E,2.1nm,0.9s,baz=25,slow=9.1,SNR=3.2							
PTGA	**Pitinga**	**21.79**	**31**	P		**P**	**10 05 27.8**	**-1.8**
	comp=E,3.6nm,0.3s,baz=217,slow=16,SNR=8.3							
TORD	**Torodi Ar. Bea**	**78.53**	**71**	P		**P**	**10 12 37.9**	**-1.3**
	comp=E,1.2nm,0.7s,baz=250,slow=5.1,SNR=5.7							
H11S2	**WAKE ISLAND Hyd**	**25.85**	**279**	T		T	12 39 02.3	
	baz=101,slow=74,SNR=10							
H11S1	**WAKE ISLAND Hyd**	**25.86**	**279**	T		T	12 39 03.5	
	baz=101,slow=74,SNR=12							
H11S3	**WAKE ISLAND Hyd**	**25.87**	**279**	T		T	12 38 54.8	
	baz=101,slow=74,SNR=9.9							
H11N3	**WAKE ISLAND Hyd**	**25.90**	**280**	T		T	12 39 02.0	
	baz=100,slow=74,SNR=4.3							
H11N2	**WAKE ISLAND Hyd**	**25.91**	**280**	T		T	12 39 03.1	
	baz=100,slow=74,SNR=6.3							
H11N1	**WAKE ISLAND Hyd**	**25.91**	**280**	T		T	12 39 02.5	
	baz=100,slow=74,SNR=4.8							
ZALV	**Zalesovo Beam**	**141.19**	**23**	PKP		**PKPdf**	**10 20 06.6**	**-0.9**
	comp=E,1.1nm,0.4s,baz=28,slow=6.7,SNR=3.6							
MKAR	**Makanchi Array**	**145.31**	**33**	PKP		**PKPbc**	**10 20 14.9**	**+0.1**
	comp=E,0.5nm,0.7s,baz=332,slow=4.6,SNR=4.2							

*SOME **19** 10:05:52.4, 43˚.68N×69˚.68E*
NNC 19 10:05:55.2±0.9, **43˚.70N**×**69˚.83E**, **h0**km, **mb3.6, mpv3.2, 3C-3D, Error ellipse: s-maj=5.0km s-min=3.5km az=109.0, Suspected Mining explosion., Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**0.78**	**140**	⇓P		Pg	10 06 10.0	-0.1
	1.7nm,0.3s,baz=325,slow=17,SNR=72							
KK31				⇓S		Sg	10 06 21.2	+1.0
	8.7nm,0.3s,baz=323,slow=29,SNR=93							
MRKS	**Merke**	**2.66**	**110**	Pg		Pb	10 06 44.6	+0.8
	3.6nm,0.3s							
MRKS				Lg		Lg	10 07 22.6	
	8.8nm,0.3s							
SGDS	**Sogindy**	**3.50**	**92**	Pg		Pb	10 06 59.7	+1.6
	3.4nm,0.4s							
SGDS				Lg		Lg	10 07 49.3	
	3.7nm,0.2s							
AAK	**Ala-Archa**	**3.57**	**106**	⇑Pg		Pb	10 07 01.3	+1.9
	2.7nm,0.5s							
AAK				⇓Lg		Lg	10 07 50.1	
	2.1nm,0.5s							
KRBS	**Karabastau**	**4.24**	**88**	Pg		Pb	10 07 12.8	+2.1
	3.1nm,0.5s							
KRBS				Lg		Lg	10 08 10.7	
	3.4nm,0.6s							
TKM2	**Tokmak 2**	**4.28**	**99**	⇑Pg		Pb	10 07 14.2	+2.8
	1.1nm,0.4s							
TKM2				⇑Lg		Lg	10 08 11.9	
	5.1nm,0.6s							
DGS	**Degeres**	**4.35**	**94**	Pg		Pg	10 07 16.0	-2.6
	2.1nm,0.4s							
DGS				Lg		Lg	10 08 16.1	
	8.5nm,0.6s							
KST	**Kastek**	**4.52**	**96**	Pg		Pg	10 07 18.9	-2.9
	2.1nm,0.5s							
KST				Lg		Lg	10 08 21.2	
	6.9nm,0.5s							
KUU	**Kurty**	**4.72**	**85**	Pg		Pb	10 07 20.4	+1.6
	1.2nm,0.2s							
KUU				Lg		Lg	10 08 24.9	
	6.2nm,0.4s							
KTBS	**Karatobe**	**4.97**	**88**	Pg		Pb	10 07 25.0	+1.9
	2.3nm,0.5s							
KTBS				Lg		Lg	10 08 31.6	
	10nm,0.7s							
TNSS	**Tian-Shan**	**5.23**	**95**	Pg		Pb	10 07 30.7	+2.9
	1.7nm,0.4s							
TNSS				Lg		Lg	10 08 41.4	
	2.8nm,0.4s							
SATY	**Saty**	**6.28**	**93**	Pg		Pb	10 07 49.4	+3.9
	0.6nm,0.1s							
SATY				Lg		Lg	10 09 13.6	
	6.2nm,0.2s							

*IDC **19** 10:17:53.3±1.1, 13˚.63S×167˚.03E, h23km±6km, mb5.9/36, mb1 5.8/39, mb1mx5.8/39, mbtmp6.0/39, ML3.7/2, MS5.8/29, Ms1 5.8/29, ms1mx5.8/36, Error ellipse: s-maj=10.8km s-min=9.8km az=113.0*
*NEIC **19** 10:17:55.5±2.3, 13˚.56S±0˚.06×166˚.83E±0˚.07, h36km±1km, mb6.0/369, Ms_20 6.2/850, Mwb6.2/75, Mww6.2, Mwc6.3(GCMT), Error ellipse: s-maj=12.5km s-min=9.4km az=47.0*
*MOS **19** 10:17:56.0±1.0, 13˚.49S×166˚.73E, h47km, mb6.4/80, MS6.0/34, Error ellipse: s-maj=7.0km s-min=5.2km az=132.2*
*BJI **19** 10:17:56.7±0.0, 13˚.58S×166˚.82E, h60km, mB6.3/78, mb6.3/97, Ms6.1/97, Ms7 5.9/89*
*NEIC **19** 10:17:57.8, 13˚.57S×166˚.81E, h35km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}2.33; $M_{\theta\theta}$-0.36; $M_{\phi\phi}$-1.98; $M_{r\theta}$-0.05; $M_{\theta\phi}$0.68; $M_{\phi r}$0.62; Fault plane solution: M_o2.36000×10^{18} NP1:ϕ_s156.27000°, δ37.75000°, λ84.02000°. NP2:ϕ_s343.81000°, δ52.49000°, λ94.61000°. Principal axes: T 2.4211, Plg82.0000°, Azm277.0000°; N -0.1178, Plg4.0000°, Azm161.0000°; P -2.3033, Plg7.0000°, Azm71.0000°;*
*UNK **19** 10:17:58.5, 13˚.58S×166˚.83E, h60km*
*NEIC **19** 10:17:59, 13˚.68S×166˚.62E, h50km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}2.88; $M_{\theta\theta}$-0.38; $M_{\phi\phi}$-2.50; $M_{r\theta}$-0.14; $M_{\theta\phi}$0.41; $M_{\phi r}$1.15; Fault plane solution: M_o2.98000×10^{18} NP1:ϕ_s168.00000°, δ33.00000°, λ88.00000°. NP2:ϕ_s351.00000°, δ56.00000°, λ91.00000°. Principal axes: T 3.1154, Plg78.0000°, Azm265.0000°; N -0.3010, Plg1.0000°, Azm170.0000°; P -2.8143, Plg11.0000°, Azm80.0000°;*
*GCMT **19** 10:18:00.5±0.0, 13˚.63S×166˚.60E, h47km, MW6.2/178, Moment Tensor Solution. s178,c428; s172,c659; Duration: 3s2 Moment tensor: Scale 10^{18}Nm; M_{rr}2.79±.01; $M_{\theta\theta}$-0.07±.01; $M_{\phi\phi}$-2.72±.01; $M_{r\theta}$-0.09±.01; $M_{\theta\phi}$0.63±.01; $M_{\phi r}$0.87±.01; Best double couple: M_o2.95900×10^{18} NP1:ϕ_s165.00000°, δ36.00000°, λ87.00000°. NP2:ϕ_s349.00000°, δ54.00000°, λ92.00000°. Principal axes: T 2.9240, Plg81.0000°, Azm270.0000°; N 0.0720, Plg2.0000°, Azm168.0000°; P -2.9930, Plg9.0000°, Azm78.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **19** 10:18:00, 13˚.62S×166˚.64E, h49km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}2.77; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-2.81; $M_{r\theta}$-0.13; $M_{\theta\phi}$0.64; $M_{\phi r}$0.90; Fault plane solution: M_o3.00000×10^{18} NP1:ϕ_s167.00000°, δ36.00000°, λ88.00000°. NP2:ϕ_s349.00000°, δ54.00000°, λ92.00000°. Principal axes: T 2.9143, Plg81.0000°, Azm266.0000°; N 0.1710, Plg1.0000°, Azm168.0000°; P -3.0853, Plg9.0000°, Azm78.0000°;*
ISC 19 10:17:58.0±0.3, **13˚.60S**±0˚.03×**166˚.83E**±0˚.03, **h60**km±2km, **h60**km:**pP-P, n1903,** σ1°**76**/1714, **mb6.1**/351, **MS6.2**/508, **115C-27D, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SANVU	**Saraoutou**	**1.87**	**169**	Pn		**Pn**	**10 18 27.4**	**-0.4**
HNR	**Honiara**	**7.92**	**301**	Pn		**Pn**	**10 19 49.9**	**-0.6**
	293nm,0.3s,baz=94,slow=0.8,SNR=73							
HNR				Sn		**Sn**	**10 21 15.4**	**-3.3**
	139nm,0.3s,baz=35,slow=12,SNR=1.4							
HNR				LR		LR	10 22 50.4	
	comp=Z,106μm,21.7s,baz=140,slow=37							
HNR	**Honiara**	**7.92**	**301**	Pn		**Pn**	**10 19 50.0**	**-0.5**
MSVF	**Nonsavu**	**11.56**	**112**	P		**Pn**	**10 20 44.5**	**+4.1**
MSVF	**Nonsavu**	**11.56**	**112**	Pn		**Pn**	**10 20 44.5**	**+4.1**
FUNA	**Funafuti**	**13.14**	**69**	Pn		**Pn**	**10 21 00.6**	**-1.3**
NFK	**Norfolk Island**	**15.40**	**176**	P		**Pn**	**10 21 33.2**	**+1.5**
	baz=16,SNR=6.0							
TARA	**Tarawa**	**16.04**	**23**			**P**	**10 21 41.8**	**-0.5**
KRVT	**Keravat (AS076**	**17.28**	**301**	P		**Pn**	**10 21 55.6**	**+0.2**
	1.4nm,0.3s,baz=292,slow=9.0,SNR=6.9							
KRVT				LR		LR	10 28 54.9	
	comp=Z,72μm,22.0s,baz=127,slow=38							
EIDS	**Eidsvold**	**18.88**	**229**	P		**Pn**	**10 22 16.3**	**+1.5**
	baz=19,SNR=152							
EIDS	**Eidsvold**	**18.88**	**229**	P		**Pn**	**10 22 16.6**	**+1.8**
EIDS				IAmb		IAmb	10 22 35.4	
	comp=Z,532nm,0.7s							
LHI	**Lord Howe Isla**	**19.21**	**201**	P		**Pn**	**10 22 20.3**	**+1.7**
	baz=19,SNR=11							
LHI	**Lord Howe Isla**	**19.21**	**201**	P		**Pn**	**10 22 18.8**	**+0.2**
LHI				IAmb		IAmb	10 22 25.3	
	comp=Z,553nm,1.1s							
PMG	**Port Moresby**	**19.72**	**280**	P		**Pn**	**10 22 24.8**	**0.0**
	comp=Z,2.0nm,0.3s,baz=85,slow=8.4,SNR=15							
PMG				LR		LR	10 29 29.3	
	comp=Z,30μm,18.4s,baz=104,slow=35							
PMG	**Port Moresby**	**19.72**	**280**	*ce*P		**Pn**	**10 22 25.0**	**+0.2**
PMG				pmax		pmax		
	comp=Z,791nm,1.7s							
PMG	**Port Moresby**	**19.72**	**280**			**Pn**	**10 22 24.1**	**-0.7**
PMG				IAmb		IAmb	10 22 32.1	
	comp=Z,843nm,1.3s							
CTA	**Charters Tower**	**20.71**	**249**	P		**P**	**10 22 35.0**	**+1.3**
	comp=Z,232nm,0.9s,baz=78,slow=13,SNR=50							
CTA				PcP		**PcP**	**10 26 42.5**	**+0.9**
	comp=Z,36nm,0.7s,baz=186,slow=2.4,SNR=4.2							
CTA				LR		LR	10 29 36.2	
	comp=Z,56μm,21.6s,baz=74,slow=34							
CTA				ScP		**ScP**	**10 30 16.4**	**+3.1**
	comp=Z,10nm,0.7s,baz=254,slow=1.4,SNR=3.3							
CTAO	**Charters Tower**	**20.71**	**249**	P		**P**	**10 22 34.5**	**+0.8**
CTAO				pmax		pmax		
	comp=Z,405nm,1.0s							
CTAO	**Charters Tower**	**20.71**	**249**	P		**P**	**10 22 34.5**	**+0.8**
CTAO				IAmb		IAmb	10 22 40.9	
	comp=Z,405nm,1.0s							
AFI	**Afiamalu**	**20.78**	**93**	P		Pn	10 22 36.5	-1.0
AFI				pmax		pmax		
	comp=Z,3μm,1.0s							
AFI	**Afiamalu**	**20.78**	**93**	P		Pn	10 22 36.5	-0.9
RIZ	**Raoul Island**	**21.02**	**140**	P		**P**	**10 22 33.3**	**-3.6**
RAO	**Raoul Island**	**21.04**	**140**	P		**P**	**10 22 37.4**	**+0.4**
	comp=Z,477nm,0.6s,baz=120,slow=5.7,SNR=7.0							
RAO	**Raoul Island**	**21.04**	**140**	P		**P**	**10 22 40.4**	**+3.4**
RAO				pmax		pmax		
	comp=Z,1μm,1.0s							
RAO				MLR		MLR		
	comp=Z,24μm,18.0s							
RAO	**Raoul Island**	**21.04**	**140**	P		**P**	**10 22 40.4**	**+3.4**
RAO				IAmb		IAmb	10 23 01.7	
	comp=Z,1μm,0.9s							
GLKZ	**Green Lake**	**21.04**	**140**	P		**P**	**10 22 40.2**	**+3.2**
RMQ	**Roma**	**21.24**	**230**	P		**P**	**10 22 41.0**	**+1.8**
	baz=21,SNR=928							
ARMA	**Armidale**	**21.84**	**218**	P		**P**	**10 22 47.1**	**+1.4**
	baz=22,SNR=209							
ARMA	**Armidale**	**21.84**	**218**	P		**P**	**10 22 47.1**	**+1.4**
ARMA				IAmb		IAmb	10 22 49.3	
	comp=Z,1μm,1.2s							
ARMA				IAMs_20		IAMs_20	10 29 42.4	
	comp=Z,78μm,21.0s							
PATS	**Pohnpei**	**22.00**	**337**	P		**P**	**10 22 47.9**	**+0.5**
	baz=22,SNR=9.3							
PATS	**Pohnpei**	**22.00**	**337**	P		**P**	**10 22 48.0**	**+0.5**
PATS				IAmb		IAmb	10 22 51.9	
	comp=Z,1μm,1.1s							
MTSU	**Mount Surprise**	**22.11**	**255**	P		**P**	**10 22 50.2**	**+1.5**
	baz=22,SNR=136							
OUZ	**Omahuta**	**22.38**	**165**	P		**P**	**10 22 52.0**	**+0.7**
OUZ	**Omahuta**	**22.38**	**165**	P		**P**	**10 22 52.9**	**+1.6**
OUZ				IAmb		IAmb	10 23 09.1	
	comp=Z,973nm,1.3s							
NIUE	**Niue**	**22.95**	**107**	P		**P**	**10 22 58.6**	**+1.1**
	baz=23,SNR=19							
NIUE	**Niue**	**22.95**	**107**	P		**P**	**10 22 57.9**	**+0.4**
COEN	**Coen**	**22.98**	**266**	P		**P**	**10 22 58.6**	**+0.7**
	baz=23,SNR=60							
COEN	**Coen**	**22.98**	**266**	P		**P**	**10 22 58.5**	**+0.7**
COEN				IAmb		IAmb	10 23 01.3	
	comp=Z,959nm,1.2s							
COEN				IAMs_20		IAMs_20	10 30 08.6	
	comp=Z,75μm,21.0s							
WCZ	**Waipu Caves**	**23.25**	**164**	P		**P**	**10 22 58.1**	**-2.1**
KNTN	**Kanton**	**23.77**	**65**	P		**P**	**10 23 06.7**	**+1.3**
GRZ	**Great Barrier**	**23.85**	**163**	P		**P**	**10 23 07.7**	**+1.9**
MGCD	**Mangrove Creek**	**24.21**	**214**	P		**P**	**10 23 10.7**	**+1.5**
	baz=24,SNR=68							
WIAZ	**Waiheke Island**	**24.26**	**164**	P		**P**	**10 23 10.5**	**+0.9**
RIV	**Riverview**	**24.66**	**213**	P		**P**	**10 23 14.8**	**+1.5**
	baz=25,SNR=29							
RIV	**Riverview**	**24.66**	**213**	P		**P**	**10 23 15.1**	**+1.8**
RIV				pmax		pmax		
	comp=Z,2μm,1.1s							
QLP	**Quilpie**	**24.79**	**235**	P		**P**	**10 23 14.9**	**+0.4**
	baz=25,SNR=60							
HIZ	**Hauiti**	**25.81**	**165**	P		**P**	**10 23 26.8**	**+3.2**
HIZ				IAmb		IAmb	10 23 43.3	
	comp=Z,1μm,1.8s							
HIZ				IAMs_20		IAMs_20	10 32 14.7	
	comp=Z,49μm,20.0s							
OMRZ	**Omania**	**25.84**	**163**	P		**P**	**10 23 28.8**	**+4.9**
HAZ	**Te Kaha**	**25.96**	**160**	P		**P**	**10 23 27.2**	**+2.3**
HAZ				S		**S**	**10 27 53.4**	**+2.2**
MXZ	**Matakaoa Point**	**25.96**	**159**	P		**P**	**10 23 28.6**	**+3.6**
MXZ				S		**S**	**10 28 00.0**	**+8.7**
MXZ	**Matakaoa Point**	**25.96**	**159**	P		**P**	**10 23 26.4**	**+1.3**
MXZ				IAMs_20		IAMs_20	10 31 40.8	
	comp=Z,49μm,21.0s							
RUGZ	**Raukumara Rang**	**26.11**	**160**	P		**P**	**10 23 29.7**	**+3.2**
RUGZ				S		**S**	**10 27 58.5**	**+4.6**
URZ	**Urewera**	**26.20**	**161**	P		**P**	**10 23 28.4**	**+1.2**
URZ				S		**S**	**10 27 58.1**	**+3.0**
PRRZ	**Plateau Road**	**26.21**	**163**	P		**P**	**10 23 31.8**	**+4.5**
WMGZ	**Waiomatatini S**	**26.23**	**159**	P		**P**	**10 23 31.6**	**+4.2**
WMGZ				S		**S**	**10 27 57.9**	**+2.3**
MUGZ	**Murupara**	**26.30**	**162**	P		**P**	**10 23 29.6**	**+1.5**
MUGZ				S		**S**	**10 27 58.4**	**+1.8**
CMSA	**Cobar Meteorol**	**26.36**	**224**	P		**P**	**10 23 29.4**	**+0.6**
	baz=26,SNR=242							
VRZ	**Vera Road**	**26.37**	**166**	P		P	10 23 37.0	+8.4
RATZ	**Rangitukua**	**26.38**	**164**	P		P	10 23 37.5	+8.7
MWZ	**Matawai**	**26.40**	**161**	P		**P**	**10 23 29.8**	**+0.8**
MWZ				S		**S**	**10 28 03.9**	**+5.6**
PUZ	**Puketiti**	**26.41**	**159**	P		**P**	**10 23 29.7**	**+0.7**
PUZ				S		**S**	**10 27 56.8**	**-1.5**
MMPI	**Merauke**	**26.44**	**278**	P		**P**	**10 23 30.3**	**+0.7**
	comp=Z,34μmcomp=Z,12μmcomp=Z,495nm,1.1s							
RTZ	**Ruatahuna**	**26.49**	**162**	P		**P**	**10 23 32.0**	**+2.1**
RTZ				S		**S**	**10 28 06.9**	**+7.1**
RAGZ	**Rawiri**	**26.51**	**161**	P		**P**	**10 23 32.0**	**+1.9**
MRHZ	**Matea Rd**	**26.53**	**163**	P		**P**	**10 23 32.4**	**+2.2**
MRHZ				S		**S**	**10 28 06.5**	**+6.2**
YNG	**Young**	**26.53**	**216**	P		**P**	**10 23 31.8**	**+1.6**
	baz=27,SNR=23							
TKGZ	**Te Karaka**	**26.60**	**160**	P		**P**	**10 23 32.0**	**+1.2**
TKGZ				S		**S**	**10 28 01.7**	**+0.3**
MTHZ	**Maungataniwha**	**26.67**	**162**	P		**P**	**10 23 33.7**	**+2.2**
MTHZ				S		**S**	**10 28 05.1**	**+2.6**
PKVZ	**Pokaka**	**26.67**	**165**	P		**P**	**10 23 37.7**	**+6.3**
WHVZ	**Whangaehu Hut**	**26.73**	**165**	P		**P**	**10 23 39.1**	**+7.0**
TUVZ	**Tukino**	**26.73**	**165**	P		**P**	**10 23 37.5**	**+5.4**
TRVZ	**Turoa**	**26.73**	**165**	P		**P**	**10 23 38.1**	**+5.9**
CNB	**Canberra Magne**	**26.75**	**213**	P		**P**	**10 23 33.2**	**+0.9**
	baz=27,SNR=74							
SNGZ	**Shannon Statio**	**26.75**	**162**	P		**P**	**10 23 34.0**	**+1.9**
SNGZ				S		**S**	**10 28 08.1**	**+4.3**
CNGZ	**Carnagh Statio**	**26.76**	**160**	P		**P**	**10 23 33.3**	**+1.1**
RAHZ	**Arahi**	**26.80**	**162**	P		**P**	**10 23 34.1**	**+1.5**
RAHZ				S		**S**	**10 28 12.5**	**+8.0**
RIGZ	**Rimuhau**	**26.82**	**161**	P		**P**	**10 23 33.2**	**+0.5**
RIGZ				S		**S**	**10 28 06.4**	**+1.6**
BKZ	**Black Stump Fm**	**26.86**	**163**	P		**P**	**10 23 33.1**	**-0.1**
MOVZ	**Moawhango**	**26.88**	**165**	P		**P**	**10 23 37.4**	**+4.0**
NMHZ	**Naumai**	**26.88**	**163**	P		**P**	**10 23 34.9**	**+1.5**
NMHZ				S		**S**	**10 28 09.0**	**+3.0**
QIS	**Mount Isa**	**26.90**	**251**	P		**P**	**10 23 34.2**	**+0.5**
	baz=27,SNR=19							
CAN	**Canberra**	**26.95**	**214**	P		**P**	**10 23 33.7**	**-0.3**
CAN				pmax		pmax		
	comp=Z,622nm,1.4s							
CAN				MLR		MLR		
	comp=Z,33μm,18.0s							
CAN	**Canberra**	**26.95**	**214**	P		**P**	**10 23 33.7**	**-0.3**
CAN				IAmb		IAmb	10 23 37.1	
	comp=Z,622nm,1.4s							
WHHZ	**Waihua**	**26.99**	**162**	P		**P**	**10 23 36.9**	**+2.6**
WHHZ				S		**S**	**10 28 11.9**	**+4.3**
BHHZ	**Black Hill Sta**	**27.04**	**164**	P		**P**	**10 23 36.4**	**+1.6**
PRGZ	**Paritu Road**	**27.05**	**161**	P		**P**	**10 23 37.9**	**+3.0**
PRGZ				S		**S**	**10 28 11.1**	**+2.5**
ARHZ	**Aropaoanui**	**27.09**	**162**	P		**P**	**10 23 36.6**	**+1.5**
MCHZ	**McNeill Hill**	**27.18**	**163**	P		**P**	**10 23 37.1**	**+1.2**
MHGZ	**Mahia Peninsul**	**

RPZ IAmb IAmb 10 24 08.1
comp=Z,204nm,0.7s
RPZ IAMs_20 IAMs_20 10 34 32.4
comp=Z,41µm,21.0s
MQZ McQueen's Vall 30.41 172 IAmb IAmb 10 24 30.9
comp=Z,264nm,1.3s
TOO Toolangi 30.52 215 P **P** **10 24 06.4 +0.7**
baz=31,SNR=106
TOO Toolangi 30.52 215 P **P** **10 24 07.1 +1.4**
TOO pmax pmax
comp=Z,674nm,1.4s
TOO Toolangi 30.52 215 IAMs_20 IAMs_20 10 34 25.2
comp=Z,46µm,22.0s
LBZ Lake Benmore 30.81 175 IAmb IAmb 10 24 12.5
comp=Z,237nm,1.2s
WKZ Wanaka 31.18 177 IAmb IAmb 10 24 23.4
comp=Z,378nm,1.0s
ODZ Otahua Downs 31.51 175 IAmb IAmb 10 24 31.1
comp=Z,233nm,1.3s
WR0 Warramunga Arr 31.52 254 IAmb IAmb 10 24 15.6
comp=Z,208nm,1.2s
WB0 Warramunga Arr 31.64 254 IAmb IAmb 10 24 35.4
comp=Z,157nm,0.7s
MLZ Mavora Lakes 31.68 178 IAmb IAmb 10 24 18.9
comp=Z,745nm,1.7s
WB2 Warramunga Arr 31.69 254 IAmb IAmb 10 24 17.2
comp=Z,371nm,1.4s
WRAB Tennant Creek 31.69 254*c iP* **P** **10 24 15.2 -1.0**
WRAB pmax pmax
comp=Z,349nm,1.7s
WRAB MLR MLR
comp=Z,84µm,17.0s
WRAB Tennant Creek 31.69 254 P **P** **10 24 15.3 -1.0**
WRAB IAmb IAmb 10 24 17.1
comp=Z,414nm,1.5s
WRA Warramunga Arr 31.70 254 P **P** **10 24 14.7 -1.7**
comp=Z,95nm,1.0s,baz=85,slow=9.1,SNR=37
WRA PcP **PcP** **10 27 07.3 +0.2**
comp=Z,132nm,0.9s,baz=83,slow=2.9,SNR=18
WRA S **S** **10 29 19.4 -2.6**
comp=Z,2.1nm,0.6s,baz=29,slow=42,SNR=2.1
WRA ScP **ScP** **10 30 50.3 +4.8**
comp=Z,90nm,0.9s,baz=83,slow=3.6,SNR=15
WRA PKiKP **PKiKP** **10 34 35.2 -0.9**
comp=Z,7.5nm,0.7s,baz=11,slow=0.4,SNR=14
WRA LR LR 10 36 45.3
comp=Z,88µm,18.7s,baz=85,slow=36
WRA Warramunga Arr 31.70 254 *i* P **P** **10 24 14.6 -1.7**
WRA pmax pmax
comp=Z,91nm,1.0s
WRA Warramunga Arr 31.70 254 P **P** **10 24 15.3 -1.1**
ARPS Mount Arapiles 32.12 220 P **P** **10 24 20.9 +1.1**
baz=32,SNR=57
HTT Hallett 32.15 227 P **P** **10 24 20.4 +0.3**
baz=32,SNR=85
WHZ Wether Hill Ro 32.20 179 IAmb IAmb 10 24 23.1
comp=Z,256nm,1.1s
ASAR Alice Springs 32.69 247 P **P** **10 24 23.4 -1.6**
comp=Z,126nm,0.8s,baz=74,slow=8.7,SNR=330
ASAR PcP **PcP** **10 27 09.8 +0.1**
comp=Z,89nm,0.7s,baz=82,slow=2.8,SNR=15
ASAR S **S** **10 29 30.0 -7.5**
comp=Z,3.2nm,0.7s,baz=60,slow=23,SNR=1.1
ASAR ScP **ScP** **10 30 53.1 +4.3**
comp=Z,110nm,0.9s,baz=85,slow=3.4,SNR=13
ASAR PKiKP **PKiKP** **10 34 35.5 -1.2**
comp=Z,4.5nm,0.6s,baz=102,slow=1.5,SNR=12
ASAR LR LR 10 36 42.7
comp=Z,40µm,21.6s,baz=80,slow=34
ASAR P3KPbc 10 55 46.0
comp=Z,0.9nm,0.8s,baz=260,slow=4.4,SNR=7.9
ASAR P4KPbc 11 03 04.3
comp=Z,0.5nm,0.7s,baz=115,slow=4.1,SNR=5.3
ASAR Alice Springs 32.69 247 P **P** **10 24 24.0 -1.0**
RAR Rarotonga 32.70 108 P **P** **10 24 27.4 +2.3**
RAR pmax pmax
comp=Z,671nm,1.2s
RAR Rarotonga 32.70 108 P **P** **10 24 27.4 +2.3**
MOO Moorlands 33.39 207 P **P** **10 24 31.9 +1.1**
baz=34,SNR=91
KDU Kakadu 33.45 268 P **P** **10 24 31.8 +0.2**
baz=33,SNR=28
TAU Tasmania Unive 33.71 206 P **P** **10 24 35.1 +1.5**
TAU pmax pmax
comp=Z,708nm,1.2s
TAU Tasmania Unive 33.71 206 P **P** **10 24 35.1 +1.5**
BBOO Buckleboo 33.95 230 P **P** **10 24 35.9 +0.1**
baz=34,SNR=69
BBOO Buckleboo 33.95 230 IAmb IAmb 10 24 49.5
comp=Z,349nm,1.0s
BBOO IAMs_20 IAMs_20 10 37 49.8
comp=Z,47µm,20.0s
KMPI Kaimana, Papua 34.16 284 P **P** **10 24 38.2 +0.4**
comp=Z,7µmcomp=Z,394nm,0.8s
RKPI Ransiki, Papua 34.46 288 P **P** **10 24 40.8 +0.3**
GUMO Guam 34.69 320 P **P** **10 24 43.1 +0.8**
GUMO pmax pmax
comp=Z,777nm,1.5s
GUMO Guam 34.69 320 P **P** **10 24 43.1 +0.8**
GUMO Guam 34.69 320 IAMs_20 IAMs_20 10 37 03.0
comp=Z,35µm,22.0s
MTN Manton Dam 34.74 267 P **P** **10 24 43.7 +0.8**
baz=35,SNR=31
MTN Manton Dam 34.74 267 IAMs_20 IAMs_20 10 37 58.4
comp=Z,45µm,20.0s
SAUI Saumlaki 35.32 275 P **P** **10 24 48.3 +0.5**
comp=Z,23µmcomp=Z,18µmcomp=Z,1µm,1.1s
FAKI Fak Fak 35.77 284 P **P** **10 24 50.9 -0.9**
comp=Z,23µmcomp=Z,6µmcomp=Z,230nm,1.1s
FAKI Fak Fak 35.77 284 P **P** **10 24 51.8 0.0**
FAKI IAmb IAmb 10 25 12.9
comp=Z,310nm,1.2s
KNRA Kununurra 36.86 262 P **P** **10 25 01.4 +0.4**
KNRA IAmb IAmb 10 25 20.6
comp=Z,271nm,0.8s
SIJI Sorong 37.40 287 P **P** **10 25 06.0 +0.3**
comp=Z,753nm,1.0s,baz=91,slow=6.8,SNR=182
SIJI S **S** **10 30 47.7 -2.3**
comp=Z,2.1nm,0.3s,baz=209,slow=22,SNR=1.3
SIJI ScP **ScP** **10 31 12.5 +6.6**
comp=Z,11nm,0.7s,baz=29,slow=11,SNR=3.7
BNDI Bandanaira 37.52 280 P **P** **10 25 06.2 -0.4**
comp=Z,21µmcomp=Z,30µmcomp=Z,3µm,1.5s
XMAS Kiritimati 38.69 69 P **P** **10 25 16.8 +0.3**
XMAS IAmb IAmb 10 25 20.2
comp=Z,328nm,0.8s
MSAI Masohi 38.79 282 P **P** **10 25 17.2 -0.1**
comp=Z,1µmcomp=Z,99nm,1.2s
AAI Ambon 39.39 281 P **P** **10 25 21.9 -0.4**
comp=Z,7µmcomp=Z,296nm,1.3s
AAI Ambon 39.39 281 P **P** **10 25 22.3 0.0**
AAI pmax pmax
comp=Z,293nm,1.3s
FITZ Fitzroy Crossi 39.82 258 P **P** **10 25 25.7 -0.1**
comp=Z,151nm,1.2s,baz=89,slow=7.7,SNR=62
FITZ PcP **PcP** **10 27 31.6 +0.6**
comp=Z,110nm,0.8s,baz=123,slow=4.0,SNR=8.0
FITZ Fitzroy Crossi 39.82 258 IAmb IAmb 10 25 27.4
comp=Z,278nm,1.3s
FITZ Fitzroy Crossi 39.82 258 IAMs_20 IAMs_20 10 41 29.9
comp=Z,41µm,20.0s
NLAI Namlea 40.56 281 P **P** **10 25 32.6 +0.6**
comp=Z,22µmcomp=Z,2µm,1.4s
LBMI Labuha 41.01 285 P **P** **10 25 37.2 +1.5**
comp=Z,22µmcomp=Z,2µm,1.2s
TNTI Ternate 41.63 287 P **P** **10 25 41.8 +1.0**
comp=Z,10µmcomp=Z,9µmcomp=Z,530nm,1.1s
TNTI Ternate 41.63 287 P **P** **10 25 42.9 +2.1**
TNTI IAmb IAmb 10 25 43.9
comp=Z,730nm,1.2s
SOEI Soe 41.82 271 P **P** **10 25 42.5 0.0**
comp=Z,33µmcomp=Z,9µmcomp=Z,262nm,1.4s
SOEI Soe 41.82 271 IAmb IAmb 10 26 20.3
comp=Z,431nm,1.2s
SOEI IAMs_20 IAMs_20 10 46 10.9
comp=Z,22µm,20.0s
SANI Sanana 41.98 282 P **P** **10 25 43.3 -0.4**
comp=Z,19µmcomp=Z,1µm,1.1s
PAE Paea 42.10 101 *eP* **P** **10 25 45.9 +1.3**
comp=Z,40nm,0.8s
PPT2 Papeete2 42.11 101 *eP* **P** **10 25 46.3 +1.5**
comp=Z,415nm,1.2s
PPT2 *eS* **S** **10 31 59.4 -1.1**
comp=Z,3µm,26.0s
PPT2 *eLQ* LQ 10 35 39.7
comp=Z,42µm,31.2s
PPT2 *eLR* LR 10 37 25.6
comp=Z,82µm,28.0s,baz=265
PPT Papeete 42.11 101 P **P** **10 25 45.8 +1.0**
comp=Z,196nm,0.7s,baz=68,slow=3.5,SNR=28
PPT ScP **ScP** **10 31 31.5 +7.4**
comp=Z,123nm,1.1s,baz=310,slow=8.6,SNR=4.6
PPT LR LR 10 39 36.0
comp=Z,6µm,18.9s,baz=260,slow=31
PPTF Pamatai, Papee 42.12 101 P **P** **10 25 46.8 +2.0**
PPTF IAmb IAmb 10 26 05.8
comp=Z,581nm,1.1s
TIAR Tiarei 42.33 101 *eP* **P** **10 25 48.0 +1.5**
comp=Z,80nm,1.1s
BATI Baumata 42.33 270 P **P** **10 25 48.8 +2.2**
comp=Z,542nm,1.0s,baz=153,slow=1.7,SNR=31
BATI Baumata 42.33 270 P **P** **10 25 47.8 +1.2**
comp=Z,13µmcomp=Z,10µmcomp=Z,430nm,1.2s
TVO Taravao 42.42 102 *eP* **P** **10 25 48.7 +1.4**
comp=Z,97nm,0.9s
TBI Tubuai 42.43 110 *eP* **P** **10 25 48.6 +1.3**
comp=Z,423nm,0.9s
TBI *eS* **S** **10 32 04.9 -0.1**
comp=Z,5µm,34.2s
TBI *eLQ* LQ 10 35 47.6
comp=Z,31µm,28.5s
TBI *eLR* LR 10 37 33.7
comp=Z,52µm,25.5s,baz=284
MEH Mehetia 43.54 102 *eP* **P** **10 25 57.8 +1.5**
comp=Z,160nm,1.0s
MMRI Maumere 43.99 272 P **P** **10 25 59.4 -0.5**
comp=Z,21µmcomp=Z,11µmcomp=Z,556nm,1.3s
MNI Manado 44.23 286 P **P** **10 26 03.4 +1.6**
MNI pmax pmax
comp=Z,1µm,1.0s
BBSI Bau Bau 44.32 276 P **P** **10 26 03.9 +1.3**
comp=Z,1µmcomp=Z,102nm,1.4s
EDFI Ende, Flores 44.50 271 P **P** **10 26 03.2 -0.9**
comp=Z,11µmcomp=Z,4µmcomp=Z,136nm,1.0s
KMSI Cibinong 44.73 285 P **P** **10 26 06.8 +1.0**
comp=Z,893nmcomp=Z,17µmcomp=Z,2µm,1.2s
BASI Baing, Sumba 45.33 269 P **P** **10 26 11.1 +0.5**
comp=Z,14µmcomp=Z,8µmcomp=Z,593nm,1.2s
LUWI Luwuk 45.34 282 P **P** **10 26 11.5 +0.8**
comp=Z,22µmcomp=Z,21µmcomp=Z,2µm,1.5s
LUWI Luwuk 45.34 282 P **P** **10 26 12.5 +1.8**
WSI Waingapu 45.69 270 P **P** **10 26 13.8 +0.3**
comp=Z,593nm,0.7s
KCP Kidapawan 46.22 294⇑ *iP* **P** **10 26 18.3 +0.6**
APSI Ampana 46.45 282 P **P** **10 26 20.4 +0.9**
comp=Z,11µmcomp=Z,12µmcomp=Z,1µm,1.5s
WBSI Waikabubak, Su 46.58 270 P **P** **10 26 19.8 -0.7**
comp=Z,9µmcomp=Z,518nm,1.0s
MRSI Marisa 46.62 284 P **P** **10 26 20.3 -0.4**
comp=Z,17µmcomp=Z,6µmcomp=Z,473nm,1.1s
BNSI Bone 46.97 277 P **P** **10 26 23.6 +0.1**
comp=Z,11µmcomp=Z,900nm,1.5s
KAPI Kappang 47.16 276 P **P** **10 26 26.2 +1.2**
comp=Z,297nm,0.9s,baz=108,slow=6.0,SNR=118
KAPI PcP **PcP** **10 27 56.9 +0.9**
comp=Z,98nm,0.6s,baz=169,slow=2.3,SNR=4.8
KAPI Kappang 47.16 276 P **P** **10 26 26.0 +1.0**
KAPI P **P** **10 26 26.0 +1.0**
KAPI Kappang 47.16 276 P **P** **10 26 26.6 +1.6**
KAPI 10 27 56.9
KAPI pmax pmax
comp=Z,871nm,1.2s
KAPI Kappang 47.16 276 P **P** **10 26 26.6 +1.6**
CGP Cagayan de Oro 47.22 295⇓ *eP* **P** **10 26 26.2 +0.8**
SPSI Sidrap Palu 47.40 277⇓ P **P** **10 26 26.1 -0.8**
comp=Z,19µmcomp=Z,7µmcomp=Z,391nm,1.5s
TTSI Tana Toraja 47.59 278 P **P** **10 26 29.0 +0.6**
comp=Z,16µmcomp=Z,7µmcomp=Z,246nm,1.2s
KEKH Kekaha 48.24 43 IAmb IAmb 10 26 36.4
comp=Z,113nm,0.7s
PLAI Plampang 48.29 270 P **P** **10 26 34.0 +0.2**
comp=Z,21µmcomp=Z,14µmcomp=Z,820nm,1.2s
DCPH Dipolog City 48.46 295⇑ *eP* **P** **10 26 37.2 +2.1**
MPSI Mapaga 48.50 283 P **P** **10 26 35.3 -0.1**
comp=Z,19µmcomp=Z,13µmcomp=Z,1µm,1.5s
NWAO Narrogin (SRO) 48.97 238 P **P** **10 26 38.4 -0.4**
comp=Z,254nm,0.8s,baz=73,slow=6.5,SNR=86
NWAO Narrogin (SRO) 48.97 238 P **P** **10 26 38.6 -0.1**
NWAO Narrogin (SRO) 48.97 238 P **P** **10 26 37.8 -0.9**
NWAO pmax pmax
comp=Z,1µm,1.5s
NWAO MLR MLR
comp=Z,24µm,20.0s
NWAO Narrogin (SRO) 48.97 238 P **P** **10 26 37.8 -0.9**
NWAO Narrogin (SRO) 48.97 238 P **P** **10 26 37.9 -0.9**
NWAO IAmb IAmb 10 26 40.1
comp=Z,1µm,1.5s
NWAO IAMs_20 IAMs_20 10 47 13.5
comp=Z,23µm,20.0s
KIP Kipapa 49.02 45⇑ *eP* **P** **10 26 39.7 +0.6**
KIP pmax pmax
comp=Z,238nm,1.8s
KHLU Kahalu`u 49.34 49 IAMs_20 IAMs_20 10 44 21.8
comp=Z,16µm,20.0s
AIN Ainahou 49.52 49 IAmb IAmb 10 26 59.7
comp=Z,368nm,1.2s
MLOA Mauna Loa Obse 49.54 49 IAmb IAmb 10 27 10.4
comp=Z,178nm,1.1s
HMH Humu'ula Sheep 49.65 49 IAmb IAmb 10 26 50.8
comp=Z,304nm,0.9s
MLH Mauna Loa 49.65 49 IAmb IAmb 10 26 49.8
comp=Z,212nm,1.0s
POHA Pohakuloa 49.71 49 P **P** **10 26 46.6 +1.8**
POHA IAmb IAmb 10 26 49.1
comp=Z,141nm,0.7s
POHA Pohakuloa 49.71 49 IAMs_20 IAMs_20 10 44 31.6
comp=Z,18µm,19.0s
HPAH Hawaii Prepara 49.76 49 P **P** **10 26 46.1 +1.2**
HPAH IAmb IAmb 10 26 49.2
comp=Z,206nm,0.7s
HPAH IAMs_20 IAMs_20 10 43 25.9
comp=Z,17µm,20.0s
KHLH Kahului Airpor 49.79 47 IAMs_20 IAMs_20 10 44 06.6
comp=Z,21µm,20.0s
HLK Haleakala 49.82 47 P **P** **10 26 47.9 +2.2**
HLK IAmb IAmb 10 27 02.8
comp=Z,322nm,1.1s
HLK IAMs_20 IAMs_20 10 44 17.6
comp=Z,19µm,20.0s
DNP Denpasar 50.81 270 P **P** **10 26 54.8 +1.9**
DNP pmax pmax
comp=Z,2µm,1.1s
SMKI Samarinda 50.83 281 P **P** **10 26 55.9 +2.8**
comp=Z,27µmcomp=Z,20µmcomp=Z,1µm,1.6s
BKB Balikpapan 50.89 280 P **P** **10 26 56.2 +2.6**
comp=Z,21µmcomp=Z,18µmcomp=Z,986nm,1.6s
BKB Balikpapan 50.89 280 P **P** **10 26 57.2 +3.7**
SRBI Singaraja 50.92 271 P **P** **10 26 54.5 +0.7**
comp=Z,21µmcomp=Z,17µmcomp=Z,927nm,1.5s
KBKI Kotabaru 51.05 277 P **P** **10 26 55.6 +0.9**
comp=Z,744nmcomp=Z,6µmcomp=Z,584nm,1.0s
H01W1 Cape Leeuwin H 51.85 236 P **P** **10 27 00.6 +0.4**
baz=93,slow=8.8,SNR=13
H01W3 Cape Leeuwin H 51.87 236 P **P** **10 27 02.1 +1.8**
baz=93,slow=8.8,SNR=15
H01W2 Cape Leeuwin H 51.87 236 P **P** **10 27 02.1 +1.8**
baz=93,slow=8.8,SNR=17
JAGI Jajag, Banyuwa 51.88 270 P **P** **10 27 00.1 -0.9**
comp=Z,19µmcomp=Z,14µmcomp=Z,989nm,1.2s
TAOE Nuku Hiva Isla 52.14 91 *eP* **P** **10 27 04.8 +1.8**
comp=Z,784nm,1.0s
TAOE *eS* **S** **10 34 21.9 -1.6**
comp=Z,3µm,29.6s
TAOE *eSS* **SS** **10 37 59.7 -1.9**
comp=Z,8µm,30.7s
TAOE *eLQ* LQ 10 39 52.6
comp=Z,6µm,29.0s
TAOE *eLR* LR 10 42 01.0
comp=Z,54µm,26.7s,baz=265
TAOE Nuku Hiva Isla 52.14 91 P **P** **10 27 03.8 +0.7**
TAOE IAmb IAmb 10 27 06.7
comp=Z,314nm,0.9s
TAOE IAMs_20 IAMs_20 10 44 06.0
comp=Z,20µm,20.0s
KMMI Kalianget 52.33 272 P **P** **10 27 05.4 +1.1**
comp=Z,7µmcomp=Z,464nm,1.2s
PGP Puerto Galera 52.83 299⇑ *eP* **P** **10 27 07.3 -0.7**
MTKI Muara Teweh, K 52.90 279 P **P** **10 27 11.1 +2.6**
comp=Z,82µmcomp=Z,340nm,1.3s
JHJ Hachijo jima 2 53.15 332 P **P** **10 27 10.9 +0.9**
comp=Z,502nm,1.1s,baz=89,slow=14,SNR=3.8
SPMM Sapulut 53.19 287 P **P** **10 27 13.0 +2.3**
PCPH Palayan 53.72 301⇑ *eP* **P** **10 27 14.6 +0.2**
GRJI Gresik 53.80 271 P **P** **10 27 15.7 +0.5**
comp=Z,2µmcomp=Z,174nm,1.0s
NGJI Ngawi 54.70 271 P **P** **10 27 24.4 +2.7**
comp=Z,766nm,1.6s
WOJI Wonogiri, Jawa 55.13 270 P **P** **10 27 26.2 +1.4**
comp=Z,12µmcomp=Z,10µmcomp=Z,668nm,1.6s
UWJI Ujung Watu 55.39 272 P **P** **10 27 27.3 +0.6**
comp=Z,3µmcomp=Z,243nm,1.6s
UGM Wanagama 55.51 270 P **P** **10 27 28.6 +1.0**
comp=Z,23µmcomp=Z,15µmcomp=Z,1µm,1.1s
RKT Rikitea 55.74 109 *eP* **P** **10 27 31.1 +2.1**
RKT *eS* **S** **10 35 10.3 -1.3**
comp=Z,7µm,27.2s
RKT *eLQ* LQ 10 41 20.6
comp=Z,6µm,30.5s
RKT *eLR* LR 10 43 45.5
comp=Z,39µm,29.2s
SMRI Semarang 55.76 271 P **P** **10 27 31.2 +1.9**
comp=Z,25µmcomp=Z,20µmcomp=Z,1µm,1.4s
INU Inuyama 56.28 331 P **P** **10 27 32.7 +0.1**
SBUM Sibu 56.45 282 IAmb IAmb 10 27 37.5
comp=Z,197nm,1.2s
SBUM Sibu 56.45 282 P **P** **10 27 36.0 +1.8**
MJAR Matsushiro Arr 56.71 333 P **P** **10 27 35.6 -0.1**
comp=Z,130nm,0.9s,baz=168,slow=8.3,SNR=224
MJAR LR LR 10 52 48.1
comp=Z,2µm,19.0s,baz=145,slow=37
MJAR PKPPKP **P'P'df** **10 57 33.1 +6.5**
comp=Z,1.2nm,0.7s,baz=297,slow=9.1,SNR=4.3
MJAR Matsushiro Arr 56.71 333 P **P** **10 27 34.9 -0.8**
MJAR pmax pmax
comp=Z,70nm,0.8s
MJAR Matsushiro Arr 56.71 333 P **P** **10 27 34.9 -0.8**
MAJO Matsushiro 56.72 333*c iP* **P** **10 27 35.2 -0.5**
MAJO pmax pmax
comp=Z,231nm,1.0s
MAJO Matsushiro 56.72 333 P **P** **10 27 35.5 -0.2**
MAJO IAmb IAmb 10 27 37.2
comp=Z,269nm,1.0s
MAT Matsushiro 56.72 333 P **P** **10 27 35.3 -0.4**
MAT S **S** **10 35 26.0 +1.9**
MJB9 Matsu-Tunnel 56.72 333 IAmb IAmb 10 27 37.2
comp=Z,273nm,1.0s
YOJ Yonaguni jima 57.11 311 P **P** **10 27 39.9 +1.3**
YOJ pmax pmax
comp=Z,628nm,1.8s
JNU Nakatsue 57.76 324 P **P** **10 27 43.6 +0.5**
comp=Z,561nm,1.1s,baz=114,slow=4.3,SNR=201
KSM Kuching 57.98 280 P **P** **10 27 47.0 +1.9**
NACB Ninganchiao 57.98 310 P **P** **10 27 45.0 +0.2**
CISI Cisompet, Garu 58.21 269 P **P** **10 27 46.4 -0.3**
comp=Z,18µmcomp=Z,15µmcomp=Z,1µm,1.5s
TATO Taipei 58.52 311 P **P** **10 27 47.2 -1.4**
TATO P **P** **10 27 47.2 -1.4**
TATO Taipei 58.52 311 P **P** **10 27 49.3 +0.7**
LEM Lembang 58.55 270 P **P** **10 27 50.6 +1.4**
comp=Z,746nm,0.9s,baz=91,slow=6.3,SNR=74
LEM Lembang 58.55 270 P **P** **10 27 51.1 +1.9**
LEM pmax pmax
comp=Z,1µm,1.4s
CNJI Cibinong 58.93 270 P **P** **10 27 51.1 -0.5**
comp=Z,14µmcomp=Z,1µm,1.3s
CBJI Citeko 59.38 271 P **P** **10 27 54.5 -0.3**
comp=Z,16µmcomp=Z,20µmcomp=Z,837nm,1.4s
TPI Tanjungpandan 59.42 275 P **P** **10 27 55.5 +0.5**
comp=Z,8µmcomp=Z,367nm,1.5s
DBJI Dramaga 59.45 270 P **P** **10 27 56.3 +1.0**
comp=Z,843nm,1.5s
ERM Erimo 59.48 340*ceP* **P** **10 27 55.6 +0.7**
ERM pmax pmax
comp=Z,66nm,0.7s
ERM Erimo 59.48 340 P **P** **10 27 56.7 +1.9**
ERM IAmb IAmb 10 28 01.1
comp=Z,68nm,0.8s
SKJI Sukabumi 59.54 270 P **P** **10 27 56.0 +0.1**
comp=Z,17µmcomp=Z,14µmcomp=Z,1µm,1.2s
TNG Tangerang 59.63 271 P **P** **10 27 56.7 +0.2**
comp=Z,14µmcomp=Z,1µm,1.6s
YUK Yuzh-Kuril'sk 60.46 343*deP* **P** **10 28 02.2 +0.7**
KNMB Chin-men Tao 60.56 308 P **P** **10 28 03.0 +0.4**
QZH Quanzhou 60.67 309⇑ *iP* **P** **10 28 04.4 +1.1**
QZH pP **pP** **10 28 16.4 -2.4**
QZH S **S** **10 36 15.9 +0.2**
QZH sS **sS** **10 36 39.3 0.0**
QZH pmax pmax
comp=Z,360nm,1.7s
QZH pmax pmax
comp=Z,4µm,6.0s
QZH LR LR
comp=Z,2µm,18.9s
QZH LR LR
comp=Z,2µm,20.4s
QZH LR LR
comp=Z,4µm,19.4s
KUR Kuril'sk 61.03 345*c iP* **P** **10 28 05.7 +0.4**
KUR *e* 10 30 20.5
KUR *eS* **S** **10 36 22.8 +3.3**
KUR *eSS* **SS** **10 40 23.6 +3.2**
KUR pmax pmax
comp=Z,355nm,1.8s
KUR pmax pmax
comp=N,118nm,1.6s
KUR pmax pmax
comp=E,74nm,1.9s
KUR pmax pmax
comp=Z,2µm,6.1s
KUR MLR MLR
comp=Z,6µm,18.0s
KUR MLR MLR
comp=E,2µm,19.0s
KUR MLR MLR
comp=N,12µm,17.0s
PPBI Pangkal Pinang 61.03 275 P **P** **10 28 06.9 +0.8**
comp=N,17µmcomp=N,22µmcomp=N,418nm,1.8s
BLSI Bandar Lampung 61.16 271 P **P** **10 28 05.9 -1.1**
comp=N,7µmcomp=N,427nm,1.2s
JKA Kamikawa-asahi 61.54 340 IAmb IAmb 10 28 12.6
comp=Z,199nm,0.9s
ASAJ Asahikawa 61.54 340 P **P** **10 28 10.3 +1.4**
comp=Z,184nm,0.9s,baz=211,slow=9.8,SNR=118
ASAJ LR LR 10 50 22.0
comp=Z,13µm,21.6s,baz=195,slow=32
KASI Kota Agung 61.85 271 P **P** **10 28 11.1 -0.5**
comp=Z,14µmcomp=Z,10µmcomp=Z,1µm,1.1s
TJN Taejon 62.11 325*c iP* **P** **10 28 13.2 +0.3**
PMBI Palembang 62.17 274 P **P** **10 28 15.0 +1.2**
comp=Z,20µmcomp=Z,763nm,0.6s
LWLI Liwa 62.39 271 P **P** **10 28 15.1 -0.3**
comp=Z,11µmcomp=Z,782nm,1.3s
MDSI Maura Dua 62.39 272 P **P** **10 28 14.8 -0.4**
comp=Z,13µmcomp=Z,7µmcomp=Z,332nm,1.0s
SSE Sheshan 62.42 316 P **P** **10 28 15.8 +0.8**
SSE S **S** **10 36 38.8 +1.1**
SSE pmax pmax
comp=Z,310nm,1.2s
SSE pmax pmax
comp=Z,2µm,7.2s
SSE LR LR
comp=Z,1µm,19.9s
SSE LR LR
comp=Z,1µm,19.9s
KSRS Korea Array 62.57 326 P **P** **10 28 17.0 +1.1**
comp=Z,112nm,0.9s,baz=141,slow=6.9,SNR=305
KSRS PP **PP** **10 30 39.2 +4.9**
comp=Z,15nm,1.0s,baz=138,slow=8.9,SNR=4.3
KSRS PKPPKP **P'P'df** **10 57 18.4 +0.4**
comp=Z,7.0nm,1.2s,baz=229,slow=1.3,SNR=4.3
KSAR Wonju Array Be 62.59 326 P **P** **10 28 15.0 -1.0**
KSAR Wonju Array Be 62.59 326 P **P** **10 28 15.0 -1.0**
KS19 Wonju Array Si 62.64 326 IAmb IAmb 10 28 17.9
comp=Z,269nm,1.2s
HKC Hong Kong Obse 62.74 304⇑ P **P** **10 28 19.0 +1.7**
HKPS Hong Kong Po S 62.75 304 P **P** **10 28 20.0 +2.5**
LHSI Lahat 63.17 273 P **P** **10 28 20.9 +0.5**
comp=Z,8µmcomp=Z,406nm,1.5s
INCN Inchon 63.31 325 P **P** **10 28 21.9 +1.0**
INCN P **P** **10 28 21.9 +1.0**
INCN Inchon 63.31 325 P **P** **10 28 22.1 +1.2**
INCN pmax pmax
comp=Z,704nm,1.3s
INCN Inchon 63.31 325 P **P** **10 28 22.1 +1.2**
MNAI Manna 63.60 272 P **P** **10 28 24.4 +1.1**
comp=Z,22µmcomp=Z,1µm,1.5s
MNAI Manna 63.60 272 P **P** **10 28 23.7 +0.4**
GZH Guangzhou 63.79 304 P **P** **10 28 26.1 +1.8**
GZH S **S** **10 36 59.0 +3.9**

GZH SS **SS** **10 41 07.5 +3.1**
GZH pmax pmax
comp=Z,440nm,1.9s
GZH LR LR
comp=Z,2µm,27.8s
GZH LR LR
comp=Z,3µm,22.7s
VNDA Vanda 63.97 181 P **P** **10 28 24.2 -0.5**
comp=Z,62nm,0.8s,baz=359,slow=7.2,SNR=129
VNDA LR LR 10 53 08.2
comp=Z,4µm,20.1s,baz=27,slow=33
VNDA PKPPKP **P'P'df** **10 57 14.2 -4.2**
comp=Z,0.8nm,0.9s,baz=228,slow=9.6,SNR=3.1
VNDA Vanda 63.97 181 P **P** **10 28 24.8 +0.1**
VNDA pmax pmax
comp=Z,139nm,1.0s
VNDA Vanda 63.97 181 P **P** **10 28 24.8 +0.1**
VNDA IAmb IAmb 10 28 30.4
comp=Z,139nm,0.9s
YSS Yuzh-Sakhalins 64.03 342⇑*i*P **P** **10 28 26.7 +1.3**
YSS *e* 10 28 37.4
YSS *e* 10 28 57.2
YSS *e*S **S** **10 36 58.4 +1.2**
YSS *e*PS **PnS** **10 37 30.7 +8.4**
YSS *e*SS **SS** **10 41 03.5 -3.8**
YSS *e*SSS SSS 10 43 53.8
YSS pmax pmax
comp=Z,340nm,0.9s
YSS Yuzh-Sakhalins 64.03 342 P **P** **10 28 26.8 +1.5**
YSS IAMs_20 IAMs_20 10 52 24.9
comp=Z,16µm,21.0s
MYKOM **Kota Tinggi 64.26 279** IAmb IAmb 10 28 30.0
comp=Z,277nm,1.1s
MYKOM **Kota Tinggi 64.26 279** P **P** **10 28 30.0 +2.4**
CASY Casey 64.41 202 P **P** **10 28 27.5 -0.1**
TEY Ternei 64.47 337⇑*i*P **P** **10 28 28.8 +0.5**
TEY *e*S **S** **10 37 03.3 +0.5**
TEY pmax pmax
comp=N,110nm,1.3s
TEY pmax pmax
comp=E,80nm,1.3s
TEY pmax pmax
comp=Z,260nm,1.3s
TEY smax smax
comp=E,2µm,11.3s
NJ2 Nanjing 64.58 316⇑*i*P **P** **10 28 30.1 +0.8**
NJ2 sP **sP** **10 28 54.1 +3.1**
NJ2 PP **PP** **10 30 54.0 +1.9**
NJ2 S **S** **10 37 06.8 +2.3**
NJ2 pmax pmax
comp=E,430nm,1.2s
NJ2 pmax pmax
comp=E,2µm,5.0s
NJ2 LR LR
comp=E,2µm,19.9s
NJ2 LR LR
comp=E,3µm,17.1s
NJ2 LR LR
comp=E,4µm,15.6s
MASI Maura Aman, Be 64.58 273 P **P** **10 28 30.4 +0.7**
comp=E,10µmcomp=E,963nm,0.9s
SKR Severo-Kuril's 64.69 352*c i*P **P** **10 28 30.0 +0.4**
SKR *e* 10 30 52.0
SKR *i* S **S** **10 37 06.4 +1.2**
SKR *e* 10 38 22.8
SKR *e*SS **SS** **10 41 18.7 +1.2**
SKR pmax pmax
comp=Z,1µm,5.6s
SKR pmax pmax
comp=Z,170nm,0.9s
SKR pmax pmax
comp=Z,500nm,6.2s
SKR MLR MLR
comp=Z,3µm,16.0s
SKR MLR MLR
comp=Z,3µm,16.0s
MSHR Mys Shultsa 64.80 332*ce*P **P** **10 28 31.4 +0.9**
MSHR pmax pmax
comp=Z,184nm,1.0s
QIZ Qiongzhong 64.82 299 P **P** **10 28 32.8 +1.7**
QIZ pP **pP** **10 28 45.8 -1.2**
QIZ S **S** **10 37 12.4 +4.3**
QIZ sS **sS** **10 37 36.4 +4.6**
QIZ pmax pmax
comp=Z,250nm,1.3s
QIZ pmax pmax
comp=Z,3µm,4.5s
QIZ LR LR
comp=Z,2µm,24.5s
QIZ LR LR
comp=Z,3µm,25.0s
QIZ LR LR
comp=Z,6µm,28.4s
QIZ Qiongzhong 64.82 299 IAmb IAmb 10 28 35.7
comp=Z,337nm,1.2s
VLA Vladivostok 64.89 332*c i*P **P** **10 28 31.7 +0.7**
VLA pmax pmax
comp=Z,245nm,1.1s
RGRI Rengat 65.16 276 P **P** **10 28 36.3 +2.8**
KRJI Kerinci 65.58 274 P **P** **10 28 35.9 -0.4**
comp=Z,15µmcomp=Z,12µmcomp=Z,560nm,0.9s
USRK Ussuriysk Ar. 65.69 333 P **P** **10 28 37.5 +1.2**
comp=Z,300nm,1.0s,baz=135,slow=5.1,SNR=318
USRK PKP2bc 10 57 16.3
comp=Z,5.3nm,1.1s,baz=336,slow=4.2,SNR=10
USRK Ussuriysk Ar. 65.69 333 P **P** **10 28 36.8 +0.5**
USRK Ussuriysk Ar. 65.69 333 P **P** **10 28 36.8 +0.5**
SDSI Sungai Dareh 65.89 275 P **P** **10 28 38.4 +0.2**
comp=Z,16µmcomp=Z,6µmcomp=Z,249nm,1.5s
BKNI Bangkinang 66.58 276 P **P** **10 28 44.0 +1.4**
comp=Z,20µmcomp=Z,21µmcomp=Z,2µm,1.2s
PET Petropavlovsk 66.72 355 *e*P **P** **10 28 42.4 -0.2**
PET *e*S **S** **10 37 31.2 +1.3**
PET pmax pmax
comp=Z,3µm,9.6s
PET pmax pmax
comp=Z,123nm,1.3s
PET pmax pmax
comp=Z,3µm,13.5s
PET Petropavlovsk 66.72 355 P **P** **10 28 43.3 +0.7**
PET IAmb IAmb 10 28 45.8
comp=Z,194nm,1.3s
ADK Adak 66.76 11 P **P** **10 28 43.4 +0.5**
ADK pmax pmax
comp=Z,239nm,1.1s
ADK Adak 66.76 11 P **P** **10 28 43.4 +0.5**
ADK IAmb IAmb 10 28 45.4
comp=Z,239nm,1.1s
PPSI Pulau Pagai 66.83 273 P **P** **10 28 44.5 +0.3**
comp=Z,18µmcomp=Z,1µm,1.2s
WHN Wuhan 66.88 312⇑P **P** **10 28 45.0 +0.9**
WHN sP **sP** **10 29 06.6 +0.6**
WHN PcS 10 33 17.1
WHN S **S** **10 37 31.6 -1.0**
WHN sS **sS** **10 37 58.6 +1.0**
WHN pmax pmax
comp=Z,3µm,1.8s
WHN pmax pmax
comp=Z,6µm,2.6s
WHN LR LR
comp=Z,5µm,16.0s
WHN LR LR
comp=Z,5µm,16.5s
WHN LR LR
comp=Z,16µm,20.7s
PETK Petropavlovsk- 66.90 354 P **P** **10 28 44.3 +0.5**
comp=Z,75nm,0.8s,baz=145,slow=6.3,SNR=76
PETK LR LR 10 52 47.6
comp=Z,7µm,21.6s,baz=167,slow=31
PETK PKPPKP **P'P'df** **10 57 11.6 +2.2**
comp=Z,14nm,1.1s,baz=106,slow=3.2,SNR=9.9
PETK Petropavlovsk- 66.90 354 P **P** **10 28 43.5 -0.3**
PETK Petropavlovsk- 66.90 354 P **P** **10 28 43.5 -0.3**
GSTR Great Sitkin T 67.08 11 P **P** **10 28 45.0 0.0**
MDJ Mudanjiang 67.09 332 P **P** **10 28 46.5 +1.3**
MDJ pP pP 10 28 58.1 -3.2
MDJ PP **PP** **10 31 15.1 +1.2**
MDJ S **S** **10 37 38.5 +3.8**
MDJ sS sS 10 37 57.8 -3.0
MDJ ScS **ScS** **10 38 38.4 +0.7**
MDJ pmax pmax
comp=Z,450nm,1.0s
MDJ pmax pmax
comp=Z,5µm,4.8s
MDJ LR LR
comp=Z,5µm,19.9s
MDJ LR LR
comp=Z,3µm,21.4s
MDJ LR LR
comp=Z,8µm,22.9s
DL2 Dalian 67.15 323 P **P** **10 28 46.9 +1.3**
DL2 PP **PP** **10 31 10.9 -3.6**
DL2 S **S** **10 37 38.1 +2.5**
DL2 pmax pmax
comp=Z,920nm,1.0s
DL2 pmax pmax
comp=Z,3µm,7.2s
DL2 LR LR
comp=Z,2µm,26.5s
DL2 LR LR
comp=Z,5µm,25.3s
DL2 LR LR
comp=Z,9µm,26.1s
ATKA Atka Island 67.56 13 P **P** **10 28 47.8 -0.2**
ATKA IAmb IAmb 10 28 50.3
comp=Z,254nm,0.9s
TYV Tymovskoe 67.58 344 *e*P **P** **10 28 49.1 +1.0**
TYV *e*S **S** **10 37 42.2 +1.9**
TYV pmax pmax
comp=Z,63nm,1.0s
TYV pmax pmax
comp=Z,2µm,3.1s
TYV smax smax
comp=N,8.0nm,0.8s
TYV smax smax
comp=E,2µm,7.2s
IPM Ipoh 67.72 281 P **P** **10 28 52.0 +2.2**
COCO West Island 68.02 262 IAMs_20 IAMs_20 10 55 54.4
comp=Z,20µm,22.0s
SNY Shenyang 68.04 326⇑P **P** **10 28 51.8 +0.6**
SNY pP **pP** **10 29 08.4 +1.1**
SNY pmax pmax
comp=Z,91nm,1.1s
SNY pmax pmax
comp=Z,3µm,7.4s
SNY LR LR
comp=Z,3µm,16.7s
SNY LR LR
comp=Z,6µm,23.5s
SNY LR LR
comp=Z,6µm,25.5s
SISI Saibi 68.06 274 P **P** **10 28 52.7 +0.7**
comp=Z,6µmcomp=Z,216nm,1.2s
MNSI Mandailing Nat 68.11 276 P **P** **10 28 52.4 +0.1**
comp=Z,17µmcomp=Z,10µmcomp=Z,681nm,0.8s
TIA Tai'an 68.22 318 P **P** **10 28 52.5 0.0**
TIA pP **pP** **10 29 05.5 -2.9**
TIA S **S** **10 37 50.3 +1.7**
TIA sS **sS** **10 38 14.0 -0.2**
TIA pmax pmax
comp=Z,420nm,1.1s
TIA pmax pmax
comp=Z,3µm,8.3s
TIA LR LR
comp=Z,1µm,19.6s
TIA LR LR
comp=Z,5µm,20.4s
TIA LR LR
comp=Z,5µm,21.4s
KULM Kulim 68.31 281 P **P** **10 28 55.0 +1.5**
CN2 Changchun 68.47 329 *e*P **P** **10 28 55.0 +1.1**
CN2 *e*pP pP 10 29 11.4 +1.4
CN2 *e*sP PcP 10 29 18.4 -0.4
CN2 *e*S **S** **10 37 51.6 +0.4**
CN2 *e*SS **SS** **10 42 18.0 +1.6**
CN2 pmax pmax
comp=Z,530nm,1.0s
CN2 pmax pmax
comp=Z,4µm,4.0s
CN2 LR LR
comp=Z,5µm,22.0s
CN2 LR LR
comp=Z,5µm,22.0s
CN2 LR LR
comp=Z,9µm,23.0s
PBSI Pulau Batu 69.16 275 P **P** **10 29 00.1 +1.3**
comp=Z,21µmcomp=Z,17µmcomp=Z,1µm,1.6s
RPSI Rantau Prapat 69.24 278 P **P** **10 28 59.1 -0.3**
PSI Prapat 69.27 278 P **P** **10 28 59.1 -0.6**
PSI pmax pmax
comp=Z,504nm,1.0s
GRNR Gornyy 69.39 340⇑*i*P **P** **10 29 01.3 +1.8**
GRNR *e*S **S** **10 38 07.0 +5.1**
GRNR pmax pmax
comp=N,90nm,1.3s
GRNR pmax pmax
comp=E,60nm,1.3s
GRNR pmax pmax
comp=Z,270nm,1.3s
GRNR smax smax
comp=N,10.0nm,0.6s
TSI Tuntungan 69.81 279 P **P** **10 29 03.0 +0.2**
comp=N,15µmcomp=N,1µm,0.9s
KLR Kul'dur 69.81 336 P **P** **10 29 03.2 +1.2**
comp=N,123nm,1.0s,baz=138,slow=5.4,SNR=200
KLR LR LR 10 55 51.5
comp=N,7µm,21.8s,baz=140,slow=33
KLR PKPPKP **P'P'df** **10 57 02.8 -2.4**
comp=N,11nm,1.1s,baz=322,slow=2.9,SNR=16
KLR Kul'dur 69.81 336*c i*P **P** **10 29 03.0 +0.9**
KLR pmax pmax
comp=Z,359nm,1.5s
GSI Gunungsitoli 70.18 276 P **P** **10 29 06.1 +1.0**
comp=Z,77µmcomp=Z,57µmcomp=Z,4µm,1.2s
ENH Enshi 70.32 309 P **P** **10 29 06.0 +0.3**
KCSI Kotacane, Aceh 70.57 279 P **P** **10 29 06.9 -0.6**
comp=Z,14µmcomp=Z,6µmcomp=Z,375nm,1.2s
GYA Guiyang 70.73 305 P **P** **10 29 09.4 +1.1**
GYA pP pP 10 29 24.4 +0.2
GYA sP sP 10 29 30.5 -0.1
GYA PP **PP** **10 31 44.3 -1.6**
GYA S **S** **10 38 19.8 +1.1**
GYA sS sS 10 38 42.3 -1.4
GYA SKS **SKSac** **10 39 03.1 -2.8**
GYA SS **SS** **10 42 53.5 +1.4**
GYA pmax pmax
comp=Z,340nm,1.4s
GYA pmax pmax
comp=Z,4µm,5.7s
GYA LR LR
comp=Z,2µm,15.3s
GYA LR LR
comp=Z,3µm,23.2s
GYA LR LR
comp=Z,5µm,23.5s
UNV Unalaska Valle 70.94 16 P **P** **10 29 08.1 -0.7**
UNV IAmb IAmb 10 29 10.0
comp=Z,188nm,1.0s
UNV IAMs_20 IAMs_20 10 56 14.5
comp=Z,10µm,20.0s
TPTI 71.07 278 P **P** **10 29 10.4 -0.1**
comp=Z,2µmcomp=Z,54nm,0.9s
BJT Baijiatuau 71.11 321 IAmb IAmb 10 29 12.9
comp=Z,282nm,0.9s
BJI Beijing 71.12 321 P **P** **10 29 10.8 +0.5**
BJI pP **pP** **10 29 24.1 -2.1**
BJI sP **PcP** **10 29 30.4 +0.3**
BJI PP **PP** **10 31 48.0 -0.8**
BJI S **S** **10 38 22.9 +0.4**
BJI sS **SKiKP** **10 38 44.8 -1.5**
BJI pmax pmax
comp=Z,86nm,1.3s
BJI LR LR
comp=Z,8µm,23.7s
BJI LR LR
comp=Z,5µm,23.7s
BJI LR LR
comp=Z,13µm,27.7s
LHMI Lhok Sumawe 71.83 280 P **P** **10 29 17.0 +1.9**
MLSI Meulaboh, Aceh 72.09 279 P **P** **10 29 16.9 +0.2**
comp=Z,13µmcomp=Z,14µmcomp=Z,1µm,1.0s
TIY Taiyuan 72.15 317 *e*P **P** **10 29 18.3 +1.7**
TIY pP **pP** **10 29 32.3 -0.3**
TIY sP **sP** **10 29 45.3 +6.2**
TIY S **S** **10 38 34.5 -0.1**
TIY sS **sS** **10 39 04.5 +4.3**
TIY pmax pmax
comp=Z,870nm,1.0s
TIY pmax pmax
comp=Z,3µm,6.3s
TIY LR LR
comp=Z,2µm,15.5s
TIY LR LR
comp=Z,3µm,17.7s
TIY LR LR
comp=Z,4µm,21.9s
XAN Xi'an 72.62 313 P **P** **10 29 20.5 +1.0**
XAN S **S** **10 38 40.0 -0.1**
XAN pmax pmax
comp=Z,440nm,1.0s
XAN pmax pmax
comp=Z,6µm,8.6s
XAN LR LR
comp=Z,3µm,19.3s
XAN LR LR
comp=Z,3µm,16.4s
XAN LR LR
comp=Z,5µm,18.3s
FALS False Pass 72.69 17 IAMs_20 IAMs_20 10 54 27.1
comp=Z,15µm,21.0s
SPIA Saint Paul Isl 73.04 13 P **P** **10 29 21.0 -0.3**
KMI Kunming 73.35 302⇑P **P** **10 29 25.9 +1.7**
KMI pP pP 10 29 38.9 -1.3
KMI sP sP 10 29 46.5 -0.2
KMI PP **PP** **10 32 11.1 +2.6**
KMI S **S** **10 38 47.6 -1.5**
KMI sS sS 10 39 11.9 -2.1
KMI SS **SS** **10 43 29.9 -2.7**
KMI pmax pmax
comp=Z,830nm,1.7s
KMI pmax pmax
comp=Z,6µm,4.3s
KMI LR LR
comp=Z,2µm,25.3s
KMI LR LR
comp=Z,4µm,22.4s
KMI LR LR
comp=Z,6µm,22.3s
CNBA Chernabura Isl 73.84 19 IAmb IAmb 10 29 27.2
comp=Z,183nm,1.2s
SDPT Sand Point 74.00 19 IAmb IAmb 10 29 27.8
comp=Z,153nm,0.9s
MA2 Magadan 74.07 352 P **P** **10 29 27.2 -0.2**
comp=Z,91nm,0.8s,baz=164,slow=5.5,SNR=22
MA2 LR LR 10 57 17.2
comp=Z,7µm,21.9s,baz=180,slow=32
MA2 Magadan 74.07 352*c i*P **P** **10 29 27.0 -0.4**
MA2 pmax pmax
comp=Z,156nm,1.0s
MA2 Magadan 74.07 352 P **P** **10 29 25.8 -1.6**
MA2 IAmb IAmb 10 29 30.2
comp=Z,192nm,1.1s
MA2 IAMs_20 IAMs_20 10 56 54.5
comp=Z,9µm,22.0s
CM31 Chiang Mai Arr 74.11 294 P **P** **10 29 30.2 +1.7**
SNR=160
CMAR Chiang Mai Arr 74.11 294 P **P** **10 29 30.0 +1.5**
comp=Z,399nm,0.8s,baz=124,slow=4.5,SNR=723
CMAR PKPPKP **P'P'df** **10 56 59.0 -2.3**
comp=Z,1.3nm,0.4s,baz=297,slow=6.3,SNR=5.5
CMAR LR LR 11 00 55.6
comp=Z,1µm,22.0s,baz=171,slow=35
CMAR Chiang Mai Arr 74.11 294 P **P** **10 29 29.1 +0.7**
CHTO Chiang Mai 74.23 294 P **P** **10 29 30.5 +1.3**
CHTO pmax pmax
comp=Z,592nm,1.0s
CHTO Chiang Mai 74.23 294 P **P** **10 29 30.5 +1.3**
CD2 Chengdu 74.99 307⇑P **P** **10 29 34.5 +1.1**
CD2 PcP **PcP** **10 29 47.4 +0.4**
CD2 sP sP 10 29 58.0 +2.3
CD2 PP **PP** **10 32 22.3 +0.2**
CD2 S **S** **10 39 06.3 -0.6**
CD2 sS sS 10 39 29.4 -3.2
CD2 SS **SS** **10 43 59.4 +2.4**
CD2 pmax pmax
comp=Z,540nm,1.0s
CD2 pmax pmax
comp=Z,6µm,6.3s
CD2 LR LR
comp=Z,5µm,20.4s
CD2 LR LR
comp=Z,5µm,20.0s
CD2 LR LR
comp=Z,7µm,20.6s
ZEA Zeya 75.09 337*c i*P **P** **10 29 34.8 +1.4**
ZEA *e*S **S** **10 39 08.0 +1.0**
ZEA *e*PS **pS** **10 39 31.0 +3.8**
ZEA pmax pmax
comp=E,130nm,1.8s
ZEA pmax pmax
comp=N,190nm,1.4s
ZEA pmax pmax
comp=Z,440nm,1.6s
ZEA pmax pmax
comp=E,1µm,14.0s
ZEA pmax pmax
comp=Z,4µm,14.0s
ZEA pmax pmax
comp=N,1µm,10.0s
ZEA pmax pmax
comp=Z,1µm,12.0s
ZEA smax smax
comp=N,1µm,9.0s
ZEA smax smax
comp=E,4µm,9.0s
HIA Hailar 75.10 330*c i*P **P** **10 29 34.0 +0.4**
HIA pmax pmax
comp=Z,402nm,1.1s
HIA Hailar 75.10 330 P **P** **10 29 34.3 +0.6**
HIA IAmb IAmb 10 29 35.9
comp=Z,341nm,1.0s
BTO Baotou 75.30 319 *e*P **P** **10 29 36.8 +1.7**
QSPA South Pole Qui 76.42 180 P **P** **10 29 40.9 -0.2**
comp=Z,274nm,1.0s,baz=13,slow=2.1,SNR=279
QSPA South Pole Qui 76.42 180 P **P** **10 29 40.7 -0.4**
QSPA IAmb IAmb 10 29 43.2
comp=Z,355nm,1.1s
LZH Lanzhou 77.25 312⇑P **P** **10 29 48.3 +2.0**
LZH pP pP 10 30 04.0 +1.4
LZH sP sP 10 30 08.6 -0.5
LZH PP **PP** **10 32 40.4 -0.8**
LZH S **S** **10 39 35.3 +3.5**
LZH sS ScS 10 39 59.4 +0.1
LZH pmax pmax
comp=Z,520nm,1.3s
LZH pmax pmax
comp=Z,3µm,5.4s
LZH LR LR
comp=Z,2µm,17.1s
LZH LR LR
comp=Z,5µm,18.6s
LZH LR LR
comp=Z,5µm,19.0s
PBA Port Blair 77.63 285 *e*P P 10 29 50.0 +1.3
PBA IAmb IAmb 10 29 56.0
comp=Z,694nm,1.6s
PBA Port Blair 77.63 285 P P 10 29 50.8 +2.2
SNR=9.5
PBA Port Blair 77.63 285 IAMs_20 IAMs_20 11 06 02.7
comp=Z,11µm,22.0s
DGPR DIGLIPUR 77.89 287 *e*P **P** **10 29 50.6 +0.5**
DGPR IAmb IAmb 10 30 01.5
comp=Z,347nm,0.8s
KDAK Kodiak Island 78.56 21 P **P** **10 29 52.3 -0.6**
comp=Z,205nm,0.9s,baz=197,slow=2.9,SNR=84
KDAK Kodiak Island 78.56 21 P **P** **10 29 51.5 -1.3**
KDAK pmax pmax
comp=Z,190nm,0.9s
KDAK Kodiak Island 78.56 21 P **P** **10 29 51.5 -1.3**
KDAK IAmb IAmb 10 29 55.4
comp=Z,190nm,0.8s
GAMB Gambell 78.89 10 IAmb IAmb 10 29 57.2
comp=Z,192nm,1.0s
CIT Chita 79.89 330 *e*P **P** **10 30 01.5 +1.2**
CIT *e* 10 30 13.2
CIT *e* 10 30 24.5
CIT pmax pmax
comp=Z,1µm,1.6s
LKP Lekhapani 79.92 301 *e*P **P** **10 30 01.8 +0.8**
LKP IAmb IAmb 10 30 05.5
comp=Z,267nm,0.8s
SVW2 Sparrevohn 80.21 18 P **P** **10 30 01.9 +0.1**
SVW2 IAmb IAmb 10 30 18.1
comp=Z,138nm,1.5s
SVW2 IAMs_20 IAMs_20 10 59 51.7
comp=Z,13µm,20.0s
CNPM China Poot 80.35 20 IAmb IAmb 10 30 05.4

	comp=Z,163nm,1.0s								
BRLK	**Bradley Lake**	**80.65**	**20**	IAmb	IAmb	10 30 06.6			
	comp=Z,248nm,0.8s								
ANM	**Nome**	**80.75**	**12**	IAMs_20	IAMs_20	11 00 14.0			
	comp=Z,10µm,21.0s								
KOHI	**KOHIMA**	**80.81**	**299**	*e*P	**P**	**10 30 06.6**		**+0.6**	
KOHI				IAmb	IAmb	10 30 10.6			
	comp=Z,568nm,1.0s								
YAK	**Yakutsk**	**80.83**	**343**	P	**P**	**10 30 05.5**		**+0.5**	
	comp=Z,224nm,0.8s,baz=106,slow=1.0,SNR=49								
YAK				LR	LR	11 07 30.9			
	comp=Z,5µm,18.0s,baz=136,slow=37								
YAK	**Yakutsk**	**80.83**	**343**	*c i*P	**P**	**10 30 05.2**		**+0.2**	
YAK				*e**PP	**pP**	**10 30 19.9**		**-1.4**	
YAK				*e*		10 33 08.7			
YAK				*e*PPP	PPP	10 35 01.5			
YAK				*e*S	**S**	**10 40 08.5**		**+0.1**	
YAK				pmax	pmax				
	comp=E,85nm,1.0s								
YAK				pmax	pmax				
	comp=Z,446nm,1.0s								
YAK				pmax	pmax				
	comp=N,188nm,1.2s								
YAK				pmax	pmax				
	comp=Z,20nm,0.7s								
YAK				pmax	pmax				
	comp=N,24nm,1.0s								
YAK				pmax	pmax				
	comp=E,12nm,1.0s								
YAK				smax	smax				
	comp=E,149nm,2.7s								
YAK				smax	smax				
	comp=N,384nm,4.8s								
YAK				MLR	MLR				
	comp=Z,8µm,20.0s								
YAK				MLR	MLR				
	comp=E,3µm,18.0s								
YAK				MLR	MLR				
	comp=N,5µm,18.0s								
YAK	**Yakutsk**	**80.83**	**343**	P	**P**	**10 30 05.1**		**0.0**	
YAK				IAMs_20	IAMs_20	11 07 28.2			
	comp=Z,7µm,18.0s								
ULN	**Ulaanbaatar**	**80.98**	**324**	P	**P**	**10 30 06.8**		**+0.4**	
ULN	**Ulaanbaatar**	**80.98**	**324**	*c i*P	**P**	**10 30 07.0**		**+0.6**	
ULN				pmax	pmax				
	comp=Z,445nm,1.1s								
ULN	**Ulaanbaatar**	**80.98**	**324**	P	**P**	**10 30 07.3**		**+0.9**	
ULN				IAmb	IAmb	10 30 09.1			
	comp=Z,369nm,1.0s								
CAPN	**Captain Cook N**	**81.31**	**19**	P	**P**	**10 30 08.6**		**+1.0**	
	baz=221								
SONM	**Songino Array**	**81.34**	**324**	P	**P**	**10 30 08.7**		**+0.4**	
	comp=Z,112nm,1.0s,baz=141,slow=5.7,SNR=392								
SONM				PKPPKP	**P'P'df**	**10 56 47.8**		**+1.9**	
	comp=Z,2.0nm,0.8s,baz=285,slow=2.1,SNR=4.7								
SONM				LR	LR	11 04 37.4			
	comp=Z,5µm,21.6s,baz=126,slow=34								
SONM	**Songino Array**	**81.34**	**324**	P	**P**	**10 30 06.8**		**-1.5**	
SONM				pmax	pmax				
	comp=Z,138nm,1.0s								
SONM	**Songino Array**	**81.34**	**324**	P	**P**	**10 30 06.8**		**-1.5**	
SPU	**Mount Spurr**	**81.34**	**19**	P	**P**	**10 30 06.9**		**-1.0**	
SEW	**Seward**	**81.38**	**20**	IAmb	IAmb	10 30 10.0			
	comp=Z,145nm,0.8s								
SEW				IAMs_20	IAMs_20	10 59 60.0			
	comp=Z,9µm,22.0s								
BILL	**Bilibino**	**81.42**	**360**	*c i*P	**P**	**10 30 08.1**		**0.0**	
BILL				*i*		10 30 29.7			
BILL				*i*		10 33 14.5			
BILL				*i* S	**S**	**10 40 13.0**		**-1.3**	
BILL				*i* SS	**SS**	**10 45 32.1**		**0.0**	
BILL				pmax	pmax				
	comp=Z,466nm,1.2s								
BILL	**Bilibino**	**81.42**	**360**	P	**P**	**10 30 07.8**		**-0.3**	
O22K	**Cooper Landing**	**81.57**	**20**	P	**P**	**10 30 08.9**		**-0.1**	
	baz=222								
GTA	**Gaotai**	**81.58**	**314**	⇑P	**P**	**10 30 11.3**		**+1.5**	
GTA				pP	pP	10 30 29.3		+3.1	
GTA				sP	sP	10 30 36.0		+3.3	
GTA				PP	**PP**	**10 33 17.4**		**+0.2**	
GTA				S	**S**	**10 40 16.4**		**-1.1**	
GTA				SKS	**SKSac**	**10 40 20.6**		**-4.1**	
GTA				pmax	pmax				
	comp=Z,540nm,1.3s								
GTA				pmax	pmax				
	comp=Z,4µm,6.1s								
GTA				LR	LR				
	comp=Z,2µm,20.0s								
GTA				LR	LR				
	comp=Z,3µm,21.3s								
GTA				LR	LR				
	comp=Z,4µm,22.5s								
ZIRO	**ZIRO**	**81.64**	**301**	⇑*i*P	**P**	**10 30 11.4**		**+1.0**	
RC01	**Rabbit Creek A**	**82.02**	**20**	IAmb	IAmb	10 30 13.4			
	comp=Z,180nm,0.9s								
PMR	**Palmer**	**82.59**	**20**	IAmb	IAmb	10 30 16.3			
	comp=Z,171nm,0.9s								
PPLA	**Purkeypile**	**82.62**	**18**	P	**P**	**10 30 14.7**		**0.0**	
PPLA				IAmb	IAmb	10 31 14.5			
	comp=Z,63nm,1.1s								
PPLA				IAMs_20	IAMs_20	11 01 57.4			
	comp=Z,11µm,20.0s								
HIN	**Hinchinbrook I**	**82.62**	**21**	IAmb	IAmb	10 30 17.2			
	comp=Z,304nm,1.0s								
HIN				IAMs_20	IAMs_20	10 59 17.6			
	comp=Z,12µm,22.0s								
SHL	**Shillong**	**82.66**	**298**	*e*P	**P**	**10 30 16.4**		**+0.6**	
SHL	**Shillong**	**82.66**	**298**	P	**P**	**10 30 16.9**		**+1.1**	
	SNR=381								
KNK	**Knik Glacier**	**82.68**	**20**	IAmb	IAmb	10 30 17.1			
	comp=Z,206nm,0.9s								
KNK				IAMs_20	IAMs_20	11 03 45.1			
	comp=Z,11µm,20.0s								
GLI	**Glacier Island**	**82.75**	**21**	IAmb	IAmb	10 30 17.2			
	comp=Z,226nm,1.0s								
GLI				IAMs_20	IAMs_20	11 02 47.2			
	comp=Z,10µm,20.0s								
MAW	**Mawson**	**82.77**	**202**	P	**P**	**10 30 15.5**		**+0.2**	
	comp=Z,96nm,0.7s,baz=110,slow=5.8,SNR=201								
MAW				PP	**PP**	**10 33 27.4**		**+1.8**	
	comp=Z,30nm,1.1s,baz=97,slow=7.7,SNR=3.5								
MAW				LR	LR	11 02 13.0			
	comp=Z,6µm,21.3s,baz=94,slow=32								
MAW	**Mawson**	**82.77**	**202**	P	**P**	**10 30 15.3**		**0.0**	
MAW	**Mawson**	**82.77**	**202**	P	**P**	**10 30 15.3**		**0.0**	
GHO	**Glory Hole Cre**	**82.78**	**20**	IAmb	IAmb	10 30 17.7			
	comp=Z,175nm,1.0s								
FID	**Port Fidalgo**	**82.88**	**21**	IAmb	IAmb	10 30 17.7			
	comp=Z,225nm,1.0s								
FID				IAMs_20	IAMs_20	10 59 34.9			
	comp=Z,14µm,22.0s								
EYAK	**Cordova Ski Ar**	**82.99**	**22**	P	**P**	**10 30 16.8**		**+0.3**	
EYAK				IAmb	IAmb	10 30 18.5			
	comp=Z,94nm,0.9s								
EYAK				IAMs_20	IAMs_20	10 59 16.5			
	comp=Z,12µm,22.0s								
SML	**Sawmill**	**83.00**	**20**	IAmb	IAmb	10 30 18.9			
	comp=Z,269nm,1.1s								
RAGM	**Ragged Mountai**	**83.27**	**22**	IAmb	IAmb	10 30 41.3			
	comp=Z,169nm,1.2s								
RAGM				IAMs_20	IAMs_20	11 08 33.8			
	comp=Z,10µm,18.0s								
BOD	**Bodaibo**	**83.28**	**335**	*e*P	**P**	**10 30 17.8**		**-0.2**	
BOD				pmax	pmax				
	comp=Z,273nm,1.9s								
KCPM	**Cahto Peak**	**83.51**	**47**	P	**P**	**10 30 20.4**		**+0.6**	
KCPM				IAmb	IAmb	10 30 22.9			
	comp=Z,92nm,0.8s								
KCPM				IAMs_20	IAMs_20	10 59 27.6			
	comp=Z,11µm,20.0s								
HOPS	**Hopland Field**	**83.60**	**48**	IAmb	IAmb	10 30 50.0			
	comp=Z,100nm,1.2s								
TRF	**Thorofare Moun**	**83.60**	**18**	IAmb	IAmb	10 30 21.9			
	comp=Z,112nm,0.8s								
KMRM	**Mail Ridge**	**83.63**	**46**	IAmb	IAmb	10 30 23.7			
	comp=Z,61nm,0.8s								
KMRM				IAMs_20	IAMs_20	10 58 48.6			
	comp=Z,11µm,21.0s								
JCC	**Jacoby Creek,**	**83.65**	**46**	IAmb	IAmb	10 30 50.7			
	comp=Z,118nm,1.4s								
BPAW	**Bear Paw Mtn.**	**83.89**	**17**	IAMs_20	IAMs_20	11 01 15.0			
	comp=Z,9µm,21.0s								
SAO	**San Andreas Ge**	**83.94**	**50**	P	**P**	**10 30 21.9**		**0.0**	
SAO				pmax	pmax				
	comp=Z,28nm,0.9s								
SAO	**San Andreas Ge**	**83.94**	**50**	P	**P**	**10 30 21.9**		**0.0**	
WAX	**Waxell Ridge**	**83.98**	**23**	IAMs_20	IAMs_20	11 03 04.7			
	comp=Z,13µm,20.0s								
PAF	**Port-aux-Franc**	**84.06**	**221**	P	**P**	**10 30 23.5**		**+1.2**	
PAF				pmax	pmax				
	comp=Z,1µm,1.1s								
PAF	**Port-aux-Franc**	**84.06**	**221**	P	**P**	**10 30 23.5**		**+1.2**	
CRQM	**Cirque**	**84.08**	**22**	IAmb	IAmb	10 30 25.0			
	comp=Z,132nm,0.8s								
CRQM				IAMs_20	IAMs_20	11 07 15.7			
	comp=Z,10µm,18.0s								
MESA	**MESA**	**84.14**	**23**	IAMs_20	IAMs_20	11 02 30.1			
	comp=Z,11µm,20.0s								
SNCC	**San Nicolas Is**	**84.15**	**54**	P	**P**	**10 30 22.4**		**-0.7**	
	baz=250								
SNCC	**San Nicolas Is**	**84.15**	**54**	IAMs_20	IAMs_20	11 01 52.0			
	comp=Z,7µm,19.0s								
TGL	**Tana Glacier**	**84.19**	**22**	P	**P**	**10 30 22.6**		**-0.1**	
TGL				IAmb	IAmb	10 30 27.2			
	comp=Z,78nm,0.8s								
TGL				IAMs_20	IAMs_20	11 07 10.3			
	comp=Z,10µm,18.0s								
PMPB	**Monarch Peak**	**84.22**	**51**	IAmb	IAmb	10 30 44.6			
	comp=Z,117nm,1.3s								
DHY	**Denali Highway**	**84.23**	**19**	IAmb	IAmb	10 30 27.6			
	comp=Z,188nm,1.2s								
DHY				IAMs_20	IAMs_20	11 03 43.1			
	comp=Z,16µm,20.0s								
O02D	**Mt. Diablo Mer**	**84.26**	**46**	P	**P**	**10 30 23.5**		**-0.1**	
	baz=247,SNR=39								
H02N1	**VAN INLET T-PH**	**84.27**	**32**	P	**P**	**10 30 22.8**		**-0.5**	
	SNR=55								
H02N1				T	T	12 03 26.2			
	SNR=6.0								
DIB	**Dawson Inlet,**	**84.28**	**32**	IAmb	IAmb	10 30 26.2			
	comp=Z,240nm,1.2s								
DIB				IAMs_20	IAMs_20	10 58 49.7			
	comp=Z,7µm,21.0s								
H02S1	**DAWSON INLET T**	**84.28**	**32**	P	**P**	**10 30 22.8**		**-0.4**	
	SNR=190								
H02S1				T	T	12 03 33.7			
	SNR=8.8								
VRDI	**Verde Repeater**	**84.28**	**22**	IAmb	IAmb	10 30 27.6			
	comp=Z,59nm,0.6s								
VRDI				IAMs_20	IAMs_20	11 04 57.5			
	comp=Z,7µm,20.0s								
GLB	**Gilahina Butte**	**84.30**	**21**	IAmb	IAmb	10 30 25.8			
	comp=Z,64nm,0.8s								
GLB				IAMs_20	IAMs_20	10 59 57.9			
	comp=Z,10µm,22.0s								
RDOG	**Red Dog Mine**	**84.31**	**11**	IAmb	IAmb	10 30 26.1			
	comp=Z,130nm,1.0s								
RDOG				IAMs_20	IAMs_20	11 02 35.9			
	comp=Z,7µm,22.0s								
SCZ2	**Santa Cruz Isl**	**84.32**	**53**	P	**P**	**10 30 22.1**		**-1.8**	
	baz=250								
YAH	**Yahtse**	**84.34**	**23**	P	**P**	**10 30 23.5**		**-0.2**	
YAH				IAmb	IAmb	10 30 26.0			
	comp=Z,128nm,1.1s								
YAH				IAMs_20	IAMs_20	11 02 46.1			
	comp=Z,13µm,20.0s								
ZAK	**Zakamensk**	**84.39**	**325**	*e*P	**P**	**10 30 24.7**		**+0.7**	
ZAK				*e*		10 40 44.8			
ZAK				pmax	pmax				
	comp=Z,380nm,1.3s								
SBC	**Santa Barbara**	**84.42**	**53**	P	**P**	**10 30 23.7**		**-0.6**	
	baz=249								
PAGB	**Antelope Grade**	**84.46**	**51**	IAMs_20	IAMs_20	10 58 42.1			
	comp=Z,12µm,22.0s								
PKM	**Mcpherson Peak**	**84.50**	**52**	P	**P**	**10 30 25.1**		**+0.1**	
	baz=249,SNR=7.1								
SMMC	**Simmler**	**84.51**	**52**	P	**P**	**10 30 24.3**		**-0.5**	
	baz=249								
MOBC	**Moresby Island**	**84.51**	**32**	IAmb	IAmb	10 30 27.1			
	comp=Z,97nm,0.9s								
MOBC				IAMs_20	IAMs_20	10 58 46.2			
	comp=Z,7µm,22.0s								
MCARA	**McCarthy VSAT**	**84.54**	**22**	IAmb	IAmb	10 30 28.1			
	comp=Z,169nm,1.3s								
BALM	**Baldy**	**84.56**	**22**	IAmb	IAmb	10 30 27.2			
	comp=Z,75nm,0.6s								
BALM				IAMs_20	IAMs_20	11 07 30.9			
	comp=Z,8µm,18.0s								
IMAR	**Indian Mountai**	**84.59**	**15**	P	**P**	**10 30 23.7**		**-0.8**	
WDC	**Whiskeytown Da**	**84.59**	**46**	IAMs_20	IAMs_20	11 00 45.2			
	comp=Z,9µm,20.0s								
LSA	**Lhasa**	**84.60**	**302**	P	**P**	**10 30 27.8**		**+1.8**	
LSA				pmax	pmax				
	comp=Z,2µm,0.9s								
LSA				LR	LR				
	comp=Z,7µm,18.5s								
LSA				LR	LR				
	comp=Z,10µm,24.2s								
LSA				LR	LR				
	comp=Z,10µm,28.5s								
LSA	**Lhasa**	**84.60**	**302**	P	**P**	**10 30 26.7**		**+0.7**	
LSA	**Lhasa**	**84.60**	**302**	P	**P**	**10 30 27.6**		**+1.6**	
TABL	**Table Mountain**	**84.62**	**23**	P	**P**	**10 30 24.9**		**-0.1**	
TABL				IAmb	IAmb	10 30 27.6			
	comp=Z,221nm,1.2s								
TABL				IAMs_20	IAMs_20	11 03 14.6			
	comp=Z,7µm,20.0s								
N02D	**Trinity Center**	**84.63**	**46**	P	**P**	**10 30 24.7**		**-0.7**	
	baz=247,SNR=23								
K02D	**Willamette Mer**	**84.66**	**44**	P	**P**	**10 30 24.8**		**-0.7**	
	baz=246,SNR=21								
J01E	**Myrtle Point**	**84.67**	**43**	P	**P**	**10 30 25.1**		**-0.3**	
	baz=246,SNR=18								
M02C	**Callahan**	**84.69**	**45**	P	**P**	**10 30 25.9**		**+0.2**	
	baz=247,SNR=33								
PCA	**Pinnacle**	**84.75**	**24**	IAMs_20	IAMs_20	11 02 19.0			
	comp=Z,9µm,20.0s								
IRK	**Irkutsk**	**84.77**	**327**	*e*P	**P**	**10 30 25.6**		**-0.1**	
IRK				*e*		10 33 39.7			
IRK				pmax	pmax				
	comp=Z,625nm,1.7s								
NEA2	**Nenana**	**84.81**	**18**	P	**P**	**10 30 24.5**		**-1.2**	
	baz=223								
TLY	**Talaya**	**84.82**	**326**	LR	LR	11 05 24.9			
	comp=Z,4µm,21.7s,baz=112,slow=34								
TLY	**Talaya**	**84.82**	**326**	*c i*P	**P**	**10 30 26.0**		**0.0**	
TLY				pmax	pmax				
	comp=Z,307nm,1.0s								
TLY	**Talaya**	**84.82**	**326**	P	**P**	**10 30 26.2**		**+0.1**	
BARN	**Barnard Glacie**	**84.83**	**22**	IAmb	IAmb	10 30 28.9			
	comp=Z,116nm,0.8s								
BARN				IAMs_20	IAMs_20	11 04 20.0			
	comp=Z,9µm,20.0s								
SCI2	**San Clemente I**	**84.83**	**54**	P	**P**	**10 30 26.8**		**+0.3**	
	baz=250								
CTGM	**Chitina Glacie**	**84.89**	**23**	IAmb	IAmb	10 30 29.0			
	comp=Z,205nm,1.0s								
CTGM				IAMs_20	IAMs_20	11 04 21.6			
	comp=Z,10µm,20.0s								
ORV	**Oroville**	**84.94**	**47**	IAMs_20	IAMs_20	11 00 45.5			
	comp=Z,10µm,20.0s								
O03E	**Paynes Creek**	**85.00**	**47**	P	**P**	**10 30 25.9**		**-1.4**	
	baz=248,SNR=37								
SIT	**Sitka**	**85.01**	**28**	IAmb	IAmb	10 30 28.8			
	comp=Z,76nm,1.2s								
WRH	**Wood River Hil**	**85.01**	**18**	P	**P**	**10 30 25.5**		**-1.1**	
WRH				IAMs_20	IAMs_20	11 02 02.8			
	comp=Z,10µm,21.0s								
CIS	**Catalina Islan**	**85.08**	**54**	P	**P**	**10 30 26.7**		**-1.1**	
	baz=250								
AFDM	**Forest Hills D**	**85.09**	**48**	IAMs_20	IAMs_20	10 59 57.7			
	comp=Z,11µm,21.0s								
I02D	**Swisshome**	**85.11**	**43**	P	**P**	**10 30 26.5**		**-1.0**	
	baz=246,SNR=8.7								
CCB	**Clear Creek Bu**	**85.23**	**18**	IAmb	IAmb	10 30 30.1			
	comp=Z,86nm,0.6s								
CCB				IAMs_20	IAMs_20	11 01 35.4			
	comp=Z,11µm,22.0s								
OSI	**Osito Audit: C**	**85.25**	**53**	P	**P**	**10 30 28.0**		**-0.6**	
	baz=250								
I03D	**Drain, OR**	**85.27**	**43**	P	**P**	**10 30 28.0**		**-0.4**	
	baz=246								
FMP	**Fort Macarthur**	**85.28**	**54**	P	**P**	**10 30 28.0**		**-0.7**	
	baz=250								
HDA	**Harding Lake**	**85.31**	**18**	P	**P**	**10 30 27.3**		**-0.9**	
	baz=225								
MDM	**Murphy Dome**	**85.33**	**18**	IAmb	IAmb	10 30 30.4			
	comp=Z,126nm,0.9s								
VOG	**Valley Oaks Go**	**85.33**	**51**	P	**P**	**10 30 27.8**		**-1.1**	
	baz=249								
MENT	**Mentasta**	**85.33**	**20**	IAMs_20	IAMs_20	11 02 02.4			
	comp=Z,11µm,21.0s								
ARVC	**Arvin**	**85.34**	**52**	P	**P**	**10 30 28.1**		**-0.9**	
	baz=250								
TCOL	**CIGO, UAF Yank**	**85.37**	**18**	P	**P**	**10 30 27.3**		**-1.2**	
	baz=224								
COLA	**College**	**85.38**	**18**	*c i*P	**P**	**10 30 26.8**		**-1.6**	
COLA				pmax	pmax				
	comp=Z,251nm,1.0s								
COLA	**College**	**85.38**	**18**	P	**P**	**10 30 27.5**		**-1.0**	
COLA	**College**	**85.38**	**18**	IAMs_20	IAMs_20	11 01 50.3			
	comp=Z,8µm,22.0s								
VES	**Vestal, Richgr**	**85.39**	**52**	P	**P**	**10 30 28.3**		**-0.9**	
	baz=250,SNR=10								
L04D	**Klamath Falls**	**85.39**	**45**	P	**P**	**10 30 29.1**		**-0.2**	
	baz=247,SNR=22								
DECC	**Green Verdugo**	**85.42**	**53**	P	**P**	**10 30 28.2**		**-1.3**	
	baz=250								
RIDG	**Independent Ri**	**85.51**	**19**	P	**P**	**10 30 28.6**		**-0.7**	
RIDG				IAmb	IAmb	10 30 32.5			
	comp=Z,78nm,0.8s								
RIDG				IAMs_20	IAMs_20	11 01 53.9			
	comp=Z,8µm,21.0s								
M04C	**Macdoel**	**85.55**	**45**	P	**P**	**10 30 29.2**		**-0.8**	
	baz=247,SNR=23								
IL31		**85.59**	**18**	IAmb	IAmb	10 30 31.1			
	comp=Z,108nm,0.7s								
ILAR	**Eielson Array**	**85.59**	**18**	P	**P**	**10 30 28.8**		**-0.7**	
	comp=Z,90nm,0.6s,baz=237,slow=5.3,SNR=373								
ILAR				PKiKP	**PKiKP**	**10 35 39.8**		**+0.6**	
	comp=Z,1.0nm,0.6s,baz=266,slow=3.2,SNR=4.3								
ILAR				PKKPbc	**PKKPdf**	**10 48 31.8**		**+3.3**	
	comp=Z,3.3nm,0.8s,baz=313,slow=1.3,SNR=12								
ILAR				SKKPbc	SKKPbc	10 52 13.2		+2.3	
	comp=Z,2.2nm,1.1s,baz=20,slow=2.6,SNR=5.3								
ILAR				LR	LR	11 03 44.1			
	comp=Z,15µm,20.3s,baz=240,slow=32								
ILAR	**Eielson Array**	**85.59**	**18**	P	**P**	**10 30 26.6**		**-3.0**	
ILAR	**Eielson Array**	**85.59**	**18**	P	**P**	**10 30 26.6**		**-3.0**	
MWC	**Mount Wilson**	**85.63**	**53**	IAmb	IAmb	10 30 51.3			
	comp=Z,220nm,1.8s								
COR	**Corvallis**	**85.66**	**42**	P	**P**	**10 30 31.6**		**+1.3**	
COR				pmax	pmax				
	comp=Z,38nm,0.9s								
COR	**Corvallis**	**85.66**	**42**	P	**P**	**10 30 31.6**		**+1.3**	
DOT	**Dot Lake**	**85.70**	**20**	IAmb	IAmb	10 30 33.3			
	comp=Z,68nm,0.8s								
DOT				IAMs_20	IAMs_20	11 02 24.0			
	comp=Z,8µm,21.0s								
RUBR	**Rubicon Trail**	**85.72**	**48**	IAmb	IAmb	10 30 54.8			
	comp=Z,98nm,1.0s								
ISA	**Isabella, Lake**	**85.79**	**52**	P	**P**	**10 30 30.7**		**-0.6**	
	baz=250,SNR=15								
ISA	**Isabella, Lake**	**85.79**	**52**	IAmb	IAmb	10 30 54.9			
	comp=Z,117nm,1.6s								
ISA				IAMs_20	IAMs_20	10 59 35.4			
	comp=Z,8µm,22.0s								
BEKR	**Beckworth**	**85.87**	**47**	P	**P**	**10 30 30.6**		**-1.1**	
BEKR				IAmb	IAmb	10 31 00.6			
	comp=Z,228nm,1.9s								
BEKR				IAMs_20	IAMs_20	11 00 02.2			
	comp=Z,12µm,21.0s								
EDW2	**Edwards Air Fo**	**85.90**	**53**	P	**P**	**10 30 31.6**		**-0.3**	
	baz=250,SNR=17								
J04D	**Umpqua Nationa**	**85.92**	**44**	P	**P**	**10 30 31.6**		**-0.4**	
	baz=247,SNR=20								
K04D	**Chiloquin, OR**	**85.93**	**45**	P	**P**	**10 30 31.7**		**-0.2**	
	baz=248,SNR=5.4								
I04A	**Tendick Farm,**	**85.94**	**43**	P	**P**	**10 30 31.1**		**-0.7**	
	baz=247,SNR=19								
G03D	**McMinnville, O**	**85.94**	**42**	P	**P**	**10 30 31.1**		**-0.6**	
	baz=246,SNR=18								
109C	**Camp Elliot, M**	**85.94**	**55**	P	**P**	**10 30 31.7**		**-0.4**	
	baz=251								
109C	**Camp Elliot, M**	**85.94**	**55**	IAMs_20	IAMs_20	11 04 14.6			
	comp=Z,11µm,19.0s								
BFSC	**Mount Baldy Ra**	**85.95**	**54**	P	**P**	**10 30 31.2**		**-1.0**	
	baz=251,SNR=18								
SCRK	**Sand Creek**	**85.95**	**20**	IAmb	IAmb	10 30 35.1			
	comp=Z,50nm,0.8s								
GTK	**Tadong**	**86.00**	**299**	*e*P	**P**	**10 30 34.2**		**+1.6**	
GTK				IAmb	IAmb	10 30 38.7			
	comp=Z,404nm,0.9s								
GTK				*i* PP	**PP**	**10 33 51.6**		**-1.9**	
H04D	**Lebanon**	**86.01**	**43**	P	**P**	**10 30 31.6**		**-0.4**	
	baz=247,SNR=16								
MDPB	**Devils Postpil**	**86.01**	**50**	IAmb	IAmb	10 31 02.2			
	comp=Z,74nm,1.3s								
WRAK	**Wrangell Islan**	**86.03**	**29**	IAmb	IAmb	10 30 36.9			
	comp=Z,45nm,0.8s								
WRAK	**Wrangell Islan**	**86.03**	**29**	IAMs_20	IAMs_20	11 00 06.3			
	comp=Z,7µm,22.0s								
F03A	**Seaside**	**86.04**	**41**	IAmb	IAmb	10 31 09.4			
	comp=Z,82nm,1.2s								
WAKR	**Walker**	**86.05**	**49**	IAmb	IAmb	10 30 56.5			
	comp=Z,115nm,1.5s								
OMMB	**Old Mammoth Mi**	**86.06**	**50**	P	**P**	**10 30 32.6**		**-0.4**	
OMMB				IAmb	IAmb	10 31 01.0			
	comp=Z,85nm,1.4s								
BESE	**Bessie Mountai**	**86.07**	**27**	IAmb	IAmb	10 30 35.1			
	comp=Z,55nm,0.8s								
BBB	**Bella Bella**	**86.08**	**34**	IAmb	IAmb	10 31 12.6			
	comp=Z,125nm,1.4s								
BBB				IAMs_20	IAMs_20	11 01 18.9			
	comp=Z,8µm,20.0s								
BCAR	**Beaver Creek A**	**86.08**	**21**	P	**P**	**10 30 30.2**		**-1.9**	
MURC	**Murrieta**	**86.10**	**54**	P	**P**	**10 30 31.9**		**-1.0**	
	baz=251								
JIS	**Juneau Island**	**86.11**	**27**	IAmb	IAmb	10 30 35.0			

PFO pmax pmax
comp=Z,60nm,1.3s
PFO Pinyon Flats O 86.69 54 P P 10 30 35.8 0.0
TPFO Pinon Flats 86.69 54 P P 10 30 35.3 -0.6
baz=251,SNR=13
XPFO Pion Flat 86.69 54 P P 10 30 34.4 -1.4
TAPN Taplejung 86.76 299 *eP* **P 10 30 37.0 +0.4**
comp=Z,2µm,1.5s
F04A Amboy 86.77 41 P **P 10 30 36.0 +0.2**
F04A IAmb IAmb 10 31 02.5
comp=Z,103nm,1.3s
RYN Ryan 86.77 49 IAmb IAmb 10 31 00.7
comp=Z,138nm,1.9s
I05D Terrebonne, OR 86.86 43 P **P 10 30 36.0 -0.3**
baz=248,SNR=21
NVAR Mina Array Bea 86.86 49 P **P 10 30 36.4 -0.3**
comp=Z,13nm,0.8s,baz=238,slow=3.9,SNR=74
NVAR PKKP **PKKPdf 10 48 18.4 -7.1**
comp=Z,1.1nm,0.9s,baz=246,slow=3.3,SNR=4.2
NVAR PKKPbc **PKKPbc 10 48 30.4 -1.3**
comp=Z,3.2nm,0.7s,baz=91,slow=2.5,SNR=15
NVAR SKKPbc SKKPbc 10 52 11.2 +5.1
comp=Z,1.2nm,0.7s,baz=123,slow=4.2,SNR=6.5
NVAR PKPPKP **P'P'df 10 56 29.5 -7.5**
comp=Z,3.0nm,1.0s,baz=147,slow=1.2,SNR=8.2
NVAR LR LR 11 02 12.0
comp=Z,18µm,20.1s,baz=287,slow=31
ODAN Odare 86.89 298 *eP* **P 10 30 37.9 +0.8**
comp=Z,2µm,0.9s
PINE Pine Mountain 86.92 44 IAmb IAmb 10 31 06.2
comp=Z,202nm,1.8s
PINE IAMs_20 IAMs_20 11 05 50.6
comp=Z,8µm,19.0s
E04D Cinebar 86.92 41 P **P 10 30 36.7 +0.2**
baz=247,SNR=14
GSC Goldstone, Bar 86.96 53 P **P 10 30 36.6 -0.5**
baz=251,SNR=8.5
NV11 Mina Array Sit 86.97 49 IAmb IAmb 10 31 11.5
comp=Z,195nm,2.0s
D03D Eldon 86.98 40 P **P 10 30 36.9 +0.1**
baz=246,SNR=26
SWSC Sam W. Stewart 87.00 55 P **P 10 30 36.7 -0.5**
baz=252,SNR=15
D04E Lakebay 87.04 40 P **P 10 30 37.5 +0.5**
baz=246,SNR=6.4
GRAC Grapevine Rang 87.08 51 P **P 10 30 37.0 -0.6**
baz=251
HEC Hector,Ludlow 87.17 53 P **P 10 30 37.4 -0.7**
baz=251,SNR=15
BELC Belle Mtn. Jos 87.17 54 P **P 10 30 37.6 -0.6**
baz=252,SNR=36
PGC Sidney 87.21 39 IAmb IAmb 10 31 07.7
comp=Z,56nm,1.1s
G05D Wamic, OR 87.22 42 P **P 10 30 37.2 -0.8**
baz=248,SNR=14
WHY Whitehorse 87.23 25 IAMs_20 IAMs_20 11 04 41.7
comp=Z,10µm,20.0s
FURC Furnace Creek, 87.29 52 P **P 10 30 37.7 -0.8**
baz=251,SNR=30
BOK Bokaro 87.34 295 *eP* **P 10 30 39.9 +0.8**
BOK IAmb IAmb 10 30 42.5
comp=Z,166nm,0.8s
BOK *i* PP **PP 10 34 04.6 +0.4**
FYU Fort Yukon 87.34 17 P **P 10 30 37.7 -0.4**
F05D White Salmon 87.37 42 P **P 10 30 38.1 -0.6**
baz=248,SNR=11
EGAK Eagle 87.40 20 IAmb IAmb 10 30 42.1
comp=Z,67nm,0.8s
EGAK IAMs_20 IAMs_20 11 08 22.0
comp=Z,7µm,19.0s
BC3 Big Chuckawall 87.50 55 P **P 10 30 39.4 -0.3**
baz=252,SNR=23
DAWY Dawson 87.55 21 IAMs_20 IAMs_20 11 02 37.9
comp=Z,10µm,22.0s
SHOC Shoshone, Teco 87.56 52 P **P 10 30 38.8 -1.1**
baz=251
RAMN Ramite 87.60 298 *eP* **P 10 30 41.1 +0.6**
TOLK Toolik Lake Re 87.68 15 P **P 10 30 40.2 +0.5**
baz=222
TOLK Toolik Lake Re 87.68 15 IAmb IAmb 10 30 43.5
comp=Z,75nm,0.8s
TOLK IAMs_20 IAMs_20 11 03 10.1
comp=Z,13µm,22.0s
TUQ Turquoise Moun 87.68 53 P **P 10 30 40.1 -0.5**
baz=252,SNR=25
GMRC Granite Mounta 87.69 54 P **P 10 30 40.0 -0.7**
baz=252,SNR=27
A04D Lummi Island 87.69 39 P **P 10 30 40.0 -0.1**
baz=246,SNR=16
GLA Glamis 87.81 55 P **P 10 30 40.8 -0.4**
baz=252,SNR=25
GLA Glamis 87.81 55 IAmb IAmb 10 30 48.1
comp=Z,69nm,0.8s
B05A Bryant 87.89 39 P **P 10 30 40.6 -0.5**
baz=247,SNR=20
IRM Iron Mountain 87.90 54 P **P 10 30 41.1 -0.5**
baz=252,SNR=29
TPNV Topopah Spring 87.91 51 P **P 10 30 41.1 -0.7**
baz=251,SNR=24
TPNV Topopah Spring 87.91 51 IAMs_20 IAMs_20 11 01 05.5
comp=Z,9µm,22.0s
PALK Pallekele 87.95 278 P **P 10 30 43.8 +1.5**
I07A Izee 87.99 44 IAmb IAmb 10 30 47.7
comp=Z,42nm,0.9s
I07A IAMs_20 IAMs_20 11 06 27.0
comp=Z,9µm,19.0s
WVOR Wild Horse Val 88.00 46 IAmb IAmb 10 31 19.7
comp=Z,74nm,1.2s
BMAR Burnt Mountain 88.12 17 P **P 10 30 41.4 -0.4**
JIRN Jiri 88.15 299 *eP* **P 10 30 43.6 +0.3**
comp=Z,2µm,1.1s
DLBC Dease Lake 88.15 28 P **P 10 30 41.7 -0.5**
comp=Z,22nm,1.0s,baz=239,slow=5.1,SNR=23
DLBC PKPPKP **P'P'df 10 56 25.6 -7.2**
comp=Z,2.7nm,1.0s,baz=236,slow=4.9,SNR=3.5
DLBC Dease Lake 88.15 28 IAMs_20 IAMs_20 11 01 54.1
comp=Z,7µm,22.0s
B06A Marblemount 88.36 39 IAmb IAmb 10 31 12.1
comp=Z,123nm,1.8s
B06A IAMs_20 IAMs_20 11 01 59.5
comp=Z,8µm,21.0s
F07A Phinny Hill Vi 88.36 42 IAmb IAmb 10 31 08.1
comp=Z,27nm,1.1s
J08A Circle Bar Ran 88.43 45 IAmb IAmb 10 31 20.9
comp=Z,46nm,1.0s
GUN Gumba 88.48 299 *eP* **P 10 30 45.4 +0.6**
comp=Z,1µm,0.8s
NEE2 Needles Airpor 88.50 54 P **P 10 30 44.0 -0.3**
baz=252
C06D Leavenworth 88.50 40 P **P 10 30 43.3 -0.8**
baz=248
113A Mohawk Valley, 88.58 56 IAmb IAmb 10 31 20.9
comp=Z,84nm,1.6s
113A IAMs_20 IAMs_20 11 04 02.4
comp=Z,11µm,20.0s
SHPR Sheep Range 88.61 52 IAmb IAmb 10 31 13.6
comp=Z,96nm,1.5s
SHPR IAMs_20 IAMs_20 11 01 14.9
comp=Z,8µm,22.0s
E07A Sunnyside 88.65 41 P **P 10 30 45.0 +0.2**
E07A IAmb IAmb 10 31 11.1
comp=Z,78nm,1.2s
PDMCI Parker Dam,Lak 88.73 54 P **P 10 30 45.4 -0.1**
baz=253,SNR=15
G08A Pilot Rock 88.78 43 IAmb IAmb 10 31 14.9
comp=Z,63nm,1.2s
G08A IAMs_20 IAMs_20 11 08 17.9
comp=Z,6µm,19.0s
PKI Pulchoki 88.79 299 *eP* **P 10 30 46.7 +0.4**
comp=Z,1µm,0.9s
TIXI Tiksi 88.79 349 P **P 10 30 44.2 -0.6**
comp=Z,50nm,1.0s,baz=144,slow=6.3,SNR=44
TIXI LR LR 11 12 04.7
comp=Z,2µm,18.1s,baz=104,slow=37
TIXI Tiksi 88.79 349*c iP* **P 10 30 43.7 -1.1**
TIXI pmax pmax
comp=Z,71nm,1.3s
TIXI Tiksi 88.79 349 P **P 10 30 44.0 -0.9**
TIXI IAmb IAmb 10 30 49.4
comp=Z,93nm,1.3s
PKIN Phulchoki 88.80 299 *eP* **P 10 30 46.5 +0.2**
comp=Z,1µm,0.8s
HAWA Hanford 88.80 42 IAmb IAmb 10 31 12.6
comp=Z,154nm,1.6s
R11A Troy Canyon, C 88.86 50 P **P 10 30 45.6 -0.6**
baz=252,SNR=24
LLLB Lillooet 88.93 37 IAmb IAmb 10 31 26.6
comp=Z,80nm,1.4s

LLLB IAMs_20 IAMs_20 11 01 38.4
comp=Z,7µm,21.0s
KKN Kakani 88.96 299 *eP* **P 10 30 47.4 +0.5**
comp=Z,708nm,0.8s
DMN Daman 89.06 299 *eP* **P 10 30 48.2 +0.8**
comp=Z,2µm,0.9s
214A Organ Pipe Nat 89.12 57 P **P 10 30 46.3 -1.1**
baz=253,SNR=17
214A Organ Pipe Nat 89.12 57 IAmb IAmb 10 30 54.4
comp=Z,45nm,1.1s
214A IAMs_20 IAMs_20 11 02 39.8
comp=Z,9µm,20.0s
E08A Dider Farm, El 89.14 42 IAmb IAmb 10 31 14.2
comp=Z,117nm,1.3s
W13A Hualapai Mount 89.17 54 IAMs_20 IAMs_20 11 04 45.9
comp=Z,9µm,20.0s
SLBS Sierra La Lagu 89.32 66 P **P 10 30 49.5 +0.9**
SLBS IAmb IAmb 10 31 31.3
comp=Z,113nm,1.9s
SLBS Sierra La Lagu 89.32 66 IAMs_20 IAMs_20 11 01 44.7
comp=Z,7µm,21.0s
D08A Wollman Farm, 89.43 41 IAmb IAmb 10 31 15.5
comp=Z,101nm,1.6s
PVM Polavaram 89.50 288 *eP* **P 10 30 49.6 +0.2**
PVM IVmB_BB 10 30 50.6
comp=Z,2µm,2.0s
PVM IVMs_BB IVMs_BB 11 06 01.6
comp=Z,854nm,27.8s
Y14A Wickenburg 89.53 55 IAmb IAmb 10 31 32.2
comp=Z,101nm,1.9s
GKN Gorkha 89.56 299 *eP* **P 10 30 49.7 0.0**
comp=Z,2µm,1.0s
B08A Colville Reser 89.63 40 IAmb IAmb 10 31 15.2
comp=Z,112nm,1.6s
SYO Syowa Base 89.66 197 ⇓ *iP* **P 10 30 47.2 -1.9**
SYO Syowa Base 89.66 197 ⇓ *i*PcP **PcP 10 30 50.1 -0.3**
SYO Syowa Base 89.66 197 ⇓ *i*sP sP 10 31 05.8 -5.7
SYO Syowa Base 89.66 197 ⇑ *i*PP PP 10 34 21.6 +0.5
BMO Blue Mountains 89.73 44 IAmb IAmb 10 31 16.8
comp=Z,108nm,1.5s
BMO IAMs_20 IAMs_20 11 08 15.1
comp=Z,7µm,19.0s
E09A Wood Farm, Sta 89.74 42 IAmb IAmb 10 31 19.0
comp=Z,148nm,1.6s
MDRS Chennai 89.77 283 *eP* **P 10 30 51.9 +1.2**
MDRS IAmb IAmb 10 30 54.8
comp=Z,181nm,1.2s
EPYK Eagle Plains 89.84 20 P **P 10 30 49.0 -1.0**
baz=234
EPYK Eagle Plains 89.84 20 IAmb IAmb 10 30 56.3
comp=Z,51nm,1.0s
EPYK IAMs_20 IAMs_20 11 04 31.5
comp=Z,12µm,22.0s
ELK Elko 89.85 48 IAMs_20 IAMs_20 11 01 54.6
comp=Z,11µm,22.0s
HSIG 89.86 60 IAmb IAmb 10 30 57.0
comp=Z,62nm,1.2s
HSIG IAMs_20 IAMs_20 11 03 05.5
comp=Z,7µm,20.0s
C09A Chrisman Ranch 90.10 41 IAmb IAmb 10 31 20.6
comp=Z,81nm,1.6s
F10A Beach Ranch, E 90.16 43 IAmb IAmb 10 31 18.6
comp=Z,104nm,1.2s
MFID Camas Ranch 90.27 45 IAmb IAmb 10 31 19.5
comp=Z,62nm,1.3s
KOLN Koldanda 90.39 298 *eP* **P 10 30 53.1 -0.5**
DANN Dangsing 90.40 299 *eP* **P 10 30 53.4 -0.4**
comp=Z,1µm,1.0s
SKHT Srikalahasti 90.44 284 *eP* **P 10 30 54.9 +1.1**
SKHT IVmBBB 10 30 55.7
comp=Z,2µm,1.5s
SKHT IVMs_BB IVMs_BB 11 19 14.1
comp=Z,1µm,17.8s
ADKI Addanki 90.70 286 *eP* **P 10 30 55.7 +0.7**
ADKI IVmB_BB 10 30 56.5
comp=Z,1µm,2.2s
ADKI IVMs_BB IVMs_BB 11 04 14.3
comp=Z,806nm,35.4s
U15A North Rim 90.79 53 P **P 10 30 55.0 -0.4**
U15A IAmb IAmb 10 31 24.2
comp=Z,123nm,1.2s
TUC Tucson 90.87 57 P **P 10 30 55.4 -0.2**
baz=254
TUC Tucson 90.87 57 P **P 10 30 56.1 +0.5**
TUC pmax pmax
comp=Z,29nm,1.0s
TUC Tucson 90.87 57 P **P 10 30 56.1 +0.5**
TUC Tucson 90.87 57 IAMs_20 IAMs_20 11 04 32.1
comp=Z,9µm,20.0s
NEW Newport 90.98 40 P **P 10 30 54.9 -0.8**
baz=251
NEW Newport 90.98 40 P **P 10 30 55.6 -0.1**
comp=Z,14nm,0.8s,baz=238,slow=4.7,SNR=32
PYUN Piuthan 90.99 299 *eP* **P 10 30 56.0 -0.4**
comp=Z,980nm,1.1s
WUAZ Wupatki 91.26 54 P **P 10 30 57.2 -0.2**
baz=254
WUAZ Wupatki 91.26 54 IAmb IAmb 10 31 26.0
comp=Z,67nm,1.2s
WUAZ IAMs_20 IAMs_20 11 05 53.2
comp=Z,8µm,20.0s
HLID Hailey 91.30 45 P **P 10 30 57.1 -0.3**
baz=252
HLID Hailey 91.30 45 IAMs_20 IAMs_20 11 03 07.6
comp=Z,8µm,22.0s
DUG Dugway, Tooele 91.46 49 P **P 10 30 57.3 -1.0**
baz=254
DUG Dugway, Tooele 91.46 49 IAmb IAmb 10 31 26.6
comp=Z,48nm,1.4s
NJS Nagarjunasagar 91.48 287 *eP* **P 10 30 59.0 +0.4**
NJS IVmB_BB 10 30 59.9
comp=Z,3µm,1.4s
NJS IVMs_BB IVMs_BB 11 05 13.0
comp=Z,714nm,19.0s
BGU Big Grassy Mou 91.51 48 P **P 10 30 57.9 -0.5**
WMQ Urumqi 91.64 315 P **P 10 30 59.0 +0.1**
WMQ pP pP 10 31 17.4 +1.8
WMQ PP **PP 10 34 34.4 -3.7**
WMQ SKS **SKSac 10 41 23.8 -2.8**
WMQ S **SKKSac 10 41 46.0 +3.2**
WMQ sS pS 10 42 16.4 +0.6
WMQ SS **SS 10 47 57.5 -5.5**
WMQ pmax pmax
comp=Z,150nm,1.5s
WMQ pmax pmax
comp=Z,2µm,5.3s
WMQ LR LR
comp=Z,2µm,22.3s
WMQ LR LR
comp=Z,1µm,20.1s
WMQ LR LR
comp=Z,6µm,22.3s
SRLM Srisailam 91.76 286 *eP* **P 10 31 00.9 +0.9**
SRLM IVmB_BB 10 31 01.3
comp=Z,4µm,1.3s
319A Douglas 91.86 58 IAmb IAmb 10 31 07.9
comp=Z,59nm,0.9s
INK Inuvik 91.96 19 P **P 10 30 60.0 +0.3**
comp=Z,8.7nm,0.9s,baz=196,slow=9.9,SNR=7.8
INK PKKPbc **PKKPdf 10 48 15.8 -1.4**
comp=Z,7.4nm,0.8s,baz=26,slow=4.8,SNR=7.3
INK PKPPKP **P'P'df 10 56 21.1 -3.9**
comp=Z,2.5nm,0.8s,baz=1.7,slow=4.2,SNR=5.1
RPR Rampur 92.03 289 *eP* **P 10 31 01.2 0.0**
RPR IVmB_BB 10 31 02.2
comp=Z,4µm,1.0s
RPR IVMsBB 11 06 11.6
comp=Z,856nm,27.6s
X18A Snowflake 92.12 55 IAmb IAmb 10 31 09.2
comp=Z,53nm,1.0s
X18A IAMs_20 IAMs_20 11 04 17.2
comp=Z,7µm,20.0s
HYB Hyderabad 92.39 287 *i* P **P 10 31 02.0 -0.8**
comp=Z,606nm,1.2s
HYB *e*PP **PP 10 34 44.0 -0.6**
HYB *e*SKS S 10 41 52.0 -10
HYB Hyderabad 92.39 287 *eP* **P 10 31 02.7 -0.1**
HYB IAmb IAmb 10 31 05.8
comp=Z,460nm,1.4s
HYBB Hyderabad (bro 92.39 287 *eP* **P 10 31 02.8 -0.1**
HYBB IVmB_BB 10 31 03.6
comp=Z,2µm,1.4s
HYBB IVMs_BB IVMs_BB 11 06 08.9
comp=Z,803nm,25.2s
TMUT Trail Mountain 92.40 50 P **P 10 31 04.7 +1.8**
W18A Petrified Fore 92.45 55 P **P 10 31 02.4 -0.5**
baz=255

W18A Petrified Fore 92.45 55 IAmb IAmb 10 31 10.5
comp=Z,51nm,0.9s
W18A IAMs_20 IAMs_20 11 05 38.7
comp=Z,9µm,20.0s
DGAR Diego Garcia 92.50 262 ⇑ *iP* **P 10 31 02.0 -1.4**
DGAR pmax pmax
comp=Z,628nm,1.6s
MSO Missoula 92.59 42 P **P 10 31 02.4 -0.9**
baz=253
HWUT Hardware Ranch 92.76 48 IAMs_20 IAMs_20 11 03 26.5
comp=Z,7µm,22.0s
NGP Nagpur 92.79 291 *eP* **P 10 31 04.6 -0.1**
NGP IAmb IAmb 10 31 07.5
comp=Z,307nm,1.1s
SRSP Sriramsagar 92.93 289 *eP* **P 10 31 05.3 0.0**
SRSP IVmB_BB 10 31 06.1
comp=Z,4µm,1.0s
SRSP IVMs_BB IVMs_BB 11 07 49.9
comp=Z,751nm,32.9s
URV Uravakonda 93.03 285 *eP* **P 10 31 06.4 +0.5**
URV IVmBBB 10 31 07.1
comp=Z,1µm,1.1s
URV IVMs_BB IVMs_BB 11 21 03.2
comp=Z,933nm,16.7s
DLMT Dillon 93.06 44 P **P 10 31 05.2 -0.3**
DLMT IAMs_20 IAMs_20 11 10 15.3
comp=Z,6µm,19.0s
121A Cookes Peak, D 93.38 58 P **P 10 31 07.0 -0.3**
baz=256
121A Cookes Peak, D 93.38 58 IAmb IAmb 10 31 14.9
comp=Z,37nm,1.1s
121A IAMs_20 IAMs_20 11 06 00.6
comp=Z,8µm,20.0s
AHID Auburn Hatcher 93.40 47 IAMs_20 IAMs_20 11 05 25.4
comp=Z,8µm,21.0s
DGZ Jazzator, Alta 93.53 320*c iP* **P 10 31 07.3 -0.3**
DGZ pmax pmax
comp=Z,165nm,1.0s
FXWY Fox Creek 93.68 46 IAMs_20 IAMs_20 11 05 58.7
comp=Z,8µm,20.0s
PV05 Paradox Valley 93.68 52 P **P 10 31 08.0 -0.7**
PV05 IAMs_20 IAMs_20 11 08 04.4
comp=Z,6µm,19.0s
TPAW Teton Pass 93.69 46 IAMs_20 IAMs_20 11 04 35.1
comp=Z,9µm,22.0s
BOZ Bozeman (W) 93.78 44 P **P 10 31 08.4 -0.4**
baz=254
BOZ Bozeman (W) 93.78 44 IAMs_20 IAMs_20 11 08 58.3
comp=Z,7µm,19.0s
PV10 Paradox Valley 93.80 52 IAMs_20 IAMs_20 11 08 23.8
comp=Z,7µm,21.0s
IMW Indian Meadow 93.81 46 P **P 10 31 09.9 +0.7**
IMW IAMs_20 IAMs_20 11 06 35.1
comp=Z,8µm,20.0s
PV14 Lion Creek, Pa 93.81 52 IAMs_20 IAMs_20 11 04 34.7
comp=Z,7µm,22.0s
SNOW Snow King Moun 93.83 46 IAMs_20 IAMs_20 11 04 38.6
comp=Z,10µm,22.0s
PV17 East Wray Mesa 93.84 52 IAMs_20 IAMs_20 11 08 14.4
comp=Z,7µm,20.0s
PV23 Carpenter Ridg 93.84 52 IAmb IAmb 10 31 13.8
comp=Z,24nm,0.7s
PV18 Skein Mesa, Pa 93.87 52 P **P 10 31 09.7 +0.2**
PV18 IAMs_20 IAMs_20 11 08 17.2
comp=Z,6µm,20.0s
PV21 Cone Mtn., Par 93.90 51 IAMs_20 IAMs_20 11 04 28.9
comp=Z,6µm,22.0s
PV04 Paradox Valley 93.91 52 IAMs_20 IAMs_20 11 08 38.2
comp=Z,6µm,20.0s
PV11 David Mesa, Pa 93.91 52 IAMs_20 IAMs_20 11 08 27.2
comp=Z,7µm,20.0s
PV13 Radium Mtn., P 93.92 52 IAMs_20 IAMs_20 11 08 17.4
comp=Z,6µm,19.0s
PV03 Paradox Valley 93.92 52 IAMs_20 IAMs_20 11 08 37.5
comp=Z,6µm,20.0s
MVCO Mesa Verde 93.93 53 P **P 10 31 09.2 -0.7**
baz=256
MVCO Mesa Verde 93.93 53 IAMs_20 IAMs_20 11 10 09.0
comp=Z,7µm,18.0s
PV12 Saucer Basin, 93.97 52 IAMs_20 IAMs_20 11 08 19.8
comp=Z,7µm,20.0s
PV02 Paradox Valley 93.99 52 IAMs_20 IAMs_20 11 08 55.4
comp=Z,7µm,21.0s
FLWY Flagg Ranch 94.02 46 IAMs_20 IAMs_20 11 09 41.8
comp=Z,8µm,19.0s
PV22 Blue Mesa, Par 94.03 51 P **P 10 31 10.1 -0.1**
PV22 IAMs_20 IAMs_20 11 04 21.5
comp=Z,6µm,22.0s
NVL N'lazarevskaya 94.10 188 ⇓ *iP* **P 10 31 09.5 -0.2**
NVL *e*S **SKSac 10 41 38.9 -0.3**
NVL *e*PS **PS 10 43 39.3 +2.0**
NVL *e*SS **SS 10 48 39.3 +3.7**
NVL *e* 10 48 50.3
NVL *e*SSS SSS 10 52 25.1
NVL pmax pmax
comp=Z,139nm,0.7s
H17A Grant Village 94.19 45 P **P 10 31 11.2 +0.3**
baz=255
PV15 Paradox Valley 94.22 52 IAMs_20 IAMs_20 11 08 36.5
comp=Z,6µm,19.0s
KLRI Killari 94.35 287 *eP* **P 10 31 11.7 -0.2**
KLRI IVmB_BB 10 31 14.1
comp=Z,2µm,1.9s
KLRI IVMs_BB IVMs_BB 11 08 02.5
comp=Z,1µm,27.6s
Y22D IRIS PASSCAL I 94.44 56 P **P 10 31 11.8 -0.4**
baz=257
Y22D IRIS PASSCAL I 94.44 56 IAMs_20 IAMs_20 11 04 58.4
comp=Z,10µm,21.0s
BW06 Boulder Array 94.50 47 P **P 10 31 11.0 -1.3**
baz=256
BW06 Boulder Array 94.50 47 IAMs_20 IAMs_20 11 08 19.4
comp=Z,6µm,21.0s
PDAR Pinedale Array 94.50 47 P **P 10 31 12.9 +0.6**
comp=Z,2.1nm,0.6s,baz=234,slow=3.4,SNR=21
PDAR PP PP 10 35 16.8 +16
comp=Z,5.0nm,1.1s,baz=227,slow=5.9,SNR=5.4
PDAR PKKPbc **PKKPdf 10 48 10.6 -1.7**
comp=Z,5.8nm,0.7s,baz=95,slow=4.9,SNR=30
PDAR SKKPbc SKKPbc 10 51 49.2 +0.8
comp=Z,1.5nm,0.9s,baz=98,slow=4.5,SNR=5.7
PDAR PKPPKP **P'P'df 10 56 16.0 -6.6**
comp=Z,1.4nm,0.8s,baz=132,slow=2.2,SNR=4.7
PDAR LR LR 11 05 51.2
comp=Z,5µm,21.7s,baz=265,slow=30
PDAR Pinedale Array 94.50 47 P **P 10 31 12.6 +0.3**
ZSN Zaisan 94.55 318 ⇑ *iP* **P 10 31 12.3 +0.2**
comp=Z,355nm,2.6s,baz=318
ZSN *e*S **SKSac 10 41 43.1 +0.7**
comp=Z,95nm,5.0s,baz=318
ZSN Zaisan 94.55 318*c iP* **P 10 31 12.3 +0.2**
ZSN *i* S **SKSac 10 41 43.0 +0.7**
ZSN pmax pmax
comp=Z,355nm,2.6s
ZSN smax smax
comp=E,95nm,5.0s
SNAA Sanae 94.64 183 P **P 10 31 11.8 -0.5**
SNAA Sanae 94.64 183 LR LR 11 12 31.3
comp=E,4µm,18.5s,baz=171,slow=35
SNAA Sanae 94.64 183*c iP* **P 10 31 11.2 -1.1**
SNAA pmax pmax
comp=Z,327nm,1.3s
SNAA MLR MLR
comp=Z,4µm,18.0s
SNAA Sanae 94.64 183 P **P 10 31 11.1 -1.1**
BNM Barren Site 94.70 56 P **P 10 31 13.1 -0.4**
BHPL Bhopal 94.73 293 *eP* **P 10 31 13.2 -0.4**
BHPL IAmb IAmb 10 31 16.2
comp=Z,57nm,0.7s
O20A White River Ci 94.83 50 P **P 10 31 12.7 -1.2**
baz=256
ANMO Albuquerque 95.02 55 P **P 10 31 13.9 -0.9**
baz=257
ANMO Albuquerque 95.02 55*de*P **P 10 31 15.6 +0.8**
ANMO pmax pmax
comp=Z,17nm,1.0s
ANMO Albuquerque 95.02 55 P **P 10 31 15.0 +0.2**
ANMO Albuquerque 95.02 55 IAMs_20 IAMs_20 11 06 01.8
comp=Z,9µm,21.0s
MNTX Cornudas Mount 95.17 59 P **P 10 31 14.1 -1.3**
baz=257
RLMT Red Lodge 95.27 45 P **P 10 31 15.7 0.0**
baz=256
VNA3 Neumayer Olymp 95.33 181 P **P 10 31 14.7 -0.7**
S22A 4UR Ranch, Cre 95.35 53 P **P 10 31 15.9 -0.5**
baz=257
S22A 4UR Ranch, Cre 95.35 53 IAMs_20 IAMs_20 11 05 32.4

comp=Z,7µm,22.0s
EGMT Eagleton 95.64 42 P **P** **10 31 16.5 -0.7**
baz=256
ZAIG Zacatecas 95.70 68 IAmb IAmb 10 34 35.3
comp=Z,46nm,0.8s
ZAIG IAMs_20 IAMs_20 11 06 44.8
comp=Z,6µm,20.0s
DDI Dehra Dun 95.70 300 *eP* **P** **10 31 18.0 +0.2**
DDI IAmb IAmb 10 31 20.7
comp=Z,134nm,0.8s
VNA1 Neumayer--Stat 95.89 182 P **P** **10 31 17.6 -0.2**
RWWY Rawlins 95.94 49 IAMs_20 IAMs_20 11 05 45.8
comp=Z,10µm,22.0s
MK31 Makanchi Array 96.10 317 *i* P **P** **10 31 19.8 +0.6**
MKAR Makanchi Array 96.10 317 P **P** **10 31 19.1 -0.2**
comp=Z,141nm,0.8s,baz=98,slow=5.0,SNR=749
MKAR PP **PP** **10 35 11.0 -1.8**
comp=Z,27nm,1.1s,baz=104,slow=8.9,SNR=9.5
MKAR PKiKP **PKiKP** **10 35 57.9 +0.3**
comp=Z,3.4nm,0.6s,baz=217,slow=1.2,SNR=15
MKAR S **SKSac** **10 41 52.0 +1.3**
comp=Z,2.2nm,1.0s,baz=139,slow=6.4,SNR=3.7
MKAR PKKPbc **PKKPbc** **10 48 06.1 -2.0**
comp=Z,7.9nm,0.7s,baz=278,slow=3.6,SNR=25
MKAR PKPPKP **P'P'df** **10 56 16.0 -3.0**
comp=Z,1.0nm,0.9s,baz=318,slow=1.6,SNR=4.6
MKAR LR LR 11 14 56.3
comp=Z,2µm,21.5s,baz=110,slow=36
MKAR Makanchi Array 96.10 317 P **P** **10 31 18.5 -0.8**
MKAR Makanchi Array 96.10 317 P **P** **10 31 18.4 -0.8**
TXAR Lajitas Array 96.11 61 P **P** **10 31 19.8 0.0**
comp=Z,1.5nm,0.7s,baz=233,slow=4.9,SNR=9.3
TXAR PP **PP** **10 35 12.1 -1.4**
comp=Z,7.9nm,1.1s,baz=231,slow=7.9,SNR=6.0
TXAR PKKPbc **PKKPbc** **10 48 06.9 -0.5**
comp=Z,4.8nm,0.7s,baz=106,slow=3.5,SNR=19
TXAR SKKPbc SKKPbc 10 51 47.5 +4.4
comp=Z,0.9nm,0.8s,baz=131,slow=4.9,SNR=4.3
TXAR PKPPKP **P'P'df** **10 56 17.8 -2.8**
comp=Z,1.0nm,0.8s,baz=104,slow=1.5,SNR=7.6
TXAR LR LR 11 06 04.8
comp=Z,6µm,21.8s,baz=0.0,slow=30
TXAR Lajitas Array 96.11 61 P **P** **10 31 19.2 -0.6**
TXAR Lajitas Array 96.11 61 P **P** **10 31 19.1 -0.6**
A36M Sachs Harbour 96.22 17 P **P** **10 31 18.4 -0.8**
baz=245
ZALV Zalesovo Beam 96.23 324 P **P** **10 31 18.9 -0.8**
comp=Z,68nm,0.8s,baz=27,slow=18,SNR=58
ZALV PP PP 10 35 03.1 -11
comp=Z,4.5nm,0.9s,baz=119,slow=8.6,SNR=3.7
ZALV PKKPbc **PKKPbc** **10 48 05.0 -3.0**
comp=Z,1.3nm,0.4s,baz=324,slow=4.8,SNR=4.2
ZALV LR LR 11 13 28.6
comp=Z,5µm,21.2s,baz=98,slow=35
MAKZ Makanchi 96.31 317 P **P** **10 31 20.0 -0.2**
MAKZ Makanchi 96.31 317 P **P** **10 31 20.0 -0.2**
SDCO Great Sand Dun 96.38 53 IAMs_20 IAMs_20 11 12 06.3
comp=Z,8µm,18.0s
GOA Goa 96.38 284 *eP* **P** **10 31 22.0 +0.8**
K22A Casper 96.65 48 P **P** **10 31 21.0 -1.0**
baz=258
N23A Red Feather La 96.70 50 P **P** **10 31 20.3 -2.2**
baz=258
N23A Red Feather La 96.70 50 IAmb IAmb 10 32 23.7
comp=Z,56nm,1.9s
ISCO Idaho Springs 96.72 51 P **P** **10 31 22.0 -0.6**
baz=258
ISCO Idaho Springs 96.72 51 IAMs_20 IAMs_20 11 06 57.6
comp=Z,11µm,22.0s
YKA Yellowknife Ar 96.75 27 P **P** **10 31 21.2 -0.5**
comp=Z,25nm,0.8s,baz=255,slow=4.7,SNR=85
YKA PKiKP **PKiKP** **10 35 58.5 +0.3**
comp=Z,0.6nm,0.5s,baz=239,slow=1.5,SNR=4.5
YKA S **SKSac** **10 42 01.0 +7.8**
comp=Z,0.7nm,0.9s,baz=283,slow=4.3,SNR=3.7
YKA PKKPbc **PKKPbc** **10 48 04.4 -2.5**
comp=Z,1.7nm,0.6s,baz=89,slow=2.6,SNR=13
YKA PKPPKP **P'P'df** **10 56 12.5 -4.0**
comp=Z,1.1nm,0.9s,baz=51,slow=2.7,SNR=4.1
YKA LR LR 11 12 24.8
comp=Z,3µm,18.6s,baz=0.0,slow=34
Q24A Divide 96.90 52 P **P** **10 31 22.8 -0.7**
baz=258
POO Poona 97.00 287 *eP* **P** **10 31 23.5 -0.5**
T25A Trinidad 97.10 54 P **P** **10 31 24.0 -0.3**
baz=258
T25A Trinidad 97.10 54 IAMs_20 IAMs_20 11 08 25.9
comp=Z,8µm,20.0s
PHWY Pilot Hill 97.15 49 IAMs_20 IAMs_20 11 10 27.7
comp=Z,10µm,19.0s
SHLS Shalkode 97.27 313⇑ *iP* **P** **10 31 23.8 -1.0**
comp=Z,147nm,1.7s,baz=313
SHLS *eS* **SKSac** **10 41 56.1 -1.0**
comp=Z,25nm,2.1s,baz=313
SHLS *eSS* **SS** **10 49 19.9 -3.6**
baz=313
SHLS LR LR 11 15 21.6
comp=Z,493nm,19.4s,baz=313
SHLS Shalkode 97.27 313*c iP* **P** **10 31 23.7 -1.0**
SHLS *eS* **SKSac** **10 41 56.1 -1.0**
SHLS *eSS* **SS** **10 49 19.8 -3.6**
SHLS pmax pmax
comp=Z,147nm,1.7s
SHLS smax smax
comp=N,25nm,2.1s
SHLS MLR MLR
comp=Z,493nm,19.0s
UZB Uzynbulak 97.59 312⇑ *iP* Pdif 10 31 26.3 0.0
comp=Z,118nm,2.1s,baz=312
UZB *eS* **SKSac** **10 41 59.2 +0.4**
comp=Z,41nm,2.3s,baz=312
UZB *ePS* **PS** **10 44 17.3 0.0**
baz=312
UZB LR LR 11 15 07.1
comp=Z,865nm,21.2s,baz=312
UZB Uzynbulak 97.59 312*c iP* **P** **10 31 26.2 0.0**
UZB *eS* **SKSac** **10 41 59.2 +0.4**
UZB *i* PS **PS** **10 44 17.2 0.0**
UZB pmax pmax
comp=Z,118nm,2.1s
UZB smax smax
comp=E,41nm,2.3s
UZB MLR MLR
comp=Z,865nm,21.0s
LAO LASA Array 97.69 44 P **P** **10 31 24.7 -1.8**
baz=258
LAO LASA Array 97.69 44 IAMs_20 IAMs_20 11 12 26.7
comp=Z,7µm,19.0s
MSTX Muleshoe 97.79 57 P **P** **10 31 25.1 -2.2**
baz=259
MSTX Muleshoe 97.79 57 IAMs_20 IAMs_20 11 08 35.4
comp=Z,6µm,20.0s
KPKS Kokpek 97.89 313⇑ *iP* Pdif 10 31 27.8 +0.2
comp=Z,216nm,2.5s,baz=313
KPKS *ePP* **PP** **10 35 25.2 -1.6**
baz=313
KPKS *eS* **SKSac** **10 41 59.9 -0.3**
comp=Z,61nm,2.6s,baz=313
KPKS *eScS* **S** **10 42 48.4 -0.8**
baz=313
KPKS Kokpek 97.89 313*c iP* Pdif 10 31 27.7 +0.1
KPKS *e* 10 35 25.2
KPKS *i* S **SKSac** **10 41 59.9 -0.3**
KPKS *e* 10 42 48.4
KPKS pmax pmax
comp=Z,216nm,2.5s
KPKS smax smax
comp=E,61nm,2.6s
SATY Saty 98.01 312⇑ *iP* Pdif 10 31 28.4 +0.3
comp=E,73nm,2.2s,baz=312
SATY *ePP* **PP** **10 35 26.2 -1.6**
baz=312
SATY *eS* **SKSac** **10 42 01.4 +0.5**
comp=E,61nm,2.4s,baz=312
SATY *i* ScS **S** **10 42 49.5 -0.8**
baz=312
SATY LR LR 11 15 07.1
comp=E,560nm,20.7s,baz=312
SATY Saty 98.01 312*c iP* Pdif 10 31 28.4 +0.2
SATY *e* 10 35 26.2
SATY *eS* **SKSac** **10 42 00.4 -0.5**
SATY *i* 10 42 49.5
SATY pmax pmax
comp=Z,73nm,2.2s
SATY smax smax
comp=E,61nm,2.4s
SATY MLR MLR
comp=Z,560nm,21.0s
UNM Universidad Na 98.09 72 IAMs_20 IAMs_20 11 10 58.4
comp=Z,5µm,18.0s
SEM Semipalatinsk 98.19 320 *i* P **P** **10 31 27.8 -1.0**
comp=Z,78nm,2.0s,baz=320
SEM *eS* **SKSac** **10 42 01.0 -0.7**
baz=320
SEM LR LR 11 16 50.6
comp=Z,921nm,18.1s,baz=320
SEM Semipalatinsk 98.19 320 *i* P **P** **10 31 27.8 -1.0**
SEM *eS* **SKSac** **10 42 00.9 -0.7**
SEM pmax pmax
comp=Z,78nm,2.0s
SEM MLR MLR
comp=Z,921nm,18.0s
TARG Taragay, Kyrgy 98.20 311 IAmb IAmb 10 31 31.5
comp=Z,77nm,1.5s
TLIG Tlapa 98.31 74 IAMs_20 IAMs_20 11 05 08.2
comp=Z,9µm,22.0s
TDK Taldyqorghan 98.38 314 *eP* Pdif 10 31 29.7 +0.1
comp=Z,273nm,2.2s,baz=314
TDK *ePP* **PP** **10 35 29.3 -1.2**
baz=314
TDK *eS* **SKSac** **10 42 03.1 +0.7**
comp=Z,36nm,1.6s,baz=314
TDK *eSS* **SS** **10 49 38.4 -0.2**
baz=314
TDK LR LR 11 17 38.3
comp=Z,1µm,17.4s,baz=314
TDK Taldyqorghan 98.38 314 *eP* Pdif 10 31 29.6 0.0
TDK *e* 10 35 29.2
TDK *eS* **SKSac** **10 42 02.0 -0.4**
TDK *eSS* **SS** **10 49 38.4 -0.2**
TDK pmax pmax
comp=Z,273nm,2.2s
TDK smax smax
comp=E,36nm,1.6s
RSSD Black Hills 98.72 47 Pdiff **P** **10 31 30.5 -0.8**
baz=260
RSSD Black Hills 98.72 47 IAMs_20 IAMs_20 11 14 23.0
comp=Z,5µm,19.0s
KDJ Kajisay 98.73 311 IAmb IAmb 10 31 36.8
comp=Z,36nm,0.8s
KSCO Kaye Shedlock' 98.84 52 Pdiff **P** **10 31 29.8 -2.2**
baz=260
KSCO Kaye Shedlock' 98.84 52 IAMs_20 IAMs_20 11 09 09.7
comp=Z,7µm,20.0s
AMTX Amarillo 98.85 56 Pdiff **P** **10 31 31.0 -1.0**
baz=260
AMTX Amarillo 98.85 56 P Pdif 10 31 32.8 +0.8
AMTX IAMs_20 IAMs_20 11 08 00.3
comp=Z,8µm,22.0s
NRIK Noril'sk 98.87 339 P **P** **10 31 30.6 -0.6**
comp=Z,48nm,0.9s,baz=107,slow=4.6,SNR=65
NRIK PP **PP** **10 35 38.2 +4.7**
comp=Z,11nm,1.1s,baz=106,slow=7.6,SNR=4.2
NRIK PKKP **PKKPbc** **10 47 59.0 -2.1**
comp=Z,6.3nm,0.9s,baz=105,slow=2.9,SNR=5.2
NRIK LR LR 11 13 22.6
comp=Z,6µm,21.8s,baz=104,slow=34
NRIK Noril'sk 98.87 339 *i* P **P** **10 31 30.2 -1.0**
MDOK Medeo 99.01 312 *i* P **Pdif** **10 31 32.8 +0.1**
baz=312
MDOK *ePP* **PP** **10 35 34.5 -0.9**
baz=312
MDOK *eS* **SKSac** **10 42 06.6 +0.6**
comp=Z,289nm,2.6s,baz=312
MDOK *eSP* **SP** **10 44 25.6 +0.9**
baz=312
MDOK *eSP* SP 10 44 26.1 +1.4
baz=312
MDOK *eSS* **SS** **10 49 48.0 +0.1**
baz=312
MDOK LR LR 11 15 29.6
comp=Z,1µm,21.9s,baz=312
MDOK Medeo 99.01 312 *i* P **Pdif** **10 31 32.7 +0.1**
MDOK *e* 10 35 34.5
MDOK *eS* **SKSac** **10 42 06.6 +0.6**
MDOK *i* SP **SP** **10 44 25.6 +0.9**
MDOK *eSP* SP 10 44 26.0 +1.3
MDOK *eSS* **SS** **10 49 47.9 +0.1**
MDOK smax smax
comp=E,289nm,2.6s
MDOK MLR MLR
comp=Z,1µm,22.0s
TNSS Tian-Shan 99.06 312 *eP* **Pdif** **10 31 33.5 +0.3**
baz=312
TNSS Tian-Shan 99.06 312 *eP* **Pdif** **10 31 33.5 +0.3**
AAA Alma-Ata 99.11 312 *eP* **Pdif** **10 31 33.3 +0.4**
baz=312
AAA *eS* **SKSac** **10 42 07.0 +0.7**
baz=312
AAA LR LR 11 17 34.0
comp=Z,1µm,20.0s,baz=312
AAA Alma-Ata 99.11 312 *i* P **Pdif** **10 31 33.4 +0.4**
AAA pmax pmax
comp=Z,400nm,7.7s
KSH Kashi 99.17 308 P **Pdif** **10 31 35.6 +2.2**
KSH sP sP 10 31 59.4 +3.5
KSH S **S** **10 42 59.8 -0.5**
KSH SS **SS** **10 49 56.8 +6.6**
KSH pmax pmax
comp=Z,180nm,1.7s
KSH pmax pmax
comp=Z,2µm,10.2s
KSH LR LR
comp=Z,3µm,15.3s
KSH LR LR
comp=Z,7µm,21.1s
KSH LR LR
comp=Z,11µm,20.9s
CHKK Chushkaly 99.17 313 *eP* **Pdif** **10 31 32.5 -0.6**
baz=313
CHKK Chushkaly 99.17 313 *eP* **Pdif** **10 31 32.5 -0.6**
KURK Kurchatov 99.27 320 P **Pdif** **10 31 32.8 -0.5**
KURK Kurchatov 99.27 320*c iP* **Pdif** **10 31 32.2 -1.1**
KURK pmax pmax
comp=Z,61nm,1.3s
KURK MLR MLR
comp=Z,6µm,23.0s
KURBB Kurchatov Arra 99.31 320 PP **PP** **10 35 31.8 -5.5**
comp=Z,11nm,1.0s,baz=103,slow=7.6,SNR=8.7
KURBB S **SKSac** **10 42 12.1 +5.4**
comp=Z,0.6nm,0.3s,baz=144,slow=3.4,SNR=5.3
KURBB PKKPbc **PKKPbc** **10 47 57.2 -2.0**
comp=Z,11nm,1.1s,baz=276,slow=3.3,SNR=15
KURBB PKPPKP **P'P'df** **10 56 14.0 +1.3**
comp=Z,1.7nm,1.0s,baz=291,slow=2.3,SNR=6.3
DGMT Dagmar 99.37 42 Pdiff **Pdif** **10 31 33.7 -0.3**
baz=260
ULHL Ulahol 99.44 311 P **Pdif** **10 31 35.5 +0.9**
SNR=12
MTBS Maitube 99.45 312 *eP* **Pdif** **10 31 34.6 +0.1**
baz=312
MTBS Maitube 99.45 312 *eP* **Pdif** **10 31 34.5 +0.1**
833A Chaparral WMA, 99.60 63 Pdiff **Pdif** **10 31 33.8 -1.6**
baz=260
JCT Junction City 99.63 61 Pdiff **Pdif** **10 31 34.1 -1.5**
baz=260
JCT Junction City 99.63 61 IAMs_20 IAMs_20 11 09 08.3
comp=Z,6µm,20.0s
KUU Kurty 99.64 313⇑ *iP* **Pdif** **10 31 34.9 -0.4**
comp=Z,226nm,2.0s,baz=313
KUU *eS* **SKSac** **10 42 08.8 -0.1**
comp=Z,226nm,2.4s,baz=313
KUU *eSP* **SP** **10 44 31.5 +0.2**
baz=313
KUU *ePS* **PS** **10 44 38.2 -1.0**
baz=313
KUU LR LR 11 15 56.6
comp=Z,1µm,16.4s,baz=313
KUU Kurty 99.64 313*c iP* **Pdif** **10 31 34.8 -0.4**
KUU *eS* **SKSac** **10 42 08.7 -0.1**
KUU *i* SP **SP** **10 44 31.5 +0.2**
KUU *i* PS **PS** **10 44 38.1 -1.0**
KUU pmax pmax
comp=Z,226nm,2.0s
KUU smax smax
comp=E,226nm,2.4s
KUU MLR MLR
comp=Z,1µm,16.0s
TKM2 Tokmak 2 100.02 312 P **Pdif** **10 31 36.7 -0.5**
SNR=21
TKM2 Tokmak 2 100.02 312 P **Pdif** **10 31 36.6 -0.6**
ABTX Abilene, Hawle 100.13 59 Pdiff **Pdif** **10 31 35.4 -2.3**
baz=260
ABTX Abilene, Hawle 100.13 59 IAMs_20 IAMs_20 11 12 07.4
comp=Z,6µm,19.0s
KZA Kyzart 100.14 311 P **Pdif** **10 31 38.7 +0.8**
SNR=29
NIL Nilore 100.34 302 P **Pdif** **10 31 38.2 -0.4**
CHMS Chumysh 100.64 312 P **Pdif** **10 31 40.2 +0.5**
SNR=8.1
UCH Uchtor 100.70 311 P **Pdif** **10 31 41.1 +0.6**
SNR=23
AAK Ala-Archa 100.77 311 PKKPbc PKKPbc 10 47 54.5 -0.5
comp=Z,12nm,0.7s,baz=203,slow=2.2,SNR=16
AAK Ala-Archa 100.77 311 P **Pdif** **10 31 41.1 +0.6**
SNR=8.4
AAK Ala-Archa 100.77 311 *i* Pdiff **Pdif** **10 31 40.2 -0.3**
SNR=5.2
AAK Ala-Archa 100.77 311 P **Pdif** **10 31 40.3 -0.1**
AAK Ala-Archa 100.77 311*c iP* **Pdif** **10 31 40.4 -0.1**
AAK pmax pmax
comp=Z,21nm,0.9s
SGDS Sogindy 100.80 312⇑ *iP* **Pdif** **10 31 39.6 -0.8**
comp=Z,58nm,2.4s,baz=312
SGDS *ePP* **PP** **10 35 47.1 -1.8**
baz=312
SGDS *eS* **SKSac** **10 42 14.3 -0.3**
baz=312
SGDS Sogindy 100.80 312*c iP* **Pdif** **10 31 39.6 -0.8**
SGDS *e* 10 35 47.0
SGDS *eS* **SKSac** **10 42 16.0 +1.4**
SGDS pmax pmax
comp=Z,57nm,2.4s
CBKS Cedar Bluff 101.03 53 Pdiff **Pdif** **10 31 39.1 -2.5**
baz=261
CBKS Cedar Bluff 101.03 53 IAMs_20 IAMs_20 11 16 47.8
comp=Z,8µm,18.0s
735A Kenedy 101.06 63 IAMs_20 IAMs_20 11 16 44.5
comp=Z,6µm,18.0s
WMOK Wichita Mounta 101.18 57 Pdiff **Pdif** **10 31 39.9 -2.4**
baz=261
WMOK Wichita Mounta 101.18 57 IAMs_20 IAMs_20 11 09 12.0
comp=Z,6µm,21.0s
U32A Winter Ranch, 101.25 55 IAMs_20 IAMs_20 11 10 00.7
comp=Z,8µm,20.0s
AML Almayashu 101.29 311 P **Pdif** **10 31 43.5 +0.4**
SNR=24
EKS2 Erkin-Say 101.30 311 P **Pdif** **10 31 43.0 +0.2**
SNR=11
E28A Huff 101.43 45 IAMs_20 IAMs_20 11 12 21.6
comp=Z,7µm,20.0s
BTLS Baital 101.44 314⇑ *iP* **Pdif** **10 31 42.9 -0.3**
comp=Z,60nm,2.1s,baz=314
BTLS *ePP* **PP** **10 35 52.9 -0.7**
baz=314
BTLS *i* S **SKSac** **10 42 17.7 +0.2**
baz=314
BTLS LR LR 11 16 25.1
comp=Z,555nm,21.3s,baz=314
BTLS Baital 101.44 314*c iP* **Pdif** **10 31 42.8 -0.3**
BTLS *e* 10 35 52.8
BTLS *eS* **SKSac** **10 42 16.7 -0.7**
BTLS pmax pmax
comp=Z,60nm,2.1s
BTLS MLR MLR
comp=Z,555nm,21.0s
435B Jarrell 101.56 61 Pdiff **Pdif** **10 31 41.8 -2.3**
baz=261
435B Jarrell 101.56 61 IAMs_20 IAMs_20 11 10 16.5
comp=Z,8µm,21.0s
FFC Flin Flon 101.66 36 IAMs_20 IAMs_20 11 11 29.0
comp=Z,9µm,20.0s
R32A Long Quarter, 101.77 53 IAMs_20 IAMs_20 11 12 21.4
comp=Z,7µm,20.0s
WHTX Lake Whitney, 101.86 60 Pdiff **Pdif** **10 31 40.8 -4.5**
baz=261
X34A Smith Ranch, M 101.93 57 IAMs_20 IAMs_20 11 08 50.9
comp=Z,6µm,22.0s
Z35A Perchaven, San 102.22 58 IAMs_20 IAMs_20 11 14 00.8
comp=Z,6µm,19.0s
K31A O'Neill 102.29 49 IAMs_20 IAMs_20 11 15 32.9
comp=Z,8µm,18.0s
MDND Maddock 102.33 43 Pdiff **Pdif** **10 31 44.6 -2.5**
baz=263
MDND Maddock 102.33 43 IAMs_20 IAMs_20 11 15 13.2
comp=Z,5µm,19.0s
OKCFA Oklahoma City 102.35 56 IAMs_20 IAMs_20 11 13 18.1
comp=Z,7µm,19.0s
SUSD Miller 102.37 47 Pdiff **Pdif** **10 31 45.2 -2.2**
baz=263
HKT Hockley 102.93 62 IAMs_20 IAMs_20 11 19 55.5
comp=Z,5µm,18.0s
BRZS Berezniki 102.94 319⇑ *iP* **Pdif** **10 31 49.0 -0.8**
comp=Z,46nm,1.9s,baz=319
BRZS *ePP* **PP** **10 36 03.4 -1.4**
baz=319
BRZS *eS* **SKSac** **10 42 24.2 -0.1**
baz=319
BRZS LR LR 11 12 27.2
comp=Z,2µm,21.9s,baz=319
BRZS Berezniki 102.94 319*c iP* **Pdif** **10 31 48.9 -0.8**
BRZS *e* 10 36 03.3
BRZS *eS* **SKSac** **10 42 24.2 -0.1**
BRZS pmax pmax
comp=Z,46nm,1.9s
DZA Taraz 103.12 311 *ePdif* **Pdif** **10 31 50.5 -0.2**
comp=Z,18nm,1.8s,baz=311
DZA *eS* **SKSac** **10 42 25.9 +0.3**
baz=311
DZA LR LR 11 19 52.3
comp=Z,481nm,17.6s,baz=311
DZA Taraz 103.12 311 *eP* **Pdif** **10 31 50.5 -0.2**
DZA *eS* **SKSac** **10 42 25.8 +0.3**
DZA pmax pmax
comp=Z,18nm,1.8s
DZA MLR MLR
comp=Z,481nm,18.0s
237A Washetta, Mont 103.24 60 IAMs_20 IAMs_20 11 11 41.0
comp=Z,5µm,20.0s
T35A Sooner Cattle 103.30 55 IAMs_20 IAMs_20 11 10 45.8
comp=Z,7µm,21.0s
KSU1 Kansas State U 103.49 53 Pdiff **Pdif** **10 31 49.6 -2.9**
baz=263
KK31 Karatay Array 103.74 311 *i* P **Pdif** **10 31 52.7 -0.8**
TUL1 Leonard 103.76 56 IAMs_20 IAMs_20 11 11 17.3
comp=Z,10µm,22.0s
KBL Kabul 103.92 303 P **Pdif** **10 31 54.4 -0.3**
X37A Clayton 103.94 57 IAMs_20 IAMs_20 11 12 27.2
comp=Z,5µm,20.0s
ECSD EROS Data Cent 103.97 48 Pdiff **Pdif** **10 31 51.0 -3.4**
baz=264
IUG luzhnay 103.99 310 *ePdif* **Pdif** **10 31 54.9 +0.2**
comp=Z,6.2nm,1.8s,baz=310
IUG *eS* **SKSac** **10 42 30.6 +0.7**
baz=310
IUG *eSS* **SS** **10 50 57.7 +0.7**
baz=310
IUG luzhnay 103.99 310 *eP* **Pdif** **10 31 54.9 +0.2**
IUG *eS* **SKSac** **10 42 30.5 +0.7**
IUG *eSS* **SS** **10 50 57.6 +0.7**
IUG pmax pmax
comp=Z,6.0nm,1.8s
D32A Dogwood Acres, 104.00 44 IAMs_20 IAMs_20 11 14 36.6
comp=Z,5µm,20.0s
Z38A Mt. Pleasant 104.09 59 IAMs_20 IAMs_20 11 14 41.4
comp=Z,6µm,19.0s
NATX Nacogdoches 104.18 60 Pdiff **Pdif** **10 31 53.2 -2.5**
baz=263
NATX Nacogdoches 104.18 60 IAMs_20 IAMs_20 11 12 09.8
comp=Z,7µm,20.0s
BRLS Borolday 104.22 311 *eSS* SS 10 51 00.9 +1.1
baz=311
PLCA Paso Flores 104.27 139 PKiKP **PKiKP** **10 36 12.1 -0.5**
comp=Z,1.8nm,0.9s,baz=252,slow=1.8,SNR=4.2
PLCA PKKPbc **PKKPbc** **10 47 43.5 -0.9**
comp=Z,2.8nm,0.8s,baz=47,slow=10,SNR=5.2
CHM Chimkent 104.33 311 *ePdif* **Pdif** **10 31 56.2 +0.1**
baz=311
CHM *eSdif* Sdif 10 43 43.1 +0.1
baz=311
CHM Chimkent 104.33 311 *eP* **Pdif** **10 31 56.2 +0.1**
CHM *eS* **Sdif** **10 43 43.0 0.0**
F33A 5 Mile Ranch, 104.39 46 IAMs_20 IAMs_20 11 11 10.0
comp=Z,8µm,22.0s
BVAR Borovoye Array 104.60 322 PKiKP **PKiKP** **10 36 12.1 -0.5**
comp=Z,5.7nm,0.6s,baz=87,slow=2.9,SNR=7.6
BVAR PKKPbc **PKKPbc** **10 47 42.5 -1.4**
comp=Z,1.4nm,0.5s,baz=341,slow=0.1,SNR=5.2
BVAR SKKPbc SKKPbc 10 51 22.8 +0.3
comp=Z,0.3nm,0.3s,baz=277,slow=2.4,SNR=4.1
BRVK Borovoye 104.67 322 P **Pdif** **10 31 54.4 -2.9**

BRVK	Borovoye	104.67	322	P	Pdif	10 31 55.3	-2.0			
AGMN	Agassiz Nation baz=266	104.86	43	Pdiff	Pdif	10 31 53.8	-4.6			
AGMN	Agassiz Nation comp=Z,6µm,19.0s	104.86	43	IAMs_20	IAMs_20	11 18 48.4				
ULM	Lac du Bonnet comp=Z,3.2nm,0.7s,baz=38,slow=3.9,SNR=5.0	104.98	41	PKPPKP		10 56 02.2				
RES	Resolute Bay comp=Z,4.3nm,0.8s,baz=291,slow=1.5,SNR=9.0	105.21	16	PKIKP	PKiKP	10 36 12.1	-1.1			
RES	comp=Z,3.8nm,0.8s,baz=167,slow=5.9,SNR=7.1			PKKPbc	PKKPbc	10 47 40.0	-2.6			
RES	Resolute Bay comp=Z,10µm,21.0s	105.21	16	IAMs_20	IAMs_20	11 15 48.5				
W39A	Magazine baz=264	105.30	57	PKiKP	PKiKP	10 36 10.6	-3.9			
W39A	Magazine comp=Z,7µm,22.0s	105.30	57	IAMs_20	IAMs_20	11 11 44.3				
MIAR	Mount Ida baz=264	105.41	58	PKiKP	PKiKP	10 36 11.1	-3.5			
MIAR	Mount Ida comp=Z,5µm,20.0s	105.41	58	IAMs_20	IAMs_20	11 13 43.0				
WLAR	White Oak Lake comp=Z,4µm,19.0s	105.70	59	IAMs_20	IAMs_20	11 16 26.9				
P38A	Dawn comp=Z,9µm,20.0s	105.91	52	IAMs_20	IAMs_20	11 14 36.0				
Z41A	Richland Creek baz=264	105.91	59	PKiKP	PKiKP	10 36 14.0	-1.6			
Z41A	Richland Creek comp=Z,6µm,19.0s	105.91	59	IAMs_20	IAMs_20	11 15 58.5				
S39A	Bolivar comp=Z,9µm,22.0s	105.91	54	IAMs_20	IAMs_20	11 12 16.2				
X40A	Basin Creek Fa baz=264	106.01	58	PKiKP	PKiKP	10 36 14.9	-0.8			
U40A	Yellville comp=Z,8µm,19.0s	106.17	56	IAMs_20	IAMs_20	11 16 13.1				
B35A	Bob, Littlefor comp=Z,5µm,21.0s	106.29	43	IAMs_20	IAMs_20	11 13 10.1				
I37A	Lemond, Waseca comp=Z,4µm,18.0s	106.31	48	IAMs_20	IAMs_20	11 18 35.1				
F36A	Milaca comp=Z,6µm,21.0s	106.32	46	IAMs_20	IAMs_20	11 14 25.1				
SNET	Serv Nac Est T comp=Z,6µm,21.0s	106.41	80	IAMs_20	IAMs_20	11 09 36.7				
MTO3	Montecristo comp=Z,6µm,21.0s	106.42	79	IAMs_20	IAMs_20	11 09 51.2				
WHAR	Wooly Hollow comp=Z,9µm,22.0s	106.53	57	IAMs_20	IAMs_20	11 12 30.8				
W41B	Gary Mavity, V baz=265	106.55	57	PKiKP	PKiKP	10 36 19.0	+2.2			
W41B	Gary Mavity, V comp=Z,8µm,21.0s	106.55	57	IAMs_20	IAMs_20	11 12 32.4				
K38A	Parkersburg comp=Z,8µm,20.0s	106.69	49	IAMs_20	IAMs_20	11 14 34.9				
SPMN	Marine on St. comp=Z,7µm,22.0s	106.80	47	IAMs_20	IAMs_20	11 12 36.8				
143A	Socs Landing, comp=Z,6µm,20.0s	107.03	60	IAMs_20	IAMs_20	11 16 35.1				
344A	Westbrook Farm comp=Z,5µm,20.0s	107.48	61	IAMs_20	IAMs_20	11 16 30.2				
LCAR	Lake Charles comp=Z,5µm,20.0s	107.52	56	IAMs_20	IAMs_20	11 16 27.8				
545A	Edgard comp=Z,7µm,19.0s	107.55	63	IAMs_20	IAMs_20	11 19 52.1				
CCM	Cathedral Cave baz=266	107.58	54	PKiKP	PKiKP	10 36 21.3	+2.7			
X43A	Marvell comp=Z,4µm,18.0s	107.62	58	IAMs_20	IAMs_20	11 20 32.7				
T42A	Van Buren comp=Z,7µm,19.0s	107.63	55	IAMs_20	IAMs_20	11 17 00.8				
E38A	The Farm, Brul comp=Z,7µm,22.0s	107.71	45	IAMs_20	IAMs_20	11 13 23.9				
MT02	Curacav comp=Z,7µm,22.0s	107.73	132	IAMs_20	IAMs_20	11 10 16.2				
EYMN	Ely baz=269	107.77	44	PKiKP	PKiKP	10 36 20.5	+1.8			
EYMN	Ely comp=Z,6µm,19.0s	107.77	44	IAMs_20	IAMs_20	11 19 09.4				
HBAR	Harrisburg comp=Z,7µm,20.0s	107.88	57	IAMs_20	IAMs_20	11 15 32.5				
MT05	Renca comp=Z,5µm,22.0s	107.95	132	IAMs_20	IAMs_20	11 10 12.0				
PEL	Peldehue comp=Z,6µm,22.0s	108.12	132	IAMs_20	IAMs_20	11 10 28.6				
PBMO	Poplar Bluff comp=Z,7µm,20.0s	108.15	55	IAMs_20	IAMs_20	11 15 02.4				
LPAR	Lepanto comp=Z,7µm,20.0s	108.17	57	IAMs_20	IAMs_20	11 15 50.3				
I40A	Norwalk comp=Z,7µm,19.0s	108.31	48	IAMs_20	IAMs_20	11 20 28.1				
TEIG	Tepich comp=Z,6µm,22.0s	108.36	73	IAMs_20	IAMs_20	11 12 13.4				
GNAR	Gosnell comp=Z,7µm,19.0s	108.43	56	IAMs_20	IAMs_20	11 17 50.9				
MET	Memphis--Engin comp=Z,5µm,22.0s	108.44	57	IAMs_20	IAMs_20	11 13 17.4				
JFWS	Jewell Farm baz=269	108.56	49	PKiKP	PKiKP	10 36 20.4	+0.1			
JFWS	Jewell Farm comp=Z,6µm,20.0s	108.56	49	IAMs_20	IAMs_20	11 16 41.7				
PEBM	Pemiscott Bayo comp=Z,6µm,19.0s	108.56	56	IAMs_20	IAMs_20	11 18 04.5				
G40A	Rib Lake comp=Z,8µm,21.0s	108.64	47	IAMs_20	IAMs_20	11 14 25.5				
Y45A	Yeager Farm, C comp=Z,5µm,22.0s	108.68	59	IAMs_20	IAMs_20	11 14 46.7				
PARMO	Parma comp=Z,5µm,20.0s	108.68	56	IAMs_20	IAMs_20	11 15 19.7				
PVMO	Portageville comp=Z,6µm,20.0s	108.71	56	IAMs_20	IAMs_20	11 15 20.4				
PENMO	Penman comp=Z,5µm,20.0s	108.77	56	IAMs_20	IAMs_20	11 15 23.0				
OXF	Oxford baz=266	108.83	58	PKiKP	PKiKP	10 36 25.1	+4.1			
CO02	Combarbal comp=Z,5µm,20.0s	108.85	130	IAMs_20	IAMs_20	11 12 51.0				
LNXT	Lenox comp=Z,6µm,18.0s	108.86	56	IAMs_20	IAMs_20	11 18 59.4				
HENM	Henderson Moun comp=Z,5µm,20.0s	108.91	56	IAMs_20	IAMs_20	11 15 26.7				
HALT	Halls comp=Z,6µm,19.0s	108.97	56	IAMs_20	IAMs_20	11 17 58.4				
146A	Union comp=Z,5µm,20.0s	108.99	60	IAMs_20	IAMs_20	11 16 31.8				
GLAT	Glass comp=Z,7µm,21.0s	109.04	56	IAMs_20	IAMs_20	11 14 51.0				
HICK	Hickman comp=Z,6µm,20.0s	109.10	56	IAMs_20	IAMs_20	11 15 32.6				
COWI	Conover comp=Z,5µm,19.0s	109.38	46	IAMs_20	IAMs_20	11 21 45.2				
MSEY	Mahe Island	109.51	260	PKiKP	PKiKP	10 36 23.4	+0.4			
MSEY	Mahe Island comp=Z,6µm,20.0s	109.51	260	IAMs_20	IAMs_20	11 20 36.8				
I42A	Draeger Farm, comp=Z,6µm,19.0s	109.55	48	IAMs_20	IAMs_20	11 21 06.7				
T45A	Paducah comp=Z,7µm,18.0s	109.59	55	IAMs_20	IAMs_20	11 20 24.5				
D41A	Chassel comp=Z,6µm,20.0s	109.76	45	IAMs_20	IAMs_20	11 18 12.1				
Z47A	Carrollton comp=Z,6µm,20.0s	109.86	59	IAMs_20	IAMs_20	11 16 41.1				
JTS	Las Juntas de comp=Z,5µm,20.0s	109.91	84	IAMs_20	IAMs_20	11 11 58.1				
FOMA	Nahampoana Res comp=Z,8µm,20.0s	109.94	237	IAMs_20	IAMs_20	11 17 34.1				
OLIL	Olney comp=Z,7µm,19.0s	110.08	54	IAMs_20	IAMs_20	11 18 50.4				
F42A	Maple Grove Fa comp=Z,7µm,21.0s	110.09	46	IAMs_20	IAMs_20	11 16 42.8				
WVT	Waverly baz=268	110.21	56	PKiKP	PKiKP	10 36 21.2	-2.3			
WVT	Waverly comp=Z,6µm,20.0s	110.21	56	IAMs_20	IAMs_20	11 16 06.0				
HDC	Heredia comp=Z,6µm,21.0s	110.67	84	IAMs_20	IAMs_20	11 12 05.2				
CFA	Coronel Fontan comp=Z,4.6nm,0.8s,baz=77,slow=3.6,SNR=6.5	110.68	132	PKKPbc	PKKPbc	10 47 22.7	-1.4			
LRAL	Lakeview Retre baz=267	110.75	60	PKiKP	PKiKP	10 36 23.0	-1.7			
LRAL	Lakeview Retre comp=Z,5µm,20.0s	110.75	60	IAMs_20	IAMs_20	11 19 21.7				
T47A	Sharon Grove comp=Z,6µm,19.0s	110.82	55	IAMs_20	IAMs_20	11 18 57.2				
E43A	Lone Tree Farm comp=Z,4µm,19.0s	110.86	45	IAMs_20	IAMs_20	11 20 45.3				
V48A	Smith Brothers comp=Z,5µm,19.0s	111.01	57	IAMs_20	IAMs_20	11 19 28.3				
GO03	Copiap comp=Z,6µm,22.0s	111.19	127	IAMs_20	IAMs_20	11 13 01.3				
AB31	Akbulak array	111.20	318	P	Pdif	10 32 24.4	-2.0			
Y49A	Blount Mountai comp=Z,4µm,19.0s	111.28	59	IAMs_20	IAMs_20	11 17 05.6				
250A	Grady comp=Z,5µm,22.0s	111.31	61	IAMs_20	IAMs_20	11 15 52.6				
ARU	Arti	111.32	326	PKiKP	PKiKP	10 36 25.1	+0.1			
ARU	comp=Z,9.1nm,0.5s,baz=22,slow=0.7,SNR=19			PKKPbc	PKKPbc	10 47 19.6	-3.1			
ARU	comp=Z,2.2nm,0.7s,baz=41,slow=2.1,SNR=5.6									
ARU	Arti	111.32	326	*i* PKIKP	PKiKP	10 36 24.8	-0.2			
ARU						10 37 03.8				
ARU				PPP	PPP	10 39 23.2				
ARU				SP	SP	10 46 25.4	-5.0			
ARU				PS	PS	10 46 35.8	-2.5			
ARU				SS	SS	10 52 32.7	-2.1			
ARU				MLR	MLR					
	comp=Z,4µm,23.0s									
J45A	Montague comp=Z,5µm,20.0s	111.38	49	IAMs_20	IAMs_20	11 17 30.4				
CLTN	Cedars of Leba comp=Z,6µm,21.0s	111.42	56	IAMs_20	IAMs_20	11 16 23.1				
I45A	Fountain comp=Z,6µm,19.0s	111.48	48	IAMs_20	IAMs_20	11 19 22.8				
451A	Vernon comp=Z,4µm,19.0s	111.68	62	IAMs_20	IAMs_20	11 22 27.5				
SWET	Sewanee comp=Z,5µm,21.0s	111.72	57	IAMs_20	IAMs_20	11 17 58.2				
WSAR	Wadi Sarin comp=Z,6.3nm,0.5s,baz=284,slow=4.4,SNR=9.9	111.78	290	PKKPbc	PKKPbc	10 47 20.8	+0.7			
G45A	Suttons Bay baz=272	111.85	47	PKiKP	PKiKP	10 36 25.1	-1.3			
G45A	Suttons Bay comp=Z,7µm,19.0s	111.85	47	IAMs_20	IAMs_20	11 22 10.7				
U49A	Red Boiling Sp comp=Z,8µm,20.0s	111.87	56	IAMs_20	IAMs_20	11 18 15.1				
F45A	CMU Biological baz=273	111.92	46	PKiKP	PKiKP	10 36 24.9	-1.7			
NNA	Nana comp=Z,5µm,21.0s	111.94	109	IAMs_20	IAMs_20	11 12 13.5				
NOR	Nord comp=Z,9.3nm,1.2s	111.95	1	*i* P	PKiKP	10 36 24.9	-0.8			
NOR	Nord comp=Z,6µm,24.0s	111.95	1							
NOR	Nord	111.95	1	*i* PKIKP	PKiKP	10 36 24.9	-0.8			
NOR				pmax	pmax					
	comp=Z,9.0nm,1.2s									
NOR	Nord comp=Z,20nm,1.4s	111.95	1	*i* P	PKKPbc	10 47 16.6	-4.5			
FPAL	Fort Paine comp=Z,4µm,20.0s	111.96	58	IAMs_20	IAMs_20	11 17 19.3				
W50A	Signal Mountai comp=Z,5µm,21.0s	112.23	57	IAMs_20	IAMs_20	11 15 24.6				
Z51A	Franklin comp=Z,6µm,20.0s	112.29	59	IAMs_20	IAMs_20	11 17 56.4				
O48A	Farmland baz=271	112.37	52	PKiKP	PKiKP	10 36 25.7	-1.9			
J47A	Sunmer comp=Z,7µm,20.0s	112.53	49	IAMs_20	IAMs_20	11 19 31.8				
X51A	Calhoun comp=Z,5µm,21.0s	112.59	58	IAMs_20	IAMs_20	11 15 25.2				
GLMI	Grayling comp=Z,5µm,22.0s	112.60	47	IAMs_20	IAMs_20	11 18 23.1				
152A	Waverly Hall comp=Z,5µm,20.0s	112.65	60	IAMs_20	IAMs_20	11 20 31.1				
I47A	Gladwin comp=Z,4µm,19.0s	112.72	48	IAMs_20	IAMs_20	11 21 40.7				
D46A	Sault St. Mari baz=274	112.87	45	PKiKP	PKiKP	10 36 24.4	-4.0			
GEYT	Alibeck	112.94	306	Pdiff	Pdif	10 32 34.2	-0.4			
GEYT	comp=Z,1.1nm,0.3s,baz=171,slow=10,SNR=3.6			PKiKP	PKiKP	10 36 28.1	-0.6			
	comp=Z,14nm,0.8s,baz=259,slow=1.5,SNR=15									
V51A	Loudon comp=Z,5µm,20.0s	113.02	57	IAMs_20	IAMs_20	11 22 11.6				
G47A	Hillman baz=274	113.12	47	PKiKP	PKiKP	10 36 26.4	-2.5			
Y52A	Lilburn comp=Z,4µm,20.0s	113.23	59	IAMs_20	IAMs_20	11 17 36.3				
J48A	Bridge Port comp=Z,8µm,19.0s	113.28	49	IAMs_20	IAMs_20	11 20 51.7				
W52A	Murphy comp=Z,5µm,22.0s	113.36	57	IAMs_20	IAMs_20	11 16 09.6				
E47A	Iron Bridge baz=275	113.42	45	PKiKP	PKiKP	10 36 28.5	-0.9			
TKL	Tuckaleechee C comp=Z,5µm,21.0s	113.49	57	IAMs_20	IAMs_20	11 17 47.6				
D47A	Chapleau baz=275	113.49	44	PKiKP	PKiKP	10 36 29.0	-0.5			
H48A	Harrisville comp=Z,6µm,22.0s	113.53	47	IAMs_20	IAMs_20	11 16 43.0				
KBS	Kingsbay	113.55	355	*e*PP	PP	10 37 20.1	-0.9			
V52A	Sevierville comp=Z,6µm,20.0s	113.63	57	IAMs_20	IAMs_20	11 19 09.8				
TZTN	Tazewell baz=270	113.67	56	PKiKP	PKiKP	10 36 26.7	-3.5			
TZTN	Tazewell comp=Z,7µm,20.0s	113.67	56	IAMs_20	IAMs_20	11 19 47.7				
GOGA	Godfrey baz=269	113.72	59	PKiKP	PKiKP	10 36 29.0	-1.3			
GOGA	Godfrey comp=Z,5µm,20.0s	113.72	59	IAMs_20	IAMs_20	11 20 25.3				
PAC1	Pacto, Paraso	113.73	96	*e*P	PP	10 37 34.0	+10			
J49A	Marlette baz=274	113.75	48	PKiKP	PKiKP	10 36 30.2	+0.2			
SPA0	Spitsbergen Ar	113.77	354	*e*PKPdf	PKiKP	10 36 28.9	-0.3			
SPITS	Spitsbergen Ar comp=Z,25nm,0.8s,baz=120,slow=11,SNR=14	113.77	354	PKiKP	PKiKP	10 36 29.0	-0.3			
SPITS	comp=Z,7.8nm,0.7s,baz=162,slow=5.8,SNR=9.3			PKKPbc	PKKPbc	10 47 12.2	-2.8			
SOHO	SOHO SNR=5.1	113.78	291	*i* PKPdf	PKiKP	10 36 30.0	-0.7			
HOPEN	Hopen	113.99	351	*e*PKPdf	PKiKP	10 36 29.5	-0.1			
MDH	Madha	114.08	292	PKPdf	PKPdf	10 36 30.6	-0.7			
CUSE	Cuicocha Este	114.12	96	*e*P	PP	10 37 26.8	-0.8			
UOSS	Minazif	114.14	291	PKPdf	PKPdf	10 36 29.8	-1.6			
E48A	Lockeyer baz=276	114.19	45	PKiKP	PKPdf	10 36 29.5	-1.3			
HATD	Hatta, Dubai SNR=7.7	114.19	291	*i* PKPdf	PKPdf	10 36 30.6	-0.9			
MSFE	Esma-Masafi	114.21	292	PKiKP	PKPdf	10 36 31.3	-0.3			
ASHO	Ashiyiah SNR=6.8	114.25	291	*i* PKPdf	PKPdf	10 36 30.7	-0.9			
V53A	Saluda comp=Z,5µm,21.0s	114.27	57	IAMs_20	IAMs_20	11 18 41.7				
F49A	Sandfield baz=276	114.34	46	PKiKP	PKPdf	10 36 29.5	-1.7			
D48A	Paudash Townsh baz=276	114.36	44	PKiKP	PKPdf	10 36 28.3	-2.8			
T53A	Wise baz=271	114.48	55	PKiKP	PKiKP	10 36 32.3	+0.5			
ALNE	Al Ain SNR=5.3	114.48	290	*i* PKPdf	PKPdf	10 36 31.4	-0.7			
NAZ	Nazwa, Dubai	114.63	291	PKPdf	PKPdf	10 36 31.1	-1.2			
Q52A	Bidwell baz=272	114.63	53	PKiKP	PKPdf	10 36 29.3	-2.7			
D49A	Beulah Townshi baz=277	114.66	44	PKiKP	PKPdf	10 36 31.2	-0.5			
P52A	Corning baz=273	114.71	53	PKiKP	PKPdf	10 36 29.8	-2.3			
HODGE	Hodges comp=Z,6µm,20.0s	114.73	58	IAMs_20	IAMs_20	11 19 04.0				
S53A	Williamson baz=272	114.79	55	PKiKP	PKPdf	10 36 28.4	-3.9			
W54A	Cherokee Point baz=270	114.79	58	PKiKP	PKPdf	10 36 29.2	-3.2			
PB01	IPOC Station P comp=Z,4µm,20.0s	114.85	121	IAMs_20	IAMs_20	11 16 54.7				
HSPB	Hornsund (broa	114.88	353	*e*PKiKP	PKPdf	10 36 33.2	+1.9			
HSPB	comp=Z,3µm,24.4s			*e*L	L	11 21 38.0				
HSPB	Hornsund (broa	114.88	353	*e*PKPdf	PKiKP	10 36 30.9	-0.4			
HSPB	comp=Z,551nm,4.2s			IVmB_BB		10 36 45.8				
HSPB	comp=Z,753nm,2.9s			IVMs_BB	IVMs_BB	10 45 05.5				
456A	Hilliard comp=Z,4µm,21.0s	114.89	62	IAMs_20	IAMs_20	11 19 02.6				
R53A	Hurricane baz=272	114.90	54	PKiKP	PKPdf	10 36 31.7	-0.8			
O52A	Adamsville baz=273	114.91	52	PKiKP	PKPdf	10 36 30.9	-1.5			
PSGCX	Pisagua comp=Z,8µm,21.0s	114.96	119	IAMs_20	IAMs_20	11 14 56.7				
V54A	Nebo baz=271	114.97	57	PKiKP	PKPdf	10 36 31.8	-0.9			
K51A	Iona Station baz=274	114.99	49	PKiKP	PKiKP	10 36 29.9	-2.5			
U54A	Nelsons Funny baz=271	115.06	56	PKiKP	PKPdf	10 36 31.2	-1.7			
U54A	Nelsons Funny comp=Z,7µm,20.0s	115.06	56	IAMs_20	IAMs_20	11 21 29.5				
Y55A	Saluda baz=270	115.06	59	PKiKP	PKiKP	10 36 34.3	+1.4			
PAULI	Pauline comp=Z,6µm,21.0s	115.09	58	IAMs_20	IAMs_20	11 18 49.6				
E50A	Wahnapitae baz=277	115.18	45	PKiKP	PKPdf	10 36 33.3	+0.6			
M52A	Chesterland baz=274	115.19	50	PKiKP	PKPdf	10 36 34.5	+1.6			
M52A	Chesterland comp=Z,9µm,22.0s	115.19	50	IAMs_20	IAMs_20	11 17 28.3				
PB12	IPOC Station P	115.21	118		PKiKP	10 36 33.0	-0.7			
PB12				IAMs_20	IAMs_20	11 15 39.4				
	comp=Z,4µm,20.0s									
AJN	Ajban	115.22	291	PKiKP	PKPdf	10 36 33.1	-0.3			
Q53A	Leroy baz=273	115.22	53	PKiKP	PKPdf	10 36 34.6	+1.5			
X55A	Gracelyn & Ava baz=270	115.25	58	PKiKP	PKPdf	10 36 31.6	-1.7			
I51A	Listowel baz=275	115.25	48	PKiKP	PKPdf	10 36 33.5	+0.5			
PB11	IPOC Station P comp=Z,6µm,22.0s	115.28	120	IAMs_20	IAMs_20	11 14 15.2				
P53A	Whipple baz=273	115.29	53	PKiKP	PKiKP	10 36 31.7	-1.5			
AP01	Chacalluta comp=Z,4µm,20.0s	115.30	118	IAMs_20	IAMs_20	11 16 37.8				
O53A	New Philadelph baz=274	115.38	52	PKiKP	PKPdf	10 36 33.4	0.0			
S54A	Dingess, Beckl baz=272	115.43	54	PKiKP	PKPdf	10 36 33.1	-0.5			
Z56A	Williston baz=270	115.47	59	PKiKP	PKPdf	10 36 30.1	-3.6			
Z56A	Williston comp=Z,4µm,20.0s	115.47	59	IAMs_20	IAMs_20	11 20 30.8				
KMSC	Kings Mountain baz=271	115.49	57	PKiKP	PKiKP	10 36 35.3	+1.6			
KMSC	Kings Mountain comp=Z,7µm,21.0s	115.49	57	IAMs_20	IAMs_20	11 19 21.9				
Y56A	Pelion baz=270	115.53	59	PKiKP	PKPdf	10 36 32.9	-0.9			
PB08	IPOC Station P comp=Z,5µm,21.0s	115.54	120	IAMs_20	IAMs_20	11 14 49.9				
K52A	Tillsonburg baz=275	115.57	49	PKiKP	PKiKP	10 36 33.3	-0.3			
V55A	Taylorsville baz=271	115.57	57	PKiKP	PKPdf	10 36 31.1	-2.8			
V55A	Taylorsville comp=Z,6µm,21.0s	115.57	57	IAMs_20	IAMs_20	11 20 39.0				
MNMC	Minye Minye comp=Z,7µm,21.0s	115.61	119	IAMs_20	IAMs_20	11 15 26.7				
N53A	Lisbon baz=274	115.63	51	PKiKP	PKPdf	10 36 33.5	-0.3			
R54A	Victor baz=273	115.67	54	PKiKP	PKiKP	10 36 34.7	+0.7			
KIRV	Kirov	115.69	329	PKP	PKiKP	10 36 33.1	-0.2			
KIRV	comp=Z,38nm,0.4s,baz=64,slow=1.2,SNR=14			PKKPbc	PKKPbc	10 47 04.2	-3.6			
	comp=Z,8.1nm,0.5s,baz=319,slow=6.3,SNR=3.7									
KIRV	Kirov	115.69	329	*i* PKIKP	PKiKP	10 36 32.7	-0.6			
J52A	Paris baz=276	115.70	48	PKiKP	PKiKP	10 36 34.3	+0.5			
M53A	WI Miller and comp=Z,8µm,22.0s	115.71	50	IAMs_20	IAMs_20	11 17 56.0				
GO01	Chusmiza comp=Z,6µm,22.0s	115.71	120	IAMs_20	IAMs_20	11 14 40.6				
Q54A	Coxs Mills baz=273	115.75	53	PKiKP	PKPdf	10 36 33.7	-0.4			
157A	Early Branch baz=270	115.79	60	PKiKP	PKPdf	10 36 34.1	-0.2			
F51A	Arnstein baz=277	115.80	45	PKiKP	PKPdf	10 36 32.6	-1.3			
T55A	Pulaski baz=272	115.87	55	PKiKP	PKPdf	10 36 33.9	-0.5			
H52A	Wyevale baz=277	115.97	47	PKiKP	PKPdf	10 36 33.0	-1.4			
V56A	Mocksville baz=272	116.15	57	PKiKP	PKPdf	10 36 34.8	-0.1			
ERPA	Erie baz=275	116.16	50	PKiKP	PKPdf	10 36 31.8	-3.0			
BLA	Blacksburg baz=273	116.16	55	PKiKP	PKiKP	10 36 35.6	+0.6			
BLA	Blacksburg comp=Z,8µm,22.0s	116.16	55	IAMs_20	IAMs_20	11 18 43.5				
BIRD	Birdtown, Kers comp=Z,6µm,22.0s	116.21	58	IAMs_20	IAMs_20	11 18 10.2				
060A	Indiantown comp=Z,5µm,22.0s	116.22	66	IAMs_20	IAMs_20	11 18 17.2				
U56A	King baz=272	116.23	56	PKiKP	PKPdf	10 36 34.6	-0.5			
U56A	King comp=Z,7µm,19.0s	116.23	56	IAMs_20	IAMs_20	11 22 25.4				
F52A	Sundridge baz=278	116.23	46	PKiKP	PKiKP	10 36 36.9	+2.1			
N54A	Moraine State baz=275	116.26	51	PKiKP	PKPdf	10 36 32.0	-3.0			
Y57A	Sumter comp=Z,6µm,20.0s	116.28	59	IAMs_20	IAMs_20	11 20 09.1				
Q55A	Buckhannon baz=274	116.33	53	PKiKP	PKPdf	10 36 34.0	-1.2			
R55A	Marlinton baz=273	116.34	54	PKiKP	PKPdf	10 36 35.2	-0.1			
M54A	Oil Creek Stat baz=275	116.46	50	PKiKP	PKPdf	10 36 34.6	-0.7			
MCWV	Mont Chateau comp=Z,7µm,20.0s	116.47	52	IAMs_20	IAMs_20	11 20 22.4				
NHSC	New Hope comp=Z,6µm,20.0s	116.47	60	IAMs_20	IAMs_20	11 22 45.9				
T56A	Rocky Mt baz=273	116.48	55	PKiKP	PKPdf	10 36 34.7	-0.9			
SADO	Sadowa comp=Z,17nm,0.9s,baz=89,slow=5.1,SNR=6.1	116.49	47	PKKPbc	PKKPbc	10 47 02.1	-2.6			
SADO	Sadowa comp=Z,6µm,21.0s	116.49	47	IAMs_20	IAMs_20	11 20 34.3				
P55A	Reedsville baz=274	116.50	53	PKiKP	PKPdf	10 36 34.7	-0.8			
BJO1	Bjornoya comp=Z,2µm,2.5s	116.51	351	IVmB_BB		10 36 44.3				
PCON	Cinco Dias	116.56	94	*e*P	P

L55A	**Hinsdale**	**117.30**	**49**	PKiKP	**PKiKP**	**10 36 37.8**	**+0.7**		
	baz=276								
O56A	**Blue Knob Stat**	**117.40**	**52**	PKiKP	**PKiKP**	**10 36 37.6**	**+0.3**		
	baz=275								
Y59A	**Loris**	**117.54**	**59**	IAMs_20	IAMs_20	11 21 16.5			
	comp=Z,4μm,20.0s								
DELO	**Deloro Mine**	**117.60**	**47**	IAMs_20	IAMs_20	11 19 04.7			
	comp=Z,6μm,22.0s								
LVZ	**Lovozero**	**117.60**	**342**	⇓*i*	PKiKP	**PKPdf**	**10 36 36.1**	**-0.7**	
LVZ	**Lovozero**	**117.60**	**342**			**PKPdf**	**10 36 35.8**	**-1.1**	
LVZ					IAMs_20	IAMs_20	11 30 03.9		
	comp=Z,4μm,21.0s								
J55A	**Hilton**	**117.63**	**48**	IAMs_20	IAMs_20	11 21 31.6			
	comp=Z,6μm,20.0s								
SSPA	**Standing Stone**	**117.88**	**51**	IAMs_20	IAMs_20	11 24 21.6			
	comp=Z,7μm,19.0s								
PLVO	**Plevna**	**117.91**	**46**	IAMs_20	IAMs_20	11 19 14.7			
	comp=Z,4μm,21.0s								
R58A	**Rapidan**	**118.00**	**54**	PKiKP	**PKPdf**	**10 36 38.4**	**-0.1**		
	baz=275								
ANIL	**Santa Ana**	**118.02**	**92**	*e*P	PP	10 37 38.3	-16		
Y60A	**Bolivia**	**118.09**	**59**	IAMs_20	IAMs_20	11 21 42.0			
	comp=Z,4μm,20.0s								
LPAZ	**La Paz**	**118.10**	**117**	PKP	**PKPdf**	**10 36 39.9**	**-0.1**		
	comp=Z,11nm,0.8s,baz=241,slow=2.6,SNR=38								
LPAZ				SKP	**SKPdf**	**10 40 15.2**	**+4.6**		
	comp=Z,18nm,0.9s,baz=22,slow=1.4,SNR=11								
TOLC	**Tolima**	**118.12**	**92**	*e*P	**PKPdf**	**10 36 38.7**	**-1.1**		
PECO	**Prince Edward**	**118.13**	**47**	IAMs_20	IAMs_20	11 21 45.7			
	comp=Z,5μm,21.0s								
R58B	**Mineral**	**118.13**	**54**	PKiKP	**PKPdf**	**10 36 38.0**	**-0.6**		
	baz=275								
RREF	**El Recreo**	**118.17**	**92**	*e*P	**PKPdf**	**10 36 39.9**	**-0.4**		
APA	**Apatity**	**118.18**	**342**	⇑*i*	PKiKP	**PKPdf**	**10 36 36.3**	**-1.6**	
APA				*i*			10 43 24.0		
APA				*i*	PS	**PS**	**10 47 39.0**	**-1.5**	
APA					pmax	pmax			
	comp=Z,36nm,1.1s								
J56A	**Wolcott**	**118.32**	**48**	IAMs_20	IAMs_20	11 22 22.9			
	comp=Z,5μm,20.0s								
T59A	**Double "B" Far**	**118.46**	**55**	IAMs_20	IAMs_20	11 19 41.5			
	comp=Z,7μm,22.0s								
TMCR	**Tamitsa**	**118.49**	**337**	*e*PKiKP	**PKPdf**	**10 36 37.3**	**-1.2**		
KEV	**Kevo**	**118.53**	**345**	PKiKP	**PKPdf**	**10 36 38.5**	**0.0**		
KEV				MLR	MLR				
	comp=Z,6μm,22.0s								
KEV	**Kevo**	**118.53**	**345**		**PKPdf**	**10 36 38.5**	**0.0**		
KEV				IAMs_20	IAMs_20	11 25 34.2			
	comp=Z,6μm,22.0s								
S59A	**Mechanicsville**	**118.61**	**54**	PKiKP	**PKPdf**	**10 36 36.6**	**-3.0**		
	baz=275								
D55A	**Sainte-Anne-du**	**118.66**	**44**	PKiKP	**PKPdf**	**10 36 36.5**	**-2.9**		
	baz=281								
HAMF	**Hammerfest**	**118.67**	**347**	*e*PKPdf	**PKPdf**	**10 36 38.2**	**-0.5**		
HAMF				IVmB_BB		10 36 44.5			
	comp=Z,1μm,2.9s								
HAMF				IVMs_BB	IVMs_BB	10 40 38.0			
	comp=Z,1μm,5.7s								
HAMF				*e*SKSac	**SKSac**	**10 43 28.8**	**+0.7**		
HAMF				*e*SKSdf	**SKSdf**	**10 43 46.1**	**+0.7**		
N58A	**Sunbury**	**118.74**	**51**	IAMs_20	IAMs_20	11 26 52.4			
	comp=Z,6μm,19.0s								
NORC	**Norcasia**	**118.77**	**91**	*e*P	PP	10 37 49.0	-11		
V60A	**Jim Taylor Roa**	**118.78**	**57**	IAMs_20	IAMs_20	11 23 26.1			
	comp=Z,5μm,20.0s								
SDMD	**Soldier's Deli**	**118.81**	**52**	IAMs_20	IAMs_20	11 22 42.3			
	comp=Z,7μm,20.0s								
MACC	**Macarena, Meta**	**118.98**	**95**	*e*P	PP	10 37 31.7	-29		
ARCES	**ARCESS Array B**	**119.06**	**345**	PKP	**PKPdf**	**10 36 38.7**	**-0.9**		
	comp=Z,90nm,0.7s,baz=78,slow=1.8,SNR=96								
ARCES				SKP	**SKPdf**	**10 40 12.4**	**+2.3**		
	comp=Z,7.1nm,0.8s,baz=15,slow=5.1,SNR=3.9								
ARCES				PKKPbc	**PKKPab**	**10 46 52.9**	**-2.5**		
	comp=Z,6.3nm,0.6s,baz=219,slow=1.4,SNR=24								
ARCES				SKKPbc	**SKKPbc**	**10 50 42.6**	**+2.3**		
	comp=Z,3.5nm,0.9s,baz=163,slow=1.3,SNR=3.5								
ARCES	**ARCESS Array B**	**119.06**	**345**	PKiKP	**PKPdf**	**10 36 38.9**	**-0.7**		
ARCES	**ARCESS Array B**	**119.06**	**345**		**PKPdf**	**10 36 38.9**	**-0.7**		
ARE0	**ARCESS Array S**	**119.06**	**345**	*e*PKPdf	**PKPdf**	**10 36 39.3**	**-0.2**		
ARE0				IVmB_BB		10 36 41.2			
	comp=Z,709nm,0.8s								
ARE0				*e*PP	**PP**	**10 38 00.8**	**+1.1**		
T60A	**Surry**	**119.10**	**55**	IAMs_20	IAMs_20	11 20 21.4			
	comp=Z,8μm,22.0s								
ROSC	**El Rosal**	**119.15**	**92**	IAMs_20	IAMs_20	11 17 21.0			
	comp=Z,5μm,20.0s								
SUMG	**Summit**	**119.19**	**8**	⇑*i*	P	**PKPdf**	**10 36 39.6**	**-0.6**	
	comp=Z,145nm,1.2s								
SUMG				*i*			10 37 58.6		
SUMG	**Summit**	**119.19**	**8**	⇑*i*	PKiKP	**PKPdf**	**10 36 39.6**	**-0.6**	
SUMG				*i*			10 37 58.6		
SUMG				pmax	pmax				
	comp=Z,150nm,1.2s								
SUMG	**Summit**	**119.19**	**8**	IAMs_20	IAMs_20	11 25 17.4			
	comp=Z,7μm,20.0s								
V61A	**Roper**	**119.33**	**57**	IAMs_20	IAMs_20	11 26 19.7			
	comp=Z,5μm,19.0s								
J58A	**Remsen**	**119.44**	**48**		**PKPdf**	**10 36 39.8**	**-1.2**		
J58A				IAMs_20	IAMs_20	11 37 17.6			
	comp=Z,4μm,18.0s								
N59A	**State Game Lan**	**119.44**	**51**	IAMs_20	IAMs_20	11 20 00.9			
	comp=Z,7μm,22.0s								
ILULI	**Ilulissat**	**119.47**	**15**	*i* P		**PKPdf**	**10 36 38.9**	**-1.4**	
	comp=Z,41nm,0.9s								
ILULI	**Ilulissat**	**119.47**	**15**	*i*	PKiKP	**PKPdf**	**10 36 38.9**	**-1.4**	
ILULI				pmax	pmax				
	comp=Z,41nm,0.9s								
KLMR	**Klimovskoe**	**119.49**	**333**	*e*PKiKP		**PKPdf**	**10 36 37.6**	**-3.0**	
KLMR				pmax	pmax				
	comp=Z,165nm,1.5s								
KLMR	**Klimovskoe**	**119.49**	**333**	*e*PKPdf		**PKPdf**	**10 36 37.6**	**-3.0**	
KLMR				AMP			10 36 42.0		
	comp=Z,165nm,1.5s								
KLMR				*e*PP	**PP**		**10 37 58.0**	**-4.9**	
KLMR				*e*SKP	**SKPdf**		**10 40 12.5**	**+1.4**	
KLMR				*e*PKKPab	**PKKPab**		**10 46 52.6**	**-1.0**	
KLMR				*e*SKKPbc	**SKKPbc**		**10 50 31.9**	**-6.6**	
KLMR				LQ	LQ		11 18 55.1		
KLMR				LQ	LQ		11 18 55.1		
KLMR				LR	LR		11 23 21.8		
KLMR				AMP			11 33 04.7		
	comp=Z,4μm,18.3s								
SPBC	**San Pablo de B**	**119.57**	**91**	*e*P		**PKPdf**	**10 36 36.9**	**-5.4**	
M59A	**Waymart**	**119.61**	**50**	PKiKP		**PKPdf**	**10 36 38.0**	**-3.5**	
	baz=278								
D57A	**Chemin Vers le**	**119.72**	**43**	PKiKP		**PKPdf**	**10 36 38.6**	**-2.9**	
	baz=282								
V62A	**Hyde County Ai**	**119.86**	**57**	IAMs_20	IAMs_20	11 24 18.5			
	comp=Z,6μm,20.0s								
J59A	**Piesco**	**119.98**	**48**	IAMs_20	IAMs_20	11 23 00.9			
	comp=Z,4μm,20.0s								
KTK1	**Kautokeino**	**119.99**	**346**	*e*PKPdf		**PKPdf**	**10 36 40.7**	**-0.7**	
KTK1				IVmB_BB			10 36 53.4		
	comp=Z,1μm,3.3s								
NCB	**Newcomb**	**120.09**	**47**	IAMs_20	IAMs_20	11 25 14.8			
	comp=Z,5μm,20.0s								
SMLC	**San Martn de**	**120.19**	**88**	*e*P		**PKPdf**	**10 36 41.6**	**-1.7**	
FRNY	**Flat Rock**	**120.38**	**46**	IAMs_20	IAMs_20	11 20 41.1			
	comp=Z,5μm,22.0s								
BRNJ	**Basking Ridge**	**120.38**	**51**	IAMs_20	IAMs_20	11 26 00.7			
	comp=Z,5μm,19.0s								
L60A	**Shokan**	**120.44**	**49**	PKiKP		**PKPdf**	**10 36 42.2**	**-0.8**	
	baz=279								
TRO	**Tromso**	**120.48**	**348**	*e*PKPdf		**PKPdf**	**10 36 41.5**	**-0.8**	
TRO				IVmB_BB			10 36 46.7		
	comp=Z,1μm,4.6s								
TRO				IVMs_BB	IVMs_BB	10 41 24.5			
	comp=Z,978nm,4.0s								
TRO				*e*SKSac	**SKSac**	**10 43 35.3**	**+0.9**		
TRO				*e*SS	**SS**	**10 54 36.4**	**+3.1**		
MAK	**Makhachkala**	**120.55**	**312**	*e*P		**Pdif**	**10 33 02.1**	**-6.1**	
MAK				*i*			10 36 42.7		
MAK				*e*			10 36 58.5		
MAK				*e*			10 38 08.1		
MAK				*e*SS	SS		10 54 31.1	-5.1	
MAK				*e*SSS	SSS		10 59 03.6		
MAK				pmax	pmax				
	comp=Z,174nm,1.1s								
RUSC	**La Rusia**	**120.58**	**91**	*e*P		**PKPdf**	**10 36 41.4**	**-3.3**	
ACCN	**Adirondack Com**	**120.60**	**47**	IAMs_20	IAMs_20	11 21 58.2			
	comp=Z,5μm,22.0s								
I60A	**Shoreham**	**120.78**	**47**	PKiKP		**PKPdf**	**10 36 40.7**	**-2.8**	
	baz=281								
VT1	**Waterbury**	**121.06**	**46**	IAMs_20	IAMs_20	11 37 28.4			
	comp=Z,4μm,18.0s								
G60A	**Masonville**	**121.19**	**45**	PKiKP		**PKPdf**	**10 36 41.5**	**-2.8**	
	baz=283								
SFJD	**Kangerlussuaq**	**121.21**	**16**	PKKPbc	PKKPbc	10 46 45.8	-2.3		
	comp=Z,28nm,0.6s,baz=157,slow=4.2,SNR=14								
SFJD	**Kangerlussuaq**	**121.21**	**16**	*i* P		**PKPdf**	**10 36 42.6**	**-1.1**	
	comp=Z,1.3nm,0.9s								
SFJD	**Kangerlussuaq**	**121.21**	**16**	PKiKP		**PKPdf**	**10 36 43.0**	**-0.7**	
SFJD	**Kangerlussuaq**	**121.21**	**16**			**PKPdf**	**10 36 43.0**	**-0.7**	
SFJD	**Kangerlussuaq**	**121.21**	**16**	IAMs_20	IAMs_20	11 24 18.3			
	comp=Z,6μm,20.0s								
HNH	**Hanover**	**121.52**	**47**	IAMs_20	IAMs_20	11 27 35.5			
	comp=Z,6μm,19.0s								
CPUP	**Villa Florida**	**121.53**	**133**	PKP	**PKPdf**	**10 36 44.3**	**-1.3**		
	comp=Z,26nm,0.9s,baz=277,slow=2.9,SNR=25								
CPUP				SKP	**SKPdf**	**10 40 21.6**	**+5.4**		
	comp=Z,16nm,1.1s,baz=273,slow=0.9,SNR=5.6								
CPUP				PKKPbc	**PKKPbc**	**10 46 46.2**	**+0.3**		
	comp=Z,6.8nm,0.8s,baz=42,slow=4.8,SNR=8.0								
CPUP				SKKPbc	**SKKPbc**	**10 50 20.1**	**-8.6**		
	comp=Z,5.1nm,1.1s,baz=116,slow=5.9,SNR=3.0								
CPUP	**Villa Florida**	**121.53**	**133**	PKiKP	**PKPdf**	**10 36 45.0**	**-0.6**		
CPUP	**Villa Florida**	**121.53**	**133**		**PKPdf**	**10 36 45.0**	**-0.6**		
SCHQ	**Schefferville**	**121.59**	**33**	PKP	**PKPdf**	**10 36 43.6**	**-1.2**		
	comp=Z,9.2nm,0.8s,baz=297,slow=3.7,SNR=10								
SCHQ	**Schefferville**	**121.59**	**33**	IAMs_20	IAMs_20	11 22 55.9			
	comp=Z,5μm,22.0s								
LBNH	**Lisbon**	**121.67**	**46**	IAMs_20	IAMs_20	11 38 19.2			
	comp=Z,4μm,18.0s								
GROC	**Groznyy**	**121.73**	**313**	*i*	PKiKP	**PKiKP**	**10 36 45.6**	**0.0**	
GROC				*e*			10 38 19.9		
GROC				pmax	pmax				
	comp=Z,243nm,1.6s								
K62A	**Royalston**	**121.77**	**48**	IAMs_20	IAMs_20	11 27 59.1			
	comp=Z,5μm,19.0s								
H62A	**Milan**	**122.13**	**46**	IAMs_20	IAMs_20	11 23 21.4			
	comp=Z,7μm,20.0s								
E61A	**Lac Etchemin**	**122.13**	**43**	PKiKP	**PKPdf**	**10 36 43.9**	**-2.2**		
	baz=285								
I62A	**Tamworth**	**122.16**	**47**	IAMs_20	IAMs_20	11 28 31.3			
	comp=Z,5μm,19.0s								
VRH	**Novokhopyorsk**	**122.24**	**323**	*i*	PKiKP	**PKPdf**	**10 36 45.5**	**-0.6**	
VRH				pmax	pmax				
	comp=Z,100nm,0.7s								
VRH				MLR	MLR				
	comp=Z,3μm,20.0s								
HRV	**Adam Dziewonsk**	**122.29**	**48**	IAMs_20	IAMs_20	11 28 04.9			
	comp=Z,5μm,19.0s								
G62A	**West of Eustis**	**122.41**	**45**		**PKPdf**	**10 36 46.6**	**-0.1**		
G62A				IAMs_20	IAMs_20	11 28 57.7			
	comp=Z,5μm,20.0s								
J63A	**Strafford**	**122.47**	**47**	PKiKP	**PKPdf**	**10 36 45.7**	**-1.1**		
	baz=282								
N2IH	**Innhavet**	**122.48**	**347**	*e*PKPdf	**PKiKP**	**10 36 47.1**	**+0.8**		
N2IH				IVmB_BB		10 36 48.1			
	comp=Z,592nm,0.8s								
N2VI	**Vinje**	**122.53**	**348**	*e*PKPdf	**PKPdf**	**10 36 45.5**	**-0.7**		
JMIC	**Jan Mayen**	**122.57**	**358**	*e*PKPdf	**PKPdf**	**10 36 45.2**	**-1.0**		
JMIC				IVmB_BB		10 37 08.1			
	comp=Z,2μm,2.5s								
BCX	**Boston College**	**122.60**	**48**	IAMs_20	IAMs_20	11 28 31.3			
	comp=Z,7μm,20.0s								
F62A	**Pittston Farm,**	**122.62**	**44**	IAMs_20	IAMs_20	11 22 04.3			
	comp=Z,7μm,22.0s								
I63A	**Otisfield**	**122.65**	**46**	IAMs_20	IAMs_20	11 27 28.3			
	comp=Z,5μm,20.0s								
STEI	**Steigen**	**122.65**	**348**	*e*PKPdf	**PKPdf**	**10 36 46.2**	**-0.2**		
STEI				IVmB_BB		10 36 48.5			
	comp=Z,1μm,0.7s								
MOS	**Moscow**	**122.70**	**329**	*i*	PKiKP	**PKPdf**	**10 36 45.3**	**-1.6**	
MOS				*e*			10 38 20.9		
MOS				pmax	pmax				
	comp=Z,122nm,0.8s								
M64A	**Tiverton**	**122.73**	**49**	PKiKP	**PKPdf**	**10 36 45.1**	**-2.3**		
	baz=281								
LOF	**Lofoten**	**122.82**	**348**	*e*PKPdf	**PKPdf**	**10 36 44.6**	**-2.2**		
LOF				IVmB_BB		10 36 53.6			
	comp=Z,935nm,4.2s								
LOF				IVMs_BB	IVMs_BB	10 42 09.4			
	comp=Z,783nm,3.4s								
SCO	**Scoresbysund**	**122.89**	**4**	⇑*i*	P	**PKPdf**	**10 36 46.8**	**0.0**	
	comp=Z,41nm,0.8s								
SCO	**Scoresbysund**	**122.89**	**4**	⇑*i*	PKiKP	**PKPdf**	**10 36 46.8**	**0.0**	
SCO				pmax	pmax				
	comp=Z,41nm,0.8s								
SCO	**Scoresbysund**	**122.89**	**4**	IAMs_20	IAMs_20	11 28 53.1			
	comp=Z,5μm,20.0s								
D62A	**Allapoint, All**	**122.91**	**42**	IAMs_20	IAMs_20	11 30 27.7			
	comp=Z,4μm,20.0s								
N2TV	**TYrnvik**	**122.98**	**347**	*e*PKPdf	**PKPdf**	**10 36 46.5**	**-0.6**		
M65A	**Busby, Falmout**	**123.14**	**49**	PKiKP	**PKiKP**	**10 36 48.5**	**+0.1**		
	baz=282								
WVL	**Waterville**	**123.17**	**45**	IAMs_20	IAMs_20	11 24 32.9			
	comp=Z,6μm,21.0s								
ZEI	**Tsey**	**123.18**	**312**	*i*	PKiKP	**PKPdf**	**10 36 46.6**	**-1.9**	
ZEI				pmax	pmax				
	comp=Z,45nm,1.0s								
GOF	**Gofitskoye**	**123.23**	**315**	⇑*e*	PKiKP	**PKiKP**	**10 36 48.5**	**0.0**	
GOF				pmax	pmax				
	comp=Z,91nm,1.1s								
NBB08	**Skaug oppvekst**	**123.23**	**348**	*e*PKPdf	**PKPdf**	**10 36 47.2**	**-0.3**		
NBB08				IVmB_BB		10 36 48.7			
	comp=Z,816nm,0.1s								
PKME	**Peaks-Kenny Pk**	**123.24**	**45**	IAMs_20	IAMs_20	11 32 35.8			
	comp=Z,5μm,18.0s								
F63A	**Nahmakanta, Br**	**123.25**	**44**	PKiKP	**PKiKP**	**10 36 49.5**	**+0.9**		
	baz=286								
F63A	**Nahmakanta, Br**	**123.25**	**44**	IAMs_20	IAMs_20	11 22 35.0			
	comp=Z,8μm,22.0s								
LPSR	**Galich'ya Gora**	**123.33**	**325**	*i*	PKiKP	**PKPdf**	**10 36 48.2**	**0.0**	
LPSR				pmax	pmax				
	comp=Z,190nm,1.1s								
N2VA	**Vr_y**	**123.39**	**348**	*e*PKPdf	**PKPdf**	**10 36 46.8**	**-1.0**		
OBN	**Obninsk**	**123.52**	**328**	*c*	PKiKP	**PKPdf**	**10 36 47.9**	**-0.6**	
OBN				*i*			10 37 01.9		
OBN				*i*			10 38 28.9		
OBN				pmax	pmax				
	comp=Z,71nm,0.9s								
OBN	**Obninsk**	**123.52**	**328**	IAMs_20	IAMs_20	11 34 21.5			
	comp=Z,5μm,20.0s								
VORR	**Voronezh**	**123.53**	**324**	*e*PKiKP	**PKPdf**	**10 36 46.0**	**-2.6**		
VORR				pmax	pmax				
	comp=Z,500nm,1.8s								
SDV	**Santo Domingo**	**123.55**	**88**		**PKPdf**	**10 36 49.9**	**-0.1**		
SDV	**Santo Domingo**	**123.55**	**88**	IAMs_20	IAMs_20	11 20 37.4			
	comp=Z,4μm,20.0s								
N2RO	**R_st**	**123.63**	**349**	*e*PKPdf	**PKiKP**	**10 36 48.9**	**+0.3**		
N2RO				IVmB_BB		10 36 50.8			
	comp=Z,496nm,0.9s								
NBB05	**Inndyr**	**123.66**	**348**	*e*PKPdf	**PKPdf**	**10 36 47.1**	**-1.3**		
KBZ	**Khabaz**	**123.67**	**314**	PKP	**PKPdf**	**10 36 49.2**	**+0.1**		
	comp=Z,26nm,0.9s,baz=92,slow=2.9,SNR=26								
KBZ				PP	**PP**	**10 38 33.3**	**+1.2**		
	comp=Z,30nm,1.1s,baz=73,slow=9.3,SNR=11								
KBZ	**Khabaz**	**123.67**	**314**	*c*	PKiKP	**PKPdf**	**10 36 48.8**	**-0.3**	
PQI	**Presque Isle**	**123.71**	**43**			**PKPdf**	**10 36 47.9**	**-1.2**	
VSR	**Storozhevoye**	**123.73**	**323**	*i*	PKiKP	**PKPdf**	**10 36 48.5**	**-0.5**	
VSR				pmax	pmax				
	comp=Z,140nm,1.0s								
VORD	**Divnogorie**	**123.75**	**323**	*e*PKiKP		**PKPdf**	**10 36 48.2**	**-0.8**	
VORD				pmax	pmax				
	comp=Z,140nm,1.2s								
KIV	**Kislovodsk**	**123.76**	**314**	*i*	PKiKP	**PKPdf**	**10 36 49.5**	**0.0**	
	SNR=15								
KIV	**Kislovodsk**	**123.76**	**314**	*i*	PKiKP	**PKPdf**	**10 36 49.2**	**-0.3**	
KIV				*e*			10 38 32.0		
KIV				*e*PS	**PS**		**10 48 30.0**	**-1.5**	
KIV				*e*SS	SS		10 55 16.8	-0.4	
KIV				pmax	pmax				
	comp=Z,185nm,1.1s								
KIV	**Kislovodsk**	**123.76**	**314**			**PKPdf**	**10 36 49.4**	**-0.1**	
AKH	**Akhalkalaki**	**123.77**	**311**	⇓	P	**PKiKP**	**10 36 50.4**	**+0.5**	
NBB30	**Finnes**	**123.77**	**348**	*e*PKPdf		**PKPdf**	**10 36 47.6**	**-1.0**	
NBB30				IAmb	IAmb		10 36 51.2		
	comp=Z,94nm,1.1s								
SUR	**Sutherland**	**123.89**	**215**	PKP		**PKPdf**	**10 36 50.0**	**-0.2**	
	comp=Z,76nm,0.9s,baz=117,slow=3.0,SNR=20								
SUR				PKKPbc	**PKKPbc**	**10 46 35.6**	**-1.7**		
	comp=Z,40nm,1.2s,baz=242,slow=2.4,SNR=3.7								
SUR	**Sutherland**	**123.89**	**215**		**PKiKP**	**10 36 51.2**	**+0.6**		
CLDR	**Caldiran**	**123.90**	**308**	P	**PKiKP**	**10 36 50.9**	**+0.6**		
NEY	**Neytrino**	**123.91**	**313**	*c*	PKiKP	**PKiKP**	**10 36 50.3**	**+0.1**	
NEY				MLR	MLR				
	comp=Z,2μm,22.0s								
BOSA	**Boshof**	**123.94**	**221**	PKP		**PKPdf**	**10 36 50.1**	**-0.3**	
	comp=Z,58nm,0.7s,baz=156,slow=1.9,SNR=83								
BOSA				SKP		**SKPdf**	**10 40 26.9**	**+6.0**	
	comp=Z,26nm,1.1s,baz=100,slow=1.9,SNR=4.0								
PUL	**Pulkovo**	**123.95**	**335**	⇓*i*	PKiKP	**PKiKP**	**10 36 49.4**	**0.0**	
PUL					MLR	MLR			
	comp=Z,3μm,20.0s								
H65A	**Eastbrook**	**124.11**	**45**	PKiKP		**PKiKP**	**10 36 54.0**	**+3.8**	
	baz=286								
SIV	**San Ignacio**	**124.26**	**120**	PKP		**PKPdf**	**10 36 50.6**	**-0.5**	
	comp=Z,18nm,0.6s,baz=251,slow=4.8,SNR=45								
SIV				PKKPbc		**PKKPab**	**10 46 35.7**	**-0.2**	
	comp=Z,13nm,1.0s,baz=65,slow=4.1,SNR=16								
MOR8	**Moi Rana**	**124.30**	**347**	*e*PKPdf		**PKPdf**	**10 36 48.3**	**-1.4**	
MOR8				IVmB_BB			10 36 59.4		
	comp=Z,729nm,3.1s								
MOR8				IVMs_BB	IVMs_BB	10 41 16.1			
	comp=Z,749nm,6.0s								
KONS	**Konsvik**	**124.31**	**348**	*e*PKPdf		**PKPdf**	**10 36 48.9**	**-0.8**	
NBB40	**Tonnes**	**124.32**	**348**	*e*PKPdf		**PKPdf**	**10 36 49.7**	**0.0**	
VANB	**Van**	**124.41**	**308**	P		**PKiKP**	**10 36 52.7**	**+1.5**	
G65A	**Princeton**	**124.44**	**44**	IAMs_20	IAMs_20	11 23 09.3			
	comp=Z,7μm,22.0s								
CUKT	**Cukurca**	**124.47**	**306**	P		**PKiKP**	**10 36 51.4**	**0.0**	
STOK	**Stokkvaagen**	**124.47**	**348**	*e*PKPdf		**PKPdf**	**10 36 50.0**	**0.0**	
STOK				*e*SKSac		**SKSac**	**10 43 47.8**	**0.0**	
STOK				*e*SS		**SS**	**10 55 27.4**	**+3.4**	
AGRB	**Hanur-Agry**	**124.52**	**309**	P		**PKiKP**	**10 36 52.1**	**+0.6**	
FINES	**FINESS Array B**	**124.52**	**338**	PKP		**PKPdf**	**10 36 50.1**	**-0.1**	
	comp=Z,53nm,0.7s,baz=95,slow=4.4,SNR=61								
FINES				SKP		**SKPdf**	**10 40 13.6**	**-7.1**	
	comp=Z,5.6nm,0.8s,baz=68,slow=4.0,SNR=3.6								
FINES				PKKPbc		**PKKPbc**	**10 46 36.0**	**+0.9**	
	comp=Z,2.5nm,0.8s,baz=111,slow=4.9,SNR=5.8								
FINES	**FINESS Array B**	**124.52**	**338**	PKiKP		**PKPdf**	**10 36 48.9**	**-1.3**	
FINES	**FINESS Array B**	**124.52**	**338**			**PKPdf**	**10 36 48.9**	**-1.3**	
EMMW	**East Machias**	**124.65**	**45**	IAMs_20	IAMs_20	11 30 12.0			
	comp=Z,4μm,20.0s								
AKDM	**Akdamar-Van**	**124.77**	**307**	P		**PKiKP**	**10 36 52.3**	**+0.3**	
BATG	**Bathurst New B**	**124.79**	**41**	IAMs_20	IAMs_20	11 25 11.4			
	comp=Z,5μm,21.0s								
SENK	**Senkaya-Erzuru**	**124.80**	**310**	P		**PKiKP**	**10 36 52.7**	**+0.7**	
GGN	**Saint George**	**124.95**	**44**	IAMs_20	IAMs_20	11 23 47.2			
	comp=Z,7μm,22.0s								
BATM	**Batumi**	**125.05**	**311**	⇑P		**PKPdf**	**10 36 51.7**	**-0.2**	
BATM	**Batumi**	**125.05**	**311**	⇑PKiKP		**PKPdf**	**10 36 51.7**	**-0.2**	
BCA	**Borcka**	**125.14**	**311**	⇑P		**PKiKP**	**10 36 52.2**	**+0.1**	
BCA	**Borcka**	**125.14**	**311**	P		**PKiKP**	**10 36 52.4**	**0.0**	
KOPR	**Koprukoy-ERZUR**	**125.30**	**310**	P		**PKiKP**	**10 36 53.7**	**+0.7**	
ATD	**Arta Tunnel**	**125.38**	**275**	PKP		**PK

	comp=Z,1µm,4.1s							
KVT	Kavak	129.28 312		P	PKiKP	10 37 00.8	0.0	
PABE	Paberze	129.28 334		eP	PKiKP	10 36 60.0	-0.2	
PABE				ePP	PP	10 39 09.1	+0.6	
AKN	Aaknes	129.39 348		ePKPdf	PKPdf	10 36 59.9	+0.4	
AKN				IVmB_BB		10 37 30.4		
	comp=Z,2µm,3.7s							
AKN				ePP	PP	10 39 09.0	+0.1	
AKN				IVMsBB		10 45 37.5		
	comp=Z,2µm,5.6s							
NB2	NORSAR Subarra	129.43 345		PKPdf	PKPdf	10 36 58.8	-0.9	
	comp=Z,112nm,1.4s,baz=31,slow=1.9							
NB2	NORSAR Subarra	129.43 345		PKPdf	PKPdf	10 36 58.8	-0.9	
	baz=31,slow=1.9							
NOA	NORSAR Array B	129.43 345		PKP	PKPdf	10 36 59.6	-0.1	
	comp=Z,35nm,0.8s,baz=31,slow=2.0,SNR=55							
NOA				SKPbc	SKPbc	10 40 19.3	+2.8	
	comp=Z,27nm,1.0s,baz=32,slow=3.0,SNR=11							
NOA				PKKP	PKKPdf	10 47 04.5	-1.9	
	comp=Z,2.3nm,0.8s,baz=212,slow=2.0,SNR=4.0							
NOA				SKKPbc	SKKPbc	10 49 48.8	-16	
	comp=Z,1.7nm,0.8s,baz=199,slow=4.7,SNR=3.3							
GAZ	Gaziantep	129.48 307		P	PKiKP	10 37 01.3	0.0	
HFS	Hagfors	129.53 343		PKP	PKPdf	10 36 59.9	0.0	
	comp=Z,42nm,0.7s,baz=105,slow=1.7,SNR=31							
HFS				SKPbc	SKPbc	10 40 22.7	+5.9	
	comp=Z,24nm,0.8s,baz=58,slow=5.6,SNR=10							
AKASG	Malin Array Be	129.57 326		PKP	PKPdf	10 37 00.2	0.0	
	comp=Z,16nm,0.6s,baz=56,slow=2.2,SNR=83							
AKASG				SKPbc	SKPbc	10 40 23.8	+6.6	
	comp=Z,15nm,0.8s,baz=45,slow=4.7,SNR=10							
AKASG				SKKPbc	SKKPbc	10 50 13.6	+10	
	comp=Z,0.7nm,0.5s,baz=244,slow=4.5,SNR=4.9							
AKASG	Malin Array Be	129.57 326		PKIKP	PKPdf	10 37 00.1	-0.1	
AKASG	Malin Array Be	129.57 326			PKPpre	10 36 53.3		
AKASG					PKPdf	10 37 00.1	-0.1	
AKBB	Malin Array Si	129.57 326	c	iPKIKP	PKPdf	10 36 59.3	-0.9	
AKBB	Malin Array Si	129.57 326		IAMs_20	IAMs_20	11 38 29.5		
	comp=Z,5µm,22.0s							
SNOP	Sinop	129.57 314		P	PKiKP	10 37 01.9	+0.7	
PCRV	Puerto La Cruz	129.59 88		SKPbc	SKPbc	10 40 23.1	+4.6	
	comp=Z,13nm,0.9s,baz=283,slow=22,SNR=5.5							
NC602	NORSAR Array S	129.61 345		ePKPdf	PKPdf	10 36 59.8	-0.2	
NC602				IVmB_BB		10 37 20.6		
	comp=Z,1µm,3.9s							
NC602				IVMs_BB	IVMs_BB	10 43 26.5		
	comp=Z,2µm,4.3s							
DIKM	Dikmen	129.66 313	⇑	P	PKPdf	10 37 00.9	+0.3	
DIKM	Dikmen	129.66 313		P	PKiKP	10 37 01.4	0.0	
SARI	SarD1z-Kayseri	129.78 309		P	PKPdf	10 37 01.4	+0.2	
PBUR	Paburge	129.79 335		eP	PKPdf	10 37 00.2	-0.2	
LSZ	Lusaka	130.03 236		PKP	PKPdf	10 37 02.2	-0.1	
	comp=Z,51nm,0.7s,baz=126,slow=1.8,SNR=42							
LSZ				PP	PP	10 39 13.9	-0.7	
	comp=Z,17nm,0.9s,baz=116,slow=4.8,SNR=5.7							
LSZ				SKPbc	SKPbc	10 40 22.6	+2.5	
	comp=Z,58nm,1.0s,baz=141,slow=5.1,SNR=8.8							
LSZ	Lusaka	130.03 236		PKIKP	PKiKP	10 37 03.2	+0.1	
LSZ	Lusaka	130.03 236			PKiKP	10 37 03.2	+0.1	
BNN	Bunyan	130.08 310		P	PKPdf	10 37 02.0	+0.2	
YOZ	Yozgat	130.25 311		P	PKPdf	10 37 02.4	+0.3	
FOO	Floro	130.30 349		ePKPdf	PKPdf	10 37 01.3	+0.1	
FOO				IVmB_BB		10 37 07.3		
	comp=Z,2µm,5.5s							
FOO				eSKPdf	SKPdf	10 40 31.6	+0.1	
FOO				IVMs_BB	IVMs_BB	10 40 47.0		
	comp=Z,2µm,5.8s							
FOO				eSKSac	SKSac	10 44 05.6	+0.2	
FOO				eSP	SP	10 49 20.9	+2.1	
FOO				eSS	SS	10 56 42.0	+5.6	
BZK	Bozkurt	130.44 314		P	PKiKP	10 37 03.7	+0.7	
SKAR	Skarslia	130.45 346		ePKPdf	PKPdf	10 37 00.6	-1.0	
HYA	Hoyanger	130.47 348		ePKPdf	PKPdf	10 36 59.8	-1.8	
KOZT	Kozan	130.47 308		P	PKPdf	10 37 02.6	+0.2	
OSL	Oslo	130.50 344		ePKPdf	PKPdf	10 36 59.5	-2.1	
OSL				IVmB_BB		10 37 06.6		
	comp=Z,1µm,2.9s							
CORM	Corum	130.58 312		P	PKiKP	10 37 03.3	-0.2	
SUW	Suwalki	130.60 333		ePKPdf	PKPdf	10 37 02.0	0.0	
SUW				eL	L	11 33 26.6		
	comp=Z,7µm,22.7s							
SUW	Suwalki	130.60 333		IAMs_20	IAMs_20	11 33 19.3		
	comp=Z,7µm,22.0s							
CEYT	Ceyhan	130.66 307		P	PKiKP	10 37 03.5	-0.1	
ASF	Jabal al Asfar	130.78 301		PKP	PKPdf	10 37 03.5	+0.3	
	comp=Z,25nm,0.9s,baz=346,slow=0.3,SNR=29							
ASF				PP	PP	10 39 19.9	+0.3	
	comp=Z,10nm,1.1s,baz=178,slow=2.3,SNR=4.4							
ASF				SKPbc	SKPab	10 40 25.5	+3.1	
	comp=Z,68nm,1.2s,baz=54,slow=1.2,SNR=10.0							
YURE	YUREGIR	130.79 307		P	PKiKP	10 37 04.9	+1.0	
SUE	Sulen	130.85 349		ePKPdf	PKPdf	10 36 58.5	-3.8	
SUE				IVmB_BB		10 37 08.5		
	comp=Z,3µm,5.1s							
SUE				eSKPdf	SKPdf	10 40 33.0	+0.4	
SUE				IVMs_BB	IVMs_BB	10 43 52.1		
	comp=Z,4µm,4.0s							
SUE				eSKSdf	SKSdf	10 44 08.7	+0.2	
KONO	Kongsberg	131.04 345	⇑	iPKIKP	PKiKP	10 37 03.5	-0.1	
KONO				pmax	pmax			
	comp=Z,60nm,1.7s							
KONO				MLR	MLR			
	comp=Z,5µm,23.0s							
KONO	Kongsberg	131.04 345		IAMs_20	IAMs_20	11 33 48.9		
	comp=Z,5µm,22.0s							
KONO	Kongsberg	131.04 345		ePKPdf	PKPdf	10 37 01.7	-1.0	
KRTS	Karatas	131.06 307		P	PKPdf	10 37 03.2	-0.3	
KARA	Karaisali	131.12 308		P	PKPdf	10 37 04.0	+0.4	
CANT	Cankiri	131.17 313		P	PKiKP	10 37 04.3	-0.3	
ASK	Askoy	131.30 348		ePKPdf	PKiKP	10 37 04.4	+0.3	
KURC	Kurucasile-Bar	131.36 314		P	PKiKP	10 37 04.4	-0.4	
BER	Bergen	131.36 348		ePKPdf	PKPdf	10 37 02.8	-0.5	
BER				IVmB_BB		10 37 39.4		
	comp=Z,3µm,2.8s							
BER				IVMs_BB	IVMs_BB	10 45 03.9		
	comp=Z,3µm,2.4s							
SORM	Soroca	131.39 324	⇑	P	PKPdf	10 37 03.3	-0.4	
SORM	Soroca	131.39 324	⇑	PKIKP	PKPdf	10 37 03.3	-0.4	
BR131	Keskin Array S	131.45 311	c	iPKIKP	PKPdf	10 37 03.6	-0.7	
BRTR	Keskin Array B	131.45 311		PKhKP	PKPpre	10 36 49.9		
	comp=Z,1.8nm,0.6s,baz=111,slow=3.5,SNR=6.9							
BRTR				PKP	PKPdf	10 37 04.0	-0.4	
	comp=Z,17nm,0.9s,baz=112,slow=1.7,SNR=30							
BRTR				PP	PP	10 39 22.9	-0.7	
	comp=Z,7.8nm,0.9s,baz=72,slow=4.0,SNR=6.9							
BRTR				SKPbc	SKPab	10 40 27.4	+2.2	
	comp=Z,14nm,0.7s,baz=72,slow=2.2,SNR=7.9							
BRTR				PKKP	PKKPdf	10 47 00.1	-2.3	
	comp=Z,1.6nm,0.8s,baz=183,slow=5.0,SNR=3.7							
BRTR	Keskin Array B	131.45 311		PKHKP	PKPpre	10 36 49.8		
BRTR						10 37 03.6		
BRTR	Keskin Array B	131.45 311			PKPpre	10 36 49.8		
BRTR					PKPdf	10 37 03.6	-0.7	
KLNR	Kaliningrad	131.49 335	c	iPKIKP	PKPdf	10 37 03.5	-0.2	
KLNR				MLR	MLR			
	comp=Z,6µm,22.0s							
PTGA	Pitinga	131.50 103		PKP	PKPdf	10 37 05.0	0.0	
	comp=Z,47nm,0.9s,baz=257,slow=2.7,SNR=40							
PTGA				SKPbc	SKPab	10 40 28.2	+2.3	
	comp=Z,152nm,0.9s,baz=241,slow=5.3,SNR=24							
PTGA	Pitinga	131.50 103			PKPdf	10 37 02.6	-2.4	
PTGA				IAMs_20	IAMs_20	11 24 08.1		
	comp=Z,6µm,22.0s							
ODD1	Odda	131.51 347		ePKPdf	PKPdf	10 37 02.9	-0.8	
ODD1				IVmB_BB		10 37 09.6		
	comp=Z,2µm,5.1s							
MERS	Mersin	131.64 307		P	PKPdf	10 37 04.4	-0.3	
SERE	Sereflikochisa	131.75 310		P	PKPdf	10 37 04.4	-0.5	
AFSR	Afar-Bala (An	131.96 311		P	PKPdf	10 37 05.4	+0.2	
BLS5	Blasjo	131.99 347		ePKPdf	PKPdf	10 37 04.6	0.0	
BLS5				IVmB_BB		10 37 05.4		
	comp=Z,2µm,3.1s							
BLS5				IVMs_BB	IVMs_BB	10 40 49.2		
	comp=Z,2µm,5.0s							
BLS5				eSS	SS	10 57 00.2	+3.0	
ANTO	Ankara	132.02 312	⇑	P	PKPdf	10 37 05.2	-0.1	
ANTO	Ankara	132.02 312		PKIKP	PKiKP	10 37 05.9	-0.5	
ANTO	Ankara	132.02 312			PKiKP	10 37 05.9	-0.5	
SULT	Sultanhani-AKS	132.02 309		P	PKPdf	10 37 05.2	-0.2	
LOD	Lodumlu	132.03 312		P	PKiKP	10 37 06.0	-0.4	
KIZK	Mersin	132.04 307		P	PKPdf	10 37 05.2	-0.1	
KULU	Kulu	132.14 311		P	PKPdf	10 37 05.2	-0.4	
SILI	Silifke-Mersin	132.24 307		P	PKPdf	10 37 05.8	+0.1	
CHBY	Cihanbeyli	132.37 310		P	PKPdf	10 37 05.3	-0.8	
KEBE	Keben-Mersin	132.38 307		P	PKPdf	10 37 06.1	0.0	
KMY	Karmoy	132.45 347		eSKSdf	SKSdf	10 44 12.1	+0.6	
KMY				eSP	SP	10 49 38.3	+1.0	
KMY				eSS	SS	10 57 03.4	+0.7	
IKL	Isikli	132.46 307		P	PKPdf	10 37 05.9	-0.2	
HOMB	Homborsund	132.52 345		ePKPdf	PKPdf	10 37 06.0	+0.4	
HOMB				IVmB_BB		10 37 15.9		
	comp=Z,1µm,3.2s							
HOMB				IVMs_BB	IVMs_BB	10 43 21.6		
	comp=Z,1µm,4.2s							
TLCR		132.56 320	⇑	PKiKP	PKiKP	10 37 06.7	-0.4	
TLCR		132.56 320	⇑	PKiKP	PKiKP	10 37 06.7	-0.4	
TEVE	Tevekalti-Mers	132.59 307		P	PKiKP	10 37 07.2	-0.4	
SNART	Snartemo	132.79 346		ePKPdf	PKPdf	10 37 04.7	-1.4	
SNART				IVmB_BB		10 37 14.1		
	comp=Z,4µm,2.0s							
SNART				eSKPdf	SKPdf	10 40 35.1	-1.1	
SNART				eSP	SP	10 49 42.0	+1.8	
SNART				eSS	SS	10 57 10.4	+3.6	
BERE	Bereket-Mersin	132.79 307		P	PKPdf	10 37 06.9	-0.1	
LVV	L'vov	132.82 328		iPKIKP	PKPdf	10 37 05.0	-1.4	
LVV				i		10 39 35.0		
LVV				e		10 44 14.0		
LVV				MLR	MLR			
	comp=Z,4µm,22.0s							
EIL	Elat	132.84 298		PKP	PKPdf	10 37 07.2	+0.2	
	comp=Z,46nm,0.8s,baz=43,slow=2.1,SNR=30							
EIL				PP	PP	10 39 32.8	-0.1	
	comp=Z,25nm,1.0s,baz=65,slow=3.1,SNR=5.6							
EIL				SKPbc	SKPab	10 40 32.8	+1.5	
	comp=Z,47nm,1.1s,baz=81,slow=5.0,SNR=5.5							
LADK	Ladik-KONYA	132.88 310		P	PKPdf	10 37 06.2	-0.8	
MDUB	Mudurnu	132.95 313		P	PKPdf	10 37 07.1	0.0	
KONT	Konya--Tatoy	132.97 310		P	PKPdf	10 37 05.6	-1.5	
TOPG	Topolog	132.98 320	⇓	P	PKiKP	10 37 09.0	+1.0	
CFR	Carcaliu	132.98 320	⇓	P	PKPdf	10 37 06.7	-0.1	
CFR	Carcaliu	132.98 320	⇓	PKIKP	PKPdf	10 37 06.7	-0.1	
KIZT	Kizilcal	133.02 311		P	PKPdf	10 37 07.1	-0.2	
SVRH	Sivrihisar-ESK	133.08 312		P	PKPdf	10 37 06.4	-1.0	
BEL	Belsk	133.13 332		ePKPdf	PKPdf	10 37 07.3	+0.4	
BEL				ePP	PP	10 39 33.8	+0.4	
BEL				eL	L	11 35 05.5		
	comp=Z,9µm,24.0s							
TIRR	Tirgusor	133.15 319	⇑	P	PKiKP	10 37 08.9	+0.5	
TIRR	Tirgusor	133.15 319	⇑	PKIKP	PKiKP	10 37 08.9	+0.5	
BSD	Bornholm Skovb	133.16 338		iP	PKPdf	10 37 06.8	0.0	
	comp=Z,88nm,1.0s							
BSD	Bornholm Skovb	133.16 338		iPKIKP	PKPdf	10 37 06.8	0.0	
BSD				pmax	pmax			
	comp=Z,88nm,1.0s							
BIZ	Bicaz	133.31 323	⇑	P	PKPdf	10 37 07.8	+0.3	
HARR	Harsova	133.34 320	⇑	P	PKiKP	10 37 09.5	+0.8	
HARR	Harsova	133.34 320	⇑	PKIKP	PKiKP	10 37 09.5	+0.8	
LEF	Lefka	133.39 306	⇑	P	PKPdf	10 37 07.3	-0.6	
LEF	Lefka	133.39 306		P	PKPdf	10 37 07.9	0.0	
GOET	G??ttrup	133.40 343		iP	PKiKP	10 37 08.3	-0.2	
GULT	Gulveren	133.45 313		P	PKPdf	10 37 07.9	-0.1	
CIFT	Cifteler, Eski	133.45 312		P	PKPdf	10 37 07.9	-0.1	
BURAR	Bucovina Array	133.45 325	⇑	P	PKPdf	10 37 08.1	+0.3	
BURAR	Bucovina Array	133.45 325	⇑	PKIKP	PKPdf	10 37 08.1	+0.3	
BURAR	Bucovina Array	133.45 325			PKPpre	10 36 59.5		
VRI	Vrincioaia	133.50 322	⇓	P	PKPdf	10 37 07.9	0.0	
VRI	Vrincioaia	133.50 322	⇓	PKIKP	PKPdf	10 37 07.9	0.0	
SRCK	Saricakaya, Es	133.51 313		P	PKPdf	10 37 07.9	-0.1	
GAZI	Gazipasa	133.52 307		P	PKPdf	10 37 06.8	-1.4	
FDF	Fort de France	133.53 83		IAMs_20	IAMs_20	11 25 07.1		
	comp=Z,3µm,22.0s							
PLOR	Plostina	133.56 322	⇑	P	PKPdf	10 37 07.6	-0.4	
PLOR	Plostina	133.56 322	⇑	PKIKP	PKPdf	10 37 07.6	-0.4	
ORH	Orhaniye	133.59 314		P	PKiKP	10 37 13.2	+3.8	
KWP	Kalwaria Pacla	133.61 328		ePKPdf	PKPdf	10 37 08.1	+0.2	
KWP				ePP	PP	10 39 38.3	+1.7	
KWP				eL	L	11 35 19.3		
	comp=Z,6µm,22.8s							
KWP	Kalwaria Pacla	133.61 328		IAMs_20	IAMs_20	11 40 10.4		
	comp=Z,5µm,21.0s							
GKP	Gorka Klasztor	133.67 335		ePKPdf	PKPdf	10 37 08.1	+0.2	
GKP				eL	L	11 36 36.4		
	comp=Z,5µm,24.2s							
BISRR	Bisoca	133.68 321	⇑	P	PKiKP	10 37 09.2	-0.4	
SILT	Sile	133.77 315		P	PKiKP	10 37 10.1	+0.4	
HRT	Hereke	133.89 314		P	PKPdf	10 37 08.3	-0.5	
MUD	Monsted U'grnd	133.92 343		iP	PKiKP	10 37 09.7	+0.2	
	comp=Z,29nm,0.7s							
MUD				i		10 40 35.7		
MUD	Monsted U'grnd	133.92 343		iPKIKP	PKiKP	10 37 09.7	+0.2	
MUD				pmax	pmax			
	comp=Z,29nm,0.7s							
ADVT	Abdulvahap	133.99 314		P	PKPdf	10 37 08.7	-0.2	
MLR	Muntele Rosu	134.17 322		PKhKP	PKPpre	10 36 58.3		
	comp=Z,1.7nm,0.5s,baz=88,slow=4.8,SNR=4.2							
MLR				PKP	PKPdf	10 37 08.6	-0.7	
	comp=Z,23nm,1.0s,baz=68,slow=3.1,SNR=13							
MLR				PP	PP	10 39 38.8	-1.8	
	comp=Z,16nm,1.1s,baz=7.9,slow=3.4,SNR=5.8							
MLR				SKPbc	SKPab	10 40 37.1	+0.4	
	comp=Z,22nm,1.0s,baz=29,slow=8.2,SNR=3.5							
MLR				SKKPbc	SKKPbc	10 49 55.5	+8.1	
	comp=Z,12nm,1.0s,baz=237,slow=4.6,SNR=6.2							
MLR	Muntele Rosu	134.17 322	⇑	P	PKPdf	10 37 08.9	-0.4	
MLR	Muntele Rosu	134.17 322	⇑	PKIKP	PKPdf	10 37 08.9	-0.4	
MLR	Muntele Rosu	134.17 322		IAMs_20	IAMs_20	11 44 37.7		
	comp=Z,3µm,21.0s							
RGN	Rugen	134.18 339		IAMs_20	IAMs_20	11 40 10.3		
	comp=Z,3µm,20.0s							
ISK	Istanbul-Kandi	134.21 315		P	PKPdf	10 37 08.9	-0.4	
KOLS	Kolonicke sedl	134.27 328		ePKIKP	PKiKP	10 37 10.2	-0.3	
KOLS				e		10 39 42.4		
KOLS	Kolonicke sedl	134.27 328		ePKP	PKiKP	10 37 10.2	-0.3	
KOLS				ePP	PP	10 39 42.4	+1.6	
KOLS				e		10 40 38.3		
KOLS				e		10 40 42.2		
MBAR	Mbarara	134.27 256		PKP	PKPdf	10 37 10.6	+0.1	
	comp=Z,64nm,0.9s,baz=208,slow=2.0,SNR=3.7							
MBAR				SKPbc	SKPab	10 40 38.5	+0.4	
	comp=Z,32nm,1.2s,baz=14,slow=3.6,SNR=3.0							
MBAR	Mbarara	134.27 256	c	iPKIKP	PKPdf	10 37 10.5	+0.1	
MBAR				MLR	MLR			
	comp=Z,6µm,18.0s							
MBAR	Mbarara	134.27 256			PKPdf	10 37 10.8	+0.4	
GEMT	Gemlik	134.38 314		P	PKPdf	10 37 09.7	+0.1	
PRD	Provadia	134.38 318		P	PKPdf	10 37 09.9	+0.4	
NEF	NEVSHA	134.44 318		P	PKPdf	10 37 09.8	+0.1	
UZH	Uzhgorod	134.44 327		ePKIKP	PKPdf	10 37 04.0	-5.5	
CTKS	Kestanelik-??a	134.52 315		P	PKPdf	10 37 09.2	-0.6	
ARMT	Armutlu	134.55 314		P	PKPdf	10 37 09.6	-0.4	
TVSB	Tavsanli	134.57 313		P	PKPdf	10 37 10.3	+0.1	
TRPA	Tarpa	134.62 327	⇓	P	PKPdf	10 37 10.1	+0.3	
OJC	Ojcow	134.68 331		ePKPdf	PKPdf	10 37 09.9	0.0	
OJC				ePP	PP	10 39 43.8	+0.5	
OJC				eL	L	11 36 43.4		
	comp=Z,5µm,22.2s							
OJC	Ojcow	134.68 331		PKIKP	PKPdf	10 37 09.3	-0.6	
OJC	Ojcow	134.68 331			PKPdf	10 37 09.3	-0.6	
CRVS	Cervenica-Dubn	134.71 328		ePKIKP	PKPdf	10 37 10.1	+0.1	
CRVS				e		10 39 44.5		
CRVS	Cervenica-Dubn	134.71 328		ePKP	PKPdf	10 37 10.1	+0.1	
CRVS				ePP	PP	10 39 44.5	+0.9	
CRVS				e		10 40 39.4		
CRVS				e		10 40 43.6		
SLVT	Silivri	134.72 315		P	PKPdf	10 37 10.2	0.0	
VOIR		134.73 322	⇓	P	PKiKP	10 37 11.8	+0.1	
VOIR		134.73 322	⇓	PKIKP	PKiKP	10 37 11.8	+0.1	
BBGH	Gun Hill	134.92 85		IAMs_20	IAMs_20	11 29 33.8		
	comp=Z,6µm,20.0s							
BDFB	Brasilia	134.93 129		PKhKP	PKPpre	10 37 02.7		
	comp=Z,7.6nm,0.7s,baz=145,slow=1.1,SNR=11							
BDFB				PKP	PKPdf	10 37 10.2	-1.4	
	comp=Z,29nm,0.7s,baz=233,slow=6.0,SNR=6.4							
BDFB				PP	PP	10 39 43.1	-2.6	
	comp=Z,4.8nm,0.7s,baz=160,slow=8.1,SNR=3.1							
BDFB				SKPbc	SKPbc	10 40 38.4	+1.4	
	comp=Z,49nm,1.1s,baz=130,slow=4.3,SNR=5.0							
NIE	Niedzica	134.96 329		ePKPdf	PKiKP	10 37 11.4	-0.6	
NIE				ePP	PP	10 39 46.3	+1.1	
NIE				eL	L	11 35 11.1		
	comp=Z,5µm,23.9s							
ARR	Arges	135.02 322	⇓	P	PKPdf	10 37 11.3	+0.5	
KCTX	Karacabey (Bur	135.03 314		P	PKPdf	10 37 10.4	-0.5	
JMB	Yambol	135.26 318		P	PKPdf	10 37 10.9	-0.3	
SZH	Strazhica	135.29 319		P	PKPdf	10 37 11.3	0.0	
DRGR		135.32 325	⇑	P	PKPdf	10 37 11.2	-0.1	
DRGR		135.32 325	⇑	PKIKP	PKPdf	10 37 11.2	-0.1	
EDC	Edincik	135.34 314		P	PKPdf	10 37 11.2	-0.2	
KECS	Kecovo	135.47 328		ePKIKP	PKPdf	10 37 11.7	+0.3	
KECS				e		10 39 49.2		
KECS	Kecovo	135.47 328		ePKP	PKPdf	10 37 11.7	+0.3	
KECS				ePP	PP	10 39 49.2	+0.8	
KECS				e		10 40 41.2		
KULA	Kula-Manisa	135.50 312		P	PKPdf	10 37 11.6	-0.3	
TSUM	Tsumeb	135.50 224		PP	PP	10 39 47.9	-1.2	
	comp=Z,7.3nm,0.8s,baz=118,slow=4.6,SNR=3.7							
TSUM	Tsumeb	135.50 224			PKPpre	10 37 03.8		
LANS	Liptovska Anna	135.55 330		ePKIKP	PKiKP	10 37 13.2	0.0	
LANS				e		10 39 49.9		
LANS	Liptovska Anna	135.55 330		ePKP	PKiKP	10 37 13.2	0.0	
LANS				ePP	PP	10 39 49.9	+1.0	
LANS				e		10 40 42.8		
AKAS	Kas	135.61 308		P	PKPdf	10 37 10.8	-1.4	
RUE	Ruedersdorf	135.64 337		eP	PKPdf	10 37 10.3	-1.2	
RUE				ePP	PP	10 39 47.2	-1.9	
OKC	Ostrava-Krasne	135.72 331		AMS	AMS	11 32 50.0		
	comp=Z,6µm,25.2s							
KSP	Ksiaz	135.84 333		ePKPdf	PKPdf	10 37 12.1	0.0	
KSP				ePP	PP	10 39 51.6	+1.1	
KSP				eL	L	11 36 32.1		
	comp=Z,7µm,22.9s							
FETY	Fethiye	135.87 309		P	PKPdf	10 37 12.3	-0.3	
MORC	Moravsky Berou	136.04 332	⇑	P	PKPdf	10 37 12.6	0.0	
MORC	Moravsky Berou	136.04 332		ePKP	PKPdf	10 37 12.5	0.0	
MORC				ePP	PP	10 39 52.3	+0.4	
MORC				e		10 40 42.7		
MORC				e		10 49 47.9		
MORC	Moravsky Berou	136.04 332	⇑	PKIKP	PKPdf	10 37 12.6	0.0	
PLVB	Pleven	136.06 320	⇑	P	PKPdf	10 37 12.6	-0.1	
OSTC	Ostas	136.09 333		AMS	AMS	11 37 00.0		
	comp=Z,8µm,22.1s							
CHVC	Chvalec	136.13 333		ePKP	PKPdf	10 37 02.8	-10	
CHVC				ex	x	10 37 12.8		
CHVC				ex	x	10 40 43.1		
CHVC				AMS	AMS	11 36 50.0		
	comp=Z,5µm,21.9s							
PSZ	Piszkesteto	136.14 328	⇑	P	PKiKP	10 37 13.8	-0.7	
PSZ	Piszkesteto	136.14 328	⇑	PKIKP	PKiKP	10 37 13.8	-0.7	
PSZ	Piszkesteto	136.14 328		IAMs_20	IAMs_20	11 36 25.2		
	comp=Z,6µm,22.0s							
DIM	Dimitrovgrad	136.14 318		P	PKPdf	10 37 13.1	+0.2	
TURN	Turunc	136.15 310		P	PKiKP	10 37 13.9	-0.8	
DPC	Dobruska-Polom	136.19 333		ePKPpre	PKPpre	10 37 04.4		
DPC				ePKPDF	PKPdf	10 37 13.3	+0.5	
DPC				ePKS	PKSbc	10 40 43.6	-2.4	
DPC				AMS	AMS	11 36 40.0		
	comp=Z,10µm,23.2s							
DPC	Dobruska-Polom	136.19 333		ePKHKP	PKPpre	10 37 04.4		
DPC				e		10 37 13.3		
DPC				MLR	MLR			
	comp=Z,10µm,23.2s							
UPC	Upice	136.21 333		ePKPDF	PKPdf	10 37 13.3	+0.6	
UPC				ePKS	PKSbc	10 40 43.2	-2.8	
UPC				AMS	AMS	11 37 00.0		
	comp=Z,6µm,21.8s							
UPC	Upice	136.21 333		ePKIKP	PKPdf	10 37 13.3	+0.6	
UPC				MLR	MLR			
	comp=Z,6µm,21.8s							
SIRR	Siria	136.22 325	⇑	P	PKPdf	10 37 13.1	+0.2	
AYDB	Zeytinkoy-Aydi	136.28 311

SMOL e 10 40 47.0
BODT Bodrum 137.04 310 P **PKPdf** **10 37 14.1 -0.6**
URLA Izmir 137.05 312 P **PKPdf** **10 37 14.4 -0.3**
MDVR Moldovita 137.06 323 ⇑P **PKPdf** **10 37 14.3 -0.2**
KRUC Moravsky 137.08 332 *e*PKP **PKPdf** **10 37 14.5 +0.1**
KRUC *e*PP **PP** **10 39 59.5 +1.2**
KRUC e 10 40 45.7
KRUC e 10 49 42.6
MODS Modra-Piesok 137.14 330 *e*PKIKP **PKPdf** **10 37 14.3 -0.3**
MODS e 10 39 59.0
MODS Modra-Piesok 137.14 330 *e*PKP **PKPdf** **10 37 14.3 -0.3**
MODS *e*PP **PP** **10 39 59.0 +0.2**
MODS e 10 40 46.1
GOPC GO Pecny, Ondr 137.18 334 *e*PKPpre PKPpre 10 37 05.4
GOPC *e*PKPDF **PKPdf** **10 37 14.5 -0.1**
GOPC *ex* x 10 37 35.7
GOPC *e*PKS **PKSbc** **10 40 46.1 -2.8**
GOPC AMS AMS 11 32 40.0
comp=Z,6µm,25.9s
GOPC GO Pecny, Ondr 137.18 334 *e*PKHKP PKPpre 10 37 05.4
GOPC e 10 37 14.5
GOPC e 10 37 35.7
GOPC MLR MLR
comp=Z,6µm,25.9s
PRA Prague 137.22 334 *e*PKPDF **PKiKP** **10 37 16.9 +0.4**
PRA *e*SKP **SKPdf** **10 40 46.9 +2.3**
PRA AMS AMS 11 35 10.0
comp=Z,3µm,25.1s
PRA Prague 137.22 334 *e*PKIKP **PKiKP** **10 37 16.9 +0.4**
PRA MLR MLR
comp=Z,3µm,25.1s
PRU Pruhonice 137.23 334 *e*PKPpre PKPpre 10 37 10.4
PRU *e*PKPDF **PKiKP** **10 37 16.7 +0.2**
PRU *e*pPKP pPKPdf 10 37 25.4 -6.2
PRU *e*PKS **PKSbc** **10 40 46.2 -2.8**
PRU AMS AMS 11 32 20.0
comp=Z,6µm,28.7s
PRU Pruhonice 137.23 334 *e*PKIKP **PKPdf** **10 37 10.4 -4.2**
PRU e 10 37 25.4
PRU MLR MLR
comp=Z,6µm,28.7s
TREC Trest 137.32 332 *e*PKPDF **PKiKP** **10 37 15.9 -0.9**
TREC *e*PKS **PKSbc** **10 40 46.5 -2.9**
TREC AMS AMS 11 38 20.0
comp=Z,10µm,22.2s
TREC Trest 137.32 332 *e*PKIKP **PKiKP** **10 37 15.9 -0.9**
TREC MLR MLR
comp=Z,10µm,22.2s
VTS Vitosha 137.33 320 ⇓P **PKiKP** **10 37 16.8 -0.4**
VTS Vitosha 137.33 320 P **PKPdf** **10 37 14.9 -0.4**
VTS Vitosha 137.33 320 ⇓PKIKP **PKiKP** **10 37 16.8 -0.4**
VTS Vitosha 137.33 320 IAMs_20 IAMs_20 11 39 49.7
comp=Z,5µm,22.0s
ZST Bratislava 137.35 330 *e*PKIKP **PKPdf** **10 37 14.7 -0.2**
ZST e 10 39 59.4
ZST Bratislava 137.35 330 *e*PKP **PKPdf** **10 37 14.7 -0.2**
ZST *e*PP **PP** **10 39 59.4 -0.7**
ZST e 10 40 46.4
MMB Musomiste 137.54 318 P **PKPdf** **10 37 14.7 -0.8**
EKA Eskdalemuir Ar 137.64 352 PKKP 10 46 41.0
comp=Z,0.6nm,0.4s,baz=139,slow=7.7,SNR=3.5
EKA SKKPbc SKKPbc 10 49 40.7 +6.1
comp=Z,19nm,1.0s,baz=178,slow=4.2,SNR=8.8
ESK Eskdalemuir 137.66 352 PKIKP **PKiKP** **10 37 16.5 -0.7**
ESK MLR MLR
comp=Z,4µm,22.0s
ESK Eskdalemuir 137.66 352 **PKiKP** **10 37 16.5 -0.7**
ESK Eskdalemuir 137.66 352 IAMs_20 IAMs_20 11 37 26.6
comp=Z,4µm,22.0s
PBCC Pribram 137.69 334 *e*PKPDF **PKPdf** **10 37 15.8 +0.3**
PBCC *ex* x 10 40 48.3
KKB Krupnik 137.82 319 P **PKPdf** **10 37 15.4 -0.6**
MORH Mrgy, Hungar 137.89 327 *e*P PKPdf 10 37 02.8 -13
NKC Novy Kostel 137.91 336 *e*PKPDF **PKiKP** **10 37 17.6 -0.3**
NKC *e*PKS **PKSbc** **10 40 48.7 -2.4**
NKC AMS AMS 11 37 40.0
comp=Z,5µm,22.5s
NKC Novy Kostel 137.91 336 *e*PKIKP **PKiKP** **10 37 17.6 -0.3**
NKC MLR MLR
comp=Z,5µm,22.5s
FRGS Fruska Gora 137.92 325 *e*P PKPdf 10 37 05.8 -10
CONA Conrad Observa 138.13 331 *i* PKPdf **PKPdf** **10 37 16.9 +0.5**
comp=Z,79nm,1.1s,SNR=23
CONA *i* SKPdf **SKiKP** **10 40 49.4 -0.3**
comp=Z,52nm,1.0s
KHC Kasperske Hory 138.29 334 *e*PKPpre PKPpre 10 37 06.6
KHC *e*PKPDF **PKPdf** **10 37 16.3 -0.4**
KHC *ex* x 10 37 41.5
KHC *e*SKP **SKPdf** **10 40 49.2 +2.6**
KHC AMS AMS 11 44 00.0
comp=Z,5µm,18.5s
KHC Kasperske Hory 138.29 334*c* *i*PKIKP **PKPdf** **10 37 16.6 -0.1**
APE Apeiranthos 138.35 311*ce*PKIKP **PKPdf** **10 37 15.3 -1.9**
GEC2 GERESS Array S 138.45 333 IAMs_20 IAMs_20 11 44 01.8
comp=Z,5µm,21.0s
GERES GERESS Array B 138.45 333 PKhKP PKPpre 10 37 07.0
comp=Z,4.3nm,0.8s,baz=40,slow=4.4,SNR=18
GERES SKPbc **SKiKP** **10 40 49.3 -1.1**
comp=Z,39nm,0.9s,baz=29,slow=3.0,SNR=20
GERES SKKPbc **SKKPbc** **10 49 36.7 +5.4**
comp=Z,3.6nm,1.0s,baz=203,slow=5.5,SNR=6.1
GERES GERESS Array B 138.45 333 PKHKP PKPpre 10 37 06.3
GERES GERESS Array B 138.45 333 PKPpre 10 37 06.3
TEKS Tekeris 138.45 324 *e*P **PKPdf** **10 37 14.7 -2.4**
DIVS Divibare 138.46 324 IAMs_20 IAMs_20 11 39 21.1
comp=Z,4µm,22.0s
DIVS Divibare 138.46 324 *e*P PKPdf 10 37 06.2 -11
SANT Santorini 138.68 310 ⇑P **PKPdf** **10 37 15.9 -1.9**
ARSA Arzberg 138.77 330 *i* PKiKP **PKiKP** **10 37 18.8 -1.0**
comp=Z,37nm,1.3s,SNR=11
ARSA *i* SKPdf **SKiKP** **10 40 50.8 -0.2**
comp=Z,33nm,2.1s
GRA1 Grafenberg Arr 138.83 336 IAMs_20 IAMs_20 11 40 45.6
comp=Z,3µm,20.0s
MOA Molln 138.94 332 *i* PKiKP **PKiKP** **10 37 19.6 -0.5**
comp=Z,64nm,1.9s,SNR=6.4
MOA *i* SKPab **SKPab** **10 40 56.1 -1.3**
comp=Z,33nm,1.4s
BBLS Lazići 138.94 324 *e*P PKPdf 10 37 08.1 -10
KALN Kalnik 139.09 328 P **PKPdf** **10 37 18.1 -0.1**
SOKA Soboth 139.42 330 *i* PKPdf **PKPdf** **10 37 18.6 -0.3**
comp=Z,85nm,1.4s,SNR=17
SOKA *i* SKPbc **SKiKP** **10 40 52.0 -0.4**
comp=Z,36nm,1.2s
PTJ Puntijarka 139.49 328 P **PKPdf** **10 37 17.1 -2.0**
PTJ Puntijarka 139.49 328 P **PKPdf** **10 37 18.3 -0.7**
IDI Anoyia 139.52 309 PKhKP PKPpre 10 37 12.2
comp=Z,34nm,0.8s,baz=59,slow=7.2,SNR=10.0
IDI PP **PP** **10 40 11.6 -2.8**
comp=Z,27nm,1.0s,baz=110,slow=2.7,SNR=3.8
IDI Anoyia 139.52 309 ⇑P **PKPdf** **10 37 19.1 -0.3**
ZAG Zagreb 139.53 328 *e*P **PKPdf** **10 37 19.1 +0.1**
BLY Banja Luka 139.62 326 *e*P PKPdf 10 37 10.8 -8.4
OBKA Obir 139.77 330 *i* PKPdf **PKPdf** **10 37 19.1 -0.5**
comp=Z,37nm,1.7s,SNR=7.3
OBKA *i* SKPbc **SKiKP** **10 40 52.5 -0.6**
comp=Z,14nm,0.9s
CRES Cresnjev 139.80 329 *e*P PKPdf 10 37 08.8 -11
PDG Podgorica 139.88 322 ⇑P **PKPdf** **10 37 19.1 -0.6**
PDG Podgorica 139.88 322 *e*P PKPdf 10 37 11.5 -8.2
KBA Koelnbreinsper 139.93 332 *i* PKPdf **PKPdf** **10 37 19.6 -0.3**
comp=Z,35nm,1.0s
KBA *i* SKPbc **SKiKP** **10 40 53.6 0.0**
comp=Z,62nm,1.0s
MEM Membach 139.93 341 x x 10 37 12.9
MEM PKPdf **PKPdf** **10 37 19.5 0.0**
OZLJ Ozalj 139.94 328 P **PKPdf** **10 37 17.0 -2.7**
BRY Bratogost 140.02 323 *e*P PKPdf 10 37 09.3 -11
DRME Dracevica, Mon 140.07 322 *e*P **PKPdf** **10 37 12.3 -7.8**
DSB Dublin 140.09 354 IAMs_20 IAMs_20 11 44 08.7
comp=Z,3µm,20.0s
LJU Ljubljana 140.11 330 *i* PKPpre PKPpre 10 37 13.5
LJU *i* PKPdf **PKPdf** **10 37 19.9 -0.2**
LJU *e*PP **PP** **10 40 17.4 +0.2**
LJU *e*SKPdf **SKiKP** **10 40 54.1 +0.4**
LJU *i* PKSdf **PKSdf** **10 40 56.6 +0.7**
LJU Ljubljana 140.11 330 *e*P PKPdf 10 37 11.8 -8.3
MYKA Terra Mystica 140.12 331 *i* PKPdf **PKPdf** **10 37 15.1 -5.0**
comp=Z,15nm,0.7s
MYKA *i* SKPbc **SKiKP** **10 40 53.6 -0.2**
comp=Z,23nm,1.0s
BOJS Bojanci 140.13 329 *e*PKPpre PKPpre 10 37 13.8
BOJS *i* PKPdf **PKPdf** **10 37 20.1 0.0**
BOJS *e* 10 52 30.8
BOJS *e*SKKSdf SKKSdf 10 53 55.2 +1.7
BOJS *e*SS **SS** **10 58 33.7 -1.5**
TIR Tirane 140.13 320 PKIKP **PKPdf** **10 37 20.5 +0.3**
TIR MLR MLR
comp=Z,8µm,22.0s
TIR Tirane 140.13 320 **PKPdf** **10 37 20.4 +0.3**
BHOU Houvegnez 140.15 341 PKPdf **PKPdf** **10 37 19.4 -0.6**
MDP Montagnes des 140.20 98 PKP **PKPdf** **10 37 18.4 -2.7**
comp=Z,28nm,0.8s,baz=183,slow=3.0,SNR=7.3
MDP SKPbc **SKiKP** **10 40 54.3 -0.6**
comp=Z,14nm,0.7s,baz=234,slow=4.0,SNR=9.0
UCC Uccle 140.26 343 IAMs_20 IAMs_20 11 38 53.9
comp=Z,6µm,21.0s
BCLA Clavier 140.31 341 PKPdf **PKPdf** **10 37 20.1 -0.1**
BCLA PKiKP **PKiKP** **10 37 22.8 +0.1**
GBRS Gornja Briga 140.33 329 *i* PKPdf **PKPdf** **10 37 20.2 -0.3**
GBRS *e*PP **PP** **10 40 18.8 +0.2**
GBRS *e*SKPdf **SKiKP** **10 40 54.8 +0.5**
GBRS *e*PKSdf **PKSdf** **10 40 56.6 +0.2**
DBRK Dubrovnik 140.39 323 P **PKPdf** **10 37 14.6 -6.1**
BGES Gesves 140.41 342 x x 10 37 11.5
BGES PKPdf **PKPdf** **10 37 19.9 -0.5**
RICI Ricice 140.46 325 P **PKPdf** **10 37 20.0 -0.8**
ZOU Zoufplan 140.48 331 IAMs_20 IAMs_20 11 40 45.7
comp=Z,5µm,22.0s
WATA Walderalm 140.52 333 *i* PKPdf **PKPdf** **10 37 21.0 +0.1**
comp=Z,94nm,2.1s,SNR=18
WATA *i* SKPbc **SKiKP** **10 40 55.3 +0.5**
comp=Z,46nm,1.2s
UDBI Udbina 140.53 327 P **PKPdf** **10 37 21.0 +0.1**
KIJV Kijevo 140.53 326 P **PKPdf** **10 37 19.7 -1.2**
SNF Seneffe 140.54 342 x x 10 37 15.9
SNF PKPdf **PKPdf** **10 37 20.8 +0.1**
SNF PKiKP **PKiKP** **10 37 23.3 +0.1**
ABTA Abfaltersbach 140.55 332 *i* PKPdf **PKPdf** **10 37 20.6 -0.3**
comp=Z,72nm,1.0s,SNR=8.3
ABTA *i* SKPbc **SKiKP** **10 40 54.3 -0.4**
comp=Z,45nm,1.0s
WTTA Wattenberg 140.55 333 *i* PKPdf **PKPdf** **10 37 20.3 -0.7**
comp=Z,67nm,1.0s,SNR=24
WTTA *i* SKPbc **SKiKP** **10 40 54.8 0.0**
comp=Z,38nm,1.0s
BMRD Maredsous 140.58 342 x x 10 37 16.9
BMRD PKPdf **PKPdf** **10 37 21.1 +0.4**
RIY Rijeka 140.64 329 P **PKPdf** **10 37 21.1 +0.1**
RIY Rijeka 140.64 329 *e*P **PKPdf** **10 37 20.4 -0.6**
MAKA Makarska 140.66 325 P **PKPdf** **10 37 17.3 -3.8**
WLF Walferdange 140.70 340 PKPdf **PKPdf** **10 37 14.6 -6.4**
WLF x x 10 37 24.4
WLF Walferdange 140.70 340 IAMs_20 IAMs_20 11 43 58.6
comp=Z,6µm,20.0s
MOTA Moosalm 140.72 334 *i* PKPdf **PKPdf** **10 37 19.1 -2.3**
comp=Z,46nm,0.9s,SNR=16
MOTA *i* SKPbc **SKiKP** **10 40 55.6 +0.5**
comp=Z,81nm,1.0s
TRI Trieste 140.72 330 IAMs_20 IAMs_20 11 41 24.3
comp=Z,5µm,21.0s
RETA Reutte 140.76 334 *i* PKPdf **PKPdf** **10 37 19.8 -1.5**
comp=Z,62nm,1.2s,SNR=12
RETA *i* SKPbc **SKiKP** **10 40 55.9 +0.8**
comp=Z,24nm,0.9s
SQTA Sankt Quirin 140.77 334 *i* PKPdf **PKPdf** **10 37 18.9 -2.4**
comp=Z,31nm,0.8s,SNR=13
SQTA *i* SKPbc **SKiKP** **10 40 55.7 +0.5**
comp=Z,59nm,0.8s
DOU Dourbes 140.81 342 x x 10 37 14.3
DOU PKPdf **PKPdf** **10 37 21.2 +0.1**
DOU PKiKP **PKiKP** **10 37 24.2 +0.4**
ITM Ithomi 140.90 313 IAMs_20 IAMs_20 11 43 46.0
comp=Z,3µm,22.0s
CIMO Cimolais 140.91 332 IAMs_20 IAMs_20 11 37 39.0
comp=Z,4µm,21.0s
NVLJ Novalja 140.97 328 P **PKPdf** **10 37 20.8 -0.8**
MORI Morici 141.00 326 P **PKPdf** **10 37 18.5 -3.2**
HVAR Hvar 141.05 325 P **PKPdf** **10 37 15.3 -6.5**
BFO Black Forest 141.05 337 PKHKP PKPpre 10 37 14.8
BFO Black Forest 141.05 337 PKPpre 10 37 14.8
BFO IAMs_20 IAMs_20 11 46 39.3
comp=Z,3µm,20.0s
FETA Feichten 141.13 334 *i* PKPdf **PKPdf** **10 37 16.6 -5.5**
comp=Z,73nm,1.0s,SNR=21
FETA *i* SKPbc **SKiKP** **10 40 57.0 +1.0**
comp=Z,71nm,1.2s
ZIRJ Zirje 141.18 326 P **PKPdf** **10 37 15.2 -6.8**
DUGI Dugi Otok 141.26 327 P **PKPdf** **10 37 18.4 -3.8**
DAVA Damuels 141.28 335 *i* PKPdf **PKPdf** **10 37 16.8 -5.5**
comp=Z,39nm,0.7s,SNR=20
DAVA *i* SKPbc **SKiKP** **10 40 57.7 +1.4**
comp=Z,41nm,1.0s
BRJN Brijuni 141.31 329 P **PKPdf** **10 37 19.0 -3.2**
ECH Echery 141.58 338 IAMs_20 IAMs_20 11 42 54.2
comp=Z,4µm,20.0s
FUORN Ofenpass-Fuorn 141.65 334 IAMs_20 IAMs_20 11 48 32.3
comp=Z,4µm,20.0s
DAVOX Davos/Dischmat 141.68 334 PP PP 10 40 25.5 -1.4
comp=Z,13nm,1.1s,baz=98,slow=8.8,SNR=3.1
DAVOX SKPbc **SKiKP** **10 40 57.9 +0.7**
comp=Z,54nm,0.9s,baz=122,slow=1.0,SNR=5.0
DAVOX SKKPbc **SKKPbc** **10 49 23.4 +4.8**
comp=Z,12nm,0.9s,baz=171,slow=2.4,SNR=7.5
TUE Stuetta 142.15 334 IAMs_20 IAMs_20 11 46 31.6
comp=Z,5µm,20.0s
SGRT San Giovanni R 142.36 324 IAMs_20 IAMs_20 11 42 12.3
comp=Z,4µm,22.0s
MATE Matera 142.48 322 ⇑P **PKPdf** **10 37 20.0 -4.4**
PRMA PARMA 143.06 332 IAMs_20 IAMs_20 11 42 10.9
comp=Z,4µm,21.0s
SENIN Lac Senin/Sane 143.07 336 IAMs_20 IAMs_20 11 42 20.8
comp=Z,4µm,22.0s
INTR Introdacqua 143.23 325 IAMs_20 IAMs_20 11 43 56.0
comp=Z,4µm,21.0s
AQU L'Aquila 143.27 326 IAMs_20 IAMs_20 11 43 53.0
comp=Z,6µm,22.0s
AQU L'Aquila 143.27 326 *e*P PKPab 10 37 21.6 -0.2
TIP Timpagrande 143.32 320 ⇑P PKPab 10 37 22.4 +0.3
TIP Timpagrande 143.32 320 IAMs_20 IAMs_20 11 43 55.2
comp=Z,5µm,22.0s
VLC Villacollemand 143.49 331 IAMs_20 IAMs_20 11 41 46.3
comp=Z,5µm,22.0s
PAOL Paolisi 143.50 324 IAMs_20 IAMs_20 11 44 24.5
comp=Z,3µm,22.0s
OSSC Osservatorio P 143.55 330 IAMs_20 IAMs_20 11 48 28.1
comp=Z,4µm,20.0s
BNI Bardonecchia 144.40 336 IAMs_20 IAMs_20 11 44 21.0
comp=Z,6µm,21.0s
CEL Celeste 144.40 319 **PKPab** **10 37 25.4 -0.8**
CEL IAMs_20 IAMs_20 11 45 04.0
comp=Z,3µm,22.0s
SSB Saint Sauveur 145.03 338 IAMs_20 IAMs_20 11 43 27.3
comp=Z,3µm,22.0s
CLTB Caltabellotta 146.50 320 IAMs_20 IAMs_20 11 47 45.5
comp=Z,3µm,20.0s
WDD Wied Dalam 146.69 317 IAMs_20 IAMs_20 11 55 22.0
comp=Z,3µm,19.0s
H07N1 FLORES T-PHASB 49.58 28 PKP **PKPdf** **10 37 36.4 -0.2**
H07N1 PKPbc **PKPbc** **10 37 40.7 -0.5**
MAHO Mahon 149.65 333 PKP1 **PKPdf** **10 37 36.0 -0.6**
MAHO Mahon 149.65 333 PKP2 PKPab 10 38 03.2 +17
SHEL Horse Pasture 149.73 194 PKP2 **PKiKP** **10 37 43.0 -0.2**
SHEL Horse Pasture 149.73 194 **PKiKP** **10 37 43.0 -0.2**
H07S1 FLORES T-PHASB 49.79 28 *e*PKP **PKPdf** **10 37 37.7 +0.8**
H07S1 FLORES T-PHASB 49.79 28 PKPbc **PKPbc** **10 37 41.8 +0.1**
KEST Kesra 150.07 321 PKP **PKPdf** **10 37 38.5 +1.0**
comp=Z,185nm,1.1s,baz=84,slow=1.5,SNR=36
KEST PKPbc **PKPbc** **10 37 42.4 -0.1**
comp=Z,244nm,0.8s,baz=260,slow=0.9,SNR=108
RCBR Riachuelo 150.30 129 PKP **PKPdf** **10 37 38.5 0.0**
comp=Z,72nm,1.2s,baz=188,slow=4.1,SNR=6.3
RCBR PKPbc **PKPbc** **10 37 44.1 +0.4**
comp=Z,140nm,1.0s,baz=209,slow=2.5,SNR=17
RCBR Riachuelo 150.30 129 **PKPdf** **10 37 38.9 +0.5**
RCBR Riachuelo 150.30 129 IAMs_20 IAMs_20 11 38 11.3
comp=Z,4µm,21.0s
CMAH Djebel Manchou 150.58 325 P **PKPdf** **10 37 38.3 0.0**
CAEH 'Ain El Ouahch 150.78 326 P **PKPdf** **10 37 38.6 +0.1**
CKFL Kef-Lekhel 151.13 325 P **PKPdf** **10 37 39.5 +0.3**
PBRG Braganca 151.35 350 *e*PKPdf **PKPdf** **10 37 38.9 -0.4**
PBRG Braganca 151.35 350 *e*PKPbc **PKPbc** **10 37 45.4 0.0**
PBRG Braganca 151.35 350 *e*PKPab **PKPab** **10 37 53.6 +0.1**
CASM Ain Smara 151.36 325 P **PKPdf** **10 37 39.8 +0.3**
PGAV Gavieira, Arco 151.42 352 *e*PKPdf **PKPdf** **10 37 38.9 -0.6**
PGAV Gavieira, Arco 151.42 352 *e*PKPbc **PKPbc** **10 37 45.6 0.0**
PGAV Gavieira, Arco 151.42 352 *e*SS SS 11 00 48.9 +6.1
PGAV Gavieira, Arco 151.42 352 *e*LR LR 11 32 24.1
comp=Z,5µm,20.0s
DFRA Djebel Bou Aff 151.48 327 P **PKPdf** **10 37 40.6 +0.8**
PGRA Graciosa 151.49 25 *e*PKP **PKPdf** **10 37 37.7 -1.8**
PGRA Graciosa 151.49 25 *e*PP PP 10 41 25.4 +1.1
CTEI Djebel Teioual 151.55 325 P **PKPdf** **10 37 40.0 +0.1**
PCAB Cabril 151.64 352 *e*PKPdf **PKPdf** **10 37 39.6 -0.1**
PCAB Cabril 151.64 352 *e*PKPbc **PKPbc** **10 37 46.1 +0.1**
ROSA Rosais 151.64 25 *e*PKP **PKPdf** **10 37 42.2 +2.4**
ROSA Rosais 151.64 25 *e*PP PP 10 41 36.8 +12
ROSA Rosais 151.64 25 **PKiKP** **10 37 46.5 +0.1**
SET Setif 152.00 327 P **PKPdf** **10 37 42.0 +1.5**
UCM Universidad Co 152.00 344 PKP1 **PKPdf** **10 37 39.9 -0.4**
UCM Universidad Co 152.00 344 PKP2 PKPab 10 38 10.3 +16
MVO Moncorvo 152.02 350 *e*PKPdf **PKPdf** **10 37 40.5 +0.1**
MVO Moncorvo 152.02 350 *e*PKPbc **PKiKP** **10 37 47.4 +0.1**
MVO Moncorvo 152.02 350 *i* LQ LQ 11 01 50.3
MVO Moncorvo 152.02 350 *e*LR LR 11 28 58.3
comp=Z,4µm,20.0s
PVRL Vila Real 152.02 351 *e*PKPdf **PKPdf** **10 37 39.9 -0.4**
PVRL Vila Real 152.02 351 *e*PKPbc **PKiKP** **10 37 47.1 -0.1**
CKHR Kef el Ahmar 152.07 326 P **PKPdf** **10 37 41.6 +0.9**
PTO Porto 152.28 353 *e*PKPbc **PKiKP** **10 37 48.1 +0.4**
PVIS Viseu 152.59 351 *e*PKPdf **PKPdf** **10 37 41.0 -0.2**
PVIS Viseu 152.59 351 *e*PKPbc **PKiKP** **10 37 48.5 0.0**
ES19 SONSECA Array 152.75 344 IAMs_20 IAMs_20 11 55 06.2
comp=Z,5µm,20.0s
ES18 SONSECA Array 152.75 344 IAMs_20 IAMs_20 11 55 05.3
comp=Z,5µm,20.0s
ES08 SONSECA Array 152.76 344 IAMs_20 IAMs_20 11 55 05.6
comp=Z,5µm,20.0s
ES17 SONSECA Array 152.77 344 IAMs_20 IAMs_20 11 55 06.7
comp=Z,5µm,20.0s
ES09 SONSECA Array 152.77 344 IAMs_20 IAMs_20 11 55 05.7
comp=Z,5µm,20.0s
ES07 SONSECA Array 152.78 344 IAMs_20 IAMs_20 11 55 06.9
comp=Z,5µm,20.0s
ES02 SONSECA Array 152.78 344 IAMs_20 IAMs_20 11 55 07.0
comp=Z,4µm,20.0s
ES06 SONSECA Array 152.79 344 IAMs_20 IAMs_20 11 55 07.2
comp=Z,5µm,20.0s
ES16 SONSECA Array 152.79 344 IAMs_20 IAMs_20 11 46 00.2
comp=Z,5µm,22.0s
ESBB Sonseca Array 152.79 344 IAMs_20 IAMs_20 11 55 07.2
comp=Z,4µm,20.0s
ES01 SONSECA Array 152.79 344 IAMs_20 IAMs_20 11 55 06.3
comp=Z,5µm,20.0s
ES03 SONSECA Array 152.79 344 IAMs_20 IAMs_20 11 55 06.3
comp=Z,5µm,20.0s
ES10 SONSECA Array 152.79 344 IAMs_20 IAMs_20 11 55 06.3
comp=Z,5µm,20.0s
ESDC Sonseca Array 152.79 344 PKP **PKPdf** **10 37 41.4 -0.1**
comp=Z,6.8nm,1.0s,baz=354,slow=2.2,SNR=28
ESDC PKPbc **PKPbc** **10 37 48.7 0.0**
comp=Z,78nm,0.8s,baz=4.9,slow=2.0,SNR=71
ESDC PP **PP** **10 41 28.6 -3.0**
comp=Z,3.9nm,0.9s,baz=37,slow=3.2,SNR=3.9
ES05 SONSECA Array 152.80 344 IAMs_20 IAMs_20 11 55 06.5
comp=Z,5µm,20.0s
ES04 SONSECA Array 152.80 344 IAMs_20 IAMs_20 11 55 06.6
comp=Z,4µm,20.0s
ES11 SONSECA Array 152.80 344 IAMs_20 IAMs_20 11 55 06.6
comp=Z,4µm,20.0s
ES15 SONSECA Array 152.81 344 IAMs_20 IAMs_20 11 55 07.8
comp=Z,4µm,20.0s
ES13 SONSECA Array 152.81 344 IAMs_20 IAMs_20 11 55 07.9
comp=Z,4µm,20.0s
ES12 SONSECA Array 152.82 344 IAMs_20 IAMs_20 11 55 07.0
comp=Z,4µm,20.0s
ES14 SONSECA Array 152.82 344 IAMs_20 IAMs_20 11 46 01.0
comp=Z,5µm,22.0s
MTE Manteigas 152.85 351 *e*PKPdf **PKPdf** **10 37 41.6 0.0**
MTE Manteigas 152.85 351 *e*PKPbc **PKiKP** **10 37 49.1 +0.1**
MTE Manteigas 152.85 351 *i* LQ LQ 11 01 57.7
MTE Manteigas 152.85 351 *e*LR LR 11 33 31.2
comp=Z,5µm,20.0s
PAB San Pablo 153.01 345 PKIKP **PKPdf** **10 37 42.4 +0.5**
PAB San Pablo 153.01 345 **PKPdf** **10 37 42.4 +0.5**
COI Coimbra 153.17 352 *e*PKPbc **PKiKP** **10 37 49.5 0.0**
COI Coimbra 153.17 352 *e*SS SS 11 01 05.7 +4.0
COI Coimbra 153.17 352 IAMs_20 IAMs_20 11 46 09.9
comp=Z,5µm,22.0s
PCAS Casmilo, Conde 153.33 352 *e*PKPdf **PKPdf** **10 37 38.0 -4.2**
PCBR Castelo Branco 153.39 350 *e*PKPdf **PKPdf** **10 37 41.8 -0.5**
PCBR Castelo Branco 153.39 350 *e*PKPbc **PKPbc** **10 37 49.9 0.0**
CMLA Cha da Macela 153.54 22 *e*PKP **PKPdf** **10 37 45.2 +2.6**
CMLA Cha da Macela 153.54 22 *e*PP PP 10 41 36.8 +0.9
CMLA Cha da Macela 153.54 22 IAMs_20 IAMs_20 11 42 59.8
comp=Z,4µm,19.0s
CART Cartagena 153.76 338 PKP1 **PKPdf** **10 37 40.4 -2.5**
PMRV Marv??o 153.77 350 *e*PKPdf **PKPdf** **10 37 42.9 0.0**
PMRV Marv??o 153.77 350 *e*PKPbc **PKiKP** **10 37 50.9 0.0**
PMRV Marv??o 153.77 350 *e*LR LR 11 33 16.9
comp=Z,3µm,20.0s
SESP Santiago Espad 153.82 341 P **PKPdf** **10 37 43.8 +0.6**
SNR=15
EBNR Beni Rached 153.84 332 P **PKPbc** **10 37 51.0 -0.1**
PSBE So Bento 153.90 352 *e*PKPdf **PKPdf** **10 37 42.8 -0.3**
PSBE So Bento 153.90 352 *e*PKPbc **PKPbc** **10 37 50.9 -0.2**
PSBE So Bento 153.90 352 *e*PKPab **PKPab** **10 38 04.0 -0.2**
ECHA Ech Chlef 154.03 332 P **PKPdf** **10 37 45.5 +2.2**
PMTG Montargil 154.26 351 *e*PKPdf **PKPdf** **10 37 42.1 -1.5**
PMTG Montargil 154.26 351 *e*PKPbc **PKPbc** **10 37 51.4 -0.4**
PMTG Montargil 154.26 351 *e*PKPab **PKPab** **10 38 05.6 -0.1**
EANR 'Ain N'Sour 154.31 333 P **PKPdf** **10 37 44.0 +0.2**
PSMN Pico do Norte, 154.38 22 *e*PKP **PKPdf** **10 37 45.2 +1.4**
PSMN Pico do Norte, 154.38 22 *e*PP PP 10 41 43.8 +3.1
PMAFR Mafra 154.51 353 *e*PKPdf **PKPdf** **10 37 43.6 -0.3**
PMAFR Mafra 154.51 353 *e*PKPbc **PKiKP** **10 37 52.5 +0.1**
ETRT Tiaret 154.68 331 P **PKPdf** **10 37 44.7 +0.3**
LIS Lisbon 154.73 353 *e*PKPdf **PKPdf** **10 37 44.0 -0.2**
LIS *e*PP **PP** **10 41 44.1 +1.8**
LIS AMS AMS 11 49 34.8
comp=Z,4µm,20.5s
LIS Lisbon 154.73 353 *e*PKIKP **PKPdf** **10 37 44.0 -0.2**
LIS *e* 10 41 44.0
LIS Lisbon 154.73 353 *e*PKPdf **PKPdf** **10 37 43.0 -0.4**
LIS Lisbon 154.73 353 *e*PKPbc **PKiKP** **10 37 53.1 +0.3**
LIS Lisbon 154.73 353 *e*PKPab **PKPab** **10 38 08.4 +0.7**
EVO Evora 154.75 350 PKP1 **PKPdf** **10 37 40.9 -3.3**
EVO Evora 154.75 350 PKP2 **PKPab** **10 38 05.6 -2.2**
EVO Evora 154.75 350 *e*PKPdf **PKPdf** **10 37 44.0 -0.3**
EVO Evora 154.75 350 *e*PKPbc **PKPbc** **10 37 52.7 -0.2**
EVO Evora 154.75 350 *e*PKPab **PKPab** **10 38 08.1 +0.3**
HORN Hornachuelos 154.85 345 P **PKPdf** **10 37 46.5 +2.1**
SNR=9.4
PBEJ Beja 155.22 350 *e*PKPdf **PKPdf** **10 37 44.5 -0.4**
PBEJ Beja 155.22 350 *e*PKPbc PKPdf 10 37 54.0 +9.1
PBEJ Beja 155.22 350 *e*PKPab **PKPab** **10 38 11.2 +1.3**
PNCL Nicolau / Gran 155.24 351 *e*PKPdf **PKPdf** **10 37 44.7 -0.2**
PNCL Nicolau / Gran 155.24 351 *e*PKPbc PKPdf 10 37 54.0 +9.1
PNCL Nicolau / Gran 155.24 351 *e*PKPab **PKPab** **10 38 09.8 -0.1**
MESJ Messejana 155.46 351 *e*PKPdf **PKPdf** **10 37 45.0 -0.2**
MESJ *e*PP **PP** **10 41 48.2 +1.8**
MESJ AMS AMS 11 50 18.8
comp=Z,3µm,16.0s
MESJ Messejana 155.46 351 *e*PKIKP **PKPdf** **10 37 45.0 -0.2**
MESJ *e* 10 41 48.2
MESJ Messejana 155.46 351 *e*PKPdf **PKPdf** **10 37 45.3 +0.1**
PCVE Castro Verde 155.63 350 *e*PKPdf **PKPdf** **10 37 45.1 -0.4**
PCVE Castro Verde 155.63 350 *e*PKPab **PKPab** **10 38 12.9 +1.3**
EMAL Malaga-Limoner 155.64 343 PKP1 **PKPdf** **10 37 43.7 -1.8**
EMAL Malaga-Limoner 155.64 343 PKP2 **PKPab** **10 38 09.1 -2.6**
PVAQ Vaqueiros 155.80 349 P **PKPdf** **10 37 46.4 +0.7**
SNR=7.2
PVAQ Vaqueiros 155.80 349 *e*PKPdf **PKPdf** **10 37 45.4 -0.3**
PVAQ Vaqueiros 155.80 349 *e*PKPab **PKPab** **10 38 13.9 +1.5**
PVAQ Vaqueiros 155.80 349 *e*LR LR 11 34 57.9
comp=Z,5µm,20.0s
PTEO Sao Teotonio 155.83 351 *e*PKPdf **PKPdf** **10 37 45.5 -0.2**
PTEO Sao Teotonio 155.83 351 *e*PKPab **PKPab** **10 38 13.9 +1.5**
PBDV Barranco-do-Ve 156.00 350 *e*PKPdf **PKPdf** **10 37 46.2 +0.2**
PBDV Barranco-do-Ve 156.00 350 *e*PKPab **PKPab** **10 38 15.1 +1.9**
MORF Marmelete 156.05 351 *e*PKPdf **PKPdf** **10 37 45.9 -0.3**
MORF *e*PP **PP** **10 41 51.4 +1.7**
MORF AMS AMS 11 49 39.9
comp=Z,3µm,23.4s
MORF Marmelete 156.05 351 *e*PKIKP **PKPdf** **10 37 45.8 -0.3**
MORF *e* 10 41 51.4
MORF Marmelete 156.05 351 *e*PKPdf **PKPdf** **10 37 46.1 0.0**
**MORF Marmelete 156

PFVI				IAMs_20	IAMs_20	11 48 25.4		
	comp=Z,4μm,22.0s							
SFS	**San Fernando**	**156.39**	**346**	PKP1	**PKPdf**	**10 37 46.2**	**-0.2**	
SFS	**San Fernando**	**156.39**	**346**	PKP2	**PKPab**	**10 38 15.4**	**+0.6**	
SFS	**San Fernando**	**156.39**	**346**	IAMs_20	IAMs_20	11 57 14.5		
	comp=Z,4μm,21.0s							
MELI	**Melilla**	**156.51**	**339**	PKP1	**PKPdf**	**10 37 44.8**	**-1.9**	
MELI	**Melilla**	**156.51**	**339**	PKP2	**PKPab**	**10 38 14.9**	**-0.6**	
GOG	**Mont Gurugu**	**156.59**	**339**	P	**PKPdf**	**10 37 48.0**	**+1.0**	
	SNR=5.7							
CEU	**Ceuta**	**156.72**	**344**	PKP1	**PKPdf**	**10 37 45.5**	**-1.4**	
CEU	**Ceuta**	**156.72**	**344**	PKP2	**PKPab**	**10 38 15.1**	**-1.3**	
TAF	**Taforalt**	**156.75**	**337**	P	**PKPdf**	**10 37 48.2**	**+1.1**	
	SNR=9.2							
PVLZ	**Pæan de**	**157.08**	**341**	PKP1	**PKPdf**	**10 37 44.0**	**-3.4**	
CHEFC	**Chefchaouen**	**157.45**	**343**	P	**PKPdf**	**10 37 50.0**	**+1.9**	
	SNR=9.0							
RSA	**Sarsar**	**157.79**	**344**	P	**PKPdf**	**10 37 50.0**	**+1.5**	
	SNR=11							
TDRA	**Tendrara**	**158.14**	**334**	P	**PKPdf**	**10 37 51.1**	**+2.0**	
	SNR=7.3							
SICH	**Sidi Chahed**	**158.38**	**342**	P	**PKPdf**	**10 37 51.0**	**+1.9**	
	SNR=8.5							
IFR	**Ifrane**	**158.87**	**341**	PKP1	**PKPdf**	**10 37 49.6**	**-0.3**	
RTC	**Rabat Centre**	**158.91**	**345**	P	**PKPdf**	**10 37 51.4**	**+1.7**	
	SNR=7.2							
CZD	**Col de Zad**	**159.28**	**340**	P	**PKPdf**	**10 37 52.0**	**+1.4**	
	SNR=7.5							
MDT	**Midelt**	**159.34**	**339**	P	**PKPdf**	**10 37 51.3**	**+0.9**	
	SNR=8.1							
ZHG	**ZHG**	**159.37**	**344**	P	**PKPdf**	**10 37 52.0**	**+1.6**	
	SNR=11							
AVE	**Averroes**	**159.70**	**346**	P	**PKPdf**	**10 37 51.0**	**+0.3**	
	SNR=6.8							
AVE	**Averroes**	**159.70**	**346**	PKP1	**PKPdf**	**10 37 49.8**	**-0.9**	
AVE	**Averroes**	**159.70**	**346**	PKP2	**PKPab**	**10 38 28.5**	**-0.8**	
PMPST	**Porto Santo, M**	**160.40**	**8**	*e*PKPdf	**PKPdf**	**10 37 50.5**	**-1.0**	
PMPS	**Porto Santo**	**160.42**	**8**	*e*PKPdf	**PKPdf**	**10 37 51.0**	**-0.5**	
ARF	**Arif**	**160.44**	**337**	P	**PKPdf**	**10 37 54.0**	**+2.3**	
	SNR=9.6							
GOLM	**Goulimina**	**160.47**	**339**	P	**PKPdf**	**10 37 54.0**	**+2.2**	
	SNR=11							
PMOZ	**Porto Moniz, M**	**160.51**	**10**	*e*PKPdf	**PKPdf**	**10 37 51.9**	**+0.2**	
PMOZ	**Porto Moniz, M**	**160.51**	**10**	*e*SS	SS	11 02 26.3	+5.5	
PMOZ	**Porto Moniz, M**	**160.51**	**10**	*e*LR	LR	11 32 42.1		
	comp=Z,3μm,22.0s							
TZRR	**Tazzarine**	**161.52**	**339**	P	**PKPdf**	**10 37 55.0**	**+2.1**	
	SNR=9.1							
EAH	**EAH**	**161.74**	**350**	P	**PKPdf**	**10 37 55.0**	**+2.0**	
	SNR=6.9							
OUZM	**OUZ**	**161.79**	**342**	P	**PKPdf**	**10 37 55.0**	**+1.8**	
	SNR=7.3							
OUK	**Oukaimeden**	**161.81**	**345**	P	**PKPdf**	**10 37 54.0**	**+0.5**	
	SNR=12							
ZGR	**Zagora**	**162.14**	**338**	P	**PKPdf**	**10 37 55.0**	**+1.4**	
	SNR=8.7							
TORD	**Torodi Ar. Bea**	**165.53**	**270**	PKP	**PKPdf**	**10 37 55.9**	**-1.0**	
	comp=Z,44nn,0.9s,baz=9.6,slow=0.9,SNR=139							
TORD				PKPab	**PKPab**	**10 38 55.9**	**+0.2**	
	comp=Z,94nn,0.9s,baz=82,slow=3.8,SNR=22							
TORD				PP	**PP**	**10 42 40.0**	**-3.1**	
	comp=Z,15nn,0.9s,baz=108,slow=3.9,SNR=5.5							
TORD				PKKP		10 46 20.1		
	comp=Z,5.3nn,1.0s,baz=211,slow=0.1,SNR=3.6							
TORD				SKKP		10 49 59.7		
	comp=Z,8.0nn,1.2s,baz=73,slow=1.4,SNR=5.5							
TORD	**Torodi Ar. Bea**	**165.53**	**270**		**PKPdf**	**10 37 55.6**	**-1.3**	
KIC	**Kosan Boka**	**169.02**	**230**	*e*PKP1	**PKPdf**	**10 37 58.7**	**-0.8**	
	comp=Z,356nn,1.2s							
KIC	**Kosan Boka**	**169.02**	**230**	*e*PKP2	**PKPab**	**10 39 10.6**	**-0.3**	
	comp=Z,187nn,0.9s							
KIC	**Kosan Boka**	**169.02**	**230**	*e*PKP1	SKKSac	10 50 07.2	+24	
	comp=Z,94nn,1.5s							
LIC	**Lamto**	**169.14**	**228**	*e*PKP1	**PKPdf**	**10 37 57.9**	**-1.7**	
	comp=Z,792nn,1.8s							
LIC	**Lamto**	**169.14**	**228**	*e*PKP2	**PKPab**	**10 39 11.3**	**-0.1**	
	comp=Z,396nn,1.4s							
LIC	**Lamto**	**169.14**	**228**	*e*PKP1	SKKSac	10 50 07.7	+24	
	comp=Z,123nn,1.6s							
DBIC	**Dimbokro**	**169.31**	**231**	PKP	**PKPdf**	**10 37 58.8**	**-0.8**	
	comp=Z,66nn,0.9s,baz=142,slow=1.3,SNR=26							
DBIC				PKPab	**PKPab**	**10 39 12.7**	**+0.5**	
	comp=Z,40nn,0.9s,baz=111,slow=5.6,SNR=6.8							
DBIC				PP	**PP**	**10 43 02.4**	**+1.1**	
	comp=Z,12nn,1.0s,baz=134,slow=4.5,SNR=2.3							
DBIC	**Dimbokro**	**169.31**	**231**		**PKPdf**	**10 37 59.1**	**-0.6**	
TIC	**Toumodi**	**169.41**	**230**	*e*PKP1	**PKPdf**	**10 37 58.9**	**-0.9**	
TIC	**Toumodi**	**169.41**	**230**	*e*PKP2	**PKPab**	**10 39 12.2**	**-0.5**	
TIC	**Toumodi**	**169.41**	**230**	*e*PKP1	SKKSac	10 50 08.5	+24	

*KRNET **19** 10:39:10.9±0.1, 41.˚11N×69.˚56E, mb2.9*
ISC 19 10:39:12.2±2.0, 40.˚99N±0.˚05×69.˚65E±0.˚07, h1km±14km, n13, σ1°07/24, 13C-12D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**1.28**	**136**	⇑*i*P	**Pg**	**10 39 37.2**	**+0.4**
BTK				⇑*i*S	**Sn**	**10 39 56.7**	**+1.5**
	baz=37						
ARK	**Arkit**	**1.92**	**64**	⇓*i*P	**Pn**	**10 39 46.5**	**+0.4**
ARK				⇓*i*S	**Sb**	**10 40 12.4**	**-0.2**
	baz=69						
GAR	**Garm**	**2.05**	**165**	⇑*i*P	**Pb**	**10 39 49.8**	**-0.5**
GAR				⇑*i*S	**Sg**	**10 40 18.4**	**+0.4**
	baz=64						
KK31	**Karatay Array**	**2.21**	**17**	Pn	**Pb**	**10 39 52.4**	**-0.6**
	3.7nn,0.4s,baz=201,slow=15,SNR=27						
KK31				⇓Lg	Lg	10 40 22.0	
	7.8nn,0.4s,baz=197,slow=29,SNR=12						
CHGR	**Chuyangaron**	**2.36**	**189**	⇑*i*P	**Pb**	**10 39 53.7**	**-1.8**
CHGR				⇑*i*S	**Sb**	**10 40 25.4**	**+0.3**
	baz=87						
OHH	**Osh**	**2.43**	**100**	⇑*i*P	**Pb**	**10 39 54.7**	**-2.0**
OHH				⇑*i*S	**Sb**	**10 40 26.4**	**-0.7**
	baz=2.0						
ARSB	**Arslanbob**	**2.54**	**81**	⇓*i*P	**Pn**	**10 39 55.9**	**+1.2**
ARSB				⇓*i*S	**Sb**	**10 40 28.2**	**-2.2**
	baz=84						
AML	**Almayashu**	**3.24**	**68**	⇑*i*P	**Pn**	**10 40 05.0**	**+0.4**
AML				⇑*i*S	**Sn**	**10 40 44.0**	**0.0**
	baz=70						
EKS2	**Erkin-Say**	**3.51**	**60**	⇑*e*P	**Pn**	**10 40 07.9**	**-0.1**
EKS2				⇑*i*S	**Sn**	**10 40 49.5**	**-0.7**
	baz=62						
ARLS	**Aral**	**3.62**	**74**	⇓*i*P	**Pn**	**10 40 10.7**	**+1.1**
ARLS				⇓*i*S	**Sn**	**10 40 54.4**	**+1.4**
	baz=76						
UCH	**Uchtor**	**3.85**	**70**	⇓*i*P	**Pn**	**10 40 13.3**	**+0.3**
UCH				⇓*i*S	**Sn**	**10 40 58.9**	**-0.2**
	baz=72						
AAK	**Ala-Archa**	**3.98**	**64**	⇑Pg	**Pb**	**10 40 24.2**	**+1.0**
	2.2nn,0.5s						
AAK				⇓Lg	Lg	10 41 19.2	
	2.8nn,0.7s						
KZA	**Kyzart**	**4.34**	**74**	⇓*i*P	**Pn**	**10 40 20.5**	**+0.8**
KZA				⇓*i*S	**Sn**	**10 41 11.0**	**-0.1**
	baz=75						
	baz=75						

*ECX **19** 10:44:27.3±1.1, 32.˚28N×115.˚39W, h0km±5km, MD2.6, ML2.7*
*MEX **19** 10:44:28.1±0.4, 32.˚42N×115.˚22W, h27km±3km, MD3.6*
ISC 19 10:44:26.2±0.9, 32.˚27N±0.˚03×115.˚37W±0.˚05, h13km±8km, n14, σ0°75/26, 2C-5D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CPBX	**Cerro Prieto**	**0.16**	**20**	⇑*e*P	**Pg**	**10 44 29.7**	**-0.3**
CPBX				*e*S	**Sg**	**10 44 32.7**	**+0.1**
MBIG	**Mexicali**	**0.20**	**46**	*e*P	**Pb**	**10 44 31.6**	**-0.1**
MBIG				*e*S	**Sb**	**10 44 36.2**	**+0.8**
MBIG	**Mexicali**	**0.20**	**46**	*e*P	**Pg**	**10 44 29.3**	**-1.3**
MBIG				*e*P	**Pb**	**10 44 31.6**	**-0.1**
MBIG				*i*S	**Sg**	**10 44 32.0**	**-1.6**
MBIG				*i*S	**Sb**	**10 44 33.9**	**-1.5**
GUVIX	**Guadalupe Vict**	**0.25**	**82**	⇑*i*P	**Pb**	**10 44 33.2**	**+0.6**
POT2	**Potabilizadora**	**0.36**	**358**	*e*P	**Pb**	**10 44 34.4**	**-0.1**
POT2				*e*S	**Sb**	**10 44 40.3**	**+0.3**
UABX	**UABC, Campus M**	**0.37**	**351**	*e*P	**Pg**	**10 44 34.5**	**+1.0**
UABX				*e*S	**Sb**	**10 44 40.7**	**+0.4**
DREC	**Desert Rsrch C**	**0.54**	**353**	⇓*e*P	**Pb**	**10 44 37.6**	**+0.1**
DREC				*e*S	**Sb**	**10 44 46.3**	**+1.1**
WESC	**Westside Schoo**	**0.58**	**328**	⇓*e*P	**Pg**	**10 44 38.1**	**+0.6**
WESC				*e*S	**Sb**	**10 44 46.7**	**+0.4**
SWSC	**Sam W. Stewart**	**0.77**	**332**	⇓*e*P	**Pg**	**10 44 40.5**	**-0.6**
VTX	**Valle De La Tr**	**0.94**	**202**	IAML		10 44 58.6	
	comp=E,219nm,0.1s						
VTX				⇓*e*		10 44 58.6	
VTX				IAML		10 44 59.3	
	comp=N,190nm,0.1s						
VTX				⇓*e*		10 44 59.3	
CBX	**Cerro Bola**	**1.10**	**273**	*e*P	**Pb**	**10 44 47.0**	**-0.1**
CBX				*e*S	**Sb**	**10 45 01.0**	**-0.4**
TJIG	**Tijuana**	**1.12**	**279**	*e*P	**Pb**	**10 44 47.2**	**-0.2**
TJIG				*i*S	**Sb**	**10 45 01.7**	**-0.1**
SPIG	**San Pedro Mart**	**1.22**	**184**	*e*P	**Pn**	**10 44 49.3**	**0.0**
SPIG				*i*S	**Sb**	**10 45 05.3**	**+0.1**
SPX	**San Pedro Mart**	**1.23**	**184**	*e*P	**Pn**	**10 44 49.4**	**-0.1**
SPX				*i*S	**Sb**	**10 45 06.6**	**+1.2**

*IDC **19** 11:08:25.5±0.6, 55.˚38S×27.˚75W, h0km, mb4.3/10, mb1 4.4/11, mb1mx4.2/22, mbtmp4.3/11, ML4.5/1, Error ellipse: s-maj=23.2km s-min=16.6km az=68.0*
*NEIC **19** 11:08:29.5±1.3, 55.˚4S±0.˚1×27.˚9W±0.˚2, h26km±3km, mb4.6/18, Error ellipse: s-maj=20.2km s-min=12.5km az=201.0*
ISC 19 11:08:29.3±0.5, 55.˚4S±0.˚1×27.˚9W±0.˚1, h26km, n51, σ0°91/43, mb4.5/15, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.09**	**279**		**Pn**	**11 09 42.5**	**-1.3**
VNA1	**Neumayer--Stat**	**17.54**	**158**	P	**P**	**11 12 35.2**	**+2.7**
VNA3	**Neumayer Olymp**	**17.73**	**161**	P	**P**	**11 12 34.9**	**+0.2**
SNAA	**Sanae**	**19.49**	**156**	P	**P**	**11 12 53.9**	**-0.2**
SNAA	**Sanae**	**19.49**	**156**	P	**Pn**	**11 12 54.0**	**-1.4**
	1.4nn,0.3s,baz=285,slow=12,SNR=71						
SNAA	**Sanae**	**19.49**	**156**	P	**P**	**11 12 53.5**	**-0.6**
PLCA	**Paso Flores**	**31.49**	**280**	P	**P**	**11 14 50.7**	**+1.9**
	1.1nn,0.8s,baz=70,slow=9.9,SNR=1.6						
PLCA	**Paso Flores**	**31.49**	**280**	IAmb	IAmb	11 14 59.2	
	comp=Z,16nm,1.4s						
QSPA	**South Pole Qui**	**34.84**	**180**	P	**P**	**11 15 17.4**	**-0.4**
	comp=Z,3.0nm,0.5s,baz=204,slow=2.8,SNR=38						
QSPA	**South Pole Qui**	**34.84**	**180**	P	**P**	**11 15 17.5**	**-0.4**
CPUP	**Villa Florida**	**36.09**	**312**	P	**P**	**11 15 28.4**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=139,slow=4.5,SNR=5.3						
CPUP	**Villa Florida**	**36.09**	**312**	IAmb	IAmb	11 15 29.1	
	comp=Z,4.8nm,1.1s						
MT02	**Curacav**	**37.20**	**288**	P	**P**	**11 15 38.0**	**-0.2**
MT02				IAmb	IAmb	11 15 52.1	
	comp=Z,17nm,1.4s						
VA03	**San Esteban**	**37.26**	**289**	P	**P**	**11 15 39.9**	**+1.0**
VA03				IAmb	IAmb	11 15 40.3	
	comp=Z,5.5nm,0.7s						
ROC1	**El Roble**	**37.35**	**289**	P	**P**	**11 15 39.5**	**-0.2**
CO02	**Combarbal**	**38.71**	**291**	P	**P**	**11 15 51.4**	**+0.3**
CO02				IAmb	IAmb	11 15 52.2	
	comp=Z,8.5nm,1.1s						
CO01	**Juntas del Tor**	**39.20**	**293**	P	**P**	**11 15 56.9**	**+1.6**
AC05	**El Transito**	**40.20**	**294**	P	**P**	**11 16 03.8**	**+0.3**
AC05				IAmb	IAmb	11 16 16.9	
	comp=Z,10nm,1.2s						
MAW	**Mawson**	**40.90**	**144**	P	**P**	**11 16 09.3**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=9.0,slow=20,SNR=1.4						
AC04	**Llanos de Chal**	**41.12**	**293**	P	**P**	**11 16 11.7**	**+0.7**
AC04				IAmb	IAmb	11 16 12.2	
	comp=Z,7.3nm,0.9s						
LVC	**Limon Verde**	**44.63**	**300**	P	**P**	**11 16 41.0**	**+1.2**
LVC				IAmb	IAmb	11 16 42.5	
	comp=Z,4.8nm,0.5s						
BOSA	**Boshof**	**46.21**	**77**	P	**P**	**11 16 52.2**	**+0.1**
	comp=Z,3.8nm,1.0s,baz=333,slow=14,SNR=1.8						
BOSA	**Boshof**	**46.21**	**77**	IAmb	IAmb	11 17 08.3	
	comp=Z,11nm,1.2s						
VNDA	**Vanda**	**47.19**	**183**	P	**P**	**11 16 59.7**	**+0.7**
	comp=Z,3.2nm,0.8s,baz=189,slow=5.3,SNR=16						
VNDA	**Vanda**	**47.19**	**183**	P	**P**	**11 16 59.8**	**+0.7**
VNDA				IAmb	IAmb	11 17 00.8	
	comp=Z,3.3nm,0.8s						
GO01	**Chusmiza**	**47.26**	**302**	P	**P**	**11 17 01.6**	**+0.9**
H10S2	**ASCENSION HYDR**	**47.51**	**18**	T	T	12 09 03.9	
H10S3	**ASCENSION HYDR**	**47.51**	**18**	T	T	12 09 05.5	
	SNR=6.3						
H10N1	**ASCENSION HYDR**	**48.63**	**18**	T	T	12 10 22.7	
	baz=196						
H10N3	**ASCENSION HYDR**	**48.63**	**18**	T	T	12 10 26.0	
	baz=196						
H10N2	**ASCENSION HYDR**	**48.64**	**18**	T	T	12 10 29.6	
	baz=196						
LPAZ	**La Paz**	**49.68**	**306**	P	**P**	**11 17 20.3**	**+0.8**
	comp=Z,6.2nm,0.6s,baz=136,slow=5.6,SNR=32						
LPAZ	**La Paz**	**49.68**	**306**	P	**P**	**11 17 20.4**	**+0.8**
DBIC	**Dimbokro**	**64.76**	**25**	P	**P**	**11 19 05.3**	**0.0**
	comp=Z,3.1nm,0.6s,baz=161,slow=8.3,SNR=4.0						
TOA0	**Torodi Ar. Sit**	**72.70**	**30**	P	**P**	**11 19 55.2**	**+0.5**
TORD	**Torodi Ar. Bea**	**72.70**	**30**	P	**P**	**11 19 54.6**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=200,slow=6.6,SNR=22						
TORD	**Torodi Ar. Bea**	**72.70**	**30**	P	**P**	**11 19 55.5**	**+0.8**
ASAR	**Alice Springs**	**99.72**	**163**	P	**Pdif**	**11 22 09.3**	**-1.6**
	comp=Z,1.0nm,1.1s,baz=188,slow=5.6,SNR=2.8						
NVAR	**Mina Array Bea**	**120.77**	**294**	PKP	**PKiKP**	**11 27 19.1**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=79,slow=3.2,SNR=3.6						
FINES	**FINESS Array B**	**124.01**	**28**	PKP	**PKPdf**	**11 27 23.0**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=186,slow=1.9,SNR=10						
ARCES	**ARCESS Array B**	**130.50**	**22**	PKP	**PKPdf**	**11 27 35.5**	**-0.4**
	comp=Z,2.7nm,1.0s,baz=45,slow=0.3,SNR=5.0						
YKA	**Yellowknife Ar**	**135.42**	**319**	PKP	**PKPdf**	**11 27 45.2**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=135,slow=2.6,SNR=8.3						
INK	**Inuvik**	**145.05**	**321**	PKPbc	**PKPdf**	**11 28 02.3**	**-0.2**
	comp=Z,13nm,0.8s,baz=76,slow=2.7,SNR=17						
INK	**Inuvik**	**145.05**	**321**		**PKPdf**	**11 28 02.7**	**+0.2**
BCAR	**Beaver Creek A**	**146.77**	**311**		**PKPbc**	**11 28 06.2**	**-1.3**
SCRK	**Sand Creek**	**147.97**	**312**		**PKiKP**	**11 28 11.6**	**-1.1**
IL31		**149.39**	**313**		**PKPbc**	**11 28 14.2**	**-0.1**
ILAR	**Eielson Array**	**149.39**	**313**	PKPbc	**PKPbc**	**11 28 14.3**	**0.0**
	comp=Z,5.2nm,0.7s,baz=123,slow=2.1,SNR=48						
TOLK	**Toolik Lake Re**	**150.93**	**320**		**PKiKP**	**11 28 18.2**	**-0.3**
SONM	**Songino Array**	**151.09**	**86**	PKPbc	**PKiKP**	**11 28 19.0**	**-0.7**
	comp=Z,2.7nm,0.6s,baz=221,slow=3.7,SNR=14						
IMAR	**Indian Mountai**	**152.40**	**314**		**PKPbc**	**11 28 20.1**	**-1.3**

MAN 19 11:21:30.6, 16.˚35N×120.˚60E, h11km, mb4.3, ML3.1, MS2.8, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMPP	**San Manuel, Pa**	**0.21**	**159**	*e*P	Pb	11 21 35.9	-0.6
SMPP				*e*S	Sg	11 21 39.4	+1.2
BOLP	**Bolinao**	**0.66**	**273**	*e*P	Pb	11 21 44.0	-0.1
BOLP				*e*S	Sb	11 21 54.1	+0.8
BALP	**Baler**	**1.12**	**123**	*e*P	Pb	11 21 51.5	-0.4
BALP				*e*S	Sn	11 22 07.2	-0.3
ABRA	**Dolores**	**1.29**	**5**	*e*P	Pn	11 21 52.2	-2.4
ABRA				*e*S	Sb	11 22 08.8	-2.8
CAUP	**Cauayan**	**1.31**	**63**	*e*P	Pb	11 21 55.2	0.0
CAUP				*e*S	Sg	11 22 15.9	+3.1
APYP	**Conner**	**1.62**	**22**	*e*P	Pn	11 21 58.5	-0.6
APYP				*e*S	Sb	11 22 21.1	+0.1

*ISK **19** 11:21:32.6, 38.˚63N×25.˚81E, h8km, ML2.8/10*
*ATH **19** 11:21:32.6, 38.˚57N×25.˚79E, h31km±3km, ML2.6/8, Error ellipse: s-maj=4.3km s-min=1.2km az=47.0*
*THE **19** 11:21:33.3, 38.˚56N×25.˚81E, h8km±1km, ML2.4/9, Error ellipse: s-maj=1.6km s-min=0.6km az=3.0*
*DDA **19** 11:21:34.0, 38.˚53N×25.˚79E, h9km±1km, ML2.5*
ISC 19 11:21:32.9±1.1, 38.˚57N±0.˚02×25.˚78E±0.˚02, h11km±10km, n58, σ0°66/81, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.65**	**5**	P	**Pg**	**11 21 45.0**	**-0.5**
SIGR				S	**Sb**	**11 21 55.1**	**-0.2**
	478nm,0.3s						
SIGR	**SIGRI**	**0.65**	**5**	P	**Pg**	**11 21 45.1**	**-0.4**
SIGR				AML	AML	11 21 56.5	
	comp=N,833μm,0.3s						
SIGR				AML	AML	11 21 57.4	
	comp=E,1078μm,0.4s						
URLA	**Izmir**	**0.67**	**108**	PG	**Pg**	**11 21 46.2**	**+0.3**
URLA				SG	**Sb**	**11 21 55.4**	**-0.5**
URLA	**Izmir**	**0.67**	**108**	*i*P	**Pg**	**11 21 46.1**	**+0.2**
URLA				*i*S	**Sb**	**11 21 55.5**	**-0.5**
URLA				IAML		11 21 58.0	
	comp=N,279nm,0.5s						
URLA				IAML		11 21 58.0	
	comp=E,238nm,0.3s						
PRK	**Paraskevi**	**0.78**	**29**	P	**Pg**	**11 21 48.3**	**+0.3**
PRK				S	**Sb**	**11 21 59.8**	**+0.7**
	comp=E,970nm,0.8s						
PRK	**Paraskevi**	**0.78**	**29**	P	**Pg**	**11 21 48.3**	**+0.3**
PRK				S	**Sb**	**11 21 59.8**	**+0.7**
PRK				AML	AML	11 22 01.3	
	comp=N,2255μm,0.6s						
PRK				AML	AML	11 22 01.9	
	comp=E,1685μm,0.9s						
DKL	**Dikili**	**1.01**	**60**	PG	**Pg**	**11 21 51.6**	**-0.8**
DKL				SG	**Sg**	**11 22 05.3**	**-0.3**
SKY	**Skiros Island**	**1.01**	**288**	P	**Pn**	**11 21 53.2**	**+0.1**
SKY				S	**Sn**	**11 22 07.7**	**+0.4**
	comp=E,172nm,0.2s						
SKY	**Skiros Island**	**1.01**	**288**	P	**Pb**	**11 21 52.9**	**+0.4**
AYVA	**Ayvalik**	**1.02**	**43**	*i*P	**Pb**	**11 21 52.6**	**-0.1**
AYVA				IAML		11 22 06.0	
	comp=N,152nm,0.7s						
AYVA				*i*S	**Sb**	**11 22 06.6**	**+0.5**
AYVA				IAML		11 22 07.0	
	comp=E,157nm,0.6s						
ZEDA	**zmir-Bergama**	**1.09**	**68**	*i*P	**Pb**	**11 21 53.7**	**0.0**
ZEDA				*i*S	**Sg**	**11 22 08.1**	**0.0**
KARY	**Karystos**	**1.19**	**244**	P	**Pn**	**11 21 55.0**	**-0.4**
KARY				S	**Sn**	**11 22 12.5**	**+1.0**
	comp=E,160nm,0.2s						
KARY	**Karystos**	**1.19**	**244**	P	**Pn**	**11 21 55.0**	**-0.4**
KARY				S	**Sb**	**11 22 10.5**	**-0.2**
KARY				AML	AML	11 22 13.9	
	comp=N,372μm,0.2s						
KARY				AML	AML	11 22 14.3	
	comp=E,258μm,0.3s						
SMG	**Samos**	**1.19**	**136**	P	**Pb**	**11 21 55.1**	**-0.4**
SMG				S	**Sn**	**11 22 11.8**	**+0.1**
	comp=E,540nm,0.3s						
SMG	**Samos**	**1.19**	**136**	P	**Pn**	**11 21 55.7**	**+0.1**
SMG				AML	AML	11 22 14.7	
	comp=E,1267μm,0.3s						
SMG				AML	AML	11 22 15.9	
	comp=N,901μm,0.3s						
BOZC	**Bozcaada**	**1.29**	**9**	PN	**Pn**	**11 21 56.3**	**-0.6**
BOZC				SN	**Sn**	**11 22 14.1**	**-0.1**
BOZC	**Bozcaada**	**1.29**	**9**	*i*P	**Pn**	**11 21 55.3**	**-1.6**
BOZC				*i*S	**Sg**	**11 22 15.1**	**+0.6**
BOZC				IAML		11 22 16.0	
	comp=N,45nm,0.3s						
BAYC	**CANAKKALE_Bayr**	**1.32**	**27**	*i*P	**Pn**	**11 21 55.4**	**-1.9**
BAYC				*i*S	**Sg**	**11 22 15.2**	**-0.1**
KYMI	**Kymi, Euboea I**	**1.32**	**273**	P	**Pb**	**11 21 57.8**	**+0.1**
KYMI	**Kymi, Euboea I**	**1.32**	**273**	P	**Pn**	**11 21 57.3**	**0.0**
EZN	**Ezine**	**1.33**	**18**	P	**Pn**	**11 21 57.1**	**-0.3**
EZN				S	**Sg**	**11 22 15.9**	**+0.2**
	comp=N,152nm,0.5s						
EZN	**Ezine**	**1.33**	**18**	PN	**Pn**	**11 21 56.9**	**-0.5**
EZN				SN	**Sb**	**11 22 14.9**	**+0.1**
LIA	**Limnos Island**	**1.41**	**341**	P	**Pn**	**11 21 57.8**	**-0.7**
LIA				S	**Sn**	**11 22 17.1**	**0.0**
	comp=N,95nm,0.5s						
LIA	**Limnos Island**	**1.41**	**341**	P	**Pn**	**11 21 57.8**	**-0.7**
GCAM	**G?zelcaml?**	**1.43**	**127**	PN	**Pb**	**11 21 59.9**	**+0.3**
GCAM				SN	**Sg**	**11 22 19.6**	**+0.6**
APE	**Apeiranthos**	**1.51**	**188**	P	**Pn**	**11 21 59.0**	**-0.9**
APE				S	**Sb**	**11 22 19.9**	**-0.2**
	comp=N,95nm,0.3s						
APE	**Apeiranthos**	**1.51**	**188**	P	**Pn**	**11 21 59.1**	**-0.8**
APE				AML	AML	11 22 25.9	
	comp=E,143μm,0.3s						
APE				AML	AML	11 22 28.1	
	comp=N,229μm,0.2s						
DION	**Dionisos Attik**	**1.53**	**252**	P	**Pn**	**11 22 00.1**	**-0.2**
DION	**Dionisos Attik**	**1.53**	**252**	P	**Pn**	**11 22 00.1**	**-0.2**
DION				AML	AML	11 22 25.4	
	comp=E,503μm,0.5s						
DION				AML	AML	11 22 29.4	
	comp=N,309μm,0.6s				

MNMC	Minye Minye	1.55	58	⇑*i*	P		Pn	11 26 41.4	+0.4
MNMC				*i*	S		Sg	11 27 02.4	-0.3
MNMC					IAML			11 27 07.9	
	comp=E,20μm,0.3s								
MNMC	Minye Minye	1.55	58				Pn	11 26 41.4	+0.4
AP01	Chacalluta	1.69	21				Pn	11 26 43.7	+0.9
GO01	Chusmiza	1.71	81	⇑*i*	P		Pn	11 26 43.6	+0.2
GO01				*i*	S		Sb	11 27 06.5	-0.2
GO01	Chusmiza	1.71	81				Pn	11 26 43.5	0.0
PB08	IPOC Station P	1.73	96	⇑*i*	P		Pn	11 26 43.6	-0.1
PB08				*i*	S		Sb	11 27 06.6	-0.6
PB08					IAML			11 27 08.4	
	comp=N,5μm,0.3s								
PB08	IPOC Station P	1.73	96				Pn	11 26 43.6	-0.1
PB01	IPOC Station P	1.77	128	⇑*i*	P		Pn	11 26 43.6	-0.3
PB01				*i*	S		Sn	11 27 05.8	-0.9
PB01					IAML			11 27 11.8	
	comp=E,6μm,0.4s								
PB01	IPOC Station P	1.77	128				Pn	11 26 43.6	-0.3
PB07	IPOC Station P	2.04	150				Pn	11 26 46.7	-0.9
PB09	IPOC Station P	2.45	139				Pn	11 26 53.7	+0.4
PB09	IPOC Station P	2.45	139	*i*	P		Pn	11 26 53.9	+0.6
PB09					eS		Sg	11 27 34.0	+2.6
PB04	IPOC Station P	2.49	162				Pn	11 26 52.6	-1.3
PB04	IPOC Station P	2.49	162	*i*	P		Pn	11 26 52.6	-1.3
PB04					IAML			11 27 47.8	
	comp=Z,2μm,0.6s								
PB05	IPOC Station P	2.97	166	*i*	P		Pn	11 26 58.8	-1.7
PB05					IAML			11 28 00.2	
	comp=Z,777nm,0.6s								
PB06	IPOC Station P	3.03	155				Pn	11 27 00.2	-1.1
PB06	IPOC Station P	3.03	155	*i*	P		Pn	11 27 00.2	-1.1
PB06				*e*	S		Sg	11 27 48.9	-1.3
PB06					IAML			11 27 57.2	
	comp=Z,1μm,0.7s								
LVC	Limon Verde	3.27	144	Pn			Pn	11 27 05.0	+0.2
	comp=Z,13nm,0.3s,baz=344,slow=8.2,SNR=77								
LVC					Sn		Sn	11 27 41.9	-2.3
	comp=Z,85nm,0.3s,baz=337,slow=10,SNR=3.0								
LVC	Limon Verde	3.27	144	Pn			Pn	11 27 05.5	+0.7
LVC	Limon Verde	3.27	144	*i*	P		Pn	11 27 05.5	+0.7
LVC				*e*	S		Sb	11 27 54.1	+2.5
LVC					IAML			11 27 58.2	
	comp=Z,561nm,0.6s								
LVC	Limon Verde	3.27	144	*e*	P		Pn	11 27 05.7	+0.9
LVC	Limon Verde	3.27	144	*e*	P		Pn	11 27 05.7	+0.9
PB15	IPOC Station P	3.52	157				Pn	11 27 06.9	-1.3
PB15	IPOC Station P	3.52	157	*i*	P		Pn	11 27 07.7	-0.5
PB10	IPOC Station P	3.56	174	Pn			Pn	11 27 06.6	-1.9
PB10	IPOC Station P	3.56	174	*i*	P		Pn	11 27 06.5	-1.9
PB10					IAML			11 28 23.9	
	comp=Z,182nm,0.5s								
LPAZ	La Paz	4.55	37	Pn			Pb	11 27 29.6	-3.8
	comp=Z,4.0nm,0.3s,baz=198,slow=2.8,SNR=39								
LPAZ	La Paz	4.55	37	Pn			Pn	11 27 23.1	+0.5
GO02	Mina Guanaco	5.33	166	Pn			Pn	11 27 32.0	-1.1
YJA	Yavi	5.56	114	*i*	P		Pn	11 27 41.8	+5.4
HJA	Humahuaca	6.11	123	*i*	P		Pn	11 27 50.0	+6.1
AC01	Pan de Azucar	6.17	177	Pn			Pn	11 27 42.7	-1.7
AC02	Maricunga	7.05	166	Pn			Pn	11 27 56.0	-0.9
AC04	Llanos de Chal	8.21	181	Pn			Pn	11 28 10.6	-1.7
AC05	El Transito	8.86	176	Pn			Pn	11 28 20.3	-1.1
SIV	San Ignacio	10.22	69	Pn			Pn	11 28 38.3	-1.8
	comp=Z,4.4nm,0.3s,baz=261,slow=10,SNR=48								
PTLB	Pontes e Lacer	12.15	70	*e*P			Pn	11 29 06.2	-0.2
PTLB	Pontes e Lacer	12.15	70	*e*P			Pn	11 29 06.2	-0.2
VILB	Vilhena	12.47	58	*e*P			Pn	11 29 11.7	+0.9
VILB	Vilhena	12.47	58	*e*P			Pn	11 29 11.7	+0.9
SAML	Samuel	13.29	36				Pn	11 29 23.3	+1.2
SAML	Samuel	13.29	36	*e*P			Pn	11 29 23.3	+1.2
SAML	Samuel	13.29	36	*e*P			Pn	11 29 23.3	+1.2
CPUP	Villa Florida	14.06	119	Pn			Pn	11 29 33.0	+0.5
	comp=Z,0.2nm,0.3s,baz=304,slow=11,SNR=4.9								
CPUP	Villa Florida	14.06	119				Pn	11 29 31.3	-1.2
CPUP	Villa Florida	14.06	119	*e*P			Pn	11 29 33.8	+1.2
CPUP	Villa Florida	14.06	119	*e*P			Pn	11 29 33.8	+1.2
AQDB	Aquidauana	14.36	95	*e*P			Pn	11 29 37.1	+0.6
AQDB	Aquidauana	14.36	95	*e*P			Pn	11 29 37.1	+0.6
SALV	Santo Antonio	15.10	77	*e*P			Pn	11 29 46.7	0.0
SALV	Santo Antonio	15.10	77	*e*P			Pn	11 29 46.7	0.0
H03N1	Juan Fernandez	15.17	206	T			T	11 45 28.6	
	baz=32,slow=72,SNR=263								
H03N2	Juan Fernandez	15.18	206	T			T	11 45 28.7	
	baz=32,slow=72,SNR=247								
H03N3	Juan Fernandez	15.19	206	T			T	11 45 27.7	
	baz=32,slow=72,SNR=397								
BI02	San Fabin de	16.64	181	P			Pn	11 30 07.3	+0.7
TRCB	Terra Rica	17.32	103	*e*P			Pn	11 30 15.8	+0.6
TRCB	Terra Rica	17.32	103	*e*P			Pn	11 30 15.8	+0.6
PTGB	Pitanga	18.13	109	*e*P			P	11 30 27.2	+1.6
PTGB	Pitanga	18.13	109	*e*P			P	11 30 27.2	+1.6
PCMB	Pacaembu	18.52	99	*e*P			Pn	11 30 31.1	+1.2
PCMB	Pacaembu	18.52	99	*e*P			Pn	11 30 31.1	+1.2
LC01	Cunco	18.89	182	P			P	11 30 32.2	-1.6
CPSB	Cacapava Do Su	18.96	127	*e*P			Pn	11 30 35.5	+0.3
CPSB	Cacapava Do Su	18.96	127	*e*P			Pn	11 30 35.5	+0.3
ITRB	Iturama	19.41	93	*e*P			Pn	11 30 41.1	+0.3
ITRB	Iturama	19.41	93	*e*P			Pn	11 30 41.1	+0.3
PLTB	Pedras Altas	19.53	130	*e*P			Pn	11 30 42.6	+0.4
PLTB	Pedras Altas	19.53	130	*e*P			Pn	11 30 42.6	+0.4
NPGB	Novo Progresso	19.87	52	*e*P			P	11 30 43.0	-1.7
NPGB	Novo Progresso	19.87	52	*e*P			P	11 30 43.0	-1.7
FRTB	Fartura	20.19	103	*e*P			P	11 30 48.0	-0.2
FRTB	Fartura	20.19	103	*e*P			P	11 30 48.0	-0.2
CNLB	Canela	20.51	121	*e*P			P	11 30 51.2	-0.4
CNLB	Canela	20.51	121	*e*P			P	11 30 51.2	-0.4
PLCA	Paso Flores	20.71	179	P			P	11 30 53.9	+0.2
	comp=Z,3.5nm,0.8s,baz=357,slow=14,SNR=6.8								
PLCA	Paso Flores	20.71	179	P			P	11 30 54.6	+0.9
PLCA	Paso Flores	20.71	179	*e*P			P	11 30 55.2	+1.4
PLCA	Paso Flores	20.71	179	*e*P			P	11 30 55.2	+1.4
ITTB	Itaituba	21.47	46	*e*P			P	11 31 04.3	+2.3
ITTB	Itaituba	21.47	46	*e*P			P	11 31 04.3	+2.3
PTGA	Pitinga	21.95	31	P			P	11 31 05.2	-1.9
	comp=Z,13nm,0.5s,baz=211,slow=12,SNR=17								
PTGA	Pitinga	21.95	31	P			P	11 31 05.3	-1.9
PTGA					IAmb	IAmb		11 31 08.9	
	comp=Z,14nm,0.6s								
BDFB	Brasilia	22.28	83	P			P	11 31 06.7	-4.3
	comp=Z,3.0nm,0.5s,baz=257,slow=12,SNR=5.0								
BDFB	Brasilia	22.28	83	P			P	11 31 09.7	-1.2
BDFB					IAmb	IAmb		11 31 15.1	
	comp=Z,23nm,1.3s								
PET01	Itanhaem-SP	22.37	105	*e*P			P	11 31 13.7	+2.0
PET01	Itanhaem-SP	22.37	105	*e*P			P	11 31 13.7	+2.0
VAO	Valinhos	22.55	102	*e*P			P	11 31 15.5	+1.8
VAO	Valinhos	22.55	102	*e*P			P	11 31 15.5	+1.8
YOTC	Yotoco, Valle	24.37	347	*e*P			P	11 31 32.0	+0.1
BSCB	Bom Sucesso	24.57	97	*e*P			P	11 31 35.4	+1.7
BSCB	Bom Sucesso	24.57	97	*e*P			P	11 31 35.4	+1.7
TOLC	Tolima	24.76	350	*e*P			P	11 31 38.4	+2.8
SMTB	Santa Maria do	25.16	67	*e*P			P	11 31 38.7	-0.3
SMTB	Santa Maria do	25.16	67	*e*P			P	11 31 38.7	-0.3
MAN01	Angra dos Reis	25.31	101	*e*P			P	11 31 42.4	+2.1
MAN01	Angra dos Reis	25.31	101	*e*P			P	11 31 42.4	+2.1
GUY2C	Guyana, Caldas	25.39	350	*e*P			P	11 31 42.5	+1.0
NORC	Norcasia	25.65	351	*e*P			P	11 31 44.3	+1.0
RUSC	La Rusia	25.77	355	*e*P			P	11 31 45.6	+0.7
RUSC	La Rusia	25.77	355	P			P	11 31 46.1	+1.1
MC01	Montes Claros	25.86	87	*e*P			P	11 31 45.1	-0.3
MC01	Montes Claros	25.86	87	*e*P			P	11 31 45.1	-0.3
BARC	Barichara	26.48	355	*e*P			P	11 31 48.6	-2.5
PTBC	PUERTO BERRIO,	26.55	352	*e*P			P	11 31 50.1	-1.4
SDV	Santo Domingo	28.67	1	LR			LR	11 45 01.7	
	comp=Z,1μm,20.0s,baz=358,slow=39								
SMLC	San Martn de	28.74	354	*e*P			P	11 32 10.8	-0.3
RCBR	Riachuelo	36.86	72	P			P	11 33 21.1	-1.1
	comp=Z,9.6nm,0.6s,baz=236,slow=5.8,SNR=6.3								
RCBR	Riachuelo	36.86	72	P			P	11 33 20.8	-1.4
BIRD	Birdtown, Kers	55.05	350	P			P	11 35 46.5	+1.4
BIRD					IAmb	IAmb		11 35 56.3	
	comp=Z,6.1nm,0.8s								
Q56A	Snyder Ridge,	59.19	353	P			P	11 36 16.0	+1.5
Q56A					IAmb	IAmb		11 36 16.5	
	comp=Z,7.9nm,0.8s								
MNTX	Cornudas Mount	61.04	327	P			P	11 36 27.8	+0.5
MNTX					IAmb	IAmb		11 36 29.7	
	comp=Z,2.9nm,1.2s								
S39A	Bolivar	61.08	340	P			P	11 36 27.7	+0.3
S39A					IAmb	IAmb		11 36 28.3	
	comp=Z,3.2nm,0.8s								
VNA3	Neumayer Olymp	62.15	161	P			P	11 36 34.9	+0.6
SNAA	Sanae	64.36	161	P			P	11 36 49.6	+0.6
CCUT	Cedar City	69.74	325	P			P	11 37 27.5	+3.7
MSU	Marysvale	69.83	327	P			P	11 37 26.3	+2.0
DBIC	Dimbokro	70.19	75	P			P	11 37 23.9	-2.9
	comp=Z,2.7nm,0.7s,baz=234,slow=6.4,SNR=4.4								
DBIC	Dimbokro	70.19	75	IAmb			IAmb	11 37 29.3	
	comp=Z,21nm,1.4s								
QSPA	South Pole Qui	70.22	180	P			P	11 37 27.6	+1.3
QSPA					IAmb		IAmb	11 37 34.9	
	comp=Z,4.5nm,1.2s								
PDAR	Pinedale Array	71.82	331	P			P	11 37 38.4	+2.0
	comp=Z,0.2nm,0.4s,baz=60,slow=8.8,SNR=2.2								
NVAR	Mina Array Bea	73.10	323	P			P	11 37 45.9	+1.8
	comp=Z,0.4nm,0.7s,baz=132,slow=5.1,SNR=4.3								
TOA0	Torodi Ar. Sit	78.69	72	P			P	11 38 14.7	-1.6
TOA0					IAmb		IAmb	11 38 15.8	
	comp=Z,12nm,0.8s								
TORD	Torodi Ar. Bea	78.69	72	P			P	11 38 14.8	-1.5
	comp=Z,12nm,0.8s,baz=254,slow=5.2,SNR=38								
TORD	Torodi Ar. Bea	78.69	72	P			P	11 38 14.8	-1.5
ESDC	Sonseca Array	86.12	45	P			P	11 38 54.0	-0.7
	comp=Z,1.1nm,0.9s,baz=225,slow=6.1,SNR=7.1								
YKA	Yellowknife Ar	89.11	341	P			P	11 39 08.7	+0.3
	comp=Z,1.0nm,0.7s,baz=135,slow=4.8,SNR=9.6								
H11S2	WAKE ISLAND Hyl	25.74	279	T			T	14 04 40.3	
	baz=101,slow=74,SNR=113								
H11S1	WAKE ISLAND Hyl	25.75	279	T			T	14 04 38.6	
	baz=101,slow=74,SNR=60								
H11S3	WAKE ISLAND Hyl	25.76	279	T			T	14 04 41.6	
	baz=101,slow=74,SNR=92								
H11N3	WAKE ISLAND Hyl	25.79	280	T			T	14 04 44.1	
	baz=100,slow=75,SNR=42								
H11N2	WAKE ISLAND Hyl	25.80	280	T			T	14 04 45.0	
	baz=100,slow=75,SNR=45								
H11N1	WAKE ISLAND Hyl	25.81	280	T			T	14 04 46.8	
	baz=100,slow=75,SNR=30								
ASAR	Alice Springs	130.31	210	PKP			PKPdf	11 45 24.3	-0.4
	comp=Z,0.5nm,0.8s,baz=130,slow=1.8,SNR=4.1								
ASAR	Alice Springs	130.31	210				PKPdf	11 45 23.7	-1.0
ABKAR	Akbulak array	131.31	41				PKiKP	11 45 26.8	+0.2
WRA	Warramunga Arr	133.22	214	PKP			PKPdf	11 45 30.5	+0.2
	comp=Z,0.7nm,0.8s,baz=160,slow=2.1,SNR=2.5								
WRA	Warramunga Arr	133.22	214				PKPdf	11 45 30.1	-0.2
ZALV	Zalesovo Beam	141.34	23	PKP			PKPdf	11 45 45.0	+0.9
	comp=Z,2.5nm,0.6s,baz=314,slow=3.0,SNR=7.7								
KDJ	Kajisay	145.21	43				PKPab	11 45 51.9	+0.6
MAKZ	Makanchi	145.30	33				PKPbc	11 45 50.9	-0.3
MKAR	Makanchi Array	145.47	33	PKPbc			PKPbc	11 45 51.8	+0.1
	comp=Z,4.1nm,0.7s,baz=327,slow=4.2,SNR=36								
TARG	Taragay, Kyrgy	145.81	44				PKPab	11 45 54.2	+0.3
MJAR	Matsushiro Arr	149.60	309	PKPbc			PKPbc	11 46 04.0	+0.5
	comp=Z,1.8nm,0.7s,baz=140,slow=0.4,SNR=5.7								
SONM	Songino Array	152.11	4	PKPbc			PKPbc	11 46 09.4	+0.2
	comp=Z,2.5nm,0.7s,baz=325,slow=1.6,SNR=12								
LZH	Lanzhou	163.30	15	*e*PKP			PKPdf	11 46 11.6	-5.2
LZH				pPKP			sPKPdf	11 46 21.3	+2.4
LZH				sPKP				11 46 25.8	

IDC ***19*** *11:32:24.9±0.6, 37°.23N×141°.66E, h0km, mb4.1/18, mb1 4.2/24, mb1mx4.1/46, mbtmp4.0/24, ML3.1/6, MS4.7/2, Ms1 4.8/2, ms1mx3.8/36, Error ellipse: s-maj=16.5km s-min=13.3km az=114.0*
JMA ***19*** *11:32:26.3±0.2, 37°.24N×141°.68E, h31km±2km, M4.4*
JMA Felt I J1.
NEIC ***19*** *11:32:29±1.8, 37°.23N±0°.06×141°.70E±0°.09, h30km±5km, mb4.4/7, Error ellipse: s-maj=11.5km s-min=8.2km az=119.0*

ISC 19 11:32:24.9±1.8, 37°.24N±0°.04×141°.73E±0°.06, h3km±11km, n65, σ1s14/68, mb4.2/21, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JFK	Kawauchi	0.69	281	P		Pb	11 32 38.7	-0.9
JFK				S		Sg	11 32 47.7	+0.6
ONAJ	Iwakimizuishiy	0.75	260	P		Pb	11 32 39.8	-0.9
ONAJ				S		Sg	11 32 49.5	+0.4
JMST	Minamisoumatoc	0.82	306	P		Pb	11 32 41.0	-0.8
JMST				S		Sg	11 32 51.6	+0.3
JFFD	Fukushimafurud	0.94	261	P		Pg	11 32 42.6	-0.3
JFFD				S		Sg	11 32 54.6	-0.5
JMM	Marumori	0.97	310	P		Pg	11 32 43.3	-0.2
JMM				S		Sg	11 32 55.6	-0.4
JHO	Hitachi	1.12	236	P		Pb	11 32 45.7	-1.2
JHO				*e*S		Sb	11 32 59.7	-2.2
JFT	Otama	1.14	285	P		Pb	11 32 46.4	-0.9
JFT				S		Sb	11 33 01.1	-1.4
JIO	Ouri	1.25	346	P		Pn	11 32 48.0	-1.2
JIO				*e*S		Sb	11 33 03.7	-1.9
JOU	Okura	1.40	324	P		Pb	11 32 51.0	-0.8
JOU				S		Sb	11 33 09.4	-0.7
JFY	Yanaizu	1.62	277	P		Pn	11 32 53.7	-0.7
JFY				*e*S		Sn	11 33 14.6	-1.2
JYS	Shirataka	1.64	307	P		Pb	11 32 54.6	-1.2
JYS				*e*S		Sb	11 33 16.0	-0.9
MJAR	Matsushiro Arr	2.90	257	Pn		Pn	11 33 11.0	-1.0
	1.4nm,0.3s,baz=183,slow=13,SNR=39							
MJAR				Sn		Sn	11 33 46.6	-0.9
	1.5nm,0.3s,baz=315,slow=24,SNR=2.5							
MJAR	Matsushiro Arr	2.90	257	Pn		Pn	11 33 12.2	+0.2
MAJO	Matsushiro	2.91	257	Pn		Pn	11 33 12.5	+0.5
MAT	Matsushiro	2.91	257	P		Pn	11 33 12.5	+0.4
MAT				*e*S		Sn	11 33 49.3	+1.8
MJB9	Matsu-Tunnel	2.91	257			Pn	11 33 12.9	+0.8
INU	Inuyama	4.25	245			Pn	11 33 32.1	+1.7
JHJ2	Mitsune	4.41	201	Pn		Pn	11 33 34.2	+1.5
JHJ	Hachijo jima 2	4.41	202	Pn		Pn	11 33 33.1	+0.4
	24nm,0.3s,baz=148,slow=24,SNR=8.7							
JHJ				Sn		Sn	11 34 21.1	-3.4
	29nm,0.3s,baz=244,slow=23,SNR=1.5							
ERM	Erimo	4.89	13	Pn		Pn	11 33 40.8	+1.4
ASAJ	Asahikawa	6.90	5	Pn		Pn	11 34 07.5	+0.6
	1.7nm,0.3s,baz=239,slow=11,SNR=9.7							
ASAJ				Sn		Sn	11 35 24.0	-2.0
	0.4nm,0.3s,baz=72,slow=33,SNR=0.9							
JKA	Kamikawa-asahi	6.90	5			Pn	11 34 07.5	+0.6
JKA						Sn	11 35 24.0	-2.0
JNU	Nakatsue	9.78	248	Pn		Pn	11 34 46.4	-0.1
	0.1nm,0.3s,baz=320,slow=15,SNR=1.6							
JNU				LR		LR	11 39 23.9	
	comp=Z,645nm,18.1s,baz=256,slow=43							
USRK	Ussuriysk Ar.	10.14	316	Pn		Pn	11 34 52.9	+1.5
	baz=149,slow=39,SNR=3.5							
KSRS	Korea Array	10.99	275	Pn		Pn	11 35 06.2	+3.2
	baz=48,slow=25,SNR=2.2							
PETK	Petropavlovsk-	19.38	30	P		Pn	11 36 54.4	+1.5
	0.1nm,0.3s,baz=122,slow=13,SNR=2.7							
SONM	Songino Array	27.88	304	P		P	11 38 16.1	+0.1
	1.8nm,0.7s,baz=100,slow=9.6,SNR=8.4							
SONM	Songino Array	27.88	304	IAmb		IAmb	11 38 16.9	
	comp=Z,1.4nm,0.8s							
H11N2	WAKE ISLAND Hy	28.04	122	T		T	12 07 41.6	
	baz=314,slow=75,SNR=747							
H11N1	WAKE ISLAND Hy	28.05	122	T		T	12 07 39.7	
	baz=314,slow=75,SNR=705							
H11N3	WAKE ISLAND Hy	28.06	122	T		T	12 07 42.7	
	baz=314,slow=75,SNR=760							
H11S1	WAKE ISLAND Hy	28.76	124	T		T	12 08 35.3	
	baz=316,slow=75,SNR=352							
H11S3	WAKE ISLAND Hy	28.77	124	T		T	12 08 34.7	
	baz=316,slow=75,SNR=193							
H11S2	WAKE ISLAND Hy	28.78	124	T		T	12 08 36.8	
	baz=316,slow=75,SNR=120							
CMAR	Chiang Mai Arr	41.79	255	P		P	11 40 16.7	+0.8
	comp=Z,0.7nm,0.4s,baz=317,slow=45,SNR=1.4							
ZALV	Zalesovo Beam	41.96	312	P		P	11 40 16.9	+0.1
	comp=Z,2.8nm,0.7s,baz=98,slow=6.0,SNR=10							
ZALV	Zalesovo Beam	41.96	312	P		P	11 40 16.8	0.0
MK31	Makanchi Array	44.22	302	P		P	11 40 34.7	-0.6
MKAR	Makanchi Array	44.22	302	P		P	11 40 35.4	+0.1
	comp=Z,2.2nm,0.7s,baz=88,slow=9.8,SNR=26							
KURK	Kurchatov	46.00	308	P		P	11 40 48.9	-0.5
KURK				IAmb		IAmb	11 40 58.6	
	comp=Z,5.0nm,0.8s							
KDAK	Kodiak Island	46.78	42	P		P	11 40 56.9	+1.6
	comp=Z,6.9nm,0.6s,baz=24,slow=11,SNR=3.9							
ILAR	Eielson Array	49.19	32	P		P	11 41 14.6	+0.6
	comp=Z,1.1nm,0.6s,baz=274,slow=6.3,SNR=11							
BCAR	Beaver Creek A	51.58	34	P		P	11 41 31.5	-0.6
FITZ	Fitzroy Crossi	57.09	198	P		P	11 42 13.0	+0.5
	comp=Z,1.9nm,0.6s,baz=26,slow=11,SNR=2.6							
FITZ	Fitzroy Crossi	57.09	198	IAmb		IAmb	11 42 17.4	
	comp=Z,11nm,1.4s							
WB0	Warramunga Arr	57.12	188	P		P	11 42 13.6	+0.8
WB0				IAmb		IAmb	11 42 29.5	
	comp=Z,4.6nm,1.2s							
WRA	Warramunga Arr	57.30	188	P		P	11 42 14.0	-0.1
	comp=Z,1.2nm,0.6s,baz=161,slow=3.1,SNR=10							
ABKAR	Akbulak array	58.00	310	P		P	11 42 18.2	-0.5
ASAR	Alice Springs	61.03	188	P		P	11 42 40.3	+0.5
	comp=Z,1.4nm,0.8s,baz=8.9,slow=7.0,SNR=8.7							
ARCES	ARCESS Array B	63.89	339	P		P	11 42 58.8	+0.2
	comp=Z,2.4nm,0.9s,baz=54,slow=6.3,SNR=5.1							
FINES	FINESS Array B	68.75	332	P		P	11 43 30.0	+0.3
	comp=Z,0.9nm,0.4s,baz=36,slow=10.0,SNR=6.8							
FINES	FINESS Array B	68.75	332	P		P	11 43 29.8	+0.1
STKA	Stephens Creek	68.76	180	P		P	11 43 30.7	+0.7
	comp=Z,2.7nm,0.9s,baz=289,slow=13,SNR=2.9							
STKA	Stephens Creek	68.76	180	IAmb		IAmb	11 43 34.2	
	comp=Z,4.2nm,1.4s							
KBZ	Khabaz	70.96	311	P		P	11 43 43.4	-0.2
	comp=Z,0.9nm,0.4s,baz=283,slow=3.8,SNR=3.6							
DLMT	Dillon	74.02	45	P		P	11 44 03.2	+1.1
DLMT				IAmb		IAmb	11 44 06.3	
	comp=Z,6.3nm,1.4s							
NOA	NORSAR Array B	74.09	337	P		P	11 44 02.1	0.0
	comp=Z,1.0nm,0.7s,baz=54,slow=6.3,SNR=2.5							
AKASG	Malin Array Be	74.29	322	P		P	11 44 02.8	-0.5
	comp=Z,1.3nm,0.5s,baz=49,slow=6.1,SNR=4.9							
NVAR	Mina Array Bea	74.67	53	P		P	11 44 07.0	+0.9
	comp=Z,0.4nm,0.7s,baz=282,slow=6.7,SNR=5.4							
PDAR	Pinedale Array	77.34	46	P		P	11 44 22.2	+1.0
	comp=Z,0.4nm,0.6s,baz=30,slow=41,SNR=2.0							
SCHQ	Schefferville	85.07	16	LR		LR	12 24 36.4	
	comp=Z,3μm,21.4s,baz=113,slow=37							
TXAR	Lajitas Array	89.80	53	P		P	11 45 24.1	-1.2
	comp=Z,0.3nm,0.5s,baz=267,slow=26,SNR=3.9							
H03N2	Juan Fernandez	146.80	96	T		T	14 36 15.8	
	baz=291,slow=76,SNR=34							
H03N3	Juan Fernandez	146.81	96	T		T	14 36 19.4	
	baz=291,slow=76,SNR=37							
H03N1	Juan Fernandez	146.81	96	T		T	14 36 17.6	
	baz=291,slow=76,SNR=32							

IDC ***19*** *12:33:30.7±2.1, 6°.54S×129°.95E, h136km±22km, mb3.6/3, mb1 4.0/8, mb1mx3.6/29, mbtmp4.4/8, Error ellipse: s-maj=23.7km s-min=16.6km az=85.0*
NEIC ***19*** *12:33:31.7±2.6, 6°.45S±0°.07×130°.05E±0°.09, h157km±12km, mb4.4/3, Error ellipse: s-maj=14.4km s-min=7.1km az=120.0*
DJA ***19*** *12:33:32.8±0.4, 7°.3S×130°.1E±°, h150km±11km, M4.6/11, mB5.2/6, mb4.6/5, MLv4.6/11, Mw(mB)4.6/6*

**ISC 19 12:33:30.4±0.7, 6°.59S±0°.05×130°.08E±0°.06, h146km

ENEZ				SG		**Sb**	**12 46 37.6**	**+0.5**
ERIK	**Erikli-Kesan**	**0.41**	**50**	PG		**Pg**	**12 46 33.2**	**0.0**
ERIK				SG		**Sg**	**12 46 39.0**	**+0.2**
SMTH	**Samothraki Isl**	**0.44**	**278**	P		**Pg**	**12 46 34.0**	**+0.3**
SMTH				S		**Sb**	**12 46 40.7**	**+0.3**
	comp=E,1μm,0.1s							
SMTH	**Samothraki Isl**	**0.44**	**278**	P		**Pg**	**12 46 34.1**	**+0.3**
SMTH				S		**Sg**	**12 46 39.7**	**-0.1**
SMTH				AML	AML		12 46 43.9	
	comp=N,2190μm,0.2s							
SMTH				AML	AML		12 46 44.8	
	comp=E,2126μm,0.1s							
ALN	**Alexandroupoli**	**0.49**	**355**	P		**Pb**	**12 46 35.1**	**+0.2**
ALN				S		**Sb**	**12 46 42.4**	**+0.7**
	comp=E,792nm,0.4s							
ALN	**Alexandroupoli**	**0.49**	**355**	P		**Pb**	**12 46 35.0**	**0.0**
ALN				S		**Sb**	**12 46 41.7**	**0.0**
ALN				AML	AML		12 46 43.4	
	comp=E,1128μm,0.3s							
ALN				AML	AML		12 46 47.8	
	comp=N,886μm,0.6s							
LPK	**Lapseki**	**0.51**	**94**	PG		**Pg**	**12 46 34.7**	**-0.3**
LPK				SG		**Sg**	**12 46 41.6**	**-0.2**
BOZC	**Bozcaada**	**0.57**	**184**	PG		**Pg**	**12 46 36.1**	**-0.1**
BOZC				SG		**Sb**	**12 46 44.3**	**+0.1**
BOZC	**Bozcaada**	**0.57**	**184**	*i* P		**Pg**	**12 46 35.8**	**-0.4**
BOZC				*i* S		**Sg**	**12 46 43.8**	**-0.1**
BOZC				IAML			12 46 44.0	
	comp=N,293nm,0.3s							
BOZC				IAML			12 46 44.0	
	comp=E,361nm,0.2s							
KESN	**Edirne-Kesan**	**0.60**	**47**	*i* P		**Pg**	**12 46 36.4**	**-0.6**
KESN				IAML			12 46 45.0	
	comp=N,657nm,0.3s							
KESN				*i* S		**Sg**	**12 46 45.1**	**+0.1**
KESN				IAML			12 46 47.0	
	comp=E,613nm,0.3s							
EZN	**Ezine**	**0.61**	**164**	P		**Pg**	**12 46 36.4**	**-0.5**
EZN	**Ezine**	**0.61**	**164**	PG		**Pg**	**12 46 36.6**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**0.75**	**153**	*i* P		**Pb**	**12 46 39.1**	**-0.4**
BAYC				*i* S		**Sb**	**12 46 49.4**	**0.0**
BAYC				IAML			12 46 50.0	
	comp=E,107nm,0.3s							
RDO	**Rodhopi**	**0.85**	**330**	P		**Pg**	**12 46 41.4**	**+0.1**
RDO	**Rodhopi**	**0.85**	**330**	P		**Pg**	**12 46 41.5**	**+0.1**
RDO				S		**Sg**	**12 46 52.7**	**+0.1**
RDO				AML	AML		12 46 57.7	
	comp=N,570μm,0.2s							
RDO				AML	AML		12 46 58.3	
	comp=E,559μm,0.2s							
RKY	**Sarkoy-Tekirda**	**0.86**	**71**	PG		**Pb**	**12 46 41.1**	**-0.3**
RKY				SG		**Sg**	**12 46 53.7**	**+0.6**
SART	**Tekirdag**	**0.87**	**71**	*i* P		**Pb**	**12 46 40.9**	**-0.6**
SART				*i* S		**Sg**	**12 46 53.6**	**+0.4**
LIA	**Limnos Island**	**0.87**	**234**	P		**Pb**	**12 46 41.6**	**+0.1**
LIA				S		**Sn**	**12 46 54.3**	**-0.2**
	comp=E,502nm,0.3s							
LIA	**Limnos Island**	**0.87**	**234**	P		**Pb**	**12 46 41.5**	**0.0**
LIA				S		**Sb**	**12 46 52.4**	**-0.4**
LIA				AML	AML		12 46 56.0	
	comp=E,1160μm,0.4s							
LIA				AML	AML		12 46 56.5	
	comp=N,834μm,0.4s							
THAS	**Thassos island**	**1.07**	**281**	P		**Pb**	**12 46 44.7**	**-0.2**
THAS	**Thassos island**	**1.07**	**281**	P		**Pb**	**12 46 44.6**	**-0.3**
THAS				S		**Sb**	**12 46 58.2**	**-0.4**
THAS				AML	AML		12 47 01.8	
	comp=E,890μm,0.2s							
THAS				AML	AML		12 47 02.0	
	comp=N,1364μm,0.4s							
MRMT	**Marmara Adasi**	**1.16**	**80**	PN		**Pn**	**12 46 45.9**	**-0.4**
PRK	**Paraskevi**	**1.17**	**174**	P		**Pg**	**12 46 47.7**	**+0.2**
PRK				S		**Sn**	**12 47 02.2**	**+0.3**
PRK				AML	AML		12 47 04.8	
	comp=N,1355μm,0.5s							
PRK				AML	AML		12 47 06.8	
	comp=E,1341μm,0.6s							
AYVA	**Ayvalik**	**1.19**	**157**	*i* P		**Pb**	**12 46 47.2**	**+0.3**
AYVA				*i* S		**Sn**	**12 47 02.6**	**+0.2**
AYVA				IAML			12 47 04.0	
	comp=E,211nm,0.4s							
AYVA				IAML			12 47 05.0	
	comp=N,708nm,0.6s							
SIGR	**SIGRI**	**1.22**	**189**	P		**Pn**	**12 46 47.3**	**+0.3**
SIGR				S		**Sn**	**12 47 03.4**	**+0.4**
	comp=N,330nm,0.6s							
SIGR	**SIGRI**	**1.22**	**189**	P		**Pn**	**12 46 47.3**	**+0.3**
SIGR				S		**Sn**	**12 47 03.2**	**+0.2**
SIGR				AML	AML		12 47 04.1	
	comp=N,753μm,0.7s							
SIGR				AML	AML		12 47 05.1	
	comp=E,527μm,0.5s							
KAVA	**Kavala**	**1.34**	**296**	P		**Pn**	**12 46 49.3**	**+0.6**
KAVA	**Kavala**	**1.34**	**296**	P		**Pn**	**12 46 49.0**	**+0.3**
KAVA				S		**Sn**	**12 47 05.7**	**-0.4**
KAVA				AML	AML		12 47 09.8	
	comp=N,342μm,0.3s							
KAVA				AML	AML		12 47 10.5	
	comp=E,319μm,0.3s							
BALY	**Balya**	**1.34**	**119**	*i* P		**Pb**	**12 46 49.9**	**+0.3**
BALY				*i* S		**Sb**	**12 47 06.7**	**+0.2**
BALY				IAML			12 47 09.0	
	comp=N,97nm,0.5s							
BALY				IAML			12 47 09.0	
	comp=E,157nm,0.5s							
EDC	**Edincik**	**1.35**	**92**	PN		**Pn**	**12 46 49.4**	**+0.6**
EDC				SN		**Sg**	**12 47 08.4**	**0.0**
DKL	**Dikili**	**1.48**	**155**	PN		**Pb**	**12 46 51.9**	**+0.1**
DKL				SN		**Sg**	**12 47 11.7**	**-0.8**
EDRB	**Edirne**	**1.51**	**19**	PN		**Pb**	**12 46 53.2**	**+0.8**
KIRK	**Kırklareli**	**1.56**	**29**	*i* P		**Pn**	**12 46 51.6**	**-0.2**
KIRK				*i* S		**Sn**	**12 47 11.2**	**-0.4**
BALB	**Balikesir**	**1.57**	**119**	PN		**Pb**	**12 46 53.0**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.62**	**129**	*i* P		**Pn**	**12 46 53.1**	**+0.5**
STEP				*i* S		**Sg**	**12 47 16.3**	**-0.8**
STEP				IAML			12 47 18.0	
	comp=E,98nm,0.3s							
STEP				IAML			12 47 25.0	
	comp=N,102nm,0.8s							
OUR	**Ouranopolis**	**1.62**	**268**	P		**Pn**	**12 46 52.6**	**0.0**
OUR	**Ouranopolis**	**1.62**	**268**	P		**Pn**	**12 46 51.2**	**-1.4**
OUR				AML	AML		12 47 20.0	
	comp=E,450μm,0.5s							
OUR				AML	AML		12 47 21.1	
	comp=N,354μm,0.2s							
ZEDA	**zmir-Bergama**	**1.63**	**152**	*i* P		**Pb**	**12 46 53.8**	**-0.6**
ZEDA				*i* S		**Sb**	**12 47 15.9**	**+1.3**
ZEDA				IAML			12 47 17.0	
	comp=N,146nm,0.3s							
ZEDA				IAML			12 47 17.0	
	comp=E,78nm,0.4s							
KCTX	**Karacabey (Bur**	**1.73**	**94**	PN		**Pb**	**12 46 55.6**	**-0.5**
SLVT	**Silivri**	**1.80**	**62**	PN		**Pb**	**12 46 56.8**	**-0.5**
NVR	**Nevrokopi**	**1.94**	**300**	P		**Pn**	**12 46 57.8**	**+0.8**
NVR	**Nevrokopi**	**1.94**	**300**	P		**Pn**	**12 46 57.8**	**+0.8**
NVR				S		**Sn**	**12 47 20.2**	**-0.8**
NVR				AML	AML		12 47 21.4	
	comp=N,140μm,0.2s							
NVR				AML	AML		12 47 21.5	
	comp=E,129μm,0.3s							
CTYL	**Yalikoy Yolu**	**1.97**	**57**	PN		**Pb**	**12 46 59.3**	**-0.9**
DURS	**Dursunbey**	**2.00**	**113**	*i* P		**Pn**	**12 46 59.3**	**+1.4**
DURS				*i* S		**Sg**	**12 47 27.9**	**-1.1**
DURS				IAML			12 47 29.0	
	comp=E,107nm,0.4s							
DURS				IAML			12 47 30.0	
	comp=N,89nm,0.4s							
CTKS	**Kestanelik-??a**	**2.00**	**65**	PN		**Pb**	**12 46 59.7**	**-1.1**
SRS	**Serrai**	**2.03**	**291**	P		**Pn**	**12 46 58.7**	**+0.4**
SRS	**Serrai**	**2.03**	**291**	P		**Pn**	**12 46 58.7**	**+0.4**
SRS				S		**Sn**	**12 47 21.9**	**-1.3**
SRS				AML	AML		12 47 32.4	
	comp=N,156μm,0.4s							
SRS				AML	AML		12 47 35.4	
	comp=E,317μm,0.6s							
URLA	**Izmir**	**2.08**	**169**	PN		**Pn**	**12 47 00.4**	**+1.4**
AOS	**Alonnisos**	**2.11**	**235**	P		**Pn**	**12 46 58.9**	**-0.5**
HORT	**Hortiatis**	**2.30**	**276**	P		**Pn**	**12 47 02.9**	**+0.9**
KYMI	**Kymi, Euboea I**	**2.36**	**222**	P		**Pn**	**12 47 02.4**	**-0.3**
KYMI	**Kymi, Euboea I**	**2.36**	**222**	P		**Pn**	**12 47 02.4**	**-0.3**
IGD	**Bursa**	**2.37**	**93**	*i* P		**Pg**	**12 47 09.0**	**-1.4**
IGD				*i* S		**Sb**	**12 47 38.5**	**+2.4**
SKIA	**Skiathos**	**2.38**	**239**	P		**Pn**	**12 47 02.5**	**-0.6**
DEMI	**Demirci**	**2.44**	**123**	*i* P		**Pn**	**12 47 05.4**	**+1.5**
DEMI				*i* S		**Sn**	**12 47 34.2**	**+0.9**
KNT	**Kendrikon**	**2.54**	**288**	P		**Pn**	**12 47 06.2**	**+0.9**
KNT				AML	AML		12 47 48.6	
	comp=E,142μm,0.5s							
KNT				AML	AML		12 47 50.8	
	comp=N,80μm,0.3s							
MRKA	**Markates**	**2.58**	**230**	P		**Pn**	**12 47 05.6**	**-0.3**
STIP	**Stip**	**3.23**	**295**	*i* Pn		**Pn**	**12 47 14.0**	**-0.7**

*THE **19** 12:54:55.8, 37°.46N×20°.84E, h14km, ML2.5/4, Error ellipse: s-maj=1.1km s-min=0.6km az=33.0*
*ATH **19** 12:54:55.4, 37°.45N×20°.85E, h27km±1km, ML2.1/4, Error ellipse: s-maj=2.6km s-min=1.1km az=27.0*

ISC 19 12:54:56.1±1.3, 37°.47N±0°.05×20°.85E±0°.04, h17km±8km, n26, σ0s65/45, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.19**	**353**	P	**Pb**	**12 55 00.5**	**-0.6**
KRI1				S	**Sb**	**12 55 04.0**	**-0.5**
	3μm,0.2s						
ZAK2	**Zakynthos**	**0.32**	**8**	P	**Pg**	**12 55 02.4**	**-0.4**
ZAK2				S	**Sg**	**12 55 07.3**	**-0.1**
	3μm,0.1s						
VLMS	**Volimes, Zakyn**	**0.43**	**340**	P	**Pg**	**12 55 04.6**	**-0.2**
VLMS				S	**Sg**	**12 55 11.4**	**+0.6**
VLMS				AML	AML	12 55 14.6	
	comp=E,1124μm,0.1s						
VLMS				AML	AML	12 55 18.9	
	comp=N,1729μm,0.2s						
VTN	**Vitineika**	**0.52**	**31**	P	**Pg**	**12 55 06.3**	**-0.1**
VTN				S	**Sb**	**12 55 14.4**	**+0.5**
VTN	**Vitineika**	**0.52**	**31**	P	**Pg**	**12 55 06.4**	**-0.1**
VTN				S	**Sb**	**12 55 14.4**	**+0.5**
AMT	**Artemida-Makis**	**0.69**	**85**	P	**Pb**	**12 55 08.9**	**-0.8**
AMT				S	**Sg**	**12 55 18.9**	**+0.2**
	comp=N,252nm,0.5s						
AMT	**Artemida-Makis**	**0.69**	**85**	P	**Pb**	**12 55 08.8**	**-0.8**
AMT				S	**Sg**	**12 55 20.0**	**+1.3**
VLS	**Valsamata**	**0.73**	**344**	P	**Pb**	**12 55 09.6**	**-0.8**
VLS				S	**Sb**	**12 55 20.8**	**+0.7**
VLS	**Valsamata**	**0.73**	**344**	P	**Pb**	**12 55 09.5**	**-0.8**
VLS				S	**Sg**	**12 55 21.2**	**+1.1**
VLS				AML	AML	12 55 22.0	
	comp=N,304μm,0.2s						
VLS				AML	AML	12 55 28.1	
	comp=E,318μm,0.2s						
RLS	**Riolos of Patr**	**0.76**	**40**	P	**Pb**	**12 55 10.2**	**-0.7**
RLS				S	**Sg**	**12 55 21.8**	**+0.7**
RLS	**Riolos of Patr**	**0.76**	**40**	P	**Pb**	**12 55 10.0**	**-0.9**
RLS				S	**Sg**	**12 55 21.7**	**+0.7**
RLS				AML	AML	12 55 23.6	
	comp=N,199μm,0.2s						
RLS				AML	AML	12 55 25.0	
	comp=E,191μm,0.2s						
KEF3	**Kipouria, Keph**	**0.83**	**332**	P	**Pb**	**12 55 11.9**	**-0.1**
KEF3				S	**Sn**	**12 55 25.2**	**+0.3**
DRO	**Drossia**	**0.83**	**55**	P	**Pb**	**12 55 11.6**	**-0.5**
DRO				S	**Sg**	**12 55 24.4**	**+1.0**
	comp=E,130nm,0.4s						
DRO	**Drossia**	**0.83**	**55**	P	**Pb**	**12 55 11.4**	**-0.8**
DRO				S	**Sg**	**12 55 23.8**	**+0.4**
DRO				AML	AML	12 55 26.6	
	comp=E,127μm,0.4s						
DRO				AML	AML	12 55 28.2	
	comp=N,417μm,0.4s						
KEF4	**Livadi, Kephal**	**0.85**	**337**	P	**Pb**	**12 55 12.0**	**-0.4**
KEF4				S	**Sn**	**12 55 26.0**	**+0.6**
KEF5	**Kardakata, Kep**	**0.86**	**340**	P	**Pb**	**12 55 11.8**	**-0.7**
KEF5				S	**Sn**	**12 55 25.8**	**+0.3**
ITM	**Ithomi**	**0.91**	**109**	P	**Pg**	**12 55 13.7**	**-0.1**
PYL	**PYLOS**	**0.92**	**129**	P	**Pb**	**12 55 13.3**	**-0.2**
PYL	**PYLOS**	**0.92**	**129**	P	**Pb**	**12 55 13.4**	**-0.2**
FSK	**Fiskardo**	**1.01**	**347**	P	**Pb**	**12 55 14.4**	**-0.7**
FSK				S	**Sn**	**12 55 29.6**	**+0.3**
FSK	**Fiskardo**	**1.01**	**347**	P	**Pb**	**12 55 14.5**	**-0.7**
FSK				S	**Sg**	**12 55 30.5**	**+1.6**
EVGI	**Lefkada island**	**1.16**	**353**	P	**Pn**	**12 55 16.8**	**-0.7**
KLV	**Kalavryta, Ach**	**1.18**	**61**	P	**Pn**	**12 55 17.6**	**-0.3**
KLV				S	**Sg**	**12 55 34.3**	**0.0**
PVO	**Paravola**	**1.26**	**25**	P	**Pb**	**12 55 19.7**	**+0.3**
GUR	**Goura**	**1.27**	**68**	P	**Pn**	**12 55 18.9**	**-0.3**
LKD2	**Lefkada island**	**1.32**	**354**	P	**Pg**	**12 55 21.5**	**-0.1**

IDC 19 12:58:47.2±2.3, 64°.06S×171°.07E, h0km, mb3.9/3, mb1 4.2/4, mb1mx4.0/14, mbtmp3.9/4, ML3.7/1, MS4.0/2, Ms1 4.0/2, ms1mx3.6/14, Error ellipse: s-maj=94.6km s-min=26.5km az=71.0, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**13.83**	**188**	Pn	Pn	13 02 05.9	+1.8
	0.3nm,0.3s,baz=32,slow=17,SNR=20						
VNDA				LR	LR	13 05 49.5	
	comp=Z,637nm,21.3s,baz=227,slow=30						
QSPA	**South Pole Qui**	**26.03**	**180**	P	P	13 04 21.0	-0.7
	2.0nm,0.8s,baz=200,slow=6.6,SNR=4.3						
QSPA				LR	LR	13 12 31.0	
	comp=Z,408nm,20.8s,baz=353,slow=32						
H01W1	**Cape Leeuwin H**	**44.86**	**282**	T	T	13 56 21.9	
	baz=148,slow=76,SNR=71						
H01W2	**Cape Leeuwin H**	**44.87**	**282**	T	T	13 56 22.3	
	baz=148,slow=76,SNR=62						
H01W3	**Cape Leeuwin H**	**44.88**	**282**	T	T	13 56 09.3	
	baz=148,slow=76,SNR=63						
ASAR	**Alice Springs**	**47.17**	**311**	P	P	13 07 21.8	+0.6
	1.0nm,0.8s,baz=153,slow=6.8,SNR=9.2						
WRA	**Warramunga Arr**	**50.49**	**313**	P	P	13 07 45.6	-1.2
	1.4nm,0.8s,baz=159,slow=6.7,SNR=4.6						
H03S2	**Juan Fernandez**	**68.13**	**123**	T	T	14 23 59.8	
	baz=205,slow=74,SNR=8.3						
H03S1	**Juan Fernandez**	**68.13**	**123**	T	T	14 24 01.4	
	baz=205,slow=74,SNR=8.5						
H03S3	**Juan Fernandez**	**68.15**	**123**	T	T	14 24 05.0	
	baz=205,slow=74,SNR=6.0						
H03N2	**Juan Fernandez**	**68.48**	**122**	T	T	14 24 22.2	
	SNR=9.7						
H08S2	**Diego Garcia H**	**86.92**	**259**	T	T	14 49 11.0	
	baz=154,slow=76,SNR=131						
H08S1	**Diego Carcia H**	**86.93**	**259**	T	T	14 49 08.4	
	baz=154,slow=76,SNR=74						
H08S3	**Diego Garcia H**	**86.94**	**259**	T	T	14 49 12.5	
	baz=154,slow=76,SNR=110						
ILAR	**Eielson Array**	**132.18**	**23**	PKP	PKiKP	13 18 01.8	-0.4
	0.1nm,0.5s,baz=227,slow=3.6,SNR=3.4						
BRTR	**Keskin Array B**	**145.23**	**246**	PKPbc	PKPbc	13 18 24.6	-1.1
	0.6nm,0.6s,baz=178,slow=6.1,SNR=4.1						

*INET **19** 13:22:50.3, 12°.45N×87°.75W, h27km, ML3.8*
SNET 19 13:22:50.6±0.8, 12°.49N×87°.82W, h51km±18km, ML3.4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.78**	**359**	*e*P	Pn	13 23 05.6	-0.1
CNCH				IAML		13 23 22.4	
	comp=Z,1μm,0.3s						
LCND	**La Caada**	**0.82**	**355**	*e*P	Pn	13 23 05.8	-0.2
LCND				*e*S	Sn	13 23 18.4	+1.2
JUCU	**Jucuar¡n**	**0.87**	**331**	*e*P	Pn	13 23 06.5	-0.2
JUCU				*e*S	Sn	13 23 19.2	+0.7
BLLM	**Bellamira**	**1.03**	**337**	*e*P	Pn	13 23 09.3	+0.4
LCY	**Lacayo**	**1.04**	**333**	*e*P	Pn	13 23 09.7	+0.7
TECA	**Tecapa**	**1.20**	**326**	*e*P	Pn	13 23 11.5	+0.2
COEB	**Comit de Eme**	**1.22**	**325**	*e*P	Pn	13 23 12.1	+0.6
COEB				*e*S	Sn	13 23 27.9	+0.9
COEB				IAML		13 23 35.2	
	comp=Z,476nm,0.3s						
FAGO	**Alcalda de S**	**1.23**	**347**	*e*P	Pn	13 23 11.4	-0.2
FAGO				*e*S	Sn	13 23 27.7	+0.6
PAVA	**Las Pavas**	**1.64**	**318**	*e*S	Sn	13 23 38.8	+1.7
TGUH	**Tegucigalpa,Un**	**1.65**	**19**	*e*P	Pn	13 23 17.1	-0.2
LFRS	**El Faro**	**1.66**	**313**	*e*P	Pn	13 23 17.9	+0.5
LFRS				*e*S	Sn	13 23 39.0	+1.4
LALI	**Alcalda de L**	**1.77**	**304**	*e*S	Sn	13 23 40.8	+0.5
SBLS	**San Blas**	**2.21**	**308**	*e*P	Pn	13 23 26.0	+0.9
MTO3	**Montecristo**	**2.42**	**322**	*e*P	Pn	13 23 28.5	+0.5

*IDC **19** 13:47:27.6±4.9, 6°.56S×154°.25E, h65km±38km, mb3.5/6, mb1 3.7/8, mb1mx3.5/34, mbtmp3.8/8, ML2.8/2, Error ellipse: s-maj=41.3km s-min=16.3km az=99.0*

ISC 19 13:47:25.4±1.1, 6°.57S±0°.09×154°.4E±0°.1, h48km, n9, σ1s01/11, mb3.7/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.27**	**313**	P	**Pn**	**13 48 14.7**	**+0.5**
	7.2nm,0.3s,baz=88,slow=17,SNR=1.8						
KRVT				S	**Sn**	**13 48 52.0**	**+0.2**
	6.5nm,0.3s,baz=38,slow=23,SNR=1.7						
PMG	**Port Moresby**	**7.71**	**248**	P	**Pn**	**13 49 15.3**	**+0.2**
	1.9nm,0.3s,baz=142,slow=7.0,SNR=6.1						
PMG				S	**Sn**	**13 50 42.0**	**+0.9**
	0.6nm,0.3s,baz=353,slow=23,SNR=1.5						
WRA	**Warramunga Arr**	**23.58**	**234**	P	**P**	**13 52 31.0**	**-1.0**
	1.0nm,0.5s,baz=57,slow=10,SNR=11						
ASAR	**Alice Springs**	**26.02**	**227**	P	**P**	**13 52 53.5**	**-0.7**
	0.9nm,0.8s,baz=58,slow=9.2,SNR=14						
STKA	**Stephens Creek**	**27.88**	**204**	P	**P**	**13 53 11.0**	**+0.2**
	1.4nm,0.5s,baz=19,slow=14,SNR=5.1						
SONM	**Songino Array**	**68.67**	**327**	P	**P**	**13 58 22.0**	**-2.0**
	0.2nm,0.5s,baz=157,slow=4.7,SNR=1.7						
MKAR	**Makanchi Array**	**82.70**	**319**	P	**P**	**13 59 44.5**	**+0.4**
	0.6nm,0.6s,baz=92,slow=6.7,SNR=6.8						
NVAR	**Mina Array Bea**	**91.92**	**52**	P	**P**	**14 00 30.6**	**+1.2**
	0.6nm,0.9s,baz=284,slow=6.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**152.35**	**286**	PKPbc	**PKiKP**	**14 07 17.6**	**+0.1**
	0.3nm,0.8s,baz=187,slow=31,SNR=3.2						

ISK 19 13:51:43.8, 39°.63N×29°.39E, h2km, ML1.7/3, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TVSB	**Tavsanli**	**0.19**	**163**	PG	Pg	13 51 47.8	+0.3
TVSB				SG	Sg	13 51 51.8	+1.8
ARMT	**Armutlu**	**1.01**	**337**	PG	Pb	13 52 03.9	-0.2
ARMT				SG	Sn	13 52 19.8	-0.2
SRCK	**Saricakaya, Es**	**1.04**	**66**	PG	Pb	13 52 04.6	+0.1
SRCK				SG	Sn	13 52 20.5	-0.1

*ROM **19** 13:51:57.9±0.1, 42°.459N±0°.004×13°.305E±0°.002, h10km, ML1.6/2, Error ellipse: s-maj=0.4km s-min=0.2km az=347.0*

ISC 19 13:51:58.1±4.8, 42°.4N±0°.2×13°.32E±0°.07, h7km±25km, n5, σ0s27/8, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RM33	**Pellescritta (**	**0.12**	**320**	P	**Pg**	**13 52 00.8**	**-0.1**
RM33				S	**Sg**	**13 52 02.6**	**-0.1**
RM33				AML	AML		
	comp=E,111μm,1.4s						
RM33				AML	AML		
	comp=N,113μm,1.1s						
RM33				AML	AML		
	comp=E,288μm,0.4s						
RM33				AML	AML		
	comp=N,241μm,0.7s						
CAMP	**Campotosto**	**0.14**	**28**	P	**Pg**	**13 52 01.0**	**0.0**
CAMP				S	**Sg**	**13 52 03.4**	**+0.2**
SMA1	**SAN MARTINO**	**0.22**	**3**	P	**Pg**	**13 52 02.2**	**-0.2**
SMA1				S	**Sg**	**13 52 05.5**	**0.0**
SMA1				AML	AML		
	comp=E,222μm,0.2s						
SMA1				AML	AML		
	comp=N,220μm,1.2s						
SMA1				AML	AML		
	comp=E,504μm,1.2s						
SMA1				AML	AML		
	comp=N,448μm,0.6s						
LNSS	**Leonessa**	**0.28**	**312**	P	**Pg**	**13 52 03.5**	**-0.1**
LNSS				S	**Sg**	**13 52 07.8**	**+0.4**
LNSS				AML	AML		
	comp=E,53μm,0.9s						
LNSS				AML	AML		
	comp=N,65μm,1.4s						
LNSS				AML	AML		
	comp=N,649μm,0.4s						
LNSS				AML	AML		
	comp=E,519μm,0.4s						
NRCA	**Norcia**	**0.45**	**340**	AML	AML		
	comp=N,308μm,1.5s						
NRCA				AML	AML		
	comp=E,392μm,0.8s						

*IDC **19** 13:52:16.4±0.6, 43°.86N×17°.07E, h0km, mb4.0/15, mb1 4.1/27, mb1mx4.0/56, mbtmp4.0/27, ML3.7/11, MS3.3/8, Ms1 3.3/8, ms1mx3.0/48, Error ellipse: s-maj=10.9km s-min=8.0km az=32.0*
*RHSSO **19** 13:52:17.9±0.3, 43°.82N×17°.04E, h4km±2km, ML4.2/16*
*TIR **19** 13:52:17.3, 43°.50N×16°.87E, h4km, Md4.8/7*
*PDG **19** 13:52:17.7±0.4, 43°.93N×17°.16E, h5km±1km, MD4.2/10, ML4.2/12, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
*LDG **19** 13:52:18.8±0.1, 43°.95N×17°.14E, h12km, MD4.2/33, Error ellipse: s-maj=2.9km s-min=1.4km az=28.0*
*MOS **19** 13:52:18.9±0.9, 43°.85N×16°.97E, h28km, mb4.2/10, Error ellipse: s-maj=4.3km s-min=2.9km az=111.1*
*BEO **19** 13:52:18.0±0.5, 43°.91N×17°.04E, h7km±2km, ML4.1/17*
*ROM **19** 13:52:19.9±0.0, 43°.93N×17°.16E, h10km, ML4.4, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}2.08; $M_{\theta\theta}$0.27; $M_{\phi\phi}$-2.36; $M_{r\theta}$-0.16; $M_{\theta\phi}$1.01; $M_{\phi r}$-5.11; Fault plane solution: $M_0$5.66646×10^{14} NP1: ϕ_s318.00000°, δ16.00000°, λ49.00000°. NP2: ϕ_s180.00000°, δ78.00000°, λ100.00000°.*
*PRU **19** 13:52:20.8±0.0, 43°.97N×16°.78E, h0km, M4.3*
*NEIC **19** 13:52:20.3±1.5, 43°.83N±0°.04×17°.06E±0°.07, h29km±6km, mb4.3/5, ML4.1/1(BUC), Error ellipse: s-maj=7.4km s-min=5.1km az=59.0*
*BGR **19** 13:52:22.8±2.3, 44°.02N×17°.05E, h10km, ML4.1, Error ellipse: s-maj=30.0km s-min=6.7km az=150.0*

**ISC 19 13:52:18.2±0.9, 43°.84N±0°.02×16°.98E±0°.02, h13km±6km, n524, σ2s44/687, mb4.1/24, 27C-25

TREB	**Trebinje**	**1.50**	**138**	*e*Pg	**Pn**	**13 52 43.3**	**-1.5**
TREB				*e*Sg	**Sn**	**13 53 04.2**	**-0.1**
UPM	**Unac-Piva**	**1.54**	**114**	⇑*i*Pg	**Pn**	**13 52 44.4**	**-1.1**
UPM				*i* Sg	**Sg**	**13 53 07.3**	**-0.4**
UPM	**Unac-Piva**	**1.54**	**114**	*e*Pg	**Pn**	**13 52 45.4**	**-0.1**
UPM				*e*Sg	**Sn**	**13 53 04.8**	**-0.6**
NVLJ	**Novalja**	**1.68**	**296**	*i* Pn	**Pb**	**13 52 49.1**	**+0.1**
NVLJ				Sn	**Sg**	**13 53 12.8**	**+0.5**
RUDO	**Rudo**	**1.75**	**96**	*e*Pn	**Pn**	**13 52 47.4**	**-0.8**
BBLS	**Lazići**	**1.75**	**88**	*e*Pg	**Pn**	**13 52 48.5**	**+0.2**
BBLS				*e*Sg	**Sb**	**13 53 12.8**	**+0.6**
BBLS	**Lazići**	**1.75**	**88**	⇑*i*Pn	**Pn**	**13 52 48.0**	**-0.3**
BBLS				*e*Sn	**Sn**	**13 53 11.5**	**+0.9**
HCY	**Herceg Novi**	**1.78**	**141**	P	**Pn**	**13 52 48.4**	**-0.2**
HCY				S	**Sb**	**13 53 14.0**	**+1.2**
HCY	**Herceg Novi**	**1.78**	**141**	⇓*i*Pn	**Pn**	**13 52 48.8**	**+0.2**
HCY				*i* Sn	**Sg**	**13 53 15.4**	**0.0**
HCY	**Herceg Novi**	**1.78**	**141**	*e*Pn	**Pn**	**13 52 48.4**	**-0.2**
NKY	**Niksic**	**1.79**	**124**	P	**Pn**	**13 52 48.9**	**0.0**
NKY				S	**Sb**	**13 53 13.0**	**-0.3**
NKY	**Niksic**	**1.79**	**124**	⇓*i*Pn	**Pn**	**13 52 49.5**	**+0.6**
NKY				*i* Sn	**Sg**	**13 53 15.3**	**-0.5**
NKME	**Niksic**	**1.79**	**126**	⇓*i*Pn	**Pn**	**13 52 49.7**	**+0.8**
NKME				*i* Sn	**Sg**	**13 53 15.4**	**-0.5**
PLE	**Pljevlja**	**1.82**	**105**	P	**Pn**	**13 52 49.8**	**+0.5**
PLE				S	**Sn**	**13 53 13.0**	**+0.7**
PLE	**Pljevlja**	**1.82**	**105**	⇓*i*Pn	**Pn**	**13 52 49.4**	**+0.1**
PLE				*i* Sn	**Sb**	**13 53 14.7**	**+0.5**
CEME	**Cevo**	**1.92**	**132**	⇓*i*Pn	**Pn**	**13 52 51.6**	**+1.0**
CEME				*i* Sn	**Sb**	**13 53 18.3**	**+1.4**
TEKS	**Tekeris**	**1.96**	**68**	*e*Pn	**Pn**	**13 52 50.6**	**-0.6**
TEKS				*e*Sn	**Sn**	**13 53 15.6**	**-0.1**
TEKS	**Tekeris**	**1.96**	**68**	*e*Pn	**Pn**	**13 52 50.4**	**-0.8**
TEKS				*e*Sn	**Sn**	**13 53 16.3**	**+0.6**
BOJS	**Bojanci**	**2.07**	**324**	*i* Pn	**Pn**	**13 52 53.8**	**+1.1**
BOJS				*e*Sn	**Sg**	**13 53 23.8**	**-0.9**
	comp=Z,2µm,0.8s						
OZLJ	**Ozalj**	**2.08**	**329**	Sn	**Sb**	**13 53 20.9**	**-0.5**
OZLJ	**Ozalj**	**2.08**	**329**	*i* Pn	**Pn**	**13 52 53.6**	**+1.0**
BUM	**Brajici-Budva**	**2.08**	**137**	*e*Pn	**Pn**	**13 52 54.3**	**+1.5**
BUM				*i* Sn	**Sb**	**13 53 23.3**	**+1.7**
KOME	**Kolasin**	**2.10**	**117**	⇓*i*Pn	**Pn**	**13 52 54.5**	**+1.4**
KOME				*i* Sn	**Sb**	**13 53 21.7**	**-0.4**
ZAG	**Zagreb**	**2.11**	**341**	*e*P	**Pn**	**13 52 53.0**	**-0.1**
ZAG				*e*S	**Sn**	**13 53 20.0**	**+0.8**
ZAG	**Zagreb**	**2.11**	**341**	*e*Pn	**Pn**	**13 52 53.9**	**+0.8**
ZAG				Sn	**Sb**	**13 53 21.2**	**-1.1**
ZAG	**Zagreb**	**2.11**	**341**	*e*Pn	**Pn**	**13 52 53.9**	**+0.8**
ZAG				*e*Sn	**Sb**	**13 53 21.5**	**-0.8**
PDG	**Podgorica**	**2.18**	**129**	*e*Pn	**Pn**	**13 52 55.6**	**+1.5**
PDG				*e*Sn	**Sn**	**13 53 22.8**	**+1.9**
PDG	**Podgorica**	**2.18**	**129**	⇓P	**Pn**	**13 52 55.2**	**+1.1**
PDG				⇓S	**Sn**	**13 53 22.9**	**+1.9**
PDG	**Podgorica**	**2.18**	**129**		**Pn**	**13 52 55.4**	**+1.3**
PDG	**Podgorica**	**2.18**	**129**	*e*Pn	**Pn**	**13 52 55.0**	**+0.9**
PDG				*e*Sn	**Sn**	**13 53 21.9**	**+1.0**
TTG	**Podgorica**	**2.18**	**129**	P	**Pn**	**13 52 55.9**	**+1.8**
TTG				S	**Sn**	**13 53 22.0**	**+1.0**
TTG	**Podgorica**	**2.18**	**129**	⇓*i*Pn	**Pn**	**13 52 55.7**	**+1.6**
TTG				*i* Sn	**Sb**	**13 53 24.8**	**+0.4**
DIVS	**Divibare**	**2.19**	**82**	*e*Pn	**Pn**	**13 52 53.3**	**-1.0**
DIVS				*e*Sn	**Sn**	**13 53 21.3**	**0.0**
DIVS	**Divibare**	**2.19**	**82**	Pn	**Pn**	**13 52 53.5**	**-0.8**
DIVS	**Divibare**	**2.19**	**82**	⇑*i*Pn	**Pn**	**13 52 53.5**	**-0.8**
DIVS				*e*Sn	**Sn**	**13 53 20.5**	**-0.8**
PTJ	**Puntijarka**	**2.19**	**341**	P	**Pn**	**13 52 54.4**	**+0.1**
PTJ	**Puntijarka**	**2.19**	**341**	Sn	**Sn**	**13 53 22.9**	**+1.6**
PTJ	**Puntijarka**	**2.19**	**341**	*e*Pn	**Pn**	**13 52 54.4**	**+0.1**
SJES	**Sjenica**	**2.25**	**104**	*e*Pn	**Pn**	**13 52 55.5**	**+0.3**
SJES				*e*Sn	**Sn**	**13 53 23.8**	**+0.9**
CRES	**Cresnjev**	**2.26**	**332**	⇓*i*Pn	**Pn**	**13 52 56.0**	**+0.7**
CRES				*e*Sn	**Sb**	**13 53 25.3**	**-1.5**
SGRT	**San Giovanni R**	**2.27**	**204**	*i* PN	**Pn**	**13 52 55.2**	**-0.3**
SGRT				*i* SN	**Sn**	**13 53 22.0**	**-1.4**
SGRT	**San Giovanni R**	**2.27**	**204**		**Pn**	**13 52 55.5**	**0.0**
DRME	**Dracevica, Mon**	**2.31**	**135**	⇓*i*Pn	**Pn**	**13 52 57.4**	**+1.5**
DRME				*i* Sn	**Sb**	**13 53 27.8**	**-0.3**
DRME	**Dracevica, Mon**	**2.31**	**135**	*e*Pn	**Pn**	**13 52 56.5**	**+0.6**
DRME				*e*Sn	**Sn**	**13 53 25.0**	**+0.8**
IVAS	**Ivanjica**	**2.31**	**95**	*e*Pn	**Pn**	**13 52 55.1**	**-0.9**
IVAS				*e*Sn	**Sn**	**13 53 24.3**	**-0.1**
KALN	**Kalnik**	**2.32**	**351**	*i* Pn	**Pn**	**13 52 56.1**	**0.0**
RIY	**Rijeka**	**2.32**	**311**	*e*Pn	**Pn**	**13 52 57.7**	**+1.6**
RIY				Sn	**Sb**	**13 53 28.0**	**+0.5**
RIY	**Rijeka**	**2.32**	**311**	*e*Pn	**Pn**	**13 52 57.8**	**+1.7**
RIY				*e*Sn	**Sb**	**13 53 26.9**	**-1.5**
IVA	**Berane**	**2.33**	**113**	⇑*i*Pn	**Pn**	**13 52 57.0**	**+0.7**
IVA				*i* Sn	**Sb**	**13 53 27.5**	**-1.4**
GOLS	**Golise**	**2.38**	**337**	*i* Pn	**Pn**	**13 52 57.5**	**+0.7**
FRGS	**Fruska Gora**	**2.42**	**56**	*e*Pn	**Pn**	**13 52 56.1**	**-1.3**
FRGS	**Fruska Gora**	**2.42**	**56**	*e*Sn	**Sn**	**13 53 28.3**	**+1.5**
TRUS	**Trudelj**	**2.50**	**80**	*e*Pn	**Pn**	**13 52 57.6**	**-0.9**
ULC	**Ulcinj**	**2.51**	**138**	P	**Pn**	**13 53 00.1**	**+1.4**
ULC				S	**Sb**	**13 53 32.0**	**-1.8**
ULC	**Ulcinj**	**2.51**	**138**	⇑*i*Pn	**Pn**	**13 53 00.0**	**+1.4**
ULC				*i* Sn	**Sb**	**13 53 33.1**	**-0.7**
PVY	**Plav**	**2.51**	**119**	⇑*i*Pn	**Pn**	**13 53 00.3**	**+1.6**
PVY				*i* Sn	**Sn**	**13 53 31.8**	**+2.6**
BRJN	**Brijuni**	**2.55**	**296**	*e*Pn	**Pn**	**13 53 00.7**	**+1.6**
BRJN				*e*Sn	**Sb**	**13 53 33.0**	**-1.7**
BEHE	**Becsehely**	**2.63**	**357**	*e*Pn	**Pn**	**13 53 02.0**	**+1.9**
BEHE				*e*Sn	**Sn**	**13 53 33.9**	**+1.7**
KOGS	**Kog**	**2.66**	**349**	*i* Pn	**Pn**	**13 53 01.1**	**+0.4**
KOGS				*e*Sn	**Sn**	**13 53 33.6**	**+0.8**
	comp=Z,519nm,0.7s						
BEO	**Beograd**	**2.69**	**68**	*e*Pn	**Pn**	**13 53 01.5**	**+0.4**
BCI	**Bajram Curri**	**2.70**	**122**	*i* PN	**Pb**	**13 53 04.5**	**-1.8**
BCI				*i* SN	**Sb**	**13 53 39.9**	**+0.6**
GRUS	**Gruza**	**2.70**	**88**	*e*Pn	**Pn**	**13 53 00.8**	**-0.5**
BAI	**Bari**	**2.73**	**182**	*e*Pn	**Pn**	**13 53 04.2**	**+2.5**
VNDS	**Vrh nad Dolski**	**2.78**	**325**	*i* Pn	**Pn**	**13 53 03.3**	**+0.9**
LJU	**Ljubljana**	**2.81**	**323**	*e*Pn	**Pn**	**13 53 03.9**	**+1.1**
LJU				*e*Sn	**Sn**	**13 53 38.5**	**+2.0**
MRVN	**Minervino Murg**	**2.84**	**192**	*i* PN	**Pn**	**13 53 02.6**	**-0.6**
MRVN				*i* SN	**Sn**	**13 53 36.3**	**-0.9**
INTR	**Introdacqua**	**2.91**	**232**		**Pn**	**13 53 04.3**	**+0.7**
TRI	**Trieste**	**2.96**	**310**	P	**Pn**	**13 53 06.0**	**+1.2**
TRI	**Trieste**	**2.96**	**310**		**Pn**	**13 53 06.0**	**+1.2**
NRCA	**Norcia**	**3.00**	**252**		**Pn**	**13 53 06.8**	**+1.4**
SG1	**Sgolgore (BA)**	**3.01**	**184**	*e*Pn	**Pn**	**13 53 04.9**	**-0.6**
AQU	**L'Aquila**	**3.01**	**242**	P	**Pn**	**13 53 07.0**	**+1.4**
AQU	**L'Aquila**	**3.01**	**242**		**Pn**	**13 53 07.0**	**+1.4**
AQU	**L'Aquila**	**3.01**	**242**	*e*Pn	**Pn**	**13 53 06.8**	**+1.2**
AQU				*e*Sn	**Sn**	**13 53 43.2**	**+1.6**
NOCI	**Noci**	**3.05**	**179**	*i* PN	**Pn**	**13 53 05.1**	**-1.0**
NOCI				*i* SN	**Sn**	**13 53 42.1**	**-0.4**
SELS	**Selova**	**3.07**	**100**	*e*Pn	**Pn**	**13 53 05.9**	**-0.5**
VOJS	**Vojsko**	**3.10**	**316**	*i* Pn	**Pn**	**13 53 09.3**	**+2.4**
VOJS				*e*Sn	**Sb**	**13 53 50.5**	**-0.6**
	comp=Z,513nm,0.7s						
SOKA	**Soboth**	**3.15**	**335**	*i* Pn	**Pn**	**13 53 08.6**	**+1.0**
	comp=Z,27nm,0.3s,SNR=48						
SOKA				*i* Sn	**Sn**	**13 53 45.2**	**+0.1**
	comp=Z,109nm,0.7s						
SOKA	**Soboth**	**3.15**	**335**		**Pn**	**13 53 08.6**	**+1.0**
SOKA					**Sn**	**13 53 45.2**	**+0.1**
OBKA	**Obir**	**3.17**	**328**	*e*Pn	**Pn**	**13 53 09.6**	**+1.7**
OBKA	**Obir**	**3.17**	**328**	*i* Pn	**Pn**	**13 53 09.4**	**+1.5**
	comp=Z,3.1nm,0.2s						
OBKA				*i* Sn	**Sb**	**13 53 55.9**	**+2.8**
	comp=Z,250nm,0.5s						
OBKA	**Obir**	**3.17**	**328**		**Pn**	**13 53 09.4**	**+1.5**
OBKA					**Sb**	**13 53 55.9**	**+2.8**
OBKA	**Obir**	**3.17**	**328**	*e*Pn	**Pn**	**13 53 09.6**	**+1.7**
MATE	**Matera**	**3.19**	**184**	⇑P	**Pn**	**13 53 08.0**	**-0.1**
MATE	**Matera**	**3.19**	**184**		**Pn**	**13 53 08.0**	**-0.1**
TIR	**Tirane**	**3.28**	**138**	*i* PN	**Pn**	**13 53 11.2**	**+2.0**
TIR				*i* SN	**Sn**	**13 53 51.2**	**+3.2**
TIR	**Tirane**	**3.28**	**138**	⇓P	**Pn**	**13 53 09.7**	**+0.6**
TIR	**Tirane**	**3.28**	**138**	P	**Pn**	**13 53 11.2**	**+2.0**
TIR				S	**Sn**	**13 53 51.7**	**+3.7**
MURB	**Monte Urbino**	**3.29**	**261**		**Pn**	**13 53 11.0**	**+1.5**
TAR1	**Taranto**	**3.32**	**176**	*e*Pn	**Pn**	**13 53 09.4**	**-0.4**
PAOL	**Paolisi**	**3.33**	**213**		**Pn**	**13 53 10.7**	**+0.8**
PHP	**Peshkopia**	**3.34**	**129**	*i* PN	**Pn**	**13 53 12.3**	**+2.3**
PHP				*i* SN	**Sb**	**13 53 55.6**	**-2.1**
KUBS	**Kucevo**	**3.43**	**79**	*e*Pn	**Pn**	**13 53 10.1**	**-1.2**
MDVR	**Moldovita**	**3.52**	**73**	⇓P	**Pn**	**13 53 11.9**	**-0.8**
MDVR	**Moldovita**	**3.52**	**73**		**Pn**	**13 53 11.9**	**-0.8**
PRED	**Cave del Predi**	**3.55**	**318**	Pn	**Pn**	**13 53 15.2**	**+2.2**
ARSA	**Arzberg**	**3.56**	**344**	*e*Pn	**Pn**	**13 53 13.9**	**+0.7**
ARSA	**Arzberg**	**3.56**	**344**	*i* Pn	**Pn**	**13 53 14.0**	**+0.9**
	comp=Z,133nm,0.5s,SNR=145						
ARSA				*i* Sn	**Sn**	**13 53 54.0**	**-1.1**
	comp=Z,74nm,0.5s						
ARSA	**Arzberg**	**3.56**	**344**		**Pn**	**13 53 14.0**	**+0.9**
ARSA					**Sn**	**13 53 54.0**	**-1.1**
ARSA	**Arzberg**	**3.56**	**344**	*e*Pn	**Pn**	**13 53 13.9**	**+0.7**
MYKA	**Terra Mystica**	**3.65**	**321**	*i* Pn	**Pn**	**13 53 16.9**	**+2.4**
	SNR=20						
MYKA				Sn	**Sn**	**13 53 57.3**	**-0.1**
	comp=Z,111nm,0.5s						
MYKA	**Terra Mystica**	**3.65**	**321**		**Pn**	**13 53 16.9**	**+2.4**
MYKA					Lg	13 54 21.6	
BARS	**Barje**	**3.67**	**105**	*e*Pn	**Pn**	**13 53 12.5**	**-2.1**
BARS	**Barje**	**3.67**	**105**	*e*Pn	**Pn**	**13 53 14.5**	**-0.1**
BZS	**Buzias**	**3.75**	**60**	⇑P	**Pn**	**13 53 14.9**	**-0.8**
BZS	**Buzias**	**3.75**	**60**	P	**Pn**	**13 53 14.9**	**-0.8**
BZS	**Buzias**	**3.75**	**60**		**Pn**	**13 53 14.9**	**-0.8**
SKO	**Skopje**	**3.77**	**118**	P	**Pn**	**13 53 18.1**	**+2.1**
ZAGS	**Zajecar**	**3.80**	**89**	*e*Pn	**Pn**	**13 53 15.4**	**-1.0**
SOP	**Sopron**	**3.86**	**356**	P	**Pn**	**13 53 18.5**	**+1.4**
STAL	**STALIGIAL**	**3.88**	**310**		**Pn**	**13 53 18.6**	**+1.2**
BUD	**Budapest**	**3.92**	**21**	P	**Pn**	**13 53 19.2**	**+1.2**
DHR	**Dhrid**	**3.92**	**133**	*i* Pn	**Pn**	**13 53 21.6**	**+3.4**
ZOU	**Zouplan**	**3.92**	**315**		**Pn**	**13 53 20.3**	**+2.0**
SRO2	**Moca**	**4.05**	**14**	*e*P	**Pn**	**13 53 19.7**	**0.0**
SRO2				*e*		13 54 08.0	
SRO2				smax	smax		
	comp=N,485nm,0.6s						
SRO2	**Moca**	**4.05**	**14**	*e*PN	**Pn**	**13 53 19.7**	**0.0**
SRO2				*e*SN	**Sn**	**13 54 08.0**	**+1.1**
SRO2				*e*LG	Lg	13 54 12.5	
CIMO	**Cimolais**	**4.05**	**309**	Pn	**Pn**	**13 53 20.8**	**+0.8**
SIRR	**Siria**	**4.11**	**52**	⇑P	**Pn**	**13 53 19.9**	**-0.7**
SIRR	**Siria**	**4.11**	**52**		**Pn**	**13 53 19.9**	**-0.7**
KBA	**Koelnbreinsper**	**4.13**	**323**	*e*Pn	**Pn**	**13 53 24.1**	**+3.1**
KBA	**Koelnbreinsper**	**4.13**	**323**	*e*Pn	**Pn**	**13 53 23.1**	**+2.1**
	comp=N,18nm,0.4s,SNR=15						
KBA	**Koelnbreinsper**	**4.13**	**323**	P	**Pn**	**13 53 23.1**	**+2.1**
KBA	**Koelnbreinsper**	**4.13**	**323**		**Pn**	**13 53 23.1**	**+2.1**
KBA	**Koelnbreinsper**	**4.13**	**323**	*e*Pn	**Pn**	**13 53 24.1**	**+3.1**
ZAPS	**Zavoj**	**4.15**	**96**	*e*Pn	**Pn**	**13 53 21.6**	**+0.4**
CONA	**Conrad Observa**	**4.16**	**350**	*i* Pn	**Pn**	**13 53 22.2**	**+0.7**
	comp=N,23nm,0.3s,SNR=48						
CONA				*i* Sn	**Sn**	**13 54 11.8**	**+1.8**
	comp=N,40nm,0.3s						
CONA	**Conrad Observa**	**4.16**	**350**		**Pn**	**13 53 22.2**	**+0.7**
CONA					**Sn**	**13 54 11.8**	**+1.8**
BOSS	**Bosilegrad**	**4.24**	**107**	*e*Pn	**Pn**	**13 53 23.0**	**+0.5**
ABTA	**Abfaltersbach**	**4.29**	**314**	*i* Pn	**Pn**	**13 53 25.5**	**+2.3**
	comp=N,17nm,0.2s,SNR=45						
ABTA				*i* Sn	**Sn**	**13 54 17.9**	**+4.8**
	comp=N,162nm,0.7s						
ABTA	**Abfaltersbach**	**4.29**	**314**		**Pn**	**13 53 25.5**	**+2.3**
ABTA					**Sn**	**13 54 17.9**	**+4.8**
PUNG	**Punghina**	**4.31**	**82**	⇑P	**Pn**	**13 53 23.8**	**+0.4**
PUNG	**Punghina**	**4.31**	**82**		**Pn**	**13 53 23.8**	**+0.4**
ZCCA	**Zocca**	**4.36**	**279**		**Pn**	**13 53 26.1**	**+2.0**
ZST	**Bratislava**	**4.36**	**1**	*e*P	**Pn**	**13 53 24.2**	**+0.2**
ZST				*e*		13 54 13.2	
ZST				smax	smax		
	comp=N,163nm,1.2s						
ZST	**Bratislava**	**4.36**	**1**	*e*PN	**Pn**	**13 53 24.2**	**+0.2**
ZST				*e*SN	**Sn**	**13 54 13.2**	**-1.5**
ZST				*e*LG	Lg	13 54 18.8	
CTI	**Castel Tesino**	**4.38**	**302**	P	**Pn**	**13 53 25.7**	**+1.2**
CTI	**Castel Tesino**	**4.38**	**302**		**Pn**	**13 53 25.7**	**+1.2**
STIP	**Stip**	**4.39**	**117**	*i* Pn	**Pn**	**13 53 28.0**	**+3.5**
MOA	**Molln**	**4.44**	**336**	*e*Pn	**Pn**	**13 53 26.9**	**+1.7**
MOA	**Molln**	**4.44**	**336**	*i* Pn	**Pn**	**13 53 27.2**	**+2.0**
	comp=N,29nm,0.3s,SNR=45						
MOA				*i* Sn	**Sn**	**13 54 19.4**	**+2.7**
	comp=N,68nm,0.3s						
MOA	**Molln**	**4.44**	**336**		**Pn**	**13 53 27.2**	**+2.0**
MOA					**Sn**	**13 54 19.4**	**+2.7**
MOA	**Molln**	**4.44**	**336**	*e*Pn	**Pn**	**13 53 26.9**	**+1.7**
MODS	**Modra-Piesok**	**4.54**	**2**	*e*P	**Pn**	**13 53 26.1**	**-0.5**
MODS				*e*		13 54 16.6	
MODS	**Modra-Piesok**	**4.54**	**2**	*e*PN	**Pn**	**13 53 26.1**	**-0.5**
MODS				*e*SN	**Sn**	**13 54 16.6**	**-2.6**
MODS				*e*LG	Lg	13 54 25.5	
SRE	**Strehaia**	**4.55**	**77**	⇑P	**Pn**	**13 53 26.4**	**-0.2**
SRE	**Strehaia**	**4.55**	**77**	P	**Pn**	**13 53 26.4**	**-0.2**
SRE	**Strehaia**	**4.55**	**77**		**Pn**	**13 53 26.4**	**-0.2**
SRN	**Sarande**	**4.55**	**149**	*i* PN	**Pn**	**13 53 26.9**	**+0.1**
PSZ	**Piszkesteto**	**4.56**	**25**	⇓P	**Pn**	**13 53 26.7**	**-0.1**
PSZ	**Piszkesteto**	**4.56**	**25**	P	**Pn**	**13 53 26.7**	**-0.1**
PSZ	**Piszkesteto**	**4.56**	**25**		**Pn**	**13 53 26.7**	**-0.1**
TIP	**Timpagrande**	**4.66**	**182**	⇑P	**Pn**	**13 53 28.7**	**+0.5**
TIP	**Timpagrande**	**4.66**	**182**		**Pn**	**13 53 28.8**	**+0.5**
SMOL	**Smolenice**	**4.69**	**4**	*e*P	**Pn**	**13 53 29.0**	**+0.4**
SMOL				*e*		13 54 21.4	
SMOL				smax	smax		
	comp=N,103nm,0.8s						
SMOL	**Smolenice**	**4.69**	**4**	*e*PN	**Pn**	**13 53 29.0**	**+0.4**
SMOL				*e*SN	**Sn**	**13 54 21.4**	**-1.4**
SMOL				*e*LG	Lg	13 54 29.5	
VTS	**Vitosha**	**4.73**	**103**	*e*Pn	**Pn**	**13 53 29.4**	**+0.1**
VTS	**Vitosha**	**4.73**	**103**	⇓P	**Pn**	**13 53 29.6**	**+0.3**
VTS	**Vitosha**	**4.73**	**103**	P	**Pn**	**13 53 29.6**	**+0.3**
VTS	**Vitosha**	**4.73**	**103**	P	**Pn**	**13 53 29.5**	**+0.1**
VTS	**Vitosha**	**4.73**	**103**		**Pn**	**13 53 29.5**	**+0.1**
VLC	**Villacollemand**	**4.77**	**276**		**Pn**	**13 53 31.5**	**+1.8**
VYHS	**Vyhne**	**4.83**	**15**	*e*P	**Pn**	**13 53 31.3**	**+0.8**
VYHS				*e*		13 54 25.0	
VYHS	**Vyhne**	**4.83**	**15**	*e*PN	**Pn**	**13 53 31.3**	**+0.8**
VYHS				*e*SN	**Sn**	**13 54 25.0**	**-1.3**
VAY	**Valandovo**	**4.83**	**119**	*e*Pn	**Pn**	**13 53 31.5**	**+0.9**
VAY	**Valandovo**	**4.83**	**119**	*i* Pn	**Pn**	**13 53 31.9**	**+1.3**
VAY	**Valandovo**	**4.83**	**119**	P	**Pn**	**13 53 32.2**	**+1.6**
RJOB	**Jochberg**	**4.87**	**325**	*e*Pn	**Pn**	**13 53 32.3**	**+1.1**
RJOB	**Jochberg**	**4.87**	**325**	*e*Pn	**Pn**	**13 53 32.3**	**+1.1**
KKB	**Krupnik**	**4.90**	**112**	P	**Pn**	**13 53 33.6**	**+2.1**
SALO	**Salr**	**4.93**	**293**		**Pn**	**13 53 32.5**	**+0.6**
MPEP	**Malo Peshtene**	**4.93**	**93**	P	**Pn**	**13 53 32.7**	**+0.7**
IGT	**Igoumenitsa**	**4.98**	**149**	P	**Pn**	**13 53 36.6**	**+4.0**
DRGR		**5.00**	**52**	⇓P	**Pn**	**13 53 33.8**	**+0.8**
DRGR		**5.00**	**52**	P	**Pn**	**13 53 33.8**	**+0.8**
DRGR		**5.00**	**52**		**Pn**	**13 53 33.8**	**+0.8**
KZN	**Kozani**	**5.02**	**133**	P	**Pn**	**13 53 35.6**	**+2.4**
JAVC	**Velka Javorina**	**5.04**	**5**	*e*Pn	**Pn**	**13 53 34.7**	**+1.2**
JAVC	**Velka Javorina**	**5.04**	**5**	*e*PN	**Pn**	**13 53 34.6**	**+1.1**
JAVC				*e*SN	**Sn**	**13 54 33.2**	**+1.6**
JAVC	**Velka Javorina**	**5.04**	**5**	*e*Pn	**Pn**	**13 53 34.7**	**+1.2**
WTTA	**Wattenberg**	**5.08**	**314**	*e*Pn	**Pn**	**13 53 36.5**	**+2.4**
WTTA	**Wattenberg**	**5.08**	**314**	*i* Pn	**Pn**	**13 53 36.8**	**+2.7**
	comp=N,78nm,0.4s,SNR=107						
WTTA				*e*Sn	**Sn**	**13 54 36.6**	**+3.8**
	comp=N,74nm,0.5s						
WTTA	**Wattenberg**	**5.08**	**314**	P	**Pn**	**13 53 36.8**	**+2.7**
WTTA						13 54 36.6	
WTTA	**Wattenberg**	**5.08**	**314**		**Pn**	**13 53 36.8**	**+2.7**
WTTA					**Sn**	**13 54 36.6**	**+3.8**
WTTA	**Wattenberg**	**5.08**	**314**	*e*Pn	**Pn**	**13 53 36.5**	**+2.4**
LOT	**Lotru**	**5.10**	**69**	⇑P	**Pn**	**13 53 34.5**	**+0.1**
LOT	**Lotru**	**5.10**	**69**		**Pn**	**13 53 34.5**	**+0.1**
KNT	**Kendrikon**	**5.13**	**119**	P	**Pn**	**13 53 37.1**	**+2.5**
WATA	**Walderalm**	**5.16**	**315**	*i* Pn	**Pn**	**13 53 38.1**	**+2.9**
	comp=N,73nm,0.2s,SNR=144						
WATA				*i* Sn	**Sn**	**13 54 41.0**	**+6.4**
	comp=N,106nm,0.6s						
WATA	**Walderalm**	**5.16**	**315**	P	**Pn**	**13 53 38.1**	**+2.9**
WATA						13 54 41.0	
WATA	**Walderalm**	**5.16**	**315**		**Pn**	**13 53 38.1**	**+2.9**
WATA					**Sn**	**13 54 41.0**	**+6.4**
KRUC	**Moravsky**	**5.24**	**356**	*e*Pn	**Pn**	**13 53 36.3**	**+0.2**
KRUC	**Moravsky**	**5.24**	**356**	*e*SN	**Sn**	**13 54 35.0**	**-1.4**
KRUC	**Moravsky**	**5.24**	**356**	*e*Pn	**Pn**	**13 53 36.3**	**+0.2**
KRUC	**Moravsky**	**5.24**	**356**	*e*PN	**Pn**	**13 53 36.6**	**+0.5**
KECS	**Kecovo**	**5.24**	**26**	*e*P	**Pn**	**13 53 37.2**	**+1.0**
KECS				*e*		13 54 37.3	
KECS	**Kecovo**	**5.24**	**26**	*e*PN	**Pn**	**13 53 37.2**	**+1.0**
KECS				*e*SN	**Sn**	**13 54 37.3**	**+0.8**
KW1	**Garching a.d.**	**5.26**	**326**	*e*Pn	**Pn**	**13 53 38.4**	**+2.0**
SQTA	**Sankt Quirin**	**5.28**	**312**	*i* Pn	**Pn**	**13 53 40.5**	**+3.7**
	comp=N,91nm,0.6s,SNR=48						
SQTA				*i* Sn	**Sn**	**13 54 45.2**	**+7.6**
	comp=N,86nm,0.5s						
SQTA	**Sankt Quirin**	**5.28**	**312**		**Pn**	**13 53 40.5**	**+3.7**
SQTA					**Sn**	**13 54 45.2**	**+7.6**
PGB	**Panagyurishte**	**5.41**	**101**	P	**Pn**	**13 53 40.5**	**+1.9**
MOTA	**Moosalm**	**5.41**	**312**	*i* Pn	**Pn**	**13 53 41.6**	**+2.9**
	comp=N,157nm,0.6s,SNR=150						
MOTA				*i* Sn	**Sn**	**13 54 45.9**	**+5.0**
	comp=N,103nm,0.9s						
MOTA	**Moosalm**	**5.41**	**312**	P	**Pn**	**13 53 41.6**	**+2.9**
MOTA						13 54 45.9	
MOTA	**Moosalm**	**5.41**	**312**		**Pn**	**13 53 41.6**	**+2.9**
MOTA					**Sn**	**13 54 45.9**	**+5.0**
FETA	**Feichten**	**5.43**	**308**	*i* Pn	**Pn**	**13 53 41.7**	**+2.8**
	comp=N,36nm,0.6s,SNR=59						
FETA	**Feichten**	**5.43**	**308**		**Pn**	**13 53 41.7**	**+2.8**
MMB	**Musomiste**	**5.46**	**112**	P	**Pn**	**13 53 41.2**	**+2.0**
VRAC	**Vranov**	**5.48**	**357**	Pn	**Pn**	**13 53 40.5**	**+1.1**
	comp=N,0.9nm,0.3s,baz=179,slow=12,SNR=6.6						
VRAC				Sn	**Sn**	**13 54 41.6**	**-0.7**
	comp=N,7.6nm,0.3s,baz=65,slow=14,SNR=8.3						
VRAC	**Vranov**	**5.48**	**357**	*e*Pn	**Pn**	**13 53 40.1**	**+0.7**
VRAC	**Vranov**	**5.48**	**357**	⇓P	**Pn**	**13 53 40.6**	**+1.1**
VRAC	**Vranov**	**5.48**	**357**	*e*SN	**Sn**	**13

SBF	**Sospel**	**6.90 273**	P	**Pn**	**13 53 58.7**	**-0.4**
SBF					13 55 12.8	
SBF	**Sospel**	**6.90 273**		**Pn**	**13 53 58.7**	**-0.4**
SBF				**Sn**	**13 55 12.8**	**-4.7**
MANZ	**Manzenberg**	**6.99 333**	*e*Pn	**Pn**	**13 54 00.9**	**+0.6**
MANZ	**Manzenberg**	**6.99 333**	*e*Pn	**Pn**	**13 54 00.9**	**+0.6**
GRF	**Grafenberg Arr**	**7.06 328**	*e*Pn	**Pn**	**13 54 02.2**	**+1.0**
GRF	**Grafenberg Arr**	**7.06 328**	*e*Pn	**Pn**	**13 54 02.2**	**+1.0**
NKC	**Novy Kostel**	**7.11 336**	*e*PN	**Pn**	**13 54 02.2**	**+0.4**
NKC	**Novy Kostel**	**7.11 336**	*e*Pn	**Pn**	**13 54 02.7**	**+0.9**
NKC	**Novy Kostel**	**7.11 336**	*e*P	**Pn**	**13 54 02.2**	**+0.4**
NKC	**Novy Kostel**	**7.11 336**	*e*Pn	**Pn**	**13 54 02.7**	**+0.9**
SLE	**Schleitheim**	**7.11 306**	*e*Pn	**Pn**	**13 54 03.2**	**+1.3**
SLE	**Schleitheim**	**7.11 306**	P	**Pn**	**13 54 04.3**	**+2.4**
SLE	**Schleitheim**	**7.11 306**	*e*Pn	**Pn**	**13 54 03.2**	**+1.3**
VSL	**Villasalto**	**7.16 235**	Pn	**Pn**	**13 54 04.2**	**+1.7**
PLOR	**Plostina**	**7.16 70**	⇓P	**Pn**	**13 54 02.0**	**-0.6**
PLOR	**Plostina**	**7.16 70**	P	**Pn**	**13 54 02.0**	**-0.6**
PLOR	**Plostina**	**7.16 70**		**Pn**	**13 54 02.0**	**-0.6**
VRI	**Vrincioaia**	**7.22 70**	⇑P	**Pn**	**13 54 03.9**	**+0.5**
VRI	**Vrincioaia**	**7.22 70**	P	**Pn**	**13 54 03.9**	**+0.5**
VRI	**Vrincioaia**	**7.22 70**		**Pn**	**13 54 03.9**	**+0.5**
SULZ	**Cheisacher**	**7.22 304**	*e*Pn	**Pn**	**13 54 04.2**	**+0.7**
SULZ	**Cheisacher**	**7.22 304**	*e*Pn	**Pn**	**13 54 04.2**	**+0.7**
SENIN	**Lac Senin/Sane**	**7.30 294**	Pn	**Pn**	**13 54 06.8**	**+2.1**
STU	**Stuttgart**	**7.31 315**	*e*Pn	**Pn**	**13 54 05.5**	**+1.0**
STU	**Stuttgart**	**7.31 315**	P	**Pn**	**13 54 05.6**	**+1.1**
STU	**Stuttgart**	**7.31 315**	*e*Pn	**Pn**	**13 54 05.5**	**+1.0**
ALN	**Alexandroupoli**	**7.33 111**	P	**Pn**	**13 54 06.5**	**+1.7**
ALN	**Alexandroupoli**	**7.33 111**		**Pn**	**13 54 06.5**	**+1.7**
BRG	**Berggiesshubel**	**7.33 345**	SG	**Sb**	**13 55 47.9**	**-4.6**
	comp=Z,13nm,0.6s					
BRG	**Berggiesshubel**	**7.33 345**	P	**Pn**	**13 54 04.5**	**-0.4**
BRG	**Berggiesshubel**	**7.33 345**	PN	**Pn**	**13 54 04.5**	**-0.4**
MBDF	**Montbardon**	**7.38 280**	*e*Pn	**Pn**	**13 54 04.8**	**-0.9**
MBDF			*e*Sn	**Sn**	**13 55 24.1**	**-5.3**
	comp=Z,70nm,0.6s					
MBDF	**Montbardon**	**7.38 280**		**Pn**	**13 54 04.8**	**-0.9**
MBDF				**Sn**	**13 55 24.1**	**-5.3**
BALST	**Balsthal**	**7.39 301**	*e*Pn	**Pn**	**13 54 07.1**	**+1.4**
BALST	**Balsthal**	**7.39 301**	*e*Pn	**Pn**	**13 54 07.1**	**+1.4**
BNI	**Bardonecchia**	**7.47 283**	P	**Pn**	**13 54 07.2**	**+0.2**
BNI	**Bardonecchia**	**7.47 283**	Pn	**Pn**	**13 54 07.2**	**+0.2**
LPG	**La Plagne**	**7.48 286**	*e*Pn	**Pn**	**13 54 06.2**	**-1.0**
LPG	**La Plagne**	**7.48 286**	*e*P	**Pn**	**13 54 10.8**	**+3.6**
LPG			*e*Sn	**Sn**	**13 55 26.5**	**-5.5**
	comp=Z,95nm,0.7s					
LPG	**La Plagne**	**7.48 286**		**Pn**	**13 54 06.2**	**-1.0**
LPG				Pb	13 54 10.8	-17
LPG				**Sn**	**13 55 26.5**	**-5.5**
FRF	**La Foret Royal**	**7.50 271**	*e*Pn	**Pn**	**13 54 07.6**	**+0.5**
FRF			*e*Sn	**Sn**	**13 55 27.3**	**-4.7**
	comp=Z,40nm,0.7s					
FRF	**La Foret Royal**	**7.50 271**	P	**Pn**	**13 54 07.6**	**+0.5**
FRF					13 55 27.3	
FRF	**La Foret Royal**	**7.50 271**		**Pn**	**13 54 07.6**	**+0.5**
FRF				**Sn**	**13 55 27.3**	**-4.7**
LPL	**La Plagne**	**7.50 286**	*e*Pn	**Pn**	**13 54 06.5**	**-0.8**
LPL	**La Plagne**	**7.50 286**	*e*P	**Pn**	**13 54 10.8**	**+3.5**
LPL			*e*Sn	**Sn**	**13 55 27.3**	**-5.0**
	comp=Z,161nm,0.9s					
LPL	**La Plagne**	**7.50 286**		**Pn**	**13 54 06.5**	**-0.8**
LPL				Pb	13 54 10.8	-17
LPL				**Sn**	**13 55 27.3**	**-5.0**
BFO	**Black Forest**	**7.50 310**	*e*Pn	**Pn**	**13 54 08.0**	**+0.7**
BFO	**Black Forest**	**7.50 310**	P	**Pn**	**13 54 08.5**	**+1.2**
BFO	**Black Forest**	**7.50 310**	Pn	**Pn**	**13 54 08.5**	**+1.2**
BFO	**Black Forest**	**7.50 310**	*e*Pn	**Pn**	**13 54 08.0**	**+0.7**
LMR	**La Mourre**	**7.62 270**	*e*Pn	**Pn**	**13 54 09.5**	**+0.7**
LMR			*e*Sn	**Sn**	**13 55 30.8**	**-4.2**
	comp=Z,10nm,0.4s					
LMR	**La Mourre**	**7.62 270**	P	**Pn**	**13 54 09.5**	**+0.7**
LMR					13 55 30.8	
LMR	**La Mourre**	**7.62 270**		**Pn**	**13 54 09.5**	**+0.7**
LMR				**Sn**	**13 55 30.8**	**-4.2**
LVV	**L'vov**	**7.69 36**	*e*Pn	**Pn**	**13 54 12.9**	**+3.2**
MOX	**Moxa**	**7.72 334**	*e*Pn	**Pn**	**13 54 11.1**	**+0.8**
MOX	**Moxa**	**7.72 334**	P	**Pn**	**13 54 13.5**	**+3.3**
MOX			pmax	pmax		
	comp=Z,25nm,0.7s					
MOX	**Moxa**	**7.72 334**	*e*Pn	**Pn**	**13 54 11.1**	**+0.8**
CLL	**Collm**	**7.94 342**	Lmax		13 57 00.0	
CLL	**Collm**	**7.94 342**	*e*P	**Pn**	**13 54 11.0**	**-2.2**
CLL			*e*		13 55 51.0	
CLL	**Collm**	**7.94 342**	*e*Pn	**Pn**	**13 54 11.0**	**-2.2**
CLL	**Collm**	**7.94 342**	*e*	Pn	13 54 18.0	+4.8
CLL	**Collm**	**7.94 342**	*e*Sn	Sn	13 55 23.0	-20
CLL	**Collm**	**7.94 342**	*e*	P'g	13 55 29.0	+39
CLL	**Collm**	**7.94 342**	*e*Sb	**Sn**	**13 55 51.0**	**+8.2**
CLL	**Collm**	**7.94 342**	*e*		13 56 12.0	
CLL	**Collm**	**7.94 342**	*e*Sg	**Sg**	**13 56 32.0**	**-0.8**
ORIF	**Oris-en-Rattie**	**8.03 282**	*e*Pn	**Pn**	**13 54 14.8**	**+0.3**
ORIF			*e*Sn	**Sn**	**13 55 39.9**	**-5.2**
	comp=Z,74nm,0.7s					
ORIF	**Oris-en-Rattie**	**8.03 282**	P	**Pn**	**13 54 14.8**	**+0.3**
ORIF					13 55 39.9	
ORIF	**Oris-en-Rattie**	**8.03 282**		**Pn**	**13 54 14.8**	**+0.3**
ORIF				**Sn**	**13 55 39.9**	**-5.2**
HINF	**Hinteralfeld**	**8.11 303**	*e*Pn	**Pn**	**13 54 17.1**	**+1.5**
HINF			*e*Sn	**Sn**	**13 55 40.8**	**-6.4**
	comp=Z,54nm,0.7s					
HINF	**Hinteralfeld**	**8.11 303**	P	**Pn**	**13 54 17.1**	**+1.5**
HINF					13 55 40.8	
HINF	**Hinteralfeld**	**8.11 303**		**Pn**	**13 54 17.1**	**+1.5**
HINF				**Sn**	**13 55 40.8**	**-6.4**
ECH	**Echery**	**8.11 306**	P	**Pn**	**13 54 16.8**	**+1.2**
ECH			pmax	pmax		
	comp=Z,22nm,0.8s					
CDF	**Champ du Feu**	**8.14 308**	*e*Pn	**Pn**	**13 54 16.5**	**+0.4**
CDF			*e*Sn	**Sn**	**13 55 42.1**	**-5.9**
	comp=Z,27nm,0.7s					
CDF	**Champ du Feu**	**8.14 308**	P	**Pn**	**13 54 16.5**	**+0.4**
CDF					13 55 42.1	
CDF	**Champ du Feu**	**8.14 308**		**Pn**	**13 54 16.5**	**+0.4**
CDF				**Sn**	**13 55 42.1**	**-5.9**
CABF	**La Chapelle**	**8.17 294**	*e*Pn	**Pn**	**13 54 17.3**	**+0.8**
CABF			*e*Sn	**Sn**	**13 55 43.2**	**-5.5**
	comp=Z,46nm,0.8s					
CABF	**La Chapelle**	**8.17 294**	P	**Pn**	**13 54 17.3**	**+0.8**
CABF					13 55 43.2	
CABF	**La Chapelle**	**8.17 294**		**Pn**	**13 54 17.3**	**+0.8**
CABF				**Sn**	**13 55 43.2**	**-5.5**
SMRF	**Simiane la Rot**	**8.24 275**	*e*Pn	**Pn**	**13 54 18.4**	**+1.0**
SMRF			*e*Sn	**Sn**	**13 55 44.2**	**-6.1**
	comp=Z,25nm,0.9s					
SMRF	**Simiane la Rot**	**8.24 275**		**Pn**	**13 54 18.4**	**+1.0**
SMRF				**Sn**	**13 55 44.2**	**-6.1**
HAU	**Haudompre**	**8.50 303**	*e*Pn	**Pn**	**13 54 22.7**	**+1.8**
HAU			*e*Sn	**Sn**	**13 55 50.0**	**-6.7**
	comp=Z,44nm,0.6s					
HAU	**Haudompre**	**8.50 303**		**Pn**	**13 54 22.7**	**+1.8**
HAU				**Sn**	**13 55 50.0**	**-6.7**
TNS	**Taunus Mts**	**8.64 321**	*e*Pn	**Pn**	**13 54 24.2**	**+1.3**
TNS	**Taunus Mts**	**8.64 321**	P	**Pn**	**13 54 25.4**	**+2.5**
TNS	**Taunus Mts**	**8.64 321**	*e*Pn	**Pn**	**13 54 24.2**	**+1.3**
VIVF	**Saint-Julien-l**	**8.88 281**	*e*Pn	**Pn**	**13 54 25.7**	**-0.4**
VIVF			*e*Sn	**Sn**	**13 55 59.0**	**-7.0**
	comp=Z,37nm,0.8s					
VIVF	**Saint-Julien-l**	**8.88 281**		**Pn**	**13 54 25.7**	**-0.4**
VIVF				**Sn**	**13 55 59.0**	**-7.0**
PAGF	**Fort de Pagny**	**9.12 305**	*e*Pn	**Pn**	**13 54 31.5**	**+2.1**
PAGF			*e*Sn	**Sn**	**13 56 04.5**	**-7.3**
	comp=Z,41nm,0.8s					
PAGF	**Fort de Pagny**	**9.12 305**		**Pn**	**13 54 31.5**	**+2.1**
PAGF				**Sn**	**13 56 04.5**	**-7.3**
SFTF	**Sexfontaines**	**9.38 302**	*e*Pn	**Pn**	**13 54 34.4**	**+1.4**
	baz=121					
SFTF			*e*Sn	**Sn**	**13 56 11.0**	**-7.3**
	comp=Z,19nm,0.4s					
SFTF	**Sexfontaines**	**9.38 302**		**Pn**	**13 54 34.4**	**+1.4**
SFTF				**Sn**	**13 56 11.0**	**-7.3**
APE	**Apeiranthos**	**9.39 133**	⇑*e*P	**Pn**	**13 54 34.7**	**+1.6**
WLF	**Walferdange**	**9.44 312**	pP	**Pn**	**13 54 36.7**	**+2.9**
LASF	**Ste Croix**	**9.47 276**	*e*Pn	**Pn**	**13 54 33.2**	**-1.0**
LASF			*e*Sn	**Sn**	**13 56 14.6**	**-5.9**
	comp=Z,19nm,0.9s					
LASF	**Ste Croix**	**9.47 276**		**Pn**	**13 54 33.2**	**-1.0**
LASF				**Sn**	**13 56 14.6**	**-5.9**
MEZF	**Maizieres J'vr**	**9.50 304**	*e*Pn	**Pn**	**13 54 33.3**	**-1.2**
MEZF			*e*Sn	**Sn**	**13 56 14.1**	**-7.0**
	comp=Z,15nm,0.5s					
MEZF	**Maizieres J'vr**	**9.50 304**		**Pn**	**13 54 33.3**	**-1.2**
MEZF				**Sn**	**13 56 14.1**	**-7.0**
SMF	**Signal de Mont**	**9.68 291**	*e*Pn	**Pn**	**13 54 36.6**	**-0.5**
SMF			*e*Sn	**Sn**	**13 56 19.1**	**-6.6**
	comp=Z,41nm,0.7s					
SMF	**Signal de Mont**	**9.68 291**		**Pn**	**13 54 36.6**	**-0.5**
SMF				**Sn**	**13 56 19.1**	**-6.6**
LOR	**Lormes**	**9.82 295**	*e*Pn	**Pn**	**13 54 38.6**	**-0.4**
	baz=114					
LOR			*e*Sn	**Sn**	**13 56 22.8**	**-6.3**
	comp=Z,26nm,0.5s					
LOR	**Lormes**	**9.82 295**		**Pn**	**13 54 38.6**	**-0.4**
LOR				**Sn**	**13 56 22.8**	**-6.3**
BHOU	**Houvegnez**	**9.92 315**	pP	**Pn**	**13 54 42.8**	**+2.5**
KEST	**Kesra**	**10.00 219**	Pn	**Pn**	**13 54 44.1**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=335,slow=7.3,SNR=5.9					
SSF	**Saint Saulge**	**10.00 293**	*e*Pn	**Pn**	**13 54 41.0**	**-0.5**
SSF			*e*Sn	**Sn**	**13 56 25.9**	**-7.6**
	comp=Z,33nm,0.8s					
SSF	**Saint Saulge**	**10.00 293**		**Pn**	**13 54 41.0**	**-0.5**
SSF				**Sn**	**13 56 25.9**	**-7.6**
BUG	**Bochum--Univer**	**10.03 323**	P	Pn	13 54 46.7	+4.9
BUG			pmax	pmax		
	comp=Z,21nm,0.9s					
AVF	**Avril sur Loir**	**10.04 292**	*e*Pn	**Pn**	**13 54 42.2**	**+0.2**
AVF			*e*Sn	**Sn**	**13 56 28.0**	**-6.5**
	comp=Z,28nm,0.9s					
AVF	**Avril sur Loir**	**10.04 292**	P	**Pn**	**13 54 42.2**	**+0.2**
AVF					13 56 28.0	
AVF	**Avril sur Loir**	**10.04 292**		**Pn**	**13 54 42.2**	**+0.2**
AVF				**Sn**	**13 56 28.0**	**-6.5**
MEM	**Membach**	**10.07 316**	pP	**Pn**	**13 54 45.7**	**+3.3**
MEM	**Membach**	**10.07 316**	P	**Pn**	**13 54 46.8**	**+4.4**
MEM			pmax	pmax		
	comp=Z,19nm,0.6s					
BGF	**Bois d'Agland**	**10.34 290**	*e*Pn	**Pn**	**13 54 46.3**	**+0.2**
BGF			*e*Sn	**Sn**	**13 56 35.5**	**-6.3**
	comp=Z,38nm,0.6s					
BGF	**Bois d'Agland**	**10.34 290**	P	**Pn**	**13 54 46.3**	**+0.2**
BGF					13 56 35.5	
BGF	**Bois d'Agland**	**10.34 290**		**Pn**	**13 54 46.3**	**+0.2**
BGF				**Sn**	**13 56 35.5**	**-6.3**
GIVF	**Givet**	**10.40 311**	*e*Pn	**Pn**	**13 54 49.6**	**+2.7**
GIVF			*e*Sn	**Sn**	**13 56 34.6**	**-8.6**
	comp=Z,1.5nm,0.2s					
GIVF	**Givet**	**10.40 311**	P	**Pn**	**13 54 49.6**	**+2.7**
GIVF	**Givet**	**10.40 311**		**Pn**	**13 54 49.6**	**+2.7**
GIVF				**Sn**	**13 56 34.6**	**-8.6**
BGES	**Gesves**	**10.41 313**	pP	**Pn**	**13 54 50.0**	**+2.9**
DOU	**Dourbes**	**10.52 311**	pP	**Pn**	**13 54 51.5**	**+3.0**
BMRD	**Maredsous**	**10.54 312**	pP	**Pn**	**13 54 51.5**	**+2.8**
BAIF	**Baives**	**10.71 310**	*e*Pn	**Pn**	**13 54 49.4**	**-1.8**
BAIF			*e*Sn	Sn	13 56 38.2	-13
	comp=Z,3.1nm,0.3s					
BAIF	**Baives**	**10.71 310**	P	**Pn**	**13 54 49.4**	**-1.8**
BAIF	**Baives**	**10.71 310**		**Pn**	**13 54 49.4**	**-1.8**
BAIF				Sn	13 56 38.2	-13
MTLF	**Montolieu**	**10.72 272**	*e*Pn	**Pn**	**13 54 50.5**	**-0.9**
MTLF			*e*Sn	**Sn**	**13 56 43.9**	**-7.3**
	comp=Z,3.9nm,0.6s					
MTLF	**Montolieu**	**10.72 272**	P	**Pn**	**13 54 50.5**	**-0.9**
MTLF					13 56 43.9	
MTLF	**Montolieu**	**10.72 272**		**Pn**	**13 54 50.5**	**-0.9**
MTLF				**Sn**	**13 56 43.9**	**-7.3**
TCF	**Toulx Ste Croi**	**10.73 288**	*e*Pn	**Pn**	**13 54 50.7**	**-0.8**
TCF			*e*Sn	**Sn**	**13 56 44.6**	**-6.9**
	comp=Z,30nm,0.9s					
TCF	**Toulx Ste Croi**	**10.73 288**		**Pn**	**13 54 50.7**	**-0.8**
TCF				**Sn**	**13 56 44.6**	**-6.9**
CAF	**Calviac**	**10.73 281**	*e*Pn	**Pn**	**13 54 51.0**	**-0.6**
CAF			*e*Sn	**Sn**	**13 56 44.1**	**-7.4**
	comp=Z,4.1nm,0.5s					
CAF	**Calviac**	**10.73 281**	P	**Pn**	**13 54 51.0**	**-0.6**
CAF					13 56 44.1	
CAF	**Calviac**	**10.73 281**		**Pn**	**13 54 51.0**	**-0.6**
CAF				**Sn**	**13 56 44.1**	**-7.4**
AKASG	**Malin Array Be**	**10.78 46**	Pn	**Pn**	**13 54 52.2**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=86,slow=27,SNR=2.1					
AKASG	**Malin Array Be**	**10.78 46**	*i* P	**Pn**	**13 54 56.2**	**+4.2**
AKASG			pmax	pmax		
	comp=Z,2.0nm,0.6s					
AKBB	**Malin Array Si**	**10.78 46**	⇓*e*P	**Pn**	**13 54 53.1**	**+1.1**
RJF	**Les Rejaudoux**	**11.13 283**	*e*Sn	**Sn**	**13 56 55.0**	**-6.2**
	comp=Z,18nm,0.9s					
RJF	**Les Rejaudoux**	**11.13 283**		**Sn**	**13 56 55.0**	**-6.2**
ISP	**Isparta**	**11.88 116**	P	**Pn**	**13 55 11.2**	**+3.9**
LDF	**La Druitiere**	**12.76 298**	*e*Pn	**Pn**	**13 55 19.8**	**+0.7**
LDF	**La Druitiere**	**12.76 298**	P	**Pn**	**13 55 19.8**	**+0.7**
LDF	**La Druitiere**	**12.76 298**		**Pn**	**13 55 19.8**	**+0.7**
ETSF	**Etsaut**	**12.80 272**	*e*Pn	**Pn**	**13 55 18.3**	**-1.5**
ETSF	**Etsaut**	**12.80 272**	P	**Pn**	**13 55 18.3**	**-1.5**
ETSF	**Etsaut**	**12.80 272**		**Pn**	**13 55 18.3**	**-1.5**
FLN	**La Foliniere**	**13.03 298**	*e*Pn	**Pn**	**13 55 23.4**	**+0.5**
	baz=117					
FLN			*e*Sn	**Sn**	**13 57 38.9**	**-8.7**
	comp=Z,9.0nm,0.7s,baz=113					
FLN	**La Foliniere**	**13.03 298**		**Pn**	**13 55 23.4**	**+0.5**
FLN				**Sn**	**13 57 38.9**	**-8.7**
BRTR	**Keskin Array B**	**13.09 103**	Pn	**Pn**	**13 55 24.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=297,slow=11,SNR=6.3					
BRTR			LR	LR	14 01 01.0	
	comp=Z,139nm,19.7s,baz=249,slow=40					
BRTR	**Keskin Array B**	**13.09 103**	*i* P	**Pn**	**13 55 26.8**	**+2.9**
BRTR			pmax	pmax		
	comp=Z,2.0nm,0.8s					
GRR	**Gorron**	**13.18 296**	*e*Pn	**Pn**	**13 55 25.5**	**+0.6**
GRR	**Gorron**	**13.18 296**	P	**Pn**	**13 55 25.5**	**+0.6**
GRR	**Gorron**	**13.18 296**		**Pn**	**13 55 25.5**	**+0.6**
SGMF	**Saint Gilles**	**14.26 295**	*e*Pn	**Pn**	**13 55 38.9**	**-0.8**
SGMF	**Saint Gilles**	**14.26 295**	P	**Pn**	**13 55 38.9**	**-0.8**
SGMF	**Saint Gilles**	**14.26 295**		**Pn**	**13 55 38.9**	**-0.8**
QUIF	**Quistinic**	**14.61 293**	*e*Pn	**Pn**	**13 55 44.9**	**+0.5**
QUIF	**Quistinic**	**14.61 293**	P	**Pn**	**13 55 44.9**	**+0.5**
QUIF	**Quistinic**	**14.61 293**		**Pn**	**13 55 44.9**	**+0.5**
ESDC	**Sonseca Array**	**16.16 262**	Pn	**P**	**13 56 07.3**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=68,slow=12,SNR=38					
ESDC			LR	LR	14 02 52.7	
	comp=Z,118nm,19.5s,baz=275,slow=39					
HFS	**Hagfors**	**16.44 354**	Pn	**Pn**	**13 56 08.9**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=194,slow=18,SNR=1.5					
PAB	**San Pablo**	**16.49 262**	P	**P**	**13 56 12.1**	**+0.3**
PAB			pmax	pmax		
	comp=Z,7.0nm,1.1s					
PAB	**San Pablo**	**16.49 262**		**P**	**13 56 12.1**	**+0.3**
PAB			IAmb	IAmb	13 56 17.4	
	comp=Z,7.1nm,1.1s					
OBN	**Obninsk**	**16.94 41**	*i* P	**P**	**13 56 15.9**	**-0.7**
OBN			pmax	pmax		
	comp=Z,8.0nm,0.8s					
OBN			MLR	MLR		
	comp=Z,82nm,15.0s					
EKA	**Eskdalemuir Ar**	**17.33 319**	P	**P**	**13 56 23.1**	**+2.2**
	baz=120,slow=14,SNR=3.5					
NOA	**NORSAR Array B**	**17.57 351**	LR	LR	14 04 32.4	
	comp=Z,24nm,18.2s,baz=140,slow=42					
PUL	**Pulkovo**	**17.90 22**	⇑*e*P	**P**	**13 56 28.5**	**+1.3**
FINES	**FINESS Array B**	**18.44 14**	P	**P**	**13 56 33.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=201,slow=10,SNR=1.8					
KIV	**Kislovodsk**	**18.51 81**	*e*P	**Pn**	**13 56 35.0**	**+0.7**
KIV			pmax	pmax		
	comp=Z,11nm,0.9s					
KBZ	**Khabaz**	**18.69 81**	P	**Pn**	**13 56 36.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=230,slow=6.6,SNR=6.5					
KBZ	**Khabaz**	**18.69 81**	*ce*P	**Pn**	**13 56 37.9**	**+1.5**
ASF	**Jabal al Asfar**	**19.49 120**	P	**P**	**13 56 45.0**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=177,slow=4.0,SNR=5.9					
EIL	**Elat**	**20.12 129**	LR	LR	14 06 57.9	
	comp=Z,47nm,18.3s,baz=74,slow=44					
MDT	**Midelt**	**20.14 244**	P	**P**	**13 56 52.5**	**+0.4**
	comp=Z,2.7nm,0.8s,baz=71,slow=9.5,SNR=7.9					
MDT			LR	LR	14 03 59.6	
	comp=Z,76nm,20.9s,baz=166,slow=35					
KLMR	**Klimovskoe**	**21.71 30**	*e*P	**P**	**13 57 09.3**	**+0.6**
KLMR			pmax	pmax		
	comp=Z,11nm,1.0s					
KLMR	**Klimovskoe**	**21.71 30**	*e*P	**P**	**13 57 09.3**	**+0.6**
KLMR			AMP		13 57 15.6	
	comp=Z,11nm,1.0s					
KIRV	**Kirov**	**24.79 42**	P	**P**	**13 57 39.1**	**-0.4**
	comp=Z,11nm,0.5s,baz=36,slow=6.6,SNR=4.5					
KIRV	**Kirov**	**24.79 42**	*e*P	**P**	**13 57 39.8**	**+0.4**
ARU	**Arti**	**29.00 50**	P	**P**	**13 58 16.9**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=249,slow=5.8,SNR=4.3					
ARU			LR	LR	14 11 51.6	
	comp=Z,70nm,18.6s,baz=24,slow=41					
ARU	**Arti**	**29.00 50**	*c i* P	**P**	**13 58 16.6**	**-0.8**
ARU			S	**S**	**14 03 07.4**	**-0.5**
ARU			pmax	pmax		
	comp=Z,5.0nm,0.9s					
GEYT	**Alibeck**	**31.41 86**	P	**P**	**13 58 38.7**	**-0.2**
	comp=Z,6.3nm,0.7s,baz=297,slow=9.8,SNR=13					
GEYT	**Alibeck**	**31.41 86**	P	**P**	**13 58 38.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**33.29 208**	P	**P**	**13 58 57.4**	**+1.9**
	comp=Z,0.6nm,0.6s,baz=8.1,slow=9.3,SNR=4.1					
BRVK	**Borovoye**	**35.77 56**	*de*P	**P**	**13 59 17.0**	**+0.3**
BRVK			pmax	pmax		
	comp=Z,6.0nm,1.0s					
BRVK	**Borovoye**	**35.77 56**	P	**P**	**13 59 16.0**	**-0.7**
BRVK			IAmb	IAmb	13 59 21.9	
	comp=Z,4.5nm,0.8s					
AAK	**Ala-Archa**	**41.18 71**	⇑*e*P	**P**	**14 00 02.7**	**+0.3**
AAK			pmax	pmax		
	comp=Z,4.0nm,2.5s					
KURK	**Kurchatov**	**41.30 58**	⇑*e*P	**P**	**14 00 02.7**	**-0.3**
KURK			pmax	pmax		
	comp=Z,2.0nm,1.0s					
ZALV	**Zalesovo Beam**	**44.10 52**	P	**P**	**14 00 24.9**	**-0.9**
	comp=Z,2.8nm,0.9s,baz=316,slow=12,SNR=5.9					
MKAR	**Makanchi Array**	**44.83 62**	P	**P**	**14 00 30.6**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=291,slow=7.7,SNR=6.2					
MKAR	**Makanchi Array**	**44.83 62**	*i* P	**P**	**14 00 31.0**	**-0.8**
MKAR			pmax	pmax		
	comp=Z,1.0nm,0.8s					
DGZ	**Jazzator, Alta**	**46.99 57**	⇑*e*P	**P**	**14 00 49.4**	**+0.5**
DGZ			pmax	pmax		
	comp=Z,2.0nm,0.9s					
WMQ	**Urumqi**	**49.52 64**	*e*P	**P**	**14 01 11.1**	**+2.7**
WMQ			LR	LR		
	comp=N,280nm,20.1s					
WMQ			LR	LR		
	comp=E,310nm,16.9s					
WMQ			LR	LR		
	comp=Z,150nm,23.7s					
SCHQ	**Schefferville**	**52.55 314**	P	**P**	**14 01 30.6**	**-0.3**
	comp=Z,3.6nm,0.7s,baz=68,slow=14,SNR=3.6					
SCHQ	**Schefferville**	**52.55 314**	IAmb	IAmb	14 01 34.5	
	comp=Z,5.4nm,0.8s					
TIXI	**Tiksi**	**55.30 21**	⇑*e*P	**P**	**14 01 51.9**	**+1.1**
TIXI			pmax	pmax		
	comp=Z,1.0nm,1.0s					
SONM	**Songino Array**	**59.00 52**	P	**P**	**14 02 16.9**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=243,slow=41,SNR=4.6					
LZH	**Lanzhou**	**64.10 64**	*e*P	**P**	**14 02 54.6**	**+2.5**
LZH			pP	pP	14 02 56.8	0.0
LZH			sP	sP	14 02 58.6	0.0
LZH			PP	PP	14 05 03.5	-9.3
LZH			pmax	pmax		
	comp=Z,23nm,1.1s					
LZH			pmax	pmax		
	comp=Z,130nm,5.4s					
BILL	**Bilibino**	**66.08 12**	*i* P	**P**	**14 03 04.2**	**0.0**
BILL			pmax	pmax		
	comp=Z,2.0nm,1.6s					
YKA	**Yellowknife Ar**	**67.15 338**	P	**P**	**14 03 10.7**	**-0.5**
	comp=Z,2.6nm,1.0s,baz=40,slow=5.9,SNR=6.5					
MA2	**Magadan**	**70.17 23**	⇑*e*P	**P**	**14 03 32.3**	**+2.3**
MA2			pmax	pmax		
	comp=Z,9.0nm,1.0s					
COLA	**College**	**70.98 353**	⇓*e*P	**P**	**14 03 35.7**	**+0.9**
COLA			pmax	pmax		
	comp=Z,2.0nm,1.0s					
ILAR	**Eielson Array**	**70.99 353**	P	**P**	**14 03 35.5**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=324,slow=32,SNR=3.0					
CMAR	**Chiang Mai Arr**	**71.75 82**	P

JMU **Jammu** 4.66 144 *e*P Pn 14 04 35.0 -11
JMU *e*S Sn 14 05 25.5 -13
SARP Sargodha 4.70 170 P **Pn** **14 04 46.5 +0.4**
ARSB Arslanbob 4.87 12 PN **Pn** **14 04 47.8 -0.7**
ARSB Arslanbob 4.87 12 **Pn** **14 04 47.8 -0.7**
TAS Tashkent 5.11 339 PN **Pn** **14 04 51.2 -0.5**
TAS pmax pmax
comp=Z,128nm,0.7s
THN Thein Dam 5.29 140 *e*P **Pn** **14 04 55.0 +0.9**
THN *ex* **Sn** **14 05 52.0 -1.8**
IUG luzhnay 5.73 348 *e*P **Pn** **14 04 59.6 -0.5**
comp=Z,1.4nm,0.5s,baz=347
IUG luzhnay 5.73 348 *e*PN **Pn** **14 04 59.5 -0.5**
IUG pmax pmax
comp=Z,1.0nm,0.5s
AML Almayashu 5.78 15 P **Pn** **14 05 00.8 -0.2**
SNR=454
CHM Chimkent 5.98 345 *e*P **Pn** **14 05 03.3 0.0**
baz=344
CHM Chimkent 5.98 345 *e*PN **Pn** **14 05 03.3 0.0**
UCH Uchtor 6.07 20 P **Pn** **14 05 04.9 -0.2**
SNR=345
KZA Kyzart 6.17 26 P **Pn** **14 05 06.3 0.0**
SNR=38
EKS2 Erkin-Say 6.31 14 P **Pn** **14 05 08.1 +0.2**
SNR=55
DZA Taraz 6.33 358 *e*P **Pn** **14 05 08.0 -0.2**
comp=Z,59nm,0.4s,baz=358
DZA Taraz 6.33 358 *e*PN **Pn** **14 05 07.9 -0.2**
DZA pmax pmax
comp=Z,59nm,0.4s
AAK Ala-Archa 6.45 19 P **Pn** **14 05 10.3 +0.4**
comp=Z,42nm,0.3s,baz=162,slow=6.2,SNR=165
AAK S **Sn** **14 06 19.2 -2.9**
comp=Z,11nm,0.3s,baz=308,slow=19,SNR=14
AAK Ala-Archa 6.45 19 P **Pn** **14 05 10.3 +0.4**
SNR=102
AAK Ala-Archa 6.45 19 *i* P **Pn** **14 05 10.2 +0.4**
SNR=110
AAK Ala-Archa 6.45 19 P **Pn** **14 05 10.3 +0.4**
comp=Z,42nm,0.3s
AAK ⇓S **Sn** **14 06 18.8 -3.2**
comp=Z,394nm,1.3s
AAK Ala-Archa 6.45 19 P **Pn** **14 05 10.4 +0.4**
AAK S **Sn** **14 06 19.8 -2.3**
AAK Ala-Archa 6.45 19 *c i* PN **Pn** **14 05 10.2 +0.3**
AAK pmax pmax
comp=Z,34nm,0.4s
BHK Bhakra 6.46 141 *e*P **Pn** **14 05 09.0 -0.9**
BHK *ex* **Sn** **14 06 17.8 -4.4**
KBK Karagaybulak 6.59 21 P **Pn** **14 05 12.3 +0.5**
SNR=27
KK31 Karatay Array 6.60 352 P **Pn** **14 05 08.7 -3.1**
comp=Z,20nm,0.3s,baz=175,slow=12,SNR=322
KK31 ⇓S **Sn** **14 06 19.8 -5.7**
comp=Z,281nm,0.7s,baz=171,slow=22,SNR=9.9
KK31 Karatay Array 6.60 352 PN **Pn** **14 05 11.2 -0.6**
KK31 Karatay Array 6.60 352 Pn **Pn** **14 05 11.2 -0.6**
KKAR Karatay Array 6.60 352 PN **Pn** **14 05 11.2 -0.6**
KKAR Karatay Array 6.60 352 Pn **Pn** **14 05 11.2 -0.6**
KKAR Karatay Array 6.60 352 **Pn** **14 05 11.2 -0.6**
FRU1 Bishkek 6.64 19 PN **Pn** **14 05 11.7 -0.7**
FRU1 Bishkek 6.64 19 **Pn** **14 05 11.7 -0.7**
ULHL Ulahol 6.69 30 P **Pn** **14 05 13.3 +0.2**
SNR=37
BOOM Boomskoye usch 6.78 28 PN **Pn** **14 05 14.5 +0.2**
BOOM Boomskoye usch 6.78 28 **Pn** **14 05 14.5 +0.2**
CHMS Chumysh 6.85 19 P **Pn** **14 05 15.4 +0.2**
SNR=27
KDJ Kajisay 7.01 36 PN **Pn** **14 05 17.5 +0.1**
KDJ Kajisay 7.01 36 **Pn** **14 05 17.5 +0.1**
TARG Taragay, Kyrgy 7.02 41 Pn **Pn** **14 05 17.6 -0.2**
TKM2 Tokmak 2 7.03 24 P **Pn** **14 05 19.1 +1.3**
SNR=78
TKM2 Tokmak 2 7.03 24 ⇓P **Pn** **14 05 17.7 -0.1**
comp=Z,40nm,0.5s
TKM2 ⇑S **Sn** **14 06 36.5 +0.2**
comp=Z,38nm,0.6s
USP Ospenovka 7.04 17 P **Pn** **14 05 17.5 -0.3**
SNR=35
SMLA Simla 7.08 138 *e*P **Pn** **14 05 17.3 -1.0**
SMLA *e*S **Sn** **14 06 30.9 -6.3**
SMLA IAML 14 06 34.6
comp=N,2μm,0.4s
SMLA IAML 14 06 35.0
comp=E,1μm,0.7s
SGDS Sogindy 7.25 17 *e*P **Pn** **14 05 19.7 -1.0**
comp=E,5.5nm,0.5s,baz=18
SGDS Sogindy 7.25 17 *e*PN **Pn** **14 05 19.6 -1.0**
SGDS pmax pmax
comp=Z,5.0nm,0.5s
MTBS Maitube 7.51 28 *e*P **Pn** **14 05 24.1 0.0**
baz=28
MTBS Maitube 7.51 28 *e*PN **Pn** **14 05 24.1 0.0**
TNSS Tian-Shan 7.63 30 *e*P **Pn** **14 05 25.3 -0.8**
baz=31
TNSS Tian-Shan 7.63 30 *e*PN **Pn** **14 05 25.3 -0.8**
AAA Alma-Ata 7.76 30 *e*P **Pn** **14 05 27.8 +0.2**
comp=Z,24nm,1.0s,baz=30
AAA Alma-Ata 7.76 30 *e*PN **Pn** **14 05 27.8 +0.2**
AAA pmax pmax
comp=Z,24nm,1.0s
MDOK Medeo 7.78 30 *e*P **Pn** **14 05 27.5 -0.4**
baz=31
MDOK *e*S **Sn** **14 06 52.5 -1.9**
baz=31
MDOK Medeo 7.78 30 P **Pn** **14 05 28.2 +0.4**
comp=Z,42nm,0.8s
MDOK S **Sn** **14 06 56.7 +2.3**
comp=Z,118nm,1.0s
MDOK Medeo 7.78 30 *e*PN **Pn** **14 05 27.5 -0.4**
HRA Herat 8.00 257 Pn **Pn** **14 05 31.6 +0.6**
KUU Kurty 8.14 24 *i* P **Pn** **14 05 31.2 -1.5**
comp=Z,6.1nm,0.6s,baz=25
KUU Kurty 8.14 24 *i* PN **Pn** **14 05 31.2 -1.5**
KUU pmax pmax
comp=Z,6.0nm,0.6s
DDI Dehra Dun 8.18 138 *e*P **Pn** **14 05 33.2 -0.2**
DDI *e*S **Sn** **14 06 56.5 -7.7**
DDI IAML 14 07 02.5
comp=E,918nm,0.6s
SATY Saty 8.30 36 *e*P **Pn** **14 05 33.9 -1.1**
comp=E,8.5nm,0.7s,baz=37
SATY Saty 8.30 36 *e*PN **Pn** **14 05 33.8 -1.1**
SATY pmax pmax
comp=Z,9.0nm,0.7s
CHKK Chushkaly 8.34 27 *e*P **Pn** **14 05 34.5 -0.9**
baz=28
CHKK Chushkaly 8.34 27 *e*PN **Pn** **14 05 34.4 -0.9**
BTLS Baital 8.66 11 *i* P **Pn** **14 05 38.2 -1.5**
comp=Z,2.6nm,0.5s,baz=11
BTLS Baital 8.66 11 *i* PN **Pn** **14 05 38.2 -1.5**
BTLS pmax pmax
comp=Z,3.0nm,0.5s
UZB Uzynbulak 8.67 38 *e*P **Pn** **14 05 38.7 -1.3**
comp=Z,8.2nm,0.7s,baz=39
UZB Uzynbulak 8.67 38 *e*PN **Pn** **14 05 38.6 -1.3**
UZB pmax pmax
comp=Z,8.0nm,0.7s
KPKS Kokpek 8.74 36 *e*P **Pn** **14 05 39.9 -1.0**
comp=Z,25nm,0.7s,baz=36
KPKS Kokpek 8.74 36 *e*PN **Pn** **14 05 39.8 -1.0**
KPKS pmax pmax
comp=Z,25nm,0.7s
SHLS Shalkode 8.90 40 *e*P **Pn** **14 05 44.6 +1.6**
comp=Z,5.0nm,0.6s,baz=42
SHLS Shalkode 8.90 40 *e*PN **Pn** **14 05 44.6 +1.6**
SHLS pmax pmax
comp=Z,5.0nm,0.6s
NDI New Delhi 9.13 148 *e*P **Pn** **14 05 44.0 -2.1**
NDI *ex* **Sn** **14 07 21.0 -6.1**
TDK Taldyqorghan 9.85 29 *e*P **Pn** **14 05 55.1 -0.8**
baz=30
TDK Taldyqorghan 9.85 29 *e*P **Pn** **14 05 55.0 -0.8**
LGTI Lohaghat 10.09 132 *e*P **Pn** **14 05 54.8 -4.3**
LGTI *ex* **Sn** **14 07 44.3 -6.1**
AJM Ajmer 10.36 165 *e*P **Pn** **14 06 02.0 -0.8**
AJM *i x* **Sn** **14 07 49.0 -8.0**
GEYT Alibeck 10.90 281 P Pn 14 06 05.3 -4.8
comp=Z,49nm,0.3s,baz=96,slow=12,SNR=190
GEYT S Sn 14 07 57.6 -13
comp=Z,6.7nm,0.3s,baz=122,slow=16,SNR=3.7
GEYT Alibeck 10.90 281 **Pn** **14 06 05.8 -4.3**
GYA0B ALIBECK ARRAY 10.90 281 ⇓P **Pn** **14 06 05.4 -4.7**
GYA0B ⇑S **Sn** **14 08 04.7 -5.4**
GYA0B ALIBECK ARRAY 10.90 281 **Pn** **14 06 05.8 -4.4**
MAKZ Makanchi 12.80 34 P **Pn** **14 06 32.9 -2.2**
MAKZ Makanchi 12.80 34 **Pn** **14 06 32.9 -2.2**
MK31 Makanchi Array 12.93 34 ⇑P **Pn** **14 06 39.4 +2.6**
comp=Z,3.9nm,0.5s,baz=217,slow=16,SNR=116
MK31 Makanchi Array 12.93 34 P **Pn** **14 06 35.9 -0.9**
MK31 Makanchi Array 12.93 34 **Pn** **14 06 35.9 -0.9**
MKAR Makanchi Array 12.93 34 *i* P **Pn** **14 06 34.9 -1.9**
comp=Z,0.4nm,0.3s,baz=206,slow=15,SNR=25
MKAR Makanchi Array 12.93 34 *i* P **Pn** **14 06 34.9 -1.9**
MKAR pmax pmax
comp=Z,5.0nm,0.9s
MKAR Makanchi Array 12.93 34 **Pn** **14 06 35.0 -1.9**
DANN Dangsing 13.06 125 *e*P Pn 14 06 34.0 -5.0
comp=Z,189nm,0.6s
KOLN Koldanda 13.35 128 *e*P **Pn** **14 06 38.8 -3.9**
comp=Z,81nm,0.4s
BRZS Berezniki 13.44 3 *e*P **Pn** **14 06 40.4 -3.1**
comp=Z,6.1nm,0.8s,baz=2.8
BRZS Berezniki 13.44 3 *e*P **Pn** **14 06 40.3 -3.1**
BRZS pmax pmax
comp=Z,6.0nm,0.8s
GKN Gorkha 13.87 124 *e*P **Pn** **14 06 44.9 -4.5**
comp=Z,162nm,0.5s
BHPL Bhopal 14.17 158 *ex* **P** **14 06 58.9 +1.8**
BHPL *ex* Sn 14 09 17.0 -12
WMQ Urumqi 14.21 54 *e*P **Pn** **14 06 54.1 +0.6**
WMQ S **Sn** **14 09 31.0 +0.8**
WMQ pmax pmax
comp=Z,26nm,0.9s
WMQ pmax pmax
comp=Z,30nm,3.7s
WMQ LR LR
comp=Z,340nm,10.9s
WMQ LR LR
comp=Z,280nm,7.5s
WMQ LR LR
comp=Z,12nm,10.9s
KKN Kakani 14.44 123 *e*P **Pn** **14 06 52.1 -4.6**
comp=Z,81nm,0.5s
DMN Daman 14.44 124 *e*P **Pn** **14 06 52.7 -4.1**
comp=Z,94nm,0.4s
ZSN Zaisan 14.62 38 *e*P **Pn** **14 06 57.2 -1.5**
comp=Z,3.9nm,1.3s,baz=38
ZSN Zaisan 14.62 38 *e*P **Pn** **14 06 57.2 -1.5**
ZSN pmax pmax
comp=Z,4.0nm,1.3s
PKIN Phulchoki 14.66 124 *e*P **Pn** **14 06 55.1 -4.4**
comp=Z,78nm,0.5s
PKI Pulchoki 14.67 124 *e*P **Pn** **14 06 55.2 -4.6**
comp=Z,94nm,0.6s
GUN Gumba 14.77 122 *e*P Pn 14 06 55.9 -5.1
comp=Z,132nm,0.5s
KURBB Kurchatov Arra 14.90 17 P **Pn** **14 06 58.2 -3.9**
comp=Z,0.1nm,0.3s,baz=207,slow=12,SNR=14
KURBB S **S** **14 09 52.2 -4.7**
baz=208,slow=18,SNR=7.5
KURBB Kurchatov Arra 14.90 17 ⇓P **P** **14 07 04.2 -0.8**
comp=Z,62nm,0.8s
KURK Kurchatov 15.01 17 ⇑P **P** **14 07 05.6 -0.6**
comp=Z,64nm,1.0s
KURK Kurchatov 15.01 17 P **P** **14 07 05.3 -0.9**
KURK S **S** **14 09 54.5 -4.6**
KURK Kurchatov 15.01 17 *ce*P **P** **14 07 05.3 -0.9**
KURK Kurchatov 15.01 17 P **P** **14 07 05.7 -0.5**
JIRN Jiri 15.14 122 *e*P **Pn** **14 07 00.9 -4.9**
comp=Z,164nm,0.4s
SEM Semipalatinsk 15.16 21 *e*P **P** **14 07 07.5 -0.7**
comp=Z,14nm,0.7s,baz=22
SEM Semipalatinsk 15.16 21 *e*P **P** **14 07 07.4 -0.7**
SEM pmax pmax
comp=Z,14nm,0.7s
AB01 Akbulak array 15.31 330 ⇑P **Pn** **14 07 04.0 -3.3**
comp=Z,6.6nm,0.4s
AB31 Akbulak array 15.31 330 ⇓S **Sn** **14 09 50.6 -5.8**
comp=Z,26nm,0.7s
ABKAR Akbulak array 15.31 330 P **Pn** **14 07 04.4 -2.9**
RAMN Ramite 15.88 123 *e*P **Pn** **14 07 11.2 -3.6**
comp=Z,149nm,0.6s
TAPN Taplejung 16.39 120 *e*P **Pn** **14 07 16.1 -5.1**
comp=Z,80nm,0.5s
ODAN Odare 16.47 121 *e*P **Pn** **14 07 18.1 -4.1**
comp=Z,160nm,0.6s
BVAR Borovoye Array 16.49 357 P **Pn** **14 07 19.5 -2.4**
comp=Z,3.0nm,0.3s,baz=158,slow=14,SNR=51
BRVK Borovoye 16.53 357 ⇓P **Pn** **14 07 20.2 -2.2**
comp=Z,18nm,0.8s
BRVK Borovoye 16.53 357 P **P** **14 07 22.7 -0.4**
BRVK S **Sn** **14 10 27.2 +1.4**
BRVK Borovoye 16.53 357 *de*P **Pn** **14 07 20.4 -2.0**
BRVK pmax pmax
comp=Z,33nm,1.3s
BRVK Borovoye 16.53 357 P **Pn** **14 07 20.6 -1.8**
BANOM Banah 16.87 235 P **P** **14 07 27.4 +0.3**
BANOM Banah 16.87 235 P **Pn** **14 07 27.0 +0.1**
SHME Shamm 16.89 236 P **P** **14 07 29.1 +1.8**
AKTO Aktyubinsk 17.01 329 ⇓P **Pn** **14 07 27.0 -1.3**
comp=Z,35nm,0.7s
AKTO ⇑S **Sn** **14 10 28.7 -8.7**
comp=Z,49nm,1.0s
DGZ Jazzator, Alta 17.41 36 *de*P **P** **14 07 32.0 -0.9**
DGZ pmax pmax
comp=Z,12nm,0.6s
WSAR Wadi Sarin 17.42 224 P **P** **14 07 33.1 0.0**
comp=Z,0.9nm,0.3s,baz=78,slow=8.5,SNR=7.2
UOSS Minazif 17.61 233 P **Pn** **14 07 37.3 +1.5**
LSA Lhasa 17.66 107 P **P** **14 07 35.0 -1.3**
LSA pmax pmax
comp=Z,240nm,0.8s
LSA Lhasa 17.66 107 P **P** **14 07 35.5 -0.7**
LSA Lhasa 17.66 107 P **P** **14 07 35.4 -0.8**
LSA Lhasa 17.66 107 P **P** **14 07 35.4 -0.8**
LSA pmax pmax
comp=Z,45nm,0.8s
LSA Lhasa 17.66 107 P **P** **14 07 35.4 -0.8**
LSA IAmb IAmb 14 07 36.6
comp=Z,45nm,0.8s
ASHO Ashiyiah 17.89 233 *i* P **Pn** **14 07 40.4 +1.3**
SNR=8.6
ASHO Ashiyiah 17.89 233 P **Pn** **14 07 41.0 +1.8**
SNR=8.7
MAK Makhachkala 19.62 296 *e*P **P** **14 07 57.5 +0.5**
MAK *e*S **S** **14 11 33.6 +1.2**
MAK pmax pmax
comp=Z,31nm,0.3s
MAK MLR MLR
comp=Z,223nm,16.0s
ZAA0 Zalesovo Array 19.64 24 ⇑P **Pn** **14 08 00.7 +1.2**
comp=Z,8.6nm,0.7s
ZAA0 Zalesovo Array 19.64 24 P **P** **14 07 56.4 -0.6**
ZAA0 IAmb IAmb 14 07 57.6
comp=Z,62nm,0.8s
ZALV Zalesovo Beam 19.64 24 P **P** **14 07 56.5 -0.6**
comp=Z,8.9nm,0.3s,baz=229,slow=10,SNR=222
ZALV S **S** **14 11 31.2 -1.3**
comp=Z,0.2nm,0.3s,baz=211,slow=16,SNR=2.6
ZALV Zalesovo Beam 19.64 24 P **P** **14 07 56.2 -0.8**
HYB Hyderabad 20.01 161 *i* P **P** **14 08 02.0 +0.6**
HYB *e*S **S** **14 11 33.0 -7.5**
LGD Lagodekhi 20.38 293 P Pn 14 08 06.9 -1.4
SHL Shillong 20.44 117 P **P** **14 08 06.8 +0.7**
SNR=7.4
SHL Shillong 20.44 117 P **P** **14 08 05.9 -0.2**
SHL pmax pmax
comp=Z,52nm,0.7s
SHL Shillong 20.44 117 P **P** **14 08 05.9 -0.2**
SHL IAmb IAmb 14 08 08.2
comp=Z,52nm,0.7s
GROC Groznyy 20.90 296 *e*P **P** **14 08 11.8 +1.0**
GROC *e**PP **pP** **14 08 33.8 +1.8**
GROC *e**SP **sP** **14 08 50.1 +4.0**
GROC *e*S **S** **14 12 00.0 +2.5**
GROC *e* 14 12 14.1
GROC *e**SS **sS** **14 12 35.4 +1.3**
GROC pmax pmax
comp=Z,55nm,0.5s
TBLG Delisi 21.49 292 P **P** **14 08 17.7 +0.6**
TBLG pmax pmax
comp=Z,62nm,0.7s
TBLG Delisi 21.49 292 P **P** **14 08 17.6 +0.6**
TBLG IAmb IAmb 14 08 20.6
comp=Z,62nm,0.7s
SVE Sverdlovsk 21.59 343 *e*P **P** **14 08 17.3 -0.7**
SVE *e*S **S** **14 12 12.3 +1.7**
SVE pmax pmax
comp=Z,42nm,0.9s
KZRT Kazreti 21.71 291 P **P** **14 08 22.5 +2.9**
ARU Arti 21.76 340 P **P** **14 08 18.9 -0.9**
comp=Z,3.5nm,0.3s,baz=162,slow=9.6,SNR=15
ARU Arti 21.76 340 *d i* P **P** **14 08 20.0 +0.2**
ARU 14 08 51.4
ARU S **S** **14 12 14.2 +0.5**
ARU pmax pmax
comp=Z,22nm,0.8s
ARU Arti 21.76 340 P **P** **14 08 19.6 -0.2**
ZEI Tsey 22.22 295 *e*P **P** **14 08 24.9 -0.1**
ZEI pmax pmax
comp=Z,15nm,0.5s
BGD Bogdanovka 22.31 291 P **P** **14 08 29.2 +3.2**
GTA Gaotai 22.32 74 P **P** **14 08 28.3 +2.3**
GTA pP pP 14 08 53.6 +5.3
GTA sP sP 14 09 06.8 +4.2
GTA S **S** **14 12 24.0 +0.1**
GTA pmax pmax
comp=Z,19nm,0.9s
GTA pmax pmax
comp=Z,120nm,4.5s
GTA LR LR
comp=Z,88nm,15.7s
GTA LR LR
comp=Z,110nm,17.9s
GTA LR LR
comp=Z,87nm,17.9s
AKH Akhalkalaki 22.40 291 P **P** **14 08 30.5 +3.7**
ONI Oni 22.52 294 P **P** **14 08 31.0 +3.1**
KBZ Khabaz 23.07 297 P **P** **14 08 33.8 +0.7**
comp=Z,4.8nm,0.8s,baz=118,slow=9.6,SNR=11
KBZ Khabaz 23.07 297 ⇓*e*P **P** **14 08 33.1 0.0**
KBZ pmax pmax
comp=Z,5.0nm,0.8s
GOF Gofitskoye 23.19 300 ⇑*e*P **P** **14 08 34.8 +0.5**
GOF pmax pmax
comp=Z,18nm,0.4s
KIV Kislovodsk 23.25 298 *e*P **P** **14 08 35.2 +0.2**
KIV *e*S **S** **14 12 38.9 +0.3**
KIV pmax pmax
comp=Z,37nm,1.1s
KIV MLR MLR
comp=Z,174nm,14.0s
LZH Lanzhou 25.85 81 *e*P **P** **14 09 00.8 +2.0**
LZH pP pP 14 09 23.6 -0.4
LZH sP sP 14 09 36.3 -1.0
LZH pmax pmax
comp=Z,28nm,1.0s
LZH pmax pmax
comp=Z,210nm,5.4s
LZH LR LR
comp=Z,370nm,13.0s
LZH LR LR
comp=Z,380nm,13.2s
LZH LR LR
comp=Z,430nm,14.4s
VRH Novokhopyorsk 25.87 314 *e*P **P** **14 08 58.3 -0.2**
VRH pmax pmax
comp=Z,10.0nm,0.4s
KIRV Kirov 26.43 334 P **P** **14 09 04.3 +0.8**
comp=Z,18nm,0.7s,baz=176,slow=1.2,SNR=4.8
KIRV Kirov 26.43 334 *e*P **P** **14 09 03.9 +0.4**
ZAK Zakamensk 26.54 49 *e*P **P** **14 09 04.5 -0.2**
ZAK *e* 14 09 30.7
ZAK pmax pmax
comp=Z,11nm,1.0s
CD2 Chengdu 27.18 93 P **P** **14 09 11.3 +0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
TLY Talaya 27.20 46 P **P** **14 09 12.3 +1.8**
comp=Z,6.5nm,0.7s,baz=236,slow=9.5,SNR=14
TLY Talaya 27.20 46 *ce*P **P** **14 09 11.9 +1.3**
TLY pmax pmax
comp=Z,6.0nm,0.8s
TLY Talaya 27.20 46 P **P** **14 09 11.8 +1.3**
VSR Storozhevoye 27.37 313 *e*P **P** **14 09 11.8 -0.2**
VSR pmax pmax
comp=Z,8.0nm,0.6s
SONM Songino Array 27.85 55 P **P** **14 09 17.8 +1.4**
comp=Z,14nm,0.8s,baz=256,slow=10.0,SNR=74
SONM pP **pP** **14 09 44.2 +2.2**
comp=Z,5.1nm,0.9s,baz=258,slow=9.8,SNR=3.3
SONM Songino Array 27.85 55 P **P** **14 09 18.0 +1.5**
SONM pmax pmax
comp=Z,11nm,0.9s
SONM Songino Array 27.85 55 P **P** **14 09 18.0 +1.5**
LPSR Galich'ya Gora 28.00 315 *e*P **P** **14 09 16.6 -0.9**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
ULN Ulaanbaatar 28.29 55 *c i* P **P** **14 09 21.5 +1.1**
ULN *i* *PP **pP** **14 09 48.1 +2.1**
ULN pmax pmax
comp=Z,14nm,0.7s
ULN Ulaanbaatar 28.29 55 P **P** **14 09 21.2 +0.8**
ULN IAmb IAmb 14 09 22.5
comp=Z,14nm,0.8s
KMI Kunming 28.88 104 P **P** **14 09 25.3 -0.6**
KMI pmax pmax
comp=Z,8.0nm,1.1s
BR131 Keskin Array S 29.94 288 P **P** **14 09 37.4 +2.2**
SNR=7.5
BR131 Keskin Array S 29.94 288 *i* P **P** **14 09 37.0 +1.9**
BRTR Keskin Array B 29.94 288 P **P** **14 09 37.0 +1.9**
comp=Z,4.2nm,0.7s,baz=107,slow=8.9,SNR=24
BRTR pP **pP** **14 10 02.0 +1.9**
comp=Z,2.9nm,0.6s,baz=101,slow=8.4,SNR=5.7
CMAR Chiang Mai Arr 30.00 120 P **P** **14 09 36.8 +1.2**
comp=Z,2.5nm,0.7s,baz=303,slow=8.8,SNR=18
CMAR Chiang Mai Arr 30.00 120 *i* P **P** **14 09 37.5 +1.9**
CMAR pmax pmax
comp=Z,3.0nm,0.6s
OBN Obninsk 30.26 319 *i* P **P** **14 09 36.9 -0.6**
OBN *i* *PP **pP** **14 10 02.9 +0.1**
OBN pmax pmax
comp=Z,11nm,0.7s
GYA Guiyang 31.32 99 P **P** **14 09 51.9 +4.5**
GYA pmax pmax
comp=Z,6.0nm,1.0s
KLMR Klimovskoe 31.70 330 *e*P **P** **14 09 48.8 -1.4**
KLMR pmax pmax
comp=Z,7.0nm,0.7s
KLMR Klimovskoe 31.70 330 *e*P **P** **14 09 48.9 -1.3**
KLMR AMP 14 09 50.7
comp=Z,7.0nm,0.7s
ELL Elmali 33.33 283 P **P** **14 10 06.6 +1.8**
ELL pmax pmax
comp=Z,55nm,0.6s
ELL Elmali 33.33 283 P **P** **14 10 06.6 +1.8**
AKASG Malin Array Be 33.34 309 P **P** **14 10 05.2 +0.6**
comp=Z,4.6nm,0.5s,baz=80,slow=7.6,SNR=18
AKASG Malin Array Be 33.34 309 *i* P **P** **14 10 05.1 +0.5**
AKASG pmax pmax
comp=Z,7.0nm,0.4s
AKASG Malin Array Be 33.34 309 P **P** **14 10 05.4 +0.8**
AKBB Malin Array Si 33.34 309 *c i* P **P** **14 10 04.9 +0.3**
AKBB Malin Array Si 33.34 309 P **P** **14 10 05.3 +0.8**
AKBB IAmb IAmb 14 10 05.8
comp=Z,8.8nm,0.5s
NRIK Noril'sk 33.97 10 P **P** **14 10 10.6 +0.8**
comp=Z,34nm,0.7s,baz=205,slow=6.4,SNR=36
NRIK Noril'sk 33.97 10 *i* P **P** **14 10 10.4 +0.6**
VRI Vrincioaia 34.68 300 P **P** **14 10 18.9 +2.6**
VRI pmax pmax
comp=Z,8.0nm,2.2s
BJI Beijing 34.82 70 P **P** **14 10 18.3 +0.9**
BJI pmax pmax
comp=Z,4.0nm,0.9s
BIZ Bicaz 35.11 302 ⇓P **P** **14 10 21.2 +1.3**
MLR Muntele Rosu 35.23 299 ⇓P **P** **14 10 23.9 +2.7**
MLR Muntele Rosu 35.23 299 P **P** **14 10 22.2 +1.0**
MLR pmax pmax
comp=Z,22nm,0.8s
MLR Muntele Rosu 35.23 299 P **P** **14 10 22.2 +1.0**
MLR IAmb IAmb 14 10 25.0
comp=Z,22nm,0.8s
DOPR Dopca 35.61 300 ⇑P **P** **14 10 26.3 +2.0**
BURAR Bucovina Array 35.72 303 P **P** **14 10 27.5 +2.3**
BURAR Bucovina Array 35.72 303 P **P** **14 10 26.4 +1.2**
BUR08 Bucovina Ar. S 35.73 303 P **P** **14 10 26.8 +1.4**
VOIR 35.87 299 ⇓P **P** **14 10 28.5 +2.0**
VOIR 35.87 299 P **P** **14 10 28.5 +2.0**
VOIR pmax pmax
comp=Z,6.0nm,0.8s

ARR Arges 36.16 299 ⇓P P 14 10 30.1 +1.1
TIA Tai'an 36.32 77 P P 14 10 33.4 +3.0
TIA pmax pmax
comp=Z,10.0nm,0.7s
MORS Morshin 36.63 305 P P 14 10 34.1 +1.2
KWP Kalwaria Pacla 37.42 306 eP P 14 10 42.5 +2.9
DRGR 37.44 301 ⇑P P 14 10 41.9 +2.1
DRGR 37.44 301 P P 14 10 42.0 +2.2
DRGR pmax pmax
comp=Z,26nm,1.0s
KOLS Kolonicke sedl 37.70 305 eP P 14 10 43.8 +1.9
KOLS Kolonicke sedl 37.70 305 eP P 14 10 43.8 +1.9
FINES FINESS Array B 37.75 326 P P 14 10 42.8 +0.7
comp=Z,3.7nm,0.4s,baz=121,slow=9.9,SNR=51
SIRR Siria 38.19 301 ⇓P P 14 10 48.3 +2.2
BZS Buzias 38.27 300 P P 14 10 49.0 +2.3
BZS pmax pmax
comp=Z,11nm,0.9s
MDVR Moldovita 38.27 298 ⇑P P 14 10 48.7 +1.9
NJ2 Nanjing 38.92 82 eP P 14 10 53.8 +1.5
NJ2 pmax pmax
comp=Z,15nm,0.5s
NIE Niedzica 38.99 306 eP P 14 10 55.0 +2.2
NIE Niedzica 38.99 306 P P 14 10 55.2 +2.5
NIE pmax pmax
comp=Z,11nm,1.0s
OJC Ojcow 39.31 307 eP P 14 10 56.4 +1.1
OJC Ojcow 39.31 307 P P 14 10 56.6 +1.2
OJC pmax pmax
comp=Z,14nm,1.0s
OJC Ojcow 39.31 307 lAmb lAmb 14 10 57.4
comp=Z,13nm,1.0s
LANS Liptovska Anna 39.54 305 eP P 14 10 59.9 +2.6
LANS Liptovska Anna 39.54 305 eP P 14 10 59.9 +2.6
VYHS Vyhne 39.98 304 eP P 14 11 02.8 +1.8
VYHS Vyhne 39.98 304 eP P 14 11 02.8 +1.8
KCSI Kotacane, Aceh 40.71 138 P P 14 11 05.9 -1.4
comp=Z,10nm,0.9s
JAVC Velka Javorina 40.73 305 eP P 14 11 09.6 +2.4
MORC Moravsky Berou 40.77 306 ⇓P P 14 11 09.4 +1.9
MORC Moravsky Berou 40.77 306 eP P 14 11 09.0 +1.5
MORC Moravsky Berou 40.77 306 P P 14 11 09.2 +1.7
MORC pmax pmax
comp=Z,13nm,0.8s
GKP Gorka Klasztor 40.95 312 eP P 14 11 09.9 +1.2
MODS Modra-Piesok 41.02 304 eP P 14 11 10.8 +1.2
MODS Modra-Piesok 41.02 304 eP P 14 11 10.8 +1.2
ARCES ARCESS Array B 41.30 337 P P 14 11 12.2 +0.6
comp=Z,6.0nm,0.4s,baz=111,slow=8.1,SNR=70
ARCES LR LR 14 29 27.5
comp=Z,103nm,19.4s,baz=349,slow=38
ARE0 ARCESS Array S 41.30 337 eP P 14 11 11.6 +0.1
VRAC Vranov 41.41 306 ⇑P P 14 11 14.7 +2.0
VRAC Vranov 41.41 306 eP P 14 11 14.7 +2.0
VRAC Vranov 41.41 306 P P 14 11 14.7 +2.0
VRAC pmax pmax
comp=Z,19nm,1.0s
DPC Dobruska-Polom 41.54 307 eP P 14 11 15.8 +2.1
DPC ex x 14 11 19.5
DPC Dobruska-Polom 41.54 307 eP P 14 11 15.8 +2.1
KRUC Moravsky 41.56 305 eP P 14 11 15.8 +1.8
KRUC Moravsky 41.56 305 P P 14 11 16.1 +2.2
KRUC pmax pmax
comp=Z,11nm,1.1s
OSTC Ostas 41.60 308 eP P 14 11 17.3 +3.1
ZEA Zeya 41.62 48 eP P 14 11 15.4 +1.1
ZEA pmax pmax
comp=Z,15nm,0.8s
CHVC Chvalec 41.70 308 eP P 14 11 16.8 +1.8
UPC Upice 41.73 308 eP P 14 11 17.4 +2.2
UPC Upice 41.73 308 eP P 14 11 17.4 +2.2
IPM Ipoh 41.77 133 P P 14 11 16.8 +0.8
IPM lAmb lAmb 14 11 17.3
comp=Z,18nm,0.6s
KTK1 Kautokeino 41.79 336 eP P 14 11 15.7 +0.2
CONA Conrad Observa 42.01 304 i P P 14 11 19.3 +1.6
comp=Z,20nm,1.2s,SNR=14
ARSA Arzberg 42.30 303 i P P 14 11 21.3 +1.2
comp=Z,6.2nm,1.2s
HAMF Hammerfest 42.38 338 eP P 14 11 20.9 +0.7
GSI Gunungsitoli 42.47 140 P P 14 11 23.3 +1.7
comp=Z,231nm,1.1s
GSI Gunungsitoli 42.47 140 P P 14 11 23.9 +2.3
DOBS Dobrina 42.48 301 i P P 14 11 22.9 +1.5
PERS Pernice 42.66 302 i P P 14 11 24.4 +1.5
PRU Pruhonice 42.70 307 eP P 14 11 25.1 +2.0
PRU Pruhonice 42.70 307 eP P 14 11 25.1 +2.0
SOKA Soboth 42.71 302 i P P 14 11 25.0 +1.7
comp=Z,20nm,1.1s,SNR=11
BRG Berggiesshubel 43.02 308 i P P 14 11 27.3 +1.6
comp=Z,14nm,0.9s
BRG esP **sP 14 12 05.1 +0.3**
comp=Z,13nm,1.2s
BRG Berggiesshubel 43.02 308 i P P 14 11 27.3 +1.6
BRG e*SP **sP 14 12 05.1 +0.3**
BRG pmax pmax
comp=Z,14nm,0.9s
BRG pmax pmax
comp=N,13nm,1.2s
BRG Berggiesshubel 43.02 308 eP P 14 11 27.4 +1.7
comp=N,8.5nm,0.8s,baz=84,slow=7.9
BRG esP **sP 14 12 05.0 +0.2**
OBKA Obir 43.06 302 eP P 14 11 28.6 +2.4
comp=N,7.3nm,1.0s
MOA Molln 43.08 304 i P P 14 11 27.7 +1.4
comp=N,14nm,1.3s,SNR=7.6
RGN Rugen 43.28 314 eP P 14 11 28.7 +1.0
baz=84,slow=7.9
GEC2 GERESS Array S 43.35 305 eP P 14 11 29.8 +1.3
baz=84,slow=7.9
GERES GERESS Array B 43.35 305 P P 14 11 29.8 +1.3
comp=N,0.8nm,0.4s,baz=78,slow=7.0,SNR=9.6
GERES PP **PcP 14 13 13.4 -1.7**
comp=N,1.0nm,0.8s,baz=6.3,slow=9.9,SNR=3.9
GERES GERESS Array B 43.35 305 P P 14 11 30.0 +1.5
GERES GERESS Array B 43.35 305 P P 14 11 30.0 +1.5
FBE Freiberg 43.39 308 eP P 14 11 30.4 +1.7
comp=N,9.7nm,0.7s,baz=84,slow=7.9
KHC Kasperske Hory 43.40 306 eP P 14 11 29.8 +1.0
KHC ex x 14 11 41.2
KHC Kasperske Hory 43.40 306 ⇓i P P 14 11 30.6 +1.8
KHC pmax pmax
comp=Z,9.0nm,0.9s
TRO Tromso 43.44 336 eP P 14 11 29.8 +1.1
CLL Collm 43.59 309 i P P 14 11 31.0 +0.8
comp=Z,9.0nm,0.9s
CLL i sP **sP 14 12 09.0 -0.3**
CLL ePP **PcP 14 13 15.0 -0.8**
CLL e 14 13 26.0
CLL epPP 14 13 37.0
CLL Collm 43.59 309 i P P 14 11 31.0 +0.8
CLL i *SP **sP 14 12 09.0 -0.3**
CLL pmax pmax
comp=Z,9.0nm,0.9s
CLL Collm 43.59 309 eP P 14 11 31.3 +1.1
comp=Z,4.5nm,0.8s,baz=84,slow=7.9
CLL esP **sP 14 12 09.1 -0.2**
YAK Yakutsk 43.60 35 P P 14 11 29.8 -0.3
comp=Z,8.8nm,0.4s,baz=108,slow=0.3,SNR=5.7
YAK Yakutsk 43.60 35 eP P 14 11 29.7 -0.4
YAK pmax pmax
comp=Z,16nm,0.8s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK Yakutsk 43.60 35 lAmb lAmb 14 11 30.5
comp=Z,25nm,0.7s
CADS Cadrg 43.66 302 i P P 14 11 32.0 +1.1
MYKA Terra Mystica 43.66 302 i P P 14 11 32.3 +1.3
comp=Z,3.9nm,0.6s
KBA Koelnbreinsper 43.80 303 i P P 14 11 33.6 +1.4
comp=Z,4.4nm,0.7s
ROBS Robic 43.81 302 i P P 14 11 33.0 +0.9
WET Wettzell 43.86 306 eP P 14 11 34.2 +1.7
baz=84,slow=7.9
MDJ Mudanjiang 43.89 61 P P 14 11 31.6 -1.2
MDJ PcS **PcS 14 17 13.3 +3.3**
MDJ S **S 14 17 54.8 -0.9**
MDJ pmax pmax
comp=Z,7.0nm,1.1s
MDJ pmax pmax
comp=Z,130nm,4.0s
MDJ LR LR
comp=Z,130nm,4.4s
MDJ LR LR
comp=Z,170nm,5.7s
MDJ LR LR
comp=Z,170nm,4.7s
MNSI Mandailing Nat 43.97 138 P P 14 11 34.6 +1.0
comp=Z,33nm,1.0s
TANN Tannenbergstha 44.00 308 eP P 14 11 34.8 +1.2
comp=Z,5.4nm,0.8s,baz=84,slow=7.9
TANN esP **sP 14 12 13.9 +1.1**
SSLB Suanglung 44.02 93 P P 14 11 36.0 +1.9
SSLB lAmb lAmb 14 11 37.5
comp=Z,23nm,0.7s
NKC Novy Kostel 44.02 307 P P 14 11 35.9 +2.1
NKC pmax pmax
comp=Z,4.0nm,1.2s
MOR8 Moi Rana 44.04 331 eP P 14 11 33.4 -0.2
RJOB Jochberg 44.08 304 eP P 14 11 34.7 +0.4
baz=84,slow=7.9
GUNZ Gunzen 44.09 308 eP P 14 11 35.9 +1.6
comp=Z,3.4nm,0.8s,baz=84,slow=7.9
STEI Steigen 44.17 333 eP P 14 11 36.0 +1.4
ROTZ Rotzenmuhle 44.23 307 eP P 14 11 37.3 +2.0
comp=Z,3.6nm,0.9s,baz=84,slow=7.9
ROTZ esP **sP 14 12 15.4 +0.8**
TJN Taejon 44.23 73⇓eP P 14 11 35.9 +0.4
MANZ Manzenberg 44.27 307 eP P 14 11 37.7 +2.0
comp=Z,3.7nm,0.8s,baz=84,slow=7.9
KS19 Wonju Array Si 44.28 71 P P 14 11 36.7 +0.7
KS19 lAmb lAmb 14 11 50.6
comp=Z,15nm,1.1s
KSAR Wonju Array Be 44.31 71 P P 14 11 37.1 +0.9
KSAR Wonju Array Be 44.31 71 P P 14 11 37.1 +0.9
KSRS Korea Array 44.34 71 P P 14 11 37.1 +0.7
comp=Z,12nm,0.8s,baz=278,slow=7.1,SNR=36
KSRS LR LR 14 30 47.3
comp=Z,47nm,19.7s,baz=218,slow=37
YULB Yu-li 44.48 93 P P 14 11 39.8 +2.0
YULB lAmb lAmb 14 11 41.5
comp=Z,10nm,0.7s
NORES NORESS Array B 44.48 323 P P 14 11 37.5 +0.3
NORES pmax pmax
comp=Z,4.0nm,0.3s
MOX Moxa 44.51 308 eP P 14 11 39.1 +1.5
comp=Z,3.5nm,0.8s,baz=84,slow=7.9
MOX esP **sP 14 12 17.4 +0.5**
CIMO Cimolais 44.53 302 P P 14 11 38.3 +0.4
CIMO lAmb lAmb 14 11 39.6
comp=Z,17nm,0.9s
TWG Pinlang 44.58 94 P P 14 11 41.6 +3.1
NC303 NORSAR Array S 44.61 323 P P 14 11 39.0 +0.7
NB201 NORSAR Array S 44.63 323 P P 14 11 38.4 -0.1
KONS Konsvik 44.63 331 eP P 14 11 38.8 +0.5
KLR Kul'dur 44.66 54 P P 14 11 39.6 +0.7
comp=Z,7.7nm,0.5s,baz=280,slow=7.5,SNR=45
KLR Kul'dur 44.66 54c iP P 14 11 39.2 +0.3
KLR pmax pmax
comp=Z,8.0nm,0.6s
NB2 NORSAR Subarra 44.67 323 P P 14 11 38.7 0.0
comp=Z,4.7nm,0.5s,baz=97,slow=7.9
NB2 NORSAR Subarra 44.67 323 P P 14 11 38.7 0.0
baz=97,slow=7.9
NOA NORSAR Array B 44.67 323 P P 14 11 38.8 0.0
comp=Z,4.9nm,0.5s,baz=96,slow=7.7,SNR=40
GRF Gronberg Arr 44.87 307 eP P 14 11 42.1 +1.6
baz=84,slow=7.9
NBO00 NORSAR Array S 44.88 323 P P 14 11 40.8 +0.4
NC204 NORSAR Array S 44.91 323 P P 14 11 41.1 +0.4
NC204 NORSAR Array S 44.91 323 eP P 14 11 40.3 -0.4
WTTA Wattenberg 44.93 303 i P P 14 11 41.8 +0.6
comp=Z,14nm,1.0s,SNR=8.0
WTTA Wattenberg 44.93 303 P P 14 11 42.8 +1.6
WTTA pmax pmax
comp=Z,16nm,1.0s
WATA Walderalm 44.96 303 i P P 14 11 41.8 +0.4
comp=Z,16nm,1.6s,SNR=5.0
CLZ Clausthal 45.18 310 eP P 14 11 44.5 +1.5
baz=84,slow=7.9
SQTA Sankt Quirin 45.22 303 i P P 14 11 43.8 +0.4
comp=Z,6.1nm,0.6s
MOTA Moosalm 45.27 304 i P P 14 11 44.4 +0.5
comp=Z,15nm,1.1s
NRDL Niedersach Rie 45.28 311 eP P 14 11 45.6 +2.0
comp=Z,5.4nm,0.8s,baz=84,slow=7.9
KONO Kongsberg 45.39 321 eP P 14 11 43.6 -0.8
GTTG Gottingen 45.46 310 eP P 14 11 47.0 +1.9
comp=Z,13nm,0.8s,baz=84,slow=7.9
GTTG esP **sP 14 12 25.1 +0.8**
RETA Reutte 45.48 304 i P P 14 11 45.8 +0.4
comp=Z,4.5nm,0.8s
TIXI Tiksi 45.52 22 P P 14 11 45.0 -0.2
comp=Z,7.2nm,0.3s,baz=268,slow=5.1,SNR=39
TIXI Tiksi 45.52 22c iP P 14 11 44.8 -0.4
TIXI pmax pmax
comp=Z,13nm,0.6s
TIXI Tiksi 45.52 22 P P 14 11 45.1 -0.1
TIXI lAmb lAmb 14 11 45.8
comp=Z,15nm,0.6s
UBBA Unterbreizbach 45.52 308 eP P 14 11 46.8 +1.4
comp=Z,3.4nm,0.6s,baz=84,slow=7.9
FETA Feichten 45.58 303 i P P 14 11 46.5 +0.2
comp=Z,9.5nm,0.9s
USA0B Ussuriysk Arra 45.66 61⇑eP P 14 11 47.1 +0.3
USRK Ussuriysk Ar. 45.66 61 P P 14 11 47.1 +0.3
comp=Z,3.0nm,0.6s,baz=270,slow=7.2,SNR=12
USRK Ussuriysk Ar. 45.66 61 P P 14 11 45.9 -0.9
PDSI Padang 45.87 138 P P 14 11 48.9 +0.1
comp=Z,22nm,1.0s
UBR Ueberruh 45.88 304 eP P 14 11 49.6 +1.0
comp=Z,9.3nm,0.7s,baz=84,slow=7.9
DAVA Damuels 46.10 304 i P P 14 11 51.1 +0.7
comp=Z,42nm,0.9s,SNR=15
SDSI Sungai Dareh 46.41 137 P P 14 11 52.4 -0.6
comp=Z,7.4nm,0.6s
BFO Black Forest 46.95 305 eP P 14 11 57.9 +1.1
comp=Z,4.3nm,0.9s,baz=84,slow=7.9
BUG Bochum--Univer 47.15 310 eP P 14 11 59.8 +1.5
comp=Z,5.9nm,0.8s,baz=84,slow=7.9
AHRW Bad Neuenahr-A 47.40 308 eP P 14 12 02.0 +1.8
comp=Z,9.0nm,0.8s,baz=84,slow=7.9
GRNR Gornyy 47.44 51⇑iP P 14 12 01.6 +1.0
GRNR pmax pmax
comp=E,5.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,0.7s
GRNR MLR MLR
comp=N,40nm,11.0s
GRNR MLR MLR
comp=Z,30nm,10.0s
SPA0 Spitsbergen Ar 47.56 347 eP P 14 12 02.1 +0.9
ECH Echery 47.74 305 P P 14 12 05.7 +2.7
ECH pmax pmax
comp=Z,8.0nm,1.0s
HINF Hinteralfeld 48.02 305 eP P 14 12 05.1 -0.1
HINF pmax pmax
comp=Z,13nm,0.8s
SENIN Lac Senin/Sane 48.02 303 P P 14 12 06.1 +0.7
SENIN lAmb lAmb 14 12 07.2
comp=Z,16nm,0.7s
JNU Nakatsue 48.04 76 P P 14 12 06.9 +1.4
comp=Z,32nm,0.8s,baz=300,slow=3.3,SNR=30
MEM Membach 48.06 309 P P 14 12 06.6 +1.2
WLF Walferdange 48.13 307 ⇓P P 14 12 07.9 +2.0
WLF Walferdange 48.13 307 eP P 14 12 08.0 +2.1
comp=Z,12nm,0.8s,baz=84,slow=7.9
HAU Haudompre 48.31 305 eP P 14 12 07.5 +0.1
HAU pmax pmax
comp=Z,12nm,0.8s
LPG La Plagne 48.59 302 eP P 14 12 11.0 +1.1
LPG pmax pmax
comp=Z,14nm,0.9s
LPL La Plagne 48.60 302 eP P 14 12 10.3 +0.4
LPL pmax pmax
comp=Z,6.0nm,0.3s
TEY Ternei 48.68 59⇓eP P 14 12 09.4 -0.8
TEY pmax pmax
comp=Z,10.0nm,0.7s
BNI Bardonecchia 48.74 301 P P 14 12 12.8 +1.9
BNI pmax pmax
comp=Z,7.0nm,0.9s
BMRD Maredsous 48.89 308 ⇓P P 14 12 13.5 +1.8
DOU Dourbes 49.04 308 ⇑P P 14 12 14.0 +1.1
KMBO Kilima Mbogo 49.28 228 P P 14 12 18.4 +3.0
comp=Z,6.4nm,0.5s,baz=37,slow=12,SNR=19
KMBO Kilima Mbogo 49.28 228 P P 14 12 17.2 +1.8
KMBO Kilima Mbogo 49.28 228 i P P 14 12 18.7 +3.3
KMBO pmax pmax
comp=Z,6.0nm,0.5s
BAIF Baives 49.29 308 eP P 14 12 15.6 +0.8
BAIF pmax pmax
comp=Z,27nm,1.2s
ORIF Oris-en-Rattie 49.33 301 eP P 14 12 17.7 +2.4
ORIF pmax pmax
comp=Z,5.0nm,0.8s
KEST Kesra 49.54 289 P P 14 12 18.2 +1.2
comp=Z,4.4nm,0.6s,baz=5.3,slow=12,SNR=4.3
KEST Kesra 49.54 289 lAmb lAmb 14 12 19.0
comp=Z,4.4nm,0.7s
KIBK Kibwezi 49.78 226 P P 14 12 21.4 +2.4
SNR=8.5
LOR Lormes 50.12 305 P P 14 12 21.9 +0.7
LOR pmax pmax
comp=Z,6.0nm,1.0s
VIVF Saint-Julien-l 50.17 302 eP P 14 12 22.3 +0.7
VIVF pmax pmax
comp=Z,10.0nm,0.7s
AVF Avril sur Loir 50.57 304 eP P 14 12 24.5 0.0
AVF pmax pmax
comp=Z,28nm,0.8s
TYV Tymovskoe 51.31 50 eP P 14 12 30.9 +0.9
TYV pmax pmax
comp=Z,100nm,2.5s
TYV pmax pmax
comp=Z,6.0nm,0.6s
CAF Calviac 51.94 302 eP P 14 12 35.3 +0.5
CAF pmax pmax
comp=Z,14nm,0.9s
RJF Les Rejaudoux 52.20 303 eP P 14 12 37.3 +0.6
RJF pmax pmax
comp=Z,9.0nm,0.8s
MTLF Montolieu 52.30 300 eP P 14 12 37.7 +0.3
MTLF pmax pmax
comp=Z,5.0nm,0.9s
YSS Yuzh-Sakhalins 52.34 55⇑iP P 14 12 37.9 +0.3
YSS e 14 13 05.9
YSS pmax pmax
comp=Z,20nm,0.6s
YSS Yuzh-Sakhalins 52.34 55 P P 14 12 38.0 +0.3
MJB9 Matsu-Tunnel 52.41 69 P P 14 12 38.5 0.0
MAJO Matsushiro 52.42 69d iP P 14 12 38.7 +0.2
MAJO pmax pmax
comp=Z,18nm,0.8s
MAJO Matsushiro 52.42 69 P P 14 12 38.5 0.0
MAT Matsushiro 52.42 69 P P 14 12 38.3 -0.2
MJAR Matsushiro Arr 52.42 69 P P 14 12 39.2 +0.7
comp=Z,9.9nm,0.8s,baz=288,slow=9.8,SNR=34
MJAR Matsushiro Arr 52.42 69 P P 14 12 37.8 -0.7
FLN La Foliniere 52.57 308 eP P 14 12 39.0 -0.4
FLN pmax pmax
comp=Z,11nm,0.6s
GRR Gorron 52.91 307 eP P 14 12 41.5 -0.4
GRR pmax pmax
comp=Z,17nm,0.7s
MBAR Mbarara 52.99 235ceP P 14 12 46.8 +3.7
MBAR pmax pmax
comp=Z,5.0nm,1.3s
ASAJ Asahikawa 53.05 58 P P 14 12 42.8 -0.2
comp=Z,3.3nm,0.7s,baz=292,slow=8.5,SNR=7.4
NOR Nord 53.85 350⇑iP P 14 12 48.6 +0.3
NOR pmax pmax
comp=Z,2.4nm,0.7s
NOR Nord 53.85 350⇑iP P 14 12 48.6 +0.3
NOR pmax pmax
comp=Z,2.0nm,0.7s
ETSF Etsaut 54.36 301 eP P 14 12 52.9 +0.2
ETSF pmax pmax
comp=Z,7.0nm,0.5s
ROSF Rostrenen 54.47 308 eP P 14 12 53.0 -0.2
ROSF pmax pmax
comp=Z,23nm,0.7s
QUIF Quistinic 54.53 307 eP P 14 12 53.3 -0.3
QUIF pmax pmax
comp=Z,8.0nm,0.6s
SJPF Ste Jean 54.75 301 eP P 14 12 58.0 +2.6
SJPF pmax pmax
comp=Z,8.0nm,1.1s
DAG Danmarks Havn 54.83 344⇑iP P 14 12 55.8 +0.4
comp=Z,7.4nm,0.7s
DAG Danmarks Havn 54.83 344⇑iP P 14 12 55.8 +0.4
DAG pmax pmax
comp=Z,7.0nm,0.7s
MPSI Mapaga 57.31 118 P P 14 13 17.1 +3.2
comp=Z,21nm,1.3s
ESDC Sonseca Array 57.92 298 P P 14 13 18.7 +0.7
comp=Z,2.9nm,0.5s,baz=55,slow=7.2,SNR=30
ESDC pP **pP 14 13 45.2 -0.6**
comp=Z,6.3nm,1.0s,baz=61,slow=7.6,SNR=11
ESDC sP **sP 14 13 57.8 -0.6**
comp=Z,4.2nm,0.9s,baz=60,slow=6.9,SNR=5.6
BILL Bilibino 58.31 26c iP P 14 13 19.9 -0.3
BILL i *PP **pP 14 13 46.9 -1.5**
BILL i 14 15 32.9
BILL pmax pmax
comp=Z,7.0nm,0.8s
MRSI Marisa 58.69 116 P P 14 13 26.1 +2.6
comp=Z,540nmcomp=Z,49nm,1.0s
PBRG Braganca 59.03 301 eP P 14 13 25.8 +0.2
comp=Z,28nm,1.9s
APSI Ampana 59.43 117 P P 14 13 32.4 +3.7
comp=Z,29nm,1.3s
MVO Moncorvo 59.48 301 eP P 14 13 29.9 +1.1
PETK Petropavlovsk- 59.54 44 P P 14 13 28.3 -0.7
comp=Z,1.8nm,0.7s,baz=0.0,slow=1.4,SNR=4.9
TTSI Tana Toraja 59.65 120 P P 14 13 31.3 +1.2
comp=Z,17nm,1.3s
PGAV Gavieira, Arco 60.01 302 eP P 14 13 33.8 +1.3
MTE Manteigas 60.15 300 eP P 14 13 34.9 +1.5
MTE epP **pP 14 14 02.6 +1.3**
PVIS Viseu 60.26 301 eP P 14 13 35.6 +1.5
PVIS epP **pP 14 14 03.1 +1.1**
PMRV Marv??o 60.44 299 epP pP 14 14 04.5 +1.2
SUMG Summit 61.19 341⇑iP P 14 13 41.2 +0.9
comp=Z,14nm,0.5s
SUMG i 14 14 10.3
SUMG Summit 61.19 341 P P 14 13 41.2 +0.9
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 61.19 341 P P 14 13 41.2 +0.9
SUMG lAmb lAmb 14 13 42.4
comp=Z,7.6nm,0.9s
PBEJ Beja 61.37 298 eP P 14 13 41.3 -0.3
comp=Z,13nm,1.4s
PBEJ epP **pP 14 14 10.2 +0.6**
PVAQ Vaqueiros 61.54 297 eP P 14 13 43.2 +0.5
comp=Z,16nm,1.5s
PVAQ epP **pP 14 14 11.4 +0.7**
MESJ Messejana 61.71 298 epP pP 14 14 13.0 +1.1
PBDV Barranco-do-Ve 61.76 297 epP pP 14 14 13.4 +1.1
LBMI Labuha 63.52 112 P P 14 13 59.1 +2.9
comp=Z,610nmcomp=Z,35nm,0.9s
LSZ Lusaka 65.89 227 P P 14 14 11.7 +0.1
comp=Z,4.5nm,0.5s,baz=40,slow=6.5,SNR=8.0
LSZ Lusaka 65.89 227 P P 14 14 11.7 +0.1
LSZ pmax pmax
comp=Z,6.0nm,0.6s
LSZ Lusaka 65.89 227 lAmb lAmb 14 14 12.5
comp=Z,5.6nm,0.6s
TOA0 Torodi Ar. Sit 66.27 269 P P 14 14 12.7 -1.4
SNR=5.8
TOA0 Torodi Ar. Sit 66.27 269 P P 14 14 12.4 -1.6
TORD Torodi Ar. Bea 66.27 269 P P 14 14 12.2 -1.8
comp=Z,4.4nm,0.6s,baz=50,slow=6.2,SNR=38
TORD pP **pP 14 14 40.8 -1.6**
comp=Z,2.7nm,0.6s,baz=43,slow=6.0,SNR=4.3
TORD Torodi Ar. Bea 66.27 269 P P 14 14 12.2 -1.8
MSAI Masohi 66.39 114 P P 14 14 17.2 +2.5
comp=Z,367nmcomp=Z,9.2nm,0.7s
SOEI Soe 67.52 122 P P 14 14 32.5 +11
FAKI Fak Fak 68.58 111 P P 14 14 30.2 +1.6
comp=Z,26nm,1.0s
FAKI Fak Fak 68.58 111 P P 14 14 29.5 +0.9
FAKI lAmb lAmb 14 14 30.4
comp=Z,27nm,1.0s
TOLK Toolik Lake Re 70.73 15 P P 14 14 41.0 0.0
TOLK lAmb lAmb 14 14 41.8
comp=Z,9.2nm,0.8s
IMAR Indian Mountai 71.95 18 P P 14 14 47.9 -0.4
BMAR Burnt Mountain 72.75 14 P P 14 14 53.8 +0.6
FYU Fort Yukon 73.38 15 lAmb lAmb 14 14 58.4
comp=Z,26nm,1.4s
INK Inuvik 73.76 9 P P 14 14 59.1 +0.2
comp=Z,5.8nm,0.5s,baz=332,slow=5.9,SNR=20
COLA College 74.27 16d iP P 14 15 01.9 0.0
COLA pmax pmax

	comp=Z,8.0nm,0.9s							
GENI	**Genyem**	**74.43**	**105**	P		**P**	**14 15 05.8**	**+2.1**
	comp=Z,2μmcomp=Z,55nm,0.8s							
ILAR	**Eielson Array**	**74.57**	**16**	P		**P**	**14 15 02.7**	**-1.0**
	comp=Z,2.7nm,0.9s,baz=317,slow=4.5,SNR=21							
ILAR				PP		**PP**	**14 17 50.6**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=319,slow=8.8,SNR=5.9							
KNRA	**Kununurra**	**74.79**	**123**	P		**P**	**14 15 06.5**	**+0.8**
KNRA				IAmb		IAmb	14 15 07.4	
	comp=Z,20nm,0.7s							
DBIC	**Dimbokro**	**75.25**	**267**	P		**P**	**14 15 07.2**	**-1.3**
	comp=Z,1.9nm,0.5s,baz=35,slow=6.3,SNR=6.3							
DBIC	**Dimbokro**	**75.25**	**267**	P		**P**	**14 15 07.2**	**-1.3**
DBIC				pmax	pmax			
	comp=Z,20nm,1.2s							
DBIC	**Dimbokro**	**75.25**	**267**	IAmb		IAmb	14 15 18.2	
	comp=Z,20nm,1.2s							
SML	**Sawmill**	**76.76**	**18**	P		**P**	**14 15 15.3**	**-1.0**
SML				IAmb		IAmb	14 15 17.1	
	comp=Z,9.3nm,0.8s							
BCAR	**Beaver Creek A**	**77.17**	**15**	P		**P**	**14 15 18.9**	**+0.3**
BOSA	**Boshof**	**78.15**	**221**	P		**P**	**14 15 23.9**	**-0.6**
	comp=Z,2.4nm,0.5s,baz=333,slow=11,SNR=5.2							
BOSA				pP		**pP**	**14 15 54.4**	**+0.3**
	comp=Z,5.3nm,0.7s,baz=45,slow=5.0,SNR=3.6							
BOSA				sP		**sP**	**14 16 07.9**	**+1.5**
	comp=Z,4.0nm,0.6s,baz=34,slow=6.0,SNR=2.7							
BOSA	**Boshof**	**78.15**	**221**	P		**P**	**14 15 23.9**	**-0.6**
BOSA				pmax	pmax			
	comp=Z,24nm,1.4s							
BOSA	**Boshof**	**78.15**	**221**	IAmb		IAmb	14 15 36.1	
	comp=Z,24nm,1.4s							
KDAK	**Kodiak Island**	**78.94**	**22**	P		**P**	**14 15 28.0**	**-0.3**
	comp=Z,5.9nm,0.7s,baz=327,slow=4.9,SNR=6.6							
KDAK	**Kodiak Island**	**78.94**	**22**	P		**P**	**14 15 28.0**	**-0.3**
KDAK				pmax	pmax			
	comp=Z,9.0nm,0.9s							
KDAK	**Kodiak Island**	**78.94**	**22**	IAmb		IAmb	14 15 29.4	
	comp=Z,8.9nm,0.8s							
YKA	**Yellowknife Ar**	**81.16**	**3**	P		**P**	**14 15 40.0**	**-0.2**
	comp=Z,5.3nm,0.5s,baz=349,slow=5.0,SNR=50							
YKA				pP		**pP**	**14 16 09.8**	**-0.3**
	comp=Z,3.7nm,0.8s,baz=348,slow=4.8,SNR=5.6							
WRA	**Warramunga Arr**	**81.55**	**122**	P		**P**	**14 15 42.5**	**-0.4**
	comp=Z,5.1nm,0.7s,baz=309,slow=6.0,SNR=37							
WRAB	**Tennant Creek**	**81.55**	**122**	*d*	*P*	**P**	**14 15 42.7**	**-0.2**
WRAB				pmax	pmax			
	comp=Z,11nm,0.9s							
WRAB	**Tennant Creek**	**81.55**	**122**	P		**P**	**14 15 42.8**	**-0.2**
WRAB				IAmb		IAmb	14 15 44.9	
	comp=Z,12nm,0.9s							
DLBC	**Dease Lake**	**83.63**	**11**	P		**P**	**14 15 52.4**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=345,slow=5.5,SNR=3.4							
DLBC	**Dease Lake**	**83.63**	**11**	IAmb		IAmb	14 15 54.0	
	comp=Z,15nm,1.5s							
AS31	**Alice Springs**	**83.83**	**125**	P		**P**	**14 15 53.0**	**-1.7**
ASAR	**Alice Springs**	**83.83**	**125**	P		**P**	**14 15 54.2**	**-0.5**
	comp=Z,6.1nm,0.8s,baz=312,slow=4.6,SNR=56							
ASAR	**Alice Springs**	**83.83**	**125**	P		**P**	**14 15 54.6**	**-0.1**
ASAR	**Alice Springs**	**83.83**	**125**	P		**P**	**14 15 54.6**	**-0.1**
ULM	**Lac du Bonnet**	**92.87**	**352**	‖	*eP*	**P**	**14 16 37.0**	**-0.5**
STKA	**Stephens Creek**	**94.38**	**127**	P		**P**	**14 16 43.1**	**-1.4**
	comp=Z,2.7nm,1.0s,baz=343,slow=5.5,SNR=3.2							
SNAA	**Sanae**	**119.64**	**201**	PKPdf		**PKPdf**	**14 22 11.5**	**-1.6**
VNA1	**Neumayer--Stat**	**120.82**	**202**	PKPdf		**PKPdf**	**14 22 14.8**	**-0.5**
VNA3	**Neumayer Olymp**	**121.47**	**202**	PKPdf		**PKPdf**	**14 22 15.6**	**-1.0**
VNDA	**Vanda**	**125.40**	**165**	PKP		**PKPdf**	**14 22 22.7**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=288,slow=4.8,SNR=5.4							
QSPA	**South Pole Qui**	**126.35**	**180**			**PKPdf**	**14 22 24.9**	**-1.2**
CPUP	**Villa Florida**	**135.77**	**268**	PKP		**PKPdf**	**14 22 43.9**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=188,slow=6.0,SNR=3.8							
LPAZ	**La Paz**	**139.12**	**289**	PKP		**PKPdf**	**14 22 51.5**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=70,slow=1.4,SNR=4.5							
AC02	**Maricunga**	**145.48**	**275**	PKPdf		**PKPbc**	**14 23 03.4**	**-0.1**
CO01	**Juntas del Tor**	**147.53**	**270**	PKPbc		**PKPdf**	**14 23 07.6**	**+1.4**
BO02	**Sierra Bellavi**	**149.58**	**262**			**PKPbc**	**14 23 13.7**	**-0.2**
PLCA	**Paso Flores**	**150.37**	**250**	PKPbc		**PKPbc**	**14 23 15.2**	**-0.4**
	comp=Z,3.3nm,0.7s,baz=152,slow=3.4,SNR=12							
PLCA	**Paso Flores**	**150.37**	**250**			**PKPbc**	**14 23 15.8**	**+0.2**
LC01	**Cunco**	**151.20**	**254**			**PKPbc**	**14 23 16.7**	**-0.9**

*BER **19** 14:04:50.9±1.7, 80°.81N×2°.65W, h10km, ML2.0, ML2.6(DNK), Confirmed Earthquake*
*IEPN **19** 14:04:56.0, 80°.88N×0°.09W, h15km*
ISC 19 14:04:46.8±1.4, 80°.80N±0°.09×2°.66W±0°.05, h10km, n14, σ2°.70/25, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**2.30**	**297**	*i* P	**Pn**	**14 05 26.0**	**+1.4**
NOR	**Nord**	**2.30**	**297**	*i* P	**Pn**	**14 05 26.0**	**+1.4**
NOR				*i* P	**Pn**	**14 05 26.0**	**+1.4**
NOR				IAML		14 05 56.6	
	comp=Z,6.2nm,0.3s						
KBS	**Kingsbay**	**3.19**	**119**	*e*P	**Pn**	**14 05 38.8**	**+2.0**
KBS				*e*S	**Sn**	**14 06 13.1**	**-1.7**
KBS	**Kingsbay**	**3.19**	**119**	*e*	**Pn**	**14 05 39.3**	**+2.5**
KBS				*e*P	**Pb**	**14 05 40.2**	**-3.2**
KBS				*e*S	**Sn**	**14 06 13.6**	**-1.2**
KBS				IAML		14 06 18.6	
	comp=Z,8.8nm,0.3s						
BRBB	**Barentsburg B**	**4.11**	**123**	*e*P	**Pn**	**14 05 53.4**	**+4.0**
BRBA	**Barentsburg A**	**4.13**	**123**	*e*P	**Pn**	**14 05 54.6**	**+4.8**
BRBA				*e*S	**Sn**	**14 06 37.1**	**-1.0**
BRBA				IAML		14 06 44.5	
	comp=Z,8.0nm,0.4s						
SPA0	**Spitsbergen Ar**	**4.34**	**117**	*e*P	**Pn**	**14 05 56.0**	**+3.3**
SPA0				*e*S	**Sn**	**14 06 41.4**	**-1.9**
SPA0	**Spitsbergen Ar**	**4.34**	**117**	*e*P	**Pn**	**14 05 56.1**	**+3.4**
SPA0				*e*S	**Sn**	**14 06 42.1**	**-1.2**
SPA0				IAML		14 06 54.5	
	comp=Z,17nm,1.2s						
DAG	**Danmarks Havn**	**5.08**	**226**	*i* P	**Pn**	**14 06 05.0**	**+2.1**
DAG				*i* S	**Sn**	**14 06 59.8**	**-1.7**
DAG				IAML		14 07 04.3	
	comp=Z,6.7nm,0.4s						
HSPB	**Hornsund (broa**	**5.15**	**128**	*e*P	**Pn**	**14 06 07.3**	**+3.5**
HSPB				*e*S	**Sn**	**14 07 03.4**	**+0.2**
HSPB	**Hornsund (broa**	**5.15**	**128**	*e*P	**Pn**	**14 06 07.9**	**+4.1**
HSPB				*e*S	**Sn**	**14 07 00.5**	**-2.7**
HSPB				IAML		14 07 07.7	
	comp=Z,4.1nm,0.5s						
HOPEN	**Hopen**	**6.86**	**114**	S	**Sn**	**14 07 43.8**	**-1.3**
DBG	**Daneborg**	**7.49**	**219**	*i* P	**Pn**	**14 06 39.1**	**+3.3**
DBG				*i* S	**Sn**	**14 07 58.6**	**-2.1**
DBG				IAML		14 08 04.2	
	comp=Z,2.7nm,0.3s						
ZFI2	**Zemlya Franca-**	**7.84**	**65**	*e*P	**Pn**	**14 06 42.5**	**+1.8**
ZFI2				*e*S	Sn	14 08 02.3	-7.0
	comp=Z,8.2nm,0.6s						

*INET **19** 14:07:13.3, 11°.56N×85°.20W, h6km, ML2.5*
UCR 19 14:07:14.1±1.2, 11°.45N×85°.19W, h0km±5km, MD3.8, 1C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BUAI	**Buenos Aires**	**0.58**	**193**	*i* P	Pb	14 07 26.8	-0.4
GB1A	**Borinquen Arri**	**0.66**	**198**	‖ *e*P	Pb	14 07 27.6	-0.9
GB1A				*e*S	Sb	14 07 38.8	+0.6
BUEV	**Buena Vista**	**0.68**	**198**	*i* P	Pb	14 07 28.0	-0.8
GPS2	**Hotel Rincn d**	**0.71**	**193**	*i* P	Pb	14 07 29.1	-0.3
GBS3	**Finca Las Img**	**0.71**	**201**	*i* P	Pg	14 07 28.4	+0.8
LAPC	**Finca la Perla**	**0.71**	**199**	*i* P	Pg	14 07 28.5	+0.7
HORNC	**Hornillas**	**0.73**	**179**	*i* P	Pb	14 07 29.0	-0.8
HORNC				*i* S	Sb	14 07 39.7	-0.6
GUAB	**Guayabo de Bag**	**0.73**	**183**	*i* P	Pb	14 07 29.1	-0.7
LIM1	**Limonal**	**0.74**	**184**	*i* P	Pb	14 07 29.3	-0.7
PTEN	**Parque Tenorio**	**0.76**	**164**	*i* P	Pb	14 07 29.8	-0.4
CUI	**Cuipilapa**	**0.78**	**178**	*e*P	Pg	14 07 29.9	+0.7
CUI				*e*S	Sb	14 07 41.9	0.0
ACAL	**Aguas Claras**	**0.82**	**169**	*i* P	Pb	14 07 30.8	-0.6
NY14	**Universidad de**	**0.86**	**203**	*i* P	Pb	14 07 31.4	-0.5
PLVR	**Palo Verde**	**1.10**	**188**	‖ *e*P	Pg	14 07 35.2	-0.1
PLVR				*e*S	Sn	14 07 52.7	-0.3
GUAI	**GUAI**	**1.21**	**195**	*i* P	Pg	14 07 36.9	-0.5
SRA1	**San Ramn**	**1.52**	**153**	*e*S	Sn	14 08 03.8	+0.4
CVTR	**Volcan Turrial**	**2.00**	**135**	*e*P	Pg	14 07 52.4	0.0
CVTR				*e*S	Sb	14 08 17.6	+0.3
LCR2	**La Lucha 2**	**2.06**	**145**	*e*P	Pn	14 07 50.9	+0.7
LCR2				*e*S	Sb	14 08 18.7	0.0

*ATH **19** 14:08:52.0, 40°.39N×25°.90E, h16km±7km, ML2.0/6, Error ellipse: s-maj=7.4km s-min=0.9km az=300.0*
*ISK **19** 14:08:51.9, 40°.36N×25°.90E, h10km, ML2.4/14*
*DDA **19** 14:08:52.4, 40°.33N×25°.93E, h12km±1km, ML2.5*
*THE **19** 14:08:52.4, 40°.37N×25°.86E, h9km±1km, ML1.9/6, Error ellipse: s-maj=1.1km s-min=0.4km az=357.0*
ISC 19 14:08:52.2±0.8, 40°.37N±0°.02×25°.88E±0°.02, h12km±6km, n38, σ0°.41/68, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GADA	**Gvkgeada**	**0.18**	**175**	P	**Pg**	**14 08 56.0**	**-0.2**
GADA				S	**Sg**	**14 08 59.0**	**0.0**
	1μm,0.3s						
GADA	**Gvkgeada**	**0.18**	**175**	PG	**Pg**	**14 08 56.0**	**-0.2**
GADA				SG	**Sg**	**14 08 59.0**	**0.0**
GOKA	**anakkale-Gk**	**0.18**	**173**	*i* P	**Pg**	**14 08 56.1**	**-0.2**
GOKA				IAML		14 08 59.0	
	comp=N,3μm,0.5s						
GOKA				IAML		14 08 59.0	
	comp=E,3μm,0.3s						
GOKA				*i* S	**Sg**	**14 08 59.2**	**+0.2**
SMTH	**Samothraki Isl**	**0.28**	**291**	P	**Pg**	**14 08 57.9**	**-0.2**
SMTH				S	**Sg**	**14 09 02.3**	**+0.4**
	comp=E,128nm,0.1s						
SMTH	**Samothraki Isl**	**0.28**	**291**	P	**Pg**	**14 08 57.9**	**-0.2**
SMTH				S	**Sg**	**14 09 02.4**	**+0.4**
SMTH				AML	AML	14 09 07.5	
	comp=E,361μm,0.1s						
SMTH				AML	AML	14 09 07.9	
	comp=N,467μm,0.4s						
ENEZ	**Enez**	**0.42**	**30**	P	**Pg**	**14 09 00.6**	**0.0**
ENEZ				S	**Sb**	**14 09 07.3**	**-0.6**
	comp=N,572nm,0.4s						
ENEZ	**Enez**	**0.42**	**30**	PG	**Pg**	**14 09 00.8**	**+0.2**
ENEZ				SG	**Sg**	**14 09 07.4**	**-0.5**
GELI	**Tayfur-Gelibol**	**0.46**	**86**	PG	**Pg**	**14 09 01.1**	**-0.1**
GELI				SG	**Sg**	**14 09 07.9**	**+0.6**
ALN	**Alexandroupoli**	**0.54**	**14**	P	**Pg**	**14 09 02.7**	**-0.1**
ALN				S	**Sg**	**14 09 10.8**	**+0.8**
	comp=N,85nm,0.4s						
ALN	**Alexandroupoli**	**0.54**	**14**	P	**Pg**	**14 09 02.6**	**-0.1**
ALN				S	**Sg**	**14 09 09.6**	**-0.4**
ALN				AML	AML	14 09 12.1	
	comp=E,198μm,0.3s						
ALN				AML	AML	14 09 13.8	
	comp=N,137μm,0.5s						
BOZC	**Bozcaada**	**0.55**	**166**	PG	**Pg**	**14 09 02.6**	**-0.2**
BOZC				SG	**Sg**	**14 09 10.4**	**+0.3**
BOZC	**Bozcaada**	**0.55**	**166**	*i* P	**Pg**	**14 09 02.6**	**-0.2**
BOZC				*i* S	**Sg**	**14 09 09.7**	**-0.4**
ERIK	**Erikli-Kesan**	**0.57**	**58**	PG	**Pg**	**14 09 03.5**	**+0.2**
ERIK				SG	**Sg**	**14 09 11.3**	**+0.4**
EZN	**Ezine**	**0.64**	**148**	P	**Pg**	**14 09 04.6**	**-0.1**
EZN	**Ezine**	**0.64**	**148**	PG	**Pg**	**14 09 04.7**	**0.0**
EZN				SG	**Sb**	**14 09 13.9**	**-0.4**
LPK	**Lapseki**	**0.68**	**90**	PG	**Pg**	**14 09 05.4**	**+0.1**
LIA	**Limnos Island**	**0.71**	**229**	P	**Pg**	**14 09 05.9**	**-0.1**
LIA	**Limnos Island**	**0.71**	**229**	P	**Pb**	**14 09 06.5**	**0.0**
LIA				AML	AML	14 09 25.2	
	comp=E,305μm,0.4s						
LIA				AML	AML	14 09 27.1	
	comp=N,221μm,0.4s						
KESN	**Edirne-Kesan**	**0.76**	**53**	*i* P	**Pb**	**14 09 08.0**	**+0.4**
KESN				*i* S	**Sb**	**14 09 18.9**	**+0.8**
KESN				IAML		14 09 21.0	
	comp=E,329nm,0.3s						
KESN				IAML		14 09 22.0	
	comp=N,214nm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.81**	**141**	*i* P	**Pg**	**14 09 07.2**	**-0.7**
BAYC				*i* S	**Sg**	**14 09 18.2**	**-0.3**
RDO	**Rodhopi**	**0.82**	**342**	P	**Pg**	**14 09 07.5**	**-0.5**
RDO	**Rodhopi**	**0.82**	**342**	P	**Pg**	**14 09 07.4**	**-0.6**
RDO				S	**Sg**	**14 09 18.0**	**-0.7**
THAS	**Thassos island**	**0.91**	**285**	P	**Pg**	**14 09 09.8**	**0.0**
THAS				S	**Sb**	**14 09 22.3**	**+0.2**
	comp=N,78nm,0.5s						
THAS	**Thassos island**	**0.91**	**285**	P	**Pg**	**14 09 10.0**	**+0.2**
THAS				S	**Sg**	**14 09 22.0**	**+0.2**
THAS				AML	AML	14 09 24.3	
	comp=E,120μm,0.3s						
THAS				AML	AML	14 09 24.9	
	comp=N,139μm,0.5s						
RKY	**Sarkoy-Tekirda**	**1.04**	**72**	PG	**Pg**	**14 09 12.3**	**0.0**
RKY				SG	**Sn**	**14 09 27.0**	**-0.2**
SIGR	**SIGRI**	**1.16**	**181**	P	**Pb**	**14 09 14.2**	**+0.1**
SIGR				S	**Sn**	**14 09 30.1**	**+0.1**
	comp=N,248nm,0.6s						
SIGR	**SIGRI**	**1.16**	**181**	P	**Pg**	**14 09 14.4**	**-0.1**
SIGR				AML	AML	14 09 30.1	
	comp=N,190μm,1.5s						
SIGR				S	**Sn**	**14 09 30.4**	**+0.4**
SIGR				AML	AML	14 09 31.6	
	comp=E,325μm,0.5s						
PRK	**Paraskevi**	**1.16**	**165**	P	**Pb**	**14 09 13.7**	**-0.5**
PRK				S	**Sn**	**14 09 30.1**	**0.0**
PRK				AML	AML	14 09 32.0	
	comp=N,398μm,0.5s						
PRK				AML	AML	14 09 32.4	
	comp=E,577μm,0.6s						
AYVA	**Ayvalik**	**1.23**	**149**	*i* P	**Pn**	**14 09 15.1**	**-0.1**
AYVA				*i* S	**Sg**	**14 09 32.3**	**+0.4**
AYVA				IAML		14 09 33.0	
	comp=N,196nm,0.5s						
AYVA				IAML		14 09 33.0	
	comp=E,110nm,0.5s						
KNL	**Balıkesir**	**1.27**	**94**	*i* P	**Pb**	**14 09 16.0**	**+0.1**
KNL				*i* S	**Sg**	**14 09 32.9**	**-0.1**
KNL				IAML		14 09 42.0	
	comp=E,135nm,0.6s						
KNL				IAML		14 09 42.0	
	comp=N,116nm,0.6s						
MRMT	**Marmara Adasi**	**1.33**	**79**	PN	**Pn**	**14 09 15.7**	**-1.0**
MRMT				SN	**Sn**	**14 09 34.5**	**+0.1**
BALY	**Balya**	**1.48**	**115**	*i* P	**Pb**	**14 09 19.4**	**-0.2**
BALY				*i* S	**Sg**	**14 09 39.6**	**-0.2**
BALY				IAML		14 09 41.0	
	comp=N,81nm,0.4s						
EDC	**Edincik**	**1.52**	**90**	PN	**Pn**	**14 09 19.5**	**+0.3**
EDRB	**Edirne**	**1.61**	**24**	PN	**Pn**	**14 09 21.2**	**+0.7**
EDRB				SN	**Sb**	**14 09 42.6**	**+0.3**
KIRK	**Kırklareli**	**1.69**	**33**	*i* P	**Pn**	**14 09 20.4**	**-1.1**
KIRK				*i* S	**Sn**	**14 09 42.5**	**-0.5**
BALB	**Balikesir**	**1.70**	**115**	PN	**Pn**	**14 09 22.0**	**+0.3**
BALB				SN	**Sn**	**14 09 43.8**	**+0.4**
KCTX	**Karacabey (Bur**	**1.90**	**92**	PN	**Pn**	**14 09 24.9**	**+0.5**
URLA	**Izmir**	**2.08**	**164**	PN	**Pn**	**14 09 27.8**	**+0.8**

MAN 19 14:43:25.1, 16°.64N×119°.94E, h31km, mb4.6, ML3.5, MS3.4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.26**	**185**	*e*P	Pn	14 43 33.5	+0.7
BOLP				*e*S	Sn	14 43 40.1	+2.4
SCZP	**Santa Cruz**	**0.86**	**182**	*e*P	Pb	14 43 41.4	-0.2
SCZP				*e*S	Sb	14 43 52.7	0.0
SMPP	**San Manuel, Pa**	**0.86**	**124**	*e*P	Pn	14 43 40.8	-0.4
SMPP				*e*S	Sn	14 43 52.5	-0.2
ABRA	**Dolores**	**1.25**	**36**	*e*P	Pn	14 43 46.1	-0.4
ABRA				*e*S	Sn	14 44 02.6	+0.3
APYP	**Conner**	**1.74**	**46**	*e*P	Pn	14 43 53.2	-0.1
APYP				*e*S	Sn	14 44 14.6	+0.1
BALP	**Baler**	**1.81**	**119**	*e*P	Pb	14 43 56.0	-1.6
BALP				*e*S	Sn	14 44 16.3	+0.2
CAUP	**Cauayan**	**1.83**	**80**	*e*P	Pb	14 43 57.4	-0.6

IDC 19 14:44:37.1±3.4, 23°.61S×177°.34W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/30, mbtmp3.9/3, Error ellipse: s-maj=166.1km s-min=40.6km az=148.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.09**	**248**	P	P	14 51 49.8	+0.5
	1.1nm,0.4s,baz=96,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**44.48**	**260**	P	P	14 52 50.5	0.0
	0.7nm,0.3s,baz=93,slow=6.3,SNR=23						
ASAR				PcP	PcP	14 54 32.3	-1.8
	0.3nm,0.6s,baz=108,slow=4.4,SNR=2.5						

WRA	**Warramunga Arr**	**44.86**	**265**	P		P	14 52 53.0	-0.5
	0.9nm,0.4s,baz=104,slow=8.2,SNR=15							
FINES	**FINESS Array B**	**138.91**	**343**	PKP		PKiKP	15 04 06.5	-0.5
	3.3nm,1.0s,baz=95,slow=4.9,SNR=4.8							
AKASG	**Malin Array Be**	**146.00**	**329**	PKPbc		PKPdf	15 04 18.0	+0.2
	1.8nm,0.5s,baz=42,slow=4.2,SNR=9.9							
BRTR	**Keskin Array B**	**149.31**	**309**	PKPbc		PKPbc	15 04 27.6	-0.6
	0.6nm,0.6s,baz=160,slow=3.9,SNR=3.9							

*IDC **19** 14:49:33.5±1.1, 43°.71N×86°.65E, h0km, mb3.9/4, mb1 3.9/8, mb1mx3.5/62, mbtmp3.8/8, ML3.3/4, MS3.9/2, Ms1 3.9/2, ms1mx2.7/46, Error ellipse: s-maj=58.3km s-min=14.3km az=51.0*
*NNC **19** 14:49:37.9±2.0, 43°.78N×86°.25E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=15.1km s-min=9.3km az=120.0*
*BJI **19** 14:49:38.8±0.0, 43°.60N×86°.36E, h12km, ML3.4/9*
*NEIC **19** 14:49:39.4±2.1, 43°.8N±0°.1×86°.4E±0°.1, h44km±10km, mb4.1/1, Error ellipse: s-maj=20.8km s-min=8.8km az=205.0*
ISC 19 14:49:40.1±0.8, 43°.95N±0°.07×86°.57E±0°.05, h30km, n36, σ1°.91/38, mb3.9/5, 7C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**0.82**	**99**	Pg	**Pn**	**14 49 56.4**	**+0.7**
WMQ				Sg	**Sn**	**14 50 13.0**	**+6.1**
WMQ				smax	smax		
	comp=N,460nm,0.3s						
WMQ				smax	smax		
	comp=E,510nm,0.3s						
WMQ	**Urumqi**	**0.82**	**99**		**Pn**	**14 49 56.9**	**+1.2**
ZSN	**Zaisan**	**3.70**	**342**	Pg	Pb	14 50 51.2	+6.5
	59nm,0.6s						
ZSN				Lg	Lg	14 51 47.0	
	98nm,0.7s						
MK31	**Makanchi Array**	**4.14**	**315**	⇑Pn	**Pn**	**14 50 42.3**	**+1.0**
	0.5nm,0.2s,baz=135,slow=15,SNR=320						
MK31				⇑Pg	**Pb**	**14 50 51.7**	**-0.6**
	6.3nm,0.5s,baz=141,slow=14,SNR=33						
MK31				⇓Lg	Lg	14 51 48.2	
	39nm,0.6s,baz=136,slow=29,SNR=10						
MK31	**Makanchi Array**	**4.14**	**315**		**Pn**	**14 50 42.3**	**+1.0**
MKAR	**Makanchi Array**	**4.14**	**315**	Pn	**Pn**	**14 50 42.3**	**+1.0**
	1.2nm,0.3s,baz=133,slow=15,SNR=24						
MKAR				Pg	**Pb**	**14 50 51.8**	**-0.5**
	6.1nm,0.3s,baz=131,slow=17,SNR=24						
MKAR				Lg	Lg	14 51 47.4	
	14nm,0.3s,baz=138,slow=29,SNR=13						
MKAR				LR	LR	14 52 51.7	
	comp=Z,52nm,19.5s,baz=2.5,slow=46						
MKAR	**Makanchi Array**	**4.14**	**315**		**Pn**	**14 50 42.1**	**+0.8**
MAKZ	**Makanchi**	**4.32**	**313**	⇑Pn	**Pn**	**14 50 44.4**	**+0.7**
	3.5nm,0.5s						
MAKZ				⇓Pg	**Pb**	**14 50 55.5**	**+0.2**
	5.2nm,0.4s						
MAKZ				⇑Sn	**Sn**	**14 51 34.9**	**+1.9**
	6.9nm,0.3s						
MAKZ				⇑Lg	Lg	14 51 52.1	
	19nm,0.6s						
MAKZ	**Makanchi**	**4.32**	**313**		**Pn**	**14 50 44.4**	**+0.7**
SHLS	**Shalkode**	**5.23**	**264**	Pg	**Pn**	**14 51 01.1**	**+4.8**
	20nm,0.4s						
SHLS				Lg	Lg	14 52 04.3	
	73nm,0.6s						
UZB	**Uzynbulak**	**5.55**	**264**	Pg	**Pb**	**14 51 14.6**	**-1.7**
	4.0nm,0.2s						
UZB				Lg	Lg	14 52 26.8	
	12nm,0.4s						
TDK	**Taldyqorghan**	**5.94**	**283**	Pg	**Pb**	**14 51 25.4**	**+2.6**
	57nm,0.2s						
TDK				Lg	Lg	14 52 45.3	
	132nm,0.5s						
SATY	**Saty**	**6.01**	**264**	Pg	**Pb**	**14 51 22.7**	**-1.4**
	5.7nm,0.1s						
SATY				Lg	Lg	14 52 41.3	
	14nm,0.1s						
ARXS	**Arharly**	**6.30**	**275**	Pg	**Pb**	**14 51 30.0**	**+0.9**
	4.9nm,0.3s						
ARXS				Lg	Lg	14 52 53.8	
	24nm,0.6s						
KOTS	**Kotyrbulak**	**6.91**	**267**	Pg	**Pb**	**14 51 40.6**	**+1.2**
	10nm,0.4s						
KOTS				Lg	Lg	14 53 11.5	
	11nm,0.3s						
KTBS	**Karatobe**	**7.16**	**271**	Pg	**Pb**	**14 51 46.5**	**+2.9**
	2.4nm,0.3s						
KTBS				Lg	Lg	14 53 21.6	
	16nm,0.4s						
IZV	**Izvestkoviy**	**7.30**	**266**	Pg	**Pb**	**14 51 47.7**	**+1.6**
	2.9nm,0.5s						
IZV				Lg	Lg	14 53 24.5	
	14nm,0.6s						
KURBB	**Kurchatov Arra**	**8.62**	**324**	Pn	**Pn**	**14 51 42.7**	**0.0**
	0.3nm,0.3s,baz=132,slow=13,SNR=33						
KURBB				Sn	**Sn**	**14 53 19.6**

0.9nm,0.3s,baz=343,slow=22,SNR=3.9
WRA Warramunga Arr 26.25 163 P **P 15 02 16.2 +3.8**
0.4nm,0.4s,baz=344,slow=11,SNR=5.9
ASAR Alice Springs 29.70 166 P **P 15 02 44.6 +1.5**
0.4nm,0.8s,baz=339,slow=6.9,SNR=7.4
MKAR Makanchi Array 56.19 325 P **P 15 06 14.5 -1.5**
0.5nm,0.5s,baz=118,slow=8.3,SNR=8.4

*JMA **19** 15:17:43.8±0.1,24.˚88N× 122.˚39E, h7km±3km, M2.2*
*TAP **19** 15:17:43.7,24.˚97N× 122.˚38E, h18km, ML2.9, D*
ISC 19 15:17:43.5±1.0,**24.˚92N**±0.˚03×**122.˚40E**±0.˚02, **h15**km±8km, **n45**, σ0**940**/**84**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.39**	**284**	*i* P		**Pg**	**15 17 51.5**	**+0.2**
	baz=276							
TWB1				*i* S		**Sg**	**15 17 56.9**	**+0.2**
	baz=276							
EGS		**0.43**	**261**	*i* P		**Pb**	**15 17 52.9**	**+0.1**
	baz=251							
EGS				S		**Sb**	**15 17 59.4**	**+0.2**
	baz=251							
NTC	**Toucheng**	**0.52**	**264**	P		**Pg**	**15 17 53.6**	**-0.3**
	baz=256							
TIPB	**Shuangxi**	**0.53**	**276**	P		**Pb**	**15 17 54.2**	**-0.2**
	baz=269							
TIPB				S		**Sb**	**15 18 02.1**	**+0.2**
	baz=269							
NWF	**Wu-fen Shan**	**0.58**	**286**	P		**Pb**	**15 17 55.7**	**+0.2**
	baz=280							
NWF				S		**Sb**	**15 18 03.3**	**-0.3**
	baz=280							
WFSB	**Wu-fen Shan**	**0.58**	**286**	*e*P		**Pb**	**15 17 55.8**	**+0.3**
	baz=280							
WFSB				*e*S		**Sg**	**15 18 02.8**	**0.0**
	baz=280							
TWC	**Suao**	**0.59**	**239**	P		**Pg**	**15 17 55.2**	**+0.2**
	baz=232							
TWC				S		**Sb**	**15 18 03.7**	**+0.1**
	baz=232							
JYNG	**Yonagunijimaku**	**0.68**	**133**	P		**Pg**	**15 17 56.7**	**0.0**
JYNG				S		**Sb**	**15 18 06.3**	**+0.2**
TWE	**Neicheng**	**0.70**	**254**	P		**Pb**	**15 17 57.9**	**+0.6**
	baz=239							
TWE				S		**Sb**	**15 18 07.3**	**+0.6**
	baz=239							
YOJ	**Yonaguni jima**	**0.71**	**129**	P		**Pg**	**15 17 57.1**	**-0.3**
YOJ				*e*S		**Sg**	**15 18 06.9**	**0.0**
PCYT	**Pengchaiyu**	**0.77**	**337**	*e*P		**Pb**	**15 17 58.8**	**+0.1**
	baz=320							
PCYT				*e*S		**Sb**	**15 18 09.2**	**+0.2**
	baz=320							
ENA	**Nanau**	**0.77**	**231**	*i* P		**Pg**	**15 17 58.6**	**0.0**
	baz=211							
ENA				S		**Sb**	**15 18 09.0**	**0.0**
	baz=211							
YM08	**YM08**	**0.79**	**290**	P		**Pb**	**15 17 59.1**	**+0.2**
	baz=286							
YM08				S		**Sb**	**15 18 09.5**	**+0.1**
	baz=286							
NHDH	**Xindian Distri**	**0.80**	**274**	*e*P		**Pb**	**15 17 59.3**	**+0.2**
	baz=268							
NHDH				S		**Sb**	**15 18 10.2**	**+0.5**
	baz=268							
ENTT	**Nioudou**	**0.81**	**250**	P		**Pb**	**15 17 59.3**	**0.0**
	baz=257							
ENTT				*e*S		**Sn**	**15 18 11.1**	**-1.0**
	baz=257							
TWY	**Chenhua**	**0.81**	**296**	P		**Pb**	**15 17 59.4**	**0.0**
	baz=292							
TWY				S		**Sb**	**15 18 10.6**	**+0.5**
	baz=292							
YM04	**YM04**	**0.82**	**287**	*e*P		**Pn**	**15 18 00.0**	**-0.5**
	baz=271							
YM04				*e*S		**Sg**	**15 18 10.2**	**-0.1**
	baz=271							
YM03	**YM03**	**0.83**	**289**	P		**Pb**	**15 17 60.0**	**+0.3**
	baz=272							
YM03				S		**Sb**	**15 18 11.1**	**+0.5**
	baz=272							
NWLT	**Wulai**	**0.83**	**261**	*e*P		**Pg**	**15 18 00.0**	**+0.4**
	baz=255							
NWLT				*e*S		**Sg**	**15 18 10.0**	**-0.5**
	baz=255							
ANP	**Anpu**	**0.84**	**289**	P		**Pb**	**15 17 59.7**	**-0.3**
	baz=272							
ANP				S		**Sg**	**15 18 10.9**	**-0.2**
	baz=272							
NDT	**Datong Townshi**	**0.87**	**249**	P		**Pn**	**15 18 00.9**	**-0.3**
	baz=254							
NDT				*e*S		**Sg**	**15 18 12.5**	**+0.8**
	baz=254							
YHNB	**Yeheng**	**0.96**	**256**	P		**Pb**	**15 18 01.8**	**-0.1**
	baz=251							
YHNB				*e*S		**Sb**	**15 18 14.0**	**-0.6**
	baz=251							
NSK	**Sanguang**	**0.98**	**256**	P		**Pn**	**15 18 02.9**	**+0.1**
	baz=264							
NSK				S		**Sn**	**15 18 15.8**	**-0.6**
	baz=264							
NACB	**Ninganchiao**	**1.04**	**225**	P		**Pb**	**15 18 03.0**	**-0.3**
	baz=221							
NACB				S		**Sb**	**15 18 16.5**	**-0.2**
	baz=221							
NNSB	**Datong**	**1.05**	**243**	P		**Pb**	**15 18 03.3**	**-0.1**
	baz=224							
NNSB				S		**Sg**	**15 18 17.2**	**-0.3**
	baz=224							
NNSH	**Datong**	**1.05**	**243**	*e*P		**Pb**	**15 18 03.5**	**+0.1**
	baz=224							
NNSH				S		**Sb**	**15 18 17.1**	**+0.1**
	baz=224							
NNS	**Nan Shan**	**1.05**	**243**	P		**Pb**	**15 18 03.6**	**+0.1**
	baz=223							
NNS				*e*S		**Sn**	**15 18 17.8**	**-0.4**
	baz=223							
ETLH	**Xiulin Townshi**	**1.09**	**230**	P		**Pb**	**15 18 04.0**	**-0.2**
	baz=216							
ETLH				S		**Sg**	**15 18 18.8**	**-0.2**
	baz=216							
TWD	**Chiawan**	**1.11**	**222**	P		**Pn**	**15 18 04.7**	**+0.2**
	baz=225							
TWD				S		**Sb**	**15 18 19.0**	**+0.3**
	baz=225							
LIOB	**Emei**	**1.29**	**258**	*e*P		**Pn**	**15 18 07.1**	**+0.1**
	baz=254							
LIOB				*e*S		**Sg**	**15 18 24.6**	**-0.6**
	baz=254							
WHF	**Hehuan Shan**	**1.29**	**234**	P		**Pb**	**15 18 08.0**	**+0.2**
	baz=229							
WHF				S		**Sg**	**15 18 25.1**	**-0.2**
	baz=229							
NSTT	**Nanjuang**	**1.30**	**258**	P		**Pb**	**15 18 07.4**	**-0.3**
	baz=253							
NSTT				*e*S		**Sn**	**15 18 24.7**	**+0.3**
	baz=253							
TDCB	**Techi**	**1.31**	**240**	*e*P		**Pg**	**15 18 09.3**	**+0.6**
	baz=223							
TDCB				S		**Sg**	**15 18 25.9**	**0.0**
	baz=223							
IRIF	**Iriomote-Funau**	**1.34**	**115**	P		**Pb**	**15 18 08.5**	**+0.2**
IRIF				*e*S		**Sn**	**15 18 25.1**	**-0.1**
CHGB	**Renai**	**1.41**	**233**	*e*P		**Pg**	**15 18 10.4**	**-0.2**
	baz=228							
CHGB				S		**Sg**	**15 18 28.4**	**-0.5**
	baz=228							
ESL	**Shilin**	**1.41**	**219**	*e*P		**Pb**	**15 18 09.6**	**+0.1**
	baz=231							
WHP	**Taichung City**	**1.47**	**245**	P		**Pg**	**15 18 12.3**	**+0.5**
	baz=228							
WHP				*e*S		**Sg**	**15 18 30.0**	**-1.0**
	baz=228							
HATJ	**Hateruma jima**	**1.54**	**123**	P		**Pb**	**15 18 11.5**	**-0.2**
HATJ				*e*S		**Sb**	**15 18 31.7**	**+0.7**
JKRS	**Kuro-shima**	**1.61**	**114**	P		**Pb**	**15 18 13.2**	**+0.3**
JKRS				*e*S		**Sb**	**15 18 33.9**	**+0.8**
JIJ	**Ishigaki jima**	**1.68**	**109**	*e*S		**Sg**	**15 18 36.6**	**-0.9**
JISG	**Ishigakijimahi**	**1.77**	**100**	P		**Pb**	**15 18 15.1**	**-0.5**
YULB	**Yu-li**	**1.82**	**214**	*e*P		**Pn**	**15 18 15.1**	**+0.8**
	baz=211							
FULB	**Fuli**	**1.99**	**211**	*e*P		**Pn**	**15 18 17.4**	**+0.8**
	baz=193							
ALS	**Alishan**	**2.02**	**227**	*e*P		**Pb**	**15 18 19.9**	**-0.2**
	baz=207							
ALS				*e*S		**Sb**	**15 18 45.5**	**+0.3**
	baz=207							
CHN5	**Tsauling**	**2.05**	**231**	*e*P		**Pb**	**15 18 20.4**	**-0.1**
	baz=226							
CHN5				S		**Sb**	**15 18 46.1**	**+0.2**
	baz=226							

*IDC **19** 15:20:02.1±0.8, 1.˚47N× 122.˚33E, h0km, mb4.0/9, mb1 4.0/10, mb1mx3.7/41, mbtmp4.0/10, ML3.7/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/41, Error ellipse: s-maj=45.3km s-min=15.6km az=73.0*
*DJA **19** 15:20:04.2±0.6, 2.˚N±4˚× 12.˚2E±˚, h10km, M4.5/6, mB4.8/1, mb4.9/1, MLv4.3/6, Mw(mB)4.1/1*
*NEIC **19** 15:20:07.2±2.2, 1.˚52N±0.˚08× 122.˚37E±0.˚06, h41km±11km, mb4.3/11, Error ellipse: s-maj=11.8km s-min=8.9km az=182.0*
ISC 19 15:20:07.1±0.6,**1.˚52N**±0.˚06×**122.˚31E**±0.˚08,**h38**km,**n37**, σ1**866**/**36**,**mb4.2**/12,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.09**	**200**	P		Pn	15 20 23.0	-2.9
MRSI				S		**Sn**	**15 20 37.5**	**-2.3**
KMSI	**Cibinong**	**1.92**	**119**	P		**Pn**	**15 20 40.9**	**+3.7**
APSI	**Ampana**	**2.50**	**195**	P		**Pn**	**15 20 45.7**	**+0.5**
APSI				S		**Sn**	**15 21 17.5**	**+3.1**
LUWI	**Luwuk**	**2.58**	**170**	P		**Pn**	**15 20 48.2**	**+1.9**
LUWI	**Luwuk**	**2.58**	**170**			**Pn**	**15 20 48.0**	**+1.6**
MPSI	**Mapaga**	**2.68**	**244**	P		**Pn**	**15 20 46.1**	**-1.5**
TTSI	**Tana Toraja**	**5.17**	**209**	P		**Pn**	**15 21 24.8**	**+2.9**
BKB	**Balikpapan**	**6.07**	**243**	Pn		**Pn**	**15 21 35.1**	**+0.8**
KKM	**Kota Kinabalu**	**7.56**	**307**	Pn		**Pn**	**15 21 55.2**	**+0.3**
FAKI	**Fak Fak**	**10.87**	**114**	Pn		**Pn**	**15 22 39.1**	**-1.1**
MTN	**Manton Dam**	**16.74**	**149**	Pn		**Pn**	**15 23 55.8**	**-3.0**
MTN				IAmb		IAmb	15 24 28.2	
	comp=Z,28nm,1.2s							
DLV	**T Lat**	**17.18**	**308**	Pn		**Pn**	**15 24 02.6**	**-2.0**
KNRA	**Kununurra**	**18.24**	**160**	P		**P**	**15 24 13.8**	**-3.4**
KNRA				IAmb		IAmb	15 24 51.9	
	comp=Z,29nm,1.6s							
FITZ	**Fitzroy Crossi**	**19.77**	**171**	P		**P**	**15 24 33.1**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=11,slow=10.0,SNR=2.9							
FITZ	**Fitzroy Crossi**	**19.77**	**171**	P		**P**	**15 24 32.5**	**-1.4**
WRAB	**Tennant Creek**	**24.37**	**152**	P		**P**	**15 25 21.5**	**-0.4**
WRA	**Warramunga Arr**	**24.37**	**152**	P		**P**	**15 25 21.4**	**-0.5**
	comp=Z,2.7nm,0.8s,baz=327,slow=10,SNR=8.3							
ASAR	**Alice Springs**	**27.46**	**156**	P		**P**	**15 25 51.0**	**+1.3**
	comp=Z,0.9nm,0.9s,baz=344,slow=14,SNR=7.3							
ASAR	**Alice Springs**	**27.46**	**156**	P		**P**	**15 25 49.1**	**-0.6**
JNU	**Nakatsue**	**32.45**	**13**	LR		LR	15 41 00.7	
	comp=Z,33nm,19.1s,baz=196,slow=39							
KSRS	**Korea Array**	**36.14**	**8**	LR		LR	15 42 14.1	
	comp=Z,44nm,20.4s,baz=211,slow=37							
MJAR	**Matsushiro Arr**	**37.83**	**21**	P		**P**	**15 27 19.8**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=203,slow=10,SNR=5.3							
ASAJ	**Asahikawa**	**46.09**	**20**	P		**P**	**15 28 28.9**	**+1.6**
	comp=Z,4.2nm,0.9s,baz=225,slow=11,SNR=5.3							
SONM	**Songino Array**	**48.16**	**346**	P		**P**	**15 28 44.7**	**+1.1**
	comp=Z,2.8nm,0.8s,baz=167,slow=8.7,SNR=11							
SONM	**Songino Array**	**48.16**	**346**	P		**P**	**15 28 44.7**	**+1.1**
MK31	**Makanchi Array**	**56.97**	**328**	P		**P**	**15 29 49.6**	**+0.9**
MKAR	**Makanchi Array**	**56.97**	**328**	P		**P**	**15 29 50.4**	**+1.6**
	comp=Z,1.3nm,0.6s,baz=127,slow=8.4,SNR=16							
MKAR	**Makanchi Array**	**56.97**	**328**	P		**P**	**15 29 49.5**	**+0.7**
KDJ	**Kajisay**	**57.17**	**321**	P		**P**	**15 29 51.1**	**+0.6**
KDJ				IAmb		IAmb	15 29 53.3	
	comp=Z,2.6nm,0.8s							
ZAA0	**Zalesovo Array**	**60.66**	**336**	P		**P**	**15 30 13.2**	**-1.0**
ZAA0				IAmb		IAmb	15 30 15.4	
	comp=Z,3.1nm,1.1s							
ZALV	**Zalesovo Beam**	**60.66**	**336**	P		**P**	**15 30 14.1**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=122,slow=5.4,SNR=4.5							
KURBB	**Kurchatov Arra**	**61.31**	**330**	P		**P**	**15 30 19.9**	**+1.2**
	comp=Z,2.6nm,0.8s,baz=126,slow=6.4,SNR=18							
KURK	**Kurchatov**	**61.33**	**330**	P		**P**	**15 30 19.2**	**+0.4**
KKAR	**Karatay Array**	**61.92**	**319**	P		**P**	**15 30 24.1**	**+1.0**
BRVK	**Borovoye**	**66.91**	**329**	P		**P**	**15 30 55.7**	**+0.3**
BRVK				IAmb		IAmb	15 30 57.5	
	comp=Z,2.9nm,1.0s							
ABKAR	**Akbulak array**	**71.11**	**322**	P		**P**	**15 31 21.9**	**+0.3**
VNDA	**Vanda**	**81.83**	**172**	P		**P**	**15 32 21.3**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=311,slow=5.0,SNR=3.6							

*JMA **19** 15:22:40.2±0.1,31.˚06N× 131.˚68E, h44km±1km, M3.4*
*NEIC **19** 15:22:41.5±1.2,31.˚01N±0.˚06× 131.˚47E±0.˚09, h45km±9km, mb4.6/10, Error ellipse: s-maj=12.1km s-min=7.0km az=127.0*
*IDC **19** 15:22:42.2±1.9,31.˚06N× 131.˚39E, h50km±18km, mb3.6/6, mb1 3.6/8, mb1mx3.3/38, mbtmp3.8/8, ML2.7/3, MS3.0/5, Ms1 3.0/5, ms1mx2.8/41, Error ellipse: s-maj=34.4km s-min=9.3km az=95.0*
ISC 19 15:22:41.0±1.1,**31.˚05N**±0.˚03×**131.˚63E**±0.˚07,**h45**km±10km, **n43**, σ1**911**/**54**,**mb4.1**/10,**9C**,**Kyushu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JNAR	**Kushima--Naru**	**0.56**	**327**	⇑P		**Pn**	**15 22 52.3**	**-0.5**
JNAR				*e*S		**Sn**	**15 23 01.0**	**-0.2**
JTSR	**Tashiro 2**	**0.61**	**281**	⇑P		**Pn**	**15 22 53.0**	**-0.5**
JTSR				*e*S		**Sn**	**15 23 03.0**	**+0.5**
JNKG	**Nichinankitago**	**0.64**	**341**	⇑P		**Pn**	**15 22 53.2**	**-0.7**
JNKG				*e*S		**Sn**	**15 23 02.7**	**-0.4**
JTN	**Tanegashima 3**	**0.68**	**235**	⇑P		**Pn**	**15 22 54.2**	**-0.2**
JTN				*e*S		**Sn**	**15 23 04.9**	**+0.9**
JMTN	**Minamitane**	**0.90**	**224**	P		**Pn**	**15 22 57.5**	**+0.1**
JMTN				*e*S		**Sn**	**15 23 10.4**	**+1.1**
JTZ	**Takazaki**	**0.96**	**332**	⇑P		**Pn**	**15 22 57.8**	**-0.4**
JTZ				*e*S		**Sn**	**15 23 10.3**	**-0.4**
JSU	**Suzuyama**	**1.10**	**295**	⇑P		**Pn**	**15 23 00.1**	**+0.1**
JSU				*e*S		**Sn**	**15 23 14.7**	**+0.6**
JTSN	**Tsuno**	**1.19**	**355**	⇑P		**Pn**	**15 23 00.8**	**-0.5**
JTSN				*e*S		**Sn**	**15 23 15.5**	**-0.9**
JYAK	**Yakushimahirau**	**1.26**	**230**	P		**Pn**	**15 23 02.9**	**+0.7**
JYAK				S		**Sn**	**15 23 19.3**	**+1.3**
JKC	**Kuchinoerabu**	**1.36**	**245**	⇑P		**Pn**	**15 23 03.8**	**+0.2**
JKC				S		**Sn**	**15 23 21.4**	**+0.9**
JZO	**Okuchi**	**1.39**	**321**	⇑P		**Pn**	**15 23 04.1**	**0.0**
JZO				*e*S		**Sn**	**15 23 22.1**	**+0.8**
JNU	**Nakatsue**	**2.16**	**343**	P		**Pn**	**15 23 14.8**	**+0.3**
	4.0nm,0.3s,baz=38,slow=0.8,SNR=45							
JNU				S		**Sn**	**15 23 40.7**	**+0.5**
	16nm,0.3s,baz=255,slow=22,SNR=9.0							
JNU				LR		LR	15 24 24.7	
	comp=Z,147nm,21.1s,baz=176,slow=49							
JOW	**Kunigami**	**5.13**	**216**	P		**Pn**	**15 23 54.9**	**-0.5**
	0.3nm,0.3s,baz=91,slow=20,SNR=7.9							
JOW				S		**Sn**	**15 24 52.2**	**-1.0**
	0.7nm,0.3s,baz=97,slow=27,SNR=8.9							
JOW	**Kunigami**	**5.13**	**216**			**Pn**	**15 23 54.0**	**-1.3**
JOW						**Sn**	**15 24 50.5**	**-2.8**
INU	**Inuyama**	**6.22**	**45**	Pn		**Pn**	**15 24 12.7**	**+2.4**
KSRS	**Korea Array**	**7.08**	**335**	P		**Pn**	**15 24 25.1**	**+3.1**
	0.4nm,0.3s,baz=149,slow=15,SNR=5.7							
KSRS				LR		LR	15 27 28.0	
	comp=Z,102nm,20.9s,baz=148,slow=41							
KSAR	**Wonju Array Be**	**7.08**	**335**	Pn		**Pn**	**15 24 23.9**	**+1.8**
KS19	**Wonju Array Si**	**7.14**	**335**			**Pn**	**15 24 24.4**	**+1.4**
JHJ	**Hachijo jima 2**	**7.22**	**71**	LR		LR	15 27 10.9	
	comp=Z,60nm,18.5s,baz=278,slow=36							
MAJO	**Matsushiro**	**7.74**	**43**	Pn		**Pn**	**15 24 31.3**	**+0.1**
MJB9	**Matsu-Tunnel**	**7.74**	**43**	Pn		**Pn**	**15 24 31.2**	**0.0**
KLR	**Kul'dur**	**18.16**	**0**	P		**Pn**	**15 26 50.2**	**+0.6**
	0.2nm,0.3s,baz=210,slow=8.1,SNR=4.4							
ULN	**Ulaanbaatar**	**25.17**	**319**	P		**P**	**15 28 02.3**	**0.0**
ULN				IAmb		IAmb	15 28 06.0	
	comp=Z,11nm,1.6s							
SONM	**Songino Array**	**25.53**	**318**	P		**P**	**15 28 05.3**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=134,slow=8.5,SNR=6.0							
SONM	**Songino Array**	**25.53**	**318**	P		**P**	**15 28 05.0**	**-0.5**
KKM	**Kota Kinabalu**	**28.78**	**213**	P		**P**	**15 28 32.5**	**-2.3**
FAKI	**Fak Fak**	**33.79**	**179**	P		**P**	**15 29 18.9**	**+0.2**
FAKI				IAmb		IAmb	15 29 32.5	
	comp=Z,9.8nm,1.1s							
ZALV	**Zalesovo Beam**	**40.43**	**318**	LR		LR	15 48 42.0	
	comp=Z,48nm,18.6s,baz=127,slow=39							
KURK	**Kurchatov**	**43.57**	**313**	P		**P**	**15 30 39.2**	**-1.3**
KURBB	**Kurchatov Arra**	**43.62**	**312**	P		**P**	**15 30 40.1**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=103,slow=8.3,SNR=4.2							
NRIK	**Noril'sk**	**45.68**	**340**	LR		LR	15 51 52.5	
	comp=Z,56nm,19.2s,baz=356,slow=38							
COEN	**Coen**	**46.11**	**164**	P		**P**	**15 31 01.1**	**+0.2**
KNRA	**Kununurra**	**46.54**	**184**	P		**P**	**15 31 05.7**	**+1.4**
KNRA				IAmb		IAmb	15 31 17.2	
	comp=Z,17nm,1.3s							
WRAB	**Tennant Creek**	**50.76**	**177**	P		**P**	**15 31 37.3**	**+0.7**
WRAB				IAmb		IAmb	15 32 09.7	
	comp=Z,16nm,1.4s							
WRA	**Warramunga Arr**	**50.77**	**177**	P		**P**	**15 31 37.2**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=354,slow=8.0,SNR=6.4							
AS31	**Alice Springs**	**54.45**	**177**	P		**P**	**15 32 06.6**	**+2.6**
ASAR	**Alice Springs**	**54.45**	**177**	P		**P**	**15 32 04.8**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=11,slow=13,SNR=17							
ASAR	**Alice Springs**	**54.45**	**177**	P		**P**	**15 32 04.6**	**+0.7**
ABKAR	**Akbulak array**	**55.63**	**311**	P		**P**	**15 32 12.0**	**-0.3**
STKA	**Stephens Creek**	**63.30**	**171**	P		**P**	**15 33 06.0**	**+0.9**
	comp=Z,1.6nm,0.6s,baz=355,slow=4.5,SNR=4.9							
STKA	**Stephens Creek**	**63.30**	**171**	P		**P**	**15 33 06.2**	**+1.1**
STKA				IAmb		IAmb	15 33 09.7	
	comp=Z,5.4nm,1.6s							
FINES	**FINESS Array B**	**70.15**	**331**	P		**P**	**15 33 48.2**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=79,slow=9.9,SNR=4.0							
FINES	**FINESS Array B**	**70.15**	**331**	P		**P**	**15 33 48.6**	**+0.2**

*IDC **19** 15:31:02.8±1.4,32.˚63N× 139.˚20E, h0km, mb3.4/2, mb1 3.6/3, mb1mx3.3/33, mbtmp3.3/3, ML2.3/1, Error ellipse: s-maj=38.7km s-min=14.9km az=120.0*
*JMA **19** 15:31:04.4±0.1,33.˚21N× 140.˚84E, h49km, M3.3*
ISC 19 15:31:04.2±1.9,**33.˚14N**±0.˚06×**140.˚9E**±0.˚1, **h43**km±24km, **n19**, σ1**902**/**24**, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.89**	**268**	P		**Pn**	**15 31 20.6**	**+0.4**
JHCJ	**Hachijojimakas**	**0.90**	**266**	P		**Pn**	**15 31 20.7**	**+0.3**
JHCJ				S		**Sn**	**15 31 31.7**	**-0.6**
JHJ	**Hachijo jima 2**	**0.91**	**269**	Pn		**Pn**	**15 31 20.7**	**+0.1**
	107nm,0.3s,baz=252,slow=19,SNR=35							
JHJ				Sn		**Sn**	**15 31 31.0**	**-1.5**
	140nm,0.3s,baz=124,slow=22,SNR=11							
JAOM	**Aogashimamukai**	**1.15**	**234**	P		**Pn**	**15 31 24.6**	**+0.7**
JAOM				*e*S		**Sn**	**15 31 39.0**	**+0.5**
JMKN	**Mikurajimanish**	**1.30**	**305**	P		**Pn**	**15 31 26.0**	**+0.1**
JMKN				*e*S		**Sn**	**15 31 41.2**	**-0.9**
BSO1	**Boso 1**	**1.51**	**3**	P		**Pn**	**15 31 28.3**	**+0.1**
BSO3	**Boso 3**	**1.68**	**350**	P		**Pn**	**15 31 31.0**	**+0.2**
BSO3				S		**Sn**	**15 31 51.1**	**+0.1**
JKO	**Kozu shima**	**1.78**	**306**	P		**Pn**	**15 31 33.0**	**+0.5**
JKO				*e*S		**Sn**	**15 31 53.8**	**-0.1**
BSO4	**Boso 4**	**1.89**	**347**	P		**Pn**	**15 31 34.2**	**+0.3**
JIM2	**Oshima 3**	**1.97**	**323**	*e*S		**Sn**	**15 31 57.2**	**-1.5**
JIZS	**Izushimoda**	**2.28**	**314**	P		**Pn**	**15 31 40.2**	**+0.9**
JOD2	**Odawara 2**	**2.58**	**326**	P		**Pn**	**15 31 43.8**	**+0.4**
JOD2				*e*S		**Sn**	**15 32 11.8**	**-1.8**
TK04	**Tokai 4**	**2.79**	**297**	P		**Pn**	**15 31 47.6**	**+1.5**
MJAR	**Matsushiro Arr**	**4.04**	**328**	Pn		**Pn**	**15 32 05.4**	**+2.0**
	0.2nm,0.3s,baz=159,slow=11,SNR=11							
MJAR				Sn		**Sn**	**15 32 51.2**	**+1.7**
	0.1nm,0.3s,baz=188,slow=8.2,SNR=2.0							
H11N2	**WAKE ISLAND Hy**	**26.77**	**113**	T		T	16 05 31.8	
	baz=308,slow=74,SNR=8.5							
H11N1	**WAKE ISLAND Hy**	**26.78**	**113**	T		T	16 05 33.7	
	baz=308							
H11N3	**WAKE ISLAND Hy**	**26.79**	**113**	T		T	16 05 31.3	
	baz=308,slow=74,SNR=3.1							
WRA	**Warramunga Arr**	**53.16**	**188**	P		**P**	**15 40 17.1**	**-0.8**
	0.3nm,0.5s,baz=3.5,slow=7.5,SNR=6.9							
ASAR	**Alice Springs**	**56.88**	**188**	P		**P**	**15 40 44.6**	**-0.2**
	0.2nm,0.5s,baz=4.0,slow=7.0,SNR=8.0							

*IDC **19** 15:31:16.5±1.2,67.˚50N× 22.˚73E, h0km, mb1 3.0/1, mb1mx2.8/36, mbtmp3.0/1, ML1.9/1, Error ellipse: s-maj=14.0km s-min=4.2km az=131.0*
*UPP **19** 15:31:17.8±0.2,67.˚43N× 23.˚36E, h0km, ML1.6, Explosion*
*HEL **19** 15:31:18.7±0.1,67.˚43N× 23.˚34E, h0km, ML1.6(UPP), Explosion*
*BER **19** 15:31:19.8±1.2,67.˚43N× 23.˚46E, h0km, ML1.4, Suspected explosion*
ISC 19 15:31:17.6±0.8,**67.˚43N**±0.˚02×**23.˚35E**±0.˚03, **h0**km, **n33**, σ0**956**/**45**, **Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PAJU	**Pajala**	**0.42**	**193**	P		**Pg**	**15 31 25.8**	**+0.2**
PAJU				S		**Sg**	**15 31 31.9**	**+0.9**
PAJU	**Pajala**	**0.42**	**193**	*i* P		**Pg**	**15 31 25.8**	**+0.2**
PAJU				*i* S		**Sg**	**15 31 31.9**	**+0.9**
MASU	**Masugnsbyn**	**0.52**	**273**	P		**Pg**	**15 31 27.8**	**+0.2**
MASU	**Masugnsbyn**	**0.52**	**273**	*i* P		**Pg**	**15 31 27.8**	**+0.2**
LANU	**Lannavaara**	**0.81**	**321**	P		**Pg**	**15 31 33.0**	**-0.1**
LANU	**Lannavaara**	**0.81**	**321**	*e*P		**Pg**	**15 31 33.0**	**-0.1**

baz=30
ULHL Ulahol 1.79 330 P Pn 15 38 52.5 -0.2
SNR=30
PRZ Przheval'sk 1.91 21⇑*i*P Pn 15 38 54.5 +0.1
baz=21
PRZ ⇑*i*S Sb 15 39 21.4 +0.7
baz=21
ANVS Anan'yevo 2.08 4⇑*i*P Pn 15 38 56.9 +0.1
baz=4.0
ANVS ⇑*i*S Sb 15 39 25.3 -0.3
baz=4.0
BOOM Boomskoye usch 2.11 328⇑*i*P Pn 15 38 57.6 +0.4
baz=29
BOOM ⇑*i*S Sb 15 39 26.3 -0.2
baz=29
KZA Kyzart 2.15 310⇑*i*P Pn 15 38 58.1 +0.2
baz=11
KZA ⇑*i*S Sb 15 39 27.2 -0.6
baz=11
KZA Kyzart 2.15 310 P Pn 15 38 58.7 +0.8
SNR=25
TNSS Tian-Shan 2.36 351 *e*P Pb 15 39 03.2 -1.3
83nm,0.5s
TNSS *e*S Sg 15 39 36.3 -1.2
70nm,0.8s
TNSS Tian-Shan 2.36 351 Pg Pb 15 39 03.2 -1.3
83nm,0.5s
TNSS Lg Lg 15 39 36.3
70nm,0.8s
IZV Izvestkoviy 2.41 345 *e*P Pb 15 39 04.2 -1.0
43nm,0.5s
IZV *e*S Sg 15 39 37.5 -1.5
39nm,0.5s
IZV Izvestkoviy 2.41 345 Pg Pb 15 39 04.2 -1.0
43nm,0.5s
IZV Lg Lg 15 39 37.5
39nm,0.5s
SATY Saty 2.45 17 *e*P Pb 15 39 04.4 -1.5
15nm,0.5s
SATY *e*S Sb 15 39 38.2 +1.9
86nm,0.6s
SATY Saty 2.45 17 Pg Pb 15 39 04.4 -1.5
15nm,0.5s
SATY Lg Lg 15 39 38.2
86nm,0.6s
MDOK Medeo 2.47 353 *e*P Pb 15 39 04.6 -1.7
21nm,0.2s
MDOK *e*S Sb 15 39 38.7 +1.8
66nm,0.7s
MDOK Medeo 2.47 353 Pg Pb 15 39 06.2 -0.1
39nm,1.0s
MDOK Lg Lg 15 39 41.4
37nm,0.5s
MDOK Medeo 2.47 353 Pg Pb 15 39 04.6 -1.7
21nm,0.2s
MDOK Lg Lg 15 39 38.7
66nm,0.7s
AAA Alma-Ata 2.53 351 *e*P Pb 15 39 06.6 -0.6
106nm,0.2s
AAA *e*S Sg 15 39 41.8 -1.1
63nm,0.3s
AAA Alma-Ata 2.53 351 Pg Pb 15 39 06.6 -0.6
106nm,0.2s
AAA Lg Lg 15 39 41.8
63nm,0.3s
KNDC Almaty 2.53 352 ⇑Pg Pb 15 39 06.8 -0.4
31nm,0.4s
KNDC ⇓Lg Lg 15 39 43.4
110nm,0.7s
KOTS Kotyrbulak 2.54 354 *e*P Pb 15 39 06.4 -1.0
124nm,0.3s
KOTS *e*S Sg 15 39 41.7 -1.5
102nm,0.4s
KOTS Kotyrbulak 2.54 354 Pg Pb 15 39 06.4 -1.0
101nm,0.4s
KOTS Lg Lg 15 39 41.7
102nm,0.4s
MTBS Maitube 2.54 343 *e*P Pb 15 39 06.0 -1.3
23nm,0.3s
MTBS *e*S Sb 15 39 41.2 +2.6
27nm,0.3s
MTBS Maitube 2.54 343 Pg Pb 15 39 06.0 -1.3
23nm,0.3s
MTBS Lg Lg 15 39 41.2
27nm,0.3s
KST Kastek 2.58 335 *e*P Pb 15 39 07.0 -1.2
18nm,0.4s
KST *e*S Sb 15 39 42.8 +2.7
29nm,0.6s
KST Kastek 2.58 335 Pg Pb 15 39 07.0 -1.2
18nm,0.4s
KST Lg Lg 15 39 42.7
29nm,0.6s
TKM2 Tokmak 2 2.61 328⇓*i*P Pn 15 39 04.5 +0.4
baz=29
TKM2 ⇓*i*S Sn 15 39 38.3 +2.3
baz=29
TKM2 Tokmak 2 2.61 328 P Pb 15 39 07.5 -1.2
SNR=21
TKM2 Tokmak 2 2.61 328 ⇑Pn Pn 15 39 05.7 +1.6
11nm,0.5s
TKM2 ⇑Lg Lg 15 39 43.9
28nm,0.9s
UCH Uchtor 2.68 305⇑*i*P Pn 15 39 05.5 +0.2
baz=6.0
UCH ⇑*i*S Sn 15 39 40.0 +2.0
baz=6.0
UCH Uchtor 2.68 305 P Pb 15 39 08.5 -1.5
SNR=13
UZB Uzynbulak 2.70 25 *e*P Pb 15 39 08.7 -1.5
9.5nm,0.5s
UZB *e*S Sb 15 39 45.8 +2.4
44nm,0.6s
UZB Uzynbulak 2.70 25 Pg Pb 15 39 08.7 -1.5
9.5nm,0.5s
UZB Lg Lg 15 39 45.8
44nm,0.6s
DGS Degeres 2.83 334 *e*P Pb 15 39 11.2 -1.0
26nm,0.5s
DGS *e*S Sb 15 39 49.8 +2.8
20nm,0.6s
DGS Degeres 2.83 334 Pg Pb 15 39 11.2 -1.0
26nm,0.5s
DGS Lg Lg 15 39 49.8
20nm,0.6s
KURS Kuram 2.83 11 *e*P Pb 15 39 11.1 -1.2
14nm,0.7s
KURS *e*S Sb 15 39 49.6 +2.6
23nm,0.5s
KURS Kuram 2.83 11 Pg Pb 15 39 11.1 -1.2
14nm,0.7s
KURS Lg Lg 15 39 49.6
23nm,0.5s
SHLS Shalkode 2.87 31 *e*P Pg 15 39 15.2 -1.4
14nm,0.3s
SHLS *e*S Sg 15 39 56.9 +3.1
80nm,0.6s
SHLS Shalkode 2.87 31 Pg Pg 15 39 15.2 -1.4
14nm,0.3s
SHLS Lg Lg 15 39 56.9
80nm,0.6s
KPKS Kokpek 2.90 18 *e*P Pb 15 39 12.3 -1.2
18nm,0.6s
KPKS *e*S Sb 15 39 52.0 +2.8
85nm,0.4s
AAK Ala-Archa 2.94 312⇑*i*P Pn 15 39 08.9 +0.4
baz=13
AAK ⇑*i*S Sn 15 39 45.8 +1.8
baz=13
AAK Ala-Archa 2.94 312 P Pb 15 39 13.5 -0.7
SNR=8.3
AAK Ala-Archa 2.94 312 Pg Pb 15 39 13.4 -0.8
13nm,0.7s
AAK Lg Lg 15 39 52.6
34nm,0.9s
CHMS Chumysh 3.05 319⇑*i*P Pn 15 39 10.3 +0.3
baz=20
CHMS ⇑*i*S Sn 15 39 48.4 +1.8
baz=20
KTBS Karatobe 3.06 349 *e*P Pb 15 39 15.1 -1.0
15nm,0.4s
KTBS *e*S Sb 15 39 57.0 +3.5
62nm,0.6s
KTBS Karatobe 3.06 349 Pg Pb 15 39 15.4 -0.7
15nm,0.4s
KTBS Lg Lg 15 39 57.3
62nm,0.6s
CHKK Chushkaly 3.16 354 *e*P Pb 15 39 17.1 -0.8
11nm,0.3s
CHKK *e*S Sb 15 40 00.0 +3.5
54nm,0.7s
CHKK Chushkaly 3.16 354 Pg Pb 15 39 17.1 -0.8
11nm,0.3s
CHKK Lg Lg 15 40 00.0
54nm,0.7s
AML Almayashu 3.17 298⇑*i*P Pn 15 39 12.0 +0.1
baz=99
AML ⇑*i*S Sn 15 39 51.4 +1.5
baz=99
AML Almayashu 3.17 298 P Pb 15 39 17.4 -0.8
SNR=10
KRBS Karabastau 3.27 337 *e*P Pb 15 39 19.1 -0.6
11nm,0.3s
KRBS *e*S Sb 15 40 03.3 +3.8
17nm,0.6s
KRBS Karabastau 3.27 337 Pg Pb 15 39 19.1 -0.6
11nm,0.3s
KRBS Lg Lg 15 40 03.4
17nm,0.6s
KUU Kurty 3.29 346 *e*P Pb 15 39 19.1 -0.9
5.2nm,0.3s
KUU *e*S Sb 15 40 03.6 +3.4
26nm,0.4s
KUU Kurty 3.29 346 Pg Pb 15 39 19.1 -0.9
5.2nm,0.3s
KUU Lg Lg 15 40 03.6
26nm,0.4s
EKS2 Erkin-Say 3.38 307⇑*i*P Pn 15 39 14.8 +0.3
baz=7.0
EKS2 ⇑*i*S Sn 15 39 56.3 +1.6
baz=7.0
USP Ospenovka 3.38 320 P Pb 15 39 20.8 -0.7
SNR=30
ARSB Arslanbob 3.44 282⇑*i*P Pn 15 39 15.5 +0.1
baz=83
ARSB ⇑*i*S Sn 15 39 57.2 +0.9
baz=83
SGDS Sogindy 3.46 323 Pg Pb 15 39 22.4 -0.5
30nm,0.5s
SGDS Lg Lg 15 40 09.3
8.8nm,0.4s
KTMS Ketmen 3.48 37 *e*P Pb 15 39 22.8 -0.7
0.4nm,0.1s
KTMS *e*S Sg 15 40 09.7 -3.9
34nm,0.7s
KTMS Ketmen 3.48 37 Pg Pb 15 39 22.8 -0.7
0.4nm,0.1s
KTMS Lg Lg 15 40 09.7
34nm,0.7s
ARXS Arharly 3.51 4 *e*P Pb 15 39 23.1 -0.8
12nm,0.6s
ARXS *e*S Sb 15 40 10.2 +3.5
42nm,0.5s
ARXS Arharly 3.51 4 Pg Pb 15 39 23.1 -0.8
12nm,0.6s
ARXS Lg Lg 15 40 10.3
42nm,0.5s
MRKS Merke 3.76 304 *e*P Pb 15 39 27.8 -0.4
5.7nm,0.6s
MRKS *e*S Sg 15 40 18.8 -3.6
6.0nm,0.5s
MRKS Merke 3.76 304 Pg Pb 15 39 27.9 -0.3
5.7nm,0.6s
MRKS Lg Lg 15 40 18.8
6.0nm,0.5s
DJR Jarkent 4.01 25 *e*P Pb 15 39 31.8 -0.6
4.5nm,0.3s
DJR *e*S Sb 15 40 25.1 +4.0
18nm,0.5s
DJR Jarkent 4.01 25 Pg Pb 15 39 31.8 -0.6
4.5nm,0.3s
DJR Lg Lg 15 40 25.0
18nm,0.5s
TDK Taldyqorghan 4.35 9 *e*P Pb 15 39 38.8 +0.6
41nm,0.1s
TDK *e*S Sg 15 40 37.4 -3.9
42nm,0.3s
KAPS Kapalarasan 4.78 16 *e*P Pb 15 39 45.9 +0.4
1.7nm,0.3s
KAPS *e*S Sb 15 40 49.2 +6.0
3.8nm,0.8s
KAPS Kapalarasan 4.78 16 Pg Pb 15 39 45.9 +0.4
1.7nm,0.3s
KAPS Lg Lg 15 40 49.2
3.8nm,0.8s
KK31 Karatay Array 5.71 297 ⇑Pg Pb 15 40 03.5 +2.2
0.8nm,0.5s,baz=121,slow=18,SNR=3.7
KK31 ⇓Lg Lg 15 41 17.9
2.6nm,0.8s,baz=130,slow=30

IDC 19 15:44:52.5±2.2, 0.08N×129.49E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/35, mbtmp3.6/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/26, Error ellipse: s-maj=133.5km s-min=26.2km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**16.30**	**329**	LR	LR	15 55 60.0	
	comp=Z,1nm,20.9s,baz=96,slow=41						
WRA	**Warramunga Arr**	**20.46**	**167**	P	P	15 49 31.6	-0.3
	0.9nm,0.6s,baz=347,slow=11,SNR=10						
ASAR	**Alice Springs**	**23.99**	**170**	P	P	15 50 09.3	+0.2
	2.3nm,0.8s,baz=353,slow=11,SNR=24						
MKAR	**Makanchi Array**	**62.11**	**325**	P	P	15 55 15.3	-0.1
	0.4nm,0.6s,baz=112,slow=9.1,SNR=5.7						

IDC 19 16:02:20.7±8.3, 30.48S×177.93W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/25, mbtmp3.5/2, Error ellipse: s-maj=355.4km s-min=56.4km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.17**	**267**	P	P	16 10 23.6	+0.2
	0.3nm,0.5s,baz=106,slow=6.9,SNR=9.2						
WRA	**Warramunga Arr**	**44.16**	**272**	P	P	16 10 30.9	-0.6
	0.6nm,0.6s,baz=113,slow=7.6,SNR=4.6						
FINES	**FINESS Array B**	**145.24**	**340**	PKPbc	PKPbc	16 21 58.5	-0.8
	1.2nm,0.5s,baz=27,slow=4.1,SNR=8.5						

WEL 19 16:06:17.7, 40°S±9°×17°4E±1°2, h174km±14km, M2.7/13, MLv2.7/13, Error ellipse: s-maj=0.0km s-min=0.0km az=125.5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUWZ	**D'Urville Isla**	**0.71**	**156**	P	Pn	16 06 43.4	+0.4
QRZ	**Quartz Range**	**1.03**	**229**	P	Pn	16 06 45.5	+0.5
NNZ	**Nelson**	**1.07**	**187**	P	Pn	16 06 45.8	+0.4
TCW	**Tory Channel**	**1.20**	**152**	P	Pn	16 06 46.9	+0.6
KIW	**Kapiti Island**	**1.26**	**125**	P	Pn	16 06 47.1	+0.1
TUWZ	**Tuamarina**	**1.31**	**167**	P	Pn	16 06 47.8	+0.4
OGWZ	**Otaki Gorge**	**1.41**	**119**	P	Pn	16 06 48.4	+0.2
CAW	**Cannon Point**	**1.50**	**130**	P	Pn	16 06 49.6	+0.4
BSWZ	**Blackbirch Sta**	**1.58**	**171**	P	Pn	16 06 51.1	+1.1
HOWZ	**Holdsworth Sta**	**1.68**	**117**	P	Pn	16 06 50.9	-0.1
THZ	**Tophouse**	**1.68**	**197**	P	Pn	16 06 51.5	+0.5
MTW	**Mount Morrison**	**1.80**	**125**	P	Pn	16 06 52.2	0.0
PLWZ	**Palliser**	**1.92**	**138**	P	Pn	16 06 53.4	-0.2
DSZ	**Denniston Nort**	**2.07**	**219**	P	Pn	16 06 55.7	+0.6
KHZ	**Kahutara**	**2.26**	**180**	P	Pn	16 06 57.6	+0.4
LTZ	**Lake Taylor**	**2.80**	**200**	P	Pn	16 07 04.0	+0.4
GVZ	**Greta Valley S**	**2.84**	**188**	P	Pn	16 07 03.5	-0.6

*IDC **19** 16:07:23.9±2.1, 34.04N×138.98E, h0km, mb3.4/3, mb1 3.5/4, mb1mx3.3/53, mbtmp3.3/4, ML2.4/1, Error ellipse: s-maj=77.1km s-min=25.5km az=75.0*
*JMA **19** 16:07:27.0±0.2, 34.61N×140.17E, h57km±2km, M2.8*
ISC 19 16:07:27.3±1.0, 34.62N±0.05×140.17E±0.05, h59km±8km, n22, σ0963/30, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.33**	**57**	P	Pn	**16 07 37.3**	**+0.1**
BSO3				*e*X		16 07 45.7	
BSO4	**Boso 4**	**0.39**	**20**	P	Pn	**16 07 38.1**	**+0.2**
BSO4				*e*X		16 07 46.7	
TATJ	**Tateyama 2**	**0.47**	**331**	P	Pn	**16 07 39.3**	**+0.5**
TATJ				*e*S	Sn	**16 07 48.6**	**+1.4**
JKUC	**kamogawauchiur**	**0.54**	**2**	P	Pn	**16 07 39.2**	**-0.3**
JKUC				S	Sn	**16 07 48.1**	**-0.4**
KTR	**Katsuura**	**0.54**	**13**	P	Pn	**16 07 39.4**	**-0.1**
KTR				S	Sn	**16 07 48.3**	**-0.2**
JIM2	**Oshima 3**	**0.62**	**279**	P	Pn	**16 07 40.2**	**-0.3**
JIM2				S	Sn	**16 07 49.5**	**-0.6**
BSO1	**Boso 1**	**0.67**	**87**	P	Pn	**16 07 40.3**	**-0.1**
JTHY	**Toshimahigashi**	**0.73**	**263**	P	Pn	**16 07 42.2**	**+0.4**
JTHY				*e*S	Sn	**16 07 52.8**	**+0.3**
JMKN	**Mikurajimanish**	**0.87**	**214**	P	Pn	**16 07 43.9**	**+0.3**
JMKN				S	Sn	**16 07 55.7**	**+0.2**
JKO	**Kozu shima**	**0.96**	**244**	P	Pn	**16 07 45.2**	**+0.5**
KTJ3	**Kamata3**	**0.96**	**289**	P	Pn	**16 07 44.1**	**-0.6**
KTJ3				*e*S	Sn	**16 07 56.1**	**-1.5**
JIZS	**Izushimoda**	**1.07**	**276**	P	Pn	**16 07 46.0**	**-0.1**
JOD2	**Odawara 2**	**1.10**	**306**	P	Pn	**16 07 46.0**	**-0.5**
JOD2				S	Sn	**16 07 59.8**	**-1.1**
JFNN	**Fujinakano**	**1.35**	**296**	P	Pn	**16 07 50.2**	**+0.3**
JFNN				*e*S	Sn	**16 08 06.8**	**0.0**
MJAR	**Matsushiro Arr**	**2.50**	**321**	Pn	Pn	**16 08 06.2**	**+0.7**
	0.8nm,0.3s,baz=171,slow=15,SNR=23						
MJAR				Sn	Sn	**16 08 35.0**	**+0.2**
	1.3nm,0.3s,baz=143,slow=17,SNR=14						
MAT	**Matsushiro**	**2.50**	**321**	P	Pn	**16 08 06.6**	**+1.1**
MAT				S	Sn	**16 08 35.0**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**27.91**	**115**	T	T	16 42 58.1	
	baz=308,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**27.91**	**115**	T	T	16 42 59.8	
	baz=308,slow=75,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**27.93**	**115**	T	T	16 42 59.2	
	baz=308,slow=75,SNR=10.0						
MKAR	**Makanchi Array**	**44.59**	**304**	P	**P**	**16 15 34.0**	**+0.4**
	0.4nm,0.5s,baz=81,slow=10,SNR=5.0						
WRA	**Warramunga Arr**	**54.54**	**187**	P	**P**	**16 16 48.8**	**-0.6**
	0.8nm,1.0s,baz=3.5,slow=7.8,SNR=1.9						
ASAR	**Alice Springs**	**58.27**	**187**	P	**P**	**16 17 15.6**	**-0.3**
	0.5nm,1.1s,baz=24,slow=9.9,SNR=2.0						

*IDC **19** 16:12:59.5±1.2, 28.95N×51.39E, h0km, mb3.9/7, mb1 3.8/9, mb1mx3.6/41, mbtmp3.8/9, ML3.3/2, Error ellipse: s-maj=29.4km s-min=23.8km az=178.0*
*TEH **19** 16:13:00.9, 28.85N×51.27E, h8km, ML3.4*
ISC 19 16:13:01.9±0.8, 28.79N±0.07×51.31E±0.06, h17km, n24, σ1945/26, mb3.9/7, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHI	**Shiraz**	**1.35**	**51**	*e*Pg	**Pb**	**16 13 26.9**	**0.0**
SHI				*e*		16 13 29.2	
SHI				*e*Sg	**Sg**	**16 13 46.0**	**+0.3**
JHRM	**Jahrom**	**2.02**	**98**	*e*Pn	**Pb**	**16 13 37.9**	**-0.3**
KLNJ	**Kolanjah**	**2.22**	**6**	*e*Pn	**Pn**	**16 13 39.3**	**+1.0**
KLNJ				*e*		16 14 20.2	
IRAM	**Rameshe h**	**3.15**	**17**	*e*Pn	**Pn**	**16 13 51.9**	**+1.0**
JHBN	**Jahan bin**	**3.47**	**351**	*e*Pn	**Pn**	**16 13 56.4**	**+0.9**
IMEH	**Mehriz**	**3.86**	**47**	*e*Pn	**Pn**	**16 14 03.5**	**+2.7**
IZEF	**Zefreh**	**4.18**	**12**	*e*Pn	**Pn**	**16 14 06.2**	**+1.0**
KHGB	**Koh Gabri**	**4.77**	**69**	*e*Pn	**Pn**	**16 14 15.4**	**+2.1**
KHGB				*e*		16 14 34.3	
NGRK	**Negar Kerman**	**4.82**	**79**	*e*Pn	**Pn**	**16 14 16.8**	**+2.8**
NGRK				*e*		16 15 14.8	
ANAR	**Anarak**	**4.85**	**25**	*e*Pn	**Pn**	**16 14 16.0**	**+1.7**
ISFB	**Sefidab**	**5.60**	**8**	*e*Pn	**Pn**	**16 14 25.0**	**+0.5**
KHNJ	**Kahnooj**	**5.70**	**97**	*e*Pn	**Pn**	**16 14 27.5**	**+1.6**
HSAM	**Samen**	**5.87**	**338**	*e*Pn	**Pn**	**16 14 29.6**	**+1.1**
IQOM	**Qom**	**6.03**	**358**	*e*Pn	**Pn**	**16 14 30.9**	**+0.3**
IVRN	**Varamin**	**6.19**	**3**	*e*Pn	**Pn**	**16 14 33.3**	**+0.6**
WSAR	**Wadi Sarin**	**8.60**	**128**	Pn	**Pn**	**16 15 06.2**	**+0.5**
	0.4nm,0.3s,baz=198,slow=13,SNR=1.6						
WSAR				Sn	**Sn**	**16 16 40.5**	**-1.9**
	0.7nm,0.3s,baz=62,slow=16,SNR=4.2						
BRTR	**Keskin Array B**	**18.19**	**311**	P	**Pn**	**16 17 13.6**	**-0.2**
	0.1nm,0.3s,baz=132,slow=14,SNR=2.3						
MKAR	**Makanchi Array**	**30.10**	**45**	P	**P**	**16 19 10.7**	**+0.2**
	0.3nm,0.5s,baz=242,slow=9.6,SNR=5.0						
ZALV	**Zalesovo Beam**	**35.01**	**35**	P	**P**	**16 19 51.7**	**-1.6**
	0.3nm,0.4s,baz=260,slow=5.7,SNR=1.8						
FINES	**FINESS Array B**	**36.70**	**340**	P	**P**	**16 20 05.5**	**-2.2**
	3.6nm,1.1s,baz=139,slow=11,SNR=2.1						
HFS	**Hagfors**	**40.28**	**332**	P	**P**	**16 20 36.9**	**-1.0**
	1.7nm,0.7s,baz=115,slow=10,SNR=1.9						
TORD	**Torodi Ar. Bea**	**48.52**	**262**	P	**P**	**16 21 45.3**	**+1.0**
	0.9nm,0.8s,baz=53,slow=6.9,SNR=4.2						
DBIC	**Dimbokro**	**57.26**	**259**	P	**P**	**16 22 50.5**	**+1.6**
	5.5nm,1.0s,baz=60,slow=8.1,SNR=2.3						
ASAR	**Alice Springs**	**95.03**	**114**	P	**P**	**16 26 22.9**	**-1.2**
	0.1nm,0.5s,baz=318,slow=4.0,SNR=1.4						

*NNC **19** 16:42:40.7±3.7, 34.91N×69.81E, h0km, mb4.4, mpv4.4, Error ellipse: s-maj=28.8km s-min=18.6km az=9.0*
*IDC **19** 16:42:42.9±3.6, 34.69N×70.00E, h79km±33km, mb3.5/9, mb1 3.6/13, mb1mx3.3/51, mbtmp3.8/13, MS3.1/2, Ms1 3.1/2, ms1mx2.5/31, Error ellipse: s-maj=24.4km s-min=18.6km az=12.0*
ISC 19 16:42:33.4±0.7, 34.39N±0.05×69.77E±0.06, h10km, n62, σ2543/75, mb3.8/9, 6C-4D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**1.87**	**107**	⇑P	**Pg**	**16 43 10.8**	**+1.5**
CEP				S	**Sg**	**16 43 39.0**	**+5.5**
THW	**Thamme Wali**	**2.29**	**133**	P	**Pg**	**16 43 17.6**	**+0.2**
CHWP	**Chirah Chowk**	**3.00**	**103**	⇑P	**Pb**	**16 43 25.6**	**-1.3**
JMU	**Jammu**	**4.60**	**110**	*e*P	**Pg**	**16 44 00.0**	**-1.6**
JMU				*e*S	**Sn**	**16 44 30.5**	**-6.0**
THN	**Thein Dam**	**5.35**	**110**	*e*P	Pn	16 43 59.0	+5.7
THN				*ex*	**Sn**	**16 45 01.5**	**+6.6**
SMLA	**Simla**	**7.03**	**116**	*e*P	**Pn**	**16 44 19.1**	**+2.6**
SMLA				*e*S	**Sn**	**16 45 38.7**	**+2.2**
SMLA				IAML		16 45 44.6	
	comp=E,172nm,0.6s						
SMLA				IAML		16 45 44.6	
	comp=N,190nm,0.3s						
IUG	**Iuzhnay**	**7.74**	**1**	*i*P	**Pn**	**16 44 28.1**	**+1.8**
	comp=N,2.8nm,0.8s,baz=0.5						
IUG				*e*S	**Sn**	**16 45 52.0**	**-2.1**
	baz=0.5						
CHM	**Chimkent**	**7.91**	**359**	*e*P	**Pn**	**16 44 30.7**	**+2.2**
	comp=N,6.0nm,0.7s,baz=358						
CHM				*e*S	**Sn**	**16 45 56.8**	**-1.3**
	baz=358						
DDI	**Dehra Dun**	**8.10**	**118**	*e*S	**Sn**	**16 46 02.0**	**-0.9**
AML	**Almayashu**	**8.32**	**21**	P	**Pn**	**16 44 36.7**	**+2.2**
	SNR=29						
NDI	**New Delhi**	**8.53**	**130**	*e*P	**Pn**	**16 44 40.0**	**+2.9**
NDI				*e*S	**Sn**	**16 46 15.0**	**+1.6**
DZA	**Taraz**	**8.57**	**8**	*e*P	**Pn**	**16 44 39.6**	**+2.0**
	comp=N,7.5nm,0.6s,baz=7.3						
DZA				*e*S	**Sn**	**16 46 11.9**	**-2.5**
	baz=7.3						
UCH	**Uchtor**	**8.66**	**24**	P	**Pn**	**16 44 41.3**	**+2.1**
	SNR=6.8						
KK31	**Karatay Array**	**8.72**	**4**	P	**Pn**	**16 44 40.0**	**+0.5**
	comp=N,4.9nm,0.3s,baz=194,slow=15,SNR=70						
KK31				⇑S	**Sn**	**16 46 13.5**	**-4.4**
	comp=N,6.2nm,0.5s,baz=189,slow=21,SNR=5.0						
KZA	**Kyzart**	**8.80**	**28**	P	**Pn**	**16 44 43.9**	**+2.9**
	SNR=10						
EKS2	**Erkin-Say**	**8.83**	**20**	P	**Pn**	**16 44 43.3**	**+2.0**
	SNR=13						
AAK	**Ala-Archa**	**9.02**	**23**	P	**Pn**	**16 44 45.7**	**+1.8**
	comp=N,2.3nm,0.3s,baz=188,slow=6.1,SNR=16						
AAK				S	**Sn**	**16 46 24.5**	**-1.1**
	comp=N,1.5nm,0.3s,baz=312,slow=22,SNR=4.0						
AAK	**Ala-Archa**	**9.02**	**23**	P	**Pn**	**16 44 46.8**	**+2.9**
	SNR=8.8						
AAK	**Ala-Archa**	**9.02**	**23**	⇓P	**Pn**	**16 44 46.7**	**+2.8**
	comp=N,12nm,0.6s						
AAK				S	**Sn**	**16 46 24.8**	**-0.9**
	comp=N,22nm,0.6s						
CHMS	**Chumysh**	**9.43**	**23**	P	**Pn**	**16 44 51.3**	**+1.9**
	SNR=22						
TKM2	**Tokmak 2**	**9.65**	**26**	P	**Pn**	**16 44 56.5**	**+3.9**
	SNR=16						
TKM2	**Tokmak 2**	**9.65**	**26**	⇓P	**Pn**	**16 44 55.9**	**+3.3**
	comp=N,12nm,0.7s						
TKM2				⇑S	**Sn**	**16 46 39.2**	**-2.0**
	comp=N,13nm,0.8s						
SGDS	**Sogindy**	**9.80**	**21**	*e*P	**Pn**	**16 44 56.3**	**+1.8**
	comp=N,3.5nm,0.7s,baz=22						
SGDS				*e*S	**Sn**	**16 46 42.2**	**-2.5**
	baz=22						
GEYT	**Alibeck**	**10.06**	**294**	P	Pn	16 45 05.6	+7.6

comp=N,0.4nm,0.3s,baz=114,slow=15,SNR=4.4
GEYT LR LR 16 49 39.9
comp=N,68nm,18.4s,baz=80,slow=41
MTBS Maitube 10.15 29 *e*P **Pn 16 45 00.4 +1.1**
baz=30
MDOK Medeo 10.43 31 *e*P **Pn 16 45 04.8 +1.6**
baz=32
KUU Kurty 10.77 26 *e*P **Pn 16 45 10.0 +2.4**
comp=N,2.7nm,0.6s,baz=27
SATY Saty 10.97 35 *e*P **Pn 16 45 11.6 +1.1**
comp=N,1.2nm,1.4s,baz=36
CHKK Chushkaly 10.98 29 *e*P **Pn 16 45 11.9 +1.4**
baz=29
BTLS Baital 11.13 16 *e*P **Pn 16 45 16.0 +3.4**
comp=N,0.6nm,0.7s,baz=16
UZB Uzynbulak 11.33 37 *e*P **Pn 16 45 17.9 +2.4**
comp=N,0.7nm,0.7s,baz=38
SHLS Shalkode 11.56 38 *e*P Pn 16 45 24.8 +6.2
comp=N,0.8nm,0.7s,baz=40
BHPL Bhopal 12.98 147 *ex* **Pn 16 45 37.6 -0.4**
BHPL *eS* **Sn 16 47 58.7 -3.8**
BHPL *ex* **Sn 16 48 01.0 -1.5**
BHPL IAML 16 48 03.6
comp=E,23nm,0.0s
BHPL IAML 16 48 04.2
comp=N,15nm,0.1s
DANN Dangsing 13.38 113 *e*P **Pn 16 45 43.7 0.0**
comp=N,18nm,0.2s
KOLN Koldanda 13.56 115 *e*P **Pn 16 45 46.0 -0.1**
comp=N,22nm,0.3s
GKN Gorkha 14.23 113 *e*P **Pn 16 45 54.4 -0.7**
comp=N,29nm,0.3s
DMN Daman 14.78 113 *e*P **Pn 16 46 00.7 -2.2**
comp=N,21nm,0.4s
KKN Kakani 14.82 112 *e*P **Pn 16 46 01.8 -1.6**
comp=N,1.2nm,0.5s
PKIN Phulchoki 15.02 113 *e*P **Pn 16 46 04.0 -2.1**
comp=N,42nm,0.5s
PKI Pulchoki 15.03 113 *e*P **Pn 16 46 04.1 -2.2**
comp=N,45nm,0.5s
GUN Gumba 15.23 111 *e*P **Pn 16 46 07.1 -1.8**
comp=N,15nm,0.3s
NGP Nagpur 15.53 146 *e*P **P 16 46 14.8 -2.1**
NGP IAmb IAmb 16 46 19.6
comp=Z,7.5nm,0.7s
NGP *e*S **Sn 16 48 58.2 -6.5**
JIRN Jiri 15.59 111 *e*P **Pn 16 46 11.9 -1.8**
comp=Z,70nm,0.4s
MKAR Makanchi Array 15.59 34 P **Pn 16 46 11.7 -1.5**
comp=Z,0.2nm,0.3s,baz=216,slow=12,SNR=10
RAMN Ramite 16.26 113 *e*P **Pn 16 46 19.7 -2.5**
comp=Z,12nm,0.4s
AB01 Akbulak array 16.53 337 ⇓P **P 16 46 27.8 -0.1**
comp=Z,2.9nm,0.7s
AB31 Akbulak array 16.53 337 ⇓S **Sn 16 49 28.9 +0.1**
comp=Z,1.8nm,0.7s
ODAN Odare 16.91 112 *e*P **Pn 16 46 28.8 -1.7**
comp=Z,22nm,0.5s
TAPN Taplejung 16.92 110 *e*P **Pn 16 46 29.1 -1.5**
comp=Z,13nm,0.3s
KURBB Kurchatov Arra 17.44 19 P **Pn 16 46 36.5 -0.2**
comp=Z,0.1nm,0.3s,baz=208,slow=9.6,SNR=12
AKTO Aktyubinsk 18.19 335 ⇑P **P 16 46 46.7 +0.5**
comp=Z,3.4nm,0.7s
AKTO ⇑S **Sn 16 50 09.2 +0.3**
comp=Z,3.4nm,1.1s
BVAR Borovoye Array 18.63 1 P **P 16 46 48.0 -3.0**
comp=Z,0.3nm,0.3s,baz=187,slow=9.7,SNR=5.5
ZALV Zalesovo Beam 22.25 24 P **P 16 47 27.9 -2.4**
comp=Z,1.9nm,0.4s,baz=216,slow=10,SNR=9.0
ARU Arti 23.34 344 P **P 16 47 40.5 -1.2**
comp=Z,0.3nm,0.3s,baz=142,slow=19,SNR=1.8
KIRV Kirov 27.74 337 LR LR 17 02 05.6
comp=Z,46nm,18.1s,baz=322,slow=42
SONM Songino Array 30.39 53 P **P 16 48 45.8 +0.1**
comp=Z,0.5nm,0.6s,baz=253,slow=8.9,SNR=2.4
CMAR Chiang Mai Arr 30.43 114 P **P 16 48 47.9 +1.7**
comp=Z,0.9nm,0.9s,baz=301,slow=9.0,SNR=4.5
FINES FINESS Array B 38.70 328 P **P 16 49 57.6 +0.4**
comp=Z,2.6nm,1.0s,baz=116,slow=6.3,SNR=2.1
ARCES ARCESS Array B 42.72 339 P **P 16 50 30.7 +0.4**
comp=Z,4.3nm,0.9s,baz=112,slow=7.9,SNR=6.0
TORD Torodi Ar. Bea 64.66 269 P **P 16 53 14.2 +2.4**
comp=Z,0.7nm,0.6s,baz=46,slow=5.7,SNR=6.5
WRA Warramunga Arr 81.76 121 P **P 16 54 53.2 +0.6**
comp=Z,0.5nm,0.5s,baz=322,slow=5.0,SNR=1.6
ASAR Alice Springs 83.90 124 P **P 16 55 03.5 -0.2**
comp=Z,0.5nm,0.8s,baz=313,slow=5.6,SNR=4.1

NIED ***19*** *16:43:00,35˚50N×140˚10E,h68km,Mw4.6 Best double couple: M₀8.96000×10¹⁵ NP1:φ₈357.00000°,δ65.00000°; λ82.00000°. NP2:φ₈196.00000°,δ26.00000°,λ107.00000°.*
BJI ***19*** *16:43:40.6±0.0,35˚46N×140˚55E,h66km,mB4.9/34, mb4.7/59,Ms3.9/20,Ms7 3.7/20*
MOS ***19*** *16:43:42.3±1.1,35˚43N×140˚20E,h49km,mb4.9/29,Error ellipse: s-maj=6.9km s-min=4.2km az=116.2*
BGR ***19*** *16:43:44.1±0.0,35˚94N×143˚35E,h33km,mb4.9*
JMA ***19*** *16:43:46.0±0.2,35˚55N×140˚10E,h72km±2km,M4.4 Broadband fault plane solution: P waves. NP1: φ₈199.00000°,δ14.00000°,λ106.00000°. NP2:φ₈3.00000°, δ77.00000°,λ86.00000°. Principal axes: T Plg58.0000°, Azm268.0000°; N Plg4.0000°, Azm4.0000°; P Plg32.0000°, Azm96.0000°;*
JMA Felt II J1.
NEIC ***19*** *16:43:46.5±1.6,35˚49N±0˚03×140˚03E±0˚08,h66km±5km, mb4.7/82 Error ellipse: s-maj=10.2km s-min=1.7km az=62.0*
IDC ***19*** *16:43:47.2±1.0,35˚45N×139˚98E,h72km±9km,mb4.2/30, mb1 4.3/33,mb1mx4.2/45,mbtmp4.5/33,MS3.4/20, Ms1 3.4/20,ms1mx3.2/44,Error ellipse: s-maj=12.6km s-min=6.1km az=71.0*
ISC 19 16:43:45.9±0.5, 35˚55N±0˚03×140˚13E±0˚04, h64km±4km, n323,σ1$37/342, mb4.6/116, 20C-16D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.14**	**156**	⇑P		**Pn**	**16 43 57.2**	**+1.6**
JSMT	**Sammumatsuo**	**0.27**	**70**	⇑P		**Pn**	**16 43 57.9**	**+1.6**
TOK	**Tokyo**	**0.34**	**295**	P		**Pn**	**16 43 58.4**	**+1.7**
TOK				S		**Sn**	**16 44 07.6**	**+3.1**
JKUC	**kamogawauchiur**	**0.39**	**172**	⇑P		**Pn**	**16 43 58.1**	**+0.9**
JKUC				*e*S		**Sn**	**16 44 06.7**	**+1.3**
BSO3	**Boso 3**	**0.81**	**157**	P		**Pn**	**16 44 02.2**	**+0.8**
JOD2	**Odawara 2**	**0.90**	**252**	⇓P		**Pn**	**16 44 03.1**	**+0.2**
JOD2				S		**Sn**	**16 44 15.1**	**-0.3**
JIM2	**Oshima 3**	**1.01**	**215**	P		**Pn**	**16 44 03.9**	**-0.4**
JIM2				S		**Sn**	**16 44 17.4**	**-0.5**
JAG	**Ashikaga**	**1.03**	**328**	⇓P		**Pn**	**16 44 05.1**	**+0.5**
JAG				S		**Sn**	**16 44 19.0**	**+0.5**
JRY	**Ryogami san**	**1.10**	**295**	⇓P		**Pn**	**16 44 06.3**	**+0.8**
BSO1	**Boso 1**	**1.13**	**142**	P		**Pn**	**16 44 05.8**	**+0.5**
JFNN	**Fujinakano**	**1.23**	**254**	⇓P		**Pn**	**16 44 07.6**	**+0.4**
JFNN				S		**Sn**	**16 44 23.3**	**+0.2**
JYN	**Shimob**	**1.30**	**268**	⇓P		**Pn**	**16 44 08.5**	**+0.4**
JYN				S		**Sn**	**16 44 25.0**	**+0.3**
JIZS	**Izushimoda**	**1.32**	**232**	P		**Pn**	**16 44 08.4**	**+0.1**
JIZS				S		**Sn**	**16 44 24.7**	**-0.4**
JKT	**Katashina**	**1.41**	**330**	⇓P		**Pn**	**16 44 10.0**	**+0.4**
JKT				S		**Sn**	**16 44 27.7**	**+0.3**
MJAR	**Matsushiro Arr**	**1.85**	**303**	P		**Pn**	**16 44 15.6**	**+0.1**
MJAR	17nm,0.3s,baz=99,slow=14,SNR=633			S		**Sn**	**16 44 38.0**	**+0.2**
MJAR	24nm,0.3s,baz=138,slow=12,SNR=5.5			LR		LR	16 44 57.2	
MAJO	comp=Z,736nm,19.2s,baz=125,slow=40 **Matsushiro**	**1.85**	**303**	*d*iP		**Pn**	**16 44 16.4**	**+1.0**
MAJO	**Matsushiro**	**1.85**	**303**			**Pn**	**16 44 16.1**	**+0.7**
MAT	**Matsushiro**	**1.85**	**303**	P		**Pn**	**16 44 16.4**	**+1.0**
MAT				S		**Sn**	**16 44 38.9**	**+1.1**
JHJ	**Hachijo jima 2**	**2.44**	**187**	P		**Pn**	**16 44 24.2**	**+0.8**
JHJ	256nm,0.3s,baz=340,slow=17,SNR=39			S		**Sn**	**16 44 51.6**	**-0.6**
JHJ	314nm,0.3s,baz=252,slow=22,SNR=10			LR		LR	16 45 10.3	
JHJ2	comp=Z,373nm,18.7s,baz=346,slow=36 **Mitsune**	**2.44**	**186**	Pn		**Pn**	**16 44 23.7**	**+0.2**
INU	**Inuyama**	**2.55**	**266**	Pn		**Pn**	**16 44 25.8**	**+0.8**
ERM	**Erimo**	**6.88**	**19**	⇓*e*P		**Pn**	**16 45 23.2**	**-0.8**
ERM	**Erimo**	**6.88**	**19**	Pn		**Pn**	**16 45 23.9**	**-0.1**
JNU	**Nakatsue**	**8.03**	**255**	P		**Pn**	**16 45 41.8**	**+1.9**
	3.8nm,0.3s,baz=148,slow=1.5,SNR=40							

JNU LR LR 16 49 09.9
comp=Z,315nm,22.0s,baz=64,slow=41
JNU Nakatsue 8.03 255 Pn **Pn 16 45 41.2 +1.3**
ASAJ Asahikawa 8.77 12 P **Pn 16 45 48.1 -1.7**
2.5nm,0.3s,baz=211,slow=12,SNR=27
ASAJ S **Sn 16 47 21.1 -6.0**
0.4nm,0.3s,baz=63,slow=22,SNR=1.6
JKA Kamikawa-asahi 8.77 12 **Pn 16 45 49.4 -0.5**
JKA Kamikawa-asahi 8.77 12 **Sn 16 47 21.1 -6.0**
NMR Nemuro--Hokkai 8.93 27 ⇓*i*P **Pn 16 45 49.1 -3.0**
GRPR Tuman 9.48 26 *e*P **Pn 16 45 57.8 -1.9**
LAGR Lagunnoye 9.54 25 ⇓*i*P **Pn 16 45 58.7 -1.8**
LAGR *i* S **Sn 16 47 39.3 -6.8**
LAGR pmax pmax
comp=Z,115nm,0.4s
YUK Yuzh-Kuril'sk 9.55 26 *de*P **Pn 16 46 01.7 +1.1**
TEY Ternei 9.85 345⇑ *e*P Pn 16 46 09.7 +5.0
TEY pmax pmax
comp=Z,10.0nm,0.7s
VLA Vladivostok 9.89 322 *de*P **Pn 16 46 07.7 +2.4**
KSRS Korea Array 10.01 285 P **Pn 16 46 10.9 +4.0**
comp=Z,0.5nm,0.3s,baz=101,slow=14,SNR=42
KSRS LR LR 16 49 53.4
comp=Z,317nm,21.3s,baz=121,slow=37
TJN Taejon 10.38 278 *de*P **Pn 16 46 14.8 +2.8**
USA0B Ussuriysk Arra 10.66 327 ⇓*e*P **Pn 16 46 18.7 +2.9**
USRK Ussuriysk Ar. 10.66 327 P **Pn 16 46 18.6 +2.9**
baz=143,slow=14,SNR=19
USRK LR LR 16 50 22.6
comp=Z,92nm,21.0s,baz=140,slow=37
KUR Kuril'sk 11.32 29 *e*P **Pn 16 46 23.4 -1.4**
KUR *e*S **Sn 16 48 23.2 -6.4**
KUR pmax pmax
comp=Z,16nm,0.6s
YSS Yuzh-Sakhalins 11.56 9 *e*P **Pn 16 46 27.6 -0.5**
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS Yuzh-Sakhalins 11.56 9 Pn **Pn 16 46 27.9 -0.2**
MDJ Mudanjiang 12.12 322 P **Pn 16 46 37.3 +1.6**
MDJ S **Sn 16 48 44.8 -4.3**
MDJ pmax pmax
comp=Z,6.0nm,1.1s
MDJ pmax pmax
comp=Z,93nm,2.9s
MDJ LR LR
comp=Z,170nm,4.8s
MDJ LR LR
comp=Z,120nm,4.8s
MDJ LR LR
comp=Z,150nm,5.7s
MDJ Mudanjiang 12.12 322 Pn **Pn 16 46 36.1 +0.4**
JOW Kunigami 13.35 233 Pn **P 16 46 59.0 -0.9**
CN2 Changchun 13.98 311 *e*P **P 16 47 06.4 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
KLR Kul'dur 15.00 338 P **Pn 16 47 14.2 +0.2**
comp=Z,0.4nm,0.3s,baz=154,slow=12,SNR=7.9
KLR LR LR 16 52 44.9
comp=Z,90nm,20.4s,baz=145,slow=36
KLR Kul'dur 15.00 338⇑ *e*P **Pn 16 47 14.0 0.0**
DL2 Dalian 15.12 288 P **P 16 47 19.5 0.0**
DL2 pmax pmax
comp=Z,24nm,0.9s
TYV Tymovskoe 15.42 6 *e*P **Pn 16 47 19.2 -0.2**
TYV pmax pmax
comp=Z,4.0nm,0.5s
GRNR Gornyy 15.45 351⇑ *i*P **P 16 47 22.9 -0.2**
GRNR *e*S **Sn 16 50 14.7 +4.8**
GRNR pmax pmax
comp=Z,30nm,0.6s
GRNR smax smax
comp=E,1.0nm,0.9s
GRNR MLR MLR
comp=N,30nm,14.0s
GRNR MLR MLR
comp=Z,50nm,12.0s
SSE Sheshan 16.44 260 P **Pn 16 47 31.1 -1.4**
SSE IAmb IAmb 16 47 46.4
comp=Z,35nm,0.7s
NJ2 Nanjing 18.02 265 *e*P **P 16 47 51.4 -0.2**
NJ2 pmax pmax
comp=Z,15nm,0.6s
YOJ Yonaguni jima 18.46 238 P **P 16 47 56.0 -0.5**
YOJ pmax pmax
comp=Z,113nm,1.2s
YOJ Yonaguni jima 18.46 238 P **P 16 47 56.0 -0.5**
YOJ IAmb IAmb 16 48 01.7
comp=Z,113nm,1.2s
BJI Beijing 19.44 290 P **P 16 48 07.0 -0.1**
BJI pmax pmax
comp=Z,4.0nm,1.0s
BJT Baijiatuan 19.44 290 P **P 16 48 06.9 -0.2**
BJT pmax pmax
comp=Z,10.0nm,0.8s
BJT Baijiatuan 19.44 290 **P 16 48 06.9 -0.2**
NACB Ninganchiao 19.64 240 P **P 16 48 08.1 -1.3**
HIA Hailar 20.28 319 P **P 16 48 14.2 -2.0**
HIA pmax pmax
comp=Z,8.0nm,0.7s
HIA Hailar 20.28 319 P **P 16 48 14.2 -2.0**
ZEA Zeya 20.31 338 *e*P **P 16 48 14.4 -2.0**
ZEA pmax pmax
comp=N,21nm,0.8s
ZEA pmax pmax
comp=Z,35nm,1.0s
SSLB Suanglung 20.33 240 P **P 16 48 15.1 -1.9**
YULB Yu-li 20.34 239 P **P 16 48 16.1 -1.0**
TPUB Ta-pu 20.87 239 P **P 16 48 20.9 -1.9**
TPUB IAmb IAmb 16 48 24.8
comp=Z,24nm,0.6s
TWG Pinlang 20.88 238 P **P 16 48 20.9 -1.9**
PETK Petropavlovsk- 21.49 30 P **P 16 48 31.7 +2.6**
comp=Z,1.8nm,0.8s,baz=157,slow=12,SNR=4.2
PETK LR LR 16 57 34.9
comp=Z,21nm,19.5s,baz=240,slow=38
WHN Wuhan 22.15 264⇑P **P 16 48 36.8 +0.4**
WHN pmax pmax
comp=Z,36nm,0.9s
GUMO Guam 22.28 168 P **P 16 48 35.0 -2.9**
GUMO pmax pmax
comp=Z,56nm,1.1s
GUMO Guam 22.28 168 P **P 16 48 35.0 -2.9**
GUMO IAmb IAmb 16 49 11.8
comp=Z,56nm,1.1s
MA2 Magadan 25.02 13 P **P 16 49 05.0 +1.3**
comp=Z,17nm,0.8s,baz=200,slow=7.9,SNR=16
MA2 LR LR 17 00 28.9
comp=Z,32nm,18.1s,baz=196,slow=40
MA2 Magadan 25.02 13 *c*iP **P 16 49 05.4 +1.7**
MA2 pmax pmax
comp=Z,16nm,1.0s
MA2 Magadan 25.02 13 P **P 16 49 04.8 +1.1**
MA2 IAmb IAmb 16 49 06.8
comp=Z,20nm,0.8s
XAN Xi'an 25.62 276 P **P 16 49 09.5 0.0**
XAN pP pP 16 49 21.5 -3.4
XAN pmax pmax
comp=Z,11nm,0.8s
XAN Xi'an 25.62 276 P **P 16 49 09.1 -0.4**
XAN pmax pmax
comp=Z,7.0nm,0.6s
XAN Xi'an 25.62 276 P **P 16 49 09.1 -0.4**
ENH Enshi 26.20 267 P **P 16 49 13.7 -1.0**
ENH IAmb IAmb 16 49 17.1
comp=Z,31nm,0.7s
YAK Yakutsk 27.31 349 P **P 16 49 23.9 -0.4**
comp=Z,4.3nm,0.3s,baz=187,slow=2.6,SNR=2.0
YAK LR LR 16 59 39.1
comp=Z,35nm,18.1s,baz=226,slow=35
YAK Yakutsk 27.31 349 *e*P **P 16 49 24.2 -0.1**
YAK pmax pmax
comp=Z,9.0nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK Yakutsk 27.31 349 P **P 16 49 23.9 -0.4**
YAK IAmb IAmb 16 49 46.7
comp=Z,14nm,0.6s
ULN Ulaanbaatar 27.38 307 *ce*P **P 16 49 24.5 -0.7**
ULN pmax pmax
comp=Z,12nm,2.5s
ULN Ulaanbaatar 27.38 307 P **P 16 49 24.1 -1.1**
SONM Songino Array 27.80 307 P **P 16 49 28.2 -0.7**
comp=Z,3.3nm,0.7s,baz=108,slow=8.7,SNR=18
SONM PcP **PcP 16 52 44.6 +0.8**
comp=Z,0.9nm,0.8s,baz=151,slow=3.4,SNR=3.6

SONM LR LR 17 00 56.3
comp=Z,139nm,19.8s,baz=106,slow=37
BOD Bodaibo 28.27 330 *e*P **P 16 49 34.9 +2.0**
BOD pmax pmax
comp=Z,13nm,1.3s
H11N2 WAKE ISLAND Hy 28.34 117 T T 17 19 25.9
baz=308,slow=75,SNR=105
H11N1 WAKE ISLAND Hy 28.35 117 T T 17 19 24.1
baz=308,slow=75,SNR=96
H11N3 WAKE ISLAND Hy 28.36 117 T T 17 19 25.0
baz=308,slow=75,SNR=124
H11S3 WAKE ISLAND Hy 28.99 119 T T 17 19 32.6
baz=311,slow=75,SNR=24
H11S1 WAKE ISLAND Hy 28.99 119 T T 17 19 51.4
baz=311,slow=75,SNR=37
H11S2 WAKE ISLAND Hy 29.00 119 T T 17 19 41.2
baz=311,slow=75,SNR=27
LZH Lanzhou 29.33 282 *e*P **P 16 49 40.5 -2.2**
LZH pP pP 16 49 55.5 -2.8
LZH sP sP 16 50 06.8 +1.0
LZH PP **PnPn 16 50 37.8 -1.1**
LZH pmax pmax
comp=Z,28nm,1.0s
LZH pmax pmax
comp=Z,100nm,5.0s
LZH LR LR
comp=Z,200nm,12.6s
LZH LR LR
comp=Z,210nm,12.2s
LZH LR LR
comp=Z,280nm,13.5s
GYA Guiyang 29.97 262 P **P 16 49 47.4 -1.0**
GYA pP pP 16 50 04.3 +0.3
GYA pmax pmax
comp=Z,8.0nm,1.1s
TLY Talaya 30.56 313 LR LR 17 01 29.2
comp=Z,48nm,21.6s,baz=106,slow=35
CD2 Chengdu 30.66 272 P **P 16 49 54.4 -0.1**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
GTA Gaotai 32.04 289 P **P 16 50 07.4 +0.8**
GTA pP pP 16 50 22.8 +0.6
GTA sP sP 16 50 31.3 +1.6
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,76nm,4.7s
GTA LR LR
comp=Z,100nm,16.6s
GTA LR LR
comp=Z,100nm,16.6s
GTA LR LR
comp=Z,140nm,15.7s
KMI Kunming 33.73 262 P **P 16 50 21.8 +0.2**
KMI pmax pmax
comp=Z,11nm,1.1s
KMI Kunming 33.73 262 P **P 16 50 20.4 -1.2**
KMI pmax pmax
comp=Z,8.0nm,0.7s
KMI Kunming 33.73 262 P **P 16 50 20.4 -1.2**
KMI IAmb IAmb 16 50 23.1
comp=Z,8.1nm,0.7s
SLVN Son La 34.65 256 P **P 16 50 29.0 -0.4**
SLVN IAmb IAmb 16 50 31.9
comp=Z,8.2nm,1.0s
BILL Bilibino 35.74 16 *i* P **P 16 50 37.9 -0.3**
BILL pmax pmax
comp=Z,2.0nm,0.9s
TNTI Ternate 36.58 202 P **P 16 50 45.5 -0.4**
TIXI Tiksi 36.65 354 *ce*P **P 16 50 45.9 +0.1**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 36.65 354 P **P 16 50 45.6 -0.2**
FAKI Fak Fak 38.97 193 P **P 16 51 04.9 -1.1**
FAKI IAmb IAmb 16 51 10.2
comp=Z,14nm,1.1s
LUWI Luwuk 39.85 208 P **P 16 51 11.4 -1.9**
CMAR Chiang Mai Arr 40.12 256 P **P 16 51 14.6 -1.1**
comp=Z,1.2nm,0.7s,baz=56,slow=5.7,SNR=8.5
CMAR PcP **PcP 16 53 20.6 +1.5**
comp=Z,1.4nm,0.9s,baz=5.6,slow=2.2,SNR=6.8
CMAR LR LR 17 09 49.5
comp=Z,102nm,19.5s,baz=270,slow=39
DGZ Jazzator, Alta 40.44 307 *c iP* **P 16 51 19.4 +1.3**
DGZ pmax pmax
comp=Z,31nm,0.9s
WMQ Urumqi 40.61 298 *e*P **P 16 51 21.4 +1.9**
WMQ sP sP 16 51 46.4 +3.5
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ pmax pmax
comp=Z,120nm,3.7s
WMQ LR LR
comp=Z,67nm,18.9s
WMQ LR LR
comp=Z,71nm,18.9s
WMQ LR LR
comp=Z,170nm,20.5s
LSA Lhasa 41.33 276 P **P 16 51 26.4 +0.4**
LSA pmax pmax
comp=Z,7.0nm,1.0s
LSA Lhasa 41.33 276 P **P 16 51 26.4 +0.4**
ZALV Zalesovo Beam 42.17 314 P **P 16 51 32.5 +0.5**
comp=Z,13nm,0.8s,baz=94,slow=6.7,SNR=38
ZALV PcP **PcP 16 53 25.5 +0.3**
comp=Z,5.1nm,0.6s,baz=107,slow=2.5,SNR=10
ZALV LR LR 17 10 15.5
comp=Z,42nm,19.0s,baz=34,slow=38
ZSN Zaisan 42.23 304 *i* P **P 16 51 33.9 +1.2**
comp=Z,13nm,0.9s,baz=304
ZSN Zaisan 42.23 304 *i* P **P 16 51 33.9 +1.2**
ZSN pmax pmax
comp=Z,13nm,0.9s
KSM Kuching 43.78 226 P **P 16 51 43.7 -1.7**
KSM IAmb IAmb 16 51 54.6
comp=Z,8.2nm,0.9s
MK31 Makanchi Array 44.05 303 *i* P **P 16 51 47.1 -0.2**
MKAR Makanchi Array 44.05 303 P **P 16 51 47.8 +0.5**
comp=Z,8.8nm,0.6s,baz=84,slow=9.7,SNR=84
MKAR PcP **PcP 16 53 32.2 +0.4**
comp=Z,1.4nm,0.7s,baz=81,slow=4.5,SNR=3.4
MKAR LR LR 17 11 53.1
comp=Z,45nm,19.7s,baz=80,slow=38
NRIK Noril'sk 44.19 336 P **P 16 51 48.2 +0.1**
comp=Z,9.8nm,0.6s,baz=115,slow=8.5,SNR=11
MAKZ Makanchi 44.26 303 P **P 16 51 49.3 +0.3**
MAKZ pmax pmax
comp=Z,14nm,1.0s
MAKZ Makanchi 44.26 303 P **P 16 51 49.3 +0.3**
MAKZ IAmb IAmb 16 51 50.6
comp=Z,14nm,1.0s
TAPN Taplejung 45.02 275 *e*P **P 16 51 55.2 -0.4**
comp=Z,8.1nm,0.4s
SEM Semipalatinsk 45.04 309 *i* P **P 16 51 55.2 -0.2**
comp=Z,5.8nm,1.0s,baz=309
SEM Semipalatinsk 45.04 309 *i* P **P 16 51 55.1 -0.3**
SEM pmax pmax
comp=Z,6.0nm,1.0s
ODAN Odare 45.48 274 *e*P **P 16 51 57.2 -2.0**
KURK Kurchatov 46.05 309 *c iP* **P 16 52 03.0 0.0**
KURK pmax pmax
comp=Z,33nm,0.8s
KURK Kurchatov 46.05 309 P **P 16 52 03.0 0.0**
KURK Kurchatov 46.05 309 **PcP 16 53 38.6 +0.1**
RAMN Ramite 46.09 275 *e*P **P 16 52 03.1 -0.9**
comp=Z,45nm,0.6s
KURBB Kurchatov Arra 46.11 309 P **P 16 52 03.8 +0.2**
comp=Z,18nm,0.8s,baz=85,slow=7.9,SNR=84
KURBB PcP **PcP 16 53 38.6 -0.1**
comp=Z,2.1nm,0.7s,baz=89,slow=3.7,SNR=5.4
KURBB Kurchatov Arra 46.11 309 P **P 16 52 02.7 -0.9**
JIRN Jiri 46.13 276 *e*P **P 16 52 04.6 +0.1**
comp=Z,63nm,0.8s
GUN Gumba 46.28 276 *e*P **P 16 52 05.5 -0.1**
comp=Z,28nm,0.8s
SHLS Shalkode 46.62 299 *e*P **P 16 52 06.1 -1.8**
comp=Z,13nm,1.6s,baz=299
SHLS Shalkode 46.62 299 *e*P **P 16 52 06.1 -1.8**
SHLS pmax pmax
comp=Z,13nm,1.6s
PKI Pulchoki 46.80 276 *e*P **P 16 52 09.0 -0.7**
comp=Z,25nm,0.9s
PKIN Phulchoki 46.81 276 *e*P **P 16 52 08.8 -0.9**
comp=Z,18nm,0.9s
UZB Uzynbulak 46.94 299⇑ *i*P **P 16 52 10.7 +0.3**
comp=Z,4.5nm,0.7s,baz=299

UZB	**Uzynbulak**	**46.94**	**299**	*c*	iP		**P**	**16 52 10.7 +0.3**
UZB						pmax	pmax	
	comp=Z,4.0nm,0.7s							
TDK	**Taldyqorghan**	**47.00**	**301**		*e*P		**P**	**16 52 12.6 +1.9**
	comp=Z,7.5nm,0.5s,baz=301							
TDK	**Taldyqorghan**	**47.00**	**301**		*e*P		**P**	**16 52 12.6 +1.9**
TDK						pmax	pmax	
	comp=Z,8.0nm,0.5s							
KPKS	**Kokpek**	**47.12**	**299**		*i* P		**P**	**16 52 12.2 +0.5**
	comp=Z,4.4nm,0.9s,baz=299							
KPKS	**Kokpek**	**47.12**	**299**		*i* P		**P**	**16 52 12.1 +0.5**
KPKS						pmax	pmax	
	comp=Z,4.0nm,0.9s							
KULM	**Kulim**	**47.17**	**240**		P		**P**	**16 52 11.3 -1.0**
GKN	**Gorkha**	**47.25**	**277**		*e*P		**P**	**16 52 13.1 +0.1**
	comp=Z,59nm,0.9s							
SATY	**Saty**	**47.40**	**299**		*e*P		**P**	**16 52 14.6 +0.7**
	comp=Z,2.6nm,0.8s,baz=299							
SATY	**Saty**	**47.40**	**299**		*e*P		**P**	**16 52 14.6 +0.7**
SATY						pmax	pmax	
	comp=Z,3.0nm,0.8s							
IPM	**Ipoh**	**47.48**	**239**		P		**P**	**16 52 12.7 -2.1**
IPM						IAmb	IAmb	16 52 13.8
	comp=Z,9.7nm,0.8s							
SOEI	**Soe**	**47.48**	**201**		P		**P**	**16 52 14.4 -0.3**
PRZ	**Przheval'sk**	**47.53**	**298**		P		**P**	**16 52 15.7 +0.6**
PRZ						pmax	pmax	
	comp=Z,19nm,0.8s							
PRZ	**Przheval'sk**	**47.53**	**298**		P		**P**	**16 52 15.7 +0.6**
DANN	**Dangsing**	**47.82**	**278**		*e*P		**P**	**16 52 18.0 +0.4**
	comp=Z,81nm,0.7s							
TARG	**Taragay, Kyrgy**	**48.14**	**297**		P		**P**	**16 52 20.5 +0.4**
TARG						IAmb	IAmb	16 52 22.3
	comp=Z,13nm,0.8s							
KOLN	**Koldanda**	**48.18**	**277**		*e*P		**P**	**16 52 19.8 -0.5**
	comp=Z,14nm,0.7s							
CHKK	**Chushkaly**	**48.23**	**300**		*e*P		**P**	**16 52 20.7 +0.5**
	baz=300							
CHKK	**Chushkaly**	**48.23**	**300**		*e*P		**P**	**16 52 20.6 +0.4**
MDOK	**Medeo**	**48.35**	**299**		*i* P		**P**	**16 52 22.2 +0.9**
	baz=299							
MDOK	**Medeo**	**48.35**	**299**		*i* P		**P**	**16 52 22.2 +0.9**
AAA	**Alma-Ata**	**48.43**	**299**		*e*P		**P**	**16 52 23.4 +1.5**
	comp=Z,6.3nm,0.6s,baz=299							
AAA	**Alma-Ata**	**48.43**	**299**		*e*P		**P**	**16 52 23.3 +1.5**
AAA						pmax	pmax	
	comp=Z,6.0nm,0.6s							
TNSS	**Tian-Shan**	**48.45**	**299**		*e*P		**P**	**16 52 23.7 +1.4**
	baz=299							
TNSS	**Tian-Shan**	**48.45**	**299**		*e*P		**P**	**16 52 23.7 +1.4**
KDJ	**Kajisay**	**48.50**	**298**		P		**P**	**16 52 23.1 +0.6**
KDJ						pmax	pmax	
	comp=Z,8.0nm,0.9s							
KDJ	**Kajisay**	**48.50**	**298**		P		**P**	**16 52 23.1 +0.6**
KDJ						IAmb	IAmb	16 52 24.3
	comp=Z,7.7nm,0.9s							
KUU	**Kurty**	**48.68**	**300**		*e*P		**P**	**16 52 24.1 +0.3**
	comp=Z,15nm,1.1s,baz=300							
KUU	**Kurty**	**48.68**	**300**		*e*P		**P**	**16 52 24.0 +0.3**
KUU						pmax	pmax	
	comp=Z,15nm,1.1s							
MTBS	**Maitube**	**48.80**	**299**		*i* P		**P**	**16 52 25.8 +1.1**
	baz=299							
MTBS	**Maitube**	**48.80**	**299**		*i* P		**P**	**16 52 25.7 +1.1**
MTN	**Manton Dam**	**48.88**	**192**		P		**P**	**16 52 24.4 -0.9**
KDAK	**Kodiak Island**	**48.90**	**41**		P		**P**	**16 52 26.2 +1.2**
	comp=Z,5.2nm,0.7s,baz=261,slow=7.7,SNR=5.0							
KDAK	**Kodiak Island**	**48.90**	**41**		P		**P**	**16 52 26.7 +1.7**
KDAK						pmax	pmax	
	comp=Z,61nm,1.7s							
KDAK	**Kodiak Island**	**48.90**	**41**		P		**P**	**16 52 26.7 +1.7**
PPLA	**Purkeypile**	**48.98**	**34**		P		**P**	**16 52 29.2 +3.4**
PPLA						IAmb	IAmb	16 53 07.2
	comp=Z,16nm,1.4s							
ULHL	**Ulahol**	**49.14**	**298**		P		**P**	**16 52 28.3 +0.8**
	SNR=6.2							
BOOM	**Boomskoye usch**	**49.30**	**299**		P		**P**	**16 52 29.5 +0.9**
BOOM						pmax	pmax	
	comp=Z,8.0nm,1.0s							
BOOM	**Boomskoye usch**	**49.30**	**299**		P		**P**	**16 52 29.5 +0.9**
BOOM						IAmb	IAmb	16 52 39.6
	comp=Z,8.0nm,0.9s							
COEN	**Coen**	**49.32**	**176**		P		**P**	**16 52 29.2 +0.5**
TKM2	**Tokmak 2**	**49.44**	**299**		P		**P**	**16 52 30.9 +1.2**
	SNR=14							
TKM2	**Tokmak 2**	**49.44**	**299**		P		**P**	**16 52 30.0 +0.3**
KZA	**Kyzart**	**49.90**	**298**		P		**P**	**16 52 35.5 +2.1**
	SNR=6.0							
BRZS	**Berezniki**	**49.92**	**309**		*e*P		**P**	**16 52 33.1 +0.1**
	comp=Z,5.6nm,0.6s,baz=309							
BRZS	**Berezniki**	**49.92**	**309**		*e*P		**P**	**16 52 33.1 +0.1**
BRZS						pmax	pmax	
	comp=Z,6.0nm,0.6s							
KBK	**Karagaybulak**	**49.97**	**299**		P		**P**	**16 52 34.7 +1.0**
	SNR=12							
SGDS	**Sogindy**	**49.99**	**300**		*i* P		**P**	**16 52 33.9 +0.2**
	comp=Z,4.2nm,1.1s,baz=300							
SGDS	**Sogindy**	**49.99**	**300**		*i* P		**P**	**16 52 33.9 +0.2**
SGDS						pmax	pmax	
	comp=Z,4.0nm,1.1s							
BTLS	**Baital**	**50.02**	**302**		*e*P		**P**	**16 52 34.5 +0.7**
	comp=Z,2.7nm,0.6s,baz=302							
BTLS	**Baital**	**50.02**	**302**		*e*P		**P**	**16 52 34.5 +0.7**
BTLS						pmax	pmax	
	comp=Z,3.0nm,0.6s							
KSH	**Kashi**	**50.08**	**295**		*e*P		**P**	**16 52 39.0 +4.5**
KSH						pP	sP	16 52 56.8 -1.5
KSH						pmax	pmax	
	comp=Z,9.0nm,0.6s							
KSH						pmax	pmax	
	comp=Z,320nm,5.1s							
PSI	**Prapat**	**50.14**	**239**		P		**P**	**16 52 33.5 -1.8**
	comp=Z,3.1nm,0.4s,baz=180,slow=2.8,SNR=4.3							
AAK	**Ala-Archa**	**50.29**	**299**	*c*	*e*P		**P**	**16 52 36.4 +0.3**
AAK						pmax	pmax	
	comp=Z,6.0nm,0.7s							
AAK	**Ala-Archa**	**50.29**	**299**		P		**P**	**16 52 36.6 +0.5**
AAK						IAmb	IAmb	16 52 37.8
	comp=Z,6.2nm,0.8s							
UCH	**Uchtor**	**50.39**	**299**		P		**P**	**16 52 38.9 +1.7**
	SNR=7.2							
BVAR	**Borovoye Array**	**50.82**	**313**		P		**P**	**16 52 39.9 +0.2**
	comp=Z,2.0nm,0.6s,baz=68,slow=6.8,SNR=10							
BVAR					PcP		**PcP**	**16 53 56.0 +0.3**
	comp=Z,2.1nm,0.6s,baz=103,slow=4.7,SNR=4.9							
BRVK	**Borovoye**	**50.87**	**313**		P		**P**	**16 52 41.0 +0.9**
BRVK						pmax	pmax	
	comp=Z,5.0nm,0.9s							
BRVK	**Borovoye**	**50.87**	**313**		P		**P**	**16 52 41.0 +0.9**
BRVK						IAmb	IAmb	16 52 43.8
	comp=Z,4.8nm,0.9s							
AML	**Almayashu**	**51.00**	**299**		P		**P**	**16 52 43.1 +1.3**
	SNR=25							
ILAR	**Eielson Array**	**51.30**	**32**		P		**P**	**16 52 44.5 +1.3**
	comp=Z,1.4nm,0.7s,baz=268,slow=6.2,SNR=15							
KNRA	**Kununurra**	**52.07**	**194**		P		**P**	**16 52 48.6 -0.7**
KNRA					PcP		**PcP**	**16 53 59.6 -1.1**
GSI	**Gunungsitoli**	**52.15**	**239**		P		**P**	**16 52 48.9 -1.2**
DOT	**Dot Lake**	**52.61**	**33**		P		**P**	**16 52 54.3 +1.3**
DOT						IAmb	IAmb	16 53 18.0
	comp=Z,8.7nm,1.6s							
DOT					PcP		**PcP**	**16 54 04.1 +1.9**
KK31	**Karatay Array**	**52.98**	**301**		*i* P		**P**	**16 52 56.1 +0.1**
KKAR	**Karatay Array**	**52.98**	**301**		P		**P**	**16 52 55.6 -0.4**
KKAR						pmax	pmax	
	comp=Z,8.0nm,0.9s							
KKAR	**Karatay Array**	**52.98**	**301**		P		**P**	**16 52 55.6 -0.4**
KKAR						IAmb	IAmb	16 53 01.1
	comp=Z,7.5nm,0.9s							
IUG	**Iuzhnay**	**53.60**	**300**		*e*P		**P**	**16 53 02.0 +1.2**
	comp=Z,1.4nm,0.7s,baz=300							
IUG	**Iuzhnay**	**53.60**	**300**		*e*P		**P**	**16 53 01.9 +1.2**
IUG						pmax	pmax	
	comp=Z,1.0nm,0.7s							
NIL	**Nilore**	**54.10**	**289**		P		**P**	**16 53 05.0 +0.6**
NIL						pmax	pmax	
	comp=Z,15nm,0.8s							
NIL	**Nilore**	**54.10**	**289**		P		**P**	**16 53 05.0 +0.6**
GAR	**Garm**	**54.41**	**296**		P		**P**	**16 53 06.8 +0.2**
FITZ	**Fitzroy Crossi**	**55.09**	**197**		P		**P**	**16 53 11.1 -0.4**
EPYK	**Eagle Plains**	**55.33**	**29**		P		**P**	**16 53 15.0 +2.3**
EPYK						IAmb	IAmb	16 53 35.1
	comp=Z,6.7nm,0.8s							
CHGR	**Chuyangaron**	**55.38**	**296**		P		**P**	**16 53 13.8 +0.2**
WRAB	**Tennant Creek**	**55.45**	**187**⇑		*e*P		**P**	**16 53 13.2 -0.8**
WRAB						pmax	pmax	
	comp=Z,17nm,1.7s							
WRAB	**Tennant Creek**	**55.45**	**187**		P		**P**	**16 53 13.1 -0.8**
WRAB						IAmb	IAmb	16 53 14.8
	comp=Z,18nm,1.1s							
WRA	**Warramunga Arr**	**55.46**	**187**		P		**P**	**16 53 13.4 -0.7**
	comp=Z,7.2nm,0.4s,baz=1.4,slow=7.4,SNR=64							
ARU	**Arti**	**56.79**	**319**		P		**P**	**16 53 23.8 +0.5**
	comp=Z,4.4nm,0.6s,baz=72,slow=3.3,SNR=17							
ARU	**Arti**	**56.79**	**319**	*c*	*i*P		**P**	**16 53 23.3 +0.1**
ARU						*PP	**pP**	**16 53 41.9 +1.9**
ARU								16 55 27.6
ARU						S	**S**	**17 01 12.0 +0.6**
ARU						pmax	pmax	
	comp=Z,12nm,0.7s							
ARU	**Arti**	**56.79**	**319**		P		**P**	**16 53 22.9 -0.3**
AB31	**Akbulak array**	**58.11**	**311**		P		**P**	**16 53 32.8 +0.2**
ASAR	**Alice Springs**	**59.19**	**187**		P		**P**	**16 53 39.8 -0.5**
	comp=Z,2.6nm,0.6s,baz=18,slow=12,SNR=44							
PSA00	**Pilbara Seismi**	**59.98**	**202**		P		**P**	**16 53 45.3 -0.4**
KIRV	**Kirov**	**60.81**	**323**		P		**P**	**16 53 51.6 +0.6**
	comp=Z,18nm,0.7s,baz=212,slow=1.5,SNR=7.9							
KIRV	**Kirov**	**60.81**	**323**		*e*P		**P**	**16 53 51.3 +0.3**
DZM	**Mont Dzumac**	**62.49**	**152**		P		**P**	**16 54 02.7 -0.2**
TMCR	**Tamitsa**	**63.55**	**331**		*e*P		**P**	**16 54 09.9 +0.6**
TMCR						pmax	pmax	
	comp=Z,31nm,0.8s							
KLMR	**Klimovskoe**	**64.46**	**328**		*e*P		**P**	**16 54 14.4 -0.9**
KLMR						pmax	pmax	
	comp=Z,14nm,1.4s							
KLMR	**Klimovskoe**	**64.46**	**328**		*e*P		**P**	**16 54 14.4 -0.9**
KLMR						AMP		16 54 21.4
	comp=Z,14nm,1.4s							
ARCES	**ARCESS Array B**	**65.02**	**339**		P		**P**	**16 54 19.7 +0.8**
	comp=Z,5.4nm,0.8s,baz=58,slow=9.2,SNR=6.4							
ARCES						LR	LR	17 25 46.4
	comp=Z,26nm,20.4s,baz=94,slow=39							
YKA	**Yellowknife Ar**	**65.61**	**29**		P		**P**	**16 54 23.8 +1.0**
	comp=Z,1.2nm,0.7s,baz=296,slow=7.2,SNR=4.9							
YKA						LR	LR	17 26 23.5
	comp=Z,31nm,18.0s,baz=0.0,slow=39							
FORT	**Forrest**	**66.95**	**191**		P		**P**	**16 54 31.7 +0.2**
STKA	**Stephens Creek**	**67.08**	**179**		P		**P**	**16 54 32.6 +0.1**
	comp=Z,2.3nm,0.6s,baz=352,slow=8.7,SNR=6.8							
DAG	**Danmarks Havn**	**67.16**	**355**		*i* P		**P**	**16 54 33.5 +1.1**
	comp=Z,7.7nm,0.9s							
DAG	**Danmarks Havn**	**67.16**	**355**		*i* P		**P**	**16 54 33.5 +1.1**
DAG						pmax	pmax	
	comp=Z,8.0nm,0.9s							
VRH	**Novokhopyorsk**	**67.98**	**318**		*e*P		**P**	**16 54 37.1 -0.9**
VRH						pmax	pmax	
	comp=Z,10.0nm,0.6s							
OBN	**Obninsk**	**68.66**	**323**		*i* P		**P**	**16 54 40.9 -1.3**
OBN					*i*			16 55 03.6
OBN						pmax	pmax	
	comp=Z,8.0nm,1.0s							
OBN						MLR	MLR	
	comp=Z,34nm,17.0s							
LPSR	**Galich'ya Gora**	**68.78**	**320**		*e*P		**P**	**16 54 42.4 -0.5**
LPSR						pmax	pmax	
	comp=Z,10.0nm,0.9s							
VSR	**Storozhevoye**	**69.36**	**319**		*e*P		**P**	**16 54 46.1 -0.5**
VSR						pmax	pmax	
	comp=Z,10.0nm,0.9s							
FINES	**FINESS Array B**	**69.64**	**332**		P		**P**	**16 54 48.4 +0.3**
	comp=Z,11nm,0.8s,baz=85,slow=6.1,SNR=22							
FINES						LR	LR	17 26 34.9
	comp=Z,38nm,18.3s,baz=74,slow=37							
KBZ	**Khabaz**	**71.08**	**311**		P		**P**	**16 54 58.1 +0.9**
	comp=Z,6.2nm,0.9s,baz=25,slow=0.7,SNR=12							
KBZ	**Khabaz**	**71.08**	**311**	*de*	P		**P**	**16 54 58.2 +0.9**
KBZ						pmax	pmax	
	comp=Z,11nm,1.0s							
KVAR	**Kislovodsk Arr**	**71.09**	**311**		LR		LR	17 27 42.1
	comp=Z,71nm,20.2s,baz=290,slow=37							
KIV	**Kislovodsk**	**71.09**	**311**		*e*P		**P**	**16 54 58.3 +0.8**
KIV						pmax	pmax	
	comp=Z,36nm,1.1s							
KIV						MLR	MLR	
	comp=Z,75nm,18.0s							
KIV	**Kislovodsk**	**71.09**	**311**		P		**P**	**16 54 58.2 +0.8**
KIV						IAmb	IAmb	16 54 59.9
	comp=Z,11nm,1.0s							
VSU	**Vasula**	**71.20**	**329**⇑		*e*P		**P**	**16 54 58.4 +0.7**
VSU						pmax	pmax	
	comp=Z,30nm,0.9s							
PINE	**Pine Mountain**	**72.09**	**49**		P		**P**	**16 55 06.1 +2.4**
PINE						IAmb	IAmb	16 55 32.2
	comp=Z,5.9nm,0.8s							
SUMG	**Summit**	**72.16**	**360**		*i* P		**P**	**16 55 05.3 +1.5**
	comp=Z,23nm,0.8s							
SUMG	**Summit**	**72.16**	**360**		*i* P		**P**	**16 55 05.3 +1.5**
SUMG						pmax	pmax	
	comp=Z,23nm,0.8s							
SUMG	**Summit**	**72.16**	**360**		P		**P**	**16 55 04.8 +1.0**
SUMG						IAmb	IAmb	16 55 06.3
	comp=Z,8.7nm,0.7s							
AKASG	**Malin Array Be**	**74.83**	**322**		P		**P**	**16 55 19.3 0.0**
	comp=Z,8.8nm,0.8s,baz=49,slow=6.1,SNR=27							
AKASG						LR	LR	17 30 58.5
	comp=Z,34nm,19.9s,baz=80,slow=38							
AKBB	**Malin Array Si**	**74.83**	**322**	*c*	*i* P		**P**	**16 55 19.1 -0.2**
NB2	**NORSAR Subarra**	**75.15**	**337**		P		**P**	**16 55 21.3 +0.3**
	comp=Z,6.4nm,0.8s,baz=41,slow=5.9							
NOA	**NORSAR Array B**	**75.15**	**337**		P		**P**	**16 55 21.7 +0.7**
	comp=Z,4.5nm,0.8s,baz=40,slow=5.8,SNR=11							
NOA						LR	LR	17 32 28.1
	comp=Z,9.8nm,18.6s,baz=155,slow=39							
KVN	**Kaiserville**	**76.49**	**52**		P		**P**	**16 55 30.3 +1.1**
KVN						pmax	pmax	
	comp=Z,6.0nm,1.0s							
KVN	**Kaiserville**	**76.49**	**52**				**P**	**16 55 30.3 +1.1**
NVAR	**Mina Array Bea**	**76.71**	**52**		P		**P**	**16 55 33.0 +2.4**
	comp=Z,0.9nm,0.7s,baz=289,slow=5.1,SNR=7.4							
IMW	**Indian Meadow**	**77.95**	**44**		P		**P**	**16 55 38.9 +1.4**
R11A	**Troy Canyon, C**	**78.50**	**51**		P		**P**	**16 55 42.2 +1.7**
BR131	**Keskin Array S**	**79.05**	**311**	*de*	P		**P**	**16 55 43.9 +0.5**
BRTR	**Keskin Array B**	**79.05**	**311**		P		**P**	**16 55 44.5 +1.0**
	comp=Z,2.2nm,0.7s,baz=105,slow=3.7,SNR=12							
KOLS	**Kolonicke sedl**	**79.41**	**324**		*e*P		**P**	**16 55 46.2 +1.2**
KOLS	**Kolonicke sedl**	**79.41**	**324**		*e*P		**P**	**16 55 46.2 +1.2**
PDAR	**Pinedale Array**	**79.45**	**45**		P		**P**	**16 55 47.1 +1.5**
	comp=Z,1.0nm,0.6s,baz=260,slow=1.8,SNR=11							
OJC	**Ojcow**	**79.69**	**326**		*e*P		**P**	**16 55 47.3 +0.7**
OJC	**Ojcow**	**79.69**	**326**		P		**P**	**16 55 47.2 +0.7**
OJC						pmax	pmax	
	comp=Z,10.0nm,0.9s							
OJC	**Ojcow**	**79.69**	**326**		P		**P**	**16 55 47.1 +0.6**
OJC						IAmb	IAmb	16 55 48.3
	comp=Z,10nm,0.9s							
MLR	**Muntele Rosu**	**79.84**	**319**		LR		LR	17 32 18.3
	comp=Z,39nm,20.8s,baz=108,slow=36							
NIE	**Niedzica**	**80.01**	**325**		*e*P		**P**	**16 55 49.6 +1.2**
KSP	**Ksiaz**	**80.81**	**328**		*e*P		**P**	**16 55 53.5 +1.0**
MTPU	**Mount Pierson**	**80.82**	**50**		P		**P**	**16 55 55.1 +1.9**
RDMU	**Red Mountain**	**80.82**	**46**		P		**P**	**16 55 54.4 +1.3**
MORC	**Moravsky Berou**	**81.03**	**326**		P		**P**	**16 55 54.1 +0.3**
MORC						pmax	pmax	
	comp=Z,7.0nm,1.1s							
MORC	**Moravsky Berou**	**81.03**	**326**		P		**P**	**16 55 54.1 +0.3**
KNB	**Kanab**	**81.05**	**51**		P		**P**	**16 55 56.0 +1.7**
KNB						pmax	pmax	
	comp=Z,8.0nm,1.3s							
KNB	**Kanab**	**81.05**	**51**		P		**P**	**16 55 56.0 +1.7**
DPC	**Dobruska-Polom**	**81.16**	**327**		*e*P		**P**	**16 55 56.2 +1.7**
DPC	**Dobruska-Polom**	**81.16**	**327**		*e*P		**P**	**16 55 56.2 +1.7**
SRU	**San Rafael Swe**	**81.17**	**48**		P		**P**	**16 55 56.5 +1.6**
SRU						pmax	pmax	
	comp=Z,3.0nm,0.7s							
SRU	**San Rafael Swe**	**81.17**	**48**		P		**P**	**16 55 56.5 +1.6**
VYHS	**Vyhne**	**81.35**	**325**		*e*P		**P**	**16 55 56.2 +0.7**
VYHS						pmax	pmax	
	comp=Z,10.0nm,1.3s							
VYHS	**Vyhne**	**81.35**	**325**		*e*P		**P**	**16 55 56.2 +0.7**
ASF	**Jabal al Asfar**	**81.47**	**303**		P		**P**	**16 55 56.6 +0.1**
	comp=Z,2.3nm,0.7s,baz=52,slow=2.6,SNR=4.3							
BRG	**Berggiesshubel**	**81.80**	**329**		*e*		**P**	**16 55 58.0 +0.2**
	comp=Z,4.0nm,0.8s							
CLL	**Collm**	**81.86**	**330**		*i* P		**P**	**16 55 58.4 +0.3**
	comp=Z,11nm,1.0s							
CLL						*e*pP	**pP**	**16 56 15.0 -0.7**
CLL						*e*sP	**sP**	**16 56 23.0 +0.2**
CLL						*e*PP	**PP**	**16 59 05.0 -0.3**
CLL	**Collm**	**81.86**	**330**		*i* P		**P**	**16 55 58.4 +0.3**
CLL						*e**PP	**pP**	**16 56 15.0 -0.7**
CLL						pmax	pmax	
	comp=Z,11nm,1.0s							
CLL	**Collm**	**81.86**	**330**		P		**P**	**16 55 58.0 -0.1**
CLL						IAmb	IAmb	16 55 59.3
	comp=Z,9.4nm,0.9s							
O20A	**White River Ci**	**81.88**	**46**		P		**P**	**16 55 58.6 -0.1**
O20A						IAmb	IAmb	16 56 03.3
	comp=Z,13nm,0.7s							
MODS	**Modra-Piesok**	**82.16**	**326**		*e*P		**P**	**16 56 00.1 +0.4**
MODS						pmax	pmax	
	comp=Z,7.0nm,1.0s							
MODS	**Modra-Piesok**	**82.16**	**326**		*e*P		**P**	**16 56 00.1 +0.4**
PRU	**Pruhonice**	**82.20**	**328**		*e*P		**P**	**16 56 01.2 +1.3**
PRU	**Pruhonice**	**82.20**	**328**		*e*P		**P**	**16 56 01.2 +1.3**
PV21	**Cone Mtn., Par**	**82.45**	**48**		P		**P**	**16 56 02.4 +0.6**
PV21						IAmb	IAmb	16 56 04.2
	comp=Z,6.3nm,0.9s							
PV19	**Morning Glory**	**82.61**	**48**		P		**P**	**16 56 03.8 +1.2**
PV19						IAmb	IAmb	16 56 05.5
	comp=Z,5.8nm,0.7s							
PV17	**East Wray Mesa**	**82.64**	**48**		P		**P**	**16 56 03.6 +0.9**
PV17						IAmb	IAmb	16 56 30.4
	comp=Z,11nm,1.2s							
PV05	**Paradox Valley**	**82.69**	**48**		P		**P**	**16 56 04.3 +1.4**
PV05						IAmb	IAmb	16 56 06.0
	comp=Z,6.0nm,0.7s							
PV03	**Paradox Valley**	**82.73**	**48**		P		**P**	**16 56 03.8 +0.7**
PV13	**Radium Mtn., P**	**82.81**	**48**		P		**P**	**16 56 04.9 +1.3**
CONA	**Conrad Observa**	**83.14**	**326**	*i*	PcP		**P**	**16 56 06.5 +1.6**
	comp=Z,8.0nm,1.8s							
VTS	**Vitosha**	**83.21**	**318**		P		**P**	**16 56 05.7 +0.2**
VTS						pmax	pmax	
	comp=Z,6.0nm,0.9s							
VTS	**Vitosha**	**83.21**	**318**		P		**P**	**16 56 05.7 +0.2**
VTS						IAmb	IAmb	16 56 07.7
	comp=Z,5.8nm,0.9s							
KHC	**Kasperske Hory**	**83.26**	**328**		*e*P		**P**	**16 56 05.8 +0.4**
KHC					*ex*		x	16 56 16.6
KHC	**Kasperske Hory**	**83.26**	**328**⇑		*e*P		**P**	**16 56 05.9 +0.5**
KHC						pmax	pmax	
	comp=Z,17nm,2.5s							
GERES	**GERESS Array B**	**83.42**	**328**		P		**P**	**16 56 06.7 +0.3**
	comp=Z,1.2nm,0.7s,baz=20,slow=4.3,SNR=8.5							
ARSA	**Arzberg**	**83.79**	**326**	*i*	P		**P**	**16 56 09.0 +0.8**
	comp=Z,2.1nm,0.8s							
GRF	**Grafenberg Arr**	**83.83**	**329**		*e*P		**P**	**16 56 09.5 +1.2**
	comp=Z,6.1nm,0.8s,baz=43,slow=4.6							
DIVS	**Divibare**	**83.89**	**321**		P		**P**	**16 56 09.5 +0.6**
DIVS						IAmb	IAmb	16 56 10.3
	comp=Z,4.9nm,0.8s							
MOA	**Molln**	**83.92**	**327**		*i* P		**P**	**16 56 09.5 +0.7**
	comp=Z,4.1nm,1.1s							
S22A	**4UR Ranch, Cre**	**84.27**	**47**		P		**P**	**16 56 12.5 +1.3**
SOKA	**Soboth**	**84.44**	**326**		*i* P		**P**	**16 56 12.0 +0.5**
	comp=Z,8.2nm,0.8s							
MYKA	**Terra Mystica**	**85.11**	**326**		*i* P		**P**	**16 56 14.9 0.0**
	comp=Z,2.6nm,0.6s							
MEM	**Membach**	**85.16**	**333**		PcP		**P**	**16 56 16.0 +1.0**
PRED	**Cave del Predi**	**85.29**	**326**		P		**P**	**16 56 15.7 -0.1**
ZOU	**Zoufplan**	**85.47**	**327**		P		**P**	**16 56 16.1 -0.8**
ZOU						IAmb	IAmb	16 56 19.8
	comp=Z,3.5nm,0.7s							
ABTA	**Abfaltersbach**	**85.53**	**327**	*i*	P		**P**	**16 56 16.8 -0.2**
	comp=Z,3.6nm,0.9s							
BFO	**Black Forest**	**86.08**	**330**		P		**P**	**16 56 19.4 -0.3**
BFO	**Black Forest**	**86.08**	**330**		P		**P**	**16 56 19.4 -0.3**
BFO						IAmb	IAmb	16 56 20.8
	comp=Z,6.0nm,1.0s							
NRCA	**Norcia**	**88.23**	**324**		P		**P**	**16 56 30.0 -0.2**
NRCA						IAmb	IAmb	16 56 31.5
	comp=Z,6.8nm,0.7s							
TXAR	**Lajitas Array**	**91.85**	**52**		P		**P**	**16 56 47.6 +0.3**
	comp=Z,0.1nm,0.3s,baz=299,slow=2.6,SNR=4.7							
TORD	**Torodi Ar. Bea**	**117.62**	**313**		PKP		**PKPdf**	**17 02 24.7 -0.5**
	comp=Z,0.9nm,0.5s,baz=24,slow=2.1,SNR=6.4							
DBIC	**Dimbokro**	**126.63**	**315**		PKP		**PKPdf**	**17 02 42.0 -0.6**
	comp=Z,3.5nm,0.8s,baz=231,slow=2.2,SNR=4.4							
DBIC	**Dimbokro**	**126.63**	**315**		PKIKP		**PKPdf**	**17 02 42.0 -0.6**
H03N2	**Juan Fernandez**	**147.87**	**98**		T		T	19 49 09.8
	baz=290,slow=76,SNR=8.0							
H03N3	**Juan Fernandez**	**147.88**	**98**		T		T	19 49 07.9
	baz=290,slow=76,SNR=11							
H03N1	**Juan Fernandez**	**147.89**	**98**		T		T	19 48 52.6
	baz=290,slow=76,SNR=5.1							
LPAZ	**La Paz**	**148.33**	**60**		PKPbc		**PKiKP**	**17 03 27.2 -0.6**
	comp=Z,1.2nm,0.5s,baz=6.0,slow=11,SNR=8.4							
PB11	**IPOC Station P**	**149.44**

	comp=Z,21nm,1.1s							
AC01	**Pan de Azucar**	**45.28**	**298**	P		**P**	**16 53 21.2**	**+1.0**
AC01				IAmb		IAmb	16 53 57.5	
	comp=Z,20nm,1.4s							
GO02	**Mina Guanaco**	**45.69**	**300**	P		**P**	**16 53 24.2**	**+0.5**
GO02				IAmb		IAmb	16 54 03.2	
	comp=Z,39nm,1.6s							
BOSA	**Boshof**	**46.48**	**71**	P		**P**	**16 53 30.8**	**+1.0**
	comp=Z,4.0nm,0.8s,baz=269,slow=15,SNR=2.1							
BOSA				LR		LR	17 09 02.5	
	comp=Z,115nm,20.0s,baz=209,slow=31							
BOSA	**Boshof**	**46.48**	**71**	P		**P**	**16 53 30.5**	**+0.7**
BOSA				IAmb		IAmb	16 53 36.9	
	comp=Z,44nm,1.8s							
BDFB	**Brasilia**	**46.77**	**331**	P		**P**	**16 53 32.1**	**0.0**
	comp=Z,1.6nm,0.4s,baz=104,slow=8.3,SNR=3.7							
BDFB				LR		LR	17 10 52.8	
	comp=Z,185nm,20.0s,baz=150,slow=33							
BDFB	**Brasilia**	**46.77**	**331**	P		**P**	**16 53 31.6**	**-0.5**
BDFB				IAmb		IAmb	16 54 03.8	
	comp=Z,17nm,1.3s							
PB10	**IPOC Station P**	**47.55**	**300**	P		**P**	**16 53 38.6**	**+0.6**
PB09	**IPOC Station P**	**48.48**	**302**	P		**P**	**16 53 46.2**	**+0.8**
PB09				IAmb		IAmb	16 54 25.9	
	comp=Z,14nm,0.8s							
PB07	**IPOC Station P**	**48.82**	**301**	P		**P**	**16 53 48.4**	**+0.3**
PB07				IAmb		IAmb	16 53 49.9	
	comp=Z,7.7nm,0.7s							
PB01	**IPOC Station P**	**49.25**	**302**	P		**P**	**16 53 51.3**	**0.0**
PB01				IAmb		IAmb	16 54 08.9	
	comp=Z,8.3nm,0.8s							
LBTB	**Lobatse**	**49.67**	**69**	P		**P**	**16 53 54.8**	**+0.4**
	comp=Z,11nm,1.0s,baz=180,slow=8.0,SNR=5.4							
LBTB	**Lobatse**	**49.67**	**69**	P		**P**	**16 53 54.3**	**-0.1**
PB08	**IPOC Station P**	**49.91**	**303**	P		**P**	**16 53 58.0**	**+1.4**
PB08				IAmb		IAmb	16 53 58.7	
	comp=Z,8.0nm,1.0s							
CASY	**Casey**	**50.33**	**159**	P		**P**	**16 53 59.9**	**+1.1**
GO01	**Chusmiza**	**50.35**	**303**	P		**P**	**16 54 00.4**	**+0.4**
GO01				IAmb		IAmb	16 54 17.1	
	comp=Z,8.9nm,1.1s							
PB11	**IPOC Station P**	**50.46**	**303**	P		**P**	**16 54 01.3**	**+0.8**
PB11				IAmb		IAmb	16 54 34.7	
	comp=Z,8.6nm,0.9s							
PSGCX	**Pisagua**	**50.81**	**302**	P		**P**	**16 54 04.0**	**+1.0**
MNMC	**Minye Minye**	**50.99**	**303**	P		**P**	**16 54 04.9**	**+0.2**
MNMC				IAmb		IAmb	16 54 14.5	
	comp=Z,11nm,0.7s							
TSUM	**Tsumeb**	**51.09**	**57**	P		**P**	**16 54 05.5**	**+0.3**
H10S2	**ASCENSION HYDR**	**51.34**	**15**	T		T	17 49 50.9	
	baz=33,slow=74,SNR=3.6							
H10S3	**ASCENSION HYDR**	**51.35**	**15**	T		T	17 49 49.9	
	baz=187,slow=74,SNR=16							
H10N1	**ASCENSION HYDR**	**52.46**	**15**	T		T	17 51 08.9	
	SNR=3.9							
H10N3	**ASCENSION HYDR**	**52.46**	**15**	T		T	17 51 13.8	
	baz=266,slow=74,SNR=19							
H10N2	**ASCENSION HYDR**	**52.48**	**15**	T		T	17 51 42.8	
	baz=188,slow=74,SNR=13							
LPAZ	**La Paz**	**52.93**	**306**	P		**P**	**16 54 19.3**	**-0.1**
	comp=Z,1.6nm,0.4s,baz=86,slow=7.3,SNR=8.6							
LPAZ				LR		LR	17 18 41.9	
	comp=Z,63nm,19.8s,baz=160,slow=38							
LPAZ	**La Paz**	**52.93**	**306**	P		**P**	**16 54 19.5**	**+0.1**
RCBR	**Riachuelo**	**54.22**	**348**	P		**P**	**16 54 26.6**	**-1.6**
SAML	**Samuel**	**57.74**	**315**	P		**P**	**16 54 50.9**	**-2.4**
LSZ	**Lusaka**	**59.28**	**66**	P		**P**	**16 55 04.7**	**+0.5**
RPN	**Rapa Nui**	**63.59**	**261**	LR		LR	17 15 37.9	
	comp=Z,67nm,21.9s,baz=138,slow=29							
DBIC	**Dimbokro**	**68.27**	**23**	LR		LR	17 20 53.1	
	comp=Z,75nm,18.2s,baz=114,slow=32							
ROSC	**El Rosal**	**74.61**	**310**	LR		LR	17 30 24.8	
	comp=Z,57nm,21.5s,baz=140,slow=36							
KMBO	**Kilima Mbogo**	**75.89**	**67**	LR		LR	17 27 12.0	
	comp=Z,211nm,19.5s,baz=79,slow=33							
TORD	**Torodi Ar. Bea**	**75.97**	**28**	P		**P**	**16 56 50.3**	**+1.1**
	comp=Z,6.6nm,0.8s,baz=197,slow=6.4,SNR=22							
TORD				LR		LR	17 25 11.7	
	comp=Z,116nm,19.0s,baz=160,slow=32							
STKA	**Stephens Creek**	**88.24**	**170**	LR		LR	17 35 36.1	
	comp=Z,87nm,19.8s,baz=205,slow=34							
PPT	**Papeete**	**90.46**	**233**	LR		LR	17 31 12.2	
	comp=Z,110nm,20.0s,baz=197,slow=31							
MDT	**Midelt**	**93.85**	**18**	LR		LR	17 34 18.7	
	comp=Z,46nm,21.9s,baz=164,slow=32							
TEIG	**Tepich**	**94.18**	**304**	LR		LR	17 43 27.8	
	comp=Z,19nm,20.9s,baz=228,slow=37							
ASAR	**Alice Springs**	**95.38**	**162**	P		**P**	**16 58 26.6**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=180,slow=3.6,SNR=14							
ASAR				LR		LR	17 38 17.9	
	comp=Z,271nm,20.8s,baz=200,slow=34							
KEST	**Kesra**	**99.49**	**29**	LR		LR	17 40 00.1	
	comp=Z,63nm,18.9s,baz=234,slow=33							
CMAR	**Chiang Mai Arr**	**123.26**	**112**	PKP		**PKiKP**	**17 03 59.3**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=246,slow=4.0,SNR=14							
GAR	**Garm**	**125.79**	**73**			**PKiKP**	**17 04 03.7**	**0.0**
LSA	**Lhasa**	**128.87**	**97**			**PKPdf**	**17 04 09.0**	**-0.9**
AAK	**Ala-Archa**	**130.61**	**73**			**PKPdf**	**17 04 12.6**	**+0.2**
BOOM	**Boomskoye usch**	**131.21**	**74**			**PKiKP**	**17 04 14.5**	**+0.1**
SUMG	**Summit**	**132.23**	**355**			**PKiKP**	**17 04 15.4**	**-0.5**
ARCES	**ARCESS Array B**	**134.10**	**23**	PKP		**PKiKP**	**17 04 19.6**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=262,slow=1.8,SNR=2.5							
BRVK	**Borovoye**	**136.18**	**60**			**PKiKP**	**17 04 24.0**	**+0.1**
MKAR	**Makanchi Array**	**137.44**	**74**	PKhKP		PKPpre	17 04 17.3	
	comp=Z,0.2nm,0.6s,baz=258,slow=6.1,SNR=3.9							
MKAR				PKP		**PKPdf**	**17 04 23.9**	**-0.9**
	comp=Z,1.6nm,1.0s,baz=240,slow=2.4,SNR=7.8							
YKA	**Yellowknife Ar**	**139.16**	**315**	PKP		**PKPdf**	**17 04 26.9**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=95,slow=1.4,SNR=2.2							
ZALV	**Zalesovo Beam**	**143.37**	**68**	PKhKP		PKPpre	17 04 32.2	
	comp=Z,1.0nm,0.4s,baz=246,slow=3.5,SNR=6.7							
SONM	**Songino Array**	**150.24**	**92**	PKPbc		**PKiKP**	**17 04 53.1**	**-0.1**
	comp=Z,12nm,0.9s,baz=220,slow=2.4,SNR=54							
ULN	**Ulaanbaatar**	**150.60**	**93**			**PKPbc**	**17 04 53.2**	**0.0**
DOT	**Dot Lake**	**151.27**	**305**			**PKiKP**	**17 04 54.4**	**-0.2**
SCRK	**Sand Creek**	**151.36**	**306**			**PKPbc**	**17 04 54.3**	**-0.2**
KSRS	**Korea Array**	**152.27**	**132**	PKPbc		**PKPbc**	**17 04 57.0**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=207,slow=1.4,SNR=8.2							
ILAR	**Eielson Array**	**152.81**	**306**	PKPbc		**PKPbc**	**17 04 57.1**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=147,slow=1.9,SNR=10							

*IDC **19** 16:57:23.1±5.8, 18°.35S×172°.92W, h0km, mb4.2/2, mb1 4.4/2, mb1mx3.7/23, mbtmp4.2/2, Error ellipse: s-maj=313.2km s-min=45.8km az=147.0*
*NEIC **19** 16:57:23.1±1.8, 17°.5S±0°.1×172°.5W±0°.1, h32km±8km, mb4.7/4, Error ellipse: s-maj=20.8km s-min=11.4km az=52.0*

ISC 19 16:57:22.9±1.2, 17°.8S±0°.2×172°.5W±0°.1, h21km, n10, σ2s07/10, mb4.6/4, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**2.79**	**118**		**Pn**	**16 58 06.7**	**+0.3**
NIUE				Sn	**Sn**	16 58 37.5	**-1.9**
AFI	**Afiamalu**	**3.90**	**11**	Pn	Pn	16 58 18.2	-3.4
BKZ	**Black Stump Fm**	**23.37**	**202**	P	**P**	**17 02 33.2**	**+3.2**
BKZ				IAmb	IAmb	17 02 47.8	
	comp=Z,27nm,1.4s						
QRZ	**Quartz Range**	**26.34**	**206**	P	**P**	**17 02 59.2**	**+1.8**
COEN	**Coen**	**42.71**	**269**	P	**P**	**17 05 17.1**	**-1.6**
COEN				IAmb	IAmb	17 05 22.4	
	comp=Z,26nm,1.6s						
BBOO	**Buckleboo**	**48.39**	**242**	P	**P**	**17 06 01.7**	**-1.9**
WRA	**Warramunga Arr**	**50.16**	**259**	P	**P**	**17 06 16.5**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=98,slow=6.7,SNR=21						
ASAR	**Alice Springs**	**50.21**	**254**	P	**P**	**17 06 17.5**	**-0.2**
	comp=Z,3.9nm,0.6s,baz=89,slow=8.8,SNR=83						
BRTR	**Keskin Array B**	**148.50**	**319**	PKPbc	**PKPab**	**17 17 13.4**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=141,slow=5.2,SNR=3.6						
GERES	**GERESS Array B**	**148.59**	**352**	PKPbc	**PKiKP**	**17 17 11.9**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=324,slow=4.8,SNR=3.7						

LDG 19 16:58:01.9±0.1, 44°.53N×6°.71E, h2km, Md1.5/2, Ml1.2/2, Error ellipse: s-maj=3.6km s-min=2.0km az=59.0, France

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MBDF	**Montbardon**	**0.20**	**13**	*e*Pg	Pg	16 58 07.4	+1.6
MBDF				*e*Sg	Sg	16 58 09.7	+1.3
ORIF	**Oris-en-Rattie**	**0.70**	**303**	*e*Pg	Pg	16 58 15.2	-0.2
ORIF				*e*Sg	Sg	16 58 24.5	-0.1
LPG	**La Plagne**	**0.96**	**2**	*e*Pg	Pg	16 58 20.5	+0.1
LPG				*e*Sg	Sg	16 58 32.4	-0.5
	0.3nm,0.2s						
LPL	**La Plagne**	**0.98**	**1**	*e*Pg	Pg	16 58 20.2	-0.5
LPL				*e*Sg	Sg	16 58 33.2	-0.3
	0.9nm,0.3s						

IDC 19 17:00:16.0±11.0, 10°.65N×141°.06E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/29, mbtmp3.9/4, MS3.4/3, Ms1 3.4/3, ms1mx2.8/33, Error ellipse: s-maj=317.3km s-min=64.7km az=179.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**29.19**	**338**	LR	LR	17 17 24.3	
	comp=Z,17nm,20.5s,baz=235,slow=35						
MKAR	**Makanchi Array**	**61.08**	**318**	P	P	17 10 32.8	+0.8
	0.2nm,0.5s,baz=102,slow=8.9,SNR=5.8						
ZALV	**Zalesovo Beam**	**61.90**	**326**	P	P	17 10 36.4	-0.9
	0.4nm,0.3s,baz=129,slow=11,SNR=2.4						
ILAR	**Eielson Array**	**72.80**	**25**	P	P	17 11 46.6	+0.3
	0.3nm,0.5s,baz=268,slow=6.1,SNR=2.9						
GEYT	**Alibeck**	**78.00**	**307**	LR	LR	17 50 31.6	
	comp=Z,41nm,20.9s,baz=220,slow=39						
FINES	**FINESS Array B**	**92.20**	**334**	P	P	17 13 27.0	-0.6
	4.2nm,1.1s,baz=56,slow=4.3,SNR=10						
FINES				LR	LR	17 56 20.5	
	comp=Z,40nm,20.6s,baz=200,slow=36						

*NEIC **19** 17:04:31.4±1.5, 24°.9S±0°.1×179°.8E±0°.2, h485km±7km, mb4.6/25, Error ellipse: s-maj=20.8km s-min=14.9km az=90.0*
*IDC **19** 17:04:33.7±2.0, 24°.88S×179°.65E, h497km±19km, mb3.6/10, mb1 3.7/10, mb1mx3.5/22, mbtmp4.5/10, Error ellipse: s-maj=22.6km s-min=15.3km az=141.0*

ISC 19 17:04:32.8±0.6, 24°.94S±0°.08×179°.82E±0°.10, h501km, n52, σ1s06/54, mb4.5/24, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.75**	**155**	P	**P**	**17 05 58.2**	**+0.7**
MSVF	**Nonsavu**	**7.36**	**347**	P	**P**	**17 06 23.0**	**+0.1**
AFI	**Afiamalu**	**13.53**	**37**	P	**P**	**17 07 26.2**	**-1.7**
BKZ	**Black Stump Fm**	**14.46**	**190**	P	**P**	**17 07 35.6**	**-1.6**
QRZ	**Quartz Range**	**16.97**	**199**	P	**P**	**17 08 03.0**	**-0.3**
TUWZ	**Tuamarina**	**17.16**	**195**	P	**P**	**17 08 02.9**	**-2.2**
THZ	**Tophouse**	**17.73**	**197**	P	**P**	**17 08 09.0**	**-1.5**
LTZ	**Lake Taylor**	**18.85**	**197**	P	**P**	**17 08 21.1**	**+0.3**
HNR	**Honiara**	**24.40**	**306**	P	**P**	**17 09 10.7**	**-0.5**
	94nm,0.7s,baz=186,slow=2.3,SNR=6.8						
HNR	**Honiara**	**24.40**	**306**	P	**P**	**17 09 10.3**	**-0.9**
EIDS	**Eidsvold**	**25.99**	**263**	P	**P**	**17 09 24.7**	**-0.5**
EIDS				IAmb	IAmb	17 09 27.2	
	comp=Z,8.8nm,0.8s						
CTAO	**Charters Tower**	**31.33**	**272**	P	**P**	**17 10 12.8**	**+1.0**
CTAO				IAmb	IAmb	17 10 13.6	
	comp=Z,21nm,0.6s						
KRVT	**Keravat (AS076**	**33.68**	**303**	P	**P**	**17 10 31.6**	**-0.2**
	comp=Z,15nm,0.4s,baz=8.6,slow=1.4,SNR=5.8						
STKA	**Stephens Creek**	**34.19**	**249**	P	**P**	**17 10 36.9**	**+1.0**
	comp=Z,2.1nm,0.5s,baz=99,slow=12,SNR=7.9						
STKA	**Stephens Creek**	**34.19**	**249**	P	**P**	**17 10 36.7**	**+0.8**
COEN	**Coen**	**36.13**	**281**	P	**P**	**17 10 53.5**	**+1.1**
BBOO	**Buckleboo**	**38.89**	**248**	P	**P**	**17 11 14.2**	**-0.6**
BBOO				IAmb	IAmb	17 12 49.3	
	comp=Z,40nm,1.3s						
AS31	**Alice Springs**	**41.71**	**262**	P	**P**	**17 11 37.8**	**+0.3**
ASAR	**Alice Springs**	**41.71**	**262**	P	**P**	**17 11 37.6**	**+0.1**
	comp=Z,3.6nm,0.6s,baz=87,slow=7.0,SNR=121						
ASAR				ScP	**ScP**	**17 16 27.2**	**+2.3**
	comp=Z,0.6nm,1.0s,baz=104,slow=3.9,SNR=2.3						
ASAR				S	**S**	**17 17 17.3**	**-0.8**
	comp=Z,0.7nm,1.0s,baz=95,slow=20,SNR=3.5						
WR0	**Warramunga Arr**	**41.99**	**267**	P	**P**	**17 11 39.5**	**-0.2**
WR0				IAmb	IAmb	17 11 43.7	
	comp=Z,36nm,1.8s						
WB2	**Warramunga Arr**	**42.17**	**267**	P	**P**	**17 11 41.0**	**-0.2**
WB2				IAmb	IAmb	17 11 41.4	
	comp=Z,11nm,0.5s						
WRAB	**Tennant Creek**	**42.17**	**267**	P	**P**	**17 11 40.4**	**-0.8**
WRAB				IAmb	IAmb	17 11 41.3	
	comp=Z,7.8nm,0.5s						
WB0	**Warramunga Arr**	**42.18**	**268**	P	**P**	**17 11 40.9**	**-0.3**
WRA	**Warramunga Arr**	**42.18**	**267**	P	**P**	**17 11 41.0**	**-0.2**
	comp=Z,8.3nm,0.5s,baz=101,slow=7.9,SNR=85						
WRA				ScP	**ScP**	**17 16 29.9**	**+3.1**
	comp=Z,1.4nm,0.7s,baz=103,slow=3.6,SNR=8.1						
WRA				S	**S**	**17 17 22.3**	**-2.5**
	comp=Z,1.6nm,1.0s,baz=103,slow=14,SNR=3.8						
KNRA	**Kununurra**	**48.52**	**271**		**P**	**17 12 30.3**	**+0.3**
KNRA				IAmb	IAmb	17 12 30.7	
	comp=Z,18nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.59**	**267**	P	**P**	**17 12 45.6**	**+0.4**
MORW	**Morawa**	**56.37**	**251**	P	**P**	**17 13 25.9**	**-0.2**
MORW				IAmb	IAmb	17 14 28.1	
	comp=Z,89nm,2.0s						
CASY	**Casey**	**59.11**	**206**	P	**P**	**17 13 43.9**	**-0.2**
CASY				IAmb	IAmb	17 15 03.4	
	comp=Z,42nm,1.8s						
JAGI	**Jajag, Banyuwa**	**64.44**	**272**	P	**P**	**17 14 19.0**	**-0.9**
QSPA	**South Pole Qui**	**65.15**	**180**	P	**P**	**17 14 24.2**	**+0.6**
QSPA				IAmb	IAmb	17 14 26.1	
	comp=Z,15nm,1.4s						
MJAR	**Matsushiro Arr**	**72.66**	**326**	P	**P**	**17 15 09.0**	**-0.2**
	comp=Z,3.7nm,0.7s,baz=166,slow=6.4,SNR=10						
MAJO	**Matsushiro**	**72.66**	**326**	P	**P**	**17 15 09.5**	**+0.3**
TPUB	**Ta-pu**	**74.77**	**305**	P	**P**	**17 15 20.4**	**-1.2**
TPUB				IAmb	IAmb	17 15 36.5	
	comp=Z,14nm,1.0s						
SSLB	**Suanglung**	**74.82**	**306**	P	**P**	**17 15 20.6**	**-1.2**
SSLB				IAmb	IAmb	17 15 55.7	
	comp=Z,23nm,1.6s						
MAW	**Mawson**	**76.72**	**201**	P	**P**	**17 15 32.6**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=160,slow=6.6,SNR=1.9						
MAW	**Mawson**	**76.72**	**201**	P	**P**	**17 15 32.3**	**+0.7**
KSRS	**Korea Array**	**78.94**	**320**	P	**P**	**17 15 45.2**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=137,slow=5.9,SNR=8.8						
PETK	**Petropavlovsk-**	**80.07**	**347**	P	**P**	**17 15 50.2**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=138,slow=7.3,SNR=13						
USRK	**Ussuriysk Ar.**	**81.55**	**327**	P	**P**	**17 15 58.6**	**+1.1**
	comp=Z,1.4nm,0.5s,baz=102,slow=3.6,SNR=3.8						
SNAA	**Sanae**	**85.83**	**179**	P	**P**	**17 16 07.4**	**-0.5**
SNAA	**Sanae**	**83.63**	**179**	P	**P**	**17 16 07.3**	**-0.5**
VNA3	**Neumayer Olymp**	**83.85**	**177**	P	**P**	**17 16 08.7**	**-0.2**
ENH	**Enshi**	**86.90**	**305**	P	**P**	**17 16 24.9**	**+0.6**
ENH				IAmb	IAmb	17 16 26.1	
	comp=Z,5.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**89.73**	**290**	P	**P**	**17 16 39.9**	**+2.2**
	comp=Z,1.7nm,0.9s,baz=138,slow=3.7,SNR=10						
FINES	**FINESS Array B**	**139.37**	**341**	PKhKP	PKPpre	17 22 53.7	
	comp=Z,0.6nm,0.5s,baz=26,slow=9.3,SNR=7.6						
FINES				SKPbc	**SKiKP**	**17 25 51.9**	**-1.0**
	comp=Z,4.2nm,0.8s,baz=41,slow=3.5,SNR=7.9						
NB2	**NORSAR Subarra**	**143.08**	**351**	PKP	PKPab	17 23 06.3	0.0
	comp=Z,1.5nm,0.9s,baz=20,slow=4.1						
NOA	**NORSAR Array B**	**143.08**	**351**	PKhKP	PKPab	17 23 05.8	-0.5
	comp=Z,1.8nm,0.8s,baz=21,slow=3.9,SNR=5.4						
HFS	**Hagfors**	**143.53**	**348**	PKhKP	PKPpre	17 23 07.7	
	comp=Z,7.6nm,0.6s,baz=66,slow=3.6,SNR=32						
AKASG	**Malin Array Be**	**145.75**	**326**	PKPbc	**PKPbc**	**17 23 14.4**	**-0.7**
	comp=Z,2.7nm,0.5s,baz=44,slow=4.5,SNR=17						
BRTR	**Keskin Array B**	**148.06**	**306**	PKPbc	**PKPbc**	**17 23 21.8**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=136,slow=3.5,SNR=6.3						
BRTR				PKPab	**PKPab**	**17 23 26.3**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=95,slow=4.1,SNR=6.3						
GERES	**GERESS Array B**	**153.77**	**339**	PKPab	**PKPab**	**17 23 50.5**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=10,slow=8.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**168.14**	**189**	PKPab	**PKPab**	**17 24 53.1**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=224,slow=6.0,SNR=2.3						

KRSC 19 17:09:47.7±1.4, 48°.22N×155°.99E, h61km±32km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.47**	**2**	P	Pn	17 10 27.6	+2.2
SKR				S	Sn	17 10 57.1	+2.7
PAU	**Pauzhetka**	**3.29**	**9**	P	Pn	17 10 39.4	+2.7
PAU				S	Sn	17 11 18.6	+4.0
MIPR	**Malaya Ipel'ka**	**4.09**	**7**	P	Pn	17 10 49.0	+1.3
ASAK	**Asacha**	**4.34**	**16**	P	Pn	17 10 54.7	+3.5
ASAK				S	Sn	17 11 43.8	+3.3
MTVR	**Mutnovka**	**4.49**	**17**	P	Pn	17 10 57.2	+3.9
MTVR				S	Sn	17 11 48.4	+4.2
RUS	**Russkaya**	**4.52**	**20**	P	Pn	17 10 56.1	+2.7
RUS				S	Sn	17 11 47.2	+2.6
GRL	**Gorelyy**	**4.54**	**16**	P	Pn	17 10 57.9	+4.0
GRL				S	Sn	17 11 49.8	+4.5
DALK	**Dalny**	**5.13**	**19**	P	Pn	17 11 05.3	+3.5
DALK				S	Sn	17 12 02.7	+3.1
KOK	**Koryaka**	**5.35**	**17**	P	Pn	17 11 10.2	+5.3
KRX	**Arik**	**5.41**	**17**	P	Pn	17 11 10.1	+4.2
SPN	**Mys Shipunski**	**5.51**	**26**	P	Pn	17 11 10.7	+3.6
SPN				S	Sn	17 12 12.9	+3.8

*IDC **19** 17:44:12.0±1.8, 2°.30S×100°.69E, h0km, mb4.1/8, mb1 4.2/8, mb1mx3.8/50, mbtmp4.1/8, Error ellipse: s-maj=90.3km s-min=17.0km az=55.0*
*NEIC **19** 17:44:20.1±1.3, 2°.35S±0°.03×100°.65E±0°.08, h66km±7km, mb4.2/4, Error ellipse: s-maj=11.5km s-min=3.2km az=109.0*
*DJA **19** 17:44:21.0±0.5, 2°.5±3°×101°E±°, h27km±6km, M4.1/9, mb4.5/1, MLv3.9/9*

ISC 19 17:44:18.6±0.7, 2°.24S±0°.05×100°.77E±0°.05, h35km, n31, σ2s58/32, mb4.1/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRJI	**Kerinci**	**0.71**	**78**	P	**Pn**	**17 44 34.9**	**+2.7**
KRJI				S	**Sn**	**17 44 46.7**	**+4.7**
PPSI	**Pulau Pagai**	**0.92**	**235**	P	**Pn**	**17 44 37.3**	**+2.3**
PPSI				S	**Sn**	**17 44 53.9**	**+6.9**
PDSI	**Padang**	**1.35**	**347**	P	**Pn**	**17 44 43.2**	**+2.2**
PDSI				S	**Sn**	**17 45 00.5**	**+2.8**
SDSI	**Sungai Dareh**	**1.46**	**27**	P	**Pn**	**17 44 45.6**	**+3.2**
SISI	**Saibi**	**1.91**	**298**	P	**Pn**	**17 44 51.2**	**+2.6**
MNAI	**Manna**	**3.04**	**134**	Pn	**Pn**	**17 45 06.2**	**+2.1**
MNSI	**Mandailing Nat**	**3.24**	**338**	P	**Pn**	**17 45 10.8**	**+3.9**
GSI	**Gunungsitoli**	**4.75**	**318**	Pn	**Pn**	**17 45 28.4**	**+0.7**
MYKOM	**Kota Tinggi**	**5.05**	**38**	Pn	**Pn**	**17 45 35.3**	**+3.4**
KULM	**Kulim**	**7.48**	**359**	Pn	**Pn**	**17 46 08.5**	**+3.3**
CMAR	**Chiang Mai Arr**	**20.64**	**355**	P	**P**	**17 48 53.2**	**-2.1**
	0.3nm,0.6s,baz=185,slow=9.1,SNR=3.4						
H08S2	**Diego Garcia H**	**28.66**	**258**	T	T	18 19 29.0	
	baz=81,slow=75,SNR=6.7						
H08S3	**Diego Garcia H**	**28.67**	**258**	T	T	18 19 27.0	
	baz=81,slow=75,SNR=6.9						
H08S1	**Diego Carcia H**	**28.68**	**258**	T	T	18 19 25.7	
	baz=81,slow=75,SNR=6.0						
WB0	**Warramunga Arr**	**37.19**	**120**	P	**P**	**17 51 24.9**	**-1.9**
WRA	**Warramunga Arr**	**37.21**	**121**	P	**P**	**17 51 25.4**	**-1.5**
	0.6nm,0.4s,baz=290,slow=10.0,SNR=16						
WRAB	**Tennant Creek**	**37.22**	**121**	P	**P**	**17 51 25.0**	**-1.9**
WB2	**Warramunga Arr**	**37.22**	**121**	P	**P**	**17 51 25.2**	**-1.8**
WR0	**Warramunga Arr**	**37.39**	**121**	P	**P**	**17 51 26.7**	**-1.7**
ASAR	**Alice Springs**	**38.49**	**126**	P	**P**	**17 51 36.8**	**-1.0**
	1.8nm,0.6s,baz=302,slow=7.8,SNR=40						
ASAR				PcP	**PcP**	**17 53 49.2**	**-1.2**
	0.3nm,0.4s,baz=292,slow=2.4,SNR=4.3						
AS31	**Alice Springs**	**38.49**	**126**	P	**P**	**17 51 36.4**	**-1.3**
SONM	**Songino Array**	**50.11**	**5**	P	**P**	**17 53 09.8**	**-0.6**
	0.7nm,0.6s,baz=191,slow=7.6,SNR=5.1						
MKAR	**Makanchi Array**	**51.47**	**344**	P	**P**	**17 53 19.8**	**-0.7**
	3.3nm,0.6s,baz=159,slow=9.1,SNR=39						
MAKZ	**Makanchi**	**51.57**	**344**	P	**P**	**17 53 20.3**	**-0.9**
MAKZ				IAmb	IAmb	17 53 21.2	
	comp=Z,1.9nm,0.8s						
KURBB	**Kurchatov Arra**	**55.99**	**343

	baz=255								
CHN2	**Minshiung**	**0.49**	**313**	*e*P		**Pb**	**17 46 44.4**	**-0.9**
	baz=315								
CHN2				*e*S		**Sb**	**17 46 52.9**	**-0.2**
	baz=315								
WHYT	**Xinyi Township**	**0.49**	**358**⇑	*i*P		**Pb**	**17 46 44.0**	**-1.4**
	baz=9.0								
WHYT				*e*S		**Sb**	**17 46 51.0**	**-2.2**
	baz=9.0								
SSD	**Sandimen**	**0.50**	**206**⇑	*i*P		**Pg**	**17 46 43.2**	**-0.3**
	baz=198								
SSD				*e*S		**Sg**	**17 46 49.4**	**-0.6**
	baz=198								
CHY	**Chiayi**	**0.51**	**306**⇓	*i*P		**Pb**	**17 46 44.6**	**-1.0**
	baz=309								
CHY				*e*S		**Sb**	**17 46 52.7**	**-0.8**
	baz=309								
TTN	**Taitung**	**0.51**	**150**	*e*P		**Pb**	**17 46 44.8**	**-0.9**
	baz=158								
TTN				*e*S		**Sb**	**17 46 52.9**	**-0.8**
	baz=158								
EHY	**Hungye**	**0.52**	**54**⇑	*i*P		**Pb**	**17 46 44.5**	**-1.3**
	baz=63								
EHY				*e*S		**Sg**	**17 46 51.0**	**+0.5**
	baz=63								
TWM1	**Shoushan**	**0.56**	**228**	P		**Pb**	**17 46 46.7**	**+0.3**
	baz=216								
WGK	**Gukeng**	**0.56**	**330**⇓	*i*P		**Pb**	**17 46 46.2**	**-0.3**
	baz=332								
WGK				*e*S		**Sb**	**17 46 54.9**	**-0.2**
	baz=332								
WDLH	**Douliu**	**0.57**	**328**⇓	*i*P		**Pb**	**17 46 46.3**	**-0.5**
	baz=330								
WDLH				*e*S		**Sb**	**17 46 55.6**	**+0.1**
	baz=330								
SGLT	**Jiouru**	**0.59**	**216**	P		**Pb**	**17 46 46.3**	**-0.7**
	baz=208								
SGLT				*e*S		**Sb**	**17 46 54.4**	**-1.4**
	baz=208								
SSLB	**Suanglung**	**0.59**	**8**⇑	*i*P		**Pg**	**17 46 45.3**	**+0.1**
	baz=17								
SSLB				*e*S		**Sg**	**17 46 53.4**	**+0.5**
	baz=17								
WLGB	**Puzi**	**0.59**	**298**⇓	*i*P		**Pb**	**17 46 46.3**	**-0.8**
	baz=300								
WLGB				S		**Sb**	**17 46 56.6**	**+0.6**
	baz=300								
ECL	**Taimali**	**0.60**	**173**⇑	*i*P		**Pg**	**17 46 45.5**	**0.0**
	baz=160								
ECL				*e*S		**Sb**	**17 46 54.3**	**-2.0**
	baz=160								
VWDT	**VWDT**	**0.61**	**24**⇑	*i*P		**Pb**	**17 46 46.0**	**-1.4**
	baz=27								
VWDT				*e*S		**Sb**	**17 46 55.9**	**-0.5**
	baz=27								
TAI1	**Yung-k'ang**	**0.61**	**255**	*e*P		**Pn**	**17 46 48.7**	**-1.1**
	baz=269								
TAI1				*e*S		**Sn**	**17 46 58.5**	**-1.8**
	baz=269								
CHN8	**Yiju**	**0.62**	**284**⇓	*i*P		**Pg**	**17 46 46.5**	**+0.7**
	baz=285								
CHN8				*e*S		**Sb**	**17 46 57.3**	**+0.4**
	baz=285								
SCLT	**Jiali**	**0.62**	**268**	*e*P		**Pb**	**17 46 47.1**	**-0.5**
	baz=268								
SCLT				*e*S		**Sb**	**17 46 57.9**	**+1.0**
	baz=268								
MASBT	**Mashibuluo**	**0.62**	**200**⇑	*i*P		**Pg**	**17 46 45.4**	**-0.4**
	baz=205								
MASBT				*e*S		**Sg**	**17 46 52.5**	**-1.5**
	baz=205								
WJS	**Zhushan**	**0.63**	**348**⇑	*i*P		**Pb**	**17 46 47.3**	**-0.5**
	baz=350								
WJS				*e*S		**Sb**	**17 46 58.1**	**+0.9**
	baz=350								
SNJT	**Kaohsiung City**	**0.66**	**228**⇑	*i*P		**Pn**	**17 46 49.1**	**-1.3**
	baz=227								
SNJT				*e*S		**Sn**	**17 47 02.1**	**+0.6**
	baz=227								
SMLT	**Sun Moon Lake**	**0.68**	**2**⇑	*i*P		**Pb**	**17 46 47.6**	**-1.1**
	baz=13								
SMLT				*e*S		**Sn**	**17 46 60.0**	**-2.3**
	baz=13								
EGFH	**Guangfu**	**0.69**	**48**	*e*P		**Pb**	**17 46 47.5**	**-1.3**
	baz=57								
EGFH				*e*S		**Sb**	**17 46 58.2**	**-0.7**
	baz=57								
WNT	**Mingjian**	**0.70**	**346**⇑	*i*P		**Pb**	**17 46 48.8**	**-0.1**
	baz=348								
WNT				*e*S		**Sn**	**17 47 00.0**	**-2.4**
	baz=348								
TYC	**Yuchr**	**0.70**	**359**⇑	*i*P		**Pb**	**17 46 48.1**	**-0.8**
	baz=10.0								
TYC				*e*S		**Sn**	**17 47 00.0**	**-2.5**
	baz=10.0								
WSF	**Szhu**	**0.74**	**306**⇓	*i*P		**Pb**	**17 46 48.7**	**-0.9**
	baz=308								
WSF				S		**Sb**	**17 47 00.1**	**-0.1**
	baz=308								
SSPT	**Xinbi**	**0.77**	**201**⇑	*i*P		**Pg**	**17 46 48.7**	**+0.2**
	baz=201								
SSPT				*e*S		**Sb**	**17 47 00.1**	**-0.9**
	baz=201								
ESL	**Shilin**	**0.80**	**40**	*e*P		**Pb**	**17 46 49.5**	**-1.2**
	baz=42								
ESL				*e*S		**Sb**	**17 47 01.8**	**-0.2**
	baz=42								
OWD	**Renai**	**0.80**	**20**	*e*P		**Pg**	**17 46 49.0**	**-0.3**
	baz=32								
EAST	**Anshuo**	**0.81**	**181**	*e*P		**Pg**	**17 46 49.5**	**0.0**
	baz=170								
DPDB	**Guoxing**	**0.83**	**4**⇑	*i*P		**Pb**	**17 46 50.4**	**-0.9**
	baz=14								
DPDB				*e*S		**Sb**	**17 47 03.3**	**+0.3**
	baz=14								
RLNB	**Erlin**	**0.83**	**326**	P		**Pb**	**17 46 50.5**	**-0.6**
	baz=327								
RLNB				S		**Sb**	**17 47 03.1**	**+0.2**
	baz=327								
TAW	**Tawu**	**0.84**	**178**	*e*P		**Pg**	**17 46 50.0**	**+0.1**
	baz=169								
WMLT	**Mailiao**	**0.84**	**316**	*e*P		**Pg**	**17 46 49.6**	**-0.5**
	baz=317								
WMLT				*e*S		**Sb**	**17 47 03.2**	**-0.1**
	baz=317								
WTCT	**Ta-ch'eng**	**0.85**	**321**	*e*P		**Pb**	**17 46 50.9**	**-0.7**
	baz=322								
WTCT				*e*S		**Sb**	**17 47 03.8**	**+0.2**
	baz=322								
SCZT	**Fangliau**	**0.85**	**196**⇑	*i*P		**Pg**	**17 46 49.9**	**-0.4**
	baz=187								
CHGB	**Renai**	**0.90**	**18**⇑	*i*P		**Pg**	**17 46 51.0**	**-0.2**
	baz=19								
CHGB				*e*S		**Sn**	**17 47 05.9**	**-1.9**
	baz=19								
WCHH	**Zhanghua**	**0.92**	**342**	*e*P		**Pb**	**17 46 52.6**	**-0.1**
	baz=342								
WCHH				*e*S		**Sn**	**17 47 06.2**	**-1.8**
	baz=342								
WLCH	**Liuqiu**	**0.96**	**208**	*e*P		**Pn**	**17 46 55.6**	**+1.0**
	baz=206								
WLCH				*e*S		**Sn**	**17 47 11.7**	**+2.9**
	baz=206								
TCU	**Taichung**	**0.96**	**349**	*e*P		**Pb**	**17 46 53.2**	**-0.2**
	baz=350								
TCU				*e*S		**Sn**	**17 47 07.6**	**-1.4**
	baz=350								
TWP	**Hsiaoliuchiu**	**0.97**	**209**	*e*P		**Pn**	**17 46 55.8**	**+1.1**
	baz=207								
TWP				*e*S		**Sn**	**17 47 12.8**	**+3.7**
	baz=207								
WHF	**Hehuan Shan**	**1.01**	**21**⇑	*i*P		**Pg**	**17 46 53.0**	**-0.2**
	baz=22								
WHF				*e*S		**Sb**	**17 47 08.2**	**-0.3**
	baz=22								
HWA	**Hwalien**	**1.03**	**41**	*e*P		**Pn**	**17 46 54.8**	**-0.6**
	baz=43								
HWA				*e*S		**Sn**	**17 47 09.2**	**-1.3**
	baz=43								
WHP	**Taichung City**	**1.08**	**4**	*e*P		**Pb**	**17 46 54.8**	**-0.6**
	baz=14								
WHP				*e*S		**Sn**	**17 47 12.5**	**+0.6**
	baz=14								
TDCB	**Techi**	**1.08**	**14**	*e*P		**Pg**	**17 46 53.9**	**-0.8**
	baz=22								
TDCB				*e*S		**Sg**	**17 47 08.2**	**-0.5**
	baz=22								
TWT	**Tachien**	**1.09**	**15**	*e*P		**Pn**	**17 46 55.6**	**-0.8**
	baz=22								
TWT				*e*S		**Sn**	**17 47 12.2**	**-0.1**
	baz=22								
TWD	**Chiawan**	**1.10**	**37**	*e*P		**Pn**	**17 46 55.4**	**-1.1**
	baz=39								
TWD				*e*S		**Sn**	**17 47 11.4**	**-1.0**
	baz=39								
WDGT	**Dungji**	**1.11**	**273**⇓	*i*P		**Pg**	**17 46 54.5**	**-0.8**
	baz=272								
WDGT				*e*S		**Sg**	**17 47 10.1**	**+0.4**
	baz=272								
TWQ1	**Liyutan**	**1.15**	**356**	*e*P		**Pn**	**17 46 56.6**	**-0.5**
	baz=356								
TWQ1				*e*S		**Sn**	**17 47 13.2**	**-0.4**
	baz=356								
ETLH	**Xiulin Townshi**	**1.15**	**29**	*e*P		**Pb**	**17 46 55.7**	**-1.0**
	baz=43								
ETLH				*e*S		**Sn**	**17 47 14.8**	**+1.0**
	baz=43								
WDJ	**Dajia District**	**1.16**	**350**	*e*P		**Pn**	**17 46 57.6**	**+0.2**
	baz=350								
WDJ				*e*S		**Sn**	**17 47 13.6**	**-0.3**
	baz=350								
NACB	**Ninganchiao**	**1.18**	**34**⇑	*i*P		**Pb**	**17 46 56.1**	**-0.9**
	baz=48								
NACB				*e*S		**Sn**	**17 47 13.3**	**-0.9**
	baz=48								
HEN	**Hengchun**	**1.19**	**186**	*e*P		**Pn**	**17 46 57.2**	**-0.6**
	baz=179								
HEN				*e*S		**Sn**	**17 47 15.4**	**+0.7**
	baz=179								
NSY	**Sanyi**	**1.22**	**355**	*e*P		**Pn**	**17 46 57.8**	**-0.3**
	baz=355								
NSY				*e*S		**Sn**	**17 47 16.8**	**+1.6**
	baz=355								
PTSB	**Yuanli**	**1.25**	**353**	*e*P		**Pn**	**17 46 58.5**	**-0.1**
	baz=353								
PTSB				*e*S		**Sn**	**17 47 16.5**	**+0.3**
	baz=353								
TWK1	**Hengchun**	**1.25**	**183**	P		**Pn**	**17 46 58.2**	**-0.4**
	baz=178								
TWK1				*e*S		**Sn**	**17 47 16.7**	**+0.6**
	baz=178								
TWKBT	**Hengchun**	**1.25**	**182**	P		**Pn**	**17 46 58.1**	**-0.5**
	baz=178								
TWKBT				*e*S		**Sn**	**17 47 17.0**	**+0.9**
	baz=178								
PNG	**Penghu**	**1.26**	**287**⇓	*i*P		**Pg**	**17 46 56.7**	**-1.4**
	baz=270								
PNG				*e*S		**Sg**	**17 47 14.0**	**-0.4**
	baz=270								
TSEB	**Hengchuen, Pin**	**1.29**	**179**	*e*P		**Pb**	**17 46 58.5**	**-0.5**
	baz=176								
TSEB				*e*S		**Sn**	**17 47 17.1**	**0.0**
	baz=176								
NNSB	**Datong**	**1.31**	**21**⇑	*e*P		**Pg**	**17 46 58.1**	**-0.9**
	baz=37								
NNSB				*e*S		**Sn**	**17 47 18.8**	**+1.0**
	baz=37								
NNSH	**Datong**	**1.31**	**21**	*i* P		**Pg**	**17 46 58.1**	**-0.9**
	baz=16								
NNSH				*e*S		**Sn**	**17 47 18.5**	**+0.7**
	baz=16								
LAY	**Lan-yu**	**1.32**	**151**	*e*P		**Pn**	**17 46 58.1**	**-1.3**
	baz=150								
NNS	**Nan Shan**	**1.32**	**20**	*e*P		**Pg**	**17 46 58.2**	**-0.9**
	baz=15								
NNS				*e*S		**Sn**	**17 47 18.6**	**+0.6**
	baz=15								
VCHM	**Qimei**	**1.32**	**271**	*e*P		**Pn**	**17 46 57.3**	**-2.3**
	baz=270								
VCHM				*e*S		**Sg**	**17 47 14.0**	**-2.5**
	baz=270								
NMLH	**Miaoli**	**1.33**	**357**	*e*P		**Pg**	**17 46 59.6**	**+0.1**
	baz=356								
NMLH				*e*S		**Sn**	**17 47 19.1**	**+0.9**
	baz=356								
NSTT	**Nanjuang**	**1.43**	**5**	P		**Pg**	**17 47 01.3**	**0.0**
	baz=351								
NSTT				*e*S		**Sg**	**17 47 20.2**	**+0.3**
	baz=351								
LIOB	**Emei**	**1.45**	**5**	*e*P		**Pg**	**17 47 01.6**	**-0.1**
	baz=351								
LIOB				*e*S		**Sg**	**17 47 22.4**	**+2.1**
	baz=351								
ENA	**Nanau**	**1.46**	**33**	*e*P		**Pb**	**17 47 01.1**	**-0.8**
	baz=49								
ENA				*e*S		**Sg**	**17 47 21.5**	**+0.7**
	baz=49								
NDT	**Datong Townshi**	**1.52**	**23**	*e*P		**Pb**	**17 47 02.0**	**-0.9**
	baz=26								
NDT				*e*S		**Sg**	**17 47 24.3**	**+1.7**
	baz=26								
YHNB	**Yeheng**	**1.54**	**17**	P		**Pn**	**17 47 01.9**	**-0.7**
	baz=5.0								
YHNB				*e*S		**Sg**	**17 47 24.9**	**+1.7**
	baz=5.0								
NSK	**Sanguang**	**1.54**	**17**	*e*P		**Pb**	**17 47 02.2**	**-1.0**
	baz=5.0								
NSK				*e*S		**Sg**	**17 47 25.1**	**+1.8**
	baz=5.0								
ENTT	**Nioudou**	**1.57**	**24**	*e*P		**Pb**	**17 47 02.9**	**-0.9**
	baz=39								
ENTT				*e*S		**Sg**	**17 47 25.6**	**+1.2**
	baz=39								
SBCB	**Hsinchu**	**1.59**	**4**	*e*P		**Pg**	**17 47 03.9**	**-0.5**
	baz=3.0								
SBCB				*e*S		**Sg**	**17 47 25.8**	**+0.8**
	baz=3.0								
HSN	**Hsinchu**	**1.60**	**3**	*e*P		**Pg**	**17 47 05.1**	**+0.6**
	baz=350								
TWC	**Suao**	**1.67**	**32**	P		**Pg**	**17 47 05.3**	**-0.5**
	baz=47								
TWC				*e*S		**Sg**	**17 47 27.7**	**+0.3**
	baz=47								
NWLT	**Wulai**	**1.67**	**20**	*e*P		**Pb**	**17 47 05.1**	**-0.5**
	baz=8.0								
NWLT				*e*S		**Sg**	**17 47 29.1**	**+1.3**
	baz=8.0								
TWE	**Neicheng**	**1.68**	**26**	*e*P		**Pg**	**17 47 06.1**	**-0.1**
	baz=41								
TWE				*e*S		**Sg**	**17 47 29.9**	**+1.9**
	baz=41								
WLTB	**Daxi**	**1.68**	**12**	*e*P		**Pg**	**17 47 05.9**	**-0.3**
	baz=15								
WLTB				*e*S		**Sg**	**17 47 31.0**	**+3.0**
	baz=15								
ILA	**Ilan**	**1.75**	**27**	*e*P		**Pg**	**17 47 07.4**	**-0.1**
	baz=47								
ILA				*e*S		**Sg**	**17 47 30.2**	**-0.1**
	baz=47								
NCUH	**Zhongli**	**1.78**	**9**	*e*P		**Pg**	**17 47 08.3**	**+0.2**
	baz=353								
NCU	**National Centr**	**1.79**	**9**	*e*P		**Pg**	**17 47 07.5**	**-0.7**
	baz=354								
NHDH	**Xindian Distri**	**1.85**	**19**	*e*P		**Pg**	**17 47 09.9**	**+0.5**
	baz=19								
NHDH				*e*S		**Sg**	**17 47 35.0**	**+1.5**
	baz=19								
TATO	**Taipei**	**1.86**	**18**	*e*P		**Pg**	**17 47 10.3**	**+0.8**
	baz=33								
TATO				*e*S		**Sg**	**17 47 36.2**	**+2.6**
	baz=33								
NTC	**Toucheng**	**1.87**	**28**	*e*P		**Pb**	**17 47 08.6**	**-0.3**
	baz=49								
NTC				*e*S		**Sg**	**17 47 36.1**	**+2.2**
	baz=49								
TWA	**Mucha**	**1.89**	**20**	*e*P		**Pg**	**17 47 09.4**	**-0.8**
	baz=35								
TWA				*e*S		**Sg**	**17 47 37.5**	**+2.8**
	baz=35								
EGS		**1.91**	**30**	*e*P		**Pg**	**17 47 09.3**	**-1.1**
	baz=43								
TAP	**Taipei**	**1.92**	**18**	*e*P		**Pb**	**17 47 09.5**	**-0.2**
	baz=1.0								
TWS1	**Kuangyinshan**	**1.96**	**15**	*e*P		**Pb**	**17 47 09.1**	**-1.3**
	baz=18								
TIPB	**Shuangxi**	**1.97**	**26**	*e*P		**Pg**	**17 47 10.7**	**-1.0**
	baz=42								
NTST	**Danshui**	**2.03**	**15**	*e*P		**Pg**	**17 47 12.4**	**-0.3**
	baz=19								
YM04	**YM04**	**2.04**	**17**	*e*P		**Pb**	**17 47 10.3**	**-1.5**
	baz=3.0								
NWF	**Wu-fen Shan**	**2.04**	**24**	*e*P		**Pb**	**17 47 11.6**	**-0.3**
	baz=46								
WFSB	**Wu-fen Shan**	**2.04**	**24**	*e*P		**Pb**	**17 47 11.2**	**-0.6**
	baz=46								
YM10	**YM10**	**2.05**	**18**	*e*P		**Pg**	**17 47 12.1**	**-1.1**
	baz=3.0								
YM05	**YM05**	**2.06**	**18**	*e*P		**Pb**	**17 47 10.3**	**-1.8**
	baz=3.0								
YM03	**YM03**	**2.06**	**17**	*e*P		**Pb**	**17 47 10.8**	**-1.5**
	baz=3.0								
ANP	**Anpu**	**2.07**	**17**	*e*P		**Pb**	**17 47 10.3**	**-1.9**
	baz=20								
TWB1	**Santiao Chiao**	**2.07**	**29**	*e*P		**Pn**	**17 47 09.4**	**-0.4**
	baz=44								
YM08	**YM08**	**2.09**	**18**	*e*P		**Pn**	**17 47 09.9**	**-0.2**
	baz=22								
TWY	**Chenhua**	**2.17**	**18**	*e*P		**Pn**	**17 47 11.5**	**+0.2**
	baz=21								
VWUC	**VWUC**	**2.21**	**324**	*e*P		**Pn**	**17 47 09.5**	**-2.2**
	baz=327								
JYNG	**Yonagunijimaku**	**2.27**	**56**	P		**Pn**	**17 47 12.8**	**+0.2**
JYNG				*e*S		**Sb**	**17 47 42.0**	**-2.4**
YOJ	**Yonaguni jima**	**2.33**	**57**	*e*P		**Pn**	**17 47 12.3**	**-1.1**
	baz=72								
YOJ	**Yonaguni jima**	**2.33**	**57**	P		**Pn**	**17 47 13.6**	**+0.2**
YOJ				*e*S		**Sn**	**17 47 42.7**	**0.0**
PTMZ	**Houxiangcun**	**2.43**	**319**	*e*P		**Pn**	**17 47 13.4**	**-1.4**
	baz=322								
PTTC	**Pingtan**	**2.50**	**337**	*e*P		**Pn**	**17 47 14.8**	**-1.0**
	baz=340								
KNM	**Kinmen**	**2.54**	**299**	*e*P		**Pn**	**17 47 16.2**	**-0.1**
	baz=299								
KNMB	**Chin-men Tao**	**2.60**	**299**	*e*P		**Pn**	**17 47 15.5**	**-1.5**
	baz=301								
PCYT	**Pengchaiyu**	**2.66**	**24**	*e*P		**Pb**	**17 47 19.3**	**-3.0**
	baz=43								
QZH	**Quanzhou**	**2.71**	**310**	Pn		**Pn**	**17 47 17.4**	**-1.2**
QZH				Sn		**Sn**	**17 47 48.8**	**-3.3**
QZH				smax	smax			
	comp=N,86nm,0.3s							
QZH				smax	smax			
	comp=E,74nm,0.6s							
HATJ	**Hateruma jima**	**2.83**	**72**	P		**Pn**	**17 47 19.9**	**-0.3**
HATJ				*e*S		**Sn**	**17 47 53.7**	**-1.2**
IRIF	**Iriomote-Funau**	**2.85**	**66**	P		**Pn**	**17 47 21.1**	**+0.5**
IRIF				*e*S		**Sn**	**17 47 56.1**	**+0.4**
ZPLA	**Ao Xicun**	**2.95**	**285**	*e*P		**Pn**	**17 47 20.2**	**-1.8**
	baz=286								
JKRS	**Kuro-shima**	**3.06**	**70**	P		**Pn**	**17 47 23.5**	**+0.1**
JKRS				*e*S		**Sn**	**17 47 59.7**	**-1.0**
AXDP	**Jialang**	**3.15**	**303**	*e*P		**Pn**	**17 47 22.8**	**-1.8**
	baz=305								
JIJ	**Ishigaki jima**	**3.21**	**68**	P		**Pn**	**17 47 24.9**	**-0.7**
JIJ				S		**Sn**	**17 48 05.1**	**+0.5**
ZZJH	**Jiuhuzhen**	**3.22**	**294**	*e*P		**Pn**	**17 47 23.8**	**-1.9**
	baz=295								
JISG	**Ishigakijimahi**	**3.44**	**66**	P		**Pn**	**17 47 28.7**	**0.0**
JISG				*e*S		**Sn**	**17 48 08.6**	**-1.5**
LYJJ	**Jianjiangzhen**	**3.48**	**343**	*e*P		**Pn**	**17 47 28.1**	**-1.2**
	baz=348								
XPSS	**Dashiqiu**	**3.77**	**351**	*e*P		**Pn**	**17 47 32.3**	**-0.8**
	baz=355								
JTJ	**Tarama**	**3.79**	**67**	P		**Pn**	**17 47 34.1**	**+0.6**
JTJ				*e*S		**Sn**	**17 48 18.2**	**-0.6**
JIRB	**Irabujima**	**4.26**	**67**	*e*S		**Sn**	**17 48 29.0**	**-1.3**
JMJ	**Miyako jima 2**	**4.35**	**67**	*e*P		**Pn**	**17 47 40.8**	**-0.5**
	baz=69								
JIKM	**Ikemajima**	**4.36**	**66**	*e*S		**Sn**	**17 48 33.3**	**+0.6**
KSRS	**Korea Array**	**15.45**	**22**	Pn		**P**	**17 50 18.6**	**+0.9**
	comp=E,0.1nm,0.3s,baz=202,slow=19,SNR=2.2							
KSRS				LR		LR	17 56 54.9	
	comp=E,36nm,19.1s,baz=216,slow=39							
CMAR	**Chiang Mai Arr**	**21.02**	**261**	P		**P**	**17 51 20.5**	**+1.2**
	comp=E,0.5nm,0.7s,baz=70,slow=8.8,SNR=5.8							
GTA	**Gaotai**	**24.09**	**317**	*e*P		**P**	**17 51 52.1**	**+0.9**
GTA				pP			17 51 55.3	
GTA				sP			17 51 58.0	
GTA				pmax	pmax			
	comp=Z,2.0nm,1.0s							
SONM	**Songino Array**	**27.17**	**338**	P		**P**	**17 52 23.4**	**+4.4**
	comp=Z,2nm,0.4s,baz=170,slow=8.5,SNR=2.2							
KAPI	**Kappang**	**28.06**	**182**	LR		LR	18 03 43.4	
	comp=Z,130nm,18.3s,baz=140,slow=37							
PETK	**Petropavlovsk-**	**40.84**	**34**	LR		LR	18 10 56.4	
	comp=Z,59nm,21.4s,baz=65,slow=36							
ZALV	**Zalesovo Beam**	**40.92**	**328**	P		P	17 54 24.6	+6.9
	comp=Z,1.1nm,0.6s,baz=123,slow=7.0,SNR=2.1							
WRA	**Warramunga Arr**	**44.85**	**162**	P		**P**	**17 54 49.5**	**-0.5**
	comp=Z,0.9nm,1.1s,baz=344,slow=8.8,SNR=2.6							
ASAR	**Alice Springs**	**48.28**	**164**	P		**P**	**17 55 15.2**	**-1.7**
	comp=Z,0.2nm,0.7s,baz=335,slow=7.7,SNR=1.1							

GCG ***19*** *18:09:07.6±0.4,14°.21N×91°.54W,h84km±25km,MD3.8*
SNET ***19*** *18:09:09.0±0.6,14°.11N×91°.51W,h56km±6km,ML3.6*
UCR ***19*** *18:09:09.1±0.6,14°.11N×91°.51W,h54km±6km,ML3.5*

ISC 19 18:09:08.4±2.3,14°.0N±0.1×91°.6W±0°.1,h61km,n22,
σ0s50/24,1C,Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
ERG	**Entre ros, C**	**0.39**	**1**	*e*P		**Pn**	**18 09 20.1**	**+0.6**
RTAL	**Retalhuleu**	**0.49**	**346**⇑	*i*P		**Pn**	**18 09 19.9**	**-0.5**
RTAL				*e*S		**Sn**	**18 09 28.8**	**-0.4**
STG3	**Santiaguito 3,**	**0.66**	**0**	*e*P		**Pn**	**18 09 22.5**	**-0.1**
FUG	**Fuego 3**	**0.81**	**60**	*e*P		**Pn**	**18 09 24.3**	**0.0**
PCG	**Pacaya**	**1.00**	**70**	*e*P		**Pn**	**18 09 27.1**	**+0.4**
IXG	**Ixpaco**	**1.10**	**83**	*e*P		**Pn**	**18 09 27.5**	**-0.6**
IXG	**Ixpaco**	**1.10**	**83**	*e*P		**Pn**	**18 09 28.3**	**+0.3**
IXG	**Ixpaco**	**1.10**	**83**	*e*P		**Pn**	**18 09 27.5**	**-0.6**
HUEH	**Huehuetenango**	**1.27**	**3**	*e*P		**Pn**	**18 09 30.4**	**+0.1**
HUEH				*e*S		**Sn**	**18 09 47.3**	**+0.7**
NBG	**Las Nubes**	**1.31**	**65**	*e*P		**Pn**	**18 09 31.9**	**+1.0**
NUBE	**Las Nubes**	**1.75**	**94**	*e*P		**Pn**	**18 09 36.6**	**0.0**
NUBE				*e*S		**Sn**	**18 09 57.6**	**-0.4**
NUBE				IAML			18 09 59.3	
	comp=Z,271nm,0.7s							
NUBE	**Las Nubes**	**1.75**	**94**	*e*P		**Pn**	**18 09 36.6**	**0.0**
NUBE				*e*S		**Sn**	**18 09 57.6**	**-0.4**
NUBE				IAML			18 09 59.3	
	comp=Z,271nm,0.7s							
CEVE	**Cerro Verde**	**1.90**	**96**	IAML			18 10 07.0	
	comp=Z,1μm,0.4s							
CEVE	**Cerro Verde**	**1.90**	**96**	IAML			18 10 07.0	
	comp=Z,1μm,0.4s							
SBLS	**San Blas**	**1.90**	**96**	*e*P		**Pn**	**18 09 39.3**	**+0.4**
SBLS	**San Blas

NTC	**Toucheng**	**0.43**	**2**	*e*P	Pb	18 11 55.6	-0.2
	baz=1.0								
NTC				*e*S	Sb	18 12 01.5	-0.9
	baz=1.0								
EGS		**0.43**	**14**	*i* P	Pb	18 11 55.9	0.0
	baz=15								
EGS				*i* S	Sg	18 12 01.2	+1.0
	baz=15								
NWLT	**Wulai**	**0.45**	**321**	*e*P	Pb	18 11 56.2	0.0
	baz=320								
NWLT				*e*S	Sb	18 12 03.2	+0.1
	baz=320								
NSK	**Sanguang**	**0.49**	**301**	*i* P	Pb	18 11 56.7	-0.2
	baz=301								
NSK				*i* S	Sb	18 12 03.4	-0.7
	baz=301								
WHF	**Hehuan Shan**	**0.57**	**241**	*i* P	Pb	18 11 58.3	-0.3
	baz=240								
WHF				*e*S	Sb	18 12 07.0	-0.1
	baz=240								
TWB1	**Santiao Chiao**	**0.60**	**15**	P	Pb	18 11 59.2	+0.5
	baz=15								
TWB1				S	Sb	18 12 06.7	-0.7
	baz=15								
NWF	**Wu-fen Shan**	**0.64**	**357**	*e*P	Pb	18 11 59.6	+0.1
	baz=357								
NWF				S	Sb	18 12 08.7	0.0
	baz=357								
ESL	**Shilin**	**0.70**	**210**	P	Pg	18 11 59.7	0.0
	baz=209								
ESL				*e*S	Sb	18 12 11.0	+0.7
	baz=209								
NSTT	**Nanjuang**	**0.77**	**286**	*e*P	Pb	18 12 02.2	+0.6
	baz=285								
WHP	**Taichung City**	**0.81**	**260**	P	Pn	18 12 03.4	-0.3
	baz=259								
DPDB	**Guoxing**	**0.90**	**244**	P	Pn	18 12 05.2	+0.2
	baz=244								
DPDB				*e*S	Sn	18 12 17.1	-1.0
	baz=244								
VWDT	**VWDT**	**0.91**	**223**	*e*P	Pn	18 12 04.9	-0.1
	baz=222								
TWQ1	**Liyutan**	**0.95**	**266**	*e*P	Pg	18 12 04.6	+0.1
	baz=265								
TWQ1				*e*S	Sn	18 12 18.8	-0.6
	baz=265								
SMLT	**Sun Moon Lake**	**1.00**	**237**	P	Pn	18 12 06.7	+0.3
	baz=236								
SMLT				*e*S	Sb	18 12 19.2	+0.4
	baz=236								
SSLB	**Suanglung**	**1.01**	**231**	P	Pn	18 12 06.4	-0.1
	baz=231								
TYC	**Yuchr**	**1.02**	**240**	*e*P	Pn	18 12 06.7	+0.2
	baz=239								
TYC				*e*S	Sn	18 12 20.4	-0.5
	baz=239								
YOJ	**Yonaguni jima**	**1.09**	**88**	*e*P	Pg	18 12 06.7	-0.4
	baz=87								
YULB	**Yu-li**	**1.13**	**205**	*e*P	Pn	18 12 08.9	+0.8
	baz=204								

TAP 19 18:11:58.0, 24.25N×121.75E, h49km, ML2.7, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.16**	**241**	P	Pn	18 12 06.4	+0.4
	baz=240						
NACB				S	Sn	18 12 12.2	+0.6
	baz=240						
TWD	**Chiawan**	**0.22**	**219**	P	Pn	18 12 06.2	-0.1
	baz=217						
TWD				*i* S	Sn	18 12 12.9	+0.7
	baz=217						
ETLH	**Xiulin Townshi**	**0.24**	**260**	P	Pn	18 12 06.8	+0.2
	baz=259						
ETLH				S	Sn	18 12 13.3	+0.5
	baz=259						
HWA	**Hwalien**	**0.30**	**205**	P	Pn	18 12 06.8	-0.2
	baz=203						
HWA				S	Sn	18 12 14.9	+1.4
	baz=203						
TWC	**Suao**	**0.37**	**15**	*i* P	Pn	18 12 08.2	+0.5
	baz=16						
TWC				*i* S	Sn	18 12 16.0	+1.4
	baz=16						
NNSB	**Datong**	**0.38**	**298**	P	Pn	18 12 08.0	+0.1
	baz=298						
NNSB				S	Sn	18 12 15.3	+0.4
	baz=298						
NNSH	**Datong**	**0.38**	**298**	P	Pn	18 12 07.7	-0.2
	baz=298						
NNSH				S	Sn	18 12 15.9	+1.0
	baz=298						
NNS	**Nan Shan**	**0.39**	**299**	P	Pn	18 12 08.6	+0.6
	baz=299						
NNS				*i* S	Sn	18 12 15.9	+0.7
	baz=299						
NDT	**Datong Townshi**	**0.41**	**329**	*i* P	Pn	18 12 08.3	+0.2
	baz=328						
NDT				*i* S	Sn	18 12 16.2	+0.8
	baz=328						
ENTT	**Nioudou**	**0.42**	**337**	*i* P	Pn	18 12 08.3	0.0
	baz=338						
ENTT				*i* S	Sn	18 12 16.1	+0.5
	baz=338						
WHF	**Hehuan Shan**	**0.45**	**257**	*i* S	Sn	18 12 17.5	+0.6
	baz=256						
TWE	**Neicheng**	**0.47**	**351**	*i* P	Pn	18 12 09.0	+0.1
	baz=353						
TWE				S	Sn	18 12 16.7	+0.1
	baz=353						
ILA	**Ilan**	**0.51**	**0**	P	Pn	18 12 10.1	+0.8
	baz=1.0						
ILA				S	Sn	18 12 19.5	+2.1
	baz=1.0						
ESL	**Shilin**	**0.52**	**213**	*i* P	Pn	18 12 09.0	-0.4
	baz=212						
ESL				S	Sn	18 12 17.9	+0.3
	baz=212						
TWT	**Tachien**	**0.52**	**270**	P	Pn	18 12 10.4	+0.8
	baz=269						
TWT				*i* S	Sn	18 12 19.2	+1.3
	baz=269						
TDCB	**Techi**	**0.54**	**270**	P	Pn	18 12 10.4	+0.7
	baz=270						
TDCB				S	Sn	18 12 18.8	+0.6
	baz=270						
YHNB	**Yeheng**	**0.54**	**321**	P	Pn	18 12 09.8	+0.1
	baz=321						
YHNB				S	Sn	18 12 18.1	+0.1
	baz=321						
NSK	**Sanguang**	**0.55**	**320**	*i* P	Pn	18 12 10.1	+0.2
	baz=320						
NSK				*i* S	Sn	18 12 18.1	-0.2
	baz=320						
CHGB	**Renai**	**0.56**	**250**	P	Pn	18 12 10.4	+0.3
	baz=249						
CHGB				S	Sn	18 12 19.2	+0.5
	baz=249						
NWLT	**Wulai**	**0.57**	**337**	*e*P	Pn	18 12 10.2	+0.2
	baz=337						
NWLT				*e*S	Sn	18 12 19.2	+0.5
	baz=337						
NTC	**Toucheng**	**0.61**	**7**	*e*P	Pn	18 12 11.3	+0.8
	baz=7.0						
NTC				S	Sn	18 12 20.7	+1.2
	baz=7.0						
EGS		**0.61**	**16**	*i* P	Pn	18 12 11.4	+0.9
	baz=17						
EGS				*i* S	Sn	18 12 21.9	+2.2
	baz=17						
EGFH	**Guangfu**	**0.65**	**207**	P	Pn	18 12 11.9	+0.9
	baz=206						
EGFH				S	Sn	18 12 20.8	+0.4
	baz=206						
TIPB	**Shuangxi**	**0.72**	**6**	*i* P	Pn	18 12 12.6	+0.6
	baz=5.0						
TIPB				*i* S	Sn	18 12 23.1	+0.9
	baz=5.0						
WHP	**Taichung City**	**0.73**	**272**	P	Pn	18 12 13.5	+1.4
	baz=272						
WHP				*i* S	Sn	18 12 23.8	+1.4
	baz=272						
NHDH	**Xindian Distri**	**0.74**	**344**	*e*P	Pn	18 12 12.5	+0.3
	baz=344						
NHDH				*i* S	Sn	18 12 23.4	+0.9
	baz=344						
TWA	**Mucha**	**0.74**	**349**	*e*P	Pn	18 12 13.4	+1.1
	baz=349						
TWA				S	Sn	18 12 24.1	+1.5
	baz=349						
VWDT	**VWDT**	**0.74**	**228**	P	Pn	18 12 12.6	+0.4
	baz=228						
VWDT				S	Sn	18 12 22.9	+0.4
	baz=228						
WLTB	**Daxi**	**0.75**	**323**	S	Sn	18 12 24.4	+1.7
	baz=323						
TATO	**Taipei**	**0.76**	**342**	*e*S	Sn	18 12 23.8	+0.9
	baz=342						
LIOB	**Emei**	**0.77**	**301**	*i* P	Pn	18 12 13.4	+0.7
	baz=300						
LIOB				*i* S	Sn	18 12 24.4	+1.1
	baz=300						
NSTT	**Nanjuang**	**0.78**	**299**	*i* P	Pn	18 12 13.2	+0.5
	baz=299						
NSTT				*i* S	Sn	18 12 24.7	+1.3
	baz=299						
NSTT	**Nanjuang**	**0.78**	**299**	S	Pn	18 12 13.2	+0.5
	baz=285						
DPDB	**Guoxing**	**0.78**	**254**	*i* P	Pn	18 12 13.7	+0.9
	baz=253						
DPDB				S	Sn	18 12 25.2	+1.6
	baz=253						
TWB1	**Santiao Chiao**	**0.79**	**16**	*e*P	Pn	18 12 13.2	+0.4
	baz=16						
TWB1				S	Sn	18 12 26.1	+2.4
	baz=16						
NWF	**Wu-fen Shan**	**0.82**	**2**	P	Pn	18 12 14.6	+1.3
	baz=2.0						
NWF				S	Sn	18 12 26.6	+2.2
	baz=2.0						
WFSB	**Wu-fen Shan**	**0.82**	**2**	*e*P	Pn	18 12 14.6	+1.3
	baz=2.0						
WFSB				S	Sn	18 12 26.8	+2.4
	baz=2.0						
EHY	**Hungye**	**0.84**	**208**	P	Pn	18 12 14.0	+0.5
	baz=207						
EHY				S	Sn	18 12 25.3	+0.5
	baz=207						
SMLT	**Sun Moon Lake**	**0.85**	**245**	*i* P	Pn	18 12 15.3	+1.5
	baz=244						
SMLT				S	Sn	18 12 26.9	+1.5
	baz=244						
SSLB	**Suanglung**	**0.86**	**238**	P	Pn	18 12 15.0	+1.2
	baz=237						
SSLB				*e*S	Sn	18 12 27.4	+2.0
	baz=237						
NCUH	**Zhongli**	**0.88**	**325**	*e*P	Pn	18 12 14.4	+0.4
	baz=324						
NCUH				S	Sn	18 12 26.6	+0.9
	baz=324						
NCU	**National Centr**	**0.88**	**325**	P	Pn	18 12 14.6	+0.5
	baz=324						
NCU				S	Sn	18 12 26.9	+1.1
	baz=324						
TYC	**Yuchr**	**0.88**	**247**	*i* P	Pn	18 12 15.6	+1.6
	baz=246						
TYC				S	Sn	18 12 27.4	+1.5
	baz=246						
TWQ1	**Liyutan**	**0.89**	**276**	*e*P	Pn	18 12 14.3	0.0
	baz=276						
TWQ1				*e*S	Sn	18 12 26.4	+0.2
	baz=276						
TWS1	**Kuangyinshan**	**0.90**	**341**	S	Sn	18 12 26.6	+0.4
	baz=340						
NMLH	**Miaoli**	**0.92**	**288**	*e*P	Pn	18 12 14.3	-0.3
	baz=288						
NMLH				*e*S	Sn	18 12 26.6	0.0
	baz=288						
YM04	**YM04**	**0.92**	**348**	*e*P	Pn	18 12 14.9	+0.3
	baz=348						
YM04				*e*S	Sn	18 12 26.4	-0.5
	baz=348						
YM03	**YM03**	**0.94**	**349**	*e*P	Pn	18 12 15.3	+0.3
	baz=348						
YM03				*e*S	Sn	18 12 27.2	-0.2
	baz=348						
YM08	**YM08**	**0.94**	**351**	*e*P	Pn	18 12 15.5	+0.5
	baz=351						
YM08				*e*S	Sn	18 12 28.6	+1.2
	baz=351						
YULB	**Yu-li**	**0.95**	**206**	*e*P	Pn	18 12 14.7	-0.3
	baz=205						
YULB				*e*S	Sn	18 12 27.5	+0.1
	baz=205						
TCU	**Taichung**	**0.98**	**264**	*e*P	Pn	18 12 14.9	-0.5
	baz=263						
TCU				*e*S	Sn	18 12 28.4	+0.2
	baz=263						
TWF1	**Yuli**	**0.98**	**205**	*e*P	Pn	18 12 15.9	+0.4
	baz=204						
TWF1				*e*S	Sn	18 12 28.1	-0.2
	baz=204						
WHYT	**Xinyi Township**	**0.98**	**236**	*e*P	Pn	18 12 17.3	+1.7
	baz=235						
WHYT				*e*S	Sn	18 12 31.0	+2.5
	baz=235						
FULB	**Fuli**	**1.13**	**202**	*e*P	Pn	18 12 18.1	+0.7
	baz=201						
FULB				*e*S	Sn	18 12 32.0	+0.2
	baz=201						
ALS	**Alishan**	**1.13**	**230**	P	Pn	18 12 18.9	+1.2
	baz=229						
ALS				*e*S	Sn	18 12 34.1	+1.7
	baz=229						
YOJ	**Yonaguni jima**	**1.17**	**79**	*e*P	Pn	18 12 17.7	-0.3
	baz=79						
CHN5	**Tsauling**	**1.17**	**237**	*e*P	Pn	18 12 19.3	+1.2
	baz=236						
CHN5				*e*S	Sn	18 12 33.6	+0.6
	baz=236						
WGK	**Gukeng**	**1.22**	**243**	*e*P	Pn	18 12 18.9	+0.3
	baz=242						
WDLH	**Douliu**	**1.24**	**243**	*e*P	Pn	18 12 19.8	+0.9
	baz=243						
ELDTW	**Leidu**	**1.25**	**212**	*e*P	Pn	18 12 20.5	+1.4
	baz=211						
ELDTW				*e*S	Sn	18 12 34.9	-0.1
	baz=211						
RLNB	**Erlin**	**1.32**	**254**	*e*P	Pn	18 12 20.7	+0.8
	baz=254						
CHN2	**Minshiung**	**1.36**	**239**	*e*P	Pn	18 12 20.8	+0.2
	baz=238						
TPUB	**Ta-pu**	**1.39**	**227**	*e*P	Pn	18 12 22.3	+1.3
	baz=227						

KRSC 19 18:17:17.7±1.2, 50.89N×157.35E, h73km±22km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**0.67**	**330**	*e*P	Pn	18 17 33.8	+1.3
SKR	**Severo-Kuril's**	**0.81**	**256**	*e*P	Pn	18 17 35.4	+1.4
SKR				*e*S	Sn	18 17 47.5	+1.5
ALID	**Alaid**	**1.14**	**270**	*i* P	Pn	18 17 39.0	+0.8
MIPR	**Malaya Ipel'ka**	**1.44**	**345**	*e*P	Pn	18 17 43.1	+1.2
MIPR				*e*S	Sn	18 18 01.5	+1.3
ASAK	**Asacha**	**1.54**	**13**	*e*P	Pn	18 17 45.2	+1.9
ASAK				*e*S	Sn	18 18 05.9	+3.3
MTVR	**Mutnovka**	**1.68**	**18**	*e*P	Pn	18 17 47.3	+2.0
MTVR				*e*S	Sn	18 18 08.3	+2.2
RUS	**Russkaya**	**1.71**	**25**	*e*P	Pn	18 17 46.7	+1.2
RUS				*e*S	Sn	18 18 07.3	+0.8
GRL	**Gorelyy**	**1.73**	**15**	*i* P	Pn	18 17 48.1	+2.2
GRL				*e*S	Sn	18 18 10.3	+3.1
APC	**Apacha**	**2.04**	**357**	*e*P	Pn	18 17 51.4	+1.4
DALK	**Dalny**	**2.32**	**22**	*e*S	Sn	18 18 24.1	+3.0
UGLR	**Uglovaya**	**2.50**	**21**	*i* P	Pn	18 17 59.6	+3.4
AVH	**Avacha**	**2.53**	**19**	*i* P	Pn	18 18 00.1	+3.5
KOK	**Koryaka**	**2.54**	**18**	*i* P	Pn	18 18 00.1	+3.4
SMAR	**Somma**	**2.54**	**20**	*e*P	Pn	18 18 00.2	+3.3
SDLR	**Sedlovina**	**2.58**	**21**	*e*P	Pn	18 18 00.0	+2.7
NLC	**Nalytchevo**	**2.60**	**28**	*e*S	Sn	18 18 28.6	+0.7
KRX	**Arik**	**2.60**	**17**	*e*P	Pn	18 18 00.8	+3.2
SPN	**Mys Shipunski**	**2.76**	**36**	*e*P	Pn	18 18 01.5	+1.8
SPN				*e*S	Sn	18 18 33.5	+1.6
TUMR	**Tumrok**	**4.72**	**20**	*e*P	Pn	18 18 29.6	+3.2
KBTR	**Krutoberegovo**	**6.25**	**29**	*e*P	Pn	18 18 48.7	+1.6

*IDC **19** 18:19:02.9±1.7, 4.22S×138.33E, h0km, mb3.6/2, mb1 3.9/4, mb1mx3.5/19, mbtmp3.7/4, ML4.1/1, Error ellipse: s-maj=82.6km s-min=30.5km az=96.0*

*NEIC **19** 18:19:07.6±0.9, 4.32S±0.09×138.2E±0.1, h35km±7km, mb4.3/4, Error ellipse: s-maj=17.9km s-min=12.5km az=92.0*

ISC 19 18:19:07.9±1.1, 4.36S±0.09×138.1E±0.1, h35km, n14, σ1s01/16, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**6.05**	**283**	Pn	**Pn**	**18 20 34.6**	**-0.4**
COEN	**Coen**	**10.75**	**153**	Pn	**Pn**	**18 21 38.7**	**-0.8**
MTN	**Manton Dam**	**10.91**	**219**	Pn	**Pn**	**18 21 42.8**	**+1.1**
KNRA	**Kununurra**	**14.54**	**219**		**Pn**	**18 22 31.2**	**-0.2**
WR0	**Warramunga Arr**	**15.90**	**192**	Pn	**Pn**	**18 22 49.0**	**-0.1**
WRAB	**Tennant Creek**	**15.92**	**193**	P	**P**	**18 22 55.0**	**+2.3**
WRAB				IAmb	IAmb	18 22 57.9	
	comp=Z,5.8nm,0.7s						
WB2	**Warramunga Arr**	**15.93**	**193**	Pn	**Pn**	**18 22 49.6**	**+0.1**
WRA	**Warramunga Arr**	**15.93**	**193**	Pn	**Pn**	**18 22 49.5**	**-0.1**
	baz=16,slow=12						
WRA				Sn	**Sn**	**18 25 44.8**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=14,slow=23,SNR=5.7						
MMRI	**Maumere**	**16.36**	**254**	P	**P**	**18 22 56.9**	**-0.7**
AS31	**Alice Springs**	**19.63**	**192**	Pn	**Pn**	**18 23 36.6**	**+1.5**
ASAR	**Alice Springs**	**19.63**	**192**	P	**Pn**	**18 23 35.8**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=17,slow=11,SNR=33						
ASAR				S	**S**	**18 27 11.8**	**-1.6**
	comp=Z,0.0nm,0.3s,baz=4.1,slow=29,SNR=2.3						
MKAR	**Makanchi Array**	**70.75**	**323**	P	**P**	**18 30 21.0**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=114,slow=6.5,SNR=2.2						
QSPA	**South Pole Qui**	**85.60**	**180**	P	**P**	**18 31 42.8**	**+0.1**
QSPA				IAmb	IAmb	18 34 15.3	
	comp=Z,10nm,1.5s						
ILAR	**Eielson Array**	**87.56**	**24**	P	**P**	**18 31 51.8**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=245,slow=5.9,SNR=4.4						

*IDC **19** 18:29:51.8±0.5, 57.96S×25.01W, h0km, mb4.6/11, mb1 4.6/12, mb1mx4.5/22, mbtmp4.6/12, ML4.9/1, MS4.0/18, Ms1 4.0/18, ms1mx4.0/21, Error ellipse: s-maj=20.9km s-min=14.9km az=59.0*

*NEIC **19** 18:29:56.9±1.4, 58.0S±0.1×25.2W±0.2, h35km±4km, mb4.9/38, Error ellipse: s-maj=18.8km s-min=11.6km az=223.0*

*GCMT **19** 18:29:58.9±0.4, 58.16S±0.04×24.34W±0.04, h39km±1km, MW5.0/55, Moment Tensor Solution. s39,c43; s55,c71; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.21±.27; $M_{\theta\theta}$1.55±.23; $M_{\phi\phi}$-3.76±.16; $M_{r\theta}$0.58±.24; $M_{\theta\phi}$0.86±.12; $M_{\phi r}$1.25±.15; Best double couple: $M_0$3.49900×10^{16} NP1:ϕ_s140.00000°, δ44.00000°, λ42.00000°. NP2: ϕ_s17.00000°, δ62.00000°, λ126.00000°. Principal axes: T 2.8910, Plg57.0000°, Azm336.0000°; N 1.2150, Plg31.0000°, Azm179.0000°; P -4.1060, Plg10.0000°, Azm82.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 18:29:57.0±0.3, 58.01S±0.07×25.12W±0.08, h40km, n155, σ1s51/149, mb4.8/26, MS4.1/16, 2C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.36**	**296**	Pn	**Pn**	**18 31 40.6**	**-1.2**
VNA1	**Neumayer--Stat**	**14.55**	**157**	P	**Pn**	**18 33 20.2**	**+0.3**
VNA3	**Neumayer Olymp**	**14.77**	**160**	P	**Pn**	**18 33 22.3**	**-0.5**
SNAA	**Sanae**	**16.49**	**155**	P	**Pn**	**18 33 46.0**	**+1.0**
SNAA	**Sanae**	**16.49**	**155**	Pn	**Pn**	**18 33 45.2**	**+0.2**
	4.0nm,0.3s,baz=319,slow=15,SNR=370						
SNAA				Sn	**Sn**	**18 36 37.7**	**-9.0**
	0.3nm,0.3s,baz=326,slow=20,SNR=2.0						
SNAA				LR	LR	18 38 56.7	
	comp=Z,473nm,18.2s,baz=315,slow=33						
SNAA	**Sanae**	**16.49**	**155**		**Pn**	**18 33 45.6**	**+0.6**
PMSA	**Palmer Station**	**19.56**	**234**	LR	LR	18 40 12.9	
	comp=Z,632nm,19.1s,baz=74,slow=32						
EFI	**East Falkland**	**19.85**	**274**	P	**Pn**	**18 34 27.1**	**+1.0**
EFI				IAmb	IAmb	18 34 38.1	
	comp=Z,60nm,1.2s						
MG01	**Puerto William**	**23.39**	**259**	P	**P**	**18 35 03.2**	**+1.4**
SYO	**Syowa Base**	**29.36**	**138**	*e*P	**P**	**18 35 55.0**	**-0.6**
SYO	**Syowa Base**	**29.36**	**138**	epP	pP	18 36 04.0	-1.7
SYO	**Syowa Base**	**29.36**	**138**	esP	sP	18 36 09.0	-1.2
COYC	**Coyhaique**	**30.93**	**273**	P	**P**	**18 36 10.3**	**+0.6**
QSPA	**South Pole Qui**	**32.24**	**180**	P	**P**	**18 36 21.4**	**+0.2**
	comp=Z,5.5nm,0.6s,baz=197,slow=1.3,SNR=40						
QSPA	**South Pole Qui**	**32.24**	**180**	P	**P**	**18 36 22.3**	**+1.1**
QSPA				IAmb	IAmb	18 36 24.5	
	comp=Z,18nm,1.2s						
PLTB	**Pedras Altas**	**32.64**	**311**	*e*P	**P**	**18 36 25.4**	**+0.5**
PLTB	**Pedras Altas**	**32.64**	**311**	*e*P	**P**	**18 36 25.4**	**+0.5**
PLCA	**Paso Flores**	**33.47**	**281**	P	**P**	**18 36 33.1**	**+0.9**
	comp=Z,5.4nm,0.9s,baz=175,slow=3.2,SNR=10						
PLCA				LR	LR	18 50 09.2	
	comp=Z,354nm,18.3s,baz=128,slow=36						
PLCA	**Paso Flores**	**33.47**	**281**	P	**P**	**18 36 32.7**	**+0.5**
LC01	**Cunco**	**35.51**	**282**	P	**P**	**18 36 47.9**	**-1.8**
MAW	**Mawson**	**37.91**	**141**	P	**P**	**18 37 09.6**	**-0.1**
	comp=Z,6.2nm,0.6s,baz=231,slow=8.1,SNR=25						
MAW				LR	LR	18 50 49.4	
	comp=Z,153nm,20.2s,baz=242,slow=33						
MAW	**Mawson**	**37.91**	**141**	P	**P**	**18 37 09.5**	**-0.2**
VAO	**Valinhos**	**38.35**	**326**	*e*P	**P**	**18 37 15.8**	**+1.8**
VAO	**Valinhos**	**38.35**	**326**	*e*P	**P**	**18 37 15.8**	**+1.8**
PTGB	**Pitanga**	**38.41**	**318**	*e*P	**P**	**18 37 15.3**	**+0.8**
PTGB				epP	**pP**	**18 37 18.3**	**-6.2**
PTGB	**Pitanga**	**38.41**	**318**	*e*P	**P**	**18 37 15.3**	**+0.8**
PTGB				epP	**pP**	**18 37 18.3**	**-6.2**
FRTB	**Fartura**	**38.83**	**323**	*e*P	**P**	**18 37 18.9**	**+0.9**
FRTB	**Fartura**	**38.83**	**323**	*e*P	**P**	**18 37 18.9**	**+0.9**
CPUP	**Villa Florida**	**38.95**	**310**	P	**P**	**18 37 18.2**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=150,slow=9.1,SNR=6.8						
CPUP				PcP	**PcP**	**18 39 29.1**	**+0.4**
	comp=Z,1.4nm,0.4s,baz=199,slow=2.8,SNR=4.0						
CPUP				LR	LR	18 52 50.9	
	comp=Z,95nm,19.2s,baz=188,slow=35						
CPUP	**Villa Florida**	**38.95**	**310**	P	**P**	**18 37 17.9**	**-1.0**
CFA	**Coronel Fontan**	**39.37**	**293**	P	**P**	**18 37 23.1**	**+0.6**
	comp=Z,3.1nm,0.6s,baz=139,slow=7.7,SNR=4.0						
CFA				PcP	**PcP**	**18 39 30.0**	**-0.1**
	comp=Z,3.5nm,0.5s,baz=110,slow=1.2,SNR=4.2						
BSCB	**Bom Sucesso**	**39.64**	**330**	*e*P	**P**	**18 37 26.4**	**+1.6**
BSCB	**Bom Sucesso**	**39.64**	**330**	*e*P	**P**	**18 37 26.4**	**+1.6**
TRCB	**Terra Rica**	**40.37**	**319**	*e*P	**P**	**18 37 31.4**	**+0.6**
TRCB	**Terra Rica**	**40.37**	**319**	*e*P	**P**	**18 37 31.4**	**+0.6**
PCMB	**Pacaembu**	**41.00**	**321**	*e*P	**P**	**18 37 36.9**	**+0.9**
PCMB	**Pacaembu**	**41.00**	**321**	*e*P	**P**	**18 37 36.9**	**+0.9**
CO01	**Juntas del Tor**	**41.61**	**293**	P	**P**	**18 37 40.7**	**-0.5**
CO01				IAmb	IAmb	18 37 43.5	
	comp=Z,32nm,1.9s						
ITRB	**Iturama**	**42.48**	**324**	*e*P	**P**	**18 37 49.2**	**+1.1**
ITRB				epP	**pP**	**18 37 52.4**	**-5.9**
ITRB	**Iturama**	**42.48**	**324**	*e*P	**P**	**18 37 49.2**	**+1.1**
ITRB				epP	**pP**	**18 37 52.4**	**-5.9**
AC05	**El Transito**	**42.64**	**293**	P	**P**	**18 37 48.8**	**-0.7**
AC05				IAmb	IAmb	18 37 52.9	
	comp=Z,26nm,1.6s						
IPMB	**Ipameri, GO**	**43.46**	**327**	*e*P	**P**	**18 37 57.1**	**+1.1**
IPMB	**Ipameri, GO**	**43.46**	**327**	*e*P	**P**	**18 37 57.1**	**+1.1**
MC01	**Montes Claros**	**43.55**	**333**	*e*P	**P**	**18 37 57.4**	**+0.6**
MC01	**Montes Claros**	**43.55**	**333**	*e*P	**P**	**18 37 57.4**	**+0.6**
AC04	**Llanos de Chal**	**43.56**	**293**	P	**P**	**18 37 55.8**	**-1.0**
AC04				IAmb	IAmb	18 37 59.6	
	comp=Z,12nm,0.6s					

BDFB IAmb IAmb 18 38 22.4
comp=Z,47nm,1.9s
ARAG Araguaiana, MT 46.70 324 *eP* **P 18 38 23.1 +1.4**
ARAG Araguaiana, MT 46.70 324 *eP* **P 18 38 23.1 +1.4**
PB10 IPOC Station P 47.25 297 P **P 18 38 25.7 -0.3**
LVC Limon Verde 47.26 299 P **P 18 38 26.2 -0.3**
LVC IAmb IAmb 18 38 29.8
comp=Z,8.0nm,0.5s
PB06 IPOC Station P 47.48 299 P **P 18 38 27.6 -0.3**
PB06 IAmb IAmb 18 39 40.2
comp=Z,13nm,0.9s
SALV Santo Antonio 47.81 319 *eP* **P 18 38 31.1 +0.7**
SALV Santo Antonio 47.81 319 *eP* **P 18 38 31.1 +0.7**
PB04 IPOC Station P 48.07 298 P **P 18 38 32.1 -0.5**
PB09 IPOC Station P 48.11 300 P **P 18 38 32.8 -0.1**
PB07 IPOC Station P 48.47 299 P **P 18 38 35.2 -0.4**
PB07 IAmb IAmb 18 38 36.1
comp=Z,30nm,1.5s
PB01 IPOC Station P 48.87 300 P **P 18 38 38.2 -0.5**
PTLB Pontes e Lacer 49.48 315 *eP* **P 18 38 43.5 +0.2**
PTLB Pontes e Lacer 49.48 315 *eP* **P 18 38 43.5 +0.2**
PB08 IPOC Station P 49.50 301 P **P 18 38 43.9 0.0**
H10S2 ASCENSION HYDR 49.59 14 T T 19 33 20.3
baz=187,slow=74,SNR=5.4
H10S3 ASCENSION HYDR 49.60 14 T T 19 33 24.7
baz=33,slow=74,SNR=43
GO01 Chusmiza 49.93 301 P **P 18 38 46.8 -0.5**
GO01 IAmb IAmb 18 38 52.6
comp=Z,5.5nm,0.6s
PB11 IPOC Station P 50.06 301 P **P 18 38 47.5 -0.4**
PB11 IAmb IAmb 18 40 10.4
comp=Z,9.5nm,1.1s
PSGCX Pisagua 50.42 300 P **P 18 38 49.8 -0.7**
PSGCX IAmb IAmb 18 39 01.9
comp=Z,14nm,1.3s
MNMC Minye Minye 50.58 301 P **P 18 38 51.5 -0.4**
MNMC IAmb IAmb 18 38 52.7
comp=Z,9.3nm,0.4s
H10N1 ASCENSION HYDR 50.71 14 T T 19 34 45.3
baz=181,slow=71,SNR=3.3
H10N3 ASCENSION HYDR 50.72 14 T T 19 34 45.1
baz=181,slow=71,SNR=25
H10N2 ASCENSION HYDR 50.73 14 T T 19 34 46.8
baz=181,slow=71,SNR=18
CASY Casey 51.68 159 P **P 18 39 00.3 +1.1**
CASY IAmb IAmb 18 39 48.6
comp=Z,14nm,0.9s
VILB Vilhena 52.17 315 *eP* **P 18 39 03.6 +0.1**
VILB Vilhena 52.17 315 *eP* **P 18 39 03.6 +0.1**
LPAZ La Paz 52.42 304 LR LR 19 01 27.7
comp=Z,50nm,20.7s,baz=176,slow=36
LPAZ La Paz 52.42 304 P **P 18 39 06.0 0.0**
LPAZ IAmb IAmb 18 39 07.0
comp=Z,5.9nm,0.5s
CLDB Colider 52.52 321 *eP* **P 18 39 05.3 -0.8**
CLDB Colider 52.52 321 *eP* **P 18 39 05.3 -0.8**
PRPB Parauapebas 55.15 330 *eP* **P 18 39 26.3 +1.0**
PRPB Parauapebas 55.15 330 *eP* **P 18 39 26.3 +1.0**
NPGB Novo Progresso 55.97 323 *eP* **P 18 39 31.8 +0.7**
NPGB Novo Progresso 55.97 323 *eP* **P 18 39 31.8 +0.7**
SAML Samuel 56.98 313 P **P 18 39 38.2 -0.1**
SAML IAmb IAmb 18 39 39.2
comp=Z,14nm,0.7s
SAML Samuel 56.98 313 *eP* **P 18 39 37.8 -0.5**
SAML Samuel 56.98 313 *eP* **P 18 39 37.8 -0.5**
LSZ Lusaka 58.09 66 P **P 18 39 45.8 -0.5**
MALB Monte Alegre 60.53 326 *eP* **P 18 40 04.5 +1.5**
MALB Monte Alegre 60.53 326 *eP* **P 18 40 04.5 +1.5**
PTGA Pitinga 63.41 320 P **P 18 40 22.2 -0.1**
PTGA IAmb IAmb 18 40 23.0
comp=Z,9.3nm,0.6s
PTGA Pitinga 63.41 320 *eP* **P 18 40 22.2 -0.1**
PTGA Pitinga 63.41 320 *eP* **P 18 40 22.2 -0.1**
DBIC Dimbokro 66.52 22 P **P 18 40 43.5 +1.0**
comp=Z,4.0nm,0.6s,baz=161,slow=5.8,SNR=7.7
DBIC LR LR 19 04 06.3
comp=Z,90nm,18.6s,baz=122,slow=31
DBIC Dimbokro 66.52 22 P **P 18 40 43.3 +0.8**
ROSC El Rosal 73.99 308 LR LR 19 15 32.5
comp=Z,71nm,19.5s,baz=170,slow=37
TORD Torodi Ar. Bea 74.24 27 P **P 18 41 30.6 +0.9**
comp=Z,7.9nm,0.6s,baz=198,slow=6.4,SNR=34
TORD LR LR 19 07 10.5
comp=Z,105nm,21.4s,baz=95,slow=30
RUSC La Rusia 74.44 310 P **P 18 41 30.5 -0.9**
KMBO Kilima Mbogo 74.73 67 LR LR 19 12 11.0
comp=Z,192nm,18.7s,baz=105,slow=34
CUPR Culebra, Puert 82.98 322 P **P 18 42 18.1 +0.6**
FORT Forrest 88.73 157 P **P 18 42 46.5 +0.4**
STKA Stephens Creek 89.77 169 LR LR 19 23 12.9
comp=Z,125nm,18.1s,baz=208,slow=36
PPT Papeete 91.91 232 LR LR 19 16 33.9
comp=Z,104nm,18.6s,baz=47,slow=30
ASAR Alice Springs 96.77 161 P **P 18 43 23.6 +0.3**
comp=Z,2.3nm,1.0s,baz=182,slow=3.9,SNR=11
ASAR PP **PP 18 47 20.8 +3.1**
comp=Z,1.2nm,1.1s,baz=171,slow=8.7,SNR=4.8
ASAR LR LR 19 24 22.5
comp=Z,114nm,19.5s,baz=228,slow=34
KEST Kesra 97.76 28 LR LR 19 23 05.5
comp=Z,68nm,19.7s,baz=289,slow=33
ESDC Sonseca Array 98.92 16 LR LR 19 23 42.5
comp=Z,39nm,19.4s,baz=175,slow=33
PDAR Pinedale Array 122.32 300 PKP **PKiKP 18 48 47.5 +0.4**
comp=Z,0.5nm,0.4s,baz=110,slow=5.1,SNR=3.7
NVAR Mina Array Bea 123.17 290 PKP **PKiKP 18 48 49.8 +0.8**
comp=Z,0.2nm,0.4s,baz=95,slow=2.9,SNR=2.4
CMAR Chiang Mai Arr 123.33 110 PKP **PKiKP 18 48 49.9 +0.3**
comp=Z,2.5nm,0.9s,baz=233,slow=3.6,SNR=13
FXWY Fox Creek 123.68 300 PKPdf **PKiKP 18 48 50.2 +0.4**
FINES FINESS Array B 125.60 27 PKP **PKiKP 18 48 52.7 0.0**
comp=Z,4.3nm,0.5s,baz=149,slow=1.6,SNR=43
BTK Batken 125.80 70 **PKiKP 18 48 54.1 +0.1**
BMO Blue Mountains 127.55 296 **PKiKP 18 48 57.5 +0.2**
KKAR Karatay Array 127.92 68 **PKPdf 18 48 57.7 +0.2**
G08A Pilot Rock 128.66 296 PKPdf **PKiKP 18 49 00.2 +0.7**
ARCES ARCESS Array B 132.35 22 PKP **PKPdf 18 49 03.8 -1.2**
comp=Z,1.1nm,0.4s,baz=220,slow=1.7,SNR=12
MKAR Makanchi Array 136.43 72 PKP **PKPdf 18 49 13.1 -0.2**
comp=Z,4.9nm,1.3s,baz=251,slow=3.7,SNR=5.9
YKA Yellowknife Ar 138.37 316 PKP **PKPdf 18 49 16.7 +0.3**
comp=Z,1.4nm,0.7s,baz=138,slow=2.5,SNR=7.3
YKA SKPbc **SKPab 18 52 53.8 -2.3**
comp=Z,0.8nm,0.7s,baz=125,slow=3.2,SNR=3.8
ZALV Zalesovo Beam 142.19 65 PKhKP PKPpre 18 49 18.2
comp=Z,0.6nm,0.4s,baz=224,slow=4.1,SNR=4.0
ZALV PKP **PKPdf 18 49 23.7 +0.2**
comp=Z,0.8nm,0.4s,baz=235,slow=5.2,SNR=5.9
SKAG Skagway 145.25 303 **PKPab 18 49 29.6 +0.9**
WHY Whitehorse 145.62 305 **PKPab 18 49 30.6 +0.3**
HYT Haines Junctio 146.85 304 **PKPab 18 49 34.8 -0.2**
INK Inuvik 148.03 318 **PKPbc 18 49 36.7 +0.4**
CTGM Chitina Glacie 148.61 303 **PKiKP 18 49 39.4 -0.4**
EPYK Eagle Plains 149.61 314 **PKPbc 18 49 38.5 +0.5**
BARN Barnard Glacie 148.79 303 **PKiKP 18 49 40.0 -0.2**
DAWY Dawson 148.92 309 **PKPbc 18 49 39.1 +0.2**
CRQM Cirque 149.34 302 **PKiKP 18 49 41.1 -0.2**
MCARA McCarthy VSAT 149.53 303 **PKiKP 18 49 41.8 +0.3**
VRDI Verde Repeater 149.66 303 **PKiKP 18 49 42.0 +0.1**
SONM Songino Array 149.69 88 PKPbc **PKiKP 18 49 42.0 -0.4**
comp=Z,4.4nm,0.6s,baz=220,slow=2.6,SNR=43
NRIK Noril'sk 149.79 41 PKPbc **PKiKP 18 49 41.5 -0.3**
comp=Z,3.4nm,0.5s,baz=174,slow=1.3,SNR=6.1
EGAK Eagle 149.88 310 **PKPbc 18 49 41.4 +0.2**
GLB Gilahina Butte 149.90 303 **PKiKP 18 49 42.4 +0.1**
ULN Ulaanbaatar 150.06 89 **PKiKP 18 49 42.9 -0.3**
TLY Talaya 150.45 80 **PKiKP 18 49 43.8 +0.1**
DOT Dot Lake 150.75 307 **PKiKP 18 49 44.4 +0.5**
SCRK Sand Creek 150.81 308 **PKiKP 18 49 44.5 +0.3**
SCM Sheep Creek Mo 151.61 302 **PKiKP 18 49 46.5 +0.6**
FYU Fort Yukon 151.97 313 **PKiKP 18 49 47.5 +1.2**
DHY Denali Highway 152.01 305 **PKiKP 18 49 47.5 +0.8**
HDA Harding Lake 152.18 308 **PKiKP 18 49 47.5 +0.7**
ILAR Eielson Array 152.24 309 PKPbc **PKiKP 18 49 47.1 +0.2**
comp=Z,4.0nm,0.4s,baz=140,slow=2.4,SNR=44
CCB Clear Creek Bu 152.60 308 **PKPbc 18 49 47.6 +0.2**
WRH Wood River Hil 152.68 308 **PKiKP 18 49 48.0 +0.2**
MCK McKinley 152.86 306 **PKiKP 18 49 49.0 +0.7**
KSRS Korea Array 152.91 128 PKPbc **PKiKP 18 49 49.5 +0.3**
comp=Z,0.8nm,0.8s,baz=240,slow=2.5,SNR=4.9
TRF Thorofare Moun 153.38 305 **PKiKP 18 49 50.0 +0.4**
BPAW Bear Paw Mtn. 153.83 306 PKPbc **PKiKP 18 49 50.7 +0.5**
USRK Ussuriysk Ar. 160.20 124 PKPab **PKPab 18 50 32.0 +0.5**
comp=Z,0.9nm,0.7s,baz=236,slow=3.4,SNR=4.9

NEIC ***19*** *18:53:37.1±2.0, 44.2°N±0.1°×129.4°W±0.2, h10km±2km, mb3.8/27, Error ellipse: s-maj=20.5km s-min=17.2km az=259.0*
ANF ***19*** *18:53:39.5±1.2, 43.88°N×128.90W, h10km, ML3.4/8, Error ellipse: s-maj=12.4km s-min=10.0km az=57.0*
IDC ***19*** *18:53:39.1±2.7, 44.09°N×128.90W, h0km, mb3.3/3, mb1 3.7/9, mb1mx3.5/51, mbtmp3.5/9, ML3.0/5, MS3.3/15, Ms1 3.3/15, ms1mx3.1/33, Error ellipse: s-maj=54.7km s-min=16.2km az=50.0*
ISC 19 18:53:40.5±1.4, 44.02N±0.07×129.0W±0.1, h15km, n111, σ1 55/100, MS3.2/9, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I02D	**Swisshome**	**3.70**	**87**	P	**Pn**	**18 54 36.1**	**-1.0**
	baz=268,SNR=34						
I02D				S	**Sn**	**18 55 19.8**	**-0.5**
	baz=268						
J01E	**Myrtle Point**	**3.76**	**101**	P	**Pn**	**18 54 35.9**	**-2.1**
	baz=283,SNR=7.1						
J01E				S	**Sn**	**18 55 20.7**	**-1.3**
	baz=283						
I03D	**Drain, OR**	**4.08**	**93**	P	**Pn**	**18 54 41.6**	**-0.8**
	baz=275,SNR=29						
I03D				S	**Sn**	**18 55 29.2**	**-0.6**
	baz=275						
K02D	**Willamette Mer**	**4.09**	**107**	P	**Pn**	**18 54 39.8**	**-2.8**
	baz=289,SNR=11						
K02D				S	**Sn**	**18 55 27.7**	**-2.6**
	baz=289						
COR	**Corvallis**	**4.11**	**80**	Pn	**Pn**	**18 54 41.7**	**-1.0**
G03D	**McMinnville, O**	**4.25**	**72**	P	**Pn**	**18 54 43.7**	**-0.9**
	baz=254,SNR=11						
G03D				S	**Sn**	**18 55 35.3**	**+1.3**
	baz=254						
F03A	**Seaside**	**4.29**	**62**		**Pn**	**18 54 44.7**	**-0.6**
H04D	**Lebanon**	**4.51**	**81**	P	**Pn**	**18 54 47.1**	**-1.1**
	baz=264,SNR=8.8						
H04D				S	**Sn**	**18 55 41.0**	**+0.7**
	baz=264						
E03A	**Lebam**	**4.58**	**55**	Pn	**Pn**	**18 54 48.2**	**-1.0**
I04A	**Tendick Farm,**	**4.75**	**90**	P	**Pn**	**18 54 50.9**	**-0.7**
	baz=273,SNR=26						
H04A	**Detroit Lake**	**4.91**	**80**	Pn	**Pn**	**18 54 53.5**	**-0.4**
NLWA	**Neilton Lookou**	**4.92**	**45**		**Pn**	**18 54 52.0**	**-1.9**
F04A	**Amboy**	**5.03**	**65**	Pn	**Pn**	**18 54 54.4**	**-1.0**
YBH	**Yreka Blue Hor**	**5.14**	**114**	Pn	**Pn**	**18 54 56.1**	**-0.9**
	0.5nm,0.3s,baz=309,slow=11,SNR=5.8						
YBH				Sn	**Sn**	**18 55 56.6**	**-0.5**
	0.4nm,0.3s,baz=221,slow=6.3,SNR=3.1						
YBH				LR	LR	18 55 57.8	
	comp=Z,14nm,19.1s,baz=296,slow=27						
L04D	**Klamath Falls**	**5.20**	**108**	S	**Sn**	**18 55 56.4**	**-1.3**
	baz=291						
D03D	**Eldon**	**5.41**	**47**	P	**Pn**	**18 54 59.9**	**-0.8**
	baz=230,SNR=9.1						
D03D				S	**Sn**	**18 56 02.5**	**-0.1**
	baz=230						
G05D	**Wamic, OR**	**5.60**	**75**	P	**Pn**	**18 55 03.2**	**-0.1**
	baz=258						
LON	**Longmire**	**5.74**	**59**		**Pn**	**18 55 04.4**	**-0.8**
PINE	**Pine Mountain**	**5.81**	**89**	Pn	**Pn**	**18 55 06.3**	**0.0**
PGC	**Sidney**	**6.00**	**38**		**Pn**	**18 55 07.3**	**-1.5**
K05A	**Summer Lake**	**6.03**	**100**	Pn	**Pn**	**18 55 09.9**	**+0.5**
G06A	**Carlson Farm,**	**6.08**	**76**	Pn	**Pn**	**18 55 09.8**	**0.0**
A04D	**Lummi Island**	**6.39**	**40**	P	**Pn**	**18 55 13.7**	**-0.4**
	baz=224,SNR=6.2						
LTY	**Liberty**	**6.66**	**58**		**Pn**	**18 55 17.7**	**-0.2**
I07A	**Izee**	**6.83**	**86**		**Pn**	**18 55 21.3**	**+1.1**
B06A	**Marblemount**	**6.87**	**46**	Pn	**Pn**	**18 55 18.7**	**-1.9**
ORV	**Oroville**	**7.15**	**126**	Pn	**Pn**	**18 55 26.2**	**+1.7**
G08A	**Pilot Rock**	**7.26**	**76**	Pn	**Pn**	**18 55 26.1**	**0.0**
D08A	**Wollman Farm,**	**7.69**	**63**	Pn	**Pn**	**18 55 31.4**	**-0.4**
B08A	**Colville Reser**	**7.97**	**54**	Pn	**Pn**	**18 55 34.5**	**-1.3**
LLLB	**Lillooet**	**8.16**	**34**	Pn	**Pn**	**18 55 36.3**	**-2.1**
BBB	**Bella Bella**	**8.19**	**4**	Pn	**Pn**	**18 55 39.3**	**+0.6**
	0.3nm,0.3s,baz=267,slow=21,SNR=1.0						
C09A	**Chrisman Ranch**	**8.36**	**59**	Pn	**Pn**	**18 55 39.6**	**-1.6**
BMO	**Blue Mountains**	**8.39**	**80**	Pn	**Pn**	**18 55 42.9**	**+1.2**
F10A	**Beach Ranch, E**	**8.55**	**73**		**Pn**	**18 55 46.9**	**+3.1**
CMB	**Columbia Colle**	**8.82**	**130**	Pn	**Pn**	**18 55 48.4**	**+0.9**
WAKR	**Walker**	**9.05**	**124**		**Pn**	**18 55 53.9**	**+3.1**
NEW	**Newport**	**9.26**	**59**	LR	LR	18 59 20.8	
	comp=Z,147nm,21.4s,baz=261,slow=37						
H02S1	**DAWSON INLET T**	**9.48**	**347**	T	T	19 05 00.1	
	SNR=3.2						
NVAR	**Mina Array Bea**	**9.79**	**121**	Pn	**Pn**	**18 56 02.6**	**+1.7**
	0.1nm,0.3s,baz=280,slow=13,SNR=11						
HLID	**Hailey**	**10.54**	**87**	Pn	**Pn**	**18 56 14.0**	**+2.8**
ELK	**Elko**	**10.68**	**103**	Pn	**Pn**	**18 56 15.7**	**+2.7**
	0.0nm,0.3s,baz=274,slow=6.9,SNR=6.8						
ELK				LR	LR	19 00 35.4	
	comp=Z,79nm,18.9s,baz=285,slow=39						
ELK	**Elko**	**10.68**	**103**		**Pn**	**18 56 15.9**	**+2.8**
MSO	**Missoula**	**10.94**	**70**	Pn	**Pn**	**18 56 16.7**	**+0.2**
MCMT	**McKenzie Canyo**	**11.56**	**80**	Pn	**Pn**	**18 56 25.5**	**+0.2**
ISA	**Isabella, Lake**	**11.60**	**132**	Pn	**Pn**	**18 56 28.2**	**+2.6**
TPNV	**Topopah Spring**	**11.98**	**122**	Pn	**Pn**	**18 56 33.3**	**+2.4**
GSC	**Goldstone, Bar**	**12.78**	**129**	Pn	**Pn**	**18 56 44.3**	**+2.5**
FXWY	**Fox Creek**	**12.97**	**85**	Pn	**Pn**	**18 56 48.5**	**+4.1**
IMW	**Indian Meadow**	**13.00**	**84**	Pn	**Pn**	**18 56 47.1**	**+2.2**
TPAW	**Teton Pass**	**13.05**	**86**	Pn	**Pn**	**18 56 47.9**	**+2.4**
YPP	**Pitchstone Pla**	**13.06**	**83**		**Pn**	**18 56 47.4**	**+1.7**
REDW	**Red Top Meadow**	**13.14**	**87**	Pn	**Pn**	**18 56 49.3**	**+2.6**
FLWY	**Flagg Ranch**	**13.15**	**83**	Pn	**Pn**	**18 56 48.8**	**+1.9**
LCMT	**Little Creek M**	**13.85**	**115**	Pn	**Pn**	**18 56 59.3**	**+2.9**
MTPU	**Mount Pierson**	**14.00**	**109**	P	P	18 57 12.0	+5.4
KNB	**Kanab**	**14.13**	**114**		**Pn**	**18 57 02.5**	**+2.3**
PDAR	**Pinedale Array**	**14.18**	**88**	Pn	**Pn**	**18 57 04.0**	**+3.0**
	0.2nm,0.3s,baz=263,slow=11,SNR=2.2						
PDAR				LR	LR	19 02 37.3	
	comp=Z,79nm,19.2s,baz=288,slow=38						
PFO	**Pinyon Flats O**	**14.24**	**133**	LR	LR	19 01 20.6	
	comp=Z,64nm,20.5s,baz=138,slow=32						
Q16A	**Castle Valley**	**14.28**	**105**	P	**P**	**18 57 10.3**	**+0.7**
P17A	**Butcher Ranch,**	**14.35**	**102**	P	**P**	**18 57 10.4**	**+0.1**
DLBC	**Dease Lake**	**14.45**	**358**	LR	LR	19 01 56.6	
	comp=Z,130nm,18.6s,baz=215,slow=35						
SRU	**San Rafael Swe**	**14.65**	**103**	P	**P**	**18 57 12.8**	**-0.8**
RDMU	**Red Mountain**	**14.77**	**97**	P	**P**	**18 57 16.7**	**+1.7**
U15A	**North Rim**	**14.81**	**115**		**Pn**	**18 57 12.8**	**+3.1**
U15A				IAmb	IAmb	18 57 13.9	
	comp=Z,4.3nm,1.1s						
O20A	**White River Ci**	**15.87**	**97**	P	**P**	**18 57 28.5**	**+1.4**
O20A				IAmb	IAmb	18 57 32.6	
	comp=Z,5.8nm,0.8s						
PV09	**Paradox Valley**	**15.90**	**103**	P	**P**	**18 57 26.5**	**-1.0**
WUAZ	**Wupatki**	**15.95**	**116**	P	**Pn**	**18 57 26.3**	**+1.8**
Y14A	**Wickenburg**	**15.96**	**124**	P	**P**	**18 57 29.0**	**+1.0**
PV21	**Cone Mtn., Par**	**15.98**	**103**	P	**P**	**18 57 28.8**	**+0.4**
PV21				IAmb	IAmb	18 57 34.1	
	comp=Z,8.4nm,1.2s						
PV23	**Carpenter Ridg**	**16.00**	**103**	P	**Pn**	**18 57 24.9**	**-0.4**
PV23				IAmb	IAmb	18 57 37.7	
	comp=Z,8.9nm,1.0s						
PV14	**Lion Creek, Pa**	**16.03**	**104**	P	**Pn**	**18 57 24.1**	**-1.5**
PV19	**Morning Glory**	**16.09**	**104**	P	**P**	**18 57 28.9**	**-0.7**
PV19				IAmb	IAmb	18 57 37.8	
	comp=Z,8.0nm,1.1s						
PV04	**Paradox Valley**	**16.10**	**104**	P	**Pn**	**18 57 28.5**	**+2.0**
PV05	**Paradox Valley**	**16.11**	**105**	Pn	**Pn**	**18 57 27.1**	**+0.5**
PV05				IAmb	IAmb	18 57 54.9	
	comp=Z,10nm,1.4s						
PV17	**East Wray Mesa**	**16.12**	**104**	P	**Pn**	**18 57 27.3**	**+0.6**
PV17				IAmb	IAmb	18 57 38.0	
	comp=Z,11nm,1.1s						
PV22	**Blue Mesa, Par**	**16.12**	**103**		**Pn**	**18 57 28.4**	**+1.6**
PV22				IAmb	IAmb	18 57 39.6	
	comp=Z,8.9nm,1.1s						
PV11	**David Mesa, Pa**	**16.17**	**104**	P	**Pn**	**18 57 27.3**	**0.0**
PV11				IAmb	IAmb	18 57 43.6	
	comp=Z,9.8nm,1.2s						
113A	**Mohawk Valley,**	**16.35**	**128**	P	**P**	**18 57 32.1**	**-0.2**
PV15	**Paradox Valley**	**16.42**	**103**	P	**Pn**	**18 57 32.0**	**+1.3**
PV01	**Paradox Valley**	**16.46**	**104**	P	**Pn**	**18 57 30.6**	**-0.4**
PV01				IAmb	IAmb	18 57 39.9	
	comp=Z,17nm,1.5s						
W18A	**Petrified Fore**	**17.26**	**114**	Pn	**Pn**	**18 57 42.0**	**+0.8**
W18A				IAmb	IAmb	18 57 54.3	
	comp=Z,7.5nm,0.8s						
N23A	**Red Feather La**	**17.27**	**92**	P	**Pn**	**18 57 40.9**	**-0.4**
N23A				IAmb	IAmb	18 57 56.2	
	comp=Z,13nm,1.4s						
X18A	**Snowflake**	**17.48**	**116**	Pn	**Pn**	**18 57 43.2**	**-0.7**
X18A				IAmb	IAmb	18 57 53.0	
	comp=Z,11nm,1.6s						
DGMT	**Dagmar**	**17.68**	**67**	P	**P**	**18 57 47.5**	**+0.5**
ANMO	**Albuquerque**	**19.55**	**110**	P	**Pn**	**18 58 10.2**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=314,slow=12,SNR=3.1						
ANMO				LR	LR	19 05 10.3	
	comp=Z,66nm,21.6s,baz=307,slow=35						
ANMO	**Albuquerque**	**19.55**	**110**	P	**Pn**	**18 58 09.4**	**+0.2**
T25A	**Trinidad**	**19.84**	**102**		**P**	**18 58 11.6**	**+0.6**
T25A				IAmb	IAmb	18 58 21.0	
	comp=Z,12nm,1.4s						
BNM	**Barren Site**	**19.90**	**112**	P	**P**	**18 58 11.9**	**+0.3**
E28A	**Huff**	**20.02**	**73**	P	**Pn**	**18 58 13.9**	**-0.5**
KDAK	**Kodiak Island**	**20.14**	**321**	LR	LR	19 03 47.7	
	comp=Z,87nm,21.5s,baz=131,slow=30						
YKA	**Yellowknife Ar**	**20.32**	**19**	P	**P**	**18 58 16.0**	**+0.3**
	comp=Z,1.9nm,0.9s,baz=209,slow=11,SNR=4.1						
FFC	**Flin Flon**	**20.45**	**49**	P	**P**	**18 58 18.1**	**+0.8**
GDL2	**Guadalupe Moun**	**22.59**	**113**	P	**P**	**18 58 41.5**	**+0.9**
ILAR	**Eielson Array**	**23.09**	**340**	P	**P**	**18 58 44.0**	**-1.3**
	comp=Z,1.6nm,1.1s,baz=160,slow=8.8,SNR=8.0						
ILAR				LR	LR	19 06 24.2	
	comp=Z,40nm,20.5s,baz=138,slow=33						
ULM	**Lac du Bonnet**	**23.23**	**63**	LR	LR	19 07 47.0	
	comp=Z,83nm,18.9s,baz=283,slow=37						
ECSD	**EROS Data Cent**	**23.25**	**79**	P	**P**	**18 58 47.6**	**+0.4**
INK	**Inuvik**	**24.46**	**356**	LR	LR	19 08 08.1	
	comp=Z,61nm,19.8s,baz=42,slow=36						
TXAR	**Lajitas Array**	**24.91**	**118**	P	**P**	**18 59 04.8**	**+1.8**
	comp=Z,0.4nm,0.7s,baz=302,slow=7.2,SNR=5.9						
WMOK	**Wichita Mounta**	**25.00**	**101**	P	**P**	**18 59 05.3**	**+1.7**
SADO	**Sadowa**	**35.17**	**71**	LR	LR	19 15 18.9	
	comp=Z,72nm,18.6s,baz=130,slow=37						
TKL	**Tuckaleechee C**	**35.33**	**88**	LR	LR	19 15 34.5	
	comp=Z,92nm,19.7s,baz=229,slow=37						
TEIG	**Tepich**	**41.27**	**112**	LR	LR	19 22 26.1	
	comp=Z,27nm,18.1s,baz=228,slow=42						
YAK	**Yakutsk**	**57.06**	**327**	LR	LR	19 27 56.6	
	comp=Z,42nm,18.0s,baz=347,slow=36						
H11N3	**WAKE ISLAND Hy**	**58.06**	**267**	T	T	20 06 15.4	
	baz=49,slow=75,SNR=960						
H11N2	**WAKE ISLAND Hy**	**58.06**	**267**	T	T	20 06 06.7	
	baz=49,slow=75,SNR=1011						
H11N1	**WAKE ISLAND Hy**	**58.08**	**267**	T	T	20 06 10.4	
	baz=49,slow=75,SNR=730						
H11S1	**WAKE ISLAND Hy**	**58.99**	**266**	T	T	20 07 16.4	
	baz=49,slow=75,SNR=65						
H11S2	**WAKE ISLAND Hy**	**59.00**	**266**	T	T	20 07 28.9	
	baz=49,slow=75,SNR=53						
H11S3	**WAKE ISLAND Hy**	**59.01**	**266**	T	T	20 07 18.5	
	baz=49,slow=75,SNR=42						
NOA	**NORSAR Array B**	**70.41**	**19**	LR	LR	19 36 53.2	
	comp=Z,18nm,18.5s,baz=180,slow=37						

IDC ***19*** *18:54:45.8±1.2, 5.38°S×129.89°E, h0km, mb3.7/5, mb1 3.9/9, mb1mx3.7/42, mbtmp3.8/9, ML3.8/4, Error ellipse: s-maj=50.1km s-min=19.0km az=76.0*
NEIC ***19*** *18:54:49.6±1.4, 5.37°S±0.06°×130.0°E±0.1°, h30km±5km, mb4.2/7, Error ellipse: s-maj=19.7km s-min=9.0km az=85.0*
DJA ***19*** *18:54:49.5±0.6, 5°S±2°×13°E±°, h18km±5km, M4.0/13, mb4.2/6, MLv3.9/13*
ISC 19 18:54:49.7±0.6, 5.35S±0.05×129.95E±0.06, h35km, n32, σ 25 21/37, mb3.6/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**0.82**	**357**	P	**Pn**	**18 55 02.2**	**-2.7**
BNDI				S	**Sn**	**18 55 12.5**	**-3.3**
MSAI	**Masohi**	**2.24**	**333**	P	**Pn**	**18 55 23.0**	**-1.3**
MSAI				S	**Sn**	**18 55 47.8**	**-2.9**
AAI	**Ambon**	**2.41**	**313**	P	**Pn**	**18 55 25.4**	**-1.2**
SAUI	**Saumlaki**	**2.94**	**153**	Pn	**Pn**	**18 55 32.8**	**-1.2**
FAKI	**Fak Fak**	**3.33**	**44**	P	**Pn**	**18 55 40.1**	**+0.7**
FAKI				S	**Sn**	**18 56 17.5**	**-0.3**
FAKI	**Fak Fak**	**3.33**	**44**		**Pn**	**18 55 40.1**	**+0.7**
NLAI	**Namlea**	**3.53**	**306**	P	**Pn**	**18 55 41.5**	**-0.6**
KMPI	**Kaimana, Papua**	**4.11**	**66**	P	**Pn**	**18 55 52.0**	**+2.0**
KMPI				S	**Sn**	**18 56 39.0**	**+2.1**
SIJI	**Sorong**	**4.64**	**17**	Pn	**Pn**	**18 55 57.4**	**0.0**
	20nm,0.3s,baz=162,slow=23,SNR=156						
SIJI				Sn	**Sn**	**18 56 46.8**	**-3.4**
	7.5nm,0.3s,baz=235,slow=22,SNR=6.3						
SANI	**Sanana**	**5.13**	**310**	P	**Pn**	**18 56 04.9**	**+0.7**
	0.1nm21nm,0.6s						
LBMI	**Labuha**	**5.28**	**332**	P	**Pn**	**18 56 07.4**	**+1.2**
	0.1nm27nm,0.9s						
MTN	**Manton Dam**	**7.54**	**171**	Pn	**Pn**	**18 56 37.5**	**+0.3**
APSI	**Ampana**	**9.38**	**298**	P	**Pn**	**18 57 06.5**	**+3.9**
	9.7nm,1.0s						
KNRA	**Kununurra**	**10.33**	**186**	Pn	**Pn**	**18 57 16.2**	**+0.8**
FITZ	**Fitzroy Crossi**	**13.35**	**198**	Pn	**Pn**	**18 57 55.2**	**-1.6**
	0.5nm,0.3s,baz=27,slow=9.3,SNR=16						
WB0	**Warramunga Arr**	**14.97**	**164**	Pn	**Pn**	**18 58 16.8**	**-2.1**
WRAB	**Tennant Creek**	**15.11**	**164**	Pn	**Pn**	**18 58 15.6**	**-5.2**

MRL	**Marmol**	**2.26**	**96**	*eP*	**Pg**	**19 02 30.8**	**-0.6**
MRL				*eS*	**Sg**	**19 03 00.2**	**-0.5**
CMIG	**Matias Romero**	**3.27**	**303**	*eP*	**Pb**	**19 02 44.1**	**-2.0**

IDC ***19*** *19:05:40.4±1.1, 35°.78N×29°.97E, h0km, mb3.7/9, mb1 3.7/13, mb1mx3.6/48, mbtmp3.6/13, ML3.5/4, MS2.6/1, Ms1 2.6/1, ms1mx2.0/60, Error ellipse: s-maj=22.7km s-min=17.5km az=157.0*
ISK ***19*** *19:05:40.0, 35°.51N×29°.83E, h10km, ML3.4/13*
NIC ***19*** *19:05:42.4±0.0, 35°.68N×29°.89E, h2km±1km, Ml3.4/4*
DDA ***19*** *19:05:42.3, 35°.55N×29°.85E, h23km±2km, ML3.2*
THE ***19*** *19:05:44.1, 35°.73N×29°.93E, h16km±1km, ML3.0/2, Error ellipse: s-maj=3.1km s-min=1.3km az=77.0*
ATH ***19*** *19:05:45.4, 35°.81N×29°.67E, h33km±2km, ML3.3/1, Error ellipse: s-maj=4.1km s-min=1.3km az=328.0*
HLW ***19*** *19:05:45.8, 35°.36N×29°.55E, h10km±23km, Md3.3, Ml3.6*
GII ***19*** *19:05:48.2±0.0, 35°.33N×30°.21E, h5km*

ISC 19 19:05:43.6±1.1, 35°.66N±0°.03×29°.87E±0°.02, h26km±9km, n97, σ1°39/130, mb3.5/9, 1D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.54**	**335**	P		**Pb**	**19 05 53.6**	**-0.9**
KSL				S		**Sb**	**19 06 02.4**	**+0.4**
	5µm,0.6s							
KSL	**Kastellorizon**	**0.54**	**335**	P		**Pb**	**19 05 53.6**	**-0.9**
KSL				S		**Sb**	**19 06 00.5**	**-1.5**
KSL				AML	AML		19 06 03.3	
	comp=N,7770µm,0.3s							
KSL				AML	AML		19 06 06.4	
	comp=E,11614µm,0.5s							
KSL	**Kastellorizon**	**0.54**	**335**	⇓P		**Pb**	**19 05 53.6**	**-0.9**
KSL				S		**Sb**	**19 06 02.3**	**+0.3**
KSL				AML	AML		19 06 03.2	
	comp=E,7.8nm,0.3s							
KSL				AML	AML		19 06 03.2	
	comp=E,7.8nm,0.3s							
KSL				AML	AML		19 06 03.4	
	comp=E,12nm,0.7s							
KSL				AML	AML		19 06 03.4	
	comp=E,12nm,0.7s							
DEMR	**Demre-Antalya**	**0.58**	**3**	PG		**Pb**	**19 05 54.3**	**-0.8**
AKAS	**Kas**	**0.61**	**340**	PG		**Pb**	**19 05 54.7**	**-1.1**
AKAS				SG		**Sn**	**19 06 05.5**	**-0.3**
AKAS	**Kas**	**0.61**	**340**	*i* P		**Pb**	**19 05 54.8**	**-1.1**
AKAS				*i* S		**Sn**	**19 06 05.1**	**-0.7**
AKAS				IAML			19 06 06.0	
	comp=N,3µm,0.6s							
AKAS				IAML			19 06 06.0	
	comp=E,2µm,0.5s							
AKUM	**Antalya-Kumluc**	**0.77**	**30**	*i* P		**Pb**	**19 05 58.4**	**+0.1**
AKUM				*i* S		**Sb**	**19 06 08.7**	**+0.4**
AKUM				IAML			19 06 13.0	
	comp=E,1µm,0.6s							
AKUM				IAML			19 06 13.0	
	comp=N,1µm,0.5s							
ELL	**Elmali**	**1.09**	**2**	PN		**Pb**	**19 06 03.7**	**-0.1**
ELL				SN		**Sb**	**19 06 21.3**	**+3.6**
ELL	**Elmali**	**1.09**	**2**	P		**Pn**	**19 06 03.0**	**-0.3**
ELL				S		**Sb**	**19 06 19.2**	**+1.5**
KEMT	**Kemer-ANTALYA**	**1.10**	**30**	PN		**Pb**	**19 06 04.1**	**+0.3**
FETY	**Fethiye**	**1.16**	**327**	P		**Pn**	**19 06 03.6**	**-0.6**
FETY				S		**Sn**	**19 06 18.7**	**-0.6**
FETY	**Fethiye**	**1.16**	**327**	PN		**Pn**	**19 06 03.7**	**-0.5**
FETY	**Fethiye**	**1.16**	**327**	*i* P		**Pn**	**19 06 03.6**	**-0.6**
FETY				*i* S		**Sn**	**19 06 16.9**	**-2.4**
ANTB	**Antalya**	**1.39**	**27**	PN		**Pb**	**19 06 08.2**	**-0.7**
ARG	**Arkhangelos**	**1.52**	**292**	P		**Pn**	**19 06 09.1**	**0.0**
ARG				S		**Sn**	**19 06 28.2**	**+0.2**
	comp=N,218nm,0.5s							
ARG	**Arkhangelos**	**1.52**	**292**	P		**Pn**	**19 06 09.0**	**-0.1**
ARG				S		**Sn**	**19 06 27.5**	**-0.5**
ARG	**Arkhangelos**	**1.52**	**292**	PN		**Pn**	**19 06 08.4**	**-0.7**
ARG	**Arkhangelos**	**1.52**	**292**	P		**Pn**	**19 06 09.3**	**+0.3**
TURN	**Turunc**	**1.59**	**320**	PN		**Pb**	**19 06 11.9**	**-0.3**
TURN	**Turunc**	**1.59**	**320**	*i* P		**Pb**	**19 06 11.9**	**-0.3**
GOLH	**Golhisar**	**1.59**	**351**	*i* P		**Pn**	**19 06 11.3**	**+1.1**
KEPZ	**Antalya-Kepez**	**1.87**	**48**	*i* P		**Pn**	**19 06 15.1**	**+1.1**
BCK	**Bucak**	**1.89**	**18**	PN		**Pn**	**19 06 15.4**	**+1.2**
YER	**Yerkesik**	**1.95**	**320**	PN		**Pn**	**19 06 15.5**	**+0.4**
TAVA	**DENIZLI_Tavas**	**1.96**	**337**	*i* P		**Pn**	**19 06 14.7**	**-0.5**
TAVA				*i* S		**Sn**	**19 06 40.9**	**+1.9**
TAVA				IAML			19 06 53.0	
	comp=N,159nm,0.5s							
ALAN	**Alanya-ANTALYA**	**1.97**	**62**	PN		**Pn**	**19 06 15.8**	**+0.6**
BRDR	**BURDUR-Merkez**	**2.04**	**4**	*i* P		**Pn**	**19 06 17.1**	**+0.8**
GAZI	**Gazipasa**	**2.07**	**73**	PN		**Pn**	**19 06 16.9**	**+0.3**
GAZI	**Gazipasa**	**2.07**	**73**	*i* P		**Pn**	**19 06 16.6**	**0.0**
GAZI				*i* S		**Sn**	**19 06 37.8**	**-3.7**
DATC	**Datca-Mugla**	**2.10**	**302**	PN		**Pn**	**19 06 16.9**	**-0.1**
AKMS	**Akamas**	**2.12**	**107**	P		**Pn**	**19 06 18.7**	**+1.4**
AKMS				AML	AML		19 06 42.6	
	comp=N,0.7nm,0.7s							
AKMS				AML	AML		19 06 44.7	
	comp=N,1.1nm,0.5s							
DAT	**Datca**	**2.14**	**301**	P		**Pn**	**19 06 18.0**	**+0.3**
DAT				S		**Sn**	**19 06 43.5**	**+0.1**
DAT	**Datca**	**2.14**	**301**	PN		**Pn**	**19 06 17.6**	**-0.1**
DAT	**Datca**	**2.14**	**301**	*i* P		**Pn**	**19 06 17.1**	**-0.6**
DAT				*i* S		**Sn**	**19 06 41.1**	**-2.3**
DAT				IAML			19 06 44.0	
	comp=N,63nm,0.4s							
KARP	**Karpathos**	**2.21**	**268**	P		**Pn**	**19 06 20.1**	**+1.5**
KARP				S		**Sn**	**19 06 46.6**	**+1.5**
KARP	**Karpathos**	**2.21**	**268**	P		**Pn**	**19 06 20.0**	**+1.5**
KARP	**Karpathos**	**2.21**	**268**	P		**Pn**	**19 06 20.1**	**+1.5**
ISP	**Isparta**	**2.22**	**13**	P		**Pb**	**19 06 21.3**	**-1.9**
ALFC	**Alefka**	**2.29**	**102**	P		**Pn**	**19 06 21.0**	**+1.3**
ALFC				AML	AML		19 06 48.5	
	comp=N,0.5nm,0.5s							
ALFC				AML	AML		19 06 52.2	
	comp=N,0.5nm,0.6s							
SEYD	**Seydisehir-KON**	**2.36**	**42**	PN		**Pn**	**19 06 21.9**	**+1.2**
NATA	**Nata**	**2.38**	**111**	P		**Pn**	**19 06 23.0**	**+2.1**
BDRM	**Kayabasi**	**2.41**	**306**	*i* P		**Pn**	**19 06 19.4**	**-1.9**
BAGO	**Egridir - ISPA**	**2.44**	**17**	*i* P		**Pn**	**19 06 23.7**	**+1.8**
OSC1	**CSNet OBS 1**	**2.45**	**151**	P		**Pn**	**19 06 23.5**	**+1.7**
OSC1				S		**Sb**	**19 06 55.5**	**-1.0**
BODT	**Bodrum**	**2.50**	**305**	P		**Pn**	**19 06 22.3**	**-0.2**
BODT				S		**Sn**	**19 06 51.6**	**-0.5**
BODT	**Bodrum**	**2.50**	**305**	PN		**Pn**	**19 06 22.7**	**+0.2**
KZIL	**AFYON_Kizioren**	**2.60**	**5**	*i* P		**Pn**	**19 06 24.1**	**+0.1**
SZAC	**Souni**	**2.63**	**109**	P		**Pn**	**19 06 25.9**	**+1.6**
SZAC				AML	AML		19 07 05.8	
	comp=N,0.5nm,0.6s							
SZAC				AML	AML		19 07 07.0	
	comp=N,0.5nm,0.4s							
ERMK	**Ermenek**	**2.65**	**67**	*i* P		**Pn**	**19 06 27.4**	**+2.6**
KHAL	**Karahalli**	**2.72**	**354**	*i* P		**Pn**	**19 06 25.1**	**-0.7**
DOGA	**KONYA_Doganbis**	**2.84**	**30**	*i* P		**Pn**	**19 06 29.8**	**+2.5**
ASGA	**Asgata**	**2.90**	**106**	P		**Pn**	**19 06 29.6**	**+1.5**
KMER	**Konya-Meram**	**2.91**	**43**	*i* P		**Pn**	**19 06 29.0**	**+1.7**
CSS	**Mathiatis**	**2.92**	**103**	Pn		**Pn**	**19 06 30.2**	**+1.9**
CSS	**Mathiatis**	**2.92**	**103**	P		**Pn**	**19 06 29.6**	**+1.4**
ZKR	**Zakros**	**3.03**	**261**	P		**Pn**	**19 06 31.0**	**+1.1**
ZKR				S		**Sn**	**19 07 06.4**	**+1.1**
ZKR	**Zakros**	**3.03**	**261**	P		**Pn**	**19 06 31.7**	**+1.8**
USAK	**Uak-Merkez**	**3.12**	**348**	*i* P		**Pn**	**19 06 30.2**	**-1.0**
MVOU	**Mavrovouni**	**3.14**	**101**	P		**Pn**	**19 06 32.8**	**+1.4**
SMG	**Samos**	**3.18**	**311**	P		**Pn**	**19 06 31.5**	**-0.4**
SMG	**Samos**	**3.18**	**311**	P		**Pn**	**19 06 31.6**	**-0.3**
SMG				S		**Sn**	**19 07 05.9**	**-3.2**
OSC2	**CSNet OBS 4**	**3.25**	**142**	P		**Pn**	**19 06 34.4**	**+1.5**
KDHN	**Kadinhani**	**3.38**	**32**	*i* P		**Pn**	**19 06 36.1**	**+1.4**
AMGA	**Amorgos Island**	**3.42**	**291**	P		**Pn**	**19 06 36.1**	**+0.9**
LAST	**Lasithi**	**3.62**	**263**	P		**Pn**	**19 06 40.1**	**+2.1**
LAST				S		**Sn**	**19 07 19.2**	**-0.8**
IDI	**Anoyia**	**4.08**	**266**	Pn		**Pn**	**19 06 45.0**	**+0.7**
	comp=N,2.6nm,0.3s,baz=356,slow=9.9,SNR=20							
IDI				Sn		**Sn**	**19 07 29.4**	**-1.8**
	comp=N,5.7nm,0.3s,baz=320,slow=20,SNR=8.3							
BRTR	**Keskin Array B**	**5.04**	**35**	Pn		**Pn**	**19 06 57.8**	**+0.2**
	comp=N,0.9nm,0.3s,baz=212,slow=16,SNR=24							
BRTR				Sn		**Sn**	**19 07 54.8**	**-0.3**
	comp=N,0.5nm,0.3s,baz=203,slow=25,SNR=7.0							
BRTR				LR		LR	19 09 33.0	
	comp=N,59nm,18.6s,baz=188,slow=48							
HNTI	**Hanita**	**5.08**	**119**	Pn		**Pn**	**19 06 59.4**	**+1.3**
HNTI				Sn		**Sn**	**19 07 55.5**	**-0.5**
MMA0B	**Mount Meron ar**	**5.28**	**118**	Pn		**Pn**	**19 07 02.7**	**+1.8**
GEM	**Giv'at Ha'Em**	**5.38**	**115**	Pn		**Pn**	**19 07 03.4**	**+1.3**
GEM				Sn		**Sn**	**19 08 01.7**	**-1.4**
NATI	**Neve Ativ**	**5.40**	**115**	Pn		**Pn**	**19 07 04.3**	**+1.9**
NATI				Sn		**Sn**	**19 08 02.4**	**-1.4**
MMLI	**Mount Malkishu**	**5.62**	**123**	Pn		**Pn**	**19 07 07.3**	**+1.9**
SLUM	**Salum**	**5.69**	**224**	P		**Pn**	**19 07 07.8**	**+1.4**
	baz=225							
SLUM				AMP			19 08 00.0	
	baz=225							
HMDT	**Nahal Hemdat**	**5.80**	**124**	Pn		**Pn**	**19 07 09.8**	**+1.9**
HMDT				Sn		**Sn**	**19 08 13.0**	**-0.6**
KOT	**Kottamia**	**5.95**	**163**	P		**Pn**	**19 07 11.3**	**+1.3**
	baz=159							
KOT				S		**Sn**	**19 08 14.9**	**-2.4**
	baz=159							
HNAT	**Natroun**	**6.04**	**174**	P		**Pn**	**19 07 12.4**	**+1.2**
	baz=170							
HNAT				AMP			19 08 00.0	
	baz=170							
KZIT	**Kziot**	**6.07**	**140**	Pn		**Pn**	**19 07 13.3**	**+1.7**
KZIT				Sn		**Sn**	**19 08 18.2**	**-2.0**
YTIR	**Yattir**	**6.13**	**133**	Pn		**Pn**	**19 07 14.0**	**+1.5**
DSI	**Dead Sea**	**6.14**	**130**	Pn		**Pn**	**19 07 13.9**	**+1.3**
HSAF	**As Saff**	**6.19**	**166**	P		**Pn**	**19 07 14.7**	**+1.4**
	baz=162							
HSAF				S		**Sn**	**19 08 19.2**	**-4.0**
	baz=162							
GLL	**Jalalah**	**6.26**	**165**	P		**Pn**	**19 07 15.8**	**+1.6**
	baz=161							
PRNI	**Paran**	**6.83**	**139**	Pn		**Pn**	**19 07 23.2**	**+1.2**
HRFI	**Mount Harif**	**7.09**	**141**	Pn		**Pn**	**19 07 27.1**	**+1.4**
HRFI				Sn		**Sn**	**19 08 42.9**	**-2.6**
MBRI	**Mt Berech**	**7.23**	**143**	Pn		**Pn**	**19 07 29.3**	**+1.7**
EIL	**Elat**	**7.35**	**143**	Pn		**Pn**	**19 07 30.1**	**+0.9**
	comp=N,0.9nm,0.3s,baz=349,slow=16,SNR=9.3							
EIL	**Elat**	**7.35**	**143**	Pn		**Pn**	**19 07 30.2**	**+1.0**
EIL				Sn		**Sn**	**19 08 49.9**	**-1.8**
HFRF	**Wahat Farafira**	**8.59**	**189**	P		**Pn**	**19 07 46.6**	**+0.5**
	baz=188							
GERES	**GERESS Array B**	**17.75**	**323**	P		**P**	**19 09 49.4**	**-0.1**
	comp=N,0.1nm,0.3s,baz=158,slow=2.9,SNR=3.5							
GEYT	**Alibeck**	**22.70**	**76**	P		**P**	**19 10 43.3**	**0.0**
	comp=N,1.0nm,0.5s,baz=283,slow=9.8,SNR=3.0							
FINES	**FINESS Array B**	**25.92**	**356**	P		**P**	**19 11 12.5**	**-0.8**
	comp=N,1.8nm,0.7s,baz=157,slow=10,SNR=7.5							
HFS	**Hagfors**	**26.63**	**342**	P		**P**	**19 11 20.6**	**+0.8**
	comp=N,1.3nm,0.5s,baz=163,slow=11,SNR=7.6							
ESDC	**Sonseca Array**	**26.98**	**289**	P		**P**	**19 11 24.6**	**+1.4**
	comp=N,0.5nm,0.7s,baz=81,slow=11,SNR=4.1							
NOA	**NORSAR Array B**	**28.05**	**341**	P		**P**	**19 11 32.4**	**-0.2**
	comp=N,0.8nm,0.8s,baz=103,slow=9.2,SNR=3.2							
TORD	**Torodi Ar. Bea**	**33.85**	**236**	P		**P**	**19 12 25.6**	**+1.6**
	comp=N,0.5nm,0.8s,baz=37,slow=11,SNR=2.2							
ARCES	**ARCESS Array B**	**34.02**	**357**	P		**P**	**19 12 23.7**	**-1.2**
	comp=N,8.4nm,1.2s,baz=172,slow=9.6,SNR=4.4							
MKAR	**Makanchi Array**	**40.28**	**57**	P		**P**	**19 13 17.9**	**-0.4**
	comp=N,0.4nm,0.6s,baz=272,slow=9.9,SNR=2.6							
ZALV	**Zalesovo Beam**	**41.88**	**46**	P		**P**	**19 13 29.6**	**-1.8**
	comp=N,0.3nm,0.4s,baz=270,slow=8.6,SNR=2.0							

IDC ***19*** *19:09:57.3±1.1, 57°.71S×25°.04W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/20, mbtmp3.9/3, Error ellipse: s-maj=46.9km s-min=35.8km az=87.0*
NEIC ***19*** *19:10:01.8±0.6, 58°.05S±0°.1×25°.2W±0°.3, h35km±2km, mb4.3/9, Error ellipse: s-maj=25.1km s-min=14.9km az=57.0*

ISC 19 19:10:02.5±0.7, 57°.95S±0°.1×25°.0W±0°.2, h40km, n20, σ0°82/20, mb4.2/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**14.61**	**158**	P		**Pn**	**19 13 25.2**	**-1.0**
VNA3	**Neumayer Olymp**	**14.83**	**160**	P		**Pn**	**19 13 27.7**	**-1.4**
SNAA	**Sanae**	**16.55**	**155**	P		**Pn**	**19 13 51.0**	**-0.2**
SNAA	**Sanae**	**16.55**	**155**			**Pn**	**19 13 50.8**	**-0.5**
EFI	**East Falkland**	**19.90**	**274**	Pn		**Pn**	**19 14 32.2**	**0.0**
QSPA	**South Pole Qui**	**32.33**	**180**	P		**P**	**19 16 27.0**	**-0.5**
MAW	**Mawson**	**37.94**	**141**			**P**	**19 17 15.2**	**-0.3**
VNDA	**Vanda**	**44.75**	**182**	P		**P**	**19 18 13.6**	**+2.4**
	0.6nm,0.7s,baz=205,slow=9.1,SNR=2.6							
MNMC	**Minye Minye**	**50.59**	**301**	P		**P**	**19 18 56.7**	**-0.7**
MNMC				IAmb	IAmb		19 19 00.9	
	comp=Z,3.2nm,1.0s							
LPAZ	**La Paz**	**52.42**	**304**	P		**P**	**19 19 11.3**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=98,slow=7.1,SNR=4.5							
LPAZ	**La Paz**	**52.42**	**304**	P		**P**	**19 19 10.9**	**-0.7**
LPAZ				IAmb	IAmb		19 19 31.0	
	comp=Z,7.2nm,1.6s							
SAML	**Samuel**	**56.96**	**313**	P		**P**	**19 19 43.0**	**-0.7**
SAML				IAmb	IAmb		19 20 10.9	
	comp=Z,5.2nm,1.2s							
TOA0	**Torodi Ar. Sit**	**74.14**	**27**	P		**P**	**19 21 34.6**	**+0.1**
TOA0				IAmb	IAmb		19 21 36.5	
	comp=Z,3.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**74.14**	**27**	P		**P**	**19 21 34.7**	**+0.2**
	comp=Z,1.4nm,0.5s,baz=201,slow=6.5,SNR=7.6							
TORD	**Torodi Ar. Bea**	**74.14**	**27**	P		**P**	**19 21 34.9**	**+0.4**
FINES	**FINESS Array B**	**125.49**	**27**	PKP		**PKPdf**	**19 28 57.5**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=145,slow=4.0,SNR=5.6							
SONM	**Songino Array**	**149.63**	**88**	PKPbc		**PKPbc**	**19 29 47.3**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=228,slow=3.8,SNR=4.0							
SONM	**Songino Array**	**149.63**	**88**			**PKPbc**	**19 29 47.0**	**+0.2**
ILAR	**Eielson Array**	**152.23**	**309**	PKPbc		**PKiKP**	**19 29 52.4**	**0.0**
	comp=Z,0.4nm,0.4s,baz=135,slow=2.6,SNR=5.4							
ILAR	**Eielson Array**	**152.23**	**309**			**PKPbc**	**19 29 52.0**	**-0.1**

NIED ***19*** *19:20:00, 36°.50N×141°.10E, h47km, Mw3.8 Best double couple: M₀5.68000×10¹⁴ NP1:φ₁151.00000°, δ80.00000°, λ-26.00000°. NP2:φ₂246.00000°, δ64.00000°, λ-169.00000°.*
IDC ***19*** *19:20:51.6±1.8, 36°.54N×141°.44E, h0km, mb3.5/4, mb1 3.6/9, mb1mx3.4/58, mbtmp3.6/9, ML3.4/5, MS3.3/2, Ms1 3.3/2, ms1mx2.6/46, Error ellipse: s-maj=36.9km s-min=21.1km az=84.0*
JMA ***19*** *19:20:58.1±0.1, 36°.54N×141°.12E, h49km±1km, M3.9*
JMA Felt II J1.

ISC 19 19:20:57.1±1.5, 36°.50N±0°.06×141°.3E±0°.1, h36km±3km, n22, σ0°76/35, mb3.5/4, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.57**	**254**	P		**Pn**	**19 21 09.0**	**+0.2**
JHYU				S		**Sn**	**19 21 16.6**	**-0.4**
JHO	**Hitachi**	**0.57**	**281**	P		**Pn**	**19 21 08.6**	**-0.3**
JHO				S		**Sn**	**19 21 16.2**	**-0.9**
ONAJ	**Iwakimizuishiy**	**0.71**	**328**	P		**Pn**	**19 21 10.5**	**-0.2**
ONAJ				S		**Sn**	**19 21 19.4**	**-1.0**
JFFD	**Fukushimafurud**	**0.82**	**316**	P		**Pn**	**19 21 11.9**	**-0.2**
JFFD				*eS*		**Sn**	**19 21 21.7**	**-1.4**
JYT	**Yasato**	**0.91**	**253**	P		**Pn**	**19 21 13.1**	**-0.2**
JYT				S		**Sn**	**19 21 24.0**	**-1.2**
JFK	**Kawauchi**	**0.92**	**340**	P		**Pn**	**19 21 13.5**	**-0.1**
JFK				S		**Sn**	**19 21 24.5**	**-1.1**
JFT	**Otama**	**1.26**	**324**	P		**Pn**	**19 21 19.0**	**+0.8**
JFT				S		**Sn**	**19 21 34.2**	**+0.3**
JMM	**Marumori**	**1.42**	**345**	P		**Pn**	**19 21 20.6**	**+0.3**
JMM				S		**Sn**	**19 21 37.7**	**0.0**
JAG	**Ashikaga**	**1.47**	**268**	P		**Pn**	**19 21 20.8**	**-0.2**
JAG				S		**Sn**	**19 21 38.0**	**-0.9**
JFY	**Yanaizu**	**1.54**	**306**	P		**Pn**	**19 21 22.4**	**+0.3**
JFY				S		**Sn**	**19 21 41.1**	**+0.2**
JKT	**Katashina**	**1.65**	**280**	P		**Pn**	**19 21 23.9**	**+0.3**
MJAR	**Matsushiro Arr**	**2.46**	**272**	Pn		**Pn**	**19 21 35.2**	**+0.4**
	7.0nm,0.3s,baz=85,slow=9.4,SNR=375							
MJAR				Sn		**Sn**	**19 22 03.8**	**+0.1**
	3.0nm,0.3s,baz=63,slow=30,SNR=9.8							
MJAR				LR		LR	19 22 38.2	
	comp=Z,84nm,18.9s,baz=75,slow=42							
MAT	**Matsushiro**	**2.47**	**272**	P		**Pn**	**19 21 35.5**	**+0.7**
MAT				S		**Sn**	**19 22 03.9**	**+0.2**
JHJ	**Hachijo jima 2**	**3.59**	**200**	Pn		**Pn**	**19 21 51.3**	**+1.1**
	24nm,0.3s,baz=282,slow=23,SNR=8.1							
JHJ				Sn		**Sn**	**19 22 31.6**	**+0.3**
	35nm,0.3s,baz=269,slow=23,SNR=2.2							
ASAJ	**Asahikawa**	**7.67**	**7**	Pn		**Pn**	**19 22 45.3**	**-1.0**
	1.0nm,0.3s,baz=223,slow=8.6,SNR=12							
ASAJ				Sn		**Sn**	**19 24 13.6**	**+1.7**
	0.6nm,0.3s,baz=52,slow=21,SNR=4.3							
USRK	**Ussuriysk Ar.**	**10.45**	**320**	Pn		**Pn**	**19 23 24.9**	**+0.6**
	baz=129,slow=14,SNR=1.7							
KSRS	**Korea Array**	**10.72**	**279**	Pn		**Pn**	**19 23 28.6**	**+0.6**
	0.2nm,0.3s,baz=88,slow=12,SNR=1.7							
SONM	**Songino Array**	**27.99**	**305**	P		**P**	**19 26 45.5**	**+1.0**
	0.3nm,0.4s,baz=134,slow=4.2,SNR=2.1							
MKAR	**Makanchi Array**	**44.30**	**303**	P		**P**	**19 29 02.8**	**-0.6**
	0.3nm,0.8s,baz=97,slow=12,SNR=1.9							
KURBB	**Kurchatov Array**	**46.24**	**308**	P		**P**	**19 29 17.5**	**-1.1**
	0.8nm,0.7s,baz=81,slow=7.5,SNR=5.5							
WRA	**Warramunga Arr**	**56.52**	**188**	P		**P**	**19 30 35.8**	**0.0**
	0.4nm,0.6s,baz=5.2,slow=7.7,SNR=6.1							
ELK	**Elko**	**75.98**	**50**	LR		LR	20 05 59.8	
	comp=Z,134nm,19.6s,baz=230,slow=36							

IDC ***19*** *19:26:55.6±1.8, 58°.23S×25°.17W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/20, mbtmp4.0/2, Error ellipse: s-maj=77.2km s-min=44.3km az=4.0*
NEIC ***19*** *19:27:01.8±0.7, 57°.94S±0°.09×25°.1W±0°.3, h35km±2km, mb4.1/9, Error ellipse: s-maj=26.3km s-min=9.8km az=243.0*

ISC 19 19:27:02.2±0.7, 57°.9S±0°.1×25°.2W±0°.2, h40km, n18, σ0°57/18, mb4.0/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**16.56**	**155**			**Pn**	**19 30 50.9**	**-0.2**
EFI	**East Falkland**	**19.83**	**274**	Pn		**Pn**	**19 31 31.2**	**+0.2**
QSPA	**South Pole Qui**	**32.30**	**180**	P		**P**	**19 33 27.6**	**+0.6**
QSPA				IAmb	IAmb		19 33 40.9	
	comp=Z,4.8nm,1.5s							
MAW	**Mawson**	**37.97**	**142**	P		**P**	**19 34 15.4**	**0.0**
GO01	**Chusmiza**	**49.88**	**301**	P		**P**	**19 35 51.3**	**-0.8**
GO01				IAmb	IAmb		19 36 00.4	
	comp=Z,2.5nm,1.4s							
MNMC	**Minye Minye**	**50.54**	**301**	P		**P**	**19 35 56.1**	**-0.6**
MNMC				IAmb	IAmb		19 36 06.3	
	comp=Z,4.1nm,1.2s							
LPAZ	**La Paz**	**52.37**	**304**	P		**P**	**19 36 11.2**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=135,slow=16,SNR=6.9							
LPAZ	**La Paz**	**52.37**	**304**	P		**P**	**19 36 10.9**	**0.0**
LPAZ				IAmb	IAmb		19 36 11.9	
	comp=Z,1.8nm,1.2s							
SAML	**Samuel**	**56.92**	**313**	P		**P**	**19 36 43.3**	**+0.2**
TOA0	**Torodi Ar. Sit**	**74.19**	**27**	P		**P**	**19 38 34.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**74.19**	**27**	P		**P**	**19 38 35.5**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=197,slow=6.0,SNR=11							
TORD	**Torodi Ar. Bea**	**74.19**	**27**	P		**P**	**19 38 35.4**	**+1.0**
FINES	**FINESS Array B**	**125.55**	**27**	PKP		**PKPdf**	**19 45 57.0**	**-0.4**
	comp=Z,2.7nm,1.1s,baz=232,slow=1.6,SNR=5.7							
FINES	**FINESS Array B**	**125.55**	**27**			**PKiKP**	**19 45 57.3**	**-0.4**
SONM	**Songino Array**	**149.70**	**88**	PKPbc		**PKPbc**	**19 46 46.1**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=214,slow=4.9,SNR=3.6							
SONM	**Songino Array**	**149.70**	**88**			**PKiKP**	**19 46 46.8**	**-0.9**
ILAR	**Eielson Array**	**152.19**	**309**	PKPbc		**PKiKP**	**19 46 51.8**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=128,slow=2.5,SNR=6.6							
ILAR	**Eielson Array**	**152.19**	**309**			**PKiKP**	**19 46 52.2**	**+0.1**

HLW ***19*** *19:39:08.8, 35°.73N×28°.62E, h10km±25km, Md3.6, Ml3.8*
IDC ***19*** *19:39:12.2±1.0, 35°.46N×28°.88E, h0km, mb3.9/7, mb1 4.0/13, mb1mx3.7/58, mbtmp3.9/13, ML3.7/6, MS2.6/4, Ms1 2.6/4, ms1mx2.3/52,

BDRM					IAML			19 40 27.0	
	comp=N,188nm,0.6s								
TAVA	**DENIZLI_Tavas**	**2.02**	**1**	*i* P		**Pn**		**19 39 48.0**	**-0.3**
TAVA				*i* S		**Sn**		**19 40 11.3**	**-1.2**
TAVA					IAML			19 40 14.0	
	comp=N,107nm,0.7s								
TAVA					IAML			19 40 16.0	
	comp=E,86nm,0.4s								
BODT	**Bodrum**	**2.04**	**323**	P		**Pn**		**19 39 48.7**	**+0.1**
BODT				S		**Sn**		**19 40 12.0**	**-1.0**
BODT	**Bodrum**	**2.04**	**323**	PN		**Pn**		**19 39 48.8**	**+0.1**
ANTB	**Antalya**	**2.05**	**45**	PN		**Pn**		**19 39 49.7**	**+1.0**
ZKR	**Zakros**	**2.19**	**262**	P		**Pn**		**19 39 52.3**	**+1.7**
ZKR	**Zakros**	**2.19**	**262**	P		**Pn**		**19 39 51.9**	**+1.4**
ZKR				S		**Sn**		**19 40 17.5**	**+0.9**
ZKR	**Zakros**	**2.19**	**262**	⇑P		**Pn**		**19 39 52.0**	**+1.4**
ZKR					AML	AML		19 40 34.6	
	comp=E,0.2nm,0.7s								
ZKR					AML	AML		19 40 42.7	
	comp=E,0.5nm,0.9s								
STIA	**Sitia Lasithi**	**2.28**	**265**	P		**Pn**		**19 39 53.9**	**+2.1**
BRDR	**BURDUR-Merkez**	**2.45**	**23**	*i* P		**Pn**		**19 39 55.0**	**+0.8**
BRDR					IAML			19 40 34.0	
	comp=N,52nm,0.4s								
BRDR					IAML			19 40 57.0	
	comp=E,52nm,1.0s								
BCK	**Bucak**	**2.45**	**34**	PN		**Pn**		**19 39 55.5**	**+1.2**
AYDB	**Zeytinkoy-Aydi**	**2.62**	**343**	PN		**Pn**		**19 39 58.0**	**+1.4**
BASM	**Basmaki-Afyon**	**2.65**	**21**	PN		**Pn**		**19 39 58.4**	**+1.4**
KEPZ	**Antalya-Kepez**	**2.65**	**56**	*i* P		**Pn**		**19 39 59.1**	**+2.0**
KEPZ				*i* S		**Sn**		**19 40 28.7**	**+0.5**
KEPZ					IAML			19 40 31.0	
	comp=E,54nm,0.6s								
KEPZ					IAML			19 40 33.0	
	comp=N,48nm,0.7s								
NPS	**Neapolis**	**2.66**	**267**	P		**Pn**		**19 39 59.1**	**+2.0**
NPS	**Neapolis**	**2.66**	**267**	P		**Pn**		**19 39 58.9**	**+1.8**
NPS				S		**Sn**		**19 40 30.7**	**+2.5**
AMGA	**Amorgos Island**	**2.77**	**301**	P		**Pn**		**19 39 58.6**	**0.0**
LAST	**Lasithi**	**2.78**	**265**	P		**Pn**		**19 40 00.9**	**+2.1**
LAST	**Lasithi**	**2.78**	**265**	P		**Pn**		**19 40 00.1**	**+1.3**
LAST				S		**Sn**		**19 40 31.6**	**+0.2**
SMG	**Samos**	**2.78**	**325**	P		**Pn**		**19 39 58.9**	**+0.1**
OSC1	**CSNet OBS 1**	**2.79**	**133**	P		**Pn**		**19 39 59.8**	**+1.0**
OSC1				S		**Sn**		**19 40 33.2**	**+1.8**
AKMS	**Akamas**	**2.88**	**98**	P		**Pn**		**19 40 01.1**	**+1.0**
AKMS					AML	AML		19 40 35.2	
	comp=N,0.7nm,0.4s								
AKMS					AML	AML		19 40 36.2	
	comp=N,0.6nm,0.3s								
GAZI	**Gazipasa**	**2.92**	**73**	PN		**Pn**		**19 40 01.4**	**+0.7**
GAZI	**Gazipasa**	**2.92**	**73**	*i* P		**Pn**		**19 39 59.4**	**-1.3**
GAZI				*i* S		**Sn**		**19 40 32.3**	**-2.4**
GAZI					IAML			19 40 35.0	
	comp=N,75nm,0.8s								
GAZI					IAML			19 40 44.0	
	comp=E,69nm,0.3s								
KHAL	**Karahalli**	**2.96**	**10**	*i* P		**Pn**		**19 39 59.4**	**-2.0**
KHAL					IAML			19 40 43.0	
	comp=N,27nm,0.9s								
KHAL					IAML			19 41 07.0	
	comp=E,26nm,1.3s								
BAGO	**Egridir - ISPA**	**2.98**	**31**	*i* P		**Pn**		**19 40 00.7**	**-0.9**
DGB	**zmir**	**3.05**	**329**	*i* P		**Pn**		**19 40 02.1**	**-0.3**
DGB					IAML			19 40 51.0	
	comp=N,24nm,0.6s								
DGB					IAML			19 41 20.0	
	comp=E,20nm,0.8s								
ALFC	**Alefka**	**3.07**	**94**	⇑P		**Pn**		**19 40 03.8**	**+1.0**
SEYD	**Seydisehir-KON**	**3.10**	**50**	PN		**Pn**		**19 40 04.7**	**+1.5**
NATA	**Nata**	**3.12**	**101**	P		**Pn**		**19 40 04.7**	**+1.3**
APE	**Apeiranthos**	**3.14**	**302**	P		**Pn**		**19 40 03.9**	**+0.1**
IDI	**Anoyia**	**3.25**	**268**	P		**Pn**		**19 40 06.3**	**+1.1**
IDI	**Anoyia**	**3.25**	**268**	Pn		**Pn**		**19 40 06.3**	**+1.1**
	comp=E,9.1nm,0.3s,baz=72,slow=11,SNR=42								
IDI					Sn		**Sn**	**19 40 44.0**	**+1.2**
	comp=E,6.7nm,0.3s,baz=355,slow=8.6,SNR=3.5								
IDI					LR		LR	19 41 46.9	
	comp=E,69nm,21.2s,baz=80,slow=47								
IDI	**Anoyia**	**3.25**	**268**	P		**Pn**		**19 40 06.0**	**+0.7**
LEF	**Lefka**	**3.31**	**94**	*i* P		**Pn**		**19 40 06.3**	**+0.2**
LEF				*i* S		**Sn**		**19 40 45.8**	**+1.4**
LEF					IAML			19 40 48.0	
	comp=E,48nm,0.4s								
LEF					IAML			19 40 57.0	
	comp=N,70nm,0.4s								
SIVA	**Sivas**	**3.34**	**264**	P		**Pn**		**19 40 08.6**	**+2.2**
SIVA	**Sivas**	**3.34**	**264**	P		**Pn**		**19 40 08.4**	**+1.9**
SZAC	**Souni**	**3.37**	**101**	⇑P		**Pn**		**19 40 08.2**	**+1.3**
SZAC					AML	AML		19 40 48.5	
	comp=N,0.8nm,0.3s								
SZAC					AML	AML		19 40 49.1	
	comp=N,0.7nm,0.3s								
DOGA	**KONYA_Doganhis**	**3.48**	**40**	*i* P		**Pn**		**19 40 11.3**	**+2.7**
DOGA				*i* S		**Sn**		**19 40 51.5**	**+2.6**
DOGA					IAML			19 40 53.0	
	comp=N,54nm,0.8s								
DOGA					IAML			19 41 03.0	
	comp=E,63nm,0.5s								
ERMK	**Ermenek**	**3.50**	**69**	*i* P		**Pn**		**19 40 11.8**	**+3.0**
ERMK				*i* S		**Sn**		**19 40 51.7**	**+2.6**
DEMI	**Demirci**	**3.59**	**358**	*i* P		**Pn**		**19 40 11.0**	**+1.0**
DEMI					IAML			19 40 54.0	
	comp=N,17nm,0.6s								
DEMI					IAML			19 41 27.0	
	comp=E,17nm,0.9s								
KMER	**Konya-Meram**	**3.65**	**50**	*i* P		**Pn**		**19 40 12.8**	**+2.0**
KMER					IAML			19 40 58.0	
	comp=E,31nm,0.7s								
KMER					IAML			19 41 05.0	
	comp=N,36nm,0.6s								
ASGA	**Asgata**	**3.66**	**99**	P		**Pn**		**19 40 11.5**	**+0.7**
ASGA				S		**Sn**		**19 40 56.1**	**+3.2**
OSC2	**CSNet OBS 4**	**3.68**	**129**	P		**Pn**		**19 40 12.1**	**+1.0**
CSS	**Mathiatis**	**3.69**	**96**	Pn		**Pn**		**19 40 12.1**	**+0.8**
CSS	**Mathiatis**	**3.69**	**96**	⇓P		**Pn**		**19 40 12.1**	**+0.8**
ATHAL	**Athalassa**	**3.72**	**93**	P		**Pn**		**19 40 13.2**	**+1.5**
KONT	**Konya--Tatoy**	**3.76**	**47**	*i* P		**Pn**		**19 40 13.9**	**+1.6**
KONT					IAML			19 41 05.0	
	comp=E,25nm,0.6s								
KONT					IAML			19 41 10.0	
	comp=N,18nm,0.9s								
VAM	**Vamos**	**3.81**	**271**	P		**Pn**		**19 40 14.8**	**+2.0**
VAM	**Vamos**	**3.81**	**271**	P		**Pn**		**19 40 12.8**	**0.0**
GULN	**MERSIN_Gulnar**	**3.88**	**78**	*i* P		**Pn**		**19 40 13.4**	**-0.5**
GULN				*i* S		**Sn**		**19 40 56.0**	**-2.3**
GULN					IAML			19 41 04.0	
	comp=N,27nm,0.5s								
GULN					IAML			19 41 11.0	
	comp=E,32nm,0.5s								
MVOU	**Mavrovouni**	**3.93**	**95**	⇑P		**Pn**		**19 40 15.4**	**+0.8**
GVD	**Gavdhos**	**3.96**	**263**	P		**Pn**		**19 40 15.5**	**+0.6**
IMMV	**Iera Moni Meta**	**3.98**	**272**	P		**Pn**		**19 40 17.4**	**+2.1**
IMMV	**Iera Moni Meta**	**3.98**	**272**	P		**Pn**		**19 40 17.0**	**+1.7**
KDHN	**Kadinhani**	**4.03**	**39**	*i* P		**Pn**		**19 40 17.8**	**+1.8**
KDHN				*i* S		**Sn**		**19 41 02.9**	**+0.7**
KDHN					IAML			19 41 06.0	
	comp=E,14nm,0.3s								
KDHN					IAML			19 41 06.0	
	comp=N,14nm,0.4s								
PARAL	**Paralimni**	**4.27**	**95**	P		**Pn**		**19 40 21.1**	**+1.9**
KERG	**Kavsos-Eregli**	**4.68**	**64**	*i* P		**Pn**		**19 40 26.7**	**+1.7**
KERG					IAML			19 41 22.0	
	comp=E,32nm,0.6s								
KERG					IAML			19 41 34.0	
	comp=N,21nm,0.4s								
BRTR	**Keskin Array B**	**5.71**	**40**	Pn		**Pn**		**19 40 39.9**	**+0.7**
	comp=N,0.6nm,0.3s,baz=217,slow=15,SNR=20								
BRTR					Sn		**Sn**	**19 41 44.2**	**+0.5**
	comp=N,0.9nm,0.3s,baz=210,slow=27,SNR=13								
BRTR					LR		LR	19 42 54.0	
	comp=N,28nm,20.5s,baz=192,slow=39								
HNTI	**Hanita**	**5.74**	**112**	Pn		**Pn**		**19 40 39.6**	**+0.2**
HNTI					Sn		**Sn**	**19 41 42.4**	**-1.7**
OFRI	**`Ofer**	**5.81**	**117**	Pn		**Pn**		**19 40 40.8**	**+0.3**
MMA0B	**Mount Meron ar**	**5.94**	**112**	Pn		**Pn**		**19 40 42.3**	**+0.1**
HNAT	**Natroun**	**5.98**	**165**	P		**Pn**		**19 40 41.8**	**-1.0**
	baz=163								
KOT	**Kottamia**	**6.04**	**155**	P		**Pn**		**19 40 44.2**	**+0.5**
	baz=154								
GEM	**Giv'at Ha'Em**	**6.05**	**110**	Pn		**Pn**		**19 40 44.2**	**+0.4**
SLTI	**Sal'it**	**6.05**	**120**	Pn		**Pn**		**19 40 45.0**	**+1.2**
NATI	**Neve Ativ**	**6.09**	**109**	Pn		**Pn**		**19 40 44.6**	**+0.4**
MMLI	**Mount Malkishu**	**6.22**	**117**	Pn		**Pn**		**19 40 47.0**	**+0.9**
GLL	**Jalalah**	**6.33**	**157**	P		**Pn**		**19 40 47.8**	**+0.3**
	baz=156								
AMAZ	**Amatzia**	**6.39**	**126**	Pn		**Pn**		**19 40 49.2**	**+0.8**
AMAZ					Sn		**Sn**	**19 41 59.3**	**-1.0**
HMDT	**Nahal Hemdat**	**6.39**	**118**	Pn		**Pn**		**19 40 49.4**	**+1.0**
HMDT					Sn		**Sn**	**19 41 59.1**	**-1.3**
KZIT	**Kziot**	**6.48**	**133**	Pn		**Pn**		**19 40 50.4**	**+0.7**
KZIT					Sn		**Sn**	**19 41 59.5**	**-3.1**
SUZ	**Suez**	**6.52**	**148**	P		**Pn**		**19 40 50.7**	**+0.6**
	baz=147								
YTIR	**Yattir**	**6.63**	**126**	Pn		**Pn**		**19 40 52.4**	**+0.7**
YTIR					Sn		**Sn**	**19 42 04.2**	**-2.1**
DSI	**Dead Sea**	**6.68**	**124**	Pn		**Pn**		**19 40 53.2**	**+0.9**
SWA2		**6.82**	**206**	P		**Pn**		**19 40 52.1**	**-2.1**
	baz=204								
SWA2					S		**Sn**	**19 42 07.5**	**-3.3**
	baz=204								
GHAJ	**Ghor Haditha**	**6.97**	**124**	Pn		**Pn**		**19 40 57.6**	**+1.3**
ZFRI	**Zfri**	**7.21**	**131**	Pn		**Pn**		**19 41 00.9**	**+1.3**
ZFRI					Sn		**Sn**	**19 42 17.5**	**-2.9**
PRNI	**Paran**	**7.25**	**133**	Pn		**Pn**		**19 41 00.3**	**+0.2**
KRMI	**Paran Flat**	**7.25**	**135**	Pn		**Pn**		**19 41 00.6**	**+0.3**
ASF	**Jabal al Asfar**	**7.44**	**114**	Pn		**Pn**		**19 41 02.6**	**-0.3**
	comp=N,0.6nm,0.3s,baz=280,slow=8.0,SNR=5.6								
HRFI	**Mount Harif**	**7.49**	**134**	Pn		**Pn**		**19 41 04.2**	**+0.6**
HRFI					Sn		**Sn**	**19 42 24.8**	**-2.7**
MBRI	**Mt Berech**	**7.60**	**136**	Pn		**Pn**		**19 41 05.4**	**+0.3**
EIL	**Elat**	**7.72**	**137**	Pn		**Pn**		**19 41 04.8**	**-1.8**
	comp=N,1.7nm,0.3s,baz=314,slow=1.9,SNR=35								
EIL					Sn		**Sn**	**19 42 28.5**	**-4.5**
	comp=N,2.2nm,0.3s,baz=221,slow=2.0,SNR=6.8								
EIL					LR		LR	19 45 01.5	
	comp=N,42nm,18.0s,baz=280,slow=45								
EIL	**Elat**	**7.72**	**137**	Pn		**Pn**		**19 41 07.2**	**+0.6**
EIL				Sn		**Sn**		**19 42 29.9**	**-3.1**
TR1	**Tor 1**	**8.59**	**148**	P		**Pn**		**19 41 18.4**	**-0.2**
	baz=148								
DBRK	**Dubrovnik**	**11.01**	**314**	*e*Pn		**Pn**		**19 41 51.4**	**-0.3**
DBRK					Sn		**Sn**	**19 43 50.5**	**-3.2**
MAKA	**Makarska**	**12.04**	**314**	*e*Pn		**Pn**		**19 42 05.4**	**-0.3**
RICI	**Ricice**	**12.10**	**315**	*e*Pn		**Pn**		**19 42 06.3**	**-0.3**
RICI					Sn		**Sn**	**19 44 15.6**	**-4.9**
KIJV	**Kijevo**	**12.83**	**316**	*e*Pn		**Pn**		**19 42 17.0**	**+0.4**
ZIRJ	**Zirje**	**13.07**	**313**	*e*Pn		**Pn**		**19 42 19.1**	**-0.7**
MORI	**Morici**	**13.15**	**314**	*e*Pn		**Pn**		**19 42 21.2**	**+0.3**
UDBI	**Udbina**	**13.52**	**316**	*e*Pn		**Pn**		**19 42 26.8**	**+0.9**
NVLJ	**Novalja**	**14.05**	**315**	*e*Pn		**Pn**		**19 42 32.4**	**-0.7**
KALN	**Kalnik**	**14.20**	**322**	*e*Pn		**Pn**		**19 42 37.7**	**+2.4**
PTJ	**Puntijarka**	**14.29**	**321**	*e*Pn		**Pn**		**19 42 37.9**	**+1.3**
OZLJ	**Ozalj**	**14.36**	**319**	*e*Pn		**Pn**		**19 42 38.7**	**+1.3**
BRJN	**Brijuni**	**14.90**	**314**	*e*Pn		**Pn**		**19 42 43.5**	**-1.2**
KEST	**Kesra**	**15.88**	**277**	Pn		**Pn**		**19 42 58.9**	**+1.3**
	comp=N,0.4nm,0.3s,baz=4.0,slow=3.9,SNR=10								
GERES	**GERESS Array B**	**17.44**	**325**	P		**Pn**		**19 43 17.2**	**0.0**
	comp=N,0.1nm,0.3s,baz=130,slow=12,SNR=9.5								
WTTA	**Wattenberg**	**17.46**	**318**	*e*Pn		**P**		**19 43 19.3**	**+0.6**
	comp=N,2.3nm,0.7s								
WATA	**Walderalm**	**17.54**	**318**	*i* Pn		**P**		**19 43 19.4**	**0.0**
	comp=N,4.7nm,1.1s								
SQTA	**Sankt Quirin**	**17.68**	**317**	*i* P		**P**		**19 43 22.8**	**+1.8**
	comp=N,2.2nm,0.5s								
FETA	**Feichten**	**17.83**	**316**	*i* P		**P**		**19 43 24.8**	**+2.1**
	comp=N,4.4nm,1.0s								
DAVOX	**Davos/Dischmat**	**18.19**	**314**	LR		LR		19 52 52.7	
	comp=N,37nm,19.4s,baz=99,slow=45								
DAVA	**Damuels**	**18.46**	**316**	*i* P		**Pn**		**19 43 31.0**	**+1.2**
	comp=N,5.8nm,0.9s								
FINES	**FINESS Array B**	**26.08**	**357**	P		**P**		**19 44 47.3**	**+0.4**
	comp=N,1.4nm,0.7s,baz=159,slow=16,SNR=4.2								
ESDC	**Sonseca Array**	**26.27**	**289**	P		**P**		**19 44 48.6**	**-0.4**
	comp=N,1.7nm,0.8s,baz=79,slow=9.9,SNR=13								
TORD	**Torodi Ar. Bea**	**33.06**	**235**	P		**P**		**19 45 49.5**	**+0.3**
	comp=N,0.4nm,0.6s,baz=45,slow=7.9,SNR=3.6								
AAK	**Ala-Archa**	**35.81**	**64**	P		**P**		**19 46 14.3**	**+1.2**
	comp=N,1.5nm,0.4s,baz=256,slow=5.2,SNR=4.1								
KURBB	**Kurchatov Arra**	**38.59**	**51**	P		**P**		**19 46 36.1**	**-0.2**
	comp=N,1.3nm,0.6s,baz=274,slow=8.9,SNR=13								
MKAR	**Makanchi Array**	**41.09**	**57**	P		**P**		**19 46 57.4**	**+0.3**
	comp=N,1.6nm,0.6s,baz=259,slow=7.2,SNR=22								
ZALV	**Zalesovo Beam**	**42.62**	**46**	P		**P**		**19 47 09.2**	**-0.4**
	comp=N,1.0nm,0.5s,baz=268,slow=8.9,SNR=5.2								

VAO ***19*** *19:54:03.8±0.5, 19.˚76S×70.˚98W, h22km±4km, mb5.4*
IDC ***19*** *19:54:03.8±0.4, 19.˚69S×70.˚66W, h0km, mb4.9/34, mb1 5.0/40, mb1mx4.9/51, mbtmp4.9/40, ML4.7/5, MS5.6/28, Ms1 5.6/28, ms1mx5.5/33, Error ellipse: s-maj=13.8km s-min=10.6km az=55.0*
NEIC ***19*** *19:54:04.9±1.8, 19.˚84S±0.˚04×70.˚87W±0.˚05, h11km±2km, mb5.7/496, Ms_20 5.5/777, Mwb5.8/74, Mwr5.8/40, Mww5.8, Mwb6.0(GUC), Mwc5.9(GCMT), Error ellipse: s-maj=6.8km s-min=5.4km az=64.0*
NEIC ***19*** *19:54:05.2, 19.˚85S×70.˚76W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr4.16; Mθθ-0.94; Mϕϕ-3.23; Mrθ0.60; Mθϕ2.16; Mϕr-4.61; Fault plane solution: Mo6.37000×10^17 NP1:ϕs165.91000°, δ69.05000°, λ103.32000°. NP2:ϕs312.39000°, δ24.67000°, λ58.96000°. Principal axes: T 6.3955, Plg64.0000°, Azm97.0000°; N -0.0573, Plg12.0000°, Azm341.0000°; P -6.3382, Plg23.0000°, Azm246.0000°;*
GUC ***19*** *19:54:05.3±0.8, 19.˚82S×70.˚94W, h40km±2km, MW6.0*
UNK ***19*** *19:54:05.2, 19.˚84S×70.˚83W, h11km*
NEIC ***19*** *19:54:05.2, 19.˚85S×70.˚76W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr0.62; Mθθ-0.40; Mϕϕ-0.22; Mrθ1.01; Mθϕ1.29; Mϕr-5.76; Fault plane solution: Mo6.01000×10^17 NP1:ϕs274.34000°, δ12.28000°, λ15.11000°. NP2:ϕs169.56000°, δ86.82000°, λ101.87000°. Principal axes: T 5.9791, Plg47.0000°, Azm92.0000°; N 0.0650, Plg12.0000°, Azm349.0000°; P -6.0441, Plg41.0000°, Azm249.0000°;*
MOS ***19*** *19:54:05.0±1.0, 19.˚43S×70.˚58W, h10km, mb5.6/43, MS5.5/80 Error ellipse: s-maj=8.2km s-min=5.3km az=101.6*
NEIC ***19*** *19:54:06, 19.˚93S×71.˚04W, h26km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr3.77; Mθθ0.49; Mϕϕ-4.26; Mrθ2.91; Mθϕ1.19; Mϕr-4.31; Fault plane solution: Mo6.69000×10^17 NP1:ϕs6.00000°, δ22.00000°, λ124.00000°. NP2:ϕs150.00000°, δ71.00000°, λ77.00000°. Principal axes: T 6.5032, Plg61.0000°, Azm41.0000°; N 0.3602, Plg12.0000°, Azm154.0000°; P -6.8635, Plg25.0000°, Azm250.0000°;*
BJI ***19*** *19:54:08.4±0.0, 19.˚88S×70.˚61W, h30km, mB5.7/48, Ms5.9/64, MS7 5.8/58*
GCMT ***19*** *19:54:10.9±0.1, 19.˚80S±0.˚01×71.˚15W±0.˚01, h23km, MW5.8/161, Moment Tensor Solution. s139,c280; s161,c428; Duration: 1s9 Moment tensor: Scale 10^17 Nm; Mrr4.00±.05; Mθθ0.44±.04; Mϕϕ-4.45±.04; Mrθ0.84±.06; Mθϕ0.89±.03; Mϕr-4.43±.10; Best double couple: Mo6.23300×10^17 NP1:ϕs351.00000°, δ22.00000°, λ91.00000°. NP2:ϕs169.00000°, δ68.00000°, λ90.00000°. Principal axes: T 5.9290, Plg67.0000°, Azm79.0000°; N 0.6000, Plg0.0000°, Azm170.0000°; P -6.5360, Plg23.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
NEIC ***19*** *19:54:12, 19.˚83S×71.˚17W, h20km, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr3.81; Mθθ0.35; Mϕϕ-4.16; Mrθ1.35; Mθϕ1.13; Mϕr-5.66; Fault plane solution: Mo7.15000×10^17 NP1:ϕs347.00000°, δ18.00000°, λ90.00000°. NP2:ϕs167.00000°, δ72.00000°, λ90.00000°. Principal axes: T 6.8216, Plg63.0000°, Azm77.0000°; N 0.6148, Plg0.0000°, Azm167.0000°; P -7.4364, Plg27.0000°, Azm257.0000°;*

ISC 19 19:54:05.4±0.7, 19.˚81S±0.˚02×70.˚83W±0.˚03, h15km±4km, n1751, σ1°60/1667, mb5.6/311, MS5.5/487, 46C-12D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.70**	**72**	⇓*i*P		**Pb**		**19 54 19.8**	**+0.4**
PSGC				*i* S		**Sb**		**19 54 30.1**	**+1.1**
PSGCX	**Pisagua**	**0.70**	**72**			**Pg**		**19 54 19.1**	**-0.1**
TA02	**Huaiquique**	**0.80**	**125**	*e*P		**Pg**		**19 54 21.5**	**+0.4**
TA02				*i* S		**Sn**		**19 54 34.1**	**+0.1**
TA01	**Diego Aracena**	**0.97**	**141**	⇓*i*P		**Pb**		**19 54 23.9**	**-0.1**
TA01				*i* S		**Sn**		**19 54 38.1**	**+0.1**
TA01					IAML			19 54 42.0	
	comp=E,280μm,0.7s								
TA01	**Diego Aracena**	**0.97**	**141**			**Pb**		**19 54 23.8**	**-0.2**
PB11	**IPOC Station P**	**1.11**	**88**	⇓*i*P		**Pn**		**19 54 26.6**	**0.0**
PB11				*i* S		**Sn**		**19 54 43.5**	**+1.7**
PB11	**IPOC Station P**	**1.11**	**88**			**Pb**		**19 54 26.1**	**-0.3**
PB12	**IPOC Station P**	**1.28**	**22**	⇑*i*P		**Pn**		**19 54 28.8**	**-0.1**
PB12				*i* S		**Sg**		**19 54 46.6**	**-0.3**
PB12	**IPOC Station P**	**1.28**	**22**			**Pn**		**19 54 28.9**	**-0.1**
MNMC	**Minye Minye**	**1.35**	**60**	⇓*i*P		**Pb**		**19 54 30.8**	**+0.2**
MNMC				*i* S		**Sg**		**19 54 50.2**	**+1.1**
MNMC					IAML			19 54 57.6	
	comp=N,104μm,0.7s								
MNMC	**Minye Minye**	**1.35**	**60**			**Pb**		**19 54 30.8**	**+0.2**
AP01	**Chacalluta**	**1.50**	**18**	*e*P		**Pn**		**19 54 32.1**	**+0.2**
AP01				*i* S		**Sb**		**19 54 51.9**	**-0.1**
AP01					IAML			19 54 58.5	
	comp=N,129μm,0.4s								
AP01	**Chacalluta**	**1.50**	**18**			**Pb**		**19 54 32.6**	**-0.4**
GO01	**Chusmiza**	**1.55**	**85**	⇑*i*P		**Pb**		**19 54 34.1**	**-0.1**
GO01				*i* S		**Sg**		**19 54 56.6**	**+1.0**
GO01					IAML			19 55 00.2	
	comp=N,113μm,0.4s								
GO01	**Chusmiza**	**1.55**	**85**			**Pb**		**19 54 34.0**	**-0.1**
PB08	**IPOC Station P**	**1.61**	**102**	⇑*i*P		**Pb**		**19 54 34.5**	**-0.7**
PB08				*i* S		**Sg**		**19 54 57.1**	**-0.4**
PB08					IAML			19 55 00.2	
	comp=N,49μm,0.5s								
PB08	**IPOC Station P**	**1.61**	**102**			**Pn**		**19 54 34.3**	**+0.6**
PB02	**IPOC Station P**	**1.74**	**150**	⇑*i*P		**Pn**		**19 54 35.0**	**-0.2**
PB02				*i* S		**Sb**		**19 54 58.5**	**-0.3**
PB02					IAML			19 55 09.1	
	comp=E,159μm,0.5s								
PB01	**IPOC Station P**	**1.76**	**134**	⇑*i*P		**Pn**		**19 54 35.8**	**+0.3**
PB01				*i* S		**Sn**		**19 54 58.4**	**+0.6**
PB01					IAML			19 55 07.0	
	comp=E,136μm,0.4s								
PB01	**IPOC Station P**	**1.76**	**134**			**Pn**		**19 54 36.0**	**+0.4**
PB07	**IPOC Station P**	**2.10**	**155**	IAML				19 55 20.8	
	comp=E,64μm,0.4s								
PB07	**IPOC Station P**	**2.10**	**155**			**Pn**		**19 54 39.7**	**-0.6**
PB09	**IPOC Station P**	**2.47**	**143**	⇑*i*P		**Pn**		**19 54 46.3**	**+0.9**
PB09	**IPOC Station P**	**2.47**	**143**			**Pn**		**19 54 46.1**	**+0.7**
PB04	**IPOC Station P**	**2.59**	**166**			**Pn**		**19 54 45.5**	**-1.5**
PB06	**IPOC Station P**	**3.11**	**158**			**Pn**		**19 54 53.8**	**-0.4**
LVC	**Limon Verde**	**3.31**	**148**	Pn		**Pn**		**19 54 58.8**	**+1.7**
	comp=E,155nm,0.3s,baz=316,slow=8.4,SNR=165								
LVC					Sn		**Sn**	**19 55 38.0**	**+1.6**
	comp=E,680nm,0.3s,baz=215,slow=2.0,SNR=7.0								
LVC					Lg		Lg	19 55 49.2	
	comp=E,721nm,0.3s,baz=38,slow=20,SNR=7.8								
LVC	**Limon Verde**	**3.31**	**148**			**Pn**		**19 54 58.0**	**+0.9**
PB15	**IPOC Station P**	**3.61**	**160**			**Pn**		**19 55 00.1**	**-1.0**
PB10	**IPOC Station P**	**3.69**	**176**			**Pn**		**19 54 59.6**	**-2.5**
LPAZ	**La Paz**	**4.34**	**37**	Pn		**Pn**		**19 55 15.2**	**+3.6**
	comp=E,2.6nm,0.3s,baz=210,slow=9.9,SNR=170								
LPAZ					LR		LR	19 57 06.1	
	comp=E,88μm,18.3s,baz=238,slow=44								
LPAZ	**La Paz**	**4.34**	**37**	Pn		**Pn**		**19 55 15.5**	**+4.0**
GO02	**Mina Guanaco**	**5.45**	**168**	Pn		**Pn**		**19 55 24.9**	**-1.6**
AC01	**Pan de Azucar**	**6.31**	**178**			**Pn**		**19 55 35.2**	**-2.8**
AC02	**Maricunga**	**7.17**	**168**	Pn		**Pn**		**19 55

ITRB eS **S** **20 02 08.6 +0.9**
ITRB Iturama 19.27 93 eP **P** **19 58 29.1 -0.7**
ITRB eS **S** **20 02 08.6 +0.9**
MACA Manacapuru-AM 19.29 32 eP **P** **19 58 27.8 -2.0**
MACA eS **Sn** **20 02 07.0 -0.1**
MACA Manacapuru-AM 19.29 32 eP **P** **19 58 27.8 -2.0**
MACA eS **Sn** **20 02 07.0 -0.1**
PLTB Pedras Altas 19.52 131 eP **P** **19 58 31.9 -0.5**
PLTB eS **S** **20 02 12.5 -0.1**
PLTB Pedras Altas 19.52 131 eP **P** **19 58 31.9 -0.5**
PLTB eS **S** **20 02 12.5 -0.1**
NPGB Novo Progresso 19.66 52 eP **P** **19 58 31.9 -2.1**
NPGB eS **S** **20 02 15.1 -0.5**
NPGB Novo Progresso 19.66 52 eP **P** **19 58 31.9 -2.1**
NPGB eS **S** **20 02 15.1 -0.5**
FRTB Fartura 20.09 104 eP **P** **19 58 38.5 -0.2**
FRTB eS **S** **20 02 25.0 +1.0**
FRTB Fartura 20.09 104 eP **P** **19 58 38.5 -0.2**
FRTB eS **S** **20 02 25.0 +1.0**
CNLB Canela 20.46 121 eP **P** **19 58 41.0 -1.7**
CNLB eS **S** **20 02 31.9 +0.4**
CNLB Canela 20.46 121 eP **P** **19 58 41.0 -1.7**
CNLB eS **S** **20 02 31.9 +0.4**
PLCA Paso Flores 20.86 179 P Pn 19 58 49.0 -0.4
comp=Z,46nm,1.0s,baz=1.4,slow=12,SNR=31
PLCA LR LR 20 07 13.1
comp=Z,9µm,18.2s,baz=356,slow=38
PLCA Paso Flores 20.86 179 P Pn 19 58 49.0 -0.4
PLCA Paso Flores 20.86 179 Pn Pn 19 58 48.2 -1.1
PLCA Paso Flores 20.86 179 eP **P** **19 58 45.5 -1.4**
PLCA Paso Flores 20.86 179 eP **P** **19 58 45.5 -1.4**
TIJ01 Guaruva-PR 20.88 109 eP **P** **19 58 46.2 -1.1**
TIJ01 eS **S** **20 02 41.2 +1.3**
TIJ01 Guaruva-PR 20.88 109 eP **P** **19 58 46.2 -1.1**
TIJ01 eS **S** **20 02 41.2 +1.3**
PUAC Puerto Asis, P 21.00 344 eP **P** **19 58 51.3 +2.8**
ITTB Itaituba 21.26 46 eP **P** **19 58 49.9 -1.5**
ITTB eS **S** **20 02 46.3 -1.2**
ITTB Itaituba 21.26 46 eP **P** **19 58 49.9 -1.5**
ITTB eS **S** **20 02 46.3 -1.2**
PAC1 Pacto, Paraso 21.42 338 eP **P** **19 58 56.2 +3.0**
IPMB Ipameri, GO 21.48 89 eP **P** **19 58 51.8 -1.9**
IPMB eS **S** **20 02 51.7 0.0**
IPMB Ipameri, GO 21.48 89 eP **P** **19 58 51.8 -1.9**
IPMB eS **S** **20 02 51.7 0.0**
PTGA Pitinga 21.74 31 P **P** **19 58 55.3 -1.2**
comp=Z,34nm,0.3s,baz=207,slow=11,SNR=72
PTGA LR LR 20 08 18.4
comp=Z,28µm,19.0s,baz=208,slow=40
PTGA Pitinga 21.74 31 P **P** **19 58 53.8 -2.8**
PTGA IAmb IAmb 19 59 03.2
comp=Z,414nm,1.3s
PTGA Pitinga 21.74 31 eP **P** **19 58 54.5 -2.0**
PTGA eS **S** **20 02 55.2 -1.6**
PTGA Pitinga 21.74 31 eP **P** **19 58 54.5 -2.0**
PTGA eS **S** **20 02 55.2 -1.6**
GCUF Volcan Galeras 21.86 342 eP **P** **19 59 04.3 +6.0**
BDFB Brasilia 22.12 83 P **P** **19 58 58.3 -2.4**
comp=Z,39nm,0.6s,baz=252,slow=9.2,SNR=20
BDFB LR LR 20 09 09.0
comp=Z,28µm,19.8s,baz=251,slow=41
BDFB Brasilia 22.12 83 P **P** **19 58 59.1 -1.6**
BDFB pmax pmax
comp=Z,268nm,1.3s
BDFB MLR MLR
comp=Z,35µm,20.0s
BDFB Brasilia 22.12 83 P **P** **19 58 59.1 -1.6**
BDFB IAmb IAmb 19 59 24.5
comp=Z,268nm,1.3s
PET01 Itanhaem-SP 22.27 106 eP **P** **19 59 01.6 -0.6**
PET01 eS **S** **20 03 08.1 +1.2**
PET01 Itanhaem-SP 22.27 106 eP **P** **19 59 01.6 -0.6**
PET01 eS **S** **20 03 08.1 +1.2**
GARC Garzon, Huila 22.33 348 eP **P** **19 59 03.8 +0.6**
VAO Valinhos 22.44 102 eP **P** **19 59 04.3 +0.2**
VAO eS **S** **20 03 10.3 +0.1**
VAO Valinhos 22.44 102 eP **P** **19 59 04.3 +0.2**
VAO eS **S** **20 03 10.3 +0.1**
SOTA Rioblanco 22.53 345 eP **P** **19 59 07.0 +1.5**
LL01 San Ignacio de 22.54 183 P **P** **19 59 06.0 +1.2**
LL01 IAmb IAmb 19 59 32.6
comp=Z,509nm,1.5s
BBAC Balboa, Cauca 22.59 343 eP **P** **19 59 08.9 +3.0**
PCON Cinco Dias 22.67 345 eP **P** **19 59 08.9 +1.9**
BETC Betania 22.80 348 eP **P** **19 59 08.8 +0.8**
PEXB Peixe 22.96 74 eP **P** **19 59 08.9 -0.6**
PEXB eS **S** **20 03 18.6 -0.9**
PEXB Peixe 22.96 74 eP **P** **19 59 08.9 -0.6**
PEXB eS **S** **20 03 18.6 -0.9**
MARP Paez Belalcaza 23.07 347 eP **P** **19 59 11.3 +0.4**
GO07 Milladeo Hill, 23.36 185 P **P** **19 59 14.1 +0.8**
PARB Paraibuna 23.70 103 eP **P** **19 59 15.4 -1.5**
PARB eS **S** **20 03 31.2 -0.4**
PARB Paraibuna 23.70 103 eP **P** **19 59 15.4 -1.5**
PARB eS **S** **20 03 31.2 -0.4**
PRAC Prado 23.71 350 eP **P** **19 59 17.3 +0.2**
GR1C Gorgona, Isla 23.79 342 eP **P** **19 59 22.5 +4.7**
PTGC Puerto Gaitan, 23.89 357 eP P 19 59 26.9 +8.2
VILC Villavicencio, 23.94 353 eP **P** **19 59 19.4 +0.1**
ORTC Ortega, Tolima 23.97 349 eP **P** **19 59 19.4 -0.1**
MALB Monte Alegre 24.10 44 eP **P** **19 59 18.8 -1.9**
MALB eS **S** **20 03 36.5 -1.6**
MALB Monte Alegre 24.10 44 eP **P** **19 59 18.8 -1.9**
MALB eS **S** **20 03 36.5 -1.6**
YOTC Yotoco, Valle 24.26 347 eP **P** **19 59 22.4 +0.1**
BSCB Bom Sucesso 24.45 97 eP **P** **19 59 21.9 -2.1**
BSCB eS **S** **20 03 43.3 -0.4**
BSCB Bom Sucesso 24.45 97 eP **P** **19 59 21.9 -2.1**
BSCB eS **S** **20 03 43.3 -0.4**
CHIC Chingaza 24.45 353 eP **P** **19 59 24.6 +0.2**
PRPB Paraupebas 24.51 59 eP **P** **19 59 22.3 -2.3**
PRPB Paraupebas 24.51 59 eP **P** **19 59 22.3 -2.3**
MALC Bahia Malaga 24.52 344 eP **P** **19 59 28.2 +3.7**
ANIL Santa Ana 24.56 349 eP **P** **19 59 27.0 +1.7**
TOLC Tolima 24.64 349 eP **P** **19 59 26.7 +0.7**
ROSC El Rosal 24.73 352 P **P** **19 59 26.8 -0.2**
comp=Z,18nm,0.6s,baz=124,slow=8.7,SNR=7.3
ROSC LR LR 20 10 32.5
comp=Z,21µm,18.1s,baz=200,slow=40
ROSC El Rosal 24.73 352 eP **P** **19 59 28.6 +1.7**
ROSC El Rosal 24.73 352 P **P** **19 59 26.6 -0.2**
ROSC IAmb IAmb 19 59 53.0
comp=Z,224nm,1.4s
RREF El Recreo 24.95 349 eP **P** **19 59 31.9 +2.7**
SMTB Santa Maria do 24.98 67 eP **P** **19 59 27.9 -0.8**
SMTB Santa Maria do 24.98 67 eP **P** **19 59 27.9 -0.8**
PLMC San Jos del P 25.14 347 eP **P** **19 59 30.6 +0.4**
GUY2C Guyana, Caldas 25.27 349 eP **P** **19 59 33.0 +1.1**
PIZC Pizarro, Choco 25.44 345 eP **P** **19 59 36.0 +3.1**
SPBC San Pablo de B 25.50 352 eP **P** **19 59 33.2 -0.4**
NORC Norcasia 25.53 351 eP **P** **19 59 32.5 -1.1**
RUSC La Rusia 25.64 355 eP **P** **19 59 36.3 +1.1**
RUSC La Rusia 25.64 355 P **P** **19 59 35.0 -0.2**
MC01 Montes Claros 25.71 87 eP **P** **19 59 33.8 -1.6**
MC01 Montes Claros 25.71 87 eP **P** **19 59 33.8 -1.6**
COYC Coyhaique 25.71 182 P **P** **19 59 35.5 +0.4**
COYC IAmb IAmb 20 00 18.4
comp=Z,131nm,1.1s
JANB Januaria 25.73 84 eP **P** **19 59 34.5 -1.1**
JANB Januaria 25.73 84 eP **P** **19 59 34.5 -1.1**
CBOC Ciudad Bolivar 26.02 348 eP **P** **19 59 38.1 -0.2**
TAMC Tame, Arauca 26.10 358 eP **P** **19 59 39.1 +0.2**
HELC Santa Helena 26.25 349 eP **P** **19 59 39.8 -0.8**
PTBC PUERTO BERRIO, 26.43 352 eP **P** **19 59 40.3 -1.6**
BRRC Barranca, Sant 26.90 354 eP **P** **19 59 44.1 -1.9**
PAMC Pamplona, Colo 27.04 356 eP **P** **19 59 47.6 -0.3**
DBBC Dabeiba 27.18 348 eP **P** **19 59 50.1 +1.4**
ZARC Zaragoza, Cauc 27.42 351 eP **P** **19 59 49.9 -0.9**
UREC San Jos de Ur 27.78 350 eP **P** **19 59 51.2 -2.7**
SJMB Sao Joao De Ma 28.00 93 eP **P** **19 59 55.1 -0.9**
SJMB Sao Joao De Ma 28.00 93 eP **P** **19 59 55.1 -0.9**
BSFB Barra de Sao F 28.30 93 eP **P** **19 59 57.6 -1.0**
BSFB Barra de Sao F 28.30 93 eP **P** **19 59 57.6 -1.0**
SDV Santo Domingo 28.52 0 P **P** **20 00 00.8 +0.1**
comp=Z,7.7nm,0.3s,baz=202,slow=6.5,SNR=4.1
SDV Santo Domingo 28.52 0 P **P** **19 59 59.4 -1.4**
SDV Santo Domingo 28.52 0 IAMs_20 IAMs_20 20 10 16.4
comp=Z,12µm,20.0s
SDV Santo Domingo 28.52 0 eP **P** **19 59 57.4 -3.4**
SDV Santo Domingo 28.52 0 eP **P** **19 59 57.4 -3.4**
SMLC San Martn de 28.61 353 eP **P** **19 59 59.6 -1.8**

RIB01 Linhares ES 28.67 94 eP **P** **20 00 00.8 -1.2**
RIB01 Linhares ES 28.67 94 eP **P** **20 00 00.8 -1.2**
BAUV El Baul 28.70 6 eP **P** **19 59 58.2 -4.0**
CAPC Capurgana 28.99 347 eP **P** **20 00 06.8 +2.1**
ARGC Ariguani, Magd 29.67 353 eP **P** **20 00 09.5 -1.3**
SJCC San Jacinto, C 29.83 351 eP **P** **20 00 12.3 0.0**
BCIP Isla Barro Col 30.13 342 IAMs_20 IAMs_20 20 12 50.5
comp=Z,9µm,22.0s
PLCV Puerto La Cruz 30.41 12 P **P** **20 00 17.3 -0.1**
PCRV Puerto La Cruz 30.42 12 P **P** **20 00 17.3 -0.1**
comp=Z,7.8nm,0.5s,baz=206,slow=4.5,SNR=7.7
GDU01 Guandu, BA 30.50 83 eP **P** **20 00 16.8 -1.5**
GDU01 Guandu, BA 30.50 83 eP **P** **20 00 16.8 -1.5**
MDP Montagnes des 30.55 38 P **P** **20 00 18.1 -0.5**
comp=Z,9.7nm,0.6s,baz=214,slow=6.6,SNR=12
MDP LR LR 20 13 19.9
comp=Z,36µm,18.7s,baz=213,slow=38
ROSB Rosrio 31.02 61 eP **P** **20 00 22.3 -0.6**
ROSB Rosrio 31.02 61 eP **P** **20 00 22.3 -0.6**
TRN Trinidad (W) 31.66 18 eP **P** **20 00 24.1 -4.3**
HDC Heredia 32.38 335 IAMs_20 IAMs_20 20 13 12.3
comp=Z,10µm,21.0s
TOSP Speyside 32.53 19 eP **P** **20 00 37.3 +1.3**
TOSP Speyside 32.53 19 e S 20 05 41.1 -10
TOSP Speyside 32.53 19 P **P** **20 00 35.7 -0.3**
TOSP IAMs_20 IAMs_20 20 15 28.2
comp=Z,10µm,20.0s
JTS Las Juntas de 32.99 334 P **P** **20 00 41.4 +1.3**
comp=Z,4.2nm,0.7s,baz=2.8,slow=22,SNR=2.4
JTS Las Juntas de 32.99 334 P **P** **20 00 39.7 -0.4**
GRGR Grenville 33.00 17 eP **P** **20 00 36.0 -4.1**
GRGR Grenville 33.00 17 e **S** **20 05 51.3 -7.0**
GRGR Grenville 33.00 17 P **P** **20 00 39.5 -0.7**
GRGR IAMs_20 IAMs_20 20 15 08.7
comp=Z,12µm,19.0s
GRHS Sauteurs 33.09 17 eP **P** **20 00 40.1 -0.8**
EFI East Falkland 33.34 166 P **P** **20 00 44.7 +2.0**
EFI East Falkland 33.34 166 IAMs_20 IAMs_20 20 14 20.8
comp=Z,11µm,20.0s
GCMP Grenada, Carri 33.40 17 eP **P** **20 00 39.7 -4.0**
GCMP Grenada, Carri 33.40 17 e S 20 05 53.1 -11
SVB Belmont 34.20 17 eP P 20 00 42.3 -8.3
SVB Belmont 34.20 17 IAMs_20 IAMs_20 20 17 26.2
comp=Z,8µm,18.0s
ESPN Las Esperanzas 34.46 336 IAMs_20 IAMs_20 20 14 39.3
comp=Z,8µm,20.0s
BBGH Gun Hill 34.58 20 eP P 20 00 46.7 -7.2
ACON Acoyapa 34.59 335 IAMs_20 IAMs_20 20 14 29.1
comp=Z,6µm,19.0s
SLBI Saint Lucia, B 34.99 17 eP P 20 00 52.3 -5.1
MG01 Puerto William 35.15 177 IAMs_20 IAMs_20 20 16 50.3
comp=Z,7µm,21.0s
BOAB BOACO BROADBA 35.23 334 P **P** **20 00 59.5 0.0**
BOAB IAmb IAmb 20 01 54.7
comp=Z,290nm,2.0s
BOAB IAMs_20 IAMs_20 20 14 49.9
comp=Z,11µm,19.0s
MPOM Morne Pois Mar 35.43 17 eP **P** **20 00 57.7 -3.5**
BIM Bigot 35.44 16 eP **P** **20 00 59.0 -2.3**
RPN Rapa Nui 35.95 251 P **P** **20 01 08.9 +3.2**
comp=Z,116nm,0.9s,baz=56,slow=2.5,SNR=3.7
RPN LR LR 20 12 23.5
comp=Z,19µm,18.1s,baz=96,slow=30
DLPL La Plaine 36.17 16 eP P 20 00 56.3 -11
TDBA Terre de Bas, 36.57 15 eP P 20 01 06.0 -5.0
RCBR Riachuelo 36.68 72 P **P** **20 01 11.8 -0.3**
comp=Z,143nm,1.1s,baz=234,slow=9.5,SNR=18
RCBR Riachuelo 36.68 72 P **P** **20 01 12.0 -0.1**
RCBR pmax pmax
comp=Z,224nm,1.1s
RCBR MLR MLR
comp=Z,22µm,20.0s
RCBR Riachuelo 36.68 72 P **P** **20 01 12.0 -0.1**
RCBR Riachuelo 36.68 72 eP **P** **20 01 11.1 -1.0**
RCBR Riachuelo 36.68 72 eP **P** **20 01 11.1 -1.0**
MAGL Barre de l'ile 36.76 15 eP **P** **20 01 08.2 -4.3**
CBE Ff, Capester 36.79 15 eP **P** **20 01 08.2 -4.6**
ABD La Joyeuse, An 37.21 15 eP **P** **20 01 13.9 -2.5**
TGUH Tegucigalpa,Un 37.34 333 P **P** **20 01 18.1 +0.4**
TGUH IAmb IAmb 20 01 35.8
comp=Z,122nm,1.2s
TGUH IAMs_20 IAMs_20 20 19 17.0
comp=Z,9µm,18.0s
ICMP Isla Caja de M 37.70 7 P **P** **20 01 18.9 -1.6**
MLPR Magueyes Islan 37.73 6 P **P** **20 01 19.6 -1.1**
MLPR IAmb IAmb 20 01 29.8
comp=Z,171nm,1.0s
SKI Saint Kitts 37.76 13 eP **P** **20 01 17.7 -3.3**
CRPR Cabo Rojo, PR 37.76 6 P **P** **20 01 19.8 -1.2**
CRPR IAmb IAmb 20 01 29.4
comp=Z,195nm,1.1s
OBIP Obispado Ponce 37.85 7 P **P** **20 01 20.2 -1.6**
OBIP IAmb IAmb 20 01 40.1
comp=Z,147nm,1.1s
SEUS St. Eustatius 37.86 12 eP **P** **20 01 20.7 -1.2**
MPR Mayaguez 37.96 6 P **P** **20 01 21.6 -1.1**
MPR IAmb IAmb 20 01 32.7
comp=Z,103nm,0.8s
SJG San Juan 37.97 7 P **P** **20 01 21.2 -1.5**
comp=Z,9.6nm,0.2s,baz=223,slow=4.9,SNR=7.4
SJG San Juan 37.97 7 P **P** **20 01 20.8 -2.0**
SJG IAmb IAmb 20 01 32.3
comp=Z,89nm,0.9s
SJG San Juan 37.97 7 IAMs_20 IAMs_20 20 19 21.9
comp=Z,7µm,18.0s
BANI BANI 37.97 1 P **P** **20 01 21.9 -1.0**
MTP Monte Pirata 38.03 8 P **P** **20 01 21.4 -1.9**
MTP IAmb IAmb 20 01 30.9
comp=Z,97nm,1.0s
HUMP Col San Antoni 38.03 8 P **P** **20 01 21.9 -1.4**
AOPR Arecibo Observ 38.13 6 P **P** **20 01 22.8 -1.4**
AOPR IAmb IAmb 20 01 54.5
comp=Z,98nm,1.1s
CBYP Canovanas 38.16 8 P **P** **20 01 22.6 -1.8**
CBYP IAmb IAmb 20 01 32.2
comp=Z,132nm,1.0s
GCPR Guaynabo City 38.17 7 P **P** **20 01 22.5 -2.0**
GCPR IAmb IAmb 20 01 34.8
comp=Z,153nm,0.9s
CUPR Culebra, Puert 38.27 9 P **P** **20 01 23.0 -2.3**
ANWB Willy Bob 38.29 14 eP P 20 01 17.8 -7.7
DR12 Loma Pena Alta 38.38 2 P **P** **20 01 24.5 -1.9**
SMRT St. Maarten 38.39 12 eP **P** **20 01 21.8 -4.5**
SMRT St. Maarten 38.39 12 P **P** **20 01 24.1 -2.2**
SMRT IAmb IAmb 20 01 33.2
comp=Z,157nm,1.0s
SDDR Presa de Saban 38.55 359 P **P** **20 01 27.7 -0.1**
SDDR IAMs_20 IAMs_20 20 20 09.6
comp=Z,8µm,18.0s
MTO3 Montecristo 38.57 330 P **P** **20 01 29.5 +1.3**
GTBY Guantanamo Bay 39.71 354 IAMs_20 IAMs_20 20 19 03.2
comp=Z,5µm,20.0s
CCIG Comitan 41.53 328 P **P** **20 01 53.4 +0.7**
CCIG IAMs_20 IAMs_20 20 17 16.0
comp=Z,6µm,20.0s
TEIG Tepich 43.30 336 P **P** **20 02 07.0 +0.2**
comp=Z,9.8nm,0.4s,baz=319,slow=1.7,SNR=8.7
TEIG Tepich 43.30 336 P **P** **20 02 08.0 +1.2**
TEIG IAmb IAmb 20 02 23.8
comp=Z,196nm,1.8s
TEIG Tepich 43.30 336 IAMs_20 IAMs_20 20 22 19.7
comp=Z,5µm,18.0s
TLIG Tlapa 46.05 322 P **P** **20 02 30.0 +0.9**
TLIG IAmb IAmb 20 02 43.9
comp=Z,154nm,1.9s
TLIG IAMs_20 IAMs_20 20 20 52.2
comp=Z,6µm,18.0s
061Z Ocho Pipi 46.45 347 IAMs_20 IAMs_20 20 23 20.6
comp=Z,4µm,21.0s
UNM Universidad Na 47.80 323 IAMs_20 IAMs_20 20 21 04.6
comp=Z,4µm,19.0s
DWPF Disney Wildern 48.73 348 P **P** **20 02 49.5 -0.1**
baz=167
DWPF Disney Wildern 48.73 348 IAMs_20 IAMs_20 20 24 26.1
comp=Z,4µm,20.0s
MOIG Morelia 49.25 321 P **P** **20 02 54.0 0.0**
MOIG IAmb IAmb 20 03 11.8
comp=Z,44nm,0.6s
656A Willston 50.18 347 P **P** **20 03 00.6 +0.1**
656A IAmb IAmb 20 03 33.2
comp=Z,128nm,1.3s
656A IAMs_20 IAMs_20 20 25 23.6
comp=Z,4µm,21.0s
456A Hilliard 51.38 348 P **P** **20 03 10.5 +0.9**
456A IAMs_20 IAMs_20 20 27 43.1

comp=Z,3µm,18.0s
553A Crawfordville 51.41 345 P **P** **20 03 11.0 +1.2**
451A Vernon 52.15 344 P **P** **20 03 16.4 +1.0**
BBSR BB Station 52.22 7 P **P** **20 03 16.3 +0.5**
TIGA Tifton 52.41 346 P **P** **20 03 17.6 +0.3**
baz=165
TIGA Tifton 52.41 346 P **P** **20 03 17.3 0.0**
TIGA IAmb IAmb 20 04 03.8
comp=Z,80nm,1.1s
TIGA IAMs_20 IAMs_20 20 26 20.6
comp=Z,5µm,21.0s
257A Skidaway Islan 52.41 349 P **P** **20 03 17.3 0.0**
257A IAMs_20 IAMs_20 20 26 30.6
comp=Z,4µm,20.0s
ZAIG Zacatecas 52.45 322 P **P** **20 03 17.7 -0.4**
ZAIG IAMs_20 IAMs_20 20 23 16.7
comp=Z,5µm,19.0s
255A Hazlehurst 52.64 348 IAMs_20 IAMs_20 20 28 57.7
comp=Z,3µm,19.0s
352A Blakely 52.76 345 IAMs_20 IAMs_20 20 25 58.0
comp=Z,3µm,22.0s
158A Hollywood 53.01 350 P **P** **20 03 22.1 +0.4**
baz=169
545A Edgard 53.06 339 IAMs_20 IAMs_20 20 26 40.0
comp=Z,4µm,20.0s
157A Early Branch 53.09 349 P **P** **20 03 22.5 +0.2**
baz=168
CSU Charleston Sou 53.24 350 P **P** **20 03 24.1 +0.8**
Z59A Georgetown, SC 53.37 351 P **P** **20 03 24.6 +0.2**
baz=170
NHSC New Hope 53.37 350 P **P** **20 03 24.7 +0.4**
baz=169
NHSC New Hope 53.37 350 P **P** **20 03 25.1 +0.8**
154A Montrose 53.43 347 P **P** **20 03 24.8 0.0**
154A IAMs_20 IAMs_20 20 30 18.8
comp=Z,4µm,19.0s
Z58A St. Stephen 53.54 351 P **P** **20 03 26.0 +0.4**
baz=170
Z50A Grady 53.58 344 P **P** **20 03 25.6 -0.4**
250A IAmb IAmb 20 03 40.1
comp=Z,149nm,1.4s
Z57A Bowman 53.64 350 P **P** **20 03 26.6 +0.2**
baz=168,SNR=6.4
Z56A Williston 53.79 349 P **P** **20 03 26.4 -1.0**
baz=168
Z56A Williston 53.79 349 P **P** **20 03 26.3 -1.1**
Z56A IAMs_20 IAMs_20 20 25 56.1
comp=Z,5µm,22.0s
152A Waverly Hall 53.85 345 P **P** **20 03 27.1 -0.8**
152A IAMs_20 IAMs_20 20 27 39.7
comp=Z,6µm,21.0s
346A Big Creek Wild 53.96 340 P **P** **20 03 28.6 -0.1**
346A IAmb IAmb 20 03 49.8
comp=Z,75nm,1.0s
Y60A Bolivia 53.98 352 P **P** **20 03 28.9 +0.1**
baz=171
Y60A Bolivia 53.98 352 P **P** **20 03 29.5 +0.7**
Y60A IAMs_20 IAMs_20 20 27 48.0
comp=Z,4µm,20.0s
Y59A Loris 54.05 352 P **P** **20 03 29.4 +0.1**
baz=171
Y59A Loris 54.05 352 IAMs_20 IAMs_20 20 27 07.9
comp=Z,5µm,20.0s
Y58A Scranton 54.08 351 P **P** **20 03 30.1 +0.6**
baz=170
Y58A Scranton 54.08 351 P **P** **20 03 29.4 -0.1**
Y58A IAMs_20 IAMs_20 20 30 47.7
comp=Z,3µm,18.0s
Y56A Pelion 54.23 349 P **P** **20 03 30.4 -0.3**
baz=168
GOGA Godfrey 54.28 347 P **P** **20 03 30.5 -0.5**
baz=165,SNR=6.4
GOGA Godfrey 54.28 347 P **P** **20 03 30.5 -0.5**
GOGA pmax pmax
comp=Z,37nm,1.2s
GOGA MLR MLR
comp=Z,3µm,20.0s
GOGA Godfrey 54.28 347 P **P** **20 03 30.5 -0.5**
GOGA Godfrey 54.28 347 IAMs_20 IAMs_20 20 26 59.2
comp=Z,3µm,20.0s
Y57A Sumter 54.30 350 P **P** **20 03 31.2 +0.1**
baz=169
Y57A Sumter 54.30 350 P **P** **20 03 31.4 +0.2**
Y57A IAmb IAmb 20 04 11.1
comp=Z,104nm,1.2s
Y57A IAMs_20 IAMs_20 20 27 35.5
comp=Z,5µm,20.0s
344A Westbrook Farm 54.43 339 P **P** **20 03 32.6 +0.5**
344A IAmb IAmb 20 03 51.7
comp=Z,95nm,1.4s
Y55A Saluda 54.47 349 P **P** **20 03 32.3 -0.1**
baz=167,SNR=15
Y55A S **S** **20 11 07.8 -3.0**
baz=167
X60A Albert Glenn T 54.51 353 P **P** **20 03 32.9 +0.3**
baz=172
Z51A Franklin 54.58 345 P **P** **20 03 33.0 -0.2**
Z51A IAMs_20 IAMs_20 20 28 02.0
comp=Z,6µm,21.0s
X59A McDuffie Farm, 54.58 352 P **P** **20 03 33.1 -0.1**
baz=171
X58A Rowland 54.67 351 P **P** **20 03 33.7 -0.1**
baz=170
X58A Rowland 54.67 351 P **P** **20 03 34.1 +0.3**
X58A IAmb IAmb 20 04 10.3
comp=Z,71nm,1.1s
X58A IAMs_20 IAMs_20 20 27 37.3
comp=Z,5µm,21.0s
X57A Johnson Farm, 54.69 351 P **P** **20 03 34.4 +0.4**
baz=169
JSC Jenkinsville 54.70 349 P **P** **20 03 34.1 0.0**
JSC pmax pmax
comp=Z,27nm,1.0s
JSC MLR MLR
comp=Z,3µm,20.0s
JSC Jenkinsville 54.70 349 P **P** **20 03 34.1 0.0**
LRAL Lakeview Retre 54.77 343 P **P** **20 03 33.9 -0.7**
baz=161,SNR=6.7
LRAL Lakeview Retre 54.77 343 P **P** **20 03 34.0 -0.7**
LRAL IAmb IAmb 20 03 48.6
comp=Z,98nm,1.9s
HODGE Hodges 54.83 348 P **P** **20 03 35.0 0.0**
HODGE IAMs_20 IAMs_20 20 26 28.8
comp=Z,4µm,22.0s
Y52A Lilburn 54.84 347 P **P** **20 03 34.8 -0.3**
Y52A IAMs_20 IAMs_20 20 31 21.1
comp=Z,4µm,18.0s
X56A White Oak 54.87 350 P **P** **20 03 35.4 +0.1**
baz=168,SNR=10
342A Flagon Creek P 54.91 337 P **P** **20 03 35.1 -0.6**
342A IAmb IAmb 20 03 53.1
comp=Z,122nm,1.1s
BIRD Birdtown, Kers 54.92 350 P **P** **20 03 36.0 +0.4**
BIRD IAmb IAmb 20 04 15.7
comp=Z,64nm,1.0s
BIRD IAMs_20 IAMs_20 20 28 25.1
comp=Z,4µm,21.0s
X55A Gracelyn & Ava 54.95 349 P **P** **20 03 35.9 +0.1**
baz=168,SNR=9.7
W60A Pink Hill 54.95 353 P **P** **20 03 35.8 -0.1**
baz=172
W61A Ground Anchor 55.00 354 P **P** **20 03 35.8 -0.4**
baz=173
HKT Hockley 55.02 333 P **P** **20 03 37.1 +0.7**
HKT pmax pmax
comp=Z,102nm,1.7s
HKT MLR MLR
comp=Z,2µm,21.0s
HKT Hockley 55.02 333 P **P** **20 03 37.1 +0.7**
HKT IAmb IAmb 20 04 19.0
comp=Z,102nm,1.6s
VBMS Vicksburg 55.06 340 P **P** **20 03 36.4 -0.3**
baz=157
VBMS Vicksburg 55.06 340 P **P** **20 03 36.3 -0.4**
VBMS IAmb IAmb 20 04 33.2
comp=Z,48nm,0.5s
W58A Raeford 55.11 352 P **P** **20 03 37.5 +0.5**
baz=170,SNR=6.4
W59A Clinton 55.15 352 P **P** **20 03 37.1 -0.2**
baz=171
CNNC Cliffs of the 55.16 353 P **P** **20 03 37.6 +0.3**
baz=172
CNNC Cliffs of the 55.16 353 P **P** **20 03 38.0 +0.7**
X54A Belton 55.16 348 P **P** **20 03 37.4 0.0**
baz=167,SNR=7.6
Z47A Carrollton 55.22 342 P **P** **20 03 37.4 -0.5**
Z47A IAMs_20 IAMs_20 20 29 54.3

comp=Z,3µm,20.0s
833A Chaparral WMA, 55.25 329 P P 20 03 39.2 +1.0
baz=147
833A Chaparral WMA, 55.25 329 P P 20 03 39.0 +0.9
833A IAmb IAmb 20 03 50.3
comp=Z,55nm,1.1s
V62A Hyde County Ai 55.28 355 IAMs_20 IAMs_20 20 27 59.6
comp=Z,3µm,21.0s
PAULI Pauline 55.32 349 P P 20 03 38.7 +0.1
PAULI IAmb IAmb 20 04 17.6
comp=Z,73nm,1.3s
PAULI IAMs_20 IAMs_20 20 28 21.8
comp=Z,4µm,21.0s
W57A Gilead 55.35 351 P P 20 03 38.8 0.0
baz=170,SNR=8.9
W57A Gilead 55.35 351 P P 20 03 38.8 0.0
W57A IAMs_20 IAMs_20 20 28 18.4
comp=Z,4µm,20.0s
Y49A Blount Mountai 55.40 344 P P 20 03 38.0 -1.1
W56A Indian Trail 55.42 350 P P 20 03 39.4 +0.1
baz=169,SNR=7.6
KMSC Kings Mountain 55.55 350 P P 20 03 40.2 0.0
baz=168,SNR=7.7
KMSC Kings Mountain 55.55 350 P P 20 03 40.4 +0.2
KMSC IAmb IAmb 20 04 19.8
comp=Z,67nm,1.3s
KMSC IAMs_20 IAMs_20 20 28 34.8
comp=Z,5µm,20.0s
V61A Roper 55.56 354 P P 20 03 39.9 -0.4
baz=174
V61A Roper 55.56 354 P P 20 03 40.6 +0.4
V60A Jim Taylor Roa 55.61 354 P P 20 03 40.3 -0.2
baz=173
V60A Jim Taylor Roa 55.61 354 P P 20 03 40.1 -0.4
V60A IAmb IAmb 20 03 55.5
comp=Z,89nm,1.2s
V60A IAMs_20 IAMs_20 20 28 48.1
comp=Z,3µm,22.0s
W54A Cherokee Point 55.65 349 P P 20 03 41.2 +0.3
baz=167,SNR=11
X51A Calhoun 55.70 346 P P 20 03 40.4 -0.9
X51A IAmb IAmb 20 04 13.2
comp=Z,65nm,1.3s
BG3 Lake Jocassee 55.70 348 P P 20 03 41.4 +0.1
V59A Middlesex 55.72 353 P P 20 03 41.7 +0.4
baz=172,SNR=23
143A Socs Landing, 55.80 339 P P 20 03 42.2 +0.1
143A IAmb IAmb 20 03 53.3
comp=Z,149nm,1.6s
FPAL Fort Paine 55.85 345 P P 20 03 41.6 -0.8
FPAL IAMs_20 IAMs_20 20 28 05.7
comp=Z,5µm,22.0s
V58A Windy Hill, Pi 55.85 352 P P 20 03 42.6 +0.2
baz=171,SNR=13
V58A Windy Hill, Pi 55.85 352 P P 20 03 42.6 +0.2
V58A IAmb IAmb 20 04 10.1
comp=Z,67nm,1.1s
V58A IAMs_20 IAMs_20 20 28 32.7
comp=Z,5µm,21.0s
W52A Murphy 56.00 347 P P 20 03 43.3 -0.2
W52A IAMs_20 IAMs_20 20 32 11.7
comp=Z,4µm,18.0s
V57A Coltrane Farms 56.04 351 P P 20 03 43.7 0.0
baz=170,SNR=7.1
V56A Mocksville 56.07 351 P P 20 03 44.3 +0.4
baz=169,SNR=8.0
U61A Possum Corner 56.09 355 P P 20 03 44.1 +0.1
baz=174
U61A Possum Corner 56.09 355 P P 20 03 44.0 0.0
X48A Hartselle 56.12 344 P P 20 03 43.9 -0.5
X48A IAmb IAmb 20 03 58.2
comp=Z,76nm,1.4s
X48A IAMs_20 IAMs_20 20 27 46.1
comp=Z,3µm,22.0s
NATX Nacogdoches 56.14 336 P P 20 03 45.6 +1.1
baz=153
NATX Nacogdoches 56.14 336 P P 20 03 45.1 +0.6
NATX IAmb IAmb 20 04 02.0
comp=Z,142nm,1.4s
V55A Taylorsville 56.23 350 P P 20 03 45.5 +0.5
baz=168,SNR=11
V55A Taylorsville 56.23 350 P P 20 03 45.1 +0.1
V55A IAmb IAmb 20 04 24.9
comp=Z,87nm,1.2s
V55A IAMs_20 IAMs_20 20 29 05.6
comp=Z,4µm,21.0s
U59A Littleton 56.24 353 P P 20 03 45.2 +0.1
baz=172
U59A Littleton 56.24 353 P P 20 03 45.4 +0.2
U59A IAmb IAmb 20 03 47.2
comp=Z,88nm,1.4s
V54A Nebo 56.28 349 P P 20 03 45.6 +0.2
baz=167,SNR=13
Y45A Yeager Farm, C 56.28 341 P P 20 03 45.4 0.0
Y45A IAmb IAmb 20 04 47.3
comp=Z,58nm,1.1s
U60A Pendleton 56.30 354 P P 20 03 45.4 0.0
baz=173
V53A Saluda 56.33 348 P P 20 03 45.4 -0.5
V53A IAMs_20 IAMs_20 20 27 24.5
comp=Z,5µm,22.0s
U58A Oxford 56.37 353 P P 20 03 46.5 +0.5
baz=171,SNR=15
W50A Signal Mountai 56.41 346 P P 20 03 45.9 -0.5
W50A IAmb IAmb 20 04 01.5
comp=Z,154nm,2.0s
W50A IAMs_20 IAMs_20 20 28 24.6
comp=Z,4µm,20.0s
CPCT Cooper Cave 56.47 347 P P 20 03 46.5 -0.3
CPCT IAMs_20 IAMs_20 20 32 29.2
comp=Z,4µm,18.0s
435B Jarrell 56.49 332 P P 20 03 47.3 +0.3
baz=150
435B Jarrell 56.49 332 P P 20 03 47.2 +0.1
U57A Blanch 56.51 352 P P 20 03 47.1 +0.1
baz=170,SNR=10.0
TKL Tuckaleechee C 56.51 347 P P 20 03 47.2 +0.1
comp=Z,18nm,0.9s,baz=173,slow=6.1,SNR=20
TKL Tuckaleechee C 56.51 347 P P 20 03 46.7 -0.4
TKL IAMs_20 IAMs_20 20 28 55.3
comp=Z,4µm,19.0s
SWET Sewanee 56.57 345 P P 20 03 46.9 -0.7
SWET IAmb IAmb 20 04 02.4
comp=Z,82nm,1.5s
SWET IAMs_20 IAMs_20 20 29 13.9
comp=Z,4µm,22.0s
U56A King 56.58 351 P P 20 03 47.9 +0.4
baz=169
U56A King 56.58 351 P P 20 03 47.5 -0.1
U56A IAmb IAmb 20 04 02.6
comp=Z,119nm,1.3s
U56A IAMs_20 IAMs_20 20 28 55.9
comp=Z,5µm,21.0s
V52A Sevierville 56.65 348 P P 20 03 47.2 -0.9
V52A IAmb IAmb 20 04 15.6
comp=Z,97nm,1.3s
V52A IAMs_20 IAMs_20 20 28 33.0
comp=Z,3µm,20.0s
V51A Loudon 56.77 347 P P 20 03 48.2 -0.7
V51A IAMs_20 IAMs_20 20 32 28.2
comp=Z,4µm,18.0s
Z41A Richland Creek 56.79 338 P P 20 03 48.9 -0.2
baz=155
Z41A Richland Creek 56.79 338 P P 20 03 49.7 +0.6
Z41A IAmb IAmb 20 04 03.6
comp=Z,100nm,1.3s
237A Washetta, Mont 56.81 335 P P 20 03 50.1 +0.9
237A IAmb IAmb 20 04 02.4
comp=Z,68nm,0.9s
T59A Double "B" Far 56.83 354 P P 20 03 49.7 +0.4
baz=172,SNR=20
T59A Double "B" Far 56.83 354 P P 20 03 49.3 +0.1
T59A IAmb IAmb 20 04 08.3
comp=Z,78nm,1.1s
T59A IAMs_20 IAMs_20 20 29 21.5
comp=Z,4µm,21.0s
U55A TA2, Sparta 56.83 350 P P 20 03 49.6 +0.2
baz=168,SNR=6.6
OXF Oxford 56.84 342 P P 20 03 48.2 -1.3
baz=159
OXF Oxford 56.84 342 IAMs_20 IAMs_20 20 30 47.1
comp=Z,2µm,18.0s
PLAL Pickwick Lake 56.90 343 P P 20 03 48.8 -1.1
T58A Grand View Acr 56.91 353 P P 20 03 50.4 +0.5
baz=171,SNR=24
T60A Surry 56.92 354 P P 20 03 50.2 +0.3
baz=173
T60A Surry 56.92 354 P P 20 03 50.2 +0.3
T60A IAmb IAmb 20 04 22.0
comp=Z,72nm,0.8s
U54A Nelsons Funny 56.98 349 P P 20 03 50.4 -0.1
baz=168,SNR=7.9
U54A Nelsons Funny 56.98 349 P P 20 03 50.3 -0.1
U54A IAmb IAmb 20 04 34.5
comp=Z,64nm,1.0s
U54A IAMs_20 IAMs_20 20 29 18.6
comp=Z,4µm,20.0s
CCAR Cane Creek 57.03 339 P P 20 03 51.3 +0.5
CCAR IAMs_20 IAMs_20 20 29 39.3
comp=Z,3µm,21.0s
T57A Hurt 57.06 352 P P 20 03 51.3 +0.3
baz=171,SNR=15
T57A Hurt 57.06 352 P P 20 03 51.0 +0.1
T57A IAmb IAmb 20 03 53.0
comp=Z,134nm,1.6s
T57A IAMs_20 IAMs_20 20 29 09.6
comp=Z,4µm,21.0s
T56A Rocky Mt 57.20 351 P P 20 03 52.6 +0.7
baz=170,SNR=11
JCT Junction City 57.24 330 P P 20 03 52.4 0.0
baz=147
JCT Junction City 57.24 330 P P 20 03 52.7 +0.3
JCT pmax pmax
comp=Z,62nm,1.6s
JCT Junction City 57.24 330 P P 20 03 52.7 +0.3
WLAR White Oak Lake 57.29 338 P P 20 03 53.8 +1.2
V48A Smith Brothers 57.29 345 P P 20 03 52.0 -0.6
V48A IAmb IAmb 20 04 02.1
comp=Z,124nm,1.6s
V48A IAMs_20 IAMs_20 20 28 13.9
comp=Z,4µm,22.0s
X43A Marvell 57.30 340 P P 20 03 53.0 +0.4
baz=158
X43A Marvell 57.30 340 P P 20 03 52.6 -0.1
TZTN Tazewell 57.32 348 P P 20 03 52.4 -0.5
baz=166
TZTN Tazewell 57.32 348 P P 20 03 52.2 -0.6
TZTN IAMs_20 IAMs_20 20 32 13.7
comp=Z,3µm,18.0s
S61A Accomac 57.36 355 P P 20 03 53.9 +0.8
baz=175
S61A Accomac 57.36 355 IAMs_20 IAMs_20 20 29 44.7
comp=Z,4µm,21.0s
W45A Hickory Valley 57.38 342 P P 20 03 52.3 -0.9
T55A Pulaski 57.39 351 P P 20 03 53.9 +0.6
baz=169,SNR=12
BLA Blacksburg 57.43 351 P P 20 03 54.2 +0.5
baz=169
BLA Blacksburg 57.43 351 P P 20 03 54.1 +0.5
BLA pmax pmax
comp=Z,155nm,1.8s
BLA MLR MLR
comp=Z,4µm,22.0s
BLA Blacksburg 57.43 351 P P 20 03 54.1 +0.5
BLA IAmb IAmb 20 04 13.2
comp=Z,155nm,1.8s
BLA IAMs_20 IAMs_20 20 29 32.5
comp=Z,4µm,22.0s
T54A Tazewell 57.47 350 P P 20 03 53.9 0.0
baz=168,SNR=12
S60A Water View 57.47 355 P P 20 03 53.6 -0.2
baz=174
WHTX Lake Whitney, 57.48 333 P P 20 03 54.3 +0.3
baz=150
WHTX Lake Whitney, 57.48 333 P P 20 03 54.6 +0.6
WHTX IAmb IAmb 20 04 15.6
comp=Z,105nm,1.4s
CLTN Cedars of Leba 57.50 345 P P 20 03 53.5 -0.5
CLTN IAMs_20 IAMs_20 20 29 29.5
comp=Z,4µm,22.0s
S58A Poland Farm, P 57.52 353 P P 20 03 54.3 +0.1
baz=172
S58A Poland Farm, P 57.52 353 P P 20 03 54.8 +0.6
T53A Wise 57.56 349 P P 20 03 53.7 -0.9
baz=167
MET Memphis--Engin 57.56 341 IAMs_20 IAMs_20 20 31 09.3
comp=Z,3µm,19.0s
S59A Mechanicsville 57.59 354 P P 20 03 54.4 -0.2
baz=173
Z38A Mt. Pleasant 57.59 336 P P 20 03 55.5 +0.7
Z38A IAmb IAmb 20 04 12.5
comp=Z,49nm,0.8s
HDBT Hernando Brdge 57.63 341 IAMs_20 IAMs_20 20 31 05.5
comp=Z,4µm,22.0s
S56A Natural Bridge 57.77 352 P P 20 03 55.7 -0.3
baz=170
S57A Dark Hollow, R 57.77 352 P P 20 03 56.5 +0.5
baz=171,SNR=16
S57A Dark Hollow, R 57.77 352 P P 20 03 55.9 0.0
S57A IAmb IAmb 20 04 06.6
comp=Z,90nm,1.3s
S57A IAMs_20 IAMs_20 20 30 10.5
comp=Z,5µm,20.0s
U49A Red Boiling Sp 57.77 346 P P 20 03 55.4 -0.6
U49A IAMs_20 IAMs_20 20 30 22.7
comp=Z,4µm,20.0s
R58B Mineral 57.85 353 P P 20 03 57.1 +0.6
baz=172,SNR=11
R58B Mineral 57.85 353 P P 20 03 57.0 +0.6
R58B IAmb IAmb 20 03 58.8
comp=Z,83nm,1.3s
X40A Basin Creek Fa 57.91 339 P P 20 03 56.5 -0.5
baz=156
X40A Basin Creek Fa 57.91 339 P P 20 03 56.8 -0.2
WVT Waverly 57.92 344 P P 20 03 55.1 -1.9
baz=161
WVT Waverly 57.92 344 P P 20 03 55.7 -1.3
WVT pmax pmax
comp=Z,68nm,1.2s
WVT MLR MLR
comp=Z,2µm,19.0s
WVT Waverly 57.92 344 P P 20 03 55.7 -1.3
WVT IAmb IAmb 20 04 26.4
comp=Z,68nm,1.2s
WVT Waverly 57.92 344 IAMs_20 IAMs_20 20 32 22.5
comp=Z,3µm,19.0s
S55A Lewisburg 57.99 351 P P 20 03 58.0 +0.4
baz=169,SNR=19
R59A King George, V 58.00 354 P P 20 03 57.7 +0.2
baz=173
UALR University of 58.01 339 P P 20 03 57.1 -0.5
UALR IAmb IAmb 20 04 11.3
comp=Z,71nm,1.2s
R60A Leonardtown, M 58.02 355 P P 20 03 57.7 0.0
baz=174
CBN Corbin Frederi 58.03 354 P P 20 03 58.1 +0.3
baz=173
CBN Corbin Frederi 58.03 354 P P 20 03 58.0 +0.3
CBN IAMs_20 IAMs_20 20 29 48.4
comp=Z,3µm,20.0s
T50A Nancy 58.05 347 P P 20 03 57.4 -0.5
T50A IAMs_20 IAMs_20 20 29 07.0
comp=Z,4µm,22.0s
LPAR Lepanto 58.12 341 P P 20 03 58.6 +0.2
LPAR IAMs_20 IAMs_20 20 31 26.0
comp=Z,3µm,19.0s
HALT Halls 58.12 342 P P 20 03 57.7 -0.8
S54A Dingess, Beckl 58.15 350 P P 20 03 58.8 +0.2
baz=168,SNR=8.7
S54A Dingess, Beckl 58.15 350 P P 20 03 58.4 -0.3
S54A IAMs_20 IAMs_20 20 32 48.4
comp=Z,3µm,18.0s
S53A Williamson 58.16 349 P P 20 03 57.8 -1.0
baz=168
R58A Rapidan 58.19 353 P P 20 03 59.5 +0.6
baz=172,SNR=8.0
MIAR Mount Ida 58.23 338 P P 20 03 59.4 +0.2
baz=155,SNR=20
MIAR Mount Ida 58.23 338 P P 20 03 59.4 +0.2
MIAR pmax pmax
comp=Z,64nm,1.1s
MIAR MLR MLR
comp=Z,2µm,21.0s
MIAR Mount Ida 58.23 338 P P 20 03 59.4 +0.2
MIAR IAmb IAmb 20 04 13.8
comp=Z,64nm,1.1s
TXAR Lajitas Array 58.23 326 P P 20 03 59.4 -0.1
comp=Z,3.0nm,0.7s,baz=141,slow=8.1,SNR=22
TXAR LR LR 20 28 42.5
comp=Z,2µm,18.4s,baz=0.0,slow=36
TX31 Lajitas Ar. Si 58.23 326 P P 20 03 59.6 +0.2
TX31 IAmb IAmb 20 04 11.4
comp=Z,99nm,1.5s
TX32 Lajitas Array 58.23 326 P P 20 03 59.8 +0.3
R57A Stanardsville 58.25 353 P P 20 03 59.9 +0.6
baz=172,SNR=15
W41B Gary Mavity, V 58.34 339 P P 20 03 59.9 0.0
baz=156,SNR=7.3
W41B Gary Mavity, V 58.34 339 P P 20 03 60.0 0.0
LNXT Lenox 58.35 342 P P 20 03 59.7 -0.3
GNAR Gosnell 58.37 342 P P 20 03 59.4 -0.7
S51A Beattyville 58.39 348 P P 20 03 59.6 -0.7
S51A IAMs_20 IAMs_20 20 27 53.0
comp=Z,4µm,22.0s
R55A Marlinton 58.44 351 P P 20 04 01.5 +0.8
baz=170,SNR=14
R55A Marlinton 58.44 351 P P 20 04 01.4 +0.8
R55A IAmb IAmb 20 04 20.5
comp=Z,80nm,1.2s
R55A IAMs_20 IAMs_20 20 30 04.2
comp=Z,5µm,22.0s
WHAR Wooly Hollow 58.46 339 P P 20 04 00.6 -0.2
WHAR IAmb IAmb 20 04 11.9
comp=Z,97nm,1.6s
PEBM Pemiscott Bayo 58.46 342 P P 20 04 00.5 -0.3
R56A Bull Pasture M 58.47 352 P P 20 04 01.8 +0.9
baz=171,SNR=7.9
R54A Victor 58.47 351 P P 20 04 00.9 +0.1
baz=169,SNR=13
T47A Sharon Grove 58.54 345 P P 20 04 00.4 -0.9
T47A IAMs_20 IAMs_20 20 30 24.1
comp=Z,3µm,22.0s
Z35A Perchaven, San 58.55 334 P P 20 04 02.3 +0.7
Z35A IAmb IAmb 20 04 14.2
comp=Z,89nm,1.1s
Q59A Harwood 58.62 355 P P 20 04 02.0 +0.2
baz=174
Q60A Greensboro 58.69 355 P P 20 04 03.0 +0.7
baz=174
Q60A Greensboro 58.69 355 IAMs_20 IAMs_20 20 32 44.8
comp=Z,3µm,19.0s
PVMO Portageville 58.70 342 P P 20 04 02.5 +0.1
PVMO IAMs_20 IAMs_20 20 30 52.2
comp=Z,3µm,21.0s
PENMO Penman 58.71 342 IAMs_20 IAMs_20 20 30 51.6
comp=Z,3µm,21.0s
R53A Hurricane 58.77 350 P P 20 04 03.0 +0.1
baz=168
R53A Hurricane 58.77 350 P P 20 04 02.8 -0.1
R53A IAMs_20 IAMs_20 20 32 59.9
comp=Z,4µm,19.0s
Q58A Fox Den Farm, 58.79 354 P P 20 04 03.7 +0.6
baz=172,SNR=11
LCAR Lake Charles 58.81 341 P P 20 04 02.6 -0.7
W39A Magazine 58.88 338 P P 20 04 04.7 +0.9
baz=155,SNR=11
W39A Magazine 58.88 338 P P 20 04 04.5 +0.7
HENM Henderson Moun 58.91 343 P P 20 04 03.4 -0.5
X37A Clayton 58.92 336 P P 20 04 04.6 +0.6
X37A IAMs_20 IAMs_20 20 30 32.3
comp=Z,3µm,22.0s
PARMO Parma 58.95 342 IAMs_20 IAMs_20 20 30 57.8
comp=Z,3µm,20.0s
FCAR Ozark Folk Cen 58.95 340 P P 20 04 03.3 -0.9
FCAR IAmb IAmb 20 04 45.9
comp=Z,113nm,1.9s
Q57A Strasburg 58.97 353 P P 20 04 05.5 +1.3
baz=172,SNR=19
T45A Paducah 58.97 343 P P 20 04 03.9 -0.5
ABTX Abilene, Hawle 58.98 332 P P 20 04 05.1 +0.6
baz=148
ABTX Abilene, Hawle 58.98 332 P P 20 04 04.8 +0.3
ABTX IAmb IAmb 20 04 34.5
comp=Z,57nm,1.1s
Q56A Snyder Ridge, 59.06 352 P P 20 04 06.0 +1.1
baz=171,SNR=16
Q56A Snyder Ridge, 59.06 352 P P 20 04 05.9 +0.9
Q56A IAmb IAmb 20 04 35.2
comp=Z,73nm,0.9s
Q56A IAMs_20 IAMs_20 20 30 58.7
comp=Z,3µm,20.0s
Q55A Buckhannon 59.13 352 P P 20 04 06.5 +1.0
baz=170,SNR=8.7
R50A Paris 59.16 348 P P 20 04 04.9 -0.7
R50A IAmb IAmb 20 04 33.1
comp=Z,56nm,1.3s
R50A IAMs_20 IAMs_20 20 30 46.3
comp=Z,4µm,20.0s
SDMD Soldier's Deli 59.18 355 P P 20 04 06.0 +0.3
Q53A Leroy 59.21 350 P P 20 04 06.1 +0.1
baz=168,SNR=12
Q54A Coxs Mills 59.23 351 P P 20 04 06.0 -0.1
baz=169,SNR=8.5
Q54A Coxs Mills 59.23 351 P P 20 04 05.6 -0.5
Q54A IAmb IAmb 20 05 15.6
comp=Z,41nm,1.1s
Q54A IAMs_20 IAMs_20 20 30 16.1
comp=Z,4µm,22.0s
PBMO Poplar Bluff 59.25 342 P P 20 04 05.3 -1.0
PBMO IAmb IAmb 20 05 04.7
comp=Z,52nm,1.1s
P58A Pank, Wackersv 59.30 354 P P 20 04 07.2 +0.6
baz=173,SNR=12
P59A Jarrettsville 59.34 355 P P 20 04 07.7 +0.8
baz=174,SNR=9.7
R49A Shelbyville 59.34 347 P P 20 04 05.1 -1.8
R49A IAMs_20 IAMs_20 20 29 57.2
comp=Z,4µm,20.0s
RKT Rikitea 59.36 254 *e*S S 20 12 10.3 -5.7
RKT comp=Z,9µm,25.5s *e*LR LR 20 21 32.2
comp=Z,7µm,28.8s
P57A Homestead Farm 59.36 354 P P 20 04 08.1 +1.1
baz=172,SNR=11
P57A Homestead Farm 59.36 354 P P 20 04 07.2 +0.2
P57A IAmb IAmb 20 04 09.9
comp=Z,122nm,1.6s
Q52A Bidwell 59.44 350 P P 20 04 07.0 -0.6
baz=168
P56A Dayton Farm, R 59.48 353 P P 20 04 09.0 +1.2
baz=171,SNR=11
P60A Greenville 59.48 356 P P 20 04 08.0 +0.2
baz=175
P60A Greenville 59.48 356 P P 20 04 08.0 +0.2
P60A IAmb IAmb 20 04 26.5
comp=Z,46nm,1.2s
P60A IAMs_20 IAMs_20 20 33 53.7
comp=Z,3µm,19.0s
WCI Wyandotte Cave 59.53 346 P P 20 04 07.2 -1.0
baz=163
WCI Wyandotte Cave 59.53 346 P P 20 04 07.2 -1.0
WCI pmax pmax
comp=Z,94nm,1.4s
WCI MLR MLR
comp=Z,4µm,20.0s
WCI Wyandotte Cave 59.53 346 P P 20 04 07.2 -1.0
WCI IAmb IAmb 20 04 35.5
comp=Z,94nm,1.4s
WCI Wyandotte Cave 59.53 346 IAMs_20 IAMs_20 20 31 05.2
comp=Z,4µm,20.0s
P55A Reedsville 59.60 352 P P 20 04 09.2 +0.5
baz=170,SNR=6.7
USIN University of 59.61 345 P P 20 04 07.9 -0.8
USIN IAmb IAmb 20 04 14.6
comp=Z,87nm,1.2s
U40A Yellville 59.62 339 P P 20 04 08.6 -0.2
baz=156,SNR=8.2
U40A Yellville 59.62 339 P P 20 04 08.4 -0.4
T42A Van Buren 59.68 341 P P 20 04 07.6 -1.6
Q51A Peebles 59.69 349 P P 20 04 08.4 -0.8
Q51A IAMs_20 IAMs_20 20 30 44.3
comp=Z,4µm,20.0s
O61A Allentown 59.69 357 P P 20 04 09.6 +0.4
baz=176
MVL Millersville 59.72 355 P P 20 04 09.9 +0.5
MCWV Mont Chateau 59.75 352 P P 20 04 10.2 +0.5
baz=170
MCWV Mont Chateau 59.75 352 P P 20 04 10.2 +0.5
S44A Carbondale 59.77 343 P P 20 04 09.3 -0.6
P54A Burton 59.79 351 P P 20 04 10.2 +0.3
baz=170,SNR=14
P53A Whipple 59.81 351 P P 20 04 10.2 +0.1
baz=168,SNR=8.7
P53A Whipple 59.81 351 P P 20 04 09.8 -0.3
P53A IAmb IAmb 20 04 54.8
comp=Z,53nm,0.8s
P53A IAMs_20 IAMs_20 20 30 57.4
comp=Z,3µm,20.0s
O58A Lewisberry 59.89 355 P P 20 04 11.3 +0.6
baz=173,SNR=8.8

X34A	**Smith Ranch, M**	**59.90**	**334**	P	**P**	**20 04 11.2**	**+0.4**
X34A				IAmb	IAmb	20 04 31.3	
	comp=Z,111nm,1.3s						
HHAR	**Hobbs**	**59.92**	**339**	P	**P**	**20 04 10.5**	**-0.4**
O60A	**Telford**	**59.97**	**356**	P	**P**	**20 04 11.8**	**+0.7**
	baz=175						
O59A	**Robesonia**	**60.02**	**355**	P	**P**	**20 04 12.3**	**+0.8**
	baz=174						
O57A	**Amberson**	**60.05**	**354**	P	**P**	**20 04 12.7**	**+1.0**
	baz=173,SNR=17						
P52A	**Corning**	**60.07**	**350**	P	**P**	**20 04 11.5**	**-0.4**
	baz=168						
P52A	**Corning**	**60.07**	**350**	P	**P**	**20 04 10.9**	**-1.0**
P52A				IAMs_20	IAMs_20	20 31 07.4	
	comp=Z,4µm,21.0s						
P51A	**Williamsport**	**60.08**	**349**	P	**P**	**20 04 11.0**	**-0.9**
	baz=167						
P51A	**Williamsport**	**60.08**	**349**	P	**P**	**20 04 11.2**	**-0.7**
P51A				IAmb	IAmb	20 05 59.4	
	comp=Z,30nm,0.7s						
P51A				IAMs_20	IAMs_20	20 30 55.7	
	comp=Z,4µm,21.0s						
O56A	**Blue Knob Stat**	**60.20**	**353**	P	**P**	**20 04 13.6**	**+0.8**
	baz=172,SNR=19						
O56A	**Blue Knob Stat**	**60.20**	**353**	P	**P**	**20 04 13.6**	**+0.8**
U38A	**Gravette**	**60.22**	**338**	P	**P**	**20 04 13.0**	**+0.1**
U38A				IAmb	IAmb	20 04 33.1	
	comp=Z,81nm,1.6s						
O55A	**Ligonier**	**60.23**	**353**	P	**P**	**20 04 13.4**	**+0.5**
	baz=171,SNR=13						
TUL1	**Leonard**	**60.25**	**337**	P	**P**	**20 04 13.0**	**-0.2**
	baz=153						
TUL1	**Leonard**	**60.25**	**337**	P	**P**	**20 04 11.3**	**-1.9**
TUL1				IAmb	IAmb	20 04 42.7	
	comp=Z,46nm,0.9s						
TUL1				IAMs_20	IAMs_20	20 33 38.5	
	comp=Z,3µm,21.0s						
FNO	**Franklin**	**60.29**	**335**	P	**P**	**20 04 12.9**	**-0.7**
N61A	**South Mountain**	**60.34**	**357**	P	**P**	**20 04 13.5**	**-0.1**
	baz=176						
O54A	**Avella**	**60.34**	**352**	P	**P**	**20 04 13.7**	**-0.1**
	baz=170						
O54A	**Avella**	**60.34**	**352**	P	**P**	**20 04 13.4**	**-0.3**
O54A				IAmb	IAmb	20 04 23.1	
	comp=Z,124nm,1.9s						
CPNY	**Central Park**	**60.36**	**357**	P	**P**	**20 04 13.3**	**-0.5**
CPNY				IAmb	IAmb	20 04 29.2	
	comp=Z,144nm,1.8s						
WMOK	**Wichita Mounta**	**60.41**	**334**	P	**P**	**20 04 14.4**	**0.0**
	baz=150,SNR=13						
WMOK	**Wichita Mounta**	**60.41**	**334**	P	**P**	**20 04 14.7**	**+0.4**
WMOK				pmax	pmax		
	comp=Z,17nm,0.6s						
WMOK				MLR	MLR		
	comp=Z,2µm,21.0s						
WMOK	**Wichita Mounta**	**60.41**	**334**	P	**P**	**20 04 14.7**	**+0.4**
OLIL	**Olney**	**60.45**	**345**	IAMs_20	IAMs_20	20 30 21.4	
	comp=Z,4µm,22.0s						
P49A	**Miami Univ. Ec**	**60.45**	**348**	P	**P**	**20 04 13.2**	**-1.3**
	baz=165						
P49A	**Miami Univ. Ec**	**60.45**	**348**	IAMs_20	IAMs_20	20 31 45.4	
	comp=Z,4µm,21.0s						
N62A	**Caumsett State**	**60.48**	**358**	P	**P**	**20 04 14.3**	**-0.3**
	baz=177						
BLO	**Bloomington**	**60.48**	**346**	IAMs_20	IAMs_20	20 35 03.4	
	comp=Z,4µm,18.0s						
O52A	**Adamsville**	**60.49**	**350**	P	**P**	**20 04 14.0**	**-0.7**
	baz=168						
O52A	**Adamsville**	**60.49**	**350**	P	**P**	**20 04 14.6**	**-0.2**
O52A				IAmb	IAmb	20 06 16.1	
	comp=Z,32nm,0.8s						
O52A				IAMs_20	IAMs_20	20 33 14.6	
	comp=Z,3µm,20.0s						
SSPA	**Standing Stone**	**60.49**	**354**	P	**P**	**20 04 15.1**	**+0.4**
SSPA				IAmb	IAmb	20 04 47.5	
	comp=Z,74nm,1.2s						
SSPA	**Standing Stone**	**60.49**	**354**	IAMs_20	IAMs_20	20 31 10.5	
	comp=Z,4µm,22.0s						
N60A	**Cedar Hill Far**	**60.50**	**356**	P	**P**	**20 04 14.8**	**0.0**
	baz=175						
P48A	**Milroy**	**60.52**	**347**	P	**P**	**20 04 13.4**	**-1.5**
P48A				IAmb	IAmb	20 04 21.5	
	comp=Z,135nm,1.8s						
P48A				IAMs_20	IAMs_20	20 29 35.4	
	comp=Z,4µm,22.0s						
O53A	**New Philadelph**	**60.53**	**351**	P	**P**	**20 04 14.6**	**-0.4**
	baz=169						
O53A	**New Philadelph**	**60.53**	**351**	P	**P**	**20 04 14.1**	**-0.9**
O53A				IAMs_20	IAMs_20	20 31 52.5	
	comp=Z,4µm,21.0s						
PAL	**Palisades**	**60.57**	**357**	P	**P**	**20 04 14.9**	**-0.3**
	baz=177						
PAL	**Palisades**	**60.57**	**357**	P	**P**	**20 04 15.8**	**+0.6**
PAL				pmax	pmax		
	comp=Z,60nm,1.3s						
PAL				MLR	MLR		
	comp=Z,4µm,21.0s						
PAL	**Palisades**	**60.57**	**357**	P	**P**	**20 04 15.8**	**+0.6**
PAL				IAmb	IAmb	20 04 17.7	
	comp=Z,60nm,1.2s						
PAL				IAMs_20	IAMs_20	20 30 29.6	
	comp=Z,4µm,21.0s						
N57A	**Milroy**	**60.58**	**354**	P	**P**	**20 04 15.8**	**+0.5**
	baz=173,SNR=17						
N58A	**Sunbury**	**60.59**	**355**	P	**P**	**20 04 16.0**	**+0.6**
	baz=174,SNR=11						
N58A	**Sunbury**	**60.59**	**355**	P	**P**	**20 04 15.8**	**+0.5**
N58A				IAmb	IAmb	20 04 47.2	
	comp=Z,72nm,1.1s						
N58A				IAMs_20	IAMs_20	20 28 05.0	
	comp=Z,3µm,22.0s						
N59A	**State Game Lan**	**60.59**	**356**	P	**P**	**20 04 16.2**	**+0.8**
	baz=175,SNR=7.5						
N59A	**State Game Lan**	**60.59**	**356**	P	**P**	**20 04 16.2**	**+0.8**
N59A				IAmb	IAmb	20 04 17.8	
	comp=Z,72nm,1.5s						
N59A				IAMs_20	IAMs_20	20 34 44.1	
	comp=Z,3µm,18.0s						
O51A	**Pataskala**	**60.65**	**350**	P	**P**	**20 04 14.9**	**-0.9**
	baz=167						
CCM	**Cathedral Cave**	**60.67**	**342**	P	**P**	**20 04 16.0**	**-0.1**
	baz=158						
CCM	**Cathedral Cave**	**60.67**	**342**	P	**P**	**20 04 15.6**	**-0.5**
CCM				pmax	pmax		
	comp=Z,56nm,1.2s						
CCM				MLR	MLR		
	comp=Z,2µm,21.0s						
CCM	**Cathedral Cave**	**60.67**	**342**	P	**P**	**20 04 15.6**	**-0.5**
CCM				IAmb	IAmb	20 04 29.9	
	comp=Z,56nm,1.1s						
CLNB	**Carlsbad**	**60.68**	**328**	P	**P**	**20 04 17.7**	**+1.3**
ODNJ	**Ogdensburg**	**60.68**	**357**	P	**P**	**20 04 16.6**	**+0.6**
ODNJ				IAMs_20	IAMs_20	20 30 35.5	
	comp=Z,3µm,21.0s						
WSPT	**Westport, CT**	**60.71**	**358**	P	**P**	**20 04 16.5**	**+0.3**
WSPT				IAmb	IAmb	20 04 35.2	
	comp=Z,60nm,1.0s						
WSPT				IAMs_20	IAMs_20	20 30 19.4	
	comp=Z,3µm,20.0s						
N55A	**Marion Center**	**60.75**	**353**	P	**P**	**20 04 17.2**	**+0.6**
	baz=171,SNR=32						
M66A	**Nantucket**	**60.76**	**1**	P	**P**	**20 04 16.6**	**+0.1**
	baz=181						
ACSO	**Alum Creek Sta**	**60.80**	**349**	P	**P**	**20 04 16.3**	**-0.5**
	baz=167,SNR=5.6						
ACSO	**Alum Creek Sta**	**60.80**	**349**	P	**P**	**20 04 16.5**	**-0.3**
ACSO				IAmb	IAmb	20 04 44.2	
	comp=Z,79nm,1.2s						
ACSO				IAMs_20	IAMs_20	20 31 18.6	
	comp=Z,4µm,21.0s						
N56A	**West Decatur**	**60.81**	**354**	P	**P**	**20 04 17.6**	**+0.6**
	baz=172,SNR=12						
Q44A	**Meyer Farm, Va**	**60.84**	**344**	P	**P**	**20 04 16.1**	**-1.0**
Q44A				IAmb	IAmb	20 04 44.8	
	comp=Z,50nm,1.0s						
Q44A				IAMs_20	IAMs_20	20 31 46.9	
	comp=Z,3µm,21.0s						
YLE	**Yale**	**60.84**	**358**	P	**P**	**20 04 17.7**	**+0.6**
YLE				IAMs_20	IAMs_20	20 34 10.9	
	comp=Z,3µm,19.0s						
M61A	**Granite Spring**	**60.87**	**357**	P	**P**	**20 04 17.5**	**+0.2**
	baz=177						
GDL2	**Guadalupe Moun**	**60.87**	**328**	P	**P**	**20 04 18.2**	**+0.5**
M63A	**Gales Ferry**	**60.91**	**359**	P	**P**	**20 04 18.3**	**+0.7**
	baz=179						
SLM	**Saint Louis**	**60.92**	**343**	P	**P**	**20 04 17.3**	**-0.4**
SLM				pmax	pmax		
	comp=Z,125nm,1.6s						
SLM				MLR	MLR		
	comp=Z,2µm,22.0s						
SLM	**Saint Louis**	**60.92**	**343**	P	**P**	**20 04 17.3**	**-0.4**
SLM				IAmb	IAmb	20 04 24.0	
	comp=Z,125nm,1.6s						
M60A	**Port Jervis**	**60.93**	**357**	P	**P**	**20 04 18.2**	**+0.5**
	baz=176,SNR=5.9						
M62A	**Hamden**	**60.97**	**358**	P	**P**	**20 04 18.5**	**+0.6**
	baz=178,SNR=6.4						
S39A	**Bolivar**	**60.99**	**340**	P	**P**	**20 04 18.0**	**-0.2**
S39A				IAmb	IAmb	20 04 32.4	
	comp=Z,41nm,0.9s						
S39A				IAMs_20	IAMs_20	20 32 07.0	
	comp=Z,3µm,20.0s						
MNTX	**Cornudas Mount**	**61.00**	**326**	P	**P**	**20 04 18.7**	**+0.3**
	baz=142						
MNTX	**Cornudas Mount**	**61.00**	**326**	P	**P**	**20 04 18.0**	**-0.4**
Q49A	**Covington**	**61.00**	**348**	P	**P**	**20 04 17.4**	**-0.9**
Q49A				IAmb	IAmb	20 04 33.5	
	comp=Z,46nm,1.2s						
Q49A				IAMs_20	IAMs_20	20 33 22.1	
	comp=Z,3µm,20.0s						
N53A	**Lisbon**	**61.02**	**351**	P	**P**	**20 04 18.5**	**+0.2**
	baz=169,SNR=6.0						
N53A	**Lisbon**	**61.02**	**351**	P	**P**	**20 04 18.6**	**+0.2**
N53A				IAmb	IAmb	20 05 14.8	
	comp=Z,66nm,1.2s						
M64A	**Tiverton**	**61.05**	**360**	P	**P**	**20 04 19.4**	**+0.9**
	baz=180						
N54A	**Moraine State**	**61.06**	**352**	P	**P**	**20 04 19.4**	**+0.8**
	baz=170,SNR=15						
N54A	**Moraine State**	**61.06**	**352**	P	**P**	**20 04 19.2**	**+0.6**
N54A				IAmb	IAmb	20 04 50.2	
	comp=Z,88nm,1.1s						
N54A				IAMs_20	IAMs_20	20 31 24.4	
	comp=Z,4µm,21.0s						
M65A	**Busby, Falmout**	**61.06**	**0**	P	**P**	**20 04 18.4**	**-0.1**
	baz=180						
M65A	**Busby, Falmout**	**61.06**	**0**	IAMs_20	IAMs_20	20 35 40.6	
	comp=Z,3µm,18.0s						
P46A	**Rosedale**	**61.07**	**346**	P	**P**	**20 04 18.9**	**+0.2**
P46A				IAmb	IAmb	20 04 24.3	
	comp=Z,40nm,0.9s						
P46A				IAMs_20	IAMs_20	20 31 52.9	
	comp=Z,4µm,21.0s						
M58A	**Price's Panora**	**61.09**	**355**	P	**P**	**20 04 19.7**	**+0.8**
	baz=174,SNR=24						
M57A	**Sunshine Farm,**	**61.12**	**355**	P	**P**	**20 04 19.7**	**+0.7**
	baz=173,SNR=14						
M57A	**Sunshine Farm,**	**61.12**	**355**	P	**P**	**20 04 19.9**	**+0.9**
M57A				IAMs_20	IAMs_20	20 32 59.9	
	comp=Z,3µm,20.0s						
N52A	**McGinn's Farm,**	**61.15**	**351**	P	**P**	**20 04 18.3**	**-0.9**
	baz=168						
M59A	**Waymart**	**61.19**	**356**	P	**P**	**20 04 20.1**	**+0.6**
	baz=175,SNR=13						
R40A	**Maddies Statio**	**61.20**	**341**	P	**P**	**20 04 19.1**	**-0.5**
R40A				IAmb	IAmb	20 04 32.9	
	comp=Z,106nm,1.4s						
KSPA	**Keystone Colle**	**61.23**	**356**	P	**P**	**20 04 20.1**	**+0.3**
KSPA				IAmb	IAmb	20 04 22.0	
	comp=Z,87nm,1.4s						
KSPA				IAMs_20	IAMs_20	20 31 60.0	
	comp=Z,2µm,19.0s						
O48A	**Farmland**	**61.23**	**348**	P	**P**	**20 04 18.7**	**-1.1**
	baz=165						
KSCT	**Kent School, K**	**61.27**	**358**	P	**P**	**20 04 20.1**	**+0.1**
KSCT				IAmb	IAmb	20 04 36.1	
	comp=Z,118nm,1.7s						
KSCT				IAMs_20	IAMs_20	20 35 19.2	
	comp=Z,3µm,19.0s						
M56A	**Emporium**	**61.36**	**354**	P	**P**	**20 04 21.0**	**+0.3**
	baz=172,SNR=21						
M56A	**Emporium**	**61.36**	**354**	P	**P**	**20 04 20.4**	**-0.3**
M56A				IAMs_20	IAMs_20	20 31 48.5	
	comp=Z,4µm,21.0s						
N51A	**Ashland**	**61.36**	**350**	P	**P**	**20 04 19.9**	**-0.7**
	baz=168						
N51A	**Ashland**	**61.36**	**350**	IAMs_20	IAMs_20	20 33 41.6	
	comp=Z,3µm,20.0s						
L63A	**North Scituate**	**61.36**	**359**	P	**P**	**20 04 21.4**	**+0.7**
	baz=179,SNR=12						
T35A	**Sooner Cattle**	**61.41**	**337**	P	**P**	**20 04 21.7**	**+0.6**
M55A	**Ridgway**	**61.41**	**353**	P	**P**	**20 04 21.5**	**+0.5**
	baz=172,SNR=21						
M55A	**Ridgway**	**61.41**	**353**	P	**P**	**20 04 21.4**	**+0.5**
BRYW	**Bryant College**	**61.42**	**359**	P	**P**	**20 04 21.3**	**+0.3**
L64A	**Middleborough**	**61.43**	**360**	P	**P**	**20 04 21.5**	**+0.4**
	baz=180						
L65A	**Cape Cod Natio**	**61.53**	**1**	P	**P**	**20 04 21.5**	**-0.3**
	baz=181						
MSTX	**Muleshoe**	**61.53**	**330**	P	**P**	**20 04 22.2**	**+0.1**
	baz=146,SNR=7.5						
MSTX	**Muleshoe**	**61.53**	**330**	P	**P**	**20 04 22.6**	**+0.4**
MSTX				IAmb	IAmb	20 04 54.4	
	comp=Z,58nm,1.1s						
L62A	**Suffield**	**61.55**	**358**	P	**P**	**20 04 21.9**	**+0.1**
	baz=178						
M54A	**Oil Creek Stat**	**61.55**	**352**	P	**P**	**20 04 22.3**	**+0.4**
	baz=171,SNR=19						
M54A	**Oil Creek Stat**	**61.55**	**352**	P	**P**	**20 04 22.1**	**+0.1**
M54A				IAmb	IAmb	20 04 49.2	
	comp=Z,89nm,1.1s						
L60A	**Shokan**	**61.57**	**357**	P	**P**	**20 04 22.7**	**+0.7**
	baz=176,SNR=7.2						
M53A	**WI Miller and**	**61.62**	**352**	P	**P**	**20 04 21.8**	**-0.5**
	baz=170						
M53A	**WI Miller and**	**61.62**	**352**	P	**P**	**20 04 22.5**	**+0.1**
M53A				IAMs_20	IAMs_20	20 31 52.3	
	comp=Z,5µm,21.0s						
P43A	**Skaggs, Pawnee**	**61.67**	**344**	P	**P**	**20 04 22.2**	**-0.5**
P43A				IAMs_20	IAMs_20	20 35 03.8	
	comp=Z,3µm,18.0s						
N49A	**Columbus Grove**	**61.68**	**349**	P	**P**	**20 04 22.3**	**-0.5**
N49A				IAMs_20	IAMs_20	20 33 51.1	
	comp=Z,3µm,20.0s						
L58A	**Harry Jones Me**	**61.72**	**356**	P	**P**	**20 04 24.0**	**+0.9**
	baz=175,SNR=17						
M51A	**Elyria**	**61.74**	**350**	P	**P**	**20 04 22.5**	**-0.7**
	baz=168						
L61A	**Hillsdale 1, H**	**61.74**	**358**	P	**P**	**20 04 24.0**	**+0.8**
	baz=177,SNR=7.0						
L57A	**Andrews Acres**	**61.75**	**355**	P	**P**	**20 04 23.9**	**+0.6**
	baz=174,SNR=9.1						
ALLY	**Alegheny Colle**	**61.75**	**352**	P	**P**	**20 04 23.2**	**-0.1**
ALLY				IAMs_20	IAMs_20	20 32 05.9	
	comp=Z,4µm,21.0s						
SFIN	**Lafayette**	**61.77**	**346**	P	**P**	**20 04 22.1**	**-1.3**
	baz=163						
SFIN	**Lafayette**	**61.77**	**346**	P	**P**	**20 04 22.0**	**-1.4**
SFIN				IAmb	IAmb	20 04 36.2	
	comp=Z,109nm,1.6s						
SFIN				IAMs_20	IAMs_20	20 31 41.4	
	comp=Z,5µm,20.0s						
AMTX	**Amarillo**	**61.79**	**331**	P	**P**	**20 04 23.7**	**-0.1**
	baz=167						
AMTX	**Amarillo**	**61.79**	**331**	P	**P**	**20 04 24.3**	**+0.5**
QUA2	**Belchertown**	**61.79**	**359**	P	**P**	**20 04 23.9**	**+0.4**
QUA2				IAmb	IAmb	20 04 25.4	
	comp=Z,87nm,1.7s						
L59A	**Walton**	**61.81**	**356**	P	**P**	**20 04 24.6**	**+0.9**
	baz=176,SNR=16						
L59A	**Walton**	**61.81**	**356**	P	**P**	**20 04 24.1**	**+0.4**
L59A				IAMs_20	IAMs_20	20 31 11.4	
	comp=Z,3µm,21.0s						
M52A	**Chesterland**	**61.81**	**351**	P	**P**	**20 04 23.3**	**-0.4**
	baz=169						
M52A	**Chesterland**	**61.81**	**351**	IAMs_20	IAMs_20	20 32 40.5	
	comp=Z,5µm,21.0s						
BCX	**Boston College**	**61.83**	**360**	P	**P**	**20 04 24.2**	**+0.4**
BCX				IAmb	IAmb	20 04 25.6	
	comp=Z,73nm,1.5s						
O44A	**Mansfield**	**61.88**	**345**	P	**P**	**20 04 23.9**	**-0.3**
O44A				IAmb	IAmb	20 04 36.4	
	comp=Z,76nm,1.4s						
O44A				IAMs_20	IAMs_20	20 33 01.4	
	comp=Z,3µm,20.0s						
BINY	**Binghamton**	**61.88**	**356**	P	**P**	**20 04 25.0**	**+0.8**
	baz=174,SNR=13						
BINY	**Binghamton**	**61.88**	**356**	P	**P**	**20 04 24.9**	**+0.7**
WES	**Weston**	**61.88**	**360**	P	**P**	**20 04 24.5**	**+0.4**
WES				pmax	pmax		
	comp=Z,48nm,1.1s						
WES				MLR	MLR		
	comp=Z,2µm,22.0s						
WES	**Weston**	**61.88**	**360**	P	**P**	**20 04 24.5**	**+0.4**
WES				IAmb	IAmb	20 04 28.4	
	comp=Z,48nm,1.1s						
N47A	**Urbana**	**61.94**	**347**	P	**P**	**20 04 23.7**	**-0.9**
N47A				IAMs_20	IAMs_20	20 32 30.0	
	comp=Z,3µm,20.0s						
M50A	**Fremont**	**61.95**	**350**	P	**P**	**20 04 24.5**	**-0.1**
M50A				IAmb	IAmb	20 04 25.6	
	comp=Z,74nm,1.3s						
M50A				IAMs_20	IAMs_20	20 32 05.1	
	comp=Z,4µm,20.0s						
L56A	**Greenwood**	**61.95**	**354**	P	**P**	**20 04 25.3**	**+0.6**
	baz=173,SNR=15						
L56A	**Greenwood**	**61.95**	**354**	P	**P**	**20 04 24.8**	**+0.1**
L56A				IAMs_20	IAMs_20	20 35 09.0	
	comp=Z,2µm,18.0s						
L61B	**Northampton**	**61.97**	**358**	P	**P**	**20 04 25.2**	**+0.4**
	baz=178,SNR=11						
HRV	**Adam Dziewonsk**	**62.01**	**359**	P	**P**	**20 04 25.5**	**+0.5**
	baz=179						
HRV	**Adam Dziewonsk**	**62.01**	**359**	P	**P**	**20 04 25.1**	**+0.1**
HRV				pmax	pmax		
	comp=Z,327nm,2.0s						
HRV				MLR	MLR		
	comp=Z,3µm,22.0s						
HRV	**Adam Dziewonsk**	**62.01**	**359**	P	**P**	**20 04 25.1**	**+0.1**
HRV	**Adam Dziewonsk**	**62.01**	**359**	IAMs_20	IAMs_20	20 30 17.7	
	comp=Z,3µm,22.0s						
L53A	**Girard**	**62.07**	**352**	P	**P**	**20 04 25.5**	**+0.1**
	baz=170,SNR=8.2						
L55A	**Hinsdale**	**62.08**	**354**	P	**P**	**20 04 26.3**	**+0.8**
	baz=172,SNR=20						
HSIG		**62.09**	**320**	P	**P**	**20 04 26.7**	**+0.8**
HSIG				IAmb	IAmb	20 04 40.1	
	comp=Z,107nm,2.0s						
HSIG				IAMs_20	IAMs_20	20 29 35.1	
	comp=Z,2µm,18.0s						
K62A	**Royalston**	**62.17**	**359**	P	**P**	**20 04 26.8**	**+0.7**
	baz=178,SNR=6.4						
K62A	**Royalston**	**62.17**	**359**	P	**P**	**20 04 26.9**	**+0.7**
K60A	**Five Rivers En**	**62.18**	**357**	P	**P**	**20 04 26.6**	**+0.6**
	baz=177						
K63A	**Dunstable**	**62.19**	**359**	P	**P**	**20 04 27.0**	**+0.9**
	baz=179,SNR=6.3						
ERPA	**Erie**	**62.19**	**352**	P	**P**	**20 04 26.5**	**+0.3**
	baz=170,SNR=5.8						
ERPA	**Erie**	**62.19**	**352**	P	**P**	**20 04 26.7**	**+0.4**
ERPA				IAMs_20	IAMs_20	20 32 18.5	
	comp=Z,3µm,21.0s						
K61A	**Williamstown**	**62.21**	**358**	P	**P**	**20 04 27.1**	**+0.8**
	baz=177,SNR=7.6						
L54A	**Sinclairville**	**62.23**	**353**	P	**P**	**20 04 27.0**	**+0.5**
	baz=171,SNR=21						
VNA3	**Neumayer Olymp**	**62.24**	**161**	P	**P**	**20 04 27.7**	**+1.3**
P40A	**Paris**	**62.27**	**342**	P	**P**	**20 04 26.3**	**-0.5**
P40A				IAmb	IAmb	20 04 40.1	
	comp=Z,94nm,1.4s						
TRY	**Troy**	**62.28**	**358**	P	**P**	**20 04 27.8**	**+1.0**
TRY				IAMs_20	IAMs_20	20 32 46.9	
	comp=Z,3µm,20.0s						
WVNY	**West Valley, N**	**62.32**	**354**	P	**P**	**20 04 27.6**	**+0.5**
WVNY				IAMs_20	IAMs_20	20 32 17.8	
	comp=Z,3µm,21.0s						
K59A	**Cooperstown**	**62.38**	**357**	P	**P**	**20 04 28.3**	**+0.7**
	baz=176,SNR=21						
K58A	**Earlville**	**62.42**	**356**	P	**P**	**20 04 28.5**	**+0.7**
	baz=175,SNR=15						
K58A	**Earlville**	**62.42**	**356**	P	**P**	**20 04 28.4**	**+0.7**
K57A	**Scipio Center**	**62.45**	**355**	P	**P**	**20 04 28.1**	**+0.1**
	baz=174,SNR=7.9						
HDIL	**Hopedale**	**62.47**	**344**	P	**P**	**20 04 28.1**	**0.0**
HDIL				IAmb	IAmb	20 04 55.2	
	comp=Z,50nm,0.9s						
HDIL				IAMs_20	IAMs_20	20 36 17.0	
	comp=Z,3µm,19.0s						
VNA1	**Neumayer--Stat**	**62.47**	**161**	P	**P**	**20 04 29.9**	**+2.1**
K56A	**Middlesex**	**62.48**	**355**	P	**P**	**20 04 28.5**	**+0.3**
	baz=173,SNR=5.2						
K54A	**Basiliko Farm,**	**62.53**	**353**	P	**P**	**20 04 28.8**	**+0.3**
	baz=172,SNR=11						
L50A	**Kingsville**	**62.53**	**350**	P	**P**	**20 04 27.9**	**-0.5**
	baz=167						
MMNY	**Mt. Morris Dam**	**62.57**	**354**	P	**P**	**20 04 29.2**	**+0.4**
MMNY				IAMs_20	IAMs_20	20 32 33.4	
	comp=Z,3µm,21.0s						
K55A	**Perry**	**62.58**	**354**	P	**P**	**20 04 29.2**	**+0.4**
	baz=172,SNR=11						
L48A	**N Adams**	**62.72**	**349**	P	**P**	**20 04 29.0**	**-0.7**
L48A				IAmb	IAmb	20 04 31.1	
	comp=Z,60nm,1.1s						
L48A				IAMs_20	IAMs_20	20 33 43.5	
	comp=Z,3µm,20.0s						
J62A	**Henniker**	**62.73**	**359**	P	**P**	**20 04 30.6**	**+0.8**
	baz=179,SNR=7.0						
J63A	**Strafford**	**62.78**	**360**	P	**P**	**20 04 30.5**	**+0.4**
	baz=180						
J60A	**Lant Hill Farm**	**62.78**	**358**	P	**P**	**20 04 31.0**	**+0.8**
	baz=177,SNR=9.7						
P38A	**Dawn**	**62.82**	**340**	P	**P**	**20 04 30.4**	**0.0**
P38A				IAmb	IAmb	20 04 45.6	
	comp=Z,46nm,1.1s						
319A	**Douglas**	**62.86**	**323**	P	**P**	**20 04 31.7**	**+0.6**
319A				IAmb	IAmb	20 04 44.0	
	comp=Z,39nm,1.0s						
319A				IAMs_20	IAMs_20	20 28 45.5	
	comp=Z,3µm,22.0s						
J61A	**Chester**	**62.86**	**359**	P	**P**	**20 04 31.6**	**+0.9**
	baz=178,SNR=10						
121A	**Cookes Peak, D**	**62.92**	**325**	P	**P**	**20 04 33.4**	**+1.9**
	baz=141						
121A	**Cookes Peak, D**	**62.92**	**325**	P	**P**	**20 04 32.7**	**+1.2**
121A				IAmb	IAmb	20 04 44.6	
	comp=Z,73nm,1.4s						
121A				IAMs_20	IAMs_20	20 30 15.0	
	comp=Z,3µm,18.0s						
AAM	**Ann Arbor**	**62.92**	**349**	P	**P**	**20 04 30.2**	**-0.9**
	baz=166						
AAM	**Ann Arbor**	**62.92**	**349**	P	**P**	**20 04 30.5**	**-0.6**
AAM				pmax	pmax		
	comp=Z,42nm,1.2s						
AAM				MLR	MLR		
	comp=Z,3µm,20.0s						
AAM	**Ann Arbor**	**62.92**	**349**	P	**P**	**20 04 30.5**	**-0.6**
AAM				IAmb	IAmb	20 04 32.1	
	comp=Z,42nm,1.1s						
AAM				IAMs_20	IAMs_20	20 34 52.0	
	comp=Z,3µm,20.0s						
ACCN	**Adirondack Com**	**62.93**	**358**	P	**P**	**20 04 31.6**	**+0.5**
ACCN				IAmb	IAmb

J55A IAMs_20 IAMs_20 20 36 02.2
comp=Z,4µm,19.0s
L46A Eue Claire 63.15 347 P **P** **20 04 31.5 -1.1**
L46A IAMs_20 IAMs_20 20 34 34.0
comp=Z,3µm,20.0s
J54A Appleton 63.18 354 P **P** **20 04 32.8 0.0**
baz=172
J54A Appleton 63.18 354 P **P** **20 04 32.1 -0.7**
J54A IAmb IAmb 20 04 44.8
comp=Z,90nm,1.2s
J54A IAMs_20 IAMs_20 20 32 41.6
comp=Z,3µm,22.0s
K50A Casco 63.21 350 P **P** **20 04 31.7 -1.4**
baz=168
K50A Casco 63.21 350 IAMs_20 IAMs_20 20 32 55.6
comp=Z,5µm,20.0s
HNH Hanover 63.22 359 P **P** **20 04 34.0 +1.0**
I58A Old Forge 63.30 357 P **P** **20 04 34.0 +0.3**
baz=176,SNR=13
I59A Olmsteadville 63.35 358 P **P** **20 04 34.5 +0.6**
baz=177,SNR=16
K49A Clarkson 63.36 350 P **P** **20 04 32.8 -1.2**
baz=167
J52A Paris 63.36 352 P **P** **20 04 34.0 0.0**
baz=170,SNR=14
I62A Tamworth 63.37 360 P **P** **20 04 34.8 +0.7**
baz=180,SNR=6.7
I62A Tamworth 63.37 360 P **P** **20 04 35.1 +1.1**
I62A IAmb IAmb 20 04 36.5
comp=Z,115nm,1.6s
KSU1 Kansas State U 63.38 338 P **P** **20 04 33.6 -0.7**
baz=153
I60A Shoreham 63.38 358 P **P** **20 04 34.8 +0.8**
baz=177,SNR=6.8
I64A Boothbay 63.42 1 P **P** **20 04 34.6 +0.2**
baz=181
I61A Oroboro, Fairl 63.44 359 P **P** **20 04 35.7 +1.2**
baz=179,SNR=19
NCB Newcomb 63.54 357 P **P** **20 04 35.5 +0.3**
NCB IAmb IAmb 20 05 03.2
comp=Z,51nm,1.2s
I63A Otisfield 63.55 0 P **P** **20 04 35.9 +0.7**
baz=180
I63A Otisfield 63.55 0 P **P** **20 04 35.9 +0.7**
I63A IAMs_20 IAMs_20 20 34 47.4
comp=Z,2µm,20.0s
R32A Long Quarter, 63.56 336 P **P** **20 04 34.9 -0.6**
BNM Barren Site 63.57 327 P **P** **20 04 35.9 0.0**
I57A Carthage 63.59 356 P **P** **20 04 36.0 +0.5**
baz=175,SNR=8.5
Y22D IRIS PASSCAL I 63.66 327 P **P** **20 04 38.0 +1.7**
baz=142
L44A Lake County Fo 63.67 346 P **P** **20 04 35.1 -0.9**
baz=162
L44A Lake County Fo 63.67 346 P **P** **20 04 35.0 -1.0**
L44A IAMs_20 IAMs_20 20 32 49.7
comp=Z,5µm,21.0s
PECO Prince Edward 63.68 355 P **P** **20 04 36.3 +0.2**
LBNH Lisbon 63.74 359 P **P** **20 04 37.6 +1.1**
baz=179,SNR=12
LBNH Lisbon 63.74 359 P **P** **20 04 37.1 +0.6**
LBNH pmax pmax
comp=Z,134nm,1.5s
LBNH MLR MLR
comp=Z,2µm,20.0s
LBNH Lisbon 63.74 359 P **P** **20 04 37.1 +0.6**
LBNH IAMs_20 IAMs_20 20 33 15.6
comp=Z,2µm,20.0s
LENM Lemitar 63.76 327 P **P** **20 04 37.5 +0.5**
N38A Joes South For 63.79 341 P **P** **20 04 37.4 +0.5**
N38A IAmb IAmb 20 04 50.2
comp=Z,91nm,1.4s
I53A Kortright Cn E 63.83 353 P **P** **20 04 36.7 -0.3**
baz=171
VT1 Waterbury 63.85 358 P **P** **20 04 37.8 +0.5**
VT1 IAmb IAmb 20 04 49.5
comp=Z,68nm,1.4s
VT1 IAMs_20 IAMs_20 20 35 59.2
comp=Z,2µm,19.0s
J49A Marlette 63.87 350 P **P** **20 04 36.0 -1.4**
baz=167
J49A S **S** **20 13 03.3 -8.9**
baz=167
J48A Bridge Port 63.92 350 P **P** **20 04 37.0 -0.6**
baz=166,SNR=6.4
J48A Bridge Port 63.92 350 P **P** **20 04 37.4 -0.3**
J48A IAmb IAmb 20 04 38.5
comp=Z,77nm,1.2s
J48A IAMs_20 IAMs_20 20 33 05.2
comp=Z,3µm,20.0s
L42A Oliver, Polo 63.92 344 P **P** **20 04 37.2 -0.5**
L42A IAmb IAmb 20 04 44.7
comp=Z,62nm,1.4s
L42A IAMs_20 IAMs_20 20 37 26.5
comp=Z,4µm,18.0s
H58A Gabriels 63.99 357 P **P** **20 04 38.6 +0.4**
baz=176,SNR=18
I51A Listowel 63.99 352 P **P** **20 04 37.8 -0.3**
baz=169,SNR=7.8
I55A Frankford 64.02 355 P **P** **20 04 38.5 +0.2**
baz=173,SNR=15
H61A Lyndonville 64.04 359 P **P** **20 04 39.5 +1.0**
baz=179,SNR=13
J47A Sunmer 64.04 349 P **P** **20 04 37.4 -1.1**
baz=165
WVL Waterville 64.07 1 P **P** **20 04 39.1 +0.5**
WVL IAmb IAmb 20 04 41.1
comp=Z,118nm,1.6s
WVL IAMs_20 IAMs_20 20 31 33.3
comp=Z,3µm,22.0s
H62A Milan 64.07 360 P **P** **20 04 39.7 +1.0**
baz=180
H62A Milan 64.07 360 P **P** **20 04 39.5 +0.8**
H62A IAMs_20 IAMs_20 20 30 06.3
comp=Z,3µm,22.0s
H60A Morristown 64.08 359 P **P** **20 04 39.5 +0.8**
baz=178,SNR=6.5
ANMO Albuquerque 64.11 328 P **P** **20 04 41.0 +1.6**
baz=143
ANMO Albuquerque 64.11 328 P **P** **20 04 39.5 +0.1**
comp=Z,2.1nm,0.5s,baz=143,slow=8.7,SNR=10
ANMO Albuquerque 64.11 328 *ce* P **P** **20 04 40.7 +1.3**
ANMO pmax pmax
comp=Z,43nm,1.9s
ANMO MLR MLR
comp=Z,1µm,18.0s
ANMO Albuquerque 64.11 328 P **P** **20 04 40.6 +1.3**
ANMO IAmb IAmb 20 04 51.3
comp=Z,86nm,1.9s
H64A Troy 64.15 1 P **P** **20 04 39.9 +0.7**
baz=182
H63A New Sharon 64.16 1 P **P** **20 04 40.5 +1.2**
baz=181
H59A Cadyville 64.19 358 P **P** **20 04 40.0 +0.6**
baz=177,SNR=14
LONY Lake Ozonia 64.21 357 P **P** **20 04 40.1 +0.5**
baz=176,SNR=14
LONY Lake Ozonia 64.21 357 P **P** **20 04 40.1 +0.5**
LONY IAMs_20 IAMs_20 20 32 27.8
comp=Z,2µm,21.0s
H65A Eastbrook 64.23 2 P **P** **20 04 40.1 +0.4**
baz=183,SNR=6.6
K43A Burlington 64.26 346 P **P** **20 04 39.5 -0.4**
EMMW East Machias 64.28 3 P **P** **20 04 40.6 +0.7**
EMMW IAmb IAmb 20 04 42.8
comp=Z,71nm,1.3s
EMMW IAMs_20 IAMs_20 20 37 02.6
comp=Z,2µm,19.0s
H56A Elgin 64.28 356 P **P** **20 04 40.4 +0.4**
baz=174,SNR=17
CBKS Cedar Bluff 64.30 335 P **P** **20 04 40.3 -0.1**
baz=150
CBKS Cedar Bluff 64.30 335 P **P** **20 04 40.9 +0.5**
CBKS pmax pmax
comp=Z,104nm,1.4s
CBKS MLR MLR
comp=Z,1µm,20.0s
CBKS Cedar Bluff 64.30 335 **P** **20 04 40.9 +0.5**
H55A Tweed 64.31 355 P **P** **20 04 40.3 +0.1**
baz=173,SNR=10
DELO Deloro Mine 64.31 355 P **P** **20 04 40.6 +0.3**
DELO IAmb IAmb 20 05 07.3
comp=Z,71nm,1.3s
DELO IAMs_20 IAMs_20 20 33 58.6
comp=Z,4µm,20.0s
H66A Whiting 64.36 3 P **P** **20 04 41.3 +0.7**
baz=184

FRNY Flat Rock 64.38 358 P **P** **20 04 41.3 +0.6**
I49A Point Hope 64.38 350 P **P** **20 04 39.7 -1.0**
baz=168
L40A Anamosa 64.39 343 P **P** **20 04 40.5 -0.3**
L40A IAMs_20 IAMs_20 20 37 21.8
comp=Z,3µm,19.0s
TUC Tucson 64.41 323 P **P** **20 04 42.3 +1.1**
baz=138
TUC Tucson 64.41 323 P **P** **20 04 42.5 +1.2**
TUC pmax pmax
comp=Z,45nm,1.7s
TUC Tucson 64.41 323 P **P** **20 04 42.5 +1.2**
TUC Tucson 64.41 323 IAMs_20 IAMs_20 20 33 35.4
comp=Z,4µm,18.0s
SNAA Sanae 64.45 161 P **P** **20 04 42.3 +1.2**
SNAA Sanae 64.45 161 *ce* P **P** **20 04 42.0 +1.0**
SNAA pmax pmax
comp=Z,90nm,1.7s
SNAA MLR MLR
comp=Z,3µm,18.0s
SNAA Sanae 64.45 161 P **P** **20 04 41.9 +0.8**
SNAA IAMs_20 IAMs_20 20 30 29.2
comp=Z,3µm,20.0s
H53A Bobcaygeon 64.46 354 P **P** **20 04 41.2 0.0**
baz=172,SNR=16
J45A Montague 64.54 348 P **P** **20 04 40.7 -1.1**
baz=164
J45A Montague 64.54 348 IAMs_20 IAMs_20 20 34 18.7
comp=Z,3µm,21.0s
G60A Masonville 64.61 359 P **P** **20 04 43.0 +0.8**
baz=178,SNR=10.0
G59A Clarenceville 64.61 358 P **P** **20 04 43.1 +0.9**
baz=178
N35A Tabor 64.62 339 P **P** **20 04 43.0 +0.7**
G63A Kingsbury 64.62 1 P **P** **20 04 43.2 +1.0**
baz=181,SNR=8.0
H52A Wyevale 64.67 353 P **P** **20 04 42.1 -0.5**
baz=171
G57A Newington 64.71 357 P **P** **20 04 43.3 +0.5**
baz=176,SNR=12
G58A Ormstown 64.71 357 P **P** **20 04 43.4 +0.6**
baz=177
SADO Sadowa 64.71 353 P **P** **20 04 42.8 0.0**
comp=Z,26nm,0.8s,baz=183,slow=5.8,SNR=23
SADO Sadowa 64.71 353 P **P** **20 04 43.0 +0.1**
SADO IAmb IAmb 20 04 44.9
comp=Z,72nm,1.1s
SADO IAMs_20 IAMs_20 20 37 58.2
comp=Z,3µm,19.0s
G62A West of Eustis 64.72 0 P **P** **20 04 44.0 +1.1**
baz=180,SNR=26
G62A West of Eustis 64.72 0 P **P** **20 04 43.7 +0.8**
G62A IAMs_20 IAMs_20 20 32 05.4
comp=Z,3µm,21.0s
GGN Saint George 64.72 3 P **P** **20 04 43.7 +0.8**
GGN IAMs_20 IAMs_20 20 31 36.2
comp=Z,3µm,22.0s
I47A Gladwin 64.74 349 P **P** **20 04 42.0 -1.1**
baz=166
I47A Gladwin 64.74 349 IAMs_20 IAMs_20 20 33 31.0
comp=Z,3µm,21.0s
G65A Princeton 64.77 3 P **P** **20 04 43.7 +0.6**
baz=183,SNR=7.5
G65A Princeton 64.77 3 P **P** **20 04 43.5 +0.4**
G65A IAMs_20 IAMs_20 20 37 18.5
comp=Z,3µm,19.0s
I48A Sherman Twp 64.77 350 P **P** **20 04 42.3 -0.9**
baz=167
PKME Peaks-Kenny Pk 64.78 1 P **P** **20 04 43.8 +0.6**
baz=182,SNR=6.8
PKME Peaks-Kenny Pk 64.78 1 P **P** **20 04 43.8 +0.6**
PKME IAMs_20 IAMs_20 20 32 03.8
comp=Z,3µm,21.0s
G64A Maxfield 64.78 2 P **P** **20 04 43.9 +0.6**
baz=182,SNR=6.1
G61A St-Isidore-de- 64.78 359 P **P** **20 04 44.7 +1.4**
baz=179,SNR=19
PLVO Plevna 64.79 355 P **P** **20 04 43.2 -0.1**
PLVO IAmb IAmb 20 04 54.9
comp=Z,86nm,1.5s
SCIA State Center 64.81 342 P **P** **20 04 43.2 -0.4**
baz=157
SCIA State Center 64.81 342 P **P** **20 04 43.5 0.0**
SCIA IAMs_20 IAMs_20 20 35 10.0
comp=Z,2µm,20.0s
MOQ Mont Orford 64.82 359 P **P** **20 04 44.5 +0.9**
I46A Reed City 64.84 348 P **P** **20 04 42.5 -1.2**
baz=165
T25A Trinidad 64.89 331 P **P** **20 04 45.5 +1.1**
baz=145
T25A Trinidad 64.89 331 P **P** **20 04 45.6 +1.1**
T25A IAmb IAmb 20 05 14.8
comp=Z,46nm,1.2s
JFWS Jewell Farm 64.93 344 P **P** **20 04 43.8 -0.5**
baz=160,SNR=6.1
JFWS Jewell Farm 64.93 344 P **P** **20 04 44.1 -0.2**
JFWS pmax pmax
comp=Z,50nm,0.9s
JFWS MLR MLR
comp=Z,3µm,21.0s
JFWS Jewell Farm 64.93 344 P **P** **20 04 44.1 -0.2**
JFWS IAmb IAmb 20 05 12.2
comp=Z,50nm,0.8s
JFWS Jewell Farm 64.93 344 IAMs_20 IAMs_20 20 32 50.0
comp=Z,3µm,21.0s
G55A Calabogie 64.97 355 P **P** **20 04 44.6 +0.1**
baz=174,SNR=16
G53A Haliburton 65.01 354 P **P** **20 04 45.1 +0.3**
baz=172,SNR=17
I45A Fountain 65.08 348 P **P** **20 04 44.0 -1.2**
baz=164
I45A Fountain 65.08 348 IAMs_20 IAMs_20 20 34 46.1
comp=Z,3µm,21.0s
ORIO Orleans, Innes 65.09 356 P **P** **20 04 45.3 +0.1**
baz=175
ORIO Orleans, Innes 65.09 356 P **P** **20 04 45.6 +0.3**
N33A J Bar K, Exete 65.13 338 P **P** **20 04 47.0 +1.3**
N33A IAmb IAmb 20 05 28.9
comp=Z,59nm,0.9s
N33A IAMs_20 IAMs_20 20 35 51.6
comp=Z,3µm,20.0s
H48A Harrisville 65.20 350 P **P** **20 04 45.0 -1.0**
baz=167
H48A Harrisville 65.20 350 P **P** **20 04 45.7 -0.4**
H48A IAmb IAmb 20 05 01.5
comp=Z,42nm,0.8s
H48A IAMs_20 IAMs_20 20 34 05.2
comp=Z,4µm,20.0s
F63A Nahmakanta, Br 65.22 1 P **P** **20 04 46.7 +0.5**
baz=182
F63A Nahmakanta, Br 65.22 1 IAMs_20 IAMs_20 20 32 07.5
comp=Z,3µm,21.0s
G54A Lake Saint Pet 65.23 354 P **P** **20 04 46.4 +0.1**
baz=172,SNR=9.6
H47A Mio 65.25 350 P **P** **20 04 44.8 -1.6**
baz=166
214A Organ Pipe Nat 65.32 321 P **P** **20 04 49.4 +2.3**
baz=136,SNR=8.5
214A Organ Pipe Nat 65.32 321 P **P** **20 04 48.2 +1.0**
214A IAMs_20 IAMs_20 20 31 35.6
comp=Z,2µm,19.0s
K38A Parkersburg 65.36 342 P **P** **20 04 46.6 -0.5**
K38A IAmb IAmb 20 05 00.3
comp=Z,66nm,1.2s
K38A IAMs_20 IAMs_20 20 36 45.5
comp=Z,3µm,20.0s
F59A Saint Guillaume 65.37 358 P **P** **20 04 47.1 +0.1**
baz=178
H46A Fife Lake 65.37 349 P **P** **20 04 45.9 -1.2**
baz=165
F62A Pittston Farm, 65.40 1 P **P** **20 04 47.1 -0.1**
baz=181
F62A Pittston Farm, 65.40 1 P **P** **20 04 47.5 +0.2**
F62A IAMs_20 IAMs_20 20 32 58.4
comp=Z,3µm,22.0s
F64A Sherman 65.40 2 P **P** **20 04 48.1 +0.8**
baz=183,SNR=9.7
F64A Sherman 65.40 2 P **P** **20 04 47.7 +0.4**
F58A St-Lin Laurent 65.42 358 P **P** **20 04 47.6 +0.2**
baz=177
F60A Warwick 65.47 359 P **P** **20 04 48.2 +0.5**
baz=179,SNR=12
F55A Otter Lake 65.52 356 P **P** **20 04 47.8 -0.3**
baz=174
I42A Draeger Farm, 65.52 346 P **P** **20 04 47.5 -0.7**
I42A IAmb IAmb 20 05 16.8
comp=Z,57nm,1.2s

GLMI Grayling 65.54 349 IAMs_20 IAMs_20 20 33 55.2
comp=Z,4µm,21.0s
LMN Caledonia Moun 65.58 5 P **P** **20 04 48.1 -0.3**
LMN IAmb IAmb 20 05 26.4
comp=Z,39nm,1.0s
LMN IAMs_20 IAMs_20 20 32 41.0
comp=Z,3µm,20.0s
X18A Snowflake 65.61 325 P **P** **20 04 50.6 +1.5**
X18A IAmb IAmb 20 05 37.6
comp=Z,53nm,1.6s
X18A IAMs_20 IAMs_20 20 31 43.2
comp=Z,4µm,21.0s
H45A Beulah 65.61 348 P **P** **20 04 47.8 -0.9**
baz=164
KSCO Kaye Shedlock' 65.65 333 P **P** **20 04 49.7 +0.4**
baz=147
KSCO Kaye Shedlock' 65.65 333 P **P** **20 04 51.4 +2.1**
F52A Sundridge 65.75 353 P **P** **20 04 49.3 -0.2**
baz=171,SNR=13
G47A Hillman 65.75 350 P **P** **20 04 48.9 -0.7**
baz=167,SNR=5.7
ALGO Algonquin Park 65.78 354 P **P** **20 04 49.7 -0.1**
baz=173,SNR=9.0
TRQ Mont Tremblant 65.81 357 P **P** **20 04 49.9 -0.1**
H43A Windswept, Lux 65.82 347 P **P** **20 04 49.4 -0.6**
H43A IAmb IAmb 20 05 17.5
comp=Z,106nm,1.5s
H43A IAMs_20 IAMs_20 20 33 55.2
comp=Z,5µm,21.0s
L34A Svendsen Farm, 65.85 339 P **P** **20 04 49.2 -1.1**
E60A Ste Agathe de 65.87 360 P **P** **20 04 50.5 +0.2**
baz=179,SNR=5.0
SDCO Great Sand Dun 65.89 330 P **P** **20 04 52.3 +1.2**
SDCO IAmb IAmb 20 05 22.1
comp=Z,54nm,1.2s
E58A La Victoria 65.91 358 P **P** **20 04 51.1 +0.5**
baz=178,SNR=9.5
E61A Lac Etchemin 65.93 0 P **P** **20 04 51.7 +1.0**
baz=180,SNR=9.3
I40A Norwalk 65.94 344 P **P** **20 04 50.3 -0.5**
I40A IAMs_20 IAMs_20 20 38 02.8
comp=Z,4µm,18.0s
G45A Suttons Bay 65.94 349 P **P** **20 04 49.6 -1.2**
baz=165
W18A Petrified Fore 65.94 326 P **P** **20 04 52.5 +1.2**
baz=140
W18A Petrified Fore 65.94 326 IAMs_20 IAMs_20 20 32 60.0
comp=Z,3µm,18.0s
F51A Arnstein 65.94 353 P **P** **20 04 50.5 -0.3**
baz=171,SNR=12
E63A Oxbow 65.95 2 P **P** **20 04 51.7 +0.8**
baz=182,SNR=5.4
E63A Oxbow 65.95 2 IAMs_20 IAMs_20 20 32 29.0
comp=Z,3µm,22.0s
BGNE Belgrade 65.97 338 P **P** **20 04 50.4 -0.7**
baz=152
BGNE Belgrade 65.97 338 P **P** **20 04 51.4 +0.2**
E64A Bridgewater 65.97 2 P **P** **20 04 51.5 +0.6**
baz=183,SNR=7.6
E57A Chemin Saint G 65.98 357 P **P** **20 04 51.4 +0.4**
baz=177,SNR=10.0
E59A St. Maurice 65.99 359 P **P** **20 04 51.5 +0.4**
baz=178
F49A Sandfield 66.05 351 P **P** **20 04 50.8 -0.7**
baz=168,SNR=5.3
G46A Petoskey 66.06 349 P **P** **20 04 50.5 -1.0**
baz=166
E55A Montcel-Lytto 66.12 356 P **P** **20 04 52.1 +0.2**
baz=175
E62A Clayton Lake 66.13 1 P **P** **20 04 52.9 +0.9**
baz=181,SNR=8.6
E62A Clayton Lake 66.13 1 P **P** **20 04 52.5 +0.5**
E62A IAmb IAmb 20 05 07.4
comp=Z,44nm,0.9s
E62A IAMs_20 IAMs_20 20 32 45.7
comp=Z,3µm,20.0s
E56A St. Veronique 66.15 357 P **P** **20 04 52.4 +0.3**
baz=176,SNR=16
E52A Mattawa 66.16 354 P **P** **20 04 52.1 -0.1**
baz=172,SNR=11
E53A Dumoine, Ponti 66.17 355 P **P** **20 04 52.2 -0.1**
baz=173,SNR=7.0
E54A Lac Daplat, Po 66.18 355 P **P** **20 04 52.5 +0.2**
baz=174,SNR=9.6
F48A Evansville 66.20 351 P **P** **20 04 51.7 -0.7**
baz=168,SNR=6.3
PQI Presque Isle 66.22 2 P **P** **20 04 53.2 +0.7**
PQI IAmb IAmb 20 04 54.7
comp=Z,86nm,1.4s
PQI IAMs_20 IAMs_20 20 32 35.9
comp=Z,3µm,22.0s
D60A Saint Jean D'O 66.41 360 P **P** **20 04 54.3 +0.6**
baz=180
113A Mohawk Valley, 66.47 321 P **P** **20 04 55.0 +0.6**
E51A G1948 Merrick 66.49 353 P **P** **20 04 54.5 +0.1**
baz=171,SNR=11
D59A Saint-Raymond 66.51 359 P **P** **20 04 54.8 +0.4**
baz=179
S22A 4UR Ranch, Cre 66.52 329 P **P** **20 04 56.0 +0.9**
baz=143
S22A 4UR Ranch, Cre 66.52 329 P **P** **20 04 56.3 +1.2**
E50A Wahnapitae 66.53 353 P **P** **20 04 54.5 0.0**
baz=170
F45A CMU Biological 66.53 349 P **P** **20 04 53.5 -1.0**
baz=165
D57A Chemin Vers le 66.57 358 P **P** **20 04 55.5 +0.7**
baz=177,SNR=19
D63A Stockholm 66.58 2 P **P** **20 04 55.6 +0.8**
baz=183,SNR=6.3
D62A Allapoint, All 66.60 1 P **P** **20 04 55.4 +0.5**
D62A IAmb IAmb 20 05 10.1
comp=Z,57nm,0.9s
D62A IAMs_20 IAMs_20 20 33 10.0
comp=Z,3µm,20.0s
D58A Chemin du LacG 66.62 358 P **P** **20 04 55.7 +0.6**
baz=178,SNR=17
D56A ZEC Mazanza, M 66.64 357 P **P** **20 04 55.5 +0.2**
baz=176,SNR=11
D55A Sainte-Anne-du 66.65 357 P **P** **20 04 55.5 +0.2**
baz=175,SNR=11
D61A St Aubert, Com 66.70 0 P **P** **20 04 56.2 +0.6**
baz=181
Q24A Divide 66.72 331 P **P** **20 04 56.6 +0.3**
baz=145
Q24A Divide 66.72 331 P **P** **20 04 56.9 +0.6**
Q24A IAMs_20 IAMs_20 20 36 16.8
comp=Z,2µm,21.0s
E48A Lockeyer 66.77 352 P **P** **20 04 55.8 -0.3**
baz=168,SNR=9.4
I37A Lemond, Waseca 66.80 342 P **P** **20 04 55.9 -0.5**
I37A IAMs_20 IAMs_20 20 37 37.6
comp=Z,3µm,20.0s
D52A ZEK Kipawa Sen 66.82 354 P **P** **20 04 56.8 +0.4**
baz=172,SNR=12
D54A Lac Fusel, La 66.86 356 P **P** **20 04 56.3 -0.4**
baz=174,SNR=7.3
D53A Lac Vacive, Po 66.86 355 P **P** **20 04 56.8 +0.1**
baz=173,SNR=8.8
D53A Lac Vacive, Po 66.86 355 P **P** **20 04 56.6 -0.1**
D53A IAMs_20 IAMs_20 20 38 38.8
comp=Z,3µm,18.0s
Y14A Wickenburg 66.86 323 P **P** **20 04 58.4 +1.3**
LATQ La Tuque 66.90 359 P **P** **20 04 56.4 -0.4**
baz=178
LATQ La Tuque 66.90 359 P **P** **20 04 57.1 +0.2**
LATQ IAmb IAmb 20 04 59.0
comp=Z,59nm,1.7s
E47A Iron Bridge 66.91 351 P **P** **20 04 56.5 -0.5**
baz=167,SNR=9.3
BATG Bathurst New B 66.91 4 P **P** **20 04 57.2 +0.2**
BATG IAmb IAmb 20 04 59.7
comp=Z,80nm,1.3s
BATG IAMs_20 IAMs_20 20 35 19.3
comp=Z,3µm,20.0s
MVCO Mesa Verde 66.91 328 P **P** **20 04 58.9 +1.4**
baz=141
MVCO Mesa Verde 66.91 328 P **P** **20 04 59.2 +1.7**
MVCO IAmb IAmb 20 05 28.7
comp=Z,51nm,1.2s
MVCO IAMs_20 IAMs_20 20 33 57.0
comp=Z,3µm,18.0s
E46A Sault Ste Mari 66.98 350 P **P** **20 04 56.5 -0.9**
E46A IAmb IAmb 20 05 09.4
comp=Z,76nm,1.5s
D51A Lot 18 Range I 67.03 354 P **P** **20 04 57.6 -0.1**
baz=171,SNR=8.5
WUAZ Wupatki 67.12 325 P **P** **20 05 00.2 +1.4**

baz=138
WUAZ Wupatki 67.12 325 P **P** **20 05 00.9 +2.1**
WUAZ IAmb IAmb 20 05 14.6
comp=Z,72nm,1.5s
WUAZ IAMs_20 IAMs_20 20 32 39.2
comp=Z,3µm,20.0s
F42A Maple Grove Fa 67.12 347 P **P** **20 04 59.0 +0.6**
F42A IAMs_20 IAMs_20 20 34 35.1
comp=Z,4µm,22.0s
G40A Rib Lake 67.12 345 P **P** **20 04 58.4 0.0**
G40A IAMs_20 IAMs_20 20 35 40.2
comp=Z,4µm,20.0s
D50A G1974 Best Tow 67.16 353 P **P** **20 04 58.5 -0.1**
baz=171,SNR=18
K31A O'Neill 67.25 338 P **P** **20 05 00.1 +0.8**
GLA Glamis 67.30 321 P **P** **20 05 00.8 +1.0**
baz=135
GLA Glamis 67.30 321 P **P** **20 05 00.6 +0.8**
GLA pmax pmax
comp=Z,125nm,1.9s
GLA Glamis 67.30 321 P **P** **20 05 00.6 +0.8**
GLA IAmb IAmb 20 05 14.6
comp=Z,125nm,1.9s
D48A Paudash Townsh 67.40 352 P **P** **20 04 59.5 -0.6**
baz=169,SNR=6.9
D49A Beulah Townshi 67.44 352 P **P** **20 04 60.0 -0.4**
baz=169
D46A Sault St. Mari 67.45 350 P **P** **20 04 59.2 -1.2**
baz=167
D47A Chapleau 67.47 351 P **P** **20 04 59.8 -0.7**
baz=168,SNR=7.2
E43A Lone Tree Farm 67.48 348 P **P** **20 04 59.3 -1.3**
E43A IAMs_20 IAMs_20 20 36 25.5
comp=Z,3µm,19.0s
ECSD EROS Data Cent 67.51 340 P **P** **20 05 00.8 -0.1**
baz=154,SNR=13
ECSD EROS Data Cent 67.51 340 P **P** **20 05 01.1 +0.2**
ECSD EROS Data Cent 67.51 340 IAMs_20 IAMs_20 20 36 19.6
comp=Z,2µm,20.0s
ISCO Idaho Springs 67.61 332 P **P** **20 05 02.8 +0.8**
baz=145
ISCO Idaho Springs 67.61 332 P **P** **20 05 03.3 +1.3**
ISCO pmax pmax
comp=Z,23nm,1.1s
ISCO MLR MLR
comp=Z,2µm,21.0s
ISCO Idaho Springs 67.61 332 P **P** **20 05 03.3 +1.3**
TAOE Nuku Hiva Isla 67.66 268 *e*S **S** **20 13 53.6 -6.3**
comp=Z,5µm,26.5s
TAOE Nuku Hiva Isla 67.66 268 *e*LR LR 20 25 19.4
comp=Z,3µm,24.0s,baz=108
COWI Conover 67.67 346 P **P** **20 05 01.4 -0.4**
COWI IAmb IAmb 20 05 20.5
comp=Z,50nm,1.4s
PV01 Paradox Valley 67.67 329 P **P** **20 05 04.4 +2.1**
PV01 IAmb IAmb 20 05 33.0
comp=Z,37nm,1.1s
PV01 IAMs_20 IAMs_20 20 39 24.0
comp=Z,3µm,19.0s
SPMN Marine on St. 67.75 343 P **P** **20 05 01.8 -0.5**
baz=158
SPMN Marine on St. 67.75 343 P **P** **20 05 01.2 -1.1**
SPMN IAMs_20 IAMs_20 20 39 57.7
comp=Z,3µm,18.0s
PDMCI Parker Dam,Lak 67.78 322 P **P** **20 05 04.6 +1.8**
baz=136
PV15 Paradox Valley 67.79 329 P **P** **20 05 03.9 +0.9**
PV15 IAMs_20 IAMs_20 20 34 55.2
comp=Z,3µm,19.0s
IKP In-Ko-Pah, Jac 67.79 320 P **P** **20 05 05.4 +2.4**
baz=134,SNR=5.9
SWSC Sam W. Stewart 67.80 320 P **P** **20 05 04.9 +1.9**
baz=134
PV02 Paradox Valley 67.81 328 P **P** **20 05 04.1 +0.9**
PV02 IAmb IAmb 20 05 17.6
comp=Z,40nm,1.1s
PV13 Radium Mtn., P 67.81 328 P **P** **20 05 04.0 +0.9**
PV13 IAmb IAmb 20 05 34.3
comp=Z,66nm,1.5s
PV13 IAMs_20 IAMs_20 20 39 15.5
comp=Z,2µm,18.0s
VLDQ Val d'Or 67.87 355 P **P** **20 05 03.4 +0.4**
VLDQ IAmb IAmb 20 05 15.3
comp=Z,75nm,1.4s
VLDQ IAMs_20 IAMs_20 20 35 51.4
comp=Z,3µm,20.0s
PV05 Paradox Valley 67.89 328 P **P** **20 05 04.5 +0.9**
PV05 IAmb IAmb 20 05 16.9
comp=Z,80nm,1.6s
PV03 Paradox Valley 67.90 328 P **P** **20 05 04.7 +1.0**
PV03 IAmb IAmb 20 05 18.0
comp=Z,88nm,1.8s
PV03 IAMs_20 IAMs_20 20 35 13.1
comp=Z,3µm,18.0s
PV18 Skein Mesa, Pa 67.92 328 P **P** **20 05 04.4 +0.6**
PV18 IAmb IAmb 20 05 18.2
comp=Z,65nm,1.6s
PV18 IAMs_20 IAMs_20 20 35 22.8
comp=Z,3µm,18.0s
PV07 Paradox Valley 67.94 329 P **P** **20 05 05.0 +1.0**
PV07 IAmb IAmb 20 05 18.5
comp=Z,116nm,1.8s
PV11 David Mesa, Pa 67.94 328 P **P** **20 05 05.0 +1.0**
PV11 IAmb IAmb 20 05 34.4
comp=Z,38nm,1.1s
PV17 East Wray Mesa 67.97 328 P **P** **20 05 04.2 0.0**
PV17 IAmb IAmb 20 05 16.9
comp=Z,31nm,0.7s
PV19 Morning Glory 68.01 328 P **P** **20 05 03.8 -0.6**
PV19 IAMs_20 IAMs_20 20 35 08.0
comp=Z,3µm,18.0s
PV20 West Nyswonger 68.02 328 P **P** **20 05 02.0 -2.5**
PV20 IAMs_20 IAMs_20 20 35 09.5
comp=Z,3µm,18.0s
PV04 Paradox Valley 68.03 328 P **P** **20 05 05.3 +0.8**
PV04 IAmb IAmb 20 05 19.1
comp=Z,93nm,1.8s
PV10 Paradox Valley 68.09 328 P **P** **20 05 03.6 -1.4**
PV10 IAmb IAmb 20 05 19.6
comp=Z,124nm,1.8s
PV22 Blue Mesa, Par 68.09 329 P **P** **20 05 04.9 0.0**
PV22 IAMs_20 IAMs_20 20 35 00.1
comp=Z,3µm,18.0s
BC3 Big Chuckawall 68.09 321 P **P** **20 05 07.4 +2.5**
baz=135,SNR=11
PV23 Carpenter Ridg 68.13 328 IAMs_20 IAMs_20 20 35 02.3
comp=Z,4µm,18.0s
MONP2 Monument Peak 68.14 320 P **P** **20 05 07.8 +2.4**
baz=134,SNR=9.6
BAR Barrett 68.15 319 P **P** **20 05 06.5 +1.3**
BAR IAmb IAmb 20 05 19.3
comp=Z,42nm,1.2s
PV21 Cone Mtn., Par 68.20 329 P **P** **20 05 06.0 +0.3**
PV21 IAmb IAmb 20 05 20.0
comp=Z,125nm,1.9s
W13A Hualapai Mount 68.20 323 P **P** **20 05 06.2 +0.5**
W13A IAmb IAmb 20 05 18.6
comp=Z,83nm,1.9s
PV09 Paradox Valley 68.23 328 P **P** **20 05 06.4 +0.5**
IRM Iron Mountain 68.26 321 P **P** **20 05 08.5 +2.6**
baz=135,SNR=13
U15A North Rim 68.29 325 P **P** **20 05 08.3 +2.0**
U15A IAmb IAmb 20 05 23.4
comp=Z,121nm,1.7s
U15A IAMs_20 IAMs_20 20 33 16.2
comp=Z,3µm,20.0s
NEE2 Needles Airpor 68.39 322 P **P** **20 05 08.8 +2.2**
baz=136
D41A Chassel 68.45 347 IAMs_20 IAMs_20 20 35 36.3
comp=Z,4µm,21.0s
F36A Milaca 68.53 343 P **P** **20 05 06.6 -0.6**
F36A IAMs_20 IAMs_20 20 39 41.4
comp=Z,3µm,18.0s
109C Camp Elliot, M 68.56 319 P **P** **20 05 08.7 +1.0**
baz=133
109C Camp Elliot, M 68.56 319 P **P** **20 05 07.3 -0.4**
109C IAmb IAmb 20 05 22.4
comp=Z,120nm,1.9s
N23A Red Feather La 68.64 332 P **P** **20 05 09.3 +0.8**
baz=145
N23A Red Feather La 68.64 332 P **P** **20 05 08.6 +0.2**
BELC Belle Mtn. Jos 68.66 321 P **P** **20 05 09.4 +0.9**
baz=134
XPFO Pion Flat 68.66 320 P **P** **20 05 09.0 +0.5**
XPFO IAmb IAmb 20 05 20.4
comp=Z,51nm,1.5s

PFO Pinyon Flats O 68.66 320 P **P** **20 05 11.2 +2.7**
baz=134,SNR=6.9
PFO Pinyon Flats O 68.66 320 *ce*P **P** **20 05 09.3 +0.8**
comp=Z,7.2nm,0.8s,baz=122,slow=3.9,SNR=10
PFO Pinyon Flats O 68.66 320 *ce*P **P** **20 05 11.0 +2.5**
PFO pmax pmax
comp=Z,61nm,1.6s
PFO Pinyon Flats O 68.66 320 P **P** **20 05 09.0 +0.5**
PFO IAmb IAmb 20 05 20.4
comp=Z,51nm,1.5s
PHWY Pilot Hill 68.76 333 P **P** **20 05 09.6 +0.4**
PHWY IAmb IAmb 20 05 23.9
comp=Z,98nm,1.6s
LSQQ Lebel-sur-Quev 68.78 356 P **P** **20 05 08.5 -0.1**
baz=174
SUSD Miller 68.92 339 P **P** **20 05 09.1 -0.6**
baz=152
SUSD Miller 68.92 339 P **P** **20 05 09.7 -0.1**
SUSD IAMs_20 IAMs_20 20 41 09.9
comp=Z,2µm,19.0s
GMRC Granite Mounta 69.00 322 P **P** **20 05 13.1 +2.4**
baz=135,SNR=14
KNB Kanab 69.01 325 P **P** **20 05 12.6 +1.9**
KNB pmax pmax
comp=Z,280nm,1.7s
KNB Kanab 69.01 325 P **P** **20 05 12.6 +1.9**
NVL N'lazarevskaya 69.04 159 *e*P **P** **20 05 11.1 +0.9**
NVL *e*PPP PPP 20 09 28.3
NVL / S **S** **20 14 15.0 +0.6**
NVL *e*SSS SSS 20 21 57.8
NVL pmax pmax
comp=Z,103nm,1.3s
PKCU Pink Cliffs 69.06 326 P **P** **20 05 11.8 +0.6**
O20A White River Ci 69.08 330 P **P** **20 05 12.4 +1.4**
baz=142
O20A White River Ci 69.08 330 P **P** **20 05 11.1 0.0**
MURC Murrieta 69.10 320 P **P** **20 05 13.6 +2.5**
baz=133
LCMT Little Creek M 69.24 325 P **P** **20 05 13.1 +1.1**
F33A 5 Mile Ranch, 69.31 341 P **P** **20 05 11.9 -0.1**
F33A IAmb IAmb 20 05 53.0
comp=Z,57nm,1.6s
F33A IAMs_20 IAMs_20 20 39 20.1
comp=Z,2µm,20.0s
BBRC Big Bear Solar 69.39 320 P **P** **20 05 16.3 +3.1**
baz=134
HEC Hector,Ludlow 69.43 321 P **P** **20 05 15.8 +2.6**
baz=134,SNR=12
MTPU Mount Pierson 69.43 326 P **P** **20 05 14.7 +1.2**
CHGQ Chibougamau 69.48 358 P **P** **20 05 13.0 -0.1**
baz=176,SNR=7.5
MATQ Matagami 69.52 355 P **P** **20 05 12.9 -0.4**
baz=173,SNR=5.9
Q16A Castle Valley 69.57 327 P **P** **20 05 15.8 +1.7**
SZCU Shurtz Canyon 69.58 325 P **P** **20 05 16.2 +2.0**
TUQ Turquoise Moun 69.61 322 P **P** **20 05 14.7 +0.3**
baz=135
LIC Lamto 69.67 75 *e*PKP1 **P** **20 05 14.9 -0.1**
comp=Z,147nm,1.9s
CCUT Cedar City 69.70 325 P **P** **20 05 17.2 +2.2**
DRLN Deer Lake 69.77 9 P **P** **20 05 14.8 0.0**
DRLN IAMs_20 IAMs_20 20 36 53.1
comp=Z,2µm,20.0s
P17A Butcher Ranch, 69.78 328 P **P** **20 05 16.2 +0.8**
MSU Marysvale 69.78 326 P **P** **20 05 17.0 +1.5**
MSU Marysvale 69.78 326 P **P** **20 05 17.0 +1.5**
BFSC Mount Baldy Ra 69.82 320 P **P** **20 05 17.4 +1.7**
baz=133
RWWY Rawlins 69.85 332 P **P** **20 05 16.2 +0.3**
RWWY IAmb IAmb 20 05 29.2
comp=Z,61nm,1.2s
RWWY IAMs_20 IAMs_20 20 35 42.6
comp=Z,2µm,19.0s
TIC Toumodi 69.85 75 *e*PKP1 **P** **20 05 15.0 -1.1**
FMP Fort Macarthur 69.85 319 P **P** **20 05 18.2 +2.6**
baz=132
RRX Edison Barstow 69.86 321 P **P** **20 05 18.8 +3.1**
baz=134
TMUT Trail Mountain 69.88 328 P **P** **20 05 15.9 -0.3**
SHPR Sheep Range 69.93 323 P **P** **20 05 17.9 +1.6**
EYMN Ely 69.95 345 P **P** **20 05 15.5 -0.5**
baz=159
EYMN Ely 69.95 345 IAMs_20 IAMs_20 20 36 53.9
comp=Z,3µm,22.0s
KIC Kosan Boka 69.99 75 *e*PKP1 **P** **20 05 15.7 -1.3**
comp=Z,514nm,1.9s
TCRU Three Creeks R 69.99 326 P **P** **20 05 17.8 +1.0**
DBIC Dimbokro 70.01 75 P **P** **20 05 15.9 -1.1**
comp=Z,34nm,1.0s,baz=215,slow=5.1,SNR=11
DBIC LR LR 20 34 28.8
comp=Z,8µm,20.4s,baz=226,slow=35
DBIC Dimbokro 70.01 75 P **P** **20 05 16.0 -1.1**
DBIC Dimbokro 70.01 75 P **P** **20 05 15.8 -1.3**
DBIC IAmb IAmb 20 05 18.2
comp=Z,105nm,1.3s
GSC Goldstone, Bar 70.04 321 P **P** **20 05 19.4 +2.4**
baz=134,SNR=12
GSC Goldstone, Bar 70.04 321 P **P** **20 05 18.6 +1.7**
GSC pmax pmax
comp=Z,87nm,1.7s
GSC MLR MLR
comp=Z,2µm,21.0s
GSC Goldstone, Bar 70.04 321 P **P** **20 05 18.6 +1.7**
GSC IAmb IAmb 20 05 32.1
comp=Z,87nm,1.7s
MWC Mount Wilson 70.05 320 P **P** **20 05 18.5 +1.3**
MWC pmax pmax
comp=Z,61nm,1.4s
MWC MLR MLR
comp=Z,1µm,20.0s
MWC Mount Wilson 70.05 320 P **P** **20 05 18.5 +1.3**
MWC IAmb IAmb 20 05 32.0
comp=Z,61nm,1.4s
RDMU Red Mountain 70.05 330 P **P** **20 05 17.4 +0.3**
PASC Pasadena Art C 70.09 320 P **P** **20 05 19.6 +2.4**
PASC IAmb IAmb 20 05 32.2
comp=Z,75nm,1.4s
SHOC Shoshone, Teco 70.14 322 P **P** **20 05 18.9 +1.5**
baz=135
DECC Green Verdugo 70.24 320 P **P** **20 05 19.6 +1.5**
baz=133
SNCC San Nicolas Is 70.31 318 P **P** **20 05 19.7 +1.1**
baz=132
K22A Casper 70.32 333 P **P** **20 05 19.4 +0.8**
baz=144
K22A Casper 70.32 333 IAMs_20 IAMs_20 20 37 45.3
comp=Z,2µm,19.0s
QSPA South Pole Qui 70.37 180 P **P** **20 05 20.2 +1.6**
QSPA IAmb IAmb 20 05 33.3
comp=Z,94nm,1.4s
QSPA South Pole Qui 70.37 180 IAMs_20 IAMs_20 20 38 14.0
comp=Z,3µm,20.0s
EDW2 Edwards Air Fo 70.46 320 P **P** **20 05 21.7 +2.2**
baz=133,SNR=6.4
RSSD Black Hills 70.51 335 P **P** **20 05 20.5 +0.7**
baz=147
RSSD Black Hills 70.51 335 P **P** **20 05 20.5 +0.7**
RSSD pmax pmax
comp=Z,124nm,2.0s
RSSD MLR MLR
comp=Z,2µm,19.0s
RSSD Black Hills 70.51 335 P **P** **20 05 20.5 +0.7**
RSSD IAmb IAmb 20 05 33.7
comp=Z,124nm,2.0s
RSSD Black Hills 70.51 335 IAMs_20 IAMs_20 20 39 30.1
comp=Z,2µm,19.0s
MPU Maple Canyon 70.63 328 P **P** **20 05 21.3 +0.7**
LRMC Laurel Mtn Rad 70.68 321 P **P** **20 05 22.7 +1.8**
baz=133
PSUT Pine Spring 70.68 325 P **P** **20 05 21.8 +0.8**
D32A Dogwood Acres, 70.69 341 P **P** **20 05 20.3 -0.2**
D32A IAmb IAmb 20 05 33.0
comp=Z,109nm,1.5s
D32A IAMs_20 IAMs_20 20 40 09.7
comp=Z,2µm,18.0s
OSI Osito Audit: C 70.72 320 P **P** **20 05 23.1 +2.0**
baz=132
OSI Osito Audit: C 70.72 320 P **P** **20 05 22.9 +1.8**
OSI IAmb IAmb 20 05 35.8
comp=Z,147nm,1.9s
NLU North Lily Min 70.81 328 P **P** **20 05 23.5 +1.7**
TPNV Topopah Spring 70.86 323 P **P** **20 05 24.1 +2.1**
baz=135,SNR=23
TPNV Topopah Spring 70.86 323 P **P** **20 05 23.4 +1.4**
TPNV pmax pmax
comp=Z,45nm,1.1s
TPNV MLR MLR
comp=Z,2µm,18.0s
TPNV Topopah Spring 70.86 323 P **P** **20 05 23.4 +1.4**
TPNV IAmb IAmb 20 06 04.8
comp=Z,45nm,1.1s
SCZ2 Santa Cruz Isl 70.87 319 P **P** **20 05 23.9 +2.0**
baz=132
FURC Furnace Creek, 70.88 322 P **P** **20 05 23.9 +2.0**
baz=134
B35A Bob, Littlefor 70.89 344 P **P** **20 05 21.0 -0.7**
B35A IAMs_20 IAMs_20 20 37 59.8
comp=Z,4µm,20.0s
MPMC Manual Prospec 70.96 321 P **P** **20 05 24.9 +2.2**
baz=134,SNR=11
MACI Morro de la Ar 70.99 49 P **P** **20 05 23.5 +0.5**
JLU Jordanelle 70.99 328 P **P** **20 05 24.7 +1.9**
ARVC Arvin 71.13 320 P **P** **20 05 25.9 +2.4**
baz=132
SBC Santa Barbara 71.21 319 P **P** **20 05 24.5 +0.5**
baz=132
ISA Isabella, Lake 71.28 321 P **P** **20 05 25.1 +0.6**
baz=133
ISA Isabella, Lake 71.28 321 P **P** **20 05 26.7 +2.2**
ISA pmax pmax
comp=Z,38nm,1.2s
ISA MLR MLR
comp=Z,2µm,18.0s
ISA Isabella, Lake 71.28 321 P **P** **20 05 26.7 +2.2**
TCUT Toone Canyon 71.36 329 P **P** **20 05 26.0 +0.9**
DUG Dugway, Tooele 71.36 327 P **P** **20 05 27.0 +2.0**
baz=138,SNR=11
DUG Dugway, Tooele 71.36 327 P **P** **20 05 25.3 +0.3**
DUG pmax pmax
comp=Z,46nm,1.2s
DUG MLR MLR
comp=Z,2µm,19.0s
DUG Dugway, Tooele 71.36 327 P **P** **20 05 25.3 +0.3**
DUG IAmb IAmb 20 05 56.0
comp=Z,46nm,1.1s
DUG IAMs_20 IAMs_20 20 37 51.6
comp=Z,2µm,19.0s
E28A Huff 71.38 339 P **P** **20 05 25.1 +0.3**
E28A IAMs_20 IAMs_20 20 41 58.9
comp=Z,2µm,18.0s
AGMN Agassiz Nation 71.41 343 P **P** **20 05 24.1 -0.7**
baz=155
AGMN Agassiz Nation 71.41 343 P **P** **20 05 24.9 0.0**
R11A Troy Canyon, C 71.48 324 P **P** **20 05 28.1 +2.3**
baz=136,SNR=32
R11A Troy Canyon, C 71.48 324 P **P** **20 05 27.1 +1.3**
R11A IAMs_20 IAMs_20 20 38 13.8
comp=Z,2µm,19.0s
GRAC Grapevine Rang 71.54 322 P **P** **20 05 28.6 +2.6**
baz=134
CWC Cottonwood Cre 71.57 321 P **P** **20 05 28.8 +2.4**
baz=133
PKM Mcpherson Peak 71.57 319 P **P** **20 05 27.9 +1.5**
baz=132,SNR=6.8
BW06 Boulder Array 71.76 331 P **P** **20 05 28.1 +0.7**
baz=142
BW06 Boulder Array 71.76 331 P **P** **20 05 28.0 +0.5**
BW06 IAMs_20 IAMs_20 20 42 46.3
comp=Z,2µm,18.0s
PD31 Pinedale Array 71.76 331 P **P** **20 05 27.7 +0.3**
PDAR Pinedale Array 71.76 331 P **P** **20 05 28.1 +0.6**
comp=Z,2.9nm,0.7s,baz=116,slow=6.8,SNR=5.6
PDAR LR LR 20 38 16.0
comp=Z,2µm,18.4s,baz=126,slow=37
PDAR Pinedale Array 71.76 331 P **P** **20 05 27.9 +0.4**
VES Vestal, Richgr 71.76 320 P **P** **20 05 29.0 +1.8**
baz=132
HWUT Hardware Ranch 71.81 329 P **P** **20 05 27.9 +0.2**
HWUT IAMs_20 IAMs_20 20 38 02.7
comp=Z,3µm,19.0s
SMMC Simmler 71.96 319 P **P** **20 05 31.1 +2.5**
baz=132
SPUT South Promonto 72.02 328 P **P** **20 05 30.1 +1.2**
BGU Big Grassy Mou 72.02 328 P **P** **20 05 29.6 +0.6**
TIN Tinemaha, Big 72.08 322 P **P** **20 05 31.3 +2.0**
baz=133
MDND Maddock 72.13 340 P **P** **20 05 29.6 +0.4**
baz=152
MDND Maddock 72.13 340 P **P** **20 05 29.9 +0.7**
VOG Valley Oaks Go 72.26 321 P **P** **20 05 30.3 +0.1**
baz=132
TBI Tubuai 72.34 251 *e*S **S** **20 14 48.4 -6.0**
comp=Z,2µm,26.5s
TBI Tubuai 72.34 251 *e*LR LR 20 27 31.1
comp=Z,9µm,26.5s,baz=104
PAGB Antelope Grade 72.39 320 P **P** **20 05 31.5 +0.4**
PAGB IAmb IAmb 20 05 45.5
comp=Z,49nm,1.2s
AHID Auburn Hatcher 72.47 330 P **P** **20 05 32.7 +1.1**
AHID IAMs_20 IAMs_20 20 38 17.2
comp=Z,2µm,18.0s
HVU Hansel Valley 72.53 328 P **P** **20 05 34.2 +2.2**
HVU pmax pmax
comp=Z,61nm,1.4s
HVU Hansel Valley 72.53 328 P **P** **20 05 34.2 +2.2**
REDW Red Top Meadow 72.82 331 P **P** **20 05 33.1 -0.7**
SNOW Snow King Moun 72.85 331 P **P** **20 05 33.7 -0.3**
OMMB Old Mammoth Mi 72.91 322 P **P** **20 05 35.0 +0.5**
OMMB IAmb IAmb 20 05 48.5
comp=Z,54nm,1.2s
TPAW Teton Pass 72.96 331 P **P** **20 05 36.1 +1.4**
TPAW IAMs_20 IAMs_20 20 39 40.5
comp=Z,2µm,18.0s
MDPB Devils Postpil 72.97 322 P **P** **20 05 35.3 +0.6**
NV11 Mina Array Sit 72.98 323 P **P** **20 05 37.1 +2.3**
ELK Elko 73.02 326 P **P** **20 05 36.2 +1.3**
comp=Z,4.1nm,0.8s,baz=301,slow=2.2,SNR=13
ELK Elko 73.02 326 P **P** **20 05 36.3 +1.3**
ELK pmax pmax
comp=Z,20nm,1.1s
ELK MLR MLR
comp=Z,2µm,18.0s
ELK Elko 73.02 326 P **P** **20 05 36.3 +1.3**
ELK IAMs_20 IAMs_20 20 38 11.5
comp=Z,3µm,18.0s
PMPB Monarch Peak 73.05 320 P **P** **20 05 37.3 +2.2**
PMPB IAmb IAmb 20 05 50.1
comp=Z,85nm,1.2s
PMPB IAMs_20 IAMs_20 20 37 11.2
comp=Z,2µm,18.0s
NVAR Mina Array Bea 73.06 323 P **P** **20 05 37.1 +1.9**
comp=Z,4.8nm,0.8s,baz=152,slow=6.3,SNR=31
NVAR LR LR 20 35 10.1
comp=Z,1µm,21.2s,baz=119,slow=34
NVAR Mina Array Bea 73.06 323 P **P** **20 05 36.4 +1.1**
FXWY Fox Creek 73.11 331 P **P** **20 05 36.9 +1.4**
ULM Lac du Bonnet 73.18 344 P **P** **20 05 35.5 +0.1**
comp=Z,8.9nm,0.9s,baz=155,slow=5.3,SNR=8.5
ULM LR LR 20 39 42.2
comp=Z,3µm,21.3s,baz=138,slow=38
ULM Lac du Bonnet 73.18 344 *e*P **P** **20 05 35.8 +0.4**
ULM Lac du Bonnet 73.18 344 P **P** **20 05 35.0 -0.4**
ULM IAmb IAmb 20 05 48.5
comp=Z,82nm,1.4s
ULM IAMs_20 IAMs_20 20 39 30.6
comp=Z,4µm,21.0s
PMOZ Porto Moniz, M 73.24 45 *e*LR LR 20 28 42.0
comp=Z,2µm,18.0s
IMW Indian Meadow 73.27 331 P **P** **20 05 37.1 +0.6**
IMW IAmb IAmb 20 05 51.7
comp=Z,139nm,1.7s
FLWY Flagg Ranch 73.31 331 P **P** **20 05 38.4 +1.8**
RYN Ryan 73.32 323 P **P** **20 05 38.1 +1.3**
KVN Kaiserville 73.38 323 P **P** **20 05 37.9 +0.8**
KVN pmax pmax
comp=Z,34nm,1.2s
KVN MLR MLR
comp=Z,2µm,22.0s
KVN Kaiserville 73.38 323 P **P** **20 05 37.9 +0.8**
RLMT Red Lodge 73.49 333 P **P** **20 05 38.9 +1.2**
baz=142
RLMT Red Lodge 73.49 333 P **P** **20 05 39.9 +2.3**
RLMT IAmb IAmb 20 05 52.0
comp=Z,158nm,1.8s
RLMT IAMs_20 IAMs_20 20 38 22.0
comp=Z,2µm,20.0s
H17A Grant Village 73.50 331 P **P** **20 05 39.9 +2.2**
baz=141
LAO LASA Array 73.50 335 P **P** **20 05 38.2 +0.7**
baz=145
LAO LASA Array 73.50 335 IAMs_20 IAMs_20 20 41 04.2
comp=Z,2µm,20.0s

YPP Pitchstone Pla 73.50 331 P P 20 05 38.1 +0.3
YNE Yellowstone No 73.72 332 P P 20 05 40.3 +1.2
WAKR Walker 73.76 322 P P 20 05 41.4 +2.0
YMR Madison River 73.88 331 P P 20 05 41.2 +1.2
YHH Holmes Hill 73.92 332 P P 20 05 42.3 +2.0
PPT2 Papeete2 73.95 257 eS SKiKP 20 15 06.4 -3.1
comp=Z,3μm,25.0s
PPT2 Papeete2 73.95 257 eLR LR 20 28 13.6
comp=Z,7μm,24.2s,baz=109
PPT Papeete 73.95 257 LR LR 20 30 04.1
comp=Z,2μm,21.3s,baz=108,slow=29
YERR Yerington 73.98 323 P P 20 05 42.2 +1.6
YERR IAmb IAmb 20 05 55.7
comp=Z,78nm,1.5s
CMB Columbia Colle 74.00 321 P P 20 05 42.4 +1.8
CMB pmax pmax
comp=Z,24nm,1.3s
CMB MLR MLR
comp=Z,1μm,18.0s
CMB Columbia Colle 74.00 321 P P 20 05 42.4 +1.8
YHB Horse Butte 74.05 331 P P 20 05 42.2 +1.2
YHL Hebgen Lake 74.12 331 P P 20 05 43.7 +2.3
QLMT Earthquake Lak 74.22 331 P P 20 05 42.6 +0.6
DGMT Dagmar 74.22 338 P P 20 05 42.9 +1.3
baz=148
DGMT Dagmar 74.22 338 P P 20 05 42.6 +0.9
DGMT IAmb IAmb 20 05 56.5
comp=Z,121nm,1.4s
DGMT Dagmar 74.22 338 IAMs_20 IAMs_20 20 41 33.3
comp=Z,2μm,20.0s
PNTR Pine Nut 74.25 323 P P 20 05 41.5 -0.8
SCHQ Schefferville 74.42 2 P P 20 05 42.6 0.0
comp=Z,9.9nm,1.0s,baz=181,slow=7.4,SNR=6.2
SCHQ LR LR 20 40 40.9
comp=Z,2μm,19.3s,baz=194,slow=38
SCHQ Schefferville 74.42 2 P P 20 05 42.0 -0.6
SCHQ IAMs_20 IAMs_20 20 43 02.9
comp=Z,2μm,20.0s
VCNR Virginia City 74.42 323 P P 20 05 45.0 +1.7
RUBR Rubicon Trail 74.55 322 IAMs_20 IAMs_20 20 41 54.8
comp=Z,2μm,18.0s
PAHR Pah Rah Range 74.55 323 P P 20 05 45.4 +1.5
PAHR IAmb IAmb 20 05 58.2
comp=Z,73nm,1.1s
HLID Hailey 74.67 329 P P 20 05 46.3 +1.8
baz=138
HLID Hailey 74.67 329 P P 20 05 45.5 +1.0
HLID IAmb IAmb 20 05 58.6
comp=Z,60nm,1.2s
HLID IAMs_20 IAMs_20 20 40 05.3
comp=Z,2μm,18.0s
MCMT McKenzie Canyo 74.87 330 P P 20 05 45.6 -0.2
BOZ Bozeman (W) 74.90 332 P P 20 05 46.9 +1.1
baz=140
BOZ Bozeman (W) 74.90 332 P P 20 05 47.1 +1.3
BOZ pmax pmax
comp=Z,128nm,1.8s
BOZ MLR MLR
comp=Z,2μm,20.0s
BOZ Bozeman (W) 74.90 332 P P 20 05 47.1 +1.3
BOZ IAmb IAmb 20 06 00.1
comp=Z,128nm,1.8s
BOZ IAMs_20 IAMs_20 20 39 37.3
comp=Z,2μm,20.0s
AFDM Forest Hills D 74.95 322 P P 20 05 47.7 +1.6
DLMT Dillon 75.16 331 P P 20 05 48.8 +1.5
DLMT IAmb IAmb 20 06 01.7
comp=Z,73nm,1.4s
DLMT IAMs_20 IAMs_20 20 39 52.5
comp=Z,3μm,20.0s
MFID Camas Ranch 75.26 328 P P 20 05 49.8 +1.9
MFID IAmb IAmb 20 06 02.8
comp=Z,139nm,1.6s
MFID IAMs_20 IAMs_20 20 40 32.7
comp=Z,2μm,19.0s
LRM Limekiln Ridge 75.44 331 P P 20 05 50.7 +1.7
ORV Oroville 75.66 322 P P 20 05 51.9 +1.8
ORV pmax pmax
comp=Z,92nm,1.3s
ORV MLR MLR
comp=Z,1μm,19.0s
ORV Oroville 75.66 322 P P 20 05 51.9 +1.8
ORV IAmb IAmb 20 06 04.3
comp=Z,92nm,1.2s
EGMT Eagleton 75.99 334 P P 20 05 52.7 +0.8
baz=142
EGMT Eagleton 75.99 334 P P 20 05 51.6 -0.4
EGMT IAmb IAmb 20 06 04.9
comp=Z,91nm,1.2s
EGMT IAMs_20 IAMs_20 20 41 17.1
comp=Z,3μm,20.0s
WVOR Wild Horse Val 76.01 326 P P 20 05 54.0 +1.8
WVOR pmax pmax
comp=Z,14nm,1.1s
WVOR MLR MLR
comp=Z,2μm,20.0s
WVOR Wild Horse Val 76.01 326 P P 20 05 54.0 +1.8
WVOR IAMs_20 IAMs_20 20 38 15.7
comp=Z,2μm,20.0s
O03E Paynes Creek 76.32 322 P P 20 05 54.8 +0.8
baz=131,SNR=13
MOD Modoc Plateau 76.55 324 P P 20 05 57.0 +1.7
J08A Circle Bar Ran 76.57 326 P P 20 05 56.4 +1.1
J08A IAMs_20 IAMs_20 20 42 21.5
comp=Z,2μm,18.0s
O02D Mt. Diablo Mer 76.82 322 P P 20 05 57.2 +0.5
baz=130
MSO Missoula 76.88 331 P P 20 05 58.3 +1.3
baz=139
MSO Missoula 76.88 331 P P 20 05 57.6 +0.6
MSO IAmb IAmb 20 06 11.0
comp=Z,55nm,1.2s
MSO IAMs_20 IAMs_20 20 41 04.1
comp=Z,2μm,20.0s
WDC Whiskeytown Da 76.93 322 P P 20 05 57.3 0.0
WDC pmax pmax
comp=Z,18nm,1.0s
WDC MLR MLR
comp=Z,900nm,20.0s
WDC Whiskeytown Da 76.93 322 P P 20 05 57.3 0.0
BMO Blue Mountains 77.03 328 P P 20 05 59.3 +1.4
BMO pmax pmax
comp=Z,118nm,1.8s
BMO MLR MLR
comp=Z,2μm,18.0s
BMO Blue Mountains 77.03 328 P P 20 05 59.3 +1.4
BMO IAmb IAmb 20 06 13.0
comp=Z,118nm,1.8s
BMO IAMs_20 IAMs_20 20 39 56.6
comp=Z,2μm,18.0s
N02D Trinity Center 77.28 322 P P 20 05 59.9 +0.5
baz=131,SNR=7.5
M04C Macdoel 77.32 323 P P 20 06 00.3 +0.6
baz=132,SNR=12
KMRM Mail Ridge 77.39 321 IAMs_20 IAMs_20 20 42 09.6
comp=Z,2μm,18.0s
K05A Summer Lake 77.43 325 P P 20 06 02.1 +1.8
K05A IAMs_20 IAMs_20 20 43 52.1
comp=Z,2μm,20.0s
I07A Izee 77.61 326 P P 20 06 03.2 +2.0
I07A IAMs_20 IAMs_20 20 43 05.0
comp=Z,3μm,19.0s
M02C Callahan 77.64 323 P P 20 06 02.1 +0.7
baz=131
JTMT Jette 77.72 332 IAMs_20 IAMs_20 20 44 14.9
comp=Z,2μm,21.0s
YBH Yreka Blue Hor 77.78 323 P P 20 06 02.7 +0.6
comp=Z,5.9nm,0.9s,baz=102,slow=6.9,SNR=6.5
YBH Yreka Blue Hor 77.78 323 P P 20 06 03.0 +0.8
YBH pmax pmax
comp=Z,17nm,1.1s
YBH MLR MLR
comp=Z,1μm,20.0s
YBH Yreka Blue Hor 77.78 323 P P 20 06 03.0 +0.8
F10A Beach Ranch, E 77.80 329 P P 20 06 02.8 +0.7
F10A IAmb IAmb 20 06 54.1
comp=Z,128nm,1.9s
F10A IAMs_20 IAMs_20 20 41 16.2
comp=Z,2μm,20.0s
KHMM Horse Mountain 77.81 322 P P 20 06 04.3 +1.8
K04D Chiloquin, OR 77.83 324 P P 20 06 03.7 +1.2
baz=132
L04D Klamath Falls 77.87 324 P P 20 06 03.8 +1.1
baz=131
J05D Fort Rock, OR 77.99 325 P P 20 06 05.0 +1.6
baz=132,SNR=18

TTIG Tnine Tigouga, 78.11 51 P P 20 06 07.0 +2.7
SNR=6.9
TTIG P P 20 06 07.0 +2.7
SNR=6.9
G08A Pilot Rock 78.17 328 P P 20 06 05.4 +1.1
G08A IAMs_20 IAMs_20 20 41 20.8
comp=Z,3μm,19.0s
PINE Pine Mountain 78.17 325 P P 20 06 05.2 +0.8
PINE IAmb IAmb 20 06 18.7
comp=Z,99nm,1.6s
PINE IAMs_20 IAMs_20 20 40 25.8
comp=Z,2μm,20.0s
VNDA Vanda 78.19 190 P P 20 06 04.7 +0.8
comp=Z,1.8nm,0.8s,baz=121,slow=6.3,SNR=8.0
VNDA Vanda 78.19 190 P P 20 06 07.1 +3.3
VNDA pmax pmax
comp=Z,104nm,2.0s
VNDA Vanda 78.19 190 P P 20 06 07.1 +3.3
VNDA IAmb IAmb 20 06 19.5
comp=Z,104nm,1.9s
KRMB Red Mountain 78.33 322 P P 20 06 07.1 +1.8
J04D Umpqua Nationa 78.44 324 P P 20 06 06.7 +0.7
baz=132
TOA0 Torodi Ar. Sit 78.51 71 P P 20 06 05.5 -1.2
TORD Torodi Ar. Bea 78.51 71 P P 20 06 05.6 -1.0
comp=Z,60nm,1.1s,baz=262,slow=4.2,SNR=124
TORD S S 20 16 09.0 +6.1
comp=Z,4.3nm,1.0s,baz=250,slow=9.9,SNR=5.0
TORD LR LR 20 39 04.1
comp=Z,9μm,21.4s,baz=235,slow=34
TORD Torodi Ar. Bea 78.51 71 P P 20 06 05.1 -1.6
WALA Waterton Lakes 78.54 333 P P 20 06 06.6 +0.3
WALA IAmb IAmb 20 06 19.5
comp=Z,54nm,1.1s
WALA IAMs_20 IAMs_20 20 42 19.7
comp=Z,2μm,22.0s
E09A Wood Farm, Sta 78.63 329 P P 20 06 08.5 +1.9
E09A IAmb IAmb 20 06 20.6
comp=Z,82nm,1.5s
E09A IAMs_20 IAMs_20 20 41 28.4
comp=Z,2μm,19.0s
SYO Syowa Base 78.70 160⇑ eP P 20 06 05.0 -1.8
SYO Syowa Base 78.70 160⇑ iP P 20 06 08.2 +1.4
SYO Syowa Base 78.70 160⇑ esP P 20 06 09.6 +2.8
SYO Syowa Base 78.70 160⇓ iPcP PcP 20 06 15.0 -0.6
I05D Terrebonne, OR 78.75 326 P P 20 06 09.4 +2.0
baz=132
FFC Flin Flon 78.87 342 P P 20 06 08.1 +0.4
FFC pmax pmax
comp=Z,14nm,1.1s
FFC MLR MLR
comp=Z,3μm,21.0s
FFC Flin Flon 78.87 342 P P 20 06 08.1 +0.4
FFC Flin Flon 78.87 342 IAMs_20 IAMs_20 20 43 17.0
comp=Z,3μm,21.0s
OUK Oukaimeden 78.87 51 P P 20 06 11.0 +2.2
SNR=12
OUK P P 20 06 11.0 +2.2
SNR=12
K02D Willamette Mer 78.95 323 P P 20 06 10.1 +1.5
baz=130
I04A Tendick Farm, 78.97 325 P P 20 06 09.6 +0.9
baz=131
G06A Carlson Farm, 78.99 327 IAMs_20 IAMs_20 20 42 09.9
comp=Z,3μm,20.0s
E08A Dider Farm, El 79.06 328 IAMs_20 IAMs_20 20 41 18.3
comp=Z,2μm,18.0s
F07A Phinny Hill Vi 79.08 327 P P 20 06 09.9 +0.8
F07A IAMs_20 IAMs_20 20 40 59.8
comp=Z,2μm,18.0s
HAWA Hanford 79.23 328 P P 20 06 10.8 +0.9
HAWA IAMs_20 IAMs_20 20 42 05.7
comp=Z,2μm,20.0s
G05D Wamic, OR 79.35 326 P P 20 06 12.5 +1.9
baz=132
D08A Wollman Farm, 79.39 329 P P 20 06 11.2 +0.5
NEW Newport 79.39 331 P P 20 06 12.3 +1.5
baz=136
NEW Newport 79.39 331 P P 20 06 10.3 -0.5
comp=Z,1.2nm,0.4s,baz=188,slow=19,SNR=1.8
NEW Newport 79.39 331 P P 20 06 10.1 -0.8
NEW Newport 79.39 331 IAMs_20 IAMs_20 20 42 18.7
comp=Z,1μm,18.0s
J01E Myrtle Point 79.40 323 P P 20 06 12.9 +2.0
baz=130
I03D Drain, OR 79.42 324 P P 20 06 12.3 +1.3
baz=131
H04A Detroit Lake 79.44 325 P P 20 06 12.0 +0.8
E07A Sunnyside 79.50 328 P P 20 06 12.6 +1.1
E07A IAMs_20 IAMs_20 20 43 56.0
comp=Z,3μm,18.0s
OUZM OUZ 79.53 52 P P 20 06 14.0 +1.8
SNR=7.4
OUZM P P 20 06 14.0 +1.8
SNR=7.4
C09A Chrisman Ranch 79.60 330 P P 20 06 11.7 -0.3
C09A IAmb IAmb 20 06 26.5
comp=Z,181nm,1.8s
C09A IAMs_20 IAMs_20 20 47 50.2
comp=Z,1μm,18.0s
H04D Lebanon 79.62 325 P P 20 06 13.5 +1.4
baz=131
F05D White Salmon 79.86 327 P P 20 06 15.4 +2.0
baz=132
I02D Swisshome 79.96 324 P P 20 06 16.3 +2.4
baz=130
COR Corvallis 79.97 325 P P 20 06 15.5 +1.5
COR MLR MLR
comp=Z,1μm,19.0s
COR Corvallis 79.97 325 P P 20 06 15.5 +1.5
COR IAmb IAmb 20 06 28.2
comp=Z,103nm,1.2s
AVE Averroes 80.28 49 P P 20 06 17.2 +1.3
SNR=6.5
AVE Averroes 80.28 49 eP P 20 06 12.8 -3.2
AVE eS S 20 16 20.8 -0.4
G03D McMinnville, O 80.36 325 P P 20 06 18.1 +2.0
baz=131
F04A Amboy 80.39 326 P P 20 06 17.8 +1.6
F04A IAmb IAmb 20 06 29.7
comp=Z,93nm,1.1s
F04A IAMs_20 IAMs_20 20 40 58.4
comp=Z,2μm,21.0s
LTY Liberty 80.39 328 P P 20 06 17.8 +1.5
LTY IAmb IAmb 20 06 30.7
comp=Z,160nm,1.6s
LTY IAMs_20 IAMs_20 20 42 49.9
comp=Z,2μm,18.0s
B08A Colville Reser 80.50 330 P P 20 06 17.5 +0.7
B08A IAMs_20 IAMs_20 20 48 16.0
comp=Z,1μm,18.0s
FCC Fort Churchill 80.60 348 P P 20 06 17.5 +0.5
FCC pmax pmax
comp=Z,34nm,1.4s
FCC Fort Churchill 80.60 348 P P 20 06 17.5 +0.5
LON Longmire 80.62 327 P P 20 06 18.5 +1.0
LON Longmire 80.62 327 P P 20 06 18.5 +1.0
LON IAMs_20 IAMs_20 20 45 01.5
comp=Z,2μm,18.0s
F04D Rainier, OR 80.80 326 P P 20 06 19.9 +1.5
baz=131
E04D Cinebar 80.88 327 P P 20 06 19.7 +0.9
baz=132
GOLM Goulmima 81.27 52 P P 20 06 24.0 +2.5
SNR=5.8
GOLM P P 20 06 24.0 +2.5
SNR=5.8
PFVI Vila Bisbo 81.33 46 eP P 20 06 21.9 +0.4
comp=Z,85nm,1.5s
PFVI Vila Bisbo 81.33 46 eSKS SKSac 20 16 41.3 +0.9
PFVI Vila Bisbo 81.33 46 IAMs_20 IAMs_20 20 43 21.2
comp=Z,3μm,19.0s
E03A Lebam 81.39 326 IAMs_20 IAMs_20 20 41 40.6
comp=Z,2μm,20.0s
D04E Lakebay 81.39 327 P P 20 06 22.4 +0.9
baz=132
MORF Marmelete 81.55 45 eP P 20 06 23.1 +0.4
MORF AMb AMB 20 06 38.0
comp=Z,88nm,2.3s
MORF eS S 20 16 36.0 +1.7
MORF Marmelete 81.55 45 eP P 20 06 23.0 +0.4
MORF eS S 20 16 35.9 +1.7
MORF Marmelete 81.55 45 eP P 20 06 23.2 +0.5
comp=Z,75nm,1.6s
MORF Marmelete 81.55 45 eSKS SKSac 20 16 44.6 +2.6
PTEO Sao Teotonio 81.62 45 eP P 20 06 23.4 +0.4

comp=Z,161nm,1.7s
B06A Marblemount 81.65 329 P P 20 06 24.3 +1.5
B06A IAmb IAmb 20 06 35.6
comp=Z,75nm,1.2s
B06A IAMs_20 IAMs_20 20 45 16.3
comp=Z,2μm,18.0s
ARF Arif 81.68 52 P P 20 06 27.1 +3.5
SNR=8.9
ARF P P 20 06 27.1 +3.5
SNR=8.9
B05A Bryant 81.78 328 P P 20 06 24.1 +0.6
baz=132
D03D Eldon 81.79 327 P P 20 06 24.4 +0.7
baz=131
CZD Col de Zad 81.86 51 P P 20 06 26.0 +1.2
SNR=14
LIS Lisbon 81.98 44 eP P 20 06 25.2 +0.3
LIS AMb AMB 20 06 38.0
comp=Z,108nm,0.6s
LIS eS S 20 16 40.2 +1.7
LIS Lisbon 81.98 44 eP P 20 06 25.1 +0.3
LIS eS S 20 16 40.2 +1.7
PBDV Barranco-do-Ve 82.00 46 eP P 20 06 25.9 +0.9
comp=Z,84nm,1.4s
PBDV Barranco-do-Ve 82.00 46 eSKS SKSac 20 16 46.9 +1.9
PMAFR Mafra 82.02 44 eP P 20 06 25.2 +0.1
PMAFR Mafra 82.02 44 eSKS SKSac 20 16 46.0 +0.9
IFR Ifrane 82.04 50 iP P 20 06 24.6 -0.9
IFR eS S 20 16 40.9 +1.1
PNCL Nicolau / Gran 82.06 45 eP P 20 06 25.8 +0.5
comp=Z,49nm,1.8s
PNCL Nicolau / Gran 82.06 45 eSKS SKSac 20 16 46.2 +0.9
MDT Midelt 82.07 51 P P 20 06 25.4 -0.2
comp=Z,14nm,1.1s,baz=241,slow=5.6,SNR=15
NLWA Neilton Lookou 82.10 327 IAMs_20 IAMs_20 20 44 09.7
comp=Z,2μm,20.0s
RAR Rarotonga 82.10 250 LR LR 20 34 49.9
comp=Z,4μm,18.0s,baz=99,slow=30
MESJ Messejana 82.12 45 eP P 20 06 26.0 +0.3
MESJ AMb AMB 20 06 40.3
comp=Z,44nm,1.6s
MESJ eS S 20 16 41.6 +1.5
MESJ Messejana 82.12 45 eP P 20 06 25.9 +0.3
MESJ eS S 20 16 41.5 +1.5
MESJ Messejana 82.12 45 eP P 20 06 26.3 +0.7
comp=Z,44nm,1.8s
PCVE Castro Verde 82.13 45 eP P 20 06 26.6 +0.9
comp=Z,50nm,1.9s
PCVE Castro Verde 82.13 45 eSKS SKSac 20 16 48.0 +2.2
PVAQ Vaqueiros 82.22 46 eP P 20 06 26.9 +0.7
comp=Z,61nm,1.9s
PVAQ Vaqueiros 82.22 46 eSKS SKSac 20 16 48.3 +1.8
PVAQ Vaqueiros 82.22 46 eLR LR 20 32 38.3
comp=Z,3μm,18.0s
TSUM Tsumeb 82.26 108 P P 20 06 27.2 +0.2
TSUM IAmb IAmb 20 06 29.9
comp=Z,57nm,1.2s
A04D Lummi Island 82.39 328 P P 20 06 28.1 +1.4
baz=132
PBEJ Beja 82.46 45 eP P 20 06 27.8 +0.4
comp=Z,47nm,1.7s
EVO Evora 82.63 45⇑ iP P 20 06 29.7 +1.4
EVO eS S 20 16 50.7 +5.5
EVO Evora 82.63 45 eP P 20 06 28.6 +0.3
comp=Z,50nm,1.7s
PSBE So Bento 82.64 44 eP P 20 06 28.8 +0.4
comp=Z,100nm,1.7s
PSBE So Bento 82.64 44 eSKS SKSac 20 16 50.6 +1.3
IVI Ivigtut 82.77 11 P P 20 06 28.8 +0.4
IVI IAMs_20 IAMs_20 20 44 34.9
comp=Z,2μm,20.0s
SFS San Fernando 82.77 47⇑ iP P 20 06 24.7 -4.3
SFS eS S 20 16 51.6 +4.9
PMTG Montargil 82.78 44 eP P 20 06 29.4 +0.4
comp=Z,105nm,1.6s
PMTG Montargil 82.78 44 eSKS SKSac 20 16 51.4 +1.3
CEU Ceuta 83.06 48⇑ iP P 20 06 30.9 +0.3
CEU eS S 20 16 49.9 +0.3
PCAS Casmilo, Conde 83.13 43 eP P 20 06 26.9 -3.9
comp=Z,43nm,2.0s
PCAS Casmilo, Conde 83.13 43 eSKS SKSac 20 16 56.9 +4.5
NRS Narsarsuaq 83.24 12 iP P 20 06 25.6 -5.2
comp=Z,2μm,21.0s
NRS Narsarsuaq 83.24 12 IAMs_20 IAMs_20 20 42 35.4
comp=Z,2μm,20.0s
LLLB Lilloet 83.25 330 P P 20 06 31.9 +0.7
COI Coimbra 83.27 43 P P 20 06 32.0 +0.5
COI pmax pmax
comp=Z,133nm,1.6s
COI MLR MLR
comp=Z,6μm,18.0s
COI Coimbra 83.27 43 eP P 20 06 32.1 +0.5
comp=Z,132nm,1.6s
COI Coimbra 83.27 43 eSKS SKSac 20 16 54.4 +1.1
COI Coimbra 83.27 43 P P 20 06 32.0 +0.5
PVLZ Peæn de 83.45 49⇑ iP P 20 06 32.0 -0.6
PVLZ eS S 20 16 55.4 +1.7
PMRV Marv??o 83.52 44 eP P 20 06 33.0 +0.1
comp=Z,44nm,1.7s
PMRV Marv??o 83.52 44 eSKS SKSac 20 16 56.8 +1.8
PMRV Marv??o 83.52 44 eLQ LQ 20 28 52.6
PMRV eLR LR 20 34 31.6
comp=Z,4μm,16.0s
PCBR Castelo Branco 83.68 44 eP P 20 06 34.1 +0.5
comp=Z,68nm,1.7s
PVIS Viseu 83.88 43 eP P 20 06 35.5 +0.8
comp=Z,84nm,1.6s
MTE Manteigas 83.93 43 eP P 20 06 35.5 +0.5
comp=Z,81nm,1.7s
MTE Manteigas 83.93 43 eSKS SKSac 20 17 08.8 +11
MTE Manteigas 83.93 43 eLQ LQ 20 28 31.4
MTE eLR LR 20 34 26.4
comp=Z,6μm,18.0s
MTE Manteigas 83.93 43 P P 20 06 34.7 -0.3
MTE IAmb IAmb 20 06 37.4
comp=Z,93nm,1.5s
HORN Hornachuelos 84.12 46 P P 20 06 36.2 +0.2
SNR=10
EMAL Malaga-Limoner 84.15 48⇑ iP P 20 06 36.2 +0.1
EMAL eS S 20 17 00.9 +0.2
PVRL Vila Real 84.29 43 eP P 20 06 37.4 +0.6
comp=Z,119nm,1.7s
PGAV Gavieira, Arco 84.31 42 eP P 20 06 37.4 +0.4
comp=Z,125nm,1.7s
PGAV Gavieira, Arco 84.31 42 eSKS SKSac 20 17 04.6 +4.4
PGAV Gavieira, Arco 84.31 42 eLQ LQ 20 28 48.9
PGAV eLR LR 20 36 18.4
comp=Z,7μm,18.0s
PCAB Cabril 84.33 42 eP P 20 06 37.0 0.0
comp=Z,110nm,1.8s
MELI Melilla 84.49 50⇑ iP P 20 06 37.0 -0.9
MELI eS S 20 17 07.6 +3.5
MVO Moncorvo 84.67 43 eP P 20 06 39.0 +0.2
comp=Z,133nm,1.7s
MVO Moncorvo 84.67 43 eSKS SKSac 20 17 04.8 +2.3
MVO Moncorvo 84.67 43 eLQ LQ 20 29 23.0
MVO eLR LR 20 37 19.3
comp=Z,5μm,18.0s
PBRG Braganca 85.19 42 eP P 20 06 41.8 +0.5
comp=Z,124nm,1.7s
PBRG Braganca 85.19 42 eSKS SKSac 20 17 15.4 +10
PAB San Pablo 85.59 45 P P 20 06 43.7 +0.2
PAB pmax pmax
comp=Z,85nm,1.6s
PAB MLR MLR
comp=Z,3μm,20.0s
PAB San Pablo 85.59 45 P P 20 06 43.7 +0.2
PAB IAmb IAmb 20 06 45.2
comp=Z,85nm,1.6s
TAM Tamanrasset 85.69 64 P P 20 06 44.8 +0.4
TAM pmax pmax
comp=Z,113nm,1.4s
TAM MLR MLR
comp=Z,10μm,20.0s
TAM Tamanrasset 85.69 64 P P 20 06 44.8 +0.4
BOSA Boshof 85.83 119 P P 20 06 45.5 +0.4
comp=Z,22nm,1.2s,baz=268,slow=9.8,SNR=4.3
BOSA LR LR 20 42 13.6
comp=Z,4μm,19.1s,baz=255,slow=34
ES12 SONSECA Array 85.91 45 IAMs_20 IAMs_20 20 43 32.7
comp=Z,3μm,20.0s
ESDC Sonseca Array 85.92 45 P P 20 06 45.2 +0.2
comp=Z,28nm,1.3s,baz=246,slow=5.0,SNR=54
ESDC LR LR 20 43 41.7
comp=Z,3μm,19.1s,baz=230,slow=35

ESDC **Sonseca Array** 85.92 45 P P 20 06 44.8 -0.2
ESBB **Sonseca Array** 85.92 45 P P 20 06 45.3 +0.3
ESBB IAmb IAmb 20 06 47.0
comp=Z,66nm,1.5s
MAW **Mawson** 86.45 164 P P 20 06 48.8 +1.7
comp=Z,13nm,0.9s,baz=215,slow=6.0,SNR=13
MAW LR LR 20 45 46.3
comp=Z,2μm,18.6s,baz=239,slow=36
MAW **Mawson** 86.45 164 P P 20 06 48.1 +1.0
UCM **Universidad Co** 86.71 45⇑*i*P P 20 06 50.2 +1.3
UCM *e*S S 20 17 21.1 -4.8
CART **Cartagena** 86.95 48⇑*i*P P 20 06 49.5 -0.5
CART *e*S S 20 17 17.4 -11
CART **Cartagena** 86.95 48 IAMs_20 IAMs_20 20 45 16.9
comp=Z,2μm,21.0s
BBB **Bella Bella** 87.26 329 IAMs_20 IAMs_20 20 50 28.7
comp=Z,2μm,19.0s
SFJD **Kangerlussuaq** 87.85 8 *i*P P 20 06 48.5 -5.2
comp=Z,110nm,19.0s
SFJD **Kangerlussuaq** 87.85 8 *e*P P 20 06 48.5 -5.2
SFJD MLR MLR
comp=Z,130nm,19.0s
SFJD **Kangerlussuaq** 87.85 8 IAMs_20 IAMs_20 20 47 23.2
comp=Z,2μm,20.0s
ANGG **Ammassalik, Gr** 88.82 13 IAMs_20 IAMs_20 20 45 27.9
comp=Z,2μm,20.0s
YKA **Yellowknife Ar** 89.01 341 P P 20 06 59.4 +0.1
comp=Z,23nm,1.2s,baz=141,slow=4.8,SNR=23
YKA LR LR 20 50 23.8
comp=Z,3μm,20.0s,baz=0.0,slow=38
MOBC **Moresby Island** 89.72 328 IAMs_20 IAMs_20 20 46 49.9
comp=Z,2μm,20.0s
ILULI **Ilulissat** 89.90 7 *i*P P 20 06 58.9 -4.4
comp=Z,1μm,18.0s
ILULI **Ilulissat** 89.90 7 *e*P P 20 06 58.9 -4.4
ILULI MLR MLR
comp=Z,1μm,18.0s
ILULI **Ilulissat** 89.90 7 IAMs_20 IAMs_20 20 43 18.3
comp=Z,2μm,22.0s
EPF **Esparros** 90.36 44 *e*P P 20 07 06.0 -0.2
EPF pmax pmax
comp=Z,34nm,1.5s
QUIF **Quistinic** 90.49 38 *e*P P 20 07 08.5 +1.9
QUIF pmax pmax
comp=Z,47nm,1.6s
ROSF **Rostrenen** 90.64 38 *e*P P 20 07 06.2 -1.0
ROSF pmax pmax
comp=Z,46nm,1.4s
SGMF **Saint Gilles** 91.01 38 *e*P P 20 07 11.5 +2.5
SGMF pmax pmax
comp=Z,30nm,1.5s
DSB **Dublin** 91.45 33 IAMs_20 IAMs_20 20 44 57.3
comp=Z,2μm,21.0s
CRAG **Craig** 91.58 330 IAMs_20 IAMs_20 20 52 49.1
comp=Z,2μm,18.0s
MAHO **Mahon** 91.66 48⇑*i*P P 20 07 12.6 +0.4
MAHO *e*S SKSac 20 17 49.5 +5.1
KHU **Kahuku** 91.69 290 IAMs_20 IAMs_20 20 41 14.8
comp=Z,2μm,19.0s
MTLF **Montolieu** 91.73 44 *e*P P 20 07 11.5 -1.0
MTLF pmax pmax
comp=Z,28nm,1.5s
WRAK **Wrangell Islan** 91.75 331 IAMs_20 IAMs_20 20 49 11.5
comp=Z,1μm,19.0s
MLOA **Mauna Loa Obse** 91.76 290 IAMs_20 IAMs_20 20 39 26.5
comp=Z,2μm,19.0s
POHA **Pohakuloa** 91.79 290 IAMs_20 IAMs_20 20 40 32.5
comp=Z,2μm,20.0s
DLBC **Dease Lake** 91.89 333 P P 20 07 13.3 +0.4
comp=Z,6.9nm,1.1s,baz=79,slow=6.1,SNR=6.4
DLBC **Dease Lake** 91.89 333 P P 20 07 13.6 +0.7
DLBC IAmb IAmb 20 07 25.9
comp=Z,28nm,1.1s
HPAH **Hawaii Prepara** 92.03 290 IAMs_20 IAMs_20 20 40 48.8
comp=Z,1μm,20.0s
KHLU **Kahalu`u** 92.06 290 IAMs_20 IAMs_20 20 39 35.5
comp=Z,2μm,21.0s
GRR **Gorron** 92.08 39 *e*P P 20 07 12.6 -1.3
GRR pmax pmax
comp=Z,11nm,1.0s
RJF **Les Rejaudoux** 92.13 42 *e*P P 20 07 12.1 -2.2
RJF pmax pmax
comp=Z,55nm,1.6s
CAF **Calviac** 92.32 43 *e*P P 20 07 14.4 -0.8
CAF pmax pmax
comp=Z,39nm,1.5s
BORG **Borgarnes** 92.41 19 IAMs_20 IAMs_20 20 48 05.1
comp=Z,2μm,20.0s
FLN **La Foliniere** 92.47 39 *e*P P 20 07 14.7 -1.0
FLN pmax pmax
comp=Z,29nm,1.4s
LDF **La Druitiere** 92.61 39 *e*P P 20 07 15.2 -1.2
LDF pmax pmax
comp=Z,26nm,1.4s
SIT **Sitka** 93.48 330 IAMs_20 IAMs_20 20 51 25.1
comp=Z,2μm,20.0s
BGF **Bois d'Agland** 93.51 42 *e*P P 20 07 19.7 -0.9
BGF pmax pmax
comp=Z,53nm,1.6s
KEST **Kesra** 93.74 53 P P 20 07 22.5 +0.5
comp=Z,8.8nm,1.2s,baz=241,slow=7.6,SNR=5.4
KEST LR LR 20 50 20.0
comp=Z,5μm,20.3s,baz=200,slow=36
AVF **Avril sur Loir** 93.93 42 *e*P P 20 07 21.3 -1.2
AVF pmax pmax
comp=Z,20nm,1.5s
VIVF **Saint-Julien-l** 93.97 44 *e*P P 20 07 22.5 -0.3
VIVF pmax pmax
comp=Z,23nm,1.4s
SSB **Saint Sauveur** 94.06 43 P P 20 07 23.3 +0.1
SSB pmax pmax
comp=Z,41nm,1.6s
SSB MLR MLR
comp=Z,6μm,20.0s
SSB **Saint Sauveur** 94.06 43 P P 20 07 23.3 +0.1
SSB IAmb IAmb 20 07 24.7
comp=Z,41nm,1.6s
ESK **Eskdalemuir** 94.10 32 IAMs_20 IAMs_20 20 47 12.5
comp=Z,2μm,20.0s
CASY **Casey** 94.17 181 IAMs_20 IAMs_20 20 51 14.8
comp=Z,2μm,19.0s
SMF **Signal de Mont** 94.17 42 *e*P P 20 07 22.6 -1.1
SMF pmax pmax
comp=Z,55nm,1.6s
LOR **Lormes** 94.44 41 *e*P P 20 07 23.4 -1.5
LOR pmax pmax
comp=Z,29nm,1.8s
HON **Honolulu** 94.50 291 IAMs_20 IAMs_20 20 45 48.1
comp=Z,1μm,19.0s
KULLO **Kullorsuaq** 94.58 4 *i*P P 20 07 18.6 -6.2
comp=Z,1μm,19.0s
KULLO **Kullorsuaq** 94.58 4 *e*P P 20 07 18.6 -6.2
KULLO MLR MLR
comp=Z,2μm,19.0s
SUMG **Summit** 94.69 9 *i*P P 20 07 26.0 +0.1
comp=Z,6μm,22.0s
SUMG **Summit** 94.69 9 P P 20 07 26.2 +0.3
SUMG pmax pmax
comp=Z,26nm,1.2s
SUMG MLR MLR
comp=Z,2μm,21.0s
SUMG **Summit** 94.69 9 P P 20 07 26.2 +0.3
SUMG IAmb IAmb 20 07 54.1
comp=Z,26nm,1.2s
SUMG IAMs_20 IAMs_20 20 49 22.7
comp=Z,2μm,21.0s
SKAG **Skagway** 94.74 332 IAMs_20 IAMs_20 20 52 46.4
comp=Z,2μm,19.0s
ORIF **Oris-en-Rattie** 94.78 44 *e*P P 20 07 27.8 +1.2
ORIF pmax pmax
comp=Z,43nm,1.6s
NNZ **Nelson** 95.04 223 IAMs_20 IAMs_20 20 44 40.5
comp=Z,2μm,20.0s
VSL **Villasalto** 95.14 50 IAMs_20 IAMs_20 20 52 39.8
comp=Z,2μm,19.0s
RPZ **Rata Peaks** 95.15 220 LR LR 20 41 04.4
comp=Z,4μm,19.6s,baz=104,slow=30
RES **Resolute Bay** 95.53 354 LR LR 20 52 25.0
comp=Z,2μm,21.0s,baz=160,slow=37
LPL **La Plagne** 95.57 44 *e*P P 20 07 30.2 -0.2
LPL pmax pmax
comp=Z,21nm,1.4s
LPG **La Plagne** 95.57 44 *e*P P 20 07 30.4 -0.1
LPG pmax pmax
comp=Z,30nm,1.4s
DOU **Dourbes** 96.04 39 P P 20 07 31.9 -0.2
DOU x x 20 07 38.8
TULEG **Thule** 96.15 0 IAMs_20 IAMs_20 20 50 32.3
comp=Z,2μm,20.0s
GIVF **Givet** 96.17 39 *e*P P 20 07 31.8 -0.9
GIVF pmax pmax
comp=Z,47nm,1.6s
UCC **Uccle** 96.18 38 IAMs_20 IAMs_20 20 47 46.8
comp=Z,2μm,20.0s
BMRD **Maredsous** 96.22 39 P P 20 07 32.6 -0.3
SCO **Scoresbysund** 96.27 15 *i*P P 20 07 29.4 -3.2
comp=Z,2μm,24.0s
SCO **Scoresbysund** 96.27 15 *e*P P 20 07 29.4 -3.2
SCO MLR MLR
comp=Z,2μm,24.0s
SCO **Scoresbysund** 96.27 15 IAMs_20 IAMs_20 20 47 55.9
comp=Z,2μm,22.0s
HAU **Haudompre** 96.28 41 *e*P P 20 07 32.0 -1.3
HAU pmax pmax
comp=Z,13nm,1.2s
HINF **Hinteralfeld** 96.52 42 *e*P P 20 07 36.1 +1.7
HINF pmax pmax
comp=Z,24nm,1.7s
WLF **Walferdange** 96.79 40 P P 20 07 35.3 -0.3
WLF x x 20 07 47.4
WLF **Walferdange** 96.79 40 P P 20 07 35.1 -0.4
WLF pmax pmax
comp=Z,46nm,1.4s
WLF MLR MLR
comp=Z,4μm,21.0s
WLF **Walferdange** 96.79 40 P P 20 07 35.1 -0.4
BSTI **Sart Tilman** 96.80 39 P P 20 07 35.7 +0.2
ECH **Echery** 96.86 41 P P 20 07 35.2 -0.7
ECH pmax pmax
comp=Z,27nm,1.5s
ECH MLR MLR
comp=Z,2μm,20.0s
ECH **Echery** 96.86 41 P P 20 07 35.2 -0.7
ECH IAmb IAmb 20 07 36.6
comp=Z,26nm,1.5s
PCA **Pinnacle** 97.22 332 IAMs_20 IAMs_20 21 00 09.1
comp=Z,1μm,19.0s
TUE **Stuetta** 97.61 43 P P 20 07 39.3 -0.3
OSSC **Osservatorio P** 97.86 47 IAMs_20 IAMs_20 20 53 42.8
comp=Z,2μm,19.0s
YAH **Yahtse** 98.01 332 IAMs_20 IAMs_20 20 55 08.9
comp=Z,2μm,21.0s
MESA **MESA** 98.02 331 IAMs_20 IAMs_20 20 54 57.2
comp=Z,2μm,21.0s
DAVOX **Davos/Dischmat** 98.06 43 LR LR 20 51 51.8
comp=Z,1μm,18.2s,baz=248,slow=35
BARN **Barnard Glacie** 98.28 332 IAMs_20 IAMs_20 20 56 16.0
comp=Z,2μm,22.0s
WAX **Waxell Ridge** 98.54 332 IAMs_20 IAMs_20 20 55 15.0
comp=Z,2μm,19.0s
BALM **Baldy** 98.57 332 IAMs_20 IAMs_20 20 51 23.6
comp=Z,1μm,21.0s
TGL **Tana Glacier** 98.66 332 IAMs_20 IAMs_20 20 55 48.1
comp=Z,2μm,21.0s
DAWY **Dawson** 98.70 336 Pdif 20 07 44.3 +0.4
DAWY IAMs_20 IAMs_20 20 54 46.5
comp=Z,2μm,19.0s
INK **Inuvik** 98.75 340 LR LR 20 56 28.2
comp=Z,2μm,19.9s,baz=105,slow=38
CRQM **Cirque** 98.80 332 IAMs_20 IAMs_20 20 55 52.2
comp=Z,1μm,20.0s
CTI **Castel Tesino** 98.97 44 P P 20 07 45.3 -0.3
CTI pmax pmax
comp=Z,40nm,1.8s
CTI MLR MLR
comp=Z,3μm,18.0s
CTI **Castel Tesino** 98.97 44 P P 20 07 45.3 -0.3
CTI IAmb IAmb 20 07 57.1
comp=Z,40nm,1.8s
MCARA **McCarthy VSAT** 99.01 332 IAMs_20 IAMs_20 20 56 36.4
comp=Z,2μm,21.0s
VRDI **Verde Repeater** 99.14 332 IAMs_20 IAMs_20 20 59 16.7
comp=Z,1μm,20.0s
BCAR **Beaver Creek A** 99.21 334 Pdif 20 07 47.1 +0.9
PAOL **Paolisi** 99.39 50 IAMs_20 IAMs_20 20 57 47.4
comp=Z,2μm,19.0s
EGAK **Eagle** 99.70 336 IAMs_20 IAMs_20 20 54 54.1
comp=Z,2μm,20.0s
GRA1 **Grafenberg Arr** 99.88 41 IAMs_20 IAMs_20 20 48 49.9
comp=Z,2μm,21.0s
GRF **Grafenberg Arr** 99.88 41 *e*P Pdif 20 07 49.7 +0.3
comp=Z,3.5nm,0.9s,baz=247,slow=5.4
MENT **Mentasta** 99.95 334 IAMs_20 IAMs_20 20 55 11.2
comp=Z,2μm,21.0s
HIN **Hinchinbrook I** 100.18 331 IAMs_20 IAMs_20 21 01 00.3
comp=Z,2μm,18.0s
FID **Port Fidalgo** 100.30 331 IAMs_20 IAMs_20 21 02 12.8
comp=Z,2μm,19.0s
DOT **Dot Lake** 100.39 334 IAMs_20 IAMs_20 20 55 58.6
comp=Z,2μm,19.0s
CADS **Cadrg** 100.41 45 *e*Pdiff Pdif 20 07 45.4 -6.5
CADS *e*PP PP 20 11 54.9 -3.8
CADS *e*SKSac SKSac 20 18 31.6 +1.3
SCRK **Sand Creek** 100.48 335 IAMs_20 IAMs_20 20 56 11.2
comp=Z,2μm,21.0s
GLI **Glacier Island** 100.63 331 IAMs_20 IAMs_20 21 02 21.2
comp=Z,2μm,18.0s
PAX **Paxson** 100.70 333 IAMs_20 IAMs_20 20 55 33.0
comp=Z,2μm,20.0s
NKC **Novy Kostel** 100.81 40 *e*PDIFF Pdif 20 07 49.8 -3.7
NKC *e*PP PP 20 11 54.2 -7.4
NKC *e*SKS SKSac 20 18 28.2 -3.9
NKC AMS AMS 20 51 30.0
comp=Z,3μm,20.4s
NKC **Novy Kostel** 100.81 40 *e*P Pdif 20 07 49.8 -3.7
NKC *e* 20 18 28.2
NKC MLR MLR
comp=Z,3μm,20.4s
LJU **Ljubljana** 100.88 45 *e*Pdiff Pdif 20 07 49.7 -4.3
LJU *e*PP PP 20 11 59.8 -2.5
LJU *e*SKSac SKSac 20 18 33.8 +1.3
LJU *e*Sdiff Sdif 20 19 36.8 +5.3
LJU *e*PS PS 20 21 04.2 +0.1
LJU *e*SS SS 20 26 38.1 +7.9
GERES **GERESS Array B** 101.17 42 P Pdif 20 07 55.1 -0.1
comp=Z,1.6nm,1.1s,baz=260,slow=4.7,SNR=6.8
GERES PP PP 20 12 01.1 -3.3
comp=Z,0.4nm,0.8s,baz=224,slow=7.5,SNR=4.6
GERES **GERESS Array B** 101.17 42 Pdif Pdif 20 07 54.6 -0.6
KHC **Kasperske Hory** 101.17 42 *e*PDIFF Pdif 20 07 53.8 -1.4
KHC *e*PP PP 20 11 49.4 -15
KHC *e*SKS SKSac 20 18 27.1 -6.9
KHC AMS AMS 20 50 20.0
comp=Z,2μm,20.7s
KHC **Kasperske Hory** 101.17 42 *e*P Pdif 20 07 53.8 -1.4
KHC *e* 20 18 27.1
KHC MLR MLR
comp=Z,2μm,20.7s
DAG **Danmarks Havn** 101.24 11 *i*P Pdif 20 07 50.5 -4.3
comp=Z,3μm,22.0s
DAG **Danmarks Havn** 101.24 11 *e*P Pdif 20 07 50.5 -4.3
DAG MLR MLR
comp=Z,3μm,22.0s
KNK **Knik Glacier** 101.44 331 IAMs_20 IAMs_20 21 01 28.6
comp=Z,2μm,19.0s
SEW **Seward** 101.45 330 IAMs_20 IAMs_20 21 03 20.0
comp=Z,2μm,19.0s
CLL **Collm** 101.47 40 *e*Pdif Pdif 20 07 57.0 +0.6
CLL *es*Pdif pwP 20 08 04.0 +0.8
CLL *e*PP PP 20 12 03.0 -3.5
comp=Z,23nm,2.0s
CLL *es*PP 20 12 13.0
CLL *e*PPP PPP 20 14 24.0
CLL *e*SKSac SKSac 20 18 42.0 +6.9
CLL *e*Sdif Sdif 20 19 37.0 +0.8
CLL *e*PS PS 20 21 08.0 -2.1
CLL *e*PPS PPS 20 22 02.0
CLL *e*SS SS 20 26 36.0 -2.0
CLL *e*SSS SSS 20 30 30.0
CLL *e*SKKSacre 20 31 24.0
CLL *e* 20 36 00.0
CLL Lm MLR 20 49 00.0
comp=Z,4μm,21.5s
CLL **Collm** 101.47 40 *e*P Pdif 20 07 57.0 +0.6
CLL *e* 20 12 03.0
CLL *e*S Sdif 20 19 37.0 +0.8
CLL pmax pmax
comp=Z,23nm,2.0s
CLL MLR MLR
comp=Z,4μm,21.5s
SML **Sawmill** 101.52 332 IAMs_20 IAMs_20 21 01 31.7
comp=Z,2μm,18.0s
DHY **Denali Highway** 101.55 333 IAMs_20 IAMs_20 21 01 56.4
comp=Z,2μm,19.0s
PRP **Porcupine Dome** 101.69 336 IAMs_20 IAMs_20 21 00 55.6
comp=Z,2μm,18.0s
GHO **Glory Hole Cre** 101.77 332 IAMs_20 IAMs_20 21 02 06.4
comp=Z,2μm,18.0s
HDA **Harding Lake** 101.85 334 IAMs_20 IAMs_20 20 57 11.3
comp=Z,2μm,21.0s
BRG **Berggiesshubel** 101.91 40 *e*PDIFF Pdif 20 07 58.3 -0.1
comp=Z,10nm,1.5s
BRG *e* 20 12 18.2
comp=Z,40nm,2.0s
BRG SKS SKSac 20 18 39.0 +1.7
BRG SDIFF Sdif 20 19 40.0 +0.1
BRG SS SS 20 26 20.0 -24
BRG *e*PKPPKP P'P'df 20 32 24.4 +4.7
comp=Z,5.1nm,1.1s
comp=N,1μm,20.6s
comp=E,2μm,22.3s
comp=Z,4μm,21.6s
BRG **Berggiesshubel** 101.91 40 *e*P Pdif 20 07 58.3 -0.1
BRG *e* 20 12 18.2
BRG 20 18 39.0
BRG S Sdif 20 19 40.0 +0.1
BRG pmax pmax
comp=Z,11nm,1.5s
BRG pmax pmax
comp=Z,40nm,2.0s
BRG MLR MLR
comp=N,1μm,20.6s
BRG MLR MLR
comp=E,2μm,22.3s
BRG MLR MLR
comp=Z,4μm,21.6s
RC01 **Rabbit Creek A** 101.91 331 IAMs_20 IAMs_20 20 57 27.1
comp=Z,2μm,20.0s
ILAR **Eielson Array** 101.95 335 PP PP 20 12 07.5 -2.4
comp=Z,0.8nm,1.0s,baz=112,slow=8.9,SNR=4.9
FYU **Fort Yukon** 101.98 337 IAMs_20 IAMs_20 20 56 30.0
comp=Z,2μm,21.0s
PRA **Prague** 101.98 41 *e*PDIFF Pdif 20 07 57.0 -1.7
PRA *e*PP PP 20 11 59.0 -11
PRA *e*SKS SKSac 20 18 39.1 +1.5
PRA AMS AMS 20 48 50.0
comp=Z,800nm,22.6s
PRA **Prague** 101.98 41 *e*P Pdif 20 07 57.0 -1.7
PRA *e* 20 18 39.1
PRA MLR MLR
comp=Z,800nm,22.6s
BRLK **Bradley Lake** 102.02 329 IAMs_20 IAMs_20 20 57 42.2
comp=Z,1μm,19.0s
PRU **Pruhonice** 102.02 41 *e*PDIFF Pdif 20 07 47.4 -12
PRU *e*PP PP 20 11 56.6 -14
PRU *e*SKS SKSac 20 18 35.4 -2.5
PRU AMS AMS 20 51 00.0
comp=Z,2μm,22.0s
CNPM **China Poot** 102.11 329 IAMs_20 IAMs_20 20 50 47.6
comp=Z,1μm,21.0s
GOPC **GO Pecny, Ondr** 102.15 41 *e*PDIFF Pdif 20 08 01.8 +2.3
GOPC *e*PP PP 20 11 54.2 -18
GOPC AMS AMS 20 51 10.0
comp=Z,2μm,20.4s
GOPC **GO Pecny, Ondr** 102.15 41 *e*P Pdif 20 08 01.8 +2.3
GOPC MLR MLR
comp=Z,2μm,20.4s
PVCC **Panska Ves** 102.19 41 *e*PDIFF Pdif 20 07 49.8 -10
PVCC *e*PP PP 20 12 06.2 -5.8
PVCC AMS AMS 20 53 20.0
comp=Z,2μm,19.7s
ALE **Alert** 102.22 1 IAMs_20 IAMs_20 20 58 21.6
comp=Z,2μm,19.0s
KDAK **Kodiak Island** 102.25 327 IAMs_20 IAMs_20 21 01 15.5
comp=Z,1μm,19.0s
CCB **Clear Creek Bu** 102.28 335 IAMs_20 IAMs_20 20 55 25.6
comp=Z,2μm,21.0s
WRH **Wood River Hil** 102.34 334 IAMs_20 IAMs_20 20 57 36.1
comp=Z,2μm,21.0s
HOM **Homer** 102.35 329 IAMs_20 IAMs_20 20 58 13.0
comp=Z,1μm,21.0s
COLA **College** 102.38 335 IAMs_20 IAMs_20 20 59 24.3
comp=Z,2μm,20.0s
TREC **Trest** 102.42 42 *e*PDIFF Pdif 20 07 59.4 -1.3
TREC *e*PP PP 20 12 03.8 -10
TREC AMS AMS 20 51 10.0
comp=Z,2μm,20.4s
TREC **Trest** 102.42 42 *e*P Pdif 20 07 59.4 -1.3
TREC MLR MLR
comp=Z,2μm,20.4s
MCK **McKinley** 102.44 334 IAMs_20 IAMs_20 21 03 45.8
comp=Z,2μm,19.0s
TRF **Thorofare Moun** 102.92 333 IAMs_20 IAMs_20 20 57 19.6
comp=Z,2μm,21.0s
KRUC **Moravsky** 102.93 42 *e*PDIFF Pdif 20 08 03.3 +0.3
UPC **Upice** 103.07 41 *e*PDIFF Pdif 20 08 04.2 +0.6
UPC *e*PP PP 20 12 11.0 -7.6
UPC *e*SKS SKSac 20 18 38.8 -4.0
UPC AMS AMS 20 49 40.0
comp=Z,2μm,24.0s
UPC **Upice** 103.07 41 *e*P Pdif 20 08 04.2 +0.6
UPC *e* 20 18 38.8
UPC MLR MLR
comp=Z,2μm,24.0s
CHVC **Chvalec** 103.12 41 *e*PDIFF Pdif 20 08 01.8 -2.0
CHVC *e*PP PP 20 12 06.2 -13
CHVC AMS AMS 20 49 30.0
comp=Z,2μm,23.0s
VRAC **Vranov** 103.12 42 *e*PDIFF Pdif 20 08 04.1 +0.3
PDG **Podgorica** 103.15 49 IAMs_20 IAMs_20 20 54 54.0
comp=Z,2μm,21.0s
OSTC **Ostas** 103.21 41 *e*PDIFF Pdif 20 07 57.0 -7.2
OSTC *e*PP PP 20 12 06.2 -13
OSTC *e*SKS SKSac 20 18 40.0 -3.5
OSTC AMS AMS 20 53 10.0
comp=Z,2μm,20.5s
DPC **Dobruska-Polom** 103.22 41 *e*PDIFF Pdif 20 07 59.4 -4.9
DPC *e*PP PP 20 12 01.4 -18
DPC *e*SKS SKSac 20 18 44.4 +0.8
DPC AMS AMS 20 49 30.0
comp=Z,1μm,23.8s
DPC **Dobruska-Polom** 103.22 41 *e*P Pdif 20 07 59.4 -4.9
DPC *e* 20 18 44.4
DPC MLR MLR
comp=Z,1μm,23.8s
TIR **Tirane** 103.32 51 IAMs_20 IAMs_20 20 58 37.6
comp=Z,2μm,20.0s
BPAW **Bear Paw Mtn.** 103.41 334 IAMs_20 IAMs_20 20 56 20.6
comp=Z,1μm,20.0s
PPLA **Purkeypile** 103.57 332 IAMs_20 IAMs_20 20 58 40.9
comp=Z,1μm,20.0s
BSD **Bornholm Skovb** 103.63 36 *i*P Pdif 20 08 05.5 -0.4
comp=Z,2μm,17.0s
BSD **Bornholm Skovb** 103.63 36 *e*P Pdif 20 08 05.5 -0.4
BSD MLR MLR
comp=Z,2μm,17.0s
MORC **Moravsky Berou** 103.84 42 *e*PDIFF Pdif 20 08 07.9 +0.8
MORC **Moravsky Berou** 103.84 42 IAMs_20 IAMs_20 20 52 21.6
comp=Z,2μm,22.0s
OKC **Ostrava-Krasne** 104.23 42 *e*PDIFF Pdif 20 08 06.6 -2.1
OKC *e*PP PP 20 12 13.4 -14
OKC *e*SKS SKSac 20 18 43.9 -4.3
OKC AMS AMS 20 52 10.0
comp=Z,2μm,21.4s
OKC **Ostrava-Krasne** 104.23 42 *e*P Pdif 20 08 06.6 -2.1
OKC *e* 20 18 43.9
OKC MLR MLR
comp=Z,2μm,21.4s
TOLK **Toolik Lake Re** 104.25 338 IAMs_20 IAMs_20 20 59 45.0
comp=Z,2μm,19.0s
NOR **Nord** 104.61 7 *i*P Pdif 20 08 03.9 -5.9
comp=Z,2μm,18.0s
NOR **Nord** 104.61 7 *e*P Pdif 20 08 03.9 -5.9
NOR MLR MLR
comp=Z,2μm,18.0s
SVW2 **Sparrevohn** 104.63 330 IAMs_20 IAMs_20 20 58 34.7
comp=Z,1μm,19.0s
CNBA **Chernabura Isl** 105.24 323 IAMs_20 IAMs_20 20 58 54.0
comp=Z,1μm,20.0s
IDI **Anoyia** 105.70 58 IAMs_20 IAMs_20 20 58 13.7
comp=Z,1μm,20.0s
SANT **Santorini** 106.39 57 IAMs_20 IAMs_20 20 58 56.1
comp=Z,2μm,21.0s
KWP **Kalwaria Pacla** 107.08 43 IAMs_20 IAMs_20 20 54 39.5
comp=Z,1μm,22.0s
KBS **Kingsbay** 107.92 12 IAMs_20 IAMs_20 20 55 58.7
comp=Z,2μm,22.0s

RDOG **Red Dog Mine** 108.97 337 IAMs_20 IAMs_20 21 01 36.8
comp=Z,2µm,20.0s

NACGM **Naroch** 110.31 38 *e*PKP PKiKP 20 12 50.0 +13
NACGM *e*PP PP 20 13 28.0 +16
NACGM *e*SKS **SKSac** **20 19 16.0 +1.6**
NACGM *e*SKKS **SKKSac** **20 20 24.0 +10**
NACGM *e*PS **PS** **20 22 48.0 +6.6**
NACGM *e*SS SKKPbc 20 27 38.0 +13
NACGM *e*LQ LQ 20 49 06.0
NACGM *e*LR LR 20 52 14.0
NACGM LRM MLR 20 57 09.0
comp=Z,12nm,19.0s

ISP Isparta 110.64 56 IAMs_20 IAMs_20 21 09 53.4
comp=Z,1µm,19.0s

AKASG **Malin Array Be** 111.38 42 PP **PP** **20 13 16.3 -3.1**
comp=Z,0.2nm,0.3s,baz=265,slow=6.6,SNR=4.4

ANTO Ankara 112.69 54 IAMs_20 IAMs_20 21 03 58.8
comp=Z,2µm,20.0s

SANVU **Saraoutou** 113.05 243 IAMs_20 IAMs_20 20 50 46.3
comp=Z,2µm,20.0s

APA Apatity 113.58 24⇑ *i*PKIKP PKiKP 20 12 51.1 +8.6
APA pmax pmax
comp=Z,10.0nm,1.1s

ADK Adak 115.07 319 IAMs_20 IAMs_20 20 55 24.1
comp=Z,917nm,19.0s

GAZ Gaziantep 115.83 58 IAMs_20 IAMs_20 21 07 52.9
comp=Z,1µm,20.0s

OBN Obninsk 115.95 38 *i* PKIKP **PKiKP** **20 12 48.1 +0.7**
OBN pmax pmax
comp=Z,10.0nm,1.5s

MOS Moscow 116.52 37 *e*PKIKP **PKPdf** **20 12 46.9 -1.6**
MOS *e* 20 14 02.0
MOS *e* 20 23 36.4
MOS MLR MLR
comp=E,2µm,18.0s
MOS MLR MLR
comp=Z,2µm,18.0s

ANN Anapa 116.53 49 *e*PKIKP **PKiKP** **20 12 54.5 +5.7**
ANN *e* 20 13 53.8
ANN *e* 20 16 24.0
ANN *e* 20 19 39.6

KLMR Klimovskoe 117.00 31 *e*PKIKP **PKPdf** **20 12 47.4 -1.9**
KLMR *e* 20 13 54.1
KLMR *e*PS **PS** **20 23 41.5 -0.9**
KLMR *e*SS SS 20 30 06.3 0.0
KLMR pmax pmax
comp=Z,20nm,1.5s

KLMR Klimovskoe 117.00 31 *e*PKPdf **PKPdf** **20 12 47.4 -1.9**
KLMR AMP 20 13 03.5
comp=Z,20nm,1.5s
KLMR *e*PP **PP** **20 13 54.1 -4.8**
KLMR *e*PS **PS** **20 23 41.6 -0.9**
KLMR *e*PS **PS** **20 23 41.6 -0.9**
KLMR *e*SS **SS** **20 30 06.4 +0.1**
KLMR *e*SS **SS** **20 30 06.4 +0.1**
KLMR LQ LQ 20 53 34.4
KLMR LQ LQ 20 53 34.4
KLMR LR LR 20 57 39.5

LPSR Galich'ya Gora 117.46 40 *i* PKIKP **PKPdf** **20 12 49.2 -1.2**
LPSR pmax pmax
comp=Z,8.0nm,0.8s

VSR Storozhevoye 117.67 42 *i* PKIKP **PKPdf** **20 12 49.9 -0.9**
VSR pmax pmax
comp=Z,10.0nm,1.7s
VSR MLR MLR
comp=Z,1µm,19.0s

SOC Sochi 118.14 51 *i* PKIKP **PKPdf** **20 12 48.7 -3.3**
VRH Novokhopyorsk 119.28 42 *i* PKIKP **PKPdf** **20 12 53.8 -0.1**
VRH pmax pmax
comp=Z,10.0nm,1.3s

KIV Kislovodsk 120.29 50 *i* PKIKP **PKPdf** **20 12 56.2 -0.1**
KIV *e* 20 14 19.8
KIV *e* 20 19 53.2
KIV *e*PS **PS** **20 24 12.7 -0.4**
KIV *e*SS SS 20 30 51.8 +1.6
KIV pmax pmax
comp=Z,21nm,1.0s

KIV Kislovodsk 120.29 50 PKPdf **PKPdf** **20 12 55.2 -1.0**
BILL Bilibino 120.30 339 *i* PKIKP **PKPdf** **20 12 55.1 -0.3**
BILL pmax pmax
comp=Z,3.0nm,1.4s

KBZ Khabaz 120.45 50 PKP **PKiKP** **20 12 57.4 +0.9**
comp=Z,3.1nm,0.8s,baz=232,slow=3.6,SNR=7.3

KBZ Khabaz 120.45 50*d* *i*PKIKP **PKiKP** **20 12 57.6 +1.1**
AKH Akhalkalaki 120.91 53 IAMs_20 IAMs_20 21 11 25.2
comp=Z,2µm,19.0s

ZEI Tsey 121.20 51 *i* PKIKP **PKiKP** **20 12 58.3 0.0**
HNR Honiara 122.18 245 IAMs_20 IAMs_20 20 55 59.3
comp=Z,2µm,20.0s

GROC Groznyy 122.57 51 *i* PKIKP **PKiKP** **20 13 01.6 +0.9**
GROC *e* 20 14 37.1
GROC pmax pmax
comp=Z,27nm,1.4s

MAK Makhachkala 123.84 51 *e*P **Pdif** **20 09 30.1 -6.0**
MAK *e* 20 14 43.2
MAK *e*PPP PPP 20 17 21.6
MAK *e*SS SS 20 31 34.0 -1.2
MAK *e*SSS SSS 20 36 09.6
MAK pmax pmax
comp=Z,14nm,0.3s

H11S2 WAKE ISLAND Hyl 25.86 279 T T 22 32 26.6
baz=101,slow=74,SNR=1270

H11S1 WAKE ISLAND Hyl 25.87 279 T T 22 32 25.4
baz=101,slow=74,SNR=960

H11S3 WAKE ISLAND Hyl 25.88 279 T T 22 32 29.2
baz=101,slow=74,SNR=716

H11N3 WAKE ISLAND Hyl 25.90 280 T T 22 32 31.7
baz=100,slow=75,SNR=282

H11N2 WAKE ISLAND Hyl 25.92 280 T T 22 32 32.7
baz=100,slow=75,SNR=256

H11N1 WAKE ISLAND Hyl 25.92 280 T T 22 32 30.0
baz=100,slow=75,SNR=224

TIXI Tiksi 126.89 352⇓ *i*PKIKP **PKiKP** **20 13 09.0 +0.5**
TIXI pmax pmax
comp=Z,5.0nm,1.3s
TIXI MLR MLR
comp=Z,2µm,20.0s

TIXI Tiksi 126.89 352 PKPdf **PKiKP** **20 13 08.9 +0.5**
TIXI IAMs_20 IAMs_20 21 11 24.0
comp=Z,1µm,20.0s

ARU Arti 127.74 33 *i* PKIKP **PKiKP** **20 13 11.0 +0.4**
ARU 20 15 09.6
ARU PPP PPP 20 17 59.6
ARU 20 20 22.1
ARU SP SP 20 25 13.3 -1.7
ARU PS **PS** **20 25 21.1 +3.0**
ARU SS **SS** **20 32 16.6 -6.4**
ARU MLR MLR
comp=Z,2µm,20.0s

ARU Arti 127.74 33 PKPdf **PKiKP** **20 13 10.7 +0.1**
SVE Sverdlovsk 128.62 32 *i* PKIKP **PKiKP** **20 13 13.0 +0.7**
SVE pmax pmax
comp=Z,14nm,1.4s
SVE MLR MLR
comp=Z,2µm,20.0s

NRIK Noril'sk 128.73 10 PKP **PKiKP** **20 13 12.8 +0.6**
comp=Z,2.1nm,0.6s,baz=256,slow=0.9,SNR=4.9

NRIK Noril'sk 128.73 10⇓ *e*PKIKP **PKiKP** **20 13 12.5 +0.3**
PET Petropavlovsk 129.64 323 IAMs_20 IAMs_20 21 20 40.8
comp=Z,745nm,21.0s

PEA0B Petropavlovsk- 130.14 324 IAMs_20 IAMs_20 21 20 48.4
comp=Z,925nm,20.0s

PETK Petropavlovsk- 130.14 324 PKP **PKiKP** **20 13 15.2 -0.3**
comp=Z,4.8nm,0.9s,baz=134,slow=8.5,SNR=6.4

PETK Petropavlovsk- 130.14 324 PKPdf **PKiKP** **20 13 15.5 0.0**
MA2 Magadan 130.42 334⇓ *i*PKIKP **PKiKP** **20 13 16.3 +0.4**
MA2 pmax pmax
comp=Z,11nm,1.7s
MA2 MLR MLR
comp=Z,825nm,23.0s

MA2 Magadan 130.42 334 IAMs_20 IAMs_20 21 19 56.4
comp=Z,977nm,19.0s

ASAR Alice Springs 130.51 210 PKP **PKPdf** **20 13 16.8 +0.3**
comp=Z,4.6nm,1.0s,baz=149,slow=2.4,SNR=16

ASAR Alice Springs 130.51 210 PKPdf **PKPdf** **20 13 15.5 -0.9**
AS31 Alice Springs 130.51 210 PKPdf **PKPdf** **20 13 15.0 -1.5**
ABKAR **Akbulak array** 131.10 41 PKPdf **PKPdf** **20 13 17.1 +0.4**
RABL Rabaul 131.48 245 IAMs_20 IAMs_20 21 01 10.1
comp=Z,1µm,20.0s

GEYT Alibeck 132.40 56 PKP **PKPdf** **20 13 19.2 -0.3**
comp=Z,1.8nm,0.7s,baz=219,slow=8.4,SNR=8.3

GYA0B **ALIBECK ARRAY** 132.40 56 PKPdf **PKPdf** **20 13 18.6 -1.0**
GYA0B IAMs_20 IAMs_20 21 17 57.5
comp=Z,1µm,20.0s

WRA Warramunga Arr 133.43 213 PKP **PKiKP** **20 13 22.6 -0.6**
comp=Z,2.7nm,0.7s,baz=145,slow=1.5,SNR=5.7

WRAB Tennant Creek 133.43 213⇓ *i*PKIKP **PKiKP** **20 13 24.4 +1.2**
WRAB MLR MLR
comp=Z,2µm,17.0s

BRVK Borovoye 135.31 33⇑ *i*PKIKP **PKiKP** **20 13 26.5 +0.5**
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BRVK MLR MLR
comp=Z,2µm,22.0s

YAK Yakutsk 135.47 346 *i* PKIKP **PKiKP** **20 13 27.5 +1.5**
YAK *e* 20 16 06.4
YAK pmax pmax
comp=Z,8.0nm,1.0s
YAK pmax pmax
comp=Z,9.0nm,0.9s

YAK Yakutsk 135.47 346 IAMs_20 IAMs_20 21 17 56.6
comp=Z,939nm,20.0s

HRA Herat 136.15 61 PKPdf **PKPdf** **20 13 26.7 -0.2**
KUR Kuril'sk 139.25 317 *i* PKIKP **PKiKP** **20 13 33.1 -1.1**
KUR pmax pmax
comp=Z,445nm,15.0s

KKAR Karatay Array 140.16 46 PKIKP **PKPdf** **20 13 34.4 +0.7**
KKAR Karatay Array 140.16 46 PKPdf **PKPdf** **20 13 34.4 +0.7**
IUG luzhnay 140.20 47 *e*PKP **PKiKP** **20 13 35.2 -1.2**
baz=47
IUG *e*PP **PP** **20 16 34.0 +2.4**
baz=47
IUG LR LR 21 20 35.6
comp=Z,70nm,19.9s,baz=47

IUG luzhnay 140.20 47 *e*PKIKP **PKiKP** **20 13 35.2 -1.2**
IUG *e* 20 16 33.9

CHGR Chuyangaron 140.73 53 PKPdf **PKPdf** **20 13 36.1 +1.1**
DZA Taraz 140.80 46 *e*PKP **PKPdf** **20 13 36.0 +1.1**
baz=46
DZA LR LR 21 21 41.5
comp=Z,237nm,17.3s,baz=46

DZA Taraz 140.80 46 *e*PKIKP **PKPdf** **20 13 36.0 +1.1**
KURK Kurchatov 140.85 31⇓ *i*PKIKP **PKiKP** **20 13 36.1 -1.2**
KURK pmax pmax
comp=Z,11nm,1.7s
KURK MLR MLR
comp=Z,2µm,21.0s

KURK Kurchatov 140.85 31 PKPdf **PKPdf** **20 13 35.6 +0.9**
YUK Yuzh-Kuril'sk 141.07 317 *i* PKIKP **PKiKP** **20 13 38.2 +0.2**
YUK 20 16 37.4
YUK *i* SS SS 20 35 04.9 +0.9

ZAA0 Zalesovo Array 141.15 23 PKPdf **PKPdf** **20 13 35.8 +0.6**
ZAA0 IAMs_20 IAMs_20 21 25 34.6
comp=Z,1µm,19.0s

ZALV Zalesovo Beam 141.15 23 PKhKP PKPpre 20 13 28.3
comp=Z,0.4nm,0.5s,baz=270,slow=0.9,SNR=3.9
ZALV PKP **PKPdf** **20 13 34.8 -0.3**
comp=Z,6.1nm,0.7s,baz=321,slow=2.9,SNR=13

ZALV Zalesovo Beam 141.15 23 PKPpre PKPpre 20 13 28.3
ZALV **PKPdf** **20 13 34.5 -0.6**

YSS Yuzh-Sakhalins 141.51 322⇑ *i*PKIKP **PKiKP** **20 13 37.8 -1.0**
YSS *e* 20 16 43.7
YSS *e*PPP PPP 20 19 47.0
YSS *e*SS SS 20 35 16.7 +7.8
YSS pmax pmax
comp=Z,10.0nm,1.2s
YSS pmax pmax
comp=Z,500nm,5.8s

YSS Yuzh-Sakhalins 141.51 322 IAMs_20 IAMs_20 21 21 42.1
comp=Z,1µm,20.0s

BTLS Baital 141.59 41⇑ *i*PKP **PKPdf** **20 13 37.6 +1.3**
comp=Z,41nm,3.9s,baz=41
BTLS LR LR 21 16 55.4
comp=Z,250nm,17.4s,baz=41

BTLS Baital 141.59 41*c* *i*PKIKP **PKPdf** **20 13 37.5 +1.3**
BTLS pmax pmax
comp=Z,41nm,3.9s
BTLS MLR MLR
comp=Z,250nm,17.0s

SEM Semipalatinsk 141.84 30 *e*PKP **PKPdf** **20 13 37.3 +0.5**
baz=30

SEM Semipalatinsk 141.84 30 *e*PKIKP **PKPdf** **20 13 37.2 +0.5**
BOD Bodaibo 141.88 356 *e*PKHKP PKPpre 20 13 30.6
BOD pmax pmax
comp=Z,16nm,1.5s

GRNR Gornyy 142.35 332 *e*PKHKP PKPpre 20 13 33.7
SGDS Sogindy 142.72 43 *e*PKP **PKPdf** **20 13 39.4 +1.0**
baz=43
SGDS *e*PP **PP** **20 16 48.8 +2.0**
baz=43
SGDS *e*SKS **SKSdf** **20 20 49.2 +1.3**
baz=43

SGDS Sogindy 142.72 43 *e*PKIKP **PKPdf** **20 13 39.3 +0.9**
SGDS *e* 20 16 48.7
SGDS *e* 20 20 49.1

AAK Ala-Archa 143.01 44⇑ *e*PKIKP **PKPdf** **20 13 38.4 -0.6**
AAK MLR MLR
comp=Z,2µm,20.0s

AAK Ala-Archa 143.01 44 PKPdf **PKPdf** **20 13 38.5 -0.6**
ZEA Zeya 143.39 342 *i* PKIKP PKPbc 20 13 35.8 -0.5
ZEA *e* 20 20 02.0
ZEA pmax pmax
comp=Z,64nm,1.8s
ZEA pmax pmax
comp=Z,500nm,6.0s

KUU Kurty 143.59 41⇑ *i*PKP PKPbc 20 13 37.9 +0.7
comp=Z,92nm,1.5s,baz=41
KUU LR LR 21 14 53.9
comp=Z,872nm,18.4s,baz=41

KUU Kurty 143.59 41*c* *i*PKIKP PKPbc 20 13 37.8 +0.6
KUU pmax pmax
comp=Z,92nm,1.5s
KUU MLR MLR
comp=Z,872nm,18.0s

BOOM Boomskoye usch 144.03 44 PKIKP PKPbc 20 13 39.6 +0.8
BOOM MLR MLR
comp=Z,2µm,21.0s

BOOM Boomskoye usch 144.03 44 PKPbc 20 13 39.6 +0.8
MTBS Maitube 144.03 42 *e*PKP **PKPdf** **20 13 40.8 +0.1**
baz=42

MTBS Maitube 144.03 42 *e*PKIKP **PKPdf** **20 13 40.8 +0.1**
TDK Taldyqorghan 144.24 38 *i* PKP PKPbc 20 13 39.7 +0.6
baz=38
TDK LR LR 21 16 11.5
comp=Z,2µm,19.2s,baz=38

TDK Taldyqorghan 144.24 38 *i* PKIKP PKPbc 20 13 39.6 +0.5
TDK MLR MLR
comp=Z,2µm,19.0s

AAA Alma-Ata 144.29 42 *e*PKP **PKPdf** **20 13 41.7 +0.5**
baz=42
AAA LR LR 21 14 49.1
comp=Z,628nm,18.2s,baz=42

AAA Alma-Ata 144.29 42 *e*PKIKP **PKPdf** **20 13 41.6 +0.5**
AAA MLR MLR
comp=Z,628nm,18.0s

MDOK Medeo 144.40 42 *i* PKP PKPbc 20 13 40.4 +0.5
comp=Z,957nm,1.7s,baz=42
MDOK *e*PP **PP** **20 16 56.8 -0.1**
baz=42
MDOK *i* SKS **SKSdf** **20 20 49.8 -0.8**
baz=42
MDOK *i* LR LR 21 14 22.0
comp=Z,547nm,18.8s,baz=42

MDOK Medeo 144.40 42 *i* PKIKP PKPbc 20 13 40.3 +0.4
MDOK *e* 20 16 56.7
MDOK *i* 20 20 49.8
MDOK pmax pmax
comp=Z,957nm,1.7s
MDOK MLR MLR
comp=Z,547nm,19.0s

TNSS Tian-Shan 144.40 42⇑ *i*PKP **PKPdf** **20 13 41.6 -0.2**
baz=42

TNSS Tian-Shan 144.40 42*c* *i*PKIKP **PKPdf** **20 13 41.6 -0.2**
MAKZ Makanchi 145.10 33 PKIKP **PKPbc** **20 13 41.6 -0.2**
MAKZ MLR MLR
comp=Z,2µm,20.0s

MAKZ Makanchi 145.10 33 **PKPbc** **20 13 41.6 -0.2**
KPKS Kokpek 145.26 40⇑ *i*PKP **PKPdf** **20 13 43.8 +0.9**
comp=Z,246nm,1.7s,baz=40

KPKS Kokpek 145.26 40*c* *i*PKIKP **PKPdf** **20 13 43.7 +0.9**
KPKS pmax pmax
comp=Z,246nm,1.7s
KPKS MLR MLR
comp=Z,684nm,20.0s

MK31 Makanchi Array 145.27 33 PKIKP **PKPbc** **20 13 42.4 0.0**
MK31 Makanchi Array 145.27 33 **PKPbc** **20 13 42.4 0.0**
MKAR Makanchi Array 145.27 33 PKPbc **PKPdf** **20 13 42.6 -0.1**
comp=Z,8.5nm,0.6s,baz=336,slow=2.7,SNR=52

MKAR Makanchi Array 145.27 33 **PKPbc** **20 13 42.4 0.0**

NIL Nilore 145.27 59 PKIKP **PKPbc** **20 13 42.7 -0.1**
NIL MLR MLR
comp=Z,3µm,19.0s

NIL Nilore 145.27 59 **PKPbc** **20 13 42.7 -0.1**
GUMO Guam 145.30 265 PKP2 **PKPbc** **20 13 43.0 -0.3**
GUMO MLR MLR
comp=Z,1µm,19.0s

GUMO Guam 145.30 265 **PKPbc** **20 13 43.0 -0.3**
GUMO IAMs_20 IAMs_20 21 11 39.8
comp=Z,1µm,19.0s

SATY Saty 145.30 41 *i* PKP **PKPdf** **20 13 43.7 +0.6**
comp=Z,75nm,1.6s,baz=41
SATY LR LR 21 15 07.5
comp=Z,306nm,19.9s,baz=41

SATY Saty 145.30 41 *i* PKIKP **PKPdf** **20 13 43.6 +0.6**
SATY pmax pmax
comp=Z,75nm,1.6s
SATY MLR MLR
comp=Z,306nm,20.0s

KSH Kashi 145.38 48 PKPbc **PKPab** **20 13 44.1 +0.8**
KSH SS SS 20 35 54.4 -0.2
KSH LR LR
comp=Z,1µm,15.8s
KSH LR LR
comp=Z,1µm,14.3s
KSH LR LR
comp=Z,3µm,21.6s

DGZ Jazzator, Alta 145.50 25*c* *i*PKIKP **PKPab** **20 13 43.6 +0.2**
KLR Kul'dur 145.52 334*c* *i*PKIKP **PKPab** **20 13 43.4 +0.1**
PRZ Przheval'sk 145.60 42 PKIKP **PKiKP** **20 13 45.9 -1.7**
PRZ MLR MLR
comp=Z,1µm,20.0s

PRZ Przheval'sk 145.60 42 **PKiKP** **20 13 45.9 -1.7**
TARG Taragay, Kyrgy 145.61 44 **PKPab** **20 13 44.7 +0.3**
UZB Uzynbulak 145.64 41 *i* PKP **PKPab** **20 13 44.8 +0.6**
comp=Z,128nm,1.7s,baz=41
UZB LR LR 21 26 19.2
comp=Z,542nm,18.7s,baz=41

UZB Uzynbulak 145.64 41 *i* PKIKP **PKPab** **20 13 44.7 +0.6**
UZB pmax pmax
comp=Z,128nm,1.7s

SHLS Shalkode 145.90 40⇑ *i*PKP **PKPab** **20 13 46.1 +1.0**
comp=Z,226nm,2.9s,baz=40
SHLS *e*PP **PP** **20 17 10.4 +4.7**
baz=40
SHLS LR LR 21 17 37.2
comp=Z,246nm,17.2s,baz=40

SHLS Shalkode 145.90 40*c* *i*PKP2 **PKPab** **20 13 46.1 +1.0**
SHLS *e* 20 17 10.4
SHLS pmax pmax
comp=Z,226nm,2.9s
SHLS MLR MLR
comp=Z,247nm,17.0s

ZSN Zaisan 146.08 30⇑ *i*PKP **PKPab** **20 13 45.8 +0.2**
comp=Z,176nm,4.0s,baz=30
ZSN *e*PP **PP** **20 17 09.6 +3.3**
baz=30
ZSN LR LR 21 15 12.6
comp=Z,352nm,19.0s,baz=30

ZSN Zaisan 146.08 30*c* *i*PKIKP **PKPab** **20 13 45.7 +0.2**
ZSN *e* 20 17 09.5
ZSN pmax pmax
comp=Z,176nm,4.0s
ZSN MLR MLR
comp=Z,352nm,19.0s

TEY Ternei 146.11 324⇑ *e*PKP2 **PKPab** **20 13 45.9 +0.3**
TEY pmax pmax
comp=Z,300nm,5.4s

IRK Irkutsk 147.41 6 *e*PKIKP **PKPdf** **20 13 46.8 +0.7**
IRK pmax pmax
comp=Z,81nm,1.5s

MOY Mondy 147.57 10 *e*PKP2 **PKPbc** **20 13 48.0 -1.2**
MOY pmax pmax
comp=Z,88nm,2.0s

CIT Chita 147.67 355 *e*PKP2 **PKiKP** **20 13 50.4 -1.0**
CIT pmax pmax
comp=Z,43nm,2.1s

TLY Talaya 147.90 6*c* *i*PKIKP **PKPdf** **20 13 48.1 +1.1**
TLY *e* 20 17 16.0
TLY *e*SS SS 20 36 14.0 -6.7
TLY pmax pmax
comp=Z,110nm,2.2s

TLY Talaya 147.90 6 PKPdf **PKPdf** **20 13 47.5 +0.5**
TLY IAMs_20 IAMs_20 21 25 14.0
comp=Z,880nm,20.0s

FAKI Fak Fak 148.00 228 **PKiKP** **20 13 52.4 -0.8**
USA0B Ussuriysk Arra 149.12 327 PKIKP **PKPdf** **20 13 49.7 +0.6**
USA0B MLR MLR
comp=Z,1µm,21.0s

USA0B Ussuriysk Arra 149.12 327 PKPdf **PKPdf** **20 13 49.7 +0.6**
USRK Ussuriysk Ar. 149.12 327 PKPbc **PKPbc** **20 13 53.2 -0.1**
comp=Z,3.9nm,0.8s,baz=113,slow=4.4,SNR=18

USRK Ussuriysk Ar. 149.12 327 PKIKP **PKPdf** **20 13 49.7 +0.6**
USRK Ussuriysk Ar. 149.12 327 PKPdf **PKPdf** **20 13 49.7 +0.6**
ZAK Zakamensk 149.14 7 *e*PKIKP **PKPdf** **20 13 50.3 +1.2**
ZAK pmax pmax
comp=Z,31nm,1.6s

KLRI Killari 149.17 88 *e*PKIKP **PKPbc** **20 13 54.4 +0.2**
URV Uravakonda 149.20 94 *e*PKIKP **PKPbc** **20 13 54.9 +0.5**
HIA Hailar 149.41 346 PKIKP **PKPdf** **20 13 49.9 +0.4**
HIA MLR MLR
comp=Z,1µm,20.0s

HIA Hailar 149.41 346 **PKPdf** **20 13 49.9 +0.4**
MJAR Matsushiro Arr 149.61 309 PKPbc **PKiKP** **20 13 55.6 -0.2**
comp=Z,18nm,1.0s,baz=194,slow=0.6,SNR=17

MJAR Matsushiro Arr 149.61 309 PKIKP **PKPdf** **20 13 50.5 +0.3**
MJAR Matsushiro Arr 149.61 309 PKPdf **PKPdf** **20 13 50.5 +0.3**
MAJO Matsushiro 149.62 309 PKP2 **PKiKP** **20 13 55.4 -0.4**
MAJO MLR MLR
comp=Z,2µm,21.0s

MAJO Matsushiro 149.62 309 **PKiKP** **20 13 55.4 -0.4**
MAT Matsushiro 149.62 309 PKP **PKPbc** **20 13 54.8 0.0**
MJB9 Matsu-Tunnel 149.62 309 **PKiKP** **20 13 55.5 -0.4**
MDJ Mudanjiang 149.99 330 PKPbc **PKPdf** **20 13 50.6 +0.1**
MDJ PP **PP** **20 17 32.9 +3.8**
MDJ AMB AMB
comp=Z,280nm,7.7s
MDJ LR LR
comp=Z,1µm,18.5s
MDJ LR LR
comp=Z,1µm,17.1s
MDJ LR LR
comp=Z,2µm,24.2s

MDJ Mudanjiang 149.99 330 **PKPdf** **20 13 50.8 +0.2**
WMQ Urumqi 150.07 32 PKPbc **PKPdf** **20 13 51.1 +0.3**
WMQ PP PP 20 17 38.4 +8.6
WMQ SKKS 20 24 14.3
WMQ SS **SS** **20 36 47.0 +0.8**
WMQ AMB AMB
comp=Z,380nm,11.9s
WMQ LR LR
comp=Z,730nm,21.3s
WMQ LR LR
comp=Z,2µm,23.1s
WMQ LR LR
comp=Z,2µm,21.3s

HYBB Hyderabad (bro 150.91 90 *e*PKPbc **PKPbc** **20 13 57.9 -0.6**
HYB Hyderabad 150.91 90 *i* PKP **PKPbc** **20 13 58.5 0.0**
SRSP Sriramsagar 150.93 86 *e*PKIKP **PKPbc** **20 13 58.6 +0.2**
SRLM Srisailam 150.98 92 *e*PKIKP **PKPbc** **20 13 58.4 -0.3**
INU Inuyama 151.00 308 **PKiKP** **20 13 59.1 +0.4**
NJS Nagarjunasagar 151.46 92 *e*PKiKP **PKPbc** **20 13 59.8 +0.1**
RPR Rampur 151.81 87 *e*PKiKP **PKPbc** **20 14 00.5 0.0**
SONM Songino Array 151.95 4 PKP **PKPdf** **20 13 54.6 +0.9**
comp=Z,2.6nm,1.0s,baz=270,slow=0.8,SNR=15
SONM PKPbc **PKiKP** **20 14 00.8 +0.3**
comp=Z,3.3nm,0.6s,baz=283,slow=1.1,SNR=17

SONM Songino Array 151.95 4 PKIKP **PKPdf** **20 13 53.9 +0.3**
SONM Songino Array 151.95 4 PKPdf **PKPdf** **20 13 53.9 +0.3**
ULN Ulaanbaatar 151.96 3 PKIKP **PKPdf** **20 13 54.5 +0.8**
ULN MLR MLR
comp=Z,1µm,19.0s

ULN Ulaanbaatar 151.96 3 PKPdf **PKPdf** **20 13 54.5 +0.8**
CN2 Changchun 152.47 334 *e*P **PKPbc** **20 14 01.1 -0.1**
TNTI Ternate 154.01 225 IAMs_20 IAMs_20 21 18 27.9
comp=Z,580nm,20.0s

SNY Shenyang 154.88 334 ⇑PKPbc **PKPdf** **20 13 58.5 +0.7**
SNY PP **PP** **20 17 59.1 +2.4**
SNY SS SS 20 37 40.1 +1.8
SNY AMB AMB
comp=Z,340nm,11.3s
SNY LR LR
comp=Z,700nm,23.0s
SNY LR LR
comp=Z,450nm,21.6s

SNY					LR	LR				
	comp=Z,1μm,22.6s									
LUWI	**Luwuk**	**155.35**	**214**		IAMs_20	IAMs_20	21 16 47.2			
	comp=Z,946nm,21.0s									
KSRS	**Korea Array**	**156.00**	**321**		PKP	**PKPdf**	**20 14 00.2**	**+0.8**		
	comp=Z,3.2nm,0.9s,baz=8.9,slow=0.8,SNR=11									
KSAR	**Wonju Array Be**	**156.03**	**321**		PKIKP	**PKPdf**	**20 14 00.0**	**+0.5**		
KSAR	**Wonju Array Be**	**156.03**	**321**		PKPdf	**PKPdf**	**20 14 00.0**	**+0.5**		
INCN	**Inchon**	**156.72**	**323**		IAMs_20	IAMs_20	21 20 31.0			
	comp=Z,979nm,21.0s									
DL2	**Dalian**	**158.13**	**333**		PKP	**PKPdf**	**20 14 05.9**	**+3.8**		
DL2					PP	**PP**	**20 18 16.4**	**+1.6**		
DL2					SS	SS	20 38 18.1	+4.7		
DL2					AMB	AMB				
	comp=Z,230nm,9.4s									
DL2					LR	LR				
	comp=Z,580nm,21.4s									
DL2					LR	LR				
	comp=Z,580nm,22.2s									
DL2					LR	LR				
	comp=Z,880nm,20.6s									
GTA	**Gaotai**	**158.87**	**20**	⇑PKP	**PKPdf**	**20 14 04.0**	**+0.8**			
GTA				PP	**PP**	**20 18 17.8**	**-1.0**			
GTA				SS	SS	20 38 24.1	+2.9			
GTA				AMB	AMB					
	comp=Z,390nm,8.5s									
GTA				LR	LR					
	comp=Z,860nm,20.0s									
GTA				LR	LR					
	comp=Z,1μm,20.4s									
GTA				LR	LR					
	comp=Z,2μm,20.8s									
BJI	**Beijing**	**158.96**	**345**	PKP	**PKPdf**	**20 14 04.0**	**+0.9**			
BJI				PP	**PP**	**20 18 21.8**	**+2.8**			
BJI				SS	SS	20 38 20.3	-1.3			
BJI				AMB	AMB					
	comp=Z,220nm,6.5s									
BJI				LR	LR					
	comp=Z,800nm,22.1s									
BJI				LR	LR					
	comp=Z,610nm,26.1s									
BJI				LR	LR					
	comp=Z,870nm,23.8s									
BTO	**Baotou**	**159.26**	**358**	*e*PKP	**PKPdf**	**20 14 01.8**	**-1.8**			
LSA	**Lhasa**	**160.93**	**55**	PKP	**PKPdf**	**20 14 07.4**	**+1.1**			
LSA				LR	LR					
	comp=Z,5μm,20.6s									
LSA				LR	LR					
	comp=Z,4μm,24.2s									
LSA				LR	LR					
	comp=Z,10μm,22.1s									
LSA	**Lhasa**	**160.93**	**55**	PKIKP	**PKPdf**	**20 14 07.1**	**+0.8**			
LSA	**Lhasa**	**160.93**	**55**		**PKPdf**	**20 14 07.1**	**+0.8**			
TIY	**Taiyuan**	**161.94**	**352**	*e*PKP	**PKPdf**	**20 14 08.4**	**+1.8**			
TIY				PP	**PP**	**20 18 37.8**	**+2.8**			
TIY				SS	SS	20 38 54.3	+1.4			
TIY				AMB	AMB					
	comp=Z,440nm,7.7s									
TIY				LR	LR					
	comp=Z,1μm,22.8s									
TIY				LR	LR					
	comp=Z,670nm,17.3s									
TIY				LR	LR					
	comp=Z,2μm,23.7s									
SHL	**Shillong**	**163.06**	**67**	PKIKP	**PKPdf**	**20 14 07.9**	**-0.3**			
SHL						20 14 57.4				
SHL	**Shillong**	**163.06**	**67**	PKPdf	**PKPdf**	**20 14 07.8**	**-0.3**			
SHL				PKPab	**PKPab**	**20 14 57.4**	**-0.6**			
LZH	**Lanzhou**	**163.12**	**15**	⇑PKP	**PKPdf**	**20 14 08.8**	**+0.9**			
LZH				pPKP	pPKPdf	20 14 12.3	-0.2			
LZH				PP	**PP**	**20 18 41.4**	**-0.2**			
LZH				SKKS		20 25 31.6				
LZH				SS	**SS**	**20 39 10.1**	**+4.4**			
LZH				AMB	AMB					
	comp=Z,670nm,13.2s									
LZH				LR	LR					
	comp=Z,1μm,19.0s									
LZH				LR	LR					
	comp=Z,2μm,19.6s									
LZH				LR	LR					
	comp=Z,2μm,21.1s									
SSE	**Sheshan**	**164.39**	**318**	PKP	**PKPdf**	**20 14 08.5**	**-0.5**			
SSE				AMB	AMB					
	comp=Z,180nm,12.2s									
SSE				LR	LR					
	comp=Z,250nm,20.1s									
SSE				LR	LR					
	comp=Z,410nm,20.3s									
NJ2	**Nanjing**	**165.03**	**326**	*e*PKP	**PKPdf**	**20 14 08.8**	**-0.7**			
NJ2				PP	**PP**	**20 18 52.9**	**+1.0**			
NJ2				SS	SS	20 39 26.8	+0.9			
NJ2				AMB	AMB					
	comp=Z,630nm,7.1s									
NJ2				LR	LR					
	comp=Z,480nm,18.0s									
NJ2				LR	LR					
	comp=Z,570nm,14.7s									
NJ2				LR	LR					
	comp=Z,1μm,22.7s									
XAN	**Xi'an**	**165.82**	**1**	PKP	**PKPdf**	**20 14 11.4**	**+1.2**			
XAN				pPKP	sPKPdf	20 14 20.0	+3.6			
XAN				PP	**PP**	**20 19 00.1**	**+4.7**			
XAN				SS	SS	20 39 28.5	-4.3			
XAN				LR	LR					
	comp=Z,2μm,20.0s									
XAN				LR	LR					
	comp=Z,1μm,19.5s									
XAN				LR	LR					
	comp=Z,2μm,21.1s									
XAN	**Xi'an**	**165.82**	**1**	PKIKP	**PKPdf**	**20 14 10.1**	**-0.1**			
XAN	**Xi'an**	**165.82**	**1**		**PKPdf**	**20 14 10.1**	**-0.1**			
CD2	**Chengdu**	**167.92**	**23**	PKP	**PKPdf**	**20 14 11.9**	**0.0**			
CD2				PP	**PP**	**20 19 05.6**	**-0.9**			
CD2				SS	SS	20 39 56.0	+1.4			
CD2				AMB	AMB					
	comp=Z,710nm,8.8s									
CD2				LR	LR					
	comp=Z,1μm,18.2s									
CD2				LR	LR					
	comp=Z,1μm,19.8s									
CD2				LR	LR					
	comp=Z,2μm,16.9s									
WHN	**Wuhan**	**168.33**	**337**	PKP	**PKPdf**	**20 14 13.8**	**+1.7**			
WHN				PKPab	**PKPab**	**20 15 21.6**	**+1.0**			
WHN				PP	**PP**	**20 19 07.9**	**-0.6**			
WHN				SS	SS	20 39 56.8	-1.8			
WHN				AMB	AMB					
	comp=Z,760nm,7.9s									
WHN				LR	LR					
	comp=Z,2μm,15.7s									
WHN				LR	LR					
	comp=Z,2μm,21.5s									
WHN				LR	LR					
	comp=Z,4μm,19.4s									
ENH	**Enshi**	**169.58**	**358**		**PKPdf**	**20 14 13.5**	**+0.5**			
QZH	**Quanzhou**	**169.90**	**302**	PKP	**PKPdf**	**20 14 12.5**	**-0.7**			
QZH				PP	**PP**	**20 19 16.8**	**-1.0**			
QZH				SS	SS	20 40 19.5	+2.8			
QZH				AMB	AMB					
	comp=Z,560nm,7.3s									
QZH				LR	LR					
	comp=Z,920nm,19.8s									
QZH				LR	LR					
	comp=Z,820nm,20.9s									
QZH				LR	LR					
	comp=Z,1μm,18.8s									
CMAR	**Chiang Mai Arr**	**170.24**	**96**	PKP	**PKPdf**	**20 14 13.1**	**-0.6**			
	comp=Z,2.5nm,1.1s,baz=265,slow=2.6,SNR=9.9									
CMAR				PKPab	**PKPab**	**20 15 29.8**	**+0.1**			
	comp=Z,3.9nm,1.0s,baz=263,slow=5.0,SNR=9.5									
CMAR				PP	**PP**	**20 19 20.8**	**+0.5**			
	comp=Z,1.6nm,1.1s,baz=275,slow=6.9,SNR=4.5									
CMAR	**Chiang Mai Arr**	**170.24**	**96**	PKIKP	**PKPdf**	**20 14 13.7**	**+0.1**			
CMAR	**Chiang Mai Arr**	**170.24**	**96**		**PKPdf**	**20 14 13.7**	**+0.1**			
CHTO	**Chiang Mai**	**170.29**	**94**	PKIKP	**PKPdf**	**20 14 13.7**	**+0.1**			
CHTO						20 15 29.6				
CHTO	**Chiang Mai**	**170.29**	**94**		**PKPdf**	**20 14 13.7**	**+0.1**			
CHTO				PKPab	**PKPab**	**20 15 29.6**	**-0.4**			
KMI	**Kunming**	**172.05**	**47**	⇑PKP	**PKPdf**	**20 14 15.5**	**+0.8**			
KMI				sPKP		20 14 24.9				
GYA	**Guiyang**	**172.99**	**19**	PKP	**PKPdf**	**20 14 16.1**	**+1.2**			
GYA				sPKP		20 14 25.3				
GYA				PKPab	**PKPab**	**20 15 41.6**	**+0.1**			
GYA				SKKS		20 26 18.3				
GYA				AMB	AMB					
	comp=Z,800nm,14.7s									
GYA				LR	LR					
	comp=Z,790nm,19.3s									
GYA				LR	LR					
	comp=Z,580nm,18.0s									
GYA				LR	LR					
	comp=Z,1μm,20.6s									
QIZ	**Qiongzhong**	**179.00**	**219**	PKP	**PKPdf**	**20 14 17.3**	**+1.0**			
QIZ				PP	**PP**	**20 20 05.3**	**+4.2**			
QIZ				SS	SS	20 41 43.8	+0.8			
QIZ				AMB	AMB					
	comp=Z,850nm,7.3s									
QIZ				LR	LR					
	comp=Z,840nm,20.1s									
QIZ				LR	LR					
	comp=Z,1μm,19.1s									
QIZ				LR	LR					
	comp=Z,1μm,21.1s									

DJA ***19*** *19:54:04.8±2.7,0˚S±6˚×9˚7E±1˚4,h28km±29km, M4.2/9, mb4.8/2, MLv3.9/9*

IDC ***19*** *19:54:04.3±3.4,0˚.09S×97˚.73E,h0km,mb3.6/5,mb1 3.7/6, mb1mx3.5/40,mbtmp3.5/6,ML3.6/1, Error ellipse: s-maj=129.9km s-min=23.1km az=59.0*

ISC 19 19:54:06.3±1.4, 0˚.25S±0˚.09×97˚.4E±0˚.2, h25km, n20, σ0§95/15, mb3.5/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**1.55**	**6**	P	**Pn**		**19 54 31.9**	**-0.5**
GSI				S	**Sb**		**19 54 52.5**	**-1.1**
SISI	**Saibi**	**2.00**	**122**	P	**Pn**		**19 54 37.2**	**-1.3**
MNSI	**Mandailing Nat**	**2.41**	**65**	P	**Pn**		**19 54 44.7**	**+0.5**
PDSI	**Padang**	**3.13**	**102**	P	**Pn**		**19 54 53.9**	**-0.2**
KCSI	**Kotacane, Aceh**	**3.76**	**6**	P	**Pn**		**19 55 02.0**	**-0.8**
KRJI	**Kerinci**	**4.45**	**114**	P	**Pn**		**19 55 12.6**	**+0.2**
MNAI	**Manna**	**6.89**	**126**	P	**Pn**		**19 55 44.8**	**-1.0**
	1.9nm331nm,1.6s							
LHSI	**Lahat**	**7.08**	**120**	P	**Pn**		**19 55 48.8**	**+0.4**
CMAR	**Chiang Mai Arr**	**18.65**	**5**	P	**P**		**19 58 20.9**	**-1.6**
	0.1nm,0.3s,baz=194,slow=11,SNR=5.6							
H08S2	**Diego Garcia H**	**25.90**	**253**	T	T		20 26 27.5	
	baz=74,slow=74,SNR=54							
H08S3	**Diego Garcia H**	**25.90**	**253**	T	T		20 26 27.3	
	baz=74,slow=74,SNR=44							
H08S1	**Diego Garcia H**	**25.92**	**253**	T	T		20 26 31.7	
	baz=74,slow=74,SNR=53							
H01W3	**Cape Leeuwin H**	**37.84**	**157**	T	T		20 41 33.1	
	baz=334,slow=76,SNR=19							
H01W2	**Cape Leeuwin H**	**37.85**	**157**	T	T		20 41 34.3	
	baz=334,slow=76,SNR=17							
H01W1	**Cape Leeuwin H**	**37.86**	**157**	T	T		20 41 43.3	
	baz=334,slow=76,SNR=16							
WRA	**Warramunga Arr**	**41.12**	**121**	P	**P**		**20 01 48.5**	**-0.2**
	0.7nm,0.7s,baz=300,slow=9.1,SNR=4.6							
ASAR	**Alice Springs**	**42.38**	**126**	P	**P**		**20 01 59.2**	**+0.2**
	0.2nm,0.6s,baz=301,slow=9.1,SNR=1.7							
SONM	**Songino Array**	**48.52**	**8**	P	**P**		**20 02 48.3**	**+0.9**
	0.2nm,0.5s,baz=198,slow=7.6,SNR=2.0							
MKAR	**Makanchi Array**	**48.69**	**346**	P	**P**		**20 02 49.8**	**+1.3**
	0.9nm,0.8s,baz=155,slow=9.7,SNR=6.9							
ZALV	**Zalesovo Beam**	**55.01**	**351**	P	**P**		**20 03 36.1**	**+0.6**
	0.7nm,0.4s,baz=159,slow=6.1,SNR=4.2							

SJA ***19*** *19:59:38.4±1.1, 19˚.87S×71˚.09W,h18km±6km, ML5.2, MW5.1*

IDC ***19*** *19:59:40.1±0.4, 19˚.74S×70˚.67W,h0km,mb4.8/26, mb1 4.9/28,mb1mx4.8/43,mbtmp4.8/28,ML4.8/2, Error ellipse: s-maj=15.9km s-min=12.3km az=66.0*

GUC ***19*** *19:59:42.6±0.7, 19˚.84S×70˚.89W,h39km±1km, ML5.0*

UNK ***19*** *19:59:42.9, 19˚.78S×70˚.75W,h17km*

NEIC ***19*** *19:59:42.9±1.3, 19˚.87S±0˚.04×70˚.85W±0˚.07, h21km±3km, mb5.2/213,Mww5.2,ML5.0(GUC), Error ellipse: s-maj=9.2km s-min=6.2km az=89.0*

BJI ***19*** *19:59:43.3±0.0, 19˚.80S×70˚.80W, h20km, mB5.5/11, Ms5.7/11,Ms7 5.6/6*

NEIC ***19*** *19:59:46, 19˚.78S×70˚.96W, h26km, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}6.53; $M_{\theta\theta}$0.16; $M_{\phi\phi}$-6.70; $M_{r\theta}$0.01; $M_{r\phi}$0.83; $M_{\theta\phi}$-6.44; Fault plane solution: $M_0$9.27000×10^{16} NP1:ϕ_s348.00000°, δ23.00000°, λ81.00000°. NP2:ϕ_s178.00000°, δ67.00000°, λ94.00000°. Principal axes: T 9.1615, Plg68.0000°, Azm95.0000°; N 0.2174, Plg4.0000°, Azm356.0000°; P -9.3790, Plg22.0000°, Azm265.0000°;*

GCMT ***19*** *19:59:46.9±0.3, 19˚.90S±0˚.02×71˚.22W±0˚.02, h28km±1km, MW5.3/95,Moment Tensor Solution. s27,c29; s95,c135; Duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.08±.08; $M_{\theta\theta}$-0.05±.04; $M_{\phi\phi}$-1.03±.05; $M_{r\theta}$0.33±.05; $M_{\theta\phi}$0.22±.02; $M_{\phi r}$-0.71±.05; Best double couple: $M_0$1.33200×10^{17} NP1:ϕ_s355.00000°, δ28.00000°, λ103.00000°. NP2:ϕ_s161.00000°, δ63.00000°, λ83.00000°. Principal axes: T 1.3430, Plg71.0000°, Azm56.0000°; N -0.0230, Plg6.0000°, Azm164.0000°; P -1.3210, Plg18.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 19:59:45.2±0.5, 19.84S±0˚.03×70˚.85W±0˚.06, h37km±1km, n602, σ0§90/560, mb5.1/115, 12C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.73**	**71**	⇑*i*P		**Pn**	**19 59 56.5**	**-2.5**
PSGC				*e*S		**Sn**	**20 00 07.7**	**-1.3**
PSGCX	**Pisagua**	**0.73**	**71**	Pn		**Pn**	**19 59 56.6**	**-2.5**
PSGCX	**Pisagua**	**0.73**	**71**	*i* P		**Pn**	**19 59 56.6**	**-2.5**
TA02	**Huaiquique**	**0.80**	**122**	⇑*i*P		**Pn**	**19 59 57.7**	**-2.3**
TA02				*e*S		**Sn**	**20 00 09.9**	**-0.8**
TA02				IAML			20 00 12.6	
	comp=E,75μm,0.4s							
TA01	**Diego Aracena**	**0.96**	**139**	⇑*i*P		**Pn**	**20 00 00.5**	**-1.6**
TA01				*e*S		**Sn**	**20 00 13.9**	**-0.6**
TA01				IAML			20 00 19.7	
	comp=N,40μm,0.5s							
TA01	**Diego Aracena**	**0.96**	**139**	Pn		**Pn**	**20 00 00.9**	**-1.2**
PB11	**IPOC Station P**	**1.13**	**86**	⇑*i*P		**Pn**	**20 00 03.3**	**-1.3**
PB11				*e*S		**Sn**	**20 00 19.2**	**+0.2**
PB11	**IPOC Station P**	**1.13**	**86**	Pn		**Pn**	**20 00 03.3**	**-1.3**
PB11	**IPOC Station P**	**1.13**	**86**	*i* P		**Pn**	**20 00 04.0**	**-0.6**
PB11				IAML			20 00 30.6	
	comp=Z,35μm,0.9s							
PB12	**IPOC Station P**	**1.32**	**22**	⇑*i*P		**Pn**	**20 00 06.1**	**-1.0**
PB12				*e*S		**Sn**	**20 00 23.6**	**+0.1**
PB12				IAML			20 00 27.9	
	comp=N,22μm,0.4s							
PB12	**IPOC Station P**	**1.32**	**22**	Pn		**Pn**	**20 00 05.8**	**-1.4**
PB12	**IPOC Station P**	**1.32**	**22**	*i* P		**Pn**	**20 00 06.2**	**-1.0**
PB12				IAML			20 00 30.3	
	comp=Z,11μm,0.6s							
MNMC	**Minye Minye**	**1.38**	**59**	Pn		**Pn**	**20 00 07.6**	**-0.6**
MNMCX	**Minye Minye**	**1.38**	**59**	*i* P		**Pn**	**20 00 08.0**	**-0.2**
MNMCX				*e*S		**Sn**	**20 00 30.0**	**+4.7**
MNMCX				IAML			20 00 33.9	
	comp=Z,25μm,0.5s							
AP01	**Chacalluta**	**1.54**	**18**	⇑*i*P		**Pn**	**20 00 09.4**	**-0.7**
AP01				*e*S		**Sn**	**20 00 29.5**	**+0.7**
AP01				IAML			20 00 35.0	
	comp=E,49μm,0.6s							
AP01	**Chacalluta**	**1.54**	**18**			**Pn**	**20 00 09.5**	**-0.6**
GO01	**Chusmiza**	**1.57**	**84**	⇑*i*P		**Pn**	**20 00 10.9**	**-0.2**
GO01				*e*S		**Sn**	**20 00 32.8**	**+2.5**
GO01				IAML			20 00 36.1	
	comp=N,26μm,0.6s							
GO01	**Chusmiza**	**1.57**	**84**	Pn		**Pn**	**20 00 10.8**	**-0.2**
PB08	**IPOC Station P**	**1.63**	**101**	⇑*i*P		**Pn**	**20 00 11.6**	**-0.1**
PB08				*e*S		**Sn**	**20 00 33.3**	**+1.7**
PB08	**IPOC Station P**	**1.63**	**101**	Pn		**Pn**	**20 00 11.3**	**-0.3**
PB08	**IPOC Station P**	**1.63**	**101**	*i* P		**Pn**	**20 00 11.6**	**-0.1**
PB08				IAML			20 00 41.3	
	comp=Z,21μm,0.8s							
PB02	**IPOC Station P**	**1.72**	**149**	⇑*i*P		**Pn**	**20 00 11.6**	**-1.1**
PB02				*e*S		**Sn**	**20 00 34.4**	**+0.8**
PB02				IAML			20 00 43.8	
	comp=E,53μm,0.5s							
PB02	**IPOC Station P**	**1.72**	**149**	*i* P		**Pn**	**20 00 11.7**	**-1.1**
PB02				*e*S		**Sn**	**20 00 35.7**	**+2.1**
PB02				IAML			20 00 45.0	
	comp=Z,47μm,0.4s							

PB01	**IPOC Station P**	**1.75**	**133**	⇑*i*P		**Pn**	**20 00 12.5**	**-0.6**		
PB01				*e*S		**Sn**	**20 00 35.0**	**+0.7**		
PB01				IAML			20 00 43.1			
	comp=N,34μm,0.9s									
PB01	**IPOC Station P**	**1.75**	**133**	Pn		**Pn**	**20 00 12.0**	**-1.1**		
PB07	**IPOC Station P**	**2.08**	**154**	Pn		**Pn**	**20 00 16.1**	**-1.6**		
PB07	**IPOC Station P**	**2.08**	**154**	*i* P		**Pn**	**20 00 18.4**	**+0.6**		
PB07				IAML			20 00 56.5			
	comp=Z,19μm,0.8s									
PB09	**IPOC Station P**	**2.46**	**143**	Pn		**Pn**	**20 00 22.3**	**-0.7**		
PB09	**IPOC Station P**	**2.46**	**143**	*i* P		**Pn**	**20 00 22.6**	**-0.3**		
PB09				IAML			20 01 06.7			
	comp=Z,20μm,0.7s									
PB04	**IPOC Station P**	**2.57**	**165**	Pn		**Pn**	**20 00 22.1**	**-2.3**		
PB04	**IPOC Station P**	**2.57**	**165**	*i* P		**Pn**	**20 00 22.2**	**-2.3**		
PB04				IAML			20 01 18.1			
	comp=Z,8μm,0.7s									
PB05	**IPOC Station P**	**3.06**	**169**	*i* P		**Pn**	**20 00 28.9**	**-2.3**		
PB05				IAML			20 01 29.0			
	comp=Z,4μm,1.1s									
PB06	**IPOC Station P**	**3.09**	**157**	Pn		**Pn**	**20 00 29.7**	**-1.9**		
PB06	**IPOC Station P**	**3.09**	**157**	*i* P		**Pn**	**20 00 29.9**	**-1.7**		
PB06				IAML			20 01 28.3			
	comp=Z,10μm,0.9s									
LVC	**Limon Verde**	**3.30**	**147**	Pn		**Pn**	**20 00 33.9**	**-0.7**		
	comp=Z,88nm,0.3s,baz=8.3,slow=6.0,SNR=9.5									
LVC				Sn		**Sn**	**20 01 14.8**	**+2.0**		
	comp=Z,112nm,0.3s,baz=41,slow=5.7,SNR=4.4									
LVC				Lg		Lg	20 01 24.4			
	comp=Z,276nm,0.3s,baz=71,slow=21,SNR=8.8									
LVC	**Limon Verde**	**3.30**	**147**			**Pn**	**20 00 33.7**	**-1.0**		
LVC	**Limon Verde**	**3.30**	**147**	*i* P		**Pn**	**20 00 34.9**	**+0.3**		
LVC				IAML			20 01 31.6			
	comp=Z,3μm,1.0s									
PB15	**IPOC Station P**	**3.59**	**159**	Pn		**Pn**	**20 00 36.5**	**-2.0**		
PB15	**IPOC Station P**	**3.59**	**159**	*i* P		**Pn**	**20 00 36.7**	**-1.8**		
PB15				IAML			20 01 47.5			
	comp=Z,8μm,0.8s									
PB10	**IPOC Station P**	**3.67**	**176**	Pn		**Pn**	**20 00 36.1**	**-3.3**		
PB10	**IPOC Station P**	**3.67**	**176**	*i* P		**Pn**	**20 00 37.1**	**-2.3**		
LPAZ	**La Paz**	**4.38**	**37**	Pn		**Pn**	**20 00 52.5**	**+2.7**		
	comp=Z,3.4nm,0.3s,baz=225,slow=21,SNR=1.6									
GO02	**Mina Guanaco**	**5.42**	**168**	Pn		**Pn**	**20 01 01.3**	**-2.5**		
HJA	**Humahuaca**	**6.08**	**124**	*i* P		**Pn**	**20 01 15.8**	**+2.9**		
HJA				IAML			20 03 25.8			
	comp=Z,125nm,2.2s									
AC01	**Pan de Azucar**	**6.28**	**178**	Pn		**Pn**	**20 01 12.3**	**-3.0**		
AC02	**Maricunga**	**7.14**	**168**	Pn		**Pn**	**20 01 25.8**	**-1.8**		
GO03	**Copiap**	**7.74**	**176**	Pn		**Pn**	**20 01 31.8**	**-3.5**		
SIV	**San Ignacio**	**10.07**	**69**	Pn		**Pn**	**20 02 05.5**	**-1.8**		
	comp=Z,7.8nm,0.3s,baz=264,slow=7.4,SNR=9.8									
H03N1	**Juan Fernandez**	**15.33**	**206**	T		T	20 18 57.7			
	baz=33,slow=72,SNR=19									
H03N2	**Juan Fernandez**	**15.34**	**206**	T		T	20 19 02.7			
	baz=33,slow=72,SNR=14									
H03N3	**Juan Fernandez**	**15.35**	**206**	T		T	20 18 59.2			
	baz=33,slow=72,SNR=15									
PLCA	**Paso Flores**	**20.83**	**179**	P		**P**	**20 04 24.5**	**+0.9**		
	comp=Z,16nm,0.8s,baz=3.9,slow=12,SNR=8.0									
PLCA	**Paso Flores**	**20.83**	**179**	P		**P**	**20 04 24.3**	**+0.7**		
PTGA	**Pitinga**	**21.78**	**31**	P		**P**	**20 04 32.0**	**-2.0**		
	comp=Z,25nm,0.3s,baz=218,slow=23,SNR=16									
PTGA	**Pitinga**	**21.78**	**31**	P		**P**	**20 04 32.3**	**-1.6**		
PTGA				IAmb		IAmb	20 04 44.3			
	comp=Z,158nm,1.4s									
BDFB	**Brasilia**	**22.14**	**83**	P		**P**	**20 04 37.0**	**-1.0**		
	comp=Z,18nm,0.6s,baz=243,slow=11,SNR=6.9									
BDFB	**Brasilia**	**22.14**	**83**	P		**P**	**20 04 36.8**	**-1.3**		
LL01	**San Ignacio de**	**22.51**	**183**	P		**P**	**20 04 42.6**	**+1.1**		
LL01				IAmb		IAmb	20 04 54.6			
	comp=Z,86nm,1.1s									
ROSC	**El Rosal**	**24.76**	**352**	P		**P**	**20 05 04.4**	**+0.4**		
	comp=Z,14nm,0.5s,baz=343,slow=19,SNR=2.2									
ROSC	**El Rosal**	**24.76**	**352**	IAmb		IAmb	20 05 15.2			
	comp=Z,40nm,1.0s									
RUSC	**La Rusia**	**25.66**	**355**	P		**P**	**20 05 12.3**	**+0.1**		
COYC	**Coyhaique**	**25.68**	**182**	P		**P**	**20 05 11.7**	**+0.1**		
MDP	**Montagnes des**	**30.58**	**38**	P		**P**	**20 05 54.0**	**-1.7**		
	comp=Z,9.4nm,0.9s,baz=222,slow=8.0,SNR=6.6									
RCBR	**Riachuelo**	**36.71**	**72**	P		**P**	**20 06 47.9**	**-1.2**		
	comp=Z,41nm,0.8s,baz=235,slow=11,SNR=11									
RCBR	**Riachuelo**	**36.71**	**72**	P		**P**	**20 06 48.5**	**-0.6**		
OBIP	**Obispado Ponce**	**37.88**	**7**	P		**P**	**20 06 58.6**	**-0.1**		
OBIP				IAmb		IAmb	20 07 17.2			
	comp=Z,51nm,1.2s									
SJG	**San Juan**	**38.00**	**7**	P		**P**	**20 06 57.6**	**-2.2**		
	comp=Z,6.1nm,0.5s,baz=262,slow=2.9,SNR=5.6									
SJG	**San Juan**	**38.00**	**7**	P		**P**	**20 06 58.0**	**-1.7**		
SJG				IAmb		IAmb	20 07 26.9			
	comp=Z,70nm,1.3s									
CBYP	**Canovanas**	**38.19**	**8**	P		**P**	**20 06 59.6**	**-1.9**		
CBYP				IAmb		IAmb	20 07 00.2			
	comp=Z,28nm,0.8s									
GCPR	**Guaynabo City**	**38.20**	**7**	P		**P**	**20 06 59.5**	**-1.9**		
TEIG	**Tepich**

W56A	**Indian Trail**	**55.45**	**350**	P	**P**	**20 09 15.5**	**-0.6**
	baz=169							
KMSC	**Kings Mountain**	**55.58**	**350**	P	**P**	**20 09 17.1**	**+0.1**
	baz=168							
KMSC	**Kings Mountain**	**55.58**	**350**	P	**P**	**20 09 16.9**	**-0.1**
KMSC				lAmb	lAmb	20 09 18.0		
	comp=Z,20nm,1.1s							
V61A	**Roper**	**55.59**	**354**	P	**P**	**20 09 16.9**	**-0.1**
	baz=173							
V60A	**Jim Taylor Roa**	**55.63**	**354**	P	**P**	**20 09 17.3**	**-0.1**
	baz=173							
W54A	**Cherokee Point**	**55.67**	**349**	P	**P**	**20 09 17.5**	**-0.2**
	baz=167							
V59A	**Middlesex**	**55.74**	**353**	P	**P**	**20 09 17.5**	**-0.6**
	baz=172,SNR=7.3							
V58A	**Windy Hill, Pi**	**55.88**	**352**	P	**P**	**20 09 18.6**	**-0.6**
	baz=170							
V58A	**Windy Hill, Pi**	**55.88**	**352**	P	**P**	**20 09 19.3**	**+0.1**
V58A				lAmb	lAmb	20 09 20.2		
	comp=Z,18nm,0.9s							
V57A	**Coltrane Farms**	**56.06**	**351**	P	**P**	**20 09 20.1**	**-0.3**
	baz=170							
V56A	**Mocksville**	**56.09**	**351**	P	**P**	**20 09 20.4**	**-0.3**
	baz=169							
U61A	**Possum Corner**	**56.12**	**355**	P	**P**	**20 09 20.2**	**-0.6**
	baz=174							
NATX	**Nacogdoches**	**56.16**	**336**	P	**P**	**20 09 21.1**	**-0.1**
	baz=153							
V55A	**Taylorsville**	**56.25**	**350**	P	**P**	**20 09 21.7**	**-0.1**
	baz=168							
V55A	**Taylorsville**	**56.25**	**350**	P	**P**	**20 09 22.2**	**+0.4**
V55A				lAmb	lAmb	20 09 33.5		
	comp=Z,25nm,0.8s							
U59A	**Littleton**	**56.27**	**353**	P	**P**	**20 09 21.7**	**-0.2**
	baz=172							
U59A	**Littleton**	**56.27**	**353**	P	**P**	**20 09 22.3**	**+0.4**
U59A				lAmb	lAmb	20 09 23.2		
	comp=Z,21nm,0.9s							
V54A	**Nebo**	**56.30**	**349**	P	**P**	**20 09 21.8**	**-0.4**
	baz=167							
U60A	**Pendleton**	**56.32**	**354**	P	**P**	**20 09 21.8**	**-0.5**
	baz=173							
U58A	**Oxford**	**56.40**	**353**	P	**P**	**20 09 22.5**	**-0.4**
	baz=171							
CPCT	**Cooper Cave**	**56.49**	**347**	P	**P**	**20 09 23.2**	**-0.3**
435B	**Jarrell**	**56.51**	**332**	P	**P**	**20 09 23.7**	**-0.1**
	baz=150							
TKL	**Tuckaleechee C**	**56.54**	**347**	P	**P**	**20 09 23.5**	**-0.3**
	comp=Z,14nm,0.9s,baz=160,slow=9.7,SNR=5.3							
TKL	**Tuckaleechee C**	**56.54**	**347**	P	**P**	**20 09 23.1**	**-0.7**
TKL				lAmb	lAmb	20 09 24.1		
	comp=Z,19nm,1.0s							
U57A	**Blanch**	**56.54**	**352**	P	**P**	**20 09 23.8**	**-0.1**
	baz=170							
V52A	**Sevierville**	**56.68**	**348**	P	**P**	**20 09 24.2**	**-0.7**
V52A				lAmb	lAmb	20 09 25.2		
	comp=Z,32nm,0.9s							
Z41A	**Richland Creek**	**56.81**	**338**	P	**P**	**20 09 26.0**	**+0.2**
	baz=155							
T59A	**Double "B" Far**	**56.86**	**354**	P	**P**	**20 09 25.7**	**-0.4**
	baz=172,SNR=9.7							
T59A	**Double "B" Far**	**56.86**	**354**	P	**P**	**20 09 26.2**	**+0.1**
T59A				lAmb	lAmb	20 09 27.4		
	comp=Z,31nm,0.9s							
U55A	**TA2, Sparta**	**56.86**	**350**	P	**P**	**20 09 25.6**	**-0.6**
	baz=168							
OXF	**Oxford**	**56.86**	**342**	P	**P**	**20 09 25.8**	**-0.3**
	baz=159							
T58A	**Grand View Acr**	**56.94**	**353**	P	**P**	**20 09 26.5**	**-0.1**
	baz=171,SNR=10							
T60A	**Surry**	**56.94**	**354**	P	**P**	**20 09 26.5**	**-0.1**
	baz=173							
U54A	**Nelsons Funny**	**57.01**	**349**	P	**P**	**20 09 26.9**	**-0.3**
	baz=168							
T57A	**Hurt**	**57.09**	**352**	P	**P**	**20 09 27.8**	**+0.1**
	baz=170							
T56A	**Rocky Mt**	**57.22**	**351**	P	**P**	**20 09 28.9**	**+0.2**
	baz=170							
JCT	**Junction City**	**57.26**	**330**	P	**P**	**20 09 28.8**	**-0.3**
	baz=147							
WLAR	**White Oak Lake**	**57.31**	**338**	P	**P**	**20 09 30.5**	**+1.2**
V48A	**Smith Brothers**	**57.31**	**345**	P	**P**	**20 09 28.8**	**-0.6**
V48A				lAmb	lAmb	20 09 29.6		
	comp=Z,39nm,1.3s							
TZTN	**Tazewell**	**57.35**	**348**	P	**P**	**20 09 28.7**	**-0.9**
	baz=166							
S61A	**Accomac**	**57.39**	**355**	P	**P**	**20 09 29.5**	**-0.3**
	baz=174							
T55A	**Pulaski**	**57.42**	**351**	P	**P**	**20 09 29.9**	**-0.3**
	baz=169							
BLA	**Blacksburg**	**57.46**	**351**	P	**P**	**20 09 30.4**	**0.0**
	baz=169							
T54A	**Tazewell**	**57.49**	**350**	P	**P**	**20 09 30.4**	**-0.3**
	baz=168							
S60A	**Water View**	**57.50**	**355**	P	**P**	**20 09 30.5**	**-0.1**
	baz=173							
WHTX	**Lake Whitney,**	**57.50**	**333**	P	**P**	**20 09 30.6**	**-0.2**
	baz=150							
CLTN	**Cedars of Leba**	**57.52**	**345**	P	**P**	**20 09 30.2**	**-0.6**
CLTN				lAmb	lAmb	20 09 31.1		
	comp=Z,19nm,1.1s							
S58A	**Poland Farm, P**	**57.55**	**353**	P	**P**	**20 09 31.0**	**+0.1**
	baz=172							
T53A	**Wise**	**57.58**	**349**	P	**P**	**20 09 30.8**	**-0.5**
	baz=167							
S59A	**Mechanicsville**	**57.61**	**354**	P	**P**	**20 09 31.4**	**+0.1**
	baz=173							
S56A	**Natural Bridge**	**57.79**	**352**	P	**P**	**20 09 32.8**	**+0.1**
	baz=170							
U49A	**Red Boiling Sp**	**57.80**	**346**	P	**P**	**20 09 32.0**	**-0.7**
S57A	**Dark Hollow, R**	**57.80**	**352**	P	**P**	**20 09 32.7**	**0.0**
	baz=171							
R58B	**Mineral**	**57.87**	**353**	P	**P**	**20 09 33.3**	**+0.1**
	baz=172,SNR=5.5							
R58B	**Mineral**	**57.87**	**353**	P	**P**	**20 09 33.6**	**+0.4**
R58B				lAmb	lAmb	20 09 34.9		
	comp=Z,33nm,1.1s							
WVT	**Waverly**	**57.94**	**344**	P	**P**	**20 09 32.4**	**-1.3**
	baz=161							
WVT	**Waverly**	**57.94**	**344**	P	**P**	**20 09 32.5**	**-1.3**
WVT				lAmb	lAmb	20 09 33.4		
	comp=Z,15nm,0.9s							
S55A	**Lewisburg**	**58.02**	**351**	P	**P**	**20 09 34.4**	**+0.1**
	baz=169							
UALR	**University of**	**58.03**	**339**	P	**P**	**20 09 34.1**	**-0.2**
UALR				lAmb	lAmb	20 09 35.1		
	comp=Z,18nm,0.9s							
R59A	**King George, V**	**58.03**	**354**	P	**P**	**20 09 34.9**	**+0.6**
	baz=173							
CBN	**Corbin Frederi**	**58.06**	**354**	P	**P**	**20 09 34.5**	**0.0**
	baz=173							
T50A	**Nancy**	**58.07**	**347**	P	**P**	**20 09 34.0**	**-0.7**
S54A	**Dingess, Beckl**	**58.17**	**350**	P	**P**	**20 09 35.3**	**-0.1**
	baz=168							
R58A	**Rapidan**	**58.22**	**353**	P	**P**	**20 09 36.3**	**+0.7**
	baz=172							
TXAR	**Lajitas Array**	**58.24**	**326**	P	**P**	**20 09 36.6**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=144,slow=8.4,SNR=12							
TXAR	**Lajitas Array**	**58.24**	**326**		**P**	**20 09 36.2**	**+0.1**
TX31	**Lajitas Ar. Si**	**58.24**	**326**	P	**P**	**20 09 36.1**	**0.0**
TX31				lAmb	lAmb	20 09 46.9		
	comp=Z,14nm,0.9s							
TX32	**Lajitas Array**	**58.24**	**326**	P	**P**	**20 09 36.3**	**+0.2**
MIAR	**Mount Ida**	**58.24**	**338**	P	**P**	**20 09 35.8**	**-0.1**
	baz=155,SNR=6.8							
MIAR	**Mount Ida**	**58.24**	**338**	P	**P**	**20 09 36.0**	**+0.1**
MIAR				lAmb	lAmb	20 09 36.9		
	comp=Z,20nm,0.8s							
R57A	**Stanardsville**	**58.27**	**353**	P	**P**	**20 09 36.5**	**+0.5**
	baz=171							
W41B	**Gary Mavity, V**	**58.36**	**339**	P	**P**	**20 09 36.3**	**-0.4**
	baz=156							
R55A	**Marlinton**	**58.47**	**351**	P	**P**	**20 09 37.7**	**+0.2**
	baz=170							
WHAR	**Wooly Hollow**	**58.48**	**339**	P	**P**	**20 09 37.4**	**-0.2**
WHAR				lAmb	lAmb	20 09 38.3		
	comp=Z,19nm,1.1s							
R54A	**Victor**	**58.49**	**351**	P	**P**	**20 09 37.4**	**-0.2**
	baz=169							
T47A	**Sharon Grove**	**58.57**	**345**	P	**P**	**20 09 37.4**	**-0.7**
Z35A	**Perchaven, San**	**58.57**	**334**	P	**P**	**20 09 38.8**	**+0.6**
Q60A	**Greensboro**	**58.72**	**355**	P	**P**	**20 09 39.3**	**+0.2**
	baz=174							
R53A	**Hurricane**	**58.79**	**350**	P	**P**	**20 09 39.6**	**0.0**
	baz=168							
Q58A	**Fox Den Farm,**	**58.82**	**354**	P	**P**	**20 09 39.4**	**-0.4**
	baz=172							
W39A	**Magazine**	**58.90**	**338**	P	**P**	**20 09 40.1**	**-0.4**
	baz=155,SNR=6.0							
W39A	**Magazine**	**58.90**	**338**		**P**	**20 09 41.1**	**+0.6**
W39A				lAmb	lAmb	20 09 42.0		
	comp=Z,17nm,0.9s							
X37A	**Clayton**	**58.94**	**336**		**P**	**20 09 41.0**	**+0.2**
ABTX	**Abilene, Hawle**	**58.99**	**332**	P	**P**	**20 09 40.5**	**-0.7**
	baz=148							
ABTX	**Abilene, Hawle**	**58.99**	**332**		**P**	**20 09 41.4**	**+0.2**
ABTX				lAmb	lAmb	20 09 42.3		
	comp=Z,21nm,0.9s							
Q57A	**Strasburg**	**58.99**	**353**	P	**P**	**20 09 41.5**	**+0.5**
	baz=172							
Q56A	**Snyder Ridge,**	**59.09**	**352**	P	**P**	**20 09 42.4**	**+0.7**
	baz=171							
Q55A	**Buckhannon**	**59.16**	**352**	P	**P**	**20 09 42.0**	**-0.2**
	baz=170							
R50A	**Paris**	**59.18**	**348**	P	**P**	**20 09 41.9**	**-0.5**
R50A				lAmb	lAmb	20 09 43.3		
	comp=Z,19nm,1.1s							
Q53A	**Leroy**	**59.24**	**350**	P	**P**	**20 09 42.6**	**-0.2**
	baz=168							
Q54A	**Coxs Mills**	**59.26**	**351**	P	**P**	**20 09 42.4**	**-0.5**
	baz=169							
P58A	**Pank, Wackersv**	**59.33**	**354**	P	**P**	**20 09 43.5**	**+0.2**
	baz=173							
P59A	**Jarrettsville**	**59.37**	**355**	P	**P**	**20 09 43.8**	**+0.2**
	baz=174							
P57A	**Homestead Farm**	**59.39**	**354**	P	**P**	**20 09 44.1**	**+0.3**
	baz=172							
P57A	**Homestead Farm**	**59.39**	**354**	P	**P**	**20 09 44.2**	**+0.5**
P57A				lAmb	lAmb	20 09 45.9		
	comp=Z,23nm,1.1s							
P56A	**Dayton Farm, R**	**59.50**	**353**	P	**P**	**20 09 44.9**	**+0.4**
	baz=171							
P60A	**Greenville**	**59.51**	**356**	P	**P**	**20 09 44.2**	**-0.3**
	baz=175							
WCI	**Wyandotte Cave**	**59.55**	**346**	P	**P**	**20 09 43.9**	**-1.0**
	baz=163							
P55A	**Reedsville**	**59.63**	**352**	P	**P**	**20 09 45.5**	**0.0**
	baz=170							
U40A	**Yellville**	**59.64**	**339**	P	**P**	**20 09 45.0**	**-0.6**
	baz=156							
U40A	**Yellville**	**59.64**	**339**		**P**	**20 09 45.2**	**-0.3**
U40A				lAmb	lAmb	20 09 46.2		
	comp=Z,16nm,0.9s							
O61A	**Allentown**	**59.72**	**357**	P	**P**	**20 09 45.9**	**-0.1**
	baz=176							
MVL	**Millersville**	**59.75**	**355**	P	**P**	**20 09 46.7**	**+0.5**
MVL				lAmb	lAmb	20 09 47.7		
	comp=Z,15nm,0.9s							
MCWV	**Mont Chateau**	**59.78**	**352**	P	**P**	**20 09 46.5**	**+0.1**
	baz=170							
S44A	**Carbondale**	**59.79**	**343**	P	**P**	**20 09 46.2**	**-0.4**
P54A	**Burton**	**59.81**	**351**	P	**P**	**20 09 46.6**	**-0.1**
	baz=169							
P53A	**Whipple**	**59.83**	**351**	P	**P**	**20 09 46.8**	**0.0**
	baz=168							
X34A	**Smith Ranch, M**	**59.91**	**334**	P	**P**	**20 09 47.9**	**+0.4**
X34A				lAmb	lAmb	20 09 48.7		
	comp=Z,18nm,0.8s							
O58A	**Lewisberry**	**59.92**	**355**	P	**P**	**20 09 47.9**	**+0.5**
	baz=173							
HHAR	**Hobbs**	**59.94**	**339**	P	**P**	**20 09 47.4**	**-0.3**
HHAR				lAmb	lAmb	20 09 48.4		
	comp=Z,24nm,1.2s							
O60A	**Telford**	**60.00**	**356**	P	**P**	**20 09 47.7**	**-0.1**
	baz=175							
O57A	**Amberson**	**60.07**	**354**	P	**P**	**20 09 48.7**	**+0.2**
	baz=172,SNR=6.0							
O56A	**Blue Knob Stat**	**60.23**	**353**	P	**P**	**20 09 49.8**	**+0.2**
	baz=172,SNR=9.8							
O56A	**Blue Knob Stat**	**60.23**	**353**		**P**	**20 09 50.1**	**+0.5**
U38A	**Gravette**	**60.23**	**338**	P	**P**	**20 09 49.5**	**-0.1**
O55A	**Ligonier**	**60.25**	**353**	P	**P**	**20 09 49.9**	**+0.1**
	baz=171							
TUL1	**Leonard**	**60.27**	**337**	P	**P**	**20 09 49.3**	**-0.6**
	baz=153							
TUL1	**Leonard**	**60.27**	**337**	P	**P**	**20 09 50.0**	**+0.1**
WMOK	**Wichita Mounta**	**60.42**	**334**	P	**P**	**20 09 50.1**	**-0.9**
	baz=150							
P49A	**Miami Univ. Ec**	**60.47**	**348**	P	**P**	**20 09 50.5**	**-0.6**
	baz=165							
P49A	**Miami Univ. Ec**	**60.47**	**348**	lAmb	lAmb	20 09 55.7		
	comp=Z,16nm,0.6s							
O52A	**Adamsville**	**60.52**	**350**	P	**P**	**20 09 50.7**	**-0.8**
	baz=168							
N60A	**Cedar Hill Far**	**60.53**	**356**	P	**P**	**20 09 51.1**	**-0.4**
	baz=175							
PAL	**Palisades**	**60.60**	**357**	P	**P**	**20 09 51.8**	**-0.2**
	baz=177							
N57A	**Milroy**	**60.60**	**354**	P	**P**	**20 09 52.1**	**0.0**
	baz=173,SNR=5.2							
N58A	**Sunbury**	**60.61**	**355**	P	**P**	**20 09 52.1**	**0.0**
	baz=174							
N58A	**Sunbury**	**60.61**	**355**	P	**P**	**20 09 52.6**	**+0.5**
N58A				lAmb	lAmb	20 09 53.7		
	comp=Z,20nm,0.9s							
N59A	**State Game Lan**	**60.62**	**356**	P	**P**	**20 09 52.5**	**+0.3**
	baz=175							
O51A	**Pataskala**	**60.67**	**350**	P	**P**	**20 09 53.1**	**+0.5**
	baz=167							
CCM	**Cathedral Cave**	**60.70**	**342**	P	**P**	**20 09 52.3**	**-0.4**
	baz=158							
CCM	**Cathedral Cave**	**60.70**	**342**	P	**P**	**20 09 52.2**	**-0.6**
CCM				lAmb	lAmb	20 09 53.2		
	comp=Z,18nm,1.1s							
WSPT	**Westport, CT**	**60.74**	**358**	lAmb	lAmb	20 09 54.1		
	comp=Z,27nm,1.0s							
N55A	**Marion Center**	**60.78**	**353**	P	**P**	**20 09 53.5**	**+0.2**
	baz=171,SNR=17							
ACSO	**Alum Creek Sta**	**60.82**	**349**	P	**P**	**20 09 52.7**	**-0.9**
	baz=167							
N56A	**West Decatur**	**60.84**	**354**	P	**P**	**20 09 53.5**	**-0.2**
	baz=172,SNR=8.2							
M63A	**Gales Ferry**	**60.94**	**359**	P	**P**	**20 09 54.3**	**0.0**
	baz=179							
M60A	**Port Jervis**	**60.95**	**357**	P	**P**	**20 09 54.4**	**0.0**
	baz=176							
M62A	**Hamden**	**61.00**	**358**	P	**P**	**20 09 54.9**	**+0.2**
	baz=178							
MNTX	**Cornudas Mount**	**61.01**	**326**	P	**P**	**20 09 54.5**	**-0.6**
	baz=142,SNR=7.2							
MNTX	**Cornudas Mount**	**61.01**	**326**	P	**P**	**20 09 54.6**	**-0.4**
N53A	**Lisbon**	**61.05**	**351**	P	**P**	**20 09 55.1**	**0.0**
	baz=169							
M64A	**Tiverton**	**61.08**	**360**	P	**P**	**20 09 55.3**	**+0.1**
	baz=180							
N54A	**Moraine State**	**61.08**	**352**	P	**P**	**20 09 55.3**	**-0.1**
	baz=170,SNR=5.7							
M58A	**Price's Panora**	**61.12**	**355**	P	**P**	**20 09 55.9**	**+0.3**
	baz=174,SNR=9.0							
M57A	**Sunshine Farm,**	**61.14**	**355**	P	**P**	**20 09 55.9**	**+0.2**
	baz=173							
M59A	**Waymart**	**61.22**	**356**	P	**P**	**20 09 56.4**	**+0.1**
	baz=175,SNR=6.5							
O48A	**Farmland**	**61.26**	**348**	P	**P**	**20 09 55.5**	**-1.0**
	baz=165,SNR=5.9							
M56A	**Emporium**	**61.39**	**354**	P	**P**	**20 09 57.2**	**-0.2**
	baz=172,SNR=9.9							
L63A	**North Scituate**	**61.39**	**359**	P	**P**	**20 09 57.1**	**-0.3**
	baz=179,SNR=7.2							
T35A	**Sooner Cattle**	**61.43**	**337**	lAmb	lAmb	20 09 59.5		
	comp=Z,22nm,1.0s							
M55A	**Ridgway**	**61.44**	**353**	P	**P**	**20 09 57.6**	**-0.2**
	baz=171,SNR=13							
BRYW	**Bryant College**	**61.45**	**359**	P	**P**	**20 09 58.2**	**+0.4**
MSTX	**Muleshoe**	**61.55**	**330**	P	**P**	**20 09 58.2**	**-0.6**
	baz=146,SNR=6.8							
MSTX	**Muleshoe**	**61.55**	**330**	lAmb	lAmb	20 10 00.2		
	comp=Z,20nm,1.1s							
M54A	**Oil Creek Stat**	**61.58**	**352**	P	**P**	**20 09 58.4**	**-0.3**
	baz=170,SNR=8.2							
L60A	**Shokan**	**61.59**	**357**	P	**P**	**20 09 58.9**	**+0.1**
	baz=176							
M53A	**WI Miller and**	**61.64**	**352**	P	**P**	**20 09 58.7**	**-0.4**
	baz=169							
L58A	**Harry Jones Me**	**61.74**	**356**	P	**P**	**20 10 00.0**	**+0.2**
	baz=175,SNR=7.8							
L61A	**Hillsdale 1, H**	**61.77**	**358**	P	**P**	**20 09 59.7**	**-0.2**
	baz=177							
L57A	**Andrews Acres**	**61.78**	**355**	P	**P**	**20 10 00.0**	**0.0**
	baz=174							
AMTX	**Amarillo**	**61.80**	**331**	P	**P**	**20 10 00.1**	**-0.4**
	baz=147							
L59A	**Walton**	**61.84**	**356**	P	**P**	**20 10 00.7**	**+0.2**
	baz=175,SNR=10.0							
BINY	**Binghamton**	**61.91**	**356**	P	**P**	**20 10 01.1**	**+0.2**
	baz=174,SNR=7.0							
N47A	**Urbana**	**61.97**	**347**	lAmb	lAmb	20 10 00.9		
	comp=Z,27nm,1.1s							
L56A	**Greenwood**	**61.97**	**354**	P	**P**	**20 10 01.6**	**+0.2**
	baz=173,SNR=5.9							
L61B	**Northampton**	**62.00**	**358**	P	**P**	**20 10 01.4**	**-0.1**
	baz=178							
HRV	**Adam Dziewonsk**	**62.04**	**359**	P	**P**	**20 10 01.7**	**0.0**
	baz=179							
HRV	**Adam Dziewonsk**	**62.04**	**359**	P	**P**	**20 10 02.0**	**+0.3**
L53A	**Girard**	**62.09**	**352**	P	**P**	**20 10 01.6**	**-0.5**
	baz=170							
L55A	**Hinsdale**	**62.11**	**354**	P	**P**	**20 10 02.5**	**+0.2**
	baz=172,SNR=9.9							
K62A	**Royalston**	**62.20**	**359**	P	**P**	**20 10 02.8**	**-0.1**
	baz=178							
K63A	**Dunstable**	**62.22**	**359**	P	**P**	**20 10 02.9**	**0.0**
	baz=179							
ERPA	**Erie**	**62.22**	**352**	P	**P**	**20 10 02.8**	**-0.2**
	baz=170							
ERPA	**Erie**	**62.22**	**352**	P	**P**	**20 10 03.0**	**0.0**
VNA3	**Neumayer Olymp**	**62.22**	**161**	P	**P**	**20 10 03.3**	**+0.6**
K61A	**Williamstown**	**62.24**	**358**	P	**P**	**20 10 03.3**	**+0.2**
	baz=177							
L54A	**Sinclairville**	**62.26**	**353**	P	**P**	**20 10 03.2**	**-0.1**
	baz=171,SNR=15							
P40A	**Paris**	**62.30**	**342**	lAmb	lAmb	20 10 03.9		
	comp=Z,21nm,1.0s							
K59A	**Cooperstown**	**62.41**	**357**	P	**P**	**20 10 04.4**	**+0.1**
	baz=176,SNR=8.9							
K58A	**Earlville**	**62.45**	**356**	P	**P**	**20 10 04.4**	**-0.1**
	baz=175,SNR=8.6							
VNA1	**Neumayer--Stat**	**62.45**	**161**	P	**P**	**20 10 05.3**	**+1.1**
K57A	**Scipio Center**	**62.48**	**355**	P	**P**	**20 10 04.5**	**-0.1**
	baz=174							
K56A	**Middlesex**	**62.51**	**355**	P	**P**	**20 10 04.8**	**-0.2**
	baz=173							
K54A	**Basiliko Farm,**	**62.56**	**353**	P	**P**	**20 10 05.4**	**+0.2**
	baz=172,SNR=11							
K55A	**Perry**	**62.61**	**354**	P	**P**	**20 10 05.4**	**-0.1**
	baz=172,SNR=7.4							
J62A	**Henniker**	**62.76**	**359**	P	**P**	**20 10 06.7**	**+0.2**
	baz=179							
J63A	**Strafford**	**62.80**	**360**	P	**P**	**20 10 06.9**	**0.0**
	baz=180							
J60A	**Lant Hill Farm**	**62.81**	**358**	P	**P**	**20 10 07.3**	**+0.4**
	baz=177							
J61A	**Chester**	**62.89**	**359**	P	**P**	**20 10 07.6**	**+0.2**
	baz=178							
ACCN	**Adirondack Com**	**62.96**	**358**	lAmb	lAmb	20 10 09.6		
	comp=Z,21nm,1.2s							
J58A	**Remsen**	**63.02**	**356**	P	**P**	**20 10 08.3**	**0.0**
	baz=175							
K51A	**Iona Station**	**63.02**	**351**	P	**P**	**20 10 07.5**	**-0.8**
	baz=169							
J56A	**Wolcott**	**63.04**	**355**	P	**P**	**20 10 07.8**	**-0.6**
	baz=174,SNR=5.6							
J59A	**Piesco**	**63.08**	**357**	P	**P**	**20 10 08.6**	**-0.1**
	baz=176,SNR=8.1							
J57A	**Williamstown**	**63.11**	**356**	P	**P**	**20 10 08.5**	**-0.3**
	baz=174							
J55A	**Hilton**	**63.12**	**354**	P	**P**	**20 10 08.3**	**-0.6**
	baz=173,SNR=6.3							
J54A	**Appleton**	**63.21**	**354**	P	**P**	**20 10 09.2**	**-0.2**
	baz=172,SNR=5.4							
HNH	**Hanover**	**63.24**	**359**	lAmb	lAmb	20 10 11.3		
	comp=Z,21nm,1.1s							
I58A	**Old Forge**	**63.33**	**357**	P	**P**	**20 10 10.3**	**-0.1**
	baz=176,SNR=6.0							
I59A	**Olmsteadville**	**63.38**	**358**	P	**P**	**20 10 10.7**	**0.0**
	baz=177,SNR=7.5							
J52A	**Paris**	**63.39**	**352**	P	**P**	**20 10 10.1**	**-0.7**
	baz=170,SNR=8.3							
KSU1	**Kansas State U**	**63.40**	**338**	P	**P**	**20 10 10.0**	**-0.9**
	baz=153							
I62A	**Tamworth**	**63.40**	**360**	P	**P**	**20 10 10.8**	**0.0**
	baz=179							
I60A	**Shoreham**	**63.41**	**358**	P	**P**	**20 10 11.0**	**+0.1**
	baz=177,SNR=6.2							
I64A	**Boothbay**	**63.45**	**1**	P	**P**	**20 10 11.5**	**+0.4**
	baz=181							
I61A	**Oroboro, Fairl**	**63.47**	**359**	P	**P**	**20 10 11.9**	**+0.7**
	baz=178,SNR=9.2							
NCB	**Newcomb**	**63.57**	**357**	lAmb	lAmb	20 10 13.3		
	comp=Z,32nm,1.5s							
I63A	**Otisfield**	**63.58**	**0**	P	**P**	**20 10 12.4**	**+0.4**
	baz=180							
I57A	**Carthage**	**63.62**	**356**	P	**P**	**20 10 11.9**	**-0.3**
	baz=175							
LBNH	**Lisbon**	**63.77**	**359**	P	**P**	**20 10 13.9**	**+0.7**
	baz=179,SNR=6.2							
I51A	**Listowel**	**64.01**	**352**	P	**P**	**20 10 14.0**	**-0.8**
	baz=169							
H58A	**Gabriels**	**64.02**	**357**	P	**P**	**20 10 14.9**	**0.0**
	baz=176,SNR=7.3							
I55A	**Frankford**	**64.05**	**355**	P	**P**	**20 10 14.8**	**-0.2**
	baz=173,SNR=8.0							
H61A	**Lyndonville**	**64.07**	**359**	P	**P**	**20 10 15.5**	**+0.3**
	baz=179,SNR=6.9							
J47A	**Sumner**	**64.07**	**349**	P	**P**	**20 10 13.9**	**-1.3**
	baz=165							
H62A	**Milan**	**64.10**	**360**	P	**P**	**20 10 16.1**	**+0.7**
	baz=180							
WVL	**Waterville**	**64.10**	**1**	lAmb	lAmb	20 10 18.5		
	comp=Z,29nm,1.1s							
H60A	**Morristown**	**64.11**	**359**	P	**P**	**20 10 15.9**	**+0.4**
	baz=178							
ANMO	**Albuquerque**	**64.13**	**328**	P	**P**	**20 10 15.9**	**-0.2**
	baz=142							
ANMO	**Albuquerque**	**64.13**	**328**		**P**	**20 10 16.1**	**+0.1**
H64A	**Troy**	**64.18**	**1**	P	**P**	**20 10 15.9**	**0.0**
	baz=182							
H59A	**Cadyville**	**64.22**	**358**	P	**P**	**20 10 16.3**	**+0.1**
	baz=177,SNR=9.4							
LONY	**Lake Ozonia**	**64.24**	**357**	P	**P**	**20 10 16.4**	**+0.1**
	baz=176,SNR=6.8							
LONY	**Lake Ozonia**	**64.24**	**357**	lAmb	lAmb	20

I46A	**Reed City** baz=165	64.86	348	P		P		20 10 18.9	-1.5
T25A	**Trinidad** baz=145	64.91	331	P		P		20 10 20.1	-1.0
JFWS	**Jewell Farm** baz=160	64.95	344	P		P		20 10 20.1	-0.8
G55A	**Calabogie** baz=174	65.00	355	P		P		20 10 20.8	-0.4
G53A	**Haliburton** baz=172,SNR=10	65.03	354	P		P		20 10 21.2	-0.3
ORIO	**Orleans, Innes** baz=175	65.11	356	P		P		20 10 21.9	-0.1
F63A	**Nahmakanta, Br** baz=182	65.25	1	P		P		20 10 22.7	-0.1
G54A	**Lake Saint Pet** baz=172	65.26	354	P		P		20 10 22.8	-0.1
214A	**Organ Pipe Nat** baz=136,SNR=5.2	65.33	321	P		P		20 10 25.0	+1.2
F59A	**Saint Guilaume** baz=178	65.40	359	P		P		20 10 23.6	-0.2
F62A	**Pittston Farm,** baz=181	65.43	1	P		P		20 10 24.1	+0.1
F62A	**Pittston Farm,** comp=Z,16nm,1.1s	65.43	1	IAmb		IAmb		20 10 26.1	
F64A	**Sherman** baz=182,SNR=5.7	65.43	2	P		P		20 10 24.1	+0.1
F64A	**Sherman** comp=Z,22nm,0.8s	65.43	2	IAmb		IAmb		20 10 25.5	
F60A	**Warwick** baz=179,SNR=7.0	65.50	359	P		P		20 10 24.6	+0.1
KSCO	**Kaye Shedlock'** baz=147	65.67	333	P		P		20 10 26.0	0.0
F52A	**Sundridge** baz=171,SNR=7.4	65.77	354	P		P		20 10 25.4	-0.8
ALGO	**Algonquin Park** baz=172	65.81	355	P		P		20 10 26.2	-0.2
E60A	**Ste Agathe de** baz=179	65.90	360	P		P		20 10 27.3	+0.3
E58A	**La Victoria** baz=177	65.93	358	P		P		20 10 27.4	+0.2
W18A	**Petrified Fore** baz=140	65.95	326	P		P		20 10 28.4	+0.5
E61A	**Lac Etchemin** baz=180	65.96	0	P		P		20 10 27.9	+0.4
F51A	**Arnstein** baz=171	65.97	353	P		P		20 10 26.7	-0.8
E63A	**Oxbow** baz=182	65.98	2	P		P		20 10 27.8	+0.2
BGNE	**Belgrade** baz=152	65.99	338	P		P		20 10 27.5	-0.2
E64A	**Bridgewater** baz=183,SNR=5.2	66.00	2	P		P		20 10 28.0	+0.3
E57A	**Chemin Saint G** baz=176	66.00	358	P		P		20 10 27.4	-0.4
F49A	**Sandfield** baz=168	66.08	351	P		P		20 10 27.2	-0.9
E62A	**Clayton Lake** baz=181,SNR=5.3	66.16	1	P		P		20 10 28.8	+0.1
E56A	**St. Veronique** baz=176,SNR=9.3	66.18	357	P		P		20 10 28.4	-0.4
E52A	**Mattawa** baz=172	66.19	354	P		P		20 10 28.1	-0.8
E53A	**Dumoine, Ponti** baz=173	66.19	355	P		P		20 10 28.5	-0.4
E54A	**Lac Daplat, Po** baz=173,SNR=5.6	66.21	355	P		P		20 10 28.3	-0.7
F48A	**Evansville** baz=168	66.22	351	P		P		20 10 28.6	-0.5
D60A	**Saint Jean D'O** baz=180	66.44	360	P		P		20 10 30.7	+0.3
E51A	**G1948 Merrick** baz=171	66.52	354	P		P		20 10 30.8	-0.2
E50A	**Wahnapitae** baz=170	66.55	353	P		P		20 10 31.3	+0.1
D57A	**Chemin Vers le** baz=177,SNR=8.5	66.60	358	P		P		20 10 31.8	+0.2
D63A	**Stockholm** baz=183	66.61	2	P		P		20 10 31.9	+0.3
D58A	**Chemin du LacG** baz=178,SNR=7.1	66.65	358	P		P		20 10 31.7	-0.1
D56A	**ZEC Mazanza, M** baz=176	66.67	357	P		P		20 10 31.9	-0.1
D55A	**Sainte-Anne-du** baz=175,SNR=8.5	66.67	357	P		P		20 10 31.8	-0.2
Q24A	**Divide** baz=145	66.73	331	P		P		20 10 33.8	+0.8
E48A	**Lockeyer** baz=168	66.80	352	P		P		20 10 31.9	-0.9
D52A	**ZEK Kipawa Sen** baz=172	66.85	354	P		P		20 10 32.8	-0.3
D54A	**Lac Fusel, La** baz=174	66.88	356	P		P		20 10 32.8	-0.6
D53A	**Lac Vacive, Po** baz=173	66.89	355	P		P		20 10 32.8	-0.6
D53A	**Lac Vacive, Po** comp=Z,11nm,0.8s	66.89	355	IAmb		IAmb		20 10 34.2	
E47A	**Iron Bridge** baz=167	66.93	351	P		P		20 10 32.6	-1.0
BATG	**Bathurst New B** BATG	66.94	4	P		P		20 10 34.0	+0.3
	comp=Z,26nm,1.0s			IAmb		IAmb		20 10 35.0	
D51A	**Lot 18 Range I** baz=171	67.06	354	P		P		20 10 34.1	-0.4
WUAZ	**Wupatki** baz=138,SNR=5.7	67.13	325	P		P		20 10 36.4	+1.0
WUAZ	**Wupatki** comp=Z,14nm,0.9s	67.13	325	IAmb		IAmb		20 10 38.6	
D50A	**G1974 Best Tow** baz=171,SNR=9.1	67.18	353	P		P		20 10 34.7	-0.5
GLA	**Glamis** baz=135	67.31	321	P		P		20 10 36.1	-0.2
D48A	**Paudash Townsh** baz=169	67.43	352	P		P		20 10 35.9	-0.9
D49A	**Beulah Townshi** baz=169	67.47	352	P		P		20 10 36.2	-0.9
D47A	**Chapleau** baz=167	67.49	351	P		P		20 10 36.3	-0.9
ECSD	**EROS Data Cent** baz=154,SNR=8.3	67.53	340	P		P		20 10 37.0	-0.6
ECSD	**EROS Data Cent** comp=Z,26nm,1.2s	67.53	340	IAmb		IAmb		20 10 38.4	
ISCO	**Idaho Springs** baz=144	67.62	332	P		P		20 10 38.4	-0.2
PDMCI	**Parker Dam,Lak** baz=136	67.79	322	P		P		20 10 40.7	+1.3
IKP	**In-Ko-Pah, Jac** baz=134	67.80	320	P		P		20 10 40.9	+1.3
PV15	**Paradox Valley** comp=Z,16nm,1.0s	67.80	329	IAmb		IAmb		20 10 42.2	
VLDQ	**Val d'Or** comp=Z,13nm,1.0s	67.90	355	IAmb		IAmb		20 10 40.9	
BC3	**Big Chuckawall** baz=135,SNR=6.8	68.10	321	P		P		20 10 42.4	+0.9
MONP2	**Monument Peak** baz=134	68.15	320	P		P		20 10 42.4	+0.4
BAR	**Barrett** BAR	68.16	319	P		P		20 10 43.1	+1.3
	comp=Z,13nm,0.9s			IAmb		IAmb		20 10 54.5	
IRM	**Iron Mountain** baz=135,SNR=9.3	68.27	321	P		P		20 10 43.9	+1.4
U15A	**North Rim** comp=Z,11nm,0.8s	68.30	325	IAmb		IAmb		20 10 55.4	
F36A	**Milaca** comp=Z,18nm,1.1s	68.55	343	IAmb		IAmb		20 10 44.2	
N23A	**Red Feather La** baz=144	68.66	332	P		P		20 10 45.8	+0.8
BELC	**Belle Mtn. Jos** baz=134	68.67	321	P		P		20 10 46.5	+1.4
XPFO	**Pion Flat**	68.67	320	P		P		20 10 45.9	+0.9
PFO	**Pinyon Flats O** baz=134	68.67	320	P		P		20 10 46.7	+1.7
PFO	**Pinyon Flats O** comp=Z,7.4nm,0.9s,baz=98,slow=5.5,SNR=5.8	68.67	320	P		P		20 10 46.3	+1.2
PFO	**Pinyon Flats O**	68.67	320	P		P		20 10 45.8	+0.7
LSQQ	**Lebel-sur-Quev** baz=174	68.80	356	P		P		20 10 45.5	+0.1
GMRC	**Granite Mounta** baz=135,SNR=15	69.01	322	P		P		20 10 48.6	+1.5
O20A	**White River Ci** baz=142	69.10	330	P		P		20 10 48.7	+1.0
HEC	**Hector,Ludlow** baz=134,SNR=5.1	69.44	321	P		P		20 10 51.4	+1.6
CHGQ	**Chibougamau** baz=176	69.51	358	P		P		20 10 49.8	+0.1
MATQ	**Matagami** baz=173	69.55	355	P		P		20 10 49.6	-0.4
TUQ	**Turquoise Moun** baz=135,SNR=5.6	69.62	322	P		P		20 10 52.3	+1.3
LIC	**Lamto** comp=Z,58nm,1.4s	69.70	75	*e*P		P		20 10 50.1	-1.6
BFSC	**Mount Baldy Ra** baz=133	69.83	320	P		P		20 10 53.6	+1.3
TIC	**Toumodi**	69.88	75	*e*P		P		20 10 51.0	-1.8
KIC	**Kosan Boka** comp=Z,11nm,0.8s	70.02	75	*e*P		P		20 10 51.9	-1.8
DBIC	**Dimbokro** comp=Z,18nm,0.9s,baz=217,slow=8.6,SNR=7.7	70.04	75	P		P		20 10 52.3	-1.5
DBIC	**Dimbokro** comp=Z,25nm,0.9s	70.04	75	IAmb		IAmb		20 10 53.5	
GSC	**Goldstone, Bar** baz=134,SNR=5.7	70.05	321	P		P		20 10 55.4	+1.9
GSC	**Goldstone, Bar** comp=Z,17nm,1.1s	70.05	321	IAmb		IAmb		20 11 08.4	
MWC	**Mount Wilson** MWC	70.06	320	P		P		20 10 54.4	+0.7
	comp=Z,16nm,0.9s			IAmb		IAmb		20 10 56.6	
K22A	**Casper** baz=144	70.34	333	P		P		20 10 56.4	+1.1
QSPA	**South Pole Qui** comp=Z,19nm,0.8s,baz=179,slow=0.9,SNR=46	70.34	180	P		P		20 10 56.1	+1.2
QSPA	**South Pole Qui** QSPA	70.34	180	P		P		20 10 56.3	+1.4
	comp=Z,31nm,1.1s			IAmb		IAmb		20 10 57.4	
EDW2	**Edwards Air Fo** baz=133,SNR=6.4	70.47	320	P		P		20 10 56.9	+0.8
RSSD	**Black Hills** baz=147	70.53	335	P		P		20 10 57.0	+0.6
RSSD	**Black Hills** RSSD	70.53	335	P		P		20 10 56.7	+0.3
	comp=Z,12nm,0.8s			IAmb		IAmb		20 10 58.1	
LRMC	**Laurel Mtn Rad** baz=133,SNR=5.3	70.69	321	P		P		20 10 58.8	+1.3
TPNV	**Topopah Spring** baz=135,SNR=18	70.88	323	P		P		20 11 00.2	+1.5
TPNV	**Topopah Spring** comp=Z,13nm,0.7s	70.88	323	IAmb		IAmb		20 11 11.2	
FURC	**Furnace Creek,** baz=134,SNR=10	70.89	322	P		P		20 11 00.3	+1.9
MPMC	**Manual Prospec** baz=134,SNR=8.2	70.97	321	P		P		20 11 00.2	+1.0
ISA	**Isabella, Lake** baz=133,SNR=12	71.28	321	P		P		20 11 02.6	+1.6
ISA	**Isabella, Lake** comp=Z,14nm,0.9s	71.28	321	IAmb		IAmb		20 11 04.0	
DUG	**Dugway, Tooele** baz=136,SNR=9.5	71.38	327	P		P		20 11 03.2	+1.6
DUG	**Dugway, Tooele** comp=Z,15nm,1.0s	71.38	327	IAmb		IAmb		20 11 04.3	
AGMN	**Agassiz Nation** baz=155	71.43	343	P		P		20 11 01.1	-0.3
R11A	**Troy Canyon, C** baz=136,SNR=12	71.50	324	P		P		20 11 04.4	+2.0
R11A	**Troy Canyon, C** comp=Z,19nm,1.4s	71.50	324	IAmb		IAmb		20 11 17.5	
PKM	**Mcpherson Peak** baz=132,SNR=5.3	71.58	319	P		P		20 11 04.4	+1.4
CWC	**Cottonwood Cre** baz=133	71.58	321	P		P		20 11 04.2	+1.3
VES	**Vestal, Richgr** baz=132	71.77	320	P		P		20 11 05.4	+1.6
BW06	**Boulder Array** baz=142	71.78	331	P		P		20 11 04.9	+0.8
PDAR	**Pinedale Array** comp=Z,1.7nm,0.7s,baz=140,slow=7.9,SNR=5.9	71.78	331	P		P		20 11 04.6	+0.6
PDAR	**Pinedale Array**	71.78	331	P		P		20 11 04.2	+0.1
HWUT	**Hardware Ranch** comp=Z,14nm,0.8s	71.82	329	IAmb		IAmb		20 11 08.0	
SMMC	**Simmler** baz=132	71.97	319	P		P		20 11 07.1	+2.0
MDND	**Maddock** baz=152	72.15	340	P		P		20 11 06.3	+0.4
OMMB	**Old Mammoth Mi** comp=Z,16nm,0.9s	72.92	322	IAmb		IAmb		20 11 23.3	
ELK	**Elko** comp=Z,4.8nm,0.9s,baz=128,slow=4.1,SNR=10	73.03	326	P		P		20 11 12.6	+1.0
NVAR	**Mina Array Bea** comp=Z,6.3nm,0.8s,baz=153,slow=6.6,SNR=22	73.07	323	P		P		20 11 13.8	+2.0
NVAR	**Mina Array Bea**	73.07	323	P		P		20 11 12.9	+1.1
ULM	**Lac du Bonnet** comp=Z,13nm,1.0s,baz=156,slow=5.0,SNR=4.4	73.21	344	P		P		20 11 11.6	-0.5
ULM	**Lac du Bonnet** comp=Z,18nm,1.1s	73.21	344	IAmb		IAmb		20 11 12.4	
IMW	**Indian Meadow** comp=Z,20nm,1.4s	73.29	331	IAmb		IAmb		20 11 15.3	
FLWY	**Flagg Ranch** comp=Z,22nm,0.9s	73.32	331	IAmb		IAmb		20 11 15.8	
RLMT	**Red Lodge** baz=142,SNR=5.3	73.50	333	P		P		20 11 14.9	+0.7
YERR	**Yerington** comp=Z,21nm,1.3s	73.99	323	IAmb		IAmb		20 11 32.1	
DGMT	**Dagmar** baz=142	74.24	338	P		P		20 11 19.0	+0.7
PNTR	**Pine Nut** comp=Z,14nm,0.9s	74.26	323	IAmb		IAmb		20 11 21.9	
SCHQ	**Schefferville** comp=Z,6.4nm,0.9s,baz=182,slow=4.7,SNR=3.7	74.45	2	P		P		20 11 19.8	+0.5
PAHR	**Pah Rah Range** comp=Z,20nm,0.9s	74.56	323	IAmb		IAmb		20 11 23.5	
HLID	**Hailey** baz=138,SNR=15	74.68	329	P		P		20 11 22.4	+1.3
BOZ	**Bozeman (W)** baz=140,SNR=6.9	74.92	332	P		P		20 11 23.1	+0.7
MFID	**Camas Ranch** comp=Z,20nm,1.1s	75.27	328	IAmb		IAmb		20 11 27.3	
ORV	**Oroville** comp=Z,37nm,1.2s	75.67	322	IAmb		IAmb		20 11 42.2	
EGMT	**Eagleton** baz=142,SNR=6.3	76.01	334	P		P		20 11 28.9	+0.4
EGMT	**Eagleton** comp=Z,20nm,0.9s	76.01	334	IAmb		IAmb		20 11 30.2	
O03E	**Paynes Creek** baz=131	76.33	322	P		P		20 11 30.8	+0.3
O02D	**Mt. Diablo Mer** baz=130	76.83	322	P		P		20 11 33.5	+0.2
MSO	**Missoula** baz=139	76.89	331	P		P		20 11 34.3	+0.7
N02D	**Trinity Center** baz=131	77.30	322	P		P		20 11 36.0	+0.1
M04C	**Macdoel** baz=131,SNR=5.2	77.33	323	P		P		20 11 37.0	+0.8
K05A	**Summer Lake** comp=Z,20nm,1.1s	77.44	325	IAmb		IAmb		20 11 39.9	
M02C	**Callahan** baz=131	77.65	323	P		P		20 11 38.6	+0.7
YBH	**Yreka Blue Hor** comp=Z,2.9nm,0.8s,baz=109,slow=3.9,SNR=6.7	77.79	323	P		P		20 11 38.7	0.0
L04D	**Klamath Falls** baz=131	77.88	324	P		P		20 11 39.6	+0.4
J05D	**Fort Rock, OR** baz=132,SNR=5.5	78.00	325	P		P		20 11 41.0	+1.1
VNDA	**Vanda** comp=Z,2.8nm,0.9s,baz=144,slow=3.9,SNR=6.4	78.16	190	P		P		20 11 41.8	+1.6
VNDA	**Vanda**	78.16	190	P		P		20 11 42.3	+2.1
TORD	**Torodi Ar. Bea** comp=Z,28nm,0.8s,baz=256,slow=5.1,SNR=39	78.54	71	P		P		20 11 42.0	-1.2
TORD	**Torodi Ar. Bea**	78.54	71	P		P		20 11 41.7	-1.6
WALA	**Waterton Lakes** comp=Z,17nm,1.0s	78.56	333	IAmb		IAmb		20 11 44.9	
SYO	**Syowa Base**	78.68	160	⇑*i*P		P		20 11 42.8	-0.3
SYO	**Syowa Base**	78.68	160	⇓*e*pP		P		20 11 48.0	+4.9
I05D	**Terrebonne, OR** baz=132	78.77	326	P		P		20 11 45.3	+1.3
K02D	**Willamette Mer** baz=130	78.96	323	P		P		20 11 46.2	+1.1
I04A	**Tendick Farm,** baz=131	78.98	325	P		P		20 11 45.7	+0.6
G05D	**Wamic, OR** baz=132	79.36	326	P		P		20 11 48.1	+1.0
NEW	**Newport** baz=136	79.41	331	P		P		20 11 47.9	+0.5
I03D	**Drain, OR** baz=131	79.43	324	P		P		20 11 48.6	+1.1
C09A	**Chrisman Ranch** comp=Z,31nm,1.5s	79.62	330	IAmb		IAmb		20 12 02.8	
H04D	**Lebanon** baz=131	79.64	325	P		P		20 11 49.7	+1.0
I02D	**Swisshome** baz=130	79.97	324	P		P		20 11 52.0	+1.5
F04A	**Amboy** comp=Z,18nm,0.9s	80.40	326	IAmb		IAmb		20 11 54.9	
LTY	**Liberty** comp=Z,30nm,1.4s	80.40	328	IAmb		IAmb		20 12 21.1	
D04E	**Lakebay** baz=131	81.41	327	P		P		20 11 59.0	+0.9
MORF	**Marmelete** comp=Z,30nm,1.2s	81.58	45	*e*P		P		20 11 59.5	+0.2
B05A	**Bryant** baz=132	81.79	328	P		P		20 12 01.1	+1.0
D03D	**Eldon** baz=131	81.81	327	P		P		20 12 01.3	+1.2
PBDV	**Barranco-do-Ve** comp=Z,38nm,1.8s	82.03	46	*e*P		P		20 12 02.2	+0.6
PNCL	**Nicolau / Gran**	82.10	45	*e*P		P		20 12 01.9	0.0
MESJ	**Messejana**	82.16	45	*e*P		P		20 12 00.1	-2.1
PCVE	**Castro Verde**	82.17	45	*e*P		P		20 12 03.3	+1.0
PVAQ	**Vaqueiros**	82.26	46	*e*P		P		20 12 02.9	+0.1
PBEJ	**Beja**	82.49	45	*e*P		P		20 12 04.5	+0.5
PMTG	**Montargil** comp=Z,21nm,2.1s	82.81	44	*e*P		P		20 12 06.2	+0.6
PVIS	**Viseu** comp=Z,24nm,1.5s	83.91	43	*e*P		P		20 12 11.6	+0.3
MTE	**Manteigas** comp=Z,32nm,1.4s	83.97	43	*e*P		P		20 12 12.0	+0.3
MTE	**Manteigas** MTE	83.97	43	P		P		20 12 11.3	-0.3
	comp=Z,26nm,1.2s			IAmb		IAmb		20 12 12.7	
PGAV	**Gavieira, Arco**	84.35	42	*e*P		P		20 12 13.6	0.0
PCAB	**Cabril**	84.36	42	*e*P		P		20 12 13.6	0.0
MVO	**Moncorvo** comp=Z,37nm,1.6s	84.70	43	*e*P		P		20 12 15.3	-0.1
PBRG	**Braganca**	85.23	42	*e*P		P		20 12 18.0	0.0
PAB	**San Pablo** PAB	85.63	45	P		P		20 12 19.5	-0.6
	comp=Z,11nm,0.9s			IAmb		IAmb		20 12 21.2	
TAM	**Tamanrasset** comp=Z,20nm,1.1s	85.72	64	IAmb		IAmb		20 12 22.7	
ESDC	**Sonseca Array** comp=Z,5.5nm,1.0s,baz=239,slow=4.2,SNR=13	85.95	45	P		P		20 12 21.4	-0.2
ESDC	**Sonseca Array**	85.95	45	P		P		20 12 21.1	-0.5
ESBB	**Sonseca Array**	85.95	45	P		P		20 12 21.4	-0.2
MAW	**Mawson** comp=Z,12nm,1.0s,baz=240,slow=6.9,SNR=11	86.43	164	P		P		20 12 24.7	+1.3
MAW	**Mawson**	86.43	164	P		P		20 12 24.2	+0.7
YKA	**Yellowknife Ar** comp=Z,8.1nm,1.0s,baz=143,slow=5.3,SNR=14	89.03	341	P		P		20 12 36.0	+0.3
DLBC	**Dease Lake** comp=Z,2.4nm,0.8s,baz=157,slow=6.7,SNR=3.3	91.90	333	P		P		20 12 50.1	+0.7
DLBC	**Dease Lake** comp=Z,6.6nm,1.0s	91.90	333	IAmb		IAmb		20 13 01.5	
SUMG	**Summit** comp=Z,9.0nm,1.1s	94.72	9	IAmb		IAmb		20 13 05.5	
ECH	**Echery** comp=Z,6.5nm,1.1s	96.89	41	IAmb		IAmb		20 13 12.6	
KBZ	**Khabaz** comp=Z,6.1nm,0.9s,baz=203,slow=2.0,SNR=11	120.48	50	PKP		PKiKP		20 18 33.2	+0.4
H11S2	**WAKE ISLAND Hy1** baz=101,slow=74,SNR=22	25.84	279	T		T		22 38 09.4	
H11S1	**WAKE ISLAND Hy1** baz=101,slow=74,SNR=2.3	25.85	279	T		T		22 38 06.6	
H11S3	**WAKE ISLAND Hy1** baz=101,slow=74,SNR=2.2	25.86	279	T		T		22 38 07.2	
H11N3	**WAKE ISLAND Hy1** baz=101,slow=74,SNR=24	25.89	280	T		T		22 38 20.8	
H11N2	**WAKE ISLAND Hy1** baz=101,slow=74,SNR=27	25.90	280	T		T		22 38 23.4	
H11N1	**WAKE ISLAND Hy1** baz=101,slow=74,SNR=18	25.91	280	T		T		22 38 09.3	
TIXI	**Tiksi**	126.92	352			PKPdf		20 18 44.1	-0.2
PETK	**Petropavlovsk-** comp=Z,4.2nm,0.9s,baz=104,slow=6.3,SNR=6.2	130.15	324	PKP		PKPdf		20 18 51.1	0.0
PETK	**Petropavlovsk-**	130.15	324			PKiKP		20 18 51.8	-0.1
ASAR	**Alice Springs** comp=Z,4.4nm,0.9s,baz=148,slow=2.2,SNR=11	130.47	210	PKP		PKPdf		20 18 52.5	-0.2
ASAR	**Alice Springs**	130.47	210	PKPdf		PKPdf		20 18 52.2	-0.5
ABKAR	**Akbulak array**	131.14	41	PKPdf		PKiKP		20 18 53.7	-0.2
GEYT	**Alibeck** comp=Z,1.4nm,0.7s,baz=241,slow=3.1,SNR=3.6	132.43	56	PKP		PKPdf		20 18 55.4	-0.5
WRA	**Warramunga Arr** comp=Z,2.0nm,0.6s,baz=149,slow=1.8,SNR=4.6	133.39	213	PKP		PKPdf		20 18 57.0	-1.2
HRA	**Herat**	136.19	61	PKPdf		PKPdf		20 19 03.5	+0.2
ZALV	**Zalesovo Beam** comp=Z,8.0nm,0.8s,baz=295,slow=2.4,SNR=11	141.19	23	PKP		PKPdf		20 19 11.2	-0.2
ZALV	**Zalesovo Beam**	141.19	23	PKPdf		PKPdf		20 19 12.1	+0.6
AAK	**Ala-Archa**	143.05	44	PKPdf		PKPdf		20 19 14.8	-0.6
MAKZ	**Makanchi**	145.13	33			PKPbc		20 19 18.2	-0.1
GUMO	**Guam**	145.28	265			PKPbc		20 19 18.9	-0.7
MKAR	**Makanchi Array** comp=Z,9.9nm,0.7s,baz=328,slow=4.4,SNR=25	145.30	33	PKPbc		PKPdf		20 19 19.4	+0.3
MKAR	**Makanchi Array**	145.30	33			PKPbc		20 19 18.3	-0.6
NIL	**Nilore**	145.31	59			PKPbc		20 19 19.1	-0.2
KSH	**Kashi**	145.42	48	PKPbc		PKPab		20 19 20.8	+1.0
TARG	**Taragay, Kyrgy**	145.64	44	PKPdf		PKPab		20 19 21.2	+0.3
FAKI	**Fak Fak**	147.96	228			PKPbc		20 19 28.1	+0.5
USA0B	**Ussuriysk Arra**	149.13	327			PKiKP		20 19 30.7	-0.1
USRK	**Ussuriysk Ar.** comp=Z,14nm,0.9s,baz=30,slow=3.3,SNR=12	149.13	327	PKPbc		PKiKP		20 19 30.9	0.0
USRK	**Ussuriysk Ar.**	149.13	327			PKiKP		20 19 30.6	-0.3
MJAR	**Matsushiro Arr** comp=Z,14nm,0.9s,baz=112,slow=0.7,SNR=24	149.62	309	PKPbc		PKiKP		20 19 32.2	0.0
MJAR	**Matsushiro Arr**	149.62	309			PKPbc		20 19 31.5	+0.4
MAJO	**Matsushiro**	149.62	309			PKiKP		20 19 31.7	-0.5
MAT	**Matsushiro**	149.62	309	PKP		PKiKP		20 19 31.7	-0.5
MJB9	**Matsu-Tunnel**	149.62	309			PKiKP		20 19 31.7	-0.4
MDJ	**Mudanjiang**	150.01	330	PKPbc		PKPdf		20 19 24.0	-2.8
MDJ	MDJ			SS		SS		20 42 17.1	-2.4
	comp=Z,240nm,5.7s			AMB		AMB			
MDJ	MDJ			LR		LR			
	comp=Z,740nm,22.8s								
WMQ	**Urumqi** WMQ	150.11	32	*e*PKPbc		PKPdf		20 19 27.1	0.0
	comp=Z,490nm,14.7s			LR		LR			
WMQ	WMQ			LR		LR			
	comp=Z,1μm,22.1s								
HYB	**Hyderabad**	150.93	90	*i* PKP		PKPbc		20 19 34.5	-0.3
SONM	**Songino Array** comp=Z,1.9nm,1.0s,baz=225,slow=1.0,SNR=3.5	151.99	4	PKP		PKPdf		20 19 30.4	+0.4
SONM	SONM			PKPbc		PKPbc		20 19 36.6	+0.1
	comp=Z,8.5nm,0.8s,baz=323,slow=1.3,SNR=14								
SONM	**Songino Array**	151.99	4			PKiKP		20 19 37.0	+0.1
KSRS	**Korea Array** comp=Z,3.3nm,0.9s,baz=66,slow=1.4,SNR=8.6	156.00	321	PKP		PKPdf		20 19 36.9	+1.2
KSRS	KSRS			PKPbc		pPKPdf		20 19 47.2	+0.2
	comp=Z,3.2nm,0.9s,baz=347,slow=0.2,SNR=5.3								
KSAR	**Wonju Array Be**	156.04	321	PKPdf		PKPdf		20 19 36.1	+0.3
GTA	**Gaotai**	158.90	20	PKP		PKPdf		20 19 40.4	+0.9
LZH	**Lanzhou**	163.16	15	*e*PKP		PKPdf		20 19 41.8	-2.4
LZH	LZH			pPKP		pPKPdf		20 19 51.3	-4.2
LZH	LZH			sPKP				20 19 55.9	
LZH	LZH			LR		LR			
	comp=Z,720nm,18.4s								
LZH	LZH			LR		LR			
	comp=Z,870nm,20.8s								
NJ2	**Nanjing**	165.04	326	*e*PKP		PKPdf		20 19 47.6	+1.8
CD2	**Chengdu**	167.95	23	PKP		PKPdf		20 19 47.5	-0.7
CMAR	**Chiang Mai Arr** comp=Z,1.9nm,0.9s,baz=255,slow=6.2,SNR=5.7	170.26	96	PKPab		PKPab		20 21 05.8	-0.4
KMI	**Kunming**	172.08	47	⇑PKP		PKPdf		20 19 50.8	-0.2
KMI	KMI			pPKP		pPKPdf		20 19 54.8	-7.4
KMI	KMI			sPKP				20 19 56.9	
KMI	KMI			LR		LR			
	comp=Z,370nm,14.0s								
KMI	KMI			LR		LR			
	comp=Z,350nm,15.8s								
KMI	KMI			LR		LR			
	comp=Z,570nm,18.5s								
GYA	**Guiyang**	173.03	19	PKP		PKPdf		20 19 50.3	-0.9
GYA	GYA			pPKP		pPKPdf	

NUBE	**Las Nubes**	**0.84**	**116**	*e*P		**Pn**	**20 13 26.3**	**+0.3**
NUBE				IAML			20 13 29.6	
	comp=Z,92nm,0.4s							
NUBE				*e*S		**Sn**	**20 13 47.5**	**0.0**
ERG	**Entre ros, C**	**1.00**	**280**	*e*P		**Pn**	**20 13 26.9**	**+0.1**
CEVE	**Cerro Verde**	**1.01**	**116**	IAML			20 14 00.5	
	comp=Z,474nm,0.2s							
STG3	**Santiaguito 3,**	**1.07**	**294**	*e*P		**Pn**	**20 13 27.7**	**+0.1**
MRL	**Marmol**	**1.17**	**46**	*e*P		**Pn**	**20 13 29.1**	**+0.7**
MRL				*e*S		**Sn**	**20 13 50.9**	**-0.9**
MTO3	**Montecristo**	**1.17**	**84**	*e*P		**Pn**	**20 13 28.5**	**+0.2**
MTO3				*e*S		**Sn**	**20 13 51.1**	**-0.5**
MTO3				IAML			20 13 55.4	
	comp=Z,68nm,0.7s							
LALI	**Alcalda de L**	**1.43**	**123**	*e*P		**Pn**	**20 13 29.9**	**-0.5**
LALI				*e*S		**Sn**	**20 13 55.7**	**+0.5**

ISK ***19*** *20:30:46.7,35˚.78N×32˚.02E,h28km,ML4.5/39*
MOS ***19*** *20:30:47.4±0.9,35˚.84N×32˚.03E,h87km,mb4.4/29,Error ellipse: s-maj=4.6km s-min=3.8km az=89.0*
NEIC ***19*** *20:30:47.4±1.5,35˚.81N±0˚.06×32˚.06E±0˚.05,h71km±5km, mb4.5/75,Error ellipse: s-maj=9.0km s-min=5.5km az=186.0*
DDA ***19*** *20:30:47.7,35˚.81N×32˚.14E,h48km,ML4.5*
IDC ***19*** *20:30:47.8±1.2,35˚.84N×32˚.04E,h75km±10km,mb4.3/29, mb1 4.3/42,mb1mx4.2/55,mbtmp4.5/42,MS4.2/1, Ms1 4.3/1,ms1mx3.0/58,Error ellipse: s-maj=12.0km s-min=9.4km az=172.0*
HLW ***19*** *20:30:49.0,35˚.46N×32˚.17E,h8km±17km,Md4.6,Ml5.1*
GRAL ***19*** *20:30:48.8±1.2,35˚.90N×32˚.27E,h21km±7km,MD4.5*
NIC ***19*** *20:30:49.3±0.0,35˚.68N×32˚.22E,h70km±4km,Ml4.8/9*
GII ***19*** *20:30:50.2±0.3,35˚.56N×32˚.01E,h50km,mb4.4/4, MD4.3/4,Mm4.1/4*

ISC 19 20:30:47.7±0.4, 35˚.78N±0˚.02×32˚.05E±0˚.02, h72km±4km, n519,σ1§30/595, mb4.5/101, 23C-30D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZI	**Gazipasa**	**0.51**	**25**	PG	**Pn**	**20 30 59.1**	**-1.6**
GAZI				SG	**Sn**	**20 31 06.2**	**-4.2**
GAZI	**Gazipasa**	**0.51**	**25**	⇓*i*P	**Pn**	**20 30 59.2**	**-1.6**
GAZI				*i* S	**Sn**	**20 31 07.2**	**-3.2**
ALFC	**Alefka**	**0.77**	**144**	P	**Pn**	**20 31 03.1**	**-0.4**
ALFC				S	**Sn**	**20 31 14.0**	**-1.2**
ALFC				AML	AML	20 31 14.9	
	118nm,0.2s						
ALFC				AML	AML	20 31 14.9	
	118nm,0.2s						
ALFC				AML	AML	20 31 19.9	
	111nm,0.4s						
ALFC				AML	AML	20 31 19.9	
	111nm,0.4s						
ALAN	**Alanya-ANTALYA**	**0.78**	**359**	PG	**Pn**	**20 31 02.1**	**-1.5**
ALAN				SG	**Sn**	**20 31 13.3**	**-2.1**
AKMS	**Akamas**	**0.79**	**163**	P	**Pn**	**20 31 04.1**	**+0.3**
AKMS				S	**Sn**	**20 31 15.5**	**-0.2**
AKMS				AML	AML	20 31 21.9	
	451nm,0.4s						
AKMS				AML	AML	20 31 21.9	
	451nm,0.4s						
AKMS				AML	AML	20 31 22.2	
	295nm,0.3s						
AKMS				AML	AML	20 31 22.2	
	295nm,0.3s						
BOZY	**Bozyazi-Mersin**	**0.82**	**66**	PG	**Pn**	**20 31 03.1**	**-1.0**
BOZY				SG	**Sn**	**20 31 14.4**	**-1.9**
AKDN	**Akdeniz- Kıbrı**	**0.89**	**122**	PG	**Pn**	**20 31 05.4**	**+0.5**
TEKE	**Tekeli-Mersin**	**0.94**	**67**	PG	**Pn**	**20 31 04.7**	**-0.8**
TEKE				SG	**Sn**	**20 31 17.8**	**-1.0**
LEF	**Lefka**	**0.95**	**133**	PG	**Pn**	**20 31 05.0**	**-0.7**
LEF	**Lefka**	**0.95**	**133**	⇓*i*P	**Pn**	**20 31 05.0**	**-0.7**
LEF				*i* S	**Sn**	**20 31 16.7**	**-2.3**
LEF				IAML		20 31 18.0	
	comp=N,8μm,0.2s						
LEF				IAML		20 31 23.0	
	comp=E,10μm,0.6s						
NATA	**Nata**	**1.08**	**157**	P	**Pn**	**20 31 08.5**	**+1.2**
NATA				AML	AML	20 31 32.3	
	comp=E,218nm,0.7s						
NATA				AML	AML	20 31 33.6	
	comp=E,193nm,1.0s						
BERE	**Bereket-Mersin**	**1.11**	**59**	PN	**Pn**	**20 31 07.5**	**-0.3**
BERE				SN	**Sn**	**20 31 22.1**	**-0.7**
ERMK	**Ermenek**	**1.11**	**39**	⇓*i*P	**Pn**	**20 31 07.7**	**-0.1**
ERMK				*i* S	**Sn**	**20 31 22.7**	**-0.2**
ERMK				IAML		20 31 24.0	
	comp=N,25μm,0.3s						
YORU	**Yoruktepe-Mers**	**1.16**	**71**	PN	**Pn**	**20 31 07.9**	**-0.5**
YORU				SN	**Sn**	**20 31 23.4**	**-0.4**
KEPZ	**Antalya-Kepez**	**1.18**	**342**	⇑*i*P	**Pn**	**20 31 08.1**	**-0.5**
KEPZ				*i* S	**Sn**	**20 31 22.8**	**-1.4**
KEPZ				IAML		20 31 24.0	
	comp=E,7μm,0.6s						
OREN	**Orenkoy-Mersin**	**1.22**	**69**	PN	**Pn**	**20 31 08.8**	**-0.3**
OREN				SN	**Sn**	**20 31 24.6**	**-0.5**
SZAC	**Souni**	**1.23**	**146**	P	**Pn**	**20 31 10.4**	**+1.2**
SZAC				S	**Sn**	**20 31 24.6**	**-0.6**
SZAC				AML	AML	20 31 35.1	
	comp=E,45nm,0.3s						
SZAC				AML	AML	20 31 35.1	
	comp=E,45nm,0.3s						
SZAC				AML	AML	20 31 39.7	
	comp=E,63nm,0.5s						
SZAC				AML	AML	20 31 39.7	
	comp=E,63nm,0.5s						
AKK1	**Akkuyu-Mersin**	**1.27**	**73**	PN	**Pn**	**20 31 09.3**	**-0.3**
AKK2	**Akkuyu-Mersin**	**1.27**	**73**	PN	**Pn**	**20 31 08.9**	**-0.8**
ATHAL	**Athalassa**	**1.27**	**120**	P	**Pn**	**20 31 09.4**	**-0.3**
ATHAL				S	**Sn**	**20 31 25.3**	**-0.9**
ATHAL				AML	AML	20 31 32.7	
	comp=E,110nm,0.3s						
ATHAL				AML	AML	20 31 32.7	
	comp=E,110nm,0.3s						
ATHAL				AML	AML	20 31 38.9	
	comp=E,91nm,0.4s						
ATHAL				AML	AML	20 31 38.9	
	comp=E,91nm,0.4s						
AKKU	**Akkuyu-Mersin**	**1.28**	**72**	PN	**Pn**	**20 31 09.5**	**-0.3**
GULN	**MERSIN_Gulnar**	**1.28**	**71**	⇓*i*P	**Pn**	**20 31 09.4**	**-0.4**
GULN				*i* S	**Sn**	**20 31 25.4**	**-1.0**
GULN				IAML		20 31 28.0	
	comp=N,13μm,0.3s						
GULN				IAML		20 31 28.0	
	comp=E,10μm,0.2s						
TEPK	**Tepekoy-MERSIN**	**1.29**	**69**	PN	**Pn**	**20 31 09.8**	**-0.2**
TEPK				SN	**Sn**	**20 31 26.3**	**-0.5**
TEVE	**Tevekalti-Mers**	**1.31**	**59**	PN	**Pn**	**20 31 10.3**	**0.0**
TEVE				SN	**Sn**	**20 31 26.7**	**-0.5**
LFK	**Lefkose**	**1.31**	**112**	PN	**Pn**	**20 31 09.6**	**-0.6**
CSS	**Mathiatis**	**1.33**	**127**	PN	**Pn**	**20 31 09.7**	**-0.8**
CSS	**Mathiatis**	**1.33**	**127**	P	**Pn**	**20 31 09.6**	**-0.8**
CSS	**Mathiatis**	**1.33**	**127**	Pn	**Pn**	**20 31 09.6**	**-0.8**
CSS	**Mathiatis**	**1.33**	**127**	Pn	**Pn**	**20 31 09.3**	**-1.1**
CSS	**Mathiatis**	**1.33**	**127**	P	**Pn**	**20 31 09.6**	**-0.8**
CSS				S	**Sn**	**20 31 25.0**	**-2.5**
CSS				AML	AML	20 31 38.9	
	comp=E,14nm,0.7s						
CSS				AML	AML	20 31 38.9	
	comp=E,14nm,0.7s						
CSS				AML	AML	20 31 41.2	
	comp=E,15nm,0.9s						
CSS				AML	AML	20 31 41.2	
	comp=E,15nm,0.9s						
YESI	**Yesilovacik-Me**	**1.36**	**72**	PN	**Pn**	**20 31 10.6**	**-0.2**
TISA	**Tisan-Mersin**	**1.38**	**73**	PN	**Pn**	**20 31 10.5**	**-0.6**
ASGA	**Asgata**	**1.39**	**135**	P	**Pn**	**20 31 11.2**	**-0.1**
ASGA				S	**Sn**	**20 31 28.4**	**-0.7**
ASGA				AML	AML	20 31 40.9	
	comp=E,54nm,0.5s						
ASGA				AML	AML	20 31 40.9	
	comp=E,54nm,0.5s						
ASGA				AML	AML	20 31 41.5	
	comp=E,44nm,0.7s						
ASGA				AML	AML	20 31 41.5	
	comp=E,44nm,0.7s						
IKL	**Isikli**	**1.41**	**70**	PN	**Pn**	**20 31 11.4**	**0.0**
KARG	**Kargicak-Mersi**	**1.41**	**72**	PN	**Pn**	**20 31 11.6**	**+0.1**
KEMT	**Kemer-ANTALYA**	**1.46**	**305**	PN	**Pn**	**20 31 11.3**	**-0.9**
AKUM	**Antalya-Kumluc**	**1.48**	**292**	⇓*i*P	**Pn**	**20 31 12.7**	**+0.2**
AKUM				*i* S	Sn	20 31 38.0	+6.9
MVOU	**Mavrovouni**	**1.50**	**120**	P	**Pn**	**20 31 11.8**	**-0.8**
MVOU				S	**Sn**	**20 31 29.5**	**-2.1**
MVOU				AML	AML	20 31 40.0	
	comp=E,51nm,0.6s						
MVOU				AML	AML	20 31 40.0	
	comp=E,51nm,0.6s						
MVOU				AML	AML	20 31 40.9	
	comp=E,43nm,0.5s						
MVOU				AML	AML	20 31 40.9	
	comp=E,43nm,0.5s						
KEBE	**Keben-Mersin**	**1.51**	**63**	PN	**Pn**	**20 31 12.9**	**+0.1**
ANTB	**Antalya**	**1.59**	**315**	PN	**Pn**	**20 31 12.8**	**-1.0**
SILI	**Silifke-Mersin**	**1.63**	**68**	PN	**Pn**	**20 31 14.7**	**+0.3**
SEYD	**Seydisehir-KON**	**1.64**	**354**	PN	**Pn**	**20 31 15.1**	**+0.5**
SLFK	**Silifke-Mersin**	**1.66**	**68**	PN	**Pn**	**20 31 14.8**	**+0.1**
KRMN	**Karaman**	**1.71**	**35**	PN	**Pn**	**20 31 15.7**	**+0.2**
EREN	**Erenkoy**	**1.75**	**97**	PN	**Pn**	**20 31 16.3**	**+0.4**
EREN	**Erenkoy**	**1.75**	**97**	⇓*i*P	**Pn**	**20 31 15.9**	**0.0**
EREN				*i* S	**Sn**	**20 31 38.0**	**+0.6**
EREN				IAML		20 31 39.0	
	comp=N,17μm,0.5s						
DEMR	**Demre-Antalya**	**1.80**	**285**	PN	**Pn**	**20 31 16.4**	**-0.2**
PARAL	**Paralimni**	**1.81**	**115**	P	**Pn**	**20 31 16.9**	**+0.2**
PARAL				AML	AML	20 31 49.9	
	comp=N,37nm,1.0s						
PARAL				AML	AML	20 31 56.9	
	comp=N,28nm,0.7s						
KIZK	**Mersin**	**1.84**	**67**	PN	**Pn**	**20 31 17.6**	**+0.4**
KIZK	**Mersin**	**1.84**	**67**	⇓*i*P	**Pn**	**20 31 17.6**	**+0.4**
KIZK				*i* S	**Sn**	**20 31 39.0**	**-0.6**
KIZK				IAML		20 31 44.0	
	comp=N,7μm,0.5s						
ELL	**Elmali**	**1.98**	**300**	PN	**Pn**	**20 31 19.7**	**+0.5**
ELL	**Elmali**	**1.98**	**300**	P	**Pn**	**20 31 19.4**	**+0.2**
ELL	**Elmali**	**1.98**	**300**		**Pn**	**20 31 19.4**	**+0.2**
KMER	**Konya-Meram**	**2.00**	**7**	⇓*i*P	**Pn**	**20 31 19.6**	**0.0**
KMER				*i* S	**Sn**	**20 31 43.2**	**-0.6**
AKAS	**Kas**	**2.03**	**284**	PN	**Pn**	**20 31 19.3**	**-0.6**
AKAS	**Kas**	**2.03**	**284**	⇓*i*P	**Pn**	**20 31 19.2**	**-0.7**
AKAS				*i* S	Sn	20 31 57.5	+13
BCK	**Bucak**	**2.05**	**326**	PN	**Pn**	**20 31 20.1**	**0.0**
BCK	**Bucak**	**2.05**	**326**	P	**Pn**	**20 31 20.2**	**+0.1**
KONT	**Konya--Tatoy**	**2.18**	**7**	PN	**Pn**	**20 31 22.1**	**+0.3**
KONT	**Konya--Tatoy**	**2.18**	**7**	⇑*i*P	**Pn**	**20 31 22.0**	**+0.3**
KONT				*i* S	**Sn**	**20 31 50.7**	**+2.8**
MERS	**Mersin**	**2.28**	**61**	PN	**Pn**	**20 31 23.8**	**+0.7**
KERG	**Konya-Eregli**	**2.34**	**45**	⇓*i*P	**Pn**	**20 31 24.0**	**-0.1**
KERG				*i* S	**Sn**	**20 31 51.2**	**-0.7**
KERG				IAML		20 31 58.0	
	comp=E,4μm,0.5s						
DOGA	**KONYA_Doganhis**	**2.34**	**353**	⇑*i*P	**Pn**	**20 31 24.2**	**+0.1**
DOGA				*i* S	**Sn**	**20 31 52.0**	**-0.1**
OSC1	**CSNet OBS 1**	**2.36**	**196**	P	**Pn**	**20 31 24.7**	**+0.6**
OSC1				S	**Sn**	**20 31 53.4**	**+1.3**
ISP	**Isparta**	**2.38**	**330**	PN	**Pn**	**20 31 24.7**	**+0.1**
ISP	**Isparta**	**2.38**	**330**	P	**Pn**	**20 31 24.4**	**-0.2**
ISP	**Isparta**	**2.38**	**330**	Pn	**Pn**	**20 31 24.9**	**+0.3**
ISP	**Isparta**	**2.38**	**330**	Pn	**Pn**	**20 31 24.4**	**-0.2**
YESY	**Yesilyurt**	**2.42**	**34**	PN	**Pn**	**20 31 25.6**	**+0.4**
BAGO	**Egridir - ISPA**	**2.43**	**336**	⇑*i*P	**Pn**	**20 31 26.0**	**+0.8**
BAGO				*i* S	**Sn**	**20 31 55.4**	**+1.4**
LADK	**Ladik-KONYA**	**2.43**	**6**	PN	**Pn**	**20 31 25.0**	**-0.3**
GOLH	**Golhisar**	**2.48**	**307**	⇓*i*P	**Pn**	**20 31 27.6**	**+1.7**
GOLH				*i* S	Sn	20 32 04.9	+10
BRDR	**BURDUR-Merkez**	**2.49**	**321**	*i* P	**Pn**	**20 31 27.2**	**+1.1**
BRDR				*i* S	**Sn**	**20 31 57.5**	**+1.9**
DED	**Mersin**	**2.52**	**61**	⇓*i*P	**Pn**	**20 31 26.7**	**+0.4**
DED				*i* S	**Sn**	**20 31 54.8**	**-1.2**
FETY	**Fethiye**	**2.55**	**291**	⇓*i*P	**Pn**	**20 31 26.6**	**+0.1**
FETY				*i* S	**Sn**	**20 31 55.5**	**-1.2**
SULT	**Sultanhani-AKS**	**2.69**	**25**	PN	**Pn**	**20 31 29.4**	**+0.7**
OSC2	**CSNet OBS 4**	**2.70**	**176**	P	**Pn**	**20 31 30.0**	**+1.2**
OSC2				S	**Sn**	**20 32 02.8**	**+2.3**
KDHN	**Kadinhani**	**2.74**	**1**	*i* P	**Pn**	**20 31 28.7**	**-0.8**
KDHN				*i* S	Sn	20 32 09.8	+8.3
KZIL	**AFYON_Kizioren**	**2.91**	**329**	*i* P	**Pn**	**20 31 32.0**	**+0.2**
KZIL				*i* S	**Sn**	**20 32 06.2**	**+0.5**
TURN	**Turunc**	**2.99**	**292**	⇓*i*P	Pn	20 31 35.9	+3.2
TURN				*i* S	**Sn**	**20 32 11.2**	**+3.8**
TAVA	**DENIZLI_Tavas**	**3.03**	**305**	⇓*i*P	**Pn**	**20 31 33.7**	**+0.3**
TAVA				*i* S	Sn	20 32 18.7	+10
BOLV	**Bolvadin**	**3.06**	**344**	⇑*i*P	**Pn**	**20 31 34.5**	**+0.6**
BOLV				*i* S	**Sn**	**20 32 08.2**	**-1.3**
YURE	**YUREGIR**	**3.08**	**69**	*i* P	**Pn**	**20 31 34.2**	**+0.2**
YURE				*i* S	**Sn**	**20 32 09.8**	**+0.1**
AKSY	**AKSARAY - Alti**	**3.18**	**25**	*i* P	**Pn**	**20 31 34.5**	**-0.9**
AKO	**Adana**	**3.21**	**57**	*i* P	**Pn**	**20 31 36.6**	**+0.9**
AKO				*i* S	**Sn**	**20 32 12.4**	**-0.4**
ARG	**Arkhangelos**	**3.21**	**279**	P	**Pn**	**20 31 35.8**	**+0.1**
KHAL	**Karahalli**	**3.30**	**322**	*i* P	**Pn**	**20 31 38.2**	**+1.1**
KHAL				*i* S	**Sn**	**20 32 14.0**	**-1.2**
YER	**Yerkesik**	**3.32**	**295**	P	**Pn**	**20 31 38.0**	**+0.7**
BEYL	**Beirut**	**3.41**	**123**	*e*P	**Pn**	**20 31 38.0**	**-0.4**
KKUL	**Konya-Kulu**	**3.46**	**11**	*i* P	**Pn**	**20 31 38.6**	**-0.7**
BHL	**Bhannes**	**3.50**	**121**	*e*P	**Pn**	**20 31 39.1**	**-0.7**
BHL				*e*S	**Sn**	**20 32 18.5**	**-1.7**
YAHY	**KAYSERI_Yahyal**	**3.52**	**48**	*i* P	**Pn**	**20 31 40.4**	**+0.3**
HWQ	**Hawqa**	**3.53**	**114**	*e*P	**Pn**	**20 31 40.5**	**+0.2**
HWQ				*e*S	**Sn**	**20 32 18.7**	**-2.2**
DQRL	**Deir Qamar**	**3.56**	**124**	*e*P	**Pn**	**20 31 39.6**	**-1.0**
KIRS	**Kırehir-Merke**	**3.67**	**23**	*i* P	**Pn**	**20 31 41.3**	**-0.7**
AUSIV	**SIVRIHISAR**	**3.68**	**354**	*i* P	**Pn**	**20 31 40.6**	**-1.6**
AUKIR	**Kırka- Seyitga**	**3.70**	**341**	*i* P	**Pn**	**20 31 43.0**	**+0.5**
HNTI	**Hanita**	**3.73**	**135**	P	**Pn**	**20 31 43.5**	**+0.6**
HNTI	**Hanita**	**3.73**	**135**	Pn	**Pn**	**20 31 43.4**	**+0.6**
QRWL	**Qaraoun**	**3.73**	**126**	*e*P	**Pn**	**20 31 43.5**	**+0.6**
QRWL				*e*S	**Sn**	**20 32 23.5**	**-2.2**
DAT	**Datca**	**3.73**	**286**	*i* P	**Pn**	**20 31 42.3**	**-0.7**
DAT				*i* S	**Sn**	**20 32 22.9**	**-2.9**
USAK	**Uak-Merkez**	**3.80**	**321**	*i* P	**Pn**	**20 31 44.0**	**+0.1**
USAK				*i* S	**Sn**	**20 32 25.4**	**-2.0**
AYDN	**Tasoluk**	**3.84**	**301**	*i* P	**Pn**	**20 31 43.6**	**-0.8**
AYDN				*i* S	Sn	20 32 36.5	+8.1
BBAL	**Bala**	**3.86**	**12**	*i* P	**Pn**	**20 31 44.4**	**-0.3**
RCY	**Rachaya**	**3.86**	**125**	*e*P	**Pn**	**20 31 45.1**	**+0.3**
RCY				*e*S	**Sn**	**20 32 26.9**	**-2.1**
GDZ	**Gediz**	**3.89**	**329**	*i* P	**Pn**	**20 31 45.4**	**+0.3**
GDZ				*i* S	**Sn**	**20 32 27.6**	**-2.0**
MANT	**Manisa**	**3.89**	**315**	*i* P	**Pn**	**20 31 44.6**	**-0.6**
MANT				*i* S	**Sn**	**20 32 27.5**	**-2.2**
MANT	**Manisa**	**3.89**	**315**	Pn	**Pn**	**20 31 44.6**	**-0.6**
ANDN	**Andirin**	**3.90**	**61**	*i* P	**Pn**	**20 31 44.1**	**-1.1**
SHBL	**Chebaa**	**3.90**	**127**	*e*P	**Pn**	**20 31 45.9**	**+0.7**
SHBL				*e*S	**Sn**	**20 32 27.8**	**-2.0**
MMA0B	**Mount Meron ar**	**3.91**	**134**	Pn	**Pn**	**20 31 45.9**	**+0.5**
SAIM	**ADANA**	**3.91**	**55**	*i* P	**Pn**	**20 31 45.0**	**-0.3**
BDRM	**Kayabasi**	**3.93**	**290**	⇓*i*P	**Pn**	**20 31 45.3**	**-0.2**
BDRM				*i* S	**Sn**	**20 32 28.0**	**-2.4**
GEM	**Giv'at Ha'Em**	**3.93**	**130**	P	**Pn**	**20 31 46.4**	**+0.8**
GEM	**Giv'at Ha'Em**	**3.93**	**130**	Pn	**Pn**	**20 31 46.1**	**+0.5**
NATI	**Neve Ativ**	**3.94**	**128**	P	**Pn**	**20 31 46.8**	**+1.0**
NATI	**Neve Ativ**	**3.94**	**128**	Pn	**Pn**	**20 31 46.5**	**+0.7**
OFRI	**`Ofer**	**3.98**	**141**	P	**Pn**	**20 31 46.8**	**+0.5**
OFRI	**`Ofer**	**3.98**	**141**	Pn	**Pn**	**20 31 46.9**	**+0.6**
KAMA	**Osmaniye**	**3.98**	**68**	*i* P	**Pn**	**20 31 45.5**	**-0.9**
KARP	**Karpathos**	**3.98**	**268**	Pn	**Pn**	**20 31 46.0**	**-0.4**
KARP				Sn	**Sn**	**20 32 29.7**	**-2.1**
BLGI	**Bet Lehem HaGe**	**4.00**	**138**	P	**Pn**	**20 31 48.7**	**+2.2**
BLGI	**Bet Lehem HaGe**	**4.00**	**138**	Pn	**Pn**	**20 31 47.6**	**+1.1**
BR231	**Keskin MP Arra**	**4.10**	**8**		**Pn**	**20 31 47.2**	**-0.8**
AUMIH	**MIHALICIK**	**4.11**	**354**	*i* P	**Pn**	**20 31 47.7**	**-0.5**
ANTO	**Ankara**	**4.13**	**8**	P	**Pn**	**20 31 47.7**	**-0.6**
ANTO	**Ankara**	**4.13**	**8**		**Pn**	**20 31 47.7**	**-0.6**
BR131	**Keskin Array S**	**4.14**	**17**	*d*P	**Pn**	**20 31 47.9**	**-0.6**
BR131	**Keskin Array S**	**4.14**	**17**	Pn	**Pn**	**20 31 48.0**	**-0.5**
BRTR	**Keskin Array B**	**4.14**	**17**	P	**Pn**	**20 31 48.1**	**-0.5**
	comp=E,7.2nm,0.3s,baz=186,slow=17,SNR=183						
BRTR	**Keskin Array B**	**4.14**	**17**	*i* P	**Pn**	**20 31 48.0**	**-0.5**
BRTR				pmax	pmax		
	comp=Z,24nm,0.4s						
BRTR	**Keskin Array B**	**4.14**	**17**	Pn	**Pn**	**20 31 47.5**	**-1.0**
DEMI	**Demirci**	**4.20**	**322**	*i* P	**Pn**	**20 31 49.5**	**+0.1**
DEMI				*i* S	**Sn**	**20 32 35.0**	**-2.3**
HCB	**Kahramanmara**	**4.21**	**67**	*i* P	**Pn**	**20 31 48.2**	**-1.2**
CDAG	**Cicekdag**	**4.26**	**25**	*i* P	**Pn**	**20 31 50.1**	**0.0**
SLTI	**Sal'it**	**4.31**	**144**	P	**Pn**	**20 31 51.8**	**+1.0**
SLTI	**Sal'it**	**4.31**	**144**	Pn	**Pn**	**20 31 52.0**	**+1.2**
GCAM	**G?zelcaml?**	**4.32**	**298**	*i* P	**Pn**	**20 31 50.0**	**-0.8**
GCAM				*i* S	**Sn**	**20 32 35.4**	**-4.5**
SIRC	**Yozgat**	**4.32**	**34**	*i* P	**Pn**	**20 31 51.0**	**-0.1**
SHMJ	**Saham**	**4.33**	**134**	Pn	**Pn**	**20 31 52.5**	**+1.5**
MMLI	**Mount Malkishu**	**4.35**	**139**	P	**Pn**	**20 31 52.9**	**+1.6**
MMLI	**Mount Malkishu**	**4.35**	**139**	Pn	**Pn**	**20 31 52.5**	**+1.2**
MMLI				Sn	**Sn**	**20 32 39.9**	**-0.9**
GAZ	**Gaziantep**	**4.39**	**70**	Pn	**Pn**	**20 31 51.3**	**-0.6**
QRNJ	**Al-Qirein**	**4.51**	**139**	P	**Pn**	**20 31 54.9**	**+1.4**
HMDT	**Nahal Hemdat**	**4.55**	**140**	Pn	**Pn**	**20 31 55.3**	**+1.3**
HMDT				Sn	**Sn**	**20 32 46.5**	**+0.9**
DGB	**zmir**	**4.72**	**300**	*i* P	**Pn**	**20 31 55.4**	**-0.9**
DGB				*i* S	**Sn**	**20 32 44.4**	**-5.3**
MDUB	**Mudurnu**	**4.74**	**352**	Pn	**Pn**	**20 31 56.8**	**+0.2**
UJAP	**Al Uja**	**4.76**	**142**	P	**Pn**	**20 31 58.2**	**+1.4**
AMAZ	**Amatzia**	**4.86**	**150**	P	**Pn**	**20 31 59.4**	**+1.1**
AMAZ	**Amatzia**	**4.86**	**150**	Pn	**Pn**	**20 31 59.4**	**+1.1**
AMAZ				Sn	**Sn**	**20 32 52.9**	**-0.4**
HSUJ	**Al Zarqa**	**5.03**	**136**	P	**Pn**	**20 32 02.2**	**+1.6**
	comp=Z,5.0nmcomp=Z,3.0nmcomp=Z,341nm,0.7s						
DSI	**Dead Sea**	**5.03**	**146**	Pn	**Pn**	**20 32 01.5**	**+0.9**
YTIR	**Yattir**	**5.09**	**149**	P	**Pn**	**20 32 02.8**	**+1.2**
	comp=Z,1.2nmcomp=Z,78nm,0.6s						
YTIR	**Yattir**	**5.09**	**149**	Pn	**Pn**	**20 32 02.7**	**+1.2**
YTIR				Sn	**Sn**	**20 32 58.7**	**-0.4**
KZIT	**Kziot**	**5.24**	**157**	P	**Pn**	**20 32 04.1**	**+0.6**
KZIT	**Kziot**	**5.24**	**157**	Pn	**Pn**	**20 32 04.1**	**+0.6**
KZIT				Sn	**Sn**	**20 33 01.0**	**-1.5**
MDBI	**Mazsada**	**5.24**	**147**	P	**Pn**	**20 32 04.9**	**+1.5**
WALJ	**Wala**	**5.25**	**142**	P	**Pn**	**20 32 04.8**	**+1.3**
	comp=Z,0.0nmcomp=Z,2.8nmcomp=Z,308nm,0.5s						
GHAJ	**Ghor Haditha**	**5.34**	**146**	P	**Pn**	**20 32 07.0**	**+2.2**
GHAJ	**Ghor Haditha**	**5.34**	**146**	Pn	**Pn**	**20 32 06.3**	**+1.5**
LISJ	**El Lisan**	**5.36**	**147**	P	**Pn**	**20 32 07.1**	**+2.1**
	comp=Z,2.5nmcomp=Z,1.0nmcomp=Z,133nm,0.6s						
SANT	**Santorini**	**5.37**	**278**	⇑P	**Pn**	**20 32 03.4**	**-1.8**
SANT	**Santorini**	**5.37**	**278**	Pn	**Pn**	**20 32 04.4**	**-0.9**
ASF	**Jabal al Asfar**	**5.40**	**130**	P	**Pn**	**20 32 07.1**	**+1.4**
	comp=Z,4.4nm,0.3s,baz=289,slow=3.8,SNR=85						
ASF				S	**Sn**	**20 33 11.5**	**+4.9**
	comp=Z,23nm,0.3s,baz=272,slow=20,SNR=12						
ASF	**Jabal al Asfar**	**5.40**	**130**	P	**Pn**	**20 32 08.3**	**+2.6**
	comp=Z,0.7nmcomp=Z,69nm,0.9s						
APE	**Apeiranthos**	**5.41**	**286**	⇑P	**Pn**	**20 32 04.3**	**-1.5**
APE				⇑S	**Sn**	**20 33 04.5**	**-2.3**
APE	**Apeiranthos**	**5.41**	**286**	*c* *i*P	**Pn**	**20 32 05.5**	**-0.3**
HBRG	**Burj al `Arab**	**5.51**	**200**	P	**Pn**	**20 32 08.8**	**+1.7**
	baz=203						
HBRG				AMP		20 33 00.0	
	baz=203						
KARJ	**KARJ**	**5.54**	**146**	Pn	**Pn**	20 31 57.8	-10
SWQJ	**Swaqa**	**5.63**	**142**	P	**Pn**	**20 32 10.1**	**+1.3**
MALT	**Malatya**	**5.70**	**62**	P	**Pn**	**20 32 09.8**	**0.0**
ZFRI	**Zfri**	**5.83**	**152**	P	**Pn**	**20 32 14.2**	**+2.7**
	comp=Z,0.6nmcomp=Z,70nm,0.6s						
ZFRI	**Zfri**	**5.83**	**152**	Pn	**Pn**	**20 32 11.7**	**+0.2**
KOT	**Kottamia**	**5

KIV pmax pmax
comp=Z,33nm,1.1s
KIV Kislovodsk 11.55 42 Pn **Pn 20 33 29.2 -0.4**
SCTE Santa Cesarea 11.55 296 **Pn 20 33 28.7 -0.9**
KVAR Kislovodsk Arr 11.55 42 P **Pn 20 33 29.5 -0.2**
baz=260,slow=19,SNR=2.3
BZS Buzias 12.61 324 ⇑P **Pn 20 33 45.1 +1.2**
TIP Timpagrande 12.61 290 ⇓P **Pn 20 33 41.7 -2.4**
TIP Timpagrande 12.61 290 Pn **Pn 20 33 40.6 -3.5**
DBRK Dubrovnik 12.78 307 P Pn 20 33 51.0 +4.7
BURAR Bucovina Array 12.88 339 ⇑P **Pn 20 33 50.4 +2.7**
GROC Groznyy 12.94 51 *e*P **Pn 20 33 49.4 +0.9**
GROC *e*S **Sn 20 36 16.7 +6.1**
GROC pmax pmax
comp=Z,22nm,1.2s
CEL Celeste 13.15 286 Pn **Pn 20 33 49.2 -2.1**
RICI Ricice 13.83 308 P Pn 20 34 04.2 +4.0
MAK Makhachkala 13.93 54⇓*e*P **Pn 20 34 03.2 +1.6**
HVAR Hvar 14.12 306 P **Pn 20 34 06.2 +2.1**
VAE Valguarnera 14.27 282 P **Pn 20 34 04.8 -1.3**
comp=Z,4.8nm,0.3s,baz=342,slow=2.2,SNR=12
KIJV Kijevo 14.54 309 P **P 20 34 14.8 +0.6**
UZH Uzhgorod 14.72 334 *e*P **P 20 34 16.1 -0.1**
ZIRJ Zirje 14.86 307 P **P 20 34 17.3 -0.4**
KOLS Kolonicke sedl 14.98 334 *e*P **P 20 34 20.1 +1.0**
KOLS Kolonicke sedl 14.98 334 *e*P **P 20 34 20.1 +1.0**
AKASG Malin Array Be 15.06 353 P **Pn 20 34 15.6 -0.6**
comp=Z,12nm,0.3s,baz=181,slow=10,SNR=42
AKASG Malin Array Be 15.06 353 *i* P **Pn 20 34 18.7 +2.5**
AKASG pmax pmax
comp=Z,29nm,0.6s
AKASG Malin Array Be 15.06 353 Pn **Pn 20 34 15.4 -0.8**
AKBB Malin Array Si 15.06 353*c e*P **Pn 20 34 18.6 +2.4**
AKBB Malin Array Si 15.06 353 P **P 20 34 19.3 -0.6**
CORL Corleone 15.16 284 **Pn 20 34 15.9 -1.8**
CORL IAmb IAmb 20 34 20.1
comp=Z,39nm,0.8s
CLTB Caltabellotta 15.22 282 Pn **Pn 20 34 19.4 +0.9**
CRVS Cervenica-Dubn 15.25 333 *e*P **P 20 34 22.8 +0.7**
CRVS Cervenica-Dubn 15.25 333 *e*P **P 20 34 22.8 +0.7**
INTR Introdacqua 15.43 299 Pn **Pn 20 34 20.9 -0.2**
KWP Kalwaria Pacla 15.44 337 P **Pn 20 34 20.8 -0.3**
KWP pmax pmax
comp=Z,21nm,1.0s
KWP Kalwaria Pacla 15.44 337 Pn **Pn 20 34 20.8 -0.3**
PTJ Puntijarka 15.80 315 P P 20 34 36.5 +8.3
AQU L'Aquila 15.89 300 P **P 20 34 30.3 +1.1**
AQU pmax pmax
comp=Z,35nm,1.4s
VYHS Vyhne 16.02 327 *e*P **P 20 34 31.3 +0.7**
VYHS Vyhne 16.02 327 *e*P **P 20 34 31.3 +0.7**
VORD Divnogorie 16.06 17 *e*P **Pn 20 34 29.8 +1.0**
VORD pmax pmax
comp=Z,10.0nm,0.8s
NRCA Norcia 16.24 301 **Pn 20 34 30.5 -0.8**
VSR Storozhevoye 16.26 16 *e*P **Pn 20 34 31.8 +0.4**
VSR pmax pmax
comp=Z,9.0nm,0.5s
RIY Rijeka 16.38 311 P **Pn 20 34 34.3 +1.4**
BRJN Brijuni 16.64 309 P **Pn 20 34 37.1 +1.0**
MURB Monte Urbino 16.80 302 P **Pn 20 34 39.9 +1.7**
ARSA Arzberg 16.83 318 *e*P **P 20 34 43.1 +3.5**
comp=Z,1.7nm,0.4s
VRH Novokhopyorsk 16.92 21 *e*P **Pn 20 34 40.0 +0.5**
VRH pmax pmax
comp=Z,50nm,0.7s
OBKA Obir 16.95 315 *i* P **P 20 34 44.2 +3.2**
comp=Z,2.9nm,0.6s
CONA Conrad Observa 17.07 320 *i* Pn **Pn 20 34 40.7 -0.8**
comp=Z,0.5nm,0.2s
LPSR Galich'ya Gora 17.52 14 *e*P **Pn 20 34 45.2 -1.7**
LPSR pmax pmax
comp=Z,20nm,0.7s
MYKA Terra Mystica 17.55 314 *i* P **P 20 34 52.3 +4.7**
comp=Z,7.3nm,0.7s
MOA Molln 17.87 318 *e*Pn **P 20 34 52.9 +1.8**
comp=Z,0.5nm,0.3s
ZOU Zoufplan 17.90 313 P **Pn 20 34 51.5 -0.4**
KBA Koelnbreinsper 17.96 315 *i* Pn **P 20 34 55.0 +2.9**
comp=Z,2.3nm,0.5s
CIMO Cimolais 18.10 312 **P 20 34 53.2 -0.4**
ABTA Abfaltersbach 18.27 313 *i* Pn **P 20 34 57.0 +1.4**
comp=Z,3.2nm,0.6s
VSL Villasalto 18.32 288 **P 20 34 56.7 +0.6**
VSL IAmb IAmb 20 34 59.8
comp=Z,27nm,0.9s
KEST Kesra 18.42 277 P **P 20 34 58.1 +0.8**
comp=Z,1.4nm,0.3s,baz=54,slow=6.2,SNR=15
KEST Kesra 18.42 277 **P 20 34 57.9 +0.6**
KEST Pn **Pn 20 34 58.8 +0.7**
KEST IAmb IAmb 20 35 03.5
comp=Z,18nm,0.7s
CTI Castel Tesino 18.47 310 P **P 20 34 57.9 +0.2**
CTI pmax pmax
comp=Z,10.0nm,1.0s
CTI Castel Tesino 18.47 310 P **P 20 34 57.9 +0.2**
DPC Dobruska-Polom 18.49 327 *e*P **P 20 34 59.7 +1.8**
DPC Dobruska-Polom 18.49 327 *e*P **P 20 34 59.7 +1.8**
OSTC Ostas 18.69 327 *e*P **Pn 20 35 02.2 +1.0**
GEC2 GERESS Array S 18.77 320 P **P 20 35 01.3 +0.3**
GERES GERESS Array B 18.77 320 P **P 20 35 00.9 -0.1**
comp=Z,0.4nm,0.3s,baz=126,slow=9.3,SNR=16
GERES ScP **ScP 20 42 53.3 -1.5**
comp=Z,0.1nm,0.3s,baz=130,slow=2.1,SNR=9.3
GERES GERESS Array B 18.77 320 P **P 20 35 01.0 0.0**
GERES GERESS Array B 18.77 320 P **P 20 35 01.0 0.0**
CHVC Chvalec 18.78 327 *e*P **P 20 35 02.4 +1.3**
KHC Kasperske Hory 19.01 320 *e*P **P 20 35 03.4 -0.1**
KHC *e*pP **pP 20 35 15.6 -1.9**
KHC Kasperske Hory 19.01 320 *e*P **P 20 35 03.4 -0.1**
KHC Kasperske Hory 19.01 320 P **P 20 35 03.0 -0.5**
WTTA Wattenberg 19.05 313 *i* Pn **P 20 35 04.6 +0.4**
comp=Z,8.1nm,0.5s
WTTA *i* S **Sn 20 38 39.4 +0.8**
comp=Z,6.1nm,0.7s
WTTA Wattenberg 19.05 313 P **P 20 35 05.0 +0.8**
WTTA pmax pmax
comp=Z,17nm,0.9s
PGF Pioggiola 19.08 298 *e*P **P 20 35 04.0 -0.4**
PGF pmax pmax
comp=Z,15nm,1.2s
WATA Walderalm 19.12 313 *i* Pn **P 20 35 05.0 +0.1**
comp=Z,2.4nm,0.3s
PBCC Pribram 19.14 322 *e*P **P 20 35 04.7 -0.3**
SUW Suwalki 19.26 344 P **P 20 35 04.7 -1.5**
SUW pmax pmax
comp=Z,27nm,0.6s
SUW Suwalki 19.26 344 P **P 20 35 04.7 -1.5**
SUW IAmb IAmb 20 35 05.5
comp=Z,27nm,0.6s
SQTA Sankt Quirin 19.28 313 *i* Pn **P 20 35 07.1 +0.5**
comp=Z,10nm,0.6s,SNR=10
MOTA Moosalm 19.41 313 *i* P **P 20 35 08.0 -0.1**
comp=Z,7.2nm,0.6s,SNR=12
NACGM Naroch 19.47 351 *e* **P 20 35 07.0 -1.5**
FETA Feichten 19.48 312 *i* Pn **P 20 35 09.7 +0.9**
comp=Z,7.2nm,0.8s,SNR=13
FETA *i* S **S 20 38 43.4 -1.8**
comp=Z,2.0nm,0.7s
OBN Obninsk 19.59 8 P **P 20 35 09.0 -0.7**
comp=Z,1.3nm,0.3s,baz=197,slow=21,SNR=5.4
OBN Obninsk 19.59 8 *i* P **P 20 35 08.7 -1.0**
OBN pmax pmax
comp=Z,51nm,1.3s
OBN Obninsk 19.59 8 P **P 20 35 08.2 -1.5**
CMAH Djebel Manchou 19.88 280 P **P 20 35 15.0 +1.8**
DAVOX Davos/Dischmat 19.89 310 P **P 20 35 13.6 +0.2**
comp=Z,0.6nm,0.3s,baz=145,slow=11,SNR=6.2
BRG Berggiesshubel 19.95 325 *e*P **P 20 35 11.9 -1.8**
comp=Z,7.9nm,1.2s
BRG Berggiesshubel 19.95 325 *e*P **P 20 35 11.9 -1.8**
BRG pmax pmax
comp=Z,8.0nm,1.2s
IIGN Ignalina 19.98 350 *e*P **P 20 35 13.1 -0.9**
IIGN IAmb IAmb 20 35 17.2
comp=Z,16nm,0.8s
DAVA Damuels 20.11 312 *i* P **P 20 35 15.0 -0.7**
comp=Z,8.4nm,0.6s
ISAL Salakas 20.21 350 *e*P **P 20 35 15.3 -1.2**
ISAL IAmb IAmb 20 35 19.8
comp=Z,24nm,1.1s
IZAR Zarasai 20.37 351 *e*P **P 20 35 16.3 -1.9**
PABE Paberze 20.50 347 *e*P **P 20 35 18.0 -1.5**
SBF Sospel 20.50 301 *e*P **P 20 35 19.3 -0.6**
SBF pmax pmax
comp=Z,7.0nm,0.6s
CLL Collm 20.68 325 *e*P **P 20 35 21.0 -0.6**
CLL *e* 20 35 28.0
CLL *e* 20 35 32.0
CLL *e* 20 35 40.0
CLL Collm 20.68 325 *e*P **P 20 35 21.0 -0.6**
MOX Moxa 20.94 322 P **P 20 35 24.3 -0.1**
MOX pmax pmax
comp=Z,11nm,1.0s
GEYT Alibeck 20.95 76 P **P 20 35 25.1 +0.4**
comp=Z,14nm,0.4s,baz=279,slow=9.1,SNR=47
GEYT Alibeck 20.95 76 P **P 20 35 24.7 0.0**
GYA0B ALIBECK ARRAY 20.95 76 P **P 20 35 24.8 0.0**
GYA0B IAmb IAmb 20 35 26.3
comp=Z,22nm,0.6s
DFRA Djebel Bou Aff 21.13 280 P **P 20 35 29.0 +2.3**
MBDF Montbardon 21.20 303 *e*P **P 20 35 28.3 +0.9**
MBDF pmax pmax
comp=Z,6.0nm,0.5s
BNI Bardonecchia 21.35 303 P **P 20 35 28.8 -0.2**
BNI pmax pmax
comp=Z,5.0nm,0.6s
BNI Bardonecchia 21.35 303 P **P 20 35 28.8 -0.2**
SENIN Lac Senin/Sane 21.36 307 P **P 20 35 27.9 -1.3**
SENIN IAmb IAmb 20 35 29.8
comp=Z,9.7nm,0.5s
PBUR Paburge 21.40 344 *e*P **P 20 35 28.3 -0.9**
PBUR IAmb IAmb 20 35 29.3
comp=Z,148nm,0.5s
LPG La Plagne 21.44 305 *e*P **P 20 35 30.7 +0.6**
LPG pmax pmax
comp=Z,7.0nm,0.6s
LPL La Plagne 21.45 305 *e*P **P 20 35 30.6 +0.4**
LPL pmax pmax
comp=Z,4.0nm,0.5s
BFO Black Forest 21.52 313 P **P 20 35 30.0 -0.7**
BFO pmax pmax
comp=Z,5.0nm,0.6s
BFO Black Forest 21.52 313 P **P 20 35 30.0 -0.7**
ECH Echery 22.17 312 P **P 20 35 37.0 -0.7**
ECH pmax pmax
comp=Z,3.0nm,0.8s
ECH Echery 22.17 312 P **P 20 35 37.0 -0.7**
HINF Hinteralfeld 22.20 311 *e*P **P 20 35 35.8 -2.1**
HINF pmax pmax
comp=Z,2.0nm,0.6s
HAU Haudompre 22.58 311 *e*P **P 20 35 40.1 -2.0**
HAU pmax pmax
comp=Z,3.0nm,0.7s
VSU Vasula 22.97 353 *e*P **P 20 35 45.5 -0.4**
LOR Lormes 23.89 307 *e*P **P 20 35 53.3 -1.3**
LOR pmax pmax
comp=Z,4.0nm,0.6s
AVF Avril sur Loir 24.08 306 *e*P **P 20 35 55.2 -1.0**
AVF pmax pmax
comp=Z,3.0nm,0.5s
MTLF Montolieu 24.12 297 *e*P **P 20 35 56.0 -0.6**
MTLF pmax pmax
comp=Z,1.0nm,0.5s
ABKAR Akbulak array 24.41 48 P **P 20 35 58.5 -0.7**
HRA Herat 24.71 84 P **P 20 36 02.8 +0.5**
HRA IAmb IAmb 20 36 05.3
comp=Z,13nm,0.8s
RJF Les Rejaudoux 24.95 302 *e*P **P 20 36 03.4 -0.8**
RJF pmax pmax
comp=Z,5.0nm,0.8s
KIRV Kirov 25.54 21 P **P 20 36 08.3 -1.0**
comp=Z,26nm,0.4s,baz=226,slow=9.5,SNR=19
KIRV Kirov 25.54 21 *e*P **P 20 36 07.6 -1.7**
KLMR Klimovskoe 25.55 8 *e*P **P 20 36 07.3 -2.1**
KLMR pmax pmax
comp=Z,58nm,1.0s
KLMR Klimovskoe 25.55 8 *e*P **P 20 36 07.4 -2.0**
KLMR AMP 20 36 09.3
comp=Z,58nm,1.0s
FIA1 FINESS Array S 25.97 353 P **P 20 36 11.8 -1.4**
FIA1 IAmb IAmb 20 36 13.2
comp=Z,15nm,0.7s
FINES FINESS Array B 25.97 353 P **P 20 36 11.8 -1.4**
comp=Z,13nm,0.5s,baz=156,slow=11,SNR=139
FINES FINESS Array B 25.97 353 P **P 20 36 11.6 -1.5**
TAM Tamanrasset 26.41 248 P **P 20 36 19.5 +1.7**
TAM pmax pmax
comp=Z,11nm,1.3s
TAM Tamanrasset 26.41 248 P **P 20 36 19.5 +1.7**
HFS Hagfors 27.11 340 P **P 20 36 22.5 -0.9**
comp=Z,1.5nm,0.4s,baz=146,slow=8.4,SNR=13
FLN La Foliniere 27.12 309 *e*P **P 20 36 24.3 +0.6**
FLN pmax pmax
comp=Z,12nm,1.2s
GRR Gorron 27.26 308 *e*P **P 20 36 24.5 -0.5**
GRR pmax pmax
comp=Z,36nm,1.8s
ARU Arti 27.35 33 P **P 20 36 24.6 -1.1**
comp=Z,5.6nm,0.4s,baz=226,slow=6.4,SNR=25
ARU Arti 27.35 33*c i*P **P 20 36 25.3 -0.4**
ARU *PP **pP 20 36 41.5 -1.2**
ARU 20 37 14.5
ARU S **S 20 41 04.0 +3.8**
ARU SS **SnSn 20 42 24.6 +8.6**
ARU pmax pmax
comp=Z,32nm,1.0s
ARU Arti 27.35 33 P **P 20 36 25.1 -0.6**
SVE Sverdlovsk 28.51 33 *e*P **P 20 36 36.1 +0.1**
SVE pmax pmax
comp=Z,34nm,1.1s
NB2 NORSAR Subarra 28.56 339 P **P 20 36 34.3 -2.2**
comp=Z,2.0nm,0.6s,baz=143,slow=9.3
NOA NORSAR Array B 28.56 339 P **P 20 36 34.7 -1.8**
comp=Z,2.3nm,0.7s,baz=141,slow=9.3,SNR=9.3
NOA LR LR 20 50 16.1
comp=Z,456nm,21.6s,baz=260,slow=41
ESDC Sonseca Array 28.63 289 P **P 20 36 36.6 -0.7**
comp=Z,0.9nm,0.6s,baz=78,slow=9.3,SNR=12
ESDC ScP **ScP 20 43 21.1 -0.5**
comp=Z,0.2nm,0.3s,baz=62,slow=4.0,SNR=4.8
ROSF Rostrenen 28.81 307 *e*P **P 20 36 40.0 +1.2**
ROSF pmax pmax
comp=Z,27nm,1.8s
KK31 Karatay Array 30.39 64 P **P 20 36 52.2 -0.7**
KK31 pmax pmax
comp=Z,8.0nm,1.2s
KK31 Karatay Array 30.39 64 P **P 20 36 52.2 -0.7**
KKAR Karatay Array 30.39 64 P **P 20 36 52.4 -0.5**
KKAR Karatay Array 30.39 64 P **P 20 36 52.3 -0.6**
KKAR IAmb IAmb 20 36 54.0
comp=Z,7.7nm,1.1s
KKAR Karatay Array 30.39 64 P **P 20 36 52.4 -0.5**
GAR Garm 30.43 72 P **P 20 36 53.2 -0.2**
GAR IAmb IAmb 20 36 59.0
comp=Z,15nm,1.2s
BRVK Borovoye 31.83 45 *i* P **P 20 37 04.0 -1.4**
BRVK pmax pmax
comp=Z,7.0nm,1.2s
BRVK Borovoye 31.83 45 P **P 20 37 05.0 -0.4**
BRVK IAmb IAmb 20 37 06.4
comp=Z,9.6nm,1.4s
BVAR Borovoye Array 31.89 45 P **P 20 37 05.7 -0.2**
comp=Z,2.5nm,0.8s,baz=261,slow=5.9,SNR=16
BRZS Berezniki 32.55 51 *i* P **P 20 37 11.3 -0.5**
comp=Z,5.7nm,1.1s,baz=52
BRZS Berezniki 32.55 51 *i* P **P 20 37 11.2 -0.5**
BRZS pmax pmax
comp=Z,6.0nm,1.1s
BTLS Baital 32.98 61 *i* P **P 20 37 15.1 -0.4**
comp=Z,1.9nm,0.9s,baz=61
BTLS Baital 32.98 61 *i* P **P 20 37 15.1 -0.4**
BTLS pmax pmax
comp=Z,2.0nm,0.9s
AAK Ala-Archa 33.32 65 P **P 20 37 18.7 -0.1**
comp=Z,2.8nm,0.5s,baz=255,slow=12,SNR=6.8
AAK ScP **ScP 20 43 37.1 -0.1**
comp=Z,1.2nm,0.4s,baz=66,slow=2.0,SNR=3.7
AAK Ala-Archa 33.32 65*c e*P **P 20 37 19.3 +0.5**
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 33.32 65 P **P 20 37 19.1 +0.3**
AAK IAmb IAmb 20 37 24.7
comp=Z,3.3nm,0.7s
ARCES ARCESS Array B 34.01 356 P **P 20 37 23.3 -0.9**
comp=Z,6.7nm,0.5s,baz=166,slow=7.8,SNR=86
ARCES ARCESS Array B 34.01 356 P **P 20 37 23.2 -1.0**
BOOM Boomskoye usch 34.40 65 P **P 20 37 29.7 +1.6**
BOOM pmax pmax
comp=Z,8.0nm,1.4s
BOOM Boomskoye usch 34.40 65 P **P 20 37 29.7 +1.6**
BOOM IAmb IAmb 20 37 32.9
comp=Z,7.6nm,1.4s
KUU Kurty 34.62 63⇓*c i*P **P 20 37 29.9 0.0**
comp=Z,5.6nm,1.0s,baz=63
KUU Kurty 34.62 63⇓*i*P **P 20 37 29.8 0.0**
KUU pmax pmax
comp=Z,6.0nm,1.0s
CHKK Chushkaly 35.09 63 *e*P **P 20 37 34.3 +0.3**
baz=63
CHKK Chushkaly 35.09 63 *e*P **P 20 37 34.2 +0.3**
TNSS Tian-Shan 35.10 64 *e*P **P 20 37 34.2 -0.2**
baz=64
TNSS Tian-Shan 35.10 64 *e*P **P 20 37 34.2 -0.2**
MDOK Medeo 35.17 64 *i* P **P 20 37 34.7 -0.1**
baz=64
MDOK Medeo 35.17 64 *i* P **P 20 37 34.6 -0.1**
KDJ Kajisay 35.34 66 P **P 20 37 37.7 +1.4**
KDJ pmax pmax
comp=Z,4.0nm,0.7s
KDJ Kajisay 35.34 66 P **P 20 37 37.6 +1.4**
KDJ IAmb IAmb 20 37 38.8
comp=Z,3.5nm,0.7s
TOA0 Torodi Ar. Sit 35.40 238 P **P 20 37 38.0 +1.2**
TOA0 IAmb IAmb 20 37 38.6
comp=Z,6.3nm,1.1s
TORD Torodi Ar. Bea 35.40 238 P **P 20 37 37.5 +0.7**
comp=Z,5.6nm,1.1s,baz=39,slow=6.6,SNR=20
TORD ScP **ScP 20 43 44.5 -0.3**
comp=Z,0.9nm,1.0s,baz=34,slow=3.4,SNR=3.1
TORD Torodi Ar. Bea 35.40 238 P **P 20 37 37.7 +0.9**
TDK Taldyqorghan 36.07 61 *e*P **P 20 37 41.7 -0.5**
comp=Z,4.8nm,0.7s,baz=61
TDK Taldyqorghan 36.07 61 *e*P **P 20 37 41.7 -0.5**
TDK pmax pmax
comp=Z,5.0nm,0.7s
SATY Saty 36.17 64 *e*P **P 20 37 42.6 -0.6**
comp=Z,2.6nm,0.9s,baz=64
SATY Saty 36.17 64 *e*P **P 20 37 42.6 -0.6**
SATY pmax pmax
comp=Z,3.0nm,0.9s
PRZ Przheval'sk 36.21 65 P **P 20 37 44.3 +0.6**
PRZ pmax pmax
comp=Z,6.0nm,0.9s
PRZ Przheval'sk 36.21 65 P **P 20 37 44.3 +0.6**
PRZ IAmb IAmb 20 37 46.1
comp=Z,6.2nm,0.9s
KPKS Kokpek 36.34 63 *e*P **P 20 37 43.8 -0.9**
comp=Z,0.7nm,0.6s,baz=64
KPKS Kokpek 36.34 63 *e*P **P 20 37 43.8 -0.9**
KPKS pmax pmax
comp=Z,1.0nm,0.6s
KURBB Kurchatov Arra 36.36 51 P **P 20 37 44.7 +0.1**
comp=Z,8.6nm,0.5s,baz=268,slow=8.7,SNR=71
KURBB PP **PnPn 20 39 08.8 +0.1**
comp=Z,4.6nm,0.9s,baz=269,slow=12,SNR=7.5
KURK Kurchatov 36.42 51*c i*P **P 20 37 44.9 -0.2**
KURK pmax pmax
comp=Z,16nm,1.3s
KURK Kurchatov 36.42 51 P **P 20 37 45.1 0.0**
UZB Uzynbulak 36.61 64 *e*P **P 20 37 46.5 -0.5**
comp=Z,0.6nm,0.8s,baz=64
UZB Uzynbulak 36.61 64 *e*P **P 20 37 46.5 -0.5**
UZB pmax pmax
comp=Z,1.0nm,0.8s
SHLS Shalkode 36.93 64 *e*P **P 20 37 52.1 +2.3**
comp=Z,2.0nm,0.8s,baz=64
SHLS Shalkode 36.93 64 *e*P **P 20 37 52.0 +2.3**
SHLS pmax pmax
comp=Z,2.0nm,0.8s
SEM Semipalatinsk 37.43 52 *e*P **P 20 37 53.5 -0.6**
comp=Z,2.4nm,0.9s,baz=52
SEM Semipalatinsk 37.43 52 *e*P **P 20 37 53.4 -0.6**
SEM pmax pmax
comp=Z,2.0nm,0.9s
MAKZ Makanchi 38.51 58 P **P 20 38 03.0 +0.1**
MAKZ pmax pmax
comp=Z,18nm,0.5s
MAKZ Makanchi 38.51 58 P **P 20 38 03.0 +0.1**
MK31 Makanchi Array 38.72 58 P **P 20 38 04.8 +0.1**
MK31 pmax pmax
comp=Z,19nm,0.6s
MK31 Makanchi Array 38.72 58 P **P 20 38 04.8 +0.1**
MKAR Makanchi Array 38.72 58 P **P 20 38 04.8 +0.2**
comp=Z,24nm,0.7s,baz=268,slow=9.2,SNR=138
ZSN Zaisan 40.45 56 *e*P **P 20 38 18.6 -0.4**
comp=Z,4.6nm,1.2s,baz=57
ZSN Zaisan 40.45 56 *e*P **P 20 38 18.6 -0.4**
ZSN pmax pmax
comp=Z,5.0nm,1.2s
ZAA0 Zalesovo Array 40.51 46 P **P 20 38 18.4 -0.9**
ZAA0 IAmb IAmb 20 38 19.1
comp=Z,4.3nm,0.6s
ZALV Zalesovo Beam 40.51 46 P **P 20 38 18.4 -0.9**
comp=Z,4.5nm,0.5s,baz=267,slow=8.7,SNR=25
ZALV Zalesovo Beam 40.51 46 *i* P **P 20 38 18.3 -1.1**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
DGZ Jazzator, Alta 42.05 53*c i*P **P 20 38 32.3 +0.1**
DGZ pmax pmax
comp=Z,4.0nm,0.7s
SPA0 Spitsbergen Ar 43.03 355 P **P 20 38 39.6 -0.1**
SPITS Spitsbergen Ar 43.03 355 P **P 20 38 39.3 -0.3**
comp=Z,10nm,0.6s,baz=144,slow=10,SNR=35
DANN Dangsing 44.03 85 *e*P **P 20 38 49.3 +0.7**
comp=Z,24nm,0.5s
KBS Kingsbay 44.05 355*c e*P **P 20 38 48.1 +0.3**
KBS pmax pmax
comp=Z,36nm,2.5s
KBS Kingsbay 44.05 355 P **P 20 38 47.3 -0.5**
DBIC Dimbokro 44.52 238 P **P 20 38 52.8 +0.6**
comp=Z,2.7nm,0.5s,baz=18,slow=8.5,SNR=9.0
DBIC Dimbokro 44.52 238 P **P 20 38 52.5 +0.2**
DBIC IAmb IAmb 20 39 06.9
comp=Z,15nm,1.3s
TIC Toumodi 44.65 238 *e*P **P 20 38 53.5 +0.2**
KIC Kosan Boka 44.66 238 *e*P **P 20 38 53.8 +0.4**
comp=Z,30nm,0.8s
GKN Gorkha 44.87 85 *e*P **P 20 38 55.2 0.0**
comp=Z,14nm,0.6s
LIC Lamto 44.95 238 *e*P **P 20 38 55.8 +0.1**
comp=Z,28nm,0.8s
NRIK Noril'sk 44.96 24 P **P 20 38 55.2 0.0**
comp=Z,6.7nm,0.4s,baz=218,slow=3.9,SNR=13
NRIK Noril'sk 44.96 24⇓*e*P **P 20 38 55.9 +0.7**
DMN Daman 45.41 85 *e*P **P 20 38 58.9 -0.7**
comp=Z,11nm,0.6s
KKN Kakani 45.48 84 *e*P **P 20 38 59.1 -1.0**
comp=Z,1.2nm,0.6s
PKIN Phulchoki 45.66 85 *e*P **P 20 38 59.7 -1.9**
PKI Pulchoki 45.67 85 *e*P **P 20 38 59.9 -1.9**
RAMN Ramite 46.90 85 *e*P P 20 39 08.4 -2.9
comp=Z,14nm,0.8s
NOR Nord 49.11 352 *i* P **P 20 39 26.0 -1.3**
comp=Z,7.0nm,0.7s
NOR Nord 49.11 352 *i* P **P 20 39 26.0 -1.3**
NOR pmax pmax
comp=Z,7.0nm,0.7s
ZAK Zakamensk 52.08 50 *e*P **P 20 39 49.7 -0.5**
ZAK pmax pmax
comp=Z,6.0nm,1.0s
GTA Gaotai 52.67 64 *e*P **P 20 39 54.8 0.0**
GTA pP pP 20 40 10.4 -2.3
GTA sP sP 20 40 17.3 -3.4
GTA pmax pmax
comp=Z,6.0nm,1.0s
SONM Songino Array 54.70 53 P **P 20 40 09.7 +0.2**
comp=Z,10nm,0.5s,baz=285,slow=7.8,SNR=74
SONM Songino Array 54.70 53 P **P 20 40 09.0 -0.4**
ULN Ulaanbaatar 55.11 52*c i*P **P 20 40 12.4 -0.1**
ULN pmax pmax
comp=Z,30nm,1.7s
ULN Ulaanbaatar 55.11 52 P **P 20 40 12.2 -0.3**
BOD Bodaibo 56.46 39 *e*P **P 20 40 20.6 -1.1**
BOD pmax pmax
comp=Z,10.0nm,0.7s
LZH Lanzhou 56.83 67 *e*P **P 20 40 25.8 +0.8**
LZH pP pwP 20 40 42.1 -3.4
LZH sP sP 20 40 47.5 -3.1
LZH PP **PP 20 42 36.5 +4.7**
LZH pmax pmax
comp=Z,15nm,1.0s
LZH pmax pmax
comp=Z,60nm,4.8s
LZH LR LR

comp=N,350nm,15.7s
LZH LR LR
comp=E,330nm,16.8s
LZH LR LR
comp=Z,400nm,17.0s
TIXI Tiksi 58.57 22 P **P** **20 40 35.7 -0.7**
comp=Z,4.0nm,0.5s,baz=299,slow=4.9,SNR=15
TIXI Tiksi 58.57 22 P **P** **20 40 35.5 -0.9**
TIXI IAmb IAmb 20 40 37.2
comp=Z,5.1nm,0.7s
CM31 Chiang Mai Arr 60.92 87 P **P** **20 40 51.4 -1.9**
CMAR Chiang Mai Arr 60.92 87 P **P** **20 40 52.6 -0.7**
comp=Z,2.3nm,0.8s,baz=295,slow=8.1,SNR=13
CMAR Chiang Mai Arr 60.92 87 P **P** **20 40 51.8 -1.5**
XAN Xi'an 61.47 67 P **P** **20 40 56.3 -0.6**
XAN pP pP 20 41 01.8 -13
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN Xi'an 61.47 67 P **P** **20 40 55.9 -1.0**
XAN pmax pmax
comp=Z,4.0nm,0.7s
XAN Xi'an 61.47 67 P **P** **20 40 55.9 -1.0**
XAN IAmb IAmb 20 40 56.8
comp=Z,4.3nm,0.7s
ENH Enshi 63.58 71 P **P** **20 41 10.2 -0.8**
ENH IAmb IAmb 20 41 11.2
comp=Z,6.9nm,0.7s
BJT Baijiatuau 64.10 58 P **P** **20 41 14.0 -0.2**
BJT pmax pmax
comp=Z,7.0nm,1.0s
BJT Baijiatuau 64.10 58 P **P** **20 41 13.9 -0.2**
BJT IAmb IAmb 20 41 15.9
comp=Z,6.7nm,1.0s
GSI Gunungsitoli 69.52 104 P **P** **20 41 49.0 0.0**
KLR Kul'dur 69.53 44 P **P** **20 41 48.3 -0.2**
comp=Z,1.0nm,0.3s,baz=309,slow=7.4,SNR=7.5
KLR Kul'dur 69.53 44⇓*e*P **P** **20 41 48.4 -0.2**
KLR pmax pmax
comp=Z,3.0nm,0.9s
KULM Kulim 69.59 98 P **P** **20 41 48.6 -0.8**
PSI Prapat 69.68 102 P **P** **20 41 49.4 -0.8**
comp=Z,12nm,0.4s,baz=0.6,slow=4.1,SNR=9.6
PSI Prapat 69.68 102 P **P** **20 41 49.7 -0.5**
PSI pmax pmax
comp=Z,13nm,0.7s
RPSI Rantau Prapat 69.75 102 P **P** **20 41 49.7 -0.7**
IPM Ipoh 70.37 99 P **P** **20 41 52.6 -1.6**
IPM IAmb IAmb 20 42 08.3
comp=Z,15nm,1.4s
USA0B Ussuriysk Arra 72.34 48 P **P** **20 42 04.8 -0.8**
USA0B pmax pmax
comp=Z,13nm,1.1s
USA0B Ussuriysk Arra 72.34 48 P **P** **20 42 04.8 -0.8**
USRK Ussuriysk Ar. 72.34 48 P **P** **20 42 04.8 -0.8**
comp=Z,8.4nm,0.6s,baz=296,slow=5.0,SNR=41
USRK Ussuriysk Ar. 72.34 48 P **P** **20 42 04.7 -0.9**
KSAR Wonju Array Be 73.35 56 P **P** **20 42 10.5 -1.3**
KSAR Wonju Array Be 73.35 56 P **P** **20 42 10.5 -1.3**
KSRS Korea Array 73.37 56 P **P** **20 42 11.3 -0.5**
comp=Z,4.9nm,0.8s,baz=298,slow=5.0,SNR=16
MYKOM Kota Tinggi 74.22 99 P **P** **20 42 16.4 -0.8**
INK Inuvik 75.67 355 P **P** **20 42 24.3 -0.3**
comp=Z,1.0nm,0.5s,baz=269,slow=7.7,SNR=3.3
EPYK Eagle Plains 77.81 355 P **P** **20 42 35.6 -1.2**
EPYK IAmb IAmb 20 42 36.3
comp=Z,7.3nm,1.4s
YKA Yellowknife Ar 78.46 345 P **P** **20 42 39.2 -1.1**
comp=Z,1.4nm,0.6s,baz=25,slow=5.6,SNR=5.1
IMAR Indian Mountai 78.47 2 P **P** **20 42 40.0 -0.3**
ASAJ Asahikawa 78.57 43 P **P** **20 42 40.7 -0.6**
comp=Z,4.6nm,0.5s,baz=3.0,slow=5.3,SNR=8.4
ASAJ Asahikawa 78.57 43 P **P** **20 42 41.1 -0.2**
ASAJ pmax pmax
comp=Z,6.0nm,0.6s
JKA Kamikawa-asahi 78.57 43 P **P** **20 42 41.1 -0.3**
JKA IAmb IAmb 20 42 42.2
comp=Z,6.1nm,0.6s
MDM Murphy Dome 79.59 0 P **P** **20 42 46.7 +0.1**
MDM IAmb IAmb 20 42 47.7
comp=Z,4.4nm,0.5s
KSM Kuching 79.61 96 P **P** **20 42 47.3 -0.2**
EGAK Eagle 79.64 357 P **P** **20 42 46.5 -0.2**
ILAR Eielson Array 79.78 360 P **P** **20 42 47.0 -0.6**
comp=Z,0.7nm,0.6s,baz=340,slow=4.4,SNR=5.2
ILAR Eielson Array 79.78 360 P **P** **20 42 47.0 -0.6**
ILAR Eielson Array 79.78 360 P **P** **20 42 45.9 -1.7**
CCB Clear Creek Bu 79.91 360 P **P** **20 42 47.8 -0.4**
WRH Wood River Hil 80.08 0 P **P** **20 42 49.0 -0.2**
WRH IAmb IAmb 20 42 49.8
comp=Z,3.2nm,0.5s
HDA Harding Lake 80.14 360 P **P** **20 42 48.5 -1.0**
HDA IAmb IAmb 20 42 50.3
comp=Z,3.7nm,0.8s
BPAW Bear Paw Mtn. 80.43 1 P **P** **20 42 50.2 -0.9**
BPAW IAmb IAmb 20 42 51.8
comp=Z,4.7nm,0.7s
SBUM Sibu 80.60 94 P **P** **20 42 53.9 +1.1**
MJB9 Matsu-Tunnel 80.63 52 P **P** **20 42 51.9 -0.7**
MJB9 IAmb IAmb 20 42 53.8
comp=Z,6.1nm,0.8s
MAJO Matsushiro 80.63 52 P **P** **20 42 51.9 -0.8**
MAJO pmax pmax
comp=Z,6.0nm,0.8s
MAJO Matsushiro 80.63 52 P **P** **20 42 51.9 -0.8**
MAJO IAmb IAmb 20 42 53.8
comp=Z,6.0nm,0.8s
MJAR Matsushiro Arr 80.63 52 P **P** **20 42 51.8 -0.9**
comp=Z,5.1nm,0.6s,baz=325,slow=2.8,SNR=14
MJAR Matsushiro Arr 80.63 52 P **P** **20 42 52.2 -0.5**
MJAR Matsushiro Arr 80.63 52 P **P** **20 42 52.2 -0.5**
BCAR Beaver Creek A 81.37 357 P **P** **20 42 56.4 +0.2**
PPLA Purkeypile 81.61 2 P **P** **20 42 57.7 +0.1**
PPLA IAmb IAmb 20 43 00.7
comp=Z,7.7nm,1.0s
SVW2 Sparrevohn 83.27 4 P **P** **20 43 06.3 +0.3**
SVW2 IAmb IAmb 20 43 19.1
comp=Z,4.4nm,1.1s
VRDI Verde Repeater 83.27 358 P **P** **20 43 06.2 0.0**
VRDI IAmb IAmb 20 43 09.0
comp=Z,13nm,1.5s
HYT Haines Junctio 83.36 355 P **P** **20 43 06.5 -0.1**
HYT IAmb IAmb 20 43 19.1
comp=Z,6.3nm,1.4s
BALM Baldy 83.42 357 P **P** **20 43 06.6 -0.4**
BALM IAmb IAmb 20 43 24.0
comp=Z,11nm,1.4s
TKL Tuckaleechee C 87.17 313 P **P** **20 43 26.2 +0.2**
TKL pmax pmax
comp=Z,16nm,0.6s
TKL Tuckaleechee C 87.17 313 P **P** **20 43 26.2 +0.2**

TAP ***19*** *20:43:00.1, 23°.81N × 121°.64E, h24km, ML3.3, C*
JMA ***19*** *20:43:00.4 ± 0.2, 23°.76N × 121°.66E, h49km, M2.8*
ISC 19 20:43:00.1±0.9,**23.79N**±0°.02×**121.68E**±0°.02,**h23**km±6km,
n112,s0◊**81**/190,**15C-11D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HWA	**Hwalien** baz=358	**0.20**	**340**	*i* P			**Pb**	**20 43 05.7**	**+0.2**
HWA	baz=358				*e*S		**Sb**	**20 43 10.4**	**+1.2**
ESL	**Shilin** baz=271	**0.23**	**275**	⇑*i*P			**Pb**	**20 43 05.5**	**-0.4**
ESL	baz=271				*e*S		**Sb**	**20 43 09.1**	**-0.7**
EGFH	**Guangfu** baz=235	**0.26**	**242**	P			**Pb**	**20 43 06.4**	**0.0**
EGFH	baz=235				*e*S		**Sb**	**20 43 10.9**	**+0.3**
TWD	**Chiawan** baz=1.0	**0.29**	**345**	⇓*i*P			**Pb**	**20 43 06.7**	**-0.2**
TWD	baz=1.0				*e*S		**Sb**	**20 43 11.4**	**-0.1**
NACB	**Ninganchiao** baz=357	**0.39**	**349**	⇓*i*P			**Pb**	**20 43 07.9**	**-0.5**
NACB	baz=357				*e*S		**Sb**	**20 43 13.5**	**-0.5**
EHY	**Hungye** baz=233	**0.43**	**229**	⇑*i*P			**Pb**	**20 43 08.7**	**-0.5**
EHY	baz=233				*e*S		**Sb**	**20 43 15.6**	**+0.3**
ETLH	**Xiulin Townshi** baz=340	**0.45**	**336**	⇓*i*P			**Pb**	**20 43 09.0**	**-0.5**
ETLH	baz=340				*e*S		**Sb**	**20 43 14.6**	**-1.3**
OWD	**Renai** baz=295	**0.49**	**289**	P			**Pb**	**20 43 09.7**	**-0.5**
OWD	baz=295				*e*S		**Sb**	**20 43 16.0**	**-1.0**
VWDT	**VWDT** baz=264	**0.49**	**266**	⇑*i*P			**Pb**	**20 43 10.0**	**-0.2**
VWDT	baz=264				*e*S		**Sb**	**20 43 16.6**	**-0.3**
WHF	**Hehuan Shan** baz=315	**0.52**	**313**	⇓*i*P			**Pb**	**20 43 10.0**	**-0.8**
WHF	baz=315				*e*S		**Sb**	**20 43 17.1**	**-1.0**
YULB	**Yu-li** baz=228	**0.53**	**221**	⇑*i*P			**Pb**	**20 43 10.2**	**-0.6**
YULB	baz=228				*e*S		**Sb**	**20 43 18.6**	**+0.5**
CHGB	**Renai** baz=306	**0.53**	**300**	⇓*i*P			**Pb**	**20 43 10.4**	**-0.5**
CHGB	baz=306				*e*S		**Sb**	**20 43 17.3**	**-1.0**
TWF1	**Yuli** baz=229	**0.56**	**219**	⇑*i*P			**Pb**	**20 43 10.7**	**-0.6**
TWF1	baz=229				*e*S		**Sb**	**20 43 19.4**	**+0.5**
ENA	**Nanau** baz=11	**0.64**	**5**	*i* P			**Pb**	**20 43 12.2**	**-0.4**
ENA	baz=11				*e*S		**Sb**	**20 43 21.2**	**+0.2**
TDCB	**Techi** baz=308	**0.66**	**314**	⇓*i*P			**Pb**	**20 43 12.7**	**-0.4**
TDCB	baz=308				*e*S		**Sb**	**20 43 20.7**	**-1.2**
SSLB	**Suanglung** baz=269	**0.66**	**270**	⇑*i*P			**Pb**	**20 43 12.3**	**-0.8**
SSLB	baz=269				*e*S		**Sb**	**20 43 20.6**	**-1.3**
NNSB	**Datong** baz=332	**0.69**	**337**	⇓*i*P			**Pb**	**20 43 12.9**	**-0.6**
NNSB	baz=332				*e*S		**Sb**	**20 43 21.8**	**-0.9**
NNSH	**Datong** baz=338	**0.69**	**337**	⇓*i*P			**Pb**	**20 43 12.9**	**-0.7**
NNSH	baz=338				*e*S		**Sb**	**20 43 21.8**	**-0.9**
FULB	**Fuli** baz=222	**0.69**	**211**	⇑*i*P			**Pb**	**20 43 13.6**	**+0.1**
FULB	baz=222				*e*S		**Sn**	**20 43 24.9**	**+0.4**
NNS	**Nan Shan** baz=333	**0.70**	**337**	⇓*i*P			**Pb**	**20 43 13.2**	**-0.6**
NNS	baz=333				*e*S		**Sb**	**20 43 21.9**	**-1.2**
SMLT	**Sun Moon Lake** baz=277	**0.72**	**277**	⇑*i*P			**Pb**	**20 43 13.6**	**-0.5**
SMLT	baz=277				*e*S		**Sb**	**20 43 22.8**	**-0.7**
DPDB	**Guoxing** baz=289	**0.73**	**289**	⇑*i*P			**Pb**	**20 43 13.9**	**-0.3**
DPDB	baz=289				*e*S		**Sb**	**20 43 23.3**	**-0.5**
CHKT	**Chengkung** baz=185	**0.75**	**203**	*e*P			**Pb**	**20 43 14.7**	**+0.2**
CHKT	baz=185				*e*S		**Sn**	**20 43 25.2**	**-0.7**
TYC	**Yuchr** baz=286	**0.76**	**279**	⇑*i*P			**Pb**	**20 43 14.1**	**-0.6**
TYC	baz=286				*e*S		**Sb**	**20 43 23.5**	**-1.1**
WHYT	**Xinyi Township** baz=262	**0.76**	**263**	*e*P			**Pb**	**20 43 14.6**	**-0.2**
WHYT	baz=262				*e*S		**Sb**	**20 43 24.7**	**0.0**
NDT	**Datong Townshi** baz=351	**0.82**	**349**	*i* P			**Pb**	**20 43 15.2**	**-0.6**
NDT	baz=351				*e*S		**Sb**	**20 43 25.5**	**-0.9**
WHP	**Taichung City** baz=307	**0.82**	**306**	*e*P			**Pb**	**20 43 15.5**	**-0.3**
WHP	baz=307				*e*S		**Sb**	**20 43 25.5**	**-1.1**
TWC	**Suao** baz=13	**0.83**	**11**	*e*P			**Pb**	**20 43 15.8**	**0.0**
TWC	baz=13				*e*S		**Sn**	**20 43 28.0**	**+0.1**
ALS	**Alishan** baz=250	**0.85**	**251**	⇑*i*P			**Pb**	**20 43 16.1**	**-0.2**
ALS	baz=250				*e*S		**Sb**	**20 43 27.1**	**-0.4**
ENTT	**Nioudou** baz=348	**0.85**	**353**	*e*P			**Pb**	**20 43 15.6**	**-0.6**
ENTT	baz=348				*e*S		**Sb**	**20 43 26.8**	**-0.4**
ELDTW	**Lidau** baz=216	**0.85**	**225**	P			**Pb**	**20 43 15.2**	**-1.2**
ELDTW	baz=216				*e*S		**Sb**	**20 43 27.9**	**+0.4**
WJS	**Zhushan** baz=273	**0.87**	**272**	*e*P			**Pn**	**20 43 16.9**	**-0.1**
WJS	baz=273				*e*S		**Sb**	**20 43 28.0**	**+0.2**
WNT	**Mingjian** baz=275	**0.91**	**276**	⇑*i*P			**Pn**	**20 43 17.7**	**+0.1**
WNT	baz=275				*e*S		**Sn**	**20 43 30.1**	**0.0**
YHNB	**Yeheng** baz=344	**0.92**	**342**	⇓*i*P			**Pb**	**20 43 16.7**	**-0.7**
YHNB	baz=344				*e*S		**Sb**	**20 43 28.9**	**-0.3**
TWE	**Neicheng** baz=352	**0.92**	**359**	⇑*i*P			**Pb**	**20 43 16.9**	**-0.6**
TWE	baz=352				*e*S		**Sb**	**20 43 29.8**	**+0.4**
NSK	**Sanguang** baz=343	**0.93**	**342**	⇓*i*P			**Pb**	**20 43 16.9**	**-0.7**
NSK	baz=343				*e*S		**Sb**	**20 43 28.8**	**-0.7**
CHN5	**Tsauling** baz=248	**0.94**	**258**	⇑*i*P			**Pn**	**20 43 17.9**	**-0.1**
CHN5	baz=248				*e*S		**Sn**	**20 43 30.4**	**-0.3**
TCU	**Taichung** baz=291	**0.98**	**291**	*e*P			**Pb**	**20 43 19.6**	**+1.1**
TCU	baz=291				*e*S		**Sn**	**20 43 34.1**	**+2.3**
NWLT	**Wulai** baz=342	**0.99**	**351**	P			**Pn**	**20 43 17.9**	**-0.8**
NWLT	baz=342				*e*S		**Sb**	**20 43 31.1**	**-0.3**
TWQ1	**Liyutan** baz=304	**0.99**	**304**	*e*P			**Pb**	**20 43 19.3**	**+0.6**
TWQ1	baz=304				*e*S		**Sb**	**20 43 31.7**	**+0.3**
WGK	**Gukeng** baz=264	**1.03**	**264**	*e*P			**Pn**	**20 43 19.0**	**-0.2**
WGK	baz=264				*e*S		**Sn**	**20 43 33.4**	**+0.5**
NSTT	**Nanjuang** baz=325	**1.04**	**324**	*e*P			**Pn**	**20 43 19.3**	**-0.1**
NSTT	baz=325				*e*S		**Sn**	**20 43 33.2**	**0.0**
LIOB	**Emei** baz=326	**1.04**	**325**	P			**Pn**	**20 43 19.1**	**-0.3**
NSY	**Sanyi** baz=307	**1.04**	**307**	*e*P			**Pb**	**20 43 20.0**	**+0.5**
NSY	baz=307				*e*S		**Sn**	**20 43 34.1**	**+0.8**
WDLH	**Douliu** baz=265	**1.05**	**265**	*e*P			**Pb**	**20 43 19.6**	**-0.1**
WDLH	baz=265				*e*S		**Sn**	**20 43 33.5**	**+0.1**
STYT	**Tauyuan** baz=224	**1.05**	**234**	⇑*i*P			**Pn**	**20 43 19.2**	**-0.4**
STYT	baz=224				*e*S		**Sn**	**20 43 34.0**	**+0.4**
WCHH	**Zhanghua** baz=285	**1.06**	**286**	*e*P			**Pn**	**20 43 19.7**	**+0.1**
WCHH	baz=285				*e*S		**Sn**	**20 43 34.2**	**+0.4**
NTC	**Toucheng** baz=20	**1.07**	**7**	*e*P			**Pb**	**20 43 19.8**	**-0.1**
NTC	baz=20				*e*S		**Sn**	**20 43 34.2**	**+0.4**
EGS	baz=14	**1.07**	**12**	*e*P			**Pb**	**20 43 20.5**	**+0.5**
TPUB	**Ta-pu** baz=243	**1.08**	**243**	*e*P			**Pb**	**20 43 20.1**	**0.0**
TPUB	baz=243				*e*S		**Sn**	**20 43 34.9**	**+0.7**
NMLH	**Miaoli** baz=312	**1.10**	**313**	*e*P			**Pb**	**20 43 20.8**	**+0.3**
NMLH	baz=312				*e*S		**Sn**	**20 43 34.7**	**+0.1**
WDJ	**Dajia District** baz=300	**1.10**	**300**	*e*P			**Pn**	**20 43 20.0**	**-0.2**
WDJ	baz=300				*e*S		**Sn**	**20 43 35.9**	**+1.3**
PTSB	**Yuanli** baz=306	**1.10**	**306**	*e*P			**Pb**	**20 43 20.9**	**+0.3**
PTSB	baz=306				*e*S		**Sn**	**20 43 35.5**	**+0.8**
TWGBT	**Beinan** baz=194	**1.12**	**210**	*e*P			**Pn**	**20 43 18.6**	**-1.8**
TWG	**Pinlang** baz=208	**1.12**	**210**	*e*P			**Pn**	**20 43 18.9**	**-1.5**
TWG	baz=208				*e*S		**Sb**	**20 43 34.4**	**-0.5**
WTP	**Ta-pu** baz=249	**1.12**	**241**	*e*P			**Pb**	**20 43 20.6**	**-0.2**
WTP	baz=249				*e*S		**Sn**	**20 43 35.5**	**+0.3**
CHN2	**Minshiung** baz=257	**1.13**	**257**	*e*P			**Pb**	**20 43 21.9**	**+0.9**
CHN2	baz=257				*e*S		**Sn**	**20 43 37.8**	**+2.3**
NHDH	**Xindian Distri** baz=354	**1.17**	**353**	*e*P			**Pb**	**20 43 21.4**	**-0.3**
NHDH	baz=354				*e*S		**Sb**	**20 43 37.3**	**+0.7**
SBCB	**Hsinchu** baz=341	**1.18**	**328**	*e*P			**Pn**	**20 43 20.2**	**-1.0**
TIPB	**Shuangxi** baz=354	**1.18**	**7**	*e*P			**Pn**	**20 43 21.3**	**0.0**
TIPB	baz=354				*e*S		**Sb**	**20 43 37.4**	**+0.6**
TWA	**Mucha** baz=8.0	**1.19**	**356**	*e*P			**Pn**	**20 43 21.4**	**+0.1**
CHY	**Chiayi** baz=256	**1.19**	**256**	*e*P			**Pb**	**20 43 21.9**	**-0.1**
CHY	baz=256				*e*S		**Sn**	**20 43 36.3**	**-0.5**
TATO	**Taipei** baz=354	**1.19**	**352**	*e*P			**Pn**	**20 43 21.3**	**-0.1**
HSN	**Hsinchu** baz=330	**1.20**	**327**	*e*P			**Pb**	**20 43 24.7**	**+2.6**
HSN	baz=330				*e*S		**Sb**	**20 43 40.0**	**+2.9**
RLNB	**Erlin** baz=275	**1.21**	**275**	*e*P			**Pn**	**20 43 21.2**	**-0.5**
RLNB	baz=275				*e*S		**Sb**	**20 43 38.4**	**+0.8**
TWK	**Hsinying** baz=245	**1.21**	**245**	*e*P			**Pb**	**20 43 22.5**	**+0.1**
TWK	baz=245				*e*S		**Sb**	**20 43 38.4**	**+0.8**
CHN1	**Nanshi** baz=253	**1.22**	**240**	*e*P			**Pb**	**20 43 22.5**	**0.0**
CHN1	baz=253				*e*S		**Sb**	**20 43 38.8**	**+1.0**
SNST	**Tainan City** baz=243	**1.23**	**242**	*e*P			**Pb**	**20 43 22.3**	**-0.4**
SNST	baz=243				*e*S		**Sb**	**20 43 39.9**	**+1.9**
SGST	**Jiashian** baz=225	**1.23**	**235**	*e*P			**Pn**	**20 43 21.7**	**-0.3**
SGST	baz=225				*e*S		**Sb**	**20 43 38.7**	**+0.5**
SLGT	**Liugui** baz=221	**1.24**	**230**	*e*P			**Pb**	**20 43 22.7**	**-0.1**
SLGT	baz=221				*e*S		**Sb**	**20 43 39.0**	**+0.6**
TWB1	**Santiao Chiao** baz=14	**1.24**	**13**	*e*P			**Pb**	**20 43 23.3**	**+0.4**
NCUH	**Zhongli** baz=355	**1.25**	**339**	*e*P			**Pn**	**20 43 22.1**	**-0.2**
NWF	**Wu-fen Shan** baz=353	**1.28**	**4**	*e*P			**Pb**	**20 43 23.0**	**-0.5**
WFSB	**Wu-fen Shan** baz=353	**1.28**	**4**	*e*P			**Pb**	**20 43 23.2**	**-0.3**
TWS1	**Kuangyinshan** baz=3.0	**1.32**	**350**	*e*P			**Pn**	**20 43 22.8**	**-0.4**
TWS1	baz=3.0				*e*S		**Sb**	**20 43 42.1**	**+1.3**
JYNG	**Yonagunijimaku**	**1.33**	**60**	P			**Pn**	**20 43 23.5**	**+0.2**
JYNG					*e*S		**Sb**	**20 43 40.4**	**-0.6**
YM04	**YM04** baz=355	**1.36**	**355**	*e*P			**Pn**	**20 43 23.4**	**-0.4**
YM04	baz=355				*e*S		**Sn**	**20 43 40.3**	**-0.8**
YM10	**YM10** baz=358	**1.36**	**356**	P			**Pn**	**20 43 23.7**	**-0.2**
ECL	**Taimali** baz=196	**1.36**	**209**	*e*P			**Pn**	**20 43 22.2**	**-1.6**
YM05	**YM05** baz=358	**1.37**	**356**	P			**Pn**	**20 43 23.6**	**-0.4**
YM03	**YM03** baz=355	**1.39**	**355**	*e*P			**Pn**	**20 43 23.8**	**-0.4**
YM03	baz=355				*e*S		**Sn**	**20 43 41.4**	**-0.5**
YOJ	**Yonaguni jima**	**1.39**	**61**	P			**Pn**	**20 43 24.3**	**+0.2**
YOJ					*e*S		**Sn**	**20 43 41.8**	**0.0**
YM08	**YM08** baz=347	**1.39**	**357**	*e*P			**Pn**	**20 43 23.0**	**-1.2**
YM08	baz=347				*e*S		**Sn**	**20 43 39.4**	**-2.5**
ANP	**Anpu** baz=356	**1.40**	**354**	*e*P			**Pn**	**20 43 23.6**	**-0.7**
SSD	**Sandimen** baz=223	**1.42**	**223**	*e*P			**Pn**	**20 43 25.0**	**+0.5**
SSD	baz=223				*e*S		**Sb**	**20 43 43.9**	**+0.3**
TWY	**Chenhua** baz=359	**1.48**	**357**	*e*P			**Pb**	**20 43 25.5**	**+0.1**
TWM1	**Shoushan** baz=229	**1.50**	**230**	*e*P			**Pb**	**20 43 28.6**	**+1.2**
MASBT	**Mashibuluo** baz=216	**1.52**	**219**	*e*P			**Pn**	**20 43 25.9**	**-0.1**
MASBT	baz=216				*e*S		**Sb**	**20 43 47.2**	**+0.7**
SSPT	**Xinbi** baz=217	**1.66**	**218**	*e*P			**Pb**	**20 43 29.6**	**-0.3**
SCZT	**Fangliau** baz=200	**1.72**	**215**	*e*P			**Pn**	**20 43 28.6**	**0.0**
LAY	**Lan-yu** baz=182	**1.75**	**184**	*e*P			**Pn**	**20 43 26.9**	**-2.3**
PCYT	**Pengchaiyu** baz=359	**1.86**	**11**	*e*P			**Pn**	**20 43 31.7**	**+1.0**
WDGT	**Dungji** baz=254	**1.93**	**254**	*e*P			**Pn**	**20 43 31.7**	**+0.2**
PHUB	**P'eng-hu** baz=247	**1.95**	**262**	*e*P			**Pn**	**20 43 31.3**	**-0.5**
IRIF	**Iriomote-Funau**	**1.95**	**74**	P			**Pn**	**20 43 32.4**	**+0.5**
IRIF						S	**Sn**	**20 43 56.7**	**+1.0**
PNG	**Penghu** baz=264	**1.96**	**264**	*e*P			**Pn**	**20 43 32.4**	**+0.5**
HATJ	**Hateruma jima**	**1.96**	**82**	P			**Pn**	**20 43 32.3**	**+0.3**
HATJ						eS	**Sn**	**20 43 55.2**	**-0.8**
HEN	**Hengchun** baz=196	**1.98**	**206**	*e*P			**Pb**	**20 43 35.2**	**-0.3**
TWK1	**Hengchun** baz=191	**2.01**	**204**	*e*P			**Pb**	**20 43 34.1**	**-1.9**
VCHM	**Qimei** baz=255	**2.15**	**255**	*e*P			**Pn**	**20 43 34.4**	**-0.2**
JKRS	**Kuro-shima**	**2.18**	**78**	P			**Pn**	**20 43 36.0**	**+1.0**
JKRS						S	**Sn**	**20 44 02.6**	**+1.4**
JIJ	**Ishigaki jima**	**2.32**	**75**	P			**Pn**	**20 43 37.2**	**+0.2**
JIJ						S	**Sn**	**20 44 04.1**	**-0.8**
VWUC	**VWUC** baz=300	**2.36**	**301**	*e*P			**Pn**	**20 43 37.0**	**-0.4**
PTTC	**Pingtan** baz=315	**2.43**	**315**	*e*P			**Pn**	**20 43 37.7**	**-0.7**
JISG	**Ishigakijimahi**	**2.53**	**71**	P			**Pn**	**20 43 40.0**	**+0.2**
JISG					*e*S		**Sn**	**20 44 09.6**	**-0.4**
PTMZ	**Houxiangcun** baz=297	**2.64**	**299**	*e*P			**Pn**	**20 43 41.4**	**0.0**
MATB	**Ma-tsu** baz=326	**2.83**	**327**	*e*P			**Pn**	**20 43 43.6**	**-0.3**
JTJ	**Tarama**	**2.89**	**72**	P			**Pn**	**20 43 46.3**	**+1.6**
JTJ					*e*S		**Sn**	**20 44 19.6**	**+0.8**
KNM	**Kinmen** baz=280	**3.03**	**282**	*e*P			**Pn**	**20 43 48.3**	**+1.6**
KNMB	**Chin-men Tao** baz=281	**3.08**	**283**	*e*P			**Pn**	**20 43 46.8**	**-0.6**
XPSS	**Dashiqiu** baz=351	**3.40**	**337**	*e*P			**Pn**	**20 43 50.9**	**-0.9**

AXDP	**Jialang**	**3.56**	**289**	*eP*		**Pn**	**20 43 53.8**	**-0.2**
	baz=286								

IDC ***19*** *20:45:01.8±1.9, 19.°73S×70.°99W, h0km, mb4.1/3, mb1 1.4/1.5, mb1mx3.7/44, mbtmp4.1/5, ML3.9/2, Error ellipse: s-maj=42.6km s-min=34.8km az=73.0*
NEIC ***19*** *20:45:01.6±0.8, 19.°90S±0.°06×71.°3W±0.°1, h14km±3km, mb4.5/2, Error ellipse: s-maj=16.3km s-min=7.7km az=101.0*
GUC ***19*** *20:45:05.0±0.7, 19.°91S×71.°02W, h42km±1km, ML3.8*
ISC 19 20:45:02.1±1.7, 19.°86S±0.°03×71.°06W±0.°07, h9km±10km, n47, σ1§14/52, mb4.3/4, 9C-1D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.92**	**73**	⇓	*eP*		**Pn**	**20 45 21.4**	**0.0**
PSGC					*eS*		**Sn**	**20 45 34.2**	**-0.6**
PSGC					IAML			20 45 35.9	
	comp=E,2µm,0.5s								
PSGCX	**Pisagua**	**0.92**	**73**				**Pn**	**20 45 21.1**	**-0.3**
TA02	**Huaiquique**	**0.96**	**115**	⇑	*iP*		**Pg**	**20 45 21.6**	**+1.0**
TA02					*eS*		**Sn**	**20 45 34.5**	**-1.1**
TA02					IAML			20 45 37.4	
	comp=N,4µm,0.3s								
TA01	**Diego Aracena**	**1.08**	**131**	⇑	*iP*		**Pb**	**20 45 23.7**	**+0.7**
TA01					*eS*		**Sg**	**20 45 37.4**	**+0.5**
TA01	**Diego Aracena**	**1.08**	**131**		Pn		**Pb**	**20 45 23.6**	**+0.6**
PB11	**IPOC Station P**	**1.32**	**86**	⇑	*iP*		**Pg**	**20 45 27.8**	**+0.3**
PB11					*eS*		**Sg**	**20 45 45.8**	**+1.1**
PB11					IAML			20 45 48.0	
	comp=N,4µm,0.3s								
PB11	**IPOC Station P**	**1.32**	**86**		Pn		**Pg**	**20 45 27.8**	**+0.3**
PB12	**IPOC Station P**	**1.42**	**29**	⇑	*iP*		**Pb**	**20 45 29.4**	**+0.5**
PB12					*eS*		**Sg**	**20 45 49.3**	**+1.5**
PB12	**IPOC Station P**	**1.42**	**29**				**Pb**	**20 45 29.1**	**+0.2**
MNMC	**Minye Minye**	**1.56**	**62**	⇑	*iP*		**Pg**	**20 45 32.3**	**+0.2**
MNMC					*eS*		**Sg**	**20 45 52.7**	**+0.4**
MNMC					IAML			20 46 03.9	
	comp=E,5µm,0.5s								
MNMC	**Minye Minye**	**1.56**	**62**				**Pg**	**20 45 31.6**	**-0.4**
AP01	**Chacalluta**	**1.63**	**25**	⇑	*iP*		**Pb**	**20 45 32.9**	**+0.5**
AP01					*eS*		**Sg**	**20 45 53.8**	**-0.7**
AP01	**Chacalluta**	**1.63**	**25**		Pn		**Pn**	**20 45 31.5**	**+0.4**
GO01	**Chusmiza**	**1.76**	**84**	⇑	*iP*		**Pg**	**20 45 35.4**	**-0.6**
GO01					*eS*		**Sg**	**20 45 57.6**	**-1.3**
GO01					IAML			20 46 01.3	
	comp=N,2µm,0.4s								
GO01	**Chusmiza**	**1.76**	**84**				**Pb**	**20 45 34.5**	**-0.4**
PB08	**IPOC Station P**	**1.81**	**99**	⇑	*iP*		**Pb**	**20 45 35.0**	**-0.7**
PB08					*eS*		**Sg**	**20 45 58.4**	**-2.0**
PB08					IAML			20 46 12.9	
	comp=N,830nm,0.5s								
PB08	**IPOC Station P**	**1.81**	**99**				**Pb**	**20 45 34.8**	**-0.9**
PB02	**IPOC Station P**	**1.81**	**143**		IAML			20 46 08.6	
	comp=E,3µm,0.6s								
PB01	**IPOC Station P**	**1.88**	**129**	⇑	*iP*		**Pn**	**20 45 35.5**	**+0.9**
PB01					*eS*		**Sn**	**20 45 58.3**	**-0.3**
PB01					IAML			20 46 09.0	
	comp=E,1µm,0.5s								
PB01	**IPOC Station P**	**1.88**	**129**				**Pn**	**20 45 35.3**	**+0.7**
PB07	**IPOC Station P**	**2.15**	**150**				**Pn**	**20 45 38.5**	**0.0**
PB09	**IPOC Station P**	**2.56**	**139**				**Pn**	**20 45 45.6**	**+1.5**
PB04	**IPOC Station P**	**2.60**	**161**				**Pn**	**20 45 44.2**	**-0.4**
PB06	**IPOC Station P**	**3.15**	**154**				**Pn**	**20 45 51.8**	**-0.4**
LVC	**Limon Verde**	**3.39**	**144**		Pn		**Pn**	**20 45 57.4**	**+1.8**
	comp=E,7.1nm,0.3s,baz=18,slow=6.5,SNR=17								
LVC					Sn		**Sn**	**20 46 35.8**	**-0.4**
	comp=E,20nm,0.3s,baz=144,slow=23,SNR=6.9								
LVC	**Limon Verde**	**3.39**	**144**		Pn		**Pn**	**20 45 57.2**	**+1.6**
PB15	**IPOC Station P**	**3.64**	**156**				**Pn**	**20 45 58.5**	**-0.5**
PB10	**IPOC Station P**	**3.66**	**173**		Pn		**Pn**	**20 45 57.6**	**-1.4**
LPAZ	**La Paz**	**4.51**	**39**		Pn		**Pb**	**20 46 18.5**	**-3.5**
	comp=E,2.7nm,0.3s,baz=210,slow=6.6,SNR=19								
LPAZ	**La Paz**	**4.51**	**39**				**Pn**	**20 46 14.9**	**+3.6**
GO02	**Mina Guanaco**	**5.45**	**166**		Pn		**Pn**	**20 46 23.7**	**-0.1**
AC01	**Pan de Azucar**	**6.27**	**176**		Pn		**Pn**	**20 46 33.2**	**-1.7**
AC02	**Maricunga**	**7.16**	**166**		Pn		**Pn**	**20 46 47.0**	**-0.6**
SIV	**San Ignacio**	**10.25**	**70**		Pn		**Pn**	**20 47 30.8**	**+1.2**
	comp=E,1.3nm,0.3s,baz=269,slow=10,SNR=21								
H03N2	**Juan Fernandez**	**15.24**	**206**		T		T	21 05 17.1	
	baz=116,slow=74,SNR=6.6								
H03N3	**Juan Fernandez**	**15.25**	**206**		T		T	21 05 17.1	
	baz=31,slow=74,SNR=14								
PTGA	**Pitinga**	**21.89**	**31**		P		**P**	**20 49 54.7**	**-1.0**
	comp=E,4.6nm,0.4s,baz=201,slow=14,SNR=9.4								
BDFB	**Brasilia**	**22.34**	**83**		P		**P**	**20 50 00.7**	**+0.1**
	comp=E,1.4nm,0.5s,baz=252,slow=13,SNR=3.1								
TOA0	**Torodi Ar. Sit**	**78.72**	**72**		P		**P**	**20 57 04.9**	**-0.7**
TOA0					IAmb		IAmb	20 57 14.9	
	comp=Z,4.1nm,0.8s								
TORD	**Torodi Ar. Bea**	**78.72**	**72**		P		**P**	**20 57 05.4**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=250,slow=5.3,SNR=20								
TORD	**Torodi Ar. Bea**	**78.72**	**72**		P		**P**	**20 57 04.9**	**-0.6**
H11S2	**WAKE ISLAND Hyl**	**25.66**	**279**		T		T	23 23 26.6	
	baz=101,slow=74,SNR=3.3								
H11S1	**WAKE ISLAND Hyl**	**25.67**	**279**		T		T	23 23 27.8	
	baz=101,slow=74,SNR=3.2								
H11S3	**WAKE ISLAND Hyl**	**25.68**	**279**		T		T	23 23 29.4	
	baz=101,slow=74,SNR=4.1								
ZALV	**Zalesovo Beam**	**141.28**	**23**		PKP		**PKPdf**	**21 04 34.4**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=298,slow=3.2,SNR=4.3								
MKAR	**Makanchi Array**	**145.42**	**33**		PKPbc		**PKPab**	**21 04 41.7**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=303,slow=5.5,SNR=2.4								
SONM	**Songino Array**	**152.02**	**4**		PKPbc		**PKPbc**	**21 04 58.7**	**+0.7**
	comp=Z,0.6nm,0.5s,baz=343,slow=1.5,SNR=4.7								

IDC 19 21:10:43.0±3.1, 17.°75N×147.°52E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.6/53, mbtmp3.7/9, Error ellipse: s-maj=123.3km s-min=20.6km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**20.45**	**338**			P	Pn	21 15 23.4	-0.7
	1.3nm,0.7s,baz=169,slow=8.6,SNR=6.2								
KSRS	**Korea Array**	**26.11**	**323**			P	P	21 16 17.3	-1.3
	0.8nm,0.6s,baz=134,slow=7.2,SNR=4.3								
KLR	**Kul'dur**	**33.90**	**341**			P	P	21 17 26.4	-1.2
	1.5nm,0.6s,baz=146,slow=8.4,SNR=5.3								
WRA	**Warramunga Arr**	**39.63**	**200**			P	P	21 18 16.7	0.0
	0.6nm,0.7s,baz=28,slow=8.8,SNR=2.2								
ASAR	**Alice Springs**	**43.26**	**198**			P	P	21 18 46.0	-0.4
	0.4nm,0.6s,baz=24,slow=8.7,SNR=6.5								
SONM	**Songino Array**	**44.96**	**321**			P	P	21 18 59.3	-0.7
	0.3nm,0.3s,baz=133,slow=10,SNR=1.8								
ZALV	**Zalesovo Beam**	**59.82**	**323**			P	P	21 20 50.5	+0.4
	0.3nm,0.3s,baz=81,slow=8.9,SNR=2.2								
MKAR	**Makanchi Array**	**60.36**	**314**			P	P	21 20 55.5	+1.5
	0.3nm,0.6s,baz=86,slow=9.5,SNR=2.0								
FINES	**FINESS Array B**	**88.46**	**336**			P	P	21 23 37.5	+0.4
	1.5nm,0.8s,baz=108,slow=0.6,SNR=3.4								

SOME 19 21:14:37.8, 42.°37N×80.°88E, h5km, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.15**	**340**		*eP*		Pg	21 14 59.6	-0.2
	0.9nm,0.1s								
KTMS					*eS*		Sg	21 15 15.0	+0.3
	5.7nm,0.2s								
SHLS	**Shalkode**	**1.31**	**308**		*eP*		Pn	21 14 58.3	-4.6
	5.7nm,0.2s								
SHLS					*eS*		Sg	21 15 13.2	-6.8
	12nm,0.2s								
UZB	**Uzynbulak**	**1.58**	**300**		*eP*		Pb	21 15 07.7	+0.2
	1.8nm,0.2s								
UZB					*eS*		Sg	21 15 29.5	+1.0
	4.5nm,0.2s								
SATY	**Saty**	**1.95**	**292**		*eP*		Pb	21 15 14.3	+0.3
	1.1nm,0.1s								
SATY					*eS*		Sg	21 15 40.4	-0.1
	5.2nm,0.1s								
KPKS	**Kokpek**	**1.95**	**305**		*eP*		Pb	21 15 13.9	0.0
	4.4nm,0.1s								
KPKS					*eS*		Sg	21 15 40.0	-0.5
	11nm,0.3s								
TNSS	**Tian-Shan**	**2.98**	**284**		*eP*		Pg	21 15 33.4	-1.5
	1.3nm,0.4s								
TNSS					*eS*		Sg	21 16 13.4	-0.1
	1.3nm,0.3s								

IDC ***19*** *21:24:40.0±0.7, 34.°17N×83.°39E, h0km, mb4.0/17, mb1 4.2/21, mb1mx4.0/48, mbtmp4.0/21, ML3.2/4, Error ellipse: s-maj=21.3km s-min=13.6km az=52.0*
BJI ***19*** *21:24:43.8±0.0, 34.°39N×83.°32E, h22km, mB4.5/4, mb4.2/19, ML3.8/1, Ms3.8/1, Ms7 3.6/1*
NEIC ***19*** *21:24:47.5±1.8, 34.°27N±0.°05×83.°27E±0.°07, h49km±6km, mb4.1/20, Error ellipse: s-maj=10.2km s-min=3.4km az=126.0*
ISC 19 21:24:46.2±0.5, 34.°24N±0.°07×83.°24E±0.°06, h35km, n85, σ1§32/81, mb4.0/22, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**5.89**	**176**		*eP*		**Pn**	**21 26 11.8**	**+0.5**
	89nm,0.4s								
SMLA	**Simla**	**5.99**	**240**		*eP*		**Pn**	**21 26 14.9**	**+2.6**
PYUN	**Piuthan**	**6.13**	**182**		*eP*		**Pn**	**21 26 13.6**	**-0.9**
	28nm,0.4s								
GKN	**Gorkha**	**6.33**	**169**		*eP*		**Pn**	**21 26 18.2**	**+0.9**
	15nm,0.3s								
KOLN	**Koldanda**	**6.46**	**177**		*eP*		**Pn**	**21 26 19.1**	**+0.1**
	101nm,0.9s								
KKN	**Kakani**	**6.67**	**164**		*eP*		**Pn**	**21 26 22.5**	**+0.6**
	1.9nm,0.6s								
GUN	**Gumba**	**6.70**	**160**		*eP*		**Pn**	**21 26 22.7**	**+0.2**
	50nm,0.4s								
DMN	**Daman**	**6.80**	**166**		*eP*		**Pn**	**21 26 24.9**	**+1.1**
	18nm,0.5s								
PKIN	**Phulchoki**	**6.90**	**164**		*eP*		**Pn**	**21 26 25.7**	**+0.6**
	40nm,0.5s								
PKI	**Pulchoki**	**6.91**	**164**		*eP*		**Pn**	**21 26 25.1**	**-0.2**
	30nm,0.5s								
JIRN	**Jiri**	**7.03**	**158**		*eP*		**Pn**	**21 26 28.3**	**+1.3**
	101nm,0.4s								
RAMN	**Ramite**	**7.82**	**157**		*eP*		**Pn**	**21 26 37.6**	**-0.2**
	97nm,0.7s								
LSA	**Lhasa**	**8.10**	**122**		Pn		**Pn**	**21 26 43.0**	**+1.2**
ODAN	**Odare**	**8.18**	**153**		*eP*		**Pn**	**21 26 41.7**	**-1.0**
	90nm,0.6s								
NIL	**Nilore**	**8.32**	**269**		Pn		**Pn**	**21 26 45.4**	**+0.9**
TARG	**Taragay, Kyrgy**	**8.62**	**332**				**Pn**	**21 26 50.5**	**+1.7**
PRZ	**Przheval'sk**	**9.06**	**337**		Pn		**Pn**	**21 26 55.6**	**+1.0**
CEP	**Cherat**	**9.42**	**271**		P		**Pn**	**21 27 01.2**	**+1.7**
THW	**Thamme Wali**	**9.71**	**265**		P		**Pn**	**21 27 04.0**	**+0.5**
BOOM	**Boomskoye usch**	**10.03**	**327**				**Pn**	**21 27 08.3**	**+0.4**
WMQ	**Urumqi**	**10.17**	**19**		*eP*		**Pn**	**21 27 13.3**	**+3.6**
WMQ					pP			21 27 17.3	
WMQ					pmax		pmax		
	comp=Z,10.0nm,0.7s								
WMQ					LR		LR		
	comp=N,330nm,11.5s								
WMQ					LR		LR		
	comp=E,450nm,13.7s								
WMQ					LR		LR		
	comp=Z,480nm,14.9s								
ARSB	**Arslanbob**	**10.76**	**314**		Pn		**Pn**	**21 27 19.8**	**+1.9**
AAK	**Ala-Archa**	**10.82**	**323**		Pn		**Pn**	**21 27 21.2**	**+2.4**
	0.3nm,0.3s,baz=115,slow=14,SNR=1.9								
AAK	**Ala-Archa**	**10.82**	**323**		Pn		**Pn**	**21 27 19.2**	**+0.4**
FRU1	**Bishkek**	**10.89**	**324**		Pn		**Pn**	**21 27 19.9**	**+0.3**
GAR	**Garm**	**11.42**	**298**		Pn		**Pn**	**21 27 28.3**	**+1.4**
BTK	**Batken**	**11.48**	**304**				**Pn**	**21 27 29.1**	**+1.3**
KBL	**Kabul**	**11.74**	**275**				**Pn**	**21 27 32.6**	**+1.2**
CHGR	**Chuyangaron**	**12.16**	**295**		Pn		**Pn**	**21 27 36.5**	**-0.6**
MK31	**Makanchi Array**	**12.56**	**357**				**Pn**	**21 27 42.0**	**-0.3**
MKAR	**Makanchi Array**	**12.56**	**357**		Pn		**Pn**	**21 27 41.0**	**-1.3**
	0.2nm,0.3s,baz=183,slow=15,SNR=18								
MKAR	**Makanchi Array**	**12.56**	**357**				**Pn**	**21 27 42.5**	**+0.1**
MAKZ	**Makanchi**	**12.59**	**356**		Pn		**Pn**	**21 27 41.7**	**-1.0**
KKAR	**Karatay Array**	**13.30**	**315**		Pn		**Pn**	**21 27 54.2**	**+1.7**
KKAR	**Karatay Array**	**13.30**	**315**		Pn		**Pn**	**21 27 53.9**	**+1.4**
GTA	**Gaotai**	**14.23**	**64**		*eP*		**Pn**	**21 28 04.1**	**-1.3**
GTA					pP		P	21 28 13.8	+1.6
GTA					sP			21 28 17.8	
GTA					pmax		pmax		
	comp=Z,2.0nm,1.1s								
KURBB	**Kurchatov Arra**	**16.73**	**350**		Pn		**Pn**	**21 28 36.4**	**-1.3**
	0.1nm,0.3s,baz=170,slow=11,SNR=26								
KURK	**Kurchatov**	**16.81**	**350**				**P**	**21 28 40.2**	**-0.3**
LZH	**Lanzhou**	**16.95**	**78**		*eP*		**P**	**21 28 42.6**	**+0.2**
LZH					pP		Pn	21 28 45.3	+4.6
LZH					sP		pP	21 28 49.5	-3.5
LZH					PP		**PnPn**	**21 28 51.4**	**+0.9**
LZH					pmax		pmax		
	comp=Z,14nm,1.2s								
LZH					pmax		pmax		
	comp=Z,57nm,4.8s								
HRA	**Herat**	**17.35**	**276**		P		**P**	**21 28 47.3**	**+0.4**
KMI	**Kunming**	**19.20**	**113**		P		**Pn**	**21 29 10.6**	**+2.2**
KMI					pmax		pmax		
	comp=Z,7.0nm,0.5s								
ZALV	**Zalesovo Beam**	**19.73**	**3**		P		**P**	**21 29 10.8**	**-1.9**
	0.2nm,0.3s,baz=172,slow=12,SNR=9.2								
ZALV	**Zalesovo Beam**	**19.73**	**3**				**Pn**	**21 29 14.4**	**+0.1**
GEYT	**Alibeck**	**20.62**	**288**		P		**P**	**21 29 23.1**	**+0.6**
	0.7nm,0.4s,baz=93,slow=16,SNR=2.6								
GEYT	**Alibeck**	**20.62**	**288**		IAmb		IAmb	21 29 30.8	
	comp=Z,2.6nm,0.8s								
GYA0B	**ALIBECK ARRAY**	**20.62**	**288**		P		Pn	21 29 23.9	-1.1
CHTO	**Chiang Mai**	**20.78**	**134**		P		**P**	**21 29 23.7**	**-0.6**
CHTO					IAmb		IAmb	21 29 30.4	
	comp=Z,13nm,1.4s								
BVAR	**Borovoye Array**	**20.89**	**338**		P		**P**	**21 29 24.1**	**-1.2**
	comp=Z,2.6nm,0.5s,baz=145,slow=13,SNR=13								
BRVK	**Borovoye**	**20.95**	**338**		P		**P**	**21 29 25.9**	**-0.1**
BRVK					IAmb		IAmb	21 29 34.4	
	comp=Z,5.2nm,0.7s								
CM31	**Chiang Mai Arr**	**21.05**	**134**				**P**	**21 29 28.1**	**+0.9**
CM31					IAmb		IAmb	21 29 30.6	
	comp=Z,5.3nm,0.7s								
CMAR	**Chiang Mai Arr**	**21.05**	**134**		P		**P**	**21 29 24.1**	**-3.1**
	comp=Z,2.7nm,0.6s,baz=314,slow=12,SNR=16								
CMAR	**Chiang Mai Arr**	**21.05**	**134**		P		**P**	**21 29 28.0**	**+0.7**
XAN	**Xi'an**	**21.24**	**83**		P		**P**	**21 29 27.0**	**-2.3**
XAN					pP		pP	21 29 32.3	-7.7
XAN					pmax		pmax		
	comp=Z,5.0nm,1.2s								
XAN	**Xi'an**	**21.24**	**83**		P		**P**	**21 29 29.3**	**0.0**
XAN					IAmb		IAmb	21 29 32.8	
	comp=Z,7.7nm,1.2s								
GYA	**Guiyang**	**21.62**	**105**		P		**P**	**21 29 36.9**	**+3.5**
GYA					pmax		pmax		
	comp=Z,11nm,0.9s								
SONM	**Songino Array**	**22.01**	**45**		P		**P**	**21 29 36.6**	**-0.9**
	comp=Z,5.1nm,0.9s,baz=251,slow=9.2,SNR=17								
SONM	**Songino Array**	**22.01**	**45**		P		**P**	**21 29 39.6**	**+2.1**
SLVN	**Son La**	**22.30**	**120**		P		**P**	**21 29 41.4**	**+0.7**
SLVN					IAmb		IAmb	21 29 58.4	
	comp=Z,8.6nm,1.5s								
ULN	**Ulaanbaatar**	**22.41**	**45**		P		**P**	**21 29 43.2**	**+1.4**
ULN					IAmb		IAmb	21 29 45.7	
	comp=Z,7.9nm,1.2s								
ENH	**Enshi**	**22.52**	**93**		P		**P**	**21 29 44.9**	**+1.9**
ENH					IAmb		IAmb	21 29 50.1	
	comp=Z,5.1nm,0.7s								
ABKAR	**Akbulak array**	**22.83**	**318**		P		**P**	**21 29 47.2**	**+1.2**
NRIK	**Noril'sk**	**35.23**	**3**		P		**P**	**21 31 36.3**	**-0.6**
	comp=Z,5.9nm,0.7s,baz=188,slow=7.7,SNR=5.8								
AKASG	**Malin Array Be**	**42.12**	**310**		P		**P**	**21 32 35.0**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=78,slow=8.1,SNR=5.4								
MLR	**Muntele Rosu**	**44.53**	**302**		P		**P**	**21 32 56.2**	**+1.7**
MLR					IAmb		IAmb	21 32 58.9	
	comp=Z,8.2nm,0.9s								
FINES	**FINESS Array B**	**45.01**	**325**		P		**P**	**21 32 57.9**	**0.0**
	comp=Z,1.5nm,0.7s,baz=94,slow=9.5,SNR=8.3								
ARCES	**ARCESS Array B**	**47.17**	**336**		P		**P**	**21 33 14.9**	**+0.1**
	comp=Z,3.7nm,0.8s,baz=90,slow=7.3,SNR=8.2								
NB2	**NORSAR Subarra**	**52.14**	**324**		P		**P**	**21 33 52.5**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=87,slow=7.4								
NOA	**NORSAR Array B**	**52.14**	**324**		P		**P**	**21 33 53.0**	**+0.1**
	comp=Z,3.3nm,0.8s,baz=86,slow=7.3,SNR=10								
GERES	**GERESS Array B**	**52.28**	**309**		P		**P**	**21 33 55.0**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=88,slow=9.5,SNR=4.8								
GERES	**GERESS Array B**	**52.28**	**309**		P		**P**	**21 33 55.4**	**+1.2**
NC204	**NORSAR Array S**	**52.35**	**324**		P		**P**	**21 33 53.6**	**-0.8**
NBO00	**NORSAR Array S**	**52.35**	**324**		P		**P**	**21 33 53.2**	**-1.2**
TIP	**Timpagrande**	**52.46**	**296**		P		**P**	**21 33 54.6**	**-1.0**
ESDC	**Sonseca Array**	**67.21**	**303**		P		**P**	**21 35 37.1**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=51,slow=5.8,SNR=6.9								
ESDC	**Sonseca Array**	**67.21**	**303**		IAmb		IAmb	21 35 45.4	
	comp=Z,4.7nm,1.4s								
BMAR	**Burnt Mountain**	**72.42**	**17**		P		**P**	**21 36 09.0**	**+0.5**
WRA	**Warramunga Arr**	**72.57**	**130**		P		**P**	**21 36 08.8**	**-1.2**
	comp=Z,2.7nm,0.6s,baz=324,slow=6.0,SNR=19								
ILAR	**Eielson Array**	**73.83**	**20**		P		**P**	**21 36 15.9**	**-0.9**
	comp=Z,1.7nm,1.1s,baz=312,slow=4.9,SNR=7.2								
ILAR	**Eielson Array**	**73.83**	**20**		P		**P**	**21 36 14.5**	**-2.3**
ASAR	**Alice Springs**	**75.05**	**133**		P		**P**	**21 36 23.2**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=320,slow=5.9,SNR=17								
TORD	**Torodi Ar. Bea**	**75.81**	**276**		P		**P**	**21 36 28.1**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=47,slow=5.4,SNR=5.3								
TORD	**Torodi Ar. Bea**	**75.81**	**276**		IAmb		IAmb	21 36 28.5	
	comp=Z,1.3nm,0.9s								
YKA	**Yellowknife Ar**	**82.53**	**8**		P		**P**	**21 37 03.2**	**-1.8**
	comp=Z,2.3nm,1.0s,baz=349,slow=6.3,SNR=3.0								
BOSA	**Boshof**	**83.15**	**229**		P		**P**	**21 37 08.4**	**-0.4**
	comp=Z,5.0nm,1.1s,baz=53,slow=5.3,SNR=3.8								
BOSA	**Boshof**	**83.15**	**229**		IAmb		IAmb	21 37 15.7	
	comp=Z,19nm,1.5s								

SOME 19 21:25:54.1, 42.°23N×81.°15E, h5km, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.35**	**334**		*eP*		Pn	21 26 19.8	+0.1
	0.6nm,0.1s								
KTMS					*eS*		Sn	21 26 38.3	+0.2
	1.9nm,0.2s								
SHLS	**Shalkode**	**1.55**	**307**		*eP*		Pn	21 26 18.7	-3.8
	3.0nm,0.3s								
SHLS					*eS*		Sn	21 26 36.4	-6.7
	6.6nm,0.4s								
UZB	**Uzynbulak**	**1.81**	**301**		*eP*		Pg	21 26 28.6	-0.3
	1.9nm,0.3s								
UZB					*eS*		Sg	21 26 53.3	+0.8
	2.2nm,0.2s								
SATY	**Saty**	**2.19**	**293**		*eP*		Pb	21 26 34.8	+0.6
	1.4nm,0.2s								
SATY					*eS*		Sg	21 27 04.1	-0.2
	4.1nm,0.2s								
KPKS	**Kokpek**	**2.19**	**305**		*eP*		Pb	21 26 34.5	+0.2
	7.3nm,0.2s								
KPKS					*eS*		Sg	21 27 03.7	-0.8
	5.3nm,0.2s								
DJR	**Jarkent**	**2.32**	**335**		*eP*		Pg	21 26 37.6	-1.0
	1.4nm,0.2s								
DJR					*eS*		Sg	21 27 08.9	+0.3
	2.2nm,1.0s								

IDC ***19*** *21:33:17.8±2.4, 4.°86N×125.°30E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.4/36, mbtmp3.8/4, MS4.2/1, Ms1 4.2/1, ms1mx3.3/48, Error ellipse: s-maj=271.6km s-min=23.5km az=64.0*
NEIC ***19*** *21:33:57.8±1.4, 3.°94N±0.°09×124.°4E±0.°1, h425km±9km, mb4.0/16, Error ellipse: s-maj=17.5km s-min=13.2km az=81.0*
ISC 19 21:33:50.5±0.8, 4.°1N±0.°1×124.°5E±0.°2, h339km, n26, σ1§51/21, mb3.7/10, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**10.46**	**132**			P	P	21 36 19.7	+4.1
SBUM	**Sibu**	**12.35**	**263**			P	Pn	21 36 40.0	+3.4
MTN	**Manton Dam**	**18.11**	**159**			P	**P**	**21 37 40.1**	**+0.8**
MTN						IAmb	IAmb	21 37 54.7	
	comp=Z,35nm,1.4s								
KNRA	**Kununurra**	**20.13**	**168**			P	**P**	**21 38 01.1**	**+0.6**
KNRA						IAmb	IAmb	21 38 03.7	
	comp=Z,25nm,1.5s								
FITZ	**Fitzroy Crossi**	**22.11**	**177**			LR	LR	21 50 06.5	
	comp=Z,574

ABKAR	**Akbulak array**	**15.07**	**332**		**Pn**	**21 55 32.6**	**+0.7**
PKIN	**Phulchoki**	**15.21**	**121**	*e*P	**P**	**21 55 35.4**	**+0.5**
	comp=E,19nm,0.5s						
PKI	**Pulchoki**	**15.22**	**121**	*e*P	**P**	**21 55 35.1**	**0.0**
KURBB	**Kurchatov Arra**	**15.26**	**19**	P	**Pn**	**21 55 34.1**	**-0.2**
	comp=E,0.1nm,0.3s,baz=209,slow=10.0,SNR=7.7						
KURK	**Kurchatov**	**15.37**	**19**	P	**Pn**	**21 55 35.7**	**0.0**
JIRN	**Jiri**	**15.71**	**119**	*e*P	**P**	**21 55 41.8**	**+1.2**
	comp=E,13nm,0.3s						
RAMN	**Ramite**	**16.44**	**121**	*e*P	**Pn**	**21 55 49.9**	**+0.8**
	comp=E,14nm,0.5s						
BVAR	**Borovoye Array**	**16.61**	**359**	P	**Pn**	**21 55 51.2**	**+0.6**
	comp=E,1.0nm,0.3s,baz=166,slow=10,SNR=18						
ODAN	**Odare**	**17.05**	**119**	*e*P	**Pn**	**21 55 58.6**	**+2.3**
	comp=E,11nm,0.6s						
ZAA0	**Zalesovo Array**	**20.07**	**25**	P	**P**	**21 56 27.8**	**+0.5**
ZALV	**Zalesovo Beam**	**20.07**	**25**	P	**P**	**21 56 28.3**	**+0.9**
	comp=E,1.7nm,0.3s,baz=214,slow=11,SNR=7.8						
ZALV	**Zalesovo Beam**	**20.07**	**25**	P	**P**	**21 56 27.4**	**0.0**
ARU	**Arti**	**21.65**	**341**	P	**P**	**21 56 45.8**	**+1.8**
	comp=E,0.8nm,0.4s,baz=214,slow=7.5,SNR=5.5						
FIA1	**FINESS Array S**	**37.45**	**326**	P	**P**	**21 59 03.3**	**-0.1**
FIA1				IAmb	IAmb	21 59 06.2	
	comp=Z,4.1nm,0.9s						
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**21 59 04.0**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=90,slow=7.6,SNR=4.6						
FINES	**FINESS Array B**	**37.45**	**326**	P	**P**	**21 59 03.0**	**-0.4**
ARCES	**ARCESS Array B**	**41.15**	**338**	P	**P**	**21 59 34.0**	**0.0**
	comp=Z,3.9nm,0.9s,baz=94,slow=7.3,SNR=7.7						
NC303	**NORSAR Array S**	**44.28**	**323**	P	**P**	**21 59 59.2**	**-0.1**
NC303				IAmb	IAmb	22 00 08.2	
	comp=Z,6.2nm,0.9s						
NB201	**NORSAR Array S**	**44.30**	**323**	P	**P**	**21 59 58.4**	**-1.0**
NB2	**NORSAR Subarra**	**44.33**	**323**	P	**P**	**21 59 59.7**	**0.0**
	comp=Z,0.5nm,0.4s,baz=97,slow=8.6						
NOA	**NORSAR Array B**	**44.33**	**323**	P	**P**	**22 00 00.2**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=96,slow=7.7,SNR=2.2						
TORD	**Torodi Ar. Bea**	**65.52**	**269**	P	**P**	**22 02 30.9**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=45,slow=5.9,SNR=3.7						
TORD	**Torodi Ar. Bea**	**65.52**	**269**	IAmb	IAmb	22 02 33.3	
	comp=Z,0.9nm,0.8s						
RSO	**Redoubt South**	**77.08**	**20**	P	**P**	**22 03 41.0**	**0.0**
CTGM	**Chitina Glacie**	**79.48**	**15**	P	**P**	**22 03 51.8**	**-2.2**
CTGM				IAmb	IAmb	22 04 07.3	
	comp=Z,4.3nm,1.0s						
WRA	**Warramunga Arr**	**82.11**	**122**	P	**P**	**22 04 07.0**	**-1.3**
	comp=Z,1.2nm,0.9s,baz=318,slow=4.8,SNR=2.6						
WB2	**Warramunga Arr**	**82.12**	**122**	P	**P**	**22 04 07.1**	**-1.3**
WR0	**Warramunga Arr**	**82.26**	**122**	P	**P**	**22 04 07.5**	**-1.6**
WR0				IAmb	IAmb	22 04 21.5	
	comp=Z,3.9nm,1.1s						
ASAR	**Alice Springs**	**84.36**	**125**	P	**P**	**22 04 19.1**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=309,slow=4.6,SNR=7.6						

IDC ***19*** *22:01:16.3±3.3, 18.°01N×145.°05E, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.5/44, mbtmp3.9/4, Error ellipse: s-maj=220.0km s-min=32.3km az=89.0*

NEIC ***19*** *22:01:41.0±1.9, 17.°63N±0.°09×144.°4E±0.°2, h195km±5km, mb4.2/23, Error ellipse: s-maj=24.4km s-min=11.6km az=100.0*

ISC 19 22:01:41.3±0.8, 17.°61N±0.°09×144.°4E±0.°3, h200km, n30, σ1§17/29, mb4.0/17, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUMO	**Guam**	**4.02**	**173**	Pn		**Pn**	**22 02 43.4**	**0.0**
GUMO						**Sn**	**22 03 31.9**	**-0.4**
WB0	**Warramunga Arr**	**38.41**	**195**	P		**P**	**22 08 44.4**	**+0.8**
WB0				IAmb		IAmb	22 08 50.4	
	comp=Z,3.9nm,1.1s							
WR0	**Warramunga Arr**	**38.56**	**195**	P		**P**	**22 08 45.2**	**+0.3**
WR0				IAmb		IAmb	22 09 04.1	
	comp=Z,2.6nm,0.9s							
WB2	**Warramunga Arr**	**38.59**	**195**	P		**P**	**22 08 47.1**	**+2.0**
WB2				IAmb		IAmb	22 08 50.4	
	comp=Z,5.6nm,1.1s							
WRA	**Warramunga Arr**	**38.59**	**195**	P		**P**	**22 08 46.2**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=13,slow=8.1,SNR=8.2							
FITZ	**Fitzroy Crossi**	**39.98**	**208**	P		**P**	**22 08 59.4**	**+2.7**
ASAR	**Alice Springs**	**42.27**	**194**	P		**P**	**22 09 16.9**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=22,slow=6.8,SNR=6.4							
ASAR	**Alice Springs**	**42.27**	**194**	P		**P**	**22 09 15.6**	**+0.3**
PSAD2	**Pilbara Seismi**	**45.73**	**212**	P		**P**	**22 09 42.8**	**0.0**
PSA00	**Pilbara Seismi**	**45.75**	**213**	P		**P**	**22 09 43.4**	**+0.5**
PSA00				IAmb		IAmb	22 09 49.0	
	comp=Z,11nm,1.1s							
PSAA1	**Pilbara Seismi**	**45.76**	**213**	P		**P**	**22 09 43.3**	**+0.3**
PSAA1				IAmb		IAmb	22 09 51.2	
	comp=Z,3.7nm,0.9s							
PSAB3	**Pilbara Seismi**	**45.76**	**213**	P		**P**	**22 09 42.4**	**-0.6**
PSAD3	**Pilbara Seismi**	**45.84**	**213**	P		**P**	**22 09 42.3**	**-1.4**
STKA	**Stephens Creek**	**49.27**	**183**	P		**P**	**22 10 08.5**	**-1.4**
	comp=Z,1.7nm,0.7s,baz=4.7,slow=11,SNR=3.0							
STKA	**Stephens Creek**	**49.27**	**183**	IAmb		IAmb	22 10 11.3	
	comp=Z,0.3nm,0.8s							
PBA	**Port Blair**	**50.17**	**271**	P		P	22 10 16.2	-0.8
BBOO	**Buckleboo**	**50.76**	**189**	P		**P**	**22 10 18.6**	**-2.4**
BBOO				IAmb		IAmb	22 10 18.6	
	comp=Z,20nm,1.1s							
MORW	**Morawa**	**53.87**	**211**	P		**P**	**22 10 45.9**	**+1.9**
MORW				IAmb		IAmb	22 10 51.8	
	comp=Z,3.0nm,0.9s							
SVW2	**Sparrevohn**	**60.40**	**29**	P		**P**	**22 11 29.6**	**+0.3**
SVW2				IAmb		IAmb	22 11 36.1	
	comp=Z,3.6nm,1.0s							
THZ	**Tophouse**	**64.70**	**157**	P		**P**	**22 11 57.8**	**-0.2**
RAGM	**Ragged Mountai**	**65.45**	**31**	P		**P**	**22 12 02.8**	**+0.1**
RAGM				IAmb		IAmb	22 12 04.9	
	comp=Z,18nm,1.2s							
RPZ	**Rata Peaks**	**65.74**	**159**	P		**P**	**22 12 05.7**	**+1.0**
OXZ	**Oxford**	**65.74**	**158**	P		**P**	**22 12 05.7**	**+1.1**
GLB	**Gilahina Butte**	**66.01**	**30**	P		**P**	**22 12 07.2**	**+0.9**
GLB				IAmb		IAmb	22 12 20.9	
	comp=Z,3.2nm,1.0s							
LBZ	**Lake Benmore**	**66.05**	**160**	P		**P**	**22 12 07.3**	**+0.8**
VRDI	**Verde Repeater**	**66.16**	**30**	P		**P**	**22 12 07.6**	**+0.3**
VRDI				IAmb		IAmb	22 12 11.3	
	comp=Z,2.9nm,1.0s							
DOT	**Dot Lake**	**66.20**	**28**	P		**P**	**22 12 07.6**	**+0.2**
MENT	**Mentasta**	**66.25**	**28**	P		**P**	**22 12 07.0**	**-0.7**
MENT				IAmb		IAmb	22 12 12.2	
	comp=Z,19nm,0.9s							
CRAG	**Craig**	**71.47**	**37**	P		**P**	**22 12 39.1**	**-0.8**
CRAG				IAmb		IAmb	22 12 57.0	
	comp=Z,14nm,1.1s							
FINES	**FINESS Array B**	**87.33**	**335**	P		**P**	**22 14 04.7**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=64,slow=4.4,SNR=6.6							

SOME ***19*** *22:03:54.2, 39.°58N×72.°00E, h5km*
KRNET ***19*** *22:03:55.0±0.1, 39.°39N×72.°16E, h12km, mb3.1*
NNC ***19*** *22:03:58.7±3.6, 39.°53N×72.°55E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=25.8km s-min=15.0km az=176.0*

ISC 19 22:03:57.9±1.1, 39.°58N±0.°06×72.°02E±0.°04, h10km, n28, σ2§26/47, 20C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BTK	**Batken**	**1.04**	**298**	⇑*e*P		**Pg**	**22 04 18.7**	**+0.7**
BTK	baz=3.0			⇑*i*S		**Sn**	**22 04 35.8**	**+2.4**
OHH	**Osh**	**1.11**	**32**	⇓*i*P		**Pg**	**22 04 18.6**	**-0.7**
OHH	baz=23			⇓*i*S		**Sn**	**22 04 35.8**	**+0.7**
GAR	**Garm**	**1.44**	**247**	⇓*i*P		**Pn**	**22 04 22.9**	**-1.3**
GAR	baz=55			⇓*i*S		**Sn**	**22 04 43.7**	**+0.4**
ARSB	**Arslanbob**	**1.89**	**23**	⇑*i*P		**Pb**	**22 04 32.7**	**0.0**
ARSB	baz=18			⇑*i*S		**Sg**	**22 05 00.4**	**+1.6**
ARK	**Arkit**	**2.22**	**359**	⇑*i*P		**Pb**	**22 04 37.8**	**-0.4**
ARK	baz=57			⇑*i*S		**Sg**	**22 05 08.6**	**-0.6**
CHGR	**Chuyangaron**	**2.41**	**248**	⇑*i*P		**Pn**	**22 04 38.3**	**+0.8**
CHGR	baz=54			⇑*i*S		**Sn**	**22 05 10.2**	**+3.1**
AML	**Almayashu**	**2.85**	**26**	⇑*i*P		**Pn**	**22 04 46.1**	**+2.3**
	baz=23							
AML				⇑*i*S		**Sb**	**22 05 23.3**	**-0.9**
	baz=23							
ARLS	**Aral**	**2.88**	**37**	⇓*i*P		**Pn**	**22 04 45.9**	**+1.9**
	baz=33							
ARLS				⇓*i*S		**Sb**	**22 05 23.4**	**-1.3**
	baz=33							
IUG	**Iuzhnay**	**2.98**	**330**	*e*P		**Pb**	**22 04 50.2**	**-0.9**
	4.7nm,0.3s							
IUG				*e*S		**Sg**	**22 05 31.6**	**-1.9**
	25nm,0.4s							
UCH	**Uchtor**	**3.25**	**35**	⇑*e*P		**Pn**	**22 04 51.4**	**+2.0**
	baz=31							
UCH				⇑*i*S		**Sb**	**22 05 32.1**	**-3.8**
	baz=31							
MRKS	**Merke**	**3.29**	**16**	*e*P		**Pb**	**22 04 54.1**	**-2.4**
	10nm,0.4s							
MRKS				*e*S		**Sb**	**22 05 38.8**	**+2.1**
	11nm,0.5s							
MRKS	**Merke**	**3.29**	**16**	Pg		**Pb**	**22 04 54.1**	**-2.4**
	10nm,0.4s							
MRKS				Lg		Lg	22 05 38.8	
	11nm,0.5s							
EKS2	**Erkin-Say**	**3.35**	**23**	⇑*i*P		**Pn**	**22 04 53.0**	**+2.5**
	baz=20							
EKS2				⇑*i*S		**Sb**	**22 05 35.5**	**-3.0**
	baz=20							
KZA	**Kyzart**	**3.50**	**43**	⇑*i*P		**Pn**	**22 04 54.1**	**+1.3**
	baz=40							
KZA				⇑*i*S		**Sn**	**22 05 37.2**	**+2.8**
	baz=40							
AAK	**Ala-Archa**	**3.58**	**31**	⇑Pg		**Pb**	**22 05 02.7**	**+1.2**
	3.3nm,0.6s							
AAK				⇓Lg		Lg	22 05 50.0	
	20nm,0.8s							
KK31	**Karatay Array**	**3.70**	**343**	⇓Pn		**Pb**	**22 05 00.4**	**-3.0**
	1.9nm,0.3s,baz=164,slow=12,SNR=15							
KK31				⇓Sn		**Sb**	**22 05 48.2**	**-0.1**
	1.9nm,0.4s							
KK31				⇑Lg		Lg	22 06 01.0	
	2.6nm,0.5s,baz=156,slow=28							
BRLS	**Boroldav**	**3.82**	**335**	*e*P		**Pn**	**22 05 00.8**	**+3.9**
	2.0nm,0.2s							
BRLS				*e*S		**Sb**	**22 05 49.4**	**-2.4**
	4.9nm,0.4s							
BRLS	**Boroldav**	**3.82**	**335**	Pg		**Pn**	**22 04 59.1**	**+2.3**
	2.2nm,0.3s							
BRLS				Lg		Lg	22 05 47.1	
	6.2nm,0.5s							
TKM2	**Tokmak 2**	**4.29**	**38**	⇑Pg		**Pb**	**22 05 13.4**	**-0.2**
	1.8nm,0.5s							
TKM2				⇑Lg		Lg	22 06 08.4	
	3.4nm,0.6s							
SGDS	**Sogindy**	**4.34**	**26**	Pg		**Pb**	**22 05 13.9**	**-0.4**
	3.7nm,0.4s							
SGDS				Lg		Lg	22 06 12.3	
	8.1nm,0.7s							
KST	**Kastek**	**4.56**	**39**	*e*P		**Pb**	**22 05 18.7**	**+0.6**
	1.5nm,0.1s							
KST				*e*S		**Sg**	**22 06 21.0**	**-3.4**
	6.5nm,0.8s							
KST	**Kastek**	**4.56**	**39**	Pg		**Pb**	**22 05 18.7**	**+0.6**
	1.5nm,0.1s							
KST				Lg		Lg	22 06 21.0	
	6.5nm,0.8s							
KUU	**Kurty**	**5.39**	**35**	*e*P		**Pb**	**22 05 33.3**	**+1.1**
	1.6nm,0.1s							
KUU				*e*S		**Sg**	**22 06 45.8**	**-5.1**
	4.0nm,0.4s							
KUU	**Kurty**	**5.39**	**35**	Pg		**Pb**	**22 05 33.3**	**+1.1**
	1.6nm,0.1s							
KUU				Lg		Lg	22 06 45.8	
	4.0nm,0.4s							
BTLS	**Baital**	**5.66**	**15**	*e*P		**Pb**	**22 05 39.7**	**+2.9**
	1.0nm,0.3s							
BTLS				*e*S		**Sg**	**22 06 56.2**	**-3.4**
	2.4nm,0.5s							
BTLS	**Baital**	**5.66**	**15**	Pg		**Pb**	**22 05 37.7**	**+0.9**
	1.0nm,0.3s							
BTLS				Lg		Lg	22 06 53.2	
	2.4nm,0.5s							
CHKK	**Chushkaly**	**5.66**	**39**	*e*P		**Pb**	**22 05 38.8**	**+2.0**
	0.6nm,0.1s							
CHKK				*e*S		**Sg**	**22 06 55.0**	**-4.6**
	5.0nm,0.6s							
CHKK	**Chushkaly**	**5.66**	**39**	Pg		**Pb**	**22 05 38.8**	**+2.0**
	0.6nm,0.1s							
CHKK				Lg		Lg	22 06 55.0	
	5.0nm,0.6s							

NNC ***19*** *22:11:44.2±4.3, 34.°24N×71.°64E, h0km, mb4.0, mpv3.8, Error ellipse: s-maj=52.4km s-min=33.8km az=101.0*

ISC 19 22:11:36.2±2.3, 33.°7N±0.°1×71.°7E±0.°2, h10km, n13, σ2§22/17, 5C, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
THN	**Thein Dam**	**3.62**	**109**	*e*P		**Pg**	**22 12 48.0**	**+2.4**
THN				*e*S		**Sg**	**22 13 32.0**	**-0.5**
AAK	**Ala-Archa**	**9.20**	**13**	⇑Pn		**Pn**	**22 13 52.5**	**+3.4**
	1.6nm,0.3s							
AAK				⇑Sn		**Sn**	**22 15 30.7**	**-1.9**
	6.0nm,0.9s							
KK31	**Karatay Array**	**9.43**	**355**	Pn		**Pn**	**22 13 53.4**	**+1.2**
	1.1nm,0.3s,baz=188,slow=15,SNR=19							
KK31				⇑Sn		**Sn**	**22 15 36.4**	**-1.9**
	0.9nm,0.4s							
TKM2	**Tokmak 2**	**9.71**	**17**	⇑Pn		**Pn**	**22 13 57.4**	**+1.3**
	1.2nm,0.5s							
TKM2				⇑Sn		**Sn**	**22 15 44.0**	**-1.3**
	1.7nm,0.6s							
PYUN	**Piuthan**	**11.20**	**117**	*e*P		**Pn**	**22 14 15.3**	**-1.3**
	7.2nm,0.4s							
DANN	**Dangsing**	**11.65**	**114**	*e*P		**Pn**	**22 14 21.7**	**-1.2**
KOLN	**Koldanda**	**11.83**	**117**	*e*P		**Pn**	**22 14 24.3**	**-1.0**
	3.0nm,0.3s							
GKN	**Gorkha**	**12.50**	**114**	*e*P		**Pn**	**22 14 33.2**	**-1.1**
	6.8nm,0.2s							
DMN	**Daman**	**13.05**	**114**	*e*P		**Pn**	**22 14 39.9**	**-2.1**
KKN	**Kakani**	**13.09**	**113**	*e*P		**Pn**	**22 14 40.2**	**-2.3**
	1.6nm,0.6s							
PKIN	**Phulchoki**	**13.29**	**114**	*e*P		**Pn**	**22 14 43.1**	**-2.1**
	12nm,0.6s							
PKI	**Pulchoki**	**13.30**	**114**	*e*P		**Pn**	**22 14 43.0**	**-2.5**
	13nm,0.5s							
RAMN	**Ramite**	**14.53**	**114**	*e*P		**Pn**	**22 14 58.6**	**-3.6**
	6.6nm,0.5s							

NEIC ***19*** *22:33:18.5±2.2, 59.°01S±0.°09×149.°93E±0.°10, h10km±1km, mb4.6/21, Error ellipse: s-maj=16.8km s-min=6.9km az=200.0*

IDC ***19*** *22:33:21.4±4.3, 59.°20S×148.°19E, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.8/21, mbtmp3.6/3, ML3.1/1, MS3.7/3, Ms1 3.7/3, ms1mx3.3/23, Error ellipse: s-maj=545.9km s-min=31.2km az=76.0*

ISC 19 22:33:18.7±0.6, 58.°98S±0.°08×149.°9E±0.°1, h10km, n37, σ1§86/26, mb4.6/11, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MCQ	**Macquarie Isla**	**6.72**	**52**	Pn		**Pn**	**22 34 58.1**	**+0.8**
MLZ	**Mavora Lakes**	**17.55**	**47**			**P**	**22 37 23.4**	**-0.9**
MLZ				IAmb		IAmb	22 37 39.4	
	comp=Z,38nm,1.2s							
WKZ	**Wanaka**	**18.35**	**48**			**P**	**22 37 34.5**	**+1.4**
WKZ				IAmb		IAmb	22 37 52.6	
	comp=Z,48nm,1.2s							
VNDA	**Vanda**	**19.06**	**172**	P		**Pn**	**22 37 43.9**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=341,slow=12,SNR=4.5							
VNDA				LR		LR	22 44 24.8	
	comp=Z,159nm,19.7s,baz=340,slow=35							
VNDA	**Vanda**	**19.06**	**172**			**P**	**22 37 40.5**	**-0.2**
KHZ	**Kahutara**	**22.16**	**52**	P		**P**	**22 38 11.7**	**-2.8**
KHZ				IAmb		IAmb	22 38 26.1	
	comp=Z,28nm,1.1s							
BKZ	**Black Stump Fm**	**26.10**	**52**	P		**P**	**22 38 51.5**	**-1.0**
BKZ				IAmb		IAmb	22 38 52.4	
	comp=Z,22nm,1.2s							
QSPA	**South Pole Qui**	**31.12**	**180**	LR		LR	22 51 39.1	
	comp=Z,150nm,21.8s,baz=12,slow=36							
FORT	**Forrest**	**31.85**	**323**	P		**P**	**22 39 41.9**	**-1.7**
H01W1	**Cape Leeuwin H**	**33.61**	**300**	T		T	23 15 14.9	
	baz=147,slow=76,SNR=34							
H01W2	**Cape Leeuwin H**	**33.62**	**300**	T		T	23 15 13.1	
	baz=147,slow=76,SNR=36							
H01W3	**Cape Leeuwin H**	**33.63**	**300**	T		T	23 15 17.3	
	baz=147,slow=76,SNR=45							
MAW	**Mawson**	**36.82**	**220**	LR		LR	22 53 56.5	
	comp=Z,123nm,18.2s,baz=56,slow=34							
ASAR	**Alice Springs**	**37.06**	**335**	P		**P**	**22 40 32.8**	**+4.0**
	comp=Z,0.7nm,0.7s,baz=169,slow=9.2,SNR=4.4							
ASAR	**Alice Springs**	**37.06**	**335**	P		**P**	**22 40 31.2**	**+2.4**
MORW	**Morawa**	**37.80**	**307**	P		**P**	**22 40 35.1**	**+0.1**
WRA	**Warramunga Arr**	**40.58**	**337**	P		**P**	**22 41 00.3**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=165,slow=7.6,SNR=1.3							
PSAA3	**Pilbara Seismi**	**43.10**	**317**	P		**P**	**22 41 19.0**	**+0.1**
PSAA3				IAmb		IAmb	22 41 22.9	
	comp=Z,13nm,1.1s							
PSAA1	**Pilbara Seismi**	**43.11**	**317**	P		**P**	**22 41 18.3**	**-0.6**
PSAA1				IAmb		IAmb	22 41 35.3	
	comp=Z,8.9nm,1.1s							
PSAD1	**Pilbara Seismi**	**43.22**	**317**	P		**P**	**22 41 20.4**	**+0.6**
PSAD1				IAmb		IAmb	22 41 35.7	
	comp=Z,9.6nm,1.1s							
MSVF	**Nonsavu**	**46.05**	**39**	P		**P**	**22 41 40.3**	**-2.2**
MTN	**Manton Dam**	**48.14**	**335**	P		**P**	**22 41 59.4**	**+0.7**
MTN				IAmb		IAmb	22 42 01.1	
	comp=Z,10.0nm,1.0s							
SNAA	**Sanae**	**48.25**	**191**			**P**	**22 42 00.2**	**+1.1**
HOPE	**Hope Point**	**66.97**	**176**	P		**P**	**22 44 10.1**	**-0.8**
SBUM	**Sibu**	**68.08**	**319**	P		**P**	**22 44 19.0**	**+0.6**
SBUM				IAmb		IAmb	22 44 26.6	
	comp=Z,1.4nm,0.7s							
KKM	**Kota Kinabalu**	**70.17**	**324**	P		**P**	**22 44 34.0**	**+2.6**
H08S2	**Diego Garcia H**	**76.98**	**277**	T		T	00 09 22.7	
	baz=148,slow=76,SNR=12							
H08S1	**Diego Garcia H**	**76.99**	**277**	T		T	00 09 24.0	
	baz=148,slow=76,SNR=9.8							
H08S3	**Diego Garcia H**	**77.00**	**277**	T		T	00 09 24.7	
	baz=148,slow=76,SNR=14							
H03S2	**Juan Fernandez**	**79.04**	**140**	T		T	00 13 19.8	
	baz=201,slow=74,SNR=4.5							
H03S1	**Juan Fernandez**	**79.04**	**140**	T		T	00 13 18.6	
	baz=201,slow=74,SNR=4.1							
H03S3	**Juan Fernandez**	**79.05**	**140**	T		T	00 13 19.1	
	baz=201,slow=74,SNR=6.4							
WAKE	**Wake Island**	**79.19**	**16**	P		**P**	**22 45 23.1**	**-0.4**
ABPO	**Ambohimpanom**	**80.22**	**250**	P		**P**	**22 45 28.0**	**-1.5**
BOSA	**Boshof**	**81.44**	**227**	P		**P**	**22 45 33.0**	**-2.8**
PEL	**Peldehue**	**82.22**	**147**	P		**P**	**22 45 42.4**	**+2.6**
PEL				IAmb		IAmb	22 46 01.3	
	comp=Z,8.9nm,1.1s							
VA03	**San Esteban**	**82.61**	**147**			**P**	**22 45 41.3**	**-0.7**
VA03				IAmb		IAmb	22 45 48.7	
	comp=Z,6.6nm,1.1s							

NEIC ***19*** *22:41:23.8±1.6, 16.°94S±0.°09×179.°8W±0.°1, h10km±2km, mb4.3/7, Error ellipse: s-maj=21.8km s-min=8.3km az=48.0*

IDC ***19*** *22:41:25.1±56.0, 17.°99S×179.°42W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.8/26, mbtmp4.3/3, Error ellipse: s-maj=1024.0km s-min=153.6km az=79.0*

ISC 19 22:41:24.8±1.1, 17.°1S±0.°3×179.°8W±0.°1, h10km, n14, σ1§44/12, mb4.2/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
AFI	**Afiamalu**	**8.31**	**69**			**Pn**	**22 43 25.3**	**-0.3**
FUNA	**Funafuti**	**8.56**	**353**	Pn		Pn	22 43 25.1	-3.8
NIUE	**Niue**	**9.56**	**104**	Pn		**Pn**	**22 43 42.1**	**-0.5**
RAR	**Rarotonga**	**19.32**	**105**	Pn		**P**	**22 45 51.2**	**+0.9**
TOO	**Toolangi**	**36.72**	**229**	P		P	22 48 29.2	-3.1
TOO				IAmb		IAmb	22 48 39.0	
	comp=Z,7.4nm,1.1s							
STKA	**Stephens Creek**	**37.92**	**240**	P		**P**	**22 48 43.2**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=69,slow=9.3,SNR=6.4							
STKA	**Stephens Creek**	**37.92**	**240**	P		**P**	**22 48 42.8**	**+0.2**
BBOO	**Buckleboo**	**42.70**	**240**	P		**P**	**22 49 20.9**	**-1.2**
BBOO				IAmb		IAmb	22 49 35.9	
	comp=Z,11nm,1.0s							
WB0	**Warramunga Arr**	**43.49**	**259**	P		**P**	**22 49 27.5**	**-1.3**
WB0				IAmb		IAmb	22 49 32.0	
	comp=Z,3.0nm,0.8s							
WB2	**Warramunga Arr**	**43.51**	**259**	P		**P**	**22 49 28.2**	**-0.7**
WB2				IAmb		IAmb	22 49 32.0	
	comp=Z,2.7nm,0.7s							
WRA	**Warramunga Arr**	**43.52**	**259**	P		**P**	**22 49 32.0**	**+3.0**
	comp=Z,1.4nm,0.5s,baz=95,slow=8.4,SNR=12							
AS31	**Alice Springs**	**43.78**	**253**	P		**P**	**22 49 30.5**	**-0.6**
AS31				IAmb		IAmb	22 49 33.9	
	comp=Z,2.8nm,0.5s							
ASAR	**Alice Springs**	**43.79**	**253**	P		**P**	**22 49 32.9**	**+1.8**
	comp=Z,8.5nm,0.6s,baz=89,slow=8.5,SNR=94							
ASAR	**Alice Springs**	**43.79**	**253**	P		**P**	**22 49 30.1**	**-1.1**

NEIC ***19*** *23:01:17.2±1.8, 28.°25S±0.°05×71.°30W±0.°08, h40km±6km, mb4.4/41, ML4.3(GUC), Error ellipse: s-maj=10.3km s-min=6.6km az=91.0*

GUC ***19*** *23:01:17.7±0.8, 28.°32S×71.°11W, h44km±2km, ML4.2*

SJA ***19*** *23:01:19.4±0.9, 28.°16S×70.°98W, h99km±21km, ML4.4, MW4.5*

IDC ***19*** *23:01:20.1±2.5, 28.°23S×71.°11W, h55km±23km, mb3.6/4, mb1 4.0/9, mb1mx3.7/28, mbtmp3.

comp=Z,517nm,0.7s
CFA Coronel Fontan 4.36 142 P **Pn 23 02 21.9 +1.0**
comp=Z,17nm,0.3s,baz=330,slow=11,SNR=237
CFA S **Sn 23 03 10.2 -0.3**
comp=Z,33nm,0.3s,baz=152,slow=18,SNR=9.5
CFA Coronel Fontan 4.36 142 *i* P **Pn 23 02 22.2 +1.2**
CFA IAML 23 03 31.8
comp=Z,594nm,0.8s
VA03 San Esteban 4.59 171 Pn 23 02 24.9 +0.6
PB10 IPOC Station P 4.74 9 Pn **Pn 23 02 28.8 +2.5**
ROC1 El Roble 4.76 176 Pn 23 02 25.2 -1.5
APLL PUNTA DE LOS L 4.78 118 *i* P **Pn 23 02 26.9 +0.1**
ASAL Salagasta 4.89 154 *i* P **Pn 23 02 30.5 +2.1**
ASAL IAML 23 04 04.5
comp=Z,373nm,1.2s
CYA Choya 4.94 94 *i* P **Pn 23 02 29.3 +0.3**
CYA IAML 23 03 26.4
comp=Z,105nm,0.9s
PEL Peldehue 4.95 173 Pn 23 02 28.9 -0.2
MT02 Curacav 5.03 177 Pn **Pn 23 02 29.9 -0.3**
ARCO CERRO ARCO 5.08 156 *i* P **Pn 23 02 33.2 +2.2**
ARCO IAML 23 03 59.5
comp=Z,370nm,0.8s
MT05 Renca 5.19 174 Pn **Pn 23 02 31.9 -0.6**
AAGR Agrelo 5.34 156 *i* P **Pn 23 02 36.8 +2.3**
MT01 Popeta 5.63 179 Pn **Pn 23 02 37.2 -1.3**
PB06 IPOC Station P 5.73 17 Pn **Pn 23 02 39.2 -0.8**
PB04 IPOC Station P 5.96 11 Pn **Pn 23 02 43.5 +0.3**
LVC Limon Verde 6.02 23 P **Pn 23 02 44.3 +0.1**
comp=Z,1.5nm,0.3s,baz=176,slow=7.4,SNR=8.7
LVC LR LR 23 05 08.7
comp=Z,301nm,21.2s,baz=201,slow=38
MRA San Martin 6.46 132 *i* P **Pn 23 02 49.8 -0.1**
MRA IAML 23 04 54.1
comp=Z,130nm,0.6s
TCA Tanti 6.68 119 *i* P **Pn 23 02 51.5 -1.4**
TCA IAML 23 04 11.2
comp=Z,129nm,1.0s
LAMA Las Malvinas 6.96 165 *i* P **Pn 23 03 01.3 +4.6**
COIS El Sosneado 7.04 168 *i* P **Pn 23 03 00.7 +2.9**
H03N1 Juan Fernandez 8.29 229 T T 23 11 55.9
baz=56,slow=72,SNR=2091
H03N2 Juan Fernandez 8.31 229 T T 23 11 54.9
baz=56,slow=72,SNR=1787
H03N3 Juan Fernandez 8.31 229 T T 23 11 59.6
baz=56,slow=72,SNR=1583
BI03 Tigo 8.71 189 Pn **Pn 23 03 20.3 -0.3**
LC01 Cunco 10.66 182 Pn Pn 23 03 44.3 -3.0
LPAZ La Paz 12.25 15 LR LR 23 08 58.8
comp=Z,161nm,21.6s,baz=96,slow=38
PLCA Paso Flores 12.51 177 P **Pn 23 04 14.4 +1.8**
comp=Z,0.1nm,0.3s,baz=351,slow=13,SNR=1.9
PLCA LR LR 23 09 14.9
comp=Z,176nm,18.4s,baz=298,slow=38
PLCA Paso Flores 12.51 177 Pn **Pn 23 04 11.8 -0.8**
CPUP Villa Florida 12.66 85 P **Pn 23 04 13.8 -0.9**
comp=Z,0.2nm,0.3s,baz=234,slow=19,SNR=2.1
CPUP LR LR 23 09 12.1
comp=Z,184nm,20.0s,baz=228,slow=38
CPUP Villa Florida 12.66 85 Pn **Pn 23 04 14.6 -0.1**
LL01 San Ignacio de 14.16 183 Pn **Pn 23 04 32.8 -2.2**
SIV San Ignacio 15.47 40 P **Pn 23 04 52.0 -0.5**
comp=Z,0.4nm,0.3s,baz=228,slow=14,SNR=4.9
SIV LR LR 23 11 48.1
comp=Z,172nm,21.9s,baz=216,slow=41
BDFB Brasilia 24.99 65 LR LR 23 17 00.5
comp=Z,83nm,21.4s,baz=307,slow=38
BDFB Brasilia 24.99 65 P **P 23 06 34.8 -2.3**
PTGA Pitinga 29.44 24 LR LR 23 19 38.4
comp=Z,84nm,20.8s,baz=173,slow=37
RUSC La Rusia 33.95 357 P **P 23 07 58.2 +1.2**
URIC Uribia, Colomb 39.68 359 P **P 23 08 45.1 -0.1**
TLIG Tlapa 52.56 327 P **P 23 10 24.8 -1.7**
VNA3 Neumayer Olymp 54.53 160 P **P 23 10 40.4 +0.1**
VNA1 Neumayer--Stat 54.81 159 P **P 23 10 40.4 -1.8**
SNAA Sanae 56.76 159 P **P 23 10 56.2 -0.1**
SNAA Sanae 56.76 159 P **P 23 10 55.5 -0.8**
SNAA IAmb IAmb 23 11 08.8
comp=Z,4.0nm,0.8s
553A Crawfordville 59.40 347 P **P 23 11 13.1 -1.9**
BBSR BB Station 60.59 7 P **P 23 11 20.6 -2.6**
QSPA South Pole Qui 62.00 180 P **P 23 11 32.3 -0.4**
JCT Junction City 64.36 333 P **P 23 11 49.6 +1.1**
JCT IAmb IAmb 23 11 53.3
comp=Z,5.2nm,0.8s
W50A Signal Mountai 64.43 347 P **P 23 11 49.3 +0.4**
W50A IAmb IAmb 23 11 51.2
comp=Z,3.9nm,0.8s
V53A Saluda 64.45 350 P **P 23 11 48.9 -0.1**
V53A IAmb IAmb 23 12 07.1
comp=Z,2.2nm,0.8s
TX31 Lajitas Ar. Si 65.02 329 P **P 23 11 54.0 +1.1**
TX31 IAmb IAmb 23 11 57.0
comp=Z,4.8nm,0.8s
TX32 Lajitas Array 65.02 329 P **P 23 11 53.5 +0.6**
TXAR Lajitas Array 65.02 329 P **P 23 11 56.3 +3.4**
comp=Z,1.3nm,0.7s,baz=151,slow=8.3,SNR=18
TXAR Lajitas Array 65.02 329 P **P 23 11 53.8 +0.9**
U49A Red Boiling Sp 65.79 347 P **P 23 11 58.3 +0.6**
U49A IAmb IAmb 23 11 59.3
comp=Z,2.8nm,0.9s
WVT Waverly 65.85 345 P **P 23 11 58.5 +0.6**
WVT IAmb IAmb 23 12 00.0
comp=Z,3.7nm,0.8s
LCAR Lake Charles 66.59 343 P **P 23 12 03.8 +1.0**
FCAR Ozark Folk Cen 66.69 342 P **P 23 12 03.2 -0.2**
MNTX Cornudas Mount 67.80 329 P **P 23 12 10.0 -0.5**
MNTX IAmb IAmb 23 12 13.5
comp=Z,2.1nm,0.7s
CCM Cathedral Cave 68.49 343 P **P 23 12 15.7 +0.9**
CCM IAmb IAmb 23 12 17.7
comp=Z,4.1nm,0.8s
S39A Bolivar 68.71 341 P **P 23 12 17.0 +0.9**
S39A IAmb IAmb 23 12 19.2
comp=Z,4.9nm,0.9s
214A Organ Pipe Nat 71.64 324 P **P 23 12 35.2 +0.9**
214A IAmb IAmb 23 12 39.1
comp=Z,4.9nm,1.1s
MVCO Mesa Verde 73.81 330 P **P 23 12 48.0 +0.7**
MVCO IAmb IAmb 23 12 51.2
comp=Z,2.7nm,0.8s
ECSD EROS Data Cent 75.24 341 P **P 23 12 56.8 +1.7**
ECSD IAmb IAmb 23 12 58.1
comp=Z,4.6nm,1.1s
O20A White River Ci 76.14 332 P **P 23 13 01.7 +1.1**
O20A IAmb IAmb 23 13 05.0
comp=Z,5.7nm,0.9s
MTPU Mount Pierson 76.17 328 P **P 23 13 01.7 +0.7**
PASC Pasadena Art C 76.23 322 P **P 23 13 00.9 0.0**
SZCU Shurtz Canyon 76.24 327 P **P 23 13 01.2 -0.1**
GSC Goldstone, Bar 76.33 323 P **P 23 13 00.3 -1.4**
CCUT Cedar City 76.34 327 P **P 23 13 02.4 +0.5**
SHPR Sheep Range 76.41 325 P **P 23 13 02.3 +0.1**
Q16A Castle Valley 76.41 329 P **P 23 13 01.5 -0.7**
F36A Milaca 76.42 344 P **P 23 13 01.9 +0.2**
F36A IAmb IAmb 23 13 04.2
comp=Z,3.2nm,0.9s
MSU Marysvale 76.55 328 P **P 23 13 03.1 +0.1**
TMUT Trail Mountain 76.74 329 P **P 23 13 04.4 +0.3**
DUG Dugway, Tooele 78.19 329 P **P 23 13 13.2 +1.2**
DUG IAmb IAmb 23 13 16.5
comp=Z,3.7nm,1.1s
BGU Big Grassy Mou 78.88 329 P **P 23 13 16.9 +1.1**
PDAR Pinedale Array 78.88 332 P **P 23 13 18.4 +2.5**
comp=Z,0.6nm,0.6s,baz=116,slow=6.8,SNR=6.5
PDAR Pinedale Array 78.88 332 P **P 23 13 17.4 +1.5**
NVAR Mina Array Bea 79.49 324 P **P 23 13 21.7 +2.4**
comp=Z,0.6nm,0.8s,baz=148,slow=5.3,SNR=3.8
ELK Elko 79.75 328 P **P 23 13 22.4 +1.7**
HLID Hailey 81.60 330 P **P 23 13 30.8 +0.4**
TORD Torodi Ar. Bea 81.74 70 P **P 23 13 31.9 +0.4**
comp=Z,1.5nm,0.7s,baz=276,slow=4.6,SNR=20
TORD Torodi Ar. Bea 81.74 70 P **P 23 13 32.0 +0.4**
ASAR Alice Springs 122.94 208 PKP **PKPdf 23 20 09.8 +0.5**
comp=Z,0.6nm,0.4s,baz=128,slow=1.8,SNR=8.0
WRA Warramunga Arr 126.04 210 PKP **PKPdf 23 20 15.7 +0.4**
comp=Z,0.5nm,0.7s,baz=151,slow=1.6,SNR=4.7
H11S2 WAKE ISLAND Hyl 26.21 273 T T 01 39 48.7
baz=112,slow=75,SNR=12
H11S1 WAKE ISLAND Hyl 26.22 273 T T 01 39 30.5
baz=112,slow=75,SNR=15
H11S3 WAKE ISLAND Hyl 26.23 273 T T 01 39 25.8
baz=112,slow=75,SNR=20
KKAR Karatay Array 145.99 54 PKPbc 23 20 52.4 +0.3

ZAA0 Zalesovo Array 148.95 28 PKiKP 23 21 01.3 +0.2
ZALV Zalesovo Beam 148.95 28 PKPbc **PKiKP 23 21 01.2 +0.1**
comp=Z,6.1nm,0.6s,baz=298,slow=3.2,SNR=5.3
ZALV Zalesovo Beam 148.95 28 PKPdf 23 20 57.0 +1.3
MKAR Makanchi Array 152.28 41 PKPbc **PKiKP 23 21 09.1 +0.8**
comp=Z,2.2nm,0.7s,baz=340,slow=2.3,SNR=14
MKAR Makanchi Array 152.28 41 PKiKP 23 21 09.1 +0.8
MKAR **pPKPdf 23 21 19.5 +4.8**

NIED ***19*** *23:15:00,29.20N×142.50E,h5km,Mw4.7 Best double couple: M0 1.48000×10^16 NP1:ϕs344.00000°,δ69.00000°, λ86.00000°. NP2:ϕs173.00000°,δ21.00000°,λ99.00000°.*
BJI ***19*** *23:15:24.6±0.0,29.07N×142.51E,h15km,mB4.9/43, mb4.8/68,Ms4.4/61,Ms7 4.2/58*
IDC ***19*** *23:15:25.9±0.5,29.12N×142.49E,h0km,mb4.5/25, mb1 4.6/31,mb1mx4.6/41,mbtmp4.5/31,ML3.9/5,MS4.0/14, Ms1 4.0/14,ms1mx3.8/29,Error ellipse: s-maj=14.4km s-min=12.5km az=90.0*
JMA ***19*** *23:15:28.3±0.2,29.18N×142.53E,h68km,M4.5*
NEIC ***19*** *23:15:28.8±1.6,29.13N±0.07×142.47E±0.09,h22km±4km, mb4.8/197,Error ellipse: s-maj=11.2km s-min=10.4km az=87.0*
ISC 19 23:15:29.7±0.3,29.16N±0.04×142.45E±0.05,h27km,n341, σ1s02/340,mb4.8/135,MS4.1/23,16C,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.07**	**187**	P	**Pn**	**23 16 02.0**	**-0.7**
CBIJ				S	**Sn**	**23 16 26.5**	**-1.2**
JHH2	**Haha-jima-NKT2**	**2.53**	**186**	P	**Pn**	**23 16 08.2**	**-0.8**
JHJ2	**Mitsune**	**4.54**	**331**	Pn	**Pn**	**23 16 36.9**	**+0.3**
JHJ	**Hachijo jima 2**	**4.56**	**331**	Pn	**Pn**	**23 16 36.3**	**-0.6**
	17nm,0.3s,baz=75,slow=20,SNR=1.6						
JHJ				Sn	**Sn**	**23 17 27.8**	**-1.2**
	40nm,0.3s,baz=71,slow=21,SNR=5.1						
JHJ				LR	LR	23 18 25.6	
	comp=Z,1μm,18.2s,baz=144,slow=39						
JOD2	**Odawara 2**	**6.71**	**336**	P	**Pn**	**23 17 06.4**	**-0.1**
HMMJ	**Hamamatsu 2**	**6.95**	**326**	P	**Pn**	**23 17 10.8**	**+1.1**
JHU	**Hanno**	**7.18**	**339**	P	**Pn**	**23 17 12.4**	**-0.6**
JHU				eS	**Sn**	**23 18 31.9**	**-1.8**
JNY	**Yasuok**	**7.30**	**329**	P	**Pn**	**23 17 14.9**	**+0.4**
JRY	**Ryogami san**	**7.46**	**337**	P	**Pn**	**23 17 16.9**	**+0.1**
JRY				eS	**Sn**	**23 18 38.4**	**-2.1**
JAO	**Obara**	**7.51**	**325**	P	**Pn**	**23 17 17.8**	**+0.4**
JHO	**Hitachi**	**7.59**	**348**	P	**Pn**	**23 17 16.5**	**-2.0**
JHO				S	**Sn**	**23 18 38.7**	**-5.0**
JAG	**Ashikaga**	**7.67**	**342**	P	**Pn**	**23 17 18.2**	**-1.4**
INU	**Inuyama**	**7.69**	**325**	Pn	**Pn**	**23 17 20.1**	**+0.2**
MJAR	**Matsushiro Arr**	**8.18**	**335**	Pn	**Pn**	**23 17 26.0**	**-0.6**
	1.2nm,0.3s,baz=158,slow=10,SNR=118						
MJAR	**Matsushiro Arr**	**8.18**	**335**	Pn	**Pn**	**23 17 26.3**	**-0.3**
MAJO	**Matsushiro**	**8.18**	**335**	Pn	**Pn**	**23 17 26.5**	**-0.1**
MAT	**Matsushiro**	**8.18**	**335**	P	**Pn**	**23 17 26.7**	**+0.1**
MAT				S	**Sn**	**23 18 56.0**	**-2.1**
MJB9	**Matsu-Tunnel**	**8.18**	**335**	Pn	**Pn**	**23 17 26.2**	**-0.4**
JNU	**Nakatsue**	**10.67**	**295**	Pn	**Pn**	**23 18 01.6**	**+0.8**
	0.4nm,0.3s,baz=56,slow=13,SNR=4.8						
JNU				LR	LR	23 21 53.7	
	comp=Z,494nm,20.0s,baz=110,slow=36						
JNU	**Nakatsue**	**10.67**	**295**		**Pn**	**23 18 00.6**	**-0.2**
JOW	**Kunigami**	**12.74**	**263**	Pn	**Pn**	**23 18 29.3**	**+0.2**
ERM	**Erimo**	**12.84**	**2**	Pn	**Pn**	**23 18 28.2**	**-2.1**
KSRS	**Korea Array**	**14.68**	**308**	Pn	**Pn**	**23 18 57.1**	**+1.6**
	0.8nm,0.3s,baz=116,slow=13,SNR=22						
KSAR	**Wonju Array Be**	**14.70**	**308**	Pn	**Pn**	**23 18 55.1**	**-0.7**
KS19	**Wonju Array Si**	**14.74**	**308**		**Pn**	**23 18 55.5**	**-0.8**
ASAJ	**Asahikawa**	**14.92**	**0**	Pn	**Pn**	**23 18 57.0**	**-1.7**
	1.5nm,0.3s,baz=213,slow=13,SNR=6.9						
INCN	**Inchon**	**15.60**	**306**	Pn	**Pn**	**23 19 07.0**	**-0.7**
INCN				IAmb	IAmb	23 19 13.0	
	comp=Z,63nm,1.1s						
GUMO	**Guam**	**15.66**	**171**	Pn	**Pn**	**23 19 08.0**	**-0.5**
GUMO				IAmb	IAmb	23 19 21.8	
	comp=Z,46nm,0.9s						
USA0B	**Ussuriysk Arra**	**17.17**	**334**	Pn	**Pn**	**23 19 26.1**	**-1.5**
USRK	**Ussuriysk Ar.**	**17.17**	**334**	Pn	**Pn**	**23 19 25.8**	**-1.8**
	baz=147,slow=10,SNR=12						
YSS	**Yuzh-Sakhalins**	**17.76**	**1**		**Pn**	**23 19 32.5**	**-2.4**
MDJ	**Mudanjiang**	**18.50**	**330**	P	**P**	**23 19 43.1**	**-0.6**
MDJ				pP	sP	23 19 51.6	-0.5
MDJ				sP	pwP	23 19 56.8	-0.2
MDJ				S	**Sn**	**23 23 10.8**	**+0.9**
MDJ				sS	sS	23 23 22.6	+0.2
MDJ				pmax	pmax		
	comp=Z,23nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,190nm,3.7s						
MDJ				LR	LR		
	comp=Z,510nm,15.4s						
MDJ				LR	LR		
	comp=Z,480nm,15.5s						
MDJ				LR	LR		
	comp=Z,480nm,18.1s						
TATO	**Taipei**	**19.12**	**262**	P	**P**	**23 19 50.9**	**+0.3**
NACB	**Ninganchiao**	**19.28**	**260**	P	**P**	**23 19 51.5**	**-0.9**
YHNB	**Yeheng**	**19.31**	**262**	P	**P**	**23 19 53.3**	**+0.4**
YHNB				IAmb	IAmb	23 19 59.0	
	comp=Z,34nm,0.8s						
DL2	**Dalian**	**19.77**	**305**	P	**P**	**23 19 57.6**	**0.0**
DL2				S	**Sn**	**23 23 43.5**	**+3.0**
DL2				pmax	pmax		
	comp=Z,18nm,0.9s						
DL2				pmax	pmax		
	comp=Z,28nm,4.1s						
DL2				LR	LR		
	comp=Z,540nm,16.1s						
DL2				LR	LR		
	comp=Z,420nm,16.5s						
DL2				LR	LR		
	comp=Z,530nm,15.8s						
YULB	**Yu-li**	**19.81**	**258**	P	**P**	**23 19 58.5**	**+0.3**
YULB				IAmb	IAmb	23 20 17.0	
	comp=Z,79nm,1.2s						
CN2	**Changchun**	**19.95**	**322**	*e*P	**P**	**23 20 00.3**	**+0.7**
CN2				pmax	pmax		
	comp=Z,20nm,1.0s						
CN2				LR	LR		
	comp=Z,690nm,14.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
CN2				LR	LR		
	comp=Z,460nm,16.0s						
SSLB	**Suanglung**	**19.96**	**259**		**Pn**	**23 20 01.6**	**-0.2**
TWG	**Pinlang**	**20.22**	**257**		Pn	23 20 03.8	-0.8
TPUB	**Ta-pu**	**20.41**	**258**		**P**	**23 20 05.9**	**+1.1**
TPUB				IAmb	IAmb	23 20 11.9	
	comp=Z,62nm,1.1s						
NJ2	**Nanjing**	**20.51**	**284**	*e*P	**P**	**23 20 05.1**	**-0.6**
NJ2				pP	**pP**	**23 20 11.0**	**-0.6**
NJ2				S	**S**	**23 23 53.3**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,28nm,0.8s						
NJ2				LR	LR		
	comp=Z,340nm,12.8s						
NJ2				LR	LR		
	comp=Z,420nm,15.6s						
NJ2				LR	LR		
	comp=Z,830nm,19.9s						
KNMB	**Chin-men Tao**	**21.97**	**263**	P	**P**	**23 20 21.5**	**0.0**
KNMB				IAmb	IAmb	23 20 29.5	
	comp=Z,41nm,0.9s						
TIA	**Tai'an**	**22.41**	**295**	P	**P**	**23 20 25.5**	**-0.7**
TIA				pmax	pmax		
	comp=Z,11nm,1.1s						
BJI	**Beijing**	**24.11**	**304**	P	**P**	**23 20 41.5**	**-1.6**
BJI				S	**S**	**23 24 59.3**	**+0.1**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BJI				LR	LR		
	comp=Z,200nm,15.8s						
BJI				LR	LR		
	comp=Z,360nm,18.7s						
BJI				LR	LR		
	comp=Z,290nm,22.9s						
WAKE	**Wake Island**	**24.12**	**109**	P	**P**	**23 20 41.3**	**-2.0**
WAKE				IAmb	IAmb	23 20 44.3	
	comp=Z,51nm,1.0s						
WHN	**Wuhan**	**24.39**	**280**	⇑P	**P**	**23 20 45.0**	**-0.8**
WHN				LR	LR		
	comp=Z,1μm,20.6s						
WHN				LR	LR		
	comp=Z,430nm,12.9s						
WHN				LR	LR		
	comp=Z,670nm,13.4s						
TGY	**Tagaytay City**	**24.93**	**238**	P	**P**	**23 20 51.5**	**+0.7**
	comp=Z,250nm,0.4s,baz=305,slow=2.8,SNR=5.4						
PETK	**Petropavlovsk-**	**26.42**	**21**	P	**P**	**23 21 05.8**	**+1.8**
	comp=Z,1.7nm,0.8s,baz=238,slow=19,SNR=3.8						
PETK				LR	LR	23 32 01.9	
	comp=Z,182nm,20.6s,baz=239,slow=38						
HIA	**Hailar**	**26.51**	**325**	P	**P**	**23 21 07.0**	**+2.2**
HIA				IAmb	IAmb	23 21 08.2	
	comp=Z,24nm,0.9s						
ENH	**Enshi**	**28.60**	**280**	IAmb	IAmb	23 21 24.4	
	comp=Z,12nm,0.8s						
XAN	**Xi'an**	**28.89**	**288**	P	**P**	**23 21 24.1**	**-2.2**
XAN				pP	pP	23 21 30.0	-2.8
XAN				pmax	pmax		
	comp=Z,14nm,1.2s						
XAN	**Xi'an**	**28.89**	**288**	IAmb	IAmb	23 21 26.2	
	comp=Z,8.8nm,0.7s						
QIZ	**Qiongzhong**	**31.34**	**259**	P	**P**	**23 21 46.0**	**-2.1**
QIZ				S	**S**	**23 26 54.8**	**+1.1**
QIZ				LR	LR		
	comp=Z,250nm,12.3s						
QIZ				LR	LR		
	comp=Z,200nm,12.3s						
QIZ				LR	LR		
	comp=Z,200nm,16.7s						
GYA	**Guiyang**	**31.70**	**274**	P	**P**	**23 21 50.8**	**-0.5**
GYA				pP	sP	23 21 59.9	-0.2
GYA				sP	pwP	23 22 01.4	-2.9
GYA				pmax	pmax		
	comp=Z,20nm,0.9s						
GYA				LR	LR		
	comp=Z,170nm,17.2s						
GYA				LR	LR		
	comp=Z,170nm,14.8s						
GYA				LR	LR		
	comp=Z,220nm,16.0s						
LBMI	**Labuha**	**32.90**	**208**	P	**P**	**23 22 04.3**	**+2.5**
	comp=Z,2μmcomp=Z,32nm,0.8s						
ULN	**Ulaanbaatar**	**33.02**	**314**	P	**P**	**23 22 02.5**	**-0.2**
LZH	**Lanzhou**	**33.08**	**292**	sPKP		23 21 36.4	
LZH	**Lanzhou**	**33.08**	**292**	*e*P	**P**	**23 22 04.3**	**+0.9**
LZH				pP	pP	23 22 08.9	-1.1
LZH				sP	sP	23 22 12.8	+0.5
LZH				pmax	pmax		
	comp=Z,20nm,1.1s						
LZH				pmax	pmax		
	comp=Z,82nm,4.9s						
LZH				LR	LR		
	comp=Z,330nm,15.7s						
LZH				LR	LR		
	comp=Z,340nm,14.6s						
LZH				LR	LR		
	comp=Z,400nm,13.6s						
SONM	**Songino Array**	**33.42**	**314**	P	**P**	**23 22 06.9**	**+0.7**
	comp=Z,18nm,0.8s,baz=117,slow=8.2,SNR=69						
SONM	**Songino Array**	**33.42**	**314**	P	**P**	**23 22 06.2**	**0.0**
CD2	**Chengdu**	**33.43**	**283**	P	**P**	**23 22 06.0**	**-0.4**
CD2				S	**S**	**23 27 26.8**	**+0.5**
CD2				pmax	pmax		
	comp=Z,40nm,0.6s						
CD2				LR	LR		
	comp=Z,630nm,16.2s						
CD2				LR	LR		
	comp=Z,470nm,10.8s						
CD2				LR	LR		
	comp=Z,570nm,14.2s						
KRVT	**Keravat (AS076**	**34.53**	**163**	LR	LR	23 34 27.8	
	comp=Z,110nm,21.4s,baz=351,slow=33						
MRSI	**Marisa**	**34.60**	**218**	P	**P**	**23 22 19.5**	**+3.0**
	comp=Z,36nm,0.6s						
KMI	**Kunming**	**35.45**	**273**	P	**P**	**23 22 23.5**	**-0.6**
KMI				pP	pP	23 22 30.8	+0.2
KMI				sP	sP	23 22 33.3	+0.3
KMI				pmax	pmax		
	comp=Z,20nm,0.9s						
KMI				pmax	pmax		
	comp=Z,91nm,4.5s						
KMI				LR	LR		
	comp=Z,150nm,16.6s						
KMI				LR	LR		
	comp=Z,240nm,17.9s						
KMI				LR	LR		
	comp=Z,340nm,17.7s						
SLVN	**Son La**	**35.60**	**266**	P	**P**	**23 22 23.9**	**-1.4**
DLV	**T Lat**	**35.95**	**249**	P	**P**	**23 22 27.5**	**-0.8**
GTA	**Gaotai**	**36.39**	**298**	P	**P**	**23 22 30.8**	**-1.1**
GTA				pP	pP	23 22 36.5	-2.0
GTA				sP	sP	23 22 38.8	-2.1
GTA				S	**S**	**23 28 07.8**	**-4.0**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.5s						
GTA				pmax	pmax		
	comp=Z,24nm,4.6s						
GTA				LR	LR		
	comp=Z,230nm,14.5s						
GTA				LR	LR		
	comp=Z,210nm,14.9s						
GTA				LR	LR		
	comp=Z,270nm,15.3s						
TLY	**Talaya**	**36.51**	**319**	P	**P**	**23 22 35.0**	**+2.4**
	comp=Z,22nm,0.8s,baz=135,slow=5.8,SNR=28						
TLY	**Talaya**	**36.51**	**319**	P	**P**	**23 22 33.6**	**+0.9**
SPSI	**Sidrap Palu**	**39.49**	**217**	P	**P**	**23 22 59.2**	**+1.2**
	comp=Z,24nm,0.7s						
MTKI	**Muara Teweh, K**	**39.88**	**226**	P	**P**	**23 23 02.1**	**+0.7**
PBKT	**Sadao Pong**	**40.02**	**261**	P	**P**	**23 23 01.2**	**-1.3**
PBKT				IAmb	IAmb	23 23 03.9	
	comp=Z,18nm,0.7s						
KAPI	**Kappang**	**40.38**	**216**	P	**P**	**23 23 04.1**	**-1.4**
KAPI				IAmb	IAmb	23 23 21.3	
	comp=Z,25nm,1.4s						
CHTO	**Chiang Mai**	**40.86**	**265**	P	**P**	**23 23 09.2**	**-0.3**
CHTO				IAmb	IAmb	23 23 10.4	
	comp=Z,28nm,0.8s						
CM31	**Chiang Mai Arr**	**41.00**	**265**	P	**P**	**23 23 10.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**41.00**	**265**	P	**P**	**23 23 10.9**	**+0.3**
	comp=Z,7.1nm,0.8s,baz=49,slow=8.4,SNR=36						
CMAR				PcP	**PcP**	**23 25 12.3**	**+1.8**
	comp=Z,2.0nm,0.6s,baz=43,slow=1.4,SNR=6.0						
CMAR				LR	LR	23 39 51.8	
	comp=Z,162nm,19.9s,baz=160,slow=36						
CMAR	**Chiang Mai Arr**	**41.00**	**265**	P	**P**	**23 23 10.4**	**-0.3**
KSM	**Kuching**	**41.18**	**234**	P	**P**	**23 23 09.4**	**-2.7**
KSM				IAmb	IAmb	23 23 11.1	
	comp=Z,21nm,1.3s						
BILL	**Bilibino**	**41.40**	**13**	P	**P**	**23 23 13.4**	**+0.2**
EDFI	**Ende, Flores**	**42.68**	**211**	P	**P**	**23 23 25.1**	**+0.7**
	comp=Z,16nm,0.7s						
MTN	**Manton Dam**	**43.17**	**196**	P	**P**	**23 23 27.5**	**-0.7**
MTN				IAmb	IAmb	23 23 32.2	
	comp=Z,24nm,1.1s						
TIXI	**Tiksi**	**43.19**	**354**	P	**P**	**23 23 27.8**	**0.0**
	comp=Z,3.1nm,0.6s,baz=171,slow=2.9,SNR=4.0						
TIXI	**Tiksi**	**43.19**	**354**	P	**P**	**23 23 27.1**	**-0.7**
WMQ	**Urumqi**	**45.59**	**304**	*e*P	**P**	**23 23 48.4**	**+0.9**
WMQ				pP	sP	23 23 57.5	+0.9
WMQ				pmax	pmax		
	comp=Z,14nm,1.1s						
WMQ				pmax	pmax		
	comp=Z,72nm,3.7s						
WMQ				LR	LR		
	comp=Z,170nm,13.7s						
WMQ				LR	LR		
	comp=Z,110nm,19.5s						
WMQ				LR	LR		
	comp=Z,170nm,19.5s						
MYKOM	**Kota Tinggi**	**45.72**	**241**	P	**P**	**23 23 48.4**	**-0.3**
MYKOM				IAmb	IAmb	23 23 51.6	
	comp=Z,8.6nm,0.7s						
KULM	**Kulim**	**46.08**	**247**	IAmb	IAmb	23 23 53.9	
	comp=Z,10nm,0.9s						
KNRA	**Kununurra**	**46.50**	**198**	P	**P**	**23 23 54.9**	**+0.2**
KNRA				IAmb	IAmb	23 24 13.6	
	comp=Z,12nm,1.0s						
ZSN	**Zaisan**	**47.60**	**309**	⇑*i*P	**P**	**23 24 04.2**	**+1.1**
	comp=Z,18nm,1.8s,baz=309						
ZSN				*e*S	**S**	**23 30 59.2**	**+2.3**
	baz=309						
ZSN				LR	LR	23 44 43.4	
	comp=Z,154nm,14.9s,baz=309						
ZAA0	**Zalesovo Array**	**48.10**	**318**	P	**P**	**23 24 07.4**	**+0.5**
ZALV	**Zalesovo Beam**	**48.10**	**318**	P	**P**	**23 24 07.2**	**+0.3**

comp=Z,8.1nm,0.6s,baz=96,slow=7.7,SNR=21
ZALV PcP **PcP** 23 25 34.3 0.0
comp=Z,3.1nm,0.6s,baz=99,slow=5.1,SNR=3.1
ZALV LR LR 23 45 20.7
comp=Z,261nm,18.1s,baz=79,slow=37
ZALV Zalesovo Beam 48.10 318 P **P** **23 24 07.3 +0.4**
ODAN Odare 48.29 281 *eP* **P** **23 24 08.6 -0.5**
comp=Z,43nm,1.0s
RAMN Ramite 48.94 282 *eP* **P** **23 24 13.5 -0.6**
comp=Z,45nm,1.0s
RPSI Rantau Prapat 49.00 246 IAmb IAmb 23 24 15.5
comp=Z,10nm,0.8s
JIRN Jiri 49.10 283 *eP* **P** **23 24 15.2 -0.2**
comp=Z,87nm,1.0s
LHMI Lhok Sumawe 49.13 250 P **P** **23 24 14.7 -0.6**
GUN Gumba 49.30 283 *eP* **P** **23 24 16.4 -0.5**
comp=Z,86nm,1.0s
SDSI Sungai Dareh 49.31 240 P **P** **23 24 17.2 +0.5**
MK31 Makanchi Array 49.36 308 P **P** **23 24 17.2 +0.5**
MK31 IAmb IAmb 23 24 18.2
comp=Z,7.7nm,0.7s
MKAR Makanchi Array 49.36 308 P **P** **23 24 17.2 +0.5**
comp=Z,9.9nm,0.7s,baz=92,slow=9.4,SNR=65
MKAR Makanchi Array 49.36 308 P **P** **23 24 17.1 +0.3**
WRAB Tennant Creek 49.43 190 P **P** **23 24 17.5 +0.1**
WRA Warramunga Arr 49.44 190 P **P** **23 24 17.2 -0.3**
comp=Z,16nm,0.8s,baz=9.6,slow=8.0,SNR=35
WRA Warramunga Arr 49.44 190 P **P** **23 24 17.0 -0.5**
MAKZ Makanchi 49.58 308 P **P** **23 24 19.1 +0.7**
MAKZ IAmb IAmb 23 24 21.2
comp=Z,7.9nm,0.7s
MNSI Mandailing Nat 49.64 243 P **P** **23 24 19.1 -0.1**
LHSI Lahat 49.70 235 P **P** **23 24 21.3 +1.7**
FITZ Fitzroy Crossi 49.71 201 P **P** **23 24 20.0 +0.5**
FITZ IAmb IAmb 23 24 24.8
comp=Z,7.1nm,0.8s
PKI Pulchoki 49.79 283 *eP* **P** **23 24 20.2 -0.4**
comp=Z,40nm,1.1s
PKIN Phulchoki 49.80 283 *eP* **P** **23 24 19.9 -0.7**
comp=Z,26nm,1.0s
KKN Kakani 49.84 283 *eP* **P** **23 24 20.2 -0.7**
comp=Z,3.8nm,1.0s
DMN Daman 50.04 283 *eP* **P** **23 24 21.9 -0.5**
comp=Z,22nm,0.9s
SEM Semipalatinsk 50.69 313 *i* P **P** **23 24 27.3 +0.3**
comp=Z,19nm,0.7s,baz=313
NRIK Noril'sk 50.82 338 P **P** **23 24 28.4 +1.0**
comp=Z,6.0nm,0.5s,baz=109,slow=7.7,SNR=12
GSI Gunungsitoli 50.91 245 P **P** **23 24 29.0 +0.2**
DANN Dangsing 50.98 284 *eP* **P** **23 24 29.5 -0.1**
comp=Z,67nm,0.8s
KOLN Koldanda 51.27 284 *eP* **P** **23 24 31.5 -0.2**
comp=Z,72nm,0.9s
SVW2 Sparrevohn 51.43 33 P **P** **23 24 31.9 -0.2**
SVW2 IAmb IAmb 23 24 49.0
comp=Z,6.3nm,0.7s
SHLS Shalkode 51.60 304 *i* P **P** **23 24 31.6 -2.3**
comp=Z,5.2nm,0.8s,baz=304
PYUN Piuthan 51.70 284 *eP* **P** **23 24 34.8 -0.1**
comp=Z,141nm,0.9s
KURK Kurchatov 51.72 313 P **P** **23 24 35.3 +0.8**
UZB Uzynbulak 51.92 304⇑ *iP* **P** **23 24 36.3 0.0**
comp=Z,2.6nm,0.5s,baz=304
KPKS Kokpek 52.13 304 *eP* **P** **23 24 37.9 +0.1**
comp=Z,31nm,3.0s,baz=304
SATY Saty 52.38 304 *eP* **P** **23 24 40.1 +0.4**
comp=Z,5.5nm,1.3s,baz=304
KDAK Kodiak Island 52.58 38 P **P** **23 24 40.4 -0.2**
comp=Z,3.4nm,0.4s,baz=252,slow=3.4,SNR=12
TARG Taragay, Kyrgy 53.00 302 P **P** **23 24 43.9 -0.7**
TARG IAmb IAmb 23 24 48.4
comp=Z,16nm,0.9s
IMAR Indian Mountai 53.10 27 P **P** **23 24 45.5 +1.1**
AS31 Alice Springs 53.16 190 P **P** **23 24 44.5 -0.9**
ASAR Alice Springs 53.17 190 P **P** **23 24 44.4 -1.0**
comp=Z,0.7nm,0.4s,baz=15,slow=8.6,SNR=16
ASAR PcP **PcP** **23 25 54.7 +1.4**
comp=Z,1.8nm,0.9s,baz=4.4,slow=3.7,SNR=2.7
ASAR Alice Springs 53.17 190 P **P** **23 24 44.7 -0.7**
PPLA Purkeypile 53.27 31 P **P** **23 24 46.6 +0.6**
PPLA IAmb IAmb 23 25 02.8
comp=Z,9.6nm,0.7s
CHKK Chushkaly 53.31 305⇑ *iP* **P** **23 24 46.6 +0.2**
baz=305
MDOK Medeo 53.36 304 *i* P **P** **23 24 47.7 +0.8**
baz=304
MDOK LR LR 23 47 56.1
comp=Z,100nm,14.1s,baz=304
AAA Alma-Ata 53.45 304 *eP* **P** **23 24 48.5 +1.1**
comp=Z,14nm,0.8s,baz=304
TNSS Tian-Shan 53.45 304 *eP* **P** **23 24 49.1 +1.2**
baz=304
KUU Kurty 53.77 305⇑ *iP* **P** **23 24 50.2 +0.4**
comp=Z,10nm,0.6s,baz=305
MTBS Maitube 53.81 304 *eP* **P** **23 24 51.0 +0.9**
baz=304
ULHL Ulahol 54.08 303 P **P** **23 24 53.0 +0.7**
SNR=14
TRF Thorofare Moun 54.19 31 P **P** **23 24 53.1 +0.4**
TRF IAmb IAmb 23 25 10.7
comp=Z,7.9nm,1.0s
RC01 Rabbit Creek A 54.25 34 P **P** **23 24 51.7 -1.3**
RC01 IAmb IAmb 23 24 56.1
comp=Z,16nm,1.2s
TKM2 Tokmak 2 54.45 304 P **P** **23 24 55.9 +1.0**
SNR=9.9
KSH Kashi 54.74 300 *eP* **P** **23 25 00.5 +3.5**
KSH pP sP 23 25 07.4 +1.2
KSH pmax pmax
comp=Z,30nm,0.7s
KSH pmax pmax
comp=Z,280nm,6.1s
KSH LR LR
comp=Z,310nm,11.9s
KSH LR LR
comp=Z,250nm,9.8s
KSH LR LR
comp=Z,380nm,11.0s
MCK McKinley 54.82 30 P **P** **23 24 57.4 +0.3**
MCK IAmb IAmb 23 25 04.2
comp=Z,10nm,1.1s
KZA Kyzart 54.83 303 P **P** **23 24 59.4 +1.4**
SNR=11
RND Reindeer 54.83 31 P **P** **23 24 57.6 +0.4**
RND IAmb IAmb 23 25 12.7
comp=Z,6.3nm,0.8s
KNK Knik Glacier 54.89 33 P **P** **23 24 57.7 +0.1**
KNK IAmb IAmb 23 25 06.9
comp=Z,15nm,0.9s
PSA00 Pilbara Seismi 54.95 206 P **P** **23 24 58.5 +0.1**
PSA00 IAmb IAmb 23 25 01.5
comp=Z,11nm,0.9s
KBK Karagaybulak 54.96 304 P **P** **23 24 59.2 +0.6**
SNR=24
SML Sawmill 54.97 33 P **P** **23 24 56.7 -1.5**
SML IAmb IAmb 23 25 07.0
comp=Z,10.0nm,0.9s
SGDS Sogindy 55.06 305⇑ *iP* **P** **23 24 59.7 +0.5**
comp=Z,4.3nm,0.8s,baz=305
FRU1 Bishkek 55.16 304 IAmb IAmb 23 25 01.7
comp=Z,12nm,0.8s
USP Ospenovka 55.19 304 P **P** **23 25 00.6 +0.6**
SNR=8.6
MDM Murphy Dome 55.24 29 P **P** **23 25 00.5 +0.5**
MDM IAmb IAmb 23 25 04.4
comp=Z,9.5nm,1.4s
BTLS Baital 55.24 307⇑ *iP* **P** **23 25 00.9 +0.5**
comp=Z,7.0nm,0.5s,baz=307
BTLS LR LR 23 49 02.3
comp=Z,43nm,14.7s,baz=307
AAK Ala-Archa 55.29 304 P **P** **23 25 00.7 -0.3**
AAK IAmb IAmb 23 25 02.4
comp=Z,7.5nm,0.6s
UCH Uchtor 55.35 303 P **P** **23 25 03.1 +1.4**
SNR=19
DHY Denali Highway 55.48 31 P **P** **23 25 01.8 -0.2**
BRZS Berezniki 55.57 313⇑ *iP* **P** **23 25 03.5 +0.9**
comp=Z,32nm,1.2s,baz=313
ILAR Eielson Array 55.80 29 P **P** **23 25 04.1 +0.1**
comp=Z,1.7nm,0.7s,baz=256,slow=5.9,SNR=11
ILAR LR LR 23 46 34.8
comp=Z,54nm,21.3s,baz=262,slow=34
ILAR Eielson Array 55.80 29 P **P** **23 25 03.8 -0.2**
EKS2 Erkin-Say 55.81 304 P **P** **23 25 05.4 +0.7**
SNR=8.0
AML Almayashu 55.96 303 P **P** **23 25 07.2 +1.1**
SNR=25

PAX Paxson 56.34 31 P **P** **23 25 08.9 +0.8**
PAX IAmb IAmb 23 25 14.3
comp=Z,111nm,1.4s
BRVK Borovoye 56.76 317 P **P** **23 25 11.5 +0.4**
BMAR Burnt Mountain 56.90 26 P **P** **23 25 13.4 +1.5**
DOT Dot Lake 56.99 31 P **P** **23 25 13.0 +0.4**
DOT IAmb IAmb 23 25 30.6
comp=Z,9.1nm,1.2s
SCRK Sand Creek 57.02 30 IAmb IAmb 23 25 31.0
comp=Z,9.5nm,1.0s
VRDI Verde Repeater 57.30 34 P **P** **23 25 14.8 -0.2**
VRDI IAmb IAmb 23 25 28.9
comp=Z,7.9nm,1.2s
CRQM Cirque 57.47 34 P **P** **23 25 17.1 +0.9**
CRQM IAmb IAmb 23 25 34.8
comp=Z,12nm,0.8s
BCAR Beaver Creek A 58.02 31 P **P** **23 25 20.4 +0.5**
KKAR Karatay Array 58.08 305 P **P** **23 25 21.2 +0.6**
KKAR Karatay Array 58.08 305 IAmb IAmb 23 25 22.8
comp=Z,23nm,0.7s
NIL Nilore 58.23 293 P **P** **23 25 22.7 +0.9**
EGAK Eagle 58.25 29 P **P** **23 25 22.2 +0.8**
IUG Iuzhnay 58.63 304⇑ *iP* **P** **23 25 25.8 +1.2**
comp=Z,3.1nm,0.6s,baz=304
CHM Chimkent 58.90 304 *eP* **P** **23 25 27.8 +1.5**
comp=Z,7.9nm,0.6s,baz=304
PCA Pinnacle 58.94 35 P **P** **23 25 25.6 -0.8**
DAWY Dawson 59.05 30 P **P** **23 25 28.0 +1.0**
DAWY IAmb IAmb 23 25 46.0
comp=Z,7.2nm,1.1s
GAR Garm 59.14 300 P **P** **23 25 27.7 -0.5**
EPYK Eagle Plains 60.01 27 P **P** **23 25 33.9 +0.3**
CHGR Chuyangaron 60.10 300 P **P** **23 25 35.0 +0.2**
HYT Haines Junctio 60.22 34 P **P** **23 25 35.3 +0.1**
HYT IAmb IAmb 23 25 48.4
comp=Z,5.8nm,0.9s
STKA Stephens Creek 60.71 181 P **P** **23 25 38.7 0.0**
comp=Z,2.7nm,0.7s,baz=334,slow=8.9,SNR=5.2
INK Inuvik 61.06 25 P **P** **23 25 41.6 +1.0**
comp=Z,4.2nm,0.8s,baz=263,slow=5.5,SNR=4.6
INK Inuvik 61.06 25 P **P** **23 25 40.4 -0.2**
INK IAmb IAmb 23 25 48.5
comp=Z,12nm,1.4s
FORT Forrest 61.17 194 P **P** **23 25 41.0 -0.8**
KBL Kabul 61.33 296 P **P** **23 25 42.6 -0.8**
KBL IAmb IAmb 23 25 43.6
comp=Z,6.0nm,1.0s
SKAG Skagway 61.49 35 P **P** **23 25 43.6 -0.1**
SKAG IAmb IAmb 23 26 01.4
comp=Z,14nm,1.4s
WHY Whitehorse 61.52 34 P **P** **23 25 43.7 -0.4**
WHY IAmb IAmb 23 26 01.0
comp=Z,9.1nm,1.4s
AFI Afiamalu 61.54 128 P **P** **23 25 44.7 0.0**
ARU Arti 62.95 322 P **P** **23 25 54.3 +0.7**
ABKAR Akbulak array 63.83 314 P **P** **23 26 00.2 +0.6**
NWAO Narrogin (SRO) 66.22 203 P **P** **23 26 14.6 -0.5**
TOO Toolangi 66.45 177 P **P** **23 26 16.7 +0.2**
HRA Herat 66.70 297 P **P** **23 26 18.2 -0.5**
HRA IAmb IAmb 23 26 24.8
comp=Z,3.9nm,0.8s
KBS Kingsbay 68.54 351 P **P** **23 26 29.3 +0.1**
GEYT Alibeck 68.59 302 P **P** **23 26 31.4 +1.0**
comp=Z,5.6nm,1.0s,baz=107,slow=2.0,SNR=14
GEYT LR LR 23 58 56.7
comp=Z,122nm,18.5s,baz=165,slow=38
GEYT Alibeck 68.59 302 P **P** **23 26 29.8 -0.5**
GYA0B ALIBECK ARRAY 68.59 302 P **P** **23 26 31.4 +1.0**
GYA0B IAmb IAmb 23 26 36.4
comp=Z,7.6nm,0.9s
YKA Yellowknife Ar 70.22 29 P **P** **23 26 40.6 +0.8**
comp=Z,2.5nm,0.6s,baz=295,slow=6.2,SNR=9.5
KLMR Klimovskoe 70.92 330 *eP* **P** **23 26 43.6 -0.6**
KLMR AMP 23 26 53.4
comp=Z,15nm,1.2s
ARCES ARCESS Array B 71.67 341 LR LR 00 03 49.2
comp=Z,98nm,19.2s,baz=352,slow=40
TAU Tasmania Unive 71.86 176 P **P** **23 26 49.4 -0.5**
DAG Danmarks Havn 73.67 356 *i* P **P** **23 27 01.0 +0.7**
comp=Z,15nm,1.1s
B08A Colville Reser 73.87 43 P **P** **23 27 02.2 +0.1**
YBH Yreka Blue Hor 74.56 51 P **P** **23 27 05.9 -0.4**
PINE Pine Mountain 74.84 48 P **P** **23 27 07.7 -0.3**
PINE IAmb IAmb 23 27 16.2
comp=Z,11nm,0.9s
WDC Whiskeytown Da 75.17 52 P **P** **23 27 09.7 0.0**
NEW Newport 75.23 43 P **P** **23 27 10.0 0.0**
K05A Summer Lake 75.34 49 P **P** **23 27 10.6 -0.3**
K05A IAmb IAmb 23 27 19.5
comp=Z,14nm,1.0s
G08A Pilot Rock 75.45 46 P **P** **23 27 11.2 -0.2**
MOD Modoc Plateau 76.10 50 P **P** **23 27 14.6 -0.6**
MOD IAmb IAmb 23 27 22.6
comp=Z,9.2nm,1.3s
FINES FINESS Array B 76.20 334 P **P** **23 27 15.6 +0.4**
comp=Z,2.1nm,0.6s,baz=56,slow=5.4,SNR=15
FINES FINESS Array B 76.20 334 P **P** **23 27 15.2 0.0**
ORV Oroville 76.33 52 P **P** **23 27 16.7 +0.3**
J08A Circle Bar Ran 76.64 48 IAmb IAmb 23 27 25.9
comp=Z,6.8nm,0.8s
BMO Blue Mountains 76.69 46 P **P** **23 27 17.7 -0.8**
BMO IAmb IAmb 23 27 23.1
comp=Z,9.9nm,1.5s
WALA Waterton Lakes 76.73 41 P **P** **23 27 19.5 +0.8**
WALA IAmb IAmb 23 27 34.8
comp=Z,5.9nm,0.8s
KBZ Khabaz 76.78 313 P **P** **23 27 20.2 +1.4**
comp=Z,14nm,0.8s,baz=131,slow=1.9,SNR=28
KBZ LR LR 00 04 12.1
comp=Z,110nm,19.1s,baz=48,slow=38
KIV Kislovodsk 76.81 313 P **P** **23 27 20.5 +1.4**
WVOR Wild Horse Val 76.96 49 P **P** **23 27 20.1 +0.1**
AFDM Forest Hills D 76.97 53 P **P** **23 27 19.9 -0.2**
JTMT Jette 77.16 42 P **P** **23 27 20.9 -0.1**
JTMT IAmb IAmb 23 27 31.1
comp=Z,9.3nm,0.9s
PAHR Pah Rah Range 77.72 51 IAmb IAmb 23 27 32.3
comp=Z,7.2nm,1.0s
CMB Columbia Colle 77.80 53 P **P** **23 27 25.1 +0.4**
CMB IAmb IAmb 23 27 32.0
comp=Z,3.7nm,0.6s
MSO Missoula 77.81 43 P **P** **23 27 24.3 -0.4**
YERR Yerington 78.15 52 P **P** **23 27 26.0 -0.9**
YERR IAmb IAmb 23 27 34.4
comp=Z,6.8nm,0.9s
WAKR Walker 78.24 53 P **P** **23 27 27.0 -0.4**
MFID Camas Ranch 78.31 47 P **P** **23 27 27.2 -0.4**
MFID IAmb IAmb 23 27 35.2
comp=Z,6.5nm,0.8s
SUMG Summit 78.53 0 *i* P **P** **23 27 31.0 +2.4**
comp=Z,28nm,0.8s
SUMG Summit 78.53 0 P **P** **23 27 28.5 -0.1**
SUMG IAmb IAmb 23 27 31.6
comp=Z,11nm,0.8s
KVN Kaiserville 78.91 52 P **P** **23 27 31.4 +0.4**
KVN IAmb IAmb 23 27 38.0
comp=Z,6.5nm,1.0s
NVAR Mina Array Bea 79.06 52 P **P** **23 27 33.0 +1.1**
comp=Z,2.1nm,0.7s,baz=295,slow=5.4,SNR=7.7
NVAR LR LR 23 59 21.9
comp=Z,106nm,19.0s,baz=314,slow=33
NVAR Mina Array Bea 79.06 52 P **P** **23 27 33.4 +1.4**
LRM Limekiln Ridge 79.21 43 P **P** **23 27 33.2 +0.6**
DLMT Dillon 79.35 44 P **P** **23 27 32.8 -0.5**
DLMT IAmb IAmb 23 27 37.6
comp=Z,12nm,1.4s
EGMT Eagleton 79.64 41 P **P** **23 27 34.2 -0.5**
FFC Flin Flon 79.87 32 P **P** **23 27 36.9 +1.2**
FFC IAmb IAmb 23 27 40.1
comp=Z,7.6nm,1.1s
ELK Elko 80.01 49 P **P** **23 27 37.7 +0.7**
YHL Hebgen Lake 80.47 44 P **P** **23 27 39.5 -0.1**
FCC Fort Churchill 80.65 26 P **P** **23 27 39.0 -0.7**
FCC IAmb IAmb 23 27 43.5
comp=Z,7.6nm,1.0s
R11A Troy Canyon, C 80.97 51 P **P** **23 27 41.6 -0.6**
AKASG Malin Array Be 81.09 324 P **P** **23 27 42.1 -0.2**
comp=Z,2.3nm,0.5s,baz=49,slow=5.5,SNR=12
AKASG LR LR 00 06 21.7
comp=Z,235nm,19.0s,baz=55,slow=38
AKASG Malin Array Be 81.09 324 P **P** **23 27 40.9 -1.5**
AKBB Malin Array Si 81.09 324 P **P** **23 27 41.2 -1.1**
AKBB IAmb IAmb 23 27 42.8
comp=Z,4.4nm,0.7s
IMW Indian Meadow 81.13 45 P **P** **23 27 43.3 +0.2**

TPNV Topopah Spring 81.20 53 P **P** **23 27 44.1 +0.7**
FXWY Fox Creek 81.21 45 P **P** **23 27 44.3 +0.9**
TPAW Teton Pass 81.33 45 P **P** **23 27 44.2 +0.1**
BGU Big Grassy Mou 81.36 48 P **P** **23 27 44.4 +0.2**
RLMT Red Lodge 81.48 43 P **P** **23 27 45.1 +0.3**
SPUT South Promonto 81.54 47 P **P** **23 27 43.9 -1.2**
AHID Auburn Hatcher 81.63 46 P **P** **23 27 46.1 +0.5**
GSC Goldstone, Bar 81.63 54 P **P** **23 27 45.8 +0.1**
NB2 NORSAR Subarra 81.78 338 P **P** **23 27 46.0 +0.2**
comp=Z,2.9nm,0.8s,baz=41,slow=5.3
NOA NORSAR Array B 81.78 338 P **P** **23 27 46.0 +0.2**
comp=Z,3.5nm,0.9s,baz=40,slow=5.2,SNR=6.0
NOA LR LR 00 09 12.9
comp=Z,79nm,20.3s,baz=40,slow=39
DUG Dugway, Tooele 81.88 48 P **P** **23 27 46.8 -0.2**
HWUT Hardware Ranch 81.95 47 P **P** **23 27 47.1 -0.2**
HWUT IAmb IAmb 23 27 52.1
comp=Z,8.6nm,1.1s
SHPR Sheep Range 82.18 53 P **P** **23 27 48.4 -0.2**
CTU Camp Tracy 82.31 48 P **P** **23 27 49.4 +0.1**
LAO LASA Array 82.38 40 P **P** **23 27 49.2 -0.1**
LAO IAmb IAmb 23 28 07.9
comp=Z,9.4nm,0.8s
JLU Jordanelle 82.55 48 P **P** **23 27 50.0 -0.6**
PD31 Pinedale Array 82.58 45 P **P** **23 27 51.4 +0.7**
PDAR Pinedale Array 82.58 45 P **P** **23 27 51.6 +0.9**
comp=Z,0.7nm,0.5s,baz=298,slow=3.2,SNR=8.8
PFO Pinyon Flats O 82.72 56 P **P** **23 27 51.2 -0.2**
XPFO Pion Flat 82.72 56 P **P** **23 27 50.7 -0.7**
MPU Maple Canyon 82.74 48 P **P** **23 27 50.8 -0.7**
CCUT Cedar City 82.88 51 P **P** **23 27 51.9 -0.5**
SZCU Shurtz Canyon 83.05 51 P **P** **23 27 52.7 -0.5**
SORM Soroca 83.06 322⇑ P **P** **23 27 55.8 +3.0**
MSU Marysvale 83.18 50 P **P** **23 27 53.7 -0.1**
LCMT Little Creek M 83.25 51 P **P** **23 27 54.5 +0.4**
TMUT Trail Mountain 83.40 49 P **P** **23 27 54.7 -0.4**
MTPU Mount Pierson 83.42 50 P **P** **23 27 55.1 -0.2**
KNB Kanab 83.53 51 P **P** **23 27 54.7 -0.9**
P17A Butcher Ranch, 83.61 48 P **P** **23 27 54.6 -1.4**
Q16A Castle Valley 83.63 49 P **P** **23 27 56.5 +0.4**
RDMU Red Mountain 83.77 47 P **P** **23 27 56.5 -0.4**
GAZ Gaziantep 83.80 309 P **P** **23 27 56.5 -0.4**
SRU San Rafael Swe 83.95 48 P **P** **23 27 57.4 -0.4**
U15A North Rim 84.20 51 P **P** **23 27 58.1 -1.1**
BR131 Keskin Array S 84.77 313 P **P** **23 28 00.7 -1.1**
BR131 IAmb IAmb 23 28 05.8
comp=Z,9.3nm,0.8s
BRTR Keskin Array B 84.77 313 P **P** **23 28 02.9 +1.0**
comp=Z,6.1nm,0.8s,baz=97,slow=4.1,SNR=30
BRTR Keskin Array B 84.77 313 P **P** **23 28 02.1 +0.3**
O20A White River Ci 84.86 47 P **P** **23 28 00.7 -1.7**
O20A IAmb IAmb 23 28 08.6
comp=Z,5.6nm,0.8s
TESR Tescani 84.97 321⇑ P **P** **23 28 02.7 +0.2**
Y14A Wickenburg 85.02 54 P **P** **23 28 03.5 +0.4**
Y14A IAmb IAmb 23 28 09.9
comp=Z,4.0nm,0.8s
BUR08 Bucovina Ar. S 85.05 323 IAmb IAmb 23 28 12.2
comp=Z,4.9nm,1.1s
BURAR Bucovina Array 85.06 323⇑ P **P** **23 28 03.6 +0.5**
BURAR Bucovina Array 85.06 323 P **P** **23 28 03.8 +0.8**
KWP Kalwaria Pacla 85.06 325 *eP* **P** **23 28 03.5 +0.6**
RSSD Black Hills 85.12 42 P **P** **23 28 04.0 +0.4**
PV09 Paradox Valley 85.19 48 P **P** **23 28 04.5 +0.3**
PV21 Cone Mtn., Par 85.26 48 P **P** **23 28 03.5 -1.0**
PV21 IAmb IAmb 23 28 16.1
comp=Z,7.7nm,0.9s
PV23 Carpenter Ridg 85.30 48 P **P** **23 28 03.0 -1.7**
WUAZ Wupatki 85.32 52 P **P** **23 28 03.4 -1.3**
WUAZ IAmb IAmb 23 28 11.3
comp=Z,4.3nm,0.8s
VRI Vrincioaia 85.32 321⇑ P P 23 28 11.1 +6.8
PV10 Paradox Valley 85.32 48 P **P** **23 28 05.1 +0.3**
PLOR Plostina 85.37 321⇑ P P 23 28 11.7 +7.1
PV20 West Nyswonger 85.39 48 P **P** **23 28 04.7 -0.3**
PV19 Morning Glory 85.40 48 P **P** **23 28 05.5 +0.4**
PV19 IAmb IAmb 23 28 11.0
comp=Z,8.7nm,0.8s
PV22 Blue Mesa, Par 85.40 48 P **P** **23 28 04.3 -0.8**
PV22 IAmb IAmb 23 28 15.3
comp=Z,4.8nm,1.0s
PV04 Paradox Valley 85.40 48 P **P** **23 28 03.4 -1.7**
PV04 IAmb IAmb 23 28 16.2
comp=Z,7.5nm,0.9s
PV17 East Wray Mesa 85.43 48 P **P** **23 28 04.9 -0.3**
PV05 Paradox Valley 85.45 49 P **P** **23 28 05.4 0.0**
PV05 IAmb IAmb 23 28 12.2
comp=Z,7.1nm,0.8s
PV11 David Mesa, Pa 85.48 48 P **P** **23 28 04.7 -0.8**
PV11 IAmb IAmb 23 28 13.3
comp=Z,10nm,0.9s
PV18 Skein Mesa, Pa 85.48 48 P **P** **23 28 04.9 -0.7**
PV18 IAmb IAmb 23 28 12.2
comp=Z,9.3nm,0.9s
PV12 Saucer Basin, 85.51 48 P **P** **23 28 06.4 +0.7**
PV03 Paradox Valley 85.52 48 P **P** **23 28 05.0 -0.7**
PV03 IAmb IAmb 23 28 16.0
comp=Z,6.3nm,0.9s
PV07 Paradox Valley 85.55 48 P **P** **23 28 05.5 -0.3**
PV13 Radium Mtn., P 85.59 48 P **P** **23 28 04.6 -1.5**
PV13 IAmb IAmb 23 28 13.2
comp=Z,13nm,1.5s
ULM Lac du Bonnet 85.59 33 LR LR 00 04 43.1
comp=Z,66nm,21.0s,baz=282,slow=34
PV01 Paradox Valley 85.77 48 P **P** **23 28 05.3 -1.6**
PV01 IAmb IAmb 23 28 13.5
comp=Z,4.2nm,0.9s
N23A Red Feather La 85.87 45 P **P** **23 28 07.3 -0.2**
N23A IAmb IAmb 23 28 12.7
comp=Z,8.0nm,0.8s
OJC Ojcow 86.08 327 *eP* **P** **23 28 06.9 -1.0**
ISCO Idaho Springs 86.71 46 P **P** **23 28 12.2 +0.5**
KSP Ksiaz 87.26 329 *eP* **P** **23 28 13.2 -0.5**
TUC Tucson 87.46 54 P **P** **23 28 15.0 -0.1**
CSS Mathiatis 87.64 309 P **P** **23 28 14.5 -1.4**
CSS IAmb IAmb 23 28 17.6
comp=Z,9.1nm,1.0s
VYHS Vyhne 87.71 326 *eP* **P** **23 28 16.3 +0.3**
F33A 5 Mile Ranch, 88.31 37 P **P** **23 28 18.9 0.0**
F33A IAmb IAmb 23 28 29.6
comp=Z,6.1nm,1.0s
CLL Collm 88.36 331 *eP* **P** **23 28 19.0 0.0**
CLL *es*PP 23 31 57.0
MDVR Moldovita 88.74 322⇑ P **P** **23 28 20.4 -0.5**
VTS Vitosha 89.31 320⇑ P **P** **23 28 22.6 -1.3**
GERES GERESS Array B 89.87 329 P **P** **23 28 25.2 -1.0**
comp=Z,0.6nm,0.7s,baz=36,slow=5.0,SNR=5.5
SOKA Soboth 90.82 327 *i* PcP **P** **23 28 30.9 +0.2**
comp=Z,1.0nm,0.5s
MYKA Terra Mystica 91.52 328 *i* PcP **P** **23 28 32.9 -1.0**
comp=Z,1.1nm,0.4s
ABTA Abfaltersbach 91.95 328 *i* PcP **P** **23 28 35.3 -0.6**
comp=Z,2.1nm,0.8s
FUORN Ofenpass-Fuorn 93.07 329 IAmb IAmb 23 28 48.2
comp=Z,6.3nm,0.9s
TX32 Lajitas Array 94.18 53 IAmb IAmb 23 28 51.4
comp=Z,9.1nm,1.4s
TXAR Lajitas Array 94.18 53 P **P** **23 28 47.4 +0.9**
comp=Z,1.1nm,0.9s,baz=308,slow=3.1,SNR=10
TXAR Lajitas Array 94.18 53 P **P** **23 28 48.0 +1.5**
TORD Torodi Ar. Bea 123.39 312 PKP **PKPdf** **23 34 25.0 -0.1**
comp=Z,1.5nm,0.9s,baz=14,slow=1.8,SNR=5.5
PTGA Pitinga 144.55 41 **PKPdf** **23 35 04.2 -0.2**
LPAZ La Paz 149.12 72 PKPbc **PKiKP** **23 35 18.1 0.0**
comp=Z,9.0nm,0.8s,baz=296,slow=2.5,SNR=20
PLCA Paso Flores 150.75 122 PKPbc **PKPbc** **23 35 19.5 0.0**
comp=Z,4.4nm,0.8s,baz=201,slow=4.8,SNR=8.7
BI02 San Fabin de 150.83 114 **PKiKP** **23 35 21.2 +0.8**
GO02 Mina Guanaco 151.26 90 **PKiKP** **23 35 22.9 +0.9**
AC05 El Transito 151.42 97 **PKiKP** **23 35 22.9 +0.8**
VA03 San Esteban 151.54 106 **PKiKP** **23 35 25.8 +3.6**

JMA 19 23:16:25.4±0.2, 35.63N×140.03E, h69km±2km, M1.3,
Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCN	**Nagara**	**0.25**	**146**	P		23 16 36.9	+0.7
JCN				*e*S		Sn 23 16 46.0	+2.0
JOD2	**Odawara 2**	**0.85**	**245**	P		Pn 23 16 41.7	-0.3
JOD2				S		Sn 23 16 53.4	-0.9
BSO3	**Boso 3**	**0.92**	**154**	P		Pn 23 16 42.1	-0.4
JAG	**Ashikaga**	**0.92**	**330**	P		Pn 23 16 43.3	+0.4

JRY	**Ryogami san**	**0.99**	**293**	P	Pn	23 16 44.6 +0.8

JMA 19 23:20:09.7±0.1, 37°25'N×141°10'E, h31km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JFK	**Kawauchi**	**0.21**	**303**	P	Pb	23 20 16.0	-0.3
JFK				S	Sb	23 20 20.2	-0.5
ONAJ	**Iwakimizuishiy**	**0.28**	**239**	P	Pb	23 20 16.8	-0.3
ONAJ				S	Sb	23 20 21.5	-0.6
JFFD	**Fukushimafurud**	**0.46**	**250**	P	Pb	23 20 19.3	-0.2
JFFD				eS	Sb	23 20 25.8	-0.5
JMST	**Minamisoumatoc**	**0.50**	**340**	P	Pb	23 20 19.8	-0.4
JMST				eS	Sb	23 20 27.1	-0.3
JMM	**Marumori**	**0.66**	**338**	P	Pb	23 20 22.2	-0.6
JMM				eS	Sb	23 20 31.4	-0.4
JFT	**Otama**	**0.66**	**294**	P	Pn	23 20 23.0	0.0
JFT				S	Sn	23 20 32.2	-0.2
JHO	**Hitachi**	**0.77**	**214**	P	Pn	23 20 23.1	-1.3
JHO				eS	Sb	23 20 32.9	-1.8
JSB	**Shiboa**	**0.98**	**254**	P	Pb	23 20 28.5	+0.3
JSB				eS	Sb	23 20 41.6	+0.7
JFY	**Yanaizu**	**1.12**	**278**	P	Pb	23 20 30.2	-0.4
JFY				S	Sb	23 20 44.9	0.0
JOU	**Okura**	**1.17**	**343**	P	Pn	23 20 30.4	+0.5
JOU				S	Sb	23 20 46.2	+0.1
JIO	**Ouri**	**1.22**	**9**	P	Pn	23 20 30.5	-0.1
JIO				eS	Sn	23 20 45.6	-0.4
MAT	**Matsushiro**	**2.42**	**254**	P	Pb	23 20 50.1	-2.5
MAT				eS	Sb	23 21 21.3	-0.8

*NEIC **19** 23:25:08.8±1.4, 21°.02S±0°.07×175°.0W±0°.1, h25km±8km, mb4.7/20, Error ellipse: s-maj=15.6km s-min=5.4km az=122.0*
*IDC **19** 23:25:09.6±58.0, 20°.53S×175°.59W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/26, mbtmp4.2/3, Error ellipse: s-maj=1079.0km s-min=162.7km az=84.0*

ISC 19 23:25:09.0±1.0, 20°.98S±0°.09×175°.0W±0°.2, h27km, n30, σ1§18/29, mb4.5/11, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.11**	**69**	Pn	Pn	23 26 24.5	+0.7
MSVF	**Nonsavu**	**7.33**	**295**	Pn	**Pn**	**23 26 54.8**	**+0.4**
AFI	**Afiamalu**	**7.67**	**24**	Pn	**Pn**	**23 27 00.1**	**+1.1**
FUNA	**Funafuti**	**13.60**	**335**	Pn	**Pn**	**23 28 17.2**	**-3.0**
MXZ	**Matakaoa Point**	**17.52**	**198**	Pn	**Pn**	**23 29 09.3**	**-1.9**
MXZ				IAmb	IAmb	23 29 19.1	
	comp=Z,78nm,1.1s						
KNTN	**Kanton**	**18.38**	**10**		**Pn**	**23 29 22.2**	**+0.2**
KNTN				IAmb	IAmb	23 29 22.7	
	comp=Z,93nm,1.1s						
BKZ	**Black Stump Fm**	**19.55**	**200**	P	**Pn**	**23 29 34.9**	**-1.2**
BFZ	**Birch Farm**	**21.01**	**199**	P	**P**	**23 29 50.0**	**-0.4**
BFZ				IAmb	IAmb	23 30 05.8	
	comp=Z,35nm,1.1s						
NNZ	**Nelson**	**22.46**	**203**	P	**P**	**23 30 05.3**	**-0.6**
NNZ				IAmb	IAmb	23 30 18.8	
	comp=Z,38nm,1.1s						
FOZ	**Fox Glacier**	**25.82**	**206**	P	**P**	**23 30 37.6**	**-0.3**
LBZ	**Lake Benmore**	**26.38**	**204**	P	**P**	**23 30 43.0**	**0.0**
LBZ				IAmb	IAmb	23 30 48.8	
	comp=Z,9.9nm,1.0s						
WKZ	**Wanaka**	**27.21**	**205**	P	**P**	**23 30 49.2**	**-1.3**
MLZ	**Mavora Lakes**	**28.02**	**206**	P	**P**	**23 30 56.5**	**-1.3**
MLZ				IAmb	IAmb	23 31 09.6	
	comp=Z,11nm,1.0s						
STKA	**Stephens Creek**	**40.14**	**245**	P	**P**	**23 32 44.0**	**+1.2**
	comp=Z,1.5nm,0.4s,baz=84,slow=11,SNR=7.3						
STKA	**Stephens Creek**	**40.14**	**245**	P	**P**	**23 32 44.0**	**+1.2**
COEN	**Coen**	**40.44**	**273**	P	**P**	**23 32 45.4**	**0.0**
BBOO	**Buckleboo**	**44.88**	**244**	P	**P**	**23 33 22.0**	**+0.7**
BBOO				IAmb	IAmb	23 33 26.9	
	comp=Z,20nm,1.1s						
WR0	**Warramunga Arr**	**47.15**	**262**	P	**P**	**23 33 40.1**	**+0.8**
ASAR	**Alice Springs**	**47.16**	**257**	P	**P**	**23 33 40.7**	**+1.2**
	comp=Z,3.7nm,0.8s,baz=102,slow=8.0,SNR=27						
ASAR	**Alice Springs**	**47.16**	**257**	P	**P**	**23 33 39.5**	**0.0**
WB0	**Warramunga Arr**	**47.32**	**262**	P	**P**	**23 33 41.4**	**+0.7**
WB2	**Warramunga Arr**	**47.32**	**262**	P	**P**	**23 33 41.4**	**+0.7**
WB2				IAmb	IAmb	23 33 46.5	
	comp=Z,4.6nm,1.1s						
WRA	**Warramunga Arr**	**47.34**	**262**	P	**P**	**23 33 42.0**	**+1.1**
	comp=Z,0.9nm,0.4s,baz=94,slow=8.1,SNR=28						
WRA	**Warramunga Arr**	**47.34**	**262**	P	**P**	**23 33 40.8**	**0.0**
FORT	**Forrest**	**51.70**	**247**	P	**P**	**23 34 14.3**	**+0.3**
KNRA	**Kununurra**	**53.45**	**266**	P	**P**	**23 34 28.3**	**+1.3**
KNRA				IAmb	IAmb	23 34 31.3	
	comp=Z,5.0nm,0.8s						
FITZ	**Fitzroy Crossi**	**55.77**	**262**	P	**P**	**23 34 44.5**	**+0.6**
PSA00	**Pilbara Seismi**	**60.31**	**257**	P	**P**	**23 35 18.2**	**+2.5**
PSAA2	**Pilbara Seismi**	**60.31**	**257**	P	**P**	**23 35 15.1**	**-0.6**
PSAA2				IAmb	IAmb	23 35 18.2	
	comp=Z,8.9nm,1.1s						
PSAC3	**Pilbara Seismi**	**60.32**	**256**	P	**P**	**23 35 15.5**	**-0.3**

*SNET **19** 23:34:18.7±1.2, 13°.27N×89°.61W, h53km±9km, ML2.9*
*GCG **19** 23:34:19.4±0.5, 13°.20N×89°.72W, h66km±40km, MD3.7*

ISC 19 23:34:19.6±1.8, 13°.2N±0°.1×89°.60W±0°.05, h42km±20km, n21, σ0§90/34, 2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LALI	**Alcalda de L**	**0.38**	**47**	||eP	**Pn**	**23 34 28.8**	**-0.1**
LALI				eS	**Sn**	**23 34 36.6**	**+1.2**
LALI				IAML		23 34 37.1	
	comp=Z,268nm,0.2s						
BOQS	**Boqueron**	**0.59**	**32**	eP	**Pn**	**23 34 31.7**	**-0.2**
BOQS				eS	**Sn**	**23 34 41.1**	**+0.5**
CEVE	**Cerro Verde**	**0.59**	**358**	eP	**Pn**	**23 34 29.4**	**-2.5**
CEVE				eS	**Sn**	**23 34 40.4**	**-0.3**
CEVE				IAML		23 34 42.6	
	comp=Z,1µm,0.3s						
UEES	**Universidad Ev**	**0.60**	**36**	eP	**Pn**	**23 34 31.5**	**-0.3**
UEES				eS	**Sn**	**23 34 41.2**	**+0.7**
UEES				IAML		23 34 44.5	
	comp=Z,634nm,0.1s						
SBLS	**San Blas**	**0.60**	**358**	eP	**Pn**	**23 34 31.4**	**-0.7**
SNJE	**San Jose**	**0.63**	**360**	eP	**Pn**	**23 34 31.9**	**-0.5**
LFRS	**El Faro**	**0.66**	**53**	eP	**Pn**	**23 34 32.4**	**-0.2**
LFRS				eS	**Sn**	**23 34 42.2**	**+0.2**
RTR	**El Retiro**	**0.66**	**356**	eP	**Pn**	**23 34 32.3**	**-0.5**
RTR				eS	**Sn**	**23 34 42.2**	**-0.1**
NUBE	**Las Nubes**	**0.69**	**346**	||eP	**Pn**	**23 34 32.5**	**-0.7**
NUBE				eS	**Sn**	**23 34 42.0**	**-0.8**
NUBE				IAML		23 34 43.4	
	comp=Z,654nm,0.2s						
LBRS	**Las Brisas**	**0.74**	**47**	eP	**Pn**	**23 34 33.7**	**-0.1**
LBRS				eS	**Sn**	**23 34 44.0**	**0.0**
PAVA	**Las Pavas**	**0.81**	**53**	eP	**Pn**	**23 34 34.7**	**0.0**
PAVA				eS	**Sn**	**23 34 46.7**	**+1.2**
PAVA				IAML		23 34 50.8	
	comp=Z,248nm,0.3s						
COEB	**Comit de Eme**	**1.08**	**76**	eP	**Pn**	**23 34 37.6**	**-0.8**
TECA	**Tecapa**	**1.10**	**76**	eP	**Pn**	**23 34 38.1**	**-0.7**
MTO3	**Montecristo**	**1.19**	**11**	eP	**Pn**	**23 34 39.2**	**-0.8**
IXG	**Ixpaco**	**1.24**	**319**	eP	**Pn**	**23 34 40.7**	**0.0**
IXG				eS	**Sn**	**23 34 57.9**	**+1.5**
IXG	**Ixpaco**	**1.24**	**319**	eP	**Pn**	**23 34 39.5**	**-1.2**
JUCU	**Jucuarįn**	**1.32**	**89**	eP	**Pn**	**23 34 40.9**	**-0.8**
JUCU				eS	**Sn**	**23 34 58.3**	**+0.2**
NBG	**Las Nubes**	**1.53**	**332**	eP	**Pn**	**23 34 45.7**	**+0.9**
NBG				eS	**Sn**	**23 35 05.6**	**+2.0**
LCND	**La Caada**	**1.67**	**87**	eP	**Pn**	**23 34 46.0**	**-0.4**
FUG	**Fuego 3**	**1.71**	**315**	eP	**Pn**	**23 34 47.0**	**-0.1**
FUG				eS	**Sn**	**23 35 07.3**	**-0.5**
MRL	**Marmol**	**1.84**	**358**	eP	**Pn**	**23 34 48.7**	**-0.3**

*NEIC **19** 23:52:47.2±1.0, 59°.44N±0°.04×152°.81W±0°.07, h81km±5km, Error ellipse: s-maj=6.3km s-min=4.0km az=140.0*

AEIC 19 23:52:48±1.7, 59°.42N±0°.02×152°.80W±0°.07, h72km±5km, ML2.6, Error ellipse: s-maj=5.4km s-min=2.1km az=102.0, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AU22	**Augustine Moun**	**0.29**	**260**		Pn	23 52 59.6	+0.2
AU22					Sn	23 53 08.8	+1.1
AUJK	**Augustine Jueg**	**0.32**	**257**		Pn	23 52 59.9	+0.3
AUP	**Augustine Pinn**	**0.33**	**259**		Pn	23 53 00.0	+0.3
AUH	**Augustine H**	**0.34**	**260**		Pn	23 52 59.7	-0.1
ILS	**Iliamna Low So**	**0.55**	**346**		Pn	23 53 01.2	-0.5
IVE	**Iliamna Volcan**	**0.61**	**350**		Pn	23 53 01.6	-0.6
HOM	**Homer**	**0.63**	**68**		Sn	23 53 14.3	+1.4
HOM	**Homer**	**0.63**	**68**		Pn	23 53 02.6	+0.2
ILW	**Iliamna West**	**0.66**	**345**		Pn	23 53 02.6	-0.3
ILW					Sn	23 53 13.6	-0.2
CNPM	**China Poot**	**0.80**	**82**		Pn	23 53 04.2	-0.1
CNPM	**China Poot**	**0.80**	**82**		Sn	23 53 17.2	+0.8
CNPM	**China Poot**	**0.80**	**82**		Sn	23 53 17.3	+0.9
BRLK	**Bradley Lake**	**1.03**	**70**		Pn	23 53 06.5	-0.5
BRLK					Sn	23 53 21.6	+0.4
RSO	**Redoubt South**	**1.04**	**1**		Pn	23 53 06.7	-0.6
RDWB	**Redoubt West**	**1.07**	**359**		Pn	23 53 06.9	-0.7
RDWB					Sn	23 53 21.7	-0.5
BRSE	**Bradley Lake S**	**1.09**	**72**		Pn	23 53 07.5	-0.3
BRSE					Sn	23 53 23.2	+0.6
RDT	**Redoubt**	**1.17**	**9**		Pn	23 53 08.2	-0.6
RDJH	**Redoubt Jeurge**	**1.17**	**360**		Pn	23 53 08.3	-0.6
KAHG	**Katmai Hook Gl**	**1.30**	**225**		Pn	23 53 10.5	0.0
KARR	**Katmai Rainbow**	**1.35**	**228**		Pn	23 53 11.2	+0.1
KAHC	**Katmai Hardscr**	**1.38**	**237**		Pn	23 53 11.2	-0.4
KAHC					Sn	23 53 28.3	-1.0
KAWH	**Katmai**	**1.47**	**226**		Pn	23 53 12.6	-0.1
KDAK	**Kodiak Island**	**1.65**	**176**		Pn	23 53 14.4	-0.5
KDAK	**Kodiak Island**	**1.65**	**176**	Pn	Pn	23 53 14.2	-0.7
SLKM	**Skilak Lake**	**1.69**	**49**		Pn	23 53 15.4	-0.2
SLKM					Sn	23 53 36.4	-0.1
SPCR	**Spurr Chakacha**	**1.81**	**9**		Sn	23 53 16.8	-0.4
CKT	**Bend**	**1.81**	**9**		Pn	23 53 16.8	-0.3
KELA	**Mount Kelaz**	**1.82**	**238**		Sn	23 53 38.9	-0.6
SEW	**Seward**	**1.82**	**67**		Sn	23 53 38.2	-1.3
SEW	**Seward**	**1.82**	**67**		Pn	23 53 16.7	-0.6
SPBG	**Spurr Blockage**	**1.85**	**6**		Pn	23 53 17.5	-0.3
O22K	**Cooper Landing**	**1.88**	**54**		Sn	23 53 40.2	-0.5
CAHL	**Cahill**	**1.90**	**225**		Pn	23 53 18.7	+0.4
SPCG	**Spurr Capps Gl**	**1.92**	**11**		Pn	23 53 18.3	-0.3
SPCG					Sn	23 53 42.1	+0.2
SPNN	**North Nagishla**	**1.95**	**1**		Pn	23 53 18.9	-0.2
STLK	**Strandline Lak**	**2.14**	**13**		Pn	23 53 21.3	-0.3
SVW2	**Sparrevohn**	**2.18**	**322**		Pn	23 53 21.2	-0.9
SVW2					Sn	23 53 46.6	-1.4
OHAK	**Old Harbor**	**2.22**	**187**		Pn	23 53 21.8	-0.8
RC01	**Rabbit Creek A**	**2.26**	**41**		Sn	23 53 49.1	-1.0
RC01	**Rabbit Creek A**	**2.26**	**41**		Pn	23 53 22.6	-0.6
PWL	**Port Wells**	**2.66**	**55**		Pn	23 53 27.2	-1.3
KNIK	**Knik Glacier**	**2.94**	**45**		Sn	23 54 03.9	-2.6
KNK	**Knik Glacier**	**2.94**	**45**		Pn	23 53 30.8	-1.5
GHO	**Glory Hole Cre**	**3.03**	**37**		Pn	23 53 32.6	-1.0
GHO	**Glory Hole Cre**	**3.03**	**37**		Sn	23 54 06.1	-2.8
GLI	**Glacier Island**	**3.20**	**60**		Pn	23 53 33.8	-2.2
SML	**Sawmill**	**3.25**	**41**		Pn	23 53 35.7	-0.9
MID	**Middleton Isla**	**3.30**	**87**		Pn	23 53 36.5	-0.7
HIN	**Hinchinbrook I**	**3.32**	**70**		Pn	23 53 36.0	-1.5
FID	**Port Fidalgo**	**3.43**	**64**		Sn	23 54 13.7	-4.8
FID	**Port Fidalgo**	**3.43**	**64**		Pn	23 53 36.5	-2.6
PPLA	**Purkeypile**	**3.50**	**5**		Pn	23 53 40.2	+0.1
EYAK	**Cordova Ski Ar**	**3.72**	**69**		Pn	23 53 42.2	-0.7
TT01	**Tatalina**	**3.83**	**337**		Pn	23 53 43.9	-0.5
TTA	**Tatalina**	**3.85**	**338**		Pn	23 53 44.1	-0.7
CHIR	**Chirikof Islan**	**3.92**	**204**	Pn	Pn	23 53 44.4	-1.2
WAT1	**Susitna Watana**	**3.99**	**29**		Pn	23 53 46.1	-0.5
WAT6	**Susitna Watana**	**4.01**	**36**		Pn	23 53 46.3	-0.8
WAT2	**Susitna Watana**	**4.09**	**28**		Pn	23 53 47.8	-0.4
RND	**Reindeer**	**4.42**	**24**		Pn	23 53 52.0	-0.6
DHY	**Denali Highway**	**4.50**	**33**		Pn	23 53 53.0	-0.8
BERG	**Berg Lake**	**4.68**	**74**		Pn	23 53 55.1	-0.9
BPAW	**Bear Paw Mtn.**	**4.77**	**10**		Pn	23 53 56.9	-0.4
GLB	**Gilahina Butte**	**4.89**	**62**		Pn	23 53 57.5	-1.5
VRDI	**Verde Repeater**	**4.99**	**65**		Pn	23 53 59.5	-0.9
CRQM	**Cirque**	**5.02**	**70**		Pn	23 53 59.7	-1.1
WAX	**Waxell Ridge**	**5.11**	**74**		Pn	23 54 01.3	-0.7
KIAG	**Kiagna River**	**5.42**	**69**		Pn	23 54 05.3	-1.0
PTPK	**Patty Peak**	**5.43**	**67**		Pn	23 54 05.5	-1.0
BALM	**Baldy**	**5.46**	**68**		Pn	23 54 05.7	-1.1
NEA2	**Nenana**	**5.48**	**17**		Pn	23 54 05.2	-1.7
MESA	**MESA**	**5.53**	**77**		Pn	23 54 07.1	-0.7
WRH	**Wood River Hil**	**5.53**	**22**		Pn	23 54 06.6	-1.0
YAH	**Yahtse**	**5.64**	**76**		Pn	23 54 09.3	-0.1
HDA	**Harding Lake**	**5.71**	**26**		Pn	23 54 09.4	-0.7
CCB	**Clear Creek Bu**	**5.74**	**22**		Pn	23 54 09.2	-1.3
RIDG	**Independent Ri**	**5.76**	**38**		Pn	23 54 10.2	-0.5
RKAV	**Rock Avalanche**	**5.84**	**76**		Pn	23 54 11.5	-0.5
COLA	**College**	**5.94**	**21**		Pn	23 54 12.1	-1.1
IL31		**6.04**	**25**		Pn	23 54 13.3	-1.2
LOGN	**Logan Glacier**	**6.06**	**72**		Pn	23 54 14.2	-0.8
POKR	**Poker Plat Res**	**6.24**	**21**		Pn	23 54 15.8	-1.5
YUK2	**White River**	**6.34**	**63**		Pn	23 54 18.1	-0.8
PCA	**Pinnacle**	**6.37**	**79**		Pn	23 54 18.9	-0.3
BC03		**6.45**	**51**		Pn	23 54 19.8	-0.3
IM03		**6.60**	**357**		Pn	23 54 21.7	-0.4
PNL	**Peninsula**	**6.82**	**82**		Pn	23 54 24.0	-1.2
PRP	**Porcupine Dome**	**6.98**	**26**		Pn	23 54 26.4	-1.2

IDC 20 00:30:11.7±2.9, 7°.36S×129°.45E, h99km±39km, mb3.7/1, mb1 3.8/5, mb1mx3.4/35, mbtmp4.0/5, Error ellipse: s-maj=63.1km s-min=23.4km az=92.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**6.70**	**16**	P	Pn	00 31 47.6	0.0
SIJI	1.9nm,0.3s,baz=177,slow=19,SNR=2.0			S	Sn	00 32 56.4	-6.1
FITZ	1.5nm,0.3s,baz=191,slow=23,SNR=1.7 **Fitzroy Crossi**	**11.30**	**199**	P	Pn	00 32 50.4	+0.2
FITZ	1.9nm,0.3s,baz=34,slow=15,SNR=16			S	Sn	00 34 47.7	-6.8
WRA	1.7nm,0.3s,baz=96,slow=9.8,SNR=3.7 **Warramunga Arr**	**13.38**	**160**	P	Pn	00 33 16.5	-1.1
WRA	0.4nm,0.3s,baz=338,slow=13,SNR=12			S	Sn	00 35 34.4	-10
ASAR	1.2nm,0.3s,baz=331,slow=22,SNR=8.5 **Alice Springs**	**16.77**	**166**	P	P	00 34 01.6	+0.4
ASAR	0.5nm,0.3s,baz=342,slow=9.3,SNR=9.8			S	Sn	00 36 58.0	-8.9
MKAR	0.3nm,0.3s,baz=263,slow=32,SNR=5.1 **Makanchi Array**	**68.23**	**327**	P	P	00 41 01.7	0.0
	0.8nm,0.4s,baz=118,slow=7.8,SNR=8.6						

*AEIC **20** 00:30:45.0±1.6, 67°.67N±0°.03×162°.4W±0°.1, h21km±4km, ML3.9/31, mb4.3/17(NEIC), Error ellipse: s-maj=6.9km s-min=4.8km az=89.0*
*IDC **20** 00:30:44.3±0.6, 67°.87N×162°.38W, h0km, mb4.1/21, mb1 4.3/24, mb1mx4.2/39, mbtmp4.1/24, ML4.1/3, MS3.2/1, Ms1 3.2/1, ms1mx2.5/34, Error ellipse: s-maj=18.1km s-min=10.7km az=25.0*
*NEIC **20** 00:30:45.8±1.4, 67°.68N±0°.06×162°.35W±0°.08, h15km±4km, Error ellipse: s-maj=9.5km s-min=3.7km az=166.0*

ISC 20 00:30:45.0±0.4, 67°.69N±0°.05×162°.27W±0°.04, h10km, n108, σ1§02/111, mb4.2/29, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**0.44**	**327**		**Pg**	**00 30 54.0**	**+0.4**
RDOG					**Sg**	**00 31 01.1**	**+1.6**
ANM	**Nome**	**3.38**	**203**	Pn	**Pn**	**00 31 37.3**	**-0.5**
ANM				Pg	**Pb**	**00 31 47.1**	**+2.2**
ANM	**Nome**	**3.38**	**203**		**Sn**	**00 32 14.6**	**-3.3**
IM03		**3.77**	**113**		**Pn**	**00 31 43.0**	**-0.2**
IMAR	**Indian Mountai**	**3.77**	**113**	Pn	**Pn**	**00 31 43.1**	**-0.1**
IMAR					**Sn**	**00 32 26.6**	**-1.0**
COLD	**Coldfoot**	**4.67**	**90**		**Pn**	**00 31 55.7**	**+0.3**
TOLK	**Toolik Lake Re**	**4.83**	**73**		**Pn**	**00 31 59.2**	**+1.4**
TOLK					**Sn**	**00 32 54.5**	**+0.7**
PS04	**TAPS Pump Stn4**	**4.90**	**75**		**Pn**	**00 31 59.8**	**+1.1**
MLY	**Manley**	**5.35**	**114**	Pn	**Pn**	**00 32 05.4**	**+0.5**
TTA	**Tatalina**	**5.45**	**148**		**Pn**	**00 32 05.9**	**-0.3**
TT01	**Tatalina**	**5.47**	**148**		**Pn**	**00 32 06.2**	**-0.3**
GAMB	**Gambell**	**5.53**	**229**	Pn	**Pn**	**00 32 07.0**	**-0.2**
PS01	**TAPS Pump Stn**	**5.55**	**56**		**Pn**	**00 32 08.3**	**+0.8**
BPAW	**Bear Paw Mtn.**	**5.86**	**123**		**Pn**	**00 32 12.2**	**+0.5**
PS07	**TAPS Pump Stn7**	**6.08**	**107**		**Pn**	**00 32 15.4**	**+0.6**
MDM	**Murphy Dome**	**6.28**	**109**		**Pn**	**00 32 18.0**	**+0.4**
PPLA	**Purkeypile**	**6.39**	**134**		**Pn**	**00 32 20.1**	**+0.8**
PPLA	**Purkeypile**	**6.39**	**134**	Sn	**Sn**	**00 33 31.6**	**-0.7**

TCOL	**CIGO, UAF Yank**	**6.46**	**109**		**Pn**	**00 32 21.1**	**+1.1**
COLA	**College**	**6.46**	**109**		**Pn**	**00 32 20.7**	**+0.7**
COLA	**College**	**6.46**	**109**		**Sn**	**00 33 35.5**	**+1.9**
POKR	**Poker Plat Res**	**6.49**	**106**		**Pn**	**00 32 20.6**	**+0.2**
CCB	**Clear Creek Bu**	**6.60**	**111**		**Pn**	**00 32 22.3**	**+0.4**
WRH	**Wood River Hil**	**6.60**	**113**		**Pn**	**00 32 22.5**	**+0.5**
FYU	**Fort Yukon**	**6.73**	**92**	Pn	**Pn**	**00 32 24.1**	**+0.4**
BM03	**Burnt Mountain**	**6.76**	**84**		**Pn**	**00 32 24.7**	**+0.5**
BMAR	**Burnt Mountain**	**6.77**	**84**	Pn	**Pn**	**00 32 24.4**	**0.0**
MCK	**McKinley**	**6.77**	**120**	Pn	**Pn**	**00 32 24.6**	**+0.3**
IL31		**6.86**	**108**		**Pn**	**00 32 26.0**	**+0.5**
ILAR	**Eielson Array**	**6.86**	**108**	Pn	**Pn**	**00 32 24.6**	**-0.9**
	9.5nm,0.3s,baz=301,slow=14,SNR=426						
ILAR				Sn	**Sn**	**00 33 42.1**	**-1.6**
	5.3nm,0.3s,baz=284,slow=19,SNR=9.1						
PS08	**TAPS Pump Stn8**	**7.01**	**109**		**Pn**	**00 32 28.3**	**+0.7**
RND	**Reindeer**	**7.02**	**121**		**Pn**	**00 32 28.5**	**+0.7**
SVW2	**Sparrevohn**	**7.22**	**153**		**Pn**	**00 32 30.5**	**0.0**
DHY	**Denali Highway**	**7.74**	**120**		**Pn**	**00 32 38.6**	**+0.9**
RIDG	**Independent Ri**	**8.18**	**111**		**Pn**	**00 32 44.5**	**+0.8**
GHO	**Glory Hole Cre**	**8.22**	**130**		**Pn**	**00 32 45.2**	**+1.0**
PMR	**Palmer**	**8.30**	**131**	Pn	**Pn**	**00 32 46.4**	**+1.1**
RSO	**Redoubt South**	**8.35**	**146**		**Pn**	**00 32 46.6**	**+0.5**
SCRK	**Sand Creek**	**8.36**	**108**	Pn	**Pn**	**00 32 46.9**	**+0.8**
PAX	**Paxson**	**8.45**	**116**		**Pn**	**00 32 48.2**	**+0.8**
DOT	**Dot Lake**	**8.52**	**110**	Pn	**Pn**	**00 32 48.1**	**-0.2**
RC01	**Rabbit Creek A**	**8.54**	**135**	Pn	**Pn**	**00 32 49.5**	**+0.9**
KNIK	**Knik Glacier**	**8.54**	**130**	Pn	**Pn**	**00 32 50.5**	**+0.6**
EGAK	**Eagle**	**8.99**	**99**		**Pn**	**00 32 54.9**	**+0.2**
MENT	**Mentasta**	**9.08**	**113**	Pn	**Pn**	**00 32 55.5**	**-0.4**
HOM	**Homer**	**9.32**	**145**	Pn	**Pn**	**00 32 58.8**	**-0.4**
GLI	**Glacier Island**	**9.47**	**129**		**Pn**	**00 33 00.5**	**-0.8**
CNPM	**China Poot**	**9.53**	**144**	Pn	**Pn**	**00 33 02.9**	**+0.8**
BCAR	**Beaver Creek A**	**9.69**	**109**		**Pn**	**00 33 03.8**	**-0.5**
FID	**Port Fidalgo**	**9.75**	**128**		**Pn**	**00 33 04.8**	**-0.3**
DAWY	**Dawson**	**10.01**	**100**		**Pn**	**00 33 09.5**	**+0.8**
HIN	**Hinchinbrook I**	**10.03**	**129**	Pn	**Pn**	**00 33 08.8**	**-0.1**
EPYK	**Eagle Plains**	**10.04**	**86**	Pn	**Pn**	**00 33 09.6**	**+0.5**
GLB	**Gilahina Butte**	**10.08**	**120**	Pn	**Pn**	**00 33 10.5**	**+0.9**
EYAK	**Cordova Ski Ar**	**10.13**	**127**	Pn	**Pn**	**00 33 10.4**	**+0.1**
VRDI	**Verde Repeater**	**10.35**	**120**	Pn	**Pn**	**00 33 14.7**	**+1.2**
MCARA	**McCarthy VSAT**	**10.38**	**118**	Pn	**Pn**	**00 33 14.4**	**+0.6**
RAGM	**Ragged Mountai**	**10.59**	**125**	Pn	**Pn**	**00 33 17.5**	**+0.8**
INK	**Inuvik**	**10.75**	**73**	Pn	**Pn**	**00 33 17.5**	**-1.2**
	2.1nm,0.3s,baz=292,slow=11,SNR=31						
INK				Sn	**Sn**	**00 35 12.7**	**-6.2**
	1.9nm,0.3s,baz=74,slow=26,SNR=5.7						
INK	**Inuvik**	**10.75**	**73**	Pn	**Pn**	**00 33 17.6**	**-1.1**
CRQM	**Cirque**	**10.80**	**121**	Pn	**Pn**	**00 33 19.9**	**+0.2**
KDAK	**Kodiak Island**	**10.87**	**151**	Pn	**Pn**	**00 33 20.2**	**-0.2**
	0.2nm,0.3s,baz=237,slow=21,SNR=3.2						
KDAK	**Kodiak Island**	**10.87**	**151**	Pn	**Pn**	**00 33 21.5**	**+1.1**
BILL	**Bilibino**	**11.80**	**286**		**Pn**	**00 33 32.4**	**-0.7**
YKA	**Yellowknife Ar**	**20.29**	**82**	P	**P**	**00 35 20.0**	**-0.4**
	3.8nm,0.7s,baz=303,slow=10,SNR=13						
RES	**Resolute Bay**	**21.56**	**42**	P	**P**	**00 35 33.4**	**-0.6**
	2.3nm,0.7s,baz=283,slow=9.0,S

NUBE	**Las Nubes**	**1.81**	**85**	*eP*		**Pb**	**00 32 12.3**	**-0.3**
NUBE				IAML			00 32 14.0	
	comp=Z,212nm,0.4s							
NUBE				*eS*		**Sn**	**00 32 32.5**	**-1.5**
CEVE	**Cerro Verde**	**1.96**	**88**	*eP*		**Pn**	**00 32 12.8**	**-0.1**
CEVE				*eS*		**Sn**	**00 32 36.6**	**-1.1**
SNJE	**San Jose**	**1.98**	**87**	*eP*		**Pb**	**00 32 15.4**	**-0.1**
LALI	**Alcalda de L**	**2.27**	**97**	*eP*		**Pn**	**00 32 19.2**	**+2.3**
LALI				IAML			00 32 19.8	
	comp=Z,53nm,0.2s							
MTO3	**Montecristo**	**2.30**	**74**	*eP*		**Pn**	**00 32 18.3**	**+0.7**
LFRS	**El Faro**	**2.50**	**93**	*eP*		**Pb**	**00 32 23.0**	**-1.5**

UPA ***20*** *00:37:15.9±1.1,7.47N×77.07W, h17km±11km, MW3.9*
RSNC ***20*** *00:37:16.4±1.1,7.47N×77.08W, h26km±10km, ML2.7*

ISC 20 00:37:15.4±2.1,**7.48N**±0.03×**77.07W**±0.02,**h19**km±14km,
n34,σ1§**18**/60,**1C**,**Panama-Colombia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.81**	**246**	*eP*	**Pb**	**00 37 30.3**	**-0.5**
PTAC				*eS*	**Sb**	**00 37 41.7**	**+0.3**
PTAC	**Punta Ardita,**	**0.81**	**246**	*eP*	**Pb**	**00 37 30.4**	**-0.5**
PTAC				*eS*	**Sb**	**00 37 41.8**	**+0.3**
CAPC	**Capurgana**	**1.19**	**346**	*eP*	**Pn**	**00 37 35.9**	**-1.2**
CAPC				*i*		00 37 59.0	
	comp=Z,316nm,0.3s						
CAP2	**Capurgana**	**1.20**	**346**	*eP*	**Pn**	**00 37 36.7**	**-0.6**
CAP2				*eS*	**Sb**	**00 37 52.0**	**-0.9**
UPD2	**Meteti**	**1.42**	**319**	*eP*	**Pn**	**00 37 40.3**	**0.0**
UPD2	**Meteti**	**1.42**	**319**	*eP*	**Pb**	**00 37 41.5**	**+0.1**
UPD2				*eS*	**Sn**	**00 37 58.5**	**0.0**
LCBC	**Los crdobas,**	**1.54**	**27**	*eP*	**Pb**	**00 37 43.3**	**0.0**
LCBC				*eS*	**Sg**	**00 38 05.2**	**0.0**
UREC	**San Jos de Ur**	**1.54**	**80**	*eP*	**Pn**	**00 37 41.8**	**-0.2**
UREC				*eS*	**Sn**	**00 38 01.1**	**-0.4**
UREC				*i*		00 38 05.0	
	comp=Z,76nm,0.3s						
CBOC	**Ciudad Bolivar**	**1.91**	**147**	*eP*	**Pn**	**00 37 45.3**	**-1.9**
CBOC				*eS*	**Sn**	**00 38 10.5**	**-0.4**
CBOC				*i*		00 38 15.6	
	comp=Z,37nm,0.3s						
HELC	**Santa Helena**	**1.99**	**130**	*eP*	**Pn**	**00 37 48.0**	**-0.5**
HELC				*eS*	**Sn**	**00 38 13.1**	**0.0**
HELC				*i*		00 38 18.9	
	comp=Z,31nm,0.5s						
HELC	**Santa Helena**	**1.99**	**130**	*eP*	**Pn**	**00 37 48.7**	**+0.3**
HELC				*eS*	**Sn**	**00 38 14.7**	**+1.7**
ZARC	**Zaragoza, Cauc**	**2.19**	**89**	*eP*	**Pn**	**00 37 50.5**	**-0.3**
ZARC				*eS*	**Sn**	**00 38 16.7**	**-0.8**
ZARC				*i*		00 38 21.0	
	comp=Z,98nm,0.4s						
CNTA3	**Canitas, Panam**	**2.50**	**314**	*eS*	**Sn**	**00 38 27.6**	**+2.4**
CHPO	**Chepo, Panama**	**2.64**	**310**	*eS*	**Sn**	**00 38 30.0**	**+1.5**
PTBC	**PUERTO BERRIO,**	**2.75**	**110**	*eP*	**Pn**	**00 37 59.1**	**+0.5**
PTBC				*eS*	**Sn**	**00 38 30.1**	**-1.3**
PTBC				*i*		00 38 41.2	
	comp=Z,32nm,0.6s						
GUY2C	**Guyana, Caldas**	**2.80**	**143**	*eP*	**Pn**	**00 38 00.0**	**+0.3**
GUY2C				*eS*	**Sn**	**00 38 32.8**	**-0.5**
GUY2C				*i*		00 38 41.7	
	comp=Z,18nm,0.6s						
UPA	**Univ. de Panam**	**2.87**	**302**	*eS*	**Sn**	**00 38 34.1**	**-0.1**
NORC	**Norcasia**	**2.89**	**131**	*eP*	**Pn**	**00 38 02.3**	**+1.7**
NORC				*eS*	**Sn**	**00 38 33.5**	**-1.5**
NORC				*i*		00 38 46.2	
	comp=Z,17nm,0.5s						
CHOR3	**La Chorrera**	**3.02**	**298**	*eS*	**Sn**	**00 38 38.4**	**+0.3**
SJCC	**San Jacinto, C**	**3.04**	**38**	*eP*	**Pn**	**00 38 02.5**	**-0.2**
SJCC				*eS*	**Sn**	**00 38 37.7**	**-1.0**
SJCC				*i*		00 38 47.5	
	comp=Z,11nm,0.4s						
SJCC	**San Jacinto, C**	**3.04**	**38**	*eP*	**Pn**	**00 38 03.0**	**+0.3**
SJCC				*eS*	**Sn**	**00 38 38.0**	**-0.7**
RREF	**El Recreo**	**3.08**	**146**	*eP*	**Pn**	**00 38 04.8**	**+1.2**
RREF				*eS*	**Sn**	**00 38 40.3**	**0.0**
RREF				*i*		00 38 44.9	
	comp=Z,16nm,0.5s						
ZANG	**Zanguenga, Cho**	**3.14**	**298**	*eP*	**Pn**	**00 38 04.0**	**0.0**
ZANG				*eS*	**Sn**	**00 38 42.5**	**+1.6**
AZU	**Azuero**	**3.20**	**276**	*eP*	**Pn**	**00 38 05.4**	**+0.7**
AZU				*eS*	**Sn**	**00 38 40.4**	**-2.0**
BCIP	**Isla Barro Col**	**3.22**	**302**	*eP*	**Pn**	**00 38 04.4**	**-0.6**
BCIP				*eS*	**Sn**	**00 38 41.9**	**-1.0**
BCIP	**Isla Barro Col**	**3.22**	**302**	*eP*	**Pn**	**00 38 05.7**	**+0.7**
BCIP				*eS*	**Sn**	**00 38 44.7**	**+1.9**
VTON	**El Valle, Cocl**	**3.22**	**291**	*eP*	**Pn**	**00 38 05.7**	**+0.5**
VTON				*eS*	**Sn**	**00 38 43.1**	**0.0**
BRRC	**Barranca, Sant**	**3.35**	**96**	*eP*	**Pn**	**00 38 08.9**	**+2.1**
BRRC				*eS*	**Sn**	**00 38 46.0**	**-0.1**
BRRC				*i*		00 38 51.2	
	comp=Z,22nm,0.3s						
SPBC	**San Pablo de B**	**3.48**	**121**	*eP*	**Pn**	**00 38 10.4**	**+1.7**
SPBC				*eS*	**Sn**	**00 38 52.6**	**+3.1**
YOTC	**Yotoco, Valle**	**3.54**	**168**	*eP*	**Pn**	**00 38 06.9**	**-2.7**
YOTC				*eS*	Sn	00 38 42.6	-8.5
YOTC				*i*		00 38 47.6	
	comp=Z,10.0nm,0.4s						
OCAC	**Ocana**	**3.79**	**78**	*eP*	**Pn**	**00 38 13.0**	**0.0**
OCAC				*eS*	**Sn**	**00 38 56.0**	**-1.2**
OCAC				*i*		00 38 59.2	
	comp=Z,21nm,0.3s						
BARC	**Barichara**	**3.95**	**103**	*eP*	**Pn**	**00 38 17.6**	**+2.3**
BARC				*eS*	**Sn**	**00 39 01.1**	**-0.3**
ORTC	**Ortega, Tolima**	**3.98**	**153**	*eP*	**Pn**	**00 38 16.8**	**+1.3**
PAMC	**Pamplona, Colo**	**4.33**	**92**	*eP*	**Pn**	**00 38 22.5**	**+1.7**
PAMC				*eS*	**Sn**	**00 39 10.2**	**-0.9**
PAMC				*i*		00 39 14.3	
	comp=Z,32nm,0.4s						

IDC ***20*** *00:42:10.2±3.6,67.78N×163.16W, h0km, mb3.4/4,*
mb1 4.0/6, mb1mx3.6/36, mbtmp3.6/6, ML3.7/2, Error
ellipse: s-maj=66.7km s-min=50.9km az=6.0
AEIC ***20*** *00:42:13±1.2,67.74N±0.06×162.1W±0.1, h6km±8km,*
ML3.1, Error ellipse: s-maj=9.0km s-min=7.9km az=206.0
NEIC ***20*** *00:42:14.8±1.4,67.79N±0.07×162.4W±0.2, h36km±9km,*
Error ellipse: s-maj=11.1km s-min=7.1km az=150.0

ISC 20 00:42:14.1±0.8,**67.83N**±0.07×**161.92W**±0.06,**h10**km,**n37**,
σ1§**24**/40,**mb3.4**/3,**Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.44**	**302**	Pg	**Pg**	**00 43 21.7**	**-0.9**
RDOG				Sg	**Sg**	**00 42 28.7**	**+0.3**
ANM	**Nome**	**3.56**	**205**	Pn	**Pn**	**00 43 07.5**	**-1.8**
ANM				Pg	**Pb**	**00 43 17.2**	**+0.2**
IMAR	**Indian Mountai**	**3.71**	**116**		**Pn**	**00 43 11.4**	**0.0**
TOLK	**Toolik Lake Re**	**4.67**	**74**	Pn	**Pn**	**00 43 27.1**	**+2.6**
TTA	**Tatalina**	**5.50**	**151**		**Pn**	**00 43 35.9**	**-0.1**
BPAW	**Bear Paw Mtn.**	**5.82**	**125**		**Pn**	**00 43 41.5**	**+1.1**
MDM	**Murphy Dome**	**6.20**	**111**	Pn	**Pn**	**00 43 45.8**	**+0.2**
COLA	**College**	**6.38**	**111**		**Pn**	**00 43 47.8**	**-0.2**
PPLA	**Purkeypile**	**6.40**	**136**	Pn	**Pn**	**00 43 47.7**	**-0.7**
TRF	**Thorofare Moun**	**6.51**	**127**		**Pn**	**00 43 49.1**	**-0.8**
CCB	**Clear Creek Bu**	**6.53**	**113**		**Pn**	**00 43 50.4**	**+0.4**
WRH	**Wood River Hil**	**6.54**	**114**		**Pn**	**00 43 50.0**	**-0.1**
FYU	**Fort Yukon**	**6.61**	**93**	Pn	**Pn**	**00 43 51.9**	**+0.9**
BMAR	**Burnt Mountain**	**6.63**	**85**		**Pn**	**00 43 52.5**	**+1.1**
MCK	**McKinley**	**6.73**	**121**		**Pn**	**00 43 50.3**	**-2.5**
IL31		**6.79**	**110**		**Pn**	**00 43 53.7**	**+0.2**
ILAR	**Eielson Array**	**6.79**	**110**	Pn	**Pn**	**00 43 53.6**	**+0.1**
	1.8nm,0.3s,baz=303,slow=14,SNR=133						
ILAR				Sn	**Sn**	**00 45 11.2**	**+0.5**
	0.5nm,0.3s,baz=150,slow=31,SNR=6.0						
ILAR	**Eielson Array**	**6.79**	**110**		**Pn**	**00 43 53.9**	**+0.4**
PRP	**Porcupine Dome**	**6.91**	**102**	Pn	**Pn**	**00 43 55.4**	**0.0**
HDA	**Harding Lake**	**6.97**	**112**		**Pn**	**00 43 56.0**	**-0.1**
RND	**Reindeer**	**6.99**	**123**		**Pn**	**00 43 55.8**	**-0.6**
SVW2	**Sparrevohn**	**7.29**	**155**		**Pn**	**00 43 60.0**	**-0.4**
DHY	**Denali Highway**	**7.70**	**121**		**Pn**	**00 44 07.3**	**+1.1**
RIDG	**Independent Ri**	**8.11**	**112**	Pn	**Pn**	**00 44 12.3**	**+0.5**
GHO	**Glory Hole Cre**	**8.21**	**132**	Pn	**Pn**	**00 44 12.1**	**-1.1**
SCRK	**Sand Creek**	**8.28**	**109**		**Pn**	**00 44 13.7**	**-0.4**
PAX	**Paxson**	**8.40**	**118**	Pn	**Pn**	**00 44 15.1**	**-0.6**
DOT	**Dot Lake**	**8.45**	**111**		**Pn**	**00 44 16.1**	**-0.2**
HOM	**Homer**	**9.36**	**146**	Pn	**Pn**	**00 44 27.8**	**-1.0**
BCAR	**Beaver Creek A**	**9.62**	**110**		**Pn**	**00 44 32.3**	**0.0**
FID	**Port Fidalgo**	**9.74**	**129**	Pn	**Pn**	**00 44 33.9**	**-0.1**
EPYK	**Eagle Plains**	**9.90**	**87**		**Pn**	**00 44 36.6**	**+0.4**
INK	**Inuvik**	**10.59**	**74**	Pn	**Pn**	**00 44 45.5**	**0.0**
	0.2nm,0.3s,baz=298,slow=12,SNR=4.6						
INK				Sn	**Sn**	**00 46 38.8**	**-5.1**
	0.1nm,0.3s,baz=327,slow=26,SNR=1.4						
YKA	**Yellowknife Ar**	**20.14**	**82**	P	Pn	00 46 49.0	-0.7
	0.6nm,0.6s,baz=300,slow=9.7,SNR=2.9						
PDAR	**Pinedale Array**	**37.19**	**105**	P	**P**	**00 49 26.6**	**+1.3**
	0.2nm,0.5s,baz=341,slow=9.6,SNR=2.1						
NVAR	**Mina Array Bea**	**37.95**	**118**	P	**P**	**00 49 32.7**	**+1.0**
	0.4nm,0.5s,baz=334,slow=7.5,SNR=4.2						
TXAR	**Lajitas Array**	**51.30**	**108**	P	**P**	**00 51 19.0**	**+0.9**
	0.7nm,0.7s,baz=334,slow=6.2,SNR=9.1						

IDC ***20*** *01:06:21.5±1.6,63.28N×149.52W, h80km±14km, mb3.8/23,*
mb1 4.0/27, mb1mx3.9/45, mbtmp4.2/27, MS2.8/6,
Ms1 2.8/6, ms1mx2.6/38, Error ellipse: s-maj=14.4km
s-min=10.8km az=67.0
NEIC ***20*** *01:06:22.2±1.7,63.17N±0.04×149.30W±0.08, h86km±1km,*
Error ellipse: s-maj=5.6km s-min=4.7km az=49.0
AEIC ***20*** *01:06:22.6±1.7,63.13N±0.03×149.32W±0.08, h82km±3km,*
ML4.4/103, mb4.1/33(NEIC), Mwr4.2/46(NEIC), Error
ellipse: s-maj=5.5km s-min=4.5km az=50.0
NEIC ***20*** *01:06:22, 63.13N×149.30W, h86km, Moment Tensor*
Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.39;
$M_{\theta\theta}$1.37; $M_{\phi\phi}$-1.76; $M_{r\theta}$1.41; $M_{\theta\phi}$1.98; $M_{r\phi}$0.22; Fault
plane solution: M_o2.92000×10^{15} NP1:φ±15.73000°,
δ64.52000°, λ165.70000°. NP2:φ±111.98000°, δ77.12000°,
λ26.19000°. Principal axes: T 3.0402, Plg28.0000°,
Azm336.0000°; N -0.2592, Plg61.0000°, Azm136.0000°;
P -2.7810, Plg8.0000°, Azm242.0000°;

ISC 20 01:06:22.5±0.5,**63.15N**±0.03×**149.33W**±0.03,**h91**km±4km,
n225,σ1§**10**/232,**mb4.3**/40,**Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RND	**Reindeer**	**0.34**	**40**	Pn	**Pn**	**01 06 35.8**	**-0.7**
RND				Sn	**Sn**	**01 06 45.7**	**-1.1**
WAT2	**Susitna Watana**	**0.39**	**119**		**Pn**	**01 06 35.8**	**-1.0**
WAT2					**Sn**	**01 06 45.8**	**-1.6**
WAT1	**Susitna Watana**	**0.48**	**132**		**Pn**	**01 06 36.4**	**-0.9**
WAT1					**Sn**	**01 06 46.7**	**-1.6**
TRF	**Thorofare Moun**	**0.53**	**305**		**Pn**	**01 06 37.6**	**-0.2**
TRF				Sn	**Sn**	**01 06 47.2**	**-2.0**
MCK	**McKinley**	**0.61**	**17**		**Pn**	**01 06 38.0**	**-0.3**
DHY	**Denali Highway**	**0.89**	**94**		**Pn**	**01 06 40.6**	**-0.7**
WAT6	**Susitna Watana**	**0.93**	**127**		**Pn**	**01 06 40.7**	**-0.9**
WAT6					**Sn**	**01 06 54.0**	**-2.0**
BPAW	**Bear Paw Mtn.**	**1.21**	**323**		**Pn**	**01 06 44.4**	**-0.4**
BPAW	**Bear Paw Mtn.**	**1.21**	**323**	Sn	**Sn**	**01 07 00.3**	**-1.2**
CAST	**Castle Rocks**	**1.27**	**283**		**Pn**	**01 06 44.8**	**-0.7**
PPLA	**Purkeypile**	**1.33**	**260**		**Pn**	**01 06 46.1**	**-0.2**
PPLA	**Purkeypile**	**1.33**	**260**	Sn	**Sn**	**01 07 04.2**	**-0.1**
GHO	**Glory Hole Cre**	**1.40**	**172**		**Pn**	**01 06 46.5**	**-0.6**
GHO	**Glory Hole Cre**	**1.40**	**172**	Sn	**Sn**	**01 07 06.1**	**+0.4**
SML	**Sawmill**	**1.43**	**161**		**Pn**	**01 06 46.8**	**-0.7**
WRH	**Wood River Hil**	**1.44**	**22**		**Pn**	**01 06 47.2**	**-0.3**
WRH	**Wood River Hil**	**1.44**	**22**	Sn	**Sn**	**01 07 05.0**	**-1.4**
NEA2	**Nenana**	**1.45**	**4**		**Pn**	**01 06 47.3**	**-0.4**
CHUM	**Lake Minchumin**	**1.53**	**300**		**Pn**	**01 06 48.6**	**0.0**
PMR	**Palmer**	**1.57**	**176**		**Pn**	**01 06 48.7**	**-0.3**
SCM	**Sheep Creek Mo**	**1.62**	**144**		**Pn**	**01 06 49.6**	**-0.3**
PS10	**TAPS Pump St10**	**1.63**	**79**		**Pn**	**01 06 50.6**	**+0.6**
CCB	**Clear Creek Bu**	**1.65**	**24**		**Pn**	**01 06 49.8**	**-0.3**
HDA	**Harding Lake**	**1.65**	**39**		**Pn**	**01 06 49.9**	**-0.3**
PAX	**Paxson**	**1.77**	**94**		**Pn**	**01 06 52.2**	**+0.4**
PS09	**TAPS Pump Stn9**	**1.78**	**62**		**Pn**	**01 06 52.1**	**+0.2**
PS08	**TAPS Pump Stn8**	**1.79**	**37**		**Pn**	**01 06 51.7**	**-0.2**
KNK	**Knik Glacier**	**1.79**	**166**		**Pn**	**01 06 52.1**	**0.0**
TCOL	**CIGO, UAF Yank**	**1.85**	**20**		**Pn**	**01 06 52.8**	**+0.1**
COLA	**College**	**1.85**	**20**		**Pn**	**01 06 52.6**	**-0.1**
MDM	**Murphy Dome**	**1.88**	**14**		**Pn**	**01 06 53.2**	**0.0**
IL31		**1.95**	**32**		**Pn**	**01 06 53.8**	**-0.2**
ILAR	**Eielson Array**	**1.95**	**32**	P	**Pn**	**01 06 53.5**	**-0.6**
	283nm,0.3s,baz=214,slow=14,SNR=8699						
ILAR				S	**Sn**	**01 07 15.3**	**-2.9**
	220nm,0.3s,baz=229,slow=17,SNR=7.9						
ILAR	**Eielson Array**	**1.95**	**32**	Pn	**Pn**	**01 06 52.1**	**-2.0**
MLY	**Manley**	**1.99**	**342**		**Pn**	**01 06 54.3**	**-0.3**
STLK	**Strandline Lak**	**2.03**	**216**		**Pn**	**01 06 54.5**	**-0.7**
RC01	**Rabbit Creek A**	**2.08**	**185**	Pn	**Pn**	**01 06 56.8**	**+1.0**
PS11	**TAPS Pump St11**	**2.08**	**119**		**Pn**	**01 06 56.5**	**+0.6**
RIDG	**Independent Ri**	**2.10**	**72**		**Pn**	**01 06 56.4**	**+0.3**
POKR	**Poker Plat Res**	**2.14**	**22**		**Pn**	**01 06 56.7**	**+0.1**
PS07	**TAPS Pump Stn7**	**2.22**	**12**		**Pn**	**01 06 57.9**	**+0.3**
SPCG	**Spurr Capps Gl**	**2.25**	**215**		**Pn**	**01 06 57.8**	**-0.3**
PWL	**Port Wells**	**2.35**	**168**		**Pn**	**01 06 58.6**	**-0.7**
SPBG	**Spurr Blockage**	**2.37**	**218**		**Pn**	**01 07 00.2**	**+0.4**
SPCR	**Spurr Chakacha**	**2.38**	**216**		**Pn**	**01 06 59.6**	**-0.2**
SPNN	**North Nagishla**	**2.38**	**223**		**Pn**	**01 06 59.7**	**-0.3**
DOT	**Dot Lake**	**2.42**	**76**		**Pn**	**01 07 00.1**	**-0.2**
VMT	**Mts Tl Valdez**	**2.50**	**145**		**Pn**	**01 07 00.1**	**-1.1**
GLI	**Glacier Island**	**2.51**	**154**		**Pn**	**01 07 00.3**	**-1.2**
SCRK	**Sand Creek**	**2.53**	**69**		**Pn**	**01 07 01.7**	**-0.2**
SLKM	**Skilak Lake**	**2.69**	**189**		**Pn**	**01 07 04.0**	**+0.1**
PS06	**TAPS Pump Stn6**	**2.72**	**357**		**Pn**	**01 07 04.5**	**+0.3**
FID	**Port Fidalgo**	**2.76**	**150**		**Pn**	**01 07 03.8**	**-1.1**
PRP	**Porcupine Dome**	**2.90**	**33**		**Pn**	**01 07 06.7**	**0.0**
RDJH	**Redoubt Jeurge**	**3.05**	**214**		**Pn**	**01 07 08.6**	**-0.2**
TTA	**Tatalina**	**3.05**	**269**		**Pn**	**01 07 08.3**	**-0.5**
TT01	**Tatalina**	**3.06**	**268**		**Pn**	**01 07 08.2**	**-0.5**
SEW	**Seward**	**3.06**	**181**		**Pn**	**01 07 08.4**	**-0.3**
HIN	**Hinchinbrook I**	**3.07**	**153**		**Pn**	**01 07 08.0**	**-1.1**
GLB	**Gilahina Butte**	**3.10**	**121**		**Pn**	**01 07 09.2**	**-0.2**
EYAK	**Cordova Ski Ar**	**3.12**	**145**		**Pn**	**01 07 08.9**	**-0.6**
RDWB	**Redoubt West**	**3.15**	**213**		**Pn**	**01 07 09.3**	**-0.3**
VRDI	**Verde Repeater**	**3.36**	**122**		**Pn**	**01 07 12.5**	**-0.6**
IM03		**3.42**	**328**		**Pn**	**01 07 13.7**	**0.0**
IMAR	**Indian Mountai**	**3.42**	**328**	Pn	**Pn**	**01 07 12.7**	**-1.0**
BC03		**3.43**	**88**		**Pn**	**01 07 13.3**	**-0.5**
BCAR	**Beaver Creek A**	**3.43**	**88**	Pn	**Pn**	**01 07 12.2**	**-1.7**
MCARA	**McCarthy VSAT**	**3.44**	**118**		**Pn**	**01 07 14.3**	**+0.3**
BRLK	**Bradley Lake**	**3.48**	**193**		**Pn**	**01 07 14.4**	**-0.1**
BRSE	**Bradley Lake S**	**3.49**	**192**		**Pn**	**01 07 14.3**	**-0.3**
SVW2	**Sparrevohn**	**3.59**	**238**		**Pn**	**01 07 15.5**	**-0.4**
ILW	**Iliamna West**	**3.59**	**212**		**Pn**	**01 07 16.6**	**+0.3**
IVE	**Iliamna Volcan**	**3.60**	**211**		**Pn**	**01 07 16.2**	**-0.1**
ILS	**Iliamna Low So**	**3.67**	**211**		**Pn**	**01 07 17.6**	**+0.5**
PS05	**TAPS Pump Stn5**	**3.72**	**352**		**Pn**	**01 07 18.5**	**+0.8**
CNPM	**China Poot**	**3.75**	**195**	Pn	**Pn**	**01 07 17.6**	**-0.6**
PTPK	**Patty Peak**	**3.77**	**118**		**Pn**	**01 07 18.6**	**-0.1**
CRQM	**Cirque**	**3.79**	**127**		**Pn**	**01 07 18.1**	**-0.6**
FYU	**Fort Yukon**	**3.85**	**25**	Pn	**Pn**	**01 07 19.0**	**-0.4**
TGL	**Tana Glacier**	**3.90**	**125**		**Pn**	**01 07 19.2**	**-1.0**
BALM	**Baldy**	**3.91**	**120**		**Pn**	**01 07 19.6**	**-0.8**
EGAK	**Eagle**	**3.96**	**62**		**Pn**	**01 07 20.9**	**0.0**
BVCY	**Beaver Creek**	**3.96**	**97**		**Pn**	**01 07 20.7**	**-0.3**
KHIT	**Khitrov Hills**	**3.98**	**131**		**Pn**	**01 07 20.1**	**-1.0**
KIAG	**Kiagna River**	**3.97**	**121**		**Pn**	**01 07 20.1**	**-1.2**
MID	**Middleton Isla**	**4.01**	**158**		**Pn**	**01 07 20.8**	**-0.8**
GRIN	**Grindle Hills**	**4.06**	**132**		**Pn**	**01 07 21.7**	**-0.7**
COLD	**Coldfoot**	**4.11**	**355**		**Pn**	**01 07 23.6**	**+0.6**
BARN	**Barnard Glacie**	**4.17**	**117**		**Pn**	**01 07 22.7**	**-1.3**
YUK2	**White River**	**4.17**	**105**		**Pn**	**01 07 24.0**	**+0.1**
AU22	**Augustine Moun**	**4.26**	**209**		**Pn**	**01 07 26.0**	**+1.0**
AUH	**Augustine H**	**4.29**	**209**		**Pn**	**01 07 25.6**	**+0.2**
GRNC	**Granite Creek**	**4.32**	**121**		**Pn**	**01 07 25.0**	**-1.1**
CHTG	**Chitina Glacie**	**4.36**	**117**		**Pn**	**01 07 26.5**	**+0.1**
CYK	**Cape Yakataga**	**4.49**	**130**		**Pn**	**01 07 27.7**	**-0.4**
DAWY	**Dawson**	**4.53**	**74**		**Pn**	**01 07 28.6**	**-0.1**
YAH	**Yahtse**	**4.56**	**124**		**Pn**	**01 07 28.4**	**-0.9**
LOGN	**Logan Glacier**	**4.57**	**117**		**Pn**	**01 07 28.9**	**-0.4**
BM03	**Burnt Mountain**	**4.72**	**23**		**Pn**	**01 07 31.4**	**+0.2**
BMAR	**Burnt Mountain**	**4.74**	**23**	Pn	**Pn**	**01 07 30.6**	**-0.9**
RKAV	**Rock Avalanche**	**4.75**	**123**		**Pn**	**01 07 31.1**	**-0.8**
CHX	**Chnix Hills**	**5.00**	**125**		**Pn**	**01 07 34.5**	**-0.6**
TOLK	**Toolik Lake Re**	**5.51**	**359**	Pn	**Pn**	**01 07 42.6**	**+0.6**
KDAK	**Kodiak Island**	**5.62**	**198**	P	**Pn**	**01 07 42.4**	**-1.1**
	7.4nm,0.3s,baz=30,slow=9.9,SNR=35						
KDAK				S	**Sn**	**01 08 40.6**	**-6.0**
	19nm,0.3s,baz=150,slow=22,SNR=7.3						
KDAK				LR	LR	01 09 47.0	
	comp=Z,43nm,18.8s,baz=37,slow=36						
HYT	**Haines Junctio**	**6.04**	**107**	Pn	**Pn**	**01 07 49.9**	**+0.6**
OHAK	**Old Harbor**	**6.27**	**200**	Pn	**Pn**	**01 07 51.3**	**-0.9**
SII	**Sitkinak Islan**	**7.05**	**202**	Pn	**Pn**	**01 08 01.7**	**-1.2**
ANM	**Nome**	**7.23**	**288**	Pn	**Pn**	**01 08 05.7**	**+0.4**
RDOG	**Red Dog Mine**	**7.46**	**317**		**Pn**	**01 08 08.6**	**+0.1**
SKAG	**Skagway**	**7.68**	**112**	Pn	**Pn**	**01 08 10.6**	**-1.0**
INK	**Inuvik**	**8.30**	**45**	P	**Pn**	**01 08 20.3**	**+0.5**
	6.1nm,0.3s,baz=229,slow=18,SNR=68						
INK				S	**Sn**	**01 09 49.2**	**-2.4**
	1.9nm,0.3s,baz=216,slow=4.8,SNR=2.0						
INK				LR	LR	01 12 10.3	
	comp=Z,50nm,18.3s,baz=324,slow=42						
INK	**Inuvik**	**8.30**	**45**	P	**Pn**	**01 08 20.5**	**+0.7**
SIT	**Sitka**	**9.27**	**125**	Pn	**Pn**	**01 08 32.9**	**-0.3**
SDPT	**Sand Point**	**9.67**	**221**	Pn	**Pn**	**01 08 38.1**	**-0.4**
GAMB	**Gambell**	**10.02**	**284**	Pn	**Pn**	**01 08 43.5**	**+0.3**
DLBC	**Dease Lake**	**10.53**	**108**	P	**Pn**	**01 08 50.5**	**+0.2**
	0.3nm,0.3s,baz=290,slow=10,SNR=7.5						
DLBC	**Dease Lake**	**10.53**	**108**		**Pn**	**01 08 49.6**	**-0.7**
WRAK	**Wrangell Islan**	**10.87**	**121**		**Pn**	**01 08 54.2**	**-0.7**
CRAG	**Craig**	**11.28**	**126**	Pn	**Pn**	**01 08 58.8**	**-1.6**
SPIA	**Saint Paul Isl**	**11.97**	**250**	Pn	**Pn**	**01 09 09.4**	**-0.4**
AKUT	**Akutan**	**12.41**	**231**	Pn	**Pn**	**01 09 13.3**	**-2.3**
UNV	**Unalaska Valle**	**12.90**	**232**	Pn	**Pn**	**01 09 21.2**	**-0.9**
DIB	**Dawson Inlet,**	**13.31**	**131**	Pn	**Pn**	**01 09 27.8**	**+0.3**
MOBC	**Moresby Island**	**13.53**	**130**	Pn	**Pn**	**01 09 30.9**	**+0.4**
NIKH	**Nikolski High**	**14.45**	**234**	Pn	**Pn**	**01 09 42.6**	**+0.4**
BBB	**Bella Bella**	**15.70**	**125**	Pn	**Pn**	**01 09 56.1**	**-2.1**
BBB				IAmb	IAmb	01 10 12.8	
	comp=Z,16nm,1.0s						
YKA	**Yellowknife Ar**	**15.77**	**77**	P	**Pn**	**01 09 58.5**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=282,slow=13,SNR=32						
YKA				LR	LR	01 15 42.3	
	comp=Z,41nm,18.3s,baz=0.0,slow=36						
ATKA	**Atka Island**	**17.10**	**242**	P	**P**	**01 10 16.2**	**+0.4**
GSTR	**Great Sitkin T**	**17.94**	**244**	P	**Pn**	**01 10 25.4**	**-0.3**
ADK	**Adak**	**18.35**	**245**	P	**P**	**01 10 29.6**	**+0.1**
NLWA	**Neilton Lookou**	**21.21**	**126**	P	**P**	**01 11 01.0**	**+0.5**
NLWA				IAmb	IAmb	01 11 03.6	
	comp=Z,7.9nm,1.0s						
RES

LZH					sP	sP	01 17 28.0	-1.1	
LZH					PP	**PP**	**01 19 24.0**	**+4.3**	
LZH					pmax	pmax			
	comp=Z,29nm,1.1s								
LZH					pmax	pmax			
	comp=Z,83nm,5.4s								
ABKAR	**Akbulak array**	**65.57**	**339**			**P**	**01 16 54.9**	**-1.0**	
CHVC	**Chvalec**	**66.02**	**10**	*eP*		**P**	**01 16 59.2**	**+0.4**	
NKC	**Novy Kostel**	**66.05**	**13**	*eP*		**P**	**01 17 01.7**	**+2.7**	
OSTC	**Ostas**	**66.06**	**10**	*eP*		**P**	**01 16 58.6**	**-0.5**	
DPC	**Dobruska-Polom**	**66.28**	**10**	*eP*		**P**	**01 17 00.6**	**+0.1**	
AKASG	**Malin Array Be**	**66.49**	**1**	P		**P**	**01 17 00.6**	**-1.2**	
	comp=Z,1.9nm,0.4s,baz=2.6,slow=6.5,SNR=13								
AKASG	**Malin Array Be**	**66.49**	**1**	IAmb		IAmb	01 17 02.2		
	comp=Z,1.2nm,1.1s								
PRU	**Pruhonice**	**66.49**	**11**	*eP*		**P**	**01 17 04.0**	**+2.3**	
OKC	**Ostrava-Krasne**	**66.92**	**9**	*eP*		**P**	**01 17 04.9**	**+0.4**	
KHC	**Kasperske Hory**	**67.25**	**12**	*eP*		**P**	**01 17 06.7**	**+0.1**	
GERES	**GERESS Array B**	**67.54**	**12**	P		**P**	**01 17 08.3**	**-0.3**	
	comp=Z,1.0nm,0.5s,baz=2.8,slow=6.2,SNR=11								
GERES	**GERESS Array B**	**67.54**	**12**	P		**P**	**01 17 08.7**	**+0.1**	
KOLS	**Kolonicke sedl**	**68.06**	**6**	*eP*		**P**	**01 17 14.2**	**+2.5**	
VYHS	**Vyhne**	**68.31**	**8**	*eP*		**P**	**01 17 12.9**	**-0.4**	
WATA	**Walderalm**	**68.82**	**14**	*iP*		**P**	**01 17 16.7**	**+0.1**	
	comp=Z,1.7nm,0.3s								
WTTA	**Wattenberg**	**68.90**	**14**	*i* P		**P**	**01 17 17.4**	**+0.2**	
	comp=Z,2.2nm,0.4s								
KK31	**Karatay Array**	**69.43**	**330**	P		**P**	**01 17 18.4**	**-1.9**	
KK31				IAmb		IAmb	01 17 20.1		
	comp=Z,2.3nm,0.8s								
KKAR	**Karatay Array**	**69.43**	**330**			**P**	**01 17 19.2**	**-1.1**	
BUR08	**Bucovina Ar. S**	**69.47**	**4**	P		**P**	**01 17 20.1**	**-0.4**	
BUR08				IAmb		IAmb	01 17 35.2		
	comp=Z,3.0nm,1.1s								
BURAR	**Bucovina Array**	**69.50**	**4**	P		**P**	**01 17 20.6**	**-0.2**	
MYKA	**Terra Mystica**	**69.73**	**12**	*iP*		**P**	**01 17 21.7**	**-0.5**	
	comp=Z,1.7nm,0.5s								
OBKA	**Obir**	**69.94**	**12**	*iP*		**P**	**01 17 23.5**	**+0.1**	
	comp=Z,3.3nm,0.5s								
KBZ	**Khabaz**	**73.02**	**351**	P		**P**	**01 17 41.2**	**-0.6**	
	comp=Z,3.6nm,0.9s,baz=355,slow=8.0,SNR=6.6								
ESDC	**Sonseca Array**	**73.85**	**27**	P		**P**	**01 17 47.3**	**+0.3**	
	comp=Z,0.7nm,0.6s,baz=349,slow=6.1,SNR=7.1								
GEYT	**Alibeck**	**76.89**	**338**			**P**	**01 18 04.0**	**-0.3**	
	comp=Z,2.9nm,0.7s,baz=302,slow=6.8,SNR=7.1								
GEYT	**Alibeck**	**76.89**	**338**			**P**	**01 18 05.2**	**+0.9**	
BRTR	**Keskin Array B**	**77.44**	**358**	P		**P**	**01 18 06.9**	**-0.6**	
	comp=Z,0.3nm,0.4s,baz=359,slow=3.5,SNR=1.5								
CMAR	**Chiang Mai Arr**	**83.06**	**297**	P		**P**	**01 18 36.3**	**-1.5**	
	comp=Z,1.0nm,0.3s,baz=24,slow=5.9,SNR=1.6								
EIL	**Elat**	**87.44**	**356**	P		**P**	**01 18 58.9**	**-0.6**	
	comp=Z,0.9nm,0.5s,baz=333,slow=6.8,SNR=1.6								
BOSA	**Boshof**	**145.28**	**8**	PKPbc		**PKPbc**	**01 25 48.1**	**-0.8**	
	comp=Z,2.0nm,0.4s,baz=353,slow=5.9,SNR=5.2								

*IDC **20** 01:21:53.3±5.8, 17.°05S×178.°72W, h560km±67km, mb3.5/9, mb1 3.8/9, mb1mx3.4/25, mbtmp4.4/9, Error ellipse: s-maj=52.7km s-min=24.5km az=151.0*
*NEIC **20** 01:21:56.7±1.2, 17.°2S±0.°3×178.°7W±0.°2, h610km±8km, mb4.0/12, Error ellipse: s-maj=45.6km s-min=19.1km az=151.0*
ISC 20 01:21:55.1±0.7, 17.°5S±0.°2×178.°5W±0.°1, h600km, n28, σ0s97/29, mb4.1/14, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.30**	**266**		**P**	**01 23 17.4**	**+1.3**
KNTN	**Kanton**	**16.11**	**25**	P	**P**	**01 25 13.0**	**-0.5**
CTA	**Charters Tower**	**33.42**	**260**	P	**P**	**01 27 45.0**	**-1.1**
	3.7nm,0.4s,baz=92,slow=9.6,SNR=10.0						
COEN	**Coen**	**37.02**	**270**	P	**P**	**01 28 16.0**	**+0.2**
STKA	**Stephens Creek**	**38.74**	**241**	P	**P**	**01 28 30.4**	**+0.9**
	7.2nm,0.6s,baz=89,slow=11,SNR=10						
STKA	**Stephens Creek**	**38.74**	**241**	P	**P**	**01 28 30.4**	**+0.9**
STKA				IAmb	IAmb	01 28 31.8	
	comp=Z,2.5nm,0.9s						
JAY	**Jayapura**	**42.72**	**286**	P	**P**	**01 28 58.9**	**-2.4**
	comp=Z,17nm,0.7s,baz=120,slow=20,SNR=1.9						
WB0	**Warramunga Arr**	**44.58**	**259**	P	**P**	**01 29 15.4**	**-0.1**
WB2	**Warramunga Arr**	**44.60**	**259**	P	**P**	**01 29 15.1**	**-0.6**
WB2				IAmb	IAmb	01 29 16.7	
	comp=Z,7.3nm,0.6s						
WRA	**Warramunga Arr**	**44.62**	**259**	P	**P**	**01 29 15.9**	**0.0**
	comp=Z,4.2nm,0.5s,baz=94,slow=7.2,SNR=97						
WRA	**Warramunga Arr**	**44.62**	**259**	P	**P**	**01 29 15.7**	**-0.2**
AS31	**Alice Springs**	**44.81**	**254**	P	**P**	**01 29 17.2**	**-0.1**
ASAR	**Alice Springs**	**44.81**	**254**	P	**P**	**01 29 17.9**	**+0.6**
	comp=Z,32nm,0.7s,baz=87,slow=8.5,SNR=278						
ASAR				PcP	**PcP**	**01 30 46.3**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=113,slow=4.2,SNR=3.5						
ASAR	**Alice Springs**	**44.81**	**254**	P	**P**	**01 29 17.2**	**-0.1**
NVAR	**Mina Array Bea**	**79.21**	**44**	P	**P**	**01 33 00.2**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=223,slow=8.7,SNR=5.4						
U15A	**North Rim**	**82.33**	**48**	P	**P**	**01 33 15.4**	**-0.3**
U15A				IAmb	IAmb	01 33 17.8	
	comp=Z,3.1nm,0.8s						
ELK	**Elko**	**82.44**	**43**	P	**P**	**01 33 16.0**	**-0.1**
ILAR	**Eielson Array**	**85.54**	**13**	P	**P**	**01 33 30.1**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=221,slow=5.0,SNR=7.7						
TX31	**Lajitas Ar. Si**	**85.87**	**58**	P	**P**	**01 33 33.8**	**+0.9**
TX31					**PcP**	**01 33 34.6**	**-0.1**
TX31				IAmb	IAmb	01 33 35.2	
	comp=Z,6.4nm,0.9s						
TX32	**Lajitas Array**	**85.87**	**58**	P	**P**	**01 33 33.7**	**+0.8**
TX32					**PcP**	**01 33 34.6**	**-0.1**
TX32				IAmb	IAmb	01 33 35.2	
	comp=Z,2.2nm,0.9s						
TXAR	**Lajitas Array**	**85.87**	**58**	P	**P**	**01 33 34.2**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=221,slow=6.1,SNR=16						
PDAR	**Pinedale Array**	**87.14**	**43**	P	**P**	**01 33 39.1**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=224,slow=3.9,SNR=6.9						
KMI	**Kunming**	**87.58**	**297**	↑P	**P**	**01 33 43.3**	**+2.1**
KMI				pmax	pmax		
	comp=Z,19nm,0.5s						
SNAA	**Sanae**	**90.97**	**179**	P	P	01 33 54.2	-1.6
VNA3	**Neumayer Olymp**	**91.12**	**176**	P	**P**	**01 33 55.1**	**-1.4**
WMOK	**Wichita Mounta**	**91.69**	**54**	P	**P**	**01 33 58.3**	**-1.5**
BRTR	**Keskin Array B**	**144.46**	**315**	PKP	PKPbc	01 40 25.1	+0.5
	comp=Z,0.6nm,0.6s,baz=102,slow=3.7,SNR=7.0						
GERES	**GERESS Array B**	**147.23**	**345**	PKPbc	**PKPbc**	**01 40 32.5**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=24,slow=3.0,SNR=11						

*ISK **20** 01:36:36.6, 34.°76N×36.°32E, h10km, ML2.9/24*
*DDA **20** 01:36:39.6, 34.°95N×36.°40E, h19km±2km, ML2.9*
*GII **20** 01:36:39.6±0.0, 35.°06N×36.°27E, h15km, MD2.5/7*
*GRAL **20** 01:36:41.6±0.6, 34.°85N×36.°34E, h6km±3km, MD3.6*
*NIC **20** 01:36:43.6±0.0, 34.°83N×36.°06E, h16km±7km, Ml2.9/4*
ISC 20 01:36:39.0±1.2, 34.°85N±0.°02×36.°31E±0.°04, h7km±10km, n72, σ1s18/102, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**0.65**	**208**	*eP*	**Pb**	**01 36 53.1**	**+0.4**
HWQ				*eS*	**Sb**	**01 37 02.1**	**+0.1**
BHL	**Bhannes**	**1.09**	**210**	*eP*	**Pn**	**01 37 01.0**	**+0.2**
BHL				*eS*	**Sn**	**01 37 15.6**	**-0.6**
BEYL	**Beirut**	**1.19**	**215**	*eP*	**Pn**	**01 37 03.0**	**+0.9**
DQRL	**Deir Qamar**	**1.30**	**208**	*eP*	**Pg**	**01 37 04.6**	**+0.7**
DQRL				*eS*	**Sn**	**01 37 21.4**	**+0.1**
QRWL	**Qaraoun**	**1.40**	**202**	*eP*	**Pg**	**01 37 06.1**	**+0.2**
RCY	**Rachaya**	**1.41**	**196**	*eP*	**Pg**	**01 37 06.0**	**-0.1**
RCY				*eS*	**Sg**	**01 37 24.4**	**+0.1**
TAHT	**Tahtakopru-Hat**	**1.52**	**356**	PN	**Pn**	**01 37 06.3**	**-0.3**
TAHT				SN	**Sb**	**01 37 27.3**	**+0.2**
SHBL	**Chebaa**	**1.57**	**197**	*eP*	**Pb**	**01 37 08.8**	**+0.2**
SHBL				*eS*	**Sg**	**01 37 29.1**	**-0.6**
NATI	**Neve Ativ**	**1.66**	**197**	Pn	**Pb**	**01 37 09.9**	**+0.1**
NATI				Sn	**Sg**	**01 37 33.5**	**+1.2**
GEM	**Giv'at Ha'Em**	**1.73**	**198**	Pn	**Pb**	**01 37 10.9**	**-0.1**
GEM				Sn	**Sg**	**01 37 34.8**	**+0.4**
PARAL	**Paralimni**	**1.87**	**275**	P	**Pn**	**01 37 11.9**	**+0.5**
EREN	**Erenkoy**	**1.88**	**292**	PN	**Pn**	**01 37 11.1**	**-0.4**
MMA0B	**Mount Meron ar**	**1.98**	**203**	Pn	**Pb**	**01 37 15.0**	**-0.4**
MMA0B				Sn	**Sg**	**01 37 41.6**	**-1.1**
HNTI	**Hanita**	**2.00**	**208**	Pn	**Pb**	**01 37 15.1**	**-0.6**
HNTI				Sn	**Sb**	**01 37 41.8**	**+0.9**
YURE	**YUREGIR**	**2.04**	**345**	*iP*	**Pg**	**01 37 18.1**	**-0.1**
YURE				*iS*	**Sg**	**01 37 45.0**	**+0.3**
CEYT	**Ceyhan**	**2.20**	**348**	PN	**Pn**	**01 37 16.1**	**+0.2**
MVOU	**Mavrovouni**	**2.20**	**275**	P	**Pn**	**01 37 16.3**	**+0.3**
MVOU				S	**Sn**	**01 37 42.7**	**-0.8**
MVOU				AML	AML	01 37 49.5	
	0.1nm,0.6s						
MVOU				AML	AML	01 37 49.5	
	0.1nm,0.6s						
MVOU				AML	AML	01 37 51.8	
	0.1nm,0.3s						
MVOU				AML	AML	01 37 51.8	
	0.1nm,0.3s						
BLGI	**Bet Lehem HaGe**	**2.31**	**204**	Pn	**Pb**	**01 37 19.4**	**-1.6**
BLGI				Sn	**Sb**	**01 37 49.5**	**-0.2**
LFK	**Lefkose**	**2.32**	**281**	PN	**Pn**	**01 37 15.5**	**-2.1**
KAMA	**Osmaniye**	**2.34**	**7**	*i* P	**Pn**	**01 37 18.5**	**+0.4**
KAMA				*i* S	**Sn**	**01 37 47.6**	**+0.4**
KIZK	**Mersin**	**2.40**	**313**	PN	**Pn**	**01 37 17.8**	**-0.8**
KIZK				SN	**Sn**	**01 37 48.1**	**-0.1**
KIZK	**Mersin**	**2.40**	**313**	*i* P	**Pn**	**01 37 20.1**	**+1.4**
GAZ	**Gaziantep**	**2.43**	**17**	PN	**Pn**	**01 37 18.8**	**-0.3**
DED	**Mersin**	**2.43**	**330**	*i* P	**Pn**	**01 37 20.6**	**+1.4**
CSS	**Mathiatis**	**2.45**	**273**	PN	**Pn**	**01 37 17.8**	**-1.6**
CSS	**Mathiatis**	**2.45**	**273**	P	**Pn**	**01 37 20.3**	**+0.9**
CSS				S	**Sn**	**01 37 49.2**	**-0.3**
SLFK	**Silifke-Mersin**	**2.46**	**309**	PN	**Pn**	**01 37 18.8**	**-0.7**
MERS	**Mersin**	**2.48**	**325**	PN	**Pn**	**01 37 20.0**	**+0.2**
OFRI	**`Ofer**	**2.48**	**207**	Pn	**Pn**	**01 37 21.8**	**+1.9**
OFRI				Sn	**Sb**	**01 37 53.7**	**-1.1**
ASGA	**Asgata**	**2.52**	**269**	P	**Pn**	**01 37 20.6**	**+0.2**
ASGA				AML	AML	01 37 53.4	
	0.2nm,0.6s						
MMLI	**Mount Malkishu**	**2.52**	**197**	PN	**Pn**	**01 37 18.0**	**-2.4**
MMLI	**Mount Malkishu**	**2.52**	**197**	Pn	**Pb**	**01 37 23.2**	**-1.4**
MMLI				Sn	**Sb**	**01 37 55.7**	**-0.1**
MMLI	**Mount Malkishu**	**2.52**	**197**	P	**Pb**	**01 37 22.9**	**-1.8**
MMLI				S	**Sb**	**01 37 53.5**	**-2.3**
MMLI				AML	AML	01 38 01.6	
	0.1nm,0.3s						
MMLI				AML	AML	01 38 01.6	
	0.1nm,0.3s						
HCB	**Kahramanmara**	**2.53**	**11**	*i* P	**Pn**	**01 37 20.9**	**+0.4**
HCB				*i* S	**Sn**	**01 37 51.8**	**+0.1**
HCB				IAML		01 38 02.0	
	comp=N,32nm,0.5s						
IKL	**Isikli**	**2.55**	**304**	PN	**Pn**	**01 37 19.7**	**-1.0**
QRNJ	**Al-Qirein**	**2.59**	**194**	Pn	**Pb**	**01 37 23.6**	**-2.1**
AKKU	**Akkuyu-Mersin**	**2.60**	**301**	PN	**Pn**	**01 37 21.0**	**-0.4**
KARA	**Karaisali**	**2.61**	**337**	PN	**Pn**	**01 37 21.0**	**-0.6**
GULN	**MERSIN_Gulnar**	**2.62**	**301**	*i* P	**Pn**	**01 37 21.9**	**+0.3**
GULN				*i* S	**Sn**	**01 37 54.1**	**+0.4**
KEBE	**Keben-Mersin**	**2.64**	**308**	PN	**Pn**	**01 37 21.4**	**-0.7**
KOZT	**Kozan**	**2.65**	**352**	PN	**Pn**	**01 37 21.9**	**-0.3**
HMDT	**Nahal Hemdat**	**2.67**	**194**	Pn	**Pb**	**01 37 24.8**	**-2.4**
HMDT				Sn	**Sb**	**01 38 00.6**	**+0.4**
KMRS	**Kahramanmaras**	**2.69**	**10**	PN	**Pn**	**01 37 22.5**	**-0.2**
AKO	**Adana**	**2.69**	**345**	*i* P	**Pb**	**01 37 28.2**	**+0.6**
GZT	**Gaziantep**	**2.69**	**22**	*i* P	**Pb**	**01 37 20.8**	**-2.2**
ANDN	**Andirin**	**2.72**	**1**	*i* P	**Pn**	**01 37 24.3**	**+1.1**
ANDN				*i* S	**Sn**	**01 37 57.1**	**+0.7**
ANDN				IAML		01 38 27.0	
	comp=E,26nm,1.9s						
SURC	**SANLIURFA_SURC**	**2.75**	**42**	*i* P	**Pn**	**01 37 23.7**	**+0.1**
SURC				*i* S	**Sn**	**01 37 56.8**	**-0.4**
SURC				IAML		01 38 13.0	
	comp=E,94nm,0.8s						
SLTI	**Sal'it**	**2.81**	**202**	Pn	**Pn**	**01 37 26.7**	**+2.3**
SLTI				Sn	**Sb**	**01 38 02.5**	**-1.7**
LEF	**Lefka**	**2.82**	**276**	PN	**Pn**	**01 37 23.7**	**-0.7**
SZAC	**Souni**	**2.82**	**269**	P	**Pn**	**01 37 25.7**	**+1.1**
SZAC				S	**Sn**	**01 37 57.3**	**-1.5**
SZAC				AML	AML	01 38 03.7	
	comp=E,0.2nm,0.3s						
SZAC				AML	AML	01 38 03.7	
	comp=E,0.2nm,0.3s						
SZAC				AML	AML	01 38 07.1	
	comp=E,0.3nm,0.5s						
SZAC				AML	AML	01 38 07.1	
	comp=E,0.3nm,0.5s						
TEKE	**Tekeli-Mersin**	**2.91**	**297**	PN	**Pn**	**01 37 25.3**	**-0.4**
BERE	**Bereket-Mersin**	**2.92**	**302**	PN	**Pn**	**01 37 25.2**	**-0.8**
CMRD	**Camardi-Nigde**	**3.00**	**340**	PN	**Pn**	**01 37 27.4**	**+0.4**
KERG	**Konya-Eregli**	**3.11**	**326**	*i* P	**Pn**	**01 37 29.9**	**+1.4**
KERG				*i* S	**Sn**	**01 38 08.3**	**+2.3**
SAIM	**ADANA**	**3.12**	**357**	*i* P	**Pn**	**01 37 30.6**	**+1.9**
SANL	**SANLIURFA_Merk**	**3.17**	**42**	*i* P	**Pn**	**01 37 28.7**	**-0.7**
SANL				*i* S	**Sn**	**01 38 07.5**	**0.0**
SANL				IAML		01 38 24.0	
	comp=N,45nm,0.6s						
AKMS	**Akamas**	**3.27**	**274**	P	**Pn**	**01 37 32.4**	**+1.7**
AMAZ	**Amatzia**	**3.51**	**200**	Pn	**Pn**	**01 37 36.8**	**+2.8**
AMAZ	**Amatzia**	**3.51**	**200**	P	**Pn**	**01 37 37.2**	**+3.2**
GAZI	**Gazipasa**	**3.54**	**294**	PN	**Pn**	**01 37 33.4**	**-0.9**
SARI	**SarD1z-Kayseri**	**3.55**	**1**	PN	**Pn**	**01 37 34.8**	**+0.1**
GHAJ	**Ghor Haditha**	**3.59**	**190**	Pn	**Pn**	**01 37 37.7**	**+2.6**
AKDD	**Akcadag**	**3.67**	**20**	*i* P	**Pn**	**01 37 30.0**	**+0.6**
AKDD				*i* S	**Sn**	**01 38 20.4**	**+0.5**
AKDD				IAML		01 38 40.0	
	comp=N,45nm,0.5s						
AKDD				IAML		01 38 48.0	
	comp=E,53nm,0.5s						
OSC2	**CSNet OBS 4**	**3.80**	**243**	P	**Pn**	**01 37 39.2**	**+1.3**
OSC2				S	**Sn**	**01 38 22.7**	**-0.1**
DARE	**Darende-Malaty**	**3.83**	**14**	PN	**Pn**	**01 37 38.2**	**-0.2**
MALT	**Malatya**	**3.85**	**26**	PN	**Pn**	**01 37 38.7**	**-0.1**
SVRC	**Sivrice-ELAZID**	**4.26**	**34**	PN	**Pn**	**01 37 44.0**	**-0.5**
OSC1	**CSNet OBS 1**	**4.38**	**253**	P	**Pn**	**01 37 47.4**	**+1.5**
PRNI	**Paran**	**4.62**	**194**	Pn	**Pn**	**01 37 52.2**	**+2.9**
PTK	**Pertek**	**4.73**	**31**	PN	**Pn**	**01 37 50.9**	**0.0**
KEMA	**Kemaliye**	**4.74**	**21**	*i* P	**Pn**	**01 37 52.1**	**+1.2**
HRFI	**Mount Harif**	**4.92**	**193**	PN	**Pn**	**01 37 51.7**	**-1.7**

*ATH **20** 01:53:28.8, 38.°33N×22.°06E, h11km±1km, ML3.3/28, Error ellipse: s-maj=1.6km s-min=0.5km az=336.0*
*ISK **20** 01:53:29.1, 38.°37N×22.°08E, h16km, ML3.2/8*
*THE **20** 01:53:29.5, 38.°32N×22.°05E, h4km±1km, ML3.3/23, Error ellipse: s-maj=1.0km s-min=0.3km az=277.0*
*PDG **20** 01:53:29.1±0.3, 38.°32N×22.°07E, h10km, ML3.5/12, Error ellipse: s-maj=0.3km s-min=0.4km az=0.0*
*IDC **20** 01:53:34.9±1.8, 38.°18N×22.°14E, h56km±23km, mb3.4/6, mb1 3.5/11, mb1mx3.3/42, mbtmp3.5/11, ML3.3/4, MS2.7/2, Ms1 2.7/2, ms1mx2.1/31, Error ellipse: s-maj=18.2km s-min=14.0km az=47.0*
ISC 20 01:53:29.2±0.7, 38.°32N±0.°01×22.°07E±0.°01, h8km±4km, n158, σ0s81/224, mb3.7/5, 9C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.05**	**6**	P	**Pg**	**01 53 30.6**	**-0.3**
TRIZ				S	**Sg**	**01 53 31.8**	**-0.3**
	188µm,0.3s						
TRIZ	**Trizonia**	**0.05**	**6**	P	**Pg**	**01 53 30.6**	**-0.3**
TRIZ				S	**Sg**	**01 53 31.8**	**-0.3**
ALIK	**Aliki, Aigiali**	**0.07**	**147**	P	**Pg**	**01 53 31.5**	**+0.5**
ALIK				S	**Sg**	**01 53 33.1**	**+0.8**
KALE	**Kalithea**	**0.10**	**38**	P	**Pg**	**01 53 31.6**	**+0.1**
KALE				S	**Sg**	**01 53 33.6**	**+0.4**
	43µm,0.3s						
KALE	**Kalithea**	**0.10**	**38**	P	**Pg**	**01 53 31.6**	**+0.1**
KALE				S	**Sg**	**01 53 33.3**	**+0.1**
KALE				AML	AML	01 53 34.5	
KALE				AML	AML	01 53 35.6	
	comp=E,49550µm,0.2s						
SERG	**Sergoula**	**0.10**	**356**	P	**Pg**	**01 53 31.4**	**-0.2**
SERG				S	**Sg**	**01 53 33.2**	**0.0**
	comp=E,42µm,0.5s						
SERG	**Sergoula**	**0.10**	**356**	P	**Pg**	**01 53 31.4**	**-0.2**
SERG				S	**Sg**	**01 53 32.7**	**-0.5**
SERG				AML	AML	01 53 33.8	
	comp=E,78889µm,0.5s						
SERG				AML	AML	01 53 33.9	
	comp=N,87619µm,0.5s						
LAKA	**Lakka**	**0.10**	**222**	P	**Pg**	**01 53 31.7**	**+0.1**
LAKA				S	**Sg**	**01 53 33.7**	**+0.4**
	comp=N,15µm,0.4s						
LAKA	**Lakka**	**0.10**	**222**	P	**Pg**	**01 53 31.7**	**+0.1**
LAKA				S	**Sg**	**01 53 32.9**	**-0.4**
LAKA				AML	AML	01 53 33.8	
	comp=E,28489µm,0.2s						
LAKA				AML	AML	01 53 34.1	
	comp=N,36467µm,0.4s						
KLV	**Kalavryta, Ach**	**0.28**	**166**	P	**Pg**	**01 53 34.7**	**-0.1**
KLV				S	**Sg**	**01 53 39.6**	**+1.1**
KLV	**Kalavryta, Ach**	**0.28**	**166**	P	**Pg**	**01 53 34.7**	**-0.1**
KLV				S	**Sg**	**01 53 38.8**	**+0.3**
KLV				AML	AML	01 53 40.7	
	comp=E,4180µm,0.1s						
KLV				AML	AML	01 53 43.8	
	comp=N,4155µm,0.3s						
ANX	**Ano Chora**	**0.30**	**338**	P	**Pg**	**01 53 34.8**	**-0.4**
ANX				S	**Sg**	**01 53 40.1**	**+0.9**
	comp=N,21µm,0.3s						
ANX	**Ano Chora**	**0.30**	**338**	P	**Pg**	**01 53 34.9**	**-0.3**
ANX				S	**Sg**	**01 53 38.1**	**-1.1**
ANX				AML	AML	01 53 40.3	
	comp=N,49133µm,0.3s						
ANX				AML	AML	01 53 40.3	
	comp=E,35577µm,0.3s						
GUR	**Goura**	**0.44**	**150**	P	**Pg**	**01 53 37.5**	**-0.2**
GUR				S	**Sb**	**01 53 44.8**	**-1.2**
	comp=E,6µm,0.4s						
GUR	**Goura**	**0.44**	**150**	P	**Pg**	**01 53 37.5**	**-0.2**
GUR				S	**Sg**	**01 53 44.3**	**+0.8**
GUR				AML	AML	01 53 48.5	
	comp=E,9968µm,0.4s						
GUR				AML	AML	01 53 51.0	
	comp=N,13216µm,0.3s						
DRO	**Drossia**	**0.46**	**218**	P	**Pg**	**01 53 38.0**	**-0.1**
DRO				S	**Sg**	**01 53 45.1**	**+1.0**
	comp=N,6µm,0.4s						
DRO	**Drossia**	**0.46**	**218**	P	**Pg**	**01 53 38.1**	**0.0**
DRO				S	**Sg**	**01 53 43.4**	**-0.7**
DRO				AML	AML	01 53 49.6	
	comp=N,17469µm,0.4s						
DRO				AML	AML	01 53 51.8	
	comp=E,7003µm,0.4s						
PVO	**Paravola**	**0.52**	**306**	P	**Pg**	**01 53 39.1**	**-0.2**
PVO				S	**Sb**	**01 53 47.3**	**-1.0**
	comp=E,3µm,0.4s						
PVO	**Paravola**	**0.52**	**306**	P	**Pg**	**01 53 39.3**	**0.0**
RLS	**Riolos of Patr**	**0.54**	**242**	P	**Pg**	**01 53 39.4**	**-0.2**
RLS				S	**Sb**	**01 53 47.8**	**-1.0**
	comp=E,3µm,0.4s						
RLS	**Riolos of Patr**	**0.54**	**242**	P	**Pg**	**01 53 39.4**	**-0.2**
RLS				S	**Sg**	**01 53 47.4**	**+0.8**
RLS				AML	AML	01 53 50.0	
	comp=N,4818µm,0.3s						
RLS				AML	AML	01 53 50.0	
	comp=E,6330µm,0.3s						
EVR	**Evrytania**	**0.63**	**342**	P	**Pg**	**01 53 40.8**	**-0.7**
EVR				S	**Sb**	**01 53 51.3**	**-0.4**
	comp=E,3µm,0.5s						
EVR	**Evrytania**	**0.63**	**342**	P	**Pg**	**01 53 41.0**	**-0.5**
EVR				S	**Sb**	**01 53 50.4**	**-1.3**
EVR				AML	AML	01 53 53.5	
	comp=N,6521µm,0.4s						
EVR				AML	AML	01 53 57.1	
	comp=E,6667µm,0.8s						
AXAR	**Agios Charalam**	**0.65**	**46**	P	**Pg**	**01 53 41.1**	**-0.6**
AXAR				S	**Sb**	**01 53 51.6**	**-0.4**
	comp=E,12µm,0.4s						
AXAR	**Agios Charalam**	**0.65**	**46**	P	**Pg**	**01 53 41.5**	**-0.2**
AXAR				S	**Sg**	**01 53 50.1**	**-0.1**
AXAR				AML	AML	01 53 53.7	
	comp=E,25159µm,0.4s						
AXAR				AML	AML	01 53 56.3	
	comp=N,21096µm,0.5s						
PROD	**Prodromos**	**0.66**	**95**	P	**Pg**	**01 53 42.2**	**+0.3**
PROD	**Prodromos**	**0.66**	**95**	P	**Pg**	**01 53 41.9**	**0.0**
MAKR	**Makrakomi, Fth**	**0.70**	**4**	P	**Pg**	**01 53 42.2**	**-0.5**
MAKR				S	**Sb**	**01 53 52.3**	**-1.2**
	comp=N,3µm,0.4s						
MAKR	**Makrakomi, Fth**	**0.70**	**4**	P	**Pg**	**01 53 42.2**	**-0.5**
MAKR				S	**Sg**	**01 53 52.1**	**+0.3**
MAKR				AML	AML	01 53 55.1	
	comp=E,7325µm,0.5s						
MAKR				AML	AML	01 53 55.9	
	comp=N,5700µm,0.5s						
AGG	**Agios Georgios**	**0.73**	**16**	P	**Pg**	**01 53 42.4**	**-1.0**
AGG				S	**Sb**	**01 53 54.4**	**-0.2**
	comp=N,2µm,0.6s				

VLS				AML	AML	01 54 14.1	
	comp=N,1685µm,0.3s						
KRI1	**kERI**	**1.18**	**237**	P	**Pb**	**01 53 50.8**	**-1.1**
FSK	**Fiskardo**	**1.19**	**277**	P	**Pb**	**01 53 50.9**	**-1.1**
FSK	**Fiskardo**	**1.19**	**277**	P	**Pb**	**01 53 50.6**	**-1.5**
LKD2	**Lefkada island**	**1.20**	**294**	P	**Pn**	**01 53 51.3**	**-1.0**
LKD2	**Lefkada island**	**1.20**	**294**	P	**Pn**	**01 53 51.4**	**-1.0**
TSLK	**Tsoukalades, L**	**1.22**	**295**	P	**Pn**	**01 53 51.6**	**-1.0**
TSLK	**Tsoukalades, L**	**1.22**	**295**	P	**Pb**	**01 53 52.1**	**-0.4**
DID	**Didima**	**1.23**	**131**	P	**Pn**	**01 53 52.4**	**-0.4**
DID	**Didima**	**1.23**	**131**	P	**Pn**	**01 53 52.3**	**-0.4**
DID				S	**Sn**	**01 54 09.3**	**-0.3**
DID				AML	AML	01 54 14.8	
	comp=E,2315µm,0.6s						
DID				AML	AML	01 54 17.9	
	comp=N,2673µm,0.7s						
THL	**Klokotos Trika**	**1.25**	**358**	P	**Pg**	**01 53 53.0**	**-0.2**
THL				S	**Sn**	**01 54 11.1**	**+1.1**
	comp=N,685nm,0.8s						
THL	**Klokotos Trika**	**1.25**	**358**	P	**Pb**	**01 53 52.7**	**-0.3**
THL				S	**Sb**	**01 54 08.5**	**-0.7**
THL				AML	AML	01 54 13.7	
	comp=E,1464µm,0.8s						
THL				AML	AML	01 54 14.9	
	comp=N,1267µm,0.5s						
ARG2	**Argostoli**	**1.25**	**264**	P	**Pn**	**01 53 51.5**	**-1.5**
MRKA	**Markates**	**1.26**	**71**	P	**Pn**	**01 53 52.2**	**-0.9**
MRKA	**Markates**	**1.26**	**71**	P	**Pn**	**01 53 52.2**	**-0.9**
MRKA				S	**Sn**	**01 54 09.5**	**-0.7**
MRKA				AML	AML	01 54 15.3	
	comp=E,1271µm,0.4s						
MRKA				AML	AML	01 54 15.7	
	comp=N,1734µm,0.6s						
KEF5	**Kardakata, Kep**	**1.26**	**269**	P	**Pn**	**01 53 51.7**	**-1.5**
KEF5				S	**Sg**	**01 54 10.2**	**+0.6**
KEF5				AML	AML	01 54 20.7	
	comp=E,4914µm,0.6s						
KEF5				AML	AML	01 54 21.6	
	comp=N,6127µm,0.5s						
KRND	**KRANIDI**	**1.27**	**137**	P	**Pb**	**01 53 53.1**	**-0.2**
KRND	**KRANIDI**	**1.27**	**137**	P	**Pb**	**01 53 53.2**	**-0.2**
NEO	**Neokhori**	**1.34**	**42**	P	**Pn**	**01 53 53.7**	**-0.6**
NEO	**Neokhori**	**1.34**	**42**	P	**Pn**	**01 53 53.7**	**-0.6**
ATH	**Athens Observa**	**1.35**	**104**	P	**Pb**	**01 53 54.6**	**-0.1**
ATH	**Athens Observa**	**1.35**	**104**	P	**Pb**	**01 53 54.4**	**-0.3**
ATH				S	**Sg**	**01 54 12.9**	**+0.4**
ATH				AML	AML	01 54 17.8	
	comp=E,2007µm,0.8s						
ATH				AML	AML	01 54 19.4	
	comp=N,1442µm,0.5s						
XOR	**Xorichti**	**1.37**	**40**	P	**Pb**	**01 53 54.8**	**-0.3**
XOR	**Xorichti**	**1.37**	**40**	P	**Pb**	**01 53 54.4**	**-0.7**
XOR				S	**Sn**	**01 54 12.5**	**-0.6**
XOR				AML	AML	01 54 19.5	
	comp=E,850µm,0.7s						
XOR				AML	AML	01 54 21.8	
	comp=N,1147µm,0.4s						
SKIA	**Skiathos**	**1.39**	**52**	P	**Pb**	**01 53 54.8**	**-0.6**
SKIA	**Skiathos**	**1.39**	**52**	P	**Pb**	**01 53 54.8**	**-0.6**
SKIA				S	**Sg**	**01 54 14.2**	**+0.4**
SKIA				AML	AML	01 54 20.1	
	comp=N,1955µm,0.8s						
SKIA				AML	AML	01 54 20.8	
	comp=E,902µm,0.7s						
ATHU	**Athens Univers**	**1.40**	**104**	P	**Pb**	**01 53 55.2**	**-0.4**
ATHU	**Athens Univers**	**1.40**	**104**	P	**Pb**	**01 53 55.1**	**-0.6**
VLY	**Voula,Athens**	**1.44**	**108**	P	**Pb**	**01 53 55.7**	**-0.6**
VLY	**Voula,Athens**	**1.44**	**108**	P	**Pb**	**01 53 55.7**	**-0.6**
PYL	**PYLOS**	**1.44**	**190**	P	**Pn**	**01 53 55.6**	**-0.1**
PYL	**PYLOS**	**1.44**	**190**	P	**Pn**	**01 53 55.6**	**-0.1**
PTL	**Penteli**	**1.44**	**100**	P	**Pb**	**01 53 55.9**	**-0.5**
PTL				S	**Sg**	**01 54 16.7**	**+1.1**
	comp=E,648nm,0.7s						
PTL	**Penteli**	**1.44**	**100**	P	**Pb**	**01 53 55.8**	**-0.5**
DION	**Dionisos Attik**	**1.49**	**99**	P	**Pb**	**01 53 56.7**	**-0.5**
DION	**Dionisos Attik**	**1.49**	**99**	P	**Pn**	**01 53 56.2**	**-0.2**
DION				S	**Sg**	**01 54 16.8**	**-0.3**
DION				AML	AML	01 54 19.3	
	comp=N,3190µm,0.4s						
DION				AML	AML	01 54 21.5	
	comp=E,2530µm,0.4s						
KYMI	**Kymi, Euboea I**	**1.63**	**78**	P	**Pb**	**01 53 58.5**	**-1.0**
KYMI	**Kymi, Euboea I**	**1.63**	**78**	P	**Pn**	**01 53 58.0**	**-0.3**
JAN	**Janina**	**1.64**	**325**	P	**Pb**	**01 53 59.5**	**-0.3**
AOS	**Alonnisos**	**1.66**	**58**	P	**Pn**	**01 53 58.0**	**-0.6**
AOS	**Alonnisos**	**1.66**	**58**	P	**Pn**	**01 53 58.2**	**-0.4**
AOS	**Alonnisos**	**1.66**	**58**	PN	**Pn**	**01 53 57.7**	**-0.9**
AOS				SN	**Sn**	**01 54 18.4**	**-1.7**
KPRO	**Kipourio**	**1.73**	**342**	P	**Pb**	**01 54 00.5**	**-0.7**
VLI	**Veliai**	**1.74**	**156**	P	**Pn**	**01 54 00.1**	**+0.4**
VLI	**Veliai**	**1.74**	**156**	P	**Pb**	**01 54 00.3**	**-1.1**
LIT	**Litokhoron**	**1.81**	**10**	P	**Pn**	**01 54 01.0**	**+0.2**
KARY	**Karystos**	**1.89**	**98**	P	**Pn**	**01 54 02.2**	**+0.4**
KZN	**Kozani**	**2.00**	**354**	P	**Pn**	**01 54 03.9**	**+0.4**
PAIG	**Paliouri**	**2.04**	**37**	P	**Pn**	**01 54 03.1**	**-0.8**
KTI	**Kastanea**	**2.08**	**1**	P	**Pb**	**01 54 05.7**	**-1.5**
KTHA	**Kythira Island**	**2.20**	**159**	PN	**Pn**	**01 54 07.0**	**+0.8**
HORT	**Hortiatis**	**2.42**	**19**	PN	**Pn**	**01 54 08.2**	**-0.9**
OUR	**Ouranopolis**	**2.50**	**36**	P	**Pn**	**01 54 10.1**	**-0.2**
OUR	**Ouranopolis**	**2.50**	**36**	PN	**Pn**	**01 54 09.6**	**-0.7**
OUR				SN	**Sn**	**01 54 39.1**	**-1.9**
KNT	**Kendrikon**	**2.91**	**12**	P	**Pn**	**01 54 16.0**	**0.0**
KNT	**Kendrikon**	**2.91**	**12**	PN	**Pn**	**01 54 15.9**	**0.0**
APE	**Apeiranthos**	**3.02**	**113**	PN	**Pn**	**01 54 18.1**	**+0.7**
VAY	**Valandovo**	**3.03**	**7**	*i* Pn	**Pb**	**01 54 23.4**	**+0.1**
SRS	**Serrai**	**3.04**	**22**	P	**Pn**	**01 54 17.6**	**0.0**
THAS	**Thassos island**	**3.07**	**41**	P	**Pn**	**01 54 17.2**	**-0.9**
SIGR	**SIGRI**	**3.09**	**72**	PN	**Pn**	**01 54 18.6**	**+0.2**
STIP	**Stip**	**3.38**	**2**	*i* Pn	**Pn**	**01 54 23.9**	**+1.6**
URLA	**Izmir**	**3.56**	**88**	PN	**Pn**	**01 54 25.4**	**+0.5**
IDI	**Anoyia**	**3.78**	**142**	P	**Pn**	**01 54 28.5**	**+0.7**
	comp=E,1.2nm,0.3s,baz=322,slow=18,SNR=1.4						
IDI				S	**Sn**	**01 55 10.6**	**-2.0**
	comp=E,1.8nm,0.3s,baz=282,slow=17,SNR=2.0						
RDO	**Rodhopi**	**3.89**	**42**	PN	**Pn**	**01 54 29.3**	**0.0**
GELI	**Tayfur-Gelibol**	**4.00**	**57**	PN	**Pn**	**01 54 31.1**	**+0.3**
ALN	**Alexandroupoli**	**4.01**	**49**	PN	**Pn**	**01 54 31.5**	**+0.5**
KDZ	**Kurdzhali**	**4.21**	**37**	PN	**Pn**	**01 54 33.5**	**-0.2**
ULC	**Ulcinj**	**4.24**	**330**	*i* Pn	**Pn**	**01 54 34.9**	**+0.8**
ULC				*i* Sn	**Sn**	**01 55 24.6**	**+0.8**
DRME	**Dracevica, Mon**	**4.45**	**331**	⇓*i* Pn	**Pn**	**01 54 38.1**	**+1.1**
DRME				*i* Sn	**Sn**	**01 55 30.6**	**+1.6**
PVY	**Plav**	**4.57**	**340**	⇑*i* Pn	**Pn**	**01 54 39.5**	**+0.8**
PVY				*i* Sn	**Sn**	**01 55 33.1**	**+1.0**
TTG	**Podgorica**	**4.64**	**333**	⇑*i* Pn	**Pn**	**01 54 40.8**	**+1.2**
TTG				*i* Sn	**Sn**	**01 55 35.3**	**+1.7**
BUM	**Brajici-Budva**	**4.66**	**330**	⇓*i* Pn	**Pn**	**01 54 40.7**	**+0.7**
BUM				*i* Sn	**Sn**	**01 55 35.6**	**+1.3**
IVA	**Berane**	**4.84**	**341**	⇑*i* Pn	**Pn**	**01 54 43.7**	**+1.2**
IVA				*i* Sn	**Sn**	**01 55 40.0**	**+1.2**
CEME	**Cevo**	**4.86**	**331**	⇑*i* Pn	**Pn**	**01 54 43.9**	**+1.2**
CEME				*i* Sn	**Sn**	**01 55 40.5**	**+1.3**
KOME	**Kolasin**	**4.93**	**338**	⇓*i* Pn	**Pn**	**01 54 45.0**	**+1.3**
KOME				*i* Sn	**Sn**	**01 55 42.0**	**+1.1**
HCY	**Herceg Novi**	**4.95**	**328**	⇓*i* Pn	**Pn**	**01 54 44.6**	**+0.8**
HCY				*i* Sn	**Sn**	**01 55 42.4**	**+1.1**
NKME	**Niksic**	**5.04**	**333**	⇑*i* Pn	**Pn**	**01 54 46.1**	**+0.9**
NKME				*i* Sn	**Sn**	**01 55 44.9**	**+1.3**
NKY	**Niksic**	**5.07**	**333**	⇑*i* Pn	**Pn**	**01 54 46.8**	**+1.2**
NKY				*i* Sn	**Sn**	**01 55 45.5**	**+1.2**
DBRK	**Dubrovnik**	**5.28**	**327**	*e*Pn	**Pn**	**01 54 48.6**	**+0.2**
BRY	**Bratogost**	**5.31**	**331**	⇑*i* Pn	**Pn**	**01 54 49.9**	**+0.9**
BRY				*i* Sn	**Sn**	**01 55 51.1**	**+0.7**
PLE	**Pljevlja**	**5.41**	**339**	⇓*i* Pn	**Pn**	**01 54 51.5**	**+1.2**
UPM	**Unac-Piva**	**5.44**	**335**	⇑*i* Pn	**Pn**	**01 54 52.0**	**+1.2**
VAE	**Valguarnera**	**6.11**	**264**	P	Pn	01 55 05.0	+5.1
	baz=108,slow=20,SNR=1.2						
VAE				S	**Sn**	**01 56 10.2**	**+0.2**
	comp=E,0.2nm,0.3s,baz=289,slow=3.3,SNR=1.5						
RICI	**Ricice**	**6.38**	**326**	*e*Pn	**Pn**	**01 55 03.5**	**0.0**
HVAR	**Hvar**	**6.46**	**320**	*e*Pn	**Pn**	**01 55 04.5**	**-0.1**
KIJV	**Kijevo**	**7.11**	**325**	*e*Pn	**Pn**	**01 55 13.9**	**+0.4**
ZIRJ	**Zirje**	**7.21**	**320**	*e*Pn	**Pn**	**01 55 15.4**	**+0.4**
MORI	**Morici**	**7.33**	**321**	*e*Pn	**Pn**	**01 55 17.2**	**+0.6**
MLR	**Muntele Rosu**	**7.73**	**21**	P	Pn	01 55 27.0	+4.8
	comp=E,0.3nm,0.3s,baz=213,slow=12,SNR=2.3						
MLR				LR	LR	01 59 08.9	
	comp=E,70nm,19.1s,baz=120,slow=43						
UDBI	**Udbina**	**7.80**	**325**	*e*Pn	**Pn**	**01 55 24.8**	**+1.6**
BRJN	**Brijuni**	**9.06**	**319**	*e*Pn	**Pn**	**01 55 40.5**	**+0.3**
BRTR	**Keskin Array B**	**9.12**	**78**	P	**Pn**	**01 55 43.6**	**+2.4**
	comp=E,0.2nm,0.3s,baz=262,slow=12,SNR=8.3						

VYHS	**Vyhne**	**10.44**	**348**	*e*PN	Pn	01 55 51.3	-7.9
GERES	**GERESS Array B**	**12.14**	**333**	P	Pn	01 56 26.9	+4.5
	comp=E,0.1nm,0.3s,baz=149,slow=14,SNR=1.8						
ESDC	**Sonseca Array**	**20.26**	**282**	P	Pn	01 58 06.2	-0.8
	comp=E,1.3nm,0.8s,baz=80,slow=11,SNR=12						
HFS	**Hagfors**	**22.48**	**349**	P	**P**	**01 58 30.7**	**+2.0**
	comp=E,2.0nm,0.8s,baz=155,slow=15,SNR=1.9						
NOA	**NORSAR Array B**	**23.74**	**347**	LR	LR	02 10 22.8	
	comp=E,11nm,19.9s,baz=95,slow=42						
EKA	**Eskdalemuir Ar**	**24.03**	**323**	P	**P**	**01 58 44.7**	**+0.2**
	comp=E,2.2nm,0.7s,baz=124,slow=10,SNR=5.4						
TORD	**Torodi Ar. Bea**	**30.92**	**221**	P	**P**	**01 59 46.4**	**-0.2**
	comp=E,0.6nm,0.7s,baz=30,slow=8.4,SNR=6.0						
MKAR	**Makanchi Array**	**44.19**	**59**	P	**P**	**02 01 38.5**	**-0.1**
	comp=E,0.6nm,0.5s,baz=280,slow=7.7,SNR=6.4						
ZALV	**Zalesovo Beam**	**44.69**	**48**	P	**P**	**02 01 42.5**	**+0.1**
	comp=E,0.7nm,0.5s,baz=269,slow=9.6,SNR=2.7						

*IDC **20** 02:00:26.8±0.8,3°.12S×135°.96E, h0km, mb4.2/6, mb1 4.3/10, mb1mx4. 1/32, mbtmp4.2/10, ML4.3/3, MS3.6/4, Ms1 3.6/4, ms1mx3.1/36, Error ellipse: s-maj=25.3km s-min=19.2km az=68.0*

*NEIC **20** 02:00:29.4±1.2,3°.19S±0°.08×135°.92E±0°.05, h18km±4km, mb4.3/10, Error ellipse: s-maj=13.0km s-min=4.8km az=209.0*

*DJA **20** 02:00:30.7±0.5,3°S±4°×13°6E±°, h23km±4km, M4.5/6, mb4.6/6, mB5.3/3, MLv4.5/6, Mw(mB)4.8/3*

ISC 20 02:00:30.8±0.6,3°.29S±0°.06×135°.88E±0°.06, h33km, n35, σ1§92/34, mb4.1/6, MS3.5/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SRPI	**Serui, Papua**	**1.45**	**14**	P		**Pn**	**02 00 53.2**	**-1.6**
KMPI	**Kaimana, Papua**	**2.21**	**260**	P		**Pn**	**02 01 05.5**	**+0.3**
RKPI	**Ransiki, Papua**	**2.46**	**316**	P		**Pn**	**02 01 08.8**	**+0.2**
FAKI	**Fak Fak**	**3.65**	**276**	P		**Pn**	**02 01 26.5**	**+1.5**
FAKI	**Fak Fak**	**3.65**	**276**			**Pn**	**02 01 26.6**	**+1.5**
JAY	**Jayapura**	**4.88**	**81**	Pn		**Pn**	**02 01 40.9**	**-1.1**
	0.6nm,0.3s,baz=232,slow=12,SNR=1.7							
JAY				Sn		**Sn**	**02 02 36.8**	**-0.6**
	1.8nm,0.3s,baz=91,slow=10,SNR=1.5							
SIJI	**Sorong**	**5.20**	**297**	Pn		**Pn**	**02 01 46.5**	**0.0**
	25nm,0.3s,baz=195,slow=22,SNR=43							
SIJI				Sn		**Sn**	**02 02 42.8**	**-2.6**
	32nm,0.3s,baz=302,slow=21,SNR=14							
MTN	**Manton Dam**	**10.59**	**206**	Pn		**Pn**	**02 03 01.5**	**+1.1**
KNRA	**Kununurra**	**14.17**	**209**	Pn		**Pn**	**02 03 50.2**	**+0.9**
KAPI	**Kappang**	**16.18**	**263**	Pn		**Pn**	**02 04 15.2**	**-0.7**
KAPI				IAmb	IAmb		02 05 04.8	
	comp=Z,37nm,1.4s							
WB0	**Warramunga Arr**	**16.44**	**185**			**Pn**	**02 04 20.9**	**+1.6**
WB0				IAmb	IAmb		02 04 31.5	
	comp=Z,59nm,1.9s							
WRAB	**Tennant Creek**	**16.61**	**185**	Pn		**Pn**	**02 04 21.4**	**+0.1**
WRAB				IAmb	IAmb		02 04 38.2	
	comp=Z,14nm,0.8s							
WB2	**Warramunga Arr**	**16.62**	**185**	Pn		**Pn**	**02 04 22.1**	**+0.6**
WB2				IAmb	IAmb		02 04 37.9	
	comp=Z,10nm,0.8s							
WR0	**Warramunga Arr**	**16.62**	**184**	Pn		**Pn**	**02 04 22.8**	**+1.4**
WRA	**Warramunga Arr**	**16.62**	**185**	Pn		**Pn**	**02 04 20.6**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=0.1,slow=13,SNR=18							
WRA				Sn		Sn	02 07 14.9	-10
	comp=Z,0.3nm,0.3s,baz=6.4,slow=23,SNR=3.6							
WRA	**Warramunga Arr**	**16.62**	**185**			**Pn**	**02 04 22.8**	**+1.3**
FITZ	**Fitzroy Crossi**	**17.82**	**214**	P		**Pn**	**02 04 37.5**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=30,slow=9.8,SNR=8.3							
FITZ				S		**Sn**	**02 07 47.9**	**-6.2**
	comp=Z,0.9nm,0.3s,baz=189,slow=14,SNR=5.6							
FITZ				LR		LR	02 12 17.7	
	comp=Z,73nm,20.3s,baz=32,slow=40							
FITZ	**Fitzroy Crossi**	**17.82**	**214**			**Pn**	**02 04 37.9**	**+1.5**
FITZ						**Sn**	**02 07 49.3**	**-4.8**
GUMO	**Guam**	**18.99**	**28**	LR		LR	02 12 10.7	
	comp=Z,5.8nm,19.1s,baz=212,slow=37							
CTA	**Charters Tower**	**19.52**	**150**	P		**Pn**	**02 04 58.1**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=318,slow=12,SNR=2.3							
AS31	**Alice Springs**	**20.35**	**185**			Pn	02 05 07.4	+0.6
ASAR	**Alice Springs**	**20.35**	**185**	P		Pn	02 05 08.0	+1.2
	comp=Z,26nm,1.0s,baz=9.5,slow=11,SNR=96							
ASAR				S		**S**	**02 08 47.6**	**-3.5**
	comp=Z,2.3nm,0.8s,baz=6.8,slow=27,SNR=6.8							
ASAR				LR		LR	02 13 46.3	
	comp=Z,194nm,21.6s,baz=8.0,slow=39							
ASAR	**Alice Springs**	**20.35**	**185**			Pn	02 05 07.2	+0.4
STKA	**Stephens Creek**	**28.94**	**170**	LR		LR	02 17 18.6	
	comp=Z,119nm,20.9s,baz=7.7,slow=35							
WHN	**Wuhan**	**39.43**	**330**	P		P	02 08 03.3	+5.4
MKAR	**Makanchi Array**	**68.55**	**324**	P		**P**	**02 11 31.7**	**+1.4**
	comp=Z,1.1nm,0.7s,baz=119,slow=7.3,SNR=8.9							
MKAR	**Makanchi Array**	**68.55**	**324**	P		**P**	**02 11 31.5**	**+1.2**
ZAA0	**Zalesovo Array**	**71.04**	**331**	P		**P**	**02 11 46.1**	**+0.6**
ZAA0				IAmb	IAmb		02 13 18.5	
	comp=Z,5.4nm,1.4s							
ZALV	**Zalesovo Beam**	**71.04**	**331**	P		**P**	**02 11 45.0**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=133,slow=5.6,SNR=3.5							
VNDA	**Vanda**	**75.47**	**174**	P		**P**	**02 12 12.8**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=321,slow=6.1,SNR=7.4							
VNDA				LR		LR	02 44 13.3	
	comp=Z,90nm,19.1s,baz=355,slow=35							
QSPA	**South Pole Qui**	**86.66**	**180**	P		**P**	**02 13 12.9**	**+1.8**
	comp=Z,2.9nm,0.9s,baz=280,slow=0.8,SNR=12							
ILAR	**Eielson Array**	**87.53**	**25**	P		**P**	**02 13 15.2**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=270,slow=4.3,SNR=11							
TORD	**Torodi Ar. Bea**	**133.69**	**285**	PKP		**PKiKP**	**02 19 46.3**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=63,slow=1.5,SNR=8.7							
CPUP	**Villa Florida**	**147.90**	**157**	PKPbc		**PKPbc**	**02 20 14.2**	**+0.7**
	comp=Z,3.7nm,0.8s,baz=215,slow=3.4,SNR=5.3							
LPAZ	**La Paz**	**149.31**	**130**	PKPbc		**PKiKP**	**02 20 19.4**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=214,slow=3.8,SNR=1.5							

*IDC **20** 02:18:29.6±7.3,20°.42S×178°.65W, h680km±93km, mb2.6/6, mb1 3.0/6, mb1mx2.8/33, mbtmp3.7/6, Error ellipse: s-maj=38.3km s-min=36.0km az=151.0*

ISC 20 02:18:22.2±1.0,20°.3S±0°.2×178°.5W±0°.2, h587km, n8, σ1§24/8, mb3.1/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.13**	**257**	P		**P**	**02 25 40.7**	**+0.6**
	0.2nm,0.5s,baz=90,slow=9.1,SNR=2.1							
WRA	**Warramunga Arr**	**44.19**	**262**	P		**P**	**02 25 40.7**	**+0.1**
	0.3nm,0.5s,baz=96,slow=7.6,SNR=6.2							
VNDA	**Vanda**	**58.06**	**185**	P		**P**	**02 27 19.6**	**-0.1**
	0.4nm,0.5s,baz=47,slow=4.8,SNR=2.7							
NVAR	**Mina Array Bea**	**81.19**	**44**	P		**P**	**02 29 38.8**	**+0.8**
	0.4nm,0.6s,baz=225,slow=9.6,SNR=3.8							
ILAR	**Eielson Array**	**88.22**	**13**	P		**P**	**02 30 11.0**	**-0.2**
	0.4nm,0.5s,baz=217,slow=5.7,SNR=4.7							
PDAR	**Pinedale Array**	**89.13**	**43**	P		**P**	**02 30 16.8**	**+0.5**
	0.2nm,0.3s,baz=203,slow=5.7,SNR=2.6							
AKASG	**Malin Array Be**	**142.63**	**331**	PKP		**PKPdf**	**02 36 46.7**	**-2.4**
	1.5nm,0.5s,baz=44,slow=4.1,SNR=11							
BRTR	**Keskin Array B**	**146.38**	**312**	PKPbc		**PKPdf**	**02 36 56.8**	**+0.7**
	2.7nm,1.2s,baz=72,slow=4.7,SNR=2.7							

*IDC **20** 02:49:35.4±3.0,36°.13N×141°.92E, h0km, mb3.2/3, mb1 3.3/4, mb1mx3.2/50, mbtmp3.1/4, ML2.0/1, MS2.8/1, Ms1 2.8/1, ms1mx2.4/25, Error ellipse: s-maj=80.1km s-min=34.6km az=59.0*

*JMA **20** 02:49:45.4±0.1,35°.48N×141°.11E, h34km±1km, M2.6*

ISC 20 02:49:42.4±1.6,35°.57N±0°.07×141°.3E±0°.1, h25km, n20, σ1§78/15, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.36**	**291**	P		**Pn**	**02 49 53.2**	**+1.1**
CHOJ				*e*S		**Sn**	**02 49 58.5**	**+0.1**
JSMT	**Sammumatsuo**	**0.68**	**276**	P		Pn	02 49 56.9	+0.5
BSO1	**Boso 1**	**0.95**	**195**	P		**Pb**	**02 50 00.5**	**+0.6**
BSO4	**Boso 4**	**0.96**	**233**	P		**Pb**	**02 50 00.7**	**+0.3**
BSO3	**Boso 3**	**0.99**	**219**	P		**Pb**	**02 50 00.8**	**0.0**
JYT	**Yasato**	**1.09**	**307**	P		**Pb**	**02 50 04.3**	**+1.7**
JAG	**Ashikaga**	**1.70**	**300**	P		**Pb**	**02 50 12.5**	**-0.6**
JOD2	**Odawara 2**	**1.81**	**261**	P		**Pn**	**02 50 13.5**	**+1.5**
MJAR	**Matsushiro Arr**	**2.67**	**292**	Pn		**Pn**	**02 50 25.8**	**+2.0**
	0.2nm,0.3s,baz=95,slow=14,SNR=4.9							
MAT	**Matsushiro**	**2.67**	**292**	P		**Pn**	**02 50 26.9**	**+3.1**
MAT				*e*S		**Sb**	**02 51 00.9**	**-0.9**
KSRS	**Korea Array**	**10.91**	**284**	LR		LR	02 56 20.0	
	comp=Z,46nm,19.0s,baz=98,slow=36							

H11N2	**WAKE ISLAND Hy**	**27.53**	**118**	T	T	03 24 33.5	
	baz=310,slow=75,SNR=5.7						
H11N1	**WAKE ISLAND Hy**	**27.54**	**118**	T	T	03 24 38.1	
	baz=310,slow=75,SNR=3.9						
H11N3	**WAKE ISLAND Hy**	**27.55**	**118**	T	T	03 24 34.9	
	baz=310,slow=75,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**28.19**	**120**	T	T	03 25 19.0	
	baz=312,slow=75,SNR=18						
H11S3	**WAKE ISLAND Hy**	**28.19**	**120**	T	T	03 25 19.2	
	baz=312,slow=75,SNR=12						
H11S2	**WAKE ISLAND Hy**	**28.21**	**120**	T	T	03 25 21.9	
	baz=312,slow=75,SNR=9.4						
MKAR	**Makanchi Array**	**44.81**	**303**	P	**P**	**02 57 51.4**	**-2.8**
	0.2nm,0.7s,baz=81,slow=9.1,SNR=1.6						
KURBB	**Kurchatov Arra**	**46.82**	**309**	P	**P**	**02 58 07.2**	**-2.8**
	0.2nm,0.4s,baz=89,slow=6.9,SNR=2.5						
WRA	**Warramunga Arr**	**55.60**	**188**	P	**P**	**02 59 17.0**	**+1.0**
	0.4nm,0.9s,baz=1.3,slow=7.4,SNR=1.6						

*IDC **20** 02:54:00.4±0.7,28°.93N×51°.36E, h0km, mb4.1/20, mb1 4.1/27, mb1mx4.0/60, mbtmp4.0/27, ML3.6/6, MS2.9/3, Ms1 2.9/3, ms1mx2.4/49, Error ellipse: s-maj=18.3km s-min=13.8km az=179.0*

*TEH **20** 02:54:01.4, 28°.83N×51°.28E, h10km, ML4.2*

*THR **20** 02:54:01.3±0.3, 28°.83N×51°.46E, h14km±2km, ML4.2*

*NEIC **20** 02:54:05.8±2.0, 28°.98N±0°.07×51°.33E±0°.08, h35km±6km, Error ellipse: s-maj=11.3km s-min=7.8km az=45.0*

*DSN **20** 02:54:07.3±1.4, 28°.72N×51°.64E, h10km, ML4.3/9, Error ellipse: s-maj=23.3km s-min=9.9km az=14.0*

*OMAN **20** 02:54:07.5±0.1, 28°.84N×51°.49E, h30km, ml4.2/5, Error ellipse: s-maj=5.5km s-min=3.2km az=324.0*

ISC 20 02:54:02.9±1.0, 28°.87N±0°.04×51°.25E±0°.04, h17km±6km, n150, σ1§60/170, mb4.2/31, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.04**	**99**	*e*Pg		**Pg**	**02 54 05.2**	**-0.8**
SHI	**Shiraz**	**1.35**	**55**	*e*Pg		**Pn**	**02 54 26.4**	**-0.7**
SHI				*e*			02 54 29.8	
SHI				*e*Sg		**Sg**	**02 54 47.1**	**+0.5**
JHRM	**Jahrom**	**2.08**	**100**	*e*Pn		**Pb**	**02 54 38.8**	**-1.4**
JHRM				*e*			02 55 13.9	
JHRM	**Jahrom**	**2.08**	**100**			**Pb**	**02 54 38.8**	**-1.4**
KLNJ	**Kolanjah**	**2.15**	**8**	*e*Pn		**Pb**	**02 54 39.8**	**-1.9**
KLNJ				*e*			02 55 13.1	
KLNJ	**Kolanjah**	**2.15**	**8**	Pn		**Pb**	**02 54 39.7**	**-1.9**
IRAM	**Ramesheh**	**3.09**	**18**	*e*Pn		**Pn**	**02 54 52.2**	**+1.1**

JMDO	**Jabal Madar**	**8.95**	**135**	P	**Pn**	**02 56 11.7**	**+0.2**
JMDO				S	**Sn**	**02 57 49.0**	**-3.0**
WBK	**Wadi Bani Khal**	**9.34**	**130**	P	**Pn**	**02 56 16.8**	**0.0**
WBK				S	**Sn**	**02 58 00.5**	**-1.1**
MHTO	**MHTO**	**9.94**	**141**	P	**Pn**	**02 56 25.5**	**+0.5**
GEYT	**Alibeck**	**10.70**	**31**	Pn	**Pn**	**02 56 32.9**	**-2.5**
	comp=E,0.1nm,0.3s,baz=196,slow=9.0,SNR=1.3						
GEYT				LR	LR	03 01 23.5	
	comp=E,62nm,19.1s,baz=165,slow=42						
DMTO	**DMTO**	**11.61**	**162**	P	**Pn**	**02 56 48.1**	**+0.2**
	SNR=22						
RBK	**Rabkut**	**11.64**	**166**	P	**Pn**	**02 56 48.7**	**+0.4**
ASF	**Jabal al Asfar**	**12.80**	**288**	Pn	**Pn**	**02 57 04.1**	**-0.1**
	comp=E,0.3nm,0.3s,baz=94,slow=16,SNR=2.4						
ASF				Sn	**Sn**	**02 59 19.5**	**-6.9**
	comp=E,0.2nm,0.3s,baz=52,slow=11,SNR=2.5						
ASF				Lg	Lg	03 01 01.9	
	comp=E,0.1nm,0.3s,baz=168,slow=21,SNR=1.7						
EIL	**Elat**	**14.25**	**277**	Pn	**Pn**	**02 57 24.9**	**+1.0**
	baz=92,slow=13,SNR=1.0						
EIL				Lg	Lg	03 01 42.9	
	comp=E,0.1nm,0.3s,baz=120,slow=15,SNR=2.0						
EIL				LR	LR	03 03 17.8	
	comp=E,44nm,18.0s,baz=98,slow=39						
DAMY	**Dhamar**	**15.58**	**205**		**P**	**02 57 49.6**	**+3.2**
DAMY				IAmb	IAmb	02 57 58.4	
	comp=Z,15nm,1.2s						
DAMY					**PcP**	**03 02 43.1**	**-0.9**
KBZ	**Khabaz**	**16.27**	**338**	Pn	**P**	**02 57 52.0**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=143,slow=11,SNR=8.4						
CSS	**Mathiatis**	**16.37**	**296**	Pn	**P**	**02 57 53.9**	**-0.9**
CSS				IAmb	IAmb	02 57 57.2	
	comp=Z,23nm,1.1s						
KVAR	**Kislovodsk Arr**	**16.54**	**338**	Pn	**P**	**02 57 56.7**	**0.0**
	baz=252,slow=20,SNR=1.7						
KIV	**Kislovodsk**	**16.54**	**338**	Pn	**Pn**	**02 57 51.4**	**-2.7**
KIV				IAmb	IAmb	02 58 02.3	
	comp=Z,17nm,1.2s						
BRTR	**Keskin Array B**	**18.10**	**311**	P	**P**	**02 58 14.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=135,slow=13,SNR=8.4						
NIL	**Nilore**	**19.39**	**70**	P	**P**	**02 58 27.5**	**-0.6**
NIL				IAmb	IAmb	02 58 46.0	
	comp=Z,14nm,1.1s						
KK31	**Karatay Array**	**21.02**	**42**	P	**P**	**02 58 44.4**	**-1.2**
KKAR	**Karatay Array**	**21.02**	**42**	P	**P**	**02 58 45.0**	**-0.7**
ABKAR	**Akbulak array**	**21.42**	**16**	P	**P**	**02 58 50.1**	**+0.2**
ARSB	**Arslanbob**	**21.62**	**49**	P	**P**	**02 58 51.3**	**-1.0**
ARSB				IAmb	IAmb	02 58 55.3	
	comp=Z,9.3nm,0.8s						
IDI	**Anoyia**	**23.19**	**293**	LR	LR	03 10 54.0	
	comp=Z,27nm,19.6s,baz=86,slow=44						
AAK	**Ala-Archa**	**23.24**	**48**	P	**P**	**02 59 08.6**	**-0.8**
	comp=Z,1.6nm,0.4s,baz=243,slow=11,SNR=1.8						
BOOM	**Boomskoye usch**	**24.12**	**49**	P	**P**	**02 59 17.9**	**-0.1**
BOOM				IAmb	IAmb	02 59 21.4	
	comp=Z,6.7nm,0.7s						
KDJ	**Kajisay**	**24.80**	**51**	P	**P**	**02 59 24.6**	**+0.4**
KDJ				IAmb	IAmb	02 59 28.6	
	comp=Z,6.8nm,0.8s						
PRZ	**Przheval'sk**	**25.77**	**51**	P	**P**	**02 59 34.2**	**+1.2**
PRZ				IAmb	IAmb	02 59 39.1	
	comp=Z,11nm,0.5s						
AKASG	**Malin Array Be**	**27.41**	**329**	P	**P**	**02 59 47.2**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=113,slow=6.7,SNR=2.9						
AKBB	**Malin Array Si**	**27.41**	**329**	P	**P**	**02 59 47.6**	**+0.2**
AKBB				IAmb	IAmb	02 59 57.8	
	comp=Z,17nm,1.6s						
BVAR	**Borovoye Array**	**27.95**	**25**	P	**P**	**02 59 51.7**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=228,slow=5.8,SNR=9.6						
KURBB	**Kurchatov Arra**	**29.91**	**36**	P	**P**	**03 00 09.3**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=236,slow=9.3,SNR=6.5						
KURBB				PcP	**PcP**	**03 03 12.6**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=233,slow=3.1,SNR=4.1						
KURK	**Kurchatov**	**30.01**	**36**	P	**P**	**03 00 09.3**	**-1.2**
KURK	**Kurchatov**	**30.01**	**36**		**PcP**	**03 03 12.6**	**+0.1**
KURK	**Kurchatov**	**30.01**	**36**	IAmb	IAmb	03 01 10.8	
	comp=Z,12nm,1.9s						
MK31	**Makanchi Array**	**30.08**	**45**	P	**P**	**03 00 11.8**	**+0.4**
MKAR	**Makanchi Array**	**30.08**	**45**	P	**P**	**03 00 10.8**	**-0.5**
	comp=Z,1.8nm,0.8s,baz=234,slow=7.9,SNR=10						
MKAR				PcP	**PcP**	**03 03 12.4**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=245,slow=3.0,SNR=2.4						
MKAR	**Makanchi Array**	**30.08**	**45**	P	**P**	**03 00 11.6**	**+0.3**
WMQ	**Urumqi**	**32.64**	**53**	*e*P	**P**	**03 00 37.3**	**+3.4**
WMQ				LR	LR		
	comp=N,28nm,17.5s						
WMQ				LR	LR		
	comp=E,210nm,18.9s						
WMQ				LR	LR		
	comp=Z,100nm,17.7s						
ZAA0	**Zalesovo Array**	**34.97**	**35**	P	**P**	**03 00 54.8**	**+0.8**
ZALV	**Zalesovo Beam**	**34.97**	**35**	P	**P**	**03 00 53.0**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=260,slow=8.4,SNR=6.2						
ZALV	**Zalesovo Beam**	**34.97**	**35**	P	**P**	**03 00 54.0**	**0.0**
FINES	**FINESS Array B**	**36.61**	**340**	P	**P**	**03 01 07.1**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=149,slow=9.1,SNR=10						
FINES				PcP	**PcP**	**03 03 30.5**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=159,slow=4.2,SNR=1.7						
GTA	**Gaotai**	**41.12**	**62**	*e*P	**P**	**03 01 47.4**	**+1.2**
GTA				pP	sP	03 01 52.5	-1.3
GTA				sP	pP	03 01 55.6	+4.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.2s						
TAM	**Tamanrasset**	**41.40**	**272**	P	P	03 01 54.3	+5.5
NB2	**NORSAR Subarra**	**41.72**	**332**	P	**P**	**03 01 49.9**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=124,slow=8.6						
NOA	**NORSAR Array B**	**41.72**	**332**	P	**P**	**03 01 50.1**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=127,slow=9.0,SNR=4.0						
ARCES	**ARCESS Array B**	**43.32**	**347**	P	**P**	**03 02 03.6**	**+0.1**
	comp=Z,5.7nm,0.9s,baz=131,slow=9.0,SNR=2.9						
SONM	**Songino Array**	**46.16**	**50**	P	**P**	**03 02 26.2**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=262,slow=9.0,SNR=3.6						
SONM	**Songino Array**	**46.16**	**50**	P	**P**	**03 02 28.5**	**+1.8**
ESDC	**Sonseca Array**	**46.24**	**299**	P	**P**	**03 02 28.0**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=68,slow=7.7,SNR=11						
TOA0	**Torodi Ar. Sit**	**48.48**	**262**	P	**P**	**03 02 47.0**	**+2.0**
TORD	**Torodi Ar. Bea**	**48.48**	**262**	P	**P**	**03 02 46.4**	**+1.4**
	comp=Z,3.6nm,0.7s,baz=59,slow=8.4,SNR=22						
TORD	**Torodi Ar. Bea**	**48.48**	**262**		**P**	**03 02 46.1**	**+1.1**
DBIC	**Dimbokro**	**57.23**	**259**	P	**P**	**03 03 50.7**	**+1.0**
	comp=Z,6.8nm,0.6s,baz=31,slow=7.3,SNR=12						
KSRS	**Korea Array**	**63.15**	**60**	P	**P**	**03 04 29.2**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=282,slow=7.3,SNR=2.6						
SCHQ	**Schefferville**	**81.20**	**329**	P	**P**	**03 06 17.6**	**-0.1**
	comp=Z,1.6nm,0.7s,baz=33,slow=1.0,SNR=1.7						
IMAR	**Indian Mountai**	**83.52**	**10**	P	**P**	**03 06 28.7**	**-0.8**
IL31		**85.60**	**8**	P	**P**	**03 06 39.5**	**-0.5**
IL31				IAmb	IAmb	03 09 21.1	
	comp=Z,7.3nm,1.6s						
ILAR	**Eielson Array**	**85.60**	**8**	P	**P**	**03 06 40.2**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=327,slow=4.5,SNR=14						
ILAR	**Eielson Array**	**85.60**	**8**	P	**P**	**03 06 39.9**	**-0.1**
CCB	**Clear Creek Bu**	**85.61**	**8**	P	**P**	**03 06 40.1**	**0.0**
CCB				IAmb	IAmb	03 09 22.1	
	comp=Z,6.7nm,1.6s						
FITZ	**Fitzroy Crossi**	**85.63**	**113**	P	**P**	**03 06 40.9**	**0.0**
	comp=Z,2.8nm,0.8s,baz=311,slow=4.5						
SCRK	**Sand Creek**	**86.69**	**7**	P	**P**	**03 06 45.5**	**-0.1**
SCRK				IAmb	IAmb	03 06 47.7	
	comp=Z,4.4nm,1.0s						
BCAR	**Beaver Creek A**	**87.79**	**6**	P	**P**	**03 06 51.9**	**+1.1**
YKA	**Yellowknife Ar**	**88.25**	**353**	P	**P**	**03 06 52.7**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=6.0,slow=4.6,SNR=4.2						
HYT	**Haines Junctio**	**90.34**	**4**	P	**P**	**03 07 02.4**	**-0.6**
HYT				IAmb	IAmb	03 07 39.1	
	comp=Z,3.2nm,0.8s						
WRA	**Warramunga Ar**	**93.65**	**111**	P	**P**	**03 07 17.9**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=311,slow=3.7,SNR=1.8						
ASAR	**Alice Springs**	**95.10**	**114**	P	**P**	**03 07 24.3**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=312,slow=4.8,SNR=7.0						

*NNC **20** 03:00:23.7±1.8,39.66N×69.04E,h0km,mb3.9,mpv3.5, Error ellipse: s-maj=15.2km s-min=11.3km az=168.0*
*SOME **20** 03:00:27.7,39.77N×69.18E,h5km*
*KRNET **20** 03:00:28.9±0.1,39.83N×69.02E,h15km,mb3.3*
*ISU **20** 03:00:29.0,39.80N×68.80E,h5km*

ISC 20 03:00:28.1±1.3,**39.81N**±0.03×**68.94E**±0.03,**h6**km±11km, **n27**,σ2ŝ**11**/45,**15C-14D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DZI	**Dzhizak**	**0.92**	**290**	*i* P		**Pg**	**03 00 45.9**	**+0.2**
DZI				*i* S		**Sg**	**03 00 58.6**	**+1.0**
CHGR	**Chuyangaron**	**1.17**	**172**	⇓*e*P		**Pb**	**03 00 51.4**	**+0.7**
	baz=75							
CHGR				⇓*i*S		**Sn**	**03 01 07.6**	**+0.3**
	baz=75							
GAR	**Garm**	**1.34**	**127**	⇓*i*P		**Pn**	**03 00 53.7**	**+0.2**
	baz=29							
GAR				⇓*i*S		**Sn**	**03 01 12.0**	**+0.3**
	baz=29							
BTK	**Batken**	**1.46**	**80**	⇓*i*P		**Pb**	**03 00 55.5**	**-0.3**
	baz=80							
BTK				⇓*i*S		**Sn**	**03 01 15.0**	**+0.3**
	baz=80							
TAS	**Tashkent**	**1.54**	**10**	⇑*i*P		**Pb**	**03 00 57.8**	**+0.8**
	baz=8.0							
TAS				⇑*i*S		**Sg**	**03 01 18.5**	**+1.0**
	baz=8.0							
TAS	**Tashkent**	**1.54**	**10**	*e*P		**Pg**	**03 00 58.6**	**+1.0**
TAS				*i* S		**Sg**	**03 01 18.5**	**+1.0**
CHRV	**Charvak**	**1.98**	**22**	*e*P		**Pb**	**03 01 04.1**	**-0.5**
CHRV				*i* S		**Sg**	**03 01 31.2**	**-0.6**
CHMI	**Chimion**	**2.03**	**76**	*i* P		**Pg**	**03 01 08.8**	**+1.7**
CHMI				*i* S		**Sg**	**03 01 34.2**	**+0.8**
IUG	**Iuzhnay**	**2.47**	**19**	*e*P		**Pb**	**03 01 14.8**	**+1.7**
	3.6nm,0.2s							
IUG				*e*S		**Sg**	**03 01 47.3**	**-0.3**
	162nm,0.2s							
IUG	**Iuzhnay**	**2.47**	**19**	Pg		**Pn**	**03 01 09.8**	**+0.7**
	3.6nm,0.2s							
IUG				Lg		Lg	03 01 47.3	
	162nm,0.2s							
OHH	**Osh**	**3.03**	**75**	⇑*i*P		**Pn**	**03 01 19.4**	**+2.7**
	baz=75							
OHH				⇑*i*S		**Sb**	**03 01 56.7**	**-3.1**
	baz=75							
ARK	**Arkit**	**3.03**	**48**	⇑*i*P		**Pb**	**03 01 19.9**	**-2.7**
	baz=48							
ARK				⇑*i*S		**Sb**	**03 01 57.1**	**-2.8**
	baz=48							
BRLS	**Borolday**	**3.29**	**12**	*e*P		**Pb**	**03 01 25.9**	**-0.9**
	25nm,0.5s							
BRLS				*e*S		**Sn**	**03 02 04.0**	**+4.5**
	73nm,0.3s							
ARSB	**Arslanbob**	**3.43**	**63**	⇑*i*P		**Pn**	**03 01 25.2**	**+3.0**
	baz=62							
ARSB				⇑*i*S		**Sn**	**03 02 06.1**	**+2.8**
	baz=62							
KK31	**Karatay Array**	**3.49**	**19**	Pn		**Pn**	**03 01 22.6**	**-0.5**
	0.9nm,0.2s,baz=198,slow=10.0,SNR=65							
KK31				⇑Pg		**Pb**	**03 01 30.2**	**-0.2**
	3.7nm,0.3s							
KK31				⇓Lg		Lg	03 02 18.0	
	13nm,0.3s,baz=203,slow=30,SNR=23							
MRKS	**Merke**	**4.36**	**46**	*e*P		**Pb**	**03 01 47.8**	**+2.6**
	4.4nm,0.3s							
MRKS				⇓*i*S		**Sg**	**03 02 43.3**	**-4.8**
	14nm,0.2s							
MRKS	**Merke**	**4.36**	**46**	Pg		**Pb**	**03 01 42.2**	**-3.0**
	3.5nm,0.3s							
MRKS				Lg		Lg	03 02 43.3	
	19nm,0.6s							
ARLS	**Aral**	**4.57**	**62**	⇓*i*P		**Pn**	**03 01 40.9**	**+3.0**
	baz=61							
ARLS				⇓*i*S		**Sn**	**03 02 33.4**	**+2.0**
	baz=61							
UCH	**Uchtor**	**4.86**	**58**	⇑*i*P		**Pn**	**03 01 45.2**	**+3.1**
	baz=58							
UCH				⇑*i*S		**Sn**	**03 02 41.1**	**+2.2**
	baz=58							
AAK	**Ala-Archa**	**5.05**	**54**	⇓Pn		**Pn**	**03 01 41.6**	**-3.0**
	2.0nm,0.5s							
AAK				⇑Pg		**Pb**	**03 01 57.3**	**+0.3**
	4.0nm,0.8s							
AAK				⇓Lg		Lg	03 03 06.1	
	4.6nm,0.6s							
KZA	**Kyzart**	**5.29**	**63**	⇓*i*P		**Pn**	**03 01 51.0**	**+3.0**
	baz=62							
KZA				⇓*i*S		**Sn**	**03 02 51.1**	**+1.7**
	baz=62							
SGDS	**Sogindy**	**5.60**	**48**	Pg		**Pb**	**03 02 05.4**	**-1.0**
	1.7nm,0.1s							
SGDS				Lg		Lg	03 03 23.3	
	12nm,0.9s							
TKM2	**Tokmak 2**	**5.89**	**56**	⇑Lg		Lg	03 03 32.0	
	10nm,0.7s							
DGS	**Degeres**	**6.17**	**54**	Pg		**Pb**	**03 02 15.7**	**-0.3**
	2.8nm,0.5s							
DGS				Lg		Lg	03 03 40.5	
	7.9nm,0.9s							
KST	**Kastek**	**6.18**	**56**	Pg		**Pb**	**03 02 16.5**	**+0.1**
	2.1nm,0.4s							
KST				Lg		Lg	03 03 41.7	
	14nm,1.0s							
AB01	**Akbulak array**	**11.41**	**329**	⇑Pn		**Pn**	**03 03 08.9**	**-2.7**
	2.5nm,0.5s							
AKTO	**Aktyubinsk**	**13.11**	**328**	⇑Pn		**Pn**	**03 03 32.8**	**-2.0**
	3.5nm,1.1s							

*IDC **20** 03:03:57.5±0.8,37.64N×96.01E,h0km,mb4.0/16, mb1 4.1/22,mb1mx3.9/66,mbtmp4.0/22,ML3.7/6,MS3.3/2, Ms1 3.3/2,ms1mx2.6/38,Error ellipse: s-maj=21.1km s-min=14.8km az=38.0*
*NEIC **20** 03:03:58.4±2.0,37.68N±0.09×95.38E±0.1,h10km±1km, mb4.2/19,Error ellipse: s-maj=18.8km s-min=10.6km az=219.0*
*BJI **20** 03:03:59.3±0.0,37.66N×95.93E,h11km,mb4.0/1, ML3.9/14,Ms3.6/8,Ms7 3.4/7*

ISC 20 03:03:58.9±0.5,**37.64N**±0.05×**95.75E**±0.04,**h10**km,**n61**, σ1ŝ**79**/75,**mb4.2**/18,**Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**3.64**	**60**	Pn		**Pn**	**03 04 57.0**	**+1.5**
GTA				Pg		**Pb**	**03 05 04.0**	**+0.6**
GTA				Sn		**Sn**	**03 05 39.5**	**+0.9**
GTA				Sg		**Sb**	**03 05 48.0**	**+0.3**
GTA				smax		smax		
	comp=N,100nm,0.8s							
GTA				smax		smax		
	comp=E,71nm,0.9s							
GTA				LR		LR		
	comp=E,440nm,6.3s							
GTA				LR		LR		
	comp=Z,540nm,10.6s							
LZH	**Lanzhou**	**6.67**	**101**	*e*Pn		**Pn**	**03 05 36.8**	**-0.3**
LZH				Pg		**Pb**	**03 05 55.4**	**+0.3**
LZH				Sn		**Sn**	**03 06 47.8**	**-5.5**
LZH				Sg		**Sb**	**03 07 19.9**	**+5.0**
LZH				smax		smax		
	comp=N,86nm,0.7s							
LZH				smax		smax		
	comp=E,100nm,0.7s							
LZH				LR		LR		
	comp=E,280nm,5.4s							
LZH				LR		LR		
	comp=Z,250nm,6.0s							
WMQ	**Urumqi**	**8.69**	**318**	*e*P		**Pn**	**03 06 06.4**	**+1.7**
WMQ				smax		smax		
	comp=N,34nm,1.1s							
WMQ				smax		smax		
	comp=E,43nm,1.1s							
WMQ				LR		LR		
	comp=E,120nm,4.1s							
SONM	**Songino Array**	**12.83**	**34**	Pn		**Pn**	**03 06 59.5**	**-1.9**
	0.7nm,0.3s,baz=217,slow=15,SNR=3.5							
SONM				Sn		**Sn**	**03 09 23.8**	**-0.4**
	0.2nm,0.3s,baz=212,slow=19,SNR=1.2							
SONM				Lg		Lg	03 10 44.1	
	baz=218,slow=23,SNR=1.9							
SONM				LR		LR	03 12 15.8	
	comp=Z,169nm,19.3s,baz=254,slow=39							
ULN	**Ulaanbaatar**	**13.15**	**35**	Pn		**Pn**	**03 07 05.3**	**-0.5**
MK31	**Makanchi Array**	**13.52**	**317**			**Pn**	**03 07 09.8**	**-0.9**
MK31						**Sn**	**03 09 34.1**	**-6.8**
MKAR	**Makanchi Array**	**13.52**	**317**	Pn		**Pn**	**03 07 09.8**	**-0.8**
	1.0nm,0.3s,baz=128,slow=14,SNR=24							
MKAR				Sn		**Sn**	**03 09 37.2**	**-3.7**
	0.1nm,0.3s,baz=131,slow=29,SNR=1.7							
MKAR				Lg		Lg	03 11 03.6	
	baz=120,slow=29,SNR=1.5							
MKAR	**Makanchi Array**	**13.52**	**317**	Pn		**Pn**	**03 07 08.9**	**-1.8**
SHLS	**Shalkode**	**13.57**	**299**	*i* P		**Pn**	**03 07 08.4**	**-3.2**
	2.9nm,0.7s,baz=301							
SHLS				*e*S		Sn	03 09 33.5	-9.1
	baz=301							
MAKZ	**Makanchi**	**13.70**	**316**	Pn		**Pn**	**03 07 12.4**	**-0.7**
UZB	**Uzynbulak**	**13.88**	**299**	*i* P		**Pn**	**03 07 15.7**	**-0.1**
	1.0nm,0.6s,baz=300							
UZB				*e*S		**Sn**	**03 09 47.1**	**-2.9**
	baz=300							
PRZ	**Przheval'sk**	**14.14**	**295**	Pn		**Pn**	**03 07 19.6**	**+0.3**
KPKS	**Kokpek**	**14.21**	**299**	*e*P		**Pn**	**03 07 20.4**	**+0.1**
	2.0nm,0.8s,baz=300							
KPKS				*e*S		**Sn**	**03 09 55.1**	**-2.9**
	baz=300							
SATY	**Saty**	**14.28**	**298**	*e*P		**Pn**	**03 07 21.4**	**+0.1**
	1.5nm,0.7s,baz=299							
TARG	**Taragay, Kyrgy**	**14.41**	**292**	Pn		**Pn**	**03 07 22.7**	**-0.5**
GYA	**Guiyang**	**14.48**	**137**	P		**Pn**	**03 07 23.1**	**-0.9**
GYA				pP		P	03 07 31.8	+1.0
GYA				S		**Sn**	**03 10 03.0**	**-1.6**
GYA				SS		**S**	**03 10 25.3**	**+0.8**
GYA				LR		LR		
	comp=Z,160nm,15.8s							
KDJ	**Kajisay**	**14.94**	**293**	Pn		**Pn**	**03 07 30.1**	**-0.2**
MDOK	**Medeo**	**15.27**	**297**	*i* P		**Pn**	**03 07 34.6**	**-0.1**
	baz=298							
MDOK				*e*S		**Sn**	**03 10 21.4**	**-2.4**
	baz=298							
MDOK				LR		LR	03 12 34.5	
	24nm,13.4s,baz=298							
TNSS	**Tian-Shan**	**15.31**	**296**	*e*P		**Pn**	**03 07 35.1**	**-0.3**
	baz=297							
BOOM	**Boomskoye usch**	**15.91**	**294**			**Pn**	**03 07 42.7**	**-0.3**
BOOM				IAmb		IAmb	03 07 58.2	
	comp=Z,20nm,1.6s							
BJT	**Baijiatuau**	**16.09**	**75**	Pn		**Pn**	**03 07 42.5**	**-2.5**
BJT				IAmb		IAmb	03 07 52.2	
	comp=Z,20nm,1.4s							
SMLA	**Simla**	**16.65**	**253**	*i* x		x	03 07 56.0	
SEM	**Semipalatinsk**	**16.90**	**324**	*i* P		**P**	**03 07 58.8**	**+1.1**
	comp=Z,2.9nm,0.8s,baz=325							
SEM				*e*S		**Sn**	**03 11 05.0**	**+1.6**
	baz=325							
AAK	**Ala-Archa**	**16.99**	**294**	P		**P**	**03 07 59.8**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=106,slow=6.4,SNR=4.9							
AAK	**Ala-Archa**	**16.99**	**294**	Pn		**Pn**	**03 07 56.8**	**0.0**
SGDS	**Sogindy**	**17.05**	**297**	*e*P		**Pn**	**03 07 58.5**	**+1.1**
	comp=Z,1.3nm,1.0s,baz=297							
SGDS				*e*S		**Sn**	**03 11 04.8**	**-2.3**
	baz=297							
KURBB	**Kurchatov Arra**	**17.86**	**322**	P		**P**	**03 08 09.2**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=132,slow=12,SNR=14							
KURK	**Kurchatov**	**17.88**	**322**			**Pn**	**03 08 06.8**	**-0.8**
ARSB	**Arslanbob**	**17.95**	**289**	Pn		**Pn**	**03 08 07.0**	**-1.6**
ARSB				IAmb		IAmb	03 08 13.9	
	comp=Z,39nm,1.6s							
ZAA0	**Zalesovo Array**	**17.96**	**339**			**Pn**	**03 08 08.0**	**-0.6**
ZALV	**Zalesovo Beam**	**17.96**	**339**	P		**Pn**	**03 08 09.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=147,slow=8.9,SNR=11							
ZALV	**Zalesovo Beam**	**17.96**	**339**			**Pn**	**03 08 07.2**	**-1.4**
NIL	**Nilore**	**18.71**	**264**	P		**P**	**03 08 17.6**	**+0.1**
NIL				IAmb		IAmb	03 08 22.7	
	comp=Z,16nm,1.2s							
CMAR	**Chiang Mai Arr**	**19.32**	**171**	P		**P**	**03 08 24.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=345,slow=10,SNR=1.4							
KK31	**Karatay Array**	**19.95**	**294**	P		**P**	**03 08 30.9**	**-0.2**
KKAR	**Karatay Array**	**19.95**	**294**	P		**P**	**03 08 29.7**	**-1.4**
GAR	**Garm**	**19.99**	**282**	P		**P**	**03 08 32.0**	**+0.4**
GAR				IAmb		IAmb	03 08 36.9	
	comp=Z,10.0nm,0.6s							
IUG	**Iuzhnay**	**20.21**	**291**	*e*P		**P**	**03 08 35.0**	**+1.0**
	comp=Z,0.6nm,1.0s,baz=291							
CHGR	**Chuyangaron**	**20.92**	**281**	P		**P**	**03 08 41.8**	**+0.1**
CHGR				IAmb		IAmb	03 08 47.1	
	comp=Z,17nm,0.7s							
KBL	**Kabul**	**21.78**	**270**	P		**P**	**03 08 53.9**	**+2.8**
KBL				IAmb		IAmb	03 08 58.3	
	comp=Z,7.2nm,0.8s							
BVAR	**Borovoye Array**	**23.37**	**319**	P		**P**	**03 09 09.1**	**+1.6**
	comp=Z,3.3nm,0.6s,baz=112,slow=9.5,SNR=20							
BRVK	**Borovoye**	**23.44**	**319**	P		**P**	**03 09 09.9**	**+1.7**
BRVK				IAmb		IAmb	03 09 12.0	
	comp=Z,5.0nm,0.7s							
KSAR	**Wonju Array Be**	**25.42**	**81**	P		**P**	**03 09 27.3**	**+0.7**
KSRS	**Korea Array**	**25.44**	**80**	P		**P**	**03 09 25.1**	**-1.7**
	comp=Z,4.5nm,0.5s,baz=276,slow=9.7,SNR=14							
USRK	**Ussuriysk Ar.**	**27.99**	**65**	LR		LR	03 23 02.6	
	comp=Z,52nm,18.8s,baz=106,slow=41							
ARU	**Arti**	**31.02**	**319**	P		**P**	**03 10 17.2**	**+0.7**
	comp=Z,1.9nm,0.2s,baz=118,slow=16,SNR=4.6							
NRIK	**Noril'sk**	**32.07**	**355**	P		**P**	**03 10 25.4**	**-0.1**
	comp=Z,3.5nm,0.5s,baz=91,slow=5.9,SNR=4.2							
BRTR	**Keskin Array B**	**47.66**	**293**	P		**P**	**03 12 37.7**	**+2.1**
	comp=Z,0.8nm,0.6s,baz=91,slow=5.6,SNR=7.0							
FINES	**FINESS Array B**	**48.25**	**323**	P		**P

PLTB Pedras Altas 33.85 281 eP P 03 10 56.5 +1.0
CPSB Cacapava Do Su 34.56 283 eP P 03 11 03.0 +1.3
CPSB Cacapava Do Su 34.56 283 eP P 03 11 03.0 +1.3
RIB01 Linhares ES 34.60 311 eP P 03 11 02.9 +0.8
RIB01 Linhares ES 34.60 311 eP P 03 11 02.9 +0.8
MG01 Puerto William 34.69 235 P P 03 11 03.0 +0.5
SYO Syowa Base 34.94 150⇑ eP P 03 11 00.8 -3.7
SYO Syowa Base 34.94 150⇓ epP P 03 11 04.4 -0.1
SYO Syowa Base 34.94 150⇑ ePnPn PnPn 03 12 17.0 -4.1
BOSA Boshof 35.06 74 P P 03 11 05.2 -1.0
comp=Z,7.1nm,1.0s,baz=250,slow=7,7,SNR=4.0
BOSA PcP PcP 03 13 37.8 -0.1
comp=Z,8.1nm,1.2s,baz=27,slow=3.8,SNR=3.4
BOSA LR LR 03 22 40.6
comp=Z,904nm,18.9s,baz=235,slow=32
BOSA Boshof 35.06 74 IAmb IAmb 03 11 18.6
comp=Z,65nm,1.6s
USHA Ushuaia 35.16 235 P P 03 11 07.0 +0.4
comp=Z,17nm,0.5s,baz=120,slow=2.1,SNR=3.8
SJMB Sao Joao De Ma 35.52 311 eP P 03 11 10.0 0.0
SJMB Sao Joao De Ma 35.52 311 eP P 03 11 10.0 0.0
BSCB Bom Sucesso 35.66 304 eP P 03 11 11.4 +0.1
BSCB Bom Sucesso 35.66 304 eP P 03 11 11.4 +0.1
NAN01 Guarapari, ES 35.69 313 eP P 03 11 12.2 +0.7
NAN01 Guarapari, ES 35.69 313 eP P 03 11 12.2 +0.7
H10S2 ASCENSION HYDR 36.97 358 T T 03 50 30.0
baz=178,slow=74,SNR=42
H10S3 ASCENSION HYDR 36.98 358 T T 03 50 30.5
baz=42,slow=74,SNR=104
TSUM Tsumeb 37.10 54 P P 03 11 23.3 -0.4
comp=Z,29nm,0.9s,baz=216,slow=7.6,SNR=19
TSUM Tsumeb 37.10 54 P P 03 11 23.5 -0.3
TSUM IAmb IAmb 03 11 24.9
comp=Z,52nm,1.1s
ITQB Itaqui 37.18 281 eP P 03 11 25.2 +1.0
ITQB Itaqui 37.18 281 eP P 03 11 25.2 +1.0
LBTB Lobatse 37.69 70 P P 03 11 28.7 +0.1
comp=Z,13nm,1.0s,baz=228,slow=9.5,SNR=5.7
LBTB Lobatse 37.69 70 P P 03 11 27.0 -1.7
LBTB IAmb IAmb 03 11 38.6
comp=Z,90nm,1.7s
BB19B Bebedouro 37.83 299 eP P 03 11 31.0 +1.3
BB19B Bebedouro 37.83 299 eP P 03 11 31.0 +1.3
H10N1 ASCENSION HYDR 38.08 359 T T 03 51 52.5
baz=188,slow=78,SNR=13
H10N3 ASCENSION HYDR 38.08 359 T T 03 51 50.4
baz=188,slow=78,SNR=130
H10N2 ASCENSION HYDR 38.09 359 T T 03 51 54.5
baz=188,slow=78,SNR=23
MC01 Montes Claros 38.64 309 eP P 03 11 36.5 -0.1
MC01 Montes Claros 38.64 309 eP P 03 11 36.5 -0.1
GDU01 Guandu, BA 38.95 317 eP P 03 11 39.0 -0.2
GDU01 Guandu, BA 38.95 317 eP P 03 11 39.0 -0.2
CPUP Villa Florida 39.79 284 P P 03 11 45.4 -0.7
comp=Z,10nm,1.1s,baz=112,slow=7.8,SNR=9.4
CPUP LR LR 03 24 35.8
comp=Z,122nm,21.9s,baz=157,slow=31
CPUP Villa Florida 39.79 284 P P 03 11 45.4 -0.7
CPUP Villa Florida 39.79 284 eP P 03 11 46.1 0.0
CPUP Villa Florida 39.79 284 eP P 03 11 46.1 0.0
IPMB Ipameri, GO 40.02 303 eP P 03 11 48.2 +0.1
IPMB Ipameri, GO 40.02 303 eP P 03 11 48.2 +0.1
JANB Januaria 40.20 310 eP P 03 11 49.2 -0.4
JANB Januaria 40.20 310 eP P 03 11 49.2 -0.4
PLCA Paso Flores 40.95 256 P P 03 11 55.3 -0.4
comp=Z,3.3nm,0.9s,baz=129,slow=8.2,SNR=7.6
PLCA LR LR 03 27 08.0
comp=Z,292nm,19.9s,baz=123,slow=34
PLCA Paso Flores 40.95 256 P P 03 11 54.8 -0.9
PLCA PcP PcP 03 13 55.7 -0.2
PLCA Paso Flores 40.95 256 eP P 03 11 57.0 +1.3
PLCA Paso Flores 40.95 256 eP P 03 11 57.0 +1.3
BDFB Brasilia 41.76 305 P P 03 12 01.7 -0.9
comp=Z,9.9nm,0.9s,baz=136,slow=8.9,SNR=13
BDFB LR LR 03 25 59.8
comp=Z,393nm,21.2s,baz=119,slow=31
BDFB Brasilia 41.76 305 P P 03 12 02.3 -0.3
LC01 Cunco 42.72 258 P P 03 12 06.3 -3.7
AQDB Aquidauana 42.76 292 eP P 03 12 11.2 +0.7
AQDB Aquidauana 42.76 292 eP P 03 12 11.2 +0.7
MATP Matopo 42.83 68 P P 03 12 10.8 -0.4
comp=Z,7.7nm,0.9s,baz=231,slow=8.7,SNR=9.6
MAW Mawson 43.51 147 P P 03 12 17.3 +1.2
comp=Z,9.3nm,0.8s,baz=260,slow=7.6,SNR=15
MAW LR LR 03 27 31.8
comp=Z,342nm,19.7s,baz=251,slow=32
MAW Mawson 43.51 147 P P 03 12 16.9 +0.8
APLL PUNTA DE LOS L 43.60 272 eP P 03 12 16.2 -1.1
ARAG Araguaiana, MT 43.93 301 eP P 03 12 21.2 +1.1
ARAG Araguaiana, MT 43.93 301 eP P 03 12 21.2 +1.1
ASAL Salagasta 43.94 268 eP P 03 12 19.8 -0.3
BO02 Sierra Bellavi 44.07 264 P P 03 12 21.2 0.0
CFA Coronel Fontan 44.08 269 P P 03 12 20.2 -1.0
comp=Z,13nm,1.1s,baz=133,slow=10,SNR=12
CFA PcP PcP 03 14 06.7 +0.3
comp=Z,1.3nm,0.4s,baz=136,slow=7.7,SNR=1.9
QSPA South Pole Qui 44.21 180 P P 03 12 23.7 +1.8
QSPA IAmb IAmb 03 12 25.2
comp=Z,28nm,0.9s
CYA Choya 44.27 275 eP P 03 12 21.2 -1.5
ZON Zonda 44.42 269 P P 03 12 24.1 +0.1
ACLC CERRO LA CRUZ 44.47 273 eP P 03 12 23.9 -0.7
RCBR Riachuelo 44.48 327 eP P 03 12 24.5 0.0
RCBR Riachuelo 44.48 327 eP P 03 12 24.5 0.0
AUSP Uspallata 44.53 268 eP P 03 12 25.6 +0.5
PEL Peldehue 44.91 266 P P 03 12 27.2 -0.7
PEL IAmb IAmb 03 12 31.0
comp=Z,40nm,1.2s
VA03 San Esteban 45.03 266 P P 03 12 28.8 -0.1
MT02 Curacav 45.16 265 P P 03 12 28.8 -1.0
ACCO Cerro Coronel 45.25 270 eP P 03 12 31.8 +0.9
ACDV Cuesta del Vie 45.53 270 eP P 03 12 33.7 +0.7
VCA Vinchina 45.76 273 eP P 03 12 35.7 +0.9
AROD Rodeo 45.78 270 eP P 03 12 36.1 +1.0
SALV Santo Antonio 46.15 297 eP P 03 12 38.3 +0.6
SALV Santo Antonio 46.15 297 eP P 03 12 38.3 +0.6
CO03 El Pedregal 46.23 268 P P 03 12 38.5 +0.1
CO03 IAmb IAmb 03 12 40.5
comp=Z,49nm,1.8s
CO02 Combarbal 46.24 268 P P 03 12 37.2 -1.2
CO02 IAmb IAmb 03 12 40.1
comp=Z,29nm,1.4s
CO01 Juntas del Tor 46.33 270 IAmb IAmb 03 12 42.5
comp=Z,30nm,1.1s
LSZ Lusaka 46.46 63 P P 03 12 40.1 -0.2
LSZ IAmb IAmb 03 12 41.8
comp=Z,15nm,0.8s
GO04 Tololo Observa 46.70 269 P P 03 12 41.4 -0.9
GO04 IAmb IAmb 03 12 43.3
comp=Z,27nm,1.1s
SMTB Santa Maria do 47.11 311 eP P 03 12 45.3 0.0
SMTB Santa Maria do 47.11 311 eP P 03 12 45.3 0.0
AC02 Maricunga 47.58 274 IAmb IAmb 03 12 51.4
comp=Z,14nm,0.9s
GO03 Copiap 47.87 272 IAmb IAmb 03 12 52.0
comp=Z,14nm,0.9s
AC04 Llanos de Chal 48.08 271 IAmb IAmb 03 12 53.7
comp=Z,24nm,1.3s
PTLB Pontes e Lacer 48.66 294 eP P 03 12 57.1 -0.1
PTLB Pontes e Lacer 48.66 294 eP P 03 12 57.1 -0.1
SIV San Ignacio 49.50 291 P P 03 13 03.4 -0.4
comp=Z,11nm,0.9s,baz=146,slow=7.5,SNR=40
CLDB Colider 50.10 301 eP P 03 13 06.8 -1.5
CLDB Colider 50.10 301 eP P 03 13 06.8 -1.5
LVC Limon Verde 50.15 278 P P 03 13 08.2 -0.8
comp=Z,6.6nm,0.7s,baz=149,slow=8.2,SNR=7.5
LVC Limon Verde 50.15 278 P P 03 13 07.8 -1.3
LVC IAmb IAmb 03 14 48.1
comp=Z,12nm,0.5s
LVC Limon Verde 50.15 278 eP P 03 13 09.7 +0.7
LVC Limon Verde 50.15 278 eP P 03 13 09.7 +0.7
PRPB Parauapebas 50.55 311 eP P 03 13 11.2 -0.4
PRPB Parauapebas 50.55 311 eP P 03 13 11.2 -0.4
ROSB Rosrio 50.56 319 eP P 03 13 11.2 -0.5
ROSB Rosrio 50.56 319 eP P 03 13 11.2 -0.5
PB10 IPOC Station P 50.69 276 P P 03 13 11.7 -1.0
PB10 IAmb IAmb 03 13 14.8
comp=Z,35nm,1.2s
VILB Vilhena 51.21 295 eP P 03 13 17.0 +0.3
VILB Vilhena 51.21 295 eP P 03 13 17.0 +0.3
PB11 IPOC Station P 52.58 280 P P 03 13 26.6 -0.4
LIC Lamto 52.61 11 eP P 03 13 26.1 -0.9
comp=Z,82nm,1.4s
KIC Kosan Boka 52.78 11 eP P 03 13 28.1 -0.1
comp=Z,40nm,1.2s
NPGB Novo Progresso 52.90 304 eP P 03 13 29.1 -0.1
NPGB Novo Progresso 52.90 304 eP P 03 13 29.1 -0.1
PSGCX Pisagua 53.01 280 P P 03 13 30.0 -0.1
TIC Toumodi 53.02 11 eP P 03 13 29.0 -1.1
DBIC Dimbokro 53.07 11 LR LR 03 30 45.6
comp=Z,606nm,19.8s,baz=154,slow=30
LPAZ La Paz 53.96 285 P P 03 13 36.4 -1.3
comp=Z,3.5nm,0.9s,baz=116,slow=6.7,SNR=14
LPAZ LR LR 03 36 17.0
comp=Z,108nm,18.3s,baz=128,slow=36
LPAZ La Paz 53.96 285 P P 03 13 34.9 -2.9
LPAZ La Paz 53.96 285 eP P 03 13 36.3 -1.5
LPAZ La Paz 53.96 285 eP P 03 13 36.3 -1.5
ITTB Itaituba 55.29 306 eP P 03 13 45.8 -0.8
ITTB Itaituba 55.29 306 eP P 03 13 45.8 -0.8
SAML Samuel 56.14 295 P P 03 13 52.6 -0.2
SAML Samuel 56.14 295 eP P 03 13 52.6 -0.2
SAML Samuel 56.14 295 eP P 03 13 52.6 -0.2
MALB Monte Alegre 56.55 309 eP P 03 13 55.8 +0.2
MALB Monte Alegre 56.55 309 eP P 03 13 55.8 +0.2
VNDA Vanda 56.67 179 P P 03 13 56.5 +0.8
comp=Z,5.7nm,1.0s,baz=212,slow=8.3,SNR=15
VNDA LR LR 03 35 52.0
comp=Z,929nm,21.4s,baz=174,slow=34
VNDA Vanda 56.67 179 P P 03 13 56.3 +0.5
VNDA IAmb IAmb 03 14 07.0
comp=Z,41nm,1.6s
MACA Manacapuru-AM 59.14 302 eP P 03 14 13.3 -0.6
MACA Manacapuru-AM 59.14 302 eP P 03 14 13.3 -0.6
MBAR Mbarara 59.65 54 P P 03 14 16.0 -1.6
CASY Casey 60.12 157 P P 03 14 20.0 0.0
CASY IAmb IAmb 03 14 30.5
comp=Z,23nm,1.2s
TOA0 Torodi Ar. Sit 60.52 17 P P 03 14 22.3 -0.9
TOA0 IAmb IAmb 03 14 23.6
comp=Z,30nm,1.5s
TORD Torodi Ar. Bea 60.52 17 P P 03 14 22.2 -1.0
comp=Z,4.6nm,1.0s,baz=195,slow=6.5,SNR=16
TORD LR LR 03 34 27.0
comp=Z,490nm,21.7s,baz=180,slow=30
TORD Torodi Ar. Bea 60.52 17 P P 03 14 22.3 -1.0
PTGA Pitinga 60.67 304 P P 03 14 23.1 -1.4
comp=Z,5.7nm,0.8s,baz=123,slow=6.3,SNR=9.8
PTGA Pitinga 60.67 304 P P 03 14 23.1 -1.4
PTGA IAmb IAmb 03 14 25.6
comp=Z,21nm,1.2s
PTGA Pitinga 60.67 304 eP P 03 14 24.7 +0.2
PTGA Pitinga 60.67 304 eP P 03 14 24.7 +0.2
MDP Montagnes des 61.60 315 P P 03 14 29.5 -1.2
comp=Z,33nm,1.2s,baz=122,slow=4.7,SNR=4.2
KMBO Kilima Mbogo 63.04 60 LR LR 03 39 04.9
comp=Z,346nm,20.6s,baz=214,slow=33
ATAH Atahualpa 67.47 284 P P 03 15 09.4 -0.2
comp=Z,8.0nm,0.8s,baz=147,slow=4.2,SNR=11
TAM Tamarrasset 70.69 19 P P 03 15 28.8 -0.2
PLCV Puerto La Cruz 72.18 307 P P 03 15 37.0 -1.0
PCRV Puerto La Cruz 72.22 307 P P 03 15 37.0 -1.3
comp=Z,17nm,1.0s,baz=121,slow=5.9,SNR=3.0
PRAC Prado 73.27 294 eP P 03 15 40.8 -3.8
ORTC Ortega, Tolima 73.64 294 eP P 03 15 44.7 -2.1
ROSC El Rosal 73.77 295 P P 03 15 47.2 -0.8
comp=Z,4.1nm,0.6s,baz=183,slow=5.8,SNR=7.5
ROSC El Rosal 73.77 295 IAmb IAmb 03 15 49.7
comp=Z,29nm,1.4s
RUSC La Rusia 73.81 297 P P 03 15 46.9 -1.4
SPBC San Pablo de B 74.24 296 eP P 03 15 47.0 -3.4
GUY2C Guyana, Caldas 74.73 295 eP P 03 15 51.6 -2.1
CBOC Ciudad Bolivar 75.63 294 eP P 03 15 56.1 -2.4
ZGR Zagora 76.16 7 P P 03 16 02.0 +0.9
SNR=7.6
ZGR P P 03 16 02.0 +0.9
SNR=7.6
OUK Oukaimeden 77.08 5 P P 03 16 09.0 +2.5
SNR=7.5
OUK P P 03 16 09.0 +2.5
SNR=7.5
PMOZ Porto Moniz, M 78.58 357 eLR LR 03 42 13.6
comp=Z,162nm,20.0s
MDT Midelt 78.92 8 P P 03 16 17.8 +1.4
SNR=12
AKLM AKL 80.67 8 P P 03 16 28.1 +2.2
SNR=6.6
AKLM P P 03 16 28.1 +2.2
SNR=6.6
RSA Sarsar 80.87 6 P P 03 16 30.0 +3.1
SNR=7.3
H08S1 Diego Carcia H 81.84 93 T T 04 46 34.5
baz=225,slow=76,SNR=22
H08S2 Diego Garcia H 81.86 93 T T 04 46 39.2
baz=225,slow=76,SNR=37
H08S3 Diego Garcia H 81.86 93 T T 04 46 42.6
baz=225,slow=76,SNR=46
PFVI Vila Bisbo 82.92 4 eP P 03 16 39.2 +1.7
PBDV Barranco-do-Ve 83.08 5 eP P 03 16 40.4 +2.0
MORF Marmelete 83.10 4 eP P 03 16 40.1 +1.6
comp=Z,33nm,1.4s
PVAQ Vaqueiros 83.25 5 eP P 03 16 41.5 +2.3
comp=Z,32nm,1.5s
PVAQ Vaqueiros 83.25 5 eLR LR 03 44 05.9
comp=Z,383nm,20.0s
PTEO Sao Teotonio 83.34 4 eP P 03 16 39.1 -0.5
PCVE Castro Verde 83.46 4 eP P 03 16 41.9 +1.6
MESJ Messejana 83.66 4 eP P 03 16 43.4 +2.1
PBEJ Beja 83.86 5 eP P 03 16 44.8 +2.5
PNCL Nicolau / Gran 83.91 4 eP P 03 16 44.8 +2.2
PNCL Nicolau / Gran 83.91 4 eS S 03 27 15.8 +10
KEST Kesra 84.01 19 P P 03 16 43.1 -0.1
comp=Z,14nm,1.0s,baz=267,slow=3.9,SNR=9.1
KEST Kesra 84.01 19 P P 03 16 43.4 +0.2
KEST IAmb IAmb 03 16 48.0
comp=Z,17nm,1.1s
EVO Evora 84.36 4 eP P 03 16 46.6 +1.8
comp=Z,14nm,2.1s
PMAFR Mafra 84.72 3 eS S 03 27 18.0 +4.0
PMTG Montargil 84.88 4 eP P 03 16 49.3 +1.8
comp=Z,32nm,1.7s
PMTG Montargil 84.88 4 eS S 03 27 23.9 +8.3
PMRV Marv??o 85.28 5 eP P 03 16 51.0 +1.5
comp=Z,40nm,1.5s
PMRV Marv??o 85.28 5 eLR LR 03 45 13.1
comp=Z,319nm,22.0s
PSBE So Bento 85.30 4 eP P 03 16 51.8 +2.2
comp=Z,62nm,1.9s
PAB San Pablo 85.62 7 P P 03 16 51.5 +0.2
PAB IAmb IAmb 03 16 53.6
comp=Z,23nm,1.1s
PCBR Castelo Branco 85.69 5 eP P 03 16 52.9 +1.4
ESPN Las Esperanzas 85.72 292 P P 03 16 50.9 -1.3
ESDC Sonseca Array 85.78 7 P P 03 16 52.7 +0.6
comp=Z,11nm,1.1s,baz=186,slow=4.9,SNR=40
ESDC Sonseca Array 85.78 7 P P 03 16 52.6 +0.6
ESDC IAmb IAmb 03 16 54.7
comp=Z,56nm,1.2s
ESBB Sonseca Array 85.79 7 IAmb IAmb 03 16 54.4
comp=Z,26nm,1.2s
MTE Manteigas 86.24 5 eP P 03 16 55.8 +1.5
comp=Z,34nm,1.3s
MTE Manteigas 86.24 5 eLR LR 03 45 26.6
comp=Z,267nm,20.0s
MTE Manteigas 86.24 5 IAmb IAmb 03 16 56.8
comp=Z,27nm,1.3s
H01W2 Cape Leeuwin H 86.66 139 T T 04 54 09.5
baz=214,slow=76,SNR=7.6
H01W1 Cape Leeuwin H 86.67 139 T T 04 54 04.9
baz=214,slow=76,SNR=5.2
H01W3 Cape Leeuwin H 86.67 139 T T 04 54 00.8
baz=214,slow=76,SNR=9.3
MVO Moncorvo 87.03 5 eP P 03 17 00.4 +2.2
comp=Z,27nm,1.4s
MVO Moncorvo 87.03 5 eLR LR 03 45 32.3
comp=Z,264nm,22.0s
PCAB Cabril 87.52 4 eP P 03 17 02.8 +2.3
comp=Z,52nm,1.5s
PBRG Braganca 87.69 5 eP P 03 17 03.5 +2.2
comp=Z,36nm,1.5s
PGAV Gavieira, Arco 87.77 4 eP P 03 17 03.0 +1.3
comp=Z,64nm,1.8s
PGAV Gavieira, Arco 87.77 4 eLR LR 03 46 53.9
comp=Z,186nm,22.0s
TGUH Tegucigalpa,Un 89.03 291 P P 03 17 08.5 +0.1
TIP Timpagrande 89.12 23 ⇑P P 03 17 09.0 +0.8
TIP Timpagrande 89.12 23 P P 03 17 07.7 -0.4
NWAO Narrogin (SRO) 89.71 140 LR LR 03 47 46.2
comp=Z,165nm,19.9s,baz=231,slow=29
PAOL Paolisi 90.28 21 P P 03 17 12.9 -0.6
RPZ Rata Peaks 90.52 183 LR LR 03 51 35.8
comp=Z,156nm,21.8s,baz=176,slow=31
TIR Tirane 92.01 25 ⇓P P 03 17 22.5 +1.0
OHR Ohrid 92.06 25 iP P 03 17 23.6 +1.7
SSB Saint Sauveur 92.35 13 P P 03 17 23.0 -0.1
SSB IAmb IAmb 03 17 25.3
comp=Z,12nm,1.3s
VAY Valandovo 92.79 26 iP P 03 17 26.4 +1.3
PDG Podgorica 92.83 24 ⇑P P 03 17 26.5 +1.2
STIP Stip 93.02 26 iP P 03 17 28.1 +2.0
SKO Skopje 93.04 25 iP P 03 17 27.4 +1.2
VTS Vitosha 94.18 26 ⇑P P 03 17 32.9 +1.2
TEIG Tepich 94.22 295 P P 03 17 32.1 -0.1
comp=Z,19nm,1.1s,baz=318,slow=0.3
CTI Castel Tesino 94.38 17 IAmb IAmb 03 17 34.4
comp=Z,11nm,1.0s
KNDS Knezji Dol 94.48 19 eP P 03 17 34.1 +1.2
BOJS Bojanci 94.67 20 iP P 03 17 34.9 +1.3
CLF Chambon-Foret 94.72 11 P P 03 17 33.6 -0.2
CIMO Cimolais 94.80 18 IAmb IAmb 03 17 36.0
comp=Z,7.9nm,1.1s
VOJS Vojsko 94.85 19 eP P 03 17 35.8 +1.2
ROBS Robic 94.97 19 eP P 03 17 36.0 +1.0
DAVA Damuels 95.22 16 iP P 03 17 35.6 -0.7
comp=Z,4.7nm,1.0s
ABTA Abfaltersbach 95.23 18 iP P 03 17 37.1 +0.8
comp=Z,16nm,1.6s
GOLS Golise 95.23 20 iP P 03 17 38.0 +1.7
BRTR Keskin Array B 95.30 35 P P 03 17 36.5 -0.4
comp=Z,2.2nm,0.9s,baz=178,slow=4.4,SNR=9.2
BRTR LR LR 04 01 08.3
comp=Z,130nm,18.7s,baz=180,slow=36
BRTR Keskin Array B 95.30 35 P P 03 17 38.0 +1.1
SQTA Sankt Quirin 95.41 17 eP P 03 17 38.2 +1.1
comp=Z,7.2nm,1.3s
OBKA Obir 95.45 19 iPcP P 03 17 39.4 +2.1
comp=Z,8.3nm,1.2s
WTTA Wattenberg 95.54 17 eP P 03 17 38.6 +0.8
comp=Z,11nm,1.5s
WATA Walderalm 95.59 17 eP P 03 17 39.2 +1.1
comp=Z,7.1nm,1.2s
MDVR Moldovita 95.69 24 ⇓P P 03 17 39.5 +1.1
SOKA Soboth 95.72 19 iP P 03 17 39.6 +1.1
comp=Z,7.2nm,1.1s
HERR Herculane 95.99 25 ⇑P P 03 17 40.7 +1.0
ARSA Arzberg 96.37 20 iPcP P 03 17 43.6 +2.2
comp=Z,8.0nm,1.3s
BZS Buzias 96.43 24 ⇑P P 03 17 46.0 +4.3
MOA Molln 96.65 18 iP P 03 17 44.0 +1.3
comp=Z,7.5nm,1.2s
WLF Walferdange 96.87 13 P P 03 17 44.7 +1.1
SIRR Siria 97.04 24 ⇑P Pdif 03 17 45.9 +1.4
CONA Conrad Observa 97.09 19 iPcP P 03 17 46.6 +1.9
comp=Z,12nm,1.3s
VOIR 97.28 26 ⇑P P 03 17 45.9 +0.2
BMRD Maredsous 97.29 12 P P 03 17 44.7 -0.7
GERES GERESS Array B 97.47 18 P P 03 17 46.7 +0.2
comp=Z,0.3nm,0.7s,baz=160,slow=6.1,SNR=3.4
DRGR 97.81 24 ⇓P Pdif 03 17 48.9 +0.8
VYHS Vyhne 98.34 21 ePDIFF Pdif 03 17 51.9 +1.6
MORC Moravsky Berou 99.21 20 ⇑P Pdif 03 17 56.4 +2.2
STKA Stephens Creek 99.25 159 LR LR 03 59 49.2
comp=Z,261nm,19.6s,baz=202,slow=34
CLL Collm 99.67 17 ePS PS 03 31 00.0 +1.9
CLL ePPS PPS 03 31 48.0
CLL eSS SS 03 36 18.0 -3.2
CLL Lm MLR 04 00 00.0
comp=N,200nm,19.4s
CLL Lm MLR 04 00 00.0
comp=E,100nm,20.2s
CLL Lm MLR 04 00 00.0
comp=Z,300nm,19.4s
CMAR Chiang Mai Arr 118.65 93 PKP PKPdf 03 23 01.6 +0.3
comp=Z,1.3nm,0.6s,baz=222,slow=4.1,SNR=5.7
PDAR Pinedale Array 122.59 300 PKP PKPdf 03 23 07.7 -0.7
comp=Z,0.3nm,0.3s,baz=144,slow=2.0,SNR=3.6
FXWY Fox Creek 123.96 300 PKPdf PKPdf 03 23 10.7 -0.4
KURBB Kurchatov Arra 124.74 51 PKP PKPdf 03 23 11.8 -0.2
comp=Z,2.0nm,0.8s,baz=234,slow=2.7,SNR=15
MKAR Makanchi Array 124.80 56 PKP PKPdf 03 23 12.2 -0.1
comp=Z,1.7nm,0.9s,baz=254,slow=4.5,SNR=8.7
KURK Kurchatov 124.84 51 PKPdf PKPdf 03 23 12.6 +0.4
ELK Elko 124.97 295 PKP PKPdf 03 23 13.1 0.0
comp=Z,1.6nm,0.9s,baz=123,slow=1.1,SNR=6.2
NVAR Mina Array Bea 125.65 291 PKP PKPdf 03 23 14.6 +0.1
comp=Z,0.3nm,0.2s,baz=136,slow=5.1,SNR=5.0
NVAR Mina Array Bea 125.65 291 PKPdf PKiKP 03 23 15.3 +0.4
WMQ Urumqi 126.45 62 ePKP PKPdf 03 23 15.3 -0.3
WMQ LR LR
comp=Z,190nm,29.0s
WMQ LR LR
comp=Z,170nm,29.3s
G08A Pilot Rock 129.67 298 PKPdf PKiKP 03 23 23.4 +0.9
ZALV Zalesovo Beam 129.74 49 PKP PKPdf 03 23 21.1 -0.3
comp=Z,2.2nm,0.8s,baz=267,slow=2.8,SNR=5.6
ZALV Zalesovo Beam 129.74 49 PKPdf PKPdf 03 23 20.6 -0.8
CD2 Chengdu 129.95 85 PKP PKPdf 03 23 22.0 -0.7
GTA Gaotai 131.94 73 PKP PKiKP 03 23 27.8 +0.5
GTA LR LR
comp=Z,90nm,18.7s
GTA LR LR
comp=Z,120nm,21.3s
GTA LR LR
comp=Z,88nm,20.4s
LZH Lanzhou 132.92 79 ePKP PKiKP 03 23 29.5 0.0
LZH LR LR
comp=Z,170nm,17.9s
LZH LR LR
comp=Z,240nm,20.1s
YKA Yellowknife Ar 134.20 321 PKP PKPdf 03 23 27.4 -2.2
comp=Z,1.3nm,0.8s,baz=130,slow=2.0,SNR=5.0
SONM Songino Array 139.91 65 PKhKP PKPpre 03 23 34.4
comp=Z,1.0nm,0.6s,baz=225,slow=0.6,SNR=2.9
SONM PKP PKPdf 03 23 40.1 -0.8
comp=Z,1.8nm,0.8s,baz=263,slow=2.3,SNR=7.2
SONM Songino Array 139.91 65 PKPdf PKPdf 03 23 40.5 -0.3
NJ2 Nanjing 141.11 94 ePKP PKPdf 03 23 43.6 +0.3
INK Inuvik 142.68 328 PKP PKPdf 03 23 41.9 -3.1
comp=Z,5.0nm,1.0s,baz=56,slow=8.5,SNR=4.6
BJI Beijing 143.33 81 PKP PKPbc 03 23 45.1 +1.0
DAWY Dawson 145.44 321 PKPbc 03 23 50.1 +0.1
CTGM Chitina Glacie 146.54 316 PKPab 03 23 54.4 -0.3
DL2 Dalian 146.59 86 PKPbc PKPdf 03 23 51.8 -0.9
BCAR Beaver Creek A 146.60 319 PKPbc PKPbc 03 23 54.0 +0.4
BARN Barnard Glacie 146.69 316 PKPbc PKPbc 03 23 54.5 +0.3
BMAR Burnt Mountain 146.96 328 PKPdf PKPdf 03 23 50.6 -1.9
BMAR PKPbc pPKPdf 03 23 55.7 +0.6
BALM Baldy 147.03 316 PKPdf 03 23 53.2 +0.3
MENT Mentasta 147.50 319 PKPbc 03 23 56.7 +0.6
VRDI Verde Repeater 147.55 316 PKPbc 03 23 56.9 +0.4
RIDG Independent Ri 147.88 321 PKPbc 03 23 57.2 0.0
IL31 148.53 323 PKPbc 03 23 58.0 -0.7
ILAR Eielson Array 148.53 323 PKPbc PKPbc 03 23 58.0 -0.8
comp=Z,11nm,0.9s,baz=20,slow=1.0,SNR=86
ILAR Eielson Array 148.53 323 PKPbc PKPbc 03 23 58.5 -0.2
EYAK Cordova Ski Ar 148.73 315 PKPbc 03 23 59.9 +0.6
TIXI Tiksi 148.83 22 PKPbc 03 23 58.0 -1.3
COLA College 148.91 324 PKPbc 03 23 59.7 +0.1
MDM Murphy Dome 149.04 324 PKPbc PKPbc 03 23 59.1 -1.0
DHY Denali Highway 149.12 320 PKPbc 03 24 00.3 -0.2
GLI Glacier Island 149.35 316 PKPbc PKPbc 03 24 00.7 -0.3
RND Reindeer 149.70 321 PKPbc PKPbc 03 24 00.9 -0.9
SML Sawmill 149.79 318 PKiKP 03 24 02.9 -0.1
JNU Nakatsue 150.00 103 PKPbc PKPbc 03 24 03.0 -0.4
comp=Z,6.4nm,1.0s,baz=124,slow=3.6,SNR=2.8
KSAR Wonju Array Be 150.26 93 PKPdf PKPdf 03 23 58.7 0.0
KSAR PKPbc PKPbc 03 24 03.8 -0.1
KSRS Korea Array 150.29 93 PKP PKPdf 03 23 58.3 -0.4
comp=Z,3.8nm,1.0s,baz=238,slow=2.4,SNR=4.7
KSRS PKPbc PKPbc 03 24 03.8 -0.2
comp=Z,6.9nm,0.9s,baz=250,slow=3.9,SNR=10
TRF Thorofare Moun 150.31 321 PKPbc PKPbc 03 24 03.5 +0.1
RC01 Rabbit Creek A 150.59 317 PKiKP 03 24 05.0 +0.3
IMAR Indian Mountai 150.87 327 PKPbc 03 24 03.1 -1.4
CN2 Changchun 151.16 80 ePKPbc PKPbc 03 24 05.8 0.0
CN2 PP PP 03 27 52.9 +8.1
CN2 AMB AMB
comp=Z,100nm,8.0s
CN2 LR LR
comp=Z,100nm,12.0s
CN2 LR LR
comp=Z,100nm,12.0s
CN2 LR LR
comp=Z,100nm,14.0s

USRK	**Ussuriysk Ar.**	**155.77**	**82**	PKPab	**PKPab**	**03 24 33.3**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=245,slow=5.9,SNR=1.3						
MJAR	**Matsushiro Arr**	**156.90**	**104**	PKPab	**PKPab**	**03 24 37.1**	**-1.2**
	comp=Z,0.6nm,0.4s,baz=223,slow=5.0,SNR=6.3						
BILL	**Bilibino**	**157.96**	**0**	PKPdf	**PKPdf**	**03 24 08.2**	**-0.4**
BILL				PKPab	**PKPab**	**03 24 41.9**	**0.0**

*IDC **20** 03:09:05.0±1.4, 44.°21N×128.°66W, h0km, mb3.7/7, mb1 3.9/14, mb1mx3.7/58, mbtmp3.7/14, ML3.4/7, MS3.2/13, Ms1 3.2/13, ms1mx3.0/45, Error ellipse: s-maj=31.1km s-min=13.5km az=44.0*
*UNK **20** 03:09:05.7, 44.°15N×128.°95W, h10km*
*ANF **20** 03:09:05.1±1.0, 44.°02N×128.°85W, h10km, ML3.9/10, Error ellipse: s-maj=10.7km s-min=7.3km az=58.0*
*NEIC **20** 03:09:06.4±1.9, 44.°18N±0.°08×128.°8W±0.°1, h10km±1km, mb4.1/39, Error ellipse: s-maj=16.3km s-min=11.9km az=245.0*

ISC 20 03:09:06.9±0.8**, 44.°10N**±0.°06×**128.°83W**±0.°07**, h15**km, n115**, σ1s**22**/111**, **mb4.0**/11**, MS3.0**/7**, Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I02D	**Swisshome**	**3.59**	**88**	P	**Pn**	**03 10 01.3**	**-0.7**
	baz=272,SNR=78						
I02D				S	**Sn**	**03 10 43.2**	**-0.9**
	baz=272						
J01E	**Myrtle Point**	**3.68**	**103**	P	**Pn**	**03 10 00.4**	**-2.7**
	baz=287,SNR=18						
J01E				S	**Sn**	**03 10 44.5**	**-1.7**
	baz=287						
I03D	**Drain, OR**	**3.98**	**94**	P	**Pn**	**03 10 06.2**	**-1.2**
	baz=278						
I03D				S	**Sn**	**03 10 53.2**	**-0.5**
	baz=278						
COR	**Corvallis**	**4.00**	**81**	Pn	**Pn**	**03 10 06.5**	**-1.0**
K02D	**Willamette Mer**	**4.02**	**109**	P	**Pn**	**03 10 04.4**	**-3.5**
	baz=293,SNR=23						
K02D				S	**Sn**	**03 10 52.0**	**-2.8**
	baz=293						
G03D	**McMinnville, O**	**4.13**	**72**	P	**Pn**	**03 10 08.2**	**-1.1**
	baz=257,SNR=33						
G03D				S	**Sn**	**03 10 58.3**	**+1.0**
	baz=257						
F03A	**Seaside**	**4.16**	**62**		**Pn**	**03 10 08.5**	**-1.4**
H04D	**Lebanon**	**4.39**	**82**	P	**Pn**	**03 10 12.1**	**-0.9**
	baz=267,SNR=12						
H04D				S	**Sn**	**03 11 05.2**	**+1.3**
	baz=267						
KRMB	**Red Mountain**	**4.44**	**124**	Pn	**Pn**	**03 10 09.9**	**-4.0**
E03A	**Lebam**	**4.45**	**55**	Pn	**Pn**	**03 10 12.5**	**-1.2**
F04D	**Rainier, OR**	**4.58**	**62**	P	**Pn**	**03 10 14.9**	**-0.5**
	baz=247						
I04A	**Tendick Farm,**	**4.65**	**92**	P	**Pn**	**03 10 15.7**	**-0.9**
	baz=277						
I04A				S	**Sn**	**03 11 11.1**	**+0.9**
	baz=277						
NLWA	**Neilton Lookou**	**4.79**	**45**	Pn	**Pn**	**03 10 17.2**	**-1.2**
H04A	**Detroit Lake**	**4.80**	**81**	Pn	**Pn**	**03 10 18.8**	**+0.2**
F04A	**Amboy**	**4.90**	**66**	Pn	**Pn**	**03 10 19.8**	**-0.2**
J04D	**Umpqua Nationa**	**4.95**	**98**	P	**Pn**	**03 10 20.3**	**-0.6**
	baz=283,SNR=14						
KHMM	**Horse Mountain**	**4.96**	**129**	Pn	**Pn**	**03 10 20.4**	**-0.5**
E04D	**Cinebar**	**5.05**	**59**	P	**Pn**	**03 10 21.7**	**-0.3**
	baz=244,SNR=16						
YBH	**Yreka Blue Hor**	**5.08**	**116**	Pn	**Pn**	**03 10 21.4**	**-1.2**
	0.8nm,0.3s,baz=321,slow=13,SNR=17						
YBH				Sn	**Sn**	**03 11 20.4**	**-0.5**
	0.7nm,0.3s,baz=94,slow=14,SNR=6.3						
YBH	**Yreka Blue Hor**	**5.08**	**116**	Pn	**Pn**	**03 10 20.9**	**-1.6**
YBH				Sn	**Sn**	**03 11 22.3**	**+1.4**
L04D	**Klamath Falls**	**5.13**	**109**	P	**Pn**	**03 10 22.9**	**-0.4**
	baz=294,SNR=11						
L04D				S	**Sn**	**03 11 22.2**	**-0.1**
	baz=294						
D03D	**Eldon**	**5.28**	**47**	P	**Pn**	**03 10 24.7**	**-0.5**
	baz=232,SNR=15						
D03D				S	**Sn**	**03 11 26.0**	**+0.2**
	baz=232						
KMRM	**Mail Ridge**	**5.43**	**134**	Pn	**Pn**	**03 10 26.9**	**-0.5**
G05D	**Wamic, OR**	**5.48**	**75**	P	**Pn**	**03 10 27.6**	**-0.4**
	baz=261						
F05D	**White Salmon**	**5.53**	**69**	P	**Pn**	**03 10 28.1**	**-0.5**
	baz=255						
F05D				S	**Sn**	**03 11 33.8**	**+2.0**
	baz=255						
J05D	**Fort Rock, OR**	**5.57**	**96**	P	**Pn**	**03 10 28.5**	**-0.8**
	baz=282						
J05D				S	**Sn**	**03 11 33.6**	**+0.6**
	baz=282						
LON	**Longmire**	**5.61**	**59**		**Pn**	**03 10 29.3**	**-0.4**
M04C	**Macdoel**	**5.63**	**112**	S	**Sn**	**03 11 35.7**	**+1.1**
	baz=297						
D05A	**Enumclaw**	**5.71**	**55**		**Pn**	**03 10 31.3**	**+0.3**
PINE	**Pine Mountain**	**5.71**	**90**	Pn	**Pn**	**03 10 31.4**	**+0.2**
PGC	**Sidney**	**5.88**	**37**	Pn	**Pn**	**03 10 32.0**	**-1.3**
K05A	**Summer Lake**	**5.94**	**101**	Pn	**Pn**	**03 10 34.5**	**0.0**
G06A	**Carlson Farm,**	**5.96**	**76**	Pn	**Pn**	**03 10 34.6**	**+0.1**
B05A	**Bryant**	**6.26**	**46**	P	**Pn**	**03 10 38.5**	**-0.2**
	baz=232,SNR=18						
B05A				S	**Sn**	**03 11 50.8**	**+0.9**
	baz=232						
A04D	**Lummi Island**	**6.27**	**40**	P	**Pn**	**03 10 38.1**	**-0.6**
	baz=226,SNR=8.9						
LTY	**Liberty**	**6.53**	**58**		**Pn**	**03 10 42.5**	**+0.1**
I07A	**Izee**	**6.72**	**87**		**Pn**	**03 10 45.5**	**+0.5**
B06A	**Marblemount**	**6.74**	**46**		**Pn**	**03 10 43.4**	**-1.7**
ORV	**Oroville**	**7.11**	**127**	Pn	**Pn**	**03 10 50.4**	**0.0**
G08A	**Pilot Rock**	**7.14**	**77**	Pn	**Pn**	**03 10 50.1**	**-0.7**
J08A	**Circle Bar Ran**	**7.54**	**92**		**Pn**	**03 10 56.6**	**+0.3**
D08A	**Wollman Farm,**	**7.56**	**63**	Pn	**Pn**	**03 10 56.6**	**+0.1**
WVOR	**Wild Horse Val**	**7.62**	**99**		**Pn**	**03 10 57.9**	**+0.4**
B08A	**Colville Reser**	**7.84**	**54**	Pn	**Pn**	**03 11 00.9**	**+0.5**
LLLB	**Lillooet**	**8.04**	**33**	Pn	**Pn**	**03 11 02.6**	**-0.4**
BBB	**Bella Bella**	**8.11**	**3**	Pn	**Pn**	**03 11 02.4**	**-1.5**
	0.2nm,0.3s,baz=194,slow=8.3,SNR=1.0						
BBB				LR	LR	03 13 15.1	
	comp=Z,63nm,21.6s,baz=162,slow=31						
PNTR	**Pine Nut**	**8.54**	**123**	Pn	**Pn**	**03 11 12.0**	**+1.9**
CMB	**Columbia Colle**	**8.79**	**131**	Pn	**Pn**	**03 11 13.7**	**+0.2**
WAKR	**Walker**	**9.01**	**125**		**Pn**	**03 11 17.2**	**+0.6**
NEW	**Newport**	**9.13**	**59**	Pn	**Pn**	**03 11 16.1**	**-1.9**
	0.3nm,0.3s,baz=260,slow=12,SNR=2.6						
NEW				LR	LR	03 14 44.3	
	comp=Z,225nm,20.5s,baz=246,slow=38						
NEW	**Newport**	**9.13**	**59**	Pn	**Pn**	**03 11 17.6**	**-0.4**
NVAR	**Mina Array Bea**	**9.74**	**122**	Pn	**Pn**	**03 11 27.7**	**+1.1**
	0.2nm,0.3s,baz=282,slow=13,SNR=5.3						
NVAR				LR	LR	03 15 00.6	
	comp=Z,96nm,20.0s,baz=311,slow=36						
ELK	**Elko**	**10.59**	**104**	Pn	**Pn**	**03 11 39.8**	**+1.5**
	0.1nm,0.3s,baz=305,slow=9.7,SNR=9.9						
ELK				LR	LR	03 16 00.1	
	comp=Z,91nm,18.5s,baz=288,slow=40						
MSO	**Missoula**	**10.81**	**70**	Pn	**Pn**	**03 11 41.7**	**+0.5**
ISA	**Isabella, Lake**	**11.58**	**133**	Pn	**Pn**	**03 11 52.4**	**+0.7**
BOZ	**Bozeman (W)**	**12.30**	**77**		**Pn**	**03 12 02.5**	**+0.9**
QLMT	**Earthquake Lak**	**12.46**	**81**	Pn	**Pn**	**03 12 05.4**	**+1.7**
GSC	**Goldstone, Bar**	**12.75**	**129**	Pn	**Pn**	**03 12 09.2**	**+1.5**
YPP	**Pitchstone Pla**	**12.95**	**83**	Pn	**Pn**	**03 12 12.1**	**+1.6**
GCMT	**Greycliff**	**13.68**	**76**	Pn	**Pn**	**03 12 21.0**	**+0.6**
PDAR	**Pinedale Array**	**14.07**	**89**	Pn	**Pn**	**03 12 28.5**	**+2.7**
	0.1nm,0.3s,baz=275,slow=13,SNR=6.1						
PDAR				LR	LR	03 17 51.6	
	comp=Z,133nm,21.0s,baz=288,slow=38						
PDAR	**Pinedale Array**	**14.07**	**89**		**Pn**	**03 12 25.8**	**0.0**
PFO	**Pinyon Flats O**	**14.21**	**133**	LR	LR	03 17 32.5	
	comp=Z,115nm,18.3s,baz=296,slow=36						
U15A	**North Rim**	**14.75**	**116**	Pn	**Pn**	**03 12 34.8**	**-0.5**
O20A	**White River Ci**	**15.78**	**97**	IAmb	IAmb	03 12 57.4	
	comp=Z,16nm,1.2s						
PV21	**Cone Mtn., Par**	**15.90**	**104**	IAmb	IAmb	03 13 00.9	
	comp=Z,18nm,1.3s						
WUAZ	**Wupatki**	**15.90**	**117**	Pn	**Pn**	**03 12 47.5**	**-2.7**
WUAZ				IAmb	IAmb	03 13 00.3	
	comp=Z,12nm,1.0s						
Y14A	**Wickenburg**	**15.92**	**124**		**Pn**	**03 12 50.1**	**-0.3**
PV23	**Carpenter Ridg**	**15.92**	**104**	IAmb	IAmb	03 13 01.1	
	comp=Z,12nm,1.0s						
LAO	**LASA Array**	**16.08**	**73**	Pn	**Pn**	**03 12 51.8**	**-0.5**
N23A	**Red Feather La**	**17.17**	**93**	IAmb	IAmb	03 13 20.9	
	comp=Z,11nm,1.1s						
ANMO	**Albuquerque**	**19.48**	**110**	P	**P**	**03 13 33.9**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=304,slow=12,SNR=7.7						
121A	**Cookes Peak, D**	**20.09**	**118**		**P**	**03 13 39.4**	**-0.6**
121A				IAmb	IAmb	03 13 45.5	
	comp=Z,18nm,1.3s						
KDAK	**Kodiak Island**	**20.14**	**321**	LR	LR	03 19 11.7	
	comp=Z,103nm,21.9s,baz=134,slow=30						
YKA	**Yellowknife Ar**	**20.21**	**19**	P	**P**	**03 13 40.5**	**-0.3**
	comp=Z,2.3nm,1.0s,baz=205,slow=10,SNR=5.4						
KSCO	**Kaye Shedlock'**	**20.22**	**95**	P	**P**	**03 13 40.2**	**-1.2**
KSCO				IAmb	IAmb	03 13 47.9	
	comp=Z,12nm,1.1s						
FFC	**Flin Flon**	**20.32**	**49**	P	**P**	**03 13 42.3**	**+0.1**
FFC				IAmb	IAmb	03 13 47.4	
	comp=Z,13nm,1.0s						
SCM	**Sheep Creek Mo**	**20.83**	**335**	P	**P**	**03 13 46.8**	**-0.9**
SCM				IAmb	IAmb	03 13 52.3	
	comp=Z,15nm,1.4s						
RIDG	**Independent Ri**	**21.70**	**341**	P	**P**	**03 13 55.9**	**-1.1**
RIDG				IAmb	IAmb	03 13 57.4	
	comp=Z,8.1nm,1.1s						
DHY	**Denali Highway**	**21.81**	**337**	IAmb	IAmb	03 14 05.4	
	comp=Z,6.1nm,1.2s						
HDA	**Harding Lake**	**22.77**	**340**	P	**P**	**03 14 06.8**	**-1.6**
HDA				IAmb	IAmb	03 14 09.3	
	comp=Z,8.9nm,1.5s						
AMTX	**Amarillo**	**22.80**	**105**	P	**P**	**03 14 09.7**	**+0.6**
F33A	**5 Mile Ranch,**	**23.00**	**74**	P	**P**	**03 14 09.7**	**-1.3**
ILAR	**Eielson Array**	**23.05**	**340**	P	**P**	**03 14 10.2**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=149,slow=7.6,SNR=7.5						
ILAR				LR	LR	03 21 59.2	
	comp=Z,43nm,19.6s,baz=162,slow=34						
ILAR	**Eielson Array**	**23.05**	**340**	P	**P**	**03 14 09.8**	**-1.5**
AGMN	**Agassiz Nation**	**23.10**	**68**	P	**P**	**03 14 10.9**	**-1.0**
AGMN				IAmb	IAmb	03 14 14.4	
	comp=Z,10nm,1.2s						
ULM	**Lac du Bonnet**	**23.10**	**63**	P	**P**	**03 14 10.2**	**-1.8**
	comp=Z,5.2nm,0.8s,baz=271,slow=13,SNR=1.6						
ULM				LR	LR	03 23 10.2	
	comp=Z,63nm,20.7s,baz=266,slow=37						
ULM	**Lac du Bonnet**	**23.10**	**63**	IAmb	IAmb	03 14 15.6	
	comp=Z,9.0nm,1.0s						
ECSD	**EROS Data Cent**	**23.14**	**80**	P	**P**	**03 14 12.2**	**-0.2**
N33A	**J Bar K, Exete**	**23.34**	**87**	P	**P**	**03 14 13.0**	**-1.4**
PRP	**Porcupine Dome**	**23.37**	**342**	P	**P**	**03 14 15.0**	**+0.3**
U32A	**Winter Ranch,**	**23.95**	**99**	P	**P**	**03 14 19.7**	**-0.7**
INK	**Inuvik**	**24.39**	**356**	LR	LR	03 23 09.4	
	comp=Z,58nm,22.0s,baz=226,slow=35						
KSU1	**Kansas State U**	**24.51**	**91**	P	**P**	**03 14 26.9**	**+1.3**
B35A	**Bob, Littlefor**	**24.52**	**68**	P	**P**	**03 14 25.3**	**-0.3**
N35A	**Tabor**	**24.60**	**86**	P	**P**	**03 14 27.4**	**+1.1**
TX31	**Lajitas Ar. Si**	**24.85**	**118**	P	**P**	**03 14 30.6**	**+1.8**
TX32	**Lajitas Array**	**24.85**	**118**	P	**P**	**03 14 30.1**	**+1.3**
TXAR	**Lajitas Array**	**24.85**	**118**	P	**P**	**03 14 28.4**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=303,slow=8.4,SNR=2.7						
TXAR				LR	LR	03 24 38.4	
	comp=Z,27nm,20.9s,baz=0.0,slow=38						
LPIG	**La Paz**	**25.05**	**137**	LR	LR	03 23 23.7	
	comp=Z,39nm,19.6s,baz=306,slow=34						
SPMN	**Marine on St.**	**25.52**	**75**	P	**P**	**03 14 37.8**	**+3.2**
HHAR	**Hobbs**	**27.62**	**94**	P	**P**	**03 14 54.0**	**+0.3**
HHAR				IAmb	IAmb	03 15 05.6	
	comp=Z,3.5nm,0.9s						
MLOA	**Mauna Loa Obse**	**33.14**	**231**	P	**P**	**03 15 43.5**	**+0.4**
H11N3	**WAKE ISLAND Hy**	**58.17**	**267**	T	T	04 21 50.3	
	baz=49,slow=75,SNR=1280						
H11N2	**WAKE ISLAND Hy**	**58.17**	**267**	T	T	04 21 52.9	
	baz=49,slow=75,SNR=345						
H11N1	**WAKE ISLAND Hy**	**58.19**	**267**	T	T	04 21 51.9	
	baz=49,slow=75,SNR=253						
H11S1	**WAKE ISLAND Hy**	**59.10**	**266**	T	T	04 22 53.6	
	baz=49,slow=75,SNR=85						
H11S2	**WAKE ISLAND Hy**	**59.11**	**266**	T	T	04 23 00.4	
	baz=49,slow=75,SNR=63						
H11S3	**WAKE ISLAND Hy**	**59.12**	**266**	T	T	04 22 58.0	
	baz=49,slow=75,SNR=65						
ZALV	**Zalesovo Beam**	**78.18**	**340**	P	**P**	**03 21 05.4**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=32,slow=8.5,SNR=1.4						
LPAZ	**La Paz**	**81.64**	**122**	P	**P**	**03 21 26.0**	**+0.8**
	comp=Z,1.2nm,0.9s,baz=308,slow=9.3,SNR=2.9						
LPAZ	**La Paz**	**81.64**	**122**	IAmb	IAmb	03 21 31.1	
	comp=Z,1.6nm,0.9s						
KURK	**Kurchatov**	**82.60**	**343**	P	**P**	**03 21 29.8**	**+0.8**
KURBB	**Kurchatov Arra**	**82.70**	**343**	P	**P**	**03 21 29.8**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=9.9,slow=5.3,SNR=5.1						
KBZ	**Khabaz**	**92.25**	**6**	LR	LR	04 07 47.0	
	comp=Z,73nm,18.1s,baz=208,slow=38						

*IDC **20** 03:13:25.6±0.9, 25.°03N×97.°93E, h0km, mb3.9/9, mb1 4.0/10, mb1mx3.7/48, mbtmp3.8/10, ML4.1/1, MS3.0/1, Ms1 3.2/1, ms1mx2.5/42, Error ellipse: s-maj=39.8km s-min=14.6km az=67.0*
*BJI **20** 03:13:26.5±0.0, 24.°98N×97.°74E, h12km, mB4.2/3, mb4.3/5, ML3.8/6, Ms3.7/6, Ms7 3.6/4*
*NEIC **20** 03:13:37.0±2.2, 25.°89N±0.°10×97.°34E±0.°03, h10km±2km, mb4.1/11, Error ellipse: s-maj=16.9km s-min=3.7km az=174.0*

ISC 20 03:13:26.9±0.6**, 24.°89N**±0.°06×**97.°88E**±0.°06**, h10**km**, n31, σ1s65/30, mb4.0**/13**, Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMI	**Kunming**	**4.41**	**86**	Pg	**Pg**	**03 14 51.4**	**-0.1**
KMI				Sg	**Sg**	**03 15 48.3**	**-0.5**
KMI				LR	LR		
	comp=E,460nm,8.6s						
KMI				LR	LR		
	comp=Z,250nm,6.2s						
KMI	**Kunming**	**4.41**	**86**	Pn	**Pg**	**03 14 51.0**	**-0.6**
SHL	**Shillong**	**5.47**	**278**	Pn	**Pn**	**03 14 50.9**	**+2.1**
CHTO	**Chiang Mai**	**6.12**	**171**	Pn	**Pg**	**03 15 21.5**	**-2.8**
CM31	**Chiang Mai Arr**	**6.47**	**171**	Pn	Pg	03 15 27.3	-3.7
CMAR	**Chiang Mai Arr**	**6.47**	**171**	Pn	**Pn**	**03 15 05.0**	**+2.7**
	1.0nm,0.3s,baz=343,slow=12,SNR=4.7						
CMAR				Pg	Pg	03 15 26.7	-4.3
	0.6nm,0.3s,baz=350,slow=18,SNR=5.1						
CMAR				Lg	Lg	03 16 53.4	
	1.3nm,0.3s,baz=350,slow=15,SNR=4.3						
CMAR				LR	LR	03 18 04.0	
	comp=Z,110nm,19.0s,baz=325,slow=42						
CMAR	**Chiang Mai Arr**	**6.47**	**171**	Pn	**Pg**	**03 15 28.1**	**-2.9**
LSA	**Lhasa**	**7.67**	**310**	Pn	**Pn**	**03 15 15.7**	**-3.5**
LZH	**Lanzhou**	**12.28**	**23**	*eP*	**Pn**	**03 16 20.3**	**-1.8**
LZH				p		03 16 25.9	
LZH				sP		03 16 29.1	
LZH				PP	PnPn	03 16 37.6	+7.5
LZH				LR	LR		
	comp=N,260nm,10.7s						
LZH				LR	LR		
	comp=E,230nm,11.9s						
LZH				LR	LR		
	comp=Z,250nm,11.9s						
WMQ	**Urumqi**	**20.64**	**339**	*eP*	Pn	03 18 06.9	-2.1
WMQ				LR	LR		
	comp=E,62nm,6.3s						
NIL	**Nilore**	**23.15**	**298**	P	**P**	**03 18 33.6**	**+0.1**
TARG	**Taragay, Kyrgy**	**23.65**	**320**	P	**P**	**03 18 39.3**	**+0.4**
PRZ	**Przheval'sk**	**23.80**	**322**	P	**P**	**03 18 40.0**	**-0.1**
PRZ				IAmb	IAmb	03 18 43.5	
	comp=Z,11nm,1.2s						
SONM	**Songino Array**	**23.88**	**14**	P	**P**	**03 18 40.3**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=194,slow=11,SNR=4.0						
KDJ	**Kajisay**	**24.26**	**320**	P	**P**	**03 18 43.7**	**-0.8**
MK31	**Makanchi Array**	**25.16**	**334**	P	**P**	**03 18 52.5**	**+0.1**
MKAR	**Makanchi Array**	**25.16**	**334**	P	**P**	**03 18 51.2**	**-1.1**
	comp=Z,2.1nm,0.6s,baz=139,slow=10,SNR=13						
MKAR	**Makanchi Array**	**25.16**	**334**	P	**P**	**03 18 52.3**	**-0.1**
MAKZ	**Makanchi**	**25.30**	**334**	P	**P**	**03 18 54.9**	**+1.4**
MAKZ				IAmb	IAmb	03 18 57.2	
	comp=Z,3.8nm,1.1s						
AAK	**Ala-Archa**	**26.16**	**318**	P	**P**	**03 19 00.6**	**-1.1**
	comp=Z,2.0nm,0.5s,baz=120,slow=3.3,SNR=7.4						
AAK	**Ala-Archa**	**26.16**	**318**	P	**P**	**03 19 02.0**	**+0.4**
KBL	**Kabul**	**26.75**	**298**	P	**P**	**03 19 09.1**	**+2.0**
KBL				IAmb	IAmb	03 19 17.3	
	comp=Z,4.2nm,0.8s						
GAR	**Garm**	**27.17**	**308**	P	**P**	**03 19 14.4**	**+3.6**
ZAA0	**Zalesovo Array**	**30.62**	**345**	P	**P**	**03 19 42.4**	**+1.3**
ZAA0				IAmb	IAmb	03 19 45.1	
	comp=Z,2.6nm,1.0s						
ZALV	**Zalesovo Beam**	**30.62**	**345**	P	**P**	**03 19 39.1**	**-2.0**
	comp=Z,1.5nm,0.6s,baz=171,slow=8.2,SNR=2.3						
GEYT	**Alibeck**	**36.08**	**301**	P	**P**	**03 20 29.5**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=116,slow=6.6,SNR=2.3						
ABKAR	**Akbulak array**	**38.23**	**319**	P	**P**	**03 20 46.6**	**-0.5**
WRA	**Warramunga Arr**	**56.95**	**138**	P	**P**	**03 23 13.0**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=328,slow=7.7,SNR=2.5						
ASAR	**Alice Springs**	**59.57**	**141**	P	**P**	**03 23 32.0**	**+1.0**
	comp=Z,1.0nm,1.1s,baz=326,slow=7.3,SNR=5.2						
FINES	**FINESS Array B**	**59.78**	**328**	P	**P**	**03 23 32.2**	**+0.2**
	comp=Z,1.7nm,0.8s,baz=72,slow=8.9,SNR=1.9						
GERES	**GERESS Array B**	**67.97**	**315**	P	**P**	**03 24 26.5**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=51,slow=5.2,SNR=2.5						

*IDC **20** 04:20:40.5±1.8, 35.°93N×68.°88E, h0km, mb3.6/5, mb1 3.7/11, mb1mx3.5/55, mbtmp3.7/11, ML3.4/6, Error ellipse: s-maj=44.1km s-min=17.1km az=142.0*
*NNC **20** 04:20:46.7±2.4, 36.°18N×68.°47E, h64km±72km, mb4.0, mpv4.1, Error ellipse: s-maj=27.5km s-min=8.9km az=157.0*

ISC 20 04:20:44.7±0.6**, 36.°04N**±0.°06×**68.°67E**±0.°05**, h30**km**, n26, σ2s11/32, mb3.8/5, 3C-5D, Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEP	**Cherat**	**3.46**	**129**	P	**Pb**	**04 21 41.1**	**-4.2**
CEP				S	**Sb**	**04 22 26.0**	**-0.9**
THW	**Thamme Wali**	**4.11**	**141**	P	**Pn**	**04 21 49.4**	**+3.9**
CHCP	**Chirah Chowk**	**4.46**	**121**	P	Pn	04 21 55.3	+5.0
KK31	**Karatay Array**	**7.20**	**11**	P	**Pn**	**04 22 28.9**	**+1.0**
KK31				⇑S	**Sn**	**04 23 47.9**	**-0.8**
	5.0nm,0.5s,baz=189,slow=21,SNR=4.2						
AML	**Almayashu**	**7.23**	**31**	P	**Pn**	**04 22 29.2**	**+0.6**
	SNR=23						
UCH	**Uchtor**	**7.67**	**35**	P	**Pn**	**04 22 35.2**	**+0.4**
	SNR=19						
KZA	**Kyzart**	**7.91**	**38**	P	**Pn**	**04 22 39.5**	**+1.5**
	SNR=7.8						
AAK	**Ala-Archa**	**7.99**	**33**	Pn	**Pn**	**04 22 39.5**	**+0.7**
	2.6nm,0.3s,baz=213,slow=7.0,SNR=14						
AAK				Sn	**Sn**	**04 24 07.1**	**-1.1**
	1.3nm,0.3s,baz=320,slow=22,SNR=7.2						
AAK	**Ala-Archa**	**7.99**	**33**	⇓P	**Pn**	**04 22 40.8**	**+2.0**
	7.0nm,0.5s						
AAK				⇓S	**Sn**	**04 24 08.1**	**-0.1**
	16nm,0.7s						
KBK	**Karagaybulak**	**8.20**	**34**	P	**Pn**	**04 22 43.5**	**+1.7**
	SNR=8.2						
GEYT	**Alibeck**	**8.65**	**286**	Pn	**Pn**	**04 22 48.7**	**+0.7**
	0.9nm,0.3s,baz=122,slow=8.5,SNR=6.3						
GEYT				Sn	**Sn**	**04 24 24.4**	**-0.2**
	1.3nm,0.3s,baz=138,slow=16,SNR=2.2						
GYA0B	**ALIBECK ARRAY**	**8.65**	**286**	⇑P	**Pn**	**04 22 45.4**	**-2.5**
GYA0B				⇓S	**Sn**	**04 24 21.6**	**-2.9**
TKM2	**Tokmak 2**	**8.71**	**36**	P	**Pn**	**04 22 49.4**	**+0.6**
	SNR=8.5						
TKM2	**Tokmak 2**	**8.71**	**36**	⇑P	**Pn**	**04 22 49.0**	**+0.1**
	2.7nm,0.4s						
TKM2				⇓S	**Sn**	**04 24 26.0**	**-0.1**
	5.2nm,0.6s						
AB01	**Akbulak array**	**14.67**	**337**	⇓P	**Pn**	**04 24 07.6**	**-2.5**
	1.0nm,0.4s						
MK31	**Makanchi Array**	**14.80**	**39**	P	**Pn**	**04 24 13.6**	**+1.7**
	1.9nm,0.8s,baz=227,slow=14,SNR=8.0						
MKAR	**Makanchi Array**	**14.80**	**39**	Pn	**Pn**	**04 24 10.2**	**-1.7**
	0.1nm,0.3s,baz=220,slow=15,SNR=7.4						
WSAR	**Wadi Sarin**	**15.44**	**217**	Pn	**Pn**	**04 24 18.6**	**-1.9**
	0.1nm,0.3s,baz=18,slow=6.4,SNR=2.0						
KURBB	**Kurchatov Arra**	**16.23**	**23**	Pn	**Pn**	**04 24 24.6**	**-5.7**
	0.0nm,0.3s,baz=217,slow=12,SNR=2.5						
BVAR	**Borovoye Array**	**17.03**	**4**	Pn	**Pn**	**04 24 38.3**	**-2.2**
	0.4nm,0.3s,baz=172,slow=12,SNR=2.4						
ZALV	**Zalesovo Beam**	**21.15**	**27**	P	**P**	**04 25 26.4**	**-0.7**
	1.8nm,0.4s,baz=224,slow=10,SNR=6.3						
NOA	**NORSAR Array B**	**43.63**	**324**	P	**P**	**04 28 48.2**	**+2.0**
	0.4nm,0.5s,baz=99,slow=8.0,SNR=1.8						
ESDC	**Sonseca Array**	**56.00**	**297**	P	**P**	**04 30 23.1**	**+2.5**
	0.4nm,0.7s,baz=80,slow=7.6,SNR=2.2						
PETK	**Petropavlovsk-**	**61.60**	**

BOQS					*e*S		**Sn**	**05 02 18.2**	**+0.6**
BOQS	**Boqueron**	**0.57**	**7**	*e*P			**Pn**	**05 02 08.7**	**0.0**
BOQS					*e*S		**Sn**	**05 02 18.2**	**+0.6**
IGN	**Direccin Gen**	**0.57**	**18**	*e*P			**Pn**	**05 02 08.6**	**+0.1**
IGN					*e*S		**Sn**	**05 02 17.8**	**+0.4**
IGN					*e*S		**Sn**	**05 02 17.8**	**+0.4**
IGN	**Direccin Gen**	**0.57**	**18**	*e*P			**Pn**	**05 02 08.6**	**+0.1**
IGN					*e*S		**Sn**	**05 02 17.8**	**+0.4**
IGN					*e*S		**Sn**	**05 02 17.8**	**+0.4**
AEIL	**Aeropuerto Ilo**	**0.58**	**23**	*e*P			**Pn**	**05 02 08.7**	**+0.1**
AEIL					*e*S		**Sn**	**05 02 17.6**	**+0.2**
AEIL					IAML			05 02 25.0	
	comp=Z,9µm,0.3s								
AEIL	**Aeropuerto Ilo**	**0.58**	**23**	*e*P			**Pn**	**05 02 08.7**	**+0.1**
AEIL					*e*S		**Sn**	**05 02 17.6**	**+0.2**
AEIL					IAML			05 02 25.0	
	comp=Z,9µm,0.3s								
UDBS	**Universidad Do**	**0.58**	**19**	*e*P			**Pn**	**05 02 08.5**	**-0.1**
UDBS					*e*S		**Sn**	**05 02 17.6**	**+0.1**
UDBS	**Universidad Do**	**0.58**	**19**	*e*P			**Pn**	**05 02 08.5**	**-0.1**
UDBS					*e*S		**Sn**	**05 02 17.6**	**+0.1**
LBRS	**Las Brisas**	**0.65**	**28**	*e*P			**Pn**	**05 02 09.5**	**+0.1**
LBRS	**Las Brisas**	**0.65**	**28**	*e*P			**Pn**	**05 02 09.5**	**+0.1**
QUEZ	**Alcaldia de Qu**	**0.67**	**7**	*e*P			**Pn**	**05 02 09.8**	**+0.1**
QUEZ					*e*S		**Sn**	**05 02 18.9**	**-0.5**
PAVA	**Las Pavas**	**0.68**	**36**	*e*P			**Pn**	**05 02 09.8**	**-0.1**
PAVA					*e*S		**Sn**	**05 02 20.1**	**+0.3**
PAVA	**Las Pavas**	**0.68**	**36**	*e*P			**Pn**	**05 02 09.8**	**-0.1**
PAVA					*e*S		**Sn**	**05 02 20.1**	**+0.3**
CEVE	**Cerro Verde**	**0.71**	**338**	*e*P			**Pn**	**05 02 08.2**	**-2.2**
CEVE					*e*S		**Sn**	**05 02 19.6**	**-1.1**
CEVE					IAML			05 02 26.9	
	comp=Z,5µm,0.3s								
CEVE	**Cerro Verde**	**0.71**	**338**	*e*P			**Pn**	**05 02 08.2**	**-2.2**
CEVE					*e*S		**Sn**	**05 02 19.6**	**-1.1**
CEVE					IAML			05 02 26.9	
	comp=Z,5µm,0.3s								
SBLS	**San Blas**	**0.72**	**339**	*e*P			**Pn**	**05 02 10.6**	**0.0**
SBLS					*e*S		**Sn**	**05 02 19.7**	**-1.2**
SBLS	**San Blas**	**0.72**	**339**	*e*P			**Pn**	**05 02 10.6**	**0.0**
SBLS					*e*S		**Sn**	**05 02 19.7**	**-1.2**
UESV	**Universidad de**	**0.72**	**49**	*e*P			**Pn**	**05 02 09.9**	**-0.4**
UESV					*e*S		**Sn**	**05 02 20.5**	**-0.1**
UESV	**Universidad de**	**0.72**	**49**	*e*P			**Pn**	**05 02 09.9**	**-0.4**
UESV					*e*S		**Sn**	**05 02 20.5**	**-0.1**
SNJE	**San Jose**	**0.74**	**341**	*e*P			**Pn**	**05 02 10.7**	**-0.1**
SNJE					*e*S		**Sn**	**05 02 21.8**	**+0.5**
SNJE	**San Jose**	**0.74**	**341**	*e*P			**Pn**	**05 02 10.7**	**-0.1**
SNJE					*e*S		**Sn**	**05 02 21.8**	**+0.5**
ALJI	**Alcalda de J**	**0.78**	**78**	*e*P			**Pn**	**05 02 10.7**	**-0.3**
ALJI					*e*S		**Sn**	**05 02 21.9**	**+0.1**
ALJI	**Alcalda de J**	**0.78**	**78**	*e*P			**Pn**	**05 02 10.7**	**-0.3**
ALJI					*e*S		**Sn**	**05 02 21.9**	**+0.1**
RTR	**El Retiro**	**0.78**	**339**	*e*P			**Pn**	**05 02 11.4**	**+0.1**
RTR	**El Retiro**	**0.78**	**339**	*e*P			**Pn**	**05 02 11.4**	**+0.1**
UNIC	**Universidad Ca**	**0.84**	**347**	*e*P			**Pn**	**05 02 11.8**	**-0.1**
UNIC					*e*S		**Sn**	**05 02 23.9**	**+0.6**
UNIC	**Universidad Ca**	**0.84**	**347**	*e*P			**Pn**	**05 02 11.8**	**-0.1**
UNIC					*e*S		**Sn**	**05 02 23.9**	**+0.6**
NUBE	**Las Nubes**	**0.84**	**331⇓**	*e*P			**Pn**	**05 02 11.9**	**-0.2**
NUBE					*e*S		**Sn**	**05 02 23.6**	**0.0**
NUBE					IAML			05 02 24.6	
	comp=Z,2µm,0.2s								
NUBE	**Las Nubes**	**0.84**	**331⇓**	*e*P			**Pn**	**05 02 11.9**	**-0.2**
NUBE					*e*S		**Sn**	**05 02 23.6**	**0.0**
NUBE					IAML			05 02 24.6	
	comp=Z,2µm,0.2s								
COEB	**Comit de Eme**	**0.87**	**67**	*e*P			**Pn**	**05 02 11.7**	**-0.6**
COEB					*e*S		**Sn**	**05 02 24.0**	**-0.1**
COEB					IAML			05 02 24.8	
	comp=Z,2µm,0.1s								
COEB	**Comit de Eme**	**0.87**	**67**	*e*P			**Pn**	**05 02 11.7**	**-0.6**
COEB					*e*S		**Sn**	**05 02 24.0**	**-0.1**
COEB					IAML			05 02 24.8	
	comp=Z,2µm,0.1s								
TECA	**Tecapa**	**0.89**	**68**	*e*P			**Pn**	**05 02 12.1**	**-0.6**
TECA					*e*S		**Sn**	**05 02 25.4**	**+0.7**
TECA	**Tecapa**	**0.89**	**68**	*e*P			**Pn**	**05 02 12.1**	**-0.6**
TECA					*e*S		**Sn**	**05 02 25.4**	**+0.7**
LCY	**Lacayo**	**1.06**	**76**	*e*P			**Pn**	**05 02 14.7**	**-0.2**
LCY					*e*S		**Sn**	**05 02 30.0**	**+1.3**
LCY	**Lacayo**	**1.06**	**76**	*e*P			**Pn**	**05 02 14.7**	**-0.2**
LCY					*e*S		**Sn**	**05 02 30.0**	**+1.3**
LLGN	**La Laguna**	**1.07**	**22**	*e*P			**Pn**	**05 02 14.4**	**-0.6**
LLGN					*e*S		**Sn**	**05 02 29.0**	**+0.1**
LLGN	**La Laguna**	**1.07**	**22**	*e*P			**Pn**	**05 02 14.4**	**-0.6**
LLGN					*e*S		**Sn**	**05 02 29.0**	**+0.1**
RANC	**El Ranchito**	**1.07**	**75**	*e*P			**Pn**	**05 02 15.2**	**+0.1**
RANC					*e*S		**Sn**	**05 02 29.3**	**+0.3**
RANC	**El Ranchito**	**1.07**	**75**	*e*P			**Pn**	**05 02 15.2**	**+0.1**
RANC					*e*S		**Sn**	**05 02 29.3**	**+0.3**
JUCU	**Jucuar¡n**	**1.08**	**85**	*e*P			**Pn**	**05 02 14.3**	**-0.8**
JUCU					*e*S		**Sn**	**05 02 28.7**	**-0.4**
JUCU					IAML			05 02 32.6	
	comp=Z,1µm,0.2s								
JUCU	**Jucuar¡n**	**1.08**	**85**	*e*P			**Pn**	**05 02 14.3**	**-0.8**
JUCU					*e*S		**Sn**	**05 02 28.7**	**-0.4**
JUCU					IAML			05 02 32.6	
	comp=Z,1µm,0.2s								
BLLM	**Bellamira**	**1.12**	**76**	*e*P			**Pn**	**05 02 15.4**	**-0.2**
BLLM					*e*S		**Sn**	**05 02 30.8**	**+0.7**
BLLM	**Bellamira**	**1.12**	**76**	*e*P			**Pn**	**05 02 15.4**	**-0.2**
BLLM					*e*S		**Sn**	**05 02 30.8**	**+0.7**
MTO3	**Montecristo**	**1.23**	**360⇓**	*e*P			**Pn**	**05 02 17.0**	**-0.3**
MTO3					*e*S		**Sn**	**05 02 32.9**	**0.0**
MTO3	**Montecristo**	**1.23**	**360⇓**	*e*P			**Pn**	**05 02 17.0**	**-0.3**
MTO3					*e*S		**Sn**	**05 02 32.9**	**0.0**
FAGO	**Alcalda de S**	**1.32**	**66⇓**	*e*P			**Pn**	**05 02 17.6**	**-0.7**
FAGO					*e*S		**Sn**	**05 02 35.6**	**+0.7**
FAGO	**Alcalda de S**	**1.32**	**66⇓**	*e*P			**Pn**	**05 02 17.6**	**-0.7**
FAGO					*e*S		**Sn**	**05 02 35.6**	**+0.7**
ESQI	**Esquipulas**	**1.39**	**0⇓**	*e*P			**Pn**	**05 02 19.5**	**+0.1**
ESQI					*e*S		**Sn**	**05 02 37.5**	**+0.8**
LCND	**La Caada**	**1.43**	**84**	*e*P			**Pn**	**05 02 19.5**	**-0.3**
LCND					*e*S		**Sn**	**05 02 37.8**	**+0.3**
LCND					IAML			05 02 41.2	
	comp=Z,1µm,0.3s								
LCND	**La Caada**	**1.43**	**84**	*e*P			**Pn**	**05 02 19.5**	**-0.3**
LCND					*e*S		**Sn**	**05 02 37.8**	**+0.3**
LCND					IAML			05 02 41.2	
	comp=Z,1µm,0.3s								
IXG	**Ixpaco**	**1.46**	**314**	*e*P			**Pn**	**05 02 21.0**	**+0.6**
NBG	**Las Nubes**	**1.71**	**326**	*e*P			**Pn**	**05 02 25.0**	**+1.1**
NBG					*e*S		**Sn**	**05 02 42.4**	**-2.5**
FUG	**Fuego 3**	**1.93**	**312**	*e*P			**Pn**	**05 02 28.1**	**+1.3**
FUG					*e*S		**Sn**	**05 02 50.7**	**+0.7**
MRL	**Marmol**	**1.93**	**350**	*e*P			**Pn**	**05 02 27.1**	**+0.2**
MRL	**Marmol**	**1.93**	**350**	*e*P			**Pn**	**05 02 27.9**	**+1.0**
MRL					*e*S		**Sn**	**05 02 48.7**	**-1.5**
MRL	**Marmol**	**1.93**	**350**	*e*P			**Pn**	**05 02 27.1**	**+0.2**
TGUH	**Tegucigalpa,Un**	**2.21**	**66**	*e*P			**Pn**	**05 02 30.0**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.21**	**66**	*e*P			**Pn**	**05 02 30.0**	**-0.6**

*THE **20** 05:19:14.0, 42°.11N×23°.49E, h0km±1km, ML2.6/8, Error ellipse: s-maj=1.8km s-min=0.8km az=322.0*
*SKO **20** 05:19:14.7, 42°.18N×23°.47E, h1km*
*BEO **20** 05:19:14.1±0.7, 42°.19N×23°.50E, h8km±2km, ML2.4/8*
ISC 20 05:19:12.8±1.2**, 42°.16N**±0°.02×**23°.51E**±0°.03**, h2**km±10km**, n31, σ1§11/49, 7C-4D, Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VTS	**Vitosha**	**0.50**	**336**	*e*P	**Pg**	**05 19 22.4**	**0.0**
VTS				*e*Sg	**Sg**	**05 19 29.0**	**0.0**
VTS	**Vitosha**	**0.50**	**336**	⇑P	**Pg**	**05 19 22.5**	**0.0**
VTS				⇑S	**Sg**	**05 19 28.5**	**-0.5**
NVR	**Nevrokopi**	**0.85**	**162**	P	**Pg**	**05 19 29.4**	**+0.4**
NVR				S	**Sb**	**05 19 41.2**	**-0.8**
	222nm,0.2s						
SRS	**Serrai**	**1.04**	**176**	P	**Pg**	**05 19 32.9**	**+0.2**
SRS				S	**Sb**	**05 19 47.8**	**+0.3**
	445nm,0.4s						
STIP	**Stip**	**1.09**	**245**	*i* Pg	Pg	05 19 29.8	-3.8
STIP				*i* Sg	**Sg**	**05 19 42.8**	**-5.0**
STIP				*e*Lg	Lg	05 19 43.3	
	comp=N,66nm,0.2s						
STIP				*e*Lg	Lg	05 19 44.0	
	comp=E,59nm,0.3s						
VAY	**Valandovo**	**1.09**	**220**	*e*Pg	**Pg**	**05 19 34.3**	**+0.6**
VAY				*e*Sg	**Sg**	**05 19 49.4**	**+1.6**
VAY	**Valandovo**	**1.09**	**220**	*i* Pg	**Pg**	**05 19 34.5**	**+0.8**
VAY				*i* Sg	**Sg**	**05 19 49.7**	**+1.9**
VAY				*e*Lg	Lg	05 19 52.0	
	comp=N,123nm,0.3s						
VAY				*e*Lg	Lg	05 19 52.4	
	comp=E,118nm,0.3s						
KNT	**Kendrikon**	**1.09**	**205**	P	**Pg**	**05 19 33.8**	**+0.1**
KNT				S	**Sg**	**05 19 48.5**	**+0.6**
	comp=E,192nm,0.2s						
ZAPS	**Zavoj**	**1.29**	**330**	*e*Pg	**Pb**	**05 19 38.2**	**+0.5**
ZAPS				*e*Sg	**Sn**	**05 19 56.1**	**+0.5**
KAVA	**Kavala**	**1.38**	**147**	P	**Pg**	**05 19 39.3**	**0.0**
KAVA				S	**Sg**	**05 19 58.8**	**+1.6**
	comp=E,355nm,0.3s						
BARS	**Barje**	**1.42**	**298**	*e*Pg	**Pn**	**05 19 40.2**	**+0.7**
BARS	**Barje**	**1.42**	**298**	*e*Pg	Pg	05 19 52.6	+13
BARS				*e*Sg	**Sn**	**05 19 58.9**	**+0.2**
BARS				*e*Sg	Sg	05 20 21.9	+24
PLVB	**Pleven**	**1.48**	**33**	⇑P	**Pg**	**05 19 41.1**	**0.0**
PLVB				⇓S	**Sg**	**05 20 00.7**	**+0.5**
HORT	**Hortiatis**	**1.59**	**191**	P	**Pn**	**05 19 42.4**	**+0.5**
HORT				S	**Sb**	**05 20 04.1**	**+0.7**
	comp=E,75nm,0.4s						
THAS	**Thassos island**	**1.80**	**149**	P	**Pn**	**05 19 44.8**	**+0.1**
THAS				S	**Sb**	**05 20 09.1**	**-0.2**
	comp=E,138nm,0.3s						
RDO	**Rodhopi**	**1.83**	**123**	P	**Pb**	**05 19 45.4**	**-1.4**
RDO				S	**Sg**	**05 20 10.5**	**-0.9**
	comp=E,210nm,0.5s						
OUR	**Ouranopolis**	**1.86**	**169**	P	**Pn**	**05 19 45.3**	**-0.2**
ZAGS	**Zajecar**	**1.90**	**331**	*e*Pn	**Pn**	**05 19 47.2**	**+1.1**
ZAGS				*e*Sn	**Sn**	**05 20 11.1**	**+0.5**
ELND	**Elena**	**1.91**	**65**	⇓P	**Pg**	**05 19 49.0**	**-0.4**
SELS	**Selova**	**2.06**	**302**	*e*Pn	**Pn**	**05 19 48.3**	**0.0**
SELS				*e*Sn	**Sn**	**05 20 14.0**	**-0.5**
ALN	**Alexandroupoli**	**2.28**	**123**	P	**Pn**	**05 19 52.1**	**+0.7**
ALN				S	**Sb**	**05 20 21.8**	**-1.5**
	comp=E,72nm,0.7s						
KUBS	**Kucevo**	**2.62**	**330**	*e*Pn	**Pn**	**05 19 55.8**	**-0.3**
GRUS	**Gruza**	**2.68**	**311**	*e*Pn	**Pn**	**05 19 57.3**	**+0.4**
GRUS				*e*Sn	**Sn**	**05 20 29.3**	**-0.6**
HERR	**Herculane**	**2.84**	**344**	⇑P	**Pn**	**05 19 58.6**	**-0.4**
IVAS	**Ivanjica**	**2.84**	**301**	*e*Pn	**Pn**	**05 19 59.2**	**0.0**
IVAS				*e*Sn	**Sn**	**05 20 33.6**	**-0.4**
MDVR	**Moldovita**	**2.93**	**334**	⇑P	**Pn**	**05 20 01.1**	**+0.8**
TRUS	**Trudelj**	**3.07**	**313**	*e*Pn	**Pn**	**05 20 02.0**	**-0.2**
ARR	**Arges**	**3.31**	**14**	⇓P	**Pn**	**05 20 05.9**	**+0.3**
VOIR		**3.46**	**18**	⇑P	**Pn**	**05 20 08.9**	**+1.2**
BZS	**Buzias**	**3.72**	**339**	⇑P	**Pn**	**05 20 11.4**	**+0.2**
MLR	**Muntele Rosu**	**3.77**	**27**	⇓P	**Pn**	**05 20 14.6**	**+2.6**

*STR **20** 05:29:00.5±0.7, 44°.N±2°×±°, h1km±2km, MLv1.8/8, smi:scs/0.6/LOCSAT earthModelID*
smi:scs/0.6/alpes_taup-2.11 preliminary
*ROM **20** 05:29:00.6±0.1, 44°.082N±0°.007×7°.62E±0°.01, h6km±1km, ML1.5/6, Error ellipse: s-maj=0.9km s-min=0.5km az=46.0*
*LDG **20** 05:29:01.4±0.1, 44°.08N×7°.63E, h6km, Md2.5/1, Ml2.4/11, Error ellipse: s-maj=1.4km s-min=1.2km az=79.0*
*GEN **20** 05:29:01.4, 44°.07N×7°.61E, h6km±3km, Ml1.3*
ISC 20 05:29:01.3±0.8**, 44°.08N**±0°.02×**7°.64E**±0°.02**, h9**km±6km**, n50, σ0§76/95, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAOF	**Saorge**	**0.11**	**212**	P	**Pg**	**05 29 03.6**	**-0.3**
SAOF				S	**Sg**	**05 29 05.3**	**-0.5**
SAOF	**Saorge**	**0.11**	**212**	AML	AML		
	comp=N,792µm,0.6s						
SAOF				AML	AML		
	comp=E,964µm,0.6s						
SAOF	**Saorge**	**0.11**	**212**	Pg	**Pg**	**05 29 03.7**	**-0.3**
SAOF				Sg	**Sg**	**05 29 05.3**	**-0.5**
TURF	**col de Turini**	**0.20**	**239**	Pg	**Pg**	**05 29 05.5**	**-0.1**
TURF				Sg	**Sg**	**05 29 08.5**	**-0.1**
ENR	**Entracque**	**0.21**	**314**	P	**Pg**	**05 29 05.6**	**-0.1**
ENR				S	**Sg**	**05 29 08.7**	**-0.1**
ENR	**Entracque**	**0.21**	**314**	P	**Pg**	**05 29 05.6**	**-0.1**
ENR				S	**Sg**	**05 29 08.7**	**-0.1**
GBOS	**Grotte di Boss**	**0.22**	**42**	P	**Pg**	**05 29 06.0**	**+0.1**
GBOS				S	**Sg**	**05 29 09.4**	**+0.6**
GBOS	**Grotte di Boss**	**0.22**	**42**	P	**Pg**	**05 29 05.9**	**+0.1**
GBOS				S	**Sg**	**05 29 09.3**	**+0.4**
GBOS				AML	AML		
	comp=E,128µm,1.0s						
GBOS				AML	AML		
	comp=N,126µm,0.3s						
NEGI	**Seborga**	**0.24**	**168**	P	**Pg**	**05 29 06.2**	**+0.2**
NEGI				S	**Sg**	**05 29 09.7**	**+0.4**
NEGI	**Seborga**	**0.24**	**168**	P	**Pg**	**05 29 06.3**	**+0.2**
NEGI				S	**Sg**	**05 29 09.7**	**+0.4**
NEGI				AML	AML		
	comp=E,157µm,0.6s						
NEGI				AML	AML		
	comp=N,148µm,1.5s						
IMI	**Imperia**	**0.25**	**132**	P	**Pg**	**05 29 06.5**	**+0.2**
IMI				S	**Sg**	**05 29 10.4**	**+0.6**
IMI	**Imperia**	**0.25**	**132**	P	**Pg**	**05 29 06.5**	**+0.2**
IMI				S	**Sg**	**05 29 10.4**	**+0.6**
IMI				AML	AML		
	comp=N,266µm,0.3s						
IMI				AML	AML		
	comp=E,166µm,0.7s						
SBF	**Sospel**	**0.26**	**214**	*e*Pg	**Pg**	**05 29 06.8**	**+0.3**
SBF				*e*Sg	**Sg**	**05 29 10.6**	**+0.5**
	comp=E,61nm,0.2s						
STV	**Sant Anna di V**	**0.28**	**307**	P	**Pg**	**05 29 06.7**	**-0.2**
STV				S	**Sg**	**05 29 10.4**	**-0.3**
STV	**Sant Anna di V**	**0.28**	**307**	P	**Pg**	**05 29 06.7**	**-0.2**
STV				S	**Sg**	**05 29 10.5**	**-0.2**
STV				AML	AML		
	comp=E,252µm,0.4s						
STV				AML	AML		
	comp=N,125µm,0.3s						
RORO	**Rocca Rossa**	**0.31**	**84**	P	**Pg**	**05 29 07.7**	**+0.2**
RORO				S	**Sg**	**05 29 12.5**	**+0.9**
RORO	**Rocca Rossa**	**0.31**	**84**	P	**Pg**	**05 29 07.7**	**+0.2**
RORO				S	**Sg**	**05 29 12.7**	**+1.1**
RORO				AML	AML		
	comp=N,98µm,1.0s						
RORO				AML	AML		
	comp=E,82µm,0.8s						
ESCA	**l'Escarene**	**0.31**	**217**	Pg	**Pg**	**05 29 07.4**	**-0.1**
ESCA				Sg	**Sg**	**05 29 11.5**	**-0.1**
MON	**Monaco**	**0.38**	**204**	Pg	**Pg**	**05 29 08.3**	**-0.4**
MON				Sg	**Sg**	**05 29 12.8**	**-1.0**
ISO	**Isola**	**0.43**	**284**	Pg	**Pg**	**05 29 09.6**	**-0.2**
ISO				Sg	**Sg**	**05 29 15.2**	**-0.4**
DOI	**San Damiano**	**0.51**	**327**	P	**Pg**	**05 29 11.8**	**+0.6**
DOI				S	**Sg**	**05 29 18.5**	**+0.6**
QLNO	**Quiliano**	**0.57**	**64**	P	**Pg**	**05 29 12.5**	**+0.3**
PZZ	**Stroppo**	**0.57**	**319**	P	**Pg**	**05 29 12.6**	**+0.3**
PZZ				S	**Sg**	**05 29 20.1**	**+0.3**
PZZ	**Stroppo**	**0.57**	**319**	P	**Pg**	**05 29 12.7**	**+0.3**
PZZ				S	**Sg**	**05 29 20.3**	**+0.5**
CALF	**Calern**	**0.61**	**238**	Pg	**Pg**	**05 29 13.3**	**+0.2**
CALF				Sg	**Sg**	**05 29 20.9**	**-0.3**
SURF	**Saint Ours**	**0.71**	**304**	Pg	**Pg**	**05 29 15.1**	**0.0**
SURF				Sg	**Sg**	**05 29 24.7**	**+0.2**
PCP	**Piancastagn**	**0.80**	**54**	P	**Pg**	**05 29 17.3**	**-0.1**
PCP				S	**Sg**	**05 29 27.5**	**+0.4**
PCP	**Piancastagn**	**0.80**	**54**	P	**Pb**	**05 29 17.3**	**-0.1**
BHB	**Bricherasio**	**0.81**	**341**	P	**Pg**	**05 29 16.2**	**-0.7**
BHB				S	**Sg**	**05 29 26.1**	**-1.2**
BHB	**Bricherasio**	**0.81**	**341**	P	**Pg**	**05 29 16.1**	**-0.7**
BHB				S	**Sg**	**05 29 26.6**	**-0.8**
FRF	**La Foret Royal**	**0.88**	**234**	*e*Pg	**Pg**	**05 29 18.2**	**-0.1**
FRF	**La Foret Royal**	**0.88**	**234**	*e*P	**Pn**	**05 29 19.8**	**-0.1**
FRF				*e*Sg	**Sg**	**05 29 29.5**	**-0.3**
	comp=E,24nm,0.2s						
MBDF	**Montbardon**	**0.90**	**317**	*e*Pg	**Pg**	**05 29 18.5**	**-0.1**
MBDF				*e*Sg	**Sg**	**05 29 30.2**	**0.0**
MBDF				*e*Sn	**Sb**	**05 29 32.2**	**+1.0**
	comp=E,21nm,0.4s						
LMR	**La Mourre**	**1.11**	**228**	*e*Pg	**Pg**	**05 29 22.1**	**-0.4**
LMR				*e*Sg	**Sg**	**05 29 36.5**	**-0.4**
	comp=E,32nm,0.3s						
BLAF	**les Blancs**	**1.16**	**264**	Pn	**Pn**	**05 29 24.3**	**+0.7**
BLAF				Sn	**Sn**	**05 29 41.5**	**+2.0**
MLYF	**Mely**	**1.35**	**267**	Pn	**Pb**	**05 29 26.9**	**+0.1**
MLYF				Sn	**Sn**	**05 29 46.6**	**+2.2**
ARTF	**Artigues**	**1.41**	**250**	Pn	**Pb**	**05 29 28.0**	**+0.1**
ARTF				Sn	**Sg**	**05 29 47.2**	**+0.5**
BSTF	**la Bastide-des**	**1.45**	**263**	Pn	**Pb**	**05 29 28.6**	**+0.1**
BSTF				Sn	**Sg**	**05 29 49.0**	**+1.0**
SMRF	**Simiane la Rot**	**1.49**	**267**	*e*Pg	**Pb**	**05 29 29.5**	**+0.4**
SMRF				*e*Sg	**Sn**	**05 29 48.4**	**+0.5**
	comp=E,26nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.51**	**304**	*e*Pg	**Pb**	**05 29 29.7**	**+0.2**
ORIF				*e*Sg	**Sb**	**05 29 49.2**	**+0.4**
	comp=E,11nm,0.4s						
ORIF	**Oris-en-Rattie**	**1.51**	**304**	Pn	**Pn**	**05 29 29.2**	**+0.6**
ORIF				Sn	**Sg**	**05 29 50.0**	**+0.1**
LPG	**La Plagne**	**1.55**	**336**	*e*Pn	**Pn**	**05 29 28.5**	**-0.8**
LPG	**La Plagne**	**1.55**	**336**	*e*Pg	**Pb**	**05 29 30.8**	**+0.4**
LPG				*e*Sn	**Sn**	**05 29 47.9**	**-1.8**
	comp=E,5.1nm,0.5s						
LPG				*e*Sg	**Sb**	**05 29 50.5**	**+0.3**
	comp=E,4.4nm,0.4s						
RUSF	**Rustrel**	**1.56**	**266**	Pn	**Pb**	**05 29 30.4**	**+0.1**
RUSF				Sn	**Sg**	**05 29 51.4**	**0.0**
LPL	**La Plagne**	**1.57**	**336**	*e*Pg	**Pn**	**05 29 30.5**	**+0.9**
LPL				*e*Sn	**Sn**	**05 29 48.2**	**-2.0**
LPL				*e*Sg	**Sb**	**05 29 51.4**	**+0.6**
	comp=E,2.8nm,0.3s						
ASEAF	**Site Antares,**	**1.67**	**220**	Pn	**Pn**	**05 29 31.2**	**+0.8**
ASEAF				Sn	**Sn**	**05 29 52.6**	**+0.8**
PGF	**Pioggiola**	**1.82**	**147**	*e*Pn	**Pn**	**05 29 31.4**	**-1.5**
PGF				*e*Sn	**Sn**	**05 29 53.3**	**-2.9**
	comp=E,4.4nm,0.3s						
VIVF	**Saint-Julien-l**	**2.26**	**291**	*e*Pn	**Pn**	**05 29 37.7**	**-1.1**
VIVF	**Saint-Julien-l**	**2.26**	**291**	*e*Pg	**Pb**	**05 29 43.4**	**+1.1**
VIVF				*e*Sn	**Sn**	**05 30 04.7**	**-2.1**
	comp=E,2.0nm,0.3s						
LASF	**Ste Croix**	**2.72**	**271**	*e*Pn	**Pn**	**05 29 44.4**	**-0.8**

*IDC **20** 05:31:33.3±1.2, 28°.35S×68°.92W, h86km±12km, mb3.9/9, mb1 3.9/15, mb1mx3.7/36, mbtmp4.1/15, MS2.6/1, Ms1 2.6/1, ms1mx2.2/28, Error ellipse: s-maj=24.2km s-min=9.3km az=85.0*
*GUC **20** 05:31:33.7±0.7, 28°.39S×69°.17W, h122km±10km, ML4.2*
*NEIC **20** 05:31:34.8±2.6, 28°.39S±0°.04×69°.02W±0°.06, h107km±5km, mb4.4/28, Error ellipse: s-maj=7.6km s-min=6.0km az=106.0*
ISC 20 05:31:34.2±0.7**, 28°.40S**±0°.03×**69°.01W**±0°.06**, h102**km±7km**, n107, σ1§44/130, mb4.3**/20**, 6C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AC05	**El Transito**	**1.19**	**248**	⇑*i*P	**Pn**	**05 31 58.3**	**+1.3**
AC05				*e*S	**Sn**	**05 32 16.3**	**+2.1**
AC05				IAML		05 32 18.2	
	comp=E,5µm,0.3s						
AC05	**El Transito**	**1.19**	**248**		**Pn**	**05 31 58.4**	**+1.4**
AC05				Sn	**Sn**	**05 32 16.4**	**+2.1**
GO03	**Copiap**	**1.35**	**306**	⇓*i*P	**Pn**	**05 31 59.5**	**+0.7**
GO03				*e*S	**Sn**	**05 32 18.4**	**+1.1**
GO03				IAML		05 32 18.8	
	comp=N,3µm,0.4s						
GO03	**Copiap**	**1.35**	**306**		**Pn**	**05 31 59.5**	**+0.7**
GO03				Sn	**Sn**	**05 32 18.5**	**+1.1**
AC02	**Maricunga**	**1.56**	**356**	⇑*i*P	**Pn**	**05 32 03.8**	**+2.0**
AC02				*e*S	**Sn**	**05 32 25.7**	**+3.0**
AC02				IAML		05 32 27.3	
	comp=E,1µm,0.2s						
AC02	**Maricunga**	**1.56**	**356**		**Pn**	**05 32 03.9**	**+2.0**
AC02				Sn	**Sn**	**05 32 25.8**	**+3.0**
LCO	**Las Campanas**	**1.60**	**247**		**Pn**	**05 32 03.1**	**+1.0**
LCO				Sn	**Sn**	**05 32 25.2**	**+2.0**
AC04	**Llanos de

SJG	**San Juan**	**46.32**	**4**	P	**P**		**05 39 49.4**	**-0.5**
TEIG	**Tepich**	**51.80**	**337**	P	**P**		**05 40 31.9**	**+0.1**
	comp=Z,4.0nm,0.5s,baz=319,slow=18,SNR=1.5							
TEIG	**Tepich**	**51.80**	**337**	P	**P**		**05 40 32.0**	**+0.2**
VNA3	**Neumayer Olymp**	**53.63**	**160**	P	**P**		**05 40 44.8**	**+0.1**
SNAA	**Sanae**	**55.84**	**160**	P	**P**		**05 41 01.2**	**+0.5**
QSPA	**South Pole Qui**	**61.82**	**180**	P	**P**		**05 41 43.7**	**+1.5**
QSPA				IAmb	IAmb		05 41 44.1	
	comp=Z,2.1nm,1.0s							
TXAR	**Lajitas Array**	**66.29**	**327**	P	**P**		**05 42 13.0**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=157,slow=10,SNR=4.7							
TXAR	**Lajitas Array**	**66.29**	**327**	P	**P**		**05 42 13.4**	**+1.6**
WHAR	**Wooly Hollow**	**67.05**	**339**	P	**P**		**05 42 17.3**	**+0.9**
WHAR				IAmb	IAmb		05 42 32.7	
	comp=Z,5.8nm,1.3s							
W39A	**Magazine**	**67.44**	**338**	P	**P**		**05 42 20.5**	**+1.6**
W39A				IAmb	IAmb		05 42 29.2	
	comp=Z,2.1nm,1.1s							
CCM	**Cathedral Cave**	**69.31**	**341**	P	**P**		**05 42 30.8**	**+0.3**
S39A	**Bolivar**	**69.58**	**340**	P	**P**		**05 42 32.6**	**+0.5**
S39A				IAmb	IAmb		05 42 33.6	
	comp=Z,4.1nm,0.7s							
MSTX	**Muleshoe**	**69.79**	**331**	P	**P**		**05 42 34.4**	**+0.8**
MSTX				IAmb	IAmb		05 42 35.3	
	comp=Z,4.7nm,0.8s							
R40A	**Maddies Statio**	**69.82**	**341**	P	**P**		**05 42 33.5**	**-0.1**
R40A				IAmb	IAmb		05 42 35.0	
	comp=Z,3.5nm,0.7s							
DBIC	**Dimbokro**	**70.92**	**71**	P	**P**		**05 42 41.4**	**+0.5**
	comp=Z,4.9nm,0.8s,baz=196,slow=7.9,SNR=3.8							
ANMO	**Albuquerque**	**72.25**	**328**	P	**P**		**05 42 50.8**	**+2.2**
	comp=Z,0.9nm,0.6s,baz=136,slow=8.6,SNR=3.2							
ANMO	**Albuquerque**	**72.25**	**328**	P	**P**		**05 42 49.8**	**+1.1**
F64A	**Sherman**	**73.91**	**0**	P	**P**		**05 42 57.5**	**-0.4**
F64A				IAmb	IAmb		05 43 06.0	
	comp=Z,18nm,1.3s							
LMN	**Caledonia Moun**	**74.00**	**3**	P	**P**		**05 42 59.4**	**+1.0**
LMN				IAmb	IAmb		05 43 16.3	
	comp=Z,14nm,1.2s							
E62A	**Clayton Lake**	**74.67**	**360**	P	**P**		**05 43 02.7**	**+0.4**
D62A	**Allapoint, All**	**75.13**	**360**	P	**P**		**05 43 06.2**	**+1.3**
ECSD	**EROS Data Cent**	**76.12**	**340**	P	**P**		**05 43 11.4**	**+0.7**
KNB	**Kanab**	**76.98**	**325**	P	**P**		**05 43 17.7**	**+1.8**
CCUT	**Cedar City**	**77.67**	**325**	P	**P**		**05 43 22.0**	**+2.2**
TOA0	**Torodi Ar. Sit**	**79.83**	**69**	P	**P**		**05 43 31.8**	**0.0**
TOA0				IAmb	IAmb		05 43 33.0	
	comp=Z,3.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**79.83**	**69**	P	**P**		**05 43 32.2**	**+0.4**
	comp=Z,2.2nm,0.7s,baz=272,slow=5.2,SNR=14							
TORD	**Torodi Ar. Bea**	**79.83**	**69**	P	**P**		**05 43 31.4**	**-0.4**
PDAR	**Pinedale Array**	**80.05**	**331**	P	**P**		**05 43 33.6**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=131,slow=7.2,SNR=8.2							
PDAR	**Pinedale Array**	**80.05**	**331**	P	**P**		**05 43 32.6**	**-0.1**
PMPB	**Monarch Peak**	**80.66**	**320**	P	**P**		**05 43 34.3**	**-1.6**
PMPB				IAmb	IAmb		05 43 51.9	
	comp=Z,15nm,1.1s							
FXWY	**Fox Creek**	**81.38**	**331**	P	**P**		**05 43 41.2**	**+1.5**
YHL	**Hebgen Lake**	**82.42**	**331**	P	**P**		**05 43 47.4**	**+2.1**
MCMT	**McKenzie Canyo**	**83.12**	**330**	P	**P**		**05 43 50.3**	**+1.5**
YKA	**Yellowknife Ar**	**97.63**	**340**	P	**P**		**05 44 56.4**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=154,slow=4.4,SNR=3.3							
ASAR	**Alice Springs**	**123.72**	**205**	PKP	**PKPdf**		**05 50 20.2**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=148,slow=1.6,SNR=4.5							
WB2	**Warramunga Arr**	**126.90**	**208**	PKPdf	**PKPdf**		**05 50 26.8**	**0.0**
WRA	**Warramunga Arr**	**126.90**	**208**	PKP	**PKPdf**		**05 50 26.9**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=160,slow=1.7,SNR=2.5							
WRA	**Warramunga Arr**	**126.90**	**208**		**PKPdf**		**05 50 27.9**	**+1.1**
ZAA0	**Zalesovo Array**	**148.11**	**30**		**PKPbc**		**05 51 08.0**	**+0.4**
ZALV	**Zalesovo Beam**	**148.11**	**30**	PKPbc	**PKPbc**		**05 51 08.4**	**+0.8**
	comp=Z,2.8nm,0.5s,baz=296,slow=4.0,SNR=12							
ZALV	**Zalesovo Beam**	**148.11**	**30**		**PKPbc**		**05 51 08.0**	**+0.4**
MAKZ	**Makanchi**	**150.82**	**43**		**PKPbc**		**05 51 15.1**	**+0.4**
MK31	**Makanchi Array**	**151.01**	**43**		**PKPbc**		**05 51 15.0**	**-0.1**
MKAR	**Makanchi Array**	**151.01**	**43**	PKPbc	**PKPbc**		**05 51 15.4**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=310,slow=2.0,SNR=32							
MKAR	**Makanchi Array**	**151.01**	**43**		**PKPbc**		**05 51 15.0**	**-0.1**
SONM	**Songino Array**	**160.27**	**9**	PKPab	**PKPab**		**05 52 03.2**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=317,slow=9.9,SNR=1.6							
SONM	**Songino Array**	**160.27**	**9**		**PKPab**		**05 52 02.6**	**0.0**
LZH	**Lanzhou**	**170.24**	**36**	*e*PKP	**PKPdf**		**05 51 29.3**	**-1.1**
LZH				pPKP	pPKPdf		05 51 58.5	-1.5
LZH				sPKP			05 52 05.8	

IGQ ***20*** *06:26:31.9±1.4,4°S±7°x8°W±°, h3km, M4.2*
ISC 20 06:26:36.9±4.1,3°4S±0°2×81°0W±0°2, h38km, n33,
σ1§16/37, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MORR	**Playas El Morr**	**0.95**	**40**	P		**Pn**	**06 26 52.6**	**-1.1**
MORR				S		**Sn**	**06 27 05.1**	**-0.9**
AGUAY	**Guayaquil**	**1.64**	**37**	P		**Pn**	**06 27 01.6**	**-1.6**
PPLP	**Puerto Lpez**	**1.82**	**5**	P		**Pn**	**06 27 05.2**	**-0.6**
SANGA	**Volcan Sangay**	**2.89**	**63**	P		**Pn**	**06 27 20.9**	**+0.1**
CABP	**Cabo Pasado**	**3.01**	**10**	P		**Pn**	**06 27 22.9**	**+0.8**
BMAS	**Trigal station**	**3.09**	**53**	P		**Pn**	**06 27 23.0**	**-0.5**
ARRY	**Arrayan**	**3.10**	**53**	P		**Pn**	**06 27 22.8**	**-0.9**
RETU	**Refugio**	**3.14**	**53**	P		**Pn**	**06 27 25.1**	**+0.7**
BULB	**Ulba Tungurahu**	**3.18**	**53**	P		**Pn**	**06 27 24.1**	**-0.6**
BRUN	**Tungurahua Vol**	**3.19**	**53**	P		**Pn**	**06 27 24.3**	**-0.6**
PISA	**Pisayambo**	**3.44**	**48**	P		**Pn**	**06 27 29.4**	**+1.0**
VCES	**Cotopaxi**	**3.61**	**45**	P		**Pn**	**06 27 32.1**	**+1.4**
BMOR	**Cotopaxi Volca**	**3.62**	**44**	P		**Pn**	**06 27 31.8**	**+0.9**
BNAS	**Cotopaxi Volca**	**3.64**	**43**	P		**Pn**	**06 27 32.3**	**+1.1**
BREF	**Cotopaxi Volca**	**3.67**	**43**	P		**Pn**	**06 27 33.3**	**+1.6**
BTAM	**Cotopaxi Volca**	**3.70**	**44**	P		**Pn**	**06 27 32.7**	**+0.7**
VC1	**Cotopaxi 1**	**3.72**	**43**	P		**Pn**	**06 27 33.5**	**+1.3**
PKYU	**Pakayacu**	**3.76**	**63**	P		**Pn**	**06 27 32.3**	**-0.1**
GGPC	**Guagua Pichinc**	**3.95**	**37**	P		**Pn**	**06 27 35.5**	**0.0**
PINO	**Pino**	**3.96**	**36**	P		**Pn**	**06 27 35.8**	**+0.2**
ANTS	**Antisana-Sarah**	**3.98**	**44**	P		**Pn**	**06 27 37.8**	**+1.8**
YANA	**Yana**	**4.01**	**36**	P		**Pn**	**06 27 36.9**	**+0.6**
PULU	**Pululahua**	**4.16**	**36**	P		**Pn**	**06 27 38.7**	**+0.4**
PAC1	**Pacto, Paraso**	**4.21**	**31**	*e*P		**Pn**	**06 27 37.5**	**-1.2**
PAC1				*e*S		**Sn**	**06 28 27.4**	**+0.7**
PAC1	**Pacto, Paraso**	**4.21**	**31**	P		**Pn**	**06 27 37.2**	**-1.4**
CUSE	**Cuicocha Este**	**4.45**	**35**	*e*P		**Pn**	**06 27 43.0**	**+0.8**
CUSE				*e*S		**Sn**	**06 28 34.5**	**+1.4**
CUSE	**Cuicocha Este**	**4.45**	**35**	P		**Pn**	**06 27 42.3**	**0.0**
CUSW	**Cuicocha Oeste**	**4.46**	**36**	P		**Pn**	**06 27 43.4**	**+0.9**
CUIC	**Cuicocha-Domo**	**4.47**	**35**	P		**Pn**	**06 27 43.6**	**+1.0**
IMBA	**Imbabura, San**	**4.55**	**37**	P		**Pn**	**06 27 45.2**	**+1.6**
URCU	**Urcuqui**	**4.64**	**35**	P		**Pn**	**06 27 45.9**	**+1.0**
CHL2	**Volcn Chiles**	**5.13**	**36**	P		**Pn**	**06 27 54.7**	**+2.9**
BBAC	**Balboa, Cauca**	**6.51**	**35**	*e*P		**Pn**	**06 28 10.2**	**-0.2**
BBAC				*e*S		**Sn**	**06 29 21.6**	**-2.0**

IDC ***20*** *06:35:41.3±1.5, 18°98N×94°92E, h0km, mb3.7/5, mb1 3.7/6, mb1mx3.5/48, mbtmp3.6/6, ML3.5/1, Error ellipse: s-maj=51.6km s-min=26.3km az=48.0*
ISC 20 06:35:42.9±1.3, 19°0N±0°2×94°9E±0°2, h10km, n6, σ1§00/6, mb3.8/5, Myanmar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**3.88**	**97**	Pn		**Pn**	**06 36 43.4**	**+0.7**
	0.8nm,0.3s,baz=276,slow=14,SNR=5.9							
CMAR				Pg		Pg	06 37 06.2	+8.9
	0.7nm,0.3s,baz=271,slow=18,SNR=5.7							
CMAR				Lg		Lg	06 37 49.0	
	1.3nm,0.3s,baz=278,slow=16,SNR=4.2							
MKAR	**Makanchi Array**	**29.60**	**342**	P		**P**	**06 41 48.5**	**+0.4**
	1.0nm,0.6s,baz=152,slow=9.8,SNR=11							
ZALV	**Zalesovo Beam**	**35.75**	**350**	P		**P**	**06 42 41.9**	**+0.2**
	0.5nm,0.4s,baz=163,slow=10,SNR=2.7							
ASAR	**Alice Springs**	**56.98**	**136**	P		**P**	**06 45 28.3**	**-0.6**
	0.2nm,0.5s,baz=311,slow=7.0,SNR=2.1							
ILAR	**Eielson Array**	**84.24**	**22**	P		**P**	**06 48 13.3**	**-1.2**
	0.2nm,0.6s,baz=297,slow=5.0,SNR=2.3							
TORD	**Torodi Ar. Bea**	**88.75**	**283**	P		**P**	**06 48 38.2**	**+0.7**
	0.2nm,0.3s,baz=74,slow=5.3,SNR=2.4							

IDC ***20*** *07:07:53.2±3.7, 8°92S×124°55E, h79km±37km, mb3.7/4, mb1 4.1/7, mb1mx3.7/31, mbtmp4.2/7, MS3.3/1, Ms1 3.5/1, ms1mx2.6/29, Error ellipse: s-maj=38.2km s-min=20.1km az=45.0*
DJA ***20*** *07:07:55.9±0.4, 9°S±4°×12°4E±°, h86km±7km, M4.3/7, mB5.1/3, mb4.6/3, MLv4.2/7, Mw(mB)4.4/3*
ISC 20 07:07:47.6±0.7, 8°79S±0°07×124°89E±0°09, h35km, n25,
σ1§91/27, mb4.0/4, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SOEI	**Soe**	**1.14**	**212**	P		Pn	07 08 13.7	+6.5
BATI	**Baumata**	**1.86**	**221**	P		**Pn**	**07 08 20.0**	**+2.9**
	66nm,0.3s,baz=36,slow=2.0,SNR=22							
BATI				S		**Sn**	**07 08 38.6**	**-0.7**
	192nm,0.3s,baz=143,slow=20,SNR=10							
BATI	**Baumata**	**1.86**	**221**	P		**Pn**	**07 08 19.9**	**+2.9**
EDFI	**Ende, Flores**	**3.16**	**270**	P		**Pn**	**07 08 34.9**	**-0.1**
WBSI	**Waikabubak, Su**	**5.50**	**261**	P		**Pn**	**07 09 05.4**	**-1.6**
BNSI	**Bone**	**6.45**	**312**	P		Pn	07 09 26.2	+6.1
	0.2nm59nm,0.9s							
FITZ	**Fitzroy Crossi**	**9.29**	**176**	P		**Pn**	**07 10 02.2**	**+3.2**
	3.8nm,0.3s,baz=357,slow=10,SNR=142							
FITZ				S		**Sn**	**07 11 37.5**	**-4.9**
	14nm,0.3s,baz=264,slow=12,SNR=14							
WRA	**Warramunga Arr**	**14.37**	**142**	P		**P**	**07 11 15.1**	**-0.1**
	1.8nm,0.3s,baz=317,slow=14,SNR=48							
WRA				S		**Sn**	**07 13 44.9**	**-2.0**
	2.0nm,0.3s,baz=318,slow=24,SNR=9.9							
ASAR	**Alice Springs**	**17.13**	**151**	P		**P**	**07 11 49.8**	**+3.9**
	1.4nm,0.3s,baz=320,slow=11,SNR=65							
ASAR				S		**Sn**	**07 14 51.2**	**-2.8**
	0.8nm,0.3s,baz=314,slow=20,SNR=8.1							
STKA	**Stephens Creek**	**27.73**	**148**	P		**P**	**07 13 33.8**	**+1.0**
	1.5nm,0.7s,baz=7.1,slow=16,SNR=1.6							
CMAR	**Chiang Mai Arr**	**37.26**	**317**	P		**P**	**07 14 57.0**	**+0.7**
	0.8nm,0.4s,baz=140,slow=7.1,SNR=4.6							
CMAR				LR		LR	07 33 17.3	
	comp=Z,40nm,18.2s,baz=210,slow=41							
TAPN	**Taplejung**	**50.87**	**316**	*e*P		**P**	**07 16 45.6**	**0.0**
	13nm,0.5s							
RAMN	**Ramite**	**51.38**	**315**	*e*P		**P**	**07 16 49.4**	**-0.1**
	30nm,0.5s							
JIRN	**Jiri**	**52.11**	**315**	*e*P		**P**	**07 16 54.7**	**-0.3**
GUN	**Gumba**	**52.48**	**315**	*e*P		**P**	**07 16 57.6**	**-0.1**
	18nm,0.5s							
PKI	**Pulchoki**	**52.60**	**315**	*e*P		**P**	**07 16 57.8**	**-0.8**
	14nm,0.5s							
PKIN	**Phchoki**	**52.61**	**315**	*e*P		**P**	**07 16 57.8**	**-0.8**
	18nm,0.5s							
GKN	**Gorkha**	**53.41**	**315**	*e*P		**P**	**07 17 03.9**	**-0.4**
KOLN	**Koldanda**	**54.00**	**314**	*e*P		**P**	**07 17 07.8**	**-1.0**
	22nm,0.7s							
DANN	**Dangsing**	**54.23**	**314**	*e*P		**P**	**07 17 09.8**	**-0.8**
	50nm,0.6s							
PYUN	**Piuthan**	**54.63**	**314**	*e*P		**P**	**07 17 12.8**	**-0.6**
	25nm,0.6s							
SONM	**Songino Array**	**58.71**	**346**	P		**P**	**07 17 41.4**	**-0.5**
	0.7nm,0.6s,baz=158,slow=4.5,SNR=2.6							
MKAR	**Makanchi Array**	**67.07**	**330**	P		**P**	**07 18 37.9**	**+0.5**
	1.6nm,0.7s,baz=134,slow=8.2,SNR=17							
TORD	**Torodi Ar. Bea**	**124.16**	**280**	PKP		**PKPdf**	**07 26 43.3**	**-0.2**
	0.4nm,0.3s,baz=74,slow=6.2,SNR=1.6							
CPUP	**Villa Florida**	**145.03**	**177**	PKP		**PKPdf**	**07 27 22.6**	**+0.5**
	2.6nm,1.1s,baz=124,slow=11,SNR=2.3							

ISC 20 07:11:37.8±1.2, 49°05N±0°04×18°66E±0°05, h10km, n5,
σ0§81/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KOLL	**Kolacno**	**0.50**	**200**	*e*PG		**Pg**	**07 11 46.4**	**-1.1**
KOLL				*e*SG		**Sg**	**07 11 54.0**	**0.0**
LANS	**Liptovska Anna**	**0.54**	**79**	*e*PG		**Pg**	**07 11 47.6**	**-0.8**
VYHS	**Vyhne**	**0.56**	**168**	*e*PG		**Pb**	**07 11 50.9**	**+1.1**
VYHS				*e*SG		**Sb**	**07 11 57.9**	**0.0**
JAVC	**Velka Javorina**	**0.68**	**254**	*e*PG		**Pb**	**07 11 52.1**	**+0.4**
JAVC				*e*SG		**Sb**	**07 12 01.6**	**+0.4**
MORC	**Moravsky Berou**	**1.03**	**316**	*e*PG		**Pb**	**07 11 58.0**	**+0.2**
MORC				*e*SG		**Sb**	**07 12 12.2**	**+0.8**

MAN 20 07:33:23.7, 10°12N×123°61E, h40km, mb4.6, ML3.4, MS3.3, 1D, Cebu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LLP	**Lapu-Lapu**	**0.40**	**61**	⇓*e*P		Pn	07 33 39.7	+6.5
LLP				*e*S		Sn	07 33 45.6	+5.9
TBP	**Tagbilaran**	**0.50**	**150**	*e*P		Pn	07 33 36.0	+1.6
TBP				*i* S		Sn	07 33 39.2	-2.7
CNOP	**Candoni, Negro**	**1.00**	**253**	*e*P		Pn	07 33 41.5	+0.3
MSLP	**Maasin**	**1.23**	**89**	*e*P		Pn	07 33 45.3	+0.9
MSLP				*e*S		Sn	07 34 00.5	+0.6

AUST 20 07:36:40.9±0.3, 34°37S×147°08E, h0km, Error ellipse: s-maj=5.6km s-min=2.6km az=15.0, New South Wales

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YNG	**Young**	**1.09**	**87**	P		Pb	07 37 02.5	-0.2
	baz=1.1							
YNG				S		Sg	07 37 16.0	+0.1
	baz=1.1							
CAN	**Canberra**	**1.84**	**122**	P		Pn	07 37 14.1	+0.2
	baz=1.8							
CAN				S		Sn	07 37 38.3	+0.5
	baz=1.8							
AUMTS	**Mt Stromlo**	**1.84**	**122**	P		Pn	07 37 14.1	+0.3
	baz=1.8							
CNB	**Canberra Magne**	**2.10**	**117**	P		Pn	07 37 17.6	+0.2
	baz=2.1							
CNB				S		Sb	07 37 45.9	-0.7
	baz=2.1							
CMSA	**Cobar Meteorol**	**3.06**	**337**	P		Pn	07 37 30.7	+0.3
	baz=3.1							
ARPS	**Mount Arapiles**	**4.90**	**239**	P		Pn	07 37 54.9	-0.9
	baz=4.9							
STKA	**Stephens Creek**	**5.23**	**297**	P		Pn	07 38 00.4	+0.1
	baz=5.2							

NNC 20 07:48:50.9±4.2, 37°02N×70°25E, h0km, mb4.0, mpv3.6, 3C-3D, Error ellipse: s-maj=35.8km s-min=32.8km az=115.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**6.08**	**2**	⇑P		Pn	07 50 22.6	+0.5
	1.4nm,0.3s,baz=194,slow=14,SNR=28							
KK31				⇓S		Sn	07 51 33.4	+1.0
	0.9nm,0.3s,baz=191,slow=19,SNR=6.2							
THN	**Thein Dam**	**6.41**	**134**	*e*P		Pn	07 50 15.5	-11
THN				*e*S		Sn	07 51 24.0	-16
AAK	**Ala-Archa**	**6.50**	**29**	⇑P		Pn	07 50 28.3	+0.5
	3.0nm,0.5s							
AAK				⇑S		Sn	07 51 43.2	+0.5
	15nm,0.6s							
TKM2	**Tokmak 2**	**7.18**	**33**	⇓P		Pn	07 50 36.2	-1.2
	3.7nm,0.6s							
TKM2				⇓S		Sn	07 52 02.2	+2.4
	5.6nm,0.8s							

NEIC ***20*** *08:07:13.9±1.7, 14°0N±0°1×144°7E±0°2, h183km±5km, mb4.1/17, Error ellipse: s-maj=22.2km s-min=16.6km az=83.0*
IDC ***20*** *08:07:13.4±0.4, 14°00N×144°83E, h182km±3km, mb3.3/13, mb1 3.5/13, mb1mx3.3/47, mbtmp3.8/13, Error ellipse: s-maj=25.5km s-min=13.6km az=82.0*
ISC 20 08:07:14.5±0.6, 13°92N±0°09×144°8E±0°2, h200km, n38,
σ1§42/40, mb3.8/20, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**0.33**	**170**	P		**Pn**	**08 07 39.4**	**-1.8**
	170nm,0.3s,baz=233,slow=0.9,SNR=148							
GUMO				S		**Sn**	**08 07 58.3**	**-3.4**
	167nm,0.3s,baz=166,slow=19,SNR=25							
GUMO	**Guam**	**0.33**	**170**			**Pn**	**08 07 39.2**	**-1.9**
GUMO				Sn		**Sn**	**08 07 58.2**	**-3.6**
JNU	**Nakatsue**	**22.94**	**329**	P		**P**	**08 12 02.2**	**+0.8**
	6.4nm,0.8s,baz=75,slow=2.3,SNR=5.4							
JNU	**Nakatsue**	**22.94**	**329**	P		**P**	**08 12 01.9**	**+0.5**
JNU				IAmb		IAmb	08 12 03.0	
	comp=Z,7.7nm,0.8s							
MJAR	**Matsushiro Arr**	**23.29**	**346**	P		**P**	**08 12 03.5**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=158,slow=9.8,SNR=3.4							
MJAR	**Matsushiro Arr**	**23.29**	**346**	P		**P**	**08 12 03.3**	**-1.2**
COEN	**Coen**	**27.75**	**183**	P		**P**	**08 12 46.7**	**+1.9**
COEN				IAmb		IAmb	08 12 56.0	
	comp=Z,6.8nm,1.0s							

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KSRS	**Korea Array**	**27.85**	**330**	P		**P**	**08 12 45.8**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=141,slow=11,SNR=4.3							
WB0	**Warramunga Arr**	**35.01**	**197**	P		**P**	**08 13 48.9**	**+0.7**
WB0				IAmb		IAmb	08 13 49.5	
	comp=Z,10nm,1.3s							
WR0	**Warramunga Arr**	**35.15**	**197**	P		**P**	**08 13 50.3**	**+1.0**
WRAB	**Tennant Creek**	**35.18**	**197**	P		**P**	**08 13 50.3**	**+0.7**
WRAB				IAmb		IAmb	08 13 54.4	
	comp=Z,3.7nm,1.3s							
WB2	**Warramunga Arr**	**35.19**	**197**	P		**P**	**08 13 50.6**	**+0.9**
WRA	**Warramunga Arr**	**35.19**	**197**	P		**P**	**08 13 50.1**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=12,slow=8.6,SNR=6.0							
WRA	**Warramunga Arr**	**35.19**	**197**	P		**P**	**08 13 49.8**	**0.0**
FITZ	**Fitzroy Crossi**	**37.01**	**211**	P		**P**	**08 14 05.9**	**+0.8**
FITZ				IAmb		IAmb	08 14 13.5	
	comp=Z,4.1nm,1.1s							
AS31	**Alice Springs**	**38.85**	**196**	P		**P**	**08 14 22.4**	**+1.9**
ASAR	**Alice Springs**	**38.85**	**196**	P		**P**	**08 14 22.1**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=16,slow=14,SNR=4.8							
CMAR	**Chiang Mai Arr**	**44.19**	**282**	P		**P**	**08 15 03.0**	**-1.1**
STKA	**Stephens Creek**	**45.64**	**184**	P		**P**	**08 15 16.0**	**+0.9**
	comp=Z,1.1nm,0.4s,baz=321,slow=7.6,SNR=3.3							
STKA	**Stephens Creek**	**45.64**	**184**	P		**P**	**08 15 16.1**	**+0.9**
SONM	**Songino Array**	**46.43**	**325**	P		**P**	**08 15 21.8**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=123,slow=5.3,SNR=1.5							
SONM	**Songino Array**	**46.43**	**325**			**P**	**08 15 21.9**	**+0.6**
BBOO	**Buckleboo**	**47.21**	**190**	P		**P**	**08 15 27.8**	**+0.4**
MK31	**Makanchi Array**	**61.21**	**316**	P		**P**	**08 17 09.0**	**+0.7**
MKAR	**Makanchi Array**	**61.21**	**316**	P		**P**	**08 17 08.8**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=90,slow=8.7,SNR=7.2							
MKAR	**Makanchi Array**	**61.21**	**316**	P		**P**	**08 17 07.3**	**-1.0**
KURK	**Kurchatov**	**64.30**	**320**	P		**P**	**08 17 29.0**	**+0.5**
KURK				IAmb		IAmb	08 17 29.0	
	comp=Z,2.3nm,0.7s							
KURBB	**Kurchatov Arra**	**64.34**	**320**	P		**P**	**08 17 28.8**	**0.0**
	comp=Z,1.7nm,0.5s,baz=102,slow=7.0,SNR=14							
WRH	**Wood River Hil**	**67.72**	**26**	P		**P**	**08 17 51.6**	**+1.6**
WRH				IAmb		IAmb	08 17 53.9	
	comp=Z,5.0nm,1.3s							
IL31		**68.30**	**25**	P		**P**	**08 17 54.4**	**+0.8**
IL31				IAmb		IAmb	08 18 07.9	
	comp=Z,2.5nm,1.5s							
ILAR	**Eielson Array**	**68.30**	**25**	P		**P**	**08 17 52.7**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=245,slow=6.0,SNR=5.8							
BVAR	**Borovoye Array**	**69.63**	**322**	P		**P**	**08 18 02.5**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=103,slow=9.6,SNR=7.0							
YKA	**Yellowknife Ar**	**82.59**	**27**	P		**P**	**08 19 14.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=287,slow=4.9,SNR=2.6							
NVAR	**Mina Array Bea**	**86.76**	**51**	P		**P**	**08 19 38.8**	**+2.1**
	comp=Z,0.5nm,0.6s,baz=264,slow=6.2,SNR=4.3							
NVAR	**Mina Array Bea**	**86.76**	**51**	P		**P**	**08 19 39.3**	**+2.6**
AC05	**El Transito**	**144.28**	**120**	PKPdf		**PKiKP**	**08 26 29.1**	**-2.1**
LPAZ	**La Paz**	**148.13**	**98**	PKPbc		**PKiKP**	**08 26 39.3**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=259,slow=4.7,SNR=2.5							
LPAZ	**La Paz**	**148.13**	**98**			**PKPab**	**08 26 40.9**	**-0.9**

**NNC 20 08:07:25.9±0.7, 51°26N×75°56E, h0km, mb3.5, mpv3.0, 4C-2D,

ARA0				Sg	**Sb**	**08 38 50.9**	**+3.5**
	baz=117,slow=37							
ARCES	**ARCESS Array B**	**3.71 303**		Pn	**Pn**	**08 37 56.6**	**+2.5**
	comp=Z,1.2nm,0.3s,baz=120,slow=14,SNR=47							
ARCES				Sn	**Sn**	**08 38 38.6**	**+0.2**
	comp=Z,3.1nm,0.3s,baz=136,slow=20,SNR=3.9							
ARCES				Lg	Lg	08 38 50.4		
	comp=Z,11nm,0.3s,baz=106,slow=30,SNR=15							
ARE0	**ARCESS Array S**	**3.71 303**		PN	**Pn**	**08 37 56.5**	**+2.4**
	baz=119							
ARE0				SN	**Sn**	**08 38 38.8**	**+0.4**
ARE0	**ARCESS Array S**	**3.71 303**	*eP*		**Pn**	**08 37 56.9**	**+2.8**
ARE0			*eS*		**Sn**	**08 38 39.5**	**+1.1**
HEF	**Hetta**	**4.06 285**		Pn	**Pn**	**08 38 00.5**	**+1.6**
HEF				Pg	**Pb**	**08 38 10.3**	**+2.3**
HEF				Sn	**Sn**	**08 38 48.0**	**+0.8**
HEF				Lg	Lg	08 39 00.7		
HEF	**Hetta**	**4.06 285**		PN	**Pn**	**08 38 00.6**	**+1.6**
	baz=95							
HEF				SN	**Sn**	**08 38 47.9**	**+0.8**
HEF	**Hetta**	**4.06 285**	*eP*		**Pn**	**08 38 00.1**	**+1.1**
HEF			*eS*		**Sn**	**08 38 44.4**	**-2.8**
TOF	**Tornio**	**4.27 252**		PN	**Pn**	**08 38 02.6**	**+0.8**
TOF				SN	**Sn**	**08 38 51.9**	**-0.4**
OUL	**Oulu**	**4.30 236**		PN	**Pn**	**08 38 05.2**	**+3.0**
KTK1	**Kautokeino**	**4.31 293**	*eP*		**Pn**	**08 38 04.1**	**+1.8**
KTK1			*eS*		**Sn**	**08 38 52.1**	**-1.0**
LANU	**Lannavaara**	**4.68 280**		PN	**Pn**	**08 38 08.4**	**+1.0**
LANU				SG	**Sg**	**08 39 20.9**	**-4.7**
HAMF	**Hammerfest**	**4.79 313**	*eP*		**Pn**	**08 38 13.6**	**+4.6**
HAMF			*eS*		**Sn**	**08 39 05.4**	**+0.3**
KIF	**Kilpisjarvi**	**5.17 291**	*eP*		**Pn**	**08 38 15.7**	**+1.6**
KIF			*eS*		**Sn**	**08 39 10.4**	**-3.9**
I37NO	**I37NO**	**5.96 290**	*i*			09 10 10.0		
	baz=99,slow=322,SNR=2.2							
STEI	**Steigen**	**7.22 280**	*eP*		**Pn**	**08 38 41.1**	**-1.2**
STEI			*eS*		**Sn**	**08 39 57.3**	**-7.5**
FIA0	**FINESS Array S**	**7.23 213**		Pn	**Pn**	**08 38 43.5**	**+1.1**
	baz=34,slow=12							
FIA0				Sn	**Sn**	**08 40 01.2**	**-3.8**
	baz=33,slow=28							
FIA0				Lg	Lg	08 40 33.9		
	baz=41,slow=28							
FIA0	**FINESS Array S**	**7.23 213**		Pn	**Pn**	**08 38 43.5**	**+1.1**
	baz=34,slow=12							
FIA0				Sn	**Sn**	**08 40 01.2**	**-3.8**
	baz=33,slow=28							
FIA0				Sg	**Sb**	**08 40 33.9**	**+5.4**
	baz=41,slow=28							
FINES	**FINESS Array B**	**7.23 213**		Pn	**Pn**	**08 38 43.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=24,slow=13,SNR=9.0							
FINES				Sn	**Sn**	**08 40 02.8**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=33,slow=22,SNR=5.4							
FINES				Lg	Lg	08 40 38.0		
	comp=Z,0.8nm,0.3s,baz=28,slow=25,SNR=5.8							
SPA0	**Spitsbergen Ar**	**11.65 342**		Pn	**Pn**	**08 39 43.0**	**0.0**
	baz=148,slow=14							
SPA0	**Spitsbergen Ar**	**11.65 342**		Pn	**Pn**	**08 39 43.0**	**0.0**
	baz=148,slow=14							
SPITS	**Spitsbergen Ar**	**11.65 342**		Pn	**Pn**	**08 39 42.8**	**-0.1**
	baz=131,slow=18,SNR=1.5							
SPITS				Sn	**Sn**	**08 41 47.0**	**-6.5**
	baz=134,slow=26,SNR=1.3							
HFS	**Hagfors**	**11.78 240**		Pn	**Pn**	**08 39 43.6**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=64,slow=9.9,SNR=2.1							
NRA0	**NORESS Array S**	**12.07 246**		Pn	**Pn**	**08 39 46.8**	**-1.9**
	baz=36,slow=16							
NRA0	**NORESS Array S**	**12.07 246**		Pn	**Pn**	**08 39 46.8**	**-1.9**
	baz=36,slow=16							

NIED ***20*** *08:49:00,38.˙20N×141.˙70E,h47km,Mw3.8 Best double couple: M₀4.87000×10¹⁴ NP1:φ≈24.00000°,δ63.00000°, λ85.00000°. NP2:φ≈216.00000°,δ28.00000°,λ100.00000°.*
JMA ***20*** *08:49:01.4±0.1,38.˙18N×141.˙67E,h50km±1km,M3.9*
JMA Felt II J1.
NEIC ***20*** *08:49:01.3±1.8,38.˙18N±0.˙07×141.˙8E±0.˙1,h51km±8km, mb4.5/15,Error ellipse: s-maj=14.7km s-min=8.5km az=116.0*
IDC ***20*** *08:49:03.3±1.0,38.˙15N×141.˙68E,h71km±7km,mb3.5/15, mb1 3.6/20,mb1mx3.5/57,mbtmp3.8/20,MS2.6/2, Ms1 2.6/2,ms1mx2.3/32,Error ellipse: s-maj=19.0km s-min=15.1km az=93.0*

ISC 20 08:49:00.9±0.8,38.˚18N±0.˚04×141.˚77E±0.˚07,h44km±5km, n74,σ1ᵎ42/86,mb4.1/22,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.28**	**299**	P	**Pn**	**08 49 09.8**	**+0.5**
JIKH				S	**Sn**	**08 49 15.7**	**+0.6**
JIO	**Ouri**	**0.43**	**310**	P	**Pn**	**08 49 11.3**	**+0.3**
JIO				S	**Sn**	**08 49 18.1**	**0.0**
JKMT	**Kesennumamotoy**	**0.68**	**340**	P	**Pn**	**08 49 14.3**	**+0.2**
JKMT				S	**Sn**	**08 49 23.4**	**-0.2**
JOFO	**Osakifurukawao**	**0.80**	**302**	P	**Pn**	**08 49 15.8**	**0.0**
JMM	**Marumori**	**0.83**	**248**	P	**Pn**	**08 49 15.5**	**-0.7**
JMM				S	**Sn**	**08 49 25.7**	**-1.7**
JMK	**Ichinoseki**	**0.89**	**331**	P	**Pn**	**08 49 17.3**	**+0.3**
JMK				S	**Sn**	**08 49 28.5**	**-0.2**
JOU	**Okura**	**0.89**	**283**	P	**Pn**	**08 49 16.8**	**-0.3**
JOU				S	**Sn**	**08 49 28.2**	**-0.7**
JFK	**Kawauchi**	**1.08**	**222**	P	**Pn**	**08 49 19.2**	**-0.4**
JFK				S	**Sn**	**08 49 32.2**	**-1.2**
JFT	**Otama**	**1.31**	**240**	P	**Pn**	**08 49 22.8**	**0.0**
JFT				S	**Sn**	**08 49 38.6**	**-0.6**
JYK	**Kaneyama**	**1.33**	**304**	P	**Pn**	**08 49 22.9**	**-0.2**
JYK			*eS*		**Sn**	**08 49 39.3**	**-0.3**
JYS	**Shirataka**	**1.35**	**272**	P	**Pn**	**08 49 23.0**	**-0.2**
JYS				S	**Sn**	**08 49 39.3**	**-0.6**
JOM	**Ohasama**	**1.35**	**344**	P	**Pn**	**08 49 23.7**	**+0.4**
JOM				S	**Sn**	**08 49 40.1**	**+0.1**
JRG	**Rokugo**	**1.51**	**324**	P	**Pn**	**08 49 26.0**	**+0.5**
JYA	**Atsumi**	**1.67**	**285**	P	**Pn**	**08 49 27.5**	**-0.2**
MJAR	**Matsushiro Arr**	**3.27**	**241**	P	**Pn**	**08 49 50.9**	**+1.2**
	0.4nm,0.3s,baz=56,slow=11,SNR=19							
MJAR				S	**Sn**	**08 50 35.0**	**+7.5**
	0.3nm,0.3s,baz=93,slow=34,SNR=1.9							
MJAR				LR	LR	08 51 19.1		
	comp=Z,60nm,18.5s,baz=210,slow=43							
MJAR	**Matsushiro Arr**	**3.27**	**241**	Pn	**Pn**	**08 49 50.5**	**+0.8**
MAJO	**Matsushiro**	**3.28**	**241**	Pn	**Pn**	**08 49 50.8**	**+1.1**
MAT	**Matsushiro**	**3.28**	**241**	P	**Pn**	**08 49 50.3**	**+0.6**
MAT			*eS*		**Sn**	**08 50 32.0**	**+4.5**
MJB9	**Matsu-Tunnel**	**3.28**	**241**		**Pn**	**08 49 50.6**	**+0.8**
ERM	**Erimo**	**3.98**	**15**	Pn	**Pn**	**08 49 59.4**	**+0.1**
INU	**Inuyama**	**4.75**	**235**	Pn	**Pn**	**08 50 12.2**	**+2.3**
JHJ	**Hachijo jima 2**	**5.30**	**198**	P	**Pn**	**08 50 18.3**	**+0.8**
	6.1nm,0.3s,baz=252,slow=19,SNR=1.4							
JHJ				S	**Sn**	**08 51 12.4**	**-4.9**
	3.3nm,0.3s,baz=73,slow=19,SNR=1.4							
ASAJ	**Asahikawa**	**5.97**	**6**	P	**Pn**	**08 50 26.4**	**-0.2**
	1.6nm,0.3s,baz=193,slow=6.6,SNR=4.0							
ASAJ				S	**Sn**	**08 51 32.4**	**-1.3**
	0.5nm,0.3s,baz=72,slow=20,SNR=1.5							
JKA	**Kamikawa-asahi**	**5.97**	**6**		**Pn**	**08 50 26.0**	**-0.6**
USA0B	**Ussuriysk Arra**	**9.52**	**312**	Pn	**Pn**	**08 51 16.5**	**+1.3**
USRK	**Ussuriysk Ar.**	**9.52**	**312**	P	**Pn**	**08 51 16.3**	**+1.1**
	baz=129,slow=13,SNR=12							
USRK	**Ussuriysk Ar.**	**9.52**	**312**		**Pn**	**08 51 15.3**	**0.0**
KSRS	**Korea Array**	**10.98**	**270**	P	**Pn**	**08 51 38.7**	**+3.4**
	0.2nm,0.3s,baz=74,slow=16,SNR=2.2							
KSRS				LR	LR	08 55 06.5		
	comp=Z,43nm,20.9s,baz=166,slow=33							
PETK	**Petropavlovsk-**	**18.56**	**31**	P	**Pn**	**08 53 14.8**	**+0.4**
	0.1nm,0.3s,baz=212,slow=7.8,SNR=2.5							
PETK	**Petropavlovsk-**	**18.56**	**31**	P	**Pn**	**08 53 14.2**	**-0.2**
MA2	**Magadan**	**22.18**	**12**	P	**P**	**08 53 55.4**	**+2.4**
SONM	**Songino Array**	**27.40**	**302**	P	**P**	**08 54 42.5**	**+0.2**
	0.4nm,0.3s,baz=139,slow=11,SNR=1.9							
SONM	**Songino Array**	**27.40**	**302**	P	**P**	**08 54 43.1**	**+0.8**
H11N2	**WAKE ISLAND Hy**	**28.51**	**123**	T	T	09 25 06.7		
	baz=316,slow=76,SNR=148							
H11N1	**WAKE ISLAND Hy**	**28.52**	**123**	T	T	09 25 08.2		
	baz=316,slow=76,SNR=113							
H11N3	**WAKE ISLAND Hy**	**28.53**	**123**	T	T	09 25 08.9		
	baz=316,slow=76,SNR=146							
H11S1	**WAKE ISLAND Hy**	**29.26**	**125**	T	T	09 26 04.5		
	baz=318,slow=76,SNR=52							
H11S3	**WAKE ISLAND Hy**	**29.26**	**125**	T	T	09 26 02.2		
	baz=318,slow=76,SNR=75							
H11S2	**WAKE ISLAND Hy**	**29.28**	**125**	T	T	09 26 05.6		
	baz=318,slow=76,SNR=56							

ZAA0	**Zalesovo Array**	**41.37**	**311**	P	**P**	**08 56 41.5**	**-0.9**
ZALV	**Zalesovo Beam**	**41.37**	**311**	P	**P**	**08 56 41.6**	**-0.7**
	1.7nm,0.4s,baz=84,slow=6.2,SNR=5.3							
ZALV				pP	**sP**	**08 56 59.4**	**-0.2**
	1.9nm,0.6s,baz=87,slow=9.1,SNR=4.4							
ZALV	**Zalesovo Beam**	**41.37**	**311**	P	**P**	**08 56 41.5**	**-0.9**
MK31	**Makanchi Array**	**43.76**	**301**	P	**P**	**08 57 00.9**	**-1.0**
MKAR	**Makanchi Array**	**43.76**	**301**	P	**P**	**08 57 01.0**	**-1.0**
	0.8nm,0.6s,baz=86,slow=10,SNR=9.7							
MKAR				pP	**sP**	**08 57 19.3**	**0.0**
	1.7nm,0.7s,baz=86,slow=10,SNR=11							
MKAR	**Makanchi Array**	**43.76**	**301**	P	**P**	**08 57 00.5**	**-1.5**
KURK	**Kurchatov**	**45.46**	**307**	P	**P**	**08 57 14.3**	**-1.1**
KURK				IAmb	IAmb	08 57 33.0		
	comp=Z,6.8nm,0.7s							
KURBB	**Kurchatov Arra**	**45.53**	**307**	P	**P**	**08 57 15.2**	**-0.8**
	comp=Z,1.4nm,0.3s,baz=82,slow=8.4,SNR=15							
KURBB				pP	**sP**	**08 57 32.1**	**-1.3**
	comp=Z,4.6nm,0.6s,baz=83,slow=7.5,SNR=12							
IL31		**48.38**	**33**	P	**P**	**08 57 39.6**	**+1.7**
IL31				IAmb	IAmb	08 57 47.5		
	comp=Z,3.3nm,1.4s							
ILAR	**Eielson Array**	**48.38**	**33**	P	**P**	**08 57 38.0**	**0.0**
	comp=Z,0.3nm,0.6s,baz=277,slow=6.6,SNR=4.7							
KDJ	**Kajisay**	**48.48**	**296**	P	**P**	**08 57 39.3**	**0.0**
KDJ				IAmb	IAmb	08 57 45.3		
	comp=Z,2.4nm,1.1s							
BVAR	**Borovoye Array**	**50.02**	**312**	P	**P**	**08 57 50.1**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=75,slow=7.6,SNR=2.5							
AAK	**Ala-Archa**	**50.21**	**298**	P	**P**	**08 57 52.9**	**+0.4**
AAK				IAmb	IAmb	08 58 10.5		
	comp=Z,1.5nm,0.6s							
ABKAR	**Akbulak array**	**57.43**	**310**	P	**P**	**08 58 43.8**	**-1.1**
WB0	**Warramunga Arr**	**58.05**	**188**	P	**P**	**08 58 48.7**	**-0.8**
WRAB	**Tennant Creek**	**58.22**	**188**	P	**P**	**08 58 50.0**	**-0.7**
WR0	**Warramunga Arr**	**58.23**	**188**	P	**P**	**08 58 50.1**	**-0.6**
WR0				IAmb	IAmb	08 59 03.5		
	comp=Z,8.7nm,1.4s							
WB2	**Warramunga Arr**	**58.23**	**188**	P	**P**	**08 58 49.8**	**-0.9**
WB2				IAmb	IAmb	08 58 53.7		
	comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	**58.23**	**188**	P	**P**	**08 58 50.0**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=5.1,slow=7.0,SNR=8.0							
WRA	**Warramunga Arr**	**58.23**	**188**	P	**P**	**08 58 49.7**	**-1.1**
RES	**Resolute Bay**	**61.42**	**15**	P	**P**	**08 59 11.9**	**-0.1**
RES				IAmb	IAmb	08 59 19.7		
	comp=Z,9.8nm,1.2s							
ASAR	**Alice Springs**	**61.96**	**188**	P	**P**	**08 59 15.4**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=17,slow=4.8,SNR=6.9							
ASAR	**Alice Springs**	**61.96**	**188**	P	**P**	**08 59 16.3**	**0.0**
YKA	**Yellowknife Ar**	**62.68**	**31**	P	**P**	**08 59 20.5**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=300,slow=7.6,SNR=3.5							
FINES	**FINESS Array B**	**67.94**	**332**	P	**P**	**08 59 54.5**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=9.1,slow=13,SNR=1.2							
FORT	**Forrest**	**69.78**	**193**	P	**P**	**09 00 06.2**	**-0.2**
NC405	**NORSAR Array S**	**73.03**	**337**	P	**P**	**09 00 25.5**	**-0.3**
HFS	**Hagfors**	**73.17**	**336**	P	**P**	**09 00 25.6**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=44,slow=11,SNR=11							
NB2	**NORSAR Subarra**	**73.24**	**337**	P	**P**	**09 00 26.3**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=38,slow=6.2							
NOA	**NORSAR Array B**	**73.24**	**337**	P	**P**	**09 00 26.2**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=49,slow=5.4,SNR=3.3							
AKASG	**Malin Array Be**	**73.57**	**322**	P	**P**	**09 00 28.1**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=44,slow=6.5,SNR=2.8							
PDAR	**Pinedale Array**	**76.66**	**46**	P	**P**	**09 00 47.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=343,slow=1.9,SNR=2.4							
PDAR	**Pinedale Array**	**76.66**	**46**	P	**P**	**09 00 46.7**	**-0.7**
TXAR	**Lajitas Array**	**89.20**	**53**	P	**P**	**09 01 52.8**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=300,slow=3.8,SNR=2.7							
TXAR	**Lajitas Array**	**89.20**	**53**	P	**P**	**09 01 53.0**	**+0.7**

HEL ***20*** *08:55:34.6±0.4,67.˚61N×34.˚12E,h0km,ML2.3,Explosion*
KOLA ***20*** *08:55:35.9,67.˚64N×33.˚96E,M1.9,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
NAO ***20*** *08:55:36.6±1.1,67.˚61N×33.˚85E,ML2.8*
IDC ***20*** *08:55:40.5±2.1,67.˚61N×33.˚13E,h0km,mb1 3.3/4, mb1mx3.1/47,mbtmp3.3/4,ML2.8/4,Error ellipse: s-maj=22.8km s-min=9.9km az=78.0*

ISC 20 08:55:31.8±1.4,67.˚57N±0.˚04×34.˚23E±0.˚07,h0km,n34, σ2ᵎ18/70,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.32**	**270**	P	**Pb**	**08 55 39.9**	**-0.4**
APA				S	**Sg**	**08 55 42.8**	**+0.9**
APZ9	**Apatity**	**0.32**	**270**	Pg	**Pb**	**08 55 40.0**	**-0.3**
APZ9				Lg	Lg	08 55 42.9	
APZ9				Rg	Rg	08 55 43.5	
APZ9	**Apatity**	**0.32**	**270**	Pg	**Pb**	**08 55 40.0**	**-0.3**
APZ9				Pg	**Pb**	**08 55 40.0**	**-0.3**
APZ9				Sg	**Sg**	**08 55 42.9**	**+1.0**
APZ9				Sg	**Sg**	**08 55 42.9**	**+1.0**
APZ9				Rg	Rg	08 55 43.5	
APZ9				Rg	Rg	08 55 43.5	
APA0	**Apatity Array**	**0.47**	**275**	Pg	**Pb**	**08 55 42.6**	**-0.4**
	baz=90,slow=16						
APA0				Lg	Lg	08 55 47.6	
	baz=75,slow=28						
APA0				Rg	Rg	08 55 48.9	
	baz=82,slow=37						
APA0	**Apatity Array**	**0.47**	**275**	P	**Pb**	**08 55 42.5**	**-0.4**
APA0				S	**Sg**	**08 55 47.4**	**+0.4**
APA0	**Apatity Array**	**0.47**	**275**	Pg	**Pb**	**08 55 42.6**	**-0.4**
	baz=90,slow=16						
APA0				Pg	**Pb**	**08 55 42.6**	**-0.4**
	baz=90,slow=16						
APA0				Sg	**Sg**	**08 55 47.6**	**+0.6**
	baz=75,slow=28						
APA0				Sg	**Sg**	**08 55 47.6**	**+0.6**
	baz=75,slow=28						
APA0				Rg	Rg	08 55 48.9	
	baz=82,slow=37						
APA0				Rg	Rg	08 55 48.9	
	baz=82,slow=37						
VRF	**Varrio**	**1.77**	**278**	PG	**Pg**	**08 56 05.5**	**-0.3**
	baz=90						
VRF				MSG		08 56 26.2	
	comp=Z,29nm,0.2s						
VRF				SN	**Sb**	**08 56 26.8**	**-1.1**
KU6	**Riekki**	**2.31**	**230**	PG	**Pb**	**08 56 15.5**	**+1.1**
KU6				MSG		08 56 43.0	
	comp=Z,11nm,0.2s						
KU6				SG	**Sg**	**08 56 45.5**	**-0.5**
MSF	**Maaselka**	**2.65**	**233**	PB	**Pb**	**08 56 19.9**	**-0.1**
MSF				SG	**Sg**	**08 56 56.0**	**-0.8**
SGF	**Sodankyl**	**2.96**	**271**	PN	**Pn**	**08 56 22.1**	**+2.1**
	baz=80						
SGF				SG	**Sb**	**08 57 02.0**	**-0.1**
RNF	**Rovaniemi**	**3.35**	**257**	PN	**Pn**	**08 56 27.9**	**+2.5**
RNF				SN	**Sn**	**08 57 08.6**	**+2.7**
ARA0	**ARCESS Array S**	**3.76**	**306**	Pn	**Pn**	**08 56 33.2**	**+2.3**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**08 57 15.0**	**-0.9**
	baz=120,slow=28						
ARA0				Lg	Lg	08 57 26.2	
	baz=121,slow=37						
ARA0	**ARCESS Array S**	**3.76**	**306**	Pn	**Pn**	**08 56 33.2**	**+2.3**
	baz=122,slow=16						
ARA0				Pn	**Pn**	**08 56 33.2**	**+2.3**
	baz=122,slow=16						
ARA0				Sn	**Sn**	**08 57 15.0**	**-0.9**
	baz=120,slow=28						
ARA0				Sn	**Sn**	**08 57 15.0**	**-0.9**
	baz=120,slow=28						
ARA0				Sg	**Sb**	**08 57 26.2**	**+1.2**
	baz=121,slow=37						
ARA0				Sg	**Sb**	**08 57 26.2**	**+1.2**
	baz=121,slow=37						
ARCES	**ARCESS Array B**	**3.76**	**306**	Pn	**Pn**	**08 56 33.2**	**+2.3**
	comp=Z,5.7nm,0.3s,baz=122,slow=15,SNR=117						
ARCES				Sn	**Sn**	**08 57 15.7**	**-0.1**
	comp=Z,3.7nm,0.3s,baz=120,slow=25,SNR=13						
ARCES				Lg	Lg	08 57 26.8	
	comp=Z,11nm,0.3s,baz=122,slow=33,SNR=13						
ARE0	**ARCESS Array S**	**3.76**	**306**	PN	**Pn**	**08 56 33.0**	**+2.1**
	baz=122						
ARE0				SN	**Sn**	**08 57 15.0**	**-0.9**
ARE0	**ARCESS Array S**	**3.76**	**306**	*eP*	**Pn**	**08 56 33.1**	**+2.1**
ARE0				*eS*	Sn	08 57 04.2	-12
ARE0				IAML		08 57 31.1	
	comp=Z,21nm,0.3s						
HEF	**Hetta**	**4.07**	**287**	Pn	**Pn**	**08 56 37.1**	**+2.0**
HEF				Pg	**Pg**	**08 56 46.5**	**-3.1**
HEF				Sn	**Sn**	**08 57 23.4**	**0.0**
HEF				Lg	Lg	08 57 37.4	
HEF	**Hetta**	**4.07**	**287**	PN	**Pn**	**08 56 37.5**	**+2.4**
	baz=100						
HEF				SN	**Sn**	**08 57 23.5**	**+0.1**
HEF	**Hetta**	**4.07**	**287**	*eP*	**Pn**	**08 56 37.6**	**+2.4**
OUL	**Oulu**	**4.18**	**237**	PN	**Pn**	**08 56 41.0**	**+4.2**
OUL				SG	**Sg**	**08 57 44.9**	**-1.2**
TOF	**Tornio**	**4.19**	**254**	PN	**Pn**	**08 56 39.2**	**+2.4**
TOF				SG	**Sb**	**08 57 38.5**	**+1.2**
KTK1	**Kautokeino**	**4.33**	**295**	*eP*	**Pn**	**08 56 40.8**	**+2.1**
KTK1				*eS*	**Sn**	**08 57 22.4**	**-7.5**
KTK1				IAML		08 57 46.0	
	comp=Z,18nm,0.4s						
LANU	**Lannavaara**	**4.67**	**282**	PN	**Pn**	**08 56 44.5**	**+1.1**
ERTU	**Ertsjaerv**	**4.82**	**263**	PN	**Pn**	**08 56 47.3**	**+1.8**
	baz=74						
ERTU				SN	**Sn**	**08 57 41.7**	**-0.3**
I37NO	**I37NO**	**5.98**	**292**	*i*		09 29 00.0	
	baz=99,slow=319,SNR=2.3						
FIA0	**FINESS Array S**	**7.08**	**214**	Pn	**Pn**	**08 57 19.9**	**+3.4**
	baz=32,slow=14						
FIA0				Sn	**Sn**	**08 58 37.3**	**-0.3**
	baz=35,slow=22						
FIA0				Lg	Lg	08 59 12.5	
	baz=23,slow=28						
FIA0	**FINESS Array S**	**7.08**	**214**	Pn	**Pn**	**08 57 19.9**	**+3.4**
	baz=32,slow=14						
FIA0				Pn	**Pn**	**08 57 19.9**	**+3.4**
	baz=32,slow=14						
FIA0				Sn	**Sn**	**08 58 37.3**	**-0.3**
	baz=35,slow=22						
FIA0				Sn	**Sn**	**08 58 37.3**	**-0.3**
	baz=35,slow=22						
FIA0				Sg	**Sg**	**08 59 12.5**	**-6.4**
	baz=23,slow=28						
FIA0				Sg	**Sg**	**08 59 12.5**	**-6.4**
	baz=23,slow=28						
FINES	**FINESS Array B**	**7.08**	**214**	Pn	**Pn**	**08 57 20.0**	**+3.5**
	comp=Z,0.3nm,0.3s,baz=41,slow=14,SNR=8.6						
FINES				Sn	**Sn**	**08 58 39.7**	**+2.1**
	comp=Z,0.2nm,0.3s,baz=43,slow=23,SNR=1.8						
FINES				Lg	Lg	08 59 11.1	
	comp=Z,1.0nm,0.3s,baz=32,slow=25,SNR=10.0						
HFS	**Hagfors**	**11.67**	**240**	Pn	**Pn**	**08 58 20.4**	**+1.0**
	baz=45,slow=11						
HFS	**Hagfors**	**11.67**	**240**	Pn	**Pn**	**08 58 20.7**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=56,slow=11,SNR=2.0						
HFS	**Hagfors**	**11.67**	**240**	Pn	**Pn**	**08 58 20.4**	**+1.0**
	baz=45,slow=11						
HFS				Pn	**Pn**	**08 58 20.4**	**+1.0**
	baz=45,slow=11						
SPA0	**Spitsbergen Ar**	**11.79**	**342**	Pn	**Pn**	**08 58 20.8**	**-0.1**
	baz=149,slow=22						
SPA0	**Spitsbergen Ar**	**11.79**	**342**	Pn	**Pn**	**08 58 20.8**	**-0.1**
	baz=149,slow=22						
SPA0				Pn	**Pn**	**08 58 20.8**	**-0.1**
	baz=149,slow=22						
NOA	**NORSAR Array B**	**11.88**	**248**	Pn	**Pn**	**08 58 23.1**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=35,slow=11,SNR=1.4						

ASRS ***20*** *09:51:51.2,53.˚57N×87.˚91E,M2.0,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
NNC ***20*** *09:51:53.9±2.1,53.˚45N×87.˚97E,h0km,mb3.5,mpv3.1, Error ellipse: s-maj=17.2km s-min=9.1km az=63.0, Suspected Mining explosion.*
IDC ***20*** *09:51:55.7±2.5,53.˚57N×87.˚82E,h0km,mb1 3.5/3, mb1mx3.2/41,mbtmp3.5/3,ML3.2/3,Error ellipse: s-maj=21.9km s-min=13.1km az=58.0*

ISC 20 09:51:54.1±2.9,53.˚6N±0.˚1×87.˚8E±0.˚2,h0km,n9,σ1ᵎ96/13, 7C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**282**	*i*		10 03 28.7	
	baz=96,slow=303,SNR=2.8						
ZAA0	**Zalesovo Array**	**1.81**	**282**	⇑Pn	**Pb**	**09 52 27.5**	**-0.7**
	1.5nm,0.3s						
ZAA0				⇓Sn	**Sg**	**09 52 54.3**	**+1.9**
	19nm,0.9s						
ZALV	**Zalesovo Beam**	**1.81**	**282**	Pg	**Pb**	**09 52 27.8**	**-0.4**
	5.1nm,0.3s,baz=97,slow=12,SNR=63						
ZALV				Lg	Lg	09 52 53.8	
	8.1nm,0.3s,baz=102,slow=24,SNR=36		

mb1mx3.1/39,mbtmp3.3/2,ML3.0/2,Error ellipse: s-maj=24.6km s-min=16.6km az=52.0

ISC 20 10:04:17.5±3.9, 53°9N±0°.1×88°2E±0°.2, h0km, n7, σ1§08/9, 4C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.98**	**274**	*i*		10 16 41.7	
	baz=91,slow=308,SNR=2.6						
ZAA0	**Zalesovo Array**	**1.98**	**274**	⇑Pg	**Pn**	**10 04 52.9**	**+0.7**
	1.2nm,0.5s						
ZAA0				⇓Lg	Lg	10 05 20.4	
	2.7nm,0.5s						
ZALV	**Zalesovo Beam**	**1.98**	**274**	Pg	**Pb**	**10 04 53.7**	**-0.7**
	3.5nm,0.3s,baz=89,slow=12,SNR=21						
ZALV				Lg	Lg	10 05 21.3	
	6.6nm,0.3s,baz=96,slow=28,SNR=14						
KURBB	**Kurchatov Arra**	**6.74**	**245**	Pn	**Pn**	**10 05 58.8**	**+1.2**
	0.3nm,0.3s,baz=62,slow=14,SNR=23						
KURBB				Sn	**Sn**	**10 07 16.4**	**+1.4**
	0.1nm,0.3s,baz=58,slow=23,SNR=4.1						
KURBB				Lg	Lg	10 07 50.0	
	0.1nm,0.3s,baz=60,slow=29,SNR=4.7						
KURBB	**Kurchatov Arra**	**6.74**	**245**	⇑Pn	**Pn**	**10 05 56.9**	**-0.7**
	2.1nm,0.3s,baz=62,slow=14						
KURBB				⇓Sn	**Sn**	**10 07 13.8**	**-1.2**
	1.5nm,0.4s						
KURBB				⇑Lg	Lg	10 07 49.8	
	4.1nm,0.7s						
MK31	**Makanchi Array**	**8.00**	**210**	⇑Pn	**Pn**	**10 06 14.4**	**-0.5**
	0.4nm,0.6s,baz=216,slow=7.6,SNR=15						
MKAR	**Makanchi Array**	**8.00**	**210**	Pn	**Pn**	**10 06 15.6**	**+0.7**
	0.2nm,0.3s,baz=24,slow=12,SNR=9.7						
MKAR				Pg	Pb	10 06 32.0	-4.9
	0.1nm,0.3s,baz=26,slow=14,SNR=4.4						
MKAR				Sn	**Sn**	**10 07 46.4**	**+0.3**
	0.2nm,0.3s,baz=64,slow=33,SNR=1.9						
MKAR				Lg	Lg	10 08 29.4	
	0.1nm,0.3s,baz=24,slow=29,SNR=2.0						

*GCG **20** 10:12:37.1±0.5, 13°.66N×91°.68W, h55km±41km, MD3.5*
*SNET **20** 10:12:41.1±1.0, 14°.08N×91°.38W, h22km±41km, ML3.0*

ISC 20 10:12:36.2±2.9, 13°6N±0°.1×91°63W±0°.09, h9km±15km, n18, σ0§95/22, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.88**	**356**	*e*P	**Pg**	**10 12 51.9**	**-1.2**
RTAL				*e*S	Sg	10 12 58.9	-5.7
RTAL				IAML		10 13 04.8	
	comp=Z,306nm,0.2s						
STG3	**Santiaguito 3,**	**1.06**	**3**	*e*P	**Pg**	**10 12 56.3**	**-0.3**
STG3				*e*S	**Sg**	**10 13 11.3**	**+0.8**
FUG	**Fuego 3**	**1.11**	**44**	*e*P	**Pg**	**10 12 57.0**	**-0.5**
FUG				*e*S	**Sg**	**10 13 13.1**	**+1.2**
PCG	**Pacaya**	**1.24**	**53**	*e*P	**Pg**	**10 12 59.7**	**-0.3**
PCG				*e*S	**Sg**	**10 13 15.5**	**-0.7**
IXG	**Ixpaco**	**1.27**	**65**	*e*P	Pn	10 12 59.7	-0.5
NBG	**Las Nubes**	**1.56**	**53**	*e*P	**Pn**	**10 13 05.2**	**+0.8**
NBG				*e*S	**Sn**	**10 13 24.8**	**0.0**
HUEH	**Huehuetenango**	**1.67**	**4**	*e*P	Pn	10 13 04.2	-1.7
NUBE	**Las Nubes**	**1.82**	**82**	*e*P	**Pn**	**10 13 07.6**	**-0.2**
NUBE				IAML		10 13 09.4	
	comp=Z,189nm,0.2s						
NUBE				*e*S	Sn	10 13 28.2	-2.8
RTR	**El Retiro**	**1.94**	**82**	*e*P	**Pn**	**10 13 10.1**	**+0.5**
SBLS	**San Blas**	**1.96**	**84**	*e*P	**Pn**	**10 13 10.1**	**+0.2**
SNJE	**San Jose**	**1.98**	**83**	*e*P	**Pn**	**10 13 10.7**	**+0.7**
MTO3	**Montecristo**	**2.33**	**71**	*e*P	Pn	10 13 14.1	-0.8
SNET	**Serv Nac Est T**	**2.33**	**89**	*e*P	**Pn**	**10 13 16.5**	**+0.8**
SNET				*e*S	**Sn**	**10 13 42.3**	**-1.4**
SNET				IAML		10 13 44.6	
	comp=Z,148nm,0.2s						
OPAM	**Oficina de Pla**	**2.37**	**88**	*e*P	**Pn**	**10 13 15.9**	**+0.6**
LFRS	**El Faro**	**2.50**	**90**	*e*P	**Pn**	**10 13 18.3**	**+1.1**
LFRS				*e*S	**Sn**	**10 13 46.2**	**-1.6**
PAVA	**Las Pavas**	**2.62**	**88**	*e*P	**Pn**	**10 13 19.2**	**+0.4**
COEB	**Comit de Eme**	**3.02**	**92**	*e*P	**Pn**	**10 13 25.3**	**+1.0**
LCND	**La Caada**	**3.65**	**95**	*e*P	**Pn**	**10 13 34.5**	**+1.5**
LCND				IAML		10 13 38.9	
	comp=Z,62nm,0.4s						
LCND				*e*S	**Sn**	**10 14 16.1**	**-0.1**

*IDC **20** 10:18:29.7±0.8, 30°.24S×177°.15W, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.1/32, mbtmp4.1/8, MS3.4/4, Ms1 3.4/4, ms1mx3.0/28, Error ellipse: s-maj=22.6km s-min=20.1km az=47.0*
*NEIC **20** 10:18:31.0±2.0, 30°.37S±0°.07×177°.23W±0°.09, h10km±4km, mb4.5/25, Error ellipse: s-maj=11.3km s-min=9.4km az=64.0*

ISC 20 10:18:33.2±0.6, 30°33S±0°.07×177°2W±0°.1, h24km, n59, σ1§19/58, mb4.4/17, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.23**	**331**	Pn	**Pb**	**10 18 54.4**	**-1.3**
	132nm,0.3s,baz=89,slow=8.1,SNR=7.7						
RAO				Sn	**Sb**	**10 19 11.4**	**+0.2**
	386nm,0.3s,baz=98,slow=23,SNR=11						
RAO				LR	LR	10 19 21.0	
	comp=Z,558nm,20.5s,baz=157,slow=43						
OUZ	**Omahuta**	**9.12**	**235**	Pn	**Pn**	**10 20 41.4**	**-1.9**
URZ	**Urewera**	**9.18**	**209**	Pn	**Pn**	**10 20 42.9**	**-1.2**
BKZ	**Black Stump Fm**	**10.21**	**209**	Pn	**Pn**	**10 20 56.0**	**-2.3**
TUWZ	**Tuamarina**	**13.17**	**210**	Pn	**Pn**	**10 21 38.1**	**-0.6**
NNZ	**Nelson**	**13.25**	**212**	Pn	**Pn**	**10 21 38.8**	**-1.1**
THZ	**Tophouse**	**13.90**	**212**	Pn	**Pn**	**10 21 48.9**	**+0.2**
LTZ	**Lake Taylor**	**14.99**	**211**	Pn	**Pn**	**10 22 02.8**	**-0.8**
OXZ	**Oxford**	**15.53**	**210**	Pn	**Pn**	**10 22 07.0**	**-3.6**
OXZ				IAmb	IAmb	10 22 15.9	
	comp=Z,46nm,1.3s						
RPZ	**Rata Peaks**	**16.28**	**212**	Pn	**Pn**	**10 22 18.5**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=68,slow=12,SNR=1.6						
RPZ	**Rata Peaks**	**16.28**	**212**		**Pn**	**10 22 18.7**	**-1.5**
RPZ				IAmb	IAmb	10 22 32.9	
	comp=Z,54nm,1.4s						
FOZ	**Fox Glacier**	**16.72**	**214**		**Pn**	**10 22 26.0**	**+0.2**
FOZ				IAmb	IAmb	10 22 38.6	
	comp=Z,38nm,1.2s						
DZM	**Mont Dzumac**	**16.78**	**296**	Pn	**P**	**10 22 30.4**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=41,slow=21,SNR=3.2						
DZM				LR	LR	10 27 47.6	
	comp=Z,128nm,18.9s,baz=156,slow=33						
ODZ	**Otahua Downs**	**17.51**	**210**		**P**	**10 22 36.9**	**+0.3**
WKZ	**Wanaka**	**18.07**	**213**		**Pn**	**10 22 42.3**	**-0.3**
RAR	**Rarotonga**	**18.15**	**64**	LR	LR	10 29 45.1	
	comp=Z,36nm,18.5s,baz=168,slow=38						
MLZ	**Mavora Lakes**	**18.90**	**213**	P	**P**	**10 22 51.0**	**-1.0**
WHZ	**Wether Hill Ro**	**19.37**	**213**	P	**P**	**10 22 55.7**	**-1.4**
CTAO	**Charters Towe**	**34.44**	**279**	P	**P**	**10 25 19.4**	**+0.3**
STKA	**Stephens Creek**	**35.13**	**257**	P	**P**	**10 25 27.6**	**+2.6**
	comp=Z,2.6nm,0.7s,baz=111,slow=12,SNR=5.7						
STKA	**Stephens Creek**	**35.13**	**257**	P	**P**	**10 25 25.4**	**+0.4**
BBOO	**Buckleboo**	**39.62**	**254**	P	**P**	**10 26 03.3**	**+0.3**
AS31	**Alice Springs**	**43.77**	**267**	P	**P**	**10 26 36.1**	**-1.1**
ASAR	**Alice Springs**	**43.77**	**267**	P	**P**	**10 26 37.4**	**+0.3**
	comp=Z,2.8nm,0.8s,baz=104,slow=6.9,SNR=32						
ASAR				PcP	**PcP**	**10 28 24.4**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=116,slow=4.3,SNR=3.0						
ASAR	**Alice Springs**	**43.77**	**267**	P	**P**	**10 26 36.8**	**-0.4**
WR0	**Warramunga Arr**	**44.57**	**272**	P	**P**	**10 26 44.1**	**+0.5**
WR0				IAmb	IAmb	10 26 46.8	
	comp=Z,6.2nm,1.1s						
WB2	**Warramunga Arr**	**44.74**	**272**	P	**P**	**10 26 45.3**	**+0.4**
WB2				IAmb	IAmb	10 26 47.1	
	comp=Z,7.9nm,0.9s						
WRAB	**Tennant Creek**	**44.74**	**272**	P	**P**	**10 26 44.1**	**-0.8**
WRAB				IAmb	IAmb	10 26 54.6	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**44.75**	**272**	P	**P**	**10 26 44.9**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=112,slow=7.5,SNR=24						
WRA	**Warramunga Arr**	**44.75**	**272**	P	**P**	**10 26 45.7**	**+0.7**
WB0	**Warramunga Arr**	**44.77**	**272**	P	**P**	**10 26 45.9**	**+0.7**
WB0				IAmb	IAmb	10 26 59.5	
	comp=Z,10nm,1.2s						
FORT	**Forrest**	**46.70**	**255**	P	**P**	**10 27 01.2**	**+1.0**
CASY	**Casey**	**55.51**	**208**	P	**P**	**10 28 05.5**	**-0.3**
CASY				IAmb	IAmb	10 28 10.3	
	comp=Z,8.4nm,1.1s						
GUMO	**Guam**	**56.90**	**315**	LR	LR	10 53 13.1	
	comp=Z,25nm,18.1s,baz=149,slow=37						
SOEI	**Soe**	**57.99**	**278**	P	**P**	**10 28 25.2**	**+0.7**
QSPA	**South Pole Qui**	**59.78**	**180**	P	**P**	**10 28 37.5**	**+1.4**
	comp=Z,1.9nm,0.9s,baz=37,slow=1.6,SNR=7.4						
QSPA	**South Pole Qui**	**59.78**	**180**	P	**P**	**10 28 38.1**	**+2.0**
QSPA				IAmb	IAmb	10 28 47.1	
	comp=Z,7.1nm,1.4s						
SNAA	**Sanae**	**78.20**	**178**	P	**P**	**10 30 31.3**	**+0.9**
SNAA	**Sanae**	**78.20**	**178**	P	**P**	**10 30 29.8**	**-0.5**
SNAA				IAmb	IAmb	10 30 34.3	
	comp=Z,5.0nm,1.3s						
VNA3	**Neumayer Olymp**	**78.33**	**176**	P	**P**	**10 30 31.7**	**+0.8**
KSRS	**Korea Array**	**84.72**	**319**	LR	LR	11 04 50.1	
	comp=Z,45nm,18.0s,baz=200,slow=33						
PETK	**Petropavlovsk-**	**85.91**	**345**	P	**P**	**10 31 11.8**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=142,slow=5.4,SNR=1.3						
PETK	**Petropavlovsk-**	**85.91**	**345**	P	**P**	**10 31 11.3**	**+0.6**
NVAR	**Mina Array Bea**	**87.75**	**42**	P	**P**	**10 31 19.5**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=220,slow=6.2,SNR=8.9						
NVAR	**Mina Array Bea**	**87.75**	**42**	P	**P**	**10 31 20.0**	**-0.3**
TPNV	**Topopah Spring**	**87.99**	**45**		**P**	**10 31 21.7**	**+0.3**
TPNV				IAmb	IAmb	10 31 24.4	
	comp=Z,2.6nm,1.0s						
U15A	**North Rim**	**90.11**	**47**	P	**P**	**10 31 32.3**	**+0.8**
U15A				IAmb	IAmb	10 31 35.5	
	comp=Z,2.9nm,1.0s						
WUAZ	**Wupatki**	**90.13**	**48**	P	**P**	**10 31 30.6**	**-0.9**
WUAZ				IAmb	IAmb	10 31 36.2	
	comp=Z,2.4nm,0.8s						
KNB	**Kanab**	**90.14**	**46**	P	**P**	**10 31 34.0**	**+2.4**
TXAR	**Lajitas Array**	**91.80**	**57**	P	**P**	**10 31 39.6**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=167,slow=6.3,SNR=4.6						
TXAR	**Lajitas Array**	**91.80**	**57**	P	**P**	**10 31 39.1**	**-0.2**
PDAR	**Pinedale Array**	**95.64**	**43**	P	**P**	**10 31 58.1**	**+1.3**
	comp=Z,0.6nm,1.0s,baz=243,slow=3.0,SNR=3.7						
PDAR	**Pinedale Array**	**95.64**	**43**	P	**P**	**10 31 57.8**	**+1.0**
MKAR	**Makanchi Array**	**118.23**	**310**	PKP	**PKPdf**	**10 37 16.9**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=133,slow=37,SNR=1.9						
MKAR	**Makanchi Array**	**118.23**	**310**		**PKiKP**	**10 37 17.4**	**-0.8**
FINES	**FINESS Array B**	**145.31**	**340**	PKPbc	**PKPdf**	**10 38 07.5**	**-0.7**
	comp=Z,6.9nm,0.7s,baz=60,slow=4.6,SNR=18						
FINES	**FINESS Array B**	**145.31**	**340**		**PKPab**	**10 38 07.2**	**-1.0**
NOA	**NORSAR Array B**	**148.78**	**352**	PKPbc	**PKPbc**	**10 38 16.6**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=13,slow=4.2,SNR=1.3						
AKASG	**Malin Array Be**	**151.64**	**323**	PKPbc	**PKiKP**	**10 38 24.5**	**-1.0**
	comp=Z,1.7nm,0.6s,baz=46,slow=2.7,SNR=5.3						

DJA 20 10:39:21.0±0.4, 10°S±4°×12°0E±°, h77km±6km, M3.8/9, mb4.1/4, MLv3.7/9, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.56**	**146**	P	Pn	10 39 37.0	+1.9
BASI				S	Sn	10 39 48.9	+3.5
WBSI	**Waikabubak, Su**	**0.86**	**277**	P	Pn	10 39 38.4	+0.1
WBSI				S	Sn	10 39 51.6	+0.4
EDFI	**Ende, Flores**	**1.73**	**55**	P	Pn	10 39 47.5	-1.8
MMRI	**Maumere**	**2.25**	**61**	P	Pn	10 39 55.3	-0.8
PLAI	**Plampang**	**2.62**	**290**	P	Pn	10 40 01.5	+0.4
BATI	**Baumata**	**3.38**	**98**	P	Pn	10 40 13.3	+1.7
SOEI	**Soe**	**3.95**	**90**	P	Pn	10 40 19.1	-0.3
BNSI	**Bone**	**5.32**	**358**	P	Pn	10 40 39.6	+1.7
	0.1nm26nm,0.6s						
SPSI	**Sidrap Palu**	**5.77**	**355**	P	Pn	10 40 44.8	+0.7
	0.1nm12nm,0.6s						

*NNC **20** 10:43:14.3±1.9, 36°.83N×71°.09E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=14.3km s-min=12.8km az=72.0*

ISC 20 10:43:22.3±2.9, 36°0N±0°.2×70°3E±0°.3, h10km, n6, σ1§39/6, 2C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.74**	**127**	*e*P	**Pn**	**10 44 47.5**	**0.0**
THN				*e*S	Sn	10 45 27.5	-26
IUG	**luzhnay**	**6.16**	**358**	Pg	**Pn**	**10 44 52.0**	**-1.3**
	1.8nm,0.2s						
IUG				Lg	Lg	10 46 04.4	
	49nm,0.4s						
BRLS	**Borolday**	**7.04**	**357**	Pg	**Pn**	**10 45 05.2**	**-0.2**
	2.8nm,0.3s						
BRLS				Lg	Lg	10 46 27.8	
	12nm,0.4s						
KK31	**Karatay Array**	**7.11**	**1**	Pg	**Pn**	**10 45 08.3**	**+2.0**
	1.3nm,0.3s,baz=182,slow=12,SNR=18						
KK31				⇑Lg	Lg	10 46 33.7	
	3.6nm,0.4s,baz=190,slow=26,SNR=5.2						
MRKS	**Merke**	**7.13**	**18**	Pg	**Pn**	**10 45 06.5**	**-0.2**
	13nm,0.4s						
MRKS				Lg	Lg	10 46 30.2	
	10.0nm,0.9s						
AAK	**Ala-Archa**	**7.40**	**25**	⇓Pg	**Pn**	**10 45 10.4**	**-0.1**
	4.1nm,0.5s						
AAK				⇑Lg	Lg	10 46 35.8	
	5.1nm,0.7s						

*NEIC **20** 10:47:15.0±1.8, 24°.37S±0°.04×174°.9W±0°.1, h10km±2km, mb4.5/8, Error ellipse: s-maj=17.9km s-min=6.1km az=89.0.*
*IDC **20** 10:47:23.2±2.8, 23°.48S×176°.39W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/31, mbtmp3.8/4, ML5.4/1, Error ellipse: s-maj=66.3km s-min=36.5km az=112.0*

ISC 20 10:47:17.6±1.6, 24°3S±0°.2×175°0W±0°.2, h24km, n19, σ1§32/16, mb4.2/7, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.59**	**208**	Pn	Pn	10 48 50.8	+12
	97nm,0.3s,baz=19,slow=23,SNR=3.0						
RAO	**Raoul Island**	**5.59**	**208**		Pn	10 48 37.7	-1.5
NIUE	**Niue**	**7.00**	**43**	Pn	**Pn**	**10 48 58.0**	**-0.7**
MSVF	**Nonsavu**	**9.24**	**314**	Pn	**Pn**	**10 49 29.2**	**-0.3**
AS31	**Alice Springs**	**46.50**	**260**	P	**P**	**10 55 43.8**	**+0.5**
ASAR	**Alice Springs**	**46.50**	**260**	P	**P**	**10 55 44.8**	**+1.5**
	1.5nm,0.8s,baz=98,slow=8.0,SNR=21						
ASAR	**Alice Springs**	**46.50**	**260**	P	**P**	**10 55 43.1**	**-0.2**
WR0	**Warramunga Arr**	**46.78**	**265**	P	**P**	**10 55 44.5**	**-0.9**
WR0				IAmb	IAmb	10 55 58.4	
	comp=Z,6.3nm,1.4s						
WB2	**Warramunga Arr**	**46.95**	**265**	P	**P**	**10 55 46.0**	**-0.9**
WB2				IAmb	IAmb	10 55 48.4	
	comp=Z,4.1nm,1.1s						
WRAB	**Tennant Creek**	**46.96**	**265**	P	**P**	**10 55 45.6**	**-1.3**
WB0	**Warramunga Arr**	**46.96**	**265**	P	**P**	**10 55 46.0**	**-1.0**
WRA	**Warramunga Arr**	**46.97**	**265**	P	**P**	**10 55 45.7**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=95,slow=7.9,SNR=7.9						
FITZ	**Fitzroy Crossi**	**55.38**	**264**	P	**P**	**10 56 49.9**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=117,slow=6.8,SNR=1.7						
FITZ	**Fitzroy Crossi**	**55.38**	**264**	P	**P**	**10 56 50.3**	**+0.2**
FITZ				IAmb	IAmb	10 57 03.0	
	comp=Z,6.5nm,1.4s						
PEA0B	**Petropavlovsk-**	**80.68**	**344**	P	**P**	**10 59 28.5**	**+0.3**
PETK	**Petropavlovsk-**	**80.68**	**344**	P	**P**	**10 59 31.9**	**+3.6**
	comp=Z,0.7nm,0.5s,baz=129,slow=6.5,SNR=4.9						
PETK	**Petropavlovsk-**	**80.68**	**344**	P	**P**	**10 59 29.0**	**+0.7**
SNAA	**Sanae**	**84.12**	**178**	P	P	10 59 44.5	-1.8
SNAA				IAmb	IAmb	10 59 46.3	
	comp=Z,3.7nm,1.0s						
CLL	**Collm**	**152.36**	**349**	*e*PKPbc	**PKPbc**	**11 07 11.0**	**-0.3**
	comp=Z,5.0nm,0.5s						

*SOME **20** 10:49:23.6, 43°.52N×69°.62E*
*NNC **20** 10:49:25.4±0.9, 43°.48N×69°.68E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=5.6km s-min=3.6km az=140.0, Suspected Mining explosion.*

ISC 20 10:49:24.3±2.3, 43°55N±0°.08×69°8E±0°.1, h0km, n12, σ0§81/14, 1C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Borolday**	**0.52**	**176**	P	**Pn**	**10 49 39.1**	**0.0**
BRLS				S	**Sn**	**10 49 48.6**	**0.0**
KK31	**Karatay Array**	**0.69**	**130**	P	**Pg**	**10 49 38.5**	**+0.9**
	4.2nm,0.3s,baz=311,slow=15,SNR=81						
KK31				S	**Sb**	**10 49 49.5**	**+0.1**
	5.5nm,0.2s,baz=307,slow=32,SNR=34						
IUG	**luzhnay**	**1.41**	**173**	P	**Pg**	**10 49 51.3**	**-0.2**
	4.9nm,0.4s						
IUG				S	**Sg**	**10 50 09.6**	**-0.1**
	34nm,0.1s						
MRKS	**Merke**	**2.64**	**107**	Pg	**Pg**	**10 50 16.0**	**+1.0**
	7.4nm,0.3s						
MRKS				Lg	Lg	10 50 52.1	
	11nm,0.5s						
BTLS	**Baital**	**3.40**	**63**	Pg	**Pg**	**10 50 30.3**	**+0.7**
	3.7nm,0.5s						
BTLS				Lg	Lg	10 51 16.7	
	2.4nm,0.5s						
SGDS	**Sogindy**	**3.52**	**90**	Pg	**Pg**	**10 50 31.9**	**0.0**
	3.0nm,0.2s						
SGDS				Lg	Lg	10 51 19.2	
	6.8nm,0.2s						
AAK	**Ala-Archa**	**3.57**	**103**	⇓Lg	Lg	10 51 20.6	
	3.7nm,0.5s						
KRBS	**Karabastau**	**4.28**	**86**	Pg	**Pg**	**10 50 45.5**	**-0.8**
	1.2nm,0.4s						
KRBS				Lg	Lg	10 51 42.4	
	20nm,0.7s						
TKM2	**Tokmak 2**	**4.29**	**96**	⇓Pg	**Pg**	**10 50 44.9**	**-1.7**
	0.8nm,0.4s						
TKM2				⇑Lg	Lg	10 51 43.9	
	4.3nm,0.6s						
DGS	**Degeres**	**4.37**	**92**	Pg	**Pg**	**10 50 48.7**	**+0.6**
	3.4nm,0.3s						
DGS				Lg	Lg	10 51 48.0	
	8.8nm,0.3s						
KST	**Kastek**	**4.54**	**94**	Pg	**Pg**	**10 50 50.3**	**-0.9**
	2.7nm,0.4s						
KST				Lg	Lg	10 51 50.9	
	4.6nm,0.5s						
KTBS	**Karatobe**	**5.01**	**86**	Pg	**Pg**	**10 50 59.7**	**-0.5**
	0.8nm,0.4s						
KTBS				Lg	Lg	10 52 07.6	
	11nm,0.9s						

*IDC **20** 11:26:58.8±0.9, 30°.40N×141°.95E, h0km, mb3.9/11, mb1 4.1/14, mb1mx3.9/38, mbtmp3.9/14, ML3.0/3, MS3.0/3, Ms1 3.1/3, ms1mx2.6/43, Error ellipse: s-maj=31.5km s-min=17.3km az=74.0*
*NIED **20** 11:27:00, 30°.60N×142°.40E, h5km, Mw4.1 Best double couple: M0 1.54000×10^15 NP1:φs352.00000°, δ78.00000°, λ92.00000°. NP2:φs162.00000°, δ12.00000°, λ79.00000°.*
*JMA **20** 11:27:00.1±0.2, 30°.64N×142°.41E, h35km, M4.1*
*NEIC **20** 11:27:02.8±1.2, 30°.46N±0°.06×142°.1E±0°.1, h28km±5km, mb4.5/15, Error ellipse: s-maj=14.8km s-min=8.2km az=74.0*

ISC 20 11:27:01.6±0.7, 30°53N±0°.05×142°2E±0°.1, h23km, n58, σ1§44/65, mb4.2/17, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHCJ	**Hachijojimakas**	**3.26**	**322**	P	**Pn**	**11 27 51.2**	**-0.1**
CBIJ	**Chichi jima**	**3.42**	**180**	P	**Pn**	**11 27 54.6**	**+1.0**
JCJ	**Chichijima**	**3.42**	**180**	Pn	**Pn**	**11 27 53.5**	**0.0**
JCJ				Sn	**Sn**	**11 28 30.0**	**-3.4**
JMKN	**Mikurajimanish**	**4.02**	**327**	P	**Pn**	**11 28 00.2**	**-1.6**
BSO1	**Boso 1**	**4.24**	**346**	P	**Pn**	**11 28 03.1**	**-1.2**
BSO1				*e*S	**Sn**	**11 28 51.0**	**-1.9**
BSO3	**Boso 3**	**4.49**	**342**	P	**Pn**	**11 28 07.9**	**-0.2**
BSO4	**Boso 4**	**4.72**	**341**	P	**Pn**	**11 28 11.4**	**+0.1**
JOD2	**Odawara 2**	**5.40**	**332**	P	**Pn**	**11 28 20.2**	**-0.6**
JHU	**Hanno**	**5.85**	**336**	P	**Pn**	**11 28 27.6**	**+0.7**
JRY	**Ryogami san**	**6.13**	**334**	P	**Pn**	**11 28 31.6**	**+0.8**
JHO	**Hitachi**	**6.22**	**348**	P	**Pn**	**11 28 31.2**	**-0.8**
JHO				*e*S	**Sn**	**11 29 37.3**	**-5.0**
JAG	**Ashikaga**	**6.31**	**339**	P	**Pn**	**11 28 31.8**	**-1.5**
JAG				*e*S	**Sn**	**11 29 41.6**	**-3.1**
MJAR	**Matsushiro Arr**	**6.86**	**332**	Pn	**Pn**	**11 28 41.1**	**+0.3**
	0.6nm,0.3s,baz=131,slow=13,SNR=28						
MJAR				Sn	**Sn**	**11 29 57.3**	**-0.9**
	0.1nm,0.3s,baz=141,slow=29,SNR=4.5						
MAJO	**Matsushiro**	**6.86**	**332**		**Pn**	**11 28 41.8**	**+0.9**
MAJO				Sn	**Sn**	**11 29 58.4**	**+0.1**
MAT	**Matsushiro**	**6.86**	**332**	P	**Pn**	**11 28 41.5**	**+0.6**
MAT				S	**Sn**	**11 29 55.5**	**-2.8**
MJB9	**Matsu-Tunnel**	**6.87**	**332**		**Pn**	**11 28 42.0**	**+1.1**
JFK	**Kawauchi**	**6.91**	**351**	P	**Pn**	**11 28 40.1**	**-1.4**
JNU	**Nakatsue**	**9.97**	**288**	LR	LR	11 33 08.5	
	comp=Z,87nm,18.3s,baz=121,slow=38						
ERM	**Erimo**	**11.49**	**4**	Pn	**Pn**	**11 29 41.9**	**-2.3**
ASAJ	**Asahikawa**	**13.57**	**1**	Pn	**Pn**	**11 30 10.2**	**-2.5**
	0.4nm,0.3s,baz=196,slow=8.9,SNR=5.9						
ASAJ				Sn	Sn	11 32 32.4	-10
	0.1nm,0.3s,baz=123,slow=22,SNR=1.9						
KSRS	**Korea Array**	**13.71**	**304**	Pn	**Pn**	**11 30 14.2**	**-0.3**
	0.2nm,0.3s,baz=117,slow=15,SNR=3.7						
KSRS				LR	LR	11 35 07.1	
	comp=Z,53nm,18.0s,baz=194,slow=36						
KSAR	**Wonju Array Be**	**13.73**	**304**	Pn	**Pn**	**11 30 17.3**	**+2.5**
USRK	**Ussuriysk Ar.**	**15.86**	**332**	Pn	**Pn**	**11 30 43.3**	**0.0**
	baz=139,slow=41,SNR=2.1						
SSLB	**Su

FITZ	Fitzroy Crossi	20.50	182	P		Pn	11 51 35.3	-0.3
	0.9nm,0.7s,baz=6.8,slow=12,SNR=1.4							
WRA	Warramunga Arr	23.72	161	P		P	11 52 06.2	-1.4
	0.6nm,0.7s,baz=338,slow=11,SNR=6.6							
ASAR	Alice Springs	27.09	164	P		P	11 52 39.2	+0.8
	0.3nm,0.9s,baz=334,slow=10,SNR=2.8							
MKAR	Makanchi Array	58.24	326	P		P	11 56 49.7	-0.4
	0.2nm,0.5s,baz=122,slow=7.0,SNR=2.5							

*IDC **20** 11:50:23.5±0.7, 2°.95N×126°.93E, h0km, mb4.0/12, mb1 4.2/13, mb1mx3.9/41, mbtmp4.1/13, ML4.2/1, MS3.2/4, Ms1 3.2/4, ms1mx2.8/43, Error ellipse: s-maj=35.1km s-min=12.9km az=67.0*

*DJA **20** 11:50:27.2±0.6, 3°.6×12°.7E±°, h10km, M4.0/6, mB4.6/2, mb4.3/2, MLv3.9/6, Mw(mB)3.8/2*

*NEIC **20** 11:50:29.9±2.7, 3°.00N±0°.08×127°.04E±0°.08, h55km±8km, mb4.3/24, Error ellipse: s-maj=13.7km s-min=10.6km az=224.0*

ISC 20 11:50:29.4±0.5, 3°.02N±0°.05×127°.06E±0°.08, h44km, n62, σ1♀07/61, mb4.3/23, MS3.0/3, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	Ternate	2.26	172	P			Pn	11 51 05.8	+1.5
TNTI	Ternate	2.26	172				Pn	11 51 05.5	+1.1
KCP	Kidapawan	4.42	334	iP			Pn	11 51 36.0	+1.8
KCP				iS			Sn	11 52 39.3	+15
SIJI	Sorong	5.71	133	Pn			Pn	11 51 51.7	0.0
	6.2nm,0.3s,baz=324,slow=20,SNR=12								
SIJI				Sn			Sn	11 52 58.2	+2.2
	0.4nm,0.3s,baz=31,slow=23,SNR=1.3								
SIJI				LR			LR	11 54 25.5	
	comp=Z,220nm,19.1s,baz=360,slow=42								
MRSI	Marisa	5.71	244	P			Pn	11 51 57.6	+5.8
LUWI	Luwuk	5.89	227	Pn			Pn	11 51 53.4	-0.9
FAKI	Fak Fak	7.86	139	Pn			Pn	11 52 21.5	+0.3
SBUM	Sibu	14.84	268	Pn			Pn	11 53 56.4	-0.1
KSM	Kuching	16.81	265				Pn	11 54 21.9	+0.1
KNRA	Kununurra	18.66	175	P			P	11 54 43.7	-0.1
TWG	Pinlang	20.52	344	P			P	11 55 02.5	-1.6
YULB	Yu-li	21.00	345	P			P	11 55 08.1	-1.3
YULB				IAmb			IAmb	11 55 11.0	
	comp=Z,6.3nm,0.7s								
FITZ	Fitzroy Crossi	21.04	184	P			P	11 55 08.6	-1.1
	comp=Z,2.6nm,0.6s,baz=20,slow=9.2,SNR=13								
FITZ	Fitzroy Crossi	21.04	184	P			P	11 55 08.8	-0.9
TPUB	Ta-pu	21.10	343	P			P	11 55 07.8	-2.6
YHNB	Yeheng	22.21	346	P			P	11 55 23.4	+1.0
YHNB				IAmb			IAmb	11 55 36.8	
	comp=Z,24nm,1.3s								
TNG	Tangerang	22.34	246	P			P	11 55 25.3	+1.5
PMG	Port Moresby	23.52	122	LR			LR	12 05 01.9	
	comp=Z,58nm,20.4s,baz=244,slow=37								
WB0	Warramunga Arr	23.77	163	P			P	11 55 36.5	-1.6
WB0				IAmb			IAmb	11 55 37.6	
	comp=Z,6.4nm,0.7s								
WRAB	Tennant Creek	23.91	163	P			P	11 55 38.4	-1.0
WRAB				IAmb			IAmb	11 55 39.9	
	comp=Z,9.3nm,0.9s								
WRA	Warramunga Arr	23.91	163	P			P	11 55 38.3	-1.1
	comp=Z,4.4nm,0.6s,baz=342,slow=10.0,SNR=36								
WRA	Warramunga Arr	23.91	163	P			P	11 55 37.6	-1.9
WB2	Warramunga Arr	23.92	163	P			P	11 55 38.3	-1.2
WB2				IAmb			IAmb	11 55 40.1	
	comp=Z,9.0nm,0.8s								
WR0	Warramunga Arr	23.99	162	P			P	11 55 39.1	-1.0
PSA00	Pilbara Seismi	25.45	196	P			P	11 55 53.2	-0.1
PSA00				IAmb			IAmb	11 56 00.6	
	comp=Z,7.6nm,0.8s								
AS31	Alice Springs	27.35	166	P			P	11 56 09.8	-0.8
ASAR	Alice Springs	27.35	166	P			P	11 56 09.8	-0.9
	comp=Z,0.9nm,0.6s,baz=340,slow=6.5,SNR=19								
ASAR				PcP			PcP	11 59 30.6	+1.3
	comp=Z,0.4nm,0.6s,baz=342,slow=2.4,SNR=2.1								
ASAR	Alice Springs	27.35	166	P			P	11 56 09.5	-1.2
JNU	Nakatsue	30.16	6	LR			LR	12 08 45.0	
	comp=Z,23nm,21.5s,baz=204,slow=36								
CMAR	Chiang Mai Arr	31.52	301	P			P	11 56 48.1	+0.4
	comp=Z,1.4nm,0.7s,baz=123,slow=8.4,SNR=7.5								
KSRS	Korea Array	34.27	1	P			P	11 57 11.3	-0.1
	comp=Z,0.5nm,0.6s,baz=178,slow=9.2,SNR=2.9								
BBOO	Buckleboo	36.64	167	P			P	11 57 31.5	-0.3
NWAO	Narrogin (SRO)	36.95	194	P			P	11 57 34.8	+0.4
STKA	Stephens Creek	37.35	159	P			P	11 57 37.9	0.0
	comp=Z,4.4nm,0.6s,baz=336,slow=7.4,SNR=13								
STKA				LR			LR	12 16 37.8	
	comp=Z,80nm,19.8s,baz=189,slow=42								
STKA	Stephens Creek	37.35	159	P			P	11 57 36.3	-1.6
ARMA	Armidale	40.70	147	P			P	11 58 05.5	-0.5
ARMA				IAmb			IAmb	11 58 19.9	
	comp=Z,9.5nm,1.1s								
TAPN	Taplejung	44.70	307	eP			P	11 58 38.3	-0.5
	comp=Z,14nm,0.7s								
ODAN	Odare	44.75	306	eP			P	11 58 39.5	+0.3
	comp=Z,16nm,0.7s								
RAMN	Ramite	45.43	306	eP			P	11 58 45.4	+0.8
JIRN	Jiri	46.05	306	eP			P	11 58 50.0	+0.4
	comp=Z,17nm,0.6s								
GUN	Gumba	46.41	306	eP			P	11 58 52.7	+0.3
	comp=Z,27nm,0.6s								
GKN	Gorkha	47.45	306	eP			P	11 59 00.2	-0.1
ULN	Ulaanbaatar	47.89	342	P			P	11 59 04.8	+1.4
ULN				IAmb			IAmb	11 59 05.5	
	comp=Z,3.4nm,0.8s								
SONM	Songino Array	48.07	341	P			P	11 59 05.7	+0.9
	comp=Z,1.0nm,0.5s,baz=156,slow=8.2,SNR=6.5								
SONM	Songino Array	48.07	341	P			P	11 59 05.0	+0.3
KOLN	Koldanda	48.20	305	eP			P	11 59 06.6	+0.4
	comp=Z,35nm,0.6s								
DANN	Dangsing	48.30	306	eP			P	11 59 07.1	+0.1
	comp=Z,70nm,0.6s								
PYUN	Piuthan	48.82	305	eP			P	11 59 11.6	+0.6
	comp=Z,26nm,0.7s								
PETK	Petropavlovsk-	55.96	22	P			P	12 00 04.9	+1.7
	comp=Z,0.7nm,0.8s,baz=195,slow=11,SNR=1.8								
PETK	Petropavlovsk-	55.96	22	P			P	12 00 01.2	-1.9
MK31	Makanchi Array	58.32	325	P			P	12 00 20.4	+0.3
MK31				IAmb			IAmb	12 00 21.6	
	comp=Z,1.1nm,0.5s								
MKAR	Makanchi Array	58.32	325	P			P	12 00 20.4	+0.3
	comp=Z,1.6nm,0.5s,baz=121,slow=8.6,SNR=25								
MAKZ	Makanchi	58.51	325	P			P	12 00 21.6	+0.3
MAKZ				IAmb			IAmb	12 00 25.7	
	comp=Z,3.6nm,1.2s								
ZALV	Zalesovo Beam	61.37	333	P			P	12 00 41.1	+0.4
	comp=Z,1.0nm,0.4s,baz=111,slow=6.1,SNR=5.1								
ZALV	Zalesovo Beam	61.37	333	P			P	12 00 40.8	0.0
KURK	Kurchatov	62.51	328	P			P	12 00 49.2	+0.7
CASY	Casey	70.16	187	P			P	12 01 35.8	-1.4
CASY				IAmb			IAmb	12 01 52.4	
	comp=Z,9.2nm,1.4s								
GEYT	Alibeck	71.59	309	P			P	12 01 45.8	-0.7
	comp=Z,0.9nm,0.3s,baz=166,slow=26,SNR=1.6								
GEYT	Alibeck	71.59	309	P			P	12 01 46.2	-0.4
ABKAR	Akbulak array	72.91	321	P			P	12 01 54.7	+0.6
ARCES	ARCESS Array B	91.22	340	P			P	12 03 28.8	-0.9
	comp=Z,2.5nm,0.8s,baz=106,slow=6.7,SNR=1.5								
ARCES	ARCESS Array B	91.22	340	P			P	12 03 28.0	-1.6

*JMA **20** 11:53:09.7±0.3, 33°.59N×137°.41E, h363km±3km, M3.1*

*IDC **20** 11:53:10.4±0.8, 33°.52N×137°.50E, h349km±8km, mb3.2/12, mb1 3.2/18, mb1mx3.1/49, mbtmp3.9/18, Error ellipse: s-maj=17.3km s-min=10.9km az=85.0*

ISC 20 11:53:10.9±0.7, 33°.60N±0°.07×137°.45E±0°.05, h353km±6km, n41, σ1♀19/54, mb3.5/12, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TTO3	TONANKAI O.B.S	0.26	351	P			Pn	11 53 55.6	+0.8
TTO4	TONANKAI O.B.S	0.41	11	P			Pn	11 53 55.5	+0.7
TK02	Tokai 2	0.43	37	P			Pn	11 53 55.6	+0.7
TK02				S			S	11 54 31.9	+1.6
TTO1	TONANKAI O.B.S	0.55	272	P			Pn	11 53 55.5	+0.4
JIE	Ise	1.00	322	P			Pn	11 53 57.0	+0.2
JIE				S			S	11 54 33.1	-0.6
JTNC	Tanabenakahech	1.55	278	P			Pn	11 53 59.1	-0.4
JTNC				S			S	11 54 37.7	-0.9
JWY	Kouya	1.66	292	P			Pn	11 54 00.2	-0.1
JWY				eS			S	11 54 38.3	-1.6
JHJ	Hachijo jima 2	2.01	103	P			Pn	11 54 02.8	+0.3
	31nm,0.3s,baz=326,slow=23,SNR=5.2								
JHJ				S			S	11 54 43.2	-0.8
	15nm,0.3s,baz=66,slow=22,SNR=1.3								
JHJ2	Mitsune	2.04	103	P			Pn	11 54 03.2	+0.5
JYTA	Yamagatataniai	2.07	344	P			Pn	11 54 03.3	+0.5
JYN	Shimob	2.10	25	P			Pn	11 54 03.6	+0.5
JOD2	Odawara 2	2.14	39	P			Pn	11 54 03.8	+0.4
JWT	Wachi	2.38	315	P			Pn	11 54 05.2	0.0
JWT				eS			S	11 54 47.0	-1.8
JAI	Aioi	2.50	275	P			Pn	11 54 05.7	-0.5
JRY	Ryogami san	2.69	26	P			Pn	11 54 08.4	+0.7
JRY				S			S	11 54 54.2	+0.8
JKG	Kaga	2.82	341	P			Pn	11 54 09.0	+0.3
JMN	Monobe	2.98	273	P			Pn	11 54 09.9	-0.4
MJAR	Matsushiro Arr	3.00	12	P			Pn	11 54 10.6	+0.2
	0.9nm,0.3s,baz=180,slow=9.4,SNR=63								
MJAR				S			S	11 54 57.9	-0.3
	0.1nm,0.3s,baz=195,slow=18,SNR=11								
MAT	Matsushiro	3.00	12	P			Pn	11 54 10.5	+0.2
MAT				S			S	11 54 56.8	-1.5
MAT	Matsushiro	3.00	12	P			Pn	11 54 10.5	+0.2
MAT				S			S	11 54 57.8	-0.5
BSO1	Boso 1	3.11	69	P			Pn	11 54 09.3	-1.4
BSO1				eS			S	11 54 57.0	-2.1
JAG	Ashikaga	3.26	30	P			Pn	11 54 11.8	-0.9
JAG				eS			S	11 54 58.5	-4.1
JHS	Saijyo	3.85	292	P			Pn	11 54 18.4	-0.1
JTO	Tosashimizu	3.96	260	P			Pn	11 54 18.9	-0.8
JNU	Nakatsue	5.52	267	P			Pn	11 54 35.6	-0.7
	3.0nm,0.3s,baz=62,slow=2.5,SNR=29								
KSRS	Korea Array	8.66	299	P			P	11 55 15.2	-0.1
	0.5nm,0.3s,baz=124,slow=9.4,SNR=11								
ASAJ	Asahikawa	11.23	19	P			P	11 55 44.8	+1.1
	0.4nm,0.3s,baz=216,slow=6.1,SNR=7.2								
ASAJ				S			S	11 57 44.5	-4.3
	0.1nm,0.3s,baz=162,slow=33,SNR=2.1								
USRK	Ussuriysk Ar.	11.40	340	P			P	11 55 46.3	+0.8
	baz=162,slow=11,SNR=8.5								
KLR	Kul'dur	16.18	346	P			P	11 56 38.3	+0.4
	0.1nm,0.3s,baz=156,slow=10.0,SNR=1.9								
SONM	Songino Array	27.28	311	P			P	11 58 25.7	+1.5
	1.5nm,0.7s,baz=127,slow=9.7,SNR=8.1								
CMAR	Chiang Mai Arr	37.51	256	P			P	11 59 52.0	-0.4
	1.0nm,0.6s,baz=45,slow=8.3,SNR=6.3								
ZALV	Zalesovo Beam	41.95	315	P			P	12 00 28.1	-0.1
	1.0nm,0.4s,baz=89,slow=8.7,SNR=4.5								
MKAR	Makanchi Array	43.29	305	P			P	12 00 39.4	+0.3
	0.9nm,0.5s,baz=88,slow=8.4,SNR=6.5								
FITZ	Fitzroy Crossi	52.63	194	P			P	12 01 48.7	-1.3
	2.0nm,0.9s,baz=46,slow=12,SNR=2.0								
WRA	Warramunga Arr	53.33	184	P			P	12 01 53.9	-1.2
	0.3nm,0.3s,baz=359,slow=7.6,SNR=12								
ILAR	Eielson Array	54.11	31	P			P	12 02 01.0	+0.9
	0.2nm,0.5s,baz=323,slow=33,SNR=2.6								
ASAR	Alice Springs	57.05	184	P			P	12 02 20.8	-0.6
	0.1nm,0.4s,baz=354,slow=4.7,SNR=5.0								
ARCES	ARCESS Array B	66.05	339	P			P	12 03 21.5	+1.3
	2.2nm,0.8s,baz=82,slow=7.4,SNR=1.2								
FINES	FINESS Array B	70.31	332	P			P	12 03 46.9	+0.3
	1.9nm,0.5s,baz=55,slow=5.6,SNR=19								
AKASG	Malin Array Be	74.98	321	P			P	12 04 14.1	+0.1
	0.3nm,0.3s,baz=346,slow=21,SNR=4.9								
NOA	NORSAR Array B	76.05	336	P			P	12 04 20.3	+0.3
	0.7nm,0.8s,baz=45,slow=5.6,SNR=2.4								

*UNK **20** 12:16:46.5, 51°.95N×171°.35W, h26km*

*AEIC **20** 12:16:46.4±2.2, 51°.77N±0°.08×171°.25W±0°.07, h42km±2km, ML5.1/46, mb5.6/593(NEIC), Ms_20 4.9/635(NEIC), Mwb5.3/87(NEIC), Mwc5.5(GCMT), Mww5.4(NEIC), Error ellipse: s-maj=11.9km s-min=5.8km az=170.0*

*NEIC **20** 12:16:46.5±1.4, 51°.93N±0°.08×171°.34W±0°.06, h27km±3km, Error ellipse: s-maj=12.4km s-min=4.9km az=167.0*

*MOS **20** 12:16:46.6±0.9, 52°.08N×171°.41W, h39km, mb5.6/141, MS4.8/53, Error ellipse: s-maj=6.3km s-min=4.8km az=99.9*

*BJI **20** 12:16:46.3±0.0, 52°.27N×171°.85W, h23km, mB5.4/59, mb5.5/72, Ms5.2/79, Ms7 5.0/72*

*NEIC **20** 12:16:46.3, 51°.93N×171°.31W, h30km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.18; $M_{\theta\theta}$-0.83; $M_{\phi\phi}$-0.35; $M_{r\theta}$0.41; $M_{\theta\phi}$-0.36; $M_{r\phi}$0.28; Fault plane solution: $M_0$1.21000×10^{17} NP1:ϕ_s243.85000°, δ32.86000°, λ93.51000°. NP2:ϕ_s59.67000°, δ57.21000°, λ87.74000°. Principal axes: T 1.2846, Plg78.0000°, Azm322.0000°; N -0.1606, Plg2.0000°, Azm61.0000°; P -1.1240, Plg12.0000°, Azm151.0000°;*

*IDC **20** 12:16:48.5±1.7, 52°.15N×171°.47W, h36km±12km, mb4.9/32, mb1 5.0/34, mb1mx5.0/36, mbtmp5.1/34, ML4.2/2, MS4.7/36, Ms1 4.7/36, ms1mx4.7/42 Error ellipse: s-maj=15.3km s-min=9.3km az=174.0*

*BGR **20** 12:16:49.9±0.0, 52°.50N×171°.50W, h33km, mb5.3*

*NEIC **20** 12:16:50, 51°.85N×171°.39W, h32km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.55; $M_{\theta\theta}$-1.62; $M_{\phi\phi}$0.07; $M_{r\theta}$0.99; $M_{\theta\phi}$-0.51; $M_{r\phi}$0.49; Fault plane solution: $M_0$2.00000×10^{17} NP1:ϕ_s262.00000°, δ29.00000°, λ102.00000°. NP2:ϕ_s68.00000°, δ62.00000°, λ83.00000°. Principal axes: T 1.8977, Plg72.0000°, Azm322.0000°; N 0.1896, Plg6.0000°, Azm71.0000°; P -2.0873, Plg17.0000°, Azm163.0000°;*

*GCMT **20** 12:16:50.4±0.1, 51°.89N±0°.01×171°.31W±0°.01, h31km, MW5.5/153, Moment Tensor Solution. s144,c268; s153,c293; Duration: 1♀3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.57±.02; $M_{\theta\theta}$-1.57±.02; $M_{\phi\phi}$0.00±.02; $M_{r\theta}$1.00±.03; $M_{\theta\phi}$-0.56±.01; $M_{r\phi}$0.44±.03; Best double couple: $M_0$1.98700×10^{17} NP1:ϕ_s256.00000°, δ29.00000°, λ97.00000°. NP2:ϕ_s69.00000°, δ62.00000°, λ86.00000°. Principal axes: T 1.9000, Plg73.0000°, Azm330.0000°; N 0.1770, Plg3.0000°, Azm70.0000°; P -2.0740, Plg17.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **20** 12:16:51, 51°.81N×171°.29W, h36km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.35; $M_{\theta\theta}$-1.27; $M_{\phi\phi}$-0.07; $M_{r\theta}$0.71; $M_{\theta\phi}$-0.49; $M_{r\phi}$0.41; Fault plane solution: $M_0$1.62000×10^{17} NP1:ϕ_s256.00000°, δ30.00000°, λ100.00000°. NP2:ϕ_s65.00000°, δ60.00000°, λ84.00000°. Principal axes: T 1.5758, Plg74.0000°, Azm320.0000°; N 0.0885, Plg5.0000°, Azm68.0000°; P -1.6643, Plg15.0000°, Azm159.0000°;*

ISC 20 12:16:48.1±0.2, 51°.98N±0°.05×171°.35W±0°.03, h41km±2km, h40km:pP-P, n1799, σ1♀12/1536, mb5.5/516, MS4.9/416, 96C-6D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KOSE	Korovin Southe	1.70	284				Pn	12 17 16.2	+1.0
KOFP	Korovin Flat P	1.72	281				Pn	12 17 16.2	+0.7
ATKA	Atka Island	1.77	278	Pn			Pn	12 17 15.9	-0.2
ATKA	Atka Island	1.77	278				Sn	12 17 37.6	+0.2
NIKH	Nikolski High	1.82	56	Pn			Pn	12 17 15.8	-1.1
NIKH	Nikolski High	1.82	56				Sn	12 17 38.6	-0.1
OKSP	Okmok Steeple	2.26	54				Pn	12 17 22.9	0.0
OKCE	Okmok Cone E	2.42	52				Pn	12 17 25.8	+0.7
OKNC	Okmok New Cone	2.46	52				Pn	12 17 26.8	+1.1
OKFG	Magazine Ridge	2.54	54				Pn	12 17 27.2	+0.5
OKFG							Sn	12 17 56.1	-0.2
GSMY	Great Sitkin M	2.91	273				Pn	12 17 31.8	0.0
GSTR	Great Sitkin T	2.91	274				Pn	12 17 32.9	+1.1
GSTD	Great Sitkin T	2.96	273				Pn	12 17 32.8	+0.1
ADK	Adak	3.30	270	P			Pn	12 17 37.3	+0.1
ADK								12 18 16.5	
ADK	Adak	3.30	270				Pn	12 17 37.3	+0.1
ADK							Sn	12 18 16.5	+1.3
MREP	Makushin Rep't	3.34	55				Pn	12 17 38.4	+0.6
MSW	Makushin Switc	3.38	53				Pn	12 17 39.1	+0.9
MNAT	Makushin Natee	3.41	54				Pn	12 17 39.5	+0.8
UNV	Unalaska Valle	3.48	56	Pn			Pn	12 17 40.1	+0.5
KIKV	Kanaga Island	3.60	271				Pn	12 17 42.2	+0.8
KICM	Kanaga Island	3.62	271				Pn	12 17 42.1	+0.6
KIMD	Kanaga Island	3.65	269				Pn	12 17 42.5	+0.5
AKRB	Akutan Reef Bi	3.85	54				Pn	12 17 47.2	+2.5
AKMO	Akutan Morgan	3.86	55				Pn	12 17 46.9	+2.1
AKLV	Akutan Long Va	3.92	54				Pn	12 17 48.2	+2.5
AKGG	Akutan Green G	3.92	53				Pn	12 17 47.9	+2.2
AKUT	Akutan	4.00	55				Pn	12 17 48.6	+1.9
AKUT							Sn	12 18 35.7	+3.4

TAPA	Tanaga Point A	4.01	270				Pn	12 17 48.9	+2.0
AKSA	Akutan Strait	4.04	55				Pn	12 17 48.7	+1.4
TAFP	Tanaga Falls P	4.11	272				Pn	12 17 49.8	+1.5
TASE	Tanaga Southea	4.14	271				Pn	12 17 50.3	+1.5
GAEA	Gareloi East	4.59	270				Pn	12 17 56.4	+1.5
WESP	Westdahl Peak	4.71	55				Pn	12 17 58.4	+1.7
SSBA	Shishaldin	5.15	54				Pn	12 18 05.0	+2.4
SPIA	Saint Paul Isl	5.25	7	Pn			Pn	12 18 05.9	+2.0
CERAA	Semis' Rag'd T	5.55	273				Pn	12 18 08.5	+0.5
FALS	False Pass	5.55	56	Pn			Pn	12 18 07.9	-0.2
CESW	Semis' Southwe	5.62	273				Pn	12 18 10.3	+1.3
AMKA	Amchitka	5.85	268				Pn	12 18 13.0	+0.9
LSPA	Little Sitkin	6.23	274				Pn	12 18 19.2	+1.8
LSNW	Little Sitkin	6.26	274				Pn	12 18 19.2	+1.4
LSSA	Little Sitkin	6.27	274				Pn	12 18 19.3	+1.4
SDPT	Sand Point	7.29	58	Pn			Pn	12 18 30.8	-1.0
CNBA	Chernabura Isl	7.58	63	Pn			Pn	12 18 36.5	+0.6
SMY	Shemya	8.94	281	P			Pn	12 18 55.4	+0.9
SMY	Shemya	8.94	281	Pn			Pn	12 18 55.4	+0.9
CHIR	Chirikof Islan	10.04	61	Pn			Pn	12 19 09.4	-0.2
SII	Sitkinak Islan	11.03	59	Pn			Pn	12 19 22.4	-0.7
OHAK	Old Harbor	11.70	56	Pn			Pn	12 19 29.8	-2.4
GAMB	Gambell	11.83	359	Pn			Pn	12 19 34.4	+0.4
KDAK	Kodiak Island	12.25	54	Pn			Pn	12 19 37.0	-2.7
	3.0nm,0.3s,baz=261,slow=8.0,SNR=43								
KDAK				Sn			Sn	12 21 43.7	-11
	0.6nm,0.3s,baz=342,slow=20,SNR=2.2								
KDAK	Kodiak Island	12.25	54	P			Pn	12 19 37.6	-2.1
KDAK	Kodiak Island	12.25	54	Pn			Pn	12 19 37.6	-2.1
SVW2	Sparrevohn	12.58	37				Pn	12 19 47.5	+3.3
ANM	Nome	13.00	12	P			Pn	12 19 53.8	+3.9
ANM	Nome	13.00	12	Pn			Pn	12 19 53.8	+3.9
RSO	Redoubt South	13.35	43				Pn	12 19 56.4	+1.6
HOM	Homer	13.45	47	Pn			Pn	12 19 55.7	-0.3
CNPM	China Poot	13.57	48				Pn	12 19 56.4	-1.4
TTA	Tatalina	13.69	31	P			Pn	12 20 00.6	+1.2
TTA	Tatalina	13.69	31	Pn			Pn	12 20 00.6	+1.2
BRLK	Bradley Lake	13.84	48				Pn	12 20 00.5	-0.9
SEW	Seward	14.63	48	Pn			Pn	12 20 09.7	-2.4
O22K	Cooper Landing	14.67	46	P			Pn	12 20 11.6	-1.0
	baz=244								
RC01	Rabbit Creek A	14.94	44				Pn	12 20 16.2	0.0
PPLA	Purkeypile	14.96	36	Pn			Pn	12 20 17.3	+0.7
PPLA				IAmb			IAmb	12 20 57.0	
	comp=Z,307nm,1.4s								
PMR	Palmer	15.44	43	P			Pn	12 20 21.7	-0.9
PMR				pmax			pmax		
	comp=Z,237nm,1.7s								
PMR	Palmer	15.44	43				Pn	12 20 21.7	-0.9
GHO	Glory Hole Cre	15.61	42	Pn			Pn	12 20 24.6	-0.4
GHO				IAmb			IAmb	12 20 47.8	
	comp=Z,593nm,1.9s								
KNK	Knik Glacier	15.64	44				Pn	12 20 24.5	-0.8
MID	Middleton Isla	15.87	52	P			Pn	12 20 28.2	0.0
MID				pmax			pmax		
	comp=Z,313nm,0.8s								
MID	Middleton Isla	15.87	52				Pn	12 20 28.2	0.0
MID				IAmb			IAmb	12 20 52.4	
	comp=Z,313nm,0.8s								
SML	Sawmill	15.88	43	Pn			Pn	12 20 28.0	-0.4
TRF	Thorofare Moun	15.98	36				Pn	12 20 30.4	+0.5
TRF				IAmb			IAmb	12 20 50.4	
	comp=Z,843nm,1.9s								
GLI	Glacier Island	16.02	47				Pn	12 20 28.5	-1.6
HIN	Hinchinbrook I	16.11	49	Pn			Pn	12 20 30.0	-1.3
BPAW	Bear Paw Mtn.	16.14	33	Pn			Pn	12 20 30.9	-0.8
FID	Port Fidalgo	16.25	48				Pn	12 20 31.6	-1.5
SCM	Sheep Creek Mo	16.31	43	P			Pn	12 20 32.5	-1.4
SCM				pmax			pmax		
	comp=Z,203nm,1.0s								
SCM	Sheep Creek Mo	16.31	43				Pn	12 20 32.5	-1

comp=Z,296nm,0.9s
BESE Bessie Mountai 21.60 58 IAmb IAmb 12 21 52.2
comp=Z,492nm,1.6s
WHY Whitehorse 21.75 52 IAmb IAmb 12 22 08.1
comp=Z,128nm,0.8s
JIS Juneau Island 21.84 59 IAmb IAmb 12 22 15.0
comp=Z,258nm,1.4s
MA2 Magadan 22.35 305 P **P** **12 21 43.0 +0.8**
comp=Z,50nm,0.8s,baz=88,slow=10,SNR=43
MA2 LR LR 12 32 45.3
comp=Z,2µm,18.2s,baz=98,slow=43
MA2 Magadan 22.35 305 *ce*P **P** **12 21 42.6 +0.4**
MA2 pmax pmax
comp=Z,54nm,0.8s
MA2 Magadan 22.35 305 P **P** **12 21 41.8 -0.4**
EPYK Eagle Plains 22.45 37 P **P** **12 21 42.0 -1.2**
baz=247,SNR=53
EPYK Eagle Plains 22.45 37 P **P** **12 21 42.2 -1.0**
EPYK IAmb IAmb 12 21 59.5
comp=Z,109nm,0.7s
EPYK IAmb IAmb 12 31 09.3
comp=Z,6µm,18.0s
CRAG Craig 22.69 66 P **P** **12 21 45.3 -0.4**
WRAK Wrangell Islan 23.02 63 P **P** **12 21 48.6 -0.6**
DIB Dawson Inlet, 23.46 72 P **P** **12 21 54.5 +1.1**
DIB IAmb IAmb 12 22 13.3
comp=Z,147nm,1.2s
DLBC Dease Lake 24.13 58 P **P** **12 22 01.9 +2.0**
comp=Z,123nm,0.9s,baz=276,slow=7.6,SNR=69
DLBC LR LR 12 31 50.5
comp=Z,2µm,20.6s,baz=293,slow=37
INK Inuvik 24.34 34 P **P** **12 22 01.5 -0.1**
comp=Z,31nm,0.5s,baz=238,slow=7.9,SNR=105
INK PcP **PcP** **12 25 41.2 +1.3**
comp=Z,22nm,0.9s,baz=226,slow=3.8,SNR=3.8
INK ScP **ScP** **12 29 16.6 +1.7**
comp=Z,2.7nm,0.8s,baz=70,slow=28,SNR=5.2
INK Inuvik 24.34 34 P **P** **12 22 01.1 -0.5**
INK Inuvik 24.34 34 IAMs_20 IAMs_20 12 32 28.8
comp=Z,5µm,18.0s
BBB Bella Bella 26.28 72 P **P** **12 22 21.5 +2.2**
comp=Z,60nm,1.1s,baz=301,slow=10.0,SNR=3.1
BBB LR LR 12 30 23.8
comp=Z,1µm,21.2s,baz=288,slow=31
BBB Bella Bella 26.28 72 P **P** **12 22 20.0 +0.7**
BBB IAmb IAmb 12 22 53.2
comp=Z,268nm,1.4s
KUR Kuril'sk 27.51 272 *e*P **P** **12 22 30.2 -0.2**
KUR *e*S **S** **12 27 10.4 +2.2**
KUR *e*SS **SnSn** **12 28 23.1 +2.3**
KUR *e*SSS SSS 12 28 39.0
KUR pmax pmax
comp=E,142nm,1.5s
KUR pmax pmax
comp=Z,371nm,1.5s
KUR pmax pmax
comp=N,85nm,1.8s
KUR MLR MLR
comp=Z,600nm,16.0s
A36M Sachs Harbour 28.33 28 P **P** **12 22 38.2 +0.8**
baz=250,SNR=13
TYV Tymovskoe 28.34 286 *e*P **P** **12 22 37.3 -0.4**
TYV *e* 12 27 23.6
TYV pmax pmax
comp=Z,200nm,5.0s
TYV pmax pmax
comp=Z,13nm,1.5s
NKL Nikolayevsk 28.76 292 *e*P **P** **12 22 42.3 +0.9**
NKL *e*S **S** **12 27 28.3 +0.6**
NKL pmax pmax
comp=Z,29nm,1.9s
YUK Yuzh-Kuril'sk 29.35 271 *e*P **P** **12 22 46.5 -0.2**
YUK *e* 12 23 41.0
YUK *e*PPP PPP 12 23 52.5
YUK *e*S **S** **12 27 39.3 +2.1**
YUK *e*SS **SnSn** **12 29 06.8 +1.2**
YUK *e*SSS SSS 12 29 24.1
YUK pmax pmax
comp=Z,99nm,1.0s
YUK pmax pmax
comp=Z,612nm,1.3s
YUK MLR MLR
comp=N,634nm,19.0s
YUK MLR MLR
comp=Z,667nm,19.0s
YSS Yuzh-Sakhalins 29.85 279 α *i*P **P** **12 22 51.7 +0.6**
YSS *e**SP **sP** **12 23 08.9 +1.8**
YSS *e*S **S** **12 27 43.4 -1.6**
YSS pmax pmax
comp=Z,500nm,3.1s
YSS pmax pmax
comp=N,100nm,2.7s
YSS pmax pmax
comp=E,200nm,2.8s
YSS MLR MLR
comp=Z,800nm,15.0s
YSS Yuzh-Sakhalins 29.85 279 P **P** **12 22 51.7 +0.6**
YSS IAMs_20 IAMs_20 12 33 16.2
comp=Z,3µm,22.0s
LLLB Lillooet 30.49 73 P **P** **12 22 58.3 +1.4**
NLWA Neilton Lookou 30.62 79 IAMs_20 IAMs_20 12 32 13.8
comp=Z,2µm,22.0s
A04D Lummi Island 30.75 76 P **P** **12 23 00.8 +1.7**
baz=295
D03D Eldon 31.03 79 P **P** **12 23 04.3 +2.7**
baz=296,SNR=5.5
E03A Lebam 31.19 81 IAmb IAmb 12 23 23.5
comp=Z,79nm,1.1s
KEKH Kekaha 31.27 159 IAMs_20 IAMs_20 12 32 33.4
comp=Z,2µm,21.0s
B05A Bryant 31.31 77 P **P** **12 23 06.6 +2.6**
baz=296,SNR=7.8
D04E Lakebay 31.38 79 P **P** **12 23 07.2 +2.5**
baz=297
YKA Yellowknife Ar 31.41 48 P **P** **12 23 05.0 +0.2**
comp=Z,14nm,0.6s,baz=275,slow=9.1,SNR=114
YKA PcP **PcP** **12 25 58.8 +1.6**
comp=Z,5.9nm,0.8s,baz=272,slow=3.5,SNR=4.7
YKA LR LR 12 37 52.4
comp=Z,2µm,19.1s,baz=0.0,slow=40
YKA P3KPbc 12 54 42.4
comp=Z,1.4nm,0.9s,baz=109,slow=5.8,SNR=6.1
F04D Rainier, OR 31.75 81 P **P** **12 23 10.5 +2.6**
baz=299
E04D Cinebar 31.80 80 P **P** **12 23 11.3 +3.0**
baz=298,SNR=13
D05A Enumclaw 31.86 79 P **P** **12 23 09.9 +1.0**
OPA Opana 31.96 156 IAMs_20 IAMs_20 12 33 23.7
comp=Z,2µm,20.0s
G03D McMinnville, O 32.02 83 P **P** **12 23 12.9 +2.5**
baz=300
GRNR Gornyy 32.05 289 ⇑ *i*P **P** **12 23 10.1 -0.4**
GRNR *e* 12 24 18.8
GRNR *e*S **S** **12 28 21.0 +1.6**
GRNR pmax pmax
comp=Z,10.0nm,0.8s
GRNR smax smax
comp=E,3.0nm,0.6s
ERM Erimo 32.10 270 *ce*P **P** **12 23 11.8 +0.7**
ERM pmax pmax
comp=Z,156nm,1.7s
ERM Erimo 32.10 270 P **P** **12 23 12.1 +1.1**
ERM IAmb IAmb 12 23 13.8
comp=Z,163nm,1.4s
ERM Erimo 32.10 270 IAMs_20 IAMs_20 12 36 04.3
comp=Z,2µm,20.0s
LON Longmire 32.17 79 P **P** **12 23 12.4 +0.7**
LON pmax pmax
comp=Z,121nm,1.8s
LON Longmire 32.17 79 P **P** **12 23 12.3 +0.7**
LON IAmb IAmb 12 23 32.0
comp=Z,121nm,1.8s
F04A Amboy 32.18 81 P **P** **12 23 11.9 +0.1**
C06D Leavenworth 32.19 77 P **P** **12 23 14.1 +2.3**
baz=296
KIP Kipapa 32.21 156 IAMs_20 IAMs_20 12 34 21.4
comp=Z,3µm,19.0s
I02D Swisshome 32.22 85 P **P** **12 23 14.7 +2.7**
baz=301
HON Honolulu 32.31 156 IAMs_20 IAMs_20 12 33 24.2
comp=Z,3µm,20.0s
COR Corvallis 32.31 84 IAMs_20 IAMs_20 12 32 48.1
comp=Z,2µm,21.0s
TIXI Tiksi 32.45 329 *ce*P **P** **12 23 13.8 +0.1**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI MLR MLR
comp=Z,1µm,16.0s
TIXI Tiksi 32.45 329 P **P** **12 23 13.7 0.0**
TIXI PcP **PcP** **12 26 01.2 +1.3**
YAK Yakutsk 32.51 311 *e*P **P** **12 23 12.1 -2.3**
YAK *e**PP **pP** **12 23 20.8 -4.7**
YAK *e* 12 24 16.5
YAK *e* 12 26 00.4
YAK *e*S **S** **12 28 23.1 -3.2**
YAK *e*SS **SnSn** **12 30 28.8 +6.7**
YAK *e* 12 33 40.0
YAK pmax pmax
comp=Z,49nm,1.0s
YAK pmax pmax
comp=E,23nm,1.1s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,42nm,1.5s
YAK pmax pmax
comp=E,42nm,1.3s
YAK pmax pmax
comp=N,33nm,1.6s
YAK smax smax
comp=E,695nm,19.8s
YAK smax smax
comp=N,121nm,17.2s
YAK MLR MLR
comp=Z,2µm,21.0s
YAK MLR MLR
comp=E,1µm,22.0s
YAK MLR MLR
comp=N,1µm,19.0s
YAK Yakutsk 32.51 311 P **P** **12 23 14.5 +0.1**
YAK IAmb IAmb 12 23 40.9
comp=Z,45nm,0.9s
YAK PcP **PcP** **12 26 01.3 +1.2**
LTY Liberty 32.62 78 P **P** **12 23 16.0 +0.3**
LTY IAMs_20 IAMs_20 12 36 43.3
comp=Z,2µm,18.0s
J01E Myrtle Point 32.67 87 P **P** **12 23 18.4 +2.4**
baz=302
H04D Lebanon 32.69 84 P **P** **12 23 18.9 +2.7**
baz=301
I03D Drain, OR 32.74 85 P **P** **12 23 19.3 +2.6**
baz=302
F05D White Salmon 32.79 81 P **P** **12 23 19.1 +2.0**
baz=299
B08A Colville Reser 32.93 75 P **P** **12 23 19.7 +1.4**
H04A Detroit Lake 32.95 83 P **P** **12 23 19.5 +1.0**
H04A IAmb IAmb 12 23 38.8
comp=Z,76nm,1.0s
K02D Willamette Mer 33.08 87 P **P** **12 23 22.6 +2.8**
baz=303,SNR=6.0
KHLH Kahului Airpor 33.13 154 IAMs_20 IAMs_20 12 36 02.7
comp=Z,3µm,19.0s
G05D Wamic, OR 33.20 81 P **P** **12 23 23.2 +2.6**
baz=300,SNR=5.5
I04A Tendick Farm, 33.27 84 P **P** **12 23 23.6 +2.3**
baz=302,SNR=9.8
HLK Haleakala 33.31 154 IAMs_20 IAMs_20 12 34 43.5
comp=Z,2µm,20.0s
G06A Carlson Farm, 33.62 81 P **P** **12 23 26.0 +1.6**
G06A IAmb IAmb 12 23 46.4
comp=Z,121nm,1.8s
I05D Terrebonne, OR 33.64 83 P **P** **12 23 26.9 +2.3**
baz=301,SNR=12
HAWA Hanford 33.72 79 P **P** **12 23 26.1 +0.9**
HAWA IAmb IAmb 12 23 45.2
comp=Z,49nm,0.8s
F07A Phinny Hill Vi 33.72 80 P **P** **12 23 27.5 +2.3**
F07A IAmb IAmb 12 23 45.4
comp=Z,47nm,0.9s
J04D Umpqua Nationa 33.75 85 P **P** **12 23 28.3 +2.6**
baz=303,SNR=7.1
D08A Wollman Farm, 33.77 77 P **P** **12 23 25.8 +0.2**
C09A Chrisman Ranch 33.81 76 IAmb IAmb 12 23 44.0
comp=Z,55nm,1.1s
E08A Dider Farm, El 33.96 78 IAmb IAmb 12 23 46.1
comp=Z,209nm,1.9s
KHMM Horse Mountain 34.07 90 IAmb IAmb 12 23 50.2
comp=Z,65nm,1.1s
HPAH Hawaii Prepara 34.15 153 IAMs_20 IAMs_20 12 35 45.9
comp=Z,2µm,19.0s
PINE Pine Mountain 34.17 83 P **P** **12 23 31.1 +1.7**
PINE IAmb IAmb 12 23 52.2
comp=Z,94nm,1.4s
L04D Klamath Falls 34.19 87 P **P** **12 23 31.8 +2.4**
baz=304,SNR=8.9
YBH Yreka Blue Hor 34.21 88 IAMs_20 IAMs_20 12 33 54.0
comp=Z,2µm,21.0s
J05D Fort Rock, OR 34.26 84 P **P** **12 23 32.9 +2.8**
baz=303,SNR=16
NEW Newport 34.29 74 P **P** **12 23 32.0 +1.9**
baz=297,SNR=21
NEW Newport 34.29 74 P **P** **12 23 31.5 +1.4**
NEW pmax pmax
comp=Z,91nm,1.0s
NEW MLR MLR
comp=Z,1µm,18.0s
NEW Newport 34.29 74 P **P** **12 23 31.5 +1.4**
NEW IAmb IAmb 12 23 48.6
comp=Z,91nm,1.0s
K04D Chiloquin, OR 34.30 86 P **P** **12 23 32.8 +2.4**
baz=303
M02C Callahan 34.31 88 P **P** **12 23 33.5 +3.0**
baz=305,SNR=11
POHA Pohakuloa 34.46 153 IAMs_20 IAMs_20 12 34 55.9
comp=Z,2µm,20.0s
E09A Wood Farm, Sta 34.50 78 IAmb IAmb 12 23 50.5
comp=Z,64nm,1.1s
KHLU Kahalu`u 34.52 154 IAMs_20 IAMs_20 12 34 37.4
comp=Z,2µm,20.0s
TEY Ternei 34.53 279 ⇑ *eP* **P** **12 23 31.7 -0.5**
TEY pmax pmax
comp=Z,30nm,0.9s
TEY pmax pmax
comp=E,20nm,0.9s
TEY pmax pmax
comp=N,10.0nm,0.8s
G08A Pilot Rock 34.61 80 P **P** **12 23 33.5 +0.5**
N02D Trinity Center 34.64 89 P **P** **12 23 36.0 +2.7**
baz=305,SNR=10
MLOA Mauna Loa Obse 34.66 153 IAMs_20 IAMs_20 12 35 01.2
comp=Z,2µm,20.0s
M04C Macdoel 34.72 87 P **P** **12 23 36.7 +2.6**
baz=304,SNR=17
K05A Summer Lake 34.78 85 IAmb IAmb 12 23 59.7
comp=Z,98nm,1.0s
K05A IAMs_20 IAMs_20 12 34 58.9
comp=Z,2µm,20.0s
I07A Izee 34.90 82 IAmb IAmb 12 23 57.9
comp=Z,154nm,1.7s
KHU Kahuku 34.92 153 IAMs_20 IAMs_20 12 35 18.2
comp=Z,2µm,19.0s
WDC Whiskeytown Da 34.97 89 IAmb IAmb 12 24 00.2
comp=Z,56nm,1.1s
O02D Mt. Diablo Mer 35.06 90 P **P** **12 23 39.8 +2.9**
baz=306,SNR=13
JOHN Johnston Islan 35.19 177 IAMs_20 IAMs_20 12 34 42.5
comp=Z,3µm,19.0s
KLR Kul'dur 35.43 289 *ce*P **P** **12 23 38.4 -1.5**
KLR pmax pmax
comp=Z,27nm,1.5s
KLR MLR MLR
comp=Z,2µm,18.0s
HOPS Hopland Field 35.59 92 IAMs_20 IAMs_20 12 34 11.3
comp=Z,2µm,22.0s
O03E Paynes Creek 35.60 89 P **P** **12 23 43.5 +2.0**
baz=306,SNR=28
MOD Modoc Plateau 35.60 86 IAmb IAmb 12 24 02.1
comp=Z,49nm,1.0s
MOD IAMs_20 IAMs_20 12 35 13.6
comp=Z,2µm,20.0s
GDXM Geysers 35.88 92 IAMs_20 IAMs_20 12 34 29.8
comp=Z,2µm,21.0s
J08A Circle Bar Ran 35.92 82 IAmb IAmb 12 24 04.5
comp=Z,61nm,1.0s
ZEA Zeya 36.10 298 *eP* **P** **12 23 44.4 -1.2**
ZEA *e* 12 25 12.0
ZEA *e*S **S** **12 29 21.0 -0.9**
ZEA pmax pmax
comp=Z,78nm,1.2s
ZEA pmax pmax
comp=E,400nm,12.0s
ZEA pmax pmax
comp=Z,500nm,12.0s
ZEA pmax pmax
comp=N,200nm,10.0s
ZEA smax smax
comp=E,600nm,16.0s
ZEA MLR MLR
comp=E,2µm,16.0s
JTMT Jette 36.22 73 P **P** **12 23 46.0 -0.9**
JTMT IAmb IAmb 12 24 06.3
comp=Z,42nm,0.9s
MCCM Marconi Confer 36.23 93 IAMs_20 IAMs_20 12 34 57.2
comp=Z,2µm,20.0s
WVOR Wild Horse Val 36.33 84 P **P** **12 23 50.3 +2.5**
WVOR pmax pmax
comp=Z,127nm,1.0s
WVOR Wild Horse Val 36.33 84 IAmb IAmb 12 24 08.0
comp=Z,83nm,0.9s
H11N2 WAKE ISLAND Hy 36.40 216 T T 13 02 24.4
baz=21,slow=75
H11N3 WAKE ISLAND Hy 36.41 216 T T 13 02 22.9
baz=21,slow=75
H11N1 WAKE ISLAND Hy 36.42 216 T T 13 02 25.2
baz=21,slow=75
MSO Missoula 36.87 75 P **P** **12 23 53.7 +1.4**
baz=300,SNR=18
MSO Missoula 36.87 75 IAmb IAmb 12 24 10.6
comp=Z,107nm,1.3s
RES Resolute Bay 37.25 25 P **P** **12 23 55.0 -0.1**
RES pmax pmax
comp=Z,26nm,0.9s
PAHR Pah Rah Range 37.44 88 P **P** **12 23 59.6 +2.3**
PAHR IAmb IAmb 12 24 17.6
comp=Z,96nm,1.0s
MFID Camas Ranch 37.51 81 P **P** **12 23 58.5 +0.6**
VCNR Virginia City 37.52 89 P **P** **12 23 59.4 +1.3**
VCNR IAmb IAmb 12 24 18.6
comp=Z,98nm,1.0s
H11S1 WAKE ISLAND Hy 37.60 216 T T 13 03 51.1
baz=22,slow=75
H11S2 WAKE ISLAND Hy 37.61 216 T T 13 04 01.4
baz=22,slow=75
H11S3 WAKE ISLAND Hy 37.61 216 T T 13 03 55.7
baz=22,slow=75
PNTR Pine Nut 37.68 89 P **P** **12 24 01.7 +2.2**
PNTR IAmb IAmb 12 24 19.4
comp=Z,104nm,0.9s
USA0B Ussuriysk Arra 37.78 281 *c i*P **P** **12 23 58.7 -1.2**
USA0B Ussuriysk Arra 37.78 281 P **P** **12 23 59.6 -0.3**
USA0B IAMs_20 IAMs_20 12 37 55.3
comp=Z,2µm,22.0s
USRK Ussuriysk Ar. 37.78 281 P **P** **12 23 58.6 -1.3**
comp=Z,4.9nm,0.7s,baz=62,slow=7.8,SNR=11
USRK PcP **PcP** **12 26 17.2 +1.4**
comp=Z,8.1nm,0.7s,baz=70,slow=3.7,SNR=5.8
USRK LR LR 12 38 40.4
comp=Z,1µm,21.9s,baz=50,slow=35
USRK Ussuriysk Ar. 37.78 281 P **P** **12 24 00.7 +0.8**
USRK 12 26 17.5
USRK Ussuriysk Ar. 37.78 281 P **P** **12 24 00.7 +0.8**
USRK PcP **PcP** **12 26 17.5 +1.6**
CMB Columbia Colle 37.84 91 P **P** **12 24 02.1 +1.5**
CMB Columbia Colle 37.84 91 IAMs_20 IAMs_20 12 35 33.9
comp=Z,2µm,22.0s
YERR Yerington 37.97 89 P **P** **12 24 04.3 +2.5**
YERR IAmb IAmb 12 24 22.2
comp=Z,116nm,1.0s
SAO San Andreas Ge 37.98 94 IAMs_20 IAMs_20 12 35 23.6
comp=Z,2µm,21.0s
WAKR Walker 38.14 90 IAmb IAmb 12 24 23.3
comp=Z,74nm,0.9s
HLID Hailey 38.29 79 P **P** **12 24 06.2 +1.7**
baz=303,SNR=42
HLID S **S** **12 29 57.9 +2.1**
baz=303
HLID Hailey 38.29 79 IAmb IAmb 12 24 23.2
comp=Z,137nm,1.9s
VLA Vladivostok 38.43 280 *c i*P **P** **12 24 05.6 +0.2**
VLA pmax pmax
comp=Z,29nm,1.2s
MJAR Matsushiro Arr 38.46 267 P **P** **12 24 06.4 +0.6**
comp=Z,14nm,0.8s,baz=45,slow=7.6,SNR=35
MJAR PcP **PcP** **12 26 18.9 +0.7**
comp=Z,13nm,0.8s,baz=67,slow=1.2,SNR=7.7
MJAR ScP **ScP** **12 30 03.6 +1.0**
comp=Z,0.7nm,0.8s,baz=48,slow=1.8,SNR=5.4
MJAR LR LR 12 38 00.9
comp=Z,1µm,21.6s,baz=70,slow=33
MJAR Matsushiro Arr 38.46 267 P **P** **12 24 05.9 +0.1**
MJAR PcP **PcP** **12 26 19.2 +1.0**
MAJO Matsushiro 38.46 267 *c i*P **P** **12 24 06.7 +0.9**
MAJO pmax pmax
comp=Z,45nm,0.9s
MAJO Matsushiro 38.46 267 P **P** **12 24 06.1 +0.3**
MAJO IAmb IAmb 12 24 08.9
comp=Z,53nm,0.9s
MAJO Matsushiro 38.46 267 IAMs_20 IAMs_20 12 37 39.2
comp=Z,2µm,22.0s
MAT Matsushiro 38.46 267 P **P** **12 24 06.5 +0.7**
MAT S **S** **12 29 59.0 +0.9**
MJB9 Matsu-Tunnel 38.46 267 IAmb IAmb 12 24 08.9
MJB9 comp=Z,52nm,0.9s IAMs_20 IAMs_20 12 37 28.2
comp=Z,2µm,22.0s
MCMT McKenzie Canyo 38.55 77 P **P** **12 24 08.5 +1.8**
MCMT ScP **ScP** **12 30 05.0 +1.9**
RYN Ryan 38.63 89 P **P** **12 24 07.3 -0.1**
RYN IAmb IAmb 12 24 27.5
comp=Z,69nm,0.9s
KVN Kaiserville 38.63 88 P **P** **12 24 07.1 -0.3**
KVN pmax pmax
comp=Z,58nm,1.0s
KVN Kaiserville 38.63 88 P **P** **12 24 07.1 -0.3**
KVN IAmb IAmb 12 24 27.6
comp=Z,58nm,1.0s
PMPB Monarch Peak 38.73 94 P **P** **12 24 07.8 -0.3**
PMPB IAmb IAmb 12 24 41.6
comp=Z,87nm,1.2s
EGMT Eagleton 38.75 71 P **P** **12 24 09.3 +1.2**
baz=300,SNR=80
EGMT Eagleton 38.75 71 P **P** **12 24 09.5 +1.4**
BOZ Bozeman (W) 38.88 75 P **P** **12 24 10.8 +1.4**
baz=302,SNR=34
BOZ Bozeman (W) 38.88 75 P **P** **12 24 10.9 +1.5**
BOZ pmax pmax
comp=Z,150nm,1.6s
BOZ MLR MLR
comp=Z,700nm,19.0s
BOZ Bozeman (W) 38.88 75 P **P** **12 24 10.9 +1.5**
BOZ IAmb IAmb 12 24 27.6
comp=Z,150nm,1.6s
NVAR Mina Array Bea 38.88 89 P **P** **12 24 11.8 +2.2**
comp=Z,22nm,0.9s,baz=293,slow=8.4,SNR=120
NVAR PcP **PcP** **12 26 21.2 +1.4**
comp=Z,7.4nm,0.9s,baz=328,slow=2.8,SNR=3.6
NVAR ScP **S** **12 30 05.8 +0.9**
comp=Z,4.5nm,0.8s,baz=287,slow=3.9,SNR=11
NVAR LR LR 12 36 58.9
comp=Z,970nm,21.9s,baz=303,slow=31
NVAR Mina Array Bea 38.88 89 P **P** **12 24 10.8 +1.3**
NVAR **PcP** **12 26 21.2 +1.4**
NVAR **S** **12 30 05.5 +0.6**
MDPB Devils Postpil 38.90 91 IAmb IAmb 12 24 30.2
comp=Z,89nm,0.9s
MDPB IAMs_20 IAMs_20 12 36 19.9
comp=Z,2µm,21.0s
OMMB Old Mammoth Mi 38.96 90 IAmb IAmb 12 24 30.9
comp=Z,92nm,1.0s
OMMB IAMs_20 IAMs_20 12 36 22.5
comp=Z,2µm,21.0s
NV11 Mina Array Sit 38.97 89 P **P** **12 24 11.0 +0.7**
NV11 **S** **12 30 06.5 +0.3**
MDJ Mudanjiang 39.00 283 P **P** **12 24 09.3 -0.9**
MDJ pP pP 12 24 16.9 -4.6
MDJ sP sP 12 24 20.6 -5.7
MDJ PP **PP** **12 25 39.0 -0.9**
MDJ PcP **PcP** **12 26 18.8 -0.9**
MDJ ScP **S** **12 30 05.8 -0.2**
MDJ S **ScP** **12 30 07.8 +3.3**
MDJ sS sS 12 30 21.0 -2.5
MDJ ScS **ScS** **12 34 16.6 +1.0**
MDJ pmax pmax
comp=Z,13nm,0.8s
MDJ pmax pmax
comp=Z,210nm,8.8s
MDJ LR LR
comp=Z,730nm,19.9s
MDJ LR LR

	comp=Z,2µm,22.1s										
MDJ					LR	LR					
	comp=Z,3µm,22.8s										
MDJ	**Mudanjiang**	**39.00**	**283**		P	**P**	**12**	**24**	**09.6**	**-0.7**
MDJ					IAMs_20	IAMs_20	12	39	12.8		
	comp=Z,2µm,22.0s										
MSHR	**Mys Shultsa**	**39.17**	**280**	*ceP*		**P**	**12**	**24**	**12.0**	**+0.4**
MSHR					pmax	pmax					
	comp=Z,78nm,1.7s										
ELK	**Elko**	**39.38**	**84**		IAMs_20	IAMs_20	12	38	48.3		
	comp=Z,2µm,20.0s										
PAGB	**Antelope Grade**	**39.39**	**94**		P	**P**	**12**	**24**	**14.7**	**+1.1**
PAGB					IAmb	IAmb	12	24	33.3		
	comp=Z,79nm,1.1s										
VOG	**Valley Oaks Go**	**39.54**	**92**		P	**P**	**12**	**24**	**16.7**	**+1.9**
	baz=310										
TIN	**Tinemaha, Big**	**39.79**	**91**		P	**P**	**12**	**24**	**20.0**	**+3.0**
	baz=309,SNR=5.6										
SMMC	**Simmler**	**39.82**	**94**		P	**P**	**12**	**24**	**19.4**	**+2.2**
	baz=311										
FFC	**Flin Flon**	**39.96**	**58**		P	**P**	**12**	**24**	**18.9**	**+0.8**
FFC					pmax	pmax					
	comp=Z,36nm,0.9s										
FFC					MLR	MLR					
	comp=Z,2µm,20.0s										
FFC	**Flin Flon**	**39.96**	**58**		P	**P**	**12**	**24**	**18.9**	**+0.8**
FFC	**Flin Flon**	**39.96**	**58**		IAMs_20	IAMs_20	12	40	46.8		
	comp=Z,2µm,20.0s										
INU	**Inuyama**	**39.97**	**266**		P	**P**	**12**	**24**	**18.4**	**0.0**
VES	**Vestal, Richgr**	**40.04**	**93**		P	**P**	**12**	**24**	**20.2**	**+1.3**
	baz=311,SNR=12										
YPP	**Pitchstone Pla**	**40.08**	**76**		P	**P**	**12**	**24**	**20.3**	**+0.7**
H17A	**Grant Village**	**40.15**	**76**		P	**P**	**12**	**24**	**22.6**	**+2.5**
	baz=303,SNR=17										
H17A	**Grant Village**	**40.15**	**76**		P	**P**	**12**	**24**	**20.8**	**+0.6**
H17A					IAmb	IAmb	12	24	40.8		
	comp=Z,93nm,1.1s										
PKM	**Mcpherson Peak**	**40.21**	**94**		P	**P**	**12**	**24**	**22.5**	**+1.9**
	baz=312										
FLWY	**Flagg Ranch**	**40.25**	**76**		IAmb	IAmb	12	24	40.8		
	comp=Z,102nm,1.4s										
CWC	**Cottonwood Cre**	**40.27**	**91**		P	**P**	**12**	**24**	**23.3**	**+2.2**
	baz=310										
GRAC	**Grapevine Rang**	**40.36**	**90**		P	**P**	**12**	**24**	**24.1**	**+2.5**
	baz=310,SNR=19										
ISA	**Isabella, Lake**	**40.53**	**92**		P	**P**	**12**	**24**	**24.4**	**+1.3**
	baz=311,SNR=22										
ISA	**Isabella, Lake**	**40.53**	**92**		IAmb	IAmb	12	24	42.0		
	comp=Z,66nm,1.0s										
ISA					IAMs_20	IAMs_20	12	37	17.1		
	comp=Z,2µm,21.0s										
RLMT	**Red Lodge**	**40.54**	**74**		P	**P**	**12**	**24**	**25.0**	**+1.8**
	baz=303,SNR=50										
R11A	**Troy Canyon, C**	**40.61**	**87**		P	**P**	**12**	**24**	**25.4**	**+1.5**
	baz=308,SNR=50										
R11A	**Troy Canyon, C**	**40.61**	**87**		P	**P**	**12**	**24**	**25.8**	**+1.9**
R11A					IAMs_20	IAMs_20	12	38	34.3		
	comp=Z,2µm,21.0s										
BGU	**Big Grassy Mou**	**40.63**	**82**		P	**P**	**12**	**24**	**24.6**	**+0.6**
ARVC	**Arvin**	**40.66**	**93**		P	**P**	**12**	**24**	**25.6**	**+1.5**
	baz=311										
AHID	**Auburn Hatcher**	**40.74**	**78**		P	**P**	**12**	**24**	**25.4**	**+0.4**
AHID					IAMs_20	IAMs_20	12	40	27.2		
	comp=Z,1µm,19.0s										
MPMC	**Manual Prospec**	**40.88**	**91**		P	**P**	**12**	**24**	**28.2**	**+2.1**
	baz=310,SNR=28										
FURC	**Furnace Creek,**	**41.01**	**90**		P	**P**	**12**	**24**	**29.1**	**+2.2**
	baz=310,SNR=25										
TPNV	**Topopah Spring**	**41.08**	**89**		P	**P**	**12**	**24**	**29.8**	**+2.1**
	baz=310,SNR=58										
TPNV	**Topopah Spring**	**41.08**	**89**		IAmb	IAmb	12	24	47.7		
	comp=Z,123nm,0.9s										
TPNV					IAMs_20	IAMs_20	12	37	47.7		
	comp=Z,2µm,21.0s										
LRMC	**Laurel Mtn Rad**	**41.14**	**92**		P	**P**	**12**	**24**	**30.0**	**+1.8**
	baz=311,SNR=7.0										
DUG	**Dugway, Tooele**	**41.20**	**83**		P	**P**	**12**	**24**	**30.5**	**+1.9**
	baz=307,SNR=57										
DUG	**Dugway, Tooele**	**41.20**	**83**		P	**P**	**12**	**24**	**30.7**	**+2.0**
DUG					pmax	pmax					
	comp=Z,75nm,1.1s										
BOD	**Bodaibo**	**41.29**	**309**	*eP*		**P**	**12**	**24**	**28.8**	**-0.2**
BOD					pmax	pmax					
	comp=Z,55nm,1.7s										
EDW2	**Edwards Air Fo**	**41.34**	**93**		P	**P**	**12**	**24**	**31.3**	**+1.6**
	baz=311,SNR=9.2										
SNCC	**San Nicolas Is**	**41.48**	**96**		IAMs_20	IAMs_20	12	36	59.0		
	comp=Z,1µm,21.0s										
LAO	**LASA Array**	**41.49**	**71**		P	**P**	**12**	**24**	**32.7**	**+1.8**
	baz=302,SNR=16										
LAO	**LASA Array**	**41.49**	**71**		IAmb	IAmb	12	24	51.7		
	comp=Z,105nm,1.1s										
DECC	**Green Verdugo**	**41.54**	**94**		P	**P**	**12**	**24**	**33.1**	**+1.7**
	baz=312										
CTU	**Camp Tracy**	**41.55**	**81**		P	**P**	**12**	**24**	**32.8**	**+1.1**
PSUT	**Pine Spring**	**41.57**	**85**		P	**P**	**12**	**24**	**33.3**	**+1.5**
BW06	**Boulder Array**	**41.68**	**77**		P	**P**	**12**	**24**	**33.9**	**+1.3**
	baz=305,SNR=74										
BW06	**Boulder Array**	**41.68**	**77**		P	**P**	**12**	**24**	**33.8**	**+1.1**
PD31	**Pinedale Array**	**41.68**	**77**		P	**P**	**12**	**24**	**33.5**	**+0.8**
PDAR	**Pinedale Array**	**41.68**	**77**		P	**P**	**12**	**24**	**33.8**	**+1.1**
	comp=Z,38nm,1.0s,baz=306,slow=5.3,SNR=189										
PDAR					ScP	**ScP**	**12**	**30**	**15.8**	**+0.4**
	comp=Z,3.9nm,1.0s,baz=279,slow=1.7,SNR=6.7										
PDAR					LR	LR	12	41	19.9		
	comp=Z,915nm,19.3s,baz=310,slow=35										
PDAR	**Pinedale Array**	**41.68**	**77**			**ScP**	**12**	**30**	**15.3**	**0.0**
PASC	**Pasadena Art C**	**41.69**	**94**		IAMs_20	IAMs_20	12	40	36.7		
	comp=Z,1µm,18.0s										
DGMT	**Dagmar**	**41.73**	**67**		P	**P**	**12**	**24**	**34.1**	**+1.3**
	baz=301,SNR=6.2										
DGMT	**Dagmar**	**41.73**	**67**		IAMs_20	IAMs_20	12	43	27.0		
	comp=Z,2µm,19.0s										
MWC	**Mount Wilson**	**41.73**	**94**		IAmb	IAmb	12	24	53.1		
	comp=Z,134nm,1.1s										
SHOC	**Shoshone, Teco**	**41.74**	**90**		P	**P**	**12**	**24**	**34.9**	**+1.9**
	baz=310										
JLU	**Jordanelle**	**41.79**	**81**		P	**P**	**12**	**24**	**33.5**	**-0.1**
NLU	**North Lily Min**	**41.80**	**82**		P	**P**	**12**	**24**	**33.0**	**-0.6**
GSC	**Goldstone, Bar**	**41.80**	**91**		P	**P**	**12**	**24**	**35.5**	**+2.0**
	baz=311,SNR=50										
FMP	**Fort Macarthur**	**41.93**	**94**		P	**P**	**12**	**24**	**36.3**	**+1.8**
	baz=312										
CN2	**Changchun**	**41.94**	**285**	*eP*		**P**	**12**	**24**	**34.3**	**-0.2**
CN2				*eS*		**S**	**12**	**30**	**49.9**	**+0.1**
CN2					pmax	pmax					
	comp=Z,20nm,1.0s										
CN2					pmax	pmax					
	comp=Z,200nm,9.0s										
CN2					LR	LR					
	comp=Z,1µm,17.0s										
CN2					LR	LR					
	comp=Z,1µm,17.0s										
CN2					LR	LR					
	comp=Z,1µm,25.0s										
RRX	**Edison Barstow**	**41.96**	**92**		P	**P**	**12**	**24**	**36.5**	**+1.7**
	baz=311										
BFSC	**Mount Baldy Ra**	**41.97**	**93**		P	**P**	**12**	**24**	**36.9**	**+1.8**
	baz=312,SNR=23										
SHPR	**Sheep Range**	**42.04**	**89**		P	**P**	**12**	**24**	**35.2**	**-0.3**
CIS	**Catalina Islan**	**42.06**	**95**		P	**P**	**12**	**24**	**37.2**	**+1.5**
	baz=313										
FCC	**Fort Churchill**	**42.12**	**49**		P	**P**	**12**	**24**	**37.3**	**+1.5**
FCC					pmax	pmax					
	comp=Z,147nm,0.8s										
FCC	**Fort Churchill**	**42.12**	**49**		P	**P**	**12**	**24**	**37.3**	**+1.5**
FCC					IAmb	IAmb	12	24	38.1		
	comp=Z,147nm,0.8s										
TUQ	**Turquoise Moun**	**42.26**	**91**		P	**P**	**12**	**24**	**39.0**	**+1.7**
	baz=311,SNR=17										
SCI2	**San Clemente I**	**42.27**	**95**		P	**P**	**12**	**24**	**39.2**	**+1.9**
	baz=313										
HIA	**Hailar**	**42.31**	**295**		IAmb	IAmb	12	24	38.6		
	comp=Z,88nm,0.8s										
HIA	**Hailar**	**42.31**	**295**		IAMs_20	IAMs_20	12	43	05.0		
	comp=Z,2µm,19.0s										
HEC	**Hector,Ludlow**	**42.40**	**92**		P	**P**	**12**	**24**	**40.3**	**+1.9**
	baz=311,SNR=32										
BBRC	**Big Bear Solar**	**42.41**	**93**		P	**P**	**12**	**24**	**40.8**	**+2.1**
	baz=312,SNR=7.2										
SZCU	**Shurtz Canyon**	**42.63**	**86**		P	**P**	**12**	**24**	**40.4**	**0.0**
MURC	**Murrieta**	**42.68**	**94**		P	**P**	**12**	**24**	**42.2**	**+1.5**
	baz=312,SNR=7.7										
TMUT	**Trail Mountain**	**42.73**	**83**		P	**P**	**12**	**24**	**40.2**	**-1.1**
GMRC	**Granite Mounta**	**42.84**	**91**		P	**P**	**12**	**24**	**43.7**	**+1.6**
	baz=311,SNR=37										
MTPU	**Mount Pierson**	**42.90**	**85**		P	**P**	**12**	**24**	**44.4**	**+1.6**
TULEG	**Thule**	**42.91**	**20**		IAmb	IAmb	12	24	43.6		
	comp=Z,166nm,1.6s										
TULEG					IAMs_20	IAMs_20	12	45	05.0		
	comp=Z,1µm,20.0s										
PFO	**Pinyon Flats O**	**43.13**	**93**		P	**P**	**12**	**24**	**46.2**	**+1.7**
	baz=312,SNR=18										
PFO	**Pinyon Flats O**	**43.13**	**93**	*c i*	P	**P**	**12**	**24**	**45.8**	**+1.4**
PFO					pmax	pmax					
	comp=Z,33nm,1.0s										
PFO	**Pinyon Flats O**	**43.13**	**93**		P	**P**	**12**	**24**	**45.6**	**+1.2**
PFO	**Pinyon Flats O**	**43.13**	**93**		IAMs_20	IAMs_20	12	38	12.0		
	comp=Z,1µm,22.0s										
XPFO	**Pion Flat**	**43.13**	**93**		P	**P**	**12**	**24**	**45.6**	**+1.2**
XPFO	**Pion Flat**	**43.13**	**93**		IAMs_20	IAMs_20	12	38	22.0		
	comp=Z,1µm,21.0s										
BELC	**Belle Mtn. Jos**	**43.16**	**92**		P	**P**	**12**	**24**	**46.0**	**+1.4**
	baz=312,SNR=22										
KNB	**Kanab**	**43.16**	**86**		P	**P**	**12**	**24**	**46.7**	**+2.0**
KNB					pmax	pmax					
	comp=Z,68nm,1.2s										
KNB	**Kanab**	**43.16**	**86**		P	**P**	**12**	**24**	**46.6**	**+2.0**
PKCU	**Pink Cliffs**	**43.20**	**86**		P	**P**	**12**	**24**	**45.1**	**-0.1**
109C	**Camp Elliot, M**	**43.22**	**94**		P	**P**	**12**	**24**	**46.7**	**+1.7**
	baz=313										
109C	**Camp Elliot, M**	**43.22**	**94**		IAmb	IAmb	12	25	05.0		
	comp=Z,77nm,0.9s										
SRU	**San Rafael Swe**	**43.26**	**82**		P	**P**	**12**	**24**	**47.4**	**+1.9**
SRU					pmax	pmax					
	comp=Z,59nm,0.8s										
SRU	**San Rafael Swe**	**43.26**	**82**		P	**P**	**12**	**24**	**47.4**	**+1.9**
NEE2	**Needles Airpor**	**43.50**	**90**		P	**P**	**12**	**24**	**49.0**	**+1.8**
	baz=311										
K22A	**Casper**	**43.57**	**76**		P	**P**	**12**	**24**	**48.8**	**+0.9**
	baz=306,SNR=7.3										
K22A	**Casper**	**43.57**	**76**		IAmb	IAmb	12	25	05.7		
	comp=Z,122nm,1.5s										
IRM	**Iron Mountain**	**43.58**	**91**		P	**P**	**12**	**24**	**49.5**	**+1.6**
	baz=312,SNR=29										
BAR	**Barrett**	**43.63**	**94**		IAmb	IAmb	12	25	08.2		
	comp=Z,70nm,1.0s										
MONP2	**Monument Peak**	**43.64**	**94**		P	**P**	**12**	**24**	**50.5**	**+1.9**
	baz=313,SNR=18										
BC3	**Big Chuckawall**	**43.72**	**92**		P	**P**	**12**	**24**	**50.3**	**+1.1**
	baz=312,SNR=14										
W13A	**Hualapai Mount**	**43.74**	**89**		IAmb	IAmb	12	25	08.6		
	comp=Z,70nm,0.9s										
U15A	**North Rim**	**43.86**	**87**		IAmb	IAmb	12	25	20.0		
	comp=Z,89nm,1.0s										
U15A					IAMs_20	IAMs_20	12	40	19.2		
	comp=Z,2µm,20.0s										
SWSC	**Sam W. Stewart**	**43.99**	**93**		P	**P**	**12**	**24**	**52.6**	**+1.5**
	baz=313,SNR=9.4										
IKP	**In-Ko-Pah, Jac**	**43.99**	**94**		P	**P**	**12**	**24**	**53.2**	**+1.8**
	baz=313,SNR=17										
O20A	**White River Ci**	**44.03**	**80**		P	**P**	**12**	**24**	**52.6**	**+0.9**
	baz=308,SNR=71										
O20A	**White River Ci**	**44.03**	**80**		IAmb	IAmb	12	25	35.9		
	comp=Z,87nm,0.9s										
PDMCI	**Parker Dam, Lak**	**44.10**	**90**		P	**P**	**12**	**24**	**53.6**	**+1.6**
	baz=312,SNR=16										
RSSD	**Black Hills**	**44.20**	**72**		P	**P**	**12**	**24**	**53.7**	**+0.7**
	baz=305										
RSSD	**Black Hills**	**44.20**	**72**		P	**P**	**12**	**24**	**53.3**	**+0.3**
RSSD					pmax	pmax					
	comp=Z,45nm,0.8s										
RSSD	**Black Hills**	**44.20**	**72**		P	**P**	**12**	**24**	**53.3**	**+0.3**
SNY	**Shenyang**	**44.20**	**284**	⇑	P	**P**	**12**	**24**	**53.4**	**+0.7**
SNY					PP	**PcP**	**12**	**26**	**37.5**	**+0.7**
SNY					S	**S**	**12**	**31**	**26.1**	**+3.1**
SNY					pmax	pmax					
	comp=Z,50nm,1.1s										
SNY					pmax	pmax					
	comp=Z,450nm,2.6s										
SNY					LR	LR					
	comp=Z,1µm,20.6s										
SNY					LR	LR					
	comp=Z,660nm,26.5s										
SNY					LR	LR					
	comp=Z,2µm,21.8s										
KSRS	**Korea Array**	**44.23**	**276**		P	**P**	**12**	**24**	**54.1**	**+1.1**
	comp=Z,38nm,0.9s,baz=56,slow=7.7,SNR=114										
KSRS					PcP	**PcP**	**12**	**26**	**37.9**	**+0.9**
	comp=Z,6.3nm,0.8s,baz=71,slow=3.7,SNR=2.6										
KSRS					LR	LR	12	41	23.0		
	comp=Z,744nm,21.8s,baz=54,slow=33										
KS19	**Wonju Array Si**	**44.24**	**276**		P	**P**	**12**	**24**	**54.4**	**+1.3**
PV09	**Paradox Valley**	**44.49**	**82**		P	**P**	**12**	**24**	**57.0**	**+1.5**
GLA	**Glamis**	**44.52**	**92**		P	**P**	**12**	**24**	**57.2**	**+1.7**
	baz=313										
PV10	**Paradox Valley**	**44.63**	**82**		IAmb	IAmb	12	25	16.1		
	comp=Z,81nm,0.9s										
PV14	**Lion Creek, Pa**	**44.64**	**82**		IAMs_20	IAMs_20	12	41	11.9		
	comp=Z,2µm,21.0s										
MDND	**Maddock**	**44.66**	**66**		P	**P**	**12**	**24**	**58.0**	**+1.5**
	baz=303,SNR=17										
MDND	**Maddock**	**44.66**	**66**		IAMs_20	IAMs_20	12	42	04.7		
	comp=Z,2µm,20.0s										
PV22	**Blue Mesa, Par**	**44.68**	**82**		IAMs_20	IAMs_20	12	40	55.7		
	comp=Z,1µm,20.0s										
PV20	**West Nyswonger**	**44.69**	**82**		IAmb	IAmb	12	25	30.5		
	comp=Z,45nm,0.8s										
PV04	**Paradox Valley**	**44.70**	**82**		IAmb	IAmb	12	25	16.2		
	comp=Z,73nm,1.0s										
PV04					IAMs_20	IAMs_20	12	44	00.6		
	comp=Z,1µm,19.0s										
PV17	**East Wray Mesa**	**44.74**	**82**		IAmb	IAmb	12	25	23.1		
	comp=Z,69nm,0.9s										
PV17					IAMs_20	IAMs_20	12	42	19.5		
	comp=Z,2µm,19.0s										
E28A	**Huff**	**44.75**	**68**		IAMs_20	IAMs_20	12	41	33.0		
	comp=Z,1µm,22.0s										
PV05	**Paradox Valley**	**44.78**	**83**		IAmb	IAmb	12	25	18.4		
	comp=Z,68nm,1.0s										
PV11	**David Mesa, Pa**	**44.78**	**82**		P	**P**	**12**	**24**	**58.5**	**+0.8**
PV11					IAmb	IAmb	12	25	22.1		
	comp=Z,108nm,0.7s										
PV12	**Saucer Basin,**	**44.81**	**82**		IAmb	IAmb	12	25	17.2		
	comp=Z,96nm,0.9s										
PV03	**Paradox Valley**	**44.82**	**82**		IAmb	IAmb	12	25	17.1		
	comp=Z,66nm,0.9s										
PV07	**Paradox Valley**	**44.83**	**82**		IAMs_20	IAMs_20	12	42	38.9		
	comp=Z,1µm,21.0s										
PV13	**Radium Mtn., P**	**44.90**	**82**		IAmb	IAmb	12	25	22.6		
	comp=Z,125nm,1.0s										
PV02	**Paradox Valley**	**44.92**	**82**		IAmb	IAmb	12	25	14.5		
	comp=Z,74nm,0.8s										
N23A	**Red Feather La**	**44.96**	**77**		P	**P**	**12**	**25**	**00.4**	**+1.2**
	baz=307,SNR=17										
PV15	**Paradox Valley**	**44.99**	**82**		IAmb	IAmb	12	25	23.9		
	comp=Z,48nm,0.8s										
PV15					IAMs_20	IAMs_20	12	41	42.7		
	comp=Z,1µm,21.0s										
PHWY	**Pilot Hill**	**45.01**	**77**		P	**P**	**12**	**24**	**59.1**	**-0.5**
WUAZ	**Wupatki**	**45.02**	**87**		P	**P**	**12**	**25**	**01.4**	**+1.9**
	baz=311,SNR=28										
WUAZ	**Wupatki**	**45.02**	**87**		IAmb	IAmb	12	25	23.7		
	comp=Z,92nm,1.1s										
WUAZ					IAMs_20	IAMs_20	12	40	33.8		
	comp=Z,2µm,21.0s										
Y14A	**Wickenburg**	**45.05**	**90**		P	**P**	**12**	**24**	**59.8**	**+0.1**
Y14A					IAmb	IAmb	12	25	19.3		
	comp=Z,74nm,1.0s										
PV01	**Paradox Valley**	**45.07**	**82**		P	**P**	**12**	**25**	**00.2**	**+0.2**
PV01					IAmb	IAmb	12	25	19.1		
	comp=Z,78nm,0.9s										
JNU	**Nakatsue**	**45.24**	**269**		P	**P**	**12**	**25**	**02.2**	**+1.0**
JNU					IAmb	IAmb	12	25	26.9		
	comp=Z,60nm,1.0s										
TJN	**Taejon**	**45.27**	**275**	*ce*	P	**P**	**12**	**25**	**02.3**	**+1.0**
113A	**Mohawk Valley,**	**45.36**	**92**		IAmb	IAmb	12	25	21.6		
	comp=Z,57nm,1.2s										
113A					IAMs_20	IAMs_20	12	43	07.0		
	comp=Z,1µm,18.0s										
ULM	**Lac du Bonnet**	**45.41**	**61**		P	**P**	**12**	**25**	**02.6**	**+0.3**
	comp=Z,43nm,1.0s,baz=302,slow=8.8,SNR=29										
ULM					LR	LR	12	46	40.1		
	comp=Z,1µm,18.1s,baz=315,slow=40										
ULM	**Lac du Bonnet**	**45.41**	**61**	*c i*	P	**P**	**12**	**25**	**02.8**	**+0.5**
ULM	**Lac du Bonnet**	**45.41**	**61**		IAmb	IAmb	12	25	04.4		
	comp=Z,88nm,1.1s										
ULM					IAMs_20	IAMs_20	12	46	37.5		
	comp=Z,1µm,18.0s										
MVCO	**Mesa Verde**	**45.70**	**83**		P	**P**	**12**	**25**	**06.0**	**+1.0**
	baz=310,SNR=16										
MVCO	**Mesa Verde**	**45.70**	**83**		IAMs_20	IAMs_20	12	41	01.9		
	comp=Z,1µm,22.0s										
ISCO	**Idaho Springs**	**45.83**	**78**		P	**P**	**12**	**25**	**07.7**	**+1.5**
	baz=308,SNR=13										
ISCO	**Idaho Springs**	**45.83**	**78**		P	**P**	**12**	**25**	**07.7**	**+1.5**
ISCO					pmax	pmax					
	comp=Z,35nm,1.2s										
ISCO	**Idaho Springs**	**45.83**	**78**		IAMs_20	IAMs_20	12	43	17.5		
	comp=Z,1µm,20.0s										
NOR	**Nord**	**45.97**	**5**	⇑ *i*	P	**P**	**12**	**25**	**06.4**	**+0.1**
	comp=Z,15nm,0.9s										
NOR	**Nord**	**45.97**	**5**	⇑ *i*	P	**P**	**12**	**25**	**06.4**	**+0.1**
NOR					pmax	pmax					
	comp=Z,15nm,0.9s										
NRIK	**Noril'sk**	**46.18**	**331**		P	**P**	**12**	**25**	**07.5**	**-0.6**
	comp=Z,7.3nm,0.6s,baz=84,slow=9.1,SNR=8.3										
NRIK					PcP	**PcP**	**12**	**26**	**44.0**	**+0.8**
	comp=Z,9.7nm,0.8s,baz=64,slow=4.2,SNR=3.7										
NRIK					LR	LR	12	47	51.7		
	comp=Z,744nm,18.5s,baz=86,slow=40										
NRIK	**Noril'sk**	**46.18**	**331**	⇑ *eP*							
NRIK					pmax	pmax					
	comp=Z,10.0nm,1.0s										
W18A	**Petrified Fore**	**46.29**	**86**		P	**P**	**12**	**25**	**11.3**	**+1.6**
	baz=311,SNR=5.3										
W18A	**Petrified Fore**	**46.29**	**86**		IAmb	IAmb	12	25	36.7		
	comp=Z,87nm,1.1s										
W18A					IAMs_20	IAMs_20	12	41	48.5		
	comp=Z,2µm,21.0s										
S22A	**4UR Ranch, Cre**	**46.38**	**81**		P	**P**	**12**	**25**	**12.1**	**+1.7**
	baz=310,SNR=37										
S22A	**4UR Ranch, Cre**	**46.38**	**81**		P	**P**	**12**	**25**	**10.4**	**0.0**
S22A					IAmb	IAmb	12	25	32.6		
	comp=Z,123nm,1.6s										
AGMN	**Agassiz Nation**	**46.50**	**63**		P	**P**	**12**	**25**	**11.4**	**+0.5**
	baz=304,SNR=55										
AGMN	**Agassiz Nation**	**46.50**	**63**		IAMs_20	IAMs_20	12	46	15.2		
	comp=Z,1µm,18.0s										
214A	**Organ Pipe Nat**	**46.51**	**92**		P	**P**	**12**	**25**	**12.7**	**+1.5**
	baz=313,SNR=22										
214A	**Organ Pipe Nat**	**46.51**	**92**		P	**P**	**12**	**25**	**10.5**	**-0.7**
214A					IAmb	IAmb	12	25	31.4		
	comp=Z,74nm,1.1s										
D32A	**Dogwood Acres,**	**46.52**	**65**		IAMs_20	IAMs_20	12	47	03.7		
	comp=Z,2µm,18.0s										
X18A	**Snowflake**	**46.54**	**87**		P	**P**	**12**	**25**	**11.7**	**0.0**
X18A					IAmb	IAmb	12	25	36.0		
	comp=Z,73nm,1.4s										
X18A					IAMs_20	IAMs_20	12	41	30.4		
	comp=Z,2µm,21.0s										
Q24A	**Divide**	**46.63**	**79**		P	**P**	**12**	**25**	**13.9**	**+1.4**
	baz=309,SNR=5.9										
SUSD	**Miller**	**46.98**	**69**		P	**P**	**12**	**25**	**15.4**	**+0.7**
	baz=306,SNR=12										
SUSD	**Miller**	**46.98**	**69**		IAMs_20	IAMs_20	12	43	01.0		
	comp=Z,1µm,21.0s										
DL2	**Dalian**	**47.16**	**282**		P	**P**	**12**	**25**	**16.4**	**+0.2**
DL2					PP	**PP**	**12**	**27**	**05.0**	**-2.2**
DL2					S	**S**	**12**	**32**	**07.8**	**+2.1**
DL2					pmax	pmax					
	comp=Z,58nm,0.9s										
D

BJI LR LR
comp=Z,900nm,27.7s
BJT Baijiatuau 49.74 286 IAmb IAmb 12 25 37.3
comp=Z,27nm,0.8s
BJT Baijiatuau 49.74 286 IAMs_20 IAMs_20 12 49 10.2
comp=Z,969nm,18.0s
E38A The Farm, Brul 49.86 63 P **P** **12 25 36.1 -0.7**
E38A IAMs_20 IAMs_20 12 45 23.9
comp=Z,1μm,20.0s
L34A Svendsen Farm, 49.98 70 IAMs_20 IAMs_20 12 49 25.2
comp=Z,880nm,19.0s
CBKS Cedar Bluff 49.99 75 P **P** **12 25 39.1 +1.1**
baz=310,SNR=9.5
CBKS Cedar Bluff 49.99 75 P **P** **12 25 38.5 +0.5**
CBKS pmax pmax
comp=Z,199nm,1.2s
CBKS Cedar Bluff 49.99 75 P **P** **12 25 38.5 +0.5**
FRB Frobisher Bay 50.00 34 P **P** **12 25 38.0 +0.4**
FRB pmax pmax
comp=Z,64nm,1.0s
SPMN Marine on St. 50.01 65 P **P** **12 25 38.1 +0.2**
baz=308,SNR=8.6
SPMN Marine on St. 50.01 65 P **P** **12 25 38.5 +0.6**
SPMN IAmb IAmb 12 25 56.0
comp=Z,32nm,0.8s
SPMN IAMs_20 IAMs_20 12 45 19.8
comp=Z,1μm,20.0s
SPA0 Spitsbergen Ar 50.02 358 P **P** **12 25 37.9 +0.2**
SPA0 IAmb IAmb 12 26 06.9
comp=Z,40nm,0.9s
SPA0 Spitsbergen Ar 50.02 358 *e*P **P** **12 25 37.5 -0.2**
SPITS Spitsbergen Ar 50.02 358 P **P** **12 25 37.7 0.0**
SPITS pmax pmax
comp=Z,8.0nm,0.5s
ULN Ulaanbaatar 50.07 300 *ce*P **P** **12 25 38.7 0.0**
ULN pmax pmax
comp=Z,41nm,1.0s
ULN Ulaanbaatar 50.07 300 P **P** **12 25 38.8 +0.2**
ULN IAmb IAmb 12 25 40.2
comp=Z,29nm,0.7s
SRIG Santa Rosalia 50.12 96 IAmb IAmb 12 25 57.7
comp=Z,60nm,0.9s
SRIG IAMs_20 IAMs_20 12 41 38.5
comp=Z,1μm,22.0s
DAG Danmarks Havn 50.35 8⇑ *i*P **P** **12 25 39.7 -0.4**
comp=Z,23nm,0.8s
DAG Danmarks Havn 50.35 8⇑ *i*P **P** **12 25 39.7 -0.4**
DAG pmax pmax
comp=Z,23nm,0.8s
I37A Lemond, Waseca 50.41 66 IAMs_20 IAMs_20 12 46 01.7
comp=Z,1μm,20.0s
SONM Songino Array 50.45 300 P **P** **12 25 42.1 +0.6**
comp=Z,17nm,0.7s,baz=53,slow=6.9,SNR=91
SONM PcP **PcP** **12 26 59.8 +0.6**
comp=Z,16nm,0.9s,baz=103,slow=1.4,SNR=4.6
SONM ScP **ScP** **12 30 52.8 +1.2**
comp=Z,2.6nm,1.0s,baz=28,slow=6.5,SNR=4.2
SONM LR LR 12 49 19.8
comp=Z,2μm,18.1s,baz=53,slow=39
SONM Songino Array 50.45 300 P **P** **12 25 41.4 0.0**
ZAK Zakamensk 50.54 304 *e*P **P** **12 25 42.6 +0.6**
ZAK pmax pmax
comp=Z,34nm,1.4s
R32A Long Quarter, 50.86 75 P **P** **12 25 45.0 +0.5**
MOY Mondy 50.91 307 *e*P **P** **12 25 46.2 +1.3**
MOY pmax pmax
comp=Z,90nm,2.8s
D41A Chassel 51.20 60 P **P** **12 25 47.9 +1.0**
D41A IAmb IAmb 12 25 49.2
comp=Z,79nm,1.1s
D41A IAMs_20 IAMs_20 12 49 09.7
comp=Z,1μm,18.0s
MNTX Cornudas Mount 51.27 86 P **P** **12 25 49.2 +1.5**
baz=314,SNR=52
MNTX Cornudas Mount 51.27 86 IAmb IAmb 12 26 07.5
comp=Z,52nm,0.9s
MSTX Muleshoe 51.34 82 P **P** **12 25 49.1 +0.8**
baz=313,SNR=11
MSTX Muleshoe 51.34 82 IAmb IAmb 12 26 12.8
comp=Z,91nm,1.1s
AMTX Amarillo 51.39 81 P **P** **12 25 49.6 +1.0**
baz=312
AMTX Amarillo 51.39 81 P **P** **12 25 49.2 +0.5**
AMTX IAmb IAmb 12 26 09.6
comp=Z,156nm,1.8s
G40A Rib Lake 51.42 63 P **P** **12 25 48.8 +0.1**
G40A IAmb IAmb 12 25 50.3
comp=Z,57nm,1.1s
G40A IAMs_20 IAMs_20 12 46 23.5
comp=Z,1μm,20.0s
ILULI Ilulissat 51.48 23 *i*P **P** **12 25 49.3 +0.6**
ILULI Ilulissat 51.48 23 *e*P **P** **12 25 49.3 +0.6**
ILULI Ilulissat 51.48 23 IAMs_20 IAMs_20 12 50 07.5
comp=Z,1μm,20.0s
COWI Conover 51.49 62 P **P** **12 25 49.4 +0.2**
COWI IAmb IAmb 12 25 50.6
comp=Z,43nm,1.0s
COWI IAMs_20 IAMs_20 12 50 52.3
comp=Z,954nm,18.0s
SUMG Summit 51.51 16⇑ *i*P **P** **12 25 49.9 +0.5**
comp=Z,182nm,0.9s
SUMG Summit 51.51 16⇑ *i*P **P** **12 25 49.9 +0.5**
SUMG pmax pmax
comp=Z,180nm,0.9s
SUMG Summit 51.51 16 P **P** **12 25 50.0 +0.5**
SUMG IAmb IAmb 12 26 09.7
comp=Z,88nm,1.0s
K38A Parkersburg 51.63 67 IAMs_20 IAMs_20 12 46 07.0
comp=Z,1μm,21.0s
TIA Tai'an 51.63 282 P **P** **12 25 50.9 +0.6**
TIA S **S** **12 33 11.8 +3.4**
TIA LR LR
comp=Z,680nm,20.6s
TIA LR LR
comp=Z,830nm,23.0s
KSU1 Kansas State U 51.67 73 P **P** **12 25 50.8 +0.2**
baz=311,SNR=10
KSU1 Kansas State U 51.67 73 IAmb IAmb 12 26 10.6
comp=Z,59nm,0.8s
SCIA State Center 51.84 68 P **P** **12 25 52.5 +0.7**
baz=310,SNR=5.6
SCIA State Center 51.84 68 IAMs_20 IAMs_20 12 46 13.5
comp=Z,1μm,21.0s
GUMO Guam 51.85 239 P **P** **12 25 50.9 -1.2**
GUMO pmax pmax
comp=Z,136nm,0.8s
GUMO Guam 51.85 239 P **P** **12 25 50.9 -1.2**
U32A Winter Ranch, 52.02 77 IAmb IAmb 12 26 11.1
comp=Z,81nm,1.0s
KRAR Krasnoyarsk 52.03 315 *i*P **P** **12 25 52.6 -0.4**
I40A Norwalk 52.06 65 IAmb IAmb 12 26 12.4
comp=Z,50nm,0.9s
I40A IAMs_20 IAMs_20 12 46 44.3
comp=Z,1μm,20.0s
TARA Tarawa 52.15 200 IAMs_20 IAMs_20 12 43 09.7
comp=Z,1μm,21.0s
E43A Lone Tree Farm 52.48 60 IAmb IAmb 12 25 58.3
comp=Z,80nm,1.1s
E43A IAMs_20 IAMs_20 12 50 06.3
comp=Z,1μm,18.0s
N38A Joes South For 52.55 69 P **P** **12 25 57.6 +0.5**
N38A IAMs_20 IAMs_20 12 48 04.3
comp=Z,909nm,20.0s
SSE Sheshan 52.61 274 P **P** **12 25 57.8 +0.2**
SSE S **S** **12 33 23.8 +1.9**
SSE pmax pmax
comp=Z,38nm,1.2s
SSE LR LR
comp=Z,260nm,23.5s
SSE LR LR
comp=Z,220nm,18.3s
L40A Anamosa 52.88 67 IAmb IAmb 12 26 19.0
comp=Z,62nm,0.8s
L40A IAMs_20 IAMs_20 12 47 07.2
comp=Z,1μm,21.0s
JFWS Jewell Farm 52.89 66 P **P** **12 25 59.0 -0.6**
baz=310,SNR=12
JFWS Jewell Farm 52.89 66 IAmb IAmb 12 26 24.0
comp=Z,48nm,0.8s
BTO Baotou 52.97 291 *e*P **P** **12 26 00.4 +0.1**
BTO S **S** **12 33 26.6 -0.1**
I42A Draeger Farm, 53.01 64 IAmb IAmb 12 26 01.9
comp=Z,86nm,1.2s
I42A IAMs_20 IAMs_20 12 47 22.4
comp=Z,1μm,20.0s
T35A Sooner Cattle 53.16 75 P **P** **12 26 01.2 -0.4**
T35A IAmb IAmb 12 26 18.8
comp=Z,71nm,1.1s
SFJD Kangerlussuaq 53.25 25⇑ *i*P **P** **12 26 02.3 +0.5**
comp=Z,3.1nm,0.9s
SFJD Kangerlussuaq 53.25 25⇑ *i*P **P** **12 26 02.3 +0.5**
SFJD pmax pmax
comp=Z,3.0nm,0.9s
SFJD Kangerlussuaq 53.25 25 P **P** **12 26 02.2 +0.3**
SFJD IAmb IAmb 12 26 03.5
comp=Z,54nm,1.1s
WMOK Wichita Mounta 53.25 79 P **P** **12 26 03.2 +0.8**
baz=313,SNR=35
WMOK Wichita Mounta 53.25 79 P **P** **12 26 03.4 +1.0**
WMOK pmax pmax
comp=Z,59nm,1.3s
WMOK Wichita Mounta 53.25 79 IAmb IAmb 12 26 23.2
comp=Z,57nm,1.1s
WMOK Wichita Mounta 53.25 79 IAMs_20 IAMs_20 12 46 39.0
comp=Z,1μm,21.0s
H43A Windswept, Lux 53.27 63 P **P** **12 26 02.7 +0.4**
H43A IAmb IAmb 12 26 03.9
comp=Z,91nm,1.1s
H43A IAMs_20 IAMs_20 12 51 50.3
comp=Z,782nm,19.0s
NJ2 Nanjing 53.39 277 *e*P **P** **12 26 03.8 +0.5**
NJ2 S **S** **12 33 35.3 +2.9**
NJ2 pmax pmax
comp=Z,64nm,0.7s
NJ2 pmax pmax
comp=Z,450nm,4.7s
NJ2 LR LR
comp=Z,630nm,22.0s
NJ2 LR LR
comp=Z,820nm,22.7s
NJ2 LR LR
comp=Z,1μm,21.6s
TIY Taiyuan 53.45 287 *e*P **P** **12 26 05.8 +1.9**
F45A CMU Biological 53.71 60 P **P** **12 26 06.0 +0.4**
baz=310
D46A Sault St. Mari 53.72 58 P **P** **12 26 06.2 +0.5**
baz=310,SNR=20
L42A Oliver, Polo 53.80 66 P **P** **12 26 05.4 -0.9**
L42A IAmb IAmb 12 26 24.6
comp=Z,57nm,0.9s
E46A Sault Ste Mari 53.92 59 P **P** **12 26 07.2 +0.1**
E46A IAmb IAmb 12 26 09.0
comp=Z,92nm,1.1s
E46A IAMs_20 IAMs_20 12 48 53.7
comp=Z,2μm,20.0s
X34A Smith Ranch, M 53.92 78 P **P** **12 26 08.7 +1.5**
X34A IAMs_20 IAMs_20 12 46 59.7
comp=Z,1μm,20.0s
N41A Harden Midland 53.98 68 P **P** **12 26 07.5 0.0**
N41A IAMs_20 IAMs_20 12 47 30.1
comp=Z,2μm,21.0s
TX31 Lajitas Ar. Si 53.98 87 P **P** **12 26 09.1 +1.2**
TX32 Lajitas Array 53.98 87 P **P** **12 26 09.1 +1.3**
TX32 IAmb IAmb 12 26 23.6
comp=Z,67nm,1.1s
TXAR Lajitas Array 53.98 87 P **P** **12 26 08.9 +1.0**
comp=Z,18nm,0.9s,baz=299,slow=5.6,SNR=112
TXAR PcP **PcP** **12 27 14.0 +1.3**
comp=Z,12nm,0.9s,baz=347,slow=3.7,SNR=1.2
TXAR ScP **ScP** **12 31 08.5 +1.4**
comp=Z,2.0nm,0.8s,baz=270,slow=1.8,SNR=3.9
TXAR LR LR 12 46 43.7
comp=Z,692nm,20.8s,baz=0.0,slow=33
TXAR PKP2bc 12 56 42.9
comp=Z,0.2nm,0.4s,baz=45,slow=3.7,SNR=3.6
TXAR Lajitas Array 53.98 87 P **P** **12 26 08.6 +0.7**
G45A Suttons Bay 54.05 61 P **P** **12 26 08.4 +0.3**
baz=310
G45A Suttons Bay 54.05 61 IAMs_20 IAMs_20 12 50 48.0
comp=Z,1μm,18.0s
K43A Burlington 54.10 65 IAmb IAmb 12 26 32.2
comp=Z,72nm,0.9s
K43A IAMs_20 IAMs_20 12 48 07.3
comp=Z,1μm,20.0s
D47A Chapleau 54.10 58 P **P** **12 26 08.8 +0.4**
baz=310,SNR=26
H45A Beulah 54.11 61 P **P** **12 26 08.9 +0.4**
baz=310
ABTX Abilene, Hawle 54.17 81 P **P** **12 26 09.7 +0.6**
baz=314,SNR=8.8
ABTX Abilene, Hawle 54.17 81 P **P** **12 26 09.8 +0.7**
ABTX IAmb IAmb 12 26 28.2
comp=Z,51nm,1.0s
ABTX IAMs_20 IAMs_20 12 47 31.3
comp=Z,988nm,20.0s
SLBS Sierra La Lagu 54.18 97 P **P** **12 26 10.1 +0.7**
SLBS IAmb IAmb 12 26 28.4
comp=Z,66nm,0.9s
SLBS Sierra La Lagu 54.18 97 IAMs_20 IAMs_20 12 42 57.1
comp=Z,884nm,22.0s
TUL1 Leonard 54.26 76 P **P** **12 26 10.2 +0.5**
baz=312,SNR=5.1
TUL1 Leonard 54.26 76 P **P** **12 26 10.1 +0.4**
TUL1 IAmb IAmb 12 26 27.1
comp=Z,82nm,1.1s
G46A Petoskey 54.30 60 P **P** **12 26 10.5 +0.7**
baz=311,SNR=7.2
I45A Fountain 54.39 62 P **P** **12 26 10.5 0.0**
baz=311
I45A Fountain 54.39 62 IAMs_20 IAMs_20 12 52 39.0
comp=Z,1μm,19.0s
E47A Iron Bridge 54.40 58 P **P** **12 26 11.0 +0.4**
baz=311,SNR=20
S39A Bolivar 54.54 72 IAmb IAmb 12 26 27.4
comp=Z,41nm,1.0s
KNTN Kanton 54.55 180 IAMs_20 IAMs_20 12 45 02.6
comp=Z,1μm,21.0s
H46A Fife Lake 54.62 61 P **P** **12 26 12.2 0.0**
baz=311
L44A Lake County Fo 54.68 65 P **P** **12 26 12.2 -0.5**
baz=311
J45A Montague 54.70 63 P **P** **12 26 12.7 0.0**
baz=311
J45A Montague 54.70 63 IAMs_20 IAMs_20 12 48 45.1
comp=Z,840nm,20.0s
D48A Paudash Townsh 54.70 57 P **P** **12 26 13.0 +0.3**
baz=311,SNR=41
U38A Gravette 54.75 74 IAmb IAmb 12 26 30.0
comp=Z,52nm,1.0s
U38A IAMs_20 IAMs_20 12 51 53.6
comp=Z,922nm,20.0s
R40A Maddies Statio 54.76 71 IAMs_20 IAMs_20 12 51 02.8
comp=Z,758nm,19.0s
D49A Beulah Townshi 54.87 56 P **P** **12 26 14.6 +0.6**
baz=311,SNR=45
I46A Reed City 54.88 62 P **P** **12 26 14.5 +0.4**
baz=311
G47A Hillman 54.93 60 P **P** **12 26 14.6 +0.2**
baz=311,SNR=7.8
E48A Lockeyer 54.97 58 P **P** **12 26 15.2 +0.5**
baz=311,SNR=21
HDIL Hopedale 54.97 67 P **P** **12 26 14.8 0.0**
baz=312,SNR=11
HDIL Hopedale 54.97 67 IAMs_20 IAMs_20 12 48 22.3
comp=Z,1μm,21.0s
MATQ Matagami 55.10 52 P **P** **12 26 15.6 0.0**
baz=311,SNR=15
HHAR Hobbs 55.12 74 IAmb IAmb 12 26 32.5
comp=Z,43nm,0.9s
H47A Mio 55.12 60 P **P** **12 26 16.4 +0.5**
baz=311,SNR=5.8
M44A Midewin, Midew 55.12 66 P **P** **12 26 16.0 +0.1**
M44A IAmb IAmb 12 26 33.5
comp=Z,100nm,1.1s
M44A IAMs_20 IAMs_20 12 48 37.5
comp=Z,1μm,20.0s
Z35A Perchaven, San 55.14 79 P **P** **12 26 16.2 +0.1**
Z35A IAmb IAmb 12 26 41.7
comp=Z,59nm,1.1s
Z35A IAMs_20 IAMs_20 12 47 59.9
comp=Z,896nm,20.0s
F48A Evansville 55.16 58 P **P** **12 26 16.5 +0.4**
baz=311,SNR=14
I47A Gladwin 55.34 61 P **P** **12 26 17.9 +0.6**
baz=311
I47A Gladwin 55.34 61 IAMs_20 IAMs_20 12 51 38.1
comp=Z,1μm,18.0s
X37A Clayton 55.41 76 IAmb IAmb 12 26 36.1
comp=Z,53nm,0.9s
P43A Skaggs, Pawnee 55.45 68 IAMs_20 IAMs_20 12 48 14.0
comp=Z,1μm,22.0s
F49A Sandfield 55.50 58 P **P** **12 26 19.1 +0.6**
baz=311,SNR=18
CCM Cathedral Cave 55.51 71 P **P** **12 26 17.8 -0.8**
baz=312
CCM Cathedral Cave 55.51 71 P **P** **12 26 17.9 -0.8**
CCM pmax pmax
comp=Z,57nm,1.1s
CCM MLR MLR
comp=Z,700nm,18.0s
CCM Cathedral Cave 55.51 71 P **P** **12 26 17.9 -0.8**
CCM IAmb IAmb 12 26 34.9
comp=Z,57nm,1.1s
CCM Cathedral Cave 55.51 71 IAMs_20 IAMs_20 12 51 36.5
comp=Z,707nm,18.0s
H48A Harrisville 55.53 60 P **P** **12 26 19.3 +0.6**
baz=312
H48A Harrisville 55.53 60 P **P** **12 26 18.8 +0.1**
H48A IAmb IAmb 12 26 20.7
comp=Z,55nm,1.1s
JCT Junction City 55.56 83 P **P** **12 26 19.4 +0.2**
baz=315,SNR=5.8
JCT Junction City 55.56 83 P **P** **12 26 19.2 0.0**
JCT pmax pmax
comp=Z,42nm,1.1s
JCT Junction City 55.56 83 P **P** **12 26 19.1 0.0**
JCT IAmb IAmb 12 26 44.8
comp=Z,42nm,1.1s
JCT IAMs_20 IAMs_20 12 47 43.1
comp=Z,2μm,21.0s
I48A Sherman Twp 55.66 61 P **P** **12 26 20.4 +0.7**
baz=312,SNR=5.2
J47A Sunmer 55.69 62 P **P** **12 26 20.3 +0.4**
baz=312
J47A Sunmer 55.69 62 IAmb IAmb 12 26 21.6
comp=Z,56nm,1.1s
J47A IAMs_20 IAMs_20 12 49 36.3
comp=Z,965nm,21.0s
L46A Eue Claire 55.69 64 P **P** **12 26 20.1 +0.2**
L46A IAmb IAmb 12 26 37.5
comp=Z,80nm,0.9s
L46A IAMs_20 IAMs_20 12 48 54.4
comp=Z,1μm,20.0s
O44A Mansfield 55.71 67 IAmb IAmb 12 26 37.0
comp=Z,48nm,0.9s
O44A IAMs_20 IAMs_20 12 48 44.9
comp=Z,1μm,21.0s
SLM Saint Louis 55.71 69 P **P** **12 26 20.1 0.0**
SLM pmax pmax
comp=Z,117nm,1.1s
SLM Saint Louis 55.71 69 P **P** **12 26 20.1 0.0**
SLM IAMs_20 IAMs_20 12 48 02.9
comp=Z,1μm,21.0s
U40A Yellville 55.71 73 P **P** **12 26 19.4 -0.8**
baz=313,SNR=22
U40A Yellville 55.71 73 IAmb IAmb 12 26 36.5
comp=Z,41nm,0.8s
D50A G1974 Best Tow 55.71 56 P **P** **12 26 20.5 +0.4**
baz=312,SNR=39
E50A Wahnapitae 55.75 57 P **P** **12 26 20.7 +0.4**
baz=312,SNR=14
SCO Scoresbysund 55.87 12 *i*P **P** **12 26 21.1 +0.3**
comp=Z,22nm,0.9s
SCO Scoresbysund 55.87 12 *i*P **P** **12 26 21.1 +0.3**
SCO pmax pmax
comp=Z,22nm,0.9s
SCO Scoresbysund 55.87 12 P **P** **12 26 20.9 +0.2**
SCO IAmb IAmb 12 26 40.7
comp=Z,34nm,0.9s
SCO IAMs_20 IAMs_20 12 50 28.8
comp=Z,810nm,21.0s
LSQQ Lebel-sur-Quev 55.89 52 P **P** **12 26 21.3 +0.1**
baz=312
WHTX Lake Whitney, 55.94 80 P **P** **12 26 23.0 +1.1**
baz=314,SNR=11
WHTX Lake Whitney, 55.94 80 P **P** **12 26 22.9 +1.1**
WHTX IAmb IAmb 12 26 43.0
comp=Z,80nm,1.1s
W39A Magazine 55.95 75 P **P** **12 26 22.1 +0.2**
baz=313,SNR=27
W39A Magazine 55.95 75 P **P** **12 26 21.5 -0.3**
W39A IAmb IAmb 12 26 39.3
comp=Z,123nm,1.4s
D51A Lot 18 Range I 56.00 55 P **P** **12 26 22.5 +0.4**
baz=312,SNR=34
J48A Bridge Port 56.21 61 P **P** **12 26 24.1 +0.5**
baz=312,SNR=5.0
J48A Bridge Port 56.21 61 P **P** **12 26 24.2 +0.5**
J48A IAmb IAmb 12 26 25.3
comp=Z,42nm,0.9s
J48A IAMs_20 IAMs_20 12 52 06.2
comp=Z,881nm,18.0s
Q44A Meyer Farm, Va 56.23 68 IAmb IAmb 12 26 41.4
comp=Z,102nm,1.1s
Q44A IAMs_20 IAMs_20 12 48 27.8
comp=Z,1μm,21.0s
VLDQ Val d'Or 56.29 53 IAmb IAmb 12 26 24.4
comp=Z,70nm,1.1s
VLDQ IAMs_20 IAMs_20 12 49 38.4
comp=Z,1μm,21.0s
T42A Van Buren 56.29 71 IAmb IAmb 12 26 39.9
comp=Z,35nm,1.0s
I49A Point Hope 56.30 60 P **P** **12 26 25.1 +0.8**
baz=312,SNR=5.5
I49A Point Hope 56.30 60 IAmb IAmb 12 26 26.3
comp=Z,71nm,1.1s
E51A G1948 Merrick 56.31 56 P **P** **12 26 24.8 +0.4**
baz=312,SNR=48
SFIN Lafayette 56.33 66 P **P** **12 26 24.9 +0.4**
baz=312,SNR=16
SFIN Lafayette 56.33 66 IAmb IAmb 12 26 42.5
comp=Z,94nm,1.0s
SFIN IAMs_20 IAMs_20 12 49 24.5
comp=Z,1μm,20.0s
FCAR Ozark Folk Cen 56.46 73 P **P** **12 26 25.1 -0.5**
FCAR IAmb IAmb 12 26 41.8
comp=Z,80nm,1.0s
F51A Arnstein 56.50 57 P **P** **12 26 26.2 +0.6**
baz=312,SNR=27
MIAR Mount Ida 56.52 75 P **P** **12 26 26.6 +0.6**
baz=314,SNR=45
MIAR Mount Ida 56.52 75 P **P** **12 26 26.5 +0.6**
MIAR pmax pmax
comp=Z,105nm,1.1s
MIAR MLR MLR
comp=Z,700nm,19.0s
MIAR Mount Ida 56.52 75 P **P** **12 26 26.5 +0.6**
J49A Marlette 56.52 61 P **P** **12 26 26.5 +0.7**
baz=312,SNR=12
SCHQ Schefferville 56.55 42 P **P** **12 26 26.5 +0.6**
comp=Z,56nm,0.9s,baz=318,slow=7.8,SNR=33
SCHQ LR LR 12 51 49.7
comp=Z,2μm,19.2s,baz=316,slow=37
SCHQ Schefferville 56.55 42 P **P** **12 26 26.6 +0.6**
SCHQ IAmb IAmb 12 26 27.7
comp=Z,62nm,0.9s
D52A ZEK Kipawa Sen 56.57 55 P **P** **12 26 26.6 +0.4**
baz=312,SNR=42
CHGQ Chibougamau 56.57 50 P **P** **12 26 25.9 -0.3**
baz=313,SNR=11
435B Jarrell 56.70 81 P **P** **12 26 28.4 +1.1**
baz=315
435B Jarrell 56.70 81 IAmb IAmb 12 26 46.5
comp=Z,39nm,0.9s
435B IAMs_20 IAMs_20 12 48 45.4
comp=Z,864nm,21.0s
K49A Clarkson 56.73 62 P **P** **12 26 28.2 +0.8**
baz=312
L48A N Adams 56.77 63 IAmb IAmb 12 26 47.5
comp=Z,46nm,0.8s
L48A IAMs_20 IAMs_20 12 54 13.9
comp=Z,946nm,18.0s
WHAR Wooly Hollow 56.77 74 IAmb IAmb 12 26 44.6
comp=Z,87nm,1.2s
WHAR IAMs_20 IAMs_20 12 53 12.3
comp=Z,813nm,19.0s
N47A Urbana 56.78 65 IAmb IAmb 12 26 44.9
comp=Z,93nm,1.1s
P46A Rosedale 56.78 67 IAmb IAmb 12 26 45.0
comp=Z,113nm,1.2s
P46A IAMs_20 IAMs_20 12 49 39.1
comp=Z,1μm,21.0s
D53A Lac Vacive, Po 56.86 55 P **P** **12 26 28.9 +0.7**
baz=313,SNR=54
D53A Lac Vacive, Po 56.86 55 IAmb IAmb 12 26 30.0
comp=Z,72nm,1.0s
D53A IAMs_20 IAMs_20 12 53 08.9
comp=Z,1μm,18.0s
OLIL Olney 56.87 68 IAMs_20 IAMs_20 12 49 09.5
comp=Z,1μm,21.0s

W41B	**Gary Mavity, V**	**56.88**	**74**	P	**P**	**12 26 28.4**	**-0.2**		
	baz=314,SNR=18								
W41B	**Gary Mavity, V**	**56.88**	**74**	P	**P**	**12 26 28.3**	**-0.2**		
W41B				IAmb	IAmb	12 26 45.3			
	comp=Z,88nm,1.3s								
W41B				IAMs_20	IAMs_20	12 53 15.0			
	comp=Z,818nm,19.0s								
ZAA0	**Zalesovo Array**	**56.88**	**317**	P	**P**	**12 26 28.3**	**+0.1**		
ZALV	**Zalesovo Beam**	**56.88**	**317**	P	**P**	**12 26 27.9**	**-0.3**		
	comp=Z,11nm,0.6s,baz=36,slow=7.3,SNR=29								
ZALV				PcP	**PcP**	**12 27 24.0**	**+0.7**		
	comp=Z,13nm,0.6s,baz=45,slow=6.3,SNR=7.5								
ZALV				LR	LR	12 51 57.9			
	comp=Z,1μm,20.8s,baz=47,slow=37								
F52A	**Sundridge**	**56.90**	**57**	P	**P**	**12 26 29.4**	**+0.9**		
	baz=312,SNR=68								
E52A	**Mattawa**	**56.91**	**56**	P	**P**	**12 26 29.0**	**+0.4**		
	baz=313,SNR=34								
LCAR	**Lake Charles**	**56.91**	**72**	P	**P**	**12 26 27.6**	**-1.1**		
LCAR				IAmb	IAmb	12 26 44.8			
	comp=Z,41nm,1.2s								
LCAR				IAMs_20	IAMs_20	12 50 07.9			
	comp=Z,774nm,21.0s								
S44A	**Carbondale**	**56.91**	**70**	P	**P**	**12 26 28.6**	**-0.1**		
S44A				IAmb	IAmb	12 26 45.4			
	comp=Z,69nm,1.1s								
S44A				IAMs_20	IAMs_20	12 50 29.9			
	comp=Z,1μm,20.0s								
237A	**Washetta, Mont**	**56.93**	**79**	IAmb	IAmb	12 26 55.4			
	comp=Z,60nm,1.0s								
237A				IAMs_20	IAMs_20	12 52 07.5			
	comp=Z,1μm,18.0s								
AAM	**Ann Arbor**	**56.95**	**62**	P	**P**	**12 26 29.3**	**+0.4**		
	baz=313								
AAM	**Ann Arbor**	**56.95**	**62**	IAMs_20	IAMs_20	12 53 30.8			
	comp=Z,977nm,18.0s								
X40A	**Basin Creek Fa**	**57.00**	**75**	P	**P**	**12 26 29.5**	**+0.1**		
	baz=314,SNR=12								
X40A	**Basin Creek Fa**	**57.00**	**75**	IAmb	IAmb	12 26 46.6			
	comp=Z,94nm,1.4s								
YHNB	**Yeheng**	**57.07**	**269**	IAMs_20	IAMs_20	12 49 33.4			
	comp=Z,1μm,21.0s								
UALR	**University of**	**57.10**	**74**	P	**P**	**12 26 29.9**	**-0.1**		
UALR				IAmb	IAmb	12 26 47.2			
	comp=Z,58nm,1.2s								
UALR				IAMs_20	IAMs_20	12 53 25.5			
	comp=Z,993nm,18.0s								
K50A	**Casco**	**57.19**	**61**	P	**P**	**12 26 30.7**	**+0.1**		
	baz=313								
K50A	**Casco**	**57.19**	**61**	IAMs_20	IAMs_20	12 52 54.2			
	comp=Z,1μm,19.0s								
WHN	**Wuhan**	**57.20**	**279**	⇑P	**P**	**12 26 31.4**	**+0.6**		
WHN				sP	**pwP**	**12 26 44.3**	**+1.8**		
WHN				S	**S**	**12 34 26.0**	**+2.7**		
WHN				pmax	pmax				
	comp=Z,230nm,1.1s								
WHN				LR	LR				
	comp=Z,1μm,21.7s								
WHN				LR	LR				
	comp=Z,2μm,22.5s								
WHN				LR	LR				
	comp=Z,1μm,18.9s								
NACB	**Ninganchiao**	**57.30**	**268**	IAMs_20	IAMs_20	12 49 12.4			
	comp=Z,919nm,22.0s								
PARMO	**Parma**	**57.33**	**71**	P	**P**	**12 26 31.5**	**-0.1**		
833A	**Chaparral WMA,**	**57.33**	**85**	P	**P**	**12 26 32.7**	**+0.9**		
	baz=316,SNR=7.0								
833A	**Chaparral WMA,**	**57.33**	**85**	IAmb	IAmb	12 26 50.9			
	comp=Z,86nm,1.1s								
833A				IAMs_20	IAMs_20	12 49 04.1			
	comp=Z,833nm,20.0s								
D54A	**Lac Fusel, La**	**57.33**	**54**	P	**P**	**12 26 31.8**	**+0.2**		
	baz=313,SNR=11								
E53A	**Dumoine, Ponti**	**57.35**	**55**	P	**P**	**12 26 32.3**	**+0.5**		
	baz=313,SNR=56								
I51A	**Listowel**	**57.35**	**59**	P	**P**	**12 26 33.1**	**+1.3**		
	baz=313,SNR=18								
H52A	**Wyevale**	**57.38**	**58**	P	**P**	**12 26 32.5**	**+0.6**		
	baz=313,SNR=7.6								
WLAR	**White Oak Lake**	**57.39**	**76**	P	**P**	**12 26 32.0**	**-0.1**		
WLAR				IAMs_20	IAMs_20	12 53 33.5			
	comp=Z,865nm,19.0s								
ALGO	**Algonquin Park**	**57.44**	**56**	P	**P**	**12 26 33.0**	**+0.7**		
	baz=313,SNR=35								
ANGG	**Ammassalik, Gr**	**57.49**	**21**	IAmb	IAmb	12 26 32.7			
	comp=Z,39nm,1.0s								
ANGG				IAMs_20	IAMs_20	12 53 48.4			
	comp=Z,1μm,19.0s								
O48A	**Farmland**	**57.51**	**65**	P	**P**	**12 26 32.2**	**-0.7**		
	baz=313,SNR=13								
E54A	**Lac Daplat, Po**	**57.56**	**55**	P	**P**	**12 26 33.3**	**+0.2**		
	baz=313,SNR=62								
L50A	**Kingsville**	**57.59**	**62**	P	**P**	**12 26 33.7**	**+0.2**		
	baz=313								
N49A	**Columbus Grove**	**57.60**	**64**	IAmb	IAmb	12 26 34.8			
	comp=Z,57nm,1.2s								
N49A				IAMs_20	IAMs_20	12 50 02.9			
	comp=Z,1μm,21.0s								
I52A	**Shelburne**	**57.62**	**59**	P	**P**	**12 26 34.5**	**+0.9**		
	baz=313								
PEBM	**Pemiscott Bayo**	**57.64**	**71**	IAMs_20	IAMs_20	12 52 41.2			
	comp=Z,774nm,19.0s								
USIN	**University of**	**57.65**	**68**	IAMs_20	IAMs_20	12 49 12.3			
	comp=Z,1μm,22.0s								
SADO	**Sadowa**	**57.69**	**57**	IAmb	IAmb	12 26 51.3			
	comp=Z,109nm,1.4s								
G53A	**Haliburton**	**57.72**	**57**	P	**P**	**12 26 35.1**	**+0.8**		
	baz=313,SNR=25								
T45A	**Paducah**	**57.73**	**70**	P	**P**	**12 26 34.8**	**+0.3**		
T45A				IAMs_20	IAMs_20	12 51 04.5			
	comp=Z,904nm,21.0s								
LPAR	**Lepanto**	**57.74**	**72**	IAMs_20	IAMs_20	12 50 52.7			
	comp=Z,729nm,20.0s								
NATX	**Nacogdoches**	**57.80**	**78**	P	**P**	**12 26 35.6**	**+0.6**		
	baz=315								
G54A	**Lake Saint Pet**	**57.80**	**56**	P	**P**	**12 26 35.6**	**+0.6**		
	baz=313,SNR=31								
K51A	**Iona Station**	**57.83**	**61**	P	**P**	**12 26 35.9**	**+0.8**		
	baz=313								
LNXT	**Lenox**	**57.87**	**71**	IAMs_20	IAMs_20	12 52 41.1			
	comp=Z,678nm,19.0s								
GLAT	**Glass**	**57.87**	**71**	IAMs_20	IAMs_20	12 53 00.2			
	comp=Z,799nm,19.0s								
Z41A	**Richland Creek**	**57.87**	**76**	P	**P**	**12 26 36.0**	**+0.5**		
	baz=314								
Z41A	**Richland Creek**	**57.87**	**76**	IAMs_20	IAMs_20	12 53 48.4			
	comp=Z,747nm,18.0s								
M50A	**Fremont**	**57.90**	**63**	IAMs_20	IAMs_20	12 50 42.8			
	comp=Z,965nm,20.0s								
P48A	**Milroy**	**57.90**	**66**	IAMs_20	IAMs_20	12 50 14.9			
	comp=Z,1μm,20.0s								
O49A	**Covington**	**58.01**	**64**	P	**P**	**12 26 36.3**	**-0.1**		
O49A				IAmb	IAmb	12 26 53.2			
	comp=Z,148nm,1.9s								
D55A	**Sainte-Anne-du**	**58.01**	**53**	P	**P**	**12 26 36.5**	**+0.2**		
	baz=314,SNR=25								
J52A	**Paris**	**58.03**	**59**	P	**P**	**12 26 37.2**	**+0.7**		
	baz=313,SNR=6.7								
CCAR	**Cane Creek**	**58.03**	**75**	IAMs_20	IAMs_20	12 53 54.5			
	comp=Z,754nm,19.0s								
XAN	**Xi'an**	**58.03**	**286**	P	**P**	**12 26 37.1**	**+0.4**		
XAN				pP	pP	12 26 50.1	+1.7		
XAN				pmax	pmax				
	comp=Z,96nm,0.9s								
XAN				pmax	pmax				
	comp=Z,540nm,3.7s								
XAN				LR	LR				
	comp=Z,1μm,19.5s								
XAN				LR	LR				
	comp=Z,1μm,17.3s								
XAN				LR	LR				
	comp=Z,2μm,18.4s								
XAN	**Xi'an**	**58.03**	**286**	P	**P**	**12 26 36.7**	**0.0**		
XAN				pmax	pmax				
	comp=Z,126nm,1.2s								
XAN				MLR	MLR				
	comp=Z,2μm,21.0s								
XAN	**Xi'an**	**58.03**	**286**	P	**P**	**12 26 36.7**	**0.0**		
YULB	**Yu-li**	**58.06**	**268**	IAmb	IAmb	12 27 23.7			
	comp=Z,34nm,1.1s								
HALT	**Halls**	**58.09**	**71**	IAMs_20	IAMs_20	12 52 56.0			
	comp=Z,674nm,19.0s								
I53A	**Kortright Cn E**	**58.10**	**58**	P	**P**	**12 26 38.0**	**+1.0**		
	baz=313								
E55A	**Montcerf-Lytto**	**58.11**	**54**	P	**P**	**12 26 37.4**	**+0.4**		
	baz=314								
H53A	**Bobcaygeon**	**58.11**	**57**	P	**P**	**12 26 37.7**	**+0.7**		
	baz=313,SNR=15								
X43A	**Marvell**	**58.14**	**73**	P	**P**	**12 26 37.7**	**+0.3**		
	baz=314								
ARCES	**ARCESS Array B**	**58.17**	**353**	P	**P**	**12 26 36.5**	**-0.6**		
	comp=Z,9.7nm,0.6s,baz=22,slow=9.4,SNR=32								
ARCES				PcP	**PcP**	**12 27 28.5**	**+0.4**		
	comp=Z,10nm,0.7s,baz=32,slow=5.3,SNR=4.0								
ARCES				LR	LR	12 51 26.4			
	comp=Z,839nm,21.8s,baz=12,slow=36								
ARE0	**ARCESS Array S**	**58.17**	**353**	*e*P	**P**	**12 26 36.4**	**-0.7**		
K52A	**Tillsonburg**	**58.22**	**60**	P	**P**	**12 26 38.5**	**+0.7**		
	baz=313								
P49A	**Miami Univ. Ec**	**58.25**	**65**	P	**P**	**12 26 37.6**	**-0.4**		
	baz=314								
P49A	**Miami Univ. Ec**	**58.25**	**65**	IAmb	IAmb	12 26 55.2			
	comp=Z,61nm,1.1s								
WCI	**Wyandotte Cave**	**58.25**	**67**	P	**P**	**12 26 38.2**	**+0.1**		
	baz=314								
WCI	**Wyandotte Cave**	**58.25**	**67**	P	**P**	**12 26 38.2**	**+0.1**		
WCI				pmax	pmax				
	comp=Z,93nm,1.1s								
WCI	**Wyandotte Cave**	**58.25**	**67**	P	**P**	**12 26 38.2**	**+0.1**		
WCI	**Wyandotte Cave**	**58.25**	**67**	IAMs_20	IAMs_20	12 50 24.3			
	comp=Z,1μm,21.0s								
D56A	**ZEC Mazanza, M**	**58.35**	**53**	P	**P**	**12 26 38.8**	**+0.1**		
	baz=314,SNR=20								
HKT	**Hockley**	**58.36**	**81**	P	**P**	**12 26 39.2**	**+0.3**		
HKT				pmax	pmax				
	comp=Z,55nm,1.4s								
HKT				MLR	MLR				
	comp=Z,1μm,19.0s								
HKT	**Hockley**	**58.36**	**81**	P	**P**	**12 26 39.2**	**+0.3**		
HKT				IAmb	IAmb	12 27 00.4			
	comp=Z,55nm,1.4s								
HKT	**Hockley**	**58.36**	**81**	IAMs_20	IAMs_20	12 52 31.0			
	comp=Z,984nm,19.0s								
F55A	**Otter Lake**	**58.39**	**55**	P	**P**	**12 26 39.2**	**+0.2**		
	baz=314								
M51A	**Elyria**	**58.42**	**62**	P	**P**	**12 26 39.2**	**0.0**		
	baz=314								
IVI	**Ivigtut**	**58.42**	**28**	P	**P**	**12 26 39.2**	**+0.3**		
IVI				IAmb	IAmb	12 26 40.5			
	comp=Z,36nm,0.8s								
TRO	**Tromso**	**58.47**	**356**	*e*P	**P**	**12 26 39.6**	**+0.5**		
TPUB	**Ta-pu**	**58.54**	**268**	IAMs_20	IAMs_20	12 49 51.2			
	comp=Z,1μm,22.0s								
E56A	**St. Veronique**	**58.56**	**54**	P	**P**	**12 26 40.1**	**0.0**		
	baz=314,SNR=16								
N51A	**Ashland**	**58.60**	**63**	P	**P**	**12 26 40.5**	**0.0**		
	baz=314,SNR=6.3								
N51A	**Ashland**	**58.60**	**63**	IAMs_20	IAMs_20	12 51 04.3			
	comp=Z,940nm,20.0s								
QZH	**Quanzhou**	**58.60**	**271**	⇑*i*P	**P**	**12 26 41.8**	**+1.1**		
QZH				S	**S**	**12 34 44.4**	**+2.7**		
QZH				pmax	pmax				
	comp=Z,46nm,1.1s								
QZH				pmax	pmax				
	comp=Z,280nm,3.5s								
QZH				LR	LR				
	comp=Z,380nm,20.7s								
QZH				LR	LR				
	comp=Z,290nm,18.4s								
QZH				LR	LR				
	comp=Z,470nm,18.5s								
G55A	**Calabogie**	**58.61**	**56**	P	**P**	**12 26 41.2**	**+0.7**		
	baz=314,SNR=29								
T47A	**Sharon Grove**	**58.64**	**69**	IAMs_20	IAMs_20	12 49 52.6			
	comp=Z,1μm,21.0s								
DGZ	**Jazzator, Alta**	**58.70**	**312**	*c i*P	**P**	**12 26 41.5**	**+0.2**		
DGZ				pmax	pmax				
	comp=Z,25nm,0.9s								
M52A	**Chesterland**	**58.72**	**61**	P	**P**	**12 26 41.6**	**+0.2**		
	baz=314								
M52A	**Chesterland**	**58.72**	**61**	IAmb	IAmb	12 26 57.7			
	comp=Z,44nm,1.0s								
M52A				IAMs_20	IAMs_20	12 53 52.8			
	comp=Z,1μm,18.0s								
ACSO	**Alum Creek Sta**	**58.73**	**64**	P	**P**	**12 26 41.6**	**+0.1**		
	baz=314,SNR=5.0								
ACSO	**Alum Creek Sta**	**58.73**	**64**	IAmb	IAmb	12 26 59.2			
	comp=Z,30nm,0.9s								
ACSO				IAMs_20	IAMs_20	12 50 49.0			
	comp=Z,855nm,21.0s								
D57A	**Chemin Vers le**	**58.80**	**52**	P	**P**	**12 26 41.8**	**0.0**		
	baz=314,SNR=14								
WVT	**Waverly**	**58.82**	**70**	P	**P**	**12 26 42.3**	**+0.2**		
	baz=314								
WVT	**Waverly**	**58.82**	**70**	P	**P**	**12 26 42.4**	**+0.3**		
WVT				pmax	pmax				
	comp=Z,131nm,1.4s								
WVT				MLR	MLR				
	comp=Z,1μm,20.0s								
WVT	**Waverly**	**58.82**	**70**	P	**P**	**12 26 42.4**	**+0.3**		
WVT	**Waverly**	**58.82**	**70**	IAMs_20	IAMs_20	12 51 36.3			
	comp=Z,968nm,20.0s								
I55A	**Frankford**	**58.83**	**57**	P	**P**	**12 26 43.0**	**+0.9**		
	baz=314,SNR=18								
KTK1	**Kautokeino**	**58.85**	**354**	*e*P	**P**	**12 26 41.8**	**0.0**		
R49A	**Shelbyville**	**58.85**	**67**	IAmb	IAmb	12 26 59.4			
	comp=Z,58nm,1.4s								
H55A	**Tweed**	**58.85**	**56**	P	**P**	**12 26 43.4**	**+1.2**		
	baz=314,SNR=24								
LVZ	**Lovozero**	**58.87**	**349**	*i* P	**P**	**12 26 40.9**	**-1.1**		
LVZ				pmax	pmax				
	comp=Z,31nm,0.9s								
J54A	**Appleton**	**58.98**	**58**	P	**P**	**12 26 43.8**	**+0.7**		
	baz=314,SNR=6.9								
O51A	**Pataskala**	**59.00**	**63**	P	**P**	**12 26 43.5**	**+0.1**		
	baz=314,SNR=11								
OXF	**Oxford**	**59.02**	**72**	P	**P**	**12 26 43.5**	**0.0**		
	baz=314,SNR=14								
L53A	**Girard**	**59.03**	**60**	P	**P**	**12 26 44.1**	**+0.6**		
	baz=314,SNR=8.0								
N52A	**McGinn's Farm,**	**59.05**	**62**	P	**P**	**12 26 43.7**	**+0.1**		
	baz=314,SNR=6.3								
ERPA	**Erie**	**59.06**	**60**	P	**P**	**12 26 44.4**	**+0.7**		
	baz=314,SNR=8.1								
LATQ	**La Tuque**	**59.08**	**52**	P	**P**	**12 26 43.9**	**+0.1**		
	baz=315								
LATQ	**La Tuque**	**59.08**	**52**	IAMs_20	IAMs_20	12 53 22.8			
	comp=Z,851nm,18.0s								
ORIO	**Orleans, Innes**	**59.08**	**55**	P	**P**	**12 26 43.9**	**+0.1**		
	baz=314								
E57A	**Chemin Saint G**	**59.09**	**53**	P	**P**	**12 26 44.0**	**+0.1**		
	baz=314,SNR=23								
143A	**Sea Landing,**	**59.10**	**75**	IAMs_20	IAMs_20	12 52 49.5			
	comp=Z,934nm,19.0s								
M53A	**WI Miller and**	**59.16**	**61**	P	**P**	**12 26 44.9**	**+0.5**		
	baz=314,SNR=10								
P51A	**Williamsport**	**59.21**	**64**	P	**P**	**12 26 44.8**	**0.0**		
	baz=314								
D58A	**Chemin du LacG**	**59.23**	**52**	P	**P**	**12 26 44.8**	**0.0**		
	baz=315,SNR=9.5								
NRS	**Narsarsuaq**	**59.25**	**27**	P	**P**	**12 26 44.2**	**-0.5**		
H56A	**Elgin**	**59.30**	**56**	P	**P**	**12 26 46.2**	**+0.9**		
	baz=314,SNR=28								
R50A	**Paris**	**59.33**	**66**	P	**P**	**12 26 46.0**	**+0.3**		
L54A	**Sinclairville**	**59.34**	**60**	P	**P**	**12 26 46.7**	**+1.0**		
	baz=314,SNR=8.1								
Q51A	**Peebles**	**59.37**	**65**	P	**P**	**12 26 46.6**	**+0.7**		
PECO	**Prince Edward**	**59.38**	**57**	P	**P**	**12 26 46.7**	**+0.9**		
Y45A	**Yeager Farm, C**	**59.39**	**73**	P	**P**	**12 26 46.1**	**0.0**		
ZAIG	**Zacatecas**	**59.41**	**92**	IAmb	IAmb	12 27 26.5			
	comp=Z,37nm,1.3s								
ZAIG				IAMs_20	IAMs_20	12 47 28.9			
	comp=Z,923nm,20.0s								
K54A	**Basiliko Farm,**	**59.41**	**59**	P	**P**	**12 26 46.9**	**+0.8**		
	baz=314,SNR=13								
J55A	**Hilton**	**59.42**	**58**	P	**P**	**12 26 46.8**	**+0.7**		
	baz=314,SNR=16								
J55A	**Hilton**	**59.42**	**58**	IAmb	IAmb	12 26 48.3			
	comp=Z,80nm,1.1s								
O52A	**Adamsville**	**59.45**	**63**	P	**P**	**12 26 46.5**	**+0.1**		
	baz=314,SNR=16								
O52A	**Adamsville**	**59.45**	**63**	IAMs_20	IAMs_20	12 51 31.6			
	comp=Z,848nm,21.0s								
342A	**Flagon Creek P**	**59.48**	**77**	IAMs_20	IAMs_20	12 50 15.1			
	comp=Z,891nm,22.0s								
N53A	**Lisbon**	**59.51**	**62**	P	**P**	**12 26 47.1**	**+0.2**		
	baz=314,SNR=11								
N53A	**Lisbon**	**59.51**	**62**	IAmb	IAmb	12 26 48.5			
	comp=Z,57nm,1.1s								
E58A	**La Victoria**	**59.55**	**53**	P	**P**	**12 26 46.8**	**-0.2**		
	baz=315,SNR=6.4								
GTA	**Gaotai**	**59.56**	**296**	⇑P	**P**	**12 26 47.3**	**-0.1**		
GTA				S	**S**	**12 34 52.9**	**-1.4**		
GTA				sS	pS	12 35 06.9	-1.5		
GTA				pmax	pmax				
	comp=Z,39nm,1.2s								
GTA				pmax	pmax				
	comp=Z,290nm,5.0s								
GTA				LR	LR				
	comp=Z,940nm,18.7s								
GTA				LR	LR				
	comp=Z,2μm,17.4s								
GTA				LR	LR				
	comp=Z,2μm,17.9s								
G57A	**Newington**	**59.59**	**55**	P	**P**	**12 26 47.4**	**+0.1**		
	baz=315,SNR=9.7								
LZH	**Lanzhou**	**59.59**	**291**	⇑P	**P**	**12 26 49.0**	**+1.3**		
LZH				pP	pP	12 26 57.3	-2.1		
LZH				PP	**PP**	**12 29 01.0**	**+1.9**		
LZH				S	**S**	**12 34 56.9**	**+2.1**		
LZH				sS	pS	12 35 09.3	+0.3		
LZH				pmax	pmax				
	comp=Z,140nm,1.1s								
LZH				pmax	pmax				
	comp=Z,230nm,4.9s								
LZH				LR	LR				
	comp=Z,1μm,17.4s								
LZH				LR	LR				
	comp=Z,1μm,17.9s								
LZH				LR	LR				
	comp=Z,1μm,18.4s								
P52A	**Corning**	**59.62**	**64**	P	**P**	**12 26 47.4**	**-0.2**		
	baz=314								
P52A	**Corning**	**59.62**	**64**	IAMs_20	IAMs_20	12 51 38.1			
	comp=Z,1μm,22.0s								
K55A	**Perry**	**59.66**	**58**	P	**P**	**12 26 48.5**	**+0.7**		
	baz=314,SNR=8.5								
M54A	**Oil Creek Stat**	**59.66**	**60**	P	**P**	**12 26 48.3**	**+0.4**		
	baz=314,SNR=14								
V48A	**Smith Brothers**	**59.67**	**70**	IAmb	IAmb	12 27 05.0			
	comp=Z,67nm,1.1s								
V48A				IAMs_20	IAMs_20	12 52 12.7			
	comp=Z,1μm,21.0s								
O53A	**New Philadelph**	**59.70**	**62**	P	**P**	**12 26 47.9**	**-0.2**		
	baz=314,SNR=5.2								
O53A	**New Philadelph**	**59.70**	**62**	IAmb	IAmb	12 26 49.6			
	comp=Z,84nm,1.4s								
O53A				IAMs_20	IAMs_20	12 53 47.5			
	comp=Z,990nm,18.0s								
U49A	**Red Boiling Sp**	**59.74**	**68**	IAmb	IAmb	12 27 05.7			
	comp=Z,92nm,1.4s								
U49A				IAMs_20	IAMs_20	12 50 37.3			
	comp=Z,1μm,21.0s								
D59A	**Saint-Raymond**	**59.80**	**51**	P	**P**	**12 26 49.1**	**+0.4**		
	baz=315								
L55A	**Hinsdale**	**59.85**	**59**	P	**P**	**12 26 49.8**	**+0.6**		
	baz=314,SNR=12								
E59A	**St. Maurice**	**59.85**	**52**	P	**P**	**12 26 49.2**	**+0.2**		
	baz=315								
N54A	**Moraine State**	**59.87**	**61**	P	**P**	**12 26 49.8**	**+0.5**		
	baz=314,SNR=11								
J56A	**Wolcott**	**59.91**	**57**	P	**P**	**12 26 50.5**	**+1.0**		
	baz=315,SNR=18								
J56A	**Wolcott**	**59.91**	**57**	P	**P**	**12 26 50.1**	**+0.6**		
J56A				IAmb	IAmb	12 27 13.3			
	comp=Z,50nm,0.8s								
T50A	**Nancy**	**59.92**	**67**	P	**P**	**12 26 50.2**	**+0.5**		
T50A				IAMs_20	IAMs_20	12 51 26.2			
	comp=Z,1μm,21.0s								
VBMS	**Vicksburg**	**59.97**	**75**	P	**P**	**12 26 50.7**	**+0.6**		
	baz=315								
VBMS	**Vicksburg**	**59.97**	**75**	IAMs_20	IAMs_20	12 53 16.9			
	comp=Z,701nm,20.0s								
Q52A	**Bidwell**	**60.01**	**64**	P	**P**	**12 26 50.3**	**0.0**		
	baz=314,SNR=7.6								
G58A	**Ormstown**	**60.03**	**54**	P	**P**	**12 26 50.3**	**0.0**		
	baz=315,SNR=12								
I57A	**Carthage**	**60.06**	**56**	P	**P**	**12 26 51.4**	**+0.8**		
	baz=315,SNR=18								
K56A	**Middlesex**	**60.07**	**58**	P	**P**	**12 26 51.8**	**+1.1**		
	baz=315,SNR=27								
LONY	**Lake Ozonia**	**60.13**	**55**	P	**P**	**12 26 51.0**	**0.0**		
	baz=315,SNR=12								
LONY	**Lake Ozonia**	**60.13**	**55**	IAMs_20	IAMs_20	12 54 44.5			
	comp=Z,767nm,18.0s								
P53A	**Whipple**	**60.13**	**63**	P	**P**	**12 26 51.4**	**+0.3**		
	baz=315,SNR=9.4								
P53A	**Whipple**	**60.13**	**63**	P	**P**	**12 26 51.5**	**+0.4**		
P53A				IAmb	IAmb	12 26 52.7			
	comp=Z,60nm,1.1s								
P53A				IAMs_20	IAMs_20	12 51 21.7			
	comp=Z,1μm,20.0s								
SGF	**Sodankyl**	**60.15**	**352**	P	**P**	**12 26 51.4**	**+0.7**		
SGF				pmax	pmax				
	comp=Z,44nm,1.3s								
F59A	**Saint Guilaume**	**60.16**	**53**	P	**P**	**12 26 51.1**	**-0.1**		
	baz=315,SNR=8.9								
M55A	**Ridgway**	**60.17**	**60**	P	**P**	**12 26 52.2**	**+0.8**		
	baz=315,SNR=34								
M55A	**Ridgway**	**60.17**	**60**	IAMs_20	IAMs_20	12 55 20.2			
	comp=Z,1μm,19.0s								
S51A	**Beattyville**	**60.20**	**66**	IAmb	IAmb	12 27 09.4			
	comp=Z,37nm,0.9s								
S51A				IAMs_20	IAMs_20	12 51 25.4			
	comp=Z,1μm,20.0s								
O54A	**Avella**	**60.20**	**62**	P	**P**	**12 26 52.1**	**+0.5**		
	baz=315,SNR=12								
O54A	**Avella**	**60.20**	**62**	IAMs_20	IAMs_20	12 54 49.9			
	comp=Z,1μm,18.0s								
J57A	**Williamstown**	**60.26**	**57**	P	**P**	**12 26 52.8**	**+0.8**		
	baz=315,SNR=22								
D60A	**Saint Jean

comp=Z,89nm,1.3s
G60A Masonville 60.92 53 P P 12 26 56.5 +0.1
baz=316
W50A Signal Mountai 60.93 69 IAMs_20 IAMs_20 12 51 12.9
comp=Z,1µm,21.0s
F61A St Evariste 60.95 52 P P 12 26 57.4 +0.8
baz=316,SNR=12
P55A Reedsville 60.98 62 P P 12 26 57.3 +0.3
baz=315,SNR=13
TZTN Tazewell 60.99 67 P P 12 26 57.4 +0.4
baz=315,SNR=14
J59A Piesco 60.99 56 P P 12 26 57.4 +0.4
baz=316,SNR=8.3
J59A Piesco 60.99 56 IAmb IAmb 12 27 13.5
comp=Z,44nm,1.2s
S53A Williamson 60.99 65 P P 12 26 57.4 +0.4
baz=315
V51A Loudon 61.05 68 IAmb IAmb 12 27 14.5
comp=Z,73nm,1.3s
V51A IAMs_20 IAMs_20 12 51 19.2
comp=Z,1µm,21.0s
I59A Olmsteadville 61.08 55 P P 12 26 57.8 +0.3
baz=316,SNR=11
D62A Allapoint, All 61.08 50 P P 12 26 57.7 +0.3
baz=316,SNR=17
H60A Morristown 61.12 54 P P 12 26 58.0 +0.2
baz=316,SNR=6.8
O56A Blue Knob Stat 61.12 61 P P 12 26 58.2 +0.3
baz=315,SNR=14
O56A Blue Knob Stat 61.12 61 IAmb IAmb 12 27 14.3
comp=Z,57nm,1.0s
BINY Binghamton 61.13 58 P P 12 26 58.9 +1.0
baz=315,SNR=13
M57A Sunshine Farm, 61.14 59 P P 12 26 58.6 +0.7
baz=315,SNR=13
M57A Sunshine Farm, 61.14 59 P P 12 26 58.8 +0.8
M57A IAmb IAmb 12 27 00.2
comp=Z,88nm,1.4s
G61A St-Isidore-de- 61.18 53 P P 12 26 58.2 0.0
baz=316,SNR=9.8
346A Big Creek Wild 61.19 75 IAMs_20 IAMs_20 12 55 42.9
comp=Z,674nm,20.0s
E62A Clayton Lake 61.19 50 P P 12 26 58.4 +0.2
baz=316,SNR=7.0
E62A Clayton Lake 61.19 50 P P 12 26 57.9 -0.4
E62A IAmb IAmb 12 26 59.3
comp=Z,47nm,1.0s
Q55A Buckhannon 61.20 63 P P 12 26 59.2 +0.8
baz=315,SNR=22
CPCT Cooper Cave 61.21 68 P P 12 26 58.3 -0.2
CPCT IAmb IAmb 12 27 15.3
comp=Z,81nm,1.6s
FPAL Fort Paine 61.22 70 P P 12 26 58.6 0.0
SSPA Standing Stone 61.23 60 P P 12 26 59.2 +0.6
baz=315
SSPA Standing Stone 61.23 60 P P 12 26 59.4 +0.8
SSPA IAmb IAmb 12 27 15.3
comp=Z,70nm,1.0s
SSPA Standing Stone 61.23 60 IAMs_20 IAMs_20 12 56 03.2
comp=Z,968nm,19.0s
Y49A Blount Mountai 61.24 71 P P 12 26 58.4 -0.3
Y49A IAmb IAmb 12 27 15.4
comp=Z,85nm,1.2s
Y49A IAMs_20 IAMs_20 12 52 52.1
comp=Z,797nm,20.0s
T53A Wise 61.26 66 P P 12 26 59.4 +0.6
baz=315,SNR=16
VT1 Waterbury 61.26 54 IAmb IAmb 12 27 00.6
comp=Z,65nm,1.2s
VT1 IAMs_20 IAMs_20 12 52 37.6
comp=Z,1µm,21.0s
R54A Victor 61.27 64 P P 12 26 59.6 +0.7
baz=315,SNR=33
K59A Cooperstown 61.30 57 P P 12 26 60.0 +0.9
baz=316,SNR=20
L58A Harry Jones Me 61.31 58 P P 12 27 00.2 +1.1
baz=316,SNR=20
NBB30 Finnes 61.31 358 *e*P P 12 26 58.4 -0.2
N57A Milroy 61.32 60 P P 12 26 59.8 +0.6
baz=315,SNR=14
I60A Shoreham 61.34 55 P P 12 26 59.5 +0.3
baz=316
S54A Dingess, Beckl 61.36 64 P P 12 27 00.0 +0.5
baz=315,SNR=13
S54A Dingess, Beckl 61.36 64 IAMs_20 IAMs_20 12 52 30.3
comp=Z,1µm,21.0s
SEM Semipalatinsk 61.38 316 *e*P P 12 26 58.9 -0.9
comp=Z,5.7nm,0.8s,baz=316
SEM Semipalatinsk 61.38 316 *e*P P 12 26 58.8 -0.9
SEM pmax pmax
comp=Z,6.0nm,0.8s
MSF Maaselka 61.41 351 P P 12 26 59.2 -0.2
MSF pmax pmax
comp=Z,18nm,1.1s
V52A Sevierville 61.46 68 IAmb IAmb 12 27 17.4
comp=Z,85nm,1.2s
V52A IAMs_20 IAMs_20 12 51 32.9
comp=Z,1µm,22.0s
NBB17 Glomfjord Bⱳr 61.46 358 *e*P P 12 26 59.8 +0.1
M58A Price's Panora 61.47 59 P P 12 27 01.2 +1.0
baz=316,SNR=18
LRAL Lakeview Retre 61.48 72 P P 12 26 59.8 -0.5
baz=316,SNR=11
LRAL Lakeview Retre 61.48 72 IAmb IAmb 12 27 16.9
comp=Z,30nm,1.1s
TKL Tuckaleechee C 61.49 68 IAmb IAmb 12 27 17.5
comp=Z,62nm,1.2s
F62A Pittston Farm, 61.50 51 P P 12 27 00.8 +0.5
baz=316,SNR=12
F62A Pittston Farm, 61.50 51 IAmb IAmb 12 27 02.1
comp=Z,63nm,1.1s
ZSN Zaisan 61.51 311 ⇑ *i*P P 12 27 00.9 +0.6
comp=Z,37nm,0.8s,baz=312
ZSN *e*S S 12 35 20.9 +2.3
baz=312
ZSN LR LR 12 52 39.9
comp=Z,135nm,14.8s,baz=312
ZSN Zaisan 61.51 311 *c i*P P 12 27 00.9 +0.6
ZSN *e*S S 12 35 20.9 +2.3
ZSN pmax pmax
comp=Z,37nm,0.8s
ZSN MLR MLR
comp=Z,135nm,15.0s
P56A Dayton Farm, R 61.52 62 P P 12 27 01.3 +0.7
baz=315,SNR=25
H61A Lyndonville 61.52 53 P P 12 27 01.0 +0.4
baz=316,SNR=6.7
545A Edgard 61.54 77 IAMs_20 IAMs_20 12 54 51.5
comp=Z,788nm,18.0s
D63A Stockholm 61.56 49 P P 12 27 01.1 +0.5
baz=317,SNR=18
L59A Walton 61.62 57 P P 12 27 02.4 +1.1
baz=316,SNR=25
X51A Calhoun 61.64 69 IAMs_20 IAMs_20 12 51 24.7
comp=Z,1µm,22.0s
Q56A Snyder Ridge, 61.66 62 P P 12 27 02.0 +0.5
baz=316,SNR=7.2
Q56A Snyder Ridge, 61.66 62 P P 12 27 02.3 +0.8
Q56A IAmb IAmb 12 27 26.7
comp=Z,34nm,1.0s
O57A Amberson 61.67 60 P P 12 27 02.2 +0.7
baz=316,SNR=31
R55A Marlinton 61.68 63 P P 12 27 02.6 +0.9
baz=316,SNR=16
KSPA Keystone Colle 61.70 58 P P 12 27 02.4 +0.7
J60A Lant Hill Farm 61.70 55 P P 12 27 02.5 +0.8
baz=316,SNR=30
N58A Sunbury 61.71 59 P P 12 27 02.5 +0.7
baz=316,SNR=13
N58A Sunbury 61.71 59 IAmb IAmb 12 27 04.0
comp=Z,72nm,1.1s
G62A West of Eustis 61.72 52 P P 12 27 02.5 +0.7
baz=316,SNR=17
G62A West of Eustis 61.72 52 P P 12 27 02.5 +0.7
LBNH Lisbon 61.74 54 P P 12 27 02.5 +0.6
baz=316,SNR=7.2
LBNH Lisbon 61.74 54 P P 12 27 02.0 0.0
LBNH pmax pmax
comp=Z,70nm,1.5s
LBNH Lisbon 61.74 54 P P 12 27 02.0 0.0
LBNH IAmb IAmb 12 27 19.1
comp=Z,70nm,1.4s
LBNH IAMs_20 IAMs_20 12 52 52.0
comp=Z,1µm,21.0s
T54A Tazewell 61.74 65 P P 12 27 03.2 +1.0
baz=316,SNR=17
KONS Konsvik 61.80 358 *e*P P 12 27 02.2 +0.2

W52A Murphy 61.80 68 P P 12 27 02.5 0.0
W52A IAmb IAmb 12 27 19.6
comp=Z,68nm,1.3s
W52A IAMs_20 IAMs_20 12 51 30.0
comp=Z,1µm,22.0s
I61A Oroboro, Fairl 61.82 54 P P 12 27 03.3 +0.8
baz=316,SNR=10
S55A Lewisburg 61.84 64 P P 12 27 03.7 +0.9
baz=316,SNR=27
KURK Kurchatov 61.84 317 *c*eP P 12 27 02.5 0.0
KURK pmax pmax
comp=Z,66nm,0.8s
KURK Kurchatov 61.84 317 P P 12 27 02.9 +0.3
E63A Oxbow 61.86 50 P P 12 27 02.7 0.0
baz=317,SNR=17
PQI Presque Isle 61.87 49 IAmb IAmb 12 27 04.2
comp=Z,46nm,1.0s
H62A Milan 61.88 53 P P 12 27 03.4 +0.5
baz=316,SNR=16
H62A Milan 61.88 53 P P 12 27 03.4 +0.5
M59A Waymart 61.88 58 P P 12 27 03.6 +0.6
baz=316,SNR=16
K60A Five Rivers En 61.91 56 P P 12 27 03.7 +0.6
baz=316
HNH Hanover 61.94 54 P P 12 27 03.4 +0.1
HNH IAmb IAmb 12 27 21.7
comp=Z,67nm,1.4s
HNH IAMs_20 IAMs_20 12 52 36.4
comp=Z,1µm,21.0s
TRY Troy 61.95 56 P P 12 27 03.9 +0.6
TRY IAmb IAmb 12 27 20.9
comp=Z,47nm,1.1s
KURBB Kurchatov Arra 61.95 317 P P 12 27 02.7 -0.5
TMCR Tamitsa 61.95 346 *e*P P 12 27 02.1 -0.9
TMCR pmax pmax
comp=Z,25nm,0.8s
P57A Homestead Farm 61.98 61 P P 12 27 04.2 +0.5
baz=316,SNR=18
P57A Homestead Farm 61.98 61 P P 12 27 04.2 +0.5
P57A IAmb IAmb 12 27 05.7
comp=Z,68nm,1.1s
U54A Nelsons Funny 61.99 66 P P 12 27 04.6 +0.8
baz=316,SNR=9.8
U54A Nelsons Funny 61.99 66 P P 12 27 04.6 +0.8
R56A Bull Pasture M 61.99 63 P P 12 27 04.5 +0.6
baz=316,SNR=13
V53A Saluda 62.03 67 P P 12 27 04.4 +0.3
F63A Nahmakanta, Br 62.06 51 P P 12 27 04.6 +0.6
baz=317,SNR=14
F63A Nahmakanta, Br 62.06 51 P P 12 27 04.4 +0.4
F63A IAmb IAmb 12 27 05.8
comp=Z,69nm,0.9s
J61A Chester 62.07 55 P P 12 27 05.1 +0.9
baz=316,SNR=15
Q57A Strasburg 62.09 62 P P 12 27 04.9 +0.5
baz=316,SNR=13
MOR8 Moi Rana 62.10 357 *e*P P 12 27 02.5 -1.5
O58A Lewisberry 62.11 60 P P 12 27 05.2 +0.7
baz=316,SNR=14
E64A Bridgewater 62.14 50 P P 12 27 04.8 +0.3
baz=317,SNR=24
T55A Pulaski 62.14 65 P P 12 27 05.8 +0.9
baz=316,SNR=8.9
N59A State Game Lan 62.15 59 P P 12 27 05.5 +0.7
baz=316,SNR=14
N59A State Game Lan 62.15 59 P P 12 27 05.7 +0.9
N59A IAmb IAmb 12 27 07.2
comp=Z,71nm,1.1s
L60A Shokan 62.19 57 P P 12 27 06.1 +1.0
baz=316,SNR=17
K61A Williamstown 62.19 56 P P 12 27 06.0 +0.9
baz=316,SNR=12
G63A Kingsbury 62.24 52 P P 12 27 05.8 +0.5
baz=317,SNR=12
BLA Blacksburg 62.28 64 P P 12 27 06.6 +0.8
baz=316,SNR=18
BLA Blacksburg 62.28 64 IAMs_20 IAMs_20 12 52 59.6
comp=Z,1µm,21.0s
PKME Peaks-Kenny Pk 62.29 51 P P 12 27 06.0 +0.4
baz=317,SNR=10
PKME Peaks-Kenny Pk 62.29 51 IAmb IAmb 12 27 07.5
comp=Z,79nm,1.1s
I62A Tamworth 62.30 54 P P 12 27 06.2 +0.5
baz=317
I62A Tamworth 62.30 54 IAMs_20 IAMs_20 12 53 19.8
comp=Z,1µm,21.0s
F64A Sherman 62.30 50 P P 12 27 06.3 +0.6
baz=317,SNR=19
BATG Bathurst New B 62.33 48 P P 12 27 06.9 +1.0
Z51A Franklin 62.35 71 P P 12 27 05.8 -0.4
Z51A IAmb IAmb 12 27 22.7
comp=Z,76nm,1.1s
Z51A IAMs_20 IAMs_20 12 53 27.5
comp=Z,848nm,20.0s
P58A Pank, Wackersv 62.36 61 P P 12 27 06.6 +0.4
baz=316
H63A New Sharon 62.37 52 P P 12 27 06.5 +0.4
baz=317,SNR=7.1
O59A Robesonia 62.37 59 P P 12 27 07.1 +0.8
baz=316,SNR=26
L61A Hillsdale 1, H 62.39 56 P P 12 27 07.5 +1.2
baz=316,SNR=21
S56A Natural Bridge 62.42 63 P P 12 27 07.5 +0.8
baz=316,SNR=19
U55A TA2, Sparta 62.44 65 P P 12 27 07.4 +0.6
baz=316,SNR=15
BG3 Lake Jocassee 62.45 68 IAMs_20 IAMs_20 12 56 12.2
comp=Z,848nm,20.0s
V54A Nebo 62.45 67 P P 12 27 07.5 +0.6
baz=316,SNR=15
M60A Port Jervis 62.46 58 P P 12 27 08.0 +1.2
baz=316,SNR=36
MVL Millersville 62.51 60 P P 12 27 08.0 +0.9
OUL Oulu 62.51 352 P P 12 27 07.8 +1.1
OUL pmax pmax
comp=Z,44nm,0.7s
J62A Henniker 62.53 54 P P 12 27 08.2 +0.9
baz=317,SNR=10
N60A Cedar Hill Far 62.54 58 P P 12 27 08.3 +1.0
baz=316,SNR=14
I63A Otisfield 62.54 53 P P 12 27 08.2 +0.8
baz=317,SNR=11
I63A Otisfield 62.54 53 P P 12 27 08.1 +0.8
Q58A Fox Den Farm, 62.55 61 P P 12 27 08.2 +0.8
baz=316,SNR=20
R57A Stanardsville 62.55 62 P P 12 27 08.5 +1.0
baz=316,SNR=22
G64A Maxfield 62.55 51 P P 12 27 07.9 +0.5
baz=317,SNR=9.4
Y52A Lilburn 62.60 69 IAMs_20 IAMs_20 12 51 53.2
comp=Z,1µm,22.0s
WVL Waterville 62.62 52 IAmb IAmb 12 27 09.5
comp=Z,71nm,1.2s
T56A Rocky Mt 62.63 64 P P 12 27 08.5 +0.5
baz=316,SNR=14
ODNJ Ogdensburg 62.65 58 IAMs_20 IAMs_20 12 55 50.8
comp=Z,1µm,19.0s
L61B Northampton 62.65 55 P P 12 27 08.7 +0.6
baz=317,SNR=7.3
250A Grady 62.67 72 IAMs_20 IAMs_20 12 55 28.9
comp=Z,693nm,20.0s
S57A Dark Hollow, R 62.70 63 P P 12 27 09.2 +0.8
baz=316,SNR=16
S57A Dark Hollow, R 62.70 63 IAmb IAmb 12 27 10.8
comp=Z,76nm,1.2s
K62A Royalston 62.72 55 P P 12 27 09.4 +0.8
baz=317,SNR=13
K62A Royalston 62.72 55 IAMs_20 IAMs_20 12 54 08.0
comp=Z,777nm,20.0s
P59A Jarrettsville 62.74 60 P P 12 27 09.4 +0.6
baz=316,SNR=15
H64A Troy 62.78 52 P P 12 27 09.4 +0.5
baz=317,SNR=7.3
O60A Telford 62.78 59 P P 12 27 09.7 +0.8
baz=316,SNR=12
WMQ Urumqi 62.80 307 *e*P P 12 27 10.3 +1.1
WMQ sP sP 12 27 24.1 -1.2
WMQ pmax pmax
comp=Z,49nm,0.9s
WMQ pmax pmax
comp=Z,150nm,3.9s
WMQ LR LR
comp=Z,590nm,17.1s
WMQ LR LR
comp=Z,500nm,17.1s
WMQ LR LR
comp=Z,860nm,20.9s

WMQ Urumqi 62.80 307 P P 12 27 10.0 +0.9
WMQ pmax pmax
comp=Z,184nm,1.6s
WMQ MLR MLR
comp=Z,2µm,20.0s
WMQ Urumqi 62.80 307 P P 12 27 10.0 +0.9
W54A Cherokee Point 62.80 67 P P 12 27 09.4 +0.2
baz=316,SNR=9.1
V55A Taylorsville 62.81 66 P P 12 27 10.0 +0.8
baz=316,SNR=14
V55A Taylorsville 62.81 66 P P 12 27 09.3 0.0
V55A IAmb IAmb 12 27 27.6
comp=Z,61nm,1.0s
R58A Rapidan 62.84 62 P P 12 27 10.2 +0.9
baz=316,SNR=16
J63A Strafford 62.86 54 P P 12 27 10.2 +0.7
baz=317
M61A Granite Spring 62.92 57 P P 12 27 10.8 +1.0
baz=317,SNR=11
U56A King 62.92 65 P P 12 27 10.4 +0.4
baz=316,SNR=9.4
U56A King 62.92 65 P P 12 27 10.9 +0.9
U56A IAmb IAmb 12 27 28.4
comp=Z,70nm,1.1s
U56A IAMs_20 IAMs_20 12 53 30.5
comp=Z,1µm,20.0s
QUA2 Belchertown 62.94 55 P P 12 27 10.8 +0.8
QUA2 IAmb IAmb 12 27 27.4
comp=Z,60nm,1.2s
QUA2 IAMs_20 IAMs_20 12 54 24.8
comp=Z,724nm,20.0s
L62A Suffield 62.96 56 P P 12 27 11.0 +0.9
baz=317
P60A Greenville 63.02 59 P P 12 27 11.2 +0.7
baz=316
P60A Greenville 63.02 59 IAmb IAmb 12 27 12.6
comp=Z,47nm,1.2s
N61A South Mountain 63.05 58 P P 12 27 11.9 +1.2
baz=317
K63A Dunstable 63.06 55 P P 12 27 11.6 +0.9
baz=317,SNR=7.1
PAL Palisades 63.07 57 P P 12 27 11.8 +1.0
baz=317,SNR=9.0
152A Waverly Hall 63.08 71 IAmb IAmb 12 27 27.4
comp=Z,64nm,1.1s
152A IAMs_20 IAMs_20 12 53 59.8
comp=Z,958nm,22.0s
T57A Hurt 63.08 64 P P 12 27 11.3 +0.3
baz=316,SNR=11
T57A Hurt 63.08 64 IAmb IAmb 12 27 22.4
comp=Z,40nm,0.8s
X54A Belton 63.08 68 P P 12 27 11.4 +0.4
baz=316,SNR=16
I64A Boothbay 63.10 53 P P 12 27 11.2 +0.2
baz=317,SNR=8.6
R58B Mineral 63.14 62 P P 12 27 12.4 +1.0
baz=316,SNR=16
Q59A Harwood 63.16 61 P P 12 27 12.4 +0.9
baz=316
G65A Princeton 63.16 50 P P 12 27 11.8 +0.4
baz=318,SNR=11
G65A Princeton 63.16 50 IAmb IAmb 12 27 13.3
comp=Z,87nm,1.2s
MK31 Makanchi Array 63.18 312 *i*P P 12 27 10.8 -0.8
MK31 Makanchi Array 63.18 312 P P 12 27 11.2 -0.4
MKAR Makanchi Array 63.18 312 P P 12 27 11.2 -0.3
comp=Z,21nm,0.7s,baz=51,slow=6.9,SNR=153
MKAR PcP PcP 12 27 48.5 -0.3
comp=Z,12nm,0.7s,baz=38,slow=7.4,SNR=4.5
MKAR SKKP 12 51 18.9
comp=Z,2.1nm,0.8s,baz=234,slow=6.9,SNR=14
MKAR LR LR 12 54 54.1
comp=Z,634nm,20.9s,baz=34,slow=36
MKAR PKPPKP P'P'df 12 56 11.9 -3.3
comp=Z,0.4nm,0.7s,baz=277,slow=7.1,SNR=3.5
MKAR PKP2bc 12 56 20.7
comp=Z,1.0nm,0.9s,baz=244,slow=5.3,SNR=3.8
MKAR Makanchi Array 63.18 312 P P 12 27 11.3 -0.3
MKAR 12 27 49.3
MKAR Makanchi Array 63.18 312 P P 12 27 11.3 -0.3
MKAR PcP 12 27 49.3 +0.6
HRV Adam Dziewonsk 63.18 55 P P 12 27 12.4 +0.9
baz=317
HRV Adam Dziewonsk 63.18 55 P P 12 27 12.0 +0.4
HRV pmax pmax
comp=Z,79nm,1.3s
HRV MLR MLR
comp=Z,1µm,18.0s
HRV Adam Dziewonsk 63.18 55 P P 12 27 12.0 +0.4
HRV IAmb IAmb 12 27 29.1
comp=Z,79nm,1.3s
HRV Adam Dziewonsk 63.18 55 IAMs_20 IAMs_20 12 56 50.1
comp=Z,976nm,18.0s
CPNY Central Park 63.20 58 P P 12 27 12.9 +1.2
H65A Eastbrook 63.21 51 P P 12 27 12.2 +0.5
baz=318,SNR=11
V56A Mocksville 63.24 66 P P 12 27 12.8 +0.7
baz=316,SNR=16
CBN Corbin Frederi 63.25 62 P P 12 27 13.0 +0.9
baz=316
KMSC Kings Mountain 63.25 67 P P 12 27 12.7 +0.6
baz=316
GOGA Godfrey 63.27 69 P P 12 27 11.8 -0.5
baz=316,SNR=18
GOGA Godfrey 63.27 69 P P 12 27 12.1 -0.2
GOGA pmax pmax
comp=Z,94nm,1.2s
GOGA Godfrey 63.27 69 IAmb IAmb 12 27 29.6
comp=Z,61nm,1.0s
GOGA Godfrey 63.27 69 IAMs_20 IAMs_20 12 52 35.9
comp=Z,891nm,21.0s
M62A Hamden 63.27 56 P P 12 27 12.3 +0.1
baz=317,SNR=7.6
BVA0 Borovoye Array 63.30 323 *i*P P 12 27 12.0 -0.2
S58A Poland Farm, P 63.30 63 P P 12 27 13.3 +0.8
baz=316,SNR=18
S58A Poland Farm, P 63.30 63 IAmb IAmb 12 27 14.7
comp=Z,60nm,1.1s
S58A IAMs_20 IAMs_20 12 55 09.9
comp=Z,975nm,20.0s
HKPS Hong Kong Po S 63.31 272 IAMs_20 IAMs_20 12 52 05.6
comp=Z,951nm,22.0s
MAKZ Makanchi 63.31 313 P P 12 27 12.0 -0.4
MAKZ pmax pmax
comp=Z,23nm,0.8s
MAKZ MLR MLR
comp=Z,800nm,19.0s
MAKZ Makanchi 63.31 313 P P 12 27 12.0 -0.4
MAKZ IAMs_20 IAMs_20 12 55 23.3
comp=Z,769nm,19.0s
BRVK Borovoye 63.31 324 P P 12 27 12.7 +0.4
BRVK Borovoye 63.31 324 P P 12 27 12.4 +0.1
BRVK IAmb IAmb 12 27 13.9
comp=Z,28nm,0.7s
CD2 Chengdu 63.32 287 P P 12 27 13.5 +0.7
CD2 pP pP 12 27 21.8 -2.8
CD2 sP sP 12 27 25.4 -3.9
CD2 S S 12 35 46.4 +4.4
CD2 pmax pmax
comp=Z,160nm,0.8s
CD2 pmax pmax
comp=Z,490nm,4.9s
CD2 LR LR
comp=Z,930nm,17.7s
CD2 LR LR
comp=Z,1µm,19.1s
CD2 LR LR
comp=Z,1µm,20.6s
YLE Yale 63.34 56 P P 12 27 12.7 +0.1
YLE IAmb IAmb 12 27 30.2
comp=Z,94nm,1.3s
N62A Caumsett State 63.35 57 P P 12 27 13.8 +1.1
baz=317
HODGE Hodges 63.38 68 P P 12 27 13.2 +0.2
HODGE IAmb IAmb 12 27 30.2
comp=Z,74nm,1.1s
WES Weston 63.39 55 P P 12 27 13.7 +0.8
WES pmax pmax
comp=Z,51nm,0.9s
WES Weston 63.39 55 P P 12 27 13.7 +0.8
WES IAmb IAmb 12 27 15.0
comp=Z,51nm,0.9s
R59A King George, V 63.39 61 P P 12 27 13.8 +0.8
baz=316,SNR=6.9
O61A Allentown 63.39 58 P P 12 27 14.0 +1.0
baz=317
U57A Blanch 63.44 64 P P 12 27 14.1 +0.7

baz=316,SNR=20
SVE Sverdlovsk 63.45 331⇓ *e*P **P 12 27 13.4 +0.3**
SVE pmax pmax
comp=Z,32nm,0.8s
Q60A Greensboro 63.50 60 P **P 12 27 14.7 +1.0**
baz=317
Q60A Greensboro 63.50 60 IAMs_20 IAMs_20 12 55 33.2
comp=Z,1μm,21.0s
BCX Boston College 63.50 55 IAmb IAmb 12 27 31.1
comp=Z,110nm,1.6s
T58A Grand View Acr 63.52 63 P **P 12 27 14.4 +0.5**
baz=316,SNR=18
X55A Gracelyn & Ava 63.56 67 P **P 12 27 14.8 +0.6**
baz=316,SNR=25
P61A Hammonton 63.57 59 P **P 12 27 15.1 +0.9**
baz=317
H66A Whiting 63.59 50 P **P 12 27 14.8 +0.5**
baz=318,SNR=7.3
V57A Coltrane Farms 63.59 65 P **P 12 27 14.4 0.0**
baz=316,SNR=6.9
S59A Mechanicsville 63.61 62 P **P 12 27 15.5 +1.0**
baz=317
BRYW Bryant College 63.62 55 IAmb IAmb 12 27 16.5
comp=Z,50nm,1.0s
BRYW IAMs_20 IAMs_20 12 54 44.8
comp=Z,750nm,21.0s
L63A North Scituate 63.62 55 P **P 12 27 15.3 +0.8**
baz=317
R60A Leonardtown, M 63.63 61 P **P 12 27 15.6 +1.0**
baz=317
W56A Indian Trail 63.68 66 P **P 12 27 15.1 +0.1**
baz=316,SNR=8.8
M63A Gales Ferry 63.74 56 P **P 12 27 15.9 +0.7**
baz=317,SNR=18
NSS Namsos 63.80 358 *e*P **P 12 27 15.8 +0.5**
Y55A Saluda 63.82 68 P **P 12 27 16.2 +0.3**
baz=316,SNR=14
X56A White Oak 63.89 67 P **P 12 27 16.6 +0.3**
baz=317,SNR=20
U58A Oxford 63.91 64 P **P 12 27 16.8 +0.3**
baz=317,SNR=5.2
451A Vernon 63.96 73 IAMs_20 IAMs_20 12 56 42.1
comp=Z,599nm,19.0s
L64A Middleborough 63.96 55 P **P 12 27 17.2 +0.4**
baz=318
RABL Rabaul 63.96 221 IAMs_20 IAMs_20 12 49 14.3
comp=Z,745nm,22.0s
S60A Water View 64.00 62 P **P 12 27 18.3 +1.3**
baz=317
W57A Gilead 64.00 66 P **P 12 27 17.1 0.0**
baz=317,SNR=7.6
W57A Gilead 64.00 66 IAmb IAmb 12 27 34.5
comp=Z,62nm,1.1s
V58A Windy Hill, Pi 64.03 65 P **P 12 27 17.9 +0.6**
baz=317,SNR=14
V58A Windy Hill, Pi 64.03 65 IAmb IAmb 12 27 35.8
comp=Z,83nm,1.1s
V58A IAMs_20 IAMs_20 12 54 02.9
comp=Z,1μm,21.0s
T59A Double "B" Far 64.04 63 P **P 12 27 18.5 +1.2**
baz=317,SNR=27
T59A Double "B" Far 64.04 63 IAMs_20 IAMs_20 12 55 32.1
comp=Z,934nm,20.0s
M64A Tiverton 64.06 55 P **P 12 27 17.9 +0.6**
baz=318,SNR=6.3
154A Montrose 64.06 70 IAMs_20 IAMs_20 12 52 48.7
comp=Z,941nm,22.0s
JOF Joensuu 64.06 349 P **P 12 27 16.5 -0.5**
JOF pmax pmax
comp=Z,14nm,1.3s
UNM Universidad Na 64.06 92 IAMs_20 IAMs_20 12 53 18.4
comp=Z,931nm,19.0s
Y56A Pelion 64.24 68 P **P 12 27 19.4 +0.7**
baz=317
M65A Busby, Falmout 64.33 55 P **P 12 27 19.8 +0.7**
baz=318
M65A Busby, Falmout 64.33 55 IAMs_20 IAMs_20 12 55 16.7
comp=Z,795nm,21.0s
U59A Littleton 64.36 63 P **P 12 27 20.6 +1.2**
baz=317
U59A Littleton 64.36 63 IAMs_20 IAMs_20 12 54 23.6
comp=Z,1μm,21.0s
T60A Surry 64.37 62 P **P 12 27 20.4 +0.9**
baz=317
ARU Arti 64.40 332*ce*P **P 12 27 19.5 +0.1**
ARU pmax pmax
comp=Z,39nm,0.6s
ARU Arti 64.40 332 P **P 12 27 19.4 0.0**
ARU IAmb IAmb 12 27 20.7
comp=Z,47nm,0.8s
ARU IAMs_20 IAMs_20 12 58 45.2
comp=Z,697nm,19.0s
X57A Johnson Farm, 64.44 66 P **P 12 27 20.8 +0.8**
baz=317,SNR=5.2
W58A Raeford 64.52 65 P **P 12 27 21.2 +0.7**
baz=317,SNR=10
V59A Middlesex 64.54 64 P **P 12 27 21.4 +0.8**
baz=317,SNR=15
Z56A Williston 64.54 68 P **P 12 27 21.3 +0.6**
baz=317,SNR=6.6
Z56A Williston 64.54 68 P **P 12 27 21.2 +0.5**
DRLN Deer Lake 64.55 42 P **P 12 27 21.4 +0.9**
Y57A Sumter 64.60 67 P **P 12 27 21.6 +0.6**
baz=317
Y57A Sumter 64.60 67 P **P 12 27 22.0 +1.0**
U60A Pendleton 64.62 63 P **P 12 27 22.3 +1.2**
baz=317
TIGA Tifton 64.63 71 P **P 12 27 20.9 -0.4**
baz=317
TIGA Tifton 64.63 71 IAMs_20 IAMs_20 12 54 56.8
comp=Z,666nm,19.0s
VAF Ylistaro 64.79 353 P **P 12 27 22.9 +1.1**
VAF pmax pmax
comp=Z,54nm,0.7s
X58A Rowland 64.80 66 P **P 12 27 22.7 +0.4**
baz=317
SUF Sumiainen 64.81 351 P **P 12 27 23.4 +1.4**
SUF pmax pmax
comp=Z,37nm,1.4s
GYA Guiyang 64.82 281 P **P 12 27 23.6 +0.9**
GYA pP pP 12 27 32.4 -2.2
GYA sP sP 12 27 36.5 -2.8
GYA S **S 12 36 00.9 +0.2**
GYA sS pS 12 36 17.4 +2.2
GYA SKS **SKSac 12 37 13.0 -1.1**
GYA SS **SS 12 40 15.1 +3.1**
GYA pmax pmax
comp=Z,100nm,1.2s
GYA pmax pmax
comp=Z,650nm,3.5s
GYA LR LR
comp=Z,300nm,18.0s
GYA LR LR
comp=Z,440nm,22.9s
GYA LR LR
comp=Z,450nm,23.9s
KLMR Klimovskoe 64.83 344 *e*P **P 12 27 21.0 -1.1**
KLMR *e* 12 27 53.6
KLMR pmax pmax
comp=Z,29nm,1.2s
KLMR Klimovskoe 64.83 344 *e*P **P 12 27 21.1 -1.1**
KLMR AMP 12 27 22.7
comp=Z,29nm,1.2s
KLMR *e*PcP **PcP 12 27 53.7 -1.5**
KLMR LQ LQ 12 50 41.4
KLMR LQ LQ 12 50 41.4
KLMR LR LR 12 53 41.6
BRZS Berezniki 64.83 320⇑ *i*P **P 12 27 22.3 0.0**
comp=Z,8.9nm,0.8s,baz=320
BRZS LR LR 12 53 52.8
comp=Z,725nm,19.3s,baz=320
BRZS Berezniki 64.83 320 *c i*P **P 12 27 22.3 0.0**
BRZS pmax pmax
comp=Z,9.0nm,0.8s
BRZS MLR MLR
comp=Z,725nm,19.0s
W59A Clinton 64.86 65 P **P 12 27 23.4 +0.7**
baz=317
KIRV Kirov 64.91 338 *i*P **P 12 27 22.4 -0.2**
255A Hazlehurst 64.92 70 IAMs_20 IAMs_20 12 55 07.6
comp=Z,744nm,20.0s
Z57A Bowman 64.94 68 P **P 12 27 24.2 +0.9**
baz=317,SNR=16
V60A Jim Taylor Roa 65.08 63 P **P 12 27 24.8 +0.7**
baz=317
Y58A Scranton 65.09 66 P **P 12 27 24.7 +0.5**
baz=317,SNR=5.1

TBLU Trondheim 65.11 359 *e*P **P 12 27 23.4 -0.4**
U61A Possum Corner 65.11 62 P **P 12 27 24.9 +0.6**
baz=317
CNNC Cliffs of the 65.12 64 P **P 12 27 25.6 +1.2**
baz=317
X59A McDuffie Farm, 65.20 65 P **P 12 27 25.8 +0.9**
baz=317
157A Early Branch 65.23 68 P **P 12 27 26.1 +1.0**
baz=317,SNR=5.3
W60A Pink Hill 65.35 64 P **P 12 27 26.9 +1.0**
baz=317
NHSC New Hope 65.38 67 P **P 12 27 27.4 +1.2**
baz=317,SNR=5.5
Z58A St. Stephen 65.42 67 P **P 12 27 27.5 +1.1**
baz=317
V61A Roper 65.44 63 P **P 12 27 27.5 +1.1**
baz=317
V61A Roper 65.44 63 IAMs_20 IAMs_20 12 56 16.2
comp=Z,964nm,20.0s
Y59A Loris 65.48 66 P **P 12 27 27.6 +0.9**
baz=317
X60A Albert Glenn T 65.55 65 P **P 12 27 28.1 +0.9**
baz=317
158A Hollywood 65.65 68 P **P 12 27 29.1 +1.2**
baz=317
W61A Ground Anchor 65.66 64 P **P 12 27 29.2 +1.3**
baz=317
257A Skidaway Islan 65.73 69 IAMs_20 IAMs_20 12 58 16.9
comp=Z,951nm,19.0s
TLIG Tlapa 65.78 92 P **P 12 27 29.7 +0.7**
TLIG IAmb IAmb 12 28 00.5
comp=Z,43nm,1.2s
TLIG IAMs_20 IAMs_20 12 50 21.7
comp=Z,943nm,22.0s
MOL Molde 65.79 1 *e*P **P 12 27 29.3 +1.0**
Z59A Georgetown, SC 65.80 67 P **P 12 27 30.1 +1.3**
baz=317
GBN Guysborough 65.81 47 P **P 12 27 29.6 +0.9**
Y60A Bolivia 65.84 65 P **P 12 27 29.7 +0.7**
baz=318
Y60A Bolivia 65.84 65 IAMs_20 IAMs_20 12 55 10.8
comp=Z,1μm,20.0s
456A Hilliard 66.06 70 IAMs_20 IAMs_20 12 56 01.9
comp=Z,802nm,20.0s
FIA1 FINESS Array S 66.07 351 IAmb IAmb 12 28 00.6
comp=Z,42nm,1.2s
FINES FINESS Array B 66.07 351 P **P 12 27 29.2 -0.9**
comp=Z,17nm,0.8s,baz=12,slow=8.4,SNR=52
FINES PKPPKP **P'P'df 12 56 04.7 -6.6**
comp=Z,4.8nm,0.9s,baz=163,slow=7.4,SNR=7.7
FINES LR LR 12 56 08.4
comp=Z,682nm,21.5s,baz=6.0,slow=36
TAOE Nuku Hiva Isla 66.25 146 *e*LR LR 12 47 08.7
comp=Z,2μm,22.0s,baz=349
TAOE Nuku Hiva Isla 66.25 146 *e*T T 13 39 38.4
comp=Z,34nm,0.2s
TDK Taldyqorghan 66.30 313 *e*P **P 12 27 32.3 +0.3**
comp=Z,36nm,0.8s,baz=314
TDK LR LR 12 56 48.3
comp=Z,791nm,17.4s,baz=314
TDK Taldyqorghan 66.30 313 *e*P **P 12 27 32.2 +0.3**
TDK pmax pmax
comp=Z,36nm,0.8s
TDK MLR MLR
comp=Z,791nm,17.0s
DOMB Dombas 66.33 360 *e*P **P 12 27 31.6 -0.2**
OTUK Ortayu 66.35 319 P **P 12 27 32.1 -0.1**
NC204 NORSAR Array S 67.08 359 P **P 12 27 37.2 +0.5**
NC204 IAmb IAmb 12 27 38.0
comp=Z,47nm,0.9s
PDGK Podgornoye 67.10 312 P **P 12 27 37.3 +0.1**
NC303 NORSAR Array S 67.12 359 P **P 12 27 36.8 -0.1**
NC303 IAmb IAmb 12 27 37.6
comp=Z,130nm,1.5s
NC405 NORSAR Array S 67.23 358 IAmb IAmb 12 28 06.2
comp=Z,62nm,1.0s
PUL Pulkovo 67.23 348 *i*P **P 12 27 38.9 +1.4**
PUL pmax pmax
comp=Z,59nm,0.6s
SHLS Shalkode 67.25 311⇑ *i*P **P 12 27 37.6 -0.6**
comp=Z,40nm,1.0s,baz=311
SHLS Shalkode 67.25 311 *c i*P **P 12 27 37.5 -0.6**
SHLS pmax pmax
comp=Z,40nm,1.0s
NB201 NORSAR Array S 67.30 359 IAmb IAmb 12 27 39.2
comp=Z,54nm,0.9s
NB201 NORSAR Array S 67.30 359 *e*P **P 12 27 38.6 +0.6**
NB2 NORSAR Subarra 67.31 359 P **P 12 27 37.9 -0.2**
comp=Z,16nm,0.9s,baz=1.5,slow=6.9
NB2 NORSAR Subarra 67.31 359 P **P 12 27 37.9 -0.2**
baz=1.5,slow=6.9
NOA NORSAR Array B 67.31 359 P **P 12 27 37.5 -0.6**
comp=Z,7.7nm,0.7s,baz=2.3,slow=6.4,SNR=36
NOA LR LR 12 58 03.2
comp=Z,368nm,20.0s,baz=0.0,slow=37
KPKS Kokpek 67.36 312⇑ *i*P **P 12 27 39.3 +0.4**
comp=Z,20nm,0.9s,baz=312
KPKS LR LR 12 56 37.4
comp=Z,431nm,17.5s,baz=312
KPKS Kokpek 67.36 312 *c i*P **P 12 27 39.2 +0.4**
KPKS pmax pmax
comp=Z,20nm,0.9s
KPKS MLR MLR
comp=Z,431nm,18.0s
UZB Uzynbulak 67.46 312 *e*P **P 12 27 39.7 +0.2**
comp=Z,7.8nm,0.8s,baz=312
UZB LR LR 12 56 32.5
comp=Z,171nm,16.2s,baz=312
UZB Uzynbulak 67.46 312 *e*P **P 12 27 39.7 +0.2**
UZB pmax pmax
comp=Z,8.0nm,0.8s
UZB MLR MLR
comp=Z,171nm,16.0s
NC602 NORSAR Array S 67.61 358 IAmb IAmb 12 27 41.1
comp=Z,90nm,1.2s
NORES NORESS Array B 67.61 358 P **P 12 27 40.9 +1.0**
NORES pmax pmax
comp=Z,17nm,1.0s
JAY Jayapura 67.69 233 P **P 12 27 43.3 +2.3**
comp=Z,452nmcomp=Z,27nm,1.3s
SATY Saty 67.81 312 *e*P **P 12 27 42.2 +0.6**
comp=Z,12nm,1.3s,baz=312
SATY LR LR 12 56 51.2
comp=Z,151nm,16.5s,baz=312
SATY Saty 67.81 312 *e*P **P 12 27 42.2 +0.6**
SATY pmax pmax
comp=Z,12nm,1.3s
SATY MLR MLR
comp=Z,151nm,16.0s
CHKK Chushkaly 67.83 313 *e*P **P 12 27 41.2 -0.5**
comp=Z,131nm,0.9s,baz=314
CHKK Chushkaly 67.83 313 *e*P **P 12 27 41.1 -0.5**
CHKK pmax pmax
comp=Z,131nm,0.9s
GENI Genyem 68.02 234 P **P 12 27 44.0 +0.9**
comp=Z,101nm,1.1s
KUU Kurty 68.09 314⇑ *i*P **P 12 27 42.8 -0.5**
comp=Z,22nm,1.1s,baz=314
KUU LR LR 12 58 12.1
comp=Z,298nm,15.2s,baz=314
KUU Kurty 68.09 314 *c i*P **P 12 27 42.8 -0.5**
KUU pmax pmax
comp=Z,22nm,1.1s
KUU MLR MLR
comp=Z,298nm,15.0s
KMI Kunming 68.17 283 ⇑P **P 12 27 45.6 +1.3**
KMI pP pP 12 27 53.6 -2.6
KMI sP sP 12 27 56.9 -3.9
KMI PcP **PcP 12 28 10.4 +0.4**
KMI PP **PP 12 30 15.1 +0.4**
KMI S **S 12 36 42.5 +0.9**
KMI sS pS 12 36 56.8 +0.4
KMI SS **SS 12 41 06.8 +2.4**
KMI pmax pmax
comp=Z,84nm,1.3s
KMI pmax pmax
comp=Z,540nm,3.6s
KMI LR LR
comp=Z,690nm,24.4s
KMI LR LR
comp=Z,200nm,21.5s
KMI LR LR
comp=Z,850nm,31.0s
KMI Kunming 68.17 283 IAMs_20 IAMs_20 12 56 22.2
comp=Z,720nm,22.0s
BTLS Baital 68.19 316⇑ *i*P **P 12 27 44.1 +0.3**
comp=Z,12nm,1.0s,baz=316

BTLS LR LR 12 57 35.6
comp=Z,131nm,13.6s,baz=316
BTLS Baital 68.19 316 *c i*P **P 12 27 44.1 +0.3**
BTLS pmax pmax
comp=Z,12nm,1.0s
BTLS MLR MLR
comp=Z,131nm,14.0s
SMPI Sarmi 68.24 235 P **P 12 27 46.3 +1.9**
comp=Z,24nm,1.6s
PRZ Przheval'sk 68.26 312 IAmb IAmb 12 28 27.5
comp=Z,48nm,1.2s
PRZ IAMs_20 IAMs_20 12 58 28.5
comp=Z,814nm,19.0s
DWPF Disney Wildern 68.34 72 P **P 12 27 45.8 +0.8**
baz=318
MDOK Medeo 68.35 313 *i*P **P 12 27 45.4 +0.3**
comp=Z,468nm,0.9s,baz=313
MDOK LR LR 12 57 02.1
comp=Z,296nm,20.1s,baz=313
MDOK Medeo 68.35 313 *i*P **P 12 27 45.4 +0.3**
MDOK pmax pmax
comp=Z,468nm,0.9s
MDOK MLR MLR
comp=Z,296nm,20.0s
KCP Kidapawan 68.37 253⇑ *i*P **P 12 27 46.2 +0.8**
AAA Alma-Ata 68.37 313 *e*P **P 12 27 45.8 +0.7**
comp=Z,39nm,1.0s,baz=313
AAA LR LR 12 56 02.9
comp=Z,286nm,18.9s,baz=313
AAA Alma-Ata 68.37 313 *e*P **P 12 27 45.8 +0.7**
AAA pmax pmax
comp=Z,39nm,1.0s
AAA MLR MLR
comp=Z,285nm,19.0s
QIZ Qiongzhong 68.39 273 P **P 12 27 46.0 +0.5**
QIZ S **S 12 36 45.8 +1.9**
QIZ sS **pS 12 36 56.8 -1.5**
QIZ pmax pmax
comp=Z,380nm,4.6s
QIZ LR LR
comp=Z,500nm,19.6s
QIZ LR LR
comp=Z,430nm,21.1s
QIZ LR LR
comp=Z,630nm,22.5s
TNSS Tian-Shan 68.49 313 *e*P **P 12 27 46.5 +0.2**
baz=313
TNSS Tian-Shan 68.49 313 *e*P **P 12 27 46.5 +0.2**
MTBS Maitube 68.65 313 *e*P **P 12 27 47.4 +0.5**
baz=314
MTBS Maitube 68.65 313 *e*P **P 12 27 47.4 +0.5**
KONO Kongsberg 68.72 359 *ce*P **P 12 27 46.3 -0.6**
KONO pmax pmax
comp=Z,117nm,2.5s
KONO Kongsberg 68.72 359 P **P 12 27 47.0 +0.1**
KONO IAmb IAmb 12 27 48.5
comp=Z,44nm,1.1s
KONO Kongsberg 68.72 359 *e*P **P 12 27 46.6 -0.3**
VSU Vasula 68.94 350 *e*P **P 12 27 48.2 0.0**
VSU Vasula 68.94 350 *c i*P **P 12 27 48.1 -0.1**
VSU pmax pmax
comp=Z,108nm,0.8s
KDJ Kajisay 69.10 312 P **P 12 27 50.4 +0.6**
KDJ Kajisay 69.10 312 P **P 12 27 50.4 +0.6**
KDJ IAmb IAmb 12 27 51.5
comp=Z,28nm,0.8s
TARG Taragay, Kyrgy 69.13 312 IAMs_20 IAMs_20 13 02 04.2
comp=Z,799nm,20.0s
TKM2 Tokmak 2 69.19 314 P **P 12 27 51.2 +0.8**
SNR=22
TKM2 Tokmak 2 69.19 314 P **P 12 27 50.4 0.0**
SGDS Sogindy 69.20 315 *e*P **P 12 27 50.9 +0.7**
comp=Z,12nm,0.9s,baz=315
SGDS *e*S **S 12 36 55.2 +2.2**
baz=315
SGDS LR LR 12 58 49.5
comp=Z,274nm,15.1s,baz=315
SGDS Sogindy 69.20 315 *e*P **P 12 27 50.9 +0.7**
SGDS *e*S **S 12 36 55.1 +2.1**
SGDS pmax pmax
comp=Z,12nm,0.9s
SGDS MLR MLR
comp=Z,274nm,15.0s
BOOM Boomskoye usch 69.38 313 P **P 12 27 52.2 +0.7**
BOOM pmax pmax
comp=Z,43nm,0.8s
BOOM MLR MLR
comp=Z,800nm,20.0s
BOOM Boomskoye usch 69.38 313 P **P 12 27 52.2 +0.7**
BOOM IAmb IAmb 12 27 53.3
comp=Z,43nm,0.8s
BOOM IAMs_20 IAMs_20 13 00 49.9
comp=Z,790nm,20.0s
USP Ospenovka 69.40 315 P **P 12 27 52.4 +1.0**
SNR=25
ULHL Ulahol 69.44 313 P **P 12 27 52.7 +0.8**
SNR=23
CHMS Chumysh 69.50 314 P **P 12 27 53.0 +0.9**
SNR=10
KBK Karagaybulak 69.69 314 P **P 12 27 54.4 +1.0**
SNR=20
FRU1 Bishkek 69.71 314 IAMs_20 IAMs_20 12 59 44.6
comp=Z,864nm,20.0s
AKTO Aktyubinsk 69.73 329 P **P 12 27 53.0 -0.3**
AAK Ala-Archa 69.91 314 P **P 12 27 55.6 +0.9**
SNR=26
AAK Ala-Archa 69.91 314 P **P 12 27 55.1 +0.3**
AAK pmax pmax
comp=Z,37nm,0.8s
AAK MLR MLR
comp=Z,800nm,20.0s
AAK Ala-Archa 69.91 314 P **P 12 27 55.0 +0.3**
AAK IAmb IAmb 12 27 56.5
comp=Z,37nm,0.8s
AAK Ala-Archa 69.91 314 IAMs_20 IAMs_20 12 59 58.9
comp=Z,847nm,20.0s
KZA Kyzart 70.02 313 P **P 12 27 56.7 +0.9**
SNR=18
ABKAR Akbulak array 70.11 327 P **P 12 27 55.5 -0.2**
SLIT Slitere, Latvi 70.18 352 *e*P P 12 27 50.5 -5.4
EKS2 Erkin-Say 70.20 315 P **P 12 27 57.6 +1.0**
SNR=19
UCH Uchtor 70.23 314 P **P 12 27 57.5 +0.5**
SNR=13
SLVN Son La 70.30 280 P **P 12 27 56.7 -0.6**
SLVN IAMs_20 IAMs_20 12 58 33.6
comp=Z,625nm,21.0s
MCD Coleburn Disti 70.36 7 *e*P **P 12 27 57.6 +0.5**
KPL Plockton 70.41 8 *e*P **P 12 27 57.4 0.0**
KPL IAmb IAmb 12 27 58.7
comp=Z,17nm,0.8s
KPL IAMs_20 IAMs_20 12 57 36.3
comp=Z,667nm,19.1s
AML Almayashu 70.67 314 P **P 12 28 00.8 +1.1**
SNR=17
OBN Obninsk 70.78 343⇓ *e*P **P 12 27 58.6 -1.0**
OBN *PP **pP 12 28 07.0 -4.4**
OBN *SP **sP 12 28 16.0 0.0**
OBN 12 28 21.0
OBN S **S 12 37 05.0 -5.9**
OBN pmax pmax
comp=Z,18nm,0.5s
OBN MLR MLR
comp=Z,534nm,18.0s
OBN Obninsk 70.78 343 P **P 12 27 59.8 +0.2**
OBN IAMs_20 IAMs_20 13 04 16.9
comp=Z,802nm,19.0s
DZA Taraz 71.08 316 LR LR 13 00 40.9
comp=Z,237nm,17.7s,baz=317
DRUM Mains of Drumt 71.09 6 *e*P **P 12 28 01.2 -0.2**
DRUM IAmb IAmb 12 28 02.8
comp=Z,63nm,1.0s
KK31 Karatay Array 71.25 317 *i*P **P 12 28 02.8 0.0**
KK31 Karatay Array 71.25 317 P **P 12 28 02.7 0.0**
KKAR Karatay Array 71.25 317 P **P 12 28 02.7 -0.1**
KKAR pmax pmax
comp=Z,23nm,0.8s
KKAR Karatay Array 71.25 317 P **P 12 28 02.7 -0.1**
KKAR Karatay Array 71.25 317 P **P 12 28 03.1 +0.4**
KKAR IAmb IAmb 12 28 03.9
comp=Z,23nm,0.8s
INVG Invergeldie, C 71.45 7 *e*P **P 12 28 03.2 -0.5**
INVG IAmb IAmb 12 28 04.9
comp=Z,19nm,0.9s
INVG IAMs_20 IAMs_20 12 59 16.4
comp=Z,763nm,24.0s

LAWE Loch Awe, Argy 71.50 8 eP P 12 28 04.1 +0.2
LAWE IAmb IAmb 12 28 05.1
comp=Z,19nm,0.8s
LAWE IAMs_20 IAMs_20 12 59 40.9
comp=Z,704nm,16.8s
LSA Lhasa 71.51 295 P P 12 28 07.0 +1.9
LSA Lhasa 71.51 295 P P **12 28 06.6 +1.5**
LSA pmax pmax
comp=Z,99nm,0.8s
LSA MLR MLR
comp=Z,700nm,21.0s
LSA Lhasa 71.51 295 P P 12 28 06.6 +1.5
LSA IAMs_20 IAMs_20 13 00 28.3
comp=Z,710nm,21.0s
IZAR Zarasai 71.65 350 eP P 12 28 05.0 +0.1
EAB Aberfoyle 71.67 8 eP P 12 28 05.2 +0.3
KSH Kashi 71.73 311 P P **12 28 09.9 +4.1**
KSH PP **PP 12 30 50.5 +5.7**
KSH pmax pmax
comp=Z,92nm,0.7s
KSH pmax pmax
comp=Z,440nm,5.7s
KSH LR LR
comp=Z,1µm,10.9s
KSH LR LR
comp=Z,2µm,13.8s
KSH LR LR
comp=Z,980nm,14.8s
PBUR Paburge 71.80 352 eP P 12 28 05.7 -0.1
PPT Papeete 71.81 158 LR LR 12 54 29.9
comp=Z,436nm,18.9s,baz=319,slow=31
PPT2 Papeete2 71.83 158 eS S 12 37 14.5 -9.4
comp=Z,721nm,29.8s
PPT2 Papeete2 71.83 158 eLR LR 12 49 45.0
comp=Z,829nm,22.0s,baz=346
PPT2 Papeete2 71.83 158 eT T 13 46 33.2
comp=Z,6.5nm,0.3s
ISAL Salakas 71.84 350 eP P 12 28 06.3 +0.3
TIAR Tiarei 71.85 158 eT T 13 46 34.4
comp=Z,6.6nm,0.3s
MUD Monsted U'grnd 71.93 360 i P P 12 28 07.9 +1.4
MUD Monsted U'grnd 71.93 360 eP P 12 28 07.9 +1.4
PGBU Glenifferbraes 72.03 8 eP P 12 28 07.5 +0.3
PGBU IAmb IAmb 12 28 08.3
comp=Z,49nm,0.9s
PGBU IAMs_20 IAMs_20 13 01 00.3
comp=Z,579nm,19.8s
IIGN Ignalina 72.05 350 eP P 12 28 07.6 +0.3
TNTI Ternate 72.08 247 P P **12 28 07.7 -0.3**
PABE Paberze 72.13 351 eP P 12 28 07.4 -0.3
IUG luzhnay 72.24 317 eP P 12 28 09.4 +0.5
comp=Z,2.2nm,0.8s,baz=317
IUG LR LR 13 01 24.2
baz=317
IUG luzhnay 72.24 317 eP P 12 28 09.3 +0.5
IUG pmax pmax
comp=Z,2.0nm,0.8s
CHM Chimkent 72.28 317 eP P 12 28 19.7 +11
comp=Z,24nm,1.1s,baz=317
FAKI Fak Fak 72.42 241 P **P 12 28 11.0 +1.0**
comp=Z,2µmcomp=Z,119nm,1.5s
FAKI Fak Fak 72.42 241 P **P 12 28 10.1 +0.1**
FAKI IAmb IAmb 12 28 11.5
comp=Z,80nm,1.0s
NACGM Naroch 72.42 349 eP P 12 28 06.0 -3.5
NACGM eP **P 12 28 08.0 -1.5**
NACGM ePcP **sP 12 28 26.0 0.0**
NACGM ePP PP 12 31 06.0 +16
NACGM ePPP PPP 12 32 25.0
NACGM eS **S 12 37 32.0 +2.1**
NACGM eLQ LQ 12 56 52.0
NACGM eLR LR 13 00 08.0
NACGM LRM MLR 13 00 59.0
comp=Z,4.3nm,20.0s
EKA Eskdalemuir Ar 72.61 7 P P 12 28 10.5 -0.1
ESK Eskdalemuir 72.62 7 eP P 12 28 11.0 +0.3
ESK IAmb IAmb 12 28 11.8
comp=Z,24nm,0.9s
ESK IAMs_20 IAMs_20 13 02 31.6
comp=Z,582nm,19.7s
ESK Eskdalemuir 72.62 7 P **P 12 28 11.2 +0.5**
ESK pmax pmax
comp=Z,23nm,0.9s
ESK MLR MLR
comp=Z,600nm,21.0s
ESK Eskdalemuir 72.62 7 P P 12 28 11.2 +0.5
ESK Eskdalemuir 72.62 7 IAMs_20 IAMs_20 12 59 57.8
comp=Z,624nm,21.0s
MICGM Minsk 72.68 348 eP P 12 28 02.0 -9.1
MICGM eLR LR 12 58 06.0
MNK Minsk 72.68 348 eP P 12 28 02.0 -9.1
LPSR Galich'ya Gora 72.73 341 eP P 12 28 10.7 -0.7
LPSR pmax pmax
comp=Z,10.0nm,0.7s
NEWG New Galloway 72.74 8 eP P 12 28 10.9 -0.5
NEWG IAmb IAmb 12 28 12.4
comp=Z,13nm,0.9s
KOHI KOHIMA 72.84 290 eP P 12 28 11.8 -0.9
KOHI IAmb IAmb 12 28 17.9
comp=Z,77nm,1.0s
BSD Bornholm Skovb 73.15 356 i P P 12 28 14.4 +0.6
BSD Bornholm Skovb 73.15 356 i P P 12 28 14.4 +0.6
LBMI Labuha 73.16 246 P **P 12 28 14.4 0.0**
comp=Z,1µmcomp=Z,64nm,1.3s
KESW Keswick, Cumbr 73.35 7 eP P 12 28 15.2 +0.2
KESW IAMs_20 IAMs_20 13 03 38.9
comp=Z,518nm,19.9s
VRH Novokhopyorsk 73.46 339 eP P 12 28 15.1 -0.6
VRH pmax pmax
comp=Z,30nm,0.7s
IOMK Kirk Michael 73.56 8 eP P 12 28 15.5 -0.8
IOMK IAMs_20 IAMs_20 13 00 40.5
comp=Z,1µm,22.0s
BTK Batken 73.62 315 P **P 12 28 17.4 +0.4**
BTK pmax pmax
comp=Z,35nm,0.9s
BTK Batken 73.62 315 P **P 12 28 17.4 +0.4**
BTK IAmb IAmb 12 28 18.1
comp=Z,35nm,0.9s
SUW Suwalki 73.68 351 IAMs_20 IAMs_20 13 03 22.4
comp=Z,832nm,21.0s
RGN Rugen 73.77 357 IAMs_20 IAMs_20 13 04 45.6
comp=Z,709nm,20.0s
MTO3 Montecristo 73.88 87 IAMs_20 IAMs_20 12 55 28.2
comp=Z,523nm,21.0s
SHL Shillong 74.25 291 eP P 12 28 18.8 -2.2
SHL IAmb IAmb 12 28 23.4
comp=Z,112nm,1.3s
SHL Shillong 74.25 291 P **P 12 28 20.9 -0.1**
SHL pmax pmax
comp=Z,115nm,1.1s
SHL MLR MLR
comp=Z,800nm,19.0s
SHL Shillong 74.25 291 P **P 12 28 20.9 -0.1**
SHL IAmb IAmb 12 28 23.2
comp=Z,115nm,1.1s
SHL IAMs_20 IAMs_20 13 03 06.9
comp=Z,752nm,19.0s
DSB Dublin 74.39 9 IAMs_20 IAMs_20 13 00 34.7
comp=Z,879nm,22.0s
BBSR BB Station 74.41 57 IAMs_20 IAMs_20 13 03 44.4
comp=Z,519nm,19.0s
WME Myndd Eilian 74.44 8 eP P 12 28 21.4 +0.1
BSEG Bad Segeberg 74.45 359 eP P 12 28 22.3 +0.9
comp=Z,27nm,1.1s,baz=1.9,slow=5.6
KKM Kota Kinabalu 74.47 260 P **P 12 28 22.6 +0.3**
KKM IAMs_20 IAMs_20 13 00 24.4
comp=Z,493nm,20.0s
SNET Serv Nac Est T 74.50 88 IAMs_20 IAMs_20 12 56 49.8
comp=Z,774nm,21.0s
GAR Garm 74.71 315 P **P 12 28 23.8 +0.4**
GTK Tadong 74.77 295 eP P 12 28 25.1 +1.1
GTK IAmb IAmb 12 28 35.4
comp=Z,36nm,0.9s
FOEL Foel Wylfa 75.03 7 eP P 12 28 25.4 +0.5
FOEL IAmb IAmb 12 28 25.8
comp=Z,43nm,0.9s
SANI Sanana 75.17 247 P **P 12 28 26.0 -0.1**
comp=Z,1µmcomp=Z,104nm,1.1s
CHTO Chiang Mai 75.23 282 P **P 12 28 27.1 +0.5**
CHTO pmax pmax
comp=Z,264nm,1.9s
CHTO MLR MLR
comp=Z,400nm,18.0s
CHTO Chiang Mai 75.23 282 P **P 12 28 27.1 +0.5**
comp=Z,431nm,18.0s
TAPN Taplejung 75.25 295 eP P 12 28 27.6 +0.7
comp=Z,197nm,0.9s
AAI Ambon 75.28 244 P **P 12 28 26.8 +0.1**
comp=Z,2µmcomp=Z,133nm,1.5s
AAI Ambon 75.28 244 P **P 12 28 27.7 +1.0**
AAI pmax pmax
comp=Z,133nm,1.5s
SPMM Sapulut 75.36 259 P **P 12 28 28.0 +0.7**
TGUH Tegucigalpa,Un 75.43 86 IAMs_20 IAMs_20 12 57 41.4
comp=Z,863nm,22.0s
WACR West Acre 75.45 5 eP P 12 28 27.0 -0.2
WACR IAmb IAmb 12 28 28.2
comp=Z,138nm,0.9s
MRSI Marisa 75.46 252 P **P 12 28 28.1 +0.3**
comp=Z,1µmcomp=Z,81nm,1.8s
CHGR Chuyangaron 75.50 315 P **P 12 28 28.0 +0.1**
CM31 Chiang Mai Arr 75.51 281 P **P 12 28 28.9 +0.8**
CMAR Chiang Mai Arr 75.51 281 P **P 12 28 29.4 +1.3**
comp=Z,36nm,0.7s,baz=26,slow=6.8,SNR=191
CMAR LR LR 13 02 29.5
comp=Z,375nm,21.2s,baz=84,slow=36
CMAR Chiang Mai Arr 75.51 281 i P P 12 28 29.3 +1.2
CMAR pmax pmax
comp=Z,38nm,0.7s
CMAR Chiang Mai Arr 75.51 281 P **P 12 28 29.2 +1.1**
ODAN Odare 75.80 295 eP P 12 28 30.5 +0.5
comp=Z,59nm,0.7s
GUN Gumba 75.82 297 eP P 12 28 31.0 +0.7
comp=Z,160nm,0.7s
RUE Ruedersdorf 75.83 357 eP P 12 28 30.6 +1.2
comp=Z,30nm,0.7s,baz=1.9,slow=5.6
RSBS Rosebush, Pemb 75.83 9 eP P 12 28 29.7 +0.3
RSBS IAmb IAmb 12 28 30.6
comp=Z,41nm,1.0s
RSBS IAMs_20 IAMs_20 13 00 48.7
comp=Z,764nm,23.4s
JIRN Jiri 75.85 297 eP P 12 28 31.4 +1.0
comp=Z,351nm,0.7s
NRDL Niedersach Rie 75.89 359 eP P 12 28 30.1 +0.4
comp=Z,22nm,1.0s,baz=1.9,slow=5.6
MCH1 Michaelchurch 75.93 7 eP P 12 28 30.3 +0.2
MCH1 IAmb IAmb 12 28 30.8
comp=Z,24nm,0.9s
IBBN Ibbenburen 76.08 1 eP P 12 28 31.3 +0.4
comp=Z,86nm,1.2s,baz=1.9,slow=5.6
RAMN Ramite 76.17 296 eP P 12 28 32.7 +0.6
comp=Z,319nm,0.9s
LUWI Luwuk 76.20 250 P **P 12 28 32.7 +0.7**
comp=Z,2µmcomp=Z,150nm,1.3s
LUWI Luwuk 76.20 250 P **P 12 28 31.9 -0.1**
AKASG Malin Array Be 76.22 347 P **P 12 28 30.1 -1.6**
comp=Z,9.2nm,0.6s,baz=16,slow=5.9,SNR=25
AKASG Malin Array Be 76.22 347 i P P 12 28 31.2 -0.5
AKASG pmax pmax
comp=Z,9.0nm,0.6s
AKASG Malin Array Be 76.22 347 P **P 12 28 31.1 -0.6**
AKBB Malin Array Si 76.22 347 eP P 12 28 30.7 -1.0
AKBB Malin Array Si 76.22 347 P **P 12 28 31.2 -0.4**
KKN Kakan 76.25 297 eP P 12 28 33.3 +0.8
comp=Z,0.5nm,0.6s
ASSE Asse, Remlinge 76.25 359 eP P 12 28 32.2 +0.5
comp=Z,14nm,1.1s,baz=1.9,slow=5.6
PKI Pulchoki 76.35 297 eP P 12 28 33.5 +0.3
comp=Z,271nm,1.2s
PKIN Phulchoki 76.35 297 eP P 12 28 33.4 +0.2
comp=Z,236nm,1.2s
GKN Gorkha 76.43 298 eP P 12 28 34.0 +0.5
DMN Daman 76.48 297 eP P 12 28 34.6 +0.7
comp=Z,185nm,1.1s
CLZ Clausthal 76.54 359 eP P 12 28 34.2 +0.7
comp=Z,35nm,1.1s,baz=1.9,slow=5.6
CRIN San Cristobal 76.61 87 IAMs_20 IAMs_20 12 57 47.0
comp=Z,551nm,20.0s
DANN Dangsing 76.64 299 eP P 12 28 35.6 +0.8
comp=Z,364nm,0.9s
MPSI Mapaga 76.78 253 P **P 12 28 35.3 0.0**
comp=Z,898nmcomp=Z,68nm,1.4s
GTTG Gottingen 76.84 359 eP P 12 28 35.9 +0.7
comp=Z,41nm,1.2s,baz=1.9,slow=5.6
BUG Bochum--Univer 76.95 1 eP P 12 28 35.8 0.0
comp=Z,35nm,1.2s,baz=1.9,slow=5.6
CLL Collm 77.02 357⇑ i P P 12 28 36.3 +0.1
comp=Z,28nm,1.1s
CLL epP **pP 12 28 48.0 -0.2**
CLL *i* sP **sP 12 28 51.9 -0.9**
CLL ePP **PP 12 31 36.0 +7.0**
CLL ePPP PPP 12 33 24.0
CLL eS **S 12 38 24.0 +2.7**
CLL ePPS PPS 12 39 18.0
CLL eSS **SS 12 43 18.0 +0.7**
CLL *e* 12 47 42.0
CLL LmH 13 06 00.0
comp=N,400nm,20.7s
CLL LmH 13 06 00.0
comp=E,300nm,21.9s
CLL LmH 13 06 00.0
comp=Z,500nm,20.3s
CLL LmV 13 09 00.0
comp=Z,500nm,18.2s
CLL Collm 77.02 357⇑ i P P 12 28 36.3 +0.1
CLL *i* *SP **sP 12 28 51.9 -0.9**
CLL eS **S 12 38 24.0 +2.7**
CLL pmax pmax
comp=Z,28nm,1.1s
CLL MLR MLR
comp=Z,500nm,18.2s
CLL Collm 77.02 357 P **P 12 28 36.4 +0.1**
CLL IAMs_20 IAMs_20 13 06 16.6
comp=Z,530nm,20.0s
CLL Collm 77.02 357 *eP* **P 12 28 36.1 0.0**
comp=Z,28nm,1.1s,baz=1.9,slow=5.6
NEUB Neuenburg 77.15 358 eP P 12 28 37.4 +0.5
comp=Z,56nm,1.0s,baz=1.9,slow=5.6
KOLN Koldanda 77.18 299 eP P 12 28 38.2 +0.4
comp=Z,228nm,1.1s
PYUN Piuthan 77.25 299 eP P 12 28 38.7 +0.6
comp=Z,313nm,1.0s
KSP Ksiaz 77.35 355 eP P 12 28 38.2 +0.1
KSP eL L 13 06 49.6
comp=Z,824nm,20.8s
FBE Freiberg 77.40 357 eP P 12 28 39.0 +0.6
comp=Z,84nm,1.2s,baz=1.9,slow=5.6
TBI Tubuai 77.42 159 eS S 12 38 17.2 -8.7
comp=Z,233nm,38.0s
TBI Tubuai 77.42 159 eLR LR 12 52 20.8
comp=Z,943nm,25.5s,baz=343
TBI Tubuai 77.42 159 eT T 13 53 31.7
comp=Z,21nm,0.3s
BRG Berggiesshubel 77.43 357 i P P 12 28 38.6 +0.1
comp=Z,32nm,0.9s
BRG *i* 12 28 59.7
comp=Z,23nm,1.0s
BRG S **S 12 38 24.0 -1.7**
BRG SS **SS 12 43 22.0 -1.4**
comp=N,571nm,23.7s
comp=E,215nm,16.2s
comp=Z,636nm,20.0s
BRG Berggiesshubel 77.43 357 *i* P **P 12 28 38.6 +0.1**
BRG S **S 12 38 24.0 -1.7**
BRG SS **SS 12 43 22.0 -1.4**
BRG pmax pmax
comp=Z,32nm,0.9s
BRG MLR MLR
comp=N,571nm,23.7s
BRG MLR MLR
comp=E,215nm,16.2s
BRG MLR MLR
comp=Z,636nm,20.0s
BRG Berggiesshubel 77.43 357 *eP* **P 12 28 38.6 +0.1**
comp=Z,32nm,0.9s,baz=1.9,slow=5.6
UBBA Unterbreizbach 77.57 359 eP P 12 28 39.7 +0.6
comp=Z,22nm,1.4s,baz=1.9,slow=5.6
CHVC Chvalec 77.62 355 eP P 12 28 40.4 +0.8
CHVC AMS AMS 13 06 40.0
comp=Z,600nm,13.5s
OSTC Ostas 77.64 355 eP P 12 28 40.6 +0.9
OSTC AMS AMS 13 06 40.0
comp=Z,700nm,22.7s
UPC Upice 77.70 355 AMS AMS 13 06 40.0
comp=Z,700nm,20.5s
MOX Moxa 77.72 358 P **P 12 28 40.8 +0.7**
MOX pmax pmax
comp=Z,31nm,1.0s
MOX Moxa 77.72 358 *eP* **P 12 28 40.5 +0.4**
comp=Z,23nm,0.8s,baz=1.9,slow=5.6
LVV L'vov 77.74 350 eP P 12 28 40.1 -0.1
LVV MLR MLR
comp=E,200nm,20.0s
LVV MLR MLR
comp=N,300nm,21.0s
LVV MLR MLR
comp=Z,400nm,20.0s
OJC Ojcow 77.74 353 eP P 12 28 40.2 0.0
OJC eL L 13 03 07.3
comp=Z,653nm,22.9s
OJC Ojcow 77.74 353 P **P 12 28 40.7 +0.5**
OJC pmax pmax
comp=Z,15nm,0.8s
OJC Ojcow 77.74 353 P **P 12 28 40.7 +0.5**
PVCC Panska Ves 77.75 356 eP P 12 28 41.8 +1.5
PVCC AMS AMS 13 07 00.0
comp=Z,700nm,16.4s
PVCC Panska Ves 77.75 356 eP P 12 28 41.8 +1.5
PVCC MLR MLR
comp=Z,700nm,16.4s
NIL Nilore 77.75 310 P **P 12 28 41.5 +0.9**
NIL pmax pmax
comp=Z,69nm,0.7s
NIL Nilore 77.75 310 P **P 12 28 41.5 +0.9**
MEM Membach 77.76 2⇑ P P 12 28 40.8 +0.5
comp=Z,20nm,1.2s
MEM Membach 77.76 2 P **P 12 28 41.0 +0.7**
MEM pmax pmax
comp=Z,29nm,1.0s
BSTI Sart Tilman 77.78 2 P **P 12 28 41.0 +0.5**
SNF Seneffe 77.82 3 P **P 12 28 41.5 +0.9**
DPC Dobruska-Polom 77.84 355 eP P 12 28 41.5 +0.6
DPC *eS* S 12 39 31.3 +61
DPC AMS AMS 13 06 50.0
comp=Z,600nm,19.2s
DPC Dobruska-Polom 77.84 355 eP P 12 28 41.5 +0.6
DPC *eS* S 12 39 31.3 +61
DPC MLR MLR
comp=Z,600nm,19.2s
AHRW Bad Neuenahr-A 77.85 1 eP P 12 28 41.5 +0.7
comp=Z,26nm,0.9s,baz=1.9,slow=5.6
PLN Plauen 77.87 358 eP P 12 28 41.4 +0.5
comp=Z,15nm,1.0s,baz=1.9,slow=5.6
TANN Tannenbergstha 77.93 358 eP P 12 28 41.8 +0.4
comp=Z,35nm,1.1s,baz=1.9,slow=5.6
BCLA Clavier 77.94 2⇑ P P 12 28 41.6 +0.3
comp=Z,17nm,1.3s
GUNZ Gunzen 77.99 358 eP P 12 28 42.1 +0.5
comp=Z,35nm,1.5s,baz=1.9,slow=5.6
BMRD Maredsous 78.04 3 P **P 12 28 41.8 -0.1**
comp=Z,36nm,1.2s
WERN Wernitzgruen 78.06 358 eP P 12 28 42.8 +0.7
comp=Z,42nm,1.1s,baz=1.9,slow=5.6
KRLC Kraliky 78.09 355 AMS AMS 13 06 40.0
comp=Z,400nm,17.2s
NKC Novy Kostel 78.11 358 AMS AMS 13 07 20.0
comp=Z,600nm,20.7s
TNS Taunus Mts 78.17 0 P **P 12 28 43.9 +1.2**
TNS pmax pmax
comp=Z,26nm,1.1s
TNS Taunus Mts 78.17 0 eP P 12 28 43.2 +0.5
comp=Z,19nm,0.9s,baz=1.9,slow=5.6
PRA Prague 78.21 356 AMS AMS 13 07 20.0
comp=Z,300nm,16.5s
OKC Ostrava-Krasne 78.24 354 eP P 12 28 43.7 +0.7
OKC AMS AMS 13 06 20.0
comp=Z,600nm,15.6s
OKC Ostrava-Krasne 78.24 354 eP P 12 28 43.7 +0.7
OKC MLR MLR
comp=Z,600nm,15.6s
DOU Dourbes 78.24 3⇑ P P 12 28 43.2 +0.2
comp=Z,20nm,1.1s
DOU Dourbes 78.24 3 P **P 12 28 44.8 +1.8**
GIVF Givet 78.24 3 eP P 12 28 42.8 -0.2
GIVF pmax pmax
comp=Z,42nm,1.1s
BAIF Baives 78.27 3 eP P 12 28 43.1 -0.1
BAIF pmax pmax
comp=Z,30nm,1.0s
PRU Pruhonice 78.29 356 eP P 12 28 44.3 +1.0
PRU AMS AMS 13 07 30.0
comp=Z,700nm,16.8s
PRU Pruhonice 78.29 356 eP P 12 28 44.3 +1.0
PRU MLR MLR
comp=Z,700nm,16.8s
MORC Moravsky Berou 78.34 354⇑ P P 12 28 44.9 +1.3
MORC Moravsky Berou 78.34 354 eP P 12 28 43.8 +0.2
MORC Moravsky Berou 78.34 354 P **P 12 28 43.2 -0.5**
MORC pmax pmax
comp=Z,16nm,0.8s
MORC Moravsky Berou 78.34 354 P **P 12 28 43.1 -0.5**
MORC IAMs_20 IAMs_20 13 09 15.5
comp=Z,544nm,20.0s
GOPC GO Pecny, Ondr 78.35 356 eP P 12 28 45.0 +1.3
GOPC epP **PcP 12 28 52.5 -0.4**
GOPC AMS AMS 13 07 30.0
comp=Z,700nm,18.9s
GOPC GO Pecny, Ondr 78.35 356 eP P 12 28 45.0 +1.3
GOPC *e* 12 28 52.5
GOPC MLR MLR
comp=Z,700nm,18.9s
MANZ Manzenberg 78.37 358 eP P 12 28 44.1 +0.3
comp=Z,17nm,1.1s,baz=1.9,slow=5.6
NIE Niedzica 78.49 352 eP P 12 28 45.0 +0.5
NIE eL L 13 02 32.7
comp=Z,392nm,23.3s
NIE Niedzica 78.49 352 P **P 12 28 45.6 +1.1**
NIE pmax pmax
comp=Z,8.0nm,1.5s
ROTZ Rotzenmuhle 78.59 358 eP P 12 28 45.6 +0.6
comp=Z,24nm,1.1s,baz=1.9,slow=5.6
PBCC Pribram 78.61 356 eP P 12 28 46.0 +0.9
GRA1 Grafenberg Arr 78.68 358 P **P 12 28 46.0 +0.5**
GRA1 IAmb IAmb 12 28 47.8
comp=Z,44nm,0.9s
GRF Grafenberg Arr 78.68 358 P **P 12 28 46.0 +0.5**
GRF pmax pmax
comp=Z,44nm,0.9s
GRF MLR MLR
comp=Z,400nm,21.0s
GRF Grafenberg Arr 78.68 358 eP P 12 28 46.4 +0.9
comp=Z,55nm,1.0s,baz=1.9,slow=5.6
ESPN Las Esperanzas 78.69 85 P **P 12 28 45.3 -0.7**
WLF Walferdange 78.71 2 P **P 12 28 46.7 +1.1**
WLF Walferdange 78.71 2 IAMs_20 IAMs_20 13 09 28.1
comp=Z,674nm,20.0s
WLF Walferdange 78.71 2 eP P 12 28 46.5 +0.9
comp=Z,23nm,1.0s,baz=1.9,slow=5.6
KOLS Kolonicke sedl 78.80 351 eP P 12 28 46.8 +0.7
KOLS pmax pmax
comp=Z,11nm,1.0s
KOLS Kolonicke sedl 78.80 351 eP P 12 28 46.8 +0.7
LANS Liptovska Anna 78.83 353 eP P 12 28 47.3 +1.0
LANS pmax pmax
comp=Z,17nm,0.8s
LANS Liptovska Anna 78.83 353 eP P 12 28 47.3 +1.0
SORM Soroca 78.85 347⇑ P P 12 28 46.5 +0.1
SORM Soroca 78.85 347 P **P 12 28 46.5 +0.1**
VRAC Vranov 78.86 355⇑ P P 12 28 48.1 +1.6
VRAC Vranov 78.86 355 eP P 12 28 47.0 +0.5
VRAC Vranov 78.86 355 P **P 12 28 47.3 +0.8**
VRAC pmax pmax
comp=Z,45nm,1.0s
GOF Gofitskoye 78.90 336⇑ eP P 12 28 47.3 +0.6
GOF pmax pmax
comp=Z,150nm,1.0s
CRVS Cervenica-Dubn 78.90 351 eP P 12 28 47.9 +1.2
CRVS Cervenica-Dubn 78.90 351 eP P 12 28 47.9 +1.2
TREC Trest 78.94 355 AMS AMS 13 07 00.0
comp=Z,700nm,20.6s
KBL Kabul 78.97 313 P **P 12 28 46.9 -0.7**
KBL pmax pmax
comp=Z,41nm,0.9s
KBL Kabul 78.97 313 P **P 12 28 46.9 -0.7**
KBL IAmb IAmb 12 28 48.1
comp=Z,41nm,0.8s
UZH Uzhgorod 79.09 351 eP P 12 28 45.0 -2.7
UZH *e* 12 29 00.2
KRUC Moravsky 79.12 355 eP P 12 28 48.2 +0.3
KRUC Moravsky 79.12 355 P **P 12 28 48.4 +0.5**
KRUC pmax pmax
comp=Z,29nm,1.2s
KHC Kasperske Hory 79.18 357 eP P 12 28 49.1 +0.8
KHC epP **PcP 12 28 57.5 +1.0**
KHC *eS* S 12 39 19.7 +35

KHC AMS AMS 13 08 40.0
comp=Z,600nm,17.8s
KHC Kasperske Hory 79.18 357 *ce*P **P 12 28 49.1 +0.8**
KHC pmax pmax
comp=Z,91nm,1.3s
KHC Kasperske Hory 79.18 357 P **P 12 28 48.8 +0.5**
WET Wettzell 79.19 357 P **P 12 28 49.2 +0.9**
WET pmax pmax
comp=Z,19nm,1.4s
WET Wettzell 79.19 357 *e*P **P 12 28 48.9 +0.6**
comp=Z,26nm,1.3s,baz=1,9,slow=5.6
JAVC Velka Javorina 79.25 354 *e*P **P 12 28 50.1 +1.5**
FLN La Foliniere 79.33 6 *e*P **P 12 28 48.5 -0.5**
FLN pmax pmax
comp=Z,48nm,1.3s
GRTK Grand Turk 79.38 69 IAMs_20 IAMs_20 13 07 06.6
comp=Z,786nm,20.0s
KECS Kecovo 79.41 352 *e*P **P 12 28 50.2 +0.7**
KECS pmax pmax
comp=Z,17nm,1.0s
KECS Kecovo 79.41 352 *e*P **P 12 28 50.2 +0.7**
GEC2 GERESS Array S 79.46 357 P **P 12 28 50.5 +0.6**
GEC2 IAMs_20 IAMs_20 13 08 17.1
comp=Z,774nm,21.0s
GEC2 GERESS Array S 79.46 357 *e*P **P 12 28 50.1 +0.3**
comp=Z,24nm,1.1s,baz=1,9,slow=5.6
GERES GERESS Array B 79.46 357 P **P 12 28 49.8 -0.1**
comp=Z,9.4nm,0.8s,baz=18,slow=4.8,SNR=55
GERES GERESS Array B 79.46 357 P **P 12 28 50.2 +0.3**
GERES GERESS Array B 79.46 357 P **P 12 28 50.2 +0.3**
VYHS Vyhne 79.53 353 *e*P **P 12 28 50.8 +0.8**
VYHS pmax pmax
comp=Z,19nm,1.1s
VYHS Vyhne 79.53 353 *e*P **P 12 28 50.9 +0.8**
TTSI Tana Toraja 79.54 251 P **P 12 28 50.8 +0.2**
comp=Z,917nmcomp=Z,54nm,0.9s
SMOL Smolenice 79.61 354 *e*P **P 12 28 52.0 +1.5**
SMOL pmax pmax
comp=Z,13nm,0.9s
SMOL Smolenice 79.61 354 *e*P **P 12 28 52.0 +1.5**
STU Stuttgart 79.63 360 P **P 12 28 50.8 +0.2**
GRR Gorron 79.68 6 *e*P **P 12 28 50.5 -0.4**
GRR pmax pmax
comp=Z,35nm,1.0s
SGMF Saint Gilles 79.69 8 *e*P **P 12 28 50.6 -0.4**
SGMF pmax pmax
comp=Z,20nm,0.9s
SBUM Sibu 79.72 261 P **P 12 28 51.9 +0.3**
SBUM Sibu 79.72 261 P **P 12 28 53.0 +1.4**
BUR08 Bucovina Ar. S 79.75 349 P **P 12 28 51.8 +0.3**
MODS Modra-Piesok 79.75 354 *e*P **P 12 28 52.0 +0.6**
MODS pmax pmax
comp=Z,42nm,1.1s
MODS Modra-Piesok 79.75 354 *e*P **P 12 28 52.0 +0.6**
BURAR Bucovina Array 79.78 349 ⇑P **P 12 28 51.8 +0.2**
BURAR Bucovina Array 79.78 349 P **P 12 28 51.8 +0.2**
BURAR Bucovina Array 79.78 349 P **P 12 28 51.5 -0.1**
GROC Groznyy 79.89 333 *e*P **P 12 28 53.7 +1.5**
GROC *e* 12 29 00.8
GROC pmax pmax
comp=Z,21nm,0.5s
ZST Bratislava 79.94 354 *e*P **P 12 28 52.7 +0.4**
ZST pmax pmax
comp=Z,36nm,0.9s
ZST Bratislava 79.94 354 *e*P **P 12 28 52.7 +0.4**
QUIF Quistinic 79.97 8 *e*P **P 12 28 52.0 -0.5**
QUIF pmax pmax
comp=Z,33nm,1.4s
PSZ Piszkesteto 80.02 352 ⇑P **P 12 28 53.7 +0.9**
PSZ Piszkesteto 80.02 352 P **P 12 28 53.8 +0.9**
PSZ pmax pmax
comp=Z,29nm,1.3s
PSZ MLR MLR
comp=Z,600nm,22.0s
PSZ Piszkesteto 80.02 352 P **P 12 28 53.8 +0.9**
PSZ IAMs_20 IAMs_20 13 07 20.9
comp=Z,646nm,22.0s
KIV Kislovodsk 80.02 336 ⇓P **P 12 28 54.0 +1.0**
KIV Kislovodsk 80.02 336 *e*P **P 12 28 53.4 +0.4**
KIV pmax pmax
comp=Z,64nm,0.9s
KIV MLR MLR
comp=Z,1μm,19.0s
KIV Kislovodsk 80.02 336 P **P 12 28 53.8 +0.8**
BFO Black Forest 80.07 0 P **P 12 28 53.6 +0.5**
BFO pmax pmax
comp=Z,39nm,1.4s
BFO Black Forest 80.07 0 P **P 12 28 53.6 +0.5**
BFO Black Forest 80.07 0 *e*P **P 12 28 53.3 +0.2**
comp=Z,26nm,1.1s,baz=1,9,slow=5.6
ECH Echery 80.18 1 P **P 12 28 54.0 +0.3**
ECH pmax pmax
comp=Z,35nm,1.1s
ECH Echery 80.18 1 P **P 12 28 54.0 +0.3**
KBZ Khabaz 80.18 336 P **P 12 28 54.2 +0.5**
comp=Z,11nm,0.8s,baz=72,slow=2.4,SNR=20
KBZ LR LR 13 08 42.7
comp=Z,660nm,20.2s,baz=13,slow=39
KBZ Khabaz 80.18 336 *ce*P **P 12 28 54.1 +0.4**
KBZ pmax pmax
comp=Z,12nm,0.9s
FUR Furstenfeldbru 80.21 358 *e*P **P 12 28 54.4 +0.5**
comp=Z,27nm,0.8s,baz=1,9,slow=5.6
CLF Chambon-Foret 80.22 4 P **P 12 28 54.1 +0.2**
CONA Conrad Observa 80.28 355 *i* P **P 12 28 55.1 +0.8**
comp=Z,50nm,1.3s,SNR=17
BIZ Bicaz 80.33 348 ⇑P **P 12 28 55.1 +0.6**
HAU Haudompre 80.38 2 *e*P **P 12 28 54.5 -0.2**
HAU pmax pmax
comp=Z,40nm,1.1s
VASR Vaslui 80.39 347 ⇓P **P 12 28 55.4 +0.5**
ARCR ARCALIA 80.40 349 ⇑P **P 12 28 56.3 +1.4**
MOA Molin 80.43 356 *e*P **P 12 28 55.4 +0.4**
comp=Z,18nm,1.1s
ANN Anapa 80.45 340 *e*P **P 12 28 55.4 +0.3**
ANN *e*S **S 12 38 57.3 -0.8**
ANN pmax pmax
comp=Z,14nm,0.6s
ANN MLR MLR
comp=Z,903nm,24.0s
SOP Sopron 80.49 355 P **P 12 28 57.3 +2.0**
HINF Hinteralfeld 80.57 1 *e*P **P 12 28 55.4 -0.4**
HINF pmax pmax
comp=Z,7.0nm,0.5s
GEYT Alibeck 80.61 322 P **P 12 28 56.4 +0.2**
comp=Z,10.0nm,0.9s,baz=344,slow=4.9,SNR=18
GEYT LR LR 13 08 40.9
comp=Z,783nm,18.1s,baz=35,slow=39
GEYT Alibeck 80.61 322 P **P 12 28 56.4 +0.2**
GYA0B ALIBECK ARRAY 80.61 322 P **P 12 28 56.3 +0.1**
SLE Schleitheim 80.64 0 P **P 12 28 56.7 +0.6**
SLE pmax pmax
comp=Z,25nm,1.1s
UBR Ueberruh 80.71 359 *e*P **P 12 28 57.2 +0.6**
comp=Z,32nm,1.1s,baz=1,9,slow=5.6
CTAO Charters Tower 80.73 220 P **P 12 28 56.4 -0.4**
CTAO pmax pmax
comp=Z,38nm,1.2s
CTAO Charters Tower 80.73 220 P **P 12 28 56.4 -0.4**
ZEI Tsey 80.79 335 *e*P **P 12 28 56.6 -0.7**
ZEI pmax pmax
comp=Z,19nm,0.7s
DRGR 80.87 350 ⇑P **P 12 28 57.4 -0.1**
DRGR 80.87 350 P **P 12 28 57.9 +0.4**
DRGR pmax pmax
comp=Z,32nm,1.1s
RETA Reutte 80.90 359 *e*P **P 12 28 58.3 +0.7**
comp=Z,30nm,1.3s,SNR=8.9
ARSA Arzberg 80.97 355 *e*PcP **P 12 28 58.9 +0.9**
comp=Z,32nm,1.4s,SNR=9.5
MOTA Moosalm 81.03 358 *i* PcP **P 12 28 59.1 +0.7**
comp=Z,63nm,1.3s,SNR=20
WATA Walderalm 81.03 358 *i* P **P 12 28 59.0 +0.6**
comp=Z,60nm,1.3s,SNR=13
LOR Lormes 81.05 3 P **P 12 28 59.1 +0.8**
LOR pmax pmax
comp=Z,37nm,1.2s
SOC Sochi 81.09 338 *e*P **P 12 28 57.0 -1.6**
SOC *e* 12 32 00.7
SOC *e*PPP PPP 12 33 50.5
SOC *e*S **S 12 39 05.4 +0.5**
SOC *e*SS **SS 12 44 17.3 -1.4**
SOC pmax pmax
comp=Z,14nm,1.0s
SOC MLR MLR
comp=Z,457nm,20.0s
WTTA Wattenberg 81.10 358 *i* PcP **P 12 28 59.7 +0.9**
comp=Z,64nm,1.3s,SNR=17
DAVA Damuels 81.11 359 *i* PcP **P 12 28 59.7 +0.8**
comp=Z,24nm,1.1s,SNR=5.9
SQTA Sankt Quirin 81.16 358 *i* PcP **P 12 28 60.0 +0.9**
comp=Z,39nm,0.9s,SNR=19
KBA Koelnbreinsper 81.24 357 *i* PcP **P 12 29 00.7 +1.2**
comp=Z,63nm,0.9s,SNR=45
KBA Koelnbreinsper 81.24 357 P **P 12 29 00.8 +1.2**
KBA pmax pmax
comp=Z,71nm,1.1s
SDDR Presa de Saban 81.27 71 IAMs_20 IAMs_20 13 03 09.7
comp=Z,622nm,22.0s
RKT Rikitea 81.28 146 *e*LR LR 12 54 10.6
comp=Z,806nm,22.5s
RKT Rikitea 81.28 146 *e*T T 13 58 23.7
comp=Z,4.9nm,0.3s
VRI Vrincioaia 81.30 347 ⇑P **P 12 28 59.6 -0.2**
VRI Vrincioaia 81.30 347 P **P 12 28 59.5 -0.2**
PLOR Plostina 81.33 347 ⇑P **P 12 29 00.6 +0.8**
PLOR Plostina 81.33 347 P **P 12 29 00.6 +0.8**
SEKA Sheki 81.33 332 P **P 12 29 00.0 0.0**
MTN Manton Dam 81.35 236 P **P 12 29 00.3 +0.1**
FETA Feichten 81.36 359 *i* PcP **P 12 29 01.2 +1.0**
comp=Z,51nm,1.1s,SNR=27
DOPR Dopca 81.38 348 ⇑P **P 12 29 01.3 +1.2**
SEVA Sevastopol 81.47 342 ⇑P **P 12 28 60.0 -0.6**
AVF Avril sur Loir 81.50 4 *e*P **P 12 29 00.5 -0.2**
AVF pmax pmax
comp=Z,33nm,0.9s
TBLG Delisi 81.55 334 P **P 12 29 01.6 +0.5**
TBLG Delisi 81.55 334 P **P 12 29 01.6 +0.5**
SOKA Soboth 81.57 356 *i* PcP **P 12 29 01.8 +0.6**
comp=Z,55nm,1.3s,SNR=34
ABTA Abfaltersbach 81.60 357 *e*PcP **P 12 29 01.9 +0.6**
comp=Z,39nm,1.2s,SNR=12
PERS Pernice 81.61 356 *i* P **P 12 29 02.1 +0.7**
KSM Kuching 81.66 262 P **P 12 29 02.8 +0.8**
KSM Kuching 81.66 262 P **P 12 29 03.0 +1.0**
TLCR 81.67 346 ⇑P **P 12 29 02.1 +0.6**
MYKA Terra Mystica 81.68 357 *i* P **P 12 29 02.0 +0.3**
comp=Z,12nm,0.9s,SNR=6.0
OBKA Obir 81.76 356 *e*PcP **P 12 29 02.8 +0.6**
comp=Z,19nm,1.1s,SNR=9.4
CABF La Chapelle 81.77 2 *e*P **P 12 29 02.5 +0.3**
CABF pmax pmax
comp=Z,49nm,1.1s
MNGR Mingechevir, A 81.77 332 P **P 12 29 02.1 -0.1**
FUORN Ofenpass-Fuorn 81.77 359 P **P 12 29 03.7 +1.2**
FUORN IAmb IAmb 12 29 05.0
comp=Z,54nm,1.1s
MLR Muntele Rosu 81.77 348 ⇑P **P 12 29 02.8 +0.5**
MLR Muntele Rosu 81.77 348 P **P 12 29 03.2 +0.9**
MLR pmax pmax
comp=Z,28nm,1.3s
MLR MLR MLR
comp=Z,1μm,22.0s
MLR Muntele Rosu 81.77 348 P **P 12 29 03.2 +0.9**
ZOU Zoufplan 81.77 357 P **P 12 29 03.1 +0.7**
CFR Carcaliu 81.78 346 ⇑P **P 12 29 02.6 +0.5**
BWNR Bhubaneshwar 81.84 292 *e*P **P 12 29 03.5 +0.6**
BWNR IAmb IAmb 12 29 04.5
comp=Z,71nm,0.7s
PRED Cave del Predi 81.87 357 P **P 12 29 03.2 +0.4**
TUE Stuetta 81.93 360 IAmb IAmb 12 29 05.7
comp=Z,37nm,1.0s
GORS Gorjuse 81.98 356 *e*P **P 12 29 03.1 -0.2**
SENIN Lac Senin/Sane 82.03 1 P **P 12 29 04.8 +1.0**
SENIN IAMs_20 IAMs_20 13 11 39.9
comp=Z,498nm,21.0s
CIMO Cimolais 82.04 357 P **P 12 29 03.8 +0.2**
CIMO IAMs_20 IAMs_20 13 09 34.1
comp=Z,653nm,20.0s
ARR Arges 82.06 349 ⇑P **P 12 29 05.2 +1.4**
ROBS Robic 82.07 357 *e*P **P 12 29 03.4 -0.3**
GANJ Ganja 82.11 332 P **P 12 29 03.9 -0.2**
BZS Buzias 82.14 351 ⇑P **P 12 29 04.7 +0.6**
AKH Akhalkalaki 82.19 334 ⇑P **P 12 29 03.6 -1.1**
AKH Akhalkalaki 82.19 334 P **P 12 29 03.6 -1.1**
AKH Akhalkalaki 82.19 334 IAMs_20 IAMs_20 13 10 53.7
comp=Z,518nm,21.0s
BGD Bogdanovka 82.30 334 P **P 12 29 05.9 +0.6**
CTI Castel Tesino 82.32 358 IAMs_20 IAMs_20 13 09 19.6
comp=Z,525nm,20.0s
TIRR Tirgusor 82.44 346 ⇓P **P 12 29 06.5 +0.8**
TIRR Tirgusor 82.44 346 P **P 12 29 06.4 +0.8**
SOEI Soe 82.45 244 P **P 12 29 06.1 -0.1**
comp=Z,98nm,1.1s
SOEI Soe 82.45 244 P **P 12 29 06.6 +0.4**
BATM Batumi 82.48 336 P **P 12 29 07.7 +1.8**
DR12 Loma Pena Alta 82.53 69 P **P 12 29 07.9 +1.3**
TRI Trieste 82.59 356 IAMs_20 IAMs_20 13 10 36.9
comp=Z,570nm,20.0s
GBRS Gornja Briga 82.72 356 *e*P **P 12 29 07.3 +0.1**
SALO Salr 82.77 359 IAmb IAmb 12 29 08.8
comp=Z,44nm,0.8s
HERR Herculane 82.79 350 ⇑P **P 12 29 08.0 +0.5**
HUMR Humele 82.84 348 ⇑P P 12 29 02.0 -5.8
ICOR Ion Corvin 82.86 346 ⇑P **P 12 29 07.9 +0.1**
LPL La Plagne 82.87 1 *e*P **P 12 29 09.0 +0.8**
LPL pmax pmax
comp=Z,14nm,1.0s
LPG La Plagne 82.89 1 *e*P **P 12 29 09.4 +1.0**
LPG pmax pmax
comp=Z,15nm,1.2s
RJF Les Rejaudoux 82.90 5 *e*P **P 12 29 07.7 -0.4**
RJF pmax pmax
comp=Z,15nm,0.9s
MDVR Moldovita 82.96 351 ⇑P **P 12 29 08.2 -0.2**
EDFI Ende, Flores 83.08 246 P **P 12 29 06.2 -3.2**
comp=Z,689nmcomp=Z,37nm,1.6s
LKRN Lenkeran, Azer 83.14 329 P **P 12 29 09.5 +0.1**
BATI Baumata 83.16 244 LR LR 13 06 27.8
comp=Z,306nm,18.7s,baz=20,slow=36
BATI Baumata 83.16 244 P **P 12 29 09.8 +0.1**
comp=Z,75nm,0.9s
CAF Calviac 83.31 5 *e*P **P 12 29 10.3 +0.1**
CAF pmax pmax
comp=Z,39nm,1.2s
BNI Bardonecchia 83.33 1 P **P 12 29 12.7 +2.2**
BNI pmax pmax
comp=Z,42nm,1.3s
VIVF Saint-Julien-I 83.48 3 *e*P **P 12 29 11.4 +0.3**
VIVF pmax pmax
comp=Z,19nm,1.0s
MBDF Montbardon 83.66 1 *e*P **P 12 29 14.1 +1.9**
MBDF pmax pmax
comp=Z,19nm,0.8s
NAX Nakhchivan 83.71 332 P **P 12 29 12.3 -0.1**
EIDS Eidsvold 83.76 214 P **P 12 29 12.8 +0.2**
DIVS Divibare 83.80 352 IAMs_20 IAMs_20 13 07 50.0
comp=Z,764nm,22.0s
DIKM Dikmen 83.93 340 ⇑P **P 12 29 13.1 -0.3**
PLVB Pleven 84.01 348 ⇑P **P 12 29 14.6 +0.8**
ZCCA Zocca 84.03 358 P **P 12 29 15.7 +1.8**
ZCCA IAmb IAmb 12 29 17.4
comp=Z,97nm,1.4s
MSSA Maissana 84.08 359 P **P 12 29 14.2 0.0**
MSSA IAmb IAmb 12 29 16.5
comp=Z,71nm,1.1s
MSSA IAMs_20 IAMs_20 13 11 40.3
comp=Z,444nm,21.0s
BHPL Bhopal 84.13 300 *e*P **P 12 29 14.3 -0.5**
BHPL IAmb IAmb 12 29 16.4
comp=Z,116nm,1.3s
ISO Isola 84.21 1 P **P 12 29 16.8 +1.9**
ISO pmax pmax
comp=Z,39nm,1.4s
SAOF Saorge 84.41 1 P **P 12 29 16.6 +0.7**
SAOF pmax pmax
comp=Z,21nm,1.2s
KULM Kulim 84.64 272 P **P 12 29 17.9 +0.6**
KULM IAmb IAmb 12 29 32.8
comp=Z,62nm,1.3s
KULM Kulim 84.64 272 P **P 12 29 19.0 +1.6**
FRF La Foret Royal 84.82 1 *e*P **P 12 29 18.0 +0.1**
FRF pmax pmax
comp=Z,55nm,1.1s
OSSC Osservatorio P 84.85 358 IAmb IAmb 12 29 19.4
comp=Z,39nm,0.9s
OSSC IAMs_20 IAMs_20 13 11 28.6
comp=Z,554nm,20.0s
SJG San Juan 84.92 67 P **P 12 29 19.0 +0.2**
SJG pmax pmax
comp=Z,48nm,1.2s
SJG MLR MLR
comp=Z,600nm,20.0s
SJG San Juan 84.92 67 P **P 12 29 19.0 +0.2**
SJG IAmb IAmb 12 29 21.0
comp=Z,48nm,1.1s
SJG San Juan 84.92 67 IAMs_20 IAMs_20 13 11 17.3
comp=Z,598nm,20.0s
VTS Vitosha 84.94 349 ⇓P **P 12 29 19.2 +0.5**
VTS Vitosha 84.94 349 P **P 12 29 18.9 +0.2**
VTS pmax pmax
comp=Z,10.0nm,1.0s
VTS Vitosha 84.94 349 P **P 12 29 18.9 +0.2**
VTS IAMs_20 IAMs_20 13 13 20.1
comp=Z,642nm,19.0s
NGP Nagpur 84.94 298 *e*P **P 12 29 18.2 -0.7**
NGP IAmb IAmb 12 29 20.5
comp=Z,28nm,0.6s
KNRA Kununurra 84.96 237 P **P 12 29 19.4 +0.7**
IPM Ipoh 85.04 271 P **P 12 29 19.7 +0.3**
IPM IAmb IAmb 12 29 34.9
comp=Z,36nm,0.9s
MURB Monte Urbino 85.08 357 IAmb IAmb 12 29 22.3
comp=Z,65nm,1.0s
EPF Esparros 85.10 6 *e*P **P 12 29 18.8 -0.6**
EPF pmax pmax
comp=Z,19nm,0.9s
WBSI Waikabubak, Su 85.11 248 P **P 12 29 17.1 -2.6**
ETSF Etsaut 85.17 7 *e*P **P 12 29 20.2 +0.5**
ETSF pmax pmax
comp=Z,24nm,0.8s
PLD Plovdiv 85.26 348 P **P 12 29 21.6 +1.5**
PLD pmax pmax
comp=Z,138nm,1.1s
MYKOM Kota Tinggi 85.39 267 P **P 12 29 23.0 +1.9**
NRCA Norcia 85.49 357 IAmb IAmb 12 29 23.4
comp=Z,26nm,0.9s
PDG Podgorica 85.52 352 ⇑P **P 12 29 21.0 -0.4**
PDG Podgorica 85.52 352 IAmb IAmb 12 29 23.4
comp=Z,22nm,0.8s
WB0 Warramunga Arr 85.63 230 P **P 12 29 21.7 -0.4**
WB6 Warramunga Arr 85.72 230 IAMs_20 IAMs_20 13 08 00.6
comp=Z,501nm,20.0s
WR0 Warramunga Arr 85.73 230 P **P 12 29 22.5 -0.1**
WR0 IAmb IAmb 12 29 23.9
comp=Z,29nm,1.1s
WR7 Warramunga Arr 85.76 230 IAMs_20 IAMs_20 13 04 46.5
comp=Z,599nm,19.0s
WB4 Warramunga Arr 85.77 230 IAMs_20 IAMs_20 13 04 23.8
comp=Z,653nm,20.0s
WRAB Tennant Creek 85.80 230 *ce*P **P 12 29 22.5 -0.4**
WRAB pmax pmax
comp=Z,75nm,1.7s
WRAB Tennant Creek 85.80 230 P **P 12 29 22.9 0.0**
WRAB IAmb IAmb 12 29 24.4
comp=Z,60nm,1.3s
WB2 Warramunga Arr 85.81 230 P **P 12 29 23.0 0.0**
WB2 IAmb IAmb 12 29 24.4
comp=Z,61nm,1.2s
WRA Warramunga Arr 85.81 230 P **P 12 29 23.0 0.0**
comp=Z,16nm,1.1s,baz=34,slow=5.2,SNR=40
WRA LR LR 13 03 30.4
comp=Z,534nm,21.8s,baz=45,slow=33
WRA Warramunga Arr 85.81 230 *i* P **P 12 29 23.0 0.0**
WRA pmax pmax
comp=Z,17nm,1.1s
WRA Warramunga Arr 85.81 230 P **P 12 29 22.6 -0.4**
AQU L'Aquila 85.96 356 P **P 12 29 24.8 +1.1**
AQU pmax pmax
comp=Z,38nm,1.0s
AQU L'Aquila 85.96 356 IAMs_20 IAMs_20 13 12 11.9
comp=Z,689nm,21.0s
BRTR Keskin Array B 86.11 341 P **P 12 29 24.6 0.0**
comp=Z,9.2nm,1.0s,baz=40,slow=4.0,SNR=13
BRTR LR LR 13 11 27.0
comp=Z,457nm,21.8s,baz=15,slow=38
BRTR Keskin Array B 86.11 341 *i* P **P 12 29 25.3 +0.7**
BRTR pmax pmax
comp=Z,9.0nm,1.0s
BRTR Keskin Array B 86.11 341 P **P 12 29 24.8 +0.2**
ANTO Ankara 86.14 342 IAMs_20 IAMs_20 13 10 17.2
comp=Z,551nm,22.0s
ALN Alexandroupoli 86.27 347 P **P 12 29 25.6 +0.5**
ALN Alexandroupoli 86.27 347 P **P 12 29 25.6 +0.5**
ALN IAMs_20 IAMs_20 13 13 19.5
comp=Z,558nm,20.0s
INTR Introdacqua 86.28 356 P **P 12 29 25.5 +0.2**
INTR IAmb IAmb 12 29 27.5
comp=Z,34nm,1.2s
VAY Valandovo 86.29 350 P **P 12 29 26.6 +1.4**
VAY pmax pmax
comp=Z,42nm,1.2s
KNT Kendrikon 86.41 349 P **P 12 29 27.6 +1.7**
PVM Polavaram 86.64 294 *e*P **P 12 29 27.6 +0.3**
RPR Rampur 86.66 296 *e*P **P 12 29 26.9 -0.5**
MTE Manteigas 86.92 12 P **P 12 29 29.0 +0.6**
MTE IAMs_20 IAMs_20 13 11 34.1
comp=Z,584nm,18.0s
COI Coimbra 87.00 13 IAmb IAmb 12 29 48.6
comp=Z,32nm,0.8s
SRSP Sriramsagar 87.12 297 *e*P **P 12 29 29.1 -0.6**
PAOL Paolisi 87.22 356 IAMs_20 IAMs_20 13 16 22.5
comp=Z,378nm,19.0s
TSI Tuntungan 87.32 272 P **P 12 29 30.9 +0.3**
comp=Z,173nm,0.9s
UREC San Jos de Ur 87.53 81 *e*P P 12 29 23.8 -7.9
PSI Prapat 87.64 272 LR LR 13 06 45.2
comp=Z,182nm,21.4s,baz=281,slow=34
PSI Prapat 87.64 272 P **P 12 29 33.2 +0.9**
PSI pmax pmax
comp=Z,146nm,1.1s
RPSI Rantau Prapat 87.73 271 P **P 12 29 33.2 +0.6**
ANWB Willy Bob 87.73 64 IAMs_20 IAMs_20 13 08 21.7
comp=Z,687nm,21.0s
GAZ Gaziantep 87.78 338 IAMs_20 IAMs_20 13 13 14.6
comp=Z,488nm,22.0s
KCSI Kotacane, Aceh 87.79 273 P **P 12 29 31.6 -1.3**
comp=Z,22nm,1.1s
ES18 SONSECA Array 88.03 10 IAMs_20 IAMs_20 13 16 57.4
comp=Z,586nm,18.0s
ES17 SONSECA Array 88.04 10 IAMs_20 IAMs_20 13 17 00.6
comp=Z,632nm,19.0s
ES19 SONSECA Array 88.04 10 IAMs_20 IAMs_20 13 06 40.8
comp=Z,500nm,22.0s
ES16 SONSECA Array 88.05 10 IAMs_20 IAMs_20 13 16 59.9
comp=Z,583nm,19.0s
ES08 SONSECA Array 88.05 10 IAMs_20 IAMs_20 13 17 03.0
comp=Z,594nm,19.0s
ES07 SONSECA Array 88.05 10 IAMs_20 IAMs_20 13 17 01.0
comp=Z,600nm,19.0s
ESBB Sonseca Array 88.06 10 P **P 12 29 34.2 +0.3**
ESBB IAmb IAmb 12 29 35.3
comp=Z,16nm,0.8s
ESBB IAMs_20 IAMs_20 13 17 01.3
comp=Z,542nm,19.0s
ES02 SONSECA Array 88.06 10 IAMs_20 IAMs_20 13 17 04.3
comp=Z,578nm,20.0s
ESDC Sonseca Array 88.06 10 P **P 12 29 34.0 +0.1**
comp=Z,16nm,0.8s,baz=349,slow=4.7,SNR=91
ESDC LR LR 13 09 33.5
comp=Z,272nm,20.4s,baz=0.0,slow=36
ESDC Sonseca Array 88.06 10 P **P 12 29 34.1 +0.1**
ES09 SONSECA Array 88.07 10 IAMs_20 IAMs_20 13 16 58.4
comp=Z,577nm,18.0s
ES01 SONSECA Array 88.07 10 IAMs_20 IAMs_20 13 17 03.5
comp=Z,578nm,19.0s
ES03 SONSECA Array 88.07 10 IAMs_20 IAMs_20 13 17 03.6
comp=Z,605nm,20.0s
ES04 SONSECA Array 88.08 10 IAMs_20 IAMs_20 13 17 02.9
comp=Z,588nm,19.0s
ES14 SONSECA Array 88.08 10 IAMs_20 IAMs_20 13 17 03.8
comp=Z,558nm,19.0s
ES10 SONSECA Array 88.08 10 IAMs_20 IAMs_20 13 16 59.9
comp=Z,565nm,18.0s
ES13 SONSECA Array 88.09 10 IAMs_20 IAMs_20 13 17 02.0
comp=Z,597nm,20.0s
ES11 SONSECA Array 88.09 10 IAMs_20 IAMs_20 13 17 02.1
comp=Z,571nm,19.0s
PAB San Pablo 88.15 10 P **P 12 29 34.7 +0.3**
PAB pmax pmax
comp=Z,18nm,1.3s
PAB MLR MLR
comp=Z,600nm,20.0s
PAB San Pablo 88.15 10 P **P 12 29 34.7 +0.3**
PAB San Pablo 88.15 10 IAMs_20 IAMs_20 13 12 17.6
comp=Z,573nm,20.0s

HYB	**Hyderabad**	**88.23**	**296**	*i* P		**P**	**12 29 34.5**	**-0.5**
	comp=Z,150nm,1.0s								
HYBB	**Hyderabad (bro**	**88.23**	**296**	*e*P		**P**	**12 29 35.0**	**-0.1**
ARMA	**Armidale**	**88.24**	**211**	P		**P**	**12 29 35.5**	**+0.8**
ARMA				IAmb	IAmb		12 29 54.9		
	comp=Z,41nm,1.5s								
MANT	**Manisa**	**88.24**	**344**	IAmb	IAmb		12 29 37.5		
	comp=Z,30nm,0.8s								
BKNI	**Bangkinang**	**88.27**	**268**	P		**P**	**12 29 37.0**	**+1.9**
	comp=Z,163nm,1.2s								
BKNI	**Bangkinang**	**88.27**	**268**	P		**P**	**12 29 35.6**	**+0.4**
NJS	**Nagarjunasagar**	**88.51**	**295**	*e*P		**P**	**12 29 35.2**	**-1.1**
ISP	**Isparta**	**88.55**	**343**	IAms_20	IAms_20		13 12 27.5		
	comp=Z,622nm,21.0s								
PIZC	**Pizarro, Choco**	**88.59**	**84**⍰	*e*P		P	12 29 49.1	+12	
AGG	**Agios Georgios**	**88.59**	**349**	IAms_20	IAms_20		13 15 18.9		
	comp=Z,571nm,18.0s								
FITZ	**Fitzroy Crossi**	**88.60**	**238**	LR	LR		13 05 08.3		
	comp=Z,278nm,21.5s,baz=58,slow=33								
FITZ	**Fitzroy Crossi**	**88.60**	**238**	P		**P**	**12 29 36.5**	**+0.1**
ADKI	**Addanki**	**88.71**	**294**	*e*P		**P**	**12 29 36.1**	**-1.1**
KLRI	**Killari**	**88.78**	**298**	*e*P		**P**	**12 29 37.4**	**-0.2**
MNSI	**Mandailing Nat**	**88.80**	**270**	P		**P**	**12 29 37.0**	**-0.7**
	comp=Z,39nm,0.8s								
VSL	**Villasalto**	**88.90**	**359**	IAMs_20	IAMs_20		13 15 27.7		
	comp=Z,436nm,20.0s								
TIP	**Timpagrande**	**88.94**	**354**	IAMs_20	IAMs_20		13 14 19.0		
	comp=Z,554nm,22.0s								
SDSI	**Sungai Dareh**	**89.01**	**267**	P		**P**	**12 29 39.2**	**+0.6**
	comp=Z,20nm,1.0s								
SRLM	**Srisailam**	**89.11**	**295**	*e*P		**P**	**12 29 38.4**	**-0.7**
PTBC	**PUERTO BERRIO,**	**89.13**	**81**	*e*P		P	12 29 30.1	-9.2	
AS31	**Alice Springs**	**89.21**	**228**	P		**P**	**12 29 40.3**	**+1.0**
ASAR	**Alice Springs**	**89.22**	**228**	P		**P**	**12 29 40.2**	**+0.9**
	comp=Z,39nm,0.8s,baz=34,slow=4.7,SNR=233								
ASAR				LR		LR	13 04 36.5		
	comp=Z,401nm,20.8s,baz=30,slow=32								
ASAR	**Alice Springs**	**89.22**	**228**	P		**P**	**12 29 40.0**	**+0.7**
ASAR	**Alice Springs**	**89.22**	**228**	P		**P**	**12 29 40.0**	**+0.7**
PLMC	**San Jos del P**	**89.30**	**83**	*e*P		**P**	**12 29 39.6**	**-0.5**
MESJ	**Messejana**	**89.35**	**13**	*e*P		**P**	**12 29 40.2**	**+0.3**
MESJ				AMS	AMS		13 12 33.9		
	comp=Z,616nm,21.5s								
MESJ	**Messejana**	**89.35**	**13**	*e*P		**P**	**12 29 40.2**	**+0.3**
PAMC	**Pamplona, Colo**	**89.57**	**79**⍰	*e*P		P	12 29 36.4	-5.5	
PDSI	**Padang**	**89.59**	**268**	P		**P**	**12 29 41.7**	**+0.3**
	comp=Z,10nm,1.0s								
RCLA	**Racherla**	**89.59**	**295**	*e*P		**P**	**12 29 40.8**	**-0.5**
SDV	**Santo Domingo**	**89.60**	**76**	P		**P**	**12 29 42.2**	**+0.5**
SDV				IAmb	IAmb		12 30 06.3		
	comp=Z,37nm,0.9s								
GSI	**Gunungsitoli**	**89.65**	**272**	P		**P**	**12 29 43.2**	**+1.6**
	comp=Z,46μmcomp=Z,218nm,1.2s								
GSI	**Gunungsitoli**	**89.65**	**272**	P		**P**	**12 29 42.4**	**+0.7**
NORC	**Norcasia**	**89.65**	**81**	*e*P		**P**	**12 29 39.6**	**-2.1**
MORF	**Marmelete**	**89.81**	**14**	*e*P		**P**	**12 29 42.4**	**+0.2**
MORF				AMS	AMS		13 12 12.6		
	comp=Z,694nm,17.3s								
MORF	**Marmelete**	**89.81**	**14**	*e*P		**P**	**12 29 42.3**	**+0.2**
LEM	**Lembang**	**89.83**	**259**	LR	LR		13 10 15.2		
	comp=Z,88nm,20.5s,baz=26,slow=36								
PVAQ	**Vaqueiros**	**89.85**	**13**	IAMs_20	IAMs_20		13 12 26.5		
	comp=Z,439nm,19.0s								
BARC	**Barichara**	**89.87**	**80**	*e*P		**P**	**12 29 43.8**	**+0.8**
RREF	**El Recreo**	**89.87**	**82**	*e*P		**P**	**12 29 39.6**	**-3.9**
YOTC	**Yotoco, Valle**	**89.98**	**84**	*e*P		**P**	**12 29 42.4**	**-0.9**
SPBC	**San Pablo de B**	**90.06**	**81**	*e*P		**P**	**12 29 42.8**	**-1.0**
MDSI	**Maura Dua**	**90.09**	**263**	P		**P**	**12 29 40.8**	**-2.9**
	comp=Z,14nm,1.6s								
TOLC	**Tolima**	**90.14**	**82**	*e*P		**P**	**12 29 45.9**	**+1.6**
RUSC	**La Rusia**	**90.48**	**80**	*e*P		**P**	**12 29 42.8**	**-3.4**
ROSC	**El Rosal**	**90.55**	**82**	LR	LR		13 12 31.2		
	comp=Z,182nm,19.9s,baz=359,slow=37								
ROSC	**El Rosal**	**90.55**	**82**	*e*P		P	12 29 39.6	-6.8	
SKHT	**Srikalahasti**	**90.55**	**293**	*e*P		**P**	**12 29 46.1**	**+0.3**
URV	**Uravakonda**	**90.95**	**296**	*e*P		**P**	**12 29 47.2**	**-0.6**
SFS	**San Fernando**	**90.97**	**12**	IAMs_20	IAMs_20		13 13 26.3		
	comp=Z,436nm,18.0s								
CHIC	**Chingaza**	**91.07**	**81**	*e*P		P	**12 29 49.2**	**+0.4**	
PRAC	**Prado**	**91.08**	**83**⍰	*e*P		P	**12 29 49.1**	**+0.7**	
MARP	**Paez Belalcaza**	**91.11**	**84**	*e*P		P	**12 29 49.1**	**+0.3**	
SOTA	**Rioblanco**	**91.26**	**85**	*e*P		P	12 29 39.6	-10	
PAC1	**Pacto, Paraso**	**91.38**	**88**	*e*P		P	**12 29 45.9**	**-3.9**	
IDI	**Anoyia**	**91.94**	**347**	P		**P**	**12 29 51.2**	**-0.9**	
	comp=Z,10nm,0.8s,baz=16,slow=16,SNR=1.8								
IDI	**Anoyia**	**91.94**	**347**	P		**P**	**12 29 51.7**	**-0.4**	
IDI				IAMs_20	IAMs_20		13 08 03.7		
	comp=Z,539nm,22.0s								
GRGR	**Grenville**	**92.28**	**67**	IAMs_20	IAMs_20		13 12 58.3		
	comp=Z,645nm,21.0s								
KEST	**Kesra**	**92.66**	**359**	P		**P**	**12 29 54.8**	**-0.7**	
	comp=Z,5.8nm,1.0s,baz=250,slow=7.4,SNR=4.5								
KEST	**Kesra**	**92.66**	**359**	IAMs_20	IAMs_20		13 17 08.2		
	comp=Z,538nm,19.0s								
UOSS	**Minazif**	**92.83**	**318**	IAMs_20	IAMs_20		13 14 48.8		
	comp=Z,506nm,21.0s								
MACC	**Macarena, Meta**	**92.95**	**83**⍰	*e*P		P	**12 29 58.6**	**+1.6**	
STKA	**Stephens Creek**	**93.12**	**219**	P		**P**	**12 29 57.6**	**+0.4**	
	comp=Z,10.0nm,1.0s,baz=359,slow=8.1,SNR=9.3								
STKA				LR		LR	13 07 48.3		
	comp=Z,913nm,20.1s,baz=22,slow=33								
STKA	**Stephens Creek**	**93.12**	**219**	P		**P**	**12 29 57.6**	**+0.4**	
STKA				pmax	pmax				
	comp=Z,4.0nm,1.1s								
STKA	**Stephens Creek**	**93.12**	**219**	P		**P**	**12 29 57.6**	**+0.4**	
WSAR	**Wadi Sarin**	**93.30**	**315**	LR	LR		13 17 23.1		
	comp=Z,709nm,19.7s,baz=62,slow=39								
TAM	**Tamanrasset**	**105.50**	**3**	IAMs_20	IAMs_20		13 23 42.4		
	comp=Z,448nm,22.0s								
TORD	**Torodi Ar. Bea**	**114.87**	**7**	PKP		**PKiKP**	**12 35 23.9**	**-0.5**	
	comp=Z,1.4nm,0.6s,baz=351,slow=2.5,SNR=9.0								
TORD				PKKPbc		**PKKPbc**	**12 45 59.3**	**+0.3**	
	comp=Z,2.2nm,0.8s,baz=158,slow=1.8,SNR=10								
TORD				SKKP			12 49 52.3		
	comp=Z,1.1nm,0.9s,baz=88,slow=6.4,SNR=4.6								
TORD	**Torodi Ar. Bea**	**114.87**	**7**			**PKiKP**	**12 35 24.7**	**+0.3**	
TOA3	**Torodi Ar. Sit**	**114.87**	**7**	IAMs_20	IAMs_20		13 31 26.4		
	comp=Z,402nm,20.0s								
TOB4	**Torodi Ar. Sit**	**114.87**	**7**	IAMs_20	IAMs_20		13 31 26.5		
	comp=Z,432nm,20.0s								
TOB3	**Torodi Ar. Sit**	**114.88**	**7**	IAMs_20	IAMs_20		13 31 26.6		
	comp=Z,406nm,20.0s								
H03N2	**Juan Fernandez**	**116.92**	**110**	T	T		14 43 30.8		
	baz=317,slow=77								
H03N1	**Juan Fernandez**	**116.94**	**110**	T	T		14 43 32.4		
	baz=317,slow=77								
H03N3	**Juan Fernandez**	**116.94**	**110**	T	T		14 43 36.0		
	baz=317,slow=77								
TIC	**Toumodi**	**120.44**	**16**	*e*PKIKP		**PKPdf**	**12 35 35.4**	**+0.2**	
KIC	**Kosan Boka**	**120.77**	**16**	*e*PKIKP		**PKPdf**	**12 35 35.9**	**+0.1**	
	comp=Z,18nm,0.9s								
LIC	**Lamto**	**120.85**	**16**	*e*PKIKP		**PKPdf**	**12 35 36.0**	**+0.1**	
	comp=Z,14nm,0.8s								
BO02	**Sierra Bellavi**	**122.66**	**106**			**PKPdf**	**12 35 37.6**	**-1.2**	
BI02	**San Fabin de**	**123.66**	**108**	PKPdf		**PKPdf**	**12 35 40.8**	**+0.2**	
KMBO	**Kilima Mbogo**	**123.94**	**325**	PKP		**PKiKP**	**12 35 44.5**	**+2.0**	
	comp=Z,2.0nm,0.3s,baz=21,slow=4.6,SNR=10.0								
KMBO	**Kilima Mbogo**	**123.94**	**325**	PKIKP		**PKiKP**	**12 35 43.8**	**+1.4**	
KMBO	**Kilima Mbogo**	**123.94**	**325**	PKPdf		**PKiKP**	**12 35 43.8**	**+1.4**	
LC01	**Cunco**	**124.81**	**110**	PKPdf		**PKPdf**	**12 35 43.2**	**+0.5**	
CPUP	**Villa Florida**	**124.93**	**89**	PKP		**PKPdf**	**12 35 43.5**	**+0.2**	
	comp=Z,4.1nm,0.7s,baz=248,slow=2.8,SNR=8.4								
MBAR	**Mbarara**	**125.54**	**332**	PKP		**PKiKP**	**12 35 46.1**	**+0.6**	
	comp=Z,2.7nm,0.2s,baz=47,slow=3.6,SNR=3.9								
MBAR	**Mbarara**	**125.54**	**332**			**PKiKP**	**12 35 46.7**	**+1.1**	
PLCA	**Paso Flores**	**126.79**	**111**	PKP		**PKPdf**	**12 35 47.0**	**+0.5**	
	comp=Z,9.1nm,0.9s,baz=258,slow=3.5,SNR=15								
PLCA	**Paso Flores**	**126.79**	**111**	PKIKP		**PKPdf**	**12 35 47.0**	**+0.5**	
PLCA	**Paso Flores**	**126.79**	**111**			**PKiKP**	**12 35 47.8**	**+0.8**	
LL01	**San Ignacio de**	**126.79**	**114**	PKPdf		**PKiKP**	**12 35 47.0**	**+0.3**	
VNDA	**Vanda**	**130.30**	**187**	PKP		**PKPdf**	**12 35 51.1**	**-0.9**	
	comp=Z,1.4nm,0.8s,baz=328,slow=6.2,SNR=4.7								
MATP	**Matopo**	**144.91**	**326**	*i* P		**PKPdf**	**12 36 21.3**	**+0.6**	
MATP	**Matopo**	**144.91**	**326**	*i* P		**PKPdf**	**12 36 21.3**	**+0.6**	
MATP	**Matopo**	**144.91**	**326**	*i* P		**PKPdf**	**12 36 21.3**	**+0.6**	
TSUM	**Tsumeb**	**146.55**	**345**			**PKPab**	**12 36 26.2**	**+0.1**	
MAW	**Mawson**	**149.81**	**218**	PKPbc		**PKiKP**	**12 36 33.1**	**+0.2**	
	comp=Z,50nm,0.9s,baz=86,slow=2.9,SNR=66								
MAW	**Mawson**	**149.81**	**218**	PKP2		**PKiKP**	**12 36 33.4**	**+0.5**	
MAW	**Mawson**	**149.81**	**218**			**PKiKP**	**12 36 33.4**	**+0.5**	
LBTB	**Lobatse**	**150.14**	**328**	*i* P		**PKiKP**	**12 36 36.0**	**+0.9**	
LBTB	**Lobatse**	**150.14**	**328**	*i* P		**PKiKP**	**12 36 36.0**	**+0.9**	
LBTB	**Lobatse**	**150.14**	**328**	*i* P		**PKiKP**	**12 36 36.0**	**+0.9**	
LBTB	**Lobatse**	**150.14**	**328**	PKIKP		**PKiKP**	**12 36 35.7**	**+0.6**	
LBTB	**Lobatse**	**150.14**	**328**			**PKiKP**	**12 36 35.7**	**+0.6**	
BOSA	**Boshof**	**153.57**	**326**	PKPbc		**PKPbc**	**12 36 42.1**	**+0.1**	
	comp=Z,126nm,0.9s,baz=43,slow=2.3,SNR=9.4								
BOSA	**Boshof**	**153.57**	**326**	*i* P		**PKiKP**	**12 36 43.7**	**+1.6**	
BOSA	**Boshof**	**153.57**	**326**	*i* P		**PKiKP**	**12 36 43.7**	**+1.6**	
BOSA	**Boshof**	**153.57**	**326**	*i* P		**PKiKP**	**12 36 43.7**	**+1.6**	
BOSA	**Boshof**	**153.57**	**326**			**PKiKP**	**12 36 43.0**	**+0.8**	
SYO	**Syowa Base**	**157.54**	**209**⍰	*e*X		PKPdf	12 36 46.4	+8.3	
VNA3	**Neumayer Olymp**	**158.98**	**164**	PKPdf		**PKPdf**	**12 36 39.0**	**-0.9**	
SNAA	**Sanae**	**159.58**	**170**	PKPdf		**PKPdf**	**12 36 39.9**	**-0.7**	
SNAA	**Sanae**	**159.58**	**170**	PKP2		**PKPab**	**12 37 18.8**	**-0.5**	
SNAA							13 36 39.9		
SNAA	**Sanae**	**159.58**	**170**			**PKPdf**	**12 36 39.9**	**-0.7**	
SNAA				PKPab		**PKPab**	**12 37 18.8**	**-0.5**	
VNA1	**Neumayer--Stat**	**159.73**	**164**	PKPab		**PKPab**	**12 37 19.8**	**0.0**	

TAP 20 12:26:30.8, 23.65N×121.05E, h29km±1km, ML1.4, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VWDT	**VWDT**	**0.14**	**36**	*e*P	Pb	12 26 36.1	-0.2
	baz=36						
VWDT				S	Sb	12 26 40.9	+0.9
	baz=36						
SSLB	**Suanglung**	**0.17**	**327**	P	Pb	12 26 36.6	-0.1
	baz=327						
SSLB				*e*S	Sb	12 26 39.8	-0.9
	baz=327						
SSLB	**Suanglung**	**0.17**	**327**	P	Pb	12 26 36.7	0.0
WHYT	**Xinyi Township**	**0.19**	**285**	P	Pb	12 26 37.1	+0.2
	baz=285						
WHYT				S	Sb	12 26 42.0	+0.9
	baz=285						
ALS	**Alishan**	**0.27**	**240**	*e*P	Pb	12 26 38.3	+0.3
	baz=238						
ALS				*e*S	Sn	12 26 44.0	-0.2
	baz=238						
EHY	**Hungye**	**0.28**	**119**	*e*P	Pn	12 26 38.9	-0.1
	baz=118						
TYC	**Yuchr**	**0.32**	**325**	P	Pb	12 26 38.9	+0.4
	baz=326						
YULB	**Yu-li**	**0.34**	**138**	*e*P	Pb	12 26 39.0	+0.3
	baz=138						
CHN5	**Tsauling**	**0.35**	**262**	*e*P	Pb	12 26 39.4	+0.4
	baz=262						
CHN5				*e*S	Sb	12 26 45.2	+0.7
	baz=262						
WGK	**Gukeng**	**0.45**	**275**	*e*P	Pn	12 26 41.3	-0.1
	baz=275						
FULB	**Fuli**	**0.50**	**154**	*e*P	Pb	12 26 41.1	-0.1
	baz=153						
TPUB	**Ta-pu**	**0.52**	**229**	*e*P	Pb	12 26 41.8	+0.2
	baz=228						
WTP	**Ta-pu**	**0.57**	**226**	*e*P	Pn	12 26 43.7	+0.7
	baz=224						
SLGT	**Liugui**	**0.75**	**210**	*e*P	Pb	12 26 44.7	-0.6
	baz=210						

*IDC **20** 12:30:03.6±0.8, 51.98N×171.44W, h0km, mb3.8/14, mb1 3.9/16, mb1mx3.8/43, mbtmp3.7/16, ML3.0/2, Error ellipse: s-maj=29.4km s-min=14.2km az=168.0*
*AEIC **20** 12:30:09.4±2.8, 52.0N±0.1×171.38W±0.07, h43km±5km, ML3.6/31, mb3.9/25(NEIC), Error ellipse: s-maj=15.3km s-min=5.7km az=170.0*
*NEIC **20** 12:30:10.3±2.8, 52.0N±0.1×171.40W±0.07, h52km±6km, Error ellipse: s-maj=15.7km s-min=5.6km az=169.0*
ISC 20 12:30:09.4±0.7, 51.9N±0.1×171.38W±0.04, h44km, n96, σ1§52/96, mb3.9/17, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOSE	**Korovin Southe**	**1.70**	**285**		**Pn**	**12 30 37.6**	**+0.9**
KOFP	**Korovin Flat P**	**1.71**	**283**		**Pn**	**12 30 37.1**	**+0.3**
ATKA	**Atka Island**	**1.76**	**280**		**Pn**	**12 30 37.0**	**-0.4**
ATKA	**Atka Island**	**1.76**	**280**		**Sn**	**12 30 58.7**	**+0.2**
NIKH	**Nikolski High**	**1.87**	**55**		**Pn**	**12 30 36.8**	**-2.1**
NIKH	**Nikolski High**	**1.87**	**55**		**Sn**	**12 31 00.4**	**-0.8**
OKSP	**Okmok Steeple**	**2.31**	**54**		**Pn**	**12 30 43.6**	**-1.3**
OKCE	**Okmok Cone E**	**2.47**	**51**		**Pn**	**12 30 46.9**	**-0.3**
OKNC	**Okmok New Cone**	**2.51**	**51**		**Pn**	**12 30 48.5**	**+0.9**
OKFG	**Magazine Ridge**	**2.58**	**53**		**Pn**	**12 30 48.8**	**+0.2**
OKFG					**Sn**	**12 31 19.9**	**+1.1**
GSMY	**Great Sitkin M**	**2.90**	**274**		**Pn**	**12 30 53.6**	**+0.7**
GSTR	**Great Sitkin T**	**2.90**	**275**		**Pn**	**12 30 54.0**	**+1.0**
GSTD	**Great Sitkin T**	**2.95**	**274**		**Pn**	**12 30 53.9**	**+0.1**
GSTD					**Sn**	**12 31 28.0**	**0.0**
ADK	**Adak**	**3.29**	**271**		**Pn**	**12 30 58.7**	**+0.3**
ADK				Sn	**Sn**	**12 31 35.9**	**-0.2**
MREP	**Makushin Rep't**	**3.38**	**54**		**Pn**	**12 31 00.2**	**+0.4**
MSW	**Makushin Switc**	**3.42**	**53**		**Pn**	**12 31 00.9**	**+0.7**
UNV	**Unalaska Valle**	**3.52**	**55**		**Pn**	**12 31 01.2**	**-0.3**
UNV	**Unalaska Valle**	**3.52**	**55**		**Sn**	**12 31 43.2**	**+1.3**
KIKV	**Kanaga Island**	**3.59**	**272**		**Pn**	**12 31 03.8**	**+1.3**
KICM	**Kanaga Island**	**3.60**	**272**		**Pn**	**12 31 04.0**	**+1.4**
KIMD	**Kanaga Island**	**3.64**	**270**		**Pn**	**12 31 05.3**	**+2.2**
AKRB	**Akutan Reef Bi**	**3.89**	**53**		**Pn**	**12 31 08.8**	**+2.1**
AKMO	**Akutan Morgan**	**3.90**	**54**		**Pn**	**12 31 08.6**	**+2.0**
TAPA	**Tanaga Point A**	**3.99**	**271**		**Pn**	**12 31 09.9**	**+1.9**
AKUT	**Akutan**	**4.04**	**55**		**Pn**	**12 31 10.6**	**+1.9**
AKSA	**Akutan Strait**	**4.08**	**55**		**Pn**	**12 31 10.8**	**+1.6**
TAFP	**Tanaga Falls P**	**4.09**	**272**		**Pn**	**12 31 11.4**	**+2.0**
TASE	**Tanaga Southea**	**4.13**	**271**		**Pn**	**12 31 11.9**	**+2.0**
SPIA	**Saint Paul Isl**	**5.30**	**7**	Pn	**Pn**	**12 31 28.9**	**+3.0**
FALS	**False Pass**	**5.60**	**55**		**Pn**	**12 31 31.7**	**+1.7**
SDPT	**Sand Point**	**7.33**	**58**	Pn	**Pn**	**12 31 52.9**	**-0.8**
SDPT				Sn	**Sn**	**12 33 14.6**	**-1.0**
CNBA	**Chernabura Isl**	**7.62**	**63**	Pn	**Pn**	**12 31 56.6**	**-1.2**
SMY	**Shemya**	**8.93**	**281**	Pn	**Pn**	**12 32 12.7**	**-3.0**
CHIR	**Chirikof Islan**	**10.09**	**61**	Pn	**Pn**	**12 32 30.3**	**-1.2**
SII	**Sitkinak Islan**	**11.07**	**58**	Pn	**Pn**	**12 32 43.7**	**-1.2**
OHAK	**Old Harbor**	**11.75**	**56**	Pn	**Pn**	**12 32 51.6**	**-2.5**
KDAK	**Kodiak Island**	**12.29**	**54**	Pn	**Pn**	**12 32 59.5**	**-2.1**
	0.4nm,0.3s,baz=136,slow=2.2,SNR=8.9						
KDAK				Sn	**Sn**	**12 35 20.5**	**+3.4**
	0.1nm,0.3s,baz=24,slow=8.7,SNR=1.4						
KDAK	**Kodiak Island**	**12.29**	**54**		**Pn**	**12 32 58.3**	**-3.3**
SVW2	**Sparrevohn**	**12.64**	**37**	Pn	**Pn**	**12 33 08.3**	**+2.0**
CNPM	**China Poot**	**13.62**	**48**	Pn	**Pn**	**12 33 17.8**	**-2.0**
TTA	**Tatalina**	**13.74**	**31**	Pn	**Pn**	**12 33 17.1**	**-4.3**
SEW	**Seward**	**14.69**	**48**	Pn	**Pn**	**12 33 30.2**	**-3.8**
RC01	**Rabbit Creek A**	**14.99**	**44**	Pn	**Pn**	**12 33 38.9**	**+0.8**
PPLA	**Purkeypile**	**15.02**	**36**	Pn	**Pn**	**12 33 39.8**	**+1.3**
GHO	**Glory Hole Cre**	**15.66**	**42**	Pn	**Pn**	**12 33 44.8**	**-2.1**
GHO				IAmb	IAmb	12 33 59.3	
	comp=Z,17nm,1.4s						
BPAW	**Bear Paw Mtn.**	**16.19**	**33**	Pn	**Pn**	**12 33 52.3**	**-1.2**
SCM	**Sheep Creek Mo**	**16.36**	**43**		**Pn**	**12 33 56.1**	**+0.3**
SCM				IAmb	IAmb	12 33 59.4	
	comp=Z,12nm,1.3s						
RND	**Reindeer**	**16.54**	**37**	Pn	**Pn**	**12 33 54.8**	**-3.2**
RND				IAmb	IAmb	12 34 09.1	
	comp=Z,6.9nm,1.2s						
WRH	**Wood River Hil**	**17.42**	**35**	Pn	**Pn**	**12 34 06.8**	**-2.1**
WRH				IAmb	IAmb	12 34 23.9	
	comp=Z,7.1nm,1.4s						
CCB	**Clear Creek Bu**	**17.63**	**35**		**Pn**	**12 34 10.1**	**-1.3**
GLB	**Gilahina Butte**	**17.75**	**47**	P	**Pn**	**12 34 12.7**	**-0.3**
VRDI	**Verde Repeater**	**17.84**	**48**	P	**Pn**	**12 34 13.2**	**-1.1**
ILAR	**Eielson Array**	**18.02**	**35**	P	**Pn**	**12 34 14.7**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=228,slow=8.3,SNR=2.1						
BARN	**Barnard Glacie**	**18.62**	**49**	P	**Pn**	**12 34 25.9**	**+2.1**
BARN				IAmb	IAmb	12 34 45.5	
	comp=Z,5.7nm,0.6s						
PETK	**Petropavlovsk-**	**18.79**	**286**	P	**P**	**12 34 24.4**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=79,slow=15,SNR=5.6						
PETK	**Petropavlovsk-**	**18.79**	**286**	P	**Pn**	**12 34 26.7**	**+1.1**
PRP	**Porcupine Dome**	**18.92**	**34**	P	**P**	**12 34 24.3**	**-2.0**
PCA	**Pinnacle**	**19.07**	**52**	P	**P**	**12 34 27.6**	**-0.3**
BCAR	**Beaver Creek A**	**19.22**	**43**	P	**P**	**12 34 28.6**	**-0.9**
EGAK	**Eagle**	**20.16**	**39**	P	**P**	**12 34 39.5**	**-0.1**
EGAK				IAmb	IAmb	12 34 57.5	
	comp=Z,3.5nm,0.9s						
HYT	**Haines Junctio**	**20.55**	**51**	P	Pn	12 34 46.6	+0.1
EPYK	**Eagle Plains**	**22.50**	**37**	P	**P**	**12 35 04.2**	**-0.7**
EPYK				IAmb	IAmb	12 35 06.4	
	comp=Z,4.5nm,1.0s						
DLBC	**Dease Lake**	**24.18**	**58**	P	**P**	**12 35 22.5**	**+1.2**
	comp=Z,1.4nm,0.4s,baz=243,slow=4.7,SNR=4.7						
DLBC	**Dease Lake**	**24.18**	**58**	P	**P**	**12 35 21.1**	**-0.2**
DLBC				IAmb	IAmb	12 35 40.3	
	comp=Z,5.2nm,1.0s						
INK	**Inuvik**	**24.40**	**34**	P	**P**	**12 35 23.1**	**0.0**
	comp=Z,0.9nm,0.4s,baz=240,slow=7.5,SNR=7.5						
INK	**Inuvik**	**24.40**	**34**	P	**P**	**12 35 22.9**	**-0.2**
INK				IAmb	IAmb	12 35 40.5	
	comp=Z,7.2nm,1.4s						
YKA	**Yellowknife Ar**	**31.46**	**48**	P	**P**	**12 36 26.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=276,slow=9.3,SNR=7.6						
I07A	**Izee**	**34.93**	**82**	P	**P**		
H11N2	**WAKE ISLAND Hy**	**36.35**	**216**	T	T	13 15 40.3	
	baz=22,slow=75						
H11N3	**WAKE ISLAND Hy**	**36.36**	**216**	T	T	13 15 42.7	
	baz=22,slow=75						
H11N1	**WAKE ISLAND Hy**	**36.37**	**216**	T	T	13 15 42.1	
	baz=22,slow=75						
MJAR	**Matsushiro Arr**	**38.44**	**267**	P	**P**	**12 37 27.8**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=59,slow=7.5,SNR=2.1						
MJAR	**Matsushiro Arr**	**38.44**	**267**	P	**P**	**12 37 26.5**	**-0.2**
MCMT	**McKenzie Canyo**	**38.58**	**77**	P	**P**	**12 37 28.7**	**+0.6**
NVAR	**Mina Array Bea**	**38.90**	**89**	P	**P**	**12 37 31.7**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=349,slow=8.3,SNR=5.4						
NVAR	**Mina Array Bea**	**38.90**	**89**	P	**P**	**12 37 33.2**	**+2.4**
SNOW	**Snow King Moun**	**40.59**	**77**	P	**P**	**12 37 44.0**	**-0.8**
TPNV	**Topopah Spring**	**41.10**	**89**	P	**P**	**12 37 50.1**	**+1.1**
TPNV				IAmb	IAmb	12 38 05.0	
	comp=Z,2.0nm,0.7s						
PD31	**Pinedale Array**	**41.71**	**77**	P	**P**	**12 37 55.0**	**+1.0**
PD31				IAmb	IAmb	12 38 08.9	
	comp=Z,1.1nm,0.7s						
PDAR	**Pinedale Array**	**41.71**	**77**	P	**P**	**12 37 54.4**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=313,slow=5.5,SNR=5.0						
PDAR	**Pinedale Array**	**41.71**	**77**	P	**P**	**12 37 55.0**	**+1.0**
GSC	**Goldstone, Bar**	**41.81**	**91**	P	**P**	**12 37 55.7**	**+1.0**
GSC				IAmb	IAmb	12 38 09.5	
	comp=Z,3.2nm,0.9s						
FCC	**Fort Churchill**	**42.17**	**49**	P	**P**	**12 37 56.3**	**-0.9**
KSRS	**Korea Array**	**44.22**	**276**	P	**P**	**12 38 14.0**	**0.0**
	comp=Z,1.0nm,0.8s,baz=56,slow=9.2,SNR=5.0						
SONM	**Songino Array**	**50.46**	**300**	P	**P**	**12 39 02.2**	**-0.4**
	comp=Z,0.4nm,0.3s,baz=85,slow=4.8,SNR=3.7						
SONM	**Songino Array**	**50.46**	**300**	P	**P**	**12 39 03.5**	**+0.9**
TXAR	**Lajitas Array**	**54.00**	**87**	P	**P**	**12 39 29.0**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=303,slow=7.0,SNR=5.9						
TXAR	**Lajitas Array**	**54.00**	**87**	P	**P**	**12 39 29.6**	**+0.5**
MKAR	**Makanchi Array**	**63.20**	**312**	P	**P**	**12

THR8	**Santorini-Mono**	**1.69**	**325**	P	**Pn**	**12 34 29.5**	**+0.4**
THR8	**Santorini-Mono**	**1.69**	**325**	P	**Pn**	**12 34 29.5**	**+0.4**
STAX	**Taxiarchis Har**	**1.72**	**323**	P	**Pn**	**12 34 30.5**	**+0.9**
SNT1	**Gialos, Santor**	**1.72**	**324**	P	**Pn**	**12 34 30.4**	**+0.8**
SNT1	**Gialos, Santor**	**1.72**	**324**	P	**Pn**	**12 34 30.4**	**+0.8**
SNT1				AML	AML	12 35 01.5	
	comp=E,3939μm,0.8s						
SNT1				AML	AML	12 35 03.6	
	comp=N,3868μm,0.7s						
THR3	**Thira Island,**	**1.73**	**323**	P	**Pn**	**12 34 30.4**	**+0.7**
THR3	**Thira Island,**	**1.73**	**323**	P	**Pn**	**12 34 30.5**	**+0.7**
KOSK	**Kos Island**	**1.73**	**8**	PN	**Pb**	**12 34 31.6**	**-0.1**
THR2	**Thira island,**	**1.75**	**325**	P	**Pn**	**12 34 30.6**	**+0.7**
THR2	**Thira island,**	**1.75**	**325**	P	**Pn**	**12 34 30.7**	**+0.8**
CMBO	**Columbo, Santo**	**1.78**	**324**	P	**Pb**	**12 34 32.0**	**-0.5**
DAT	**Datca**	**1.84**	**23**	P	**Pn**	**12 34 32.3**	**+0.9**
DAT	**Datca**	**1.84**	**23**	PN	**Pb**	**12 34 32.8**	**-0.8**
DATC	**Datca-Mugla**	**1.90**	**24**	PN	**Pb**	**12 34 33.6**	**-0.9**
AMGA	**Amorgos Island**	**1.91**	**340**	P	**Pn**	**12 34 33.1**	**+0.9**
AMGA	**Amorgos Island**	**1.91**	**340**	P	**Pn**	**12 34 33.3**	**+1.1**
AMGA				S	**Sb**	**12 34 57.6**	**-0.8**
AMGA				AML	AML	12 35 02.4	
	comp=N,2930μm,0.7s						
AMGA				AML	AML	12 35 05.0	
	comp=E,3601μm,0.5s						
IOSP	**Ios Island**	**2.04**	**326**	P	**Pn**	**12 34 35.2**	**+1.3**
IOSP	**Ios island**	**2.04**	**326**	P	**Pn**	**12 34 35.5**	**+1.6**
IOSP				S	**Sn**	**12 35 00.7**	**+1.6**
IOSP				AML	AML	12 35 05.1	
	comp=E,2402μm,0.5s						
IOSP				AML	AML	12 35 07.5	
	comp=N,2695μm,0.7s						
VAM	**Vamos**	**2.07**	**281**	P	**Pb**	**12 34 37.3**	**-0.2**
VAM				AML	AML	12 35 12.8	
	comp=N,1672μm,0.8s						
VAM				AML	AML	12 35 18.2	
	comp=E,1441μm,0.5s						
BODT	**Bodrum**	**2.09**	**14**	P	**Pb**	**12 34 36.9**	**-0.9**
BODT	**Bodrum**	**2.09**	**14**	PN	**Pb**	**12 34 36.6**	**-1.2**
BDRM	**Kayabasi**	**2.12**	**16**	*i* P	**Pn**	**12 34 37.0**	**+1.9**
BDRM				*i* S	**Sn**	**12 35 01.7**	**+0.5**
APE	**Apeiranthos**	**2.24**	**336**	P	**Pn**	**12 34 37.5**	**+0.7**
APE				S	**Sn**	**12 35 04.8**	**+0.6**
	comp=E,730nm,0.7s						
APE	**Apeiranthos**	**2.24**	**336**	P	**Pn**	**12 34 37.9**	**+1.1**
APE				S	**Sn**	**12 35 05.9**	**+1.7**
APE				AML	AML	12 35 10.6	
	comp=E,1814μm,0.8s						
APE				AML	AML	12 35 13.3	
	comp=N,1146μm,0.4s						
APE	**Apeiranthos**	**2.24**	**336**	PN	**Pn**	**12 34 38.8**	**+2.0**
APE	**Apeiranthos**	**2.24**	**336**	*i* P	**Pn**	**12 34 38.2**	**+1.4**
APE				*i* S	**Sn**	**12 35 05.1**	**+0.9**
IMMV	**Iera Moni Meta**	**2.26**	**282**	P	**Pn**	**12 34 39.4**	**+2.4**
TURN	**Turunc**	**2.41**	**40**	PN	**Pn**	**12 34 37.4**	**-1.6**
TURN	**Turunc**	**2.41**	**40**	*i* P	**Pn**	**12 34 38.0**	**-1.0**
TURN				*i* S	**Sn**	**12 35 04.9**	**-3.2**
YER	**Yerkesik**	**2.47**	**31**	P	**Pn**	**12 34 42.2**	**+2.3**
YER	**Yerkesik**	**2.47**	**31**	PN	**Pn**	**12 34 41.5**	**+1.6**
FETY	**Fethiye**	**2.52**	**50**	P	**Pn**	**12 34 42.1**	**+1.5**
FETY	**Fethiye**	**2.52**	**50**	PN	**Pn**	**12 34 42.2**	**+1.6**
AKAS	**Kas**	**2.66**	**62**	PN	**Pn**	**12 34 43.8**	**+1.2**
AKAS	**Kas**	**2.66**	**62**	*i* P	**Pn**	**12 34 43.9**	**+1.2**
AKAS				*i* S	**Sn**	**12 35 17.5**	**+2.9**
SMG	**Samos**	**2.68**	**2**	P	**Pn**	**12 34 44.0**	**+1.2**
GCAM	**G?zelcaml?**	**2.70**	**9**	PN	**Pn**	**12 34 45.4**	**+2.4**
AYDN	**Tasoluk**	**2.80**	**20**	*i* P	**Pn**	**12 34 47.4**	**+2.9**
AYDN				*i* S	**Sb**	**12 35 21.9**	**-2.0**
DGB	**zmir**	**3.02**	**3**	*i* P	**Pn**	**12 34 49.2**	**+1.7**
TAVA	**DENIZLI_Tavas**	**3.02**	**36**	*i* P	**Pn**	**12 34 50.3**	**+2.7**
AYDB	**Zeytinkoy-Aydi**	**3.07**	**18**	PN	**Pn**	**12 34 50.4**	**+2.2**
ELL	**Elmali**	**3.13**	**56**	PN	**Pn**	**12 34 49.5**	**+0.5**
ELL	**Elmali**	**3.13**	**56**	Pn	**Pn**	**12 34 49.1**	**+0.1**
GOLH	**Golhisar**	**3.20**	**46**	*i* P	**Pn**	**12 34 52.7**	**+2.6**
GOLH				*i* S	**Sb**	**12 35 33.0**	**-2.6**
URLA	**Izmir**	**3.33**	**359**	PN	**Pn**	**12 34 54.1**	**+2.4**
URLA	**Izmir**	**3.33**	**359**	*i* P	**Pn**	**12 34 52.6**	**+0.9**
VLI	**Veliai**	**3.48**	**300**	P	**Pn**	**12 34 55.5**	**+1.7**
VLI	**Veliai**	**3.48**	**300**	P	**Pn**	**12 34 55.4**	**+1.7**
KARY	**Karystos**	**3.50**	**329**	P	**Pn**	**12 34 56.1**	**+2.0**
DID	**Didima**	**3.73**	**313**	P	**Pn**	**12 34 59.8**	**+2.6**
DION	**Dionisos Attik**	**3.77**	**325**	P	**Pn**	**12 35 00.5**	**+2.8**
MANT	**Manisa**	**3.77**	**23**	*i* P	**Pn**	**12 34 59.6**	**+1.7**
MANT	**Manisa**	**3.77**	**23**	Pn	**Pn**	**12 34 56.8**	**-1.1**
KULA	**Kula-Manisa**	**3.82**	**24**	PN	**Pn**	**12 35 01.1**	**+2.6**
KHAL	**Karahalli**	**4.02**	**33**	*i* P	**Pn**	**12 35 02.7**	**+1.4**
USAK	**Uak-Merkez**	**4.12**	**26**	*i* P	**Pn**	**12 35 04.7**	**+2.1**
LTK	**Loutraki**	**4.23**	**316**	P	**Pn**	**12 35 07.6**	**+3.5**
KEPZ	**Antalya-Kepez**	**4.40**	**63**	*i* P	**Pn**	**12 35 07.6**	**+1.1**
KEPZ				*i* S	**Sn**	**12 35 59.4**	**+1.9**
ITM	**Ithomi**	**4.41**	**300**	Pn	**Pn**	**12 35 07.8**	**+1.2**
GUR	**Goura**	**4.55**	**311**	P	**Pn**	**12 35 09.7**	**+1.2**
GUR	**Goura**	**4.55**	**311**	P	**Pn**	**12 35 11.7**	**+3.2**
KLV	**Kalavryta, Ach**	**4.74**	**311**	P	**Pn**	**12 35 14.3**	**+3.2**
AGG	**Agios Georgios**	**5.30**	**320**	Pn	**Pn**	**12 35 21.0**	**+2.2**
CSS	**Mathiatis**	**5.45**	**89**	Pn	**Pn**	**12 35 23.8**	**+3.0**
BRTR	**Keskin Array B**	**7.25**	**48**	Pn	**Pn**	**12 35 48.3**	**+2.6**
	comp=N,0.2nm,0.3s,baz=220,slow=14,SNR=2.2						
BRTR				Sn	**Sn**	**12 37 12.9**	**+5.1**
	comp=N,0.2nm,0.3s,baz=209,slow=30,SNR=1.4						
VTS	**Vitosha**	**8.04**	**341**	Pn	**Pn**	**12 35 56.1**	**-0.5**
EIL	**Elat**	**8.79**	**125**	Pn	**Pn**	**12 36 05.8**	**-1.0**
	comp=N,0.2nm,0.3s,baz=359,slow=14,SNR=1.5						
EIL				Sn	**Sn**	**12 37 41.5**	**-4.0**
	comp=N,0.9nm,0.3s,baz=358,slow=11,SNR=5.9						
TIP	**Timpagrande**	**8.95**	**300**	Pn	**Pn**	**12 36 08.7**	**-0.2**
MLR	**Muntele Rosu**	**10.47**	**357**	LR	LR	12 40 42.0	
	comp=N,185nm,19.7s,baz=290,slow=38						
SGRT	**San Giovanni R**	**10.90**	**311**	Pn	**Pn**	**12 36 34.0**	**-1.6**
KBZ	**Khabaz**	**15.23**	**50**	Pn	**Pn**	**12 37 36.9**	**+2.4**
	comp=N,0.1nm,0.3s,baz=334,slow=21,SNR=1.2						
KBZ				Sn	**Sn**	**12 40 18.2**	**-4.7**
	comp=N,0.2nm,0.3s,baz=98,slow=19,SNR=2.2						
AKASG	**Malin Array Be**	**15.77**	**6**	Pn	**Pn**	**12 37 42.5**	**+0.9**
	comp=N,0.9nm,0.3s,baz=194,slow=11,SNR=2.5						
AKASG	**Malin Array Be**	**15.77**	**6**		**Pn**	**12 37 41.9**	**+0.3**
GERES	**GERESS Array B**	**16.82**	**329**	P	**P**	**12 37 58.4**	**+1.3**
	comp=N,0.1nm,0.3s,baz=142,slow=9.9,SNR=1.9						
GERES	**GERESS Array B**	**16.82**	**329**	P	**Pn**	**12 37 56.0**	**+0.9**
SENIN	**Lac Senin/Sane**	**18.50**	**314**	P	**P**	**12 38 13.3**	**-2.6**
ESBB	**Sonseca Array**	**24.74**	**290**	P	**P**	**12 39 21.0**	**0.0**
ESBB				IAmb	IAmb	12 39 24.6	
	comp=Z,9.2nm,1.4s						
ESDC	**Sonseca Array**	**24.74**	**290**	P	**P**	**12 39 21.0**	**0.0**
	comp=Z,0.5nm,0.5s,baz=80,slow=10,SNR=3.4						
ESDC	**Sonseca Array**	**24.74**	**290**	P	**P**	**12 39 18.9**	**-2.1**
PAB	**San Pablo**	**25.04**	**290**	P	**P**	**12 39 21.6**	**-2.1**
FINES	**FINESS Array B**	**26.44**	**359**	P	**P**	**12 39 35.9**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=138,slow=15,SNR=2.6						
FINES	**FINESS Array B**	**26.44**	**359**	P	**P**	**12 39 35.4**	**-0.7**
HFS	**Hagfors**	**26.50**	**345**	P	**P**	**12 39 37.7**	**+1.0**
	comp=Z,2.3nm,0.9s,baz=151,slow=9.2,SNR=2.0						
NC602	**NORSAR Array S**	**27.52**	**344**	P	**P**	**12 39 45.2**	**-0.6**
ABKAR	**Akbulak array**	**28.20**	**49**	P	**P**	**12 39 52.4**	**+0.4**
EKA	**Eskdalemuir Ar**	**28.88**	**324**	P	**P**	**12 39 59.7**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=118,slow=9.1,SNR=1.3						
TOA0	**Torodi Ar. Sit**	**31.38**	**232**		**P**	**12 40 19.7**	**-0.8**
TOA0				IAmb	IAmb	12 40 28.8	
	comp=Z,5.2nm,1.2s						
TORD	**Torodi Ar. Bea**	**31.38**	**232**	P	**P**	**12 40 19.7**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=33,slow=8.8,SNR=2.2						
TORD	**Torodi Ar. Bea**	**31.38**	**232**	P	**P**	**12 40 21.2**	**+0.7**
KKAR	**Karatay Array**	**34.64**	**63**	P	**P**	**12 40 47.7**	**-1.1**
KURK	**Kurchatov**	**40.29**	**51**	P	**P**	**12 41 37.5**	**+1.0**
KURK				IAmb	IAmb	12 41 43.5	
	comp=Z,3.8nm,0.9s						
MK31	**Makanchi Array**	**42.80**	**57**	P	**P**	**12 41 57.3**	**+0.1**
MK31				IAmb	IAmb	12 42 04.3	
	comp=Z,1.3nm,0.8s						
MKAR	**Makanchi Array**	**42.80**	**57**	P	**P**	**12 41 55.4**	**-1.8**
	comp=Z,1.1nm,0.5s,baz=278,slow=6.4,SNR=9.7						
MKAR	**Makanchi Array**	**42.80**	**57**	P	**P**	**12 41 57.4**	**+0.2**
ZAA0	**Zalesovo Array**	**44.19**	**46**	P	**P**	**12 42 09.1**	**+0.8**
ZAA0				IAmb	IAmb	12 42 14.1	
	comp=Z,2.9nm,1.1s						
ZALV	**Zalesovo Beam**	**44.19**	**46**	P	**P**	**12 42 06.8**	**-1.4**
	comp=Z,1.6nm,0.5s,baz=264,slow=7.4,SNR=7.6						
ZALV	**Zalesovo Beam**	**44.19**	**46**	P	**P**	**12 42 08.7**	**+0.4**
SONM	**Songino Array**	**58.60**	**51**	P	**P**	**12 43 56.8**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=292,slow=7.6,SNR=1.9						
SONM	**Songino Array**	**58.60**	**51**	P	**P**	**12 43 56.6**	**+0.2**
ILAR	**Eielson Array**	**80.40**	**357**	P	**P**	**12 46 10.3**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=335,slow=4.1,SNR=1.6						
ILAR	**Eielson Array**	**80.40**	**357**	P	**P**	**12 46 12.1**	**+1.4**
BDFB	**Brasilia**	**86.82**	**249**	LR	LR	13 24 51.3	
	comp=Z,135nm,21.6s,baz=309,slow=35						

*NEIC **20** 12:42:11.8±2.1, 10.7N±0.2×38.93E±0.05, h10km±2km, mb4.2/6, Error ellipse: s-maj=34.9km s-min=4.8km az=167.0*
*AAE **20** 12:42:38.6, 15.51N×40.38E*
ISC 20 12:42:38.2±1.0, **14.57N**±0.05×**39.33E**±0.10, **h10**km, **n25,** σ=**2$6**4/37, **mb4.3**/4, **Ethiopia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TEND	**Ethiopian Broa**	**3.20**	**149**	*eP*		**Pb**		**12 43 35.0**	**-0.2**
TEND				*eS*		**Sb**		**12 44 16.6**	**+2.3**
DESE	**Dese**	**3.44**	**175**	*eP*		**Pb**		**12 43 38.6**	**-0.8**
DESE				*eS*		**Sg**		**12 44 35.3**	**+6.5**
DESE	**Dese**	**3.44**	**175**	*eP*		**Pg**		**12 43 45.6**	**+1.4**
DESE				*eS*		**Sg**		**12 44 30.0**	**+1.2**
DESE	**Dese**	**3.44**	**175**	*eP*		**Pb**		**12 43 38.6**	**-0.8**
DESE				*eS*		**Sg**		**12 44 35.3**	**+6.5**
ATD	**Arta Tunnel**	**4.56**	**131**	*eP*		**Pn**		**12 43 48.4**	**+1.0**
ATD				*eS*		**Sb**		**12 44 50.4**	**-3.2**
ATD	**Arta Tunnel**	**4.56**	**131**	*eP*		**Pn**		**12 43 48.4**	**+1.0**
ATD				*eS*		**Sb**		**12 44 50.4**	**-3.2**
DAMY	**Dhamar**	**4.90**	**89**	Pn		**Pn**		**12 43 49.1**	**-3.2**
ANKE	**Ethiopia-Afar**	**4.96**	**175**	*eP*		**Pg**		**12 44 12.5**	**-0.8**
ANKE				*i S*		**Sg**		**12 45 17.9**	**+0.3**
ANKE	**Ethiopia-Afar**	**4.96**	**175**	*eP*		**Pg**		**12 44 12.5**	**-0.8**
ANKE				*i S*		**Sg**		**12 45 17.9**	**+0.3**
AAE	**Adis Abeba**	**5.53**	**186**	*eP*		**Pg**		**12 44 23.9**	**-0.3**
AAE				*eS*		**Sg**		**12 45 36.6**	**+0.7**
AAE	**Adis Abeba**	**5.53**	**186**	*eP*		**Pg**		**12 44 25.1**	**+0.9**
AAE	**Adis Abeba**	**5.53**	**186**	*eP*		**Pg**		**12 44 23.9**	**-0.3**
AAE				*eS*		**Sg**		**12 45 36.6**	**+0.7**
FURI	**Furi**	**5.67**	**187**	*eP*		**Pg**		**12 44 25.8**	**-1.1**
FURI				*eS*		**Sg**		**12 45 33.9**	**-6.5**
FURI	**Furi**	**5.67**	**187**	*eP*		**Pg**		**12 44 24.8**	**-2.1**
FURI	**Furi**	**5.67**	**187**	*eP*		**Pg**		**12 44 25.8**	**-1.1**
FURI				*eS*		**Sg**		**12 45 33.9**	**-6.5**
ABKAR	**Akbulak array**	**38.50**	**22**	P		**P**		**12 50 02.9**	**+2.3**
KK31	**Karatay Array**	**39.02**	**37**	P		**P**		**12 50 06.3**	**+1.3**
KK31				IAmb		IAmb		12 50 09.6	
	comp=Z,3.9nm,1.2s								
KKAR	**Karatay Array**	**39.02**	**37**	P		**P**		**12 50 06.2**	**+1.1**
KKAR	**Karatay Array**	**39.02**	**37**	P		**P**		**12 50 04.8**	**-0.3**
KKAR				IAmb		IAmb		12 50 09.6	
	comp=Z,3.9nm,1.2s								
MAKZ	**Makanchi**	**47.87**	**39**	P		**P**		**12 51 16.6**	**+0.3**
MAKZ				IAmb		IAmb		12 51 19.6	
	comp=Z,4.1nm,0.8s								
KURK	**Kurchatov**	**47.98**	**33**			**P**		**12 51 18.1**	**+1.0**
KURK				IAmb		IAmb		12 51 21.1	
	comp=Z,2.8nm,0.8s								
MK31	**Makanchi Array**	**48.05**	**39**	P		**P**		**12 51 16.6**	**-1.2**
MK31				IAmb		IAmb		12 51 20.9	
	comp=Z,2.5nm,0.8s								
MKAR	**Makanchi Array**	**48.05**	**39**	P		**P**		**12 51 15.7**	**-2.1**
ZAA0	**Zalesovo Array**	**52.93**	**32**	P		**P**		**12 51 54.4**	**-0.1**
ZALV	**Zalesovo Beam**	**52.93**	**32**	P		**P**		**12 51 55.0**	**+0.5**

*NEIC **20** 12:49:22.0±1.9, 25.93S±0.04×70.97W±0.07, h28km±4km, Error ellipse: s-maj=9.4km s-min=5.1km az=99.0*
*GUC **20** 12:49:24.1±0.5, 26.01S×70.69W, h44km±1km, ML4.1*
*NEIC **20** 12:49:24, 26.01S×70.69W, h32km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.12; $M_{\theta\theta}$0.32; $M_{\phi\phi}$-1.44; $M_{r\theta}$-0.76; $M_{r\phi}$0.38; $M_{\theta\phi}$0.47; Fault plane solution: M_o1.63000×10^{15} NP1:ϕ_s322.81000°, δ63.34000°, λ60.05000°. NP2:ϕ_s194.91000°, δ39.25000°, λ134.85000°. Principal axes: T 1.5946, Plg60.0000°, Azm188.0000°; N 0.0711, Plg27.0000°, Azm337.0000°; P -1.6657, Plg13.0000°, Azm74.0000°;*
*IDC **20** 12:49:25.6±2.4, 25.89S×70.65W, h51km±20km, mb3.8/10, mb1 4.0/15, mb1mx3.9/29, mbtmp4.0/15, ML3.9/5, MS3.4/5, Ms1 3.4/5, ms1mx3.3/21 Error ellipse: s-maj=25.1km s-min=13.6km az=95.0*
ISC 20 12:49:18.7±1.7, **25.95S**±0.03×**70.94W**±0.06, **h5**km±10km, **n101,** σ=1$18/98, **mb4.3**/15, **2C-1B, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.36**	**123**	*eP*		**Pn**		**12 49 30.7**	**0.0**
AC01				*i S*		**Sb**		**12 49 36.0**	**+2.2**
AC01				IAML				12 49 36.7	
	comp=N,43μm,0.3s								
AC01	**Pan de Azucar**	**0.36**	**123**			**Pn**		**12 49 30.5**	**-0.2**
AC01						**Sb**		**12 49 36.1**	**+2.3**
GO02	**Mina Guanaco**	**1.45**	**58**	*i* P		**Pg**		**12 49 47.1**	**+0.7**
GO02				*i S*		**Sn**		**12 50 05.0**	**-0.3**
GO02				IAML				12 50 08.4	
	comp=N,11μm,0.4s								
GO02	**Mina Guanaco**	**1.45**	**58**			**Pg**		**12 49 47.2**	**+0.7**
GO02				Sn		**Sn**		**12 50 05.5**	**+0.1**
GO03	**Copiap**	**1.76**	**159**	*i* P		**Pb**		**12 49 52.0**	**+0.4**
GO03				*i S*		**Sn**		**12 50 12.8**	**0.0**
GO03				IAML				12 50 16.7	
	comp=N,3μm,0.5s								
GO03	**Copiap**	**1.76**	**159**			**Pb**		**12 49 51.9**	**+0.4**
GO03				Sn		**Sn**		**12 50 12.9**	**+0.2**
AC02	**Maricunga**	**1.85**	**119**	*i* P		**Pg**		**12 49 53.7**	**-0.4**
AC02				*i S*		**Sg**		**12 50 16.0**	**-2.1**
AC02	**Maricunga**	**1.85**	**119**			**Pg**		**12 49 53.7**	**-0.4**
AC04	**Llanos de Chal**	**2.25**	**183**	IAML				12 50 33.6	
	comp=E,1μm,0.6s								
AC04	**Llanos de Chal**	**2.25**	**183**			**Pn**		**12 49 56.7**	**+0.1**
PB10	**IPOC Station P**	**2.45**	**8**	*eP*		**Pb**		**12 50 04.0**	**+0.7**
PB10				*i S*		**Sb**		**12 50 33.3**	**-0.4**
PB10				IAML				12 50 43.6	
	comp=E,772nm,0.7s								
PB10	**IPOC Station P**	**2.45**	**8**	Pn		**Pn**		**12 49 59.6**	**+0.3**
AC05	**El Transito**	**2.94**	**169**	*eP*		**Pn**		**12 50 08.3**	**+2.2**
AC05				*i S*		**Sn**		**12 50 43.0**	**+1.0**
AC05	**El Transito**	**2.94**	**169**	Pn		**Pn**		**12 50 08.4**	**+2.2**
PB15	**IPOC Station P**	**3.04**	**26**			**Pn**		**12 50 09.3**	**+1.7**
PB06	**IPOC Station P**	**3.46**	**21**			**Pn**		**12 50 14.3**	**+0.9**
PB04	**IPOC Station P**	**3.67**	**11**			**Pn**		**12 50 16.2**	**-0.1**
LVC	**Limon Verde**	**3.80**	**30**	P		**Pn**		**12 50 20.5**	**+2.2**
	comp=E,4.5nm,0.3s,baz=197,slow=7.6,SNR=36								
LVC				S		**Sn**		**12 51 01.8**	**-1.8**
	comp=E,48nm,0.3s,baz=240,slow=11,SNR=6.1								
LVC				LR		LR		12 52 01.8	
	comp=E,560nm,21.5s,baz=212,slow=43								
LVC	**Limon Verde**	**3.80**	**30**			**Pn**		**12 50 20.3**	**+2.0**
CO01	**Juntas del Tor**	**4.08**	**170**	Pn		**Pn**		**12 50 23.5**	**+1.4**
GO04	**Tololo Observa**	**4.21**	**178**	Pn		**Pn**		**12 50 25.2**	**+1.3**
PB07	**IPOC Station P**	**4.31**	**13**			**Pn**		**12 50 25.2**	**0.0**
PB09	**IPOC Station P**	**4.41**	**21**			**Pn**		**12 50 27.2**	**+1.6**
CO03	**El Pedregal**	**4.88**	**177**	Pn		**Pn**		**12 50 33.5**	**+0.6**
PB01	**IPOC Station P**	**5.06**	**16**			**Pn**		**12 50 35.5**	**+0.1**
CO02	**Combarbal**	**5.24**	**181**	Pn		**Pn**		**12 50 38.5**	**+0.7**
TA01	**Diego Aracena**	**5.40**	**8**	Pn		**Pn**		**12 50 39.5**	**-0.4**
ZON	**Zonda**	**5.92**	**161**	Pn		**Pn**		**12 50 50.2**	**+3.0**
CFA	**Coronel Fontan**	**6.12**	**158**	P		**Pn**		**12 50 52.4**	**+2.6**
	comp=E,3.6nm,0.3s,baz=330,slow=14,SNR=1.9								
CFA				S		**Sn**		**12 51 57.1**	**-3.1**
	comp=E,6.1nm,0.3s,baz=0.0,slow=20,SNR=1.8								
CFA				LR		LR		12 53 25.0	
	comp=E,233nm,20.3s,baz=47,slow=39								
PB11	**IPOC Station P**	**6.27**	**11**	Pn		**Pn**		**12 50 51.1**	**-1.0**
PSGCX	**Pisagua**	**6.36**	**7**			**Pn**		**12 50 52.5**	**-0.8**
GO01	**Chusmiza**	**6.45**	**15**			**Pn**		**12 50 55.2**	**+0.4**
VA03	**San Esteban**	**6.80**	**177**			**Pn**		**12 50 59.9**	**+0.7**
ROC1	**El Roble**	**7.00**	**181**			**Pn**		**12 51 02.8**	**+0.6**
PEL	**Peldehue**	**7.17**	**178**			**Pn**		**12 51 04.7**	**+0.3**
MT02	**Curacav**	**7.29**	**181**			**Pn**		**12 51 05.3**	**-0.6**
PB12	**IPOC Station P**	**7.32**	**5**			**Pn**		**12 51 06.1**	**-0.3**
MT05	**Renca**	**7.42**	**179**	Pn		**Pn**		**12 51 08.1**	**+0.3**
MT01	**Popeta**	**7.89**	**182**			**Pn**		**12 51 13.9**	**-0.3**
BO02	**Sierra Bellavi**	**8.82**	**179**			**Pn**		**12 51 25.9**	**-1.0**
LPAZ	**La Paz**	**9.96**	**16**	P		**Pn**		**12 51 44.4**	**+1.2**
	comp=E,0.3nm,0.3s,baz=152,slow=2.7,SNR=10								
LPAZ				LR		LR		12 56 02.1	
	comp=E,185nm,19.3s,baz=234,slow=40								
LPAZ	**La Paz**	**9.96**	**16**	Pn		**Pn**		**12 51 44.3**	**+1.1**
H03N1	**Juan Fernandez**	**10.19**	**221**	T		T		13 02 23.4	
	baz=47,slow=72								
H03N2	**Juan Fernandez**	**10.20**	**221**	T		T		13 02 21.7	
	baz=47,slow=72								
H03N3	**Juan Fernandez**	**10.20**	**221**	T		T		13 02 21.5	
	baz=47,slow=72								
H03S3	**Juan Fernandez**	**10.46**	**219**	T		T		13 02 41.1	
	baz=39,slow=74								
H03S1	**Juan Fernandez**	**10.47**	**219**	T		T		13 02 39.4	
	baz=39,slow=74								
H03S2	**Juan Fernandez**	**10.48**	**219**	T		T		13 02 40.6	
	baz=39,slow=74								
BI02	**San Fabin de**	**10.69**	**181**	Pn		**Pn**		**12 51 52.0**	**-0.5**
CPUP	**Villa Florida**	**12.23**	**95**	P		**Pn**		**12 52 13.9**	**+0.2**
	comp=E,0.1nm,0.3s,baz=280,slow=17,SNR=2.2								
CPUP				LR		LR		12 57 33.6	
	comp=E,210nm,18.4s,baz=250,slow=41								
SIV	**San Ignacio**	**13.52**	**45**	P		**Pn**		**12 52 27.9**	**-3.5**
	comp=E,0.4nm,0.3s,baz=237,slow=8.7,SNR=12								
SIV				S		Sn		12 54 51.3	-11
	comp=E,0.4nm,0.3s,baz=180,slow=20,SNR=1.3								
PLCA	**Paso Flores**	**14.75**	**179**	P		**P**		**12 52 53.0**	**-1.3**
	comp=E,0.4nm,0.3s,baz=5.2,slow=12,SNR=9.1								
PLCA				LR		LR		12 58 43.9	
	comp=E,220nm,20.6s,baz=36,slow=38								
PLCA	**Paso Flores**	**14.75**	**179**	Pn		**Pn**		**12 52 49.7**	**+1.6**
LL01	**San Ignacio de**	**16.44**	**184**			**Pn**		**12 53 10.7**	**+0.7**
BDFB	**Brasilia**	**23.72**	**69**	P		**P**		**12 54 29.5**	**-2.5**
	comp=E,4.1nm,0.7s,baz=264,slow=9.4,SNR=3.7								
BDFB	**Brasilia**	**23.72**	**69**	IAmb		IAmb		12 54 30.6	
	comp=Z,9.3nm,1.0s								
PTGA	**Pitinga**	**27.21**	**25**	P		**P**		**12 55 03.0**	**-0.6**
	comp=Z,4.5nm,0.7s,baz=186,slow=8.0,SNR=7.8								
PTGA	**Pitinga**	**27.21**	**25**	P		**P**		**12 55 04.0**	**+0.4**
PTGA				IAmb		IAmb		12 55 07.2	
	comp=Z,5.5nm,0.8s								
VNA3	**Neumayer Olymp**	**56.51**	**160**	P		**P**		**12 59 01.5**	**0.0**
SNAA	**Sanae**	**58.73**	**160**	P		**P**		**12 59 17.1**	**-0.2**
SNAA	**Sanae**	**58.73**	**160**	P		**P**		**12 59 17.0**	**-0.2**
SNAA				IAmb		IAmb		12 59 36.3	
	comp=Z,5.9nm,1.4s								
TXAR	**Lajitas Array**	**63.30**	**328**	P		**P**		**12 59 49.7**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=148,slow=5.3,SNR=2.9								
QSPA	**South Pole Qui

comp=Z,8.3nm,0.6s,baz=195,slow=9.2,SNR=28
SONM Songino Array 47.28 15 P P 13 00 37.1 +1.2
WB0 Warramunga Arr 48.44 119 P P 13 00 46.5 +1.3
WB0 IAmb IAmb 13 01 03.2
comp=Z,5.3nm,1.0s
WRA Warramunga Arr 48.46 119 P P 13 00 46.0 +0.6
comp=Z,0.7nm,0.6s,baz=297,slow=8.5,SNR=4.5
WB2 Warramunga Arr 48.47 119 P P 13 00 45.5 +0.1
WB2 IAmb IAmb 13 00 56.2
comp=Z,3.5nm,0.7s
WR0 Warramunga Arr 48.64 119 P P 13 00 47.3 +0.5
WR0 IAmb IAmb 13 01 01.7
comp=Z,4.4nm,0.8s
KURBB Kurchatov Arra 49.06 350 P P 13 00 49.4 -0.1
comp=Z,3.2nm,0.5s,baz=175,slow=7.2,SNR=22
KURK Kurchatov 49.14 350 P P 13 00 50.5 +0.5
KURK IAmb IAmb 13 00 51.1
comp=Z,4.3nm,0.9s
ASAR Alice Springs 49.59 124 P P 13 00 54.4 +0.4
comp=Z,0.3nm,0.8s,baz=301,slow=7.4,SNR=2.2
ASAR Alice Springs 49.59 124 P P 13 00 53.2 -0.8
ZAA0 Zalesovo Array 51.56 356 P P 13 01 08.0 -0.2
ZALV Zalesovo Beam 51.56 356 P P 13 01 08.1 -0.1
comp=Z,2.4nm,0.4s,baz=171,slow=6.6,SNR=14
ZALV Zalesovo Beam 51.56 356 P P 13 01 08.3 +0.1
ABKAR Akbulak array 53.43 336 P P 13 01 22.7 +0.5
KBZ Khabaz 58.81 321 P P 13 02 00.5 -0.3
comp=Z,4.8nm,1.0s,baz=120,slow=5.1,SNR=6.9
AKASG Malin Array Be 70.22 324 P P 13 03 14.9 -0.4
comp=Z,0.8nm,0.4s,baz=93,slow=4.4,SNR=5.4
AGG Agios Georgios 71.55 310 P P 13 03 21.5 -2.2
BURAR Bucovina Array 71.69 320 P P 13 03 24.7 +0.3
TIXI Tiksi 73.26 12 P P 13 03 32.4 -0.7
TIXI IAmb IAmb 13 03 32.9
comp=Z,5.2nm,0.7s
FIA1 FINESS Array S 75.84 333 P P 13 03 48.7 +0.4
FINES FINESS Array B 75.84 333 P P 13 03 48.3 0.0
comp=Z,2.6nm,0.7s,baz=92,slow=7.5,SNR=6.4
GEC2 GERESS Array S 79.46 319 P P 13 04 10.1 +1.2
GEC2 IAmb IAmb 13 04 10.6
comp=Z,6.0nm,0.8s
GERES GERESS Array B 79.46 319 P P 13 04 09.5 +0.6
comp=Z,3.4nm,0.8s,baz=101,slow=5.3,SNR=23
GERES GERESS Array B 79.46 319 P P 13 04 09.7 +0.8
NOA NORSAR Array B 82.67 331 P P 13 04 25.1 -0.5
comp=Z,1.2nm,1.0s,baz=95,slow=5.5,SNR=2.5
SENIN Lac Senin/Sane 83.52 316 P P 13 04 31.4 +0.8
TXAR Lajitas Array 145.64 22 PKPbc PKPab 13 11 42.2 +0.3
comp=Z,1.1nm,0.7s,baz=298,slow=1.9,SNR=10.0
TXAR Lajitas Array 145.64 22 PKPab 13 11 41.9 0.0

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*IDC **20** 13:11:33.4±1.3, 14°.98N×39°.84E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.6/49, mbtmp3.8/8, ML3.4/1, Error ellipse: s-maj=31.5km s-min=22.8km az=23.0*
*AAE **20** 13:11:34.8, 15°.28N×40°.70E, h43km*
ISC 20 13:11:33.4±0.7, 14°.80N±0°.05×40°.19E±0°.07, h10km±, n20, σ2=97/29, mb3.9/7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEND	**Ethiopian Broa**	**3.10**	**165**	***e*P**	**Pn**	**13 12 19.9**	**-2.5**
TEND				***e*S**	**Sb**	**13 13 08.3**	**+1.9**
DESE	**Dese**	**3.70**	**188**	***e*P**	**Pn**	**13 12 33.0**	**+2.1**
DESE				***e*S**	**Sn**	**13 13 15.2**	**+0.4**
DESE	**Dese**	**3.70**	**188**	***e*P**	**Pb**	**13 12 36.6**	**-2.4**
DESE				***e*S**	**Sb**	**13 13 21.0**	**-3.1**
DESE	**Dese**	**3.70**	**188**	***e*P**	**Pn**	**13 12 33.0**	**+2.1**
DESE				***e*S**	**Sn**	**13 13 15.2**	**+0.4**
ATD	**Arta Tunnel**	**4.16**	**141**	Pn	**Pb**	**13 12 44.3**	**-2.4**
	1.9nm,0.3s,baz=287,slow=18,SNR=3.9						
ATD				Sn	**Sb**	**13 13 37.0**	**-0.1**
	2.4nm,0.3s,baz=248,slow=4.8,SNR=3.5						
ATD	**Arta Tunnel**	**4.16**	**141**	***e*P**	**Pn**	**13 12 37.0**	**0.0**
ATD	**Arta Tunnel**	**4.16**	**141**	***e*P**	**Pn**	**13 12 37.0**	**0.0**
ANKE	**Ethiopia-Afar**	**5.20**	**185**	***e*P**	**Pb**	**13 13 00.1**	**-4.4**
ANKE				***e*S**	**Sb**	**13 14 06.6**	**-0.6**
ANKE	**Ethiopia-Afar**	**5.20**	**185**	***e*P**	**Pb**	**13 13 00.1**	**-4.4**
ANKE				***e*S**	**Sb**	**13 14 06.6**	**-0.6**
AAE	**Adis Abeba**	**5.90**	**194**	***e*P**	**Pb**	**13 13 13.6**	**-3.0**
AAE	**Adis Abeba**	**5.90**	**194**	***e*P**	**Pb**	**13 13 13.6**	**-3.0**
FURI	**Furi**	**6.05**	**194**	***e*P**	**Pb**	**13 13 17.9**	**-1.3**
FURI				***e*S**	**Sn**	**13 14 20.3**	**+7.5**
FURI	**Furi**	**6.05**	**194**	***e*P**	**Pb**	**13 13 17.9**	**-1.3**
FURI				***e*S**	**Sn**	**13 14 20.3**	**+7.5**
TORD	**Torodi Ar. Bea**	**37.36**	**272**	P	**P**	**13 18 44.5**	**-2.1**
	0.9nm,0.5s,baz=86,slow=8.6,SNR=4.6						
GERES	**GERESS Array B**	**40.31**	**333**	P	**P**	**13 19 10.7**	**-0.3**
	1.3nm,0.7s,baz=134,slow=8.5,SNR=10						
ESDC	**Sonseca Array**	**45.81**	**311**	P	**P**	**13 19 54.5**	**-1.1**
	0.6nm,0.7s,baz=120,slow=5.8,SNR=4.7						
MKAR	**Makanchi Array**	**47.35**	**39**	P	**P**	**13 20 09.7**	**+2.1**
	1.2nm,0.8s,baz=226,slow=5.8,SNR=5.8						
NOA	**NORSAR Array B**	**50.68**	**342**	P	**P**	**13 20 32.5**	**-0.3**
	1.5nm,0.8s,baz=144,slow=7.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**52.29**	**32**	P	**P**	**13 20 46.5**	**+1.5**
	1.0nm,0.6s,baz=240,slow=8.1,SNR=4.5						
SONM	**Songino Array**	**63.23**	**44**	P	**P**	**13 22 04.0**	**+1.8**
	1.1nm,0.9s,baz=253,slow=4.7,SNR=3.8						

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*ASRS **20** 13:13:16.7±0.4, 50°.1×7°.9E±°, h5km, MLh3.6/12, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
*NNC **20** 13:13:17.6±0.3, 50°.01N×78°.67E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=2.9km s-min=1.6km az=70.0, Suspected Mining explosion.*
ISC 20 13:13:17.8±0.7, 50°.01N±0°.03×78°.80E±0°.03, h0km, n41, σ1=57/63, 27C-10D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.60**	**342**	***i*P**	**Pg**	**13 13 28.9**	**-0.4**
KUR07				***i*S**	**Sg**	**13 13 37.7**	**+0.6**
KUR06	**Kurchatov Arra**	**0.62**	**343**	***i*P**	**Pg**	**13 13 29.4**	**-0.3**
KUR06				***i*S**	**Sg**	**13 13 38.6**	**+1.0**
KUR14	**Kurchatov Arra**	**0.62**	**348**	***i*P**	**Pg**	**13 13 29.5**	**-0.1**
KUR14				***i*S**	**Sg**	**13 13 38.3**	**+0.6**
KUR15	**Kurchatov Arra**	**0.63**	**346**	***i*P**	**Pg**	**13 13 29.6**	**-0.2**
KUR15				***i*S**	**Sg**	**13 13 39.0**	**+1.1**
KURBB	**Kurchatov Arra**	**0.64**	**344**	***i*P**	**Pg**	**13 13 29.9**	**-0.1**
	42nm,0.3s						
KURBB				***i*S**	**Sg**	**13 13 38.8**	**+0.5**
	131nm,0.6s						
KUR16	**Kurchatov Arra**	**0.65**	**343**	***i*P**	**Pg**	**13 13 29.8**	**-0.4**
KUR16				***i*S**	**Sg**	**13 13 38.9**	**+0.4**
KUR05	**Kurchatov Arra**	**0.65**	**345**	***i*P**	**Pg**	**13 13 29.9**	**-0.5**
KUR05				***i*S**	**Sg**	**13 13 39.2**	**+0.4**
KUR17	**Kurchatov Arra**	**0.66**	**341**	***i*P**	**Pg**	**13 13 30.0**	**-0.4**
KUR17				***i*S**	**Sg**	**13 13 38.9**	**0.0**
KUR04	**Kurchatov Arra**	**0.67**	**346**	***i*P**	**Pg**	**13 13 30.4**	**-0.3**
KUR04				***i*S**	**Sg**	**13 13 39.8**	**+0.4**
KURK	**Kurchatov**	**0.71**	**351**	Pg	**Pg**	**13 13 31.1**	**-0.5**
KURK				Sg	**Sg**	**13 13 40.9**	**+0.1**
SEM	**Semipalatinsk**	**1.01**	**66**	P	**Pg**	**13 13 37.4**	**+0.2**
	7.5nm,0.1s						
SEM				S	**Sb**	**13 13 52.9**	**+0.6**
	88nm,0.5s						
MAKZ	**Makanchi**	**3.84**	**145**	Pg	**Pb**	**13 14 28.8**	**+2.3**
MAKZ				S	**Sn**	**13 15 01.7**	**-2.3**
MAKZ				Sg	**Sg**	**13 15 19.9**	**-1.3**
MAKZ	**Makanchi**	**3.84**	**145**	***i*Pn**	**Pn**	**13 14 19.8**	**+1.6**
	0.4nm,0.4s						
MAKZ				***i*Pg**	**Pb**	**13 14 28.5**	**+2.0**
	2.4nm,0.5s						
MAKZ				***i*Lg**	Lg	13 15 21.5	
	22nm,0.6s						
UKR	**Ust'-Kan**	**3.92**	**74**	Pg	**Pg**	**13 14 33.3**	**+0.3**
UKR				S	**Sn**	**13 15 01.5**	**-4.7**
UKR				Sg	**Sg**	**13 15 20.5**	**-3.4**
BRZS	**Berezniki**	**3.95**	**272**	Pg	**Pb**	**13 14 27.7**	**-0.6**
	5.0nm,0.3s						
BRZS				Lg	Lg	13 15 19.5	
	19nm,0.7s						
MK31	**Makanchi Array**	**3.97**	**143**	***i*Pn**	**Pn**	**13 14 21.1**	**+1.1**
	0.1nm,0.2s,baz=320,slow=10.0,SNR=21						
MK31				***i*Pg**	**Pb**	**13 14 30.4**	**+1.7**
	2.3nm,0.4s,baz=326,slow=14,SNR=23						
MK31				Lg	Lg	13 15 25.9	
	14nm,0.8s,baz=334,slow=33,SNR=18						
MKAR	**Makanchi Array**	**3.97**	**143**	Pg	**Pb**	**13 14 29.9**	**+1.2**
MKAR				S	**Sn**	**13 15 06.8**	**-0.4**
MKAR				Sg	**Sg**	**13 15 24.8**	**-0.6**
OTUK	**Ortayu**	**4.60**	**250**	***i*Pn**	**Pn**	**13 14 28.0**	**-0.6**
	2.7nm,0.5s						
OTUK				***i*Pg**	**Pb**	**13 14 40.2**	**+0.8**
	1.4nm,0.5s						
OTUK				***i*Lg**	Lg	13 15 40.0	
	9.5nm,0.6s						
KAPS	**Kapalarasan**	**4.75**	**175**	Pg	**Pb**	**13 14 43.6**	**+1.7**
	1.5nm,0.3s						
KAPS				Lg	Lg	13 15 47.0	
	22nm,0.8s						
ZSN	**Zaisan**	**4.76**	**120**	Pg	**Pb**	**13 14 44.7**	**+2.6**
	4.0nm,0.3s						
ZSN				Lg	Lg	13 15 48.2	
	19nm,0.8s						
ELDR	**Elanda**	**4.79**	**73**	Sg	**Sg**	**13 15 50.0**	**-1.8**
TUNR	**Tungur**	**4.85**	**85**	Sg	**Sg**	**13 15 51.5**	**-2.0**
GALT	**Gorno-Altaysk,**	**4.92**	**64**	Sg	**Sg**	**13 15 53.5**	**-2.1**
BSTK	**Bystrovka, Nov**	**5.14**	**26**	Sg	**Sg**	**13 16 03.7**	**+0.9**
ZAA0	**Zalesovo Array**	**5.42**	**41**	***i*Pn**	**Pn**	**13 14 40.6**	**+0.8**
	0.4nm,0.7s						
ZAA0				***i*Pg**	**Pg**	**13 14 57.9**	**-3.7**
	0.5nm,0.9s						
ZAA0				***i*Sn**	**Sn**	**13 15 46.5**	**+3.7**
	0.2nm,0.4s						
ZAA0				***i*Lg**	Lg	13 16 11.1	
	1.0nm,0.6s						
KHAR	**Kharino, NSO,**	**5.46**	**31**	Sg	**Sg**	**13 16 12.5**	**-0.7**
NVS	**Novosibirsk**	**5.54**	**28**	Sg	**Sg**	**13 16 17.1**	**+1.3**
NVSII	**Novosibirsk**	**5.54**	**28**	Sg	**Sg**	**13 16 15.9**	**0.0**
DGZ	**Jazzator, Alta**	**5.59**	**90**	Sg	**Sg**	**13 16 16.1**	**-1.3**
CHBI	**Chibit, Altay**	**5.60**	**84**	Pg	**Pg**	**13 15 07.7**	**+2.6**
CHBI				Sg	**Sg**	**13 16 17.3**	**-0.3**
ARTR	**Artybash**	**5.66**	**68**	Sg	**Sg**	**13 16 19.8**	**+0.5**
ELT	**Eltsovka**	**5.66**	**52**	Sg	**Sg**	**13 16 21.0**	**+1.5**
AKAR	**Aktash**	**5.68**	**84**	Sg	**Sg**	**13 16 20.4**	**+0.3**
DJR	**Jarkent**	**5.72**	**173**	Pg	**Pb**	**13 15 01.4**	**+2.8**
	1.9nm,0.5s						
DJR				Lg	Lg	13 16 17.6	
	9.4nm,0.8s						
BVA0	**Borovoye Array**	**6.05**	**303**	***i*Pg**	**Pb**	**13 15 06.4**	**+2.3**
	0.2nm,0.5s,baz=110,slow=15,SNR=6.2						
BVA0				***i*Sn**	**Sn**	**13 15 57.7**	**-0.8**
	0.5nm,0.6s,baz=113,slow=24,SNR=5.6						
BVA0				***i*Lg**	Lg	13 16 27.2	
	0.9nm,0.6s						
SALR	**Pechorkino, Sa**	**6.12**	**41**	Sg	**Sg**	**13 16 32.7**	**-1.5**
BRVK	**Borovoye**	**6.13**	**303**	***i*Sn**	**Sn**	**13 15 58.8**	**-1.5**
	3.4nm,0.6s						
BRVK				***i*Lg**	Lg	13 16 30.6	
	2.9nm,0.6s						
CUR	**Chagan-Uzun**	**6.15**	**86**	Sg	**Sg**	**13 16 35.8**	**+0.5**
TASR	**Tashtagol**	**6.31**	**61**	Sg	**Sg**	**13 16 40.6**	**+0.1**
PDGK	**Podgornoye**	**6.70**	**176**	***i*Lg**	Lg	13 16 50.0	
	14nm,0.6s						
TKM2	**Tokmak 2**	**7.43**	**199**	***i*Lg**	Lg	13 17 13.8	
	5.9nm,0.6s						

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*SOME **20** 13:20:05.8, 39°.03N×73°.72E, h0km*
*NNC **20** 13:20:07.0±5.0, 39°.03N×73°.68E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=36.9km s-min=23.0km az=163.0*
ISC 20 13:20:09.5±3.1, 39°.2N±0°.2×73°.71E±0°.07, h10km, n10, σ2=32/13, 6C-1D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**3.54**	**9**	***i*Pg**	**Pg**	**13 21 14.5**	**-2.8**
	0.9nm,0.4s						
AAK				***i*Lg**	Lg	13 22 03.6	
	7.8nm,0.9s						
MRKS	**Merke**	**3.61**	**354**	***i*P**	**Pg**	**13 21 18.2**	**-0.5**
	11nm,0.2s						
MRKS				***e*S**	**Sg**	**13 22 09.8**	**+4.3**
	31nm,0.5s						
MRKS	**Merke**	**3.61**	**354**	Pg	**Pg**	**13 21 18.2**	**-0.5**
	11nm,0.2s						
MRKS				Lg	Lg	13 22 09.8	
	30nm,0.4s						
TKM2	**Tokmak 2**	**4.03**	**20**	***i*Pg**	**Pb**	**13 21 21.4**	**+0.7**
	2.6nm,0.5s						
TKM2				***i*Lg**	Lg	13 22 16.2	
	5.2nm,0.7s						
IUG	**Iuzhnay**	**4.10**	**318**	***e*P**	**Pb**	**13 21 23.6**	**+1.7**
	3.2nm,0.3s						
IUG				***e*S**	**Sg**	**13 22 18.1**	**-3.1**
	73nm,0.6s						
IUG	**Iuzhnay**	**4.10**	**318**	Pg	**Pb**	**13 21 23.3**	**+1.5**
	3.2nm,0.3s						
IUG				Lg	Lg	13 22 18.2	
	73nm,0.6s						
KST	**Kastek**	**4.25**	**23**	***e*P**	**Pb**	**13 21 26.1**	**+1.8**
	2.4nm,0.2s						
KST				***e*S**	**Sg**	**13 22 23.5**	**-2.4**
	9.1nm,0.6s						
KST	**Kastek**	**4.25**	**23**	Pg	**Pb**	**13 21 26.1**	**+1.8**
	2.4nm,0.2s						
KST				Lg	Lg	13 22 23.5	
	9.1nm,0.6s						
KK31	**Karatay Array**	**4.63**	**330**	Pg	**Pb**	**13 21 30.7**	**-0.1**
	0.4nm,0.3s,baz=126,slow=13,SNR=13						
KK31				***i*Lg**	Lg	13 22 34.0	
	3.7nm,0.3s,baz=169,slow=27,SNR=13						
AB01	**Akbulak array**	**14.11**	**320**	***i*Pn**	**Pn**	**13 23 29.8**	**+0.5**
	0.4nm,0.4s						

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*MAN **20** 13:52:59.9, 5°.11N×127°.17E, h158km, mb4.6, ML3.5, MS3.4*
*IDC **20** 13:54:46.8±5.1, 3°.68S×129°.62E, h566km±148km, mb2.5/2, mb1 2.7/4, mb1mx2.4/41, mbtmp3.5/4, Error ellipse: s-maj=165.0km s-min=75.2km az=140.0*
ISC 20 13:52:59.2±1.3, 4°.3N±0°.1×125°.5E±0°.4, h150km, n8, σ2=55/9, mb3.2/4, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**1.79**	**6**	***e*P**	**Pn**	**13 53 31.5**	**-0.5**
DDMP				***e*S**	**Sn**	**13 53 59.5**	**+2.3**
SKMP	**Bagumbayan, Su**	**2.41**	**336**	***e*P**	Pn	13 53 47.8	+8.6
SKMP				***e*S**	Sn	13 54 24.6	+14
KCP	**Kidapawan**	**2.72**	**351**	***i*P**	**Pn**	**13 53 46.1**	**+3.0**
KCP				***i*S**	**Sn**	**13 54 13.0**	**-4.0**
BUKP	**Musuan**	**3.58**	**353**	***e*P**	**Pn**	**13 53 54.8**	**+0.8**
BUKP				***e*S**	**Sn**	**13 54 35.4**	**-1.2**
FITZ	**Fitzroy Crossi**	**22.27**	**180**	P	P	13 57 52.8	+8.6
	0.3nm,0.3s,baz=23,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**25.61**	**161**	P	**P**	**13 58 12.7**	**-2.2**
	0.2nm,0.3s,baz=345,slow=10,SNR=3.4						
ASAR	**Alice Springs**	**28.98**	**164**	P	**P**	**13 58 46.0**	**+1.1**
	0.3nm,0.6s,baz=356,slow=7.9,SNR=4.5						
STKA	**Stephens Creek**	**39.10**	**158**	P	**P**	**14 00 11.5**	**-0.5**
	1.0nm,0.6s,baz=324,slow=17,SNR=3.5						

DJA 20 13:55:12.3±0.7, 10°S±10°×112°4E±°, h25km±15km, M3.0/6, MLv3.0/6, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**0.45**	**109**	P	Pn	13 55 22.7	-0.5
SOEI				S	Sn	13 55 30.5	0.0
BATI	**Baumata**	**0.62**	**196**	P	Pn	13 55 25.7	+0.2
BATI				S	Sn	13 55 34.7	0.0
MMRI	**Maumere**	**1.85**	**301**	P	Pn	13 55 41.9	-0.6
EDFI	**Ende, Flores**	**2.29**	**292**	P	Pn	13 55 48.8	+0.2

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*MOS **20** 13:59:41.7±1.2, 36°.30N×28°.58E, h70km, mb4.6/19, Error ellipse: s-maj=5.3km s-min=3.4km az=112.6*
*BJI **20** 13:59:41.0±0.0, 36°.30N×28°.60E, h60km, mB5.0/9, mb4.6/10*
*HLW **20** 13:59:42.5, 36°.08N×28°.73E, h10km±27km, Md4.2, Ml5.0*
*DDA **20** 13:59:42.2, 36°.37N×28°.58E, h49km, MW4.3*
*ISK **20** 13:59:42.2, 36°.37N×28°.58E, h59km±1km, ML4.4/37*
*ATH **20** 13:59:42.1, 36°.39N×28°.55E, h59km±2km, ML4.3/13, Error ellipse: s-maj=2.8km s-min=0.8km az=156.0*
*IDC **20** 13:59:42.1±1.4, 36°.36N×28°.53E, h55km±15km, mb3.9/15, mb1 4.1/25, mb1mx4.0/45, mbtmp4.3/25, ML4.2/10, MS3.4/5, Ms1 3.5/5, ms1mx2.9/41, Error ellipse: s-maj=16.1km s-min=9.2km az=162.0*
*THE **20** 13:59:43.9, 36°.38N×28°.58E, h55km±1km, ML4.3/11, Error ellipse: s-maj=1.9km s-min=0.6km az=105.0*
*NEIC **20** 13:59:43.2±2.1, 36°.31N±0°.07×28°.59E±0°.06, h65km±8km, Error ellipse: s-maj=10.3km s-min=5.6km az=154.0*
*MED_RC **20** 13:59:43.0±0.6, 36°.22N×28°.48E, h53km±7km, MW4.3/11, Moment Tensor Solution. Mantle waves: s11,c12; Duration: 1s0 Moment tensor: Scale 10^15 Nm; Mrr=0.26±1.13; Mθθ=1.05±.68; Mφφ 1.31±.65; Mrθ=0.72±.30; Mθφ 3.37±1.82; Mφr 1.90±.23; Best double couple: M=4.03000×10^15 NP1:φs=83.00000°, δ66.00000°, λ9.00000°. NP2:φs=349.00000°, δ82.00000°, λ156.00000°. Principal axes: T 4.5200, Plg22.0000°, Azm304.0000°; N -0.9800, Plg65.0000°, Azm152.0000°; P -3.5400, Plg11.0000°, Azm38.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*NIC **20** 13:59:43.9±0.0, 36°.12N×28°.70E, h27km±1km, Ml4.9/4*
*GII **20** 13:59:45.6±0.4, 36°.22N×29°.00E, h60km, mb4.1/5, MD3.9/6*
ISC 20 13:59:42.8±0.6, 36°.32N±0°.03×28°.62E±0°.02, h58km±5km, n514, σ1=50/601, mb4.3/42, MS3.6/4, 21C-22D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.41**	**256**	P	**Pn**	**13 59 53.8**	**+0.1**
ARG				S	**Sn**	**14 00 01.7**	**+0.1**
	39μm,0.3s						
ARG	**Arkhangelos**	**0.41**	**256**	P	**Pn**	**13 59 53.7**	**+0.1**
ARG				S	**Sn**	**14 00 01.2**	**-0.4**
ARG				AML	AML	14 00 01.9	
	comp=N,64215μm,0.3s						
ARG				AML	AML	14 00 02.1	
	comp=E,90087μm,0.4s						
ARG	**Arkhangelos**	**0.41**	**256**	PG	**Pn**	**13 59 53.8**	**+0.1**
ARG				SG	**Sn**	**14 00 01.6**	**+0.1**
ARG	**Arkhangelos**	**0.41**	**256**	P	**Pn**	**13 59 53.8**	**+0.1**
ARG				S	**Sn**	**14 00 01.7**	**+0.1**
ARG	**Arkhangelos**	**0.41**	**256**	P	**Pn**	**13 59 53.9**	**+0.1**
ARG				S	**Sn**	**14 00 01.7**	**+0.1**
FETY	**Fethiye**	**0.49**	**50**	P	**Pn**	**13 59 54.5**	**0.0**
FETY				S	**Sn**	**14 00 03.0**	**-0.1**
FETY	**Fethiye**	**0.49**	**50**	PG	**Pn**	**13 59 54.5**	**0.0**
FETY				SG	**Sn**	**14 00 02.9**	**-0.1**
FETY	**Fethiye**	**0.49**	**50**	***i*P**	**Pn**	**13 59 54.4**	**-0.2**
FETY				***i*S**	**Sn**	**14 00 02.9**	**-0.2**
MRSB	**Marmaris-Mugla**	**0.52**	**319**	PG	**Pn**	**13 59 54.0**	**-0.5**
MRSB				SG	**Sn**	**14 00 02.7**	**-1.0**
TURN	**Turunc**	**0.55**	**358**	PG	**Pn**	**13 59 54.7**	**-0.5**
TURN				SG	**Sn**	**14 00 03.2**	**-1.0**
TURN	**Turunc**	**0.55**	**358**	***i*P**	**Pn**	**13 59 54.7**	**-0.5**
TURN				***i*S**	**Sn**	**14 00 03.0**	**-1.2**
KSL	**Kastellorizon**	**0.80**	**102**	P	**Pn**	**13 59 59.0**	**+0.9**
KSL	**Kastellorizon**	**0.80**	**102**	P	**Pn**	**13 59 58.9**	**+0.9**
KSL				S	**Sn**	**14 00 11.2**	**+1.9**
KSL				AML	AML	14 00 12.1	
	comp=E,25233μm,0.4s						
KSL				AML	AML	14 00 13.6	
	comp=N,15564μm,0.5s						
AKAS	**Kas**	**0.80**	**96**	PG	**Pn**	**13 59 59.0**	**+0.7**
AKAS	**Kas**	**0.80**	**96**	***i*P**	**Pn**	**13 59 58.9**	**+0.7**
AKAS				***i*S**	**Sn**	**14 00 12.0**	**+2.3**
YER	**Yerkesik**	**0.86**	**342**	P	**Pn**	**13 59 59.4**	**+0.4**
YER				S	**Sn**	**14 00 10.6**	**-0.3**
YER	**Yerkesik**	**0.86**	**342**	PG	**Pn**	**13 59 59.0**	**0.0**
YER	**Yerkesik**	**0.86**	**342**	P	**Pn**	**13 59 59.4**	**+0.4**
YER				S	**Sn**	**14 00 10.6**	**-0.3**
DATC	**Datca-Mugla**	**0.89**	**300**	PG	**Pn**	**13 59 58.7**	**-0.6**
DATC				SG	**Sn**	**14 00 10.7**	**-0.8**
DAT	**Datca**	**0.94**	**296**	P	**Pn**	**13 59 59.8**	**-0.3**
DAT				S	**Sn**	**14 00 11.8**	**-0.9**
DAT	**Datca**	**0.94**	**296**	PG	**Pn**	**13 59 59.5**	**-0.5**
DAT				SG	**Sn**	**14 00 11.9**	**-0.8**
DAT	**Datca**	**0.94**	**296**	***i*P**	**Pn**	**13 59 59.7**	**-0.3**
DAT				***i*S**	**Sn**	**14 00 11.7**	**-1.0**
DEMR	**Demre-Antalya**	**1.04**	**94**	PG	**Pn**	**14 00 01.4**	**+0.1**
ELL	**Elmali**	**1.12**	**67**	PN	**Pn**	**14 00 03.6**	**+1.1**
ELL	**Elmali**	**1.12**	**67**	P	**Pn**	**14 00 03.8**	**+1.3**
ELL	**Elmali**	**1.12**	**67**	Pn	**Pn**	**14 00 04.1**	**+1.6**
ELL					**Sn**	**14 00 19.9**	**+2.8**
ELL	**Elmali**	**1.12**	**67**	P	**Pn**	**14 00 04.0**	**+1.5**
ELL				S	**Sn**	**14 00 19.7**	**+2.6**
TAVA	**DENIZLI_Tavas**	**1.17**	**11**	***i*P**	**Pn**	**14 00 03.4**	**+0.3**
TAVA				***i*S**	**Sn**	**14 00 18.2**	**0.0**
GOLH	**Golhisar**	**1.19**	**39**	***i*P**	**Pn**	**14 00 04.8**	**+1.4**
GOLH				***i*S**	**Sn**	**14 00 20.5**	**+1.9**
BDRM	**Kayabasi**	**1.20**	**309**	***i*P**	**Pn**	**14 00 02.9**	**-0.6**
BDRM				***i*P**		14 00 03.0	
BDRM				***i*S**	**Sn**	**14 00 17.4**	**-1.5**
NISR	**Nisiros**	**1.24**	**284**	P	**Pn**	**14 00 03.5**	**-0.4**
NISR	**Nisiros**	**1.24**	**284**	P	**Pn**	**14 00 03.7**	**-0.2**
NISR				S	**Sn**	**14 00 18.0**	**-1.6**
NISR				AML	AML	14 00 21.0	
	comp=E,11662μm,0.2s						
NISR				AML	AML	14 00 25.6	
	comp=N,9190μm,0.6s						
BODT	**Bodrum**	**1.29**	**306**	P	**Pn**	**14 00 04.2**	**-0.4**
BODT				S	**Sn**	**14 00 19.5**	**-1.4**
BODT	**Bodrum**	**1.29**	**306**	PN	**Pn**	**14 00 04.1**	**-0.5**
YKAV	**Yalikavak-Bodr**	**1.34**	**307**	PN	**Pn**	**14 00 04.5**	**-0.8**
AKUM	**Antalya-Kumluc**	**1.39**	**89**	***i*P**	**Pn**	**14 00 07.2**	**+1.3**
AKUM

ZKR					S		Sn	14 00 46.4	+1.0
	comp=E,4µm,0.6s								
ZKR	**Zakros**	**2.30**	**239**		P		**Pn**	14 00 19.5	+1.3
ZKR					S		**Sn**	14 00 45.0	-0.4
ZKR					AML	AML		14 00 48.0	
	comp=E,9762µm,0.6s								
ZKR					AML	AML		14 00 49.2	
	comp=N,4837µm,0.7s								
ZKR	**Zakros**	**2.30**	**239**		PN		**Pn**	14 00 19.7	+1.4
ANAF	**Anafi Island**	**2.30**	**272**		P		**Pn**	14 00 18.1	-0.2
ANAF	**Anafi Island**	**2.30**	**272**		P		**Pn**	14 00 18.5	+0.2
ANAF					AML	AML		14 00 50.0	
	comp=E,7349µm,0.5s								
ANAF					AML	AML		14 00 58.5	
	comp=N,10692µm,0.4s								
STIA	**Sitia Lasithi**	**2.34**	**242**		P		**Pn**	14 00 19.0	+0.2
BAGO	**Egridir - ISPA**	**2.40**	**45**	*i*	P		**Pn**	14 00 20.1	+0.3
BAGO				*i*	S		**Sn**	14 00 39.2	-8.9
USAK	**Uak-Merkez**	**2.41**	**7**	⇓*i*	P		**Pn**	14 00 19.4	-0.4
USAK				*i*	S		**Sn**	14 00 46.1	-2.2
BLCB	**Balcova**	**2.42**	**329**		P		**Pn**	14 00 19.2	-0.7
BLCB	**Balcova**	**2.42**	**329**		PN		**Pn**	14 00 19.6	-0.3
KEPZ	**Antalya-Kepez**	**2.47**	**75**	*i*	P		**Pn**	14 00 23.2	+2.5
KEPZ				*i*	S		**Sn**	14 00 52.6	+2.9
THR8	**Santorini-Mono**	**2.54**	**273**		P		**Pn**	14 00 21.2	-0.3
THR8	**Santorini-Mono**	**2.54**	**273**		P		**Pn**	14 00 20.9	-0.6
SANT	**Santorini**	**2.55**	**272**	⇑	P		**Pn**	14 00 22.1	+0.3
SANT	**Santorini**	**2.55**	**272**		PN		**Pn**	14 00 21.8	0.0
SANT	**Santorini**	**2.55**	**272**				**Pn**	14 00 21.8	0.0
THR2	**Thira island,**	**2.57**	**274**		P		**Pn**	14 00 22.0	0.0
SNT1	**Gialos, Santor**	**2.58**	**273**		P		**Pn**	14 00 22.2	+0.2
APE	**Apeiranthos**	**2.59**	**288**		P		**Pn**	14 00 22.1	-0.3
APE	**Apeiranthos**	**2.59**	**288**		P		**Pn**	14 00 22.0	-0.3
APE	**Apeiranthos**	**2.59**	**288**		PN		**Pn**	14 00 22.3	-0.1
APE	**Apeiranthos**	**2.59**	**288**	*i*	P		**Pn**	14 00 21.6	-0.8
STAX	**Taxiarchis Har**	**2.60**	**273**		P		**Pn**	14 00 22.6	+0.3
CMBO	**Columbo, Santo**	**2.60**	**274**		P		**Pn**	14 00 22.7	+0.3
URLA	**Izmir**	**2.60**	**322**	⇑*i*	P		**Pn**	14 00 21.8	-0.6
URLA				*i*	S		**Sn**	14 00 50.3	-2.5
THR3	**Thira Island,**	**2.60**	**273**		P		**Pn**	14 00 22.4	-0.1
THR6	**Thira Island,**	**2.60**	**272**		P		**Pn**	14 00 22.4	0.0
THR6	**Thira Island,**	**2.60**	**272**		P		**Pn**	14 00 22.4	0.0
AKHS	**Akhisar**	**2.63**	**346**	*i*	P		**Pn**	14 00 21.8	-1.1
AKHS				*i*	S		**Sn**	14 00 48.8	-4.9
THR5	**Thira Island,**	**2.64**	**273**		P		**Pn**	14 00 23.5	+0.5
NPS	**Neapolis**	**2.66**	**248**		P		**Pn**	14 00 23.4	+0.1
NPS					S		**Sn**	14 00 53.5	-0.9
	comp=N,5µm,0.5s								
NPS	**Neapolis**	**2.66**	**248**		P		**Pn**	14 00 23.7	+0.4
NPS					AML	AML		14 00 55.9	
	comp=N,7008µm,0.5s								
NPS					AML	AML		14 00 56.6	
	comp=E,14186µm,0.5s								
NPS	**Neapolis**	**2.66**	**248**		P		**Pn**	14 00 23.6	+0.4
NPS					S		**Sn**	14 00 53.5	-0.9
SHUT	**Suhut-Afyon**	**2.71**	**34**		PN		**Pn**	14 00 24.2	+0.2
IOSP	**Ios island**	**2.71**	**280**		P		**Pn**	14 00 24.3	+0.3
IOSP					S		**Sn**	14 00 53.9	-1.7
	comp=E,2µm,0.7s								
IOSP	**Ios island**	**2.71**	**280**		P		**Pn**	14 00 24.0	0.0
DEMI	**Demirci**	**2.72**	**2**	⇓*i*	P		**Pn**	14 00 23.6	-0.5
DEMI				*i*	S		**Sn**	14 00 53.9	-2.0
ALAN	**Alanya-ANTALYA**	**2.76**	**84**		PN		**Pn**	14 00 25.8	+1.2
SEYD	**Seydisehir-KON**	**2.80**	**66**		PN		**Pn**	14 00 26.3	+1.1
AFYO	**Afyonkarahisar**	**2.80**	**28**	*i*	P		**Pn**	14 00 25.4	+0.2
KRBN	**Karaburun**	**2.80**	**325**		PN		**Pn**	14 00 25.1	-0.1
LAST	**Lasithi**	**2.81**	**247**		P		**Pn**	14 00 25.7	+0.4
LAST					S		**Sn**	14 00 57.5	-0.5
	comp=E,2µm,0.8s								
LAST	**Lasithi**	**2.81**	**247**		P		**Pn**	14 00 25.7	+0.4
LAST					AML	AML		14 01 00.7	
	comp=N,3541µm,0.7s								
LAST					AML	AML		14 01 01.1	
	comp=E,4000µm,0.6s								
GDZ	**Gediz**	**2.85**	**14**	*i*	P		**Pn**	14 00 25.4	-0.5
GDZ				*i*	S		**Sn**	14 00 55.4	-3.6
ZEDA	**zmir-Bergama**	**2.91**	**336**	*i*	P		**Pn**	14 00 26.2	-0.5
ZEDA				*i*	S		**Sn**	14 00 54.0	-6.5
GAZI	**Gazipasa**	**2.99**	**91**		PN		**Pn**	14 00 27.8	+0.1
GAZI	**Gazipasa**	**2.99**	**91**	*i*	P		**Pn**	14 00 27.6	-0.1
GAZI				*i*	S		**Sn**	14 00 59.5	-2.8
DOGA	**KONYA_Doganhis**	**3.02**	**53**	*i*	P		**Pn**	14 00 29.5	+1.3
DOGA				*i*	S		**Sn**	14 01 03.0	-0.3
BOLV	**Bolvadin**	**3.03**	**37**	*i*	P		**Pn**	14 00 29.2	+0.8
BOLV				*i*	S		**Sn**	14 01 01.1	-2.4
HRKL	**Herakleio**	**3.03**	**252**		P		**Pn**	14 00 28.6	+0.3
HRKL					S		**Sn**	14 01 02.6	-0.8
	comp=E,5µm,0.6s								
HRKL	**Herakleio**	**3.03**	**252**		PN		**Pn**	14 00 28.7	+0.4
STEP	**BALIKESIR_Sava**	**3.13**	**347**	*i*	P		**Pn**	14 00 32.5	+2.7
IDI	**Anoyia**	**3.20**	**252**		P		**Pn**	14 00 30.6	-0.1
IDI					S		**Sn**	14 01 06.9	-0.8
	comp=E,2µm,0.4s								
IDI	**Anoyia**	**3.20**	**252**		P		**Pn**	14 00 30.7	-0.1
	comp=E,39nm,0.3s,baz=7.4,slow=7.3,SNR=182								
IDI					S		**Sn**	14 01 05.3	-2.4
	comp=E,120nm,0.3s,baz=236,slow=11,SNR=24								
IDI	**Anoyia**	**3.20**	**252**		P		**Pn**	14 00 30.6	-0.1
IDI					AML	AML		14 01 08.9	
	comp=E,3361µm,0.5s								
IDI					AML	AML		14 01 10.8	
	comp=N,3215µm,0.5s								
IDI	**Anoyia**	**3.20**	**252**	⇓	P		**Pn**	14 00 30.9	+0.2
IDI	**Anoyia**	**3.20**	**252**		PN		**Pn**	14 00 30.9	+0.2
IDI	**Anoyia**	**3.20**	**252**		Pn		**Pn**	14 00 31.0	+0.2
DURS	**Dursunbey**	**3.28**	**358**	*i*	P		**Pn**	14 00 31.3	-0.5
DURS				*i*	S		**Sn**	14 01 05.1	-4.5
AKMS	**Akamas**	**3.29**	**112**		P		**Pn**	14 00 32.2	+0.3
AKMS					S		**Sn**	14 01 08.5	-1.2
AKMS					AML	AML		14 01 09.8	
	comp=N,24nm,0.5s								
AKMS					AML	AML		14 01 09.8	
	comp=N,24nm,0.5s								
AKMS					AML	AML		14 01 11.6	
	comp=N,16nm,0.7s								
AKMS					AML	AML		14 01 11.6	
	comp=N,16nm,0.7s								
KMER	**Konya-Meram**	**3.33**	**63**	*i*	P		**Pn**	14 00 34.1	+1.7
KMER				*i*	S		**Sn**	14 01 08.7	-2.2
AYVA	**Ayvalik**	**3.35**	**333**	*i*	P		**Pn**	14 00 32.9	+0.2
SIVA	**Sivas**	**3.36**	**248**		P		**Pn**	14 00 34.0	+1.2
SIVA	**Sivas**	**3.36**	**248**		P		**Pn**	14 00 34.4	+1.6
KONT	**Konya--Tatoy**	**3.40**	**60**		PN		**Pn**	14 00 34.8	+1.4
KONT	**Konya--Tatoy**	**3.40**	**60**	*i*	P		**Pn**	14 00 35.0	+1.6
KONT				*i*	S		**Sn**	14 01 10.4	-2.1
MHLA	**Plaka, Milos I**	**3.41**	**278**		P		**Pn**	14 00 34.2	+0.7
MHLO	**Agia Marina, M**	**3.42**	**277**		P		**Pn**	14 00 33.9	+0.3
MHLO	**Agia Marina, M**	**3.42**	**277**		P		**Pn**	14 00 34.3	+0.7
ALFC	**Alefka**	**3.44**	**109**		P		**Pn**	14 00 34.0	+0.1
ALFC					S		**Sn**	14 01 11.4	-2.0
ALFC					AML	AML		14 01 14.2	
	comp=N,10.0nm,0.5s								
ALFC					AML	AML		14 01 14.2	
	comp=N,10.0nm,0.5s								
ALFC					AML	AML		14 01 14.4	
	comp=N,7.5nm,0.3s								
ALFC					AML	AML		14 01 14.4	
	comp=N,7.5nm,0.3s								
PRK	**Paraskevi**	**3.46**	**328**		P		**Pn**	14 00 34.4	+0.2
PRK	**Paraskevi**	**3.46**	**328**		P		**Pn**	14 00 34.9	+0.7
BALY	**Balya**	**3.51**	**347**	*i*	P		**Pn**	14 00 34.1	-0.7
LADK	**Ladik-KONYA**	**3.53**	**57**		PN		**Pn**	14 00 36.3	+1.1
KDHN	**Kadinhani**	**3.55**	**51**	*i*	P		**Pn**	14 00 36.2	+0.8
KDHN				*i*	S		**Sn**	14 01 13.0	-3.2
OSC1	**CSNet OBS 1**	**3.56**	**141**		P		**Pn**	14 00 35.5	0.0
OSC1					S		**Sn**	14 01 14.5	-1.8
NATA	**Nata**	**3.57**	**114**		P		**Pn**	14 00 36.1	+0.5
NATA					AML	AML		14 01 21.0	
	comp=N,19nm,0.4s								
NATA					AML	AML		14 01 24.3	
	comp=N,30nm,0.5s								
SIGR	**SIGRI**	**3.62**	**324**		P		**Pn**	14 00 36.1	-0.3
SIGR					S		**Sn**	14 01 15.5	-2.4
	comp=N,600nm,0.6s								
KIZT	**Kizilcal**	**3.64**	**44**		PN		**Pn**	14 00 37.6	+0.9
LEF	**Lefka**	**3.67**	**108**	*i*	P		**Pn**	14 00 36.0	-1.1
LEF				*i*	S		**Sn**	14 01 13.9	-5.2
AKDN	**Akdeniz- Kıbrı**	**3.68**	**105**		PN		**Pn**	14 00 38.5	+1.4
VAM	**Vamos**	**3.71**	**257**		P		**Pn**	14 00 38.0	+0.5
VAM	**Vamos**	**3.71**	**257**		P		**Pn**	14 00 38.0	+0.5
BERE	**Bereket-Mersin**	**3.71**	**88**		PN		**Pn**	14 00 39.6	+1.8
BAYC	**CANAKKALE_Bayr**	**3.79**	**335**	*i*	P		**Pn**	14 00 38.3	-0.4
SZAC	**Souni**	**3.81**	**113**		P		**Pn**	14 00 39.1	+0.2
SZAC					AML	AML		14 01 24.7	
	comp=N,9.1nm,0.4s								
SZAC					AML	AML		14 01 25.9	
	comp=N,11nm,0.4s								
ULDT	**Uludag**	**3.84**	**6**	*i*	P		**Pn**	14 00 39.1	-0.4
IMMV	**Iera Moni Meta**	**3.86**	**259**		P		**Pn**	14 00 39.8	+0.1
IMMV	**Iera Moni Meta**	**3.86**	**259**		P		**Pn**	14 00 39.6	0.0
IMMV					AML	AML		14 01 27.5	
	comp=E,3016µm,0.6s								
IMMV					AML	AML		14 01 28.4	
	comp=N,2923µm,0.5s								
IMMV	**Iera Moni Meta**	**3.86**	**259**		PN		**Pn**	14 00 40.8	+1.1
YORU	**Yoruktepe-Mers**	**3.87**	**91**		PN		**Pn**	14 00 41.8	+2.0
TEVE	**Tevekalti-Mers**	**3.89**	**87**		PN		**Pn**	14 00 42.1	+1.9
EZN	**Ezine**	**3.94**	**333**		P		**Pn**	14 00 41.4	+0.7
IGD	**Bursa**	**3.96**	**6**	*i*	P		**Pn**	14 00 40.7	-0.3
GVD	**Gavdhos**	**3.98**	**250**		P		**Pn**	14 00 41.9	+0.6
GVD	**Gavdhos**	**3.98**	**250**		P		**Pn**	14 00 42.4	+1.2
GVD	**Gavdhos**	**3.98**	**250**		PN		**Pn**	14 00 42.8	+1.5
GULN	**MERSIN_Gulnar**	**3.98**	**90**	*i*	P		**Pn**	14 00 42.6	+1.3
GULN				*i*	S		**Sn**	14 01 25.1	-1.5
AKK2	**Akkuyu-Mersin**	**3.99**	**91**		PN		**Pn**	14 00 43.4	+2.0
AKKU	**Akkuyu-Mersin**	**3.99**	**91**		PN		**Pn**	14 00 43.6	+2.2
RODP	**Rodopos**	**4.02**	**261**		PN		**Pn**	14 00 43.4	+1.6
YESI	**Yesilovacik-Me**	**4.06**	**90**		PN		**Pn**	14 00 44.6	+2.3
CSS	**Mathiatis**	**4.07**	**108**		Pn		**Pn**	14 00 42.4	-0.1
CSS	**Mathiatis**	**4.07**	**108**		Pn		**Pn**	14 00 42.5	+0.1
CHBY	**Cihanbeyli**	**4.08**	**55**		PN		**Pn**	14 00 44.1	+1.4
TISA	**Tisan-Mersin**	**4.09**	**91**		PN		**Pn**	14 00 44.9	+2.1
IKL	**Isikli**	**4.09**	**90**		PN		**Pn**	14 00 43.9	+1.1
DION	**Dionisos Attik**	**4.13**	**297**		P		**Pn**	14 00 43.7	+0.3
DION	**Dionisos Attik**	**4.13**	**297**		P		**Pn**	14 00 43.9	+0.5
VLY	**Voula,Athens**	**4.15**	**293**		P		**Pn**	14 00 44.0	+0.4
VLY	**Voula,Athens**	**4.15**	**293**		P		**Pn**	14 00 44.2	+0.6
KNDR	**Palaiochora Ch**	**4.16**	**256**		P		**Pn**	14 00 45.3	+1.6
KNDR	**Palaiochora Ch**	**4.16**	**256**		PN		**Pn**	14 00 46.0	+2.3
ATHU	**Athens Univers**	**4.20**	**294**		P		**Pn**	14 00 44.9	+0.6
ATH	**Athens Observa**	**4.25**	**294**		P		**Pn**	14 00 46.1	+1.1
MVOU	**Mavrovouni**	**4.28**	**106**		P		**Pn**	14 00 44.4	-1.0
ANKY	**Antikythira Is**	**4.33**	**266**		P		**Pn**	14 00 46.2	+0.1
YESY	**Yesilyurt**	**4.35**	**69**		PN		**Pn**	14 00 48.8	+2.4
GADA	**Gurkgeda**	**4.42**	**332**		P		**Pn**	14 00 47.2	-0.1
KKUL	**Konye-Kulu**	**4.44**	**49**	*i*	P		**Pn**	14 00 48.8	+1.2
KIZK	**Mersin**	**4.46**	**86**	*i*	P		**Pn**	14 00 50.5	+2.7
KIZK				*i*	S		**Sn**	14 01 38.3	-0.1
DID	**Didima**	**4.47**	**287**		P		**Pn**	14 00 48.8	+0.7
DID	**Didima**	**4.47**	**287**		P		**Pn**	14 00 48.8	+0.7
LIA	**Limnos Island**	**4.49**	**324**		P		**Pn**	14 00 48.1	-0.1
LIA					S		**Sn**	14 01 35.9	-3.1
	comp=N,345nm,0.5s								
LIA	**Limnos Island**	**4.49**	**324**		P		**Pn**	14 00 48.6	+0.4
KTHA	**Kythira Island**	**4.49**	**271**		P		**Pn**	14 00 49.2	+0.9
KTHA	**Kythira Island**	**4.49**	**271**		PN		**Pn**	14 00 49.6	+1.3
KERG	**Konya-Eregli**	**4.55**	**74**	*i*	P		**Pn**	14 00 51.4	+2.2
KERG				*i*	S		**Sn**	14 01 38.6	-2.2
EREN	**Erenkoy**	**4.57**	**98**	*i*	P		**Pn**	14 00 52.2	+2.8
EREN				*i*	S		**Sn**	14 01 39.0	-2.2
VLI	**Veliai**	**4.60**	**277**		P		**Pn**	14 00 49.6	-0.1
VLI	**Veliai**	**4.60**	**277**		P		**Pn**	14 00 50.5	+0.8
MDUB	**Mudurnu**	**4.61**	**25**		Pn		**Pn**	14 00 50.7	+0.6
MRKA	**Markates**	**4.66**	**302**		P		**Pn**	14 00 51.0	+0.4
VIL2	**Platees**	**4.67**	**295**		P		**Pn**	14 00 51.0	+0.3
SMTH	**Samothraki Isl**	**4.80**	**331**		P		**Pn**	14 00 52.5	-0.1
SMTH	**Samothraki Isl**	**4.80**	**331**		P		**Pn**	14 00 52.4	-0.1
BR231	**Keskin MP Arra**	**4.81**	**42**				**Pn**	14 00 53.4	+0.7
LOUT	**Loutraki**	**4.81**	**292**		P		**Pn**	14 00 53.3	+0.6
ENEZ	**Enez**	**4.82**	**337**		P		**Pn**	14 00 52.8	+0.1
LTK	**Loutraki**	**4.83**	**292**		P		**Pn**	14 00 52.9	0.0
LTK	**Loutraki**	**4.83**	**292**		P		**Pn**	14 00 53.7	+0.9
ANTO	**Ankara**	**4.84**	**42**		P		**Pn**	14 00 53.9	+0.8
ANTO	**Ankara**	**4.84**	**42**				**Pn**	14 00 53.9	+0.8
PROD	**Prodromos**	**4.96**	**295**		P		**Pn**	14 00 55.6	+1.0
SKIA	**Skiathos**	**4.98**	**306**		P		**Pn**	14 00 55.5	+0.6
ALN	**Alexandroupoli**	**5.00**	**337**		P		**Pn**	14 00 54.6	-0.6
ALN	**Alexandroupoli**	**5.00**	**337**		P		**Pn**	14 00 54.5	-0.7
ALN	**Alexandroupoli**	**5.00**	**337**		P		**Pn**	14 00 54.7	-0.5
ALN	**Alexandroupoli**	**5.00**	**337**				**Pn**	14 00 54.7	-0.5
MATC	**Matruh**	**5.09**	**194**		P		**Pn**	14 00 56.7	+0.2
	baz=196								
VLX	**Vlachokerasia**	**5.12**	**284**		P		**Pn**	14 00 56.1	-0.8
CMDR	**Camlidere-ANKA**	**5.15**	**35**	*i*	P		**Pn**	14 00 58.5	+1.1
NEO	**Neokhori**	**5.21**	**307**		P		**Pn**	14 00 58.8	+0.6
BR131	**Keskin Array S**	**5.22**	**48**	*di*	P		**Pn**	14 00 58.8	+0.4
BR131	**Keskin Array S**	**5.22**	**48**		Pn		**Pn**	14 00 58.5	+0.1
BRTR	**Keskin Array B**	**5.22**	**48**		P		**Pn**	14 00 59.0	+0.6
	comp=N,6.5nm,0.3s,baz=224,slow=16,SNR=103								
BRTR					S		**Sn**	14 01 55.3	-2.0
	comp=N,3.7nm,0.3s,baz=223,slow=4,SNR=8.9								
BRTR	**Keskin Array B**	**5.22**	**48**	*i*	P		**Pn**	14 00 59.0	+0.6
BRTR					pmax	pmax			
	comp=Z,26nm,0.5s								
BRTR	**Keskin Array B**	**5.22**	**48**		Pn		**Pn**	14 00 58.2	-0.2
THAS	**Thassos island**	**5.26**	**326**		P		**Pn**	14 00 58.9	+0.1
GUR	**Goura**	**5.27**	**290**		P		**Pn**	14 00 59.1	+0.1
GUR	**Goura**	**5.27**	**290**		P		**Pn**	14 01 00.7	+1.6
PAIG	**Paliouri**	**5.31**	**314**		P		**Pn**	14 01 00.7	+1.3
AXAR	**Agios Charalam**	**5.33**	**299**		P		**Pn**	14 01 01.2	+1.5
OUR	**Ouranopolis**	**5.42**	**319**		P		**Pn**	14 01 02.2	+1.2
KLV	**Kalavryta, Ach**	**5.45**	**290**		P		**Pn**	14 01 02.4	+1.0
KALE	**Kalithea**	**5.56**	**294**		P		**Pn**	14 01 04.3	+1.3
PYL	**PYLOS**	**5.56**	**278**		P		**Pn**	14 01 03.9	+0.9
SLUM	**Salum**	**5.59**	**211**		P		**Pn**	14 01 01.8	-1.5
	baz=214								
SLUM					S		Sn	14 01 55.8	-10
	baz=214								
SLUM					AMP			14 02 00.0	
	baz=214								
AKO	**Adana**	**5.59**	**76**	*i*	P		**Pn**	14 01 05.9	+2.5
CDAG	**Cicekdag**	**5.61**	**52**	*i*	P		**Pn**	14 01 04.6	+0.9
SERG	**Sergoula**	**5.63**	**294**		P		**Pn**	14 01 04.3	+0.4
SERG	**Sergoula**	**5.63**	**294**		P		**Pn**	14 01 05.6	+1.7
YURE	**YUREGIR**	**5.67**	**83**	*i*	P		**Pn**	14 01 05.6	+1.2
YURE				*i*	S		Sn	14 01 32.0	-36
AMT	**Artemida-Makis**	**5.67**	**284**		P		**Pn**	14 01 06.2	+1.7
KAVA	**Kavala**	**5.67**	**327**		P		**Pn**	14 01 04.1	-0.3
AGG	**Agios Georgios**	**5.67**	**300**		P		**Pn**	14 01 04.3	-0.2
AGG	**Agios Georgios**	**5.67**	**300**		P		**Pn**	14 01 04.9	+0.4
AGG	**Agios Georgios**	**5.67**	**300**		Pn		**Pn**	14 01 04.9	+0.4
HBRG	**Burj al `Arab**	**5.82**	**170**		P		**Pn**	14 01 06.7	+0.2
	baz=170								
HBRG					S		**Sn**	14 02 07.5	-4.3
	baz=170								
RZN	**Rozhen**	**6.16**	**332**	*e*	P		**Pn**	14 01 12.5	+1.2
SRS	**Serrai**	**6.20**	**322**		P		**Pn**	14 01 12.4	+0.8
SRS					pmax	pmax			
	comp=Z,34nm,0.7s								
BHL	**Bhannes**	**6.25**	**111**	*e*	P		**Pn**	14 01 10.5	-1.9
DQRL	**Deir Qamar**	**6.27**	**113**	*e*	P		**Pn**	14 01 11.2	-1.6
HNTI	**Hanita**	**6.29**	**119**		Pn		**Pn**	14 01 11.7	-1.2
HWQ	**Hawqa**	**6.33**	**107**	*e*	P		**Pn**	14 01 12.9	-0.6
OFRI	**`Ofer**	**6.42**	**123**		Pn		**Pn**	14 01 13.0	-1.8
QRWL	**Qaraoun**	**6.42**	**113**	*e*	P		**Pn**	14 01 14.2	-0.7
MMA0B	**Mount Meron ar**	**6.49**	**119**		Pn		**Pn**	14 01 14.8	-0.9
MMB	**Musomiste**	**6.50**	**326**	*e*	P		**Pn**	14 01 16.3	+0.5
PLD	**Plovdiv**	**6.53**	**333**		P		**Pn**	14 01 18.2	+2.0
PLD					pmax	pmax			
	comp=Z,2.0nm,1.0s								
RCY	**Rachaya**	**6.56**	**113**	*e*	P		**Pn**	14 01 16.0	-0.8
SHBL	**Chebaa**	**6.56**	**115**	*e*	P		**Pn**	14 01 16.3	-0.5
GEM	**Giv'at Ha'Em**	**6.57**	**116**		Pn		**Pn**	14 01 16.1	-0.7
KNT	**Kendrikon**	**6.59**	**319**		P		**Pn**	14 01 18.8	+1.8
KNT					pmax	pmax			
	comp=Z,24nm,0.6s								
NATI	**Neve Ativ**	**6.60**	**115**		Pn		**Pn**	14 01 16.7	-0.5
NATI					Sn		**Sn**	14 02 25.9	-5.1
SLTI	**Sal'it**	**6.69**	**126**		Pn		**Pn**	14 01 17.3	-1.1
GRG	**Griva**	**6.72**	**315**		P		**Pn**	14 01 20.9	+2.1
GRG					pmax	pmax			
	comp=Z,65nm,0.9s								
HMYD	**Mayadein**	**6.76**	**164**		P		**Pn**	14 01 19.3	-0.1
	baz=163								
MMLI	**Mount Malkishu**	**6.83**	**123**		Pn		**Pn**	14 01 19.6	-0.7
MMLI					Sn		**Sn**	14 02 32.9	-3.7
RSH		**6.83**	**140**		P		**Pn**	14 01 20.1	-0.2
	baz=139								
HNAT	**Natroun**	**6.88**	**165**		P		**Pn**	14 01 20.8	-0.2
	baz=165								
SHMJ	**Saham**	**6.90**	**119**		Pn		**Pn**	14 01 20.6	-0.7
KOT	**Kottamia**	**6.92**	**156**		P		**Pn**	14 01 21.6	0.0
	baz=156								
KOT					AMP			14 02 00.0	
	baz=156								
KOT					S		**Sn**	14 02 32.7	-6.2
	baz=156								
HMDT	**Nahal Hemdat**	**7.01**	**123**		Pn		**Pn**	14 01 21.8	-0.9
HMDT					Sn		**Sn**	14 02 37.1	-3.9
NEF	**NEVSHA**	**7.01**	**352**	*e*	P		**Pn**	14 01 24.2	+1.4
KKB	**Krupnik**	**7.01**	**324**	*e*	P		**Pn**	14 01 24.4	+1.6
HSAF	**As Saff**	**7.12**	**159**		P		**Pn**	14 01 23.6	-0.8
	baz=159								
GLL	**Jalalah**	**7.21**	**158**		P		**Pn**	14 01 25.4	-0.2
	baz=158								
KZIT	**Kziot**	**7.23**	**137**		Pn		**Pn**	14 01 25.0	-0.9
YTIR	**Yattir**	**7.32**	**131**		Pn		**Pn**	14 01 26.2	-1.0
YTIR					Sn		**Sn**	14 02 44.7	-4.2
DSI	**Dead Sea**	**7.34**	**128**		Pn		**Pn**	14 01 25.8	-1.6
SUZ	**Suez**	**7.36**	**150**		P		**Pn**	14 01 27.3	-0.4
	baz=149								
SWA2		**7.54**	**202**		P		**Pn**	14 01 29.5	-0.6
	baz=203								
VTS	**Vitosha**	**7.54**	**328**	⇓	P		**Pn**	14 01 31.6	+1.5
VTS	**Vitosha**	**7.54**	**328**	*e*	P		**Pn**	14 01 31.9	+1.7
VTS	**Vitosha**	**7.54**	**328**		P		**Pn**	14 01 31.7	+1.5
VTS	**Vitosha**	**7.54**	**328**		Pn		**Pn**	14 01 31.7	+1.5
GHAJ	**Ghor Haditha**	**7.64**	**129**		Pn		**Pn**	14 01 31.1	-0.3
DAMI2	**DAM2**	**7.66**	**130**		Pn		**Pn**	14 01 31.7	+0.1
PLVB	**Pleven**	**7.70**	**338**	⇑	P		**Pn**	14 01 33.3	+1.1
ZAF	**Zafarana**	**7.76**	**154**		P		**Pn**	14 01 32.0	-1.0
	baz=153								
ZAF					S		**Sn**	14 02 51.8	-7.

VRAC pmax pmax
comp=Z,21nm,0.9s
CIMO Cimolais 15.70 314 Pn 14 03 19.1 -1.1
ABTA Abfaltersbach 15.91 316 *e*P **P 14 03 25.2 -0.4**
comp=Z,12nm,1.0s
PGF Pioggiola 16.37 298 P **Pn 14 03 29.0 +0.2**
PGF pmax pmax
comp=Z,32nm,1.4s
GEC2 GERESS Array S 16.62 324 Pn 14 03 32.2 +0.4
GEC2 GERESS Array S 16.62 324 *e*P **Pn 14 03 32.3 +0.4**
comp=Z,11nm,1.0s,baz=130,slow=10
GERES GERESS Array B 16.62 324 P **Pn 14 03 31.9 +0.1**
comp=Z,0.7nm,0.3s,baz=121,slow=7.0,SNR=27
GERES LR LR 14 09 46.0
comp=Z,55nm,20.4s,baz=78,slow=36
GERES GERESS Array B 16.62 324 P **P 14 03 33.0 -0.4**
GERES GERESS Array B 16.62 324 P 14 03 33.0 -0.4
WTTA Wattenberg 16.70 316 *e*P **P 14 03 34.0 -0.4**
comp=Z,20nm,1.0s
WTTA Wattenberg 16.70 316 P **P 14 03 36.2 +1.8**
WTTA pmax pmax
comp=Z,19nm,1.2s
WATA Walderalm 16.77 316 *e*P **P 14 03 35.5 +0.3**
comp=Z,17nm,1.1s
KHC Kasperske Hory 16.87 324 *e*P **P 14 03 36.0 -0.2**
KHC Kasperske Hory 16.87 324 *ce*P **P 14 03 35.7 -0.5**
KHC pmax pmax
comp=Z,17nm,0.6s
KHC Kasperske Hory 16.87 324 P 14 03 36.3 +0.1
GOPC GO Pecny, Ondr 16.89 328 *e*P **P 14 03 37.0 +0.6**
GOPC GO Pecny, Ondr 16.89 328 *e*P **P 14 03 37.0 +0.6**
SQTA Sankt Quirin 16.91 315 *e*P **P 14 03 36.3 -0.4**
comp=Z,12nm,0.9s
MOTA Moosalm 17.04 316 *e*P **Pn 14 03 37.5 +0.4**
comp=Z,14nm,1.0s
PRU Pruhonice 17.05 328 *e*P **P 14 03 38.9 +0.8**
PRU Pruhonice 17.05 328 *e*P **P 14 03 38.9 +0.8**
PBCC Pribram 17.07 326 *e*P **P 14 03 38.8 +0.5**
FETA Feichten 17.08 314 *e*P **P 14 03 39.2 +0.6**
comp=Z,27nm,1.0s,SNR=13
WET Wettzell 17.22 323 P **P 14 03 41.0 +1.0**
WET pmax pmax
comp=Z,14nm,1.0s
WET Wettzell 17.22 323 *e*P **P 14 03 40.0 0.0**
comp=Z,14nm,0.9s,baz=130,slow=10
RETA Reutte 17.31 316 *e*P **Pn 14 03 40.4 0.0**
comp=Z,4.0nm,0.8s
FUR Furstenfeldbru 17.42 318 *e*P **P 14 03 43.4 +1.1**
comp=Z,38nm,1.2s,baz=130,slow=10
PVCC Panska Ves 17.45 329 *e*P **P 14 03 43.8 +1.4**
PVCC Panska Ves 17.45 329 *e*P **P 14 03 43.8 +1.4**
DAVOX Davos/Dischmat 17.45 313 P **Pn 14 03 42.0 -0.2**
comp=Z,0.2nm,0.3s,baz=51,slow=7.9,SNR=6.8
VRH Novokhopyorsk 17.59 28 *e*P **Pn 14 03 42.8 -0.9**
VRH pmax pmax
comp=Z,8.0nm,0.5s
DAVA Damuels 17.71 314 *e*P **P 14 03 46.0 +0.4**
comp=Z,8.1nm,0.8s
LPSR Galich'ya Gora 17.83 21 *e*P **Pn 14 03 45.5 -1.1**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
SBF Sospel 17.85 301 *e*P **Pn 14 03 46.3 -0.7**
SBF pmax pmax
comp=Z,60nm,1.2s
ROTZ Rotzenmuhle 17.96 324 *e*P **Pn 14 03 48.3 0.0**
comp=Z,9.4nm,0.8s,baz=130,slow=10
BRG Berggiesshubel 17.97 329 *e*P **Pn 14 03 49.3 +1.0**
comp=Z,5.8nm,0.7s
BRG Berggiesshubel 17.97 329 *e*P **Pn 14 03 49.3 +1.0**
BRG pmax pmax
comp=Z,6.0nm,0.7s
BRG Berggiesshubel 17.97 329 *e*P **Pn 14 03 48.9 +0.6**
comp=Z,5.8nm,0.7s,baz=130,slow=10
MANZ Manzenberg 18.16 324 *e*P **P 14 03 50.2 -0.2**
comp=Z,15nm,0.9s,baz=130,slow=10
NKC Novy Kostel 18.17 325 *e*P **Pn 14 03 51.0 +0.2**
NKC Novy Kostel 18.17 325 *e*P **Pn 14 03 51.0 +0.2**
WERN Wernitzgruen 18.24 325 *e*P **Pn 14 03 51.8 +0.2**
comp=Z,19nm,0.8s,baz=130,slow=10
FBE Freiberg 18.25 328 *e*P **Pn 14 03 52.8 +1.0**
comp=Z,20nm,0.8s,baz=130,slow=10
TANN Tannenbergstha 18.29 325 *e*P **P 14 03 51.7 -0.1**
comp=Z,55nm,1.0s,baz=130,slow=10
FRF La Foret Royal 18.31 300 *e*P **P 14 03 51.2 -0.8**
FRF pmax pmax
comp=Z,20nm,1.1s
GUNZ Gunzen 18.31 325 *e*P **Pn 14 03 52.7 +0.1**
comp=Z,41nm,0.8s,baz=130,slow=10
GRF Grafenberg Arr 18.39 322 P **P 14 03 52.8 -0.1**
GRF pmax pmax
comp=Z,19nm,0.9s
GRF Grafenberg Arr 18.39 322 *e*P **P 14 03 52.6 -0.3**
comp=Z,16nm,0.7s,baz=130,slow=10
PLN Plauen 18.48 325 *e*P **P 14 03 53.9 +0.1**
comp=Z,25nm,1.0s,baz=130,slow=10
MBDF Montbardon 18.57 304 *e*P **P 14 03 52.6 -2.5**
MBDF pmax pmax
comp=Z,18nm,0.7s
CLL Collm 18.69 328 *i* P **P 14 03 54.2 -1.9**
comp=Z,10.0nm,1.3s
CLL *e*pP **pP 14 04 07.0 -1.7**
CLL Collm 18.69 328 *i* P **P 14 03 54.2 -1.9**
CLL pmax pmax
comp=Z,10.0nm,1.3s
CLL Collm 18.69 328 *e*P **P 14 03 55.7 -0.4**
comp=Z,5.7nm,0.9s,baz=130,slow=10
BNI Bardonecchia 18.75 304 P **P 14 03 56.6 -0.3**
BNI pmax pmax
comp=Z,7.0nm,0.6s
BNI Bardonecchia 18.75 304 P **P 14 03 56.6 -0.3**
BNI IAmb IAmb 14 04 02.8
comp=Z,6.8nm,0.6s
SLE Schleitheim 18.76 314 P **Pn 14 03 57.9 -0.1**
SLE pmax pmax
comp=Z,3.0nm,0.8s
MOX Moxa 18.84 325 P **Pn 14 03 59.2 +0.4**
MOX pmax pmax
comp=Z,12nm,0.8s
MOX Moxa 18.84 325 *e*P **P 14 03 57.7 -0.1**
comp=Z,32nm,1.4s,baz=130,slow=10
SENIN Lac Senin/Sane 18.84 309 P **P 14 03 58.0 -0.1**
SENIN IAmb IAmb 14 03 59.6
comp=Z,26nm,0.6s
LPG La Plagne 18.86 306 *e*P **P 14 03 57.6 -0.7**
LPG pmax pmax
comp=Z,16nm,0.7s
LPL La Plagne 18.87 306 *e*P **P 14 03 57.7 -0.7**
LPL pmax pmax
comp=Z,15nm,0.8s
ORIF Oris-en-Rattie 19.23 304 *e*P **P 14 04 01.1 -1.2**
ORIF pmax pmax
comp=Z,9.0nm,0.8s
OBN Obninsk 19.57 14⇓ *e*P **P 14 04 04.8 -0.9**
OBN pmax pmax
comp=Z,8.0nm,0.5s
CABF La Chapelle 19.71 308 *e*P **P 14 04 06.3 -1.1**
CABF pmax pmax
comp=Z,27nm,0.8s
HINF Hinteralfeld 19.75 312 *e*P **P 14 04 07.5 -0.3**
HINF pmax pmax
comp=Z,5.0nm,0.8s
ECH Echery 19.76 314 P **Pn 14 04 10.1 +0.2**
ECH pmax pmax
comp=Z,8.0nm,1.2s
CDF Champ du Feu 19.79 314 *e*P **P 14 04 07.7 -0.6**
CDF pmax pmax
comp=Z,5.0nm,0.8s
HAU Haudompre 20.14 312 *e*P **P 14 04 12.3 +0.3**
HAU pmax pmax
comp=Z,12nm,0.8s
SMF Signal de Mont 21.16 307 *e*P **P 14 04 21.1 -1.9**
SMF pmax pmax
comp=Z,35nm,0.8s
LOR Lormes 21.37 308 P **P 14 04 23.5 -1.7**
LOR pmax pmax
comp=Z,9.0nm,1.0s
MTLF Montolieu 21.40 297 P **P 14 04 24.0 -1.6**
MTLF pmax pmax
comp=Z,19nm,0.9s
AVF Avril sur Loir 21.52 307 *e*P **P 14 04 25.3 -1.5**
AVF pmax pmax
comp=Z,11nm,0.8s
CAF Calviac 21.84 301 *e*P **P 14 04 29.9 -0.4**
CAF pmax pmax
comp=Z,5.0nm,0.7s
VSU Vasula 22.19 357 *i* P **P 14 04 33.1 -0.7**
VSU pmax pmax
comp=Z,32nm,1.0s
GEYT Alibeck 23.53 77 P **P 14 04 48.2 +0.4**
comp=Z,6.5nm,0.6s,baz=282,slow=7.4,SNR=14
GEYT Alibeck 23.53 77 P **P 14 04 48.6 +0.8**
GYA0B ALIBECK ARRAY 23.53 77 P **P 14 04 47.5 -0.3**
GYA0B IAmb IAmb 14 04 49.6
comp=Z,8.6nm,0.6s
TAM Tamanrasset 24.12 242 P **P 14 04 56.7 +3.3**
TAM pmax pmax
comp=Z,4.0nm,1.5s
FLN La Foliniere 24.62 309 *e*P **P 14 04 56.0 -1.6**
FLN pmax pmax
comp=Z,10.0nm,0.8s
GRR Gorron 24.74 308 *e*P **P 14 04 57.3 -1.3**
GRR pmax pmax
comp=Z,21nm,0.7s
FINES FINESS Array B 25.20 357 P **P 14 05 01.9 -0.7**
comp=Z,3.1nm,0.5s,baz=157,slow=11,SNR=19
FINES PcP **PcP 14 08 34.4 -0.4**
comp=Z,3.2nm,1.1s,baz=114,slow=4.8,SNR=1.7
KLMR Klimovskoe 25.52 12 *e*P **P 14 05 04.5 -1.0**
KLMR pmax pmax
comp=Z,10.0nm,1.1s
KLMR Klimovskoe 25.52 12 *e*P **P 14 05 04.6 -1.0**
KLMR AMP 14 05 20.8
comp=Z,10.0nm,1.1s
HFS Hagfors 25.70 343 P **P 14 05 05.4 -1.7**
comp=Z,1.8nm,0.5s,baz=156,slow=11,SNR=9.0
ESDC Sonseca Array 25.82 287 P **P 14 05 07.6 -1.0**
comp=Z,5.3nm,0.7s,baz=81,slow=9.3,SNR=40
ESDC Sonseca Array 25.82 287 P **P 14 05 06.7 -1.9**
QUIF Quistinic 26.09 306 *e*P **P 14 05 11.6 +0.8**
QUIF pmax pmax
comp=Z,6.0nm,0.5s
KIRV Kirov 26.13 25 P **P 14 05 10.2 -0.9**
comp=Z,13nm,0.6s,baz=173,slow=2.5,SNR=5.5
KIRV Kirov 26.13 25⇓ *e*P **P 14 05 10.7 -0.4**
ABKAR Akbulak array 26.16 51 P **P 14 05 11.5 -0.1**
NB2 NORSAR Subarra 27.10 341 P **P 14 05 20.5 +0.6**
comp=Z,8.8nm,0.6s,baz=149,slow=10
NOA NORSAR Array B 27.10 341 P **P 14 05 17.1 -2.8**
comp=Z,0.5nm,0.7s,baz=147,slow=9.6,SNR=3.3
MDT Midelt 27.51 273 P **P 14 05 26.7 +2.8**
comp=Z,6.6nm,0.9s,baz=101,slow=11,SNR=12
PBRG Braganca 27.87 292 *e*P **P 14 05 29.2 +2.2**
MVO Moncorvo 28.10 291 *e*P **P 14 05 32.3 +3.3**
TMCR Tamitsa 28.46 9 *e*P **P 14 05 28.9 -2.9**
TMCR pmax pmax
comp=Z,24nm,1.0s
ARU Arti 28.46 36 *d i*P **P 14 05 31.6 -0.4**
ARU 14 06 21.8
ARU **14 10 16.3 +1.1**
ARU S **S**
ARU SS **SnSn 14 11 42.6 +4.1**
ARU pmax pmax
comp=Z,4.0nm,1.1s
MTE Manteigas 28.52 289 *e*P **P 14 05 32.3 -0.5**
EKA Eskdalemuir Ar 28.81 321 PcP **PcP 14 08 43.7 +0.3**
comp=Z,0.6nm,0.5s,baz=112,slow=2.6,SNR=4.4
PVAQ Vaqueiros 28.98 283 *e*P **P 14 05 36.0 -0.9**
PMTG Montargil 29.16 287 *e*P **P 14 05 37.8 -0.6**
PBDV Barranco-do-Ve 29.18 283 *e*P **P 14 05 37.7 -0.9**
PCVE Castro Verde 29.20 284 *e*P **P 14 05 38.2 -0.6**
MESJ Messejana 29.31 284 *e*P **P 14 05 39.3 -0.5**
PNCL Nicolau / Gran 29.52 285 *e*P **P 14 05 41.3 -0.3**
CHGR Chuyangaron 32.07 73 P **P 14 06 05.4 +1.2**
KKAR Karatay Array 32.66 65 P **P 14 06 10.2 +0.9**
KKAR Karatay Array 32.66 65 P **P 14 06 10.2 +0.9**
TOA0 Torodi Ar. Sit 33.41 233 P **P 14 06 16.1 +0.1**
TOA0 IAmb IAmb 14 06 17.6
comp=Z,11nm,1.2s
TORD Torodi Ar. Bea 33.41 233 P **P 14 06 16.1 +0.1**
comp=Z,4.7nm,0.7s,baz=35,slow=8.8,SNR=42
TORD LR LR 14 22 45.8
comp=Z,131nm,20.4s,baz=180,slow=42
TORD Torodi Ar. Bea 33.41 233 P **P 14 06 16.2 +0.2**
BRVK Borovoye 33.45 47 *ce*P **P 14 06 16.2 +0.2**
BRVK pmax pmax
comp=Z,6.0nm,1.7s
AAK Ala-Archa 35.62 65 *ce*P **P 14 06 35.6 +0.6**
AAK pmax pmax
comp=Z,9.0nm,1.7s
KURK Kurchatov 38.26 52 *ce*P **P 14 06 57.1 0.0**
KURK pmax pmax
comp=Z,10.0nm,0.7s
KURK Kurchatov 38.26 52 P **P 14 06 57.5 +0.3**
MAKZ Makanchi 40.56 58 P **P 14 07 17.6 +1.2**
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
MAKZ Makanchi 40.56 58 P **P 14 07 17.6 +1.2**
MAKZ IAmb IAmb 14 07 17.9
comp=Z,4.6nm,0.8s
MK31 Makanchi Array 40.78 58 P **P 14 07 18.8 +0.6**
MK31 pmax pmax
comp=Z,7.0nm,0.8s
MK31 Makanchi Array 40.78 58 P **P 14 07 18.8 +0.6**
MK31 IAmb IAmb 14 07 19.6
comp=Z,6.7nm,0.8s
MKAR Makanchi Array 40.78 58 P **P 14 07 18.6 +0.4**
comp=Z,7.6nm,0.7s,baz=280,slow=6.3,SNR=84
MKAR Makanchi Array 40.78 58 P **P 14 07 18.9 +0.7**
MKAR Makanchi Array 40.78 58 P **P 14 07 18.9 +0.7**
ZAA0 Zalesovo Array 42.16 47 P **P 14 07 28.4 -1.0**
ZAA0 IAmb IAmb 14 07 30.0
comp=Z,5.9nm,0.7s
ZALV Zalesovo Beam 42.16 47 P **P 14 07 29.1 -0.3**
comp=Z,6.3nm,0.6s,baz=267,slow=8.6,SNR=23
ZALV LR LR 14 28 26.5
comp=Z,42nm,21.3s,baz=296,slow=41
ZALV Zalesovo Beam 42.16 47 P **P 14 07 28.8 -0.6**
DBIC Dimbokro 42.51 234 P **P 14 07 32.2 -0.4**
comp=Z,2.6nm,0.6s,baz=15,slow=8.4,SNR=5.5
DBIC Dimbokro 42.51 234 P **P 14 07 32.2 -0.4**
DBIC pmax pmax
comp=Z,56nm,1.6s
DGZ Jazzator, Alta 43.94 53 *i* P **P 14 07 44.7 +0.7**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
WMQ Urumqi 44.98 61 *e*P **P 14 07 53.4 +1.1**
TLY Talaya 53.74 48 LR LR 14 34 06.2
comp=Z,46nm,18.4s,baz=294,slow=38
TLY Talaya 53.74 48 *i* P **P 14 09 00.5 +1.6**
TLY pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 56.56 52 P **P 14 09 20.5 +1.1**
comp=Z,0.5nm,0.6s,baz=289,slow=10,SNR=1.8
SONM Songino Array 56.56 52 P **P 14 09 20.5 +1.1**
SONM pmax pmax
comp=Z,3.0nm,1.6s
BOD Bodaibo 57.80 39 *e*P **P 14 09 27.7 -0.1**
BOD pmax pmax
comp=Z,5.0nm,0.9s
TIXI Tiksi 59.08 21 *i* P **P 14 09 36.1 -0.4**
TIXI pmax pmax
comp=Z,1.0nm,0.9s
LZH Lanzhou 59.16 66 *e*P **P 14 09 38.8 +1.0**
LZH pP pwP 14 09 54.3 -0.8
LZH sP sP 14 09 59.1 -0.2
LZH pmax pmax
comp=Z,22nm,1.1s
LZH pmax pmax
comp=Z,100nm,5.4s
CMAR Chiang Mai Arr 63.66 86 P **P 14 10 06.7 -1.5**
comp=Z,0.4nm,0.4s,baz=302,slow=10,SNR=4.8
CMAR LR LR 14 42 22.2
comp=Z,34nm,18.3s,baz=180,slow=40
USRK Ussuriysk Ar. 74.01 47 P **P 14 11 11.3 -0.8**
comp=Z,2.0nm,0.7s,baz=297,slow=4.0,SNR=5.3
KSRS Korea Array 75.33 54 P **P 14 11 19.6 -0.3**
comp=Z,0.5nm,0.6s,baz=311,slow=4.0,SNR=3.1
ILAR Eielson Array 79.18 358 P **P 14 11 40.5 -0.5**
comp=Z,0.2nm,0.7s,baz=345,slow=5.6,SNR=2.8

*JMA **20** 14:18:40.0±0.1, 23.°81N×121.°76E, h42km±2km, M3.1*
*TAP **20** 14:18:40.6, 23.°86N×121.°74E, h48km, ML3.6, B*
ISC 20 14:18:41.1±1.1, **23.°84N**±0.°02×**121.°78E**±0.°02, **h34**km±2km, **n104**, σ0**°76**/190, **7C-12D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien** baz=314	**0.21**	**310**	*i* P	**Pb**	**ISC**	**14 18 48.8**	**+0.8**
HWA	baz=314			*e*S	**Sb**	**ISC**	**14 18 55.1**	**+2.6**
TWD	**Chiawan** baz=331	**0.29**	**325**⇑	*i* P	**Pb**	**ISC**	**14 18 49.0**	**+0.1**
TWD	baz=331			*e*S	**Sb**	**ISC**	**14 18 55.2**	**+1.1**
ESL	**Shilin** baz=270	**0.32**	**266**⇑	*i* P	**Pb**	**ISC**	**14 18 49.3**	**+0.1**
ESL	baz=270			*e*S	**Sb**	**ISC**	**14 18 55.2**	**+0.5**
EGFH	**Guangfu** baz=245	**0.37**	**242**	*i* P	**Pb**	**ISC**	**14 18 49.9**	**0.0**
EGFH	baz=245			*e*S	**Sn**	**ISC**	**14 18 57.0**	**+1.2**
NACB	**Ninganchiao** baz=337	**0.37**	**333**⇑	*i* P	**Pb**	**ISC**	**14 18 49.7**	**-0.2**
NACB	baz=337			*e*S	**Sn**	**ISC**	**14 18 56.5**	**+0.5**
ETLH	**Xiulin Townshi** baz=317	**0.46**	**323**⇓	*i* P	**Pb**	**ISC**	**14 18 50.8**	**-0.4**
ETLH	baz=317			S	**Sb**	**ISC**	**14 18 57.9**	**-0.2**
EHY	**Hungye** baz=227	**0.54**	**232**⇑	*i* P	**Pn**	**ISC**	**14 18 51.4**	**-0.9**
EHY	baz=227			*e*S	**Sb**	**ISC**	**14 18 59.5**	**-0.5**
WHF	**Hehuan Shan** baz=298	**0.56**	**303**⇓	*i* P	**Pn**	**ISC**	**14 18 52.2**	**-0.8**
WHF	baz=298			*e*S	**Sb**	**ISC**	**14 19 00.5**	**-0.7**
OWD	**Renai** baz=280	**0.57**	**282**	P	**Pn**	**ISC**	**14 18 52.5**	**-0.4**
OWD	baz=280			*e*S	**Sb**	**ISC**	**14 19 00.9**	**-0.1**
ENA	**Nanau** baz=1.0	**0.59**	**356**	P	**Pn**	**ISC**	**14 18 52.5**	**-0.6**
ENA	baz=1.0			*e*S	**Sn**	**ISC**	**14 19 01.4**	**-0.1**
VWDT	**VWDT** baz=254	**0.59**	**262**⇑	*i* P	**Pn**	**ISC**	**14 18 52.9**	**-0.2**
VWDT	baz=254			*e*S	**Sn**	**ISC**	**14 19 01.2**	**-0.4**
CHGB	**Renai** baz=291	**0.60**	**292**	P	**Pn**	**ISC**	**14 18 52.9**	**-0.4**
CHGB	baz=291			*e*S	**Sb**	**ISC**	**14 19 01.2**	**-0.7**
YULB	**Yu-li** baz=229	**0.63**	**225**⇑	*i* P	**Pn**	**ISC**	**14 18 52.7**	**-0.9**
YULB	baz=229			*e*S	**Sn**	**ISC**	**14 19 01.6**	**-1.0**
TWF1	**Yuli** baz=226	**0.66**	**223**⇑	*i* P	**Pn**	**ISC**	**14 18 53.2**	**-0.9**
TWF1	baz=226			*e*S	**Sn**	**ISC**	**14 19 02.2**	**-1.0**
NNSB	**Datong** baz=326	**0.69**	**328**⇓	*i* P	**Pn**	**ISC**	**14 18 53.9**	**-0.7**
NNSB	baz=326			*e*S	**Sn**	**ISC**	**14 19 03.3**	**-0.9**
NNSH	**Datong** baz=325	**0.69**	**328**⇓	*i* P	**Pn**	**ISC**	**14 18 53.9**	**-0.7**
NNSH	baz=325			*e*S	**Sn**	**ISC**	**14 19 03.1**	**-1.1**
TWT	**Tachien** baz=311	**0.69**	**307**	P	**Pn**	**ISC**	**14 18 54.4**	**-0.3**
TWT	baz=311			*e*S	**Sn**	**ISC**	**14 19 03.7**	**-0.6**
TDCB	**Techi** baz=306	**0.70**	**306**⇓	*i* P	**Pn**	**ISC**	**14 18 54.3**	**-0.5**
TDCB	baz=306			*e*S	**Sn**	**ISC**	**14 19 03.5**	**-1.1**
NNS	**Nan Shan** baz=326	**0.70**	**328**⇓	*i* P	**Pn**	**ISC**	**14 18 54.1**	**-0.7**
NNS	baz=326			*e*S	**Sn**	**ISC**	**14 19 03.7**	**-0.9**
SSLB	**Suanglung** baz=264	**0.76**	**266**	P	**Pn**	**ISC**	**14 18 54.8**	**-0.7**
SSLB	baz=264			*e*S	**Sn**	**ISC**	**14 19 04.5**	**-1.4**
TWC	**Suao** baz=8.0	**0.77**	**5**	P	**Pn**	**ISC**	**14 18 55.4**	**-0.2**
TWC	baz=8.0			*e*S	**Sn**	**ISC**	**14 19 06.3**	**+0.3**
FULB	**Fuli** baz=222	**0.78**	**215**	P	**Pn**	**ISC**	**14 18 55.3**	**-0.4**
FULB	baz=222			*e*S	**Sn**	**ISC**	**14 19 06.8**	**+0.5**
NDT	**Datong Townshi** baz=338	**0.80**	**342**	*i* P	**Pn**	**ISC**	**14 18 55.4**	**-0.6**
NDT	baz=338			*e*S	**Sn**	**ISC**	**14 19 06.0**	**-0.8**
DPDB	**Guoxing** baz=281	**0.81**	**284**⇓	*i* P	**Pn**	**ISC**	**14 18 55.8**	**-0.4**
DPDB	baz=281			*e*S	**Sn**	**ISC**	**14 19 06.7**	**-0.3**
SMLT	**Sun Moon Lake** baz=273	**0.81**	**273**	P	**Pn**	**ISC**	**14 18 55.8**	**-0.5**
SMLT	baz=273			*e*S	**Sn**	**ISC**	**14 19 06.3**	**-0.8**
ENTT	**Nioudou** baz=349	**0.82**	**346**⇓	*i* P	**Pn**	**ISC**	**14 18 55.8**	**-0.6**
ENTT	baz=349			*e*S	**Sn**	**ISC**	**14 19 06.4**	**-0.9**
CHKT	**Chengkung** baz=196	**0.83**	**208**	*e*P	**Pn**	**ISC**	**14 18 55.3**	**-1.2**
CHKT	baz=196			S	**Sn**	**ISC**	**14 19 06.1**	**-1.3**
TYC	**Yuchr** baz=277	**0.85**	**275**	*e*P	**Pn**	**ISC**	**14 18 56.4**	**-0.3**
TYC	baz=277			*e*S	**Sn**	**ISC**	**14 19 07.7**	**-0.2**
WHYT	**Xinyi Township** baz=256	**0.86**	**261**⇓	*i* P	**Pn**	**ISC**	**14 18 56.9**	**-0.1**
WHYT	baz=256			*e*S	**Sb**	**ISC**	**14 19 09.3**	**+0.2**
WHP	**Taichung City** baz=304	**0.88**	**300**	*e*P	**Pn**	**ISC**	**14 18 57.1**	**-0.1**
WHP	baz=304			*e*S	**Sn**	**ISC**	**14 19 08.2**	**-0.7**
TWE	**Neicheng** baz=347	**0.88**	**353**	*e*P	**Pn**	**ISC**	**14 18 56.7**	**-0.5**
TWE	baz=347			*e*S	**Sn**	**ISC**	**14 19 08.6**	**-0.2**
YHNB	**Yeheng** baz=338	**0.91**	**336**⇓	*i* P	**Pn**	**ISC**	**14 18 57.0**	**-0.5**
YHNB	baz=338			*e*S	**Sn**	**ISC**	**14 19 07.9**	**-1.6**
NSK	**Sanguang** baz=338	**0.92**	**335**⇓	*i* P	**Pn**	**ISC**	**14 18 57.2**	**-0.5**
NSK	baz=338			*e*S	**Sn**	**ISC**	**14 19 08.7**	**-1.1**
ALS	**Alishan** baz=246	**0.95**	**250**	P	**Pn**	**ISC**	**14 18 58.5**	**0.0**
ALS	baz=246			*e*S	**Sn**	**ISC**	**14 19 11.1**	**+0.1**
ELDTW	**Lidau** baz=222	**0.96**	**227**	*i* P	**Pn**	**ISC**	**14 18 57.2**	**-1.1**
ELDTW	baz=222			*e*S	**Sn**	**ISC**	**14 19 09.7**	**-1.1**
WJS	**Zhushan** baz=267	**0.97**	**269**	P	**Pn**	**ISC**	**14 18 58.6**	**+0.3**
WJS	baz=267			*e*S	**Sn**	**ISC**	**14 19 11.8**	**+0.9**
NWLT	**Wulai** baz=341	**0.97**	**345**⇓	*i* P	**Pn**	**ISC**	**14 18 57.8**	**-0.5**
NWLT	baz=341			*e*S	**Sn**	**ISC**	**14 19 10.5**	**-0.4**
WNT	**Mingjian** baz=270	**1.01**	**272**	P	**Pn**	**ISC**	**14 18 59.3**	**+0.4**
WNT	baz=270			*e*S	**Sn**	**ISC**	**14 19 12.8**	**+0.9**
EGS	baz=9.0	**1.01**	**8**	*e*P	**Pn**	**ISC**	**14 18 59.2**	**+0.3**
NTC	**Toucheng** baz=13	**1.01**	**2**	*e*P	**Pn**	**ISC**	**14 18 59.1**	**+0.2**
NTC	baz=13			*e*S	**Sn**	**ISC**	**14 19 12.0**	**0.0**
CHN5	**Tsauling** baz=254	**1.04**	**257**	P	**Pn**	**ISC**	**14 18 59.7**	**+0.2**
CHN5	baz=254			*e*S	**Sn**	**ISC**	**14 19 13.5**	**+0.6**
TWQ1	**Liyutan** baz=299	**1.05**	**299**	P	**Pn**	**ISC**	**14 18 59.5**	**0.0**
TWQ1	baz=299			*e*S	**Sn**	**ISC**	**14 19 13.5**	**+0.4**
TCU	**Taichung** baz=286	**1.06**	**287**	P	**Pn**	**ISC**	**14 19 00.1**	**+0.5**
TCU	baz=286			*e*S	**Sb**	**ISC**	**14 19 14.5**	**0.0**
NSTT	**Nanjuang** baz=307	**1.06**	**318**	P	**Pn**	**ISC**	**14 18 59.7**	**+0.1**

NSTT				*e*S	**Sn**	14 19 13.6	**+0.3**
	baz=307								
LIOB	**Emei**	**1.06**	**319**	P	**Pn**	14 19 00.1	**+0.4**
	baz=308								
LIOB				*e*S	**Sb**	14 19 15.0	**+0.2**
	baz=308								
NSY	**Sanyi**	**1.10**	**302**	*e*P	**Pn**	14 19 00.3	**+0.2**
	baz=302								
NSY				*e*S	**Sn**	14 19 13.6	**-0.5**
	baz=302								
WLTB	**Daxi**	**1.12**	**334**	P	**Pn**	14 19 00.7	**+0.3**
	baz=343								
WLTB				*e*S	**Sn**	14 19 15.7	**+1.1**
	baz=343								
TIPB	**Shuangxi**	**1.13**	**2**	*i* P	**Pn**	14 19 00.8	**+0.2**
	baz=356								
TIPB				*e*S	**Sn**	14 19 15.5	**+0.6**
	baz=356								
WGK	**Gukeng**	**1.13**	**262**	*e*P	**Pn**	14 19 00.7	**+0.1**
	baz=260								
WGK				*e*S	**Sb**	14 19 16.4	**-0.2**
	baz=260								
NMLH	**Miaoli**	**1.14**	**308**	*e*P	**Pn**	14 19 00.8	**0.0**
	baz=308								
NMLH				*e*S	**Sb**	14 19 17.1	**+0.2**
	baz=308								
NHDH	**Xindian Distri**	**1.14**	**348**	*e*P	**Pn**	14 19 00.6	**-0.2**
	baz=350								
NHDH				*e*S	**Sn**	14 19 15.0	**-0.2**
	baz=350								
WCHH	**Zhanghua**	**1.15**	**282**	*e*P	**Pn**	14 19 01.1	**+0.3**
	baz=293								
WCHH				*e*S	**Sn**	14 19 16.4	**+1.1**
	baz=293								
TWA	**Mucha**	**1.15**	**351**	*e*P	**Pn**	14 19 00.7	**-0.1**
	baz=345								
TWA				*e*S	**Sn**	14 19 15.0	**-0.4**
	baz=345								
WDLH	**Douliu**	**1.15**	**263**	*e*P	**Pn**	14 19 01.0	**+0.2**
	baz=260								
WDLH				*e*S	**Sn**	14 19 16.8	**+1.3**
	baz=260								
PTSB	**Yuanli**	**1.16**	**302**	*e*P	**Pn**	14 19 00.9	**0.0**
	baz=302								
PTSB				*e*S	**Sn**	14 19 16.1	**+0.5**
	baz=302								
STYT	**Tauyuan**	**1.16**	**235**	P	**Pn**	14 19 01.3	**+0.3**
	baz=226								
STYT				*e*S	**Sn**	14 19 16.1	**+0.4**
	baz=226								
WDJ	**Dajia District**	**1.16**	**296**	P	**Pn**	14 19 00.6	**-0.4**
	baz=296								
WDJ				*e*S	**Sn**	14 19 16.5	**+0.8**
	baz=296								
TATO	**Taipei**	**1.16**	**347**	*e*P	**Pn**	14 19 00.6	**-0.4**
	baz=349								
TATO				*e*S	**Sn**	14 19 15.8	**+0.1**
	baz=349								
TWB1	**Santiao Chiao**	**1.18**	**9**	*e*P	**Pn**	14 19 01.1	**-0.1**
	baz=25								
TWB1				*e*S	**Sn**	14 19 15.7	**-0.4**
	baz=25								
TPUB	**Ta-pu**	**1.19**	**243**	*e*P	**Pn**	14 19 01.9	**+0.5**
	baz=240								
TPUB				*e*S	**Sn**	14 19 17.2	**+0.8**
	baz=240								
SBCB	**Hsinchu**	**1.20**	**323**	*e*P	**Pn**	14 19 00.6	**-0.9**
	baz=336								
TWGBT	**Beinan**	**1.21**	**213**	*e*P	**Pn**	14 19 00.4	**-1.3**
	baz=210								
TWGBT				*e*S	**Sn**	14 19 15.3	**-1.5**
	baz=210								
TWG	**Pinlang**	**1.21**	**213**	*e*P	**Pn**	14 18 59.6	**-2.1**
	baz=204								
JYNG	**Yonagunijimaku**	**1.22**	**60**	P	**Pn**	14 19 01.9	**+0.1**
JYNG				S	**Sn**	14 19 18.2	**+1.0**
WTP	**Ta-pu**	**1.23**	**241**	*e*P	**Pn**	14 19 02.4	**+0.5**
	baz=238								
WTP				*e*S	**Sb**	14 19 19.0	**-0.3**
	baz=238								
WFSB	**Wu-fen Shan**	**1.23**	**360**	*e*P	**Pn**	14 19 02.2	**+0.3**
	baz=352								
WFSB				*e*S	**Sn**	14 19 17.7	**+0.4**
	baz=352								
CHN2	**Minshiung**	**1.24**	**256**	*e*P	**Pn**	14 19 02.8	**+0.8**
	baz=253								
CHN2				*e*S	**Sb**	14 19 19.6	**0.0**
	baz=253								
NCUH	**Zhongli**	**1.25**	**334**	*e*P	**Pn**	14 19 01.6	**-0.6**
	baz=335								
NCU	**National Centr**	**1.25**	**334**	*e*P	**Pn**	14 19 02.3	**+0.1**
	baz=335								
YOJ	**Yonaguni jima**	**1.28**	**61**	*e*P	**Pn**	14 19 02.7	**0.0**
	baz=62								
YOJ				*e*S	**Sn**	14 19 18.1	**-0.5**
	baz=62								
YOJ	**Yonaguni jima**	**1.28**	**61**	P	**Pn**	14 19 03.0	**+0.4**
CHY	**Chiayi**	**1.29**	**255**	*e*P	**Pn**	14 19 03.0	**+0.3**
	baz=253								
TWS1	**Kuangyinshan**	**1.30**	**345**	*e*P	**Pn**	14 19 02.6	**-0.3**
	baz=349								
TWS1				*e*S	**Sn**	14 19 19.7	**+0.6**
	baz=349								
RLNB	**Erlin**	**1.30**	**273**	*e*P	**Pn**	14 19 03.2	**+0.2**
	baz=282								
RLNB				*e*S	**Sb**	14 19 20.8	**-0.7**
	baz=282								
TWK	**Hsinying**	**1.32**	**245**	*e*P	**Pn**	14 19 03.8	**+0.5**
	baz=241								
TWK				*e*S	**Sn**	14 19 20.9	**+1.2**
	baz=241								
CHN1	**Nanshi**	**1.32**	**241**	*e*P	**Pn**	14 19 03.7	**+0.4**
	baz=237								
CHN1				*e*S	**Sb**	14 19 21.5	**-0.6**
	baz=237								
YM10	**YM10**	**1.33**	**351**	P	**Pn**	14 19 03.0	**-0.3**
	baz=353								
YM04	**YM04**	**1.33**	**350**	*e*P	**Pn**	14 19 02.8	**-0.5**
	baz=353								
YM04				*e*S	**Sn**	14 19 19.6	**-0.2**
	baz=353								
SNST	**Tainan City**	**1.33**	**243**	*e*P	**Pn**	14 19 04.3	**+1.0**
	baz=239								
SNST				*e*S	**Sn**	14 19 21.0	**+1.1**
	baz=239								
YM05	**YM05**	**1.33**	**352**	*e*P	**Pn**	14 19 03.2	**-0.3**
	baz=354								
YM05				*e*S	**Sn**	14 19 19.2	**-0.8**
	baz=354								
YM11	**YM11**	**1.33**	**352**	P	**Pn**	14 19 03.1	**-0.4**
	baz=341								
SGST	**Jiashian**	**1.33**	**236**	*e*P	**Pn**	14 19 03.4	**0.0**
	baz=232								
SGST				*e*S	**Sn**	14 19 21.5	**+1.4**
	baz=232								
SLGT	**Liugui**	**1.34**	**231**	*e*P	**Pn**	14 19 04.5	**+1.0**
	baz=236								
SLGT				*e*S	**Sn**	14 19 21.4	**+1.2**
	baz=236								
YM03	**YM03**	**1.35**	**351**	*e*P	**Pn**	14 19 03.1	**-0.6**
	baz=352								
NTST	**Danshui**	**1.35**	**347**	*e*P	**Pn**	14 19 02.0	**-1.7**
	baz=348								
YM08	**YM08**	**1.35**	**353**	*e*P	**Pn**	14 19 02.8	**-0.9**
	baz=344								
YM08				*e*S	**Sn**	14 19 19.1	**-1.4**
	baz=344								
ANP	**Anpu**	**1.36**	**350**	*e*P	**Pn**	14 19 03.0	**-0.9**
	baz=352								
WTCT	**Ta-ch'eng**	**1.38**	**271**	*e*P	**Pn**	14 19 03.6	**-0.3**
	baz=269								
WTCT				*e*S	**Sn**	14 19 22.4	**+1.5**
	baz=269								
WLGB	**Puzi**	**1.41**	**255**	*e*P	**Pn**	14 19 03.8	**-0.6**
	baz=239								
WLGB				*e*S	**Sn**	14 19 23.2	**+1.5**
	baz=239								
TWY	**Chenhua**	**1.44**	**353**	*e*P	**Pn**	14 19 04.8	**0.0**
	baz=343								
WSF	**Szhu**	**1.44**	**262**	*e*P	**Pn**	14 19 05.0	**+0.2**
	baz=260								
WSF				*e*S	**Sn**	14 19 24.3	**+1.6**
	baz=260								
ECL	**Taimali**	**1.45**	**212**	*e*P	**Pn**	14 19 03.5	**-1.5**
	baz=209								
ECL				*e*S	**Sn**	14 19 21.2	**-1.6**
	baz=209								
SSD	**Sandimen**	**1.52**	**224**	*e*P	**Pn**	14 19 06.7	**+0.7**
	baz=209								
SSD				*e*S	**Sn**	14 19 25.9	**+1.4**
	baz=209								
TWM1	**Shoushan**	**1.61**	**231**	*e*P	**Pn**	14 19 09.0	**+1.8**
	baz=229								
MASBT	**Mashibuluo**	**1.62**	**221**	*e*P	**Pn**	14 19 07.2	**-0.1**
	baz=220								
IRIF	**Iriomote-Funau**	**1.85**	**74**	P	**Pn**	14 19 11.0	**+0.6**
IRIF				S	**Sn**	14 19 33.4	**+0.8**
HATJ	**Hateruma jima**	**1.86**	**83**	P	**Pn**	14 19 10.9	**+0.3**
HATJ				*e*S	**Sn**	14 19 33.4	**+0.4**
JKRS	**Kuro-shima**	**2.07**	**79**	P	**Pn**	14 19 14.0	**+0.5**
JKRS				S	**Sn**	14 19 38.9	**+0.7**
JIJ	**Ishigaki jima**	**2.22**	**76**	P	**Pn**	14 19 15.3	**-0.2**
JIJ				S	**Sn**	14 19 40.7	**-1.1**
JISG	**Ishigakijimahi**	**2.42**	**72**	P	**Pn**	14 19 18.0	**-0.4**
JISG				*e*S	**Sn**	14 19 45.6	**-1.3**
JTJ	**Tarama**	**2.78**	**73**	P	**Pn**	14 19 23.3	**0.0**
JTJ				S	**Sn**	14 19 55.6	**-0.1**
JIRB	**Irabujima**	**3.25**	**72**	*e*S	**Sn**	14 20 07.1	**0.0**
JIKM	**Ikemajima**	**3.34**	**70**	*e*S	**Sn**	14 20 09.9	**+0.5**
JMJ2	**Miyako jima3**	**3.36**	**74**	*e*S	**Sn**	14 20 10.9	**+1.0**

*IDC **20** 14:24:28.8±4.0, 15°.37S×173°.33W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.6/48, mbtmp3.9/4, MS3.4/2, Ms1 3.5/2, ms1mx3.0/24, Error ellipse: s-maj=154.3km s-min=30.4km az=136.0*
*NEIC **20** 14:24:31.4±1.4, 15°.4S±0°.2×173°.5W±0°.2, h21km±6km, mb4.2/6, Error ellipse: s-maj=22.5km s-min=20.8km az=184.0*

ISC 20 14:24:34.4±0.9, 15°.5S±0°.2×173°.5W±0°.2, h42km, n23, σ1s07/14, mb4.0/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.27**	**46**		Pn	14 24 58.2	-11
NIUE	**Niue**	**4.91**	**137**	Pn	**Pn**	**14 25 45.8**	**+0.1**
PPT	**Papeete**	**22.99**	**98**	LR	LR	14 37 42.9	
	comp=Z,61nm,18.2s,baz=314,slow=35						
H11S2	**WAKE ISLAND Hy**	**39.01**	**329**	T	T	15 13 01.1	
	baz=149,slow=76						
H11S3	**WAKE ISLAND Hy**	**39.02**	**329**	T	T	15 13 09.4	
	baz=149,slow=76						
H11S1	**WAKE ISLAND Hy**	**39.03**	**329**	T	T	15 13 12.7	
	baz=149,slow=76						
H11N3	**WAKE ISLAND Hy**	**39.96**	**330**	T	T	15 14 25.7	
	baz=142,slow=76						
H11N1	**WAKE ISLAND Hy**	**39.97**	**330**	T	T	15 14 26.4	
	baz=142,slow=76						
H11N2	**WAKE ISLAND Hy**	**39.98**	**330**	T	T	15 14 33.7	
	baz=142,slow=76						
STKA	**Stephens Creek**	**43.94**	**240**	P	**P**	**14 32 37.2**	**-0.2**
WR0	**Warramunga Arr**	**49.57**	**257**	P	**P**	**14 33 21.6**	**-0.1**
WR0				IAmb	IAmb	14 33 38.7	
	comp=Z,4.6nm,1.2s						
WB0	**Warramunga Arr**	**49.72**	**257**	P	**P**	**14 33 24.6**	**+1.8**
WB2	**Warramunga Arr**	**49.75**	**257**	P	**P**	**14 33 22.0**	**-1.0**
WB2				IAmb	IAmb	14 33 29.0	
	comp=Z,4.9nm,1.2s						
WRA	**Warramunga Arr**	**49.76**	**257**	P	**P**	**14 33 24.2**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=91,slow=6.8,SNR=11						
WRA	**Warramunga Arr**	**49.76**	**257**	P	**P**	**14 33 22.3**	**-0.8**
AS31	**Alice Springs**	**50.02**	**252**		**P**	**14 33 23.4**	**-1.7**
AS31				IAmb	IAmb	14 33 36.3	
	comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**50.02**	**252**	P	**P**	**14 33 26.7**	**+1.6**
	comp=Z,1.8nm,0.5s,baz=90,slow=7.6,SNR=66						
ASAR	**Alice Springs**	**50.02**	**252**	P	**P**	**14 33 24.6**	**-0.5**
PETK	**Petropavlovsk-**	**72.70**	**342**	P	**P**	**14 35 58.2**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=137,slow=11,SNR=4.4						
TXAR	**Lajitas Array**	**80.72**	**56**	LR	LR	15 05 13.1	
	comp=Z,36nm,19.0s,baz=60,slow=30						
ILAR	**Eielson Array**	**82.55**	**11**	P	**P**	**14 36 51.8**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=231,slow=5.7,SNR=5.5						
BRTR	**Keskin Array B**	**146.19**	**321**	PKPbc	**PKPab**	**14 44 11.3**	**0.0**
	comp=Z,2.1nm,0.8s,baz=105,slow=1.6,SNR=5.7						
GERES	**GERESS Array B**	**146.22**	**351**	PKPbc	**PKPbc**	**14 44 10.7**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=3.1,slow=7.3,SNR=2.0						

*IDC **20** 14:31:06.3±1.1, 11°.98N×86°.56W, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.7/38, mbtmp3.7/7, ML2.8/1, MS2.9/3, Ms1 2.9/3, ms1mx2.6/34, Error ellipse: s-maj=106.2km s-min=16.0km az=52.0*
*NEIC **20** 14:31:09.9±2.1, 11°.37N±0°.03×87°.15W±0°.06, h49km±12km, mb4.3/12, Error ellipse: s-maj=9.3km s-min=3.0km az=113.0*
*UCR **20** 14:31:09.8±2.1, 11°.26N×87°.27W, h35km±999km, ML3.3, mb4.3(NEIC)*
*SNET **20** 14:31:11.1±1.2, 11°.98N×87°.38W, h206km±26km, ML3.5*
*INET **20** 14:31:13.5, 11°.69N×87°.03W, h72km, ML3.3*

ISC 20 14:31:10.9±0.6, 11°.40N±0°.06×87°.16W±0°.05, h49km, n57, σ1s47/60, mb4.3/11, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**1.30**	**5**		**Pn**	**14 31 32.2**	**-0.6**
GBS3	**Finca La Img**	**1.78**	**110**	*e*P	**Pn**	**14 31 38.3**	**-0.9**
BOAB	**BOACO BROADBAN**	**1.80**	**54**		**Pn**	**14 31 38.6**	**-0.9**
LAPC	**Finca la Perla**	**1.80**	**110**	*e*P	**Pn**	**14 31 38.6**	**-1.0**
BUEV	**Buena Vista**	**1.82**	**109**	*e*P	**Pn**	**14 31 39.2**	**-0.7**
GB1A	**Borinquen Arri**	**1.82**	**108**	*e*P	**Pn**	**14 31 39.3**	**-0.5**
BUAI	**Buenos Aires**	**1.86**	**106**	*e*P	**Pn**	**14 31 41.9**	**+1.5**
MATN	**Matagalpa**	**1.94**	**38**	Pn	**Pn**	**14 31 40.5**	**-1.0**
GUAI	**GUAI**	**1.97**	**124**	*e*P	**Pn**	**14 31 41.2**	**-0.6**
LIM1	**Limonal**	**2.00**	**110**	*e*P	**Pn**	**14 31 40.7**	**-1.5**
ACON	**Acoyapa**	**2.02**	**73**	*e*P	**Pn**	**14 31 45.6**	**+3.0**
ACON	**Acoyapa**	**2.02**	**73**		**Pn**	**14 31 41.3**	**-1.3**
LCND	**La Caada**	**2.03**	**339**	*e*S	**Sn**	**14 32 11.6**	**+4.6**
LCND				IAML		14 32 16.8	
	comp=Z,482nm,0.4s						
COLC	**Colonia**	**2.05**	**111**	*e*P	**Pn**	**14 31 44.4**	**+1.4**
PLVR	**Palo Verde**	**2.06**	**120**	*e*P	**Pn**	**14 31 43.0**	**-0.2**
HORNC	**Hornillas**	**2.06**	**109**	*e*P	**Pn**	**14 31 42.9**	**-0.3**
CUI	**Cuipilapa**	**2.09**	**110**	*e*P	**Pn**	**14 31 43.0**	**-0.5**
BLLM	**Bellamira**	**2.29**	**333**	*e*P	**Pn**	**14 31 48.1**	**+1.7**
BLLM	**Bellamira**	**2.29**	**333**	*e*P	**Pn**	**14 31 48.1**	**+1.7**
JTS	**Las Juntas de**	**2.43**	**117**	Pn	**Pn**	**14 31 47.0**	**-1.2**
	comp=Z,2.4nm,0.3s,baz=3.3,slow=15,SNR=5.6						
JTS				Sn	**Sn**	**14 32 16.3**	**-0.4**
	comp=Z,20nm,0.3s,baz=339,slow=13,SNR=6.0						
JTS				Lg	Lg	14 32 28.8	
	comp=Z,17nm,0.3s,baz=209,slow=22,SNR=7.0						
JTS				LR	LR	14 32 50.3	
	comp=Z,102nm,18.1s,baz=0.0,slow=45						
JTS	**Las Juntas de**	**2.43**	**117**		**Pn**	**14 31 45.8**	**-2.3**
TECA	**Tecapa**	**2.47**	**328**	*e*P	**Pn**	**14 31 49.4**	**+0.6**
TECA	**Tecapa**	**2.47**	**328**	*e*P	**Pn**	**14 31 49.4**	**+0.6**
TGUH	**Tegucigalpa,Un**	**2.65**	**358**	*e*P	**Pn**	**14 31 51.3**	**0.0**
TGUH	**Tegucigalpa,Un**	**2.65**	**358**		**Pn**	**14 31 50.7**	**-0.6**
TGUH	**Tegucigalpa,Un**	**2.65**	**358**	*e*P	**Pn**	**14 31 51.3**	**0.0**
LFRS	**El Faro**	**2.89**	**320**	*e*P	**Pn**	**14 31 53.8**	**-0.8**
LFRS				*e*S	**Sn**	**14 32 28.6**	**+0.4**
LFRS	**El Faro**	**2.89**	**320**	*e*P	**Pn**	**14 31 53.8**	**-0.8**
LFRS				*e*S	**Sn**	**14 32 28.6**	**+0.4**
LCR2	**La Lucha 2**	**3.51**	**118**	*e*P	**Pn**	**14 32 04.9**	**+1.7**
NUBE	**Las Nubes**	**3.57**	**315**	*e*P	**Pn**	**14 32 03.2**	**-0.8**
NUBE				IAML		14 32 48.3	
	comp=Z,57nm,0.5s						
NUBE	**Las Nubes**	**3.57**	**315**	*e*P	**Pn**	**14 32 03.2**	**-0.8**
NUBE				*e*S	**Sn**	**14 32 41.9**	**-3.2**
NUBE				IAML		14 32 48.3	
	comp=Z,57nm,0.5s						
CCIG	**Comitan**	**6.85**	**316**	Pn	**Pn**	**14 32 47.4**	**-1.6**
TLIG	**Tlapa**	**12.63**	**300**		**Pn**	**14 34 08.6**	**+0.4**
GTBY	**Guantanamo Bay**	**14.36**	**52**	Pn	**Pn**	**14 34 31.2**	**-0.3**
SJG	**San Juan**	**21.37**	**69**	LR	LR	14 43 36.9	
	comp=Z,55nm,19.4s,baz=96,slow=36						
GOGA	**Godfrey**	**22.17**	**8**	P	**P**	**14 36 02.7**	**-0.1**
Y49A	**Blount Mountai**	**22.37**	**2**	P	**P**	**14 36 04.1**	**-0.9**
Y49A				IAmb	IAmb	14 36 06.6	
	comp=Z,6.9nm,0.6s						
TX31	**Lajitas Ar. Si**	**23.57**	**322**	P	**P**	**14 36 16.7**	**-0.6**
TX31				IAmb	IAmb	14 36 32.9	
	comp=Z,9.3nm,0.8s						
TX32	**Lajitas Array**	**23.57**	**322**	P	**P**	**14 36 14.4**	**-2.9**
TXAR	**Lajitas Array**	**23.57**	**322**	P	**P**	**14 36 18.3**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=135,slow=10.0,SNR=18						
TXAR	**Lajitas Array**	**23.57**	**322**	P	**P**	**14 36 16.1**	**-1.2**
CPCT	**Cooper Cave**	**24.07**	**5**	P	**P**	**14 36 21.8**	**+0.1**
CPCT				IAmb	IAmb	14 36 24.7	
	comp=Z,7.4nm,0.8s						
TKL	**Tuckaleechee C**	**24.35**	**7**	LR	LR	14 45 36.1	
	comp=Z,48nm,20.4s,baz=152,slow=37						
S39A	**Bolivar**	**26.76**	**349**	P	**P**	**14 36 43.5**	**-2.6**
N58A	**Sunbury**	**30.74**	**16**	P	**P**	**14 37 20.2**	**-1.2**
J56A	**Wolcott**	**33.00**	**14**	P	**P**	**14 37 40.4**	**-0.8**
PV18	**Skein Mesa, Pa**	**33.06**	**328**	P	**P**	**14 37 43.5**	**+1.4**
PV18				IAmb	IAmb	14 37 45.0	
	comp=Z,4.2nm,0.7s						
PV17	**East Wray Mesa**	**33.11**	**328**	P	**P**	**14 37 43.1**	**+0.5**
PV17				IAmb	IAmb	14 37 45.1	
	comp=Z,4.7nm,0.6s						
ECSD	**EROS Data Cent**	**33.24**	**347**	P	**P**	**14 37 41.7**	**-1.7**
PDAR	**Pinedale Array**	**36.83**	**332**	P	**P**	**14 38 14.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=131,slow=9.7,SNR=4.1						
SIV	**San Ignacio**	**37.51**	**136**	P	**P**	**14 38 21.3**	**+0.9**
	comp=Z,3.3nm,0.6s,baz=325,slow=7.9,SNR=17						
NVAR	**Mina Array Bea**	**38.68**	**319**	P	**P**	**14 38 30.8**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=146,slow=6.6,SNR=1.0						
NVAR				PcP	**PcP**	**14 40 45.0**	**+3.4**
	comp=Z,0.2nm,0.5s,baz=119,slow=3.3,SNR=3.6						
YKA	**Yellowknife Ar**	**54.70**	**345**	P	**P**	**14 40 34.0**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=144,slow=7.8,SNR=5.4						
ILAR	**Eielson Array**	**67.10**	**336**	P	**P**	**14 41 59.0**	**0.0**
	comp=Z,0.3nm,0.7s,baz=156,slow=4.2,SNR=5.1						
ASAR	**Alice Springs**	**139.13**	**247**	PKP	**PKiKP**	**14 50 36.3**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=109,slow=2.6,SNR=5.4						
WRA	**Warramunga Arr**	**139.24**	**253**	PKP	**PKiKP**	**14 50 38.0**	**+2.3**
	comp=Z,0.4nm,0.6s,baz=91,slow=2.0,SNR=7.7						
CMAR	**Chiang Mai Arr**	**149.73**	**348**	PKPbc	**PKiKP**	**14 50 57.8**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=337,slow=3.8,SNR=8.2						

KRSC 20 14:41:41.0±2.2, 52°.22N×169°.28E, h38km±84km, ML3.9, South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**3.58**	**328**	*e*S	Sn	14 43 20.0	**+5.3**
KBTR	**Krutoberegovo**	**5.51**	**319**	P	Pn	14 43 02.8	**+2.5**
SPN	**Mys Shipunski**	**5.70**	**283**	*e*P	Pn	14 43 07.7	**+4.7**
SPN				*e*S	Sn	14 44 12.8	**+5.7**
TUMD	**Tumrok D**	**6.06**	**303**	*e*S	Sn	14 44 21.7	**+5.7**
KZV	**Kizimen**	**6.08**	**302**	*e*P	Pn	14 43 12.7	**+4.4**
KZV				*e*S	Sn	14 44 20.8	**+4.3**
NLC	**Nalytchevo**	**6.12**	**283**	P	Pn	14 43 14.5	**+5.8**
KII	**Karymskiy**	**6.19**	**291**	*e*P	Pn	14 43 14.7	**+4.9**
KII				S	Sn	14 44 23.6	**+4.3**
TUMR	**Tumrok**	**6.23**	**303**	P	Pn	14 43 15.4	**+5.1**
TUMR				*e*S	Sn	14 44 24.3	**+4.1**
ZLN	**Zelenaya**	**6.27**	**311**	*e*S	Sn	14 44 25.4	**+4.2**
BZGR	**Bezymyannyi-Gr**	**6.28**	**310**	P	Pn	14 43 15.4	**+4.4**
BZGR				*e*S	Sn	14 44 24.8	**+3.4**
KMNR	**Kamenistaya**	**6.40**	**307**	P	Pn	14 43 17.3	**+4.6**
KMNR				*e*S	Sn	14 44 30.3	**+5.9**
SDLR	**Sedlovina**	**6.40**	**284**	P	Pn	14 43 17.9	**+5.2**
UGLR	**Uglovaya**	**6.43**	**283**	*e*P	Pn	14 43 18.8	**+5.7**
SMAR	**Somma**	**6.45**	**283**	*e*P	Pn	14 43 19.0	**+5.5**
DALK	**Dalny**	**6.46**	**281**	*e*P	Pn	14 43 18.7	**+5.3**
DALK				*e*S	Sn	14 44 30.1	**+4.3**
KRER	**Koryakskii**	**6.49**	**284**	*e*P	Pn	14 43 19.1	**+5.2**
KRER				S	Sn	14 44 32.8	**+6.1**
AVH	**Avacha**	**6.49**	**283**	P	Pn	14 43 19.5	**+5.6**
KRSR	**Krestovskiy**	**6.49**	**312**	S	Sn	14 44 32.7	**+6.1**
KLY	**Klyuchi**	**6.51**	**312**	S	Sn	14 44 32.2	**+5.4**
PET	**Petropavlovsk**	**6.52**	**281**	P	Pn	14 43 19.3	**+5.1**
PET				*e*S	Sn	14 44 30.6	**+3.3**
KRX	**Arik**	**6.55**	**284**	*e*P	Pn	14 43 19.7	**+4.9**
KRX				*e*S	Sn	14 44 32.8	**+4.6**
KOK	**Koryaka**	**6.55**	**284**	*i* P	Pn	14 43 20.1	**+5.4**
RUS	**Russkaya**	**6.61**	**276**	P	Pn	14 43 19.8	**+4.4**
RUS				*e*S	Sn	14 44 32.8	**+3.5**
MTVR	**Mutnovka**	**6.81**	**277**	*e*P	Pn	14 43 24.2	**+5.9**
MTVR				*e*S	Sn	14 44 39.9	**+5.4**
KRMR	**Karymshinskiy**	**6.83**	**280**	*e*P	Pn	14 43 24.6	**+6.1**
KRMR				*e*S	Sn	14 44 40.4	**+5.5**
GRL	**Gorelyy**	**6.87**	**277**	*e*P	Pn	14 43 25.4	**+6.3**
KDTR	**Khodutka, Kamc**	**6.93**	**271**	*e*P	Pn	14 43 24.0	**+4.2**
KDTR				S	Sn	14 44 41.4	**+4.1**
SRDR	**Sredinnyy**	**6.94**	**310**	S	Sn	14 44 45.9	**+8.2**
ASAK	**Asacha**	**6.98**	**276**	P	Pn	14 43 26.5	**+5.8**
ASAK				*e*S	Sn	14 44 44.8	**+6.0**
APC	**Apacha**	**7.42**	**280**	P	Pn	14 43 33.6	**+7.0**
MIPR	**Malaya Ipel'ka**	**7.69**	**275**	*e*P	Pn	14 43 37.1	**+6.8**
ALID	**Alaid**	**8.67**	**266**	P	Pn	14 43 49.2	**+5.4**

*NEIC **20** 14:46:18.7±0.8, 35°.991N±0°.007×97°.18W±0°.02, h6km±7km, Error ellipse: s-maj=2.8km s-min=0.9km az

W41B	**Gary Mavity, V**	**4.05**	**100**			**Pn**	**14 47 22.0**	**+0.5**
FCAR	**Ozark Folk Cen**	**4.06**	**90**			**Pn**	**14 47 22.1**	**+0.5**
Z41A	**Richland Creek**	**4.48**	**126**	S		**Sn**	**14 48 19.3**	**-0.5**
	baz=308							
R40A	**Maddies Statio**	**4.52**	**58**			**Pn**	**14 47 28.0**	**0.0**
P38A	**Dawn**	**4.62**	**37**			**Pn**	**14 47 29.8**	**+0.4**
NATX	**Nacogdoches**	**4.67**	**153**	S		**Sn**	**14 48 23.4**	**-1.4**
	baz=334							
T42A	**Van Buren**	**4.97**	**76**			**Pn**	**14 47 34.0**	**-0.2**
N35A	**Tabor**	**5.02**	**13**			**Pn**	**14 47 34.0**	**-0.9**
CCM	**Cathedral Cave**	**5.14**	**64**	P		**Pn**	**14 47 36.4**	**-0.2**
	baz=248							
CCM	**Cathedral Cave**	**5.14**	**64**			**Pn**	**14 47 36.4**	**-0.2**
435B	**Jarrell**	**5.19**	**184**	S		**Sn**	**14 48 36.4**	**-1.1**
	baz=3.6							
KSCO	**Kaye Shedlock'**	**5.32**	**306**	P		**Pn**	**14 47 39.8**	**+0.7**
	baz=123							
T25A	**Trinidad**	**5.98**	**283**	P		**Pn**	**14 47 47.3**	**-1.0**
	baz=99							
T25A	**Trinidad**	**5.98**	**283**	Pn		**Pn**	**14 47 46.8**	**-1.5**
ISCO	**Idaho Springs**	**7.72**	**302**	P		**Pn**	**14 48 11.2**	**-1.1**
	baz=117							
ECSD	**EROS Data Cent**	**7.76**	**3**	P		**Pn**	**14 48 11.3**	**-1.3**
	baz=183,SNR=6.6							
ECSD	**EROS Data Cent**	**7.76**	**3**	Pn		**Pn**	**14 48 11.6**	**-0.9**
N23A	**Red Feather La**	**8.49**	**308**	P		**Pn**	**14 48 23.3**	**+0.6**
	baz=123							
JFWS	**Jewell Farm**	**8.73**	**35**	P		**Pn**	**14 48 25.0**	**-0.9**
	baz=220							
JFWS	**Jewell Farm**	**8.73**	**35**	Pn		**Pn**	**14 48 24.8**	**-1.1**
RSSD	**Black Hills**	**9.71**	**329**	P		**Pn**	**14 48 39.6**	**+0.2**
	baz=145							
PV05	**Paradox Valley**	**9.80**	**286**			**Pn**	**14 48 38.1**	**-2.6**
G40A	**Rib Lake**	**10.67**	**27**			**Pn**	**14 48 49.3**	**-3.0**

NIED ***20*** *15:08:00.36˚.50N×140˚.70E, h56km, Mw3.6 Best double couple: M₀3.24000×10¹⁴ NP1:φ₀15.00000°, δ65.00000°, λ95.00000°. NP2:φ₀183.00000°, δ25.00000°, λ79.00000°.*
JMA ***20*** *15:08:52.4±0.1, 36˚.47N×140˚.74E, h52km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φ₀220.00000°, δ19.00000°, λ106.00000°. NP2: φ₀23.00000°, δ71.00000°, λ84.00000°. Principal axes: T Plg63.0000°, Azm284.0000°; N Plg5.0000°, Azm24.0000°; P Plg26.0000°, Azm117.0000°;*
JMA Felt II J1.
IDC ***20*** *15:08:52.3±2.2, 36˚.43N×140˚.93E, h56km±22km, mb3.4/6, mb1 3.5/11, mb1mx3.3/47, mbtmp3.6/11, ML3.1/5, MS2.5/2, Ms1 2.5/2, ms1mx2.3/28 Error ellipse: s-maj=19.1km s-min=13.5km az=60.0*

ISC 20 15:08:52.2±1.0, 36˚.48N±0˚.05×140˚.86E±0˚.07, h50km±7km, n29, σ1§18/34, mb3.6/6, 1C-8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.26**	**238**	**P**	↑		**Pn**	**15 09 00.9**	**0.0**
JHYU				S			**Sn**	**15 09 06.7**	**-0.5**
JHO	**Hitachi**	**0.27**	**299**	**P**	↓		**Pn**	**15 09 00.9**	**-0.1**
JHO				*eS*			**Sn**	**15 09 06.3**	**-1.0**
JYT	**Yasato**	**0.60**	**245**	**P**	↓		**Pn**	**15 09 03.8**	**-0.8**
JYT				S			**Sn**	**15 09 11.6**	**-1.9**
ONAJ	**Iwakimizuishiy**	**0.62**	**355**	**P**	↓		**Pn**	**15 09 04.8**	**-0.2**
ONAJ				S			**Sn**	**15 09 13.7**	**-0.5**
JFK	**Kawauchi**	**0.88**	**1**	**P**			**Pn**	**15 09 08.0**	**-0.4**
JSB	**Shiboa**	**0.90**	**303**	**P**	↓		**Pn**	**15 09 08.1**	**-0.5**
JSB				S			**Sn**	**15 09 19.5**	**-1.1**
JFT	**Otama**	**1.12**	**338**	P			**Pn**	**15 09 11.6**	**+0.1**
JFT				S			**Sn**	**15 09 25.6**	**-0.2**
JAG	**Ashikaga**	**1.14**	**268**	**P**	↓		**Pn**	**15 09 10.8**	**-1.0**
JFY	**Yanaizu**	**1.31**	**315**	**P**	↓		**Pn**	**15 09 13.9**	**-0.2**
JKT	**Katashina**	**1.33**	**283**	**P**	↓		**Pn**	**15 09 13.9**	**-0.5**
JMM	**Marumori**	**1.38**	**358**	**P**	↓		**Pn**	**15 09 15.3**	**+0.2**
JMM				S			**Sn**	**15 09 32.1**	**-0.1**
MJAR	**Matsushiro Arr**	**2.14**	**272**	P			**Pn**	**15 09 24.8**	**-0.7**
	4.3nm,0.3s,baz=90,slow=29,SNR=212								
MJAR				S			**Sn**	**15 09 52.7**	**+1.9**
	1.6nm,0.3s,baz=86,slow=22,SNR=6.8								
MJAR				LR			LR	15 10 31.4	
	comp=Z,69nm,18.9s,baz=240,slow=46								
MAT	**Matsushiro**	**2.14**	**272**	P			**Pn**	**15 09 25.0**	**-0.5**
MAT				*eS*			**Sn**	**15 09 49.6**	**-1.2**
JHJ	**Hachijo jima 2**	**3.47**	**195**	P			**Pn**	**15 09 44.0**	**+0.3**
	12nm,0.3s,baz=82,slow=9.0,SNR=1.4								
JHJ				S			**Sn**	**15 10 23.0**	**-0.5**
	17nm,0.3s,baz=75,slow=20,SNR=1.5								
ASAJ	**Asahikawa**	**7.74**	**9**	**P**			**Pn**	**15 10 40.9**	**-1.3**
	0.8nm,0.3s,baz=211,slow=11,SNR=13								
ASAJ				S			**Sn**	**15 12 05.5**	**-2.9**
	0.3nm,0.3s,baz=139,slow=20,SNR=1.8								
USRK	**Ussuriysk Ar.**	**10.26**	**321**	P			**Pn**	**15 11 19.2**	**+2.6**
	baz=139,slow=45,SNR=2.8								
KSRS	**Korea Array**	**10.40**	**279**	P			**Pn**	**15 11 21.0**	**+2.4**
	0.1nm,0.3s,baz=95,slow=14,SNR=1.8								
KSRS				LR			LR	15 14 55.9	
	comp=Z,40nm,18.7s,baz=235,slow=35								
SONM	**Songino Array**	**27.73**	**305**	P			**P**	**15 14 34.5**	**-1.5**
	0.4nm,0.4s,baz=105,slow=9.6,SNR=2.7								
H11N2	**WAKE ISLAND Hy**	**28.25**	**119**	T			T	15 44 43.2	
	baz=312,slow=75,SNR=11								
H11N1	**WAKE ISLAND Hy**	**28.26**	**119**	T			T	15 44 48.2	
	baz=312,slow=75,SNR=13								
H11N3	**WAKE ISLAND Hy**	**28.27**	**119**	T			T	15 44 47.3	
	baz=312,slow=75,SNR=11								
H11S1	**WAKE ISLAND Hy**	**28.94**	**121**	T			T	15 45 34.4	
	baz=314,slow=75,SNR=16								
H11S3	**WAKE ISLAND Hy**	**28.94**	**121**	T			T	15 45 33.8	
	baz=314,slow=75,SNR=11								
H11S2	**WAKE ISLAND Hy**	**28.96**	**121**	T			T	15 45 36.6	
	baz=314,slow=75,SNR=10.0								
ZALV	**Zalesovo Beam**	**41.96**	**313**	P			**P**	**15 16 38.0**	**+0.1**
	0.8nm,0.4s,baz=117,slow=6.0,SNR=3.6								
MKAR	**Makanchi Array**	**44.04**	**303**	P			**P**	**15 16 55.3**	**+0.4**
	0.6nm,0.7s,baz=86,slow=9.1,SNR=4.9								
ILAR	**Eielson Array**	**50.20**	**32**	P			**P**	**15 17 43.8**	**+1.2**
	0.4nm,0.7s,baz=265,slow=5.3,SNR=6.2								
FINES	**FINESS Array B**	**69.10**	**332**	P			**P**	**15 19 52.0**	**-0.6**
	0.5nm,0.4s,baz=41,slow=6.1,SNR=7.6								
NOA	**NORSAR Array B**	**74.52**	**337**	P			**P**	**15 20 24.4**	**-0.8**
	0.4nm,0.5s,baz=39,slow=6.0,SNR=2.2								

IDC 20 15:11:55.9±1.7, 10˚.30S×124˚.13E, h0km, mb3.7/1, mb1 3.6/4, mb1mx3.3/33, mbtmp3.5/4, ML3.2/3, Error ellipse: s-maj=38.2km s-min=16.6km az=25.0, Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Baumata**	**0.47**	**281**	Pn			Pn	15 12 10.1	+0.2
	178nm,0.3s,baz=122,slow=3.4,SNR=203								
BATI				Sn			Sb	15 12 19.3	+4.7
	161nm,0.3s,baz=49,slow=20,SNR=8.8								
FITZ	**Fitzroy Crossi**	**7.89**	**169**	Pn			Pn	15 13 53.6	+1.5
	0.3nm,0.3s,baz=356,slow=9.6,SNR=16								
FITZ				Sn			Sn	15 15 17.2	-4.9
	0.4nm,0.3s,baz=234,slow=19,SNR=10.0								
WRA	**Warramunga Arr**	**13.75**	**135**	Pn			Pn	15 15 10.6	-1.6
	0.1nm,0.3s,baz=309,slow=15,SNR=1.5								
WRA				Sn			Sn	15 17 36.0	-10
	0.3nm,0.3s,baz=34,slow=10,SNR=2.2								
ASAR	**Alice Springs**	**16.24**	**146**	Pn			Pn	15 15 44.5	-1.2
	0.1nm,0.3s,baz=321,slow=14,SNR=11								
ASAR				Sn			Sn	15 18 38.8	-7.9
	0.1nm,0.3s,baz=309,slow=20,SNR=7.6								
MKAR	**Makanchi Array**	**67.99**	**330**	P			P	15 22 57.0	0.0
	0.4nm,0.5s,baz=134,slow=7.6,SNR=5.8								

IDC ***20*** *15:23:05.9±0.9, 40˚.79S×91˚.56W, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/27, mbtmp3.9/5, ML3.6/1, MS3.3/5, Ms1 3.4/5, ms1mx3.1/24, Error ellipse: s-maj=35.0km s-min=26.7km az=82.0*

ISC 20 15:23:07.0±1.0, 40.8S±0˚.2×91˚.6W±0˚.2, h10km, n20, σ0§72/10, mb4.3/5, MS3.3/5, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**12.25**	**59**	T			T	15 38 40.2	
	baz=233,slow=73,SNR=214								
H03S1	**Juan Fernandez**	**12.26**	**59**	T			T	15 38 40.6	
	baz=233,slow=73,SNR=149								
H03S3	**Juan Fernandez**	**12.27**	**59**	T			T	15 38 39.5	
	baz=233,slow=73,SNR=178								
H03N3	**Juan Fernandez**	**12.49**	**58**	T			T	15 38 49.6	
	baz=234,slow=71,SNR=552								
H03N2	**Juan Fernandez**	**12.50**	**58**	T			T	15 38 48.4	
	baz=234,slow=71,SNR=490								
H03N1	**Juan Fernandez**	**12.51**	**58**	T			T	15 38 50.1	
	baz=234,slow=71,SNR=578								
PLCA	**Paso Flores**	**15.93**	**97**	Pn			**Pn**	**15 26 50.4**	**-0.9**
	0.1nm,0.3s,baz=246,slow=9.2,SNR=2.9								
RPN	**Rapa Nui**	**20.04**	**308**	LR			LR	15 32 53.7	
	comp=Z,128nm,20.5s,baz=139,slow=29								
CFA	**Coronel Fontan**	**20.92**	**71**	LR			LR	15 33 36.6	
	comp=Z,113nm,18.8s,baz=245,slow=30								
LVC	**Limon Verde**	**26.37**	**53**	LR			LR	15 36 31.0	
	comp=Z,86nm,18.5s,baz=206,slow=31								
PMSA	**Palmer Station**	**28.74**	**156**	P			**P**	**15 29 04.8**	**+0.6**
	21nm,0.5s,baz=294,slow=9.0,SNR=7.5								
CPUP	**Villa Florida**	**31.77**	**74**	LR			LR	15 40 56.6	
	comp=Z,46nm,19.5s,baz=226,slow=34								
LPAZ	**La Paz**	**31.78**	**47**	P			**P**	**15 29 33.4**	**+1.0**
	0.7nm,0.7s,baz=221,slow=9.3,SNR=2.7								
LPAZ				LR			LR	15 39 23.3	
	comp=Z,38nm,21.9s,baz=211,slow=31								
ATAH	**Atahualpa**	**35.56**	**23**	P			**P**	**15 30 05.2**	**+0.2**
	4.4nm,0.7s,baz=180,slow=12,SNR=3.0								
TXAR	**Lajitas Array**	**70.71**	**349**	P			**P**	**15 34 22.9**	**-0.2**
	0.9nm,1.0s,baz=156,slow=6.9,SNR=5.2								
PDAR	**Pinedale Array**	**84.79**	**347**	P			**P**	**15 35 41.5**	**0.0**
	1.9nm,1.0s,baz=165,slow=5.2,SNR=9.1								
USRK	**Ussuriysk Ar.**	**147.99**	**291**	PKPbc			**PKPbc**	**15 42 52.1**	**-0.1**
	1.0nm,0.7s,baz=78,slow=3.5,SNR=4.4								
KLR	**Kul'dur**	**148.61**	**300**	PKPbc			**PKPbc**	**15 42 53.5**	**-0.2**
	1.5nm,0.8s,baz=75,slow=4.3,SNR=4.6								
KSRS	**Korea Array**	**149.35**	**277**	PKPbc			**PKiKP**	**15 42 57.0**	**-0.1**
	1.8nm,1.0s,baz=128,slow=3.9,SNR=7.2								
KURBB	**Kurchatov Arra**	**168.03**	**32**	PKPab			**PKPab**	**15 44 19.6**	**-1.1**
	0.1nm,0.3s,baz=311,slow=4.4,SNR=4.3								

IDC ***20*** *15:38:17.7±1.1, 51˚.45N×178˚.46W, h0km, mb3.7/11, mb1 3.9/12, mb1mx3.7/62, mbtmp3.8/12, ML4.2/1, Error ellipse: s-maj=34.6km s-min=18.0km az=158.0*
AEIC ***20*** *15:38:22.7±2.3, 51˚.21N±0˚.07×178˚.34W±0˚.05, h34km±5km, ML3.7/25, mb3.9/11(NEIC), Error ellipse: s-maj=10.4km s-min=4.0km az=167.0*
NEIC ***20*** *15:38:23.9±2.0, 51˚.32N±0˚.04×178˚.37W±0˚.06, h50km±7km, Error ellipse: s-maj=7.8km s-min=2.2km az=135.0*

ISC 20 15:38:23.4±0.8, 51˚.31N±0˚.10×178˚.38W±0˚.04, h45km, n55, σ1§06/48, mb3.7/11, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GAEA	**Gareloi East**	**0.53**	**334**				**Pn**	**15 38 35.6**	**+0.8**
TASE	**Tanaga Southea**	**0.57**	**22**				**Pn**	**15 38 35.6**	**+0.3**
TAPA	**Tanaga Point A**	**0.62**	**35**				**Pn**	**15 38 36.0**	**+0.1**
TAFP	**Tanaga Falls P**	**0.64**	**22**				**Pn**	**15 38 36.4**	**+0.2**
TAFP							**Sn**	**15 38 46.5**	**+1.0**
KIMD	**Kanaga Island**	**0.85**	**57**				**Pn**	**15 38 38.7**	**-0.2**
KIKV	**Kanaga Island**	**0.94**	**52**				**Pn**	**15 38 40.4**	**+0.1**
KICM	**Kanaga Island**	**0.96**	**50**				**Pn**	**15 38 40.8**	**+0.4**
KICM							**Sn**	**15 38 53.5**	**+0.5**
ADK	**Adak**	**1.20**	**61**				**Pn**	**15 38 43.5**	**-0.3**
CERAA	**Semis' Rag'd T**	**1.35**	**297**				**Pn**	**15 38 47.3**	**+1.5**
AMKA	**Amchitka**	**1.46**	**274**				**Pn**	**15 38 46.8**	**-0.4**
AMKA							**Sn**	**15 39 05.5**	**+0.4**
GSTD	**Great Sitkin T**	**1.58**	**61**				**Pn**	**15 38 49.6**	**+0.6**
GSMY	**Great Sitkin M**	**1.62**	**62**				**Pn**	**15 38 50.0**	**+0.5**
GSTR	**Great Sitkin T**	**1.64**	**61**				**Pn**	**15 38 50.8**	**+1.0**
LSPA	**Little Sitkin**	**2.01**	**290**				**Pn**	**15 38 56.1**	**+1.3**
LSSA	**Little Sitkin**	**2.04**	**290**				**Pn**	**15 38 56.0**	**+0.7**
LSNW	**Little Sitkin**	**2.04**	**290**				**Pn**	**15 38 56.4**	**+1.1**
ATKA	**Atka Island**	**2.75**	**69**				**Pn**	**15 39 05.0**	**0.0**
KOFP	**Korovin Flat P**	**2.83**	**68**				**Pn**	**15 39 06.9**	**+0.8**
KOSE	**Korovin Southe**	**2.88**	**67**				**Pn**	**15 39 09.2**	**+2.4**
SMY	**Shemya**	**4.86**	**290**	Pn			**Pn**	**15 39 35.7**	**+1.8**
MREP	**Makushin Rep't**	**7.52**	**66**				**Pn**	**15 40 13.4**	**+2.9**
SDPT	**Sand Point**	**11.44**	**62**	Pn			**Pn**	**15 41 05.1**	**+1.2**
CNBA	**Chernabura Isl**	**11.83**	**65**	Pn			**Pn**	**15 41 09.0**	**-0.3**
PEA0B	**Petropavlovsk-**	**14.76**	**286**	Pn			**Pn**	**15 41 47.3**	**-1.8**
KDAK	**Kodiak Island**	**16.24**	**56**	Pn			**Pn**	**15 42 06.9**	**-1.2**
	0.9nm,0.3s,baz=275,slow=7.9,SNR=3.1								
KDAK	**Kodiak Island**	**16.24**	**56**	IAmb			IAmb	15 42 07.5	
	comp=Z,16nm,1.4s								
CNPM	**China Poot**	**17.36**	**51**	Pn			**Pn**	**15 42 21.5**	**-0.6**
PPLA	**Purkeypile**	**18.20**	**40**	P			**Pn**	**15 42 33.5**	**+1.1**
PPLA				IAmb			IAmb	15 42 48.8	
	comp=Z,9.1nm,1.4s								
SEW	**Seward**	**18.39**	**50**	P			**P**	**15 42 33.9**	**-0.3**
SEW				IAmb			IAmb	15 42 38.7	
	comp=Z,8.1nm,1.0s								
BPAW	**Bear Paw Mtn.**	**19.24**	**38**	P			**P**	**15 42 43.2**	**-0.5**
BPAW				IAmb			IAmb	15 42 57.8	
	comp=Z,6.3nm,1.3s								
RND	**Reindeer**	**19.78**	**41**	P			**P**	**15 42 49.5**	**-0.1**
FID	**Port Fidalgo**	**19.98**	**49**	P			**P**	**15 42 52.6**	**+1.0**
FID				IAmb			IAmb	15 43 08.3	
	comp=Z,9.7nm,1.0s								
DHY	**Denali Highway**	**20.27**	**43**	P			**P**	**15 42 53.9**	**-1.1**
DHY				IAmb			IAmb	15 43 03.8	
	comp=Z,3.2nm,0.6s								
WRH	**Wood River Hil**	**20.54**	**39**	P			**P**	**15 42 58.5**	**+0.9**
ILAR	**Eielson Array**	**21.13**	**38**	P			**P**	**15 43 04.2**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=237,slow=9.1,SNR=5.2								
JKA	**Kamikawa-asahi**	**26.97**	**270**	P			**P**	**15 44 01.9**	**+1.4**
ASAJ	**Asahikawa**	**26.97**	**270**	P			**P**	**15 44 01.9**	**+1.4**
	comp=Z,2.5nm,0.9s,baz=148,slow=8.8,SNR=3.7								
KLR	**Kul'dur**	**31.45**	**286**	P			**P**	**15 44 40.3**	**0.0**
	comp=Z,1.5nm,0.3s,baz=74,slow=11,SNR=12								
USRK	**Ussuriysk Ar.**	**33.57**	**278**	P			**P**	**15 44 58.6**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=56,slow=12,SNR=2.0								
H11N2	**WAKE ISLAND Hy**	**33.58**	**206**	T			T	16 20 49.7	
	baz=17,slow=76,SNR=129								
H11N3	**WAKE ISLAND Hy**	**33.59**	**206**	T			T	16 20 53.2	
	baz=17,slow=76,SNR=144								
H11N1	**WAKE ISLAND Hy**	**33.60**	**206**	T			T	16 20 49.2	
	baz=17,slow=76,SNR=167								
H11S1	**WAKE ISLAND Hy**	**34.80**	**205**	T			T	16 22 20.6	
	baz=17,slow=76,SNR=26								
H11S2	**WAKE ISLAND Hy**	**34.81**	**205**	T			T	16 22 23.5	
	baz=17,slow=76,SNR=22								
H11S3	**WAKE ISLAND Hy**	**34.82**	**205**	T			T	16 22 24.4	
	baz=17,slow=76,SNR=17								
KSRS	**Korea Array**	**39.90**	**271**	P			**P**	**15 45 54.3**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=61,slow=8.5,SNR=3.5								
PDAR	**Pinedale Array**	**46.08**	**72**	P			**P**	**15 46 43.7**	**+0.8**
	comp=Z,0.5nm,0.4s,baz=324,slow=5.2,SNR=5.3								
MKAR	**Makanchi Array**	**60.28**	**309**	P			**P**	**15 48 26.1**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=58,slow=5.6,SNR=4.8								
FINES	**FINESS Array B**	**65.91**	**347**	P			**P**	**15 49 02.5**	**-1.5**
	comp=Z,2.0nm,0.9s,baz=359,slow=5.6,SNR=4.7								
GERES	**GERESS Array B**	**79.69**	**352**	P			**P**	**15 50 25.2**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=342,slow=6.2,SNR=1.9								
WRA	**Warramunga Arr**	**82.15**	**224**	P			**P**	**15 50 39.4**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=32,slow=6.0,SNR=2.0								
ASAR	**Alice Springs**	**85.61**	**223**	P			**P**	**15 50 57.8**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=24,slow=5.8,SNR=7.8								
H03N2	**Juan Fernandez**	**120.87**	**106**	T			T	18 09 42.2	
	baz=317,slow=77,SNR=45								
H03N1	**Juan Fernandez**	**120.89**	**106**	T			T	18 09 45.4	
	baz=317,slow=77,SNR=53								
H03N3	**Juan Fernandez**	**120.89**	**106**	T			T	18 09 35.1	
	baz=317,slow=77,SNR=56								

IDC ***20*** *15:43:01.5±3.8, 31˚.89N×140˚.65E, h68km±26km, mb3.5/6, mb1 3.6/8, mb1mx3.4/57, mbtmp3.7/8, Error ellipse: s-maj=32.8km s-min=28.5km az=167.0*
JMA ***20*** *15:43:01.8±0.3, 32˚.05N×140˚.96E, h52km, M3.9*

ISC 20 15:43:00.8±2.7, 32˚.0N±0˚.1×141˚.0E±0˚.1, h64km±19km, n29, σ1§48/34, mb3.8/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JAOM	**Aogashimamukai**	**1.14**	**296**	P			**Pn**	**15 43 21.4**	**+0.6**
JAOM				*eS*			**Sn**	**15 43 35.7**	**0.0**
JHCJ	**Hachijojimakas**	**1.48**	**318**	P			**Pn**	**15 43 25.5**	**+0.2**
JHCJ				S			**Sn**	**15 43 43.0**	**-0.8**
JHJ2	**Mitsune**	**1.50**	**320**	P			**Pn**	**15 43 26.0**	**+0.4**
JHJ2				S			**Sn**	**15 43 43.7**	**-0.5**
JHJ	**Hachijo jima 2**	**1.52**	**319**	P			**Pn**	**15 43 25.9**	**0.0**
	32nm,0.3s,baz=70,slow=22,SNR=23								
JHJ				S			**Sn**	**15 43 42.6**	**-2.2**
	67nm,0.3s,baz=25,slow=21,SNR=8.8								
JMKN	**Mikurajimanish**	**2.24**	**329**	P			**Pn**	**15 43 36.2**	**+0.6**
JMKN				S			**Sn**	**15 44 01.9**	**-0.3**
JKO	**Kozu shima**	**2.69**	**326**	P			**Pn**	**15 43 42.9**	**+1.1**
TK02	**Tokai 2**	**3.34**	**307**	P			**Pn**	**15 43 52.4**	**+2.0**
JOD2	**Odawara 2**	**3.64**	**335**	P			**Pn**	**15 43 56.2**	**+1.5**
JOD2				*eS*			**Sn**	**15 44 35.7**	**-0.8**
JYN	**Shimob**	**4.06**	**331**	P			**Pn**	**15 44 03.0**	**+2.5**
JIE	**Ise**	**4.31**	**305**	P			**Pn**	**15 44 05.3**	**+1.4**
JRY	**Ryogami san**	**4.39**	**338**	P			**Pn**	**15 44 06.8**	**+1.9**
JRY				*eS*			**Sn**	**15 44 55.0**	**+0.2**
JAG	**Ashikaga**	**4.62**	**345**	P			**Pn**	**15 44 09.0**	**+0.9**
JTNC	**Tanabenakahech**	**4.87**	**294**	P			**Pn**	**15 44 12.6**	**+1.1**
CBIJ	**Chichi jima**	**4.97**	**167**	*eS*			Sn	15 45 03.0	-6.0
JWY	**Kouya**	**5.04**	**298**	P			**Pn**	**15 44 15.5**	**+1.6**
JYTA	**Yamagatataniai**	**5.05**	**317**	P			**Pn**	**15 44 16.3**	**+2.4**
MJAR	**Matsushiro Arr**	**5.10**	**334**	P			**Pn**	**15 44 16.4**	**+1.7**
	0.2nm,0.3s,baz=159,slow=11,SNR=8.6								
MJAR				S			**Sn**	**15 45 13.0**	**+0.7**
	0.1nm,0.3s,baz=275,slow=27,SNR=4.3								
JFT	**Otama**	**5.56**	**355**	P			**Pn**	**15 44 21.2**	**+0.2**
JFT				*eS*			**Sn**	**15 45 20.1**	**-3.4**
JNU	**Nakatsue**	**8.60**	**280**	P			**Pn**	**15 45 03.7**	**+1.1**
	0.2nm,0.3s,baz=80,slow=17,SNR=1.1								
KLR	**Kul'dur**	**18.59**	**341**	P			**Pn**	**15 47 14.5**	**+1.0**
	0.2nm,0.3s,baz=156,slow=10.0,SNR=2.3								
H11S3	**WAKE ISLAND Hy**	**26.77**	**114**	T			T	16 17 40.6	
	baz=305,slow=75,SNR=7.9								
H11S1	**WAKE ISLAND Hy**	**26.77**	**114**	T			T	16 17 53.2	
	baz=305,slow=75,SNR=8.5								
H11S2	**WAKE ISLAND Hy**	**26.79**	**114**	T			T	16 17 52.6	
	baz=305,slow=75,SNR=5.2								
SONM	**Songino Array**	**30.59**	**311**	P			**P**	**15 49 08.7**	**+0.1**
	0.5nm,0.4s,baz=121,slow=10,SNR=3.6								
CMAR	**Chiang Mai Arr**	**40.08**	**261**	P			**P**	**15 50 27.8**	**-2.4**
	0.3nm,0.4s,baz=57,slow=6.6,SNR=2.3								
ZALV	**Zalesovo Beam**	**45.18**	**316**	P			**P**	**15 51 10.2**	**-0.9**
	1.1nm,0.4s,baz=101,slow=10.0,SNR=5.4								
MKAR	**Makanchi Array**	**46.65**	**306**	P			**P**	**15 51 21.3**	**-1.5**
	0.7nm,0.4s,baz=87,slow=9.2,SNR=14								
ILAR	**Eielson Array**	**54.00**	**30**	P			**P**	**15 52 18.8**	**+0.9**
	0.4nm,0.7s,baz=249,slow=6.6,SNR=3.2								
TXAR	**Lajitas Array**	**93.50**	**52**	P			**P**	**15 56 11.3**	**+1.4**
	0.7nm,0.7s,baz=287,slow=2.7,SNR=9.4								

MOS ***20*** *15:46:43.0±0.8, 4˚.57S×152˚.61E, h36km, mb5.4/53, MS4.5/7, Error ellipse: s-maj=8.9km s-min=5.5km az=109.3*
BJI ***20*** *15:46:43.2±0.0, 4˚.64S×153˚.01E, h58km, mB5.1/47, mb5.1/65, Ms4.7/45, Ms7 4.5/46*
UNK ***20*** *15:46:44.8, 4˚.77S×152˚.75E, h52km*
IDC ***20*** *15:46:45.8±0.9, 4˚.76S×152˚.67E, h55km±6km, mb4.7/29, mb1 4.8/33, mb1mx4.8/39, mbtmp5.0/

WRAB pmax pmax
comp=Z,160nm,1.3s
WRAB Tennant Creek 23.39 228 P P 15 51 48.8 -0.9
WRAB IAmb IAmb 15 51 51.1
comp=Z,180nm,1.2s
WB2 Warramunga Arr 23.39 228 P P 15 51 49.5 -0.2
WB2 IAmb IAmb 15 51 51.2
comp=Z,205nm,1.3s
WRA Warramunga Arr 23.40 228 P P 15 51 48.6 -1.1
comp=Z,141nm,1.1s,baz=54,slow=9.8,SNR=89
WRA PcP **PcP 15 55 35.8 +0.9**
comp=Z,3.9nm,0.8s,baz=63,slow=2.2,SNR=4.1
WRA S **S 15 55 55.2 -3.3**
comp=Z,12nm,1.0s,baz=51,slow=15,SNR=9.1
WRA LR LR 16 01 09.0
comp=Z,660nm,22.0s,baz=60,slow=37
WRA PKiKP **PKiKP 16 03 17.6 -1.5**
comp=Z,1.1nm,0.9s,baz=348,slow=0.9,SNR=5.1
WRA Warramunga Arr 23.40 228 *i* P **P 15 51 49.0 -0.8**
WRA pmax pmax
comp=Z,141nm,1.1s
WRA Warramunga Arr 23.40 228 P P 15 51 47.9 -1.9
AAI Ambon 24.48 272 P P 15 52 00.4 +0.7
comp=Z,21nm,0.7s
LBMI Labuha 25.51 279 P P 15 52 09.8 +0.7
comp=Z,2μmcomp=Z,102nm,1.0s
ARMA Armidale 25.53 182 P P 15 52 10.6 +1.4
baz=26,SNR=5.9
ARMA Armidale 25.53 182 P P 15 52 08.0 -1.2
NLAI Namlea 25.59 272 P P 15 52 11.6 +1.8
comp=Z,5μmcomp=Z,22nm,0.9s
KNRA Kununurra 25.91 244 P P 15 52 12.0 -0.6
baz=26,SNR=48
KNRA Kununurra 25.91 244 P P 15 52 12.3 -0.3
KNRA IAmb IAmb 15 52 15.4
comp=Z,90nm,0.7s
TNTI Ternate 25.91 282 P P 15 52 12.9 +0.2
comp=Z,44nm,1.4s
AS31 Alice Springs 26.11 222 P P 15 52 14.4 -0.1
ASAR Alice Springs 26.11 222 P P 15 52 13.7 -0.8
comp=Z,12nm,0.8s,baz=54,slow=9.1,SNR=128
ASAR S **S 15 56 39.2 -2.7**
comp=Z,1.5nm,0.9s,baz=32,slow=18,SNR=2.1
ASAR LR LR 16 02 39.0
comp=Z,570nm,19.9s,baz=56,slow=36
ASAR PKiKP **PKiKP 16 03 18.9 -1.5**
comp=Z,0.6nm,0.8s,baz=18,slow=1.3,SNR=5.7
ASAR Alice Springs 26.11 222 P P 15 52 14.1 -0.4
ASAR Alice Springs 26.11 222 P P 15 52 14.1 -0.4
SANI Sanana 26.81 275 P P 15 52 21.2 +0.4
comp=Z,629nmcomp=Z,36nm,0.8s
H11S3 WAKE ISLAND Hy 26.91 30 T T 16 20 03.5
baz=212,slow=74,SNR=19
H11S2 WAKE ISLAND Hy 26.92 30 T T 16 20 14.4
baz=212,slow=74,SNR=12
H11S1 WAKE ISLAND Hy 26.93 30 T T 16 20 24.6
baz=212
CMSA Cobar Meteorol 27.43 193 P P 15 52 29.1 +2.9
baz=28,SNR=6.6
MNI Manado 28.52 282 P P 15 52 36.7 +0.5
MNI pmax pmax
comp=Z,90nm,0.8s
STKA Stephens Creek 28.91 200 P P 15 52 39.1 -0.2
baz=29,SNR=9.7
STKA Stephens Creek 28.91 200 P P 15 52 39.5 +0.2
comp=Z,7.2nm,0.7s,baz=18,slow=9.8,SNR=14
STKA LR LR 16 04 11.5
comp=Z,890nm,19.8s,baz=20,slow=36
STKA Stephens Creek 28.91 200 P P 15 52 38.6 -0.7
KMSI Cibinong 29.19 280 P P 15 52 43.2 +1.1
comp=Z,1μmcomp=Z,61nm,0.5s
BATI Baumata 29.29 258 P P 15 52 42.9 -0.1
comp=Z,26nm,0.5s,baz=27,slow=1.4,SNR=4.3
BATI LR LR 16 06 55.8
comp=Z,676nm,20.5s,baz=113,slow=41
BATI Baumata 29.29 258 P P 15 52 39.5 -3.5
comp=Z,25nm,0.6s
FITZ Fitzroy Crossi 29.59 241 P P 15 52 44.4 -1.2
baz=30,SNR=145
FITZ Fitzroy Crossi 29.59 241 P P 15 52 44.5 -1.2
comp=Z,28nm,0.5s,baz=53,slow=7.5,SNR=210
FITZ LR LR 16 05 57.0
comp=Z,513nm,19.9s,baz=77,slow=39
FITZ Fitzroy Crossi 29.59 241 P P 15 52 44.9 -0.7
FITZ IAmb IAmb 15 52 45.6
comp=Z,105nm,1.4s
LUWI Luwuk 30.13 276 P P 15 52 50.3 -0.1
comp=Z,1μmcomp=Z,81nm,1.0s
WRKA Warakurna 30.91 227 P P 15 52 56.4 -0.9
baz=31,SNR=67
EDFI Ende, Flores 31.05 261 P P 15 52 56.1 -2.6
comp=Z,15nm,0.7s
MRSI Marisa 31.18 279 P P 15 52 59.1 -0.6
comp=Z,24nm,0.9s
APSI Ampana 31.26 276 P P 15 53 01.0 +0.7
comp=Z,47nm,1.0s
HTT Hallett 31.28 203 P P 15 53 00.5 +0.2
baz=31,SNR=4.1
BNSI Bone 32.50 269 P P 15 53 10.2 -1.1
comp=Z,20nm,1.1s
MPSI Mapaga 33.17 278 P P 15 53 16.6 -0.5
comp=Z,31nm,0.8s
FORT Forrest 34.76 219 P P 15 53 30.5 -0.1
baz=35,SNR=18
FORT Forrest 34.76 219 P P 15 53 29.8 -0.8
SMKI Samarinda 35.72 276 P P 15 53 38.8 -0.4
comp=Z,189nm,0.4s
PSA00 Pilbara Seismi 35.97 239 P P 15 53 40.4 -0.9
PSA00 Pilbara Seismi 35.97 239 P P 15 53 38.9 -2.3
PSA00 IAmb IAmb 15 53 40.7
comp=Z,39nm,1.0s
KKM Kota Kinabalu 37.99 286 P P 15 53 58.8 +0.1
KKM IAmb IAmb 15 54 00.1
comp=Z,31nm,1.1s
MEEK Meekatharra 39.15 233 P P 15 54 07.5 -0.6
baz=39,SNR=27
KMBL Kambalda 39.21 224 P P 15 54 08.3 -0.2
baz=39,SNR=5.4
JOW Kunigami 39.32 324 P P 15 54 11.0 +1.6
comp=Z,2.6nm,0.7s,baz=126,slow=12,SNR=4.6
JOW LR LR 16 06 42.5
comp=Z,999nm,20.8s,baz=66,slow=30
JOW Kunigami 39.32 324 IAmb IAmb 15 54 16.5
comp=Z,17nm,1.0s
GIRL Giralia 41.20 241 P P 15 54 25.3 +0.2
baz=41,SNR=8.9
GIRL Giralia 41.20 241 P P 15 54 25.0 -0.1
YULB Yu-li 41.52 314 P P 15 54 28.9 +1.2
YHNB Yeheng 42.26 315 P P 15 54 34.5 +0.7
KLBR Kellerberrin 42.26 227 P P 15 54 32.4 -1.2
baz=42,SNR=16
MORW Morawa 42.30 231 P P 15 54 33.0 -1.0
baz=42,SNR=12
MORW Morawa 42.30 231 P P 15 54 33.3 -0.7
MORW IAmb IAmb 15 54 34.7
comp=Z,31nm,0.9s
BLDU Ballidu 42.53 229 P P 15 54 34.9 -0.9
baz=43,SNR=11
KSM Kuching 42.82 277 P P 15 54 38.3 -0.1
KSM IAmb IAmb 15 54 39.8
comp=Z,47nm,0.9s
KSM Kuching 42.82 277 P P 15 54 39.0 +0.6
JNU Nakatsue 43.00 333 P P 15 54 40.3 +0.7
MJAR Matsushiro Arr 43.28 343 P P 15 54 39.8 -2.0
comp=Z,3.1nm,0.8s,baz=171,slow=8.9,SNR=11
MJAR PcP **PcP 15 56 30.3 +0.4**
comp=Z,8.3nm,0.7s,baz=166,slow=4.7,SNR=18
MJAR ScP **ScP 16 00 17.6 +1.3**
comp=Z,0.6nm,0.6s,baz=158,slow=3.5,SNR=2.2
MJAR LR LR 16 10 36.0
comp=Z,410nm,22.0s,baz=180,slow=33
MJAR Matsushiro Arr 43.28 343 P P 15 54 39.2 -2.6
MAJO Matsushiro 43.28 343 P P 15 54 41.3 -0.5
MAJO pmax pmax
comp=Z,7.0nm,0.7s
MAJO Matsushiro 43.28 343 P P 15 54 41.3 -0.5
MAT Matsushiro 43.28 343 P P 15 54 39.9 -1.9
MJB9 Matsu-Tunnel 43.28 343 P P 15 54 40.9 -0.9
MUN Mundaring 43.59 227 P P 15 54 43.7 -0.6
baz=44,SNR=4.2
CISI Cisompet, Garu 44.71 264 P P 15 54 51.5 -2.2
comp=Z,96nm,1.1s
CISI Cisompet, Garu 44.71 264 P P 15 54 51.8 -1.9
LEM Lembang 44.90 265 P P 15 54 54.5 -0.8
comp=Z,26nm,1.0s
TPI Tanjungpandan 45.00 271 P P 15 54 55.5 -0.4
comp=Z,77nm,1.0s

CNJI Cibinong 45.39 264 P P 15 54 57.0 -2.0
comp=Z,151nm,1.0s
DBJI Dramaga 45.76 266 P P 15 55 03.9 +1.9
comp=Z,51μmcomp=Z,156nm,0.7s
PPBI Pangkal Pinang 46.56 272 P P 15 55 05.6 -2.6
comp=Z,12μmcomp=Z,38nm,1.0s
SSE Sheshan 46.67 322 P P 15 55 09.5 +0.8
SSE S **S 16 01 55.8 +1.9**
SSE pmax pmax
comp=Z,16nm,0.7s
SSE pmax pmax
comp=Z,45nm,3.2s
SSE LR LR
comp=Z,99nm,21.3s
SSE LR LR
comp=Z,140nm,25.8s
DLV T Lat 47.01 291 P P 15 55 12.8 +0.9
BLSI Bandar Lampung 47.28 267 P P 15 55 19.5 +5.7
TJN Taejon 47.31 332*c e* **P P 15 55 13.6 -0.1**
KSRS Korea Array 47.34 333 P P 15 55 18.4 -0.1
comp=Z,7.7nm,0.8s,baz=150,slow=8.6,SNR=41
KSRS PcP **PcP 15 56 47.0 +0.9**
comp=Z,3.6nm,0.7s,baz=154,slow=3.7,SNR=13
KSRS ScP **ScP 16 00 34.1 -1.5**
comp=Z,0.3nm,0.6s,baz=177,slow=2.5,SNR=1.7
KSRS LR LR 16 14 04.4
comp=Z,161nm,19.9s,baz=174,slow=34
KSAR Wonju Array Be 47.94 333 P P 15 55 18.5 -0.1
KSAR Wonju Array Be 47.94 333 P P 15 55 18.5 -0.1
KS19 Wonju Array Si 48.00 333 P P 15 55 18.0 -1.0
KASI Kota Agung 48.02 267 P P 15 55 17.0 -2.6
comp=Z,59nm,1.1s
MDSI Maura Dua 48.37 268 P P 15 55 20.4 -1.9
comp=Z,43nm,1.1s
QIZ Qiongzhong 48.38 301 P P 15 55 22.4 +0.1
QIZ S **S 16 02 19.1 +0.4**
QIZ pmax pmax
comp=Z,15nm,1.3s
QIZ LR LR
comp=Z,230nm,17.2s
QIZ LR LR
comp=Z,270nm,27.0s
QIZ LR LR
comp=Z,420nm,31.9s
LWLI Liwa 48.47 268 P P 15 55 21.0 -2.2
comp=Z,68nm,0.9s
LHSI Lahat 49.05 269 P P 15 55 25.9 -1.6
comp=Z,35nm,1.4s
MYKOM Kota Tinggi 49.25 276 P P 15 55 29.0 -0.1
JKA Kamikawa-asahi 49.51 350 PcP 15 56 53.0 +1.4
ASAJ Asahikawa 49.51 350 P P 15 55 31.0 +0.6
comp=Z,31nm,0.8s,baz=214,slow=11,SNR=65
ASAJ PcP **PcP 15 56 53.0 +1.4**
comp=Z,8.4nm,0.9s,baz=284,slow=4.2,SNR=2.2
ASAJ LR LR 16 13 35.3
comp=Z,172nm,21.6s,baz=194,slow=32
KRJI Kerinci 51.22 271 P P 15 55 40.8 -3.3
comp=Z,68nm,0.5s
SDSI Sungai Dareh 51.35 273 P P 15 55 43.7 -1.2
comp=Z,46nm,0.9s
TEY Ternei 51.64 345⇑ *e* **P P 15 55 45.9 -0.6**
TEY pmax pmax
comp=Z,10.0nm,1.0s
DL2 Dalian 52.10 329 P P 15 55 50.6 +0.5
DL2 pmax pmax
comp=Z,24nm,1.2s
DL2 pmax pmax
comp=Z,91nm,4.7s
DL2 LR LR
comp=Z,270nm,15.9s
DL2 LR LR
comp=Z,250nm,11.4s
DL2 LR LR
comp=Z,410nm,14.5s
USA0B Ussuriysk Arra 52.19 341 *i* P **P 15 55 50.7 +0.1**
USA0B Ussuriysk Arra 52.19 341 IAmb IAmb 15 55 51.9
comp=Z,18nm,0.8s
USRK Ussuriysk Ar. 52.19 341 P P 15 55 50.5 -0.1
comp=Z,13nm,0.7s,baz=155,slow=7.5,SNR=33
USRK PcP **PcP 15 57 02.2 +0.7**
comp=Z,5.5nm,0.7s,baz=196,slow=5.8,SNR=5.8
USRK Ussuriysk Ar. 52.19 341 P P 15 55 50.8 +0.1
YSS Yuzh-Sakhalins 52.25 351⇑ *i* P **P 15 55 50.9 -0.1**
YSS *e**PP **pP 15 56 06.2 -0.7**
YSS *e* 15 57 02.8
YSS *e*S **S 16 03 12.2 +0.7**
YSS *e*PS PKiKP 16 03 28.9 -13
YSS pmax pmax
comp=Z,30nm,1.2s
YSS pmax pmax
comp=E,20nm,1.3s
YSS MLR MLR
comp=N,100nm,15.0s
YSS MLR MLR
comp=Z,200nm,15.0s
YSS Yuzh-Sakhalins 52.25 351 P P 15 55 50.9 -0.1
YSS IAmb IAmb 15 55 52.0
comp=Z,50nm,1.2s
YSS PcP **PcP 15 57 02.9 +1.2**
PDSI Padang 52.31 273 P P 15 55 50.0 -2.1
comp=Z,15nm,1.1s
IPM Ipoh 52.44 279 IAmb IAmb 15 55 53.7
comp=Z,10nm,0.8s
MDJ Mudanjiang 53.36 340 P P 15 55 59.3 0.0
MDJ pP pP 15 56 13.3 -1.3
MDJ sP sP 15 56 19.8 -1.5
MDJ PcP **PcP 15 57 06.1 +0.1**
MDJ PP **PP 15 58 01.3 +1.1**
MDJ S **S 16 03 31.0 +4.2**
MDJ sS sS 16 03 56.3 +3.5
MDJ ScS **ScS 16 05 43.8 +0.4**
MDJ pmax pmax
comp=Z,24nm,1.0s
MDJ pmax pmax
comp=Z,130nm,3.9s
MDJ LR LR
comp=Z,230nm,22.1s
MDJ LR LR
comp=Z,150nm,27.8s
MDJ LR LR
comp=Z,530nm,32.7s
MDJ Mudanjiang 53.36 340 P P 15 55 58.9 -0.4
MDJ IAmb IAmb 15 56 00.4
comp=Z,16nm,0.8s
MDJ PcP **PcP 15 57 06.5 +0.5**
MNSI Mandailing Nat 53.37 275 P P 15 55 57.5 -2.4
comp=Z,25nm,0.9s
ENH Enshi 54.07 313 IAmb IAmb 15 56 06.3
comp=Z,37nm,1.1s
CN2 Changchun 54.24 336 *e*P **P 15 56 05.8 +0.1**
CN2 *e*S **S 16 03 39.6 +0.9**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 pmax pmax
comp=Z,100nm,8.3s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,300nm,16.0s
GYA Guiyang 54.31 307 P **P 15 56 07.8 +1.1**
GYA pP pP 15 56 24.4 +2.2
GYA PcP **PcP 15 57 10.5 +0.3**
GYA PP **PP 15 58 10.4 +1.2**
GYA S **S 16 03 43.9 +3.4**
GYA pmax pmax
comp=Z,11nm,0.8s
GYA LR LR
comp=Z,190nm,14.7s
GYA LR LR
comp=Z,230nm,18.4s
GYA LR LR
comp=Z,380nm,19.4s
PBSI Pulau Batu 54.57 273 P P 15 56 08.7 +0.1
comp=Z,90nm,1.8s
SKR Severo-Kuril's 55.31 3*c e* **P P 15 56 13.6 +0.3**
GSI Gunungsitoli 55.41 275 P P 15 56 13.0 -1.8
comp=Z,156nm,1.0s
GSI Gunungsitoli 55.41 275 IAmb IAmb 15 56 13.6
comp=Z,46nm,1.1s
KCSI Kotacane, Aceh 55.51 278 P P 15 56 12.6 -2.8
comp=Z,20nm,1.2s
BJI Beijing 55.82 326 P P 15 56 17.5 +0.3
BJI S **S 16 04 01.4 +1.4**
BJI pmax pmax
comp=Z,4.0nm,1.5s
BJI LR LR
comp=Z,170nm,21.5s
BJI LR LR
comp=Z,250nm,25.6s
BJI LR LR
comp=Z,450nm,26.5s
TYV Tymovskoe 56.09 352 *e*P **P 15 56 18.5 -0.3**
TYV *e* 16 04 04.4
TYV pmax pmax
comp=Z,23nm,0.6s
XAN Xi'an 56.54 316 P P 15 56 22.8 +0.3
XAN S **S 16 04 13.8 +3.9**
XAN pmax pmax
comp=Z,16nm,0.8s
XAN pmax pmax
comp=Z,430nm,4.7s
XAN LR LR
comp=Z,330nm,19.5s
XAN LR LR
comp=Z,340nm,17.8s
XAN LR LR
comp=Z,510nm,16.9s
XAN Xi'an 56.54 316 IAmb IAmb 15 56 26.5
comp=Z,11nm,0.7s
KLR Kul'dur 56.79 344 P P 15 56 24.1 +0.2
comp=Z,13nm,0.7s,baz=161,slow=4.8,SNR=58
KLR PcP **PcP 15 57 19.5 +0.4**
comp=Z,15nm,0.9s,baz=158,slow=1.9,SNR=6.9
KLR LR LR 16 21 31.1
comp=Z,124nm,18.1s,baz=166,slow=37
KLR Kul'dur 56.79 344*c i* **P P 15 56 23.9 0.0**
KMI Kunming 56.90 304⇑ **P P 15 56 27.0 +1.6**
KMI pmax pmax
comp=Z,18nm,0.8s
MLSI Meulaboh, Aceh 56.96 278 P P 15 56 23.4 -2.4
comp=Z,99nm,1.1s
GRNR Gorny 57.07 348⇓ *i* **P P 15 56 25.5 -0.4**
GRNR pmax pmax
comp=Z,7.0nm,1.1s
CM31 Chiang Mai Arr 57.79 295 P P 15 56 32.5 +1.0
CMAR Chiang Mai Arr 57.79 295 P P 15 56 32.5 +1.0
comp=Z,42nm,0.8s,baz=113,slow=5.3,SNR=206
CMAR PcP **PcP 15 57 24.1 +0.4**
comp=Z,7.4nm,1.0s,baz=73,slow=1.5,SNR=4.4
CMAR LR LR 16 19 30.4
comp=Z,126nm,21.2s,baz=152,slow=34
CMAR PKPPKP 16 26 17.4
comp=Z,0.7nm,0.8s,baz=258,slow=2.7,SNR=4.6
CMAR Chiang Mai Arr 57.79 295 *i* **P P 15 56 32.7 +1.2**
CMAR pmax pmax
comp=Z,45nm,0.8s
PET Petropavlovsk 57.80 4 *e*P **P 15 56 30.9 0.0**
PET *e**SP **sP 15 56 50.8 -2.6**
PET *e* 15 57 22.9
PET *e*S **S 16 04 26.0 +0.4**
PET pmax pmax
comp=Z,35nm,0.8s
PET pmax pmax
comp=Z,100nm,18.1s
PET Petropavlovsk 57.80 4 P P 15 56 31.0 +0.1
PET IAmb IAmb 15 56 32.0
comp=Z,22nm,0.7s
PPT Papeete 57.82 108 LR LR 16 17 21.8
comp=Z,104nm,21.6s,baz=296,slow=32
PEA0B Petropavlovsk- 57.82 4*c i* **P P 15 56 31.6 +0.5**
PEA0B Petropavlovsk- 57.82 4 P P 15 56 32.0 +0.9
PETK Petropavlovsk- 57.82 4 P P 15 56 31.5 +0.4
comp=Z,25nm,0.4s,baz=172,slow=8.5,SNR=83
PETK PcP **PcP 15 57 22.5 -0.6**
comp=Z,14nm,0.8s,baz=165,slow=6.2,SNR=6.6
PETK LR LR 16 17 55.3
comp=Z,219nm,21.8s,baz=229,slow=32
PETK Petropavlovsk- 57.82 4 P P 15 56 31.8 +0.7
PETK 15 57 22.5
PETK Petropavlovsk- 57.82 4 P P 15 56 31.8 +0.7
PPT2 Papeete2 57.82 108 *e*S **S 16 04 30.2 +2.9**
comp=Z,169nm,26.5s
PPT2 *e*LQ LQ 16 11 02.3
comp=Z,499nm,30.0s
PPT2 *e*LR LR 16 13 33.3
comp=Z,204nm,23.2s
CHTO Chiang Mai 57.90 296 P P 15 56 32.0 -0.3
CHTO pmax pmax
comp=Z,39nm,1.0s
CHTO Chiang Mai 57.90 296 P P 15 56 32.0 -0.3
TBI Tubuai 58.65 114 *e*S **S 16 04 39.5 +1.7**
comp=Z,133nm,28.8s
TBI *e*LQ LQ 16 11 26.4
comp=Z,543nm,32.8s
TBI *e*LR LR 16 13 53.0
comp=Z,885nm,30.2s
CD2 Chengdu 58.65 311 P P 15 56 37.8 +0.4
CD2 S **S 16 04 39.6 +1.9**
CD2 pmax pmax
comp=Z,100nm,0.5s
CD2 pmax pmax
comp=Z,150nm,5.7s
CD2 LR LR
comp=Z,620nm,22.1s
CD2 LR LR
comp=Z,620nm,19.6s
BTO Baotou 59.73 323 *e*P **P 15 56 45.5 +0.8**
HIA Hailar 60.97 336 IAmb IAmb 15 56 55.0
comp=Z,12nm,0.9s
LZH Lanzhou 61.15 316⇑ **P P 15 56 56.0 +1.4**
LZH pP pP 15 57 08.3 -1.5
LZH sP sP 15 57 17.3 +1.0
LZH pmax pmax
comp=Z,41nm,1.1s
LZH pmax pmax
comp=Z,130nm,4.9s
LZH LR LR
comp=Z,150nm,15.7s
LZH LR LR
comp=Z,310nm,17.5s
LZH LR LR
comp=Z,270nm,17.5s
ZEA Zeya 62.09 343 *e*P **P 15 57 00.5 +0.1**
ZEA pmax pmax
comp=Z,12nm,1.0s
MA2 Magadan 64.17 359*c i* **P P 15 57 13.7 -0.3**
MA2 pmax pmax
comp=Z,37nm,0.7s
MA2 Magadan 64.17 359 P P 15 57 13.8 -0.3
GTA Gaotai 65.58 317⇑ **P P 15 57 24.6 +0.8**
GTA S **S 16 06 00.1 -4.8**
GTA sS sS 16 06 28.3 -3.9
GTA pmax pmax
comp=Z,15nm,1.0s
GTA pmax pmax
comp=Z,80nm,7.3s
GTA LR LR
comp=Z,110nm,21.7s
GTA LR LR
comp=Z,200nm,20.4s
GTA LR LR
comp=Z,290nm,20.4s
ULN Ulaanbaatar 65.93 328*c e* **P P 15 57 26.5 +0.6**
ULN pmax pmax
comp=Z,13nm,1.0s
SHL Shillong 66.22 300 P P 15 57 28.6 +0.4
SONM Songino Array 66.25 328 P P 15 57 28.5 +0.5
comp=Z,5.3nm,0.6s,baz=140,slow=7.8,SNR=23
SONM PcP **PcP 15 57 57.9 +0.3**
comp=Z,5.3nm,0.6s,baz=142,slow=3.4,SNR=7.1
SONM LR LR 16 24 33.5
comp=Z,256nm,21.7s,baz=132,slow=34
SONM PKP2bc 16 26 03.5
comp=Z,1.0nm,1.0s,baz=338,slow=3.4,SNR=3.8
SONM Songino Array 66.25 328 P **P 15 57 28.9 +0.9**
SONM **PcP 15 57 58.3 +0.7**
TAOE Nuku Hiva Isla 66.72 98 *e*LR LR 16 17 33.9
comp=Z,238nm,28.2s
LSA Lhasa 68.15 304 P **P 15 57 41.8 +1.1**
LSA pmax pmax
comp=Z,60nm,0.7s
LSA Lhasa 68.15 304 IAmb IAmb 15 57 42.6
comp=Z,12nm,0.7s
YAK Yakutsk 68.93 349 P **P 15 57 44.6 +0.4**
comp=Z,4.4nm,0.3s,baz=315,slow=0.3,SNR=7.7
YAK Yakutsk 68.93 349 *e*P **P 15 57 44.2 -0.1**
YAK *e**PP **pwP 15 58 01.2 +0.4**
YAK *e* 15 58 08.6
YAK *e*PPP PPP 16 01 55.0
YAK *e*S **S 16 06 44.4 +0.4**

YAK e*SS **sS** **16 07 14.1 +2.8**
YAK e 16 07 43.5
YAK eSS **SS** **16 11 10.3 -0.3**
YAK pmax pmax
comp=Z,23nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=N,13nm,1.3s
YAK smax smax
comp=E,46nm,3.8s
ZAK Zakamensk 69.42 329 eP **P** **15 57 47.4 -0.4**
ZAK pmax pmax
comp=Z,12nm,0.8s
FALS False Pass 69.63 25 IAmb IAmb 15 57 59.0
comp=Z,58nm,1.3s
BOD Bodaibo 69.73 339 eP **P** **15 57 49.2 -0.2**
BOD pmax pmax
comp=Z,12nm,1.7s
TLY Talaya 70.01 330 LR LR 16 26 29.0
comp=Z,99nm,21.3s,baz=122,slow=34
TLY Talaya 70.01 330 eP **P** **15 57 50.7 -0.6**
TLY eS **S** **16 07 01.3 +4.1**
TLY pmax pmax
comp=Z,12nm,0.8s
TLY MLR MLR
comp=Z,219nm,13.0s
TAPN Taplejung 70.32 301 eP **P** **15 57 54.2 +0.2**
comp=Z,86nm,1.0s
ODAN Odare 70.45 301 eP **P** **15 57 55.0 +0.2**
comp=Z,113nm,0.8s
RAMN Ramite 71.16 300 eP **P** **15 57 59.0 -0.1**
comp=Z,19nm,0.6s
MOY Mondy 71.35 329 eP **P** **15 58 00.3 +0.8**
JIRN Jiri 71.70 301 eP **P** **15 58 02.6 +0.1**
GUN Gumba 72.03 301 eP **P** **15 58 04.6 +0.2**
comp=Z,157nm,1.0s
PKI Pulchoki 72.34 301 eP **P** **15 58 06.0 -0.3**
PKIN Phulchoki 72.36 301 eP **P** **15 58 06.0 -0.3**
KKN Kakani 72.51 301 eP **P** **15 58 07.1 0.0**
DMN Daman 72.61 301 eP **P** **15 58 07.8 0.0**
comp=Z,152nm,1.0s
VNDA Vanda 72.86 178 P **P** **15 58 09.2 +1.2**
comp=Z,7.6nm,0.9s,baz=323,slow=6.4,SNR=28
VNDA LR LR 16 29 10.7
comp=Z,123nm,18.1s,baz=348,slow=35
GKN Gorkha 73.12 301 eP **P** **15 58 10.6 0.0**
comp=Z,159nm,1.0s
BILL Bilibino 73.27 5*c* iP **P** **15 58 11.1 +0.6**
BILL pmax pmax
comp=Z,26nm,0.7s
BILL Bilibino 73.27 5 P **P** **15 58 09.3 -1.2**
BILL IAmb IAmb 15 58 12.2
comp=Z,29nm,0.9s
CHIR Chirikof Islan 73.70 27 P **P** **15 58 13.5 +0.2**
CHIR IAmb IAmb 15 58 19.5
comp=Z,54nm,1.2s
KOLN Koldanda 73.95 301 eP **P** **15 58 15.5 -0.1**
comp=Z,101nm,0.9s
DANN Dangsing 73.95 301 eP **P** **15 58 15.4 -0.3**
comp=Z,58nm,0.8s
PYUN Piuthan 74.55 301 eP **P** **15 58 18.4 -0.7**
comp=Z,149nm,0.9s
SII Sitkinak Islan 74.78 27 P **P** **15 58 20.1 +0.6**
WMQ Urumqi 75.66 317 eP **P** **15 58 26.6 +1.6**
WMQ pP pP 15 58 41.4 +0.6
WMQ pmax pmax
comp=Z,20nm,0.7s
WMQ LR LR
comp=Z,140nm,21.7s
WMQ LR LR
comp=Z,170nm,21.7s
WMQ LR LR
comp=Z,210nm,28.9s
KDAK Kodiak Island 76.19 27 P **P** **15 58 28.4 +0.8**
KDAK pmax pmax
comp=Z,44nm,1.3s
KDAK Kodiak Island 76.19 27 P **P** **15 58 28.4 +0.8**
KDAK IAmb IAmb 15 58 29.1
comp=Z,44nm,1.3s
HYB Hyderabad 76.40 289 *i* P **P** **15 58 29.0 -0.7**
SVW2 Sparrevohn 76.83 23 IAmb IAmb 15 58 33.0
comp=Z,16nm,0.9s
TTA Tatalina 77.78 21 IAmb IAmb 15 58 38.6
comp=Z,42nm,1.3s
TIXI Tiksi 77.86 352 P **P** **15 58 36.1 -0.5**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 77.86 352 P **P** **15 58 36.1 -0.5**
DGZ Jazzator, Alta 78.01 323*c* iP **P** **15 58 38.5 +0.3**
DGZ pmax pmax
comp=Z,23nm,0.7s
ZSN Zaisan 78.79 320 eP **P** **15 58 42.8 +0.4**
comp=Z,22nm,1.8s,baz=320
ZSN *i* S **S** **16 08 36.9 +1.3**
baz=320
ZSN *i* LR LR 16 34 33.2
baz=320
ZSN Zaisan 78.79 320 eP **P** **15 58 42.7 +0.4**
ZSN pmax pmax
comp=Z,22nm,1.8s
SEW Seward 78.80 26 IAmb IAmb 15 58 43.6
comp=Z,31nm,1.0s
PPLA Purkeypile 79.18 22 IAmb IAmb 15 58 48.3
comp=Z,38nm,1.4s
PMR Palmer 79.69 24 IAmb IAmb 15 58 48.1
comp=Z,46nm,1.2s
GHO Glory Hole Cre 79.87 24 IAmb IAmb 15 58 49.3
comp=Z,31nm,0.9s
KNK Knik Glacier 79.88 25 IAmb IAmb 15 58 49.7
comp=Z,42nm,1.2s
GLI Glacier Island 80.20 26 IAmb IAmb 15 58 51.1
comp=Z,58nm,1.1s
TRF Thorofare Moun 80.20 22 IAmb IAmb 15 58 50.4
comp=Z,22nm,1.0s
HIN Hinchinbrook I 80.22 26 IAmb IAmb 15 58 51.5
comp=Z,42nm,1.0s
MK31 Makanchi Array 80.25 319 *i* P **P** **15 58 50.2 -0.1**
MKAR Makanchi Array 80.25 319 P **P** **15 58 50.4 +0.1**
comp=Z,7.7nm,0.7s,baz=104,slow=6.4,SNR=80
MKAR PKiKP **PKiKP** **16 04 18.8 -0.4**
comp=Z,0.2nm,0.7s,baz=114,slow=3.5,SNR=2.1
MKAR LR LR 16 33 10.1
comp=Z,121nm,21.2s,baz=99,slow=35
MKAR Makanchi Array 80.25 319 P **P** **15 58 50.6 +0.3**
MKAR Makanchi Array 80.25 319 P **P** **15 58 50.6 +0.3**
BPAW Bear Paw Mtn. 80.29 22 IAmb IAmb 15 58 50.5
comp=Z,14nm,0.8s
FID Port Fidalgo 80.40 26 IAmb IAmb 15 58 51.7
comp=Z,32nm,1.0s
MAKZ Makanchi 80.46 319 P **P** **15 58 51.3 -0.1**
MAKZ pmax pmax
comp=Z,19nm,1.0s
MAKZ Makanchi 80.46 319 P **P** **15 58 51.3 -0.1**
MAKZ IAmb IAmb 15 58 52.8
comp=Z,19nm,0.9s
SCM Sheep Creek Mo 80.56 25 IAmb IAmb 15 58 53.5
comp=Z,39nm,0.9s
ZAA0 Zalesovo Array 81.08 326 IAmb IAmb 15 58 54.8
comp=Z,17nm,0.7s
ZALV Zalesovo Beam 81.08 326 P **P** **15 58 54.0 -0.5**
comp=Z,20nm,0.6s,baz=110,slow=5.8,SNR=75
ZALV LR LR 16 35 55.6
comp=Z,96nm,19.5s,baz=110,slow=36
DHY Denali Highway 81.15 23 IAmb IAmb 15 58 56.4
comp=Z,30nm,0.8s
SHLS Shalkode 81.15 315 eP **P** **15 58 54.3 -1.1**
comp=Z,7.0nm,0.8s,baz=315
SHLS *i* S **S** **16 08 59.0 -1.9**
baz=315
SHLS *i* LR LR 16 35 48.6
baz=315
SHLS Shalkode 81.15 315 eP **P** **15 58 54.3 -1.1**
SHLS pmax pmax
comp=Z,7.0nm,0.8s
PDGK Podgornoye 81.17 315 P **P** **15 58 55.1 -0.4**
NEA2 Nenana 81.26 22 P **P** **15 58 54.9 -0.4**
baz=239
UZB Uzynbulak 81.46 315 eP **P** **15 58 57.1 0.0**
comp=Z,4.3nm,0.9s,baz=315
UZB *i* S **S** **16 09 04.7 +0.6**
baz=315
UZB *i* LR LR 16 36 10.2
baz=315
UZB Uzynbulak 81.46 315 eP **P** **15 58 57.0 0.0**
UZB pmax pmax
comp=Z,4.0nm,0.9s

PRZ Przheval'sk 81.74 314 IAmb IAmb 15 59 01.1
comp=Z,26nm,1.1s
CCB Clear Creek Bu 81.76 22 IAmb IAmb 15 58 58.3
comp=Z,44nm,1.1s
MDM Murphy Dome 81.76 22 IAmb IAmb 15 58 58.6
comp=Z,22nm,1.4s
KPKS Kokpek 81.78 315 eP **P** **15 58 58.8 +0.1**
comp=Z,3.9nm,0.9s,baz=315
KPKS *i* S **S** **16 09 08.1 +0.8**
baz=315
KPKS *i* LR LR 16 36 21.9
baz=315
KPKS Kokpek 81.78 315 eP **P** **15 58 58.7 +0.1**
KPKS pmax pmax
comp=Z,4.0nm,0.9s
TCOL CIGO, UAF Yank 81.85 22 P **P** **15 58 58.0 -0.4**
baz=240
COLA College 81.86 22*c* iP **P** **15 58 57.9 -0.5**
COLA pmax pmax
comp=Z,56nm,0.8s
PAX Paxson 81.86 24 IAmb IAmb 15 58 59.9
comp=Z,12nm,0.8s
SATY Saty 81.87 315 eP **P** **15 58 59.5 +0.3**
comp=Z,2.8nm,0.9s,baz=314
SATY *i* S **S** **16 09 09.3 +0.9**
baz=314
SATY *i* LR LR 16 36 25.5
baz=314
SATY Saty 81.87 315 eP **P** **15 58 59.5 +0.3**
SATY pmax pmax
comp=Z,3.0nm,0.9s
VRDI Verde Repeater 81.94 26 IAmb IAmb 15 59 00.8
comp=Z,36nm,0.9s
HDA Harding Lake 81.97 22 P **P** **15 58 58.5 -0.5**
baz=241
HDA Harding Lake 81.97 22 IAmb IAmb 15 58 59.1
comp=Z,13nm,0.7s
TGL Tana Glacier 82.01 27 IAmb IAmb 15 59 01.3
comp=Z,36nm,1.0s
POKR Poker Plat Res 82.13 22 P **P** **15 58 59.2 -0.7**
baz=240
IL31 82.17 22 IAmb IAmb 15 59 00.3
comp=Z,34nm,0.8s
ILAR Eielson Array 82.17 22 P **P** **15 58 59.0 -1.0**
comp=Z,30nm,0.9s,baz=251,slow=5.3,SNR=226
ILAR LR LR 16 32 34.4
comp=Z,193nm,20.1s,baz=250,slow=33
ILAR Eielson Array 82.17 22 P **P** **15 58 59.4 -0.7**
ILAR Eielson Array 82.17 22 P **P** **15 58 59.4 -0.7**
MCARA McCarthy VSAT 82.19 26 IAmb IAmb 15 59 02.2
comp=Z,39nm,0.9s
COLD Coldfoot 82.26 19 P **P** **15 59 01.7 +1.2**
baz=238
YAH Yahtse 82.33 27 IAmb IAmb 15 59 03.3
comp=Z,18nm,0.9s
BALM Baldy 82.34 26 IAmb IAmb 15 59 02.9
comp=Z,29nm,0.8s
TDK Taldyqorghan 82.36 316 eP **P** **15 59 01.6 +0.1**
comp=Z,9.6nm,0.7s,baz=316
TDK eS **S** **16 09 13.9 +0.9**
baz=316
TDK *i* S **SKSac** **16 09 14.1 -3.4**
baz=316
TDK *i* LR LR 16 36 42.6
baz=316
TDK Taldyqorghan 82.36 316 eP **P** **15 59 01.6 +0.1**
TDK eS **S** **16 09 13.9 +0.9**
TDK pmax pmax
comp=Z,10.0nm,0.7s
RIDG Independent Ri 82.47 23 IAmb IAmb 15 59 05.9
comp=Z,28nm,0.8s
SEM Semipalatinsk 82.61 322 eP **P** **15 59 01.5 -1.5**
comp=Z,1.8nm,0.8s,baz=322
SEM *i* S **S** **16 09 15.2 -0.6**
baz=322
SEM *i* LR LR 16 36 50.0
baz=322
SEM Semipalatinsk 82.61 322 eP **P** **15 59 01.5 -1.5**
SEM pmax pmax
comp=Z,2.0nm,0.8s
TABL Table Mountain 82.64 27 IAmb IAmb 15 59 04.6
comp=Z,22nm,0.8s
KSH Kashi 82.85 311 eP **P** **15 59 06.8 +2.4**
KSH pmax pmax
comp=Z,12nm,0.5s
KSH pmax pmax
comp=Z,380nm,4.1s
MDOK Medeo 82.86 314 eP **P** **15 59 05.2 +0.8**
baz=314
MDOK *i* S **S** **16 09 19.9 +1.4**
baz=314
MDOK LR LR 16 33 14.2
baz=314
MDOK Medeo 82.86 314 eP **P** **15 59 05.1 +0.8**
MDOK MLR MLR
comp=Z,50nm,7.0s
SCRK Sand Creek 82.91 23 IAmb IAmb 15 59 05.1
comp=Z,20nm,0.7s
AAA Alma-Ata 82.97 314 eP **P** **15 59 05.5 +0.6**
baz=314
AAA *i* S **S** **16 09 20.6 +1.2**
baz=314
AAA *i* LR LR 16 37 05.7
baz=314
AAA Alma-Ata 82.97 314 eP **P** **15 59 05.4 +0.6**
TOLK Toolik Lake Re 83.22 18 P **P** **15 59 06.7 +1.2**
baz=238
TOLK Toolik Lake Re 83.22 18 IAmb IAmb 15 59 07.6
comp=Z,39nm,0.9s
BCAR Beaver Creek A 83.42 25 P **P** **15 59 07.7 +1.0**
KUU Kurty 83.53 315 eP **P** **15 59 07.8 +0.2**
comp=Z,18nm,0.7s,baz=315
KUU eS **S** **16 09 23.9 -1.2**
baz=315
KUU *i* S **SKSac** **16 09 24.2 -1.1**
baz=315
KUU *i* LR LR 16 39 45.7
baz=315
KUU Kurty 83.53 315 eP **P** **15 59 07.8 +0.2**
KUU eS **S** **16 09 23.8 -1.2**
KUU pmax pmax
comp=Z,18nm,0.7s
FYU Fort Yukon 83.62 21 IAmb IAmb 15 59 09.5
comp=Z,24nm,0.8s
KURK Kurchatov 83.69 322*c* iP **P** **15 59 07.9 -0.3**
KURK pmax pmax
comp=Z,22nm,1.0s
KURK Kurchatov 83.69 322 P **P** **15 59 08.3 +0.1**
KURK IAmb IAmb 15 59 09.2
comp=Z,39nm,1.4s
KURBB Kurchatov Arra 83.72 322 P **P** **15 59 07.8 -0.6**
TKM2 Tokmak 2 83.85 314 P **P** **15 59 10.2 +0.6**
SNR=14
TKM2 Tokmak 2 83.85 314 P **P** **15 59 09.6 +0.1**
NIL Nilore 83.89 304 P **P** **15 59 09.9 +0.2**
NIL pmax pmax
comp=Z,45nm,0.8s
NIL Nilore 83.89 304 P **P** **15 59 09.9 +0.2**
KZA Kyzart 83.92 313 P **P** **15 59 11.6 +1.4**
SNR=18
BMAR Burnt Mountain 84.25 20 P **P** **15 59 12.2 +1.4**
KBK Karagaybulak 84.26 314 P **P** **15 59 12.3 +0.7**
SNR=7.5
EGAK Eagle 84.37 23 IAmb IAmb 15 59 13.4
comp=Z,25nm,0.8s
CHMS Chumysh 84.47 314 P **P** **15 59 13.1 +0.6**
SNR=13
UCH Uchtor 84.49 313 P **P** **15 59 14.3 +1.2**
SNR=14
AAK Ala-Archa 84.58 313 P **P** **15 59 14.2 +1.0**
SNR=8.2
AAK Ala-Archa 84.58 313*c* iP **P** **15 59 13.9 +0.7**
AAK pmax pmax
comp=Z,11nm,0.7s
AAK Ala-Archa 84.58 313 P **P** **15 59 14.1 +1.0**
AAK IAmb IAmb 15 59 15.9
comp=Z,10nm,0.7s
SGDS Sogindy 84.65 314⇑ *i*P **P** **15 59 13.6 +0.2**
comp=Z,23nm,1.6s,baz=314
SGDS *i* S **S** **16 09 31.6 -4.8**
baz=314
SGDS *i* LR LR 16 38 06.3
baz=314
SGDS Sogindy 84.65 314*c* iP **P** **15 59 13.6 +0.2**
SGDS pmax pmax
comp=Z,23nm,1.6s
USP Ospenovka 84.71 314 P **P** **15 59 14.2 +0.5**

SNR=18
H02N1 VAN INLET T-PH 84.75 36 T T 17 32 39.6
SNR=44
H02S1 DAWSON INLET T 84.77 36 T T 17 32 33.3
SNR=84
DAWY Dawson 84.80 24 IAmb IAmb 15 59 16.9
comp=Z,36nm,1.2s
BESE Bessie Mountai 85.00 30 IAmb IAmb 15 59 16.5
comp=Z,20nm,0.9s
AML Almayashu 85.07 313 P **P** **15 59 17.0 +1.0**
SNR=12
EKS2 Erkin-Say 85.11 313 P **P** **15 59 16.9 +1.1**
SNR=8.5
QSPA South Pole Qui 85.19 180 P **P** **15 59 16.2 +0.5**
QSPA IAmb IAmb 15 59 17.5
comp=Z,44nm,1.4s
ARSB Arslanbob 85.44 312 P **P** **15 59 17.7 +0.2**
ARSB pmax pmax
comp=Z,80nm,1.5s
ARSB Arslanbob 85.44 312 P **P** **15 59 17.7 +0.2**
MAW Mawson 85.56 203 P **P** **15 59 17.5 +0.2**
comp=Z,7.7nm,0.8s,baz=103,slow=6.8,SNR=19
MAW LR LR 16 34 21.1
comp=Z,293nm,21.1s,baz=60,slow=33
MAW Mawson 85.56 203 P **P** **15 59 17.1 -0.2**
WHY Whitehorse 85.62 28 P **P** **15 59 19.6 +1.7**
WHY IAmb IAmb 15 59 22.3
comp=Z,11nm,0.8s
NRIK Noril'sk 85.91 341 P **P** **15 59 19.5 +0.5**
comp=Z,11nm,0.5s,baz=110,slow=4.5,SNR=16
NRIK LR LR 16 36 15.3
comp=Z,113nm,21.8s,baz=83,slow=35
NRIK Noril'sk 85.91 341 *i* P **P** **15 59 18.6 -0.4**
EPYK Eagle Plains 86.67 22 P **P** **15 59 23.7 +0.8**
baz=250
BTK Batken 86.86 310 IAmb IAmb 15 59 26.1
comp=Z,27nm,1.1s
DZA Taraz 86.92 313 eP **P** **15 59 24.9 +0.2**
baz=313
DZA *i* S **SKSac** **16 09 45.9 -0.9**
baz=313
DZA *i* LR LR 16 39 28.9
baz=313
DZA Taraz 86.92 313 eP **P** **15 59 24.8 +0.2**
OTUK Ortayu 87.14 319 P **P** **15 59 24.9 -0.6**
BRZS Berezniki 87.24 320 eP **P** **15 59 25.0 -1.0**
comp=Z,9.1nm,1.2s,baz=320
BRZS *i* S **SKSac** **16 09 46.4 -1.9**
baz=320
BRZS *i* LR LR 16 39 38.5
baz=320
BRZS Berezniki 87.24 320 eP **P** **15 59 24.9 -1.0**
BRZS pmax pmax
comp=Z,9.0nm,1.2s
DLBC Dease Lake 87.40 31 P **P** **15 59 27.3 +0.7**
comp=Z,11nm,0.8s,baz=257,slow=5.7,SNR=17
DLBC Dease Lake 87.40 31 IAmb IAmb 15 59 29.2
comp=Z,26nm,1.1s
KBL Kabul 87.47 305 P **P** **15 59 27.3 -0.4**
KBL pmax pmax
comp=Z,7.0nm,1.0s
KBL Kabul 87.47 305 P **P** **15 59 27.2 -0.4**
KK31 Karatay Array 87.55 313 *i* P **P** **15 59 27.2 -0.4**
KKAR Karatay Array 87.55 313 P **P** **15 59 27.6 0.0**
KKAR pmax pmax
comp=Z,8.0nm,1.1s
KKAR Karatay Array 87.55 313 P **P** **15 59 27.1 -0.5**
KKAR Karatay Array 87.55 313 P **P** **15 59 27.6 0.0**
KKAR IAmb IAmb 15 59 29.7
comp=Z,7.8nm,1.1s
J01E Myrtle Point 88.39 47 P **P** **15 59 32.3 +0.7**
baz=262
INK Inuvik 88.46 21 P **P** **15 59 31.4 +0.1**
baz=253,slow=4.3
INK Inuvik 88.46 21 P **P** **15 59 31.4 +0.1**
INK pmax pmax
comp=Z,48nm,1.2s
INK Inuvik 88.46 21 IAmb IAmb 15 59 32.8
comp=Z,48nm,1.1s
I03D Drain, OR 88.89 46 P **P** **15 59 34.8 +0.9**
baz=262
M02C Callahan 88.95 49 P **P** **15 59 35.5 +1.1**
baz=263
N02D Trinity Center 89.01 49 P **P** **15 59 36.1 +1.5**
baz=263
YBH Yreka Blue Hor 89.10 48 P **P** **15 59 35.7 +0.7**
comp=Z,3.0nm,0.8s,baz=50,slow=3.9,SNR=8.5
BRVK Borovoye 89.23 323*c* iP **P** **15 59 34.3 -1.0**
BRVK pmax pmax
comp=Z,20nm,1.0s
BRVK Borovoye 89.23 323 P **P** **15 59 34.6 -0.7**
BRVK IAmb IAmb 15 59 36.1
comp=Z,15nm,0.8s
L04D Klamath Falls 89.46 48 P **P** **15 59 37.4 +0.6**
baz=263
J04D Umpqua Nationa 89.72 47 P **P** **15 59 38.8 +0.7**
baz=263
J05D Fort Rock, OR 90.36 47 P **P** **15 59 41.6 +0.5**
baz=264
PINE Pine Mountain 90.63 46 P **P** **15 59 42.8 +0.5**
PINE IAmb IAmb 15 59 44.1
comp=Z,7.8nm,0.8s
I07A Izee 91.69 46 IAmb IAmb 15 59 48.6
comp=Z,4.6nm,0.8s
ISA Isabella, Lake 91.78 55 P **P** **15 59 47.7 0.0**
baz=265
A36M Sachs Harbour 92.04 18 P **P** **15 59 48.7 +0.7**
baz=261
EDW2 Edwards Air Fo 92.12 55 P **P** **15 59 50.1 +0.9**
baz=266
NVAR Mina Array Bea 92.14 52 P **P** **15 59 50.0 +0.6**
comp=Z,3.0nm,0.8s,baz=252,slow=6.7,SNR=27
NVAR LR LR 16 36 10.4
comp=Z,348nm,19.5s,baz=267,slow=32
NVAR Mina Array Bea 92.14 52 P **P** **15 59 48.9 -0.6**
CWC Cottonwood Cre 92.16 54 P **P** **15 59 50.1 +0.6**
baz=266
BFSC Mount Baldy Ra 92.34 56 P **P** **15 59 50.9 +0.5**
baz=266
J08A Circle Bar Ran 92.38 47 IAmb IAmb 15 59 51.7
comp=Z,5.6nm,0.7s
LRMC Laurel Mtn Rad 92.42 55 P **P** **15 59 51.1 +0.4**
baz=266
MPMC Manual Prospec 92.61 54 P **P** **15 59 51.9 +0.2**
baz=266
HRA Herat 93.05 304 IAmb IAmb 15 59 54.2
comp=Z,9.4nm,1.0s
GSC Goldstone, Bar 93.12 55 P **P** **15 59 54.7 +0.8**
baz=266
FURC Furnace Creek, 93.14 54 P **P** **15 59 54.6 +0.8**
baz=266
MONP2 Monument Peak 93.28 57 P **P** **15 59 55.2 +0.3**
baz=266
PFO Pinyon Flats O 93.30 57 P **P** **15 59 55.2 +0.4**
baz=266
F10A Beach Ranch, E 93.44 44 IAmb IAmb 15 59 56.9
comp=Z,7.9nm,0.8s
HEC Hector,Ludlow 93.47 55 P **P** **15 59 55.9 +0.3**
baz=267
SHOC Shoshone, Teco 93.58 54 P **P** **15 59 56.2 +0.3**
baz=267
NEW Newport 93.63 42 P **P** **15 59 55.9 0.0**
baz=267
NEW Newport 93.63 42 P **P** **15 59 55.7 -0.2**
comp=Z,3.7nm,0.8s,baz=219,slow=4.9,SNR=5.8
TPNV Topopah Spring 93.66 53 P **P** **15 59 56.1 -0.3**
baz=267
SYO Syowa Base 93.67 199⇑ *e*P **P** **15 59 54.0 -1.5**
SYO Syowa Base 93.67 199⇑ *i*X P 16 00 07.0 +11
SYO Syowa Base 93.67 199⇑ *es*P sP 16 00 12.2 -5.3
BELC Belle Mtn. Jos 93.70 56 P **P** **15 59 56.1 -0.6**
baz=267
TUQ Turquoise Moun 93.84 55 P **P** **15 59 57.7 +0.4**
baz=267
GMRC Granite Mounta 94.03 56 P **P** **15 59 58.9 +0.7**
baz=267
BC3 Big Chuckawall 94.14 57 P **P** **15 59 59.7 +1.0**
baz=267
R11A Troy Canyon, C 94.26 52 P **P** **15 59 59.9 +0.6**
baz=267
IRM Iron Mountain 94.42 56 P **P** **15 59 59.9 0.0**
baz=267
HLID Hailey 95.34 47 P **P** **16 00 04.5 +0.4**
baz=268
ABKAR Akbulak array 95.39 319 P **P** **16 00 02.0 -1.8**
YKA Yellowknife Ar 95.44 28 P **P** **16 00 04.2 +0.4**
comp=Z,5.9nm,0.6s,baz=267,slow=4.9,SNR=45

YKA LR LR 16 37 22.4
comp=Z,343nm,22.0s,baz=0.0,slow=32
MSO Missoula 95.74 44 P **P 16 00 06.6 +0.9**
baz=269
WALA Waterton Lakes 95.79 41 IAmb IAmb 16 00 07.7
comp=Z,10.0nm,0.9s
ARU Arti 96.25 326 *c iP* **P 16 00 05.7 -1.9**
ARU 16 03 59.1
ARU S **SKSac 16 10 36.5 -2.4**
ARU SS **SS 16 17 51.0 -4.5**
ARU pmax pmax
comp=Z,15nm,0.9s
ARU Arti 96.25 326 P **P 16 00 04.4 -3.1**
GEYT Alibeck 96.53 307 P **P 16 00 08.8 -0.6**
comp=Z,1.6nm,0.8s,baz=290,slow=8.8,SNR=3.6
GEYT LR LR 16 44 22.0
comp=Z,63nm,21.5s,baz=190,slow=36
GEYT Alibeck 96.53 307 IAmb IAmb 16 00 09.8
comp=Z,1.6nm,0.9s
BOZ Bozeman (W) 97.34 45 P Pdif 16 00 13.7 +0.6
baz=271
H06N1 SOCORRO T-PHAS 97.48 72 T T 17 48 23.3
SNR=15
H06S1 SOCORRO T 97.50 72 T T 17 48 23.9
SNR=22
H06E1 SOCORRO T-PHAS 97.53 72 T T 17 48 27.9
H17A Grant Village 98.11 46 P Pdif 16 00 17.7 +1.0
baz=271
BW06 Boulder Array 98.89 48 P Pdif 16 00 20.2 +0.1
baz=272
PDAR Pinedale Array 98.89 48 P **P 16 00 19.9 -0.2**
comp=Z,1.5nm,0.8s,baz=222,slow=2.0,SNR=8.9
PDAR LR LR 16 42 58.8
comp=Z,203nm,18.1s,baz=283,slow=34
PDAR Pinedale Array 98.89 48 P 16 00 16.5 -3.7
KIRV Kirov 100.98 329 *i* P **Pdif 16 00 27.5 -1.2**
TXAR Lajitas Array 104.19 61 PKiKP **PKiKP 16 05 01.7 +1.0**
comp=Z,0.2nm,0.4s,baz=274,slow=2.4,SNR=3.7
TMCR Tamitsa 104.87 336 *eP* **Pdif 16 00 43.1 -2.8**
APA Apatity 105.28 340 *ij P* **Pdif 16 00 56.5 +8.8**
APA pmax pmax
comp=Z,7.0nm,1.0s
ARCES ARCESS Array B 106.82 343 PKiKP **PKiKP 16 05 04.9 +0.7**
comp=Z,9.0nm,1.0s,baz=48,slow=1.3,SNR=3.9
FINES FINESS Array B 110.99 336 Pdiff **Pdif 16 01 12.0 -1.2**
comp=Z,1.7nm,0.6s,baz=73,slow=5.2,SNR=20
FINES PKiKP **PKiKP 16 05 12.5 +0.3**
comp=Z,3.5nm,0.9s,baz=82,slow=2.0,SNR=7.1
U40A Yellville 112.43 53 P **PKiKP 16 05 15.8 0.0**
baz=281
FRB Frobisher Bay 114.03 19 PKP PKPdf 16 05 17.9 0.0
comp=Z,2.9nm,0.5s,baz=30,slow=5.6,SNR=5.9
AKASG Malin Array Be 114.42 324 PKP PKPdf 16 05 18.7 -0.4
comp=Z,4.4nm,0.6s,baz=58,slow=2.4,SNR=7.8
AKASG Malin Array Be 114.42 324 *i* PKiKP **PKiKP 16 05 19.2 +0.1**
AKASG Malin Array Be 114.42 324 PKiKP **PKiKP 16 05 19.2 +0.1**
D47A Chapleau 116.30 39 P **PKPdf 16 05 22.9 0.0**
baz=293,SNR=7.6
E47A Iron Bridge 116.43 40 P **PKPdf 16 05 22.8 -0.3**
baz=293
G47A Hillman 116.54 41 P **PKPdf 16 05 23.0 -0.4**
baz=292
J47A Sunmer 116.57 44 P **PKPdf 16 05 23.0 -0.5**
baz=290
NB2 NORSAR Subarra 116.86 340 PKPdf **PKPdf 16 05 23.0 -0.6**
comp=Z,1.0nm,0.6s,baz=45,slow=1.9
NOA NORSAR Array B 116.86 340 PKP **PKPdf 16 05 23.2 -0.4**
comp=Z,1.6nm,0.7s,baz=46,slow=1.9,SNR=9.5
F48A Evansville 117.09 40 P **PKPdf 16 05 24.2 -0.2**
baz=293
E48A Lockeyer 117.12 39 P **PKiKP 16 05 24.6 +0.1**
baz=294,SNR=8.9
D49A Beulah Townshi 117.31 38 P **PKiKP 16 05 24.9 +0.1**
baz=295
O48A Farmland 117.31 47 P **PKPdf 16 05 25.0 -0.1**
baz=288
F49A Sandfield 117.49 40 P **PKiKP 16 05 25.3 +0.1**
baz=294
LRAL Lakeview Retre 117.84 55 P **PKPdf 16 05 25.9 -0.3**
baz=283
P49A Miami Univ. Ec 117.86 47 P **PKPdf 16 05 26.0 -0.1**
baz=288
E50A Wahnapitae 118.05 39 P **PKPdf 16 05 26.2 -0.1**
baz=295,SNR=6.3
BURAR Bucovina Array 118.12 323 PKPdf **PKiKP 16 05 28.4 +1.8**
D50A G1974 Best Tow 118.28 38 P **PKPdf 16 05 26.4 -0.3**
baz=296
MATQ Matagami 118.38 35 P **PKPdf 16 05 26.5 -0.3**
baz=299
F51A Arnstein 118.78 39 P **PKPdf 16 05 27.5 -0.2**
baz=295,SNR=6.0
E51A G1948 Merrick 118.78 38 P **PKPdf 16 05 27.5 -0.1**
baz=296
ACSO Alum Creek Sta 118.89 46 P **PKPdf 16 05 27.7 -0.4**
baz=290
I51A Listowel 118.93 42 P **PKPdf 16 05 27.8 -0.3**
baz=293
N51A Ashland 119.09 45 P **PKPdf 16 05 27.9 -0.5**
baz=291
P51A Williamsport 119.09 47 P **PKPdf 16 05 28.5 0.0**
baz=290
LSQQ Lebel-sur-Quev 119.10 35 P **PKPdf 16 05 28.0 -0.1**
baz=300
O51A Pataskala 119.19 46 P **PKPdf 16 05 28.5 -0.2**
baz=290
F52A Sundridge 119.21 39 P **PKPdf 16 05 28.0 -0.5**
baz=296
KOLS Kolonicke sedl 119.24 325 *e*PKiKP **PKiKP 16 05 29.8 +1.3**
KOLS Kolonicke sedl 119.24 325 *e*PKP **PKiKP 16 05 29.8 +1.3**
D52A ZEK Kipawa Sen 119.24 38 P **PKPdf 16 05 28.1 -0.4**
baz=297
E52A Mattawa 119.41 38 P **PKPdf 16 05 28.5 -0.3**
baz=297
J52A Paris 119.52 42 P **PKPdf 16 05 28.6 -0.5**
baz=294
BOSA Boshof 119.57 233 PKP **PKPdf 16 05 29.6 -0.3**
comp=Z,2.2nm,0.7s,baz=3.0,slow=3.2,SNR=5.0
M52A Chesterland 119.58 44 P **PKPdf 16 05 28.9 -0.5**
baz=292
N52A McGinn's Farm, 119.61 45 P **PKPdf 16 05 29.3 -0.2**
baz=291
D53A Lac Vacive, Po 119.63 37 P **PKPdf 16 05 29.2 -0.1**
baz=298
P52A Corning 119.71 47 P **PKPdf 16 05 29.2 -0.4**
baz=290
CRVS Cervenica-Dubn 119.72 325 *e*PKiKP **PKiKP 16 05 29.6 +0.1**
CRVS Cervenica-Dubn 119.72 325 *e*PKP **PKiKP 16 05 29.6 +0.1**
O52A Adamsville 119.75 46 P **PKPdf 16 05 29.1 -0.6**
baz=291
Q52A Bidwell 119.84 47 P **PKPdf 16 05 29.4 -0.5**
baz=290
PLCA Paso Flores 119.85 143 PKP **PKiKP 16 05 30.7 +0.6**
comp=Z,2.6nm,0.7s,baz=202,slow=1.9,SNR=6.6
ALGO Algonquin Park 119.93 39 P **PKPdf 16 05 29.8 -0.1**
baz=297,SNR=6.8
G53A Haliburton 119.94 40 P **PKPdf 16 05 30.0 +0.1**
baz=296,SNR=5.4
E53A Dumoine, Ponti 119.97 38 P **PKPdf 16 05 29.6 -0.4**
baz=298
M53A WI Miller and 120.09 44 P **PKPdf 16 05 29.6 -0.7**
baz=292
CHGQ Chibougamau 120.11 33 P **PKPdf 16 05 30.2 0.0**
baz=302
O53A New Philadelph 120.15 46 P **PKPdf 16 05 30.0 -0.5**
baz=291
G54A Lake Saint Pet 120.16 39 P **PKPdf 16 05 30.3 -0.1**
baz=297,SNR=6.7
L53A Girard 120.18 44 P **PKPdf 16 05 30.2 -0.3**
baz=293
H53A Bobcaygeon 120.21 40 P **PKiKP 16 05 30.7 +0.1**
baz=296
N53A Lisbon 120.21 45 P **PKiKP 16 05 30.8 +0.1**
baz=292
D54A Lac Fusel, La 120.22 37 P **PKPdf 16 05 30.4 0.0**
baz=299
E54A Lac Daplat, Po 120.24 38 P **PKPdf 16 05 30.0 -0.4**
baz=298
R53A Hurricane 120.29 48 P **PKPdf 16 05 30.5 -0.3**
baz=290
T53A Wise 120.29 50 P **PKPdf 16 05 30.9 -0.1**
baz=289
ERPA Erie 120.30 43 P **PKPdf 16 05 30.7 -0.1**
baz=293
P53A Whipple 120.30 47 P **PKPdf 16 05 30.5 -0.3**
baz=291
S53A Williamson 120.37 49 P **PKPdf 16 05 30.7 -0.3**
baz=289
Q53A Leroy 120.42 47 P **PKPdf 16 05 30.6 -0.5**
baz=290
GOGA Godfrey 120.61 54 P **PKPdf 16 05 31.1 -0.5**
baz=286
LANS Liptovska Anna 120.71 326 *e*PKiKP **PKiKP 16 05 32.7 +1.3**
LANS Liptovska Anna 120.71 326 *e*PKP **PKiKP 16 05 32.7 +1.3**
L54A Sinclairville 120.71 43 P **PKPdf 16 05 31.0 -0.5**
baz=294
J54A Appleton 120.73 42 P **PKPdf 16 05 31.4 -0.1**
baz=295
N54A Moraine State 120.75 45 P **PKPdf 16 05 31.4 -0.2**
baz=293
M54A Oil Creek Stat 120.76 44 P **PKPdf 16 05 31.4 -0.2**
baz=293
O54A Avella 120.77 45 P **PKPdf 16 05 31.7 0.0**
baz=292
SCHQ Schefferville 120.80 25 PKP **PKPdf 16 05 30.8 -0.5**
comp=Z,2.5nm,0.6s,baz=271,slow=5.3,SNR=4.5
Q54A Coxs Mills 120.88 47 P **PKPdf 16 05 31.8 -0.1**
baz=291
P54A Burton 120.91 46 P **PKPdf 16 05 31.6 -0.4**
baz=292
E55A Montcerf-Lytto 120.92 37 P **PKPdf 16 05 31.7 0.0**
baz=299
I55A Frankford 120.95 40 P **PKPdf 16 05 31.6 -0.3**
baz=296
K54A Basiliko Farm, 120.98 42 P **PKPdf 16 05 31.4 -0.6**
baz=295
D55A Sainte-Anne-du 120.99 37 P **PKPdf 16 05 31.6 -0.2**
baz=300
R54A Victor 121.05 48 P **PKPdf 16 05 32.0 -0.3**
baz=290
G55A Calabogie 121.08 39 P **PKPdf 16 05 31.7 -0.4**
baz=298,SNR=7.6
H55A Tweed 121.12 40 P **PKPdf 16 05 31.9 -0.3**
baz=297,SNR=6.7
V54A Neo 121.12 51 P **PKPdf 16 05 32.1 -0.5**
baz=288
W54A Cherokee Point 121.15 52 P **PKPdf 16 05 32.4 -0.2**
baz=288
J55A Hilton 121.28 41 P **PKPdf 16 05 32.5 0.0**
baz=296
L55A Hinsdale 121.33 43 P **PKPdf 16 05 32.8 +0.1**
baz=295
K55A Perry 121.34 42 P **PKPdf 16 05 32.7 0.0**
baz=295
MCWV Mont Chateau 121.35 46 P **PKPdf 16 05 32.8 0.0**
baz=292
M55A Ridgway 121.40 44 P **PKPdf 16 05 32.9 +0.1**
baz=294
MORC Moravsky Berou 121.41 328 *e*PKP **PKiKP 16 05 33.3 +0.5**
VYHS Vyhne 121.41 326 *e*PKiKP **PKPdf 16 05 32.7 0.0**
VYHS Vyhne 121.41 326 *e*PKP **PKPdf 16 05 32.7 0.0**
P55A Reedsville 121.42 46 P **PKPdf 16 05 32.8 -0.2**
baz=292
Q55A Buckhannon 121.42 47 P **PKPdf 16 05 33.1 +0.1**
baz=292
E56A St. Veronique 121.49 37 P **PKiKP 16 05 33.2 +0.2**
baz=300
N55A Marion Center 121.52 44 P **PKPdf 16 05 32.9 -0.3**
baz=294
O55A Ligonier 121.52 45 P **PKPdf 16 05 32.9 -0.3**
baz=293
S55A Lewisburg 121.55 48 P **PKPdf 16 05 32.8 -0.6**
baz=291
T55A Pulaski 121.57 49 P **PKPdf 16 05 33.3 -0.1**
baz=290
U55A TA2, Sparta 121.58 50 P **PKPdf 16 05 32.9 -0.5**
baz=289
V55A Taylorsville 121.66 50 P **PKPdf 16 05 33.2 -0.4**
baz=289
H56A Elgin 121.68 39 P **PKPdf 16 05 33.2 -0.1**
baz=298,SNR=5.7
ORIO Orleans, Innes 121.74 38 P **PKPdf 16 05 33.3 -0.1**
baz=295
Y55A Saluda 121.75 53 P **PKPdf 16 05 33.8 +0.1**
baz=287
X55A Gracelyn & Ava 121.77 52 P **PKPdf 16 05 33.4 -0.3**
baz=288
M56A Emporium 121.79 43 P **PKPdf 16 05 33.5 -0.1**
baz=295
KMSC Kings Mountain 121.80 51 P **PKPdf 16 05 33.6 -0.2**
baz=288
BLA Blacksburg 121.81 49 P **PKPdf 16 05 33.7 -0.1**
baz=290
BLA Blacksburg 121.81 49 PKiKP **PKiKP 16 05 34.5 +0.5**
BLA Blacksburg 121.81 49 PKPdf **PKiKP 16 05 34.5 +0.5**
K56A Middlesex 121.85 42 P **PKPdf 16 05 33.7 0.0**
baz=296
JAVC Velka Javorina 121.86 327 *e*PKP **PKiKP 16 05 35.0 +1.3**
J56A Wolcott 121.90 41 P **PKPdf 16 05 33.6 -0.1**
baz=297
D57A Chemin Vers le 121.92 36 P **PKPdf 16 05 33.6 -0.1**
baz=302
L56A Greenwood 121.94 42 P **PKPdf 16 05 34.0 0.0**
baz=296
N56A West Decatur 121.94 44 P **PKPdf 16 05 33.5 -0.5**
baz=294
O56A Blue Knob Stat 122.02 45 P **PKPdf 16 05 33.5 -0.6**
baz=294
Q56A Snyder Ridge, 122.05 46 P **PKPdf 16 05 33.4 -0.8**
baz=292
E57A Chemin Saint G 122.08 37 P **PKPdf 16 05 33.6 -0.4**
baz=301
P56A Dayton Farm, R 122.13 46 P **PKPdf 16 05 34.2 -0.1**
baz=293
R56A Bull Pasture M 122.13 47 P **PKPdf 16 05 34.0 -0.5**
baz=292
T56A Rocky Mt 122.16 49 P **PKPdf 16 05 34.4 -0.1**
baz=290
V56A Mocksville 122.23 50 P **PKPdf 16 05 33.9 -0.7**
baz=289
G57A Newington 122.23 38 P **PKPdf 16 05 34.0 -0.3**
baz=299
X56A White Oak 122.23 52 P **PKPdf 16 05 34.6 0.0**
baz=288
BSEG Bad Segeberg 122.24 335 *e*PKPdf **PKiKP 16 05 34.5 +0.3**
baz=49,slow=1.9
S56A Natural Bridge 122.28 48 P **PKPdf 16 05 34.5 -0.2**
baz=291
SSPA Standing Stone 122.34 44 P **PKPdf 16 05 34.0 -0.7**
baz=294
SSPA Standing Stone 122.34 44 **PKiKP 16 05 35.5 +0.6**
MODS Modra-Piesok 122.34 326 *e*PKiKP **PKiKP 16 05 34.9 +0.2**
MODS Modra-Piesok 122.34 326 *e*PKP **PKiKP 16 05 34.9 +0.2**
I57A Carthage 122.37 40 P **PKiKP 16 05 34.9 0.0**
baz=298
K57A Scipio Center 122.37 41 P **PKPdf 16 05 34.8 +0.1**
baz=297
W56A Indian Trail 122.38 51 P **PKPdf 16 05 34.8 -0.1**
baz=289
J57A Williamstown 122.40 40 P **PKPdf 16 05 34.5 -0.2**
baz=298
KRUC Moravsky 122.43 327 *e*PKP **PKiKP 16 05 34.8 0.0**
D58A Chemin du LacG 122.46 35 P **PKPdf 16 05 34.3 -0.4**
baz=302
L57A Andrews Acres 122.47 42 P **PKPdf 16 05 34.5 -0.4**
baz=296
N57A Milroy 122.53 44 P **PKPdf 16 05 35.0 0.0**
baz=295
M57A Sunshine Farm, 122.57 43 P **PKPdf 16 05 35.2 +0.1**
baz=295
BRG Berggiesshubel 122.60 330 *i* PKP **PKiKP 16 05 35.5 +0.4**
BRG comp=Z,7.8nm,0.7s *i* 16 05 40.0
comp=Z,6.2nm,0.6s
BRG Berggiesshubel 122.60 330 *i* PKiKP **PKiKP 16 05 35.5 +0.4**
BRG pmax pmax
comp=Z,8.0nm,0.7s
BRG Berggiesshubel 122.60 330 *e*PKPdf **PKPdf 16 05 35.0 +0.1**
baz=49,slow=1.9
Q57A Strasburg 122.61 46 P **PKPdf 16 05 34.9 -0.4**
baz=293
E58A La Victoria 122.62 36 P **PKPdf 16 05 35.1 +0.1**
baz=302
O57A Amberson 122.69 44 P **PKPdf 16 05 35.2 -0.2**
baz=294
S57A Dark Hollow, R 122.70 48 P **PKPdf 16 05 35.5 +0.1**
baz=292
LONY Lake Ozonia 122.72 39 P **PKPdf 16 05 35.3 0.0**
baz=300
P57A Homestead Farm 122.72 45 P **PKPdf 16 05 35.6 +0.1**
baz=294
T57A Hurt 122.76 49 P **PKPdf 16 05 35.6 +0.1**
baz=291
GOPC GO Pecny, Ondr 122.77 329 *e*PKPDF **PKiKP 16 05 35.6 +0.1**
GOPC *ex* x 16 05 40.0
GOPC GO Pecny, Ondr 122.77 329 *e*PKIKP **PKiKP 16 05 35.6 +0.1**
G58A Ormstown 122.78 38 P **PKPdf 16 05 35.5 +0.1**
baz=300
CLL Collm 122.78 331 *i* PKPdf **PKiKP 16 05 35.6 +0.2**
comp=Z,9.0nm,0.7s
CLL *i* 16 05 39.9
CLL *e*PP **PP 16 07 12.0 -1.3**
CLL *e*PPP PPP 16 09 42.0
CLL *e*PS **PS 16 17 06.0 -3.9**
CLL *e*PPS PPS 16 18 42.0
CLL *e*SS SS 16 23 42.0 -9.2
CLL *e*SSS SSS 16 28 54.0
CLL Lm MLR 17 01 00.0
comp=Z,200nm,21.9s
CLL Collm 122.78 331 *i* PKiKP **PKiKP 16 05 35.6 +0.2**
CLL pmax pmax
comp=Z,9.0nm,0.7s
CLL Collm 122.78 331 *e*PKPdf **PKPdf 16 05 35.3 +0.1**
baz=49,slow=1.9
R57A Stanardsville 122.82 47 P **PKPdf 16 05 35.7 0.0**
baz=292
W57A Gilead 122.83 51 P **PKPdf 16 05 35.2 -0.6**
baz=289
PRU Pruhonice 122.85 329 *e*PKPDF **PKiKP 16 05 35.7 +0.1**
PRU AMS AMS 16 59 20.0
comp=Z,200nm,22.0s
PRU Pruhonice 122.85 329 *e*PKIKP **PKiKP 16 05 35.7 +0.1**
PRU MLR MLR
comp=Z,200nm,22.0s
FBE Freiberg 122.86 331 *e*PKPdf **PKiKP 16 05 35.9 +0.3**
baz=49,slow=1.9
J58A Remsen 122.88 40 P **PKPdf 16 05 35.8 +0.2**
baz=298,SNR=6.4
U57A Blanch 122.90 49 P **PKPdf 16 05 36.0 +0.1**
baz=291
I58A Old Forge 122.92 40 P **PKPdf 16 05 35.2 -0.5**
baz=299
K58A Earlville 122.92 41 P **PKiKP 16 05 36.0 0.0**
baz=298
BINY Binghamton 122.96 42 P **PKPdf 16 05 35.9 0.0**
baz=297
M58A Price's Panora 123.01 43 P **PKiKP 16 05 36.2 0.0**
baz=296
N58A Sunbury 123.06 43 P **PKPdf 16 05 36.0 -0.1**
baz=296
H58A Gabriels 123.07 39 P **PKPdf 16 05 35.8 -0.2**
baz=300,SNR=7.9
L58A Harry Jones Me 123.12 42 P **PKPdf 16 05 36.2 0.0**
baz=297
Q58A Fox Den Farm, 123.17 46 P **PKPdf 16 05 36.2 -0.1**
baz=294
R58A Rapidan 123.19 47 P **PKPdf 16 05 36.3 0.0**
baz=293
P58A Pank, Wackersv 123.22 45 P **PKPdf 16 05 36.3 -0.1**
baz=294
O58A Lewisberry 123.23 44 P **PKiKP 16 05 36.7 +0.1**
baz=295
V58A Windy Hill, Pi 123.29 50 P **PKPdf 16 05 36.8 +0.1**
baz=290
T58A Grand View Acr 123.31 48 P **PKPdf 16 05 36.5 -0.2**
baz=292
J59A Piesco 123.33 40 P **PKPdf 16 05 36.1 -0.4**
baz=299,SNR=7.6
CONA Conrad Observa 123.38 327 *e*PKiKP **PKiKP 16 05 37.0 +0.2**
comp=Z,5.6nm,0.6s
R58B Mineral 123.41 47 P **PKPdf 16 05 37.0 +0.2**
baz=293
S58A Poland Farm, P 123.42 47 P **PKPdf 16 05 36.1 -0.7**
baz=292
K59A Cooperstown 123.44 41 P **PKPdf 16 05 36.2 -0.6**
baz=298
U58A Oxford 123.50 49 P **PKPdf 16 05 36.5 -0.6**
baz=291
I59A Olmsteadville 123.57 39 P **PKPdf 16 05 36.5 -0.5**
baz=300
L59A Walton 123.59 41 P **PKPdf 16 05 36.7 -0.4**
baz=298
F60A Warwick 123.61 36 P **PKPdf 16 05 36.7 -0.2**
baz=303
TANN Tannenbergstha 123.62 331 *e*PKPdf **PKPdf 16 05 37.0 +0.1**
baz=49,slow=1.9
M59A Waymart 123.63 42 P **PKPdf 16 05 36.8 -0.4**
baz=297
CLZ Clausthal 123.66 333 *e*PKPdf **PKiKP 16 05 37.8 +0.6**
baz=49,slow=1.9
N59A State Game Lan 123.68 43 P **PKPdf 16 05 37.2 -0.1**
baz=296
D60A Saint Jean D'O 123.68 35 P **PKiKP 16 05 37.4 +0.1**
baz=304
E60A Ste Agathe de 123.69 35 P **PKPdf 16 05 37.2 +0.1**
baz=304
GUNZ Gunzen 123.72 331 *e*PKPdf **PKiKP 16 05 37.5 +0.2**
baz=49,slow=1.9
PLN Plauen 123.72 331 *e*PKPdf **PKPdf 16 05 37.2 +0.1**
baz=49,slow=1.9
NKC Novy Kostel 123.75 330 *e*PKPDF **PKiKP 16 05 37.9 +0.5**
NKC AMS AMS 17 02 10.0
comp=Z,200nm,21.8s
NKC Novy Kostel 123.75 330 *e*PKIKP **PKiKP 16 05 37.9 +0.5**
NKC MLR MLR
comp=Z,200nm,21.8s
WERN Wernitzgruen 123.75 331 *e*PKPdf **PKiKP 16 05 37.6 +0.2**
baz=49,slow=1.9
P59A Jarrettsville 123.78 45 P **PKPdf 16 05 37.5 0.0**
baz=295
KHC Kasperske Hory 123.87 329 *e*PKPDF **PKiKP 16 05 37.9 +0.2**
KHC *ex* x 16 05 42.0
KHC AMS AMS 17 03 20.0
comp=Z,200nm,39.0s
KHC Kasperske Hory 123.87 329 *e*PKIKP **PKiKP 16 05 37.9 +0.2**
KHC MLR MLR
comp=Z,200nm,39.0s
R59A King George, V 123.87 46 P **PKPdf 16 05 37.9 +0.2**
baz=294
MOX Moxa 123.88 331 *e*PKPdf **PKPdf 16 05 37.4 0.0**
baz=49,slow=1.9
MOX *e*L L 17 00 45.9
comp=Z,116nm,21.8s
I60A Shoreham 123.91 39 P **PKiKP 16 05 38.1 +0.3**
baz=300,SNR=8.1
H60A Morristown 123.91 38 P **PKiKP 16 05 37.9 0.0**
baz=301
GEC2 GERESS Array S 123.98 328 *e*PKPdf **PKPdf 16 05 37.6 -0.1**
baz=49,slow=1.9
GERES GERESS Array B 123.98 328 PKP **PKiKP 16 05 38.0 0.0**
comp=Z,6.7nm,0.6s,baz=76,slow=1.9,SNR=68
GERES GERESS Array B 123.98 328 PKiKP **PKiKP 16 05 38.5 +0.5**
GERES GERESS Array B 123.98 328 PKPdf **PKiKP 16 05 38.5 +0.5**
T59A Double "B" Far 124.03 48 P **PKPdf 16 05 38.1 +0.1**
baz=292
GTTG Gottingen 124.05 333 *e*PKPdf **PKiKP 16 05 38.3 +0.4**
baz=49,slow=1.9
MANZ Manzenberg 124.07 330 *e*PKPdf **PKiKP 16 05 38.1 +0.1**
baz=49,slow=1.9
J60A Lant Hill Farm 124.13 40 P **PKPdf 16 05 38.1 +0.1**
baz=300
N60A Cedar Hill Far 124.15 43 P **PKPdf 16 05 38.3 +0.1**
baz=297
F61A St Evariste 124.17 36 P **PKiKP 16 05 38.7 +0.4**
baz=304
O60A Telford 124.19 43 P **PKiKP 16 05 38.7 +0.2**
baz=296
E61A Lac Etchemin 124.20 35 P **PKiKP 16 05 38.7 +0.3**
baz=304
L60A Shokan 124.22 41 P **PKiKP 16 05 38.9 +0.3**
baz=298
WET Wettzell 124.22 329 *e*PKPdf **PKiKP 16 05 38.3 0.0**
baz=49,slow=1.9
G61A St-Isidore-de- 124.23 37 P **PKPdf 16 05 38.0 -0.1**
baz=303
MOA Molln 124.29 327 *e*PKiKP **PKPdf 16 05 38.0 -0.2**
comp=Z,5.2nm,0.6s
H61A Lyndonville 124.39 38 P **PKPdf 16 05 38.7 +0.2**
baz=302
IBBN Ibbenburen 124.48 335 *e*PKPdf **PKiKP 16 05 38.8 +0.1**
baz=49,slow=1.9
K61A Williamstown 124.51 40 P **PKPdf 16 05 38.9 +0.1**
baz=300
I61A Oroboro, Fairl 124.54 38 P **PKiKP 16 05 39.3 +0.2**
baz=301
LBNH Lisbon 124.55 38 P **PKiKP 16 05 39.3 +0.2**
baz=302
LBNH Lisbon 124.55 38 PKiKP **PKiKP 16 05 40.2 +1.1**
LBNH Lisbon 124.55 38 PKPdf **PKiKP 16 05 40.2 +1.1**
SOKA Soboth 124.56 326 *e*PKiKP **PKPdf 16 05 38.6 -0.3**
comp=Z,3.7nm,0.6s,SNR=5.3
X60A Albert Glenn T 124.58 51 P **PKPdf 16 05 39.2 +0.1**
baz=291

J61A	**Chester**	**124.62**	**39**	P		**PKPdf**	**16 05 39.1**	**+0.2**
	baz=301								
D62A	**Allapoint, All**	**124.63**	**34**	P		**PKiKP**	**16 05 39.3**	**+0.1**
	baz=306								
E62A	**Clayton Lake**	**124.64**	**34**	P		**PKiKP**	**16 05 39.4**	**+0.1**
	baz=306								
GRF	**Grafenberg Arr**	**124.70**	**331**	*e*L		L	17 01 39.1		
	comp=Z,111nm,21.2s								
F62A	**Pittston Farm,**	**124.81**	**35**	P		**PKiKP**	**16 05 40.2**	**+0.6**
	baz=305								
H62A	**Milan**	**124.84**	**37**	P		**PKiKP**	**16 05 40.0**	**+0.3**
	baz=303								
M61A	**Granite Spring**	**124.84**	**42**	P		**PKPdf**	**16 05 39.7**	**+0.2**
	baz=298								
G62A	**West of Eustis**	**124.86**	**36**	P		**PKiKP**	**16 05 39.9**	**+0.2**
	baz=304								
PAL	**Palisades**	**124.89**	**42**	P		**PKiKP**	**16 05 39.9**	**0.0**
	baz=298								
OBKA	**Obir**	**124.93**	**326**	*i* PKiKP		**PKPdf**	**16 05 39.2**	**-0.4**
	comp=Z,3.1nm,0.7s								
I62A	**Tamworth**	**125.11**	**38**	P		**PKiKP**	**16 05 40.3**	**0.0**
	baz=302								
J62A	**Henniker**	**125.15**	**39**	P		**PKPdf**	**16 05 40.2**	**+0.2**
	baz=301								
K62A	**Royalston**	**125.17**	**40**	P		**PKiKP**	**16 05 40.5**	**+0.1**
	baz=301								
D63A	**Stockholm**	**125.18**	**33**	P		**PKiKP**	**16 05 40.3**	**0.0**
	baz=307								
KBA	**Koelnbreinsper**	**125.25**	**327**	*e*PKiKP		**PKPdf**	**16 05 40.0**	**-0.3**
	comp=Z,2.9nm,0.5s								
BUG	**Bochum--Univer**	**125.32**	**334**	*e*PKPdf		**PKiKP**	**16 05 40.3**	**-0.1**
	baz=49,slow=1.9								
MYKA	**Terra Mystica**	**125.36**	**326**	*e*PKPdf		**PKPdf**	**16 05 39.6**	**-0.7**
	comp=Z,3.9nm,0.6s								
E63A	**Oxbow**	**125.37**	**34**	P		**PKPdf**	**16 05 40.5**	**+0.2**
	baz=306								
F63A	**Nahmakanta, Br**	**125.41**	**35**	P		**PKPdf**	**16 05 40.4**	**0.0**
	baz=305								
PQI	**Presque Isle**	**125.45**	**33**			**PKiKP**	**16 05 41.0**	**+0.2**
G63A	**Kingsbury**	**125.45**	**36**	P		**PKPdf**	**16 05 40.4**	**-0.2**
	baz=305								
I63A	**Otisfield**	**125.47**	**37**	P		**PKPdf**	**16 05 40.4**	**-0.2**
	baz=303								
PKME	**Peaks-Kenny Pk**	**125.56**	**36**	P		**PKPdf**	**16 05 40.5**	**-0.1**
	baz=305								
J63A	**Strafford**	**125.58**	**38**	P		**PKPdf**	**16 05 40.7**	**-0.1**
	baz=302								
K63A	**Dunstable**	**125.61**	**39**	P		**PKiKP**	**16 05 41.3**	**+0.1**
	baz=301								
TNS	**Taunus Mts**	**125.66**	**333**	*e*PKPdf		**PKPdf**	**16 05 41.0**	**+0.2**
	baz=49,slow=1.9								
FUR	**Furstenfeldbru**	**125.67**	**329**	*e*PKPdf		**PKPdf**	**16 05 41.1**	**+0.2**
	baz=49,slow=1.9								
HRV	**Adam Dziewonsk**	**125.68**	**39**	P		**PKPdf**	**16 05 40.9**	**-0.1**
	baz=301								
E64A	**Bridgewater**	**125.70**	**34**	P		**PKPdf**	**16 05 40.8**	**-0.1**
	baz=307								
F64A	**Sherman**	**125.75**	**34**	P		**PKPdf**	**16 05 41.1**	**+0.1**
	baz=306								
G64A	**Maxfield**	**125.87**	**35**	P		**PKiKP**	**16 05 41.6**	**-0.1**
	baz=306								
ABTA	**Abfaltersbach**	**125.91**	**327**	PKiKP		**PKPdf**	**16 05 41.1**	**-0.3**
	comp=Z,7.7nm,0.7s								
M63A	**Gales Ferry**	**125.93**	**41**	P		**PKPdf**	**16 05 41.6**	**+0.1**
	baz=300								
H64A	**Troy**	**125.95**	**36**	P		**PKPdf**	**16 05 41.3**	**-0.2**
	baz=305								
L63A	**North Scituate**	**125.98**	**40**	P		**PKPdf**	**16 05 41.7**	**+0.1**
	baz=301								
WATA	**Walderalm**	**126.04**	**328**	*e*PKiKP		**PKPdf**	**16 05 41.8**	**0.0**
	comp=Z,7.9nm,0.6s,SNR=5.1								
WTTA	**Wattenberg**	**126.06**	**328**	*e*PKiKP		**PKPdf**	**16 05 42.0**	**+0.2**
	comp=Z,8.9nm,0.6s,SNR=7.6								
I64A	**Boothbay**	**126.11**	**37**	P		**PKPdf**	**16 05 42.0**	**+0.2**
	baz=304								
MOTA	**Moosalm**	**126.28**	**328**	*e*PKiKP		**PKPdf**	**16 05 42.4**	**+0.2**
	comp=Z,10nm,0.6s,SNR=7.5								
SQTA	**Sankt Quirin**	**126.31**	**328**	*e*PKiKP		**PKPdf**	**16 05 42.4**	**+0.1**
	comp=Z,8.5nm,0.7s								
M64A	**Tiverton**	**126.40**	**40**	P		**PKPdf**	**16 05 42.4**	**0.0**
	baz=301								
MEM	**Membach**	**126.47**	**334**	PKPdf		**PKiKP**	**16 05 43.0**	**+0.2**
H65A	**Eastbrook**	**126.49**	**36**	P		**PKiKP**	**16 05 43.0**	**0.0**
	baz=306								
UBR	**Ueberruh**	**126.58**	**329**	*e*PKPdf		**PKPdf**	**16 05 42.7**	**0.0**
	baz=49,slow=1.9								
G65A	**Princeton**	**126.58**	**35**	P		**PKiKP**	**16 05 43.1**	**0.0**
	baz=307								
FETA	**Feichten**	**126.69**	**328**	*e*PKiKP		**PKiKP**	**16 05 43.5**	**0.0**
	comp=Z,16nm,1.2s,SNR=6.4								
DAVA	**Damuels**	**126.95**	**329**	*e*PKiKP		**PKPdf**	**16 05 43.8**	**+0.3**
	comp=Z,10nm,0.8s								
H66A	**Whiting**	**126.97**	**35**	P		**PKPdf**	**16 05 43.6**	**+0.2**
	baz=307								
BFO	**Black Forest**	**127.03**	**331**	*e*PKPdf		**PKPdf**	**16 05 43.1**	**-0.4**
	baz=49,slow=1.9								
WLF	**Walferdange**	**127.10**	**333**	PKPdf		**PKiKP**	**16 05 44.5**	**+0.5**
WLF	**Walferdange**	**127.10**	**333**	*e*PKPdf		**PKiKP**	**16 05 44.6**	**+0.5**
	baz=49,slow=1.9								
BMRD	**Maredsous**	**127.23**	**335**	PKPdf		**PKiKP**	**16 05 44.8**	**+0.5**
SNF	**Seneffe**	**127.28**	**335**	PKPdf		**PKiKP**	**16 05 45.0**	**+0.6**
GIVF	**Givet**	**127.36**	**334**	*e*PKiKP		**PKiKP**	**16 05 44.8**	**+0.3**
GIVF				pmax	pmax				
	comp=Z,22nm,1.2s								
DOU	**Dourbes**	**127.46**	**335**	PKPdf		**PKiKP**	**16 05 45.3**	**+0.5**
CDF	**Champ du Feu**	**127.47**	**332**	*e*PKiKP		**PKPdf**	**16 05 44.2**	**-0.2**
CDF				pmax	pmax				
	comp=Z,6.0nm,1.0s								
BAIF	**Baives**	**127.65**	**335**	*e*PKiKP		**PKiKP**	**16 05 45.1**	**0.0**
BAIF				pmax	pmax				
	comp=Z,9.0nm,1.0s								
TUE	**Stuetta**	**127.77**	**329**	PKPdf		**PKiKP**	**16 05 46.7**	**+0.9**
AC01	**Pan de Azucar**	**127.99**	**129**	PKPdf		**PKiKP**	**16 05 47.6**	**+1.0**
HINF	**Hinteralfeld**	**128.09**	**331**	*e*PKiKP		**PKPdf**	**16 05 45.3**	**-0.2**
HINF				pmax	pmax				
	comp=Z,13nm,1.0s								
HAU	**Haudompre**	**128.20**	**332**	*e*PKiKP		**PKiKP**	**16 05 46.1**	**-0.2**
HAU				pmax	pmax				
	comp=Z,8.0nm,0.6s								
CABF	**La Chapelle**	**129.31**	**331**	*e*PKiKP		**PKiKP**	**16 05 48.7**	**0.0**
CABF				pmax	pmax				
	comp=Z,24nm,1.4s								
LPL	**La Plagne**	**129.76**	**329**	*e*PKiKP		**PKiKP**	**16 05 49.7**	**-0.1**
LPL				pmax	pmax				
	comp=Z,3.0nm,0.5s								
LPG	**La Plagne**	**129.76**	**329**	*e*PKiKP		**PKiKP**	**16 05 49.8**	**-0.1**
LPG				pmax	pmax				
	comp=Z,5.0nm,0.6s								
BNI	**Bardonecchia**	**130.10**	**329**	PKiKP		**PKiKP**	**16 05 51.1**	**+0.7**
BNI	**Bardonecchia**	**130.10**	**329**	PKPdf		**PKiKP**	**16 05 51.1**	**+0.7**
SSF	**Saint Saulge**	**130.21**	**333**	*e*PKiKP		**PKiKP**	**16 05 50.5**	**+0.1**
SSF				pmax	pmax				
	comp=Z,22nm,1.3s								
MBDF	**Montbardon**	**130.28**	**328**	*e*PKiKP		**PKiKP**	**16 05 50.8**	**0.0**
MBDF				pmax	pmax				
	comp=Z,4.0nm,0.6s								
FLN	**La Foliniere**	**130.58**	**337**	*e*PKiKP		**PKiKP**	**16 05 50.9**	**-0.1**
FLN				pmax	pmax				
	comp=Z,15nm,1.0s								
ORIF	**Oris-en-Rattie**	**130.60**	**329**	*e*PKiKP		**PKiKP**	**16 05 51.1**	**-0.2**
ORIF				pmax	pmax				
	comp=Z,8.0nm,0.7s								
GRR	**Gorron**	**131.03**	**337**	*e*PKiKP		**PKiKP**	**16 05 51.9**	**0.0**
GRR				pmax	pmax				
	comp=Z,11nm,0.7s								
FRF	**La Foret Royal**	**131.13**	**327**	*e*PKiKP		**PKiKP**	**16 05 52.3**	**0.0**
FRF				pmax	pmax				
	comp=Z,57nm,1.8s								
VIVF	**Saint-Julien-l**	**131.26**	**330**	*e*PKiKP		**PKiKP**	**16 05 52.5**	**-0.1**
VIVF				pmax	pmax				
	comp=Z,19nm,1.4s								
TCF	**Toulx Ste Croi**	**131.38**	**333**	*e*PKiKP		**PKiKP**	**16 05 52.8**	**0.0**
TCF				pmax	pmax				
	comp=Z,14nm,1.1s								
QUIF	**Quistinic**	**132.30**	**338**	*e*PKiKP		**PKPdf**	**16 05 54.0**	**+0.6**
QUIF				pmax	pmax				
	comp=Z,50nm,1.8s								
ROSC	**El Rosal**	**133.14**	**88**	PKP		**PKiKP**	**16 05 58.5**	**+0.8**
	comp=Z,21nm,0.5s,baz=151,slow=21,SNR=7.3								
KEST	**Kesra**	**134.32**	**317**	PKP		**PKPdf**	**16 05 57.8**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=297,slow=2.3,SNR=3.4								
KEST				SKP			16 09 28.3		
	comp=Z,5.6nm,0.9s,baz=53,slow=5.1,SNR=5.3								
LPAZ	**La Paz**	**134.51**	**118**	PKhKP		PKPpre	16 05 49.8		
	comp=Z,1.0nm,0.5s,baz=351,slow=2.4,SNR=5.9								
LPAZ				PKP		**PKiKP**	**16 06 00.9**	**+0.3**	
	comp=Z,5.9nm,0.7s,baz=304,slow=2.0,SNR=19								
LPAZ				SKP			16 09 28.9		
	comp=Z,3.0nm,0.9s,baz=117,slow=2.3,SNR=7.9								
SJPF	**Ste Jean**	**135.39**	**333**	*e*PKiKP		**PKiKP**	**16 06 02.0**	**+1.0**
SJPF				pmax	pmax				
	comp=Z,4.0nm,0.6s								
CPUP	**Villa Florida**	**137.54**	**138**	PKP		**PKiKP**	**16 06 05.0**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=236,slow=3.1,SNR=5.9								
PGAV	**Gavieira, Arco**	**139.26**	**338**	*e*PKPdf		**PKiKP**	**16 06 09.8**	**+0.8**
ESDC	**Sonseca Array**	**139.36**	**332**	PKhKP		PKPpre	16 05 59.7		
	comp=Z,0.7nm,0.8s,baz=24,slow=2.3,SNR=2.9								
ESDC				PKP		**PKPdf**	**16 06 07.6**	**+0.7**	
	comp=Z,1.2nm,0.8s,baz=5.1,slow=2.5,SNR=6.9								
MVO	**Moncorvo**	**139.47**	**336**	*e*PKPdf		**PKiKP**	**16 06 09.1**	**-0.3**
HUMP	**Col San Antoni**	**140.05**	**67**	PKPdf		**PKiKP**	**16 06 10.3**	**-0.8**
PVIS	**Viseu**	**140.19**	**337**	*e*PKPdf		**PKiKP**	**16 06 11.8**	**+0.9**
MTE	**Manteigas**	**140.32**	**336**	*e*PKPdf		**PKPdf**	**16 06 07.1**	**-1.6**
PCBR	**Castelo Branco**	**140.77**	**336**	*e*PKPdf		**PKPdf**	**16 06 08.6**	**-0.8**
PCAS	**Casmilo, Conde**	**141.00**	**337**	*e*PKPdf		**PKPdf**	**16 06 07.3**	**-2.5**
PMRV	**Marv??o**	**141.08**	**335**	*e*PKPdf		**PKPdf**	**16 06 11.1**	**+1.1**
PSBE	**So Bento**	**141.58**	**337**	*e*PKPdf		**PKiKP**	**16 06 12.4**	**-1.3**
PMTG	**Montargil**	**141.73**	**336**	*e*PKPdf		**PKPdf**	**16 06 09.5**	**-1.6**
PBEJ	**Beja**	**142.46**	**334**	*e*PKPdf		**PKPdf**	**16 06 09.1**	**-3.4**
PNCL	**Nicolau / Gran**	**142.67**	**335**	*e*PKPdf		**PKPdf**	**16 06 10.0**	**-2.8**
MESJ	**Messejana**	**142.77**	**335**	*e*PKPdf		**PKPdf**	**16 06 09.8**	**-3.2**
PCVE	**Castro Verde**	**142.87**	**334**	*e*PKPdf		**PKPdf**	**16 06 10.2**	**-3.0**
PVAQ	**Vaqueiros**	**142.92**	**334**	*e*PKPdf		**PKPdf**	**16 06 10.3**	**-3.0**
PTEO	**Sao Teotonio**	**143.23**	**335**	*e*PKPdf		PKPbc	16 06 11.6	+0.7
PFVI	**Vila Bisbo**	**143.62**	**335**	*e*PKPdf		PKPbc	16 06 13.0	+1.0
CHEFC	**Chefchaouen**	**143.63**	**329**	P		PKPbc	16 06 13.0	+0.7
	SNR=7.4								
RSA	**Sarsar**	**144.05**	**329**	P		PKPbc	16 06 14.0	+0.5
	SNR=12								
CZD	**Col de Zad**	**145.05**	**326**	P		**PKPdf**	**16 06 19.0**	**+1.4**
	SNR=44								
FDF	**Fort de France**	**145.24**	**71**	PKIKP		**PKPdf**	**16 06 19.7**	**+1.7**
FDF	**Fort de France**	**145.24**	**71**			**PKPdf**	**16 06 19.7**	**+1.7**
GRGR	**Grenville**	**145.26**	**76**	PKPbc		**PKPbc**	**16 06 16.4**	**-1.4**
RTC	**Rabat Centre**	**145.28**	**329**	P		**PKPdf**	**16 06 19.0**	**+1.4**
	SNR=9.1								
SVB	**Belmont**	**145.45**	**74**	PKPdf		**PKPdf**	**16 06 18.4**	**+0.1**
ZHG	**ZHG**	**145.59**	**329**	P		**PKPab**	**16 06 19.5**	**+0.8**
	SNR=61								
PTGA	**Pitinga**	**146.90**	**99**			**PKPab**	**16 06 24.1**	**-0.2**
TOA0	**Torodi Ar. Sit**	**150.22**	**288**			**PKPbc**	**16 06 31.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**150.22**	**288**	PKPbc		**PKPbc**	**16 06 31.2**	**-0.1**
	comp=Z,23nm,0.4s,baz=21,slow=1.4,SNR=41								
TORD				PKPab		**PKPab**	**16 06 37.7**	**+0.2**	
	comp=Z,51nm,0.6s,baz=66,slow=3.3,SNR=35								
TORD	**Torodi Ar. Bea**	**150.22**	**288**			**PKPbc**	**16 06 31.6**	**+0.2**
BDFB	**Brasilia**	**151.15**	**135**	PKP		**PKPdf**	**16 06 28.3**	**+0.6**
	comp=Z,10nm,0.9s,baz=214,slow=6.2,SNR=4.9								
BDFB				PKPbc		**PKPbc**	**16 06 34.0**	**+0.3**	
	comp=Z,16nm,0.9s,baz=51,slow=1.1,SNR=15								
KIC	**Kosan Boka**	**157.51**	**275**	*e*PKP2		**PKPab**	**16 07 08.1**	**-0.5**
	comp=Z,97nm,0.9s								
DBIC	**Dimbokro**	**157.60**	**276**	PKPab		**PKPab**	**16 07 08.9**	**0.0**
	comp=Z,17nm,0.6s,baz=72,slow=5.1,SNR=21								
DBIC	**Dimbokro**	**157.60**	**276**	PKP2		**PKPab**	**16 07 09.3**	**+0.3**
DBIC	**Dimbokro**	**157.60**	**276**			**PKPab**	**16 07 09.3**	**+0.3**
TIC	**Toumodi**	**157.77**	**276**	*e*PKP2		**PKPab**	**16 07 09.1**	**-0.6**
LIC	**Lamto**	**157.80**	**275**	*e*PKP2		**PKPab**	**16 07 09.2**	**-0.6**
	comp=Z,126nm,1.2s								

BGS 20 16:01:02.9±0.7, 55.79N×6.35W, h7km±14km, ML1.7, United Kingdom

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LAWE	**Loch Awe, Argy**	**0.71**	**48**	*e*P		Pg	16 01 15.9	-0.7
LAWE				*e*S		Sg	16 01 25.5	-0.3
LAWE				IAML			16 01 26.7	
	comp=N,42nm,0.2s							
LAWE				IAML			16 01 26.7	
	comp=E,34nm,0.1s							
LAWE	**Loch Awe, Argy**	**0.71**	**48**	*e*P		Pg	16 01 15.9	-0.7
LAWE				*e*S		Sg	16 01 25.5	-0.3
LAWE				IAML			16 01 26.7	
	comp=N,42nm,0.2s							
LAWE				IAML			16 01 26.7	
	comp=E,34nm,0.1s							
CLGH	**Cloghs, Cushen**	**0.72**	**169**	*e*P		Pg	16 01 16.5	-0.2
CLGH				*e*S		Sg	16 01 25.7	-0.4
CLGH				IAML			16 01 27.5	
	comp=N,44nm,0.1s							
CLGH				IAML			16 01 28.2	
	comp=E,54nm,0.3s							
CLGH	**Cloghs, Cushen**	**0.72**	**169**	*e*P		Pg	16 01 16.5	-0.2
CLGH				*e*S		Sg	16 01 25.7	-0.4
CLGH				IAML			16 01 27.5	
	comp=N,44nm,0.1s							
CLGH				IAML			16 01 28.2	
	comp=E,54nm,0.3s							
PGBU	**Glenifferbraes**	**1.06**	**88**	*e*P		Pg	16 01 22.5	-0.6
PGBU				*e*S		Sg	16 01 36.0	-0.8
PGBU				IAML			16 01 37.1	
	comp=N,31nm,0.3s							
PGBU				IAML			16 01 37.4	
	comp=E,20nm,0.2s							
PGBU	**Glenifferbraes**	**1.06**	**88**	*e*P		Pg	16 01 22.5	-0.6
PGBU				*e*S		Sg	16 01 36.0	-0.8
PGBU				IAML			16 01 37.1	
	comp=N,31nm,0.3s							
PGBU				IAML			16 01 37.4	
	comp=E,20nm,0.2s							
EAB	**Aberfoyle**	**1.20**	**70**	*e*P		Pg	16 01 24.9	-1.0
EAB	**Aberfoyle**	**1.20**	**70**	*e*P		Pg	16 01 24.9	-1.0
INVG	**Invergeldie, C**	**1.44**	**63**	*e*P		Pn	16 01 28.8	-0.6
INVG				IAML			16 01 49.8	
	comp=N,8.4nm,0.1s							
INVG				IAML			16 01 49.9	
	comp=E,5.9nm,0.3s							
INVG	**Invergeldie, C**	**1.44**	**63**	*e*P		Pn	16 01 28.8	-0.6
INVG				IAML			16 01 49.8	
	comp=N,8.4nm,0.1s							
INVG				IAML			16 01 49.9	
	comp=E,5.9nm,0.3s							
KPL	**Plockton**	**1.60**	**14**	*e*P		Pn	16 01 30.3	-1.4
KPL				IAML			16 01 56.5	
	comp=N,2.6nm,0.4s							
KPL				IAML			16 01 57.2	
	comp=E,5.2nm,0.3s							
KPL	**Plockton**	**1.60**	**14**	*e*P		Pn	16 01 30.3	-1.4
KPL				IAML			16 01 56.5	
	comp=N,2.6nm,0.4s							
KPL				IAML			16 01 57.2	
	comp=E,5.2nm,0.3s							
KAC	**Achnashellach**	**1.81**	**18**	*e*P		Pn	16 01 32.9	-1.7
KAC	**Achnashellach**	**1.81**	**18**	*e*P		Pn	16 01 32.9	-1.7

BGS 20 16:01:48.9±0.7, 55.79N×6.38W, h7km, ML2.5, United Kingdom

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CLGH	**Cloghs, Cushen**	**0.72**	**168**	*e*P		Pg	16 02 02.6	-0.1
CLGH				*e*S		Sg	16 02 11.7	-0.5
CLGH				IAML			16 02 14.3	
	comp=E,302nm,0.3s							
CLGH				IAML			16 02 14.8	
	comp=N,256nm,0.4s							
CLGH	**Cloghs, Cushen**	**0.72**	**168**	*e*P		Pg	16 02 02.6	-0.1
CLGH				*e*S		Sg	16 02 11.7	-0.5
CLGH				IAML			16 02 14.3	
	comp=E,302nm,0.3s							
CLGH				IAML			16 02 14.8	
	comp=N,256nm,0.4s							
LAWE	**Loch Awe, Argy**	**0.73**	**49**	*e*P		Pg	16 02 02.1	-0.8
LAWE				*e*S		Sg	16 02 12.2	-0.1
LAWE				IAML			16 02 12.9	
	comp=N,279nm,0.2s							
LAWE				IAML			16 02 12.9	
	comp=E,231nm,0.1s							
LAWE	**Loch Awe, Argy**	**0.73**	**49**	*e*P		Pg	16 02 02.1	-0.8
LAWE				*e*S		Sg	16 02 12.2	-0.1
LAWE				IAML			16 02 12.9	
	comp=N,279nm,0.2s							
LAWE				IAML			16 02 12.9	
	comp=E,231nm,0.1s							
PGBU	**Glenifferbraes**	**1.07**	**88**	*e*P		Pg	16 02 08.7	-0.7
PGBU				*e*S		Sg	16 02 22.4	-0.8
PGBU				IAML			16 02 23.4	
	comp=N,245nm,0.2s							
PGBU				IAML			16 02 23.5	
	comp=E,181nm,0.1s							
PGBU	**Glenifferbraes**	**1.07**	**88**	*e*P		Pg	16 02 08.7	-0.7
PGBU				*e*S		Sg	16 02 22.4	-0.8
PGBU				IAML			16 02 23.4	
	comp=N,245nm,0.2s							
PGBU				IAML			16 02 23.5	
	comp=E,181nm,0.1s							
EAB	**Aberfoyle**	**1.21**	**70**	*e*P		Pb	16 02 10.1	-2.1
EAB	**Aberfoyle**	**1.21**	**70**	*e*P		Pb	16 02 10.1	-2.1
INVG	**Invergeldie, C**	**1.46**	**63**	*e*P		Pn	16 02 14.6	-1.0
INVG				*e*S		Sn	16 02 31.6	-3.3
INVG				IAML			16 02 35.9	
	comp=N,77nm,0.3s							
INVG				IAML			16 02 35.9	
	comp=E,44nm,0.3s							
INVG	**Invergeldie, C**	**1.46**	**63**	*e*P		Pn	16 02 14.6	-1.0
INVG				*e*S		Sn	16 02 31.6	-3.3
INVG				IAML			16 02 35.9	
	comp=N,77nm,0.3s							
INVG				IAML			16 02 35.9	
	comp=E,44nm,0.3s							
KPL	**Plockton**	**1.61**	**14**	*e*P		Pn	16 02 16.3	-1.3
KPL				IAML			16 02 39.8	
	comp=E,31nm,0.4s							
KPL				IAML			16 02 42.7	
	comp=N,22nm,0.4s							
KPL	**Plockton**	**1.61**	**14**	*e*P		Pn	16 02 16.3	-1.3
KPL				IAML			16 02 39.8	
	comp=E,31nm,0.4s							
KPL				IAML			16 02 42.7	
	comp=N,22nm,0.4s							
KAC	**Achnashellach**	**1.82**	**19**	*e*P		Pn	16 02 19.1	-1.5
KAC	**Achnashellach**	**1.82**	**19**	*e*P		Pn	16 02 19.1	-1.5
MDO	**Dochfour**	**2.00**	**33**	*e*P		Pn	16 02 21.1	-1.9
MDO	**Dochfour**	**2.00**	**33**	*e*P		Pn	16 02 21.1	-1.9

RHSSO 20 16:03:51.4±0.6, 44.15N×17.85E, h5km, ML1.4/4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MGRS	**Mrkonjic Grad**	**0.61**	**296**	*e*Pg		Pg	16 04 02.5	-0.7
MGRS				*e*Sg		Sg	16 04 11.1	-0.1
BLY	**Banja Luka**	**0.77**	**322**	*e*Pg		Pg	16 04 05.4	-0.7
BLY				*e*Sg		Sg	16 04 16.3	+0.2
HAPS	**Han Pijesak,Bl**	**0.79**	**94**	*e*Pg		Pg	16 04 05.6	-1.0
HAPS				*e*Sg		Sg	16 04 16.8	-0.2
RICI	**Ricice**	**0.83**	**219**	*e*Pg		Pb	16 04 08.6	+0.2
RICI				Sg		Sn	16 04 21.9	-0.6
MAKA	**Makarska**	**1.05**	**215**	*e*Pg		Pn	16 04 12.7	-0.1
MAKA				Sg		Sn	16 04 28.0	+0.3
KIJV	**Kijevo**	**1.05**	**263**	*e*Pg		Pg	16 04 11.4	-0.2
KIJV				Sg		Sb	16 04 25.7	-0.5
BBLS	**Lazići**	**1.16**	**104**	*e*Pg		Pg	16 04 12.5	-1.1
BBLS				*e*Sg		Sg	16 04 28.3	-0.3
HVAR	**Hvar**	**1.41**	**227**	*e*Pn		Pg	16 04 19.4	+1.0
HVAR				Sn		Sn	16 04 41.3	+4.7
DBRK	**Dubrovnik**	**1.49**	**172**	*e*Pn		Pg	16 04 21.6	+1.6
MORI	**Morici**	**1.57**	**260**	*e*Pn		Pb	16 04 21.0	+0.1
MORI				Sn		Sg	16 04 43.2	+1.3
ZIRJ	**Zirje**	**1.67**	**254**	*e*Pn		Pb	16 04 22.9	+0.2
ZIRJ				Sn		Sg	16 04 45.7	+0.7
DUGI	**Dugi Otok**	**2.02**	**267**	*e*Pn		Pn	16 04 26.7	+0.6
DUGI				Sn		Sb	16 04 54.3	+0.3

NIED ***20*** *16:10:00,31.20N×131.50E,h32km,Mw4.2 Best double couple: M0 2.46000×10^15 NP1:φs39.00000°,δ89.00000°, λ94.00000°. NP2:φs208.00000°,δ22.00000°,λ80.00000°.*
JMA ***20*** *16:10:34.4±0.1,31.11N×131.51E,h27km±1km,M3.9*
JMA Felt I J1.
NEIC ***20*** *16:10:36.9±2.0,31.20N±0.07×131.3E±0.1,h55km±7km, mb4.7/5,Error ellipse: s-maj=15.4km s-min=9.9km az=101.0*
IDC ***20*** *16:10:37.3±1.9,31.20N×131.31E,h59km±17km,mb3.6/14, mb1 3.7/19,mb1mx3.6/43,mbtmp3.8/19,MS3.3/3, Ms1 3.3/3,ms1mx3.0/33,Error ellipse: s-maj=20.7km s-min=14.9km az=93.0*

**ISC 20 16:10:35.1±1.0, 31.11N±0.04×131.44E±0.07, h43km±8km, n47,σ

AKASG	**Malin Array Be**	**73.65**	**320**	P		**P**	**16 22 03.0**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=57,slow=6.7,SNR=4.4							
NOA	**NORSAR Array B**	**76.17**	**334**	P		**P**	**16 22 17.0**	**-1.4**
	comp=Z,0.6nm,0.7s,baz=50,slow=5.8,SNR=2.2							
BRTR	**Keskin Array B**	**76.26**	**308**	P		**P**	**16 22 19.4**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=128,slow=5.4,SNR=7.3							
BRTR				LR		LR	17 02 53.9	
	comp=Z,25nm,18.9s,baz=52,slow=41							
FRB	**Frobisher Bay**	**84.14**	**9**	P		**P**	**16 23 00.7**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=357,slow=3.0,SNR=4.4							
NVAR	**Mina Array Bea**	**85.12**	**48**	P		**P**	**16 23 08.1**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=292,slow=4.8,SNR=1.9							
PTGA	**Pitinga**	**147.91**	**22**	PKPbc		**PKiKP**	**16 30 16.3**	**-1.9**
	comp=Z,2.2nm,0.7s,baz=302,slow=8.6,SNR=4.7							

*IDC **20** 16:14:52.2±0.8,21°.44N×45°.76W,h0km,mb4.0/15, mb1 4.2/15,mb1mx4.0/42,mbtmp4.1/15,MS3.6/10, Ms1 3.6/10,ms1mx3.4/34,Error ellipse: s-maj=22.5km s-min=16.7km az=146.0*
*NEIC **20** 16:14:52.5±1.7,21°.3N±0°.1×45°.7W±0°.1,h10km±1km, mb4.5/12,Error ellipse: s-maj=22.2km s-min=19.1km az=133.0*

ISC 20 16:14:53.5±0.6,**21°.4N**±0°.1×**45°.76W**±0°.09,**h11**km,**n42**, σ1§**21**/28,**mb4.3**/18,**MS3.6**/8,**Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**17.51**	**203**	LR	LR	16 24 14.1	
	comp=Z,92nm,21.8s,baz=34,slow=32						
SJG	**San Juan**	**19.46**	**264**	LR	LR	16 25 15.6	
	comp=Z,230nm,21.6s,baz=88,slow=32						
PLCV	**Puerto La Cruz**	**21.25**	**241**	P	**P**	**16 19 41.9**	**+2.0**
PCRV	**Puerto La Cruz**	**21.28**	**241**	P	**P**	**16 19 41.9**	**+1.7**
	13nm,0.9s,baz=24,slow=5.8,SNR=2.8						
PTGA	**Pitinga**	**26.00**	**214**	LR	LR	16 29 14.5	
	comp=Z,116nm,21.5s,baz=10.0,slow=33						
RCBR	**Riachuelo**	**28.72**	**159**	LR	LR	16 29 07.6	
	comp=Z,111nm,19.3s,baz=323,slow=30						
RUSC	**La Rusia**	**30.61**	**244**	P	**P**	**16 21 07.4**	**-1.0**
ROSC	**El Rosal**	**32.21**	**243**	LR	LR	16 34 43.0	
	comp=Z,74nm,21.1s,baz=228,slow=37						
NCB	**Newcomb**	**32.61**	**320**	P	**P**	**16 21 24.6**	**-0.6**
NCB				IAmb	IAmb	16 21 28.0	
	comp=Z,5.9nm,0.8s						
TZTN	**Tazewell**	**36.09**	**303**	P	**P**	**16 21 55.1**	**-0.3**
TZTN				IAmb	IAmb	16 21 57.4	
	comp=Z,6.6nm,0.9s						
ESDC	**Sonseca Array**	**39.94**	**53**	P	**P**	**16 22 28.3**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=254,slow=9.1,SNR=6.8						
ESDC				LR	LR	16 36 24.3	
	comp=Z,75nm,19.1s,baz=235,slow=32						
DBIC	**Dimbokro**	**42.14**	**104**	LR	LR	16 37 44.7	
	comp=Z,111nm,18.2s,baz=283,slow=33						
H10N3	**ASCENSION HYDR**	**42.25**	**130**	T	T	17 07 45.3	
	baz=314,slow=75,SNR=174						
H10N2	**ASCENSION HYDR**	**42.25**	**130**	T	T	17 07 40.5	
	baz=314,slow=75,SNR=175						
H10N1	**ASCENSION HYDR**	**42.27**	**130**	T	T	17 07 46.8	
	baz=314,slow=75,SNR=177						
H10S3	**ASCENSION HYDR**	**42.91**	**131**	T	T	17 08 29.5	
	baz=313,slow=74,SNR=76						
H10S2	**ASCENSION HYDR**	**42.93**	**131**	T	T	17 08 30.7	
	baz=267,slow=74,SNR=27						
LPAZ	**La Paz**	**43.39**	**212**	P	**P**	**16 22 58.2**	**+1.2**
	comp=Z,2.3nm,1.0s,baz=5.5,slow=5.1,SNR=6.3						
FRB	**Frobisher Bay**	**45.02**	**346**	P	**P**	**16 23 10.0**	**+1.2**
	comp=Z,1.9nm,0.6s,baz=138,slow=8.8,SNR=3.2						
F36A	**Milaca**	**45.80**	**314**	P	**P**	**16 23 16.0**	**+0.6**
TORD	**Torodi Ar. Bea**	**45.91**	**92**	P	**P**	**16 23 15.8**	**-0.8**
	comp=Z,3.9nm,1.0s,baz=295,slow=7.9,SNR=11						
TORD				LR	LR	16 40 58.2	
	comp=Z,125nm,18.6s,baz=290,slow=34						
TORD	**Torodi Ar. Bea**	**45.91**	**92**	P	**P**	**16 23 15.7**	**-0.9**
BORG	**Borgarnes**	**46.26**	**14**	P	**P**	**16 23 17.8**	**-0.7**
CPUP	**Villa Florida**	**48.74**	**194**	P	**P**	**16 23 38.3**	**0.0**
	comp=Z,1.9nm,0.8s,baz=30,slow=8.1,SNR=3.5						
CPUP	**Villa Florida**	**48.74**	**194**	IAmb	IAmb	16 23 41.6	
	comp=Z,4.3nm,1.1s						
ABTX	**Abilene, Hawle**	**48.84**	**295**	P	**P**	**16 23 38.1**	**-1.2**
KEST	**Kesra**	**49.87**	**61**	P	**P**	**16 23 48.5**	**+1.4**
	comp=Z,7.4nm,0.8s,baz=184,slow=6.6,SNR=9.3						
DAVOX	**Davos/Dischmat**	**51.33**	**47**	P	**P**	**16 23 59.5**	**+1.4**
	comp=Z,2.6nm,0.8s,baz=323,slow=11,SNR=3.1						
GO02	**Mina Guanaco**	**51.74**	**208**	P	**P**	**16 23 59.6**	**-1.8**
GO02				IAmb	IAmb	16 24 08.1	
	comp=Z,4.3nm,0.8s						
GERES	**GERESS Array B**	**54.20**	**45**	P	**P**	**16 24 18.9**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=278,slow=7.8,SNR=5.0						
NOA	**NORSAR Array B**	**55.68**	**30**	P	**P**	**16 24 29.8**	**+0.2**
	comp=Z,1.0nm,1.1s,baz=249,slow=7.3,SNR=2.0						
NOA				LR	LR	16 43 55.2	
	comp=Z,62nm,20.2s,baz=45,slow=31						
PDAR	**Pinedale Array**	**56.75**	**308**	P	**P**	**16 24 37.3**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=60,slow=5.5,SNR=8.9						
IMW	**Indian Meadow**	**57.77**	**309**		**P**	**16 24 48.3**	**+3.2**
PSUT	**Pine Spring**	**60.16**	**303**		**P**	**16 25 01.1**	**-0.5**
YKA	**Yellowknife Ar**	**61.49**	**330**	P	**P**	**16 25 08.7**	**-1.4**
	comp=Z,2.4nm,0.8s,baz=103,slow=7.5,SNR=9.4						
FINES	**FINESS Array B**	**62.77**	**31**	P	**P**	**16 25 18.2**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=282,slow=6.4,SNR=2.1						
AKASG	**Malin Array Be**	**64.32**	**43**	P	**P**	**16 25 28.5**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=268,slow=6.2,SNR=4.7						
AKASG	**Malin Array Be**	**64.32**	**43**	IAmb	IAmb	16 25 31.8	
	comp=Z,0.8nm,0.9s						
BCAR	**Beaver Creek A**	**73.85**	**332**	P	**P**	**16 26 27.7**	**-0.4**
ILAR	**Eielson Array**	**75.49**	**334**	P	**P**	**16 26 38.5**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=75,slow=4.8,SNR=12						
ILAR	**Eielson Array**	**75.49**	**334**		**P**	**16 26 37.3**	**-0.3**
ZALV	**Zalesovo Beam**	**93.78**	**27**	LR	LR	17 08 49.7	
	comp=Z,24nm,18.1s,baz=128,slow=34						

*THE **20** 16:20:04.7,38°.11N×20°.07E,h5km±6km,ML2.7/4,Error ellipse: s-maj=6.4km s-min=1.0km az=92.0*
*ATH **20** 16:20:04.5,38°.12N×20°.09E,h17km±2km,ML2.7/3,Error ellipse: s-maj=3.9km s-min=1.7km az=55.0*

ISC 20 16:20:03.0±2.1,**38°.12N**±0°.07×**19°.96E**±0°.08,**h13**km±11km, **n30**,σ1§**00**/40,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.32**	**75**	P	**Pg**	**16 20 09.6**	**+0.1**
KEF3				S	**Sg**	**16 20 13.3**	**-0.5**
KEF4	**Livadi, Kephal**	**0.39**	**70**	P	**Pg**	**16 20 11.0**	**+0.2**
KEF4				S	**Sg**	**16 20 15.7**	**-0.3**
ARGA	**Argostoli. Kep**	**0.41**	**82**	P	**Pg**	**16 20 11.3**	**0.0**
ARGA				S	**Sg**	**16 20 16.2**	**-0.6**
ARG2	**Argostoli**	**0.42**	**82**	P	**Pg**	**16 20 11.4**	**0.0**
ARG2				S	**Sg**	**16 20 16.5**	**-0.5**
KEF5	**Kardakata, Kep**	**0.43**	**69**	P	**Pg**	**16 20 11.7**	**+0.1**
KEF5				S	**Sg**	**16 20 17.0**	**-0.3**
VLS	**Valsamata**	**0.50**	**84**	P	**Pg**	**16 20 12.5**	**-0.3**
VLS				S	**Sg**	**16 20 18.6**	**-0.9**
	3µm,0.2s						
VLS	**Valsamata**	**0.50**	**84**	P	**Pg**	**16 20 12.5**	**-0.3**
VLS				S	**Sg**	**16 20 18.6**	**-0.9**
VLS				AML	AML	16 20 19.0	
	comp=E,4936µm,0.2s						
VLS				AML	AML	16 20 19.4	
	comp=N,4997µm,0.2s						
VSK1	**VASILIKIADES**	**0.55**	**59**	P	**Pg**	**16 20 14.1**	**+0.2**
VSK1				S	**Sg**	**16 20 21.1**	**-0.1**
	comp=N,1µm,0.3s						
FSK	**Fiskardo**	**0.58**	**55**	P	**Pg**	**16 20 14.5**	**+0.1**
FSK				S	**Sg**	**16 20 21.9**	**-0.2**
	comp=N,422nm,0.5s						
FSK	**Fiskardo**	**0.58**	**55**	P	**Pg**	**16 20 14.4**	**+0.1**
FSK				S	**Sg**	**16 20 21.5**	**-0.5**
EVGI	**Lefkada island**	**0.74**	**48**	P	**Pg**	**16 20 17.4**	**+0.1**
EVGI	**Lefkada island**	**0.74**	**48**	P	**Pg**	**16 20 17.4**	**+0.1**
LKD2	**Lefkada island**	**0.86**	**39**	P	**Pb**	**16 20 20.0**	**+0.1**
LKD2	**Lefkada island**	**0.86**	**39**	P	**Pb**	**16 20 19.8**	**0.0**
TSLK	**Tsoukalades, L**	**0.89**	**38**	P	**Pb**	**16 20 20.8**	**+0.5**
TSLK				S	**Sn**	**16 20 33.7**	**-0.3**
TSLK	**Tsoukalades, L**	**0.89**	**38**	P	**Pb**	**16 20 20.7**	**+0.5**
PVO	**Paravola**	**1.32**	**68**	P	**Pb**	**16 20 28.0**	**+0.2**
PVO				S	**Sg**	**16 20 46.3**	**+0.6**
	comp=N,195nm,0.5s						
PVO	**Paravola**	**1.32**	**68**	P	**Pb**	**16 20 28.0**	**+0.2**
PVO				AML	AML	16 20 53.5	
	comp=E,490µm,0.6s						
PVO				AML	AML	16 20 55.2	
	comp=N,286µm,0.4s						
DRO	**Drossia**	**1.39**	**97**	P	**Pb**	**16 20 29.5**	**+0.6**
DRO				AML	AML	16 20 55.9	
	comp=E,114µm,0.6s						
DRO				AML	AML	16 20 57.5	
	comp=N,500µm,0.4s						
ANX	**Ano Chora**	**1.61**	**72**	P	**Pn**	**16 20 31.9**	**+0.6**
ANX	**Ano Chora**	**1.61**	**72**	P	**Pb**	**16 20 33.4**	**+0.7**
KLV	**Kalavryta, Ach**	**1.73**	**92**	P	**Pb**	**16 20 34.5**	**-0.2**
DBRK	**Dubrovnik**	**4.75**	**344**	Sn	**Sn**	**16 22 08.9**	**-0.2**
MAKA	**Makarska**	**5.62**	**338**	Sn	**Sn**	**16 22 26.9**	**-3.7**
RICI	**Ricice**	**5.78**	**339**	Sn	Sn	16 22 25.3	-9.3
ZIRJ	**Zirje**	**6.42**	**331**	*e*Pn	Pn	16 21 46.1	+8.8
ZIRJ				Sn	**Sn**	**16 22 52.0**	**+1.7**
KIJV	**Kijevo**	**6.46**	**337**	*e*Pn	**Pn**	**16 21 39.1**	**+1.3**
KIJV				Sn	Sn	16 22 39.2	-12
MORI	**Morici**	**6.58**	**332**	*e*Pn	Pn	16 21 46.0	+6.6
MORI				Sn	**Sn**	**16 22 50.7**	**-3.5**
DUGI	**Dugi Otok**	**6.93**	**329**	*e*Pn	Pn	16 21 52.3	+8.0
DUGI				Sn	**Sn**	**16 23 03.0**	**0.0**
NVLJ	**Novalja**	**7.49**	**331**	Sn	Sn	16 23 06.6	-10

*SKHL **20** 16:21:35.2±0.3,45°.83N×143°.06E,h338km±2km,mb3.6/3, msh4.2/5*
*JMA **20** 16:21:35.5±0.2,45°.76N×143°.02E,h343km,M2.8*

ISC 20 16:21:33.3±1.4,**45°.78N**±0°.07×**143°.03E**±0°.09,**h350**km,**n17**, σ1§**90**/26,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSE	**Soyaes**	**0.87**	**201**	P	**Pn**	**16 22 19.9**	**+1.3**
JWK2	**Keihoku**	**0.92**	**240**	P	**Pn**	**16 22 20.4**	**+1.7**
YSS	**Yuzh-Sakhalins**	**1.19**	**351**	*i* P	**Pn**	**16 22 20.2**	**+0.5**
YSS				AMB	AMB	16 22 21.3	
	20nm,0.4s						
YSS				*e*S	**S**	**16 22 55.2**	**-1.8**
YSS				A	A	16 23 00.0	
	40nm,0.8s						
YSS				A	A	16 23 00.0	
	20nm,0.8s						
JRR	**Rishiri**	**1.36**	**243**	P	**Pn**	**16 22 22.3**	**+1.6**
JRBN	**Rebuntou**	**1.42**	**256**	P	**Pn**	**16 22 22.0**	**+1.1**
JTKR	**Abashiri--Toko**	**1.91**	**161**	P	**Pn**	**16 22 25.9**	**+1.9**
JKK2	**Kamakawa 2**	**1.91**	**186**	P	**Pn**	**16 22 26.4**	**+2.3**
JAR	**Ashorobuto**	**2.54**	**168**	P	**Pn**	**16 22 31.0**	**+2.3**
JAK	**Akkeshi**	**3.03**	**156**	P	**Pn**	**16 22 34.3**	**+1.4**
JAK				*e*S	**S**	**16 23 19.7**	**-1.1**
AKK	**Akkeshi**	**3.05**	**154**	*e*S	**S**	**16 23 19.6**	**-1.6**
AKK				A	A	16 23 19.9	
	20nm,0.4s						
AKK				A	A	16 23 19.9	
	20nm,0.4s						
NMR	**Nemuro--Hokkai**	**3.08**	**140**	*e*P	**Pn**	**16 22 35.1**	**+1.7**
NMR				*e*S	**S**	**16 23 21.5**	**-0.3**
NMR				A	A	16 23 22.0	
	10.0nm,0.2s						
NMR				A	A	16 23 22.0	
	10.0nm,0.2s						
NEM2	**Nemuro 2**	**3.10**	**140**	P	**Pn**	**16 22 34.2**	**+0.7**
NEM2				*e*S	**S**	**16 23 19.1**	**-2.8**
JCH	**Churui**	**3.17**	**176**	P	**Pn**	**16 22 35.2**	**+1.0**
JCH				*e*S	**S**	**16 23 21.0**	**-2.2**
JNBK	**Urakawa-nobuka**	**3.50**	**183**	P	**Pn**	**16 22 39.0**	**+1.7**
JNBK				*e*S	**S**	**16 23 28.7**	**-0.2**
JKB	**Kayabe**	**4.15**	**201**	P	**Pn**	**16 22 45.6**	**+1.8**
JKB				*e*S	**S**	**16 23 39.0**	**-1.7**
JOT	**Ohata**	**4.62**	**199**	P	**Pn**	**16 22 50.5**	**+1.7**
JOT				*e*S	**S**	**16 23 47.9**	**-1.9**
JANG	**Nango**	**5.51**	**192**	P	**Pn**	**16 23 00.3**	**+1.7**
JANG				*e*S	**S**	**16 24 03.9**	**-3.8**

IDC 20 16:48:21.8±3.7,**22°.13S**×**176°.75W**,**h0**km,**mb4.0**/3, **mb1 4.2**/3,**mb1mx3.6**/31,**mbtmp4.0**/3,**Error ellipse: s-maj=156.9km s-min=51.6km az=146.0,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.16**	**246**	P	P	16 55 42.8	-0.3
	1.4nm,0.9s,baz=80,slow=12,SNR=2.8						
ASAR	**Alice Springs**	**45.30**	**258**	P	P	16 56 41.6	-0.1
	1.6nm,0.5s,baz=96,slow=7.1,SNR=53						
ASAR				PcP	PcP	16 58 20.6	-1.1
	0.4nm,0.5s,baz=119,slow=3.9,SNR=4.7						
WRA	**Warramunga Arr**	**45.55**	**263**	P	P	16 56 43.6	-0.1
	1.4nm,0.5s,baz=95,slow=7.9,SNR=64						
H03S2	**Juan Fernandez**	**84.11**	**124**	T	T	18 32 53.6	
	baz=245,slow=74,SNR=6.6						
H03S1	**Juan Fernandez**	**84.13**	**124**	T	T	18 33 01.4	
	baz=245,slow=74,SNR=7.0						
H03S3	**Juan Fernandez**	**84.13**	**124**	T	T	18 32 57.1	
	baz=245,slow=74,SNR=8.4						
H03N2	**Juan Fernandez**	**84.26**	**124**	T	T	18 33 03.2	
	baz=246						
H03N3	**Juan Fernandez**	**84.26**	**124**	T	T	18 33 04.1	
	baz=246						
H03N1	**Juan Fernandez**	**84.28**	**124**	T	T	18 33 03.9	
	baz=246						
AKASG	**Malin Array Be**	**145.00**	**331**	PKPbc	PKPab	17 08 00.2	0.0
	0.7nm,0.4s,baz=39,slow=3.5,SNR=5.3						

*NERS **20** 16:54:04.7±0.0,60°.24N×141°.69E,h33km*
YARS 20 16:54:05.3±0.0,**60°.84N**×**140°.27E**,**h10**km,**ML1.8**/1, **Eastern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKHR	**Okhotsk**	**2.10**	**133**	*e*P	Pg	16 55 05.5	+20
OKHR				Pgmax		16 55 06.4	
	30nm,0.3s						
OKHR				*e*S	Sg	16 55 24.7	+12
OKHR				Sgmax		16 55 25.9	
	150nm,0.3s						
OKHR				Sgmax		16 55 25.9	
	50nm,0.3s						
OCHR	**Omchak**	**3.76**	**74**	*e*Pg	Pn	16 55 07.1	+3.7
OCHR				Pgmax		16 55 11.4	
	10.0nm,0.3s						
OCHR				*e*Sg	Sn	16 55 48.1	+0.3
OCHR				Sgmax		16 55 50.9	
	10.0nm,0.3s						
OCHR				Sgmax		16 55 50.9	
	20nm,0.3s						
UNR	**Ust'-Nera**	**3.99**	**19**	*e*Pg	Pg	16 55 23.5	+1.9
	0.7nm,0.2s						
UNR				*e*Sg	Sg	16 56 18.9	+5.7
	16nm,1.3s						
SUUS	**Susuman**	**4.22**	**59**	*e*Pg	Pb	16 55 18.5	-1.1
SUUS				Pgmax		16 55 23.2	
	10.0nm,0.3s						
SUUS				*e*Sg	Sb	16 56 10.4	-0.2
SUUS				Sgmax		16 56 18.0	
	30nm,0.4s						
SUUS				Sgmax		16 56 18.0	
	30nm,0.4s						
TBGR	**Tabaga**	**5.21**	**286**	*i* P	Pn	16 55 23.4	+0.2
TBGR				*e*Pn	Pb	16 55 27.6	-8.9
TBGR				*i* Pg	Pg	16 55 49.2	+4.1
	12nm,0.6s						
TBGR				*i* S	Sn	16 56 24.9	+1.6
TBGR				*e*Sg	Sg	16 56 58.5	+5.9
	58nm,0.8s						
MGD	**Magadan 1**	**5.24**	**94**	*e*Sg	Sn	16 56 25.3	+1.3
MGD				Sgmax		16 56 29.1	
	20nm,0.3s						
MGD				Sgmax		16 56 29.1	
	20nm,0.3s						
CGD	**Chagda**	**5.30**	**251**	*e*Pn	Pn	16 55 29.2	+4.7
CGD				*e*Pg	Pg	16 55 50.7	+3.9
	2.0nm,0.3s						
CGD				*e*Sg	Sg	16 57 03.3	+7.9
	16nm,0.3s						
MA2	**Magadan**	**5.39**	**99**	*e*Sg	Sn	16 56 28.9	+1.2
MA2				Sgmax		16 56 33.0	
	10.0nm,0.4s						
MA2				Sgmax		16 56 33.0	
	10.0nm,0.4s						
MA2	**Magadan**	**5.39**	**99**	*e*P	Pn	16 55 24.8	-0.9
MA2				*e*S	Sn	16 56 29.0	+1.4
TLAR	**Talaya**	**5.91**	**82**	*e*Sg	Sb	16 56 52.6	-6.6
TLAR				Sgmax		16 56 58.5	
	40nm,0.3s						
TLAR				Sgmax		16 56 58.5	
	30nm,0.3s						

*IDC **20** 16:59:56.5±1.1,9°.50N×126°.93E,h0km,mb3.9/9, mb1 4.1/11,mb1mx3.8/39,mbtmp4.0/11,ML4.4/2,MS3.1/2, Ms1 3.1/2,ms1mx2.5/41,Error ellipse: s-maj=57.9km s-min=15.2km az=69.0*
*MAN **20** 17:00:01.3,9°.38N×126°.81E,h122km,mb4.8,ML3.7, MS3.7*
*NEIC **20** 17:00:04.1±2.5,9°.35N±0°.10×126°.9E±0°.1,h56km±9km, mb4.4/25,Error ellipse: s-maj=21.7km s-min=13.0km az=73.0*

ISC 20 17:00:03.3±1.4,**9°.35N**±0°.04×**126°.83E**±0°.07,**h47**km±13km, **n62**,σ1§**93**/71,**mb4.2**/19,**1C-3D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.39**	**288**	*e*P	**Pn**	**17 00 23.6**	**-2.7**
SCPH				*e*S	**Sn**	**17 00 41.2**	**-2.3**
MSLP	**Maasin**	**2.09**	**292**	*e*P	**Pn**	**17 00 34.8**	**-1.2**
MSLP				*e*S	**Sn**	**17 01 02.4**	**+1.6**
BUKP	**Musuan**	**2.28**	**230**	*e*P	**Pn**	**17 00 37.9**	**-0.7**
BUKP				*e*S	**Sn**	**17 01 07.3**	**+1.8**
CGP	**Cagayan de Oro**	**2.29**	**247**	*e*P	**Pn**	**17 00 35.2**	**-3.5**
CGP				*e*S	**Sn**	**17 01 02.3**	**-3.4**
DMPH	**Davao City--Mi**	**2.61**	**210**	*e*P	Pn	17 00 50.6	+7.6
DMPH				*i* S	**Sn**	**17 01 19.1**	**+5.6**
OCLP	**Ormoc**	**2.76**	**308**	*e*P	**Pn**	**17 00 45.6**	**+0.4**
KCP	**Kidapawan**	**2.90**	**217**	*e*P	**Pn**	**17 00 42.8**	**-4.3**
KCP				*i* S	**Sn**	**17 01 26.5**	**+5.7**
TBP	**Tagbilaran**	**2.95**	**277**	*e*P	**Pn**	**17 00 46.5**	**-1.2**
TBP				*i* S	**Sn**	**17 01 23.4**	**+1.5**
LLP	**Lapu-Lapu**	**2.98**	**289**	*e*P	**Pn**	**17 00 48.1**	**-0.1**
LLP				*i* S	**Sn**	**17 01 25.1**	**+2.4**
DDMP	**Don Marcelino,**	**3.41**	**199**	*e*P	**Pn**	**17 00 55.5**	**+1.4**
DDMP				*e*S	**Sn**	**17 01 35.4**	**+2.1**
SNPH	**Sibulan**	**3.55**	**270**	*e*P	**Pn**	**17 00 56.6**	**+0.6**
SNPH				*i* S	**Sn**	**17 01 41.4**	**+4.7**
CNP	**Catarman**	**3.79**	**326**	*e*P	**Pn**	**17 00 58.1**	**-1.2**
CNP				*e*S	**Sn**	**17 01 43.5**	**+0.9**
CNOP	**Candoni, Negro**	**4.16**	**277**	*e*P	**Pn**	**17 01 03.5**	**-0.8**
CNOP				*e*S	**Sn**	**17 01 49.2**	**-2.6**
GUIM	**Jordan**	**4.37**	**287**	*e*P	**Pn**	**17 01 07.3**	**+0.1**
PVCP	**Virac**	**4.97**	**328**	*e*P	**Pn**	**17 01 17.2**	**+1.8**
SIJI	**Sorong**	**11.07**	**156**	Pn	**Pn**	**17 02 39.5**	**+0.4**
	0.6nm,0.3s,baz=5.2,slow=11,SNR=2.2						
SIJI				Sn	**Sn**	**17 04 36.6**	**-5.1**
	0.2nm,0.3s,baz=285,slow=20,SNR=1.4						
SBUM	**Sibu**	**16.06**	**246**	P	**P**	**17 03 49.8**	**+0.9**
GUMO	**Guam**	**18.17**	**75**	LR	LR	17 10 40.5	
	comp=Z,27nm,18.2s,baz=220,slow=36						
KSM	**Kuching**	**18.21**	**246**	P	**P**	**17 04 13.9**	**+1.3**
SOEI	**Soe**	**19.15**	**188**	P	**P**	**17 04 20.6**	**-2.5**
SOEI				IAmb	IAmb	17 05 09.2	
	comp=Z,36nm,1.1s						
BATI	**Baumata**	**19.68**	**189**	P	**Pn**	**17 04 30.4**	**-0.1**
	comp=Z,6.2nm,0.3s,baz=13,slow=2.6,SNR=10						
KNRA	**Kununurra**	**24.94**	**176**	P	**P**	**17 05 22.8**	**+0.4**
KNRA				IAmb	IAmb	17 05 24.7	
	comp=Z,33nm,1.6s						
FITZ	**Fitzroy Crossi**	**27.30**	**182**	P	**P**	**17 05 43.8**	**+0.1**
	comp=Z,2.6nm,0.5s,baz=9.5,slow=10,SNR=15						
FITZ	**Fitzroy Crossi**	**27.30**	**182**	P	**P**	**17 05 44.1**	**+0.4**
FITZ				IAmb	IAmb	17 06 01.7	
	comp=Z,14nm,1.4s						
CMAR	**Chiang Mai Arr**	**28.51**	**292**	P	**P**	**17 05 54.5**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=102,slow=8.7,SNR=2.0						
WB0	**Warramunga Arr**	**29.88**	**166**	P	**P**	**17 06 06.1**	**-0.6**
WB0				IAmb	IAmb	17 06 33.8	
	comp=Z,13nm,1.5s						
WRA	**Warramunga Arr**	**30.04**	**166**	P	**P**	**17 06 07.5**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=346,slow=9.4,SNR=6.5						
WRA	**Warramunga Arr**	**30.04**	**166**	P	**P**	**17 06 07.6**	**-0.5**
WB2	**Warramunga Arr**	**30.04**	**166**	P	**P**	**17 06 07.8**	**-0.3**
WB2				IAmb	IAmb	17 06 48.4	
	comp=Z,14nm,1.6s						
WR0	**Warramunga Arr**	**30.10**	**165**	P	**P**	**17 06 08.8**	**+0.2**
WR0				IAmb	IAmb	17 06 32.4	
	comp=Z,5.4nm,1.1s						
PSA00	**Pilbara Seismi**	**31.49**	**193**	P	**P**	**17 06 20.8**	**-0.1**
PSA00				IAmb	IAmb	17 07 07.0	
	comp=Z,26nm,1.6s						
AS31	**Alice Springs**	**33.54**	**168**	P	**P**	**17 06 36.8**	**-2.1**
ASAR	**Alice Springs**	**33.54**	**168**	P	**P**	**17 06 39.0**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=351,slow=7.4,SNR=18						
ASAR				PcP	**PcP**	**17 09 19.5**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=346,slow=2.2,SNR=1.5						
ASAR	**Alice Springs**	**33.54**	**168**	P	**P**	**17 06 38.8**	**-0.1**
GIRL	**Giralia**	**34.11**	**201**	P	**P**	**17 06 45.3**	**+1.5**
MORW	**Morawa**	**39.59**	**195**	P	**P**	**17 07 30.8**	**+0.5**
H11S3	**WAKE ISLAND Hy**	**39.66**	**72**	T	T	17 50 26.0	
	baz=262,slow=75,SNR=21						
H11S1	**WAKE ISLAND Hy**	**39.67**	**72**	T	T	17 50 28.4	
	baz=262,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**39.68**	**72**	T	T	17 50 29.2	
	baz=262,slow=75,SNR=16						
FORT	**Forrest**	**39.92**	**178**	P	**P**	**17 07 33.5**	**+0.5**
FORT				IAmb	IAmb	17 08 08.8	
	comp=Z,16nm,1.0s						
BBOO	**Buckleboo**	**42.84**	**169**	P	**P**	**17 07 57.5

SIJI Sn **Sn** **17 23 43.1 -2.2**
10nm,0.3s,baz=351,slow=19,SNR=15
BNDI Bandanaira 6.07 258 P **Pn** **17 23 00.7 +0.9**
0.6nm126nm,1.2s
SANI Sanana 9.92 276 P **Pn** **17 23 53.1 +0.4**
825nm10nm,0.9s
WRA Warramunga Arr 16.69 185 Pn **Pn** **17 25 21.0 -2.8**
0.2nm,0.3s,baz=1.0,slow=13,SNR=12
WRA Sn Sn 17 28 18.0 -10
0.3nm,0.3s,baz=6.8,slow=23,SNR=5.3
FITZ Fitzroy Crossi 17.85 213 P **Pn** **17 25 37.4 -0.9**
0.2nm,0.3s,baz=41,slow=10,SNR=13
FITZ S Sn 17 28 46.0 -11
0.3nm,0.3s,baz=90,slow=18,SNR=5.5
PLAI Plampang 18.81 252 P **P** **17 25 50.0 +0.7**
35nm,2.1s
CTA Charters Tower 19.60 150 P **P** **17 25 59.8 +1.9**
0.1nm,0.3s,baz=300,slow=8.1,SNR=2.2
ASAR Alice Springs 20.41 185 P **P** **17 26 08.5 +1.7**
9.1nm,1.0s,baz=9.6,slow=10,SNR=47
ASAR S **S** **17 29 49.7 -4.1**
0.9nm,0.7s,baz=8.3,slow=28,SNR=4.9
MKAR Makanchi Array 68.47 324 P **P** **17 32 32.8 +1.5**
0.4nm,0.8s,baz=124,slow=7.2,SNR=4.1
ILAR Eielson Array 87.48 25 P **P** **17 34 15.9 -0.4**
0.4nm,0.7s,baz=260,slow=4.5,SNR=4.9
TORD Torodi Ar. Bea 133.64 285 PKP **PKPdf** **17 40 47.2 +0.5**
0.5nm,0.7s,baz=58,slow=3.1,SNR=2.0

NIED ***20*** *17:32:00,23.˙90N×125.˙20E,h5km,Mw4.5 Best double couple: M₀5.65000×10¹⁵ NP1:ϕ₁16.00000°,δ76.00000°, λ131.00000°. NP2:ϕ₂122.00000°,δ43.00000°,λ21.00000°.*
BJI ***20*** *17:32:10.5±0.0,23.˙72N×125.˙51E,h32km,mB4.5/35, mb4.5/54,Ms4.1/44,Ms7 3.9/42*
IDC ***20*** *17:32:11.1±0.6,24.˙05N×125.˙18E,h0km,mb4.4/24, mb1 4.5/25,mb1mx4.5/39,mbtmp4.4/25,ML3.6/2,MS3.7/17, Ms1 3.7/17,ms1mx3.5/40,Error ellipse: s-maj=16.2km s-min=12.7km az=87.0*
NEIC ***20*** *17:32:13.5±1.9,23.˙91N±0.˙05×125.˙18E±0.˙07,h23km±4km, mb4.8/98, Error ellipse: s-maj=9.3km s-min=6.3km az=108.0*
JMA ***20*** *17:32:14.5±0.1,23.˙91N×125.˙20E,h59km,M4.6*
ISC 20 17:32:12.3±1.3,23.˙86N±0.˙04×125.˙25E±0.˙03,h15km±7km, n241,σ1§52/254,mb4.7/91,MS3.8/19,2C-1D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ2	**Miyako jima3**	**0.88**	**5**	P	**Pn**	**17 32 30.4**	**+0.2**
JMJ2				S	**Sn**	**17 32 42.1**	**-0.7**
JOGS	**Gusukube**	**0.91**	**9**	P	**Pn**	**17 32 30.9**	**+0.3**
JOGS				S	**Sn**	**17 32 43.3**	**-0.1**
JTJ	**Tarama**	**0.93**	**327**	P	**Pn**	**17 32 30.8**	**0.0**
JTJ				S	**Sg**	**17 32 42.8**	**+0.4**
JIRB	**Irabujima**	**0.97**	**356**	P	**Pn**	**17 32 31.2**	**-0.2**
JIRB				S	**Sg**	**17 32 44.2**	**+0.5**
JIKM	**Ikemajima**	**1.06**	**360**	P	**Pg**	**17 32 32.9**	**+0.1**
JIKM				S	**Sg**	**17 32 46.5**	**-0.1**
JISG	**Ishigakijimahi**	**1.12**	**310**	P	**Pn**	**17 32 33.5**	**0.0**
JISG				S	**Sb**	**17 32 47.0**	**-0.9**
JIJ	**Ishigaki jima**	**1.13**	**297**	P	**Pn**	**17 32 33.7**	**+0.1**
JIJ				S	**Sb**	**17 32 47.6**	**-0.5**
JKRS	**Kuro-shima**	**1.20**	**289**	P	**Pb**	**17 32 34.9**	**+0.2**
JKRS				S	**Sb**	**17 32 49.5**	**-0.5**
HATJ	**Hateruma jima**	**1.34**	**279**	P	**Pn**	**17 32 36.6**	**+0.1**
HATJ				S	**Sn**	**17 32 52.0**	**-2.0**
IRIF	**Iriomote-Funau**	**1.47**	**289**	P	**Pn**	**17 32 38.5**	**+0.2**
IRIF				S	**Sn**	**17 32 55.9**	**-1.4**
YOJ	**Yonaguni jima**	**2.13**	**287**	P	**Pn**	**17 32 47.6**	**+0.2**
YOJ				S	**Sn**	**17 33 12.1**	**-1.6**
YOJ	**Yonaguni jima**	**2.13**	**287**	Pn	**Pn**	**17 32 47.5**	**+0.2**
JYNG	**Yonagunijimaku**	**2.19**	**286**	P	**Pn**	**17 32 48.4**	**+0.2**
JYNG				S	**Sn**	**17 33 13.9**	**-1.1**
NACB	**Ninganchiao**	**3.36**	**276**		**Pn**	**17 33 03.4**	**-0.9**
TATO	**Taipei**	**3.61**	**289**		**Pn**	**17 33 08.5**	**+0.8**
YHNB	**Yeheng**	**3.63**	**284**	Pn	**Pn**	**17 33 09.0**	**+0.9**
YULB	**Yu-li**	**3.66**	**263**		**Pn**	**17 33 06.9**	**-1.5**
SSLB	**Suanglung**	**3.94**	**270**	Pn	**Pn**	**17 33 11.7**	**-0.5**
TWG	**Pinlang**	**3.98**	**256**		**Pn**	**17 33 11.3**	**-1.6**
JOW	**Kunigami**	**4.03**	**42**	Pn	**Pn**	**17 33 13.8**	**+0.3**
	3.2nm,0.3s,baz=198,slow=3.2,SNR=48						
JOW				S	**Sn**	**17 33 56.2**	**-4.4**
	2.6nm,0.3s,baz=77,slow=18,SNR=3.5						
TPUB	**Ta-pu**	**4.28**	**263**	Pn	**Pn**	**17 33 17.4**	**+0.4**
QZH	**Quanzhou**	**6.17**	**281**	⇓*i*Pn	**Pn**	**17 33 42.3**	**-0.6**
QZH				LR	LR		
	comp=N,1μm,16.1s						
QZH				LR	LR		
	comp=E,470nm,18.4s						
QZH				LR	LR		
	comp=Z,620nm,15.1s						
KNMB	**Chin-men Tao**	**6.30**	**277**	Pn	**Pn**	**17 33 43.9**	**-0.7**
HKPS	**Hong Kong Po S**	**10.35**	**263**	Pn	**Pn**	**17 34 39.1**	**-1.3**
JNU	**Nakatsue**	**10.47**	**27**	Pn	**Pn**	**17 34 41.1**	**-0.8**
	0.9nm,0.3s,baz=294,slow=5.9,SNR=9.5						
JNU	**Nakatsue**	**10.47**	**27**	Pn	**Pn**	**17 34 41.7**	**-0.3**
INCN	**Inchon**	**13.63**	**5**	Pn	**Pn**	**17 35 26.0**	**+0.8**
KSAR	**Wonju Array Be**	**13.73**	**9**	Pn	**Pn**	**17 35 25.5**	**-0.9**
KSRS	**Korea Array**	**13.74**	**9**	Pn	**Pn**	**17 35 27.1**	**+0.5**
	0.2nm,0.3s,baz=188,slow=13,SNR=31						
KSRS				LR	LR	17 40 27.0	
	comp=Z,115nm,20.9s,baz=188,slow=37						
KS19	**Wonju Array Si**	**13.78**	**9**		**Pn**	**17 35 27.3**	**+0.1**
QIZ	**Qiongzhong**	**15.13**	**254**	P	**Pn**	**17 35 45.4**	**-0.2**
QIZ				S	**Sn**	**17 38 30.0**	**-3.0**
QIZ				LR	LR		
	comp=N,310nm,22.1s						
QIZ				LR	LR		
	comp=E,250nm,18.6s						
QIZ				LR	LR		
	comp=Z,230nm,20.6s						
DL2	**Dalian**	**15.31**	**349**	P	**Pn**	**17 35 50.0**	**+2.1**
DL2				*e*S	**Sn**	**17 38 40.8**	**+3.5**
DL2				pmax	pmax		
	comp=Z,100nm,1.0s						
DL2				pmax	pmax		
	comp=Z,220nm,4.6s						
DL2				LR	LR		
	comp=N,260nm,17.8s						
DL2				LR	LR		
	comp=E,270nm,11.3s						
DL2				LR	LR		
	comp=Z,360nm,15.5s						
INU	**Inuyama**	**15.34**	**39**	P	**P**	**17 35 53.5**	**+0.5**
ENH	**Enshi**	**15.42**	**298**	P	**Pn**	**17 35 49.9**	**+0.4**
JCJ	**Chichijima**	**15.63**	**75**	Pn	**P**	**17 35 54.6**	**-1.6**
JHJ2	**Mitsune**	**15.76**	**51**	Pn	**Pn**	**17 35 54.7**	**+0.8**
MAJO	**Matsushiro**	**16.86**	**38**	P	**Pn**	**17 36 08.7**	**+0.8**
MAT	**Matsushiro**	**16.86**	**38**	P	**P**	**17 36 11.2**	**+1.2**
MAT				*e*S	**Sn**	**17 39 16.6**	**+1.5**
MJAR	**Matsushiro Arr**	**16.87**	**38**	Pn	**P**	**17 36 12.1**	**+2.1**
	0.2nm,0.3s,baz=232,slow=11,SNR=54						
MJAR				LR	LR	17 42 31.7	
	comp=Z,106nm,19.4s,baz=220,slow=37						
MJAR	**Matsushiro Arr**	**16.87**	**38**	P	**P**	**17 36 09.5**	**-0.5**
MJB9	**Matsu-Tunnel**	**16.87**	**38**	P	**P**	**17 36 09.8**	**-0.2**
GYA	**Guiyang**	**17.03**	**283**	P	**P**	**17 36 16.8**	**+4.9**
GYA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
GYA				LR	LR		
	comp=N,320nm,14.3s						
GYA				LR	LR		
	comp=E,310nm,15.1s						
GYA				LR	LR		
	comp=Z,350nm,12.8s						
XAN	**Xi'an**	**17.50**	**309**	P	**P**	**17 36 17.8**	**+0.7**
XAN				pP	pwP	17 36 23.8	+0.7
XAN				pmax	pmax		
	comp=Z,14nm,0.8s						
XAN	**Xi'an**	**17.50**	**309**	P	**Pn**	**17 36 14.3**	**-1.7**
BJT	**Baijiatuan**	**17.84**	**337**	P	**Pn**	**17 36 18.1**	**-1.9**
BJI	**Beijing**	**17.86**	**337**	P	**P**	**17 36 20.6**	**-0.3**
BJI				S	**Sn**	**17 39 38.1**	**-1.0**
BJI				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BJI				LR	LR		
	comp=Z,350nm,14.2s						
BJI				LR	LR		
	comp=Z,180nm,12.3s						
SLVN	**Son La**	**19.87**	**267**	P	**P**	**17 36 39.7**	**-3.5**
CN2	**Changchun**	**19.89**	**0**	*e*P	**P**	**17 36 43.0**	**-0.2**
CN2				*e*S	**S**	**17 40 26.8**	**+0.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CN2				pmax	pmax		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=Z,300nm,12.0s						
CN2				LR	LR		
	comp=Z,200nm,12.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
CD2	**Chengdu**	**20.32**	**295**	P	Pn	17 36 49.0	-1.0
CD2				S	**S**	**17 40 33.0**	**-2.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2				LR	LR		
	comp=Z,550nm,17.2s						
CD2				LR	LR		
	comp=Z,360nm,9.0s						
CD2				LR	LR		
	comp=Z,540nm,11.2s						
KMI	**Kunming**	**20.52**	**278**	⇑P	Pn	17 36 53.5	+0.8
KMI				pP	pwP	17 37 01.6	+4.3
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MDJ	**Mudanjiang**	**21.01**	**9**	P	**P**	**17 36 52.4**	**-2.9**
USA0B	**Ussuriysk Arra**	**21.03**	**14**	P	**P**	**17 36 52.9**	**-2.6**
USRK	**Ussuriysk Ar.**	**21.03**	**14**	P	**P**	**17 36 53.0**	**-2.5**
	comp=Z,3.0nm,0.7s,baz=193,slow=9.3,SNR=4.4						
USRK	**Ussuriysk Ar.**	**21.03**	**14**	P	**P**	**17 36 52.8**	**-2.7**
GUMO	**Guam**	**21.18**	**115**	P	**P**	**17 36 55.4**	**-1.9**
GUMO				IAmb	IAmb	17 37 30.9	
	comp=Z,61nm,1.1s						
LZH	**Lanzhou**	**22.14**	**308**	*e*P	**P**	**17 37 08.5**	**+0.8**
LZH				pP	pwP	17 37 17.9	+3.1
LZH				sP	sP	17 37 23.6	+11
LZH				pmax	pmax		
	comp=Z,26nm,1.0s						
LZH				pmax	pmax		
	comp=Z,120nm,5.0s						
LZH				LR	LR		
	comp=Z,220nm,14.6s						
LZH				LR	LR		
	comp=Z,340nm,14.6s						
LZH				LR	LR		
	comp=Z,290nm,13.0s						
TNTI	**Ternate**	**23.04**	**175**	P	**P**	**17 37 19.6**	**+2.4**
TNTI	**Ternate**	**23.04**	**175**	P	**P**	**17 37 17.0**	**-0.2**
TNTI				IAmb	IAmb	17 37 28.4	
	comp=Z,26nm,0.9s						
ERM	**Erimo**	**23.45**	**35**	P	**P**	**17 37 19.9**	**-1.2**
ERM				IAmb	IAmb	17 37 23.6	
	comp=Z,44nm,1.0s						
MRSI	**Marisa**	**23.46**	**188**	P	**P**	**17 37 24.2**	**+2.8**
	comp=Z,477nmcomp=Z,18nm,0.9s						
LBMI	**Labuha**	**24.45**	**175**	P	**P**	**17 37 32.8**	**+2.0**
	comp=Z,88μmcomp=Z,867nmcomp=Z,37nm,1.0s						
ASAJ	**Asahikawa**	**24.71**	**31**	P	**P**	**17 37 33.2**	**+0.3**
	comp=Z,9.7nm,0.7s,baz=235,slow=7.6,SNR=20						
JKA	**Kamikawa-asahi**	**24.71**	**31**	P	**P**	**17 37 32.3**	**-0.6**
JKA				IAmb	IAmb	17 37 35.3	
	comp=Z,13nm,0.9s						
SBUM	**Sibu**	**24.74**	**213**	P	**P**	**17 37 33.6**	**+0.2**
LUWI	**Luwuk**	**24.87**	**186**	P	**P**	**17 37 31.8**	**-2.8**
LUWI				IAmb	IAmb	17 37 57.7	
	comp=Z,27nm,0.9s						
CM31	**Chiang Mai Arr**	**25.10**	**263**	P	**P**	**17 37 33.9**	**-2.8**
CMAR	**Chiang Mai Arr**	**25.10**	**263**	P	**P**	**17 37 38.9**	**+2.2**
	comp=Z,1.9nm,0.8s,baz=60,slow=8.8,SNR=8.3						
CMAR				LR	LR	17 48 45.9	
	comp=Z,111nm,18.4s,baz=82,slow=40						
CMAR	**Chiang Mai Arr**	**25.10**	**263**	P	**P**	**17 37 35.8**	**-0.9**
SIJI	**Sorong**	**25.27**	**166**	P	**P**	**17 37 41.4**	**+3.2**
	comp=Z,3.5nm,0.8s,baz=328,slow=10,SNR=3.7						
HIA	**Hailar**	**25.73**	**352**	P	**P**	**17 37 40.8**	**-1.3**
SANI	**Sanana**	**25.76**	**178**	P	**P**	**17 37 43.4**	**+0.7**
	comp=Z,847nmcomp=Z,32nm,1.4s						
KLR	**Kul'dur**	**25.84**	**10**	P	**P**	**17 37 41.1**	**-1.9**
	comp=Z,3.2nm,0.8s,baz=203,slow=8.2,SNR=10						
GTA	**Gaotai**	**26.51**	**312**	P	**P**	**17 37 48.6**	**-0.9**
GTA				pP	pwP	17 38 02.3	+5.6
GTA				sP	sP	17 38 07.4	+13
GTA				S	**S**	**17 42 24.8**	**+1.5**
GTA				sS	sS	17 42 39.8	+10
GTA				SS	**SnSn**	**17 43 38.0**	**+13**
GTA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GTA				pmax	pmax		
	comp=Z,65nm,5.5s						
GTA				LR	LR		
	comp=Z,170nm,13.6s						
GTA				LR	LR		
	comp=Z,220nm,13.6s						
GTA				LR	LR		
	comp=Z,190nm,14.0s						
KSM	**Kuching**	**26.55**	**215**	P	**P**	**17 37 49.9**	**+0.1**
YSS	**Yuzh-Sakhalins**	**26.98**	**27**	P	**P**	**17 37 52.6**	**-0.8**
YSS				IAmb	IAmb	17 37 55.4	
	comp=Z,40nm,1.2s						
ULN	**Ulaanbaatar**	**27.99**	**333**	P	**P**	**17 38 01.3**	**-1.4**
ULN				IAmb	IAmb	17 38 06.0	
	comp=Z,7.0nm,0.7s						
SONM	**Songino Array**	**28.24**	**333**	P	**P**	**17 38 03.0**	**-1.9**
	comp=Z,3.2nm,0.7s,baz=152,slow=9.7,SNR=14						
SONM				LR	LR	17 50 46.7	
	comp=Z,197nm,18.7s,baz=144,slow=40						
SONM	**Songino Array**	**28.24**	**333**	P	**P**	**17 38 03.4**	**-1.4**
BBSI	**Bau Bau**	**29.29**	**185**	P	**P**	**17 38 14.1**	**-0.1**
	comp=Z,3.1nm,0.9s						
LSA	**Lhasa**	**30.92**	**288**	P	**P**	**17 38 29.9**	**+0.6**
LSA				IAmb	IAmb	17 38 47.5	
	comp=Z,16nm,1.8s						
TLY	**Talaya**	**32.36**	**335**	P	**P**	**17 38 38.6**	**-2.5**
RPSI	**Rantau Prapat**	**33.02**	**234**	P	**P**	**17 38 47.6**	**+0.4**
RPSI				IAmb	IAmb	17 38 58.0	
	comp=Z,16nm,1.2s						
TAPN	**Taplejung**	**33.95**	**284**	*e*P	**P**	**17 38 57.5**	**+1.9**
	comp=Z,23nm,0.7s						
ODAN	**Odare**	**34.26**	**283**	*e*P	**P**	**17 38 59.9**	**+1.6**
	comp=Z,37nm,0.8s						
MDSI	**Maura Dua**	**34.87**	**219**	P	**P**	**17 39 03.9**	**+0.6**
	comp=Z,9.6nm,2.3s						
RAMN	**Ramite**	**34.96**	**283**	*e*P	**P**	**17 39 05.4**	**+1.1**
	comp=Z,6.7nm,0.5s						
JIRN	**Jiri**	**35.28**	**285**	*e*P	**P**	**17 39 08.5**	**+1.2**
	comp=Z,46nm,1.1s						
GUN	**Gumba**	**35.55**	**285**	*e*P	**P**	**17 39 11.3**	**+1.8**
	comp=Z,25nm,0.8s						
PKI	**Pulchoki**	**35.98**	**285**	*e*P	**P**	**17 39 14.4**	**+1.2**
	comp=Z,25nm,1.3s						
PKIN	**Phulchoki**	**35.99**	**285**	*e*P	**P**	**17 39 13.9**	**+0.7**
	comp=Z,7.6nm,0.6s						
DMN	**Daman**	**36.25**	**285**	*e*P	**P**	**17 39 17.4**	**+2.0**
	comp=Z,14nm,0.8s						
WMQ	**Urumqi**	**36.59**	**312**	*e*P	**P**	**17 39 19.4**	**+1.5**
WMQ				pP	pwP	17 39 29.4	+4.2
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				LR	LR		
	comp=Z,86nm,11.7s						
WMQ				LR	LR		
	comp=Z,110nm,17.1s						
WMQ				LR	LR		
	comp=Z,150nm,17.1s						
GKN	**Gorkha**	**36.64**	**285**	*e*P	**P**	**17 39 19.6**	**+1.0**
	comp=Z,27nm,1.0s						
DANN	**Dangsing**	**37.40**	**286**	*e*P	**P**	**17 39 26.1**	**+0.9**
	comp=Z,18nm,0.6s						
KOLN	**Koldanda**	**37.57**	**285**	*e*P	**P**	**17 39 27.9**	**+1.3**
	comp=Z,17nm,0.8s						
PYUN	**Piuthan**	**38.09**	**286**	*e*P	**P**	**17 39 32.2**	**+1.2**
	comp=Z,15nm,0.7s						
PEA0B	**Petropavlovsk-**	**38.12**	**32**	P	**P**	**17 39 30.9**	**+0.2**
PEA0B				IAmb	IAmb	17 39 33.3	
	comp=Z,26nm,1.2s						
PETK	**Petropavlovsk-**	**38.12**	**32**	P	**P**	**17 39 31.4**	**+0.7**
	comp=Z,7.9nm,0.8s,baz=201,slow=5.1,SNR=23						
PETK				LR	LR	17 55 56.7	
	comp=Z,68nm,19.9s,baz=242,slow=38						
PETK	**Petropavlovsk-**	**38.12**	**32**		**P**	**17 39 30.9**	**+0.2**
PET	**Petropavlovsk**	**38.53**	**32**	P	**P**	**17 39 34.4**	**+0.3**
H11N1	**WAKE ISLAND Hy**	**38.79**	**88**	T	T	18 20 55.5	
	baz=283,slow=75,SNR=7.4						
H11N2	**WAKE ISLAND Hy**	**38.79**	**88**	T	T	18 20 52.3	
	baz=283,slow=75,SNR=8.0						
H11N3	**WAKE ISLAND Hy**	**38.80**	**88**	T	T	18 20 53.5	
	baz=283,slow=75,SNR=8.4						
H11S3	**WAKE ISLAND Hy**	**38.91**	**90**	T	T	18 21 07.0	
	baz=283,slow=74,SNR=8.6						
H11S1	**WAKE ISLAND Hy**	**38.91**	**90**	T	T	18 21 09.4	
	baz=283,slow=74,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**38.92**	**90**	T	T	18 21 07.5	
	baz=283,slow=74,SNR=4.4						
MA2	**Magadan**	**39.94**	**20**	P	**P**	**17 39 45.9**	**+0.1**
MK31	**Makanchi Array**	**41.19**	**315**	P	**P**	**17 39 55.6**	**-0.7**
MKAR	**Makanchi Array**	**41.19**	**315**	P	**P**	**17 39 56.1**	**-0.2**
	comp=Z,1nm,0.8s,baz=97,slow=11,SNR=114						
MKAR				LR	LR	17 58 31.7	
	comp=Z,64nm,18.7s,baz=102,slow=38						
MKAR	**Makanchi Array**	**41.19**	**315**	P	**P**	**17 39 55.1**	**-1.2**
MAKZ	**Makanchi**	**41.39**	**315**	P	**P**	**17 39 57.8**	**-0.3**
MAKZ				IAmb	IAmb	17 39 59.1	
	comp=Z,15nm,0.8s						
FITZ	**Fitzroy Crossi**	**41.70**	**179**	P	**P**	**17 40 00.7**	**0.0**
SHLS	**Shalkode**	**42.16**	**309**	*i*P	**P**	**17 40 02.6**	**-1.9**
	comp=Z,7.4nm,1.0s,baz=308						
UZB	**Uzynbulak**	**42.47**	**308**	*e*P	**P**	**17 40 07.7**	**+0.6**
	comp=Z,6.5nm,1.2s,baz=308						
ZAA0	**Zalesovo Array**	**42.58**	**325**	P	**P**	**17 40 06.0**	**-1.6**
ZAA0				IAmb	IAmb	17 40 07.4	
	comp=Z,8.6nm,0.7s						
ZALV	**Zalesovo Beam**	**42.58**	**325**	P	**P**	**17 40 06.3**	**-1.2**
	comp=Z,10nm,0.7s,baz=112,slow=8.2,SNR=45						
ZALV				LR	LR	17 59 11.5	
	comp=Z,85nm,20.5s,baz=102,slow=38						
KPKS	**Kokpek**	**42.78**	**309**	*e*P	**P**	**17 40 10.1**	**+0.6**
	comp=Z,7.5nm,0.8s,baz=308						
PRZ	**Przheval'sk**	**42.79**	**307**	P	**P**	**17 40 10.1**	**+0.3**
PRZ				IAmb	IAmb	17 40 12.6	
	comp=Z,16nm,0.8s						
SATY	**Saty**	**42.90**	**308**	*i*P	**P**	**17 40 11.0**	**+0.5**
	comp=Z,5.7nm,1.0s,baz=308						
TARG	**Taragay, Kyrgy**	**43.10**	**306**	P	**P**	**17 40 11.5**	**-1.0**
TARG				IAmb	IAmb	17 40 22.3	
	comp=Z,9.4nm,0.9s						
TDK	**Taldyorghan**	**43.30**	**311**	*i*P	**P**	**17 40 14.5**	**+0.8**
	comp=Z,18nm,0.7s,baz=311						
KDJ	**Kajisay**	**43.62**	**307**	P	**P**	**17 40 15.4**	**-1.0**
KDJ				IAmb	IAmb	17 40 18.8	
	comp=Z,21nm,1.1s						
SEM	**Semipalatinsk**	**43.67**	**319**	*e*P	**P**	**17 40 16.7**	**-0.1**
	comp=Z,6.9nm,0.9s,baz=319						
MDOK	**Medeo**	**43.89**	**308**	*e*P	**P**	**17 40 19.2**	**+0.6**
	baz=308						
TNSS	**Tian-Shan**	**43.94**	**308**	*i*P	**P**	**17 40 20.4**	**+1.1**
	baz=308						
AAA	**Alma-Ata**	**44.00**	**308**	*e*P	**P**	**17 40 20.5**	**+1.2**
	baz=308						
CHKK	**Chushkaly**	**44.06**	**309**	⇑*e*P	**P**	**17 40 19.9**	**+0.2**
	baz=309						
KSH	**Kashi**	**44.20**	**303**	*e*P	**P**	**17 40 25.3**	**+4.3**
KSH				pP	pwP	17 40 35.8	+7.5
KSH				pmax	pmax		
	comp=Z,39nm,1.2s						
KSH				pmax	pmax		
	comp=Z,170nm,4.4s						
WB0	**Warramunga Arr**	**44.27**	**168**	P	**P**	**17 40 21.7**	**+0.2**
ULHL	**Ulahol**	**44.33**	**307**	P	**P**	**17 40 23.5**	**+1.3**
	SNR=10.0						
WRA	**Warramunga Arr**	**44.43**	**168**	P	**P**	**17 40 24.6**	**+1.8**
	comp=Z,4.5nm,1.1s,baz=348,slow=8.7,SNR=16						
WRA	**Warramunga Arr**	**44.43**	**168**	P	**P**	**17 40 22.7**	**-0.1**
WB2	**Warramunga Arr**	**44.43**	**168**	P	**P**	**17 40 24.1**	**+1.3**
WB2				IAmb	IAmb	17 40 36.5	
	comp=Z,18nm,1.2s						
WR0	**Warramunga Arr**	**44.48**	**167**	P	**P**	**17 40 24.4**	**+1.2**
KUU	**Kurty**	**44.53**	**309**	*e*P	**P**	**17 40 24.0**	**+0.5**
	comp=Z,11nm,0.8s,baz=309						
BOOM	**Boomskoye usch**	**44.59**	**307**	P	**P**	**17 40 22.1**	**-2.1**
BOOM				IAmb	IAmb	17 40 26.1	
	comp=Z,9.7nm,1.2s						
KURK	**Kurchatov**	**44.75**	**319**	P	**P**	**17 40 23.7**	**-1.4**
KURK				IAmb	IAmb	17 40 26.5	
	comp=Z,14nm,0.8s						
TKM2	**Tokmak 2**	**44.90**	**308**	P	**P**	**17 40 28.0**	**+1.3**
	SNR=22						
KZA	**Kyzart**	**45.04**	**306**	P	**P**	**17 40 29.3**	**+1.3**
	SNR=6.8						
KBK	**Karagaybulak**	**45.34**	**307**	P	**P**	**17 40 31.3**	**+1.1**
	SNR=14						
CHMS	**Chumysh**	**45.53**	**308**	P	**P**	**17 40 32.4**	**+1.0**
	SNR=11						
UCH	**Uchtor**	**45.60**	**306**	P	**P**	**17 40 34.4**	**+1.8**
	SNR=26						
AAK	**Ala-Archa**	**45.67**	**307**	P	**P**	**17 40 33.0**	**+0.2**
AAK				IAmb	IAmb	17 40 34.7	
	comp=Z,9.2nm,1.3s						
SGDS	**Sogindy**	**45.68**	**308**	*e*P	**P**	**17 40 33.2**	**+0.5**
	comp=Z,4.0nm,1.0s,baz=308						
USP	**Ospenovka**	**45.75**	**308**	P	**P**	**17 40 34.3**	**+1.1**
	SNR=5.5						
AML	**Almayashu**	**46.19**	**306**	P	**P**	**17 40 38.7**	**+1.6**
	SNR=6.5						
EKS2	**Erkin-Say**	**46.19**	**307**	P	**P**	**17 40 37.9**	**+1.0**
	SNR=6.1						
NIL	**Nilore**	**46.21**	**294**	P	**P**	**17 40 36.4**	**-0.6**
NIL				IAmb	IAmb	17 40 39.6	
	comp=Z,11nm,1.1s						
BTLS	**Baital**	**46.34**	**310**	*i*P	**P**	**17 40 38.1**	**+0.3**
	comp=Z,5.0nm,1.3s,baz=310						
ARSB	**Arslanbob**	**46.64**	**305**	P	**P**	**17 40 40.8**	**+0.4**
ARSB				IAmb	IAmb	17 40 55.5	
	comp=Z,8.2nm,1.1s						
TIXI	**Tiksi**	**47.86**	**2**	P	**P**	**17 40 47.7**	**-1.5**
TIXI				IAmb	IAmb	17 40 50.3	
	comp=Z,4.3nm,0.8s						
AS31	**Alice Springs**	**47.98**	**169**	P	**P**	**17 40 52.3**	**+1.5**
ASAR	**Alice Springs**	**47.98**	**169**	P	**P**	**17 40 53.0**	**+2.2**
	comp=Z,1.8nm,0.6s,baz=355,slow=7.7,SNR=32						
ASAR	**Alice Springs**	**47.98**	**169**	P	**P**	**17 40 48.8**	**-2.0**
DZA	**Taraz**	**48.01**	**307**	*i*P	**P**	**17 40 51.7**	**+0.8**
	baz=307				

RND	**Reindeer**	**67.13**	**29**	P		**P**	**17 43 04.9**	**-0.4**
MDM	**Murphy Dome**	**67.19**	**27**	P		**P**	**17 43 05.0**	**-0.6**
WRH	**Wood River Hil**	**67.32**	**28**	P		**P**	**17 43 06.8**	**+0.4**
WRH				IAmb	IAmb		17 43 24.5	
	comp=Z,7.6nm,0.9s							
KLMR	**Klimovskoe**	**67.41**	**328**	*e*P		**P**	**17 43 05.5**	**-1.5**
KLMR				AMP			17 43 08.5	
	comp=Z,18nm,1.1s							
CCB	**Clear Creek Bu**	**67.42**	**28**	P		**P**	**17 43 07.5**	**+0.6**
IL31		**67.79**	**28**	P		**P**	**17 43 08.0**	**-1.3**
ILAR	**Eielson Array**	**67.79**	**28**	P		**P**	**17 43 09.8**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=270,slow=5.7,SNR=22							
ILAR	**Eielson Array**	**67.79**	**28**	P		**P**	**17 43 08.4**	**-0.9**
HDA	**Harding Lake**	**67.82**	**28**	P		**P**	**17 43 09.3**	**-0.3**
BMAR	**Burnt Mountain**	**68.28**	**25**	P		**P**	**17 43 14.6**	**+2.1**
KBZ	**Khabaz**	**68.57**	**309**	P		**P**	**17 43 15.6**	**+1.0**
	comp=Z,4.9nm,1.0s,baz=104,slow=1.9,SNR=5.6							
KBZ				LR		LR	18 18 04.1	
	comp=Z,30nm,18.5s,baz=102,slow=40							
AKH	**Akhalkalaki**	**68.67**	**307**	P		**P**	**17 43 15.5**	**0.0**
KIV	**Kislovodsk**	**68.67**	**310**	P		**P**	**17 43 14.5**	**-0.9**
RIDG	**Independent Ri**	**68.84**	**28**	P		**P**	**17 43 16.0**	**-0.1**
SCRK	**Sand Creek**	**69.17**	**28**	P		**P**	**17 43 17.4**	**-0.7**
SCRK				IAmb	IAmb		17 43 20.1	
	comp=Z,5.6nm,1.0s							
DOT	**Dot Lake**	**69.20**	**29**	P		**P**	**17 43 17.6**	**-0.6**
DOT				IAmb	IAmb		17 43 20.1	
	comp=Z,9.2nm,0.9s							
GLB	**Gilahina Butte**	**69.79**	**31**	P		**P**	**17 43 22.5**	**+0.6**
GLB				IAmb	IAmb		17 43 24.4	
	comp=Z,8.8nm,1.1s							
EGAK	**Eagle**	**70.19**	**27**	P		**P**	**17 43 25.2**	**+0.9**
EGAK				IAmb	IAmb		17 43 26.5	
	comp=Z,5.8nm,0.8s							
BCAR	**Beaver Creek A**	**70.33**	**29**	P		**P**	**17 43 26.3**	**+1.1**
CTGM	**Chitina Glacie**	**71.06**	**31**	P		**P**	**17 43 29.9**	**0.0**
CTGM				IAmb	IAmb		17 43 32.5	
	comp=Z,8.5nm,0.8s							
DAWY	**Dawson**	**71.12**	**28**	P		**P**	**17 43 30.4**	**+0.4**
DAWY				IAmb	IAmb		17 43 32.7	
	comp=Z,7.4nm,0.8s							
ARCES	**ARCESS Array B**	**71.22**	**339**	LR		LR	18 19 31.3	
	comp=Z,60nm,18.4s,baz=167,slow=40							
EPYK	**Eagle Plains**	**71.55**	**25**	P		**P**	**17 43 32.9**	**+0.4**
INK	**Inuvik**	**72.11**	**23**	P		**P**	**17 43 37.0**	**+1.2**
	comp=Z,11nm,0.9s,baz=280,slow=8.0,SNR=16							
INK	**Inuvik**	**72.11**	**23**	P		**P**	**17 43 36.2**	**+0.4**
INK				IAmb	IAmb		17 43 38.2	
	comp=Z,12nm,0.9s							
HYT	**Haines Junctio**	**72.90**	**31**	P		**P**	**17 43 41.7**	**+0.9**
HYT				IAmb	IAmb		17 43 44.0	
	comp=Z,8.8nm,1.0s							
FINES	**FINESS Array B**	**73.58**	**330**	P		**P**	**17 43 44.9**	**+0.2**
	comp=Z,4.9nm,0.8s,baz=86,slow=7.8,SNR=11							
FINES				LR		LR	18 19 40.2	
	comp=Z,150nm,18.3s,baz=70,slow=39							
WHY	**Whitehorse**	**74.17**	**30**	P		**P**	**17 43 49.4**	**+1.1**
WHY				IAmb	IAmb		17 43 51.1	
	comp=Z,5.7nm,0.7s							
AKASG	**Malin Array Be**	**75.56**	**319**	P		**P**	**17 43 55.6**	**-0.7**
	comp=Z,5.7nm,0.7s,baz=57,slow=6.3,SNR=18							
AKASG	**Malin Array Be**	**75.56**	**319**	P		**P**	**17 43 55.5**	**-0.9**
AKBB	**Malin Array Si**	**75.56**	**319**	P		**P**	**17 43 55.9**	**-0.5**
AKBB				IAmb	IAmb		17 43 57.0	
	comp=Z,7.6nm,0.8s							
BRTR	**Keskin Array B**	**76.34**	**307**	P		**P**	**17 44 01.9**	**+0.7**
	comp=Z,4.8nm,1.0s,baz=76,slow=6.9,SNR=8.2							
BRTR	**Keskin Array B**	**76.34**	**307**	P		**P**	**17 44 00.9**	**-0.3**
EIL	**Elat**	**78.82**	**297**	LR		LR	18 21 55.6	
	comp=Z,37nm,18.1s,baz=45,slow=38							
BURAR	**Bucovina Array**	**79.15**	**317**	P		**P**	**17 44 16.1**	**-0.5**
HFS	**Hagfors**	**79.64**	**332**	LR		LR	18 24 36.2	
	comp=Z,45nm,18.5s,baz=40,slow=40							
KWP	**Kalwaria Pacla**	**79.85**	**320**	P		**P**	**17 44 20.4**	**+0.1**
NC405	**NORSAR Array S**	**79.97**	**333**	P		**P**	**17 44 20.2**	**-0.6**
NC303	**NORSAR Array S**	**80.06**	**333**	P		**P**	**17 44 21.2**	**0.0**
NB201	**NORSAR Array S**	**80.18**	**333**	P		**P**	**17 44 20.4**	**-1.5**
NB2	**NORSAR Subarra**	**80.22**	**333**	P		**P**	**17 44 21.9**	**-0.2**
	comp=Z,12nm,0.8s,baz=57,slow=5.3							
NOA	**NORSAR Array B**	**80.22**	**333**	P		**P**	**17 44 21.8**	**-0.4**
	comp=Z,9.3nm,0.9s,baz=56,slow=5.5,SNR=32							
NOA				LR		LR	18 24 15.1	
	comp=Z,90nm,18.3s,baz=55,slow=39							
NC204	**NORSAR Array S**	**80.28**	**334**	P		**P**	**17 44 21.3**	**-1.2**
KOLS	**Kolonicke sedl**	**80.40**	**319**	*e*P		**P**	**17 44 24.2**	**+0.9**
CRVS	**Cervenica-Dubn**	**80.90**	**320**	*e*P		**P**	**17 44 26.8**	**+0.8**
YKA	**Yellowknife Ar**	**81.79**	**24**	P		**P**	**17 44 31.2**	**+0.8**
	comp=Z,6.8nm,0.9s,baz=303,slow=4.9,SNR=26							
VTS	**Vitosha**	**82.49**	**313**	P		**P**	**17 44 33.2**	**-1.5**
VTS				IAmb	IAmb		17 44 36.6	
	comp=Z,9.8nm,0.9s							
VYHS	**Vyhne**	**82.63**	**320**	*e*P		**P**	**17 44 35.8**	**+0.6**
SUMG	**Summit**	**83.18**	**355**	*i* P		**P**	**17 44 38.4**	**+0.4**
	comp=Z,21nm,1.0s							
SUMG	**Summit**	**83.18**	**355**	P		**P**	**17 44 38.2**	**+0.2**
SUMG				IAmb	IAmb		17 44 43.2	
	comp=Z,6.3nm,0.8s							
DIVS	**Divibare**	**83.95**	**316**	P		**P**	**17 44 41.6**	**-0.5**
DIVS				IAmb	IAmb		17 44 43.4	
	comp=Z,5.7nm,1.0s							
IDI	**Anoyia**	**84.46**	**306**	LR		LR	18 29 31.8	
	comp=Z,19nm,18.9s,baz=132,slow=41							
CLL	**Collm**	**84.52**	**324**	*i* P		**P**	**17 44 45.4**	**+0.7**
	comp=Z,14nm,1.6s							
GERES	**GERESS Array B**	**85.42**	**322**	P		**P**	**17 44 49.6**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=46,slow=5.8,SNR=11							
GERES	**GERESS Array B**	**85.42**	**322**	P		**P**	**17 44 48.8**	**-0.7**
GERES						**P**	**17 44 49.8**	**+0.3**
GRF	**Grafenberg Arr**	**86.35**	**324**	*e*P		**P**	**17 44 54.8**	**+0.9**
	comp=Z,5.5nm,1.1s,baz=57,slow=4.7							
BORG	**Borgarnes**	**87.96**	**346**	LR		LR	18 28 50.4	
	comp=Z,24nm,18.1s,baz=17,slow=39							
BMO	**Blue Mountains**	**91.00**	**39**	P		**P**	**17 45 17.1**	**+0.9**
BMO				IAmb	IAmb		17 45 19.3	
	comp=Z,3.6nm,1.1s							
FFC	**Flin Flon**	**91.89**	**25**	P		**P**	**17 45 20.0**	**0.0**
MFID	**Camas Ranch**	**92.70**	**40**	P		**P**	**17 45 25.2**	**+1.1**
DLMT	**Dillon**	**93.34**	**37**	P		**P**	**17 45 26.9**	**-0.2**
DLMT				IAmb	IAmb		17 45 30.2	
	comp=Z,4.9nm,0.9s							
HLID	**Hailey**	**93.44**	**39**	P		**P**	**17 45 27.4**	**-0.2**
HLID				IAmb	IAmb		17 45 31.3	
	comp=Z,3.9nm,1.0s							
NVAR	**Mina Array Bea**	**94.09**	**45**	P		**P**	**17 45 32.5**	**+1.7**
	comp=Z,0.8nm,0.8s,baz=286,slow=4.8,SNR=5.8							
NVAR	**Mina Array Bea**	**94.09**	**45**	P		**P**	**17 45 28.8**	**-2.0**

ROM 20 18:06:08.2±0.2, 41°.654N±0°.010×16°.26E±0°.01, h10km±1km, ML1.4/4, Error ellipse: s-maj=1.4km s-min=0.3km az=44.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSAG	**Monte S. Angel**	**0.27**	**283**	P	Pb	18 06 14.4	-0.8
MSAG				S	Sb	18 06 19.0	-0.8
MSAG				AML	AML		
	comp=E,68μm,0.8s						
MSAG				AML	AML		
	comp=E,68μm,0.8s						
MSAG				AML	AML		
	comp=N,130μm,0.3s						
SGRT	**San Giovanni R**	**0.40**	**285**	P	Pg	18 06 16.2	+0.2
SGRT				S	Sg	18 06 22.4	+1.1
SGRT				AML	AML		
	comp=E,56μm,0.1s						
SGRT				AML	AML		
	comp=N,111μm,0.1s						
MRVN	**Minervino Murg**	**0.59**	**184**	P	Pg	18 06 19.7	0.0
MRVN				S	Sg	18 06 28.4	+0.8
MRVN				AML	AML		
	comp=N,25μm,0.5s						
MRVN				AML	AML		
	comp=E,33μm,1.3s						
CAPA	**Cerignola FG**	**0.59**	**214**	P	Pb	18 06 20.6	-0.1
CAPA				S	Sb	18 06 28.9	-0.2
TREM	**Isole Tremiti**	**0.73**	**310**	P	Pb	18 06 22.9	-0.1
TREM				S	Sg	18 06 32.4	+0.6
AMUR	**Altamura**	**0.79**	**160**	P	Pg	18 06 23.2	-0.2
AMUR				S	Sb	18 06 34.6	-0.3
MELA	**Melanico ??? S**	**0.85**	**274**	P	Pg	18 06 24.1	-0.4
MELA				S	Sb	18 06 36.2	-0.2
MELA				AML	AML		
	comp=N,78μm,1.3s						
MELA				AML	AML		
	comp=E,88μm,0.6s						
NOCI	**Noci**	**1.06**	**145**	P	Pg	18 06 27.5	-1.0
NOCI				S	Sb	18 06 42.9	+0.3
VAGA	**Valle Agricola**	**1.54**	**262**	S	Sg	18 06 58.0	+0.4
PIPA	**Pietrapaola**	**2.21**	**169**	P	Pb	18 06 47.0	-1.2
GIUL	**Giuliano Di Ro**	**2.25**	**269**	P	Pn	18 06 43.5	-2.1
RMP	**Rome, Mte Porz**	**2.66**	**275**	P	Pb	18 06 55.5	-0.5
ARRO	**Arrone**	**2.76**	**291**	S	Sb	18 07 30.0	-1.4
SENI	**Senigallia**	**3.03**	**314**	P	Pn	18 06 51.4	-4.8
ARVD	**Arcevia**	**3.06**	**308**	S	Sb	18 07 40.0	-0.3
COR1	**Corinaldo**	**3.11**	**311**	P	Pg	18 07 06.0	-1.8
LLI	**Lipari**	**3.36**	**198**	S	Sn	18 07 43.0	+2.3
APEC	**Apecchio**	**3.41**	**305**	P	Pn	18 07 01.7	+0.2
CPGN	**Carpegna, Ital**	**3.61**	**308**	P	Pb	18 07 12.1	-0.1
MPAZ	**Palizzi**	**3.70**	**183**	P	Pg	18 07 17.5	-1.6
USI	**Ustica**	**3.77**	**220**	P	Pb	18 07 12.4	-2.5
RESU	**Resuttano**	**4.35**	**204**	P	Pb	18 07 19.6	-5.2
EUCT	**Pavia**	**6.28**	**307**	P	Pg	18 08 04.4	-4.0

*ISK **20** 18:06:19.9, 34°.78N×34°.06E, h27km, ML2.4/12*
*GII **20** 18:06:22.0±0.0, 34°.83N×34°.11E, h18km*
*NIC **20** 18:06:23.2±0.0, 35°.04N×33°.86E, h51km±1km, Ml2.5/4*

ISC 20 18:06:22.2±1.3, 34°.87N±0°.04×33°.97E±0°.04, h53km±9km, n26, σ°85/39, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.13**	**24**	P	**Pn**	**18 06 30.7**	**+0.1**
PARAL				S	**Sn**	**18 06 37.7**	**+1.3**
MVOU	**Mavrovouni**	**0.32**	**297**	P	**Pn**	**18 06 31.5**	**-0.2**
MVOU				S	**Sn**	**18 06 38.1**	**-0.5**
MVOU				AML	AML	18 06 38.1	
	1.8nm,0.2s						
MVOU				AML	AML	18 06 38.1	
	1.8nm,0.2s						
MVOU				AML	AML	18 06 38.4	
	1.8nm,0.2s						
MVOU				AML	AML	18 06 38.4	
	1.8nm,0.2s						
CSS	**Mathiatis**	**0.54**	**280**	PG	**Pn**	**18 06 33.6**	**-0.5**
CSS				SG	**Sn**	**18 06 42.3**	**-0.4**
CSS	**Mathiatis**	**0.54**	**280**	Pg	**Pn**	**18 06 33.6**	**-0.5**
CSS	**Mathiatis**	**0.54**	**280**	P	**Pn**	**18 06 33.9**	**-0.2**
CSS				S	**Sn**	**18 06 42.1**	**-0.5**
CSS				AML	AML	18 06 42.2	
	0.2nm,0.4s						
CSS				AML	AML	18 06 42.2	
	0.2nm,0.4s						
CSS				AML	AML	18 06 42.4	
	0.3nm,0.5s						
CSS				AML	AML	18 06 42.4	
	0.3nm,0.5s						
LFK	**Lefkose**	**0.54**	**318**	PG	**Pn**	**18 06 34.2**	**0.0**
LFK				SG	**Sn**	**18 06 43.9**	**+1.0**
ATHAL	**Athalassa**	**0.54**	**300**	P	**Pn**	**18 06 33.8**	**-0.4**
ATHAL				S	**Sn**	**18 06 40.8**	**-2.0**
ATHAL				AML	AML	18 06 43.9	
	1.1nm,0.5s						
ATHAL				AML	AML	18 06 43.9	
	1.1nm,0.5s						
ASGA	**Asgata**	**0.60**	**262**	P	**Pn**	**18 06 35.0**	**+0.1**
ASGA				S	**Sn**	**18 06 44.5**	**+0.4**
ASGA				AML	AML	18 06 48.6	
	0.3nm,0.5s						
ASGA				AML	AML	18 06 48.6	
	0.3nm,0.5s						
EREN	**Erenkoy**	**0.68**	**14**	PG	**Pn**	**18 06 35.3**	**-0.5**
EREN				SG	**Sn**	**18 06 46.3**	**+0.7**
SZAC	**Souni**	**0.91**	**263**	P	**Pn**	**18 06 39.2**	**+0.4**
LEF	**Lefka**	**0.92**	**286**	PG	**Pn**	**18 06 39.3**	**+0.3**
AKKU	**Akkuyu-Mersin**	**1.33**	**345**	PN	**Pn**	**18 06 44.6**	**+0.2**
IKL	**Isikli**	**1.38**	**350**	PN	**Pn**	**18 06 45.0**	**-0.2**
TEKE	**Tekeli-Mersin**	**1.45**	**331**	PN	**Pn**	**18 06 46.5**	**+0.4**
KEBE	**Keben-Mersin**	**1.59**	**352**	PN	**Pn**	**18 06 48.1**	**+0.1**
BERE	**Bereket-Mersin**	**1.59**	**338**	PN	**Pn**	**18 06 48.5**	**+0.3**
KIZK	**Mersin**	**1.61**	**5**	PN	**Pn**	**18 06 48.4**	**+0.1**
GEM	**Giv'at Ha'Em**	**2.17**	**139**	Pn	**Pn**	**18 06 56.4**	**+0.5**
GEM				Sn	**Sn**	**18 07 19.6**	**-2.1**
NATI	**Neve Ativ**	**2.17**	**137**	Pn	**Pn**	**18 06 56.5**	**+0.6**
NATI				Sn	**Sn**	**18 07 21.1**	**-0.5**
MMA0B	**Mount Meron ar**	**2.20**	**147**	Pn	**Pn**	**18 06 56.7**	**+0.3**
MMA0B				Sn	**Sn**	**18 07 21.4**	**-1.1**
TAHT	**Tahtakopru-Hat**	**2.34**	**50**	PN	**Pn**	**18 06 57.5**	**-0.8**
MMLI	**Mount Malkishu**	**2.71**	**153**	PN	**Pn**	**18 07 01.1**	**-2.3**
MMLI	**Mount Malkishu**	**2.71**	**153**	Pn	**Pn**	**18 07 03.8**	**+0.4**
MMLI				Sn	**Sn**	**18 07 35.8**	**+0.8**
CMRD	**Camardi-Nigde**	**2.90**	**16**	PN	**Pn**	**18 07 06.5**	**+0.4**
HMDT	**Nahal Hemdat**	**2.92**	**153**	Pn	**Pn**	**18 07 07.1**	**+1.0**
HMDT				Sn	**Sn**	**18 07 40.6**	**+0.7**
DSI	**Dead Sea**	**3.50**	**160**	Pn	**Pn**	**18 07 15.1**	**+1.0**

ATH 20 18:07:32.3, 38°.33N×22°.07E, h7km±1km, ML1.7/9, Error ellipse: s-maj=1.7km s-min=0.7km az=352.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRIZ	**Trizonia**	**0.04**	**8**	P	Pg	18 07 33.8	0.0
TRIZ				S	Sg	18 07 34.8	-0.1
KALE	**Kalithea**	**0.09**	**42**	P	Pg	18 07 34.7	+0.2
KALE				S	Sg	18 07 36.5	+0.4
KALE				AML	AML	18 07 37.0	
	comp=E,3612μm,0.2s						
KALE				AML	AML	18 07 37.1	
	comp=N,4564μm,0.2s						
SERG	**Sergoula**	**0.09**	**355**	P	Pg	18 07 34.5	0.0
SERG				S	Sg	18 07 35.9	-0.2
SERG				AML	AML	18 07 36.6	
	comp=E,2490μm,0.2s						
SERG				AML	AML	18 07 37.6	
	comp=N,2546μm,0.2s						
LAKA	**Lakka**	**0.11**	**219**	P	Pg	18 07 34.9	+0.1
LAKA				S	Sg	18 07 36.8	+0.2
LAKA				AML	AML	18 07 37.0	
	comp=E,433μm,0.2s						
LAKA				AML	AML	18 07 37.2	
	comp=N,465μm,0.2s						
KLV	**Kalavryta, Ach**	**0.29**	**167**	P	Pg	18 07 37.8	-0.2
KLV	**Kalavryta, Ach**	**0.29**	**167**	P	Pg	18 07 37.9	-0.2
ANX	**Ano Chora**	**0.29**	**337**	P	Pg	18 07 38.2	+0.1
ANX				S	Sg	18 07 42.2	+0.2
ANX				AML	AML	18 07 43.2	
	comp=N,771μm,0.5s						
ANX				AML	AML	18 07 44.6	
	comp=E,598μm,0.3s						
GUR	**Goura**	**0.45**	**151**	P	Pg	18 07 40.7	-0.3
GUR				AML	AML	18 07 53.0	
	comp=E,146μm,0.4s						
GUR				AML	AML	18 07 53.5	
	comp=N,139μm,0.4s						
DRO	**Drossia**	**0.47**	**217**	P	Pg	18 07 41.3	-0.1
DRO				S	Sg	18 07 48.3	+0.9
DRO				AML	AML	18 07 51.7	
	comp=E,115μm,0.2s						
DRO				AML	AML	18 07 52.8	
	comp=N,246μm,0.2s						
PVO	**Paravola**	**0.51**	**305**	P	Pg	18 07 42.5	+0.2
RLS	**Riolos of Patr**	**0.54**	**241**	P	Pg	18 07 42.6	-0.2
EVR	**Evrytania**	**0.62**	**341**	P	Pg	18 07 43.9	-0.5
EVR				AML	AML	18 07 56.3	
	comp=E,161μm,0.1s						
EVR				AML	AML	18 07 56.4	
	comp=N,164μm,0.2s						
AXAR	**Agios Charalam**	**0.64**	**46**	P	Pg	18 07 44.6	-0.1
AXAR				AML	AML	18 07 56.8	
	comp=N,329μm,0.2s						
AXAR				AML	AML	18 07 58.5	
	comp=E,271μm,0.3s						
MAKR	**Makrakomi, Fth**	**0.69**	**4**	P	Pg	18 07 45.4	-0.2
AGG	**Agios Georgios**	**0.73**	**16**	P	Pg	18 07 45.8	-0.5
AGG				S	Sg	18 07 56.6	+0.8
AGG				AML	AML	18 07 59.3	
	comp=N,56μm,0.3s						
AGG				AML	AML	18 07 59.9	
	comp=E,78μm,0.2s						
LKR	**Lokris**	**0.80**	**66**	P	Pg	18 07 47.1	-0.6
VIL2	**Platees**	**0.95**	**96**	P	Pb	18 07 51.4	+0.2

*JMA **20** 18:07:32.9±0.2, 23°.69N×126°.20E, h32km, M3.8*
*IDC **20** 18:07:34.1±0.9, 23°.96N×125°.87E, h0km, mb3.8/11, mb1 3.9/12, mb1mx3.6/61, mbtmp3.8/12, ML2.9/2, Error ellipse: s-maj=26.9km s-min=18.0km az=79.0*
*NEIC **20** 18:07:35.0±2.5, 23°.94N±0°.08×126°.03E±0°.08, h12km±5km, mb4.4/21, Error ellipse: s-maj=13.7km s-min=8.9km az=142.0*

ISC 20 18:07:36.2±1.2, 23°.91N±0°.04×126°.02E±0°.04, h19km±4km, n75, σ1°46/88, mb4.0/20, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**1.01**	**326**	P	**Pg**	**18 07 55.4**	**-0.6**
JMJ2	**Miyako jima3**	**1.04**	**323**	P	**Pb**	**18 07 55.7**	**+0.1**
JMJ2				S	**Sn**	**18 08 12.6**	**+2.8**
JIRB	**Irabujima**	**1.20**	**320**	P	**Pn**	**18 07 57.6**	**-0.4**
JIRB				S	**Sg**	**18 08 16.6**	**+1.5**
JIKM	**Ikemajima**	**1.23**	**325**	P	**Pn**	**18 07 58.1**	**-0.3**
JIKM				S	**Sg**	**18 08 16.9**	**+0.7**
JTJ	**Tarama**	**1.41**	**301**	P	**Pn**	**18 08 00.4**	**-0.4**
JTJ				S	**Sg**	**18 08 20.7**	**-1.1**
JISG	**Ishigakijimahi**	**1.70**	**294**	P	**Pn**	**18 08 04.4**	**-0.5**
JIJ	**Ishigaki jima**	**1.77**	**285**	P	**Pn**	**18 08 05.8**	**-0.1**
JIJ				S	**Sb**	**18 08 30.2**	**+0.2**
JKRS	**Kuro-shima**	**1.87**	**280**	P	**Pn**	**18 08 07.0**	**-0.2**
JKRS				S	**Sn**	**18 08 31.7**	**+1.5**
HATJ	**Hateruma jima**	**2.03**	**275**	P	**Pn**	**18 08 09.3**	**-0.2**
IRIF	**Iriomote-Funau**	**2.14**	**282**	P	**Pn**	**18 08 10.5**	**-0.4**
IRIF				S	**Sn**	**18 08 38.1**	**+1.2**
JKE	**Kume jima 2**	**2.50**	**16**	P	**Pn**	**18 08 15.1**	**-0.8**
JKE				S	**Sn**	**18 08 46.7**	**+0.8**
JJT3	**Tamagusuku3**	**2.74**	**35**	P	**Pn**	**18 08 18.4**	**-0.8**
YOJ	**Yonaguni jima**	**2.80**	**282**	P	**Pn**	**18 08 20.0**	**0.0**
YOJ	**Yonaguni jima**	**2.80**	**282**	Pn	**Pn**	**18 08 20.1**	**0.0**
JYNG	**Yonagunijimaku**	**2.86**	**281**	P	**Pn**	**18 08 21.3**	**+0.5**
JYNG				S	**Sn**	**18 08 57.2**	**+2.4**
JAGN	**Aguni-jima**	**2.88**	**22**	P	**Pn**	**18 08 20.3**	**-0.9**
JNTH	**Nagotoyohara**	**3.17**	**35**	P	**Pn**	**18 08 23.9**	**-1.1**
JNTH				*e*S	**Sn**	**18 09 01.1**	**-1.2**
JOW	**Kunigami**	**3.55**	**35**	Pn	**Pn**	**18 08 30.1**	**-0.2**
	0.7nm,0.3s,baz=356,slow=14,SNR=13						
JOW				Sn	**Sn**	**18 09 08.7**	**-3.1**
	1.2nm,0.3s,baz=99,slow=17,SNR=4.5						
JOW	**Kunigami**	**3.55**	**35**	P	**Pn**	**18 08 30.0**	**-0.4**
JOW	**Kunigami**	**3.55**	**35**		**Pn**	**18 08 29.6**	**-0.8**
JIH	**Iheya**	**3.57**	**29**	P	**Pn**	**18 08 30.6**	**0.0**
JYRO	**Yoronjima**	**3.80**	**35**	P	**Pn**	**18 08 32.9**	**-0.8**
NACB	**Ninganchiao**	**4.06**	**275**		**Pn**	**18 08 36.1**	**-1.2**
TATO	**Taipei**	**4.26**	**285**	Pn	**Pn**	**18 08 39.4**	**-0.8**
YHNB	**Yeheng**	**4.31**	**281**		**Pn**	**18 08 41.2**	**+0.4**
YULB	**Yu-li**	**4.36**	**264**		**Pn**	**18 08 39.7**	**-1.8**
YULB	**Yu-li**	**4.36**	**264**		**Sn**	**18 09 27.5**	**-4.4**
SSLB	**Suanglung**	**4.64**	**269**		**Pn**	**18 08 44.9**	**-0.5**
TWG	**Pinlang**	**4.68**	**258**	Pn	**Pn**	**18 08 42.5**	**-3.4**
TWG					**Sn**	**18 09 35.1**	**-4.5**
TPUB	**Ta-pu**	**4.98**	**264**		**Pn**	**18 08 50.4**	**+0.3**
TPUB				Sn	**Sn**	**18 09 47.2**	**0.0**
APYP	**Conner**	**7.50**	**217**	*e*P	**Pn**	**18 09 24.7**	**+0.1**
ABRA	**Dolores**	**7.97**	**220**	*e*P	**Pn**	**18 09 29.5**	**-1.6**
CAUP	**Cauayan**	**7.97**	**210**	*e*P	**Pn**	**18 09 33.7**	**+2.6**
BALP	**Baler**	**9.14**	**208**	*e*P	**Pn**	**18 09 48.1**	**+0.9**
JNU	**Nakatsue**	**10.12**	**24**	Pn	**Pn**	**18 10 00.2**	**-0.4**
	0.2nm,0.3s,baz=214,slow=3.6,SNR=2.0						
JNU	**Nakatsue**	**10.12**	**24**		**Pn**	**18 09 59.4**	**-1.2**
MAJO	**Matsushiro**	**16.39**	**37**	Pn	**Pn**	**18 11 23.8**	**-1.5**
MJAR	**Matsushiro Arr**	**16.39**	**37**	Pn	**P**	**18 11 29.3**	**+1.3**
	0.1nm,0.3s,baz=230,slow=9.7,SNR=5.1						
MJAR	**Matsushiro Arr**	**16.39**	**37**	P	**P**	**18 11 27.1**	**-1.0**
MJB9	**Matsu-Tunnel**	**16.39**	**37**	Pn	**Pn**	**18 11 24.3**	**-1.0**
ERM	**Erimo**	**23.00**	**34**	P	**P**	**18 12 38.6**	**-1.3**
ASAJ	**Asahikawa**	**24.30**	**30**	P	**P**	**18 12 53.2**	**+0.7**
	1.2nm,0.5s,baz=243,slow=17,SNR=5.6						
JKA	**Kamikawa-asahi**	**24.30**	**30**	P	**P**	**18 12 51.9**	**-0.6**
JKA				IAmb	IAmb	18 13 10.3	
	comp=Z,4.4nm,0.9s						
FAKI	**Fak Fak**	**27.35**	**166**	P	**P**	**18 13 17.8**	**-2.5**
FAKI				IAmb	IAmb	18 13 25.8	
	comp=Z,7.8nm,0.8s						
SONM	**Songino Array**	**28.52**	**332**	P	**P**	**18 13 29.9**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=146,slow=8.2,SNR=2.5						
SONM	**Songino Array**	**28.52**	**332**	P	**P**	**18 13 28.1**	**-2.5**
PETK	**Petropavlovsk-**	**37.71**	**31**	P	**P**	**18 14 52.8**	**+2.3**
	comp=Z,0.6nm,0.6s,baz=232,slow=7.0,SNR=2.1						
PETK	**Petropavlovsk-**	**37.71**	**31**	P	**P**	**18 14 51.4**	**+0.9**
COEN	**Coen**	**41.20**	**154**	P	**P**	**18 15 21.1**	**+1.2**
CO

JKE	**Kume jima 2**	**2.49**	**16**	P	**Pn**	**18 09 25.2**	**-0.2**
YOJ	**Yonaguni jima**	**2.82**	**282**	Pn	**Pn**	**18 09 27.3**	**-2.6**
JOW	**Kunigami**	**3.53**	**34**	Pn	**Pn**	**18 09 39.5**	**-0.2**
	1.4nm,0.3s,baz=185,slow=13,SNR=3.8						
JOW				Sn	**Sn**	**18 10 18.4**	**-1.9**
	0.6nm,0.3s,baz=106,slow=17,SNR=1.5						
JOW	**Kunigami**	**3.53**	**34**		**Pn**	**18 09 40.3**	**+0.5**
NACB	**Ninganchiao**	**4.07**	**274**		**Pn**	**18 09 45.4**	**-1.8**
TATO	**Taipei**	**4.28**	**285**	Pn	**Pn**	**18 09 50.9**	**+0.9**
YHNB	**Yeheng**	**4.32**	**281**	Pn	**Pn**	**18 09 50.2**	**-0.5**
SSLB	**Suanglung**	**4.66**	**269**	Pn	**Pn**	**18 09 54.9**	**-0.4**
TWG	**Pinlang**	**4.70**	**258**	Pn	**Pn**	**18 09 52.2**	**-3.5**
TWG					**Sn**	**18 10 44.9**	**-4.2**
TPUB	**Ta-pu**	**5.00**	**264**	Pn	**Pn**	**18 09 59.9**	**-0.1**
SGCP	**Mt. Cagua**	**6.77**	**214**	*e*P	**Pn**	**18 10 24.2**	**0.0**
JNU	**Nakatsue**	**10.10**	**24**	Pn	**Pn**	**18 11 09.2**	**-0.8**
	0.2nm,0.3s,baz=145,slow=14,SNR=1.8						
JNU	**Nakatsue**	**10.10**	**24**		**Pn**	**18 11 09.0**	**-1.0**
KS19	**Wonju Array Si**	**13.63**	**6**	Pn	**Pn**	**18 11 55.4**	**-2.8**
JCJ	**Chichijima**	**14.91**	**74**	Pn	**Pn**	**18 12 14.3**	**-1.3**
MJAR	**Matsushiro Arr**	**16.38**	**37**	LR	LR	18 18 36.0	
	comp=Z,50nm,19.2s,baz=230,slow=36						
USRK	**Ussuriysk Ar.**	**20.81**	**12**	LR	LR	18 21 08.0	
	comp=Z,64nm,20.4s,baz=240,slow=36						
ASAJ	**Asahikawa**	**24.29**	**30**	P	**P**	**18 14 02.9**	**+1.5**
	1.3nm,0.5s,baz=247,slow=19,SNR=1.8						
ASAJ				LR	LR	18 23 44.6	
	comp=Z,30nm,21.1s,baz=192,slow=37						
JKA	**Kamikawa-asahi**	**24.29**	**30**	P	**P**	**18 14 02.9**	**+1.5**
JKA	**Kamikawa-asahi**	**24.29**	**30**	IAmb	IAmb	18 14 04.4	
	comp=Z,7.0nm,1.1s						
SONM	**Songino Array**	**28.52**	**332**	P	**P**	**18 14 37.6**	**-2.1**
	comp=Z,0.3nm,0.4s,baz=140,slow=9.8,SNR=1.8						
SONM	**Songino Array**	**28.52**	**332**	IAmb	IAmb	18 14 40.6	
	comp=Z,0.9nm,1.1s						
MK31	**Makanchi Array**	**41.66**	**314**	P	**P**	**18 16 33.3**	**+0.9**
MKAR	**Makanchi Array**	**41.66**	**314**	P	**P**	**18 16 33.2**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=102,slow=10,SNR=12						
MAKZ	**Makanchi**	**41.87**	**314**	P	**P**	**18 16 34.0**	**-0.2**
MAKZ				IAmb	IAmb	18 16 35.2	
	comp=Z,6.9nm,1.6s						
ZALV	**Zalesovo Beam**	**42.94**	**325**	P	**P**	**18 16 41.5**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=120,slow=9.2,SNR=2.6						
ZALV	**Zalesovo Beam**	**42.94**	**325**	P	**P**	**18 16 42.0**	**-0.8**
WB0	**Warramunga Arr**	**44.18**	**169**	P	P	18 16 54.9	+1.9
WB0				IAmb	IAmb	18 17 36.2	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**44.34**	**169**	P	P	18 16 56.0	+1.7
	comp=Z,1.1nm,0.8s,baz=351,slow=8.9,SNR=3.1						
WRA	**Warramunga Arr**	**44.34**	**169**	P	**P**	**18 16 55.8**	**+1.5**
WB2	**Warramunga Arr**	**44.34**	**169**	P	**P**	**18 16 54.9**	**+0.5**
WB2				IAmb	IAmb	18 17 07.3	
	comp=Z,6.9nm,1.1s						
WR0	**Warramunga Arr**	**44.40**	**169**	P	P	18 16 56.4	+1.6
WR0				IAmb	IAmb	18 17 04.9	
	comp=Z,8.9nm,1.2s						
KURK	**Kurchatov**	**45.18**	**319**	P	**P**	**18 17 01.0**	**+0.3**
KURBB	**Kurchatov Arra**	**45.21**	**319**	P	**P**	**18 17 01.1**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=109,slow=8.2,SNR=6.7						
GIRL	**Giralia**	**47.69**	**195**	P	**P**	**18 17 21.2**	**+0.6**
ASAR	**Alice Springs**	**47.92**	**170**	P	P	18 17 24.7	+2.3
	comp=Z,0.2nm,0.5s,baz=350,slow=10,SNR=1.7						
ASAR	**Alice Springs**	**47.92**	**170**	P	**P**	**18 17 24.0**	**+1.6**
ABKAR	**Akbulak array**	**56.80**	**314**	P	**P**	**18 18 30.1**	**+2.0**
CNBA	**Chernabura Isl**	**61.87**	**39**	P	P	18 19 05.6	+2.6
RND	**Reindeer**	**66.72**	**29**	P	**P**	**18 19 35.7**	**+0.9**
RND				IAmb	IAmb	18 20 15.8	
	comp=Z,4.0nm,1.2s						
FINES	**FINESS Array B**	**73.89**	**330**	P	**P**	**18 20 19.6**	**+1.1**
	comp=Z,1.1nm,0.6s,baz=84,slow=5.9,SNR=7.2						

*THE **20** 18:10:59.8, 38°.28N × 20°.33E, h6km ± 1km, ML3.1/3, Error ellipse: s-maj=2.0km s-min=0.6km az=94.0*
*ATH **20** 18:11:00.3, 38°.28N × 20°.40E, h11km ± 1km, ML2.6/3, Error ellipse: s-maj=2.0km s-min=0.8km az=222.0*

ISC 20 18:10:59.3 ± 1.0, **38°.28N** ± 0°.04 × **20°.33E** ± 0°.04, **h15**km ± 5km, **n27**, σ0**s95**/44, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.07**	**171**	P	**Pg**	**18 11 02.8**	**+0.4**
KEF3				S	**Sg**	**18 11 04.8**	**+0.5**
KEF4	**Livadi, Kephal**	**0.07**	**103**	P	**Pg**	**18 11 02.2**	**-0.1**
KEF4				S	**Sg**	**18 11 03.7**	**-0.6**
KEF5	**Kardakata, Kep**	**0.11**	**88**	P	**Pg**	**18 11 02.4**	**-0.3**
KEF5				S	**Sg**	**18 11 03.9**	**-1.0**
ARGA	**Argostoli. Kep**	**0.15**	**130**	P	**Pg**	**18 11 03.3**	**0.0**
ARGA				S	**Sg**	**18 11 05.3**	**-0.6**
ARG2	**Argostoli**	**0.15**	**128**	P	**Pg**	**18 11 03.4**	**+0.1**
ARG2				S	**Sg**	**18 11 05.7**	**-0.2**
	16μm,0.1s						
VLS	**Valsamata**	**0.22**	**116**	P	**Pg**	**18 11 04.2**	**-0.2**
VLS				S	**Sg**	**18 11 07.4**	**-0.4**
	8μm,0.1s						
VLS	**Valsamata**	**0.22**	**116**	P	**Pg**	**18 11 04.2**	**-0.2**
VLS				S	**Sg**	**18 11 07.4**	**-0.4**
VLS				AML	AML	18 11 07.5	
	comp=E,18002μm,0.1s						
VLS				AML	AML	18 11 07.7	
	comp=N,13291μm,0.1s						
VSK1	**VASILIKIADES**	**0.23**	**53**	P	**Pg**	**18 11 04.4**	**0.0**
FSK	**Fiskardo**	**0.26**	**44**	P	**Pg**	**18 11 04.9**	**0.0**
FSK				S	**Sg**	**18 11 08.7**	**0.0**
	comp=N,3μm,0.2s						
FSK	**Fiskardo**	**0.26**	**44**	P	**Pg**	**18 11 05.0**	**0.0**
FSK				S	**Sg**	**18 11 08.7**	**0.0**
FSK				AML	AML	18 11 09.0	
	comp=N,3776μm,0.3s						
FSK				AML	AML	18 11 09.4	
	comp=E,6820μm,0.1s						
EVGI	**Lefkada island**	**0.43**	**36**	P	**Pg**	**18 11 08.0**	**+0.1**
EVGI	**Lefkada island**	**0.43**	**36**	P	**Pg**	**18 11 08.0**	**+0.1**
EVGI				S	**Sg**	**18 11 13.9**	**+0.1**
MGNA	**Meganis**	**0.52**	**43**	P	**Pg**	**18 11 09.4**	**-0.3**
MGNA				S	**Sg**	**18 11 16.5**	**-0.2**
MGNA				AML	AML	18 11 17.9	
	comp=E,694μm,0.2s						
MGNA				AML	AML	18 11 19.1	
	comp=N,677μm,0.2s						
LKD2	**Lefkada island**	**0.57**	**26**	P	**Pg**	**18 11 10.6**	**0.0**
LKD2				S	**Sg**	**18 11 18.9**	**+0.6**
LKD2	**Lefkada island**	**0.57**	**26**	P	**Pg**	**18 11 10.7**	**0.0**
RLS	**Riolos of Patr**	**0.92**	**103**	P	**Pg**	**18 11 17.0**	**-0.1**
PVO	**Paravola**	**1.00**	**70**	P	**Pg**	**18 11 18.5**	**-0.1**
PVO				S	**Sn**	**18 11 33.6**	**+1.1**
PVO	**Paravola**	**1.00**	**70**	P	**Pg**	**18 11 18.4**	**-0.1**
DRO	**Drossia**	**1.13**	**106**	P	**Pg**	**18 11 20.7**	**-0.4**
ANX	**Ano Chora**	**1.29**	**75**	P	**Pn**	**18 11 23.4**	**+0.6**
DBRK	**Dubrovnik**	**4.70**	**340**	*e*Pn	**Pn**	**18 12 10.9**	**+1.4**
HVAR	**Hvar**	**5.72**	**330**	*e*Pn	**Pn**	**18 12 25.5**	**+1.9**
HVAR				Sn	**Sn**	**18 13 26.4**	**-2.5**
RICI	**Ricice**	**5.75**	**336**	*e*Pn	**Pn**	**18 12 25.1**	**+1.0**
RICI				Sn	**Sn**	**18 13 26.8**	**-3.0**
ZIRJ	**Zirje**	**6.44**	**328**	*e*Pn	**Pn**	**18 12 35.0**	**+1.5**
ZIRJ				Sn	**Sn**	**18 13 45.6**	**-1.0**
KIJV	**Kijevo**	**6.45**	**334**	*e*Pn	**Pn**	**18 12 34.8**	**+1.2**
KIJV				Sn	**Sn**	**18 13 45.4**	**-1.5**
MORI	**Morici**	**6.59**	**329**	*e*Pn	**Pn**	**18 12 36.5**	**+1.0**
DUGI	**Dugi Otok**	**6.96**	**327**	Sn	**Sn**	**18 13 58.4**	**-1.1**

*BJI **20** 18:17:39.5 ± 0.0, 4°.60S × 154°.00E, h10km, mB4.9/9, mb4.9/12, Ms4.5/2, Ms7 4.2/1*
*DJA **20** 18:17:40.5 ± 0.4, 5°.5S × 15°.4E ± °, h10km, M5.3/27, mB6.1/5, mb4.9/27, Mw(mB)5.7/5, Mwp7.2/2*
*NEIC **20** 18:17:51.9 ± 1.6, 4°.66S ± 0°.06 × 153°.50E ± 0°.06, h88km ± 6km, mb4.8/52, Error ellipse: s-maj=11.6km s-min=1.5km az=47.0*
*IDC **20** 18:17:52.2 ± 0.7, 4°.69S × 153°.42E, h81km ± 5km, mb4.0/15, mb1 4.2/18, mb1mx3.9/43, mbtmp4.4/18, MS3.4/6, Ms1 3.4/6, ms1mx3.1/29, Error ellipse: s-maj=15.4km s-min=12.8km az=98.0*

ISC 20 18:17:51.6 ± 0.4, **4°.64S** ± 0°.05 × **153°.50E** ± 0°.05, **h85**km, **n112**, σ1**s16**/117, **mb4.7**/48, **New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.40**	**288**	Pn	**Pn**	**18 18 16.4**	**+0.6**
KRVT	**Keravat (AS076**	**1.50**	**283**	P	**Pn**	**18 18 16.9**	**-0.2**
	761nm,0.3s,baz=90,slow=1.0,SNR=563						
KRVT				S	**Sn**	**18 18 36.8**	**+0.4**
	719nm,0.3s,baz=68,slow=18,SNR=6.0						
KRVT				LR	LR	18 19 08.9	
	comp=Z,578nm,19.2s,baz=157,slow=53						
PMG	**Port Moresby**	**7.87**	**233**	P	**Pn**	**18 19 42.9**	**-0.5**
	11nm,0.3s,baz=29,slow=3.7,SNR=36						
PMG				S	**Sn**	**18 21 09.6**	**-1.3**
	40nm,0.3s,baz=0.0,slow=20,SNR=14						
PMG	**Port Moresby**	**7.87**	**233**	Pn	**Pn**	**18 19 43.6**	**+0.3**
PMG				Sn	**Sn**	**18 21 09.1**	**-1.9**
HNR	**Honiara**	**7.98**	**127**	P	**Pn**	**18 19 46.7**	**+1.9**
	8.6nm,0.3s,baz=229,slow=4.7,SNR=3.8						
HNR				S	**Sn**	**18 21 13.2**	**-0.3**
	12nm,0.3s,baz=328,slow=19,SNR=1.9						
HNR	**Honiara**	**7.98**	**127**	Pn	**Pn**	**18 19 44.6**	**-0.3**
PATS	**Pohnpei**	**12.37**	**23**	Pn	**Pn**	**18 20 43.2**	**-1.4**
JAY	**Jayapura**	**12.94**	**279**	P	**Pn**	**18 20 55.4**	**+3.1**
	0.4nm,0.3s,baz=104,slow=3.1,SNR=2.5						
JAY	**Jayapura**	**12.94**	**279**	P	**Pn**	**18 20 55.0**	**+2.7**
GENI	**Genyem**	**13.46**	**278**	P	**P**	**18 21 05.3**	**0.0**
COEN	**Coen**	**13.76**	**227**	P	**Pn**	**18 21 04.3**	**+1.3**
SMPI	**Sarmi**	**14.99**	**280**	P	**Pn**	**18 21 16.7**	**-2.3**
	851nm95nm,0.6s						
CTA	**Charters Tower**	**16.90**	**204**	P	**P**	**18 21 44.0**	**+0.5**
	0.4nm,0.3s,baz=22,slow=12,SNR=9.2						
CTAO	**Charters Tower**	**16.90**	**204**		**Pn**	**18 21 41.5**	**-1.4**
EIDS	**Eidsvold**	**20.75**	**186**	P	**P**	**18 22 26.1**	**+0.6**
EIDS				IAmb	IAmb	18 22 30.5	
	comp=Z,24nm,1.1s						
FAKI	**Fak Fak**	**21.27**	**274**	P	**P**	**18 22 33.5**	**+2.3**
FAKI	**Fak Fak**	**21.27**	**274**	P	**P**	**18 22 31.5**	**+0.3**
FAKI				IAmb	IAmb	18 22 37.2	
	comp=Z,62nm,0.9s						
DZM	**Mont Dzumac**	**21.39**	**145**	P	**P**	**18 22 34.8**	**+2.2**
	comp=Z,4.8nm,0.6s,baz=342,slow=16,SNR=8.3						
DZM	**Mont Dzumac**	**21.39**	**145**	P	**P**	**18 22 30.8**	**-1.8**
DZM				IAmb	IAmb	18 22 50.9	
	comp=Z,37nm,1.5s						
SIJI	**Sorong**	**22.51**	**279**	P	**P**	**18 22 45.1**	**+0.6**
	comp=Z,4.2nm,0.4s,baz=101,slow=7.9,SNR=6.6						
SIJI				LR	LR	18 30 35.5	
	comp=Z,83nm,19.7s,baz=105,slow=34						
MTN	**Manton Dam**	**23.54**	**248**	P	**P**	**18 22 54.6**	**+0.1**
MTN				IAmb	IAmb	18 22 58.5	
	comp=Z,49nm,1.4s						
WB0	**Warramunga Arr**	**23.93**	**229**	P	**P**	**18 22 58.0**	**0.0**
WB0				IAmb	IAmb	18 22 59.7	
	comp=Z,31nm,0.7s						
WR0	**Warramunga Arr**	**23.93**	**229**	P	**P**	**18 22 58.0**	**0.0**
WR0				IAmb	IAmb	18 22 59.7	
	comp=Z,27nm,0.8s						
WRAB	**Tennant Creek**	**24.06**	**229**	P	**P**	**18 22 58.8**	**-0.3**
WRAB				IAmb	IAmb	18 23 00.9	
	comp=Z,39nm,0.7s						
WB2	**Warramunga Arr**	**24.06**	**229**	P	**P**	**18 22 59.2**	**+0.1**
WB2				IAmb	IAmb	18 23 01.0	
	comp=Z,34nm,0.7s						
WRA	**Warramunga Arr**	**24.07**	**229**	P	**P**	**18 22 59.5**	**+0.2**
	comp=Z,29nm,0.7s,baz=54,slow=9.7,SNR=169						
WRA				PcP	**PcP**	**18 26 39.8**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=56,slow=2.5,SNR=3.1						
WRA				ScP	**ScP**	**18 30 11.2**	**+1.3**
	comp=Z,0.9nm,0.8s,baz=57,slow=3.1,SNR=5.3						
WRA	**Warramunga Arr**	**24.07**	**229**	P	**P**	**18 22 57.7**	**-1.6**
WRA					**PcP**	**18 26 39.3**	**+0.4**
WRA					**ScP**	**18 30 11.6**	**+1.6**
ARMA	**Armidale**	**25.70**	**184**	P	**P**	**18 23 14.7**	**+0.6**
ARMA				IAmb	IAmb	18 23 16.7	
	comp=Z,14nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**26.41**	**29**	T	T	18 51 21.1	
	baz=209,slow=74						
H11S2	**WAKE ISLAND Hy**	**26.41**	**29**	T	T	18 51 21.1	
	baz=209,slow=74						
H11S1	**WAKE ISLAND Hy**	**26.43**	**29**	T	T	18 51 16.5	
	baz=209						
KNRA	**Kununurra**	**26.66**	**244**	P	**P**	**18 23 22.9**	**+0.2**
KNRA				IAmb	IAmb	18 23 28.6	
	comp=Z,56nm,1.2s						
AS31	**Alice Springs**	**26.74**	**223**	P	**P**	**18 23 23.1**	**-0.3**
ASAR	**Alice Springs**	**26.74**	**223**	P	**P**	**18 23 23.3**	**-0.1**
	comp=Z,4.7nm,0.7s,baz=55,slow=9.0,SNR=121						
ASAR				PcP	**PcP**	**18 26 45.6**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=67,slow=2.9,SNR=4.0						
ASAR				ScP	**ScP**	**18 30 19.5**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=45,slow=3.4,SNR=4.4						
ASAR	**Alice Springs**	**26.74**	**223**	P	**P**	**18 23 22.6**	**-0.9**
ASAR					**PcP**	**18 26 45.4**	**+0.5**
SANI	**Sanana**	**27.58**	**274**	P	**P**	**18 23 30.9**	**-0.1**
	comp=Z,922nmcomp=Z,18nm,0.8s						
STKA	**Stephens Creek**	**29.31**	**201**	P	**P**	**18 23 45.9**	**-0.2**
	comp=Z,2.8nm,0.6s,baz=36,slow=14,SNR=10						
STKA	**Stephens Creek**	**29.31**	**201**	P	**P**	**18 23 45.2**	**-1.0**
SOEI	**Soe**	**29.43**	**258**	P	**P**	**18 23 46.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**30.34**	**242**	P	**P**	**18 23 55.2**	**-0.3**
	comp=Z,14nm,0.6s,baz=56,slow=6.5,SNR=68						
FITZ	**Fitzroy Crossi**	**30.34**	**242**	P	**P**	**18 23 54.5**	**-0.9**
FITZ				IAmb	IAmb	18 23 56.1	
	comp=Z,14nm,0.8s						
CAN	**Canberra**	**30.82**	**187**	P	**P**	**18 24 00.0**	**+0.5**
CAN				IAmb	IAmb	18 24 01.0	
	comp=Z,49nm,1.7s						
LUWI	**Luwuk**	**30.89**	**276**	P	**P**	**18 24 00.6**	**+0.3**
LUWI				IAmb	IAmb	18 24 33.5	
	comp=Z,18nm,0.9s						
EDFI	**Ende, Flores**	**31.84**	**261**	P	**P**	**18 24 05.8**	**-3.0**
BBOO	**Buckleboo**	**32.42**	**208**	P	**P**	**18 24 13.0**	**-0.6**
BBOO				IAmb	IAmb	18 24 14.2	
	comp=Z,39nm,1.3s						
WSI	**Waingapu**	**33.30**	**259**	P	**P**	**18 24 21.5**	**0.0**
	comp=Z,508μmcomp=Z,683nm,1.8s						
TOO	**Toolangi**	**33.59**	**192**	P	**P**	**18 24 25.2**	**+1.5**
TOO				IAmb	IAmb	18 24 48.2	
	comp=Z,16nm,1.4s						
MPSI	**Mapaga**	**33.92**	**277**	P	**P**	**18 24 27.2**	**+0.3**
	comp=Z,12nm,0.7s						
FORT	**Forrest**	**35.35**	**220**	P	**P**	**18 24 39.0**	**0.0**
PLAI	**Plampang**	**35.70**	**261**	P	**P**	**18 24 41.4**	**-0.8**
	comp=Z,42nm,0.9s						
PSA00	**Pilbara Seismi**	**36.71**	**240**	P	**P**	**18 24 50.0**	**-0.8**
PSA00				IAmb	IAmb	18 24 51.7	
	comp=Z,22nm,0.8s						
TGY	**Tagaytay City**	**37.28**	**300**	LR	LR	18 38 24.1	
	comp=Z,124nm,20.9s,baz=352,slow=33						
TAU	**Tasmania Unive**	**38.51**	**187**	P	**P**	**18 25 05.3**	**-0.2**
HIZ	**Hauiti**	**38.92**	**153**	P	**P**	**18 25 08.2**	**-0.8**
JAGI	**Jajag, Banyuwa**	**39.26**	**262**	P	**P**	**18 25 11.1**	**-1.2**
YOJ	**Yonaguni jima**	**41.44**	**316**	P	**P**	**18 25 28.4**	**-1.6**
KHZ	**Kahutara**	**41.64**	**158**	P	**P**	**18 25 30.9**	**-0.5**
SBUM	**Sibu**	**41.84**	**279**	P	**P**	**18 25 34.4**	**+0.9**
GIRL	**Giralia**	**41.95**	**241**	P	**P**	**18 25 34.6**	**+0.3**
LBZ	**Lake Benmore**	**42.22**	**162**	P	**P**	**18 25 36.5**	**+0.3**
MQZ	**McQueen's Vall**	**42.43**	**159**	P	**P**	**18 25 38.9**	**+1.0**
MORW	**Morawa**	**42.99**	**231**	P	**P**	**18 25 42.1**	**-0.6**
MORW				IAmb	IAmb	18 25 43.0	
	comp=Z,13nm,0.8s						
JNU	**Nakatsue**	**43.24**	**332**	P	**P**	**18 25 45.2**	**+0.5**
JNU				IAmb	IAmb	18 26 02.0	
	comp=Z,62nm,1.8s						
KSM	**Kuching**	**43.58**	**277**	P	**P**	**18 25 48.3**	**+0.7**
KSM				IAmb	IAmb	18 26 12.8	
	comp=Z,6.2nm,0.7s						
NWAO	**Narrogin (SRO)**	**44.00**	**226**	P	**P**	**18 25 50.1**	**-0.6**
CISI	**Cisompet, Garu**	**45.50**	**264**	P	**P**	**18 26 02.4**	**-0.6**
	comp=Z,55nm,1.1s						
CISI	**Cisompet, Garu**	**45.50**	**264**	P	**P**	**18 26 02.6**	**-0.4**
PPBI	**Pangkal Pinang**	**47.33**	**271**	P	**P**	**18 26 18.9**	**+1.6**
	comp=Z,11nm,2.4s						
ERM	**Erimo**	**47.38**	**350**	P	**P**	**18 26 14.8**	**-2.3**
ERM				IAmb	IAmb	18 26 25.4	
	comp=Z,28nm,1.1s						
KSRS	**Korea Array**	**48.17**	**333**	sP	sP	18 26 53.9	+1.4
	comp=Z,1.4nm,0.8s,baz=152,slow=9.1,SNR=5.6						
KSAR	**Wonju Array Be**	**48.18**	**333**	P	**P**	**18 26 22.9**	**-0.5**
KS19	**Wonju Array Si**	**48.24**	**333**	P	**P**	**18 26 24.5**	**+0.6**
KS19				IAmb	IAmb	18 26 32.4	
	comp=Z,17nm,1.4s						
PMBI	**Palembang**	**48.64**	**270**	P	**P**	**18 26 28.3**	**+0.9**
KRJI	**Kerinci**	**52.00**	**271**	P	P	18 26 47.0	-5.9
SDSI	**Sungai Dareh**	**52.12**	**272**	P	**P**	**18 26 53.3**	**-0.4**
	comp=Z,5.6nm,0.6s						
PDSI	**Padang**	**53.09**	**272**	P	**P**	**18 26 59.1**	**-1.8**
	comp=Z,6.0nm,0.5s						
KULM	**Kulim**	**53.69**	**280**	P	**P**	**18 27 04.7**	**-0.5**
KULM				IAmb	IAmb	18 27 10.7	
	comp=Z,20nm,1.5s						
MNSI	**Mandailing Nat**	**54.13**	**274**	P	**P**	**18 27 07.5**	**-1.0**
GSI	**Gunungsitoli**	**56.18**	**275**	P	**P**	**18 27 21.0**	**-2.2**
GSI				IAmb	IAmb	18 27 25.2	
	comp=Z,9.2nm,0.9s						
KCSI	**Kotacane, Aceh**	**56.26**	**277**	P	**P**	**18 27 21.4**	**-2.4**
PETK	**Petropavlovsk-**	**57.64**	**3**	P	**P**	**18 27 34.7**	**+1.9**
	comp=Z,1.3nm,0.7s,baz=181,slow=12,SNR=3.6						
PETK				pP	**pP**	**18 27 54.4**	**+1.1**
	comp=Z,1.6nm,0.5s,baz=162,slow=6.8,SNR=4.8						
PETK				LR	LR	18 48 00.2	
	comp=Z,16nm,21.5s,baz=245,slow=31						
PETK	**Petropavlovsk-**	**57.64**	**3**	P	**P**	**18 27 33.8**	**+1.0**
CMAR	**Chiang Mai Arr**	**58.44**	**295**	P	**P**	**18 27 40.6**	**+1.6**
	comp=Z,2.0nm,0.8s,baz=114,slow=5.6,SNR=12						
CMAR				pP	**pP**	**18 27 59.9**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=124,slow=5.7,SNR=3.6						
CMAR	**Chiang Mai Arr**	**58.44**	**295**	P	**P**	**18 27 39.8**	**+0.8**
GTA	**Gaotai**	**66.01**	**317**	*e*P	**P**	**18 28 31.0**	**+1.6**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,78nm,3.9s						
GTA				LR	LR		
	comp=Z,61nm,14.9s						
GTA				LR	LR		
	comp=Z,72nm,17.0s						
SONM	**Songino Array**	**66.56**	**327**	P	**P**	**18 28 33.9**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=139,slow=4.8,SNR=2.7						
SONM				LR	LR	18 58 08.8	
	comp=Z,21nm,18.6s,baz=232,slow=36						
SONM	**Songino Array**	**66.56**	**327**	P	**P**	**18 28 33.1**	**+0.3**
LSA	**Lhasa**	**68.72**	**304**	P	**P**	**18 28 45.8**	**-1.3**
VNDA	**Vanda**	**72.97**	**178**	P	**P**	**18 29 11.3**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=360,slow=7.7,SNR=14						
VNDA	**Vanda**	**72.97**	**178**	P	**P**	**18 29 11.9**	**+0.5**
MK31	**Makanchi Array**	**80.66**	**319**	P	**P**	**18 29 55.5**	**+0.3**
MKAR	**Makanchi Array**	**80.66**	**319**	P	**P**	**18 29 56.3**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=99,slow=6.5,SNR=12						
MKAR	**Makanchi Array**	**80.66**	**319**	P	**P**	**18 29 55.8**	**+0.5**
MAKZ	**Makanchi**	**80.87**	**319**	P	**P**	**18 29 57.3**	**+0.9**
ZAA0	**Zalesovo Array**	**81.40**	**326**	P	**P**	**18 29 58.8**	**-0.2**
ZALV	**Zalesovo Beam**	**81.40**	**326**	P	**P**	**18 29 59.0**	**0.0**
	comp=Z,0.5nm,0.3s,baz=72,slow=4.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**81.40**	**326**	P	**P**	**18 29 58.6**	**-0.4**
ILAR	**Eielson Array**	**81.75**	**22**	P	**P**	**18 30 01.9**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=243,slow=6.2,SNR=8.5						
ILAR				pP	**pP**	**18 30 23.1**	**+1.3**
	comp=Z,2.0nm,0.9s,baz=258,slow=5.6,SNR=7.5						
ILAR	**Eielson Array**	**81.75**	**22**	P	**P**	**18 29 59.6**	**-1.1**
KURK	**Kurchatov**	**84.07**	**322**	P	**P**	**18 30 13.0**	**+0.1**
QSPA	**South Pole Qui**	**85.32**	**180**	P	**P**	**18 30 19.0**	**-0.1**
QSPA				IAmb	IAmb	18 30 22.1	
	comp=Z,5.5nm,1.1s						
MAW	**Mawson**	**85.99**	**203**	P	**P**	**18 30 22.9**	**+0.7**
	comp=Z,2.9nm,0.9s,baz=72,slow=3.2,SNR=3.8						
MAW	**Mawson**	**85.99**	**203**	P	**P**	**18 30 22.1**	**0.0**
INK	**Inuvik**	**88.06**	**21**	P	**P**	**18 30 34.1**	**+2.0**
	comp=Z,1.1nm,0.6s,baz=239,slow=6.8,SNR=1.8						
INK	**Inuvik**	**88.06**	**21**	P	**P**	**18 30 32.6**	**+0.6**
BRVK	**Borovoye**	**89.59**	**323**		**P**	**18 30 39.8**	**+0.1**
BRVK				IAmb	IAmb	18 30 40.8	
	comp=Z,3.1nm,0.8s						
NVAR	**Mina Array Bea**	**91.44**	**52**	pP	pP	18 31 15.2	+4.7
	comp=Z,0.3nm,0.5s,baz=264,slow=5.9,SNR=3.2						
YKA	**Yellowknife Ar**	**94.96**	**

λ41.61000°. Principal axes: T 1.4134, Plg54.0000°, Azm216.0000°; N 0.3309, Plg35.0000°, Azm46.0000°; P -1.7443, Plg5.0000°, Azm313.0000°;
ISC 20 19:35:55.6±0.8,**40°06N**±0°03,**75°93E**±0°02,**h11**km±5km, **n263**,σ2°**08**/327,**mb4.3**/36,**MS3.4**/13,**38C-43D**,
Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
KSH	**Kashi**	**0.54**	**177**	⇑Pg		Pn	19 36 15.8	+6.5
KSH				Sg		Sn	19 36 29.8	+11
KSH				smax		smax		
	comp=N,10μm,0.8s							
KSH				smax		smax		
	comp=E,9μm,0.6s							
KZA	**Kyzart**	**2.09**	**346**	⇓*i*P		**Pg**	**19 36 35.1**	**-0.5**
	baz=46							
KZA				⇓*i*S		**Sg**	**19 37 03.1**	**+0.4**
	baz=46							
KZA	**Kyzart**	**2.09**	**346**	P		**Pg**	**19 36 35.0**	**-0.6**
	SNR=1836							
ARLS	**Aral**	**2.18**	**326**	⇓*e*P		**Pg**	**19 36 36.5**	**-0.8**
	baz=28							
ARLS				⇓*i*S		**Sg**	**19 37 05.4**	**-0.2**
	baz=28							
TARG	**Taragay, Kyrgy**	**2.19**	**40**	⇑*i*P		**Pb**	**19 36 36.2**	**+0.7**
	baz=37							
TARG				⇑*i*S		**Sb**	**19 37 04.0**	**+1.2**
	baz=37							
TARG	**Taragay, Kyrgy**	**2.19**	**40**	Pn		**Pb**	**19 36 36.0**	**+0.5**
ULHL	**Ulahol**	**2.20**	**6**	⇓*i*P		**Pg**	**19 36 36.8**	**-0.9**
	baz=5.0							
ULHL				⇓*i*S		**Sg**	**19 37 04.9**	**-1.4**
	baz=5.0							
ULHL	**Ulahol**	**2.20**	**6**	P		**Pg**	**19 36 36.9**	**-0.9**
	SNR=488							
KDJ	**Kajisay**	**2.28**	**24**	⇑*i*P		**Pb**	**19 36 37.9**	**+1.1**
	baz=22							
KDJ				⇑*i*S		**Sb**	**19 37 06.6**	**+1.6**
	baz=22							
KDJ	**Kajisay**	**2.28**	**24**	PN		**Pb**	**19 36 36.8**	**0.0**
KDJ	**Kajisay**	**2.28**	**24**	Pn		**Pb**	**19 36 36.8**	**0.0**
UCH	**Uchtor**	**2.42**	**334**	⇓*i*P		**Pb**	**19 36 39.8**	**+0.4**
	baz=35							
UCH				⇓*i*S		**Sb**	**19 37 10.6**	**+1.1**
	baz=35							
UCH	**Uchtor**	**2.42**	**334**	P		**Pb**	**19 36 39.8**	**+0.4**
	SNR=837							
BOOM	**Boomskoye usch**	**2.43**	**0**	⇓*e*P		**Pb**	**19 36 40.3**	**+0.8**
	baz=59							
BOOM				⇓*i*S		**Sb**	**19 37 11.2**	**+1.7**
	baz=59							
BOOM	**Boomskoye usch**	**2.43**	**0**	PN		**Pb**	**19 36 40.2**	**+0.8**
BOOM	**Boomskoye usch**	**2.43**	**0**	Pn		**Pb**	**19 36 40.2**	**+0.7**
OHH	**Osh**	**2.45**	**282**	⇓*i*P		**Pb**	**19 36 39.6**	**-0.1**
	baz=85							
OHH				⇓*i*S		**Sb**	**19 37 09.8**	**-0.2**
	baz=85							
ARSB	**Arslanbob**	**2.58**	**300**	⇓*e*P		**Pb**	**19 36 42.0**	**+0.1**
	baz=2.0							
ARSB				⇓*e*S		**Sb**	**19 37 14.1**	**+0.4**
	baz=2.0							
ARSB	**Arslanbob**	**2.58**	**300**	PN		**Pb**	**19 36 41.8**	**-0.1**
ARSB	**Arslanbob**	**2.58**	**300**			**Pb**	**19 36 41.8**	**-0.1**
AML	**Almayashu**	**2.68**	**322**	⇓*i*P		**Pb**	**19 36 43.4**	**-0.3**
	baz=23							
AML				⇓*i*S		**Sb**	**19 37 17.0**	**+0.2**
	baz=23							
AML	**Almayashu**	**2.68**	**322**	P		**Pb**	**19 36 43.6**	**-0.2**
	SNR=868							
KBK	**Karagaybulak**	**2.70**	**344**	⇓*i*P		**Pb**	**19 36 43.8**	**-0.3**
	baz=44							
KBK				⇓*i*S		**Sb**	**19 37 17.6**	**+0.3**
	baz=44							
KBK	**Karagaybulak**	**2.70**	**344**	P		**Pb**	**19 36 44.0**	**-0.1**
	SNR=1193							
AAK	**Ala-Archa**	**2.80**	**338**	Pn		**Pb**	**19 36 45.3**	**-0.3**
	83nm,0.3s,baz=142,slow=7.7,SNR=804							
AAK				Sn		**Sb**	**19 37 22.5**	**+2.5**
	91nm,0.3s,baz=135,slow=20,SNR=2.7							
AAK				LR		LR	19 38 02.4	
	comp=Z,912nm,18.1s,baz=133,slow=42							
AAK	**Ala-Archa**	**2.80**	**338**	⇑*i*P		**Pb**	**19 36 45.5**	**-0.2**
	baz=38							
AAK				⇑*i*S		**Sb**	**19 37 19.4**	**-0.6**
	baz=38							
AAK	**Ala-Archa**	**2.80**	**338**	P		**Pb**	**19 36 45.6**	**0.0**
	SNR=482							
AAK	**Ala-Archa**	**2.80**	**338**	⇑Pg		**Pb**	**19 36 45.5**	**-0.2**
	668nm,0.8s							
AAK				⇑Lg		Lg	19 37 23.2	
	1μm,0.6s							
AAK	**Ala-Archa**	**2.80**	**338**	*ce*PN		**Pb**	**19 36 45.5**	**-0.2**
AAK				pmax		pmax		
	comp=Z,1μm,1.0s							
AAK	**Ala-Archa**	**2.80**	**338**			**Pb**	**19 36 45.6**	**-0.2**
TKM2	**Tokmak 2**	**2.87**	**355**	⇓*i*P		**Pb**	**19 36 46.6**	**-0.4**
	baz=55							
TKM2				⇓*i*S		**Sb**	**19 37 21.2**	**-1.1**
	baz=55							
TKM2	**Tokmak 2**	**2.87**	**355**	P		**Pb**	**19 36 46.9**	**-0.1**
	SNR=395							
TKM2	**Tokmak 2**	**2.87**	**355**	⇓Pg		**Pb**	**19 36 45.9**	**-1.1**
	comp=Z,241nm,0.5s							
TKM2				⇑Lg		Lg	19 37 25.0	
	comp=Z,2μm,0.9s							
TKM2	**Tokmak 2**	**2.87**	**355**	*i* PN		**Pb**	**19 36 46.7**	**-0.3**
TKM2				pmax		pmax		
	comp=Z,241nm,0.5s							
FRU1	**Bishkek**	**2.92**	**341**	⇑*e*P		**Pb**	**19 36 47.1**	**-0.6**
	baz=41							
FRU1				⇑*i*S		**Sb**	**19 37 22.4**	**-1.1**
	baz=41							
FRU1	**Bishkek**	**2.92**	**341**	PN		**Pb**	**19 36 47.7**	**0.0**
FRU1	**Bishkek**	**2.92**	**341**			**Pb**	**19 36 47.7**	**0.0**
KST	**Kastek**	**2.98**	**0**	*e*P		**Pb**	**19 36 48.3**	**-0.5**
	comp=Z,672nm,0.6s							
KST				*e*S		**Sg**	**19 37 30.3**	**-1.1**
	comp=Z,1μm,0.8s							
KST	**Kastek**	**2.98**	**0**	Pg		**Pb**	**19 36 48.3**	**-0.5**
	comp=Z,672nm,0.6s							
KST				Lg		Lg	19 37 30.3	
	comp=Z,1μm,0.8s							
KST	**Kastek**	**2.98**	**0**	*e*PN		**Pb**	**19 36 48.3**	**-0.5**
KST				*e*S		**Sg**	**19 37 30.3**	**-1.1**
ANVS	**Anan'yevo**	**3.02**	**25**	⇓*i*P		**Pb**	**19 36 48.1**	**-1.4**
	baz=23							
ANVS				⇓*i*S		**Sb**	**19 37 24.2**	**-2.3**
	baz=23							
IZV	**Izvestkoviy**	**3.02**	**9**	*e*P		**Pb**	**19 36 49.3**	**-0.2**
	comp=Z,98nm,0.6s							
IZV				*e*S		**Sg**	**19 37 32.1**	**-0.5**
	comp=Z,1μm,0.5s							
IZV	**Izvestkoviy**	**3.02**	**9**	Pg		**Pb**	**19 36 49.3**	**-0.2**
	comp=Z,98nm,0.6s							
IZV				Lg		Lg	19 37 32.1	
	comp=Z,1μm,0.5s							
IZV	**Izvestkoviy**	**3.02**	**9**	*e*PN		**Pb**	**19 36 49.3**	**-0.2**
IZV				*e*S		**Sg**	**19 37 32.1**	**-0.5**
PRZ	**Przheval'sk**	**3.06**	**37**	⇑*i*P		**Pb**	**19 36 48.5**	**-1.6**
	baz=35							
PRZ				⇑*i*S		**Sb**	**19 37 24.7**	**-2.8**
	baz=35							
PRZ	**Przheval'sk**	**3.06**	**37**	PN		**Pb**	**19 36 48.2**	**-1.9**
PRZ	**Przheval'sk**	**3.06**	**37**			**Pb**	**19 36 48.2**	**-1.9**
EKS2	**Erkin-Say**	**3.07**	**329**	⇓*i*P		**Pb**	**19 36 49.1**	**-1.2**
	baz=29							
EKS2				⇓*i*S		**Sb**	**19 37 26.3**	**-1.5**
	baz=29							
EKS2	**Erkin-Say**	**3.07**	**329**	P		**Pb**	**19 36 49.3**	**-1.0**
	SNR=269							
CHMS	**Chumysh**	**3.07**	**344**	⇓*i*P		**Pb**	**19 36 49.1**	**-1.2**
	baz=44							
CHMS				⇓*i*S		**Sb**	**19 37 26.3**	**-1.5**
	baz=44							
CHMS	**Chumysh**	**3.07**	**344**	P		**Pb**	**19 36 49.0**	**-1.3**
	SNR=313							
TNSS	**Tian-Shan**	**3.08**	**14**	*e*P		**Pb**	**19 36 49.2**	**-1.3**
	comp=Z,248nm,0.6s							
TNSS				*e*S		**Sg**	**19 37 32.0**	**-2.3**
	comp=Z,763nm,0.8s							
TNSS	**Tian-Shan**	**3.08**	**14**	Pg		**Pb**	**19 36 49.2**	**-1.3**
	comp=Z,248nm,0.6s							
TNSS				Lg		Lg	19 37 32.0	
	comp=Z,763nm,0.8s							
TNSS	**Tian-Shan**	**3.08**	**14**	*e*PN		**Pb**	**19 36 49.2**	**-1.3**
TNSS				*e*S		**Sg**	**19 37 32.0**	**-2.3**
MTBS	**Maitube**	**3.10**	**7**	*e*P		**Pb**	**19 36 50.2**	**-0.5**
	comp=Z,287nm,0.5s							
MTBS				*e*S		**Sg**	**19 37 33.7**	**-1.2**
	comp=Z,1μm,0.6s							
MTBS	**Maitube**	**3.10**	**7**	Pg		**Pb**	**19 36 50.2**	**-0.5**
	comp=Z,287nm,0.5s							
MTBS				Lg		Lg	19 37 33.7	
	comp=Z,1μm,0.6s							
MTBS	**Maitube**	**3.10**	**7**	*e*PN		**Pb**	**19 36 50.2**	**-0.5**
MTBS				*e*S		**Sg**	**19 37 33.7**	**-1.2**
DGS	**Degeres**	**3.19**	**358**	*e*P		**Pb**	**19 36 51.5**	**-0.8**
	comp=Z,8.3nm,0.5s							
DGS				*e*S		**Sg**	**19 37 35.9**	**-2.0**
	comp=Z,893nm,0.9s							
DGS	**Degeres**	**3.19**	**358**	Pg		**Pb**	**19 36 51.5**	**-0.8**
	comp=Z,8.3nm,0.5s							
DGS				Lg		Lg	19 37 35.9	
	comp=Z,893nm,0.9s							
DGS	**Degeres**	**3.19**	**358**	*e*PN		**Pb**	**19 36 51.5**	**-0.8**
DGS				*e*S		**Sg**	**19 37 35.9**	**-2.0**
MDOK	**Medeo**	**3.22**	**15**	*e*P		**Pb**	**19 36 51.7**	**-1.1**
	comp=Z,63nm,0.4s							
MDOK				*e*S		**Sg**	**19 37 35.8**	**-3.0**
	comp=Z,677nm,0.8s							
MDOK	**Medeo**	**3.22**	**15**	⇑Pg		**Pb**	**19 36 51.3**	**-1.5**
	comp=Z,147nm,0.6s							
MDOK				⇑Lg		Lg	19 37 35.9	
	comp=Z,2μm,0.7s							
MDOK	**Medeo**	**3.22**	**15**	Pg		**Pb**	**19 36 51.7**	**-1.1**
	comp=Z,63nm,0.4s							
MDOK				Lg		Lg	19 37 35.8	
	comp=Z,677nm,0.8s							
MDOK	**Medeo**	**3.22**	**15**	*e*PN		**Pb**	**19 36 51.7**	**-1.1**
MDOK				*e*S		**Sg**	**19 37 35.8**	**-3.0**
AAA	**Alma-Ata**	**3.24**	**13**	⇓*e*P		**Pb**	**19 36 52.6**	**-0.5**
	comp=Z,146nm,0.4s							
AAA				*e*S		**Sg**	**19 37 38.0**	**-1.5**
	comp=Z,799nm,0.5s							
AAA	**Alma-Ata**	**3.24**	**13**	Pg		**Pb**	**19 36 52.6**	**-0.5**
	comp=Z,146nm,0.4s							
AAA				Lg		Lg	19 37 38.0	
	comp=Z,799nm,0.5s							
AAA	**Alma-Ata**	**3.24**	**13**	*e*PN		**Pb**	**19 36 52.6**	**-0.5**
AAA				*e*S		**Sg**	**19 37 38.0**	**-1.5**
KNDC	**Almaty**	**3.25**	**13**	⇑Pg		**Pb**	**19 36 53.6**	**+0.2**
	comp=Z,175nm,0.5s							
KNDC				⇑Lg		Lg	19 37 36.5	
	comp=Z,1μm,0.6s							
KNDC	**Almaty**	**3.25**	**13**	PN		**Pb**	**19 36 50.2**	**-3.2**
KOTS	**Kotyrbulak**	**3.30**	**15**	*e*P		**Pb**	**19 36 53.5**	**-0.6**
	comp=Z,221nm,0.4s							
KOTS				*e*S		**Sg**	**19 37 39.5**	**-1.9**
	comp=Z,5μm,0.6s							
KOTS	**Kotyrbulak**	**3.30**	**15**	Pg		**Pb**	**19 36 53.5**	**-0.6**
	comp=Z,221nm,0.4s							
KOTS				Lg		Lg	19 37 39.5	
	comp=Z,5μm,0.6s							
KOTS	**Kotyrbulak**	**3.30**	**15**	*e*PN		**Pb**	**19 36 53.6**	**-0.6**
KOTS				*e*S		**Sg**	**19 37 39.5**	**-1.9**
MRKS	**Merke**	**3.37**	**324**	⇓*e*P		**Pb**	**19 36 53.2**	**-2.2**
	comp=Z,207nm,0.2s							
MRKS				*e*S		**Sb**	**19 37 38.6**	**+2.2**
	comp=Z,355nm,0.3s							
MRKS	**Merke**	**3.37**	**324**	Pg		**Pb**	**19 36 53.2**	**-2.2**
	comp=Z,207nm,0.2s							
MRKS				Lg		Lg	19 37 38.6	
	comp=Z,355nm,0.3s							
MRKS	**Merke**	**3.37**	**324**	*e*PN		**Pb**	**19 36 53.2**	**-2.2**
MRKS				*e*S		**Sb**	**19 37 38.6**	**+2.2**
USP	**Ospenovka**	**3.38**	**342**	⇓*i*P		**Pb**	**19 36 53.0**	**-2.6**
	baz=42							
USP				⇓*i*S		**Sb**	**19 37 33.6**	**-3.2**
	baz=42							
USP	**Ospenovka**	**3.38**	**342**	P		**Pb**	**19 36 53.2**	**-2.4**
	SNR=367							
ARK	**Arkit**	**3.48**	**301**	⇑*i*P		**Pb**	**19 36 54.0**	**-3.2**
	baz=3.0							
ARK				⇑*i*S		**Sn**	**19 37 34.8**	**+3.9**
	baz=3.0							
SATY	**Saty**	**3.53**	**31**	*e*P		**Pb**	**19 36 58.0**	**-0.1**
	comp=Z,200nm,0.6s							
SATY				*e*S		**Sg**	**19 37 46.7**	**-2.2**
	comp=Z,716nm,0.5s							
SATY	**Saty**	**3.53**	**31**	Pg		**Pb**	**19 36 57.6**	**-0.5**
	comp=Z,200nm,0.6s							
SATY				Lg		Lg	19 37 46.7	
	comp=Z,716nm,0.5s							
SATY	**Saty**	**3.53**	**31**	*e*PN		**Pb**	**19 36 58.0**	**-0.1**
SATY				*e*S		**Sg**	**19 37 46.7**	**-2.2**
SGDS	**Sogindy**	**3.53**	**344**	Pg		**Pb**	**19 36 58.5**	**+0.4**
	comp=Z,105nm,0.7s							
SGDS				Lg		Lg	19 37 47.5	
	comp=Z,1μm,0.8s							
KRBS	**Karabastau**	**3.64**	**357**	*e*P		**Pb**	**19 36 59.9**	**-0.1**
	comp=Z,88nm,0.3s							
KRBS				*e*S		**Sg**	**19 37 50.5**	**-2.0**
	comp=Z,488nm,0.7s							
KRBS	**Karabastau**	**3.64**	**357**	Pg		**Pb**	**19 36 59.9**	**-0.1**
	comp=Z,88nm,0.3s							
KRBS				Lg		Lg	19 37 50.5	
	comp=Z,488nm,0.7s							
KRBS	**Karabastau**	**3.64**	**357**	*e*PN		**Pb**	**19 36 59.9**	**-0.1**
KRBS				*e*S		**Sg**	**19 37 50.5**	**-2.0**
KTBS	**Karatobe**	**3.70**	**8**	*e*P		**Pb**	**19 37 01.1**	**+0.3**
	comp=Z,50nm,0.6s							
KTBS				*e*S		**Sg**	**19 37 52.6**	**-1.6**
	comp=Z,1μm,0.8s							
KTBS	**Karatobe**	**3.70**	**8**	Pg		**Pb**	**19 37 01.1**	**+0.3**
	comp=Z,50nm,0.6s							
KTBS				Lg		Lg	19 37 52.6	
	comp=Z,1μm,0.8s							
KTBS	**Karatobe**	**3.70**	**8**	*e*PN		**Pb**	**19 37 01.2**	**+0.3**
KTBS				*e*S		**Sg**	**19 37 52.6**	**-1.6**
KURS	**Kuram**	**3.82**	**25**	*e*P		**Pb**	**19 37 02.7**	**-0.2**
	comp=Z,44nm,0.5s							
KURS				*e*S		**Sg**	**19 37 55.2**	**-2.9**
	comp=Z,396nm,1.4s							
KURS	**Kuram**	**3.82**	**25**	Pg		**Pb**	**19 37 02.7**	**-0.2**
	comp=Z,44nm,0.5s							
KURS				Lg		Lg	19 37 55.2	
	comp=Z,396nm,1.4s							
KURS	**Kuram**	**3.82**	**25**	*e*PN		**Pb**	**19 37 02.7**	**-0.2**
KURS				*e*S		**Sg**	**19 37 55.2**	**-2.9**
KUU	**Kurty**	**3.85**	**4**	*e*P		**Pb**	**19 37 03.7**	**+0.2**
	comp=Z,55nm,0.5s							
KUU				*e*S		**Sg**	**19 37 56.6**	**-2.5**
	comp=Z,3μm,0.7s							
KUU	**Kurty**	**3.85**	**4**	Pg		**Pb**	**19 37 03.7**	**+0.2**
	comp=Z,55nm,0.5s							
KUU				Lg		Lg	19 37 56.6	
	comp=Z,3μm,0.7s							
KUU	**Kurty**	**3.85**	**4**	*e*PN		**Pb**	**19 37 03.7**	**+0.2**
KUU				*e*S		**Sg**	**19 37 56.6**	**-2.5**
UZB	**Uzynbulak**	**3.86**	**36**	*e*P		**Pb**	**19 37 03.6**	**-0.2**
	comp=Z,30nm,0.4s							
UZB				*e*S		**Sg**	**19 37 56.4**	**-3.1**
	comp=Z,212nm,0.7s							
UZB	**Uzynbulak**	**3.86**	**36**	Pg		**Pb**	**19 37 03.6**	**-0.2**
	comp=Z,30nm,0.4s							
UZB				Lg		Lg	19 37 56.4	
	comp=Z,212nm,0.7s							
UZB	**Uzynbulak**	**3.86**	**36**	*e*PN		**Pb**	**19 37 03.6**	**-0.2**
UZB				*e*S		**Sg**	**19 37 56.4**	**-3.1**
CHKK	**Chushkaly**	**3.88**	**11**	*e*P		**Pb**	**19 37 04.4**	**+0.4**
	comp=Z,39nm,0.6s							
CHKK				*e*S		**Sg**	**19 37 57.6**	**-2.4**
	comp=Z,655nm,0.6s							
CHKK	**Chushkaly**	**3.88**	**11**	Pg		**Pb**	**19 37 04.4**	**+0.4**
	comp=Z,39nm,0.6s							
CHKK				Lg		Lg	19 37 57.6	
	comp=Z,655nm,0.6s							
CHKK	**Chushkaly**	**3.88**	**11**	*e*PN		**Pb**	**19 37 04.4**	**+0.4**
CHKK				*e*S		**Sg**	**19 37 57.6**	**-2.4**
BTK	**Batken**	**3.93**	**272**	⇑*i*P		**Pn**	**19 36 59.5**	**+3.6**
	baz=74							
BTK				⇑*i*S		**Sn**	**19 37 44.9**	**+2.9**
	baz=74							
BTK	**Batken**	**3.93**	**272**	PN		**Pn**	**19 36 59.0**	**+3.1**
BTK	**Batken**	**3.93**	**272**	Pn		**Pn**	**19 36 59.0**	**+3.1**
KPKS	**Kokpek**	**3.98**	**30**	*e*P		**Pb**	**19 37 05.7**	**-0.1**
	comp=Z,84nm,0.5s							
KPKS				*e*S		**Sg**	**19 37 59.9**	**-3.5**
	comp=Z,1μm,0.7s							
KPKS	**Kokpek**	**3.98**	**30**	*e*PN		**Pb**	**19 37 05.7**	**-0.1**
KPKS				*e*S		**Sg**	**19 37 59.9**	**-3.5**
SHLS	**Shalkode**	**4.07**	**39**	*e*P		**Pg**	**19 37 12.4**	**-1.2**
	comp=Z,158nm,0.6s							
SHLS				*e*S		**Sg**	**19 38 11.4**	**+5.0**
	comp=Z,601nm,0.9s							
SHLS	**Shalkode**	**4.07**	**39**	Pg		**Pg**	**19 37 12.4**	**-1.2**
	comp=Z,158nm,0.6s							
SHLS				Lg		Lg	19 38 11.4	
	comp=Z,601nm,0.9s							
SHLS	**Shalkode**	**4.07**	**39**	*e*PN		**Pg**	**19 37 12.4**	**-1.2**
SHLS				*e*S		**Sg**	**19 38 11.4**	**+5.0**
PDGK	**Podgornoye**	**4.22**	**38**	⇑Pn		**Pn**	**19 36 59.6**	**-0.3**
	comp=Z,20nm,0.6s							
PDGK				⇓Pg		**Pb**	**19 37 11.6**	**+1.7**
	comp=Z,73nm,0.5s							
PDGK				⇓Lg		Lg	19 38 08.6	
	comp=Z,583nm,0.8s							
PDGK	**Podgornoye**	**4.22**	**38**	*i* PN		**Pn**	**19 37 03.9**	**+4.0**
PDGK				pmax		pmax		
	comp=Z,21nm,0.5s							
GAR	**Garm**	**4.47**	**258**	Pn		**Pn**	**19 37 06.1**	**+2.7**
DZA	**Taraz**	**4.47**	**311**	*e*P		**Pb**	**19 37 15.7**	**+1.6**
	comp=Z,139nm,0.4s							
DZA				*e*S		**Sg**	**19 38 17.5**	**-1.6**
	comp=Z,645nm,1.0s							
DZA	**Taraz**	**4.47**	**311**	Pg		**Pb**	**19 37 15.7**	**+1.6**
	comp=Z,139nm,0.4s							
DZA				Lg		Lg	19 38 17.5	
	comp=Z,645nm,1.0s							
DZA	**Taraz**	**4.47**	**311**	*e*PN		**Pb**	**19 37 15.7**	**+1.6**
DZA				*e*S		**Sg**	**19 38 17.5**	**-1.6**
KK31	**Karatay Array**	**5.08**	**309**	Pn		**Pn**	**19 37 13.6**	**+1.9**
	comp=Z,8.5nm,0.4s,baz=120,slow=12,SNR=156							
KK31				⇑Pg		**Pb**	**19 37 27.0**	**+2.5**
	comp=Z,86nm,0.8s,baz=129,slow=16,SNR=20							
KK31				⇓Lg		Lg	19 38 35.4	
	comp=Z,51nm,0.5s,baz=127,slow=29,SNR=5.1							
KK31	**Karatay Array**	**5.08**	**309**	PN		**Pn**	**19 37 15.0**	**+3.4**
KK31	**Karatay Array**	**5.08**	**309**			**Pn**	**19 37 15.0**	**+3.4**
KKAR	**Karatay Array**	**5.08**	**309**	PN		**Pn**	**19 37 14.8**	**+3.1**
KKAR	**Karatay Array**	**5.08**	**309**			**Pn**	**19 37 14.6**	**+2.9**
KKAR	**Karatay Array**	**5.08**	**309**			**Pn**	**19 37 14.8**	**+3.1**
DJR	**Jarkent**	**5.14**	**33**	*e*P		**Pb**	**19 37 27.1**	**+1.5**
	comp=Z,26nm,0.6s							
DJR				*e*S		**Sg**	**19 38 36.5**	**-4.2**
	comp=Z,130nm,1.0s							
DJR	**Jarkent**	**5.14**	**33**	Pg		**Pb**	**19 37 27.1**	**+1.5**
	comp=Z,26nm,0.6s							
DJR				Lg		Lg	19 38 36.5	
	comp=Z,130nm,1.0s							
DJR	**Jarkent**	**5.14**	**33**	*e*PN		**Pb**	**19 37 27.1**	**+1.5**
DJR				*e*S		**Sg**	**19 38 36.5**	**-4.2**
TAS	**Tashkent**	**5.20**	**286**	PN		**Pn**	**19 37 17.1**	**+3.7**
TAS	**Tashkent**	**5.20**	**286**	Pn		**Pn**	**19 37 17.1**	**+3.7**
TDK	**Taldyorghan**	**5.27**	**19**	*e*P		**Pb**	**19 37 28.2**	**+0.5**
	comp=Z,107nm,0.6s							
TDK				*e*S		**Sg**	**19 38 39.2**	**-5.5**
	comp=Z,495nm,0.8s							
TDK	**Taldyorghan**	**5.27**	**19**	Pg		**Pb**	**19 37 28.2**	**+0.5**
	comp=Z,107nm,0.6s							
TDK				Lg		Lg	19 38 39.2	
	comp=Z,495nm,0.8s							
TDK	**Taldyqorghan**	**5.27**	**19**	*e*PN		**Pb**	**19 37 28.2**	**+0.5**
TDK				*e*S		**Sg**	**19 38 39.2**	**-5.5**
CHM	**Chimkent**	**5.28**	**297**	*e*P		**Pb**	**19 37 28.5**	**+0.6**
	comp=Z,104nm,0.5s							
CHM				*e*S		**Sg**	**19 38 39.8**	**-5.4**
	comp=Z,402nm,0.9s							
CHM	**Chimkent**	**5.28**	**297**	*e*PN		**Pb**	**19 37 28.5**	**+0.6**
CHM				*e*S		**Sg**	**19 38 39.8**	**-5.4**
CHGR	**Chuyangaron**	**5.43**	**257**	Pn		**Pn**	**19 37 18.8**	**+2.2**
KAPS	**Kapalarasan**	**5.80**	**25**	Pg		**Pb**	**19 37 38.8**	**+2.0**
	comp=Z,16nm,0.6s							
KAPS				Lg		Lg	19 38 56.9	
	comp=Z,156nm,0.8s							
CHCP	**Chirah Chowk**	**6.73**	**199**	⇑P		**Pn**	**19 37 38.6**	**+4.2**
NIL	**Nilore**	**6.74**	**199**	PN		**Pn**	**19 37 38.4**	**+3.8**
NIL	**Nilore**	**6.74**	**199**	Pn		**Pn**	**19 37 38.4**	**+3.8**
CEP	**Cherat**	**7.00**	**209**	⇑P		**Pn**	**19 37 41.5**	**+3.3**
THN	**Thein Dam**	**7.61**	**181**	*e*P		**Pb**	**19 38 07.5**	**0.0**
THN				*e*S		**Sn**	**19 39 16.5**	**+3.9**
KBL	**Kabul**	**7.77**	**227**	P		**Pn**	**19 37 51.6**	**+2.8**
KBL	**Kabul**	**7.77**	**227**			**Pn**	**19 37 51.6**	**+2.8**
THW	**Thamme Wali**	**7.99**	**206**	⇑P		**Pn**	**19 37 53.7**	**+2.0**
MAKZ	**Makanchi**	**8.05**	**31**	⇑Pn		**Pn**	**19 37 53.2**	**+0.7**
	comp=Z,4.3nm,0.6s							
MAKZ				⇑Lg		Lg	19 40 10.2	
	comp=Z,57nm,1.3s							
MAKZ	**Makanchi**	**8.05**	**31**	P		**Pn**	**19 37 55.9**	**+3.4**
MAKZ	**Makanchi**	**8.05**	**31**	Pn		**Pn**	**19 37 55.9**	**+3.4**
MK31	**Makanchi Array**	**8.17**	**32**	Pn		**Pn**	**19 37 55.9**	**+3.4**
	comp=Z,6.6nm,0.5s,baz=207,slow=13,SNR=102							
MK31				⇑Lg		Lg	19 40 12.

DMN	Daman	14.55	146	*e*P		Pn		19 39 18.1	-3.6
	comp=Z,16nm,0.5s								
AB01	Akbulak array	14.61	314	⇓Pn		Pn		19 39 21.5	-0.6
	comp=Z,6.3nm,0.6s								
ABKAR	Akbulak array	14.61	314	Pn		Pn		19 39 21.6	-0.4
GUN	Gumba	14.64	143	*e*P		Pn		19 39 19.5	-3.5
	comp=Z,19nm,0.3s								
PKIN	Phulchoki	14.71	145	*e*P		Pn		19 39 19.8	-4.0
	comp=Z,16nm,0.3s								
PKI	Pulchoki	14.72	145	*e*P		Pn		19 39 19.8	-4.2
	comp=Z,18nm,0.4s								
JIRN	Jiri	15.00	142	*e*P		Pn		19 39 24.2	-3.7
	comp=Z,40nm,0.3s								
ZAA0	Zalesovo Array	15.14	20	⇑Pn		Pn		19 39 28.7	-0.6
	comp=Z,0.5nm,0.7s								
ZAA0				⇓Lg		Lg		19 43 55.9	
	comp=Z,2.4nm,0.9s								
ZAA0	Zalesovo Array	15.14	20			Pn		19 39 29.8	+0.5
ZALV	Zalesovo Beam	15.14	20	Pn		Pn		19 39 30.2	+0.9
	comp=Z,0.2nm,0.3s,baz=204,slow=11,SNR=8.9								
ZALV				Lg		Lg		19 43 58.5	
	comp=Z,0.1nm,0.3s,baz=213,slow=31,SNR=2.3								
ZALV				LR		LR		19 45 38.3	
	comp=Z,108nm,19.9s,baz=240,slow=38								
ZALV	Zalesovo Beam	15.14	20	*i* P		Pn		19 39 30.2	+0.9
ZALV				pmax		pmax			
	comp=Z,3.0nm,0.7s								
ZALV	Zalesovo Beam	15.14	20			Pn		19 39 30.1	+0.8
RAMN	Ramite	15.79	143	*e*P		Pn		19 39 33.2	-5.0
	comp=Z,21nm,0.4s								
ODAN	Odare	16.25	141	*e*P		Pn		19 39 41.2	-2.8
	comp=Z,27nm,0.6s								
AKTO	Aktyubinsk	16.30	315	⇑Pn		Pn		19 39 44.8	+0.5
	comp=Z,28nm,1.8s								
AKTO	Aktyubinsk	16.30	315	P		Pn		19 39 44.6	+0.3
GTA	Gaotai	18.37	84	P		P		19 40 12.3	+1.9
GTA				pP		sP		19 40 16.6	+0.9
GTA				sP		pP		19 40 19.3	+5.3
GTA				pmax		pmax			
	comp=Z,4.0nm,1.1s								
GTA				pmax		pmax			
	comp=Z,69nm,4.0s								
GTA				LR		LR			
	comp=Z,110nm,15.3s								
GTA				LR		LR			
	comp=Z,130nm,14.9s								
SVE	Sverdlovsk	19.53	334	*e*P		Pn		19 40 27.3	+3.2
ARU	Arti	19.96	331	P		Pn		19 40 31.1	+1.9
	comp=Z,2.2nm,0.6s,baz=141,slow=7.9,SNR=12								
ARU				Lg		Lg		19 46 24.7	
	comp=Z,0.7nm,0.6s,baz=140,slow=19,SNR=3.4								
ARU				LR		LR		19 48 37.4	
	comp=Z,121nm,19.6s,baz=132,slow=38								
ARU	Arti	19.96	331	*d i* P		Pn		19 40 32.6	+3.4
ARU				*PP		sP		19 40 47.8	+15
ARU								19 41 00.4	
ARU				S		Sn		19 44 15.7	+2.3
ARU				SS		SnSn		19 44 53.4	+26
ARU				pmax		pmax			
	comp=Z,7.0nm,0.7s								
ARU	Arti	19.96	331			Pn		19 40 28.9	-0.3
MOY	Mondy	20.85	48	*e*P		Pn		19 40 39.3	-0.5
AKT	Akhty	21.37	283	*i* P		P		19 40 47.2	+4.1
MAK	Makhachkala	21.45	287	*e*P		P		19 40 41.3	-2.4
MAK				*e*SP		sP		19 41 15.7	+27
MAK				*e*S		S		19 44 35.7	-5.7
MAK				pmax		pmax			
	comp=Z,199nm,1.5s								
MAK				MLR		MLR			
	comp=Z,154nm,15.0s								
ZAK	Zakamensk	21.74	53	*e*P		P		19 40 46.9	0.0
ZAK				pmax		pmax			
	comp=Z,4.0nm,1.1s								
WSAR	Wadi Sarin	22.25	226	P		P		19 40 52.0	-0.5
	comp=Z,8.2nm,0.9s,baz=56,slow=6.0,SNR=5.8								
WSAR				LR		LR		19 51 27.9	
	comp=Z,42nm,18.3s,baz=120,slow=42								
LZH	Lanzhou	22.29	91	*e*P		P		19 40 52.4	-0.6
LZH				pmax		pmax			
	comp=Z,24nm,1.0s								
LZH				pmax		pmax			
	comp=Z,81nm,4.3s								
LZH				LR		LR			
	comp=Z,230nm,13.6s								
LZH				LR		LR			
	comp=Z,340nm,14.6s								
LZH				LR		LR			
	comp=Z,290nm,13.0s								
TLY	Talaya	22.38	49	LR		LR		19 50 05.5	
	comp=Z,51nm,19.1s,baz=235,slow=38								
BTLR	Botlikh	22.40	286	*i* P		P		19 40 56.2	+2.1
GROC	Groznyy	22.69	288	*e*P		P		19 41 00.1	+3.1
GROC				*e*				19 41 25.0	
GROC				pmax		pmax			
	comp=Z,30nm,0.9s								
SONM	Songino Array	23.16	60	P		P		19 41 02.4	+0.4
	comp=Z,1.0nm,0.9s,baz=260,slow=8.6,SNR=5.7								
SONM	Songino Array	23.16	60	P		P		19 41 02.7	+0.6
ULN	Ulaanbaatar	23.60	60	*i* P		P		19 41 06.2	-0.3
ULN				pmax		pmax			
	comp=Z,2.0nm,0.9s								
ULN	Ulaanbaatar	23.60	60	P		P		19 41 07.4	+0.9
KBZ	Khabaz	24.77	289	LR		LR		19 53 17.5	
	comp=Z,122nm,18.2s,baz=83,slow=42								
KBZ	Khabaz	24.77	289	*i* P		P		19 41 18.6	+1.4
KBZ				pmax		pmax			
	comp=Z,3.0nm,1.1s								
KVAR	Kislovodsk Arr	24.91	290	LR		LR		19 53 16.5	
	comp=Z,105nm,19.1s,baz=80,slow=42								
KIV	Kislovodsk	24.91	290	*e*P		P		19 41 19.7	+1.1
KIV				pmax		pmax			
	comp=Z,17nm,1.1s								
KIV				MLR		MLR			
	comp=Z,109nm,15.0s								
KIRV	Kirov	25.07	327	P		P		19 41 21.5	+1.7
	comp=Z,8.3nm,0.6s,baz=139,slow=9.3,SNR=2.6								
CMAR	Chiang Mai Arr	29.27	131	*i* P		P		19 42 05.8	+7.9
NRIK	Noril'sk	29.99	8	LR		LR		19 55 24.0	
	comp=Z,61nm,18.0s,baz=206,slow=39								
NRIK	Noril'sk	29.99	8	*i* P		P		19 42 01.6	-2.2
NRIK				pmax		pmax			
	comp=Z,3.0nm,0.9s								
RAYN	Ar Rayn	30.48	246	P		P		19 42 09.2	+0.6
RAYN				pmax		pmax			
	comp=Z,4.0nm,0.8s								
RAYN	Ar Rayn	30.48	246	P		P		19 42 09.2	+0.6
BR131	Keskin Array S	32.23	283	P		P		19 42 25.7	+1.7
BR131				pmax		pmax			
	comp=Z,4.0nm,1.0s								
BR131	Keskin Array S	32.23	283	P		P		19 42 25.7	+1.7
BR131				IAmb		IAmb		19 42 41.1	
	comp=Z,4.3nm,0.9s								
BRTR	Keskin Array B	32.23	283	P		P		19 42 25.5	+1.5
	comp=Z,0.9nm,0.5s,baz=72,slow=9.1,SNR=3.0								
AKASG	Malin Array Be	33.97	304	LR		LR		19 58 13.4	
	comp=Z,67nm,18.7s,baz=205,slow=39								
FIA1	FINESS Array S	36.88	322	P		P		19 43 04.4	+0.7
FIA1				IAmb		IAmb		19 43 18.7	
	comp=Z,8.6nm,1.1s								
FINES	FINESS Array B	36.88	322	P		P		19 43 04.7	+0.9
	comp=Z,0.5nm,0.3s,baz=122,slow=9.3,SNR=11								
FINES				LR		LR		19 59 07.0	
	comp=Z,117nm,19.3s,baz=103,slow=38								
FINES	FINESS Array B	36.88	322	P		P		19 43 04.4	+0.7
ALN	Alexandroupoli	37.54	288	P		P		19 43 10.0	+0.4
ALN				pmax		pmax			
	comp=Z,12nm,1.3s								
ALN	Alexandroupoli	37.54	288	P		P		19 43 10.0	+0.4
ALN				IAmb		IAmb		19 43 29.5	
	comp=Z,12nm,1.3s								
ARCES	ARCESS Array B	39.47	335	P		P		19 43 26.4	+0.9
	comp=Z,6.8nm,1.0s,baz=104,slow=9.4,SNR=8.4								
ARCES				LR		LR		19 59 31.6	
	comp=Z,54nm,20.2s,baz=6.5,slow=36								
ARCES	ARCESS Array B	39.47	335	P		P		19 43 28.1	+2.7
ARE0	ARCESS Array S	39.47	335	P		P		19 43 28.4	+2.9
KLR	Kul'dur	39.94	58	P		P		19 43 29.3	-0.3
	comp=Z,0.9nm,0.6s,baz=270,slow=14,SNR=2.1								
KLR	Kul'dur	39.94	58	*i* P		P		19 43 28.4	-1.2
KLR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
IDI	Anoyia	40.23	280	P		P		19 43 32.0	-0.4
	comp=Z,13nm,0.9s,baz=92,slow=13,SNR=1.8								
IDI	Anoyia	40.23	280	P		P		19 43 31.5	-0.8
TIXI	Tiksi	41.02	23	*i* P		P		19 43 37.1	-1.1
TIXI				pmax		pmax			
	comp=Z,3.0nm,0.7s								
TIXI	Tiksi	41.02	23	P		P		19 43 38.3	+0.1
TIXI				IAmb		IAmb		19 43 45.0	
	comp=Z,4.9nm,0.7s								
RGN	Rugen	43.39	311	P		P		19 44 01.4	+3.6
NC405	NORSAR Array S	43.74	321	P		P		19 44 05.9	+5.3
NC405				IAmb		IAmb		19 44 29.5	
	comp=Z,23nm,1.3s								
NC602	NORSAR Array S	43.84	320	P		P		19 44 04.6	+3.3
NB201	NORSAR Array S	43.95	321	P		P		19 44 06.2	+3.9
NB2	NORSAR Subarra	43.99	321	P		P		19 44 07.5	+4.9
	comp=Z,3.1nm,0.7s,baz=88,slow=7.9								
NOA	NORSAR Array B	43.99	321	P		P		19 44 02.5	-0.2
	comp=Z,0.3nm,0.6s,baz=90,slow=7.9,SNR=1.5								
NOA				LR		LR		20 02 59.8	
	comp=Z,79nm,18.7s,baz=265,slow=37								
CLL	Collm	44.09	307	*e*P		P		19 44 04.0	+0.5
CLL				*e*pP		sP		19 44 11.0	+1.8
GERES	GERESS Array B	44.16	303	P		P		19 44 05.4	+1.2
	comp=Z,0.9nm,0.7s,baz=61,slow=8.2,SNR=7.8								
NAO01	NORSAR Array S	44.16	320	P		P		19 44 07.1	+3.2
NC204	NORSAR Array S	44.20	321	P		P		19 44 06.5	+2.2
NC204				IAmb		IAmb		19 44 27.9	
	comp=Z,15nm,1.1s								
BILL	Bilibino	53.69	28	⇓*e*P		P		19 45 16.8	-0.1
BILL				*e*				19 45 23.8	
BILL								19 46 19.0	
BILL								19 47 16.0	
BILL				pmax		pmax			
	comp=Z,3.0nm,1.1s								
BILL				MLR		MLR			
	comp=Z,57nm,18.0s								
ESDC	Sonseca Array	59.23	298	P		P		19 45 56.7	-0.3
	comp=Z,0.4nm,0.6s,baz=46,slow=6.4,SNR=4.4								
TOA0	Torodi Ar. Sit	69.64	270	P		P		19 47 04.6	-0.6
TOA0				IAmb		IAmb		19 47 14.7	
	comp=Z,3.9nm,1.1s								
TORD	Torodi Ar. Bea	69.64	270	P		P		19 47 04.2	-1.0
	comp=Z,2.3nm,0.6s,baz=45,slow=5.7,SNR=23								
TORD	Torodi Ar. Bea	69.64	270	P		P		19 47 04.2	-1.0
INK	Inuvik	69.72	11	P		P		19 47 04.8	-0.1
	comp=Z,0.9nm,0.3s,baz=319,slow=5.3,SNR=4.7								
INK	Inuvik	69.72	11	P		P		19 47 04.4	-0.5
INK				IAmb		IAmb		19 47 17.5	
	comp=Z,2.9nm,1.0s								
ILAR	Eielson Array	70.25	18	P		P		19 47 07.3	-1.0
	comp=Z,0.7nm,0.8s,baz=323,slow=4.9,SNR=6.7								
ILAR	Eielson Array	70.25	18	P		P		19 47 07.1	-1.2
BCAR	Beaver Creek A	72.89	17	P		P		19 47 23.5	-0.8
KNRA	Kununurra	74.06	127	P		P		19 47 31.7	0.0
KNRA				IAmb		IAmb		19 47 35.3	
	comp=Z,25nm,1.5s								
FITZ	Fitzroy Crossi	74.08	131	P		P		19 47 31.8	0.0
FITZ				IAmb		IAmb		19 48 11.9	
	comp=Z,9.2nm,1.3s								
KDAK	Kodiak Island	74.40	25	P		P		19 47 32.8	-0.4
KDAK				pmax		pmax			
	comp=Z,22nm,1.5s								
KDAK	Kodiak Island	74.40	25	P		P		19 47 32.8	-0.4
KDAK				IAmb		IAmb		19 47 53.5	
	comp=Z,22nm,1.4s								
YKA	Yellowknife Ar	77.45	5	P		P		19 47 50.0	-0.4
	comp=Z,2.6nm,0.7s,baz=347,slow=5.3,SNR=14								
WRA	Warramunga Arr	80.74	126	P		P		19 48 08.0	-1.1
	comp=Z,1.8nm,0.7s,baz=317,slow=3.8,SNR=15								
WRA	Warramunga Arr	80.74	126	P		P		19 48 08.2	-0.9
WRA	Warramunga Arr	80.74	126	P		P		19 48 08.2	-0.9
ASAR	Alice Springs	83.26	128	P		P		19 48 21.3	-1.0
	comp=Z,1.9nm,0.8s,baz=320,slow=5.0,SNR=21								

NEIC ***20*** *19:53:31.9±2.0, 19.80S±0.03×70.92W±0.03, h13km±2km, mb5.5/445, Ms_20 5.1/660, Mwb5.5/71, Mwr5.4/49, Mww5.6, ML5.2(GUC), Mwc5.6(GCMT), Error ellipse: s-maj=4.7km s-min=4.2km az=97.0*

NEIC ***20*** *19:53:31.2, 19.79S×70.90W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.76; $M_{\theta\theta}$0.18; $M_{\phi\phi}$-1.94; $M_{r\theta}$0.42; $M_{r\phi}$0.63; $M_{\theta\phi}$-1.44; Fault plane solution: $M_0$2.47000×10^{17} NP1:ϕ_s164.01000°, δ63.88000°, λ89.32000°. NP2:ϕ_s345.55000°, δ26.13000°, λ91.38000°. Principal axes: T 2.2745, Plg71.0000°, Azm73.0000°; N 0.3485, Plg1.0000°, Azm164.0000°; P -2.6230, Plg19.0000°, Azm255.0000°;*

MOS ***20*** *19:53:31.0±1.1, 19.49S×70.71W, h10km, mb5.5/24, MS5.1/52 Error ellipse: s-maj=9.3km s-min=5.3km az=105.5*

VAO ***20*** *19:53:31.5±0.3, 19.66S×70.82W, h10km, mb5.1*

GUC ***20*** *19:53:32.8±0.7, 19.77S×70.94W, h40km±1km, ML5.2, MW5.6*

UNK ***20*** *19:53:32.4, 19.82S×70.87W, h14km*

NEIC ***20*** *19:53:32.3, 19.81S×70.88W, h14km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}0.78; $M_{\theta\theta}$-0.09; $M_{\phi\phi}$-0.69; $M_{r\theta}$0.47; $M_{r\phi}$0.37; $M_{\theta\phi}$-1.37; Fault plane solution: $M_0$1.66000×10^{17} NP1:ϕ_s160.45000°, δ75.18000°, λ93.47000°. NP2:ϕ_s327.13000°, δ15.21000°, λ77.13000°. Principal axes: T 1.6239, Plg60.0000°, Azm75.0000°; N 0.0785, Plg3.0000°, Azm340.0000°; P -1.7024, Plg30.0000°, Azm248.0000°;*

IDC ***20*** *19:53:34.6±2.8, 19.67S×70.68W, h26km±18km, mb4.9/31, mb1 4.9/37, mb1mx4.8/46, mbtmp5.0/37, ML4.4/6, MS5.1/15, Ms1 5.1/15, ms1mx4.8/36 Error ellipse: s-maj=14.3km s-min=9.9km az=64.0*

BJI ***20*** *19:53:36.0±0.0, 19.80S×70.80W, h30km, mB5.4/43, Ms5.7/49, Ms7 5.5/49*

NEIC ***20*** *19:53:36, 19.82S×71.08W, h26km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.86; $M_{\theta\theta}$-0.19; $M_{\phi\phi}$-1.67; $M_{r\theta}$1.21; $M_{r\phi}$0.69; $M_{\theta\phi}$-1.83; Fault plane solution: $M_0$2.90000×10^{17} NP1:ϕ_s348.00000°, δ21.00000°, λ107.00000°. NP2:ϕ_s149.00000°, δ70.00000°, λ83.00000°. Principal axes: T 2.8885, Plg65.0000°, Azm48.0000°; N 0.0298, Plg6.0000°, Azm152.0000°; P -2.9183, Plg24.0000°, Azm244.0000°;*

GCMT ***20*** *19:53:36.9±0.1, 19.75S±0.01×71.19W±0.01, h21km, MW5.5/148, Moment Tensor Solution. s129,c216; s148,c281; Duration: 1s4 Moment tensor: Scale 10^{17} Nm; M_{rr}1.84±.03; $M_{\theta\theta}$0.01±.02; $M_{\phi\phi}$-1.84±.03; $M_{r\theta}$0.51±.05; $M_{r\phi}$0.47±.02; $M_{\theta\phi}$-1.67±.06; Best double couple: $M_0$2.57800×10^{17} NP1:ϕ_s349.00000°, δ24.00000°, λ94.00000°. NP2:ϕ_s164.00000°, δ66.00000°, λ88.00000°. Principal axes: T 2.5220, Plg69.0000°, Azm70.0000°; N 0.1180, Plg2.0000°, Azm165.0000°; P -2.6330, Plg21.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***20*** *19:53:38, 19.80S×71.20W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.57; $M_{\theta\theta}$0.03; $M_{\phi\phi}$-1.60; $M_{r\theta}$0.96; $M_{r\phi}$0.48; $M_{\theta\phi}$-2.09; Fault plane solution: $M_0$2.83000×10^{17} NP1:ϕ_s354.00000°, δ18.00000°, λ106.00000°. NP2:ϕ_s157.00000°, δ72.00000°, λ85.00000°. Principal axes: T 2.7659, Plg62.0000°, Azm59.0000°; N 0.1312, Plg5.0000°, Azm159.0000°; P -2.8971, Plg27.0000°, Azm251.0000°;*

ISC 20 19:53:32.9±0.6, 19.75S±0.02×70.92W±0.03, h19km±2km, h20km: pP-P, n1552, σ1°35/1460, mb5.5/281, MS5.1/375, 25C-7D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSGC	Pisagua	0.77	79	⇓*e*P		Pb		19 53 47.3	-0.4
PSGC				*e*S		Sg		19 53 58.7	+0.4
PSGCX	Pisagua	0.77	79			Pb		19 53 47.0	-0.7
PSGCX				Sg		Sg		19 53 58.3	0.0
TA01	Diego Aracena	1.07	139	⇑*i* P		Pb		19 53 51.9	-0.8
TA01				*e*S		Sb		19 54 06.3	0.0
TA01				IAML				19 54 12.2	
	comp=E,52μm,0.6s								
TA01	Diego Aracena	1.07	139			Pb		19 53 52.0	-0.8
TA01						Sb		19 54 06.1	-0.3
PB11	IPOC Station P	1.19	91	⇓*e*P		Pn		19 53 54.2	-0.4
PB11				*e*S		Sg		19 54 11.2	-0.5
PB11	IPOC Station P	1.19	91	Pn		Pn		19 53 54.3	-0.4
PB11						Sb		19 54 10.1	0.0
PB12	IPOC Station P	1.26	26	⇑*i* P		Pn		19 53 55.5	-0.1
PB12				*e*S		Sn		19 54 13.0	+0.9
PB12				IAML				19 54 21.2	
	comp=N,41μm,0.5s								
PB12	IPOC Station P	1.26	26			Pn		19 53 54.4	-1.2
PB12				Sn		Sn		19 54 12.9	+0.9
MNMC	Minye Minye	1.40	64	⇑*i* P		Pb		19 53 58.1	-0.4
MNMC				*e*S		Sg		19 54 17.2	-1.0
MNMC				IAML				19 54 24.2	
	comp=N,81μm,0.4s								
MNMC	Minye Minye	1.40	64			Pb		19 53 58.1	-0.4
AP01	Chacalluta	1.48	22	*i* P		Pn		19 53 58.5	0.0
AP01				*e*S		Sb		19 54 18.5	+0.4
AP01				IAML				19 54 27.6	
	comp=E,102μm,0.6s								
AP01	Chacalluta	1.48	22			Pn		19 53 58.5	0.0
GO01	Chusmiza	1.63	87	⇑*i* P		Pn		19 54 01.6	+0.6
GO01				*e*S		Sb		19 54 23.5	+0.5
GO01				IAML				19 54 26.9	
	comp=E,31μm,0.2s								
GO01	Chusmiza	1.63	87			Pn		19 54 01.5	+0.6
PB08	IPOC Station P	1.71	103	⇑*i* P		Pn		19 54 02.5	+0.5
PB08				*e*S		Sb		19 54 25.5	+0.4
PB08	IPOC Station P	1.71	103			Pn		19 54 02.3	+0.3
PB02	IPOC Station P	1.83	149	⇑*i* P		Pn		19 54 03.0	-0.5
PB02				*e*S		Sn		19 54 25.2	-0.9
PB02				IAML				19 54 31.8	
	comp=E,73μm,0.6s								
PB01	IPOC Station P	1.86	134	⇑*i* P		Pn		19 54 03.8	0.0
PB01				*e*S		Sn		19 54 27.0	+0.2
PB01				IAML				19 54 34.9	
	comp=E,27μm,0.3s								
PB01	IPOC Station P	1.86	134			Pn		19 54 03.5	-0.4
PB07	IPOC Station P	2.19	154	⇑*i* P		Pn		19 54 09.1	+0.7
PB07				*e*S		Sn		19 54 36.1	+1.0
PB07				IAML				19 54 51.4	
	comp=E,27μm,0.7s								
PB07	IPOC Station P	2.19	154			Pn		19 54 07.0	-1.4
PB09	IPOC Station P	2.57	143	⇑*i* P		Pn		19 54 14.0	+0.3
PB09				*i* S		Sn		19 54 45.4	+0.9
PB09				IAML				19 55 02.0	
	comp=E,19μm,0.6s								
PB09	IPOC Station P	2.57	143			Pn		19 54 14.1	+0.3
PB04	IPOC Station P	2.67	164	IAML				19 55 04.6	
	comp=E,14μm,0.4s								
PB04	IPOC Station P	2.67	164			Pn		19 54 13.1	-1.9
PB06	IPOC Station P	3.20	157	IAML				19 55 20.3	
	comp=E,7μm,0.4s								
PB06	IPOC Station P	3.20	157			Pn		19 54 20.7	-1.6
LVC	Limon Verde	3.41	147	Pn		Pn		19 54 25.6	+0.2
	comp=E,63nm,0.3s,baz=357,slow=9.0,SNR=123								
LVC				Sn		Sn		19 55 04.7	-0.8
	comp=E,370nm,0.3s,baz=82,slow=20,SNR=7.4								
LVC				Lg		Lg		19 55 16.5	
	comp=E,608nm,0.3s,baz=23,slow=20,SNR=8.5								
LVC				LR		LR		19 56 03.6	
	comp=E,41μm,18.4s,baz=324,slow=44								
LVC	Limon Verde	3.41	147	*e*P		Pn		19 54 25.8	+0.5
LVC				*e*S		Sn		19 55 06.5	+1.1
LVC	Limon Verde	3.41	147	P		Pn		19 54 25.3	-0.1
LVC	Limon Verde	3.41	147	Pn		Pn		19 54 25.3	-0.1
PB15	IPOC Station P	3.70	159			Pn		19 54 27.5	-1.7
PB10	IPOC Station P	3.76	175	Pn		Pn		19 54 27.2	-2.6
LPAZ	La Paz	4.35	38	Pn		Pn		19 54 42.2	+3.7
	comp=E,5.5nm,0.3s,baz=207,slow=9.6,SNR=113								
LPAZ				Lg		Lg		19 55 44.2	
	baz=233,slow=17,SNR=1.4								
GO02	Mina Guanaco	5.52	167	Pn		Pn		19 54 52.7	-1.7
AC01	Pan de Azucar	6.37	177			Pn		19 55 02.2	-3.6
AC02	Maricunga	7.24	167			Pn		19 55 16.8	-1.3
GO03	Copiap	7.83	176	Pn		Pn		19 55 23.0	-2.9
NNA	Nana	9.59	323	Pn		Pn		19 55 51.8	+1.8
	comp=E,2.4nm,0.3s,baz=98,slow=11,SNR=5.0								
NNA				Sn		Sn		19 57 30.2	-7.2
	comp=E,5.5nm,0.3s,baz=148,slow=16,SNR=1.4								
NNA				LR		LR		19 59 15.9	
	comp=E,4μm,20.1s,baz=158,slow=35								
NNA	Nana	9.59	323	*i* P		Pn		19 55 51.9	+1.8
NNA				pmax		pmax			
	comp=Z,54nm,1.1s								
NNA	Nana	9.59	323			Pn		19 55 51.0	+0.9
SIV	San Ignacio	10.10	70	Pn		Pn		19 55 56.0	-1.0
	comp=Z,20nm,0.3s,baz=273,slow=9.2,SNR=115								
CO01	Juntas del Tor	10.21	176	Pn		Pn		19 55 57.4	-1.3
GO04	Tololo Observa	10.38	179	Pn		Pn		19 55 59.4	-1.6
CO03	El Pedregal	11.04	179	Pn		Pn		19 56 08.1	-1.9
CO02	Combarbal	11.40	180	Pn		Pn		19 56 14.0	-0.4
ZON	Zonda	11.92	171	P		Pn		19 56 22.4	+0.6
ZON	Zonda	11.92	171	Pn		Pn		19 56 22.4	+0.6
PTLB	Pontes e Lacer	12.02	71	*e*P		Pn		19 56 22.0	-1.3
PTLB	Pontes e Lacer	12.02	71	*e*P		Pn		19 56 22.0	-1.3
CFA	Coronel Fontan	12.05	169	Pn		Pn		19 56 26.8	+3.1
	comp=Z,1.7nm,0.3s,baz=355,slow=16,SNR=1.5								
CFA				LR		LR		20 01 29.2	
	comp=Z,11μm,19.8s,baz=343,slow=39								
VILB	Vilhena	12.31	58	*e*P		Pn		19 56 25.9	-1.4
VILB	Vilhena	12.31	58	*e*P		Pn		19 56 25.9	-1.4
VA03	San Esteban	12.96	179	Pn		Pn		19 56 39.4	+3.2
SAML	Samuel	13.09	36	P		Pn		19 56 34.9	-3.0

OGAUY **Aigu** 20.44 139 *e*P P 19 58 09.1 -0.1
OGAUY **Aigu** 20.44 139 *e*P P 19 58 09.1 -0.1
CNLB Canela 20.57 121 *e*P P 19 58 09.3 -1.3
CNLB Canela 20.57 121 *e*P P 19 58 09.3 -1.3
PLCA Paso Flores 20.92 179 P P 19 58 15.5 +1.2
comp=Z,21nm,0.8s,baz=356,slow=11,SNR=23
PLCA Paso Flores 20.92 179 P P 19 58 13.3 -1.0
PLCA pmax pmax
comp=Z,82nm,1.1s
PLCA Paso Flores 20.92 179 P P 19 58 13.3 -1.0
PLCA Paso Flores 20.92 179 *e*P Pn 19 58 15.9 -1.0
PLCA Paso Flores 20.92 179 *e*P Pn 19 58 15.9 -1.0
TIJ01 Guaruva-PR 20.98 109 *e*P P 19 58 13.9 -1.3
TIJ01 Guaruva-PR 20.98 109 *e*P P 19 58 13.9 -1.3
BB19B Bebedouro 21.03 97 *e*P P 19 58 12.9 -2.8
BB19B Bebedouro 21.03 97 *e*P P 19 58 12.9 -2.8
ITTB Itaituba 21.28 46 *e*P P 19 58 16.2 -2.2
ITTB Itaituba 21.28 46 *e*P P 19 58 16.2 -2.2
IPMB Ipameri, GO 21.56 89 *e*P P 19 58 20.2 -1.3
IPMB Ipameri, GO 21.56 89 *e*P P 19 58 20.2 -1.3
PTGA Pitinga 21.74 31 P P 19 58 21.5 -1.7
comp=Z,80nm,0.7s,baz=211,slow=14,SNR=61
PTGA LR LR 20 08 03.0
comp=Z,7µm,19.3s,baz=208,slow=40
PTGA Pitinga 21.74 31 P P 19 58 21.1 -2.2
PTGA IAmb IAmb 19 58 30.6
comp=Z,254nm,1.1s
PTGA IAMs_20 IAMs_20 20 07 50.6
comp=Z,11µm,19.0s
PTGA Pitinga 21.74 31 *e*P P 19 58 21.7 -1.6
PTGA Pitinga 21.74 31 *e*P P 19 58 21.7 -1.6
RCLB Rio Claro- Sao 21.98 101 *e*P P 19 58 24.1 -1.8
RCLB Rio Claro- Sao 21.98 101 *e*P P 19 58 24.1 -1.8
SPB Sao Paulo 22.16 104 *e*P P 19 58 26.9 -0.8
SPB Sao Paulo 22.16 104 *e*P P 19 58 26.9 -0.8
BDFB Brasilia 22.20 83 P P 19 58 25.4 -3.0
comp=Z,13nm,0.5s,baz=242,slow=10,SNR=13
BDFB LR LR 20 08 35.7
comp=Z,9µm,19.0s,baz=262,slow=41
BDFB Brasilia 22.20 83 P P 19 58 25.1 -3.3
BDFB pmax pmax
comp=Z,85nm,1.1s
BDFB MLR MLR
comp=Z,14µm,18.0s
BDFB Brasilia 22.20 83 P P 19 58 25.1 -3.3
PET01 Itanhaem-SP 22.37 106 *e*P P 19 58 30.3 +0.2
PET01 Itanhaem-SP 22.37 106 *e*P P 19 58 30.3 +0.2
VAO Valinhos 22.54 103 *e*P P 19 58 27.8 -4.1
VAO Valinhos 22.54 103 *e*P P 19 58 27.8 -4.1
LL01 San Ignacio de 22.59 183 P P 19 58 30.9 -1.3
LL01 IAmb IAmb 19 58 42.1
comp=Z,318nm,1.9s
PEXB Peixe 23.02 74 *e*P P 19 58 36.1 -0.9
PEXB *e*S S 20 02 48.3 +1.3
PEXB Peixe 23.02 74 *e*P P 19 58 36.1 -0.9
PEXB *e*S S 20 02 48.3 +1.3
GO07 Milladeo Hill, 23.41 185 P P 19 58 38.9 -1.7
GO07 IAmb IAmb 19 59 07.9
comp=Z,297nm,1.7s
PARB Paraibuna 23.79 103 *e*P P 19 58 44.8 +0.1
PARB Paraibuna 23.79 103 *e*P P 19 58 44.8 +0.1
MALB Monte Alegre 24.12 45 *e*P P 19 58 46.2 -1.4
MALB Monte Alegre 24.12 45 *e*P P 19 58 46.2 -1.4
BSCB Bom Sucesso 24.54 97 *e*P P 19 58 50.6 -1.0
BSCB *e*S S 20 03 12.6 +1.0
BSCB Bom Sucesso 24.54 97 *e*P P 19 58 50.6 -1.0
BSCB *e*S S 20 03 12.6 +1.0
PRPB Parauapebas 24.56 59 *e*P P 19 58 50.8 -1.0
PRPB Parauapebas 24.56 59 *e*P P 19 58 50.8 -1.0
ROSC El Rosal 24.66 352 P P 19 58 54.5 +1.5
comp=Z,34nm,0.7s,baz=147,slow=9.2,SNR=12
ROSC LR LR 20 09 32.6
comp=Z,6µm,18.6s,baz=201,slow=39
ROSC El Rosal 24.66 352 P P 19 58 53.3 +0.2
ROSC IAmb IAmb 19 59 14.5
comp=Z,150nm,1.3s
ROSC IAMs_20 IAMs_20 20 08 48.1
comp=Z,7µm,21.0s
ESAR Angra dos Reis 24.86 102 *e*P P 19 58 53.1 -1.2
ESAR Angra dos Reis 24.86 102 *e*P P 19 58 53.1 -1.2
SMTB Santa Maria do 25.03 68 *e*P P 19 58 55.4 -0.7
SMTB Santa Maria do 25.03 68 *e*P P 19 58 55.4 -0.7
RUSC La Rusia 25.57 355 P P 19 59 01.1 -0.2
COYC Coyhaique 25.77 182 P P 19 59 01.8 -0.6
MC01 Montes Claros 25.79 88 *e*P P 19 59 01.0 -2.0
MC01 Montes Claros 25.79 88 *e*P P 19 59 01.0 -2.0
JANB Januaria 25.80 84 *e*P P 19 59 01.1 -2.0
JANB Januaria 25.80 84 *e*P P 19 59 01.1 -2.0
PAYG Puerto Ayora 26.82 313 P P 19 59 13.5 +1.4
SJMB Sao Joao De Ma 28.08 93 *e*P P 19 59 21.9 -1.7
SJMB Sao Joao De Ma 28.08 93 *e*P P 19 59 21.9 -1.7
BSFB Barra de Sao F 28.39 93 *e*P P 19 59 25.3 -0.9
BSFB Barra de Sao F 28.39 93 *e*P P 19 59 25.3 -0.9
SDV Santo Domingo 28.46 1 P P 19 59 26.9 0.0
comp=Z,21nm,0.4s,baz=231,slow=7.9,SNR=1.2
SDV Santo Domingo 28.46 1 P P 19 59 27.0 0.0
SDV IAmb IAmb 19 59 41.5
comp=Z,102nm,1.2s
SDV Santo Domingo 28.46 1 IAMs_20 IAMs_20 20 09 39.9
comp=Z,5µm,20.0s
SDV Santo Domingo 28.46 1 *e*P P 19 59 26.1 -1.0
SDV Santo Domingo 28.46 1 *e*P P 19 59 26.1 -1.0
BCIP Isla Barro Col 30.05 342 P P 19 59 41.3 +0.4
BCIP pmax pmax
comp=Z,291nm,1.8s
BCIP MLR MLR
comp=Z,3µm,22.0s
BCIP Isla Barro Col 30.05 342 P P 19 59 41.3 +0.4
PCRV Puerto La Cruz 30.38 12 P P 19 59 44.6 +0.7
comp=Z,37nm,1.1s,baz=168,slow=5.0,SNR=6.6
MDP Montagnes des 30.55 38 P P 19 59 44.5 -0.9
comp=Z,25nm,0.9s,baz=217,slow=8.9,SNR=9.1
MDP LR LR 20 12 45.5
comp=Z,10µm,20.2s,baz=204,slow=38
GDU01 Guandu, BA 30.58 84 *e*P P 19 59 43.7 -2.0
GDU01 Guandu, BA 30.58 84 *e*P P 19 59 43.7 -2.0
ROSB Rosrio 31.07 61 *e*P P 19 59 49.1 -0.9
ROSB Rosrio 31.07 61 *e*P P 19 59 49.1 -0.9
HATO Hato, Curacao 31.79 4 P P 19 59 55.9 -0.4
HDC Heredia 32.29 335 P P 20 00 01.7 +0.8
HDC IAmb IAmb 20 00 50.7
comp=Z,95nm,1.1s
HDC IAMs_20 IAMs_20 20 12 25.6
comp=Z,4µm,21.0s
TOSP Speyside 32.51 19 P P 20 00 02.3 -0.2
TOSP IAMs_20 IAMs_20 20 13 42.6
comp=Z,6µm,22.0s
JTS Las Juntas de 32.90 334 *e*P P 20 00 04.6 -1.4
JTS pmax pmax
comp=Z,9.0nm,1.2s
JTS Las Juntas de 32.90 334 P P 20 00 06.0 0.0
GRGR Grenville 32.97 17 P P 20 00 06.0 -0.6
GRGR IAMs_20 IAMs_20 20 14 33.0
comp=Z,4µm,18.0s
GO10 Punta Arenas 33.34 180 P P 20 00 08.8 -0.8
EFI East Falkland 33.42 165 IAMs_20 IAMs_20 20 16 11.6
comp=Z,4µm,18.0s
SVB Belmont 34.17 17 P P 20 00 15.2 -1.9
SVB IAMs_20 IAMs_20 20 15 35.7
comp=Z,5µm,18.0s
ESPN Las Esperanzas 34.37 336 P P 20 00 18.3 -0.5
ACON Acoyapa 34.50 335 P 20 00 19.7 -0.2
BBGH Gun Hill 34.55 20 P P 20 00 18.7 -1.6
MCLT Moule a Chique 34.67 17 P P 20 00 23.6 +2.1
MCLT IAMs_20 IAMs_20 20 17 06.0
comp=Z,3µm,18.0s
BOAB BOACO BROADBAN 34.14 334 P P 20 00 26.2 +0.7
BOAB IAmb IAmb 20 00 51.5
comp=Z,71nm,1.2s
BOAB IAMs_20 IAMs_20 20 14 13.9
comp=Z,4µm,19.0s
FDF Fort de France 35.59 16 P P 20 00 27.6 -1.8
FDF pmax pmax
comp=Z,152nm,0.9s
FDF MLR MLR
comp=Z,6µm,18.0s
FDF Fort de France 35.59 16 P 20 00 27.6 -1.8
MATN Matagalpa 35.68 334 P P 20 00 30.1 -0.1
RPN Rapa Nui 35.89 251 LR LR 20 11 50.0
comp=Z,6µm,18.2s,baz=132,slow=30
CRIN San Cristobal 35.95 332 P P 20 00 31.4 -1.1
RCBR Riachuelo 36.74 73 P P 20 00 38.7 -0.6
comp=Z,74nm,1.0s,baz=237,slow=9.0,SNR=16
RCBR Riachuelo 36.74 73 P P 20 00 38.8 -0.6
RCBR pmax pmax
comp=Z,113nm,1.1s
RCBR MLR MLR
comp=Z,7µm,20.0s
RCBR Riachuelo 36.74 73 P P 20 00 38.8 -0.6
RCBR IAmb IAmb 20 00 40.4
comp=Z,112nm,1.1s
RCBR Riachuelo 36.74 73 *e*P P 20 00 39.1 -0.3
RCBR Riachuelo 36.74 73 *e*P P 20 00 39.1 -0.3
TGUH Tegucigalpa,Un 37.25 333 P P 20 00 43.9 +0.2
ICMP Isla Caja de M 37.65 7 P P 20 00 45.9 -1.0
ICMP IAmb IAmb 20 00 58.1
comp=Z,129nm,0.9s
MLPR Magueyes Islan 37.68 6 P P 20 00 45.6 -1.5
MLPR IAmb IAmb 20 00 56.5
comp=Z,133nm,1.0s
CRPR Cabo Rojo, PR 37.71 6 P P 20 00 46.1 -1.2
SKI Saint Kitts 37.72 13 P P 20 00 45.4 -2.1
SKI pmax pmax
comp=Z,143nm,1.0s
SKI MLR MLR
comp=Z,13µm,19.0s
SKI Saint Kitts 37.72 13 P P 20 00 45.4 -2.1
SKI IAmb IAmb 20 00 57.7
comp=Z,143nm,1.0s
CDVI St. Croix 37.76 10 P P 20 00 45.9 -1.8
CDVI IAmb IAmb 20 01 00.9
comp=Z,83nm,0.9s
OBIP Obispado Ponce 37.80 7 P 20 00 47.4 -0.7
OBIP IAmb IAmb 20 00 50.3
comp=Z,129nm,1.2s
PDPR Patillas Dam, 37.84 8 P P 20 00 46.9 -1.5
PDPR IAmb IAmb 20 00 59.0
comp=Z,86nm,0.9s
MPR Mayaguez 37.91 6 IAmb IAmb 20 00 59.6
comp=Z,133nm,1.0s
SJG San Juan 37.92 7 P P 20 00 47.6 -1.5
comp=Z,38nm,0.8s,baz=202,slow=3.2,SNR=9.6
SJG S S 20 06 36.6 -3.3
comp=Z,2.1nm,0.2s,baz=312,slow=21,SNR=1.0
SJG San Juan 37.92 7 P P 20 00 47.4 -1.7
SJG pmax pmax
comp=Z,87nm,1.0s
SJG MLR MLR
comp=Z,3µm,18.0s
SJG San Juan 37.92 7 P P 20 00 47.4 -1.7
SJG IAmb IAmb 20 00 57.8
comp=Z,86nm,1.0s
SJG San Juan 37.92 7 IAMs_20 IAMs_20 20 18 47.0
comp=Z,3µm,18.0s
MTP Monte Pirata 37.98 8 P 20 00 47.5 -2.1
MTP IAmb IAmb 20 00 57.6
comp=Z,91nm,1.1s
HUMP Col San Antoni 37.99 8 P P 20 00 48.0 -1.7
HUMP IAmb IAmb 20 00 58.8
comp=Z,68nm,1.1s
AOPR Arecibo Observ 38.08 6 P P 20 00 48.6 -2.0
AOPR IAmb IAmb 20 01 07.6
comp=Z,53nm,0.8s
CBYP Canovanas 38.11 8 P P 20 00 48.9 -1.9
CBYP IAmb IAmb 20 00 59.0
comp=Z,111nm,1.0s
GCPR Guaynabo City 38.12 7 P P 20 00 48.6 -2.2
GCPR IAmb IAmb 20 01 01.7
comp=Z,94nm,0.9s
CUPR Culebra, Puert 38.23 9 P 20 00 49.7 -2.0
CUPR IAmb IAmb 20 01 00.9
comp=Z,94nm,1.0s
DR12 Loma Pena Alta 38.33 2 P P 20 00 50.4 -2.3
SMRT St. Maarten 38.35 12 P P 20 00 50.1 -2.6
SDDR Presa de Saban 38.49 359 P P 20 00 51.6 -2.5
SDDR IAMs_20 IAMs_20 20 19 35.1
comp=Z,3µm,18.0s
SC01 Santiago de lo 38.94 0 IAMs_20 IAMs_20 20 17 55.8
comp=Z,3µm,22.0s
GTBY Guantanamo Bay 39.65 354 IAMs_20 IAMs_20 20 20 00.6
comp=Z,3µm,19.0s
CCIG Comitan 41.44 328 IAMs_20 IAMs_20 20 16 40.1
comp=Z,2µm,20.0s
TEIG Tepich 43.22 336 P P 20 01 33.5 +0.7
comp=Z,22nm,0.7s,baz=139,slow=0.9,SNR=10.0
TEIG Tepich 43.22 336 P P 20 01 33.6 +0.7
TEIG Tepich 43.22 336 IAMs_20 IAMs_20 20 21 52.2
comp=Z,2µm,18.0s
CMIG Matias Romero 43.53 326 P P 20 01 36.8 +1.4
comp=Z,4.8nm,0.8s,baz=125,slow=5.8,SNR=8.3
PMSA Palmer Station 45.23 176 *e*P P 20 01 49.9 +1.3
PMSA Palmer Station 45.23 176 *e*P P 20 01 49.9 +1.3
TLIG Tlapa 45.96 322 IAMs_20 IAMs_20 20 20 08.8
comp=Z,2µm,18.0s
DWPF Disney Wildern 48.65 348 P P 20 02 15.3 -0.5
baz=167
656A Willston 50.10 347 IAmb IAmb 20 02 28.9
comp=Z,112nm,1.2s
656A IAMs_20 IAMs_20 20 24 37.6
comp=Z,2µm,21.0s
456A Hilliard 51.31 348 IAMs_20 IAMs_20 20 27 53.5
comp=Z,2µm,18.0s
553A Crawfordville 51.33 345 P P 20 02 35.9 -0.1
TIGA Tifton 52.33 346 P P 20 02 43.4 -0.1
baz=165
TIGA Tifton 52.33 346 IAMs_20 IAMs_20 20 25 44.6
comp=Z,2µm,21.0s
257A Skidaway Islan 52.34 349 IAMs_20 IAMs_20 20 28 31.7
comp=Z,2µm,19.0s
ZAIG Zacatecas 52.35 322 P P 20 02 44.5 +0.4
ZAIG IAMs_20 IAMs_20 20 22 41.2
comp=Z,2µm,20.0s
255A Hazlehurst 52.56 348 IAMs_20 IAMs_20 20 28 32.5
comp=Z,2µm,18.0s
352A Blakely 52.68 345 P P 20 02 46.3 +0.2
352A IAmb IAmb 20 02 47.9
comp=Z,89nm,1.1s
352A IAMs_20 IAMs_20 20 25 21.9
comp=Z,2µm,22.0s
158A Hollywood 52.94 350 P P 20 02 48.8 +0.9
baz=169
BRAL Brewton 52.95 343 P P 20 02 47.9 -0.1
baz=161
BRAL Brewton 52.95 343 P P 20 02 48.3 +0.3
545A Edgard 52.97 339 IAMs_20 IAMs_20 20 26 14.7
comp=Z,2µm,20.0s
157A Early Branch 53.02 349 P P 20 02 48.9 +0.4
baz=168
RGRS Roger Stewart 53.11 350 P P 20 02 49.8 +0.7
Z59A Georgetown, SC 53.30 351 P P 20 02 50.8 +0.2
baz=170
NHSC New Hope 53.30 350 P P 20 02 51.9 +1.4
baz=169,SNR=7.6
NHSC New Hope 53.30 350 P P 20 02 51.2 +0.7
NHSC IAMs_20 IAMs_20 20 26 33.3
comp=Z,3µm,21.0s
154A Montrose 53.36 347 P P 20 02 50.9 -0.1
Z58A St. Stephen 53.47 351 P P 20 02 52.8 +1.0
baz=170,SNR=13
Z57A Bowman 53.57 350 P P 20 02 53.1 +0.6
baz=168,SNR=11
Z56A Williston 53.71 349 P P 20 02 54.0 +0.4
baz=168
Z56A Williston 53.71 349 IAMs_20 IAMs_20 20 30 06.3
comp=Z,2µm,18.0s
152A Waverly Hall 53.77 346 P P 20 02 53.4 -0.6
152A IAMs_20 IAMs_20 20 27 03.7
comp=Z,2µm,22.0s
Y60A Bolivia 53.91 352 P P 20 02 55.4 +0.4
baz=172
Y60A Bolivia 53.91 352 P P 20 02 54.8 -0.2
Y60A IAMs_20 IAMs_20 20 27 14.3
comp=Z,2µm,20.0s
Y59A Loris 53.98 352 P P 20 02 55.8 +0.2
baz=171
Y59A Loris 53.98 352 IAMs_20 IAMs_20 20 26 33.2
comp=Z,2µm,21.0s
Y58A Scranton 54.01 351 P P 20 02 56.1 +0.4
baz=170
Y58A Scranton 54.01 351 IAMs_20 IAMs_20 20 30 12.9
comp=Z,1µm,18.0s
Y56A Pelion 54.16 349 P P 20 02 57.2 +0.3
baz=168
GOGA Godfrey 54.20 347 P P 20 02 57.2 0.0
baz=165,SNR=7.4
GOGA Godfrey 54.20 347 P P 20 02 56.9 -0.3
GOGA pmax pmax
comp=Z,31nm,1.4s
GOGA MLR MLR
comp=Z,2µm,21.0s
GOGA Godfrey 54.20 347 P P 20 02 56.9 -0.3
GOGA Godfrey 54.20 347 IAMs_20 IAMs_20 20 26 13.2
comp=Z,1µm,21.0s
Y57A Sumter 54.23 350 P P 20 02 57.7 +0.3
baz=169
Y57A Sumter 54.23 350 IAMs_20 IAMs_20 20 26 49.8
comp=Z,2µm,20.0s
Y55A Saluda 54.40 349 P P 20 02 58.9 +0.3
baz=167,SNR=16
X60A Albert Glenn T 54.44 353 P P 20 02 59.2 +0.3
baz=172
Z51A Franklin 54.50 345 IAMs_20 IAMs_20 20 26 19.0
comp=Z,2µm,22.0s
X59A McDuffie Farm, 54.51 352 P P 20 02 59.8 +0.4
baz=171
X58A Rowland 54.59 351 P P 20 03 00.3 +0.2
baz=170
X58A Rowland 54.59 351 P P 20 03 00.1 +0.1
X58A IAmb IAmb 20 03 15.6
comp=Z,56nm,1.1s
X58A IAMs_20 IAMs_20 20 27 02.6
comp=Z,2µm,22.0s
X57A Johnson Farm, 54.62 351 P P 20 03 00.4 +0.2
baz=169
JSC Jenkinsville 54.63 350 P P 20 03 00.4 +0.1
JSC pmax pmax
comp=Z,13nm,0.8s
JSC MLR MLR
comp=Z,1µm,20.0s
JSC Jenkinsville 54.63 350 P P 20 03 00.4 +0.1
LRAL Lakeview Retre 54.69 343 P P 20 03 00.2 -0.6
baz=161,SNR=8.6
LRAL Lakeview Retre 54.69 343 P P 20 03 00.3 -0.4
LRAL IAmb IAmb 20 03 02.2
comp=Z,62nm,1.6s
HODGE **Hodges** 54.76 348 P P 20 03 01.4 +0.2
HODGE IAMs_20 IAMs_20 20 25 51.9
comp=Z,2µm,22.0s
Y52A Lilburn 54.77 347 P P 20 03 01.0 -0.4
Y52A IAMs_20 IAMs_20 20 26 30.2
comp=Z,1µm,19.0s
X56A White Oak 54.79 350 P P 20 03 01.8 +0.3
baz=168,SNR=16
342A Flagon Creek P 54.83 338 P P 20 03 02.8 +1.0
BIRD Birdtown, Kers 54.85 350 P P 20 03 02.0 +0.1
BIRD IAmb IAmb 20 03 04.0
comp=Z,66nm,1.0s
BIRD IAMs_20 IAMs_20 20 26 57.3
comp=Z,2µm,22.0s
X55A Gracelyn & Ava 54.88 349 P P 20 03 01.8 -0.2
baz=168,SNR=19
W60A Pink Hill 54.88 353 P P 20 03 02.0 -0.1
baz=172
W61A Ground Anchor 54.93 354 P P 20 03 02.6 +0.1
baz=173
HKT Hockley 54.93 333 P P 20 03 03.3 +0.8
HKT pmax pmax
comp=Z,39nm,1.3s
HKT Hockley 54.93 333 P P 20 03 03.3 +0.8
VBMS Vicksburg 54.98 340 P P 20 03 03.5 +0.6
baz=157
W58A Raeford 55.04 352 P P 20 03 03.4 +0.1
baz=170,SNR=18
CNNC Cliffs of the 55.09 353 P P 20 03 04.6 +1.1
baz=172
X54A Belton 55.09 348 P P 20 03 03.9 +0.3
baz=167
Z47A Carrollton 55.14 342 P P 20 03 04.0 0.0
Z47A IAmb IAmb 20 03 05.3
comp=Z,69nm,1.4s
833A Chaparral WMA, 55.15 329 P P 20 03 05.0 +0.8
baz=147
V62A Hyde County Ai 55.22 355 IAMs_20 IAMs_20 20 27 24.0
comp=Z,1µm,21.0s
PAULI Pauline 55.25 349 P P 20 03 04.9 +0.2
PAULI IAMs_20 IAMs_20 20 27 56.9
comp=Z,2µm,20.0s
W57A Gilead 55.28 351 P P 20 03 05.0 0.0
baz=170,SNR=11
W57A Gilead 55.28 351 P P 20 03 05.1 +0.1
W57A IAmb IAmb 20 03 07.0
comp=Z,39nm,1.1s
W57A IAMs_20 IAMs_20 20 27 33.6
comp=Z,2µm,22.0s
Y49A Blount Mountai 55.32 344 P P 20 03 04.2 -1.2
W56A Indian Trail 55.35 350 P P 20 03 05.3 -0.2
baz=138,SNR=12
KMSC Kings Mountain 55.48 350 P P 20 03 06.9 +0.4
baz=168,SNR=5.8
KMSC Kings Mountain 55.48 350 P P 20 03 06.8 +0.4
KMSC IAmb IAmb 20 03 08.5
comp=Z,48nm,1.2s
KMSC IAMs_20 IAMs_20 20 27 50.0
comp=Z,2µm,20.0s
V61A Roper 55.50 354 P P 20 03 06.6 0.0
baz=174
V60A Jim Taylor Roa 55.54 354 P P 20 03 06.8 0.0
baz=173
W54A Cherokee Point 55.57 349 P P 20 03 07.4 +0.3
baz=167,SNR=12
X51A Calhoun 55.62 346 P P 20 03 07.4 -0.1
X51A IAmb IAmb 20 03 08.8
comp=Z,40nm,1.1s
X51A IAMs_20 IAMs_20 20 27 25.7
comp=Z,1µm,20.0s
BG3 Lake Jocassee 55.62 348 P P 20 03 07.1 -0.4
V59A Middlesex 55.65 353 P P 20 03 07.8 +0.3
baz=172,SNR=15
FPAL Fort Paine 55.77 345 P P 20 03 08.5 -0.1
FPAL IAMs_20 IAMs_20 20 27 30.7
comp=Z,2µm,22.0s
V58A Windy Hill, Pi 55.78 352 P P 20 03 08.8 +0.2
baz=171,SNR=13
V58A Windy Hill, Pi 55.78 352 P P 20 03 08.7 +0.1
V58A IAmb IAmb 20 03 10.7
comp=Z,76nm,1.3s
V58A IAMs_20 IAMs_20 20 27 48.0
comp=Z,2µm,22.0s
W52A Murphy 55.92 347 P P 20 03 09.8 +0.1
W52A IAmb IAmb 20 03 11.3
comp=Z,38nm,1.1s
W52A IAMs_20 IAMs_20 20 28 04.8
comp=Z,1µm,20.0s
V57A Coltrane Farms 55.97 351 P P 20 03 09.9 0.0
baz=170,SNR=11
V56A Mocksville 56.00 351 P P 20 03 10.5 +0.3
baz=169,SNR=19
U61A Possum Corner 56.02 355 P P 20 03 11.2 +1.0
baz=174
X48A Hartselle 56.04 344 P P 20 03 10.2 -0.3
X48A IAmb IAmb 20 03 11.8
comp=Z,91nm,1.6s
NATX Nacogdoches 56.05 336 P P 20 03 11.4 +0.9
baz=153
NATX Nacogdoches 56.05 336 P P 20 03 11.9 +1.3
V55A Taylorsville 56.15 350 P P 20 03 11.5 +0.2
baz=168,SNR=16
V55A Taylorsville 56.15 350 P P 20 03 11.9 +0.7
V55A IAmb IAmb 20 03 13.4
comp=Z,59nm,1.1s
V55A IAMs_20 IAMs_20 20 27 47.8
comp=Z,1µm,21.0s
U59A Littleton 56.18 353 P P 20 03 11.6 +0.3
baz=172,SNR=10
U59A Littleton 56.18 353 P P 20 03 11.8 +0.4
U59A IAmb IAmb 20 03 13.7
comp=Z,101nm,1.5s
Y45A Yeager Farm, C 56.20 341 P P 20 03 12.2 +0.6
V54A Nebo 56.20 349 P P 20 03 11.7 +0.1
baz=168,SNR=27
U60A Pendleton 56.23 354 P P 20 03 11.6 -0.2
baz=173
V53A Saluda 56.26 348 P P 20 03 11.9 -0.2
V53A IAMs_20 IAMs_20 20 26 49.6
comp=Z,2µm,22.0s
U58A Oxford 56.30 353 P P 20 03 12.9 +0.6
baz=171,SNR=11
W50A Signal Mountai 56.33 346 P P 20 03 12.2 -0.4
W50A IAmb IAmb 20 03 14.0
comp=Z,72nm,1.4s
W50A IAMs_20 IAMs_20 20 27 48.6
comp=Z,2µm,20.0s
CPCT Cooper Cave 56.39 347 P P 20 03 12.6 -0.3
CPCT IAmb IAmb 20 03 14.4
comp=Z,50nm,1.3s
CPCT IAMs_20 IAMs_20 20 27 31.2

comp=Z,1µm,21.0s
435B Jarrell 56.40 332 P P 20 03 13.5 +0.3
baz=150
TKL Tuckaleechee C 56.44 347 P P 20 03 12.6 -0.6
comp=Z,30nm,0.9s,baz=156,slow=9.0,SNR=36
TKL Tuckaleechee C 56.44 347 P P 20 03 12.7 -0.6
TKL pmax pmax
comp=Z,52nm,1.1s
TKL MLR MLR
comp=Z,1µm,18.0s
TKL Tuckaleechee C 56.44 347 P P 20 03 12.7 -0.6
TKL IAmb IAmb 20 03 14.6
comp=Z,52nm,1.1s
TKL IAMs_20 IAMs_20 20 31 49.3
comp=Z,1µm,18.0s
U57A Blanch 56.44 352 P P 20 03 13.3 0.0
baz=170,SNR=10
U56A King 56.51 351 P P 20 03 14.1 +0.4
baz=169,SNR=8.2
U56A King 56.51 351 P P 20 03 14.2 +0.4
U56A IAmb IAmb 20 03 16.3
comp=Z,74nm,1.1s
U56A IAMs_20 IAMs_20 20 28 21.2
comp=Z,2µm,21.0s
V52A Sevierville 56.58 348 P P 20 03 13.7 -0.6
V52A IAmb IAmb 20 03 15.6
comp=Z,83nm,1.1s
V52A IAMs_20 IAMs_20 20 32 01.1
comp=Z,1µm,18.0s
V51A Loudon 56.70 347 P P 20 03 14.8 -0.3
V51A IAmb IAmb 20 03 16.4
comp=Z,45nm,1.1s
V51A IAMs_20 IAMs_20 20 32 01.2
comp=Z,2µm,18.0s
Z41A Richland Creek 56.70 338 P P 20 03 15.4 +0.2
baz=155
Z41A Richland Creek 56.70 338 P P 20 03 16.1 +0.9
Z41A IAmb IAmb 20 03 17.9
comp=Z,74nm,1.0s
237A Washetta, Mont 56.72 335 P P 20 03 16.8 +1.5
237A IAmb IAmb 20 03 18.4
comp=Z,80nm,1.0s
OXF Oxford 56.76 342 P P 20 03 14.8 -0.8
baz=159,SNR=7.7
OXF Oxford 56.76 342 P P 20 03 15.1 -0.5
OXF pmax pmax
comp=Z,80nm,1.1s
OXF MLR MLR
comp=Z,800nm,20.0s
OXF Oxford 56.76 342 P P 20 03 15.1 -0.5
OXF IAmb IAmb 20 03 16.9
comp=Z,80nm,1.1s
U55A TA2, Sparta 56.76 350 P P 20 03 15.9 +0.2
baz=169,SNR=10
T59A Double "B" Far 56.76 354 P P 20 03 15.9 +0.4
baz=172,SNR=18
T59A Double "B" Far 56.76 354 P P 20 03 15.7 +0.1
PLAL Pickwick Lake 56.82 343 P P 20 03 14.6 -1.4
T58A Grand View Acr 56.85 353 P P 20 03 16.4 +0.3
baz=171,SNR=35
T60A Surry 56.85 354 P P 20 03 16.3 +0.2
baz=173
U54A Nelsons Funny 56.91 350 P P 20 03 16.1 -0.5
baz=168,SNR=15
U54A Nelsons Funny 56.91 350 P P 20 03 16.2 -0.5
U54A IAmb IAmb 20 03 18.4
comp=Z,54nm,0.9s
U54A IAMs_20 IAMs_20 20 28 34.8
comp=Z,2µm,19.0s
T57A Hurt 56.99 352 P P 20 03 17.2 0.0
baz=171,SNR=13
T57A Hurt 56.99 352 P P 20 03 17.6 +0.4
T57A IAmb IAmb 20 03 19.5
comp=Z,89nm,1.3s
T57A IAMs_20 IAMs_20 20 29 06.9
comp=Z,2µm,21.0s
T56A Rocky Mt 57.12 351 P P 20 03 18.4 +0.2
baz=170,SNR=13
JCT Junction City 57.15 330 P P 20 03 18.5 0.0
baz=147
JCT Junction City 57.15 330 P P 20 03 19.4 +0.9
JCT pmax pmax
comp=Z,28nm,1.3s
JCT Junction City 57.15 330 P P 20 03 19.4 +0.9
WLAR White Oak Lake 57.20 338 P P 20 03 20.3 +1.6
V48A Smith Brothers 57.21 345 P P 20 03 18.2 -0.6
V48A IAmb IAmb 20 03 20.1
comp=Z,106nm,1.4s
X43A Marvell 57.21 340 P P 20 03 18.9 +0.1
baz=158
TZTN Tazewell 57.25 348 P P 20 03 18.4 -0.6
baz=166,SNR=11
TZTN Tazewell 57.25 348 P P 20 03 18.7 -0.4
TZTN IAmb IAmb 20 03 20.4
comp=Z,52nm,1.4s
T55A Pulaski 57.32 351 P P 20 03 19.5 -0.1
baz=169,SNR=16
HPIG 57.34 323 IAMs_20 IAMs_20 20 28 37.5
comp=Z,1µm,18.0s
BLA Blacksburg 57.36 351 P P 20 03 20.3 +0.4
baz=169
BLA Blacksburg 57.36 351 P P 20 03 19.9 +0.1
BLA pmax pmax
comp=Z,166nm,2.0s
BLA MLR MLR
comp=Z,2µm,22.0s
BLA Blacksburg 57.36 351 P P 20 03 19.9 +0.1
BLA IAmb IAmb 20 03 40.4
comp=Z,166nm,2.0s
BLA IAMs_20 IAMs_20 20 28 58.8
comp=Z,2µm,22.0s
WHTX Lake Whitney, 57.39 333 P P 20 03 20.6 +0.5
baz=150,SNR=10
WHTX Lake Whitney, 57.39 333 P P 20 03 20.8 +0.7
WHTX IAmb IAmb 20 03 22.5
comp=Z,74nm,1.3s
T54A Tazewell 57.39 350 P P 20 03 19.8 -0.3
baz=168,SNR=14
S60A Water View 57.40 355 P P 20 03 20.0 0.0
baz=174
CLTN Cedars of Leba 57.42 345 P P 20 03 20.2 0.0
CLTN IAmb IAmb 20 03 21.5
comp=Z,40nm,1.0s
CLTN IAMs_20 IAMs_20 20 32 29.4
comp=Z,1µm,18.0s
S58A Poland Farm, P 57.45 353 P P 20 03 21.0 +0.6
baz=172,SNR=8.2
S58A Poland Farm, P 57.45 353 P P 20 03 20.8 +0.4
S58A IAmb IAmb 20 03 22.7
comp=Z,57nm,1.3s
T53A Wise 57.48 349 P P 20 03 20.1 -0.7
baz=167,SNR=10
Z38A Mt. Pleasant 57.51 336 P P 20 03 22.4 +1.5
Z38A IAmb IAmb 20 03 23.7
comp=Z,74nm,1.1s
S59A Mechanicsville 57.52 354 P P 20 03 20.9 +0.1
baz=173
U49A Red Boiling Sp 57.70 346 P P 20 03 21.6 -0.6
U49A IAmb IAmb 20 03 23.5
comp=Z,107nm,1.7s
U49A IAMs_20 IAMs_20 20 32 31.7
comp=Z,2µm,18.0s
S56A Natural Bridge 57.70 352 P P 20 03 22.9 +0.7
baz=170,SNR=6.9
S57A Dark Hollow, R 57.70 352 P P 20 03 22.6 +0.4
baz=171,SNR=20
S57A Dark Hollow, R 57.70 352 P P 20 03 22.3 +0.1
S57A IAmb IAmb 20 03 24.6
comp=Z,102nm,1.4s
S57A IAMs_20 IAMs_20 20 29 35.8
comp=Z,2µm,20.0s
R58B Mineral 57.78 354 P P 20 03 23.6 +0.8
baz=172,SNR=14
R58B Mineral 57.78 354 P P 20 03 23.4 +0.7
R58B IAmb IAmb 20 03 25.4
comp=Z,79nm,1.2s
X40A Basin Creek Fa 57.83 339 P P 20 03 23.1 -0.1
baz=156
X40A Basin Creek Fa 57.83 339 P P 20 03 23.8 +0.6
WVT Waverly 57.84 344 P P 20 03 22.6 -0.5
baz=161
WVT Waverly 57.84 344 P P 20 03 22.1 -1.1
WVT pmax pmax
comp=Z,35nm,0.9s
WVT MLR MLR
comp=Z,1µm,19.0s
WVT Waverly 57.84 344 P P 20 03 22.1 -1.1
WVT IAmb IAmb 20 03 23.8
comp=Z,35nm,0.9s
WVT Waverly 57.84 344 IAMs_20 IAMs_20 20 32 41.4
R61A Willards 57.92 356 P P 20 03 25.7 +2.0
baz=175
R61A Willards 57.92 356 IAMs_20 IAMs_20 20 32 45.6
comp=Z,1µm,18.0s
S55A Lewisburg 57.92 351 P P 20 03 24.2 +0.4
baz=169,SNR=30
UALR University of 57.92 339 P P 20 03 24.1 +0.3
UALR IAmb IAmb 20 03 25.6
comp=Z,78nm,1.4s
R59A King George, V 57.94 354 P P 20 03 24.7 +0.9
baz=173
R60A Leonardtown, M 57.95 355 P P 20 03 24.7 +0.8
baz=174
CBN Corbin Frederi 57.97 354 P P 20 03 24.8 +0.7
baz=173
CBN Corbin Frederi 57.97 354 IAMs_20 IAMs_20 20 32 33.8
comp=Z,1µm,21.0s
T50A Nancy 57.97 347 P P 20 03 23.5 -0.6
T50A IAMs_20 IAMs_20 20 28 31.0
comp=Z,2µm,21.0s
S54A Dingess, Beckl 58.07 350 P P 20 03 24.5 -0.4
baz=168,SNR=15
S54A Dingess, Beckl 58.07 350 P P 20 03 25.0 +0.1
S54A IAmb IAmb 20 03 26.6
comp=Z,89nm,1.3s
S54A IAMs_20 IAMs_20 20 32 46.6
comp=Z,1µm,18.0s
S53A Williamson 58.09 350 P P 20 03 25.1 +0.1
baz=168
R58A Rapidan 58.12 353 P P 20 03 26.1 +1.0
baz=172,SNR=14
TXAR Lajitas Array 58.13 326 P P 20 03 26.3 +0.8
comp=Z,3.5nm,0.8s,baz=149,slow=7.8,SNR=24
TXAR Lajitas Array 58.13 326 P P 20 03 26.1 +0.6
TXAR Lajitas Array 58.13 326 P P 20 03 26.1 +0.6
TX31 Lajitas Ar. Si 58.13 326 P P 20 03 26.1 +0.6
TX31 IAmb IAmb 20 03 39.3
comp=Z,93nm,1.6s
TX32 Lajitas Array 58.13 326 P P 20 03 26.4 +0.8
MIAR Mount Ida 58.14 338 P P 20 03 25.6 +0.3
baz=155,SNR=29
MIAR Mount Ida 58.14 338 P P 20 03 25.4 +0.1
MIAR pmax pmax
comp=Z,80nm,1.3s
MIAR MLR MLR
comp=Z,600nm,19.0s
MIAR Mount Ida 58.14 338 P P 20 03 25.4 +0.1
MIAR IAmb IAmb 20 03 27.4
comp=Z,80nm,1.2s
R57A Stanardsville 58.18 353 P P 20 03 26.5 +0.9
baz=172,SNR=20
W41B Gary Mavity, V 58.26 339 P P 20 03 26.4 +0.3
baz=156
S51A Beattyville 58.32 348 P P 20 03 26.2 -0.3
S51A IAMs_20 IAMs_20 20 29 44.6
comp=Z,1µm,20.0s
R55A Marlinton 58.37 352 P P 20 03 28.1 +1.2
baz=170,SNR=10
R55A Marlinton 58.37 352 IAmb IAmb 20 03 47.8
comp=Z,96nm,1.6s
R55A IAMs_20 IAMs_20 20 29 29.5
comp=Z,2µm,22.0s
WHAR Wooly Hollow 58.38 340 P P 20 03 27.3 +0.3
R56A Bull Pasture M 58.40 352 P P 20 03 27.8 +0.6
baz=171
R54A Victor 58.40 351 P P 20 03 27.5 +0.4
baz=169,SNR=14
T47A Sharon Grove 58.46 345 P P 20 03 27.1 -0.4
T47A IAMs_20 IAMs_20 20 28 39.0
comp=Z,1µm,22.0s
Z35A Perchaven, San 58.47 334 P P 20 03 28.8 +1.2
Q61A Milford 58.47 356 P P 20 03 28.1 +0.7
baz=175
Q59A Harwood 58.55 355 P P 20 03 28.6 +0.5
baz=174
Q60A Greensboro 58.62 356 P P 20 03 28.8 +0.2
baz=174
Q60A Greensboro 58.62 356 IAMs_20 IAMs_20 20 32 02.2
comp=Z,1µm,18.0s
PENMO Penman 58.63 342 IAMs_20 IAMs_20 20 33 40.4
comp=Z,1µm,18.0s
R53A Hurricane 58.70 350 P P 20 03 29.5 +0.4
baz=168,SNR=5.7
R53A Hurricane 58.70 350 P P 20 03 29.1 -0.1
R53A IAMs_20 IAMs_20 20 32 42.1
comp=Z,2µm,18.0s
Q58A Fox Den Farm, 58.73 354 P P 20 03 30.1 +0.7
baz=172,SNR=13
LCAR Lake Charles 58.73 341 P P 20 03 28.9 -0.5
LCAR IAmb IAmb 20 03 30.7
comp=Z,52nm,1.4s
W39A Magazine 58.80 338 P P 20 03 31.2 +1.3
baz=155,SNR=22
W39A Magazine 58.80 338 P P 20 03 30.5 +0.6
W39A IAmb IAmb 20 03 32.5
comp=Z,64nm,1.2s
X37A Clayton 58.83 336 P P 20 03 30.8 +0.6
FCAR Ozark Folk Cen 58.87 340 P P 20 03 29.9 -0.5
FCAR IAmb IAmb 20 03 31.7
comp=Z,60nm,1.6s
ABTX Abilene, Hawle 58.88 332 P P 20 03 31.1 +0.5
baz=148,SNR=9.3
ABTX Abilene, Hawle 58.88 332 P P 20 03 31.0 +0.3
ABTX IAmb IAmb 20 03 32.9
comp=Z,78nm,1.4s
Q57A Strasburg 58.90 353 P P 20 03 31.7 +1.2
baz=172,SNR=25
Q56A Snyder Ridge, 58.99 352 P P 20 03 32.1 +0.9
baz=171,SNR=26
Q56A Snyder Ridge, 58.99 352 P P 20 03 32.0 +0.8
Q55A Buckhannon 59.06 352 P P 20 03 32.9 +1.1
baz=170,SNR=11
R50A Paris 59.08 348 P P 20 03 31.2 -0.6
R50A IAmb IAmb 20 03 33.1
comp=Z,62nm,1.4s
R50A IAMs_20 IAMs_20 20 32 52.4
comp=Z,2µm,18.0s
SDMD Soldier's Deli 59.11 355 P P 20 03 32.1 +0.1
Q53A Leroy 59.14 350 P P 20 03 32.6 +0.4
baz=168,SNR=16
Q54A Coxs Mills 59.16 351 P P 20 03 32.4 0.0
baz=169,SNR=12
Q54A Coxs Mills 59.16 351 P P 20 03 32.0 -0.4
Q54A IAmb IAmb 20 03 34.1
comp=Z,74nm,1.5s
Q54A IAMs_20 IAMs_20 20 29 31.4
comp=Z,2µm,22.0s
PBMO Poplar Bluff 59.17 342 P P 20 03 31.7 -0.8
PBMO IAmb IAmb 20 03 33.8
comp=Z,92nm,1.4s
P61A Hammonton 59.22 357 P P 20 03 32.9 +0.2
baz=176
P61A Hammonton 59.22 357 IAMs_20 IAMs_20 20 33 25.1
comp=Z,1µm,18.0s
P58A Pank, Wackersv 59.23 354 P P 20 03 33.0 +0.2
baz=173,SNR=9.8
R49A Shelbyville 59.27 347 P P 20 03 32.5 -0.6
R49A IAmb IAmb 20 03 34.1
comp=Z,51nm,1.4s
R49A IAMs_20 IAMs_20 20 29 32.3
comp=Z,2µm,20.0s
P59A Jarrettsville 59.27 355 P P 20 03 33.5 +0.4
baz=174,SNR=8.3
P57A Homestead Farm 59.30 354 P P 20 03 34.5 +1.2
baz=174,SNR=15
P57A Homestead Farm 59.30 354 P P 20 03 34.6 +1.4
P57A IAmb IAmb 20 03 36.4
comp=Z,77nm,1.3s
Q52A Bidwell 59.36 350 P P 20 03 33.6 -0.2
baz=168
P56A Dayton Farm, R 59.41 353 P P 20 03 35.0 +1.0
baz=171,SNR=14
P60A Greenville 59.41 356 P P 20 03 33.7 -0.4
baz=175
P60A Greenville 59.41 356 P P 20 03 33.9 -0.2
P60A IAMs_20 IAMs_20 20 32 58.1
comp=Z,1µm,19.0s
WCI Wyandotte Cave 59.45 346 P P 20 03 33.7 -0.8
baz=163
WCI Wyandotte Cave 59.45 346 P P 20 03 33.6 -0.8
WCI pmax pmax
comp=Z,75nm,1.4s
WCI MLR MLR
comp=Z,2µm,21.0s
WCI Wyandotte Cave 59.45 346 P P 20 03 33.6 -0.8
WCI IAmb IAmb 20 03 35.4
comp=Z,75nm,1.4s
WCI Wyandotte Cave 59.45 346 IAMs_20 IAMs_20 20 29 25.2
comp=Z,1µm,21.0s
USIN University of 59.53 345 P P 20 03 34.9 0.0
USIN IAmb IAmb 20 03 35.9
comp=Z,69nm,1.1s
P55A Reedsville 59.53 352 P P 20 03 35.5 +0.6
baz=170,SNR=10
U40A Yellville 59.53 340 P P 20 03 34.8 -0.2
baz=156,SNR=16
U40A Yellville 59.53 340 P P 20 03 34.5 -0.5
U40A IAmb IAmb 20 03 36.6
comp=Z,52nm,1.2s
Q51A Peebles 59.62 349 P P 20 03 35.2 -0.3
Q51A IAmb IAmb 20 03 36.7
comp=Z,33nm,0.9s
Q51A IAMs_20 IAMs_20 20 30 09.5
comp=Z,2µm,20.0s
O61A Allentown 59.63 357 P P 20 03 35.9 +0.3
baz=176
MVL Millersville 59.66 355 P P 20 03 36.4 +0.7
MVL IAmb IAmb 20 03 38.2
comp=Z,55nm,1.3s
MVL IAMs_20 IAMs_20 20 32 45.5
comp=Z,2µm,19.0s
MCWV Mont Chateau 59.68 352 P P 20 03 36.7 +0.7
baz=170,SNR=9.3
S44A Carbondale 59.69 343 P P 20 03 35.2 -0.8
P54A Burton 59.72 351 P P 20 03 36.9 +0.7
baz=170,SNR=27
P53A Whipple 59.73 351 P P 20 03 36.7 +0.4
baz=169,SNR=13
P53A Whipple 59.73 351 P P 20 03 36.5 +0.2
P53A IAmb IAmb 20 03 38.1
comp=Z,66nm,1.1s
X34A Smith Ranch, M 59.81 334 P P 20 03 37.8 +0.9
O58A Lewisberry 59.83 355 P P 20 03 38.0 +1.1
baz=173,SNR=9.6
HHAR Hobbs 59.83 339 P P 20 03 37.4 +0.3
HHAR IAmb IAmb 20 03 38.9
comp=Z,50nm,1.1s
O60A Telford 59.90 356 P P 20 03 38.1 +0.7
baz=175,SNR=5.8
W35A Tecumseh 59.91 336 P P 20 03 37.3 -0.3
O57A Amberson 59.98 354 P P 20 03 38.8 +0.8
baz=173,SNR=22
P52A Corning 60.00 350 P P 20 03 37.6 -0.5
baz=168
P52A Corning 60.00 350 IAmb IAmb 20 03 38.8
comp=Z,27nm,0.8s
P52A IAMs_20 IAMs_20 20 33 48.6
comp=Z,1µm,18.0s
P51A Williamsport 60.01 349 P P 20 03 37.2 -1.0
baz=167,SNR=6.7
P51A Williamsport 60.01 349 P P 20 03 37.6 -0.6
P51A IAmb IAmb 20 03 39.2
comp=Z,59nm,1.2s
P51A IAMs_20 IAMs_20 20 30 10.8
comp=Z,1µm,21.0s
U38A Gravette 60.13 338 P P 20 03 38.6 -0.5
U38A IAmb IAmb 20 03 40.9
comp=Z,34nm,1.2s
O56A Blue Knob Stat 60.13 353 P P 20 03 39.8 +0.7
baz=172,SNR=28
O56A Blue Knob Stat 60.13 353 P P 20 03 39.2 +0.1
O55A Ligonier 60.16 353 P P 20 03 39.6 +0.4
baz=171,SNR=17
TUL1 Leonard 60.16 337 P P 20 03 39.9 +0.6
baz=153,SNR=7.1
TUL1 Leonard 60.16 337 P P 20 03 40.2 +0.9
O54A Avella 60.27 352 P P 20 03 39.2 -0.8
baz=170
O54A Avella 60.27 352 P P 20 03 39.9 -0.1
O54A IAMs_20 IAMs_20 20 30 48.8
comp=Z,2µm,20.0s
N61A South Mountain 60.27 357 P P 20 03 40.0 +0.1
baz=176
WMOK Wichita Mounta 60.31 334 P P 20 03 40.0 -0.5
baz=150,SNR=7.0
WMOK Wichita Mounta 60.31 334 P P 20 03 39.4 -1.0
WMOK pmax pmax
comp=Z,12nm,0.9s
WMOK MLR MLR
comp=Z,700nm,20.0s
WMOK Wichita Mounta 60.31 334 P P 20 03 39.4 -1.0
OLIL Olney 60.37 345 P P 20 03 40.1 -0.5
OLIL IAmb IAmb 20 04 24.0
comp=Z,44nm,1.3s
OLIL IAMs_20 IAMs_20 20 34 02.1
comp=Z,1µm,18.0s
P49A Miami Univ. Ec 60.37 348 P P 20 03 39.4 -1.2
baz=165,SNR=10
P49A Miami Univ. Ec 60.37 348 P P 20 03 39.5 -1.1
P49A IAmb IAmb 20 03 41.4
comp=Z,56nm,1.2s
P49A IAMs_20 IAMs_20 20 31 10.4
comp=Z,1µm,20.0s
BLO Bloomington 60.41 346 P P 20 03 40.1 -0.8
BLO pmax pmax
comp=Z,67nm,1.4s
BLO MLR MLR
comp=Z,2µm,21.0s
BLO Bloomington 60.41 346 P P 20 03 40.1 -0.8
BLO IAmb IAmb 20 03 41.9
comp=Z,67nm,1.4s
BLO IAMs_20 IAMs_20 20 29 54.4
comp=Z,2µm,21.0s
N62A Caumsett State 60.42 358 P P 20 03 40.9 0.0
baz=177
O52A Adamsville 60.42 350 P P 20 03 40.5 -0.6
baz=168,SNR=6.8
O52A Adamsville 60.42 350 P P 20 03 40.4 -0.6
O52A IAmb IAmb 20 03 41.8
comp=Z,23nm,0.8s
O52A IAMs_20 IAMs_20 20 32 19.8
comp=Z,1µm,19.0s
SSPA Standing Stone 60.42 354 P P 20 03 41.4 +0.4
baz=172
SSPA Standing Stone 60.42 354 P P 20 03 41.4 +0.4
SSPA Standing Stone 60.42 354 IAMs_20 IAMs_20 20 30 46.9
comp=Z,1µm,22.0s
N60A Cedar Hill Far 60.43 356 P P 20 03 41.6 +0.5
baz=175,SNR=5.9
P48A Milroy 60.44 347 P P 20 03 40.3 -0.8
P48A IAmb IAmb 20 03 41.8
comp=Z,77nm,1.6s
P48A IAMs_20 IAMs_20 20 29 11.4
comp=Z,2µm,22.0s
O53A New Philadelph 60.46 351 P P 20 03 41.1 -0.2
baz=169,SNR=8.2
O53A New Philadelph 60.46 351 P P 20 03 41.4 +0.2
O53A IAmb IAmb 20 03 43.0
comp=Z,68nm,1.4s
O53A IAMs_20 IAMs_20 20 31 17.7
comp=Z,1µm,21.0s
PAL Palisades 60.51 357 P P 20 03 41.9 +0.3
baz=177
PAL Palisades 60.51 357 P P 20 03 42.5 +0.9
PAL pmax pmax
comp=Z,33nm,1.1s
PAL MLR MLR
comp=Z,2µm,21.0s
PAL Palisades 60.51 357 P P 20 03 42.5 +0.9
PAL IAmb IAmb 20 03 43.5
comp=Z,33nm,1.1s
PAL IAMs_20 IAMs_20 20 29 53.6
comp=Z,2µm,21.0s
N57A Milroy 60.51 354 P P 20 03 42.1 +0.5
baz=173,SNR=16
N58A Sunbury 60.52 355 P P 20 03 42.2 +0.5
baz=174,SNR=12
N58A Sunbury 60.52 355 P P 20 03 42.5 +0.8
N58A IAmb IAmb 20 03 44.2
comp=Z,69nm,1.2s
N58A IAMs_20 IAMs_20 20 33 02.4
comp=Z,1µm,19.0s
N59A State Game Lan 60.52 356 P P 20 03 42.7 +0.9
baz=175,SNR=7.6
N59A State Game Lan 60.52 356 IAMs_20 IAMs_20 20 34 01.5
comp=Z,1µm,18.0s
O51A Pataskala 60.58 350 P P 20 03 41.4 -0.7
baz=167,SNR=6.5
CCM Cathedral Cave 60.59 342 P P 20 03 41.7 -0.5
baz=158

CCM	**Cathedral Cave**	**60.59**	**342**	P	**P**	**20 03 42.0**	**-0.2**
CCM	comp=Z,48nm,1.2s			pmax	pmax			
CCM	comp=Z,600nm,21.0s			MLR	MLR			
CCM	**Cathedral Cave**	**60.59**	**342**	P	**P**	**20 03 42.0**	**-0.2**
CCM	comp=Z,48nm,1.2s			IAmb	IAmb	20 03 43.6		
ODNJ	**Ogdensburg**	**60.62**	**357**	P	**P**	**20 03 42.4**	**+0.1**
ODNJ	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	20 32 52.0		
WSPT	**Westport, CT**	**60.65**	**358**	P	**P**	**20 03 42.9**	**+0.4**
WSPT	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	20 30 44.3		
N55A	**Marion Center**	**60.69**	**353**	P	**P**	**20 03 43.5**	**+0.7**
	baz=171,SNR=52							
M66A	**Nantucket**	**60.70**	**1**	P	**P**	**20 03 43.5**	**+0.7**
	baz=181							
ACSO	**Alum Creek Sta**	**60.72**	**349**	P	**P**	**20 03 42.3**	**-0.8**
	baz=167,SNR=8.5							
ACSO	**Alum Creek Sta**	**60.72**	**349**	P	**P**	**20 03 42.7**	**-0.3**
ACSO	comp=Z,76nm,1.1s			IAmb	IAmb	20 03 44.3		
ACSO	comp=Z,1µm,21.0s			IAMs_20	IAMs_20	20 30 43.8		
N56A	**West Decatur**	**60.74**	**354**	P	**P**	**20 03 43.9**	**+0.7**
	baz=172,SNR=29							
Q44A	**Meyer Farm, Va**	**60.76**	**344**	P	**P**	**20 03 42.7**	**-0.6**
Q44A	comp=Z,48nm,1.1s			IAmb	IAmb	20 03 44.0		
Q44A	comp=Z,1µm,18.0s			IAMs_20	IAMs_20	20 33 53.8		
GDL2	**Guadalupe Moun**	**60.78**	**328**	P	**P**	**20 03 45.1**	**+1.4**
YLE	**Yale**	**60.78**	**358**	P	**P**	**20 03 44.1**	**+0.7**
M61A	**Granite Spring**	**60.81**	**358**	P	**P**	**20 03 43.9**	**+0.3**
	baz=177							
M63A	**Gales Ferry**	**60.85**	**359**	P	**P**	**20 03 44.5**	**+0.7**
	baz=179							
M60A	**Port Jervis**	**60.86**	**357**	P	**P**	**20 03 43.7**	**-0.3**
	baz=176,SNR=5.6							
MNTX	**Cornudas Mount**	**60.90**	**326**	P	**P**	**20 03 44.4**	**-0.1**
	baz=142,SNR=22							
MNTX	**Cornudas Mount**	**60.90**	**326**	P	**P**	**20 03 44.4**	**-0.1**
S39A	**Bolivar**	**60.90**	**340**	P	**P**	**20 03 44.1**	**-0.2**
M62A	**Hamden**	**60.91**	**358**	P	**P**	**20 03 44.8**	**+0.6**
	baz=178,SNR=6.2							
O49A	**Covington**	**60.93**	**348**	P	**P**	**20 03 43.6**	**-0.8**
O49A	comp=Z,62nm,1.3s			IAmb	IAmb	20 03 45.4		
N53A	**Lisbon**	**60.95**	**351**	P	**P**	**20 03 44.6**	**0.0**
	baz=169							
N53A	**Lisbon**	**60.95**	**351**	P	**P**	**20 03 44.5**	**-0.1**
N53A	comp=Z,92nm,1.6s			IAmb	IAmb	20 03 46.5		
N53A	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	20 31 30.7		
N54A	**Moraine State**	**60.99**	**352**	P	**P**	**20 03 45.5**	**+0.6**
	baz=170,SNR=20							
N54A	**Moraine State**	**60.99**	**352**	P	**P**	**20 03 45.3**	**+0.4**
N54A	comp=Z,1µm,22.0s			IAMs_20	IAMs_20	20 30 48.7		
P46A	**Rosedale**	**60.99**	**346**	P	**P**	**20 03 44.4**	**-0.5**
P46A	comp=Z,56nm,1.2s			IAmb	IAmb	20 03 45.5		
P46A	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	20 31 16.9		
M64A	**Tiverton**	**60.99**	**360**	P	**P**	**20 03 44.9**	**+0.1**
	baz=180							
M65A	**Busby, Falmout**	**61.00**	**0**	P	**P**	**20 03 45.1**	**+0.2**
	baz=180							
M65A	**Busby, Falmout**	**61.00**	**0**	IAMs_20	IAMs_20	20 32 58.4		
	comp=Z,2µm,18.0s							
M58A	**Price's Panora**	**61.03**	**355**	P	**P**	**20 03 45.7**	**+0.6**
	baz=174,SNR=21							
M57A	**Sunshine Farm,**	**61.05**	**355**	P	**P**	**20 03 46.1**	**+0.8**
	baz=173,SNR=18							
M57A	**Sunshine Farm,**	**61.05**	**355**	P	**P**	**20 03 46.0**	**+0.7**
M57A	comp=Z,1µm,18.0s			IAMs_20	IAMs_20	20 34 15.4		
N52A	**McGinn's Farm,**	**61.08**	**351**	P	**P**	**20 03 44.8**	**-0.7**
	baz=168							
R40A	**Maddies Statio**	**61.12**	**341**	P	**P**	**20 03 44.5**	**-1.3**
M59A	**Waymart**	**61.12**	**356**	P	**P**	**20 03 46.2**	**+0.4**
	baz=175,SNR=20							
O48A	**Farmland**	**61.15**	**348**	P	**P**	**20 03 45.2**	**-0.8**
	baz=165,SNR=8.4							
KSPA	**Keystone Colle**	**61.16**	**356**	P	**P**	**20 03 46.4**	**+0.4**
KSPA	comp=Z,84nm,1.5s			IAmb	IAmb	20 03 48.6		
KSCT	**Kent School, K**	**61.21**	**358**	P	**P**	**20 03 47.1**	**+0.8**
KSCT	comp=Z,57nm,1.4s			IAmb	IAmb	20 03 48.6		
KSCT	comp=Z,2µm,18.0s			IAMs_20	IAMs_20	20 32 59.3		
N51A	**Ashland**	**61.29**	**350**	P	**P**	**20 03 46.7**	**-0.2**
	baz=168							
N51A	**Ashland**	**61.29**	**350**	P	**P**	**20 03 46.9**	**-0.1**
N51A	comp=Z,36nm,0.9s			IAmb	IAmb	20 03 47.4		
N51A	comp=Z,1µm,21.0s			IAMs_20	IAMs_20	20 31 02.3		
M56A	**Emporium**	**61.29**	**354**	P	**P**	**20 03 47.4**	**+0.4**
	baz=172,SNR=29							
M56A	**Emporium**	**61.29**	**354**	P	**P**	**20 03 47.4**	**+0.4**
M56A	comp=Z,1µm,21.0s			IAMs_20	IAMs_20	20 31 11.9		
L63A	**North Scituate**	**61.30**	**359**	P	**P**	**20 03 46.8**	**-0.1**
	baz=179,SNR=12							
T35A	**Sooner Cattle**	**61.32**	**337**	P	**P**	**20 03 47.9**	**+0.6**
T35A	comp=Z,72nm,1.1s			IAmb	IAmb	20 03 49.4		
M55A	**Ridgway**	**61.34**	**353**	P	**P**	**20 03 47.4**	**+0.1**
	baz=172,SNR=36							
M55A	**Ridgway**	**61.34**	**353**	P	**P**	**20 03 47.7**	**+0.4**
M55A	comp=Z,1µm,19.0s			IAMs_20	IAMs_20	20 33 06.1		
BRYW	**Bryant College**	**61.36**	**359**	P	**P**	**20 03 47.9**	**+0.6**
BRYW	comp=Z,1µm,19.0s			IAMs_20	IAMs_20	20 32 57.2		
L64A	**Middleborough**	**61.37**	**0**	P	**P**	**20 03 46.9**	**-0.5**
	baz=180,SNR=5.5							
MSTX	**Muleshoe**	**61.44**	**330**	P	**P**	**20 03 47.9**	**-0.3**
	baz=146,SNR=16							
MSTX	**Muleshoe**	**61.44**	**330**	P	**P**	**20 03 48.5**	**+0.3**
MSTX	comp=Z,68nm,1.1s			IAmb	IAmb	20 04 08.1		
M54A	**Oil Creek Stat**	**61.48**	**353**	P	**P**	**20 03 48.8**	**+0.6**
	baz=171,SNR=26							
M54A	**Oil Creek Stat**	**61.48**	**353**	P	**P**	**20 03 48.9**	**+0.7**
L62A	**Suffield**	**61.49**	**359**	P	**P**	**20 03 48.2**	**0.0**
	baz=178							
L60A	**Shokan**	**61.50**	**357**	P	**P**	**20 03 48.8**	**+0.5**
	baz=176,SNR=11							
M53A	**WI Miller and**	**61.55**	**352**	P	**P**	**20 03 48.6**	**-0.1**
	baz=170							
M53A	**WI Miller and**	**61.55**	**352**	P	**P**	**20 03 48.3**	**-0.4**
M53A	comp=Z,2µm,21.0s			IAMs_20	IAMs_20	20 31 17.6		
P43A	**Skaggs, Pawnee**	**61.59**	**344**	P	**P**	**20 03 48.2**	**-0.8**
P43A	comp=Z,1µm,18.0s			IAMs_20	IAMs_20	20 34 18.7		
N49A	**Columbus Grove**	**61.61**	**349**	P	**P**	**20 03 48.5**	**-0.6**
N49A	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	20 33 06.7		
L58A	**Harry Jones Me**	**61.65**	**356**	P	**P**	**20 03 50.1**	**+0.7**
	baz=175,SNR=21							
M51A	**Elyria**	**61.66**	**350**	P	**P**	**20 03 49.3**	**-0.1**
	baz=168							
L61A	**Hillsdale 1, H**	**61.68**	**358**	P	**P**	**20 03 49.9**	**+0.4**
	baz=177							
ALLY	**Alegheny Colle**	**61.68**	**352**	P	**P**	**20 03 49.5**	**-0.1**
ALLY	comp=Z,1µm,19.0s			IAMs_20	IAMs_20	20 35 21.2		
L57A	**Andrews Acres**	**61.68**	**355**	P	**P**	**20 03 49.9**	**+0.4**
	baz=174,SNR=9.9							
SFIN	**Lafayette**	**61.69**	**346**	P	**P**	**20 03 48.0**	**-1.6**
	baz=163							
SFIN	**Lafayette**	**61.69**	**346**	IAMs_20	IAMs_20	20 31 07.4		
	comp=Z,2µm,21.0s							
AMTX	**Amarillo**	**61.70**	**331**	P	**P**	**20 03 49.5**	**-0.4**
	baz=147							
QUA2	**Belchertown**	**61.73**	**359**	P	**P**	**20 03 50.2**	**+0.4**
QUA2	comp=Z,40nm,1.3s			IAmb	IAmb	20 03 52.0		
QUA2	comp=Z,1µm,19.0s			IAMs_20	IAMs_20	20 31 46.4		
M52A	**Chesterland**	**61.74**	**351**	P	**P**	**20 03 49.4**	**-0.6**
	baz=169							
M52A	**Chesterland**	**61.74**	**351**	P	**P**	**20 03 49.3**	**-0.6**
M52A	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	20 32 06.8		
L59A	**Walton**	**61.75**	**357**	P	**P**	**20 03 50.5**	**+0.5**
	baz=176,SNR=28							
L59A	**Walton**	**61.75**	**357**	P	**P**	**20 03 50.6**	**+0.6**
L59A	comp=Z,1µm,18.0s			IAMs_20	IAMs_20	20 33 43.8		
BCX	**Boston College**	**61.77**	**360**	P	**P**	**20 03 50.5**	**+0.4**
BCX	comp=Z,58nm,1.5s			IAmb	IAmb	20 03 52.2		
O44A	**Mansfield**	**61.80**	**345**	IAMs_20	IAMs_20	20 35 11.3		
	comp=Z,1µm,18.0s							
BINY	**Binghamton**	**61.81**	**356**	P	**P**	**20 03 51.1**	**+0.6**
	baz=175,SNR=20							
BINY	**Binghamton**	**61.81**	**356**	P	**P**	**20 03 50.8**	**+0.4**
WES	**Weston**	**61.82**	**360**	P	**P**	**20 03 51.1**	**+0.6**
WES	comp=Z,44nm,1.1s			pmax	pmax			
WES	comp=Z,900nm,19.0s			MLR	MLR			
WES	**Weston**	**61.82**	**360**	P	**P**	**20 03 51.1**	**+0.6**
WES	comp=Z,44nm,1.1s			IAmb	IAmb	20 03 52.6		
N47A	**Urbana**	**61.86**	**347**	IAMs_20	IAMs_20	20 31 56.0		
	comp=Z,1µm,20.0s							
M50A	**Fremont**	**61.87**	**350**	P	**P**	**20 03 50.2**	**-0.6**
M50A	comp=Z,2µm,21.0s			IAMs_20	IAMs_20	20 31 19.2		
L56A	**Greenwood**	**61.88**	**354**	P	**P**	**20 03 51.4**	**+0.5**
	baz=173,SNR=6.6							
L56A	**Greenwood**	**61.88**	**354**	P	**P**	**20 03 50.8**	**-0.2**
L56A	comp=Z,1µm,18.0s			IAMs_20	IAMs_20	20 33 49.4		
L61B	**Northampton**	**61.91**	**359**	P	**P**	**20 03 51.3**	**+0.3**
	baz=178,SNR=11							
HRV	**Adam Dziewonsk**	**61.95**	**359**	P	**P**	**20 03 51.9**	**+0.6**
	baz=179							
HRV	**Adam Dziewonsk**	**61.95**	**359**	P	**P**	**20 03 51.5**	**+0.2**
HRV	comp=Z,80nm,1.2s			pmax	pmax			
HRV	comp=Z,1µm,20.0s			MLR	MLR			
HRV	**Adam Dziewonsk**	**61.95**	**359**	P	**P**	**20 03 51.5**	**+0.2**
HRV	**Adam Dziewonsk**	**61.95**	**359**	IAMs_20	IAMs_20	20 29 52.5		
	comp=Z,1µm,20.0s							
HSIG		**61.99**	**320**	P	**P**	**20 03 52.1**	**+0.2**
L53A	**Girard**	**62.00**	**352**	P	**P**	**20 03 51.8**	**+0.2**
	baz=170,SNR=9.0							
L55A	**Hinsdale**	**62.01**	**354**	P	**P**	**20 03 52.6**	**+0.8**
	baz=172,SNR=29							
K62A	**Royalston**	**62.11**	**359**	P	**P**	**20 03 52.8**	**+0.4**
	baz=179							
K62A	**Royalston**	**62.11**	**359**	IAMs_20	IAMs_20	20 33 12.0		
	comp=Z,2µm,19.0s							
K60A	**Five Rivers En**	**62.12**	**358**	P	**P**	**20 03 53.2**	**+0.8**
	baz=177							
ERPA	**Erie**	**62.12**	**352**	P	**P**	**20 03 52.7**	**+0.2**
	baz=170,SNR=12							
ERPA	**Erie**	**62.12**	**352**	P	**P**	**20 03 52.7**	**+0.2**
K63A	**Dunstable**	**62.13**	**359**	P	**P**	**20 03 53.3**	**+0.8**
	baz=179,SNR=7.0							
K61A	**Williamstown**	**62.15**	**358**	P	**P**	**20 03 53.0**	**+0.4**
	baz=177,SNR=10							
L54A	**Sinclairville**	**62.16**	**353**	P	**P**	**20 03 53.1**	**+0.4**
	baz=171,SNR=30							
P40A	**Paris**	**62.19**	**342**	P	**P**	**20 03 52.5**	**-0.5**
P40A	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	20 33 00.7		
TRY	**Troy**	**62.22**	**358**	P	**P**	**20 03 53.9**	**+0.8**
TRY	comp=Z,1µm,21.0s			IAMs_20	IAMs_20	20 30 31.9		
WVNY	**West Valley, N**	**62.25**	**354**	P	**P**	**20 03 53.8**	**+0.4**
WVNY	comp=Z,2µm,19.0s			IAMs_20	IAMs_20	20 33 04.2		
K59A	**Cooperstown**	**62.32**	**357**	P	**P**	**20 03 54.2**	**+0.4**
	baz=176,SNR=40							
VNA3	**Neumayer Olymp**	**62.33**	**161**	P	**P**	**20 03 54.5**	**+0.9**
K58A	**Earlville**	**62.35**	**356**	P	**P**	**20 03 54.6**	**+0.5**
	baz=175,SNR=26							
K58A	**Earlville**	**62.35**	**356**	P	**P**	**20 03 54.7**	**+0.6**
K58A	comp=Z,1µm,19.0s			IAMs_20	IAMs_20	20 33 07.9		
K57A	**Scipio Center**	**62.38**	**355**	P	**P**	**20 03 54.3**	**0.0**
	baz=174,SNR=10							
HDIL	**Hopedale**	**62.39**	**344**	P	**P**	**20 03 53.4**	**-0.9**
	baz=160							
HDIL	**Hopedale**	**62.39**	**344**	P	**P**	**20 03 54.1**	**-0.2**
HDIL	comp=Z,1µm,18.0s			IAMs_20	IAMs_20	20 35 32.9		
K56A	**Middlesex**	**62.42**	**355**	P	**P**	**20 03 54.7**	**+0.2**
	baz=173,SNR=10							
L50A	**Kingsville**	**62.46**	**350**	P	**P**	**20 03 53.5**	**-1.2**
	baz=167							
K54A	**Basiliko Farm,**	**62.46**	**354**	P	**P**	**20 03 54.8**	**0.0**
	baz=172,SNR=19							
MMNY	**Mt. Morris Dam**	**62.50**	**354**	P	**P**	**20 03 55.5**	**+0.5**
MMNY	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	20 35 02.9		
K55A	**Perry**	**62.51**	**354**	P	**P**	**20 03 55.3**	**+0.1**
	baz=172,SNR=17							
VNA1	**Neumayer--Stat**	**62.55**	**161**	P	**P**	**20 03 55.1**	**+0.1**
L48A	**N Adams**	**62.64**	**349**	P	**P**	**20 03 54.9**	**-1.1**
L48A	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	20 33 07.6		
J62A	**Henniker**	**62.67**	**359**	P	**P**	**20 03 57.2**	**+1.1**
	baz=179,SNR=7.4							
J60A	**Lant Hill Farm**	**62.72**	**358**	P	**P**	**20 03 57.1**	**+0.6**
	baz=177,SNR=10							
P38A	**Dawn**	**62.73**	**340**	P	**P**	**20 03 56.2**	**-0.5**
P38A	comp=Z,27nm,0.9s			IAmb	IAmb	20 03 57.5		
P38A	comp=Z,1µm,19.0s			IAMs_20	IAMs_20	20 32 59.0		
319A	**Douglas**	**62.76**	**323**	P	**P**	**20 03 57.7**	**+0.6**
319A	comp=Z,32nm,0.9s			IAmb	IAmb	20 04 00.5		
319A	comp=Z,968nm,19.0s			IAMs_20	IAMs_20	20 31 56.0		
J61A	**Chester**	**62.80**	**359**	P	**P**	**20 03 58.3**	**+1.3**
	baz=178,SNR=12							
121A	**Cookes Peak, D**	**62.82**	**325**	P	**P**	**20 03 59.5**	**+1.9**
	baz=141,SNR=9.5							
121A	**Cookes Peak, D**	**62.82**	**325**	P	**P**	**20 03 58.5**	**+0.9**
121A	comp=Z,78nm,1.6s			IAmb	IAmb	20 04 06.3		
121A	comp=Z,2µm,18.0s			IAMs_20	IAMs_20	20 30 05.5		
AAM	**Ann Arbor**	**62.85**	**349**	P	**P**	**20 03 56.8**	**-0.5**
	baz=166							
AAM	**Ann Arbor**	**62.85**	**349**	IAMs_20	IAMs_20	20 34 26.1		
	comp=Z,1µm,18.0s							
K52A	**Tillsonburg**	**62.87**	**352**	P	**P**	**20 03 57.0**	**-0.5**
	baz=170							
ACCN	**Adirondack Com**	**62.87**	**358**	P	**P**	**20 03 58.5**	**+1.1**
ACCN	comp=Z,70nm,1.3s			IAmb	IAmb	20 04 00.2		
K51A	**Ionia Station**	**62.92**	**351**	P	**P**	**20 03 57.3**	**-0.5**
	baz=169							
J58A	**Remsen**	**62.93**	**356**	P	**P**	**20 03 58.1**	**+0.3**
	baz=175,SNR=8.6							
J58A	**Remsen**	**62.93**	**356**	P	**P**	**20 03 57.7**	**-0.2**
J58A	comp=Z,33nm,1.1s			IAmb	IAmb	20 04 00.2		
J58A	comp=Z,2µm,19.0s			IAMs_20	IAMs_20	20 33 17.0		
N41A	**Harden Midland**	**62.94**	**343**	P	**P**	**20 03 58.1**	**+0.1**
N41A	comp=Z,1µm,19.0s			IAMs_20	IAMs_20	20 35 32.6		
J56A	**Wolcott**	**62.95**	**355**	P	**P**	**20 03 57.6**	**-0.4**
	baz=174,SNR=18							
J56A	**Wolcott**	**62.95**	**355**	P	**P**	**20 03 58.4**	**+0.5**
J59A	**Piesco**	**62.99**	**357**	P	**P**	**20 03 58.9**	**+0.6**
	baz=176,SNR=41							
J59A	**Piesco**	**62.99**	**357**	P	**P**	**20 03 58.9**	**+0.6**
J59A	comp=Z,2µm,19.0s			IAMs_20	IAMs_20	20 33 07.2		
J57A	**Williamstown**	**63.02**	**356**	P	**P**	**20 03 58.6**	**+0.2**
	baz=175,SNR=18							
J57A	**Williamstown**	**63.02**	**356**	P	**P**	**20 03 58.9**	**+0.4**
J57A	comp=Z,1µm,18.0s			IAMs_20	IAMs_20	20 35 45.5		
J55A	**Hilton**	**63.02**	**354**	P	**P**	**20 03 58.3**	**-0.1**
	baz=173,SNR=18							
J55A	**Hilton**	**63.02**	**354**	P	**P**	**20 03 58.1**	**-0.3**
J55A				IAMs_20	IAMs_20	20 35 17.6		
	comp=Z,1µm,19.0s							
L46A	**Eue Claire**	**63.08**	**347**	IAMs_20	IAMs_20	20 31 40.1		
	comp=Z,1µm,20.0s							
J54A	**Appleton**	**63.11**	**354**	P	**P**	**20 03 58.8**	**-0.2**
	baz=172,SNR=7.0							
J54A	**Appleton**	**63.11**	**354**	P	**P**	**20 03 59.3**	**+0.2**
J54A	comp=Z,1µm,18.0s			IAMs_20	IAMs_20	20 33 13.0		
K50A	**Casco**	**63.14**	**350**	P	**P**	**20 03 58.7**	**-0.6**
	baz=168							
K50A	**Casco**	**63.14**	**350**	P	**P**	**20 03 58.2**	**-1.1**
K50A	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	20 32 19.8		
HNH	**Hanover**	**63.16**	**359**	P	**P**	**20 04 00.3**	**+0.9**
HNH	comp=Z,1µm,19.0s			IAMs_20	IAMs_20	20 33 13.8		
I58A	**Old Forge**	**63.24**	**357**	P	**P**	**20 04 00.4**	**+0.5**
	baz=176,SNR=24							
K49A	**Clarkson**	**63.29**	**350**	P	**P**	**20 03 59.3**	**-1.0**
	baz=167							
I59A	**Olmsteadville**	**63.29**	**358**	P	**P**	**20 04 00.7**	**+0.4**
	baz=177,SNR=18							
J52A	**Paris**	**63.29**	**352**	P	**P**	**20 03 60.0**	**-0.3**
	baz=170,SNR=19							
KSU1	**Kansas State U**	**63.29**	**338**	P	**P**	**20 04 00.2**	**-0.2**
KSU1	comp=Z,30nm,0.9s			IAmb	IAmb	20 04 19.3		
I62A	**Tamworth**	**63.31**	**360**	P	**P**	**20 04 01.1**	**+0.8**
	baz=180,SNR=6.6							
I62A	**Tamworth**	**63.31**	**360**	IAMs_20	IAMs_20	20 33 23.9		
	comp=Z,1µm,19.0s							
I60A	**Shoreham**	**63.32**	**358**	P	**P**	**20 04 00.7**	**+0.3**
	baz=177,SNR=12							
I64A	**Boothbay**	**63.37**	**1**	P	**P**	**20 04 01.5**	**+0.8**
	baz=181							
I61A	**Oroboro, Fairl**	**63.38**	**359**	P	**P**	**20 04 01.9**	**+1.1**
	baz=179,SNR=27							
R32A	**Long Quarter,**	**63.47**	**336**	P	**P**	**20 04 02.0**	**+0.3**
R32A	comp=Z,54nm,1.1s			IAmb	IAmb	20 04 03.7		
BNM	**Barren Site**	**63.48**	**327**	P	**P**	**20 04 03.1**	**+1.1**
NCB	**Newcomb**	**63.48**	**357**	P	**P**	**20 04 01.9**	**+0.4**
NCB	comp=Z,50nm,1.2s			IAmb	IAmb	20 04 04.0		
NCB	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	20 31 42.3		
I63A	**Otisfield**	**63.49**	**0**	P	**P**	**20 04 02.2**	**+0.6**
	baz=180,SNR=6.3							
I63A	**Otisfield**	**63.49**	**0**	P	**P**	**20 04 02.9**	**+1.3**
I63A	comp=Z,62nm,1.2s			IAmb	IAmb	20 04 04.5		
I63A	comp=Z,2µm,18.0s			IAMs_20	IAMs_20	20 33 15.6		
I57A	**Carthage**	**63.52**	**356**	P	**P**	**20 04 02.2**	**+0.4**
	baz=175,SNR=16							
L44A	**Lake County Fo**	**63.59**	**346**	IAMs_20	IAMs_20	20 32 03.6		
	comp=Z,2µm,21.0s							
PECO	**Prince Edward**	**63.62**	**355**	P	**P**	**20 04 03.1**	**+0.8**
LBNH	**Lisbon**	**63.68**	**359**	P	**P**	**20 04 03.5**	**+0.6**
	baz=179,SNR=17							
LBNH	**Lisbon**	**63.68**	**359**	P	**P**	**20 04 03.9**	**+1.0**
LBNH	comp=Z,75nm,1.1s			pmax	pmax			
LBNH	comp=Z,1µm,19.0s			MLR	MLR			
LBNH	**Lisbon**	**63.68**	**359**	P	**P**	**20 04 03.9**	**+1.0**
LBNH	comp=Z,1µm,19.0s			IAMs_20	IAMs_20	20 33 13.5		
N38A	**Joes South For**	**63.71**	**341**	P	**P**	**20 04 02.9**	**-0.2**
N38A	comp=Z,56nm,1.1s			IAmb	IAmb	20 04 04.5		
N38A	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	20 33 12.9		
I53A	**Kortright Cn E**	**63.76**	**353**	P	**P**	**20 04 03.5**	**+0.2**
	baz=171							
VT1	**Waterbury**	**63.79**	**359**	P	**P**	**20 04 04.7**	**+1.1**
VT1	comp=Z,56nm,1.3s			IAmb	IAmb	20 04 06.2		
VT1	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	20 33 25.1		
J49A	**Marlette**	**63.80**	**350**	P	**P**	**20 04 03.1**	**-0.5**
	baz=167,SNR=6.0							
J48A	**Bridge Port**	**63.84**	**350**	P	**P**	**20 04 03.4**	**-0.5**
	baz=166,SNR=5.5							
J48A	**Bridge Port**	**63.84**	**350**	P	**P**	**20 04 03.1**	**-0.8**
J48A	comp=Z,50nm,0.9s			IAmb	IAmb	20 04 04.3		
J48A	comp=Z,1µm,21.0s			IAMs_20	IAMs_20	20 32 30.4		
I51A	**Listowel**	**63.92**	**352**	P	**P**	**20 04 04.1**	**-0.3**
	baz=169,SNR=15							
H58A	**Gabriels**	**63.92**	**357**	P	**P**	**20 04 04.9**	**+0.5**
	baz=176,SNR=21							
I55A	**Frankford**	**63.95**	**355**	P	**P**	**20 04 04.5**	**-0.1**
	baz=173,SNR=28							
J47A	**Sunmer**	**63.97**	**349**	P	**P**	**20 04 03.7**	**-1.0**
	baz=165,SNR=9.7							
H61A	**Lyndonville**	**63.98**	**359**	P	**P**	**20 04 05.7**	**+0.9**
	baz=179,SNR=20							
H62A	**Milan**	**64.01**	**360**	P	**P**	**20 04 06.0**	**+1.0**
	baz=180,SNR=6.6							
H62A	**Milan**	**64.01**	**360**	P	**P**	**20 04 05.8**	**+0.8**
H62A	comp=Z,30nm,1.0s			IAmb	IAmb	20 04 07.2		
H62A	comp=Z,2µm,19.0s			IAMs_20	IAMs_20	20 33 27.1		
WVL	**Waterville**	**64.01**	**1**	P	**P**	**20 04 05.3**	**+0.4**
WVL	comp=Z,44nm,1.1s			IAmb	IAmb	20 04 07.6		
WVL	comp=Z,1µm,22.0s			IAMs_20	IAMs_20	20 30 46.0		
ANMO	**Albuquerque**	**64.02**	**328**	P	**P**	**20 04 06.9**	**+1.4**
	comp=Z,3.6nm,0.9s,baz=141,slow=9.4,SNR=13							
ANMO	**Albuquerque**	**64.02**	**328**	*i* P	**P**	**20 04 05.3**	**-0.2**
ANMO	comp=Z,7.0nm,1.1s			pmax	pmax			
ANMO	**Albuquerque**	**64.02**	**328**	P	**P**	**20 04 06.7**	**+1.1**
H60A	**Morristown**	**64.02**	**359**	P	**P**	**20 04 05.9**	**+0.8**
	baz=178,SNR=7.1							
I52A	**Shelburne**	**64.07**	**353**	P	**P**	**20 04 05.7**	**+0.3**
	baz=170							
H64A	**Troy**	**64.10**	**1**	P	**P**	**20 04 05.9**	**+0.4**
	baz=182,SNR=12							
H63A	**New Sharon**	**64.10**	**1**	P	**P**	**20 04 06.5**	**+0.9**
	baz=181,SNR=14							
H59A	**Cadyville**	**64.13**	**358**	P	**P**	**20 04 06.2**	**+0.4**
	baz=177,SNR=20							
LONY	**Lake Ozonia**	**64.14**	**357**	P	**P**	**20 04 06.5**	**+0.6**
	baz=176,SNR=18							
LONY	**Lake Ozonia**	**64.14**	**357**	P	**P**	**20 04 06.0**	**+0.1**
LONY	comp=Z,1µm,20.0s			IAMs_20	IAMs_20	20 32 03.0		
H65A	**Eastbrook**	**64.18**	**2**	P	**P**	**20 04 06.8**	**+0.8**
	baz=183,SNR=8.4							
K43A	**Burlington**	**64.18**	**346**	P	**P**	**20 04 05.1**	**-1.0**
K43A	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	20 32 21.4		
CBKS	**

TUC				MLR	MLR				
	comp=Z,2µm,18.0s								
TUC	**Tucson**	**64.31**	**323**	P	**P**	**20 04 08.2**	**+0.9**		
TUC	**Tucson**	**64.31**	**323**	IAMs_20	IAMs_20	20 33 08.9			
	comp=Z,1µm,18.0s								
I49A	**Point Hope**	**64.31**	**350**	P	**P**	**20 04 06.1**	**-0.8**		
	baz=168,SNR=5.6								
FRNY	**Flat Rock**	**64.32**	**358**	P	**P**	**20 04 07.1**	**+0.2**		
FRNY				IAMs_20	IAMs_20	20 33 19.4			
	comp=Z,2µm,19.0s								
H53A	**Bobcaygeon**	**64.39**	**354**	P	**P**	**20 04 07.3**	**-0.2**		
	baz=172,SNR=27								
J45A	**Montague**	**64.46**	**348**	P	**P**	**20 04 06.9**	**-1.1**		
	baz=164								
J45A	**Montague**	**64.46**	**348**	IAMs_20	IAMs_20	20 34 54.5			
	comp=Z,1µm,18.0s								
N35A	**Tabor**	**64.53**	**339**	P	**P**	**20 04 08.3**	**-0.2**		
SNAA	**Sanae**	**64.54**	**161**	P	**P**	**20 04 08.8**	**+0.4**		
SNAA	**Sanae**	**64.54**	**161**	*i* P	**P**	**20 04 07.3**	**-1.0**		
SNAA	**Sanae**	**64.54**	**161**	P	**P**	**20 04 08.7**	**+0.4**		
SNAA				IAmb	IAmb	20 04 17.0			
	comp=Z,49nm,1.5s								
SNAA				IAMs_20	IAMs_20	20 29 46.0			
	comp=Z,1µm,20.0s								
G60A	**Masonville**	**64.55**	**359**	P	**P**	**20 04 09.1**	**+0.6**		
	baz=178,SNR=15								
G59A	**Clarenceville**	**64.55**	**358**	P	**P**	**20 04 09.0**	**+0.6**		
	baz=178								
G63A	**Kingsbury**	**64.56**	**1**	P	**P**	**20 04 09.3**	**+0.7**		
	baz=181,SNR=12								
H52A	**Wyevale**	**64.60**	**353**	P	**P**	**20 04 08.6**	**-0.3**		
	baz=171,SNR=6.1								
SADO	**Sadowa**	**64.64**	**354**	P	**P**	**20 04 09.1**	**-0.1**		
	comp=Z,54nm,0.9s,baz=191,slow=5.3,SNR=39								
SADO	**Sadowa**	**64.64**	**354**	P	**P**	**20 04 09.1**	**-0.1**		
SADO				IAMs_20	IAMs_20	20 37 14.2			
	comp=Z,1µm,18.0s								
G57A	**Newington**	**64.65**	**357**	P	**P**	**20 04 09.7**	**+0.6**		
	baz=176,SNR=18								
G58A	**Ormstown**	**64.65**	**358**	P	**P**	**20 04 09.6**	**+0.5**		
	baz=177,SNR=9.6								
G62A	**West of Eustis**	**64.66**	**0**	P	**P**	**20 04 09.9**	**+0.7**		
	baz=180,SNR=50								
G62A	**West of Eustis**	**64.66**	**0**	P	**P**	**20 04 10.1**	**+0.9**		
G62A				IAMs_20	IAMs_20	20 31 19.5			
	comp=Z,1µm,21.0s								
GGN	**Saint George**	**64.66**	**3**	P	**P**	**20 04 09.9**	**+0.7**		
GGN				IAmb	IAmb	20 04 11.7			
	comp=Z,54nm,1.1s								
GGN				IAMs_20	IAMs_20	20 33 29.0			
	comp=Z,1µm,19.0s								
I47A	**Gladwin**	**64.67**	**349**	P	**P**	**20 04 08.1**	**-1.2**		
	baz=166								
I47A	**Gladwin**	**64.67**	**349**	P	**P**	**20 04 09.1**	**-0.3**		
I47A				IAmb	IAmb	20 04 10.2			
	comp=Z,53nm,1.2s								
I47A				IAMs_20	IAMs_20	20 32 55.9			
	comp=Z,2µm,20.0s								
I48A	**Sherman Twp**	**64.69**	**350**	P	**P**	**20 04 08.4**	**-1.1**		
	baz=167,SNR=6.5								
G65A	**Princeton**	**64.71**	**3**	P	**P**	**20 04 10.2**	**+0.6**		
	baz=183,SNR=8.9								
G65A	**Princeton**	**64.71**	**3**	P	**P**	**20 04 10.2**	**+0.6**		
G65A				IAMs_20	IAMs_20	20 33 47.9			
	comp=Z,1µm,18.0s								
PKME	**Peaks-Kenny Pk**	**64.72**	**1**	P	**P**	**20 04 10.1**	**+0.5**		
	baz=182,SNR=12								
PKME	**Peaks-Kenny Pk**	**64.72**	**1**	P	**P**	**20 04 10.0**	**+0.4**		
PKME				IAMs_20	IAMs_20	20 31 29.1			
	comp=Z,2µm,21.0s								
G64A	**Maxfield**	**64.72**	**2**	P	**P**	**20 04 10.1**	**+0.5**		
	baz=182,SNR=8.8								
PLVO	**Plevna**	**64.72**	**355**	P	**P**	**20 04 10.1**	**+0.5**		
PLVO				IAmb	IAmb	20 04 11.8			
	comp=Z,78nm,1.4s								
PLVO				IAMs_20	IAMs_20	20 35 24.3			
	comp=Z,1µm,20.0s								
G61A	**St-Isidore-de-**	**64.72**	**360**	P	**P**	**20 04 10.5**	**+0.8**		
	baz=179,SNR=24								
SCIA	**State Center**	**64.72**	**342**	P	**P**	**20 04 09.3**	**-0.4**		
	baz=157								
SCIA	**State Center**	**64.72**	**342**	P	**P**	**20 04 09.6**	**-0.2**		
SCIA				IAMs_20	IAMs_20	20 34 34.7			
	comp=Z,992nm,20.0s								
MOQ	**Mont Orford**	**64.76**	**359**	P	**P**	**20 04 11.0**	**+1.0**		
I46A	**Reed City**	**64.76**	**348**	P	**P**	**20 04 09.1**	**-0.9**		
	baz=165								
T25A	**Trinidad**	**64.80**	**331**	P	**P**	**20 04 11.5**	**+0.9**		
	baz=145,SNR=9.6								
T25A	**Trinidad**	**64.80**	**331**	P	**P**	**20 04 11.3**	**+0.7**		
T25A				IAmb	IAmb	20 04 13.6			
	comp=Z,34nm,1.3s								
JFWS	**Jewell Farm**	**64.85**	**344**	P	**P**	**20 04 10.0**	**-0.5**		
	baz=160								
JFWS	**Jewell Farm**	**64.85**	**344**	IAMs_20	IAMs_20	20 36 40.0			
	comp=Z,1µm,18.0s								
G55A	**Calabogie**	**64.91**	**355**	P	**P**	**20 04 10.8**	**0.0**		
	baz=174,SNR=25								
G53A	**Haliburton**	**64.94**	**354**	P	**P**	**20 04 11.2**	**+0.2**		
	baz=172,SNR=28								
I45A	**Fountain**	**65.01**	**348**	P	**P**	**20 04 10.3**	**-1.2**		
	baz=164								
I45A	**Fountain**	**65.01**	**348**	IAMs_20	IAMs_20	20 33 47.9			
	comp=Z,1µm,19.0s								
ORIO	**Orleans, Innes**	**65.02**	**356**	P	**P**	**20 04 12.2**	**+0.7**		
	baz=175,SNR=7.4								
ORIO	**Orleans, Innes**	**65.02**	**356**	P	**P**	**20 04 11.8**	**+0.2**		
N33A	**J Bar K, Exete**	**65.04**	**338**	IAMs_20	IAMs_20	20 35 05.2			
	comp=Z,1µm,20.0s								
H48A	**Harrisville**	**65.13**	**350**	P	**P**	**20 04 11.6**	**-0.7**		
	baz=167								
H48A	**Harrisville**	**65.13**	**350**	P	**P**	**20 04 11.8**	**-0.5**		
F63A	**Nahmakanta, Br**	**65.16**	**1**	P	**P**	**20 04 13.6**	**+1.1**		
	baz=182								
F63A	**Nahmakanta, Br**	**65.16**	**1**	IAMs_20	IAMs_20	20 31 31.8			
	comp=Z,1µm,21.0s								
G54A	**Lake Saint Pet**	**65.16**	**354**	P	**P**	**20 04 12.5**	**-0.1**		
	baz=172,SNR=23								
H47A	**Mio**	**65.18**	**350**	P	**P**	**20 04 11.5**	**-1.1**		
	baz=166								
214A	**Organ Pipe Nat**	**65.22**	**321**	P	**P**	**20 04 15.5**	**+2.3**		
	baz=136,SNR=9.7								
214A	**Organ Pipe Nat**	**65.22**	**321**	P	**P**	**20 04 14.9**	**+1.6**		
214A				IAmb	IAmb	20 04 28.4			
	comp=Z,81nm,1.8s								
K38A	**Parkersburg**	**65.28**	**342**	P	**P**	**20 04 12.8**	**-0.5**		
K38A				IAMs_20	IAMs_20	20 37 23.4			
	comp=Z,1µm,18.0s								
H46A	**Fife Lake**	**65.30**	**349**	P	**P**	**20 04 12.2**	**-1.2**		
	baz=165,SNR=9.4								
F59A	**Saint Guilaume**	**65.31**	**359**	P	**P**	**20 04 13.7**	**+0.3**		
	baz=178								
F62A	**Pittston Farm,**	**65.34**	**1**	P	**P**	**20 04 13.9**	**+0.3**		
	baz=181								
F62A	**Pittston Farm,**	**65.34**	**1**	IAMs_20	IAMs_20	20 32 22.6			
	comp=Z,1µm,21.0s								
F64A	**Sherman**	**65.34**	**2**	P	**P**	**20 04 14.2**	**+0.5**		
	baz=183,SNR=11								
F64A	**Sherman**	**65.34**	**2**	P	**P**	**20 04 14.4**	**+0.8**		
F64A				IAmb	IAmb	20 04 16.1			
	comp=Z,67nm,1.1s								
F64A				IAMs_20	IAMs_20	20 31 36.6			
	comp=Z,1µm,22.0s								
F61A	**St Evariste**	**65.41**	**360**	P	**P**	**20 04 14.7**	**+0.6**		
	baz=180,SNR=13								
F60A	**Warwick**	**65.41**	**359**	P	**P**	**20 04 14.3**	**+0.2**		
	baz=179,SNR=20								
I42A	**Draeger Farm,**	**65.44**	**346**	P	**P**	**20 04 14.4**	**+0.1**		
F55A	**Otter Lake**	**65.46**	**356**	P	**P**	**20 04 14.1**	**-0.3**		
	baz=174								
GLMI	**Grayling**	**65.47**	**349**	IAMs_20	IAMs_20	20 33 19.5			
	comp=Z,2µm,20.0s								
X18A	**Snowflake**	**65.51**	**325**	P	**P**	**20 04 16.7**	**+1.4**		
X18A				IAMs_20	IAMs_20	20 31 07.7			
	comp=Z,1µm,20.0s								
LMN	**Caledonia Moun**	**65.53**	**5**	P	**P**	**20 04 15.1**	**+0.3**		
LMN				IAMs_20	IAMs_20	20 31 56.8			
	comp=Z,1µm,21.0s								
H45A	**Beulah**	**65.53**	**348**	P	**P**	**20 04 13.8**	**-1.1**		
	baz=164								
KSCO	**Kaye Shedlock'**	**65.56**	**333**	P	**P**	**20 04 15.4**	**0.0**		
	baz=147								
KSCO	**Kaye Shedlock'**	**65.56**	**333**	P	**P**	**20 04 15.9**	**+0.5**		
F52A	**Sundridge**	**65.68**	**354**	P	**P**	**20 04 15.4**	**-0.4**		
	baz=171,SNR=29								
G47A	**Hillman**	**65.68**	**350**	P	**P**	**20 04 15.2**	**-0.6**		
	baz=167,SNR=5.6								
ALGO	**Algonquin Park**	**65.71**	**355**	P	**P**	**20 04 15.5**	**-0.5**		
	baz=173,SNR=15								
H43A	**Windswept, Lux**	**65.74**	**347**	P	**P**	**20 04 15.8**	**-0.5**		
H43A				IAmb	IAmb	20 04 16.8			
	comp=Z,33nm,0.8s								
TRQ	**Mont Tremblant**	**65.74**	**357**	P	**P**	**20 04 16.6**	**+0.3**		
L34A	**Svendsen Farm,**	**65.77**	**339**	P	**P**	**20 04 16.4**	**-0.2**		
E60A	**Ste Agathe de**	**65.81**	**360**	P	**P**	**20 04 17.3**	**+0.7**		
	baz=179,SNR=8.8								
W18A	**Petrified Fore**	**65.84**	**326**	P	**P**	**20 04 18.6**	**+1.2**		
	baz=140								
W18A	**Petrified Fore**	**65.84**	**326**	IAMs_20	IAMs_20	20 32 24.5			
	comp=Z,1µm,18.0s								
E58A	**La Victoria**	**65.84**	**358**	P	**P**	**20 04 17.0**	**+0.1**		
	baz=178,SNR=13								
I40A	**Norwalk**	**65.86**	**345**	P	**P**	**20 04 16.6**	**-0.5**		
I40A				IAmb	IAmb	20 04 18.5			
	comp=Z,89nm,1.7s								
I40A				IAMs_20	IAMs_20	20 37 17.7			
	comp=Z,1µm,19.0s								
G45A	**Suttons Bay**	**65.86**	**349**	P	**P**	**20 04 16.2**	**-0.9**		
	baz=165								
E61A	**Lac Etchemin**	**65.87**	**0**	P	**P**	**20 04 18.6**	**+1.5**		
	baz=180,SNR=12								
F51A	**Arnstein**	**65.87**	**353**	P	**P**	**20 04 16.6**	**-0.5**		
	baz=171,SNR=18								
BGNE	**Belgrade**	**65.88**	**338**	P	**P**	**20 04 17.9**	**+0.6**		
	baz=152								
BGNE	**Belgrade**	**65.88**	**338**	P	**P**	**20 04 18.2**	**+0.9**		
E63A	**Oxbow**	**65.90**	**2**	P	**P**	**20 04 17.5**	**+0.3**		
	baz=182,SNR=8.8								
E63A	**Oxbow**	**65.90**	**2**	P	**P**	**20 04 18.3**	**+1.1**		
E63A				IAmb	IAmb	20 04 19.7			
	comp=Z,59nm,1.2s								
E63A				IAMs_20	IAMs_20	20 31 53.3			
	comp=Z,1µm,22.0s								
E57A	**Chemin Saint G**	**65.91**	**358**	P	**P**	**20 04 17.3**	**-0.1**		
	baz=177,SNR=15								
E64A	**Bridgewater**	**65.92**	**2**	P	**P**	**20 04 17.8**	**+0.5**		
	baz=183,SNR=7.3								
E59A	**St. Maurice**	**65.93**	**359**	P	**P**	**20 04 17.8**	**+0.3**		
	baz=178								
F49A	**Sandfield**	**65.98**	**351**	P	**P**	**20 04 16.7**	**-1.1**		
	baz=168,SNR=10								
G46A	**Petoskey**	**65.99**	**349**	P	**P**	**20 04 17.0**	**-0.9**		
	baz=166								
E55A	**Montcerf-Lytto**	**66.06**	**356**	P	**P**	**20 04 18.3**	**+0.1**		
	baz=175								
E62A	**Clayton Lake**	**66.07**	**1**	P	**P**	**20 04 18.8**	**+0.5**		
	baz=181,SNR=16								
E62A	**Clayton Lake**	**66.07**	**1**	P	**P**	**20 04 19.4**	**+1.1**		
E62A				IAmb	IAmb	20 04 21.1			
	comp=Z,59nm,1.1s								
E62A				IAMs_20	IAMs_20	20 32 09.9			
	comp=Z,1µm,21.0s								
E56A	**St. Veronique**	**66.09**	**357**	P	**P**	**20 04 18.3**	**-0.2**		
	baz=176,SNR=28								
E52A	**Mattawa**	**66.09**	**354**	P	**P**	**20 04 17.9**	**-0.6**		
	baz=172,SNR=21								
E53A	**Dumoine, Ponti**	**66.10**	**355**	P	**P**	**20 04 18.3**	**-0.3**		
	baz=173,SNR=15								
E54A	**Lac Daplat, Po**	**66.11**	**355**	P	**P**	**20 04 19.0**	**+0.4**		
	baz=174,SNR=23								
F48A	**Evansville**	**66.12**	**351**	P	**P**	**20 04 18.3**	**-0.4**		
	baz=168,SNR=9.5								
PQI	**Presque Isle**	**66.16**	**2**	P	**P**	**20 04 20.0**	**+1.1**		
PQI				IAmb	IAmb	20 04 21.3			
	comp=Z,78nm,1.3s								
PQI				IAMs_20	IAMs_20	20 31 59.3			
	comp=Z,1µm,22.0s								
D60A	**Saint Jean D'O**	**66.35**	**360**	P	**P**	**20 04 21.1**	**+1.0**		
	baz=180,SNR=5.7								
113A	**Mohawk Valley,**	**66.37**	**321**	P	**P**	**20 04 22.5**	**+2.0**		
S22A	**4UR Ranch, Cre**	**66.42**	**330**	P	**P**	**20 04 21.7**	**+0.6**		
	baz=143,SNR=6.0								
S22A	**4UR Ranch, Cre**	**66.42**	**330**	P	**P**	**20 04 22.2**	**+1.0**		
E51A	**G1948 Merrick**	**66.42**	**354**	P	**P**	**20 04 20.5**	**-0.2**		
	baz=171,SNR=18								
D59A	**Saint-Raymond**	**66.45**	**359**	P	**P**	**20 04 21.6**	**+0.9**		
	baz=179								
E50A	**Wahnapitae**	**66.46**	**353**	P	**P**	**20 04 20.3**	**-0.5**		
	baz=170,SNR=9.8								
F45A	**CMU Biological**	**66.46**	**349**	P	**P**	**20 04 20.0**	**-0.9**		
	baz=165								
D57A	**Chemin Vers le**	**66.51**	**358**	P	**P**	**20 04 21.5**	**+0.4**		
	baz=177,SNR=25								
D63A	**Stockholm**	**66.52**	**2**	P	**P**	**20 04 22.4**	**+1.2**		
	baz=183,SNR=9.8								
D62A	**Allapoint, All**	**66.54**	**1**	P	**P**	**20 04 21.4**	**+0.1**		
	baz=182,SNR=26								
D62A	**Allapoint, All**	**66.54**	**1**	P	**P**	**20 04 22.0**	**+0.7**		
D62A				IAMs_20	IAMs_20	20 32 23.9			
	comp=Z,1µm,22.0s								
D58A	**Chemin du LacG**	**66.56**	**359**	P	**P**	**20 04 22.1**	**+0.6**		
	baz=178,SNR=27								
D56A	**ZEC Mazanza, M**	**66.58**	**357**	P	**P**	**20 04 21.3**	**-0.3**		
	baz=176,SNR=15								
D55A	**Sainte-Anne-du**	**66.58**	**357**	P	**P**	**20 04 21.6**	**0.0**		
	baz=175,SNR=24								
Q24A	**Divide**	**66.63**	**331**	P	**P**	**20 04 23.1**	**+0.6**		
	baz=145,SNR=9.8								
D61A	**St Aubert, Com**	**66.64**	**1**	P	**P**	**20 04 23.2**	**+1.2**		
	baz=181								
E48A	**Lockeyer**	**66.70**	**352**	P	**P**	**20 04 22.0**	**-0.4**		
	baz=168,SNR=11								
I37A	**Lemond, Waseca**	**66.71**	**343**	P	**P**	**20 04 22.4**	**-0.2**		
D52A	**ZEK Kipawa Sen**	**66.76**	**354**	P	**P**	**20 04 22.9**	**+0.2**		
	baz=172,SNR=17								
Y14A	**Wickenburg**	**66.77**	**323**	P	**P**	**20 04 24.6**	**+1.5**		
D54A	**Lac Fusel, La**	**66.79**	**356**	P	**P**	**20 04 22.4**	**-0.5**		
	baz=174,SNR=15								
D53A	**Lac Vacive, Po**	**66.80**	**355**	P	**P**	**20 04 22.8**	**-0.2**		
	baz=173,SNR=20								
D53A	**Lac Vacive, Po**	**66.80**	**355**	P	**P**	**20 04 22.9**	**0.0**		
D53A				IAmb	IAmb	20 04 24.3			
	comp=Z,34nm,0.9s								
MVCO	**Mesa Verde**	**66.82**	**328**	P	**P**	**20 04 24.1**	**+0.5**		
	baz=141,SNR=6.6								
MVCO	**Mesa Verde**	**66.82**	**328**	P	**P**	**20 04 24.9**	**+1.2**		
MVCO				IAMs_20	IAMs_20	20 33 22.3			
	comp=Z,1µm,19.0s								
E47A	**Iron Bridge**	**66.83**	**351**	P	**P**	**20 04 22.6**	**-0.6**		
	baz=167,SNR=12								
LATQ	**La Tuque**	**66.84**	**359**	P	**P**	**20 04 23.3**	**+0.1**		
	baz=178,SNR=12								
BATG	**Bathurst New B**	**66.86**	**4**	P	**P**	**20 04 24.3**	**+0.9**		
BATG				IAmb	IAmb	20 04 25.1			
	comp=Z,53nm,1.0s								
E46A	**Sault Ste Mari**	**66.91**	**350**	P	**P**	**20 04 22.9**	**-0.8**		
E46A				IAmb	IAmb	20 04 24.7			
	comp=Z,33nm,1.1s								
D51A	**Lot 18 Range I**	**66.96**	**354**	P	**P**	**20 04 24.2**	**+0.2**		
	baz=171,SNR=9.9								
WUAZ	**Wupatki**	**67.02**	**325**	P	**P**	**20 04 26.3**	**+1.5**		
	baz=138,SNR=11								
WUAZ	**Wupatki**	**67.02**	**325**	P	**P**	**20 04 27.2**	**+2.3**		
WUAZ				IAMs_20	IAMs_20	20 32 03.7			
	comp=Z,969nm,20.0s								
F42A	**Maple Grove Fa**	**67.05**	**347**	IAMs_20	IAMs_20	20 33 59.1			
	comp=Z,2µm,21.0s								
D50A	**G1974 Best Tow**	**67.09**	**353**	P	**P**	**20 04 24.4**	**-0.4**		
	baz=171,SNR=50								
K31A	**O'Neill**	**67.16**	**338**	P	**P**	**20 04 26.4**	**+0.9**		
GLA	**Glamis**	**67.20**	**321**	P	**P**	**20 04 27.6**	**+1.7**		
	baz=135								
D48A	**Paudash Townsh**	**67.33**	**352**	P	**P**	**20 04 25.6**	**-0.8**		
	baz=169,SNR=14								
D49A	**Beulah Townshi**	**67.37**	**352**	P	**P**	**20 04 26.2**	**-0.4**		
	baz=169,SNR=16								
D46A	**Sault St. Mari**	**67.38**	**350**	P	**P**	**20 04 26.0**	**-0.7**		
	baz=167,SNR=5.5								
D47A	**Chapleau**	**67.40**	**351**	P	**P**	**20 04 25.7**	**-1.1**		
	baz=168,SNR=15								
E43A	**Lone Tree Farm**	**67.40**	**348**	P	**P**	**20 04 25.7**	**-1.2**		
E43A				IAmb	IAmb	20 04 27.9			
	comp=Z,36nm,1.4s								
E43A				IAMs_20	IAMs_20	20 35 50.3			
	comp=Z,1µm,20.0s								
ECSD	**EROS Data Cent**	**67.43**	**340**	P	**P**	**20 04 26.8**	**-0.3**		
	baz=154,SNR=20								
ECSD	**EROS Data Cent**	**67.43**	**340**	P	**P**	**20 04 27.2**	**+0.1**		
ECSD				IAmb	IAmb	20 04 29.0			
	comp=Z,77nm,1.4s								
ISCO	**Idaho Springs**	**67.52**	**332**	P	**P**	**20 04 28.9**	**+0.8**		
	baz=145,SNR=14								
ISCO	**Idaho Springs**	**67.52**	**332**	P	**P**	**20 04 29.1**	**+1.0**		
ISCO				pmax	pmax				
	comp=Z,28nm,1.4s								
ISCO				MLR	MLR				
	comp=Z,600nm,21.0s								
ISCO	**Idaho Springs**	**67.52**	**332**	P	**P**	**20 04 29.1**	**+1.0**		
PV01	**Paradox Valley**	**67.57**	**329**	P	**P**	**20 04 29.3**	**+0.8**		
TAOE	**Nuku Hiva Isla**	**67.57**	**268**	*e*S	**S**	**20 13 20.9**	**-4.2**		
	comp=Z,444nm,24.8s								
TAOE				*e*LQ	LQ	20 21 55.2			
	comp=Z,2µm,34.2s								
TAOE				*e*LR	LR	20 24 54.1			
	comp=Z,975nm,25.3s								
COWI	**Conover**	**67.59**	**346**	P	**P**	**20 04 27.8**	**-0.2**		
COWI				IAmb	IAmb	20 04 29.6			
	comp=Z,27nm,1.1s								
COWI				IAMs_20	IAMs_20	20 34 46.5			
	comp=Z,1µm,20.0s								
SPMN	**Marine on St.**	**67.67**	**343**	P	**P**	**20 04 28.3**	**-0.3**		
	baz=158,SNR=5.7								
SPMN	**Marine on St.**	**67.67**	**343**	P	**P**	**20 04 28.4**	**-0.2**		
SPMN				IAmb	IAmb	20 04 29.9			
	comp=Z,26nm,0.9s								
SPMN				IAMs_20	IAMs_20	20 38 39.6			
	comp=Z,1µm,18.0s								
PDMCI	**Parker Dam,Lak**	**67.68**	**322**	P	**P**	**20 04 30.6**	**+1.7**		
	baz=136								
IKP	**In-Ko-Pah, Jac**	**67.69**	**320**	P	**P**	**20 04 31.3**	**+2.3**		
	baz=134,SNR=8.8								
PV15	**Paradox Valley**	**67.69**	**329**	P	**P**	**20 04 31.2**	**+2.0**		
PV15				IAmb	IAmb	20 05 00.1			
	comp=Z,38nm,1.0s								
SWSC	**Sam W. Stewart**	**67.70**	**320**	P	**P**	**20 04 31.1**	**+2.1**		
	baz=134								
PV02	**Paradox Valley**	**67.71**	**329**	P	**P**	**20 04 30.9**	**+1.6**		
PV02				IAmb	IAmb	20 04 43.8			
	comp=Z,75nm,1.8s								
PV13	**Radium Mtn., P**	**67.72**	**328**	P	**P**	**20 04 30.6**	**+1.2**		
PV13				IAmb	IAmb	20 04 37.6			
	comp=Z,61nm,1.7s								
PV13				IAMs_20	IAMs_20	20 36 25.1			
	comp=Z,1µm,18.0s								
PV05	**Paradox Valley**	**67.79**	**328**	P	**P**	**20 04 30.2**	**+0.4**		
PV05				IAmb	IAmb	20 04 45.0			
	comp=Z,62nm,1.8s								
PV05				IAMs_20	IAMs_20	20 33 44.8			
	comp=Z,1µm,19.0s								
PV03	**Paradox Valley**	**67.80**	**328**	P	**P**	**20 04 30.3**	**+0.5**		
PV03				IAmb	IAmb	20 04 38.2			
	comp=Z,41nm,1.6s								
VLDQ	**Val d'Or**	**67.80**	**355**	P	**P**	**20 04 29.7**	**+0.4**		
VLDQ				IAmb	IAmb	20 04 31.5			
	comp=Z,79nm,1.4s								
VLDQ				IAMs_20	IAMs_20	20 35 16.5			
	comp=Z,2µm,20.0s								
PV18	**Skein Mesa, Pa**	**67.83**	**328**	P	**P**	**20 04 29.9**	**-0.1**		
PV18				IAMs_20	IAMs_20	20 34 48.0			
	comp=Z,1µm,18.0s								
PV12	**Saucer Basin,**	**67.83**	**329**	P	**P**	**20 04 30.8**	**+0.7**		
PV12				IAmb	IAmb	20 04 59.0			
	comp=Z,48nm,1.5s								
PV07	**Paradox Valley**	**67.85**	**329**	P	**P**	**20 04 30.9**	**+0.7**		
PV07				IAmb	IAmb	20 04 44.8			
	comp=Z,79nm,2.0s								
PV11	**David Mesa, Pa**	**67.85**	**329**	P	**P**	**20 04 31.4**	**+1.3**		
PV11				IAmb	IAmb	20 04 44.5			
	comp=Z,51nm,1.5s								
PV17	**East Wray Mesa**	**67.88**	**328**	P	**P**	**20 04 31.7**	**+1.4**		
PV17				IAmb	IAmb	20 04 46.2			
	comp=Z,69nm,2.0s								
PV19	**Morning Glory**	**67.91**	**328**	P	**P**	**20 04 32.2**	**+1.7**		
PV19				IAmb	IAmb	20 04 38.8			
	comp=Z,68nm,1.9s								
PV19				IAMs_20	IAMs_20	20 34 49.3			
	comp=Z,1µm,20.0s								
PV20	**West Nyswonger**	**67.93**	**328**	P	**P**	**20 04 31.8**	**+1.2**		
PV20				IAMs_20	IAMs_20	20 34 22.7			
	comp=Z,1µm,18.0s								
PV04	**Paradox Valley**	**67.94**	**329**	P	**P**	**20 04 32.4**	**+1.7**		
PV04				IAmb	IAmb	20 04 39.2			
	comp=Z,50nm,1.8s								
PV14	**Lion Creek, Pa**	**67.98**	**328**	P	**P**	**20 04 32.1**	**+1.1**		
PV14				IAMs_20	IAMs_20	20 34 41.1			
	comp=Z,1µm,18.0s								
BC3	**Big Chuckawall**	**67.99**	**321**	P	**P**	**20 04 32.8**	**+1.8**		
	baz=135,SNR=9.7								
PV22	**Blue Mesa, Par**	**67.99**	**329**	P	**P**	**20 04 32.6**	**+1.6**		
PV22				IAMs_20	IAM

LCMT Little Creek M 69.14 325 P P 20 04 40.2 +2.1
F33A 5 Mile Ranch, 69.22 341 P P 20 04 37.9 -0.4
F33A IAMs_20 IAMs_20 20 38 44.8
comp=Z,886nm,20.0s
BBRC Big Bear Solar 69.29 320 P P 20 04 41.3 +2.1
baz=134
SRU San Rafael Swe 69.30 328 P P 20 04 39.4 +0.2
SRU pmax pmax
comp=Z,19nm,0.9s
SRU San Rafael Swe 69.30 328 P P 20 04 39.4 +0.2
HEC Hector,Ludlow 69.33 321 P P 20 04 41.5 +2.2
baz=134,SNR=30
MTPU Mount Pierson 69.34 326 P P 20 04 41.0 +1.4
CHGQ Chibougamau 69.42 358 P P 20 04 39.4 0.0
baz=176,SNR=16
MATQ Matagami 69.45 355 P P 20 04 39.2 -0.4
baz=173,SNR=15
TUQ Turquoise Moun 69.52 322 P P 20 04 42.7 +2.2
baz=135,SNR=10
CCUT Cedar City 69.60 325 P P 20 04 42.6 +1.5
CIS Catalina Islan 69.62 319 P P 20 04 42.9 +1.8
baz=132
P17A Butcher Ranch, 69.68 328 P P 20 04 42.7 +1.2
MSU Marysvale 69.69 327 P P 20 04 43.6 +2.0
MSU Marysvale 69.69 327 P P 20 04 43.5 +2.0
BFSC Mount Baldy Ra 69.72 320 P P 20 04 42.8 +1.1
baz=133,SNR=6.5
DRLN Deer Lake 69.73 9 P P 20 04 41.2 -0.1
DRLN IAMs_20 IAMs_20 20 34 01.3
comp=Z,1μm,19.0s
LIC Lamto 69.74 75 ePKP1 P 20 04 41.4 -0.8
comp=Z,89nm,1.6s
FMP Fort Macarthur 69.75 319 P P 20 04 44.4 +2.6
baz=132
RWWY Rawlins 69.75 332 P P 20 04 43.2 +1.2
RRX Edison Barstow 69.76 321 P P 20 04 44.2 +2.4
baz=134
TMUT Trail Mountain 69.78 328 P P 20 04 43.9 +1.6
SHPR Sheep Range 69.83 323 P P 20 04 44.1 +1.6
EYMN Ely 69.87 345 P P 20 04 41.7 -0.5
baz=159
EYMN Ely 69.87 345 P P 20 04 42.3 +0.1
EYMN Ely 69.87 345 IAMs_20 IAMs_20 20 36 17.9
comp=Z,1μm,20.0s
TIC Toumodi 69.92 75 ePKP1 P 20 04 42.0 -1.3
GSC Goldstone, Bar 69.94 321 P P 20 04 45.1 +2.1
baz=134,SNR=7.8
GSC Goldstone, Bar 69.94 321 P P 20 04 44.8 +1.7
GSC pmax pmax
comp=Z,48nm,1.6s
GSC MLR MLR
comp=Z,1μm,18.0s
GSC Goldstone, Bar 69.94 321 P P 20 04 44.8 +1.7
GSC IAmb IAmb 20 04 47.1
comp=Z,48nm,1.6s
GSC IAMs_20 IAMs_20 20 33 54.0
comp=Z,990nm,18.0s
MWC Mount Wilson 69.95 320 P P 20 04 45.0 +1.7
MWC pmax pmax
comp=Z,44nm,1.4s
MWC MLR MLR
comp=Z,600nm,18.0s
MWC Mount Wilson 69.95 320 P P 20 04 45.0 +1.7
MWC IAmb IAmb 20 04 47.2
comp=Z,44nm,1.4s
RDMU Red Mountain 69.96 330 P P 20 04 44.0 +0.7
SHOC Shoshone, Teco 70.05 322 P P 20 04 45.5 +1.9
baz=135
KIC Kosan Boka 70.06 75 ePKP1 P 20 04 42.5 -1.6
comp=Z,227nm,1.8s
DBIC Dimbokro 70.07 75 P P 20 04 42.9 -1.3
comp=Z,22nm,0.9s,baz=211,slow=6.9,SNR=8.1
DBIC Dimbokro 70.07 75 P P 20 04 43.0 -1.3
DBIC pmax pmax
comp=Z,53nm,1.3s
DBIC Dimbokro 70.07 75 P P 20 04 43.0 -1.3
DBIC IAmb IAmb 20 04 45.8
comp=Z,53nm,1.2s
DECC Green Verdugo 70.14 320 P P 20 04 46.5 +2.3
baz=133
K22A Casper 70.23 333 P P 20 04 45.8 +1.0
baz=144
EDW2 Edwards Air Fo 70.36 320 P P 20 04 47.7 +2.1
baz=133,SNR=7.8
RSSD Black Hills 70.42 335 P P 20 04 46.7 +0.7
baz=147
RSSD Black Hills 70.42 335 P P 20 04 47.1 +1.1
RSSD pmax pmax
comp=Z,24nm,0.9s
RSSD MLR MLR
comp=Z,700nm,19.0s
RSSD Black Hills 70.42 335 P P 20 04 47.1 +1.1
RSSD IAmb IAmb 20 04 48.1
comp=Z,24nm,0.9s
QSPA South Pole Qui 70.43 180 P P 20 04 46.9 +1.1
comp=Z,16nm,0.9s,baz=161,slow=1.6,SNR=68
QSPA South Pole Qui 70.43 180 P P 20 04 46.5 +0.7
QSPA IAmb IAmb 20 04 54.1
comp=Z,47nm,1.3s
MPU Maple Canyon 70.54 328 P P 20 04 48.0 +1.2
LRMC Laurel Mtn Rad 70.58 321 P P 20 04 48.9 +1.9
baz=133
PSUT Pine Spring 70.58 325 P P 20 04 48.8 +1.7
ROSA Rosais 70.59 34 eP P 20 04 47.0 +0.2
D32A Dogwood Acres, 70.61 341 P P 20 04 47.2 +0.5
D32A IAmb IAmb 20 04 48.3
comp=Z,73nm,1.2s
D32A IAMs_20 IAMs_20 20 39 34.4
comp=Z,828nm,18.0s
OSI Osito Audit: C 70.62 320 P P 20 04 49.2 +2.0
baz=132
TPNV Topopah Spring 70.77 323 P P 20 04 50.1 +1.9
baz=135,SNR=20
TPNV Topopah Spring 70.77 323 P P 20 04 50.4 +2.2
TPNV pmax pmax
comp=Z,21nm,0.9s
TPNV MLR MLR
comp=Z,500nm,19.0s
TPNV Topopah Spring 70.77 323 P P 20 04 50.4 +2.2
SCZ2 Santa Cruz Isl 70.77 319 P P 20 04 49.8 +1.7
baz=132
FURC Furnace Creek, 70.78 322 P P 20 04 50.3 +2.3
baz=134,SNR=21
B35A Bob, Littlefor 70.81 344 P P 20 04 47.5 -0.4
B35A IAmb IAmb 20 04 49.2
comp=Z,31nm,1.1s
B35A IAMs_20 IAMs_20 20 37 34.7
comp=Z,2μm,21.0s
MPMC Manual Prospec 70.86 321 P P 20 04 50.4 +1.6
baz=134,SNR=16
JLU Jordanelle 70.89 328 P P 20 04 49.4 +0.4
PGRA Graciosa 70.95 34 eP P 20 04 52.1 +3.1
MACI Morro de la Ar 71.01 49 P P 20 04 50.5 +0.6
ARVC Arvin 71.03 320 P P 20 04 50.4 +0.8
baz=132
PSMN Pico do Norte, 71.11 37 eP P 20 04 50.0 0.0
SBC Santa Barbara 71.11 319 P P 20 04 51.2 +1.1
baz=132
ISA Isabella, Lake 71.18 321 P P 20 04 52.9 +2.3
baz=133,SNR=14
ISA Isabella, Lake 71.18 321 P P 20 04 51.6 +1.0
ISA pmax pmax
comp=Z,19nm,0.9s
ISA MLR MLR
comp=Z,800nm,19.0s
ISA Isabella, Lake 71.18 321 P P 20 04 51.6 +1.0
ISA IAMs_20 IAMs_20 20 34 15.8
comp=Z,824nm,19.0s
TCUT Toone Canyon 71.27 329 P P 20 04 52.9 +1.7
DUG Dugway, Tooele 71.27 327 P P 20 04 52.7 +1.5
baz=138,SNR=24
DUG Dugway, Tooele 71.27 327 P P 20 04 52.9 +1.8
DUG pmax pmax
comp=Z,60nm,1.5s
DUG MLR MLR
comp=Z,900nm,18.0s
DUG Dugway, Tooele 71.27 327 P P 20 04 52.9 +1.8
DUG IAmb IAmb 20 04 54.9
comp=Z,60nm,1.4s
DUG IAMs_20 IAMs_20 20 37 25.2
comp=Z,895nm,18.0s
E28A Huff 71.29 339 P P 20 04 51.7 +0.7
E28A IAMs_20 IAMs_20 20 37 45.5
comp=Z,868nm,20.0s
PSET Sete Cidades 71.31 36 eP P 20 04 51.5 +0.2
AGMN Agassiz Nation 71.32 343 P P 20 04 50.5 -0.6
baz=155,SNR=12
AGMN Agassiz Nation 71.32 343 P P 20 04 51.0 -0.1
AGMN IAmb IAmb 20 04 52.6
comp=Z,33nm,1.1s
AGMN IAMs_20 IAMs_20 20 40 54.4
comp=Z,1μm,18.0s
CMLA Cha da Macela 71.38 37 eP P 20 04 54.9 +3.2
R11A Troy Canyon, 71.39 324 P P 20 04 53.6 +1.6
baz=136,SNR=20
R11A Troy Canyon, C 71.39 324 P P 20 04 53.0 +1.1
R11A IAmb IAmb 20 05 07.5
comp=Z,71nm,1.9s
R11A IAMs_20 IAMs_20 20 34 11.3
comp=Z,980nm,18.0s
GRAC Grapevine Rang 71.44 322 P P 20 04 54.7 +2.6
baz=134
PKM Mcpherson Peak 71.47 319 P P 20 04 53.9 +1.4
baz=132,SNR=7.5
CWC Cottonwood Cre 71.47 321 P P 20 04 55.0 +2.5
baz=133
VES Vestal, Richgr 71.66 320 P P 20 04 54.9 +1.5
baz=132,SNR=7.3
BW06 Boulder Array 71.67 331 P P 20 04 54.5 +0.9
baz=142,SNR=7.2
BW06 Boulder Array 71.67 331 P P 20 04 54.1 +0.5
BW06 IAMs_20 IAMs_20 20 37 29.7
comp=Z,869nm,19.0s
PD31 Pinedale Array 71.67 331 P P 20 04 54.1 +0.5
PDAR Pinedale Array 71.67 331 P P 20 04 54.2 +0.6
comp=Z,3.4nm,0.7s,baz=140,slow=5.8,SNR=20
PDAR Pinedale Array 71.67 331 P P 20 04 53.5 -0.1
HWUT Hardware Ranch 71.72 329 P P 20 04 54.6 +0.8
HWUT IAmb IAmb 20 04 56.7
comp=Z,46nm,1.4s
HWUT IAMs_20 IAMs_20 20 37 26.9
comp=Z,942nm,18.0s
SMMC Simmler 71.86 319 P P 20 04 57.1 +2.4
baz=132
SPUT South Promonto 71.92 328 P P 20 04 56.0 +1.0
BGU Big Grassy Mou 71.92 328 P P 20 04 56.3 +1.2
TIN Tinemaha, Big 71.98 322 P P 20 04 57.6 +2.2
baz=133
MDND Maddock 72.04 340 P P 20 04 56.4 +0.9
baz=152
MDND Maddock 72.04 340 P P 20 04 56.2 +0.7
VOG Valley Oaks Go 72.16 321 P P 20 04 58.1 +1.7
baz=132
TBI Tubuai 72.28 251 eS S 20 14 16.6 -3.3
comp=Z,853nm,26.5s
TBI Tubuai 72.28 251 eLR LR 20 26 58.5
comp=Z,3μm,27.2s,baz=104
PAGB Antelope Grade 72.29 320 P P 20 04 59.3 +2.1
PAGB IAmb IAmb 20 05 01.3
comp=Z,68nm,1.5s
AHID Auburn Hatcher 72.38 330 P P 20 04 58.9 +1.1
AHID IAmb IAmb 20 05 00.6
comp=Z,31nm,1.0s
AHID IAMs_20 IAMs_20 20 37 33.5
comp=Z,849nm,18.0s
HVU Hansel Valley 72.44 328 P P 20 04 59.0 +0.8
HVU pmax pmax
comp=Z,33nm,1.1s
HVU Hansel Valley 72.44 328 P P 20 04 59.0 +0.8
REDW Red Top Meadow 72.73 331 P P 20 05 00.9 +1.0
REDW IAmb IAmb 20 05 03.1
comp=Z,61nm,1.6s
REDW IAMs_20 IAMs_20 20 38 17.7
comp=Z,800nm,18.0s
SNOW Snow King Moun 72.76 331 IAMs_20 IAMs_20 20 38 28.5
comp=Z,832nm,18.0s
OMMB Old Mammoth Mi 72.81 322 P P 20 05 02.1 +1.4
TPAW Teton Pass 72.87 331 P P 20 05 02.1 +1.2
NV11 Mina Array Sit 72.88 323 P P 20 05 02.4 +1.5
ELK Elko 72.93 326 LR LR 20 37 55.4
comp=Z,854nm,18.1s,baz=132,slow=36
ELK Elko 72.93 326 P P 20 05 02.3 +1.1
ELK pmax pmax
comp=Z,9.0nm,0.9s
ELK MLR MLR
comp=Z,900nm,18.0s
ELK Elko 72.93 326 P P 20 05 02.3 +1.1
ELK IAMs_20 IAMs_20 20 35 47.0
comp=Z,942nm,18.0s
PMPB Monarch Peak 72.95 320 P P 20 05 03.5 +2.3
NVAR Mina Array Bea 72.97 323 P P 20 05 03.7 +2.2
comp=Z,9.3nm,0.8s,baz=149,slow=6.3,SNR=52
NVAR Mina Array Bea 72.97 323 P P 20 05 02.9 +1.4
FXWY Fox Creek 73.02 331 P P 20 05 02.4 +0.7
ULM Lac du Bonnet 73.10 344 P P 20 05 01.6 -0.1
comp=Z,12nm,0.8s,baz=152,slow=5.1,SNR=12
ULM Lac du Bonnet 73.10 344 iP P 20 05 00.4 -1.3
ULM Lac du Bonnet 73.10 344 P P 20 05 01.3 -0.3
ULM IAmb IAmb 20 05 03.0
comp=Z,65nm,1.4s
IMW Indian Meadow 73.18 331 P P 20 05 03.9 +1.2
IMW IAmb IAmb 20 05 06.0
comp=Z,74nm,1.6s
FLWY Flagg Ranch 73.22 331 P P 20 05 04.1 +1.3
FLWY IAmb IAmb 20 05 06.3
comp=Z,46nm,0.9s
FLWY IAMs_20 IAMs_20 20 38 25.6
comp=Z,741nm,18.0s
RYN Ryan 73.23 323 P P 20 05 04.3 +1.4
PMOZ Porto Moniz, M 73.26 45 eLR LR 20 28 40.1
comp=Z,787nm,18.0s
KVN Kaiserville 73.28 323 P P 20 05 04.2 +0.9
KVN pmax pmax
comp=Z,22nm,1.0s
KVN MLR MLR
comp=Z,500nm,19.0s
KVN Kaiserville 73.28 323 P P 20 05 04.2 +0.9
RLMT Red Lodge 73.40 333 P P 20 05 05.0 +1.2
baz=142,SNR=9.0
RLMT Red Lodge 73.40 333 IAMs_20 IAMs_20 20 37 48.4
comp=Z,794nm,20.0s
H17A Grant Village 73.40 331 P P 20 05 05.9 +2.0
baz=141
LAO LASA Array 73.41 335 P P 20 05 05.2 +1.5
baz=146
LAO LASA Array 73.41 335 P P 20 05 04.1 +0.4
LAO IAmb IAmb 20 05 06.5
comp=Z,84nm,1.4s
YNE Yellowstone No 73.63 332 P P 20 05 06.9 +1.7
WAKR Walker 73.67 322 P P 20 05 08.0 +2.4
YHH Holmes Hill 73.83 332 P P 20 05 08.4 +1.9
YERR Yerington 73.88 323 P P 20 05 08.6 +1.9
YERR IAmb IAmb 20 05 10.8
comp=Z,45nm,1.4s
YERR IAMs_20 IAMs_20 20 34 26.3
comp=Z,704nm,18.0s
PPT2 Papeete2 73.88 257 eS SKiKP 20 14 30.0 -5.5
comp=Z,1μm,24.8s
PPT2 Papeete2 73.88 257 eLR LR 20 27 43.6
comp=Z,2μm,24.5s,baz=107
CMB Columbia Colle 73.90 321 P P 20 05 08.7 +1.9
CMB pmax pmax
comp=Z,7.0nm,0.9s
CMB MLR MLR
comp=Z,500nm,19.0s
CMB Columbia Colle 73.90 321 P P 20 05 08.7 +1.9
YHB Horse Butte 73.96 331 P P 20 05 09.1 +2.0
YHL Hebgen Lake 74.03 331 P P 20 05 09.6 +1.9
GCMT Greycliff 74.10 333 P P 20 05 08.2 +0.3
QLMT Earthquake Lak 74.13 331 P P 20 05 10.5 +2.4
DGMT Dagmar 74.14 338 P P 20 05 08.7 +0.8
baz=148,SNR=5.5
DGMT Dagmar 74.14 338 P P 20 05 08.9 +1.0
DGMT IAmb IAmb 20 05 10.9
comp=Z,104nm,1.3s
PNTR Pine Nut 74.16 323 P P 20 05 10.2 +1.8
PNTR IAmb IAmb 20 05 23.7
comp=Z,136nm,1.9s
VCNR Virginia City 74.32 323 P P 20 05 11.1 +1.7
SCHQ Schefferville 74.36 2 P P 20 05 08.6 -0.3
comp=Z,12nm,0.9s,baz=166,slow=4.6,SNR=9.1
SCHQ Schefferville 74.36 2 P P 20 05 08.7 -0.3
SCHQ IAMs_20 IAMs_20 20 37 01.2
comp=Z,1μm,22.0s
PAHR Pah Rah Range 74.45 323 P P 20 05 11.9 +1.8
PAHR IAmb IAmb 20 05 13.5
comp=Z,31nm,0.9s
HLID Hailey 74.57 329 P P 20 05 12.4 +1.8
baz=138,SNR=43
HLID Hailey 74.57 329 P P 20 05 12.5 +1.8
MCMT McKenzie Canyo 74.77 330 P P 20 05 13.3 +1.4
BOZ Bozeman (W) 74.81 332 P P 20 05 12.9 +1.0
baz=140,SNR=25
BOZ Bozeman (W) 74.81 332 P P 20 05 13.1 +1.1
BOZ pmax pmax
comp=Z,53nm,1.6s
BOZ MLR MLR
comp=Z,900nm,19.0s
BOZ Bozeman (W) 74.81 332 P P 20 05 13.1 +1.1
BOZ IAmb IAmb 20 05 15.1
comp=Z,53nm,1.6s
BOZ IAMs_20 IAMs_20 20 39 01.7
comp=Z,889nm,19.0s
AFDM Forest Hills D 74.85 322 P P 20 05 13.3 +1.1
DLMT Dillon 75.06 331 P P 20 05 14.9 +1.4
MFID Camas Ranch 75.16 328 P P 20 05 15.6 +1.6
MFID IAmb IAmb 20 05 17.8
comp=Z,52nm,1.2s
MFID IAMs_20 IAMs_20 20 38 04.2
comp=Z,872nm,18.0s
LRM Limekiln Ridge 75.35 331 P P 20 05 16.1 +0.9
ORV Oroville 75.56 322 P P 20 05 17.8 +1.6
ORV pmax pmax
comp=Z,67nm,1.3s
ORV MLR MLR
comp=Z,800nm,18.0s
ORV Oroville 75.56 322 P P 20 05 17.8 +1.6
ORV IAmb IAmb 20 05 20.2
comp=Z,67nm,1.2s
ORV IAMs_20 IAMs_20 20 44 31.8
comp=Z,782nm,18.0s
GDXM Geysers 75.84 321 IAMs_20 IAMs_20 20 44 53.2
comp=Z,1μm,19.0s
EGMT Eagleton 75.90 334 P P 20 05 19.1 +1.0
baz=143
EGMT Eagleton 75.90 334 IAMs_20 IAMs_20 20 40 41.7
comp=Z,1μm,19.0s
HOPS Hopland Field 76.12 321 IAMs_20 IAMs_20 20 44 21.7
comp=Z,723nm,18.0s
O03E Paynes Creek 76.22 322 P P 20 05 20.4 +0.2
baz=131,SNR=9.1
MOD Modoc Plateau 76.45 324 P P 20 05 22.8 +1.3
MOD IAMs_20 IAMs_20 20 39 08.4
comp=Z,747nm,18.0s
J08A Circle Bar Ran 76.48 326 P P 20 05 21.9 +0.4
J08A IAMs_20 IAMs_20 20 41 47.0
comp=Z,1μm,18.0s
O02D Mt. Diablo Mer 76.72 322 P P 20 05 23.8 +0.9
baz=130,SNR=5.4
MSO Missoula 76.78 331 P P 20 05 24.8 +1.6
baz=139,SNR=13
MSO Missoula 76.78 331 P P 20 05 24.4 +1.2
MSO IAMs_20 IAMs_20 20 40 29.1
comp=Z,836nm,19.0s
WDC Whiskeytown Da 76.84 322 P P 20 05 23.4 -0.1
WDC pmax pmax
comp=Z,10.0nm,0.8s
WDC MLR MLR
comp=Z,600nm,18.0s
WDC Whiskeytown Da 76.84 322 P P 20 05 23.4 -0.1
BMO Blue Mountains 76.94 328 P P 20 05 25.2 +1.1
BMO pmax pmax
comp=Z,17nm,1.0s
BMO MLR MLR
comp=Z,900nm,19.0s
BMO Blue Mountains 76.94 328 P P 20 05 25.2 +1.1
BMO IAMs_20 IAMs_20 20 44 29.1
comp=Z,904nm,19.0s
N02D Trinity Center 77.19 322 P P 20 05 26.1 +0.6
baz=131,SNR=7.6
M04C Macdoel 77.23 323 P P 20 05 27.1 +1.2
baz=132,SNR=13
K05A Summer Lake 77.33 325 P P 20 05 28.6 +2.2
K05A IAmb IAmb 20 05 30.5
comp=Z,54nm,1.3s
K05A IAMs_20 IAMs_20 20 43 15.7
comp=Z,774nm,20.0s
I07A Izee 77.52 326 P P 20 05 29.0 +1.6
I07A IAMs_20 IAMs_20 20 42 28.5
comp=Z,1μm,19.0s
M02C Callahan 77.54 323 P P 20 05 29.2 +1.6
baz=131
JTMT Jette 77.63 332 P P 20 05 29.3 +1.3
JTMT IAMs_20 IAMs_20 20 43 39.3
comp=Z,750nm,20.0s
YBH Yreka Blue Hor 77.68 323 P P 20 05 28.6 +0.3
comp=Z,6.5nm,1.0s,baz=97,slow=5.4,SNR=9.4
YBH Yreka Blue Hor 77.68 323 P P 20 05 28.7 +0.4
YBH pmax pmax
comp=Z,14nm,1.2s
YBH MLR MLR
comp=Z,500nm,19.0s
YBH Yreka Blue Hor 77.68 323 P P 20 05 28.7 +0.4
F10A Beach Ranch, E 77.70 329 P P 20 05 29.3 +0.9
KHMM Horse Mountain 77.72 322 P P 20 05 29.6 +1.0
L04D Klamath Falls 77.77 324 P P 20 05 29.7 +0.8
baz=131,SNR=5.2
J05D Fort Rock, OR 77.89 325 P P 20 05 31.3 +1.7
baz=132,SNR=11
G08A Pilot Rock 78.08 328 P P 20 05 32.1 +1.6
G08A IAMs_20 IAMs_20 20 40 44.3
comp=Z,1μm,19.0s
PINE Pine Mountain 78.08 325 P P 20 05 32.4 +1.8
TTIG Tnine Tigouga, 78.14 51 P P 20 05 33.0 +1.8
SNR=9.5
VNDA Vanda 78.23 190 P P 20 05 31.6 +0.8
comp=Z,1.1nm,0.9s,baz=133,slow=5.9,SNR=5.5
VNDA Vanda 78.23 190 P P 20 05 31.6 +0.8
VNDA pmax pmax
comp=Z,16nm,1.5s
VNDA Vanda 78.23 190 P P 20 05 31.6 +0.8
KRMB Red Mountain 78.23 322 P P 20 05 32.3 +0.9
J04D Umpqua Nationa 78.34 324 P P 20 05 33.7 +1.6
baz=132
WALA Waterton Lakes 78.45 333 P P 20 05 33.1 +0.6
WALA IAmb IAmb 20 05 35.5
comp=Z,45nm,1.1s
WALA IAMs_20 IAMs_20 20 41 56.1
comp=Z,862nm,22.0s
E09A Wood Farm, Sta 78.53 329 P P 20 05 34.0 +1.2
TOA0 Torodi Ar. Sit 78.57 72 P P 20 05 31.9 -1.8
TORD Torodi Ar. Bea 78.57 72 P P 20 05 32.5 -1.3
comp=Z,39nm,0.9s,baz=260,slow=4.8,SNR=107
TORD S S 20 15 30.1 +0.2
comp=Z,1.1nm,1.1s,baz=263,slow=13,SNR=2.6
TORD Torodi Ar. Bea 78.57 72 P P 20 05 31.8 -1.9
TORD S 20 15 30.5 +0.7
I05D Terrebonne, OR 78.66 326 P P 20 05 35.8 +2.2
baz=132
SYO Syowa Base 78.79 160 eP P 20 05 33.8 -0.2
SYO Syowa Base 78.79 160 esP P 20 05 38.0 +4.0
SYO Syowa Base 78.79 160 ePcP PcP 20 05 43.2 +0.5
FFC Flin Flon 78.79 342 P P 20 05 34.2 +0.2
FFC pmax pmax
comp=Z,25nm,1.4s
FFC MLR MLR
comp=Z,1μm,20.0s
FFC Flin Flon 78.79 342 P P 20 05 34.2 +0.2
FFC Flin Flon 78.79 342 IAMs_20 IAMs_20 20 42 52.8
comp=Z,1μm,20.0s
K02D Willamette Mer 78.85 323 P P 20 05 36.9 +2.2
baz=130
I04A Tendick Farm, 78.87 325 P P 20 05 35.9 +1.1
baz=131
G06A Carlson Farm, 78.89 327 P P 20 05 36.9 +2.0
G06A IAMs_20 IAMs_20 20 41 36.0
comp=Z,1μm,19.0s
OUK Oukaimeden 78.90 51 P P 20 05 38.0 +2.3
SNR=6.8
OUK P P 20 05 38.0 +2.3
SNR=6.8
E08A Dider Farm, El 78.97 328 IAMs_20 IAMs_20 20 41 24.8
comp=Z,1μm,18.0s
F07A Phinny Hill Vi 78.98 328 IAMs_20 IAMs_20 20 41 29.3
comp=Z,1μm,18.0s
HAWA Hanford 79.13 328 P P 20 05 37.7 +1.6
HAWA IAmb IAmb 20 05 39.8
comp=Z,75nm,1.6s
HAWA IAMs_20 IAMs_20 20 43 12.2
comp=Z,920nm,18.0s
G05D Wamic, OR 79.25 326 P P 20 05 38.5 +1.7
baz=132
D08A Wollman Farm, 79.29 329 P P 20 05 38.4 +1.5
J01E Myrtle Point 79.30 324 P P 20 05 39.0 +2.0
baz=130
NEW Newport 79.30 331 P P 20 05 38.1 +1.1
baz=136,SNR=5.2
NEW Newport 79.30 331 P P 20 05 37.7 +0.6

NEW pmax pmax
comp=Z,10.0nm,1.1s
NEW MLR MLR
comp=Z,600nm,18.0s
NEW Newport 79.30 331 P **P** **20 05 37.6 +0.6**
NEW Newport 79.30 331 IAMs_20 IAMs_20 20 46 22.6
comp=Z,631nm,18.0s
I03D Drain, OR 79.32 324 P **P** **20 05 38.1 +1.0**
baz=131
C09A Chrisman Ranch 79.51 330 P **P** **20 05 39.7 +1.6**
C09A IAmb IAmb 20 05 52.7
comp=Z,155nm,2.0s
ZGR Zagora 80.02 53 P **P** **20 05 43.0 +1.5**
SNR=10
ZGR P **P** **20 05 43.0 +1.5**
SNR=10
F04A Amboy 80.29 326 P **P** **20 05 42.6 +0.2**
F04A IAmb IAmb 20 05 45.5
comp=Z,65nm,1.3s
LTY Liberty 80.29 328 P **P** **20 05 43.8 +1.3**
LTY IAmb IAmb 20 05 45.8
comp=Z,54nm,1.5s
LTY IAMs_20 IAMs_20 20 42 14.8
comp=Z,1μm,19.0s
AVE Averroes 80.31 50 *i* P **P** **20 05 40.1 -2.8**
AVE *i* S S 20 15 57.6 +10
TZRR Tazzarine 80.39 52 P **P** **20 05 45.0 +1.5**
SNR=9.0
TZRR P **P** **20 05 45.0 +1.5**
SNR=9.0
B08A Colville Reser 80.41 330 P **P** **20 05 44.3 +1.3**
B08A IAMs_20 IAMs_20 20 46 35.9
comp=Z,635nm,18.0s
LON Longmire 80.52 327 IAMs_20 IAMs_20 20 42 19.0
comp=Z,1μm,18.0s
FCC Fort Churchill 80.53 348 P **P** **20 05 43.9 +0.6**
FCC pmax pmax
comp=Z,38nm,1.3s
FCC Fort Churchill 80.53 348 P **P** **20 05 43.9 +0.6**
E04D Cinebar 80.78 327 P **P** **20 05 47.0 +2.0**
baz=132
D05A Enumclaw 80.91 328 P **P** **20 05 46.9 +1.2**
D05A IAmb IAmb 20 06 08.3
comp=Z,38nm,1.0s
D05A IAMs_20 IAMs_20 20 41 35.2
comp=Z,938nm,19.0s
ZHG ZHG 80.94 50 P **P** **20 05 47.0 +0.7**
SNR=6.7
ZHG P **P** **20 05 47.0 +0.7**
SNR=6.7
E03A Lebam 81.29 326 P **P** **20 05 49.2 +1.5**
E03A IAmb IAmb 20 06 26.6
comp=Z,107nm,1.5s
PFVI Vila Bisbo 81.35 46 *e*SKS S 20 16 10.7 +12
B06A Marblemount 81.55 329 P **P** **20 05 49.8 +0.7**
B06A IAMs_20 IAMs_20 20 45 14.3
comp=Z,736nm,19.0s
MORF Marmelete 81.56 46 *e*P **P** **20 05 49.9 +0.4**
MORF AMb AMB 20 06 09.2
comp=Z,76nm,1.9s
MORF *e*S **S** **20 16 02.1 +1.4**
MORF Marmelete 81.56 46 *e*P **P** **20 05 49.8 +0.4**
MORF *e*S **S** **20 16 02.1 +1.4**
MORF Marmelete 81.56 46 *e*P **P** **20 05 50.1 +0.6**
comp=Z,75nm,1.3s
MORF Marmelete 81.56 46 *e*SKS S 20 16 23.4 +23
B05A Bryant 81.68 328 P **P** **20 05 51.1 +1.4**
baz=132
D03D Eldon 81.70 327 P **P** **20 05 51.7 +1.8**
baz=131
CZD Col de Zad 81.89 51 P **P** **20 05 54.0 +2.4**
SNR=6.8
PBDV Barranco-do-Ve 82.02 46 *e*P **P** **20 05 51.9 +0.1**
comp=Z,50nm,2.0s
PBDV Barranco-do-Ve 82.02 46 *e*SKS S 20 16 17.2 +12
PMAFR Mafra 82.04 44 *e*SKS S 20 16 15.2 +10
IFR Ifrane 82.07 50 *i* P **P** **20 05 50.6 -1.8**
IFR *i* S **S** **20 16 12.3 +6.0**
PNCL Nicolau / Gran 82.08 45 *e*P **P** **20 05 52.2 +0.1**
comp=Z,56nm,1.5s
PNCL Nicolau / Gran 82.08 45 *e*SKS S 20 16 17.9 +12
MDT Midelt 82.10 51 LR LR 20 41 29.5
comp=Z,950nm,19.0s,baz=250,slow=35
MDT Midelt 82.10 51 P **P** **20 05 53.6 +1.1**
SNR=12
MESJ Messejana 82.14 45 *e*P **P** **20 05 52.8 +0.4**
MESJ AMb AMB 20 06 10.9
comp=Z,42nm,1.9s
MESJ *e*S **S** **20 16 08.1 +1.6**
MESJ Messejana 82.14 45 *e*P **P** **20 05 52.8 +0.4**
MESJ *e*S **S** **20 16 08.0 +1.6**
MESJ Messejana 82.14 45 *e*P **P** **20 05 53.3 +0.9**
comp=Z,46nm,1.7s
PCVE Castro Verde 82.15 46 *e*P **P** **20 05 53.2 +0.7**
comp=Z,44nm,1.6s
PVAQ Vaqueiros 82.25 46 *e*P **P** **20 05 52.9 -0.1**
comp=Z,44nm,1.7s
PVAQ Vaqueiros 82.25 46 *e*SKS S 20 16 19.5 +12
PVAQ Vaqueiros 82.25 46 *e*LR LR 20 34 53.9
comp=Z,949nm,18.0s
TSUM Tsumeb 82.36 108 P **P** **20 05 54.2 -0.1**
TSUM IAmb IAmb 20 05 56.3
comp=Z,40nm,1.2s
PBEJ Beja 82.47 45 *e*P **P** **20 05 55.1 +0.9**
comp=Z,35nm,1.5s
EVO Evora 82.65 45 *i* P **P** **20 05 54.4 -0.7**
EVO *i* S **S** **20 16 18.3 +6.7**
EVO Evora 82.65 45 *e*P **P** **20 05 55.6 +0.5**
comp=Z,28nm,2.1s
PSBE So Bento 82.66 44 *e*P **P** **20 05 55.8 +0.6**
comp=Z,72nm,1.7s
PSBE So Bento 82.66 44 *e*SKS **S** **20 16 20.7 +8.9**
IVI Ivigtut 82.73 11 P **P** **20 05 55.2 +0.3**
IVI IAmb IAmb 20 05 56.4
comp=Z,26nm,0.8s
IVI IAMs_20 IAMs_20 20 35 06.1
comp=Z,1μm,18.0s
PMTG Montargil 82.79 44 *e*P **P** **20 05 56.2 +0.4**
comp=Z,50nm,1.7s
CEU Ceuta 83.08 48 *i* P **P** **20 05 56.8 -0.6**
CEU *i* S **S** **20 16 20.0 +3.9**
PCAS Casmilo, Conde 83.14 43 *e*SKS **S** **20 16 21.0 +4.3**
LLLB Lillooet 83.16 330 P **P** **20 05 58.0 +0.5**
LLLB IAmb IAmb 20 06 00.1
comp=Z,54nm,1.4s
LLLB IAMs_20 IAMs_20 20 46 57.7
comp=Z,690nm,19.0s
NRS Narsarsuaq 83.20 12 IAMs_20 IAMs_20 20 42 20.6
comp=Z,982nm,20.0s
COI Coimbra 83.28 43 P **P** **20 05 58.6 +0.3**
COI pmax pmax
comp=Z,37nm,1.1s
COI MLR MLR
comp=Z,2μm,18.0s
COI Coimbra 83.28 43 *e*SKS S 20 16 34.2 +16
COI Coimbra 83.28 43 P **P** **20 05 58.6 +0.3**
COI IAmb IAmb 20 06 00.6
comp=Z,37nm,1.1s
PVLZ Peæn de 83.48 49 *i* P **P** **20 05 58.1 -1.3**
PVLZ *i* S S 20 16 40.6 +20
PMRV Marv??o 83.53 44 *e*P **P** **20 06 00.3 +0.6**
PMRV Marv??o 83.53 44 *e*SKS **S** **20 16 28.1 +7.5**
PMRV Marv??o 83.53 44 *e*LR LR 20 35 03.5
comp=Z,2μm,18.0s
PCBR Castelo Branco 83.69 44 *e*P **P** **20 06 01.5 +1.1**
comp=Z,27nm,1.6s
PVIS Viseu 83.89 43 *e*P **P** **20 06 02.5 +1.0**
comp=Z,57nm,1.5s
MTE Manteigas 83.95 43 *e*P **P** **20 06 02.2 +0.4**
comp=Z,69nm,1.5s
MTE Manteigas 83.95 43 *e*SKS S 20 16 36.7 +12
MTE Manteigas 83.95 43 *e*LR LR 20 35 03.8
comp=Z,2μm,18.0s
MTE Manteigas 83.95 43 P **P** **20 06 01.3 -0.5**
MTE IAmb IAmb 20 06 03.5
comp=Z,40nm,1.1s
HORN Hornachuelos 84.14 46 P **P** **20 06 03.4 +0.6**
SNR=8.5
EMAL Malaga-Limoner 84.17 48 *i* P **P** **20 06 02.2 -0.7**
EMAL *i* S **S** **20 16 33.8 +6.6**
PVRL Vila Real 84.30 43 *e*P **P** **20 06 04.3 +0.7**
comp=Z,56nm,1.4s
PGAV Gavieira, Arco 84.32 42 *e*P **P** **20 06 04.0 +0.2**
comp=Z,50nm,1.7s
PGAV Gavieira, Arco 84.32 42 *e*SKS **S** **20 16 35.9 +7.2**
PGAV Gavieira, Arco 84.32 42 *e*LR LR 20 34 57.9
comp=Z,2μm,20.0s
PCAB Cabril 84.34 42 *e*P **P** **20 06 04.1 +0.3**
comp=Z,77nm,1.6s
MELI Melilla 84.52 50 *i* P P 20 05 59.0 -5.7
MVO Moncorvo 84.68 43 *e*P **P** **20 06 05.9 +0.3**
comp=Z,75nm,1.5s
MVO Moncorvo 84.68 43 *e*SKS **S** **20 16 40.0 +7.8**
MVO Moncorvo 84.68 43 *e*LR LR 20 35 03.9
comp=Z,2μm,18.0s
PBRG Braganca 85.20 42 *e*P **P** **20 06 07.7 -0.4**
comp=Z,76nm,1.6s
PAB San Pablo 85.61 45 P **P** **20 06 10.4 +0.1**
PAB pmax pmax
comp=Z,35nm,1.2s
PAB San Pablo 85.61 45 P **P** **20 06 10.4 +0.1**
PAB IAmb IAmb 20 06 12.1
comp=Z,35nm,1.2s
TAM Tamanrasset 85.74 64 P **P** **20 06 11.8 +0.4**
TAM pmax pmax
comp=Z,67nm,1.3s
TAM MLR MLR
comp=Z,3μm,20.0s
TAM Tamanrasset 85.74 64 P **P** **20 06 11.8 +0.4**
TAM IAmb IAmb 20 06 13.6
comp=Z,66nm,1.3s
BOSA Boshof 85.93 119 P **P** **20 06 12.2 -0.1**
comp=Z,10nm,1.0s,baz=218,slow=3.4,SNR=5.8
BOSA Boshof 85.93 119 P **P** **20 06 12.4 +0.1**
BOSA pmax pmax
comp=Z,33nm,1.3s
BOSA Boshof 85.93 119 P **P** **20 06 12.4 +0.1**
BOSA IAmb IAmb 20 06 13.8
comp=Z,33nm,1.3s
ESDC Sonseca Array 85.93 45 P **P** **20 06 12.3 +0.4**
comp=Z,13nm,1.1s,baz=245,slow=5.8,SNR=40
ESDC Sonseca Array 85.93 45 P **P** **20 06 11.9 0.0**
ESBB Sonseca Array 85.94 45 P **P** **20 06 12.7 +0.9**
ESBB IAmb IAmb 20 06 13.9
comp=Z,33nm,1.3s
MAW Mawson 86.53 164 P **P** **20 06 15.1 +0.9**
comp=Z,7.1nm,0.9s,baz=215,slow=6.0,SNR=9.1
MAW Mawson 86.53 164 P **P** **20 06 14.8 +0.5**
MAW pmax pmax
comp=Z,3.0nm,1.0s
MAW MLR MLR
comp=Z,200nm,20.0s
MAW Mawson 86.53 164 P **P** **20 06 14.8 +0.5**
UCM Universidad Co 86.73 45 *i* P **P** **20 06 16.6 +0.9**
UCM *i* S **S** **20 16 55.2 +2.9**
CART Cartagena 86.97 48 *i* P **P** **20 06 12.7 -4.2**
CART *i* S **S** **20 16 49.3 -5.3**
CART Cartagena 86.97 48 IAMs_20 IAMs_20 20 47 30.6
comp=Z,963nm,22.0s
BBB Bella Bella 87.16 329 LR LR 20 48 39.4
comp=Z,325nm,18.1s,baz=116,slow=38
SFJD Kangerlussuaq 87.81 8 IAMs_20 IAMs_20 20 46 48.3
comp=Z,801nm,20.0s
ANGG Ammassalik, Gr 88.78 13 IAMs_20 IAMs_20 20 43 20.2
comp=Z,943nm,21.0s
YKA Yellowknife Ar 88.93 341 P **P** **20 06 25.8 +0.2**
comp=Z,30nm,1.0s,baz=141,slow=5.1,SNR=86
SJPF Ste Jean 89.39 43 *e*P **P** **20 06 28.4 +0.1**
SJPF pmax pmax
comp=Z,27nm,1.2s
MOBC Moresby Island 89.63 328 IAMs_20 IAMs_20 20 45 15.8
comp=Z,717nm,21.0s
ETSF Etsaut 89.73 44 *e*P **P** **20 06 29.9 -0.1**
ETSF pmax pmax
comp=Z,65nm,2.2s
ILULI Ilulissat 89.85 7 IAMs_20 IAMs_20 20 48 13.4
comp=Z,832nm,20.0s
DIB Dawson Inlet, 89.91 328 IAMs_20 IAMs_20 20 53 39.4
comp=Z,624nm,20.0s
QUIF Quistinic 90.50 39 *e*P **P** **20 06 32.3 -1.0**
QUIF pmax pmax
comp=Z,15nm,1.1s
DSB Dublin 91.44 33 IAMs_20 IAMs_20 20 48 40.6
comp=Z,956nm,20.0s
WRAK Wrangell Islan 91.66 331 IAMs_20 IAMs_20 20 48 46.5
comp=Z,670nm,20.0s
MAHO Mahon 91.68 48 *i* P **P** **20 06 37.2 -1.8**
MAHO *i* S **SKSac** **20 17 15.2 +4.4**
DLBC Dease Lake 91.80 333 P **P** **20 06 40.4 +1.2**
comp=Z,11nm,1.0s,baz=140,slow=4.1,SNR=12
DLBC Dease Lake 91.80 333 P **P** **20 06 40.4 +1.2**
DLBC IAmb IAmb 20 06 41.9
comp=Z,19nm,1.1s
RJF Les Rejaudoux 92.15 42 *e*P **P** **20 06 40.4 -0.7**
RJF pmax pmax
comp=Z,43nm,1.6s
CAF Calviac 92.33 43 *e*P **P** **20 06 40.4 -1.6**
CAF pmax pmax
comp=Z,21nm,1.4s
BORG Borgarnes 92.38 19 IAMs_20 IAMs_20 20 46 03.4
comp=Z,804nm,21.0s
FLN La Foliniere 92.48 39 *e*P **P** **20 06 41.6 -0.9**
FLN pmax pmax
comp=Z,18nm,1.3s
SIT Sitka 93.38 330 IAMs_20 IAMs_20 20 50 49.1
comp=Z,736nm,20.0s
JIS Juneau Island 93.60 332 IAMs_20 IAMs_20 20 51 29.9
comp=Z,888nm,19.0s
KEST Kesra 93.77 53 P **P** **20 06 47.6 -1.2**
comp=Z,4.0nm,0.9s,baz=194,slow=4.7,SNR=4.2
KEST Kesra 93.77 53 P **P** **20 06 49.0 +0.1**
BESE Bessie Mountai 93.97 332 IAMs_20 IAMs_20 20 51 39.7
comp=Z,995nm,21.0s
VIVF Saint-Julien-l 93.98 44 *e*P **P** **20 06 49.4 -0.2**
VIVF pmax pmax
comp=Z,17nm,1.4s
SSB Saint Sauveur 94.07 43 P **P** **20 06 49.6 -0.4**
SSB pmax pmax
comp=Z,14nm,1.3s
SSB MLR MLR
comp=Z,2μm,20.0s
SSB Saint Sauveur 94.07 43 P **P** **20 06 49.6 -0.4**
ESK Eskdalemuir 94.10 32 IAMs_20 IAMs_20 20 48 55.8
comp=Z,693nm,19.0s
EKA Eskdalemuir Ar 94.13 32 LR LR 20 44 13.4
comp=Z,444nm,21.8s,baz=255,slow=32
SUMG Summit 94.64 9 ⇑ *i*P **P** **20 06 53.2 +0.8**
comp=Z,42nm,1.1s
SUMG Summit 94.64 9 ⇑ *i*P **P** **20 06 53.2 +0.8**
SUMG pmax pmax
comp=Z,42nm,1.1s
SUMG Summit 94.64 9 P **P** **20 06 52.9 +0.4**
SKAG Skagway 94.65 332 IAMs_20 IAMs_20 20 56 31.5
comp=Z,551nm,18.0s
ORIF Oris-en-Rattie 94.80 44 *e*P **P** **20 06 53.5 +0.1**
ORIF pmax pmax
comp=Z,24nm,1.4s
WHY Whitehorse 95.09 334 IAMs_20 IAMs_20 20 50 33.1
comp=Z,592nm,20.0s
VSL Villasalto 95.16 50 IAMs_20 IAMs_20 20 52 05.5
comp=Z,722nm,19.0s
LPL La Plagne 95.58 44 *e*P **P** **20 06 57.2 +0.1**
LPL pmax pmax
comp=Z,16nm,1.3s
LPG La Plagne 95.59 44 *e*P **P** **20 06 57.4 +0.2**
LPG pmax pmax
comp=Z,14nm,1.2s
DOU Dourbes 96.04 39 P **P** **20 06 57.8 -1.1**
TULEG Thule 96.09 0 IAMs_20 IAMs_20 20 50 07.1
comp=Z,822nm,20.0s
GIVF Givet 96.18 39 *e*P **P** **20 06 58.7 -0.7**
GIVF pmax pmax
comp=Z,14nm,1.2s
BMRD Maredsous 96.23 39 ⇓ P **P** **20 06 59.5 -0.2**
SCO Scoresbysund 96.23 15 IAMs_20 IAMs_20 20 46 14.2
comp=Z,729nm,22.0s
HYT Haines Junctio 96.28 333 IAMs_20 IAMs_20 20 53 31.6
comp=Z,734nm,20.0s
HAU Haudompre 96.29 41 *e*P **P** **20 06 58.9 -1.1**
HAU pmax pmax
comp=Z,4.0nm,0.7s
WLF Walferdange 96.80 40 P **P** **20 07 01.5 -0.8**
comp=Z,14nm,1.3s
WLF Walferdange 96.80 40 P **P** **20 07 02.1 -0.2**
WLF pmax pmax
comp=Z,26nm,1.3s
WLF MLR MLR
comp=Z,1μm,21.0s
WLF Walferdange 96.80 40 P **P** **20 07 02.1 -0.2**
WLF IAmb IAmb 20 07 04.4
comp=Z,26nm,1.3s
ECH Echery 96.87 41 P **P** **20 07 01.6 -1.1**
ECH pmax pmax
comp=Z,13nm,1.2s
ECH MLR MLR
comp=Z,900nm,20.0s
ECH Echery 96.87 41 P **P** **20 07 01.6 -1.1**
ECH IAmb IAmb 20 07 03.5
comp=Z,12nm,1.2s
ECH IAMs_20 IAMs_20 20 47 23.4
comp=Z,882nm,20.0s
MSSA Maissana 96.98 45 IAMs_20 IAMs_20 20 49 57.5
comp=Z,880nm,20.0s
PCA Pinnacle 97.13 332 IAMs_20 IAMs_20 20 59 33.1
comp=Z,784nm,21.0s
VLC Villacollemand 97.51 46 IAMs_20 IAMs_20 20 51 41.6
comp=Z,826nm,19.0s
OSSC Osservatorio P 97.88 47 IAMs_20 IAMs_20 20 49 55.4
comp=Z,868nm,19.0s
MESA MESA 97.93 331 IAMs_20 IAMs_20 20 54 14.2
comp=Z,659nm,19.0s
CTGM Chitina Glacie 98.00 332 IAMs_20 IAMs_20 21 00 03.2
comp=Z,540nm,21.0s
DAVOX Davos/Dischmat 98.08 43 LR LR 20 49 21.2
comp=Z,301nm,21.5s,baz=294,slow=34
WAX Waxell Ridge 98.45 332 IAMs_20 IAMs_20 21 00 09.0
comp=Z,824nm,18.0s
TGL Tana Glacier 98.57 332 IAMs_20 IAMs_20 20 59 03.1
comp=Z,817nm,19.0s
INK Inuvik 98.67 340 P **P** **20 07 10.1 -0.1**
comp=Z,6.7nm,1.1s,baz=89,slow=3.8,SNR=5.1
INK Inuvik 98.67 340 P **P** **20 07 09.0 -1.2**
INK pmax pmax
comp=Z,9.0nm,1.1s
INK MLR MLR
comp=Z,1μm,20.0s
INK Inuvik 98.67 340 **P** **20 07 09.0 -1.2**
CRQM Cirque 98.71 332 IAMs_20 IAMs_20 20 59 08.2
comp=Z,594nm,19.0s
VRDI Verde Repeater 99.04 332 IAMs_20 IAMs_20 20 58 33.7
comp=Z,580nm,20.0s
BCAR Beaver Creek A 99.12 334 **Pdif** **20 07 12.1 -0.4**
GLB Gilahina Butte 99.29 332 IAMs_20 IAMs_20 20 59 54.2
comp=Z,535nm,19.0s
EGAK Eagle 99.62 336 IAMs_20 IAMs_20 20 55 07.7
comp=Z,680nm,20.0s
GRA1 Grafenberg Arr 99.89 41 IAMs_20 IAMs_20 20 47 20.4
comp=Z,768nm,22.0s
GRF Grafenberg Arr 99.89 41 *e*Pdiff **Pdif** **20 07 16.4 +0.2**
HIN Hinchinbrook I 100.09 331 IAMs_20 IAMs_20 20 55 59.3
comp=Z,718nm,20.0s
FID Port Fidalgo 100.21 331 IAMs_20 IAMs_20 20 53 14.8
comp=Z,863nm,20.0s
DOT Dot Lake 100.30 334 IAMs_20 IAMs_20 20 55 23.7
comp=Z,740nm,19.0s
SCRK Sand Creek 100.40 335 IAMs_20 IAMs_20 20 55 36.3
comp=Z,825nm,20.0s
PAX Paxson 100.61 333 IAMs_20 IAMs_20 21 00 51.1
comp=Z,786nm,18.0s
RIDG Independent Ri 100.65 334 IAMs_20 IAMs_20 20 55 34.1
comp=Z,660nm,20.0s
GERES GERESS Array B 101.18 42 P **Pdif** **20 07 21.4 -0.6**
comp=Z,0.6nm,0.7s,baz=289,slow=4.1,SNR=6.2
GERES PP **PP** **20 11 27.8 -3.5**
comp=Z,0.2nm,0.6s,baz=248,slow=6.1,SNR=4.2
GERES GERESS Array B 101.18 42 P **Pdif** **20 07 20.6 -1.4**
GERES 20 11 26.8
GERES GERESS Array B 101.18 42 **Pdif** **20 07 20.6 -1.4**
GERES **PP** **20 11 26.8 -4.5**
KNK Knik Glacier 101.35 331 IAMs_20 IAMs_20 21 00 32.6
comp=Z,726nm,18.0s
SEW Seward 101.36 330 IAMs_20 IAMs_20 21 02 43.9
comp=Z,753nm,18.0s
DHY Denali Highway 101.46 333 IAMs_20 IAMs_20 21 01 20.5
comp=Z,695nm,18.0s
CLL Collm 101.47 40 *e*Pdif **Pdif** **20 07 23.0 -0.1**
CLL *es*Pdif pwP 20 07 32.0 -0.1
CLL *e*(PP) 20 11 26.0
CLL *e*(sSKSac) 20 18 15.0
CLL *e*Sdif Sdif 20 19 00.0 -2.4
CLL *e*PS PS 20 20 42.0 +5.0
CLL *e*PPS PPS 20 21 24.0
CLL *e*SS SS 20 26 00.0 -4.4
CLL *e* 20 27 12.0
CLL LmV 20 50 00.0
comp=Z,1μm,20.7s
CLL Collm 101.47 40 *e*P **Pdif** **20 07 23.0 -0.1**
CLL *e*S **Sdif** **20 19 00.0 -2.4**
CLL MLR MLR
comp=Z,1μm,20.7s
GHO Glory Hole Cre 101.68 332 IAMs_20 IAMs_20 21 01 34.4
comp=Z,752nm,18.0s
PMR Palmer 101.71 331 IAMs_20 IAMs_20 21 00 55.2
comp=Z,767nm,18.0s
HDA Harding Lake 101.76 335 IAMs_20 IAMs_20 20 56 57.4
comp=Z,764nm,21.0s
RC01 Rabbit Creek A 101.82 331 IAMs_20 IAMs_20 20 56 50.1
comp=Z,636nm,19.0s
ILAR Eielson Array 101.87 335 P **Pdif** **20 07 23.2 -1.4**
comp=Z,0.3nm,0.9s,baz=134,slow=2.6,SNR=2.7
ILAR PP **PP** **20 11 39.0 +3.1**
comp=Z,2.9nm,1.2s,baz=118,slow=5.0,SNR=6.8
ILAR Eielson Array 101.87 335 P **Pdif** **20 07 22.7 -1.9**
ILAR 20 11 37.7
ILAR Eielson Array 101.87 335 **Pdif** **20 07 22.7 -1.9**
ILAR **PP** **20 11 37.7 +1.8**
FYU Fort Yukon 101.89 337 IAMs_20 IAMs_20 20 55 53.7
comp=Z,715nm,20.0s
BRLK Bradley Lake 101.93 329 IAMs_20 IAMs_20 20 57 16.2
comp=Z,654nm,19.0s
CNPM China Poot 102.02 329 IAMs_20 IAMs_20 20 50 12.5
comp=Z,593nm,20.0s
KDAK Kodiak Island 102.15 327 IAMs_20 IAMs_20 20 53 24.1
comp=Z,496nm,20.0s
ALE Alert 102.16 1 IAMs_20 IAMs_20 20 55 56.6
comp=Z,673nm,21.0s
CCB Clear Creek Bu 102.19 335 IAMs_20 IAMs_20 20 56 57.7
comp=Z,622nm,21.0s
RND Reindeer 102.20 333 P **Pdif** **20 07 26.6 +0.4**
RND MLR MLR
comp=Z,1μm,19.0s
RND Reindeer 102.20 333 Pdif **Pdif** **20 07 26.6 +0.4**
WRH Wood River Hil 102.25 334 IAMs_20 IAMs_20 20 57 01.2
comp=Z,841nm,21.0s
HOM Homer 102.26 329 IAMs_20 IAMs_20 20 51 23.9
comp=Z,521nm,20.0s
COLA College 102.29 335 IAMs_20 IAMs_20 20 58 38.4
comp=Z,600nm,21.0s
MCK McKinley 102.34 334 IAMs_20 IAMs_20 21 01 12.9
comp=Z,747nm,18.0s
OHAK Old Harbor 102.35 327 IAMs_20 IAMs_20 21 00 20.3
comp=Z,741nm,21.0s
PDG Podgorica 103.18 49 IAMs_20 IAMs_20 20 53 48.7
comp=Z,798nm,19.0s
BPAW Bear Paw Mtn. 103.32 334 IAMs_20 IAMs_20 20 59 24.7
comp=Z,528nm,20.0s
TIR Tirane 103.35 51 IAMs_20 IAMs_20 20 50 47.0
comp=Z,879nm,22.0s
PPLA Purkeypile 103.48 332 IAMs_20 IAMs_20 21 02 30.0
comp=Z,733nm,18.0s
COLD Coldfoot 103.96 337 IAMs_20 IAMs_20 20 59 28.4
comp=Z,736nm,19.0s
TOLK Toolik Lake Re 104.16 338 IAMs_20 IAMs_20 20 59 10.7
comp=Z,770nm,18.0s
SVW2 Sparrevohn 104.54 330 IAMs_20 IAMs_20 21 02 01.6
comp=Z,436nm,18.0s
VTS Vitosha 106.08 50 IAMs_20 IAMs_20 20 51 56.5
comp=Z,876nm,22.0s
RDOG Red Dog Mine 108.88 337 IAMs_20 IAMs_20 21 02 50.4
comp=Z,781nm,22.0s
UNV Unalaska Valle 108.96 321 IAMs_20 IAMs_20 20 58 57.4
comp=Z,692nm,20.0s
ANM Nome 109.55 333 IAMs_20 IAMs_20 21 06 37.3
comp=Z,481nm,18.0s
DZM Mont Dzumac 110.22 236 *e*SP SP 20 22 00.4 -5.2
comp=Z,297nm,25.9s
DZM *e*SS SS 20 27 55.9 -8.2
comp=Z,1μm,28.5s
DZM Mont Dzumac 110.22 236 *e*LR LR 20 44 33.7
comp=Z,1μm,22.5s
AKASG Malin Array Be 111.39 42 PP **PP** **20 12 42.3 -4.0**
comp=Z,0.2nm,0.2s,baz=253,slow=7.8,SNR=6.4
OBN Obninsk 115.95 38 ⇓ *i*PKIKP **PKiKP** **20 12 14.6 +0.5**
OBN *e* 20 13 20.8
OBN *e* 20 15 42.7
OBN 20 19 17.0
OBN *i* SS SS 20 29 24.6 +5.4
OBN pmax pmax
comp=Z,12nm,1.0s

OBN MLR MLR
comp=Z,892nm,19.0s
MOS Moscow 116.52 37 *e*PKIKP PKiKP 20 12 25.7 +11
MOS *e* 20 13 29.7
MOS MLR MLR
comp=Z,600nm,20.0s
KLMR Klimovskoe 117.00 31 *e*PKIKP **PKPdf 20 12 15.5 -0.4**
KLMR *e* 20 13 22.5
KLMR *e*SS SS 20 29 28.4 -4.1
KLMR pmax pmax
comp=Z,19nm,1.5s
KLMR Klimovskoe 117.00 31 *e*PKPdf **PKPdf 20 12 15.5 -0.4**
KLMR AMP 20 12 17.6
comp=Z,19nm,1.5s
KLMR *e*PP **PP 20 13 22.5 -3.1**
KLMR *e*SS **SS 20 29 28.5 -4.0**
KLMR *e*SS **SS 20 29 28.5 -4.0**
SOC Sochi 118.17 50 *i* PKIKP **PKPdf 20 12 18.1 -0.6**
SOC *e* 20 13 33.1
SOC *e*PPP PPP 20 15 59.4
SOC *e*PS **PKKPdf 20 23 10.4 +2.5**
SOC *e*SSS SSS 20 34 08.0
SOC pmax pmax
comp=Z,37nm,0.7s
BILL Bilibino 120.21 339 ⇓ *i* PKIKP **PKiKP 20 12 23.3 +1.3**
BILL *e* 20 13 54.3
BILL 20 19 35.0
BILL *e* 20 25 04.5
BILL *e*SS SS 20 30 13.0 -0.6
BILL pmax pmax
comp=Z,3.0nm,1.1s
KIV Kislovodsk 120.32 50 *i* PKIKP **PKPdf 20 12 21.5 -1.5**
KIV *e* 20 13 47.1
KIV *e*PS **SP 20 23 38.5 +1.6**
KIV *e*SS **SKKSdf 20 30 06.7 -9.0**
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,924nm,22.0s
KBZ Khabaz 120.47 50 PKP **PKiKP 20 12 23.9 +0.6**
comp=Z,7.1nm,1.0s,baz=226,slow=4.1,SNR=5.2
AKH Akhalkalaki 120.94 53 IAMs_20 IAMs_20 20 53 11.4
comp=Z,662nm,22.0s
RAYN Ar Rayn 121.20 74 PKIKP **PKiKP 20 12 25.5 +0.1**
RAYN MLR MLR
comp=Z,2μm,18.0s
RAYN Ar Rayn 121.20 74 **PKiKP 20 12 25.5 +0.1**
MAK Makhachkala 123.87 51 *e*P **Pdif 20 08 54.6 -8.3**
MAK *e* 20 19 27.9
MAK *e*SS SS 20 30 53.6 -8.2
MAK pmax pmax
comp=Z,280nm,1.3s
H11S2 WAKE ISLAND Hyl 25.77 279 T T 22 31 60.0
baz=101,slow=74,SNR=594
H11S1 WAKE ISLAND Hyl 25.78 279 T T 22 31 52.8
baz=101,slow=74,SNR=137
H11S3 WAKE ISLAND Hyl 25.78 279 T T 22 31 53.5
baz=101,slow=74,SNR=286
H11N3 WAKE ISLAND Hyl 25.81 280 T T 22 31 56.3
baz=100,slow=74,SNR=162
H11N2 WAKE ISLAND Hyl 25.82 280 T T 22 31 54.9
baz=100,slow=74,SNR=149
H11N1 WAKE ISLAND Hyl 25.83 280 T T 22 31 55.3
baz=100,slow=74,SNR=136
TIXI Tiksi 126.82 352 PKP **PKPdf 20 12 34.5 0.0**
comp=Z,2.1nm,0.8s,baz=350,slow=3.8,SNR=5.4
TIXI Tiksi 126.82 352 *i* PKIKP **PKPdf 20 12 33.6 -0.9**
TIXI Tiksi 126.82 352 **PKPdf 20 12 34.3 -0.2**
TIXI IAMs_20 IAMs_20 21 09 16.3
comp=Z,562nm,21.0s
ARU Arti 127.74 33 *i* PKIKP **PKiKP 20 12 38.4 +1.1**
ARU 20 14 44.4
ARU PPP PPP 20 17 26.9
ARU 20 19 48.5
ARU SS SS 20 31 54.4 +5.2
ARU MLR MLR
comp=Z,730nm,22.0s
ARU Arti 127.74 33 PKPdf **PKPdf 20 12 36.7 0.0**
PET Petropavlovsk 129.54 323 IAMs_20 IAMs_20 21 11 03.7
comp=Z,387nm,20.0s
PEA0B Petropavlovsk- 130.04 324 IAMs_20 IAMs_20 21 14 29.9
comp=Z,618nm,21.0s
PETK Petropavlovsk- 130.04 324 PKP **PKiKP 20 12 42.0 0.0**
comp=Z,2.4nm,0.8s,baz=121,slow=4.2,SNR=4.8
PETK Petropavlovsk- 130.04 324 PKIKP **PKPdf 20 12 41.4 +0.2**
PETK Petropavlovsk- 130.04 324 PKPdf **PKPdf 20 12 41.4 +0.2**
ASAR Alice Springs 130.52 210 PKP **PKPdf 20 12 43.0 -0.2**
comp=Z,3.2nm,0.8s,baz=152,slow=2.1,SNR=24
ASAR Alice Springs 130.52 210 PKIKP **PKPdf 20 12 42.6 -0.6**
ASAR Alice Springs 130.52 210 PKPdf **PKPdf 20 12 42.6 -0.6**
ABKAR Akbulak array 131.11 41 PKPpre 20 12 29.7
ABKAR PKPdf **PKiKP 20 12 44.3 +0.1**
GEYT Alibeck 132.44 56 PKP **PKiKP 20 12 47.5 +0.2**
comp=Z,4.4nm,1.1s,baz=264,slow=5.5,SNR=8.3
GEYT Alibeck 132.44 56 PKPpre PKPpre 20 12 29.7
GEYT PKPdf **PKPdf 20 12 46.8 +0.5**
WB2 Warramunga Arr 133.42 214 PKPpre PKPpre 20 12 31.7
WB2 PKPdf **PKPdf 20 12 48.7 0.0**
WR1 Warramunga Arr 133.43 214 IAMs_20 IAMs_20 21 17 12.9
comp=Z,562nm,21.0s
WRA Warramunga Arr 133.43 214 PKP **PKPdf 20 12 48.7 0.0**
comp=Z,2.7nm,0.8s,baz=154,slow=1.9,SNR=12
WRA SKPbc **SKPbc 20 16 15.9 -0.3**
comp=Z,6.0nm,1.3s,baz=156,slow=2.7,SNR=6.7
WRA Warramunga Arr 133.43 214 PKIKP **PKPdf 20 12 48.3 -0.4**
WRA Warramunga Arr 133.43 214 **PKPdf 20 12 48.3 -0.4**
WRA **SKPbc 20 16 15.4 -0.7**
WRAB Tennant Creek 133.43 214 *i* PKIKP **PKPdf 20 12 48.8 +0.1**
YAK Yakutsk 135.39 346 *i* PKIKP **PKPdf 20 12 50.7 -0.3**
HRA Herat 136.20 61 PKPdf **PKPdf 20 12 54.2 +0.6**
NKL Nikolayevsk 138.71 331 *i* PKIKP **PKiKP 20 12 58.7 -0.8**
NKL *e* 20 15 50.8
KKAR Karatay Array 140.18 45 PKIKP **PKPdf 20 13 00.5 0.0**
KKAR Karatay Array 140.18 45 PKPdf **PKPdf 20 13 00.5 0.0**
IUG luzhnay 140.23 47 *e*PKP **PKPdf 20 13 01.5 +0.7**
baz=47
IUG *e*PP **PP 20 15 58.3 -0.2**
baz=47
IUG luzhnay 140.23 47 *e*PKIKP **PKPdf 20 13 01.4 +0.7**
IUG *e* 20 15 58.2
KURK Kurchatov 140.85 31 *i* PKIKP **PKPdf 20 12 59.2 -2.2**
KURK Kurchatov 140.85 31 PKPdf **PKPdf 20 12 59.8 -1.6**
ZAA0 Zalesovo Array 141.13 23 PKPpre PKPpre 20 12 53.0
ZAA0 PKPdf **PKPdf 20 13 00.3 -1.5**
ZAA0 IAMs_20 IAMs_20 21 24 51.6
comp=Z,394nm,20.0s
ZALV Zalesovo Beam 141.13 23 PKP **PKPdf 20 13 01.4 -0.3**
comp=Z,8.2nm,0.9s,baz=307,slow=3.2,SNR=22
ZALV Zalesovo Beam 141.13 23 PKHKP PKPpre 20 12 52.8
ZALV 20 13 00.7
ZALV Zalesovo Beam 141.13 23 PKPpre 20 12 52.8
ZALV PKPdf **PKPdf 20 13 00.7 -1.0**
YSS Yuzh-Sakhalins 141.41 322 ⇑ *e*PKIKP **PKPdf 20 13 03.2 +0.7**
YSS *e* 20 16 02.6
YSS pmax pmax
comp=Z,300nm,6.5s
BTLS Baital 141.60 41 *e*PKP **PKPdf 20 13 03.2 +0.3**
comp=Z,25nm,3.9s,baz=41
BTLS *e*PP **PP 20 16 06.1 -0.4**
baz=41
BTLS Baital 141.60 41 *e*PKIKP **PKPdf 20 13 03.2 +0.3**
BTLS *e* 20 16 06.1
BTLS pmax pmax
comp=Z,25nm,3.9s
BOD Bodaibo 141.81 356 *e*PKHKP PKPpre 20 12 55.6
BOD pmax pmax
comp=Z,6.0nm,1.5s
SEM Semipalatinsk 141.83 30 *e*PKP **PKPdf 20 13 04.2 +0.7**
comp=Z,2.2nm,1.1s,baz=30
SEM *e*PP **PP 20 16 07.8 +0.1**
baz=30
SEM Semipalatinsk 141.83 30 *e*PKIKP **PKPdf 20 13 04.2 +0.7**
SEM *e* 20 16 07.8
SEM pmax pmax
comp=Z,2.0nm,1.1s
GRNR Gornyy 142.26 332 *e*PKIKP **PKiKP 20 13 10.9 +4.0**
ARSB Arslanbob 142.58 47 PKIKP **PKPdf 20 13 02.9 -2.1**
ARSB Arslanbob 142.58 47 **PKPdf 20 13 02.9 -2.1**
SGDS Sogindy 142.74 43 *e*PKP **PKPdf 20 13 05.7 +0.5**
comp=Z,33nm,3.2s,baz=43
SGDS Sogindy 142.74 43 *e*PKIKP **PKPdf 20 13 05.6 +0.5**
SGDS pmax pmax
comp=Z,33nm,3.2s
JKA Kamikawa-asahi 143.00 319 **PKPdf 20 13 04.8 -0.7**
ASAJ Asahikawa 143.00 319 PKP **PKPdf 20 13 04.4 -1.0**
comp=Z,4.5nm,0.9s,baz=135,slow=1.4,SNR=5.6
ASAJ Asahikawa 143.00 319 PKIKP **PKPdf 20 13 04.8 -0.6**
AAK Ala-Archa 143.03 44 PKIKP **PKPdf 20 13 05.1 -0.7**
AAK Ala-Archa 143.03 44 PKPdf **PKPdf 20 13 05.0 -0.7**
ZEA Zeya 143.31 342 *e*PKIKP PKPbc 20 13 03.4 +0.7
ZEA pmax pmax
comp=Z,28nm,1.2s
KUU Kurty 143.60 41 *e*PKP PKPbc 20 13 04.9 +1.0
comp=Z,41nm,1.4s,baz=42
KUU Kurty 143.60 41 *e*PKIKP PKPbc 20 13 04.9 +1.0
KUU pmax pmax
comp=Z,41nm,1.4s
MTBS Maitube 144.04 42 *e*PKP **PKPdf 20 13 07.3 -0.2**
comp=Z,73nm,1.0s,baz=42
MTBS Maitube 144.04 42 *e*PKIKP **PKPdf 20 13 07.2 -0.2**
MTBS pmax pmax
comp=Z,73nm,1.0s
BOOM Boomskoye usch 144.04 44 PKIKP **PKPdf 20 13 07.1 -0.5**
BOOM MLR MLR
comp=Z,700nm,21.0s
BOOM Boomskoye usch 144.04 44 **PKPdf 20 13 07.1 -0.5**
TDK Taldyqorghan 144.24 38 *e*PKP **PKPdf 20 13 06.8 -0.9**
comp=Z,168nm,2.4s,baz=38
TDK Taldyqorghan 144.24 38 *e*PKIKP **PKPdf 20 13 06.7 -0.9**
TDK pmax pmax
comp=Z,168nm,2.4s
AAA Alma-Ata 144.31 42 *e*PKP **PKPdf 20 13 07.7 -0.2**
comp=Z,27nm,1.2s,baz=42
AAA *e*SKS **SKSdf 20 20 16.7 +0.2**
baz=42
AAA Alma-Ata 144.31 42 *e*PKIKP **PKPdf 20 13 07.7 -0.2**
AAA *e* 20 20 16.6
AAA pmax pmax
comp=Z,27nm,1.2s
MDOK Medeo 144.41 42 *i* PKP **PKPdf 20 13 07.9 -0.3**
baz=42
MDOK *e*PP **PP 20 16 22.4 -1.3**
baz=42
MDOK Medeo 144.41 42 *i* PKIKP **PKPdf 20 13 07.9 -0.3**
MDOK *e* 20 16 22.4
TNSS Tian-Shan 144.41 42 *e*PKP **PKPdf 20 13 08.1 -0.5**
baz=42
TNSS Tian-Shan 144.41 42 *e*PKIKP **PKPdf 20 13 08.0 -0.5**
KDJ Kajisay 145.02 43 PKIKP **PKPdf 20 13 09.3 0.0**
KDJ Kajisay 145.02 43 **PKPdf 20 13 09.3 0.0**
MAKZ Makanchi 145.09 33 PKIKP **PKPab 20 13 08.6 0.0**
MAKZ Makanchi 145.09 33 **PKPab 20 13 08.6 0.0**
MK31 Makanchi Array 145.26 33 PKIKP **PKPbc 20 13 09.0 -0.1**
MK31 Makanchi Array 145.26 33 **PKPbc 20 13 09.0 -0.1**
MKAR Makanchi Array 145.26 33 PKPbc **PKPab 20 13 09.2 0.0**
comp=Z,18nm,1.0s,baz=320,slow=3.6,SNR=83
MKAR Makanchi Array 145.26 33 PKIKP **PKPbc 20 13 08.7 -0.4**
MKAR Makanchi Array 145.26 33 **PKPbc 20 13 08.7 -0.4**
KPKS Kokpek 145.27 40 *i* PKP **PKPdf 20 13 09.6 0.0**
baz=41
KPKS Kokpek 145.27 40 *i* PKIKP **PKPdf 20 13 09.5 0.0**
SATY Saty 145.31 41 *i* PKP **PKPbc 20 13 09.4 -0.1**
comp=Z,47nm,1.4s,baz=41
SATY Saty 145.31 41 *i* PKIKP **PKPbc 20 13 09.4 -0.1**
SATY pmax pmax
comp=Z,47nm,1.4s
NIL Nilore 145.32 59 PKIKP **PKPbc 20 13 08.9 -0.8**
NIL Nilore 145.32 59 **PKPbc 20 13 08.9 -0.8**
KSH Kashi 145.41 48 PKPbc **PKPab 20 13 10.8 +0.7**
KSH SS SS 20 35 23.8 +2.7
KSH LR LR
comp=Z,330nm,11.2s
KSH LR LR
comp=Z,420nm,10.9s
KSH LR LR
comp=Z,1μm,21.1s
KLR Kul'dur 145.43 334 PKPbc **PKPab 20 13 09.9 +0.3**
comp=Z,22nm,1.1s,baz=38,slow=3.1,SNR=39
KLR Kul'dur 145.43 334 *i* PKIKP **PKPbc 20 13 09.0 -0.5**
DQZ Jazzator, Alta 145.48 25 *i* PKP2 **PKPdf 20 13 08.2 -1.6**
PRZ Przheval'sk 145.62 42 PKIKP **PKPab 20 13 10.9 +0.1**
PRZ Przheval'sk 145.62 42 **PKPab 20 13 10.9 +0.1**
TARG Taragay, Kyrgy 145.62 43 **PKPab 20 13 12.0 +0.8**
UZB Uzynbulak 145.65 41 ⇑ *i* PKP **PKPdf 20 13 10.4 0.0**
comp=Z,98nm,1.8s,baz=41
UZB Uzynbulak 145.65 41 *c i* PKIKP **PKPdf 20 13 10.3 0.0**
UZB pmax pmax
comp=Z,97nm,1.8s
SHLS Shalkode 145.91 40 ⇑ *i* PKP **PKPab 20 13 12.5 +0.6**
comp=Z,68nm,1.5s,baz=40
SHLS Shalkode 145.91 40 *c i* PKP2 **PKPab 20 13 12.4 +0.6**
SHLS pmax pmax
comp=Z,68nm,1.5s
TEY Ternei 146.01 324 ⇑ *i* PKP2 **PKPab 20 13 12.8 +0.9**
TEY pmax pmax
comp=Z,30nm,1.4s
TEY pmax pmax
comp=E,10.0nm,1.2s
ZSN Zaisan 146.07 30 ⇑ *i* PKP **PKPbc 20 13 11.7 +0.1**
comp=E,182nm,4.5s,baz=30
ZSN *e*SKS **SKSdf 20 20 20.3 +1.5**
baz=30
ZSN Zaisan 146.07 30 *c i* PKP2 **PKPbc 20 13 11.7 +0.1**
ZSN *e* 20 20 20.2
IRK Irkutsk 147.36 5 *e*PKP2 **PKPbc 20 13 15.0 -0.1**
MOY Mondy 147.52 9 *e*PKP2 **PKPbc 20 13 15.9 +0.2**
MOY pmax pmax
comp=Z,75nm,2.3s
CIT Chita 147.60 355 *e*PKP2 **PKPbc 20 13 15.4 -0.5**
CIT pmax pmax
comp=Z,56nm,1.8s
TLY Talaya 147.85 6 *c i* PKP2 **PKPbc 20 13 15.2 -1.3**
TLY *e* 20 16 43.1
TLY pmax pmax
comp=Z,62nm,1.4s
FAKI Fak Fak 147.97 228 **PKPbc 20 13 18.2 +0.3**
BHK Bhakra 148.45 62 *e*P **PKiKP 20 13 19.5 -0.8**
USA0B Ussuriysk Arra 149.03 327 PKIKP **PKPdf 20 13 15.4 -0.3**
USA0B 20 13 20.7
USA0B Ussuriysk Arra 149.03 327 PKPdf **PKPdf 20 13 15.4 -0.3**
USA0B **pPKPdf 20 13 20.7 -0.5**
USRK Ussuriysk Ar. 149.03 327 PKPbc **PKiKP 20 13 20.8 -0.3**
comp=Z,16nm,1.0s,baz=42,slow=8.8,SNR=23
USRK Ussuriysk Ar. 149.03 327 PKPdf **PKPdf 20 13 16.0 +0.3**
USRK PKPbc **PKiKP 20 13 20.7 -0.3**
ZAK Zakamensk 149.09 7 *e*PKIKP **PKPdf 20 13 16.4 +0.7**
ZAK pmax pmax
comp=Z,15nm,1.5s
KLRI Killari 149.25 88 *e*PKiKP **PKPbc 20 13 21.7 +0.6**
URV Uravakonda 149.28 94 *e*PKiKP **PKPbc 20 13 21.6 +0.3**
MJAR Matsushiro Arr 149.51 309 PKPbc **PKiKP 20 13 21.9 -0.4**
comp=Z,12nm,0.9s,baz=104,slow=1.6,SNR=18
MJAR Matsushiro Arr 149.51 309 PKPdf **PKPdf 20 13 16.6 -0.1**
MJAR **PKiKP 20 13 21.9 -0.4**
MAJO Matsushiro 149.51 309 PKIKP **PKPdf 20 13 15.5 -1.2**
MAJO 20 13 21.8
MAJO MLR MLR
comp=Z,2μm,21.0s
MAJO Matsushiro 149.51 309 PKPdf **PKPdf 20 13 15.5 -1.2**
MAJO **pPKPdf 20 13 21.8 -0.5**
MAT Matsushiro 149.51 309 PKP **PKPbc 20 13 21.6 +0.3**
MJB9 Matsu-Tunnel 149.51 309 PKPdf **PKPdf 20 13 15.4 -1.4**
MJB9 **pPKPdf 20 13 21.6 -0.6**
NDI New Delhi 149.69 67 *e*P **PKPdf 20 13 18.5 +1.3**
MDJ Mudanjiang 149.90 330 PKPbc **PKiKP 20 13 22.8 0.0**
MDJ Mudanjiang 149.90 330 PKPdf **PKPdf 20 13 16.1 -0.9**
MDJ **PKiKP 20 13 22.8 0.0**
WMQ Urumqi 150.07 32 PKPbc **PKPdf 20 13 17.3 -0.2**
WMQ pPKP sPKPdf 20 13 24.0 -0.9
WMQ PKPab **sPKPbc 20 13 30.0 +0.1**
WMQ PKS **PKSdf 20 16 48.8 -3.5**
WMQ AMB AMB
comp=Z,88nm,7.3s
WMQ LR LR
comp=Z,400nm,15.9s
WMQ LR LR
comp=Z,530nm,21.3s
WMQ LR LR
comp=Z,820nm,21.3s
SIJI Sorong 150.11 229 PKPbc **PKPbc 20 13 23.6 +0.2**
comp=Z,18nm,0.7s,baz=82,slow=4.7,SNR=14
INU Inuyama 150.89 308 PKPdf **PKPdf 20 13 18.5 -0.4**
INU **PKPbc 20 13 24.8 +0.2**
HYBB Hyderabad (bro 150.99 90 *e*PKiKP **PKPbc 20 13 25.2 -0.1**
HYB Hyderabad 150.99 90 *i* PKP **PKPbc 20 13 25.0 -0.3**
SRSP Sriramsagar 151.01 86 *e*PKiKP **PKPbc 20 13 25.4 +0.1**
SRLM Srisailam 151.07 92 *e*PKiKP **PKPbc 20 13 25.7 +0.2**
SKHT Srikalahasti 151.28 97 *e*PKiKP **PKPbc 20 13 26.1 +0.1**
NJS Nagarjunasagar 151.55 92 *e*PKiKP **PKPbc 20 13 26.4 -0.2**
RPR Rampur 151.89 87 *e*PKiKP **PKiKP 20 13 27.6 -0.1**
SONM Songino Array 151.90 4 PKP **PKPdf 20 13 21.1 +0.9**
comp=Z,3.9nm,1.2s,baz=315,slow=2.6,SNR=15
SONM PKPbc **PKPbc 20 13 26.6 -0.1**
comp=Z,14nm,1.1s,baz=321,slow=0.9,SNR=32
SONM Songino Array 151.90 4 PKIKP **PKiKP 20 13 27.1 0.0**
SONM Songino Array 151.90 4 PKPdf **PKPdf 20 13 20.3 +0.1**
SONM **PKiKP 20 13 27.1 0.0**
ULN Ulaanbaatar 151.91 3 PKIKP **PKiKP 20 13 27.7 +0.6**
ULN Ulaanbaatar 151.91 3 PKPdf **PKPdf 20 13 21.0 +0.7**
ULN PKPbc **PKiKP 20 13 27.7 +0.6**
ADKI Addanki 152.03 93 *e*PKiKP **PKPbc 20 13 27.5 -0.2**
CN2 Changchun 152.38 334 *e*PKPbc **PKPdf 20 13 21.3 +0.4**
CN2 SS SS 20 36 40.8 +3.4
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,200nm,15.0s
KAPI Kappang 153.24 204 PKPbc **PKiKP 20 13 31.6 +0.9**
comp=Z,7.3nm,0.8s,baz=152,slow=1.2,SNR=2.3
KAPI Kappang 153.24 204 PKIKP **PKiKP 20 13 31.0 +0.3**
KAPI Kappang 153.24 204 **PKiKP 20 13 31.0 +0.3**
SNY Shenyang 154.78 334 ⇑ PKPbc **PKPdf 20 13 22.6 -1.8**
SNY PP **PP 20 17 29.4 +6.5**
SNY AMB AMB
comp=Z,200nm,9.6s
SNY LR LR
comp=Z,510nm,21.2s
SNY LR LR
comp=Z,250nm,18.6s
SNY LR LR
comp=Z,610nm,21.1s
KSRS Korea Array 155.90 321 PKP **PKPdf 20 13 27.0 +1.0**
comp=Z,7.2nm,1.1s,baz=38,slow=1.6,SNR=18
KSAR Wonju Array Be 155.93 321 PKIKP **PKPdf 20 13 26.1 +0.1**
KSAR Wonju Array Be 155.93 321 PKPdf **PKPdf 20 13 26.1 +0.1**
PMBI Palembang 157.07 169 IAMs_20 IAMs_20 21 03 49.4
comp=Z,321nm,18.0s
DL2 Dalian 158.04 333 PKP **PKPdf 20 13 29.8 +1.1**
DL2 PP **PP 20 17 45.5 +4.5**
DL2 SS SS 20 37 45.8 +7.1
DL2 AMB AMB
comp=Z,200nm,5.5s
DL2 LR LR
comp=Z,620nm,20.8s
DL2 LR LR
comp=Z,370nm,15.2s
DL2 LR LR
comp=Z,400nm,26.7s
GTA Gaotai 158.84 20 PKP **PKPdf 20 13 31.6 +1.7**
GTA PKPab **PKPab 20 14 07.3 +1.7**
GTA AMB AMB
comp=Z,200nm,8.3s
GTA LR LR
comp=Z,320nm,20.8s
GTA LR LR
comp=Z,410nm,23.0s
GTA LR LR
comp=Z,650nm,19.6s
BJI Beijing 158.88 345 PKP **PKPdf 20 13 31.3 +1.6**
BJI SS SS 20 37 48.8 +1.8
BJI AMB AMB
comp=Z,140nm,9.0s
BJI LR LR
comp=Z,520nm,21.6s
BJI LR LR
comp=Z,720nm,24.3s
BJI LR LR
comp=Z,720nm,21.7s
BTO Baotou 159.20 358 *e*PKP **PKPdf 20 13 30.3 +0.1**
LSA Lhasa 160.96 55 PKP2 **PKPab 20 14 15.5 -0.2**
LSA 21 13 32.9
LSA Lhasa 160.96 55 **PKPdf 20 13 32.9 -0.1**
LSA **PKPab 20 14 15.5 -0.2**
LZH Lanzhou 163.09 15 ⇑ PKP **PKPdf 20 13 37.5 +2.9**
LZH PP **PP 20 18 10.8 +2.7**
LZH SS SS 20 38 31.3 -0.2
LZH AMB AMB
comp=Z,370nm,11.4s
LZH LR LR
comp=Z,490nm,18.4s
LZH LR LR
comp=Z,520nm,17.9s
LZH LR LR
comp=Z,570nm,21.1s
SSE Sheshan 164.29 318 PKP **PKPdf 20 13 29.5 -6.1**
SSE PP **PP 20 18 15.5 +0.4**
NJ2 Nanjing 164.93 326 *e*PKP **PKPdf 20 13 36.0 -0.1**
NJ2 SS SS 20 38 56.6 +5.5
NJ2 AMB AMB
comp=Z,310nm,7.6s
NJ2 LR LR
comp=Z,700nm,18.2s
NJ2 LR LR
comp=Z,730nm,23.2s
NJ2 LR LR
comp=Z,340nm,17.1s
XAN Xi'an 165.77 1 PKP **PKPdf 20 13 38.3 +1.4**
XAN pPKP sPKPdf 20 13 47.5 +3.2
CD2 Chengdu 167.90 22 PKP **PKPdf 20 13 38.0 -0.6**
CD2 SKS **SKSdf 20 20 41.4 -0.2**
CD2 SKKS **SKKSac 20 25 20.6 0.0**
CD2 SS **SS 20 39 19.9 -0.7**
CD2 LR LR
comp=Z,2μm,19.1s
CD2 LR LR
comp=Z,1μm,21.6s
CD2 LR LR
comp=Z,2μm,21.1s
WHN Wuhan 168.24 337 PKP **PKPdf 20 13 40.3 +1.6**
WHN PKPab **sPKPab 20 14 53.8 -0.9**
WHN LR LR
comp=Z,790nm,13.8s
WHN LR LR
comp=Z,690nm,18.3s
WHN LR LR
comp=Z,2μm,22.1s
ENH Enshi 169.52 358 **PKPdf 20 13 39.6 0.0**
QZH Quanzhou 169.79 302 *i* PKP **PKPdf 20 13 41.8 +2.0**
QZH PP **PP 20 18 44.4 +0.4**
QZH AMB AMB
comp=Z,260nm,7.8s
QZH LR LR
comp=Z,450nm,19.0s
QZH LR LR
comp=Z,720nm,20.4s
QZH LR LR
comp=Z,840nm,21.4s
CMAR Chiang Mai Arr 170.33 96 PKP **PKPdf 20 13 40.6 +0.2**
comp=Z,1.8nm,0.9s,baz=296,slow=2.1,SNR=12
CMAR PKPab **PKPab 20 14 56.4 -0.5**
comp=Z,2.3nm,0.9s,baz=260,slow=5.8,SNR=9.7
CMAR PP **PP 20 18 50.6 +3.2**
comp=Z,1.7nm,1.1s,baz=292,slow=7.5,SNR=4.9
CMAR Chiang Mai Arr 170.33 96 PKP2 **PKPab 20 14 56.2 -0.6**
CMAR 21 13 40.5
CMAR Chiang Mai Arr 170.33 96 **PKPdf 20 13 40.5 +0.1**
CMAR PKPab **PKPab 20 14 56.2 -0.6**
CHTO Chiang Mai 170.38 94 PKIKP **PKPdf 20 13 40.5 +0.1**
CHTO 20 14 56.9
CHTO Chiang Mai 170.38 94 **PKPdf 20 13 40.5 +0.1**
CHTO PKPab **PKPab 20 14 56.9 -0.1**
KMI Kunming 172.07 46 ⇑ PKP **PKPdf 20 13 41.6 +0.2**
KMI Kunming 172.07 46 PKIKP **PKPdf 20 13 42.4 +1.1**
KMI Kunming 172.07 46 PKPdf **PKPdf 20 13 42.4 +1.1**
GYA Guiyang 172.96 18 PKP **PKPdf 20 13 42.8 +1.2**
GYA PKPab **PKPab 20 15 08.8 +0.7**
GYA SKKS 20 25 47.6
GYA AMB AMB
comp=Z,370nm,9.6s
GYA LR LR
comp=Z,390nm,21.0s
GYA LR LR
comp=Z,250nm,19.5s
GYA LR LR
comp=Z,340nm,24.3s
SLVN Son La 174.90 71 **PKPdf 20 13 43.5 +1.2**
QIZ Qiongzhong 178.98 225 PKP **PKPdf 20 13 42.3 -0.7**
QIZ PP **PP 20 19 29.5 +1.5**
QIZ SKKS 20 26 17.1

QIZ					SS	SS	20 41 13.1	+3.5
QIZ					AMB	AMB		
	comp=Z,390nm,9.0s							
QIZ					LR	LR		
	comp=Z,1µm,18.1s							
QIZ					LR	LR		
	comp=Z,2µm,23.5s							
QIZ					LR	LR		
	comp=Z,1µm,17.2s							

NEIC 20 19:53:54.9±2.4, 13°2'N±0°1'×92°4'W±0°1', h41km±24km, Md4.0/12(MEX), Error ellipse: s-maj=17.7km s-min=14.5km az=219.0, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		2.65	343		Pn	19 54 24.3	-11
CCIG	Comitan	3.12	5		Pn	19 54 42.7	+0.9
CCIG					Sn	19 55 16.4	-1.6
MTO3	Montecristo	3.21	67		Pn	19 54 45.7	+2.6
TGIG		3.67	349		Pn	19 54 50.0	+0.8
TGUH	Tegucigalpa,Un	5.08	79	Pn	Pn	19 55 08.5	-0.2
TEIG	Tepich	8.07	29	Pn	Pn	19 55 49.6	0.0
061Z	Ochoppi	16.64	39	P	P	19 57 46.6	-0.6
545A	Edgard	16.90	6		P	19 57 50.1	+0.1

IDC 20 19:57:24.0±1.2, 19°.58S×70°.76W, h0km, mb4.2/5, mb1 4.4/6, mb1mx4.0/40, mbtmp4.2/6, Error ellipse: s-maj=43.9km s-min=27.0km az=80.0
GUC 20 19:57:26.2±0.8, 19°.78S×71°.05W, h32km±3km, ML4.3
NEIC 20 19:57:27.9±2.0, 19°.81S±0°.03×70°.89W±0°.06, h29km±5km, ML4.2(GUC), Error ellipse: s-maj=8.7km s-min=4.3km az=88.0
ISC 20 19:57:25.4±1.4, 19°.73S±0°.03×70°.91W±0°.05, h12km±9km, n51, σ1s20/57, mb4.4/5, 2C-4D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	Pisagua	0.75	80	eP	Pn	19 57 40.8	-1.0
PSGC				i S	Sn	19 57 52.6	-0.5
PSGCX	Pisagua	0.75	80	Pn	Pn	19 57 41.2	-0.7
PSGCX				Sn	Sn	19 57 52.6	-0.5
TA02	Huaiquique	0.91	127	⇓iP	Pb	19 57 43.4	+0.3
TA02				i S	Sn	19 57 56.7	-0.2
TA02				IAML		19 57 58.1	
	comp=N,19µm,0.2s						
TA01	Diego Aracena	1.08	141	⇓iP	Pb	19 57 45.2	-0.7
TA01				i S	Sb	19 57 59.7	-0.2
TA01				IAML		19 58 06.2	
	comp=E,6µm,0.4s						
TA01	Diego Aracena	1.08	141	Pn	Pb	19 57 45.4	-0.6
TA01				Sn	Sb	19 57 59.1	-0.8
PB11	IPOC Station P	1.18	92	⇓iP	Pg	19 57 47.8	-0.2
PB11				i S	Sn	19 58 05.2	+1.4
PB11				IAML		19 58 10.5	
	comp=N,6µm,0.3s						
PB11	IPOC Station P	1.18	92	Pn	Pg	19 57 48.0	-0.1
PB11				Sn	Sn	19 58 05.1	+1.2
PB12	IPOC Station P	1.23	26	eP	Pg	19 57 48.8	-0.3
PB12				i S	Sn	19 58 06.2	+1.0
PB12				IAML		19 58 13.1	
	comp=N,3µm,0.4s						
PB12	IPOC Station P	1.23	26	Pn	Pg	19 57 49.0	-0.1
PB12				Sn	Sn	19 58 07.2	+2.1
MNMC	Minye Minye	1.37	65	⇓iP	Pg	19 57 52.0	+0.2
MNMC				i S	Sg	19 58 12.0	+2.4
MNMC				IAML		19 58 19.4	
	comp=E,11µm,0.4s						
MNMC	Minye Minye	1.37	65	Pn	Pg	19 57 52.2	+0.4
AP01	Chacalluta	1.45	22	IAML		19 58 16.1	
	comp=E,11µm,0.8s						
AP01	Chacalluta	1.45	22	Pn	Pg	19 57 52.9	-0.3
AP01				Sn	Sg	19 58 13.8	+1.6
GO01	Chusmiza	1.61	88	⇑iP	Pb	19 57 55.0	-0.4
GO01				i S	Sg	19 58 18.4	+1.0
GO01	Chusmiza	1.61	88	Pn	Pb	19 57 55.0	-0.4
GO01				Sn	Sg	19 58 18.0	+0.6
PB08	IPOC Station P	1.70	104	⇑iP	Pn	19 57 55.7	+0.5
PB08				i S	Sg	19 58 19.5	-0.6
PB08				IAML		19 58 22.2	
	comp=N,3µm,0.3s						
PB08	IPOC Station P	1.70	104	Pn	Pb	19 57 55.9	-0.9
PB02	IPOC Station P	1.85	149	IAML		19 58 28.7	
	comp=E,9µm,0.2s						
PB01	IPOC Station P	1.87	135	IAML		19 58 29.0	
	comp=N,5µm,0.4s						
PB01	IPOC Station P	1.87	135	Pn	Pn	19 57 57.7	+0.5
PB07	IPOC Station P	2.21	155	IAML		19 58 50.5	
	comp=E,2µm,0.5s						
PB07	IPOC Station P	2.21	155	Pn	Pn	19 58 03.3	+1.3
PB03	IPOC Station P	2.55	155	IAML		19 58 50.2	
	comp=E,1µm,0.6s						
PB09	IPOC Station P	2.58	143	IAML		19 58 55.4	
	comp=E,2µm,0.5s						
PB09	IPOC Station P	2.58	143	Pn	Pn	19 58 08.4	+1.2
PB04	IPOC Station P	2.69	165	IAML		19 58 57.2	
	comp=E,2µm,0.5s						
PB04	IPOC Station P	2.69	165	Pn	Pn	19 58 11.4	+2.8
PB05	IPOC Station P	3.18	168	IAML		19 59 16.0	
	comp=E,689nm,0.3s						
PB06	IPOC Station P	3.21	157	IAML		19 59 13.8	
	comp=E,623nm,0.4s						
PB06	IPOC Station P	3.21	157	Pn	Pn	19 58 17.8	+1.9
LVC	Limon Verde	3.42	147	Pn	Pn	19 58 21.4	+2.6
	baz=332,slow=15,SNR=0.6						
LVC				Sn	Sn	19 59 00.2	+0.7
	comp=E,39nm,0.3s,baz=112,slow=19,SNR=1.4						
LVC				Lg	Lg	19 59 12.1	
	comp=E,39nm,0.3s,baz=66,slow=22,SNR=3.2						
LVC	Limon Verde	3.42	147		Pb	19 58 23.1	-3.0
PB15	IPOC Station P	3.71	159	Pn	Pn	19 58 22.0	-0.8
PB10	IPOC Station P	3.78	175	Pn	Pn	19 58 23.6	+0.1
LPAZ	La Paz	4.32	38	Pn	Pb	19 58 39.0	-2.6
AC01	Pan de Azucar	6.40	178	Pn	Pn	19 58 58.0	-1.4
AC02	Maricunga	7.26	167	Pn	Pn	19 59 12.2	+0.5
BI02	San Fabin de	16.88	181	P	P	20 01 24.1	+0.5
PLCA	Paso Flores	20.94	179	P	P	20 02 06.5	-1.6
PTGA	Pitinga	21.71	31	P	P	20 02 15.1	-1.3
	comp=E,6.8nm,0.3s,baz=131,slow=16,SNR=5.9						
PTGA	Pitinga	21.71	31	P	P	20 02 15.4	-1.0
GO07	Milladeo Hill,	23.43	185	P	P	20 02 34.0	-0.4
ACON	Acoyapa	34.49	335		P	20 04 14.3	+0.9
TXAR	Lajitas Array	58.12	326	P	P	20 07 19.6	+0.5
	comp=E,0.4nm,0.8s,baz=159,slow=8.5,SNR=2.0						
TXAR	Lajitas Array	58.12	326	P	P	20 07 20.1	+1.1
QSPA	South Pole Qui	70.45	180	P	P	20 08 40.5	+1.0
	comp=E,2.1nm,0.9s,baz=130,slow=8.2,SNR=2.2						
TORD	Torodi Ar. Bea	78.55	72	P	P	20 09 26.1	-1.2
	comp=E,5.8nm,1.1s,baz=260,slow=5.2,SNR=4.2						
TORD	Torodi Ar. Bea	78.55	72	P	P	20 09 26.2	-1.0
YKA	Yellowknife Ar	88.91	341	P	P	20 10 19.4	+0.2
	comp=E,2.4nm,1.0s,baz=139,slow=3.8,SNR=3.7						
MKAR	Makanchi Array	145.23	33	PKPbc	PKPdf	20 17 02.8	-0.2
	comp=E,1.2nm,0.8s,baz=325,slow=4.9,SNR=3.8						
MKAR	Makanchi Array	145.23	33		PKPab	20 17 02.7	-0.1

SJA 20 20:01:24.0±1.4, 19°.88S×70°.99W, h16km±19km, ML3.8, MW3.9
GUC 20 20:01:26.9±0.8, 19°.79S×70°.94W, h38km±2km, ML3.9
ISC 20 20:01:23.4±2.1, 19.79S±0°.04×71.03W±0°.07, h2km±16km, n28, σ1s04/35, 7C-2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	Pisagua	0.88	78	⇓iP	Pb	20 01 41.5	+0.2
PSGC				i S	Sb	20 01 52.6	-1.0
PSGCX	Pisagua	0.88	78	i P	Pb	20 01 41.5	+0.1
PSGCX				eS	Sb	20 01 53.4	-0.2
PSGCX				IAML		20 01 55.0	
	comp=Z,1µm,0.3s						
TA01	Diego Aracena	1.11	134	⇑iP	Pb	20 01 46.0	+0.6
TA01				i S	Sb	20 01 59.8	-0.5
TA01				IAML		20 02 03.1	
	comp=E,2µm,0.3s						
PB11	IPOC Station P	1.30	89	⇓iP	Pg	20 01 48.4	+0.2
PB11				i S	Sb	20 02 04.9	-0.8
PB11				IAML		20 02 10.5	
	comp=N,5µm,0.2s						
PB11	IPOC Station P	1.30	89	i P	Pg	20 01 48.5	+0.2
PB11				eS	Sb	20 02 04.9	-0.8
PB11				IAML		20 02 06.5	
	comp=Z,3µm,0.3s						
PB12	IPOC Station P	1.34	30	⇑iP	Pn	20 01 49.7	+0.5
PB12				i S	Sb	20 02 07.7	+0.7
PB12				IAML		20 02 13.0	
	comp=N,2µm,0.4s						
PB12	IPOC Station P	1.34	30	i P	Pn	20 01 50.0	+0.8
PB12				IAML		20 02 17.0	
	comp=Z,876nm,0.7s						
MNMC	Minye Minye	1.50	65	⇑iP	Pn	20 01 52.3	+0.7
MNMC				i S	Sg	20 02 11.5	-0.3
MNMC				IAML		20 02 19.4	
	comp=E,7µm,0.2s						
MNMCX	Minye Minye	1.50	65	i P	Pb	20 01 52.5	+0.3
MNMCX				IAML		20 02 16.8	
	comp=Z,3µm,0.7s						
AP01	Chacalluta	1.55	25	⇑iP	Pn	20 01 53.4	+1.4
AP01				i S	Sg	20 02 14.6	+1.3
GO01	Chusmiza	1.73	86	⇑iP	Pn	20 01 55.6	+0.7
GO01				i S	Sg	20 02 18.2	-1.0
GO01				IAML		20 02 21.4	
	comp=N,6µm,0.2s						
PB08	IPOC Station P	1.80	102	⇑iP	Pn	20 01 56.3	+0.5
PB08				i S	Sb	20 02 19.9	-0.6
PB08				IAML		20 02 20.8	
	comp=N,2µm,0.2s						
PB08	IPOC Station P	1.80	102	i P	Pn	20 01 56.4	+0.6
PB08				IAML		20 02 23.4	
	comp=Z,745nm,0.5s						
PB02	IPOC Station P	1.86	145	IAML		20 02 27.0	
	comp=E,4µm,0.3s						
PB02	IPOC Station P	1.86	145	i P	Pn	20 01 56.8	+0.4
PB02				IAML		20 02 32.2	
	comp=Z,2µm,0.4s						
PB01	IPOC Station P	1.91	131	⇑iP	Pn	20 01 57.9	+0.8
PB01				IAML		20 02 28.9	
	comp=N,2µm,0.6s						
PB07	IPOC Station P	2.21	151	IAML		20 02 40.4	
	comp=E,695nm,0.4s						
PB07	IPOC Station P	2.21	151	i P	Pn	20 02 01.6	+0.4
PB07				IAML		20 02 42.0	
	comp=Z,551nm,0.6s						
PB03	IPOC Station P	2.55	152	i P	Pn	20 02 06.2	+0.3
PB03				IAML		20 02 57.2	
	comp=Z,407nm,0.6s						
PB09	IPOC Station P	2.61	140	i P	Pn	20 02 09.1	+2.3
PB09				IAML		20 02 55.2	
	comp=Z,713nm,0.7s						
PB04	IPOC Station P	2.67	162	IAML		20 02 57.9	
	comp=E,709nm,0.6s						
PB04	IPOC Station P	2.67	162	i P	Pn	20 02 07.2	-0.3
PB04				IAML		20 03 02.9	
	comp=Z,324nm,0.7s						
PB05	IPOC Station P	3.15	166	i P	Pn	20 02 13.9	-0.2
PB05				IAML		20 03 22.2	
	comp=Z,164nm,0.8s						
PB06	IPOC Station P	3.21	155	i P	Pn	20 02 14.8	-0.2
PB06				IAML		20 03 11.2	
	comp=Z,354nm,0.7s						
LVC	Limon Verde	3.44	145	i P	Pn	20 02 20.4	+2.1
LVC				IAML		20 03 20.9	
	comp=Z,120nm,0.7s						
PB15	IPOC Station P	3.70	157	i P	Pn	20 02 23.1	+1.3
PB15				IAML		20 03 29.9	
	comp=Z,360nm,0.3s						
PB10	IPOC Station P	3.73	173	i P	Pn	20 02 21.7	-0.3
PB10				IAML		20 04 11.3	
	comp=Z,73nm,4.4s						
LPAZ	La Paz	4.44	39	i P	Pb	20 02 39.5	-3.0

NNC 20 20:06:47.7±0.6, 44°.27N×79°.59E, h6km±6km, mb2.6, mpv2.5, Error ellipse: s-maj=7.2km s-min=4.2km az=107.0
SOME 20 20:06:48.5, 44°.28N×79°.62E, h10km
ISC 20 20:06:48.3±0.9, 44°27N±0°.02×79°59E±0°.03, h9km±8km, n18, σ0s60/36, 2C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	Jarkent	0.16	66	eP	Pg	20 06 51.9	+0.1
DJR	16nm,0.1s			eS	Sg	20 06 54.2	0.0
	22nm,0.1s						
DJR	Jarkent	0.16	66	P	Pg	20 06 51.9	+0.1
DJR	16nm,0.1s			S	Sg	20 06 54.2	0.0
	33nm,0.1s						
MNBS	Baschi	0.87	258	eP	Pg	20 07 05.2	+0.1
MNBS	1.8nm,0.1s			eS	Sg	20 07 17.1	+0.6
	5.7nm,0.1s						
MNBS	Baschi	0.87	258	P	Pg	20 07 05.2	+0.1
MNBS	1.8nm,0.1s			S	Sg	20 07 17.1	+0.6
	5.7nm,0.1s						
PDGK	Podgornoye	0.94	184	⇑P	Pg	20 07 06.0	-0.4
PDGK	0.8nm,0.7s			⇓S	Sg	20 07 18.8	+0.2
	1.3nm,0.4s						
KTMS	Ketmen	0.99	146	eP	Pg	20 07 06.8	-0.6
KTMS				eS	Sg	20 07 19.2	-1.0
KAPS	Kapalarasan	1.03	351	eP	Pg	20 07 07.6	-0.5
KAPS	0.1nm,0.1s			eS	Sg	20 07 20.9	-0.7
	1.4nm,0.1s						
KAPS	Kapalarasan	1.03	351	P	Pg	20 07 07.4	-0.8
KAPS	0.3nm,0.2s			S	Sg	20 07 20.7	-0.9
	2.5nm,0.2s						
KPKS	Kokpek	1.03	219	eP	Pb	20 07 08.4	0.0
KPKS	5.4nm,0.1s			eS	Sb	20 07 22.7	+0.5
	11nm,0.2s						
SHLS	Shalkode	1.11	185	eP	Pg	20 07 09.7	0.0
SHLS				eS	Sb	20 07 24.6	+0.1
UZB	Uzynbulak	1.19	200	eP	Pg	20 07 10.8	-0.4
UZB	2.0nm,0.2s			eS	Sg	20 07 26.8	+0.1
	5.2nm,0.1s						
UZB	Uzynbulak	1.19	200	P	Pg	20 07 10.9	-0.4
UZB	2.0nm,0.2s			S	Sg	20 07 26.8	+0.1
	7.1nm,0.2s						
ARXS	Arharly	1.26	268	eP	Pb	20 07 12.4	0.0
ARXS	2.6nm,0.3s			eS	Sg	20 07 29.2	+0.2
	4.8nm,0.3s						
ARXS	Arharly	1.26	268	P	Pb	20 07 12.4	0.0
ARXS	2.6nm,0.3s			S	Sg	20 07 29.2	+0.2
	4.8nm,0.3s						
SATY	Saty	1.48	216	eP	Pg	20 07 16.7	0.0
SATY	2.4nm,0.1s			eS	Sg	20 07 36.6	+0.7
	8.7nm,0.2s						
SATY	Saty	1.48	216	P	Pg	20 07 16.7	0.0
SATY	2.4nm,0.1s			S	Sg	20 07 36.6	+0.7
	8.7nm,0.2s						
MDOK	Medeo	2.15	240	⇓P	Pn	20 07 23.7	-0.8
MDOK	0.8nm,0.4s			⇑S	Sn	20 07 50.1	-1.2
	1.1nm,0.6s						
MK31	Makanchi Array	3.16	36	⇓Pn	Pn	20 07 39.0	+0.7
MK31	1.1nm,0.9s			⇓Sn	Sn	20 08 18.0	+1.8
	0.7nm,0.8s,baz=214,slow=28,SNR=4.8						

UCR 20 20:10:44.5±2.0, 9°.51N×83°.13W, h3km, MD3.8, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK0	Durika	0.28	205	eP	Pb	20 10 51.1	-1.1
EDBA	Buenos Aires	0.38	203	i P	Pb	20 10 53.2	-0.7
EDBA				i S	Sb	20 11 00.2	0.0
EDLM	Las Mercedes	0.51	243	eP	Pg	20 10 55.2	+0.9
EDLM				i S	Sb	20 11 03.5	-0.6
RGM0	Gandoca	0.52	81	eP	Pg	20 10 55.1	+0.7
EDPN	Palmar Norte	0.64	211	eP	Pb	20 10 58.5	+0.3
EDDO	Dominical	0.77	251	eP	Pb	20 11 00.7	+0.1
CVTR	Volcan Turrial	0.80	309	eP	Pg	20 10 60.0	0.0
BRU2	Volcan	0.83	149	eP	Pg	20 10 59.7	-0.8
LCR2	La Lucha 2	0.89	285	eP	Pg	20 11 01.6	-0.1
SJS	Escuela Geolog	1.01	295	eP	Pg	20 11 03.5	-0.3
HDC	Heredia	1.09	297	eP	Pg	20 11 02.4	-3.0
SRA1	San Ramn	1.45	293	eP	Pn	20 11 10.8	-1.0
FORC	Fortuna	1.79	302	i P	Pn	20 11 16.7	+0.3
FORC				i S	Sb	20 11 40.9	0.0
CASO	Castillo	1.83	300	i P	Pn	20 11 17.1	+0.2
CASO				i S	Sb	20 11 42.4	+0.4
ARE1	Arenal 1	1.83	301	eP	Pn	20 11 17.8	+0.9
CEDE	Laguna Cedeo	1.83	302	eP	Pn	20 11 17.2	+0.2
JTS	Las Juntas de	1.96	293	eP	Pn	20 11 18.8	+0.1
CUI	Cuipilapa	2.31	300	i P	Pn	20 11 24.7	+1.2
CUI				i S	Sb	20 11 55.2	-0.6
PLVR	Palo Verde	2.34	291	eP	Pn	20 11 25.1	+0.9
HORNC	Hornillas	2.35	301	i P	Pn	20 11 25.2	+1.1
GUAI	GUAI	2.47	288	i P	Pn	20 11 26.5	+0.8
LAPC	Finca la Perla	2.59	299	i P	Pn	20 11 29.2	+1.8
LAPC				i S	Sb	20 12 04.1	+0.2

MAN 20 20:13:58.7, 7°.38N×126°.48E, h141km, mb4.8, ML3.8, MS3.7
NEIC 20 20:13:59.7±1.4, 7°.33N±0°.07×126°.59E±0°.10, h167km±6km, mb4.5/49, Error ellipse: s-maj=14.8km s-min=10.0km az=69.0
DJA 20 20:13:59.9±1.4, 7°N±12°×12°7E±°, h167km±18km, M4.5/13, mb4.6/13, mB4.8/7, mb4.6/1, MLv4.7/7, Mw(mB)4.1/7
IDC 20 20:13:59.1±3.6, 7°.34N×126°.45E, h158km±35km, mb3.7/13, mb1 3.8/16, mb1mx3.6/47, mbtmp4.2/16, Error ellipse: s-maj=25.9km s-min=12.3km az=74.0
ISC 20 20:13:58.5±0.6, 7°.36N±0°.04×126°.52E±0°.06, h155km±6km, n98, σ1s57/113, mb4.4/35, 5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	Bislig	0.84	349	⇓iP	Pn	20 14 23.1	+0.7
BIPH				i S	Sn	20 14 39.6	-1.2
DMPH	Davao City--Mi	1.04	255	eP	Pn	20 14 26.4	+2.4
DMPH				i S	Sn	20 14 46.3	+2.8
KCP	Kidapawan	1.46	256	⇓iP	Pn	20 14 27.8	-0.2
KCP				i S	Sn	20 14 52.0	+1.3
DDMP	Don Marcelino,	1.48	213	eP	Pn	20 14 27.3	-0.9
DDMP				eS	Sn	20 14 47.8	-3.2
BUKP	Musuan	1.54	290	eP	Pn	20 14 28.7	-0.1
BUKP				eS	Sn	20 14 45.3	-6.8
GSPH	General Santos	2.01	231	⇓iP	Pn	20 14 32.6	-1.4
GSPH				i S	Sn	20 14 59.4	-2.0
CGP	Cagayan de Oro	2.11	301	⇓eP	Pn	20 14 33.2	-2.0
CGP				eS	Sn	20 15 01.9	-1.6
SKMP	Bagumbayan, Su	2.13	247	eP	Pn	20 14 34.1	-1.3
SKMP				eS	Sn	20 15 03.4	-0.5
SCPH	Surigao	2.62	337	⇓eP	Pn	20 14 43.9	+2.7
PAGZ	Pagadian	3.15	279	eP	Pn	20 14 48.2	+0.3
MSLP	Maasin	3.21	329	eP	Pn	20 14 48.7	0.0
MSLP				eS	Sn	20 15 27.0	-0.7
SNPH	Sibulan	3.80	302	eP	Pn	20 14 56.7	+0.4
CNP	Catarman	5.44	340	eP	Pn	20 15 18.1	+0.3
CNP				eS	Sn	20 16 14.0	-5.9
TNTI	Ternate	6.59	173	P	Pn	20 15 32.2	-1.0
	0.3nm936nm84nm,0.7s						
TNTI	Ternate	6.59	173		Pn	20 15 31.9	-1.2
KMSI	Cibinong	7.20	201	P	Pn	20 15 41.6	+0.4
	0.4nm1µm157nm,0.8s						
MRSI	Marisa	8.22	214	P	Pn	20 15 54.7	-0.1
	608nm44nm,0.5s						
LUWI	Luwuk	9.14	204	P	Pn	20 16 07.0	-0.1
	68nm,1.0s						
LUWI	Luwuk	9.14	204	Pn	Pn	20 16 10.8	+3.7
SANI	Sanana	9.36	183	P	Pn	20 16 04.4	-5.6
SIJI	Sorong	9.44	150	P	Pn	20 16 11.2	+0.1
	4.3nm,0.3s,baz=338,slow=17,SNR=32						
SIJI				S	Sn	20 17 50.1	-5.9
	0.8nm,0.3s,baz=17,slow=19,SNR=2.0						
NLAI	Namlea	10.54	177	P	Pn	20 16 23.5	-2.1
	53nm,0.7s						
FAKI	Fak Fak	11.70	151		Pn	20 16 43.0	+2.2
SBUM	Sibu	15.05	252	P	P	20 17 26.0	+1.0
SMPI	Sarmi	15.30	127	P	P	20 17 31.3	+3.5
TPUB	Ta-pu	16.84	341	Pn	Pn	20 17 48.4	+3.2
SOEI	Soe	17.14	188	P	Pn	20 17 49.2	+0.1
SOEI				IAmb	IAmb	20 18 22.3	
	comp=Z,28nm,1.1s						
SSLB	Suanglung	17.19	343	P	Pn	20 17 50.8	+1.4
JAY	Jayapura	17.22	124	P	Pn	20 17 49.9	0.0
	comp=Z,0.6nm,0.3s,baz=229,slow=4.4,SNR=6.7						
BATI	Baumata	17.68	189	P	Pn	20 17 55.5	+0.2
	comp=Z,3.1nm,0.3s,baz=69,slow=3.9,SNR=5.4						
QIZ	Qiongzhong	19.93	307	P	P	20 18 19.7	+1.2
JAGI	Jajag, Banyuwa	19.98	218	P	P	20 18 17.2	-1.8
MTN	Manton Dam	20.58	167	P	P	20 18 25.4	0.0
MTN				IAmb	IAmb	20 18 25.9	
	comp=Z,26nm,1.4s						
KNRA	Kununurra	22.99	174	P	P	20 18 50.1	+0.3
KNRA				IAmb	IAmb	20 19 17.1	
	comp=Z,18nm,1.4s						
JCJ	Chichijima	24.63	35	P	P	20 19 02.0	-2.7
FITZ	Fitzroy Crossi	25.31	182	P	P	20 19 11.6	+0.8
	comp=Z,1.7nm,0.5s,baz=354,slow=7.0,SNR=11						
FITZ	Fitzroy Crossi	25.31	182	P	P	20 19 11.2	+0.3
JNU	Nakatsue	25.96	8	P	P	20 19 17.1	+0.4
COEN	Coen	26.86	142	P	P	20 19 28.7	+3.8
COEN				IAmb	IAmb	20 19 32.7	
	comp=Z,28nm,1.6s						
WB0	Warramunga Arr	28.04	164	P	P	20 19 34.9	-0.5
WB0				IAmb	IAmb	20 19 39.6	
	comp=Z,11nm,1.4s						
WRA	Warramunga Arr	28.20	164	P	P	20 19 37.0	+0.2
	comp=Z,0.4nm,0.6s,baz=343,slow=8.2,SNR=7.6						
WRA	Warramunga Arr	28.20	164	P	P	20 19 36.2	-0.6
WB2	Warramunga Arr	28.20	164	P	P	20 19 37.7	+0.9
WB2				IAmb	IAmb	20 19 56.9	
	comp=Z,13nm,1.5s						
WR0	Warramunga Arr	28.27	164	P	P	20 19 37.1	-0.3
WR0				IAmb	IAmb	20 20 15.4	
	comp=Z,20nm,1.5s						
INU	Inuyama	29.48	18	P	P	20 19 47.7	-0.3
INU				IAmb	IAmb	20 19 56.9	
	comp=Z,14nm,1.4s						
PSA00	Pilbara Seismi	29.48	193	P	P	20 19 48.4	+0.3
PSA00				IAmb	IAmb	20 20 18.6	
	comp=Z,10.0nm,1.2s						
XAN	Xi'an	31.13	331	P	P	20 20 02.4	-0.2
XAN				IAmb	IAmb	20 20 04.1	
	comp=Z,5.3nm,0.6s						
ASAR	Alice Springs	31.66	167	P	P	20 20 07.2	-0.2
	comp=Z,0.4nm,0.4s,baz=341,slow=7.5,SNR=23						
ASAR				PcP	PcP	20 22 56.1	+0.4
	comp=Z,0.6nm,0.7s,baz=350,slow=2.6,SNR=6.9						
ASAR	Alice Springs	31.66	167	P	P	20 20 06.9	-0.5
ASAR					PcP	20 22 55.9	+0.1
ASAJ	Asahikawa	39.22	18	P	P	20 21 12.4	+0.8
	comp=Z,1.2nm,0.4s,baz=255,slow=7.3,SNR=4.6						
JKA	Kamikawa-asahi	39.22	18	P	P	20 21 10.7	-0.9
GTA	Gaotai	39.93	327	P	P	20 21 18.8	+1.1
GTA				pmax	pmax		

PETK	**Petropavlovsk-**	**52.19**	**23**	P		**P**		**20 22 54.2**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=182,slow=6.9,SNR=4.3								
PETK	**Petropavlovsk-**	**52.19**	**23**	P		**P**		**20 22 54.1**	**+0.9**
MK31	**Makanchi Array**	**54.50**	**324**	P		**P**		**20 23 11.0**	**+0.7**
MK31				IAmb	IAmb		20 23 11.7		
	comp=Z,4.3nm,0.7s								
MK31				PcP		**PcP**		**20 24 12.6**	**+0.9**
MKAR	**Makanchi Array**	**54.50**	**324**	P		**P**		**20 23 10.8**	**+0.6**
	comp=Z,4.4nm,0.5s,baz=117,slow=7.3,SNR=63								
MKAR				PcP		**PcP**		**20 24 12.1**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=110,slow=4.4,SNR=7.5								
MKAR	**Makanchi Array**	**54.50**	**324**	P		**P**		**20 23 10.5**	**+0.3**
MKAR						**PcP**		**20 24 11.8**	**+0.1**
MAKZ	**Makanchi**	**54.69**	**324**	P		**P**		**20 23 12.0**	**+0.4**
MAKZ				IAmb	IAmb		20 23 13.0		
	comp=Z,8.9nm,1.1s								
MAKZ				PcP		**PcP**		**20 24 12.6**	**+0.2**
KDJ	**Kajisay**	**55.55**	**317**	P		**P**		**20 23 19.0**	**+1.0**
KDJ				IAmb	IAmb		20 23 19.7		
	comp=Z,10nm,0.9s								
NIL	**Nilore**	**55.60**	**306**	P		**P**		**20 23 19.3**	**+0.9**
ZAA0	**Zalesovo Array**	**57.29**	**332**	P		**P**		**20 23 29.7**	**-0.2**
ZALV	**Zalesovo Beam**	**57.29**	**332**	P		**P**		**20 23 29.4**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=126,slow=7.1,SNR=11								
ZALV	**Zalesovo Beam**	**57.29**	**332**	P		**P**		**20 23 29.6**	**-0.3**
KURK	**Kurchatov**	**58.61**	**326**	P		**P**		**20 23 39.5**	**+0.4**
KURK				IAmb	IAmb		20 23 40.4		
	comp=Z,6.3nm,0.8s								
KBL	**Kabul**	**59.20**	**306**	P		**P**		**20 23 44.5**	**+0.7**
KBL				IAmb	IAmb		20 23 44.5		
	comp=Z,3.6nm,0.7s								
BTK	**Batken**	**59.30**	**312**	P		**P**		**20 23 44.9**	**+0.7**
GAR	**Garm**	**59.36**	**311**	P		**P**		**20 23 45.2**	**+0.4**
CHGR	**Chuyangaron**	**60.14**	**311**	P		**P**		**20 23 50.0**	**0.0**
CHGR				IAmb	IAmb		20 23 57.8		
	comp=Z,5.7nm,0.7s								
KK31	**Karatay Array**	**60.48**	**316**	P		**P**		**20 23 52.0**	**-0.2**
KK31				IAmb	IAmb		20 23 53.2		
	comp=Z,3.7nm,0.7s								
KKAR	**Karatay Array**	**60.48**	**316**	P		**P**		**20 23 52.1**	**0.0**
KKAR				IAmb	IAmb		20 23 53.1		
	comp=Z,3.7nm,0.7s								
KKAR	**Karatay Array**	**60.48**	**316**	P		**P**		**20 23 51.8**	**-0.3**
BRVK	**Borovoye**	**64.27**	**326**	P		**P**		**20 24 16.7**	**-0.4**
BRVK				IAmb	IAmb		20 24 18.3		
	comp=Z,6.5nm,0.8s								
GEYT	**Alibeck**	**68.50**	**308**	P		**P**		**20 24 44.8**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=159,slow=5.7,SNR=4.3								
GEYT	**Alibeck**	**68.50**	**308**	P		**P**		**20 24 44.2**	**-0.2**
ABKAR	**Akbulak array**	**69.24**	**320**	P		**P**		**20 24 48.2**	**-0.4**
ARU	**Arti**	**71.79**	**327**	P		**P**		**20 25 03.6**	**-0.3**
ARU				IAmb	IAmb		20 25 04.5		
	comp=Z,8.0nm,0.7s								
PAF	**Port-aux-Franc**	**74.72**	**214**	P		**P**		**20 25 20.9**	**-0.2**
CNBA	**Chernabura Isl**	**74.75**	**35**	P		**P**		**20 25 20.9**	**-0.4**
RAYN	**Ar Rayn**	**78.89**	**292**	P		**P**		**20 25 45.0**	**-0.3**
RIDG	**Independent Ri**	**82.85**	**27**	P		**P**		**20 26 05.9**	**+0.4**
TGL	**Tana Glacier**	**83.96**	**30**	P		**P**		**20 26 09.3**	**-1.9**
ARCES	**ARCESS Array B**	**87.00**	**340**	P		**P**		**20 26 25.2**	**-0.7**
	comp=Z,6.2nm,0.9s,baz=67,slow=6.7,SNR=4.4								
ARCES	**ARCESS Array B**	**87.00**	**340**	P		**P**		**20 26 26.1**	**+0.1**
FINES	**FINESS Array B**	**88.56**	**332**	P		**P**		**20 26 33.1**	**-0.4**
	comp=Z,1.7nm,0.9s,baz=64,slow=4.5,SNR=8.3								
FINES	**FINESS Array B**	**88.56**	**332**	P		**P**		**20 26 33.4**	**-0.1**
AKASG	**Malin Array Be**	**88.97**	**321**	P		**P**		**20 26 35.0**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=64,slow=5.0,SNR=3.3								
AKASG	**Malin Array Be**	**88.97**	**321**	P		**P**		**20 26 35.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**121.54**	**290**	PKP		**PKPdf**		**20 32 34.4**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=61,slow=1.9,SNR=2.1								

MOS ***20*** *20:22:26.4±1.4, 19˚.58S×70˚.99W, h10km, mb5.2/13, MS5.4/59, Error ellipse: s-maj=10.5km s-min=5.2km az=103.9*

NEIC ***20*** *20:22:27.1±1.6, 19˚.81S±0˚.04×71˚.00W±0˚.04, h12km±2km, mb5.7/491, Ms_20 5.5/745, Mwb5.8/38, Mwr5.8/43, Mww5.8, ML5.4(GUC), Mwc5.9(GCMT), Error ellipse: s-maj=5.6km s-min=4.9km az=166.0*

UNK ***20*** *20:22:28.7, 19˚.82S×70˚.91W, h16km*

NEIC ***20*** *20:22:28.9, 19˚.82S×70˚.93W, h8km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.31; Mθθ-0.07; Mφφ-1.24; Mrθ1.82; Mθφ0.90; Mφr-6.70; Fault plane solution: M₀7.12000×10¹⁷ NP1:φs312.05000°, δ7.07000°, λ57.59000°. NP2:φs164.65000°, δ84.04000°, λ93.80000°. Principal axes: T 6.9581, Plg51.0000°, Azm79.0000°; N 0.3084, Plg4.0000°, Azm344.0000°; P -7.2665, Plg39.0000°, Azm251.0000°;*

NEIC ***20*** *20:22:28.9, 19˚.82S×70˚.93W, h14km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr3.92; Mθθ-0.46; Mφφ-3.46; Mrθ0.95; Mθφ0.12; Mφr-3.71; Fault plane solution: M₀5.33000×10¹⁷ NP1:φs169.41000°, δ68.11000°, λ84.68000°. NP2:φs3.44000°, δ22.50000°, λ103.00000°. Principal axes: T 5.5749, Plg66.0000°, Azm70.0000°; N -0.5210, Plg5.0000°, Azm171.0000°; P -5.0539, Plg23.0000°, Azm263.0000°;*

VAO ***20*** *20:22:29.7±1.1, 19˚.72S×70˚.74W, h20km±7km, mb5.3*

BJI ***20*** *20:22:29.0±0.0, 19˚.80S×70˚.90W, h10km, mB5.5/36, Ms5.8/53, Ms7 5.8/54*

GUC ***20*** *20:22:29.4±0.8, 19˚.76S×71˚.04W, h33km±3km, ML5.4, MW5.8*

IDC ***20*** *20:22:29.9±3.3, 19˚.62S×70˚.66W, h21km±20km, mb4.7/31, mb1 4.8/35, mb1mx4.7/43, mbtmp4.8/35, ML4.5/4, MS5.5/25, Ms1 5.5/25, ms1mx5.5/29, Error ellipse: s-maj=14.8km s-min=10.8km az=55.0*

NEIC ***20*** *20:22:35, 19˚.92S×70˚.91W, h26km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr4.32; Mθθ-0.21; Mφφ-4.11; Mrθ2.20; Mθφ0.73; Mφr-4.33; Fault plane solution: M₀6.47000×10¹⁷ NP1:φs0.00000°, δ22.00000°, λ111.00000°. NP2:φs158.00000°, δ70.00000°, λ82.00000°. Principal axes: T 6.6044, Plg64.0000°, Azm54.0000°; N -0.2679, Plg8.0000°, Azm160.0000°; P -6.3366, Plg24.0000°, Azm254.0000°;*

NEIC ***20*** *20:22:36, 19˚.76S×71˚.17W, h16km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr4.58; Mθθ0.14; Mφφ-4.72; Mrθ1.63; Mθφ1.16; Mφr-6.84; Fault plane solution: M₀8.51000×10¹⁷ NP1:φs348.00000°, δ17.00000°, λ91.00000°. NP2:φs167.00000°, δ73.00000°, λ90.00000°. Principal axes: T 8.3030, Plg62.0000°, Azm76.0000°; N 0.4004, Plg0.0000°, Azm167.0000°; P -8.7034, Plg28.0000°, Azm257.0000°;*

GCMT ***20*** *20:22:36.1±0.1, 19˚.72S±0˚.01×71˚.21W±0˚.01, h18km, MW5.8/163, Moment Tensor Solution. s152,c294; s163,c491; Duration: 2≅0 Moment tensor: Scale 10¹⁷ Nm; Mrr4.64±.05; Mθθ0.11±.03; Mφφ-4.75±.04; Mrθ0.76±.09; Mθφ1.08±.03; Mφr-5.48±.14; Best double couple: M₀7.33200×10¹⁷ NP1:φs344.00000°, δ21.00000°, λ84.00000°. NP2:φs171.00000°, δ70.00000°, λ92.00000°. Principal axes: T 7.1700, Plg65.0000°, Azm85.0000°; N 0.3200, Plg2.0000°, Azm350.0000°; P -7.4940, Plg24.0000°, Azm259.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 20 20:22:27.6±0.5, 19.77S±0.02×70.97W±0.03, h14km±2km, h14km:pP-P,n1664,c1≅50/1538, mb5.6/301, MS5.5/442, 17C-8D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PSGC	**Pisagua**	**0.81**	**78**	⇓*iP*		**Pg**	**20 22 43.8**	**+0.3**
PSGC				*i*	S	**Sg**	**20 22 55.0**	**+0.8**
PSGCX	**Pisagua**	**0.81**	**78**			**Pb**	**20 22 43.7**	**0.0**
PSGCX					Sg	**Sg**	**20 22 55.0**	**+0.7**
TA02	**Huaiquique**	**0.93**	**122**	⇓*eP*		**Pb**	**20 22 45.9**	**+0.4**
TA02				*eS*		**Sn**	**20 22 59.6**	**+0.1**
TA02				IAML			20 23 04.6	
	comp=N,197μm,0.5s							
TA01	**Diego Aracena**	**1.08**	**137**	⇑*iP*		**Pb**	**20 22 48.3**	**+0.2**
TA01				*i*	S	**Sb**	**20 23 02.3**	**+0.2**
TA01				IAML			20 23 10.5	
	comp=E,69μm,0.4s							
TA01	**Diego Aracena**	**1.08**	**137**			**Pb**	**20 22 48.4**	**+0.2**
TA01						**Sb**	**20 23 02.4**	**+0.2**
PB11	**IPOC Station P**	**1.24**	**90**	⇓*eP*		**Pb**	**20 22 50.9**	**0.0**
PB11				*eS*		**Sg**	**20 23 07.9**	**+0.3**
PB11	**IPOC Station P**	**1.24**	**90**			**Pn**	**20 22 50.7**	**+0.1**
PB12	**IPOC Station P**	**1.30**	**28**	*eP*		**Pb**	**20 22 51.8**	**-0.1**
PB12				*i*	S	**Sn**	**20 23 08.8**	**+0.1**
PB12	**IPOC Station P**	**1.30**	**28**			**Pb**	**20 22 51.9**	**-0.1**
MNMC	**Minye Minye**	**1.44**	**64**	IAML			20 23 26.4	
	comp=E,125μm,0.7s							
MNMC	**Minye Minye**	**1.44**	**64**			**Pb**	**20 22 54.5**	**0.0**
AP01	**Chacalluta**	**1.51**	**23**	⇑*iP*		**Pn**	**20 22 54.9**	**+0.6**
AP01				*eS*		**Sb**	**20 23 14.1**	**-0.5**
AP01	**Chacalluta**	**1.51**	**23**			**Pn**	**20 22 54.9**	**+0.6**
GO01	**Chusmiza**	**1.68**	**87**	⇑*iP*		**Pb**	**20 22 58.1**	**-0.5**
GO01				*eS*		**Sg**	**20 23 21.4**	**-0.3**
GO01				IAML			20 23 27.3	
	comp=N,61μm,0.3s							
GO01	**Chusmiza**	**1.68**	**87**	Pn		**Pb**	**20 22 58.0**	**-0.5**
PB08	**IPOC Station P**	**1.75**	**102**	⇑*iP*		**Pn**	**20 22 58.9**	**+1.0**
PB08				*eS*		**Sb**	**20 23 22.4**	**+0.7**
PB08				IAML			20 23 30.0	
	comp=N,33μm,0.8s							
PB08	**IPOC Station P**	**1.75**	**102**	Pn		**Pn**	**20 22 58.6**	**+0.7**
PB02	**IPOC Station P**	**1.84**	**147**	IAML			20 23 33.3	
	comp=E,86μm,0.6s							
PB01	**IPOC Station P**	**1.88**	**133**	IAML			20 23 35.1	
	comp=E,33μm,0.5s							
PB01	**IPOC Station P**	**1.88**	**133**			**Pn**	**20 22 60.0**	**+0.5**
PB07	**IPOC Station P**	**2.19**	**153**	IAML			20 23 46.1	
	comp=E,24μm,0.6s							
PB07	**IPOC Station P**	**2.19**	**153**			**Pn**	**20 23 03.8**	**0.0**
PB03	**IPOC Station P**	**2.54**	**154**	IAML			20 23 57.6	
	comp=E,13μm,0.6s							
PB09	**IPOC Station P**	**2.58**	**142**	IAML			20 24 01.8	
	comp=E,24μm,0.9s							
PB09	**IPOC Station P**	**2.58**	**142**			**Pn**	**20 23 10.3**	**+1.1**
PB04	**IPOC Station P**	**2.66**	**163**	IAML			20 24 07.5	
	comp=E,15μm,0.2s							
PB04	**IPOC Station P**	**2.66**	**163**			**Pn**	**20 23 09.2**	**-1.1**
PB05	**IPOC Station P**	**3.15**	**167**	IAML			20 24 17.0	
	comp=N,7μm,0.7s							
PB06	**IPOC Station P**	**3.20**	**156**	IAML			20 24 13.6	
	comp=N,15μm,0.7s							
PB06	**IPOC Station P**	**3.20**	**156**			**Pn**	**20 23 17.1**	**-0.5**
LVC	**Limon Verde**	**3.42**	**146**	Pn		**Pn**	**20 23 22.3**	**+1.5**
	comp=N,42nm,0.3s,baz=309,slow=10,SNR=142							
LVC					Sn	**Sn**	**20 24 01.8**	**+0.5**
	comp=N,325nm,0.3s,baz=320,slow=17,SNR=5.9							
LVC					LR	LR	20 24 08.6	
	comp=N,10μm,21.2s,baz=320,slow=29							
LVC					Lg	Lg	20 24 11.2	
	comp=N,508nm,0.3s,baz=24,slow=20,SNR=5.9							
LVC	**Limon Verde**	**3.42**	**146**	*eP*		**Pn**	**20 23 22.3**	**+1.5**
LVC				*eS*		**Sn**	**20 24 03.2**	**+1.9**
LVC	**Limon Verde**	**3.42**	**146**	P		**Pn**	**20 23 22.1**	**+1.3**
LVC	**Limon Verde**	**3.42**	**146**			**Pn**	**20 23 22.1**	**+1.3**
LVC	**Limon Verde**	**3.42**	**146**	*eP*		**Pn**	**20 23 21.6**	**+0.8**
LVC				*eS*		**Sn**	**20 24 01.0**	**-0.3**
LVC	**Limon Verde**	**3.42**	**146**	*eP*		**Pn**	**20 23 21.6**	**+0.8**
LVC				*eS*		**Sn**	**20 24 01.0**	**-0.3**
PB15	**IPOC Station P**	**3.69**	**158**			**Pn**	**20 23 23.9**	**-0.7**
PB10	**IPOC Station P**	**3.74**	**174**			**Pn**	**20 23 23.3**	**-1.8**
LPAZ	**La Paz**	**4.39**	**38**	Pn		**Pn**	**20 23 38.3**	**+3.8**
	comp=N,6.1nm,0.3s,baz=207,slow=8.9,SNR=93							
LPAZ					LR	LR	20 25 30.6	
	comp=N,73μm,18.5s,baz=240,slow=44							
LPAZ	**La Paz**	**4.39**	**38**	P		**Pn**	**20 23 38.4**	**+3.9**
LPAZ	**La Paz**	**4.39**	**38**			**Pn**	**20 23 38.4**	**+3.9**
GO02	**Mina Guanaco**	**5.51**	**167**	Pn		**Pn**	**20 23 48.9**	**-0.8**
AC01	**Pan de Azucar**	**6.36**	**177**	Pn		**Pn**	**20 23 58.3**	**-2.7**
AC02	**Maricunga**	**7.23**	**167**			**Pn**	**20 24 13.2**	**-0.3**
GO03	**Copiap**	**7.82**	**175**			**Pn**	**20 24 19.0**	**-2.1**
AC04	**Llanos de Chal**	**8.40**	**181**			**Pn**	**20 24 24.9**	**-4.1**
AC05	**El Transito**	**9.05**	**176**	Pn		**Pn**	**20 24 36.0**	**-2.0**
VCA	**Vinchina**	**9.27**	**165**	*iP*		**Pn**	**20 24 42.7**	**+1.6**
NNA	**Nana**	**9.58**	**323**	Pn		**Pn**	**20 24 46.9**	**+1.7**
	comp=N,2.7nm,0.3s,baz=176,slow=15,SNR=2.6							
NNA					Sn	**Sn**	**20 26 26.1**	**-6.7**
	comp=N,3.9nm,0.3s,baz=255,slow=20,SNR=1.4							
NNA					LR	LR	20 28 22.4	
	comp=N,13μm,19.6s,baz=156,slow=37							
NNA	**Nana**	**9.58**	**323**	*ceP*		**Pn**	**20 24 46.7**	**+1.4**
NNA					pmax	pmax		
	comp=Z,92nm,0.7s							
NNA	**Nana**	**9.58**	**323**			**Pn**	**20 24 44.6**	**-0.6**
CYA	**Choya**	**9.84**	**152**	*iP*		**Pn**	**20 24 49.8**	**+1.0**
SIV	**San Ignacio**	**10.14**	**70**	Pn		**Pn**	**20 24 51.7**	**-1.3**
	comp=Z,26nm,0.3s,baz=266,slow=11,SNR=86							
SIV					LR	LR	20 29 26.3	
	comp=Z,82μm,18.0s,baz=271,slow=42							
CO01	**Juntas del Tor**	**10.19**	**176**			**Pn**	**20 24 53.4**	**-0.4**
GO04	**Tololo Observa**	**10.36**	**179**	Pn		**Pn**	**20 24 53.9**	**-2.1**
GO04	**Tololo Observa**	**10.36**	**179**	*iP*		**Pn**	**20 24 55.8**	**-0.3**
AROD	**Rodeo**	**10.44**	**173**	*iP*		**Pn**	**20 25 01.7**	**+4.4**
ACDV	**Cuesta del Vie**	**10.49**	**171**	*iP*		**Pn**	**20 24 59.5**	**+1.7**
ACCO	**Cerro Coronel**	**10.91**	**171**	*iP*		**Pn**	**20 25 04.0**	**+0.4**
CO03	**El Pedregal**	**11.02**	**179**	Pn		**Pn**	**20 25 03.9**	**-1.1**
APLL	**PUNTA DE LOS L**	**11.32**	**160**	*iP*		**Pn**	**20 25 08.7**	**-0.3**
AMOG	**MOGNA**	**11.34**	**169**	*iP*		**Pn**	**20 25 10.8**	**+1.4**
CO02	**Combarbal**	**11.38**	**180**			**Pn**	**20 25 08.2**	**-1.8**
RTLL	**Cerro Villicun**	**11.73**	**169**	*iP*		Pn	20 25 28.8	+14
ZON	**Zonda**	**11.91**	**170**	P		**Pn**	**20 25 20.1**	**+3.0**
ZON	**Zonda**	**11.91**	**170**	Pn		**Pn**	**20 25 20.1**	**+3.0**
ZON	**Zonda**	**11.91**	**170**	*iP*		Pn	20 25 27.7	+11
CFA	**Coronel Fontan**	**12.04**	**169**	Pn		**Pn**	**20 25 17.3**	**-1.6**
	comp=Z,1.1nm,0.3s,baz=350,slow=14,SNR=5.2							
CFA					Sn	**Sn**	**20 27 25.0**	**-8.0**
	comp=Z,2.6nm,0.3s,baz=308,slow=19,SNR=1.9							
CFA					LR	LR	20 30 08.3	
	comp=Z,25μm,19.7s,baz=344,slow=38							
CFA	**Coronel Fontan**	**12.04**	**169**	*iP*		**Pn**	**20 25 20.2**	**+1.3**
PTLB	**Pontes e Lacer**	**12.07**	**71**	*eP*		**Pn**	**20 25 17.8**	**-1.5**
PTLB	**Pontes e Lacer**	**12.07**	**71**	*eP*		**Pn**	**20 25 17.8**	**-1.5**
RTLS	**Leoncito**	**12.07**	**173**	*iP*		**Pn**	**20 25 20.3**	**+0.7**
RTCV	**Cerro Valdivia**	**12.24**	**170**	*iP*		**Pn**	**20 25 22.7**	**+1.1**
VILB	**Vilhena**	**12.36**	**58**	*eP*		**Pn**	**20 25 22.0**	**-1.2**
VILB				*eS*		**Sn**	**20 27 38.2**	**-2.7**
VILB	**Vilhena**	**12.36**	**58**	*eP*		**Pn**	**20 25 22.0**	**-1.2**
VILB				*eS*		**Sn**	**20 27 38.2**	**-2.7**
AUSP	**Uspallata**	**12.48**	**174**	*iP*		**Pn**	**20 25 27.9**	**+2.7**
TCA	**Tanti**	**12.87**	**155**	*iP*		**Pn**	**20 25 30.6**	**+0.3**
ACAN	**Cantantal**	**12.90**	**166**	*iP*		**Pn**	**20 25 31.9**	**+1.2**
ASAL	**Salagasta**	**12.91**	**172**	*iP*		**Pn**	**20 25 30.0**	**-0.8**
VA03	**San Esteban**	**12.95**	**178**			**Pn**	**20 25 30.9**	**-0.4**
SAML	**Samuel**	**13.13**	**36**	P		**Pn**	**20 25 32.8**	**-1.1**
SAML	**Samuel**	**13.13**	**36**	Pn		**Pn**	**20 25 32.8**	**-1.1**
SAML	**Samuel**	**13.13**	**36**	*eP*		**Pn**	**20 25 33.0**	**-0.9**
SAML				*eS*		**Sn**	**20 27 58.8**	**-1.1**
SAML	**Samuel**	**13.13**	**36**	*eP*		**Pn**	**20 25 33.0**	**-0.9**
SAML				*eS*		**Sn**	**20 27 58.8**	**-1.1**
ARCO	**CERRO ARCO**	**13.14**	**172**	*iP*		**P**	**20 25 40.9**	**-3.3**
ROC1	**El Roble**	**13.15**	**180**			**Pn**	**20 25 32.8**	**-1.5**
ROC1	**El Roble**	**13.15**	**180**	*iP*		**Pn**	**20 25 36.5**	**+2.2**
PEL	**Peldehue**	**13.32**	**179**	P		**Pn**	**20 25 35.5**	**-0.9**
PEL	**Peldehue**	**13.32**	**179**			**Pn**	**20 25 35.5**	**-0.9**
PEL	**Peldehue**	**13.32**	**179**	*iP*		**Pn**	**20 25 37.7**	**+1.3**
AAGR	**Agrelo**	**13.40**	**172**	*iP*		**Pn**	**20 25 38.3**	**+0.8**
MT02	**Curacav**	**13.44**	**181**	Pn		**Pn**	**20 25 34.9**	**-3.1**
MRA	**San Martin**	**13.45**	**161**	*iP*		**Pn**	**20 25 36.4**	**-1.8**
MT05	**Renca**	**13.57**	**179**	Pn		**Pn**	**20 25 40.3**	**+0.5**
MT01	**Popeta**	**14.04**	**181**	Pn		**Pn**	**20 25 43.2**	**-3.0**
CPUP	**Villa Florida**	**14.14**	**120**	Pn		**Pn**	**20 25 46.3**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=300,slow=12,SNR=14							
CPUP					LR	LR	20 31 54.5	
	comp=Z,19μm,20.1s,baz=300,slow=40							
CPUP	**Villa Florida**	**14.14**	**120**	Pn		**Pn**	**20 25 45.4**	**-2.2**
CPUP	**Villa Florida**	**14.14**	**120**	*eP*		**Pn**	**20 25 47.2**	**-0.4**
CPUP	**Villa Florida**	**14.14**	**120**	*eP*		**Pn**	**20 25 47.2**	**-0.4**
AQDB	**Aquidauana**	**14.36**	**95**	*eP*		**Pn**	**20 25 49.4**	**-1.3**
AQDB	**Aquidauana**	**14.36**	**95**	*eP*		**Pn**	**20 25 49.4**	**-1.3**
ATAH	**Atahualpa**	**14.48**	**329**	Pn		**P**	**20 25 58.0**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=135,slow=10,SNR=7.6							
BO02	**Sierra Bellavi**	**14.96**	**179**			**Pn**	**20 25 55.7**	**-3.2**
SALV	**Santo Antonio**	**15.04**	**78**	*eP*		**Pn**	**20 25 57.9**	**-2.1**
SALV	**Santo Antonio**	**15.04**	**78**	*eP*		**Pn**	**20 25 57.9**	**-2.1**
H03N1	**Juan Fernandez**	**15.35**	**206**	T		T	20 41 51.8	
	baz=32,slow=72,SNR=360							
H03N2	**Juan Fernandez**	**15.35**	**206**	T		T	20 42 07.4	
	baz=32,slow=72,SNR=186							
H03N3	**Juan Fernandez**	**15.36**	**206**	T		T	20 41 50.7	
	baz=32,slow=72,SNR=368							
VA04	**Juan Fernndez**	**15.49**	**205**	Pn		**Pn**	**20 26 03.2**	**-2.5**
BI02	**San Fabin de**	**16.83**	**181**	Pn		**Pn**	**20 26 19.1**	**-3.9**
CLDB	**Colider**	**17.09**	**61**	*eP*		**Pn**	**20 26 25.1**	**-1.1**
CLDB	**Colider**	**17.09**	**61**	*eP*		**Pn**	**20 26 25.1**	**-1.1**
BI03	**Tigo**	**17.11**	**186**			**Pn**	**20 26 26.5**	**+0.1**
PTGB	**Pitanga**	**18.17**	**109**	*eP*		**Pn**	**20 26 39.3**	**-0.4**
PTGB	**Pitanga**	**18.17**	**109**	*eP*		**Pn**	**20 26 39.3**	**-0.4**
PCMB	**Pacaembu**	**18.53**	**99**	*eP*		**P**	**20 26 41.9**	**-1.9**
PCMB	**Pacaembu**	**18.53**	**99**	*eP*		**Pn**	**20 26 41.9**	**-1.9**
ARAG	**Araguaiana, MT**	**18.69**	**81**	*eP*		**P**	**20 26 44.2**	**-1.4**
ARAG	**Araguaiana, MT**	**18.69**	**81**	*eP*		**P**	**20 26 44.2**	**-1.4**
LPA	**La Plata**	**18.98**	**145**	*eP*		**P**	**20 26 49.3**	**+0.6**
LPA					PPP	PPP	20 27 09.3	
LPA					S	**Sn**	**20 30 16.3**	**-5.5**
LPA					SS	**SnSn**	**20 30 35.7**	**-0.3**
LPA					SSS	SSS	20 30 48.9	
LPA					PCP	**PcP**	**20 31 18.5**	**+4.4**
CPSB	**Cacapava Do Su**	**19.06**	**127**	*eP*		**P**	**20 26 49.4**	**-0.2**
CPSB	**Cacapava Do Su**	**19.06**	**127**	*eP*		**P**	**20 26 49.4**	**-0.2**
LC01	**Cunco**	**19.08**	**182**			**P**	**20 26 49.5**	**-0.2**
MACA	**Manacapuru-AM**	**19.32**	**33**	*eP*		**P**	**20 26 52.0**	**-0.5**
MACA	**Manacapuru-AM**	**19.32**	**33**	*eP*		**P**	**20 26 52.0**	**-0.5**
ITRB	**Iturama**	**19.40**	**93**	*eP*		**P**	**20 26 52.7**	**-0.8**
ITRB	**Iturama**	**19.40**	**93**	*eP*		**P**	**20 26 52.7**	**-0.8**
PLTB	**Pedras Altas**	**19.64**	**131**	*eP*		**P**	**20 26 56.0**	**-0.1**
PLTB	**Pedras Altas**	**19.64**	**131**	*eP*		**P**	**20 26 56.0**	**-0.1**
NPGB	**Novo Progresso**	**19.74**	**52**	*eP*		**P**	**20 26 56.3**	**-0.8**
NPGB	**Novo Progresso**	**19.74**	**52**	*eP*		**P**	**20 26 56.3**	**-0.8**
FRTB	**Fartura**	**20.22**	**104**	*eP*		**P**	**20 27 01.5**	**-0.9**
FRTB	**Fartura**	**20.22**	**104**	*eP*		**P**	**20 27 01.5**	**-0.9**
CNLB	**Canela**	**20.59**	**121**	*eP*		**P**	**20 27 05.8**	**-0.6**
CNLB	**Canela**	**20.59**	**121**	*eP*		**P**	**20 27 05.8**	**-0.6**
PLCA	**Paso Flores**	**20.90**	**179**	P		**P**	**20 27 11.0**	**+1.4**
	comp=Z,53nm,1.1s,baz=358,slow=12,SNR=26							
PLCA					S	**S**		**20 31 03.6**	**+1.3**
	comp=Z,5.4nm,1.0s,baz=6.7,slow=16,SNR=1.8							
PLCA	**Paso Flores**	**20.90**	**179**			**P**	**20 27 10.1**	**+0.5**
PLCA					IAmb	IAmb	20 27 21.2	
	comp=Z,286nm,1.2s							
PLCA						**S**		**20 31 02.9**	**+0.6**
PLCA	**Paso Flores**	**20.90**	**179**	*eP*		Pn	20 27 11.8	-0.4
PLCA	**Paso Flores**	**20.90**	**179**	*eP*		Pn	20 27 11.8	-0.4
PUAC	**Puerto Asis, P**	**20.93**	**344**	*eP*		Pn	20 27 13.4	+0.7
TIJ01	**Guaruva-PR**	**21.02**	**109**	*eP*		**P**	**20 27 10.4**	**-0.7**
TIJ01	**Guaruva-PR**	**21.02**	**109**	*eP*		**P**	**20 27 10.4**	**-0.7**
BB19B	**Bebedouro**	**21.07**	**97**	*eP*		**P**	**20 27 09.2**	**-2.5**
BB19B	**Bebedouro**	**21.07**	**97**	*eP*		**P**	**20 27 09.2**	**-2.5**
ITTB	**Itaituba**	**21.33**	**46**	*eP*		**P**	**20 27 13.2**	**-1.2**
ITTB	**Itaituba**	**

SDV IAmb IAmb 20 29 08.8
comp=Z,97nm,1.2s
SDV Santo Domingo 28.48 1 IAMs_20 IAMs_20 20 38 48.8
comp=Z,13µm,20.0s
SDV Santo Domingo 28.48 1 *e*P **P** **20 28 23.2 +0.5**
SDV Santo Domingo 28.48 1 *e*P **P** **20 28 23.2 +0.5**
SMLC San Martn de 28.56 354 *e*P **P** **20 28 21.8 -1.4**
RIB01 Linhares ES 28.80 94 *e*P **P** **20 28 24.7 -0.8**
RIB01 Linhares ES 28.80 94 *e*P **P** **20 28 24.7 -0.8**
CAPC Capurgana 28.92 347 *e*P **P** **20 28 30.4 +3.9**
CAPC *e*P **pwP** **20 28 33.7 -0.1**
SJCC San Jacinto, C 29.77 352 *e*P **P** **20 28 34.8 +0.7**
BCIP Isla Barro Col 30.05 342 IAMs_20 IAMs_20 20 41 12.9
comp=Z,9µm,22.0s
PCRV Puerto La Cruz 30.41 12 P **P** **20 28 40.1 +0.5**
comp=Z,13nm,0.7s,baz=180,slow=3.0,SNR=6.3
MDP Montagnes des 30.59 38 P **P** **20 28 40.7 -0.7**
comp=Z,15nm,0.8s,baz=222,slow=7.0,SNR=9.4
GDU01 Guandu, BA 30.63 84 *e*P **P** **20 28 40.1 -1.5**
GDU01 Guandu, BA 30.63 84 *e*P **P** **20 28 40.1 -1.5**
ROSB Rosrio 31.12 61 *e*P **P** **20 28 45.3 -0.7**
ROSB Rosrio 31.12 61 *e*P **P** **20 28 45.3 -0.7**
HATO Hato, Curacao 31.81 4 IAMs_20 IAMs_20 20 43 06.1
comp=Z,11µm,19.0s
HDC Heredia 32.29 335 P **P** **20 28 59.6 +3.2**
HDC IAMs_20 IAMs_20 20 41 33.1
comp=Z,9µm,21.0s
TOSP Speyside 32.54 19 P **P** **20 28 58.1 -0.2**
TOSP IAmb IAmb 20 29 14.3
comp=Z,134nm,1.0s
JTS Las Juntas de 32.89 334 LR LR 20 42 09.9
comp=Z,5µm,19.2s,baz=211,slow=36
JTS Las Juntas de 32.89 334 *i* P **P** **20 29 01.1 -0.4**
JTS pmax pmax
comp=Z,12nm,1.2s
JTS Las Juntas de 32.89 334 P **P** **20 29 01.2 -0.4**
GRGR Grenville 33.00 17 P **P** **20 29 01.6 -0.9**
GO10 Punta Arenas 33.32 180 P **P** **20 29 05.1 +0.1**
GO10 IAmb IAmb 20 29 41.3
comp=Z,171nm,1.4s
EFI East Falkland 33.41 165 *i* P **P** **20 29 02.8 -2.9**
EFI pmax pmax
comp=Z,33nm,1.1s
EFI East Falkland 33.41 165 P **P** **20 29 06.3 +0.6**
EFI IAmb IAmb 20 29 17.6
comp=Z,98nm,1.3s
EFI East Falkland 33.41 165 IAMs_20 IAMs_20 20 42 56.2
comp=Z,8µm,19.0s
SVB Belmont 34.20 17 P **P** **20 29 13.2 +0.3**
SVB IAmb IAmb 20 29 32.7
comp=Z,96nm,0.9s
ACON Acoyapa 34.50 335 P **P** **20 29 16.5 +1.0**
BBGH Gun Hill 34.58 20 P **P** **20 29 16.2 0.0**
MCLT Moule a Chique 34.70 17 P **P** **20 29 18.7 +1.5**
MCLT IAMs_20 IAMs_20 20 45 05.3
comp=Z,8µm,18.0s
BOAB BOACO BROADBAN 35.14 334 P **P** **20 29 21.9 +0.9**
BOAB IAmb IAmb 20 30 16.1
comp=Z,146nm,1.5s
BOAB IAMs_20 IAMs_20 20 44 07.4
comp=Z,11µm,19.0s
FDF Fort de France 35.62 16 P **P** **20 29 24.7 -0.5**
FDF pmax pmax
comp=Z,104nm,0.9s
FDF MLR MLR
comp=Z,15µm,18.0s
FDF Fort de France 35.62 16 P **P** **20 29 24.7 -0.5**
FDF IAmb IAmb 20 29 43.0
comp=Z,104nm,0.9s
MATN Matagalpa 35.68 334 P **P** **20 29 26.1 +0.3**
RPN Rapa Nui 35.84 251 LR LR 20 40 46.1
comp=Z,17µm,18.3s,baz=110,slow=30
RPN Rapa Nui 35.84 251 P **P** **20 29 25.7 -1.4**
RPN pmax pmax
comp=Z,303nm,1.5s
RPN MLR MLR
comp=Z,18µm,19.0s
RPN Rapa Nui 35.84 251 P **P** **20 29 25.7 -1.4**
MAGL Barre de l'ile 36.75 16 P **P** **20 29 35.6 +0.8**
RCBR Riachuelo 36.79 73 P **P** **20 29 33.4 -2.0**
comp=Z,61nm,1.1s,baz=235,slow=9.2,SNR=12
RCBR LR LR 20 45 47.1
comp=Z,17µm,21.3s,baz=230,slow=38
RCBR Riachuelo 36.79 73 P **P** **20 29 34.5 -0.8**
RCBR IAmb IAmb 20 29 40.0
comp=Z,279nm,1.6s
RCBR Riachuelo 36.79 73 *e*P **P** **20 29 33.9 -1.5**
RCBR Riachuelo 36.79 73 *e*P **P** **20 29 33.9 -1.5**
TGUH Tegucigalpa,Un 37.25 333 P **P** **20 29 40.3 +1.1**
MLPR Magueyes Islan 37.70 6 P **P** **20 29 42.0 -0.8**
MLPR IAmb IAmb 20 29 55.5
comp=Z,189nm,1.2s
CRPR Cabo Rojo, PR 37.73 6 P **P** **20 29 42.1 -1.0**
CRPR IAmb IAmb 20 29 55.8
comp=Z,231nm,1.2s
SKI Saint Kitts 37.75 13 P **P** **20 29 42.1 -1.2**
SKI pmax pmax
comp=Z,173nm,1.3s
SKI MLR MLR
comp=Z,29µm,19.0s
SKI Saint Kitts 37.75 13 P **P** **20 29 42.1 -1.2**
SKI IAmb IAmb 20 29 54.8
comp=Z,173nm,1.3s
CDVI St. Croix 37.78 10 P **P** **20 29 41.1 -2.4**
SNET Serv Nac Est T 37.80 330 P **P** **20 29 44.0 +0.2**
OBIP Obispado Ponce 37.82 7 P **P** **20 29 43.1 -0.8**
OBIP IAmb IAmb 20 30 17.7
comp=Z,139nm,1.2s
SEUS St. Eustatius 37.85 12 P **P** **20 29 44.8 +0.7**
SEUS IAmb IAmb 20 29 51.0
comp=Z,158nm,0.9s
PDPR Patillas Dam, 37.87 8 P **P** **20 29 42.4 -1.8**
PDPR IAmb IAmb 20 30 27.2
comp=Z,81nm,0.9s
BANI BANI 37.93 1 P **P** **20 29 44.5 -0.4**
MPR Mayaguez 37.93 6 P **P** **20 29 44.1 -0.6**
MPR IAmb IAmb 20 30 01.3
comp=Z,104nm,1.0s
SJG San Juan 37.94 7 P **P** **20 29 43.2 -1.7**
comp=Z,28nm,0.8s,baz=201,slow=1.7,SNR=8.3
SJG San Juan 37.94 7 P **P** **20 29 43.2 -1.7**
SJG pmax pmax
comp=Z,80nm,1.0s
SJG MLR MLR
comp=Z,7µm,18.0s
SJG San Juan 37.94 7 P **P** **20 29 43.2 -1.7**
SJG San Juan 37.94 7 IAMs_20 IAMs_20 20 47 53.4
comp=Z,7µm,18.0s
SDD Santo Domingo 38.01 2 P **P** **20 29 45.5 +0.1**
MTP Monte Pirata 38.01 8 P **P** **20 29 42.9 -2.5**
MTP IAmb IAmb 20 29 57.2
comp=Z,89nm,1.1s
HUMP Col San Antoni 38.01 8 P **P** **20 29 44.3 -1.2**
LGNH Logne 38.08 357 P **P** **20 29 47.2 +1.2**
AOPR Arecibo Observ 38.11 6 P **P** **20 29 44.3 -2.0**
PCDR Punta Cana, DR 38.13 4 P **P** **20 29 45.4 -1.0**
CBYP Canovanas 38.14 8 P **P** **20 29 44.7 -1.9**
CBYP IAmb IAmb 20 29 50.7
comp=Z,87nm,0.8s
GCPR Guaynabo City 38.15 8 P **P** **20 29 44.8 -1.8**
GCPR IAmb IAmb 20 30 02.2
comp=Z,129nm,1.1s
CUPR Culebra, Puert 38.25 9 P **P** **20 29 45.7 -1.8**
EMPR Esperanza - Ma 38.26 7 P **P** **20 29 46.3 -1.2**
EMPR IAmb IAmb 20 30 28.5
comp=Z,96nm,0.8s
MTDJ Mount Denham 38.31 350 P **P** **20 29 46.9 -1.2**
MTDJ IAmb IAmb 20 30 03.1
comp=Z,129nm,1.1s
STVI Saint Thomas 38.34 9 P **P** **20 29 46.2 -2.0**
DR12 Loma Pena Alta 38.35 2 P **P** **20 29 46.9 -1.5**
SMRT St. Maarten 38.38 12 P **P** **20 29 47.8 -0.8**
SMRT IAmb IAmb 20 29 59.1
comp=Z,124nm,1.1s
MTO3 Montecristo 38.48 331 P **P** **20 29 48.8 -0.9**
SDDR Presa de Saban 38.51 360 P **P** **20 29 49.0 -0.8**
SDDR IAmb IAmb 20 30 30.1
comp=Z,152nm,1.6s
SDDR IAMs_20 IAMs_20 20 47 45.8
comp=Z,7µm,18.0s
SC01 Santiago de lo 38.96 0 P **P** **20 29 53.2 -0.2**
SC01 IAMs_20 IAMs_20 20 46 53.5
comp=Z,6µm,22.0s
GTBY Guantanamo Bay 39.66 354 P **P** **20 30 00.1 +0.8**
GTBY IAMs_20 IAMs_20 20 48 59.4
comp=Z,6µm,19.0s
CBCY The Bluff, Cay 40.20 347 P **P** **20 30 04.0 +0.3**
GRTK Grand Turk 41.03 360 P **P** **20 30 09.9 -0.7**
GRTK IAmb IAmb 20 30 34.5
comp=Z,217nm,1.2s
GRTK IAMs_20 IAMs_20 20 49 33.5
comp=Z,7µm,18.0s
CCIG Comitan 41.43 328 P **P** **20 30 13.6 -0.6**
CCIG IAMs_20 IAMs_20 20 45 37.1
comp=Z,6µm,20.0s
TEIG Tepich 43.22 336 P **P** **20 30 29.8 +1.3**
comp=Z,20nm,0.6s,baz=139,slow=7.8
TEIG Tepich 43.22 336 P **P** **20 30 26.8 -1.7**
HOPE Hope Point 43.32 151 P **P** **20 30 28.8 -0.1**
HOPE pmax pmax
comp=Z,245nm,1.7s
HOPE MLR MLR
comp=Z,9µm,20.0s
HOPE Hope Point 43.32 151 P **P** **20 30 28.8 -0.1**
HOPE IAmb IAmb 20 30 35.5
comp=Z,244nm,1.7s
CMIG Matias Romero 43.52 326 P **P** **20 30 32.6 +1.6**
comp=Z,3.1nm,0.8s,baz=130,slow=6.3,SNR=1.8
PMSA Palmer Station 45.22 176 *e*P **P** **20 30 45.0 +1.1**
PMSA Palmer Station 45.22 176 *e*P **P** **20 30 45.0 +1.1**
TLIG Tlapa 45.95 322 P **P** **20 30 49.9 -0.6**
TLIG IAMs_20 IAMs_20 20 49 04.6
comp=Z,5µm,19.0s
061Z Ochoppi 46.38 348 P **P** **20 30 53.7 +0.1**
061Z IAmb IAmb 20 31 24.4
comp=Z,124nm,1.1s
061Z IAMs_20 IAMs_20 20 51 42.6
comp=Z,4µm,20.0s
UNM Universidad Na 47.70 323 IAMs_20 IAMs_20 20 49 25.1
comp=Z,4µm,19.0s
DWPF Disney Wildern 48.66 348 P **P** **20 31 12.0 +0.6**
baz=167
DWPF Disney Wildern 48.66 348 P **P** **20 31 12.3 +0.9**
DWPF IAmb IAmb 20 31 41.4
comp=Z,92nm,1.2s
DWPF Disney Wildern 48.66 348 IAMs_20 IAMs_20 20 52 38.1
comp=Z,4µm,21.0s
MOIG Morelia 49.13 321 P **P** **20 31 17.1 +1.7**
MOIG IAmb IAmb 20 31 35.3
comp=Z,58nm,1.0s
656A Willston 50.11 347 P **P** **20 31 23.1 +0.7**
656A IAMs_20 IAMs_20 20 53 13.5
comp=Z,4µm,20.0s
456A Hilliard 51.32 348 P **P** **20 31 30.3 -1.2**
456A IAMs_20 IAMs_20 20 55 57.4
comp=Z,4µm,19.0s
553A Crawfordville 51.33 345 P **P** **20 31 31.0 -0.6**
451A Vernon 52.07 344 P **P** **20 31 36.2 -0.9**
451A IAMs_20 IAMs_20 20 55 54.6
comp=Z,3µm,20.0s
TIGA Tifton 52.34 346 P **P** **20 31 39.7 +0.7**
baz=165
TIGA Tifton 52.34 346 P **P** **20 31 39.8 +0.7**
TIGA IAmb IAmb 20 31 44.8
comp=Z,208nm,1.8s
TIGA IAMs_20 IAMs_20 20 54 42.5
comp=Z,4µm,21.0s
ZAIG Zacatecas 52.34 322 P **P** **20 31 39.6 0.0**
ZAIG IAMs_20 IAMs_20 20 51 39.0
comp=Z,5µm,19.0s
257A Skidaway Islan 52.35 349 P **P** **20 31 38.7 -0.4**
257A IAmb IAmb 20 32 56.5
comp=Z,112nm,0.9s
257A IAMs_20 IAMs_20 20 54 53.6
comp=Z,4µm,20.0s
255A Hazlehurst 52.57 348 P **P** **20 31 41.0 +0.2**
255A IAmb IAmb 20 32 28.5
comp=Z,157nm,1.6s
255A IAMs_20 IAMs_20 20 53 22.6
comp=Z,4µm,22.0s
352A Blakely 52.69 345 P **P** **20 31 41.8 +0.2**
352A IAmb IAmb 20 32 02.0
comp=Z,74nm,1.0s
352A IAMs_20 IAMs_20 20 54 31.8
comp=Z,4µm,22.0s
158A Hollywood 52.95 350 P **P** **20 31 44.5 +1.0**
baz=169
545A Edgard 52.98 339 IAMs_20 IAMs_20 20 54 50.6
comp=Z,5µm,21.0s
157A Early Branch 53.03 349 P **P** **20 31 45.7 +1.5**
baz=168
CSU Charleston Sou 53.18 350 P **P** **20 31 45.4 +0.2**
Z59A Georgetown, SC 53.31 351 P **P** **20 31 48.3 +2.1**
baz=170
NHSC New Hope 53.31 350 P **P** **20 31 47.3 +1.1**
baz=169,SNR=7.0
NHSC New Hope 53.31 350 P **P** **20 31 47.1 +0.8**
154A Montrose 53.37 347 P **P** **20 31 47.0 +0.3**
154A IAmb IAmb 20 32 41.0
comp=Z,70nm,0.9s
154A IAMs_20 IAMs_20 20 54 35.7
comp=Z,3µm,21.0s
Z58A St. Stephen 53.48 351 P **P** **20 31 48.5 +1.1**
baz=170
250A Grady 53.50 344 P **P** **20 31 47.4 -0.3**
250A IAmb IAmb 20 32 02.8
comp=Z,193nm,1.6s
TRIS Tristan da Cun 53.58 122 P **P** **20 31 48.0 -0.4**
Z57A Bowman 53.58 350 P **P** **20 31 49.3 +1.1**
baz=169,SNR=7.3
Z56A Williston 53.72 349 P **P** **20 31 50.1 +0.8**
baz=168
Z56A Williston 53.72 349 P **P** **20 31 49.2 -0.1**
Z56A IAmb IAmb 20 31 52.6
comp=Z,40nm,0.8s
Z56A IAMs_20 IAMs_20 20 54 18.0
comp=Z,6µm,22.0s
152A Waverly Hall 53.78 346 P **P** **20 31 49.6 0.0**
152A IAMs_20 IAMs_20 20 56 11.6
comp=Z,4µm,20.0s
KVTX Kingsville 53.78 330 P **P** **20 31 49.7 -0.1**
KVTX IAmb IAmb 20 32 44.6
comp=Z,56nm,0.6s
KVTX IAMs_20 IAMs_20 20 54 21.9
comp=Z,3µm,18.0s
346A Big Creek Wild 53.88 340 P **P** **20 31 50.2 -0.2**
346A IAmb IAmb 20 31 56.8
comp=Z,47nm,0.8s
Y60A Bolivia 53.92 353 P **P** **20 31 51.7 +1.0**
baz=172
Y60A Bolivia 53.92 353 P **P** **20 31 51.1 +0.5**
Y60A IAMs_20 IAMs_20 20 56 11.1
comp=Z,4µm,20.0s
Y59A Loris 53.99 352 P **P** **20 31 52.4 +1.2**
baz=171
Y59A Loris 53.99 352 IAMs_20 IAMs_20 20 55 41.0
comp=Z,6µm,21.0s
Y58A Scranton 54.02 351 P **P** **20 31 52.4 +1.0**
baz=170
Y58A Scranton 54.02 351 P **P** **20 31 52.1 +0.7**
Y58A IAmb IAmb 20 32 20.3
comp=Z,99nm,1.1s
GOGA Godfrey 54.21 347 P **P** **20 31 53.3 +0.5**
baz=166
GOGA Godfrey 54.21 347 P **P** **20 31 52.0 -0.9**
GOGA pmax pmax
comp=Z,70nm,1.7s
GOGA MLR MLR
comp=Z,4µm,20.0s
GOGA Godfrey 54.21 347 P **P** **20 31 52.0 -0.9**
GOGA Godfrey 54.21 347 IAMs_20 IAMs_20 20 55 11.1
comp=Z,4µm,20.0s
Y57A Sumter 54.24 350 P **P** **20 31 54.0 +1.0**
baz=169
Y57A Sumter 54.24 350 P **P** **20 31 53.7 +0.7**
Y57A IAmb IAmb 20 32 24.7
comp=Z,77nm,1.1s
Y55A Saluda 54.41 349 P **P** **20 31 54.5 +0.2**
baz=167,SNR=12
X60A Albert Glenn T 54.46 353 P **P** **20 31 55.3 +0.8**
baz=172
Z51A Franklin 54.51 345 P **P** **20 31 55.1 +0.1**
Z51A IAMs_20 IAMs_20 20 55 15.9
comp=Z,5µm,22.0s
X59A McDuffie Farm, 54.53 352 P **P** **20 31 55.8 +0.8**
baz=171
441A DeRidder 54.59 336 P **P** **20 31 57.5 +1.9**
441A IAmb IAmb 20 32 15.1
comp=Z,108nm,1.2s
X58A Rowland 54.61 352 P **P** **20 31 56.5 +0.9**
baz=170
X58A S **S** **20 39 33.5 -1.5**
baz=170
X58A Rowland 54.61 352 P **P** **20 31 56.1 +0.5**
X58A IAMs_20 IAMs_20 20 55 59.4
comp=Z,5µm,21.0s
X57A Johnson Farm, 54.63 351 P **P** **20 31 56.7 +0.8**
baz=169
JSC Jenkinsville 54.64 350 P **P** **20 31 55.0 -0.9**
JSC pmax pmax
comp=Z,27nm,1.3s
JSC MLR MLR
comp=Z,3µm,20.0s
JSC Jenkinsville 54.64 350 P **P** **20 31 55.0 -0.9**
LRAL Lakeview Retre 54.70 343 P **P** **20 31 56.2 -0.2**
baz=162,SNR=8.2
LRAL Lakeview Retre 54.70 343 P **P** **20 31 55.9 -0.5**
LRAL IAmb IAmb 20 32 10.4
comp=Z,125nm,2.0s
HODGE Hodges 54.77 349 P **P** **20 31 55.9 -1.0**
HODGE IAMs_20 IAMs_20 20 54 50.7
comp=Z,5µm,22.0s
Y52A Lilburn 54.78 347 P **P** **20 31 56.3 -0.6**
Y52A IAMs_20 IAMs_20 20 58 53.0
comp=Z,3µm,19.0s
X56A White Oak 54.80 350 P **P** **20 31 57.9 +0.7**
baz=168,SNR=12
342A Flagon Creek P 54.83 338 P **P** **20 31 56.3 -1.1**
342A IAmb IAmb 20 32 16.3
comp=Z,80nm,0.8s
735A Kenedy 54.85 331 P **P** **20 31 59.6 +2.1**
735A IAmb IAmb 20 32 11.9
comp=Z,50nm,0.7s
BIRD Birdtown, Kers 54.86 350 P **P** **20 31 56.5 -1.1**
BIRD IAmb IAmb 20 32 29.3
comp=Z,86nm,1.2s
BIRD IAMs_20 IAMs_20 20 56 15.1
comp=Z,5µm,20.0s
X55A Gracelyn & Ava 54.89 349 P **P** **20 31 58.4 +0.7**
baz=168,SNR=14
W60A Pink Hill 54.90 353 P **P** **20 31 58.5 +0.8**
baz=172
146A Union 54.91 341 P **P** **20 31 58.7 +0.7**
HKT Hockley 54.93 334 P **P** **20 31 57.4 -0.6**
HKT pmax pmax
comp=Z,76nm,1.4s
HKT MLR MLR
comp=Z,2µm,22.0s
HKT Hockley 54.93 334 P **P** **20 31 57.4 -0.6**
HKT IAmb IAmb 20 32 14.6
comp=Z,76nm,1.4s
W61A Ground Anchor 54.94 354 P **P** **20 31 59.3 +1.2**
baz=173
VBMS Vicksburg 54.98 340 P **P** **20 31 59.5 +1.0**
baz=157
VBMS Vicksburg 54.98 340 P **P** **20 31 59.6 +1.1**
W58A Raeford 55.05 352 P **P** **20 31 60.0 +1.1**
baz=170,SNR=19
X54A Belton 55.10 349 P **P** **20 31 59.8 +0.6**
baz=167,SNR=11
CNNC Cliffs of the 55.10 353 P **P** **20 32 00.3 +1.1**
baz=172
CNNC Cliffs of the 55.10 353 P **P** **20 31 59.7 +0.5**
CNNC IAmb IAmb 20 32 06.0
comp=Z,99nm,1.2s
833A Chaparral WMA, 55.15 329 P **P** **20 32 00.8 +1.0**
baz=147
833A Chaparral WMA, 55.15 329 P **P** **20 31 59.2 -0.6**
833A IAmb IAmb 20 32 17.0
comp=Z,157nm,2.0s
Z47A Carrollton 55.15 343 P **P** **20 31 59.3 -0.4**
Z47A IAmb IAmb 20 32 14.4
comp=Z,134nm,1.6s
PAULI Pauline 55.26 349 P **P** **20 32 00.7 +0.3**
PAULI IAMs_20 IAMs_20 20 56 43.7
comp=Z,5µm,21.0s
W57A Gilead 55.29 351 P **P** **20 32 01.2 +0.6**
baz=170,SNR=11
W57A Gilead 55.29 351 P **P** **20 32 00.5 -0.1**
W57A IAMs_20 IAMs_20 20 56 40.4
comp=Z,4µm,20.0s
Y49A Blount Mountai 55.32 344 P **P** **20 32 00.0 -0.9**
Y49A IAMs_20 IAMs_20 20 58 06.6
comp=Z,3µm,20.0s
W56A Indian Trail 55.36 350 P **P** **20 32 01.8 +0.6**
baz=169,SNR=9.7
KMSC Kings Mountain 55.49 350 P **P** **20 32 02.8 +0.7**
baz=168
KMSC Kings Mountain 55.49 350 P **P** **20 32 01.9 -0.2**
V61A Roper 55.51 354 P **P** **20 32 03.0 +0.8**
baz=174
V61A Roper 55.51 354 P **P** **20 32 02.7 +0.5**
V60A Jim Taylor Roa 55.55 354 P **P** **20 32 03.4 +0.9**
baz=173
V60A Jim Taylor Roa 55.55 354 P **P** **20 32 02.3 -0.2**
V60A IAmb IAmb 20 32 18.0
comp=Z,52nm,1.0s
W54A Cherokee Point 55.59 349 P **P** **20 32 03.6 +0.8**
baz=167,SNR=16
X51A Calhoun 55.63 346 P **P** **20 32 03.3 +0.2**
X51A IAmb IAmb 20 33 13.0
comp=Z,80nm,1.6s
X51A IAMs_20 IAMs_20 20 56 23.6
comp=Z,3µm,20.0s
BG3 Lake Jocassee 55.63 348 P **P** **20 32 03.2 +0.1**
V59A Middlesex 55.66 353 P **P** **20 32 04.0 +0.8**
baz=172,SNR=16
143A Socs Landing, 55.72 339 P **P** **20 32 04.5 +0.7**
FPAL Fort Paine 55.78 345 P **P** **20 32 03.9 -0.4**
FPAL IAMs_20 IAMs_20 20 55 53.6
comp=Z,4µm,22.0s
V58A Windy Hill, Pi 55.80 352 P **P** **20 32 05.0 +0.7**
baz=171,SNR=7.9
V58A Windy Hill, Pi 55.80 352 P **P** **20 32 04.3 +0.1**
V58A IAmb IAmb 20 32 20.4
comp=Z,63nm,1.2s
V58A IAMs_20 IAMs_20 20 56 44.8
comp=Z,4µm,20.0s
W52A Murphy 55.93 347 P **P** **20 32 05.2 -0.1**
W52A IAmb IAmb 20 32 41.5
comp=Z,39nm,0.4s
W52A IAMs_20 IAMs_20 20 57 02.6
comp=Z,4µm,20.0s
ASCN Ascension 55.98 86 P **P** **20 32 05.6 -0.5**
V57A Coltrane Farms 55.98 351 P **P** **20 32 06.3 +0.7**
baz=170,SNR=9.8
V56A Mocksville 56.01 351 P **P** **20 32 06.6 +0.8**
baz=169,SNR=16
U61A Possum Corner 56.04 355 P **P** **20 32 07.0 +1.0**
baz=174
U61A Possum Corner 56.04 355 P **P** **20 32 04.8 -1.2**
NATX Nacogdoches 56.05 336 P **P** **20 32 07.2 +1.0**
baz=153
NATX Nacogdoches 56.05 336 P **P** **20 32 06.7 +0.5**
NATX IAmb IAmb 20 32 22.7
comp=Z,106nm,1.2s
X48A Hartselle 56.05 344 P **P** **20 32 06.0 -0.1**
X48A IAmb IAmb 20 32 20.9
comp=Z,126nm,1.6s
ETX02 Prairie Street 56.08 336 P **P** **20 32 05.1 -1.3**
V55A Taylorsville 56.16 350 P **P** **20 32 07.9 +0.9**
baz=168,SNR=16
V55A Taylorsville 56.16 350 P **P** **20 32 07.3 +0.4**
V55A IAmb IAmb 20 32 59.5
comp=Z,51nm,1.0s
V55A IAMs_20 IAMs_20 20 56 55.6
comp=Z,4µm,20.0s
U59A Littleton 56.19 353 P **P** **20 32 08.1 +1.0**
baz=172,SNR=10
U59A Littleton 56.19 353 P **P** **20 32 06.9 -0.2**
U59A IAmb IAmb 20 32 13.1
comp=Z,157nm,1.8s
Y45A Yeager Farm, C 56.20 341 P **P** **20 32 07.6 +0.4**
V54A Nebo 56.22 349 P **P** **20 32 07.8 +0.5**
baz=168,SNR=24
U60A Pendleton 56.24 354 P **P** **20 32 08.3 +0.9**
baz=173
V53A Saluda 56.27 348 P **P** **20 32 05.0 -2.8**
V53A IAMs_20 IAMs_20 20 55 59.4
comp=Z,5µm,22.0s
U58A Oxford 56.32 353 P **P** **20 32 08.7 +0.8**
baz=171,SNR=11
W50A Signal Mountai 56.34 346 P **P** **20 32 08.1 -0.1**
W50A IAmb IAmb 20 32 13.4
comp=Z,108nm,1.6s
W50A IAMs_20 IAMs_20 20 56 55.4
comp=Z,4µm,20.0s

435B **Jarrell** **56.40 332** P **P** **20 32 08.4 -0.3**
baz=150
435B **Jarrell** **56.40 332** P **P** **20 32 09.7 +1.0**
435B IAmb IAmb 20 32 23.9
comp=Z,139nm,1.9s
CPCT **Cooper Cave** **56.40 347** P **P** **20 32 07.5 -1.2**
CPCT IAmb IAmb 20 32 13.8
comp=Z,86nm,1.6s
CPCT IAMs_20 IAMs_20 20 58 01.1
comp=Z,4µm,20.0s
TKL **Tuckaleechee C** **56.45 347** P **P** **20 32 09.2 +0.3**
comp=Z,20nm,0.9s,baz=162,slow=11,SNR=10
TKL **Tuckaleechee C** **56.45 347** P **P** **20 32 08.9 -0.1**
TKL pmax pmax
comp=Z,68nm,1.0s
TKL MLR MLR
comp=Z,4µm,20.0s
TKL **Tuckaleechee C** **56.45 347** P **P** **20 32 08.8 -0.1**
TKL IAmb IAmb 20 32 23.6
comp=Z,68nm,0.9s
TKL IAMs_20 IAMs_20 20 57 18.2
comp=Z,4µm,20.0s
U57A **Blanch** **56.45 352** P **P** **20 32 09.6 +0.6**
baz=170,SNR=9.4
U56A **King** **56.52 351** P **P** **20 32 10.6 +1.2**
baz=169
U56A **King** **56.52 351** P **P** **20 32 09.4 0.0**
U56A IAmb IAmb 20 32 42.4
comp=Z,92nm,1.2s
U56A IAMs_20 IAMs_20 20 57 18.0
comp=Z,5µm,21.0s
V52A **Sevierville** **56.59 348** P **P** **20 32 09.8 -0.2**
V52A IAmb IAmb 20 32 25.3
comp=Z,108nm,1.2s
V52A IAMs_20 IAMs_20 20 57 21.9
comp=Z,3µm,19.0s
Z41A **Richland Creek** **56.70 338** P **P** **20 32 11.8 +1.0**
baz=155
Z41A **Richland Creek** **56.70 338** P **P** **20 32 09.7 -1.1**
Z41A IAmb IAmb 20 32 25.2
comp=Z,69nm,1.1s
V51A **Loudon** **56.71 347** P **P** **20 32 10.2 -0.5**
V51A IAMs_20 IAMs_20 20 57 38.1
comp=Z,3µm,20.0s
237A **Washetta, Mont** **56.72 335** P **P** **20 32 10.1 -0.8**
237A IAmb IAmb 20 32 27.5
comp=Z,149nm,1.3s
OXF **Oxford** **56.76 342** P **P** **20 32 10.6 -0.6**
baz=159
OXF **Oxford** **56.76 342** P **P** **20 32 10.7 -0.5**
OXF pmax pmax
comp=Z,91nm,1.1s
OXF MLR MLR
comp=Z,2µm,19.0s
OXF **Oxford** **56.76 342** P **P** **20 32 10.7 -0.5**
OXF IAmb IAmb 20 32 24.3
comp=Z,91nm,1.1s
U55A **TA2, Sparta** **56.77 350** P **P** **20 32 11.6 +0.3**
baz=169,SNR=9.4
T59A **Double "B" Far** **56.78 354** P **P** **20 32 12.1 +0.9**
baz=173,SNR=17
T59A **Double "B" Far** **56.78 354** P **P** **20 32 11.9 +0.7**
T59A IAMs_20 IAMs_20 20 56 12.7
comp=Z,3µm,20.0s
PLAL **Pickwick Lake** **56.83 343** P **P** **20 32 10.8 -0.8**
T58A **Grand View Acr** **56.86 353** P **P** **20 32 12.7 +0.9**
baz=172,SNR=24
T60A **Surry** **56.86 354** P **P** **20 32 12.6 +0.8**
baz=174
T60A **Surry** **56.86 354** P **P** **20 32 11.8 -0.1**
T60A IAmb IAmb 20 32 51.5
comp=Z,69nm,1.1s
U54A **Nelsons Funny** **56.92 350** P **P** **20 32 13.3 +1.0**
baz=168
U54A **Nelsons Funny** **56.92 350** P **P** **20 32 11.2 -1.1**
U54A IAmb IAmb 20 32 27.5
comp=Z,103nm,1.0s
U54A IAMs_20 IAMs_20 20 57 31.6
comp=Z,4µm,20.0s
CCAR **Cane Creek** **56.95 339** P **P** **20 32 12.2 -0.3**
T57A **Hurt** **57.00 352** P **P** **20 32 13.5 +0.6**
baz=171,SNR=15
T57A **Hurt** **57.00 352** P **P** **20 32 13.4 +0.6**
T57A IAmb IAmb 20 32 29.9
comp=Z,66nm,1.1s
T57A IAMs_20 IAMs_20 20 57 20.7
comp=Z,4µm,22.0s
T56A **Rocky Mt** **57.14 351** P **P** **20 32 15.0 +1.2**
baz=170,SNR=14
JCT **Junction City** **57.14 330** P **P** **20 32 14.4 +0.3**
baz=147
JCT **Junction City** **57.14 330** P **P** **20 32 14.3 +0.2**
JCT pmax pmax
comp=Z,34nm,1.3s
JCT **Junction City** **57.14 330** P **P** **20 32 14.3 +0.2**
WLAR **White Oak Lake** **57.20 338** P **P** **20 32 15.7 +1.4**
V48A **Smith Brothers** **57.22 345** P **P** **20 32 14.3 -0.1**
V48A IAmb IAmb 20 32 19.5
comp=Z,181nm,1.8s
V48A IAMs_20 IAMs_20 20 56 58.7
comp=Z,4µm,22.0s
X43A **Marvell** **57.22 340** P **P** **20 32 15.0 +0.6**
baz=158
TZTN **Tazewell** **57.26 348** IAMs_20 IAMs_20 20 56 41.7
comp=Z,3µm,22.0s
W45A **Hickory Valley** **57.30 342** P **P** **20 32 14.6 -0.3**
W45A IAmb IAmb 20 32 32.2
comp=Z,67nm,0.9s
S61A **Accomac** **57.31 356** IAMs_20 IAMs_20 20 58 39.9
comp=Z,3µm,20.0s
HPIG **57.33 323** P **P** **20 32 15.9 +0.3**
HPIG IAMs_20 IAMs_20 20 57 35.3
comp=Z,4µm,18.0s
T55A **Pulaski** **57.33 351** P **P** **20 32 16.0 +0.8**
baz=169,SNR=13
BLA **Blacksburg** **57.37 351** P **P** **20 32 16.4 +0.9**
baz=169
BLA **Blacksburg** **57.37 351** P **P** **20 32 15.4 -0.1**
BLA pmax pmax
comp=Z,45nm,0.7s
BLA MLR MLR
comp=Z,4µm,21.0s
BLA **Blacksburg** **57.37 351** P **P** **20 32 15.3 -0.1**
BLA IAmb IAmb 20 32 54.6
comp=Z,45nm,0.7s
BLA IAMs_20 IAMs_20 20 57 54.6
comp=Z,4µm,21.0s
WHTX **Lake Whitney,** **57.39 333** P **P** **20 32 16.6 +1.0**
baz=150
WHTX **Lake Whitney,** **57.39 333** P **P** **20 32 16.3 +0.6**
WHTX IAmb IAmb 20 32 31.6
comp=Z,72nm,1.2s
T54A **Tazewell** **57.40 350** P **P** **20 32 16.2 +0.4**
baz=168,SNR=5.5
S60A **Water View** **57.42 355** P **P** **20 32 16.6 +0.9**
baz=174
CLTN **Cedars of Leba** **57.43 345** P **P** **20 32 15.6 -0.3**
CLTN IAMs_20 IAMs_20 20 57 40.3
comp=Z,3µm,22.0s
S58A **Poland Farm, P** **57.46 353** P **P** **20 32 17.0 +0.9**
baz=172
S58A **Poland Farm, P** **57.46 353** P **P** **20 32 15.6 -0.5**
S58A IAmb IAmb 20 32 22.2
comp=Z,99nm,1.7s
T53A **Wise** **57.49 349** P **P** **20 32 16.5 +0.1**
baz=167
Z38A **Mt. Pleasant** **57.51 336** P **P** **20 32 17.4 +0.9**
Z38A IAmb IAmb 20 32 32.8
comp=Z,137nm,1.4s
SLBS **Sierra La Lagu** **57.53 317** P **P** **20 32 17.6 +0.7**
S59A **Mechanicsville** **57.53 354** P **P** **20 32 17.6 +1.0**
baz=173
U49A **Red Boiling Sp** **57.70 346** P **P** **20 32 17.7 -0.1**
U49A IAMs_20 IAMs_20 20 58 43.5
comp=Z,3µm,20.0s
S56A **Natural Bridge** **57.71 352** P **P** **20 32 18.7 +0.8**
baz=170
S57A **Dark Hollow, R** **57.72 353** P **P** **20 32 19.2 +1.3**
baz=171,SNR=13
S57A **Dark Hollow, R** **57.72 353** P **P** **20 32 18.2 +0.3**
S57A IAmb IAmb 20 32 30.6
comp=Z,151nm,1.6s
S57A IAMs_20 IAMs_20 20 58 33.6
comp=Z,4µm,20.0s
R58B **Mineral** **57.79 354** P **P** **20 32 19.4 +1.0**
baz=172,SNR=14
R58B **Mineral** **57.79 354** P **P** **20 32 18.9 +0.5**
R58B IAmb IAmb 20 32 24.7
comp=Z,117nm,1.6s
X40A **Basin Creek Fa** **57.83 339** P **P** **20 32 19.0 +0.2**
baz=156
X40A **Basin Creek Fa** **57.83 339** P **P** **20 32 18.2 -0.6**
WVT **Waverly** **57.84 344** P **P** **20 32 17.9 -0.9**
baz=161
WVT **Waverly** **57.84 344** P **P** **20 32 17.9 -0.9**
WVT pmax pmax
comp=Z,47nm,0.8s
WVT MLR MLR
comp=Z,2µm,20.0s
WVT **Waverly** **57.84 344** P **P** **20 32 17.9 -0.9**
WVT IAmb IAmb 20 34 10.1
comp=Z,48nm,0.8s
UALR **University of** **57.93 339** P **P** **20 32 19.6 +0.2**
UALR IAmb IAmb 20 32 33.8
comp=Z,110nm,1.4s
S55A **Lewisburg** **57.93 351** P **P** **20 32 20.2 +0.7**
baz=169,SNR=20
R61A **Willards** **57.94 356** IAMs_20 IAMs_20 21 00 55.4
comp=Z,3µm,18.0s
R59A **King George, V** **57.95 354** P **P** **20 32 20.5 +1.0**
baz=173
R60A **Leonardtown, M** **57.97 355** P **P** **20 32 20.3 +0.7**
baz=174
CBN **Corbin Frederi** **57.98 354** P **P** **20 32 20.7 +1.0**
baz=173
CBN **Corbin Frederi** **57.98 354** P **P** **20 32 19.9 +0.2**
T50A **Nancy** **57.98 347** P **P** **20 32 19.4 -0.4**
T50A IAmb IAmb 20 32 32.7
comp=Z,48nm,1.0s
T50A IAMs_20 IAMs_20 20 57 28.9
comp=Z,4µm,21.0s
LPAR **Lepanto** **58.04 341** IAMs_20 IAMs_20 20 59 39.6
comp=Z,3µm,19.0s
S54A **Dingess, Beckl** **58.08 350** P **P** **20 32 21.2 +0.7**
baz=168,SNR=5.2
S54A **Dingess, Beckl** **58.08 350** P **P** **20 32 20.9 +0.4**
S54A IAmb IAmb 20 33 02.9
comp=Z,88nm,1.2s
S54A IAMs_20 IAMs_20 20 58 47.4
comp=Z,3µm,19.0s
S53A **Williamson** **58.10 350** P **P** **20 32 20.9 +0.2**
baz=168
TX31 **Lajitas Ar. Si** **58.12 326** P **P** **20 32 21.4 +0.3**
TX32 **Lajitas Array** **58.12 326** P **P** **20 32 21.3 +0.2**
TXAR **Lajitas Array** **58.12 326** P **P** **20 32 21.8 +0.8**
comp=Z,2.6nm,0.9s,baz=148,slow=7.4,SNR=17
TXAR LR LR 20 57 04.6
comp=Z,2µm,18.6s,baz=0.0,slow=36
TXAR PKP2bc 21 02 17.6
comp=Z,0.6nm,1.1s,baz=260,slow=2.6,SNR=3.5
TXAR **Lajitas Array** **58.12 326** P **P** **20 32 21.6 +0.6**
TXAR **Lajitas Array** **58.12 326** P **P** **20 32 21.6 +0.6**
R58A **Rapidan** **58.14 353** P **P** **20 32 21.9 +1.1**
baz=172,SNR=10
MIAR **Mount Ida** **58.14 338** P **P** **20 32 21.7 +0.8**
baz=155,SNR=26
MIAR **Mount Ida** **58.14 338** P **P** **20 32 21.3 +0.4**
MIAR pmax pmax
comp=Z,142nm,1.6s
MIAR MLR MLR
comp=Z,1µm,21.0s
MIAR **Mount Ida** **58.14 338** P **P** **20 32 21.3 +0.4**
MIAR IAmb IAmb 20 32 35.5
comp=Z,142nm,1.6s
R57A **Stanardsville** **58.19 353** P **P** **20 32 22.4 +1.2**
baz=172,SNR=15
W41B **Gary Mavity, V** **58.26 340** P **P** **20 32 22.2 +0.5**
baz=156,SNR=11
W41B **Gary Mavity, V** **58.26 340** P **P** **20 32 21.7 0.0**
W41B IAmb IAmb 20 32 36.2
comp=Z,116nm,1.6s
LNXT **Lenox** **58.27 342** P **P** **20 32 21.9 +0.1**
GNAR **Gosnell** **58.29 342** P **P** **20 32 22.6 +0.6**
UTMT **University of** **58.32 343** P **P** **20 32 22.8 +0.7**
S51A **Beattyville** **58.33 348** IAMs_20 IAMs_20 20 58 42.9
comp=Z,4µm,20.0s
GLAT **Glass** **58.37 343** P **P** **20 32 23.1 +0.6**
WHAR **Wooly Hollow** **58.38 340** P **P** **20 32 23.0 +0.5**
WHAR IAmb IAmb 20 32 39.5
comp=Z,54nm,1.2s
R55A **Marlinton** **58.38 352** P **P** **20 32 24.1 +1.5**
baz=170,SNR=11
R55A **Marlinton** **58.38 352** P **P** **20 32 23.2 +0.5**
R55A IAMs_20 IAMs_20 20 58 26.2
comp=Z,4µm,21.0s
PEBM **Pemiscott Bayo** **58.39 342** P **P** **20 32 23.5 +0.9**
R54A **Victor** **58.41 351** P **P** **20 32 23.4 +0.7**
baz=169,SNR=7.1
R56A **Bull Pasture M** **58.41 352** P **P** **20 32 24.0 +1.2**
baz=171
Z35A **Perchaven, San** **58.46 334** P **P** **20 32 23.8 +0.6**
Z35A IAmb IAmb 20 32 36.1
comp=Z,127nm,1.2s
T47A **Sharon Grove** **58.47 345** P **P** **20 32 23.1 0.0**
T47A IAMs_20 IAMs_20 20 57 35.9
comp=Z,4µm,22.0s
Q61A **Milford** **58.48 356** P **P** **20 32 23.9 +0.7**
baz=175
Q59A **Harwood** **58.57 355** P **P** **20 32 24.9 +1.1**
baz=174
HICK **Hickman** **58.61 343** P **P** **20 32 24.9 +0.8**
PVMO **Portageville** **58.62 342** IAMs_20 IAMs_20 20 59 13.9
comp=Z,3µm,20.0s
PENMO **Penman** **58.63 342** P **P** **20 32 24.8 +0.5**
PENMO IAMs_20 IAMs_20 20 59 13.3
comp=Z,3µm,21.0s
Q60A **Greensboro** **58.64 356** P **P** **20 32 24.6 +0.4**
baz=175
Q60A **Greensboro** **58.64 356** P **P** **20 32 24.5 +0.2**
Q60A IAMs_20 IAMs_20 21 01 18.0
comp=Z,3µm,18.0s
R53A **Hurricane** **58.71 350** P **P** **20 32 24.7 -0.1**
R53A IAmb IAmb 20 32 31.8
comp=Z,38nm,0.6s
R53A IAMs_20 IAMs_20 21 01 23.9
comp=Z,4µm,18.0s
LCAR **Lake Charles** **58.73 341** P **P** **20 32 24.8 -0.2**
Q58A **Fox Den Farm,** **58.74 354** P **P** **20 32 26.0 +1.0**
baz=173,SNR=14
W39A **Magazine** **58.80 338** P **P** **20 32 26.5 +1.0**
baz=155,SNR=23
W39A **Magazine** **58.80 338** P **P** **20 32 25.6 +0.1**
X37A **Clayton** **58.83 337** P **P** **20 32 26.1 +0.4**
X37A IAmb IAmb 20 32 41.9
comp=Z,119nm,1.3s
PARMO **Parma** **58.87 342** P **P** **20 32 27.0 +1.1**
PARMO IAMs_20 IAMs_20 20 59 20.5
comp=Z,3µm,20.0s
FCAR **Ozark Folk Cen** **58.87 340** P **P** **20 32 25.9 -0.1**
FCAR IAmb IAmb 20 32 39.9
comp=Z,112nm,1.9s
ABTX **Abilene, Hawle** **58.88 332** P **P** **20 32 27.2 +1.0**
baz=148
ABTX **Abilene, Hawle** **58.88 332** P **P** **20 32 27.1 +0.9**
ABTX IAmb IAmb 20 32 38.8
comp=Z,50nm,1.1s
T45A **Paducah** **58.90 344** P **P** **20 32 26.2 +0.1**
T45A IAmb IAmb 20 34 06.1
comp=Z,136nm,0.5s
T45A IAMs_20 IAMs_20 21 00 27.1
comp=Z,2µm,20.0s
Q57A **Strasburg** **58.91 353** P **P** **20 32 27.8 +1.5**
baz=172,SNR=20
Q56A **Snyder Ridge,** **59.01 353** P **P** **20 32 28.2 +1.3**
baz=171,SNR=19
Q56A **Snyder Ridge,** **59.01 353** P **P** **20 32 28.6 +1.7**
Q55A **Buckhannon** **59.08 352** P **P** **20 32 28.8 +1.4**
baz=170,SNR=16
R50A **Paris** **59.09 348** IAMs_20 IAMs_20 20 59 08.2
comp=Z,4µm,20.0s
SDMD **Soldier's Deli** **59.13 355** P **P** **20 32 28.5 +0.8**
Q53A **Leroy** **59.15 350** P **P** **20 32 28.9 +1.0**
baz=168
PBMO **Poplar Bluff** **59.17 342** P **P** **20 32 28.4 +0.4**
PBMO IAmb IAmb 20 32 42.6
comp=Z,98nm,1.4s
Q54A **Coxs Mills** **59.17 351** P **P** **20 32 29.0 +1.0**
baz=169
Q54A **Coxs Mills** **59.17 351** P **P** **20 32 28.2 +0.2**
Q54A IAmb IAmb 20 32 55.9
comp=Z,42nm,1.1s
Q54A IAMs_20 IAMs_20 20 58 39.2
comp=Z,4µm,21.0s
P61A **Hammonton** **59.24 357** P **P** **20 32 29.1 +0.7**
baz=176
P61A **Hammonton** **59.24 357** P **P** **20 32 29.4 +0.9**
P61A IAMs_20 IAMs_20 21 02 14.8
comp=Z,3µm,19.0s
P58A **Pank, Wackersv** **59.25 354** P **P** **20 32 29.6 +1.1**
baz=173,SNR=8.7
RKT **Rikitea** **59.25 254** eS **S** **20 40 30.6 -6.3**
comp=Z,8µm,25.5s
RKT eLR LR 20 49 50.7
comp=Z,8µm,31.2s
R49A **Shelbyville** **59.27 347** P **P** **20 32 28.6 -0.1**
R49A IAmb IAmb 20 34 22.9
comp=Z,59nm,1.1s
R49A IAMs_20 IAMs_20 20 58 09.1
comp=Z,4µm,20.0s
P59A **Jarrettsville** **59.29 355** P **P** **20 32 29.7 +0.9**
baz=174,SNR=8.1
P57A **Homestead Farm** **59.31 354** P **P** **20 32 30.3 +1.3**
baz=172,SNR=10
P57A **Homestead Farm** **59.31 354** P **P** **20 32 30.0 +1.0**
P57A IAmb IAmb 20 32 42.2
comp=Z,118nm,1.6s
Q52A **Bidwell** **59.38 350** P **P** **20 32 30.1 +0.6**
baz=168
P56A **Dayton Farm, R** **59.42 353** P **P** **20 32 31.2 +1.4**
baz=171,SNR=17
P60A **Greenville** **59.43 356** P **P** **20 32 30.5 +0.7**
baz=175
P60A **Greenville** **59.43 356** P **P** **20 32 29.9 +0.1**
P60A IAMs_20 IAMs_20 21 02 15.9
comp=Z,3µm,18.0s
WCI **Wyandotte Cave** **59.46 346** P **P** **20 32 30.1 0.0**
baz=163
WCI **Wyandotte Cave** **59.46 346** P **P** **20 32 29.7 -0.3**
WCI pmax pmax
comp=Z,218nm,0.9s
WCI MLR MLR
comp=Z,4µm,18.0s
WCI **Wyandotte Cave** **59.46 346** P **P** **20 32 29.7 -0.3**
WCI **Wyandotte Cave** **59.46 346** IAMs_20 IAMs_20 20 59 56.1
comp=Z,4µm,18.0s
U40A **Yellville** **59.54 340** P **P** **20 32 31.0 +0.3**
baz=156,SNR=14
U40A **Yellville** **59.54 340** P **P** **20 32 30.6 0.0**
USIN **University of** **59.54 345** P **P** **20 32 30.5 -0.1**
USIN IAMs_20 IAMs_20 21 02 18.1
comp=Z,3µm,18.0s
P55A **Reedsville** **59.55 352** P **P** **20 32 31.5 +0.8**
baz=170,SNR=12
Q51A **Peebles** **59.62 349** P **P** **20 32 31.4 +0.2**
Q51A IAMs_20 IAMs_20 20 59 07.3
comp=Z,4µm,20.0s
O61A **Allentown** **59.65 357** P **P** **20 32 31.9 +0.7**
baz=176
MVL **Millersville** **59.67 355** P **P** **20 32 31.4 0.0**
MVL IAmb IAmb 20 32 51.5
comp=Z,74nm,1.5s
MVL IAMs_20 IAMs_20 21 00 51.2
comp=Z,3µm,18.0s
S44A **Carbondale** **59.69 343** P **P** **20 32 31.7 +0.1**
MCWV **Mont Chateau** **59.70 352** P **P** **20 32 32.6 +1.0**
baz=170
MCWV **Mont Chateau** **59.70 352** P **P** **20 32 32.4 +0.8**
P54A **Burton** **59.73 352** P **P** **20 32 32.5 +0.6**
baz=170,SNR=19
P53A **Whipple** **59.75 351** P **P** **20 32 32.5 +0.5**
baz=169,SNR=11
P53A **Whipple** **59.75 351** P **P** **20 32 32.6 +0.7**
P53A IAmb IAmb 20 32 37.4
comp=Z,136nm,1.6s
P53A IAMs_20 IAMs_20 20 59 18.4
comp=Z,3µm,21.0s
HHAR **Hobbs** **59.83 339** P **P** **20 32 33.0 +0.3**
HHAR IAmb IAmb 20 32 48.0
comp=Z,96nm,1.5s
O58A **Lewisberry** **59.84 355** P **P** **20 32 34.0 +1.3**
baz=174,SNR=7.4
W35A **Tecumseh** **59.90 336** P **P** **20 32 33.3 +0.1**
O60A **Telford** **59.92 356** P **P** **20 32 34.5 +1.4**
baz=175
O59A **Robesonia** **59.97 355** P **P** **20 32 34.9 +1.4**
baz=174
O57A **Amberson** **59.99 354** P **P** **20 32 35.0 +1.3**
baz=173,SNR=21
P52A **Corning** **60.01 350** P **P** **20 32 33.6 -0.2**
baz=168
P52A **Corning** **60.01 350** P **P** **20 32 33.2 -0.6**
P52A IAMs_20 IAMs_20 20 59 39.4
comp=Z,4µm,20.0s
P51A **Williamsport** **60.02 349** P **P** **20 32 33.7 -0.2**
baz=167
P51A **Williamsport** **60.02 349** P **P** **20 32 32.6 -1.2**
P51A IAMs_20 IAMs_20 20 59 08.6
comp=Z,4µm,21.0s
U38A **Gravette** **60.13 338** P **P** **20 32 35.1 +0.3**
U38A IAmb IAmb 20 33 10.5
comp=Z,55nm,1.4s
O56A **Blue Knob Stat** **60.15 353** P **P** **20 32 35.8 +1.0**
baz=172,SNR=19
O56A **Blue Knob Stat** **60.15 353** P **P** **20 32 35.8 +1.0**
O56A IAMs_20 IAMs_20 20 59 59.9
comp=Z,3µm,19.0s
TUL1 **Leonard** **60.16 337** P **P** **20 32 35.5 +0.6**
baz=153,SNR=10
TUL1 **Leonard** **60.16 337** P **P** **20 32 34.8 -0.1**
TUL1 IAmb IAmb 20 32 41.3
comp=Z,114nm,1.3s
O55A **Ligonier** **60.17 353** P **P** **20 32 36.0 +1.1**
baz=171,SNR=18
O54A **Avella** **60.28 352** P **P** **20 32 36.4 +0.7**
baz=170
O54A **Avella** **60.28 352** P **P** **20 32 35.9 +0.2**
O54A IAmb IAmb 20 33 24.6
comp=Z,70nm,1.1s
N61A **South Mountain** **60.29 357** P **P** **20 32 36.7 +1.0**
baz=176
WMOK **Wichita Mounta** **60.31 334** P **P** **20 32 36.6 +0.6**
baz=150
WMOK **Wichita Mounta** **60.31 334** P **P** **20 32 35.5 -0.5**
WMOK pmax pmax
comp=Z,45nm,1.7s
WMOK MLR MLR
comp=Z,2µm,21.0s
WMOK **Wichita Mounta** **60.31 334** P **P** **20 32 35.5 -0.5**
CPNY **Central Park** **60.31 357** P **P** **20 32 37.0 +1.2**
CPNY IAmb IAmb 20 32 53.4
comp=Z,147nm,1.9s
OLIL **Olney** **60.37 345** P **P** **20 32 35.6 -0.6**
OLIL IAMs_20 IAMs_20 20 58 43.2
comp=Z,4µm,22.0s
P49A **Miami Univ. Ec** **60.38 348** P **P** **20 32 36.0 -0.3**
baz=165
P49A **Miami Univ. Ec** **60.38 348** P **P** **20 32 36.2 -0.1**
P49A IAmb IAmb 20 32 56.8
comp=Z,52nm,0.6s
P49A IAMs_20 IAMs_20 21 00 07.3
comp=Z,4µm,20.0s
BLO **Bloomington** **60.41 346** P **P** **20 32 36.2 -0.4**
BLO pmax pmax
comp=Z,110nm,0.6s
BLO MLR MLR
comp=Z,4µm,21.0s
BLO **Bloomington** **60.41 346** P **P** **20 32 36.1 -0.4**
BLO IAMs_20 IAMs_20 20 59 57.3
comp=Z,4µm,21.0s
O52A **Adamsville** **60.43 350** P **P** **20 32 37.1 +0.4**
baz=168
O52A **Adamsville** **60.43 350** IAMs_20 IAMs_20 21 01 26.6
comp=Z,3µm,19.0s
N62A **Caunsett State** **60.43 358** P **P** **20 32 37.4 +0.8**
baz=177
SSPA **Standing Stone** **60.44 354** P **P** **20 32 37.8 +1.1**
baz=172
SSPA **Standing Stone** **60.44 354** P **P** **20 32 36.7 0.0**
N60A **Cedar Hill Far** **60.45 356** P **P** **20 32 37.4 +0.7**
baz=176
P48A **Milroy** **60.45 347** P **P** **20 32 36.1 -0.7**
P48A IAmb IAmb 20 34 04.2
comp=Z,54nm,0.8s
P48A IAMs_20 IAMs_20 20 58 44.3
comp=Z,4µm,21.0s
O53A **New Philadelph** **60.47 351** P **P** **20 32 37.6 +0.6**
baz=169
O53A **New Philadelph** **60.47 351** P **P** **20 32 36.9 -0.1**
O53A IAMs_20 IAMs_20 20 59 31.0
comp=Z,3µm,22.0s

N57A	**Milroy**	**60.52**	**354**	P	**P**	**20 32 38.3**	**+1.0**
	baz=173,SNR=18						
PAL	**Palisades**	**60.52**	**357**	P	**P**	**20 32 38.1**	**+0.8**
	baz=177						
PAL	**Palisades**	**60.52**	**357**	P	**P**	**20 32 36.8**	**-0.5**
PAL				pmax	pmax		
	comp=Z,127nm,1.7s						
PAL				MLR	MLR		
	comp=Z,3µm,20.0s						
PAL	**Palisades**	**60.52**	**357**	P	**P**	**20 32 36.8**	**-0.5**
PAL				IAmb	IAmb	20 32 53.9	
	comp=Z,127nm,1.7s						
PAL				IAMs_20	IAMs_20	20 58 50.8	
	comp=Z,3µm,20.0s						
N58A	**Sunbury**	**60.53**	**355**	P	**P**	**20 32 38.4**	**+1.0**
	baz=174,SNR=8.7						
N58A	**Sunbury**	**60.53**	**355**	P	**P**	**20 32 37.0**	**-0.4**
N58A				IAmb	IAmb	20 32 55.7	
	comp=Z,130nm,1.7s						
N58A				IAMs_20	IAMs_20	21 00 59.1	
	comp=Z,3µm,19.0s						
N59A	**State Game Lan**	**60.54**	**356**	P	**P**	**20 32 38.6**	**+1.2**
	baz=175						
N59A	**State Game Lan**	**60.54**	**356**	P	**P**	**20 32 37.7**	**+0.2**
N59A				IAmb	IAmb	20 32 54.8	
	comp=Z,92nm,1.8s						
N59A				IAMs_20	IAMs_20	21 02 59.2	
	comp=Z,4µm,18.0s						
O51A	**Pataskala**	**60.59**	**350**	P	**P**	**20 32 38.1**	**+0.4**
	baz=167						
CCM	**Cathedral Cave**	**60.60**	**342**	P	**P**	**20 32 38.1**	**+0.3**
	baz=158						
CCM	**Cathedral Cave**	**60.60**	**342**	P	**P**	**20 32 38.0**	**+0.1**
CCM				pmax	pmax		
	comp=Z,99nm,1.6s						
CCM				MLR	MLR		
	comp=Z,2µm,20.0s						
CCM	**Cathedral Cave**	**60.60**	**342**	P	**P**	**20 32 38.0**	**+0.1**
CCM				IAmb	IAmb	20 32 51.8	
	comp=Z,99nm,1.6s						
ODNJ	**Ogdensburg**	**60.63**	**357**	P	**P**	**20 32 38.3**	**+0.3**
ODNJ				IAMs_20	IAMs_20	21 01 27.7	
	comp=Z,3µm,19.0s						
WSPT	**Westport, CT**	**60.67**	**358**	P	**P**	**20 32 38.4**	**+0.2**
WSPT				IAmb	IAmb	20 32 55.9	
	comp=Z,157nm,1.7s						
WSPT				IAMs_20	IAMs_20	21 00 02.6	
	comp=Z,3µm,21.0s						
N55A	**Marion Center**	**60.70**	**353**	P	**P**	**20 32 39.7**	**+1.2**
	baz=171,SNR=52						
ACSO	**Alum Creek Sta**	**60.73**	**349**	P	**P**	**20 32 38.9**	**+0.2**
	baz=167						
ACSO	**Alum Creek Sta**	**60.73**	**349**	IAMs_20	IAMs_20	20 59 40.6	
	comp=Z,4µm,21.0s						
N56A	**West Decatur**	**60.76**	**354**	P	**P**	**20 32 40.0**	**+1.1**
	baz=172,SNR=25						
Q44A	**Meyer Farm, Va**	**60.77**	**344**	P	**P**	**20 32 38.7**	**-0.2**
Q44A				IAmb	IAmb	20 34 19.8	
	comp=Z,50nm,0.9s						
GDL2	**Guadalupe Moun**	**60.77**	**328**	P	**P**	**20 32 40.2**	**+0.9**
YLE	**Yale**	**60.80**	**358**	P	**P**	**20 32 39.5**	**+0.4**
YLE				IAMs_20	IAMs_20	21 02 34.0	
	comp=Z,3µm,19.0s						
M61A	**Granite Spring**	**60.82**	**358**	P	**P**	**20 32 40.0**	**+0.7**
	baz=177						
M63A	**Gales Ferry**	**60.87**	**359**	P	**P**	**20 32 40.4**	**+0.8**
	baz=179						
M60A	**Port Jervis**	**60.88**	**357**	P	**P**	**20 32 41.3**	**+1.6**
	baz=176						
MNTX	**Cornudas Mount**	**60.89**	**327**	P	**P**	**20 32 40.4**	**+0.4**
	baz=143,SNR=22						
MNTX	**Cornudas Mount**	**60.89**	**327**	P	**P**	**20 32 40.1**	**+0.1**
S39A	**Bolivar**	**60.91**	**340**	P	**P**	**20 32 40.0**	**0.0**
S39A				IAmb	IAmb	20 32 55.1	
	comp=Z,124nm,1.5s						
S39A				IAMs_20	IAMs_20	21 01 28.6	
	comp=Z,3µm,20.0s						
M62A	**Hamden**	**60.93**	**358**	P	**P**	**20 32 41.4**	**+1.4**
	baz=178						
O49A	**Covington**	**60.94**	**348**	P	**P**	**20 32 39.5**	**-0.6**
O49A				IAmb	IAmb	20 33 27.9	
	comp=Z,47nm,0.9s						
O49A				IAMs_20	IAMs_20	21 00 01.0	
	comp=Z,3µm,20.0s						
N53A	**Lisbon**	**60.96**	**351**	P	**P**	**20 32 41.4**	**+1.1**
	baz=169						
N53A	**Lisbon**	**60.96**	**351**	P	**P**	**20 32 40.2**	**0.0**
N53A				IAmb	IAmb	20 32 45.8	
	comp=Z,138nm,1.8s						
N53A				IAMs_20	IAMs_20	21 00 06.7	
	comp=Z,4µm,20.0s						
P46A	**Rosedale**	**61.00**	**346**	IAMs_20	IAMs_20	21 00 15.7	
	comp=Z,3µm,21.0s						
N54A	**Moraine State**	**61.00**	**352**	P	**P**	**20 32 41.4**	**+0.9**
	baz=170,SNR=17						
N54A	**Moraine State**	**61.00**	**352**	P	**P**	**20 32 40.7**	**+0.2**
N54A				IAMs_20	IAMs_20	20 59 46.0	
	comp=Z,4µm,21.0s						
M64A	**Tiverton**	**61.01**	**360**	P	**P**	**20 32 41.1**	**+0.6**
	baz=180						
M58A	**Price's Panora**	**61.04**	**355**	P	**P**	**20 32 42.0**	**+1.2**
	baz=174,SNR=26						
M57A	**Sunshine Farm,**	**61.06**	**355**	P	**P**	**20 32 42.2**	**+1.2**
	baz=173,SNR=15						
M57A	**Sunshine Farm,**	**61.06**	**355**	P	**P**	**20 32 41.2**	**+0.2**
M57A				IAmb	IAmb	20 32 47.5	
	comp=Z,144nm,1.6s						
M57A				IAMs_20	IAMs_20	21 03 05.1	
	comp=Z,3µm,18.0s						
N52A	**McGinn's Farm,**	**61.09**	**351**	P	**P**	**20 32 41.2**	**+0.1**
	baz=168						
R40A	**Maddies Statio**	**61.12**	**341**	P	**P**	**20 32 41.0**	**-0.4**
R40A				IAmb	IAmb	20 32 56.2	
	comp=Z,82nm,1.3s						
M59A	**Waymart**	**61.14**	**356**	P	**P**	**20 32 42.2**	**+0.8**
	baz=175,SNR=13						
O48A	**Farmland**	**61.16**	**348**	P	**P**	**20 32 41.2**	**-0.4**
	baz=165						
KSPA	**Keystone Colle**	**61.18**	**356**	P	**P**	**20 32 42.6**	**+0.8**
KSPA				IAmb	IAmb	20 32 60.0	
	comp=Z,128nm,1.7s						
KSPA				IAMs_20	IAMs_20	21 00 24.1	
	comp=Z,3µm,20.0s						
KSCT	**Kent School, K**	**61.23**	**358**	P	**P**	**20 32 42.7**	**+0.7**
KSCT				IAmb	IAmb	20 32 56.8	
	comp=Z,58nm,1.5s						
KSCT				IAMs_20	IAMs_20	21 00 18.4	
	comp=Z,3µm,20.0s						
N51A	**Ashland**	**61.30**	**350**	P	**P**	**20 32 42.6**	**+0.1**
	baz=168						
N51A	**Ashland**	**61.30**	**350**	P	**P**	**20 32 42.8**	**+0.2**
N51A				IAmb	IAmb	20 32 47.5	
	comp=Z,115nm,1.7s						
N51A				IAMs_20	IAMs_20	21 01 53.6	
	comp=Z,3µm,20.0s						
M56A	**Emporium**	**61.31**	**354**	P	**P**	**20 32 43.7**	**+1.1**
	baz=172,SNR=23						
M56A	**Emporium**	**61.31**	**354**	P	**P**	**20 32 43.0**	**+0.4**
M56A				IAMs_20	IAMs_20	21 01 40.6	
	comp=Z,2µm,19.0s						
T35A	**Sooner Cattle**	**61.32**	**337**	P	**P**	**20 32 43.0**	**+0.2**
T35A				IAmb	IAmb	20 32 49.3	
	comp=Z,71nm,1.2s						
L63A	**North Scituate**	**61.32**	**359**	P	**P**	**20 32 43.4**	**+0.7**
	baz=179,SNR=11						
M55A	**Ridgway**	**61.35**	**353**	P	**P**	**20 32 44.0**	**+1.1**
	baz=172,SNR=39						
M55A	**Ridgway**	**61.35**	**353**	P	**P**	**20 32 42.8**	**-0.1**
M55A				IAMs_20	IAMs_20	21 01 24.9	
	comp=Z,3µm,20.0s						
BRYW	**Bryant College**	**61.38**	**360**	P	**P**	**20 32 43.3**	**+0.2**
L64A	**Middleborough**	**61.39**	**0**	P	**P**	**20 32 44.2**	**+1.0**
	baz=180						
MSTX	**Muleshoe**	**61.44**	**330**	P	**P**	**20 32 44.1**	**+0.3**
	baz=146,SNR=14						
MSTX	**Muleshoe**	**61.44**	**330**	P	**P**	**20 32 43.2**	**-0.6**
MSTX				IAmb	IAmb	20 32 54.8	
	comp=Z,67nm,1.1s						
M54A	**Oil Creek Stat**	**61.50**	**353**	P	**P**	**20 32 45.0**	**+1.1**
	baz=171,SNR=17						
M54A	**Oil Creek Stat**	**61.50**	**353**	P	**P**	**20 32 44.2**	**+0.3**
L62A	**Suffield**	**61.51**	**359**	P	**P**	**20 32 44.7**	**+0.8**
	baz=178						
L60A	**Shokan**	**61.52**	**357**	P	**P**	**20 32 45.2**	**+1.1**
	baz=176,SNR=6.3						
EPT	**El Paso**	**61.54**	**326**	IAMs_20	IAMs_20	20 58 09.8	
	comp=Z,2µm,19.0s						
M53A	**WI Miller and**	**61.56**	**352**	P	**P**	**20 32 44.9**	**+0.5**
	baz=170						
M53A	**WI Miller and**	**61.56**	**352**	P	**P**	**20 32 44.5**	**+0.2**
M53A				IAMs_20	IAMs_20	21 00 03.4	
	comp=Z,4µm,21.0s						
P43A	**Skaggs, Pawnee**	**61.59**	**344**	P	**P**	**20 32 44.4**	**-0.1**
P43A				IAMs_20	IAMs_20	21 03 26.6	
	comp=Z,3µm,19.0s						
N49A	**Columbus Grove**	**61.62**	**349**	P	**P**	**20 32 44.3**	**-0.4**
N49A				IAMs_20	IAMs_20	21 02 14.0	
	comp=Z,3µm,20.0s						
L58A	**Harry Jones Me**	**61.67**	**356**	P	**P**	**20 32 46.0**	**+1.0**
	baz=175,SNR=19						
M51A	**Elyria**	**61.67**	**350**	P	**P**	**20 32 44.9**	**-0.1**
	baz=168						
ALLY	**Alegheny Colle**	**61.70**	**352**	P	**P**	**20 32 45.6**	**+0.4**
ALLY				IAMs_20	IAMs_20	21 00 29.0	
	comp=Z,4µm,21.0s						
L61A	**Hillsdale 1, H**	**61.70**	**358**	P	**P**	**20 32 46.1**	**+0.9**
	baz=177						
SFIN	**Lafayette**	**61.70**	**346**	P	**P**	**20 32 44.5**	**-0.8**
	baz=163						
SFIN	**Lafayette**	**61.70**	**346**	P	**P**	**20 32 44.5**	**-0.8**
SFIN				IAmb	IAmb	20 34 10.7	
	comp=Z,39nm,0.6s						
SFIN				IAMs_20	IAMs_20	21 00 04.2	
	comp=Z,4µm,20.0s						
L57A	**Andrews Acres**	**61.70**	**355**	P	**P**	**20 32 46.2**	**+1.0**
	baz=174,SNR=11						
QUA2	**Belchertown**	**61.75**	**359**	P	**P**	**20 32 46.0**	**+0.4**
QUA2				IAmb	IAmb	20 33 03.1	
	comp=Z,63nm,1.5s						
M52A	**Chesterland**	**61.76**	**351**	P	**P**	**20 32 46.3**	**+0.6**
	baz=169						
M52A	**Chesterland**	**61.76**	**351**	IAMs_20	IAMs_20	21 01 03.6	
	comp=Z,4µm,20.0s						
L59A	**Walton**	**61.76**	**357**	P	**P**	**20 32 47.0**	**+1.3**
	baz=176,SNR=25						
L59A	**Walton**	**61.76**	**357**	P	**P**	**20 32 46.5**	**+0.8**
L59A				IAMs_20	IAMs_20	21 02 33.6	
	comp=Z,2µm,19.0s						
O44A	**Mansfield**	**61.81**	**345**	IAMs_20	IAMs_20	21 01 25.2	
	comp=Z,4µm,20.0s						
BINY	**Binghamton**	**61.83**	**356**	P	**P**	**20 32 47.4**	**+1.2**
	baz=175,SNR=16						
BINY	**Binghamton**	**61.83**	**356**	P	**P**	**20 32 46.4**	**+0.2**
BINY				IAMs_20	IAMs_20	21 03 56.4	
	comp=Z,3µm,18.0s						
WES	**Weston**	**61.84**	**360**	P	**P**	**20 32 46.6**	**+0.4**
WES				pmax	pmax		
	comp=Z,108nm,1.7s						
WES				MLR	MLR		
	comp=Z,2µm,20.0s						
WES	**Weston**	**61.84**	**360**	P	**P**	**20 32 46.6**	**+0.4**
WES				IAmb	IAmb	20 33 04.0	
	comp=Z,108nm,1.7s						
N47A	**Urbana**	**61.87**	**347**	P	**P**	**20 32 45.7**	**-0.7**
N47A				IAMs_20	IAMs_20	21 00 53.9	
	comp=Z,4µm,20.0s						
M50A	**Fremont**	**61.88**	**350**	P	**P**	**20 32 46.2**	**-0.3**
M50A				IAmb	IAmb	20 32 52.1	
	comp=Z,47nm,0.9s						
M50A				IAMs_20	IAMs_20	21 00 26.0	
	comp=Z,4µm,20.0s						
L56A	**Greenwood**	**61.90**	**354**	P	**P**	**20 32 47.6**	**+0.9**
	baz=173,SNR=20						
L56A	**Greenwood**	**61.90**	**354**	P	**P**	**20 32 47.0**	**+0.4**
L56A				IAMs_20	IAMs_20	21 03 30.1	
	comp=Z,3µm,19.0s						
L61B	**Northampton**	**61.93**	**359**	P	**P**	**20 32 47.2**	**+0.4**
	baz=178,SNR=9.2						
HRV	**Adam Dziewonsk**	**61.97**	**360**	P	**P**	**20 32 48.3**	**+1.2**
	baz=179						
HRV	**Adam Dziewonsk**	**61.97**	**360**	P	**P**	**20 32 47.7**	**+0.7**
HRV				pmax	pmax		
	comp=Z,125nm,1.6s						
HRV				MLR	MLR		
	comp=Z,2µm,20.0s						
HRV	**Adam Dziewonsk**	**61.97**	**360**	P	**P**	**20 32 47.7**	**+0.7**
HRV				IAmb	IAmb	20 33 05.0	
	comp=Z,125nm,1.6s						
HSIG		**61.98**	**320**	IAMs_20	IAMs_20	20 57 57.4	
	comp=Z,2µm,18.0s						
L53A	**Girard**	**62.01**	**352**	P	**P**	**20 32 47.8**	**+0.4**
	baz=170,SNR=10						
L55A	**Hinsdale**	**62.03**	**354**	P	**P**	**20 32 48.2**	**+0.7**
	baz=172,SNR=23						
K60A	**Five Rivers En**	**62.13**	**358**	P	**P**	**20 32 49.3**	**+1.2**
	baz=177						
K62A	**Royalston**	**62.13**	**359**	P	**P**	**20 32 49.4**	**+1.2**
	baz=179						
K62A	**Royalston**	**62.13**	**359**	P	**P**	**20 32 48.3**	**+0.1**
K62A				IAmb	IAmb	20 33 06.3	
	comp=Z,59nm,1.4s						
ERPA	**Erie**	**62.14**	**352**	P	**P**	**20 32 48.7**	**+0.5**
	baz=170,SNR=7.6						
ERPA	**Erie**	**62.14**	**352**	P	**P**	**20 32 48.5**	**+0.3**
ERPA				IAMs_20	IAMs_20	21 00 41.7	
	comp=Z,3µm,21.0s						
K63A	**Dunstable**	**62.15**	**360**	P	**P**	**20 32 49.4**	**+1.2**
	baz=179						
K61A	**Williamstown**	**62.16**	**358**	P	**P**	**20 32 49.7**	**+1.3**
	baz=178,SNR=7.5						
L54A	**Sinclairville**	**62.17**	**353**	P	**P**	**20 32 49.4**	**+1.0**
	baz=171,SNR=34						
P40A	**Paris**	**62.20**	**342**	P	**P**	**20 32 48.4**	**-0.3**
P40A				IAmb	IAmb	20 33 03.5	
	comp=Z,92nm,1.4s						
P40A				IAMs_20	IAMs_20	20 59 23.6	
	comp=Z,3µm,22.0s						
TRY	**Troy**	**62.24**	**358**	P	**P**	**20 32 49.6**	**+0.8**
TRY				IAMs_20	IAMs_20	21 00 49.1	
	comp=Z,3µm,20.0s						
WVNY	**West Valley, N**	**62.26**	**354**	P	**P**	**20 32 50.1**	**+1.0**
WVNY				IAMs_20	IAMs_20	21 02 20.0	
	comp=Z,3µm,19.0s						
VNA3	**Neumayer Olymp**	**62.32**	**161**	P	**P**	**20 32 50.5**	**+1.4**
K59A	**Cooperstown**	**62.34**	**357**	P	**P**	**20 32 50.5**	**+1.0**
	baz=176,SNR=40						
K58A	**Earlville**	**62.37**	**356**	P	**P**	**20 32 50.5**	**+0.8**
	baz=175,SNR=32						
K58A	**Earlville**	**62.37**	**356**	P	**P**	**20 32 50.5**	**+0.8**
K58A				IAMs_20	IAMs_20	21 01 37.7	
	comp=Z,2µm,19.0s						
HDIL	**Hopedale**	**62.39**	**344**	P	**P**	**20 32 49.5**	**-0.4**
	baz=160						
HDIL	**Hopedale**	**62.39**	**344**	P	**P**	**20 32 48.6**	**-1.4**
HDIL				IAMs_20	IAMs_20	21 01 55.8	
	comp=Z,3µm,19.0s						
K57A	**Scipio Center**	**62.40**	**355**	P	**P**	**20 32 50.5**	**+0.5**
	baz=174,SNR=9.2						
K56A	**Middlesex**	**62.43**	**355**	P	**P**	**20 32 50.9**	**+0.7**
	baz=173						
L50A	**Kingsville**	**62.47**	**350**	P	**P**	**20 32 49.9**	**-0.5**
	baz=167						
K54A	**Basiliko Farm,**	**62.48**	**354**	P	**P**	**20 32 51.4**	**+1.0**
	baz=172,SNR=14						
MMNY	**Mt. Morris Dam**	**62.52**	**354**	P	**P**	**20 32 51.3**	**+0.6**
MMNY				IAMs_20	IAMs_20	21 03 50.6	
	comp=Z,2µm,19.0s						
K55A	**Perry**	**62.53**	**354**	P	**P**	**20 32 51.4**	**+0.5**
	baz=172,SNR=18						
VNA1	**Neumayer--Stat**	**62.55**	**161**	P	**P**	**20 32 52.8**	**+2.2**
L48A	**N Adams**	**62.65**	**349**	P	**P**	**20 32 50.8**	**-0.8**
L48A				IAMs_20	IAMs_20	20 59 46.9	
	comp=Z,3µm,22.0s						
J62A	**Henniker**	**62.69**	**359**	P	**P**	**20 32 52.8**	**+1.0**
	baz=179,SNR=7.6						
J63A	**Strafford**	**62.74**	**360**	P	**P**	**20 32 53.3**	**+1.1**
	baz=180						
P38A	**Dawn**	**62.74**	**341**	P	**P**	**20 32 52.0**	**-0.3**
J60A	**Lant Hill Farm**	**62.74**	**358**	P	**P**	**20 32 53.0**	**+0.8**
	baz=177,SNR=8.2						
319A	**Douglas**	**62.75**	**323**	P	**P**	**20 32 54.5**	**+1.8**
319A				IAmb	IAmb	20 33 40.4	
	comp=Z,41nm,1.1s						
319A				IAMs_20	IAMs_20	21 00 52.9	
	comp=Z,3µm,18.0s						
121A	**Cookes Peak, D**	**62.81**	**325**	P	**P**	**20 32 53.2**	**0.0**
	baz=141						
121A	**Cookes Peak, D**	**62.81**	**325**	P	**P**	**20 32 54.2**	**+1.0**
121A				IAmb	IAmb	20 33 05.2	
	comp=Z,46nm,1.3s						
121A				IAMs_20	IAMs_20	20 58 46.5	
	comp=Z,3µm,18.0s						
J61A	**Chester**	**62.82**	**359**	P	**P**	**20 32 54.2**	**+1.5**
	baz=178,SNR=12						
AAM	**Ann Arbor**	**62.86**	**349**	P	**P**	**20 32 53.0**	**0.0**
	baz=167						
AAM	**Ann Arbor**	**62.86**	**349**	IAMs_20	IAMs_20	21 03 14.9	
	comp=Z,3µm,20.0s						
M44A	**Midewin, Midew**	**62.88**	**346**	IAMs_20	IAMs_20	21 04 20.4	
	comp=Z,3µm,19.0s						
K52A	**Tillsonburg**	**62.88**	**352**	P	**P**	**20 32 53.4**	**+0.2**
	baz=170						
ACCN	**Adirondack Com**	**62.89**	**358**	P	**P**	**20 32 54.1**	**+0.9**
ACCN				IAmb	IAmb	20 32 59.7	
	comp=Z,109nm,1.5s						
K51A	**Iona Station**	**62.94**	**351**	P	**P**	**20 32 53.5**	**0.0**
	baz=169						
J58A	**Remsen**	**62.94**	**356**	P	**P**	**20 32 54.3**	**+0.8**
	baz=175,SNR=11						
J58A	**Remsen**	**62.94**	**356**	P	**P**	**20 32 54.4**	**+0.8**
J58A				IAmb	IAmb	20 32 59.6	
	comp=Z,35nm,1.1s						
J58A				IAMs_20	IAMs_20	21 03 26.8	
	comp=Z,3µm,19.0s						
N41A	**Harden Midland**	**62.95**	**343**	P	**P**	**20 32 53.1**	**-0.5**
N41A				IAMs_20	IAMs_20	21 04 20.5	
	comp=Z,2µm,19.0s						
J56A	**Wolcott**	**62.97**	**355**	P	**P**	**20 32 54.4**	**+0.7**
	baz=174,SNR=14						
J56A	**Wolcott**	**62.97**	**355**	P	**P**	**20 32 54.2**	**+0.6**
J56A				IAMs_20	IAMs_20	21 01 42.5	
	comp=Z,4µm,20.0s						
J59A	**Piesco**	**63.01**	**357**	P	**P**	**20 32 55.1**	**+1.1**
	baz=176,SNR=35						
J59A	**Piesco**	**63.01**	**357**	P	**P**	**20 32 54.5**	**+0.5**
J59A				IAMs_20	IAMs_20	21 01 27.4	
	comp=Z,3µm,19.0s						
J57A	**Williamstown**	**63.04**	**356**	P	**P**	**20 32 54.6**	**+0.5**
	baz=175,SNR=16						
J57A	**Williamstown**	**63.04**	**356**	P	**P**	**20 32 54.2**	**0.0**
J57A				IAMs_20	IAMs_20	21 04 42.3	
	comp=Z,3µm,19.0s						
J55A	**Hilton**	**63.04**	**354**	P	**P**	**20 32 54.3**	**+0.1**
	baz=173,SNR=20						
J55A	**Hilton**	**63.04**	**354**	P	**P**	**20 32 54.7**	**+0.6**
J55A				IAMs_20	IAMs_20	21 04 24.4	
	comp=Z,4µm,18.0s						
L46A	**Eue Claire**	**63.09**	**347**	IAMs_20	IAMs_20	21 01 04.9	
	comp=Z,3µm,19.0s						
J54A	**Appleton**	**63.12**	**354**	P	**P**	**20 32 55.3**	**+0.6**
	baz=172,SNR=7.0						
J54A	**Appleton**	**63.12**	**354**	P	**P**	**20 32 54.8**	**0.0**
J54A				IAMs_20	IAMs_20	21 03 04.7	
	comp=Z,3µm,19.0s						
K50A	**Casco**	**63.15**	**350**	P	**P**	**20 32 54.5**	**-0.5**
	baz=168						
K50A	**Casco**	**63.15**	**350**	P	**P**	**20 32 54.7**	**-0.2**
K50A				IAMs_20	IAMs_20	21 01 27.6	
	comp=Z,4µm,20.0s						
HNH	**Hanover**	**63.17**	**359**	P	**P**	**20 32 55.3**	**+0.3**
I58A	**Old Forge**	**63.25**	**357**	P	**P**	**20 32 56.3**	**+0.6**
	baz=176,SNR=25						
KSU1	**Kansas State U**	**63.29**	**338**	P	**P**	**20 32 55.7**	**-0.3**
KSU1				IAmb	IAmb	20 33 11.7	
	comp=Z,39nm,1.1s						
K49A	**Clarkson**	**63.30**	**350**	P	**P**	**20 32 56.4**	**+0.5**
	baz=167						
J52A	**Paris**	**63.30**	**352**	P	**P**	**20 32 56.3**	**+0.3**
	baz=170,SNR=20						
I59A	**Olmsteadville**	**63.31**	**358**	P	**P**	**20 32 56.9**	**+0.9**
	baz=177,SNR=24						
I62A	**Tamworth**	**63.33**	**360**	P	**P**	**20 32 56.8**	**+0.7**
	baz=180						
I62A	**Tamworth**	**63.33**	**360**	P	**P**	**20 32 56.6**	**+0.5**
I62A				IAmb	IAmb	20 33 02.6	
	comp=Z,83nm,1.5s						
I62A				IAMs_20	IAMs_20	20 58 32.0	
	comp=Z,3µm,22.0s						
I60A	**Shoreham**	**63.34**	**358**	P	**P**	**20 32 57.3**	**+1.2**
	baz=178,SNR=8.2						
I64A	**Boothbay**	**63.39**	**1**	P	**P**	**20 32 57.5**	**+1.0**
	baz=181						
I61A	**Oroboro, Fairl**	**63.40**	**359**	P	**P**	**20 32 58.1**	**+1.6**
	baz=179,SNR=22						
BNM	**Barren Site**	**63.47**	**327**	P	**P**	**20 32 57.4**	**-0.1**
NCB	**Newcomb**	**63.50**	**357**	P	**P**	**20 32 57.0**	**-0.3**
NCB				IAmb	IAmb	20 33 03.4	
	comp=Z,72nm,1.4s						
I63A	**Otisfield**	**63.51**	**0**	P	**P**	**20 32 57.8**	**+0.6**
	baz=180						
I63A	**Otisfield**	**63.51**	**0**	P	**P**	**20 32 57.0**	**-0.3**
I57A	**Carthage**	**63.54**	**356**	P	**P**	**20 32 58.2**	**+0.7**
	baz=175,SNR=14						
L44A	**Lake County Fo**	**63.60**	**346**	P	**P**	**20 32 57.4**	**-0.5**
	baz=162						
L44A	**Lake County Fo**	**63.60**	**346**	P	**P**	**20 32 57.1**	**-0.8**
PECO	**Prince Edward**	**63.63**	**355**	P	**P**	**20 32 58.4**	**+0.3**
PECO				IAMs_20	IAMs_20	21 02 15.1	
	comp=Z,3µm,20.0s						
LBNH	**Lisbon**	**63.70**	**359**	P	**P**	**20 32 59.9**	**+1.3**
	baz=179,SNR=16						
LBNH	**Lisbon**	**63.70**	**359**	P	**P**	**20 32 59.1**	**+0.5**
LBNH				pmax	pmax		
	comp=Z,158nm,1.6s						
LBNH				MLR	MLR		
	comp=Z,2µm,21.0s						
LBNH	**Lisbon**	**63.70**	**359**	P	**P**	**20 32 59.1**	**+0.5**
I53A	**Kortright Cn E**	**63.77**	**353**	P	**P**	**20 32 59.6**	**+0.6**
	baz=171						
J49A	**Marlette**	**63.81**	**350**	P	**P**	**20 32 59.8**	**+0.5**
	baz=167						
VT1	**Waterbury**	**63.81**	**359**	P	**P**	**20 32 59.7**	**+0.5**
VT1				IAmb	IAmb	20 33 14.5	
	comp=Z,95nm,1.7s						
L42A	**Oliver, Polo**	**63.85**	**345**	P	**P**	**20 32 59.3**	**-0.3**
L42A				IAmb	IAmb	20 33 13.1	
	comp=Z,88nm,1.6s						
L42A				IAMs_20	IAMs_20	21 04 59.3	
	comp=Z,2µm,18.0s						
J48A	**Bridge Port**	**63.85**	**350**	P	**P**	**20 32 59.3**	**-0.2**
	baz=166,SNR=8.7						
J48A	**Bridge Port**	**63.85**	**350**	P	**P**	**20 32 59.3**	**-0.2**
J48A				IAMs_20	IAMs_20	21 01 27.2	
	comp=Z,3µm,20.0s						
I51A	**Listowel**	**63.93**	**352**	P	**P**	**20 33 00.2**	**+0.1**
	baz=169,SNR=14						
H58A	**Gabriels**	**63.94**	**357**	P	**P**	**20 33 00.9**	**+0.8**
	baz=177,SNR=24						
I55A	**Frankford**	**63.97**	**355**	P	**P**	**20 33 00.6**	**+0.4**
	baz=173,SNR=26						
J47A	**S

LONY IAMs_20 IAMs_20 21 02 11.0
comp=Z,2µm,20.0s
K43A Burlington 64.19 346 P **P** **20 32 59.9 -1.9**
K43A IAMs_20 IAMs_20 21 02 24.3
comp=Z,4µm,20.0s
H65A Eastbrook 64.20 2 P **P** **20 33 03.0 +1.3**
baz=183,SNR=5.7
CBKS Cedar Bluff 64.21 335 P **P** **20 33 03.1 +1.0**
baz=150
CBKS Cedar Bluff 64.21 335 P **P** **20 33 00.8 -1.3**
CBKS pmax pmax
comp=Z,117nm,1.4s
CBKS Cedar Bluff 64.21 335 **P** **20 33 00.8 -1.3**
H56A Elgin 64.23 356 P **P** **20 33 02.9 +0.9**
baz=174,SNR=19
EMMW East Machias 64.25 3 **P** **20 33 02.9 +0.8**
EMMW IAmb IAmb 20 33 08.1
comp=Z,126nm,1.7s
EMMW IAMs_20 IAMs_20 21 04 57.0
comp=Z,3µm,18.0s
H55A Tweed 64.26 355 P **P** **20 33 02.8 +0.6**
baz=174,SNR=21
DELO Deloro Mine 64.26 355 **P** **20 33 02.8 +0.6**
DELO IAmb IAmb 20 33 07.9
comp=Z,129nm,1.6s
DELO IAMs_20 IAMs_20 21 02 23.8
comp=Z,4µm,20.0s
TUC Tucson 64.30 323 P **P** **20 33 03.6 +0.7**
TUC pmax pmax
comp=Z,42nm,2.0s
TUC MLR MLR
comp=Z,3µm,19.0s
TUC Tucson 64.30 323 **P** **20 33 03.6 +0.7**
TUC IAmb IAmb 20 33 46.3
comp=Z,42nm,2.0s
TUC Tucson 64.30 323 IAMs_20 IAMs_20 21 01 57.8
comp=Z,3µm,19.0s
L40A Anamosa 64.31 343 P **P** **20 33 02.1 -0.5**
L40A IAMs_20 IAMs_20 21 04 22.5
comp=Z,3µm,19.0s
I49A Point Hope 64.32 351 P **P** **20 33 02.5 -0.1**
baz=168
H66A Whiting 64.33 3 P **P** **20 33 03.6 +1.0**
baz=184
FRNY Flat Rock 64.34 358 P **P** **20 33 03.3 +0.6**
H53A Bobcaygeon 64.41 354 P **P** **20 33 03.6 +0.4**
baz=172,SNR=26
J45A Montague 64.47 348 P **P** **20 33 03.0 -0.6**
baz=164
SNAA Sanae 64.53 161 P **P** **20 33 05.1 +1.2**
SNAA Sanae 64.53 161 *ce* P **P** **20 33 03.6 -0.3**
SNAA pmax pmax
comp=Z,31nm,1.3s
SNAA Sanae 64.53 161 **P** **20 33 04.4 +0.5**
G60A Masonville 64.57 359 P **P** **20 33 05.4 +1.2**
baz=178,SNR=14
G59A Clarenceville 64.57 358 P **P** **20 33 05.2 +1.1**
baz=178
G63A Kingsbury 64.58 1 P **P** **20 33 05.2 +0.9**
baz=181,SNR=11
H52A Wyevale 64.61 353 P **P** **20 33 04.8 +0.2**
baz=171
SADO Sadowa 64.66 354 P **P** **20 33 04.5 -0.3**
comp=Z,32nm,0.8s,baz=197,slow=5.4,SNR=22
SADO Sadowa 64.66 354 P **P** **20 33 04.3 -0.5**
SADO IAMs_20 IAMs_20 21 03 51.3
comp=Z,3µm,18.0s
G57A Newington 64.66 357 P **P** **20 33 05.8 +0.9**
baz=178,SNR=23
G58A Ormstown 64.67 358 P **P** **20 33 05.5 +0.7**
baz=177,SNR=11
G62A West of Eustis 64.68 0 P **P** **20 33 06.4 +1.4**
baz=180,SNR=30
G62A West of Eustis 64.68 0 P **P** **20 33 05.9 +0.9**
G62A IAMs_20 IAMs_20 21 00 28.5
comp=Z,2µm,20.0s
I47A Gladwin 64.68 349 P **P** **20 33 04.9 0.0**
baz=166
I47A Gladwin 64.68 349 P **P** **20 33 04.7 -0.2**
I47A IAmb IAmb 20 33 09.6
comp=Z,129nm,1.6s
I47A IAMs_20 IAMs_20 21 01 53.0
comp=Z,3µm,20.0s
GGN Saint George 64.68 3 P **P** **20 33 06.1 +1.1**
GGN IAmb IAmb 20 33 11.0
comp=Z,131nm,1.6s
GGN IAMs_20 IAMs_20 20 59 58.7
comp=Z,3µm,22.0s
I48A Sherman Twp 64.70 350 P **P** **20 33 05.0 -0.1**
baz=167
SCIA State Center 64.73 342 P **P** **20 33 06.0 +0.6**
baz=157
SCIA State Center 64.73 342 P **P** **20 33 05.4 0.0**
SCIA IAmb IAmb 20 33 20.9
comp=Z,51nm,1.0s
SCIA IAMs_20 IAMs_20 21 03 32.6
comp=Z,3µm,20.0s
G65A Princeton 64.73 3 P **P** **20 33 06.2 +0.9**
baz=184
G65A Princeton 64.73 3 P **P** **20 33 05.5 +0.2**
G65A IAmb IAmb 20 33 24.9
comp=Z,36nm,0.9s
G65A IAMs_20 IAMs_20 21 05 03.9
comp=Z,2µm,18.0s
PLVO Plevna 64.74 355 P **P** **20 33 05.3 0.0**
PLVO IAmb IAmb 20 33 11.2
comp=Z,112nm,1.6s
PLVO IAMs_20 IAMs_20 21 02 17.3
comp=Z,3µm,20.0s
PKME Peaks-Kenny Pk 64.74 1 P **P** **20 33 06.1 +0.8**
baz=182,SNR=9.9
PKME Peaks-Kenny Pk 64.74 1 P **P** **20 33 06.4 +1.1**
PKME IAMs_20 IAMs_20 21 00 26.2
comp=Z,4µm,21.0s
G64A Maxfield 64.74 2 P **P** **20 33 06.3 +1.0**
baz=182,SNR=8.9
G61A St-Isidore-de- 64.74 360 P **P** **20 33 07.0 +1.7**
baz=179,SNR=25
I46A Reed City 64.77 348 P **P** **20 33 05.0 -0.6**
baz=165
MOQ Mont Orford 64.78 359 P **P** **20 33 05.6 -0.1**
T25A Trinidad 64.80 331 P **P** **20 33 07.8 +1.7**
baz=145,SNR=9.8
T25A Trinidad 64.80 331 P **P** **20 33 06.1 0.0**
T25A IAmb IAmb 20 33 22.7
comp=Z,61nm,1.4s
JFWS Jewell Farm 64.85 344 P **P** **20 33 06.4 +0.2**
baz=160
JFWS Jewell Farm 64.85 344 P **P** **20 33 06.2 0.0**
JFWS pmax pmax
comp=Z,161nm,1.5s
JFWS MLR MLR
comp=Z,3µm,22.0s
JFWS Jewell Farm 64.85 344 P **P** **20 33 06.2 0.0**
JFWS Jewell Farm 64.85 344 IAMs_20 IAMs_20 21 01 11.8
comp=Z,3µm,22.0s
G55A Calabogie 64.92 356 P **P** **20 33 07.0 +0.5**
baz=174,SNR=23
G53A Haliburton 64.95 354 P **P** **20 33 07.4 +0.7**
baz=172,SNR=36
I45A Fountain 65.02 348 IAMs_20 IAMs_20 21 00 58.0
comp=Z,3µm,22.0s
ORIO Orleans, Innes 65.04 356 P **P** **20 33 07.7 +0.5**
baz=175
ORIO Orleans, Innes 65.04 356 P **P** **20 33 07.9 +0.6**
N33A J Bar K, Exete 65.04 338 IAMs_20 IAMs_20 21 04 04.1
comp=Z,3µm,20.0s
H48A Harrisville 65.14 350 P **P** **20 33 07.7 -0.2**
baz=167
H48A Harrisville 65.14 350 P **P** **20 33 07.5 -0.5**
H48A IAMs_20 IAMs_20 21 02 37.3
comp=Z,3µm,20.0s
G54A Lake Saint Pet 65.18 354 P **P** **20 33 08.5 +0.3**
baz=173,SNR=26
F63A Nahmakanta, Br 65.18 1 P **P** **20 33 07.7 -0.5**
baz=182
F63A Nahmakanta, Br 65.18 1 P **P** **20 33 08.5 +0.3**
F63A IAmb IAmb 20 33 14.6
comp=Z,65nm,1.4s
F63A IAMs_20 IAMs_20 21 00 39.9
comp=Z,3µm,20.0s
H47A Mio 65.19 350 P **P** **20 33 07.7 -0.6**
baz=166
214A Organ Pipe Nat 65.21 321 P **P** **20 33 07.4 -1.3**
baz=136,SNR=11
214A Organ Pipe Nat 65.21 321 P **P** **20 33 09.4 +0.7**
K38A Parkersburg 65.28 342 IAMs_20 IAMs_20 21 06 21.2
comp=Z,3µm,18.0s
H46A Fife Lake 65.31 349 P **P** **20 33 08.5 -0.5**
baz=165,SNR=7.0
F59A Saint Guilaume 65.33 359 P **P** **20 33 09.5 +0.4**
baz=178
F62A Pittston Farm, 65.36 1 P **P** **20 33 09.9 +0.5**
baz=181
F62A Pittston Farm, 65.36 1 P **P** **20 33 09.5 +0.1**
F62A IAMs_20 IAMs_20 21 01 09.6
comp=Z,3µm,22.0s
F64A Sherman 65.36 2 P **P** **20 33 09.8 +0.4**
baz=183,SNR=12
F64A Sherman 65.36 2 P **P** **20 33 09.7 +0.3**
F64A IAmb IAmb 20 33 29.1
comp=Z,42nm,0.9s
F60A Warwick 65.43 359 P **P** **20 33 10.3 +0.5**
baz=179,SNR=19
F61A St Evariste 65.43 360 P **P** **20 33 10.4 +0.5**
baz=180,SNR=14
F55A Otter Lake 65.47 356 P **P** **20 33 10.2 +0.1**
baz=174
GLMI Grayling 65.48 349 IAMs_20 IAMs_20 21 02 17.2
comp=Z,4µm,21.0s
X18A Snowflake 65.50 325 P **P** **20 33 10.1 -0.6**
X18A IAMs_20 IAMs_20 21 00 04.6
comp=Z,4µm,21.0s
H45A Beulah 65.55 348 P **P** **20 33 11.1 +0.5**
baz=164
LMN Caledonia Moun 65.55 5 P **P** **20 33 10.2 -0.4**
LMN IAmb IAmb 20 33 28.0
comp=Z,72nm,1.4s
LMN IAMs_20 IAMs_20 21 00 43.5
comp=Z,3µm,20.0s
KSCO Kaye Shedlock' 65.56 333 P **P** **20 33 11.7 +0.7**
baz=147
KSCO Kaye Shedlock' 65.56 333 P **P** **20 33 10.8 -0.2**
KSCO IAmb IAmb 20 33 27.2
comp=Z,104nm,1.4s
G47A Hillman 65.69 350 P **P** **20 33 11.6 +0.1**
baz=167
F52A Sundridge 65.69 354 P **P** **20 33 11.6 +0.1**
baz=171,SNR=30
ALGO Algonquin Park 65.73 355 P **P** **20 33 11.6 -0.1**
baz=173,SNR=16
H43A Windswept, Lux 65.75 347 IAMs_20 IAMs_20 21 02 17.4
comp=Z,4µm,20.0s
TRQ Mont Tremblant 65.76 357 P **P** **20 33 11.9 -0.1**
E60A Ste Agathe de 65.83 360 P **P** **20 33 12.7 +0.3**
baz=179
W18A Petrified Fore 65.83 326 IAMs_20 IAMs_20 21 01 22.4
comp=Z,3µm,19.0s
E58A La Victoria 65.86 358 P **P** **20 33 13.5 +0.9**
baz=178,SNR=16
I40A Norwalk 65.86 345 P **P** **20 33 12.6 -0.1**
I40A IAmb IAmb 20 33 27.6
comp=Z,85nm,1.6s
I40A IAMs_20 IAMs_20 21 06 26.4
comp=Z,3µm,18.0s
G45A Suttons Bay 65.87 349 P **P** **20 33 12.3 -0.4**
baz=165
G45A Suttons Bay 65.87 349 IAMs_20 IAMs_20 21 03 59.7
comp=Z,3µm,20.0s
BGNE Belgrade 65.88 338 P **P** **20 33 13.5 +0.6**
BGNE IAMs_20 IAMs_20 21 04 41.3
comp=Z,3µm,21.0s
F51A Arnstein 65.89 353 P **P** **20 33 12.5 -0.2**
baz=171,SNR=14
E61A Lac Etchemin 65.89 0 P **P** **20 33 13.7 +0.9**
baz=180,SNR=10
E63A Oxbow 65.92 2 P **P** **20 33 13.9 +1.0**
baz=183,SNR=7.9
E63A Oxbow 65.92 2 IAmb IAmb 20 33 19.1
comp=Z,116nm,1.6s
E57A Chemin Saint G 65.93 358 P **P** **20 33 13.7 +0.6**
baz=177,SNR=16
E64A Bridgewater 65.94 2 P **P** **20 33 13.7 +0.7**
baz=183,SNR=9.0
F49A Sandfield 65.99 352 P **P** **20 33 13.0 -0.5**
baz=169,SNR=8.8
G46A Petoskey 66.00 349 P **P** **20 33 13.2 -0.3**
baz=166
E55A Montcerf-Lytto 66.07 356 P **P** **20 33 13.9 0.0**
baz=175
E62A Clayton Lake 66.09 1 P **P** **20 33 15.0 +1.0**
baz=181,SNR=15
E62A Clayton Lake 66.09 1 P **P** **20 33 14.5 +0.5**
E62A IAMs_20 IAMs_20 21 01 17.9
comp=Z,3µm,22.0s
E56A St. Veronique 66.10 357 P **P** **20 33 14.7 +0.6**
baz=176,SNR=22
E52A Mattawa 66.11 354 P **P** **20 33 14.3 +0.1**
baz=172,SNR=19
E53A Dumoine, Ponti 66.11 355 P **P** **20 33 14.7 +0.4**
baz=173,SNR=13
E54A Lac Daglat, Pa 66.13 355 P **P** **20 33 14.9 +0.6**
baz=174,SNR=20
F48A Evansville 66.14 351 P **P** **20 33 13.9 -0.5**
baz=168,SNR=9.2
PQI Presque Isle 66.18 2 P **P** **20 33 14.8 +0.2**
PQI IAmb IAmb 20 33 20.8
comp=Z,101nm,1.5s
PQI IAMs_20 IAMs_20 21 05 49.3
comp=Z,2µm,18.0s
D60A Saint Jean D'O 66.37 0 P **P** **20 33 15.9 0.0**
baz=180
S22A 4UR Ranch, Cre 66.42 330 P **P** **20 33 17.3 +0.5**
E51A G1948 Merrick 66.44 354 P **P** **20 33 17.1 +0.8**
baz=171,SNR=18
D59A Saint-Raymond 66.47 359 P **P** **20 33 16.9 +0.5**
baz=179
F45A CMU Biological 66.47 349 P **P** **20 33 16.0 -0.5**
baz=165
E50A Wahnapitae 66.47 353 P **P** **20 33 16.5 0.0**
baz=170,SNR=9.7
D57A Chemin Vers le 66.53 358 P **P** **20 33 17.6 +0.8**
baz=177,SNR=30
D63A Stockholm 66.54 2 P **P** **20 33 18.1 +1.1**
baz=183,SNR=8.6
D62A Allapoint, All 66.56 1 P **P** **20 33 16.9 -0.2**
D62A IAMs_20 IAMs_20 21 00 24.4
comp=Z,3µm,22.0s
D58A Chemin du LacG 66.57 359 P **P** **20 33 17.8 +0.7**
baz=178,SNR=37
D56A ZEC Mazanza, M 66.59 357 P **P** **20 33 17.8 +0.5**
baz=176,SNR=18
D55A Sainte-Anne-du 66.60 357 P **P** **20 33 18.0 +0.7**
baz=175,SNR=19
Q24A Divide 66.62 332 P **P** **20 33 18.7 +0.6**
baz=145
D61A St Aubert, Com 66.66 1 P **P** **20 33 18.3 +0.6**
baz=181
E48A Lockeyer 66.71 352 P **P** **20 33 17.9 -0.1**
baz=168,SNR=12
I37A Lemond, Waseca 66.72 343 P **P** **20 33 16.7 -1.5**
I37A IAMs_20 IAMs_20 21 06 00.3
comp=Z,3µm,20.0s
D52A ZEK Kipawa Sen 66.77 354 P **P** **20 33 19.1 +0.7**
baz=172,SNR=26
D54A Lac Fusel, La 66.81 356 P **P** **20 33 18.7 +0.1**
baz=174,SNR=18
MVCO Mesa Verde 66.81 328 P **P** **20 33 20.4 +1.2**
baz=142
MVCO Mesa Verde 66.81 328 P **P** **20 33 19.0 -0.2**
MVCO IAmb IAmb 20 33 36.1
comp=Z,118nm,1.9s
D53A Lac Vacive, Po 66.81 355 P **P** **20 33 18.8 +0.1**
baz=173,SNR=16
D53A Lac Vacive, Po 66.81 355 P **P** **20 33 18.4 -0.2**
D53A IAmb IAmb 20 33 24.4
comp=Z,133nm,1.8s
D53A IAMs_20 IAMs_20 21 07 09.3
comp=Z,3µm,18.0s
E47A Iron Bridge 66.85 351 P **P** **20 33 18.4 -0.5**
baz=167,SNR=12
LATQ La Tuque 66.86 359 P **P** **20 33 18.9 0.0**
baz=178
BATG Bathurst New B 66.88 4 IAMs_20 IAMs_20 21 01 13.7
comp=Z,3µm,22.0s
E46A Sault Ste Mari 66.92 350 P **P** **20 33 18.6 -0.8**
E46A IAmb IAmb 20 33 24.0
comp=Z,102nm,1.7s
E46A IAMs_20 IAMs_20 21 03 21.4
comp=Z,4µm,21.0s
D51A Lot 18 Range I 66.98 354 P **P** **20 33 19.9 +0.2**
baz=171,SNR=9.9
WUAZ Wupatki 67.01 325 P **P** **20 33 20.0 -0.5**
WUAZ IAMs_20 IAMs_20 21 01 38.6
comp=Z,3µm,18.0s
G40A Rib Lake 67.05 345 P **P** **20 33 19.7 -0.6**
F42A Maple Grove Fa 67.06 347 IAMs_20 IAMs_20 21 02 57.0
comp=Z,4µm,21.0s
D50A G1974 Best Tow 67.10 353 P **P** **20 33 20.7 +0.2**
baz=171,SNR=35
GLA Glamis 67.18 321 P **P** **20 33 20.6 -0.8**
baz=135
D48A Paudash Townsh 67.34 352 P **P** **20 33 21.5 -0.6**
baz=169,SNR=12
D49A Beulah Townshi 67.38 352 P **P** **20 33 22.3 0.0**
baz=169,SNR=15
D46A Sault St. Mari 67.39 350 P **P** **20 33 21.8 -0.6**
baz=167
D47A Chapleau 67.41 351 P **P** **20 33 21.7 -0.7**
baz=168,SNR=7.3
E43A Lone Tree Farm 67.41 348 P **P** **20 33 21.1 -1.4**
E43A IAmb IAmb 20 33 36.2
comp=Z,83nm,1.6s
E43A IAMs_20 IAMs_20 21 04 38.4
comp=Z,3µm,19.0s
ECSD EROS Data Cent 67.43 340 P **P** **20 33 22.8 +0.1**
baz=154,SNR=29
ECSD EROS Data Cent 67.43 340 P **P** **20 33 22.3 -0.4**
ECSD IAmb IAmb 20 33 38.1
comp=Z,126nm,1.6s
ECSD EROS Data Cent 67.43 340 IAMs_20 IAMs_20 21 04 42.3
comp=Z,2µm,20.0s
ISCO Idaho Springs 67.51 332 P **P** **20 33 23.5 -0.2**
baz=145,SNR=10
ISCO Idaho Springs 67.51 332 P **P** **20 33 23.0 -0.7**
ISCO pmax pmax
comp=Z,79nm,1.9s
ISCO MLR MLR
comp=Z,2µm,22.0s
ISCO Idaho Springs 67.51 332 P **P** **20 33 23.0 -0.7**
ISCO IAmb IAmb 20 33 39.5
comp=Z,79nm,1.9s
TAOE Nuku Hiva Isla 67.53 268 IAMs_20 IAMs_20 20 55 20.4
comp=Z,3µm,19.0s
PV01 Paradox Valley 67.57 329 P **P** **20 33 24.7 +0.7**
PV01 IAMs_20 IAMs_20 21 02 58.3
comp=Z,3µm,18.0s
COWI Conover 67.60 346 P **P** **20 33 23.4 -0.3**
COWI IAmb IAmb 20 33 37.8
comp=Z,59nm,1.4s
PDMCI Parker Dam,Lak 67.67 322 P **P** **20 33 25.0 +0.6**
baz=136
SPMN Marine on St. 67.67 343 P **P** **20 33 24.6 +0.5**
baz=158
SPMN Marine on St. 67.67 343 P **P** **20 33 23.6 -0.6**
SPMN IAmb IAmb 20 33 46.2
comp=Z,49nm,1.1s
SPMN IAMs_20 IAMs_20 21 07 37.5
comp=Z,2µm,18.0s
IKP In-Ko-Pah, Jac 67.67 320 P **P** **20 33 25.1 +0.5**
baz=134
PV15 Paradox Valley 67.69 329 P **P** **20 33 25.1 +0.3**
PV15 IAmb IAmb 20 33 48.4
comp=Z,111nm,1.7s
PV15 IAMs_20 IAMs_20 21 05 15.5
comp=Z,3µm,18.0s
SWSC Sam W. Stewart 67.69 320 P **P** **20 33 25.7 +1.2**
baz=134
PV02 Paradox Valley 67.70 329 P **P** **20 33 24.8 -0.1**
PV02 IAmb IAmb 20 33 48.3
comp=Z,45nm,1.3s
PV02 IAMs_20 IAMs_20 21 02 53.0
comp=Z,3µm,19.0s
PV13 Radium Mtn., P 67.71 328 P **P** **20 33 24.5 -0.3**
PV13 IAmb IAmb 20 33 54.3
comp=Z,60nm,1.5s
PV13 IAMs_20 IAMs_20 21 07 31.1
comp=Z,2µm,18.0s
PV05 Paradox Valley 67.78 328 P **P** **20 33 24.1 -1.2**
PV05 IAmb IAmb 20 33 47.6
comp=Z,50nm,1.4s
PV05 IAMs_20 IAMs_20 21 03 31.8
comp=Z,3µm,18.0s
PV03 Paradox Valley 67.80 329 P **P** **20 33 24.0 -1.4**
PV03 IAmb IAmb 20 33 47.8
comp=Z,61nm,1.6s
PV03 IAMs_20 IAMs_20 21 07 34.4
comp=Z,2µm,20.0s
PV18 Skein Mesa, Pa 67.82 328 P **P** **20 33 24.1 -1.4**
PV18 IAmb IAmb 20 33 41.4
comp=Z,97nm,2.0s
PV18 IAMs_20 IAMs_20 21 03 28.1
comp=Z,3µm,18.0s
VLDQ Val d'Or 67.82 355 P **P** **20 33 25.7 +0.7**
VLDQ IAmb IAmb 20 33 30.9
comp=Z,112nm,1.6s
VLDQ IAMs_20 IAMs_20 21 04 13.6
comp=Z,3µm,20.0s
PV12 Saucer Basin, 67.82 329 P **P** **20 33 25.0 -0.6**
PV12 IAmb IAmb 20 33 59.2
comp=Z,108nm,1.8s
PV07 Paradox Valley 67.84 329 P **P** **20 33 25.1 -0.6**
PV07 IAmb IAmb 20 33 49.2
comp=Z,58nm,1.5s
PV07 IAMs_20 IAMs_20 21 05 17.7
comp=Z,3µm,19.0s
PV11 David Mesa, Pa 67.84 329 P **P** **20 33 23.8 -1.9**
PV11 IAmb IAmb 20 33 49.0
comp=Z,58nm,1.4s
PV11 IAMs_20 IAMs_20 21 06 23.7
comp=Z,3µm,19.0s
PV17 East Wray Mesa 67.87 328 P **P** **20 33 25.3 -0.6**
PV17 IAmb IAmb 20 33 48.3
comp=Z,46nm,1.3s
PV19 Morning Glory 67.91 328 IAMs_20 IAMs_20 21 03 37.3
comp=Z,3µm,18.0s
PV20 West Nyswonger 67.92 329 P **P** **20 33 24.5 -1.7**
PV20 IAMs_20 IAMs_20 21 03 38.8
comp=Z,3µm,18.0s
PV04 Paradox Valley 67.93 329 P **P** **20 33 24.3 -1.9**
PV14 Lion Creek, Pa 67.97 328 P **P** **20 33 25.7 -0.9**
PV14 IAmb IAmb 20 33 49.7
comp=Z,50nm,1.4s
PV14 IAMs_20 IAMs_20 21 07 38.1
comp=Z,3µm,18.0s
BC3 Big Chuckawall 67.98 321 P **P** **20 33 27.6 +1.1**
baz=135
PV22 Blue Mesa, Par 67.99 329 P **P** **20 33 26.1 -0.4**
PV22 IAMs_20 IAMs_20 21 03 22.4
comp=Z,3µm,18.0s
MONP2 Monument Peak 68.03 320 P **P** **20 33 27.4 +0.4**
baz=134
BAR Barrett 68.04 319 P **P** **20 33 26.4 -0.4**
W13A Hualapai Mount 68.09 323 P **P** **20 33 27.2 -0.1**
PV21 Cone Mtn., Par 68.10 329 IAMs_20 IAMs_20 21 03 06.4
comp=Z,3µm,18.0s
PV09 Paradox Valley 68.13 329 P **P** **20 33 26.1 -1.5**
IRM Iron Mountain 68.15 321 P **P** **20 33 29.5 +2.0**
baz=135,SNR=12
U15A North Rim 68.19 325 P **P** **20 33 25.9 -2.1**
U15A IAMs_20 IAMs_20 21 01 38.7
comp=Z,3µm,20.0s
NEE2 Needles Airpor 68.28 322 P **P** **20 33 30.2 +2.0**
baz=136
D41A Chassel 68.39 347 IAMs_20 IAMs_20 21 03 36.2
comp=Z,4µm,22.0s
109C Camp Elliot, M 68.45 319 P **P** **20 33 32.0 +2.7**
baz=133
F36A Milaca 68.45 343 P **P** **20 33 28.2 -0.9**
F36A IAmb IAmb 20 33 34.2
comp=Z,71nm,1.5s
F36A IAMs_20 IAMs_20 21 08 04.2
comp=Z,3µm,19.0s
BELC Belle Mtn. Jos 68.54 321 P **P** **20 33 32.1 +2.0**
baz=134
XPFO Pion Flat 68.55 320 P **P** **20 33 27.6 -2.5**
N23A Red Feather La 68.55 332 P **P** **20 33 31.6 +1.5**
baz=145,SNR=11
N23A Red Feather La 68.55 332 P **P** **20 33 29.0 -1.1**
N23A IAmb IAmb 20 33 45.8
comp=Z,87nm,1.7s
PFO Pinyon Flats O 68.55 320 P **P** **20 33 31.6 +1.5**
baz=134
PFO Pinyon Flats O 68.55 320 P **P** **20 33 32.2 +2.1**
comp=Z,67nm,1.0s,baz=83,slow=2.6,SNR=5.6
PFO Pinyon Flats O 68.55 320 *i* P **P** **20 33 29.6 -0.5**
PFO pmax pmax
comp=Z,25nm,1.1s
PFO Pinyon Flats O 68.55 320 P **P** **20 33 27.6 -2.5**
E38A The Farm, Brul 68.64 345 P **P** **20 33 29.3 -0.9**
E38A IAmb IAmb 20 33 41.9
comp=Z,50nm,1.3s

PHWY **Pilot Hill** 68.67 333 P **P** **20 33 31.1 +0.2**
PHWY IAmb IAmb 20 33 46.5
comp=Z,136nm,1.9s
LSQQ Lebel-sur-Quev 68.73 356 P **P** **20 33 32.9 +2.2**
baz=174
SUSD Miller 68.83 339 P **P** **20 33 31.7 +0.2**
baz=152
SUSD Miller 68.83 339 IAMs_20 IAMs_20 21 09 32.4
comp=Z,2µm,18.0s
GMRC Granite Mounta 68.89 322 P **P** **20 33 34.5 +2.2**
baz=135,SNR=20
KNB Kanab 68.91 325 P **P** **20 33 33.7 +1.3**
KNB pmax pmax
comp=Z,64nm,1.1s
KNB Kanab 68.91 325 P **P** **20 33 33.7 +1.3**
O20A White River Ci 68.98 330 P **P** **20 33 33.6 +0.9**
baz=142
O20A White River Ci 68.98 330 P **P** **20 33 33.5 +0.7**
O20A IAmb IAmb 20 33 56.1
comp=Z,115nm,1.6s
MURC Murrieta 68.99 320 P **P** **20 33 33.7 +1.0**
baz=133
NVL N'lazarevskaya 69.12 159 *e*P **P** **20 33 34.9 +1.9**
NVL *e*S **S** **20 42 42.5 +4.7**
NVL *e*SS **SS** **20 47 12.4 +9.0**
NVL pmax pmax
comp=Z,86nm,1.4s
LCMT Little Creek M 69.13 325 P **P** **20 33 34.1 +0.4**
F33A 5 Mile Ranch, 69.23 341 P **P** **20 33 34.2 +0.3**
F33A IAmb IAmb 20 33 39.1
comp=Z,103nm,1.9s
BBRC Big Bear Solar 69.28 320 P **P** **20 33 36.7 +1.9**
baz=134
SRU San Rafael Swe 69.29 328 P **P** **20 33 34.6 -0.1**
SRU pmax pmax
comp=Z,105nm,1.9s
SRU San Rafael Swe 69.29 328 P **P** **20 33 34.5 -0.1**
HEC Hector,Ludlow 69.32 321 P **P** **20 33 37.4 +2.6**
baz=134,SNR=18
MTPU Mount Pierson 69.33 326 P **P** **20 33 34.4 -0.8**
SCI2 San Clemente I 69.40 318 P **P** **20 33 36.2 +1.0**
baz=132
CHGQ Chibougamau 69.44 358 P **P** **20 33 35.4 +0.3**
baz=176,SNR=9.5
MATQ Matagami 69.47 355 P **P** **20 33 35.3 0.0**
baz=173,SNR=11
CCUT Cedar City 69.59 325 P **P** **20 33 36.4 -0.2**
CIS Catalina Islan 69.60 319 P **P** **20 33 36.1 -0.5**
baz=132
P17A Butcher Ranch, 69.67 328 P **P** **20 33 37.1 0.0**
MSU Marysvale 69.68 327 P **P** **20 33 34.9 -2.2**
MSU Marysvale 69.68 327 P **P** **20 33 34.9 -2.2**
BFSC Mount Baldy Ra 69.70 320 P **P** **20 33 37.6 +0.3**
baz=133
FMP Fort Macarthur 69.74 319 P **P** **20 33 37.8 +0.5**
baz=133
RRX Edison Barstow 69.74 321 P **P** **20 33 38.7 +1.3**
baz=134
RWWY Rawlins 69.75 332 P **P** **20 33 36.5 -1.1**
RWWY IAmb IAmb 20 34 00.8
comp=Z,77nm,1.4s
RWWY IAMs_20 IAMs_20 21 04 04.7
comp=Z,2µm,19.0s
DRLN Deer Lake 69.75 9 P **P** **20 33 36.4 -0.7**
DRLN IAMs_20 IAMs_20 21 02 24.6
comp=Z,3µm,21.0s
TMUT Trail Mountain 69.77 328 P **P** **20 33 36.6 -1.2**
LIC Lamto 69.79 75 *e*P **P** **20 33 36.5 -1.6**
comp=Z,132nm,1.9s
SHPR Sheep Range 69.83 323 P **P** **20 33 40.0 +2.0**
EYMN Ely 69.88 345 P **P** **20 33 39.9 +2.0**
baz=159
EYMN Ely 69.88 345 P **P** **20 33 36.2 -1.7**
EYMN Ely 69.88 345 IAMs_20 IAMs_20 21 05 46.7
comp=Z,3µm,20.0s
GSC Goldstone, Bar 69.93 321 P **P** **20 33 41.2 +2.6**
baz=134,SNR=11
GSC Goldstone, Bar 69.93 321 P **P** **20 33 38.9 +0.3**
GSC pmax pmax
comp=Z,57nm,1.6s
GSC MLR MLR
comp=Z,2µm,20.0s
GSC Goldstone, Bar 69.93 321 P **P** **20 33 38.9 +0.3**
GSC IAMs_20 IAMs_20 21 00 32.8
comp=Z,2µm,20.0s
RDMU Red Mountain 69.95 330 P **P** **20 33 39.3 +0.5**
TIC Toumodi 69.96 75 *e*P **P** **20 33 37.8 -1.4**
SHOC Shoshone, Teco 70.03 322 P **P** **20 33 41.1 +1.9**
baz=135
KIC Kosan Boka 70.10 75 *e*P **P** **20 33 38.8 -1.2**
comp=Z,270nm,1.6s
DBIC Dimbokro 70.12 75 P **P** **20 33 38.7 -1.4**
comp=Z,20nm,0.9s,baz=222,slow=6.5,SNR=8.8
DBIC LR LR 21 02 54.5
comp=Z,6µm,20.6s,baz=223,slow=35
DBIC Dimbokro 70.12 75 P **P** **20 33 39.0 -1.1**
DECC Green Verdugo 70.12 320 P **P** **20 33 41.9 +2.1**
baz=133
SNCC San Nicolas Is 70.19 318 P **P** **20 33 39.9 -0.2**
baz=132
K22A Casper 70.23 333 P **P** **20 33 41.6 +1.2**
baz=144
K22A Casper 70.23 333 P **P** **20 33 41.6 +1.2**
K22A IAmb IAmb 20 33 56.7
comp=Z,71nm,1.6s
EDW2 Edwards Air Fo 70.34 320 P **P** **20 33 42.1 +1.0**
baz=133
QSPA South Pole Qui 70.41 180 P **P** **20 33 42.2 +1.0**
QSPA IAmb IAmb 20 33 54.8
comp=Z,113nm,1.4s
QSPA South Pole Qui 70.41 180 IAMs_20 IAMs_20 21 06 51.0
comp=Z,2µm,19.0s
RSSD Black Hills 70.42 335 P **P** **20 33 42.8 +1.3**
baz=147
RSSD Black Hills 70.42 335 P **P** **20 33 42.4 +0.8**
RSSD pmax pmax
comp=Z,27nm,1.1s
RSSD MLR MLR
comp=Z,2µm,20.0s
RSSD Black Hills 70.42 335 P **P** **20 33 42.4 +0.8**
MPU Maple Canyon 70.53 328 P **P** **20 33 42.6 +0.3**
PSUT Pine Spring 70.58 326 P **P** **20 33 44.0 +1.3**
D32A Dogwood Acres, 70.61 341 IAMs_20 IAMs_20 21 08 31.4
comp=Z,2µm,19.0s
SCZ2 Santa Cruz Isl 70.75 319 P **P** **20 33 44.5 +0.9**
baz=132
TPNV Topopah Spring 70.75 323 P **P** **20 33 46.4 +2.7**
baz=135,SNR=18
TPNV Topopah Spring 70.75 323 P **P** **20 33 43.1 -0.6**
TPNV pmax pmax
comp=Z,115nm,1.8s
TPNV MLR MLR
comp=Z,2µm,18.0s
TPNV Topopah Spring 70.75 323 P **P** **20 33 43.1 -0.6**
TPNV IAmb IAmb 20 34 01.9
comp=Z,115nm,1.8s
FURC Furnace Creek, 70.77 322 P **P** **20 33 46.0 +2.4**
baz=134,SNR=15
B35A Bob, Littlefor 70.81 344 P **P** **20 33 42.8 -0.8**
B35A IAmb IAmb 20 33 57.5
comp=Z,59nm,1.4s
MPMC Manual Prospec 70.85 322 P **P** **20 33 44.3 0.0**
baz=134
JLU Jordanelle 70.89 328 P **P** **20 33 44.8 +0.2**
ARVC Arvin 71.02 320 P **P** **20 33 46.7 +1.6**
baz=132
MACI Morro de la Ar 71.06 49 P **P** **20 33 45.8 0.0**
SBC Santa Barbara 71.10 319 P **P** **20 33 46.9 +1.3**
baz=132
ISA Isabella, Lake 71.16 321 P **P** **20 33 48.2 +2.1**
baz=133,SNR=13
ISA Isabella, Lake 71.16 321 P **P** **20 33 46.7 +0.6**
ISA pmax pmax
comp=Z,25nm,0.9s
ISA MLR MLR
comp=Z,2µm,18.0s
ISA Isabella, Lake 71.16 321 P **P** **20 33 46.7 +0.6**
TCUT Toone Canyon 71.26 329 P **P** **20 33 46.3 -0.5**
DUG Dugway, Tooele 71.26 327 P **P** **20 33 49.0 +2.3**
baz=138,SNR=16
DUG Dugway, Tooele 71.26 327 P **P** **20 33 47.5 +0.8**
DUG pmax pmax
comp=Z,45nm,1.3s
DUG MLR MLR
comp=Z,2µm,20.0s
DUG Dugway, Tooele 71.26 327 P **P** **20 33 47.5 +0.8**

E28A Huff 71.29 339 P **P** **20 33 47.0 +0.4**
E28A IAMs_20 IAMs_20 21 06 43.5
comp=Z,2µm,21.0s
AGMN Agassiz Nation 71.33 343 P **P** **20 33 46.9 +0.2**
baz=155,SNR=9.8
AGMN Agassiz Nation 71.33 343 P **P** **20 33 46.4 -0.3**
AGMN IAmb IAmb 20 33 51.9
comp=Z,62nm,1.6s
AGMN IAMs_20 IAMs_20 21 10 01.2
comp=Z,3µm,18.0s
R11A Troy Canyon, C 71.38 324 P **P** **20 33 49.8 +2.3**
baz=136,SNR=25
R11A Troy Canyon, C 71.38 324 P **P** **20 33 48.8 +1.3**
R11A IAmb IAmb 20 34 04.6
comp=Z,97nm,1.9s
CMLA Cha da Macela 71.42 37 IAMs_20 IAMs_20 21 01 32.5
comp=Z,3µm,20.0s
GRAC Grapevine Rang 71.43 322 P **P** **20 33 48.7 +1.0**
baz=134
PKM Mcpherson Peak 71.46 319 P **P** **20 33 48.8 +0.7**
baz=132
CWC Cottonwood Cre 71.46 321 P **P** **20 33 48.3 +0.3**
baz=133
VES Vestal, Richgr 71.65 320 P **P** **20 33 50.3 +1.3**
baz=132
BW06 Boulder Array 71.66 331 P **P** **20 33 50.3 +1.1**
baz=142,SNR=12
BW06 Boulder Array 71.66 331 P **P** **20 33 49.2 0.0**
BW06 IAMs_20 IAMs_20 21 07 53.4
comp=Z,2µm,18.0s
PD31 Pinedale Array 71.66 331 P **P** **20 33 48.8 -0.4**
PDAR Pinedale Array 71.66 331 P **P** **20 33 50.0 +0.8**
comp=Z,2.2nm,0.8s,baz=142,slow=5.5,SNR=17
PDAR LR LR 21 06 38.5
comp=Z,2µm,18.1s,baz=128,slow=37
PDAR Pinedale Array 71.66 331 P **P** **20 33 48.8 -0.4**
HWUT Hardware Ranch 71.71 329 P **P** **20 33 49.6 +0.2**
HWUT IAmb IAmb 20 34 12.4
comp=Z,71nm,1.6s
HWUT IAMs_20 IAMs_20 21 05 35.0
comp=Z,2µm,18.0s
SMMC Simmler 71.85 319 P **P** **20 33 51.7 +1.5**
baz=132
SPUT South Promonto 71.92 328 P **P** **20 33 51.1 +0.5**
BGU Big Grassy Mou 71.92 328 P **P** **20 33 50.8 +0.2**
TIN Tinemaha, Big 71.97 322 P **P** **20 33 52.2 +1.2**
baz=133
MDND Maddock 72.05 340 P **P** **20 33 51.9 +0.8**
baz=152
MDND Maddock 72.05 340 P **P** **20 33 51.4 +0.3**
VOG Valley Oaks Go 72.15 321 P **P** **20 33 52.1 +0.2**
baz=132
TBI Tubuai 72.23 251 *e*S **S** **20 43 10.9 -4.6**
comp=Z,2µm,26.5s
TBI Tubuai 72.23 251 *e*LR LR 20 55 52.9
comp=Z,9µm,27.5s
AHID Auburn Hatcher 72.38 330 P **P** **20 33 53.8 +0.3**
AHID IAmb IAmb 20 34 08.9
comp=Z,143nm,1.9s
HVU Hansel Valley 72.43 328 P **P** **20 33 54.5 +0.8**
HVU pmax pmax
comp=Z,54nm,1.4s
HVU Hansel Valley 72.43 328 P **P** **20 33 54.5 +0.8**
REDW Red Top Meadow 72.72 331 P **P** **20 33 55.5 0.0**
REDW IAmb IAmb 20 34 12.2
comp=Z,59nm,1.3s
SNOW Snow King Mou 72.75 331 IAMs_20 IAMs_20 21 06 20.3
comp=Z,2µm,18.0s
OMMM Old Mammoth Mi 72.80 322 P **P** **20 33 54.8 -1.3**
TPAW Teton Pass 72.87 331 P **P** **20 33 56.5 +0.1**
TPAW IAMs_20 IAMs_20 21 12 00.2
comp=Z,2µm,18.0s
NV11 Mina Array Sit 72.87 323 P **P** **20 33 56.2 -0.1**
ELK Elko 72.92 326 P **P** **20 33 58.5 +1.7**
comp=Z,5.0nm,0.9s,baz=143,slow=5.4,SNR=9.4
ELK Elko 72.92 326 P **P** **20 33 57.0 +0.3**
ELK pmax pmax
comp=Z,24nm,1.3s
ELK MLR MLR
comp=Z,2µm,18.0s
ELK Elko 72.92 326 P **P** **20 33 57.0 +0.3**
ELK IAMs_20 IAMs_20 21 06 24.0
comp=Z,2µm,18.0s
PMPB Monarch Peak 72.94 320 IAMs_20 IAMs_20 21 05 32.5
comp=Z,2µm,18.0s
NVAR Mina Array Bea 72.95 323 P **P** **20 33 59.6 +2.6**
comp=Z,4.7nm,0.8s,baz=148,slow=5.9,SNR=24
NVAR Mina Array Bea 72.95 323 P **P** **20 33 57.6 +0.6**
FXWY Fox Creek 73.02 331 P **P** **20 33 58.2 +1.0**
ULM Lac du Bonnet 73.11 344 P **P** **20 33 57.2 -0.1**
comp=Z,6.9nm,0.6s,baz=146,slow=6.0,SNR=9.9
ULM LR LR 21 08 04.7
comp=Z,3µm,21.1s,baz=141,slow=37
ULM Lac du Bonnet 73.11 344 *i* P **P** **20 33 57.5 +0.2**
ULM Lac du Bonnet 73.11 344 P **P** **20 33 57.3 0.0**
ULM IAmb IAmb 20 34 12.1
comp=Z,61nm,1.4s
IMW Indian Meadow 73.18 331 P **P** **20 33 58.1 -0.2**
IMW IAmb IAmb 20 34 21.5
comp=Z,83nm,1.6s
IMW IAMs_20 IAMs_20 21 06 43.8
comp=Z,2µm,18.0s
FLWY Flagg Ranch 73.21 331 P **P** **20 33 58.3 -0.1**
FLWY IAmb IAmb 20 34 15.4
comp=Z,45nm,1.0s
RYN Ryan 73.22 323 P **P** **20 33 59.6 +1.2**
KVN Kaiserville 73.27 323 P **P** **20 33 59.1 +0.3**
KVN pmax pmax
comp=Z,21nm,1.1s
KVN MLR MLR
comp=Z,1µm,21.0s
KVN Kaiserville 73.27 323 P **P** **20 33 59.1 +0.3**
PMOZ Porto Moniz, M 73.31 45 *e*P **P** **20 33 55.4 -3.6**
comp=Z,172nm,1.5s
PMOZ Porto Moniz, M 73.31 45 *e*LR LR 20 58 10.5
comp=Z,2µm,18.0s
RLMT Red Lodge 73.39 333 P **P** **20 34 01.3 +1.9**
baz=143,SNR=12
H17A Grant Village 73.40 332 P **P** **20 34 00.6 +1.1**
baz=141
H17A Grant Village 73.40 332 P **P** **20 33 59.8 +0.3**
H17A IAmb IAmb 20 34 22.6
comp=Z,76nm,1.7s
LAO LASA Array 73.41 336 P **P** **20 34 00.4 +1.2**
baz=146
LAO LASA Array 73.41 336 P **P** **20 33 58.8 -0.5**
LAO IAmb IAmb 20 34 13.1
comp=Z,38nm,0.7s
LAO IAMs_20 IAMs_20 21 09 25.7
comp=Z,2µm,21.0s
YNE Yellowstone No 73.63 332 P **P** **20 34 00.8 -0.1**
WAKR Walker 73.65 322 P **P** **20 34 00.9 -0.2**
YHH Holmes Hill 73.83 332 P **P** **20 34 02.1 0.0**
PPT2 Papeete2 73.83 257 *e*S **SKiKP** **20 43 26.8 -4.9**
comp=Z,3µm,24.8s
PPT2 Papeete2 73.83 257 *e*LR LR 20 56 37.4
comp=Z,6µm,24.8s,baz=109
PPT Papeete 73.84 257 LR LR 20 58 26.1
comp=Z,2µm,20.7s,baz=104,slow=29
YHB Horse Butte 73.95 331 P **P** **20 34 02.8 +0.1**
YHL Hebgen Lake 74.03 331 P **P** **20 34 02.7 -0.5**
GCMT Greycliff 74.10 333 P **P** **20 34 03.4 -0.1**
QLMT Earthquake Lak 74.12 331 P **P** **20 34 04.3 +0.6**
DGMT Dagmar 74.14 338 P **P** **20 34 04.7 +1.2**
baz=148
DGMT Dagmar 74.14 338 P **P** **20 34 03.1 -0.4**
PNTR Pine Nut 74.14 323 P **P** **20 34 02.8 -1.2**
PNTR IAmb IAmb 20 34 11.7
comp=Z,116nm,1.7s
SCHQ Schefferville 74.38 2 P **P** **20 34 04.6 -0.1**
comp=Z,7.0nm,0.8s,baz=142,slow=3.6,SNR=5.8
SCHQ LR LR 21 10 50.0
comp=Z,1µm,18.1s,baz=196,slow=39
SCHQ Schefferville 74.38 2 P **P** **20 34 03.8 -0.9**
SCHQ IAMs_20 IAMs_20 21 11 14.3
comp=Z,2µm,18.0s
RUBR Rubicon Trail 74.44 322 IAMs_20 IAMs_20 21 10 17.2
comp=Z,2µm,18.0s
PAHR Pah Rah Range 74.44 323 P **P** **20 34 04.8 -0.8**
HLID Hailey 74.56 329 P **P** **20 34 08.6 +2.3**
baz=138,SNR=34
HLID Hailey 74.56 329 P **P** **20 34 06.4 +0.1**
HLID IAmb IAmb 20 34 18.6
comp=Z,128nm,1.9s
MCMT McKenzie Canyo 74.77 331 P **P** **20 34 08.1 +0.6**
BOZ Bozeman (W) 74.80 332 P **P** **20 34 09.2 +1.7**
baz=141,SNR=28
BOZ Bozeman (W) 74.80 332 P **P** **20 34 08.2 +0.6**
BOZ pmax pmax
comp=Z,108nm,2.0s
BOZ MLR MLR
comp=Z,2µm,21.0s
BOZ Bozeman (W) 74.80 332 P **P** **20 34 08.2 +0.6**
BOZ IAmb IAmb 20 34 23.3
comp=Z,108nm,1.9s
BOZ IAMs_20 IAMs_20 21 07 59.4
comp=Z,2µm,21.0s
AFDM Forest Hills D 74.84 322 P **P** **20 34 08.3 +0.5**
DLMT Dillon 75.06 331 P **P** **20 34 08.7 -0.4**
DLMT IAMs_20 IAMs_20 21 08 23.2
comp=Z,2µm,20.0s
MFID Camas Ranch 75.16 328 P **P** **20 34 10.5 +0.9**
MFID IAmb IAmb 20 34 22.7
comp=Z,64nm,1.4s
MFID IAMs_20 IAMs_20 21 06 53.2
comp=Z,2µm,19.0s
LRM Limekiln Ridge 75.34 331 P **P** **20 34 11.3 +0.5**
ORV Oroville 75.55 322 P **P** **20 34 12.3 +0.5**
ORV pmax pmax
comp=Z,65nm,1.2s
ORV Oroville 75.55 322 P **P** **20 34 12.3 +0.5**
ORV IAmb IAmb 20 34 20.2
comp=Z,66nm,1.2s
HRY Holter Researc 75.75 332 P **P** **20 34 14.6 +1.6**
EGMT Eagleton 75.90 334 P **P** **20 34 14.5 +0.8**
baz=143
EGMT Eagleton 75.90 334 P **P** **20 34 12.4 -1.3**
EGMT IAmb IAmb 20 34 20.7
comp=Z,49nm,1.1s
EGMT IAMs_20 IAMs_20 21 09 28.9
comp=Z,3µm,20.0s
WVOR Wild Horse Val 75.91 326 P **P** **20 34 16.4 +2.4**
O03E Paynes Creek 76.21 322 P **P** **20 34 16.0 +0.4**
baz=131
MOD Modoc Plateau 76.44 324 P **P** **20 34 17.7 +0.6**
MOD IAmb IAmb 20 34 34.2
comp=Z,90nm,1.6s
J08A Circle Bar Ran 76.47 326 IAMs_20 IAMs_20 21 10 34.9
comp=Z,3µm,18.0s
O02D Mt. Diablo Mer 76.71 322 P **P** **20 34 18.5 +0.1**
baz=131
MSO Missoula 76.78 331 P **P** **20 34 21.4 +2.6**
baz=139,SNR=12
MSO Missoula 76.78 331 P **P** **20 34 19.9 +1.1**
MSO IAmb IAmb 20 34 35.1
comp=Z,63nm,1.5s
MSO IAMs_20 IAMs_20 21 09 25.8
comp=Z,2µm,19.0s
WDC Whiskeytown Da 76.82 322 P **P** **20 34 18.4 -0.6**
WDC pmax pmax
comp=Z,71nm,1.8s
WDC MLR MLR
comp=Z,900nm,20.0s
WDC Whiskeytown Da 76.82 322 P **P** **20 34 18.4 -0.6**
BMO Blue Mountains 76.93 328 P **P** **20 34 19.5 -0.2**
BMO pmax pmax
comp=Z,24nm,1.1s
BMO MLR MLR
comp=Z,2µm,18.0s
BMO Blue Mountains 76.93 328 P **P** **20 34 19.5 -0.2**
BMO IAMs_20 IAMs_20 21 08 28.2
comp=Z,2µm,18.0s
N02D Trinity Center 77.17 322 P **P** **20 34 21.7 +0.6**
baz=131
M04C Macdoel 77.22 323 P **P** **20 34 23.2 +1.8**
baz=132,SNR=12
KMRM Mail Ridge 77.27 321 IAMs_20 IAMs_20 21 10 31.9
comp=Z,2µm,18.0s
K05A Summer Lake 77.32 325 P **P** **20 34 22.5 +0.4**
K05A IAmb IAmb 20 34 45.0
comp=Z,166nm,1.7s
K05A IAMs_20 IAMs_20 21 12 14.6
comp=Z,2µm,20.0s
I07A Izee 77.51 326 P **P** **20 34 23.8 +0.9**
I07A IAMs_20 IAMs_20 21 11 26.5
comp=Z,3µm,18.0s
M02C Callahan 77.53 323 P **P** **20 34 23.2 +0.1**
baz=131
JTMT Jette 77.62 332 P **P** **20 34 23.5 0.0**
JTMT IAMs_20 IAMs_20 21 09 26.0
comp=Z,2µm,18.0s
YBH Yreka Blue Hor 77.67 323 P **P** **20 34 25.0 +1.2**
comp=Z,3.4nm,0.9s,baz=131,slow=11,SNR=5.8
YBH Yreka Blue Hor 77.67 323 P **P** **20 34 24.3 +0.4**
YBH pmax pmax
comp=Z,10.0nm,1.0s
YBH MLR MLR
comp=Z,1µm,21.0s
YBH Yreka Blue Hor 77.67 323 P **P** **20 34 24.3 +0.4**
F10A Beach Ranch, E 77.69 329 P **P** **20 34 24.4 +0.5**
F10A IAmb IAmb 20 35 05.7
comp=Z,128nm,2.0s
K04D Chiloquin, OR 77.73 324 P **P** **20 34 26.6 +2.4**
baz=132
L04D Klamath Falls 77.76 324 P **P** **20 34 29.2 +4.7**
baz=131
J05D Fort Rock, OR 77.88 325 P **P** **20 34 26.4 +1.3**
baz=132
G08A Pilot Rock 78.07 328 P **P** **20 34 26.4 +0.3**
G08A IAMs_20 IAMs_20 21 08 42.3
comp=Z,3µm,19.0s
PINE Pine Mountain 78.07 325 P **P** **20 34 26.6 +0.5**
PINE IAMs_20 IAMs_20 21 08 46.3
comp=Z,2µm,21.0s
TTIG Tnine Tigouga, 78.19 51 P **P** **20 34 30.0 +2.9**
SNR=8.8
TTIG P **P** **20 34 30.0 +2.9**
SNR=8.8
VNDA Vanda 78.21 190 P **P** **20 34 29.5 +3.2**
comp=Z,3.0nm,1.1s,baz=202,slow=1.7,SNR=6.2
J04D Umpqua Nationa 78.33 324 P **P** **20 34 30.9 +3.3**
baz=132
WALA Waterton Lakes 78.45 333 P **P** **20 34 27.8 -0.2**
WALA IAmb IAmb 20 34 44.7
comp=Z,52nm,1.1s
WALA IAMs_20 IAMs_20 21 10 42.8
comp=Z,2µm,21.0s
TOA0 Torodi Ar. Sit 78.62 72 P **P** **20 34 28.4 -1.2**
TORD Torodi Ar. Bea 78.62 72 P **P** **20 34 28.7 -0.9**
comp=Z,52nm,1.0s,baz=255,slow=4.6,SNR=92
TORD S **S** **20 44 25.9 -0.6**
comp=Z,1.5nm,1.1s,baz=249,slow=11,SNR=3.8
TORD LR LR 21 07 29.9
comp=Z,7µm,21.4s,baz=250,slow=34
TORD Torodi Ar. Bea 78.62 72 P **P** **20 34 27.9 -1.7**
TORD **S** **20 44 25.2 -1.4**
SYO Syowa Base 78.78 160 ⇑ *i*P **P** **20 34 29.8 +0.3**
SYO Syowa Base 78.78 160 ⇓ *i*sP sP 20 34 34.0 -0.5
SYO Syowa Base 78.78 160 ⇓ *i*PcP **PcP** **20 34 37.2 -1.1**
FFC Flin Flon 78.79 342 P **P** **20 34 28.3 -1.4**
FFC pmax pmax
comp=Z,40nm,1.6s
FFC MLR MLR
comp=Z,3µm,20.0s
FFC Flin Flon 78.79 342 P **P** **20 34 28.3 -1.4**
FFC Flin Flon 78.79 342 IAMs_20 IAMs_20 21 11 18.7
comp=Z,3µm,20.0s
K02D Willamette Mer 78.84 323 P **P** **20 34 31.6 +1.3**
baz=130
G06A Carlson Farm, 78.89 327 IAMs_20 IAMs_20 21 10 31.9
comp=Z,2µm,20.0s
OUK Oukaimeden 78.95 51 P **P** **20 34 34.0 +2.5**
SNR=11
OUK P **P** **20 34 34.0 +2.5**
SNR=11
HAWA Hanford 79.12 328 P **P** **20 34 32.9 +1.2**
HAWA IAmb IAmb 20 34 39.1
comp=Z,95nm,1.7s
HAWA IAMs_20 IAMs_20 21 12 09.2
comp=Z,3µm,18.0s
J01E Myrtle Point 79.29 324 P **P** **20 34 34.8 +2.1**
baz=130
D08A Wollman Farm, 79.29 329 P **P** **20 34 33.0 +0.4**
D08A IAmb IAmb 20 34 49.0
comp=Z,89nm,1.8s
NEW Newport 79.30 331 P **P** **20 34 33.5 +0.9**
baz=136
NEW Newport 79.30 331 P **P** **20 34 33.9 +1.3**
comp=Z,3.8nm,0.6s,baz=97,slow=6.1,SNR=5.1
NEW Newport 79.30 331 P **P** **20 34 31.4 -1.2**
NEW pmax pmax
comp=Z,52nm,1.8s

NEW MLR MLR
comp=Z,1µm,21.0s
NEW Newport 79.30 331 P **P** **20 34 31.4 -1.2**
I03D Drain, OR 79.31 324 P **P** **20 34 30.8 -1.9**
baz=131
H04A Detroit Lake 79.33 326 IAMs_20 IAMs_20 21 13 32.7
comp=Z,2µm,20.0s
E07A Sunnyside 79.40 328 P **P** **20 34 33.3 +0.1**
E07A IAmb IAmb 20 34 45.5
comp=Z,90nm,1.7s
C09A Chrisman Ranch 79.50 330 P **P** **20 34 33.9 +0.1**
C09A IAmb IAmb 20 34 41.0
comp=Z,128nm,1.8s
H04D Lebanon 79.52 325 P **P** **20 34 32.6 -1.3**
baz=131
F05D White Salmon 79.75 327 P **P** **20 34 31.9 -3.3**
baz=132
ZGR Zagora 80.07 53 P **P** **20 34 40.0 +2.6**
SNR=8.4
ZGR P **P** **20 34 40.0 +2.6**
SNR=8.4
G03D McMinnville, O 80.25 325 P **P** **20 34 39.3 +1.5**
baz=131
F04A Amboy 80.28 326 IAMs_20 IAMs_20 21 09 19.9
comp=Z,2µm,21.0s
LTY Liberty 80.29 328 P **P** **20 34 37.3 -0.8**
LTY IAMs_20 IAMs_20 21 11 11.9
comp=Z,2µm,18.0s
AVE Averroes 80.36 50 *i* P P 20 34 44.4 +5.7
AVE *e*S S 20 45 09.6 +25
B08A Colville Reser 80.40 330 P **P** **20 34 37.1 -1.5**
B08A IAmb IAmb 20 34 54.1
comp=Z,96nm,1.9s
LON Longmire 80.52 327 IAMs_20 IAMs_20 21 13 15.0
comp=Z,3µm,18.0s
FCC Fort Churchill 80.54 348 P **P** **20 34 37.4 -1.6**
FCC pmax pmax
comp=Z,76nm,1.7s
FCC Fort Churchill 80.54 348 P **P** **20 34 37.4 -1.6**
F04D Rainier, OR 80.69 326 P **P** **20 34 41.7 +1.5**
baz=131
F03A Seaside 80.88 326 IAMs_20 IAMs_20 21 10 50.7
comp=Z,2µm,18.0s
D05A Enumclaw 80.90 328 P **P** **20 34 40.9 -0.4**
D05A IAmb IAmb 20 34 57.8
comp=Z,60nm,1.0s
D05A IAMs_20 IAMs_20 21 10 32.2
comp=Z,2µm,20.0s
E03A Lebam 81.28 326 IAMs_20 IAMs_20 21 10 02.4
comp=Z,2µm,21.0s
D04E Lakebay 81.29 327 P **P** **20 34 47.6 +4.3**
baz=132
PFVI Vila Bisbo 81.40 46 *e*SKS S 20 45 04.5 +10
B06A Marblemount 81.55 329 P **P** **20 34 44.7 +0.1**
B06A IAmb IAmb 20 34 59.6
comp=Z,132nm,1.8s
B06A IAMs_20 IAMs_20 21 13 29.3
comp=Z,2µm,18.0s
MORF Marmelete 81.61 46 *e*P **P** **20 34 46.0 +0.7**
MORF AMb AMB 20 34 48.7
comp=Z,38nm,1.0s
MORF Marmelete 81.61 46 *e*P **P** **20 34 46.0 +0.7**
MORF Marmelete 81.61 46 *e*SKS **S** **20 45 06.0 +8.7**
B05A Bryant 81.68 328 P **P** **20 34 46.9 +1.6**
baz=132
PTEO Sao Teotonio 81.69 45 *e*P **P** **20 34 45.8 +0.1**
comp=Z,133nm,1.4s
D03D Eldon 81.69 327 P **P** **20 34 46.9 +1.5**
baz=131
CZD Col de Zad 81.94 51 P **P** **20 34 49.2 +1.7**
SNR=6.0
NLWA Neilton Lookou 82.00 327 IAMs_20 IAMs_20 21 14 21.2
comp=Z,3µm,18.0s
LIS Lisbon 82.04 44 *e*P **P** **20 34 48.3 +0.8**
LIS AMb AMB 20 34 55.9
comp=Z,163nm,1.6s
LIS Lisbon 82.04 44 *e*P **P** **20 34 48.3 +0.8**
PBDV Barranco-do-Ve 82.06 46 *e*P **P** **20 34 52.3 +4.6**
comp=Z,59nm,1.5s
PBDV Barranco-do-Ve 82.06 46 *e*SKS **S** **20 45 10.0 +8.1**
IFR Ifrane 82.11 50 *i* P **P** **20 34 53.0 +4.7**
IFR *e*S **S** **20 45 10.4 +7.4**
PNCL Nicolau / Gran 82.12 45 *e*P **P** **20 34 48.4 +0.5**
comp=Z,56nm,1.8s
MDT Midelt 82.15 51 P **P** **20 34 48.5 +0.2**
comp=Z,25nm,1.2s,baz=241,slow=5.6,SNR=11
MDT Midelt 82.15 51 P **P** **20 34 49.4 +1.0**
SNR=13
MESJ Messejana 82.18 45 *e*P **P** **20 34 49.1 +0.9**
MESJ AMb AMB 20 34 54.6
comp=Z,34nm,2.3s
MESJ Messejana 82.18 45 *e*P **P** **20 34 49.1 +0.9**
MESJ Messejana 82.18 45 *e*P **P** **20 34 49.2 +0.9**
comp=Z,38nm,1.8s
PCVE Castro Verde 82.19 46 *e*P **P** **20 34 53.1 +4.8**
comp=Z,38nm,1.6s
PCVE Castro Verde 82.19 46 *e*SKS S 20 45 12.5 +9.3
A04D Lummi Island 82.28 328 P **P** **20 34 51.4 +2.9**
baz=132
PVAQ Vaqueiros 82.29 46 *e*P **P** **20 34 52.2 +3.4**
comp=Z,46nm,1.7s
PVAQ Vaqueiros 82.29 46 *e*SKS **S** **20 45 12.6 +8.4**
PVAQ Vaqueiros 82.29 46 *e*LR LR 21 02 31.9
comp=Z,2µm,18.0s
TSUM Tsumeb 82.39 108 P **P** **20 34 49.4 -0.6**
TSUM IAmb IAmb 20 34 56.0
comp=Z,62nm,1.4s
TSUM Tsumeb 82.39 108 IAMs_20 IAMs_20 21 09 22.3
comp=Z,2µm,19.0s
PBEJ Beja 82.52 45 *e*P **P** **20 34 54.5 +4.5**
comp=Z,33nm,2.0s
EVO Evora 82.69 45 *i* P **P** **20 34 51.9 +1.0**
EVO *e*S **S** **20 45 16.1 +7.8**
EVO Evora 82.69 45 *e*P **P** **20 34 54.7 +3.8**
comp=Z,42nm,1.8s
IVI Ivigtut 82.75 11 P **P** **20 34 50.0 -0.7**
IVI IAMs_20 IAMs_20 21 11 26.4
comp=Z,2µm,20.0s
SFS San Fernando 82.84 47 *i* P **P** **20 34 51.9 +0.2**
SFS *e*S S 20 45 34.2 +24
PMTG Montargil 82.84 44 *e*P **P** **20 34 55.5 +3.8**
comp=Z,70nm,1.7s
CEU Ceuta 83.13 48 *i* P **P** **20 34 54.1 +0.9**
CEU *e*S S 20 45 38.2 +25
LLLB Lillooet 83.16 330 P **P** **20 34 53.5 +0.4**
LLLB IAmb IAmb 20 35 00.0
comp=Z,46nm,1.2s
LLLB IAMs_20 IAMs_20 21 15 28.5
comp=Z,2µm,18.0s
NRS Narsarsuaq 83.23 12 IAMs_20 IAMs_20 21 11 18.9
comp=Z,2µm,20.0s
COI Coimbra 83.33 43 P **P** **20 34 54.1 -0.1**
COI pmax pmax
comp=Z,38nm,1.2s
COI MLR MLR
comp=Z,6µm,19.0s
COI Coimbra 83.33 43 P **P** **20 34 54.1 -0.1**
COI IAmb IAmb 20 35 00.1
comp=Z,38nm,1.1s
PVLZ Pæn de 83.53 49 *i* P **P** **20 34 57.5 +2.2**
PVLZ *e*S S 20 45 45.0 +28
PMRV Marv??o 83.58 44 *e*P **P** **20 34 56.2 +0.7**
comp=Z,29nm,1.5s
PMRV Marv??o 83.58 44 *e*SKS S 20 45 36.1 +19
PMRV Marv??o 83.58 44 *e*LR LR 21 02 46.1
comp=Z,3µm,18.0s
PCBR Castelo Branco 83.74 44 *e*P **P** **20 34 57.3 +1.0**
comp=Z,37nm,1.8s
PVIS Viseu 83.93 43 *e*P **P** **20 34 58.5 +1.2**
comp=Z,62nm,1.5s
MTE Manteigas 83.99 43 *e*P **P** **20 34 58.7 +1.0**
comp=Z,54nm,1.4s
MTE Manteigas 83.99 43 *e*LR LR 21 05 42.7
comp=Z,6µm,18.0s
MTE Manteigas 83.99 43 P **P** **20 34 57.5 -0.2**
MTE IAmb IAmb 20 35 02.3
comp=Z,40nm,1.2s
EMAL Malaga-Limoner 84.22 48 *i* P **P** **20 34 56.8 -2.0**
PVRL Vila Real 84.35 43 *e*P **P** **20 35 00.3 +0.9**
comp=Z,69nm,1.8s
PGAV Gavieira, Arco 84.37 42 *e*SKS **S** **20 45 31.9 +6.6**
PGAV Gavieira, Arco 84.37 42 *e*LR LR 21 05 51.6
comp=Z,6µm,20.0s
PCAB Cabril 84.38 42 *e*P **P** **20 35 00.3 +0.7**
comp=Z,78nm,1.7s
MELI Melilla 84.56 50 *i* P **P** **20 34 57.7 -2.8**
MELI *e*S **S** **20 45 35.4 +8.1**
MVO Moncorvo 84.73 43 *e*P **P** **20 35 02.0 +0.6**
comp=Z,84nm,1.6s
MVO Moncorvo 84.73 43 *e*SKS S 20 45 38.6 +10
MVO Moncorvo 84.73 43 *e*LR LR 21 05 44.2
comp=Z,5µm,18.0s
PBRG Braganca 85.25 42 *e*P **P** **20 35 04.6 +0.6**
comp=Z,74nm,1.6s
PAB San Pablo 85.66 45 P **P** **20 35 06.3 +0.2**
PAB pmax pmax
comp=Z,73nm,1.7s
PAB MLR MLR
comp=Z,3µm,18.0s
PAB San Pablo 85.66 45 P **P** **20 35 06.3 +0.2**
PAB IAmb IAmb 20 35 11.6
comp=Z,73nm,1.6s
TAM Tamanrasset 85.79 64 P **P** **20 35 07.1 -0.1**
TAM pmax pmax
comp=Z,94nm,1.4s
TAM MLR MLR
comp=Z,8µm,20.0s
TAM Tamanrasset 85.79 64 P **P** **20 35 07.0 -0.1**
TAM IAmb IAmb 20 35 13.2
comp=Z,94nm,1.4s
BOSA Boshof 85.96 119 P **P** **20 35 08.2 +0.2**
comp=Z,8.0nm,0.9s,baz=221,slow=4.2,SNR=3.8
BOSA LR LR 21 10 31.1
comp=Z,4µm,19.3s,baz=256,slow=34
BOSA Boshof 85.96 119 P **P** **20 35 06.7 -1.4**
BOSA pmax pmax
comp=Z,111nm,1.7s
BOSA Boshof 85.96 119 P **P** **20 35 06.7 -1.4**
BOSA IAmb IAmb 20 35 13.2
comp=Z,111nm,1.7s
ESDC Sonseca Array 85.98 45 P **P** **20 35 07.5 -0.2**
comp=Z,12nm,1.2s,baz=245,slow=5.2,SNR=27
ESDC LR LR 21 12 25.1
comp=Z,2µm,18.7s,baz=230,slow=35
ESDC Sonseca Array 85.98 45 P **P** **20 35 07.2 -0.5**
ESBB Sonseca Array 85.98 45 P **P** **20 35 07.2 -0.5**
ESBB IAmb IAmb 20 35 13.4
comp=Z,49nm,1.4s
MAW Mawson 86.53 164 P **P** **20 35 10.4 +0.6**
comp=Z,11nm,0.8s,baz=222,slow=7.0,SNR=14
MAW LR LR 21 16 35.6
comp=Z,2µm,18.1s,baz=240,slow=38
MAW Mawson 86.53 164 P **P** **20 35 10.8 +1.0**
UCM Universidad Co 86.77 45 *i* P **P** **20 35 15.9 +4.4**
UCM *e*S **S** **20 45 53.4 +4.4**
CART Cartagena 87.02 48 *i* P **P** **20 35 13.8 +1.1**
CART *e*S **S** **20 45 42.8 -8.5**
BBB Bella Bella 87.16 329 IAMs_20 IAMs_20 21 18 50.7
comp=Z,2µm,19.0s
SFJD Kangerlussuaq 87.83 8 IAMs_20 IAMs_20 21 11 49.6
comp=Z,2µm,22.0s
ANGG Ammassalik, Gr 88.81 13 IAMs_20 IAMs_20 21 13 41.4
comp=Z,2µm,20.0s
YKA Yellowknife Ar 88.93 341 P **P** **20 35 22.0 +0.8**
comp=Z,50nm,1.2s,baz=141,slow=5.0,SNR=51
YKA LR LR 21 18 36.1
comp=Z,3µm,20.5s,baz=0.0,slow=38
YKA Yellowknife Ar 88.93 341 P **P** **20 35 22.0 +0.8**
MOBC Moresby Island 89.62 328 IAMs_20 IAMs_20 21 15 11.9
comp=Z,2µm,21.0s
ILULI Ilulissat 89.88 7 IAMs_20 IAMs_20 21 16 22.8
comp=Z,2µm,20.0s
DIB Dawson Inlet, 89.91 328 IAMs_20 IAMs_20 21 15 18.4
comp=Z,2µm,21.0s
CRAG Craig 91.48 330 IAMs_20 IAMs_20 21 21 11.8
comp=Z,2µm,18.0s
DSB Dublin 91.48 33 P **P** **20 35 31.6 -1.7**
DSB IAmb IAmb 20 35 38.2
comp=Z,46nm,1.5s
DSB IAMs_20 IAMs_20 21 13 21.3
comp=Z,2µm,21.0s
KHU Kahuku 91.56 290 IAMs_20 IAMs_20 21 07 36.7
comp=Z,2µm,20.0s
WRAK Wrangell Islan 91.65 331 IAMs_20 IAMs_20 21 23 26.2
comp=Z,2µm,18.0s
MAHO Mahon 91.73 48 *i* P P 20 35 40.1 +5.3
MAHO *e*S S 20 46 17.0 -18
DLBC Dease Lake 91.79 333 P **P** **20 35 34.4 -0.4**
HPAH Hawaii Prepara 91.90 290 IAMs_20 IAMs_20 21 08 59.8
comp=Z,1µm,20.0s
KHLU Kahalu`u 91.92 290 IAMs_20 IAMs_20 21 08 16.4
comp=Z,2µm,19.0s
BORG Borgarnes 92.42 19 IAMs_20 IAMs_20 21 15 00.5
comp=Z,2µm,20.0s
JIS Juneau Island 93.60 332 IAMs_20 IAMs_20 21 20 27.6
comp=Z,2µm,20.0s
KEST Kesra 93.82 53 P **P** **20 35 43.5 -1.2**
comp=Z,3.4nm,1.0s,baz=256,slow=15,SNR=3.9
KEST LR LR 21 18 34.5
comp=Z,3µm,20.6s,baz=200,slow=36
KEST Kesra 93.82 53 P **P** **20 35 43.0 -1.7**
CLF Chambon-Foret 93.83 40 P **P** **20 35 43.0 -1.3**
CLF IAmb IAmb 20 36 44.7
comp=Z,34nm,1.4s
BESE Bessie Mountai 93.97 332 IAMs_20 IAMs_20 21 20 38.4
comp=Z,2µm,21.0s
SSB Saint Sauveur 94.11 43 P **P** **20 35 45.2 -0.6**
SSB pmax pmax
comp=Z,28nm,1.6s
SSB MLR MLR
comp=Z,5µm,20.0s
SSB Saint Sauveur 94.11 43 P **P** **20 35 45.2 -0.6**
ESK Eskdalemuir 94.14 32 IAMs_20 IAMs_20 21 21 26.4
comp=Z,1µm,18.0s
CASY Casey 94.21 181 P **P** **20 35 46.9 +1.0**
CASY IAmb IAmb 20 36 34.2
comp=Z,53nm,2.0s
CASY Casey 94.21 181 IAMs_20 IAMs_20 21 19 30.9
comp=Z,2µm,20.0s
KIP Kipapa 94.41 291 *i* P **P** **20 35 48.8 +1.2**
KIP pmax pmax
comp=Z,46nm,1.1s
OPA Opana 94.49 291 IAMs_20 IAMs_20 21 09 06.5
comp=Z,2µm,19.0s
SKAG Skagway 94.65 332 IAMs_20 IAMs_20 21 21 08.2
comp=Z,2µm,19.0s
SUMG Summit 94.67 9 *i* P **P** **20 35 49.0 +0.8**
comp=Z,51nm,1.3s
SUMG Summit 94.67 9 *i* P **P** **20 35 49.0 +0.8**
SUMG pmax pmax
comp=Z,51nm,1.3s
SUMG Summit 94.67 9 P **P** **20 35 48.6 +0.4**
SUMG IAMs_20 IAMs_20 21 18 17.2
comp=Z,2µm,21.0s
VSL Villasalto 95.21 50 IAMs_20 IAMs_20 21 23 48.7
comp=Z,2µm,18.0s
TULEG Thule 96.11 1 IAMs_20 IAMs_20 21 18 54.5
comp=Z,2µm,20.0s
UCC Uccle 96.23 38 IAMs_20 IAMs_20 21 19 44.3
comp=Z,2µm,21.0s
SCO Scoresbysund 96.27 15 IAMs_20 IAMs_20 21 16 41.4
comp=Z,2µm,21.0s
BMRD Maredsous 96.27 39 P **P** **20 35 55.4 0.0**
HYT Haines Junctio 96.28 333 IAMs_20 IAMs_20 21 22 18.3
comp=Z,2µm,20.0s
WLF Walferdange 96.85 40 P **P** **20 35 58.7 +0.6**
WLF pP **pP** **20 36 02.3 +0.5**
WLF Walferdange 96.85 40 P **P** **20 35 57.9 -0.2**
WLF pmax pmax
comp=Z,45nm,1.6s
WLF MLR MLR
comp=Z,3µm,20.0s
WLF Walferdange 96.85 40 P **P** **20 35 57.9 -0.2**
WLF IAmb IAmb 20 36 03.2
comp=Z,45nm,1.6s
ECH Echery 96.92 41 P **P** **20 35 57.4 -1.1**
ECH pmax pmax
comp=Z,20nm,1.5s
ECH MLR MLR
comp=Z,2µm,20.0s
ECH Echery 96.92 41 P **P** **20 35 57.4 -1.1**
ECH IAmb IAmb 20 36 03.0
comp=Z,20nm,1.5s
ECH IAMs_20 IAMs_20 21 16 33.3
comp=Z,2µm,20.0s
MSSA Maissana 97.03 46 IAMs_20 IAMs_20 21 23 08.6
comp=Z,2µm,18.0s
PCA Pinnacle 97.13 332 IAMs_20 IAMs_20 21 26 33.8
comp=Z,1µm,19.0s
VLC Villacollemand 97.56 46 IAMs_20 IAMs_20 21 20 50.7
comp=Z,2µm,19.0s
YAH Yahtse 97.91 332 IAMs_20 IAMs_20 21 27 27.6
comp=Z,2µm,18.0s
MESA MESA 97.92 332 IAMs_20 IAMs_20 21 23 19.9
comp=Z,2µm,20.0s
OSSC Osservatorio P 97.93 47 IAMs_20 IAMs_20 21 23 50.5
comp=Z,2µm,18.0s
CTGM Chitina Glacie 98.00 332 IAMs_20 IAMs_20 21 24 33.9
comp=Z,1µm,21.0s
DAVOX Davos/Dischmat 98.12 43 P **P** **20 36 04.3 +0.1**
comp=Z,1.9nm,0.8s,baz=218,slow=12,SNR=2.6
BARN Barnard Glacie 98.18 332 IAMs_20 IAMs_20 21 24 39.2
comp=Z,2µm,21.0s
TNS Taunus Mts 98.43 40 P Pdif 20 36 09.1 +3.8
TNS pmax pmax
comp=Z,12nm,2.2s
WAX Waxell Ridge 98.45 332 IAMs_20 IAMs_20 21 23 35.7
comp=Z,2µm,20.0s
A36M Sachs Harbour 98.54 345 P **P** **20 36 05.1 -0.1**
baz=129
TGL Tana Glacier 98.57 332 IAMs_20 IAMs_20 21 27 36.9
comp=Z,1µm,19.0s
INK Inuvik 98.67 341 P **P** **20 36 05.4 -0.4**
INK pmax pmax
comp=Z,17nm,1.5s
INK MLR MLR
comp=Z,3µm,19.0s
INK Inuvik 98.67 341 **P** **20 36 05.4 -0.4**
CRQM Cirque 98.70 332 IAMs_20 IAMs_20 21 26 25.9
comp=Z,1µm,20.0s
FETA Feichten 98.75 43 *e*Pdiff Pdif 20 36 09.1 +2.1
comp=Z,8.6nm,1.5s
MCARA McCarthy VSAT 98.92 332 IAMs_20 IAMs_20 21 28 25.2
comp=Z,1µm,18.0s
RETA Reutte 98.93 43 *e*Pdiff Pdif 20 36 08.4 +0.8
comp=Z,4.9nm,1.1s
VRDI Verde Repeater 99.04 332 IAMs_20 IAMs_20 21 27 39.4
comp=Z,1µm,19.0s
MOTA Moosalm 99.10 43 *e*Pdiff **Pdif** **20 36 09.0 +0.5**
comp=Z,9.4nm,1.2s
BCAR Beaver Creek A 99.12 334 **Pdif** **20 36 05.5 -2.6**
SQTA Sankt Quirin 99.13 43 *e*Pdiff **Pdif** **20 36 09.3 +0.7**
comp=Z,12nm,1.5s
WATA Walderalm 99.40 43 *e*Pdiff **Pdif** **20 36 10.7 +0.8**
comp=Z,10nm,1.6s
WTTA Wattenberg 99.42 43 Pdiff **Pdif** **20 36 10.0 +0.1**
comp=Z,12nm,1.3s
WTTA Wattenberg 99.42 43 P **Pdif** **20 36 13.3 +3.3**
WTTA pmax pmax
comp=Z,7.0nm,2.7s
PAOL Paolisi 99.47 50 IAMs_20 IAMs_20 21 24 42.3
comp=Z,2µm,20.0s
CEL Celeste 99.60 53 IAMs_20 IAMs_20 21 23 00.1
comp=Z,2µm,21.0s
EGAK Eagle 99.62 336 IAMs_20 IAMs_20 21 24 37.6
comp=Z,1µm,20.0s
ABTA Abfaltersbach 99.82 44 *e*Pdiff **Pdif** **20 36 12.3 +0.7**
comp=Z,12nm,1.9s
MENT Mentasta 99.86 334 IAMs_20 IAMs_20 21 23 23.6
comp=Z,2µm,20.0s
GRA1 Grafenberg Arr 99.94 41 IAMs_20 IAMs_20 21 17 15.3
comp=Z,1µm,20.0s
GRF Grafenberg Arr 99.94 41 *e*Pdiff **Pdif** **20 36 11.9 -0.1**
baz=251,slow=5.4
GRF *e*PP **PP** **20 40 11.8 -5.5**
baz=249,slow=7.0
HIN Hinchinbrook I 100.08 331 IAMs_20 IAMs_20 21 29 16.0
comp=Z,2µm,18.0s
FID Port Fidalgo 100.20 331 IAMs_20 IAMs_20 21 30 17.5
comp=Z,2µm,19.0s
DOT Dot Lake 100.29 334 IAMs_20 IAMs_20 21 24 21.7
comp=Z,1µm,19.0s
SCRK Sand Creek 100.39 335 IAMs_20 IAMs_20 21 23 21.3
comp=Z,2µm,19.0s
KBA Koelnbreinsper 100.47 44 *e*Pdiff **Pdif** **20 36 16.3 +1.7**
comp=Z,3.8nm,0.8s
GLI Glacier Island 100.53 331 IAMs_20 IAMs_20 21 30 44.0
comp=Z,2µm,18.0s
PAX Paxson 100.61 333 IAMs_20 IAMs_20 21 23 56.3
comp=Z,2µm,21.0s
RIDG Independent Ri 100.65 334 IAMs_20 IAMs_20 21 24 32.1
comp=Z,2µm,20.0s
SCM Sheep Creek Mo 100.99 332 IAMs_20 IAMs_20 21 29 40.9
comp=Z,2µm,18.0s
OBKA Obir 101.09 45 *e*pPdiff pPdif 20 36 22.1 +1.0
comp=Z,4.5nm,1.1s
GERES GERESS Array B 101.22 42 Pdiff **Pdif** **20 36 17.8 -0.1**
comp=Z,0.3nm,0.7s,baz=234,slow=3.2,SNR=4.0
GERES PP **PP** **20 40 25.9 -1.3**
comp=Z,0.5nm,0.8s,baz=201,slow=7.0,SNR=3.6
GERES GERESS Array B 101.22 42 P **Pdif** **20 36 16.5 -1.3**
GERES GERESS Array B 101.22 42 Pdif **Pdif** **20 36 16.5 -1.3**
MOA Molln 101.29 43 *e*Pdiff **Pdif** **20 36 20.3 +2.2**
comp=Z,5.2nm,1.1s
KNK Knik Glacier 101.34 331 IAMs_20 IAMs_20 21 30 55.3
comp=Z,2µm,18.0s
SEW Seward 101.35 330 IAMs_20 IAMs_20 21 31 41.6
comp=Z,2µm,19.0s
SML Sawmill 101.42 332 IAMs_20 IAMs_20 21 22 21.4
comp=Z,1µm,21.0s
DHY Denali Highway 101.46 333 IAMs_20 IAMs_20 21 24 45.7
comp=Z,1µm,20.0s
CLL Collm 101.52 40 *e*Pdif **Pdif** **20 36 19.0 +0.1**
CLL *e*PP **PP** **20 40 29.0 -0.2**
CLL *e*SS SS 20 55 00.0 -1.1
CLL LmH 21 18 00.0
comp=Z,3µm,21.5s
CLL LmV 21 19 00.0
comp=Z,3µm,20.5s
CLL Collm 101.52 40 *e*P **Pdif** **20 36 19.0 +0.1**
CLL MLR MLR
comp=Z,3µm,20.5s
PRP Porcupine Dome 101.60 336 IAMs_20 IAMs_20 21 26 17.2
comp=Z,2µm,20.0s
HDA Harding Lake 101.76 335 IAMs_20 IAMs_20 21 25 55.4
comp=Z,2µm,21.0s
RC01 Rabbit Creek A 101.81 331 IAMs_20 IAMs_20 21 21 24.8
comp=Z,1µm,20.0s
ILAR Eielson Array 101.86 335 Pdiff **Pdif** **20 36 22.0 +1.8**
comp=Z,0.5nm,0.9s,baz=147,slow=2.2,SNR=4.3
ILAR PP **PP** **20 40 31.9 +0.5**
comp=Z,0.5nm,0.8s,baz=108,slow=5.8,SNR=4.2
ILAR Eielson Array 101.86 335 P **Pdif** **20 36 17.7 -2.5**
ILAR Eielson Array 101.86 335 **Pdif** **20 36 17.7 -2.5**
FYU Fort Yukon 101.89 337 IAMs_20 IAMs_20 21 24 52.1
comp=Z,2µm,20.0s
BRLK Bradley Lake 101.92 329 IAMs_20 IAMs_20 21 26 13.9
comp=Z,1µm,20.0s
BRG Berggiesshubel 101.96 40 P **Pdif** **20 36 23.0 +2.1**
CNPM China Poot 102.01 329 IAMs_20 IAMs_20 21 19 09.6
comp=Z,1µm,21.0s
ALE Alert 102.18 1 IAMs_20 IAMs_20 21 26 37.0
comp=Z,2µm,18.0s
RND Reindeer 102.20 333 IAMs_20 IAMs_20 21 25 18.4
comp=Z,1µm,20.0s
COLA College 102.29 335 IAMs_20 IAMs_20 21 23 50.4
comp=Z,2µm,22.0s
OHAK Old Harbor 102.34 327 IAMs_20 IAMs_20 21 29 28.2
comp=Z,1µm,19.0s
MCK McKinley 102.34 334 IAMs_20 IAMs_20 21 29 53.1
comp=Z,2µm,19.0s
SII Sitkinak Islan 102.62 326 IAMs_20 IAMs_20 21 28 16.6
comp=Z,1µm,20.0s
CHIR Chirikof Islan 103.18 325 IAMs_20 IAMs_20 21 28 40.6
comp=Z,2µm,20.0s
PDG Podgorica 103.22 50 IAMs_20 IAMs_20 21 23 18.9
comp=Z,2µm,21.0s
BPAW Bear Paw Mtn. 103.32 334 IAMs_20 IAMs_20 21 24 44.0
comp=Z,1µm,20.0s
TIR Tirane 103.39 51 IAMs_20 IAMs_20 21 26 00.3
comp=Z,2µm,21.0s
PPLA Purkeypile 103.48 332 IAMs_20 IAMs_20 21 31 37.2
comp=Z,2µm,18.0s
MORC Moravsky Berou 103.90 42 IAMs_20 IAMs_20 21 20 46.1
comp=Z,2µm,20.0s
COLD Coldfoot 103.96 337 IAMs_20 IAMs_20 21 28 27.4
comp=Z,1µm,19.0s
TOLK Toolik Lake Re 104.16 338 IAMs_20 IAMs_20 21 27 58.6
comp=Z,1µm,20.0s
SVW2 Sparrevohn 104.53 330 IAMs_20 IAMs_20 21 28 00.3
comp=Z,1µm,21.0s
PSZ Piszkesteto 104.97 44 IAMs_20 IAMs_20 21 22 08.7
comp=Z,2µm,20.0s
SDPT Sand Point 105.75 324 IAMs_20 IAMs_20 21 28 16.5
comp=Z,1µm,18.0s
IDI Anoyia 105.78 58 IAMs_20 IAMs_20 21 30 59.0
comp=Z,1µm,20.0s
KWP Kalwaria Pacla 107.14 43 IAMs_20 IAMs_20 21 23 15.0
comp=Z,1µm,21.0s
RDOG Red Dog Mine 108.88 337 IAMs_20 IAMs_20 21 29 58.4

comp=Z,2µm,20.0s
DZM Mont Dzumac 110.17 236 *e*PP **PP** **20 41 30.2 -3.2**
comp=Z,276nm,24.2s
DZM Mont Dzumac 110.17 236 *e*PS PS 20 50 57.1 -6.2
comp=Z,831nm,23.4s
DZM *e*SS SS 20 56 51.6 -8.0
comp=Z,2µm,27.6s
DZM Mont Dzumac 110.17 236 *e*LR LR 21 13 28.0
comp=Z,4µm,22.6s
AKASG Malin Array Be 111.44 42 PP **PP** **20 41 38.1 -4.1**
comp=Z,0.2nm,0.3s,baz=261,slow=6.7,SNR=4.7
AKBB Malin Array Si 111.44 42 IAMs_20 IAMs_20 21 29 35.6
comp=Z,1µm,20.0s
CSS Mathiatis 112.51 59 IAMs_20 IAMs_20 21 37 14.2
comp=Z,2µm,18.0s
ANTO Ankara 112.78 54 IAMs_20 IAMs_20 21 31 37.9
comp=Z,1µm,19.0s
SANVU Saraoutou 112.95 243 IAMs_20 IAMs_20 21 18 57.5
comp=Z,2µm,20.0s
BRTR Keskin Array B 113.41 54 PKiKP **PKiKP** **20 41 08.2 +2.6**
comp=Z,1.6nm,0.9s,baz=294,slow=4.6,SNR=4.7
BRTR Keskin Array B 113.41 54 *i* PKIKP **PKiKP** **20 41 07.7 +2.1**
BRTR Keskin Array B 113.41 54 **PKiKP** **20 41 07.7 +2.1**
TOO Toolangi 113.43 211 IAMs_20 IAMs_20 21 18 27.0
comp=Z,2µm,21.0s
ILGA Ilgaz 113.61 53 IAMs_20 IAMs_20 21 34 03.9
comp=Z,1µm,19.0s
ADK Adak 114.96 319 IAMs_20 IAMs_20 21 32 07.4
comp=Z,894nm,20.0s
GAZ Gaziantep 115.91 58 IAMs_20 IAMs_20 21 36 28.5
comp=Z,1µm,20.0s
OBN Obninsk 115.99 38*d i*PKIKP **PKiKP** **20 41 12.0 +2.2**
OBN *e* 20 42 17.0
OBN 20 47 53.0
OBN SS SS 20 58 22.0 +6.2
OBN pmax pmax
comp=Z,92µm,17.5s
OBN MLR MLR
comp=Z,1µm,19.0s
KLMR Klimovskoe 117.04 31 *e*PKIKP **PKiKP** **20 41 11.9 +0.2**
KLMR *e* 20 42 19.0
KLMR *e*SS SS 20 58 30.5 +1.4
KLMR pmax pmax
comp=Z,21nm,1.5s
KLMR Klimovskoe 117.04 31 *e*PKPdf **PKiKP** **20 41 11.9 +0.2**
KLMR AMP 20 41 17.7
comp=Z,21nm,1.5s
KLMR *e*PP **PP** **20 42 19.0 -2.4**
KLMR *e*SS **SS** **20 58 30.6 +1.5**
KLMR *e*SS **SS** **20 58 30.6 +1.5**
KLMR LQ LQ 21 21 55.3
KLMR LQ LQ 21 21 55.3
KLMR LR LR 21 25 45.9
SOC Sochi 118.21 50 *i* PKIKP **PKPdf** **20 41 14.2 -0.3**
SOC *e*PPP PPP 20 45 05.8
SOC *e* 20 48 03.1
SOC *e*SSS SSS 21 03 09.8
BILL Bilibino 120.22 339⇓ *i*PKIKP **PKiKP** **20 41 19.9 +2.2**
BILL 20 42 39.0
BILL *e*PS **PS** **20 52 39.0 +5.5**
BILL *e*SS SS 20 59 13.4 +3.6
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL Bilibino 120.22 339 IAMs_20 IAMs_20 21 38 37.9
comp=Z,1µm,20.0s
KIV Kislovodsk 120.36 50 *i* PKIKP **PKPdf** **20 41 18.1 -0.6**
KIV *e* 20 42 45.3
KIV *e* 20 48 14.6
KIV *e*PS **PS** **20 52 36.1 0.0**
KIV *e*SS SS 20 59 15.7 +2.2
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,2µm,22.0s
AKH Akhalkalaki 120.99 53 IAMs_20 IAMs_20 21 39 50.2
comp=Z,978nm,20.0s
RAYN Ar Rayn 121.25 74 PKIKP **PKPdf** **20 41 20.9 -0.1**
RAYN MLR MLR
comp=Z,3µm,18.0s
RAYN Ar Rayn 121.25 74 **PKPdf** **20 41 20.9 -0.1**
HNR Honiara 122.08 245 IAMs_20 IAMs_20 21 22 21.4
comp=Z,1µm,20.0s
KIRV Kirov 122.41 32 *i* PKIKP **PKPdf** **20 41 22.0 0.0**
MAK Makhachkala 123.91 51 *e*P **Pdif** **20 37 54.4 -4.3**
MAK *i* 20 41 23.9
MAK *e* 20 43 08.3
MAK *e*PPP PPP 20 45 43.3
MAK *e* 20 48 26.7
MAK *e*SS SS 20 59 55.9 -2.6
H11S2 WAKE ISLAND Hyd 125.73 279 T T 23 00 51.2
baz=101,slow=74,SNR=325
H11S1 WAKE ISLAND Hyd 125.73 279 T T 23 00 51.6
baz=101,slow=74,SNR=192
H11S3 WAKE ISLAND Hyd 125.74 279 T T 23 00 49.3
baz=101,slow=74,SNR=226
H11N3 WAKE ISLAND Hyd 125.77 280 T T 23 00 56.1
baz=100,slow=74,SNR=113
H11N2 WAKE ISLAND Hyd 125.78 280 T T 23 00 57.2
baz=100,slow=74,SNR=138
H11N1 WAKE ISLAND Hyd 125.79 280 T T 23 00 57.3
baz=100,slow=74,SNR=138
CTA Charters Tower 126.16 225 PKP **PKiKP** **20 41 31.1 +0.2**
comp=Z,2.2nm,0.6s,baz=104,slow=4.2,SNR=1.9
TIXI Tiksi 126.84 352 *i* PKIKP **PKPdf** **20 41 29.8 -0.4**
TIXI Tiksi 126.84 352 IAMs_20 IAMs_20 21 39 57.1
comp=Z,1µm,20.0s
ARU Arti 127.78 33 *i* PKIKP **PKiKP** **20 41 33.7 +0.7**
ARU 20 43 34.7
ARU PPP PPP 20 46 16.5
ARU 20 48 44.0
ARU SP SP 20 53 33.4 -4.4
ARU PS PS 20 53 43.3 +2.6
ARU SS **SS** **21 00 42.9 -2.9**
ARU MLR MLR
comp=Z,2µm,21.0s
PETK Petropavlovsk- 130.03 324 PKP **PKPdf** **20 41 37.3 +0.5**
comp=Z,3.2nm,0.9s,baz=115,slow=6.7,SNR=5.2
PETK Petropavlovsk- 130.03 324 PKIKP **PKPdf** **20 41 36.8 -0.1**
PETK Petropavlovsk- 130.03 324 PKPdf **PKPdf** **20 41 36.8 -0.1**
ASAR Alice Springs 130.48 210 PKhKP PKPpre 20 41 29.6
comp=Z,0.2nm,0.7s,baz=137,slow=2.3,SNR=4.1
ASAR PKP **PKPdf** **20 41 39.0 +0.2**
comp=Z,2.8nm,0.8s,baz=130,slow=1.5,SNR=16
ASAR Alice Springs 130.48 210 PKIKP **PKPdf** **20 41 39.0 +0.2**
ASAR Alice Springs 130.48 210 PKPpre 20 41 26.7
ASAR PKPdf **PKPdf** **20 41 38.2 -0.5**
AS31 Alice Springs 130.48 210 PKPdf **PKPdf** **20 41 38.5 -0.3**
MORW Morawa 130.98 188 IAMs_20 IAMs_20 21 27 21.8
comp=Z,1µm,21.0s
ABKAR Akbulak array 131.16 41 PKPdf **PKPdf** **20 41 39.2 +0.2**
RABL Rabaul 131.38 245 IAMs_20 IAMs_20 21 27 55.1
comp=Z,1µm,21.0s
SKR Severo-Kuril's 131.87 321 *i* PKIKP PKPdf 20 41 31.5 -8.8
SKR *e* 20 44 08.2
SKR pmax pmax
comp=Z,200nm,6.9s
SKR pmax pmax
comp=Z,200nm,14.1s
SKR MLR MLR
comp=Z,400nm,21.0s
GEYT Alibeck 132.48 56 PKP **PKPdf** **20 41 42.3 +0.3**
comp=Z,2.6nm,1.0s,baz=274,slow=4.2,SNR=7.5
GEYT Alibeck 132.48 56 PKPpre PKPpre 20 41 28.1
GEYT PKPdf **PKPdf** **20 41 42.1 +0.1**
COEN Coen 132.54 228 IAMs_20 IAMs_20 21 35 17.9
comp=Z,954nm,18.0s
WRA Warramunga Arr 133.39 214 PKP **PKPdf** **20 41 45.1 +0.8**
comp=Z,2.7nm,0.8s,baz=150,slow=2.0,SNR=14
WRA SKPbc **SKPbc** **20 45 11.8 -0.5**
comp=Z,2.3nm,1.0s,baz=155,slow=1.6,SNR=4.9
WRA Warramunga Arr 133.39 214 PKIKP **PKPdf** **20 41 44.5 +0.2**
WRA Warramunga Arr 133.39 214 **PKPdf** **20 41 44.5 +0.2**
WRA **SKPbc** **20 45 09.4 -2.9**
WRAB Tennant Creek 133.39 214 *i* PKIKP **PKPdf** **20 41 40.8 -3.5**
WB0 Warramunga Arr 133.51 214 **PKPdf** **20 41 44.6 +0.1**
HRA Herat 136.25 61 PKPdf **PKPdf** **20 41 49.5 +0.1**
FITZ Fitzroy Crossi 138.99 204 PKP **PKPdf** **20 41 54.9 +0.2**
comp=Z,3.6nm,0.8s,baz=136,slow=3.5,SNR=2.4
FITZ Fitzroy Crossi 138.99 204 **PKPdf** **20 41 53.8 -0.8**
KKAR Karatay Array 140.23 45 PKIKP **PKPdf** **20 41 56.0 -0.2**
KKAR Karatay Array 140.23 45 PKPdf **PKPdf** **20 41 56.0 -0.2**
KURK Kurchatov 140.89 31*c i*PKIKP **PKiKP** **20 41 59.3 -0.4**
KURK pmax pmax
comp=Z,9.0nm,1.3s
KURK Kurchatov 140.89 31 PKPdf **PKPdf** **20 41 57.0 -0.1**

ZAA0 Zalesovo Array 141.16 23 PKPdf **PKPdf** **20 41 56.4 -1.1**
ZAA0 IAMs_20 IAMs_20 21 54 10.2
comp=Z,1µm,19.0s
ZALV Zalesovo Beam 141.16 23 PKP **PKPdf** **20 41 55.6 -1.9**
comp=Z,5.5nm,0.8s,baz=294,slow=2.4,SNR=17
ZALV Zalesovo Beam 141.16 23 PKPpre 20 41 53.0
ZALV PKPdf **PKPdf** **20 41 58.0 +0.6**
YSS Yuzh-Sakhalins 141.40 322⇑ *i*PKIKP **PKiKP** **20 42 01.9 +1.0**
YSS *e* 20 45 02.0
YSS Yuzh-Sakhalins 141.40 322 IAMs_20 IAMs_20 21 53 54.4
comp=Z,996nm,20.0s
GAR Garm 141.57 52 PKPdf **PKPdf** **20 41 57.7 -1.2**
BTLS Baital 141.65 41 *e*PKP **PKiKP** **20 42 00.6 -1.0**
baz=41
BTLS *e*PP **PP** **20 45 05.6 +3.2**
baz=41
BTLS LR LR 21 45 24.8
comp=Z,133nm,15.3s,baz=41
BTLS Baital 141.65 41 *e*PKIKP **PKiKP** **20 42 00.5 -1.0**
BTLS *e* 20 45 05.5
BTLS MLR MLR
comp=Z,133nm,15.0s
BOD Bodaibo 141.83 356 *e*PKHKP PKPpre 20 41 52.7
BOD pmax pmax
comp=Z,11nm,1.7s
SEM Semipalatinsk 141.87 30 *e*PKP **PKiKP** **20 42 00.8 -1.3**
comp=Z,3.0nm,1.7s,baz=30
SEM Semipalatinsk 141.87 30 *e*PKIKP **PKiKP** **20 42 00.8 -1.3**
SEM pmax pmax
comp=Z,3.0nm,1.7s
GRNR Gornyy 142.25 331 *e*PKIKP **PKPdf** **20 42 01.0 +1.4**
ARSB Arslanbob 142.63 47 PKIKP **PKPdf** **20 42 00.2 -0.5**
ARSB MLR MLR
comp=Z,600nm,18.0s
ARSB Arslanbob 142.63 47 PKPdf **PKPdf** **20 42 00.2 -0.5**
ARSB IAMs_20 IAMs_20 21 28 51.9
comp=Z,555nm,18.0s
SGDS Sogindy 142.78 43 *e*PKP **PKPdf** **20 42 02.6 +1.7**
comp=Z,3.5nm,1.2s,baz=43
SGDS Sogindy 142.78 43 *e*PKIKP **PKPdf** **20 42 02.5 +1.7**
SGDS pmax pmax
comp=Z,4.0nm,1.2s
AAK Ala-Archa 143.07 44 *i* PKIKP **PKPdf** **20 42 00.3 -1.2**
AAK Ala-Archa 143.07 44 PKPdf **PKPdf** **20 42 00.7 -0.9**
ZEA Zeya 143.31 342 *i* PKIKP **PKPdf** **20 42 02.2 +0.9**
ZEA pmax pmax
comp=Z,28nm,1.2s
KUU Kurty 143.64 41 *e*PKP PKPbc 20 41 59.6 -0.1
comp=Z,15nm,1.7s,baz=41
KUU LR LR 21 45 10.8
comp=Z,530nm,17.1s,baz=41
KUU Kurty 143.64 41 *e*PKIKP PKPbc 20 41 59.6 -0.1
KUU pmax pmax
comp=Z,15nm,1.7s
KUU MLR MLR
comp=Z,530nm,17.0s
CHKK Chushkaly 144.06 41 *e*PKP **PKiKP** **20 42 05.3 -1.3**
baz=41
CHKK Chushkaly 144.06 41 *e*PKIKP **PKiKP** **20 42 05.2 -1.3**
MTBS Maitube 144.08 42 *e*PKP **PKPdf** **20 42 04.2 +1.0**
baz=42
MTBS Maitube 144.08 42 *e*PKIKP **PKPdf** **20 42 04.1 +1.0**
BOOM Boomskoye usch 144.09 44 PKIKP PKPbc 20 42 02.2 +0.9
BOOM Boomskoye usch 144.09 44 PKPdf PKPbc 20 42 02.1 +0.9
TDK Taldyqorghan 144.28 38 *i* PKP **PKPdf** **20 42 02.8 -0.6**
comp=Z,22nm,1.4s,baz=38
TDK LR LR 21 44 56.8
comp=Z,1µm,19.7s,baz=38
TDK Taldyqorghan 144.28 38 *i* PKIKP **PKPdf** **20 42 02.8 -0.6**
TDK pmax pmax
comp=Z,22nm,1.4s
TDK MLR MLR
comp=Z,1µm,20.0s
AAA Alma-Ata 144.35 42⇑ *i*PKP **PKPdf** **20 42 03.9 +0.3**
comp=Z,26nm,1.5s,baz=42
AAA *e*PP **PP** **20 45 20.4 +1.6**
baz=42
AAA LR LR 21 45 43.8
comp=Z,467nm,19.3s,baz=42
AAA Alma-Ata 144.35 42*c i*PKIKP **PKPdf** **20 42 03.9 +0.3**
AAA *e* 20 45 20.4
AAA pmax pmax
comp=Z,26nm,1.5s
AAA MLR MLR
comp=Z,467nm,19.0s
MDOK Medeo 144.46 42 *i* PKP **PKPdf** **20 42 04.1 +0.1**
comp=Z,874nm,1.3s,baz=42
MDOK *e*PP **PP** **20 45 21.1 +1.6**
baz=42
MDOK LR LR 21 47 21.8
comp=Z,424nm,19.4s,baz=42
MDOK Medeo 144.46 42 *i* PKIKP **PKPdf** **20 42 04.0 +0.1**
MDOK *e* 20 45 21.1
MDOK MLR MLR
comp=Z,424nm,19.0s
TNSS Tian-Shan 144.46 42 *e*PKP **PKPdf** **20 42 04.4 +0.1**
comp=Z,85nm,0.9s,baz=42
TNSS Tian-Shan 144.46 42 *e*PKIKP **PKPdf** **20 42 04.3 +0.1**
TNSS pmax pmax
comp=Z,85nm,0.9s
KDJ Kajisay 145.06 43 PKIKP **PKPbc** **20 42 02.5 -1.9**
KDJ Kajisay 145.06 43 **PKPbc** **20 42 02.5 -1.9**
MAKZ Makanchi 145.13 33 PKIKP **PKPbc** **20 42 04.2 -0.1**
MAKZ MLR MLR
comp=Z,2µm,21.0s
MAKZ Makanchi 145.13 33 **PKPbc** **20 42 04.2 -0.1**
GUMO Guam 145.17 265 PKPbc **PKPdf** **20 42 07.7 +2.0**
comp=Z,16nm,0.3s,baz=191,slow=1.0,SNR=6.3
GUMO Guam 145.17 265 PKP2 **PKPbc** **20 42 04.2 -1.0**
GUMO Guam 145.17 265 **PKPbc** **20 42 04.2 -1.0**
MK31 Makanchi Array 145.30 33 PKIKP **PKPbc** **20 42 04.8 0.0**
MK31 Makanchi Array 145.30 33 **PKPbc** **20 42 04.8 0.0**
MKAR Makanchi Array 145.30 33 PKPbc **PKPdf** **20 42 05.5 +0.4**
comp=Z,13nm,1.0s,baz=323,slow=3.6,SNR=67
MKAR Makanchi Array 145.30 33 PKIKP **PKPbc** **20 42 04.6 -0.2**
MKAR Makanchi Array 145.30 33 **PKPbc** **20 42 04.6 -0.2**
KPKS Kokpek 145.31 40⇑ *i*PKP **PKPdf** **20 42 06.5 +1.2**
comp=Z,237nm,1.9s,baz=41
KPKS LR LR 21 45 44.6
comp=Z,355nm,17.7s,baz=41
KPKS Kokpek 145.31 40*c i*PKIKP **PKPdf** **20 42 06.4 +1.2**
KPKS pmax pmax
comp=Z,237nm,1.9s
KPKS MLR MLR
comp=Z,355nm,18.0s
SATY Saty 145.36 41 *i* PKP **PKPdf** **20 42 06.2 +0.8**
comp=Z,45nm,1.3s,baz=41
SATY LR LR 21 48 30.8
comp=Z,192nm,16.0s,baz=41
SATY Saty 145.36 41 *i* PKIKP **PKPdf** **20 42 06.2 +0.8**
SATY pmax pmax
comp=Z,45nm,1.3s
NIL Nilore 145.36 59 PKIKP **PKPbc** **20 42 05.3 -0.2**
NIL MLR MLR
comp=Z,2µm,19.0s
NIL Nilore 145.36 59 **PKPbc** **20 42 05.3 -0.2**
KLR Kul'dur 145.43 334 *i* PKIKP **PKPbc** **20 42 05.1 0.0**
KSH Kashi 145.45 48 PKPbc **PKPab** **20 42 06.8 +0.9**
KSH SS SS 21 04 20.8 +3.1
KSH LR LR
comp=Z,510nm,12.0s
KSH LR LR
comp=Z,1µm,16.6s
KSH LR LR
comp=Z,2µm,21.2s
TARG Taragay, Kyrgy 145.67 43 **PKPab** **20 42 07.6 +0.6**
UZB Uzynbulak 145.69 40⇑ *i*PKP **PKPab** **20 42 07.4 +0.6**
comp=Z,71nm,1.3s,baz=41
UZB LR LR 21 46 10.8
comp=Z,118nm,13.5s,baz=41
UZB Uzynbulak 145.69 40*c i*PKIKP **PKPab** **20 42 07.3 +0.6**
UZB pmax pmax
comp=Z,71nm,1.3s
UZB MLR MLR
comp=Z,118nm,13.0s
SHLS Shalkode 145.95 40 *e*PKP **PKPab** **20 42 08.9 +1.3**
comp=Z,35nm,1.7s,baz=40
SHLS LR LR 21 46 01.8
comp=Z,135nm,14.1s,baz=40
SHLS Shalkode 145.95 40 *e*PKP2 **PKPab** **20 42 08.9 +1.3**
SHLS pmax pmax
comp=Z,35nm,1.7s
SHLS MLR MLR
comp=Z,135nm,14.0s
TEY Ternei 146.00 324⇓ *e*PKP2 **PKPab** **20 42 08.7 +1.2**
TEY pmax pmax
comp=E,10.0nm,1.4s
TEY pmax pmax
comp=N,10.0nm,1.1s
TEY pmax pmax
comp=Z,20nm,1.1s
TEY pmax pmax
comp=Z,100nm,5.3s
ZSN Zaisan 146.11 30 *e*PKP **PKPab** **20 42 08.1 +0.1**
comp=Z,67nm,2.0s,baz=30
ZSN LR LR 21 45 38.8
comp=Z,176nm,15.1s,baz=30
ZSN Zaisan 146.11 30 *e*PKP2 **PKPab** **20 42 08.0 +0.1**
ZSN pmax pmax
comp=Z,67nm,2.0s
ZSN MLR MLR
comp=Z,176nm,15.0s
BATI Baumata 146.91 207 PKPbc **PKiKP** **20 42 13.0 -0.3**
comp=Z,27nm,0.8s,baz=90,slow=3.0,SNR=2.3
SOEI Soe 147.04 208 **PKPab** **20 42 13.3 +0.8**
IRK Irkutsk 147.38 5 *e*PKP2 **PKPbc** **20 42 10.0 -0.8**
IRK *e* 20 45 36.6
IRK pmax pmax
comp=Z,117nm,3.1s
MOY Mondy 147.55 9 *e*PKP2 **PKPbc** **20 42 11.0 -0.4**
MOY pmax pmax
comp=Z,80nm,2.0s
CIT Chita 147.62 355 *e*PKP2 **PKPbc** **20 42 11.4 -0.1**
CIT pmax pmax
comp=Z,98nm,1.6s
TLY Talaya 147.88 6 *e*PKP2 **PKPbc** **20 42 12.3 +0.1**
TLY *e* 20 45 37.5
TLY *e*SS SS 21 04 39.5 -3.3
TLY pmax pmax
comp=Z,115nm,1.6s
TLY Talaya 147.88 6 **PKPdf** **20 42 08.6 -0.7**
TLY **PKPab** **20 42 14.6 -0.1**
FAKI Fak Fak 147.93 228 **PKiKP** **20 42 14.9 -0.4**
BHK Bhakra 148.50 62 *e*P **PKPab** **20 42 18.0 +0.1**
MMRI Maumere 148.92 206 **PKiKP** **20 42 17.4 0.0**
USA0B Ussuriysk Arra 149.02 327 PKP2 **PKiKP** **20 42 16.4 -0.3**
USA0B MLR MLR
comp=Z,1µm,21.0s
USA0B Ussuriysk Arra 149.02 327 **PKiKP** **20 42 16.4 -0.3**
USRK Ussuriysk Ar. 149.02 327 PKPbc **PKiKP** **20 42 16.7 +0.1**
comp=Z,8.2nm,0.8s,baz=48,slow=2.8,SNR=20
USRK Ussuriysk Ar. 149.02 327 PKIKP **PKPdf** **20 42 10.4 -0.9**
USRK 20 42 16.0
USRK Ussuriysk Ar. 149.02 327 PKPdf **PKPdf** **20 42 10.4 -0.9**
USRK **pPKPdf** **20 42 16.0 +0.8**
ZAK Zakamensk 149.12 7 *e*PKIKP **PKPdf** **20 42 12.7 +1.3**
ZAK pmax pmax
comp=Z,25nm,1.6s
KLRI Killari 149.30 88 *e*PKiKP **PKiKP** **20 42 17.8 -0.2**
URV Uravakonda 149.33 94 *e*PKPbc **PKPbc** **20 42 16.7 -0.3**
MJAR Matsushiro Arr 149.49 309 PKPbc **PKiKP** **20 42 17.7 -0.2**
comp=Z,6.1nm,0.7s,baz=84,slow=1.5,SNR=25
MJAR Matsushiro Arr 149.49 309 **PKPbc** **20 42 17.5 +0.7**
MAJO Matsushiro 149.49 309 PKP2 **PKPbc** **20 42 17.0 +0.2**
MAJO MLR MLR
comp=Z,2µm,22.0s
MAJO Matsushiro 149.49 309 **PKPbc** **20 42 17.0 +0.2**
MAT Matsushiro 149.49 309 PKP **PKPbc** **20 42 17.4 +0.6**
MJB9 Matsu-Tunnel 149.49 309 **PKPbc** **20 42 17.3 +0.4**
NDI New Delhi 149.74 67 *e*P **PKPdf** **20 42 14.0 +1.1**
MDJ Mudanjiang 149.90 330 PKPbc **PKPdf** **20 42 13.5 +0.8**
MDJ pPKP pPKPdf 20 42 17.5 +1.0
MDJ PP **PP** **20 45 53.9 +3.0**
MDJ LR LR
comp=Z,930nm,25.6s
MDJ LR LR
comp=Z,1µm,19.1s
MDJ LR LR
comp=Z,2µm,22.8s
MDJ Mudanjiang 149.90 330 **PKPbc** **20 42 16.8 -0.7**
WMQ Urumqi 150.11 32 PKPbc **PKPdf** **20 42 13.9 +0.7**
WMQ PKPab **pPKPbc** **20 42 23.3 +1.3**
WMQ PKS **PP** **20 45 50.1 -2.2**
WMQ AMB AMB
comp=Z,310nm,5.9s
WMQ LR LR
comp=Z,660nm,21.1s
WMQ LR LR
comp=Z,1µm,23.7s
WMQ LR LR
comp=Z,2µm,21.1s
HYBB Hyderabad (bro 151.03 90 *e*PKiKP **PKiKP** **20 42 21.8 +0.1**
HYB Hyderabad 151.04 90 *i* PKP **PKPbc** **20 42 20.0 -1.1**
SRSP Sriramsagar 151.05 86 *e*PKPbc **PKPbc** **20 42 20.8 -0.2**
SRLM Srisailam 151.11 92 *e*PKPbc **PKPbc** **20 42 20.9 -0.4**
SKHT Srikalahasti 151.32 97 *e*PKIKP **PKiKP** **20 42 22.2 0.0**
NJS Nagarjunasagar 151.59 92 *e*PKPbc **PKPbc** **20 42 21.9 -0.5**
SONM Songino Array 151.92 4 PKP **PKPdf** **20 42 17.0 +1.1**
comp=Z,3.7nm,1.1s,baz=315,slow=0.8,SNR=13
SONM PKPbc **PKiKP** **20 42 23.0 +0.3**
comp=Z,5.7nm,0.8s,baz=316,slow=1.2,SNR=20
SONM Songino Array 151.92 4 PKIKP **PKPbc** **20 42 22.1 -0.3**
SONM Songino Array 151.92 4 PKPdf **PKPdf** **20 42 14.9 -1.0**
SONM **PKPbc** **20 42 22.1 -0.3**
ULN Ulaanbaatar 151.93 3 PKIKP **PKPdf** **20 42 15.8 -0.2**
ULN 20 42 21.0
ULN MLR MLR
comp=Z,1µm,21.0s
ULN Ulaanbaatar 151.93 3 PKPdf **PKPdf** **20 42 15.8 -0.2**
ULN **pPKPdf** **20 42 21.0 +1.2**
RPR Rampur 151.94 87 *e*PKPbc **PKPbc** **20 42 22.6 -0.5**
ADKI Addanki 152.07 93 *e*PKIKP **PKiKP** **20 42 23.8 +0.1**
CN2 Changchun 152.38 334 *e*PKPbc **PKPdf** **20 42 12.9 -3.6**
CN2 PP **PP** **20 46 05.6 +0.6**
CN2 SS SS 21 05 35.8 +2.3
CN2 AMB AMB
comp=Z,200nm,8.8s
CN2 LR LR
comp=Z,800nm,21.0s
CN2 LR LR
comp=Z,400nm,21.0s
CN2 LR LR
comp=Z,800nm,22.0s
KAPI Kappang 153.21 204 PKPbc **PKiKP** **20 42 28.1 +1.9**
comp=Z,8.2nm,0.8s,baz=185,slow=4.0,SNR=5.1
KAPI Kappang 153.21 204 PKIKP **PKPdf** **20 42 17.3 -1.4**
KAPI 20 42 36.7
KAPI MLR MLR
comp=Z,1µm,19.0s
KAPI Kappang 153.21 204 PKPdf **PKPdf** **20 42 17.3 -1.4**
KAPI **PKiKP** **20 42 26.7 +0.5**
KAPI PKPab **PKPab** **20 42 36.7 -0.9**
LEM Lembang 153.53 177 PKPbc **PKiKP** **20 42 28.6 +1.4**
comp=Z,12nm,0.6s,baz=171,slow=3.7,SNR=3.5
SNY Shenyang 154.78 334⇑ PKPbc **PKPdf** **20 42 21.1 +1.1**
SNY PP PP 20 46 27.3 +8.8
SNY AMB AMB
comp=Z,230nm,8.4s
SNY LR LR
comp=Z,620nm,18.1s
SNY LR LR
comp=Z,310nm,25.0s
SNY LR LR
comp=Z,1µm,23.0s
KSRS Korea Array 155.88 321 PKP **PKPdf** **20 42 23.2 +1.6**
comp=Z,3.9nm,1.1s,baz=43,slow=1.7,SNR=10
KSAR Wonju Array Be 155.91 321 PKIKP **PKPdf** **20 42 21.7 0.0**
KSAR Wonju Array Be 155.91 321 PKPdf **PKPdf** **20 42 21.6 0.0**
DL2 Dalian 158.04 333 PKP **PKPdf** **20 42 23.6 -0.7**
DL2 PP **PP** **20 46 39.9 +3.3**
DL2 SS SS 21 06 38.6 +3.8
DL2 AMB AMB
comp=Z,250nm,7.7s
DL2 LR LR
comp=Z,1µm,18.9s
DL2 LR LR
comp=Z,500nm,17.6s
DL2 LR LR
comp=Z,1µm,21.1s
GTA Gaotai 158.88 20 PKP **PKPdf** **20 42 27.0 +1.4**
GTA PP **PP** **20 46 45.8 +4.6**
GTA SKKS 20 53 37.3
GTA SS **SS** **21 06 45.3 +1.6**
GTA AMB AMB
comp=Z,280nm,8.4s
GTA LR LR
comp=Z,690nm,20.0s
GTA LR LR
comp=Z,830nm,20.8s
GTA LR LR

	comp=Z,1μm,20.4s							
BJI	**Beijing**	**158.89**	**345**		PKP	**PKPdf**	**20 42 30.9**	**+5.6**
BJI					SS	SS	21 06 46.5	+3.2
BJI					AMB	AMB		
	comp=Z,250nm,9.6s							
BJI					LR	LR		
	comp=Z,720nm,19.6s							
BJI					LR	LR		
	comp=Z,610nm,17.6s							
BJI					LR	LR		
	comp=Z,970nm,20.5s							
BTO	**Baotou**	**159.22**	**358**	*e*	PKP	**PKPdf**	**20 42 29.9**	**+4.0**
LSA	**Lhasa**	**161.01**	**55**		PKIKP	**PKPdf**	**20 42 27.5**	**-1.2**
LSA							20 43 11.2	
LSA	**Lhasa**	**161.01**	**55**			**PKPdf**	**20 42 27.5**	**-1.2**
LSA						**PKPab**	**20 43 11.2**	**-0.4**
TIY	**Taiyuan**	**161.88**	**351**	*e*	PKP	**PKPdf**	**20 42 34.8**	**+6.0**
TIY					PP	**PP**	**20 47 01.9**	**+4.8**
TIY					SS	SS	21 07 17.9	+3.2
TIY					AMB	AMB		
	comp=Z,290nm,7.5s							
TIY					LR	LR		
	comp=Z,1μm,21.9s							
TIY					LR	LR		
	comp=Z,940nm,17.1s							
TIY					LR	LR		
	comp=Z,1μm,22.4s							
LZH	**Lanzhou**	**163.12**	**15**	⇑	PKP	**PKPdf**	**20 42 29.0**	**-1.2**
LZH					pPKP	sPKPdf	20 42 36.9	+1.5
LZH					PP	**PP**	**20 47 04.4**	**+0.5**
LZH					SS	SS	21 07 28.4	+0.4
LZH					AMB	AMB		
	comp=Z,670nm,13.6s							
LZH					LR	LR		
	comp=Z,1μm,19.5s							
LZH					LR	LR		
	comp=Z,1μm,17.9s							
LZH					LR	LR		
	comp=Z,2μm,22.2s							
NJ2	**Nanjing**	**164.92**	**326**	*e*	PKP	**PKPdf**	**20 42 32.8**	**+1.0**
NJ2					pPKP	**pPKPdf**	**20 42 36.0**	**+0.4**
NJ2					PP	**PP**	**20 47 14.5**	**+0.8**
NJ2					SS	SS	21 07 50.9	+3.7
NJ2					AMB	AMB		
	comp=Z,380nm,9.4s							
NJ2					LR	LR		
	comp=Z,950nm,25.0s							
NJ2					LR	LR		
	comp=Z,880nm,21.2s							
NJ2					LR	LR		
	comp=Z,1μm,24.2s							
XAN	**Xi'an**	**165.79**	**0**		PKP	**PKPdf**	**20 42 33.3**	**+0.8**
XAN					pPKP	sPKPdf	20 42 42.5	+4.8
XAN					PKPab	**pPKPab**	**20 43 34.8**	**-0.6**
XAN					PP	**PP**	**20 47 21.5**	**+4.0**
XAN					AMB	AMB		
	comp=Z,720nm,17.2s							
XAN					LR	LR		
	comp=Z,1μm,17.5s							
XAN					LR	LR		
	comp=Z,1μm,22.6s							
XAN					LR	LR		
	comp=Z,2μm,19.4s							
XAN	**Xi'an**	**165.79**	**0**		PKIKP	**PKPdf**	**20 42 31.8**	**-0.7**
XAN	**Xi'an**	**165.79**	**0**			**PKPdf**	**20 42 31.8**	**-0.7**
CD2	**Chengdu**	**167.93**	**22**		PKP	**PKPdf**	**20 42 33.0**	**-1.2**
WHN	**Wuhan**	**168.25**	**337**		PKP	**PKPdf**	**20 42 36.8**	**+2.4**
WHN					PKPab	**pPKPab**	**20 43 45.6**	**-0.7**
WHN					PP	**PP**	**20 47 30.8**	**+0.4**
WHN					LR	LR		
	comp=Z,3μm,19.6s							
WHN					LR	LR		
	comp=Z,2μm,25.4s							
WHN					LR	LR		
	comp=Z,4μm,20.1s							
ENH	**Enshi**	**169.54**	**358**			**PKPdf**	**20 42 34.4**	**-0.9**
QZH	**Quanzhou**	**169.77**	**302**	*i*	PKP	**PKPdf**	**20 42 42.4**	**+6.9**
QZH					PP	**PP**	**20 47 45.0**	**+5.5**
QZH					SS	SS	21 08 43.0	+5.1
QZH					AMB	AMB		
	comp=Z,310nm,7.1s							
QZH					LR	LR		
	comp=Z,470nm,18.8s							
QZH					LR	LR		
	comp=Z,720nm,21.2s							
QZH					LR	LR		
	comp=Z,1μm,18.1s							
CMAR	**Chiang Mai Arr**	**170.37**	**96**		PKP	**PKPdf**	**20 42 36.4**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=224,slow=2.5,SNR=9.6							
CMAR					PKPab	**PKPab**	**20 43 52.7**	**+0.1**
	comp=Z,4.9nm,1.1s,baz=261,slow=6.1,SNR=8.5							
CMAR					PP	**PP**	**20 47 43.0**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=302,slow=5.2,SNR=1.6							
CMAR	**Chiang Mai Arr**	**170.37**	**96**		PKIKP	**PKPdf**	**20 42 34.3**	**-1.7**
CMAR							20 43 51.3	
CMAR							20 47 43.0	
CMAR	**Chiang Mai Arr**	**170.37**	**96**			**PKPdf**	**20 42 34.3**	**-1.7**
CMAR					PKPab	**PKPab**	**20 43 51.3**	**-1.3**
CHTO	**Chiang Mai**	**170.43**	**94**		PKIKP	**PKPdf**	**20 42 34.9**	**-1.1**
CHTO							20 43 52.2	
CHTO	**Chiang Mai**	**170.43**	**94**			**PKPdf**	**20 42 34.9**	**-1.1**
CHTO						**PKPab**	**20 43 52.2**	**-0.7**
KMI	**Kunming**	**172.11**	**46**		PKP	**PKPdf**	**20 42 39.8**	**+2.8**
GYA	**Guiyang**	**173.00**	**18**		PKP	**PKPdf**	**20 42 39.1**	**+1.9**
GYA					pPKP	pPKPdf	20 42 41.6	+0.5
GYA					PKPab	**PKPab**	**20 44 04.8**	**+1.0**
GYA					PP	**PP**	**20 47 55.6**	**+1.4**
GYA					SKKS		20 54 41.4	
GYA					AMB	AMB		
	comp=Z,680nm,14.5s							
GYA					LR	LR		
	comp=Z,740nm,19.1s							
GYA					LR	LR		
	comp=Z,620nm,19.6s							
GYA					LR	LR		
	comp=Z,1μm,20.6s							
SLVN	**Son La**	**174.95**	**71**			**PKPdf**	**20 42 37.5**	**-0.5**
QIZ	**Qiongzhong**	**178.94**	**226**		PKP	**PKPdf**	**20 42 38.0**	**-0.6**
QIZ					PP	**PP**	**20 48 25.3**	**+1.8**
QIZ					SKKS		20 55 12.5	
QIZ					SS	**SS**	**21 10 07.8**	**+2.4**
QIZ					AMB	AMB		
	comp=Z,600nm,8.8s							
QIZ					LR	LR		
	comp=Z,710nm,18.6s							
QIZ					LR	LR		
	comp=Z,860nm,19.1s							
QIZ					LR	LR		
	comp=Z,1μm,20.6s							

*ATH **20** 20:28:24.9, 35˚.05N×26˚.68E, h19$^{km}_{\pm}$1^{km}, ML3.3/6, Error ellipse: s-maj=3.5km s-min=0.9km az=339.0*
*ISK **20** 20:28:25.1, 35˚.03N×26˚.66E, h7^{km}, ML3.5/20*
*IDC **20** 20:28:25.0±1.7, 35˚.03N×26˚.77E, h0^{km}, mb3.6/3, mb1 3.6/5, mb1mx3.4/45, mbtmp3.5/5, ML3.3/2, MS4.2/1, Ms1 4.2/1, ms1mx3.0/35, Error ellipse: s-maj=44.6km s-min=18.2km az=3.0*
*THE **20** 20:28:26.2, 35˚.07N×26˚.63E, h0$^{km}_{\pm}$1^{km}, ML3.4/5, Error ellipse: s-maj=2.9km s-min=0.6km az=156.0*
ISC 20 20:28:25.3±1.3, **34˚.99N**±0˚.06×**26˚.68E**±0˚.03, **h11**$^{km}_{\pm}$8^{km}, **n76**, σ1^{s}**30**/89, **mb3.6**/3, **Crete**

Code	Station Name	Δ°	AZ°		Phase	ID	Time	Res
					Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.40**	**288**		P	**Pg**	**20 28 32.7**	**-0.5**
ZKR					S	**Sg**	**20 28 39.1**	**+0.5**
ZKR	**Zakros**	**0.40**	**288**		P	**Pg**	**20 28 32.7**	**-0.5**
ZKR					S	**Sg**	**20 28 39.0**	**+0.5**
ZKR					AML	AML	20 28 39.6	
	comp=N,4740μm,0.4s							
ZKR					AML	AML	20 28 42.6	
	comp=E,7351μm,0.3s							
ZKR	**Zakros**	**0.40**	**288**		PG	**Pg**	**20 28 32.5**	**-0.7**
ZKR					SG	**Sg**	**20 28 38.8**	**+0.3**
STIA	**Sitia Lasithi**	**0.53**	**293**		P	**Pg**	**20 28 35.0**	**-0.6**
STIA					S	**Sg**	**20 28 43.5**	**+0.9**
KARP	**Karpathos**	**0.68**	**35**		S	**Sb**	**20 28 49.1**	**+0.5**
	comp=E,3μm,0.3s							
KARP	**Karpathos**	**0.68**	**35**		P	**Pg**	**20 28 37.3**	**-1.2**
KARP					S	**Sg**	**20 28 46.8**	**-0.5**
KARP					AML	AML	20 28 51.5	
	comp=N,5875μm,0.3s							
KARP					AML	AML	20 28 53.5	
	comp=E,7849μm,0.6s							
KARP	**Karpathos**	**0.68**	**35**		PG	**Pg**	**20 28 37.1**	**-1.3**
KARP					SG	**Sg**	**20 28 47.9**	**+0.6**
NPS	**Neapolis**	**0.92**	**287**		P	**Pg**	**20 28 42.7**	**-0.3**
NPS					S	**Sb**	**20 28 56.5**	**+1.0**
	comp=E,3μm,0.5s							
NPS	**Neapolis**	**0.92**	**287**		P	**Pg**	**20 28 42.2**	**-0.8**
NPS					S	**Sg**	**20 28 54.7**	**-0.3**
NPS					AML	AML	20 28 59.8	
	comp=E,7209μm,0.5s							
NPS					AML	AML	20 29 00.1	
	comp=N,5935μm,0.5s							
LAST	**Lasithi**	**1.00**	**280**		P	**Pb**	**20 28 44.6**	**-0.1**
LAST					S	**Sn**	**20 28 59.5**	**-0.1**
	comp=N,1μm,0.6s							
LAST	**Lasithi**	**1.00**	**280**		P	**Pb**	**20 28 44.0**	**-0.7**
LAST					S	**Sg**	**20 28 57.4**	**-0.3**
LAST					AML	AML	20 29 03.9	
	comp=E,2848μm,0.6s							
LAST					AML	AML	20 29 07.0	
	comp=N,2799μm,0.6s							
HRKL	**Herakleio**	**1.33**	**284**		P	**Pn**	**20 28 49.8**	**-0.1**
HRKL	**Herakleio**	**1.33**	**284**		PN	**Pn**	**20 28 50.5**	**+0.6**
KSTL	**Kastelli Herak**	**1.36**	**284**		P	**Pn**	**20 28 46.6**	**-3.6**
KSTL					S	**Sb**	**20 29 03.0**	**-5.1**
IDI	**Anoyia**	**1.50**	**282**		P	**Pn**	**20 28 52.2**	**0.0**
IDI	**Anoyia**	**1.50**	**282**		Pn	**Pn**	**20 28 52.9**	**+0.7**
	comp=N,11nm,0.3s,baz=99,slow=17,SNR=84							
IDI					Sn	**Sg**	**20 29 16.7**	**+3.2**
	comp=N,36nm,0.3s,baz=188,slow=22,SNR=4.3							
IDI					LR	LR	20 29 51.6	
	comp=N,434nm,20.7s,baz=88,slow=55							
IDI	**Anoyia**	**1.50**	**282**		P	**Pn**	**20 28 52.6**	**+0.4**
IDI					AML	AML	20 29 25.6	
	comp=N,886μm,0.6s							
IDI					AML	AML	20 29 27.5	
	comp=E,905μm,0.7s							
IDI	**Anoyia**	**1.50**	**282**		PN	**Pn**	**20 28 52.9**	**+0.7**
SIVA	**Sivas**	**1.54**	**271**		P	**Pn**	**20 28 53.1**	**+0.4**
SIVA	**Sivas**	**1.54**	**271**		P	**Pn**	**20 28 53.6**	**+0.9**
ANAF	**Anafi Island**	**1.55**	**332**		P	**Pn**	**20 28 52.8**	**-0.1**
ANAF					S	**Sn**	**20 29 12.6**	**-0.4**
	comp=E,3μm,0.3s							
ANAF	**Anafi Island**	**1.55**	**332**		P	**Pn**	**20 28 53.1**	**+0.2**
ARG	**Arkhangelos**	**1.69**	**44**		P	**Pn**	**20 28 55.8**	**+1.0**
ARG	**Arkhangelos**	**1.69**	**44**		P	**Pn**	**20 28 55.2**	**+0.4**
ARG	**Arkhangelos**	**1.69**	**44**		PN	**Pn**	**20 28 56.0**	**+1.2**
SANT	**Santorini**	**1.70**	**324**		P	**Pn**	**20 28 54.7**	**-0.2**
SANT	**Santorini**	**1.70**	**324**		PN	**Pn**	**20 28 54.7**	**-0.2**
THR6	**Thira Island,**	**1.72**	**323**		P	**Pn**	**20 28 54.9**	**-0.2**
THR6	**Thira Island,**	**1.72**	**323**		P	**Pn**	**20 28 55.1**	**0.0**
THR8	**Santorini-Mono**	**1.72**	**326**		P	**Pn**	**20 28 54.7**	**-0.4**
THR8	**Santorini-Mono**	**1.72**	**326**		P	**Pn**	**20 28 55.3**	**+0.1**
SNT3	**Karterados, Sa**	**1.74**	**325**		P	**Pn**	**20 28 55.9**	**+0.5**
STAX	**Taxiarchis Har**	**1.75**	**324**		P	**Pn**	**20 28 56.1**	**+0.5**
SNT1	**Gialos, Santor**	**1.75**	**325**		P	**Pn**	**20 28 55.8**	**+0.2**
SNT1	**Gialos, Santor**	**1.75**	**325**		P	**Pn**	**20 28 56.1**	**+0.6**
THR3	**Thira Island,**	**1.76**	**324**		P	**Pn**	**20 28 55.7**	**0.0**
THR3	**Thira Island,**	**1.76**	**324**		P	**Pn**	**20 28 56.0**	**+0.3**
THR2	**Thira Island,**	**1.77**	**325**		P	**Pn**	**20 28 55.9**	**0.0**
KOSK	**Kos Island**	**1.77**	**8**		PN	**Pn**	**20 28 56.2**	**+0.3**
DAT	**Datca**	**1.88**	**22**		P	**Pn**	**20 28 57.4**	**-0.1**
DAT	**Datca**	**1.88**	**22**		PN	**Pn**	**20 28 57.9**	**+0.4**
DATC	**Datca-Mugla**	**1.93**	**24**		PN	**Pn**	**20 28 59.0**	**+0.9**
AMGA	**Amorgos Island**	**1.94**	**341**		P	**Pn**	**20 28 58.0**	**-0.3**
AMGA					S	**Sn**	**20 29 22.6**	**-0.1**
	comp=E,735nm,0.7s							
AMGA	**Amorgos Island**	**1.94**	**341**		P	**Pn**	**20 28 58.0**	**-0.3**
IOSP	**Ios island**	**2.06**	**327**		P	**Pn**	**20 28 60.0**	**0.0**
IOSP					AML	AML	20 29 31.6	
	comp=E,994μm,0.7s							
IOSP					AML	AML	20 29 33.2	
	comp=N,1481μm,0.8s							
VAM	**Vamos**	**2.08**	**282**		P	**Pn**	**20 29 01.3**	**+1.2**
BODT	**Bodrum**	**2.13**	**14**		P	**Pn**	**20 29 01.3**	**+0.5**
BODT	**Bodrum**	**2.13**	**14**		PN	**Pn**	**20 29 01.5**	**+0.7**
GVD	**Gavdhos**	**2.14**	**267**		PN	**Pn**	**20 29 02.3**	**+1.4**
IMMV	**Iera Moni Meta**	**2.26**	**283**		P	**Pn**	**20 29 03.3**	**+0.7**
IMMV	**Iera Moni Meta**	**2.26**	**283**		PN	**Pn**	**20 29 03.6**	**+1.0**
APE	**Apeiranthos**	**2.27**	**336**		P	**Pn**	**20 29 02.6**	**-0.2**
APE	**Apeiranthos**	**2.27**	**336**		P	**Pn**	**20 29 03.0**	**+0.1**
APE	**Apeiranthos**	**2.27**	**336**		PN	**Pn**	**20 29 03.3**	**+0.5**
TURN	**Turunc**	**2.44**	**39**		PN	**Pn**	**20 29 02.6**	**-2.4**
RODP	**Rodopos**	**2.46**	**284**		PN	**Pn**	**20 29 06.8**	**+1.4**
KNDR	**Palaiochora Ch**	**2.47**	**276**		PN	**Pn**	**20 29 07.4**	**+1.9**
YER	**Yerkesik**	**2.50**	**31**		PN	**Pn**	**20 29 06.8**	**+0.8**
FETY	**Fethiye**	**2.55**	**49**		PN	**Pn**	**20 29 08.1**	**+1.5**
AKAS	**Kas**	**2.68**	**62**		PN	**Pn**	**20 29 09.5**	**+0.9**
GCAM	**G?zelcaml?**	**2.74**	**9**		PN	**Pn**	**20 29 10.5**	**+1.3**
SERI	**Serifos**	**2.80**	**321**		PN	**Pn**	**20 29 10.6**	**+0.5**
AYDB	**Zeytinkoy-Aydi**	**3.10**	**18**		PN	**Pn**	**20 29 15.4**	**+1.1**
ELL	**Elmali**	**3.15**	**55**		PN	**Pn**	**20 29 16.0**	**+1.0**
URLA	**Izmir**	**3.36**	**359**		PN	**Pn**	**20 29 18.9**	**+1.1**
VLI	**Veliai**	**3.50**	**301**		P	**Pn**	**20 29 20.9**	**+1.4**
BASM	**Basmaki-Afyon**	**3.99**	**42**		PN	**Pn**	**20 29 28.5**	**+2.1**
SEYD	**Seydisehir-KON**	**4.81**	**58**		PN	**Pn**	**20 29 40.0**	**+2.2**
TVSB	**Tavsanli**	**4.97**	**26**		PN	**Pn**	**20 29 42.1**	**+2.1**
EIL	**Elat**	**8.78**	**125**		Pn	**Pn**	**20 30 33.4**	**+1.2**
	comp=N,0.2nm,0.3s,baz=335,slow=19,SNR=1.2							
EIL					Sn	**Sn**	**20 32 06.2**	**-5.0**
	comp=N,0.1nm,0.3s,baz=270,slow=20,SNR=2.1							
GERES	**GERESS Array B**	**16.84**	**329**		Pn	**P**	**20 32 23.9**	**+0.8**
	comp=N,0.1nm,0.3s,baz=142,slow=11,SNR=2.4							
ESDC	**Sonseca Array**	**24.75**	**290**		P	**P**	**20 33 49.8**	**+2.9**
	comp=N,0.3nm,0.5s,baz=87,slow=9.7,SNR=4.0							
GEYT	**Alibeck**	**25.39**	**74**		LR	LR	20 44 34.4	
	comp=N,482nm,19.3s,baz=95,slow=38							
MKAR	**Makanchi Array**	**42.82**	**57**		P	**P**	**20 36 23.5**	**+0.3**
	comp=N,1.0nm,0.9s,baz=273,slow=6.6,SNR=7.8							
ZALV	**Zalesovo Beam**	**44.22**	**46**		P	**P**	**20 36 34.9**	**+0.6**
	comp=N,1.1nm,0.7s,baz=263,slow=9.6,SNR=2.6							
ABD	**La Joyeuse, An**	**79.28**	**283**	*e*			20 41 39.7	

*SJA **20** 20:29:24.3±0.8, 19˚.94S×70˚.97W, h10^{km}, ML3.8, MW3.6*
*GUC **20** 20:29:26.0±0.8, 19˚.76S×71˚.03W, h39$^{km}_{\pm}$2^{km}, ML3.9*
ISC 20 20:29:23.6±1.8, **19.80S**±0˚.03×**71.10W**±0˚.07, **h14**$^{km}_{\pm}$12^{km}, **n28**, σ1^{s}**19**/41, **8C-3D**, **Off coast of northern Chile**

Code	Station Name	Δ°	AZ°		Phase	ID	Time	Res
					Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.95**	**78**	⇓	*i*P	**Pg**	**20 29 42.0**	**0.0**
PSGC					*i* S	**Sb**	**20 29 53.9**	**-0.4**
PSGCX	**Pisagua**	**0.95**	**78**		*i* P	**Pg**	**20 29 42.0**	**+0.1**
PSGCX					*e*S	**Sb**	**20 29 53.9**	**-0.4**
PSGCX					IAML		20 29 56.4	
	comp=Z,2μm,0.3s							
TA02	**Huaiquique**	**1.03**	**117**	⇑	*i*P	**Pn**	**20 29 44.4**	**+0.7**
TA02					*i* S	**Sn**	**20 29 58.2**	**+0.3**
TA02					IAML		20 29 58.8	
	comp=N,8μm,0.2s							
TA01	**Diego Aracena**	**1.15**	**131**	⇑	*i*P	**Pg**	**20 29 46.5**	**+0.6**
TA01					*i* S	**Sn**	**20 30 00.7**	**-0.3**
PB11	**IPOC Station P**	**1.36**	**88**	⇓	*i*P	**Pb**	**20 29 49.1**	**0.0**
PB11					*i* S	**Sb**	**20 30 06.7**	**+0.2**
PB11					IAML		20 30 12.4	
	comp=N,2μm,0.2s							
PB11	**IPOC Station P**	**1.36**	**88**		*i* P	**Pb**	**20 29 49.2**	**+0.2**
PB11					*e*S	**Sn**	**20 30 05.5**	**-1.0**
PB11					IAML		20 30 12.1	
	comp=Z,2μm,1.0s							
PB12	**IPOC Station P**	**1.39**	**32**	⇑	*i*P	**Pb**	**20 29 49.6**	**+0.1**
PB12					*i* S	**Sn**	**20 30 06.5**	**-0.5**
PB12					IAML		20 30 18.4	
	comp=N,2μm,0.5s							
PB12	**IPOC Station P**	**1.39**	**32**		*i* P	**Pb**	**20 29 49.5**	**0.0**
PB12					*e*S	**Sn**	**20 30 07.0**	**-0.1**
PB12					IAML		20 30 16.2	
	comp=Z,738nm,0.8s							
MNMC	**Minye Minye**	**1.57**	**65**	⇑	*i*P	**Pb**	**20 29 52.5**	**-0.2**
MNMC					*i* S	**Sb**	**20 30 12.5**	**0.0**
MNMC					IAML		20 30 18.6	
	comp=E,6μm,0.3s							
MNMCX	**Minye Minye**	**1.57**	**65**		*i* P	**Pb**	**20 29 53.0**	**+0.4**
MNMCX					IAML		20 30 23.6	
	comp=Z,3μm,0.7s							
AP01	**Chacalluta**	**1.60**	**27**	⇑	*i*P	**Pb**	**20 29 52.5**	**-0.4**
AP01					*i* S	**Sn**	**20 30 11.8**	**-0.1**
GO01	**Chusmiza**	**1.80**	**86**	⇑	*i*P	**Pb**	**20 29 56.1**	**-0.6**
GO01					*i* S	**Sb**	**20 30 18.8**	**-0.6**
GO01					IAML		20 30 20.7	
	comp=N,3μm,0.3s							
PB08	**IPOC Station P**	**1.87**	**101**	⇑	*i*P	**Pb**	**20 29 56.7**	**-1.0**
PB08					*i* S	**Sb**	**20 30 20.9**	**-0.2**
PB08					IAML		20 30 22.7	
	comp=N,1μm,0.4s							
PB08	**IPOC Station P**	**1.87**	**101**	*i*	P	**Pb**	**20 29 57.0**	**-0.8**
PB08					IAML		20 30 32.2	
	comp=Z,513nm,1.3s							
PB02	**IPOC Station P**	**1.89**	**143**	⇑	*i*P	**Pb**	**20 29 57.2**	**-0.7**
PB02					IAML		20 30 33.1	
	comp=E,3μm,0.5s							
PB02	**IPOC Station P**	**1.89**	**143**	*i*	P	**Pb**	**20 29 57.2**	**-0.7**
PB02					IAML		20 30 32.4	
	comp=Z,2μm,0.4s							
PB01	**IPOC Station P**	**1.96**	**129**	⇓	*i*P	**Pb**	**20 29 58.2**	**-0.9**
PB01					*i* S	**Sb**	**20 30 22.3**	**-1.1**
PB01					IAML		20 30 30.5	
	comp=N,1μm,0.5s							
PB07	**IPOC Station P**	**2.23**	**149**	*i*	P	**Pn**	**20 30 01.6**	**+1.2**
PB07					IAML		20 30 42.8	
	comp=N,530nm,1.0s							
PB03	**IPOC Station P**	**2.57**	**151**	*i*	P	**Pn**	**20 30 06.7**	**+1.8**
PB03					IAML		20 30 56.7	
	comp=Z,322nm,0.5s							
PB09	**IPOC Station P**	**2.64**	**139**	*e*	P	**Pb**	**20 30 08.7**	**-2.1**
PB09					IAML		20 30 56.1	
	comp=N,825nm,0.7s							
PB09	**IPOC Station P**	**2.64**	**139**	*i*	P	**Pb**	**20 30 08.7**	**-2.1**
PB09					IAML		20 30 57.9	
	comp=Z,602nm,0.6s							
PB04	**IPOC Station P**	**2.67**	**161**	*i*	P	**Pn**	**20 30 07.7**	**+1.2**
PB04					IAML		20 31 11.3	
	comp=Z,305nm,0.9s							
PB05	**IPOC Station P**	**3.15**	**165**	*i*	P	**Pn**	**20 30 14.0**	**+1.0**
PB05					IAML		20 31 22.9	
	comp=Z,150nm,0.6s							
PB06	**IPOC Station P**	**3.22**	**154**	*i*	P	**Pn**	**20 30 15.1**	**+1.1**
PB06					IAML		20 31 13.0	
	comp=Z,357nm,0.9s							
LVC	**Limon Verde**	**3.46**	**144**	*i*	P	**Pn**	**20 30 20.8**	**+3.3**
LVC					IAML		20 31 27.2	
	comp=Z,151nm,1.4s							
PB15	**IPOC Station P**	**3.71**	**156**	*i*	P	**Pn**	**20 30 22.1**	**+1.3**
PB15					IAML		20 31 34.9	
	comp=Z,365nm,0.5s							
PB10	**IPOC Station P**	**3.73**	**172**	*i*	P	**Pn**	**20 30 21.9**	**+1.1**
PB10					IAML		20 31 29.2	
	comp=Z,171nm,2.8s							
LPAZ	**La Paz**	**4.50**	**39**	*i*	P	**Pb**	**20 30 39.3**	**-3.5**

*IDC **20** 20:48:12.8±2.0, 1˚.12S×133˚.50E, h0^{km}, mb3.1/2, mb1 3.5/5, mb1mx3.3/29, mbtmp3.3/5, ML3.3/3, Error ellipse: s-maj=33.9km s-min=19.0km az=29.0*
*DJA **20** 20:48:17.0±0.5, 1˚.52S×133˚.40E, h10^{km}, M3.8/4, MLv3.8/4*
ISC 20 20:48:17.6±1.2, **1˚.25**±0˚.1×**133˚.40E**±0˚.06, **h29**^{km}, **n7**, σ0^{s}**98**/9, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKPI	**Ransiki, Papua**	**0.84**	**112**	P	**Pn**	**20 48 33.6**	**+0.2**
RKPI				S	**Sn**	**20 48 45.6**	**+0.8**
FAKI	**Fak Fak**	**2.07**	**214**	P	**Pn**	**20 48 50.5**	**+0.1**
SIJI	**Sorong**	**2.16**	**279**	Pn	**Pn**	**20 48 52.0**	**+0.4**
	6.7nm,0.3s,baz=46,slow=18,SNR=52						
SIJI				Sn	**Sn**	**20 49 18.5**	**+1.0**
	31nm,0.3s,baz=180,slow=20,SNR=4.7						
SIJI				Lg	Lg	20 49 24.7	
	133nm,0.3s,baz=163,slow=19,SNR=2.3						
FITZ	**Fitzroy Crossi**	**18.45**	**204**	P	**P**	**20 52 29.5**	**-1.5**
	0.1nm,0.3s,baz=24,slow=13,SNR=1.6						
FITZ				S	Sn	20 55 41.9	-15
	0.1nm,0.3s,baz=180,slow=20,SNR=1.4						
WRA	**Warramunga Arr**	**18.66**	**177**	P	**P**	**20 52 33.6**	**+0.3**
	0.1nm,0.3s,baz=355,slow=12,SNR=3.2						
WRA				S	Sn	20 55 51.4	-10
	0.0nm,0.3s,baz=1.0,slow=24,SNR=1.6						
ASAR	**Alice Springs**	**22.35**	**179**	P	**P**	**20 53 14.3**	**+1.0**
	0.3nm,0.5s,baz=1.7,slow=12,SNR=1.5						
MKAR	**Makanchi Array**	**65.40**	**324**	P	**P**	**20 58 56.9**	**-0.7**
	0.2nm,0.6s,baz=120,slow=6.3,SNR=2.8						

*ISK **20** 21:15:48.5, 36˚.47N×26˚.78E, h136$^{km}_{\pm}$1^{km}, ML2.7/11*
*ATH **20** 21:15:48.7, 36˚.42N×26˚.79E, h130$^{km}_{\pm}$6^{km}, ML2.9/3, Error ellipse: s-maj=6.4km s-min=2.0km az=34.0*
*THE **20** 21:15:51.4, 36˚.42N×26˚.78E, h130$^{km}_{\pm}$12^{km}, ML2.7/2, Error ellipse: s-maj=12.2km s-min=1.5km az=189.0*
*DDA **20** 21:16:05.4, 36˚.97N×27˚.73E, h6$^{km}_{\pm}$4^{km}, ML1.3*
ISC 20 21:15:48.2±1.8, **36˚.44N**±0˚.05×**26˚.81E**±0˚.04, **h137**$^{km}_{\pm}$11^{km}, **n45**, σ1^{s}**20**/57, **Dodecanese Islands**

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

FETY	**Fethiye**	**1.84**	**83**	P		**Pn**	**21 16 21.6**	**+1.0**
FETY	**Fethiye**	**1.84**	**83**	PN		**Pn**	**21 16 21.7**	**+1.1**
FETY	**Fethiye**	**1.84**	**83**	*i* P		**Pn**	**21 16 21.5**	**+0.9**
FETY				*i* S		**Sn**	**21 16 45.3**	**-0.1**
FETY				IAML			21 16 47.0	
	comp=N,14nm,0.3s							
FETY				IAML			21 16 47.0	
	comp=E,22nm,0.3s							
IDI	**Anoyia**	**1.94**	**234**	P		**Pn**	**21 16 22.0**	**+0.1**
IDI				S		**Sn**	**21 16 45.8**	**-1.8**
	comp=E,90nm,0.2s							
IDI	**Anoyia**	**1.94**	**234**	P		**Pn**	**21 16 22.0**	**+0.1**
IDI	**Anoyia**	**1.94**	**234**	PN		**Pn**	**21 16 21.9**	**+0.1**
TAVA	**DENİZLI_Tavas**	**1.97**	**58**	*i* P		**Pn**	**21 16 22.9**	**+0.7**
AKAS	**Kas**	**2.26**	**94**	PN		**Pn**	**21 16 26.9**	**+1.0**
VAM	**Vamos**	**2.36**	**245**	P		**Pn**	**21 16 27.4**	**+0.5**
VAM	**Vamos**	**2.36**	**245**	P		**Pn**	**21 16 27.5**	**+0.5**
IMMV	**Iera Moni Meta**	**2.50**	**248**	P		**Pn**	**21 16 31.1**	**+2.5**
IMMV	**Iera Moni Meta**	**2.50**	**248**	P		**Pn**	**21 16 29.3**	**+0.7**
DEMR	**Demre-Antalya**	**2.50**	**94**	PN		**Pn**	**21 16 29.2**	**+0.5**
ELL	**Elmali**	**2.51**	**82**	PN		**Pn**	**21 16 30.1**	**+1.2**

NEIC ***20*** *21:22:46.5±2.9, 9.°47S±0.°06×120.°09E±0.°07, h130km±12km, mb4.1/12, Error ellipse: s-maj=11.4km s-min=7.2km az=47.0*

IDC ***20*** *21:22:47.6±3.7, 9.°47S×120.°00E, h73km±34km, mb3.6/3, mb1 3.8/9, mb1mx3.4/37, mbtmp3.9/9, ML3.9/6, MS3.7/1, Ms1 3.7/1, ms1mx3.2/27, Error ellipse: s-maj=60.4km s-min=17.4km az=62.0*

DJA ***20*** *21:22:48.4±0.3, 10.°S±3.°×12.°0E±.°, h60km±7km, M4.1/14, mb4.3/6, MLv4.0/14*

ISC 20 21:22:45.4±0.5, **9.°56S**±0.°04×**120.°13E**±0.°04, **h100**km, **n53,** σ**2**§**73**/58, **mb4.1/7, Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WSI	**Waingapu**	**0.20**	**123**	P		**Pn**	**21 22 59.5**	**-0.1**
WBSI	**Waikabubak, Su**	**0.73**	**264**	P		**Pn**	**21 23 03.8**	**+0.7**
WBSI				S		**Sn**	**21 23 15.3**	**-1.1**
BASI	**Baing, Sumba**	**0.79**	**146**	P		**Pn**	**21 23 06.4**	**+2.7**
BASI				S		**Sn**	**21 23 20.9**	**+3.5**
EDFI	**Ende, Flores**	**1.74**	**63**	P		**Pn**	**21 23 14.7**	**0.0**
MMRI	**Maumere**	**2.28**	**66**	P		**Pn**	**21 23 23.2**	**+1.7**
MMRI	**Maumere**	**2.28**	**66**			**Pn**	**21 23 23.3**	**+1.7**
PLAI	**Plampang**	**2.43**	**287**	P		**Pn**	**21 23 26.5**	**+2.9**
BATI	**Baumata**	**3.54**	**101**	P		**Pn**	**21 23 42.6**	**+4.2**
	9.9nm,0.3s,baz=277,slow=3.0,SNR=24							
BATI				S		**Sn**	**21 24 19.6**	**+0.1**
	8.0nm,0.3s,baz=101,slow=22,SNR=2.3							
BATI	**Baumata**	**3.54**	**101**	P		**Pn**	**21 23 42.3**	**+3.9**
SOEI	**Soe**	**4.09**	**93**	P		**Pn**	**21 23 50.1**	**+4.2**
SOEI	**Soe**	**4.09**	**93**	Pn		**Pn**	**21 23 49.0**	**+3.2**
KAPI	**Kappang**	**4.53**	**355**	P		**Pn**	**21 23 53.5**	**+1.7**
	11nm,0.3s,baz=175,slow=8.1,SNR=26							
KAPI				S		**Sn**	**21 24 41.5**	**-1.9**
	28nm,0.3s,baz=150,slow=22,SNR=19							
KAPI	**Kappang**	**4.53**	**355**			**Pn**	**21 23 53.5**	**+1.7**
KAPI						**Sn**	**21 24 42.4**	**-1.0**
BBSI	**Bau Bau**	**4.72**	**31**	P		**Pn**	**21 23 56.4**	**+2.1**
BNSI	**Bone**	**5.13**	**360**	P		**Pn**	**21 24 03.1**	**+3.3**
	0.2nm46nm,0.7s							
SPSI	**Sidrap Palu**	**5.57**	**356**	P		**Pn**	**21 24 08.0**	**+2.1**
	0.1nm20nm,0.5s							
JAGI	**Jajag, Banyuwa**	**6.00**	**280**	P		**Pn**	**21 24 14.2**	**+2.5**
JAGI	**Jajag, Banyuwa**	**6.00**	**280**			**Pn**	**21 24 14.5**	**+2.7**
TTSI	**Tana Toraja**	**6.48**	**357**	P		**Pn**	**21 24 20.5**	**+2.3**
	0.1nm25nm,0.6s							
LUWI	**Luwuk**	**8.86**	**17**	Pn		**Pn**	**21 24 50.7**	**+0.1**
FITZ	**Fitzroy Crossi**	**10.03**	**148**	P		**Pn**	**21 25 09.2**	**+2.7**
	0.3nm,0.3s,baz=326,slow=10,SNR=19							
FITZ				S		**Sn**	**21 26 53.2**	**-4.0**
	3.2nm,0.3s,baz=186,slow=16,SNR=14							
FITZ	**Fitzroy Crossi**	**10.03**	**148**			**Sn**	**21 26 54.7**	**-2.5**
KNRA	**Kununurra**	**10.39**	**127**			**Pn**	**21 25 14.2**	**+2.7**
KNRA						**Sn**	**21 27 02.4**	**-3.6**
SAUI	**Saumlaki**	**11.15**	**83**			**Pn**	**21 25 21.0**	**-0.8**
MTN	**Manton Dam**	**11.28**	**108**			**Pn**	**21 25 24.9**	**+1.4**
MTN						**Sn**	**21 27 24.4**	**-3.2**
PSA00	**Pilbara Seismi**	**11.95**	**181**	Pn		**Pn**	**21 25 33.5**	**+1.1**
CISI	**Cisompet, Garu**	**12.34**	**278**	Pn		**Pn**	**21 25 34.4**	**-3.3**
LEM	**Lembang**	**12.68**	**281**	LR		LR	21 31 07.8	
	comp=Z,399nm,21.2s,baz=310,slow=40							
FAKI	**Fak Fak**	**13.73**	**62**	P		**Pn**	**21 25 57.3**	**+1.3**
FAKI	**Fak Fak**	**13.73**	**62**	Pn		**Pn**	**21 25 56.6**	**+0.6**
SIJI	**Sorong**	**14.05**	**53**	P		**P**	**21 26 03.2**	**-1.4**
	0.5nm,0.3s,baz=18,slow=20,SNR=2.1							
GIRL	**Giralia**	**14.18**	**203**	Pn		**Pn**	**21 26 03.4**	**+1.7**
KSM	**Kuching**	**14.69**	**318**	Pn		**Pn**	**21 26 07.2**	**-1.1**
KKM	**Kota Kinabalu**	**15.98**	**346**			**Pn**	**21 26 23.2**	**-1.5**
WB0	**Warramunga Arr**	**17.11**	**128**	P		**Pn**	**21 26 40.3**	**+1.8**
WRA	**Warramunga Arr**	**17.17**	**129**	P		**Pn**	**21 26 42.9**	**+3.7**
	0.4nm,0.3s,baz=306,slow=12,SNR=3.7							
WRA				S		**Sn**	**21 29 43.2**	**-7.0**
	0.4nm,0.3s,baz=304,slow=21,SNR=3.0							
WRA	**Warramunga Arr**	**17.17**	**129**	Pn		**P**	**21 26 40.8**	**+1.5**
WB2	**Warramunga Arr**	**17.18**	**129**	P		**Pn**	**21 26 42.5**	**+3.2**
WB2				IAmb		IAmb	21 26 52.5	
	comp=Z,5.4nm,1.1s							
WR0	**Warramunga Arr**	**17.34**	**128**	P		**Pn**	**21 26 44.7**	**+3.5**
WR0				IAmb		IAmb	21 26 49.8	
	comp=Z,7.4nm,1.1s							
ASAR	**Alice Springs**	**19.24**	**138**	P		**Pn**	**21 27 08.8**	**+4.9**
	comp=Z,0.8nm,0.3s,baz=321,slow=12,SNR=27							
ASAR				S		**S**	**21 30 33.2**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=314,slow=23,SNR=6.0							
MORW	**Morawa**	**19.78**	**191**	P		**P**	**21 27 06.0**	**-1.8**
MORW				IAmb		IAmb	21 27 12.7	
	comp=Z,23nm,1.5s							
COEN	**Coen**	**22.98**	**103**	P		**P**	**21 27 40.7**	**-1.0**
COEN				IAmb		IAmb	21 27 40.9	
	comp=Z,18nm,1.2s							
KULM	**Kulim**	**24.38**	**306**	P		**P**	**21 27 51.4**	**-3.0**
KULM				IAmb		IAmb	21 28 09.3	
	comp=Z,13nm,1.5s							
BBOO	**Buckleboo**	**27.42**	**150**	P		**P**	**21 28 20.4**	**-1.3**
BBOO				IAmb		IAmb	21 28 28.9	
	comp=Z,8.6nm,1.1s							
STKA	**Stephens Creek**	**29.82**	**141**	P		P	21 28 49.6	+6.6
	comp=Z,2.5nm,0.7s,baz=317,slow=7.7,SNR=6.6							
STKA	**Stephens Creek**	**29.82**	**141**	P		**P**	**21 28 41.4**	**-1.6**
TOO	**Toolangi**	**36.07**	**145**	P		**P**	**21 29 35.5**	**-1.9**
CAN	**Canberra**	**36.75**	**139**			**P**	**21 29 40.6**	**-2.7**
CAN				IAmb		IAmb	21 29 50.2	
	comp=Z,2.5nm,1.0s							
H08S2	**Diego Garcia H**	**47.11**	**268**	T		T	22 20 53.7	
	baz=97							
H08S3	**Diego Garcia H**	**47.12**	**268**	T		T	22 20 54.3	
	baz=97							
H08S1	**Diego Carcia H**	**47.13**	**268**	T		T	22 21 07.7	
	baz=97							
MKAR	**Makanchi Array**	**65.46**	**332**	P		**P**	**21 33 21.8**	**+4.0**
	comp=Z,0.2nm,0.4s,baz=140,slow=6.6,SNR=4.3							
ZALV	**Zalesovo Beam**	**69.96**	**339**	P		**P**	**21 33 49.7**	**+4.0**
	comp=Z,0.5nm,0.3s,baz=144,slow=6.8,SNR=2.6							

IDC ***20*** *21:51:19.9±1.6, 19.°55S×70.°81W, h0km, mb3.8/4, mb1 4.0/6, mb1mx3.7/31, mbtmp3.9/6, ML3.8/2, Error ellipse: s-maj=44.5km s-min=26.1km az=94.0*

NEIC ***20*** *21:51:20.9±1.7, 19.°73S±0.°03×71.°02W±0.°02, h13km±5km, ML4.0(GUC), Error ellipse: s-maj=5.1km s-min=2.2km az=152.0*

GUC ***20*** *21:51:22.8±0.6, 19.°69S×71.°02W, h33km±2km, ML4.0*

ISC 20 21:51:19.2±1.6, **19.°69S**±0.°03×**71.°05W**±0.°06, **h7**km±10km, **n57,** σ**1**§**07**/61, **mb4.0/3, 10C-3D, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSGC	**Pisagua**	**0.88**	**84**	∥*eP*		**Pb**	**21 51 36.9**	**0.0**
PSGC				*eS*		**Sb**	**21 51 48.4**	**-0.4**
PSGCX	**Pisagua**	**0.88**	**84**			**Pb**	**21 51 37.0**	**+0.1**
PSGCX						**Sb**	**21 51 48.8**	**-0.1**
TA02	**Huaiquique**	**1.04**	**124**	⇑*iP*		**Pg**	**21 51 39.6**	**+0.3**
TA02				*eS*		**Sb**	**21 51 53.1**	**-0.3**
TA01	**Diego Aracena**	**1.20**	**137**	⇑*iP*		**Pb**	**21 51 42.4**	**+0.2**
TA01				*eS*		**Sb**	**21 51 57.4**	**-0.5**
TA01				IAML			21 52 02.4	
	comp=E,4µm,0.5s							
TA01	**Diego Aracena**	**1.20**	**137**			**Pg**	**21 51 42.7**	**+0.5**
TA01						**Sn**	**21 51 58.5**	**-0.4**
PB12	**IPOC Station P**	**1.27**	**33**	⇑*iP*		**Pn**	**21 51 43.7**	**+0.3**
PB12				*i* S		**Sg**	**21 52 00.3**	**+0.3**
PB12	**IPOC Station P**	**1.27**	**33**			**Pg**	**21 51 44.0**	**+0.5**
PB12						**Sg**	**21 52 00.5**	**+0.5**
PB11	**IPOC Station P**	**1.32**	**93**	∥*eP*		**Pn**	**21 51 44.3**	**+0.1**
PB11				*eS*		**Sb**	**21 52 01.1**	**-0.4**
PB11				IAML			21 52 03.3	
	comp=E,6µm,0.6s							
PB11	**IPOC Station P**	**1.32**	**93**			**Pb**	**21 51 44.4**	**+0.1**
PB11						**Sb**	**21 52 01.0**	**-0.6**
AP01	**Chacalluta**	**1.47**	**27**	⇑*iP*		**Pb**	**21 51 47.1**	**+0.3**
AP01				*eS*		**Sb**	**21 52 06.0**	**+0.2**
AP01				IAML			21 52 08.3	
	comp=N,5µm,0.3s							
AP01	**Chacalluta**	**1.47**	**27**	Pn		**Pb**	**21 51 47.6**	**+0.8**
MNMC	**Minye Minye**	**1.48**	**68**	∥*eP*		**Pb**	**21 51 47.4**	**+0.1**
MNMC				*eS*		**Sg**	**21 52 06.5**	**-0.4**
MNMC				IAML			21 52 09.3	
	comp=N,7µm,0.4s							
MNMC	**Minye Minye**	**1.48**	**68**	Pn		**Pb**	**21 51 47.5**	**+0.3**
GO01	**Chusmiza**	**1.75**	**90**	⇑*iP*		**Pb**	**21 51 51.4**	**-0.5**
GO01				*i* S		**Sb**	**21 52 13.6**	**-0.7**
GO01				IAML			21 52 16.0	
	comp=N,5µm,0.2s							
GO01	**Chusmiza**	**1.75**	**90**			**Pb**	**21 51 51.5**	**-0.5**
PB08	**IPOC Station P**	**1.84**	**105**	⇑*iP*		**Pn**	**21 51 52.5**	**+0.9**
PB08				*eS*		**Sb**	**21 52 15.8**	**-1.1**
PB08				IAML			21 52 19.3	
	comp=N,2µm,0.7s							
PB08	**IPOC Station P**	**1.84**	**105**			**Pn**	**21 51 52.1**	**+0.5**
PB02	**IPOC Station P**	**1.95**	**146**	⇑*iP*		**Pn**	**21 51 53.5**	**+0.7**
PB02				*eS*		**Sn**	**21 52 17.9**	**+0.2**
PB02				IAML			21 52 27.2	
	comp=E,4µm,0.4s							
PB01	**IPOC Station P**	**2.00**	**133**	⇑*iP*		**Pn**	**21 51 54.3**	**+0.9**
PB01				*eS*		**Sn**	**21 52 17.7**	**-1.0**
PB01	**IPOC Station P**	**2.00**	**133**			**Pn**	**21 51 54.2**	**+0.9**
PB07	**IPOC Station P**	**2.31**	**152**	IAML			21 52 44.8	
	comp=E,968nm,0.7s							
PB07	**IPOC Station P**	**2.31**	**152**			**Pn**	**21 51 57.3**	**-0.5**
PB03	**IPOC Station P**	**2.65**	**153**	IAML			21 52 49.9	
	comp=E,432nm,0.6s							
PB09	**IPOC Station P**	**2.70**	**141**	⇑*iP*		**Pn**	**21 52 04.7**	**+1.5**
PB09				IAML			21 52 52.4	
	comp=E,771nm,0.8s							
PB09	**IPOC Station P**	**2.70**	**141**			**Pn**	**21 52 04.3**	**+1.2**
PB04	**IPOC Station P**	**2.77**	**162**	*eP*		**Pn**	**21 52 04.2**	**+0.1**
PB04				IAML			21 52 56.4	
	comp=E,488nm,0.7s							
PB04	**IPOC Station P**	**2.77**	**162**			**Pn**	**21 52 04.5**	**+0.4**
PB05	**IPOC Station P**	**3.25**	**166**	*eP*		**Pn**	**21 52 10.9**	**+0.2**
PB05				IAML			21 53 13.5	
	comp=N,214nm,0.7s							
PB06	**IPOC Station P**	**3.31**	**156**	*eP*		**Pn**	**21 52 11.7**	**+0.2**
PB06				IAML			21 53 08.2	
	comp=E,367nm,0.2s							
PB06	**IPOC Station P**	**3.31**	**156**			**Pn**	**21 52 11.8**	**+0.2**
LVC	**Limon Verde**	**3.53**	**146**	Pn		**Pn**	**21 52 17.2**	**+2.4**
	comp=E,5.8nm,0.3s,baz=7.5,slow=13,SNR=40							
LVC				Sn		**Sn**	**21 52 55.5**	**-1.4**
	comp=E,15nm,0.3s,baz=343,slow=19,SNR=5.8							
LVC				Lg		Lg	21 53 09.1	
	comp=E,17nm,0.3s,baz=204,slow=4.6,SNR=8.1							
LVC	**Limon Verde**	**3.53**	**146**	⇑*eP*		**Pn**	**21 52 17.2**	**+2.4**
LVC	**Limon Verde**	**3.53**	**146**			**Pn**	**21 52 15.6**	**+0.8**
PB15	**IPOC Station P**	**3.80**	**157**			**Pn**	**21 52 17.7**	**-0.7**
PB10	**IPOC Station P**	**3.84**	**173**			**Pn**	**21 52 18.2**	**-0.4**
LPAZ	**La Paz**	**4.38**	**40**	Pn		**Pb**	**21 52 33.5**	**-3.2**
	comp=E,2.0nm,0.3s,baz=223,slow=5.9,SNR=29							
LPAZ	**La Paz**	**4.38**	**40**			**Pb**	**21 52 32.7**	**-4.1**
GO02	**Mina Guanaco**	**5.62**	**166**			**Pn**	**21 52 44.3**	**+0.9**
AC01	**Pan de Azucar**	**6.45**	**176**	Pn		**Pn**	**21 52 53.8**	**-0.7**
AC02	**Maricunga**	**7.33**	**166**	Pn		**Pn**	**21 53 07.3**	**+0.2**
AC04	**Llanos de Chal**	**8.48**	**180**	Pn		**Pn**	**21 53 21.2**	**-1.2**
AC05	**El Transito**	**9.14**	**176**	Pn		**Pn**	**21 53 31.7**	**+0.1**
SIV	**San Ignacio**	**10.19**	**70**	Pn		**Pn**	**21 53 45.7**	**-0.3**
	comp=E,1.3nm,0.3s,baz=278,slow=9.4,SNR=15							
H03N1	**Juan Fernandez**	**15.39**	**206**	T		T	22 10 41.5	
	baz=32,slow=72,SNR=24							
H03N2	**Juan Fernandez**	**15.40**	**206**	T		T	22 10 50.7	
	baz=32,slow=72,SNR=18							
H03N3	**Juan Fernandez**	**15.41**	**206**	T		T	22 10 52.5	
	baz=32,slow=72,SNR=27							
PLCA	**Paso Flores**	**20.98**	**179**	P		Pn	21 56 05.9	+0.3
	comp=E,1.2nm,0.8s,baz=344,slow=7.4,SNR=1.9							
PTGA	**Pitinga**	**21.74**	**31**	P		**P**	**21 56 10.5**	**-0.8**
	comp=E,2.2nm,0.3s,baz=224,slow=24,SNR=8.6							
TORD	**Torodi Ar. Bea**	**78.67**	**72**	P		**P**	**22 03 21.9**	**-0.6**
	comp=E,1.3nm,0.7s,baz=255,slow=4.9,SNR=8.8							
YKA	**Yellowknife Ar**	**88.83**	**341**	P		**P**	**22 04 15.6**	**+2.2**
	comp=E,0.4nm,0.7s,baz=143,slow=6.0,SNR=2.8							
H11S2	**WAKE ISLAND Hy**	**25.64**	**279**	T		T	00 29 41.6	
	baz=101,slow=74,SNR=4.4							
H11S1	**WAKE ISLAND Hy**	**25.64**	**279**	T		T	00 29 41.1	
	baz=101,slow=74,SNR=3.6							
H11S3	**WAKE ISLAND Hy**	**25.65**	**279**	T		T	00 29 42.8	
	baz=101,slow=74,SNR=3.3							
H11N3	**WAKE ISLAND Hy**	**25.68**	**281**	T		T	00 29 42.8	
	baz=100,slow=75,SNR=4.6							
H11N2	**WAKE ISLAND Hy**	**25.69**	**281**	T		T	00 29 43.8	
	baz=100,slow=75,SNR=3.0							
H11N1	**WAKE ISLAND Hy**	**25.69**	**281**	T		T	00 29 46.8	
	baz=100,slow=75,SNR=3.3							
MKAR	**Makanchi Array**	**145.28**	**33**	PKPbc		**PKPdf**	**22 10 58.6**	**+0.9**
	comp=E,0.5nm,0.7s,baz=316,slow=5.1,SNR=4.7							

IDC ***20*** *21:57:18.8±1.4, 52.°43N×173.°93W, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.4/47, mbtmp3.6/5, ML3.3/2, MS4.2/3, Ms1 4.2/3, ms1mx3.5/48, Error ellipse: s-maj=91.6km s-min=24.2km az=145.0*

NEIC ***20*** *21:57:30.3±2.4, 51.°35N±0.°05×173.°17W±0.°08, h40km±57km, Error ellipse: s-maj=9.2km s-min=4.1km az=49.0*

AEIC ***20*** *21:57:32±1.7, 51.°41N±0.°10×173.°24W±0.°03, h37km±10km, ML3.5, Error ellipse: s-maj=13.8km s-min=2.6km az=181.0*

ISC 20 21:57:27.3±1.1, **51.°1N**±0.°1×**173.°17W**±0.°06, **h35**km, **n26,** σ**2**§**06**/18, **mb3.7/3, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ATKA	**Atka Island**	**1.29**	**331**			**Pn**	**21 57 49.5**	**+0.7**
ATKA				Sn		**Sn**	**21 58 02.2**	**-2.5**
GSTR	**Great Sitkin T**	**2.06**	**300**			**Pn**	**21 58 01.1**	**+1.6**
GSTR				Sn		**Sn**	**21 58 23.0**	**-1.1**
ADK	**Adak**	**2.34**	**291**			**Pn**	**21 58 05.6**	**+2.4**
ADK				Sn		**Sn**	**21 58 31.6**	**+1.0**
KIWB	**Kanaga Island**	**2.60**	**289**			**Pn**	**21 58 02.2**	**-4.7**
NIKH	**Nikolski High**	**3.27**	**53**	Pn		**Pn**	**21 58 18.7**	**+2.7**
NIKH						**Sn**	**21 58 54.2**	**+0.6**
UNV	**Unalaska Vale**	**4.92**	**53**	Pn		**Pn**	**21 58 40.5**	**+1.8**
AKUT	**Akutan**	**5.45**	**53**	Pn		**Pn**	**21 58 46.5**	**+0.6**
SPIA	**Saint Paul Isl**	**6.34**	**15**			Pn	21 58 50.0	-8.1
FALS	**False Pass**	**7.00**	**54**	Pn		**Pn**	**21 59 07.8**	**+0.6**
SMY	**Shemya**	**8.04**	**287**	Pn		**Pn**	**21 59 24.4**	**+2.9**
SDPT	**Sand Point**	**8.73**	**56**	Pn		**Pn**	**21 59 29.4**	**-1.5**
CNBA	**Chernabura Isl**	**9.01**	**60**	Pn		**Pn**	**21 59 33.9**	**-0.9**
KDAK	**Kodiak Island**	**13.70**	**53**	Pn		Pn	22 00 31.1	-7.6
	0.3nm,0.3s,baz=100,slow=20,SNR=13							
ILAR	**Eielson Array**	**19.35**	**35**	P		P	22 01 36.2	-13
	0.1nm,0.3s,baz=232,slow=10,SNR=3.8							
BBB	**Bella Bella**	**27.65**	**70**	LR		LR	22 12 18.4	
	comp=Z,198nm,18.1s,baz=19,slow=32							
H11N2	**WAKE ISLAND Hy**	**35.02**	**214**	T		T	22 42 27.9	
	baz=20							
H11N3	**WAKE ISLAND Hy**	**35.02**	**214**	T		T	22 42 28.3	
	baz=20,slow=74							
H11N1	**WAKE ISLAND Hy**	**35.04**	**214**	T		T	22 42 29.1	
	baz=20,slow=74							
H11S1	**WAKE ISLAND Hy**	**36.22**	**214**	T		T	22 43 54.6	
	baz=20,slow=76,SNR=6.1							
H11S2	**WAKE ISLAND Hy**	**36.23**	**214**	T		T	22 43 51.1	
	baz=20,slow=76,SNR=6.5							
H11S3	**WAKE ISLAND Hy**	**36.23**	**214**	T		T	22 43 50.9	
	baz=20,slow=76,SNR=4.3							
TXAR	**Lajitas Array**	**55.18**	**85**	P		**P**	**22 06 55.4**	**-1.1**
	0.3nm,0.4s,baz=298,slow=4.9,SNR=4.9							
FINES	**FINESS Array B**	**66.77**	**350**	LR		LR	22 40 28.7	
	comp=Z,143nm,18.2s,baz=99,slow=40							
WRA	**Warramunga Arr**	**84.37**	**229**	P		**P**	**22 09 55.3**	**-0.5**
	0.2nm,0.4s,baz=33,slow=5.9,SNR=5.8							
ASAR	**Alice Springs**	**87.77**	**227**	P		**P**	**22 10 12.6**	**+0.1**
	0.4nm,0.5s,baz=25,slow=4.8,SNR=4.9							
PCRV	**Puerto La Cruz**	**93.51**	**69**	LR		LR	22 53 29.7	
	comp=Z,255nm,19.5s,slow=36							

IDC ***20*** *22:42:44.6±1.2, 19.°63S×71.°14W, h0km, mb3.7/7, mb1 4.0/9, mb1mx3.9/28, mbtmp3.9/9, ML4.0/2, MS3.2/3, Ms1 3.2/3, ms1mx2.9/39, Error ellipse: s-maj=29.2km s-min=23.3km az=54.0*

NEIC ***20*** *22:42:48.5±1.9, 19.°72S±0.°04×71.°05W±0.°05, h23km±5km, mb3.7/2, Mwr4.0/46, ML4.3(GUC), Error ellipse: s-maj=7.9km s-min=3.9km az=55.0*

NEIC ***20*** *22:42:48.3, 19.°70S×71.°04W, h21km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.90; $M_{\theta\theta}$0.30; $M_{\phi\phi}$-1.19; $M_{r\theta}$0.42; $M_{\theta\phi}$-0.05; $M_{\phi r}$-0.39; Fault plane solution: $M_0$1.22000×10^{15} NP1:φ$_s$26.60000°, δ40.94000°, λ130.18000°. NP2:φ$_s$158.42000°, δ59.95000°, λ60.76000°. Principal axes: T 1.1682, Plg63.0000°, Azm20.0000°; N 0.0961, Plg25.0000°, Azm174.0000°; P -1.2644, Plg10.0000°, Azm269.0000°;*

VAO ***20*** *22:42:50.1±1.4, 19.°63S×71.°30W, h39km±9km, mb4.2*

GUC ***20*** *22:42:50.3±0.6, 19.°70S×70.°99W, h33km±2km, ML4.3*

ISC 20 22:42:48.9±2.1, **19.°69S**±0.°04×**71.°12W**±0.°07, **h27**km±16km, **n108,** σ**1**§**51**/104, **mb4.0**/6, **8C-3D, Off coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PSGC	**Pisagua**	**0.94**	**85**	∥*eP*		**Pn**	**22 43 04.0**	**-2.5**
PSGC				*eS*		**Sn**	**22 43 15.5**	**-3.7**
PSGC				IAML			22 43 16.7	
	comp=N,11µm,0.8s							
PSGCX	**Pisagua**	**0.94**	**85**	Pg		**Pn**	**22 43 04.0**	**-2.4**
TA02	**Huaiquique**	**1.10**	**122**	⇑*iP*		**Pn**	**22 43 06.9**	**-1.6**
TA02				*eS*		**Sn**	**22 43 19.8**	**-3.0**
TA02				IAML			22 43 21.6	
	comp=E,10µm,0.2s							
TA01	**Diego Aracena**	**1.24**	**135**	⇑*iP*		**Pn**	**22 43 09.7**	**-0.9**
TA01				*eS*		**Sn**	**22 43 24.5**	**-1.9**
TA01				IAML			22 43 29.1	
	comp=E,9µm,0.7s							
TA01	**Diego Aracena**	**1.24**	**135**			**Pn**	**22 43 09.7**	**-0.9**
TA01				Sn		**Sn**	**22 43 25.2**	**-1.2**
PB12	**IPOC Station P**	**1.30**	**35**	⇑*iP*		**Pn**	**22 43 11.4**	**-0.1**
PB12				*eS*		**Sb**	**22 43 27.8**	**-1.4**
PB12	**IPOC Station P**	**1.30**	**35**			**Pn**	**22 43 11.3**	**-0.1**
PB11	**IPOC Station P**	**1.38**	**93**	⇑*iP*		**Pn**	**22 43 11.2**	**-1.4**
PB11				*eS*		**Sn**	**22 43 27.9**	**-2.1**
PB11				IAML			22 43 29.5	
	comp=N,12µm,0.3s							
PB11	**IPOC Station P**	**1.38**	**93**			**Pn**	**22 43 11.3**	**-1.2**
AP01	**Chacalluta**	**1.50**	**29**	⇑*iP*		**Pn**	**22 43 14.4**	**+0.4**
AP01				*eS*		**Sb**	**22 43 33.4**	**-1.3**
AP01				IAML			22 43 42.8	
	comp=E,12µm,0.4s							
AP01	**Chacalluta**	**1.50**	**29**			**Pn**	**22 43 14.5**	**+0.4**
MNMC	**Minye Minye**	**1.54**	**69**	∥*eP*		**Pn**	**22 43 14.5**	**-0.4**
MNMC				*eS*		**Sn**	**22 43 33.2**	**-0.9**
MNMC				IAML			22 43 35.7	
	comp=E,17µm,0.5s							
MNMC	**Minye Minye**	**1.54**	**69**			**Pn**	**22 43 13.9**	**-1.0**
GO01	**Chusmiza**	**1

BB19B	Bebedouro	21.22	98	eP	P	22 47 35.3	+2.4	
BB19B	Bebedouro	21.22	98	eP	P	22 47 35.3	+2.4	
ITTB	Itaituba	21.37	47	eP	P	22 47 35.4	+0.9	
ITTB	Itaituba	21.37	47	eP	P	22 47 35.4	+0.9	
IPMB	Ipameri, GO	21.75	89	eP	P	22 47 41.2	+2.7	
IPMB	Ipameri, GO	21.75	89	eP	P	22 47 41.2	+2.7	
PTGA	Pitinga	21.77	31	P	P	22 47 37.5	-1.2	
	comp=Z,3.1nm,0.3s,baz=206,slow=16,SNR=14							
PTGA	Pitinga	21.77	31	eP	P	22 47 38.1	-0.7	
PTGA	Pitinga	21.77	31	eP	P	22 47 38.1	-0.7	
BDFB	Brasília	22.37	83	P	P	22 47 45.0	-0.4	
	comp=Z,1.9nm,0.4s,baz=161,slow=12,SNR=3.7							
BDFB	Brasília	22.37	83	IAmb	IAmb	22 47 58.3		
	comp=Z,2.2nm,0.7s							
VAO	Valinhos	22.73	103	eP	P	22 47 51.3	+2.2	
VAO	Valinhos	22.73	103	eP	P	22 47 51.3	+2.2	
MALB	Monte Alegre	24.20	45	eP	P	22 48 04.0	+0.6	
MALB	Monte Alegre	24.20	45	eP	P	22 48 04.0	+0.6	
SJMB	Sao Joao De Ma	28.27	93	eP	P	22 48 42.0	+1.8	
SJMB	Sao Joao De Ma	28.27	93	eP	P	22 48 42.0	+1.8	
SDV	Santo Domingo	28.39	1	eP	P	22 48 41.0	-0.5	
SDV	Santo Domingo	28.39	1	eP	P	22 48 41.0	-0.5	
TXAR	Lajitas Array	57.97	326	P	P	22 52 39.3	0.0	
	comp=Z,0.1nm,0.4s,baz=123,slow=13,SNR=1.7							
PDAR	Pinedale Array	71.52	331	P	P	22 54 07.0	-0.6	
	comp=Z,0.2nm,0.4s,baz=116,slow=8.1,SNR=1.7							
TORD	Torodi Ar. Bea	78.72	72	P	P	22 54 48.5	-1.0	
	comp=Z,1.6nm,0.6s,baz=257,slow=4.7,SNR=8.1							
YKA	Yellowknife Ar	88.81	341	P	P	22 55 40.2	+0.3	
	comp=Z,0.9nm,0.7s,baz=131,slow=5.9,SNR=4.9							
RPZ	Rata Peaks	95.07	220	LR	LR	23 26 45.7		
	comp=Z,81nm,21.2s,baz=331,slow=28							
H11S2	WAKE ISLAND Hyl	25.58	279	T	T	01 21 07.8		
	baz=101,slow=74,SNR=24							
H11S1	WAKE ISLAND Hyl	25.58	279	T	T	01 21 09.1		
	baz=101,slow=74,SNR=13							
H11S3	WAKE ISLAND Hyl	25.59	279	T	T	01 21 08.1		
	baz=101,slow=74,SNR=13							
H11N3	WAKE ISLAND Hyl	25.62	281	T	T	01 21 08.2		
	baz=100,slow=74,SNR=7.3							
H11N2	WAKE ISLAND Hyl	25.63	281	T	T	01 21 09.3		
	baz=100,slow=74,SNR=19							
H11N1	WAKE ISLAND Hyl	25.63	281	T	T	01 21 13.5		
	baz=100,slow=74,SNR=7.1							

GII **20** *22:54:17.6s 0.0, 29°.73N × 50°.91E, h3km*
BJI **20** *22:54:17.0s 0.0, 29°.70N × 50°.90E, h5km, mB4.9/31, mb4.8/50, Ms4.5/28, Ms7 4.3/28*
BGR **20** *22:54:18.9s 0.0, 29°.13N × 50°.92E, h33km, mb5.1*
MOS **20** *22:54:18.7s 1.1, 29°.87N × 50°.85E, h12km, mb5.1/54, Error ellipse: s-maj=4.2km s-min=2.6km az=114.9*
IDC **20** *22:54:18.8s 0.4, 29°.92N × 50°.95E, h0km, mb4.8/39, mb1 4.9/45, mb1mx4.9/49, mbtmp4.8/45, ML4.5/6, MS3.7/25, Ms1 3.7/25, ms1mx3.6/46, Error ellipse: s-maj=9.9km s-min=9.3km az=150.0*
NEIC **20** *22:54:19.3s 1.6, 29°.82N±0°.06 × 50°.85E±0°.07, h10km±1km, Error ellipse: s-maj=9.8km s-min=9.5km az=182.0*
TEH **20** *22:54:19.4, 29°.87N × 50°.90E, h10km, ML5.0*
UNK **20** *22:54:19.5, 29°.87N × 50°.90E, h10km*
THR **20** *22:54:20.6s 0.8, 29°.95N × 50°.94E, h6km±8km, ML5.1*
OMAN **20** *22:54:22.0s 4.5, 29°.82N × 51°.01E, h10km±24km, mb5.4/2, ml6.8/1, Error ellipse: s-maj=76.4km s-min=27.4km az=304.0*
DSN **20** *22:54:24.7s 1.5, 29°.70N × 51°.14E, h10km, ML5.1/11, Error ellipse: s-maj=18.2km s-min=8.2km az=3.0*

ISC 20 22:54:20.1s 0.5, **29°.87N**±0°.03 × **50°.86E**±0°.03, **h12**km±2km, **h12**km:**pP-P, n1079,** σ**1s31**/1122, **mb5.0**/310, **MS3.8**/50, **125C-28D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	h m s	Res ISC
AHBU	AHRAM	1.07	159	ePg		Pn		22 54 44.0	+3.0
KLNJ	Kolanjah	1.30	29	ePg		Pn		22 54 43.0	-1.4
KLNJ				e				22 55 07.1	
SHI	Shiraz	1.46	99	P		Pg		22 54 47.7	-0.4
SHI	Shiraz	1.46	99	ePg		Pb		22 54 47.1	-0.2
SHI				eSg		Sg		22 55 07.4	+0.4
SHI				e				22 55 16.0	
IRAM	Ramesheh	2.33	34	ePn		Pn		22 55 00.0	+1.5
JHBN	Jahan bin	2.36	356	ePn		Pb		22 55 01.2	-1.5
AHWZ	Ahwaz	2.40	308	ePn		Pb		22 55 02.2	-1.0
ROKH	ROKH	2.47	3	ePn		Pb		22 55 02.8	-1.8
IGAR	Gharneh	2.72	22	ePn		Pn		22 55 06.2	+2.4
JHRM	Jahrom	2.74	119	ePn		Pn		22 55 05.5	+1.5
JHRM				e				22 56 02.3	
IPIR	Pirpir	2.80	1	ePn		Pn		22 55 07.0	+1.9
SHGR	Shooshtar-Gavs	2.84	322	ePn		Pn		22 55 07.5	+2.2
SHGR				Sn		Sn		22 55 43.2	+3.7
SHGR				IAML				22 56 06.2	
	comp=N,5μm,0.5s								
SHGR				IAML				22 56 13.5	
	comp=E,5μm,0.7s								
SHGR	Shooshtar-Gavs	2.84	322	ePn		Pn		22 55 07.8	+2.5
ISAD	Sadrabad	3.17	49	ePn		Pn		22 55 11.4	+1.3
LMD1	Lamerd	3.24	141	ePn		Pn		22 55 12.3	+1.5
LMD1				e				22 56 26.5	
IZEF	Zefreh	3.27	22	ePn		Pn		22 55 13.9	+2.5
IKLH	Kolahrood	3.49	10	ePn		Pn		22 55 15.8	+1.3
IMEH	Mehriz	3.57	64	ePn		Pn		22 55 16.9	+1.3
LAR1	LAR	3.79	125	ePn		Pn		22 55 20.2	+1.8
LAR1				e				22 56 30.6	
ICHK	Chekchek	3.85	51	ePn		Pn		22 55 21.3	+1.9
KHMZ	Khomeyn	3.93	349	ePn		Pn		22 55 23.1	+2.6
KHMZ	Khomeyn	3.93	349	ePn		Pn		22 55 23.0	+2.6
YZKH	Yazd	4.07	51	ePn		Pn		22 55 24.0	+1.8
YZKH				Sn		Sn		22 56 10.8	+0.9
YZKH	Yazd	4.07	51	ePn		Pn		22 55 24.0	+1.8
ANAR	Anarak	4.12	36	ePn		Pn		22 55 24.7	+1.8
BMDN	Meydan	4.17	336	ePn		Pn		22 55 25.1	+1.4
IKMR	Kamar-syah	4.20	330	ePn		Pn		22 55 25.9	+1.9
IBAF	Bafgh	4.40	66	ePn		Pn		22 55 28.7	+1.8
IKFM	Kafar-mosalman	4.46	326	ePn		Pn		22 55 30.3	+2.8
IDOB	Doab	4.52	330	ePn		Pn		22 55 29.9	+1.3
GHVR	GHOM	4.61	4	ePn		Pn		22 55 32.4	+2.7
GHVR	GHOM	4.61	4	ePn		Pn		22 55 32.4	+2.7
ASAO	Ashtian	4.71	352	ePn		Pn		22 55 33.9	+2.6
ASAO	Ashtian	4.71	352	ePn		Pn		22 55 33.9	+2.6
HSAM	Samen	4.73	337	ePn		Pn		22 55 33.6	+2.1
KHGB	Koh Gabri	4.89	83	ePn		Pn		22 55 35.3	+1.6
NGRK	Negar Kerman	5.11	91	ePn		Pn		22 55 38.5	+1.7
NGRK				e				22 56 05.5	
TVBK	TV Kerman	5.12	87	ePn		Pn		22 55 39.1	+2.1
TVBK				e				22 57 10.9	
HAGD	Aghdareh	5.14	344	ePn		Pn		22 55 39.5	+2.3
IKOM	Komasi	5.15	327	ePn		Pn		22 55 39.1	+2.0
IBZA	Bozab	5.24	332	ePn		Pn		22 55 39.8	+1.3
GENO	Geno	5.28	117	ePn		Pn		22 55 39.8	+0.8
KCHF	Cheshme Sefid,	5.46	325	ePn		Pn		22 55 43.8	+2.4
IALM	Almabolaq	5.47	336	ePn		Pn		22 55 43.1	+1.4
KER	Kermanshah	5.50	326	ePn		Pn		22 55 44.0	+2.0
IHSB	Hasanabad	5.56	4	ePn		Pn		22 55 44.3	+1.5
IRAZ	Razeghan	5.57	352	ePn		Pn		22 55 44.7	+1.7
IGHG	Ghaleghazi	5.74	322	ePn		Pn		22 55 47.3	+1.9
IVIS	Veis	5.75	325	ePn		Pn		22 55 46.7	+1.3
ILAS	Lasjerd	5.77	17	ePn		Pn		22 55 48.0	+2.2
IDMV	Damavand	5.77	10	ePn		Pn		22 55 47.6	+1.7
CHMN	Cheshme madani	5.80	88	ePn		Pn		22 55 47.6	+1.3
SLWR	Sila	5.83	172	ePn		Pn		22 55 47.8	+1.4
TPRV	Parvadeh(Tabas	5.89	56	ePn		Pn		22 55 49.1	+1.8
QABG	Abgarm-Qazvin	5.92	350	ePn		Pn		22 55 48.6	+0.8
ILIN	Lien	6.01	328	ePn		Pn		22 55 50.5	+1.4
SHME	Shamm	6.03	128	*i* P		Pn		22 55 49.2	+0.1
	SNR=27								
SHME				S		Sn		22 56 56.8	-1.4
UMQ	Umm Al-Quwin	6.07	134	P		Pn		22 55 53.2	+3.5
UMQ				S		Sn		22 57 00.5	+1.3
IDHR	Dehrash	6.12	323	ePn		Pn		22 55 51.4	+0.8
IANJ	Anjilo	6.14	24	ePn		Pn		22 55 52.6	+1.7
BANOM	Banah	6.22	128	*i* P		Pn		22 55 52.7	+0.9
	SNR=5.7								
BANOM	Banah	6.22	128	P		Pn		22 55 52.6	+0.9
	SNR=99								
BANOM				S		Sn		22 57 01.0	-1.8
BANOM	Banah	6.22	128	ePn		Pn		22 55 53.7	+2.0
ISHM	Shahmirzad	6.26	18	ePn		Pn		22 55 54.3	+1.7
KHNJ	Kahnooj	6.30	106	ePn		Pn		22 55 54.0	+1.1
TNSJ	Nastanj	6.37	49	ePn		Pn		22 55 55.5	+1.7
IALA	Alasht	6.41	14	ePn		Pn		22 55 57.0	+2.4
AJN	Ajban	6.44	144	*i* P		Pn		22 55 57.0	+2.2
	SNR=25								
AJN	Ajban	6.44	144	P		Pn		22 55 57.2	+2.4
	SNR=25								
AJN				S		Sn		22 57 07.0	-1.2
NAZ	Nazwa, Dubai	6.47	138	*i* P		Pn		22 55 56.8	+1.5
	SNR=12								
NAZ	Nazwa, Dubai	6.47	138	P		Pn		22 55 56.6	+1.4
	SNR=19								
NAZ				S		Sn		22 57 08.9	-0.1
	SNR=7.0								
NAZ	Nazwa, Dubai	6.47	138	ePn		Pn		22 55 56.7	+1.5
IPRN	Peran	6.47	11	ePn		Pn		22 55 58.2	+2.9
MSFE	Esma-Masafi	6.50	132	*i* P		Pn		22 55 56.3	+0.6
	SNR=19								
IGZV	Ghazvin	6.52	355	ePn		Pn		22 55 57.5	+1.5
TABS	Tabas	6.53	53	ePn		Pn		22 55 57.6	+1.6
TABS	Tabas	6.53	53	ePn		Pn		22 55 57.7	+1.6
QALM	Alamut, Qazvin	6.54	358	ePn		Pn		22 55 58.1	+1.7
FAQ	Al Faqa, Dubai	6.62	139	ePn		Pn		22 55 58.0	+0.8
MDH	Madha	6.64	132	*i* P		Pn		22 55 58.3	+0.7
	SNR=14								
MDH	Madha	6.64	132	P		Pn		22 55 58.2	+0.7
	SNR=14								
MDH				S		Sn		22 57 12.8	-0.3
MDH	Madha	6.64	132	ePn		Pn		22 55 58.5	+1.0
QSDN	Sirdan	6.76	348	ePn		Pn		22 56 00.6	+1.2
UOSS	Minazif	6.83	135	*i* P		Pn		22 56 00.4	+0.3
	SNR=35								
UOSS	Minazif	6.83	135	P		Pn		22 56 00.8	+0.7
UOSS				S		Sn		22 57 16.3	-1.6
UOSS	Minazif	6.83	135	ePn		Pn		22 56 00.9	+0.7
UOSS	Minazif	6.83	135	Pn		Pn		22 55 59.5	-0.7
HATD	Hatta, Dubai	6.87	136	*i* P		Pn		22 56 02.2	+1.5
	SNR=7.0								
HATD	Hatta, Dubai	6.87	136	P		Pn		22 56 03.0	+2.2
	SNR=45								
HATD				S		Sn		22 57 18.2	-0.8
HATD	Hatta, Dubai	6.87	136	ePn		Pn		22 56 02.0	+1.2
ASHO	Ashiyiah	6.94	137	*i* P		Pn		22 56 02.6	+1.0
	SNR=26								
ASHO	Ashiyiah	6.94	137	P		Pn		22 56 02.6	+1.0
	SNR=26								
ASHO				S		Sn		22 57 20.7	+0.2
ASHO	Ashiyiah	6.94	137	ePn		Pn		22 56 03.6	+2.0
IGLO	Ghaloghah	7.06	20	ePn		Pn		22 56 04.1	+0.6
ALNE	Al Ain	7.25	142	*i* P		Pn		22 56 07.3	+1.3
	SNR=20								
SHRO	Shahrood	7.48	34	ePn		Pn		22 56 11.0	+1.8
SHRO	Shahrood	7.48	34	ePn		Pn		22 56 11.0	+1.8
SOHO	SOHO	7.63	137	*i* P		Pn		22 56 11.7	+0.6
	SNR=16								
SOHO	SOHO	7.63	137	P		Pn		22 56 11.8	+0.6
SOHO				S		Sn		22 57 36.5	-1.2
SOHO	SOHO	7.63	137	ePn		Pn		22 56 11.7	+0.6
AFRZ	Afriz	7.80	61	ePn		Pn		22 56 15.2	+1.6
RAYN	Ar Rayn	7.93	218	P		Pn		22 56 16.3	+0.9
RAYN	Ar Rayn	7.93	218			Pn		22 56 16.2	+0.9
NHDN	Nehbandan	8.06	77	ePn		Pn		22 56 19.7	+2.5
UMZA	Um Al Zommool	8.11	151	ePn		Pn		22 56 18.9	+1.2
MAHB	Mahabad	8.11	329	ePn		Pn		22 56 19.8	+1.9
ARQ	Araqi	8.25	141	P		Pn		22 56 20.4	+0.7
	SNR=32								
ARQ				S		Sn		22 57 51.1	-1.7
IAZR	Azarshahr	8.78	334	ePn		Pn		22 56 28.8	+1.7
IHSH	Hashtrud	8.93	341	ePn		Pn		22 56 18.9	-10
LKRN	Lenkeran, Azer	8.98	350	P		Pn		22 56 32.1	+2.5
IHRS	Heris	9.00	340	ePn		Pn		22 56 30.6	+0.5
AHAR	Ahar	9.15	341	ePn		Pn		22 56 32.5	+0.4
ITBZ	Tabriz	9.21	336	ePn		Pn		22 56 34.6	+1.7
ISFR	Sfrayin	9.32	38	ePn		Pn		22 56 35.9	+1.4
IAKL	Akhelmad	9.42	43	ePn		Pn		22 56 37.0	+1.1
WSAR	Wadi Sarin	9.59	132	Pn		Pn		22 56 38.3	+0.2
	comp=E,6.5nm,0.3s,baz=344,slow=12,SNR=37								
WSAR				Sn		Sn		22 58 21.6	-4.3
	comp=E,7.3nm,0.3s,baz=150,slow=20,SNR=2.2								
WSAR				LR		LR		23 01 41.6	
	comp=E,271nm,21.4s,baz=354,slow=46								
IMRD	Marand	9.79	336	ePn		Pn		22 56 42.9	+2.0
GEYT	Alibeck	10.04	35	Pn		Pn		22 56 46.5	+2.3
	comp=E,4.6nm,0.3s,baz=218,slow=14,SNR=64								
GEYT				Lg		Lg		22 59 46.7	
	comp=E,0.3nm,0.3s,baz=214,slow=21,SNR=2.0								
GEYT	Alibeck	10.04	35			Pn		22 56 46.1	+1.9
GYA0B	ALIBECK ARRAY	10.04	35			Pn		22 56 46.0	+1.8
IMYA	Miami	10.08	48	ePn		Pn		22 56 47.1	+2.2
NAX	Nakhchivan	10.28	336	P		Pn		22 56 49.8	+2.3
HRA	Herat	10.65	62			Pn		22 56 52.6	-0.1
MNGR	Mingechevir, A	11.30	345	P		Pn		22 57 03.9	+2.5
GANJ	Ganja	11.37	342	P		Pn		22 57 04.8	+2.5
SEKA	Sheki	11.70	346	P		Pn		22 57 09.5	+2.6
DDFL	Dedoflistskaro	12.17	343	P		Pn		22 57 18.4	+5.0
ASF	Jabal al Asfar	12.19	284	Pn		Pn		22 57 13.1	-0.6
	comp=E,12nm,0.3s,baz=268,slow=3.9,SNR=91								
ASF				Sn		Sn		22 59 20.7	-9.0
	comp=E,2.0nm,0.3s,baz=60,slow=20,SNR=1.9								
ASF				Lg		Lg		23 00 58.0	
	comp=E,0.8nm,0.3s,baz=232,slow=19,SNR=1.6								
DGRG	David-gareji	12.38	340	P		Pn		22 57 20.1	+4.0
KARS	Kars	12.46	331	P		Pn		22 57 22.3	+4.8
SHAO	Shalim	12.57	159	*i* P		Pn		22 57 19.1	+0.2
	SNR=13								
KZRT	Kazreti	12.63	337	P		P		22 57 48.7	+18
KZRT	Kazreti	12.63	337	P		Pn		22 57 23.1	+3.5
BGD	Bogdanovka	12.80	335	P		Pn		22 57 14.5	-7.6
BGD	Bogdanovka	12.80	335	P		Pn		22 57 25.1	+3.0
TBLG	Delisi	12.83	339	P		Pn		22 57 25.5	+3.2
TBLG	Delisi	12.83	339	P		Pn		22 57 22.5	+0.2
TBLG	Delisi	12.83	339	Pn		Pn		22 57 22.5	+0.2
AKH	Akhalkalaki	12.97	335	P		Pn		22 57 24.8	+0.4
AKH	Akhalkalaki	12.97	335	Pn		Pn		22 57 24.8	+0.4
KARJ	KARJ	13.17	279	Pn		Pn		22 57 28.6	+1.6
GHAJ	Ghor Haditha	13.25	280	Pn		Pn		22 57 27.3	-0.8
BKRG	Bakuriani	13.26	335	P		Pn		22 57 31.9	+3.5
RCY	Rachaya	13.29	290	ePn		Pn		22 57 29.1	+0.3
QRNJ	Al-Qirein	13.33	284	Pn		Pn		22 57 29.1	0.0
NATI	Neve Ativ	13.33	289	Pn		Pn		22 57 28.5	-0.6
MAK	Makhachkala	13.34	349	eP		Pn		22 57 25.7	-3.5
MAK				eS		Sn		22 59 53.5	-3.8
MAK				pmax		pmax			
	comp=Z,467nm,1.3s								
MAK				MLR		MLR			
	comp=Z,440nm,18.0s								
SHBL	Chebaa	13.34	289	eP		Pn		22 57 30.4	+1.0
HMDT	Nahal Hemdat	13.36	284	Pn		Pn		22 57 29.0	-0.5
GEM	Giv'at Ha'Em	13.38	288	Pn		Pn		22 57 29.3	-0.6
DSI	Dead Sea	13.43	281	Pn		Pn		22 57 30.1	-0.4
MMLI	Mount Malkishu	13.47	285	Pn		Pn		22 57 31.1	0.0
GAZ	Gaziantep	13.51	306			Pn		22 57 30.8	-0.8
BHL	Bhannes	13.53	291	eP		Pn		22 57 33.4	+1.4
MMA0B	Mount Meron ar	13.56	287	Pn		Pn		22 57 32.3	-0.1
YTIR	Yattir	13.64	280	Pn		Pn		22 57 32.9	-0.6
PNSH	Pansheti	13.69	340	P		Pn		22 57 38.2	+4.0
BLGI	Bet Lehem HaGe	13.70	286	Pn		Pn		22 57 34.7	+0.5
HRFI	Mount Harif	13.72	275	Pn		Pn		22 57 33.3	-1.3
AQBJ	Aqaba	13.73	273	Pn		Pn		22 57 34.9	+0.2
PRNI	Paran	13.74	276	Pn		Pn		22 57 34.7	0.0
HNTI	Hanita	13.76	287	Pn		Pn		22 57 35.6	+0.5
SLTI	Sal'it	13.77	284	Pn		Pn		22 57 35.1	0.0
EIL	Elat	13.82	273	Pn		Pn		22 57 35.5	-0.3
	comp=Z,1.4nm,0.3s,baz=65,slow=5.5,SNR=18								
EIL				Lg		Lg		23 01 41.0	
	comp=Z,0.7nm,0.3s,baz=117,slow=8.7,SNR=3.7								
EIL				LR		LR		23 04 02.8	
	comp=Z,395nm,20.5s,baz=90,slow=42								
EIL	Elat	13.82	273	Pn		Pn		22 57 35.0	-0.9
MBRI	Mt Berech	13.85	274	Pn		Pn		22 57 36.0	-0.3
OFRI	`Ofer	13.86	285	Pn		Pn		22 57 36.5	+0.1
GROC	Groznyy	13.91	344	eP		Pn		22 57 39.3	+2.3
GROC				pmax		pmax			
	comp=Z,74nm,1.5s								
TKB	Tkibuli	13.97	335	P		Pn		22 57 41.1	+3.2
KRMI	Paran Flat	13.99	275	Pn		Pn		22 57 37.1	-1.1
ONI	Oni	14.02	337	P		Pn		22 57 40.5	+1.9
ZEI	Tsey	14.05	338	eP		Pn		22 57 40.2	+1.1
ZEI				pmax		pmax			
	comp=Z,51nm,0.9s								
KBZ	Khabaz	15.22	338	Pn		Pn		22 57 57.2	+2.5
	comp=Z,0.6nm,0.3s,baz=144,slow=8.5,SNR=26								
KBZ				LR		LR		23 03 20.6	
	comp=Z,130nm,19.6s,baz=156,slow=36								
KBZ	Khabaz	15.22	338	ceP		Pn		22 57 55.0	+0.3
KVAR	Kislovodsk Arr	15.49	337	Pn		P		22 58 01.7	-1.2
	baz=90,slow=20,SNR=18								
KIV	Kislovodsk	15.49	337	P		P		22 58 01.0	-1.9
KIV	Kislovodsk	15.49	337	eP		Pn		22 57 58.1	-0.3
KIV				pmax		pmax			
	comp=Z,381nm,1.0s								
KIV				MLR		MLR			
	comp=Z,430nm,12.0s								
KIV	Kislovodsk	15.49	337			Pn		22 57 59.9	+1.4
CSS	Mathiatis	15.64	293	Pn		Pn		22 58 01.0	+0.6
CSS	Mathiatis	15.64	293	Pn		Pn		22 58 01.1	+0.6
CSS				IAmb		IAmb		22 58 02.8	
	comp=Z,148nm,1.0s								
KBL	Kabul	16.08	68	P		Pn		22 58 07.1	+0.9
KBL				pmax		pmax			
	comp=Z,8.0nm,1.0s								
KBL	Kabul	16.08	68			Pn		22 58 07.1	+0.9
SOC	Sochi	16.32	330	eP		Pn		22 58 06.9	-2.1
SOC				e				23 01 05.2	
SOC				pmax		pmax			
	comp=Z,104nm,0.7s								
SOC				MLR		MLR			
	comp=Z,395nm,14.0s								
DAMY	Dhamar	16.36	203	P		P		22 58 12.1	-0.7
	SNR=10								
DAMY	Dhamar	16.36	203			Pn		22 58 09.2	-0.8
DAMY				IAmb		IAmb		22 58 16.6	
	comp=Z,57nm,0.7s								
GOF	Gofitskoye	16.36	340	⇑eP		Pn		22 58 11.2	+1.6
GOF				pmax		pmax			
	comp=Z,108nm,0.8s								
KVT	Kavak	16.43	317	P		P		22 58 12.4	-0.8
BR131	Keskin Array S	17.20	309	P		P		22 58 22.6	+0.7
	SNR=23								
BR131	Keskin Array S	17.20	309	P		Pn		22 58 21.2	+0.9
BR131				pmax		pmax			
	comp=Z,28nm,0.8s								
BR131	Keskin Array S	17.20	309	P		Pn		22 58 21.2	+0.9
BRTR	Keskin Array B	17.20	309	P		P		22 58 21.4	-0.4
	comp=Z,3.8nm,0.3s,baz=130,slow=11,SNR=69								
BRTR				LR		LR		23 06 43.7	
	comp=Z,581nm,18.1s,baz=100,slow=43								
BRTR	Keskin Array B	17.20	309	ceP		P		22 58 21.5	-0.4
BRTR				pmax		pmax			
	comp=Z,14nm,0.5s								
BRTR	Keskin Array B	17.20	309			Pn		22 58 20.7	+0.3
DIKM	Dikmen	17.24	317	⇑P		Pn		22 58 19.1	-1.6
CHGR	Chuyangaron	17.46	55			P		22 58 24.6	-0.2
BR231	Keskin MP Arra	17.84	309	P		P		22 58 29.5	+0.6
ANTO	Ankara	17.84	309	⇑P		Pn		22 58 27.3	-0.9
ANTO	Ankara	17.84	309	P		P		22 58 30.3	+1.4
ANTO	Ankara	17.84	309	P		P		22 58 29.2	+0.3
ANTO				pmax		pmax			
	comp=Z,49nm,0.8s								
ANTO	Ankara	17.84	309	P		P		22 58 29.2	+0.3
SOCY	Socotra	17.84	170	Pn		Pn		22 58 20.9	-7.5
SOCY				IAmb		IAmb		22 58 22.9	
	comp=Z,103nm,1.3s								
ILGA	Ilgaz	17.84	313	P		Pn		22 58 27.7	-0.7
ANN	Anapa	18.29	328	eP		P		22 58 34.2	+0.4
ANN				pmax		pmax			
	comp=Z,112nm,1.3s								
GAR	Garm	18.42	55	P		P		22 58 34.7	-0.8
ISP	Isparta	18.64	301	P		Pn		22 58 38.3	+0.3
ISP				pmax		pmax			
	comp=Z,58

comp=Z,130nm,0.8s
VORD smax smax

comp=E,3.0nm,1.2s
AAK Ala-Archa 22.84 50 P **P 22 59 25.2 +1.9**
comp=E,18nm,0.7s,baz=224,slow=8.1,SNR=18
AAK ScP **ScP 23 06 51.0 -0.9**
comp=E,0.9nm,0.2s,baz=312,slow=0.8,SNR=4.2
AAK LR LR 23 09 40.9
comp=E,146nm,20.0s,baz=236,slow=40
AAK Ala-Archa 22.84 50 P **P 22 59 30.0 +6.8**
SNR=9.2
AAK Ala-Archa 22.84 50 *i* P **P 22 59 22.9 -0.3**
AAK pmax pmax
comp=Z,22nm,0.9s
AAK Ala-Archa 22.84 50 P **P 22 59 25.0 +1.8**
AAK IAmb IAmb 22 59 34.6
comp=Z,24nm,0.8s
ALN Alexandroupoli 22.95 305 P **P 22 59 25.8 +1.6**
ALN Alexandroupoli 22.95 305 IAmb IAmb 22 59 29.0
comp=Z,32nm,0.8s
TIRR Tirgusor 22.96 316 ⇓P **P 22 59 24.3 0.0**
TIRR Tirgusor 22.96 316 ⇓P **P 22 59 24.3 0.0**
TIRR Tirgusor 22.96 316 P **P 22 59 26.6 +2.3**
TIRR pmax pmax
comp=Z,360nm,0.8s
PRD Provadia 22.98 312 P **P 22 59 26.0 +1.5**
FRU1 Bishkek 23.00 49 P **P 22 59 25.4 +0.5**
FRU1 pmax pmax
comp=Z,16nm,0.8s
FRU1 Bishkek 23.00 49 P **P 22 59 25.4 +0.5**
NDI New Delhi 23.01 86 *e*P **P 22 59 26.5 +1.5**
VSR Storozhevoye 23.04 341 *e*P **P 22 59 23.2 -1.9**
VSR *e*S **S 23 03 30.6 -5.0**
VSR pmax pmax
comp=Z,100nm,0.8s
VSR smax smax
comp=N,540nm,1.1s
KZA Kyzart 23.11 52 P **P 22 59 28.8 +2.5**
SNR=20
TLCR 23.12 317 ⇑P **P 22 59 25.3 -0.6**
TLCR 23.12 317 P **P 22 59 25.3 -0.6**
KBK Karagaybulak 23.14 50 P **P 22 59 33.3 +6.9**
SNR=6.5
ICOR Ion Corvin 23.16 314 ⇓P **P 22 59 26.4 0.0**
CHMS Chumysh 23.16 49 P **P 22 59 27.9 +1.4**
SNR=20
TOPG Topolog 23.21 316 ⇑P **P 22 59 26.7 -0.1**
TLBR Topalu 23.23 315 ⇑P **P 22 59 26.8 -0.3**
SGDS Sogindy 23.29 48 *i* P **P 22 59 29.4 +1.6**
comp=N,21nm,1.7s,baz=48
SGDS *e*S **S 23 03 43.1 +2.9**
baz=48
SGDS LR LR 23 08 22.6
comp=N,175nm,14.0s,baz=48
SGDS Sogindy 23.29 48 *i* P **P 22 59 29.4 +1.6**
SGDS *e*S **S 23 03 43.0 +2.9**
SGDS pmax pmax
comp=Z,21nm,1.7s
SGDS MLR MLR
comp=Z,175nm,14.0s
HARR Harsova 23.38 316 ⇓P **P 22 59 29.6 +1.0**
HARR Harsova 23.38 316 P **P 22 59 29.5 +1.0**
CFR Carcaliu 23.51 317 ⇑P **P 22 59 29.8 -0.1**
CFR Carcaliu 23.51 317 P **P 22 59 29.8 -0.1**
GIUM Giurgiulesti 23.64 317 ⇑P **P 22 59 31.2 +0.1**
KDZ Kurdzhali 23.66 307 P **P 22 59 32.0 +0.5**
TKM2 Tokmak 2 23.69 50 P **P 22 59 33.2 +1.3**
SNR=8.1
TKM2 Tokmak 2 23.69 50 *i* P **P 22 59 32.8 +0.9**
TKM2 pmax pmax
comp=Z,11nm,0.7s
AMRR Amara 23.70 315 ⇓P **P 22 59 33.3 +1.6**
BTLS Baital 23.72 44 ⇑*i* P **P 22 59 33.2 +1.3**
comp=Z,22nm,1.7s,baz=44
BTLS *e*S **S 23 03 49.5 +2.6**
baz=44
BTLS LR LR 23 09 48.6
comp=Z,94nm,11.4s,baz=44
BTLS Baital 23.72 44*c i* P **P 22 59 33.2 +1.3**
BTLS *e*S **S 23 03 49.4 +2.6**
BTLS pmax pmax
comp=Z,22nm,1.7s
BTLS MLR MLR
comp=Z,94nm,11.0s
RAZG Razgrad 23.72 312 ⇓P **P 22 59 33.2 +1.2**
BOOM Boomskoye usch 23.74 51 P **P 22 59 33.4 +1.0**
BOOM pmax pmax
comp=Z,26nm,0.8s
BOOM Boomskoye usch 23.74 51 P **P 22 59 33.4 +1.0**
BOOM IAmb IAmb 22 59 39.5
comp=Z,26nm,0.8s
FURI Furi 23.78 211 P **P 22 59 33.8 +0.6**
ULHL Ulahol 23.85 52 P **P 22 59 35.1 +1.6**
SNR=14
ELND Elena 23.86 310 ⇓P **P 22 59 34.6 +1.3**
SCHL Schela 23.87 317 ⇑P **P 22 59 33.6 +0.3**
SZH Strazhica 23.96 311 P **P 22 59 34.0 -0.3**
TUR 24.02 317 P **P 22 59 36.7 +2.0**
PGOR Pogoanele 24.07 315 ⇑P **P 22 59 36.5 +1.3**
VARL Varlezi 24.08 318 ⇓P **P 22 59 36.3 +1.0**
RZN Rozhen 24.17 306 P **P 22 59 37.0 +0.6**
LEOM Leova 24.18 320 P **P 22 59 36.3 +0.1**
OUR Ouranopolis 24.25 303 P **P 22 59 39.8 +2.8**
GRER 24.32 316 ⇑P **P 22 59 38.6 +1.1**
PLD Plovdiv 24.33 307 P **P 22 59 39.0 +1.4**
PLD Plovdiv 24.33 307 P **P 22 59 39.1 +1.4**
PLD pmax pmax
comp=Z,198nm,1.1s
PETR Petresti 24.34 317 ⇑P **P 22 59 39.6 +1.9**
LPSR Galich'ya Gora 24.35 342 *e*P **P 22 59 37.2 -0.5**
LPSR *e*S **S 23 03 57.9 +1.2**
LPSR pmax pmax
comp=Z,180nm,0.7s
LPSR smax smax
comp=E,140nm,0.8s
PAIG Paliouri 24.36 302 P **P 22 59 41.1 +3.1**
PAIG pmax pmax
comp=Z,33nm,0.8s
SGRR Singureni 24.37 313 ⇑P **P 22 59 39.0 +1.1**
SULR 24.40 314 ⇓P **P 22 59 39.4 +1.1**
BIR Birlad 24.41 319 ⇓P **P 22 59 39.4 +1.0**
BIR Birlad 24.41 319 P **P 22 59 39.4 +1.0**
GHRR 24.42 318 ⇓P **P 22 59 40.3 +1.8**
ISR Istrita 24.44 315 ⇑P **P 22 59 41.4 +2.6**
ISR Istrita 24.44 315 P **P 22 59 41.4 +2.6**
KDJ Kajisay 24.45 53 P **P 22 59 40.2 +1.2**
KDJ pmax pmax
comp=Z,12nm,0.9s
KDJ Kajisay 24.45 53 P **P 22 59 40.2 +1.2**
ODBI Odobesti 24.47 317 ⇓P **P 22 59 41.2 +2.3**
ZIMR 24.50 311 ⇑P **P 22 59 40.9 +1.6**
VASR Vaslui 24.53 319 ⇑P **P 22 59 40.6 +1.2**
KUU Kurty 24.60 48 *e*P **P 22 59 41.3 +1.2**
comp=Z,5.6nm,0.8s,baz=48
KUU LR LR 23 10 38.5
comp=Z,170nm,10.1s,baz=48
KUU Kurty 24.60 48 *e*P **P 22 59 41.3 +1.2**
KUU pmax pmax
comp=Z,6.0nm,0.8s
KUU MLR MLR
comp=Z,170nm,10.0s
TNSS Tian-Shan 24.64 51 *e*P **P 22 59 41.9 +0.9**
baz=51
TNSS Tian-Shan 24.64 51 *e*P **P 22 59 41.9 +0.9**
PLAR PLOIESTI 24.66 314 ⇑P **P 22 59 42.5 +1.9**
AAA Alma-Ata 24.69 50 LR LR 23 09 56.2
comp=Z,120nm,12.5s,baz=50
SECR 24.70 315 ⇑P **P 22 59 43.4 +2.4**
VRI Vrincioaia 24.72 317 ⇓P **P 22 59 42.2 +1.0**
VRI Vrincioaia 24.72 317 P **P 22 59 42.2 +1.0**
TARG Taragay, Kyrgy 24.75 54 P **P 22 59 41.7 -0.2**
NEHR Nehoiu 24.75 316 ⇑P **P 22 59 42.3 +0.8**
PLOR Plostina 24.76 317 ⇑P **P 22 59 43.3 +1.7**
PLOR Plostina 24.76 317 P **P 22 59 43.2 +1.7**
MDOK Medeo 24.76 50 *e*P **P 22 59 42.8 +1.0**
baz=50
MDOK LR LR 23 09 43.4
comp=Z,168nm,13.1s,baz=50
MDOK Medeo 24.76 50 *e*P **P 22 59 42.7 +1.0**
MDOK MLR MLR
comp=Z,168nm,13.0s
SRS Serrai 24.77 304 P **P 22 59 43.1 +1.3**
SRS pmax pmax
comp=Z,52nm,1.3s

COPA Copaceanca 24.81 312 ⇑P **P 22 59 43.7 +1.7**
MMB Musomiste 24.83 305 P **P 22 59 43.0 +0.7**
PLVB Pleven 24.88 310 ⇓P **P 22 59 44.3 +1.6**
IAS Iasi 24.98 320 ⇑P **P 22 59 44.5 +1.0**
IAS Iasi 24.98 320 P **P 22 59 44.4 +1.0**
MLR Muntele Rosu 25.00 315 P **P 22 59 46.4 +2.5**
comp=Z,155nm,0.8s,baz=113,slow=0.1,SNR=110
MLR Muntele Rosu 25.00 315 ⇑P **P 22 59 46.4 +2.5**
MLR Muntele Rosu 25.00 315 P **P 22 59 45.0 +1.2**
MLR pmax pmax
comp=Z,211nm,0.9s
MLR Muntele Rosu 25.00 315 P **P 22 59 45.0 +1.2**
THE Thessaloniki 25.08 303 P **P 22 59 47.7 +3.2**
TESR Tescani 25.11 318 ⇑P **P 22 59 46.2 +1.4**
ITM Ithomi 25.13 295 P **P 22 59 44.8 -0.2**
HUMR Humele 25.14 313 ⇑P **P 22 59 46.7 +1.7**
AGG Agios Georgios 25.15 299 P **P 22 59 45.0 -0.2**
AGG pmax pmax
comp=Z,59nm,0.8s
AGG Agios Georgios 25.15 299 P **P 22 59 45.0 -0.2**
VLAD Vladila 25.28 311 ⇓P **P 22 59 47.9 +1.6**
KNT Kendrikon 25.29 304 P **P 22 59 48.4 +2.0**
OZUR 25.40 317 ⇑P **P 22 59 49.0 +1.6**
MTUR Matau 25.41 314 ⇓P **P 22 59 48.7 +1.2**
PRZ Przheval'sk 25.42 53 P **P 22 59 48.3 +0.5**
PRZ pmax pmax
comp=Z,21nm,0.8s
PRZ Przheval'sk 25.42 53 P **P 22 59 48.3 +0.5**
PRZ IAmb IAmb 22 59 57.0
comp=Z,21nm,0.8s
VOIR 25.52 315 ⇓P **P 22 59 50.2 +1.6**
VOIR 25.52 315 P **P 22 59 50.1 +1.6**
VTS Vitosha 25.53 307 ⇑P **P 22 59 50.0 +1.3**
VTS Vitosha 25.53 307 P **P 22 59 50.0 +1.3**
VTS Vitosha 25.53 307 P **P 22 59 48.7 0.0**
VTS pmax pmax
comp=Z,21nm,0.9s
VTS Vitosha 25.53 307 P **P 22 59 48.7 0.0**
VTS IAmb IAmb 22 59 53.4
comp=Z,21nm,0.9s
VAY Valandovo 25.57 304 *i* P **P 22 59 50.4 +1.5**
VAY Valandovo 25.57 304 P **P 22 59 50.2 +1.3**
VAY pmax pmax
comp=Z,64nm,0.8s
SATY Saty 25.64 52 *e*P **P 22 59 51.2 +1.5**
comp=Z,9.7nm,1.6s,baz=52
SATY LR LR 23 11 16.2
comp=Z,126nm,14.3s,baz=52
SATY Saty 25.64 52 *e*P **P 22 59 51.1 +1.4**
SATY pmax pmax
comp=Z,10.0nm,1.6s
SATY MLR MLR
comp=Z,126nm,14.0s
BIZ Bicaz 25.66 318 ⇑P **P 22 59 51.0 +1.3**
ARR Arges 25.74 314 ⇑P **P 22 59 52.4 +1.8**
PRAR RASCA 25.82 319 ⇓P **P 22 59 51.9 +0.7**
STIP Stip 25.96 305 *i* P **P 22 59 52.6 +0.2**
BRZS Berezniki 25.97 33 *i* P **P 22 59 53.9 +1.3**
comp=Z,13nm,0.8s,baz=33
BRZS *e*S **S 23 04 25.4 +2.7**
baz=33
BRZS LR LR 23 10 46.0
comp=Z,218nm,12.5s,baz=33
BRZS Berezniki 25.97 33 *i* P **P 22 59 53.8 +1.3**
BRZS *e*S **S 23 04 25.4 +2.7**
BRZS pmax pmax
comp=Z,13nm,0.8s
BRZS MLR MLR
comp=Z,218nm,13.0s
KPKS Kokpek 25.98 51 *i* P **P 22 59 53.8 +1.0**
comp=Z,9.0nm,0.6s,baz=51
KPKS LR LR 23 11 29.8
comp=Z,95nm,10.7s,baz=51
KPKS Kokpek 25.98 51 *i* P **P 22 59 53.7 +1.0**
KPKS pmax pmax
comp=Z,9.0nm,0.6s
KPKS MLR MLR
comp=Z,95nm,11.0s
UZB Uzynbulak 26.09 52 ⇑*i* P **P 22 59 55.0 +1.2**
comp=Z,8.5nm,0.8s,baz=52
UZB LR LR 23 10 31.7
comp=Z,112nm,12.3s,baz=52
UZB Uzynbulak 26.09 52*c i* P **P 22 59 55.0 +1.2**
UZB pmax pmax
comp=Z,8.0nm,0.8s
UZB MLR MLR
comp=Z,112nm,12.0s
MDB Medias 26.27 316 ⇓P **P 22 59 57.7 +2.5**
LOT Lotru 26.32 314 ⇓P **P 22 59 56.7 +0.9**
SRE Strehaia 26.34 312 ⇑P **P 22 59 58.2 +2.3**
SRE Strehaia 26.34 312 P **P 22 59 58.1 +2.3**
PUNG Punghina 26.36 311 ⇑P **P 22 59 59.0 +2.9**
AKASG Malin Array Be 26.38 328 P **P 22 59 55.9 -0.2**
comp=Z,10nm,0.4s,baz=134,slow=8.7,SNR=97
AKASG PcP **PcP 23 03 21.4 -0.1**
comp=Z,3.3nm,0.5s,baz=93,slow=2.2,SNR=8.1
AKASG Malin Array Be 26.38 328 P P 22 59 55.3 -0.8
AKBB Malin Array Si 26.38 328*ce*P **P 22 59 55.3 -0.8**
AKBB Malin Array Si 26.38 328 IAmb IAmb 22 59 56.9
comp=Z,42nm,0.8s
KMPD K-Podol'skiy 26.38 322 P **P 22 59 56.0 -0.2**
KIEV Kiev 26.38 328 P **P 22 59 56.0 -0.2**
SHLS Shalkode 26.39 52 *e*P **P 22 59 60.0 +3.4**
comp=Z,5.6nm,1.1s,baz=52
SHLS LR LR 23 10 58.1
comp=Z,99nm,11.7s,baz=52
TDK Taldyqorghan 26.41 48 *e*P **P 22 59 58.4 +1.8**
comp=Z,7.7nm,0.6s,baz=48
TDK LR LR 23 11 23.0
comp=Z,352nm,13.4s,baz=48
TDK Taldyqorghan 26.41 48 *e*P **P 22 59 58.3 +1.8**
TDK pmax pmax
comp=Z,8.0nm,0.6s
TDK MLR MLR
comp=Z,352nm,13.0s
PDGK Podgornoye 26.47 52 *i* P **P 22 59 59.6 +2.3**
PDGK pmax pmax
comp=Z,23nm,0.9s
BURAR Bucovina Array 26.53 319 ⇑P **P 22 59 59.3 +1.6**
BURAR Bucovina Array 26.53 319 P **P 22 59 59.3 +1.6**
BURAR Bucovina Array 26.53 319 P **P 22 59 58.8 +1.1**
SKO Skopje 26.57 305 *i* P **P 22 59 59.4 +1.4**
ARCR ARCALIA 26.75 317 ⇑P **P 23 00 01.1 +1.5**
IGT Igoumenitsa 26.77 299 P **P 23 00 00.1 +0.2**
IGT pmax pmax
comp=Z,44nm,0.8s
OHR Ohrid 26.79 303 *i* P **P 23 00 01.3 +1.2**
OHR Ohrid 26.79 303 P **P 23 00 01.2 +1.1**
OHR pmax pmax
comp=Z,100nm,1.0s
HERR Herculane 26.94 312 ⇑P **P 23 00 02.7 +1.4**
KSV Kosov 27.00 320 P **P 23 00 02.5 +0.7**
CJR Cluj-Napoca 27.02 316 ⇓P **P 23 00 04.0 +2.0**
CJR Cluj-Napoca 27.02 316 P **P 23 00 04.0 +2.0**
DEV Deva 27.06 314 ⇑P **P 23 00 03.6 +1.2**
DEV Deva 27.06 314 P **P 23 00 03.5 +1.2**
ARU Arti 27.10 9 P **P 23 00 03.3 +0.7**
comp=Z,2.6nm,0.5s,baz=178,slow=9.1,SNR=5.4
ARU LR LR 23 13 39.3
comp=Z,161nm,18.0s,baz=193,slow=43
ARU Arti 27.10 9 *i* P **P 23 00 03.4 +0.9**
ARU pmax pmax
comp=Z,10.0nm,0.9s
ARU Arti 27.10 9 P **P 23 00 03.5 +0.9**
BRVK Borovoye 27.19 26 P **P 23 00 04.5 +1.1**
BRVK Borovoye 27.19 26 P **P 23 00 03.6 +0.2**
BRVK pmax pmax
comp=Z,12nm,0.9s
BRVK Borovoye 27.19 26 P **P 23 00 03.6 +0.2**
BVAR Borovoye Array 27.20 26 P **P 23 00 04.6 +1.1**
comp=Z,12nm,0.7s,baz=222,slow=7.4,SNR=82
BVAR PcP **PcP 23 03 24.0 +0.4**
comp=Z,2.2nm,0.3s,baz=187,slow=2.7,SNR=16
BVAR ScP **ScP 23 07 01.7 -2.1**
comp=Z,0.9nm,0.5s,baz=204,slow=3.3,SNR=4.6
BVAR LR LR 23 12 24.7
comp=Z,46nm,18.6s,baz=304,slow=40
OBN Obninsk 27.23 342 P **P 23 00 04.0 +0.3**
comp=Z,23nm,0.7s,baz=329,slow=2.4,SNR=14
OBN LR LR 23 12 27.3
comp=Z,39nm,18.7s,baz=182,slow=40
OBN Obninsk 27.23 342*c i* P **P 23 00 03.5 -0.2**
OBN *i* *PP **pP 23 00 06.5 -1.0**
OBN *i* *SP **sP 23 00 08.8 -0.2**

OBN S **S 23 04 42.0 -0.3**
OBN pmax pmax
comp=Z,99nm,0.7s
OBN MLR MLR
comp=Z,170nm,17.0s
OBN Obninsk 27.23 342 P **P 23 00 04.0 +0.3**
MDVR Moldovita 27.36 311 ⇑P **P 23 00 06.4 +1.3**
MOS Moscow 27.52 344 *e*P **P 23 00 05.9 -0.4**
MOS *e* 23 00 10.2
MOS *e* 23 00 54.5
MOS *e*S **S 23 04 47.7 +0.8**
MOS pmax pmax
comp=Z,46nm,1.1s
TIR Tirane 27.54 303 ⇑P **P 23 00 07.9 +1.3**
TIR Tirane 27.54 303 P **P 23 00 07.1 +0.4**
TIR pmax pmax
comp=Z,56nm,0.8s
TIR Tirane 27.54 303 P **P 23 00 07.1 +0.4**
BMR Baia Mare 27.55 318 ⇑P **P 23 00 08.2 +1.4**
DRGR 27.59 316 ⇓P **P 23 00 08.6 +1.4**
BZS Buzias 27.76 313 ⇓P **P 23 00 09.2 +0.6**
SVE Sverdlovsk 27.81 12 *e*P **P 23 00 10.0 +1.1**
SVE pmax pmax
comp=Z,11nm,0.9s
SIRR Siria 28.01 314 ⇑P **P 23 00 13.0 +2.1**
MORS Morshin 28.10 321 P **P 23 00 12.8 +1.2**
PYUN Piuthan 28.11 86 *e*P **P 23 00 12.8 +0.5**
comp=Z,61nm,0.6s
DRME Dracevica, Mon 28.25 304 ⇑*i* P **P 23 00 13.1 +0.1**
DIVS Divibare 28.26 309 P **P 23 00 12.7 -0.5**
DIVS Divibare 28.26 309 ⇑*i* P **P 23 00 13.6 +0.4**
PDG Podgorica 28.26 305 IAmb IAmb 23 00 17.4
comp=Z,11nm,0.7s
PDG Podgorica 28.26 305 ⇑*i* P **P 23 00 13.0 -0.1**
SCTE Santa Cesarea 28.29 300 P **P 23 00 12.9 -0.5**
TRPA Tarpa 28.34 318 ⇑P **P 23 00 14.8 +1.0**
LVV L'vov 28.41 322 *e*P **P 23 00 14.0 -0.4**
RUDO Rudo 28.53 307 *e*P **P 23 00 15.9 +0.3**
BBLS Lazići 28.58 308 *e*P **P 23 00 16.8 +0.7**
KOLN Koldanda 28.71 86 *e*P **P 23 00 17.9 +0.3**
KIRV Kirov 28.72 358 P **P 23 00 17.2 +0.1**
comp=Z,33nm,0.5s,baz=329,slow=0.9,SNR=15
KIRV LR LR 23 13 53.8
comp=Z,158nm,19.3s,baz=181,slow=41
DANN Dangsing 28.73 85 *e*P **P 23 00 18.1 +0.2**
comp=Z,84nm,0.6s
FRGS Fruska Gora 28.75 311 ⇑*i* P **P 23 00 18.3 +0.8**
HCY Herceg Novi 28.81 305 *e*P **P 23 00 15.4 -2.6**
KOLS Kolonicke sedl 28.90 319 *e*P **P 23 00 20.6 +1.8**
KOLS pmax pmax
comp=Z,23nm,0.8s
KOLS Kolonicke sedl 28.90 319 *e*P **P 23 00 20.6 +1.8**
BRY Bratogost 28.90 306 ⇑*i* P **P 23 00 18.8 -0.2**
HAPS Han Pijesak,Bl 28.96 308 *e*P **P 23 00 19.5 0.0**
TREB Trebinje 28.98 305 *e*P **P 23 00 19.3 -0.3**
KWP Kalwaria Pacla 29.02 321 *e*P **P 23 00 20.8 +1.0**
KWP Kalwaria Pacla 29.02 321 P **P 23 00 19.7 -0.1**
KWP pmax pmax
comp=Z,31nm,0.7s
KWP Kalwaria Pacla 29.02 321 P **P 23 00 19.7 -0.1**
KWP IAmb IAmb 23 00 21.8
comp=Z,31nm,0.7s
KURBB Kurchatov Arra 29.31 37 P **P 23 00 23.6 +1.3**
comp=Z,6.8nm,0.9s,baz=238,slow=9.3,SNR=19
KURBB PcP **PcP 23 03 28.8 0.0**
comp=Z,1.3nm,0.7s,baz=241,slow=3.0,SNR=4.8
KURBB ScP **ScP 23 07 08.6 -1.8**
comp=Z,0.5nm,0.3s,baz=242,slow=4.1,SNR=6.7
CRVS Cervenica-Dubn 29.34 319 *e*P **P 23 00 24.1 +1.3**
CRVS pmax pmax
comp=Z,33nm,0.8s
CRVS Cervenica-Dubn 29.34 319 *e*P **P 23 00 24.0 +1.3**
KURK Kurchatov 29.41 37 *i* P **P 23 00 24.3 +1.1**
KURK pmax pmax
comp=Z,12nm,1.0s
KURK Kurchatov 29.41 37 P **P 23 00 24.3 +1.1**
KURK Kurchatov 29.41 37 PcP **23 03 28.8 -0.2**
KURK ScP **23 07 08.6 -2.1**
MAKZ Makanchi 29.43 46 P **P 23 00 23.4 -0.2**
MAKZ pmax pmax
comp=Z,5.0nm,0.8s
MAKZ Makanchi 29.43 46 P **P 23 00 23.4 -0.2**
TIP Timpagrande 29.45 298 ⇑P **P 23 00 25.3 +1.5**
TIP Timpagrande 29.45 298 P **P 23 00 24.0 +0.2**
TIP IAmb IAmb 23 00 25.7
comp=Z,16nm,0.7s
GKN Gorkha 29.56 85 *e*P **P 23 00 25.0 -0.1**
comp=Z,18nm,0.2s
MKAR Makanchi Array 29.62 46 P **P 23 00 26.1 +0.7**
comp=Z,1.9nm,0.5s,baz=241,slow=9.3,SNR=50
MKAR PcP **PcP 23 03 29.8 +0.1**
comp=Z,1.8nm,0.6s,baz=163,slow=0.6,SNR=6.4
MKAR ScP **ScP 23 07 08.9 -2.6**
comp=Z,0.7nm,0.8s,baz=251,slow=4.4,SNR=2.6
MKAR LR LR 23 12 57.9
comp=Z,182nm,18.7s,baz=246,slow=38
MKAR P3KPbc 23 32 29.1
comp=Z,0.3nm,0.6s,baz=54,slow=3.8,SNR=3.9
MKAR Makanchi Array 29.62 46 P **P 23 00 26.0 +0.7**
KECS Kecovo 29.71 317 *e*P **P 23 00 27.8 +1.8**
KECS pmax pmax
comp=Z,25nm,0.6s
KECS Kecovo 29.71 317 *e*P **P 23 00 27.8 +1.8**
PSZ Piszkesteto 29.81 316 ⇓P **P 23 00 28.2 +1.2**
PSZ Piszkesteto 29.81 316 P **P 23 00 26.8 -0.1**
PSZ pmax pmax
comp=Z,15nm,0.6s
PSZ Piszkesteto 29.81 316 P **P 23 00 26.8 -0.1**
PSZ IAmb IAmb 23 00 28.5
comp=Z,16nm,0.6s
MORH Mrgy, Hungar 29.90 312 ⇑*i* P **P 23 00 28.6 +0.9**
CEL Celeste 30.01 296 P **P 23 00 27.3 -1.5**
CEL IAmb IAmb 23 00 31.2
comp=Z,20nm,0.9s
DMN Daman 30.05 86 *e*P **P 23 00 29.6 +0.1**
comp=Z,75nm,0.7s
SEM Semipalatinsk 30.11 39 *e*P **P 23 00 30.6 +0.9**
comp=Z,2.2nm,0.9s,baz=39
SEM LR LR 23 13 36.6
comp=Z,107nm,11.0s,baz=39
SEM Semipalatinsk 30.11 39 *e*P **P 23 00 30.6 +0.9**
SEM pmax pmax
comp=Z,2.0nm,0.9s
SEM MLR MLR
comp=Z,107nm,11.0s
BUD Budapest 30.16 315 P **P 23 00 31.3 +1.4**
BUD pmax pmax
comp=Z,69nm,0.7s
KKN Kakani 30.16 85 *e*P **P 23 00 30.4 0.0**
comp=Z,42nm,0.7s
NIE Niedzica 30.26 319 *e*P **P 23 00 32.1 +1.3**
NIE Niedzica 30.26 319 P **P 23 00 32.3 +1.4**
PKIN Phulchoki 30.31 86 *e*P **P 23 00 31.7 -0.1**
comp=Z,105nm,0.9s
PKI Pulchoki 30.32 86 *e*P **P 23 00 31.9 -0.1**
comp=Z,56nm,0.7s
MGRS Mrkonjic Grad 30.34 308 *e*P **P 23 00 33.4 +1.8**
BLY Banja Luka 30.37 309 ⇑*i* P **P 23 00 32.5 +0.6**
LANS Liptovska Anna 30.62 318 *e*P **P 23 00 35.8 +1.8**
LANS pmax pmax
comp=Z,36nm,0.7s
LANS Liptovska Anna 30.62 318 *e*P **P 23 00 35.8 +1.8**
SGRT San Giovanni R 30.64 302 P **P 23 00 33.9 -0.5**
GUN Gumba 30.66 85 *e*P **P 23 00 35.2 +0.2**
comp=Z,72nm,0.7s
VYHS Vyhne 30.70 316 *e*P **P 23 00 35.6 +0.9**
VYHS pmax pmax
comp=Z,21nm,0.8s
VYHS Vyhne 30.70 316 *e*P **P 23 00 35.6 +0.9**
OJC Ojcow 30.94 320 *e*P **P 23 00 37.6 +0.8**
OJC Ojcow 30.94 320 P **P 23 00 36.5 -0.3**
OJC pmax pmax
comp=Z,39nm,0.7s
OJC Ojcow 30.94 320 P **P 23 00 36.5 -0.3**
IIGN Ignalina 30.94 332 *e*P **P 23 00 37.4 +0.6**
IIGN IAmb IAmb 23 00 38.1
comp=Z,19nm,0.5s
JIRN Jiri 30.98 85 *e*P **P 23 00 37.8 0.0**
comp=Z,107nm,0.6s
VAE Valguarnera 31.12 294 P **P 23 00 42.5 +3.9**
comp=Z,9.9nm,0.7s,baz=278,slow=5.2,SNR=8.2
ISAL Salakas 31.14 333 *e*P **P 23 00 38.7 +0.2**
BEHE Becsehely 31.20 312 ⇑*i* P **P 23 00 43.6 +4.4**
IZAR Zarasai 31.22 333 *e*P **P 23 00 39.4 +0.3**

SUW Suwalki 31.35 328 *e*P **P** **23 00 40.3 0.0**
SUW Suwalki 31.35 328 P **P** **23 00 39.3 -1.1**
SUW pmax pmax
comp=Z,57nm,1.1s
SUW Suwalki 31.35 328 P **P** **23 00 39.3 -1.1**
PAOL Paolisi 31.38 301 P **P** **23 00 41.4 +0.5**
RAMN Ramite 31.49 86 *e*P **P** **23 00 41.6 -0.6**
comp=Z,48nm,0.7s
ZSN Zaisan 31.50 47 LR LR 23 14 00.1
comp=Z,114nm,13.1s,baz=47
KOGS Kog 31.54 311 *i* P **P** **23 00 43.3 +1.2**
JAVC Velka Javorina 31.55 316 *e*P **P** **23 00 44.1 +1.8**
SMOL Smolenice 31.56 316 *e*P **P** **23 00 43.1 +0.8**
SMOL pmax pmax
comp=Z,17nm,1.2s
SMOL Smolenice 31.56 316 *e*P **P** **23 00 43.1 +0.8**
MODS Modra-Piesok 31.59 315 *e*P **P** **23 00 42.5 -0.1**
MODS pmax pmax
comp=Z,52nm,1.5s
MODS Modra-Piesok 31.59 315 *e*P **P** **23 00 42.5 -0.1**
ZST Bratislava 31.63 315 *e*P **P** **23 00 42.8 -0.1**
ZST pmax pmax
comp=Z,46nm,0.7s
ZST Bratislava 31.63 315 *e*P **P** **23 00 42.8 -0.1**
OKC Ostrava-Krasne 31.70 318⇑*i*P **P** **23 00 44.1 +0.6**
OKC Ostrava-Krasne 31.70 318⇑*i*P **P** **23 00 44.1 +0.6**
SOP Sopron 31.77 314 P **P** **23 00 46.0 +1.8**
CRES Cresnjev 31.86 310⇑*i*P **P** **23 00 46.0 +1.0**
KLMR Klimovskoe 31.89 350 *e*P **P** **23 00 43.6 -1.4**
KLMR pmax pmax
comp=Z,127nm,0.7s
KLMR Klimovskoe 31.89 350 *e*P **P** **23 00 43.6 -1.4**
KLMR AMP 23 00 45.3
comp=Z,127nm,0.7s
KLMR LQ LQ 23 11 42.7
KLMR LQ LQ 23 11 42.7
KLMR LR LR 23 13 52.4
BOJS Bojanci 31.91 309 *i* P **P** **23 00 46.5 +1.2**
PABE Paberze 31.98 331 *e*P **P** **23 00 46.0 +0.2**
CORL Corleone 32.02 295 P **P** **23 00 46.1 -0.5**
CORL IAmb IAmb 23 00 50.2
comp=Z,16nm,0.8s
MORC Moravsky Berou 32.02 318 ⇓P **P** **23 00 47.0 +0.6**
MORC Moravsky Berou 32.02 318 *e*P **P** **23 00 47.0 +0.6**
MORC Moravsky Berou 32.02 318 P **P** **23 00 47.0 +0.6**
INTR Introdacqua 32.04 302 P **P** **23 00 47.3 +0.7**
CLTB Caltabellotta 32.08 294 P **P** **23 00 47.8 +0.7**
CLTB IAmb IAmb 23 00 56.1
comp=Z,11nm,0.6s
ODAN Odare 32.20 86 *e*P **P** **23 00 48.5 +0.1**
comp=Z,23nm,0.6s
VISS Visnje 32.27 310 *i* P **P** **23 00 49.6 +1.0**
ARSA Arzberg 32.28 312 *i* pP **P** **23 00 49.7 +1.1**
comp=Z,26nm,1.3s,SNR=7.6
ARSA Arzberg 32.28 312 *e*P **P** **23 00 49.7 +1.1**
comp=Z,26nm,1.3s,baz=110,slow=8.5
CONA Conrad Observa 32.30 314 *i* P **P** **23 00 49.7 +0.8**
comp=Z,25nm,1.2s,SNR=13
WMQ Urumqi 32.32 54 *e*P **P** **23 00 51.1 +2.0**
WMQ pP sP 23 00 55.8 +1.5
WMQ S **S** **23 06 01.0 -1.7**
WMQ SS **SnSn** **23 07 56.3 +1.9**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,110nm,3.6s
WMQ LR LR
comp=Z,110nm,16.3s
WMQ LR LR
comp=Z,200nm,14.9s
WMQ LR LR
comp=Z,120nm,20.3s
TAPN Taplejung 32.36 85 *e*P **P** **23 00 49.7 -0.2**
comp=Z,49nm,1.1s
VRAC Vranov 32.38 317 P **P** **23 00 50.7 +1.1**
comp=Z,32nm,0.7s,baz=107,slow=8.8,SNR=66
VRAC Vranov 32.38 317 ⇑P **P** **23 00 50.2 +0.7**
VRAC Vranov 32.38 317 *e*P **P** **23 00 50.6 +1.1**
KRUC Moravsky 32.40 316 *e*P **P** **23 00 50.6 +0.9**
SOKA Soboth 32.41 311 *i* P **P** **23 00 50.8 +0.9**
comp=Z,9.7nm,0.9s
SOKA *e*PcP **PcP** **23 03 38.4 +1.2**
comp=Z,6.4nm,0.7s
AQU L'Aquila 32.47 303 P **P** **23 00 50.8 +0.4**
AQU pmax pmax
comp=Z,25nm,1.1s
AQU L'Aquila 32.47 303 P **P** **23 00 50.8 +0.4**
AQU IAmb IAmb 23 01 07.0
comp=Z,25nm,1.1s
AQU L'Aquila 32.47 303 *e*P **P** **23 00 51.9 +1.5**
CEY Cerknica 32.53 309 *e*P **P** **23 00 51.4 +0.5**
LJU Ljubljana 32.55 310 *i* P **P** **23 00 52.4 +1.4**
LJU Ljubljana 32.55 310⇑*i*P **P** **23 00 52.4 +1.4**
OBKA Obir 32.67 311 *i* pP **P** **23 00 53.4 +1.2**
comp=Z,20nm,1.1s
OBKA Obir 32.67 311 *e*P **P** **23 00 53.9 +1.7**
comp=Z,20nm,1.1s,baz=110,slow=8.5
NRCA Norcia 32.76 304 P **P** **23 00 53.8 +0.8**
TRI Trieste 32.97 309 P **P** **23 00 53.9 -0.7**
TRI pmax pmax
comp=Z,32nm,1.2s
TRI Trieste 32.97 309 P **P** **23 00 53.9 -0.7**
TRI IAmb IAmb 23 00 56.9
comp=Z,32nm,1.2s
DPC Dobruska-Polom 32.98 318⇑*i*P **P** **23 00 55.5 +0.7**
DPC AMS AMS 23 18 50.0
comp=Z,200nm,13.5s
DPC Dobruska-Polom 32.98 318⇑*i*P **P** **23 00 55.5 +0.7**
DPC MLR MLR
comp=Z,200nm,13.5s
TREC Trest 33.04 316⇑*e*P **P** **23 00 56.3 +1.0**
TREC Trest 33.04 316 *e*P **P** **23 00 56.3 +1.0**
VSU Vasula 33.05 337 *e*P **P** **23 00 54.9 -0.2**
VSU Vasula 33.05 337 *i* P **P** **23 00 53.5 -1.6**
OSTC Ostas 33.13 318⇑*i*P **P** **23 00 56.7 +0.7**
PBUR Paburge 33.19 330 *e*P **P** **23 00 53.1 -3.3**
KSP Ksiaz 33.21 319 *e*P **P** **23 00 57.4 +0.7**
UPC Upice 33.22 318⇑*i*P **P** **23 00 57.4 +0.5**
UPC AMS AMS 23 18 50.0
comp=Z,200nm,14.7s
UPC Upice 33.22 318⇑*i*P **P** **23 00 57.4 +0.5**
UPC MLR MLR
comp=Z,200nm,14.7s
CHVC Chvalec 33.23 318 *e*P **P** **23 00 57.6 +0.6**
CHVC AMS AMS 23 18 50.0
comp=Z,200nm,18.0s
MOA Molln 33.28 313 *i* P **P** **23 00 58.3 +0.9**
comp=Z,36nm,0.8s,SNR=18
MOA Molln 33.28 313 *e*P **P** **23 00 58.3 +0.9**
comp=Z,44nm,0.8s,baz=110,slow=8.5
PRED Cave del Predi 33.30 310 P **P** **23 00 58.3 +0.6**
PRED IAmb IAmb 23 00 59.6
comp=Z,12nm,0.9s
MYKA Terra Mystica 33.30 311 *i* pP **P** **23 00 59.5 +1.8**
comp=Z,8.0nm,0.7s
KMBO Kilima Mbogo 33.45 205 LR LR 23 15 22.5
comp=Z,236nm,18.8s,baz=90,slow=38
KMBO Kilima Mbogo 33.45 205 P **P** **23 00 55.3 -4.1**
KMBO pmax pmax
comp=Z,6.0nm,1.3s
KMBO Kilima Mbogo 33.45 205 P **P** **23 00 55.3 -4.1**
KBA Koelnbreinsper 33.63 311 *i* pP **P** **23 01 01.6 +0.9**
comp=Z,31nm,0.8s,SNR=16
KBA *e*PcP **PcP** **23 03 38.9 -1.8**
comp=Z,5.8nm,1.0s
KBA Koelnbreinsper 33.63 311 P **P** **23 01 02.4 +1.7**
KBA Koelnbreinsper 33.63 311 *e*P **P** **23 01 01.5 +0.9**
comp=Z,38nm,0.9s,baz=110,slow=8.5
GOPC GO Pecny, Ondr 33.70 317⇑*e*P **P** **23 01 01.4 +0.3**
GOPC AMS AMS 23 17 10.0
comp=Z,200nm,22.7s
GOPC GO Pecny, Ondr 33.70 317 *e*P **P** **23 01 01.4 +0.3**
GOPC MLR MLR
comp=Z,200nm,22.7s
ZOU Zoufplan 33.73 310 P P 23 00 55.9 -5.6
ZOU IAmb IAmb 23 01 03.5
comp=Z,22nm,1.2s
STAL STALIGIAL 33.82 310 P **P** **23 01 01.8 -0.3**
STAL IAmb IAmb 23 01 03.6
comp=Z,21nm,1.0s
PRU Pruhonice 33.88 317⇑*e*P **P** **23 01 03.0 +0.4**
PRU AMS AMS 23 17 10.0
comp=Z,200nm,15.4s
PRU Pruhonice 33.88 317 *e*P **P** **23 01 03.0 +0.4**
PRU MLR MLR
comp=Z,200nm,15.0s
DGZ Jazzator, Alta 33.92 44 *i* P **P** **23 01 04.3 +1.2**
DGZ pmax pmax
comp=Z,5.0nm,0.7s
GEC2 GERESS Array S 33.97 314 P **P** **23 01 03.0 -0.5**
GEC2 IAmb IAmb 23 01 06.7
comp=Z,8.6nm,0.7s
GEC2 GERESS Array S 33.97 314 *e*P **P** **23 01 03.7 +0.2**
comp=Z,9.8nm,0.8s,baz=110,slow=8.5
GERES GERESS Array B 33.97 314 P **P** **23 01 03.7 +0.2**
comp=Z,5.3nm,0.6s,baz=104,slow=8.2,SNR=48
GERES PcP **PcP** **23 03 42.2 +0.8**
comp=Z,2.2nm,0.6s,baz=135,slow=2.5,SNR=8.2
GERES ScP **ScP** **23 07 24.6 -1.7**
comp=Z,0.5nm,0.7s,baz=129,slow=3.8,SNR=3.9
GERES LR LR 23 17 12.7
comp=Z,113nm,18.4s,baz=108,slow=40
GERES GERESS Array B 33.97 314 P **P** **23 01 03.5 0.0**
GERES **PcP** **23 03 42.0 +0.5**
PRA Prague 33.97 317⇑*e*P **P** **23 01 04.1 +0.7**
PRA AMS AMS 23 17 20.0
comp=Z,100nm,15.9s
PRA Prague 33.97 317 *e*P **P** **23 01 04.1 +0.7**
PRA MLR MLR
comp=Z,100nm,15.9s
CIMO Cimolais 34.01 310 P **P** **23 01 03.3 -0.5**
CIMO IAmb IAmb 23 01 05.4
comp=Z,17nm,0.9s
PVCC Panska Ves 34.07 318⇑*e*P **P** **23 01 04.8 +0.6**
PVCC AMS AMS 23 19 00.0
comp=Z,200nm,16.7s
PVCC Panska Ves 34.07 318 *e*P **P** **23 01 04.8 +0.6**
PVCC MLR MLR
comp=Z,200nm,16.7s
ABTA Abfaltersbach 34.08 310 *i* P **P** **23 01 05.3 +0.8**
comp=Z,18nm,0.9s,SNR=11
PBCC Pribram 34.09 316⇑*e*P **P** **23 01 04.9 +0.5**
SLIT Slitere, Latvi 34.09 333 *e*P P 23 00 54.1 -10
KHC Kasperske Hory 34.15 315⇑*e*P **P** **23 01 05.7 +0.7**
KHC epP **sP** **23 01 10.0 -0.3**
KHC AMS AMS 23 16 00.0
comp=Z,200nm,20.1s
KHC Kasperske Hory 34.15 315*ce*P **P** **23 01 04.9 -0.1**
KHC pmax pmax
comp=Z,144nm,1.7s
KHC Kasperske Hory 34.15 315 IAmb IAmb 23 01 06.5
comp=Z,12nm,0.7s
OSSC Osservatorio P 34.23 304 P **P** **23 01 05.9 +0.1**
OSSC IAmb IAmb 23 01 22.6
comp=Z,14nm,1.1s
ZAA0 Zalesovo Array 34.35 36 P **P** **23 01 06.6 0.0**
ZAA0 IAmb IAmb 23 01 13.3
comp=Z,9.8nm,0.8s
ZALV Zalesovo Beam 34.35 36 P **P** **23 01 07.2 +0.6**
comp=Z,6.9nm,0.7s,baz=247,slow=9.0,SNR=19
ZALV PP **PP** **23 02 26.2 +1.9**
comp=Z,2.0nm,0.7s,baz=262,slow=10.0,SNR=1.1
ZALV PcP **PcP** **23 03 42.1 -0.2**
comp=Z,2.2nm,0.5s,baz=240,slow=4.1,SNR=2.8
ZALV LR LR 23 16 56.9
comp=Z,130nm,19.7s,baz=228,slow=40
ZALV Zalesovo Beam 34.35 36 P **P** **23 01 07.1 +0.5**
CASP Castiglione de 34.39 303 P **P** **23 01 05.9 -1.1**
CASP IAmb IAmb 23 01 08.7
comp=Z,37nm,1.2s
CTI Castel Tesino 34.48 309 P **P** **23 01 07.4 -0.6**
CTI pmax pmax
comp=Z,18nm,0.9s
CTI Castel Tesino 34.48 309 P **P** **23 01 07.4 -0.6**
CTI IAmb IAmb 23 01 09.6
comp=Z,18nm,0.9s
ZCCA Zocca 34.57 306 P **P** **23 01 09.3 +0.6**
BRG Berggiesshubel 34.58 318 *i* P **P** **23 01 08.9 +0.3**
comp=Z,26nm,0.8s
comp=N,178nm,20.6s
comp=E,195nm,22.1s
comp=Z,240nm,14.5s
BRG Berggiesshubel 34.58 318 *i* P **P** **23 01 08.9 +0.3**
BRG pmax pmax
comp=Z,26nm,0.8s
BRG MLR MLR
comp=N,178nm,20.6s
BRG MLR MLR
comp=E,195nm,22.1s
BRG MLR MLR
comp=Z,240nm,14.5s
BRG Berggiesshubel 34.58 318 *e*P **P** **23 01 08.9 +0.3**
comp=Z,26nm,0.8s,baz=110,slow=8.5
WET Wettzell 34.58 315 P **P** **23 01 09.4 +0.7**
WET pmax pmax
comp=Z,26nm,1.0s
WET Wettzell 34.58 315 *e*P **P** **23 01 08.7 -0.1**
comp=Z,35nm,1.3s,baz=110,slow=8.5
MSEY Mahe Island 34.63 172 P **P** **23 01 07.3 -2.1**
MSEY pmax pmax
comp=Z,23nm,1.1s
MSEY Mahe Island 34.63 172 P **P** **23 01 07.3 -2.1**
MSEY IAmb IAmb 23 01 19.0
comp=Z,23nm,1.1s
WTTA Wattenberg 34.80 311 *i* P **P** **23 01 11.0 +0.2**
comp=Z,44nm,0.7s,SNR=25
WTTA *i* PcP **PcP** **23 03 44.7 +0.7**
comp=Z,10nm,0.8s
LSA Lhasa 34.84 80 P **P** **23 01 11.3 -0.4**
LSA pmax pmax
comp=Z,7.0nm,0.9s
LSA Lhasa 34.84 80 P **P** **23 01 11.3 -0.4**
WATA Walderalm 34.86 311 *i* P **P** **23 01 11.2 -0.1**
comp=Z,39nm,0.8s,SNR=20
WATA *e*PcP **PcP** **23 03 44.5 +0.3**
comp=Z,5.1nm,0.6s
FBE Freiberg 34.94 318 *e*P **P** **23 01 12.2 +0.5**
comp=Z,20nm,0.7s,baz=110,slow=8.5
VLC Villacollemand 34.96 305 P **P** **23 01 11.2 -0.8**
VLC IAmb IAmb 23 01 17.7
comp=Z,27nm,1.1s
SQTA Sankt Quirin 35.07 311 *i* P **P** **23 01 13.2 +0.2**
comp=Z,47nm,0.7s,SNR=22
SQTA *e*PcP **PcP** **23 03 45.4 +0.6**
comp=Z,8.9nm,0.5s
PRMA PARMA 35.12 306 P **P** **23 01 13.2 -0.2**
SALO Salr 35.15 308 P **P** **23 01 14.1 +0.5**
SALO IAmb IAmb 23 01 15.6
comp=Z,27nm,0.8s
MOTA Moosalm 35.17 311 *i* P **P** **23 01 13.8 -0.2**
comp=Z,42nm,0.8s,SNR=24
MOTA *e*PcP **PcP** **23 03 45.3 +0.3**
comp=Z,4.2nm,0.5s
VSL Villasalto 35.17 297 P **P** **23 01 14.9 +1.0**
KEST Kesra 35.19 291 P **P** **23 01 17.0 +2.8**
comp=Z,6.0nm,0.5s,baz=60,slow=2.3,SNR=27
KEST Kesra 35.19 291 P **P** **23 01 13.7 -0.4**
KEST IAmb IAmb 23 01 17.6
comp=Z,9.7nm,0.7s
ROTZ Rotzenmuhle 35.20 315 *e*P **P** **23 01 14.8 +0.7**
comp=Z,33nm,0.7s,baz=110,slow=8.5
NKC Novy Kostel 35.22 316⇑*e*P **P** **23 01 15.0 +0.8**
NKC AMS AMS 23 18 10.0
comp=Z,200nm,13.6s
NKC Novy Kostel 35.22 316 *e*P **P** **23 01 15.0 +0.8**
NKC MLR MLR
comp=Z,200nm,13.6s
TMCR Tamitsa 35.26 350 *e*P **P** **23 01 12.9 -1.4**
TMCR pmax pmax
comp=Z,111nm,0.6s
TANN Tannenbergstha 35.28 317 *e*P **P** **23 01 14.8 +0.1**
comp=Z,17nm,0.8s,baz=110,slow=8.5
WERN Wernitzgruen 35.28 316 *e*P **P** **23 01 15.3 +0.6**
comp=Z,11nm,0.9s,baz=110,slow=8.5
FUR Furstenfeldbru 35.29 312 P **P** **23 01 15.9 +1.1**
FUR Furstenfeldbru 35.29 312 *e*P **P** **23 01 15.2 +0.3**
comp=Z,115nm,0.9s,baz=110,slow=8.5
CLL Collm 35.29 318 *i* P **P** **23 01 14.8 +0.1**
comp=Z,40nm,1.0s
CLL *es*PP 23 02 39.0
CLL Collm 35.29 318 *e*P **P** **23 01 15.2 +0.5**
comp=Z,40nm,1.0s,baz=110,slow=8.5
RUE Ruedersdorf 35.33 320 *e*P **P** **23 01 15.6 +0.6**
RUE IAmb IAmb 23 01 16.5
comp=Z,47nm,0.7s
RUE Ruedersdorf 35.33 320 *e*P **P** **23 01 15.5 +0.6**
comp=Z,54nm,0.8s,baz=110,slow=8.5
FETA Feichten 35.34 310 *i* P **P** **23 01 15.8 +0.4**
comp=Z,31nm,0.8s,SNR=18
FETA *e*PcP **PcP** **23 03 46.1 +0.6**
GUNZ Gunzen 35.34 316 *e*P **P** **23 01 15.7 +0.5**
comp=Z,9.9nm,0.7s,baz=110,slow=8.5
MANZ Manzenberg 35.34 316 *e*P **P** **23 01 15.9 +0.6**
comp=Z,17nm,1.0s,baz=110,slow=8.5
RETA Reutte 35.43 311 *i* P **P** **23 01 15.9 -0.3**
comp=Z,19nm,0.7s,SNR=14
RETA *e*PcP **PcP** **23 03 45.9 +0.1**
comp=Z,3.9nm,0.6s
PLN Plauen 35.48 317 *e*P **P** **23 01 16.6 +0.2**
comp=Z,7.7nm,0.9s,baz=110,slow=8.5
FUORN Ofenpass-Fuorn 35.55 310 P **P** **23 01 16.9 -0.5**
FIA1 FINESS Array S 35.56 340 P **P** **23 01 16.4 -0.5**
FIA1 IAmb IAmb 23 01 17.4
comp=Z,25nm,1.0s
FINES FINESS Array B 35.56 340 P **P** **23 01 16.5 -0.4**
comp=Z,12nm,0.5s,baz=143,slow=9.9,SNR=133
FINES PcP **PcP** **23 03 45.9 +0.2**
comp=Z,6.3nm,0.8s,baz=104,slow=5.9,SNR=2.7
FINES LR LR 23 17 04.9
comp=Z,125nm,18.3s,baz=133,slow=38
FINES FINESS Array B 35.56 340 P **P** **23 01 16.3 -0.6**
GRA1 Grafenberg Arr 35.78 315 P **P** **23 01 19.1 0.0**
GRF Grafenberg Arr 35.78 315 P **P** **23 01 19.1 0.0**
GRF pmax pmax
comp=Z,51nm,0.8s
GRF Grafenberg Arr 35.78 315 *e*P **P** **23 01 19.6 +0.6**
comp=Z,50nm,0.7s,baz=110,slow=8.5
DAVOX Davos/Dischmat 35.84 310 P **P** **23 01 19.9 +0.1**
comp=Z,7.8nm,0.5s,baz=104,slow=6.2,SNR=18
DAVOX PcP **PcP** **23 03 48.1 +1.0**
comp=Z,2.5nm,0.6s,baz=210,slow=9.9,SNR=1.9
MOX Moxa 35.86 317 P **P** **23 01 21.2 +1.5**
MOX pmax pmax
comp=Z,13nm,1.0s
MOX Moxa 35.86 317 *e*P **P** **23 01 19.9 +0.2**
comp=Z,12nm,0.9s,baz=110,slow=8.5
MBAR Mbarara 35.87 216 *i* P **P** **23 01 21.2 +0.9**
MBAR pmax pmax
comp=Z,7.0nm,0.8s
MBAR Mbarara 35.87 216 P **P** **23 01 20.5 +0.2**
UBR Ueberruh 35.91 311 *e*P **P** **23 01 20.2 0.0**
comp=Z,45nm,0.9s,baz=110,slow=8.5
BSD Bornholm Skovb 35.94 325 *i* P **P** **23 01 18.9 -1.4**
comp=Z,37nm,0.7s
BSD Bornholm Skovb 35.94 325 *i* P **P** **23 01 18.9 -1.4**
BSD pmax pmax
comp=Z,37nm,0.7s
DAVA Damuels 35.96 311 *i* P **P** **23 01 20.8 0.0**
comp=Z,92nm,0.7s,SNR=44
DAVA *e*PcP **PcP** **23 03 48.0 +0.5**
comp=Z,7.1nm,0.6s
NEUB Neuenburg 35.97 318 *e*P **P** **23 01 21.1 +0.6**
comp=Z,53nm,0.7s,baz=110,slow=8.5
TUE Stuetta 36.13 309 P **P** **23 01 21.6 -0.7**
SHL Shillong 36.43 87 P **P** **23 01 24.5 -0.6**
SHL pmax pmax
comp=Z,34nm,1.0s
SHL Shillong 36.43 87 P **P** **23 01 24.5 -0.6**
SHL IAmb IAmb 23 01 29.7
comp=Z,34nm,1.0s
RGN Rugen 36.48 323 *e*P **P** **23 01 21.7 -3.2**
UBBA Unterbreizbach 36.89 316 *e*P **P** **23 01 29.1 +0.8**
comp=Z,15nm,0.8s,baz=110,slow=8.5
ASSE Asse, Remlinge 36.94 319 *e*P **P** **23 01 29.6 +0.8**
comp=Z,29nm,0.9s,baz=110,slow=8.5
SLE Schleitheim 36.99 311 P **P** **23 01 30.1 +0.7**
SLE pmax pmax
comp=Z,35nm,0.8s
CLZ Clausthal 37.01 318 *e*P **P** **23 01 30.7 +1.1**
comp=Z,120nm,0.8s,baz=110,slow=8.5
GTTG Gottingen 37.15 317 *e*P **P** **23 01 32.2 +1.5**
comp=Z,38nm,0.8s,baz=110,slow=8.5
BFO Black Forest 37.23 312 P **P** **23 01 31.0 -0.4**
BFO pmax pmax
comp=Z,6.0nm,0.8s
BFO Black Forest 37.23 312 P **P** **23 01 31.0 -0.4**
BFO Black Forest 37.23 312 *e*P **P** **23 01 32.2 +0.8**
comp=Z,15nm,1.6s,baz=110,slow=8.5
TOD Tromm 37.26 314 P **P** **23 01 31.8 +0.1**
NRDL Niedersach Rie 37.40 319 *e*P **P** **23 01 34.3 +1.7**
comp=Z,128nm,0.9s,baz=110,slow=8.5
SENIN Lac Senin/Sane 37.50 308 IAmb IAmb 23 01 34.8
comp=Z,14nm,0.8s
TNS Taunus Mts 37.65 315 *e*P **P** **23 01 35.3 +0.2**
comp=Z,19nm,0.9s,baz=110,slow=8.5
BNI Bardonecchia 37.71 306 IAmb IAmb 23 01 36.7
comp=Z,29nm,0.7s
LPG La Plagne 37.73 307 *e*P **P** **23 01 35.6 -0.4**
LPG pmax pmax
comp=Z,21nm,0.8s
LPL La Plagne 37.74 307 *e*P **P** **23 01 35.6 -0.5**
LPL pmax pmax
comp=Z,22nm,0.7s
ECH Echery 37.97 311 IAmb IAmb 23 01 38.3
comp=Z,29nm,0.9s
HINF Hinteralfeld 38.08 311 *e*P **P** **23 01 37.8 -0.8**
HINF pmax pmax
comp=Z,14nm,0.9s
HAU Haudompre 38.45 311 *e*P **P** **23 01 40.8 -0.9**
HAU pmax pmax
comp=Z,14nm,0.8s
OUL Oulu 38.51 343 P **P** **23 01 42.8 +0.8**
OUL pmax pmax
comp=Z,51nm,1.1s
AHRW Bad Neuenahr-A 38.59 315 *e*P **P** **23 01 43.4 +0.7**
comp=Z,16nm,1.4s,baz=110,slow=8.5
IBBN Ibbenburen 38.69 318 *e*P **P** **23 01 45.0 +1.4**
comp=Z,60nm,1.0s,baz=110,slow=8.5
BUG Bochum-Univer 38.72 316 *e*P **P** **23 01 44.9 +1.0**
comp=Z,34nm,1.0s,baz=110,slow=8.5
WLF Walferdange 38.94 313 P **P** **23 01 45.8 +0.1**
comp=Z,25nm,0.8s
WLF Walferdange 38.94 313 IAmb IAmb 23 01 46.7
comp=Z,28nm,0.7s
WLF Walferdange 38.94 313 *e*P **P** **23 01 45.8 +0.1**
comp=Z,30nm,0.8s,baz=110,slow=8.5
APA Apatity 39.14 349⇓*i*P **P** **23 01 47.0 -0.2**
APA pmax pmax
comp=Z,4.0nm,0.7s
APA MLR MLR
comp=Z,700nm,10.0s
HFS Hagfors 39.15 331 P **P** **23 01 47.1 -0.3**
comp=Z,22nm,0.6s,baz=141,slow=9.0,SNR=158
HFS PP **PnPn** **23 03 19.0 -0.7**
comp=Z,7.0nm,0.6s,baz=120,slow=17,SNR=3.0
HFS PcP **PcP** **23 03 56.8 +0.1**
comp=Z,1.3nm,0.4s,baz=141,slow=4.8,SNR=1.0
HFS LR LR 23 19 35.9
comp=Z,175nm,21.8s,baz=110,slow=39
LVZ Lovozero 39.26 350*ce*P **P** **23 01 47.4 -0.8**
LVZ pmax pmax
comp=Z,105nm,0.7s
LVZ Lovozero 39.26 350 P **P** **23 01 48.6 +0.4**
MEM Membach 39.26 315 P **P** **23 01 49.3 +0.8**
MUD Monsted U'grnd 39.44 324 *i* P **P** **23 01 50.8 +1.0**
comp=Z,27nm,0.9s
MUD Monsted U'grnd 39.44 324 *i* P **P** **23 01 50.8 +1.0**
MUD pmax pmax
comp=Z,27nm,0.9s
BCLA Clavier 39.65 314 P **P** **23 01 52.5 +0.8**
comp=Z,12nm,0.9s
BGES Gesves 39.78 314 P **P** **23 01 53.4 +0.7**
comp=Z,14nm,0.8s
BMRD Maredsous 39.96 314 P **P** **23 01 54.9 +0.7**
LOR Lormes 39.98 309 *e*P **P** **23 01 53.7 -0.8**
LOR pmax pmax
comp=Z,10.0nm,0.6s
DOU Dourbes 40.02 314 ⇑P **P** **23 01 55.4 +0.7**
comp=Z,13nm,0.7s
SNF Seneffe 40.30 314 P **P** **23 01 58.1 +1.0**
OSL Oslo 40.32 330 *e*P **P** **23 01 56.7 -0.3**
UCC Uccle 40.32 315 P **P** **23 01 57.0 -0.3**
UCC pmax pmax
comp=Z,28nm,0.8s
UCC Uccle 40.32 315 P **P** **23 01 57.0 -0.3**
UCC IAmb IAmb 23 01 59.1
comp=Z,28nm,0.8s
NC602 NORSAR Array S 40.38 331 P **P** **23 01 56.3 -1.3**
NORES NORESS Array B 40.38 331 P **P** **23 01 58.6 +1.0**
NORES pmax pmax
comp=Z,1.0nm,0.2s
NC405 NORSAR Array S 40.51 332 P **P** **23 01 57.4 -1.3**
NC405 IAmb IAmb 23 01 58.9
comp=Z,34nm,0.9s
HOMB Homborsund 40.54 327 *e*P **P** **23 01 58.6 -0.4**

NB201 NORSAR Array S 40.65 332 P P 23 01 58.8 -1.1
NB201 IAmb IAmb 23 02 02.6
comp=Z,43nm,1.4s
KONO Kongsberg 40.67 329 P P 23 01 59.0 -1.0
KONO pmax pmax
comp=Z,17nm,1.1s
KONO Kongsberg 40.67 329 P P 23 01 59.0 -1.0
KONO Kongsberg 40.67 329 eP P 23 01 59.5 -0.5
NB2 NORSAR Subarra 40.67 332 P P 23 01 59.4 -0.7
comp=Z,3.5nm,0.5s,baz=122,slow=8.6
NB2 NORSAR Subarra 40.67 332 P P 23 01 59.4 -0.7
baz=122,slow=8.6
NOA NORSAR Array B 40.67 332 P P 23 01 59.2 -0.9
comp=Z,5.5nm,0.6s,baz=122,slow=8.3,SNR=31
NOA PP **PP 23 03 30.8 -2.9**
comp=Z,2.5nm,0.7s,baz=128,slow=11,SNR=5.1
NOA LR LR 23 20 20.5
comp=Z,142nm,21.6s,baz=135,slow=38
NAO01 NORSAR Array S 40.71 331 P P 23 01 58.4 -2.0
NAO01 NORSAR Array S 40.71 331 eP P 23 01 59.5 -0.8
NC303 NORSAR Array S 40.71 332 IAmb IAmb 23 02 15.4
comp=Z,28nm,1.2s
NBO00 NORSAR Array S 40.85 331 P P 23 02 00.9 -0.6
NBO00 IAmb IAmb 23 02 13.3
comp=Z,19nm,1.0s
GTA Gaotai 40.96 63 eP P 23 02 04.1 +1.2
GTA pP sP 23 02 07.9 -0.3
GTA sP pP 23 02 11.0 +4.4
GTA ScP **ScP 23 07 52.6 -0.1**
GTA S **S 23 08 18.8 +4.1**
GTA pmax pmax
comp=Z,9.0nm,0.8s
GTA pmax pmax
comp=Z,79nm,5.6s
GTA LR LR
comp=Z,170nm,17.4s
GTA LR LR
comp=Z,250nm,16.6s
GTA LR LR
comp=Z,180nm,17.4s
NC204 NORSAR Array S 40.99 332 P P 23 02 01.9 -0.8
TAM Tamanrasset 41.03 271 P P 23 02 03.3 -0.4
TAM pmax pmax
comp=Z,14nm,0.9s
TAM Tamanrasset 41.03 271 P P 23 02 03.3 -0.4
CLF Chambon-Foret 41.16 310 P P 23 02 03.7 -0.5
SKAR Skarslia 41.73 330 eP P 23 02 08.9 +0.1
BLS5 Blasjo 42.00 328 eP P 23 02 11.5 +0.5
DOMB Dombas 42.08 332 eP P 23 02 11.4 -0.2
TBLU Trondheim 42.24 334 eP P 23 02 12.6 -0.2
ARCES ARCESS Array B 42.27 347 P P 23 02 13.3 +0.2
comp=Z,6.9nm,0.6s,baz=147,slow=8.3,SNR=64
ARCES PP **PP 23 03 48.1 -2.7**
comp=Z,4.3nm,0.6s,baz=144,slow=9.0,SNR=4.1
ARCES LR LR 23 19 59.5
comp=Z,82nm,18.2s,baz=172,slow=36
ARCES ARCESS Array B 42.27 347 P P 23 02 10.8 -2.3
ARE0 ARCESS Array S 42.27 347 eP P 23 02 13.4 +0.3
KTK1 Kautokeino 42.31 346 eP P 23 02 13.0 -0.3
NSS Namsos 42.34 336 eP P 23 02 13.8 +0.1
ELSH Elham, Standar 42.39 315 eP P 23 02 15.2 +1.0
MOR8 Moi Rana 42.54 339 eP P 23 02 14.0 -1.3
MOY Mondy 42.74 45 eP P 23 02 19.3 +2.1
MOY pmax pmax
comp=Z,20nm,1.6s
AKN Aaknes 42.99 332 eP P 23 02 19.5 +0.5
KONS Konsvik 43.16 339 eP P 23 02 19.8 -0.4
GRR Gorron 43.27 310 eP P 23 02 20.8 -0.6
GRR pmax pmax
comp=Z,68nm,1.2s
CART Cartagena 43.35 294 P P 23 02 21.5 -0.7
CART IAmb IAmb 23 02 38.2
comp=Z,25nm,1.3s
STEI Steigen 43.48 341 eP P 23 02 22.2 -0.6
FOO Floro 43.56 330 eP P 23 02 23.8 +0.3
TRO Tromso 43.76 344 eP P 23 02 24.9 -0.1
WOL Wolverton 43.88 314⇑eP P 23 02 26.9 +0.7
WOL IAmb IAmb 23 02 27.5
comp=Z,208nm,0.5s
ZAK Zakamensk 43.96 47 eP P 23 02 27.3 +0.2
ZAK pmax pmax
comp=Z,3.0nm,1.0s
CWF Charnwood Fore 44.16 316⇑eP P 23 02 28.6 0.0
CWF IAmb IAmb 23 02 29.3
comp=Z,63nm,0.6s
GDLE Glaisdale, N Y 44.20 319⇑eP P 23 02 29.1 +0.3
GDLE IAmb IAmb 23 02 30.4
comp=Z,120nm,0.8s
JSA Saint Aubin 44.22 311⇑eP P 23 02 28.9 -0.1
JSA IAmb IAmb 23 02 29.6
comp=Z,56nm,0.7s
SWN1 Swindon 44.27 315⇑eP P 23 02 30.2 +0.8
SWN1 IAmb IAmb 23 02 30.8
comp=Z,107nm,0.6s
TLY Talaya 44.37 45 P P 23 02 31.9 +1.6
comp=Z,0.7nm,0.3s,baz=265,slow=7.4,SNR=5.1
TLY Talaya 44.37 45 i P P 23 02 30.2 -0.1
TLY pmax pmax
comp=Z,4.0nm,1.1s
TLY Talaya 44.37 45 P P 23 02 31.5 +1.3
LZH Lanzhou 44.42 68 eP P 23 02 33.1 +2.0
LZH pP sP 23 02 37.0 +0.6
LZH sP pP 23 02 41.1 +6.2
LZH pmax pmax
comp=Z,18nm,1.1s
LZH pmax pmax
comp=Z,100nm,4.9s
LZH LR LR
comp=Z,340nm,13.6s
LZH LR LR
comp=Z,290nm,14.0s
SESP Santiago Espad 44.52 295 P P 23 02 33.1 +1.3
SNR=13
LBWR Ladybower, Pea 44.53 317⇑eP P 23 02 31.4 0.0
LBWR IAmb IAmb 23 02 32.7
comp=Z,52nm,0.7s
STRD Stroud 44.53 315⇑eP P 23 02 31.6 +0.2
STRD IAmb IAmb 23 02 32.4
comp=Z,84nm,0.7s
HPK Haverah Park 44.57 318⇑eP P 23 02 32.2 +0.4
HPK IAmb IAmb 23 02 32.9
comp=Z,67nm,0.7s
NRIK Noril'sk 44.73 18 P P 23 02 33.7 +0.9
comp=Z,7.7nm,0.7s,baz=243,slow=2.3,SNR=6.8
NRIK Noril'sk 44.73 18⇑eP P 23 02 32.5 -0.3
NRIK pmax pmax
comp=Z,6.0nm,1.0s
QUIF Quistinic 44.77 309 eP P 23 02 32.8 -0.7
QUIF pmax pmax
comp=Z,48nm,0.7s
CHTO Chiang Mai 44.89 93 P P 23 02 35.7 +0.9
CHTO pmax pmax
comp=Z,10.0nm,1.2s
CHTO Chiang Mai 44.89 93 P P 23 02 35.6 +0.9
EDMD Edmundbyers 44.94 319⇑eP P 23 02 35.0 +0.3
EDMD IAmb IAmb 23 02 35.8
comp=Z,82nm,0.7s
CMAR Chiang Mai Arr 45.03 93 P P 23 02 35.1 -0.8
comp=Z,0.8nm,0.4s,baz=285,slow=8.7,SNR=5.2
CMAR PcP **PcP 23 04 17.4 +0.5**
comp=Z,2.6nm,0.8s,baz=288,slow=5.7,SNR=4.9
CMAR ScP **ScP 23 08 09.6 +0.2**
comp=Z,0.6nm,0.2s,baz=265,slow=4.5,SNR=1.5
CMAR LR LR 23 26 28.5
comp=Z,113nm,18.0s,baz=318,slow=43
MCH1 Michaelchurch 45.07 315⇑eP P 23 02 35.8 0.0
MCH1 IAmb IAmb 23 02 36.5
comp=Z,70nm,0.8s
CD2 Chengdu 45.28 75 eP P 23 02 37.0 -0.9
CD2 S **S 23 09 17.9 -0.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,460nm,22.6s
CD2 LR LR
comp=Z,300nm,16.7s
FOEL Foel Wylfa 45.32 316⇑eP P 23 02 38.4 +0.6
FOEL IAmb IAmb 23 02 39.1
comp=Z,83nm,1.1s
ESBB Sonseca Array 45.47 298 P P 23 02 38.6 -0.6
ESBB IAmb IAmb 23 02 41.2
comp=Z,25nm,1.5s
ESDC Sonseca Array 45.47 298 P P 23 02 40.1 +0.8
comp=Z,3.8nm,0.5s,baz=74,slow=7.7,SNR=56
ESDC PcP **PcP 23 04 18.9 +0.8**
comp=Z,1.2nm,0.6s,baz=50,slow=3.4,SNR=4.9
ESDC Sonseca Array 45.47 298 P P 23 02 39.1 -0.2
DYA Yadsworthy 45.47 313 eP P 23 02 39.0 0.0
ESY Stoneypath 45.52 321⇑eP P 23 02 39.7 +0.3
GUD Guadarrama 45.53 299 P P 23 02 41.0 +1.2
GUD pmax pmax
comp=Z,25nm,1.1s
KESW Keswick, Cumbr 45.54 319⇑eP P 23 02 40.0 +0.5
KESW IAmb IAmb 23 02 40.8
comp=Z,118nm,0.7s
LLW Llanuwchllyn 45.59 316⇑eP P 23 02 40.4 +0.5
LLW IAmb IAmb 23 02 41.0
comp=Z,22nm,0.7s
DRUM Mains of Drumt 45.67 322⇑eP P 23 02 40.7 +0.2
DRUM IAmb IAmb 23 02 41.4
comp=Z,58nm,0.9s
EKA Eskdalemuir Ar 45.71 320 P P 23 02 40.8 0.0
comp=Z,9.4nm,0.4s,baz=104,slow=8.3,SNR=108
EKA PcP **PcP 23 04 18.6 0.0**
comp=Z,1.7nm,0.7s,baz=105,slow=4.7,SNR=2.6
EBL Broad Law 45.73 320⇑eP P 23 02 41.5 +0.5
ESK Eskdalemuir 45.73 320⇑eP P 23 02 41.0 -0.1
ESK IAmb IAmb 23 02 41.8
comp=Z,27nm,0.8s
ESK Eskdalemuir 45.73 320 P P 23 02 41.1 +0.1
ESK pmax pmax
comp=Z,30nm,0.9s
ESK Eskdalemuir 45.73 320 P P 23 02 41.1 +0.1
PAB San Pablo 45.78 298 P P 23 02 41.8 +0.1
PAB pmax pmax
comp=Z,12nm,0.7s
PAB San Pablo 45.78 298 P P 23 02 41.8 +0.1
PAB IAmb IAmb 23 02 43.1
comp=Z,12nm,0.7s
SONM Songino Array 45.78 51 P P 23 02 41.8 +0.1
comp=Z,1.8nm,1.0s,baz=276,slow=7.3,SNR=7.6
SONM PcP **PcP 23 04 19.7 +0.5**
comp=Z,0.7nm,0.6s,baz=254,slow=5.4,SNR=2.4
SONM LR LR 23 22 56.5
comp=Z,124nm,18.2s,baz=258,slow=38
SONM Songino Array 45.78 51 P P 23 02 41.4 -0.3
EDI Edinburgh 45.84 321⇑eP P 23 02 42.0 +0.2
EDI IAmb IAmb 23 02 44.0
comp=Z,57nm,0.6s
KMI Kunming 45.95 83 ⇑P P 23 02 47.0 +3.6
KMI pmax pmax
comp=Z,15nm,1.1s
WME Myndd Eilian 46.05 317⇑eP P 23 02 44.0 +0.4
WLF1 Llynfaes 46.09 317⇑eP P 23 02 44.2 +0.4
WLF1 IAmb IAmb 23 02 44.8
comp=Z,44nm,0.6s
RSBS Rosebush, Pemb 46.14 315⇑eP P 23 02 44.5 +0.2
RSBS IAmb IAmb 23 02 45.5
comp=Z,32nm,0.7s
WPS Cemaes, Angles 46.17 317⇑eP P 23 02 44.9 +0.5
WPS IAmb IAmb 23 02 45.8
comp=Z,65nm,0.6s
YRC Rhoscolyn 46.19 317⇑eP P 23 02 45.2 +0.5
ULN Ulaanbaatar 46.23 51ceP P 23 02 43.4 -1.8
ULN pmax pmax
comp=Z,3.0nm,1.0s
MCD Coleburn Disti 46.23 323⇑eP P 23 02 45.0 +0.2
NEWG New Galloway 46.28 319 eP P 23 02 45.6 +0.3
NEWG IAmb IAmb 23 02 45.8
comp=Z,18nm,0.7s
INVG Invergeldie, C 46.41 321⇑eP P 23 02 46.2 -0.2
INVG IAmb IAmb 23 02 47.0
comp=Z,81nm,0.9s
MLA1 Latheron 46.45 324⇑eP P 23 02 46.7 +0.1
EAB Aberfoyle 46.53 321⇑eP P 23 02 47.2 -0.1
PGBU Glenifferbraes 46.54 320 eP P 23 02 47.5 +0.2
HORN Hornachuelos 46.68 295 P P 23 02 49.1 +0.4
SNR=9.2
MDT Midelt 47.01 288 P P 23 02 52.9 +1.4
comp=Z,6.8nm,0.6s,baz=88,slow=7.9,SNR=28
MDT Midelt 47.01 288 P P 23 02 53.3 +1.8
SNR=12
LAWE Loch Awe, Argy 47.12 321⇑eP P 23 02 52.1 +0.2
LAWE IAmb IAmb 23 02 53.0
comp=Z,37nm,0.7s
DSB Dublin 47.27 317 P P 23 02 53.4 +0.3
KAC Achnashellach 47.29 322⇑eP P 23 02 52.9 -0.3
CLGH Cloghs, Cushen 47.34 319 eP P 23 02 53.7 +0.1
PBRG Braganca 47.39 301 eP P 23 02 55.2 +0.9
comp=Z,26nm,1.4s
KPL Plockton 47.45 322 eP P 23 02 54.4 0.0
KPL IAmb IAmb 23 02 55.6
comp=Z,15nm,0.6s
RSA Sarsar 47.59 292 P P 23 02 57.2 +1.2
SNR=13
MVO Moncorvo 47.66 300 eP P 23 02 57.6 +1.2
comp=Z,47nm,0.7s
MTE Manteigas 48.13 299 eP P 23 03 01.1 +1.0
comp=Z,28nm,1.5s
MTE Manteigas 48.13 299 P P 23 02 59.8 -0.3
MTE IAmb IAmb 23 03 02.6
comp=Z,24nm,1.3s
PMRV Marv??o 48.13 298 eP P 23 03 00.9 +0.9
comp=Z,31nm,1.6s
PCBR Castelo Branco 48.14 298 eP P 23 03 02.0 +1.9
comp=Z,46nm,1.1s
PVRL Vila Real 48.16 300 eP P 23 03 01.6 +1.3
comp=Z,71nm,0.7s
TZRR Tazzarine 48.26 286 P P 23 03 03.3 +2.1
SNR=17
TOA0 Torodi Ar. Sit 48.30 261 P P 23 03 02.6 +1.0
SNR=64
TORD Torodi Ar. Bea 48.30 261 P P 23 03 02.6 +1.1
comp=Z,42nm,0.7s,baz=55,slow=8.6,SNR=384
TORD LR LR 23 25 32.5
comp=Z,220nm,19.1s,baz=55,slow=39
TORD Torodi Ar. Bea 48.30 261 P P 23 03 02.5 +0.9
PCAB Cabril 48.35 301 eP P 23 03 03.2 +1.5
comp=Z,30nm,1.8s
PVIS Viseu 48.36 300 eP P 23 03 03.6 +1.8
comp=Z,44nm,1.6s
ZGR Zagora 48.47 285 P P 23 03 05.0 +2.1
SNR=5.7
PGAV Gavieira, Arco 48.51 301 eP P 23 03 04.6 +1.6
comp=Z,60nm,1.4s
PVAQ Vaqueiros 48.67 295 eP P 23 03 04.6 +0.4
comp=Z,39nm,1.9s
PVAQ Vaqueiros 48.67 295 P P 23 03 03.6 -0.6
PVAQ IAmb IAmb 23 03 19.3
comp=Z,14nm,1.1s
PBEJ Beja 48.69 296 eP P 23 03 05.3 +0.9
comp=Z,35nm,2.0s
EVO Evora 48.73 297 eP P 23 03 06.1 +1.4
comp=Z,28nm,1.7s
COI Coimbra 48.81 299 P P 23 03 05.0 -0.2
COI pmax pmax
comp=Z,48nm,0.8s
COI Coimbra 48.81 299 eP P 23 03 06.8 +1.6
comp=Z,56nm,0.8s
COI Coimbra 48.81 299 P P 23 03 05.0 -0.2
PMTG Montargil 48.82 297 eP P 23 03 06.2 +0.9
PTO Porto 48.84 300 eP P 23 03 07.4 +1.9
comp=Z,43nm,1.4s
XAN Xi'an 48.88 69 P P 23 03 05.5 -0.4
XAN pP sP 23 03 14.8 +3.5
XAN pmax pmax
comp=Z,12nm,0.9s
XAN Xi'an 48.88 69 IAmb IAmb 23 03 10.2
comp=Z,16nm,0.9s
PCVE Castro Verde 48.89 296 eP P 23 03 06.5 +0.6
PCAS Casmilo, Conde 48.90 299 eP P 23 03 03.4 -2.5
comp=Z,47nm,1.7s
GYA Guiyang 48.91 80 P P 23 03 07.3 +0.9
GYA pP pP 23 03 10.0 -0.2
GYA pmax pmax
comp=Z,7.0nm,0.6s
PSBE So Bento 49.20 298 eP P 23 03 09.8 +1.6
PNCL Nicolau / Gran 49.20 296 eP P 23 03 09.4 +1.2
comp=Z,42nm,1.9s
OUZM OUZ 49.22 287 P P 23 03 11.0 +2.3
SNR=7.0
PFVI Vila Bisbo 49.59 295 P P 23 03 10.5 -0.8
LSZ Lusaka 49.93 209 P P 23 03 16.5 +2.5
comp=Z,14nm,0.7s,baz=32,slow=6.1,SNR=14
LSZ Lusaka 49.93 209 P P 23 03 16.4 +2.3
LSZ IAmb IAmb 23 03 17.4
comp=Z,18nm,0.8s
OUK Oukaimeden 50.07 287 P P 23 03 17.5 +2.2
SNR=6.9
ENH Enshi 50.23 74 IAmb IAmb 23 03 21.1
comp=Z,10.0nm,0.8s
TTIG Tnine Tigouga, 50.72 287 P P 23 03 23.0 +2.9
SNR=7.2
SPA0 Spitsbergen Ar 50.76 351 P P 23 03 19.2 -0.4
SPA0 Spitsbergen Ar 50.76 351 eP P 23 03 20.0 +0.5
SPITS Spitsbergen Ar 50.76 351 P P 23 03 20.1 +0.5
SPITS pmax pmax
comp=Z,18nm,0.4s
BOD Bodaibo 51.05 38 eP P 23 03 22.6 +0.6
BOD pmax pmax
comp=Z,32nm,1.4s
KBS Kingsbay 51.91 351 eP P 23 03 28.1 0.0
GSI Gunungsitoli 52.66 114 P P 23 03 33.4 -1.2
GSI IAmb IAmb 23 03 39.3
comp=Z,9.4nm,0.7s
KULM Kulim 52.86 107 P P 23 03 35.7 -0.4
BLWY Bulawayo 54.15 206 i P P 23 03 46.8 +1.4
BLWY Bulawayo 54.15 206 i P P 23 03 46.8 +1.4
BLWY Bulawayo 54.15 206 i P P 23 03 46.8 +1.4
WHN Wuhan 54.19 72 ⇑P P 23 03 49.8 +4.1
WHN pmax pmax
comp=Z,24nm,0.8s
MATP Matopo 54.45 206 P P 23 03 48.8 +1.1
comp=Z,12nm,0.7s,baz=24,slow=7.4,SNR=30
MATP Matopo 54.45 206 i P P 23 03 49.6 +2.0
MATP Matopo 54.45 206 i P P 23 03 49.6 +2.0
MATP Matopo 54.45 206 i P P 23 03 49.6 +2.0
SCO Scoresbysund 56.43 337 P P 23 04 01.6 +0.5
SCO pmax pmax
comp=Z,17nm,1.3s
SCO Scoresbysund 56.43 337 P P 23 04 01.6 +0.5
SCO IAmb IAmb 23 04 04.5
comp=Z,17nm,1.3s
DAG Danmarks Havn 56.48 345 i P P 23 04 01.5 +0.1
DAG Danmarks Havn 56.48 345 i P P 23 04 01.5 +0.1
SDSI Sungai Dareh 57.07 113 P P 23 04 04.4 -2.1
comp=Z,20nm,1.2s
DBIC Dimbokro 57.10 258 P P 23 04 08.0 +1.3
comp=Z,49nm,0.7s,baz=36,slow=6.2,SNR=68
DBIC LR LR 23 30 22.0
comp=Z,300nm,18.1s,baz=36,slow=38
DBIC Dimbokro 57.10 258 P P 23 04 08.0 +1.3
DBIC Dimbokro 57.10 258 P P 23 04 06.9 +0.1
KIC Kosan Boka 57.16 257 eP P 23 04 08.3 +1.1
comp=Z,96nm,0.8s
TIC Toumodi 57.25 258 eP P 23 04 08.9 +1.1
NOR Nord 57.39 351⇑iP P 23 04 07.9 +0.1
comp=Z,8.9nm,0.6s
NOR Nord 57.39 351⇑iP P 23 04 07.9 +0.1
NOR pmax pmax
comp=Z,9.0nm,0.6s
NJ2 Nanjing 57.45 69 eP P 23 04 07.8 -1.2
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
LIC Lamto 57.48 257 eP P 23 04 10.6 +1.2
comp=Z,364nm,0.9s
TSUM Tsumeb 58.38 218 P P 23 04 17.4 +1.7
comp=Z,7.2nm,0.8s,baz=8.1,slow=8.8,SNR=7.5
TSUM Tsumeb 58.38 218 P P 23 04 13.9 -1.8
TSUM IAmb IAmb 23 04 17.9
comp=Z,7.0nm,0.8s
ZEA Zeya 58.66 43 eP P 23 04 18.1 +0.9
YAK Yakutsk 58.91 33⇑eP P 23 04 18.6 -0.1
YAK pmax pmax
comp=Z,22nm,0.8s
CN2 Changchun 59.41 54 eP P 23 04 24.9 +2.4
CN2 eS **S 23 12 29.9 -1.4**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,100nm,14.0s
CN2 LR LR
comp=Z,100nm,14.0s
CN2 LR LR
comp=Z,200nm,15.1s
LBTB Lobatse 59.72 207 P P 23 04 26.7 +1.9
comp=Z,20nm,0.6s,baz=16,slow=7.3,SNR=45
LBTB Lobatse 59.72 207 i P P 23 04 27.1 +2.2
LBTB Lobatse 59.72 207 i P P 23 04 27.1 +2.2
LBTB Lobatse 59.72 207 i P P 23 04 27.1 +2.2
LBTB Lobatse 59.72 207 P P 23 04 24.7 -0.1
SUMG Summit 61.60 340⇑iP P 23 04 38.2 +0.7
SUMG Summit 61.60 340⇑iP P 23 04 38.2 +0.7
SUMG Summit 61.60 340 P P 23 04 36.9 -0.6
YHNB Yeheng 62.01 76 P P 23 04 37.3 -3.4
KLR Kul'dur 62.33 47ceP P 23 04 41.5 -0.8
KLR pmax pmax
comp=Z,7.0nm,1.0s
ANGG Ammassalik, Gr 62.59 332 P P 23 04 43.8 +0.1
KSAR Wonju Array Be 62.92 61 P P 23 04 46.0 -0.4
KSAR Wonju Array Be 62.92 61 P P 23 04 46.0 -0.4
KSRS Korea Array 62.95 61 P P 23 04 46.2 -0.4
comp=Z,6.4nm,0.6s,baz=280,slow=6.4,SNR=15
KSRS LR LR 23 34 02.5
comp=Z,45nm,18.7s,baz=270,slow=38
BOSA Boshof 63.09 205 P P 23 04 48.7 +1.0
comp=Z,8.3nm,0.7s,baz=11,slow=4.4,SNR=14
BOSA Boshof 63.09 205 i P P 23 04 49.0 +1.3
BOSA Boshof 63.09 205 i P P 23 04 49.0 +1.3
BOSA Boshof 63.09 205 i P P 23 04 49.0 +1.3
BOSA Boshof 63.09 205 P P 23 04 48.0 +0.4
BOSA IAmb IAmb 23 04 49.7
comp=Z,18nm,1.0s
MSHR Mys Shultsa 63.76 54 i P P 23 04 50.4 -1.5
MSHR pmax pmax
comp=Z,11nm,1.0s
USA0B Ussuriysk Arra 63.86 52 i P P 23 04 53.2 +0.7
USRK Ussuriysk Ar. 63.86 52 P P 23 04 52.0 -0.5
comp=Z,1.9nm,0.5s,baz=299,slow=5.4,SNR=8.9
USRK Ussuriysk Ar. 63.86 52 P P 23 04 52.0 -0.5
SBUM Sibu 64.09 103 P P 23 04 54.5 0.0
VLA Vladivostok 64.11 54 i P P 23 04 55.4 +1.3
VLA pmax pmax
comp=Z,15nm,1.0s
GRNR Gornyy 64.82 44⇑iP P 23 04 58.7 0.0
GRNR pmax pmax
comp=Z,1.0nm,0.7s
GRNR MLR MLR
comp=N,150nm,13.0s
GRNR MLR MLR
comp=Z,90nm,15.0s
CISI Cisompet, Garu 66.12 115 P P 23 05 06.9 -0.8
JNU Nakatsue 66.68 64 P P 23 05 09.8 -1.3
SFJD Kangerlussuaq 67.19 335 P P 23 05 12.6 -1.0
SFJD pmax pmax
comp=Z,11nm,0.8s
SFJD Kangerlussuaq 67.19 335 P P 23 05 12.6 -1.0
SFJD IAmb IAmb 23 05 14.5
comp=Z,11nm,0.8s
SUR Sutherland 68.16 207 P P 23 05 20.1 -0.3
IVI Ivigtut 68.43 329 P P 23 05 21.2 -0.3
IVI IAmb IAmb 23 05 22.2
comp=Z,13nm,0.9s
MA2 Magadan 69.48 32 i P P 23 05 29.2 +1.0
MA2 pmax pmax
comp=Z,8.0nm,1.1s
MA2 Magadan 69.48 32 P P 23 05 28.1 0.0
MA2 IAmb IAmb 23 05 33.4
comp=Z,22nm,1.5s
YSS Yuzh-Sakhalins 70.04 47⇓eP P 23 05 31.3 -0.5
YSS e 23 05 33.9
YSS pmax pmax
comp=Z,10.0nm,0.6s
YSS Yuzh-Sakhalins 70.04 47 P P 23 05 32.1 +0.3
YSS IAmb IAmb 23 05 36.3
comp=Z,16nm,0.8s
INU Inuyama 70.55 60 P P 23 05 35.5 +0.4
INU IAmb IAmb 23 05 41.4
comp=Z,8.6nm,0.9s
MJB9 Matsu-Tunnel 70.96 58 P P 23 05 37.4 -0.3
MAJO Matsushiro 70.96 58 i P P 23 05 36.0 -1.7
MAJO pmax pmax
comp=Z,4.0nm,0.8s
MAJO Matsushiro 70.96 58 P P 23 05 37.7 0.0
MJAR Matsushiro Arr 70.97 58 P P 23 05 37.5 -0.2
comp=Z,0.6nm,0.3s,baz=275,slow=6.5,SNR=4.3
MJAR LR LR 23 40 12.4
comp=Z,45nm,19.2s,baz=235,slow=39
MJAR Matsushiro Arr 70.97 58 P P 23 05 37.0 -0.7
ASAJ Asahikawa 71.05 50 P P 23 05 36.0 -2.0
ASAJ pmax pmax
comp=Z,6.0nm,0.9s
JKA Kamikawa-asahi 71.05 50 P P 23 05 36.0 -2.1

BILL	**Bilibino**	**71.40**	**21**	*ce*P	**P**	**23 05 40.6**	**+0.9**
BILL				*e**PP	**pP**	**23 05 43.1**	**-0.6**
BILL				*e**SP	**sP**	**23 05 45.1**	**-0.1**
BILL						23 05 58.0	
BILL				pmax	pmax		
	comp=Z,12nm,1.3s						
BILL				MLR	MLR		
	comp=Z,71nm,14.0s						
BILL	**Bilibino**	**71.40**	**21**	P	**P**	**23 05 39.8**	**0.0**
BILL				IAmb	IAmb	23 05 46.9	
	comp=Z,10nm,1.1s						
PETK	**Petropavlovsk-**	**75.90**	**37**	P	**P**	**23 06 05.3**	**-1.1**
	comp=Z,2.5nm,0.9s,baz=186,slow=1.5,SNR=5.2						
PETK	**Petropavlovsk-**	**75.90**	**37**	P	**P**	**23 06 05.9**	**-0.5**
PETK	**Petropavlovsk-**	**75.90**	**37**	P	**P**	**23 06 05.9**	**-0.5**
TNTI	**Ternate**	**77.92**	**96**	P	**P**	**23 06 18.1**	**-0.4**
A36M	**Sachs Harbour**	**78.38**	**359**	P	**P**	**23 06 20.6**	**+0.6**
	baz=3.4						
SCHQ	**Schefferville**	**80.17**	**329**	P	**P**	**23 06 30.6**	**+0.4**
	comp=Z,12nm,0.4s,baz=45,slow=3.8,SNR=40						
SCHQ	**Schefferville**	**80.17**	**329**	P	**P**	**23 06 29.9**	**-0.3**
TOLK	**Toolik Lake Re**	**80.62**	**7**	P	**P**	**23 06 33.4**	**+1.1**
	baz=342						
TOLK	**Toolik Lake Re**	**80.62**	**7**	P	**P**	**23 06 33.1**	**+0.8**
TOLK				IAmb	IAmb	23 06 38.4	
	comp=Z,21nm,1.0s						
COLD	**Coldfoot**	**81.90**	**8**	P	**P**	**23 06 40.4**	**+1.3**
	baz=342						
COLD	**Coldfoot**	**81.90**	**8**	P	**P**	**23 06 39.8**	**+0.6**
COLD				IAmb	IAmb	23 06 44.9	
	comp=Z,8.1nm,1.0s						
INK	**Inuvik**	**82.06**	**2**	P	**P**	**23 06 39.7**	**-0.2**
INK				pmax	pmax		
	comp=Z,8.0nm,1.0s						
INK	**Inuvik**	**82.06**	**2**	P	**P**	**23 06 39.7**	**-0.2**
BMAR	**Burnt Mountain**	**82.30**	**6**	P	**P**	**23 06 42.2**	**+0.9**
FYU	**Fort Yukon**	**83.08**	**6**	P	**P**	**23 06 45.6**	**+0.3**
FYU				IAmb	IAmb	23 06 51.4	
	comp=Z,8.5nm,0.9s						
GBN	**Guysborough**	**83.17**	**319**	P	**P**	**23 06 45.1**	**-1.0**
EPYK	**Eagle Plains**	**83.89**	**3**	P	**P**	**23 06 48.6**	**-0.9**
EPYK				IAmb	IAmb	23 06 54.4	
	comp=Z,7.1nm,0.9s						
SMY	**Shemya**	**84.04**	**31**	P	**P**	**23 06 49.5**	**-0.9**
SMY				pmax	pmax		
	comp=Z,72nm,1.3s						
SMY	**Shemya**	**84.04**	**31**	P	**P**	**23 06 49.5**	**-0.9**
POKR	**Poker Plat Res**	**84.25**	**8**	P	**P**	**23 06 51.5**	**+0.2**
	baz=344						
MDM	**Murphy Dome**	**84.31**	**8**	P	**P**	**23 06 50.9**	**-0.8**
MDM				IAmb	IAmb	23 06 57.2	
	comp=Z,7.1nm,1.1s						
COLA	**College**	**84.44**	**8**	*i* P	**P**	**23 06 51.6**	**-0.6**
COLA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ILAR	**Eielson Array**	**84.65**	**8**	P	**P**	**23 06 53.2**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=324,slow=4.2,SNR=21						
ILAR				PP	**PP**	**23 10 11.8**	**+3.5**
	comp=Z,0.5nm,0.9s,baz=335,slow=4.0,SNR=2.8						
ILAR	**Eielson Array**	**84.65**	**8**	P	**P**	**23 06 53.1**	**-0.3**
BPAW	**Bear Paw Mtn.**	**84.77**	**9**	IAmb	IAmb	23 06 59.3	
	comp=Z,16nm,1.0s						
HDA	**Harding Lake**	**85.00**	**8**	P	**P**	**23 06 54.7**	**-0.4**
	baz=344						
TTA	**Tatalina**	**85.06**	**12**	P	**P**	**23 06 55.6**	**+0.1**
TTA				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TTA	**Tatalina**	**85.06**	**12**	P	**P**	**23 06 55.6**	**+0.1**
TTA				IAmb	IAmb	23 07 01.9	
	comp=Z,9.7nm,1.3s						
EGAK	**Eagle**	**85.20**	**5**	P	**P**	**23 06 55.8**	**-0.2**
EGAK				IAmb	IAmb	23 07 01.5	
	comp=Z,16nm,1.1s						
MCK	**McKinley**	**85.40**	**9**	P	**P**	**23 06 56.9**	**-0.3**
MCK				pmax	pmax		
	comp=Z,12nm,0.8s						
MCK	**McKinley**	**85.40**	**9**	P	**P**	**23 06 56.9**	**-0.3**
MCK				IAmb	IAmb	23 06 58.3	
	comp=Z,12nm,0.8s						
RND	**Reindeer**	**85.73**	**9**	P	**P**	**23 06 58.2**	**-0.7**
RND				pmax	pmax		
	comp=Z,9.0nm,0.9s						
RND	**Reindeer**	**85.73**	**9**	P	**P**	**23 06 58.2**	**-0.7**
RND				IAmb	IAmb	23 07 03.2	
	comp=Z,8.6nm,0.9s						
PPLA	**Purkeypile**	**85.73**	**10**	IAmb	IAmb	23 07 04.9	
	comp=Z,14nm,1.2s						
SCRK	**Sand Creek**	**85.73**	**7**	IAmb	IAmb	23 07 04.8	
	comp=Z,14nm,0.9s						
RIDG	**Independent Ri**	**85.88**	**7**	IAmb	IAmb	23 07 05.5	
	comp=Z,14nm,1.2s						
PQI	**Presque Isle**	**85.96**	**323**	P	**P**	**23 06 59.3**	**-0.9**
PQI				IAmb	IAmb	23 07 01.6	
	comp=Z,10nm,1.0s						
DAWY	**Dawson**	**86.03**	**4**	IAmb	IAmb	23 07 05.8	
	comp=Z,13nm,1.1s						
DOT	**Dot Lake**	**86.05**	**7**	IAmb	IAmb	23 07 06.0	
	comp=Z,10nm,0.8s						
D62A	**Allapoint, All**	**86.23**	**324**	P	**P**	**23 07 02.2**	**+0.7**
	baz=49						
D62A	**Allapoint, All**	**86.23**	**324**	IAmb	IAmb	23 07 02.9	
	comp=Z,5.9nm,0.5s						
DHY	**Denali Highway**	**86.23**	**8**	IAmb	IAmb	23 07 06.2	
	comp=Z,6.7nm,0.9s						
GGN	**Saint George**	**86.33**	**321**	P	**P**	**23 07 00.5**	**-1.6**
E63A	**Oxbow**	**86.33**	**323**	P	**P**	**23 07 02.7**	**+0.6**
	baz=49						
FITZ	**Fitzroy Crossi**	**86.34**	**113**	IAmb	IAmb	23 07 03.0	
	comp=Z,8.4nm,0.7s						
SPIA	**Saint Paul Isl**	**86.61**	**21**	P	**P**	**23 07 02.7**	**-0.5**
F64A	**Sherman**	**86.66**	**322**	P	**P**	**23 07 04.2**	**+0.5**
	baz=49						
E62A	**Clayton Lake**	**86.78**	**323**	P	**P**	**23 07 04.6**	**+0.3**
	baz=48						
SVW2	**Sparrevohn**	**86.83**	**13**	P	**P**	**23 07 04.2**	**-0.1**
BCAR	**Beaver Creek A**	**86.83**	**6**	P	**P**	**23 07 05.3**	**+1.1**
CHGQ	**Chibougamau**	**86.90**	**328**	P	**P**	**23 07 05.1**	**+0.3**
	baz=45						
EMMW	**East Machias**	**86.92**	**321**	P	**P**	**23 07 03.9**	**-1.1**
FCC	**Fort Churchill**	**87.00**	**343**	P	**P**	**23 07 04.2**	**-0.8**
FCC				pmax	pmax		
	comp=Z,14nm,1.0s						
FCC	**Fort Churchill**	**87.00**	**343**	P	**P**	**23 07 04.2**	**-0.8**
FCC				IAmb	IAmb	23 07 07.0	
	comp=Z,14nm,1.0s						
F63A	**Nahmakanta, Br**	**87.16**	**323**	P	**P**	**23 07 07.0**	**+0.8**
	baz=49						
YKA	**Yellowknife Ar**	**87.22**	**353**	P	**P**	**23 07 06.4**	**+0.3**
	comp=Z,6.6nm,0.8s,baz=7.5,slow=4.4,SNR=30						
GHO	**Glory Hole Cre**	**87.28**	**9**	P	**P**	**23 07 06.9**	**+0.3**
GHO				IAmb	IAmb	23 07 11.9	
	comp=Z,19nm,1.2s						
D60A	**Saint Jean D'O**	**87.30**	**324**	P	**P**	**23 07 07.1**	**+0.4**
	baz=48						
SML	**Sawmill**	**87.33**	**9**	P	**P**	**23 07 06.2**	**-0.5**
SML				IAmb	IAmb	23 07 08.0	
	comp=Z,16nm,1.1s						
E61A	**Lac Etchemin**	**87.40**	**324**	P	**P**	**23 07 08.0**	**+0.6**
	baz=48						
PMR	**Palmer**	**87.43**	**9**	P	**P**	**23 07 06.7**	**-0.4**
PMR				pmax	pmax		
	comp=Z,11nm,1.2s						
PMR	**Palmer**	**87.43**	**9**	P	**P**	**23 07 06.7**	**-0.4**
PMR				IAmb	IAmb	23 07 12.2	
	comp=Z,11nm,1.2s						
SCM	**Sheep Creek Mo**	**87.44**	**9**	IAmb	IAmb	23 07 26.7	
	comp=Z,6.2nm,0.8s						
F62A	**Pittston Farm,**	**87.49**	**323**	P	**P**	**23 07 08.4**	**+0.7**
	baz=48						
KNK	**Knik Glacier**	**87.69**	**9**	P	**P**	**23 07 08.2**	**-0.2**
KNK				IAmb	IAmb	23 07 25.9	
	comp=Z,6.3nm,0.8s						
G63A	**Kingsbury**	**87.82**	**322**	P	**P**	**23 07 09.9**	**+0.6**
	baz=48						
LATQ	**La Tuque**	**87.90**	**326**	P	**P**	**23 07 10.3**	**+0.6**
	baz=46						
LATQ	**La Tuque**	**87.90**	**326**	P	**P**	**23 07 09.4**	**-0.2**
E60A	**Ste Agathe de**	**87.93**	**324**	P	**P**	**23 07 10.1**	**+0.3**
	baz=47						
D58A	**Chemin du LacG**	**88.15**	**325**	P	**P**	**23 07 10.9**	**0.0**
	baz=46						
G62A	**West of Eustis**	**88.23**	**323**	P	**P**	**23 07 11.8**	**+0.5**
	baz=48						
F60A	**Warwick**	**88.46**	**324**	P	**P**	**23 07 12.8**	**+0.5**
	baz=47						
MATQ	**Matagami**	**88.48**	**329**	P	**P**	**23 07 12.8**	**+0.5**
	baz=43						
D57A	**Chemin Vers le**	**88.70**	**326**	P	**P**	**23 07 13.2**	**-0.3**
	baz=45						
G61A	**St-Isidore-de-**	**88.71**	**323**	P	**P**	**23 07 14.1**	**+0.5**
	baz=47						
BALM	**Baldy**	**88.78**	**6**	P	**P**	**23 07 13.1**	**-0.6**
BARN	**Barnard Glacie**	**88.82**	**6**	P	**P**	**23 07 13.6**	**-0.4**
BARN				IAmb	IAmb	23 07 16.1	
	comp=Z,8.1nm,1.2s						
E58A	**La Victoria**	**88.85**	**325**	P	**P**	**23 07 14.5**	**+0.3**
	baz=46						
CTGM	**Chitina Glacie**	**88.94**	**6**	P	**P**	**23 07 14.5**	**0.0**
CTGM				IAmb	IAmb	23 07 17.8	
	comp=Z,14nm,1.5s						
F59A	**Saint Guilaume**	**88.96**	**324**	P	**P**	**23 07 15.3**	**+0.6**
	baz=46						
H62A	**Milan**	**89.00**	**323**	P	**P**	**23 07 15.3**	**+0.4**
	baz=47						
D56A	**ZEC Mazanza, M**	**89.10**	**326**	P	**P**	**23 07 15.6**	**+0.3**
	baz=45						
E57A	**Chemin Saint G**	**89.25**	**325**	P	**P**	**23 07 16.3**	**+0.2**
	baz=45						
G60A	**Masonville**	**89.25**	**324**	P	**P**	**23 07 16.7**	**+0.6**
	baz=46						
HYT	**Haines Junctio**	**89.37**	**4**	P	**P**	**23 07 16.5**	**0.0**
HYT				IAmb	IAmb	23 07 18.9	
	comp=Z,10nm,1.0s						
H61A	**Lyndonville**	**89.43**	**323**	P	**P**	**23 07 18.1**	**+1.2**
	baz=47						
D55A	**Sainte-Anne-du**	**89.47**	**327**	P	**P**	**23 07 17.7**	**+0.6**
	baz=44						
TRQ	**Mont Tremblant**	**89.59**	**326**	P	**P**	**23 07 16.9**	**-0.8**
E56A	**St. Veronique**	**89.59**	**326**	P	**P**	**23 07 18.0**	**+0.3**
	baz=45						
LBNH	**Lisbon**	**89.63**	**323**	P	**P**	**23 07 19.0**	**+1.1**
	baz=47						
LBNH	**Lisbon**	**89.63**	**323**	P	**P**	**23 07 17.9**	**0.0**
LBNH				pmax	pmax		
	comp=Z,6.0nm,0.8s						
LBNH	**Lisbon**	**89.63**	**323**	P	**P**	**23 07 17.9**	**0.0**
LBNH				IAmb	IAmb	23 07 20.3	
	comp=Z,6.3nm,0.8s						
G59A	**Clarenceville**	**89.70**	**324**	P	**P**	**23 07 19.3**	**+1.1**
	baz=46						
H60A	**Morristown**	**89.81**	**323**	P	**P**	**23 07 19.6**	**+0.9**
	baz=46						
G58A	**Ormstown**	**90.09**	**325**	P	**P**	**23 07 19.9**	**-0.1**
	baz=45						
H59A	**Cadyville**	**90.26**	**324**	P	**P**	**23 07 21.3**	**+0.4**
	baz=46						
D53A	**Lac Vacive, Po**	**90.47**	**328**	P	**P**	**23 07 22.1**	**+0.3**
	baz=43						
D53A	**Lac Vacive, Po**	**90.47**	**328**	P	**P**	**23 07 21.4**	**-0.4**
D53A				IAmb	IAmb	23 07 24.0	
	comp=Z,5.2nm,0.9s						
KDAK	**Kodiak Island**	**90.48**	**12**	P	**P**	**23 07 21.2**	**-0.3**
KDAK				pmax	pmax		
	comp=Z,11nm,1.0s						
KDAK	**Kodiak Island**	**90.48**	**12**	P	**P**	**23 07 21.2**	**-0.3**
KDAK				IAmb	IAmb	23 07 23.0	
	comp=Z,11nm,1.0s						
AKUT	**Akutan**	**90.54**	**21**	P	**P**	**23 07 21.0**	**-0.9**
H58A	**Gabriels**	**90.67**	**324**	P	**P**	**23 07 22.4**	**-0.3**
	baz=45						
LONY	**Lake Ozonia**	**90.73**	**324**	P	**P**	**23 07 23.2**	**+0.1**
	baz=45						
I59A	**Olmsteadville**	**90.95**	**323**	P	**P**	**23 07 24.8**	**+0.8**
	baz=45						
E53A	**Dumoine, Ponti**	**90.97**	**327**	P	**P**	**23 07 24.9**	**+0.8**
	baz=43						
D51A	**Lot 18 Range I**	**91.23**	**329**	P	**P**	**23 07 25.7**	**+0.4**
	baz=41						
H57A	**Richville**	**91.25**	**325**	P	**P**	**23 07 25.9**	**+0.5**
	baz=44						
G55A	**Calabogie**	**91.34**	**326**	P	**P**	**23 07 26.0**	**+0.1**
	baz=43						
D50A	**G1974 Best Tow**	**91.39**	**329**	P	**P**	**23 07 26.8**	**+0.8**
	baz=41						
ALGO	**Algonquin Park**	**91.47**	**327**	P	**P**	**23 07 26.9**	**+0.5**
	baz=42						
E52A	**Mattawa**	**91.50**	**328**	P	**P**	**23 07 27.1**	**+0.6**
	baz=42						
J59A	**Piesco**	**91.51**	**324**	P	**P**	**23 07 27.5**	**+0.8**
	baz=45						
H56A	**Elgin**	**91.59**	**325**	P	**P**	**23 07 27.6**	**+0.6**
	baz=44						
PLVO	**Plevna**	**91.67**	**326**	IAmb	IAmb	23 07 28.2	
	comp=Z,7.9nm,0.7s						
E51A	**G1948 Merrick**	**91.70**	**328**	P	**P**	**23 07 27.5**	**0.0**
	baz=41						
I57A	**Carthage**	**91.76**	**324**	P	**P**	**23 07 28.2**	**+0.4**
	baz=44						
G54A	**Lake Saint Pet**	**91.89**	**327**	P	**P**	**23 07 28.1**	**-0.3**
	baz=42						
J58A	**Remsen**	**91.98**	**324**	P	**P**	**23 07 29.2**	**+0.3**
	baz=44						
H55A	**Tweed**	**92.08**	**326**	P	**P**	**23 07 29.6**	**+0.4**
	baz=43						
F52A	**Sundridge**	**92.18**	**328**	P	**P**	**23 07 30.3**	**+0.6**
	baz=42						
D48A	**Paudash Townsh**	**92.25**	**330**	P	**P**	**23 07 29.9**	**-0.1**
	baz=40						
J57A	**Williamstown**	**92.31**	**324**	P	**P**	**23 07 31.0**	**+0.7**
	baz=44						
DELO	**Deloro Mine**	**92.31**	**326**	P	**P**	**23 07 30.0**	**-0.3**
DELO				IAmb	IAmb	23 07 31.5	
	comp=Z,7.3nm,0.8s						
G53A	**Haliburton**	**92.35**	**327**	P	**P**	**23 07 30.8**	**+0.3**
	baz=42						
E50A	**Wahnapitae**	**92.35**	**329**	P	**P**	**23 07 31.2**	**+0.7**
	baz=40						
F51A	**Arnstein**	**92.35**	**328**	P	**P**	**23 07 31.2**	**+0.7**
	baz=41						
PECO	**Prince Edward**	**92.43**	**325**	P	**P**	**23 07 29.9**	**-0.9**
PECO				IAmb	IAmb	23 07 32.1	
	comp=Z,9.7nm,0.9s						
FFC	**Flin Flon**	**92.56**	**345**	P	**P**	**23 07 30.5**	**-0.8**
FFC				pmax	pmax		
	comp=Z,10.0nm,1.4s						
FFC	**Flin Flon**	**92.56**	**345**	P	**P**	**23 07 30.5**	**-0.8**
FFC				IAmb	IAmb	23 07 32.8	
	comp=Z,9.6nm,1.4s						
I55A	**Frankford**	**92.56**	**326**	P	**P**	**23 07 30.6**	**-0.9**
	baz=43						
H53A	**Bocaygeon**	**92.74**	**326**	P	**P**	**23 07 31.9**	**-0.4**
	baz=42						
J56A	**Wolcott**	**92.84**	**325**	P	**P**	**23 07 33.1**	**+0.3**
	baz=43						
D47A	**Chapleau**	**92.90**	**330**	P	**P**	**23 07 33.4**	**+0.3**
	baz=39						
E48A	**Lockeyer**	**92.94**	**330**	P	**P**	**23 07 33.0**	**-0.2**
	baz=39						
J55A	**Hilton**	**93.33**	**325**	P	**P**	**23 07 35.0**	**0.0**
	baz=43						
J55A	**Hilton**	**93.33**	**325**	P	**P**	**23 07 34.2**	**-0.8**
J55A				IAmb	IAmb	23 07 36.5	
	comp=Z,8.1nm,0.9s						
D46A	**Sault St. Mari**	**93.43**	**331**	P	**P**	**23 07 35.9**	**+0.4**
	baz=38						
F49A	**Sandfield**	**93.44**	**329**	P	**P**	**23 07 36.0**	**+0.5**
	baz=40						
E47A	**Iron Bridge**	**93.45**	**330**	P	**P**	**23 07 36.0**	**+0.4**
	baz=38						
F48A	**Evansville**	**93.65**	**329**	P	**P**	**23 07 36.9**	**+0.4**
	baz=39						
J54A	**Appleton**	**93.73**	**326**	P	**P**	**23 07 37.3**	**+0.5**
	baz=42						
L57A	**Andrews Acres**	**93.76**	**324**	P	**P**	**23 07 37.2**	**+0.1**
	baz=43						
MMNY	**Mt. Morris Dam**	**93.77**	**325**	P	**P**	**23 07 36.9**	**-0.2**
MMNY				IAmb	IAmb	23 07 41.6	
	comp=Z,12nm,1.0s						
K55A	**Perry**	**93.85**	**325**	P	**P**	**23 07 37.6**	**+0.1**
	baz=42						
I52A	**Shelburne**	**93.88**	**327**	P	**P**	**23 07 38.2**	**+0.6**
	baz=41						
L56A	**Greenwood**	**94.03**	**324**	P	**P**	**23 07 38.5**	**+0.2**
	baz=43						
O60A	**Telford**	**94.21**	**322**	P	**P**	**23 07 39.2**	**+0.1**
	baz=44						
WRA	**Warramunga Arr**	**94.31**	**110**	P	**P**	**23 07 39.1**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=312,slow=4.1,SNR=16						
WRA	**Warramunga Arr**	**94.31**	**110**	IAmb	IAmb	23 07 43.3	
	comp=Z,0.2nm,1.1s						
WB2	**Warramunga Arr**	**94.32**	**110**	P	**P**	**23 07 38.3**	**-1.6**
WB2				IAmb	IAmb	23 07 45.0	
	comp=Z,13nm,1.4s						
M57A	**Sunshine Farm,**	**94.39**	**323**	P	**P**	**23 07 40.4**	**+0.4**
	baz=43						
L55A	**Hinsdale**	**94.43**	**325**	P	**P**	**23 07 40.7**	**+0.4**
	baz=42						
I51A	**Listowel**	**94.47**	**327**	P	**P**	**23 07 40.6**	**+0.3**
	baz=40						
N58A	**Sunbury**	**94.53**	**323**	P	**P**	**23 07 40.8**	**+0.1**
	baz=44						
O59A	**Robesonia**	**94.63**	**322**	P	**P**	**23 07 41.0**	**-0.1**
	baz=44						
J52A	**Paris**	**94.64**	**327**	P	**P**	**23 07 41.3**	**+0.2**
	baz=41						
G47A	**Hillman**	**94.70**	**330**	P	**P**	**23 07 42.2**	**+0.8**
	baz=38						
L54A	**Sinclairville**	**94.83**	**325**	P	**P**	**23 07 42.7**	**+0.6**
	baz=42						
N57A	**Milroy**	**95.03**	**323**	P	**P**	**23 07 43.2**	**+0.3**
	baz=43						
M55A	**Ridgway**	**95.13**	**324**	P	**P**	**23 07 43.5**	**+0.1**
	baz=42						
M54A	**Oil Creek Stat**	**95.55**	**325**	P	**P**	**23 07 45.8**	**+0.5**
	baz=41						
ASAR	**Alice Springs**	**95.82**	**114**	P	**P**	**23 07 45.6**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=306,slow=4.7,SNR=10						
ASAR	**Alice Springs**	**95.82**	**114**	P	**P**	**23 07 44.9**	**-1.9**
VNA3	**Neumayer Olymp**	**109.31**	**197**	PKiKP	**PKiKP**	**23 12 49.3**	**+0.1**
NVAR	**Mina Array Bea**	**111.30**	**351**	PKiKP	**PKiKP**	**23 12 55.7**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=47,slow=1.6,SNR=5.2						
QSPA	**South Pole Qui**	**119.71**	**180**	PKP	**PKPdf**	**23 13 09.0**	**-0.3**
	comp=Z,4.0nm,0.7s,baz=278,slow=0.8,SNR=25						
VNDA	**Vanda**	**123.46**	**166**	PKP	**PKiKP**	**23 13 16.2**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=241,slow=4.2,SNR=3.7						
PLCA	**Paso Flores**	**131.77**	**240**	PKP	**PKiKP**	**23 13 34.3**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=46,slow=4.6,SNR=4.3						

NEIC 20 23:03:59.2±1.4, 26°.25S±0°.09×174°.8W±0°.1, h10km±1km, mb4.6/13, Error ellipse: s-maj=18.8km s-min=12.8km az=119.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**8.41**	**33**	Pn	Pn	23 06 01.2	-0.1
MSVF	**Nonsavu**	**10.79**	**320**	Pn	Pn	23 06 33.9	-0.1
AFI	**Afiamalu**	**12.59**	**13**	Pn	Pn	23 06 57.4	-1.2
MXZ	**Matakaoa Point**	**12.72**	**206**	Pn	Pn	23 06 59.8	-0.4
URZ	**Urewera**	**13.80**	**208**	Pn	Pn	23 07 15.1	+0.1
RAR	**Rarotonga**	**14.60**	**73**		Pn	23 07 26.0	0.0
HIZ	**Hauiti**	**15.04**	**213**	Pn	Pn	23 07 32.9	+1.1
HIZ				IAmb	IAmb	23 07 34.3	
	comp=Z,49nm,1.2s						
BFZ	**Birch Farm**	**16.22**	**205**	Pn	Pn	23 07 46.9	-0.3
BFZ				IAmb	IAmb	23 08 03.8	
	comp=Z,27nm,1.0s						
PLWZ	**Palliser**	**17.36**	**206**		P	23 08 02.7	-0.3
SNZO	**South Karori**	**17.37**	**208**		P	23 08 02.8	-0.2
SNZO				IAmb	IAmb	23 08 17.1	
	comp=Z,103nm,0.9s						
BHW	**Baring Head**	**17.38**	**207**		P	23 08 02.5	-0.6
DZM	**Mont Dzumac**	**17.66**	**280**		P	23 08 06.7	+0.2
TUWZ	**Tuamarina**	**17.79**	**209**		P	23 08 11.5	+3.9
NNZ	**Nelson**	**17.87**	**210**	Pn	Pn	23 08 07.0	-0.9
CMWZ	**Cape Campbell**	**17.94**	**208**		Pn	23 08 08.4	-0.4
BSWZ	**Blackbirch Sta**	**18.05**	**208**		P	23 08 11.2	+0.6
LBZ	**Lake Benmore**	**21.81**	**210**	P	P	23 08 51.1	-0.4
LBZ				IAmb	IAmb	23 09 05.6	
	comp=Z,19nm,1.1s						
CTAO	**Charters Tower**	**36.27**	**271**	P	P	23 11 00.3	-2.8
TAOE	**Nuku Hiva Isla**	**37.08**	**69**	P	P	23 11 08.8	-1.3
WB2	**Warramunga Arr**	**47.00**	**267**	P	P	23 12 31.9	+0.9
WB2				IAmb	IAmb	23 12 41.8	
	comp=Z,4.3nm,1.1s						
WRA	**Warramunga Arr**	**47.01**	**267**	P	P	23 12 31.2	+0.1
WB0	**Warramunga Arr**	**47.02**	**267**	P	P	23 12 31.4	+0.3
WB0				IAmb	IAmb	23 12 42.8	
	comp=Z,3.7nm,1.1s						
D05A	**Enumclaw**	**87.19**	**33**	P	P	23 16 47.0	+1.5
DIB	**Dawson Inlet,**	**87.23**	**24**	P	P	23 16 47.3	+1.8

IDC 20 23:04:45.8±4.0, 25°.20S×175°.30W, h0km, mb4.3/9, mb1 4.4/9, mb1mx4.1/46, mbtmp4.3/9, Error ellipse: s-maj=117.7km s-min=37.7km az=138.0

ISC 20 23:04:50.0±3.6, 25°.3S±0°.6×175°.3W±0°.5, h27km, n11, σ1s01/10, mb4.4/9, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.84**	**77**	Pn	Pn	23 08 07.0	-11
	2.6nm,0.3s,baz=95,slow=22,SNR=3.1						
CTA	**Charters Tower**	**35.75**	**270**	P	**P**	**23 11 46.5**	**-0.3**
	4.2nm,0.8s,baz=100,slow=8.4,SNR=4.7						
STKA	**Stephens Creek**	**38.22**	**250**	P	**P**	**23 12 07.4**	**-0.3**
	1.0nm,0.5s,baz=103,slow=14,SNR=3.2						
ASAR	**Alice Springs**	**46.03**	**261**	P	**P**	**23 13 11.4**	**-0.1**
	5.5nm,1.1s,baz=101,slow=8.0,SNR=13						
WRA	**Warramunga Arr**	**46.57**	**266**	P	**P**	**23 13 15.5**	**-0.3**
	0.5nm,0.7s,baz=103,slow=7.6,SNR=4.8						
FITZ	**Fitzroy Crossi**	**54.97**	**265**	P	**P**	**23 14 19.9**	**+0.8**
	4.4nm,1.0s,baz=120,slow=5.9,SNR=4.8						
SIJI	**Sorong**	**56.91**	**287**	P	**P**	**23 14 32.2**	**-0.9**
	7.5nm,0.7s,baz=131,slow=20,SNR=4.8						
KSRS	**Korea Array**	**82.07**	**318**	P	**P**	**23 17 08.6**	**+0.7**
	1.5nm,0.9s,baz=146,slow=8.8,SNR=2.7						
USRK	**Ussuriysk Ar.**	**84.27**	**325**	P	**P**	**23 17 18.9**	**-0.2**
	2.0nm,0.8s,baz=160,slow=4.6,SNR=5.7						
CMAR	**Chiang Mai Arr**	**94.00**	**288**	P	**P**	**23 18 07.7**	**+1.6**
	0.9nm,0.6s,baz=145,slow=3.3,SNR=1.8						
AKASG	**Malin Array Be**	**148.36**	**330**	PKPbc	**PKPbc**	**23 24 32.0**	**-1.5**
	0.3nm,0.3s,baz=37,slow=3.9,SN

USA0B	**Ussuriysk Arra**	**84.21**	**325**	P	**P**	**23 21 33.8 +1.3**		
USRK	**Ussuriysk Ar.**	**84.21**	**325**	P	P	23 21 37.2 +4.7		
	comp=Z,2.1nm,0.8s,baz=119,slow=1.8,SNR=4.9							
USRK	**Ussuriysk Ar.**	**84.21**	**325**	P	**P**	**23 21 35.7 +3.1**		
X18A	**Snowflake**	**85.35**	**49**	P	**P**	**23 21 39.3 +0.5**		
X18A				IAmb	IAmb	23 21 47.9		
	comp=Z,5.7nm,1.1s							
CMAR	**Chiang Mai Arr**	**94.25**	**288**	P	P	23 22 26.4 +5.5		
	comp=Z,1.1nm,0.8s,baz=134,slow=3.9,SNR=5.6							
AKASG	**Malin Array Be**	**148.25**	**330**	PKPbc	**PKiKP**	**23 28 48.4 -0.3**		
	comp=Z,0.3nm,0.3s,baz=41,slow=3.6,SNR=4.3							

*IDC **20** 23:10:55.0±0.5, 36°.70N×97°.66W, h0km, mb4.1/17, mb1 4.2/23, mb1mx4.1/46, mbtmp4.0/23, ML3.6/7, MS3.3/9, Ms1 3.3/9, ms1mx3.0/51, Error ellipse: s-maj=10.5km s-min=8.8km az=143.0*

*TUL **20** 23:10:55.9±0.5, 36°.726N±0°.010×97°.90W±0°.02, h5km±4km, ML4.0, mb4.1/10(NEIC), Mwr3.9/56(NEIC), Error ellipse: s-maj=2.1km s-min=1.4km az=103.0*

*NEIC **20** 23:10:56, 36°.73N×97°.91W, h3km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=0.96; $M_{\theta\theta}$=0.96; $M_{\phi\phi}$=0.00; $M_{r\theta}$=0.28; $M_{\theta\phi}$=0.13; $M_{\phi r}$=0.24; Fault plane solution: M_o=1.03000×10^{15} NP1:ϕ_s=251.63000°, δ=54.78000°, λ=-102.60000°. NP2:ϕ_s=92.81000°, δ=37.13000°, λ=-72.83000°. Principal axes: T 1.0236, Plg9.0000°, Azm351.0000°; N 0.0217, Plg10.0000°, Azm259.0000°; P -1.0453, Plg76.0000°, Azm121.0000°;*

*CERI **20** 23:10:56.0, 36°.71N×97°.90W*

*NEIC **20** 23:10:56.8±0.4, 36°.71N±0°.01×97°.90W±0°.02, h0km±3km, Error ellipse: s-maj=2.4km s-min=1.4km az=109.0*

*ANF **20** 23:10:57.1±1.0, 36°.82N×97°.78W, h26km±10km, ML5.2/15, Error ellipse: s-maj=3.3km s-min=2.8km az=145.0*

ISC 20 23:10:55.7±0.4,**36°.78N**±0°.03×**97°.80W**±0°.03,**h10**km,**n300**, σ1**ŝ74**/294,**mb4.0**/16,**MS3.3**/4,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T35A	**Sooner Cattle**	**1.04**	**82**	Pg	**Pn**	**23 11 17.4**	**+1.1**
U32A	**Winter Ranch,**	**1.05**	**248**	Pg	**Pg**	**23 11 13.8**	**-2.0**
ADOK	**Arcadia Dam**	**1.17**	**163**		**Pg**	**23 11 17.5**	**-0.7**
OK005	**Luther M Schoo**	**1.22**	**156**		**Pg**	**23 11 18.8**	**-0.3**
OKCFA	**Oklahoma City**	**1.39**	**168**	Pg	**Pb**	**23 11 20.9**	**-0.8**
OKCSW	**OKLAHOMA CITY**	**1.40**	**168**	Pg	**Pb**	**23 11 21.2**	**-0.7**
FNO	**Franklin**	**1.55**	**168**		**Pb**	**23 11 24.0**	**-0.5**
W35A	**Tecumseh**	**1.79**	**155**	Pn	**Pb**	**23 11 27.7**	**-0.8**
W35A					**Pg**	**23 11 28.3**	**-1.6**
R32A	**Long Quarter,**	**1.80**	**336**		**Pb**	**23 11 28.9**	**+0.2**
TUL1	**Leonard**	**1.83**	**118**	P	**Pb**	**23 11 29.0**	**-0.3**
	baz=296,SNR=234						
TUL1				Sb	**Sg**	**23 11 55.5**	**+0.8**
	baz=296						
TUL1	**Leonard**	**1.83**	**118**		**Pg**	**23 11 29.2**	**-1.7**
X34A	**Smith Ranch, M**	**2.17**	**181**	Pn	**Pn**	**23 11 32.9**	**+0.9**
WMOK	**Wichita Mounta**	**2.19**	**202**	P	**Pn**	**23 11 31.9**	**-0.2**
	baz=20,SNR=772						
WMOK				S	**Sn**	**23 12 00.0**	**+0.8**
	baz=20						
WMOK	**Wichita Mounta**	**2.19**	**202**	Pn	**Pn**	**23 11 32.1**	**0.0**
WMOK					**Pb**	**23 11 32.9**	**-2.5**
KSU1	**Kansas State U**	**2.50**	**22**	Pn	**Pb**	**23 11 39.2**	**-1.5**
CBKS	**Cedar Bluff**	**2.55**	**323**	Pb	**Pb**	**23 11 40.0**	**-1.5**
	baz=145,SNR=50						
U38A	**Gravette**	**2.77**	**96**	Pn	**Pb**	**23 11 42.7**	**-2.5**
HHAR	**Hobbs**	**3.15**	**98**		**Pn**	**23 11 47.6**	**+2.3**
Z35A	**Perchaven, San**	**3.47**	**172**		**Pn**	**23 11 50.2**	**+0.5**
W39A	**Magazine**	**3.62**	**115**	P	**Pn**	**23 11 52.6**	**+0.8**
	baz=296,SNR=56						
W39A				S	**Sn**	**23 12 36.9**	**+2.4**
	baz=296						
AMTX	**Amarillo**	**3.68**	**240**	P	**Pn**	**23 11 52.8**	**+0.1**
	baz=58						
S39A	**Bolivar**	**3.69**	**74**	Pn	**Pn**	**23 11 55.2**	**+2.5**
N33A	**J Bar K, Exete**	**3.96**	**4**	Pn	**Pn**	**23 11 57.4**	**+0.8**
U40A	**Yellville**	**4.00**	**95**	P	**Pn**	**23 11 58.4**	**+1.4**
	baz=276,SNR=83						
U40A				S	**Sn**	**23 12 46.3**	**+2.3**
	baz=276						
MIAR	**Mount Ida**	**4.09**	**122**	P	**Pn**	**23 11 59.2**	**+0.9**
	baz=303,SNR=39						
Z38A	**Mt. Pleasant**	**4.20**	**146**	Pn	**Pn**	**23 12 00.1**	**+0.4**
P38A	**Dawn**	**4.40**	**48**	Pn	**Pn**	**23 12 04.9**	**+2.4**
N35A	**Tabor**	**4.41**	**22**		**Pn**	**23 12 05.5**	**+2.8**
ABTX	**Abilene, Hawle**	**4.41**	**201**	P	**Pn**	**23 12 02.2**	**-0.6**
	baz=19						
KSCO	**Kaye Shedlock'**	**4.42**	**302**	P	**Pn**	**23 12 03.2**	**+0.2**
	baz=120						
BGNE	**Belgrade**	**4.63**	**357**	P	**Pn**	**23 12 07.6**	**+1.9**
	baz=178,SNR=7.0						
X40A	**Basin Creek Fa**	**4.64**	**118**	P	**Pn**	**23 12 07.6**	**+1.7**
	baz=300,SNR=25						
X40A	**Basin Creek Fa**	**4.64**	**118**	Pn	**Pn**	**23 12 07.7**	**+1.8**
W41B	**Gary Mavity, V**	**4.78**	**108**	P	**Pn**	**23 12 07.9**	**+0.2**
	baz=290,SNR=68						
W41B	**Gary Mavity, V**	**4.78**	**108**	Pn	**Pn**	**23 12 08.8**	**+1.2**
WHTX	**Lake Whitney,**	**4.78**	**177**	P	**Pn**	**23 12 07.9**	**+0.1**
	baz=356,SNR=9.1						
MSTX	**Muleshoe**	**4.94**	**237**	P	**Pn**	**23 12 10.1**	**0.0**
	baz=54						
237A	**Washetta, Mont**	**5.04**	**160**	Pn	**Pn**	**23 12 11.3**	**0.0**
P40A	**Paris**	**5.30**	**57**	Pn	**Pn**	**23 12 16.4**	**+1.6**
T25A	**Trinidad**	**5.31**	**276**	P	**Pn**	**23 12 14.7**	**-0.5**
	baz=93,SNR=7.2						
Z41A	**Richland Creek**	**5.39**	**129**	P	**Pn**	**23 12 16.6**	**+0.4**
	baz=311						
Z41A				S	**Sn**	**23 13 18.3**	**0.0**
	baz=311						
LCAR	**Lake Charles**	**5.40**	**96**	Pn	**Pn**	**23 12 18.2**	**+1.9**
NATX	**Nacogdoches**	**5.64**	**152**	S	**Sn**	**23 13 22.2**	**-2.1**
	baz=332						
435B	**Jarrell**	**5.98**	**178**	P	**Pn**	**23 12 23.9**	**-0.3**
	baz=358						
435B	**Jarrell**	**5.98**	**178**	Pn	**Pn**	**23 12 24.0**	**-0.3**
Q24A	**Divide**	**6.21**	**293**	P	**Pn**	**23 12 28.0**	**+0.3**
	baz=109						
SCIA	**State Center**	**6.23**	**33**	P	**Pn**	**23 12 29.6**	**+1.9**
	baz=216,SNR=5.6						
SCIA	**State Center**	**6.23**	**33**	Pn	**Pn**	**23 12 30.5**	**+2.8**
JCT	**Junction City**	**6.50**	**195**	P	**Pn**	**23 12 30.4**	**-1.0**
	baz=14,SNR=7.4						
N41A	**Harden Midland**	**6.70**	**52**	Pn	**Pn**	**23 12 35.5**	**+1.5**
ISCO	**Idaho Springs**	**6.85**	**299**	P	**Pn**	**23 12 36.6**	**+0.2**
	baz=115,SNR=20						
S44A	**Carbondale**	**6.88**	**80**	Pn	**Pn**	**23 12 37.8**	**+1.3**
ECSD	**EROS Data Cent**	**7.01**	**7**	P	**Pn**	**23 12 38.7**	**+0.3**
	baz=188,SNR=30						
ECSD	**EROS Data Cent**	**7.01**	**7**	Pn	**Pn**	**23 12 38.7**	**+0.3**
P43A	**Skaggs, Pawnee**	**7.12**	**64**	Pn	**Pn**	**23 12 41.4**	**+1.6**
OXF	**Oxford**	**7.19**	**106**	P	**Pn**	**23 12 41.8**	**+0.9**
	baz=290,SNR=16						
Q44A	**Meyer Farm, Va**	**7.26**	**70**	Pn	**Pn**	**23 12 43.6**	**+1.7**
ANMO	**Albuquerque**	**7.27**	**258**	P	**Pn**	**23 12 42.7**	**+0.6**
	baz=73						
ANMO	**Albuquerque**	**7.27**	**258**	Pn	**Pn**	**23 12 44.2**	**+2.1**
	0.1nm,0.3s,baz=82,slow=13,SNR=5.8						
ANMO				Pg	Pg	23 13 09.8	-5.0
	1.6nm,0.3s,baz=74,slow=17,SNR=12						
ANMO				Lg	Lg	23 14 40.4	
	5.4nm,0.3s,baz=328,slow=18,SNR=5.7						
L40A	**Anamosa**	**7.33**	**42**	Pn	**Pn**	**23 12 44.6**	**+1.8**
VBMS	**Vicksburg**	**7.53**	**125**	P	**Pn**	**23 12 48.0**	**+2.5**
	baz=308						
N23A	**Red Feather La**	**7.57**	**305**	P	**Pn**	**23 12 46.8**	**+0.4**
	baz=121,SNR=20						
SUSD	**Miller**	**7.71**	**354**	P	**Pn**	**23 12 48.2**	**+0.2**
	baz=174						
OLIL	**Olney**	**7.93**	**73**	Pn	**Pn**	**23 12 52.6**	**+1.7**
MNTX	**Cornudas Mount**	**8.07**	**233**	P	**Pn**	**23 12 53.1**	**+0.2**
	baz=49						
L42A	**Oliver, Polo**	**8.18**	**48**	Pn	**Pn**	**23 12 56.1**	**+1.7**
JFWS	**Jewell Farm**	**8.44**	**41**	P	**Pn**	**23 12 58.9**	**+0.9**
	baz=226,SNR=65						
JFWS	**Jewell Farm**	**8.44**	**41**	Pn	**Pn**	**23 12 59.2**	**+1.2**
833A	**Chaparral WMA,**	**8.54**	**190**	P	**Pn**	**23 12 59.5**	**+0.1**
	baz=8.1						
833A	**Chaparral WMA,**	**8.54**	**190**	Pn	**Pn**	**23 12 58.5**	**-0.8**
T47A	**Sharon Grove**	**8.57**	**85**	Pn	**Pn**	**23 13 01.8**	**+2.0**
RSSD	**Black Hills**	**8.74**	**329**	P	**Pn**	**23 13 01.1**	**-1.2**
	baz=146						
P46A	**Rosedale**	**8.81**	**68**	Pn	**Pn**	**23 13 04.0**	**+1.0**
M44A	**Midewin, Midew**	**8.87**	**56**	Pn	**Pn**	**23 13 05.6**	**+1.7**
TX31	**Lajitas Ar. Si**	**8.91**	**215**		**Pn**	**23 13 02.6**	**-2.0**
TXAR	**Lajitas Array**	**8.91**	**215**	Pn	**Pn**	**23 13 03.0**	**-1.5**
	0.7nm,0.3s,baz=43,slow=11,SNR=42						
TXAR				Pg	Pg	23 13 36.4	-10
	2.6nm,0.3s,baz=48,slow=16,SNR=10						
TXAR				Lg	Lg	23 15 30.0	
	2.6nm,0.3s,baz=38,slow=21,SNR=3.8						
TXAR	**Lajitas Array**	**8.91**	**215**	Pn	**Pn**	**23 13 02.6**	**-1.9**
TX32	**Lajitas Array**	**8.91**	**215**	Pn	**Pn**	**23 13 03.0**	**-1.5**
K22A	**Casper**	**8.92**	**314**	P	**Pn**	**23 13 04.3**	**-0.5**
	baz=259,SNR=5.1						
I40A	**Norwalk**	**8.97**	**35**	Pn	**Pn**	**23 13 06.8**	**+1.6**
BLO	**Bloomington**	**9.22**	**72**	Pn	**Pn**	**23 13 09.6**	**+0.9**
SPMN	**Marine on St.**	**9.24**	**23**	P	**Pn**	**23 13 09.7**	**+0.8**
	baz=206,SNR=18						
WCI	**Wyandotte Cave**	**9.26**	**78**	P	**Pn**	**23 13 10.6**	**+1.4**
	baz=264						
L44A	**Lake County Fo**	**9.35**	**52**	P	**Pn**	**23 13 10.5**	**0.0**
	baz=238,SNR=5.8						
L44A	**Lake County Fo**	**9.35**	**52**	Pn	**Pn**	**23 13 11.7**	**+1.3**
LRAL	**Lakeview Retre**	**9.62**	**110**	P	**Pn**	**23 13 14.1**	**-0.1**
	baz=295,SNR=8.5						
P48A	**Milroy**	**10.11**	**71**	Pn	**Pn**	**23 13 20.6**	**-0.3**
R49A	**Shelbyville**	**10.14**	**78**	Pn	**Pn**	**23 13 22.6**	**+1.2**
L46A	**Eue Claire**	**10.32**	**56**	Pn	**Pn**	**23 13 24.6**	**+0.9**
T50A	**Nancy**	**10.38**	**85**	Pn	**Pn**	**23 13 26.4**	**+1.8**
P49A	**Miami Univ. Ec**	**10.66**	**71**	Pn	**Pn**	**23 13 28.9**	**+0.5**
R50A	**Paris**	**10.80**	**78**	Pn	**Pn**	**23 13 31.9**	**+1.5**
BW06	**Boulder Array**	**10.85**	**307**	P	**Pn**	**23 13 30.2**	**-1.0**
	baz=120						
PDAR	**Pinedale Array**	**10.85**	**307**	Pn	**Pn**	**23 13 30.9**	**-0.3**
	0.3nm,0.3s,baz=112,slow=15,SNR=6.5						
PDAR				Pg		23 14 16.3	
	1.0nm,0.3s,baz=97,slow=23,SNR=4.8						
PDAR				Lg	Lg	23 16 38.1	
	2.0nm,0.3s,baz=111,slow=36,SNR=6.5						
PDAR				LR	LR	23 18 24.4	
	comp=Z,46nm,18.4s,baz=100,slow=41						
J45A	**Montague**	**10.97**	**49**	P	**Pn**	**23 13 32.9**	**+0.2**
	baz=236						
TKL	**Tuckaleechee C**	**11.38**	**91**	Pn	**Pn**	**23 13 36.4**	**-1.9**
	2.0nm,0.3s,baz=140,slow=22,SNR=24						
TKL				Sn	**Sn**	**23 15 43.3**	**-2.3**
	1.4nm,0.3s,baz=328,slow=18,SNR=2.5						
TKL				Lg	Lg	23 16 46.5	
	5.2nm,0.3s,baz=188,slow=23,SNR=5.6						
N49A	**Columbus Grove**	**11.39**	**65**	Pn	**Pn**	**23 13 38.9**	**+0.4**
I45A	**Fountain**	**11.40**	**47**	P	**Pn**	**23 13 38.3**	**-0.3**
	baz=234						
L48A	**N Adams**	**11.56**	**59**	Pn	**Pn**	**23 13 41.6**	**+0.9**
I46A	**Reed City**	**11.82**	**49**	P	**Pn**	**23 13 43.2**	**-1.1**
	baz=237,SNR=5.4						
J47A	**Sumner**	**11.85**	**53**	P	**Pn**	**23 13 44.2**	**-0.5**
	baz=241,SNR=9.5						
H45A	**Beulah**	**11.86**	**45**	P	**Pn**	**23 13 44.0**	**-0.8**
	baz=233,SNR=11						
EYMN	**Ely**	**12.09**	**21**	P	**Pn**	**23 13 46.3**	**-1.6**
	baz=205						
ACSO	**Alum Creek Sta**	**12.11**	**69**	P	**Pn**	**23 13 47.3**	**-1.0**
	baz=258,SNR=13						
AAM	**Ann Arbor**	**12.22**	**59**	P	**Pn**	**23 13 49.2**	**-0.6**
	baz=248,SNR=11						
T53A	**Wise**	**12.23**	**84**	P	**Pn**	**23 13 50.4**	**+0.5**
	baz=273,SNR=6.4						
H46A	**Fife Lake**	**12.30**	**47**	P	**Pn**	**23 13 50.7**	**-0.2**
	baz=235						
G45A	**Suttons Bay**	**12.34**	**44**	P	**Pn**	**23 13 49.6**	**-1.7**
	baz=232,SNR=7.2						
O51A	**Pataskala**	**12.37**	**70**	P	**Pn**	**23 13 50.9**	**-1.0**
	baz=259,SNR=18						
I47A	**Gladwin**	**12.44**	**50**	P	**Pn**	**23 13 51.5**	**-1.2**
	baz=239,SNR=7.6						
Q52A	**Bidwell**	**12.47**	**75**	P	**Pn**	**23 13 52.5**	**-0.6**
	baz=264						
S53A	**Williamson**	**12.53**	**81**	P	**Pn**	**23 13 54.3**	**+0.3**
	baz=270						
K49A	**Clarkson**	**12.55**	**57**	P	**Pn**	**23 13 53.9**	**-0.3**
	baz=246,SNR=9.2						
J48A	**Bridge Port**	**12.55**	**54**	P	**Pn**	**23 13 53.7**	**-0.5**
	baz=243,SNR=20						
DGMT	**Dagmar**	**12.59**	**340**	P	**Pn**	**23 13 53.8**	**-1.0**
	baz=156						
P52A	**Corning**	**12.65**	**72**	P	**Pn**	**23 13 55.0**	**-0.6**
	baz=262						
R53A	**Hurricane**	**12.67**	**78**	P	**Pn**	**23 13 56.3**	**+0.3**
	baz=268,SNR=8.5						
R53A	**Hurricane**	**12.67**	**78**	Pn	**Pn**	**23 13 57.3**	**+1.3**
N51A	**Ashland**	**12.71**	**66**	P	**Pn**	**23 13 55.8**	**-0.7**
	baz=256,SNR=26						
L50A	**Kingsville**	**12.72**	**61**	P	**Pn**	**23 13 55.8**	**-0.8**
	baz=250						
X54A	**Belton**	**12.74**	**95**	P	**Pn**	**23 13 57.3**	**+0.4**
	baz=284						
W54A	**Cherokee Point**	**12.77**	**93**	P	**Pn**	**23 13 57.9**	**+0.7**
	baz=282						
V54A	**Nebo**	**12.83**	**90**	P	**Pn**	**23 13 58.5**	**+0.3**
	baz=279,SNR=6.6						
U54A	**Nelsons Funny**	**12.84**	**86**	P	**Pn**	**23 13 58.6**	**+0.3**
	baz=243,SNR=7.5						
U54A	**Nelsons Funny**	**12.84**	**86**	Pn	**Pn**	**23 13 58.9**	**+0.6**
H47A	**Mio**	**12.93**	**49**	P	**Pn**	**23 13 58.0**	**-1.4**
	baz=237,SNR=11						
O52A	**Adamsville**	**12.95**	**70**	Pn	**Pn**	**23 13 59.5**	**-0.2**
	baz=260						
G46A	**Petoskey**	**12.95**	**45**	P	**Pn**	**23 13 57.6**	**-2.1**
	baz=233,SNR=9.9						
M51A	**Elyria**	**12.96**	**65**	P	**Pn**	**23 14 00.2**	**+0.4**
	baz=254						
T54A	**Tazewell**	**12.99**	**84**	P	**Pn**	**23 14 00.1**	**-0.2**
	baz=273,SNR=10.0						
J49A	**Marlette**	**13.00**	**55**	P	**Pn**	**23 13 58.8**	**-1.6**
	baz=244,SNR=13						
I48A	**Sherman Twp**	**13.02**	**51**	P	**Pn**	**23 13 59.3**	**-1.4**
	baz=240,SNR=13						
Q53A	**Leroy**	**13.04**	**76**	P	**Pn**	**23 14 00.5**	**-0.4**
	baz=266						
K50A	**Casco**	**13.11**	**58**	P	**Pn**	**23 14 01.1**	**-0.8**
	baz=248						
S54A	**Dingess, Beckl**	**13.17**	**81**	P	**Pn**	**23 14 02.9**	**+0.1**
	baz=270,SNR=8.8						
S54A	**Dingess, Beckl**	**13.17**	**81**	Pn	**Pn**	**23 14 03.5**	**+0.7**
N52A	**McGinn's Farm,**	**13.20**	**67**	P	**Pn**	**23 14 01.8**	**-1.3**
	baz=257						
P53A	**Whipple**	**13.20**	**73**	P	**Pn**	**23 14 01.7**	**-1.4**
	baz=263						
Y55A	**Saluda**	**13.31**	**98**	P	**Pn**	**23 14 03.0**	**-1.7**
	baz=286						
V55A	**Taylorsville**	**13.41**	**89**	P	**Pn**	**23 14 06.1**	**+0.1**
	baz=279						
R54A	**Victor**	**13.43**	**79**	P	**Pn**	**23 14 06.5**	**+0.3**
	baz=269,SNR=9.6						
KMSC	**Kings Mountain**	**13.44**	**92**	P	**Pn**	**23 14 06.3**	**-0.1**
	baz=282						
O53A	**New Philadelph**	**13.44**	**70**	P	**Pn**	**23 14 05.2**	**-1.2**
	baz=260						
G47A	**Hillman**	**13.45**	**47**	P	**Pn**	**23 14 04.2**	**-2.3**
	baz=236,SNR=20						
U55A	**TA2, Sparta**	**13.46**	**86**	P	**Pn**	**23 14 06.7**	**-0.1**
	baz=276,SNR=7.6						
I49A	**Point Hope**	**13.46**	**53**	P	**Pn**	**23 14 05.1**	**-1.6**
	baz=243,SNR=8.6						
H48A	**Harrisville**	**13.52**	**50**	P	**Pn**	**23 14 05.9**	**-1.5**
	baz=239						
ULM	**Lac du Bonnet**	**13.54**	**5**	Pn	**Pn**	**23 14 04.5**	**-3.2**
	1.8nm,0.3s,baz=185,slow=12,SNR=6.0						
ULM				Sn	Sn	23 16 28.3	-10
	1.5nm,0.3s,baz=284,slow=15,SNR=4.2						
ULM				Lg	Lg	23 17 54.0	
	1.6nm,0.3s,baz=104,slow=16,SNR=4.2						
ULM				LR	LR	23 19 27.5	
	comp=Z,261nm,18.1s,baz=272,slow=38						
M52A	**Chesterland**	**13.61**	**65**	P	**Pn**	**23 14 07.6**	**-1.1**
	baz=255						
T55A	**Pulaski**	**13.62**	**83**	P	**Pn**	**23 14 09.1**	**+0.2**
	baz=274,SNR=8.5						
S55A	**Lewisburg**	**13.81**	**81**	P	**Pn**	**23 14 11.8**	**+0.2**
	baz=271						
N53A	**Lisbon**	**13.82**	**68**	P	**Pn**	**23 14 09.9**	**-1.7**
	baz=258,SNR=12						
Z56A	**Williston**	**13.89**	**100**	P	**Pn**	**23 14 12.5**	**-0.1**
	baz=289						
U56A	**King**	**14.01**	**87**	P	**Pn**	**23 14 14.3**	**+0.1**
	baz=277,SNR=6.9						
W56A	**Indian Trail**	**14.04**	**92**	P	**Pn**	**23 14 14.0**	**-0.6**
	baz=282						
M53A	**WI Miller and**	**14.08**	**65**	P	**Pn**	**23 14 14.5**	**-0.7**
	baz=256,SNR=6.0						
R55A	**Marlinton**	**14.11**	**79**	P	**Pn**	**23 14 15.0**	**-0.7**
	baz=269,SNR=7.2						
ELK	**Elko**	**14.17**	**292**	LR	LR	23 20 06.6	
	comp=Z,94nm,19.6s,baz=258,slow=39						
T56A	**Rocky Mt**	**14.22**	**84**	P	**Pn**	**23 14 16.3**	**-0.8**
	baz=274,SNR=7.6						
D46A	**Sault St. Mari**	**14.38**	**41**	P	**Pn**	**23 14 16.9**	**-2.3**
	baz=230						
P55A	**Reedsville**	**14.40**	**74**	P	**Pn**	**23 14 17.7**	**-2.0**
	baz=265						
Z57A	**Bowman**	**14.43**	**99**	P	**Pn**	**23 14 18.6**	**-1.3**
	baz=288						
N54A	**Moraine State**	**14.48**	**68**	P	**Pn**	**23 14 18.2**	**-2.5**
	baz=259,SNR=11						
L53A	**Girard**	**14.51**	**64**	P	**Pn**	**23 14 18.5**	**-2.6**
	baz=255						
E47A	**Iron Bridge**	**14.52**	**44**	P	**Pn**	**23 14 17.9**	**-3.2**
	baz=233,SNR=9.3						
F48A	**Evansville**	**14.54**	**47**	P	**Pn**	**23 14 17.7**	**-3.7**
	baz=237,SNR=11						
S56A	**Natural Bridge**	**14.56**	**81**	P	**Pn**	**23 14 21.5**	**-0.2**
	baz=272						
I51A	**Listowel**	**14.59**	**56**	P	**Pn**	**23 14 18.9**	**-3.2**
	baz=247,SNR=6.9						
R56A	**Bull Pasture M**	**14.68**	**78**	P	**Pn**	**23 14 22.4**	**-1.1**
	baz=269						
J52A	**Paris**	**14.75**	**59**	P	**Pn**	**23 14 21.4**	**-2.8**
	baz=250,SNR=5.7						
U57A	**Blanch**	**14.84**	**86**	P	**Pn**	**23 14 24.9**	**-0.6**
	baz=277						
M54A	**Oil Creek Stat**	**14.84**	**66**	P	**Pn**	**23 14 23.2**	**-2.3**
	baz=257						
F49A	**Sandfield**	**14.84**	**48**	P	**Pn**	**23 14 21.8**	**-3.7**
	baz=238,SNR=18						
T57A	**Hurt**	**14.85**	**84**	P	**Pn**	**23 14 24.6**	**-1.0**
	baz=274,SNR=9.7						
D47A	**Chapleau**	**14.98**	**42**	P	**Pn**	**23 14 23.2**	**-4.2**
	baz=232,SNR=14						
E48A	**Lockeyer**	**15.16**	**45**	P	**Pn**	**23 14 26.0**	**-3.8**
	baz=236,SNR=20						
N55A	**Marion Center**	**15.20**	**69**	P	**Pn**	**23 14 29.2**	**-1.2**
	baz=261						
I52A	**Shelburne**	**15.25**	**56**	P	**Pn**	**23 14 28.8**	**-2.2**
	baz=247						
L54A	**Sinclairville**	**15.26**	**63**	P	**Pn**	**23 14 29.1**	**-2.1**
	baz=255						
M55A	**Ridgway**	**15.49**	**67**	P	**Pn**	**23 14 31.6**	**-2.6**
	baz=258						
N56A	**West Decatur**	**15.74**	**69**	P	**Pn**	**23 14 34.0**	**-3.5**
	baz=261						
D48A	**Paudash Townsh**	**15.76**	**44**	P	**Pn**	**23 14 34.3**	**-3.4**
	baz=234						
V59A	**Middlesex**	**15.81**	**88**	P	**Pn**	**23 14 36.4**	**-1.9**
	baz=279						
L55A	**Hinsdale**	**15.88**	**64**	P	**Pn**	**23 14 36.7**	**-2.6**
	baz=256						
M56A	**Emporium**	**15.92**	**67**	P	**Pn**	**23 14 37.3**	**-2.5**
	baz=259,SNR=7.0						
E50A	**Wahnapitae**	**15.96**	**48**	P	**Pn**	**23 14 36.7**	**-3.5**
	baz=239,SNR=6.4						
SSPA	**Standing Stone**	**16.01**	**70**	P	**Pn**	**23 14 37.8**	**-3.0**
	baz=262						
D49A	**Beulah Townshi**	**16.07**	**44**	P	**Pn**	**23 14 38.6**	**-3.0**
	baz=235						
U59A	**Littleton**	**16.08**	**86**	P	**Pn**	**23 14 40.1**	**-1.8**
	baz=277						
SADO	**Sadowa**	**16.21**	**55**	Pn	**Pn**	**23 14 40.3**	**-3.1**
	1.1nm,0.3s,baz=267,slow=13,SNR=9.7						
SADO				Sn	**Sn**	**23 17 34.2**	**-8.9**
	1.4nm,0.3s,baz=301,slow=13,SNR=2.5						
SADO				Lg	Lg	23 19 17.9	
	1.7nm,0.3s,baz=360,slow=16,SNR=3.3						
F51A	**Arnstein**	**16.21**	**50**	P	**Pn**	**23 14 40.7**	**-2.8**
	baz=242,SNR=8.2						
N57A	**Milroy**	**16.28**	**70**	P	**Pn**	**23 14 41.9**	**-2.5**
	baz=262,SNR=9.9						
K55A	**Perry**	**16.28**	**63**	P	**Pn**	**23 14 42.0**	**-2.4**
	baz=255						
NVAR	**Mina Array Bea**	**16.34**	**282**	Pn	**P**	**23 14 48.9**	**+0.6**
	0.1nm,0.3s,baz=100,slow=9.4,SNR=5.9						
H53A	**Bobcaygeon**	**16.50**	**56**	P	**Pn**	**23 14 43.7**	**-3.5**
	baz=248,SNR=5.5						
L56A	**Greenwood**	**16.51**	**65**	P	**Pn**	**23 14 44.6**	**-2.8**
	baz=258						
F52A	**Sundridge**	**16.52**	**51**	P	**Pn**	**23 14 44.6**	**-2.8**
	baz=243,SNR=19						
LPIG	**La Paz**	**16.59**	**224**	LR	LR	23 21 34.7	
	comp=Z,106nm,19.5s,baz=318,slow=38						
J55A	**Hilton**	**16.60**	**61**	P	**Pn**	**23 14 45.8**	**-2.6**
	baz=254						
M57A	**Sunshine Farm,**	**16.68**	**68**	P	**Pn**	**23 14 47.3**	**-2.2**
	baz=261						
G53A	**Haliburton**	**16.68**	**54**	P	**Pn**	**23 14 46.4**	**-3.1**
	baz=247,SNR=12						
E51A	**G1948 Merrick**	**16.76**	**49**	P	**Pn**	**23 14 47.4**	**-3.1**
	baz=241,SNR=13						
D50A	**G1974 Best Tow**	**16.87**	**46**	P	**Pn**	**23 14 48.8**	**-3.1**

L60A	**Shokan** baz=262	**18.93**	**67**	P		**P**	**23 15 15.8**	**-0.9**
J59A	**Piesco** baz=257	**18.99**	**62**	P		**P**	**23 15 16.5**	**-0.8**
J05D	**Fort Rock, OR** baz=102	**19.06**	**297**	P		**P**	**23 15 16.2**	**-2.0**
G57A	**Newington** baz=252	**19.09**	**57**	P		**P**	**23 15 17.7**	**-0.6**
M61A	**Granite Spring** baz=264	**19.18**	**69**	P		**P**	**23 15 18.9**	**-0.5**
LONY	**Lake Ozonia** baz=254	**19.22**	**59**	P		**P**	**23 15 19.8**	**-0.1**
LONY	**Lake Ozonia** comp=Z,8.0nm,1.1s	**19.22**	**59**	IAmb		IAmb	23 15 23.1	
H58A	**Gabriels** baz=255	**19.45**	**60**	P		**P**	**23 15 22.2**	**-0.1**
L61A	**Hillsdale 1, H** baz=262	**19.45**	**66**	P		**Pn**	**23 15 22.5**	**-1.0**
D55A	**Sainte-Anne-du** baz=246	**19.45**	**51**	P		**P**	**23 15 22.2**	**-0.1**
LSQQ	**Lebel-sur-Quev** baz=239	**19.50**	**44**	P		**Pn**	**23 15 23.3**	**-0.7**
I59A	**Olmsteadville** baz=257	**19.51**	**62**	P		**P**	**23 15 22.8**	**-0.2**
MATQ	**Matagami** baz=236	**19.51**	**42**	P		**Pn**	**23 15 23.3**	**-0.9**
E56A	**St. Veronique** baz=248,SNR=7.5	**19.55**	**53**	P		**P**	**23 15 22.5**	**-0.8**
J60A	**Lant Hill Farm** baz=259,SNR=5.7	**19.72**	**63**	P		**P**	**23 15 25.2**	**-0.1**
K61A	**Williamstown** baz=261	**19.73**	**65**	P		**Pn**	**23 15 26.4**	**-0.5**
G58A	**Ormstown** baz=253,SNR=5.6	**19.73**	**58**	P		**P**	**23 15 25.2**	**-0.1**
CMIG	**Matias Romero** comp=Z,0.1nm,0.3s,baz=282,slow=20,SNR=2.9	**19.78**	**172**	P		**P**	**23 15 26.0**	**-0.1**
CMIG				S		S	23 18 57.4	-12
	comp=Z,0.1nm,0.3s,baz=205,slow=19,SNR=1.7							
H59A	**Cadyville** baz=255	**19.84**	**59**	P		**Pn**	**23 15 27.1**	**-1.1**
YBH	**Yreka Blue Hor** comp=Z,3.2nm,0.9s,baz=78,slow=2.8,SNR=5.3	**19.89**	**292**	P		**Pn**	**23 15 29.1**	**+0.2**
D56A	**ZEC Mazanza, M** baz=247,SNR=5.8	**19.91**	**52**	P		**P**	**23 15 26.8**	**-0.6**
I60A	**Shoreham** baz=258	**19.93**	**62**	P		**Pn**	**23 15 28.0**	**-1.2**
E57A	**Chemin Saint G** baz=250	**20.07**	**54**	P		**P**	**23 15 28.9**	**-0.3**
L61B	**Northampton** baz=262,SNR=5.5	**20.13**	**66**	P		Pn	23 15 30.5	-1.1
G59A	**Clarenceville** baz=254	**20.31**	**58**	P		Pn	23 15 32.7	-1.0
D57A	**Chemin Vers le** baz=249,SNR=6.5	**20.45**	**53**	P		Pn	23 15 34.0	-1.4
E58A	**La Victoria** baz=251	**20.63**	**55**	P		**P**	**23 15 35.5**	**+0.4**
G60A	**Masonville** baz=255,SNR=8.2	**20.89**	**59**	P		Pn	23 15 39.0	-1.5
D58A	**Chemin du LacG** baz=250,SNR=8.1	**21.12**	**53**	P		**P**	**23 15 41.3**	**+0.8**
LATQ	**La Tuque** baz=249	**21.29**	**52**	P		**P**	**23 15 43.1**	**+0.9**
F60A	**Warwick** baz=254,SNR=11	**21.38**	**57**	P		**P**	**23 15 43.8**	**+0.6**
CHGQ	**Chibougamau** baz=241	**21.39**	**45**	P		**P**	**23 15 44.4**	**+1.1**
G61A	**St-Isidore-de-** baz=256	**21.49**	**59**	P		**P**	**23 15 46.0**	**+1.6**
E60A	**Ste Agathe de** baz=253,SNR=5.7	**21.83**	**56**	P		**P**	**23 15 48.1**	**0.0**
F61A	**St Evariste** baz=255	**22.03**	**57**	P		**P**	**23 15 50.5**	**+0.3**
G62A	**West of Eustis** baz=257	**22.16**	**59**	P		**P**	**23 15 51.1**	**-0.5**
D60A	**Saint Jean D'O** baz=253	**22.34**	**55**	P		**P**	**23 15 52.7**	**-0.7**
BBB	**Bella Bella** comp=Z,92nm,18.3s,baz=220,slow=36	**26.30**	**315**	LR		LR	23 26 49.1	
YKA	**Yellowknife Ar** comp=Z,1.5nm,0.9s,baz=146,slow=9.1,SNR=6.4	**27.77**	**343**	P		**P**	**23 16 44.5**	**+0.2**
YKA				LR		LR	23 28 13.1	
	comp=Z,190nm,18.1s,baz=0.0,slow=37							
SCHQ	**Schefferville** comp=Z,4.3nm,0.7s,baz=234,slow=7.7,SNR=6.9	**27.80**	**40**	P		**P**	**23 16 46.3**	**+1.5**
SCHQ	**Schefferville** comp=Z,4.9nm,0.8s	**27.80**	**40**	IAmb		IAmb	23 16 46.9	
ILAR	**Eielson Array** comp=Z,2.4nm,0.8s,baz=108,slow=7.0,SNR=24	**40.19**	**330**	P		**P**	**23 18 33.5**	**+1.7**
ILAR				PcP		**PcP**	**23 20 37.2**	**+1.5**
	comp=Z,0.8nm,1.0s,baz=136,slow=3.5,SNR=4.8							
LPAZ	**La Paz** comp=Z,0.5nm,0.6s,baz=210,slow=8.1,SNR=2.3	**59.74**	**147**	P		**P**	**23 21 01.0**	**-0.6**
LPAZ	**La Paz** comp=Z,0.8nm,0.7s	**59.74**	**147**	IAmb		IAmb	23 21 04.1	
ARCES	**ARCESS Array B** comp=Z,4.9nm,0.9s,baz=318,slow=7.1,SNR=5.9	**66.23**	**19**	P		**P**	**23 21 44.4**	**+1.0**
NOA	**NORSAR Array B** comp=Z,0.7nm,0.8s,baz=291,slow=6.2,SNR=3.0	**66.83**	**30**	P		**P**	**23 21 47.3**	**0.0**
NOA				LR		LR	23 49 20.9	
	comp=Z,15nm,21.6s,baz=275,slow=34							
HFS	**Hagfors** comp=Z,3.1nm,0.9s,baz=319,slow=6.1,SNR=5.5	**68.35**	**30**	P		**P**	**23 21 58.3**	**+1.4**
ESDC	**Sonseca Array** comp=Z,0.9nm,0.9s,baz=298,slow=7.9,SNR=4.2	**70.27**	**55**	P		**P**	**23 22 10.3**	**+1.1**
FINES	**FINESS Array B** comp=Z,1.2nm,0.6s,baz=282,slow=3.7,SNR=7.7	**72.08**	**25**	P		**P**	**23 22 20.8**	**+1.2**
GERES	**GERESS Array B** comp=Z,0.6nm,0.7s,baz=322,slow=4.1,SNR=6.1	**75.33**	**39**	P		**P**	**23 22 40.6**	**+1.4**
KEST	**Kesra** comp=Z,3.1nm,0.8s,baz=259,slow=5.2,SNR=3.7	**81.14**	**52**	P		**P**	**23 23 13.0**	**+1.4**
AKASG	**Malin Array Be** comp=Z,1.1nm,0.6s,baz=325,slow=4.7,SNR=2.4	**81.22**	**31**	P		**P**	**23 23 11.6**	**0.0**
AKASG	**Malin Array Be** comp=Z,0.7nm,0.9s	**81.22**	**31**	IAmb		IAmb	23 23 20.8	
ZALV	**Zalesovo Beam** comp=Z,1.3nm,0.6s,baz=347,slow=6.1,SNR=7.4	**89.61**	**358**	P		**P**	**23 23 53.4**	**0.0**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.9s,baz=305,slow=5.3,SNR=2.8	**89.67**	**74**	P		**P**	**23 23 54.4**	**+0.1**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.9s	**89.67**	**74**	IAmb		IAmb	23 23 55.9	
SONM	**Songino Array** comp=Z,0.4nm,0.5s,baz=5.0,slow=4.9,SNR=2.1	**93.03**	**344**	P		**P**	**23 24 12.1**	**+2.5**
SONM	**Songino Array** comp=Z,1.3nm,0.5s	**93.03**	**344**	IAmb		IAmb	23 24 18.8	
KSRS	**Korea Array** comp=Z,9.1nm,18.0s,baz=215,slow=39	**94.88**	**325**	LR		LR	00 13 07.9	
MKAR	**Makanchi Array** comp=Z,0.4nm,0.8s,baz=343,slow=1.5,SNR=3.3	**96.81**	**360**	P		**P**	**23 24 27.7**	**+1.0**
ASAR	**Alice Springs** comp=Z,0.4nm,0.8s,baz=37,slow=3.6,SNR=2.5	**133.96**	**271**	PKP		**PKiKP**	**23 30 14.9**	**+0.1**
MAW	**Mawson** comp=Z,4.3nm,0.9s,baz=252,slow=3.5,SNR=5.7	**147.24**	**166**	PKPbc		**PKPab**	**23 30 39.3**	**-0.6**

*ATH **20** 23:25:07.0, 37.56N×20.96E, h15km±4km, ML2.0/4, Error ellipse: s-maj=4.6km s-min=1.1km az=21.0*
*THE **20** 23:25:07.1, 37.54N×20.93E, h16km±1km, ML2.7/3, Error ellipse: s-maj=2.3km s-min=0.9km az=27.0*

ISC 20 23:25:07.0±1.1, 37.55N±0.04×20.96E±0.04, h18km±7km, n32, σ0 946/41, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRI1	**kERI**	**0.15**	**314**	P	**Pb**	**23 25 11.9**	**+0.5**
KRI1				S	**Sg**	**23 25 14.0**	**-0.2**
	4μm,0.2s						
ZAK2	**Zakynthos**	**0.24**	**349**	P	**Pg**	**23 25 12.7**	**+0.2**
ZAK2				S	**Sg**	**23 25 16.2**	**0.0**
	4μm,0.3s						
VTN	**Vitineika**	**0.40**	**26**	P	**Pg**	**23 25 15.6**	**+0.2**
VTN				S	**Sb**	**23 25 23.1**	**+1.5**
VTN	**Vitineika**	**0.40**	**26**	P	**Pg**	**23 25 15.6**	**+0.2**
AMT	**Artemida-Makis**	**0.60**	**92**	P	**Pg**	**23 25 18.9**	**0.0**
AMT				S	**Sb**	**23 25 27.9**	**+0.7**
	342nm,0.3s						
AMT	**Artemida-Makis**	**0.60**	**92**	P	**Pg**	**23 25 18.8**	**-0.2**
AMT				S	**Sb**	**23 25 27.5**	**+0.3**
AMT				AML	AML	23 25 30.5	
	comp=N,693μm,0.4s						
AMT				AML	AML	23 25 31.0	
	comp=E,623μm,0.3s						
RLS	**Riolos of Patr**	**0.64**	**39**	P	**Pg**	**23 25 19.2**	**-0.5**
RLS	**Riolos of Patr**	**0.64**	**39**	P	**Pg**	**23 25 19.3**	**-0.5**
RLS				S	**Sg**	**23 25 27.9**	**-0.5**
RLS				AML	AML	23 25 29.9	
	comp=E,207μm,0.3s						
RLS				AML	AML	23 25 30.4	
	comp=N,234μm,0.4s						
VLS	**Valsamata**	**0.69**	**335**	P	**Pg**	**23 25 20.2**	**-0.4**
VLS				S	**Sb**	**23 25 30.4**	**+0.7**
VLS	**Valsamata**	**0.69**	**335**	P	**Pg**	**23 25 20.1**	**-0.5**
VLS				S	**Sb**	**23 25 29.9**	**+0.2**
VLS				AML	AML	23 25 32.1	
	comp=E,280μm,0.1s						
VLS				AML	AML	23 25 32.4	
	comp=N,356μm,0.2s						
DRO	**Drossia**	**0.72**	**56**	P	**Pg**	**23 25 20.8**	**-0.3**
DRO	**Drossia**	**0.72**	**56**	P	**Pg**	**23 25 20.7**	**-0.4**
DRO				S	**Sg**	**23 25 30.8**	**+0.1**
DRO				AML	AML	23 25 37.5	
	comp=N,426μm,0.4s						
DRO				AML	AML	23 25 40.5	
	comp=E,124μm,0.5s						
KEF5	**Kardakata, Kep**	**0.82**	**332**	P	**Pb**	**23 25 22.8**	**0.0**
ITM	**Ithomi**	**0.86**	**116**	P	**Pb**	**23 25 23.5**	**+0.1**
PYL	**PYLOS**	**0.91**	**136**	P	**Pb**	**23 25 23.9**	**-0.4**
FSK	**Fiskardo**	**0.96**	**341**	P	**Pb**	**23 25 25.0**	**-0.1**
TRIP	**Tripoli**	**1.04**	**91**	P	**Pn**	**23 25 27.2**	**+0.2**
KLV	**Kalavryta, Ach**	**1.06**	**62**	P	**Pb**	**23 25 26.4**	**-0.6**
EVGI	**Lefkada island**	**1.09**	**347**	P	**Pb**	**23 25 26.9**	**-0.6**
EVGI	**Lefkada island**	**1.09**	**347**	P	**Pb**	**23 25 26.8**	**-0.6**
VLX	**Vlachokerasia**	**1.15**	**99**	P	**Pn**	**23 25 28.6**	**+0.2**
PVO	**Paravola**	**1.15**	**23**	P	**Pb**	**23 25 28.8**	**+0.3**
PVO	**Paravola**	**1.15**	**23**	P	**Pb**	**23 25 28.7**	**+0.3**
GUR	**Goura**	**1.16**	**70**	P	**Pn**	**23 25 28.3**	**-0.3**
GUR	**Goura**	**1.16**	**70**	P	**Pn**	**23 25 28.0**	**-0.6**
TRIZ	**Trizonia**	**1.20**	**47**	P	**Pg**	**23 25 30.1**	**-0.1**
KALE	**Kalithea**	**1.25**	**48**	P	**Pn**	**23 25 29.8**	**0.0**
LKD2	**Lefkada island**	**1.25**	**349**	P	**Pn**	**23 25 29.6**	**-0.2**
ANX	**Ano Chora**	**1.29**	**36**	P	**Pn**	**23 25 30.3**	**0.0**
EVR	**Evrytania**	**1.52**	**26**	P	**Pg**	**23 25 35.8**	**-0.5**
DID	**Didima**	**1.81**	**91**	P	**Pb**	**23 25 40.0**	**+0.3**
AGG	**Agios Georgios**	**1.82**	**36**	P	**Pg**	**23 25 41.4**	**-0.7**

*RSNC **20** 23:31:58.5±0.9, 3.86N×71.58W, h4km±5km, ML3.5, Mw3.7*
*IDC **20** 23:31:58.8±6.0, 3.87N×71.50W, h35km±45km, mb3.3/2, mb1 3.7/3, mb1mx3.3/25, mbtmp3.6/3, ML2.4/1, Error ellipse: s-maj=79.8km s-min=36.3km az=14.0*

ISC 20 23:31:56.2±1.9, 3.89N±0.04×71.48W±0.06, h6km±10km, n38, σ1 89/64, 1D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTGC	**Puerto Gaitan,**	**0.73**	**295**	*i* Pg	**Pg**	**23 32 09.1**	**-1.2**
PTGC				*e*Sg	**Sg**	**23 32 18.5**	**-1.2**
PTGC				*i*		23 32 27.0	
	comp=Z,1μm,0.2s						
GUVC	**San Jose del G**	**1.76**	**221**	*e*P	**Pn**	**23 32 27.0**	**-0.4**
GUVC				*e*S	**Sn**	**23 32 49.1**	**-1.1**
GUVC				*i*		23 32 55.8	
	comp=Z,1μm,0.2s						
VILC	**Villavicencio,**	**2.23**	**276**	*e*P	**Pn**	**23 32 34.1**	**+0.3**
VILC				*e*S	**Sn**	**23 33 01.0**	**-0.8**
VILC				*i*		23 33 06.8	
	comp=Z,807nm,0.3s						
CHIC	**Chingaza**	**2.37**	**288**	*e*P	**Pn**	**23 32 36.3**	**+0.3**
CHIC				*e*S	**Sn**	**23 33 06.0**	**+0.3**
CHIC				*i*		23 33 10.0	
	comp=Z,294nm,0.5s						
TAMC	**Tame, Arauca**	**2.55**	**353**	*e*P	**Pn**	**23 32 39.6**	**+1.3**
TAMC				*e*S	**Sn**	**23 33 11.8**	**+2.0**
TAMC				*i*		23 33 16.3	
	comp=Z,409nm,0.3s						
RUSC	**La Rusia**	**2.56**	**321**	*e*P	**Pn**	**23 32 39.4**	**+0.7**
RUSC				*e*S	**Sn**	**23 33 11.4**	**+0.9**
RUSC				*i*		23 33 28.1	
	comp=Z,177nm,0.4s						
MACC	**Macarena, Meta**	**2.93**	**234**	*e*P	**Pn**	**23 32 45.6**	**+2.1**
MACC				*e*S	**Sb**	**23 33 23.1**	**-2.1**
MACC				*i*		23 33 34.9	
	comp=Z,355nm,0.5s						
ROSC	**El Rosal**	**2.99**	**289**	Pn	**Pn**	**23 32 45.5**	**+0.9**
	comp=Z,11nm,0.3s,baz=111,slow=18,SNR=14			Pg	**Pg**	**23 32 55.4**	**+1.7**
ROSC							
	comp=Z,61nm,0.3s,baz=124,slow=15,SNR=39			Lg	Lg	23 33 31.2	
ROSC							
	comp=Z,21nm,0.3s,baz=251,slow=22,SNR=2.1						
ROSC	**El Rosal**	**2.99**	**289**	*e*P	**Pn**	**23 32 45.7**	**+1.1**
ROSC				*e*S	**Sg**	**23 33 31.0**	**-1.4**
ROSC				*i*		23 33 45.6	
	comp=Z,79nm,0.5s						
SPBC	**San Pablo de B**	**3.13**	**304**	*e*P	**Pn**	**23 32 45.9**	**-0.4**
SPBC				*e*S	**Sn**	**23 33 22.2**	**-1.7**
SPBC				*i*		23 33 33.4	
	comp=Z,112nm,0.3s						
BARC	**Barichara**	**3.18**	**328**	*e*P	**Pn**	**23 32 47.0**	**-0.1**
BARC				*e*S	**Sb**	**23 33 32.6**	**+0.1**
BARC				*i*		23 33 41.8	
	comp=Z,278nm,0.4s						
PRAC	**Prado**	**3.41**	**267**	*e*P	**Pn**	**23 32 51.1**	**+1.0**
PRAC				*e*S	**Sb**	**23 33 40.1**	**+1.2**
PRAC				*i*		23 33 50.1	
	comp=Z,90nm,0.5s						
PAMC	**Pamplona, Colo**	**3.64**	**340**	*e*P	**Pn**	**23 32 54.3**	**+0.6**
PAMC				*e*S	**Sb**	**23 33 45.0**	**-1.0**
PAMC				*i*		23 34 01.4	
	comp=Z,149nm,0.4s						
ORTC	**Ortega, Tolima**	**3.76**	**270**	*e*P	**Pn**	**23 32 55.0**	**+0.1**
ORTC				*e*S	**Sb**	**23 33 51.1**	**+2.0**
ORTC				*i*		23 34 03.6	
	comp=Z,100nm,0.7s						
NORC	**Norcasia**	**3.77**	**296**	*e*P	**Pn**	**23 32 54.4**	**-0.7**
NORC				*e*S	**Sn**	**23 33 37.6**	**-2.2**
NORC				*i*		23 33 55.8	
	comp=Z,46nm,0.4s						
TOLC	**Tolima**	**3.90**	**280**	*e*P	**Pn**	**23 32 57.6**	**+0.6**
TOLC				*e*S	**Sb**	**23 33 55.2**	**+1.9**
TOLC				*i*		23 34 14.2	
	comp=Z,212nm,0.6s						
BRRC	**Barranca, Sant**	**3.90**	**325**	*e*P	**Pn**	**23 32 56.7**	**-0.1**
BRRC				*e*S	**Sn**	**23 33 42.8**	**-0.1**
ANIL	**Santa Ana**	**3.96**	**279**	*e*P	**Pn**	**23 32 58.3**	**+0.4**
ANIL				*e*S	**Sb**	**23 33 55.5**	**+0.3**
ANIL				*i*		23 34 18.0	
	comp=Z,253nm,0.5s						
PTBC	**PUERTO BERRIO,**	**3.97**	**312**	*e*P	**Pn**	**23 32 56.3**	**-1.5**
PTBC				*e*S	**Sb**	**23 33 57.5**	**+2.5**
PTBC				*i*		23 34 07.4	
	comp=Z,46nm,0.3s						
RREF	**El Recreo**	**3.99**	**285**	*e*P	**Pn**	**23 32 58.7**	**+0.1**
RREF				*e*S	**Sb**	**23 33 56.7**	**+0.5**
RREF				*i*		23 33 59.1	
	comp=Z,50nm,0.2s						
GUY2C	**Guyana, Caldas**	**4.10**	**289**	*e*P	**Pn**	**23 33 00.1**	**+0.1**
GUY2C				*e*S	**Sn**	**23 33 46.8**	**-1.8**
GUY2C				*i*		23 34 06.1	
	comp=Z,54nm,0.4s						
BETC	**Betania**	**4.14**	**253**	*e*P	**Pn**	**23 33 02.9**	**+2.7**
BETC				*e*S	**Sb**	**23 34 02.5**	**+2.6**
GARC	**Garzon, Huila**	**4.35**	**247**	*e*S	**Sb**	**23 34 05.3**	**-1.0**
MARP	**Paez Belalcaza**	**4.59**	**257**	*e*P	**Pb**	**23 33 18.8**	**+1.3**
MARP				*e*S	**Sb**	**23 34 15.6**	**+2.4**
MARP				*i*		23 34 20.8	
	comp=Z,25nm,0.4s						
HELC	**Santa Helena**	**4.64**	**300**	*e*P	**Pn**	**23 33 07.2**	**-0.1**
HELC				*e*S	**Sn**	**23 34 05.0**	**+3.2**
HELC				*i*		23 34 18.5	
	comp=Z,20nm,0.5s						
OCAC	**Ocana**	**4.70**	**337**	*e*P	**Pb**	**23 33 21.9**	**+2.7**
OCAC				*e*S	**Sn**	**23 34 06.3**	**+3.5**
OCAC				*i*		23 34 26.6	
	comp=Z,78nm,0.5s						
YOTC	**Yotoco, Valle**	**4.86**	**271**	*e*P	**Pn**	**23 33 09.4**	**-0.7**
YOTC				*e*S	**Sb**	**23 34 21.8**	**+1.0**
YOTC				*i*		23 34 28.3	
	comp=Z,17nm,0.4s						
ZARC	**Zaragoza, Cauc**	**4.92**	**317**	*e*P	**Pn**	**23 33 11.7**	**+0.9**
PCON	**Cinco Dias**	**5.15**	**253**	*e*P	**Pb**	**23 33 24.4**	**-2.8**
PCON				*e*S	**Sb**	**23 34 33.3**	**+3.7**
PCON				*i*		23 34 42.6	
	comp=Z,134nm,0.6s						
SOTA	**Rioblanco**	**5.41**	**251**	*e*S	**Sb**	**23 34 39.8**	**+2.7**
SOTA				*i*		23 34 52.6	
	comp=Z,38nm,0.8s						
SMLC	**San Martn de**	**5.52**	**332**	*e*P	Pn	23 33 05.6	-13
SMLC				*e*S	**Sn**	**23 34 17.2**	**-5.8**
SMLC				*i*		23 34 52.2	
	comp=Z,25nm,0.5s						
UREC	**San Jos de Ur**	**5.57**	**314**	*e*P	**Pn**	**23 33 17.9**	**-1.8**
UREC				*i*		23 34 31.4	
	comp=Z,12nm,0.4s						
DBBC	**Dabeiba**	**5.65**	**304**	*e*P	**Pn**	**23 33 21.9**	**+1.0**
PUAC	**Puerto Asis, P**	**6.08**	**237**	*e*S	**Sb**	**23 35 00.4**	**+4.8**
CUSE	**Cuicocha Este**	**7.78**	**243**	*e*P	Pn	23 33 34.9	-16
TXAR	**Lajitas Array**	**39.64**	**313**	P	**P**	**23 39 27.2**	**-2.0**
	comp=Z,0.3nm,0.8s,baz=132,slow=10,SNR=5.9						
TORD	**Torodi Ar. Bea**	**72.75**	**78**	P	**P**	**23 43 24.3**	**-1.8**
	comp=Z,0.6nm,0.9s,baz=279,slow=5.6,SNR=4.9						
WRA	**Warramunga Arr**	**150.20**	**236**	PKPbc	**PKPdf**	**23 51 46.2**	**+1.9**
	comp=Z,0.5nm,0.8s,baz=108,slow=2.7,SNR=1.6						

IDC 20 23:53:26.2±11.0, 23.80S×179.26E, h627km±150km, mb3.2/4, mb1 3.5/4, mb1mx3.0/25, mbtmp4.3/4, Error ellipse: s-maj=140.8km s-min=55.2km az=173.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.13**	**248**	P	P	23 59 20.7	-0.7
	2.8nm,0.4s,baz=94,slow=8.8,SNR=5.9						
ASAR	**Alice Springs**	**41.38**	**261**	P	P	00 00 20.4	+0.3
	1.3nm,0.5s,baz=94,slow=7.3,SNR=20						
WRA	**Warramunga Arr**	**41.74**	**266**	P	P	00 00 23.1	+0.2
	3.1nm,0.4s,baz=98,slow=8.2,SNR=6.8						
TXAR	**Lajitas Array**	**90.95**	**58**	P	P	00 05 25.4	+0.2
	0.6nm,0.8s,baz=218,slow=7.6,SNR=7.0						
HFS	**Hagfors**	**142.31**	**348**	PKP	PKPdf	00 11 47.2	-0.9
	1.2nm,0.4s,baz=50,slow=4.5,SNR=16						

*IDC **21** 00:16:35.0±1.0, 35.53N×28.85E, h0km, mb3.8/7, mb1 3.8/13, mb1mx3.6/46, mbtmp3.7/13, ML3.5/6, MS2.6/5, Ms1 2.6/5, ms1mx2.4/42, Error ellipse: s-maj=23.0km s-min=14.6km az=171.0*
*ISK **21** 00:16:36.7, 35.43N×28.86E, h15km, ML3.6/59*
*DDA **21** 00:16:39.0, 35.51N×28.79E, h14km±2km, MW3.6*
*ATH **21** 00:16:39.7, 35.61N×28.77E, h59km±7km, ML3.1/3, Error ellipse: s-maj=7.4km s-min=1.2km az=7.0*
*THE **21** 00:16:40.2±0.0, 35.47N×28.94E, h53km±15km, ML3.4/3, Error ellipse: s-maj=15.8km s-min=2.1km az=346.0*
*NIC **21** 00:16:40.2±0.0, 35.46N×28.92E, h33km±39km, Ml3.8/4*
*GII **21** 00:16:41.3±0.0, 35.24N×29.30E, h3km, Mm3.0/6*

ISC 21 00:16:38.3±1.1, 35.44N±0.03×28.87E±0.02, h30km±10km, n185, σ1 55/223, mb3.6/7, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSL	**Kastellorizon**	**0.92**	**39**	P	**Pn**	**00 16 56.2**	**+1.1**
KSL	**Kastellorizon**	**0.92**	**39**	P	**Pn**	**00 16 56.4**	**+1.2**
KSL				S	**Sn**	**00 17 08.2**	**+0.9**
KSL				AML	AML	00 17 14.3	
	comp=E,2011μm,0.5s						
KSL				AML	AML	00 17 14.8	
	comp=N,1552μm,0.5s						
KSL	**Kastellorizon**	**0.92**	**39**	P	**Pn**	**00 16 56.4**	**+1.2**
KSL				S	**Sn**	**00 17 08.3**	**+0.9**
ARG	**Arkhangelos**	**0.98**	**322**	P	**Pb**	**00 16 56.0**	**-0.7**
ARG				S	**Sn**	**00 17 10.5**	**+1.4**
	comp=N,1μm,0.8s						
ARG	**Arkhangelos**	**0.98**	**322**	P	**Pb**	**00 16 55.9**	**-0.7**
ARG				S	**Sb**	**00 17 08.5**	**-0.8**
ARG				AML	AML	00 17 12.8	
	comp=E,2789μm,0.8s						
ARG				AML	AML	00 17 13.5	
	comp=N,2799μm,0.7s						
ARG	**Arkhangelos**	**0.98**	**322**	PG	**Pb**	**00 16 56.1**	**-0.7**
ARG				SG	**Sn**	**00 17 10.4**	**+1.4**
ARG	**Arkhangelos**	**0.98**	**322**	P	**Pb**	**00 16 56.1**	**-0.7**
ARG				S	**Sn**	**00 17 10.2**	**+1.2**
AKAS	**Kas**	**0.99**	**37**	PG	**Pb**	**00 16 56.6**	**-0.4**
AKAS				SG	**Sn**	**00 17 11.0**	**+1.6**
AKAS	**Kas**	**0.99**	**37**	*i* P	**Pn**	**00 16 57.6**	**+1.3**
AKAS				IAML		00 17 16.0	
	comp=E,457nm,0.3s						
AKAS				IAML		00 17 21.0	
	comp=N,538nm,0.5s						
DEMR	**Demre-Antalya**	**1.16**	**46**	PN	**Pn**	**00 16 59.4**	**+0.9**
FETY	**Fethiye**	**1.21**	**8**	P	**Pn**	**00 16 59.3**	**+0.1**
FETY	**Fethiye**	**1.21**	**8**	PN	**Pn**	**00 16 59.4**	**+0.2**
FETY	**Fethiye**	**1.21**	**8**	*i* P	**Pn**	**00 16 59.4**	**+0.2**
FETY				*i* S	**Sn**	**00 17 13.5**	**-1.1**
FETY				IAML		00 17 14.0	
	comp=N,172nm,0.2s						
FETY				IAML		00 17 14.0	
	comp=E,187nm,0.3s						
KARP	**Karpathos**	**1.40**	**275**	P	**Pn**	**00 17 03.3**	**+1.5**
KARP				S	**Sb**	**00 17 22.6**	**+1.3**
	comp=E,800nm,0.8s						
KARP	**Karpathos**	**1.40**	**275**	P	**Pn**	**00 17 03.3**	**+1.5**
KARP				S	**Sn**	**00 17 19.1**	**-0.2**
KARP				AML	AML	00 17 32.4	
	comp=N,1905μm,0.5s						
KARP				AML	AML	00 17 34.5	
	comp=E,877μm,0.3s						
KARP	**Karpathos**	**1.40**	**275**	PN	**Pn**	**00 17 02.4**	**+0.6**
KARP	**Karpathos**	**1.40**	**275**	P	**Pn**	**00 17 03.2**	**+1.5**
KARP				S	**Sb**	**00 17 22.2**	**+1.0**
TURN	**Turunc**	**1.45**	**351**	PN	**Pn**	**00 17 03.1**	**+0.7**
TURN	**Turunc**	**1.45**	**351**	*i* P	**Pb**	**00 17 06.6**	**+2.0**
TURN				*i* S	**Sn**	**00 17 19.9**	**-0.5**
TURN				IAML		00 17 31.0	
	comp=E,228nm,0.3s						
TURN				IAML		00 17 35.0	
	comp=N,225nm,0.3s						
AKUM	**Antalya-Kumluc**	**1.49**	**53**	*i* P	**Pn**	**00 17 04.4**	**+1.4**
AKUM				IAML		00 17 33.0	
	comp=E,138nm,0.4s						
AKUM				IAML		00 17 44.0	

comp=E,43nm,0.5s
NPS Neapolis 2.67 267 P **Pn** **00 17 21.5 +2.2**
NPS Neapolis 2.67 267 P **Pn** **00 17 21.4 +2.1**
ANAF Anafi Island 2.68 291 P **Pn** **00 17 20.4 +1.0**
ANAF Anafi Island 2.68 291 P **Pn** **00 17 19.8 +0.4**
ISP Isparta 2.72 29 P **Pn** **00 17 22.0 +1.9**
ISP Isparta 2.72 29 PN **Pn** **00 17 21.7 +1.6**
ISP Isparta 2.72 29 Pn **Pn** **00 17 22.0 +1.9**
OSC1 CSNet OBS 1 2.77 134 P **Pn** **00 17 22.4 +1.7**
OSC1 S **Sn** **00 17 54.0 +0.8**
AMGA Amorgos Island 2.78 301 P **Pn** **00 17 21.2 +0.4**
AMGA Amorgos Island 2.78 301 P **Pn** **00 17 20.9 +0.1**
LAST Lasithi 2.79 265 P **Pn** **00 17 23.4 +2.4**
LAST Lasithi 2.79 265 P **Pn** **00 17 23.3 +2.3**
SMG Samos 2.79 325 P **Pb** **00 17 27.3 -0.2**
SMG Samos 2.79 325 P **Pn** **00 17 21.2 +0.2**
ALAN Alanya-ANTALYA 2.80 66 PN **Pn** **00 17 22.5 +1.5**
AKMS Akamas 2.87 97 P **Pn** **00 17 23.7 +1.7**
AKMS AML AML 00 17 57.1
comp=E,0.8nm,0.7s
AKMS AML AML 00 17 57.1
comp=E,0.8nm,0.7s
AKMS S **Sn** **00 17 57.2 +1.7**
AKMS AML AML 00 17 58.9
comp=E,0.8nm,0.4s
AKMS AML AML 00 17 58.9
comp=E,0.8nm,0.4s
GAZI Gazipasa 2.91 73 PN **Pn** **00 17 24.2 +1.6**
SANT Santorini 2.92 290 P **Pn** **00 17 24.2 +1.4**
SANT Santorini 2.92 290 PN **Pn** **00 17 23.9 +1.1**
SNT1 Gialos, Santor 2.96 290 P **Pn** **00 17 23.5 +0.3**
STAX Taxiarchis Har 2.97 290 P **Pn** **00 17 23.7 +0.3**
KZIL AFYON_Kizioren 2.99 20 *i* P **Pn** **00 17 24.6 +0.8**
KZIL IAML 00 17 59.0
comp=N,22nm,0.5s
KZIL IAML 00 18 05.0
comp=E,21nm,0.4s
ALFC Alefka 3.06 94 P **Pn** **00 17 26.7 +2.0**
ALFC S **Sn** **00 17 59.8 -0.6**
ALFC AML AML 00 18 02.4
comp=E,0.9nm,0.4s
ALFC AML AML 00 18 02.4
comp=E,0.9nm,0.4s
ALFC AML AML 00 18 04.3
comp=E,0.6nm,0.4s
ALFC AML AML 00 18 04.3
comp=E,0.6nm,0.4s
KULA Kula-Manisa 3.07 357 PN **Pn** **00 17 26.3 +1.4**
HRKL Herakleio 3.08 269 PN **Pn** **00 17 26.2 +1.3**
SEYD Seydisehir-KON 3.10 50 PN **Pn** **00 17 26.9 +1.7**
NATA Nata 3.10 101 P **Pn** **00 17 27.2 +1.9**
NATA S **Sn** **00 18 01.3 0.0**
NATA AML AML 00 18 04.0
comp=E,1.6nm,0.4s
NATA AML AML 00 18 04.0
comp=E,1.6nm,0.4s
NATA AML AML 00 18 15.3
comp=E,1.6nm,0.7s
NATA AML AML 00 18 15.3
comp=E,1.6nm,0.7s
APE Apeiranthos 3.15 302 P **Pn** **00 17 26.4 +0.4**
APE Apeiranthos 3.15 302 P **Pn** **00 17 26.3 +0.4**
APE Apeiranthos 3.15 302 PN **Pn** **00 17 26.3 +0.4**
IOSP Ios island 3.17 295 P **Pn** **00 17 26.6 +0.4**
IDI Anoyia 3.26 268 Pn **Pn** **00 17 28.7 +1.2**
comp=E,7.6nm,0.3s,baz=36,slow=7.4,SNR=33
IDI Sn **Sn** **00 18 08.1 +2.9**
comp=E,5.1nm,0.3s,baz=358,slow=23,SNR=1.8
IDI LR LR 00 19 09.6
comp=E,57nm,18.6s,baz=90,slow=48
IDI Anoyia 3.26 268 P **Pn** **00 17 28.6 +1.2**
IDI Anoyia 3.26 268 PN **Pn** **00 17 28.8 +1.4**
BLCB Balcova 3.29 334 PN **Pn** **00 17 27.9 +0.2**
LEF Lefka 3.30 94 PN **Pn** **00 17 28.9 +0.9**
LEF Lefka 3.30 94 *i* P **Pn** **00 17 28.9 +0.9**
LEF IAML 00 18 18.0
comp=N,50nm,0.8s
LEF IAML 00 19 00.0
comp=E,56nm,1.4s
SIVA Sivas 3.35 264 P **Pn** **00 17 30.9 +2.3**
SZAC Souni 3.36 101 P **Pn** **00 17 30.6 +1.9**
SZAC AML AML 00 18 16.1
comp=E,0.7nm,0.4s
SZAC AML AML 00 18 18.1
comp=E,0.8nm,0.7s
SHUT Suhut-Afyon 3.39 23 PN **Pn** **00 17 30.6 +1.4**
URLA Izmir 3.44 329 PN **Pn** **00 17 31.5 +1.6**
DOGA KONYA_Doganhis 3.48 39 *i* P **Pn** **00 17 32.3 +1.7**
DOGA IAML 00 18 16.0
comp=N,39nm,0.4s
DOGA IAML 00 18 25.0
comp=E,60nm,0.5s
ERMK Ermenek 3.49 69 *i* P **Pn** **00 17 33.6 +2.9**
ERMK IAML 00 18 19.0
comp=E,69nm,0.5s
TEKE Tekeli-Mersin 3.52 77 PN **Pn** **00 17 32.7 +1.7**
DEMI Demirci 3.60 358 *i* P **Pn** **00 17 31.4 -0.7**
DEMI IAML 00 18 14.0
comp=N,16nm,0.3s
DEMI IAML 00 18 18.0
comp=E,14nm,0.6s
GEDZ Gediz 3.62 7 PN **Pn** **00 17 34.3 +1.8**
SIMA Simav-Kutahya 3.64 1 PN **Pn** **00 17 34.4 +1.7**
BERE Bereket-Mersin 3.65 74 PN **Pn** **00 17 34.8 +1.9**
CSS Mathiatis 3.68 96 PN **Pn** **00 17 34.7 +1.5**
CSS Mathiatis 3.68 96 Pn **Pn** **00 17 34.4 +1.2**
CSS Sn **Sn** **00 18 14.4 -1.3**
KONT Konya--Tatoy 3.76 47 PN **Pn** **00 17 36.5 +2.2**
KONT Konya--Tatoy 3.76 47 *i* P **Pn** **00 17 33.6 -0.7**
KONT IAML 00 18 27.0
comp=E,20nm,0.3s
KONT IAML 00 18 28.0
comp=N,17nm,0.6s
LFK Lefkose 3.81 91 PN **Pn** **00 17 36.9 +1.8**
VAM Vamos 3.81 271 P **Pn** **00 17 36.3 +1.3**
TEVE Tevekalti-Mers 3.84 74 PN **Pn** **00 17 37.5 +2.0**
AKKU Akkuyu-Mersin 3.87 78 PN **Pn** **00 17 37.8 +2.0**
LADK Ladik-KONYA 3.93 44 PN **Pn** **00 17 38.7 +2.0**
SERI Serifos 3.94 297 P **Pn** **00 17 37.5 +0.8**
KRMN Karaman 3.95 63 PN **Pn** **00 17 38.9 +2.0**
GVD Gavdhos 3.96 263 PN **Pn** **00 17 38.8 +1.7**
TISA Tisan-Mersin 3.97 78 PN **Pn** **00 17 39.3 +2.1**
IMMV Iera Moni Meta 3.99 272 PN **Pn** **00 17 39.2 +1.8**
IKL Isikli 3.99 77 PN **Pn** **00 17 39.6 +2.2**
TVSB Tavsanli 4.03 7 PN **Pn** **00 17 38.8 +0.7**
KEBE Keben-Mersin 4.06 74 PN **Pn** **00 17 40.5 +2.1**
RODP Rodopos 4.17 273 PN **Pn** **00 17 41.8 +1.9**
KIZT Kizilcal 4.19 34 PN **Pn** **00 17 42.5 +2.2**
SILI Silifke-Mersin 4.21 76 PN **Pn** **00 17 42.6 +2.2**
BALB Balikesir 4.27 350 PN **Pn** **00 17 43.6 +2.4**
CIFT Cifteler, Eski 4.29 23 PN **Pn** **00 17 43.8 +2.2**
EREN Erenkoy 4.33 87 PN **Pn** **00 17 44.5 +2.5**
KIZK Mersin 4.40 75 PN **Pn** **00 17 45.4 +2.3**
SIGR SIGRI 4.47 328 PN **Pn** **00 17 46.3 +2.4**
CHBY Cihanbeyli 4.49 45 PN **Pn** **00 17 46.8 +2.4**
YESY Yesilyurt 4.56 58 PN **Pn** **00 17 47.9 +2.5**
SULT Sultanhani-AKS 4.63 52 PN **Pn** **00 17 48.9 +2.5**
VLY Voula,Athens 4.74 302 P **Pn** **00 17 48.9 +1.2**
DION Dionisos Attik 4.76 305 P **Pn** **00 17 49.6 +1.6**
KTHA Kythira Island 4.79 281 P **Pn** **00 17 49.9 +1.4**
PTL Penteli 4.79 304 P **Pn** **00 17 50.1 +1.6**
MERS Mersin 4.79 71 PN **Pn** **00 17 51.2 +2.7**
SRCK Saricakaya, Es 4.80 16 PN **Pn** **00 17 49.9 +1.3**
KULU Kulu 4.88 41 PN **Pn** **00 17 52.1 +2.4**
KYMI Kymi, Euboea I 4.97 311 P **Pn** **00 17 52.2 +1.3**
VLI Veliai 4.97 287 P **Pn** **00 17 51.8 +0.8**
DID Didima 4.99 296 P **Pn** **00 17 51.5 +0.4**
KRND KRANIDI 5.00 294 P **Pn** **00 17 53.2 +1.8**
AFSR Afar-Bala (An 5.21 39 PN **Pn** **00 17 57.1 +2.8**
YAYX Yaylak 5.27 47 PN **Pn** **00 17 57.7 +2.6**
GADA Gvkgeada 5.29 335 PN **Pn** **00 17 57.9 +2.6**
GELI Tayfur-Gelibol 5.30 340 PN **Pn** **00 17 58.1 +2.7**
YUVA Yuva-Kibriscik 5.42 23 PN **Pn** **00 17 59.9 +2.7**
BRTR Keskin Array B 5.71 40 Pn **Pn** **00 18 03.4 +2.1**
comp=N,0.7nm,0.3s,baz=221,slow=15,SNR=16
BRTR Sn **Sn** **00 19 05.7 -0.2**
comp=N,1.2nm,0.3s,baz=216,slow=25,SNR=15
BRTR LR LR 00 19 51.9
comp=N,9.4nm,20.6s,baz=166,slow=35
HNTI Hanita 5.72 112 Pn **Pn** **00 18 01.3 0.0**
HNTI Sn **Sn** **00 19 03.9 -2.1**
OFRI `Ofer 5.80 117 Pn **Pn** **00 18 02.5 +0.1**
OFRI Sn **Sn** **00 19 05.9 -2.1**

BLGI Bet Lehem HaGe 5.90 115 Pn **Pn** **00 18 03.6 -0.1**
BLGI Sn **Sn** **00 19 08.8 -1.4**
MMA0B Mount Meron ar 5.93 112 Pn **Pn** **00 18 04.8 +0.7**
MMA0B Sn **Sn** **00 19 09.7 -1.4**
GEM Giv'at Ha'Em 6.04 110 Pn **Pn** **00 18 06.4 +0.7**
GEM Sn **Sn** **00 19 11.7 -2.1**
SLTI Sal'it 6.04 120 Pn **Pn** **00 18 05.8 +0.1**
SLTI Sn **Sn** **00 19 11.9 -2.0**
NATI Neve Ativ 6.08 109 Pn **Pn** **00 18 06.8 +0.7**
NATI Sn **Sn** **00 19 13.3 -1.4**
MMLI Mount Malkishu 6.21 117 Pn **Pn** **00 18 08.1 +0.1**
MMLI Sn **Sn** **00 19 15.1 -3.0**
QRNJ Al-Qirein 6.38 117 Pn **Pn** **00 18 11.0 +0.8**
AMAZ Amatzia 6.38 126 Pn **Pn** **00 18 11.4 +1.1**
AMAZ Sn **Sn** **00 19 20.2 -1.9**
HMDT Nahal Hemdat 6.38 118 Pn **Pn** **00 18 11.6 +1.3**
GUNE Kayseri 6.41 55 *i* P Pn 00 18 18.6 +7.8
KZIT Kziot 6.47 133 Pn **Pn** **00 18 12.7 +1.1**
YTIR Yattir 6.62 126 Pn **Pn** **00 18 14.6 +1.0**
YTIR Sn **Sn** **00 19 26.3 -1.8**
DSI Dead Sea 6.67 124 Pn **Pn** **00 18 15.0 +0.8**
DSI Sn **Sn** **00 19 27.6 -1.6**
DAMI2 DAM2 6.96 126 Pn **Pn** **00 18 18.8 +0.7**
ZFRI Zfri 7.20 131 Pn **Pn** **00 18 22.4 +0.9**
ZFRI Sn **Sn** **00 19 40.2 -2.0**
PRNI Paran 7.23 133 Pn **Pn** **00 18 22.6 +0.6**
KRMI Paran Flat 7.24 135 Pn **Pn** **00 18 22.6 +0.4**
ASF Jabal al Asfar 7.43 114 Pn **Pn** **00 18 26.5 +1.7**
comp=N,0.4nm,0.3s,baz=4.5,slow=8.9,SNR=2.2
ASF Sn Sn 00 19 57.7 +9.5
comp=N,0.2nm,0.3s,baz=44,slow=20,SNR=1.7
HRFI Mount Harif 7.48 134 Pn **Pn** **00 18 26.2 +0.7**
MBRI Mt Berech 7.59 136 Pn **Pn** **00 18 28.1 +1.1**
EIL Elat 7.71 137 Pn **Pn** **00 18 29.6 +1.1**
comp=N,0.9nm,0.3s,baz=275,slow=2.9,SNR=20
EIL Sn **Sn** **00 19 52.7 -2.1**
comp=N,1.3nm,0.3s,baz=245,slow=8.5,SNR=6.2
EIL Elat 7.71 137 Pn **Pn** **00 18 29.3 +0.8**
AQBJ Aqaba 7.72 136 Pn **Pn** **00 18 29.6 +0.9**
DBRK Dubrovnik 11.02 314 *e*Pn **Pn** **00 19 13.9 0.0**
DBRK Sn **Sn** **00 21 12.8 -3.3**
VAE Valguarnera 11.82 284 Pn **Pn** **00 19 23.5 -1.4**
comp=N,0.8nm,0.3s,baz=249,slow=23,SNR=2.4
VAE Sn Sn 00 21 25.5 -10
comp=N,0.4nm,0.3s,baz=122,slow=20,SNR=2.3
MAKA Makarska 12.05 314 *e*Pn **Pn** **00 19 26.9 -1.0**
RICI Ricice 12.11 315 *e*Pn **Pn** **00 19 29.1 +0.3**
RICI Sn **Sn** **00 21 39.1 -3.7**
HVAR Hvar 12.33 313 *e*Pn **Pn** **00 19 29.9 -1.9**
KIJV Kijevo 12.84 316 *e*Pn **Pn** **00 19 38.8 0.0**
KIJV Sn **Sn** **00 21 57.7 -2.9**
ZIRJ Zirje 13.08 313 *e*Pn **Pn** **00 19 41.4 -0.6**
MORI Morici 13.17 314 *e*Pn **Pn** **00 19 43.5 +0.4**
MORI Sn **Sn** **00 22 03.3 -5.2**
NVLJ Novalja 14.06 315 *e*Pn **Pn** **00 19 54.8 -0.6**
VYHS Vyhne 15.01 333 *e*PN **Pn** **00 20 08.7 +0.5**
KEST Kesra 15.89 277 Pn **P** **00 20 24.4 +1.1**
comp=N,0.4nm,0.3s,baz=49,slow=0.7,SNR=11
VRAC Vranov 16.53 331 LR LR 00 27 40.8
comp=N,29nm,18.8s,baz=169,slow=40
GERES GERESS Array B 17.45 325 P **Pn** **00 20 40.3 +0.9**
comp=N,0.1nm,0.3s,baz=138,slow=11,SNR=8.2
DAVOX Davos/Dischmat 18.20 314 LR LR 00 29 11.1
comp=N,38nm,21.9s,baz=234,slow=42
GEYT Alibeck 23.55 75 P **P** **00 21 46.4 +0.3**
comp=N,0.7nm,0.4s,baz=251,slow=9.0,SNR=4.5
FINES FINESS Array B 26.09 357 P **P** **00 22 09.1 +0.1**
comp=N,1.8nm,0.9s,baz=194,slow=10.0,SNR=3.3
ESDC Sonseca Array 26.29 289 P **P** **00 22 11.1 -0.1**
comp=N,1.2nm,0.8s,baz=83,slow=9.8,SNR=10
HFS Hagfors 26.60 343 P **P** **00 22 14.2 +0.5**
comp=N,1.2nm,0.7s,baz=159,slow=17,SNR=2.0
ARU Arti 29.07 35 LR LR 00 35 01.0
comp=N,42nm,19.7s,baz=204,slow=38
TORD Torodi Ar. Bea 33.06 235 P **P** **00 23 12.6 +1.3**
comp=N,0.6nm,1.0s,baz=61,slow=6.9,SNR=2.4
MKAR Makanchi Array 41.08 57 P **P** **00 24 20.4 +1.2**
comp=N,1.4nm,0.6s,baz=273,slow=7.5,SNR=15
ZALV Zalesovo Beam 42.62 46 P **P** **00 24 31.5 -0.1**
comp=N,0.9nm,0.6s,baz=277,slow=12,SNR=3.8

*ANF **21** 00:28:15.8±1.2,29.°42N×114.°69W,h5km,ML4.2/13,Error ellipse: s-maj=10.0km s-min=6.0km az=10.0*
*ECX **21** 00:28:25.3±0.9,30.°08N×114.°52W,h20km±7km,MD4.2, ML4.3*
*IDC **21** 00:28:26.2±2.4,30.°28N×114.°38W,h0km,mb3.5/2, mb1 3.8/7,mb1mx3.6/38,mbtmp3.6/7,ML3.4/4,MS3.2/10, Ms1 3.2/10,ms1mx3.1/23,Error ellipse: s-maj=50.9km s-min=11.3km az=38.0*
*MEX **21** 00:28:27.1±0.6,29.°97N×114.°67W,h10km,MD3.9*
*NEIC **21** 00:28:27.4±5.1,30.°31N±0.°05×114.°43W±0.°04,h10km±2km, Error ellipse: s-maj=8.3km s-min=4.5km az=204.0*
ISC 21 00:28:21.7±1.6,29.°90N±0.°05×114.°76W±0.°04,h1km±10km, n139,σ2s10/145,MS3.2/4,3C-2D,Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BAHB	**Baha de los**	**1.04**	**87**	*e*P	Pn	00 28 49.2	+5.7
BAHB				*e*S	Sn	00 29 13.2	+15
SFX	**San Felipe**	**1.14**	**356**	*e*P	**Pg**	**00 28 42.6**	**-1.0**
SFX				*e*S	**Sg**	**00 28 56.2**	**-2.2**
SQX	**San Quintin**	**1.18**	**305**	*e*P	**Pn**	**00 28 45.9**	**+0.5**
SQX				*e*S	**Sn**	**00 29 01.7**	**-0.3**
SPX	**San Pedro Mart**	**1.29**	**332**	*e*P	**Pn**	**00 28 47.2**	**0.0**
SPX				*e*S	**Sg**	**00 29 03.4**	**+0.1**
SPX	**San Pedro Mart**	**1.29**	**332**		**Pn**	**00 28 47.1**	**0.0**
SPX	**San Pedro Mart**	**1.29**	**332**	*e*P	**Pn**	**00 28 47.1**	**0.0**
SPX				*e*S	**Sg**	**00 29 03.3**	**+0.1**
SPIG	**San Pedro Mart**	**1.30**	**332**	*e*P	**Pn**	**00 28 47.2**	**-0.1**
SPIG				*e*S	**Sg**	**00 29 03.4**	**-0.1**
SPIG	**San Pedro Mart**	**1.30**	**332**		**Pn**	**00 28 47.1**	**-0.1**
SPIG	**San Pedro Mart**	**1.30**	**332**	*e*P	**Pn**	**00 28 47.1**	**-0.1**
SPIG				*e*S	**Sg**	**00 29 03.4**	**-0.1**
ECBX	**El Chinero**	**1.59**	**351**	*e*P	**Pn**	**00 28 49.1**	**-1.9**
VTX	**Valle De La Tr**	**1.73**	**330**	*e*P	**Pn**	**00 28 53.7**	**+0.7**
VTX				*e*S	**Sb**	**00 29 16.8**	**+0.1**
SVX	**San Vicente**	**1.92**	**318**	*e*P	**Pb**	**00 28 57.4**	**-0.1**
PIX	**Pinacate**	**2.00**	**34**	*e*P	**Pn**	**00 28 54.1**	**-2.5**
MBIG	**Mexicali**	**2.53**	**352**	*i* P	**Pb**	**00 29 08.9**	**+0.9**
MBIG				*i* S	**Sb**	**00 29 37.6**	**-2.0**
CPBX	**Cerro Prieto**	**2.56**	**350**	IAML		00 29 59.4	
	comp=E,4μm,0.4s						
CPBX				⇑*e*		00 29 59.4	
214A	**Organ Pipe Nat**	**2.65**	**39**	P	**Pn**	**00 29 03.4**	**-2.2**
	baz=213						
214A				Sn	**Sb**	**00 29 41.2**	**-1.8**
	baz=213						
214A				Sb	**Sg**	**00 29 49.0**	**+2.1**
	baz=213						
214A	**Organ Pipe Nat**	**2.65**	**39**		**Pn**	**00 29 03.5**	**-2.1**
CBX	**Cerro Bola**	**2.91**	**326**	*e*P	**Pb**	**00 29 16.0**	**+1.6**
CBX				*e*S	**Sb**	**00 29 51.2**	**+0.6**
CBX				IAML		00 30 01.5	
	comp=E,2μm,1.1s						
CBX				⇑*e*		00 30 01.5	
CBX	**Cerro Bola**	**2.91**	**326**		**Pn**	**00 29 10.5**	**+1.3**
CBX	**Cerro Bola**	**2.91**	**326**	*e*P	**Pn**	**00 29 09.8**	**+0.5**
CBX				*e*S	**Sn**	**00 29 42.7**	**-2.3**
IKP	**In-Ko-Pah, Jac**	**2.98**	**338**	Pn	**Pn**	**00 29 09.6**	**-0.5**
	baz=159						
IKP				Pb	**Pb**	**00 29 17.7**	**+2.1**
	baz=159						
IKP				S	**Sb**	**00 29 54.5**	**+1.9**
	baz=159						
113A	**Mohawk Valley,**	**2.99**	**16**		**Pn**	**00 29 08.9**	**-1.3**
TJIG	**Tijuana**	**3.02**	**328**		**Pn**	**00 29 11.8**	**+1.2**
TJIG					**Sb**	**00 29 52.1**	**-1.4**
TJIG	**Tijuana**	**3.02**	**328**	*i* P	**Pn**	**00 29 11.3**	**+0.7**
TJIG				*i* S	**Sn**	**00 29 46.7**	**-0.6**
GLA	**Glamis**	**3.15**	**359**	Pn	**Pn**	**00 29 11.9**	**-0.5**
	baz=178						
GLA	**Glamis**	**3.15**	**359**	Pn	**Pn**	**00 29 11.7**	**-0.8**
SWSC	**Sam W. Stewart**	**3.17**	**344**	Pn	**Pn**	**00 29 11.7**	**-1.0**
	baz=165,SNR=37						
SWSC				Pb	**Pb**	**00 29 20.9**	**+2.2**
	baz=165						
SWSC				S	**Sb**	**00 29 59.9**	**+2.0**
	baz=165						
BAR	**Barrett**	**3.22**	**330**	*e*P	**Pn**	**00 29 14.4**	**+0.9**
BAR	**Barrett**	**3.22**	**330**		**Pb**	**00 29 19.6**	**-0.2**
BAR					**Sb**	**00 30 00.9**	**+1.4**

MONP2 Monument Peak 3.31 335 Pn **Pn** **00 29 14.9 +0.1**
baz=156
MONP2 Pb **Pb** **00 29 22.8 +1.5**
baz=156
MONP2 S **Sb** **00 30 04.2 +2.1**
baz=156
MONP2 Monument Peak 3.31 335 *e*P **Pn** **00 29 15.1 +0.3**
SRIG Santa Rosalia 3.39 139 **Pb** **00 29 22.5 -0.1**
SRIG Santa Rosalia 3.39 139 *e*P **Pn** **00 29 18.2 +2.4**
HSIG 3.44 104 **Pb** **00 29 21.9 -1.5**
HSIG 3.44 104 *e*P **Pn** **00 29 17.2 +0.7**
HSIG *e*S **Sn** **00 29 56.9 -1.0**
109C Camp Elliot, M 3.59 327 Pb **Pb** **00 29 27.0 +1.0**
baz=149
109C S **Sb** **00 30 09.6 -0.6**
baz=149
109C Camp Elliot, M 3.59 327 **Pb** **00 29 25.3 -0.8**
109C **Sb** **00 30 12.3 +2.2**
DPP Dos Picos Cty 3.61 330 Pg 00 29 40.2 +9.3
BC3 Big Chuckawall 3.79 351 Pg **Pg** **00 29 37.1 +2.6**
baz=171,SNR=9.3
TPFO Pinon Flats 3.97 339 Pn **Pn** **00 29 23.9 +0.1**
baz=160
TPFO Pb **Pb** **00 29 35.0 +2.4**
baz=160
XPFO Pion Flat 3.98 339 Pn **Pn** **00 29 23.9 0.0**
PFO Pinyon Flats O 3.98 339 Pn **Pn** **00 29 24.1 +0.1**
baz=160,SNR=26
PFO Pb **Pb** **00 29 34.9 +2.2**
baz=160
PFO Pinyon Flats O 3.98 339 Pn **Pn** **00 29 23.6 -0.3**
comp=E,1.2nm,0.3s,baz=157,slow=10,SNR=9.7
PFO Pg **Pb** **00 29 35.7 +3.0**
comp=E,13nm,0.3s,baz=160,slow=13,SNR=61
PFO Lg Lg 00 30 24.7
comp=E,22nm,0.3s,baz=266,slow=22,SNR=8.8
PFO Pinyon Flats O 3.98 339 **Pn** **00 29 24.8 +0.8**
TUC Tucson 4.17 54 P **Pn** **00 29 24.7 -1.9**
baz=230
TUC Tucson 4.17 54 Pn **Pn** **00 29 25.0 -1.6**
BELC Belle Mtn. Jos 4.23 346 Pg **Pg** **00 29 44.0 +1.2**
baz=166
BELC Sb **Sg** **00 30 40.0 +2.5**
baz=166
MURC Murrieta 4.24 331 Pb **Pb** **00 29 37.4 +0.4**
baz=152,SNR=28
IRM Iron Mountain 4.26 356 Pg **Pg** **00 29 47.7 +4.3**
baz=175,SNR=7.0
Y14A Wickenburg 4.30 20 **Pn** **00 29 27.4 -0.9**
319A Douglas 4.95 71 **Pn** **00 29 36.2 -1.1**
BFSC Mount Baldy Ra 4.98 331 Pb **Pb** **00 29 50.6 +0.8**
baz=152,SNR=15
HEC Hector,Ludlow 5.10 345 Sb **Sg** **00 31 05.7 +0.3**
baz=165
MWC Mount Wilson 5.14 328 Pb 00 29 47.2 -5.4
PASC Pasadena Art C 5.16 327 **Pb** **00 29 50.3 -2.4**
W13A Hualapai Mount 5.24 8 **Pn** **00 29 41.9 +0.5**
SNCC San Nicolas Is 5.26 311 Pb 00 29 49.7 -4.8
RRX Edison Barstow 5.31 340 Sb **Sg** **00 31 09.8 -2.6**
baz=160
GSC Goldstone, Bar 5.66 343 Sb **Sg** **00 31 22.8 -0.8**
baz=162
GSC Goldstone, Bar 5.66 343 **Pg** **00 30 07.8 -2.4**
X18A Snowflake 6.16 40 **Pn** **00 29 52.6 -1.4**
WUAZ Wupatki 6.29 26 Pn **Pn** **00 29 55.3 -0.4**
121A Cookes Peak, D 6.53 64 Sg **Sg** **00 31 56.4 +4.9**
baz=244
121A Cookes Peak, D 6.53 64 Pn **Pn** **00 29 58.6 -0.4**
ISA Isabella, Lake 6.54 332 **Pn** 00 30 07.7 +8.5
MPMC Manual Prospec 6.56 340 P **Pn** **00 30 03.2 +3.7**
baz=160
MPMC Sb **Sg** **00 31 46.6 -5.8**
baz=160
PKM Mcpherson Peak 6.56 321 Sb **Sg** **00 31 48.1 -4.3**
baz=140
SHPR Sheep Range 6.60 357 Pn **Pn** **00 30 01.4 +1.4**
W18A Petrified Fore 6.72 38 P **Pn** **00 30 02.4 +0.7**
baz=218
W18A Sb **Sg** **00 31 53.4 -4.1**
baz=218
W18A Petrified Fore 6.72 38 **Pn** **00 30 01.3 -0.4**
U15A North Rim 6.84 17 Pn **Pn** **00 30 04.1 +0.8**
LPIG La Paz 7.00 144 LR LR 00 33 09.7
comp=E,79nm,18.1s,baz=348,slow=40
TPNV Topopah Spring 7.14 350 Pn **Pn** **00 30 11.7 +4.2**
LCMT Little Creek M 7.21 10 **Pn** **00 30 09.5 +1.1**
KNB Kanab 7.29 12 **Pn** **00 30 10.6 +1.2**
SLBS Sierra La Lagu 7.53 144 Pn Pn 00 30 19.0 +6.2
CCUT Cedar City 7.72 8 Pn **Pn** **00 30 16.7 +1.2**
PKCU Pink Cliffs 7.80 15 **Pn** **00 30 17.6 +1.0**
SZCU Shurtz Canyon 7.81 10 **Pn** **00 30 17.6 +1.0**
Y22D IRIS PASSCAL I 7.86 56 Pn **Pn** **00 30 13.7 -3.5**
LENM Lemitar 7.86 55 Pn **Pn** **00 30 13.0 -4.4**
BNM Barren Site 8.10 56 Pn **Pn** **00 30 18.8 -2.0**
MNTX Cornudas Mount 8.27 75 Pn **Pn** **00 30 23.4 +0.6**
MTPU Mount Pierson 8.40 14 **Pn** **00 30 25.3 +0.4**
R11A Troy Canyon, C 8.46 356 Pn **Pn** **00 30 24.4 -1.2**
OMMB Old Mammoth Mi 8.47 337 Pn **Pn** **00 30 26.8 +1.0**
ANMO Albuquerque 8.64 52 Pn **Pn** **00 30 27.6 -0.5**
comp=E,0.2nm,0.3s,baz=225,slow=15,SNR=3.9
ANMO Lg Lg 00 32 56.8
comp=E,0.1nm,0.3s,baz=336,slow=16,SNR=1.5
ANMO Albuquerque 8.64 52 **Pn** **00 30 26.2 -1.8**
PSUT Pine Spring 8.65 5 Pn **Pn** **00 30 28.4 +0.2**
MSU Marysvale 8.86 13 **Pn** **00 30 32.1 +1.1**
MVCO Mesa Verde 8.97 34 Pn **Pn** **00 30 31.0 -1.6**
NVAR Mina Array Bea 9.00 342 Pn **Pn** **00 30 36.4 +3.4**
baz=161,slow=14,SNR=1.8
NVAR Lg Lg 00 33 11.1
comp=E,0.1nm,0.3s,baz=163,slow=25,SNR=2.6
RYN Ryan 9.25 341 Pn **Pn** **00 30 34.8 -1.5**
CMB Columbia Colle 9.36 332 Pn **Pn** **00 30 33.3 -4.5**
PV05 Paradox Valley 9.42 28 Pn **Pn** **00 30 36.6 -2.2**
WAKR Walker 9.42 337 Pn **Pn** **00 30 37.9 -0.8**
KVN Kaiserville 9.54 344 Pn **Pn** **00 30 39.8 -0.6**
PV13 Radium Mtn., P 9.60 29 Pn **Pn** **00 30 38.0 -3.3**
PV18 Skein Mesa, Pa 9.64 29 Pn **Pn** **00 30 37.9 -3.8**
PV03 Paradox Valley 9.67 29 Pn **Pn** **00 30 41.7 -0.5**
TX31 Lajitas Ar. Si 9.67 91 **Pn** **00 30 42.2 0.0**
TX32 Lajitas Array 9.67 91 **Pn** **00 30 42.1 0.0**
TXAR Lajitas Array 9.68 91 Pn **Pn** **00 30 43.1 +1.0**
comp=E,0.2nm,0.3s,baz=266,slow=13,SNR=12
TXAR Lg Lg 00 33 31.1
comp=E,0.1nm,0.3s,baz=268,slow=22,SNR=2.4
TXAR LR LR 00 34 42.3
comp=E,190nm,18.0s,baz=0.0,slow=40
TXAR Lajitas Array 9.68 91 **Pn** **00 30 41.8 -0.4**
PV02 Paradox Valley 9.68 29 Pn **Pn** **00 30 38.4 -3.9**
PV01 Paradox Valley 9.69 30 Pn **Pn** **00 30 40.3 -2.1**
PV11 David Mesa, Pa 9.70 29 Pn **Pn** **00 30 42.8 +0.3**
PV14 Lion Creek, Pa 9.70 28 Pn **Pn** **00 30 41.9 -0.8**
PV12 Saucer Basin, 9.74 29 Pn **Pn** **00 30 39.0 -4.2**
PV09 Paradox Valley 9.76 27 Pn **Pn** **00 30 42.2 -1.4**
PV04 Paradox Valley 9.77 28 Pn **Pn** **00 30 40.7 -2.7**
PV23 Carpenter Ridg 9.77 28 Pn Pn 00 30 38.5 -5.2
YERR Yerington 9.79 339 Pn Pn 00 30 37.4 -6.4
TMUT Trail Mountain 9.82 16 Pn Pn 00 30 39.5 -4.9
SRU San Rafael Swe 9.83 20 Pn **Pn** **00 30 41.0 -3.4**
PV21 Cone Mtn., Par 9.88 27 Pn **Pn** **00 30 41.8 -3.3**
PV15 Paradox Valley 9.90 30 Pn Pn 00 30 39.6 -5.8
PV07 Paradox Valley 9.91 29 Pn **Pn** **00 30 41.6 -3.9**
PV22 Blue Mesa, Par 9.93 28 Pn **Pn** **00 30 42.3 -3.5**
PNTR Pine Nut 10.00 338 Pn **Pn** **00 30 44.2 -2.5**
P17A Butcher Ranch, 10.11 18 Pn **Pn** **00 30 44.5 -3.6**
S22A 4UR Ranch, Cre 10.23 38 Pn **Pn** **00 30 45.9 -4.2**
DUG Dugway, Tooele 10.40 8 Pn Pn 00 30 47.1 -5.0
PAHR Pah Rah Range 10.50 340 **Pn** **00 30 50.1 -3.4**
MCCM Marconi Confer 10.63 323 Pn 00 30 40.6 -14
ELK Elko 10.83 358 LR LR 00 34 53.7
comp=E,85nm,20.0s,baz=150,slow=37
BGU Big Grassy Mou 11.10 7 Pn **Pn** **00 30 58.8 -2.8**
YBH Yreka Blue Hor 13.45 334 Pn **P** **00 31 39.9 -3.5**
comp=E,0.1nm,0.3s,baz=202,slow=1.8,SNR=5.4
YBH LR LR 00 36 47.6
comp=E,123nm,19.7s,baz=236,slow=38
PDAR Pinedale Array 13.51 17 LR

comp=E,57nm,18.1s,baz=228,slow=42
TKL Tuckaleechee C 26.61 69 LR LR 00 45 02.1
comp=E,79nm,21.9s,baz=277,slow=38
YKA Yellowknife Ar 32.61 0 LR LR 00 50 06.5
comp=E,46nm,18.5s,baz=0.0,slow=40
ILAR Eielson Array 40.25 339 P **P** **00 36 02.9 +3.1**
comp=E,0.4nm,0.6s,baz=159,slow=7.7,SNR=4.2
H11N3 WAKE ISLAND Hy 70.62 282 T T 01 56 09.5
baz=64,slow=74,SNR=14
H11N2 WAKE ISLAND Hy 70.62 282 T T 01 56 10.2
baz=64,slow=74,SNR=24
H11N1 WAKE ISLAND Hy 70.64 282 T T 01 56 07.6
baz=64,slow=74,SNR=25

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*IDC **21** 00:49:35.6±1.8,5.°06S×153.°06E,h0km,mb3.6/5, mb1 3.8/5,mb1mx3.6/28,mbtmp3.6/5,MS2.6/1,Ms1 2.6/1, ms1mx2.3/31, Error ellipse: s-maj=38.6km s-min=24.1km az=74.0*
*NEIC **21** 00:49:36.8±2.5,5.°19S±0.°07×153.°45E±0.°08,h35km±1km, mb4.6/20, Error ellipse: s-maj=16.1km s-min=8.2km az=123.0*

ISC 21 00:49:39.1±0.6,5.°16S±0.°09×153.°28E±0.°10,h56km,n31, σ2s00/30,mb4.4/16,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.46**	**311**	Pn	**Pn**	**00 50 02.5**	**-0.7**
KRVT	**Keravat (AS076**	**1.50**	**304**	Pn	**Pn**	**00 50 02.1**	**-1.6**
	289nm,0.3s,baz=43,slow=2.5,SNR=118						
KRVT				Sn	**Sn**	**00 50 18.1**	**-4.2**
	886nm,0.3s,baz=18,slow=20,SNR=19						
GUMO	**Guam**	**20.41**	**336**	LR	LR	01 00 58.4	
	comp=Z,15nm,18.3s,baz=266,slow=34						
WRA	**Warramunga Arr**	**23.57**	**230**	P	**P**	**00 54 47.4**	**+2.6**
	0.4nm,0.5s,baz=52,slow=9.8,SNR=2.3						
WRA	**Warramunga Arr**	**23.57**	**230**	IAmb	IAmb	00 54 55.6	
	comp=Z,0.1nm,0.9s						
ARMA	**Armidale**	**25.18**	**183**	P	**P**	**00 54 58.9**	**-0.6**
ARMA				IAmb	IAmb	00 55 09.6	
	comp=Z,6.2nm,1.1s						
ASAR	**Alice Springs**	**26.21**	**224**	P	**P**	**00 55 12.5**	**+3.6**
	comp=Z,0.5nm,0.6s,baz=53,slow=9.3,SNR=7.4						
ASAR	**Alice Springs**	**26.21**	**224**	P	**P**	**00 55 10.3**	**+1.4**
KNRA	**Kununurra**	**26.24**	**245**	P	**P**	**00 55 10.2**	**+1.0**
KNRA				IAmb	IAmb	00 55 26.1	
	comp=Z,7.0nm,0.9s						
SOEI	**Soe**	**29.11**	**259**	P	**P**	**00 55 36.5**	**+1.4**
FITZ	**Fitzroy Crossi**	**29.91**	**242**	P	**P**	**00 55 42.8**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=46,slow=6.7,SNR=1.8						
CAN	**Canberra**	**30.28**	**187**	P	**P**	**00 55 42.8**	**-2.2**
BBOO	**Buckleboo**	**31.86**	**208**	P	**P**	**00 55 59.0**	**0.0**
BBOO				IAmb	IAmb	00 56 15.0	
	comp=Z,11nm,1.1s						
FORT	**Forrest**	**34.82**	**220**	P	**P**	**00 56 24.4**	**-0.3**
FORT				IAmb	IAmb	00 56 27.7	
	comp=Z,9.8nm,1.0s						
AFI	**Afiamalu**	**35.50**	**107**	P	**P**	**00 56 28.2**	**-2.7**
THZ	**Tophouse**	**40.44**	**157**	P	**P**	**00 57 11.2**	**-0.9**
PLWZ	**Palliser**	**41.23**	**155**	P	**P**	**00 57 17.2**	**-1.5**
KHZ	**Kahutara**	**41.25**	**157**	P	**P**	**00 57 18.1**	**-0.5**
KHZ				IAmb	IAmb	00 57 30.8	
	comp=Z,23nm,1.1s						
ADK	**Adak**	**62.33**	**21**	P	**P**	**00 59 56.0**	**+0.5**
MA2	**Magadan**	**64.56**	**359**	P	**P**	**01 00 11.3**	**+1.1**
MA2				IAmb	IAmb	01 00 19.6	
	comp=Z,6.8nm,1.0s						
GAMB	**Gambell**	**73.59**	**15**	P	**P**	**01 01 08.5**	**+2.5**
GAMB				IAmb	IAmb	01 01 16.5	
	comp=Z,12nm,1.1s						
SVW2	**Sparrevohn**	**76.96**	**23**	P	**P**	**01 01 25.3**	**-0.2**
SVW2				IAmb	IAmb	01 01 32.5	
	comp=Z,2.6nm,0.9s						
CNPM	**China Poot**	**77.83**	**25**	P	**P**	**01 01 31.4**	**+1.0**
CNPM				IAmb	IAmb	01 01 44.0	
	comp=Z,13nm,1.2s						
TTA	**Tatalina**	**77.93**	**21**	P	**P**	**01 01 29.9**	**-1.0**
HIN	**Hinchinbrook I**	**80.32**	**26**	P	**P**	**01 01 42.7**	**-1.3**
HIN				IAmb	IAmb	01 02 01.5	
	comp=Z,11nm,1.0s						
FID	**Port Fidalgo**	**80.50**	**26**	P	**P**	**01 01 45.5**	**+0.6**
FID				IAmb	IAmb	01 01 48.2	
	comp=Z,8.0nm,1.0s						
MKAR	**Makanchi Array**	**80.90**	**319**	P	**P**	**01 01 51.3**	**+3.8**
	comp=Z,0.2nm,0.4s,baz=93,slow=4.9,SNR=2.3						
MKAR	**Makanchi Array**	**80.90**	**319**	P	**P**	**01 01 45.7**	**-1.7**
MAKZ	**Makanchi**	**81.11**	**319**	P	**P**	**01 01 48.1**	**-0.4**
ZALV	**Zalesovo Beam**	**81.71**	**326**	P	**P**	**01 01 54.0**	**+2.6**
	comp=Z,0.4nm,0.3s,baz=94,slow=6.4,SNR=2.3						
TORD	**Torodi Ar. Bea**	**150.87**	**288**	PKPbc	**PKiKP**	**01 09 30.0**	**+2.9**
	comp=Z,1.2nm,0.8s,baz=80,slow=2.7,SNR=5.4						

WEL 21 00:51:04.0,38.°S±3.°×17.°6E±.°,h180km±5km,M2.6/13, ML3.1/3,MLv2.6/13,Error ellipse: s-maj=0.0km s-min=0.0km az=90.5,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MUGZ	**Murupara**	**0.47**	**109**	P	Pn	00 51 28.8	+0.1
MUGZ				S	Sn	00 51 46.0	-1.7
MUGZ	**Murupara**	**0.47**	**109**	P	Pn	00 51 28.8	+0.1
MUGZ				S	Sn	00 51 46.3	-1.4
MRHZ	**Matea Rd**	**0.54**	**162**	P	Pn	00 51 29.6	+0.6
MRHZ	**Matea Rd**	**0.54**	**162**	P	Pn	00 51 29.2	+0.2
MRHZ				S	Sn	00 51 46.7	-1.8
URZ	**Urewera**	**0.72**	**85**	P	Pn	00 51 29.7	-0.2
URZ				S	Sn	00 51 47.3	-2.4
MTHZ	**Maungataniwha**	**0.73**	**137**	P	Pn	00 51 30.2	+0.2
MTHZ				S	Sn	00 51 49.6	-0.5
TOZ	**Tahuroa Road**	**0.81**	**317**	P	Pn	00 51 30.7	+0.3
TOZ	**Tahuroa Road**	**0.81**	**317**	P	Pn	00 51 30.2	-0.2
BKZ	**Black Stump Fm**	**0.87**	**165**	P	Pn	00 51 31.7	+0.9
BKZ				S	Sn	00 51 50.0	-1.8
BKZ	**Black Stump Fm**	**0.87**	**165**	S	Sn	00 51 50.9	-0.9
RAHZ	**Arahi**	**0.91**	**131**	P	Pn	00 51 30.8	-0.3
MWZ	**Matawai**	**1.04**	**91**	P	Pn	00 51 32.6	+0.5
MWZ				S	Sn	00 51 51.9	-1.8
MWZ	**Matawai**	**1.04**	**91**	P	Pn	00 51 32.8	+0.8
MOVZ	**Moawhango**	**1.14**	**198**	P	Pn	00 51 33.5	+0.7
RUGZ	**Raukumara Rang**	**1.22**	**73**	P	Pn	00 51 32.9	-0.6
RUGZ	**Raukumara Rang**	**1.22**	**73**	P	Pn	00 51 33.1	-0.5
KRHZ	**Kereru**	**1.33**	**174**	P	Pn	00 51 35.8	+1.4
HAZ	**Te Kaha**	**1.37**	**66**	P	Pn	00 51 34.4	-0.4
HAZ	**Te Kaha**	**1.37**	**66**	P	Pn	00 51 34.0	-0.7
VRZ	**Vera Road**	**1.38**	**234**	P	Pn	00 51 35.7	+0.9
VRZ	**Vera Road**	**1.38**	**234**	P	Pn	00 51 35.6	+0.7
TWGZ	**Tauwhareparae**	**1.41**	**85**	P	Pn	00 51 35.8	+0.7
PKGZ	**Pakihiroa**	**1.54**	**74**	P	Pn	00 51 37.0	+0.5
KAHZ	**Kahuranaki**	**1.56**	**161**	P	Pn	00 51 38.6	+2.0
WAZ	**Wanganui**	**1.72**	**213**	P	Pn	00 51 39.1	+1.1
WAZ	**Wanganui**	**1.72**	**213**	P	Pn	00 51 38.8	+0.7
TSZ	**Takapari Road**	**1.75**	**186**	P	Pn	00 51 39.2	+0.9
WMGZ	**Waiomatatini S**	**1.82**	**75**	P	Pn	00 51 39.8	+0.7
MXZ	**Matakaoa Point**	**1.83**	**66**	P	Pn	00 51 39.5	+0.2
BFZ	**Birch Farm**	**2.36**	**179**	P	Pn	00 51 46.0	+1.0
MRZ	**Mangatainoka R**	**2.38**	**191**	P	Pn	00 51 45.6	+0.3
OGWZ	**Otaki Gorge**	**2.62**	**197**	P	Pn	00 51 48.5	+0.5
OGWZ	**Otaki Gorge**	**2.62**	**197**	S	Sn	00 52 21.6	-0.8
HOWZ	**Holdsworth Sta**	**2.63**	**191**	P	Pn	00 51 48.5	+0.3
HOWZ				S	Sn	00 52 21.4	-1.3
KIW	**Kapiti Island**	**2.73**	**201**	P	Pn	00 51 49.4	+0.1
CAW	**Cannon Point**	**2.92**	**197**	P	Pn	00 51 51.8	+0.3
MSWZ	**Moikau Station**	**3.18**	**193**	P	Pn	00 51 54.6	-0.1
TCW	**Tory Channel**	**3.24**	**207**	P	Pn	00 51 55.4	-0.2
PLWZ	**Palliser**	**3.32**	**192**	P	Pn	00 51 56.2	-0.4
KHZ	**Kahutara**	**4.57**	**206**	P	Pn	00 52 11.5	-0.7

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*NEIC **21** 01:23:49.6±1.4, 18.°5S±0.°2×178.°0W±0.°2, h633km±5km, mb4.1/9, Error ellipse: s-maj=33.2km s-min=20.3km az=160.0*
*IDC **21** 01:23:51.5±5.4, 18.°30S×178.°01W, h647km±59km, mb3.3/6, mb1 3.5/7, mb1mx3.1/31, mbtmp4.3/7, Error ellipse: s-maj=62.1km s-min=28.7km az=135.0*

ISC 21 01:23:50.8±0.8,18.°4S±0.°2×178.°1W±0.°2,h650km,n23, σ1s23/25,mb4.1/9,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.75**	**280**	P	**P**	**01 25 16.4**	**-2.1**
DZM	**Mont Dzumac**	**14.99**	**253**	P	**P**	**01 26 59.6**	**+2.5**
	0.5nm,0.3s,baz=85,slow=20,SNR=6.4						
DZM	**Mont Dzumac**	**14.99**	**253**	P	**P**	**01 26 57.1**	**+0.1**
EIDS	**Eidsvold**	**29.41**	**251**	P	**P**	**01 29 03.9**	**-1.1**
EIDS				IAmb	IAmb	01 29 06.8	
	comp=Z,6.8nm,0.9s						
CAN	**Canberra**	**33.67**	**233**	P	**P**	**01 29 39.9**	**-1.0**
STKA	**Stephens Creek**	**38.68**	**242**	P	**P**	**01 30 23.6**	**+1.8**
	comp=Z,2.9nm,0.4s,baz=77,slow=9.3,SNR=9.1						
STKA	**Stephens Creek**	**38.68**	**242**	P	**P**	**01 30 22.0**	**+0.2**
WR0	**Warramunga Arr**	**44.67**	**260**	P	**P**	**01 31 07.4**	**-1.4**
WB2	**Warramunga Arr**	**44.85**	**260**	P	**P**	**01 31 11.3**	**+1.2**
WB2				IAmb	IAmb	01 31 11.5	
	comp=Z,11nm,0.9s						
WRA	**Warramunga Arr**	**44.86**	**260**	P	**P**	**01 31 11.4**	**+1.2**
	comp=Z,4.7nm,0.3s,baz=97,slow=7.1,SNR=57						
WRA				PcP	**PcP**	**01 32 38.5**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=94,slow=3.6,SNR=1.7						
WRA	**Warramunga Arr**	**44.86**	**260**	P	**P**	**01 31 10.8**	**+0.5**
AS31	**Alice Springs**	**44.97**	**255**	P	**P**	**01 31 10.7**	**-0.3**
AS31				IAmb	IAmb	01 31 12.9	
	comp=Z,2.8nm,0.8s						
ASAR	**Alice Springs**	**44.97**	**255**	P	**P**	**01 31 12.4**	**+1.4**
	comp=Z,9.1nm,0.6s,baz=87,slow=8.3,SNR=91						
ASAR				PcP	**PcP**	**01 32 38.7**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=95,slow=3.8,SNR=4.3						
ASAR	**Alice Springs**	**44.97**	**255**	P	**P**	**01 31 11.3**	**+0.3**
SMRI	**Semarang**	**70.28**	**269**	P	**P**	**01 34 02.1**	**+0.5**
PETK	**Petropavlovsk-**	**74.23**	**345**	P	**P**	**01 34 24.5**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=129,slow=12,SNR=4.2						
TXAR	**Lajitas Array**	**85.98**	**57**	P	**P**	**01 35 25.6**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=187,slow=5.4,SNR=2.6						
ILAR	**Eielson Array**	**86.29**	**13**	P	**P**	**01 35 24.8**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=223,slow=5.0,SNR=6.6						
GO04	**Tololo Observa**	**95.01**	**124**	P	**P**	**01 36 06.5**	**-0.2**
ARCES	**ARCESS Array B**	**126.85**	**350**	PKP	**PKiKP**	**01 41 42.0**	**-0.3**
	comp=Z,7.2nm,1.1s,baz=60,slow=2.2,SNR=4.2						
BRTR	**Keskin Array B**	**145.35**	**315**	PKPbc	**PKPab**	**01 42 19.0**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=126,slow=5.4,SNR=1.0						
CLL	**Collm**	**146.01**	**348**	*i* PKPbc	**PKiKP**	**01 42 20.2**	**-1.6**
GERES	**GERESS Array B**	**148.16**	**345**	PKPbc	**PKiKP**	**01 42 25.6**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=42,slow=6.0,SNR=2.6						

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*IDC **21** 01:29:47.4±1.7,55.°13N×158.°91W, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.6/34, mbtmp3.6/9, ML3.6/2, Error ellipse: s-maj=36.3km s-min=25.5km az=26.0*
*AEIC **21** 01:29:54.2±1.8,55.°25N±0.°06×158.°29W±0.°04, h15km±4km, ML3.3/53, Error ellipse: s-maj=8.5km s-min=2.9km az=186.0*
*NEIC **21** 01:29:54.5±1.4,55.°29N±0.°04×158.°29W±0.°07, h38km±10km, Error ellipse: s-maj=6.6km s-min=5.3km az=153.0*

ISC 21 01:29:54.2±0.7,55.°31N±0.°07×158.°27W±0.°04,h33km,n84, σ0s99/86,mb3.6/7,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.90**	**237**		**Pn**	**01 30 08.9**	**-1.6**
CNBA					**Sn**	**01 30 21.6**	**-0.8**
VNSG	**Veniaminof 6**	**0.94**	**331**		**Pn**	**01 30 10.9**	**-0.2**
VNSG					**Sb**	**01 30 24.2**	**+0.1**
VNHG	**Veniaminof 1**	**1.04**	**331**		**Pn**	**01 30 12.9**	**+0.4**
VNWF	**Veniaminof 8**	**1.11**	**320**		**Pn**	**01 30 13.6**	**+0.1**
VNSS	**Veniaminof 8**	**1.14**	**324**		**Pn**	**01 30 14.2**	**+0.3**
VNNF	**Veniaminof 3**	**1.14**	**329**		**Pn**	**01 30 14.5**	**+0.6**
VNFG	**Fog Glacier, M**	**1.22**	**324**		**Pn**	**01 30 15.7**	**+0.8**
SDPT	**Sand Point**	**1.26**	**273**		**Pn**	**01 30 14.5**	**-0.9**
SDPT					**Sn**	**01 30 31.1**	**-0.1**
CHIR	**Chirikof Islan**	**1.59**	**70**		**Pn**	**01 30 20.8**	**+0.8**
CHIR					**Sn**	**01 30 39.8**	**+0.4**
PVV	**Pavlof Volcano**	**2.01**	**273**		**Pn**	**01 30 25.4**	**-0.3**
PS4A	**Pavlof South-4**	**2.05**	**272**		**Pn**	**01 30 26.5**	**+0.2**
HAG	**Hague Volcano**	**2.08**	**272**		**Pn**	**01 30 27.5**	**+0.8**
BLHA	**Black Hill**	**2.19**	**282**		**Pn**	**01 30 28.5**	**+0.2**
SII	**Sitkinak Islan**	**2.62**	**60**		**Pn**	**01 30 34.8**	**+0.7**
PLK3	**Peulik 3**	**2.63**	**24**		**Pn**	**01 30 35.9**	**+1.6**
PLK1	**Peulik 1**	**2.66**	**20**		**Pn**	**01 30 36.5**	**+1.8**
PLK5	**Peulik 5**	**2.80**	**15**		**Pn**	**01 30 38.4**	**+1.8**
FALS	**False Pass**	**2.99**	**263**		**Pn**	**01 30 39.8**	**+0.6**
CAHL	**Cahill**	**3.20**	**30**		**Pn**	**01 30 43.2**	**+1.1**
ANCK	**Angle Creek**	**3.27**	**27**		**Pn**	**01 30 44.5**	**+1.3**
OHAK	**Old Harbor**	**3.38**	**53**		**Pn**	**01 30 44.8**	**+0.3**
KABU	**Katmai Buttres**	**3.39**	**28**		**Pn**	**01 30 46.2**	**+1.4**
SSBA	**Shishaldin**	**3.41**	**263**		**Pn**	**01 30 45.7**	**+0.6**
KELA	**Mount Kelaz**	**3.43**	**23**		**Pn**	**01 30 46.5**	**+1.2**
WESE	**West Dahl East**	**3.74**	**260**		**Pn**	**01 30 50.1**	**+0.5**
KAHC	**Katmai Hardscr**	**3.79**	**27**		**Pn**	**01 30 51.3**	**+1.0**
WESP	**Westdahl Peak**	**3.81**	**260**		**Pn**	**01 30 51.3**	**+0.7**
KDAK	**Kodiak Island**	**4.00**	**49**	Pn	**Pn**	**01 30 53.2**	**+0.1**
	5.6nm,0.3s,baz=231,slow=6.9,SNR=66						
KDAK				Sn	**Sn**	**01 31 37.2**	**-1.6**
	4.9nm,0.3s,baz=31,slow=23,SNR=7.7						
KDAK				Lg	Lg	01 31 59.3	
	0.3nm,0.3s,baz=150,slow=20,SNR=1.5						
KDAK	**Kodiak Island**	**4.00**	**49**		**Pn**	**01 30 53.5**	**+0.4**
AKSA	**Akutan Strait**	**4.46**	**258**		**Pn**	**01 31 00.3**	**+0.9**
AKUT	**Akutan**	**4.51**	**258**	Pn	**Pn**	**01 31 03.0**	**+3.0**
AKBBA	**Akutan Broad B**	**4.61**	**258**		**Pn**	**01 31 02.2**	**+0.8**
MREP	**Makushin Rep't**	**5.16**	**257**		**Pn**	**01 31 09.5**	**+0.5**
CNPM	**China Poot**	**5.68**	**39**		**Pn**	**01 31 16.5**	**+0.3**
RED	**Redoubt Volcan**	**5.90**	**28**		**Pn**	**01 31 20.6**	**+1.4**
RSO	**Redoubt South**	**5.94**	**27**		**Pn**	**01 31 21.2**	**+1.3**
SVW2	**Sparrevohn**	**5.97**	**13**		**Pn**	**01 31 21.4**	**+1.3**
BRLK	**Bradley Lake**	**5.98**	**39**	Pn	**Pn**	**01 31 20.1**	**-0.1**
BRSE	**Bradley Lake S**	**6.01**	**39**		**Pn**	**01 31 20.4**	**-0.3**
SLKM	**Skilak Lake**	**6.74**	**36**		**Pn**	**01 31 31.1**	**+0.3**
SPIA	**Saint Paul Isl**	**6.93**	**291**		**Pn**	**01 31 33.9**	**+0.6**
RC01	**Rabbit Creek A**	**7.34**	**34**	Pn	**Pn**	**01 31 39.8**	**+1.0**
PWL	**Port Wells**	**7.65**	**39**		**Pn**	**01 31 42.5**	**-0.7**
TT01	**Tatalina**	**7.71**	**8**		**Pn**	**01 31 44.9**	**+1.0**
TTA	**Tatalina**	**7.73**	**8**	Pn	**Pn**	**01 31 45.6**	**+1.3**
KNIK	**Knik Glacier**	**8.00**	**36**		**Pn**	**01 31 47.6**	**-0.3**
HIN	**Hinchinbrook I**	**8.08**	**46**		**Pn**	**01 31 49.5**	**+0.5**
GHO	**Glory Hole Cre**	**8.11**	**33**		**Pn**	**01 31 50.3**	**+0.8**
GLI	**Glacier Island**	**8.13**	**42**	Pn	**Pn**	**01 31 49.9**	**+0.2**
PPLA	**Purkeypile**	**8.22**	**20**		**Pn**	**01 31 51.8**	**+0.7**
FID	**Port Fidalgo**	**8.29**	**44**		**Pn**	**01 31 51.5**	**-0.4**
SML	**Sawmill**	**8.32**	**34**		**Pn**	**01 31 52.9**	**+0.5**
EYAK	**Cordova Ski Ar**	**8.47**	**47**		**Pn**	**01 31 55.0**	**+0.6**
SCM	**Sheep Creek Mo**	**8.68**	**37**		**Pn**	**01 31 57.5**	**+0.2**
RAGM	**Ragged Mountai**	**8.85**	**49**		**Pn**	**01 31 59.8**	**+0.2**
TRF	**Thorofare Moun**	**9.11**	**23**	Pn	**Pn**	**01 32 04.0**	**+0.7**
RND	**Reindeer**	**9.42**	**27**	Pn	**Pn**	**01 32 08.7**	**+1.3**
BPAW	**Bear Paw Mtn.**	**9.54**	**20**	Pn	**Pn**	**01 32 10.2**	**+1.1**
DHY	**Denali Highway**	**9.57**	**31**	Pn	**Pn**	**01 32 09.7**	**+0.1**
WAX	**Waxell Ridge**	**9.68**	**52**	Pn	**Pn**	**01 32 10.3**	**-0.7**
GLB	**Gilahina Butte**	**9.75**	**45**	Pn	**Pn**	**01 32 11.9**	**-0.1**
VRDI	**Verde Repeater**	**9.79**	**47**	Pn	**Pn**	**01 32 12.8**	**+0.2**
BALM	**Baldy**	**10.16**	**49**	Pn	**Pn**	**01 32 18.0**	**+0.3**
BARN	**Barnard Glacie**	**10.47**	**50**	Pn	**Pn**	**01 32 23.0**	**+1.0**
WRH	**Wood River Hil**	**10.50**	**51**		**Pn**	**01 32 22.9**	**+0.8**
CCB	**Clear Creek Bu**	**10.71**	**25**	Pn	**Pn**	**01 32 25.1**	**+0.1**
PCA	**Pinnacle**	**10.75**	**56**	Pn	**Pn**	**01 32 27.0**	**+1.4**
RIDG	**Independent Ri**	**10.83**	**33**		**Pn**	**01 32 28.4**	**+1.7**
IL31		**11.04**	**26**		**Pn**	**01 32 29.4**	**-0.1**
ILAR	**Eielson Array**	**11.04**	**26**	Pn	**Pn**	**01 32 27.0**	**-2.6**
	0.2nm,0.3s,baz=216,slow=13,SNR=8.2						
ILAR	**Eielson Array**	**11.04**	**26**		**Pn**	**01 32 30.7**	**+1.1**
BCAR	**Beaver Creek A**	**11.45**	**41**	Pn	**Pn**	**01 32 34.9**	**-0.3**
WHY	**Whitehorse**	**13.47**	**57**	Pn	**Pn**	**01 33 04.2**	**+1.3**
BMAR	**Burnt Mountain**	**13.76**	**23**	Pn	**Pn**	**01 33 06.3**	**-0.4**
YKA	**Yellowknife Ar**	**23.27**	**54**	P	**P**	**01 34 58.3**	**-0.1**
	0.6nm,0.6s,baz=271,slow=8.5,SNR=2.5						
PDAR	**Pinedale Array**	**33.50**	**91**	P	**P**	**01 36 32.9**	**+1.4**
	0.5nm,0.6s,baz=324,slow=4.2,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**44.16**	**231**	T	T	02 25 05.5	
	baz=28						
H11N3	**WAKE ISLAND Hy**	**44.17**	**231**	T	T	02 25 04.7	
	baz=28						
H11N1	**WAKE ISLAND Hy**	**44.18**	**231**	T	T	02 25 07.4	
	baz=28						
TXAR	**Lajitas Array**	**46.45**	**101**	P	**P**	**01 38 19.1**	**+1.3**
	0.3nm,0.7s,baz=298,slow=7.0,SNR=5.5						
FINES	**FINESS Array B**	**63.54**	**358**	P	**P**	**01 40 19.2**	**-1.4**
	3.8nm,1.2s,baz=0.9,slow=12,SNR=7.2						
NOA	**NORSAR Array B**	**63.69**	**6**	P	**P**	**01 40 20.8**	**-0.9**
	0.9nm,0.8s,baz=353,slow=6.6,SNR=3.9						
MKAR	**Makanchi Array**	**66.23**	**319**	P	**P**	**01 40 37.4**	**-1.0**
	0.2nm,0.4s,baz=27,slow=5.3,SNR=2.6						
AKASG	**Malin Array Be**	**74.17**	**355**	P	**P**	**01 41 25.5**	**-1.4**
	0.4nm,0.4s,baz=223,slow=51,SNR=1.4						

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*NEIC **21** 01:29:53.5±1.1,13.°9N±0.°1×93.°93W±0.°09, h49km±43km, Error ellipse: s-maj=18.1km s-min=12.1km az=197.0*
*MEX **21** 01:29:56.3±0.7,14.°17N×93.°88W, h5km, MD4.1*

ISC 21 01:29:55.8±2.8,14.°1N±0.°1×93.°85W±0.°09,h35km,n11, σ0s99/17,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.73**	**21**		**Pn**	**01 30 22.6**	**-0.9**
PCIG		**1.73**	**21**	*e*P	**Pn**	**01 30 22.6**	**-0.9**
PCIG				*i* S	**Sn**	**01 30 42.3**	**-2.0**
THIG		**1.75**	**61**		**Pn**	**01 30 23.9**	**+0.3**
THIG					**Sn**	**01 30 44.8**	**+0.2**
THIG		**1.75**	**61**	*i* P	**Pn**	**01 30 23.8**	**+0.3**
THIG				*i* S	**Sn**	**01 30 44.8**	**+0.2**
CCIG	**Comitan**	**2.75**	**37**		**Pn**	**01 30 39.9**	**+2.3**
CCIG	**Comitan**	**2.75**	**37**	*i* P	**Pn**	**01 30 38.1**	**+0.5**
CCIG				*i* S	**Sn**	**01 31 10.1**	**+0.4**
TGIG		**2.78**	**15**		**Pn**	**01 30 38.7**	**+0.8**
TGIG		**2.78**	**15**	*e*P	**Pn**	**01 30 38.7**	**+0.8**
TGIG				*e*S	**Sn**	**01 31 09.9**	**-0.4**
CMIG	**Matias Romero**	**3.16**	**342**		**Pn**	**01 30 43.6**	**+0.5**
CMIG					Sn	01 31 06.8	-13
CMIG	**Matias Romero**	**3.16**	**342**	*e*P	**Pn**	**01 30 43.6**	**+0.5**
CMIG				*i* S	**Sn**	**01 31 19.3**	**-0.4**
MTO3	**Montecristo**	**4.37**	**85**	Pn	**Pn**	**01 30 59.2**	**-0.6**

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*NIED **21** 02:06:00,28.°40N×141.°90E, h53km, Mw4.1 Best double couple: M0 1.74000×10^15 NP1:φs8.00000°, δ82.00000°, λ30.00000°. NP2:φs274.00000°, δ60.00000°, λ171.00000°.*
*IDC **21** 02:06:00.9±2.8,28.°34N×141.°57E, h46km±23km, mb3.9/18, mb1 4.1/21,mb1mx3.9/45,mbtmp4.2/21, ML4.2/2, MS3.2/4, Ms1 3.2/4, ms1mx2.6/41, Error ellipse: s-maj=21.6km s-min=18.8km az=40.0*
*NEIC **21** 02:06:02.9±1.2,28.°4N±0.°1×141.°6E±0.°1, h66km±4km, mb4.5/19, Error ellipse: s-maj=15.0km s-min=13.1km az=187.0*

ISC 21 02:06:01.3±0.5,28.°34N±0.°06×141.°72E±0.°10,h55km,n81, σ1s25/79,mb4.3/28,MS3.4/4,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.31**	**162**	P	**Pn**	**02 06 22.6**	**-0.7**
CBIJ				*e*S	**Sn**	**02 06 38.2**	**-1.6**
JHH2	**Haha-jima-NKT2**	**1.75**	**167**	P	**Pn**	**02 06 29.2**	**-0.1**
JHCJ	**Hachijojimakas**	**5.00**	**341**	*e*S	**Sn**	**02 08 09.3**	**-0.9**
JHJ2	**Mitsune**	**5.03**	**341**	Pn	**Pn**	**02 07 14.5**	**+0.3**
JHJ	**Hachijo jima 2**	**5.04**	**341**	P	**Pn**	**02 07 13.8**	**-0.6**
	17nm,0.3s,baz=67,slow=19,SNR=1.8						
JHJ				S	**Sn**	**02 08 09.5**	**-1.9**
	46nm,0.3s,baz=79,slow=20,SNR=3.1						
BSO1	**Boso 1**	**6.32**	**354**	P	**Pn**	**02 07 31.8**	**+0.4**
BSO1				*e*S	**Sn**	**02 08 39.4**	**-2.6**
BSO3	**Boso 3**	**6.52**	**351**	P	**Pn**	**02 07 34.9**	**+0.5**
BSO4	**Boso 4**	**6.73**	**350**	P	**Pn**	**02 07 39.1**	**+1.7**
JOD2	**Odawara 2**	**7.25**	**343**	P	**Pn**	**02 07 46.6**	**

comp=Z,2.6nm,0.8s

KNK	**Knik Glacier**	**55.92**	**33**	P	**P**	**02 15 32.0**	**-1.5**
SML	**Sawmill**	**56.00**	**33**	P	**P**	**02 15 32.9**	**-1.2**
IL31		**56.82**	**29**	P	**P**	**02 15 40.6**	**+0.9**
ILAR	**Eielson Array**	**56.82**	**29**	P	**P**	**02 15 40.6**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=260,slow=6.4,SNR=17						
ILAR	**Eielson Array**	**56.82**	**29**	P	**P**	**02 15 40.1**	**+0.3**
BMAR	**Burnt Mountain**	**57.91**	**26**	P	**P**	**02 15 49.5**	**+2.0**
DOT	**Dot Lake**	**58.02**	**30**	P	**P**	**02 15 48.5**	**+0.2**
DOT				IAmb	IAmb	02 15 52.3	
	comp=Z,2.2nm,0.8s						
KK31	**Karatay Array**	**58.03**	**305**	P	**P**	**02 15 48.6**	**-0.1**
KK31				IAmb	IAmb	02 15 49.3	
	comp=Z,3.7nm,0.6s						
KKAR	**Karatay Array**	**58.03**	**305**	P	**P**	**02 15 48.3**	**-0.3**
SCRK	**Sand Creek**	**58.06**	**30**	P	**P**	**02 15 49.3**	**+0.6**
SCRK				IAmb	IAmb	02 15 50.7	
	comp=Z,4.0nm,0.6s						
CHGR	**Chuyangaron**	**59.96**	**300**	P	**P**	**02 16 01.8**	**-0.4**
EPYK	**Eagle Plains**	**61.03**	**27**	P	**P**	**02 16 10.1**	**+1.1**
ARU	**Arti**	**63.19**	**322**	P	**P**	**02 16 23.6**	**0.0**
ABKAR	**Akbulak array**	**63.94**	**314**	P	**P**	**02 16 28.2**	**-0.4**
YKA	**Yellowknife Ar**	**71.24**	**28**	P	**P**	**02 17 15.0**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=295,slow=6.1,SNR=4.8						
ARCES	**ARCESS Array B**	**72.23**	**341**	P	**P**	**02 17 20.7**	**+0.4**
	comp=Z,9.5nm,1.1s,baz=35,slow=6.6,SNR=2.0						
ARCES				LR	LR	02 53 21.7	
	comp=Z,18nm,20.5s,baz=134,slow=39						
FINES	**FINESS Array B**	**76.65**	**334**	P	**P**	**02 17 47.0**	**+1.0**
	comp=Z,2.5nm,0.5s,baz=70,slow=5.4,SNR=39						
KBZ	**Khabaz**	**76.86**	**313**	P	**P**	**02 17 48.8**	**+1.3**
	comp=Z,4.5nm,0.8s,baz=77,slow=4.9,SNR=6.7						
NVAR	**Mina Array Bea**	**80.07**	**52**	P	**P**	**02 18 06.7**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=297,slow=6.3,SNR=4.7						
AKASG	**Malin Array Be**	**81.37**	**324**	P	**P**	**02 18 12.3**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=53,slow=5.5,SNR=7.5						
AKASG	**Malin Array Be**	**81.37**	**324**	IAmb	IAmb	02 18 12.8	
	comp=Z,1.1nm,0.9s						
NOA	**NORSAR Array B**	**82.30**	**338**	P	**P**	**02 18 17.1**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=48,slow=4.6,SNR=3.1						
PDAR	**Pinedale Array**	**83.62**	**45**	P	**P**	**02 18 24.8**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=299,slow=1.9,SNR=4.0						
GERES	**GERESS Array B**	**90.23**	**329**	P	**P**	**02 18 56.0**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=54,slow=6.8,SNR=5.6						
TXAR	**Lajitas Array**	**95.19**	**53**	P	**P**	**02 19 20.7**	**+1.4**
	comp=Z,0.3nm,0.7s,baz=310,slow=3.3,SNR=5.0						
TORD	**Torodi Ar. Bea**	**123.45**	**311**	PKP	**PKPdf**	**02 24 52.1**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=57,slow=2.6,SNR=1.6						
LPAZ	**La Paz**	**149.98**	**73**	PKPbc	**PKiKP**	**02 25 47.9**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=320,slow=6.0,SNR=4.8						
PLCA	**Paso Flores**	**150.85**	**124**	PKPbc	**PKiKP**	**02 25 49.0**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=252,slow=6.4,SNR=3.2						

IDC ***21*** *02:11:00.9±2.1,7.˚66S×128.˚44E,h156km±24km,mb3.6/2, mb1 3.7/7,mb1mx3.4/30,mbtmp4.1/7,Error ellipse: s-maj=23.6km s-min=20.9km az=120.0*

ISC 21 02:11:00.1±1.0,**7.˚77S**±0.˚07×**128.˚60E**±0.˚10,**h150**km,**n7,** σ1§**97**/11,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.44**	**243**	P		**Pn**	**02 12 20.1**	**+0.7**
	26nm,0.3s,baz=248,slow=2.2,SNR=12							
BATI				S		**Sn**	**02 13 20.6**	**-0.7**
	27nm,0.3s,baz=221,slow=20,SNR=11							
SIJI	**Sorong**	**7.36**	**21**	P		**Pn**	**02 12 45.0**	**0.0**
	2.7nm,0.3s,baz=123,slow=22,SNR=3.3							
FITZ	**Fitzroy Crossi**	**10.66**	**195**	P		**Pn**	**02 13 28.9**	**+0.1**
	2.2nm,0.3s,baz=12,slow=11,SNR=125							
FITZ				S		**Sn**	**02 15 25.9**	**-0.9**
	2.2nm,0.3s,baz=123,slow=20,SNR=5.2							
WRA	**Warramunga Arr**	**13.32**	**156**	P		**Pn**	**02 14 05.4**	**+1.9**
	0.9nm,0.3s,baz=326,slow=13,SNR=25							
WRA				S		**Sn**	**02 16 28.1**	**-2.8**
	1.7nm,0.3s,baz=339,slow=22,SNR=10							
ASAR	**Alice Springs**	**16.60**	**163**	P		**Pn**	**02 14 48.1**	**+3.8**
	0.4nm,0.3s,baz=336,slow=11,SNR=10.0							
ASAR				S		**S**	**02 17 48.4**	**-0.5**
	0.5nm,0.3s,baz=321,slow=17,SNR=6.2							
MKAR	**Makanchi Array**	**68.12**	**328**	P		**P**	**02 21 43.1**	**-0.7**
	0.5nm,0.4s,baz=122,slow=8.2,SNR=12							
ZALV	**Zalesovo Beam**	**71.67**	**334**	P		**P**	**02 22 03.9**	**-1.4**
	0.9nm,0.4s,baz=144,slow=5.7,SNR=3.3							

IDC ***21*** *02:21:02.4±0.8,23.˚20N×121.˚06E,h0km,mb3.9/13, mb1 4.1/14,mb1mx3.9/46,mbtmp3.9/14,ML3.8/1,MS3.2/6, Ms1 3.3/6,ms1mx2.9/33,Error ellipse: s-maj=29.2km s-min=15.7km az=70.0*

BJI ***21*** *02:21:08.3±0.0,23.˚56N×121.˚60E,h12km,mB4.2/3, mb4.2/8,ML3.9/6,Ms3.7/5,Ms7 3.4/6*

JMA ***21*** *02:21:09.3,23.˚45N×121.˚66E,h42km±1km,M4.6*

TAP ***21*** *02:21:09.8,23.˚47N×121.˚65E,h52km,ML4.8,C*

ASIES ***21*** *02:21:09.4,23.˚43N×121.˚74E,h43km,MW3.8*

NEIC ***21*** *02:21:09.2±1.4,23.˚41N±0.˚05×121.˚66E±0.˚06,h51km±2km, mb4.0/9,Error ellipse: s-maj=9.4km s-min=5.9km az=120.0*

ISC 21 02:21:09.1±0.˚7,**23.˚45N**±0.˚02×**121.˚69E**±0.˚02,**h42**km±6km, **n187,**σ1§**77**/276,**mb3.9**/17,**MS3.1**/4,**4D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EGFH	**Guangfu**	**0.33**	**312**	*i* P		**Pn**	**02 21 18.9**	**+1.0**
	baz=305							
EGFH				*e*S		**Sn**	**02 21 25.9**	**+1.9**
	baz=305							
EHY	**Hungye**	**0.35**	**280**	*e*P		**Pn**	**02 21 18.6**	**+0.5**
	baz=276							
EHY				*e*S		**Sn**	**02 21 24.7**	**+0.4**
	baz=276							
YULB	**Yu-li**	**0.37**	**262**	⇓*i* P		**Pn**	**02 21 19.1**	**+0.8**
	baz=266							
YULB				*e*S		**Sn**	**02 21 25.4**	**+0.7**
	baz=266							
YULB	**Yu-li**	**0.37**	**262**			**Pn**	**02 21 18.8**	**+0.5**
ESL	**Shilin**	**0.44**	**327**	*i* P		**Pn**	**02 21 19.6**	**+0.5**
	baz=324							
ESL				*e*S		**Sn**	**02 21 28.9**	**+2.6**
	baz=324							
CHKT	**Chengkung**	**0.46**	**221**	P		**Pn**	**02 21 20.5**	**+1.1**
	baz=207							
CHKT				*e*S		**Sn**	**02 21 28.1**	**+1.5**
	baz=207							
HWA	**Hwalien**	**0.54**	**351**	P		**Pn**	**02 21 21.2**	**+0.8**
	baz=3.0							
HWA				*e*S		**Sn**	**02 21 30.6**	**+2.2**
	baz=3.0							
VWDT	**VWDT**	**0.59**	**301**	P		**Pn**	**02 21 22.0**	**+0.9**
	baz=299							
VWDT				*e*S		**Sn**	**02 21 30.2**	**+0.5**
	baz=299							
TWD	**Chiawan**	**0.64**	**352**	P		**Pn**	**02 21 22.2**	**+0.5**
	baz=5.0							
TWD				*e*S		**Sn**	**02 21 31.7**	**+0.9**
	baz=5.0							
ELDTW	**Lidau**	**0.67**	**248**	P		**Pn**	**02 21 22.5**	**+0.2**
	baz=238							
ELDTW				*e*S		**Sn**	**02 21 31.8**	**0.0**
	baz=238							
OWD	**Renai**	**0.69**	**317**	*i* P		**Pn**	**02 21 23.2**	**+0.6**
	baz=324							
OWD				*e*S		**Sn**	**02 21 32.7**	**+0.4**
	baz=324							
NACB	**Ninganchiao**	**0.73**	**353**	⇓*i* P		**Pn**	**02 21 23.4**	**+0.4**
	baz=347							
NACB				*e*S		**Sn**	**02 21 33.2**	**+0.2**
	baz=347							
NACB	**Ninganchiao**	**0.73**	**353**			**Pn**	**02 21 22.8**	**-0.2**
SSLB	**Suanglung**	**0.76**	**297**	P		**Pn**	**02 21 23.9**	**+0.5**
	baz=297							
SSLB				*e*S		**Sn**	**02 21 33.8**	**0.0**
	baz=297							
SSLB	**Suanglung**	**0.76**	**297**			**Pn**	**02 21 23.4**	**0.0**
CHGB	**Renai**	**0.78**	**322**	*i* P		**Pn**	**02 21 24.6**	**+0.8**
	baz=331							
CHGB				*e*S		**Sn**	**02 21 34.5**	**+0.1**
	baz=331							
ETLH	**Xiulin Townshi**	**0.78**	**346**	P		**Pn**	**02 21 24.0**	**+0.2**
	baz=343							
ETLH				*e*S		**Sn**	**02 21 33.5**	**-0.9**
	baz=343							
WHF	**Hehuan Shan**	**0.80**	**331**	P		**Pn**	**02 21 24.6**	**+0.3**
	baz=334							
WHF				*e*S		**Sn**	**02 21 35.0**	**-0.3**
	baz=334							
WHYT	**Xinyi Township**	**0.81**	**288**	*i* P		**Pn**	**02 21 25.1**	**+1.0**
	baz=285							
WHYT				*e*S		**Sn**	**02 21 36.6**	**+1.6**
	baz=285							
ALS	**Alishan**	**0.82**	**275**	⇓*i* P		**Pn**	**02 21 25.6**	**+1.2**
	baz=280							
ALS				*e*S		**Sn**	**02 21 36.7**	**+1.1**
	baz=280							
TWGBT	**Beinan**	**0.84**	**222**	P		**Pn**	**02 21 24.6**	**+0.1**
	baz=224							
TWGBT				*e*S		**Sn**	**02 21 34.8**	**-0.9**
	baz=224							
TWG	**Pinlang**	**0.84**	**223**	*e*P		**Pn**	**02 21 24.4**	**-0.2**
	baz=224							
TWG				*e*S		**Sn**	**02 21 34.7**	**-1.1**
	baz=224							
TWG	**Pinlang**	**0.84**	**223**			**Pn**	**02 21 24.0**	**-0.5**
SMLT	**Sun Moon Lake**	**0.85**	**301**	*e*P		**Pn**	**02 21 25.6**	**+0.9**
	baz=301							
SMLT				*e*S		**Sn**	**02 21 37.3**	**+1.3**
	baz=301							
TTN	**Taitung**	**0.85**	**216**	P		**Pn**	**02 21 25.9**	**+1.3**
	baz=220							
TTN				*e*S		**Sn**	**02 21 38.6**	**+2.7**
	baz=220							
STYT	**Tauyuan**	**0.91**	**252**	P		**Pn**	**02 21 26.5**	**+1.1**
	baz=244							
STYT				S		**Sn**	**02 21 38.6**	**+1.2**
	baz=244							
DPDB	**Guoxing**	**0.92**	**310**	P		**Pn**	**02 21 26.6**	**+1.1**
	baz=318							
DPDB				S		**Sn**	**02 21 38.9**	**+1.3**
	baz=318							
TDCB	**Techi**	**0.94**	**329**	P		**Pn**	**02 21 27.0**	**+1.0**
	baz=334							
TDCB				*e*S		**Sn**	**02 21 38.2**	**-0.1**
	baz=334							
CHN5	**Tsauling**	**0.94**	**279**	P		**Pn**	**02 21 27.4**	**+1.5**
	baz=278							
CHN5				*e*S		**Sn**	**02 21 40.6**	**+2.3**
	baz=278							
WJS	**Zhushan**	**0.96**	**293**	*e*P		**Pn**	**02 21 27.6**	**+1.4**
	baz=293							
WJS				*e*S		**Sn**	**02 21 39.9**	**+1.2**
	baz=293							
ENA	**Nanau**	**0.98**	**3**	P		**Pn**	**02 21 27.1**	**+0.7**
	baz=17							
ENA				*e*S		**Sn**	**02 21 40.4**	**+1.3**
	baz=17							
TPUB	**Ta-pu**	**0.99**	**262**	P		**Pn**	**02 21 28.1**	**+1.6**
	baz=266							
TPUB				*e*S		**Sn**	**02 21 40.3**	**+1.0**
	baz=266							
TPUB	**Ta-pu**	**0.99**	**262**			**Pn**	**02 21 27.5**	**+1.0**
WTP	**Ta-pu**	**1.01**	**259**	P		**Pn**	**02 21 28.6**	**+1.8**
	baz=255							
WTP				*e*S		**Sn**	**02 21 42.6**	**+2.7**
	baz=255							
CHN4	**Tsaushan**	**1.02**	**265**	P		**Pn**	**02 21 28.6**	**+1.7**
	baz=269							
CHN4				*e*S		**Sn**	**02 21 42.4**	**+2.5**
	baz=269							
NNSB	**Datong**	**1.02**	**344**	P		**Pn**	**02 21 27.7**	**+0.7**
	baz=354							
NNSB				*e*S		**Sn**	**02 21 40.4**	**+0.2**
	baz=354							
NNSH	**Datong**	**1.02**	**344**	*e*P		**Pn**	**02 21 27.5**	**+0.5**
	baz=354							
NNSH				*e*S		**Sn**	**02 21 40.9**	**+0.6**
	baz=354							
WNT	**Mingjian**	**1.02**	**295**	*e*P		**Pn**	**02 21 28.4**	**+1.5**
	baz=284							
WNT				*e*S		**Sn**	**02 21 42.0**	**+1.9**
	baz=284							
NNS	**Nan Shan**	**1.03**	**344**	*e*P		**Pn**	**02 21 27.9**	**+0.7**
	baz=354							
NNS				*e*S		**Sn**	**02 21 40.7**	**+0.1**
	baz=354							
SLGT	**Liugui**	**1.06**	**245**	*e*P		**Pn**	**02 21 29.4**	**+1.9**
	baz=232							
SLGT				*e*S		**Sn**	**02 21 43.5**	**+2.4**
	baz=232							
WGK	**Gukeng**	**1.07**	**283**	*e*P		**Pn**	**02 21 29.1**	**+1.5**
	baz=282							
WGK				*e*S		**Sn**	**02 21 43.5**	**+2.4**
	baz=282							
WHP	**Taichung City**	**1.07**	**321**	*e*P		**Pn**	**02 21 29.4**	**+1.7**
	baz=323							
WHP				*e*S		**Sn**	**02 21 42.9**	**+1.3**
	baz=323							
SGST	**Jiashian**	**1.08**	**251**	*e*P		**Pn**	**02 21 28.7**	**+0.9**
	baz=247							
SGST				*e*S		**Sn**	**02 21 43.8**	**+2.1**
	baz=247							
ECL	**Taimali**	**1.08**	**219**	*e*P		**Pn**	**02 21 27.6**	**-0.2**
	baz=214							
WDLH	**Douliu**	**1.09**	**283**	*e*P		**Pn**	**02 21 29.4**	**+1.6**
	baz=282							
WDLH				*e*S		**Sn**	**02 21 44.0**	**+2.3**
	baz=282							
CHN1	**Nanshi**	**1.10**	**257**	P		**Pn**	**02 21 30.0**	**+1.9**
	baz=253							
CHN1				*e*S		**Sn**	**02 21 44.6**	**+2.5**
	baz=253							
SNST	**Tainan City**	**1.12**	**259**	*e*P		**Pn**	**02 21 29.9**	**+1.6**
	baz=255							
SNST				*e*S		**Sn**	**02 21 44.5**	**+1.9**
	baz=255							
TWK	**Hsinying**	**1.12**	**261**	P		**Pn**	**02 21 29.8**	**+1.4**
	baz=258							
TWK				*e*S		**Sn**	**02 21 44.9**	**+2.2**
	baz=258							
NDT	**Datong Townshi**	**1.16**	**352**	*e*P		**Pn**	**02 21 29.9**	**+1.0**
	baz=357							
NDT				*e*S		**Sn**	**02 21 44.3**	**+0.7**
	baz=357							
TCU	**Taichung**	**1.17**	**307**	P		**Pn**	**02 21 30.8**	**+1.9**
	baz=308							
TCU				*e*S		**Sn**	**02 21 46.0**	**+2.3**
	baz=308							
CHY	**Chiayi**	**1.17**	**273**	*e*P		**Pn**	**02 21 30.2**	**+1.3**
	baz=270							
CHY				*e*S		**Sn**	**02 21 45.0**	**+1.3**
	baz=270							
TWC	**Suao**	**1.17**	**7**	*e*P		**Pn**	**02 21 30.2**	**+1.2**
	baz=22							
TWC				*e*S		**Sn**	**02 21 45.4**	**+1.8**
	baz=22							
ENTT	**Nioudou**	**1.20**	**354**	*e*P		**Pn**	**02 21 30.2**	**+0.8**
	baz=360							
SSD	**Sandimen**	**1.20**	**235**	*e*P		**Pn**	**02 21 31.0**	**+1.7**
	baz=239							
SSD				*e*S		**Sn**	**02 21 47.6**	**+3.1**
	baz=239							
WCHH	**Zhanghua**	**1.22**	**301**	*e*P		**Pn**	**02 21 31.3**	**+1.7**
	baz=301							
WCHH				*e*S		**Sn**	**02 21 47.1**	**+2.3**
	baz=301							
YHNB	**Yeheng**	**1.25**	**347**	*e*P		**Pn**	**02 21 31.3**	**+1.1**
	baz=360							
YHNB				*e*S		**Sn**	**02 21 46.3**	**+0.4**
	baz=360							
YHNB	**Yeheng**	**1.25**	**347**			**Pn**	**02 21 31.2**	**+1.0**
NSK	**Sanguang**	**1.26**	**346**	P		**Pn**	**02 21 31.6**	**+1.2**
	baz=359							
NSK				*e*S		**Sn**	**02 21 46.8**	**+0.7**
	baz=359							
TWE	**Neicheng**	**1.27**	**359**	*e*P		**Pn**	**02 21 31.2**	**+0.9**
	baz=356							
TWE				*e*S		**Sn**	**02 21 47.2**	**+1.1**
	baz=356							
CHN3	**Shinhua**	**1.28**	**254**	*e*P		**Pn**	**02 21 32.9**	**+2.5**
	baz=259							
CHN3				*e*S		**Sn**	**02 21 51.2**	**+4.9**
	baz=259							
WLGB	**Puzi**	**1.28**	**272**	*e*P		**Pn**	**02 21 31.7**	**+1.2**
	baz=269							
WLGB				*e*S		**Sn**	**02 21 48.8**	**+2.4**
	baz=269							
MASBT	**Mashibuluo**	**1.28**	**230**	*e*P		**Pn**	**02 21 32.0**	**+1.5**
	baz=223							
MASBT				*e*S		**Sn**	**02 21 47.6**	**+1.1**
	baz=223							
NSY	**Sanyi**	**1.29**	**319**	*e*P		**Pn**	**02 21 32.1**	**+1.5**
	baz=321							
NSY				*e*S		**Sn**	**02 21 49.8**	**+3.1**
	baz=321							
RLNB	**Erlin**	**1.30**	**290**	*e*P		**Pn**	**02 21 32.1**	**+1.4**
	baz=289							
RLNB				*e*S		**Sn**	**02 21 49.3**	**+2.4**
	baz=289							
TAW	**Tawu**	**1.31**	**214**	*e*P		**Pn**	**02 21 31.7**	**+0.8**
	baz=209							
TAW				*e*S		**Sn**	**02 21 47.4**	**+0.2**
	baz=209							
EAST	**Anshuo**	**1.31**	**217**	*e*P		**Pn**	**02 21 31.6**	**+0.6**
	baz=207							
ILA	**Ilan**	**1.31**	**2**	*e*P		**Pn**	**02 21 30.1**	**-0.9**
	baz=358							
WDJ	**Dajia District**	**1.32**	**313**	*e*P		**Pn**	**02 21 32.9**	**+1.9**
	baz=327							
WDJ				*e*S		**Sn**	**02 21 50.2**	**+2.8**
	baz=327							
SGLT	**Jiouru**	**1.32**	**237**	*e*P		**Pn**	**02 21 34.2**	**+3.2**
	baz=233							
SGLT				*e*S		**Sn**	**02 21 53.8**	**+6.4**
	baz=233							
TWM1	**Shoushan**	**1.32**	**242**	P		**Pn**	**02 21 34.3**	**+3.2**
	baz=238							
TWM1				*e*S		**Sn**	**02 21 53.5**	**+5.9**
	baz=238							
NWLT	**Wulai**	**1.34**	**353**	*e*P		**Pn**	**02 21 32.6**	**+1.3**
	baz=358							
NWLT				*e*S		**Sn**	**02 21 49.2**	**+1.3**
	baz=358							
NSTT	**Nanjuang**	**1.34**	**332**	*e*P		**Pn**	**02 21 33.0**	**+1.7**
	baz=324							
NSTT				*e*S		**Sn**	**02 21 50.0**	**+2.1**
	baz=324							
LIOB	**Emei**	**1.35**	**333**	*e*P		**Pn**	**02 21 33.2**	**+1.8**
	baz=324							
LIOB				*e*S		**Sn**	**02 21 50.4**	**+2.3**
	baz=324							
PTSB	**Yuanli**	**1.35**	**318**	*e*P		**Pn**	**02 21 32.9**	**+1.5**
	baz=320							
PTSB				*e*S		**Sn**	**02 21 50.0**	**+1.9**
	baz=320							
WSF	**Szhu**	**1.36**	**278**	*e*P		**Pn**	**02 21 32.5**	**+0.9**
	baz=277							
WSF				*e*S		**Sn**	**02 21 49.7**	**+1.2**
	baz=277							
NMLH	**Miaoli**	**1.36**	**323**	*e*P		**Pn**	**02 21 33.1**	**+1.4**
	baz=325							
NMLH				*e*S		**Sn**	**02 21 50.2**	**+1.6**
	baz=325							
CHN8	**Yiju**	**1.37**	**266**	*e*P		**Pn**	**02 21 33.0**	**+1.3**
	baz=263							
CHN8				*e*S		**Sn**	**02 21 50.4**	**+1.9**
	baz=263							
WMLT	**Mailiao**	**1.40**	**285**	*e*P		**Pn**	**02 21 33.2**	**+1.1**
	baz=274							
WMLT				*e*S		**Sn**	**02 21 51.1**	**+1.9**
	baz=274							
SCLT	**Jiali**	**1.41**	**259**	*e*P		**Pn**	**02 21 33.7**	**+1.5**
	baz=256							
SCLT				*e*S		**Sn**	**02 21 52.7**	**+3.2**
	baz=256							
LAY	**Lan-yu**	**1.41**	**185**	P		**Pn**	**02 21 32.7**	**+0.5**
	baz=176							
LAY				*e*S		**Sn**	**02 21 49.9**	**+0.3**
	baz=176							
TAI1	**Yung-k'ang**	**1.41**	**254**	*e*P		**Pn**	**02 21 34.8**	**+2.6**
	baz=250							
NTC	**Toucheng**	**1.41**	**5**	*e*P		**Pn**	**02 21 34.1**	**+1.9**
	baz=20							
NTC				*e*S		**Sn**	**02 21 51.5**	**+1.9**
	baz=20							
EGS		**1.41**	**9**	*e*P		**Pn**	**02 21 34.6**	**+2.4**
	baz=15							
SSPT	**Xinbi**	**1.41**	**228**	*e*P		**Pn**	**02 21 34.7**	**+2.5**
	baz=213							
SSPT				*e*S		**Sn**	**02 21 53.7**	**+4.0**
	baz=213							
SNJT	**Kaohsiung City**	**1.43**	**241**	P		**Pn**	**02 21 35.4**	**+2.9**
	baz=237							
SNJT				*e*S		**Sn**	**02 21 54.9**	**+4.8**
	baz=237							
SCZT	**Fangliau**	**1.46**	**223**	P		**Pn**	**02 21 34.7**	**+1.8**
	baz=211							
SCZT				*e*S		**Sn**	**02 21 54.9**	**+4.1**
	baz=211							
WLTB	**Daxi**	**1.46**	**344**	*e*P		**Pn**	**02 21 35.3**	**+2.4**
	baz=355							
WLTB				*e*S		**Sn**	**02 21 53.9**	**+3.1**
	baz=355							
SBCB	**Hsinchu**	**1.49**	**334**	*e*P		**Pn**	**02 21 35.0**	**+1.6**
	baz=324							
SBCB				*e*S		**Sn**	**02 21 52.9**	**+1.3**
	baz=324							
HSN	**Hsinchu**	**1.50**	**334**	*e*P		**Pn**	**02 21 35.0**	**+1.5**
	baz=327							
HSN				*e*S		**Sn**	**02 21 54.7**	**+2.7**
	baz=327							
NHDH	**Xindian Distri**	**1.52**	**354**	*e*P		**Pn**	**02 21 35.4**	**+1.6**
	baz=360							
NHDH				*e*S		**Sn**	**02 21 53.4**	**+1.1**
	baz=360							
JYNG	**Yonagunijimaku**	**1.52**	**49**	P		**Pn**	**02 21 35.6**	**+1.8**
JYNG						S	**Sn**	**02 21 54.3**	**+1.9**
TIPB	**Shuangxi**	**1.52**	**5**	*e*P		**Pn**	**02 21 35.7**	**+1.9**
	baz=1.0							
TIPB				*e*S		**Sn**	**02 21 54.6**	**+2.1**
	baz=1.0							
TATO	**Taipei**	**1.54**	**353**	P		**Pn**	**02 21 35.6**	**+1.7**
	baz=359							
TATO				*e*S		**Sn**	**02 21 54.5**	**+1.8**
	baz=359							
TATO	**Taipei**	**1.54**	**353**			**Pn**	**02 21 35.2**	**+1.2**
YOJ	**Yonaguni jima**	**1.57**	**50**	P		**Pn**	**02 21 36.4**	**+1.9**
	baz=50							
YOJ	**Yonaguni jima**	**1.57**	**50**	P		**Pn**	**02 21 36.3**	**+1.8**
YOJ						S	**Sn**	**02 21 55.4**	**+1.7**
YOJ	**Yonaguni jima**	**1.57**	**50**			**Pn**	**02 21 35.9**	**+1.4**
TWB1	**Santiao Chiao**	**1.58**	**10**	*e*P		**Pn**	**02 21 36.2**	**+1.6**
	baz=16							
TWB1				*e*S		**Sn**	**02 21 54.9**	**+1.1**
	baz=16							
NCUH	**Zhongli**	**1.58**	**343**	*e*P		**Pn**	**02 21 36.5**	**+1.8**
	baz=348							
NCU	**National Centr**	**1.59**	**343**	*e*P		**Pn**	**02 21 36.5**	**+1.9**
	baz=349							
NCU				*e*S		**Sn**	**02 21 57.2**	**+3.2**
	baz=349							
TAP	**Taipei**	**1.60**	**354**	*e*P		**Pn**	**02 21 37.9**	**+3.1**
TAP				*e*S		**Sn**	**02 21 56.6**	**+2.4**
NWF	**Wu-fen Shan**	**1.62**	**3**	*e*P		**Pn**	**02 21 36.9**	**+1.6**
	baz=359							
WFSB	**Wu-fen Shan**	**1.62**	**3**	*e*P		**Pn**	**02 21 36.8**	**+1.6**
	baz=

PHUB					*e*S		**Sn**	02 22 02.4	**-0.5**
	baz=259								
PNG	**Penghu**	**1.97**	**274**	*e*P			**Pn**	02 21 40.3	**+0.4**
	baz=272								
PNG					*e*S		**Sn**	02 22 02.9	**-0.5**
	baz=272								
HATJ	**Hateruma jima**	**2.03**	**72**	P			**Pn**	02 21 42.4	**+1.7**
HATJ				S			**Sn**	02 22 06.8	**+2.0**
IRIF	**Iriomote-Funau**	**2.06**	**64**	P			**Pn**	02 21 43.0	**+1.8**
IRIF				S			**Sn**	02 22 08.1	**+2.4**
VCHM	**Qimei**	**2.10**	**264**	*e*P			**Pn**	02 21 42.1	**+0.4**
	baz=262								
PCYT	**Pengchaiyu**	**2.20**	**9**	*e*P			**Pn**	02 21 44.4	**+1.2**
	baz=16								
JKRS	**Kuro-shima**	**2.26**	**69**	P			**Pn**	02 21 45.9	**+2.0**
JKRS				S			**Sn**	02 22 13.4	**+2.8**
JIJ	**Ishigaki jima**	**2.42**	**67**	P			**Pn**	02 21 47.4	**+1.3**
JIJ				S			**Sn**	02 22 15.4	**+0.9**
VWUC	**VWUC**	**2.56**	**307**	*e*P			**Pn**	02 21 48.0	**-0.1**
	baz=308								
JISG	**Ishigakijimahi**	**2.65**	**64**	P			**Pn**	02 21 50.4	**+1.1**
JISG				*e*S			**Sn**	02 22 22.2	**+2.0**
PTTC	**Pingtan**	**2.69**	**320**	*e*P			**Pn**	02 21 49.8	**-0.1**
	baz=322								
PTMZ	**Houxiangcun**	**2.83**	**305**	*e*P			**Pn**	02 21 51.9	**+0.1**
	baz=305								
JTJ	**Tarama**	**3.00**	**66**	P			**Pn**	02 21 55.3	**+1.3**
JTJ				S			**Sn**	02 22 30.4	**+1.7**
MATB	**Ma-tsu**	**3.13**	**330**	*e*P			**Pn**	02 21 55.3	**-0.6**
	baz=332								
KNM	**Kinmen**	**3.14**	**289**	*e*P			**Pn**	02 21 57.0	**+1.1**
	baz=287								
KNMB	**Chin-men Tao**	**3.19**	**289**	*e*P			**Pn**	02 21 56.3	**-0.4**
	baz=299								
KNMB	**Chin-men Tao**	**3.19**	**289**				**Pn**	02 21 56.0	**-0.7**
QZH	**Quanzhou**	**3.20**	**298**	*i*Pn			**Pn**	02 21 56.6	**-0.2**
QZH				Sn			**Sn**	02 22 31.6	**-2.2**
QZH				smax	smax				
	comp=N,450nm,0.3s								
QZH				smax	smax				
	comp=E,200nm,0.3s								
QZH				LR	LR				
	comp=Z,440nm,9.4s								
JIRB	**Irabujima**	**3.46**	**66**	P			**Pn**	02 22 01.6	**+1.1**
JIRB				*e*S			**Sn**	02 22 42.1	**+1.9**
LYJJ	**Jianjiangzhen**	**3.55**	**331**	*e*P			**Pn**	02 22 01.5	**-0.2**
	baz=335								
JMJ	**Miyako jima 2**	**3.56**	**67**	*e*P			**Pn**	02 22 03.1	**+1.3**
	baz=67								
JMJ2	**Miyako jima3**	**3.56**	**68**	P			**Pn**	02 22 03.6	**+1.8**
JMJ2				S			**Sn**	02 22 44.5	**+1.8**
JIKM	**Ikemajima**	**3.56**	**65**	P			**Pn**	02 22 02.2	**+0.4**
JIKM				S			**Sn**	02 22 43.2	**+0.5**
MHZQ	**Yeshan**	**3.58**	**318**	*e*P			**Pn**	02 22 01.9	**-0.2**
	baz=319								
JOGS	**Gusukube**	**3.64**	**68**	P			**Pn**	02 22 04.5	**+1.7**
ZPLA	**Ao Xicun**	**3.65**	**278**	*e*P			**Pn**	02 22 02.8	**-0.2**
	baz=277								
AXDP	**Jialang**	**3.70**	**294**	*e*P			**Pn**	02 22 03.3	**-0.3**
	baz=293								
XPSS	**Dashiqiu**	**3.73**	**339**	*e*P			**Pn**	02 22 04.1	**0.0**
	baz=330								
ZZJH	**Jiuhuzhen**	**3.85**	**286**	*e*P			**Pn**	02 22 05.5	**-0.3**
	baz=295								
WHN	**Wuhan**	**9.63**	**319**	P			**Pn**	02 23 24.8	**-0.3**
WHN				S			**Sn**	02 25 16.8	**+4.8**
KSRS	**Korea Array**	**14.95**	**20**	Pn			**P**	02 24 41.1	**-1.3**
	0.4nm,0.3s,baz=195,slow=12,SNR=2.3								
KSRS				LR	LR			02 30 57.9	
	comp=Z,33nm,18.4s,baz=173,slow=39								
XAN	**Xi'an**	**15.38**	**316**	P			**Pn**	02 24 45.0	**+1.8**
XAN				pP			pP	02 24 55.5	-2.0
XAN				pmax	pmax				
	comp=Z,7.0nm,0.7s								
XAN				LR	LR				
	comp=E,160nm,13.0s								
XAN				LR	LR				
	comp=Z,190nm,16.3s								
MJAR	**Matsushiro Arr**	**19.33**	**44**	LR			LR	02 33 08.0	
	comp=Z,34nm,18.9s,baz=175,slow=36								
CN2	**Changchun**	**20.54**	**8**	*e*P			**P**		**+0.6**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CHTO	**Chiang Mai**	**21.71**	**262**	P			**P**		**-0.8**
CHTO				IAmb	IAmb			02 26 07.4	
	comp=Z,4.1nm,0.7s								
CMAR	**Chiang Mai Arr**	**21.81**	**261**	P			P	02 25 47.7	-10
	comp=Z,1.7nm,0.6s,baz=102,slow=13,SNR=9.4								
CMAR				LR	LR			02 33 57.2	
	comp=Z,78nm,18.1s,baz=171,slow=37								
SBUM	**Sibu**	**22.80**	**205**	P			**P**		**-2.1**
KLR	**Kul'dur**	**26.93**	**15**	P			**P**		**+1.2**
	comp=Z,1.2nm,0.5s,baz=201,slow=9.5,SNR=4.3								
SONM	**Songino Array**	**27.23**	**337**	P			**P**		**-1.5**
	comp=Z,0.6nm,0.5s,baz=146,slow=8.3,SNR=3.2								
SONM				LR	LR			02 38 52.4	
	comp=Z,54nm,18.9s,baz=178,slow=39								
WMQ	**Urumqi**	**34.50**	**314**	*e*P			**P**		**+1.9**
MK31	**Makanchi Array**	**39.19**	**316**	P			**P**		**-0.7**
MKAR	**Makanchi Array**	**39.19**	**316**	P			**P**		**-1.0**
	comp=Z,1.3nm,0.7s,baz=103,slow=10,SNR=11								
MKAR	**Makanchi Array**	**39.19**	**316**	P			**P**		**-0.5**
MAKZ	**Makanchi**	**39.40**	**316**	P			**P**		**0.0**
MAKZ				IAmb	IAmb			02 28 37.0	
	comp=Z,2.0nm,0.8s								
PETK	**Petropavlovsk-**	**40.22**	**33**	LR	LR		LR	02 45 46.4	
	comp=Z,28nm,19.3s,baz=259,slow=36								
ZALV	**Zalesovo Beam**	**41.12**	**327**	P			**P**		**-1.5**
	comp=Z,0.8nm,0.3s,baz=112,slow=6.6,SNR=5.5								
H11N1	**WAKE ISLAND Hy**	**42.07**	**86**	T			T	03 14 05.3	
	baz=283,slow=75,SNR=31								
H11N2	**WAKE ISLAND Hy**	**42.07**	**86**	T			T	03 14 05.5	
	baz=283,slow=75,SNR=40								
H11N3	**WAKE ISLAND Hy**	**42.08**	**86**	T			T	03 14 06.6	
	baz=283,slow=75,SNR=42								
H11S3	**WAKE ISLAND Hy**	**42.17**	**88**	T			T	03 14 15.9	
	baz=285,slow=75,SNR=76								
H11S1	**WAKE ISLAND Hy**	**42.18**	**88**	T			T	03 14 20.6	
	baz=285,slow=75,SNR=52								
H11S2	**WAKE ISLAND Hy**	**42.19**	**88**	T			T	03 14 17.7	
	baz=285,slow=75,SNR=47								
KURK	**Kurchatov**	**42.95**	**320**	P			**P**		**-0.6**
KURK	**Kurchatov**	**42.95**	**320**	IAmb			IAmb	02 29 03.8	
	comp=Z,3.4nm,1.1s								
KURBB	**Kurchatov Arra**	**42.97**	**320**	P			**P**		**-0.7**
	comp=Z,0.6nm,0.4s,baz=108,slow=9.9,SNR=8.7								
WRAB	**Tennant Creek**	**44.85**	**163**	P			**P**		**-1.9**
WRA	**Warramunga Arr**	**44.85**	**163**	P			**P**		**-1.5**
	comp=Z,2.2nm,0.6s,baz=344,slow=8.7,SNR=10								
AS31	**Alice Springs**	**48.31**	**165**	P			**P**		**-0.9**
AS31				IAmb	IAmb			02 30 36.4	
	comp=Z,1.6nm,1.3s								
ASAR	**Alice Springs**	**48.31**	**165**	P			**P**		**-0.9**
	comp=Z,0.4nm,0.3s,baz=342,slow=7.0,SNR=7.4								
ABKAR	**Akbulak array**	**54.29**	**315**	P			**P**		**-0.5**
STKA	**Stephens Creek**	**58.21**	**160**	P			**P**		**-0.6**
	comp=Z,2.0nm,0.8s,baz=341,slow=12,SNR=2.6								
STKA	**Stephens Creek**	**58.21**	**160**	IAmb	IAmb			02 32 03.0	
	comp=Z,4.6nm,1.7s								
ILAR	**Eielson Array**	**69.65**	**27**	P			**P**		**+3.2**
	comp=Z,0.2nm,0.6s,baz=290,slow=5.6,SNR=4.1								
FINES	**FINESS Array B**	**72.32**	**330**	P			**P**		**-1.4**
	comp=Z,1.9nm,0.6s,baz=64,slow=4.8,SNR=18								
NB2	**NORSAR Subarra**	**79.09**	**332**	P			**P**		**-2.2**
	comp=Z,0.6nm,0.5s,baz=55,slow=5.6								
NOA	**NORSAR Array B**	**79.09**	**332**	P			**P**		**-2.2**
	comp=Z,1.0nm,0.6s,baz=60,slow=5.3,SNR=6.8								
NOA				LR	LR			03 11 30.3	
	comp=Z,34nm,18.7s,baz=40,slow=38								
CLL	**Collm**	**82.92**	**323**	*e*P			**P**		**-1.4**
CLL				*i* pP			**pP**		**+1.7**
CLL				*e*PP			**PP**		**+1.3**
GERES	**GERESS Array B**	**83.71**	**321**	P			**P**		**-1.1**
	comp=Z,0.9nm,0.7s,baz=57,slow=4.9,SNR=9.7								

*IDC **21** 02:33:09.5±2.1, 16°.46S×177°.34W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/28, mbtmp3.8/5, MS3.7/9, Ms1 3.7/9, ms1mx3.4/32, Error ellipse: s-maj=97.6km s-min=30.7km az=147.0*

*NEIC **21** 02:33:10.0±1.1, 16°.7S±0°.2×177°.2W±0°.1, h10km±2km, mb4.1/4, Error ellipse: s-maj=32.7km s-min=21.4km az=161.0*

ISC 21 02:33:13.7±2.0, 16°.6S±0°.5×177°.3W±0°.3, h35km, n22, σ0s88/11, mb3.9/7, MS3.8/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
MSVF	**Nonsavu**	**4.56**	**255**	Pn		**Pn**	**02 34 19.6**		**-0.7**
DZM	**Mont Dzumac**	**16.25**	**248**	*e*LR		LR	02 40 48.7		
DZM	**Mont Dzumac**	**16.25**	**248**	LR		LR	02 42 15.5		
	comp=Z,266nm,18.3s,baz=107,slow=34								
HNR	**Honiara**	**23.25**	**285**	LR		LR	02 45 47.1		
	comp=Z,519nm,19.6s,baz=115,slow=33								
PPT2	**Papeete2**	**26.53**	**96**	*e*LR		LR	02 45 23.1		
	comp=Z,265nm,26.5s								
PPT	**Papeete**	**26.53**	**96**	LR		LR	02 46 29.3		
	comp=Z,79nm,21.6s,baz=283,slow=30								
TBI	**Tubuai**	**27.00**	**109**	*e*LR		LR	02 45 42.4		
	comp=Z,381nm,29.0s								
KRVT	**Keravat (AS076**	**32.47**	**289**	LR		LR	02 51 08.4		
	comp=Z,274nm,21.9s,baz=112,slow=33								
PMG	**Port Moresby**	**35.30**	**277**	LR		LR	02 52 39.7		
	comp=Z,99nm,19.1s,baz=154,slow=33								
TAOE	**Nuku Hiva Isla**	**37.02**	**83**	*e*LQ		LQ	02 48 37.4		
	970nm,30.1s								
TAOE				*e*LR		LR	02 50 02.7		
	comp=Z,142nm,25.9s								
AS31	**Alice Springs**	**46.15**	**253**	P		**P**	**02 41 35.9**		**+0.6**
AS31				IAmb		IAmb	02 41 37.7		
	comp=Z,3.1nm,1.4s								
ASAR	**Alice Springs**	**46.15**	**253**	P		**P**	**02 41 36.2**		**+0.9**
	comp=Z,2.0nm,0.6s,baz=83,slow=8.4,SNR=31								
ASAR				LR		LR	02 59 26.3		
	comp=Z,121nm,19.9s,baz=76,slow=34								
NWAO	**Narrogin (SRO)**	**60.73**	**241**	LR		LR	03 08 08.2		
	comp=Z,109nm,21.5s,baz=100,slow=34								
PETK	**Petropavlovsk-**	**72.72**	**345**	P		**P**	**02 44 38.1**		**+0.1**
	comp=Z,1.2nm,0.8s,baz=156,slow=11,SNR=2.4								
NVAR	**Mina Array Bea**	**77.78**	**44**	P		**P**	**02 45 08.7**		**+0.9**
	comp=Z,0.2nm,0.3s,baz=213,slow=6.5,SNR=1.8								
TPNV	**Topopah Spring**	**78.39**	**46**	P		**P**	**02 45 09.6**		**-1.5**
ELK	**Elko**	**81.02**	**43**	P		**P**	**02 45 24.3**		**-1.0**
ELK				IAmb		IAmb	02 47 23.7		
	comp=Z,3.0nm,1.4s								
WRH	**Wood River Hil**	**83.90**	**12**	P		**P**	**02 45 39.4**		**-0.1**
ILAR	**Eielson Array**	**84.41**	**13**	P		**P**	**02 45 42.5**		**+0.4**
	comp=Z,0.6nm,0.8s,baz=230,slow=7.0,SNR=4.5								
ILAR				LR		LR	03 23 37.3		
	comp=Z,16nm,18.4s,baz=228,slow=36								
PDAR	**Pinedale Array**	**85.71**	**43**	P		**P**	**02 45 49.7**		**+0.2**
	comp=Z,0.4nm,0.8s,baz=182,slow=2.7,SNR=2.7								
YKA	**Yellowknife Ar**	**92.74**	**24**	LR		LR	03 22 25.4		
	comp=Z,32nm,19.8s,baz=0.0,slow=32								
GERES	**GERESS Array B**	**146.63**	**347**	PKPbc		**PKPab**	**02 52 52.9**		**0.0**
	comp=Z,0.3nm,0.6s,baz=32,slow=6.3,SNR=3.6								

IDC 21 02:37:38.5±6.8, 36°.35N×82°.34E, h0km, mb3.0/1, mb1 3.5/4, mb1mx3.2/44, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=89.7km s-min=50.8km az=37.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
MKAR	**Makanchi Array**	**10.44**	**360**	Pn		Pn	02 40 10.5		+1.1
	0.3nm,0.3s,baz=184,slow=13,SNR=11								
MKAR				Sn		Sn	02 42 06.0		-1.1
	0.2nm,0.3s,baz=184,slow=18,SNR=2.9								
ZALV	**Zalesovo Beam**	**17.69**	**5**	P		Pn	02 41 44.8		-1.3
	baz=192,slow=13,SNR=1.6								
BVAR	**Borovoye Array**	**18.67**	**337**	P		Pn	02 41 58.4		+0.1
	0.2nm,0.3s,baz=147,slow=11,SNR=1.9								
SONM	**Songino Array**	**21.14**	**50**	P		P	02 42 25.1		+0.1
	0.5nm,0.6s,baz=243,slow=13,SNR=3.2								

*IDC **21** 02:47:34.6±1.6, 0°.97N×125°.33E, h60km±14km, mb4.4/29, mb1 4.4/31, mb1mx4.4/38, mbtmp4.6/31, MS3.5/12, Ms1 3.5/12, ms1mx3.3/29, Error ellipse: s-maj=14.0km s-min=9.0km az=77.0*

*NEIC **21** 02:47:34.6±2.1, 0°.93N±0°.07×125°.44E±0°.06, h65km±4km, mb4.7/66, Error ellipse: s-maj=10.1km s-min=7.5km az=208.0*

*DJA **21** 02:47:35.7±0.2, 1°N±2°×12°6E±°, h64km±3km, M4.8/41, mb4.7/41, mB5.3/15, MLv5.0/19, Mw(mB)4.7/15, Mwp6.6/2*

*KLM **21** 02:47:36.0, 0°.97N×125°.50E, h60km, mb5.1*

ISC 21 02:47:36.2±0.3, 0°.95N±0°.04×125°.40E±0°.05, h79km, n226, σ1s26/228, mb4.6/69, 14C-5D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
KMSI	**Cibinong**	**1.47**	**255**	P		**Pn**	**02 48 01.1**		**0.0**
TNTI	**Ternate**	**1.97**	**95**	P		**Pn**	**02 48 05.7**		**-2.0**
TNTI	**Ternate**	**1.97**	**95**	Pn		**Pn**	**02 48 05.5**		**-2.2**
LBMI	**Labuha**	**2.62**	**127**	P		**Pn**	**02 48 14.5**		**-2.0**
SANI	**Sanana**	**3.03**	**169**	P		**Pn**	**02 48 18.8**		**-3.3**
LUWI	**Luwuk**	**3.29**	**233**	P		**Pn**	**02 48 25.5**		**0.0**
LUWI	**Luwuk**	**3.29**	**233**	Pn		**Pn**	**02 48 26.4**		**+0.9**
MRSI	**Marisa**	**3.49**	**262**	P		**Pn**	**02 48 26.5**		**+0.2**
APSI	**Ampana**	**4.18**	**244**	P		**Pn**	**02 48 39.6**		**+1.9**
NLAI	**Namlea**	**4.49**	**158**	P		**Pn**	**02 48 39.6**		**-2.3**
GSPH	**General Santos**	**5.13**	**355**	*i*P		**Pn**	**02 48 52.2**		**+1.5**
DDMP	**Don Marcelino,**	**5.13**	**3**	*e*P		**Pn**	**02 48 48.3**		**-2.3**
DDMP				*e*S		Sn	02 49 34.5		-14
MSAI	**Masohi**	**5.53**	**140**	P		**Pn**	**02 48 55.6**		**-0.5**
	0.5nm4μm36nm,0.5s								
MPSI	**Mapaga**	**5.54**	**264**	P		**Pn**	**02 48 57.6**		**+1.4**
	1.0nm2μm163nm,0.8s								
SKMP	**Bagumbayan, Su**	**5.60**	**351**	*e*P		**Pn**	**02 48 56.3**		**-0.8**
KCP	**Kidapawan**	**6.03**	**357**	*e*P		**Pn**	**02 49 05.8**		**+2.8**
DMPH	**Davao City--Mi**	**6.10**	**1**	*e*P		Pn	02 49 10.5		+6.6
SIJI	**Sorong**	**6.13**	**107**	P		**Pn**	**02 49 03.7**		**-0.7**
	2.4nm,0.3s,baz=309,slow=7.7,SNR=9.0								
SIJI				S		**Sn**	**02 50 13.6**		**+0.5**
	1.3nm,0.3s,baz=217,slow=20,SNR=1.4								
TTSI	**Tana Toraja**	**6.85**	**235**	P		**Pn**	**02 49 14.6**		**+0.5**
	1.4nm2μm208nm,0.7s								
BUKP	**Musuan**	**6.89**	**357**	*e*P		**Pn**	**02 49 17.2**		**+2.5**
BUKP				*e*S		**Sn**	**02 50 26.0**		**-5.8**
BBSI	**Bau Bau**	**6.99**	**204**	P		**Pn**	**02 49 15.6**		**-0.4**
	0.1nm211nm17nm,0.6s								
PAGZ	**Pagadian**	**7.14**	**344**	*e*P		**Pn**	**02 49 18.0**		**-0.2**
SPSI	**Sidrap Palu**	**7.45**	**229**	P		**Pn**	**02 49 24.0**		**+1.7**
	0.9nm2μm189nm,0.8s								
BNSI	**Bone**	**7.50**	**225**	P		**Pn**	**02 49 24.8**		**+1.8**
	0.6nm90nm,0.8s								
FAKI	**Fak Fak**	**7.85**	**119**	P		**Pn**	**02 49 26.5**		**-1.3**
	0.1nm36nm,0.9s								
FAKI	**Fak Fak**	**7.85**	**119**	Pn		**Pn**	**02 49 26.2**		**-1.5**
KAPI	**Kappang**	**8.18**	**224**	P		**Pn**	**02 49 34.1**		**+1.8**
	9.1nm,0.3s,baz=25,slow=4.4,SNR=19								
KAPI				S		**Sn**	**02 51 03.0**		**-0.2**
	4.1nm,0.3s,baz=212,slow=23,SNR=8.0								
KAPI	**Kappang**	**8.18**	**224**	Pn		**Pn**	**02 49 32.2**		**-0.1**
BKB	**Balikpapan**	**8.78**	**256**	Pn		**Pn**	**02 49 40.3**		**-0.2**
SPMM	**Sapulut**	**9.68**	**293**	P		**Pn**	**02 49 54.0**		**+1.3**
EDFI	**Ende, Flores**	**10.32**	**201**	P		**Pn**	**02 50 01.4**		**-0.2**
	9.1nm,0.9s								
KKM	**Kota Kinabalu**	**10.47**	**299**	Pn		**Pn**	**02 50 03.9**		**+0.2**
SOEI	**Soe**	**10.69**	**186**	P		**Pn**	**02 50 07.9**		**+1.2**
	2μm172nm,1.0s								
SOEI	**Soe**	**10.69**	**186**	Pn		**Pn**	**02 50 04.2**		**-2.5**
BATI	**Baumata**	**11.21**	**189**	P		**Pn**	**02 50 17.6**		**+3.9**
	4.0nm,0.3s,baz=316,slow=3.6,SNR=8.3								
BATI				LR		LR	02 55 10.4		
	comp=Z,228nm,18.5s,baz=52,slow=41								
BATI	**Baumata**	**11.21**	**189**	P		**Pn**	**02 50 15.8**		**+2.1**
	74nm,1.2s								
SBUM	**Sibu**	**13.26**	**277**	Pn		**Pn**	**02 50 42.2**		**+0.8**
SBUM	**Sibu**	**13.26**	**277**	P		**Pn**	**02 50 45.0**		**+3.6**
JAGI	**Jajag, Banyuwa**	**14.60**	**230**	P		**P**	**02 51 01.9**		**-1.3**
	81nm,1.1s								
JAGI	**Jajag, Banyuwa**	**14.60**	**230**			**Pn**	**02 51 01.1**		**+2.2**
KSM	**Kuching**	**15.10**	**272**	Pn		**Pn**	**02 51 05.6**		**+0.3**
KSM				IAmb		IAmb	02 51 13.9		
	comp=Z,60nm,0.9s								
KSM	**Kuching**	**15.10**	**272**	P		**P**	**02 51 08.0**		**-0.7**
JAY	**Jayapura**	**15.68**	**103**	P		**Pn**	**02 51 11.8**		**-0.9**
	comp=Z,7.3nm,0.8s								
NGJI	**Ngawi**	**16.18**	**239**	P		**P**	**02 51 22.0**		**+1.3**
	comp=Z,66nm,0.9s								
KNRA	**Kununurra**	**16.85**	**169**			**Pn**	**02 51 25.8**		**-1.4**
KNRA				IAmb		IAmb	02 51 43.8		
	comp=Z,40nm,0.9s								
SMRI	**Semarang**	**16.91**	**242**	Pn		**Pn**	**02 51 26.5**		**-1.5**
FITZ	**Fitzroy Crossi**	**18.93**	**179**	P		**Pn**	**02 51 52.3**		**-0.1**
	comp=Z,0.4nm,0.3s,baz=24,slow=8.1,SNR=13								
FITZ	**Fitzroy Crossi**	**18.93**	**179**	P		**P**	**02 51 49.9**		**-1.0**
LEM	**Lembang**	**19.36**	**246**	LR		LR	02 59 28.0		
	comp=Z,132nm,21.1s,baz=70,slow=37								
DLV	**T Lat**	**20.03**	**304**	P		**P**	**02 52 02.6**		**-0.5**
DLV				IAmb		IAmb	02 52 07.8		
	comp=Z,44nm,0.9s								
WB0	**Warramunga Arr**	**22.39**	**157**	P		**P**	**02 52 27.4**		**-1.0**
WRAB	**Tennant Creek**	**22.53**	**158**	P		**P**	**02 52 30.2**		**+0.4**
WRAB				IAmb		IAmb	02 52 53.7		
	comp=Z,23nm,0.9s								
WRA	**Warramunga Arr**	**22.53**	**158**	P		**P**	**02 52 28.4**		**-1.4**
	comp=Z,7.0nm,0.6s,baz=338,slow=11,SNR=35								
WRA				LR		LR	03 01 38.3		
	comp=Z,81nm,21.1s,baz=315,slow=37								
WRA	**Warramunga Arr**	**22.53**	**158**	P		**P**	**02 52 27.9**		**-2.0**
WB2	**Warramunga Arr**	**22.54**	**158**	P		**P**	**02 52 28.7**		**-1.2**
WB2				IAmb		IAmb	02 52 53.7		
	comp=Z,23nm,1.1s								
WR0	**Warramunga Arr**	**22.63**	**157**	P		**P**	**02 52 29.8**		**-1.1**
WR0				IAmb		IAmb	02 52 54.0		
	comp=Z,38nm,1.4s								
TPUB	**Ta-pu**	**22.70**	**349**	P		**P**	**02 52 31.6**		**+0.1**
GUMO	**Guam**	**23.00**	**56**	P		**P**	**02 52 33.9**		**-0.8**
	comp=Z,85nm,0.6s,baz=203,slow=7.0,SNR=6.1								
GUMO	**Guam**	**23.00**	**56**	P		**P**	**02 52 33.5**		**-1.2**
COEN	**Coen**	**23.01**	**131**	P		**P**	**02 52 33.9**		**-0.9**
COEN				IAmb		IAmb	02 52 35.8		
	comp=Z,34nm,1.1s								
SDSI	**Sungai Dareh**	**24.05**	**266**	P		**P**	**02 52 44.0**		**-0.3**
	comp=Z,19nm,1.4s								
IPM	**Ipoh**	**24.60**	**279**	P		**P**	**02 52 49.4**		**0.0**
IPM				IAmb		IAmb	02 52 50.6		
	comp=Z,17nm,0.6s								
PDSI	**Padang**	**25.01**	**266**	P		**P**	**02 52 54.7**		**+1.6**
	comp=Z,20nm,1.1s								
KULM	**Kulim**	**25.08**	**280**	P		**P**	**02 52 53.7**		**0.0**
KULM				IAmb		IAmb	02 52 58.2		
	comp=Z,73nm,1.9s								
AS31	**Alice Springs**	**25.82**	**162**	P		**P**	**02 53 01.0**		**+0.6**
ASAR	**Alice Springs**	**25.82**	**162**	P		**P**	**02 53 00.8**		**+0.4**
	comp=Z,4.5nm,0.7s,baz=346,slow=12,SNR=35								
ASAR				PcP		**PcP**	**02 56 29.4**		**+1.2**
	comp=Z,2.7nm,0.5s,baz=348,slow=2.3,SNR=13								
ASAR				ScP		**ScP**	**03 00 03.0**		**+2.1**
	comp=Z,1.1nm,0.8s,baz=353,slow=3.8,SNR=4.8								
JOW	**Kunigami**	**25.89**	**6**	P		**P**	**02 53 01.3**		**+0.4**
	comp=Z,7.8nm,0.8s,baz=197,slow=15,SNR=5.6								
RPSI	**Rantau Prapat**	**26.52**	**274**	P		**P**	**02 53 06.1**		**-0.6**
RPSI				IAmb		IAmb	02 53 08.1		
	comp=Z,18nm,0.9s								
RPSI	**Rantau Prapat**	**26.52**	**274**	P		**P**	**02 53 06.9**		**+0.2**
PSI	**Prapat**	**26.53**	**274**	P		**P**	**02 53 06.9**		**0.0**
	comp=Z,13nm,0.9s,baz=180,slow=5.4,SNR=5.3								
PSI				LR		LR	03 04 35.6		
	comp=Z,182nm,18.3s,baz=89,slow=39								
KRVT	**Keravat (AS076**	**27.11**	**101**	P		**P**	**02 53 12.6**		**+0.6**
	comp=Z,40nm,0.5s,baz=266,slow=3.9,SNR=4.1								
KCSI	**Kotacane, Aceh**	**27.73**	**276**	P		**P**	**02 53 19.4**		**+1.8**
	comp=Z,18nm,1.8s								
SLVN	**Son La**	**29.16**	**315**	P		**P**	**02 53 30.8**		**+0.6**
CMAR	**Chiang Mai Arr**	**31.26**	**305**	P		**P**	**02 53 49.8**		**+1.0**
	comp=Z,2.0nm,0.3s,baz=141,slow=8.7,SNR=6.3								
CMAR				ScP		**ScP**	**03 00 20.3**		**+2.4**
	comp=

comp=Z,4.6nm,0.7s
MKAR Makanchi Array 59.11 327 P P 02 57 28.0 -0.6
comp=Z,5.6nm,0.4s,baz=122,slow=8.7,SNR=76
MKAR PcP PcP 02 58 16.9 +0.4
comp=Z,2.8nm,0.5s,baz=126,slow=4.3,SNR=6.5
MKAR Makanchi Array 59.11 327 P P **02 57 27.7 -0.8**
SATY Saty 59.27 321 *eP* P **02 57 29.6 -0.3**
comp=Z,3.4nm,0.7s,baz=321
MAKZ Makanchi 59.29 327 P P **02 57 29.3 -0.5**
KPKS Kokpek 59.31 322 *eP* P **02 57 29.4 -0.7**
comp=Z,3.9nm,0.7s,baz=322
KDJ Kajisay 59.57 320 P P **02 57 31.8 -0.3**
KDJ IAmb IAmb 02 57 34.7
comp=Z,8.3nm,1.0s
MDOK Medeo 60.17 321 *eP* P **02 57 35.8 -0.3**
baz=321
TNSS Tian-Shan 60.17 321 *eP* P **02 57 36.4 -0.1**
baz=320
AAA Alma-Ata 60.28 321 *eP* P **02 57 37.0 +0.2**
baz=321
TDK Taldyqorghan 60.30 323 *eP* P **02 57 37.4 +0.6**
comp=Z,17nm,0.5s,baz=323
CHKK Chushkaly 60.56 322 *eP* P **02 57 37.3 -1.3**
baz=321
KZA Kyzart 60.80 319 P P **02 57 41.0 +0.3**
SNR=11
TKM2 Tokmak 2 60.98 320 P P **02 57 41.3 -0.3**
SNR=7.9
KUU Kurty 60.99 321 *eP* P **02 57 40.9 -0.6**
comp=Z,9.6nm,0.6s,baz=321
YAK Yakutsk 61.02 2 P P **02 57 41.5 +0.2**
comp=Z,10nm,0.4s,baz=29,slow=0.7,SNR=1.7
UCH Uchtor 61.35 319 P P **02 57 45.0 +0.5**
SNR=12
AAK Ala-Archa 61.55 319 P P **02 57 45.8 +0.3**
AAK IAmb IAmb 02 57 49.6
comp=Z,4.4nm,0.9s
MA2 Magadan 61.71 14 P P **02 57 46.7 +0.7**
baz=341,slow=18,SNR=4.4
MA2 Magadan 61.71 14 IAmb IAmb 02 57 48.4
comp=Z,13nm,0.7s
AML Almayashu 61.85 319 P P **02 57 48.1 +0.3**
SNR=10
USP Ospenovka 61.85 320 P P **02 57 47.2 -0.1**
SNR=6.3
SGDS Segindy 61.85 320 *eP* P **02 57 46.5 -0.9**
comp=Z,1.4nm,0.8s,baz=320
ARSB Arslanbob 61.96 317 P P **02 57 47.8 -0.4**
EKS2 Erkin-Say 62.03 319 P P **02 57 49.0 +0.4**
SNR=6.3
KBL Kabul 62.19 309 P P **02 57 48.0 -2.0**
KBL IAmb IAmb 02 57 51.5
comp=Z,6.0nm,0.7s
SEM Semipalatinsk 62.37 329 *eP* P **02 57 47.7 -3.1**
comp=Z,0.5nm,0.4s,baz=329
SEM *eS* S **03 06 09.3 -2.3**
baz=329
ZAA0 Zalesovo Array 62.48 334 P P **02 57 48.8 -2.4**
ZALV Zalesovo Beam 62.48 334 P P **02 57 49.8 -1.4**
comp=Z,2.6nm,0.5s,baz=124,slow=5.2,SNR=9.1
ZALV Zalesovo Beam 62.48 334 P P **02 57 49.6 -1.6**
GAR Garm 62.86 314 P P **02 57 53.6 -0.7**
BTLS Baital 62.98 322 *eP* P **02 57 53.7 -1.1**
comp=Z,1.1nm,0.6s,baz=321
KURK Kurchatov 63.39 329 P P **02 57 55.7 -1.6**
CHGR Chuyangaron 63.56 313 P P **02 57 57.4 -1.5**
IUG Iuzhnay 64.31 317 *eP* P **02 58 03.1 -0.6**
comp=Z,0.6nm,0.6s,baz=317
KK31 Karatay Array 64.38 318 P P **02 58 02.9 -1.1**
KK31 IAmb IAmb 02 58 04.5
comp=Z,5.6nm,0.8s
KKAR Karatay Array 64.38 318 P P **02 58 03.6 -0.4**
KKAR Karatay Array 64.38 318 IAmb IAmb 02 58 04.5
comp=Z,5.6nm,0.8s
BRZS Berezniki 66.20 326 *eP* P **02 58 14.8 -0.9**
comp=Z,3.7nm,0.6s,baz=326
BRVK Borovoye 69.01 328 P P **02 58 32.6 -0.6**
BRVK IAmb IAmb 02 58 33.4
comp=Z,7.9nm,0.9s
TIXI Tiksi 70.63 1 P P **02 58 43.0 +0.2**
ATKA Atka Island 71.53 34 P P **02 58 50.1 +1.5**
GEYT Alibeck 71.62 310 P P **02 58 49.4 -0.1**
comp=Z,2.6nm,0.6s,baz=145,slow=5.3,SNR=5.4
GEYT Alibeck 71.62 310 P P **02 58 49.5 -0.1**
NRIK Noril'sk 72.81 347 P P **02 58 55.7 -0.3**
comp=Z,11nm,0.7s,baz=128,slow=5.6,SNR=11
NRIK LR LR 03 34 35.0
comp=Z,28nm,18.1s,baz=58,slow=39
ABKAR Akbulak array 73.47 322 P P **02 58 59.3 -0.9**
ARU Arti 76.58 328 P P **02 59 17.1 -0.8**
ARU IAmb IAmb 02 59 17.8
comp=Z,7.3nm,0.7s
SDPT Sand Point 80.23 34 P P **02 59 38.7 +0.6**
RAYN Ar Rayn 80.36 294 P P **02 59 38.7 -0.9**
RAYN IAmb IAmb 02 59 44.6
comp=Z,5.7nm,0.8s
MAW Mawson 80.70 200 P P **02 59 41.2 +0.8**
comp=Z,3.8nm,0.6s,baz=63,slow=5.5,SNR=19
MAW Mawson 80.70 200 IAmb IAmb 02 59 42.5
comp=Z,1.0nm,0.7s
VNDA Vanda 80.86 172 P P **02 59 42.0 +0.9**
comp=Z,3.5nm,0.7s,baz=314,slow=6.9,SNR=23
VNDA Vanda 80.86 172 P P **02 59 40.9 -0.2**
AKH Akhalkalaki 83.30 311 P P **02 59 54.2 -0.6**
AKH IAmb IAmb 02 59 56.2
comp=Z,7.4nm,0.8s
KBZ Khabaz 83.92 314 P P **02 59 56.8 -0.9**
comp=Z,2.6nm,0.8s,baz=321,slow=5.5,SNR=3.3
KDAK Kodiak Island 84.94 32 P P **03 00 03.2 +0.7**
KLMR Klimovskoe 87.17 331 *eP* P **03 00 11.4 -2.0**
KLMR AMP 03 00 14.2
comp=Z,18nm,0.5s
GAZ Gaziantep 87.99 307 P P **03 00 18.0 0.0**
ILAR Eielson Array 88.17 25 P P **03 00 18.3 +0.2**
comp=Z,0.5nm,0.6s,baz=239,slow=5.0,SNR=6.5
KMBO Kilima Mbogo 88.17 269 P P **03 00 20.0 +0.4**
comp=Z,14nm,0.9s,baz=74,slow=7.2,SNR=28
KMBO Kilima Mbogo 88.17 269 P P **03 00 20.4 +0.9**
OBN Obninsk 88.56 325 P P **03 00 19.4 -0.8**
BMAR Burnt Mountain 89.14 23 P P **03 00 23.3 +0.5**
BMAR P P **03 00 24.8 +2.0**
SYO Syowa Base 89.37 201 ||*e* P **03 00 23.4 -0.3**
DOT Dot Lake 89.40 27 IAmb IAmb 03 03 52.1
comp=Z,7.6nm,1.1s
BCAR Beaver Creek A 90.44 27 P P **03 00 28.6 -0.4**
BRTR Keskin Array B 90.76 310 P P **03 00 29.7 -1.4**
comp=Z,2.7nm,0.8s,baz=158,slow=4.0,SNR=5.6
ARCES ARCESS Array B 92.58 340 P P **03 00 37.9 -0.8**
comp=Z,4.9nm,0.9s,baz=84,slow=5.5,SNR=6.8
AKASG Malin Array Be 93.20 321 P P **03 00 41.0 -0.8**
comp=Z,3.4nm,0.7s,baz=70,slow=4.2,SNR=10.0
AKASG Malin Array Be 93.20 321 P P **03 00 41.1 -0.8**
FINES FINESS Array B 93.64 332 P P **03 00 42.6 -1.0**
comp=Z,1.4nm,0.5s,baz=70,slow=3.7,SNR=15
FINES LR LR 03 45 41.1
comp=Z,30nm,21.4s,baz=44,slow=37
SORM Soroca 94.02 318 ||P P **03 00 45.0 -0.6**
TESR Tescani 95.35 317 ||P P **03 00 51.9 0.0**
VRI Vrincioaia 95.37 316 ||P P **03 00 52.2 +0.2**
BIZ Bicaz 95.67 317 ||P P **03 00 56.5 +3.2**
MLR Muntele Rosu 95.96 316 ||P P **03 00 55.2 +0.4**
BURAR Bucovina Array 96.17 318 ||P P **03 00 56.4 +0.7**
BURAR Bucovina Array 96.17 318 P P **03 00 55.7 0.0**
BUR08 Bucovina Ar. S 96.18 318 P P **03 00 55.4 -0.4**
ELND Elena 96.34 313 ||P P **03 00 55.6 -0.9**
SUW Suwalki 96.41 325 P P **03 00 56.3 -0.2**
ARR Arges 96.89 316 ||P P **03 00 58.4 -0.6**
KWP Kalwaria Pacla 97.49 320 P P **03 01 01.6 0.0**
TRPA Tarpa 97.87 319 ||P P **03 01 03.3 +0.1**
KOLS Kolonicke sedl 97.90 320 *e*PDIFF Pdif 03 01 03.7 +0.3
DRGR 97.99 317 ||P P **03 01 03.9 0.0**
VTS Vitosha 98.31 313 ||P P **03 01 05.1 -0.4**
CRVS Cervenica-Dubn 98.43 320 *e*PDIFF Pdif 03 01 06.4 +0.6
HERR Herculane 98.52 316 ||P Pdif 03 01 06.3 +0.1
MDVR Moldovita 99.03 316 ||P **Pdif 03 01 08.7 +0.1**
BOSA Boshof 99.36 241 LR LR 03 40 14.0
comp=Z,47nm,20.1s,baz=113,slow=32
LANS Liptovska Anna 99.66 320 *e*PDIFF **Pdif 03 01 12.6 +1.3**
VYHS Vyhne 100.22 320 *e*PDIFF **Pdif 03 01 13.3 -0.4**
MORC Moravsky Berou 100.74 321 ||P **Pdif 03 01 16.6 +0.6**
PDG Podgorica 101.23 314 ||P **Pdif 03 01 17.2 -1.1**
GERES GERESS Array B 103.41 321 Pdiff **Pdif 03 01 27.4 -0.6**
comp=Z,0.3nm,0.5s,baz=72,slow=4.3,SNR=5.7
ESDC Sonseca Array 118.62 317 PKP **PKiKP 03 06 16.0 +0.4**
comp=Z,0.2nm,0.6s,baz=28,slow=2.1,SNR=2.0

TORD Torodi Ar. Bea 122.47 286 PKP **PKiKP 03 06 23.8 0.0**
comp=Z,2.8nm,0.7s,baz=36,slow=2.5,SNR=31
TORD Torodi Ar. Bea 122.47 286 PKPdf **PKPdf 03 06 22.9 -0.6**
SCHQ Schefferville 123.50 8 PKP **PKiKP 03 06 24.9 +0.2**
comp=Z,1.6nm,0.7s,baz=334,slow=18,SNR=2.1
TXAR Lajitas Array 124.33 53 PKP **PKiKP 03 06 27.2 -0.1**
comp=Z,0.3nm,0.8s,baz=129,slow=1.8,SNR=3.6
S39A Bolivar 127.50 39 PKPdf **PKiKP 03 06 34.0 +0.8**
DBIC Dimbokro 129.79 279 PKP **PKiKP 03 06 38.3 -0.1**
comp=Z,5.4nm,1.0s,baz=216,slow=2.7,SNR=4.3
MT02 Curacav 144.30 156 PKPdf PKPbc 03 07 03.0 +0.8
PEL Peldehue 144.58 156 **PKPdf 03 07 04.1 -0.3**
CO03 El Pedregal 146.58 154 PKPbc **PKPbc 03 07 09.4 -0.1**
GO04 Tololo Observa 147.11 154 **PKPbc 03 07 11.3 +0.1**
GO02 Mina Guanaco 151.91 150 **PKiKP 03 07 24.7 +0.9**
CPUP Villa Florida 154.63 174 PKPab **PKPab 03 07 44.0 +0.4**
comp=Z,1.6nm,0.7s,baz=147,slow=4.0,SNR=4.3

*SJA **21** 02:57:01.2± 1.2, 24.°04S × 68.°98W, h113km ± 12km, ML3.5, MW3.6*
*IDC **21** 02:57:01.7± 1.9, 24.°09S × 68.°42W, h85km ± 21km, mb3.4/2, mb1 3.5/5, mb1mx3.3/24, mbtmp3.8/5, Error ellipse: s-maj=30.8km s-min=20.2km az=84.0*
*GUC **21** 02:57:03.1± 0.6, 23.°91S × 68.°99W, h121km ± 4km, ML3.5*

ISC 21 02:57:00.5±1.0, 24.°08S ±0.°06 × 68.°85W ±0.°08, h104km ± 12km, n27, σ 2§04/38, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB15	**IPOC Station P**	**1.04**	**327**	↓	*iP*	**Pn**	**02 57 23.1**	**+1.2**
PB15					*eS*	**Sn**	**02 57 39.0**	**+1.0**
PB15	**IPOC Station P**	**1.04**	**327**		*eP*	**Pn**	**02 57 23.1**	**+1.2**
PB15					*eS*	**Sn**	**02 57 39.5**	**+1.6**
PB15					IAML		02 57 43.8	
	comp=Z,4μm,0.2s							
LVC	**Limon Verde**	**1.46**	**358**	P		**Pn**	**02 57 28.3**	**+1.4**
	comp=Z,17nm,0.3s,baz=158,slow=6.5,SNR=618							
LVC				S		**Sn**	**02 57 47.6**	**+0.6**
	baz=114,slow=20							
LVC	**Limon Verde**	**1.46**	**358**	*eP*		**Pn**	**02 57 28.3**	**+1.4**
LVC				*i* S		**Sn**	**02 57 47.8**	**+0.9**
LVC	**Limon Verde**	**1.46**	**358**	*eP*		**Pn**	**02 57 28.4**	**+1.4**
LVC				*eS*		**Sn**	**02 57 48.2**	**+1.3**
LVC				IAML			02 57 50.0	
	comp=Z,280nm,0.2s							
PB06	**IPOC Station P**	**1.52**	**334**	↓	*iP*	**Pn**	**02 57 28.6**	**+1.2**
PB06					*eS*	**Sn**	**02 57 47.6**	**-0.2**
PB06					IAML		02 57 54.0	
	comp=E,642nm,0.2s							
PB06	**IPOC Station P**	**1.52**	**334**	*eP*		**Pn**	**02 57 28.9**	**+1.4**
PB06				*eS*		**Sn**	**02 57 49.4**	**+1.6**
PB06				IAML			02 57 54.7	
	comp=Z,481nm,0.4s							
PB10	**IPOC Station P**	**1.66**	**289**	↑	*iP*	**Pn**	**02 57 30.3**	**+1.3**
PB10					*eS*	**Sn**	**02 57 51.0**	**+0.3**
PB10					IAML		02 57 57.5	
	comp=E,389nm,0.4s							
PB10	**IPOC Station P**	**1.66**	**289**	*eP*		**Pn**	**02 57 30.7**	**+1.7**
PB10				*eS*		**Sn**	**02 57 49.8**	**-0.9**
PB10				IAML			02 57 54.5	
	comp=Z,191nm,0.3s							
PB04	**IPOC Station P**	**2.11**	**325**	↑	*iP*	**Pn**	**02 57 35.6**	**+0.7**
PB04					IAML		02 58 15.6	
	comp=N,409nm,0.2s							
PB04	**IPOC Station P**	**2.11**	**325**	*eP*		**Pn**	**02 57 36.1**	**+1.2**
PB04				*eS*		**Sn**	**02 57 58.8**	**-2.2**
PB04				IAML			02 58 11.4	
	comp=Z,265nm,0.2s							
PB09	**IPOC Station P**	**2.30**	**351**	*eP*		**Pn**	**02 57 39.3**	**+1.9**
PB09				*eS*		**Sn**	**02 58 05.3**	**-0.3**
PB09				IAML			02 58 11.3	
	comp=N,326nm,0.3s							
PB07	**IPOC Station P**	**2.53**	**338**	*eP*		**Pn**	**02 57 40.9**	**+0.5**
PB07				*eS*		**Sn**	**02 58 09.8**	**-1.0**
PB07				IAML			02 58 20.4	
	comp=E,250nm,0.2s							
PB07	**IPOC Station P**	**2.53**	**338**	*eP*		**Pn**	**02 57 41.4**	**+1.0**
PB07				IAML			02 58 27.8	
	comp=Z,193nm,0.3s							
PB02	**IPOC Station P**	**2.91**	**340**	*eP*		**Pn**	**02 57 46.2**	**+0.8**
PB02				*eS*		**Sn**	**02 58 14.7**	**-5.1**
PB02				IAML			02 58 25.7	
	comp=E,392nm,0.2s							
PB02	**IPOC Station P**	**2.91**	**340**	*eP*		**Pn**	**02 57 46.2**	**+0.8**
PB02				IAML			02 58 34.0	
	comp=Z,381nm,0.3s							
GO03	**Copiap**	**3.72**	**199**	*eP*		**Pn**	**02 57 56.2**	**+0.1**
VCA	**Vinchina**	**4.67**	**173**	*eP*		**Pn**	**02 58 11.8**	**+2.7**
VCA				IAML			02 59 09.7	
	comp=Z,12nm,0.4s							
CFA	**Coronel Fontan**	**7.52**	**176**	P		**Pn**	**02 58 47.8**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=25,slow=17,SNR=5.6							
CFA				S		**Sn**	**03 00 04.5**	**-6.6**
	comp=Z,0.3nm,0.3s,baz=202,slow=18,SNR=1.7							
LPAZ	**La Paz**	**7.78**	**5**	P		**Pn**	**02 58 52.9**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=189,slow=2.7,SNR=11							
SIV	**San Ignacio**	**10.87**	**44**	P		Pn	02 59 30.0	-3.1
	comp=Z,0.9nm,0.3s,baz=238,slow=12,SNR=27							
SIV				S		**Sn**	**03 01 28.4**	**-4.4**
	comp=Z,0.8nm,0.3s,baz=270,slow=11,SNR=7.1							
H03N1	**Juan Fernandez**	**12.83**	**221**	T		T	03 12 35.4	
	baz=42,slow=72,SNR=4.0							
H03N2	**Juan Fernandez**	**12.85**	**221**	T		T	03 12 47.5	
	baz=42,slow=72,SNR=4.2							
H03N3	**Juan Fernandez**	**12.85**	**221**	T		T	03 12 32.3	
	baz=42,slow=72,SNR=4.7							
BDFB	**Brasilia**	**21.30**	**71**	P		**P**	**03 01 38.6**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=262,slow=14,SNR=3.6							
TORD	**Torodi Ar. Bea**	**78.18**	**70**	P		**P**	**03 08 50.2**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=255,slow=5.7,SNR=7.2							
MKAR	**Makanchi Array**	**147.65**	**38**	PKPbc		**PKiKP**	**03 16 34.9**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=23,slow=3.1,SNR=3.1							

*IDC **21** 02:58:00.3± 3.2, 4.°61S × 102.°64E, h0km, mb4.0/6, mb1 4.1/6, mb1mx3.8/36, mbtmp4.0/6, MS3.5/1, Ms1 3.5/1, ms1mx2.6/34, Error ellipse: s-maj=146.0km s-min=19.0km az=56.0*
*NEIC **21** 02:58:07.4± 2.0, 4.°7S ± 0.°1 × 102.°5E ± 0.°1, h59km ± 5km, mb4.2/8, Error ellipse: s-maj=21.4km s-min=18.7km az=204.0*
*DJA **21** 02:58:09.6± 0.4, 5.°5S ± 4.°4 × 10.°3E ± .°, h40km ± 9km, M3.9/11, MLv3.9/11*

ISC 21 02:58:07.7±0.8, 4.°64S ±0.°09 × 102.°70E ±0.°07, h56km, n34, σ 1§43/27, mb4.2/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MNAI	**Manna**	**0.38**	**43**	P		**Pn**	**02 58 19.5**	**+1.4**
MNAI	**Manna**	**0.38**	**43**			**Pn**	**02 58 18.8**	**+0.7**
LHSI	**Lahat**	**1.15**	**46**	P		**Pn**	**02 58 29.1**	**+1.5**
LWLI	**Liwa**	**1.41**	**106**	P		**Pn**	**02 58 32.6**	**+1.4**
LWLI				S		**Sn**	**02 58 49.4**	**+0.6**
MDSI	**Maura Dua**	**1.49**	**84**	P		**Pn**	**02 58 33.4**	**+1.3**
MDSI				S		**Sn**	**02 58 51.3**	**+0.9**
MASI	**Maura Aman, Be**	**1.55**	**343**	P		**Pn**	**02 58 35.1**	**+2.0**
KASI	**Kota Agung**	**2.00**	**116**	P		**Pn**	**02 58 40.4**	**+1.3**
PPSI	**Pulau Pagai**	**3.26**	**305**	P		**Pn**	**02 58 58.5**	**+2.1**
SDSI	**Sungai Dareh**	**3.89**	**341**	P		**Pn**	**02 59 07.2**	**+2.2**
SISI	**Saibi**	**4.88**	**312**	P		**Pn**	**02 59 20.5**	**+2.0**
H08S2	**Diego Garcia H**	**30.17**	**263**	T		T	03 36 18.3	
	baz=88,slow=74,SNR=2.5							
H08S3	**Diego Garcia H**	**30.18**	**263**	T		T	03 36 04.7	
	baz=88,slow=74,SNR=2.6							
H08S1	**Diego Garcia H**	**30.19**	**263**	T		T	03 35 54.4	
	baz=88							
H01W3	**Cape Leeuwin H**	**31.91**	**162**	T		T	03 38 12.2	
	baz=340,slow=76,SNR=7.6							
H01W2	**Cape Leeuwin H**	**31.92**	**162**	T		T	03 38 12.2	
	baz=340,slow=76,SNR=8.6							
H01W1	**Cape Leeuwin H**	**31.92**	**162**	T		T	03 38 21.1	
	baz=340,slow=76,SNR=10.0							
WB0	**Warramunga Arr**	**34.34**	**119**	P		**P**	**03 04 49.4**	**+0.1**
WRA	**Warramunga Arr**	**34.36**	**119**	P		**P**	**03 04 47.9**	**-1.6**
	0.3nm,0.6s,baz=300,slow=9.0,SNR=6.2							
ASAR	**Alice Springs**	**35.54**	**125**	P		**P**	**03 05 00.7**	**+1.0**
	0.3nm,0.3s,baz=297,slow=7.6,SNR=7.9							
STKA	**Stephens Creek**	**45.40**	**131**	P		**P**	**03 06 22.4**	**+1.4**
	1.5nm,0.5s,baz=323,slow=12,SNR=5.1							
STKA	**Stephens Creek**	**45.40**	**131**	IAmb		IAmb	03 07 01.7	
	comp=Z,5.8nm,1.9s							

NIL Nilore 47.17 326 P **P 03 06 32.1 -2.7**
KRVT Keravat (AS076 49.17 92 LR LR 03 30 30.7
comp=Z,42nm,18.1s,baz=201,slow=40
SONM Songino Array 52.35 3 P **P 03 07 14.7 +0.6**
comp=Z,2.1nm,0.6s,baz=185,slow=8.9,SNR=9.5
SONM Songino Array 52.35 3 IAmb IAmb 03 07 15.2
comp=Z,1.6nm,0.6s
AAK Ala-Archa 53.56 334 P **P 03 07 22.9 -0.2**
AAK IAmb IAmb 03 07 43.3
comp=Z,2.2nm,0.5s
MK31 Makanchi Array 54.30 343 P **P 03 07 27.4 -0.9**
MK31 IAmb IAmb 03 07 28.6
comp=Z,1.6nm,0.9s
MKAR Makanchi Array 54.30 343 P **P 03 07 28.0 -0.3**
comp=Z,1.3nm,0.5s,baz=150,slow=8.4,SNR=14
MKAR Makanchi Array 54.30 343 P **P 03 07 27.5 -0.7**
ZAA0 Zalesovo Array 60.27 348 P **P 03 08 08.7 -1.4**
ZALV Zalesovo Beam 60.27 348 P **P 03 08 09.5 -0.6**
comp=Z,2.4nm,0.5s,baz=158,slow=4.7,SNR=9.8
ZALV Zalesovo Beam 60.27 348 P **P 03 08 09.3 -0.8**
ABKAR Akbulak array 65.23 331 P **P 03 08 41.8 -1.5**
TXAR Lajitas Array 144.98 43 PKPbc **PKPab 03 17 39.1 +0.2**
comp=Z,0.5nm,0.6s,baz=306,slow=0.6,SNR=10

*IDC **21** 03:09:03.0± 2.6, 5.°54N × 125.°91E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/25, mbtmp3.5/3, Error ellipse: s-maj=227.2km s-min=28.2km az=65.0*
*MAN **21** 03:09:14.9, 5.°75N × 127.°03E, h143km, mb4.4, ML3.2, MS3.0*

ISC 21 03:09:17.8±1.5, 5.°8N ±0.°1 × 126.°9E ±0.°2, h150km, n6, σ 1§24/9, mb3.4/3, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DDMP	**Don Marcelino,**	**1.21**	**283**	*eP*		**Pn**	**03 09 43.9**	**-0.6**
DDMP					*eS*	**Sn**	**03 10 04.5**	**-0.3**
SKMP	**Bagumbayan, Su**	**2.44**	**286**	*eP*		**Pn**	**03 09 57.4**	**-0.8**
SKMP					*eS*	**Sn**	**03 10 30.5**	**+1.2**
BUKP	**Musuan**	**2.73**	**318**	*eP*		**Pn**	**03 10 01.0**	**-0.9**
BUKP					*eS*	**Sn**	**03 10 36.9**	**+1.0**
WRA	**Warramunga Arr**	**26.64**	**164**	P		**P**	**03 14 44.8**	**+2.1**
	0.4nm,0.4s,baz=342,slow=10,SNR=6.0							
ASAR	**Alice Springs**	**30.10**	**167**	P		**P**	**03 15 12.8**	**-0.6**
	0.1nm,0.3s,baz=339,slow=7.0,SNR=1.4							
MKAR	**Makanchi Array**	**55.95**	**324**	P		**P**	**03 18 40.5**	**+0.1**
	0.5nm,0.6s,baz=121,slow=8.7,SNR=4.6							

*TEH **21** 03:11:06.1, 33.°70N × 48.°85E, h7km, ML3.5*
*THR **21** 03:11:07.2± 0.9, 33.°68N × 49.°00E, h14km ± 7km, ML3.5*

ISC 21 03:11:06.1±0.9, 33.°74N ±0.°03 × 48.°87E ±0.°03, h13km, n31, σ 1§26/33, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IKMR	**Kamar-syah**	**0.46**	**242**	*eP*	*g*	**Pg**	**03 11 14.0**	**-1.3**
IKMR					*e*		03 11 25.2	
HSAM	**Samen**	**0.52**	**335**	*eP*	*g*	**Pg**	**03 11 16.8**	**+0.3**
IDOB	**Doab**	**0.58**	**275**	*eP*	*g*	**Pg**	**03 11 16.7**	**-0.9**
IKFM	**Kafar-mosalman**	**0.88**	**256**	*eP*	*g*	**Pg**	**03 11 22.1**	**-1.1**
HAGD	**Aghdareh**	**1.11**	**12**	*eP*	*g*	**Pb**	**03 11 26.7**	**-0.6**
HAGD					*e*		03 11 46.2	
IBZA	**Bozab**	**1.11**	**311**	*eP*	*g*	**Pb**	**03 11 27.5**	**+0.1**
IKOM	**Komasi**	**1.21**	**292**	*eP*	*g*	**Pn**	**03 11 28.9**	**-0.1**
IKOM					*e*		03 12 00.3	
ASAO	**Ashtian**	**1.25**	**49**	*eP*	*g*	**Pn**	**03 11 29.9**	**+0.3**
ASAO				*eS*	*g*	**Sb**	**03 11 45.9**	**-0.1**
ASAO	**Ashtian**	**1.25**	**49**	*eP*	*g*	**Pn**	**03 11 29.9**	**+0.3**
IALM	**Almabolaq**	**1.26**	**333**	*eP*	*g*	**Pn**	**03 11 30.2**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.61**	**290**	*eP*	*g*	**Pb**	**03 11 36.0**	**+0.1**
SHGR	**Shooshtar-Gavs**	**1.62**	**182**	*eP*	*g*	**Pb**	**03 11 35.9**	**-0.1**
SHGR					IAML		03 12 02.6	
	comp=N,757nm,0.3s							
SHGR					IAML		03 12 03.3	
	comp=E,464nm,0.3s							
SHGR	**Shooshtar-Gavs**	**1.62**	**182**	*eP*	*g*	**Pb**	**03 11 35.9**	**-0.1**
IVIS	**Veis**	**1.85**	**296**	*eP*	*n*	**Pb**	**03 11 40.1**	**+0.2**
IVIS					*e*		03 11 42.3	
IRAZ	**Razeghan**	**1.88**	**27**	*eP*	*n*	**Pb**	**03 11 40.8**	**+0.3**
IPIR	**Pirpir**	**1.99**	**121**	*eP*	*n*	**Pb**	**03 11 41.8**	**-0.6**
IPIR					*e*		03 12 12.0	
QABG	**Abgarm-Qazvin**	**2.05**	**16**	*eP*	*n*	**Pb**	**03 11 43.0**	**-0.4**
JHBN	**Jahan bin**	**2.13**	**134**	*eP*	*n*	**Pb**	**03 11 43.2**	**-1.6**
JHBN					*e*		03 12 25.9	
GHVR	**GHOM**	**2.14**	**69**	*eP*	*n*	**Pn**	**03 11 42.6**	**+0.9**
GHVR					*eSg*	**Sb**	**03 12 11.4**	**-0.1**
GHVR	**GHOM**	**2.14**	**69**	*eP*	*n*	**Pn**	**03 11 42.6**	**+0.9**
ROKH	**ROKH**	**2.29**	**127**	*eP*	*n*	**Pn**	**03 11 45.4**	**+1.6**
ROKH					*e*		03 12 24.8	
IKLH	**Kolahrood**	**2.30**	**100**	*eP*	*n*	**Pb**	**03 11 47.0**	**-0.7**
IKLH					*e*		03 12 24.4	
QSDN	**Sirdan**	**2.77**	**5**	*eP*	*n*	**Pn**	**03 11 52.9**	**+2.4**
CHTH	**Charan**	**2.85**	**40**	*eP*	*n*	**Pb**	**03 11 54.8**	**-2.3**
CHTH	**Charan**	**2.85**	**40**	*eP*	*n*	**Pb**	**03 11 54.8**	**-2.3**
IGAR	**Gharneh**	**2.98**	**116**	*eP*	*n*	**Pn**	**03 11 55.1**	**+1.8**
IZEF	**Zefreh**	**3.01**	**105**	*eP*	*n*	**Pn**	**03 11 56.0**	**+2.2**
IRAM	**Ramesheh**	**3.53**	**122**	*eP*	*n*	**Pn**	**03 12 03.2**	**+2.3**
KLNJ	**Kolanjah**	**3.56**	**139**	*eP*	*n*	**Pn**	**03 12 02.1**	**+0.6**
YZKH	**Yazd**	**4.99**	**104**	*eP*	*n*	**Pn**	**03 12 22.5**	**+1.7**
YZKH	**Yazd**	**4.99**	**104**	*eP*	*n*	**Pn**	**03 12 22.5**	**+1.7**

*IDC **21** 03:20:10.8± 0.7, 6.°25N × 126.°89E, h0km, mb4.2/11, mb1 4.4/12, mb1mx4.0/35, mbtmp4.3/12, ML4.9/2, MS2.9/6, Ms1 2.9/6, ms1mx2.7/38, Error ellipse: s-maj=44.3km s-min=14.0km az=77.0*
*MAN **21** 03:20:18.5, 5.°91N × 126.°54E, h35km, mb4.8, ML3.6, MS3.6*
*DJA **21** 03:20:19.0± 0.7, 6.°N ± 5.°12.°7E ± .°, h75km ± 6km, M4.8/24, mb4.8/24, mB5.3/8, MLv4.8/6, Mw(mB)4.7/8*
*NEIC **21** 03:20:20.6± 1.8, 6.°17N ± 0.°09 × 126.°7E ± 0.°1, h75km ± 7km, mb4.2/22, Error ellipse: s-maj=19.3km s-min=12.0km az=65.0*

ISC 21 03:20:19.8±1.2, 6.°05N ±0.°06 × 126.°56E ±0.°09, h67km ± 11km, n80, σ 1§79/81, mb4.3/21, 1C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DDMP	**Don Marcelino,**	**0.84

SBUM	**Sibu**	**14.74**	**257**	Pn	**P**	**03 23 48.1**	**-1.0**
EDFI	**Ende, Flores**	**15.48**	**198**	P	**Pn**	**03 23 55.0**	**+0.7**
	24nm,1.1s						
SOEI	**Soe**	**15.87**	**188**	P	**P**	**03 24 00.9**	**-0.9**
	71nm,1.1s						
SOEI	**Soe**	**15.87**	**188**	Pn	**Pn**	**03 24 00.6**	**+1.3**
BATI	**Baumata**	**16.40**	**190**	Pn	**P**	**03 24 07.4**	**-0.2**
	11nm,0.3s,baz=326,slow=3.6,SNR=8.6						
BATI	**Baumata**	**16.40**	**190**	P	**Pn**	**03 24 06.1**	**+0.2**
	1um48nm,0.9s						
KSM	**Kuching**	**16.84**	**255**		**P**	**03 24 14.0**	**+1.6**
KSM				IAmb	IAmb	03 24 17.3	
	comp=Z,15nm,1.1s						
WBSI	**Waikabubak, Su**	**17.14**	**205**	P	**Pn**	**03 24 15.4**	**+0.3**
	comp=Z,56nm,0.7s						
PLAI	**Plampang**	**17.18**	**211**	P	**Pn**	**03 24 15.6**	**+0.1**
	comp=Z,70nm,0.8s						
GUMO	**Guam**	**19.52**	**66**	LR	LR	03 31 31.9	
	comp=Z,31nm,21.3s,baz=314,slow=36						
KNRA	**Kunumurra**	**21.70**	**174**	P	**P**	**03 25 06.3**	**+1.0**
FITZ	**Fitzroy Crossi**	**24.01**	**182**	P	**P**	**03 25 28.9**	**+0.4**
	comp=Z,5.4nm,0.6s,baz=6.7,slow=12,SNR=9.1						
FITZ	**Fitzroy Crossi**	**24.01**	**182**	P	**P**	**03 25 29.2**	**+0.7**
KASI	**Kota Agung**	**24.84**	**243**	P	**P**	**03 25 37.5**	**+1.3**
	comp=Z,42nm,0.8s						
SDSI	**Sungai Dareh**	**26.03**	**255**	P	**P**	**03 25 46.7**	**-0.3**
	comp=Z,6.5nm,1.1s						
WB0	**Warramunga Arr**	**26.79**	**163**	P	**P**	**03 25 56.0**	**+2.3**
WB0				IAmb	IAmb	03 26 19.2	
	comp=Z,8.8nm,0.9s						
WRA	**Warramunga Arr**	**26.94**	**164**	P	**P**	**03 25 54.7**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=331,slow=12,SNR=9.2						
WB2	**Warramunga Arr**	**26.94**	**164**	P	**P**	**03 25 56.9**	**+1.8**
WB2				IAmb	IAmb	03 26 44.9	
	comp=Z,7.3nm,0.8s						
JNU	**Nakatsue**	**27.23**	**8**	LR	LR	03 34 52.1	
	comp=Z,36nm,21.9s,baz=176,slow=33						
KMI	**Kunming**	**29.66**	**312**	P	**P**	**03 26 20.8**	**+1.2**
KMI				pmax	pmax		
	comp=Z,16nm,0.5s						
AS31	**Alice Springs**	**30.39**	**167**	P	**P**	**03 26 27.4**	**+1.6**
ASAR	**Alice Springs**	**30.39**	**167**	P	**P**	**03 26 26.1**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=339,slow=6.8,SNR=27						
ASAR				PcP	**PcP**	**03 29 25.0**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=348,slow=2.4,SNR=3.1						
KSRS	**Korea Array**	**31.28**	**2**	LR	LR	03 38 55.0	
	comp=Z,23nm,21.1s,baz=198,slow=36						
MJAR	**Matsushiro Arr**	**32.17**	**18**	LR	LR	03 38 34.1	
	comp=Z,16nm,21.8s,baz=200,slow=35						
XAN	**Xi'an**	**32.29**	**332**	P	**P**	**03 26 43.1**	**+0.7**
XAN				pP	pP	03 27 01.4	+3.1
XAN				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC	**Hu-ho-hao-te**	**37.16**	**341**	*e*P	**P**	**03 27 25.4**	**+1.0**
HHC				pmax	pmax		
	comp=Z,14nm,0.9s						
HHC				pmax	pmax		
	comp=Z,31nm,7.6s						
STKA	**Stephens Creek**	**40.35**	**160**	P	**P**	**03 27 51.2**	**+0.2**
	comp=Z,6.5nm,0.8s,baz=332,slow=8.2,SNR=11						
STKA	**Stephens Creek**	**40.35**	**160**	P	**P**	**03 27 52.8**	**+1.7**
H11S3	**WAKE ISLAND Hy**	**41.01**	**69**	T	T	04 11 56.4	
	baz=272,slow=77,SNR=20						
H11S1	**WAKE ISLAND Hy**	**41.02**	**69**	T	T	04 11 55.2	
	baz=272,slow=77,SNR=15						
H11S2	**WAKE ISLAND Hy**	**41.02**	**69**	T	T	04 11 58.7	
	baz=272,slow=77,SNR=25						
SONM	**Songino Array**	**45.06**	**341**	P	**P**	**03 28 27.8**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=157,slow=9.2,SNR=3.5						
SONM				PcP	**PcP**	**03 30 08.5**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=134,slow=4.2,SNR=1.9						
WMQ	**Urumqi**	**50.75**	**324**	*e*P	**P**	**03 29 15.0**	**+1.9**
WMQ				LR	LR		
	comp=N,10.0nm,16.9s						
WMQ				LR	LR		
	comp=E,190nm,18.7s						
WMQ				LR	LR		
	comp=Z,57nm,21.7s						
MK31	**Makanchi Array**	**55.57**	**324**	P	**P**	**03 29 49.4**	**+0.9**
MK31				IAmb	IAmb	03 29 50.0	
	comp=Z,1.8nm,0.8s						
MKAR	**Makanchi Array**	**55.57**	**324**	P	**P**	**03 29 49.1**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=123,slow=8.1,SNR=21						
MKAR				PcP	**PcP**	**03 30 48.3**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=123,slow=4.4,SNR=5.3						
MAKZ	**Makanchi**	**55.76**	**324**	P	**P**	**03 29 51.0**	**+1.1**
MAKZ				IAmb	IAmb	03 29 51.4	
	comp=Z,2.9nm,0.9s						
ZAA0	**Zalesovo Array**	**58.46**	**333**	P	**P**	**03 30 09.1**	**+0.4**
ZAA0				IAmb	IAmb	03 30 58.4	
	comp=Z,1.7nm,0.6s						
ZALV	**Zalesovo Beam**	**58.46**	**333**	P	**P**	**03 30 08.1**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=131,slow=6.6,SNR=4.1						
KURK	**Kurchatov**	**59.71**	**327**	P	**P**	**03 30 17.3**	**-0.1**
KKAR	**Karatay Array**	**61.44**	**316**	P	**P**	**03 30 29.6**	**+0.2**
BRVK	**Borovoye**	**65.37**	**326**	P	**P**	**03 30 55.0**	**-0.1**
ABKAR	**Akbulak array**	**70.26**	**320**	P	**P**	**03 31 25.9**	**0.0**
OBL	**Observatory Le**	**76.87**	**72**	P	**P**	**03 32 03.2**	**-2.2**
NPH	**North Pit**	**76.87**	**72**	P	**P**	**03 32 01.7**	**-3.8**
UWB	**Uwekahuna B**	**76.87**	**72**	P	**P**	**03 32 03.5**	**-1.9**
SBLHI	**Steaming Bluff**	**76.88**	**72**	P	**P**	**03 32 03.1**	**-2.4**
HATHI	**Halema'uma'u T**	**76.89**	**72**	P	**P**	**03 32 04.7**	**-0.9**
DANY	**Dhamar**	**80.94**	**284**	P	**P**	**03 32 27.9**	**-0.2**
RC01	**Rabbit Creek A**	**81.69**	**29**		**PcP**	**03 32 34.9**	**-1.5**
ILAR	**Eielson Array**	**83.10**	**26**	P	**P**	**03 32 37.1**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=242,slow=5.3,SNR=13						
BMAR	**Burnt Mountain**	**84.02**	**23**	P	**P**	**03 32 42.2**	**-0.6**
ARCES	**ARCESS Array B**	**88.23**	**340**	P	**P**	**03 33 03.0**	**-0.4**
	comp=Z,15nm,1.1s,baz=91,slow=6.6,SNR=4.9						
FINES	**FINESS Array B**	**89.72**	**332**	P	**P**	**03 33 10.4**	**0.0**
	comp=Z,1.8nm,0.8s,baz=49,slow=3.5,SNR=10						
AKASG	**Malin Array Be**	**90.00**	**321**	P	**P**	**03 33 11.6**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=67,slow=4.2,SNR=1.8						
AKASG	**Malin Array Be**	**90.00**	**321**	IAmb	IAmb	03 33 13.3	
	comp=Z,1.3nm,1.1s						
NOA	**NORSAR Array B**	**96.64**	**334**	LR	LR	04 20 49.2	
	comp=Z,7.9nm,19.0s,baz=210,slow=38						
TORD	**Torodi Ar. Bea**	**122.01**	**290**	PKP	**PKPdf**	**03 39 07.8**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=67,slow=1.7,SNR=11						

*IDC **21** 04:49:33.6±4.6, 68.00N×162.90W, h0km, mb3.1/2, mb1 3.8/3, mb1mx3.3/30, mbtmp3.4/3, ML3.7/1, Error ellipse: s-maj=79.3km s-min=56.5km az=27.0*
*AEIC **21** 04:49:35.8±1.6, 67.72N±0.04×162.75W±0.1, h23km±6km, ML2.9/29, Error ellipse: s-maj=9.3km s-min=3.5km az=121.0*
*NEIC **21** 04:49:36.4±1.6, 67.70N±0.02×162.75W±0.2, h23km±6km, Error ellipse: s-maj=10.2km s-min=2.6km az=96.0*

ISC 21 04:49:35.1±1.0, 67.69N±0.05×162.42W±0.06, h10km, n28, σ0.83/32, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**0.41**	**333**		**Pb**	**04 49 43.9**	**-0.5**
RDOG					**Sb**	**04 49 50.9**	**+0.2**
ANM	**Nome**	**3.36**	**202**		**Pn**	**04 50 27.3**	**-0.3**
ANM					**Sn**	**04 51 07.0**	**-0.5**
IM01	**Indian Mountai**	**3.83**	**112**		**Pn**	**04 50 33.8**	**-0.3**
COLD	**Coldfoot**	**4.73**	**90**		**Pn**	**04 50 47.0**	**+0.6**
TOLK	**Toolik Lake Re**	**4.89**	**73**		**Pn**	**04 50 49.3**	**+0.7**
TOLK					**Sn**	**04 51 45.0**	**-0.2**
PS04	**TAPS Pump Stn4**	**4.96**	**75**		**Sn**	**04 51 46.4**	**-0.4**
TTA	**Tatalina**	**5.48**	**148**		**Pn**	**04 50 56.9**	**+0.1**
TTA					**Sn**	**04 52 01.4**	**+1.6**
TT01	**Tatalina**	**5.50**	**148**		**Pn**	**04 50 57.0**	**0.0**
BPAW	**Bear Paw Mtn.**	**5.91**	**122**		**Pn**	**04 51 02.8**	**+0.2**
NEA2	**Nenana**	**6.24**	**114**		**Pn**	**04 51 07.2**	**+0.1**
MDM	**Murphy Dome**	**6.33**	**109**		**Pn**	**04 51 08.5**	**+0.1**
PPLA	**Purkeypile**	**6.44**	**134**	Pn	**Pn**	**04 51 09.2**	**-0.7**
COLA	**College**	**6.52**	**109**		**Pn**	**04 51 11.2**	**+0.4**
POKR	**Poker Plat Res**	**6.54**	**106**		**Pn**	**04 51 11.7**	**+0.4**
TRF	**Thorofare Moun**	**6.58**	**125**		**Pn**	**04 51 12.1**	**+0.2**
WRH	**Wood River Hil**	**6.66**	**112**		**Pn**	**04 51 13.0**	**+0.2**
CCB	**Clear Creek Bu**	**6.66**	**110**		**Pn**	**04 51 12.9**	**+0.1**
BM03	**Burnt Mountain**	**6.82**	**84**		**Pn**	**04 51 15.1**	**0.0**
BMAR	**Burnt Mountain**	**6.83**	**84**	Pn	**Pn**	**04 51 13.9**	**-1.3**
IL31		**6.92**	**108**		**Pn**	**04 51 16.7**	**+0.3**
ILAR	**Eielson Array**	**6.92**	**108**	Pn	**Pn**	**04 51 16.8**	**+0.4**
	1.4nm,0.3s,baz=302,slow=14,SNR=82						
ILAR					Sn	**04 52 32.3**	**-2.8**
	0.2nm,0.3s,baz=304,slow=26,SNR=5.9						
ILAR	**Eielson Array**	**6.92**	**108**	Pn	**Pn**	**04 51 15.3**	**-1.2**
RND	**Reindeer**	**7.08**	**121**		**Pn**	**04 51 18.6**	**0.0**
HDA	**Harding Lake**	**7.10**	**110**	Pn	**Pn**	**04 51 17.7**	**-1.2**
SVW2	**Sparrevohn**	**7.25**	**153**		**Pn**	**04 51 20.1**	**-0.9**
DHY	**Denali Highway**	**7.79**	**119**		**Pn**	**04 51 28.6**	**+0.1**
YKA	**Yellowknife Ar**	**20.34**	**82**	P	Pn	04 54 12.5	-0.7
	0.5nm,0.6s,baz=303,slow=10,SNR=2.2						
TXAR	**Lajitas Array**	**51.44**	**107**	P	**P**	**04 58 41.4**	**+1.3**
	0.3nm,0.7s,baz=342,slow=5.1,SNR=5.1						

MAN 21 05:29:33.8, 9.33N×125.49E, h1km, mb4.2, ML3.0, MS2.7, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSLP	**Maasin**	**1.01**	**322**	*e*P	Pg	05 29 53.0	-0.3
MSLP				*e*S	Sb	05 30 07.5	-0.5
CGP	**Cagayan de Oro**	**1.17**	**222**	*e*P	Pg	05 29 55.9	-0.4
CGP				*e*S	Sn	05 30 14.8	+0.8
BUKP	**Musuan**	**1.50**	**196**	*e*P	Pg	05 30 03.7	+1.1
BUKP				*e*S	Sn	05 30 29.4	+7.3
TBP	**Tagbilaran**	**1.65**	**283**	*e*P	Pn	05 30 03.8	-0.1
TBP				*i* S	Sb	05 30 26.3	+0.1
LLP	**Lapu-Lapu**	**1.80**	**303**	*i*P	Pg	05 30 11.4	+3.1
LLP				*i* S	Sb	05 30 30.1	-0.5
KCP	**Kidapawan**	**2.34**	**190**	*i*P	Pg	05 30 21.1	+2.5
KCP				*i* S	Sg	05 31 10.5	+21
DDMP	**Don Marcelino,**	**3.21**	**176**	*e*P	Pb	05 30 31.7	+0.1
CNP	**Catarman**	**3.27**	**346**	*e*P	Pn	05 30 27.6	+1.4
CNP				*e*S	Sb	05 31 10.9	-2.0

IDC 21 05:40:23.2±13.0, 14.56S×165.35E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/29, mbtmp3.7/4, ML3.6/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/26, Error ellipse: s-maj=236.5km s-min=36.9km az=53.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.55**	**172**	Pn	Pn	05 42 14.6	0.0
	0.8nm,0.3s,baz=30,slow=8.0,SNR=21						
DZM				Sn	Sn	05 43 41.0	0.0
	0.6nm,0.3s,baz=107,slow=22,SNR=1.5						
RAO	**Raoul Island**	**21.29**	**136**	LR	LR	05 50 47.7	
	comp=Z,90nm,21.9s,baz=22,slow=29						
STKA	**Stephens Creek**	**27.71**	**227**	P	P	05 46 13.8	+0.5
	1.5nm,0.4s,baz=52,slow=9.4,SNR=8.1						
WRA	**Warramunga Arr**	**30.06**	**255**	P	P	05 46 34.4	0.0
	0.2nm,0.3s,baz=83,slow=8.5,SNR=1.5						
ASAR	**Alice Springs**	**31.00**	**248**	P	P	05 46 42.3	-0.4
	0.3nm,0.5s,baz=76,slow=9.7,SNR=8.6						

*SJA **21** 05:50:33.6±1.0, 21.23S×68.60W, h135km±6km, ML4.0, MW3.9*
*VAO **21** 05:50:33.7±0.5, 21.17S×68.73W, h135km, mb4.1*
*NEIC **21** 05:50:34.8±2.1, 21.25S±0.04×68.62W±0.09, h128km±4km, mb4.3/12, ML4.4(GUC), Error ellipse: s-maj=12.6km s-min=5.4km az=93.0*
*IDC **21** 05:50:34.6±0.8, 21.28S×68.10W, h108km±10km, mb4.3/2, mb1 3.8/7, mb1mx3.6/29, mbtmp4.3/7, MS2.7/1, Ms1 2.8/1, ms1mx2.5/22, Error ellipse: s-maj=23.1km s-min=9.6km az=113.0*
*GUC **21** 05:50:35.4±0.6, 21.25S×68.55W, h125km±3km, ML4.4*

ISC 21 05:50:34.6±0.6, 21.25S±0.03×68.61W±0.05, h130km±6km, n158, σ1.9/44/197, mb4.3/7, 3C-8D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.81**	**227**	*i*P	**Pn**	**05 50 56.5**	**+0.6**
PB09				*i* S	**Sn**	**05 51 12.7**	**+0.5**
PB09				IAML		05 51 14.2	
	comp=N,6μm,0.4s						
PB09	**IPOC Station P**	**0.81**	**227**		**Pn**	**05 50 56.6**	**+0.6**
PB09				Sn	**Sn**	**05 51 12.3**	**+0.1**
PB09	**IPOC Station P**	**0.81**	**227**	*e*P	**Pn**	**05 50 56.6**	**+0.6**
PB09				*e*S	**Sn**	**05 51 13.1**	**+0.9**
PB09				IAML		05 51 13.9	
	comp=Z,3μm,0.5s						
PB01	**IPOC Station P**	**0.85**	**284**	*e*P	**Pn**	**05 50 56.0**	**-0.3**
PB01				*i* S	**Sn**	**05 51 12.6**	**-0.1**
PB01				IAML		05 51 14.1	
	comp=E,4μm,0.3s						
PB01	**IPOC Station P**	**0.85**	**284**		**Pn**	**05 50 56.0**	**-0.3**
PB01				Sn	**Sn**	**05 51 12.5**	**-0.1**
PB02	**IPOC Station P**	**1.21**	**266**	*i* P	**Pn**	**05 50 59.9**	**+0.3**
PB02				*i* S	**Sn**	**05 51 18.5**	**-0.1**
PB02				IAML		05 51 21.3	
	comp=E,8μm,0.5s						
PB02	**IPOC Station P**	**1.21**	**266**	*e*P	**Pn**	**05 51 00.1**	**+0.4**
PB02				*e*S	**Sn**	**05 51 19.2**	**+0.5**
PB02				IAML		05 51 20.7	
	comp=Z,9μm,0.4s						
PB08	**IPOC Station P**	**1.21**	**335**	*i*P	**Pn**	**05 51 00.6**	**+0.5**
PB08				*i* S	**Sn**	**05 51 19.6**	**+0.3**
PB08				IAML		05 51 21.3	
	comp=E,4μm,0.6s						
PB08	**IPOC Station P**	**1.21**	**335**	Pn	**Pn**	**05 51 00.6**	**+0.5**
PB08				Sn	**Sn**	**05 51 19.4**	**+0.1**
PB08	**IPOC Station P**	**1.21**	**335**	*e*P	**Pn**	**05 51 00.6**	**+0.5**
PB08				*e*S	**Sn**	**05 51 19.5**	**+0.1**
PB08				IAML		05 51 23.3	
	comp=Z,2μm,0.4s						
PB07	**IPOC Station P**	**1.28**	**248**	*i*P	**Pn**	**05 51 00.8**	**+0.3**
PB07				*i* S	**Sn**	**05 51 20.2**	**0.0**
PB07				IAML		05 51 21.9	
	comp=E,7μm,0.4s						
PB07	**IPOC Station P**	**1.28**	**248**	Pn	**Pn**	**05 51 01.2**	**+0.6**
PB07				Sn	**Sn**	**05 51 20.1**	**-0.2**
PB07	**IPOC Station P**	**1.28**	**248**	*e*P	**Pn**	**05 51 00.9**	**+0.4**
PB07				*e*S	**Sn**	**05 51 20.6**	**+0.4**
PB07				IAML		05 51 24.7	
	comp=Z,4μm,0.4s						
PB03	**IPOC Station P**	**1.33**	**233**	*i*P	**Pn**	**05 51 01.3**	**+0.3**
PB03				*i* S	**Sn**	**05 51 21.2**	**+0.1**
PB03				IAML		05 51 22.0	
	comp=N,7μm,0.2s						
PB03	**IPOC Station P**	**1.33**	**233**	*e*P	**Pn**	**05 51 01.5**	**+0.4**
PB03				*e*S	**Sn**	**05 51 21.4**	**+0.2**
PB03				IAML		05 51 25.1	
	comp=Z,3μm,0.2s						
LVC	**Limon Verde**	**1.39**	**192**	P	**Pn**	**05 51 02.2**	**+0.4**
	comp=Z,350nm,0.3s,baz=21,slow=9.8,SNR=2119						
LVC				S	**Sn**	**05 51 22.4**	**-0.2**
	comp=Z,78nm,0.3s,baz=122,slow=22,SNR=40						
LVC				LR	LR	05 51 40.8	
	comp=Z,113nm,19.2s,baz=200,slow=44						
LVC	**Limon Verde**	**1.39**	**192**	*i*P	**Pn**	**05 51 02.2**	**+0.4**
LVC				*i* S	**Sn**	**05 51 22.9**	**+0.3**
LVC	**Limon Verde**	**1.39**	**192**		**Pn**	**05 51 02.2**	**+0.4**
LVC				Sn	**Sn**	**05 51 22.8**	**+0.3**
LVC	**Limon Verde**	**1.39**	**192**	*e*P	**Pn**	**05 51 02.3**	**+0.4**
LVC				IAML		05 51 27.0	
	comp=Z,230nm,0.3s						
LVC	**Limon Verde**	**1.39**	**192**	*e*P	**Pn**	**05 51 02.3**	**+0.5**
LVC	**Limon Verde**	**1.39**	**192**	*e*P	**Pn**	**05 51 02.3**	**+0.5**
TA01	**Diego Aracena**	**1.62**	**294**	*i*P	**Pn**	**05 51 04.2**	**+0.1**
TA01				*i* S	**Sn**	**05 51 26.4**	**-0.2**
TA01				IAML		05 51 28.5	
	comp=N,5μm,0.4s						
TA01	**Diego Aracena**	**1.62**	**294**		**Pn**	**05 51 04.2**	**+0.1**
TA01				Sn	**Sn**	**05 51 26.4**	**-0.2**
GO01	**Chusmiza**	**1.67**	**341**	*e*P	**Pn**	**05 51 05.3**	**+0.2**
GO01				*i* S	**Sn**	**05 51 28.1**	**-0.2**
GO01				IAML		05 51 30.8	
	comp=E,8μm,0.2s						
GO01	**Chusmiza**	**1.67**	**341**		**Pn**	**05 51 05.5**	**+0.3**
GO01				Sn	**Sn**	**05 51 28.3**	**0.0**
PB06	**IPOC Station P**	**1.71**	**212**	*i*P	**Pn**	**05 51 05.7**	**+0.4**
PB06				*i* S	**Sn**	**05 51 28.8**	**+0.1**
PB06				IAML		05 51 30.1	
	comp=E,2μm,0.2s						
PB06	**IPOC Station P**	**1.71**	**212**		**Pn**	**05 51 05.6**	**+0.4**
PB06				Sn	**Sn**	**05 51 28.6**	**0.0**
PB06	**IPOC Station P**	**1.71**	**212**	*e*P	**Pn**	**05 51 05.7**	**+0.4**
PB06				IAML		05 51 35.0	
	comp=Z,829nm,0.2s						
TA02	**Huaiquique**	**1.73**	**304**	*e*P	**Pn**	**05 51 05.3**	**0.0**
TA02				*i* S	**Sn**	**05 51 28.5**	**-0.2**
TA02				IAML		05 51 33.8	
	comp=N,8μm,0.2s						
PB11	**IPOC Station P**	**1.78**	**326**	*e*P	**Pn**	**05 51 05.9**	**-0.2**
PB11				*i* S	**Sn**	**05 51 29.5**	**-0.6**
PB11				IAML		05 51 31.2	
	comp=N,4μm,0.3s						
PB11	**IPOC Station P**	**1.78**	**326**		**Pn**	**05 51 06.1**	**0.0**
PB11				Sn	**Sn**	**05 51 29.2**	**-0.9**
PB11	**IPOC Station P**	**1.78**	**326**	*e*P	**Pn**	**05 51 06.2**	**+0.1**
PB11				IAML		05 51 35.8	
	comp=Z,1μm,0.4s						
PB04	**IPOC Station P**	**1.80**	**233**	*e*P	**Pn**	**05 51 06.6**	**+0.3**
PB04				*i* S	**Sn**	**05 51 30.7**	**+0.2**
PB04				IAML		05 51 33.0	
	comp=E,2μm,0.4s						
PB04	**IPOC Station P**	**1.80**	**233**		**Pn**	**05 51 06.6**	**+0.3**
PB04				Sn	**Sn**	**05 51 30.4**	**-0.1**
PB04	**IPOC Station P**	**1.80**	**233**	*e*P	**Pn**	**05 51 07.3**	**+0.9**
PB04				IAML		05 51 35.6	
	comp=Z,1μm,0.2s						
PB15	**IPOC Station P**	**2.11**	**202**	*i*P	**Pn**	**05 51 10.6**	**+0.4**
PB15				*i* S	**Sn**	**05 51 38.7**	**+1.3**
PB15	**IPOC Station P**	**2.11**	**202**		**Pn**	**05 51 10.7**	**+0.4**
PB15				Sn	**Sn**	**05 51 39.0**	**+1.6**
PB15	**IPOC Station P**	**2.11**	**202**	*e*P	**Pn**	**05 51 10.7**	**+0.5**
PB15				IAML		05 51 42.3	
	comp=Z,3μm,0.2s						
PSGC	**Pisagua**	**2.17**	**319**	*e*P	**Pn**	**05 51 10.2**	**-0.7**
PSGC				*i* S	**Sn**	**05 51 36.9**	**-1.6**
PSGC				IAML		05 51 41.3	
	comp=N,2μm,0.5s						
PSGCX	**Pisagua**	**2.17**	**319**		**Pn**	**05 51 10.5**	**-0.4**
PSGCX				Sn	**Sn**	**05 51 36.8**	**-1.7**
PSGCX	**Pisagua**	**2.17**	**319**	*e*P	**Pn**	**05 51 10.6**	**-0.2**
PSGCX				IAML		05 51 41.2	
	comp=Z,851nm,0.4s						
PB05	**IPOC Station P**	**2.18**	**223**	*e*P	**Pn**	**05 51 10.9**	**0.0**
PB05				*i* S	**Sn**	**05 51 37.2**	**-1.6**
PB05	**IPOC Station P**	**2.18**	**223**	*e*P	**Pn**	**05 51 11.2**	**+0.3**
PB05				IAML		05 51 46.8	
	comp=Z,462nm,0.4s						
MNMC	**Minye Minye**	**2.30**	**336**	*e*P	**Pn**	**05 51 13.0**	**+0.3**
MNMC				*i* S	**Sn**	**05 51 42.3**	**+0.6**
MNMC	**Minye Minye**	**2.30**	**336**		**Pn**	**05 51 13.2**	**+0.5**
MNMC				Sn	**Sn**	**05 51 42.3**	**+0.6**
MNMCX	**Minye Minye**	**2.30**	**336**	*e*P	**Pn**	**05 51 13.2**	**+0.5**
MNMCX				IAML		05 51 45.2	
	comp=Z,2μm,0.3s						
PB10	**IPOC Station P**	**2.89**	**218**	*e*P	**Pn**	**05 51 19.9**	**+0.1**
PB10				*i* S	**Sn**	**05 51 48.7**	**-5.9**
PB10	**IPOC Station P**	**2.89**	**218**		**Pn**	**05 51 19.9**	**+0.1**
PB10	**IPOC Station P**	**2.89**	**218**	*e*P	**Pn**	**05 51 20.1**	**+0.3**
PB10				IAML		05 52 13.1	
	comp=Z,170nm,0.5s						
YJA	**Yavi**	**3.02**	**108**	*e*P	**Pn**	**05 51 22.3**	**+0.3**
YJA				IAML		05 52 07.3	
	comp=Z,10nm,0.4s						
PB12	**IPOC Station P**	**3.08**	**328**	*e*P	**Pn**	**05 51 21.3**	**-1.1**
PB12				*i* S	**Sn**	**05 51 56.7**	**-2.5**
PB12				IAML		05 52 03.8	
	comp=E,900nm,0.4s						
PB12	**IPOC Station P**	**3.08**	**328**		**Pn**	**05 51 21.5**	**-0.9**
PB12	**IPOC Station P**	**3.08**	**328**	*e*P	**Pn**	**05 51 21.5**	**-0.9**
PB12				IAML		05 52 04.1	
	comp=Z,453nm,0.4s						
AP01	**Chacalluta**	**3.30**	**330**	*e*P	**Pn**	**05 51 23.7**	**-1.4**
AP01	**Chacalluta**	**3.30**	**330**	Pn	**Pn**	**05 51 23.9**	**-1.2**
AP01				Sn	**Sn**	**05 52 02.8**	**-1.3**
GO02	**Mina Guanaco**	**4.00**	**193**	Pn	**Pn**	**05 51 33.9**	**-0.8**
LPAZ	**La Paz**	**4.95**	**5**	P	**Pn**	**05 51 48.8**	**+1.0**
	comp=Z,17nm,0.3s,baz=182,slow=3.6,SNR=444						
LPAZ				S	**Sn**	**05 52 44.2**	**-0.3**
	baz=228,slow=22,SNR=0.7						
LPAZ				LR	LR	05 54 23.9	
	comp=Z,74nm,19.0s,baz=207,slow=46						
LPAZ	**La Paz**	**4.95**	**5**	Pn	**Pn**	**05 51 48.5**	**+0.7**
AC01	**Pan de Azucar**	**5.21**	**200**	Pn	**Pn**	**05 51 48.6**	**-2.0**
AC02	**Maricunga**	**5.58**	**185**	Pn	**Pn**	**05 51 55.2**	**-0.8**
GO03	**Copiap**	**6.49**	**193**		**Pn**	**05 52 05.1**	**-2.7**
AC04	**Llanos de Chal**	**7.28**	**197**	Pn	**Pn**	**05 52 13.9**	**-4.5**
AC05	**El Transito**	**7.71**	**191**	Pn	**Pn**	**05 52 21.2**	**-3.1**
CO01	**Juntas del Tor**	**8.80**	**188**		**Pn**	**05 52 35.9**	**-3.1**
SIV	**San Ignacio**	**8.85**	**55**	P	**Pn**	**05 52 35.5**	**-4.2**
	comp=Z,5.2nm,0.3s,baz=264,slow=9.5,SNR=109						
SIV				S	Sn	05 54 06.6	-11
	baz=280,slow=14,SNR=3.8						
GO04	**Tololo Observa**	**9.11**	**192**	Pn	**Pn**	**05 52 38.5**	**-4.6**
CO03	**El Pedregal**	**9.73**	**191**	Pn	**Pn**	**05 52 46.8**	**-4.6**
CO02	**Combarbal**	**10.15**	**192**		Pn	05 52 52.0	-5.0
CFA	**

JANB	**Januaria**	**23.88**	**79**	*e*P		**P**	**05 55 34.6**	**-1.9**
SJMB	**Sao Joao De Ma**	**25.88**	**89**	*e*P		**P**	**05 55 54.5**	**-0.1**
SJMB	**Sao Joao De Ma**	**25.88**	**89**	*e*P		**P**	**05 55 54.5**	**-0.1**
BSFB	**Barra de Sao F**	**26.18**	**90**	*e*P		**P**	**05 55 57.3**	**+0.1**
BSFB	**Barra de Sao F**	**26.18**	**90**	*e*P		**P**	**05 55 57.3**	**+0.1**
NAN01	**Guarapari, ES**	**27.03**	**88**	*e*P		**P**	**05 56 04.3**	**-0.7**
NAN01	**Guarapari, ES**	**27.03**	**88**	*e*P		**P**	**05 56 04.3**	**-0.7**
RUSC	**La Rusia**	**27.33**	**350**	P		**P**	**05 56 09.3**	**+1.3**
OBIP	**Obispado Ponce**	**39.10**	**3**	P		**P**	**05 57 50.0**	**+0.7**
WLAR	**White Oak Lake**	**59.41**	**336**	P		**P**	**06 00 24.5**	**+1.0**
WLAR				IAmb	IAmb		06 00 30.1	
	comp=Z,8.3nm,1.2s							
VNA3	**Neumayer Olymp**	**60.22**	**161**	P		**P**	**06 00 29.6**	**+1.0**
SNAA	**Sanae**	**62.42**	**161**	P		**P**	**06 00 45.1**	**+1.6**
SNAA	**Sanae**	**62.42**	**161**	P		**P**	**06 00 45.2**	**+1.6**
SNAA				IAmb	IAmb		06 00 46.0	
	comp=Z,2.9nm,0.9s							
DBIC	**Dimbokro**	**68.39**	**73**	P		**P**	**06 01 22.4**	**-0.4**
	comp=Z,5.3nm,1.0s,baz=192,slow=6.8,SNR=5.0							
DBIC	**Dimbokro**	**68.39**	**73**	P		**P**	**06 01 22.7**	**-0.1**
QSPA	**South Pole Qui**	**68.94**	**180**	P		**P**	**06 01 28.2**	**+2.7**
QSPA				IAmb	IAmb		06 01 29.0	
	comp=Z,5.2nm,1.2s							
TOA0	**Torodi Ar. Sit**	**77.00**	**70**	P		**P**	**06 02 13.7**	**0.0**
TOA0				IAmb	IAmb		06 02 14.3	
	comp=Z,6.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**77.00**	**70**	P		**P**	**06 02 13.5**	**-0.2**
	comp=Z,6.9nm,0.6s,baz=256,slow=5.4,SNR=64							
TORD	**Torodi Ar. Bea**	**77.00**	**70**	P		**P**	**06 02 13.6**	**-0.1**
ASAR	**Alice Springs**	**130.27**	**207**	PKP		**PKiKP**	**06 09 31.8**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=135,slow=2.1,SNR=5.5							
WRA	**Warramunga Arr**	**133.31**	**210**	PKP		**PKiKP**	**06 09 38.7**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=156,slow=1.8,SNR=1.7							
ZALV	**Zalesovo Beam**	**141.60**	**25**	PKP		**PKiKP**	**06 09 54.3**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=322,slow=4.4,SNR=2.5							
MK31	**Makanchi Array**	**145.26**	**36**			**PKPab**	**06 09 58.5**	**+1.3**
MKAR	**Makanchi Array**	**145.26**	**36**	PKPbc		**PKPab**	**06 09 58.5**	**+1.3**
	comp=Z,2.3nm,0.7s,baz=318,slow=3.2,SNR=20							

*IDC **21** 06:16:51.9±9.5, 15°.33S×173°.18W, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.8/30, mbtmp4.1/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/31, Error ellipse: s-maj=418.1km s-min=36.9km az=139.0*

*NEIC **21** 06:16:54.0±2.8, 15°.17S±0°.09×173°.3W±0°.1, h10km±1km, mb4.3/7, Error ellipse: s-maj=19.4km s-min=11.5km az=304.0*

ISC 21 06:16:56.5±0.8, 15°.14S±0°.08×173°.2W±0°.1, h29km, n20, σ1°.34/17, mb4.3/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.87**	**49**		**Pn**	**06 17 25.2**	**-1.5**
NIUE	**Niue**	**5.04**	**142**	Pn	**Pn**	**06 18 08.5**	**-1.7**
KNTN	**Kanton**	**12.37**	**7**	Pn	**Pn**	**06 19 51.1**	**+0.3**
RAR	**Rarotonga**	**14.15**	**117**	LR	LR	06 24 52.2	
	comp=Z,48nm,19.2s,baz=288,slow=34						
RAO	**Raoul Island**	**14.70**	**196**	P	**P**	**06 20 28.2**	**-0.2**
OUZ	**Omahuta**	**23.23**	**208**	P	**P**	**06 22 03.1**	**+1.8**
OUZ				IAmb	IAmb	06 22 15.4	
	comp=Z,14nm,1.2s						
HNR	**Honiara**	**26.79**	**279**	LR	LR	06 31 09.4	
	comp=Z,50nm,20.2s,baz=124,slow=32						
PMG	**Port Moresby**	**39.07**	**274**	P	**P**	**06 24 19.0**	**-2.4**
WB0	**Warramunga Arr**	**50.02**	**257**	P	**P**	**06 25 49.3**	**+0.5**
WB0				IAmb	IAmb	06 25 49.7	
	comp=Z,4.4nm,1.1s						
WB2	**Warramunga Arr**	**50.05**	**257**	P	**P**	**06 25 49.4**	**+0.4**
WB2				IAmb	IAmb	06 25 59.5	
	comp=Z,2.8nm,0.9s						
WRA	**Warramunga Arr**	**50.06**	**257**	P	**P**	**06 25 48.6**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=92,slow=7.1,SNR=21						
WRA	**Warramunga Arr**	**50.06**	**257**	P	**P**	**06 25 49.0**	**-0.1**
AS31	**Alice Springs**	**50.34**	**252**	P	**P**	**06 25 50.5**	**-0.7**
ASAR	**Alice Springs**	**50.34**	**252**	P	**P**	**06 25 51.1**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=90,slow=7.7,SNR=25						
ASAR	**Alice Springs**	**50.34**	**252**	P	**P**	**06 25 50.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**58.42**	**258**	P	**P**	**06 26 49.0**	**-1.1**
QSPA	**South Pole Qui**	**74.91**	**180**	P	**P**	**06 28 36.2**	**+1.6**
QSPA				IAmb	IAmb	06 28 55.1	
	comp=Z,3.9nm,1.4s						
ILAR	**Eielson Array**	**82.16**	**11**	P	**P**	**06 29 15.2**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=208,slow=7.1,SNR=4.8						
ILAR	**Eielson Array**	**82.16**	**11**	P	**P**	**06 29 16.4**	**+2.2**
ULM	**Lac du Bonnet**	**93.63**	**39**	LR	LR	07 08 03.3	
	comp=Z,23nm,18.1s,baz=1.0,slow=33						

*BGR **21** 06:30:01.9±0.0, 49°.40N×74°.16E, h33km, mb4.5*

*IDC **21** 06:30:01.7±0.4, 49°.44N×72°.84E, h0km, mb4.4/25, mb1 4.6/33, mb1mx4.5/44, mbtmp4.5/33, ML3.9/7, MS3.3/20, Ms1 3.3/20, ms1mx3.1/47, Error ellipse: s-maj=9.1km s-min=6.3km az=41.0*

*SOME **21** 06:30:03.7, 49°.55N×73°.00E, h10km, MS4.0*

*NNC **21** 06:30:03.4±0.7, 49°.56N×72°.97E, h9km±6km, mb5.4, mpv5.2, Error ellipse: s-maj=7.3km s-min=4.2km az=94.0*

*MOS **21** 06:30:03.4±1.0, 49°.52N×72°.91E, h23km, mb4.9/44, Error ellipse: s-maj=5.7km s-min=4.0km az=106.9*

MOS Felt (IV) at Karaganda; (II) at Astana.

*BJI **21** 06:30:03.8±0.0, 49°.55N×73°.45E, h4km, mB4.6/30, mb4.6/45, Ms4.1/14, Ms7 3.9/7*

*NEIC **21** 06:30:04.5±1.5, 49°.56N±0°.06×72°.95E±0°.09, h15km±3km, mb4.8/121, Error ellipse: s-maj=8.6km s-min=8.1km az=48.0*

ISC 21 06:30:03.3±0.3, 49°.52N±0°.02×72°.93E±0°.03, h11km±1km, h11km:pP-P, n437, σ1°.41/484, mb4.8/140, MS3.5/28, 40C-10D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRZS	**Berezniki**	**0.49**	**340**	⇓*i*P	**Pb**	**06 30 13.7**	**-0.3**
	3μm,0.0s						
BRZS				*e*S	**Sb**	**06 30 20.4**	**-0.7**
	14μm,0.2s						
BRZS	**Berezniki**	**0.49**	**340**	P	**Pb**	**06 30 13.7**	**-0.3**
	10μm,0.1s						
BRZS				S	**Sb**	**06 30 20.4**	**-0.7**
	20μm,0.2s						
BRZS	**Berezniki**	**0.49**	**340**	*i* P	**Pb**	**06 30 13.7**	**-0.3**
BRZS				*e*S	**Sb**	**06 30 20.4**	**-0.7**
OTUK	**Ortayu**	**1.34**	**197**	⇑P	**Pb**	**06 30 29.1**	**+0.6**
OTUK				⇑S	**Sg**	**06 30 47.4**	**+1.0**
OTUK	**Ortayu**	**1.34**	**197**	P	**Pb**	**06 30 29.0**	**+0.6**
OTUK				S	**Sg**	**06 30 47.4**	**+1.0**
KURBB	**Kurchatov Arra**	**3.77**	**71**	Pn	**Pn**	**06 31 02.8**	**+1.4**
	7.3nm,0.3s,baz=260,slow=13,SNR=137						
KURBB				Lg	Lg	06 31 60.0	
	99nm,0.3s,baz=230,slow=50,SNR=8.6						
KURBB	**Kurchatov Arra**	**3.77**	**71**	⇑Pn	**Pn**	**06 31 02.4**	**+1.0**
	41nm,0.2s						
KURBB				⇓Pg	**Pg**	**06 31 13.4**	**-2.1**
	224nm,0.6s						
KURBB				⇑Lg	Lg	06 32 00.5	
	5μm,0.8s						
KURBB	**Kurchatov Arra**	**3.77**	**71**	P	**Pn**	**06 31 02.3**	**+1.0**
BVA2	**Borovoye Array**	**3.85**	**336**	⇑Pg	**Pb**	**06 31 12.4**	**+1.2**
	583nm,0.6s						
BVA2				⇑Lg	Lg	06 32 03.3	
	2μm,0.7s						
KURK	**Kurchatov**	**3.85**	**70**	⇑Pn	**Pn**	**06 31 03.6**	**+1.2**
	277nm,0.6s						
KURK				⇑Lg	Lg	06 32 01.6	
	2μm,0.5s						
KURK	**Kurchatov**	**3.85**	**70**	*ce*P	**Pn**	**06 31 03.4**	**+1.0**
KURK				pmax	pmax		
	comp=Z,57nm,0.7s						
KURK	**Kurchatov**	**3.85**	**70**		**Pn**	**06 31 03.8**	**+1.3**
BVAR	**Borovoye Array**	**3.85**	**336**	Pn	**Pn**	**06 31 03.7**	**+1.1**
	comp=Z,19nm,0.3s,baz=152,slow=13,SNR=270						
BVAR				Lg	Lg	06 32 04.4	
	comp=Z,374nm,0.3s,baz=153,slow=26,SNR=7.0						
BRVK	**Borovoye**	**3.91**	**336**	⇑Pn	**Pn**	**06 31 04.4**	**+1.1**
	comp=Z,18nm,0.3s						
BRVK				⇑Pg	**Pb**	**06 31 13.8**	**+1.6**
	comp=Z,614nm,0.9s						
BRVK				⇑Sn	**Sn**	**06 31 49.9**	**+0.8**
	comp=Z,850nm,0.8s						
BRVK				⇑Lg	Lg	06 32 02.6	
	comp=Z,3μm,0.6s						
BRVK	**Borovoye**	**3.91**	**336**	P	**Pn**	**06 31 04.7**	**+1.4**
BRVK						06 31 49.6	
BRVK	**Borovoye**	**3.91**	**336**	Pn	**Pn**	**06 31 04.7**	**+1.4**
BRVK				Sn	**Sn**	**06 31 49.6**	**+0.4**
BTLS	**Baital**	**4.55**	**170**	*e*P	**Pb**	**06 31 26.3**	**+3.2**
	comp=Z,420nm,0.3s						
BTLS				*e*S	**Sg**	**06 32 25.7**	**-3.6**
	comp=Z,2μm,0.4s						
SEM	**Semipalatinsk**	**4.80**	**77**	*e*P	**Pg**	**06 31 33.1**	**-2.2**
	comp=Z,175nm,0.4s						
SEM				*e*S	**Sg**	**06 32 34.8**	**-2.7**
	comp=Z,1μm,0.4s						
SEM	**Semipalatinsk**	**4.80**	**77**	Pg	**Pn**	**06 31 17.4**	**+1.6**
	comp=Z,89nm,0.4s						
SEM				Lg	Lg	06 32 10.7	
	comp=Z,492nm,0.3s						
TDK	**Taldyqorghan**	**5.86**	**138**	*e*P	**Pg**	**06 31 54.0**	**-1.5**
	comp=Z,1μm,0.5s						
TDK				*e*S	**Sg**	**06 33 10.6**	**-0.7**
	comp=Z,3μm,0.6s						
KAPS	**Kapalarasan**	**6.08**	**132**	*e*P	**Pg**	**06 31 59.0**	**-0.8**
	comp=Z,82nm,0.4s						
KAPS				*e*S	**Sg**	**06 33 20.4**	**+1.9**
	comp=Z,945nm,0.5s						
KAPS	**Kapalarasan**	**6.08**	**132**	Pg	**Pn**	**06 31 33.1**	**-0.1**
	comp=Z,18nm,0.3s						
KAPS				Lg	Lg	06 32 37.7	
	comp=Z,221nm,0.3s						
KUU	**Kurty**	**6.10**	**156**	*e*P	**Pg**	**06 31 55.8**	**-4.2**
	comp=Z,117nm,0.4s						
KUU				*e*S	**Sg**	**06 33 13.5**	**-5.5**
	comp=Z,1μm,0.8s						
KUU	**Kurty**	**6.10**	**156**	Pg	**Pn**	**06 31 34.3**	**+0.9**
	comp=Z,69nm,0.3s						
KUU				Lg	Lg	06 32 39.4	
	comp=Z,741nm,0.3s						
KRBS	**Karabastau**	**6.13**	**161**	*e*P	**Pg**	**06 31 58.9**	**-1.7**
	comp=Z,130nm,0.3s						
KRBS				*e*S	**Sg**	**06 33 17.8**	**-2.2**
	comp=Z,958nm,0.7s						
KRBS	**Karabastau**	**6.13**	**161**	Pg	**Pn**	**06 31 34.9**	**+1.0**
	comp=Z,67nm,0.2s						
KRBS				Lg	Lg	06 32 40.0	
	comp=Z,164nm,0.3s						
SGDS	**Sogindy**	**6.18**	**168**	Pg	**Pn**	**06 31 35.9**	**+1.3**
	comp=Z,142nm,0.3s						
SGDS				Lg	Lg	06 32 42.3	
	comp=Z,647nm,0.2s						
ARXS	**Arharly**	**6.28**	**146**	*e*P	**Pg**	**06 32 00.6**	**-3.0**
	comp=Z,194nm,0.4s						
ARXS				*e*S	**Sg**	**06 33 22.4**	**-2.5**
	comp=Z,1μm,0.5s						
ARXS	**Arharly**	**6.28**	**146**	Pg	**Pn**	**06 31 36.2**	**+0.2**
	comp=Z,92nm,0.3s						
ARXS				Lg	Lg	06 32 42.4	
	comp=Z,305nm,0.4s						
CHKK	**Chushkaly**	**6.32**	**152**	Pg	**Pn**	**06 31 36.8**	**+0.4**
	comp=Z,45nm,0.3s						
CHKK				Lg	Lg	06 32 44.0	
	comp=Z,347nm,0.3s						
USP	**Ospenovka**	**6.35**	**170**	P	**Pn**	**06 31 38.0**	**+1.1**
	SNR=115						
KTBS	**Karatobe**	**6.36**	**155**	Pg	**Pn**	**06 31 37.5**	**+0.5**
	comp=Z,65nm,0.3s						
KTBS				Lg	Lg	06 32 45.0	
	comp=Z,819nm,0.4s						
DGS	**Degeres**	**6.58**	**162**	Pg	**Pn**	**06 31 41.0**	**+0.9**
	comp=Z,4.9nm,0.2s						
DGS				Lg	Lg	06 32 51.2	
	comp=Z,314nm,0.4s						
MNBS	**Baschi**	**6.61**	**143**	*e*P	**Pg**	**06 32 06.0**	**-3.9**
	comp=Z,104nm,0.2s						
MNBS				*e*S	**Sg**	**06 33 31.0**	**-4.5**
	comp=Z,3μm,0.5s						
KK31	**Karatay Array**	**6.64**	**196**	Pn	**Pn**	**06 31 41.6**	**+0.8**
	comp=Z,107nm,0.3s,baz=15,slow=14,SNR=1032						
KK31				⇓Sn	**Sn**	**06 32 52.8**	**-3.6**
	comp=Z,126nm,0.6s,baz=9.2,slow=23,SNR=5.1						
KK31				⇑Lg	Lg	06 33 30.6	
	comp=Z,387nm,0.6s,baz=12,slow=26,SNR=7.1						
KK31	**Karatay Array**	**6.64**	**196**	P	**Pn**	**06 31 41.6**	**+0.8**
KK31						06 32 52.8	
KK31	**Karatay Array**	**6.64**	**196**		**Pn**	**06 31 41.8**	**+1.0**
KKAR	**Karatay Array**	**6.64**	**196**	P	**Pn**	**06 31 41.5**	**+0.7**
KKAR				SN	**Sn**	**06 32 55.0**	**-1.4**
KKAR	**Karatay Array**	**6.64**	**196**	Pn	**Pn**	**06 31 41.8**	**+1.0**
KKAR	**Karatay Array**	**6.64**	**196**	Pn	**Pn**	**06 31 41.8**	**+1.0**
CHMS	**Chumysh**	**6.65**	**168**	P	**Pn**	**06 31 41.9**	**+1.0**
	SNR=20						
MRKS	**Merke**	**6.78**	**178**	*e*P	**Pg**	**06 32 09.7**	**-3.5**
	comp=Z,120nm,0.4s						
MRKS				*e*S	**Sg**	**06 33 36.9**	**-4.1**
	comp=Z,749nm,0.4s						
KST	**Kastek**	**6.81**	**161**	Pg	**Pn**	**06 31 44.2**	**+0.9**
	comp=Z,113nm,0.5s						
KST				Lg	Lg	06 32 56.7	
	comp=Z,189nm,0.6s						
FRU1	**Bishkek**	**6.82**	**169**	P	**Pn**	**06 31 44.6**	**+1.3**
FRU1	**Bishkek**	**6.82**	**169**	Pn	**Pn**	**06 31 44.6**	**+1.3**
MK31	**Makanchi Array**	**6.83**	**110**	⇑Pn	**Pn**	**06 31 44.5**	**+1.0**
	comp=Z,28nm,0.3s,baz=285,slow=12,SNR=1587						
MK31				⇑Sn	**Sn**	**06 33 00.6**	**-0.5**
	comp=Z,71nm,0.5s						
MK31				⇓Lg	Lg	06 33 37.3	
	comp=Z,114nm,0.3s,baz=307,slow=27,SNR=10						
MK31	**Makanchi Array**	**6.83**	**110**	*e*P	**Pn**	**06 31 44.4**	**+1.0**
MK31				SN	**Sn**	**06 33 00.6**	**-0.5**
MK31	**Makanchi Array**	**6.83**	**110**	Pn	**Pn**	**06 31 44.7**	**+1.3**
MKAR	**Makanchi Array**	**6.83**	**110**	Pn	**Pn**	**06 31 44.5**	**+1.1**
	comp=Z,38nm,0.3s,baz=285,slow=12,SNR=1409						
MKAR				Sn	**Sn**	**06 33 00.5**	**-0.7**
	comp=Z,26nm,0.3s,baz=289,slow=20,SNR=7.1						
MKAR				Lg	Lg	06 33 38.0	
	comp=Z,64nm,0.3s,baz=292,slow=30,SNR=7.9						
MKAR				LR	LR	06 34 23.7	
	comp=Z,311nm,19.3s,baz=200,slow=38						
MKAR	**Makanchi Array**	**6.83**	**110**	Pn	**Pn**	**06 31 44.8**	**+1.4**
MTBS	**Maitube**	**6.84**	**158**	Pg	**Pn**	**06 31 44.4**	**+0.8**
	comp=Z,71nm,0.1s						
MTBS				Lg	Lg	06 32 57.3	
	comp=Z,307nm,0.4s						
BRLS	**Borolday**	**6.84**	**199**	*e*P	**Pg**	**06 32 13.0**	**-1.3**
	comp=Z,54nm,0.4s						
BRLS				*e*S	**Sg**	**06 33 44.1**	**+1.4**
	comp=Z,527nm,0.6s						
TKM2	**Tokmak 2**	**6.86**	**163**	P	**Pn**	**06 31 44.6**	**+0.6**
	SNR=40						
TKM2	**Tokmak 2**	**6.86**	**163**	⇑Pn	**Pn**	**06 31 44.1**	**0.0**
	comp=Z,30nm,0.6s						
TKM2				⇑Pg	**Pb**	**06 32 05.9**	**+3.3**
	comp=Z,72nm,0.5s						
TKM2				⇓Lg	Lg	06 33 37.6	
	comp=Z,1μm,0.9s						
TKM2	**Tokmak 2**	**6.86**	**163**	P	**Pn**	**06 31 44.0**	**0.0**
EKS2	**Erkin-Say**	**6.89**	**175**	P	**Pn**	**06 31 45.2**	**+0.8**
	SNR=36						
AAA	**Alma-Ata**	**6.89**	**155**	*e*P	Pg	06 32 10.2	-5.0
	comp=Z,137nm,0.4s						
AAA				*e*S	**Sg**	**06 33 39.4**	**-5.0**
	comp=Z,871nm,0.4s						
AAA	**Alma-Ata**	**6.89**	**155**	Pg	**Pn**	**06 31 45.6**	**+1.3**
	comp=Z,108nm,0.3s						
AAA				Lg	Lg	06 32 59.5	
	comp=Z,164nm,0.5s						
AAA	**Alma-Ata**	**6.89**	**155**	*e*P	**Pn**	**06 31 45.4**	**+1.1**
AAA				pmax	pmax		
	comp=Z,70nm,0.3s						
KOTS	**Kotyrbulak**	**6.92**	**154**	Pg	**Pn**	**06 31 45.7**	**+0.9**
	comp=Z,230nm,0.3s						
KOTS				Lg	Lg	06 32 59.3	
	comp=Z,910nm,0.6s						
MDOK	**Medeo**	**6.97**	**154**	*e*P	**Pg**	**06 32 12.6**	**-4.1**
	comp=Z,134nm,0.4s						
MDOK				*e*S	**Sg**	**06 33 41.9**	**-5.0**
	comp=Z,917nm,0.7s						
MDOK	**Medeo**	**6.97**	**154**	⇑Pn	**Pn**	**06 31 45.7**	**+0.2**
	comp=Z,60nm,0.5s						
MDOK				⇓Pg	Pb	06 32 10.2	+5.8
	comp=Z,80nm,0.4s						
MDOK				⇑Lg	Lg	06 33 41.2	
	comp=Z,2μm,0.8s						
MDOK	**Medeo**	**6.97**	**154**	Pg	**Pn**	**06 31 46.3**	**+0.8**
	comp=Z,70nm,0.4s						
MDOK				Lg	Lg	06 32 59.9	
	comp=Z,153nm,0.5s						
MDOK	**Medeo**	**6.97**	**154**	P	**Pn**	**06 31 45.0**	**-0.5**
IZV	**Izvestkoviy**	**6.97**	**157**	Pg	**Pn**	**06 31 46.7**	**+1.1**
	comp=Z,120nm,0.2s						
IZV				Lg	Lg	06 33 00.9	
	comp=Z,317nm,0.4s						
AAK	**Ala-Archa**	**6.97**	**170**	Pn	**Pn**	**06 31 46.4**	**+0.9**
	comp=Z,17nm,0.3s,baz=50,slow=2.2,SNR=72						
AAK				Sn	**Sn**	**06 33 01.8**	**-3.1**
	comp=Z,54nm,0.3s,baz=86,slow=8.0,SNR=19						
AAK				Lg	Lg	06 33 40.5	
	comp=Z,38nm,0.3s,baz=252,slow=23,SNR=4.2						
AAK				LR	LR	06 34 11.7	
	comp=Z,44nm,21.9s,baz=348,slow=36						
AAK	**Ala-Archa**	**6.97**	**170**	P	**Pn**	**06 31 46.6**	**+1.1**
	SNR=27						
AAK	**Ala-Archa**	**6.97**	**170**	Pn	**Pn**	**06 31 46.6**	**+1.1**
DJR	**Jarkent**	**7.00**	**135**	*e*P	**Pg**	**06 32 13.2**	**-4.1**
	comp=Z,52nm,0.3s						
DJR				*e*S	**Sg**	**06 33 44.5**	**-3.3**
	comp=Z,486nm,0.5s						
DJR	**Jarkent**	**7.00**	**135**	Pg	**Pn**	**06 31 46.8**	**+1.0**
	comp=Z,79nm,0.5s						
DJR				Lg	Lg	06 33 01.4	
	comp=Z,88nm,0.3s						
KBK	**Karagaybulak**	**7.01**	**168**	P	**Pn**	**06 31 46.9**	**+0.8**
	SNR=14						
KURS	**Kuram**	**7.03**	**147**	Pg	**Pn**	**06 31 46.9**	**+0.6**
	comp=Z,44nm,0.4s						
KURS				Lg	Lg	06 33 01.2	
	comp=Z,70nm,0.5s						
BOOM	**Boomskoye usch**	**7.34**	**162**	P	**Pn**	**06 31 51.7**	**+1.1**
BOOM	**Boomskoye usch**	**7.34**	**162**	Pn	**Pn**	**06 31 51.7**	**+1.1**
UCH	**Uchtor**	**7.38**	**171**	P	**Pn**	**06 31 52.4**	**+1.0**
	SNR=26						
AML	**Almayashu**	**7.41**	**176**	P	**Pn**	**06 31 53.0**	**+1.3**
	SNR=34						
KZA	**Kyzart**	**7.62**	**167**	P	**Pn**	**06 31 57.0**	**+2.4**
	SNR=23						
ULHL	**Ulahol**	**7.63**	**161**	P	**Pn**	**06 31 55.9**	**+1.3**
	SNR=48						
PDGK	**Podgornoye**	**7.67**	**141**	⇓Pn	**Pn**	**06 31 54.9**	**-0.2**
	comp=Z,42nm,0.7s						
PDGK				⇑Pg	**Pb**	**06 32 20.4**	**+3.9**
	comp=Z,64nm,0.7s						
PDGK				⇓Lg	Lg	06 34 03.0	
	comp=Z,417nm,0.6s						
PDGK	**Podgornoye**	**7.67**	**141**	P	**Pn**	**06 31 54.9**	**-0.2**
KDJ	**Kajisay**	**7.96**	**157**	P	**Pn**	**06 32 00.9**	**+1.7**
KDJ	**Kajisay**	**7.96**	**157**		**Pn**	**06 32 00.9**	**+1.7**
PRZ	**Przheval'sk**	**8.00**	**150**	P	**Pn**	**06 32 02.4**	**+2.7**
PRZ	**Przheval'sk**	**8.00**	**150**	Pn	**Pn**	**06 32 02.4**	**+2.7**
ZSN	**Zaisan**	**8.20**	**100**	*e*P	Pb	06 32 30.5	+5.2
	comp=Z,29nm,0.3s						
ZSN				*e*S	Sb	06 34 13.9	+11
	comp=Z,461nm,0.7s						
ABKAR	**Akbulak array**	**8.48**	**273**		**Pn**	**06 32 06.6**	**+0.6**
ABKAR	**Akbulak array**	**8.48**	**273**	Pn	**Pn**	**06 32 06.0**	**0.0**
AB08	**Akbulak array**	**8.49**	**273**	Pn	**Pn**	**06 32 05.8**	**-0.4**
TARG	**Taragay, Kyrgy**	**8.51**	**155**	Pn	**Pn**	**06 32 09.5**	**+2.7**
ZAA0	**Zalesovo Array**	**8.60**	**54**	Pn	**Pn**	**06 32 08.2**	**+0.6**
ZALV	**Zalesovo Beam**	**8.60**	**54**	Pn	**Pn**	**06 32 08.2**	**+0.5**
	comp=Z,3.5nm,0.3s,baz=242,slow=14,SNR=32						
ZALV				Sn	**Sn**	**06 33 39.8**	**-4.8**
	comp=Z,29nm,0.3s,baz=245,slow=24,SNR=9.5						
ZALV				Lg	Lg	06 34 37.3	
	comp=Z,12nm,0.3s,baz=245,slow=24,SNR=5.8						
ZALV				LR	LR	06 35 48.2	
	comp=Z,183nm,19.1s,baz=282,slow=40						
DGZ	**Jazzator, Alta**	**9.42**	**83**	⇑*e*P	**Pn**	**06 32 20.1**	**+1.1**
AKTO	**Aktyubinsk**	**9.66**	**281**	⇑Pn	**Pn**	**06 32 22.4**	**+0.3**
	comp=Z,55nm,0.5s						
AKTO	**Aktyubinsk**	**9.66**	**281**	P	**Pn**	**06 32 22.4**	**+0.3**
KSH	**Kashi**	**10.24**	**167**	*e*P	Pn	06 32 40.0	+10
KSH				S	Sn	06 34 39.1	+14
KSH				pmax	pmax		
	comp=Z,13nm,0.7s						
KSH				pmax	pmax		
	comp=Z,240nm,9.7s						
SVE	**Sverdlovsk**	**10.38**	**319**	*e*P	**Pn**	**06 32 35.7**	**+3.7**
SVE				*e*S	**Sn**	**06 34 20.9**	**-7.3**
SVE				pmax	pmax		
	comp=Z,31nm,0.5s						
GAR	**Garm**	**10.69**	**191**	Pn	**Pn**	**06 32 39.1**	**+2.7**
ARU	**Arti**	**11.07**	**314**	Pn	**Pn**	**06 32 40.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=99,slow=12,SNR=18						
ARU				Sn	**Sn**	**06 34 38.7**	**-6.4**
	comp=Z,0.0nm,0.3s,baz=141,slow=22,SNR=2.7						
ARU				Lg	Lg	06 35 48.1	
	comp=Z,0.0nm,0.3s,baz=325,slow=23,SNR=3.6						
ARU				LR	LR	06 37 17.2	
	comp=Z,170nm,19.1s,baz=112,slow=39						
ARU	**Arti**	**11.07**	**314**	P	**Pn**	**06 32 40.9**	**-0.6**
ARU				S	**Sn**	**06 34 45.8**	**+0.7**
ARU	**Arti**	**11.07**	**314**	Pn	**Pn**	**06 32 41.2**	**-0.3**
CHGR	**Chuyangaron**	**11.20**	**195**	Pn	**Pn**	**06 32 45.3**	**+1.9

comp=Z,18nm,0.9s,baz=104,slow=4.8,SNR=12
KBZ LR LR 06 44 45.4
comp=Z,52nm,19.2s,baz=124,slow=42
KBZ Khabaz 21.34 266 *de*P **P 06 34 50.6 +0.4**
KBZ pmax pmax
comp=Z,27nm,1.0s
KIV Kislovodsk 21.38 266 *e*P **P 06 34 52.5 +1.7**
KIV *e*S **S 06 38 50.1 +2.2**
KIV pmax pmax
comp=Z,6.0nm,2.9s
KIV pmax pmax
comp=Z,162nm,1.0s
KIV MLR MLR
comp=Z,36nm,14.0s
KIV Kislovodsk 21.38 266 P **P 06 34 51.5 +0.7**
KIV IAmb IAmb 06 35 00.6
comp=Z,48nm,0.9s
VORD Divnogorie 21.46 287 *e*P **P 06 34 50.5 -1.0**
VORD pmax pmax
comp=Z,30nm,0.6s
LPSR Galich'ya Gora 21.47 291 *e*P **P 06 34 50.5 -1.1**
LPSR pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 21.50 287 *e*P **P 06 34 50.5 -1.4**
VSR pmax pmax
comp=Z,10.0nm,0.4s
GTA Gaotai 21.58 108 *e*P **P 06 34 53.3 +0.3**
GTA pP sP 06 34 57.6 -0.2
GTA sP pP 06 35 00.6 +4.3
GTA pmax pmax
comp=Z,16nm,1.0s
GTA pmax pmax
comp=Z,42nm,6.2s
GTA LR LR
comp=Z,120nm,10.3s
GTA LR LR
comp=Z,140nm,14.4s
KLMR Klimovskoe 21.92 314 *e*P **P 06 34 54.4 -1.9**
KLMR pmax pmax
comp=Z,59nm,1.1s
KLMR Klimovskoe 21.92 314 *e*P **P 06 34 54.5 -1.9**
KLMR AMP 06 35 01.1
comp=Z,59nm,1.1s
SONM Songino Array 22.06 82 P **P 06 34 57.5 -0.6**
comp=Z,2.1nm,0.7s,baz=282,slow=11,SNR=7.9
SONM LR LR 06 43 46.1
comp=Z,171nm,18.5s,baz=283,slow=37
SONM Songino Array 22.06 82 P **P 06 34 57.2 -0.9**
SONM Songino Array 22.06 82 P **P 06 34 57.2 -0.9**
NAX Nakhchivan 22.07 252 P **P 06 34 58.1 -0.1**
AKH Akhalkalaki 22.07 260 P **P 06 34 59.4 +1.0**
AKH pmax pmax
comp=Z,28nm,0.6s
AKH Akhalkalaki 22.07 260 P **P 06 34 59.4 +1.0**
AKH IAmb IAmb 06 35 01.8
comp=Z,28nm,0.6s
MOS Moscow 22.13 300 *e*P **P 06 34 58.6 -0.1**
MOS *e* 06 35 21.4
MOS *e*S **S 06 39 03.1 +0.9**
MOS pmax pmax
comp=Z,47nm,0.7s
ULN Ulaanbaatar 22.47 81⇑ *e*P **P 06 35 01.1 -1.5**
ULN pmax pmax
comp=Z,11nm,2.5s
DANN Dangsing 22.71 155 *e*P **P 06 35 05.5 +0.1**
comp=Z,32nm,0.6s
OBN Obninsk 22.73 298 LR LR 06 44 13.6
comp=Z,36nm,19.3s,baz=166,slow=38
OBN Obninsk 22.73 298‖ *e*P **P 06 35 05.3 +0.3**
OBN *e*PPP PPP 06 35 36.7
OBN *e* 06 38 53.6
OBN pmax pmax
comp=Z,28nm,0.6s
OBN MLR MLR
comp=Z,149nm,15.0s
KOLN Koldanda 23.22 155 *e*P **P 06 35 10.9 +0.4**
comp=Z,30nm,0.5s
GKN Gorkha 23.29 153 *e*P **P 06 35 12.1 +0.9**
comp=Z,48nm,0.7s
TMCR Tamitsa 23.65 321 *e*P **P 06 35 12.6 -1.7**
TMCR *e*S **S 06 39 26.9 -1.6**
TMCR pmax pmax
comp=Z,25nm,0.6s
GUN Gumba 23.76 151 *e*P **P 06 35 16.7 +0.6**
comp=Z,112nm,1.0s
PKI Pulchoki 23.93 152 *e*P **P 06 35 17.4 -0.3**
comp=Z,66nm,1.2s
JIRN Jiri 24.09 150 *e*P **P 06 35 20.2 +0.9**
comp=Z,62nm,0.7s
ANN Anapa 24.45 272 *e*P P 06 35 07.7 -14
ANN *e**PP pP 06 35 12.4 -13
ANN pmax pmax
comp=Z,204nm,1.1s
RAMN Ramite 24.89 150 *e*P **P 06 35 27.0 +0.7**
comp=Z,27nm,0.7s
TAPN Taplejung 24.89 147 *e*P **P 06 35 27.6 +1.1**
comp=Z,24nm,0.6s
ODAN Odare 25.23 148 *e*P **P 06 35 30.8 +1.4**
comp=Z,25nm,0.5s
BOD Bodaibo 25.36 55 *e*P **P 06 35 27.2 -2.8**
BOD pmax pmax
comp=Z,8.0nm,0.8s
LZH Lanzhou 26.14 109 *e*P **P 06 35 39.3 +1.7**
LZH pP sP 06 35 44.3 +1.8
LZH sP pP 06 35 47.0 +5.9
LZH pmax pmax
comp=Z,16nm,0.9s
AKASG Malin Array Be 27.76 289 P **P 06 35 50.5 -1.2**
comp=Z,3.7nm,0.6s,baz=64,slow=8.9,SNR=8.4
AKASG LR LR 06 47 15.1
comp=Z,50nm,19.8s,baz=185,slow=37
AKASG Malin Array Be 27.76 289 P **P 06 35 51.4 -0.3**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 27.76 289 P **P 06 35 51.4 -0.3**
AKBB Malin Array Si 27.76 289 P **P 06 35 51.8 0.0**
AKBB pmax pmax
comp=Z,3.0nm,0.7s
AKBB Malin Array Si 27.76 289 P **P 06 35 51.8 0.0**
HHC Hu-ho-hao-te 28.31 93 *e*P **P 06 35 59.3 +2.3**
HHC pmax pmax
comp=Z,11nm,0.9s
HHC pmax pmax
comp=Z,37nm,4.8s
FIA1 FINESS Array S 28.44 313 P **P 06 35 58.0 +0.3**
FINES FINESS Array B 28.44 313 P **P 06 35 57.0 -0.7**
comp=Z,1.8nm,0.6s,baz=100,slow=9.3,SNR=21
FINES LR LR 06 46 21.7
comp=Z,48nm,18.3s,baz=161,slow=34
FINES FINESS Array B 28.44 313 P **P 06 35 57.5 -0.2**
FINES FINESS Array B 28.44 313 P **P 06 35 57.5 -0.2**
BR131 Keskin Array S 29.33 266 P **P 06 36 07.1 +1.0**
BR131 pmax pmax
comp=Z,6.0nm,0.9s
BR131 Keskin Array S 29.33 266 P **P 06 36 07.0 +1.0**
BRTR Keskin Array B 29.33 266 P **P 06 36 06.2 +0.1**
comp=Z,2.5nm,0.8s,baz=74,slow=8.3,SNR=5.5
BRTR Keskin Array B 29.33 266 P **P 06 36 06.8 +0.7**
BRTR Keskin Array B 29.33 266 P **P 06 36 06.8 +0.7**
KEV Kevo 29.67 330 P **P 06 36 08.6 0.0**
KEV pmax pmax
comp=Z,42nm,1.3s
KEV Kevo 29.67 330 P **P 06 36 08.6 0.0**
CD2 Chengdu 29.69 117 P **P 06 36 10.1 +0.9**
CD2 pmax pmax
comp=Z,30nm,0.5s
ARCES ARCESS Array B 30.11 329 P **P 06 36 12.7 +0.2**
comp=Z,3.5nm,0.6s,baz=95,slow=8.5,SNR=13
XAN Xi'an 30.63 107 P **P 06 36 18.4 +0.9**
XAN pmax pmax
comp=Z,11nm,0.7s
XAN pmax pmax
comp=Z,120nm,5.5s
VRI Vrincioaia 30.93 281⇑ P **P 06 36 17.2 -2.9**
VRI Vrincioaia 30.93 281⇑ P **P 06 36 17.2 -2.9**
BURAR Bucovina Array 31.22 285⇑ P **P 06 36 23.0 +0.3**
BURAR Bucovina Array 31.22 285⇑ P **P 06 36 23.0 +0.3**
BURAR Bucovina Array 31.22 285 P **P 06 36 23.2 +0.6**
NEHR Nehoiu 31.39 281⇑ P **P 06 36 26.6 +2.5**
MLR Muntele Rosu 31.59 281⇑ P **P 06 36 27.2 +1.2**
MLR Muntele Rosu 31.59 281⇑ P **P 06 36 27.2 +1.2**
DOPR Dopca 31.75 282⇑ P **P 06 36 28.6 +1.4**
CSS Mathiatis 32.32 258 P **P 06 36 33.1 +0.8**
CSS IAmb IAmb 06 36 49.3
comp=Z,19nm,1.0s

ARR Arges 32.48 281⇑ P **P 06 36 35.1 +1.4**
YAK Yakutsk 33.13 46 *e*P **P 06 36 39.4 +0.3**
YAK pmax pmax
comp=Z,8.0nm,0.6s
TIXI Tiksi 33.38 28 P **P 06 36 41.1 0.0**
comp=Z,7.7nm,0.6s,baz=279,slow=6.6,SNR=20
TIXI Tiksi 33.38 28‖ *e*P **P 06 36 41.1 0.0**
TIXI pmax pmax
comp=Z,6.0nm,0.6s
TIXI Tiksi 33.38 28 P **P 06 36 40.5 -0.6**
TIXI pP **sP 06 36 45.2 -0.9**
TIXI IAmb IAmb 06 36 46.4
comp=Z,7.4nm,0.6s
ENH Enshi 33.56 111 P **P 06 36 43.8 +0.6**
ENH IAmb IAmb 06 36 45.2
comp=Z,11nm,0.8s
KMI Kunming 33.61 126 P **P 06 36 45.0 +1.1**
KMI pmax pmax
comp=Z,17nm,0.5s
OJC Ojcow 33.65 292 *e*P **P 06 36 44.4 +0.7**
OJC Ojcow 33.65 292 P **P 06 36 43.4 -0.4**
OJC *PP **sP 06 36 48.6 -0.1**
OJC Ojcow 33.65 292 P **P 06 36 43.4 -0.4**
OJC pP **sP 06 36 48.6 -0.1**
OJC IAmb IAmb 06 36 49.9
comp=Z,11nm,0.7s
RAYN Ar Rayn 33.70 230 P **P 06 36 45.5 +1.0**
RAYN Ar Rayn 33.70 230 P **P 06 36 45.5 +1.0**
LANS Liptovska Anna 34.23 290 *e*P **P 06 36 50.8 +2.0**
LANS Liptovska Anna 34.23 290 *e*P **P 06 36 50.8 +2.0**
MDVR Moldovita 34.60 282⇑ P **P 06 36 53.3 +1.2**
GYA Guiyang 34.72 119 P **P 06 36 54.6 +1.2**
GYA pP sP 06 37 01.1 +2.8
GYA pmax pmax
comp=Z,11nm,0.6s
VYHS Vyhne 34.86 289 *e*P **P 06 36 55.3 +1.0**
VYHS Vyhne 34.86 289 *e*P **P 06 36 55.2 +1.0**
SPA0 Spitsbergen Ar 35.29 343 P **P 06 36 58.2 +0.5**
SPITS Spitsbergen Ar 35.29 343 P **P 06 36 57.4 -0.3**
comp=Z,7.6nm,0.8s,baz=119,slow=12,SNR=2.0
NC405 NORSAR Array S 35.37 313 P **P 06 36 58.9 +0.3**
NC405 pP **sP 06 37 03.5 0.0**
JAVC Velka Javorina 35.43 291 *e*P **P 06 37 01.1 +1.8**
NC303 NORSAR Array S 35.52 313 P **P 06 37 00.1 +0.3**
NC602 NORSAR Array S 35.52 312 P **P 06 36 59.8 +0.1**
NC602 pP **sP 06 37 04.3 -0.5**
NB201 NORSAR Array S 35.58 313 P **P 06 37 00.6 +0.2**
NB2 NORSAR Subarra 35.62 313 P **P 06 37 00.5 -0.2**
comp=Z,8.6nm,0.4s,baz=81,slow=9.3
NOA NORSAR Array B 35.62 313 P **P 06 37 00.6 -0.1**
comp=Z,6.0nm,0.6s,baz=81,slow=9.1,SNR=36
NOA LR LR 06 51 35.9
comp=Z,30nm,19.5s,baz=80,slow=36
OSTC Ostas 35.68 294 AMS AMS 06 52 00.0
comp=Z,300nm,12.2s
DPC Dobruska-Polom 35.69 294 *e*pP **pP 06 37 07.2 +2.2**
DPC AMS AMS 06 51 50.0
comp=Z,300nm,13.9s
DPC Dobruska-Polom 35.69 294 *e*P P 06 37 07.2 +5.7
DPC MLR MLR
comp=Z,300nm,13.9s
CHVC Chvalec 35.77 294 AMS AMS 06 51 50.0
comp=Z,300nm,13.4s
NC204 NORSAR Array S 35.80 313 P **P 06 37 01.9 -0.3**
NAO01 NORSAR Array S 35.81 312 P **P 06 37 02.1 -0.3**
UPC Upice 35.82 294 AMS AMS 06 52 00.0
comp=Z,300nm,14.4s
NBO00 NORSAR Array S 35.83 313 P **P 06 37 02.6 0.0**
NBO00 IAmb IAmb 06 37 08.6
comp=Z,19nm,0.8s
DIVS Divibare 36.01 282 P **P 06 37 05.0 +0.7**
KRUC Moravsky 36.13 291 *e*P **P 06 37 06.1 +0.9**
WHN Wuhan 36.37 106⇑ P **P 06 37 08.5 +1.1**
WHN pmax pmax
comp=Z,54nm,0.5s
TREC Trest 36.59 292 AMS AMS 06 52 30.0
comp=Z,200nm,12.5s
PVCC Panska Ves 36.67 295 AMS AMS 06 52 30.0
comp=Z,300nm,8.4s
KONO Kongsberg 36.68 311 P **P 06 37 10.3 +0.5**
KONO pmax pmax
comp=Z,33nm,1.4s
KONO Kongsberg 36.68 311 P **P 06 37 10.3 +0.5**
KONO IAmb IAmb 06 37 18.5
comp=Z,33nm,1.4s
GOPC GO Pecny, Ondr 36.77 293 *e*P **P 06 37 13.9 +3.2**
GOPC AMS AMS 06 52 30.0
comp=Z,200nm,12.6s
GOPC GO Pecny, Ondr 36.77 293 *e*P **P 06 37 13.9 +3.2**
GOPC MLR MLR
comp=Z,200nm,12.6s
PRU Pruhonice 36.89 294 *e*P **P 06 37 12.5 +0.9**
PRU AMS AMS 06 52 30.0
comp=Z,300nm,12.0s
PRU Pruhonice 36.89 294 *e*P **P 06 37 12.5 +0.9**
PRU MLR MLR
comp=Z,300nm,12.0s
CONA Conrad Observa 36.91 290 *e*P **P 06 37 13.5 +1.6**
comp=Z,3.2nm,0.8s
BRG Berggiesshubel 36.91 295 *e*P **P 06 37 11.9 +0.1**
comp=Z,6.3nm,1.3s
BRG Berggiesshubel 36.91 295 *e*P **P 06 37 11.9 +0.1**
BRG pmax pmax
comp=Z,6.0nm,1.3s
PRA Prague 36.92 294 AMS AMS 06 52 40.0
comp=Z,100nm,13.5s
CHTO Chiang Mai 37.07 136 P **P 06 37 14.4 +0.9**
CHTO pmax pmax
comp=Z,8.0nm,0.8s
CHTO Chiang Mai 37.07 136 P **P 06 37 14.4 +0.9**
CLL Collm 37.30 296 *e*P **P 06 37 15.0 -0.1**
comp=Z,6.0nm,0.9s
CLL *e*pP **sP 06 37 20.0 -0.1**
CLL *e*PP **PP 06 38 40.0 0.0**
CLL *e*PPP PPP 06 38 57.0
CLL *e*PcS **PcS 06 43 22.0 -0.3**
CLL LmH 08 34 00.0
comp=N,200nm,19.6s
CLL LmH 08 34 00.0
comp=E,300nm,19.0s
CLL Collm 37.30 296 *e*P **P 06 37 15.0 -0.1**
CLL *e**PP **sP 06 37 20.0 -0.1**
CLL pmax pmax
comp=Z,6.0nm,0.9s
CLL Collm 37.30 296 *e*P **P 06 37 15.6 +0.5**
comp=Z,6.2nm,0.9s,baz=65,slow=8.3
CMAR Chiang Mai Arr 37.38 137 P **P 06 37 16.9 +0.8**
comp=Z,6.9nm,0.6s,baz=317,slow=8.8,SNR=33
CMAR Chiang Mai Arr 37.38 137 *i* P **P 06 37 17.2 +1.1**
CMAR pmax pmax
comp=Z,7.0nm,0.6s
CMAR Chiang Mai Arr 37.38 137 P **P 06 37 16.8 +0.6**
ARSA Arzberg 37.40 289 *i* pP **P 06 37 17.8 +1.7**
comp=Z,2.4nm,0.7s
KLR Kul'dur 37.44 67 LR LR 06 53 18.5
comp=Z,43nm,18.7s,baz=280,slow=37
KLR Kul'dur 37.44 67⇑ *e*P **P 06 37 16.3 0.0**
KLR pmax pmax
comp=Z,1.0nm,0.7s
KHC Kasperske Hory 37.80 293 *e*P **P 06 37 20.3 +0.8**
KHC *e*pP **sP 06 37 24.9 +0.5**
KHC AMS AMS 06 53 00.0
comp=Z,200nm,13.2s
KHC Kasperske Hory 37.80 293 *e*P **P 06 37 20.3 +0.8**
KHC *e* 06 37 24.9
KHC MLR MLR
comp=Z,200nm,13.2s
KHC Kasperske Hory 37.80 293 P **P 06 37 20.5 +1.0**
GERES GERESS Array B 37.84 292 P **P 06 37 20.5 +0.6**
comp=Z,1.1nm,0.6s,baz=73,slow=6.3,SNR=8.3
GERES PP **PnPn 06 38 48.9 +1.7**
comp=Z,0.4nm,0.4s,baz=45,slow=14,SNR=4.0
GERES LR LR 06 53 49.1
comp=Z,45nm,21.5s,baz=84,slow=38
GERES GERESS Array B 37.84 292 P **P 06 37 20.3 +0.4**
MOA Molln 37.92 291 *i* P **P 06 37 21.6 +1.2**
comp=Z,4.0nm,0.8s
SOKA Soboth 37.95 288 *e*P **P 06 37 21.2 +0.3**
comp=Z,3.9nm,1.0s
TANN Tannenbergstha 37.96 295 *e*P **P 06 37 22.0 +1.2**
comp=Z,9.3nm,0.8s,baz=65,slow=8.3
NKC Novy Kostel 38.04 295 AMS AMS 06 53 20.0
comp=Z,400nm,11.3s
GUNZ Gunzen 38.06 295 *e*P **P 06 37 22.4 +0.8**
comp=Z,11nm,0.8s,baz=65,slow=8.3

NEUB Neuenburg 38.06 297 *e*P **P 06 37 22.0 +0.5**
comp=Z,12nm,0.8s,baz=65,slow=8.3
WERN Wernitzgruen 38.06 295 *e*P **P 06 37 22.4 +0.8**
comp=Z,5.6nm,0.7s,baz=65,slow=8.3
WET Wettzell 38.22 293 *e*P **P 06 37 23.7 +0.7**
comp=Z,5.4nm,0.8s,baz=65,slow=8.3
NJ2 Nanjing 38.23 100 *e*P **P 06 37 23.0 -0.2**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
OBKA Obir 38.33 288 *e*P **P 06 37 24.8 +0.8**
comp=Z,5.4nm,0.7s
MOX Moxa 38.37 296 P **P 06 37 25.3 +1.1**
MOX pmax pmax
comp=Z,12nm,0.9s
MOX Moxa 38.37 296 *e*P **P 06 37 24.7 +0.6**
comp=Z,8.7nm,0.8s,baz=65,slow=8.3
ITM Ithomi 38.38 271 P **P 06 37 23.4 -1.0**
ITM IAmb IAmb 06 37 42.7
comp=Z,26nm,1.3s
KBA Koelnbreinsper 38.82 290 *e*P **P 06 37 29.5 +1.4**
comp=Z,4.1nm,0.6s
MYKA Terra Mystica 38.83 289 P **P 06 37 28.5 +0.3**
comp=Z,3.0nm,1.0s
GRF Grafenberg Arr 38.98 295 *e*P **P 06 37 30.5 +1.2**
comp=Z,5.4nm,0.5s,baz=65,slow=8.3
CIMO Cimolais 39.72 289 P **P 06 37 35.4 -0.1**
WTTA Wattenberg 39.78 291 *i* P **P 06 37 37.5 +1.3**
comp=Z,20nm,0.5s,SNR=22
WATA Walderalm 39.78 291 *e*P **P 06 37 36.7 +0.5**
comp=Z,6.4nm,0.5s,SNR=5.2
USA0B Ussuriysk Arra 39.83 74 P **P 06 37 36.5 +0.1**
USA0B pmax pmax
comp=Z,6.0nm,0.7s
USA0B Ussuriysk Arra 39.83 74 P **P 06 37 36.5 +0.1**
USRK Ussuriysk Ar. 39.83 74 P **P 06 37 36.8 +0.4**
comp=Z,3.8nm,0.6s,baz=302,slow=6.7,SNR=7.7
USRK Ussuriysk Ar. 39.83 74 P **P 06 37 36.3 -0.1**
PBKT Sadao Pong 39.95 135 P **P 06 37 39.1 +1.5**
SQTA Sanct Quirin 40.06 291 *i* P **P 06 37 39.5 +1.1**
comp=Z,16nm,0.6s
MOTA Moosalm 40.06 291 *i* P **P 06 37 39.4 +0.9**
comp=Z,4.8nm,0.7s
RETA Reutte 40.21 292 *i* P **P 06 37 40.8 +1.2**
comp=Z,6.4nm,0.8s
SOCY Socotra 40.38 209 P **P 06 37 39.9 -1.5**
TNS Taunus Mts 40.39 297 *e*P **P 06 37 41.7 +0.6**
comp=Z,6.0nm,0.7s,baz=65,slow=8.3
FETA Feichten 40.44 291 *e*P **P 06 37 42.5 +0.8**
comp=Z,10nm,1.0s
UBR Ueberruh 40.51 292 *e*P **P 06 37 43.1 +0.9**
comp=Z,11nm,0.9s,baz=65,slow=8.3
TIP Timpagrande 40.61 277 P **P 06 37 43.7 +0.7**
KSRS Korea Array 40.81 86 P **P 06 37 45.4 +0.7**
comp=Z,1.5nm,0.6s,baz=302,slow=6.7,SNR=7.2
KSRS LR LR 06 55 47.5
comp=Z,100nm,18.1s,baz=310,slow=38
DAVA Damuels 40.83 292 *e*P **P 06 37 46.1 +1.2**
comp=Z,5.5nm,0.5s,SNR=6.0
FUORN Ofenpass-Fuorn 40.91 291 P **P 06 37 45.6 -0.1**
FUORN IAmb IAmb 06 37 47.3
comp=Z,15nm,0.8s
DAVOX Davos/Dischmat 41.07 291 P **P 06 37 47.9 +1.0**
comp=Z,12nm,0.5s,baz=97,slow=3.2,SNR=31
BFO Black Forest 41.29 294 P **P 06 37 48.2 -0.3**
BFO pmax pmax
comp=Z,7.0nm,0.7s
BFO Black Forest 41.29 294 P **P 06 37 48.1 -0.3**
BFO Black Forest 41.29 294 *e*P **P 06 37 48.8 +0.3**
comp=Z,6.8nm,0.7s,baz=65,slow=8.3
TUE Stuetta 41.53 291 P **P 06 37 51.4 +0.6**
TUE IAmb IAmb 06 37 51.8
comp=Z,12nm,0.5s
MEM Membach 41.64 298 P **P 06 37 50.5 -0.8**
MEM sP **sP 06 37 57.8 +1.5**
VLC Villacollemand 42.03 287 P **P 06 37 53.8 -0.8**
VLC IAmb IAmb 06 37 57.1
comp=Z,14nm,0.8s
ECH Echery 42.03 294 P **P 06 37 53.8 -0.8**
ECH pmax pmax
comp=Z,5.0nm,0.9s
ECH Echery 42.03 294 P **P 06 37 53.8 -0.8**
CASP Castiglione de 42.43 285 P **P 06 37 57.9 0.0**
CASP IAmb IAmb 06 38 01.5
comp=Z,26nm,1.3s
BMRD Maredsous 42.49 298 P **P 06 37 58.6 +0.4**
BMRD sP **sP 06 38 04.1 +0.9**
DOU Dourbes 42.68 298 P **P 06 38 00.3 +0.5**
DOU sP **sP 06 38 05.5 +0.8**
SENIN Lac Senin/Sane 42.83 292 P **P 06 38 01.1 -0.2**
LPL La Plagne 43.59 291 *e*P **P 06 38 07.7 +0.2**
LPL pmax pmax
comp=Z,23nm,0.4s
BNI Bardonecchia 43.86 291 P **P 06 38 10.1 +0.5**
BNI pmax pmax
comp=Z,15nm,0.6s
BNI Bardonecchia 43.86 291 P **P 06 38 10.1 +0.5**
BNI IAmb IAmb 06 38 10.8
comp=Z,15nm,0.6s
ESK Eskdalemuir 44.63 308 P **P 06 38 15.1 -0.3**
ESK pmax pmax
comp=Z,34nm,1.3s
ESK Eskdalemuir 44.63 308 P **P 06 38 15.1 -0.3**
CLF Chambon-Foret 45.01 296 P **P 06 38 18.8 +0.3**
CLF IAmb IAmb 06 38 24.4
comp=Z,13nm,0.6s
SSB Saint Sauveur 45.04 292 P **P 06 38 19.3 +0.4**
SSB pmax pmax
comp=Z,12nm,0.8s
SSB Saint Sauveur 45.04 292 P **P 06 38 19.3 +0.4**
SSB IAmb IAmb 06 38 19.9
comp=Z,12nm,0.8s
YSS Yuzh-Sakhalins 45.04 65 *e*P **P 06 38 19.3 +0.5**
YSS *e* 06 38 22.2
YSS pmax pmax
comp=Z,10.0nm,0.7s
YSS MLR MLR
comp=Z,100nm,14.0s
JNU Nakatsue 45.35 89 LR LR 06 58 43.4
comp=Z,54nm,19.4s,baz=262,slow=38
BILL Bilibino 46.48 31⇑ *e*P **P 06 38 29.1 -0.8**
BILL *e* 06 38 34.9
BILL *e* 06 40 14.3
BILL pmax pmax
comp=Z,13nm,2.5s
BILL MLR MLR
comp=Z,52nm,19.0s
BILL Bilibino 46.48 31 P **P 06 38 30.6 +0.7**
BILL IAmb IAmb 06 38 37.8
comp=Z,4.9nm,0.7s
LFF La Frestale 47.51 293 *e*P **P 06 38 38.9 +0.7**
LFF pmax pmax
comp=Z,12nm,0.6s
SUMG Summit 49.33 338 P **P 06 38 52.9 +0.5**
SUMG pmax pmax
comp=Z,7.0nm,1.1s
SUMG Summit 49.33 338 P **P 06 38 52.9 +0.5**
SUMG IAmb IAmb 06 39 00.0
comp=Z,7.4nm,1.1s
PETK Petropavlovsk- 50.13 51 P **P 06 38 57.8 -0.5**
comp=Z,0.7nm,0.6s,baz=96,slow=1.5,SNR=4.6
PETK LR LR 07 01 03.2
comp=Z,32nm,20.4s,baz=235,slow=37
PETK Petropavlovsk- 50.13 51 P **P 06 38 57.6 -0.7**
PET Petropavlovsk 50.66 51 P **P 06 39 01.6 -0.6**
JHJ Hachijo jima 2 51.13 82 LR LR 07 02 05.9
comp=Z,32nm,18.3s,baz=334,slow=38
CART Cartagena 52.84 287 P **P 06 39 19.3 +0.5**
CART IAmb IAmb 06 39 24.7
comp=Z,12nm,0.6s
ESDC Sonseca Array 53.39 291 P **P 06 39 22.7 -0.1**
comp=Z,3.6nm,0.7s,baz=46,slow=7.8,SNR=9.7
ESDC Sonseca Array 53.39 291 P **P 06 39 21.8 -1.0**
ESDC pP **sP 06 39 27.6 -0.4**
PAB San Pablo 53.70 291 P **P 06 39 25.1 -0.1**
PAB pmax pmax
comp=Z,6.0nm,1.0s
PAB San Pablo 53.70 291 P **P 06 39 25.1 -0.1**
ANM Nome 57.57 26 P **P 06 39 53.6 +1.1**
ANM pmax pmax
comp=Z,28nm,1.3s
ANM Nome 57.57 26 P **P 06 39 53.6 +1.1**
TOLK Toolik Lake Re 58.01 17 P **P 06 39 55.5 0.0**
TOLK IAmb IAmb 06 39 57.1
comp=Z,7.9nm,0.7s
TOLK pP **sP 06 40 01.0 +0.3**

BMAR	**Burnt Mountain**	**59.99**	**16**	P	**P**	**06 40 10.3**	**+1.0**
FYU	**Fort Yukon**	**60.64**	**16**	P	**P**	**06 40 15.2**	**+1.6**
FYU				IAmb	IAmb	06 40 20.5	
	comp=Z,8.1nm,0.7s						
INK	**Inuvik**	**60.84**	**11**	P	**P**	**06 40 15.3**	**+0.3**
	comp=Z,6.8nm,0.5s,baz=5.0,slow=5.9,SNR=13						
INK	**Inuvik**	**60.84**	**11**	P	**P**	**06 40 14.7**	**-0.3**
INK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
INK	**Inuvik**	**60.84**	**11**	P	**P**	**06 40 14.7**	**-0.3**
INK				IAmb	IAmb	06 40 16.3	
	comp=Z,8.8nm,0.9s						
BPAW	**Bear Paw Mtn.**	**61.62**	**20**	P	**P**	**06 40 20.1**	**-0.3**
BPAW				IAmb	IAmb	06 40 21.2	
	comp=Z,4.1nm,0.8s						
CCB	**Clear Creek Bu**	**61.83**	**19**	P	**P**	**06 40 21.6**	**-0.2**
CCB				IAmb	IAmb	06 40 22.7	
	comp=Z,8.3nm,0.8s						
IL31		**61.91**	**18**	P	**P**	**06 40 22.2**	**0.0**
IL31				pP	**sP**	**06 40 27.1**	**-0.3**
ILAR	**Eielson Array**	**61.91**	**18**	P	**P**	**06 40 22.3**	**-0.1**
	comp=Z,8.0nm,0.6s,baz=329,slow=5.4,SNR=89						
ILAR	**Eielson Array**	**61.91**	**18**	P	**P**	**06 40 22.1**	**-0.3**
ILAR				*PP	**sP**	**06 40 27.3**	**-0.2**
ILAR	**Eielson Array**	**61.91**	**18**	P	**P**	**06 40 22.1**	**-0.3**
ILAR				pP	**sP**	**06 40 27.3**	**-0.2**
WRH	**Wood River Hil**	**61.93**	**19**	P	**P**	**06 40 21.4**	**-1.1**
WRH				IAmb	IAmb	06 40 23.2	
	comp=Z,3.6nm,0.7s						
HDA	**Harding Lake**	**62.22**	**18**	P	**P**	**06 40 23.8**	**-0.7**
HDA				IAmb	IAmb	06 40 25.0	
	comp=Z,5.6nm,0.6s						
TRF	**Thorofare Moun**	**62.34**	**20**	P	**P**	**06 40 25.8**	**+0.3**
TRF				IAmb	IAmb	06 40 26.7	
	comp=Z,7.8nm,1.2s						
PPLA	**Purkeypile**	**62.38**	**21**	P	**P**	**06 40 25.9**	**+0.2**
PPLA				IAmb	IAmb	06 40 26.6	
	comp=Z,6.0nm,0.7s						
RND	**Reindeer**	**62.70**	**20**	P	**P**	**06 40 27.0**	**-0.8**
RND				pmax	pmax		
	comp=Z,4.0nm,0.5s						
RND	**Reindeer**	**62.70**	**20**	P	**P**	**06 40 26.9**	**-0.8**
RND				IAmb	IAmb	06 40 27.5	
	comp=Z,3.6nm,0.5s						
ADK	**Adak**	**62.96**	**41**	P	**P**	**06 40 30.0**	**+0.5**
ADK				pmax	pmax		
	comp=Z,45nm,1.5s						
ADK	**Adak**	**62.96**	**41**	P	**P**	**06 40 30.0**	**+0.5**
EGAK	**Eagle**	**62.99**	**16**	P	**P**	**06 40 29.6**	**+0.1**
EGAK				IAmb	IAmb	06 40 30.7	
	comp=Z,5.0nm,1.0s						
RIDG	**Independent Ri**	**63.24**	**18**	P	**P**	**06 40 30.9**	**-0.5**
DHY	**Denali Highway**	**63.31**	**19**	P	**P**	**06 40 31.6**	**-0.3**
DHY				IAmb	IAmb	06 40 32.0	
	comp=Z,6.3nm,0.8s						
DOT	**Dot Lake**	**63.48**	**17**	P	**P**	**06 40 32.7**	**-0.2**
DOT				IAmb	IAmb	06 40 33.6	
	comp=Z,5.7nm,1.1s						
PAX	**Paxson**	**63.81**	**18**	P	**P**	**06 40 33.9**	**-1.2**
PAX				IAmb	IAmb	06 40 35.6	
	comp=Z,8.4nm,0.6s						
PAX				pP	**sP**	**06 40 39.8**	**-0.4**
DAWY	**Dawson**	**63.95**	**15**	P	**P**	**06 40 35.7**	**-0.3**
DAWY				IAmb	IAmb	06 40 37.0	
	comp=Z,8.1nm,1.2s						
BCAR	**Beaver Creek A**	**64.44**	**17**	P	**P**	**06 40 40.0**	**+0.8**
KNK	**Knik Glacier**	**64.54**	**21**	P	**P**	**06 40 40.4**	**+0.5**
CNPM	**China Poot**	**65.52**	**23**	P	**P**	**06 40 47.6**	**+1.4**
FID	**Port Fidalgo**	**65.58**	**20**	P	**P**	**06 40 47.2**	**+0.6**
VRDI	**Verde Repeater**	**65.79**	**18**	P	**P**	**06 40 48.5**	**+0.3**
VRDI				IAmb	IAmb	06 40 49.9	
	comp=Z,3.5nm,0.7s						
KDAK	**Kodiak Island**	**66.68**	**25**	P	**P**	**06 40 53.3**	**-0.3**
KDAK				pmax	pmax		
	comp=Z,12nm,0.8s						
KDAK	**Kodiak Island**	**66.68**	**25**	P	**P**	**06 40 53.3**	**-0.3**
OHAK	**Old Harbor**	**66.97**	**25**	P	**P**	**06 40 55.7**	**+0.2**
CNBA	**Chernabura Isl**	**67.10**	**30**	P	**P**	**06 40 55.9**	**-0.4**
HYT	**Haines Junctio**	**67.30**	**16**	P	**P**	**06 40 58.3**	**+0.6**
HYT				IAmb	IAmb	06 40 59.4	
	comp=Z,4.3nm,0.9s						
PCA	**Pinnacle**	**67.47**	**17**	P	**P**	**06 40 59.4**	**+0.7**
WHY	**Whitehorse**	**67.90**	**14**	P	**P**	**06 41 01.1**	**-0.3**
WHY				IAmb	IAmb	06 41 01.4	
	comp=Z,10nm,1.4s						
TOA0	**Torodi Ar. Sit**	**67.94**	**264**	P	**P**	**06 41 02.0**	**-0.3**
TOA0				IAmb	IAmb	06 41 02.6	
	comp=Z,4.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**67.94**	**264**	P	**P**	**06 41 01.5**	**-0.8**
	comp=Z,3.4nm,0.6s,baz=41,slow=5.5,SNR=20						
TORD	**Torodi Ar. Bea**	**67.94**	**264**	P	**P**	**06 41 01.8**	**-0.5**
YKA	**Yellowknife Ar**	**68.17**	**4**	P	**P**	**06 41 02.6**	**-0.4**
	comp=Z,3.9nm,0.5s,baz=357,slow=6.4,SNR=22						
SKAG	**Skagway**	**68.96**	**15**	P	**P**	**06 41 09.6**	**+1.6**
SKAG				IAmb	IAmb	06 41 14.7	
	comp=Z,6.2nm,0.7s						
WRAK	**Wrangell Islan**	**72.35**	**14**	P	**P**	**06 41 30.1**	**+1.4**
WRAK				IAmb	IAmb	06 41 38.8	
	comp=Z,10.0nm,1.1s						
LLLB	**Lillooet**	**79.44**	**10**	P	**P**	**06 42 10.4**	**+1.0**
KNRA	**Kununurra**	**81.44**	**126**	P	**P**	**06 42 20.4**	**+0.1**
WALA	**Waterton Lakes**	**81.62**	**5**	P	**P**	**06 42 20.9**	**-0.3**
WALA				IAmb	IAmb	06 42 21.6	
	comp=Z,7.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**81.88**	**130**	P	**P**	**06 42 22.3**	**-0.3**
B08A	**Colville Reser**	**81.93**	**8**	P	**P**	**06 42 22.7**	**0.0**
B08A				pP	**PcP**	**06 42 28.3**	**0.0**
B08A				IAmb	IAmb	06 42 28.6	
	comp=Z,4.6nm,0.8s						
C09A	**Chrisman Ranch**	**82.57**	**8**	P	**P**	**06 42 26.6**	**+0.5**
C09A				IAmb	IAmb	06 42 32.1	
	comp=Z,8.3nm,0.7s						
D05A	**Enumclaw**	**82.81**	**10**	P	**P**	**06 42 28.4**	**+1.1**
D05A				IAmb	IAmb	06 42 37.1	
	comp=Z,14nm,1.2s						
EGMT	**Eagleton**	**82.81**	**2**	P	**P**	**06 42 26.9**	**-0.5**
EGMT				IAmb	IAmb	06 42 28.0	
	comp=Z,9.9nm,1.3s						
G40A	**Rib Lake**	**84.45**	**348**	P	**P**	**06 42 36.2**	**+0.4**
F33A	**5 Mile Ranch,**	**84.56**	**352**	P	**P**	**06 42 36.5**	**+0.2**
F33A				IAmb	IAmb	06 42 37.0	
	comp=Z,6.2nm,0.8s						
GCMT	**Greycliff**	**85.04**	**2**	P	**P**	**06 42 39.7**	**+0.8**
BOZ	**Bozeman (W)**	**85.18**	**3**	P	**P**	**06 42 40.0**	**+0.3**
BOZ				pP	**sP**	**06 42 45.1**	**+0.3**
YNE	**Yellowstone No**	**85.82**	**2**	P	**P**	**06 42 44.2**	**+1.3**
MCMT	**McKenzie Canyo**	**85.90**	**4**	P	**P**	**06 42 44.1**	**+0.8**
ECSD	**EROS Data Cent**	**86.67**	**352**	P	**P**	**06 42 47.2**	**+0.4**
ECSD				IAmb	IAmb	06 42 47.8	
	comp=Z,8.5nm,0.9s						
RSSD	**Black Hills**	**86.70**	**358**	P	**P**	**06 42 48.1**	**+0.8**
RSSD	**Black Hills**	**86.70**	**358**	P	**P**	**06 42 48.1**	**+0.8**
RSSD				pP	**sP**	**06 42 53.1**	**+0.7**
JFWS	**Jewell Farm**	**86.77**	**348**	P	**P**	**06 42 47.2**	**-0.1**
JFWS				pmax	pmax		
	comp=Z,9.0nm,0.8s						
JFWS	**Jewell Farm**	**86.77**	**348**	P	**P**	**06 42 47.2**	**-0.1**
MFID	**Camas Ranch**	**87.13**	**6**	P	**P**	**06 42 49.5**	**+0.3**
MFID				pP	**sP**	**06 42 55.0**	**+0.6**
FXWY	**Fox Creek**	**87.16**	**3**	P	**P**	**06 42 50.4**	**+0.9**
WVOR	**Wild Horse Val**	**87.86**	**9**	P	**P**	**06 42 52.8**	**0.0**
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
WVOR	**Wild Horse Val**	**87.86**	**9**	P	**P**	**06 42 52.8**	**0.0**
WVOR				IAmb	IAmb	06 42 59.5	
	comp=Z,7.1nm,1.3s						
WRAB	**Tennant Creek**	**87.92**	**124**⇑	*eP*	**P**	**06 42 52.5**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,16nm,2.0s						
WRA	**Warramunga Arr**	**87.92**	**124**	P	**P**	**06 42 52.4**	**-0.7**
	comp=Z,3.6nm,0.6s,baz=336,slow=4.8,SNR=18						
WRA	**Warramunga Arr**	**87.92**	**124**	P	**P**	**06 42 51.9**	**-1.1**
BW06	**Boulder Array**	**88.07**	**2**	P	**P**	**06 42 54.1**	**+0.3**
PD31	**Pinedale Array**	**88.07**	**2**	P	**P**	**06 42 54.0**	**+0.1**
PDAR	**Pinedale Array**	**88.07**	**2**	P	**P**	**06 42 53.9**	**0.0**
	comp=Z,2.4nm,0.8s,baz=45,slow=3.0,SNR=21						
PDAR				LR	LR	07 29 14.4	
	comp=Z,19nm,18.1s,baz=124,slow=40						
K22A	**Casper**	**88.21**	**360**	P	**P**	**06 42 54.2**	**-0.2**
K22A				IAmb	IAmb	06 42 54.9	
	comp=Z,4.3nm,0.7s						
K22A				pP	**sP**	**06 42 59.2**	**-0.4**
HWUT	**Hardware Ranch**	**89.16**	**3**	P	**P**	**06 43 00.2**	**+1.2**
SPUT	**South Promonto**	**89.42**	**4**	P	**P**	**06 43 01.6**	**+1.3**
P46A	**Rosedale**	**89.52**	**345**	P	**P**	**06 43 00.6**	**+0.1**
TCUT	**Toone Canyon**	**89.66**	**3**	P	**P**	**06 43 02.7**	**+1.3**
ELK	**Elko**	**89.82**	**6**	P	**P**	**06 43 03.3**	**+1.1**
ELK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ELK	**Elko**	**89.82**	**6**	P	**P**	**06 43 03.3**	**+1.1**
ELK				IAmb	IAmb	06 43 04.2	
	comp=Z,3.1nm,0.7s						
JLU	**Jordanelle**	**90.17**	**3**	P	**P**	**06 43 05.5**	**+1.6**
RDMU	**Red Mountain**	**90.26**	**2**	P	**P**	**06 43 05.4**	**+1.2**
DUG	**Dugway, Tooele**	**90.52**	**4**	P	**P**	**06 43 06.7**	**+1.4**
DUG				pmax	pmax		
	comp=Z,7.0nm,1.0s						
DUG	**Dugway, Tooele**	**90.52**	**4**	P	**P**	**06 43 06.7**	**+1.4**
DUG				IAmb	IAmb	06 43 07.5	
	comp=Z,7.1nm,1.0s						
ASAR	**Alice Springs**	**90.73**	**127**	P	**P**	**06 43 05.8**	**-0.4**
	comp=Z,3.5nm,0.8s,baz=324,slow=4.7,SNR=33						
ASAR	**Alice Springs**	**90.73**	**127**	P	**P**	**06 43 06.1**	**-0.1**
ASAR	**Alice Springs**	**90.73**	**127**	P	**P**	**06 43 06.1**	**-0.1**
PNTR	**Pine Nut**	**91.07**	**10**	P	**P**	**06 43 09.2**	**+1.2**
PNTR				IAmb	IAmb	06 43 09.8	
	comp=Z,5.9nm,0.9s						
NVAR	**Mina Array Bea**	**91.86**	**9**	P	**P**	**06 43 12.9**	**+1.2**
	comp=Z,1.8nm,0.7s,baz=359,slow=3.6,SNR=18						
NVAR	**Mina Array Bea**	**91.86**	**9**	P	**P**	**06 43 13.2**	**+1.5**
NVAR				pP	**sP**	**06 43 18.0**	**+1.1**
R11A	**Troy Canyon, C**	**92.18**	**7**	P	**P**	**06 43 13.9**	**+0.8**
PV22	**Blue Mesa, Par**	**92.31**	**1**	P	**P**	**06 43 15.0**	**+1.3**
PV22				IAmb	IAmb	06 43 15.5	
	comp=Z,4.7nm,0.8s						
PV15	**Paradox Valley**	**92.50**	**1**	P	**P**	**06 43 15.8**	**+1.1**
PV12	**Saucer Basin,**	**92.52**	**1**	P	**P**	**06 43 16.0**	**+1.3**
PV12				IAmb	IAmb	06 43 16.5	
	comp=Z,3.9nm,0.7s						
U15A	**North Rim**	**94.30**	**4**	P	**P**	**06 43 24.1**	**+1.1**
ANMO	**Albuquerque**	**95.90**	**359**⇑	*eP*	**P**	**06 43 31.3**	**+1.0**
ANMO				pmax	pmax		
	comp=Z,2.0nm,1.3s						
TXAR	**Lajitas Array**	**101.44**	**357**	P	**Pdif**	**06 43 55.8**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=18,slow=4.7,SNR=4.7						
QSPA	**South Pole Qui**	**139.31**	**180**	PKPpre	PKPpre	06 49 25.4	
AC01	**Pan de Azucar**	**143.47**	**296**	PKPdf	**PKPdf**	**06 49 38.6**	**+0.8**
AC05	**El Transito**	**145.27**	**293**		**PKPbc**	**06 49 41.1**	**+0.3**
AC04	**Llanos de Chal**	**145.28**	**294**		**PKPbc**	**06 49 41.0**	**+0.3**
CO01	**Juntas del Tor**	**145.98**	**291**		**PKPab**	**06 49 43.7**	**+0.1**
GO04	**Tololo Observa**	**146.54**	**292**		**PKPbc**	**06 49 45.5**	**+0.7**
CO03	**El Pedregal**	**146.95**	**291**		**PKPbc**	**06 49 46.5**	**+0.7**
BO02	**Sierra Bellavi**	**149.67**	**285**		**PKPbc**	**06 49 53.2**	**+0.5**
PLCA	**Paso Flores**	**153.00**	**275**	PKIKP	**PKiKP**	**06 50 00.8**	**+0.3**
PLCA	**Paso Flores**	**153.00**	**275**	PKPbc	**PKiKP**	**06 50 00.8**	**+0.3**

IDC 21 *06:54:06.3±8.6,* **49°91N×145°60E, h592**km±114km,
mb2.6/8, mb1 2.9/8, mb1mx2.7/30, mbtmp3.6/8, Error ellipse: s-maj=41.9km s-min=17.7km az=144.0, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZALV	**Zalesovo Beam**	**36.69**	**300**	P	P	07 00 23.5	-0.6
	0.6nm,0.5s,baz=69,slow=8.0,SNR=1.7						
ILAR	**Eielson Array**	**37.32**	**41**	P	P	07 00 28.9	-0.2
	0.4nm,0.5s,baz=282,slow=7.7,SNR=5.2						
MKAR	**Makanchi Array**	**41.08**	**291**	P	P	07 00 59.8	+0.3
	0.5nm,0.4s,baz=66,slow=9.2,SNR=4.5						
NVAR	**Mina Array Bea**	**65.27**	**59**	P	P	07 03 51.7	+0.8
	0.4nm,0.6s,baz=292,slow=5.7,SNR=3.0						
PDAR	**Pinedale Array**	**66.78**	**51**	P	P	07 03 59.5	-0.6
	0.3nm,0.6s,baz=243,slow=1.7,SNR=5.3						
WRA	**Warramunga Arr**	**70.25**	**191**	P	P	07 04 20.9	0.0
	1.2nm,1.1s,baz=4.5,slow=6.0,SNR=2.3						
ASAR	**Alice Springs**	**73.98**	**191**	P	P	07 04 42.4	0.0
	0.3nm,0.5s,baz=7.6,slow=5.0,SNR=6.5						
TXAR	**Lajitas Array**	**80.10**	**56**	P	P	07 05 15.9	+0.2
	0.2nm,0.6s,baz=273,slow=3.0,SNR=4.6						

IDC 21 *07:02:01.0±1.2,* **25°97N×140°99E, h0**km**, mb3.8/5, mb1 4.0/5, mb1mx3.6/31, mbtmp3.8/5, MS2.5/1, Ms1 2.5/1, ms1mx2.0/31, Error ellipse: s-maj=87.3km s-min=22.6km az=85.0, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**15.94**	**319**	LR	LR	07 12 18.5	
	comp=Z,14nm,18.2s,baz=140,slow=39						
KLR	**Kul'dur**	**24.31**	**345**	P	P	07 07 21.0	+0.8
	1.8nm,0.5s,baz=143,slow=8.3,SNR=7.6						
WRA	**Warramunga Arr**	**46.09**	**189**	P	P	07 10 25.9	-1.1
	0.9nm,0.5s,baz=8.4,slow=8.6,SNR=5.2						
ASAR	**Alice Springs**	**49.81**	**189**	P	P	07 10 56.9	+1.1
	0.3nm,0.6s,baz=14,slow=9.3,SNR=6.0						
FINES	**FINESS Array B**	**78.48**	**334**	P	P	07 14 03.2	-0.4
	1.0nm,0.3s,baz=72,slow=4.9,SNR=19						
NOA	**NORSAR Array B**	**84.26**	**338**	P	P	07 14 34.6	+0.2
	0.2nm,0.4s,baz=42,slow=4.8,SNR=1.6						
LPAZ	**La Paz**	**151.24**	**76**	PKPbc	PKPbc	07 21 57.5	-0.5
	0.4nm,0.6s,baz=294,slow=3.1,SNR=4.8						

DJA ***21*** *07:10:12.5±0.3, 3°S×4°×12°9E±°, h10km, M4.2/9, mb4.9/1, MLv3.9/9*
IDC ***21*** *07:10:14.0±2.2, 3°.77S×128°.05E, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.7/25, mbtmp3.9/3, ML4.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.5/23, Error ellipse: s-maj=137.4km s-min=29.7km az=67.0*
NEIC ***21*** *07:10:22.5±2.7, 3°.3S±0°.1×129°.92E±0°.08, h97km±8km, mb4.1/13, Error ellipse: s-maj=16.2km s-min=11.3km az=184.0*

ISC 21 07:10:14.8±0.8,**3°21S**±0°.08×**129°27E**±0°.06,**h28**km,**n31, σ2s44/24, Seram**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.36**	**248**	P	**Pn**	**07 10 24.7**	**+0.5**
AAI	**Ambon**	**1.17**	**246**	P	**Pb**	**07 10 38.2**	**+1.8**
BNDI	**Bandanaira**	**1.45**	**154**	P	**Pb**	**07 10 44.8**	**+3.6**
NLAI	**Namlea**	**2.16**	**269**	P	**Pn**	**07 10 49.4**	**+0.4**
FAKI	**Fak Fak**	**2.99**	**85**	P	**Pn**	**07 10 59.8**	**-0.6**
FAKI	**Fak Fak**	**2.99**	**85**		**Pn**	**07 10 59.6**	**-0.7**
KMPI	**Kaimana, Papua**	**4.45**	**96**	P	**Pn**	**07 11 21.0**	**+0.5**
APSI	**Ampana**	**7.95**	**287**	P	**Pn**	**07 12 06.4**	**-2.1**
KAPI	**Kappang**	**9.66**	**259**	Pn	Pn	07 12 48.8	+17
MTN	**Manton Dam**	**9.75**	**169**	Pn	**Pn**	**07 12 37.7**	**+4.4**
KNRA	**Kununurra**	**12.40**	**182**		Pn	07 13 15.3	+5.7
BKB	**Balikpapan**	**12.51**	**279**	P	P	07 13 30.7	+8.2
FITZ	**Fitzroy Crossi**	**15.22**	**193**	Pn	**P**	**07 13 52.3**	**-0.3**
WB0	**Warramunga Arr**	**17.20**	**163**	P	**P**	**07 14 14.1**	**-0.5**
WB0				IAmb	IAmb	07 14 21.6	
	comp=Z,9.1nm,1.1s						
WRAB	**Tennant Creek**	**17.35**	**164**	P	**Pn**	**07 14 15.1**	**0.0**
WRA	**Warramunga Arr**	**17.35**	**164**	P	**Pn**	**07 14 14.3**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=338,slow=13,SNR=19						
WRA				S	**Sn**	**07 17 20.7**	**-6.8**
	comp=Z,0.2nm,0.3s,baz=334,slow=23,SNR=4.8						
WRA	**Warramunga Arr**	**17.35**	**164**	P	**Pn**	**07 14 14.8**	**-0.3**
WB2	**Warramunga Arr**	**17.36**	**164**	P	**Pn**	**07 14 15.0**	**-0.1**
WB2				IAmb	IAmb	07 14 30.3	
	comp=Z,19nm,1.5s						
COEN	**Coen**	**17.40**	**129**	P	**P**	**07 14 17.6**	**+0.8**
COEN				IAmb	IAmb	07 14 21.4	
	comp=Z,15nm,1.4s						
WR0	**Warramunga Arr**	**17.43**	**163**	P	**Pn**	**07 14 16.4**	**+0.4**
AS31	**Alice Springs**	**20.82**	**168**	P	Pn	07 14 56.1	-0.8
AS31				IAmb	IAmb	07 15 01.2	
	comp=Z,3.1nm,0.5s						
ASAR	**Alice Springs**	**20.83**	**168**	P	Pn	07 14 55.6	-1.3
	comp=Z,6.6nm,0.6s,baz=346,slow=10,SNR=65						
ASAR	**Alice Springs**	**20.83**	**168**	P	Pn	07 14 56.1	-0.8
CISI	**Cisompet, Garu**	**21.78**	**258**	P	P	07 15 14.0	+9.2
CISI				IAmb	IAmb	07 15 17.6	
	comp=Z,28nm,0.9s						
RABL	**Rabaul**	**22.87**	**93**	P	**P**	**07 15 11.3**	**-5.0**
FORT	**Forrest**	**27.45**	**182**	P	**P**	**07 15 56.9**	**-1.5**
JHJ2	**Mitsune**	**37.48**	**15**	P	**P**	**07 17 26.8**	**+0.7**
KSRS	**Korea Array**	**40.48**	**358**	LR	LR	07 35 23.5	
	comp=Z,18nm,19.6s,baz=235,slow=37						
MKAR	**Makanchi Array**	**64.68**	**326**	P	**P**	**07 20 52.3**	**+2.1**
	comp=Z,0.3nm,0.5s,baz=115,slow=6.5,SNR=2.1						
MKAR	**Makanchi Array**	**64.68**	**326**	P	**P**	**07 20 51.6**	**+1.4**
VNDA	**Vanda**	**76.27**	**173**	P	**P**	**07 21 59.6**	**-0.9**
VNDA				IAmb	IAmb	07 22 01.5	
	comp=Z,5.3nm,1.5s						

SOME ***21*** *07:17:57.2, 44°.75N×82°.10E, h20km*
NNC ***21*** *07:17:57.8±1.0, 44°.70N×82°.00E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=11.4km s-min=3.9km az=120.0*

ISC 21 07:17:55.3±3.1,**44°66N**±0°.05×**82°23E**±0°.08,**h1**km±22km, **n19, σ1s00/31, 4C-1D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.82**	**229**	*eP*	**Pb**	**07 18 29.8**	**+0.4**
	0.8nm,0.1s						
KTMS				*eS*	**Sb**	**07 18 53.3**	**+0.6**
	16nm,0.3s						
KTMS	**Ketmen**	**1.82**	**229**	P	**Pb**	**07 18 29.8**	**+0.4**
	0.8nm,0.1s						
KTMS				S	**Sb**	**07 18 53.3**	**+0.6**
	16nm,0.3s						
KAPS	**Kapalarasan**	**2.13**	**288**⇑	*eP*	**Pb**	**07 18 34.9**	**+0.2**
	4.5nm,0.2s						
KAPS				*eS*	**Sg**	**07 19 02.3**	**-1.5**
	13nm,0.3s						
KAPS	**Kapalarasan**	**2.13**	**288**	Pg	**Pb**	**07 18 34.9**	**+0.2**
	4.5nm,0.2s						
KAPS				Lg	Lg	07 19 02.3	
	13nm,0.3s						
MK31	**Makanchi Array**	**2.13**	**1**	Pn	**Pb**	**07 18 34.3**	**-0.5**
	3.4nm,0.2s,baz=182,slow=13,SNR=154						
MK31				⇑Sn	**Sb**	**07 19 02.1**	**+0.3**
	2.8nm,0.2s,baz=184,slow=27,SNR=25						
MAKZ	**Makanchi**	**2.16**	**355**	⇑Pn	**Pn**	**07 18 34.1**	**+1.7**
	1.3nm,0.2s						
MAKZ				⇓Sn	**Sb**	**07 19 02.0**	**-0.4**
	7.2nm,0.6s						
SHLS	**Shalkode**	**2.50**	**234**	*eP*	**Pn**	**07 18 37.2**	**0.0**
	15nm,0.4s						
SHLS				*eS*	**Sn**	**07 19 05.8**	**-2.6**
	38nm,0.5s						
SHLS	**Shalkode**	**2.50**	**234**	Pg	**Pn**	**07 18 37.2**	**0.0**
	15nm,0.4s						
SHLS				Lg	Lg	07 19 05.8	
	38nm,0.5s						
UZB	**Uzynbulak**	**2.77**	**238**⇑	*eP*	**Pb**	**07 18 45.3**	**-0.3**
	5.9nm,0.2s						
UZB				*eS*	**Sb**	**07 19 19.6**	**-0.5**
	7.2nm,0.2s						
UZB	**Uzynbulak**	**2.77**	**238**	Pg	**Pb**	**07 18 45.3**	**-0.3**
	5.9nm,0.2s						
UZB				Lg	Lg	07 19 19.6	
	7.2nm,0.2s						
MNBS	**Baschi**	**2.81**	**259**	*eP*	**Pb**	**07 18 46.3**	**+0.1**
	6.9nm,0.3s						
MNBS				*eS*	**Sb**	**07 19 21.8**	**+0.6**
	12nm,0.2s						
MNBS	**Baschi**	**2.81**	**259**	Pg	**Pb**	**07 18 46.3**	**+0.1**
	6.9nm,0.3s						
MNBS				Lg	Lg	07 19 21.8	
	12nm,0.2s						
KPKS	**Kokpek**	**2.82**	**246**	*eP*	**Pb**	**07 18 46.2**	**-0.3**
	14nm,0.3s						
KPKS				*eS*	**Sb**	**07 19 21.4**	**-0.1**
	24nm,0.3s						
ARXS	**Arharly**	**3.19**	**263**	*eP*	**Pb**	**07 18 53.0**	**+0.3**
	6.2nm,0.4s						
ARXS				*eS*	**Sb**	**07 19 33.1**	**+1.0**
	11nm,0.2s						
ARXS	**Arharly**	**3.19**	**263**	Pg	**Pb**	**07 18 53.0**	**+0.3**
	6.2nm,0.4s						
ARXS				Lg	Lg	07 19 33.1	
	11nm,0.2s						
SATY	**Saty**	**3.19**	**241**	*eP*	**Pb**	**07 18 53.8**	**+0.9**
	1.9nm,0.2s						
SATY				*eS*	**Sb**	**07 19 34.5**	**+2.2**
	15nm,0.2s						
SATY	**Saty**	**3.19**	**241**	Pg	**Pb**	**07 18 53.8**	**+0.9**
	1.9nm,0.2s						
SATY				Lg	Lg	07 19 34.5	
	15nm,0.2s						
KTBS	**Karatobe**	**4.10**	**259**	*eP*	**Pb**	**07 19 09.0**	**+0.6**
	1.6nm,0.3s						
KTBS				*eS*	**Sb**	**07 20 00.3**	**+1.9**
	8.1nm,0.4s						
KTBS	**Karatobe**	**4.10**	**259**	Pg	**Pb**	**07 19 09.0**	**+0.6**
	1.6nm,0.3s						
KTBS				Lg	Lg	07 20 00.3	
	8.1nm,0.4s						

IDC ***21*** *07:19:08.9±3.0, 34°.19N×139°.74E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.3/28, mbtmp3.4/3, ML2.6/1, MS1.3/1, Ms1 1.3/1, ms1mx1.3/

KHN				*e*Pg	**Pg**	**07 58 44.6**	**-2.1**
	116nm,0.2s,baz=290							
KHN				*e*Sg	**Sg**	**07 58 56.7**	**-3.0**
	2µm,0.2s,baz=290							
KHN				*e*Sg	**Sg**	**07 58 56.7**	**-3.0**
	2µm,0.1s,baz=290							
CRS	**Chara**	**1.82**	**281**	*e*Pg	**Pb**	**07 59 00.7**	**+0.1**
CRS				Pmax		07 59 02.7	
	527nm,1.0s							
CRS				*e*Sg	**Sb**	**07 59 24.8**	**+1.4**
CRS				Smax		07 59 27.4	
	2µm,1.2s							
CRS	**Chara**	**1.82**	**281**	*e*Pg	**Pb**	**07 59 00.7**	**+0.1**
	527nm,1.0s,baz=280							
CRS				*e*Sg	**Sb**	**07 59 24.8**	**+1.4**
	2µm,1.2s,baz=280							
CLNS	**Chul'man**	**1.87**	**81**	*e*Pg	**Pb**	**07 59 01.7**	**+0.1**
CLNS				*e*Sg	**Sb**	**07 59 25.1**	**+0.1**
CLNS	**Chul'man**	**1.87**	**81**	*e*Pg	**Pb**	**07 59 01.5**	**0.0**
	110nm,0.4s,baz=82							
CLNS				*i* Sg	**Sb**	**07 59 25.4**	**+0.4**
	278nm,0.2s,baz=82							
CLNS				*i* Sg	**Sb**	**07 59 25.4**	**+0.4**
	509nm,0.2s,baz=82							
IENR	**Iengra**	**1.89**	**100**	*e*Pn	**Pn**	**07 59 00.9**	**+1.3**
IENR				*e*Pg	**Pb**	**07 59 02.3**	**+0.4**
IENR				*e*Sn	**Sb**	**07 59 24.7**	**-0.8**
IENR				*e*Sg	**Sg**	**07 59 27.0**	**-1.0**
IENR	**Iengra**	**1.89**	**100**	*i* Pn	**Pb**	**07 59 01.1**	**-0.8**
	baz=101							
IENR				*i* Pg	**Pn**	**07 59 01.6**	**+2.0**
	88nm,0.3s,baz=101							
IENR				*i* Sn	**Sn**	**07 59 24.4**	**+1.0**
	baz=101							
IENR				*i* Sn	**Sn**	**07 59 24.5**	**+1.0**
	baz=101							
IENR				*i* Sg	**Sg**	**07 59 26.3**	**-1.8**
	1µm,0.3s,baz=101							
IENR				*i* Sg	**Sg**	**07 59 26.3**	**-1.8**
	884nm,0.2s,baz=101							
TNDR	**Tynda**	**2.32**	**128**	*i* Pn	**Pn**	**07 59 06.8**	**+1.3**
	14nm,0.2s,baz=128							
TNDR				*i* Pg	**Pb**	**07 59 08.8**	**-0.3**
	238nm,0.4s,baz=128							
TNDR				*i* Sn	**Sn**	**07 59 35.0**	**+1.1**
	baz=128							
TNDR				*e*Sg	**Sg**	**07 59 39.8**	**-1.8**
	724nm,0.4s,baz=128							
TNDR				*e*Sg	**Sg**	**07 59 39.8**	**-1.8**
	437nm,0.3s,baz=128							
TUP	**Tupik**	**2.35**	**203**	⇓*i*Pn	**Pn**	**07 59 07.0**	**+1.1**
TUP				*e*Pg	**Pb**	**07 59 10.1**	**+0.4**
TUP				Pmax		07 59 11.1	
	101nm,0.8s							
TUP				*e*Sn	**Sn**	**07 59 37.0**	**+2.2**
TUP				*e*Sg	**Sb**	**07 59 41.7**	**+2.9**
TUP				Smax		07 59 43.1	
	2µm,0.7s							
TUP	**Tupik**	**2.35**	**203**	*i* Pn	**Pn**	**07 59 07.0**	**+1.1**
	baz=203							
TUP				*e*Pg	**Pb**	**07 59 10.1**	**+0.4**
	101nm,0.8s,baz=203							
TUP				*e*Sn	**Sn**	**07 59 37.0**	**+2.2**
	baz=203							
TUP				*e*Sg	**Sb**	**07 59 41.7**	**+2.9**
	2µm,0.7s,baz=203							
ALDR	**Aldan**	**2.91**	**44**	*e*Pn	**Pn**	**07 59 15.9**	**+2.4**
ALDR				*e*Pg	**Pb**	**07 59 19.7**	**+0.6**
ALDR				*e*Sg	**Sb**	**07 59 56.6**	**+1.9**
ALDR	**Aldan**	**2.91**	**44**	*i* Pn	**Pn**	**07 59 15.0**	**+1.5**
	2.9nm,0.1s,baz=44							
ALDR				*i* Pg	**Pb**	**07 59 19.8**	**+0.6**
	16nm,0.2s,baz=44							
ALDR				*i* Sn	**Sn**	**07 59 49.1**	**+0.6**
	167nm,0.2s,baz=44							
ALDR				*i* Sg	**Sg**	**07 59 57.8**	**-2.8**
	337nm,0.2s,baz=44							
ALDR				*i* Sg	**Sg**	**07 59 57.8**	**-2.8**
	218nm,0.2s,baz=44							
KROS	**Kirovskiy**	**3.78**	**123**	*i* Pn	**Pn**	**07 59 27.1**	**+1.6**
	5.0nm,0.3s,baz=123							
KROS				*i* Sn	**Sn**	**08 00 09.2**	**-0.8**
	100nm,0.3s,baz=123							
KROS				*i* Sg	**Sg**	**08 00 25.3**	**-3.4**
	350nm,0.4s,baz=123							
OLMR	**Olekminsk**	**3.83**	**352**	*i* Pn	**Pn**	**07 59 27.2**	**+1.1**
	30nm,0.3s,baz=352							
OLMR				*i* Pg	**Pb**	**07 59 36.6**	**+1.8**
	60nm,0.4s,baz=352							
OLMR				*i* Sn	**Sn**	**08 00 13.4**	**+2.3**
	baz=352							
OLMR				*i* Sg	**Sg**	**08 00 27.5**	**-2.6**
	402nm,0.7s,baz=352							
OLMR				*i* Sg	**Sg**	**08 00 27.5**	**-2.6**
	272nm,0.5s,baz=352							
BOD	**Bodaibo**	**4.27**	**290**	*e*Pg	**Pb**	**07 59 42.4**	**+0.1**
BOD				*e*		08 00 04.3	
BOD				max		08 00 11.3	
	27nm,1.4s							
BOD				*e*Sg	**Sb**	**08 00 37.7**	**+3.9**
BOD				Smax		08 00 42.3	
	331nm,1.5s							
ZEA	**Zeya**	**4.36**	**129**	*e*Sg	**Sb**	**08 00 40.6**	**+4.2**
SVKR	**Severomuysk**	**4.46**	**267**	*e*	**Pb**	**07 59 43.8**	**-1.7**
SVKR				Pmax		07 59 46.4	
	36nm,0.8s							
SVKR				*e*Pg	**Pg**	**07 59 49.2**	**-3.4**
SVKR				*e*		08 00 20.0	
SVKR				*e*Sg	**Sg**	**08 00 47.4**	**-2.8**
SVKR				Smax		08 00 58.9	
	399nm,1.4s							
BMKR	**Bomnak**	**4.56**	**111**	*i* Pn	**Pn**	**07 59 36.1**	**-0.1**
	baz=112							
BMKR				*e*Pg	**Pb**	**07 59 49.6**	**+2.4**
	34nm,0.2s,baz=112							
BMKR				*e*Sg	**Sg**	**08 00 50.8**	**-2.7**
	407nm,0.3s,baz=112							
UKT	**Uakit**	**4.56**	**259**	*e*Pn	**Pn**	**07 59 38.0**	**+1.6**
UKT				*e*Pg	**Pb**	**07 59 48.6**	**+1.2**
UKT				Pmax		07 59 56.6	
	29nm,0.7s							
UKT				*e*Sg	**Sb**	**08 00 48.6**	**+6.2**
UKT				Smax		08 00 55.7	
	182nm,0.9s							
CGD	**Chagda**	**5.34**	**62**	*i* Pn	**Pn**	**07 59 48.7**	**+1.9**
	6.3nm,0.2s,baz=62							
CGD				*i* Pg	**Pb**	**08 00 03.7**	**+3.2**
	9.5nm,0.2s,baz=62							
CGD				*i* Sn	**Sn**	**08 00 49.7**	**+1.4**
	baz=62							
CGD				*i* Sg	**Sg**	**08 01 13.8**	**-4.6**
	300nm,0.4s,baz=62							
YOA	**Uoyan**	**5.47**	**269**	*e*Sg	**Sb**	**08 01 16.5**	**+8.2**
YOA				Smax		08 01 49.1	
	982nm,1.9s							
VTMR	**Vitim**	**5.55**	**305**	*e*Sg	**Sg**	**08 01 20.3**	**-5.1**
VTMR	**Vitim**	**5.55**	**305**	*i* Pg	**Pb**	**08 00 07.7**	**+3.5**
	26nm,0.2s,baz=304							
VTMR				*i* Sn	**Sn**	**08 00 54.6**	**+1.0**
	baz=304							
VTMR				*i* Sg	**Sg**	**08 01 21.1**	**-4.3**
	387nm,0.4s,baz=304							
KMO	**Kumora**	**5.80**	**267**	*e*Pg	**Pb**	**08 00 11.2**	**+2.8**
KMO				Pmax		08 00 31.8	
	14nm,1.2s							
KMO				*e*Sg	**Sg**	**08 01 26.7**	**-6.6**
KMO				Smax		08 01 35.7	
	289nm,1.3s							
YLYR	**Ulyunkhan**	**6.10**	**258**	*e*Pn	**Pn**	**07 59 59.2**	**+1.8**
YLYR				*e*Pg	**Pb**	**08 00 17.9**	**+4.4**
YLYR				Pmax		08 00 21.4	
	12nm,2.0s							
YLYR				*e*Sg	**Sg**	**08 01 38.1**	**-4.9**
YLYR				Smax		08 01 44.1	
	164nm,2.0s							
BLSR	**Buluus**	**6.15**	**36**	*i* Pn	**Pn**	**08 00 00.0**	**+2.0**
	76nm,0.3s,baz=36							
BLSR				*i* Pg	**Pb**	**08 00 18.3**	**+3.9**
	59nm,0.2s,baz=36							
BLSR				*i* Sn	**Sn**	**08 01 06.5**	**-1.8**
	baz=36							
BLSR				*i* Sg	**Sg**	**08 01 39.5**	**-5.1**
	2µm,0.5s,baz=36							
CIT	**Chita**	**6.54**	**229**	*e*Sg	Sb	08 01 48.7	+10
CIT				Smax		08 01 56.1	
	375nm,1.1s							
TBGR	**Tabaga**	**6.69**	**35**	*i* Pn	**Pn**	**08 00 05.6**	**+0.2**
	120nm,0.3s,baz=35							
TBGR				*i* Pg	**Pb**	**08 00 28.0**	**+4.5**
	118nm,0.3s,baz=35							
TBGR				*i* Sn	**Sn**	**08 01 19.4**	**-2.0**
	289nm,0.4s,baz=35							
TBGR				*i* Sg	**Sg**	**08 01 56.0**	**-5.7**
	2µm,0.6s,baz=35							
NIZ	**Nizh Angarsk**	**6.74**	**268**	*e*Sg	**Sg**	**08 01 56.6**	**-6.8**
NIZ				Smax		08 02 08.5	
	103nm,1.4s							
YAK	**Yakutsk**	**6.86**	**34**	*i* Pn	**Pn**	**08 00 09.2**	**+1.5**
	11nm,0.3s,baz=34							
YAK				*i* Pg	**Pb**	**08 00 31.1**	**+4.7**
	23nm,0.4s,baz=34							
YAK				*i* Sn	**Sn**	**08 01 23.1**	**-2.6**
	14nm,0.3s,baz=34							
YAK				*i* Sg	**Sg**	**08 02 00.4**	**-6.8**
	245nm,0.5s,baz=34							
SYVR	**Suvo**	**7.23**	**251**	*e*		08 02 10.0	
SYVR				*e*Sg	**Sg**	**08 02 12.7**	**-6.5**
SYVR				Smax		08 02 20.6	
	125nm,1.1s							
HIA	**Hailar**	**7.42**	**189**	*e*Sg	**Sg**	**08 02 17.6**	**-7.7**
MXMB	**Maximikha**	**8.08**	**251**	*e*Sg	**Sg**	**08 02 39.8**	**-6.5**
KELR	**Kotokel**	**8.68**	**249**	*e*Sg	Sg	08 02 56.6	-9.0
KPC	**Khapcheranga**	**8.82**	**222**	*e*Pn	**Pn**	**08 00 34.7**	**0.0**
KPC				*e*Sg	Sg	08 03 00.8	-9.2
KPC				Smax		08 03 09.3	
	169nm,1.4s							
TRG	**Tyrgan**	**9.59**	**253**	*e*Sg	Sn	08 03 25.9	+53
TRG				Smax		08 03 42.3	
	50nm,2.0s							
FFNB	**Fofonovo**	**9.75**	**248**	*e*Sg	Sn	08 03 30.6	+54
HRMR	**Khuramsha**	**9.89**	**246**	*e*Pn	**Pn**	**08 00 51.3**	**+2.0**
HRMR				max		08 01 24.7	
	9.0nm,0.5s							
HRMR				*e*Sg	Sn	08 03 34.6	+54
HRMR				Smax		08 03 47.8	
	25nm,1.4s							
IVK	**Ivanovka**	**11.10**	**252**	*e*Sg	Sn	08 04 11.0	+61
ULN	**Ulaanbaatar**	**12.43**	**231**	*e*Sg		08 04 55.5	

*IDC **21** 08:01:53.7±0.5,56˚54N×121˚25E,h0km,mb4.0/26,*
mb1 4.2/34,mb1mx4.1/57,mbtmp4.1/34,ML4.3/7,MS3.8/35,
Ms1 3.8/35,ms1mx3.7/45,Error ellipse: s-maj=12.8km
s-min=10.6km az=172.0
*YARS **21** 08:01:54.0±0.0,56˚61N×121˚54E,h4km,ML4.5/12*
*BJI **21** 08:01:53.1±0.0,56˚79N×121˚95E,h16km,mB4.5/18,*
mb4.5/32,Ms4.6/30,Ms7 4.4/26
*MOS **21** 08:01:54.4±1.2,56˚55N×121˚46E,h11km,mb4.6/27,*
MS3.7/6,Error ellipse: s-maj=7.6km s-min=5.8km az=84.2
MOS Felt (III) at Yuktali.
*BYKL **21** 08:01:54.1±0.3,56˚60N×121˚57E,h7km±4km,*
Mw4.6/14(IEC),#STATIONS AAK ALE ARU BILL ENH
ERM HRV INCN KEV LVZ MAJO PET SSE XAN
*NEIC **21** 08:01:56.5±1.9,56˚54N±0˚07×121˚5E±0˚1,h10km±3km,*
mb4.6/118,Error ellipse: s-maj=10.7km s-min=9.9km
az=88.0

ISC 21 08:01:55.7±0.7,56˚61N±0˚02×121˚59E±0˚02,h7km±4km,
n313,σ2ş10/379,mb4.5/95,MS3.8/36,7C-21D,
Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKLR	**Yuktali**	**0.04**	**118**	⇓*i*Pg	**Pg**	**08 01 55.9**	**-1.2**
YKLR				*e*Sg	**Sg**	**08 01 57.1**	**-0.9**
YKLR	**Yuktali**	**0.04**	**118**	⇓*i*Pg	**Pg**	**08 01 55.9**	**-1.2**
	27µm,0.1s,baz=103						
YKLR				*e*Sg	**Sg**	**08 01 57.1**	**-0.9**
	109µm,0.1s,baz=103						
YKLR				*e*Sg	**Sg**	**08 01 57.1**	**-0.9**
	327µm,0.2s,baz=103						
YKLR	**Yuktali**	**0.04**	**118**	⇓*i*P	**Pg**	**08 01 55.9**	**-1.2**
KHNR	**Khani**	**0.94**	**290**	⇑*i*Pg	**Pg**	**08 02 10.8**	**-2.9**
KHNR				*e*Sg	**Sg**	**08 02 22.6**	**-3.4**
KHN	**Khani**	**1.04**	**288**	⇑*i*Pg	Pg	08 02 10.8	-4.8
	2µm,0.2s,baz=291						
KHN				*e*Sg	**Sg**	**08 02 22.6**	**-6.5**
	27µm,0.4s,baz=291						
CLNS	**Chul'man**	**1.83**	**81**	⇓*i*Pg	**Pn**	**08 02 27.6**	**-0.1**
CLNS				*e*Sg	**Sn**	**08 02 51.5**	**+0.4**
CLNS	**Chul'man**	**1.83**	**81**	⇓*i*Pg	**Pn**	**08 02 27.6**	**-0.1**
	3µm,0.7s,baz=82						
CLNS				*e*Sg	**Sn**	**08 02 51.6**	**+0.5**
	14µm,0.7s,baz=82						
CLNS				*e*Sg	**Sn**	**08 02 51.6**	**+0.5**
	20µm,1.2s,baz=82						
CLNS	**Chul'man**	**1.83**	**81**	⇓*i*P	**Pn**	**08 02 27.7**	**+0.1**
CLNS				*e*S	**Sn**	**08 02 51.8**	**+0.7**
CRS	**Chara**	**1.85**	**280**	⇑*i*Pg	**Pn**	**08 02 27.3**	**-0.6**
CRS				*e*		08 02 32.6	
CRS				max		08 02 34.9	
	6µm,1.4s						
CRS				*e*Sg	**Sn**	**08 02 51.6**	**-0.1**
CRS				Smax		08 03 55.0	
	28µm,1.2s						
CRS	**Chara**	**1.85**	**280**	⇑*i*Pg	**Pn**	**08 02 27.3**	**-0.6**
	6µm,1.4s,baz=280						
CRS				*i* Sg	**Sn**	**08 02 51.5**	**-0.1**
	28µm,1.2s,baz=280						
CRS	**Chara**	**1.85**	**280**	*e*P	**Pn**	**08 02 27.7**	**-0.2**
CRS				*e*		08 02 51.2	
CRS				pmax	pmax		
	comp=Z,6µm,0.8s						
CRS				smax	smax		
	comp=N,20µm,1.3s						
IENR	**Iengra**	**1.85**	**101**	*e*Pn	**Pn**	**08 02 27.5**	**-0.4**
IENR				*e*Pg	**Pb**	**08 02 28.5**	**-1.4**
IENR				*e*Sn	**Sn**	**08 02 51.1**	**-0.6**
IENR				*e*Sg	**Sb**	**08 02 53.2**	**-0.1**
IENR	**Iengra**	**1.85**	**101**	*i* Pn	**Pn**	**08 02 27.3**	**-0.6**
	baz=101						
IENR				*i* Pg	**Pb**	**08 02 28.5**	**-1.4**
	comp=N,1000nm,0.3s,baz=101						
IENR				*e*Sg	**Sb**	**08 02 53.7**	**+0.4**
	comp=N,14µm,0.4s,baz=101						
IENR				*e*Sg	**Sb**	**08 02 53.7**	**+0.4**
	comp=N,19µm,0.4s,baz=101						
TNDR	**Tynda**	**2.29**	**128**	⇑*i*Pn	**Pn**	**08 02 33.5**	**-0.4**
	comp=N,168nm,0.1s,baz=128						
TNDR				*i* Pg	**Pb**	**08 02 35.4**	**-2.0**
	comp=N,4µm,0.6s,baz=128						
TNDR				*e*Sn	**Sn**	**08 03 02.9**	**+0.5**
	comp=N,2µm,0.3s,baz=128						
TNDR				*e*Sn	**Sn**	**08 03 02.9**	**+0.5**
	comp=N,590nm,0.2s,baz=128						
TNDR				*e*Sg	**Sb**	**08 03 06.1**	**+0.2**
	comp=N,10µm,0.5s,baz=128						
TNDR				*e*Sg	**Sb**	**08 03 06.1**	**+0.2**
	comp=N,13µm,0.5s,baz=128						
TUP	**Tupik**	**2.38**	**204**	⇓*i*Pn	**Pn**	**08 02 33.5**	**-1.7**
TUP				⇓*i*Pg	**Pb**	**08 02 36.4**	**-2.4**
TUP				*e*PgPg	**Pg**	**08 02 38.6**	**-2.6**
TUP				max		08 02 39.6	
	comp=N,1µm,0.9s						
TUP				*e*Sn	**Sn**	**08 03 03.1**	**-1.5**
TUP				*e*Sg	**Sb**	**08 03 08.0**	**-0.4**
TUP				Smax		08 03 09.4	
	comp=N,19µm,0.9s						
TUP	**Tupik**	**2.38**	**204**	⇓*i*Pn	**Pn**	**08 02 33.5**	**-1.7**
	baz=203						
TUP				*i* Pg	**Pb**	**08 02 36.4**	**-2.4**
	comp=N,1µm,0.9s,baz=203						
TUP				*e*Sn	**Sn**	**08 03 03.1**	**-1.5**
	baz=203						
TUP				*i* Sg	**Sb**	**08 03 07.1**	**-1.3**
	comp=N,19µm,0.9s,baz=203						
TUP	**Tupik**	**2.38**	**204**	⇓*i*P	**Pn**	**08 02 33.5**	**-1.7**
TUP				*e*S	**Sn**	**08 03 03.2**	**-1.4**
TUP				smax	smax		
	comp=N,24µm,0.9s						
ALDR	**Aldan**	**2.87**	**44**	*e*Pn	**Pn**	**08 02 41.1**	**-0.8**
ALDR				*e*Pg	**Pb**	**08 02 44.2**	**-3.0**
ALDR				*e*		08 03 16.7	
ALDR	**Aldan**	**2.87**	**44**	*i* Pn	**Pn**	**08 02 40.8**	**-1.1**
	comp=N,40nm,0.2s,baz=44						
ALDR				*i* Pg	**Pb**	**08 02 46.6**	**-0.6**
	comp=N,265nm,0.3s,baz=44						
ALDR				*i* Sn	**Sn**	**08 03 17.5**	**+0.8**
	comp=N,1µm,0.2s,baz=44						
ALDR				*i* Sg	**Sg**	**08 03 25.1**	**-2.6**
	comp=N,3µm,0.7s,baz=44						
KROS	**Kirovskiy**	**3.75**	**123**	*e*Pn	**Pn**	**08 02 52.7**	**-1.3**
	baz=123						
OLMR	**Olekminsk**	**3.82**	**352**	*i* Pn	**Pn**	**08 02 53.8**	**-1.1**
	comp=N,188nm,0.4s,baz=352						
OLMR				*i* Pg	**Pb**	**08 03 02.6**	**-0.8**
	comp=N,314nm,0.3s,baz=352						
OLMR				*i* Sn	**Sn**	**08 03 38.6**	**-1.4**
	comp=N,872nm,0.4s,baz=352						
OLMR				*i* Sg	**Sb**	**08 03 53.5**	**+3.6**
	comp=N,8µm,0.9s,baz=352						
OLMR				*i* Sg	**Sb**	**08 03 53.6**	**+3.6**
	comp=N,5µm,0.6s,baz=352						
BOD	**Bodaibo**	**4.30**	**290**	*e*Pn	**Pn**	**08 03 00.3**	**-1.2**
BOD				*e*Pg	**Pb**	**08 03 10.4**	**-1.2**
BOD				Pmax		08 03 33.4	
	comp=N,288nm,1.7s						
BOD				*e*Sn	**Sn**	**08 03 47.6**	**-4.3**
BOD				*e*Sg	**Sb**	**08 04 04.8**	**+1.2**
BOD				Smax		08 04 09.4	
	comp=N,7µm,1.7s						
BOD	**Bodaibo**	**4.30**	**290**	*i* Pn	**Pn**	**08 03 00.3**	**-1.2**
	baz=290						
BOD				*e*Pg	**Pb**	**08 03 10.4**	**-1.2**
	comp=N,288nm,1.7s,baz=290						
BOD				*i* Sn	**Sn**	**08 03 50.1**	**-1.8**
	baz=290						
BOD				*i* Sg	**Sb**	**08 04 07.5**	**+3.9**
	comp=N,7µm,1.7s,baz=290						
BOD	**Bodaibo**	**4.30**	**290**	*e*P	**Pn**	**08 03 00.4**	**-1.1**
ZEA	**Zeya**	**4.33**	**129**	*e*Pn	**Pn**	**08 03 00.5**	**-1.5**
ZEA				*e*Pg	**Pb**	**08 03 12.5**	**+0.4**
ZEA				*e*Sg	**Sb**	**08 04 07.8**	**+3.2**
ZEA	**Zeya**	**4.33**	**129**	*e*P	**Pn**	**08 03 00.5**	**-1.5**
ZEA				*i* S	**Sn**	**08 03 49.8**	**-2.9**
ZEA				pmax	pmax		
	comp=E,100nm,0.8s						
ZEA				pmax	pmax		
	comp=Z,180nm,0.8s						
ZEA				smax	smax		
	comp=E,830nm,0.8s						
SVKR	**Severomuysk**	**4.50**	**267**	*e*Pn	**Pn**	**08 03 05.9**	**+1.7**
SVKR				*e*Pg	**Pb**	**08 03 14.2**	**-0.7**
SVKR				Pmax		08 03 17.1	
	comp=E,771nm,1.4s						
SVKR				*e*Sg	**Sb**	**08 04 12.9**	**+3.6**
SVKR				Smax		08 04 33.4	
	comp=E,6µm,1.4s						
SVKR	**Severomuysk**	**4.50**	**267**	*e*P	**Pb**	**08 03 13.4**	**-1.5**
UKT	**Uakit**	**4.61**	**259**	*e*Pn	**Pn**	**08 03 06.1**	**+0.3**
UKT				*e*Pg	**Pb**	**08 03 15.4**	**-1.4**
UKT				Pmax		08 03 22.6	
	comp=E,490nm,1.4s						
UKT				*e*Sg	**Sb**	**08 04 16.5**	**+4.0**
UKT				Smax		08 04 29.7	
	comp=E,3µm,1.3s						
UKT	**Uakit**	**4.61**	**259**	*e*P	**Pb**	**08 03 15.2**	**-1.6**
CGD	**Chagda**	**5.30**	**62**	*i* Pn	**Pn**	**08 03 15.0**	**-0.2**
	comp=E,404nm,0.9s,baz=62						
CGD				*i* Pg	**Pb**	**08 03 30.1**	**+1.7**
	comp=E,104nm,0.3s,baz=62						
CGD				*i* Sn	**Sn**	**08 04 16.1**	**-0.3**
	comp=E,528nm,0.3s,baz=62						
CGD				*i* Sg	**Sg**	**08 04 40.5**	**-5.0**
	comp=E,3µm,0.5s,baz=62						
CGD				*i* Sg	**Sg**	**08 04 40.5**	**-5.0**
	comp=E,4µm,0.6s,baz=62						
VTMR	**Vitim**	**5.58**	**304**	⇓*i*Pn	**Pn**	**08 03 19.3**	**+0.3**
VTMR				*e*		08 03 21.8	
VTMR				*e*Sg	**Sb**	**08 04 45.3**	**+4.9**
VTMR	**Vitim**	**5.58**	**304**	⇓*i*Pn	**Pn**	**08 03 19.2**	**+0.1**
	comp=E,326nm,0.2s,baz=304						
VTMR				*i* Pg	**Pb**	**08 03 34.1**	**+0.8**
	comp=E,308nm,0.3s,baz=304						
VTMR				*i* Sn	**Sn**	**08 04 21.7**	**-1.7**
	baz=304						
VTMR				*i* Sg	**Sb**	**08 04 47.0**	**+6.6**
	comp=E,4µm,0.3s,baz=304						
VTMR				*i* Sg	**Sg**	**08 04 47.4**	**-7.2**
	comp=E,5µm,0.4s,baz=304						
KMO	**Kumora**	**5.84**	**267**	*e*Pn	**Pn**	**08 03 22.0**	**-0.6**
KMO				*e*Pg	**Pb**	**08 03 37.0**	**-0.8**
KMO				Pmax		08 03 43.7	
	comp=E,170nm,0.1s						
KMO				*e*		08 04 21.0	
KMO				*e*Sg	**Sb**	**08 04 53.5**	**+5.6**
KMO				Smax		08 05 10.9	
	comp=E,4µm,1.8s						
KMO	**Kumora**	**5.84**	**267**	*e*P	**Pn**	**08 03 19.8**	**-2.8**
KMO				*e*S	**Sn**	**08 04 25.7**	**-4.1**
BLSR	**Buluus**	**6.12**	**36**	*i* Pn	**Pn**	**08 03 24.4**	**-2.0**
	comp=E,2µm,0.4s,baz=36						
BLSR				*i* Pg	**Pb**	**08 03 44.9**	**+2.4**
	comp=E,3µm,0.6s,baz=36						
BLSR				*i* Sn	**Sn**	**08 04 36.2**	**-0.4**
	comp=E,10µm,0.8s,baz=36						
BLSR				*i* Sg	**Sg**	**08 05 06.2**	**-5.7**
	comp=E,12µm,0.8s,baz=36						
BLSR				*i* Sg	**Sg**	**08 05 06.2**	**-5.7**
	comp=E,34µm,0.7s,baz=36						
YLYR	**Ulyunkhan**	**6.14**	**258**	*e*Pn	**Pn**	**08 03 25.0**	**-1.8**
YLYR				*e*Pg	**Pb**	**08 03 43.8**	**+0.9**
YLYR				Pmax		08 03 51.0	
	comp=E,137nm,1.7s						
YLYR				*e*		08 04 37.5	
YLYR				*e*Sg	**Sg**	**08 05 04.5**	**-8.2**
YLYR				Smax		08 05 10.8	
	comp=E,3µm,1.7s						
YLYR	**Ulyunkhan**	**6.14**	**258**	*e*P	**Pn**	**08 03 26.4**	**-0.4**
CIT	**Chita**	**6.58**	**229**	*e*Sg	**Sb**	**08 05 14.3**	**+5.2**
CIT				Smax		08 05 22.6	
	comp=E,7µm,1.6s						
CIT	**Chita**	**6.58**	**229**	*e*P	**Pn**	**08 03 28.3**	**-4.5**
TBGR	**Tabaga**	**6.66**	**35**	*i* Pn	**Pn**	**08 03 31.9**	**-1.9**
	comp=E,4µm,0.4s,baz=35						
TBGR				*i* Pg	**Pb**	**08 03 54.6**	**+3.0**
	comp=E,1µm,0.3s,baz=35						
TBGR				*i* Sn	**Sn**	**08 04 49.1**	**-0.7**
	baz=35						
TBGR				*i* Sg	**Sg**	**08 05 22.9**	**-6.2**
	comp=E,28µm,0.7s,baz=35						
NIZ	**Nizh Angarsk**	**6.78**	**268**	*e*Pn	**Pn**	**08 03 35.3**	**-0.2**
NIZ				*e*Pg	**Pb**	**08 03 55.5**	**+1.7**
NIZ				Pmax		08 03 59.9	
	comp=E,98nm,1.3s						
NIZ				*e*Sg	**Sb**	**08 05 22.9**	**+8.0**
N

OGRR *e*Pg Pg 08 04 28.2 -11
OGRR Pmax 08 04 33.6
comp=N,44nm,1.7s
OGRR *e*Sn **Sn** **08 05 32.5 -4.1**
OGRR *e*Sg Sg 08 06 18.8 -11
OGRR Smax 08 06 29.4
comp=N,812nm,1.8s
OGRR Ongureny 8.55 256 *e*P **Pn** **08 04 00.4 +0.5**
KELR Kotokel 8.72 249 *e* Pg 08 05 04.4 +22
KELR *e*Sg Sg 08 06 24.7 -11
KPC Khapcheranga 8.85 222 *e*Pn **Pn** **08 04 01.3 -2.7**
KPC *e*Pg Pg 08 04 32.2 -13
KPC Pmax 08 04 37.9
comp=N,40nm,1.2s
KPC *e* 08 06 04.8
KPC *e*Sg Sg 08 06 26.9 -13
KPC Smax 08 06 36.8
comp=N,3µm,1.4s
KPC Khapcheranga 8.85 222 *e*P **Pn** **08 04 01.8 -2.2**
UUDB Ulan-Yde 9.43 246 *e* 08 06 23.6
UUDB *e*Sg Sn 08 06 47.3 +49
UUDB Smax 08 06 57.5
comp=N,3µm,1.3s
KLR Kul'dur 9.60 136 Pn **Pn** **08 04 14.1 0.0**
comp=N,6.9nm,0.3s,baz=334,slow=14,SNR=29
KLR Sn **Sn** **08 05 56.5 -5.7**
comp=N,6.6nm,0.3s,baz=344,slow=16,SNR=4.1
KLR Lg Lg 08 06 57.0
comp=N,17nm,0.3s,baz=244,slow=18,SNR=6.9
KLR LR LR 08 08 11.5
comp=N,810nm,19.4s,baz=322,slow=39
KLR Kul'dur 9.60 136*d i*P **Pn** **08 04 13.9 -0.2**
KLR MLR MLR
comp=Z,491nm,10.0s
FFNB Fofonovo 9.79 248 *e*Sg Sn 08 06 57.0 +50
HRMR Khuramsha 9.93 246 *e* 08 05 33.5
HRMR *e*Sn Sn 08 06 24.8 +14
HRMR *e*Sg 08 07 02.6
HRMR Smax 08 07 06.8
comp=Z,3µm,1.7s
BGT Bolshoye Golou 10.49 251 *e*Sg Sn 08 07 18.9 +55
LSTR Listvyanka 10.89 251 *e*Sg Sn 08 07 29.8 +56
LSTR Smax 08 07 51.1
comp=Z,538nm,2.0s
IVK Ivanovka 11.14 252 *e* 08 06 45.2
IVK *e*Sg Sn 08 07 38.1 +58
TLY Talaya 11.61 252 Lg Lg 08 07 54.8
comp=Z,0.0nm,0.3s,baz=260,slow=12,SNR=4.1
TLY LR LR 08 09 43.2
comp=Z,268nm,19.3s,baz=56,slow=41
TLY Talaya 11.61 252 *e*Pn **Pn** **08 04 39.5 -2.2**
TLY max 08 04 42.0
comp=Z,21nm,1.4s
TLY *e*Sg 08 07 53.9
TLY Smax 08 08 21.7
comp=Z,289nm,1.9s
TLY Talaya 11.61 252 P **Pn** **08 04 41.8 +0.1**
TLY Talaya 11.61 252 Pn **Pn** **08 04 41.8 +0.1**
ARS Arshan 12.14 255 *e*Sg 08 08 08.9
ARS Smax 08 08 23.5
comp=Z,871nm,2.2s
ULN Ulaanbaatar 12.47 232 *e*Pn **Pn** **08 04 53.1 -0.5**
ULN *e* 08 07 24.7
ULN *e*Sg 08 08 16.8
ULN Ulaanbaatar 12.47 232‖ *e*P **Pn** **08 04 54.8 +1.2**
ULN pmax pmax
comp=Z,3.0nm,0.6s
ULN Ulaanbaatar 12.47 232 Pn **Pn** **08 04 54.2 +0.6**
ZAK Zakamensk 12.54 248 *e*P **Pn** **08 04 55.7 +1.2**
ZAK pmax pmax
comp=Z,11nm,1.1s
OKH Okha 12.59 95*de*P **Pn** **08 04 55.4 +0.4**
OKH MLR MLR
comp=N,3µm,10.0s
OKH MLR MLR
comp=E,2µm,9.0s
OKH MLR MLR
comp=Z,700nm,11.0s
SONM Songino Array 12.78 233 Pn **Pn** **08 04 54.4 -3.4**
comp=Z,0.8nm,0.3s,baz=33,slow=14,SNR=8.9
SONM Lg Lg 08 08 34.9
comp=Z,6.4nm,0.3s,baz=20,slow=32,SNR=9.3
SONM LR LR 08 10 10.1
comp=Z,650nm,19.9s,baz=41,slow=39
SONM Songino Array 12.78 233 P **Pn** **08 04 55.8 -2.0**
SONM Songino Array 12.78 233 Pn **Pn** **08 04 55.8 -2.0**
MDJ Mudanjiang 13.02 154 P P 08 05 17.4 +5.8
MDJ pmax pmax
comp=Z,17nm,1.4s
MDJ pmax pmax
comp=Z,90nm,5.8s
CN2 Changchun 13.05 168 *e*P **P** **08 05 12.3 +0.4**
CN2 *e*S **S** **08 07 52.8 +0.4**
CN2 pmax pmax
comp=Z,10.0nm,1.1s
CN2 LR LR
comp=N,1µm,11.0s
CN2 LR LR
comp=E,2µm,11.0s
CN2 LR LR
comp=Z,2µm,10.0s
ORL Orlik 13.26 261 *e*Pn **Pn** **08 05 02.1 -2.2**
ORL *e*Sg S 08 08 43.6 +47
ORL Smax 08 09 05.8
comp=Z,594nm,1.9s
USA0B Ussuriysk Arra 14.06 148 P **Pn** **08 05 15.7 +0.6**
USA0B Ussuriysk Arra 14.06 148 Pn **Pn** **08 05 15.7 +0.6**
USRK Ussuriysk Ar. 14.06 148 Pn **Pn** **08 05 14.2 -0.9**
baz=120,slow=22,SNR=2.8
USRK Lg Lg 08 09 12.8
baz=324,slow=19,SNR=4.4
USRK LR LR 08 11 01.3
comp=Z,437nm,18.3s,baz=332,slow=39
USRK Ussuriysk Ar. 14.06 148 **Pn** **08 05 13.6 -1.5**
MA2 Magadan 15.64 67 Pn **Pn** **08 05 37.7 +1.3**
comp=Z,0.3nm,0.3s,baz=278,slow=9.0,SNR=3.2
MA2 Lg Lg 08 10 04.2
comp=Z,0.3nm,0.3s,baz=156,slow=17,SNR=7.1
MA2 LR LR 08 11 36.8
comp=Z,336nm,20.6s,baz=270,slow=37
MA2 Magadan 15.64 67‖ *e*P **Pn** **08 05 38.3 +1.9**
MA2 pmax pmax
comp=Z,28nm,1.3s
MA2 Magadan 15.64 67 **Pn** **08 05 37.8 +1.5**
YSS Yuzh-Sakhalins 16.21 118 *e*P **Pn** **08 05 44.4 +0.7**
YSS *e*S **Sn** **08 08 42.4 -1.2**
YSS pmax pmax
comp=Z,10.0nm,1.4s
YSS MLR MLR
comp=Z,100nm,13.0s
YSS Yuzh-Sakhalins 16.21 118 Pn **P** **08 05 45.4 -1.5**
BJI Beijing 16.96 194 P **P** **08 05 55.4 +0.2**
BJI S **Sn** **08 09 03.5 +1.7**
BJI pmax pmax
comp=Z,7.0nm,0.6s
BJI LR LR
comp=Z,1µm,13.6s
HHC Hu-ho-hao-te 17.07 207 *e*P **P** **08 05 57.3 +0.7**
HHC PP **PnPn** **08 06 10.3 +6.0**
HHC S **Sn** **08 09 08.0 +3.2**
HHC sS snS 08 09 18.4 +0.5
HHC SS SnSn 08 09 33.1 +15
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,50nm,5.7s
HHC LR LR
comp=Z,2µm,13.1s
HHC LR LR
comp=Z,3µm,14.7s
HHC LR LR
comp=Z,610nm,14.8s
ASAJ Asahikawa 18.23 124 P **P** **08 06 09.7 +0.4**
comp=Z,0.2nm,0.3s,baz=293,slow=29,SNR=1.6
ASAJ LR LR 08 13 25.1
comp=Z,318nm,18.6s,baz=340,slow=38
KSRS Korea Array 19.63 165 P **P** **08 06 23.6 -0.9**
comp=Z,0.2nm,0.3s,baz=350,slow=9.8,SNR=7.0
KSRS Lg Lg 08 12 18.9
comp=Z,0.2nm,0.3s,baz=340,slow=28,SNR=9.4
KSRS LR LR 08 14 28.6
comp=Z,131nm,21.9s,baz=350,slow=38
KSAR Wonju Array Be 19.63 165 P **Pn** **08 06 25.6 -0.4**
KSAR Wonju Array Be 19.63 165 P **Pn** **08 06 25.6 -0.4**
NRIK Noril'sk 19.68 324 P **P** **08 06 23.4 -1.5**
comp=Z,2.1nm,0.3s,baz=118,slow=9.4,SNR=9.5
NRIK Lg Lg 08 12 19.6
comp=Z,0.1nm,0.3s,baz=220,slow=19,SNR=4.2
NRIK LR LR 08 14 34.5
comp=Z,556nm,20.8s,baz=117,slow=39
YUK Yuzh-Kuril'sk 19.83 119 *e*P **Pn** **08 06 29.3 +1.0**
YUK *e*S **Sn** **08 10 13.7 +2.6**
YUK MLR MLR
comp=Z,141nm,11.0s
YUK MLR MLR
comp=N,131nm,12.0s
YUK MLR MLR
comp=E,166nm,10.0s
KUR Kuril'sk 19.96 114 P **Pn** **08 06 32.2 +2.4**
PEA0B Petropavlovsk- 20.92 84 P Pn 08 06 40.9 -0.1
PEA0B pmax pmax
comp=Z,21nm,1.1s
PEA0B Petropavlovsk- 20.92 84 P Pn 08 06 40.9 -0.2
PETK Petropavlovsk- 20.92 84 P Pn 08 06 40.1 -0.9
comp=Z,3.5nm,0.8s,baz=290,slow=4.9,SNR=9.4
PETK LR LR 08 15 19.8
comp=Z,231nm,18.0s,baz=280,slow=38
ZAA0 Zalesovo Array 20.95 278 P **P** **08 06 39.2 +0.3**
ZALV Zalesovo Beam 20.95 278 P **P** **08 06 37.3 -1.6**
comp=Z,1.7nm,0.5s,baz=70,slow=9.5,SNR=0.8
ZALV Lg Lg 08 12 56.4
comp=Z,6.6nm,1.2s,baz=112,slow=24,SNR=6.9
ZALV LR LR 08 14 34.0
comp=Z,142nm,18.6s,baz=55,slow=37
ZALV Zalesovo Beam 20.95 278 *i* P Pn 08 06 42.5 +1.1
ZALV pmax pmax
comp=Z,3.0nm,0.5s
ZALV Zalesovo Beam 20.95 278 P **P** **08 06 38.0 -0.9**
DGZ Jazzator, Alta 21.45 266‖ *e*P **P** **08 06 45.0 +0.6**
DGZ pmax pmax
comp=Z,7.0nm,1.2s
PET Petropavlovsk 21.48 84 *e*P **P** **08 06 50.3 +5.8**
PET *e*S **S** **08 10 41.8 -0.9**
PET MLR MLR
comp=Z,200nm,15.0s
GTA Gaotai 22.39 229 *e*P **P** **08 06 53.6 -0.9**
GTA pP pP 08 06 57.8 +1.2
GTA sP sP 08 07 01.4 +3.7
GTA S **S** **08 10 51.4 -9.3**
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA pmax pmax
comp=Z,100nm,6.2s
GTA LR LR
comp=Z,950nm,10.0s
GTA LR LR
comp=Z,1µm,7.9s
MJAR Matsushiro Arr 22.98 144 P **P** **08 07 00.3 -0.4**
comp=Z,0.8nm,0.7s,baz=230,slow=42,SNR=2.0
MJAR LR LR 08 15 28.7
comp=Z,141nm,19.2s,baz=335,slow=35
MJAR Matsushiro Arr 22.98 144 P **P** **08 07 00.6 -0.1**
MJAR pmax pmax
comp=Z,2.0nm,1.2s
MJAR Matsushiro Arr 22.98 144 P **P** **08 07 00.6 -0.1**
BILL Bilibino 23.08 42*de*P **P** **08 07 03.3 +1.8**
BILL *e*PPP PPP 08 07 36.5
BILL *e* 08 10 52.6
BILL pmax pmax
comp=Z,24nm,1.7s
BILL MLR MLR
comp=Z,236nm,18.0s
BILL Bilibino 23.08 42 P **P** **08 07 02.6 +1.1**
BILL IAmb IAmb 08 07 21.5
comp=Z,21nm,1.2s
LZH Lanzhou 23.77 218 *e*P **P** **08 07 10.3 +1.5**
LZH pP sP 08 07 14.8 +2.8
LZH sP pP 08 07 17.8 +6.8
LZH pmax pmax
comp=Z,21nm,1.0s
LZH pmax pmax
comp=Z,86nm,4.7s
LZH LR LR
comp=Z,230nm,10.0s
LZH LR LR
comp=Z,280nm,12.1s
JNU Nakatsue 24.35 161 LR LR 08 17 16.2
comp=Z,150nm,19.1s,baz=3.0,slow=38
NJ2 Nanjing 24.63 186 *e*P **P** **08 07 20.4 +3.8**
NJ2 pmax pmax
comp=Z,12nm,0.5s
WMQ Urumqi 24.89 254 *e*P **P** **08 07 20.6 +1.6**
WMQ sP sP 08 07 28.3 +6.1
WMQ LR LR
comp=Z,350nm,8.1s
WMQ LR LR
comp=Z,350nm,6.5s
KURK Kurchatov 25.79 275‖ *e*P **P** **08 07 27.1 +0.1**
KURK pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 25.79 275 P **P** **08 07 26.4 -0.6**
KURBB Kurchatov Arra 25.89 275 P **P** **08 07 25.7 -2.1**
comp=Z,0.5nm,0.4s,baz=63,slow=9.7,SNR=5.7
MK31 Makanchi Array 25.92 265 P **P** **08 07 27.9 -0.4**
MK31 pmax pmax
comp=Z,3.0nm,0.8s
MK31 Makanchi Array 25.92 265 P **P** **08 07 27.9 -0.4**
MKAR Makanchi Array 25.92 265 P **P** **08 07 26.5 -1.8**
comp=Z,0.9nm,0.6s,baz=55,slow=8.2,SNR=7.6
MKAR LR LR 08 17 59.1
comp=Z,579nm,18.5s,baz=40,slow=38
MKAR Makanchi Array 25.92 265 *i* P **P** **08 07 30.2 +1.9**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 25.92 265 P **P** **08 07 28.9 +0.6**
WHN Wuhan 26.55 194‖ P **P** **08 07 34.5 +0.5**
JHJ Hachijo jima 2 26.63 144 LR LR 08 18 47.1
comp=Z,249nm,18.4s,baz=314,slow=38
JHJ2 Mitsune 26.64 144 P **P** **08 07 37.6 +2.8**
BVAR Borovoye Array 29.16 285 P **P** **08 07 54.3 -2.8**
comp=Z,1.7nm,0.4s,baz=72,slow=9.1,SNR=2.4
BRVK Borovoye 29.20 285‖ *e*P **P** **08 08 00.3 +2.8**
BRVK pmax pmax
comp=Z,4.0nm,1.1s
GYA Guiyang 31.98 206 P **P** **08 08 25.6 +3.1**
GYA pmax pmax
comp=Z,10.0nm,0.9s
GYA LR LR
comp=Z,350nm,8.8s
GYA LR LR
comp=Z,310nm,10.8s
GYA LR LR
comp=Z,290nm,9.2s
AAK Ala-Archa 32.85 265 P **P** **08 08 27.8 -2.2**
comp=Z,0.8nm,0.3s,baz=205,slow=4.8,SNR=1.7
AAK LR LR 08 22 20.0
comp=Z,353nm,18.0s,baz=24,slow=38
AAK Ala-Archa 32.85 265‖ *e*P **P** **08 08 29.9 -0.1**
AAK pmax pmax
comp=Z,9.0nm,2.5s
AAK Ala-Archa 32.85 265 P **P** **08 08 27.4 -2.6**
ARU Arti 33.68 297 LR LR 08 23 25.1
comp=Z,120nm,19.3s,baz=66,slow=38
ARU Arti 33.68 297*d i*P **P** **08 08 36.4 -0.5**
ARU S **S** **08 13 58.9 -1.0**
ARU pmax pmax
comp=Z,7.0nm,1.4s
ARU MLR MLR
comp=Z,186nm,17.0s
KMI Kunming 34.30 211 P **P** **08 08 43.9 +1.1**
KMI pmax pmax
comp=Z,9.0nm,0.5s
KMI LR LR
comp=Z,430nm,11.6s
KMI LR LR
comp=Z,670nm,15.6s
KMI LR LR
comp=Z,280nm,13.4s
KKAR Karatay Array 34.74 269 P **P** **08 08 46.5 +0.2**
KKAR Karatay Array 34.74 269 P **P** **08 08 46.5 +0.2**
ANM Nome 34.79 46 P **P** **08 08 48.8 +2.4**
ANM pmax pmax
comp=Z,26nm,1.3s
ANM Nome 34.79 46 P **P** **08 08 48.8 +2.4**
ABKAR Akbulak array 36.73 285 P **P** **08 09 02.2 -1.0**
KIRV Kirov 37.02 304 LR LR 08 25 15.4
comp=Z,122nm,18.6s,baz=58,slow=38
SPITS Spitsbergen Ar 38.24 341 P **P** **08 09 15.0 -0.8**
comp=Z,7.0nm,0.9s,baz=69,slow=14,SNR=4.1
SPITS LR LR 08 26 31.2
comp=Z,136nm,18.0s,baz=20,slow=39
SPITS Spitsbergen Ar 38.24 341 P **P** **08 09 15.0 -0.8**
QIZ Qiongzhong 38.54 198 P **P** **08 09 21.3 +2.5**
QIZ S **S** **08 15 16.4 +1.6**
QIZ pmax pmax
comp=Z,16nm,1.4s
QIZ LR LR
comp=Z,310nm,13.5s
QIZ LR LR
comp=Z,270nm,13.1s
KLMR Klimovskoe 40.19 311 *e*P P 08 09 27.3 -4.8
KLMR pmax pmax
comp=Z,15nm,1.4s
KLMR Klimovskoe 40.19 311 *e*P **P** **08 09 27.4 -4.7**
KLMR AMP 08 09 41.3
comp=Z,15nm,1.4s
KLMR LQ LQ 08 22 38.6
KLMR LQ LQ 08 22 38.6
KLMR LR LR 08 25 17.1
SVW2 Sparrevohn 40.37 48 P **P** **08 09 34.8 +1.1**
ARCES ARCESS Array B 40.59 327 P **P** **08 09 32.8 -2.6**
comp=Z,5.2nm,0.9s,baz=49,slow=11,SNR=1.8
ARCES LR LR 08 30 17.8
comp=Z,134nm,18.6s,baz=67,slow=42
PPLA Purkeypile 40.76 44 P **P** **08 09 38.0 +0.9**
BMAR Burnt Mountain 41.03 36 P **P** **08 09 39.2 +0.2**
TRF Thorofare Moun 41.19 43 P **P** **08 09 41.9 +1.3**
TRF IAmb IAmb 08 09 44.2
comp=Z,12nm,1.0s
FYU Fort Yukon 41.28 37 P **P** **08 09 42.2 +1.1**
COLA College 41.31 40 P **P** **08 09 41.7 +0.4**
COLA pmax pmax
comp=Z,7.0nm,0.8s
COLA College 41.31 40 P **P** **08 09 41.7 +0.4**
COLA IAmb IAmb 08 09 44.4
comp=Z,7.5nm,0.8s
WRH Wood River Hil 41.44 41 P **P** **08 09 44.3 +1.8**
WRH IAmb IAmb 08 09 45.8
comp=Z,7.3nm,0.8s
CCB Clear Creek Bu 41.45 41 P **P** **08 09 44.1 +1.6**
CMAR Chiang Mai Arr 41.71 213 LR LR 08 29 49.2
comp=Z,56nm,19.3s,baz=50,slow=40
CMAR Chiang Mai Arr 41.71 213 *i* P **P** **08 09 48.0 +2.9**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
IL31 41.71 40 P **P** **08 09 44.6 0.0**
IL31 IAmb IAmb 08 09 48.2
comp=Z,7.8nm,0.6s
ILAR Eielson Array 41.71 40 P **P** **08 09 44.4 -0.2**
comp=Z,3.2nm,0.6s,baz=292,slow=3.9,SNR=31
ILAR LR LR 08 26 41.0
comp=Z,85nm,19.4s,baz=316,slow=36
ILAR Eielson Array 41.71 40 P **P** **08 09 44.7 +0.1**
ILAR Eielson Array 41.71 40 P **P** **08 09 44.7 +0.1**
HDA Harding Lake 41.89 41 P **P** **08 09 47.2 +1.1**
DHY Denali Highway 42.49 42 P **P** **08 09 52.2 +1.0**
DHY IAmb IAmb 08 09 55.5
comp=Z,8.8nm,0.6s
GHO Glory Hole Cre 42.66 45 P **P** **08 09 53.0 +0.5**
GHO IAmb IAmb 08 09 57.4
comp=Z,8.9nm,0.7s
SML Sawmill 42.87 44 P **P** **08 09 55.2 +1.1**
SML IAmb IAmb 08 09 57.1
comp=Z,15nm,0.8s
RIDG Independent Ri 43.03 41 P **P** **08 09 56.1 +0.6**
BRLK Bradley Lake 43.05 48 P **P** **08 09 56.3 +0.7**
BRLK IAmb IAmb 08 09 58.1
comp=Z,16nm,0.9s
DOT Dot Lake 43.37 40 P **P** **08 09 57.2 -1.0**
DOT IAmb IAmb 08 10 00.3
comp=Z,12nm,0.7s
KDAK Kodiak Island 43.52 51 P **P** **08 10 00.3 +1.0**
comp=Z,2.5nm,0.5s,baz=284,slow=1.8,SNR=7.7
OHAK Old Harbor 43.55 52 P **P** **08 09 59.7 +0.1**
OHAK IAmb IAmb 08 10 01.6
comp=Z,12nm,0.8s
EGAK Eagle 43.70 38 P **P** **08 10 01.7 +1.0**
INK Inuvik 43.89 31 P **P** **08 10 04.4 +2.2**
INK pmax pmax
comp=Z,10.0nm,1.1s
INK Inuvik 43.89 31 P **P** **08 10 04.4 +2.2**
INK IAmb IAmb 08 10 06.2
comp=Z,10.0nm,1.1s
MENT Mentasta 43.92 41 P **P** **08 10 04.1 +1.5**
MENT IAmb IAmb 08 10 10.4
comp=Z,8.5nm,0.6s
EPYK Eagle Plains 44.16 35 P **P** **08 10 06.0 +1.5**
EPYK IAmb IAmb 08 10 09.2
comp=Z,6.5nm,0.8s
BCAR Beaver Creek A 44.54 40 P **P** **08 10 07.4 -0.2**
DAWY Dawson 44.74 38 P **P** **08 10 09.8 +0.6**
OBN Obninsk 44.80 306 *e*P **P** **08 10 09.8 +0.1**
OBN *e* 08 11 55.0
OBN *e*PPP PPP 08 12 34.7
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,257nm,14.0s
GLB Gilahina Butte 44.81 43 P **P** **08 10 10.8 +1.0**
GLB IAmb IAmb 08 10 13.4
comp=Z,8.0nm,1.0s
VRDI Verde Repeater 45.08 43 P **P** **08 10 13.8 +1.7**
VRDI IAmb IAmb 08 10 16.1
comp=Z,6.2nm,0.9s
GEYT Alibeck 45.15 274 LR LR 08 29 14.4
comp=Z,101nm,19.3s,baz=200,slow=36
FINES FINESS Array B 45.15 318 P **P** **08 10 10.3 -2.0**
comp=Z,0.7nm,0.4s,baz=51,slow=8.6,SNR=10
FINES LR LR 08 30 36.6
comp=Z,155nm,18.2s,baz=53,slow=38
FINES FINESS Array B 45.15 318 *i* P **P** **08 10 12.6 +0.2**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 45.15 318 P **P** **08 10 10.7 -1.7**
TGL Tana Glacier 45.62 43 P **P** **08 10 17.9 +1.7**
BARN Barnard Glacie 45.86 42 P **P** **08 10 19.2 +1.0**
BARN IAmb IAmb 08 10 23.0
comp=Z,6.7nm,0.8s
CTGM Chitina Glacie 46.04 42 P **P** **08 10 21.4 +1.7**
YAH Yahtse 46.28 43 P **P** **08 10 21.9 +0.3**
RES Resolute Bay 46.75 13 P **P** **08 10 26.3 +1.5**
RES pmax pmax
comp=Z,13nm,1.1s
RES Resolute Bay 46.75 13 P **P** **08 10 26.3 +1.5**
PCA Pinnacle 47.01 43 P **P** **08 10 28.6 +1.4**
HYT Haines Junctio 47.54 41 P **P** **08 10 33.1 +1.8**
HYT IAmb IAmb 08 10 36.2
comp=Z,2.8nm,0.7s
KIV Kislovodsk 49.22 291 *e*P **P** **08 10 47.0 +2.5**
KIV pmax pmax
comp=Z,43nm,1.1s
KIV MLR MLR
comp=Z,286nm,16.0s
SUMG Summit 50.36 352 P **P** **08 10 53.2 +0.1**
SUMG pmax pmax
comp=Z,8.0nm,1.3s
SUMG Summit 50.36 352 P **P** **08 10 53.2 +0.1**
SUMG IAmb IAmb 08 11 08.6
comp=Z,8.1nm,1.3s
NC405 NORSAR Array S 50.42 324 P **P** **08 10 54.5 +1.2**
NB201 NORSAR Array S 50.61 324 P **P** **08 10 54.6 -0.1**
NB2 NORSAR Subarra 50.64 324 P **P** **08 10 52.5 -2.5**
comp=Z,0.5nm,0.4s,baz=39,slow=6.9
NOA NORSAR Array B 50.64 324 P **P** **08 10 52.8 -2.1**
comp=Z,0.8nm,0.7s,baz=43,slow=8.2,SNR=5.8
NOA LR LR 08 34 22.6
comp=Z,131nm,19.7s,baz=35,slow=38
NBO00 NORSAR Array S 50.79 324 P **P** **08 10 57.9 +1.8**
AKASG Malin Array Be 51.06 305 P **P** **08 10 56.3 -1.9**
comp=Z,0.8nm,0.4s,baz=41,slow=8.5,SNR=5.3
AKASG Malin Array Be 51.06 305 *i* P **P** **08 10 59.0 +0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
YKA Yellowknife Ar 53.48 29 P **P** **08 11 15.9 0.0**
comp=Z,2.1nm,0.7s,baz=328,slow=6.3,SNR=6.3
YKA LR LR 08 36 16.0
comp=Z,81nm,20.6s,baz=0.0,slow=38
WSAR Wadi Sarin 56.08 261 LR LR 08 35 08.1
comp=Z,105nm,19.1s,baz=74,slow=36
BRTR Keskin Array B 56.93 293 P **P** **08 11 39.5 -1.9**
comp=Z,1.0nm,0.4s,baz=80,slow=4.6,SNR=2.9
ANGG Ammassalik, Gr 57.08 350 P **P** **08 11 42.8 +0.9**
GERES GERESS Array B 59.12 313 P **P** **08 11 55.3 -1.2**
comp=Z,0.3nm,0.6s,baz=47,slow=8.6,SNR=2.4
GERES LR LR 08 39 29.5
comp=Z,182nm,18.4s,baz=48,slow=38

GRA1	Grafenberg Arr	59.43	315	P	P	08 11 59.1	+0.5	
GRF	Grafenberg Arr	59.43	315	P	P	08 11 59.1	+0.5	
GRF				pmax	pmax			
	comp=Z,11nm,1.1s							
MEM	Membach	60.66	319	P	P	08 12 07.3	+0.3	
LLLB	Lillooet	61.00	41	P	P	08 12 11.3	+2.0	
LLLB				IAmb	IAmb	08 12 12.9		
	comp=Z,7.6nm,1.0s							
LTY	Liberty	64.23	42	P	P	08 12 33.1	+2.1	
LTY				IAmb	IAmb	08 12 46.8		
	comp=Z,3.7nm,1.1s							
F10A	Beach Ranch, E	66.58	41	P	P	08 12 47.5	+1.3	
F10A				IAmb	IAmb	08 12 49.8		
	comp=Z,5.9nm,0.8s							
MSO	Missoula	66.99	38	P	P	08 12 51.2	+2.3	
MSO				IAmb	IAmb	08 12 52.6		
	comp=Z,5.6nm,0.8s							
PINE	Pine Mountain	67.05	44	P	P	08 12 50.4	+1.0	
PINE				IAmb	IAmb	08 12 53.7		
	comp=Z,4.0nm,0.8s							
I07A	Izee	67.35	43	P	P	08 12 53.4	+2.1	
I07A				IAmb	IAmb	08 12 55.3		
	comp=Z,4.4nm,0.9s							
BMO	Blue Mountains	67.51	41	P	P	08 12 53.6	+1.4	
BMO				pmax	pmax			
	comp=Z,4.0nm,0.9s							
BMO	Blue Mountains	67.51	41	P	P	08 12 53.6	+1.4	
BMO				IAmb	IAmb	08 12 56.5		
	comp=Z,4.2nm,0.8s							
HRY	Holter Researc	67.80	37	P	P	08 12 53.7	-0.3	
YBH	Yreka Blue Hor	68.09	47	P	P	08 12 56.9	+0.9	
	comp=Z,1.1nm,0.7s,baz=190,slow=6.1,SNR=1.9							
J08A	Circle Bar Ran	68.36	43	P	P	08 12 58.3	+0.7	
J08A				IAmb	IAmb	08 13 01.7		
	comp=Z,6.3nm,1.2s							
LRM	Limekiln Ridge	68.37	38	P	P	08 12 57.5	-0.3	
SCHQ	Schefferville	68.70	5	P	P	08 12 59.5	+0.1	
	comp=Z,3.6nm,0.9s,baz=334,slow=4.0,SNR=4.5							
SCHQ				LR	LR	08 43 48.1		
	comp=Z,65nm,20.5s,baz=338,slow=37							
DLMT	Dillon	68.72	38	P	P	08 13 00.2	+0.3	
BOZ	Bozeman (W)	68.84	37	P	P	08 13 00.7	0.0	
BOZ				pmax	pmax			
	comp=Z,3.0nm,0.7s							
BOZ	Bozeman (W)	68.84	37	P	P	08 13 00.7	0.0	
BOZ				IAmb	IAmb	08 13 03.4		
	comp=Z,3.0nm,0.7s							
MOD	Modoc Plateau	68.90	45	P	P	08 13 01.9	+0.8	
MOD				IAmb	IAmb	08 13 04.9		
	comp=Z,3.5nm,0.8s							
ULM	Lac du Bonnet	69.08	25	LR	LR	08 45 38.8		
	comp=Z,40nm,18.4s,baz=358,slow=38							
MCMT	McKenzie Canyo	69.11	38	P	P	08 13 03.4	+1.0	
MFID	Camas Ranch	69.29	41	P	P	08 13 04.6	+1.2	
YHL	Hebgen Lake	69.65	37	P	P	08 13 07.0	+1.1	
HLID	Hailey	69.67	40	P	P	08 13 07.2	+1.4	
HLID				IAmb	IAmb	08 13 09.9		
	comp=Z,2.9nm,0.8s							
RLMT	Red Lodge	70.04	36	P	P	08 13 09.5	+1.4	
RLMT				IAmb	IAmb	08 13 11.5		
	comp=Z,6.3nm,1.0s							
FXWY	Fox Creek	70.78	38	P	P	08 13 14.3	+1.6	
FXWY				IAmb	IAmb	08 13 16.7		
	comp=Z,3.4nm,0.9s							
TPAW	Teton Pass	70.93	38	P	P	08 13 14.5	+0.8	
TPAW				IAmb	IAmb	08 13 17.7		
	comp=Z,6.7nm,1.0s							
B35A	Bob, Littlefor	71.34	24	P	P	08 13 15.8	+0.1	
B35A				IAmb	IAmb	08 13 16.9		
	comp=Z,3.8nm,0.9s							
YERR	Yerington	71.82	46	P	P	08 13 20.3	+1.3	
YERR				IAmb	IAmb	08 13 22.8		
	comp=Z,4.6nm,0.9s							
ELK	Elko	71.83	42	P	P	08 13 19.6	+0.6	
	comp=Z,2.3nm,0.8s,baz=311,slow=9.7,SNR=12							
ELK	Elko	71.83	42	P	P	08 13 19.7	+0.6	
ELK				pmax	pmax			
	comp=Z,3.0nm,1.0s							
ELK	Elko	71.83	42	P	P	08 13 19.6	+0.6	
PD31	Pinedale Array	72.04	37	P	P	08 13 21.3	+1.0	
PDAR	Pinedale Array	72.04	37	P	P	08 13 20.6	+0.2	
	comp=Z,1.1nm,0.5s,baz=16,slow=2.8,SNR=14							
PDAR				LR	LR	08 46 46.4		
	comp=Z,81nm,18.4s,baz=344,slow=37							
WAKR	Walker	72.15	46	P	P	08 13 22.9	+1.9	
KVN	Kaiserville	72.21	45	P	P	08 13 23.4	+2.1	
KVN				pmax	pmax			
	comp=Z,7.0nm,1.2s							
KVN	Kaiserville	72.21	45	P	P	08 13 23.4	+2.1	
KVN				IAmb	IAmb	08 13 25.3		
	comp=Z,6.9nm,1.2s							
HWUT	Hardware Ranch	72.39	39	P	P	08 13 23.3	+0.9	
NVAR	Mina Array Bea	72.67	45	P	P	08 13 25.0	+0.8	
	comp=Z,1.8nm,0.7s,baz=314,slow=4.2,SNR=16							
NVAR				LR	LR	08 46 20.0		
	comp=Z,36nm,18.1s,baz=340,slow=37							
NVAR	Mina Array Bea	72.67	45	P	P	08 13 25.8	+1.7	
NV11	Mina Array Sit	72.72	45	P	P	08 13 25.9	+1.6	
CTU	Camp Tracy	73.13	40	P	P	08 13 29.1	+2.3	
ESDC	Sonseca Array	73.64	319	P	P	08 13 28.1	-1.5	
	comp=Z,1.1nm,0.9s,baz=11,slow=6.0,SNR=4.7							
ESDC				LR	LR	08 49 46.5		
	comp=Z,91nm,18.6s,baz=85,slow=39							
ESDC	Sonseca Array	73.64	319	P	P	08 13 31.1	+1.4	
R11A	Troy Canyon, C	73.79	43	P	P	08 13 31.9	+1.2	
RDMU	Red Mountain	74.00	38	P	P	08 13 33.8	+1.8	
PSUT	Pine Spring	74.28	42	P	P	08 13 34.3	+0.7	
TMUT	Trail Mountain	74.56	40	P	P	08 13 36.6	+1.3	
P17A	Butcher Ranch,	74.57	39	P	P	08 13 35.3	+0.1	
O20A	White River Ci	74.84	37	P	P	08 13 36.7	-0.1	
MSU	Marysvale	74.91	41	P	P	08 13 38.0	+0.7	
MSU	Marysvale	74.91	41	P	P	08 13 38.0	+0.7	
ECSD	EROS Data Cent	74.99	28	P	P	08 13 37.0	-0.3	
ECSD				IAmb	IAmb	08 13 38.9		
	comp=Z,2.9nm,0.7s							
K31A	O'Neill	75.45	30	P	P	08 13 41.3	+1.2	
KNB	Kanab	76.00	42	P	P	08 13 43.2	-0.3	
KNB				pmax	pmax			
	comp=Z,9.0nm,0.9s							
KNB	Kanab	76.00	42	P	P	08 13 43.2	-0.3	
PV21	Cone Mtn., Par	76.00	39	P	P	08 13 43.4	-0.2	
PV21				IAmb	IAmb	08 13 47.0		
	comp=Z,3.8nm,0.8s							
PV09	Paradox Valley	76.00	39	P	P	08 13 44.5	+0.9	
ISCO	Idaho Springs	76.00	36	P	P	08 13 44.4	+0.7	
ISCO				pmax	pmax			
	comp=Z,3.0nm,0.8s							
ISCO	Idaho Springs	76.00	36	P	P	08 13 44.4	+0.7	
ISCO				IAmb	IAmb	08 13 47.2		
	comp=Z,3.1nm,0.8s							
PV23	Carpenter Ridg	76.08	39	P	P	08 13 45.8	+1.7	
PV22	Blue Mesa, Par	76.09	38	P	P	08 13 45.3	+1.3	
PV22				IAmb	IAmb	08 13 47.3		
	comp=Z,6.2nm,0.9s							
PV14	Lion Creek, Pa	76.15	39	P	P	08 13 44.6	+0.2	
PV19	Morning Glory	76.22	39	P	P	08 13 46.0	+1.2	
PV19				IAmb	IAmb	08 13 48.0		
	comp=Z,9.4nm,1.2s							
PV07	Paradox Valley	76.22	38	P	P	08 13 46.0	+1.2	
PV07				IAmb	IAmb	08 13 48.1		
	comp=Z,5.9nm,1.1s							
PV12	Saucer Basin,	76.28	39	P	P	08 13 45.9	+0.8	
PV12				IAmb	IAmb	08 13 48.9		
	comp=Z,5.3nm,1.0s							
PV03	Paradox Valley	76.32	39	P	P	08 13 46.9	+1.5	
PV03				IAmb	IAmb	08 13 49.0		
	comp=Z,4.1nm,1.1s							
PV15	Paradox Valley	76.37	38	P	P	08 13 46.9	+1.2	
PV01	Paradox Valley	76.52	39	P	P	08 13 47.5	+0.9	
PV01				IAmb	IAmb	08 13 49.9		
	comp=Z,3.9nm,1.0s							
U15A	North Rim	76.72	42	P	P	08 13 49.0	+1.3	
WRAB	Tennant Creek	77.00	168	P	P	08 13 49.1	+0.2	
WRAB				pmax	pmax			
	comp=Z,12nm,1.4s							
WRAB	Tennant Creek	77.00	168	P	P	08 13 49.1	+0.2	
WRAB				IAmb	IAmb	08 13 53.6		
	comp=Z,12nm,1.4s							
WRA	Warramunga Arr	77.01	168	P	P	08 13 47.0	-1.9	
	comp=Z,2.5nm,0.8s,baz=350,slow=6.8,SNR=9.1							
WRA	Warramunga Arr	77.01	168	*i* P	P	08 13 49.4	+0.5	
WRA				pmax	pmax			
	comp=Z,3.0nm,0.8s							
WRA	Warramunga Arr	77.01	168	P	P	08 13 46.2	-2.8	
WB2	Warramunga Arr	77.01	168	P	P	08 13 47.6	-1.4	
I45A	Fountain	77.03	20	P	P	08 13 49.5	+0.5	
W13A	Hualapai Mount	77.29	44	P	P	08 13 51.5	+0.6	
MVCO	Mesa Verde	77.38	39	P	P	08 13 52.5	+1.2	
MVCO				IAmb	IAmb	08 13 55.0		
	comp=Z,5.0nm,0.9s							
ANMO	Albuquerque	80.12	38	P	P	08 14 07.7	+1.2	
ANMO				pmax	pmax			
	comp=Z,3.0nm,1.1s							
ANMO	Albuquerque	80.12	38	P	P	08 14 07.7	+1.2	
214A	Organ Pipe Nat	80.48	44	P	P	08 14 08.3	0.0	
ASAR	Alice Springs	80.64	169	P	P	08 14 07.3	-1.5	
	comp=Z,0.5nm,0.8s,baz=351,slow=6.2,SNR=5.5							
ASAR				LR	LR	08 55 12.9		
	comp=Z,34nm,18.0s,baz=306,slow=40							
ASAR	Alice Springs	80.64	169	P	P	08 14 07.7	-1.1	
ASAR	Alice Springs	80.64	169	P	P	08 14 07.7	-1.1	
LENM	Lemitar	80.65	39	P	P	08 14 11.4	+2.1	
S39A	Bolivar	81.51	27	P	P	08 14 12.9	-0.6	
S39A				IAmb	IAmb	08 14 15.5		
	comp=Z,10nm,1.4s							
AMTX	Amarillo	81.75	35	P	P	08 14 16.9	+1.9	
MSTX	Muleshoe	82.25	36	P	P	08 14 19.1	+1.5	
MSTX				IAmb	IAmb	08 14 21.4		
	comp=Z,5.9nm,0.8s							
HHAR	Hobbs	82.68	28	P	P	08 14 20.5	+0.7	
HHAR				IAmb	IAmb	08 14 22.3		
	comp=Z,3.1nm,0.9s							
WMOK	Wichita Mounta	82.78	33	P	P	08 14 19.9	-0.4	
WMOK				pmax	pmax			
	comp=Z,8.0nm,1.0s							
WMOK	Wichita Mounta	82.78	33	P	P	08 14 19.9	-0.4	
U40A	Yellville	82.89	27	P	P	08 14 21.7	+0.9	
U40A				IAmb	IAmb	08 14 22.9		
	comp=Z,3.0nm,0.9s							
MNTX	Cornudas Mount	83.45	39	P	P	08 14 24.9	+1.2	
LCAR	Lake Charles	83.59	26	P	P	08 14 24.8	+0.4	
LCAR				IAmb	IAmb	08 14 30.1		
	comp=Z,6.9nm,1.4s							
ABTX	Abilene, Hawle	84.48	34	P	P	08 14 28.6	-0.5	
TXAR	Lajitas Array	86.20	38	P	P	08 14 37.0	-0.8	
	comp=Z,0.5nm,0.8s,baz=280,slow=3.0,SNR=5.9							
KMBO	Kilima Mbogo	87.81	265	LR	LR	08 57 42.1		
	comp=Z,60nm,18.4s,baz=92,slow=38							
STKA	Stephens Creek	89.76	163	LR	LR	08 59 44.3		
	comp=Z,25nm,18.0s,baz=19,slow=39							
PB07	IPOC Station P	144.14	18	PKPdf	PKPdf	08 21 32.3	+0.1	
CPUP	Villa Florida	149.74	358	PKPbc	PKPbc	08 21 45.3	-0.5	
	comp=Z,1.9nm,0.8s,baz=354,slow=3.8,SNR=5.4							
CPUP	Villa Florida	149.74	358	PKPbc	PKiKP	08 21 47.1	+0.2	
AC05	El Transito	150.99	22	PKPbc	PKiKP	08 21 51.3	+1.7	

SJA 21 08:06:14.9±0.8, 32.10S×70.18W, h90km±6km, ML3.5, MW3.6, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUSP	Uspallata	0.69	101	*i* P	Pn	08 06 32.8	+1.1
AUSP				*e*S	Sn	08 06 46.1	+2.0
RTLS	Leoncito	0.81	69	*i* P	Pn	08 06 34.4	+1.5
RTLS				*e*S	Sn	08 06 48.4	+2.1
RTLS				IAML		08 06 49.6	
	comp=Z,579nm,0.3s						
ROC1	El Roble	1.12	219	*i* P	Pn	08 06 37.4	+1.0
ROC1				*e*S	Sn	08 06 54.0	+1.6
PEL	Peldehue	1.13	202	*i* P	Pn	08 06 37.0	+0.8
PEL				*e*S	Sn	08 06 53.6	+1.5
ASAL	Salagasta	1.24	114	*i* P	Pn	08 06 38.7	+1.1
ASAL				*e*S	Sn	08 06 56.7	+2.0
ASAL				IAML		08 06 58.4	
	comp=Z,837nm,0.8s						
ARCO	CERRO ARCO	1.29	125	*i* P	Pn	08 06 39.4	+1.2
ARCO				*e*S	Sn	08 06 57.4	+1.6
ARCO				IAML		08 06 59.6	
	comp=Z,914nm,0.3s						
UTNM	Universidad Te	1.38	126	*i* P	Pn	08 06 40.6	+1.4
UTNM				*e*S	Sn	08 06 59.0	+1.4
UTNM				IAML		08 07 00.9	
	comp=Z,891nm,0.3s						
ZON	Zonda	1.39	67	*i* P	Pn	08 06 40.5	+1.1
ZON				IAML		08 07 01.7	
	comp=Z,270nm,0.8s						
RTCV	Cerro Valdivia	1.42	81	*i* P	Pn	08 06 40.3	+0.7
RTCV				IAML		08 07 02.4	
	comp=Z,331nm,0.7s						
AAGR	Agrelo	1.51	131	*i* P	Pn	08 06 42.0	+1.2
AAGR				IAML		08 07 04.8	
	comp=Z,810nm,0.8s						
RTLL	Cerro Villicun	1.64	63	*i* P	Pn	08 06 43.5	+0.9
RTLL				IAML		08 07 05.7	
	comp=Z,599nm,0.3s						
CFA	Coronel Fontan	1.73	74	*i* P	Pn	08 06 44.2	+0.6
CFA				IAML		08 07 06.9	
	comp=Z,383nm,0.4s						
ACCO	Cerro Coronel	1.78	33	*i* P	Pn	08 06 46.6	+2.0
ACCO				IAML		08 07 12.7	
	comp=Z,298nm,0.3s						
GO04	Tololo Observa	1.99	344	*i* P	Pn	08 06 49.3	+2.0
AROD	Rodeo	2.02	18	*i* P	Pn	08 06 50.8	+3.1
ACDV	Cuesta del Vie	2.12	26	*i* P	Pn	08 06 51.7	+2.7
ACDV				IAML		08 07 20.0	
	comp=Z,116nm,0.4s						
LAMA	Las Malvinas	2.94	164	*i* P	Pn	08 06 60.0	+0.3
COIS	El Sosneado	3.04	171	*i* P	Pn	08 07 02.5	+1.5
MORA	Malargue	3.33	163	*i* P	Pn	08 07 04.5	-0.4
PUMA	Malargue	3.44	170	*i* P	Pn	08 07 07.0	+0.6
APLL	PUNTA DE LOS L	3.56	62	*i* P	Pn	08 07 08.0	-0.1
VCA	Vinchina	3.76	28	*i* P	Pn	08 07 12.3	+1.4
VCA				IAML		08 08 03.5	
	comp=Z,104nm,0.5s						
ACLC	CERRO LA CRUZ	3.85	47	*i* P	Pn	08 07 14.5	+2.4
GO03	Copiap	4.49	359	*i* P	Pn	08 07 21.6	+0.9
CYA	Choya	5.25	47	*i* P	Pn	08 07 29.5	-1.6
CYA				IAML		08 09 12.3	
	comp=Z,15nm,0.6s						

*AEIC **21** 08:08:21.9±1.1, 52.76N±0.10×164.05W±0.07, h59km±9km, ML3.2/40, Error ellipse: s-maj=15.1km s-min=4.0km az=161.0*
*NEIC **21** 08:08:21.6±0.8, 52.75N±0.09×164.03W±0.09, h23km±10km, Error ellipse: s-maj=12.6km s-min=7.8km az=168.0*
*IDC **21** 08:08:25.6±2.0, 52.65N×162.55W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.4/64, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=50.2km s-min=32.4km az=10.0*

ISC 21 08:08:22.4±1.2, 52.75N±0.10×163.88W±0.05, h35km, n42, σ1§34/44, mb3.7/3, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKSA	Akutan Strait	1.77	323		Pn	08 08 49.7	-0.8
AKSA					Sn	08 09 11.2	-0.6
AKSA	Akutan Strait	1.77	323		Pn	08 08 49.6	-0.8
AKSA					Sn	08 09 11.3	-0.4
AKUT	Akutan	1.79	322		Pn	08 08 50.2	-0.7
AKUT					Sn	08 09 11.5	-0.8
WESP	Westdahl Peak	1.82	344		Pn	08 08 51.0	-0.3
AKBBA	Akutan Broad B	1.83	319		Pn	08 08 50.8	-0.5
AKBBA					Sn	08 09 12.9	-0.4
AKMO	Akutan Morgan	1.86	317		Pn	08 08 51.0	-0.7
AKMO					Sn	08 09 13.4	-0.5
AKLV	Akutan Long Va	1.89	320		Pn	08 08 51.3	-0.8
AKLV					Sn	08 09 14.3	-0.4
AKRB	Akutan Reef Bi	1.91	318		Pn	08 08 51.9	-0.5
AKRB					Sn	08 09 15.5	+0.3
WEBT	Westdahl Beart	1.92	345		Pn	08 08 52.5	-0.1
UNV	Unalaska Valle	1.92	306		Pn	08 08 51.5	-1.1
AKGG	Akutan Green G	1.93	320		Pn	08 08 52.1	-0.6
MREP	Makushin Rep't	2.03	303		Pn	08 08 53.1	-1.0
MNAT	Makushin Natee	2.03	305		Pn	08 08 53.4	-0.7
SSLW	Shishaldin Wes	2.04	356		Pn	08 08 54.3	+0.1
SSBA	Shishaldin	2.04	356		Pn	08 08 53.9	-0.3
MSW	Makushin Switc	2.10	305		Pn	08 08 54.4	-0.6
FALS	False Pass	2.13	7		Pn	08 08 55.4	-0.1
OKFG	Magazine Ridge	2.52	287		Pn	08 08 59.8	-1.1
OKNC	Okmok New Cone	2.66	287		Pn	08 09 01.8	-0.9
OKNC					Sn	08 09 31.0	-2.7
OKCE	Okmok Cone E	2.67	287		Pn	08 09 02.4	-0.6
OKSP	Okmok Steeple	2.71	283		Pn	08 09 02.4	-1.2
NIKH	Nikolski High	3.03	276		Pn	08 09 06.2	-1.6
CNBA	Chernabura Isl	3.29	49		Pn	08 09 11.5	+0.2
SDPT	Sand Point	3.29	36		Pn	08 09 12.1	+0.7
VNHG	Veniaminof 1	4.44	36		Pn	08 09 29.1	+1.9
KOFP	Korovin Flat P	6.26	270		Pn	08 09 52.6	+0.4
ATKA	Atka Island	6.33	269		Pn	08 09 52.5	-0.6
GSTR	Great Sitkin T	7.48	270		Pn	08 10 08.8	-0.1
GSMY	Great Sitkin M	7.49	269		Pn	08 10 09.3	+0.3
GSTD	Great Sitkin T	7.54	270		Pn	08 10 09.7	-0.1
ADK	Adak	7.90	269		Pn	08 10 14.5	-0.1
KDAK	Kodiak Island	8.19	47	Pn	Pn	08 10 18.4	-0.1
	0.6nm,0.3s,baz=180,slow=4.0,SNR=26						
KDAK				Sn	Sn	08 11 43.4	-6.3
	0.1nm,0.3s,baz=72,slow=20,SNR=1.3						
KDAK	Kodiak Island	8.19	47		Pn	08 10 18.9	+0.4
PDAR	Pinedale Array	37.03	83	P	P	08 15 30.9	+2.0
	0.4nm,0.6s,baz=316,slow=4.1,SNR=3.7						
H11N2	WAKE ISLAND Hy	39.98	226	T	T	09 00 17.1	
	baz=25						
H11N3	WAKE ISLAND Hy	39.99	226	T	T	09 00 11.0	
	baz=25						
H11N1	WAKE ISLAND Hy	40.00	226	T	T	09 00 11.8	
	baz=25						
H11S1	WAKE ISLAND Hy	41.15	225	T	T	09 01 59.3	
	baz=25						
H11S2	WAKE ISLAND Hy	41.16	225	T	T	09 01 33.6	
	baz=25						
H11S3	WAKE ISLAND Hy	41.17	225	T	T	09 01 51.7	
	baz=25						
TXAR	Lajitas Array	49.41	94	P	P	08 17 10.3	+1.6
	0.6nm,0.5s,baz=303,slow=5.5,SNR=13						
MKAR	Makanchi Array	65.91	316	P	P	08 19 17.0	+13
	0.5nm,0.8s,baz=49,slow=6.5,SNR=2.7						

IDC 21 08:10:07.7±42.0, 17.14S×174.21E, h0km, mb4.2/4, mb1 4.3/4, mb1mx3.7/39, mbtmp4.2/4, Error ellipse: s-maj=724.8km s-min=140.1km az=70.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	Charters Tower	26.64	259	P	P	08 15 48.7	+0.3
	1.0nm,0.5s,baz=85,slow=13,SNR=1.2						
STKA	Stephens Creek	32.95	237	P	P	08 16 44.5	+0.2
	1.3nm,0.7s,baz=85,slow=11,SNR=3.2						
WRA	Warramunga Arr	37.85	259	P	P	08 17 26.2	-0.3
	1.0nm,0.3s,baz=95,slow=8.3,SNR=9.5						
ASAR	Alice Springs	38.24	253	P	P	08 17 29.6	-0.2
	4.9nm,0.4s,baz=82,slow=8.9,SNR=117						

IDC 21 08:49:06.2±999.0, 27.75S×124.01E, h0km, Error ellipse: s-maj=444.7km s-min=224.1km az=88.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I07AU	WARRAMUNGA INF	22.22	53	*i*		10 04 30.0	
	baz=227,slow=312,SNR=4.4						
I05AU	HOBART INFRASO	24.21	134	*i*		11 20 50.0	
	baz=294,slow=308,SNR=1.3						
I22FR	PORTLAGUERRE I	39.08	92	*i*		12 42 56.1	
	baz=248,slow=309,SNR=1.4						

*ECX **21** 09:11:02.2±0.7, 30.66N×114.24W, h14km±8km, MD3.6, ML3.8*
*IDC **21** 09:11:03.3±2.0, 30.71N×114.04W, h0km, mb3.5/1, mb1 3.4/7, mb1mx3.3/46, mbtmp3.0/7, ML3.2/6, MS3.0/8, Ms1 3.0/8, ms1mx2.7/29, Error ellipse: s-maj=33.6km s-min=10.5km az=32.0*
*MEX **21** 09:11:03.2±0.6, 30.19N×114.39W, h16km±30km, MD4.1*
*NEIC **21** 09:11:03.5±3.1, 30.54N±0.10×114.30W±0.06, h30km±11km, Error ellipse: s-maj=14.4km s-min=7.0km az=192.0*

ISC 21 09:11:01.5±1.1, 30.62N±0.06×114.28W±0.03, h10km, n59, σ1§69/66, MS3.0/4, 2C-4D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFX	San Felipe	0.64	310	*e*P	Pb	09 11 13.9	-0.9
SFX				*e*S	Sg	09 11 22.3	-0.1
SFX				⇓*e*		09 11 24.0	
SFX				IAML		09 11 24.0	
	comp=E,3μm,0.3s						
BAHB	Baha de los	0.92	137	*e*P	Pn	09 11 33.0	+13
ECBX	El Chinero	1.08	322	*e*P	Pb	09 11 19.8	-2.4
ECBX				*e*S	Sg	09 11 34.7	-1.5
SPX	San Pedro Mart	1.10	292	*e*P	Pg	09 11 21.6	-1.1
SPX				IAML		09 11 47.0	
	comp=N,2μm,0.5s						
SPX				*e*		09 11 47.0	
SPX				IAML		09 11 47.7	
	comp=E,2μm,1.4s						
SPX				⇑*e*		09 11 47.7	
SPX	San Pedro Mart	1.10	292		Pn	09 11 22.6	-0.7
SPX					Sb	09 11 37.7	+0.3
SPX	San Pedro Mart	1.10	292	*e*P	Pn	09 11 22.6	-0.7
SPX				*i* S	Sb	09 11 37.7	+0.3
SPIG	San Pedro Mart	1.11	293	*e*P	Pg	09 11 21.6	-1.1
SPIG				*e*S	Sb	09 11 37.9	+0.3
SPIG	San Pedro Mart	1.11	293		Pn	09 11 22.6	-0.7
SPIG					Sb	09 11 37.8	+0.3
SPIG	San Pedro Mart	1.11	293	*e*P	Pn	09 11 22.6	-0.7
SPIG				*i* S	Sb	09 11 37.8	+0.3
PIX	Pinacate	1.17	37	⇓*e*P	Pb	09 11 21.5	-2.3
PIX				*e*S	Sb	09 11 37.0	-2.0
SQX	San Quintin	1.38	269	⇓*e*P	Pn	09 11 25.4	-1.4
SQX				*e*S	Sn	09 11 44.4	-0.6
SQX				IAML		09 11 49.2	
	comp=E,1μm,0.6s						
SQX				⇑*e*		09 11 49.2	
SQX				IAML		09 11 51.0	
	comp=N,2μm,0.4s						
SQX				⇓*e*		09 11 51.0	
VTX	Valle De La Tr	1.50	301	*e*P	Pn	09 11 27.4	-1.1
VTX				*e*S	Sn	09 11 47.5	-0.8
214A	Organ

BNM	**Barren Site**	**7.37**	**59**	Pn	**Pn**	**09 12 50.2**	**+0.9**
LPIG	**La Paz**	**7.39**	**151**	LR	LR	09 15 33.6	
	comp=N,85nm,21.7s,baz=348,slow=37						
MNTX	**Cornudas Mount**	**7.70**	**80**	Pn	**Pn**	**09 12 55.6**	**+1.9**
ANMO	**Albuquerque**	**7.87**	**55**	Pn	**Pn**	**09 12 56.7**	**+0.5**
	comp=N,0.2nm,0.3s,baz=222,slow=14,SNR=2.0						
ANMO				Lg	Lg	09 15 07.6	
	comp=N,0.2nm,0.3s,baz=306,slow=7.5,SNR=2.2						
MVCO	**Mesa Verde**	**8.14**	**35**	Pn	**Pn**	**09 13 02.5**	**+2.6**
NVAR	**Mina Array Bea**	**8.47**	**338**	Pn	Pn	09 13 09.1	+4.7
	comp=N,0.1nm,0.3s,baz=141,slow=16,SNR=2.0						
NVAR				LR	LR	09 16 37.1	
	comp=N,47nm,20.0s,baz=230,slow=40						
PV23	**Carpenter Ridg**	**8.94**	**28**		**Pn**	**09 13 14.0**	**+3.1**
TXAR	**Lajitas Array**	**9.29**	**95**	Pn	**Pn**	**09 13 16.9**	**+1.3**
	comp=N,0.2nm,0.3s,baz=275,slow=12,SNR=11						
TXAR				Lg	Lg	09 15 58.2	
	comp=N,0.3nm,0.3s,baz=263,slow=30,SNR=4.0						
TXAR				LR	LR	09 17 11.0	
	comp=N,62nm,18.0s,baz=0.0,slow=40						
ELK	**Elko**	**10.13**	**356**	Pn	**Pn**	**09 13 29.6**	**+2.3**
	comp=N,0.1nm,0.3s,baz=177,slow=19,SNR=2.1						
PDAR	**Pinedale Array**	**12.70**	**16**	Pn	Pn	09 14 07.7	+5.4
	comp=N,0.1nm,0.3s,baz=190,slow=16,SNR=2.2						
CMIG	**Matias Romero**	**22.22**	**123**	LR	LR	09 24 10.1	
	comp=N,51nm,19.7s,baz=284,slow=36						
BBB	**Bella Bella**	**23.83**	**339**	LR	LR	09 25 39.3	
	comp=N,40nm,21.3s,baz=72,slow=37						
TKL	**Tuckaleechee C**	**25.97**	**71**	LR	LR	09 27 23.7	
	comp=N,47nm,18.0s,baz=274,slow=38						
DLBC	**Dease Lake**	**29.84**	**343**	LR	LR	09 29 48.3	
	comp=N,58nm,18.6s,baz=104,slow=38						
ILAR	**Eielson Array**	**39.72**	**339**	P	**P**	**09 18 36.8**	**+3.0**
	comp=N,0.6nm,0.8s,baz=156,slow=7.9,SNR=9.2						

UCR 21 09:11:53.2±1.2, 10.05N×85.11W, h43km±5km, MD3.6, 3C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLVR	**Palo Verde**	**0.37**	**321**	*eP*	Pn	09 12 02.4	-0.4
PLVR				*eS*	Sn	09 12 09.3	-0.1
GUAI	**GUAI**	**0.45**	**299**	*iP*	Pn	09 12 03.3	-0.1
GUAI				*iS*	Sn	09 12 11.3	+0.8
CASO	**Castillo**	**0.53**	**45**	*iP*	Pn	09 12 04.4	-0.1
CASO				*iS*	Sn	09 12 13.4	+0.8
ARE1	**Arenal 1**	**0.56**	**44**	↑*iP*	Pn	09 12 05.2	+0.3
ARE1				*eS*	Sn	09 12 15.1	+1.9
ACAL	**Aguas Claras**	**0.58**	**8**	*iP*	Pn	09 12 05.0	-0.3
ACAL				*iS*	Sn	09 12 14.1	+0.3
CEDE	**Laguna Cedeo**	**0.59**	**43**	*iP*	Pn	09 12 05.5	+0.2
CEDE				*iS*	Sn	09 12 15.2	+1.2
FORC	**Fortuna**	**0.60**	**47**	*iP*	Pn	09 12 05.5	+0.1
CUI	**Cuipilapa**	**0.60**	**355**	↑*iP*	Pn	09 12 05.2	-0.3
CUI				*eS*	Sn	09 12 14.6	+0.4
COLC	**Colonia**	**0.61**	**352**	*iP*	Pn	09 12 05.3	-0.3
COLC				*iS*	Sn	09 12 14.6	+0.1
SRA1	**San Ramn**	**0.62**	**87**	*eP*	Pn	09 12 05.5	-0.3
SRA1				*eS*	Sn	09 12 15.3	+0.4
HORNC	**Hornillas**	**0.66**	**354**	*iP*	Pn	09 12 05.8	-0.5
HORNC				*iS*	Sn	09 12 15.3	-0.3
PTEN	**Parque Tenorio**	**0.67**	**11**	*iP*	Pn	09 12 06.3	-0.1
NY14	**Universidad de**	**0.72**	**325**	*iP*	Pn	09 12 07.3	+0.3
BUEV	**Buena Vista**	**0.79**	**339**	*eP*	Pn	09 12 07.7	-0.4
BUEV				*eS*	Sn	09 12 19.4	+0.6
GBS3	**Finca Las Img**	**0.80**	**335**	*iP*	Pn	09 12 07.7	-0.4
GB1A	**Borinquen Arri**	**0.81**	**340**	*eP*	Pn	09 12 08.2	-0.1
GB1A				*eS*	Sn	09 12 19.8	+0.6
HDC	**Heredia**	**0.99**	**93**	*eP*	Pn	09 12 11.0	+0.3
LCR2	**La Lucha 2**	**1.14**	**106**	*eP*	Pn	09 12 12.6	-0.3
LCR2				*eS*	Sn	09 12 28.2	+0.7
EDLM	**Las Mercedes**	**1.69**	**117**	*eP*	Pn	09 12 21.1	+0.8
EDLM				*eS*	Sn	09 12 41.9	+1.1
ACON	**Acoyapa**	**1.90**	**358**	*eP*	Pn	09 12 22.8	-0.4
DRK0	**Durika**	**2.00**	**113**	↑*eP*	Pn	09 12 24.7	0.0
DRK0				*eS*	Sn	09 12 49.1	+0.4

MOS ***21*** *09:21:19.9±0.9, 13.66S×14.70W, h10km, mb5.4/63, Error ellipse: s-maj=9.7km s-min=5.7km az=61.2*
IDC ***21*** *09:21:19.9±0.4, 13.715S×14.66W, h0km, mb4.6/27, mb1 4.7/27, mb1mx4.6/32, mbtmp4.6/27, MS4.3/27, Ms1 4.3/27, ms1mx4.3/29, Error ellipse: s-maj=14.7km s-min=11.3km az=148.0*
BJI ***21*** *09:21:20.3±0.0, 14.29S×14.12W, h6km, mB5.4/1, Ms5.1/5, Ms7 4.8/5*
NEIC ***21*** *09:21:21.1±1.3, 13.7S±0.1×14.65W±0.10, h10km±1km, mb5.3/239, Error ellipse: s-maj=18.2km s-min=16.2km az=165.0*
UNK ***21*** *09:21:21.7, 13.72S×14.62W, h10km*
GCMT ***21*** *09:21:23.0±0.2, 13.68S±0.02×14.60W±0.01, h12km, MW5.0/128, Moment Tensor Solution. s54,c68; s128,c200; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-4.25±.08; Mθθ 0.35±.09; Mϕϕ 3.90±.08; Mrθ 0.25±.31; Mθϕ-1.05±.07; Mrϕ 0.07±.27; Best double couple: Mo4.22700×1016 NP1:ϕs168.00000°, δ45.00000°, λ-85.00000°. NP2:ϕs341.00000°, δ45.00000°, λ-95.00000°. Principal axes: T 4.1870, Plg0.0000°, Azm75.0000°; N 0.0760, Plg3.0000°, Azm345.0000°; P -4.2660, Plg87.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BGR ***21*** *09:21:28.4±0.0, 13.43S×13.68W, h33km, mb5.4*

ISC 21 09:21:21.4±0.3, 13.70S±0.07×14.61W±0.06, h10km, n703, σ0s90/657, mb5.2/212, MS4.6/49, 34C-9D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**4.71**	**360**	T	T	09 27 25.8	
	baz=179,slow=74,SNR=132						
H10S3	**ASCENSION HYDR**	**4.72**	**359**	T	T	09 27 27.6	
	baz=41,slow=74,SNR=222						
H10N1	**ASCENSION HYDR**	**5.82**	**1**	T	T	09 28 47.7	
	baz=180,slow=74,SNR=33						
H10N3	**ASCENSION HYDR**	**5.83**	**1**	T	T	09 28 51.6	
	baz=180,slow=74,SNR=182						
H10N2	**ASCENSION HYDR**	**5.84**	**1**	T	T	09 28 51.9	
	baz=180,slow=74,SNR=42						
LIC	**Lamto**	**21.96**	**26**	*eP*	**P**	**09 26 20.5**	**+4.9**
	221nm,1.4s						
KIC	**Kosan Boka**	**22.21**	**27**	*eP*	**P**	**09 26 18.6**	**+0.3**
	805nm,2.4s						
TIC	**Toumodi**	**22.35**	**26**	*eP*	**P**	**09 26 19.8**	**+0.1**
RCBR	**Riachuelo**	**22.38**	**288**	P	**P**	**09 26 18.4**	**-1.8**
	42nm,1.1s,baz=120,slow=9.3,SNR=5.8						
RCBR				LR	LR	09 32 42.0	
	comp=Z,1μm,21.9s,baz=98,slow=30						
RCBR	**Riachuelo**	**22.38**	**288**	P	**P**	**09 26 19.7**	**-0.4**
RCBR				pmax	pmax		
	comp=Z,82nm,1.2s						
RCBR	**Riachuelo**	**22.38**	**288**	P	**P**	**09 26 19.7**	**-0.4**
RCBR	**Riachuelo**	**22.38**	**288**	*eP*	**P**	**09 26 20.9**	**+0.7**
RCBR	**Riachuelo**	**22.38**	**288**	*eP*	**P**	**09 26 20.9**	**+0.7**
DBIC	**Dimbokro**	**22.44**	**26**	P	**P**	**09 26 19.2**	**-1.5**
	comp=Z,20nm,1.2s,baz=190,slow=10,SNR=4.9						
DBIC				LR	LR	09 33 00.3	
	comp=Z,978nm,19.3s,baz=184,slow=31						
DBIC	**Dimbokro**	**22.44**	**26**	P	**P**	**09 26 20.6**	**-0.1**
DBIC				pmax	pmax		
	comp=Z,134nm,1.7s						
DBIC	**Dimbokro**	**22.44**	**26**	P	**P**	**09 26 20.6**	**-0.1**
DBIC				IAmb	IAmb	09 26 28.3	
	comp=Z,134nm,1.7s						
GDU01	**Guandu, BA**	**24.25**	**267**	*eP*	**P**	**09 26 39.1**	**+0.2**
GDU01	**Guandu, BA**	**24.25**	**267**	*eP*	**P**	**09 26 39.1**	**+0.2**
BSFB	**Barra de Sao F**	**25.68**	**255**	*eP*	**P**	**09 26 52.6**	**+0.7**
BSFB	**Barra de Sao F**	**25.68**	**255**	*eP*	**P**	**09 26 52.6**	**+0.7**
SJMB	**Sao Joao De Ma**	**25.98**	**255**	*eP*	**P**	**09 26 56.0**	**+1.3**
SJMB	**Sao Joao De Ma**	**25.98**	**255**	*eP*	**P**	**09 26 56.0**	**+1.3**
JANB	**Januaria**	**28.79**	**264**	*eP*	**P**	**09 27 20.7**	**+0.7**
JANB	**Januaria**	**28.79**	**264**	*eP*	**P**	**09 27 20.7**	**+0.7**
TOA0	**Torodi Ar. Sit**	**31.19**	**32**	P	**P**	**09 27 41.1**	**+0.1**
TORD	**Torodi Ar. Bea**	**31.19**	**32**	P	**P**	**09 27 40.3**	**-0.8**
	comp=Z,9.9nm,1.0s,baz=218,slow=8.9,SNR=27						
TORD				LR	LR	09 38 32.5	
	comp=Z,1μm,18.1s,baz=215,slow=33						
TORD	**Torodi Ar. Bea**	**31.19**	**32**	P	**P**	**09 27 40.2**	**-0.8**
BDFB	**Brasilia**	**32.35**	**262**	P	**P**	**09 27 50.9**	**-0.6**
	comp=Z,8.1nm,0.8s,baz=62,slow=5.3,SNR=8.5						
BDFB				LR	LR	09 38 23.0	
	comp=Z,767nm,21.1s,baz=106,slow=32						
BDFB	**Brasilia**	**32.35**	**262**	P	**P**	**09 27 49.9**	**-1.6**
BDFB				pmax	pmax		
	comp=Z,14nm,1.1s						
BDFB	**Brasilia**	**32.35**	**262**	P	**P**	**09 27 49.9**	**-1.6**
SMTB	**Santa Maria do**	**32.68**	**275**	*eP*	**P**	**09 27 55.0**	**+0.8**
SMTB	**Santa Maria do**	**32.68**	**275**	*eP*	**P**	**09 27 55.0**	**+0.8**
ITRB	**Iturama**	**34.71**	**255**	*eP*	**P**	**09 28 12.9**	**+1.0**
ITRB	**Iturama**	**34.71**	**255**	*eP*	**P**	**09 28 12.9**	**+1.0**
PRPB	**Parauapebas**	**35.44**	**279**	*eP*	**P**	**09 28 17.7**	**-0.5**
PRPB	**Parauapebas**	**35.44**	**279**	*eP*	**P**	**09 28 17.7**	**-0.5**
ARAG	**Araguaiana, MT**	**36.01**	**262**	*eP*	**P**	**09 28 21.7**	**-1.4**
ARAG	**Araguaiana, MT**	**36.01**	**262**	*eP*	**P**	**09 28 21.7**	**-1.4**
LBTB	**Lobatse**	**39.43**	**113**	P	**P**	**09 28 52.0**	**-0.1**
LBTB				pmax	pmax		
	comp=Z,27nm,1.5s						
LBTB	**Lobatse**	**39.43**	**113**	P	**P**	**09 28 52.0**	**-0.1**
SALV	**Santo Antonio**	**39.74**	**262**	*eP*	**P**	**09 28 55.6**	**+1.0**
SALV	**Santo Antonio**	**39.74**	**262**	*eP*	**P**	**09 28 55.6**	**+1.0**
AQDB	**Aquidauana**	**39.77**	**254**	*eP*	**P**	**09 28 55.6**	**+0.8**
AQDB	**Aquidauana**	**39.77**	**254**	*eP*	**P**	**09 28 55.6**	**+0.8**
BOSA	**Boshof**	**39.82**	**118**	P	**P**	**09 28 55.2**	**-0.1**
	comp=Z,10nm,1.1s,baz=280,slow=10,SNR=5.2						
BOSA				LR	LR	09 42 40.1	
	comp=Z,754nm,19.1s,baz=280,slow=32						
BOSA	**Boshof**	**39.82**	**118**	P	**P**	**09 28 55.0**	**-0.3**
BOSA				pmax	pmax		
	comp=Z,38nm,1.5s						
BOSA	**Boshof**	**39.82**	**118**	P	**P**	**09 28 55.0**	**-0.3**
MALB	**Monte Alegre**	**40.94**	**283**	*eP*	**P**	**09 29 05.3**	**+0.7**
MALB	**Monte Alegre**	**40.94**	**283**	*eP*	**P**	**09 29 05.3**	**+0.7**
LSZ	**Lusaka**	**41.42**	**98**	P	**P**	**09 29 09.1**	**+0.4**
	comp=Z,9.9nm,0.9s,baz=272,slow=11,SNR=6.8						
LSZ	**Lusaka**	**41.42**	**98**	P	**P**	**09 29 09.6**	**+0.9**
LSZ				pmax	pmax		
	comp=Z,53nm,1.6s						
LSZ	**Lusaka**	**41.42**	**98**	P	**P**	**09 29 09.6**	**+0.9**
MATP	**Matopo**	**41.66**	**105**	P	**P**	**09 29 10.6**	**0.0**
	comp=Z,23nm,1.1s,baz=278,slow=8.5,SNR=18						
CPUP	**Villa Florida**	**41.87**	**246**	P	**P**	**09 29 12.5**	**+0.4**
	comp=Z,6.3nm,1.0s,baz=96,slow=7.9,SNR=9.8						
CPUP				LR	LR	09 44 19.8	
	comp=Z,1μm,18.5s,baz=100,slow=33						
CPUP	**Villa Florida**	**41.87**	**246**	P	**P**	**09 29 12.4**	**+0.3**
CPUP				pmax	pmax		
	comp=Z,15nm,1.2s						
CPUP	**Villa Florida**	**41.87**	**246**	P	**P**	**09 29 12.4**	**+0.3**
VILB	**Vilhena**	**44.32**	**265**	*eP*	**P**	**09 29 32.7**	**+0.6**
VILB	**Vilhena**	**44.32**	**265**	*eP*	**P**	**09 29 32.7**	**+0.6**
SIV	**San Ignacio**	**44.90**	**261**	P	**P**	**09 29 37.6**	**+0.9**
	comp=Z,5.3nm,1.0s,baz=99,slow=8.5,SNR=16						
MACA	**Manacapuru-AM**	**46.68**	**279**	*eP*	**P**	**09 29 51.8**	**+1.1**
MACA	**Manacapuru-AM**	**46.68**	**279**	*eP*	**P**	**09 29 51.8**	**+1.1**
PTGA	**Pitinga**	**46.70**	**282**	P	**P**	**09 29 50.4**	**-0.5**
PTGA	**Pitinga**	**46.70**	**282**	*eP*	**P**	**09 29 52.0**	**+1.0**
PTGA	**Pitinga**	**46.70**	**282**	*eP*	**P**	**09 29 52.0**	**+1.0**
MBAR	**Mbarara**	**46.73**	**78**	↑*eP*	**P**	**09 29 52.5**	**+1.1**
MBAR				pmax	pmax		
	comp=Z,26nm,1.8s						
MBAR	**Mbarara**	**46.73**	**78**	P	**P**	**09 29 49.5**	**-1.9**
MBAR				IAmb	IAmb	09 30 14.1	
	comp=Z,51nm,1.9s						
SAML	**Samuel**	**47.80**	**270**	P	**P**	**09 29 57.7**	**-1.9**
SAML				pmax	pmax		
	comp=Z,44nm,1.5s						
SAML	**Samuel**	**47.80**	**270**	P	**P**	**09 29 57.7**	**-1.9**
SAML				IAmb	IAmb	09 30 02.0	
	comp=Z,44nm,1.4s						
EFI	**East Falkland**	**51.43**	**213**	↓*eP*	**P**	**09 30 27.3**	**+0.7**
EFI				pmax	pmax		
	comp=Z,230nm,2.2s						
LPAZ	**La Paz**	**51.64**	**260**	P	**P**	**09 30 29.0**	**-0.6**
	comp=Z,3.6nm,0.9s,baz=92,slow=7.0,SNR=12						
LPAZ	**La Paz**	**51.64**	**260**	P	**P**	**09 30 28.5**	**-1.1**
LPAZ				*PP	**P**	**09 30 28.7**	**-0.8**
LPAZ	**La Paz**	**51.64**	**260**	P	**P**	**09 30 28.5**	**-1.1**
LPAZ	**La Paz**	**51.64**	**260**		**P**	**09 30 28.7**	**-0.8**
LPAZ	**La Paz**	**51.64**	**260**	*eP*	**P**	**09 30 28.9**	**-0.6**
LPAZ	**La Paz**	**51.64**	**260**	*eP*	**P**	**09 30 28.9**	**-0.6**
CFA	**Coronel Fontan**	**52.08**	**241**	P	**P**	**09 30 30.9**	**-1.1**
	comp=Z,3.7nm,0.6s,baz=98,slow=8.9,SNR=11						
LVC	**Limon Verde**	**52.12**	**252**	P	**P**	**09 30 32.0**	**-0.7**
LVC				pmax	pmax		
	comp=Z,14nm,1.3s						
LVC	**Limon Verde**	**52.12**	**252**	P	**P**	**09 30 32.0**	**-0.7**
LVC	**Limon Verde**	**52.12**	**252**	*eP*	**P**	**09 30 33.3**	**+0.6**
LVC	**Limon Verde**	**52.12**	**252**	*eP*	**P**	**09 30 33.3**	**+0.6**
CMLA	**Cha da Macela**	**52.21**	**349**	P	**P**	**09 30 32.0**	**-0.6**
CMLA	**Cha da Macela**	**52.21**	**349**	P	**P**	**09 30 32.0**	**-0.6**
PB08	**IPOC Station P**	**52.39**	**255**		**P**	**09 30 34.3**	**-0.5**
AC02	**Maricunga**	**52.43**	**247**		**P**	**09 30 34.9**	**-0.3**
AC02				IAmb	IAmb	09 30 37.8	
	comp=Z,63nm,1.8s						
PB09	**IPOC Station P**	**52.43**	**253**	P	**P**	**09 30 34.3**	**-0.5**
PB09				IAmb	IAmb	09 30 36.8	
	comp=Z,77nm,1.6s						
GO01	**Chusmiza**	**52.45**	**256**	P	**P**	**09 30 34.1**	**-1.2**
ZON	**Zonda**	**52.45**	**241**	P	**P**	**09 30 34.2**	**-0.5**
ZON				pmax	pmax		
	comp=Z,19nm,1.2s						
ZON	**Zonda**	**52.45**	**241**	P	**P**	**09 30 34.2**	**-0.5**
PB15	**IPOC Station P**	**52.63**	**251**	P	**P**	**09 30 35.8**	**-0.6**
PB15				IAmb	IAmb	09 30 38.5	
	comp=Z,42nm,1.3s						
PB01	**IPOC Station P**	**52.67**	**254**	P	**P**	**09 30 35.7**	**-0.8**
PB01				IAmb	IAmb	09 30 38.1	
	comp=Z,42nm,1.4s						
GO02	**Mina Guanaco**	**52.77**	**249**	P	**P**	**09 30 37.3**	**-0.2**
KMBO	**Kilima Mbogo**	**52.79**	**81**	LR	LR	09 50 58.8	
	comp=Z,533nm,19.1s,baz=264,slow=34						
MNMC	**Minye Minye**	**52.85**	**256**	P	**P**	**09 30 36.7**	**-1.4**
PB11	**IPOC Station P**	**52.88**	**256**	P	**P**	**09 30 37.2**	**-0.9**
PB07	**IPOC Station P**	**53.03**	**253**	P	**P**	**09 30 37.5**	**-1.8**
PB07				IAmb	IAmb	09 30 41.0	
	comp=Z,55nm,1.1s						
PB04	**IPOC Station P**	**53.27**	**252**	P	**P**	**09 30 40.8**	**-0.2**
PSGCX	**Pisagua**	**53.32**	**256**	P	**P**	**09 30 40.5**	**-0.9**
PSGCX				IAmb	IAmb	09 30 42.0	
	comp=Z,33nm,1.2s						
GO03	**Copiap**	**53.45**	**246**	P	**P**	**09 30 42.7**	**+0.5**
CO01	**Juntas del Tor**	**53.50**	**243**	P	**P**	**09 30 43.6**	**+0.9**
CO01				IAmb	IAmb	09 30 45.3	
	comp=Z,40nm,1.3s						
AC05	**El Transito**	**53.56**	**244**	P	**P**	**09 30 44.0**	**+0.9**
AC05				IAmb	IAmb	09 30 45.0	
	comp=Z,31nm,1.2s						
PB12	**IPOC Station P**	**53.57**	**257**	P	**P**	**09 30 42.0**	**-1.2**
PB12				IAmb	IAmb	09 30 43.9	
	comp=Z,56nm,1.5s						
AC01	**Pan de Azucar**	**53.71**	**248**	P	**P**	**09 30 44.5**	**+0.4**
AC01				IAmb	IAmb	09 30 46.1	
	comp=Z,47nm,1.3s						
ESDC	**Sonseca Array**	**54.02**	**10**	P	**P**	**09 30 46.5**	**+0.5**
	comp=Z,2.3nm,1.1s,baz=183,slow=6.3,SNR=8.4						
ESDC				PcP	**PcP**	**09 31 52.4**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=210,slow=3.1,SNR=6.0						
ESDC				LR	LR	09 53 59.1	
	comp=Z,200nm,18.9s,baz=175,slow=36						
ESDC	**Sonseca Array**	**54.02**	**10**	P	**P**	**09 30 45.3**	**-0.7**
CO03	**El Pedregal**	**54.09**	**242**	P	**P**	**09 30 46.1**	**-0.7**
GO04	**Tololo Observa**	**54.12**	**243**	P	**P**	**09 30 47.1**	**-0.2**
KEST	**Kesra**	**54.14**	**24**	P	**P**	**09 30 47.5**	**+0.5**
	comp=Z,20nm,1.2s,baz=168,slow=3.7,SNR=17						
KEST				LR	LR	09 52 51.3	
	comp=Z,539nm,20.4s,baz=188,slow=35						
KEST	**Kesra**	**54.14**	**24**	P	**P**	**09 30 47.3**	**+0.4**
VA03	**San Esteban**	**54.17**	**239**	P	**P**	**09 30 47.7**	**+0.3**
VA03				IAmb	IAmb	09 30 48.9	
	comp=Z,28nm,1.2s						
AC04	**Llanos de Chal**	**54.23**	**245**	P	**P**	**09 30 46.8**	**-1.0**
PEL	**Peldehue**	**54.33**	**239**	P	**P**	**09 30 47.9**	**-0.6**
PEL				pmax	pmax		
	comp=Z,29nm,1.1s						
PEL	**Peldehue**	**54.33**	**239**	P	**P**	**09 30 47.9**	**-0.6**
PEL				IAmb	IAmb	09 30 50.3	
	comp=Z,29nm,1.1s						
CO02	**Combarbal**	**54.38**	**241**	P	**P**	**09 30 48.3**	**-0.7**
CO02				IAmb	IAmb	09 30 50.9	
	comp=Z,56nm,1.4s						
ROC1	**El Roble**	**54.58**	**239**	P	**P**	**09 30 49.5**	**-1.1**
BO02	**Sierra Bellavi**	**54.62**	**237**		**P**	**09 30 50.2**	**-0.4**
BO02				IAmb	IAmb	09 30 52.4	
	comp=Z,29nm,1.2s						
MT02	**Curacav**	**54.72**	**239**	P	**P**	**09 30 50.4**	**-0.8**
BI02	**San Fabin de**	**55.29**	**235**	P	**P**	**09 30 55.0**	**-0.5**
BI02				IAmb	IAmb	09 30 57.3	
	comp=Z,43nm,1.3s						
PLCA	**Paso Flores**	**55.48**	**230**	LR	LR	09 50 54.6	
	comp=Z,426nm,21.8s,baz=112,slow=32						
VNA1	**Neumayer--Stat**	**57.05**	**177**	P	**P**	**09 31 08.0**	**+0.7**
CLTB	**Caltabellotta**	**57.32**	**26**	P	**P**	**09 31 10.6**	**+0.8**
CLTB				IAmb	IAmb	09 31 42.9	
	comp=Z,71nm,2.0s						
VNA3	**Neumayer Olymp**	**57.59**	**178**	P	**P**	**09 31 10.3**	**-0.8**
VAE	**Valguarnera**	**57.76**	**27**	LR	LR	09 55 34.4	
	comp=Z,228nm,18.4s,baz=188,slow=36						
SNAA	**Sanae**	**58.38**	**176**	P	**P**	**09 31 16.4**	**-0.4**
SNAA	**Sanae**	**58.38**	**176**	P	**P**	**09 31 16.0**	**-0.7**
	comp=Z,19nm,1.2s,baz=345,slow=7.5,SNR=22						
SNAA	**Sanae**	**58.38**	**176**	*de*P	**P**	**09 31 16.2**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,40nm,1.4s						
SNAA	**Sanae**	**58.38**	**176**	P	**P**	**09 31 16.2**	**-0.5**
SNAA				IAmb	IAmb	09 31 18.5	
	comp=Z,40nm,1.3s						
NVL	**N'lazarevskaya**	**59.30**	**170**	*eP*	**P**	**09 31 23.9**	**+0.8**
NVL				*eS*	S	09 39 42.4	+11
NVL				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SDV	**Santo Domingo**	**59.96**	**289**	P	**P**	**09 31 27.9**	**-0.9**
SDV				IAmb	IAmb	09 33 25.4	
	comp=Z,20nm,0.6s						
TIP	**Timpagrande**	**60.20**	**28**	P	**P**	**09 31 29.1**	**-0.7**
TIP				IAmb	IAmb	09 31 32.6	
	comp=Z,43nm,1.6s						
OBIP	**Obispado Ponce**	**60.21**	**300**	P	**P**	**09 31 28.9**	**-1.2**
OBIP				IAmb	IAmb	09 32 21.3	
	comp=Z,30nm,1.2s						
RUSC	**La Rusia**	**61.21**	**285**	P	**P**	**09 31 37.4**	**-0.3**
SSB	**Saint Sauveur**	**61.22**	**15**	IAmb	IAmb	09 31 39.6	
	comp=Z,24nm,1.3s						
INTR	**Introdacqua**	**61.35**	**24**	P	**P**	**09 31 37.9**	**+0.3**
IDI	**Anoyia**	**61.44**	**36**	LR	LR	10 00 20.9	
	comp=Z,66nm,18.4s,baz=257,slow=38						
AQU	**L'Aquila**	**61.44**	**23**	P	**P**	**09 31 39.5**	**+1.3**
AQU				pmax	pmax		
	comp=Z,64nm,1.3s						
AQU	**L'Aquila**	**61.44**	**23**	P	**P**	**09 31 39.5**	**+1.3**
BNI	**Bardonecchia**	**61.58**	**17**	P	**P**	**09 31 39.0**	**-0.1**
BNI				pmax	pmax		
	comp=Z,29nm,1.4s						
BNI	**Bardonecchia**	**61.58**	**17**	P	**P**	**09 31 39.0**	**-0.1**
BNI				IAmb	IAmb	09 31 42.6	
	comp=Z,29nm,1.4s						
OSSC	**Osservatorio P**	**61.66**	**21**	P	**P**	**09 31 40.5**	**+1.0**
NRCA	**Norcia**	**61.74**	**23**	P	**P**	**09 31 40.9**	**+0.7**
NRCA				IAmb	IAmb	09 31 43.1	
	comp=Z,27nm,1.4s						
ROSC	**El Rosal**	**62.05**	**283**	P	**P**	**09 31 43.1**	**-0.1**
	comp=Z,5.7nm,0.5s,baz=126,slow=12,SNR=11						
ROSC				LR	LR	09 57 01.7	
	comp=Z,1μm,22.0s,baz=142,slow=34						
ROSC	**El Rosal**	**62.05**	**283**	P	**P**	**09 31 44.1**	**+0.9**
SENIN	**Lac Senin/Sane**	**62.96**	**17**	P	**P**	**09 31 48.8**	**+0.3**
TIR	**Tirane**	**63.36**	**28**	P	**P**	**09 31 50.4**	**-0.6**
TIR	**Tirane**	**63.36**	**28**	P	**P**	**09 31 50.4**	**-0.6**
TUE	**Stuetta**	**63.66**	**18**	P	**P**	**09 31 53.1**	**0.0**
TUE				IAmb	IAmb	09 31 54.9	
	comp=Z,42nm,1.6s						
PDG	**Podgorica**	**63.95**	**27**	P	**P**	**09 31 56.9**	**+2.1**
FUORN	**Ofenpass-Fuorn**	**64.07**	**19**	P	**P**	**09 31 55.6**	**-0.3**
FUORN				IAmb	IAmb	09 32 21.1	
	comp=Z,51nm,2.0s						
DAVOX	**Davos/Dischmat**	**64.10**	**18**	LR	LR	09 58 33.4	
	comp=Z,559nm,21.6s,baz=262,slow=35						
EIL	**Elat**	**64.36**	**47**	LR	LR	09 57 47.8	
	comp=Z,252nm,20.9s,baz=272,slow=34						
CIMO	**

comp=Z,26nm,1.3s,baz=207,slow=6.3
MOA Molln 66.47 21 *e*P **P 09 32 10.9 -0.2**
comp=Z,21nm,1.6s,SNR=9.1
MOA Molln 66.47 21 *e*P **P 09 32 10.4 -0.7**
comp=Z,18nm,1.3s,baz=207,slow=6.3
MEM Membach 66.54 14 P **P 09 32 13.1 +1.7**
AHRW Bad Neuenahr-A 66.73 15 *e*P **P 09 32 13.9 +1.3**
comp=Z,28nm,1.3s,baz=207,slow=6.3
TNS Taunus Mts 66.80 16 *e*P **P 09 32 13.8 +0.6**
comp=Z,51nm,1.7s,baz=207,slow=6.3
MDVR Moldovita 66.90 27 ⇑P **P 09 32 14.6 +0.7**
CONA Conrad Observa 67.10 22 *e*P **P 09 32 16.2 +1.0**
comp=Z,24nm,1.5s,SNR=13
GRF Grafenberg Arr 67.10 18 *e*P **P 09 32 15.5 +0.4**
comp=Z,35nm,1.6s,baz=207,slow=6.3
WET Wettzell 67.13 19 *e*P **P 09 32 15.6 +0.3**
comp=Z,43nm,1.6s,baz=207,slow=6.3
GEC2 GERESS Array S 67.14 20 P **P 09 32 15.2 -0.2**
GEC2 IAmb IAmb 09 32 16.8
comp=Z,30nm,1.6s
GEC2 GERESS Array S 67.14 20 *e*P **P 09 32 15.8 +0.4**
comp=Z,35nm,1.7s,baz=207,slow=6.3
GERES GERESS Array B 67.14 20 P **P 09 32 15.3 -0.1**
comp=Z,1.2nm,0.7s,baz=197,slow=4.1,SNR=14
GERES PP **PP 09 34 45.5 +1.9**
comp=Z,0.3nm,0.2s,baz=203,slow=5.8,SNR=4.2
GERES LR LR 10 00 35.9
comp=Z,432nm,21.3s,baz=228,slow=35
GERES GERESS Array B 67.14 20 P **P 09 32 13.3 -2.2**
KHC Kasperske Hory 67.34 20 *e*P **P 09 32 17.2 +0.5**
KHC *e*PP **PP 09 34 41.5 -3.9**
KHC AMS AMS 10 02 10.0
comp=Z,300nm,15.4s
KHC Kasperske Hory 67.34 20⇑ *e*P **P 09 32 16.7 0.0**
KHC pmax pmax
comp=Z,36nm,1.7s
KHC Kasperske Hory 67.34 20 P **P 09 32 15.8 -0.8**
ROTZ Rotzenmuhle 67.47 18 *e*P **P 09 32 17.7 +0.4**
comp=Z,48nm,1.6s,baz=207,slow=6.3
BZS Buzias 67.51 27 ⇑P **P 09 32 18.4 +0.7**
BZS Buzias 67.51 27 ⇑P **P 09 32 18.4 +0.7**
MANZ Manzenberg 67.63 18 *e*P **P 09 32 18.8 +0.4**
comp=Z,37nm,1.5s,baz=207,slow=6.3
UBBA Unterbreizbach 67.76 17 *e*P **P 09 32 20.1 +1.0**
comp=Z,53nm,2.0s,baz=207,slow=6.3
ZST Bratislava 67.78 22 *e*P **P 09 32 19.7 +0.4**
ZST pmax pmax
comp=Z,97nm,2.0s
ZST Bratislava 67.78 22 *e*P **P 09 32 19.7 +0.4**
NKC Novy Kostel 67.95 18 AMS AMS 10 02 10.0
comp=Z,400nm,17.1s
WERN Wernitzgruen 67.98 18 *e*P **P 09 32 21.0 +0.4**
comp=Z,19nm,1.4s,baz=207,slow=6.3
MODS Modra-Piesok 67.99 22 *e*P **P 09 32 21.0 +0.3**
MODS pmax pmax
comp=Z,82nm,1.6s
MODS Modra-Piesok 67.99 22 *e*P **P 09 32 21.0 +0.3**
GUNZ Gunzen 68.03 18 *e*P **P 09 32 21.3 +0.4**
comp=Z,24nm,1.3s,baz=207,slow=6.3
SIRR Siria 68.03 26 ⇑P **P 09 32 21.5 +0.5**
MOX Moxa 68.06 18 *e*P **P 09 32 21.6 +0.5**
comp=Z,20nm,1.4s,baz=207,slow=6.3
PLN Plauen 68.08 18 *e*P **P 09 32 21.5 +0.3**
comp=Z,21nm,1.5s,baz=207,slow=6.3
TANN Tannenbergstha 68.11 18 *e*P **P 09 32 21.9 +0.4**
comp=Z,67nm,1.6s,baz=207,slow=6.3
TREC Trest 68.13 21 AMS AMS 10 03 30.0
comp=Z,300nm,17.0s
SMOL Smolenice 68.16 22 *e*P **P 09 32 23.0 +1.2**
SMOL pmax pmax
comp=Z,41nm,2.1s
SMOL Smolenice 68.16 22 *e*P **P 09 32 23.0 +1.2**
KRUC Moravsky 68.25 21 *e*P **P 09 32 22.2 -0.1**
LOT Lotru 68.34 28 ⇑P **P 09 32 23.1 0.0**
PRU Pruhonice 68.40 20 AMS AMS 10 00 40.0
comp=Z,400nm,23.5s
GTTG Gottingen 68.40 16 *e*P **P 09 32 24.4 +1.2**
comp=Z,43nm,1.4s,baz=207,slow=6.3
GOPC GO Pecny, Ondr 68.42 20 *e*P **P 09 32 23.3 -0.1**
GOPC AMS AMS 10 00 30.0
comp=Z,400nm,16.7s
GOPC GO Pecny, Ondr 68.42 20 *e*P **P 09 32 23.3 -0.1**
GOPC MLR MLR
comp=Z,400nm,16.7s
VRAC Vranov 68.52 21 ⇑P **P 09 32 23.7 -0.3**
VRAC Vranov 68.52 21 *e*P **P 09 32 24.2 +0.2**
VRAC Vranov 68.52 21 ⇑P **P 09 32 23.7 -0.3**
IBBN Ibbenburen 68.53 15 *e*P **P 09 32 25.1 +1.2**
comp=Z,54nm,1.8s,baz=207,slow=6.3
JAVC Velka Javorina 68.54 22 *e*P **P 09 32 25.6 +1.4**
NEUB Neuenburg 68.61 17 *e*P **P 09 32 25.0 +0.5**
comp=Z,21nm,1.1s,baz=207,slow=6.3
MDUB Mudurnu 68.61 36 P **P 09 32 24.6 -0.4**
PSZ Piszkesteto 68.62 24 ⇑P **P 09 32 24.8 0.0**
PSZ Piszkesteto 68.62 24 P **P 09 32 24.7 0.0**
PSZ pmax pmax
comp=Z,63nm,1.5s
PSZ Piszkesteto 68.62 24 P **P 09 32 24.7 0.0**
VYHS Vyhne 68.67 23 *e*P **P 09 32 25.7 +0.7**
VYHS pmax pmax
comp=Z,49nm,1.4s
VYHS Vyhne 68.67 23 *e*P **P 09 32 25.7 +0.7**
ARR Arges 68.67 29 ⇑P **P 09 32 25.4 +0.2**
CLZ Clausthal 68.78 16 *e*P **P 09 32 26.5 +0.9**
comp=Z,28nm,1.5s,baz=207,slow=6.3
FBE Freiberg 68.83 19 *e*P **P 09 32 26.4 +0.5**
comp=Z,30nm,1.7s,baz=207,slow=6.3
PVCC Panska Ves 68.88 19 AMS AMS 10 00 20.0
comp=Z,400nm,23.1s
DRGR 68.90 27 ⇑P **P 09 32 26.6 +0.1**
DRGR 68.90 27 ⇑P **P 09 32 26.6 +0.1**
VOIR 68.92 29 ⇑P **P 09 32 26.6 -0.1**
VOIR 68.92 29 ⇑P **P 09 32 26.6 -0.1**
BRG Berggiesshubel 68.97 19 *e*P **P 09 32 27.1 +0.3**
comp=Z,9.9nm,1.2s
BRG Berggiesshubel 68.97 19 *e*P **P 09 32 27.1 +0.3**
BRG pmax pmax
comp=Z,10.0nm,1.2s
BRG Berggiesshubel 68.97 19 *e*P **P 09 32 27.1 +0.3**
comp=Z,32nm,2.0s,baz=207,slow=6.3
CLL Collm 69.06 18 *e*P **P 09 32 27.0 -0.3**
comp=Z,31nm,1.8s
CLL *e*SS SS 09 46 00.0 +1.2
CLL *e*SSS SSS 09 49 18.0
CLL Collm 69.06 18 *e*P **P 09 32 27.0 -0.3**
CLL pmax pmax
comp=Z,31nm,1.8s
CLL Collm 69.06 18 *e*P **P 09 32 27.8 +0.5**
comp=Z,31nm,1.8s,baz=207,slow=6.3
ASSE Asse, Remlinge 69.12 16 *e*P **P 09 32 28.5 +1.0**
comp=Z,18nm,1.2s,baz=207,slow=6.3
ANTO Ankara 69.15 37 P **P 09 32 27.2 -1.0**
ANTO pmax pmax
comp=Z,76nm,1.7s
ANTO Ankara 69.15 37 P **P 09 32 27.2 -1.0**
MORC Moravsky Berou 69.25 22 ⇑P **P 09 32 28.1 -0.5**
MORC Moravsky Berou 69.25 22 *e*P **P 09 32 29.4 +0.8**
MORC Moravsky Berou 69.25 22 ⇑P **P 09 32 28.1 -0.5**
MORC Moravsky Berou 69.25 22 P **P 09 32 28.1 -0.5**
NRDL Niedersach Rie 69.30 16 *e*P **P 09 32 30.4 +1.7**
comp=Z,45nm,1.4s,baz=207,slow=6.3
KECS Kecovo 69.31 24 *e*P **P 09 32 30.4 +1.5**
KECS pmax pmax
comp=Z,14nm,1.2s
KECS Kecovo 69.31 24 *e*P **P 09 32 30.4 +1.5**
DPC Dobruska-Polom 69.31 21 AMS AMS 10 02 10.0
comp=Z,400nm,18.7s
UPC Upice 69.34 20 AMS AMS 10 02 00.0
comp=Z,400nm,16.0s
MLR Muntele Rosu 69.38 29 ⇑P **P 09 32 29.6 0.0**
MLR Muntele Rosu 69.38 29 ⇑P **P 09 32 29.6 0.0**
CHVC Chvalec 69.42 20 AMS AMS 10 01 50.0
comp=Z,300nm,21.6s
RAYN Ar Rayn 69.45 58 P **P 09 32 29.7 -0.7**
RAYN pmax pmax
comp=Z,24nm,1.9s
RAYN Ar Rayn 69.45 58 P **P 09 32 29.7 -0.7**
OSTC Ostas 69.45 20 *e*P **P 09 32 30.5 +0.7**
OSTC AMS AMS 10 02 00.0
comp=Z,400nm,23.6s
DOPR Dopca 69.47 29 ⇑P **P 09 32 30.0 -0.1**
OKC Ostrava-Krasne 69.52 22 AMS AMS 10 04 30.0
comp=Z,300nm,16.5s
BRTR Keskin Array B 69.56 38 P **P 09 32 32.5 +1.6**
comp=Z,15nm,1.2s,baz=206,slow=5.1,SNR=16
BRTR LR LR 10 04 24.9
comp=Z,97nm,20.0s,baz=212,slow=37
BRTR Keskin Array B 69.56 38 *i*P **P 09 32 32.9 +2.0**
BRTR pmax pmax
comp=Z,15nm,1.2s
BRTR Keskin Array B 69.56 38 P **P 09 32 30.7 -0.2**
OZUR 69.76 29 ⇑P **P 09 32 31.7 -0.1**
VRI Vrincioaia 70.03 29 ⇑P **P 09 32 33.1 -0.4**
VRI Vrincioaia 70.03 29 ⇑P **P 09 32 33.1 -0.4**
CRVS Cervenica-Dubn 70.03 24 *e*P **P 09 32 34.9 +1.5**
CRVS pmax pmax
comp=Z,110nm,1.6s
CRVS Cervenica-Dubn 70.03 24 *e*P **P 09 32 34.9 +1.5**
UZH Uzhgorod 70.16 25⇓ *i*P **P 09 32 34.0 -0.1**
UZH *i* 09 32 39.4
RUE Ruedersdorf 70.32 18 *e*P **P 09 32 35.7 +0.7**
comp=Z,24nm,0.5s,baz=207,slow=6.3
KOLS Kolonicke sedl 70.39 25 *e*P **P 09 32 37.0 +1.4**
KOLS pmax pmax
comp=Z,28nm,1.5s
KOLS Kolonicke sedl 70.39 25 *e*P **P 09 32 37.0 +1.4**
OJC Ojcow 70.45 23 *e*P **P 09 32 36.5 +0.5**
OJC Ojcow 70.45 23 P **P 09 32 36.4 +0.5**
OJC pmax pmax
comp=Z,58nm,1.6s
OJC Ojcow 70.45 23 P **P 09 32 36.4 +0.5**
TESR Tescani 70.47 29 ⇑P **P 09 32 36.0 -0.2**
BIZ Bicaz 70.53 28 ⇑P **P 09 32 36.2 -0.3**
BURAR Bucovina Array 70.63 27 ⇑P **P 09 32 37.0 -0.2**
BURAR Bucovina Array 70.63 27 ⇑P **P 09 32 37.0 -0.2**
BURAR Bucovina Array 70.63 27 P **P 09 32 37.7 +0.5**
BUR08 Bucovina Ar. S 70.64 27 P **P 09 32 37.5 +0.1**
BUR08 IAmb IAmb 09 32 54.4
comp=Z,27nm,1.5s
BSEG Bad Segeberg 70.65 15 *e*P **P 09 32 37.7 +0.7**
comp=Z,23nm,1.1s,baz=207,slow=6.3
LVV L'vov 71.80 25 *e*P **P 09 32 44.0 -0.1**
LVV MLR MLR
comp=Z,300nm,19.0s
MAW Mawson 72.65 157 P **P 09 32 49.5 +0.5**
comp=Z,1.3nm,0.6s,baz=356,slow=6.7,SNR=4.1
MAW LR LR 09 58 21.1
comp=Z,235nm,19.5s,baz=248,slow=31
MAW Mawson 72.65 157 P **P 09 32 48.2 -0.8**
MAW pmax pmax
comp=Z,9.0nm,2.0s
MAW Mawson 72.65 157 P **P 09 32 48.2 -0.8**
AKASG Malin Array Be 74.68 27 P **P 09 33 00.8 -0.3**
comp=Z,17nm,0.8s,baz=225,slow=6.1,SNR=54
AKASG Malin Array Be 74.68 27 P **P 09 33 00.3 -0.8**
AKBB Malin Array Si 74.68 27*d* *i*P **P 09 33 00.5 -0.6**
SUW Suwalki 74.74 22 P **P 09 33 00.9 -0.4**
SUW pmax pmax
comp=Z,196nm,1.6s
SUW Suwalki 74.74 22 P **P 09 33 00.9 -0.4**
G65A Princeton 75.67 324 P **P 09 33 06.5 -0.4**
BATG Bathurst New B 76.11 327 P **P 09 33 07.6 -1.9**
BATG IAmb IAmb 09 33 11.8
comp=Z,45nm,1.4s
BCX Boston College 76.16 320 P **P 09 33 08.5 -1.3**
QSPA South Pole Qui 76.45 180 P **P 09 33 12.1 +0.8**
HRV Adam Dziewonsk 76.50 320 P **P 09 33 13.1 +1.4**
baz=123
HRV Adam Dziewonsk 76.50 320 P **P 09 33 11.7 0.0**
HRV pmax pmax
comp=Z,44nm,1.5s
HRV Adam Dziewonsk 76.50 320 P **P 09 33 11.7 0.0**
HRV IAmb IAmb 09 33 14.2
comp=Z,44nm,1.5s
F64A Shman 76.51 325 P **P 09 33 12.4 +0.7**
baz=126
F64A Sherman 76.51 325 P **P 09 33 11.4 -0.2**
F64A IAmb IAmb 09 33 14.3
comp=Z,34nm,1.2s
E64A Bridgewater 76.55 325 P **P 09 33 12.3 +0.4**
baz=127
AKH Akhalkalaki 76.63 41 P **P 09 33 12.4 -0.4**
AKH pmax pmax
comp=Z,40nm,1.7s
AKH Akhalkalaki 76.63 41 P **P 09 33 12.4 -0.4**
AKH IAmb IAmb 09 33 15.1
comp=Z,40nm,1.7s
F63A Nahmakanta, Br 76.84 324 P **P 09 33 14.8 +1.2**
baz=126
F63A Nahmakanta, Br 76.84 324 P **P 09 33 13.6 0.0**
F63A IAmb IAmb 09 33 15.3
comp=Z,60nm,1.6s
E63A Oxbow 76.88 325 P **P 09 33 14.9 +1.2**
baz=126
MICGM Minsk 76.89 24 *e* **P 09 33 14.0 +0.3**
MNK Minsk 76.89 24 *e*P **P 09 33 14.0 +0.3**
D63A Stockholm 77.07 326 P **P 09 33 14.9 +0.1**
baz=127
NB2 NORSAR Subarra 77.28 13 P **P 09 33 16.3 +0.5**
comp=Z,1.4nm,0.7s,baz=204,slow=6.2
NOA NORSAR Array B 77.28 13 P **P 09 33 16.4 +0.5**
comp=Z,2.4nm,0.8s,baz=204,slow=6.2,SNR=8.9
NOA LR LR 10 07 16.1
comp=Z,41nm,19.8s,baz=200,slow=36
H62A Milan 77.39 322 P **P 09 33 18.3 +1.6**
baz=124
KIV Kislovodsk 77.50 38 *e*P **P 09 33 18.6 +1.1**
KIV pmax pmax
comp=Z,112nm,1.1s
KIV Kislovodsk 77.50 38 P **P 09 33 18.5 +1.1**
KBZ Khabaz 77.51 39 P **P 09 33 18.8 +1.4**
comp=Z,8.8nm,1.1s,baz=236,slow=8.0,SNR=6.8
KBZ LR LR 10 08 26.7
comp=Z,51nm,19.8s,baz=245,slow=36
KBZ Khabaz 77.51 39*de*P **P 09 33 18.3 +1.0**
KBZ pmax pmax
comp=Z,17nm,1.3s
U59A Littleton 77.58 312 P **P 09 33 19.1 +1.2**
baz=118,SNR=5.5
U59A Littleton 77.58 312 P **P 09 33 17.4 -0.5**
U59A IAmb IAmb 09 33 19.9
comp=Z,42nm,1.6s
TBLG Delisi 77.60 41 P **P 09 33 18.4 +0.4**
TBLG pmax pmax
comp=Z,59nm,1.5s
TBLG Delisi 77.60 41 P **P 09 33 18.4 +0.4**
E62A Clayton Lake 77.61 325 P **P 09 33 18.7 +0.8**
baz=126
D62A Allapoint, All 77.62 325 P **P 09 33 18.2 +0.3**
baz=126
D62A Allapoint, All 77.62 325 P **P 09 33 18.1 +0.3**
D62A IAmb IAmb 09 33 20.1
comp=Z,22nm,1.2s
K61A Williamstown 77.65 320 P **P 09 33 20.0 +1.8**
baz=122
T59A Double "B" Far 77.70 313 P **P 09 33 19.5 +0.9**
baz=118
T59A Double "B" Far 77.70 313 P **P 09 33 17.4 -1.2**
T59A IAmb IAmb 09 33 20.5
comp=Z,35nm,1.4s
M60A Port Jervis 77.82 318 P **P 09 33 19.5 +0.3**
baz=121
H61A Lyndonville 77.83 322 P **P 09 33 21.2 +2.0**
baz=123
G61A St-Isidore-de- 78.00 323 P **P 09 33 20.7 +0.6**
baz=124
J60A Lant Hill Farm 78.05 320 P **P 09 33 22.2 +1.8**
baz=122
F61A St Evariste 78.08 324 P **P 09 33 20.8 +0.3**
baz=124
CBN Corbin Frederi 78.14 314 P **P 09 33 20.4 -0.6**
U58A Oxford 78.14 312 P **P 09 33 22.3 +1.2**
baz=117
H60A Morristown 78.31 322 P **P 09 33 21.6 -0.3**
baz=123
O59A Robesonia 78.34 317 P **P 09 33 23.5 +1.4**
baz=119
G60A Masonville 78.38 322 P **P 09 33 22.9 +0.7**
baz=123
R58B Mineral 78.38 314 P **P 09 33 22.7 +0.3**
baz=118
MOQ Mont Orford 78.45 323 P **P 09 33 20.5 -2.2**
M59A Waymart 78.45 318 P **P 09 33 24.3 +1.6**
baz=120
L59A Walton 78.53 319 P **P 09 33 24.1 +0.9**
baz=120
L59A Walton 78.53 319 P **P 09 33 22.2 -1.0**
E60A Ste Agathe de 78.56 324 P **P 09 33 23.7 +0.6**
baz=124
I59A Olmsteadville 78.62 321 P **P 09 33 24.1 +0.5**
baz=122
R58A Rapidan 78.63 314 P **P 09 33 24.3 +0.6**
baz=118
P58A Pank, Wackersv 78.70 315 P **P 09 33 24.8 +0.7**
baz=118
K59A Cooperstown 78.70 319 P **P 09 33 24.6 +0.5**
baz=121
U57A Blanch 78.73 312 P **P 09 33 25.4 +1.1**
baz=116,SNR=5.6
O58A Lewisberry 78.75 316 P **P 09 33 25.8 +1.5**
baz=119
V57A Coltrane Farms 78.81 311 P **P 09 33 25.9 +1.2**
baz=116
J59A Piesco 78.84 320 P **P 09 33 25.5 +0.7**
baz=121
J59A Piesco 78.84 320 P **P 09 33 24.0 -0.8**
T57A Hurt 78.92 313 P **P 09 33 26.1 +0.7**
baz=117
T57A Hurt 78.92 313 P **P 09 33 24.4 -0.9**
N58A Sunbury 78.95 317 P **P 09 33 25.8 +0.3**
baz=119
H59A Cadyville 78.95 321 P **P 09 33 25.9 +0.5**
baz=122
L58A Harry Jones Me 78.97 318 P **P 09 33 26.4 +0.8**
baz=120
M58A Price's Panora 79.04 317 P **P 09 33 27.7 +1.8**
baz=119
W56A Indian Trail 79.08 310 P **P 09 33 27.6 +1.3**
baz=115
BINY Binghamton 79.14 318 P **P 09 33 27.2 +0.7**
baz=120
BINY Binghamton 79.14 318 P **P 09 33 25.7 -0.8**
BINY IAmb IAmb 09 33 29.5
comp=Z,56nm,1.9s
X56A White Oak 79.14 310 P **P 09 33 28.0 +1.4**
baz=115
P57A Homestead Farm 79.18 315 P **P 09 33 28.0 +1.2**
baz=118
K58A Earlville 79.20 319 P **P 09 33 27.2 +0.4**
baz=120
K58A Earlville 79.20 319 P **P 09 33 27.0 +0.1**
I58A Old Forge 79.25 320 P **P 09 33 27.8 +0.8**
baz=121
Q57A Strasburg 79.25 315 P **P 09 33 29.0 +1.9**
baz=118
O57A Amberson 79.27 316 P **P 09 33 28.3 +1.1**
baz=118,SNR=7.2
V56A Mocksville 79.30 311 P **P 09 33 29.1 +1.6**
baz=116
G58A Ormstown 79.44 322 P **P 09 33 28.9 +0.9**
baz=122
S56A Natural Bridge 79.44 313 P **P 09 33 29.5 +1.2**
baz=116
U56A King 79.45 312 P **P 09 33 29.8 +1.5**
baz=116
M57A Sunshine Farm, 79.46 317 P **P 09 33 29.4 +1.1**
baz=119
M57A Sunshine Farm, 79.46 317 P **P 09 33 27.4 -0.8**
N57A Milroy 79.47 317 P **P 09 33 29.7 +1.4**
baz=118
LONY Lake Ozonia 79.48 321 P **P 09 33 29.8 +1.5**
baz=121
T56A Rocky Mt 79.49 312 P **P 09 33 30.9 +2.4**
baz=116,SNR=6.0
Y55A Saluda 79.53 309 P **P 09 33 29.7 +0.9**
baz=114
X55A Gracelyn & Ava 79.58 309 P **P 09 33 30.2 +1.1**
baz=115
L57A Andrews Acres 79.60 318 P **P 09 33 30.4 +1.3**
baz=119
E58A La Victoria 79.62 323 P **P 09 33 28.7 -0.2**
baz=122
KMSC Kings Mountain 79.64 310 P **P 09 33 28.5 -0.9**
SSPA Standing Stone 79.64 316 P **P 09 33 28.6 -0.6**
baz=118
SSPA Standing Stone 79.64 316 P **P 09 33 27.8 -1.4**
VORD Divnogorie 79.65 31 *e*P **P 09 33 29.2 +0.2**
VORD pmax pmax
comp=Z,30nm,1.2s
R56A Bull Pasture M 79.66 314 P **P 09 33 30.2 +0.7**
baz=117
VSR Storozhevoye 79.73 31 *e*P **P 09 33 29.4 -0.1**
VSR pmax pmax
comp=Z,30nm,0.9s
J57A Williamstown 79.75 319 P **P 09 33 30.3 +0.5**
baz=120
P56A Dayton Farm, R 79.76 315 P **P 09 33 31.0 +1.1**
baz=117
D58A Chemin du LacG 79.79 324 P **P 09 33 29.9 0.0**
baz=123
Q56A Snyder Ridge, 79.79 314 P **P 09 33 30.8 +0.7**
baz=117
V55A Taylorsville 79.85 311 P **P 09 33 31.8 +1.3**
baz=115
BLA Blacksburg 79.85 312 P **P 09 33 32.5 +2.0**
baz=116
BLA Blacksburg 79.85 312 IAmb IAmb 09 33 33.6
comp=Z,34nm,1.4s
LATQ La Tuque 79.89 324 P **P 09 33 31.7 +1.4**
baz=123
H57A Richville 79.90 321 P **P 09 33 30.9 +0.4**
baz=121
154A Montrose 79.96 307 P **P 09 33 29.5 -1.6**
G57A Newington 79.98 321 P **P 09 33 30.9 0.0**
baz=121
U55A TA2, Sparta 80.00 311 P **P 09 33 32.4 +1.0**
baz=115
N56A West Decatur 80.04 316 P **P 09 33 31.9 +0.5**
baz=118
T55A Pulaski 80.07 312 P **P 09 33 33.1 +1.4**
baz=116
R55A Marlinton 80.11 313 P **P 09 33 32.4 +0.5**
baz=116
L56A Greenwood 80.13 318 P **P 09 33 32.2 +0.3**
baz=119,SNR=6.7
L56A Greenwood 80.13 318 IAmb IAmb 09 33 33.5
comp=Z,52nm,1.6s
E57A Chemin Saint G 80.16 323 P **P 09 33 31.7 -0.2**
baz=122
X54A Belton 80.17 309 P **P 09 33 33.5 +1.2**
baz=114
J56A Wolcott 80.23 319 P **P 09 33 32.5 +0.2**
baz=119,SNR=8.2
J56A Wolcott 80.23 319 IAmb IAmb 09 33 33.9
comp=Z,71nm,1.7s
M56A Emporium 80.23 317 P **P 09 33 33.1 +0.7**
baz=118
K56A Middlesex 80.25 318 P **P 09 33 32.6 +0.1**
baz=119
W54A Cherokee Point 80.25 310 P **P 09 33 33.7 +1.0**
baz=114
D57A Chemin Vers le 80.32 323 P **P 09 33 32.6 -0.2**
baz=122
V54A Nebo 80.36 310 P **P 09 33 33.2 0.0**
baz=115
Q55A Buckhannon 80.39 314 P **P 09 33 34.8 +1.4**
baz=116,SNR=5.7
O55A Ligonier 80.40 315 P **P 09 33 34.4 +1.0**
baz=117,SNR=5.9
N55A Marion Center 80.44 316 P **P 09 33 33.2 -0.4**
baz=117
LPSR Galich'ya Gora 80.46 30 *e*P **P 09 33 33.3 0.0**
LPSR pmax pmax
comp=Z,30nm,0.9s
ORIO Orleans, Innes 80.47 321 P **P 09 33 33.7 +0.1**
baz=121
H56A Elgin 80.50 320 P **P 09 33 34.0 +0.3**
baz=120
U54A Nelsons Funny 80.57 311 P **P 09 33 35.6 +1.1**
baz=115,SNR=5.9
U54A Nelsons Funny 80.57 311 P **P 09 33 35.0 +0.6**
U54A IAmb IAmb 09 33 37.5
comp=Z,42nm,1.4s
M55A Ridgway 80.61 317 P **P 09 33 35.5 +1.0**
baz=118
T54A Tazewell 80.62 312 P **P 09 33 35.5 +0.8**
baz=115
PECO Prince Edward 80.63 320 P **P 09 33 35.1 +0.7**
MMNY Mt. Morris Dam 80.64 318 P **P 09 33 34.6 0.0**
MMNY IAmb IAmb 09 33 36.0
comp=Z,45nm,1.8s
R54A Victor 80.68 313 P **P 09 33 36.4 +1.5**
baz=116
L55A Hinsdale 80.73 317 P **P 09 33 36.1 +1.0**
baz=118
S54A Dingess, Beckl 80.74 313 P **P 09 33 36.3 +1.0**
baz=115
S54A Dingess, Beckl 80.74 313 IAmb IAmb 09 33 37.3
comp=Z,40nm,1.6s

E56A St. Veronique 80.75 323 P P 09 33 35.2 +0.1
baz=121
D56A ZEC Mazanza, M 80.85 323 P P 09 33 35.9 +0.3
baz=122
Q54A Coxs Mills 80.91 314 P P 09 33 37.5 +1.3
baz=116
P54A Burton 80.94 314 P P 09 33 36.9 +0.7
baz=116
WVNY West Valley, N 80.94 318 P P 09 33 35.5 -0.7
WVNY IAmb IAmb 09 33 37.9
comp=Z,34nm,1.4s
OBN Obninsk 80.94 27 *ce*P P 09 33 36.1 +0.3
OBN *e* 09 36 40.9
OBN *e*PPP PPP 09 38 30.1
OBN pmax pmax
comp=Z,57nm,1.7s
OBN MLR MLR
comp=Z,333nm,21.0s
OBN Obninsk 80.94 27 P P 09 33 36.2 +0.3
VRH Novokhopyorsk 81.03 32 *e*P P 09 33 37.3 +0.9
VRH pmax pmax
comp=Z,50nm,0.8s
H55A Tweed 81.05 320 P P 09 33 36.6 -0.1
baz=119
K54A Basiliko Farm, 81.09 318 P P 09 33 38.0 +0.9
baz=118
G55A Calabogie 81.11 321 P P 09 33 36.4 -0.6
baz=120
O54A Avella 81.12 315 P P 09 33 38.6 +1.4
baz=116
O54A Avella 81.12 315 P P 09 33 38.1 +0.9
O54A IAmb IAmb 09 33 39.3
comp=Z,39nm,1.5s
Y52A Lilburn 81.18 308 P P 09 33 36.8 -0.9
Y52A IAmb IAmb 09 33 39.9
comp=Z,66nm,1.8s
N54A Moraine State 81.20 316 P P 09 33 38.8 +1.2
baz=117
N54A Moraine State 81.20 316 P P 09 33 37.2 -0.5
N54A IAmb IAmb 09 33 40.1
comp=Z,43nm,1.6s
I55A Frankford 81.20 320 P P 09 33 37.8 +0.2
baz=119
PLVO Plevna 81.22 320 P P 09 33 37.2 -0.4
SCHQ Schefferville 81.23 332 P P 09 33 37.6 +0.1
comp=Z,7.8nm,1.1s,baz=114,slow=4.3,SNR=6.5
SCHQ LR LR 10 04 17.6
comp=Z,66nm,20.8s,baz=109,slow=32
SCHQ Schefferville 81.23 332 IAmb IAmb 09 33 40.0
comp=Z,48nm,1.6s
152A Waverly Hall 81.23 307 IAmb IAmb 09 33 40.8
comp=Z,45nm,1.9s
M54A Oil Creek Stat 81.23 316 P P 09 33 38.6 +0.8
baz=117
M54A Oil Creek Stat 81.23 316 IAmb IAmb 09 33 39.5
comp=Z,37nm,1.5s
D55A Sainte-Anne-du 81.25 323 P P 09 33 37.6 -0.1
baz=121,SNR=11
S53A Williamson 81.28 312 P P 09 33 39.6 +1.4
baz=115
T53A Wise 81.29 311 P P 09 33 39.2 +1.0
baz=114
DELO Deloro Mine 81.31 320 P P 09 33 37.8 -0.3
L54A Sinclairville 81.33 317 P P 09 33 38.8 +0.5
baz=117
Q53A Leroy 81.35 313 P P 09 33 39.1 +0.7
baz=115
R53A Hurricane 81.43 313 P P 09 33 40.8 +1.9
baz=115
FINES FINESS Array B 81.51 18 P P 09 33 39.0 +0.2
comp=Z,6.7nm,0.7s,baz=208,slow=5.1,SNR=22
FINES LR LR 10 11 14.7
comp=Z,175nm,18.6s,baz=200,slow=37
FINES FINESS Array B 81.51 18 P P 09 33 39.0 +0.2
FINES FINESS Array B 81.51 18 P P 09 33 38.7 0.0
P53A Whipple 81.52 314 P P 09 33 40.0 +0.7
baz=116
W52A Murphy 81.56 309 P P 09 33 39.3 -0.4
W52A IAmb IAmb 09 33 42.4
comp=Z,48nm,1.8s
V52A Sevierville 81.61 310 P P 09 33 39.2 -0.7
TKL Tuckaleechee C 81.67 310 IAmb IAmb 09 33 42.6
comp=Z,31nm,1.4s
N53A Lisbon 81.71 315 P P 09 33 42.0 +1.7
baz=116,SNR=5.7
N53A Lisbon 81.71 315 IAmb IAmb 09 33 43.2
comp=Z,41nm,1.3s
ERPA Erie 81.72 317 P P 09 33 41.0 +0.6
baz=117
ERPA Erie 81.72 317 IAmb IAmb 09 33 42.7
comp=Z,34nm,1.1s
O53A New Philadelph 81.73 315 P P 09 33 41.5 +1.1
baz=116,SNR=6.6
O53A New Philadelph 81.73 315 IAmb IAmb 09 33 43.3
comp=Z,37nm,1.2s
MOS Moscow 81.81 27 *e*P P 09 33 40.0 -0.4
MOS pmax pmax
comp=Z,56nm,0.7s
L53A Girard 81.83 317 P P 09 33 41.2 +0.3
baz=117
M53A WI Miller and 81.88 316 P P 09 33 41.9 +0.7
baz=116,SNR=5.5
M53A WI Miller and 81.88 316 IAmb IAmb 09 33 43.7
comp=Z,38nm,1.1s
Q52A Bidwell 81.92 313 P P 09 33 42.4 +0.9
baz=115,SNR=5.8
H53A Bobcaygeon 81.94 320 P P 09 33 41.8 +0.4
baz=118
E54A Lac Daplat, Po 81.98 322 P P 09 33 41.1 -0.5
baz=120
D54A Lac Fusel, La 82.02 322 P P 09 33 41.7 -0.1
baz=120,SNR=5.2
G54A Lake Saint Pet 82.03 320 P P 09 33 41.9 0.0
baz=119,SNR=6.8
X51A Calhoun 82.06 308 IAmb IAmb 09 33 44.8
comp=Z,65nm,1.9s
O52A Adamsville 82.10 314 P P 09 33 43.3 +0.9
baz=115,SNR=7.1
P52A Corning 82.10 314 P P 09 33 43.1 +0.7
baz=115,SNR=8.9
P52A Corning 82.10 314 IAmb IAmb 09 33 44.9
comp=Z,35nm,1.2s
CHGQ Chibougamau 82.14 326 P P 09 33 41.9 -0.5
baz=122,SNR=6.9
CCIG Comitan 82.18 289 IAmb IAmb 09 33 46.0
comp=Z,27nm,1.2s
G53A Haliburton 82.23 320 P P 09 33 43.0 +0.1
baz=118
E53A Dumoine, Ponti 82.24 321 P P 09 33 42.8 -0.2
baz=119
ALGO Algonquin Park 82.27 321 P P 09 33 42.6 -0.5
baz=119
N52A McGinn's Farm, 82.30 315 P P 09 33 44.3 +0.9
baz=116
S51A Beattyville 82.32 312 IAmb IAmb 09 33 45.6
comp=Z,23nm,1.3s
SADO Sadowa 82.39 320 P P 09 33 43.2 -0.6
SADO IAmb IAmb 09 33 45.7
comp=Z,31nm,1.4s
K52A Tillsonburg 82.50 317 P P 09 33 45.1 +0.7
baz=116
D53A Lac Vacive, Po 82.60 322 P P 09 33 44.3 -0.5
baz=119,SNR=9.0
W50A Signal Mountai 82.65 309 P P 09 33 45.0 -0.4
O51A Pataskala 82.65 314 P P 09 33 46.2 +0.9
baz=115
P51A Williamsport 82.69 313 P P 09 33 46.6 +1.1
baz=114
P51A Williamsport 82.69 313 P P 09 33 44.8 -0.7
P51A IAmb IAmb 09 33 47.7
comp=Z,22nm,1.3s
Q51A Peebles 82.71 313 P P 09 33 46.2 +0.6
Q51A IAmb IAmb 09 33 47.2
comp=Z,27nm,1.4s
I52A Shelburne 82.72 319 P P 09 33 45.9 +0.4
baz=117
E52A Mattawa 82.80 321 P P 09 33 45.4 -0.4
baz=118
ACSO Alum Creek Sta 82.95 314 P P 09 33 47.7 +0.9
baz=114
ACSO Alum Creek Sta 82.95 314 P P 09 33 47.3 +0.5
ACSO IAmb IAmb 09 33 49.1
comp=Z,31nm,1.4s
VLDQ Val d'Or 82.96 323 P P 09 33 46.8 +0.1
VLDQ IAmb IAmb 09 33 49.1
comp=Z,30nm,1.8s
D52A ZEK Kipawa Sen 82.98 322 P P 09 33 46.3 -0.5
baz=119,SNR=9.4
T50A Nancy 82.99 311 P P 09 33 46.2 -1.0
T50A IAmb IAmb 09 33 48.6
comp=Z,30nm,1.6s
LRAL Lakeview Retre 83.15 306 P P 09 33 48.0 0.0
baz=111
LRAL Lakeview Retre 83.15 306 P P 09 33 46.7 -1.3
LSQQ Lebel-sur-Quev 83.15 324 P P 09 33 47.1 -0.5
baz=120
F51A Arnstein 83.41 320 P P 09 33 48.1 -0.9
baz=117
E51A G1948 Merrick 83.42 321 P P 09 33 48.7 -0.4
baz=118,SNR=5.5
D51A Lot 18 Range I 83.61 322 P P 09 33 50.5 +0.4
baz=118
X48A Hartselle 83.69 308 IAmb IAmb 09 33 52.0
comp=Z,21nm,1.3s
CLTN Cedars of Leba 83.75 309 P P 09 33 51.2 +0.1
MATQ Matagami 83.87 324 P P 09 33 50.8 -0.6
baz=120
O49A Covington 83.88 314 IAmb IAmb 09 33 53.5
comp=Z,21nm,1.0s
P49A Miami Univ. Ec 83.89 313 P P 09 33 51.5 -0.1
baz=113
P49A Miami Univ. Ec 83.89 313 P P 09 33 50.5 -1.2
P49A IAmb IAmb 09 33 52.7
comp=Z,25nm,1.4s
D50A G1974 Best Tow 83.93 321 P P 09 33 51.5 -0.2
baz=118,SNR=7.2
Z47A Carrollton 84.05 306 P P 09 33 52.2 -0.4
Z47A IAmb IAmb 09 33 53.8
comp=Z,32nm,1.4s
N49A Columbus Grove 84.06 314 P P 09 33 51.7 -0.8
N49A IAmb IAmb 09 33 53.7
comp=Z,30nm,1.4s
E50A Wahnapitae 84.14 321 P P 09 33 52.3 -0.4
baz=117
P48A Milroy 84.36 313 P P 09 33 53.2 -0.9
P48A IAmb IAmb 09 33 55.3
comp=Z,29nm,1.2s
O48A Farmland 84.48 314 P P 09 33 54.2 -0.5
baz=113
WCI Wyandotte Cave 84.52 311 P P 09 33 54.9 0.0
baz=112
WCI Wyandotte Cave 84.52 311 P P 09 33 53.6 -1.3
WCI pmax pmax
comp=Z,18nm,1.3s
WCI Wyandotte Cave 84.52 311 P P 09 33 53.6 -1.3
WCI IAmb IAmb 09 33 56.5
comp=Z,18nm,1.3s
T47A Sharon Grove 84.66 310 IAmb IAmb 09 33 57.2
comp=Z,26nm,1.4s
WVT Waverly 84.89 309 P P 09 33 56.5 -0.4
baz=111
WVT Waverly 84.89 309 P P 09 33 56.5 -0.4
WVT pmax pmax
comp=Z,28nm,1.3s
WVT Waverly 84.89 309 P P 09 33 56.5 -0.4
WVT IAmb IAmb 09 33 58.3
comp=Z,28nm,1.3s
D49A Beulah Townshi 84.90 321 P P 09 33 56.2 -0.5
baz=116,SNR=6.1
BLO Bloomington 85.04 312 IAmb IAmb 09 33 58.2
comp=Z,16nm,1.1s
F48A Evansville 85.06 319 P P 09 33 57.3 -0.1
baz=115
D48A Paudash Townsh 85.13 321 P P 09 33 58.0 +0.2
baz=116
GEYT Alibeck 85.17 49 P P 09 33 59.2 +0.9
comp=Z,5.9nm,1.0s,baz=287,slow=6.0,SNR=12
GEYT LR LR 10 12 46.1
comp=Z,158nm,18.4s,baz=355,slow=36
GEYT Alibeck 85.17 49 P P 09 33 58.1 -0.2
GYA0B ALIBECK ARRAY 85.17 49 P P 09 33 58.3 0.0
GYA0B IAmb IAmb 09 34 00.8
comp=Z,29nm,1.4s
USIN University of 85.43 311 P P 09 33 59.1 -0.4
USIN IAmb IAmb 09 35 48.7
comp=Z,12nm,0.5s
G47A Hillman 85.57 318 P P 09 34 00.2 +0.2
baz=114
344A Westbrook Farm 85.58 304 P P 09 34 01.1 +0.7
P46A Rosedale 85.70 312 P P 09 33 59.7 -1.1
P46A IAmb IAmb 09 34 01.8
comp=Z,16nm,1.1s
E47A Iron Bridge 85.73 320 P P 09 34 00.7 -0.1
baz=115
KLMR Klimovskoe 85.78 23 *e*P P 09 33 58.9 -1.8
KLMR pmax pmax
comp=Z,32nm,1.4s
KLMR Klimovskoe 85.78 23 *e*P P 09 33 58.9 -1.8
KLMR AMP 09 34 02.7
comp=Z,32nm,1.4s
SFIN Lafayette 85.90 313 P P 09 34 00.7 -1.1
SFIN IAmb IAmb 09 35 08.3
comp=Z,13nm,0.6s
HICK Hickman 86.10 309 P P 09 34 02.3 -0.5
I46A Reed City 86.12 317 P P 09 34 02.8 0.0
baz=113
H46A Fife Lake 86.19 317 P P 09 34 02.8 -0.3
baz=113
E46A Sault Ste Mari 86.35 319 P P 09 34 03.0 -0.8
D46A Sault St. Mari 86.39 320 P P 09 34 03.4 -0.6
baz=114
PEBM Pemiscott Bayo 86.43 308 P P 09 34 04.5 0.0
GNAR Gosnell 86.50 308 P P 09 34 04.5 -0.4
S44A Carbondale 86.51 310 P P 09 34 03.7 -1.2
S44A IAmb IAmb 09 34 06.1
comp=Z,20nm,1.1s
I45A Fountain 86.68 317 P P 09 34 05.9 +0.4
baz=113
G45A Suttons Bay 86.69 318 P P 09 34 05.7 +0.2
baz=113
G45A Suttons Bay 86.69 318 IAmb IAmb 09 34 07.2
comp=Z,38nm,1.5s
X43A Marvell 86.69 307 P P 09 34 05.9 +0.1
O44A Mansfield 86.79 312 P P 09 34 05.3 -0.8
O44A IAmb IAmb 09 34 06.8
comp=Z,40nm,1.6s
F45A CMU Biological 86.85 318 P P 09 34 06.2 -0.1
baz=113
M44A Midewin, Midew 86.93 314 P P 09 34 06.7 -0.1
M44A IAmb IAmb 09 34 07.7
comp=Z,29nm,1.3s
PBMO Poplar Bluff 87.09 309 P P 09 34 06.9 -0.8
PBMO IAmb IAmb 09 34 07.9
comp=Z,26nm,1.6s
HRA Herat 87.11 54 P P 09 34 07.7 -0.4
CCAR Cane Creek 87.20 306 P P 09 34 06.9 -1.4
LCAR Lake Charles 87.41 308 P P 09 34 08.4 -0.8
HDIL Hopedale 87.53 313 P P 09 34 09.0 -0.7
baz=110
HDIL Hopedale 87.53 313 P P 09 34 08.6 -1.1
SLM Saint Louis 87.56 311 P P 09 34 09.2 -0.7
SLM pmax pmax
comp=Z,73nm,1.8s
SLM Saint Louis 87.56 311 P P 09 34 09.2 -0.7
ARCES ARCESS Array B 87.65 13 LR LR 10 14 16.4
comp=Z,103nm,18.6s,baz=226,slow=36
H43A Windswept, Lux 87.86 317 IAmb IAmb 09 34 12.3
comp=Z,25nm,1.4s
UALR University of 87.92 306 P P 09 34 11.4 -0.3
UALR IAmb IAmb 09 34 12.6
comp=Z,16nm,1.3s
W41B Gary Mavity, V 87.97 307 P P 09 34 11.6 -0.3
baz=108
E43A Lone Tree Farm 88.06 319 P P 09 34 11.9 -0.3
FCAR Ozark Folk Cen 88.09 308 P P 09 34 11.5 -1.1
CCM Cathedral Cave 88.12 310 P P 09 34 12.7 +0.2
baz=109
CCM Cathedral Cave 88.12 310 P P 09 34 12.8 +0.2
CCM pmax pmax
comp=Z,34nm,1.3s
CCM Cathedral Cave 88.12 310 P P 09 34 12.8 +0.2
WLAR White Oak Lake 88.19 305 P P 09 34 12.5 -0.6
WLAR IAmb IAmb 09 34 14.1
comp=Z,26nm,1.4s
I42A Draeger Farm, 88.42 316 IAmb IAmb 09 34 15.5
comp=Z,20nm,1.1s
F42A Maple Grove Fa 88.57 318 P P 09 34 14.6 0.0
F42A IAmb IAmb 09 34 16.3
comp=Z,11nm,0.7s
KIRV Kirov 88.72 28 P P 09 34 15.8 +0.9
U40A Yellville 88.80 308 P P 09 34 15.8 -0.1
baz=108
U40A Yellville 88.80 308 P P 09 34 14.7 -1.3
VNDA Vanda 88.93 179 P P 09 34 16.7 +0.9
comp=Z,1.3nm,1.0s,baz=225,slow=4.3,SNR=6.9
VNDA LR LR 10 08 25.7
comp=Z,93nm,19.1s,baz=176,slow=32
VNDA Vanda 88.93 179 P P 09 34 17.1 +1.3
VNDA Vanda 88.93 179 P P 09 34 17.1 +1.3
VNDA IAmb IAmb 09 34 18.5
comp=Z,44nm,2.0s
R40A Maddies Statio 88.96 310 IAmb IAmb 09 34 17.6
comp=Z,25nm,1.4s
JFWS Jewell Farm 89.00 315 P P 09 34 16.4 -0.3
baz=110
JFWS Jewell Farm 89.00 315 P P 09 34 16.1 -0.6
JFWS pmax pmax
comp=Z,16nm,1.2s
JFWS Jewell Farm 89.00 315 P P 09 34 16.1 -0.6
JFWS IAmb IAmb 09 34 18.0
comp=Z,16nm,1.1s
W39A Magazine 89.17 306 P P 09 34 17.6 0.0
baz=107
W39A Magazine 89.17 306 P P 09 34 17.2 -0.4
W39A IAmb IAmb 09 34 19.1
comp=Z,27nm,1.4s
P40A Paris 89.18 311 P P 09 34 17.8 +0.2
P40A IAmb IAmb 09 34 19.4
comp=Z,28nm,1.7s
HKT Hockley 89.33 301 P P 09 34 18.0 -0.4
HKT pmax pmax
comp=Z,20nm,1.6s
HKT Hockley 89.33 301 P P 09 34 18.0 -0.4
HKT IAmb IAmb 09 34 20.3
comp=Z,20nm,1.6s
COWI Conover 89.35 318 P P 09 34 18.1 -0.2
S39A Bolivar 89.56 309 P P 09 34 18.9 -0.5
I40A Norwalk 89.58 315 P P 09 34 19.1 -0.3
HHAR Hobbs 89.61 307 IAmb IAmb 09 34 21.2
comp=Z,22nm,1.3s
U38A Gravette 90.00 307 IAmb IAmb 09 34 23.2
comp=Z,23nm,1.3s
ABKAR Akbulak array 90.47 39 P P 09 34 23.5 +0.1
435B Jarrell 91.01 301 P P 09 34 28.2 +1.8
baz=105
435B Jarrell 91.01 301 P P 09 34 25.9 -0.4
WHTX Lake Whitney, 91.22 303 P P 09 34 27.3 0.0
baz=105
WHTX Lake Whitney, 91.22 303 P P 09 34 26.4 -0.9
WHTX IAmb IAmb 09 34 29.2
comp=Z,16nm,1.1s
Z35A Perchaven, San 91.41 304 P P 09 34 27.5 -0.6
SPMN Marine on St. 91.49 316 P P 09 34 27.9 -0.3
SPMN IAmb IAmb 09 34 28.9
comp=Z,14nm,1.2s
W35A Tecumseh 91.59 306 P P 09 34 28.4 -0.6
T35A Sooner Cattle 91.78 307 P P 09 34 29.5 -0.3
T35A IAmb IAmb 09 34 31.0
comp=Z,21nm,1.3s
F36A Milaca 92.17 317 P P 09 34 30.5 -0.8
F36A IAmb IAmb 09 34 32.0
comp=Z,17nm,1.5s
ARU Arti 92.26 32 *c i*P P 09 34 32.0 +0.5
ARU 09 38 13.2
ARU S SKSac 09 45 05.3 +0.6
ARU SS SS 09 51 48.9 +4.0
ARU pmax pmax
comp=Z,34nm,1.8s
ARU MLR MLR
comp=Z,142nm,20.0s
ARU Arti 92.26 32 P P 09 34 31.4 -0.1
JCT Junction City 92.78 301 P P 09 34 34.6 -0.1
baz=104
JCT Junction City 92.78 301 P P 09 34 32.9 -1.7
JCT pmax pmax
comp=Z,21nm,1.4s
JCT Junction City 92.78 301 P P 09 34 32.9 -1.7
JCT IAmb IAmb 09 34 36.6
comp=Z,21nm,1.4s
WMOK Wichita Mounta 92.99 305 P P 09 34 35.6 +0.1
baz=105
WMOK Wichita Mounta 92.99 305 P P 09 34 34.4 -1.1
WMOK pmax pmax
comp=Z,16nm,1.7s
WMOK Wichita Mounta 92.99 305 P P 09 34 34.4 -1.1
WMOK IAmb IAmb 09 34 37.2
comp=Z,16nm,1.7s
ABTX Abilene, Hawle 93.17 303 P P 09 34 35.5 -0.8
SVE Sverdlovsk 93.47 32 *e*P P 09 34 38.4 +1.3
SVE pmax pmax
comp=Z,16nm,1.5s
ECSD EROS Data Cent 93.68 314 P P 09 34 38.3 -0.1
baz=105
ECSD EROS Data Cent 93.68 314 P P 09 34 37.8 -0.7
ECSD IAmb IAmb 09 34 39.4
comp=Z,18nm,1.4s
AGMN Agassiz Nation 94.39 319 P P 09 34 41.3 -0.2
baz=106
AGMN Agassiz Nation 94.39 319 P P 09 34 41.2 -0.4
ULM Lac du Bonnet 94.92 320 P P 09 34 42.1 -1.8
comp=Z,1.7nm,0.6s,baz=86,slow=3.9,SNR=3.8
ULM LR LR 10 12 21.2
comp=Z,110nm,19.3s,baz=124,slow=32
ULM Lac du Bonnet 94.92 320 P P 09 34 43.1 -0.8
ULM pmax pmax
comp=Z,15nm,1.4s
ULM Lac du Bonnet 94.92 320 P P 09 34 43.0 -0.8
ULM IAmb IAmb 09 34 45.0
comp=Z,15nm,1.4s
TXAR Lajitas Array 95.78 299 P P 09 34 47.5 -1.0
comp=Z,2.0nm,1.1s,baz=120,slow=4.5,SNR=9.8
TXAR LR LR 10 13 31.3
comp=Z,26nm,22.0s,baz=0.0,slow=33
MSTX Muleshoe 96.03 303 P P 09 34 50.1 +0.6
HPIG 97.01 296 P P 09 34 53.2 -1.1
HPIG IAmb IAmb 09 34 55.7
comp=Z,12nm,1.5s
BRVK Borovoye 97.78 37⇑ *e*P Pdif 09 34 57.4 +0.5
BRVK pmax pmax
comp=Z,3.0nm,1.4s
KSH Kashi 99.02 52 *e*P **Pdif** 09 35 02.1 -0.8
KSH LR LR
comp=Z,1μm,12.9s
KSH LR LR
comp=Z,1μm,12.2s
KSH LR LR
comp=Z,260nm,10.1s
ANMO Albuquerque 99.20 304⇑ *e*P **Pdif** 09 35 04.6 +0.6
ANMO pmax pmax
comp=Z,6.0nm,2.5s
ANMO Albuquerque 99.20 304 **Pdif** 09 35 05.5 +1.5
KURK Kurchatov 102.50 41⇓ *e*P **Pdif** 09 35 18.5 +0.5
KURK pmax pmax
comp=Z,2.0nm,0.9s
WMQ Urumqi 108.20 48 *e*P **Pdif** 09 35 45.1 +1.5
WMQ LR LR
comp=N,860nm,29.2s
WMQ LR LR
comp=E,2μm,29.1s
WMQ LR LR
comp=Z,690nm,29.1s
CMAR Chiang Mai Arr 116.28 76 PKP **PKPdf** 09 40 04.2 -2.0
comp=Z,0.7nm,0.4s,baz=328,slow=2.6,SNR=4.7
CMAR Chiang Mai Arr 116.28 76 **PKPdf** 09 40 03.7 -2.4
TLY Talaya 118.08 38⇓ *i*PKIKP **PKiKP** 09 40 09.5 +0.8
KMI Kunming 120.28 69 PKP **PKPdf** 09 40 11.3 -2.6
SONM Songino Array 120.75 42 PKP **PKPdf** 09 40 13.4 -0.6
comp=Z,0.4nm,0.4s,baz=228,slow=1.7,SNR=6.6
CD2 Chengdu 121.15 62 PKP **PKPdf** 09 40 13.9 -1.3
TBI Tubuai 122.49 231 *e*LR LR 10 18 11.0
comp=Z,266nm,23.8s
BILL Bilibino 125.71 360 *c i*PKIKP **PKiKP** 09 40 23.1 -0.1
BILL *e* 09 42 11.7
BILL *e*PPP PPP 09 45 00.5
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL MLR MLR
comp=Z,69nm,19.0s
PPT2 Papeete2 125.76 236 *e*LR LR 10 19 39.8
comp=Z,172nm,24.2s
HHC Hu-ho-hao-te 126.05 49 *e*PKP **PKiKP** 09 40 25.5 +0.7
BJI Beijing 129.66 49 PKP **PKiKP** 09 40 32.4 +0.5
ZEA Zeya 130.05 29 *e*PKIKP **PKPdf** 09 40 31.6 +0.1
ZEA pmax pmax
comp=Z,24nm,1.8s
WHN Wuhan 130.26 62 PKP **PKiKP** 09 40 33.8 +0.4
ASAR Alice Springs 131.76 140 PKP **PKPdf** 09 40 35.6 -0.2
comp=Z,2.9nm,1.2s,baz=260,slow=0.9,SNR=9.3

ASAR	**Alice Springs**	**131.76**	**140**	PKPdf	**PKPdf**	**09 40 34.7**	**-1.0**
NJ2	**Nanjing**	**133.79**	**59**	*e*PKP	**PKPdf**	**09 40 38.3**	**-0.9**
CN2	**Changchun**	**134.58**	**41**	*e*PKP	**PKiKP**	**09 40 43.8**	**+2.1**
CN2				LR	LR		
	comp=Z,130nm,22.0s						
CN2				LR	LR		
	comp=Z,150nm,22.0s						
CN2				LR	LR		
	comp=Z,210nm,22.0s						
WRA	**Warramunga Arr**	**134.71**	**137**	PKP	**PKPdf**	**09 40 40.9**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=224,slow=2.5,SNR=3.2						
WRA	**Warramunga Arr**	**134.71**	**137**		**PKPdf**	**09 40 40.2**	**-1.1**
KLR	**Kul'dur**	**135.09**	**31**	PKP	**PKiKP**	**09 40 43.0**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=342,slow=4.4,SNR=4.7						
KLR	**Kul'dur**	**135.09**	**31**	PKIKP	**PKiKP**	**09 40 43.0**	**+0.4**
USRK	**Ussuriysk Ar.**	**138.34**	**37**	PKP	**PKPdf**	**09 40 46.7**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=343,slow=2.0,SNR=7.4						
USRK				PP	**PP**	**09 43 35.9**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=23,slow=10,SNR=4.5						
USRK	**Ussuriysk Ar.**	**138.34**	**37**	PKPdf	**PKPdf**	**09 40 46.1**	**-1.2**
KSAR	**Wonju Array Be**	**139.13**	**48**	PKIKP	**PKPdf**	**09 40 48.4**	**-0.5**
KSAR	**Wonju Array Be**	**139.13**	**48**	PKPdf	**PKPdf**	**09 40 48.4**	**-0.5**
KSRS	**Korea Array**	**139.15**	**48**	PKP	**PKiKP**	**09 40 50.8**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=325,slow=1.5,SNR=5.8						
PEA0B	**Petropavlovsk-**	**140.22**	**7**	⇑*e*PKIKP	**PKPdf**	**09 40 51.1**	**+0.6**
PETK	**Petropavlovsk-**	**140.22**	**7**	PKP	**PKPdf**	**09 40 50.9**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=82,slow=11,SNR=4.7						
PETK	**Petropavlovsk-**	**140.22**	**7**	PKPdf	**PKPdf**	**09 40 50.6**	**+0.1**
YSS	**Yuzh-Sakhalins**	**141.81**	**25**	*e*PKIKP	**PKPdf**	**09 40 53.6**	**+0.1**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS				MLR	MLR		
	comp=Z,100nm,14.0s						
DZM	**Mont Dzumac**	**144.43**	**182**	*e*LR	LR	10 28 21.9	
	comp=Z,112nm,22.6s						
COEN	**Coen**	**144.80**	**140**	PKPdf	**PKPab**	**09 40 58.4**	**-0.2**
ERM	**Erimo**	**145.83**	**30**	PKIKP	**PKPdf**	**09 40 59.2**	**-1.5**
ERM	**Erimo**	**145.83**	**30**		**PKPdf**	**09 40 59.2**	**-1.5**
INU	**Inuyama**	**146.58**	**45**	PKPdf	**PKPdf**	**09 41 01.4**	**-0.7**
MJB9	**Matsu-Tunnel**	**146.69**	**42**		**PKPdf**	**09 41 01.5**	**-0.9**
MAJO	**Matsushiro**	**146.70**	**42**	PKIKP	**PKPdf**	**09 41 01.2**	**-1.2**
MAJO	**Matsushiro**	**146.70**	**42**		**PKPdf**	**09 41 01.2**	**-1.2**
MAT	**Matsushiro**	**146.70**	**42**	PKP	**PKPdf**	**09 41 02.7**	**+0.3**
MJAR	**Matsushiro Arr**	**146.70**	**42**	PKPbc	**PKPdf**	**09 41 03.1**	**+0.7**
	comp=Z,23nm,1.2s,baz=291,slow=3.7,SNR=29						
MJAR	**Matsushiro Arr**	**146.70**	**42**		**PKPdf**	**09 41 01.2**	**-1.2**
JAY	**Jayapura**	**150.69**	**122**	PKPbc	**PKPbc**	**09 41 14.9**	**-0.2**
	comp=Z,22nm,1.1s,baz=186,slow=4.3,SNR=7.4						

NNC 21 09:23:20.3±19.0, 36°11N×69°23E, h227km±325km, mb2.5, mpv3.5, 2C-2D, Error ellipse: s-maj=199.3km s-min=115.5km az=6.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**7.05**	**8**	P		Pn		09 25 00.1	-1.2
	0.4nm,0.2s,baz=184,slow=12,SNR=24								
KK31				⇓S		S		09 26 18.5	-3.4
	2.1nm,0.4s,baz=186,slow=24,SNR=3.9								
AAK	**Ala-Archa**	**7.68**	**30**	⇑P		Pn		09 25 10.6	+1.1
	4.0nm,0.6s								
AAK				⇓S		S		09 26 39.2	+2.2
	3.6nm,0.7s								
AB31	**Akbulak array**	**14.79**	**336**	⇑P		Pn		09 26 38.1	-0.4
	0.6nm,0.4s								

*DJA **21** 09:24:39.1±0.4, 6°S×4°×15°E×, h10km, M4.8/12, mb4.6/12, mB4.2/1, MLv5.0/2, Mw(mB)3.3/1*
*NEIC **21** 09:24:43.7±1.4, 5°.62S×0°.07×152°.91E×0°.07, h40km±5km, mb4.7/46, Error ellipse: s-maj=11.3km s-min=8.9km az=123.0*
*IDC **21** 09:24:45.9±2.0, 5°.62S×152°.74E, h57km±15km, mb4.1/22, mb1 4.2/24, mb1mx4.1/37, mbtmp4.3/24, MS3.5/9, Ms1 3.5/9, ms1mx3.2/28, Error ellipse: s-maj=20.8km s-min=9.0km az=100.0*

ISC 21 09:24:43.2±0.5, 5°.66S±0°.05×152°.94E±0°.08, h37km, n104, σ1§10/100, mb4.6/46, MS3.4/8, 2D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.62**	**326**	P		**Pn**		**09 25 08.3**	**-0.9**
	188nm,0.3s,baz=130,slow=1.1,SNR=142								
KRVT				S		**Sn**		**09 25 28.9**	**0.0**
	290nm,0.3s,baz=53,slow=19,SNR=14								
KRVT				LR		LR		09 26 03.3	
	comp=Z,1μm,20.9s,baz=264,slow=52								
RABL	**Rabaul**	**1.65**	**332**			**Pn**		**09 25 08.9**	**-0.7**
RABL				Sn		**Sn**		**09 25 29.3**	**-0.3**
PMG	**Port Moresby**	**6.84**	**237**	P		**Pn**		**09 26 21.6**	**+0.6**
	3.2nm,0.3s,baz=82,slow=5.1,SNR=4.1								
PMG				S		**Sn**		**09 27 37.6**	**0.0**
	16nm,0.3s,baz=84,slow=16,SNR=13								
PMG				LR		LR		09 29 26.9	
	comp=Z,199nm,18.4s,baz=48,slow=42								
PMG	**Port Moresby**	**6.84**	**237**	Pn		**Pn**		**09 26 21.9**	**+0.9**
PMG						**Sn**		**09 27 38.1**	**+0.6**
PATS	**Pohnpei**	**13.52**	**23**	Pn		**Pn**		**09 27 53.5**	**+1.0**
CTA	**Charters Tower**	**15.75**	**204**	P		**P**		**09 28 25.0**	**-0.9**
	0.2nm,0.3s,baz=35,slow=8.4,SNR=6.8								
CTAO	**Charters Tower**	**15.75**	**204**	P		**P**		**09 28 26.0**	**+0.1**
EIDS	**Eidsvold**	**19.68**	**185**	P		**Pn**		**09 29 10.7**	**-0.1**
GUMO	**Guam**	**20.74**	**337**	P		**P**		**09 29 21.4**	**+0.7**
	46nm,0.8s,baz=224,slow=6.7,SNR=3.6								
DZM	**Mont Dzumac**	**20.90**	**143**	P		Pn		09 29 27.0	+1.8
	7.3nm,0.9s,baz=335,slow=12,SNR=2.8								
DZM				LR		LR		09 37 21.0	
	comp=Z,151nm,18.4s,baz=330,slow=36								
SIJI	**Sorong**	**22.15**	**282**	P		**P**		**09 29 36.9**	**+0.9**
	8.7nm,0.7s,baz=100,slow=9.0,SNR=4.5								
MTN	**Manton Dam**	**22.67**	**250**	P		**P**		**09 29 41.6**	**+0.1**
MTN				IAmb		IAmb		09 29 55.2	
	comp=Z,15nm,0.6s								
WR0	**Warramunga Arr**	**22.85**	**230**	P		**P**		**09 29 43.9**	**+0.4**
WB0	**Warramunga Arr**	**22.86**	**230**	P		**P**		**09 29 43.5**	**0.0**
WB0				IAmb		IAmb		09 29 48.2	
	comp=Z,22nm,1.2s								
WRAB	**Tennant Creek**	**22.98**	**230**	P		**P**		**09 29 44.3**	**-0.5**
WB2	**Warramunga Arr**	**22.99**	**230**	P		**P**		**09 29 45.0**	**+0.2**
WRA	**Warramunga Arr**	**23.00**	**230**	P		**P**		**09 29 44.0**	**-1.0**
	comp=Z,4.0nm,0.8s,baz=55,slow=10,SNR=12								
WRA	**Warramunga Arr**	**23.00**	**230**	P		**P**		**09 29 45.0**	**+0.1**
AAI	**Ambon**	**24.74**	**273**	P		**P**		**09 30 04.3**	**+2.8**
	comp=Z,65nm,0.7s								
AS31	**Alice Springs**	**25.62**	**224**			**P**		**09 30 09.3**	**-0.1**
ASAR	**Alice Springs**	**25.62**	**224**	P		**P**		**09 30 09.2**	**-0.3**
	comp=Z,4.5nm,0.8s,baz=56,slow=9.1,SNR=38								
ASAR				LR		LR		09 39 44.1	
	comp=Z,105nm,18.6s,baz=84,slow=35								
ASAR	**Alice Springs**	**25.62**	**224**			**P**		**09 30 09.3**	**-0.1**
KNRA	**Kununurra**	**25.73**	**245**	P		**P**		**09 30 12.8**	**+2.4**
KNRA				IAmb		IAmb		09 30 26.2	
	comp=Z,26nm,1.0s								
STKA	**Stephens Creek**	**28.16**	**201**	P		**P**		**09 30 31.8**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=22,slow=5.4,SNR=4.8								
STKA				LR		LR		09 41 12.7	
	comp=Z,92nm,19.1s,baz=22,slow=35								
STKA	**Stephens Creek**	**28.16**	**201**	P		**P**		**09 30 32.3**	**+0.2**
FITZ	**Fitzroy Crossi**	**29.39**	**243**	P		**P**		**09 30 42.2**	**-0.9**
	comp=Z,5.0nm,0.7s,baz=78,slow=6.5,SNR=8.2								
FITZ				LR		LR		09 43 01.2	
	comp=Z,61nm,19.0s,baz=89,slow=38								
FITZ	**Fitzroy Crossi**	**29.39**	**243**			**P**		**09 30 42.9**	**-0.3**
BBOO	**Buckleboo**	**31.27**	**208**	P		**P**		**09 30 59.8**	**+0.2**
BBOO				IAmb		IAmb		09 31 16.4	
	comp=Z,16nm,1.4s								
FORT	**Forrest**	**34.22**	**220**	P		**P**		**09 31 22.3**	**-3.1**
BKB	**Balikpapan**	**36.24**	**276**	P		**P**		**09 31 41.3**	**-1.8**
JNU	**Nakatsue**	**43.89**	**333**	P		**P**		**09 32 45.7**	**-0.5**
	comp=Z,5.9nm,0.7s,baz=179,slow=4.5,SNR=5.8								
JNU	**Nakatsue**	**43.89**	**333**	P		**P**		**09 32 45.6**	**-0.7**
JNU				IAmb		IAmb		09 32 55.9	
	comp=Z,21nm,1.1s								
MJAR	**Matsushiro Arr**	**44.19**	**343**	P		**P**		**09 32 45.6**	**-3.0**
	comp=Z,1.6nm,0.7s,baz=160,slow=8.8,SNR=5.5								
MJAR				LR		LR		09 50 52.2	
	comp=Z,17nm,18.4s,baz=255,slow=36								
MJAR	**Matsushiro Arr**	**44.19**	**343**	P		**P**		**09 32 47.2**	**-1.4**
KSRS	**Korea Array**	**48.83**	**333**	P		**P**		**09 33 23.4**	**-1.5**
	comp=Z,1.6nm,0.8s,baz=163,slow=10,SNR=6.0								
NJ2	**Nanjing**	**49.60**	**321**	*e*P		**P**		**09 33 33.3**	**+2.4**
NJ2				pmax		pmax			
	comp=Z,9.0nm,0.5s								

ASAJ	**Asahikawa**	**50.42**	**350**	P		**P**		**09 33 37.0**	**+0.1**
	comp=Z,6.3nm,0.8s,baz=226,slow=13,SNR=8.7								
USRK	**Ussuriysk Ar.**	**53.10**	**341**	P		**P**		**09 33 56.3**	**-0.6**
	comp=Z,2.4nm,1.0s,baz=162,slow=8.6,SNR=6.6								
USRK	**Ussuriysk Ar.**	**53.10**	**341**	P		**P**		**09 33 56.7**	**-0.2**
CN2	**Changchun**	**55.14**	**336**	*e*P		P		09 34 21.9	+10
CN2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
POHA	**Pohakuloa**	**56.61**	**62**	P		**P**		**09 34 21.4**	**-1.7**
BJI	**Beijing**	**56.68**	**327**	P		**P**		**09 34 24.6**	**+1.7**
BJI				pmax		pmax			
	comp=Z,7.0nm,0.6s								
KLR	**Kul'dur**	**57.70**	**344**	P		**P**		**09 34 28.9**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=203,slow=2.5,SNR=6.4								
CMAR	**Chiang Mai Arr**	**58.37**	**296**	P		**P**		**09 34 34.1**	**-1.2**
	comp=Z,1.4nm,0.7s,baz=129,slow=5.4,SNR=6.5								
CMAR	**Chiang Mai Arr**	**58.37**	**296**	P		**P**		**09 34 33.4**	**-1.9**
PEA0B	**Petropavlovsk-**	**58.68**	**3**	P		**P**		**09 34 37.5**	**+0.8**
PETK	**Petropavlovsk-**	**58.68**	**3**	P		**P**		**09 34 37.4**	**+0.6**
	comp=Z,12nm,0.9s,baz=167,slow=7.3,SNR=16								
PETK				LR		LR		09 54 56.6	
	comp=Z,17nm,20.2s,baz=240,slow=31								
PETK	**Petropavlovsk-**	**58.68**	**3**	P		**P**		**09 34 37.5**	**+0.8**
HHC	**Hu-ho-hao-te**	**59.82**	**325**	*e*P		**P**		**09 34 46.6**	**+1.5**
HHC				pmax		pmax			
	comp=Z,1.0nm,6.6s								
MA2	**Magadan**	**65.05**	**359**	P		**P**		**09 35 20.1**	**+0.6**
	comp=Z,5.3nm,0.6s,baz=171,slow=22,SNR=3.7								
MA2	**Magadan**	**65.05**	**359**	P		**P**		**09 35 18.8**	**-0.7**
SONM	**Songino Array**	**67.12**	**328**	P		**P**		**09 35 33.4**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=144,slow=6.1,SNR=7.1								
SONM	**Songino Array**	**67.12**	**328**	P		**P**		**09 35 33.5**	**+0.2**
BILL	**Bilibino**	**74.13**	**5**	P		**P**		**09 36 16.0**	**+0.7**
BILL				IAmb		IAmb		09 36 27.4	
	comp=Z,9.8nm,0.9s								
WMQ	**Urumqi**	**76.47**	**317**	*e*P		**P**		**09 36 31.8**	**+2.4**
WMQ				pP		pP		09 36 36.8	-1.9
SVW2	**Sparrevohn**	**77.55**	**23**	P		**P**		**09 36 35.9**	**+0.8**
SVW2				IAmb		IAmb		09 36 38.5	
	comp=Z,4.4nm,1.0s								
CNPM	**China Poot**	**78.42**	**25**	P		**P**		**09 36 39.2**	**-0.6**
TIXI	**Tiksi**	**78.76**	**352**	P		**P**		**09 36 41.2**	**-0.3**
RDOG	**Red Dog Mine**	**79.77**	**15**	P		**P**		**09 36 47.5**	**+0.4**
SML	**Sawmill**	**80.84**	**24**	P		**P**		**09 36 53.6**	**+0.6**
SML				IAmb		IAmb		09 36 54.5	
	comp=Z,9.0nm,0.8s								
BPAW	**Bear Paw Mtn.**	**81.03**	**22**	P		**P**		**09 36 53.9**	**-0.1**
MK31	**Makanchi Array**	**81.06**	**319**	P		**P**		**09 36 54.5**	**0.0**
MKAR	**Makanchi Array**	**81.06**	**319**	P		**P**		**09 36 54.7**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=101,slow=5.4,SNR=13								
MAKZ	**Makanchi**	**81.27**	**319**	P		**P**		**09 36 55.0**	**-0.6**
MAKZ				IAmb		IAmb		09 37 08.3	
	comp=Z,4.9nm,0.9s								
MCK	**McKinley**	**81.60**	**22**	IAmb		IAmb		09 37 11.6	
	comp=Z,12nm,1.0s								
ZALV	**Zalesovo Beam**	**81.94**	**326**	P		**P**		**09 36 58.3**	**-0.6**
	comp=Z,1.5nm,0.5s,baz=115,slow=6.6,SNR=5.1								
WRH	**Wood River Hil**	**82.30**	**22**	IAmb		IAmb		09 37 01.2	
	comp=Z,8.8nm,1.3s								
CCB	**Clear Creek Bu**	**82.49**	**22**	IAmb		IAmb		09 37 02.7	
	comp=Z,6.6nm,1.4s								
COLA	**College**	**82.59**	**22**	P		**P**		**09 37 02.1**	**0.0**
COLA				IAmb		IAmb		09 37 02.7	
	comp=Z,9.6nm,1.1s								
IL31		**82.90**	**22**	IAmb		IAmb		09 37 04.5	
	comp=Z,5.2nm,1.2s								
ILAR	**Eielson Array**	**82.90**	**22**	P		**P**		**09 37 03.2**	**-0.5**
	comp=Z,2.9nm,0.9s,baz=255,slow=5.0,SNR=26								
ILAR	**Eielson Array**	**82.90**	**22**	P		**P**		**09 37 03.0**	**-0.7**
RIDG	**Independent Ri**	**83.18**	**23**	P		**P**		**09 37 05.2**	**-0.1**
RIDG				IAmb		IAmb		09 37 06.8	
	comp=Z,7.2nm,1.2s								
KDJ	**Kajisay**	**83.31**	**313**	IAmb		IAmb		09 37 18.2	
	comp=Z,10.0nm,0.9s								
DOT	**Dot Lake**	**83.45**	**24**	P		**P**		**09 37 07.2**	**+0.6**
DOT				IAmb		IAmb		09 37 08.3	
	comp=Z,4.0nm,0.9s								
TOLK	**Toolik Lake Re**	**83.98**	**18**	P		**P**		**09 37 10.3**	**+1.1**
TOLK				IAmb		IAmb		09 37 11.5	
	comp=Z,5.3nm,0.8s								
BCAR	**Beaver Creek A**	**84.12**	**25**	P		**P**		**09 37 10.6**	**+0.4**
KURK	**Kurchatov**	**84.53**	**322**	P		**P**		**09 37 12.1**	**-0.3**
KURK				IAmb		IAmb		09 37 23.0	
	comp=Z,3.5nm,0.8s								
NIL	**Nilore**	**84.58**	**304**	P		**P**		**09 37 12.9**	**-0.1**
KZA	**Kyzart**	**84.69**	**313**	P		**P**		**09 37 16.1**	**+2.1**
	SNR=8.5								
BMAR	**Burnt Mountain**	**85.00**	**20**	P		**P**		**09 37 15.6**	**+1.1**
EGAK	**Eagle**	**85.09**	**23**	P		**P**		**09 37 15.0**	**+0.1**
EGAK				IAmb		IAmb		09 37 17.1	
	comp=Z,5.7nm,1.2s								
UCH	**Uchtor**	**85.26**	**313**	P		**P**		**09 37 17.8**	**+1.0**
	SNR=8.9								
AAK	**Ala-Archa**	**85.36**	**314**	P		**P**		**09 37 15.8**	**-1.1**
AAK				IAmb		IAmb		09 37 28.5	
	comp=Z,6.9nm,0.9s								
USP	**Ospenovka**	**85.48**	**314**	P		**P**		**09 37 18.6**	**+1.2**
	SNR=5.9								
AML	**Almayashu**	**85.84**	**313**	P		**P**		**09 37 21.5**	**+1.8**
	SNR=10.0								
EKS2	**Erkin-Say**	**85.88**	**313**	P		**P**		**09 37 21.1**	**+1.7**
	SNR=5.6								
ARSB	**Arslanbob**	**86.20**	**312**	P		**P**		**09 37 21.6**	**+0.4**
NRIK	**Noril'sk**	**86.82**	**341**	P		**P**		**09 37 23.5**	**+0.2**
	comp=Z,3.5nm,0.5s,baz=97,slow=5.3,SNR=4.9								
EPYK	**Eagle Plains**	**87.40**	**22**	P		**P**		**09 37 26.7**	**+0.4**
KK31	**Karatay Array**	**88.32**	**313**			pP		09 37 39.5	-1.3
KKAR	**Karatay Array**	**88.32**	**313**	P		**P**		**09 37 31.5**	**+0.3**
KKAR				IAmb		IAmb		09 37 43.2	
	comp=Z,4.0nm,1.1s								
KKAR	**Karatay Array**	**88.32**	**313**	P		**P**		**09 37 31.4**	**+0.2**
INK	**Inuvik**	**89.20**	**21**	P		**P**		**09 37 36.0**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=243,slow=4.5,SNR=3.6								
INK	**Inuvik**	**89.20**	**21**	P		**P**		**09 37 35.3**	**+0.7**
INK				IAmb		IAmb		09 37 39.3	
	comp=Z,9.4nm,1.4s								
NVAR	**Mina Array Bea**	**92.50**	**52**	P		**P**		**09 37 53.1**	**+2.0**
	comp=Z,0.4nm,0.8s,baz=255,slow=6.4,SNR=2.8								
NVAR	**Mina Array Bea**	**92.50**	**52**	P		**P**		**09 37 52.2**	**+1.2**
SYO	**Syowa Base**	**92.91**	**199**	⇓*e*P		**P**		**09 37 49.2**	**-2.8**
SYO	**Syowa Base**	**92.91**	**199**	⇓*e*PcP		**PcP**		**09 37 53.2**	**+0.6**
YKA	**Yellowknife Ar**	**96.11**	**28**	LR		LR		10 19 40.3	
	comp=Z,146nm,19.7s,baz=0.0,slow=34								
PDAR	**Pinedale Array**	**99.32**	**48**	LR		LR		10 15 03.6	
	comp=Z,93nm,21.6s,baz=128,slow=30								
GERES	**GERESS Array B**	**124.86**	**328**	PKP		**PKiKP**		**09 43 40.5**	**+0.7**
	comp=Z,0.3nm,0.2s,baz=46,slow=2.8,SNR=1.8								
TORD	**Torodi Ar. Bea**	**150.70**	**287**	PKPbc		**PKPbc**		**09 44 32.6**	**+0.1**
	comp=Z,2.9nm,0.7s,baz=63,slow=2.3,SNR=8.8								
TORD				PKPab		**pPKPdf**		**09 44 38.0**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=65,slow=2.9,SNR=11								
TORD	**Torodi Ar. Bea**	**150.70**	**287**			**PKPbc**		**09 44 32.5**	**+0.1**
TORD						**PKPab**		**09 44 39.0**	**-0.4**

*SOME **21** 10:12:41.9, 40°.93N×80°.02E, h5km*
*NNC **21** 10:12:43.6±3.6, 40°.91N×79°.88E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=27.3km s-min=23.5km az=81.0*
*KRNET **21** 10:12:43.2±0.1, 40°.68N×79°.70E, mb2.8*

ISC 21 10:12:44.2±2.5, 41°.0N±0°.1×79°.88E±0°.07, h10km, n18, σ1§19/31, 10C-4D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.74**	**297**	⇑*e*P		**Pb**		**10 13 15.5**	**-0.9**
	baz=7.0								
TARG				⇑*i*S		**Sg**		**10 13 39.3**	**-0.8**
	baz=7.0								
PRZ	**Przheval'sk**	**1.88**	**324**	⇑*e*P		**Pg**		**10 13 19.3**	**-0.9**
	baz=32								
PRZ				⇑*i*S		**Sg**		**10 13 46.1**	**+1.6**
	baz=32								
SHLS	**Shalkode**	**2.21**	**352**	*e*P		**Pb**		**10 13 24.0**	**-0.3**
	14nm,0.2s								
SHLS				*e*S		**Sg**		**10 13 54.2**	**-0.9**
	26nm,0.5s								
SHLS	**Shalkode**	**2.21**	**352**	Pg		**Pb**		**10 13 24.0**	**-0.3**
	14nm,0.2s								
SHLS				Lg		Lg		10 13 54.2	
	26nm,0.5s								
UZB	**Uzynbulak**	**2.27**	**344**	*e*P		**Pb**		**10 13 25.4**	**+0.1**
	5.5nm,0.3s								
UZB				*e*S		**Sg**		**10 13 56.4**	**-0.7**
	7.3nm,0.3s								
UZB	**Uzynbulak**	**2.27**	**344**	Pg		**Pb**		**10 13 25.7**	**+0.4**
	5.5nm,0.3s								
UZB				Lg		Lg		10 13 57.2	
	7.3nm,0.3s								
KDJ	**Kajisay**	**2.34**	**301**	⇓*i*P		**Pb**		**10 13 24.3**	**-2.2**
	baz=8.0								
KDJ				⇓*i*S		**Sb**		**10 13 54.1**	**-1.4**
	baz=8.0								
SATY	**Saty**	**2.36**	**333**	*e*P		**Pb**		**10 13 27.4**	**+0.6**
	5.1nm,0.3s								
SATY				*e*S		**Sg**		**10 14 00.1**	**+0.1**
	11nm,0.5s								
SATY	**Saty**	**2.36**	**333**	Pg		**Pb**		**10 13 27.4**	**+0.6**
	5.1nm,0.3s								
SATY				Lg		Lg		10 14 00.1	
	11nm,0.5s								
PDGK	**Podgornoye**	**2.38**	**353**	⇓Pn		**Pb**		**10 13 25.9**	**-1.2**
	1.8nm,0.5s								
PDGK				⇓Sn		**Sg**		**10 13 59.0**	**-1.6**
	5.6nm,0.5s								
ANVS	**Anan'yevo**	**2.45**	**318**	⇑*e*P		**Pb**		**10 13 27.3**	**-1.2**
	baz=25								
ANVS				⇑*i*S		**Sb**		**10 13 59.4**	**+0.5**
	baz=25								
KTMS	**Ketmen**	**2.50**	**8**	*e*P		**Pb**		**10 13 28.9**	**-0.3**
	0.6nm,0.1s								
KTMS				*e*S		**Sg**		**10 14 02.8**	**-1.7**
	13nm,0.5s								
KTMS	**Ketmen**	**2.50**	**8**	Pg		**Pb**		**10 13 29.0**	**-0.3**
	0.6nm,0.1s								
KTMS				Lg		Lg		10 14 02.8	
	13nm,0.5s								
KPKS	**Kokpek**	**2.65**	**341**	*e*P		**Pb**		**10 13 32.6**	**+0.9**
	12nm,0.2s								
KPKS				*e*S		**Sg**		**10 14 09.1**	**-0.2**
	16nm,0.4s								
ULHL	**Ulahol**	**3.01**	**296**	⇑*i*P		**Pn**		**10 13 33.3**	**+1.2**
	baz=2.0								
ULHL				⇑*i*S		**Sn**		**10 14 10.0**	**+1.6**
	baz=2.0								
BOOM	**Boomskoye usch**	**3.32**	**299**	⇑*i*P		**Pn**		**10 13 37.7**	**+1.4**
	baz=4.0								
BOOM				⇑*i*S		**Sn**		**10 14 17.1**	**+1.2**
	baz=4.0								
KTBS	**Karatobe**	**3.62**	**320**	*e*P		**Pb**		**10 13 49.3**	**+1.0**
	1.3nm,0.4s								
KTBS				*e*S		**Sg**		**10 14 37.9**	**-2.7**
	5.2nm,0.5s								
KTBS	**Karatobe**	**3.62**	**320**	Pg		**Pb**		**10 13 49.3**	**+1.0**
	1.3nm,0.4s								
KTBS				Lg		Lg		10 14 37.9	
	5.2nm,0.5s								

*JMA **21** 10:31:08.6±0.1, 24°.44N×121°.96E, h10km, M1.9*
*TAP **21** 10:31:08.5, 24°.46N×121°.91E, h11km, ML2.5, B*

ISC 21 10:31:08.3±0.9, 24°.44N±0°.02×121°.97E±0°.02, h15km±6km, n45, σ0§39/79, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TWC	**Suao**	**0.20**	**327**	*i*P		**Pg**		**10 31 12.8**	**-0.1**
	baz=341								
TWC				S		**Sg**		**10 31 15.2**	**-0.7**
	baz=341								
ENA	**Nanau**	**0.21**	**266**	*i*P		**Pg**		**10 31 13.0**	**0.0**
	baz=257								
ENA				S		**Sg**	

LIOB	**Emei**	**0.89**	**283**	*eP*	**Pg**	**10 31 25.8**	**+0.2**
	baz=282						
LIOB				*eS*	**Sb**	**10 31 37.4**	**+0.2**
	baz=282						
JYNG	**Yonagunijimaku**	**0.89**	**89**	P	**Pg**	**10 31 25.6**	**+0.1**
JYNG				S	**Sb**	**10 31 37.2**	**0.0**
TWY	**Chenhua**	**0.89**	**338**	*eS*	**Sn**	**10 31 38.5**	**-0.6**
	baz=341						
NSTT	**Nanjuang**	**0.90**	**282**	*eS*	**Sg**	**10 31 38.0**	**+0.4**
	baz=281						
WHP	**Taichung City**	**0.95**	**260**	*eP*	**Pn**	**10 31 27.4**	**+0.2**
	baz=258						
WHP				*eS*	**Sg**	**10 31 39.3**	**+0.3**
	baz=258						
YOJ	**Yonaguni jima**	**0.95**	**89**	*eP*	**Pb**	**10 31 26.6**	**0.0**
	baz=89						
YOJ				*eS*	**Sg**	**10 31 39.8**	**+0.6**
	baz=89						
YOJ	**Yonaguni jima**	**0.95**	**89**	P	**Pb**	**10 31 26.5**	**0.0**
YOJ				S	**Sg**	**10 31 39.2**	**+0.1**
VWDT	**VWDT**	**1.02**	**228**	*eP*	**Pg**	**10 31 28.0**	**0.0**
	baz=225						
VWDT				*eS*	**Sg**	**10 31 41.6**	**+0.3**
	baz=225						
SSLB	**Suanglung**	**1.13**	**235**	P	**Pg**	**10 31 30.2**	**0.0**
	baz=232						
SSLB				*eS*	**Sg**	**10 31 44.6**	**-0.3**
	baz=232						
YULB	**Yu-li**	**1.21**	**211**	*eP*	**Pg**	**10 31 31.5**	**-0.2**
	baz=207						
IRIF	**Iriomote-Funau**	**1.61**	**93**	P	**Pn**	**10 31 36.4**	**+0.2**
IRIF				S	**Sn**	**10 31 56.8**	**0.0**
JKRS	**Kuro-shima**	**1.87**	**96**	P	**Pn**	**10 31 40.1**	**+0.3**
JKRS				*eS*	**Sn**	**10 32 02.6**	**-0.7**
JIJ	**Ishigaki jima**	**1.98**	**92**	P	**Pn**	**10 31 41.2**	**-0.2**
JIJ				S	**Sn**	**10 32 04.5**	**-1.5**
JISG	**Ishigakijimahi**	**2.14**	**86**	P	**Pn**	**10 31 44.0**	**+0.5**
JISG				*eS*	**Sn**	**10 32 09.2**	**-0.6**

*KRSC **21** 10:34:24.3±1.6,54°.65N×158°.64E,h302km±13km, ML3.6*
*IDC **21** 10:34:25.8±1.1,54°.95N×157°.91E,h268km±26km, mb3.0/8, mb1 3.4/8, mb1mx3.1/35, mbtmp3.7/8, Error ellipse: s-maj=49.1km s-min=18.3km az=4.0*

ISC 21 10:34:26.8±0.7,54°.65N±0°.05×158°.50E±0°.08,h288km±6km, n49,σ1§33/78,mb3.2/8,Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.83**	**138**	*eP*	**Pn**	**10 35 05.6**	**+0.3**
KZV	**Kizimen**	**1.14**	**65**	*eP*	**Pn**	**10 35 06.7**	**-0.1**
KZV				*eS*	**S**	**10 35 37.8**	**-0.7**
TUMR	**Tumrok**	**1.14**	**56**	*i P*	**Pn**	**10 35 07.0**	**+0.2**
TUMD	**Tumrok D**	**1.23**	**62**	*eP*	**Pn**	**10 35 07.0**	**-0.1**
TUMD				*eS*	**S**	**10 35 39.4**	**+0.3**
KRX	**Arik**	**1.30**	**176**	*i P*	**Pn**	**10 35 08.5**	**+0.7**
KRER	**Koryakskii**	**1.36**	**174**	*eP*	**Pn**	**10 35 08.9**	**+0.7**
KOK	**Koryaka**	**1.36**	**177**	*i P*	**Pn**	**10 35 08.7**	**+0.5**
SDLR	**Sedlovina**	**1.39**	**170**	*i P*	**Pn**	**10 35 08.7**	**+0.3**
SDLR				*eS*	**S**	**10 35 42.6**	**+1.3**
AVH	**Avacha**	**1.40**	**174**	*eP*	**Pn**	**10 35 08.8**	**+0.5**
SMAR	**Somma**	**1.40**	**173**	*i P*	**Pn**	**10 35 09.1**	**+0.6**
SMAR				*eS*	**S**	**10 35 43.0**	**+1.4**
UGLR	**Uglovaya**	**1.46**	**172**	*i P*	**Pn**	**10 35 09.4**	**+0.6**
UGLR				*eS*	**S**	**10 35 44.2**	**+2.2**
KMNR	**Kamenistaya**	**1.49**	**41**	*i P*	**Pn**	**10 35 08.8**	**0.0**
NLC	**Nalytchevo**	**1.56**	**161**	*eP*	**Pn**	**10 35 08.9**	**-0.4**
NLC				*eS*	**S**	**10 35 41.1**	**-1.9**
KOZ	**Kozyrevsk**	**1.61**	**28**	*eP*	**Pn**	**10 35 09.3**	**-0.2**
KOZ				*eS*	**S**	**10 35 43.6**	**+0.1**
PETK	**Petropavlovsk-**	**1.62**	**197**	P	**Pn**	**10 35 09.7**	**0.0**
	5.4nm,0.3s,baz=77,slow=6.0,SNR=228						
PETK				S	**S**	**10 35 42.3**	**-1.5**
	0.4nm,0.3s,baz=15,slow=19,SNR=6.6						
DALK	**Dalny**	**1.63**	**175**	*eP*	**Pn**	**10 35 09.7**	**-0.1**
DALK				*eS*	**S**	**10 35 42.9**	**-1.0**
PET	**Petropavlovsk**	**1.63**	**177**	*eP*	**Pn**	**10 35 09.9**	**+0.1**
PET				*eS*	**S**	**10 35 43.3**	**-0.6**
KPT	**Kopyto**	**1.65**	**36**	*eP*	**Pn**	**10 35 09.4**	**-0.5**
KPT				*eS*	**S**	**10 35 44.1**	**0.0**
KIRR	**Kirishev**	**1.68**	**38**	*eP*	**Pn**	**10 35 09.7**	**-0.5**
KIRR				*eS*	**S**	**10 35 43.6**	**-1.0**
BZWR	**Bezymyannyi-We**	**1.74**	**40**	*eP*	**Pn**	**10 35 10.7**	**0.0**
BZWR				*eS*	**S**	**10 35 45.5**	**0.0**
SPN	**Mys Shipunski**	**1.80**	**149**	*eP*	**Pn**	**10 35 10.1**	**-0.9**
SPN				*eS*	**S**	**10 35 42.8**	**-3.3**
BZGR	**Bezymyannyi-Gr**	**1.80**	**43**	*eP*	**Pn**	**10 35 10.5**	**-0.5**
SRDR	**Sredinnyy**	**1.81**	**22**	*eP*	**Pn**	**10 35 10.2**	**-0.8**
SRDR				*eS*	**S**	**10 35 45.1**	**-1.1**
KRMR	**Karymshinskiy**	**1.84**	**187**	*eP*	**Pn**	**10 35 12.4**	**+1.1**
KRMR				*eS*	**S**	**10 35 47.8**	**+1.2**
ZLN	**Zelenaya**	**1.90**	**43**	*eP*	**Pn**	**10 35 12.3**	**+0.5**
APC	**Apacha**	**1.90**	**205**	*eP*	**Pn**	**10 35 12.0**	**+0.2**
APC				*eS*	**S**	**10 35 47.1**	**-0.5**
LGNR	**Loginova**	**1.90**	**40**	*eP*	**Pn**	**10 35 12.2**	**+0.2**
KRSR	**Krestovskiy**	**1.96**	**36**	*eP*	**Pn**	**10 35 11.8**	**-0.5**
KRSR				*eS*	**S**	**10 35 48.1**	**-0.3**
KLY	**Klyuchi**	**2.07**	**35**	*eP*	**Pn**	**10 35 13.3**	**+0.3**
KLY				*eS*	**S**	**10 35 49.3**	**-0.4**
GRL	**Gorelyy**	**2.12**	**187**	*eP*	**Pn**	**10 35 14.1**	**+0.4**
MTVR	**Mutnovka**	**2.18**	**185**	*eP*	**Pn**	**10 35 15.2**	**+0.9**
MTVR				*eS*	**S**	**10 35 51.9**	**-0.1**
RUS	**Russkaya**	**2.22**	**180**	*i P*	**Pn**	**10 35 13.6**	**-0.9**
RUS				*eS*	**S**	**10 35 49.7**	**-2.6**
ASAK	**Asacha**	**2.30**	**189**	*i P*	**Pn**	**10 35 15.7**	**+0.4**
ASAK				*eS*	**S**	**10 35 54.3**	**+0.5**
BDR	**Baidarnaya**	**2.46**	**38**	*eP*	**Pn**	**10 35 16.7**	**+0.2**
BDR				*eS*	**S**	**10 35 57.1**	**+1.0**
SRKR	**Sorokina**	**2.51**	**36**	*eP*	**Pn**	**10 35 17.4**	**+0.4**
SRKR				*eS*	**S**	**10 35 58.0**	**+1.0**
SMKR	**Semkarok**	**2.57**	**40**	*eP*	**Pn**	**10 35 17.2**	**-0.3**
SMKR				*eS*	**S**	**10 35 57.6**	**-0.3**
MIPR	**Malaya Ipel'ka**	**2.60**	**204**	*eP*	**Pn**	**10 35 17.1**	**-0.8**
KDTR	**Khodutka, Kamc**	**2.86**	**185**	*eP*	**Pn**	**10 35 19.7**	**-0.7**
KDTR				*eS*	**S**	**10 35 59.7**	**-3.3**
KBG	**Krutoberegovo**	**2.88**	**54**	*eP*	**Pn**	**10 35 19.4**	**-1.1**
KBG				*eS*	**S**	**10 35 59.2**	**-4.1**
KBTR	**Krutoberegovo**	**2.91**	**56**	*i P*	**Pn**	**10 35 20.0**	**-0.8**
KBTR				*eS*	**S**	**10 36 00.0**	**-3.8**
BKI	**Bering**	**4.35**	**80**	*eP*	**Pn**	**10 35 36.2**	**0.0**
BKI				*eS*	**S**	**10 36 29.8**	**-2.0**
ILAR	**Eielson Array**	**28.42**	**47**	P	**P**	**10 39 55.4**	**+0.5**
	0.6nm,0.4s,baz=256,slow=6.9,SNR=13						
YKA	**Yellowknife Ar**	**42.66**	**43**	P	**P**	**10 41 56.1**	**+1.0**
	0.6nm,0.7s,baz=304,slow=6.6,SNR=1.9						
MKAR	**Makanchi Array**	**46.65**	**293**	P	**P**	**10 42 23.6**	**-3.0**
	0.5nm,0.5s,baz=58,slow=7.8,SNR=5.0						
NVAR	**Mina Array Bea**	**56.10**	**70**	P	**P**	**10 43 39.5**	**+2.9**
	0.3nm,0.7s,baz=297,slow=7.9,SNR=3.8						
PDAR	**Pinedale Array**	**57.58**	**61**	P	**P**	**10 43 49.0**	**+2.0**
	0.6nm,0.6s,baz=341,slow=1.1,SNR=5.9						
FINES	**FINESS Array B**	**58.31**	**335**	P	**P**	**10 43 49.6**	**-1.7**
	3.4nm,1.0s,baz=38,slow=9.3,SNR=7.1						
NOA	**NORSAR Array B**	**61.78**	**343**	P	**P**	**10 44 13.2**	**-1.6**
	0.2nm,0.4s,baz=16,slow=5.7,SNR=1.5						
TXAR	**Lajitas Array**	**70.88**	**66**	P	**P**	**10 45 14.9**	**+2.0**
	0.4nm,0.6s,baz=282,slow=5.4,SNR=5.5						

*NEIC **21** 10:37:14.1±1.8,4°.43S±0°.07×138°.49E±0°.07,h146km±3km, mb4.4/24, Error ellipse: s-maj=10.4km s-min=9.7km az=212.0*
*IDC **21** 10:37:14.7±1.1,4°.35S×138°.51E,h145km±11km, mb3.5/11, mb1 3.8/17, mb1mx3.8/24, mbtmp4.1/17, Error ellipse: s-maj=13.7km s-min=11.0km az=98.0*
*DJA **21** 10:37:15.2±0.2,4°.5S×13°.9E±°,h159km±6km, M4.3/9, mb4.2/9, mB4.9/2, MLv4.4/7, Mw(mB)4.2/2*

ISC 21 10:37:14.3±0.4,4°.48S±0°.04×138°.48E±0°.05,h150km,n63, σ1§74/75,mb4.0/19,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WAMI	**Wamena**	**0.64**	**21**	P	**Pn**	**10 37 39.5**	**+3.1**
WAMI				S	**Sn**	**10 37 57.7**	**+4.4**
SMPI	**Sarmi**	**2.48**	**5**	P	**Pn**	**10 37 55.0**	**-0.3**
SMPI				S	**Sn**	**10 38 24.6**	**-2.3**
GENI	**Genyem**	**2.52**	**42**	P	**Pn**	**10 37 55.9**	**+0.2**
GENI				S	**Sn**	**10 38 26.3**	**-1.4**
JAY	**Jayapura**	**2.96**	**49**	P	**Pn**	**10 38 01.1**	**-0.1**
	16nm,0.3s,baz=235,slow=9.6,SNR=65						
JAY				S	**Sn**	**10 38 34.8**	**-2.6**
	34nm,0.3s,baz=228,slow=22,SNR=11						
JAY	**Jayapura**	**2.96**	**49**	P	**Pn**	**10 38 00.5**	**-0.7**
MMPI	**Merauke**	**4.39**	**155**	P	**Pn**	**10 38 22.9**	**+3.2**
FAKI	**Fak Fak**	**6.41**	**284**	P	**Pn**	**10 38 48.3**	**+1.8**
	0.1nm15nm,0.9s						
FAKI	**Fak Fak**	**6.41**	**284**	Pn	**Pn**	**10 38 45.5**	**-1.0**
FAKI				Sn	**Sn**	**10 39 58.1**	**-0.5**
SIJI	**Sorong**	**8.05**	**296**	P	**Pn**	**10 39 09.9**	**+1.5**
	2.1nm,0.3s,baz=227,slow=21,SNR=6.6						
SIJI				S	**Sn**	**10 40 36.2**	**-2.0**
	0.3nm,0.3s,baz=142,slow=21,SNR=1.7						
PMG	**Port Moresby**	**9.91**	**120**	P	**Pn**	**10 39 35.1**	**+2.0**
	0.9nm,0.3s,baz=303,slow=17,SNR=2.5						
PMG				S	**Sn**	**10 41 17.5**	**-5.4**
	0.4nm,0.3s,baz=255,slow=12,SNR=2.5						
COEN	**Coen**	**10.49**	**154**	Pn	**Pn**	**10 39 41.9**	**+1.0**
COEN				Sn	**Sn**	**10 41 34.3**	**-2.8**
MTN	**Manton Dam**	**11.03**	**221**	Pn	**Pn**	**10 39 48.8**	**+0.8**
KNRA	**Kununurra**	**14.66**	**220**		**P**	**10 40 36.5**	**-0.3**
WB0	**Warramunga Arr**	**15.71**	**194**	P	**P**	**10 40 49.0**	**+0.6**
WR0	**Warramunga Arr**	**15.86**	**194**		**P**	**10 40 50.1**	**0.0**
WR0				IAmb	IAmb	10 40 53.7	
	comp=Z,17nm,0.7s						
WRAB	**Tennant Creek**	**15.88**	**194**		**P**	**10 40 51.1**	**+0.7**
WB2	**Warramunga Arr**	**15.89**	**194**		**P**	**10 40 51.0**	**+0.6**
WRA	**Warramunga Arr**	**15.89**	**194**	P	**P**	**10 40 51.0**	**+0.5**
	comp=Z,5.4nm,0.3s,baz=14,slow=12,SNR=118						
WRA				S	**Sn**	**10 43 40.1**	**-6.8**
	comp=Z,0.9nm,0.3s,baz=14,slow=22,SNR=5.9						
WRA	**Warramunga Arr**	**15.89**	**194**	P	**Pn**	**10 40 49.8**	**0.0**
CTA	**Charters Tower**	**17.26**	**155**	P	**Pn**	**10 41 07.7**	**+1.2**
	comp=Z,1.1nm,0.3s,baz=334,slow=12,SNR=20						
CTAO	**Charters Tower**	**17.26**	**155**	P	**Pn**	**10 41 07.6**	**+1.2**
CTAO				IAmb	IAmb	10 41 11.0	
	comp=Z,22nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.46**	**222**	P	**Pn**	**10 41 20.3**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=45,slow=11,SNR=29						
FITZ				S	**S**	**10 44 36.6**	**-5.1**
	comp=Z,0.7nm,0.3s,baz=159,slow=18,SNR=3.5						
FITZ	**Fitzroy Crossi**	**18.46**	**222**	P	**Pn**	**10 41 20.5**	**-0.2**
AS31	**Alice Springs**	**19.58**	**193**		**Pn**	**10 41 33.5**	**-0.2**
ASAR	**Alice Springs**	**19.58**	**193**	P	**Pn**	**10 41 33.4**	**-0.4**
	comp=Z,4.1nm,0.3s,baz=17,slow=10,SNR=247						
ASAR				pP	**pP**	**10 41 59.3**	**+2.2**
	comp=Z,0.9nm,0.3s,baz=14,slow=11,SNR=5.2						
ASAR				S	**S**	**10 45 03.9**	**0.0**
	comp=Z,0.3nm,0.3s,baz=14,slow=25,SNR=6.7						
ASAR	**Alice Springs**	**19.58**	**193**	P	**Pn**	**10 41 33.1**	**-0.7**
EIDS	**Eidsvold**	**24.04**	**151**	P	**P**	**10 42 16.7**	**+1.1**
EIDS				IAmb	IAmb	10 42 18.9	
	comp=Z,17nm,0.9s						
PSA00	**Pilbara Seismi**	**24.81**	**225**	P	**P**	**10 42 24.3**	**+1.7**
STKA	**Stephens Creek**	**27.41**	**174**	P	**P**	**10 42 49.0**	**+3.1**
	comp=Z,0.6nm,0.3s,baz=342,slow=14,SNR=2.0						
STKA	**Stephens Creek**	**27.41**	**174**	P	**P**	**10 42 46.9**	**+1.0**
BBOO	**Buckleboo**	**28.27**	**184**	P	**P**	**10 42 54.3**	**+0.7**
BBOO				IAmb	IAmb	10 42 59.2	
	comp=Z,17nm,1.4s						
ARMA	**Armidale**	**28.63**	**156**	P	**P**	**10 42 57.2**	**+0.3**
ARMA				IAmb	IAmb	10 43 03.5	
	comp=Z,12nm,1.4s						
CAN	**Canberra**	**32.19**	**164**	P	**P**	**10 43 28.6**	**+0.4**
CAN				IAmb	IAmb	10 43 34.9	
	comp=Z,11nm,1.4s						
TOO	**Toolangi**	**33.55**	**170**	P	**P**	**10 43 41.2**	**+1.2**
MJAR	**Matsushiro Arr**	**40.81**	**360**	P	**P**	**10 44 41.7**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=178,slow=6.3,SNR=1.9						
MJAR	**Matsushiro Arr**	**40.81**	**360**	P	**P**	**10 44 40.7**	**-0.4**
KSRS	**Korea Array**	**42.86**	**348**	P	**P**	**10 44 58.3**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=167,slow=9.2,SNR=3.7						
CMAR	**Chiang Mai Arr**	**45.14**	**302**	P	**P**	**10 45 16.8**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=123,slow=6.7,SNR=9.7						
CMAR	**Chiang Mai Arr**	**45.14**	**302**	P	**P**	**10 45 16.0**	**-0.2**
USRK	**Ussuriysk Ar.**	**48.81**	**354**	P	**P**	**10 45 44.7**	**+0.5**
	comp=Z,0.8nm,0.6s,baz=178,slow=7.2,SNR=2.5						
USRK	**Ussuriysk Ar.**	**48.81**	**354**	P	**P**	**10 45 44.2**	**-0.1**
ULN	**Ulaanbaatar**	**58.97**	**336**	P	**P**	**10 46 58.6**	**+0.5**
ULN				IAmb	IAmb	10 46 60.0	
	comp=Z,6.2nm,1.4s						
SONM	**Songino Array**	**59.22**	**335**	P	**P**	**10 47 00.1**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=149,slow=5.9,SNR=2.4						
SONM	**Songino Array**	**59.22**	**335**	P	**P**	**10 46 59.2**	**-0.6**
PETK	**Petropavlovsk-**	**59.63**	**13**	P	**P**	**10 47 03.1**	**+0.7**
	comp=Z,1.8nm,0.8s,baz=181,slow=7.4,SNR=5.1						
PETK	**Petropavlovsk-**	**59.63**	**13**	P	**P**	**10 47 02.8**	**+0.4**
CASY	**Casey**	**64.70**	**192**	P	**P**	**10 47 36.5**	**+0.5**
CASY				IAmb	IAmb	10 47 53.5	
	comp=Z,4.5nm,1.4s						
MK31	**Makanchi Array**	**71.05**	**323**	P	**P**	**10 48 16.4**	**+0.3**
MKAR	**Makanchi Array**	**71.05**	**323**	P	**P**	**10 48 16.4**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=106,slow=7.7,SNR=15						
MKAR	**Makanchi Array**	**71.05**	**323**	P	**P**	**10 48 16.1**	**+0.1**
MAKZ	**Makanchi**	**71.24**	**323**	P	**P**	**10 48 17.4**	**+0.2**
MAKZ				IAmb	IAmb	10 48 18.2	
	comp=Z,4.4nm,1.1s						
ZALV	**Zalesovo Beam**	**73.34**	**330**	P	**P**	**10 48 29.0**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=122,slow=5.8,SNR=5.6						
ZALV	**Zalesovo Beam**	**73.34**	**330**	P	**P**	**10 48 28.7**	**-0.8**
VNDA	**Vanda**	**74.05**	**175**	P	**P**	**10 48 33.9**	**+0.7**
	comp=Z,0.5nm,0.5s,baz=322,slow=6.3,SNR=5.3						
SPIA	**Saint Paul Isl**	**74.06**	**26**	P	**P**	**10 48 33.7**	**+0.2**
KK31	**Karatay Array**	**77.23**	**316**	P	**P**	**10 48 51.7**	**-0.3**
KKAR	**Karatay Array**	**77.23**	**316**	P	**P**	**10 48 51.6**	**-0.4**
ABKAR	**Akbulak array**	**85.92**	**320**	P	**P**	**10 49 36.3**	**-1.1**
IL31		**87.53**	**24**	P	**P**	**10 49 43.8**	**-1.1**
IL31				IAmb	IAmb	10 49 44.4	
	comp=Z,2.3nm,0.8s						
ILAR	**Eielson Array**	**87.53**	**24**	P	**P**	**10 49 43.8**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=259,slow=4.7,SNR=15						
ILAR	**Eielson Array**	**87.53**	**24**	P	**P**	**10 49 43.5**	**-1.4**
BCAR	**Beaver Creek A**	**89.32**	**27**	P	**P**	**10 49 54.0**	**+0.5**
LPAZ	**La Paz**	**146.56**	**129**	PKPbc	**PKPab**	**10 56 41.6**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=283,slow=2.9,SNR=4.3						

AUST 21 10:51:18.0±0.3,33°.00S×138°.32E,h10km,Error ellipse: s-maj=4.8km s-min=2.4km az=32.0,Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUJCS	**Jamestown Cent**	**0.32**	**129**	P	**Pg**	**10 51 25.0**	**+0.6**
	baz=0.3						
AUJCS				S	**Sg**	**10 51 29.3**	**+0.7**
	baz=0.3						
HTT	**Hallett**	**0.66**	**130**	P	**Pg**	**10 51 30.9**	**0.0**
	baz=0.6						
HTT				S	**Sg**	**10 51 40.0**	**+0.4**
	baz=0.6						
BBOO	**Buckleboo**	**1.91**	**275**	P	**Pn**	**10 51 51.2**	**+0.6**
	baz=1.9						
BBOO				S	**Sn**	**10 52 15.0**	**+0.3**
	baz=1.9						
LCRK	**Leigh Creek**	**2.55**	**358**	P	**Pn**	**10 51 59.7**	**+0.4**
	baz=2.6						
STKA	**Stephens Creek**	**2.99**	**69**	P	**Pn**	**10 52 06.3**	**+0.9**
	baz=3.0						
STKA				S	**Sb**	**10 52 46.2**	**-1.7**
	baz=3.0						
MULG	**Mulgathing**	**4.53**	**306**	P	**Pn**	**10 52 27.1**	**+0.4**
	baz=4.5						
MULG				S	**Sn**	**10 53 18.4**	**-1.0**
	baz=4.5						
ARPS	**Mount Arapiles**	**4.75**	**143**	P	**Pn**	**10 52 28.6**	**-1.0**
	baz=4.7						
ARPS				S	**Sn**	**10 53 24.4**	**-0.3**
	baz=4.7						
OOD	**Oodnadatta**	**5.66**	**336**	P	**Pn**	**10 52 42.9**	**+0.7**
	baz=5.7						
OOD				S	**Sn**	**10 53 45.5**	**-1.8**
	baz=5.7						
CMSA	**Cobar Meteorol**	**6.41**	**79**	P	**Pn**	**10 52 52.1**	**-0.4**
	baz=6.4						

*JMA **21** 10:57:01.6±0.1,25°.80N×140°.88E,h151km, M4.2*
*IDC **21** 10:57:01.3±3.4,25°.88N×141°.85E,h222km±56km, mb3.2/3, mb1 3.3/6, mb1mx2.9/69, mbtmp3.9/6, Error ellipse: s-maj=138.8km s-min=20.9km az=75.0*

ISC 21 10:56:58.4±1.2,25°.74N±0°.09×140°.6E±0°.1,h150km,n17, σ1§90/19,mb3.7/3,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.65**	**57**	P	**Pn**	**10 57 30.6**	**+1.1**
JHH2				S	**Sn**	**10 57 53.0**	**-0.4**
CBIJ	**Chichi jima**	**1.94**	**46**	P	**Pn**	**10 57 34.3**	**+1.5**
CBIJ				S	**Sn**	**10 57 59.2**	**-0.1**
JHJ	**Hachijo jima 2**	**7.39**	**354**	P	**Pn**	**10 58 46.7**	**+3.2**
	10nm,0.3s,baz=143,slow=20,SNR=1.6						
JIM2	**Oshima 3**	**9.01**	**354**	P	**Pn**	**10 59 07.3**	**+2.2**
BSO3	**Boso 3**	**9.03**	**359**	P	**Pn**	**10 59 05.7**	**+0.5**
BSO4	**Boso 4**	**9.22**	**359**	P	**Pn**	**10 59 09.5**	**+1.6**
TATJ	**Tateyama 2**	**9.28**	**356**	P	**Pn**	**10 59 10.9**	**+2.2**
JKUC	**kamogawauchiur**	**9.39**	**358**	P	**Pn**	**10 59 11.2**	**+1.0**
JOD2	**Odawara 2**	**9.58**	**352**	P	**Pn**	**10 59 15.5**	**+2.7**
JHU	**Hanno**	**10.14**	**354**	P	**Pn**	**10 59 21.0**	**+0.8**
JAG	**Ashikaga**	**10.70**	**355**	P	**Pn**	**10 59 26.4**	**-1.1**
JHO	**Hitachi**	**10.84**	**360**	P	**Pn**	**10 59 28.4**	**-0.9**
MJAR	**Matsushiro Arr**	**10.96**	**350**	P	**Pn**	**10 59 33.5**	**+2.4**
	0.1nm,0.3s,baz=156,slow=10,SNR=7.8						
MJAR				S	**Sn**	**11 01 28.8**	**-3.4**
	0.0nm,0.3s,baz=181,slow=35,SNR=2.5						
KSRS	**Korea Array**	**15.90**	**320**	P	P	11 00 40.9	+6.5
	0.2nm,0.3s,baz=142,slow=12,SNR=5.0						
WRA	**Warramunga Arr**	**45.82**	**188**	P	**P**	**11 05 03.8**	**-1.6**
	1.1nm,0.6s,baz=9.9,slow=8.5,SNR=14						
FITZ	**Fitzroy Crossi**	**45.95**	**200**	P	**P**	**11 05 06.0**	**-0.4**
	1.3nm,0.7s,baz=7.4,slow=5.7,SNR=6.4						
KURBB	**Kurchatov Arra**	**53.00**	**315**	P	**P**	**11 05 59.8**	**+0.3**
	0.3nm,0.5s,baz=90,slow=7.7,SNR=5.7						

*IDC **21** 11:01:55.1±0.4,17°.92N×127°.86E,h0km,mb4.4/33, mb1 4.5/38,mb1mx4.4/69,mbtmp4.4/38,ML3.9/5,MS3.3/9, Ms1 3.4/9,ms1mx3.1/45, Error ellipse: s-maj=17.6km s-min=9.4km az=71.0*
*NEIC **21** 11:01:56.3±1.6,17°.92N±0°.06×127°.82E±0°.08,h10km±1km, mb4.7/90, Error ellipse: s-maj=13.5km s-min=10.8km az=98.0*

ISC 21 11:01:59.5±1.3,17°.93N±0°.04×127°.81E±0°.05,h30km±9km, n212,σ1§26/216,mb4.6/88,MS3.3/7,2C,East of Philippine Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**5.56**	**220**	*eP*	**Pn**	**11 03 18.7**	**-1.5**
CAUP	**Cauayan**	**5.80**	**261**	*eP*	**Pn**	**11 03 23.2**	**-0.3**
CNP	**Catarman**	**6.18**	**210**	*eP*	**Pn**	**11 03 28.8**	**0.0**
APYP	**Conner**	**6.25**	**270**	*eP*	**Pn**	**11 03 29.2**	**-0.6**
BALP	**Baler**	**6.35**	**251**	*eP*	**Pn**	**11 03 28.1**	**-3.0**
POLP	**Polilio Island**	**6.47**	**241**	*eP*	Pn	11 03 27.1	-5.6
GQP	**Guinayangan**	**6.53**	**233⇑**	*eP*	**Pn**	**11 03 32.3**	**-1.2**
GQP				*eS*	**Sn**	**11 04 44.3**	**-2.7**
ABRA	**Dolores**	**6.77**	**269**	*eP*	**Pn**	**11 03 37.0**	**+0.2**
SZP	**Santa**	**7.02**	**268**		**Pn**	**11 03 42.1**	**+1.9**
SMPP	**San Manuel, Pa**	**7.04**	**257**	*eP*	**Pn**	**11 03 39.7**	**-0.9**
TGY	**Tagaytay City**	**7.62**	**241**	LR	LR	11 06 28.1	
	comp=Z,268nm,20.2s,baz=128,slow=36						
BOLP	**Bolinao**	**7.70**	**260**	*eP*	**Pn**	**11 03 50.4**	**+0.7**
YOJ	**Yonaguni jima**	**7.89**	**326**		**Pn**	**11 03 51.1**	**-1.2**
TWG	**Pinlang**	**7.98**	**309**		**Pn**	**11 03 51.2**	**-2.2**
YULB	**Yu-li**	**8.17**	**313**		**Pn**	**11 03 53.1**	**-3.0**
NACB	**Ninganchiao**	**8.50**	**318**	Pn	**Pn**	**11 03 57.1**	**-3.5**
TPUB	**Ta-pu**	**8.59**	**310**		**Pn**	**11 04 02.0**	**+0.2**
TPUB					**Sn**	**11 05 34.1**	**-3.7**
SSLB	**Suanglung**	**8.66**	**313**		**Pn**	**11 04 01.5**	**-1.3**
JOW	**Kunigami**	**8.87**	**3**	Pn	**Pn**	**11 04 04.6**	**-1.1**
	1.6nm,0.3s,baz=94,slow=24,SNR=12						
YHNB	**Yeheng**	**9.00**	**319**	Pn	**Pn**	**11 04 06.3**	**-1.2**
**TATO

BJT IAmb IAmb 11 07 19.1
comp=Z,21nm,1.5s
BJI Beijing 24.23 338 P **P** **11 07 14.3 +0.7**
BJI pmax pmax
comp=Z,6.0nm,1.4s
KMI Kunming 24.37 291 P **P** **11 07 14.9 -0.5**
KMI pmax pmax
comp=Z,19nm,0.5s
CD2 Chengdu 25.36 305 P **P** **11 07 24.1 0.0**
CD2 pmax pmax
comp=Z,30nm,0.5s
PBKT Sadao Pong 25.66 271 P **P** **11 07 26.5 -0.4**
USA0B Ussuriysk Arra 26.43 7 P **P** **11 07 33.7 +0.1**
USA0B IAmb IAmb 11 07 38.9
comp=Z,15nm,1.4s
USRK Ussuriysk Ar. 26.43 7 P **P** **11 07 33.4 -0.2**
comp=Z,3.2nm,1.0s,baz=195,slow=11,SNR=5.3
USRK Ussuriysk Ar. 26.43 7 P **P** **11 07 33.0 -0.5**
HHC Hu-ho-hao-te 26.78 332 *eP* **P** **11 07 38.5 +1.6**
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,33nm,6.4s
EDFI Ende, Flores 27.19 193 P **P** **11 07 40.5 -0.2**
comp=Z,8.8nm,0.9s
CHTO Chiang Mai 27.40 276 P **P** **11 07 42.7 +0.1**
CMAR Chiang Mai Arr 27.42 276 P **P** **11 07 42.6 -0.2**
comp=Z,4.3nm,0.9s,baz=76,slow=8.1,SNR=14
CMAR PcP **PcP** **11 11 02.6 +1.4**
comp=Z,0.8nm,0.5s,baz=65,slow=1.4,SNR=5.6
CMAR LR LR 11 18 08.3
comp=Z,44nm,20.9s,baz=85,slow=35
CMAR Chiang Mai Arr 27.42 276 P **P** **11 07 42.8 0.0**
LZH Lanzhou 27.86 315 *eP* **P** **11 07 50.0 +3.3**
LZH pP pP 11 07 54.6 +0.5
LZH sP sP 11 07 58.3 +1.1
LZH pmax pmax
comp=Z,27nm,1.1s
PLAI Plampang 28.37 201 P **P** **11 07 51.3 +0.1**
comp=Z,87nm,1.0s
ASAJ Asahikawa 28.93 22 P **P** **11 07 54.5 -1.4**
comp=Z,1.8nm,0.8s,baz=247,slow=15,SNR=2.1
ASAJ LR LR 11 19 26.4
comp=Z,74nm,18.5s,baz=263,slow=36
IPM Ipoh 29.41 246 P **P** **11 08 00.8 +0.2**
IPM IAmb IAmb 11 08 06.4
comp=Z,9.1nm,1.0s
MTN Manton Dam 30.75 174 P **P** **11 08 10.7 -1.6**
KLR Kul'dur 31.39 5 P **P** **11 08 19.2 +1.6**
comp=Z,0.7nm,0.6s,baz=228,slow=12,SNR=4.0
LEM Lembang 31.66 221 LR LR 11 23 53.0
comp=Z,60nm,18.0s,baz=215,slow=42
MDSI Maura Dua 32.24 229 P **P** **11 08 25.9 +0.4**
comp=Z,8.5nm,1.0s
GTA Gaotai 32.36 317 *eP* **P** **11 08 27.5 +1.0**
GTA pP pP 11 08 31.8 -2.0
GTA sP sP 11 08 34.8 -2.1
GTA pmax pmax
comp=Z,2.0nm,0.7s
KNRA Kununurra 33.40 178 P **P** **11 08 35.5 -0.1**
KNRA IAmb IAmb 11 08 35.8
comp=Z,16nm,1.1s
ULN Ulaanbaatar 34.35 335 P **P** **11 08 44.1 +0.4**
SONM Songino Array 34.59 334 P **P** **11 08 46.0 +0.2**
comp=Z,2.5nm,0.8s,baz=149,slow=8.9,SNR=8.7
SONM PcP **PcP** **11 11 19.9 0.0**
comp=Z,0.4nm,0.4s,baz=156,slow=35,SNR=2.3
LSA Lhasa 35.38 296 P **P** **11 08 54.6 +1.3**
LSA IAmb IAmb 11 09 08.6
comp=Z,9.4nm,1.0s
XMIS Christmas Isla 35.71 219 P **P** **11 08 55.3 -0.3**
FITZ Fitzroy Crossi 35.86 184 P **P** **11 08 56.3 -0.5**
comp=Z,3.9nm,0.8s,baz=34,slow=7.7,SNR=6.2
FITZ PcP **PcP** **11 11 24.0 +0.2**
comp=Z,2.1nm,0.8s,baz=68,slow=5.4,SNR=2.4
FITZ Fitzroy Crossi 35.86 184 P **P** **11 08 55.9 -0.9**
FITZ IAmb IAmb 11 08 57.3
comp=Z,7.4nm,1.1s
H11S3 WAKE ISLAND Hy 36.89 83 T T 11 48 02.0
baz=276,slow=75,SNR=63
H11S1 WAKE ISLAND Hy 36.90 83 T T 11 48 04.9
baz=276,slow=75,SNR=25
H11S2 WAKE ISLAND Hy 36.91 83 T T 11 48 03.3
baz=276,slow=75,SNR=32
H11N1 WAKE ISLAND Hy 36.98 81 T T 11 48 14.9
baz=274,slow=74,SNR=9.2
H11N2 WAKE ISLAND Hy 36.99 81 T T 11 48 10.6
baz=274,slow=74,SNR=8.2
H11N3 WAKE ISLAND Hy 37.00 81 T T 11 48 15.9
baz=274,slow=74,SNR=6.2
WB0 Warramunga Arr 38.01 170 P **P** **11 09 13.5 -1.6**
TAPN Taplejung 38.04 292 *eP* **P** **11 09 17.2 +1.4**
comp=Z,60nm,1.1s
WRAB Tennant Creek 38.17 170 P **P** **11 09 14.9 -1.6**
WRA Warramunga Arr 38.17 170 P **P** **11 09 15.4 -1.1**
comp=Z,6.1nm,0.9s,baz=347,slow=9.6,SNR=18
WRA Warramunga Arr 38.17 170 P **P** **11 09 15.3 -1.1**
WB2 Warramunga Arr 38.18 170 P **P** **11 09 14.9 -1.6**
WR0 Warramunga Arr 38.23 170 P **P** **11 09 15.5 -1.4**
WR0 IAmb IAmb 11 09 16.4
comp=Z,7.6nm,0.7s
ODAN Odare 38.28 291 *eP* **P** **11 09 19.1 +1.4**
comp=Z,47nm,1.0s
TLY Talaya 38.72 336 P **P** **11 09 22.1 +1.3**
comp=Z,3.8nm,0.6s,baz=150,slow=5.4,SNR=11
TLY Talaya 38.72 336 P **P** **11 09 21.1 +0.3**
RAMN Ramite 38.99 291 *eP* **P** **11 09 25.4 +1.7**
JIRN Jiri 39.41 292 *eP* **P** **11 09 28.7 +1.3**
comp=Z,42nm,0.7s
PKIN Phulchoki 40.11 292 *eP* **P** **11 09 33.7 +0.7**
comp=Z,11nm,0.6s
DANN Dangsing 41.61 293 *eP* **P** **11 09 46.7 +1.2**
comp=Z,27nm,0.9s
KOLN Koldanda 41.71 292 *eP* **P** **11 09 46.8 +0.6**
comp=Z,28nm,0.9s
AS31 Alice Springs 41.76 172 P **P** **11 09 45.4 -0.9**
ASAR Alice Springs 41.77 172 P **P** **11 09 46.4 +0.1**
comp=Z,2.4nm,0.7s,baz=347,slow=7.3,SNR=34
ASAR PP **PP** **11 11 24.3 +1.0**
comp=Z,1.5nm,0.8s,baz=352,slow=10,SNR=5.4
ASAR PcP **PcP** **11 11 43.0 +0.7**
comp=Z,1.0nm,0.9s,baz=329,slow=2.7,SNR=3.1
ASAR Alice Springs 41.77 172 P **P** **11 09 45.5 -0.7**
CTA Charters Tower 41.89 154 P **P** **11 09 47.4 +0.1**
comp=Z,7.0nm,0.9s,baz=331,slow=9.4,SNR=7.4
CTAO Charters Tower 41.89 154 P **P** **11 09 47.5 +0.1**
CTAO IAmb IAmb 11 09 49.1
comp=Z,8.7nm,0.9s
PETK Petropavlovsk- 42.12 27 P **P** **11 09 49.4 +0.5**
comp=Z,2.2nm,0.6s,baz=190,slow=3.9,SNR=6.8
PETK PcP **PcP** **11 11 43.3 +0.2**
comp=Z,0.5nm,0.3s,baz=197,slow=4.5,SNR=10.0
PETK Petropavlovsk- 42.12 27 P **P** **11 09 48.6 -0.3**
PYUN Piuthan 42.27 292 *eP* **P** **11 09 51.8 +1.1**
WMQ Urumqi 42.43 316 *eP* **P** **11 09 53.4 +1.8**
WMQ sP pP 11 10 00.4 +1.2
WMQ LR LR
comp=N,180nm,14.3s
WMQ LR LR
comp=E,170nm,15.7s
WMQ LR LR
comp=Z,80nm,18.1s
MK31 Makanchi Array 47.11 318 P **P** **11 10 29.2 +0.4**
MK31 PcP **PcP** **11 12 00.5 +0.1**
MKAR Makanchi Array 47.11 318 P **P** **11 10 30.0 +1.2**
comp=Z,16nm,0.7s,baz=108,slow=9.2,SNR=73
MKAR PcP **PcP** **11 12 00.7 +0.3**
comp=Z,1.6nm,0.6s,baz=102,slow=4.8,SNR=3.0
MKAR Makanchi Array 47.11 318 P **P** **11 10 29.6 +0.8**
MKAR PcP **PcP** **11 12 00.2 -0.1**
MAKZ Makanchi 47.31 318 P **P** **11 10 31.0 +0.6**
MORW Morawa 48.08 194 P **P** **11 10 35.2 -1.2**
PRZ Przheval'sk 48.39 311 P **P** **11 10 40.5 +1.4**
FORT Forrest 48.42 180 P **P** **11 10 38.1 -0.9**
TARG Taragay, Kyrgy 48.63 310 P **P** **11 10 41.0 -0.2**
TARG IAmb IAmb 11 10 48.1
comp=Z,12nm,1.3s
EIDS Eidsvold 48.63 152 P **P** **11 10 40.1 -0.7**
EIDS IAmb IAmb 11 10 44.9
comp=Z,5.4nm,0.8s
ZAA0 Zalesovo Array 48.82 328 P **P** **11 10 41.4 -0.5**
ZAA0 IAmb IAmb 11 10 43.1
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 48.82 328 P **P** **11 10 42.2 +0.3**
comp=Z,6.8nm,0.5s,baz=113,slow=7.7,SNR=29
ZALV PcP **PcP** **11 12 06.4 +0.1**
comp=Z,0.8nm,0.4s,baz=129,slow=2.0,SNR=2.0
ZALV Zalesovo Beam 48.82 328 P **P** **11 10 41.7 -0.2**
ZALV PcP **PcP** **11 12 05.4 -0.8**
KDJ Kajisay 49.18 311 P **P** **11 10 45.7 +0.6**
KDJ IAmb IAmb 11 10 47.8
comp=Z,12nm,0.8s
BOOM Boomskoye usch 50.16 311 P **P** **11 10 53.9 +1.4**
BOOM IAmb IAmb 11 11 01.3
comp=Z,5.5nm,0.9s
KURK Kurchatov 50.82 322 P **P** **11 10 57.6 +0.4**
KURBB Kurchatov Arra 50.84 321 P **P** **11 10 58.2 +0.9**
comp=Z,22nm,0.7s,baz=110,slow=8.1,SNR=134
NIL Nilore 51.01 299 P **P** **11 10 58.4 -0.6**
NIL IAmb IAmb 11 11 00.7
comp=Z,12nm,0.9s
BBOO Buckleboo 51.06 171 P **P** **11 10 59.2 +0.1**
AAK Ala-Archa 51.23 311 P **P** **11 11 02.3 +1.7**
comp=Z,3.4nm,0.7s,baz=103,slow=3.8,SNR=5.1
AAK Ala-Archa 51.23 311 P **P** **11 11 01.4 +0.8**
STKA Stephens Creek 51.25 165 P **P** **11 11 00.7 +0.2**
comp=Z,8.4nm,0.8s,baz=340,slow=8.5,SNR=18
STKA Stephens Creek 51.25 165 P **P** **11 11 00.2 -0.4**
ARSB Arslanbob 52.10 309 P **P** **11 11 07.8 +0.8**
ARSB IAmb IAmb 11 11 09.2
comp=Z,4.5nm,0.7s
BTK Batken 53.55 307 P **P** **11 11 17.8 0.0**
BTK IAmb IAmb 11 11 24.2
comp=Z,5.5nm,0.9s
TIXI Tiksi 53.72 0 P **P** **11 11 18.1 -0.3**
TIXI IAmb IAmb 11 11 19.7
comp=Z,8.0nm,1.2s
GAR Garm 53.81 305 P **P** **11 11 20.3 +0.5**
KK31 Karatay Array 54.20 311 IAmb IAmb 11 11 24.5
comp=Z,4.8nm,0.7s
KKAR Karatay Array 54.20 311 P **P** **11 11 23.3 +1.0**
KKAR PcP **PcP** **11 12 26.1 -0.5**
KKAR Karatay Array 54.20 311 P **P** **11 11 23.4 +1.0**
KKAR IAmb IAmb 11 11 24.5
comp=Z,4.8nm,0.7s
KKAR PcP **PcP** **11 12 26.1 -0.5**
KBL Kabul 54.54 300 P **P** **11 11 26.0 +0.8**
KBL IAmb IAmb 11 11 27.0
comp=Z,7.6nm,0.8s
CHGR Chuyangaron 54.68 305 P **P** **11 11 26.5 +0.4**
BILL Bilibino 55.68 16 P **P** **11 11 32.6 0.0**
BILL IAmb IAmb 11 11 33.9
comp=Z,9.1nm,0.9s
BVAR Borovoye Array 56.39 322 P **P** **11 11 38.9 +0.9**
comp=Z,8.3nm,0.8s,baz=110,slow=8.5,SNR=15
BRVK Borovoye 56.47 322 P **P** **11 11 38.8 +0.3**
ATKA Atka Island 56.52 39 P **P** **11 11 38.4 -0.4**
CAN Canberra 56.65 159 P **P** **11 11 40.5 +0.6**
CAN IAmb IAmb 11 11 43.2
comp=Z,10.0nm,1.3s
NRIK Noril'sk 57.05 344 P **P** **11 11 42.9 +0.5**
comp=Z,5.9nm,0.6s,baz=115,slow=8.4,SNR=6.9
NRIK LR LR 11 38 59.8
comp=Z,67nm,18.2s,baz=59,slow=39
TOO Toolangi 57.66 163 P **P** **11 11 48.0 +0.9**
TOO IAmb IAmb 11 11 49.1
comp=Z,9.6nm,1.1s
HRA Herat 60.15 300 P **P** **11 12 04.5 -0.4**
HRA IAmb IAmb 11 12 16.6
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 62.22 317 P **P** **11 12 18.2 -0.1**
GEYT Alibeck 63.35 304 P **P** **11 12 27.7 +1.5**
comp=Z,2.7nm,0.8s,baz=157,slow=5.6,SNR=5.2
GEYT Alibeck 63.35 304 P **P** **11 12 27.0 +0.9**
GYA0B ALIBECK ARRAY 63.35 304 P **P** **11 12 26.3 +0.2**
GYA0B IAmb IAmb 11 12 33.4
comp=Z,7.0nm,0.8s
ARU Arti 63.78 325 P **P** **11 12 29.0 +0.4**
comp=Z,2.2nm,0.5s,baz=39,slow=4.2,SNR=8.0
ARU Arti 63.78 325 P **P** **11 12 28.3 -0.2**
TTA Tatalina 67.91 29 P **P** **11 12 55.1 -0.1**
TTA IAmb IAmb 11 12 56.4
comp=Z,4.1nm,0.9s
KIRV Kirov 68.84 327 P **P** **11 13 01.4 +0.5**
comp=Z,16nm,0.5s,baz=140,slow=3.5,SNR=4.3
RSO Redoubt South 69.38 31 P **P** **11 13 04.6 +0.1**
BPAW Bear Paw Mtn. 70.20 27 P **P** **11 13 09.8 +0.5**
BPAW IAmb IAmb 11 13 11.1
comp=Z,12nm,1.0s
BRLK Bradley Lake 70.32 32 P **P** **11 13 09.9 -0.2**
TOLK Toolik Lake Re 70.76 23 P **P** **11 13 12.8 +0.1**
TOLK IAmb IAmb 11 13 25.4
comp=Z,4.2nm,0.9s
MCK McKinley 71.11 28 P **P** **11 13 14.7 -0.2**
PMR Palmer 71.11 30 P **P** **11 13 14.3 -0.5**
PMR IAmb IAmb 11 13 15.4
comp=Z,7.8nm,0.9s
RND Reindeer 71.16 28 P **P** **11 13 14.8 -0.4**
RND IAmb IAmb 11 13 18.9
comp=Z,7.8nm,0.8s
KNK Knik Glacier 71.45 30 P **P** **11 13 17.0 +0.1**
WRH Wood River Hil 71.45 27 P **P** **11 13 17.0 +0.2**
WRH IAmb IAmb 11 13 30.4
comp=Z,8.7nm,1.4s
CCB Clear Creek Bu 71.57 27 P **P** **11 13 17.3 -0.2**
IL31 71.95 27 P **P** **11 13 19.7 -0.1**
ILAR Eielson Array 71.95 27 P **P** **11 13 19.1 -0.7**
comp=Z,0.6nm,0.7s,baz=283,slow=5.9,SNR=6.0
ILAR Eielson Array 71.95 27 P **P** **11 13 18.5 -1.4**
BMAR Burnt Mountain 72.69 24 P **P** **11 13 25.1 +0.8**
RIDG Independent Ri 72.93 28 P **P** **11 13 26.1 +0.3**
RIDG IAmb IAmb 11 13 37.7
comp=Z,7.6nm,1.0s
SCRK Sand Creek 73.28 27 P **P** **11 13 27.1 -0.8**
SCRK IAmb IAmb 11 13 28.9
comp=Z,5.0nm,1.2s
DOT Dot Lake 73.28 28 P **P** **11 13 27.8 -0.1**
DOT IAmb IAmb 11 13 28.7
comp=Z,6.0nm,1.0s
KLMR Klimovskoe 73.70 329 *eP* **P** **11 13 29.0 -1.3**
KLMR AMP 11 13 35.2
comp=Z,32nm,1.5s
KBZ Khabaz 74.22 311 P **P** **11 13 34.4 +0.8**
comp=Z,8.2nm,1.0s,baz=158,slow=5.1,SNR=5.8
BCAR Beaver Creek A 74.38 28 P **P** **11 13 34.7 +0.4**
CTGM Chitina Glacie 74.92 30 P **P** **11 13 37.9 +0.3**
CTGM IAmb IAmb 11 13 50.2
comp=Z,9.4nm,0.9s
DAWY Dawson 75.27 27 P **P** **11 13 39.3 -0.1**
DAWY IAmb IAmb 11 13 52.3
comp=Z,7.6nm,1.3s
PCA Pinnacle 75.60 31 P **P** **11 13 41.3 -0.1**
EPYK Eagle Plains 75.91 24 P **P** **11 13 43.6 +0.5**
INK Inuvik 76.66 22 P **P** **11 13 47.7 +0.6**
INK IAmb IAmb 11 13 49.1
comp=Z,10nm,1.3s
HYT Haines Junctio 76.79 30 P **P** **11 13 48.8 +0.6**
HYT IAmb IAmb 11 13 50.4
comp=Z,8.8nm,1.1s
WHY Whitehorse 78.08 30 P **P** **11 13 55.1 -0.3**
WHY IAmb IAmb 11 13 57.1
comp=Z,4.6nm,0.9s
FINES FINESS Array B 79.91 331 P **P** **11 14 05.1 -0.1**
comp=Z,6.8nm,0.8s,baz=83,slow=6.0,SNR=13
FINES FINESS Array B 79.91 331 P **P** **11 14 04.7 -0.5**
AKASG Malin Array Be 81.62 321 P **P** **11 14 14.2 -0.4**
comp=Z,1.4nm,0.7s,baz=59,slow=5.4,SNR=5.9
AKASG Malin Array Be 81.62 321 P **P** **11 14 13.8 -0.8**
BRTR Keskin Array B 81.87 309 P **P** **11 14 16.6 +0.2**
comp=Z,2.3nm,0.9s,baz=73,slow=4.1,SNR=4.7
BRTR Keskin Array B 81.87 309 P **P** **11 14 14.2 -2.2**
SUW Suwalki 83.97 325 P **P** **11 14 26.9 +0.2**
BURAR Bucovina Array 85.13 318 P **P** **11 14 33.5 +0.5**
HFS Hagfors 85.98 333 P **P** **11 14 35.8 -0.9**
comp=Z,1.9nm,0.8s,baz=76,slow=7.6,SNR=4.0
YKA Yellowknife Ar 86.20 24 P **P** **11 14 37.1 -0.7**
comp=Z,3.5nm,0.7s,baz=289,slow=4.7,SNR=9.3
NOA NORSAR Array B 86.57 334 P **P** **11 14 38.4 -1.3**
comp=Z,1.0nm,0.8s,baz=57,slow=4.8,SNR=3.4
SUMG Summit 89.25 356 P **P** **11 14 51.7 -1.0**
SUMG IAmb IAmb 11 14 53.8
comp=Z,6.9nm,1.2s
VRAC Vranov 89.67 322 P **P** **11 14 54.9 +0.2**
comp=Z,1.3nm,0.6s,baz=113,slow=7.7,SNR=3.2
GERES GERESS Array B 91.56 323 P **P** **11 15 03.5 -0.1**
comp=Z,0.7nm,0.7s,baz=76,slow=5.6,SNR=5.8
GERES GERESS Array B 91.56 323 P **P** **11 15 02.9 -0.7**
NVAR Mina Array Bea 96.51 46 P **P** **11 15 27.6 +0.9**
comp=Z,0.7nm,0.7s,baz=290,slow=5.0,SNR=7.4
NVAR Mina Array Bea 96.51 46 P **P** **11 15 25.0 -1.8**
USHA Ushuaia 141.11 165 PKhKP PKPpre 11 21 21.6
comp=Z,39nm,0.8s,baz=175,slow=1.3,SNR=3.6
PLCA Paso Flores 152.31 149 PKPbc **PKiKP** **11 21 53.3 +0.3**
comp=Z,6.1nm,0.9s,baz=217,slow=2.2,SNR=16
PLCA Paso Flores 152.31 149 **PKiKP** **11 21 54.1 +1.0**
LPAZ La Paz 164.68 86 PKPab **PKPab** **11 22 58.8 +1.2**
comp=Z,0.9nm,0.9s,baz=236,slow=6.2,SNR=3.8
LPAZ La Paz 164.68 86 PKPab **PKPab** **11 22 57.1 -0.5**

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*IDC **21** 11:08:23.6±0.5, 50.33S×6.53W, h0km, mb4.4/21, mb1 4.4/21, mb1mx4.4/33, mbtmp4.4/21, MS4.4/20, Ms1 4.4/20, ms1mx4.4/22, Error ellipse: s-maj=14.5km s-min=14.5km az=123.0*

*NEIC **21** 11:08:24.4±1.4, 50.4S±0.1×6.6W±0.2, h10km±1km, mb5.0/42, Error ellipse: s-maj=19.3km s-min=18.4km az=52.0*

*GCMT **21** 11:08:28.4±0.1, 50.47S±0.01×6.27W±0.01, h12km, MW5.2/130, Moment Tensor Solution. s85,c110; s130,c219; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=2.00±.11; Mθθ3.25±.12; Mϕϕ-1.25±.11; Mrθ-0.38±.29; Mθϕ-6.18±.08; Mϕr-0.90±.28; Best double couple: M◎6.69800×1016 NP1:ϕs81.00000°, δ79.00000°, λ-171.00000°. NP2:ϕs349.00000°, δ81.00000°, λ-11.00000°. Principal axes: T 7.5810, Plg1.0000°, Azm35.0000°; N -1.7650, Plg76.0000°, Azm130.0000°; P -5.8160, Plg14.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 11:08:24.6±0.4, 50.38S±0.08×6.52W±0.09, h10km, n122, σ1°01/101, mb4.8/37, MS4.6/31, 1C-1D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**20.36**	**182**	P		P		**11 13 01.0**	**+0.2**
VNA3	**Neumayer Olymp**	**20.99**	**183**	P		P		**11 13 06.7**	**-0.9**
SNAA	**Sanae**	**21.43**	**177**	P		P		**11 13 11.9**	**-0.6**
SNAA	**Sanae**	**21.43**	**177**	P		P		**11 13 11.8**	**-0.6**
	9.7nm,0.9s,baz=350,slow=10,SNR=14								
SNAA				LR		LR		11 19 25.0	
	comp=Z,2μm,20.3s,baz=355,slow=31								
SNAA	**Sanae**	**21.43**	**177**	P		P		**11 13 12.3**	**-0.2**
SUR	**Sutherland**	**27.04**	**59**	P		P		**11 14 07.5**	**+0.4**
	7.0nm,1.0s,baz=226,slow=5.4,SNR=1.7								
SUR				LR		LR		11 22 14.9	
	comp=Z,2μm,20.1s,baz=215,slow=31								
SYO	**Syowa Base**	**28.78**	**147**	*eP*		P		**11 14 19.4**	**-2.6**
SYO	**Syowa Base**	**28.78**	**147**	pP		P		**11 14 20.4**	**-1.6**
BOSA	**Boshof**	**32.38**	**60**	P		P		**11 14 54.1**	**-0.3**
	5.9nm,0.8s,baz=228,slow=9.0,SNR=8.4								
BOSA				LR		LR		11 25 40.3	
	comp=Z,2μm,18.5s,baz=226,slow=32								
BOSA	**Boshof**	**32.38**	**60**	P		P		**11 14 54.0**	**-0.3**
PMSA	**Palmer Station**	**32.72**	**222**	LR		LR		11 26 40.0	
	comp=Z,836nm,18.4s,baz=76,slow=34								
LBTB	**Lobatse**	**35.41**	**56**	P		P		**11 15 20.9**	**+0.2**
TSUM	**Tsumeb**	**36.54**	**40**	P		P		**11 15 29.2**	**-1.2**
	3.5nm,0.8s,baz=182,slow=4.3,SNR=3.4								
TSUM	**Tsumeb**	**36.54**	**40**	IAmb		IAmb		11 15 36.0	
	comp=Z,71nm,1.9s								
MAW	**Mawson**	**37.26**	**144**	P		P		**11 15 36.5**	**+0.6**
	comp=Z,12nm,1.0s,baz=270,slow=10,SNR=8.9								
MAW				LR		LR		11 27 59.7	
	comp=Z,334nm,21.4s,baz=266,slow=32								
MAW	**Mawson**	**37.26**	**144**	P		P		**11 15 36.3**	**+0.3**
QSPA	**South Pole Qui**	**39.88**	**180**	P		P		**11 15 57.9**	**-0.3**
	comp=Z,14nm,1.1s,baz=212,slow=6.0,SNR=17								
QSPA	**South Pole Qui**	**39.88**	**180**	P		P		**11 15 57.9**	**-0.3**
QSPA				IAmb		IAmb		11 16 08.9	
	comp=Z,39nm,1.3s								
MATP	**Matopo**	**40.69**	**56**	P		P		**11 16 05.1**	**-0.2**
	comp=Z,5.1nm,0.7s,baz=220,slow=9.0,SNR=11								
H10S2	**ASCENSION HYDR**	**41.84**	**348**	T		T		12 01 05.0	
	baz=171,slow=74,SNR=40								
H10S3	**ASCENSION HYDR**	**41.84**	**348**	T		T		12 01 05.7	
	baz=49,slow=74,SNR=111								
H10N1	**ASCENSION HYDR**	**42.91**	**348**	T		T		12 02 29.7	
	baz=175								
H10N3	**ASCENSION HYDR**	**42.92**	**348**	T		T		12 02 29.0	
	baz=175								
H10N2	**ASCENSION HYDR**	**42.93**	**348**	T		T		12 02 27.4	
	baz=175								
PLCA	**Paso Flores**	**44.57**	**257**	P		P		**11 16 38.7**	**+2.1**
	comp=Z,1.0nm,0.8s,baz=284,slow=12,SNR=1.8								
PLCA				LR		LR		11 32 47.1	
	comp=Z,281nm,19.9s,baz=127,slow=33								
PLCA	**Paso Flores**	**44.57**	**257**	P		P		**11 16 35.1**	**-1.5**
PLCA				IAmb		IAmb		11 16 48.6	
	comp=Z,29nm,1.9s								
GO07	**Milladeo Hill,**	**45.15**	**252**	P		P		**11 16 40.8**	**-0.3**
CPUP	**Villa Florida**	**45.41**	**282**	P		P		**11 16 43.1**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=131,slow=5.7,SNR=6.2								
CPUP				LR		LR		11 32 40.8	
	comp=Z,280nm,21.3s,baz=142,slow=32								
CPUP	**Villa Florida**	**45.41**	**282**	P		P		**11 16 43.2**	**-0.2**
BDFB	**Brasilia**	**48.10**	**301**	P		P		**11 17 04.8**	**+0.3**
	comp=Z,9.9nm,1.0s,baz=140,slow=6.6,SNR=5.4								
BDFB				LR		LR		11 33 56.4	
	comp=Z,157nm,18.1s,baz=125,slow=32								
BDFB	**Brasilia**	**48.10**	**301**	P		P		**11 17 04.7**	**+0.1**
BDFB				IAmb		IAmb		11 17 11.3	
	comp=Z,20nm,1.1s								
CFA	**Coronel Fontan**	**48.74**	**268**	P		P		**11 17 08.9**	**-0.5**
	comp=Z,15nm,1.1s,baz=145,slow=7.6,SNR=11								
ZON	**Zonda**	**49.06**	**268**	P		P		**11 17 09.8**	**-2.1**
ZON				IAmb		IAmb		11 17 22.0	
	comp=Z,9.3nm,0.8s								
MT05	**Renca**	**49.17**	**265**	P		P		**11 17 13.1**	**+0.4**
PEL	**Peldehue**	**49.30**	**265**	P		P		**11 17 13.3**	**-0.3**
VA03	**San Esteban**	**49.46**	**265**	P		P		**11 17 14.0**	**-0.9**
VA03				IAmb		IAmb		11 17 22.2	
	comp=Z,14nm,0.9s								
MT02	**Curacav**	**49.52**	**264**	P		P		**11 17 14.8**	**-0.4**
MT02				IAmb		IAmb		11 17 27.1	
	comp=Z,23nm,1.2s								
RCBR	**Riachuelo**	**50.76**	**321**	P		P		**11 17 23.4**	**-1.4**
	comp=Z,17nm,1.1s,baz=200,slow=11,SNR=2.5								
CO02	**Combarbal**	**50.77**	**267**	P		P		**11 17 25.0**	**+0.1**
CO02				IAmb		IAmb		11 17 32.7	
	comp=Z,15nm,1.1s								
CO03	**El Pedregal**	**50.82**	**267**	P		P		**11 17 25.1**	**-0.1**
CO03				IAmb		IAmb		11 17 35.8	
	comp=Z,50nm,1.9s								
CO01	**Juntas del Tor**	**51.02**	**268**	P		P		**11 17 27.3**	**+0.4**
GO04	**Tololo Observa**	**51.34**	**268**	P		P		**11 17 28.6**	**-0.7**
GO04				IAmb		IAmb		11 17 36.1	
	comp=Z,18nm,0.8s								
AC05	**El Transito**	**51.90**	**269**	P		P		**11 17 33.1**	**-0.3**
AC05				IAmb		IAmb		11 17 44.7	
	comp=Z,24nm,1.1s								
VNDA	**Vanda**	**52.17**	**177**	P		P		**11 17 34.6**	**0.0**
	comp=Z,2.9nm,1.0s,baz=223,slow=7.5,SNR=9.4								
VNDA				LR		LR		11 38 23.5	
	comp=Z,613nm,21.0s,baz=188,slow=34								
VNDA	**Vanda**	**52.17**	**177**	P		P		**11 17 34.1**	**-0.5**
VNDA				IAmb		IAmb		11 17 41.0	
	comp=Z,13nm,1.0s								
AC02	**Maricunga**	**52.55**	**272**	P		P		**11 17 39.0**	**+0.3**
GO03	**Copiap**	**52.73**	**270**	P		P		**11 17 39.2**	**-0.2**
GO03				IAmb		IAmb		11 17 49.5	
	comp=Z,15nm,1.1s								
AC01	**Pan de Azucar**	**53.97**	**272**	P		P		**11 17 47.4**	**-1.2**
GO02	**Mina Guanaco**	**54.01**	**273**	P		P		**11 17 48.7**	**-0.6**
GO02				IAmb		IAmb		11 18 01.2	
	comp=Z,15nm,1.1s								
PB15	**IPOC Station P**	**55.33**	**275**	P		P		**11 17 58.8**	**+0.1**
PB15				IAmb		IAmb		11 18 26.5	
	comp=Z,10.0nm,0.9s								
LVC	**Limon Verde**	**55.40**	**276**	P		P		**11 18 00.3**	**+0.9**
	comp=Z,3.6nm,0.8s,baz=167,slow=6.7,SNR=3.7								
LVC	**Limon Verde**	**55.40**	**276**	P		P		**11 17 59.0**	**-0.4**
PB10	**IPOC Station P**	**55.80**	**274**	P		P		**11 18 02.3**	**+0.5**
PB10				IAmb		IAmb		11 18 13.7	
	comp=Z,13nm,1.0s								
PB09	**IPOC Station P**	**56.20**	**276**	P		P		**11 18 04.8**	**-0.2**
PB09				IAmb		IAmb		11 18 17.1	
	comp=Z,23nm,1.2s								
LIC	**Lamto**	**56.38**	**2**	*eP*		P		**11 18 05.7**	**-0.3**
	comp=Z,84nm,1.2s								
KIC	**Kosan Boka**	**56.53**	**2**	*eP*		P		**11 18 07.7**	**+0.7**
	comp=Z,28nm,0.9s								
TIC	**Toumodi**	**56.80**	**2**	*eP*		P		**11 18 08.5**	**-0.4**
DBIC	**Dimbokro**	**56.83**	**2**	P		P		**11 18 08.3**	**-0.8**

comp=Z,8.1nm,1.0s,baz=139,slow=9.4,SNR=4.4
DBIC LR LR 11 37 52.1
comp=Z,416nm,18.2s,baz=164,slow=31
DBIC Dimbokro 56.83 2 IAmb IAmb 11 18 25.1
comp=Z,27nm,1.3s
PB01 IPOC Station P 56.90 277 P **P 11 18 09.6 -0.2**
PB01 IAmb IAmb 11 18 21.2
comp=Z,23nm,1.5s
GO01 Chusmiza 57.73 278 P **P 11 18 14.6 -1.5**
LPAZ La Paz 59.57 282 P **P 11 18 29.1 -0.1**
comp=Z,0.8nm,0.8s,baz=209,slow=11,SNR=2.5
LPAZ LR LR 11 42 03.0
comp=Z,269nm,21.4s,baz=142,slow=34
LPAZ La Paz 59.57 282 P **P 11 18 28.8 -0.3**
KMBO Kilima Mbogo 61.49 52 LR LR 11 43 09.2
comp=Z,930nm,20.2s,baz=254,slow=34
SAML Samuel 62.20 291 P **P 11 18 45.6 -0.7**
SAML IAmb IAmb 11 18 55.9
comp=Z,7.1nm,1.0s
TOA0 Torodi Ar. Sit 63.66 9 P **P 11 18 55.9 +0.1**
TORD Torodi Ar. Bea 63.66 9 P **P 11 18 55.0 -0.8**
comp=Z,0.8nm,0.6s,baz=186,slow=6.6,SNR=3.8
TORD LR LR 11 40 40.5
comp=Z,467nm,21.6s,baz=175,slow=30
TORD Torodi Ar. Bea 63.66 9 P **P 11 18 55.0 -0.8**
PTGA Pitinga 66.98 299 P **P 11 19 18.4 +0.9**
H01W2 Cape Leeuwin H 80.26 134 T T 12 49 49.1
baz=215
H01W1 Cape Leeuwin H 80.28 134 T T 12 49 47.6
baz=215
H01W3 Cape Leeuwin H 80.28 134 T T 12 49 56.8
baz=215
NWAO Narrogin (SRO) 83.32 135 P **P 11 20 52.8 +1.3**
comp=Z,17nm,1.0s,baz=180,slow=6.7,SNR=1.7
NWAO LR LR 11 49 22.4
comp=Z,126nm,20.0s,baz=182,slow=30
NWAO Narrogin (SRO) 83.32 135 P **P 11 20 50.4 -1.2**
KEST Kesra 86.88 13 P **P 11 21 10.8 +1.7**
comp=Z,1.9nm,0.4s,baz=290,slow=13,SNR=2.8
KEST LR LR 11 57 18.9
comp=Z,230nm,18.6s,baz=205,slow=34
KEST Kesra 86.88 13 P **P 11 21 08.5 -0.5**
KEST IAmb IAmb 11 21 18.4
comp=Z,14nm,1.1s
ESDC Sonseca Array 89.70 2 P **P 11 21 23.7 +1.4**
comp=Z,0.8nm,0.9s,baz=190,slow=6.5,SNR=3.9
ESDC LR LR 11 57 08.4
comp=Z,163nm,21.1s,baz=145,slow=33
ESDC Sonseca Array 89.70 2 P **P 11 21 21.8 -0.5**
STKA Stephens Creek 93.37 153 P **P 11 21 42.3 +2.4**
comp=Z,1.6nm,0.8s,baz=135,slow=7.1,SNR=3.9
STKA LR LR 12 00 42.1
comp=Z,101nm,18.5s,baz=201,slow=34
STKA Stephens Creek 93.37 153 P **P 11 21 39.0 -0.8**
RKT Rikitea 93.82 226 *e*LR LR 11 51 48.4
comp=Z,670nm,29.2s
BRTR Keskin Array B 96.41 30 LR LR 12 06 24.6
comp=Z,155nm,18.5s,baz=175,slow=36
ASAR Alice Springs 98.39 144 LR LR 11 59 10.2
comp=Z,118nm,21.6s,baz=197,slow=31
TBI Tubuai 99.61 214 *e*SS SS 11 40 30.6 +0.2
comp=Z,104nm,28.5s
TBI Tubuai 99.61 214 *e*LR LR 11 54 30.5
comp=Z,274nm,30.2s
LEM Lembang 99.75 113 LR LR 11 57 12.2
comp=Z,120nm,20.4s,baz=220,slow=29
KHC Kasperske Hory 100.62 13 AMS AMS 12 05 20.0
comp=Z,200nm,19.1s
NKC Novy Kostel 101.53 12 AMS AMS 12 08 50.0
comp=Z,200nm,20.7s
PRU Pruhonice 101.60 14 AMS AMS 12 05 00.0
comp=Z,200nm,19.9s
PVCC Panska Ves 102.13 14 AMS AMS 12 06 30.0
comp=Z,200nm,17.3s
CLL Collm 102.66 12 *e*PP **PP 11 26 34.0 -1.0**
PPT2 Papeete2 104.92 216 *e*SP SP 11 36 03.0 -1.3
comp=Z,44nm,24.2s
PPT2 *e*SS **SKKPbc 11 41 48.2 -2.4**
comp=Z,127nm,26.2s
PPT2 Papeete2 104.92 216 *e*LR LR 11 56 54.0
comp=Z,366nm,24.0s
DZM Mont Dzumac 107.61 173 *e*LR LR 11 58 17.7
comp=Z,235nm,26.2s
TAOE Nuku Hiva Isla 108.61 229 *e*LR LR 11 58 42.9
comp=Z,600nm,30.8s
TXAR Lajitas Array 116.36 285 PKP **PKiKP 11 27 08.8 +0.6**
comp=Z,0.4nm,0.9s,baz=127,slow=5.8,SNR=2.0
MKAR Makanchi Array 123.30 55 PKP **PKiKP 11 27 21.3 +0.2**
comp=Z,0.3nm,0.7s,baz=161,slow=4.8,SNR=3.6
WMQ Urumqi 124.34 61 *e*P **PKiKP 11 27 25.1 +1.8**
WMQ LR LR
comp=N,100nm,28.9s
WMQ LR LR
comp=E,130nm,24.9s
WMQ LR LR
comp=Z,240nm,28.9s
CD2 Chengdu 125.69 83 PKP **PKPdf 11 27 26.0 0.0**
PDAR Pinedale Array 128.76 293 PKP **PKiKP 11 27 32.7 +0.3**
comp=Z,0.1nm,0.4s,baz=130,slow=3.6,SNR=4.1
PDAR Pinedale Array 128.76 293 **PKiKP 11 27 32.0 -0.4**
PSUT Pine Spring 128.77 286 **PKiKP 11 27 33.5 +0.9**
NVAR Mina Array Bea 131.46 283 PKP **PKiKP 11 27 37.5 -0.5**
comp=Z,0.2nm,0.5s,baz=127,slow=1.4,SNR=2.6
NVAR Mina Array Bea 131.46 283 **PKPdf 11 27 36.5 -0.5**
NJ2 Nanjing 136.09 93 *e*P **PKiKP 11 27 47.5 +0.3**
NJ2 pmax pmax
comp=Z,11nm,0.5s
HHC Hu-ho-hao-te 136.81 78 *e*P **PKiKP 11 27 49.9 +1.3**
HHC LR LR
comp=N,180nm,18.9s
HHC LR LR
comp=E,86nm,18.6s
HHC LR LR
comp=Z,61nm,20.0s
YKA Yellowknife Ar 140.59 316 PKP **PKPdf 11 27 53.5 +0.7**
comp=Z,0.6nm,0.7s,baz=130,slow=2.5,SNR=2.4
KSAR Wonju Array Be 145.25 94 **PKPdf 11 28 01.9 +0.1**
KSAR **PKiKP 11 28 07.2 +1.4**
KSRS Korea Array 145.28 94 PKPbc **PKPdf 11 28 02.2 +0.3**
comp=Z,2.1nm,0.8s,baz=226,slow=3.3,SNR=4.6
CN2 Changchun 147.12 83 *e*PKPbc **PKiKP 11 28 10.4 +0.9**
INK Inuvik 148.91 325 **PKPbc 11 28 10.5 -0.5**
INK **pPKPab 11 28 16.3 -1.3**
WHY Whitehorse 149.79 310 **PKiKP 11 28 16.4 +1.8**
TIXI Tiksi 150.80 27 **PKPbc 11 28 14.5 -1.1**
HYT Haines Junctio 151.09 310 **PKPbc 11 28 16.3 -0.4**
MJAR Matsushiro Arr 151.21 105 PKPbc **PKiKP 11 28 19.4 +1.2**
comp=Z,2.7nm,0.9s,baz=235,slow=4.3,SNR=8.0
MJAR Matsushiro Arr 151.21 105 **PKPbc 11 28 15.8 -1.8**
USRK Ussuriysk Ar. 151.48 86 PKPbc **PKiKP 11 28 19.7 +1.3**
comp=Z,7nm,0.8s,baz=246,slow=1.8,SNR=6.9
USRK Ussuriysk Ar. 151.48 86 **PKiKP 11 28 19.5 +1.1**
BCAR Beaver Creek A 153.00 315 **PKPdf 11 28 15.0 +1.5**
BMAR Burnt Mountain 153.18 325 **PKPdf 11 28 15.6 +1.9**
ILAR Eielson Array 154.87 320 PKPbc **PKiKP 11 28 27.0 +2.2**
comp=Z,0.8nm,0.7s,baz=106,slow=0.5,SNR=9.9
ILAR PKPab **PKPab 11 28 40.3 +0.1**
comp=Z,4.4nm,1.1s,baz=70,slow=2.4,SNR=8.6
ILAR Eielson Array 154.87 320 PKPdf **PKPdf 11 28 18.1 +2.0**
ILAR **PKPab 11 28 40.3 +0.1**

*UPA **21** 11:39:52.7±0.8, 7.°08N×78.°01W, h10km±7km, MW3.5*
*RSNC **21** 11:39:53.9±0.9, 7.°09N×77.°96W, h16km±6km, ML2.8, ms0.1*

ISC 21 11:39:50.7±2.7, 7.°05N±0.°09×78.°1W±0.°1, h14km±11km, n9, σ0°79/13, 1D, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.32**	**72**	*i*	*i*	P	**Pg**	**11 39 57.7**	**+0.5**
PTAC					*e*	S	**Sg**	**11 40 01.0**	**-0.6**
PTAC					*i*			11 40 01.6	
	comp=Z,9μm,0.3s								
PTAC	**Punta Ardita,**	**0.32**	**72**	*i*	PD			11 39 57.7	
PTAC					*e*	S	**Sg**	**11 40 01.0**	**-0.6**
UPD2	**Meteti**	**1.49**	**4**	*e*	P	**Pn**		**11 40 17.8**	**+0.6**
UPD2					*e*	S	**Sn**	**11 40 37.6**	**+1.2**
CAPC	**Capurgana**	**1.75**	**26**	*e*	P	**Pn**		**11 40 20.7**	**0.0**
CAPC					*e*	S	**Sn**	**11 40 41.9**	**-0.9**
CAPC					*i*			11 40 46.8	
	comp=Z,29nm,0.1s								
CAP2	**Capurgana**	**1.76**	**25**	*e*	P	**Pn**		**11 40 20.6**	**-0.2**
CAP2					*e*	S	**Sn**	**11 40 43.0**	**-0.1**
DBBC	**Dabeiba**	**1.89**	**91**	*e*	P	**Pn**		**11 40 23.1**	**+0.4**
DBBC					*i*			11 40 52.1	
	comp=Z,55nm,0.2s								
DBBC	**Dabeiba**	**1.89**	**91**	*e*	P	**Pn**		**11 40 23.1**	**+0.4**
CHPO	**Chepo, Panama**	**2.33**	**335**	*e*	S	**Sn**		**11 40 55.8**	**-1.3**
CBOC	**Ciudad Bolivar**	**2.40**	**119**	*e*	P	**Pn**		**11 40 29.6**	**-0.1**
CBOC					*i*			11 41 21.9	
	comp=Z,6.7nm,44.0s								

IDC 21 11:42:45.1±5.5, 13.°50S×14.°37W, h0km, mb4.1/4, mb1 4.1/4, mb1mx3.7/33, mbtmp4.1/4, MS3.9/11, Ms1 3.8/11, ms1mx3.5/37, Error ellipse: s-maj=134.7km s-min=44.3km az=61.0, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**4.52**	**356**			T	T	11 48 50.1	
	baz=187,SNR=22								
H10S3	**ASCENSION HYDR**	**4.53**	**356**			T	T	11 48 55.1	
	baz=33								
H10N1	**ASCENSION HYDR**	**5.62**	**359**			T	T	11 50 17.2	
	baz=188,slow=78,SNR=17								
H10N3	**ASCENSION HYDR**	**5.63**	**359**			T	T	11 50 14.7	
	baz=188,slow=78,SNR=63								
H10N2	**ASCENSION HYDR**	**5.64**	**359**			T	T	11 50 19.6	
	baz=188,slow=78,SNR=18								
DBIC	**Dimbokro**	**22.15**	**26**			LR	LR	11 54 24.0	
	comp=Z,164nm,19.4s,baz=174,slow=32								
RCBR	**Riachuelo**	**22.54**	**288**			LR	LR	11 55 05.6	
	comp=Z,198nm,18.4s,baz=102,slow=33								
TORD	**Torodi Ar. Bea**	**30.89**	**32**			P	P	11 49 03.5	-0.2
	2.3nm,1.0s,baz=224,slow=9.6,SNR=6.4								
TORD						LR	LR	11 59 46.0	
	comp=Z,176nm,18.1s,baz=145,slow=33								
BDFB	**Brasilia**	**32.62**	**262**			LR	LR	11 59 58.6	
	comp=Z,94nm,21.2s,baz=101,slow=32								
BOSA	**Boshof**	**39.71**	**119**			LR	LR	12 03 31.6	
	comp=Z,187nm,21.9s,baz=282,slow=31								
MATP	**Matopo**	**41.48**	**103**			P	P	11 50 34.2	-0.2
	6.1nm,1.1s,baz=292,slow=7.8,SNR=5.5								
CPUP	**Villa Florida**	**42.17**	**246**			LR	LR	12 05 53.4	
	comp=Z,184nm,18.1s,baz=88,slow=33								
KMBO	**Kilima Mbogo**	**52.53**	**81**			LR	LR	12 12 48.4	
	comp=Z,103nm,18.9s,baz=96,slow=34								
PLCA	**Paso Flores**	**55.80**	**230**			LR	LR	12 13 01.2	
	comp=Z,102nm,20.1s,baz=124,slow=32								
ROSC	**El Rosal**	**62.23**	**283**			LR	LR	12 18 14.8	
	comp=Z,202nm,21.9s,baz=136,slow=34								
BRTR	**Keskin Array B**	**69.25**	**38**			P	P	11 53 54.9	+0.6
	0.6nm,0.5s,baz=219,slow=9.6,SNR=3.6								
HFS	**Hagfors**	**76.78**	**14**			LR	LR	12 29 12.6	
	comp=Z,52nm,18.9s,baz=162,slow=36								
WSAR	**Wadi Sarin**	**80.17**	**63**			LR	LR	12 30 15.5	
	comp=Z,114nm,18.2s,baz=284,slow=36								
FINES	**FINESS Array B**	**81.24**	**18**			P	P	11 55 02.5	-0.2
	1.5nm,0.7s,baz=212,slow=6.8,SNR=4.0								

*NIED **21** 11:43:00,26.°80N×126.°20E,h140km,Mw4.1 Best double couple: M0 1.70000×10^15 NP1:φ=218.00000°, δ=57.00000°,λ=-104.00000°. NP2:φ=62.00000°,δ=35.00000°, λ=-69.00000°.*
*NEIC **21** 11:43:05.0±1.4,26.°77N±0.°09×126.°23E±0.°07, h134km±7km,mb4.5/45, Error ellipse: s-maj=13.1km s-min=8.2km az=155.0*
*JMA **21** 11:43:05.4±0.2,26.°76N×126.°24E,h138km±3km,M4.1*
*IDC **21** 11:43:05.4±1.6,26.°83N×126.°19E,h136km±14km, mb3.7/25,mb1 3.8/27,mb1mx3.8/52,mbtmp4.1/27,MS4.2/1, Ms1 4.2/1,ms1mx2.7/50, Error ellipse: s-maj=15.5km s-min=10.6km az=79.0*

ISC 21 11:43:05.2±0.6, 26.°78N±0.°05×126.°23E±0.°04, h136km±6km, n116, σ0°91/144, mb4.3/46, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.68**	**132**			P	**Pn**	**11 43 26.6**	**+0.5**
JKE						S	**Sn**	**11 43 42.1**	**+0.3**
JAGN	**Aguni-jima**	**0.93**	**102**			P	**Pn**	**11 43 28.6**	**+0.6**
JAGN						S	**Sn**	**11 43 45.3**	**0.0**
JJT3	**Tamagusuku3**	**1.53**	**114**			P	**Pn**	**11 43 35.2**	**+1.1**
JJT3						S	**Sn**	**11 43 56.2**	**+0.1**
JIH	**Iheya**	**1.58**	**80**			P	**Pn**	**11 43 35.3**	**+0.8**
JIH						S	**Sn**	**11 43 56.1**	**-0.9**
JNTH	**Nagotoyohara**	**1.63**	**99**			P	**Pn**	**11 43 35.8**	**+0.7**
JNTH						S	**Sn**	**11 43 56.6**	**-1.4**
JOW	**Kunigami**	**1.83**	**88**			P	**Pn**	**11 43 38.3**	**+0.8**
	15nm,0.3s,baz=3.4,slow=15,SNR=169								
JOW						S	**Sn**	**11 44 00.5**	**-1.7**
	97nm,0.3s,baz=132,slow=14,SNR=32								
JOW	**Kunigami**	**1.83**	**88**			P	**Pn**	**11 43 38.0**	**+0.5**
JOW						*e*S	**Sn**	**11 44 00.6**	**-1.7**
JYRO	**Yoronjima**	**2.00**	**82**			P	**Pn**	**11 43 39.8**	**+0.3**
JYRO						S	**Sn**	**11 44 03.6**	**-2.2**
JIKM	**Ikemajima**	**2.05**	**206**			P	**Pn**	**11 43 40.7**	**+0.6**
JIKM						S	**Sn**	**11 44 06.6**	**-0.2**
JOGS	**Gusukube**	**2.14**	**200**			P	**Pn**	**11 43 42.0**	**+0.7**
JOGS						S	**Sn**	**11 44 08.8**	**-0.1**
JIRB	**Irabujima**	**2.16**	**206**			P	**Pn**	**11 43 41.9**	**+0.4**
JIRB						S	**Sn**	**11 44 07.9**	**-1.4**
JOKE	**Okinoerabujima**	**2.17**	**74**			P	**Pn**	**11 43 41.7**	**+0.1**
JOKE						*e*S	**Sn**	**11 44 08.1**	**-1.4**
JMJ2	**Miyako jima3**	**2.19**	**202**			P	**Pn**	**11 43 42.5**	**+0.7**
JMJ2						*e*S	**Sn**	**11 44 09.5**	**-0.3**
JTJ	**Tarama**	**2.53**	**213**			P	**Pn**	**11 43 46.4**	**+0.3**
JTJ						*e*S	**Sn**	**11 44 16.6**	**-1.0**
JTK	**Tokunoshima**	**2.62**	**67**			P	**Pn**	**11 43 47.0**	**-0.2**
JTK						S	**Sn**	**11 44 19.0**	**-0.6**
JISG	**Ishigakijimahi**	**2.78**	**219**			P	**Pn**	**11 43 49.3**	**0.0**
JISG						S	**Sn**	**11 44 22.1**	**-1.1**
JAMN	**Amaminishikomi**	**3.00**	**60**			P	**Pn**	**11 43 51.6**	**-0.4**
JAMN						*e*S	**Sn**	**11 44 26.8**	**-1.3**
JIJ	**Ishigaki jima**	**3.05**	**218**			P	**Pn**	**11 43 52.1**	**-0.6**
JIJ						S	**Sn**	**11 44 27.0**	**-2.4**
JKRS	**Kuro-shima**	**3.23**	**219**			P	**Pn**	**11 43 54.8**	**-0.2**
JKRS						*e*S	**Sn**	**11 44 31.8**	**-1.6**
IRIF	**Iriomote-Funau**	**3.32**	**223**			P	**Pn**	**11 43 55.8**	**-0.3**
IRIF						*e*S	**Sn**	**11 44 33.9**	**-1.6**
JAM	**Amami Oshima**	**3.41**	**61**			P	**Pn**	**11 43 56.9**	**-0.4**
JAM						S	**Sn**	**11 44 35.0**	**-2.7**
YOJ	**Yonaguni jima**	**3.71**	**232**			Pn	**Pn**	**11 44 02.0**	**+0.8**
YHNB	**Yeheng**	**4.85**	**245**				**Pn**	**11 44 18.9**	**+2.4**
NACB	**Ninganchiao**	**4.92**	**239**			Pn	**Pn**	**11 44 16.9**	**-0.5**
YULB	**Yu-li**	**5.60**	**234**				**Pn**	**11 44 24.3**	**-2.1**
SSLB	**Suanglung**	**5.62**	**239**			Pn	**Pn**	**11 44 26.1**	**-0.7**
TPUB	**Ta-pu**	**6.14**	**237**			Pn	**Pn**	**11 44 33.5**	**-0.2**
TPUB							Sn	**11 45 42.8**	**-0.1**
JNU	**Nakatsue**	**7.50**	**31**			P	**Pn**	**11 44 53.5**	**+1.6**
	1.3nm,0.3s,baz=211,slow=11,SNR=18								
JNU	**Nakatsue**	**7.50**	**31**				**Pn**	**11 44 53.2**	**+1.3**
KSAR	**Wonju Array Be**	**10.72**	**7**				**Pn**	**11 45 35.0**	**0.0**
KSRS	**Korea Array**	**10.74**	**7**			P	**Pn**	**11 45 38.0**	**+2.8**
	0.6nm,0.3s,baz=184,slow=13,SNR=37								
MJAR	**Matsushiro Arr**	**14.08**	**43**			P		**11 46 22.6**	**+0.4**
	0.1nm,0.3s,baz=226,slow=11,SNR=4.9								
BJT	**Baijiatuan**	**15.63**	**330**			Pn	**Pn**	**11 46 37.4**	**-0.6**
XAN	**Xi'an**	**16.58**	**300**				**Pn**	**11 46 48.4**	**-1.3**
USRK	**Ussuriysk Ar.**	**18.00**	**14**			P	P	**11 47 05.7**	**+0.5**
	baz=182,slow=9.0,SNR=5.1								
ASAJ	**Asahikawa**	**21.77**	**33**			P	**P**	**11 47 46.4**	**+0.4**
	1.3nm,0.4s,baz=219,slow=10.0,SNR=6.4								
KLR	**Kul'dur**	**22.82**	**9**			P	**P**	**11 47 55.8**	**-0.5**
	1.4nm,0.5s,baz=201,slow=7.7,SNR=6.1								
SONM	**Songino Array**	**26.14**	**329**			P	**P**	**11 48 26.6**	**-0.1**
	4.0nm,0.6s,baz=142,slow=10,SNR=15								
SONM						PcP	**PcP**	**11 51 51.1**	**+0.8**
	0.8nm,0.7s,baz=147,slow=2.9,SNR=2.6								
SONM						ScP	**ScP**	**11 55 19.4**	**+1.9**
	0.3nm,0.3s,baz=134,slow=4.2,SNR=1.5								
SONM	**Songino Array**	**26.14**	**329**			P	**P**	**11 48 26.5**	**-0.2**
FAKI	**Fak Fak**	**30.09**	**168**			P	**P**	**11 49 00.7**	**-1.3**
FAKI						IAmb	IAmb	11 49 12.9	
	comp=Z,19nm,1.1s								
PETK	**Petropavlovsk-**	**35.19**	**33**			P	**P**	**11 49 45.8**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=206,slow=5.4,SNR=1.9								
MTN	**Manton Dam**	**39.67**	**172**			P	**P**	**11 50 24.0**	**0.0**
MK31	**Makanchi Array**	**39.83**	**312**			P	**P**	**11 50 25.1**	**-0.1**
MK31							**PcP**	**11 52 28.4**	**0.0**
MKAR	**Makanchi Array**	**39.83**	**312**			P	**P**	**11 50 24.8**	**-0.4**
	comp=Z,2.6nm,0.4s,baz=96,slow=10,SNR=54								
MKAR						PcP	**PcP**	**11 52 28.5**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=83,slow=3.3,SNR=16								
MKAR	**Makanchi Array**	**39.83**	**312**			P	**P**	**11 50 24.7**	**-0.5**
MKAR							**PcP**	**11 52 28.2**	**-0.2**
MAKZ	**Makanchi**	**40.04**	**312**			P	**P**	**11 50 26.8**	**-0.1**
ZAA0	**Zalesovo Array**	**40.73**	**323**			P	**P**	**11 50 31.8**	**-0.6**
ZALV	**Zalesovo Beam**	**40.73**	**323**			P	**P**	**11 50 31.7**	**-0.7**
	comp=Z,2.9nm,0.4s,baz=113,slow=9.0,SNR=14								
ZALV						PcP	**PcP**	**11 52 31.1**	**0.0**
	comp=Z,0.5nm,0.4s,baz=114,slow=3.5,SNR=1.9								
ZALV	**Zalesovo Beam**	**40.73**	**323**			P	**P**	**11 50 31.4**	**-0.9**
KURK	**Kurchatov**	**43.19**	**317**			P	**P**	**11 50 52.1**	**-0.2**
KURK						IAmb	IAmb	11 50 52.6	
	comp=Z,2.3nm,0.3s								
COEN	**Coen**	**43.71**	**156**			P	**P**	**11 50 57.0**	**0.0**
COEN						IAmb	IAmb	11 51 13.3	
	comp=Z,12nm,1.2s								
FITZ	**Fitzroy Crossi**	**44.61**	**181**			P	**P**	**11 51 04.2**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=6.3,slow=9.2,SNR=1.9								
FITZ	**Fitzroy Crossi**	**44.61**	**181**			P	**P**	**11 51 03.7**	**-0.3**
WB0	**Warramunga Arr**	**46.94**	**169**			P	**P**	**11 51 22.5**	**+0.1**
WRAB	**Tennant Creek**	**47.10**	**170**			P	**P**	**11 51 23.7**	**+0.1**
WRAB						IAmb	IAmb	11 51 37.6	
	comp=Z,14nm,1.4s								
WRA	**Warramunga Arr**	**47.11**	**170**			P	**P**	**11 51 23.6**	**0.0**
	comp=Z,1.7nm,0.5s,baz=350,slow=8.6,SNR=9.1								
WRA	**Warramunga Arr**	**47.11**	**170**			P	**P**	**11 51 23.4**	**-0.2**
WB2	**Warramunga Arr**	**47.11**	**170**			P	**P**	**11 51 23.9**	**+0.3**
WB2						IAmb	IAmb	11 51 24.4	
	comp=Z,4.5nm,0.8s								
WR0	**Warramunga Arr**	**47.16**	**169**			P	**P**	**11 51 24.4**	**+0.4**
WR0						IAmb	IAmb	11 51 29.3	
	comp=Z,11nm,1.4s								
NRIK	**Noril'sk**	**48.19**	**343**			P	**P**	**11 51 31.6**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=130,slow=5.6,SNR=2.1								
ADK	**Adak**	**49.25**	**43**			P	**P**	**11 51 39.4**	**-0.3**
ASAR	**Alice Springs**	**50.70**	**171**			P	**P**	**11 51 51.7**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=358,slow=14,SNR=41								
ASAR						PcP	**PcP**	**11 53 06.9**	**+0.5**
	comp=Z,0.6nm,1.0s,baz=359,slow=3.7,SNR=4.3								
ASAR	**Alice Springs**	**50.70**	**171**			P	**P**	**11 51 51.5**	**+0.5**
ATKA	**Atka Island**	**50.82**	**43**			P	**P**	**11 51 51.9**	**+0.4**
ABKAR	**Akbulak array**	**54.96**	**313**			P	**P**	**11 52 22.8**	**+0.8**
ARU	**Arti**	**55.85**	**322**			LR	LR	12 19 43.4	
	comp=Z,221nm,19.4s,baz=208,slow=39								
SDPT	**Sand Point**	**59.03**	**40**			P	**P**	**11 52 49.6**	**-0.9**
CNBA	**Chernabura Isl**	**59.57**	**40**			P	**P**	**11 52 53.4**	**-0.8**
STKA	**Stephens Creek**	**60.14**	**165**			P	**P**	**11 52 58.8**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=9.0,slow=6.8,SNR=4.0								
TTA	**Tatalina**	**60.98**	**31**			P	**P**	**11 53 04.4**	**+0.6**
SVW2	**Sparrevohn**	**61.28**	**33**			P	**P**	**11 53 06.8**	**+1.0**
SVW2						IAmb	IAmb	11 53 07.3	
	comp=Z,3.9nm,0.6s								
OHAK	**Old Harbor**	**62.84**	**37**			P	**P**	**11 53 16.0**	**-0.2**
BPAW	**Bear Paw Mtn.**	**63.13**	**29**			P	**P**	**11 53 18.8**	**+0.7**
BPAW						IAmb	IAmb	11 53 19.4	
	comp=Z,3.0nm,0.6s								
KDAK	**Kodiak Island**	**63.14**	**36**			P	**P**	**11 53 17.1**	**-1.1**
	comp=Z,8.8nm,0.6s,baz=276,slow=4.7,SNR=26								
KDAK	**Kodiak Island**	**63.14**	**36**			P	**P**	**11 53 18.3**	**+0.1**
BRLK	**Bradley Lake**	**63.73**	**34**			P	**P**	**11 53 22.5**	**+0.4**
RND	**Reindeer**	**64.16**	**30**			P	**P**	**11 53 24.8**	**-0.1**
MDM	**Murphy Dome**	**64.21**	**28**			P	**P**	**11 53 26.0**	**+0.8**
MDM						IAmb	IAmb	11 53 26.5	
	comp=Z,3.7nm,0.6s								
SEW	**Seward**	**64.39**	**34**			P	**P**	**11 53 26.1**	**-0.3**
SEW						IAmb	IAmb	11 53 27.7	
	comp=Z,9.4nm,0.9s								
IL31		**64.81**	**28**			P	**P**	**11 53 28.4**	**-0.5**
ILAR	**Eielson Array**	**64.81**	**28**			P	**P**	**11 53 28.0**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=256,slow=5.2,SNR=15								
ILAR						PcP	**PcP**	**11 54 00.3**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=280,slow=3.8,SNR=2.1								
HDA	**Harding Lake**	**64.84**	**29**			P	**P**	**11 53 27.8**	**-1.4**
HDA						IAmb	IAmb	11 53 29.6	
	comp=Z,6.0nm,0.9s								
DHY	**Denali Highway**	**64.88**	**30**			P	**P**	**11 53 29.9**	**+0.2**
SCM	**Sheep Creek Mo**	**65.12**	**31**			P	**P**	**11 53 31.0**	**-0.1**
SCM						IAmb	IAmb	11 53 31.9	
	comp=Z,12nm,1.0s								
BMAR	**Burnt Mountain**	**65.28**	**25**			P	**P**	**11 53 33.6**	**+1.5**
HIN	**Hinchinbrook I**	**65.79**	**33**			P	**P**	**11 53 35.9**	**+0.4**
DOT	**Dot Lake**	**66.23**	**29**			P	**P**	**11 53 38.1**	**-0.2**
DOT						IAmb	IAmb	11 53 38.5	
	comp=Z,5.2nm,0.8s								
MENT	**Mentasta**	**66.54**	**30**			P	**P**	**11 53 41.0**	**+0.9**
MENT						IAmb	IAmb	11 53 41.5	
	comp=Z,5.7nm,0.7s								
BCAR	**Beaver Creek A**	**67.37**	**30**			P	**P**	**11 53 46.3**	**+0.9**
KBZ	**Khabaz**	**67.42**	**309**			P	**P**	**11 53 46.9**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=66,slow=12,SNR=2.5								
DAWY	**Dawson**	**68.13**	**28**			P	**P**	**11 53 50.8**	**+0.5**
EPYK	**Eagle Plains**	**68.54**	**25**			P	**P**	**11 53 53.1**	**+0.4**
EPYK						IAmb	IAmb	11 53 53.7	
	comp=Z,8.7nm,0.9s								
ARCES	**ARCESS Array B**	**68.84**	**338**			P	**P**	**11 53 53.8**	**-0.6**
	comp=Z,4.2nm,0.9s,baz=56,slow=6.5,SNR=3.5								
INK

TOA0	**Torodi Ar. Sit**	**31.29**	**32**	P		**P**	**11 53 16.6**	**-0.8**
TOA0						**P**	**11 53 17.1**	**-0.3**
TOA0				IAmb		IAmb	11 53 25.6	
	comp=Z,9.7nm,1.1s							
TORD	**Torodi Ar. Bea**	**31.29**	**32**	P		**P**	**11 53 17.1**	**-0.3**
	comp=Z,4.7nm,0.8s,baz=218,slow=8.8,SNR=18							
TORD	**Torodi Ar. Bea**	**31.29**	**32**	P		**P**	**11 53 16.6**	**-0.7**
LSZ	**Lusaka**	**41.30**	**97**	P		**P**	**11 54 42.8**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=261,slow=6.6,SNR=1.6							
MATP	**Matopo**	**41.52**	**105**	P		**P**	**11 54 44.5**	**-0.5**
	comp=Z,5.3nm,0.9s,baz=290,slow=7.8,SNR=8.7							
CPUP	**Villa Florida**	**41.88**	**246**	P		**P**	**11 54 47.6**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=89,slow=8.4,SNR=4.6							
CPUP	**Villa Florida**	**41.88**	**246**	P		**P**	**11 54 48.7**	**+1.0**
SIV	**San Ignacio**	**44.97**	**261**	P		**P**	**11 55 13.2**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=86,slow=13,SNR=4.4							
SAML	**Samuel**	**47.90**	**270**	P		**P**	**11 55 35.1**	**-0.6**
SAML				IAmb		IAmb	11 55 38.4	
	comp=Z,4.3nm,0.9s							
LPAZ	**La Paz**	**51.71**	**260**	P		**P**	**11 56 05.5**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=118,slow=7.1,SNR=6.0							
LPAZ	**La Paz**	**51.71**	**260**	P		**P**	**11 56 04.1**	**-1.3**
CFA	**Coronel Fontan**	**52.08**	**241**	P		**P**	**11 56 07.1**	**-0.2**
	comp=Z,4.3nm,1.1s,baz=96,slow=9.0,SNR=3.8							
PB08	**IPOC Station P**	**52.43**	**255**	P		**P**	**11 56 09.5**	**-1.0**
GO03	**Copiap**	**53.47**	**246**	P		**P**	**11 56 18.2**	**+0.5**
CO01	**Juntas del Tor**	**53.50**	**243**	P		**P**	**11 56 19.4**	**+1.2**
AC05	**El Transito**	**53.57**	**244**	P		**P**	**11 56 19.6**	**+1.0**
AC05				IAmb		IAmb	11 56 26.7	
	comp=Z,9.9nm,1.1s							
PB12	**IPOC Station P**	**53.62**	**257**	P		**P**	**11 56 18.4**	**-0.6**
GO04	**Tololo Observa**	**54.12**	**243**	P		**P**	**11 56 23.0**	**+0.3**
GO04				IAmb		IAmb	11 56 30.3	
	comp=Z,6.5nm,0.7s							
ESDC	**Sonseca Array**	**54.18**	**10**	P		**P**	**11 56 22.9**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=198,slow=5.9,SNR=4.8							
ESDC	**Sonseca Array**	**54.18**	**10**	IAmb		IAmb	11 56 28.9	
	comp=Z,9.1nm,1.7s							
KEST	**Kesra**	**54.27**	**24**	P		**P**	**11 56 24.9**	**+1.6**
	comp=Z,3.3nm,1.0s,baz=186,slow=10,SNR=2.7							
KEST	**Kesra**	**54.27**	**24**	IAmb		IAmb	11 56 37.1	
	comp=Z,13nm,1.3s							
SNAA	**Sanae**	**58.19**	**176**	P		**P**	**11 56 52.2**	**+1.4**
	comp=Z,2.4nm,0.9s,baz=306,slow=6.9,SNR=7.3							
SNAA	**Sanae**	**58.19**	**176**	P		**P**	**11 56 49.3**	**-1.6**
CTI	**Castel Tesino**	**64.15**	**20**	P		**P**	**11 57 31.0**	**-0.6**
CTI				IAmb		IAmb	11 57 33.0	
	comp=Z,6.2nm,1.0s							
DAVA	**Damuels**	**64.69**	**18**	*eP*		**P**	**11 57 35.0**	**-0.2**
	comp=Z,11nm,1.0s							
FETA	**Feichten**	**64.72**	**19**	*eP*		**P**	**11 57 35.2**	**-0.2**
	comp=Z,7.4nm,0.8s							
SQTA	**Sankt Quirin**	**65.04**	**19**	*eP*		**P**	**11 57 37.2**	**-0.3**
	comp=Z,5.6nm,0.8s							
MOTA	**Moosalm**	**65.12**	**19**	*i* P		**P**	**11 57 37.4**	**-0.6**
	comp=Z,4.5nm,1.1s							
RETA	**Reutte**	**65.14**	**19**	*eP*		**P**	**11 57 37.6**	**-0.4**
	comp=Z,3.3nm,0.7s							
WTTA	**Wattenberg**	**65.22**	**19**	*eP*		**P**	**11 57 38.5**	**-0.2**
	comp=Z,6.9nm,1.0s							
KBA	**Koelnbreinsper**	**65.62**	**21**	*i* P		**P**	**11 57 43.1**	**+1.9**
	comp=Z,4.8nm,1.1s							
DIVS	**Divibare**	**65.72**	**27**	P		**P**	**11 57 41.8**	**-0.1**
DIVS				IAmb		IAmb	11 57 43.9	
	comp=Z,5.9nm,1.0s							
SOKA	**Soboth**	**65.87**	**22**	*eP*		**P**	**11 57 43.7**	**+0.9**
	comp=Z,4.5nm,0.7s							
ARSA	**Arzberg**	**66.53**	**22**	*eP*		**P**	**11 57 47.6**	**+0.7**
	comp=Z,3.5nm,0.7s							
MOA	**Molln**	**66.60**	**21**	*eP*		**P**	**11 57 47.1**	**-0.2**
	comp=Z,2.6nm,0.7s							
CONA	**Conrad Observa**	**67.23**	**22**	*eP*		**P**	**11 57 52.2**	**+0.8**
	comp=Z,4.6nm,0.9s							
GERES	**GERESS Array B**	**67.27**	**20**	P		**P**	**11 57 51.1**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=192,slow=3.8,SNR=10							
GERES	**GERESS Array B**	**67.27**	**20**	P		**P**	**11 57 50.9**	**-0.8**
KHC	**Kasperske Hory**	**67.48**	**20**	*eP*		**P**	**11 57 53.2**	**+0.3**
PSZ	**Piszkesteto**	**68.74**	**24**	P		**P**	**11 58 01.2**	**+0.3**
MORC	**Moravsky Berou**	**69.39**	**22**	P		**P**	**11 58 04.8**	**0.0**
MORC				IAmb		IAmb	11 58 06.2	
	comp=Z,5.2nm,1.1s							
DPC	**Dobruska-Polom**	**69.44**	**21**	*eP*		**P**	**11 58 05.4**	**+0.2**
MLR	**Muntele Rosu**	**69.49**	**29**	P		**P**	**11 58 05.5**	**-0.2**
CHVC	**Chvalec**	**69.55**	**20**	*eP*		**P**	**11 58 06.5**	**+0.7**
CHVC				*eP*		**P**	**11 58 06.5**	**+0.7**
BRTR	**Keskin Array B**	**69.64**	**38**	P		**P**	**11 58 07.1**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=200,slow=6.3,SNR=5.0							
OJC	**Ojcow**	**70.58**	**23**	P		**P**	**11 58 12.2**	**+0.1**
OJC				IAmb		IAmb	11 58 19.7	
	comp=Z,10.0nm,1.1s							
BURAR	**Bucovina Array**	**70.75**	**27**	P		**P**	**11 58 13.6**	**+0.3**
AKASG	**Malin Array Be**	**74.80**	**27**	P		**P**	**11 58 36.8**	**-0.4**
	comp=Z,16nm,0.8s,baz=224,slow=6.0,SNR=25							
AKASG	**Malin Array Be**	**74.80**	**27**	P		**P**	**11 58 36.5**	**-0.7**
AKBB	**Malin Array Si**	**74.80**	**27**	P		**P**	**11 58 36.8**	**-0.3**
NB2	**NORSAR Subarra**	**77.44**	**13**	P		**P**	**11 58 52.3**	**+0.3**
	comp=Z,4.6nm,1.0s,baz=206,slow=5.9							
NOA	**NORSAR Array B**	**77.44**	**13**	P		**P**	**11 58 52.3**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=205,slow=6.0,SNR=7.3							
KBZ	**Khabaz**	**77.59**	**39**	P		**P**	**11 58 53.9**	**+0.7**
	comp=Z,5.3nm,1.0s,baz=89,slow=2.0,SNR=5.3							
R55A	**Marlinton**	**80.30**	**313**	IAmb		IAmb	11 59 05.9	
	comp=Z,5.4nm,0.6s							
TRQ	**Mont Tremblant**	**80.50**	**322**	P		**P**	**11 59 06.7**	**-2.5**
TRQ				P		**P**	**11 59 07.3**	**-1.9**
FINES	**FINESS Array B**	**81.65**	**18**	P		**P**	**11 59 15.3**	**+0.5**
	comp=Z,4.2nm,0.6s,baz=198,slow=3.7,SNR=27							
FINES	**FINESS Array B**	**81.65**	**18**	P		**P**	**11 59 14.8**	**0.0**
ERPA	**Erie**	**81.92**	**317**	P		**P**	**11 59 15.6**	**-1.2**
D53A	**Lac Vacive, Po**	**82.80**	**322**	P		**P**	**11 59 19.6**	**-1.7**
D53A				IAmb		IAmb	11 59 21.7	
	comp=Z,7.6nm,1.2s							
W50A	**Signal Mountai**	**82.83**	**309**	P		**P**	**11 59 20.7**	**-1.1**
GEYT	**Alibeck**	**85.22**	**49**	P		**P**	**11 59 33.9**	**0.0**
	comp=Z,1.1nm,0.4s,baz=41,slow=4.6,SNR=2.6							
GEYT	**Alibeck**	**85.22**	**49**	IAmb		IAmb	11 59 35.4	
	comp=Z,1.9nm,0.9s							
ABKAR	**Akbulak array**	**90.55**	**39**	P		**P**	**11 59 59.6**	**+0.4**
TXAR	**Lajitas Array**	**95.95**	**299**	P		**P**	**12 00 23.9**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=114,slow=6.0,SNR=5.3							
ASAR	**Alice Springs**	**131.56**	**140**	PKP		**PKiKP**	**12 06 13.0**	**+1.2**
	comp=Z,0.8nm,1.0s,baz=203,slow=3.7,SNR=4.4							
INU	**Inuyama**	**146.64**	**45**	PKPdf		**PKPbc**	**12 06 38.6**	**-0.6**
MJB9	**Matsu-Tunnel**	**146.76**	**42**			**PKPbc**	**12 06 39.8**	**+0.2**
MAJO	**Matsushiro**	**146.77**	**42**	PKPdf		**PKPbc**	**12 06 39.6**	**0.0**
MJAR	**Matsushiro Arr**	**146.77**	**42**	PKPbc		**PKPbc**	**12 06 39.6**	**0.0**
	comp=Z,2.8nm,1.0s,baz=298,slow=3.2,SNR=7.5							
MJAR	**Matsushiro Arr**	**146.77**	**42**	PKPdf		**PKPab**	**12 06 40.1**	**-0.7**

*RSNC **21** 11:48:23.5±0.6, 7.°12N×78.°02W, h13km±4km, ML2.8*
*UPA **21** 11:48:24.7±0.6, 7.°19N×77.°93W, h13km±3km, MW3.6*
ISC 21 11:48:22.0±1.3, 7.°06N±0.°07×78.°01W±0.°06, h20km±2km, n9, σ1s08/16, 1D, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PTAC	**Punta Ardita,**	**0.22**	**67**	Op *i*P		**Pb**	**11 48 28.0**	**+0.3**
PTAC				*eS*		**Sb**	**11 48 31.2**	**-0.5**
PTAC				*i*			11 48 31.6	
	comp=Z,15μm,0.2s							
PTAC	**Punta Ardita,**	**0.22**	**67**	*i* P		**Pb**	**11 48 28.0**	**+0.3**
PTAC				*eS*		**Sb**	**11 48 31.2**	**-0.5**
UPD2	**Meteti**	**1.48**	**360**	*eP*		**Pn**	**11 48 48.2**	**+0.8**
UPD2				*eS*		**Sn**	**11 49 06.2**	**+0.1**
CAPC	**Capurgana**	**1.69**	**23**	*eP*		**Pn**	**11 48 50.8**	**+0.4**
CAPC				*eS*		**Sn**	**11 49 12.2**	**+0.7**
CAPC				*i*			11 49 18.6	
	comp=Z,16nm,0.1s							
CAP2	**Capurgana**	**1.70**	**22**	*eP*		**Pn**	**11 48 50.9**	**+0.3**
CAP2				*eS*		**Sn**	**11 49 11.0**	**-0.8**
DBBC	**Dabeiba**	**1.79**	**91**	*eP*		**Pb**	**11 48 53.6**	**-0.4**
DBBC				*i*			11 49 24.0	
	comp=Z,43nm,0.1s							
DBBC	**Dabeiba**	**1.79**	**91**	*eP*		**Pb**	**11 48 53.6**	**-0.4**
CBOC	**Ciudad Bolivar**	**2.31**	**121**	*eP*		**Pn**	**11 49 00.5**	**+1.4**
CBOC				*eS*		**Sb**	**11 49 30.1**	**-1.2**
CBOC				*i*			11 49 42.5	
AZU	**Azuero**	**2.36**	**288**	*eP*		**Pn**	**11 49 01.0**	**+1.4**
AZU				*eS*		**Sn**	**11 49 25.6**	**-2.3**

*NNC **21** 11:50:29.0±0.9, 37.°90N×71.°21E, h0km, mb4.0, mpv3.6,*
Error ellipse: s-maj=9.7km s-min=6.1km az=144.0

ISC 21 11:50:25.8±2.3, 37.°43N±0.°10×71.°1E±0.°2, h35km, n9, σ1s09/12, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.10**	**22**	Op P		**Pn**	**11 51 40.8**	**+0.7**
	SNR=42							
UCH	**Uchtor**	**5.46**	**28**	P		**Pn**	**11 51 46.3**	**+1.2**
	SNR=19							
EKS2	**Erkin-Say**	**5.61**	**21**	P		**Pn**	**11 51 48.1**	**+1.2**
	SNR=14							
KK31	**Karatay Array**	**5.69**	**356**	⇓P		**Pn**	**11 51 48.3**	**+0.6**
	8.2nm,0.4s,baz=179,slow=12,SNR=140							
KK31				⇑S		**Sn**	**11 52 50.7**	**-1.1**
	3.3nm,0.3s,baz=176,slow=17,SNR=5.0							
AAK	**Ala-Archa**	**5.81**	**25**	P		**Pn**	**11 51 50.3**	**+0.6**
	1.2nm,0.3s							
AAK				⇑S		**Sn**	**11 52 54.0**	**-1.1**
	21nm,0.6s							
THN	**Thein Dam**	**6.25**	**141**	*e*P		Pn	11 51 49.5	-6.0
THN				*e*S		**Sn**	**11 53 05.0**	**-0.7**
USP	**Ospenovka**	**6.38**	**23**	P		**Pn**	**11 51 57.6**	**+0.3**
	SNR=6.9							
TKM2	**Tokmak 2**	**6.47**	**31**	P		**Pn**	**11 51 59.9**	**+1.2**
	SNR=7.6							
TKM2	**Tokmak 2**	**6.47**	**31**	⇑P		**Pn**	**11 51 59.8**	**+1.1**
	3.0nm,0.5s							
TKM2				⇑S		**Sn**	**11 53 10.6**	**-0.8**
	5.0nm,0.6s							

IDC 21 11:50:51.9±4.5, 17.°64S×173.°45W, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.6/32, mbtmp3.6/3, Error ellipse: s-maj=293.1km s-min=33.1km az=150.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.33**	**259**	Op P		P	11 59 42.8	-0.4
	0.4nm,0.9s,baz=97,slow=6.9,SNR=5.5							
ASAR	**Alice Springs**	**49.41**	**254**	P		P	11 59 44.2	+0.3
	0.9nm,0.5s,baz=91,slow=8.1,SNR=19							
NVAR	**Mina Array Bea**	**76.02**	**42**	P		P	12 02 41.8	+0.4
	0.3nm,0.7s,baz=220,slow=6.8,SNR=2.6							
BRTR	**Keskin Array B**	**147.83**	**319**	PKPbc		PKPdf	12 10 37.8	+1.4
	0.8nm,0.6s,baz=29,slow=3.3,SNR=2.2							

*IDC **21** 11:54:30.9±1.1, 53.°05N×166.°49W, h0km, mb3.7/10,*
mb1 3.9/11, mb1mx3.7/38, mbtmp3.7/11, ML3.5/1, Error
ellipse: s-maj=30.8km s-min=18.2km az=165.0
*AEIC **21** 11:54:35.8±2.5, 52.°92N±0.°05×166.°14W±0.°07, h15km±5km,*
Error ellipse: s-maj=8.6km s-min=4.4km az=146.0
*NEIC **21** 11:54:35.0±2.3, 52.°91N±0.°05×166.°12W±0.°05, h29km±7km,*
mb3.9/21, ML3.4/49(AEIC), Error ellipse: s-maj=8.0km
s-min=4.0km az=165.0
ISC 21 11:54:35.0±1.7, 52.°99N±0.°07×166.°14W±0.°05, h24km±13km, n101, σ1s54/102, mb3.9/10, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.88**	**346**	Op		**Pn**	**11 54 52.1**	**+0.2**
UNV				Sn		**Sn**	**11 55 04.2**	**+0.3**
MREP	**Makushin Rep't**	**0.90**	**336**			**Pn**	**11 54 52.6**	**+0.5**
MNAT	**Makushin Natee**	**0.95**	**340**			**Pn**	**11 54 53.3**	**+0.4**
MNAT						**Sn**	**11 55 07.1**	**+1.4**
MSW	**Makushin Switc**	**1.00**	**338**			**Pn**	**11 54 54.2**	**+0.6**
MSW						**Sn**	**11 55 09.3**	**+2.4**
MTBL	**Makushin Table**	**1.03**	**342**			**Pn**	**11 54 54.8**	**+0.8**
AKMO	**Akutan Morgan**	**1.10**	**4**			**Pb**	**11 54 55.5**	**+0.1**
AKMO						**Sn**	**11 55 11.1**	**+1.7**
AKRB	**Akutan Reef Bi**	**1.14**	**2**			**Pb**	**11 54 56.2**	**+0.1**
AKRB						**Sn**	**11 55 12.2**	**+1.9**
OKFG	**Magazine Ridge**	**1.15**	**292**			**Pb**	**11 54 58.5**	**-0.3**
OKFG						**Sn**	**11 55 11.5**	**+1.1**
AKUT	**Akutan**	**1.17**	**11**	Pn		**Pb**	**11 54 56.3**	**-0.2**
AKUT						**Sn**	**11 55 12.6**	**+1.7**
AKSA	**Akutan Strait**	**1.18**	**13**			**Pn**	**11 54 55.9**	**0.0**
AKLV	**Akutan Long Va**	**1.18**	**5**			**Pb**	**11 54 56.3**	**-0.4**
AKGG	**Akutan Green G**	**1.21**	**4**			**Pb**	**11 54 57.1**	**-0.2**
OKNC	**Okmok New Cone**	**1.28**	**292**			**Pb**	**11 54 57.7**	**-0.7**
OKCE	**Okmok Cone E**	**1.29**	**291**			**Pb**	**11 54 58.3**	**-0.4**
OKSP	**Okmok Steeple**	**1.32**	**282**			**Pb**	**11 54 58.0**	**0.0**
NIKH	**Nikolski High**	**1.64**	**270**	Pn		**Pn**	**11 55 01.9**	**-0.4**
NIKH				Sn		**Sn**	**11 55 22.0**	**-0.7**
WESP	**Westdahl Peak**	**1.72**	**29**			**Pb**	**11 55 04.8**	**-1.2**
WEBT	**Westdahl Beart**	**1.80**	**27**			**Pb**	**11 55 05.9**	**-1.4**
SSBA	**Shishaldin**	**2.15**	**33**			**Pn**	**11 55 10.7**	**+1.4**
FALS	**False Pass**	**2.47**	**40**	Pn		**Pn**	**11 55 14.7**	**+1.1**
HAG	**Hague Volcano**	**3.41**	**45**			**Pn**	**11 55 28.4**	**+1.8**
SDPT	**Sand Point**	**4.08**	**52**	Pn		**Pn**	**11 55 36.3**	**+0.5**
CNBA	**Chernabura Isl**	**4.29**	**62**	Pn		**Pn**	**11 55 38.3**	**-0.3**
SPIA	**Saint Paul Isl**	**4.81**	**332**	Pn		**Pn**	**11 55 47.9**	**+2.0**
KOFP	**Korovin Flat P**	**4.90**	**265**			**Pn**	**11 55 48.5**	**+1.4**
ATKA	**Atka Island**	**4.97**	**264**	Pn		**Pn**	**11 55 49.5**	**+1.4**
ATKA				Sn		**Sn**	**11 56 45.7**	**+0.9**
GSTR	**Great Sitkin T**	**6.12**	**266**	Pn		**Pn**	**11 56 05.3**	**+1.4**
GSMY	**Great Sitkin M**	**6.13**	**265**			**Pn**	**11 56 04.7**	**+0.7**
GSTD	**Great Sitkin T**	**6.18**	**265**			**Pn**	**11 56 05.5**	**+0.8**
ADK	**Adak**	**6.54**	**264**			**Pn**	**11 56 10.8**	**+1.2**
ADK				Sn		**Sn**	**11 57 21.7**	**-1.7**
CHIR	**Chirikof Islan**	**6.76**	**61**			**Pn**	**11 56 12.0**	**-0.6**
KIKV	**Kanaga Island**	**6.84**	**265**			**Pn**	**11 56 14.1**	**+0.4**
KIMD	**Kanaga Island**	**6.91**	**264**			**Pn**	**11 56 15.4**	**+0.8**
TASE	**Tanaga Southea**	**7.37**	**266**			**Pn**	**11 56 21.8**	**+0.8**
SII	**Sitkinak Islan**	**7.78**	**58**			**Pn**	**11 56 26.5**	**-0.1**
KABU	**Katmai Buttres**	**8.10**	**45**			**Pn**	**11 56 31.9**	**+0.8**
OHAK	**Old Harbor**	**8.50**	**55**			**Pn**	**11 56 35.5**	**-0.8**
KDAK	**Kodiak Island**	**9.08**	**53**	Pn		**Pn**	**11 56 43.4**	**-1.0**
	1.4nm,0.3s,baz=236,slow=9.9,SNR=55							
KDAK				Sn		**Sn**	**11 58 19.9**	**-5.7**
	0.2nm,0.3s,baz=58,slow=5.4,SNR=1.6							
KDAK	**Kodiak Island**	**9.08**	**53**	Pn		**Pn**	**11 56 43.3**	**-1.1**
AMKA	**Amchitka**	**9.09**	**266**			**Pn**	**11 56 43.9**	**-0.6**
SVW2	**Sparrevohn**	**9.94**	**31**	Pn		**Pn**	**11 56 58.4**	**+2.2**
RSO	**Redoubt South**	**10.48**	**39**	Pn		**Pn**	**11 57 05.3**	**+1.6**
CNPM	**China Poot**	**10.55**	**46**	Pn		**Pn**	**11 57 04.8**	**+0.3**
BRLK	**Bradley Lake**	**10.82**	**45**	Pn		**Pn**	**11 57 09.7**	**+1.4**
SEW	**Seward**	**11.62**	**46**	Pn		**Pn**	**11 57 18.1**	**-0.9**
PPLA	**Purkeypile**	**12.36**	**31**	Pn		**Pn**	**11 57 33.0**	**+3.7**
GLI	**Glacier Island**	**13.02**	**45**	Pn		**Pn**	**11 57 35.3**	**-2.9**
HIN	**Hinchinbrook I**	**13.05**	**48**	Pn		**Pn**	**11 57 37.2**	**-1.6**
TRF	**Thorofare Moun**	**13.36**	**32**	Pn		**Pn**	**11 57 44.6**	**+1.7**
SCM	**Sheep Creek Mo**	**13.41**	**41**			**Pn**	**11 57 41.4**	**-2.2**
EYAK	**Cordova Ski Ar**	**13.46**	**48**	Pn		**Pn**	**11 57 42.0**	**-2.2**
BPAW	**Bear Paw Mtn.**	**13.61**	**29**	Pn		**Pn**	**11 57 48.8**	**+2.5**
GLB	**Gilahina Butte**	**14.69**	**46**	Pn		**Pn**	**11 57 58.5**	**-2.6**
CRQM	**Cirque**	**14.72**	**49**			**Pn**	**11 57 59.8**	**-1.8**
WAX	**Waxell Ridge**	**14.74**	**50**	Pn		**Pn**	**11 57 59.8**	**-2.0**
VRDI	**Verde Repeater**	**14.76**	**47**	Pn		**Pn**	**11 58 00.1**	**-2.0**
WRH	**Wood River Hil**	**14.77**	**32**	Pn		**Pn**	**11 58 02.5**	**+0.6**
CCB	**Clear Creek Bu**	**14.97**	**32**			**Pn**	**11 58 02.3**	**-2.5**
CCB				IAmb		IAmb	11 58 08.4	
	comp=Z,2.9nm,0.4s							
YAH	**Yahtse**	**15.23**	**51**	Pn		**Pn**	**11 58 08.7**	**+0.3**
ILAR	**Eielson Array**	**15.35**	**32**	Pn		**Pn**	**11 58 08.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=228,slow=11,SNR=11							
RIDG	**Independent Ri**	**15.42**	**37**			**Pn**	**11 58 09.3**	**-1.4**
MENT	**Mentasta**	**15.42**	**41**			**Pn**	**11 58 08.3**	**-2.5**
MENT				IAmb		IAmb	11 58 16.3	
	comp=Z,3.8nm,0.4s							
BARN	**Barnard Glacie**	**15.50**	**49**			**Pn**	**11 58 10.4**	**-1.6**
CTGM	**Chitina Glacie**	**15.62**	**49**	Pn		**Pn**	**11 58 13.3**	**-0.2**
CTGM				IAmb		IAmb	11 58 20.9	
	comp=Z,6.2nm,0.7s							
DOT	**Dot Lake**	**15.66**	**38**	Pn		**Pn**	**11 58 13.7**	**-0.1**
SCRK	**Sand Creek**	**15.87**	**37**			**Pn**	**11 58 16.3**	**-0.4**
SCRK				IAmb		IAmb	11 58 19.8	
	comp=Z,5.4nm,0.8s							
COLD	**Coldfoot**	**16.25**	**22**			**P**	**11 58 25.7**	**+1.4**
BCAR	**Beaver Creek A**	**16.26**	**42**			**Pn**	**11 58 20.3**	**-1.3**
EGAK	**Eagle**	**17.34**	**37**			**Pn**	**11 58 34.1**	**-1.0**
HYT	**Haines Junctio**	**17.37**	**52**	P		**P**	**11 58 37.7**	**+0.9**
HYT				IAmb		IAmb	11 58 41.0	
	comp=Z,9.0nm,0.7s							
DAWY	**Dawson**	**17.67**	**41**			**Pn**	**11 58 39.1**	**-0.1**
BMAR	**Burnt Mountain**	**17.85**	**28**			**Pn**	**11 58 41.0**	**-0.4**
SKAG	**Skagway**	**18.19**	**57**	Pn		**P**	**11 58 47.5**	**+1.9**
SKAG				IAmb		IAmb	11 58 52.0	
	comp=Z,8.4nm,1.2s							
BESE	**Bessie Mountai**	**18.34**	**60**	P		**Pn**	**11 58 50.0**	**+2.5**
BESE				IAmb		IAmb	11 59 00.1	
	comp=Z,11nm,1.1s							
JIS	**Juneau Island**	**18.57**	**61**	P		**Pn**	**11 58 52.2**	**+2.0**
WHY	**Whitehorse**	**18.60**	**53**	P		**Pn**	**11 58 52.8**	**+2.2**
WHY				IAmb		IAmb	11 58 54.7	
	comp=Z,6.4nm,0.8s							
EPYK	**Eagle Plains**	**19.74**	**36**	P		**P**	**11 59 00.1**	**-2.5**
DLBC	**Dease Lake**	**20.87**	**60**	P		Pn	11 59 16.9	-0.7
	comp=Z,1.5nm,0.7s,baz=280,slow=12,SNR=2.6							
PEA0B	**Petropavlovsk-**	**21.60**	**285**	P		**P**	**11 59 22.6**	**-0.2**
PEA0B				IAmb		IAmb	11 59 32.2	
	comp=Z,9.0nm,1.4s							
PETK	**Petropavlovsk-**	**21.60**	**285**	P		**P**	**11 59 21.1**	**-1.8**
	comp=Z,2.0nm,0.4s,baz=85,slow=13,SNR=15							
PETK	**Petropavlovsk-**	**21.60**	**285**	P		**P**	**11 59 23.2**	**+0.3**
INK	**Inuvik**	**21.75**	**33**	P		**P**	**11 59 22.7**	**-1.6**
	comp=Z,2.6nm,0.6s,baz=234,slow=14,SNR=18							
INK	**Inuvik**	**21.75**	**33**	P		**P**	**11 59 22.9**	**-1.3**
INK				IAmb		IAmb	11 59 29.3	
	comp=Z,2.9nm,0.7s							
YKA	**Yellowknife Ar**	**28.34**	**50**	P		**P**	**12 00 28.0**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=278,slow=8.6,SNR=6.4							
NVAR	**Mina Array Bea**	**35.73**	**94**	P		**P**	**12 01 33.5**	**+1.7**
	comp=Z,0.3nm,0.7s,baz=283,slow=8.2,SNR=3.0							
H11N2	**WAKE ISLAND Hy**	**39.20**	**223**	T		T	12 44 06.5	
	baz=25,slow=76,SNR=23							
H11N3	**WAKE ISLAND Hy**	**39.21**	**222**	T		T	12 44 05.1	
	baz=25,slow=76,SNR=27							
H11N1	**WAKE ISLAND Hy**	**39.22**	**223**	T		T	12 44 06.2	
	baz=25,slow=76,SNR=7.2							
H11S1	**WAKE ISLAND Hy**	**40.38**	**222**	T		T	12 45 27.0	
	baz=24,slow=76,SNR=14							
H11S2	**WAKE ISLAND Hy**	**40.40**	**222**	T		T	12 45 31.8	
	baz=24,slow=76,SNR=7.5							
H11S3	**WAKE ISLAND Hy**	**40.40**	**222**	T		T	12 45 37.9	
	baz=24,slow=76,SNR=6.4							
KSRS	**Korea Array**	**47.27**	**278**	P		**P**	**12 03 03.6**	**-2.5**
	comp=Z,0.7nm,0.6s,baz=70,slow=6.2,SNR=3.4							
TX31	**Lajitas Ar. Si**	**50.78**	**92**	P		**P**	**12 03 35.0**	**+1.8**
TXAR	**Lajitas Array**	**50.78**	**92**	P		**P**	**12 03 33.7**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=303,slow=5.6,SNR=4.4							
TXAR	**Lajitas Array**	**50.78**	**92**	P		**P**	**12 03 34.2**	**+1.0**
FINES	**FINESS Array B**	**65.50**	**354**	P		**P**	**12 05 14.1**	**-1.5**

comp=Z,10nm,1.1s
LIC Lamto 56.39 1 *e*P P **12 28 38.6 -0.5**
comp=Z,73nm,1.3s
KIC Kosan Boka 56.53 2 *e*P P **12 28 39.5 -0.6**
comp=Z,20nm,0.9s
TIC Toumodi 56.81 1 *e*P P **12 28 40.6 -1.5**
DBIC Dimbokro 56.84 2 P P **12 28 40.3 -1.9**
comp=Z,6.2nm,0.8s,baz=138,slow=1,SNR=4.6
DBIC Dimbokro 56.84 2 IAmb IAmb 12 28 53.1
comp=Z,20nm,1.1s
PB01 IPOC Station P 57.11 276 P P **12 28 45.8 +1.4**
LPAZ La Paz 59.78 281 LR LR 12 52 26.0
comp=Z,168nm,21.6s,baz=142,slow=34
LPAZ La Paz 59.78 281 P P **12 29 03.6 -0.1**
LPAZ IAmb IAmb 12 29 10.3
comp=Z,13nm,1.9s
KMBO Kilima Mbogo 61.34 52 LR LR 12 53 51.9
comp=Z,590nm,19.9s,baz=226,slow=34
SAML Samuel 62.40 291 P P **12 29 20.5 -0.2**
TORD Torodi Ar. Bea 63.64 9 P P **12 29 27.3 -1.5**
comp=Z,1.0nm,0.6s,baz=196,slow=6.5,SNR=6.9
TORD Torodi Ar. Bea 63.64 9 P P **12 29 27.4 -1.4**
PTGA Pitinga 67.17 299 P P **12 29 51.7 -0.1**
ATAH Atahualpa 73.20 279 LR LR 13 01 46.7
comp=Z,99nm,20.3s,baz=151,slow=35
KEST Kesra 86.84 13 P P **12 31 43.0 +1.0**
KEST LR LR 13 08 01.8
comp=Z,134nm,18.2s,baz=230,slow=34
KEST Kesra 86.84 13 P P **12 31 43.1 +1.1**
KEST IAmb IAmb 12 31 53.1
comp=Z,9.2nm,1.1s
ESDC Sonseca Array 89.70 2 P P **12 31 56.6 +1.1**
comp=Z,1.3nm,1.0s,baz=168,slow=5.2,SNR=6.0
ESDC LR LR 13 08 11.4
comp=Z,97nm,19.3s,baz=175,slow=33
ESDC Sonseca Array 89.70 2 P P **12 31 56.3 +0.8**
STKA Stephens Creek 93.27 153 P P **12 32 12.4 -0.1**
comp=Z,1.3nm,0.5s,baz=197,slow=11,SNR=1.1
STKA Stephens Creek 93.27 153 IAmb IAmb 12 32 16.4
comp=Z,4.9nm,1.9s
RKT Rikitea 93.97 226 *e*LR LR 13 02 31.4
comp=Z,368nm,29.0s
BRTR Keskin Array B 96.31 30 LR LR 13 17 15.8
comp=Z,93nm,18.2s,baz=177,slow=36
DAVOX Davos/Dischmat 97.78 11 LR LR 13 14 49.0
comp=Z,86nm,18.3s,baz=89,slow=34
ASAR Alice Springs 98.26 144 P Pdif 12 32 37.6 +2.2
comp=Z,0.5nm,0.8s,baz=212,slow=3.3,SNR=3.1
MLR Muntele Rosu 99.48 22 LR LR 13 18 00.8
comp=Z,91nm,18.3s,baz=142,slow=36
TBI Tubuai 99.71 214 *e*LR LR 13 05 17.7
comp=Z,186nm,31.0s
PPT2 Papeete2 105.03 216 *e*LR LR 13 07 42.5
comp=Z,241nm,23.5s
TAOE Nuku Hiva Isla 108.76 229 *e*LR LR 13 09 30.0
comp=Z,424nm,29.6s
TXAR Lajitas Array 116.56 285 PKP **PKPdf 12 37 41.1 -0.5**
comp=Z,0.2nm,0.8s,baz=108,slow=2.0,SNR=3.2
MKAR Makanchi Array 123.13 55 PKP **PKPdf 12 37 53.7 0.0**
comp=Z,0.2nm,0.4s,baz=90,slow=2.9,SNR=1.6
PDAR Pinedale Array 128.96 293 PKP **PKiKP 12 38 06.0 +0.1**
comp=Z,0.7nm,0.8s,baz=124,slow=2.7,SNR=6.4
PDAR Pinedale Array 128.96 293 **PKiKP 12 38 07.5 +1.6**
FXWY Fox Creek 130.34 293 **PKiKP 12 38 08.4 -0.3**
NVAR Mina Array Bea 131.66 283 PKP **PKPdf 12 38 10.9 +0.5**
comp=Z,0.2nm,0.5s,baz=154,slow=4.4,SNR=3.8
G08A Pilot Rock 135.97 291 PKPdf **PKPdf 12 38 18.3 +0.1**
YKA Yellowknife Ar 140.74 316 PKP **PKPdf 12 38 24.9 -1.2**
comp=Z,0.7nm,0.7s,baz=104,slow=3.0,SNR=3.6
KSRS Korea Array 145.07 94 PKPbc **PKPdf 12 38 35.8 +1.1**
comp=Z,1.9nm,0.9s,baz=223,slow=5.0,SNR=5.4
INK Inuvik 149.04 325 PKPbc **PKPbc 12 38 43.4 -1.0**
comp=Z,11nm,0.9s,baz=107,slow=2.7,SNR=6.8
INK Inuvik 149.04 325 PKPdf **PKPdf 12 38 41.8 +1.5**
WHY Whitehorse 149.96 310 **PKPab 12 38 52.1 -0.8**
MJAR Matsushiro Arr 151.00 105 PKPbc **PKPbc 12 38 49.1 -1.1**
comp=Z,0.7nm,0.8s,baz=197,slow=3.8,SNR=2.4
MJAR Matsushiro Arr 151.00 105 PKPdf **PKPdf 12 38 47.1 +2.6**
HYT Haines Junctio 151.25 310 PKPdf **PKPbc 12 38 48.4 -1.8**
HYT **PKiKP 12 38 50.5 -0.2**
USRK Ussuriysk Ar. 151.27 86 PKPbc **PKiKP 12 38 51.7 +0.6**
comp=Z,2.4nm,0.8s,baz=241,slow=5.3,SNR=5.0
EGAK Eagle 152.62 319 **PKPbc 12 38 51.5 -1.5**
BCAR Beaver Creek A 153.15 315 PKPdf **PKPdf 12 38 48.2 +1.3**
BMAR Burnt Mountain 153.31 325 **PKPdf 12 38 48.6 +1.6**
SCRK Sand Creek 153.98 318 PKPab **PKPab 12 39 09.5 -0.2**
ILAR Eielson Array 155.01 320 PKPbc **PKPdf 12 38 56.5 +7.2**
comp=Z,0.5nm,0.9s,baz=85,slow=1.1,SNR=3.0
ILAR PKPab **PKPab 12 39 13.3 -0.6**
comp=Z,1.2nm,0.9s,baz=65,slow=3.7,SNR=6.5
ILAR Eielson Array 155.01 320 PKPdf **PKPdf 12 38 48.7 -0.7**
ILAR **PKPab 12 39 13.3 -0.6**
WRH Wood River Hil 155.59 320 **PKPab 12 39 16.1 -0.3**

*INET **21** 12:20:05.2, 12°.89N×87°.14W, h3km, ML3.5*
SNET 21 12:20:05.3±1.2, 12°.80N×87°.21W, h15km±420km, ML2.9, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.84**	**307**	*e*P	Pb	12 20 20.5	-1.1
LCND				*e*S	Sg	12 20 32.5	-0.2
JUCU	**Jucuar¡n**	**1.11**	**294**	*e*P	Pb	12 20 26.0	-0.4
JUCU				*e*S	Sg	12 20 41.1	-0.3
FAGO	**Alcalda de S**	**1.25**	**316**	*e*P	Pn	12 20 26.7	-1.6
FAGO				*e*S	Sb	12 20 43.9	-0.8
FAGO				IAML		12 20 50.6	
	comp=Z,154nm,0.6s						
TGUH	**Tegucigalpa,Un**	**1.26**	**357**	*e*P	Pn	12 20 26.9	-1.6
TGUH				*e*S	Sn	12 20 45.2	0.0
COEB	**Comit de Eme**	**1.47**	**299**	*e*P	Pn	12 20 31.3	-0.1
COEB				*e*S	Sb	12 20 51.7	+0.7
COEB				IAML		12 20 56.9	
	comp=Z,236nm,0.4s						

*IDC **21** 12:28:53.3±9.1, 0°.84N×98°.56E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/44, mbtmp3.5/4, Error ellipse: s-maj=460.2km s-min=26.0km az=55.0*
*DJA **21** 12:29:07.9±0.4, 1°.N±2°×9°9E±°, h78km±6km, M3.4/12, MLv3.4/12*
ISC 21 12:29:06.4±1.0, 1°.10N±0°.06×98°.78E±0°.07, h100km, n15, σ0s91/14, mb3.5/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**0.86**	**111**	P	**Pn**	**12 29 26.2**	**+0.9**
MNSI				S	**Sn**	**12 29 39.6**	**0.0**
GSI	**Gunungsitoli**	**1.22**	**279**	P	**Pn**	**12 29 29.9**	**+0.5**
PBSI	**Pulau Batu**	**1.25**	**204**	P	**Pn**	**12 29 30.6**	**+0.8**
PBSI				S	**Sn**	**12 29 47.4**	**0.0**
SISI	**Saibi**	**2.43**	**173**	P	**Pn**	**12 29 45.1**	**+0.4**
KCSI	**Kotacane, Aceh**	**2.61**	**337**	P	**Pn**	**12 29 47.4**	**+0.4**
PDSI	**Padang**	**2.61**	**140**	P	**Pn**	**12 29 48.3**	**+1.2**
TPTI		**2.67**	**323**	P	**Pn**	**12 29 48.2**	**+0.3**
MLSI	**Meulaboh, Aceh**	**3.94**	**323**	P	**Pn**	**12 30 05.8**	**+1.0**
H08S2	**Diego Garcia H**	**27.62**	**251**	T	T	13 02 07.5	
	baz=72,slow=75,SNR=7.9						
H08S3	**Diego Garcia H**	**27.62**	**251**	T	T	13 02 01.2	
	baz=72,slow=75,SNR=8.1						
H08S1	**Diego Carcia H**	**27.64**	**251**	T	T	13 02 11.5	
	baz=72,slow=75,SNR=7.3						
WRA	**Warramunga Arr**	**40.65**	**123**	P	**P**	**12 36 36.1**	**-1.0**
	0.5nm,0.8s,baz=300,slow=9.6,SNR=1.8						
ASAR	**Alice Springs**	**42.08**	**128**	P	**P**	**12 36 47.1**	**-1.7**
	0.3nm,0.8s,baz=302,slow=7.5,SNR=2.2						
MKAR	**Makanchi Array**	**47.73**	**345**	P	**P**	**12 37 33.2**	**0.0**
	0.6nm,0.6s,baz=154,slow=8.7,SNR=6.4						
ZALV	**Zalesovo Beam**	**53.92**	**350**	P	**P**	**12 38 20.3**	**+0.8**
	0.7nm,0.5s,baz=180,slow=7.4,SNR=3.6						

*NEIC **21** 12:31:28.9±2.2, 4°.46N±0°.06×75°.32W±0°.08, h192km±6km, mb4.4/21, Error ellipse: s-maj=12.2km s-min=8.7km az=84.0*
*RSNC **21** 12:31:30.6±1.6, 4°.51N×75°.29W, h180km±6km, ML3.6, Mw4.1*
*IDC **21** 12:31:30.7±0.7, 4°.43N×75°.07W, h202km±4km, mb3.4/7, mb1 3.6/9, mb1mx3.3/36, mbtmp4.0/9, Error ellipse: s-maj=16.9km s-min=14.9km az=95.0*
ISC 21 12:31:28.9±0.6, 4°.47N±0°.03×75°.30W±0°.03, h192km±4km, n80, σ1s65/122, mb4.3/16, 9C-13D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANIL	**Santa Ana**	**0.11**	**280**	↓*i*Pg	**Pn**	**12 31 54.6**	**+0.1**
ANIL				*e*Sg	**Sn**	**12 32 10.3**	**-3.8**
ANIL				*i*		12 32 18.4	
	comp=Z,1μm,0.3s						
TOLC	**Tolima**	**0.12**	**348**	↓*i*Pg	**Pn**	**12 31 54.8**	**+0.3**
TOLC				*e*Sg	**Sn**	**12 32 14.2**	**-0.3**
TOLC				*i*		12 32 23.1	
	comp=Z,574nm,0.6s						
RREF	**El Recreo**	**0.43**	**353**	*e*P	**Pn**	**12 31 56.5**	**+0.9**
RREF				*e*S	**Sn**	**12 32 17.7**	**+1.4**
ORTC	**Ortega, Tolima**	**0.56**	**175**	↓*i*P	**Pn**	**12 31 54.9**	**-0.5**
ORTC				*e*S	**Sn**	**12 32 13.9**	**-2.1**
ORTC				*i*		12 32 16.0	
	comp=Z,515nm,0.5s						
GUY2C	**Guyana, Caldas**	**0.75**	**355**	↓*i*P	**Pn**	**12 31 57.4**	**+0.6**
GUY2C				*e*S	**Sn**	**12 32 17.3**	**-1.2**
GUY2C				*i*		12 32 21.3	
	comp=Z,231nm,0.5s						
PRAC	**Prado**	**0.86**	**151**	↓*i*P	**Pn**	**12 31 56.6**	**-0.4**
PRAC				*e*S	**Sn**	**12 32 17.3**	**-1.5**
PRAC				*i*		12 32 18.4	
	comp=Z,570nm,0.5s						
ROSC	**El Rosal**	**1.04**	**69**	P	**Pn**	**12 31 59.9**	**+1.3**
	comp=Z,65nm,0.3s,baz=165,slow=1.6,SNR=144						
ROSC				S	**Sn**	**12 32 23.7**	**+2.3**
	comp=Z,44nm,0.3s,baz=292,slow=23,SNR=22						
ROSC	**El Rosal**	**1.04**	**69**	↓*i*P	**Pn**	**12 31 59.9**	**+1.3**
ROSC				*e*S	**Sn**	**12 32 22.1**	**+0.7**
ROSC				*i*		12 32 26.1	
	comp=Z,266nm,0.8s						
ROSC	**El Rosal**	**1.04**	**69**		**Pn**	**12 31 59.9**	**+1.3**
ROSC					**Sn**	**12 32 21.0**	**-0.5**
PLMC	**San Jos del P**	**1.07**	**294**	*e*P	**Pn**	**12 31 58.5**	**+0.1**
PLMC				*e*S	**Sn**	**12 32 13.5**	**-7.8**
YOTC	**Yotoco, Valle**	**1.15**	**245**	↑*e*P	**Pn**	**12 31 57.8**	**-1.4**
YOTC				*e*S	Sn	12 32 12.3	-10
YOTC				*i*		12 32 19.3	
	comp=Z,327nm,0.6s						
NORC	**Norcasia**	**1.16**	**21**	↓*i*P	**Pn**	**12 31 59.2**	**0.0**
NORC				*e*S	**Sn**	**12 32 21.6**	**-1.1**
CVER	**Cruz Verde, Cu**	**1.22**	**88**	*e*P	**Pn**	**12 32 03.2**	**+3.2**
CBOC	**Ciudad Bolivar**	**1.56**	**333**	↓*i*P	**Pn**	**12 32 03.0**	**+0.4**
CBOC				*e*S	**Sn**	**12 32 27.3**	**-1.6**
CBOC				*i*		12 32 29.8	
	comp=Z,397nm,0.1s						
CHIC	**Chingaza**	**1.57**	**84**	*e*P	**Pn**	**12 32 03.4**	**+0.4**
CHIC				*e*S	**Sn**	**12 32 28.4**	**-0.9**
CHIC				*i*		12 32 33.3	
	comp=Z,106nm,0.7s						
VILC	**Villavicencio,**	**1.64**	**103**	↑*e*P	**Pn**	**12 32 04.2**	**+0.9**
VILC				*e*S	**Sn**	**12 32 29.0**	**-1.0**
VILC				*i*		12 32 34.6	
	comp=Z,471nm,0.5s						
SPBC	**San Pablo de B**	**1.69**	**46**	↓*e*P	**Pn**	**12 32 03.9**	**+0.1**
SPBC				*e*S	**Sn**	**12 32 29.4**	**-1.5**
SPBC				*i*		12 32 31.7	
	comp=Z,112nm,0.5s						
HELC	**Santa Helena**	**1.72**	**352**	↓*i*P	**Pn**	**12 32 04.5**	**+0.1**
HELC				*e*S	**Sn**	**12 32 29.8**	**-2.3**
HELC				*i*		12 32 33.3	
	comp=Z,180nm,0.5s						
MARP	**Paez Belalcaza**	**1.75**	**202**	↑*e*P	**Pn**	**12 32 04.5**	**-0.1**
MARP				*e*S	**Sn**	**12 32 32.3**	**0.0**
BETC	**Betania**	**1.79**	**185**	*e*P	**Pn**	**12 32 04.0**	**-0.7**
MALC	**Bahia Malaga**	**2.08**	**257**	↓*e*P	**Pn**	**12 32 08.4**	**+0.7**
MALC				*e*S	**Sn**	**12 32 37.6**	**-0.2**
MALC				*i*		12 32 51.9	
	comp=Z,312nm,0.4s						
PIZC	**Pizarro, Choco**	**2.11**	**283**	↑*e*P	**Pn**	**12 32 09.1**	**+1.1**
PIZC				*e*S	**Sn**	**12 32 38.5**	**+0.1**
PTBC	**PUERTO BERRIO,**	**2.22**	**22**	↓*e*P	**Pn**	**12 32 09.3**	**+0.1**
PTBC				*e*S	**Sn**	**12 32 39.0**	**-1.6**
PTBC				*i*		12 32 40.3	
	comp=Z,354nm,0.3s						
PCON	**Cinco Dias**	**2.40**	**207**	↑*e*P	**Pn**	**12 32 12.9**	**+1.2**
PCON				*e*S	**Sn**	**12 32 46.8**	**+1.7**
PCON				*i*		12 32 53.3	
	comp=Z,90nm,0.4s						
RUSC	**La Rusia**	**2.62**	**57**	*e*P	**Pn**	**12 32 14.8**	**+0.7**
RUSC				*e*S	**Sn**	**12 32 48.4**	**-0.9**
RUSC				*i*		12 32 53.9	
	comp=Z,99nm,0.4s						
RUSC	**La Rusia**	**2.62**	**57**		**Pn**	**12 32 14.4**	**+0.3**
RUSC				Sn	**Sn**	**12 32 49.1**	**-0.2**
SOTA	**Rioblanco**	**2.67**	**209**	↑*e*P	**Pn**	**12 32 15.3**	**+0.6**
SOTA				*e*S	**Sn**	**12 32 50.7**	**+0.3**
DBBC	**Dabeiba**	**2.69**	**340**	*e*P	**Pn**	**12 32 15.9**	**+1.4**
DBBC				*e*S	**Sn**	**12 32 51.4**	**+1.1**
BARC	**Barichara**	**2.98**	**45**	*e*P	**Pn**	**12 32 18.8**	**+0.7**
ZARC	**Zaragoza, Cauc**	**3.03**	**8**	↓*i*P	**Pn**	**12 32 19.2**	**+0.7**
ZARC				*e*S	**Sn**	**12 32 56.6**	**-0.9**
ZARC				*i*		12 32 59.0	
	comp=Z,300nm,0.4s						
BBAC	**Balboa, Cauca**	**3.12**	**219**	↑*e*P	**Pn**	**12 32 19.2**	**-0.6**
BBAC				*e*S	**Sn**	**12 32 56.9**	**-2.6**
BBAC				*i*		12 33 00.6	
	comp=Z,342nm,0.5s						
PTGC	**Puerto Gaitan,**	**3.17**	**95**	↑*e*P	**Pn**	**12 32 20.1**	**0.0**
PTGC				*e*S	**Sn**	**12 32 58.0**	**-2.1**
GR1C	**Gorgona, Isla**	**3.21**	**243**	*e*P	**Pn**	**12 32 19.6**	**-1.1**
UREC	**San Jos de Ur**	**3.27**	**356**	*e*P	**Pn**	**12 32 21.9**	**+0.5**
UREC				*e*S	**Sn**	**12 33 01.1**	**-1.5**
UREC				*i*		12 33 02.9	
	comp=Z,183nm,0.4s						
PTAC	**Punta Ardita,**	**3.65**	**317**	*e*P	**Pn**	**12 32 25.9**	**-0.1**
PTAC				*e*S	**Sn**	**12 33 08.6**	**-2.2**
GCUF	**Volcan Galeras**	**3.82**	**212**	*e*P	**Pn**	**12 32 28.8**	**+0.2**
GCUF				*e*S	**Sn**	**12 33 12.2**	**-3.2**
GCUF				*i*		12 33 17.4	
	comp=Z,63nm,0.4s						
PAMC	**Pamplona, Colo**	**3.84**	**42**	*e*P	**Pn**	**12 32 29.8**	**+0.8**
PAMC				*e*S	**Sn**	**12 33 14.2**	**-1.8**
PAMC				*i*		12 33 22.5	
	comp=Z,261nm,0.5s						
TAMC	**Tame, Arauca**	**4.00**	**61**	*e*P	**Pn**	**12 32 27.3**	**-3.2**
TAMC				*e*S	**Sn**	**12 33 14.0**	**-4.7**
OCAC	**Ocana**	**4.23**	**28**	↑*e*P	**Pn**	**12 32 34.0**	**+0.6**
OCAC				*e*S	**Sn**	**12 33 23.2**	**-1.0**
OCAC				*i*		12 33 25.5	
	comp=Z,235nm,0.4s						
SMLC	**San Martn de**	**4.47**	**16**	*e*P	**Pn**	**12 32 36.4**	**0.0**
SMLC				*e*S	**Sn**	**12 33 26.9**	**-2.5**
SMLC				*i*		12 33 29.7	
	comp=Z,137nm,0.3s						
CAPC	**Capurgana**	**4.61**	**334**	*e*P	**Pn**	**12 32 39.4**	**+1.2**
CAPC				*e*S	**Sn**	**12 33 31.8**	**-0.9**
CAPC				*i*		12 33 37.8	
	comp=Z,20nm,0.5s						
SJCC	**San Jacinto, C**	**5.39**	**1**	*e*P	**Pn**	**12 32 48.8**	**+0.6**
SJCC				*e*S	**Sn**	**12 33 47.4**	**-3.4**
SJCC				*i*		12 33 52.5	
	comp=Z,44nm,0.6s						
ARGC	**Ariguani, Magd**	**5.45**	**11**	*e*P	**Pn**	**12 32 50.7**	**+1.8**
ARGC				*e*S	**Sn**	**12 33 51.4**	**-0.8**
SDV	**Santo Domingo**	**6.38**	**46**	P	**Pn**	**12 33 01.4**	**+0.2**
	comp=Z,6.6nm,0.3s,baz=226,slow=11,SNR=7.5						
SDV				S	**Sn**	**12 34 11.0**	**-3.2**
	comp=Z,20nm,0.3s,baz=254,slow=23,SNR=30						
SDV	**Santo Domingo**	**6.38**	**46**	Pn	**Pn**	**12 33 01.8**	**+0.6**
SDV					**Sn**	**12 34 10.8**	**-3.3**
SMRC	**Santa Marta, M**	**6.73**	**9**	*e*P	**Pn**	**12 33 05.6**	**0.0**
SMRC				*e*S	**Sn**	**12 34 17.7**	**-4.6**
PTGA	**Pitinga**	**16.16**	**108**	P	**Pn**	**12 35 05.5**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=293,slow=16,SNR=11						
PTGA	**Pitinga**	**16.16**	**108**	P	**Pn**	**12 35 06.7**	**+0.9**
CBYP	**Canovanas**	**16.53**	**33**	P	**P**	**12 35 09.5**	**+0.1**
CUPR	**Culebra, Puert**	**16.88**	**35**	P	**Pn**	**12 35 17.0**	**+2.8**
FDF	**Fort de France**	**17.26**	**53**	P	**Pn**	**12 35 20.1**	**+1.3**
SAML	**Samuel**	**17.99**	**138**	P	**P**	**12 35 24.6**	**-0.7**
LPAZ	**La Paz**	**21.81**	**161**	P	**P**	**12 36 06.0**	**-0.7**
	comp=Z,1.8nm,0.5s,baz=330,slow=8.4,SNR=9.3						
LPAZ	**La Paz**	**21.81**	**161**	P	**P**	**12 36 06.9**	**+0.2**
MDP	**Montagnes des**	**22.58**	**87**	P	**P**	**12 36 13.0**	**-0.4**
	comp=Z,5.8nm,0.4s,baz=274,slow=8.6,SNR=14						
MNMC	**Minye Minye**	**24.12**	**167**	P	**P**	**12 36 26.9**	**-0.6**
PSGCX	**Pisagua**	**24.45**	**168**	P	**P**	**12 36 29.9**	**-0.4**
PSGCX				IAmb	IAmb	12 36 54.3	
	comp=Z,14nm,1.6s						
PB11	**IPOC Station P**	**24.71**	**167**	P	**P**	**12 36 32.5**	**-0.2**
PB11				IAmb	IAmb	12 36 35.1	
	comp=Z,7.1nm,0.9s						
GO01	**Chusmiza**	**24.73**	**166**	P	**P**	**12 36 33.4**	**+0.1**
GO01				IAmb	IAmb	12 36 33.6	
	comp=Z,4.2nm,0.4s						
SIV	**San Ignacio**	**24.73**	**146**	P	**P**	**12 36 32.5**	**-0.3**
	comp=Z,2.7nm,0.5s,baz=321,slow=9.7,SNR=17						
PB08	**IPOC Station P**	**25.19**	**166**	P	**P**	**12 36 37.4**	**+0.1**
PB01	**IPOC Station P**	**25.99**	**168**	P	**P**	**12 36 44.7**	**+0.5**
PB01				IAmb	IAmb	12 36 45.7	
	comp=Z,9.4nm,1.0s						
PB09	**IPOC Station P**	**26.77**	**167**	P	**P**	**12 36 51.6**	**+0.3**
GO02	**Mina Guanaco**	**29.98**	**170**	P	**P**	**12 37 21.0**	**+1.2**
GO02				IAmb	IAmb	12 37 21.3	
	comp=Z,4.8nm,0.7s						
AC01	**Pan de Azucar**	**30.78**	**172**	P	**P**	**12 37 27.5**	**+1.0**
AC01				IAmb	IAmb	12 37 34.4	
	comp=Z,11nm,1.3s						
AC05	**El Transito**	**33.47**	**172**	P	**P**	**12 37 51.2**	**+1.1**
AC05				IAmb	IAmb	12 38 51.6	
	comp=Z,16nm,1.7s						
CPUP	**Villa Florida**	**35.22**	**151**	P	**P**	**12 38 02.9**	**-2.1**
	comp=Z,0.9nm,0.6s,baz=150,slow=2.1,SNR=3.1						
CPUP	**Villa Florida**	**35.22**	**151**	P	**P**	**12 38 03.5**	**-1.5**
CPUP				IAmb	IAmb	12 38 32.4	
	comp=Z,14nm,1.7s						
BO02	**Sierra Bellavi**	**39.29**	**174**	P	**P**	**12 38 40.5**	**+1.3**
BO02				IAmb	IAmb	12 39 55.1	
	comp=Z,9.0nm,1.2s						
JFWS	**Jewell Farm**	**40.52**	**343**	P	**P**	**12 38 50.6**	**+1.5**
JFWS				IAmb	IAmb	12 40 00.4	
	comp=Z,24nm,1.7s						
PLCA	**Paso Flores**	**45.20**	**175**	P	**P**	**12 39 27.8**	**+1.0**
	comp=Z,0.8nm,0.4s,baz=9.1,slow=10,SNR=3.4						
PLCA	**Paso Flores**	**45.20**	**175**	P	**P**	**12 39 27.9**	**+1.1**
NVAR	**Mina Array Bea**	**51.64**	**317**	P	**P**	**12 40 19.2**	**+2.9**
	comp=Z,0.5nm,0.8s,baz=145,slow=6.1,SNR=3.7						
BCAR	**Beaver Creek A**	**75.52**	**334**	P	**P**	**12 42 50.2**	**-1.8**
TORD	**Torodi Ar. Bea**	**76.34**	**78**	P	**P**	**12 42 57.2**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=295,slow=6.0,SNR=4.3						
TORD	**Torodi Ar. Bea**	**76.34**	**78**	P	**P**	**12 42 57.8**	**+0.3**
ASAR	**Alice Springs**	**145.98**	**233**	PKPbc	**PKPbc**	**12 50 46.5**	**-0.5**
	comp=Z,3.2nm,0.7s,baz=121,slow=3.6,SNR=53						
ASAR	**Alice Springs**	**145.98**	**233**		**PKPab**	**12 50 47.1**	**-0.6**
WRA	**Warramunga Arr**	**147.30**	**239**	PKPbc	**PKPbc**	**12 50 51.1**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=108,slow=3.1,SNR=21						
WRA	**Warramunga Arr**	**147.30**	**239**	PKPdf	**PKPdf**	**12 50 47.0**	**-1.1**
WRA					**PKiKP**	**12 50 51.3**	**-1.5**

*IDC **21** 12:38:48.6±3.6, 19°.30S×169°.50E, h277km±31km, mb3.7/5, mb1 3.8/6, mb1mx3.3/26, mbtmp4.3/6, Error ellipse: s-maj=64.4km s-min=36.0km az=152.0*
*NEIC **21** 12:38:48.1±1.6, 19°.15S±0°.03×169°.5E±0°.2, h272km±9km, mb4.1/16, Error ellipse: s-maj=23.9km s-min=4.0km az=92.0*
ISC 21 12:38:45.6±1.2, 19°.12S±0°.10×169°.8E±0°.2, h250km, n29, σ1s80/30, mb4.1/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**4.27**	**226**	P	**Pn**	**12 39 53.4**	**+0.8**
	1.0nm,0.3s,baz=62,slow=14,SNR=10						
DZM				S	**S**	**12 40 49.1**	**+3.2**
	0.4nm,0.3s,baz=109,slow=5.5,SNR=3.0						
DZM	**Mont Dzumac**	**4.27**	**226**		**Pn**	**12 39 54.1**	**+1.5**
SANVU	**Saraoutou**	**4.38**	**326**	Pn	**Pn**	**12 39 56.0**	**+2.0**
EIDS	**Eidsvold**	**18.36**	**247**	P	**P**	**12 42 42.7**	**+0.6**
EIDS				IAmb	IAmb	12 42 59.3	
	comp=Z,9.4nm,1.3s						
ARMA	**Armidale**	**19.90**	**232**	P	**P**	**12 42 59.7**	**+1.0**
ARMA				IAmb	IAmb	12 43 09.6	
	comp=Z,8.8nm,1.2s						
CTA	**Charters Tower**	**22.15**	**264**	P	**P**	**12 43 19.6**	**-1.5**
	comp=Z,4.2nm,0.8s,baz=81,slow=11,SNR=4.0						
TOO	**Toolangi**	**28.04**	**224**	P	**P**	**12 44 13.6**	**-0.3**
TOO				IAmb	IAmb	12 44 22.7	
	comp=Z,5.3nm,1.1s						
STKA	**Stephens Creek**	**28.32**	**238**	P	**P**	**12 44 15.0**	**-1.4**
	comp=Z,3.5nm,0.7s,baz=65,slow=10,SNR=13						
STKA	**Stephens Creek**	**28.32**	**238**	P	**P**	**12 44 16.2**	**-0.2**
BBOO	**Buckleboo**	**33.06**	**239**	P	**P**	**12 44 57.2**	**-0.7**
WR0	**Warramunga Arr**	**33.15**	**263**	P	**P**	**12 44 56.9**	**-2.0**
WR0				IAmb	IAmb	12 45 02.8	
	comp=Z,5.0nm,1.1s						
WB0	**Warramunga Arr**	**33.31**	**263**	P	**P**	**12 44 58.0**	**-2.3**
WB0				IAmb	IAmb	12 44 58.9	
	comp=Z,5.0nm,1.1s						
WB2	**Warramunga Arr**	**33.33**	**263**	P	**P**	**12 44 58.2**	**-2.3**
WB2				IAmb	IAmb	12 45 02.4	
	comp=Z,4.4nm,1.1s						
WRAB	**Tennant Creek**	**33.33**	**263**	P	**P**	**12 44 57.9**	**-2.6**
WRAB				IAmb	IAmb	12 45 03.6	
	comp=Z,8.3nm,1.4s						
WRA	**Warramunga Arr**	**33.34**	**263**	P	**P**	**12 44 58.3**	**-2.3**
	comp=Z,2.4nm,0.5s,baz=96,slow=8.4,SNR=57						
WRA	**Warramunga Arr**	**33.34**	**263**	P	**P**	**12 44 57.0**	**-3.5**
AS31	**Alice Springs**	**33.62**	**256**	P	**P**	**12 45 01.4**	**-1.5**
ASAR	**Alice Springs**	**33.62**	**256**	P	**P**	**

BRTR	**Keskin Array B**	**70.71**	**37**	P		**P**	**12 52 28.6**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=208,slow=10,SNR=5.4							
BRTR	**Keskin Array B**	**70.71**	**37**	P		**P**	**12 52 28.3**	**+0.8**
MLR	**Muntele Rosu**	**70.84**	**28**	P		**P**	**12 52 29.6**	**+1.5**
	comp=Z,4.7nm,1.0s,baz=243,slow=4.5,SNR=4.2							
CLL	**Collm**	**70.85**	**17**	P		**P**	**12 52 28.7**	**+0.8**
CLL				IAmb		IAmb	12 52 41.7	
	comp=Z,4.4nm,1.1s							
MORC	**Moravsky Berou**	**70.94**	**21**	P		**P**	**12 52 27.9**	**-0.7**
AKASG	**Malin Array Be**	**76.20**	**26**	P		**P**	**12 52 59.9**	**+0.6**
	comp=Z,2.1nm,0.7s,baz=225,slow=6.7,SNR=9.1							
AKASG	**Malin Array Be**	**76.20**	**26**	P		**P**	**12 52 59.5**	**+0.2**
T59A	**Double "B" Far**	**79.88**	**313**	P		**P**	**12 53 19.8**	**-0.4**
N59A	**State Game Lan**	**80.61**	**317**	P		**P**	**12 53 24.9**	**+0.8**
N59A				IAmb		IAmb	12 53 28.1	
	comp=Z,11nm,1.4s							
TIGA	**Tifton**	**81.92**	**306**	P		**P**	**12 53 31.1**	**-0.1**
FINES	**FINESS Array B**	**83.28**	**18**	P		**P**	**12 53 39.4**	**+1.9**
	comp=Z,1.8nm,0.7s,baz=210,slow=4.5,SNR=9.7							
FINES	**FINESS Array B**	**83.28**	**18**	P		**P**	**12 53 38.5**	**+0.9**
AAK	**Ala-Archa**	**99.23**	**48**	LR		LR	13 40 29.3	
	comp=Z,46nm,19.4s,baz=252,slow=36							
RDOG	**Red Dog Mine**	**124.27**	**347**			**PKPdf**	**13 00 08.3**	**-1.3**

*SOME **21** 12:43:51.4, 42.°65N×75.°65E*
NNC 21 12:43:52.9±0.5, 42.73N×75.69E, h0km, mb3.6, mpv2.5, 2C, Error ellipse: s-maj=3.6km s-min=2.3km az=179.0, Suspected Mining explosion., Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.21**	**341**	⇑P	Pg	12 43 57.0	+0.1
	1.6nm,0.2s						
TKM2				⇑S	Sg	12 44 00.1	+0.5
	4.3nm,0.2s						
KST	**Kastek**	**0.38**	**33**	P	Pg	12 44 00.4	+0.2
	19nm,0.2s						
KST				S	Sg	12 44 06.6	+1.6
	10nm,0.1s						
DGS	**Degeres**	**0.52**	**7**	P	Pg	12 44 02.7	-0.3
	0.5nm,0.4s						
DGS				S	Sg	12 44 10.4	+0.7
	4.2nm,0.3s						
IZV	**Izvestkoviy**	**0.75**	**65**	P	Pg	12 44 07.3	0.0
	2.1nm,0.2s						
IZV				S	Sg	12 44 18.1	+1.1
	6.3nm,0.3s						
TNSS	**Tian-Shan**	**0.98**	**71**	P	Pg	12 44 11.8	+0.1
	3.1nm,0.3s						
TNSS				S	Sb	12 44 25.9	-0.8
	2.5nm,0.4s						
MRKS	**Merke**	**1.81**	**271**	P	Pn	12 44 25.9	+0.4
	6.6nm,0.2s						
MRKS				S	Sb	12 44 50.1	-0.3
	5.5nm,0.2s						

*INET **21** 12:52:47.1, 19.°84N×81.°20W, h15km, ML4.6*
*IDC **21** 12:52:56.6±0.9, 18.°81N×81.°52W, h0km, mb3.9/10, mb1 4.3/14, mb1mx4.0/50, mbtmp4.1/14, ML4.4/4, MS3.4/8, Ms1 3.5/8, ms1mx3.2/41, Error ellipse: s-maj=24.5km s-min=19.2km az=12.0*
*NEIC **21** 12:52:58.0±1.8, 18.°87N±0.°06×81.°59W±0.°05, h10km±1km, mb4.3/80, Error ellipse: s-maj=10.3km s-min=7.5km az=156.0*
*SSNC **21** 12:53:00.3±2.2, 18.°88N×81.°48W, h5km±20km, ML4.4, MW4.8*
*JSN **21** 12:53:02.6±1.2, 19.°04N×81.°10W, h0km±97km, MD4.6*
ISC 21 12:52:57.3±0.5, 18.°91N±0.°04×81.°47W±0.°04, h10km, n156, σ1°65/166, mb4.2/23, MS3.7/4, 3C-6D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBCY	**The Bluff, Cay**	**1.82**	**63**		**Pn**	**12 53 29.9**	**+1.3**
NEJ	**Negril**	**3.05**	**102**	*i* P	**Pn**	**12 53 46.0**	**+0.3**
MGV	**Manicaragua**	**3.48**	**23**	*e*P	**Pn**	**12 53 53.2**	**+1.7**
MGV				*e*S	**Sn**	**12 54 33.7**	**+0.9**
MCJ	**Malvern**	**3.73**	**105**	*i* P	**Pn**	**12 53 56.0**	**+1.0**
MCJ				⇓*i*S	**Sn**	**12 54 37.2**	**-1.9**
CVJ	**Coleyville**	**3.80**	**100**	⇓*i*P	**Pn**	**12 53 57.1**	**+1.0**
MTDJ	**Mount Denham**	**3.80**	**100**	Pn	**Pn**	**12 53 56.5**	**+0.5**
MTDJ				Sn	**Sn**	**12 54 38.9**	**-2.0**
BBJ	**Bamboo Saint A**	**4.02**	**97**	⇓*i*P	**Pn**	**12 53 59.8**	**+0.8**
BBJ				⇑*i*S	**Sn**	**12 54 42.6**	**-3.8**
SOR	**Soroa**	**4.12**	**340**	*e*P	**Pn**	**12 54 02.2**	**+1.8**
SOR				*e*S	**Sn**	**12 54 49.8**	**+1.1**
CCCC	**Cccc**	**4.16**	**56**	*e*P	**Pb**	**12 54 07.3**	**-3.4**
CCCC				*e*S	**Sb**	**12 54 57.0**	**-4.1**
PCJ	**Portland Cotta**	**4.26**	**105**	⇑*i*P	**Pn**	**12 54 03.1**	**+0.8**
BNJ	**Bonny Gate**	**4.33**	**97**	⇓*i*P	**Pn**	**12 54 04.0**	**+0.7**
LMGC	**Las Mercedes**	**4.37**	**74**	*e*P	**Pn**	**12 54 06.0**	**+2.3**
LMGC				*e*S	**Sn**	**12 54 52.6**	**-2.2**
STH	**Stony Hill**	**4.50**	**100**	*i* P	**Pn**	**12 54 06.9**	**+1.2**
HOJ	**Hope**	**4.57**	**101**	⇓*i*P	**Pn**	**12 54 08.2**	**+1.6**
GWJ	**Greenwich**	**4.58**	**100**	⇑*i*P	**Pn**	**12 54 08.1**	**+1.3**
CMJ	**Castle Mountai**	**4.90**	**98**	⇓*i*P	**Pn**	**12 54 12.3**	**+1.1**
PRVC	**Isla de Provid**	**5.50**	**179**	*e*P	**Pn**	**12 54 19.3**	**-0.1**
RCC	**Rio Carpintero**	**5.56**	**78**	*e*P	**Pn**	**12 54 22.5**	**+2.4**
RCC				*e*S	**Sn**	**12 55 20.9**	**-3.2**
GTBY	**Guantanamo Bay**	**6.09**	**79**	Pn	**Pn**	**12 54 31.0**	**+3.6**
GTBY				Sn	**Sn**	**12 55 36.0**	**-1.2**
TEIG	**Tepich**	**6.55**	**283**	Pn	**Pn**	**12 54 32.5**	**-1.2**
	25nm,0.3s,baz=140,slow=1.2,SNR=168						
TEIG				Sn	Sn	12 55 35.7	-13
TEIG				LR	LR	12 56 20.0	
	comp=Z,103nm,21.0s,baz=228,slow=31						
TEIG	**Tepich**	**6.55**	**283**	Pn	**Pn**	**12 54 32.3**	**-1.4**
TEIG				Sn	**Sn**	**12 55 40.7**	**-7.7**
061Z	**Ochoppi**	**6.94**	**4**		**Pn**	**12 54 41.6**	**+2.4**
MASC	**Masc**	**6.95**	**78**	*e*P	**Pn**	**12 54 42.7**	**+3.5**
MASC				*e*S	**Sn**	**12 55 57.9**	**-0.4**
ESPN	**Las Esperanzas**	**7.21**	**203**		**Pn**	**12 54 43.6**	**+0.7**
ESPN				Sn	**Sn**	**12 56 00.7**	**-4.2**
MATN	**Matagalpa**	**7.33**	**216**	Pn	**Pn**	**12 54 44.4**	**-0.1**
TGUH	**Tegucigalpa,Un**	**7.36**	**230**	Pn	**Pn**	**12 54 44.5**	**-0.6**
BOAB	**BOACO BROADBAN**	**7.59**	**213**		**Pn**	**12 54 48.1**	**+0.1**
ACON	**Acoyapa**	**7.77**	**208**		**Pn**	**12 54 50.7**	**+0.2**
LGNH	**Logne**	**8.41**	**91**		**Pn**	**12 55 00.9**	**+1.5**
PAPH	**Port-au-Prince**	**8.70**	**91**		**Pn**	**12 55 05.2**	**+1.9**
MTO3	**Montecristo**	**8.79**	**240**		**Pn**	**12 55 05.4**	**+0.6**
JTS	**Las Juntas de**	**9.21**	**202**	Pn	**Pn**	**12 55 09.7**	**-0.6**
	3.9nm,0.3s,baz=78,slow=12,SNR=16						
JTS				LR	LR	12 58 31.2	
	comp=Z,306nm,21.6s,baz=132,slow=37						
JTS	**Las Juntas de**	**9.21**	**202**	Pn	**Pn**	**12 55 10.5**	**+0.2**
SDDR	**Presa de Saban**	**9.64**	**88**	Pn	**Pn**	**12 55 18.5**	**+2.2**
BCIP	**Isla Barro Col**	**9.81**	**170**	Pn	**Pn**	**12 55 17.3**	**-1.3**
CCIG	**Comitan**	**10.50**	**257**		**Pn**	**12 55 27.9**	**-0.2**
SJCC	**San Jacinto, C**	**10.84**	**145**	*e*P	**Pn**	**12 55 32.9**	**+0.2**
ARGC	**Ariguani, Magd**	**11.40**	**141**	*e*P	**Pn**	**12 55 41.3**	**+1.0**
DR12	**Loma Pena Alta**	**11.45**	**89**		**Pn**	**12 55 43.1**	**+2.0**
553A	**Crawfordville**	**11.55**	**347**	Pn	**Pn**	**12 55 42.1**	**-0.1**
URIC	**Uribia, Colomb**	**11.62**	**127**		**Pn**	**12 55 43.2**	**-0.1**
SMLC	**San Martn de**	**12.35**	**143**	*e*P	**Pn**	**12 55 53.2**	**-0.1**
TIGA	**Tifton**	**12.62**	**352**		**Pn**	**12 55 57.2**	**+0.2**
CMIG	**Matias Romero**	**12.89**	**264**	Sn	Sn	12 58 10.2	-14
	0.2nm,0.3s,baz=350,slow=8.6,SNR=2.3						
CMIG				LR	LR	13 00 41.4	
	comp=Z,150nm,20.5s,baz=67,slow=36						
352A	**Blakely**	**12.90**	**347**	Pn	**Pn**	**12 55 59.8**	**-1.0**
OCAC	**Ocana**	**13.23**	**142**	*e*P	**Pn**	**12 56 03.4**	**-2.2**
154A	**Montrose**	**13.72**	**354**	Pn	**Pn**	**12 56 13.6**	**+1.6**
152A	**Waverly Hall**	**14.01**	**349**		**Pn**	**12 56 16.3**	**+0.4**
PTBC	**PUERTO BERRIO,**	**14.07**	**150**	*e*P	**Pn**	**12 56 16.5**	**-0.3**
SDV	**Santo Domingo**	**14.48**	**132**	Pn	**Pn**	**12 56 21.7**	**-1.0**
	6.2nm,0.3s,baz=295,slow=5.5,SNR=4.0						
GOGA	**Godfrey**	**14.55**	**353**		**Pn**	**12 56 23.9**	**+0.6**
PDPR	**Patillas Dam,**	**14.69**	**91**	Pn	**Pn**	**12 56 26.4**	**+1.1**
Z51A	**Franklin**	**14.73**	**348**	Pn	**Pn**	**12 56 27.0**	**+1.2**
LRAL	**Lakeview Retre**	**14.91**	**342**		**Pn**	**12 56 27.5**	**-0.8**
Y52A	**Lilburn**	**15.07**	**352**	Pn	**Pn**	**12 56 31.2**	**+0.8**
Y52A				IAmb	IAmb	12 56 41.2	
	comp=Z,5.2nm,0.7s						
146A	**Union**	**15.27**	**335**	Pn	**Pn**	**12 56 33.5**	**+0.4**
RUSC	**La Rusia**	**15.31**	**147**	P	**Pn**	**12 56 36.4**	**+2.3**
JSC	**Jenkinsville**	**15.31**	**1**	Pn	**Pn**	**12 56 34.4**	**+0.8**
Z47A	**Carrollton**	**15.41**	**339**		**Pn**	**12 56 35.4**	**+0.6**
Z47A				IAmb	IAmb	12 56 44.2	
	comp=Z,16nm,0.7s						
Y49A	**Blount Mountai**	**15.53**	**344**		**Pn**	**12 56 37.4**	**+1.0**
Y49A				IAmb	IAmb	12 56 45.0	
	comp=Z,11nm,0.8s						
VBMS	**Vicksburg**	**15.55**	**330**	Pn	**Pn**	**12 56 37.2**	**+0.5**
VBMS				IAmb	IAmb	12 56 39.8	
	comp=Z,14nm,0.7s						
ROSC	**El Rosal**	**15.63**	**153**	Pn	**Pn**	**12 56 38.1**	**-0.1**
ROSC				IAmb	IAmb	12 56 48.9	
	comp=Z,19nm,1.2s						
441A	**DeRidder**	**15.86**	**320**	Pn	**Pn**	**12 56 40.0**	**-0.7**
BG3	**Lake Jocassee**	**16.07**	**356**		**Pn**	**12 56 43.7**	**+0.2**
X48A	**Hartselle**	**16.25**	**343**		**Pn**	**12 56 46.1**	**+0.3**
X48A				IAmb	IAmb	12 56 53.1	
	comp=Z,12nm,0.8s						
W52A	**Murphy**	**16.27**	**353**		**Pn**	**12 56 46.2**	**+0.2**
W52A				IAmb	IAmb	12 56 49.1	
	comp=Z,11nm,0.7s						
W50A	**Signal Mountai**	**16.58**	**349**	Pn	**Pn**	**12 56 49.8**	**-0.2**
CPCT	**Cooper Cave**	**16.70**	**351**		**Pn**	**12 56 51.4**	**0.0**
V53A	**Saluda**	**16.74**	**356**	Pn	**Pn**	**12 56 50.0**	**-2.0**
TKL	**Tuckaleechee C**	**16.81**	**354**	Pn	**Pn**	**12 56 53.0**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=177,slow=16,SNR=11						
TKL				Sn	**Sn**	**12 59 50.5**	**-9.2**
	comp=Z,0.1nm,0.3s,baz=118,slow=12,SNR=3.4						
TKL				LR	LR	13 02 54.3	
	comp=Z,134nm,20.0s,baz=176,slow=35						
TKL	**Tuckaleechee C**	**16.81**	**354**	P	**Pn**	**12 56 53.3**	**+0.5**
TKL				IAmb	IAmb	12 57 03.9	
	comp=Z,14nm,0.8s						
V58A	**Windy Hill, Pi**	**16.95**	**7**		**Pn**	**12 56 54.3**	**-0.3**
V51A	**Loudon**	**17.02**	**352**	Pn	**Pn**	**12 56 55.4**	**-0.1**
HKT	**Hockley**	**17.06**	**313**	P	**Pn**	**12 56 54.9**	**-1.1**
OXF	**Oxford**	**17.07**	**337**	P	**Pn**	**12 56 56.6**	**+0.5**
OXF				IAmb	IAmb	12 57 11.9	
	comp=Z,19nm,0.8s						
V48A	**Smith Brothers**	**17.42**	**345**	P	**Pn**	**12 57 01.6**	**+1.1**
NATX	**Nacogdoches**	**17.46**	**320**	Pn	**Pn**	**12 56 59.3**	**-1.8**
NATX				IAmb	IAmb	12 57 03.4	
	comp=Z,24nm,0.8s						
Z41A	**Richland Creek**	**17.52**	**327**		**Pn**	**12 57 02.3**	**+0.6**
Z41A				IAmb	IAmb	12 57 07.4	
	comp=Z,34nm,1.0s						
U49A	**Red Boiling Sp**	**17.94**	**349**	P	**Pn**	**12 57 07.7**	**+0.8**
WLAR	**White Oak Lake**	**18.02**	**327**		**P**	**12 57 08.9**	**+0.6**
WVT	**Waverly**	**18.05**	**343**	P	**Pn**	**12 57 08.8**	**+0.5**
WVT				IAmb	IAmb	12 57 10.6	
	comp=Z,28nm,1.2s						
T50A	**Nancy**	**18.28**	**351**	P	**P**	**12 57 11.9**	**+0.7**
T59A	**Double "B" Far**	**18.32**	**10**		**Pn**	**12 57 12.1**	**+0.5**
237A	**Washetta, Mont**	**18.34**	**318**	P	**Pn**	**12 57 10.9**	**-1.0**
237A				IAmb	IAmb	12 57 14.6	
	comp=Z,42nm,1.4s						
X40A	**Basin Creek Fa**	**18.52**	**329**	P	**Pn**	**12 57 15.0**	**+1.0**
UALR	**University of**	**18.52**	**331**	P	**Pn**	**12 57 14.9**	**+0.9**
T47A	**Sharon Grove**	**18.68**	**346**	P	**Pn**	**12 57 16.3**	**+0.4**
T47A				IAmb	IAmb	12 57 19.5	
	comp=Z,17nm,1.1s						
S51A	**Beattyville**	**18.75**	**355**	P	**P**	**12 57 16.2**	**-0.3**
435B	**Jarrell**	**18.77**	**312**	P	**P**	**12 57 16.6**	**-0.1**
435B				IAmb	IAmb	12 57 17.9	
	comp=Z,27nm,0.9s						
W41B	**Gary Mavity, V**	**18.81**	**332**	P	**Pn**	**12 57 18.8**	**+1.2**
W41B				IAmb	IAmb	12 57 20.8	
	comp=Z,32nm,1.1s						
833A	**Chaparral WMA,**	**18.89**	**303**	P	**P**	**12 57 17.9**	**-0.1**
833A				IAmb	IAmb	12 57 21.0	
	comp=Z,12nm,0.5s						
WHAR	**Wooly Hollow**	**18.92**	**332**	P	**Pn**	**12 57 20.9**	**+1.9**
MIAR	**Mount Ida**	**18.93**	**328**	P	**Pn**	**12 57 20.5**	**+1.4**
LCAR	**Lake Charles**	**19.11**	**335**	P	**P**	**12 57 21.0**	**+0.7**
FCAR	**Ozark Folk Cen**	**19.35**	**333**	P	**Pn**	**12 57 25.1**	**+0.9**
WHTX	**Lake Whitney,**	**19.41**	**315**	P	**P**	**12 57 24.6**	**+0.9**
R49A	**Shelbyville**	**19.58**	**351**	P	**P**	**12 57 26.0**	**+0.5**
R49A				IAmb	IAmb	12 57 30.5	
	comp=Z,15nm,1.2s						
WCI	**Wyandotte Cave**	**19.70**	**349**	P	**P**	**12 57 27.8**	**+0.9**
WCI				IAmb	IAmb	12 57 44.8	
	comp=Z,14nm,1.2s						
X37A	**Clayton**	**19.91**	**324**	P	**P**	**12 57 29.5**	**+0.3**
X37A				IAmb	IAmb	12 57 41.5	
	comp=Z,15nm,1.1s						
S44A	**Carbondale**	**19.91**	**342**	P	**P**	**12 57 30.0**	**+0.9**
S44A				IAmb	IAmb	12 57 33.0	
	comp=Z,27nm,1.2s						
U40A	**Yellville**	**20.06**	**332**	P	**P**	**12 57 31.3**	**+0.5**
U40A				IAmb	IAmb	12 57 47.8	
	comp=Z,12nm,0.9s						
ZAIG	**Zacatecas**	**20.08**	**285**	P	**P**	**12 57 31.3**	**-0.1**
HHAR	**Hobbs**	**20.50**	**330**	P	**P**	**12 57 36.0**	**+0.5**
HHAR				IAmb	IAmb	12 57 41.6	
	comp=Z,26nm,1.3s						
OLIL	**Olney**	**20.58**	**345**	P	**P**	**12 57 36.5**	**+0.2**
P48A	**Milroy**	**20.76**	**351**	P	**P**	**12 57 38.2**	**-0.2**
P48A				IAmb	IAmb	12 57 45.3	
	comp=Z,24nm,1.3s						
U38A	**Gravette**	**20.84**	**330**	P	Pn	12 57 41.0	-0.7
CCM	**Cathedral Cave**	**20.89**	**338**	P	**P**	**12 57 41.2**	**+1.4**
CCM				IAmb	IAmb	12 57 45.4	
	comp=Z,8.4nm,0.8s						
Q44A	**Meyer Farm, Va**	**20.97**	**343**	P	**P**	**12 57 42.1**	**+1.5**
TUL1	**Leonard**	**21.13**	**326**	P	**P**	**12 57 43.5**	**+1.1**
TUL1				IAmb	IAmb	12 57 59.7	
	comp=Z,13nm,0.9s						
R40A	**Maddies Statio**	**21.48**	**336**	P	**P**	**12 57 46.8**	**+0.7**
SFIN	**Lafayette**	**21.94**	**348**	P	**P**	**12 57 51.4**	**+0.4**
SFIN				IAmb	IAmb	12 57 56.4	
	comp=Z,16nm,1.1s						
WMOK	**Wichita Mounta**	**22.02**	**319**	P	**P**	**12 57 52.7**	**+0.8**
WMOK				IAmb	IAmb	12 57 58.0	
	comp=Z,9.2nm,1.1s						
T35A	**Sooner Cattle**	**22.27**	**327**	P	**P**	**12 57 53.9**	**-0.7**
T35A				IAmb	IAmb	12 58 08.6	
	comp=Z,11nm,0.9s						
TX32	**Lajitas Array**	**22.72**	**301**	P	**P**	**12 57 60.0**	**+0.3**
TX32				IAmb	IAmb	12 58 11.1	
	comp=Z,13nm,1.4s						
TXAR	**Lajitas Array**	**22.72**	**301**	P	**P**	**12 58 01.0**	**+1.4**
	comp=Z,2.4nm,0.6s,baz=117,slow=9.3,SNR=24						
TXAR				S	**S**	**13 02 05.8**	**-2.6**
	comp=Z,0.4nm,0.6s,baz=119,slow=13,SNR=4.0						
TXAR	**Lajitas Array**	**22.72**	**301**	P	**P**	**12 58 00.1**	**+0.5**
MSTX	**Muleshoe**	**24.19**	**313**	P	**P**	**12 58 14.5**	**+0.3**
MSTX				IAmb	IAmb	12 58 31.6	
	comp=Z,7.9nm,1.0s						
SCIA	**State Center**	**25.01**	**339**	P	**P**	**12 58 23.1**	**+1.7**
K38A	**Parkersburg**	**25.53**	**340**	P	**P**	**12 58 27.4**	**+1.3**
I42A	**Draeger Farm,**	**25.68**	**348**	P	**P**	**12 58 29.0**	**+1.6**
SADO	**Sadowa**	**25.86**	**4**	LR	LR	13 08 23.1	
	comp=Z,183nm,19.1s,baz=190,slow=36						
H43A	**Windswept, Lux**	**26.02**	**350**	P	**P**	**12 58 31.2**	**+0.6**
F36A	**Milaca**	**28.67**	**342**	P	**P**	**12 58 55.3**	**+1.0**
F36A				IAmb	IAmb	12 58 56.3	
	comp=Z,6.0nm,0.8s						
SMCO	**Snowmass**	**29.91**	**318**	P	**P**	**12 59 06.0**	**+0.1**
WUAZ	**Wupatki**	**31.15**	**308**	P	**P**	**12 59 17.1**	**+0.5**
WUAZ				IAmb	IAmb	12 59 20.4	
	comp=Z,5.6nm,1.1s						
SRU	**San Rafael Swe**	**32.19**	**315**	P	**P**	**12 59 28.0**	**+2.2**
PDAR	**Pinedale Array**	**33.59**	**321**	P	**P**	**12 59 40.0**	**+1.9**
	comp=Z,0.7nm,0.8s,baz=103,slow=13,SNR=6.2						
PDAR	**Pinedale Array**	**33.59**	**321**	P	**P**	**12 59 38.7**	**+0.6**
PSUT	**Pine Spring**	**34.22**	**312**	P	**P**	**12 59 44.3**	**+0.8**
FXWY	**Fox Creek**	**34.97**	**321**	P	**P**	**12 59 52.6**	**+2.6**
FXWY				IAmb	IAmb	12 59 53.4	
	comp=Z,2.8nm,0.9s						
MCMT	**McKenzie Canyo**	**36.73**	**322**	P	**P**	**13 00 05.8**	**+0.7**
HLID	**Hailey**	**36.99**	**319**	P	**P**	**13 00 08.2**	**+1.0**
HLID				IAmb	IAmb	13 00 11.3	
	comp=Z,5.1nm,1.2s						
LRM	**Limekiln Ridge**	**37.07**	**323**	P	**P**	**13 00 08.5**	**+0.5**
HRY	**Holter Researc**	**37.26**	**325**	P	**P**	**13 00 11.0**	**+1.5**
NVAR	**Mina Array Bea**	**37.39**	**309**	P	**P**	**13 00 12.2**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=105,slow=9.2,SNR=7.3						
NVAR				PcP	**PcP**	**13 02 31.5**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=141,slow=3.0,SNR=2.7						
NVAR	**Mina Array Bea**	**37.39**	**309**	P	**P**	**13 00 10.4**	**-0.3**
WVOR	**Wild Horse Val**	**39.19**	**315**	P	**P**	**13 00 27.3**	**+1.5**
WVOR				IAmb	IAmb	13 00 29.1	
	comp=Z,5.3nm,0.9s						
MNMC	**Minye Minye**	**39.56**	**162**	P	**P**	**13 00 29.6**	**+0.5**
MNMC				IAmb	IAmb	13 00 34.5	
	comp=Z,8.9nm,0.9s						
GO01	**Chusmiza**	**40.19**	**162**	P	**P**	**13 00 34.3**	**-0.3**
BDFB	**Brasilia**	**47.58**	**134**	LR	LR	13 22 27.4	
	comp=Z,87nm,18.6s,baz=184,slow=37						
YKA	**Yellowknife Ar**	**49.20**	**340**	P	**P**	**13 01 46.4**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=158,slow=14,SNR=3.9						
IL31		**62.62**	**334**	P	**P**	**13 03 22.2**	**+0.6**
IL31				IAmb	IAmb	13 03 36.4	
	comp=Z,1.9nm,0.8s						
ILAR	**Eielson Array**	**62.62**	**334**	P	**P**	**13 03 22.9**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=114,slow=4.2,SNR=6.0						
ILAR	**Eielson Array**	**62.62**	**334**	P	**P**	**13 03 22.0**	**+0.4**
BPAW	**Bear Paw Mtn.**	**64.22**	**333**	P	**P**	**13 03 33.0**	**+0.7**
EKA	**Eskdalemuir Ar**	**68.04**	**37**	P	**P**	**13 03 57.8**	**+0.9**
	comp=Z,0.7nm,0.5s,baz=271,slow=5.9,SNR=7.4						
ESDC	**Sonseca Array**	**68.72**	**54**	P	**P**	**13 04 03.6**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=289,slow=5.2,SNR=6.5						
ESDC				LR	LR	13 28 59.0	
	comp=Z,45nm,20.6s,baz=170,slow=31						
ESDC	**Sonseca Array**	**68.72**	**54**	P	**P**	**13 04 03.3**	**+1.7**
NOA	**NORSAR Array B**	**74.94**	**30**	LR	LR	13 36 35.6	
	comp=Z,15nm,18.7s,baz=190,slow=35						
ARCES	**ARCESS Array B**	**78.21**	**20**	P	**P**	**13 04 59.2**	**+2.4**
	comp=Z,4.0nm,0.9s,baz=338,slow=9.5,SNR=3.7						
TORD	**Torodi Ar. Bea**	**79.48**	**80**	P	**P**	**13 05 07.1**	**+2.3**
	comp=Z,0.6nm,0.9s,baz=291,slow=4.5,SNR=2.9						
FINES	**FINESS Array B**	**81.64**	**28**	P	**P**	**13 05 16.2**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=279,slow=3.7,SNR=5.3						
WRA	**Warramunga Arr**	**146.25**	**262**	PKPbc	**PKPdf**	**13 12 38.6**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=84,slow=3.3,SNR=9.1						
WRA	**Warramunga Arr**	**146.25**	**262**	PKPdf	**PKPdf**	**13 12 36.1**	**-1.8**
ASAR	**Alice Springs**	**146.75**	**256**	PKPbc	**PKPdf**	**13 12 39.6**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=102,slow=3.8,SNR=18						
ASAR	**Alice Springs**	**146.75**	**256**		**PKPdf**	**13 12 38.3**	**-0.4**

IDC 21 12:54:40.6±7.6, 30.°39S×177.°37W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.3/23, mbtmp3.3/2, MS3.5/1, Ms1 3.5/1, ms1mx3.1/6, Error ellipse: s-maj=315.9km s-min=60.9km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**28.33**	**70**	LR	LR	13 09 25.6	
	comp=Z,108nm,21.8s,baz=156,slow=31						
ASAR	**Alice Springs**	**43.66**	**267**	P	P	13 02 47.2	-0.1
	0.1nm,0.7s,baz=104,slow=6.8,SNR=1.4						
WRA	**Warramunga Arr**	**44.65**	**272**	P	P	13 02 54.9	-0.3
	0.7nm,0.5s,baz=112,slow=6.8,SNR=13						
FINES	**FINESS Array B**	**145.32**	**340**	PKPbc	PKPbc	13 14 18.9	-0.6
	1.4nm,0.9s,baz=56,slow=4.8,SNR=4.4						

*BJI **21** 13:24:17.6±0.0, 17.°50S×174.°53W, h260km, mB4.8/31, mb4.8/48*
*NEIC **21** 13:24:19.2±2.0, 17.°65S±0.°08×175.°20W±0.°08, h248km±5km, mb5.1/190, Error ellipse: s-maj=12.6km s-min=10.5km az=154.0*
*UNK **21** 13:24:20.4, 17.°56S×175.°22W, h257km*
*IDC **21** 13:24:21.5±0.7, 17.°70S×175.°30W, h268km±6km, mb4.5/32, mb1 4.6/34, mb1mx4.6/40, mbtmp5.1/34, Error ellipse: s-maj=10.9km s-min=8.1km az=145.0*
*MOS **21** 13:24:21.2±1.8, 17.°53S×175.°29W, h266km, mb5.1/24, Error ellipse: s-maj=8.7km s-min=8.1km az=160.5*
*GCMT **21** 13:24:25.2±0.2, 17.°68S±0.°01×174.°99W±0.°01, h287km±1km, MW5.3/121, Moment Tensor Solution. s120,c174; s121,c187; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr 0.29±.02; Mθθ 0.21±.02; Mφφ -0.50±.02; Mrθ 0.02±.02; Mrφ 0.05±.02; Mθφ -1.15±.02; Best double couple: M0 1.21600×10^17 NP1: φs 349.00000°, δ10.00000°,

32nm,1.1s
TVO Taravao 24.75 94 eP P 13 29 18.7 -0.4
79nm,1.4s
TBI Tubuai 24.79 108 eP P 13 29 19.2 -0.1
256nm,1.2s
HNR Honiara 25.44 285 P P 13 29 24.6 -0.7
152nm,0.7s,baz=206,slow=4.6,SNR=12
HNR Honiara 25.44 285 P P 13 29 27.5 +2.3
HNR pmax pmax
comp=Z,172nm,0.7s
HNR Honiara 25.44 285 P P 13 29 27.5 +2.3
XMAS Kiritimati 26.27 44 P P 13 29 31.5 -1.2
LHI Lord Howe Isla 27.06 234 P P 13 29 39.7 +0.1
baz=27,SNR=5.4
LHI Lord Howe Isla 27.06 234 P P 13 29 39.6 +0.1
RPZ Rata Peaks 28.46 201 P P 13 29 50.0 -1.8
comp=Z,14nm,0.6s,baz=345,slow=1.7,SNR=15
RPZ Rata Peaks 28.46 201 IAmb IAmb 13 29 58.3
comp=Z,74nm,1.4s
EIDS Eidsvold 32.20 250 P P 13 30 23.3 -1.5
baz=32,SNR=10
EIDS Eidsvold 32.20 250 P P 13 30 23.9 -0.9
ARMA Armidale 32.70 241 P P 13 30 29.1 -0.1
baz=33,SNR=128
ARMA Armidale 32.70 241 P P 13 30 29.4 +0.2
MGCD Mangrove Creek 33.94 236 P P 13 30 39.6 -0.1
baz=34,SNR=11
RIV Riverview 34.10 235 P P 13 30 40.8 -0.2
baz=34
RMQ Roma 34.41 249 P P 13 30 43.5 -0.4
baz=34,SNR=47
RABL Rabaul 34.60 289 P P 13 30 45.9 +0.2
CNB Canberra Magne 36.00 234 P P 13 30 56.8 -0.5
baz=36,SNR=52
CAN Canberra 36.28 234 P P 13 30 58.6 -1.0
baz=36
CAN Canberra 36.28 234 P P 13 30 58.9 -0.8
CAN pmax pmax
comp=Z,33nm,0.8s
CAN Canberra 36.28 234 P P 13 30 58.9 -0.8
YNG Young 36.42 236 P P 13 31 00.1 -0.8
baz=36,SNR=7.9
CTAO Charters Tower 36.47 260 P P 13 31 00.0 -1.4
CTAO pmax pmax
comp=Z,53nm,0.8s
CTAO Charters Tower 36.47 260 P P 13 31 00.0 -1.4
CTAO IAmb IAmb 13 31 01.6
comp=Z,52nm,0.8s
PMG Port Moresby 37.41 278 di P P 13 31 09.1 -0.2
PMG pmax pmax
comp=Z,47nm,1.0s
PMG Port Moresby 37.41 278 P P 13 31 09.7 +0.5
PMG IAmb IAmb 13 31 15.1
comp=Z,37nm,0.7s
CMSA Cobar Meteorol 37.92 241 P P 13 31 12.7 -0.6
baz=38,SNR=224
MTSU Mount Surprise 38.44 263 P P 13 31 16.5 -1.4
baz=38,SNR=44
QLP Quilpie 38.45 249 P P 13 31 16.7 -1.1
baz=38,SNR=34
TOO Toolangi 39.70 232 P P 13 31 27.1 -0.9
baz=40,SNR=106
TOO Toolangi 39.70 232 P P 13 31 27.4 -0.6
TOO pmax pmax
comp=Z,63nm,0.7s
TOO Toolangi 39.70 232 P P 13 31 27.4 -0.6
TOO IAmb IAmb 13 31 28.3
comp=Z,63nm,0.7s
COEN Coen 40.13 269 P P 13 31 31.2 -0.5
baz=40,SNR=48
COEN Coen 40.13 269 P P 13 31 31.3 -0.5
COEN IAmb IAmb 13 31 32.1
comp=Z,40nm,0.7s
MOO Moorlands 40.36 224 P P 13 31 32.6 -0.7
baz=40,SNR=5.1
WAKE Wake Island 40.78 333 P P 13 31 36.5 -0.4
STKA Stephens Creek 41.41 242 P P 13 31 41.8 -0.3
baz=41,SNR=126
STKA Stephens Creek 41.41 242 P P 13 31 41.8 -0.3
comp=Z,33nm,0.3s,baz=94,slow=7.8,SNR=207
STKA Stephens Creek 41.41 242 P P 13 31 42.0 -0.1
STKA pmax pmax
comp=Z,30nm,1.1s
STKA Stephens Creek 41.41 242 P P 13 31 42.0 -0.1
HPAH Hawaii Prepara 42.06 28 P P 13 31 48.3 +0.9
ARPS Mount Arapiles 42.25 234 P P 13 31 47.8 -0.9
baz=42,SNR=28
KIP Kipapa 42.33 24 ce P P 13 31 50.1 +0.7
KIP pmax pmax
comp=Z,126nm,0.9s
KIP Kipapa 42.33 24 P P 13 31 49.8 +0.4
QIS Mount Isa 42.67 259 P P 13 31 50.6 -1.8
baz=43,SNR=9.4
HTT Hallett 43.89 240 P P 13 32 01.3 -0.6
baz=44,SNR=76
JAY Jayapura 45.75 284 P P 13 32 16.8 0.0
comp=Z,299nmcomp=Z,29nm,0.5s
BBOO Buckleboo 46.18 241 P P 13 32 18.9 -0.9
baz=46,SNR=70
BBOO Buckleboo 46.18 241 P P 13 32 19.1 -0.7
BBOO IAmb IAmb 13 32 19.5
comp=Z,95nm,1.1s
GENI Genyem 46.22 284 P P 13 32 21.5 +1.1
comp=Z,3µmcomp=Z,211nm,0.7s
WR0 Warramunga Arr 47.46 259 P P 13 32 28.0 -1.8
WB0 Warramunga Arr 47.62 259 P P 13 32 29.4 -1.7
WB2 Warramunga Arr 47.64 259 P P 13 32 29.0 -2.2
baz=48
WB2 Warramunga Arr 47.64 259 P P 13 32 29.6 -1.6
WRAB Tennant Creek 47.64 259 P P 13 32 29.7 -1.6
WRAB pmax pmax
comp=Z,44nm,0.8s
WRAB Tennant Creek 47.64 259 P P 13 32 29.6 -1.6
WRA Warramunga Arr 47.65 259 P P 13 32 29.4 -2.0
comp=Z,29nm,0.6s,baz=102,slow=7.4,SNR=501
WRA Warramunga Arr 47.65 259 P P 13 32 29.3 -2.0
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA Warramunga Arr 47.65 259 P P 13 32 29.3 -2.0
AS31 Alice Springs 47.77 254 P P 13 32 31.4 -0.8
AS31 IAmb IAmb 13 32 32.0
comp=Z,60nm,0.7s
ASAR Alice Springs 47.77 254 P P 13 32 31.2 -1.0
comp=Z,196nm,0.6s,baz=89,slow=8.5,SNR=2433
ASAR PcP PcP 13 33 56.6 -0.1
comp=Z,8.8nm,0.6s,baz=101,slow=3.6,SNR=5.0
ASAR ScP ScP 13 37 25.9 +0.9
comp=Z,2.0nm,1.0s,baz=96,slow=4.0,SNR=4.4
ASAR S S 13 39 04.9 -3.1
comp=Z,2.0nm,0.6s,baz=91,slow=15,SNR=9.0
ASAR Alice Springs 47.77 254 P P 13 32 30.8 -1.5
KDU Kakadu 50.58 268 P P 13 32 52.4 -1.1
baz=50,SNR=37
MTN Manton Dam 51.83 267 P P 13 33 01.1 -1.6
baz=52,SNR=16
WRKA Warakurna 52.80 252 P P 13 33 08.8 -1.0
baz=53,SNR=82
FORT Forrest 52.85 244 P P 13 33 08.5 -1.5
baz=53,SNR=24
FORT Forrest 52.85 244 IAmb IAmb 13 33 13.8
comp=Z,48nm,0.6s
KNRA Kununurra 53.52 263 P P 13 33 13.7 -1.3
baz=54,SNR=18
KNRA Kununurra 53.52 263 IAmb IAmb 13 33 14.3
comp=Z,37nm,0.7s
FITZ Fitzroy Crossi 56.05 260 P P 13 33 32.3 -0.8
baz=56,SNR=9.6
FITZ Fitzroy Crossi 56.05 260 IAmb IAmb 13 33 33.9
comp=Z,67nm,1.5s
MSAI Masohi 56.49 278 P P 13 33 44.1 +7.8
AAI Ambon 57.07 277 P P 13 33 46.4 +6.0
NLAI Namlea 58.25 277 P P 13 33 48.8 +0.3
LBMI Labuha 58.73 280 P P 13 33 52.7 +0.8
SOEI Soe 59.09 269 P P 13 33 56.1 +1.6
TNTI Ternate 59.35 282 P P 13 33 56.4 +0.3
SANI Sanana 59.69 278 P P 13 33 57.3 -1.0
PSA00 Pilbara Seismi 60.90 255 P P 13 34 04.7 -1.7
PSA00 Pilbara Seismi 60.90 255 P P 13 34 05.4 -1.0
PSA00 IAmb IAmb 13 34 11.6
comp=Z,28nm,0.8s
VNDA Vanda 60.99 186 P P 13 34 06.8 +0.7
comp=Z,6.0nm,0.8s,baz=0.2,slow=6.5,SNR=30
VNDA Vanda 60.99 186 P P 13 34 07.8 +1.7
VNDA pmax pmax
comp=Z,9.0nm,0.9s
VNDA Vanda 60.99 186 P P 13 34 07.8 +1.7

MEEK Meekatharra 61.35 249 P P 13 34 07.9 -1.6
baz=61,SNR=27
KLBR Kellerberrin 61.65 243 P P 13 34 10.0 -1.3
baz=62,SNR=13
KMSI Cibinong 62.45 280 P P 13 34 22.8 +5.9
BLDU Ballidu 62.62 244 P P 13 34 16.5 -1.3
baz=63,SNR=24
DDMP Don Marcelino, 62.88 287 eP P 13 34 18.2 -1.5
MUN Mundaring 62.93 243 P P 13 34 19.3 -0.5
baz=63,SNR=10
LUWI Luwuk 63.05 278 P P 13 34 21.7 +0.9
LUWI Luwuk 63.05 278 P P 13 34 21.1 +0.3
MORW Morawa 63.35 246 P P 13 34 21.4 -1.2
baz=63,SNR=7.3
KCP Kidapawan 63.80 287 ||i P P 13 34 25.6 -0.2
SKMP Bagumbayan, Su 64.11 287 eP P 13 34 27.4 -0.3
APSI Ampana 64.15 278 P P 13 34 28.8 +0.8
BUKP Musuan 64.17 288 eP P 13 34 28.9 +0.8
MRSI Marisa 64.34 279 P P 13 34 29.3 +0.1
BNSI Bone 64.53 274 P P 13 34 37.6 +7.1
SPSI Sidrap Palu 64.98 274 P P 13 34 38.9 +5.5
MSLP Maasin 65.28 290 eP P 13 34 34.8 -0.4
PLAI Plampang 65.52 268 P P 13 34 36.7 -0.1
GIRL Giralia 65.86 253 P P 13 34 39.1 +0.3
baz=66,SNR=19
MPSI Mapaga 66.22 278 P P 13 34 40.6 -0.6
PVCP Virac 67.37 293 eP P 13 34 49.8 +1.4
CASY Casey 67.65 205 P P 13 34 49.8 +0.6
ADK Adak 69.23 359 P P 13 34 59.1 0.0
ADK pmax pmax
comp=Z,36nm,1.0s
ADK Adak 69.23 359 P P 13 34 59.1 0.0
ADK IAmb IAmb 13 35 00.2
comp=Z,36nm,0.9s
INU Inuyama 69.47 320 P P 13 35 00.7 -0.2
MJAR Matsushiro Arr 69.54 321 P P 13 35 01.2 -0.2
comp=Z,9.3nm,0.6s,baz=163,slow=6.3,SNR=57
MJAR Matsushiro Arr 69.54 321 P P 13 35 00.4 -1.0
MJAR pmax pmax
comp=Z,8.0nm,1.1s
MJAR Matsushiro Arr 69.54 321 P P 13 35 00.4 -1.0
MAJO Matsushiro 69.54 321 di P P 13 35 01.2 -0.2
MAJO pmax pmax
comp=Z,27nm,1.0s
MAJO Matsushiro 69.54 321 P P 13 35 01.6 +0.2
MAT Matsushiro 69.54 321 P P 13 35 01.3 -0.1
MAT S S 13 43 46.0 -1.0
MJB9 Matsu-Tunnel 69.54 321 P P 13 35 01.6 +0.2
ATKA Atka Island 69.55 1 P P 13 35 00.9 -0.1
SPMM Sapulut 70.92 282 P P 13 35 11.0 +0.8
UNV Unalaska Valle 71.58 5 P P 13 35 13.1 -0.1
UNV IAmb IAmb 13 35 13.7
comp=Z,60nm,1.1s
KKM Kota Kinabalu 71.62 283 P P 13 35 14.6 +0.2
KKM IAmb IAmb 13 35 15.2
comp=Z,40nm,0.7s
APYP Conner 71.75 296 eP P 13 35 15.4 +0.4
AKUT Akutan 71.94 6 P P 13 35 15.0 -0.3
AKUT IAmb IAmb 13 35 25.2
comp=Z,70nm,1.3s
JNU Nakatsue 72.07 315 P P 13 35 17.2 +0.5
JNU IAmb IAmb 13 35 17.6
comp=Z,38nm,0.7s
QSPA South Pole Qui 72.42 180 P P 13 35 19.2 +0.9
QSPA IAmb IAmb 13 35 20.2
comp=Z,61nm,1.5s
ASAJ Asahikawa 72.53 330 P P 13 35 19.6 +0.6
comp=Z,15nm,0.7s,baz=207,slow=4.8,SNR=26
SKR Severo-Kuril's 72.54 341 eP P 13 35 19.2 +0.3
SKR eS S 13 44 18.9 -1.7
SKR MLR MLR
comp=Z,100nm,16.0s
SKR MLR MLR
comp=Z,100nm,14.0s
UGM Wanagama 72.67 267 P P 13 35 20.2 -0.5
CNBA Chernabura Isl 73.39 9 IAmb IAmb 13 35 24.8
comp=Z,48nm,1.3s
SNCC San Nicolas Is 73.39 46 P P 13 35 25.4 +1.0
baz=235
SCZ2 Santa Cruz Isl 73.74 46 P P 13 35 27.6 +1.1
baz=235,SNR=5.7
SDPT Sand Point 73.77 9 P P 13 35 25.9 -0.2
PET Petropavlovsk 73.90 344 eP P 13 35 26.6 -0.2
PET pmax pmax
comp=Z,4.0nm,0.5s
SCI2 San Clemente I 73.92 47 P P 13 35 28.2 +0.8
baz=236,SNR=9.5
SBC Santa Barbara 73.95 45 P P 13 35 28.4 +0.9
baz=235
PKM Mcpherson Peak 74.14 45 P P 13 35 29.9 +1.0
baz=235,SNR=7.0
SBUM Sibu 74.15 278 P P 13 35 30.0 +0.8
SAO San Andreas Ge 74.17 42 P P 13 35 28.4 -0.4
SAO pmax pmax
comp=Z,55nm,1.0s
SAO San Andreas Ge 74.17 42 P P 13 35 28.4 -0.4
SAO IAmb IAmb 13 35 30.9
comp=Z,54nm,1.0s
PEA0B Petropavlovsk- 74.24 343 de P P 13 35 29.0 +0.2
PETK Petropavlovsk- 74.24 343 P P 13 35 29.0 +0.2
comp=Z,21nm,0.7s,baz=116,slow=9.2,SNR=92
PETK Petropavlovsk- 74.24 343 P P 13 35 29.3 +0.5
PETK Petropavlovsk- 74.24 343 P P 13 35 29.3 +0.5
CIS Catalina Islan 74.25 47 P P 13 35 29.8 +0.4
baz=236,SNR=9.0
PMPB Monarch Peak 74.26 43 IAmb IAmb 13 35 31.8
comp=Z,63nm,1.1s
SMMC Simmler 74.26 44 P P 13 35 30.6 +1.2
baz=234,SNR=8.9
FMP Fort Macarthur 74.50 46 P P 13 35 31.6 +0.8
baz=236
YSS Yuzh-Sakhalins 74.57 332 ke P P 13 35 31.8 +1.0
YSS e* PP pP 13 36 33.5 +0.7
YSS eS S 13 44 46.0 +2.5
YSS e 13 45 06.0
YSS eSS SS 13 49 38.0 +0.7
YSS pmax pmax
comp=Z,30nm,0.7s
YSS pmax pmax
comp=Z,100nm,4.8s
YSS MLR MLR
comp=Z,100nm,14.0s
SSLB Suanglung 74.65 302 P P 13 35 31.4 -0.4
TPUB Ta-pu 74.69 301 IAmb IAmb 13 35 31.8
comp=Z,36nm,0.7s
OSI Osito Audit: C 74.72 45 P P 13 35 32.8 +0.7
baz=236
DECC Green Verdugo 74.78 46 P P 13 35 32.9 +0.5
baz=236
109C Camp Elliot, M 74.88 48 P P 13 35 33.5 +0.5
baz=237
ARVC Arvin 74.93 45 P P 13 35 34.0 +0.8
baz=235
MWC Mount Wilson 74.95 46 P P 13 35 33.7 +0.1
MWC pmax pmax
comp=Z,74nm,1.0s
MWC Mount Wilson 74.95 46 P P 13 35 33.7 +0.1
VES Vestal, Richgr 75.17 44 P P 13 35 35.1 +0.5
baz=235,SNR=13
MURC Murrieta 75.20 47 P P 13 35 35.5 +0.7
baz=237,SNR=15
BFSC Mount Baldy Ra 75.23 46 P P 13 35 35.5 +0.4
baz=236,SNR=24
EDW2 Edwards Air Fo 75.36 46 P P 13 35 36.6 +0.8
baz=236,SNR=55
MONP2 Monument Peak 75.37 48 P P 13 35 36.8 +0.8
baz=237,SNR=39
O02D Mt. Diablo Mer 75.42 39 P P 13 35 37.3 +1.3
baz=231,SNR=16
IKP In-Ko-Pah, Jac 75.46 48 P P 13 35 37.3 +0.9
baz=238,SNR=19
ISA Isabella, Lake 75.48 45 P P 13 35 37.3 +0.9
baz=235,SNR=54
CMB Columbia Colle 75.60 42 IAmb IAmb 13 35 38.7
comp=Z,31nm,0.9s
KSM Kuching 75.65 276 P P 13 35 39.0 +1.2
PFO Pinyon Flats O 75.73 47 P P 13 35 38.5 +0.5
baz=237,SNR=24
PFO Pinyon Flats O 75.73 47 P P 13 35 38.4 +0.5
comp=Z,19nm,1.0s,baz=258,slow=3.7,SNR=30
PFO Pinyon Flats O 75.73 47 c i P P 13 35 38.6 +0.7
PFO pmax pmax
comp=Z,67nm,1.2s
PFO Pinyon Flats O 75.73 47 P P 13 35 38.6 +0.7
PFO IAmb IAmb 13 35 39.9

comp=Z,38nm,1.1s
TPFO Pinon Flats 75.73 47 P P 13 35 38.5 +0.6
baz=237,SNR=26
XPFO Pion Flat 75.73 47 P P 13 35 38.9 +1.0
XPFO IAmb IAmb 13 35 39.9
comp=Z,38nm,1.1s
BBRC Big Bear Solar 75.76 47 P P 13 35 38.9 +0.7
baz=237
AFDM Forest Hills D 75.78 41 IAmb IAmb 13 35 39.6
comp=Z,33nm,1.0s
SLBS Sierra La Lagu 75.81 59 P P 13 35 37.9 -0.7
SLBS IAmb IAmb 13 35 41.2
comp=Z,52nm,1.5s
SWSC Sam W. Stewart 75.84 48 P P 13 35 39.1 +0.7
baz=238,SNR=5.2
LRMC Laurel Mtn Rad 75.91 45 P P 13 35 39.6 +0.7
baz=236,SNR=38
N02D Trinity Center 75.97 38 P P 13 35 40.3 +1.2
baz=231,SNR=16
SII Sitkinak Islan 76.00 12 IAmb IAmb 13 35 40.1
comp=Z,34nm,0.8s
RRX Edison Barstow 76.04 46 P P 13 35 40.1 +0.6
baz=237
O03E Paynes Creek 76.08 39 P P 13 35 40.2 +0.4
baz=232,SNR=13
M02C Callahan 76.14 38 P P 13 35 41.3 +1.3
baz=231,SNR=8.6
CWC Cottonwood Cre 76.18 44 P P 13 35 41.2 +0.8
baz=236
MDPB Devils Postpil 76.20 43 IAmb IAmb 13 35 42.6
comp=Z,38nm,1.0s
OMMB Old Mammoth Mi 76.24 43 IAmb IAmb 13 35 42.9
comp=Z,38nm,1.3s
BELC Belle Mtn. Jos 76.26 47 P P 13 35 41.8 +0.9
baz=237,SNR=37
TJN Taejon 76.30 316 ||i eP P 13 35 41.8 +0.9
MPMC Manual Prospec 76.36 45 P P 13 35 42.4 +0.9
baz=236,SNR=61
GSC Goldstone, Bar 76.41 46 P P 13 35 42.4 +0.8
baz=237,SNR=9.7
TIN Tinemaha, Big 76.43 44 P P 13 35 42.7 +0.9
baz=235,SNR=12
YBH Yreka Blue Hor 76.44 38 P P 13 35 42.8 +1.1
comp=Z,23nm,0.8s,baz=200,slow=2.1,SNR=39
YBH Yreka Blue Hor 76.44 38 IAmb IAmb 13 35 44.0
comp=Z,35nm,0.9s
BC3 Big Chuckawall 76.46 48 P P 13 35 43.0 +1.0
baz=238,SNR=25
HEC Hector,Ludlow 76.47 46 P P 13 35 42.7 +0.6
baz=237,SNR=63
WAKR Walker 76.48 42 IAmb IAmb 13 35 44.3
comp=Z,37nm,1.0s
K02D Willamette Mer 76.50 36 P P 13 35 42.9 +0.9
baz=230,SNR=6.4
KSRS Korea Array 76.54 317 P P 13 35 43.7 +1.5
comp=Z,16nm,0.9s,baz=134,slow=6.2,SNR=33
KSAR Wonju Array Be 76.56 317 P P 13 35 41.0 -1.3
KSAR Wonju Array Be 76.56 317 P P 13 35 41.0 -1.3
GLA Glamis 76.59 49 P P 13 35 43.7 +1.1
baz=238,SNR=11
KS19 Wonju Array Si 76.61 317 IAmb IAmb 13 35 45.0
comp=Z,42nm,1.2s
PNTR Pine Nut 76.72 41 IAmb IAmb 13 35 45.5
comp=Z,53nm,0.9s
YERR Yerington 76.89 42 IAmb IAmb 13 35 46.2
comp=Z,53nm,1.2s
GMRC Granite Mounta 76.92 47 P P 13 35 45.1 +0.6
baz=238,SNR=39
IRM Iron Mountain 76.94 48 P P 13 35 45.6 +1.0
baz=238,SNR=62
GRAC Grapevine Rang 76.97 44 P P 13 35 45.8 +1.1
baz=236,SNR=44
L04D Klamath Falls 76.98 37 P P 13 35 45.4 +0.7
baz=231,SNR=6.2
M04C Macdoel 76.98 38 P P 13 35 45.6 +0.9
baz=232,SNR=16
FURC Furnace Creek, 77.01 45 P P 13 35 45.5 +0.7
baz=236,SNR=24
TUQ Turquoise Moun 77.08 46 P P 13 35 46.2 +0.7
baz=237,SNR=9.8
SHOC Shoshone, Teco 77.09 46 P P 13 35 46.0 +0.6
baz=237,SNR=18
RYN Ryan 77.14 42 IAmb IAmb 13 35 47.7
comp=Z,55nm,1.4s
NVAR Mina Array Bea 77.16 42 P P 13 35 46.6 +0.6
comp=Z,25nm,0.8s,baz=226,slow=9.7,SNR=159
NVAR pP pP 13 36 49.1 +0.7
comp=Z,7.6nm,1.1s,baz=230,slow=9.8,SNR=2.6
NVAR Mina Array Bea 77.16 42 P P 13 35 46.8 +0.8
PAHR Pah Rah Range 77.22 41 IAmb IAmb 13 35 48.1
comp=Z,33nm,1.1s
NV11 Mina Array Sit 77.26 43 IAmb IAmb 13 35 48.4
comp=Z,64nm,1.1s
I03D Drain, OR 77.32 36 P P 13 35 47.1 +0.8
baz=230
KDAK Kodiak Island 77.46 12 P P 13 35 47.5 +0.7
comp=Z,26nm,0.8s,baz=206,slow=3.5,SNR=27
KDAK Kodiak Island 77.46 12 P P 13 35 47.7 +0.9
KDAK pmax pmax
comp=Z,38nm,1.0s
KDAK Kodiak Island 77.46 12 P P 13 35 47.7 +0.9
KDAK IAmb IAmb 13 35 48.5
comp=Z,38nm,0.9s
214A Organ Pipe Nat 77.49 51 P P 13 35 48.5 +0.9
baz=240,SNR=20
214A Organ Pipe Nat 77.49 51 IAmb IAmb 13 35 50.0
comp=Z,53nm,1.2s
NEE2 Needles Airpor 77.63 47 P P 13 35 49.3 +0.9
baz=238
KVN Kaiserville 77.65 42 IAmb IAmb 13 35 50.4
comp=Z,40nm,1.1s
TPNV Topopah Spring 77.68 45 P P 13 35 49.6 +0.8
baz=237,SNR=58
TPNV Topopah Spring 77.68 45 IAmb IAmb 13 35 50.8
comp=Z,40nm,0.9s
PDMCI Parker Dam,Lak 77.73 48 P P 13 35 49.9 +1.1
baz=239,SNR=19
J04D Umpqua Nationa 77.73 37 P P 13 35 49.6 +0.6
baz=231,SNR=10
I04A Tendick Farm, 77.91 36 P P 13 35 50.3 +0.6
baz=231,SNR=5.2
MOD Modoc Plateau 77.96 39 IAmb IAmb 13 35 52.1
comp=Z,58nm,1.4s
USA0B Ussuriysk Arra 78.13 324 di P P 13 35 51.7 +0.9
USRK Ussuriysk Ar. 78.13 324 P P 13 35 51.9 +1.1
comp=Z,5.2nm,0.9s,baz=112,slow=5.1,SNR=10.0
USRK Ussuriysk Ar. 78.13 324 P P 13 35 51.5 +0.7
SHPR Sheep Range 78.18 46 IAmb IAmb 13 35 53.8
comp=Z,53nm,1.2s
H04D Lebanon 78.18 35 P P 13 35 52.2 +1.1
baz=231,SNR=6.0
J05D Fort Rock, OR 78.26 37 P P 13 35 52.8 +1.0
baz=232,SNR=33
W13A Hualapai Mount 78.32 47 IAmb IAmb 13 35 54.7
comp=Z,38nm,1.1s
G03D McMinnville, O 78.33 35 P P 13 35 52.7 +0.8
baz=230,SNR=5.3
Y14A Wickenburg 78.35 49 IAmb IAmb 13 35 54.5
comp=Z,43nm,1.0s
PPBI Pangkal Pinang 78.51 271 P P 13 35 54.5 +0.9
PINE Pine Mountain 78.74 37 IAmb IAmb 13 35 56.7
comp=Z,64nm,1.1s
I05D Terrebonne, OR 78.85 36 P P 13 35 55.4 +0.5
baz=232,SNR=11
R11A Troy Canyon, C 78.89 44 P P 13 35 55.7 +0.3
baz=237,SNR=27
E03A Lebam 79.03 33 P P 13 35 53.9 -1.8
E03A IAmb IAmb 13 35 58.2
comp=Z,32nm,1.0s
KASI Kota Agung 79.09 268 P P 13 35 55.9 -0.9
TUC Tucson 79.16 51 P P 13 35 58.1 +1.2
baz=241
TUC Tucson 79.16 51 P P 13 35 58.2 +1.3
TUC pmax pmax
comp=Z,49nm,1.2s
TUC Tucson 79.16 51 P P 13 35 58.2 +1.3
TUC IAmb IAmb 13 35 59.5
comp=Z,49nm,1.1s
CNPM China Poot 79.35 12 IAmb IAmb 13 35 58.7
comp=Z,47nm,0.9s
G05D Wamic, OR 79.42 36 P P 13 35 58.7 +0.8
baz=232
E04D Cinebar 79.57 34 P P 13 35 59.6 +1.0
baz=230,SNR=8.1
BRLK Bradley Lake 79.64 12 IAmb IAmb 13 36 00.1
comp=Z,48nm,1.0s
LWLI Liwa 79.65 268 P P 13 36 02.1 +2.2
MDSI Maura Dua 79.69 269 P P 13 35 58.5 -1.5

I07A	Izee	79.74	37	IAmb	IAmb	13 36 01.7	
	comp=Z,28nm,1.0s						
F05D	White Salmon	79.74	35	P	P	13 36 00.6	+1.0
	baz=231						
D04E	Lakebay	79.86	33	P	P	13 36 01.5	+1.4
	baz=230						
J08A	Circle Bar Ran	79.91	38	IAmb	IAmb	13 36 02.5	
	comp=Z,48nm,1.1s						
D03D	Eldon	79.92	33	P	P	13 36 01.4	+0.9
	baz=230,SNR=8.3						
U15A	North Rim	80.11	47	IAmb	IAmb	13 36 04.7	
	comp=Z,52nm,1.0s						
NJ2	Nanjing	80.12	308	*e*P	P	13 36 03.0	+1.1
NJ2				pmax	pmax		
	comp=Z,23nm,0.5s						
GRNR	Gornyy	80.22	331	⇓ *i*P	P	13 36 02.7	+0.7
GRNR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
GRNR				MLR	MLR		
	comp=N,30nm,14.0s						
GRNR				MLR	MLR		
	comp=Z,100nm,15.0s						
SEW	Seward	80.24	13	IAmb	IAmb	13 36 02.9	
	comp=Z,29nm,0.9s						
WUAZ	Wupatki	80.30	48	P	P	13 36 04.1	+1.1
	baz=240						
PGC	Sidney	80.46	32	IAmb	IAmb	13 36 05.1	
	comp=Z,36nm,1.1s						
O22K	Cooper Landing	80.53	12	P	P	13 36 03.3	0.0
	baz=205						
BBB	Bella Bella	80.67	27	P	P	13 36 04.5	+0.3
	comp=Z,18nm,0.8s,baz=227,slow=9.5,SNR=3.1						
G08A	Pilot Rock	80.77	37	IAmb	IAmb	13 36 07.0	
	comp=Z,52nm,1.0s						
A04D	Lummi Island	80.88	32	P	P	13 36 06.6	+1.2
	baz=230,SNR=16						
B05A	Bryant	80.90	33	P	P	13 36 06.5	+0.9
	baz=230,SNR=16						
W18A	Petrified Fore	81.28	49	P	P	13 36 09.1	+0.9
	baz=241,SNR=9.0						
KLR	Kul'dur	81.45	328	P	P	13 36 09.2	+0.7
	comp=Z,2.4nm,0.6s,baz=120,slow=8.6,SNR=8.5						
KLR	Kul'dur	81.45	328	⇓ *e*P	P	13 36 09.0	+0.5
KLR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
121A	Cookes Peak, D	81.51	52	P	P	13 36 10.8	+1.4
	baz=243						
121A	Cookes Peak, D	81.51	52	IAmb	IAmb	13 36 12.3	
	comp=Z,62nm,1.4s						
KNK	Knik Glacier	81.64	13	IAmb	IAmb	13 36 10.5	
	comp=Z,26nm,0.9s						
CN2	Changchun	81.68	321	*e*P	P	13 36 10.8	+1.0
CN2				*e*S	S	13 45 55.0	-4.3
CN2				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2				pmax	pmax		
	comp=Z,120nm,2.7s						
CN2				LR	LR		
	comp=Z,70nm,13.0s						
CN2				LR	LR		
	comp=Z,110nm,13.0s						
CN2				LR	LR		
	comp=Z,80nm,12.0s						
DUG	Dugway, Tooele	81.69	43	P	P	13 36 10.6	+0.4
	baz=239,SNR=20						
MA2	Magadan	81.77	343	*d* iP	P	13 36 09.4	-0.5
MA2				pmax	pmax		
	comp=Z,13nm,1.3s						
MYKOM	Kota Tinggi	81.88	274	IAmb	IAmb	13 36 12.7	
	comp=Z,50nm,1.3s						
MYKOM	Kota Tinggi	81.88	274	P	P	13 36 13.0	+1.4
WAX	Waxell Ridge	82.09	16	IAmb	IAmb	13 36 13.3	
	comp=Z,35nm,0.8s						
SCM	Sheep Creek Mo	82.26	13	IAmb	IAmb	13 36 13.7	
	comp=Z,44nm,0.9s						
CRQM	Cirque	82.28	15	IAmb	IAmb	13 36 14.2	
	comp=Z,27nm,0.8s						
YAH	Yahtse	82.31	16	IAmb	IAmb	13 36 14.7	
	comp=Z,26nm,0.8s						
HLID	Hailey	82.47	40	P	P	13 36 15.1	+1.0
	baz=237						
HLID	Hailey	82.47	40	IAmb	IAmb	13 36 16.3	
	comp=Z,35nm,0.9s						
VRDI	Verde Repeater	82.61	15	IAmb	IAmb	13 36 15.9	
	comp=Z,42nm,1.2s						
WHN	Wuhan	82.90	305	⇑P	P	13 36 17.8	+1.4
WHN				pP	pwP	13 37 23.0	+0.1
BARN	Barnard Glacie	82.92	16	IAmb	IAmb	13 36 17.6	
	comp=Z,28nm,0.9s						
MNTX	Cornudas Mount	82.97	54	P	P	13 36 18.0	+1.2
	baz=244						
MNTX	Cornudas Mount	82.97	54	IAmb	IAmb	13 36 19.4	
	comp=Z,72nm,1.4s						
MVCO	Mesa Verde	83.15	48	P	P	13 36 18.5	+0.6
	baz=242,SNR=8.7						
TX32	Lajitas Array	83.31	57	IAmb	IAmb	13 36 21.7	
	comp=Z,52nm,1.2s						
TXAR	Lajitas Array	83.31	57	P	P	13 36 20.1	+1.4
	comp=Z,16nm,1.0s,baz=224,slow=5.2,SNR=102						
TXAR				pP	pP	13 37 23.2	+1.1
	comp=Z,6.0nm,1.2s,baz=241,slow=4.1,SNR=2.3						
PV18	Skein Mesa, Pa	83.35	47	IAmb	IAmb	13 36 20.7	
	comp=Z,49nm,1.0s						
SDSI	Sungai Dareh	83.36	271	P	P	13 36 18.2	-1.0
PV13	Radium Mtn., P	83.37	47	IAmb	IAmb	13 36 20.8	
	comp=Z,44nm,1.1s						
PV03	Paradox Valley	83.40	47	IAmb	IAmb	13 36 20.9	
	comp=Z,47nm,1.1s						
PV01	Paradox Valley	83.53	47	IAmb	IAmb	13 36 21.6	
	comp=Z,30nm,0.9s						
NEW	Newport	83.54	35	P	P	13 36 19.2	-0.2
	baz=234,SNR=8.4						
NEW	Newport	83.54	35	P	P	13 36 19.4	0.0
	comp=Z,8.7nm,0.9s,baz=225,slow=4.2,SNR=12						
PV22	Blue Mesa, Par	83.57	46	IAmb	IAmb	13 36 21.9	
	comp=Z,38nm,1.0s						
ANMO	Albuquerque	83.58	50	P	P	13 36 21.1	+1.0
	baz=243						
ANMO	Albuquerque	83.58	50	*d* iP	P	13 36 19.0	-1.1
ANMO				pmax	pmax		
	comp=Z,52nm,1.3s						
ANMO	Albuquerque	83.58	50	P	P	13 36 21.2	+1.2
ANMO				IAmb	IAmb	13 36 22.4	
	comp=Z,45nm,1.1s						
PV07	Paradox Valley	83.62	46	IAmb	IAmb	13 36 22.0	
	comp=Z,32nm,1.0s						
PV15	Paradox Valley	83.69	47	IAmb	IAmb	13 36 22.4	
	comp=Z,43nm,1.0s						
MENT	Mentasta	84.03	14	IAmb	IAmb	13 36 23.2	
	comp=Z,33nm,1.1s						
PDSI	Padang	84.29	271	P	P	13 36 23.3	-0.6
NEA2	Nenana	84.40	11	P	P	13 36 22.5	-0.8
	baz=205						
DLBC	Dease Lake	84.42	22	P	P	13 36 24.4	+0.9
	comp=Z,12nm,0.9s,baz=238,slow=8.5,SNR=14						
DLBC	Dease Lake	84.42	22	IAmb	IAmb	13 36 25.6	
	comp=Z,23nm,1.0s						
RIDG	Independent Ri	84.48	13	IAmb	IAmb	13 36 25.1	
	comp=Z,39nm,1.1s						
MSO	Missoula	84.52	37	P	P	13 36 24.1	-0.3
	baz=237,SNR=16						
DLMT	Dillon	84.53	39	IAmb	IAmb	13 36 26.6	
	comp=Z,44nm,1.2s						
DOT	Dot Lake	84.57	13	IAmb	IAmb	13 36 25.6	
	comp=Z,40nm,0.9s						
S22A	4UR Ranch, Cre	84.57	48	P	P	13 36 26.1	+1.0
	baz=243,SNR=43						
S22A	4UR Ranch, Cre	84.57	48	IAmb	IAmb	13 36 27.4	
	comp=Z,36nm,1.1s						
BCAR	Beaver Creek A	84.59	15	P	P	13 36 25.1	+0.8
HDA	Harding Lake	84.64	12	P	P	13 36 24.4	0.0
	baz=207,SNR=45						
O20A	White River Ci	84.70	45	P	P	13 36 26.0	+0.4
	baz=242,SNR=17						
TCOL	CIGO, UAF Yank	84.88	11	P	P	13 36 25.5	-0.1
	baz=206,SNR=28						
COLA	College	84.88	11	*c* iP	P	13 36 25.1	-0.5
COLA				pmax	pmax		
	comp=Z,94nm,0.9s						
COLA	College	84.88	11	P	P	13 36 25.6	+0.1
MDM	Murphy Dome	84.89	11	IAmb	IAmb	13 36 26.6	
	comp=Z,48nm,1.2s						
IL31		84.98	12	IAmb	IAmb	13 36 27.8	
	comp=Z,47nm,1.1s						
ILAR	Eielson Array	84.98	12	P	P	13 36 25.8	-0.3
	comp=Z,27nm,1.0s,baz=211,slow=5.4,SNR=96						
ILAR				pP	pwP	13 37 32.0	-0.6
	comp=Z,8.8nm,1.1s,baz=219,slow=5.8,SNR=3.4						
ILAR				PP	PP	13 39 49.1	+1.7
	comp=Z,1.3nm,1.0s,baz=213,slow=7.3,SNR=4.4						
BW06	Boulder Array	85.10	42	P	P	13 36 27.5	0.0
	baz=241,SNR=22						
PDAR	Pinedale Array	85.10	42	P	P	13 36 27.4	-0.1
	comp=Z,10nm,1.0s,baz=217,slow=3.7,SNR=54						
PDAR				pP	pwP	13 37 32.4	-1.5
	comp=Z,10nm,1.1s,baz=204,slow=3.3,SNR=6.5						
MAW	Mawson	85.12	199	P	P	13 36 27.2	+0.4
	baz=85,SNR=12						
MAW	Mawson	85.12	199	P	P	13 36 27.6	+0.7
	comp=Z,6.2nm,0.6s,baz=141,slow=7.9,SNR=18						
POKR	Poker Flat Res	85.18	11	P	P	13 36 27.0	-0.1
	baz=206,SNR=15						
BOZ	Bozeman (W)	85.23	39	P	P	13 36 28.7	+0.7
	baz=239,SNR=30						
BOZ	Bozeman (W)	85.23	39	IAmb	IAmb	13 36 30.0	
	comp=Z,43nm,1.4s						
H17A	Grant Village	85.26	41	P	P	13 36 30.0	+1.6
	baz=240,SNR=7.9						
IPM	Ipoh	85.39	276	P	P	13 36 31.0	+1.7
H03S2	Juan Fernandez	85.43	124	T	T	15 10 24.8	
	baz=249,slow=75,SNR=40						
H03S1	Juan Fernandez	85.45	124	T	T	15 10 25.8	
	baz=249,slow=75,SNR=26						
H03S3	Juan Fernandez	85.45	124	T	T	15 10 24.5	
	baz=249,slow=75,SNR=31						
H03N2	Juan Fernandez	85.55	124	T	T	15 10 27.7	
	baz=257,slow=72,SNR=9.9						
H03N3	Juan Fernandez	85.55	124	T	T	15 10 28.5	
	baz=257,slow=72,SNR=11						
H03N1	Juan Fernandez	85.57	124	T	T	15 10 22.8	
	baz=257,slow=72,SNR=13						
MNSI	Mandailing Nat	85.64	272	P	P	13 36 29.7	-0.9
BJI	Beijing	85.74	314	P	P	13 36 30.8	+0.4
BJI				PcP	PcP	13 36 34.3	+1.5
BJI				pP	pP	13 37 30.4	-3.6
BJI				SKS	SKSac	13 46 29.3	-0.4
BJI				S	S	13 46 40.8	+1.0
BJI				pmax	pmax		
	comp=Z,11nm,1.6s						
BJI				LR	LR		
	comp=Z,86nm,7.3s						
MSTX	Muleshoe	85.91	53	P	P	13 36 31.9	+0.4
	baz=246						
KULM	Kulim	86.00	277	IAmb	IAmb	13 36 34.6	
	comp=Z,68nm,1.5s						
KULM	Kulim	86.00	277	P	P	13 36 34.0	+1.7
DAWY	Dawson	86.02	15	IAmb	IAmb	13 36 33.1	
	comp=Z,32nm,0.9s						
T25A	Trinidad	86.03	49	P	P	13 36 32.1	-0.1
	baz=244						
EGAK	Eagle	86.20	14	IAmb	IAmb	13 36 33.7	
	comp=Z,30nm,1.0s						
CMIG	Matias Romero	86.28	71	P	P	13 36 34.4	+0.8
	comp=Z,11nm,0.9s,baz=259,slow=5.8,SNR=11						
Q24A	Divide	86.30	47	P	P	13 36 33.5	-0.1
	baz=244						
ISCO	Idaho Springs	86.34	46	P	P	13 36 34.1	+0.3
	baz=244						
833A	Chaparral WMA,	86.36	59	P	P	13 36 34.8	+1.1
	baz=248						
RLMT	Red Lodge	86.43	40	P	P	13 36 34.8	+0.8
	baz=241,SNR=7.0						
BILL	Bilibino	86.50	353	*de*P	P	13 36 33.5	+0.1
BILL				*e**PP	pP	13 37 38.0	+0.8
BILL				*e*		13 39 59.0	
BILL				pmax	pmax		
	comp=Z,15nm,0.7s						
BILL	Bilibino	86.50	353	P	P	13 36 34.3	+0.8
N23A	Red Feather La	86.61	45	P	P	13 36 35.2	+0.2
	baz=243						
COLD	Coldfoot	86.62	10	P	P	13 36 34.9	+0.8
	baz=204,SNR=11						
ENH	Enshi	86.64	303	IAmb	IAmb	13 36 36.9	
	comp=Z,32nm,0.9s						
JCT	Junction City	86.85	57	P	P	13 36 36.5	+0.4
	baz=248						
PSI	Prapat	86.87	274	P	P	13 36 36.3	-0.4
	comp=Z,42nm,0.9s,baz=180,slow=4.5,SNR=19						
K22A	Casper	87.02	44	P	P	13 36 37.0	+0.2
	baz=243						
AMTX	Amarillo	87.11	52	P	P	13 36 37.4	+0.1
	baz=246						
TIY	Taiyuan	87.36	311	*e*P	P	13 36 40.0	+1.6
TIY				pmax	pmax		
	comp=Z,15nm,0.5s						
TIY				pmax	pmax		
	comp=Z,75nm,5.1s						
GYA	Guiyang	87.54	299	*e*P	P	13 36 41.3	+1.7
GYA				pmax	pmax		
	comp=Z,16nm,1.3s						
EGMT	Eagleton	87.57	38	P	P	13 36 39.3	+0.2
	baz=240						
GSI	Gunungsitoli	87.71	272	P	P	13 36 41.8	+1.3
BMAR	Burnt Mountain	87.77	11	P	P	13 36 41.0	+1.4
ABTX	Abilene, Hawle	87.79	55	P	P	13 36 41.2	+0.7
	baz=248						
TOLK	Toolik Lake Re	88.02	9	P	P	13 36 41.1	+0.4
	baz=204,SNR=8.9						
KCSI	Kotacane, Aceh	88.19	274	P	P	13 36 43.1	+0.3
XAN	Xi'an	88.52	306	P	P	13 36 45.0	+1.1
XAN				pP	pwP	13 37 50.3	-0.8
XAN				SKS	SKSac	13 46 41.3	-5.7
XAN				S	ScS	13 47 09.4	-1.9
XAN				pmax	pmax		
	comp=Z,31nm,1.6s						
XAN				pmax	pmax		
	comp=Z,120nm,4.2s						
XAN				LR	LR		
	comp=Z,170nm,15.2s						
XAN				LR	LR		
	comp=Z,130nm,17.3s						
EPYK	Eagle Plains	88.56	15	P	P	13 36 43.7	+0.3
	baz=216						
TPTI		88.67	274	P	P	13 36 46.5	+1.5
435B	Jarrell	88.73	57	P	P	13 36 46.0	+1.1
	baz=249						
LAO	LASA Array	89.05	40	P	P	13 36 47.3	+1.3
	baz=243						
WMOK	Wichita Mounta	89.25	53	P	P	13 36 46.9	-0.4
	baz=248						
HHC	Hu-ho-hao-te	89.26	313	*e*P	P	13 36 47.8	+0.5
HHC				SKS	SKSac	13 46 52.1	+0.9
HHC				S	ScS	13 47 17.8	+0.5
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
HHC				pmax	pmax		
	comp=Z,37nm,5.3s						
WHTX	Lake Whitney,	89.27	56	P	P	13 36 48.2	+0.8
	baz=249						
RSSD	Black Hills	89.29	43	P	P	13 36 47.2	-0.3
	baz=244						
PLCA	Paso Flores	89.31	133	P	P	13 36 48.4	+0.7
	comp=Z,14nm,1.3s,baz=218,slow=4.5,SNR=6.5						
HKT	Hockley	89.85	59	*i* P	P	13 36 51.6	+1.5
HKT				pmax	pmax		
	comp=Z,52nm,1.7s						
SYO	Syowa Base	90.06	192	⇓ *e*P	P	13 36 41.6	-8.8
SYO	Syowa Base	90.06	192	⇓ *e*PcP	PcP	13 36 51.2	-0.2
BI02	San Fabin de	90.34	129	P	P	13 36 53.4	+0.9
KMI	Kunming	90.41	296	P	P	13 36 54.6	+1.4
KMI				pmax	pmax		
	comp=Z,17nm,1.6s						
SNAA	Sanae	90.77	178	P	P	13 36 51.3	-2.5
SNAA	Sanae	90.77	178	⇑ *e*P	P	13 36 53.2	-0.6
SNAA				pmax	pmax		
	comp=Z,13nm,1.5s						
SNAA	Sanae	90.77	178	P	P	13 36 53.5	-0.2
VNA3	Neumayer Olymp	90.79	175	P	P	13 36 53.6	-0.3
INK	Inuvik	90.86	14	P	P	13 36 54.4	+0.5
	comp=Z,15nm,1.0s,baz=211,slow=7.1,SNR=11						
INK	Inuvik	90.86	14	IAmb	IAmb	13 36 55.1	
	comp=Z,20nm,1.1s						
DGMT	Dagmar	91.07	39	P	P	13 36 56.2	+0.8
	baz=244						
NATX	Nacogdoches	91.42	57	P	P	13 36 58.7	+1.3
	baz=250						
VNA1	Neumayer--Stat	91.47	176	P	P	13 36 57.0	+0.1
CD2	Chengdu	91.48	302	P	P	13 36 59.1	+1.4
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CMAR	Chiang Mai Arr	91.65	289	P	P	13 36 59.5	+0.8
	comp=Z,8.2nm,1.0s,baz=103,slow=2.8,SNR=29						
CMAR	Chiang Mai Arr	91.65	289	*i* P	P	13 37 00.2	+1.5
CMAR				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CMAR	Chiang Mai Arr	91.65	289	P	P	13 37 00.4	+1.7
NVL	N'lazarevskaya	91.69	182	*e*P	P	13 36 53.8	-4.1
NVL				*e*S	SKSac	13 47 01.1	-2.9
NVL				pmax	pmax		
	comp=Z,6.0nm,0.7s						
CHTO	Chiang Mai	91.76	289	P	P	13 36 59.0	-0.2
CHTO				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CHTO	Chiang Mai	91.76	289	P	P	13 36 59.0	-0.2
TUL1	Leonard	91.95	53	P	P	13 37 00.2	+0.5
	baz=250						
BGNE	Belgrade	92.19	47	P	P	13 37 02.0	+1.2
	baz=248						
KSU1	Kansas State U	92.46	50	P	P	13 37 02.6	+0.6
	baz=249						
CO02	Combarbal	92.62	124	P	P	13 37 04.0	+0.8
YKA	Yellowknife Ar	92.84	24	P	P	13 37 03.0	-0.1
	comp=Z,6.8nm,0.9s,baz=233,slow=4.6,SNR=16						
LZH	Lanzhou	93.13	307	*e*P	P	13 37 06.4	+1.0
LZH				pP	pP	13 38 07.9	-1.9
LZH				sP	sP	13 38 35.5	-2.1
LZH				pmax	pmax		
	comp=Z,22nm,1.0s						
LZH				pmax	pmax		
	comp=Z,95nm,4.3s						
MIAR	Mount Ida	93.20	55	P	P	13 37 05.9	+0.3
	baz=251,SNR=10						
W39A	Magazine	93.25	54	P	P	13 37 06.6	+0.8
	baz=251,SNR=14						
JTS	Las Juntas de	93.33	80	*c* iP	P	13 37 07.9	+1.3
JTS				pmax	pmax		
	comp=Z,42nm,1.0s						
Z41A	Richland Creek	93.39	56	P	P	13 37 07.4	+0.9
	baz=251						
MDND	Maddock	93.63	41	P	P	13 37 06.9	-0.3
	baz=248						
X40A	Basin Creek Fa	93.76	55	P	P	13 37 08.2	+0.1
	baz=251						
ECSD	EROS Data Cent	94.08	45	P	P	13 37 09.1	-0.3
	baz=250						
AC05	El Transito	94.10	122	P	P	13 37 10.6	+0.4
U40A	Yellville	94.34	53	P	P	13 37 10.9	+0.1
	baz=251						
W41B	Gary Mavity, V	94.44	55	P	P	13 37 12.5	+1.3
	baz=252,SNR=13						
ULN	Ulaanbaatar	94.93	319	⇑ *e*P	P	13 37 15.1	+1.7
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM	Songino Array	95.33	318	P	P	13 37 15.2	0.0
	comp=Z,0.6nm,0.4s,baz=114,slow=3.6,SNR=3.8						
SONM				PP	PP	13 41 08.2	-1.5
	comp=Z,0.6nm,0.7s,baz=123,slow=5.3,SNR=4.0						
A36M	Sachs Harbour	95.48	14	P	P	13 37 16.7	+1.6
	baz=227						
CCM	Cathedral Cave	96.09	52	P	P	13 37 18.7	0.0
	baz=252						
AGMN	Agassiz Nation	96.13	41	P	P	13 37 18.3	-0.3
	baz=250						
TIXI	Tiksi	96.68	345	P	P	13 37 19.3	-1.1
	comp=Z,3.5nm,0.8s,baz=313,slow=7.1,SNR=6.5						
TIXI	Tiksi	96.68	345	⇓ *e*P	P	13 37 19.9	-0.6
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ULM	Lac du Bonnet	96.77	39	P	P	13 37 20.4	-1.0
	comp=Z,3.0nm,0.7s,baz=263,slow=4.8,SNR=4.0						
SPMN	Marine on St.	97.14	45	P	Pdif	13 37 23.7	+0.5
	baz=252						
LPAZ	La Paz	100.69	111	PP	PP	13 41 51.4	0.0
	comp=Z,2.6nm,1.0s,baz=239,slow=6.2,SNR=9.4						
MKAR	Makanchi Array	111.12	314	PKiKP	PKiKP	13 42 22.2	-0.8
	comp=Z,1.2nm,0.6s,baz=71,slow=2.3,SNR=11						
MKAR				PKKPbc	PKKPbc	13 53 20.3	-1.4
	comp=Z,0.5nm,0.6s,baz=259,slow=3.9,SNR=5.3						
KURK	Kurchatov	113.64	318	⇓ *i* PKiKP	PKiKP	13 42 25.0	-2.6
KURBB	Kurchatov Arra	113.70	318	PKiKP	PKiKP	13 42 27.1	-0.6
	comp=Z,1.1nm,0.6s,baz=86,slow=1.9,SNR=11						
KURBB				PP	PP	13 43 18.8	-6.0
	comp=Z,0.5nm,0.6s,baz=92,slow=6.6,SNR=6.2						
BVAR	Borovoye Array	118.53	321	PKP	PKPdf	13 42 36.0	-0.9
	comp=Z,4.5nm,0.6s,baz=98,slow=0.8,SNR=27						
BRVK	Borovoye	118.59	321	*c* iPKiKP	PKPdf	13 42 36.8	-0.3
ARU	Arti	124.28	327	PKiKP	PKiKP	13 42 48.1	-0.1
	comp=Z,2.1nm,0.5s,baz=53,slow=2.5,SNR=9.5						
ARU	Arti	124.28	327	*i* PKiKP	PKiKP	13 42 48.2	0.0
ARU						13 44 39.0	
ARU						13 49 33.2	
ARU				SS	SS	14 01 11.8	+5.2
ARU	Arti	124.28	327	PKPdf	PKPdf	13 42 47.4	-0.5
ABKAR	Akbulak array	125.75	318	PKPdf	PKPdf	13 42 50.0	-0.9
ARCES	ARCESS Array B	126.55	351	PKP	PKPdf	13 42 51.8	-0.1
	comp=Z,7.5nm,0.8s,baz=15,slow=1.2,SNR=14						
ARCES	ARCESS Array B	126.55	351	PKiKP	PKiKP	13 42 52.6	+0.2
ARCES	ARCESS Array B	126.55	351		PKiKP	13 42 52.6	+0.2
TMCR	Tamitsa	128.32	342	*e*PKiKP	PKPdf	13 42 54.3	-1.0
TMCR				pmax	pmax		
	comp=Z,12nm,0.8s						
GEYT	Alibeck	129.38	305	SKPbc	SKPbc	13 45 56.4	+2.3
	comp=Z,5.6nm,1.1s,baz=250,slow=4.3,SNR=9.0						
KLMR	Klimovskoe	130.25	339	*e*PKiKP	PKPdf	13 42 57.8	-1.3
KLMR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KLMR	Klimovskoe	130.25	339	*e*PKPdf	PKPdf	13 42 57.8	-1.3
KLMR				AMP		13 43 01.9	
	comp=Z,8.0nm,1.1s						
KLMR				*e*SKPab	SKPab	13 45 56.7	+0.1
FINES	FINESS Array B	133.71	346	PKhKP	PKPpre	13 42 58.1	
	comp=Z,2.3nm,1.0s,baz=90,slow=3.8,SNR=5.3						
FINES				PKP	PKPdf	13 43 05.5	-0.2
	comp=Z,1.1nm,0.5s,baz=82,slow=2.3,SNR=7.7						
OBN	Obninsk	135.40	334	*e*PKiKP	PKPdf	13 43 09.5	+0.5
OBN				*e*		13 44 13.5	
OBN				*e*		13 45 49.4	
OBN				pmax	pmax		
	comp=Z,4.0nm,1.0s						
NB2	NORSAR Subarra	136.41	355	PKP	PKiKP	13 43 12.2	-0.4
	comp=Z,0.7nm,0.6s,baz=8.0,slow=2.5						
NOA	NORSAR Array B	136.41	355	PKP	PKPdf	13 43 09.9	-0.9
	comp=Z,1.1nm,0.7s,baz=14,slow=3.9,SNR=4.0						
AKASG	Malin Array Be	141.66	335	PKhKP	PKPpre	13 43 14.6	
	comp=Z,1.5nm,0.5s,baz=37,slow=4.2,SNR=7.7						
KMBO	Kilima Mbogo	142.97	243	PKP	PKPdf	13 43 23.2	-1.1
	comp=Z,9.0nm,0.2s,baz=267,slow=24,SNR=6.7						
LVV	L'vov	144.34	338	*e*PKiKP	PKPab	13 43 24.1	-0.1
VASR	Vaslui	145.38	332	⇑P	PKPab	13 43 28.2	0.0
BURAR	Bucovina Array	145.72	335	⇑P	PKPab	13 43 29.8	+0.1
BURAR	Bucovina Array	145.72	335	⇑PKP2	PKPab	13 43 29.8	+0.1
BURAR	Bucovina Array	145.72	335	PKPab	PKPab	13 43 29.8	+0.1
CLL	Collm	145.77

MORC	**Moravsky Berou**	**146.32**	**345**	*e*PKP	**PKPbc**	**13 43 30.2**	**-0.3**
MORC				*e*		13 44 39.9	
MORC	**Moravsky Berou**	**146.32**	**345**	⇑PKP2	**PKPbc**	**13 43 30.3**	**-0.3**
BMR	**Baia Mare**	**146.33**	**337**	⇓P	**PKPbc**	**13 43 30.5**	**0.0**
BMR	**Baia Mare**	**146.33**	**337**	⇓PKP2	**PKPbc**	**13 43 30.5**	**0.0**
LANS	**Liptovska Anna**	**146.38**	**342**	*e*PKP2	**PKPab**	**13 43 32.1**	**-0.1**
LANS	**Liptovska Anna**	**146.38**	**342**	*e*PKP	**PKPab**	**13 43 32.0**	**-0.1**
TOPG	**Topolog**	**146.41**	**329**	⇓P	**PKPab**	**13 43 31.8**	**-0.5**
VRI	**Vrincioaia**	**146.45**	**332**	⇑P	**PKPbc**	**13 43 31.6**	**+0.6**
VRI	**Vrincioaia**	**146.45**	**332**	⇑PKP2	**PKPbc**	**13 43 31.6**	**+0.6**
ARCR	**ARCALIA**	**146.49**	**335**	⇓P	**PKPab**	**13 43 32.0**	**-0.5**
PLOR	**Plostina**	**146.49**	**332**	⇑P	**PKPbc**	**13 43 31.0**	**-0.1**
PLOR	**Plostina**	**146.49**	**332**	⇑PKP2	**PKPbc**	**13 43 31.0**	**-0.1**
OZUR		**146.69**	**333**	⇑P	**PKPab**	**13 43 32.7**	**-0.7**
BR131	**Keskin Array S**	**146.69**	**317**	*d* iPKP2	**PKPbc**	**13 43 32.0**	**0.0**
BR131	**Keskin Array S**	**146.69**	**317**		**PKPbc**	**13 43 32.8**	**+0.8**
BRTR	**Keskin Array B**	**146.69**	**317**	PKPbc	**PKPbc**	**13 43 32.2**	**+0.2**
	comp=Z,12nm,0.8s,baz=116,slow=2.9,SNR=23						
BRTR	**Keskin Array B**	**146.69**	**317**	PKP2	**PKPbc**	**13 43 32.6**	**+0.6**
BRTR	**Keskin Array B**	**146.69**	**317**		**PKPbc**	**13 43 32.6**	**+0.6**
TIRR	**Tirgusor**	**146.69**	**328**	⇑P	**PKPbc**	**13 43 32.4**	**+0.8**
TIRR	**Tirgusor**	**146.69**	**328**	⇑PKP2	**PKPbc**	**13 43 32.4**	**+0.8**
HARR	**Harsova**	**146.76**	**329**	⇑P	**PKPbc**	**13 43 32.7**	**+0.9**
HARR	**Harsova**	**146.76**	**329**	⇑PKP2	**PKPbc**	**13 43 32.7**	**+0.9**
PRU	**Pruhonice**	**146.78**	**348**	*e*PKP	**PKPbc**	**13 43 32.5**	**+0.8**
PRU	**Pruhonice**	**146.78**	**348**	*e*PKP2	**PKPbc**	**13 43 32.5**	**+0.8**
GOPC	**GO Pecny, Ondr**	**146.80**	**348**	*e*PKP	**PKPbc**	**13 43 32.5**	**+0.7**
GOPC	**GO Pecny, Ondr**	**146.80**	**348**	*e*PKP2	**PKPbc**	**13 43 32.5**	**+0.7**
TLBR	**Topalu**	**146.81**	**329**	⇑P	**PKPbc**	**13 43 32.6**	**+0.7**
NKC	**Novy Kostel**	**146.90**	**351**	*e*PKP	**PKPbc**	**13 43 31.0**	**-1.1**
NKC	**Novy Kostel**	**146.90**	**351**	*e*PKIKP	**PKPbc**	**13 43 31.0**	**-1.1**
DOPR	**Dopca**	**146.96**	**333**	⇑P	**PKPbc**	**13 43 33.3**	**+0.9**
NEHR	**Nehoiu**	**146.98**	**332**	⇑P	**PKPbc**	**13 43 33.9**	**-0.6**
VRAC	**Vranov**	**146.99**	**346**	⇓P	**PKPbc**	**13 43 33.2**	**+0.9**
VRAC	**Vranov**	**146.99**	**346**	*e*PKP	**PKPdf**	**13 43 30.4**	**+0.5**
VRAC				*e*		13 44 42.2	
VRAC	**Vranov**	**146.99**	**346**	⇓PKP2	**PKPbc**	**13 43 33.2**	**+0.9**
MLR	**Muntele Rosu**	**147.09**	**332**	⇓P	**PKPbc**	**13 43 33.8**	**+0.9**
MLR	**Muntele Rosu**	**147.09**	**332**	⇓PKP2	**PKPbc**	**13 43 33.8**	**+0.9**
CJR	**Cluj-Napoca**	**147.09**	**336**	⇓P	**PKPbc**	**13 43 33.4**	**+0.7**
CJR	**Cluj-Napoca**	**147.09**	**336**	⇓PKP2	**PKPbc**	**13 43 33.4**	**+0.7**
MEM	**Membach**	**147.09**	**359**	PKiKP	**PKPbc**	**13 43 33.1**	**+0.6**
BSTI	**Sart Tilman**	**147.13**	**359**	PKiKP	**PKPbc**	**13 43 33.5**	**+0.9**
JAVC	**Velka Javorina**	**147.14**	**344**	*e*PKP	**PKPdf**	**13 43 30.7**	**+0.5**
JAVC				*e*		13 44 42.7	
VYHS	**Vyhne**	**147.15**	**343**	*e*PKP2	**PKPbc**	**13 43 33.6**	**+0.8**
VYHS	**Vyhne**	**147.15**	**343**	*e*PKP	**PKPbc**	**13 43 33.6**	**+0.8**
VYHS				*e*		13 44 44.8	
PBCC	**Pribram**	**147.17**	**349**	*e*PKP	**PKPbc**	**13 43 33.3**	**+0.5**
SNF	**Seneffe**	**147.21**	**1**	PKiKP	**PKPbc**	**13 43 33.4**	**+0.5**
KRUC	**Moravsky**	**147.26**	**346**	*e*PKP	**PKPdf**	**13 43 30.8**	**+0.4**
KRUC				*e*		13 44 44.5	
BCLA	**Clavier**	**147.29**	**359**	PKiKP	**PKiKP**	**13 43 34.7**	**-0.4**
BGES	**Gesves**	**147.33**	**360**	PKPbc	**PKPbc**	**13 43 33.3**	**+0.1**
BGES				PKiKP	**PKiKP**	**13 43 35.3**	**+0.1**
BHOU	**Houvegnez**	**147.35**	**359**	PKiKP	**PKPbc**	**13 43 34.0**	**+0.7**
PSZ	**Piszkesteto**	**147.35**	**341**	⇑P	**PKPbc**	**13 43 33.8**	**+0.3**
PSZ	**Piszkesteto**	**147.35**	**341**	⇑PKP2	**PKPbc**	**13 43 33.8**	**+0.3**
DRGR		**147.36**	**337**	⇑P	**PKPbc**	**13 43 34.2**	**+0.7**
DRGR		**147.36**	**337**	⇑PKP2	**PKPbc**	**13 43 34.2**	**+0.7**
SECR		**147.38**	**331**	⇓P	**PKPbc**	**13 43 34.5**	**+1.0**
BMRD	**Maredsous**	**147.41**	**360**	PKiKP	**PKPbc**	**13 43 34.0**	**+0.6**
SMOL	**Smolenice**	**147.52**	**344**	*e*PKP2	**PKiKP**	**13 43 35.2**	**-0.5**
SMOL	**Smolenice**	**147.52**	**344**	*e*PKP	**PKiKP**	**13 43 35.2**	**-0.5**
VOIR		**147.52**	**333**	⇓P	**PKiKP**	**13 43 35.1**	**-0.8**
VOIR		**147.52**	**333**	⇓PKP2	**PKiKP**	**13 43 35.1**	**-0.8**
DOU	**Dourbes**	**147.62**	**0**	PKiKP	**PKPbc**	**13 43 34.6**	**+0.7**
MODS	**Modra-Piesok**	**147.69**	**344**	*e*PKP2	**PKPbc**	**13 43 34.6**	**+0.3**
MODS	**Modra-Piesok**	**147.69**	**344**	*e*PKP	**PKPbc**	**13 43 34.6**	**+0.3**
ARR	**Arges**	**147.76**	**333**	⇓P	**PKiKP**	**13 43 36.1**	**-0.3**
KHC	**Kasperske Hory**	**147.78**	**349**	*e*PKP	**PKPdf**	**13 43 32.0**	**+0.7**
KHC				*ex*	x	13 43 35.1	
KHC				*ex*	x	13 43 54.2	
KHC	**Kasperske Hory**	**147.78**	**349**	*e*PKIKP	**PKPdf**	**13 43 32.0**	**+0.7**
KHC				*e*		13 43 35.1	
ZST	**Bratislava**	**147.90**	**344**	*e*PKIKP	**PKPdf**	**13 43 31.3**	**-0.1**
ZST				*e*		13 43 35.2	
ZST	**Bratislava**	**147.90**	**344**	*e*PKP	**PKPdf**	**13 43 31.3**	**-0.1**
ZST				*e*		13 43 35.2	
WLF	**Walferdange**	**148.03**	**358**	PKiKP	**PKiKP**	**13 43 36.1**	**-0.6**
GEC2	**GERESS Array S**	**148.03**	**349**		**PKiKP**	**13 43 36.4**	**-0.5**
GERES	**GERESS Array B**	**148.03**	**349**	PKP	**PKPdf**	**13 43 32.2**	**+0.4**
	comp=Z,7.3nm,0.6s,baz=86,slow=1.4,SNR=38						
GERES				PKPbc	**PKPbc**	**13 43 35.2**	**-0.1**
	comp=Z,7.2nm,0.6s,baz=27,slow=3.3,SNR=28						
GERES	**GERESS Array B**	**148.03**	**349**		**PKiKP**	**13 43 36.1**	**-0.7**
SIRR	**Siria**	**148.19**	**338**	⇓P	**PKiKP**	**13 43 36.4**	**-0.7**
CONA	**Conrad Observa**	**148.45**	**346**	*e*PKiKP	**PKiKP**	**13 43 37.4**	**-0.4**
	comp=Z,16nm,0.7s,SNR=11						
CONA				*e*PKPab	**pPKPab**	**13 44 48.7**	**+3.0**
	comp=Z,10nm,1.2s						
BZS	**Buzias**	**148.76**	**337**	⇓P	**PKPbc**	**13 43 37.4**	**+0.3**
BZS	**Buzias**	**148.76**	**337**	⇓PKP2	**PKPbc**	**13 43 37.4**	**+0.3**
MOA	**Molln**	**148.88**	**348**	*e*PKiKP	**PKiKP**	**13 43 38.0**	**-0.6**
	comp=Z,14nm,1.1s,SNR=6.9						
MOA				*e*PKPab	**pPKPab**	**13 44 50.7**	**+3.4**
	comp=Z,11nm,1.2s						
HERR	**Herculane**	**149.07**	**335**	⇓P	**PKPbc**	**13 43 38.3**	**+0.4**
ARSA	**Arzberg**	**149.17**	**346**	*i* PKPbc	**PKPbc**	**13 43 38.3**	**+0.2**
	comp=Z,10.0nm,1.2s						
ARSA				*i* pPKPab	**pPKPab**	**13 44 50.2**	**+1.7**
	comp=Z,7.7nm,1.3s						
BFO	**Black Forest**	**149.25**	**355**	PKP2	**PKiKP**	**13 43 39.2**	**-0.1**
BFO	**Black Forest**	**149.25**	**355**		**PKiKP**	**13 43 39.2**	**-0.1**
MORH	**Mrgy, Hungar**	**149.26**	**341**	⇑*i*P	**PKPbc**	**13 43 38.5**	**+0.2**
PLVB	**Pleven**	**149.31**	**331**	⇓P	**PKiKP**	**13 43 39.2**	**-0.3**
KBA	**Koelnbreinsper**	**149.80**	**348**	*e*PKPbc	**PKPbc**	**13 43 39.7**	**-0.1**
	comp=Z,11nm,0.8s						
KBA				*e*pPKPab	**pPKPab**	**13 44 54.0**	**+2.8**
	comp=Z,5.9nm,0.9s						
FRGS	**Fruska Gora**	**149.81**	**339**	⇑*i*P	**PKPbc**	**13 43 40.1**	**+0.4**
SOKA	**Soboth**	**149.82**	**346**	*e*PKPbc	**PKPbc**	**13 43 39.8**	**0.0**
	comp=Z,19nm,1.2s,SNR=11						
SOKA				*e*pPKPab	**pPKPab**	**13 44 52.8**	**+1.6**
	comp=Z,12nm,1.4s						
RETA	**Reutte**	**149.82**	**352**	*e*PKiKP	**PKiKP**	**13 43 40.2**	**-0.3**
	comp=Z,6.9nm,0.9s,SNR=6.1						
RETA				*e*pPKPab	**pPKPab**	**13 44 53.7**	**+2.5**
	comp=Z,20nm,1.6s						
WATA	**Walderalm**	**149.86**	**351**	*e*PKiKP	**PKPbc**	**13 43 40.3**	**+0.4**
	comp=Z,8.7nm,0.6s,SNR=6.9						
WATA				*e*pPKPab	**pPKPab**	**13 44 54.5**	**+3.1**
	comp=Z,6.8nm,0.8s						
MOTA	**Moosalm**	**149.92**	**351**	PKPdf	**PKPdf**	**13 43 35.8**	**+0.8**
	comp=Z,5.7nm,1.0s						
MOTA				*i* PKiKP	**PKPbc**	**13 43 40.4**	**+0.4**
	comp=Z,26nm,1.0s,SNR=9.3						
MOTA				*e*pPKPab	**pPKPab**	**13 44 54.7**	**+3.0**
	comp=Z,13nm,1.2s						
WTTA	**Wattenberg**	**149.92**	**351**	*e*PKiKP	**PKiKP**	**13 43 40.7**	**-0.2**
	comp=Z,16nm,0.5s,SNR=10						
WTTA				*e*pPKPab	**pPKPab**	**13 44 53.6**	**+1.9**
	comp=Z,15nm,1.2s						
EIL	**Elat**	**149.96**	**299**	PKPbc	**PKPbc**	**13 43 40.8**	**+0.3**
	comp=Z,12nm,0.8s,baz=292,slow=3.0,SNR=8.0						
SQTA	**Sankt Quirin**	**150.02**	**351**	*e*PKPdf	**PKPdf**	**13 43 35.9**	**+0.9**
	comp=Z,4.9nm,0.9s						
SQTA				*i* PKiKP	**PKiKP**	**13 43 40.8**	**-0.2**
	comp=Z,20nm,1.0s,SNR=6.5						
SQTA				*e*pPKPab	**pPKPab**	**13 44 54.0**	**+1.9**
	comp=Z,12nm,1.1s						
OBKA	**Obir**	**150.09**	**346**	*e*PKiKP	**PKPbc**	**13 43 40.6**	**+0.2**
	comp=Z,9.5nm,0.7s						
DAVA	**Damuels**	**150.13**	**353**	*e*PKiKP	**PKiKP**	**13 43 41.2**	**-0.1**
	comp=Z,35nm,1.1s,SNR=11						
DAVA				*e*pPKPab	**pPKPab**	**13 44 54.1**	**+1.5**
	comp=Z,16nm,1.4s						
MYKA	**Terra Mystica**	**150.17**	**348**	*e*PKPbc	**PKPbc**	**13 43 40.4**	**-0.2**
	comp=Z,11nm,0.9s						
MYKA				*e*pPKPab	**pPKPab**	**13 44 53.2**	**+0.6**
	comp=Z,2.9nm,0.6s						
ABTA	**Abfaltersbach**	**150.27**	**349**	*e*PKPdf	**PKPdf**	**13 43 35.9**	**+0.5**
	comp=Z,10nm,1.1s						
ABTA				PKPbc	**PKPbc**	**13 43 40.7**	**-0.1**
	comp=Z,21nm,0.7s,SNR=7.6						
ABTA				*e*pPKPab	**pPKPab**	**13 44 55.0**	**+1.9**
	comp=Z,18nm,1.2s						
FETA	**Feichten**	**150.29**	**352**	*e*PKPdf	**PKPdf**	**13 43 35.9**	**+0.4**
	comp=Z,6.6nm,1.2s						
FETA				*i* PKiKP	**PKiKP**	**13 43 41.7**	**0.0**
	comp=Z,17nm,0.7s,SNR=7.4						
FETA				*e*pPKPab	**pPKPab**	**13 44 54.5**	**+1.3**
	comp=Z,16nm,1.2s						

PRED	**Cave del Predi**	**150.36**	**348**		**PKPab**	**13 43 48.1**	**-0.2**
CRES	**Cresnjev**	**150.51**	**345**	⇑*i*P	**PKPbc**	**13 43 40.3**	**-1.0**
LJU	**Ljubljana**	**150.53**	**346**	*e*PKPbc	**PKiKP**	**13 43 41.8**	**-0.2**
LJU	**Ljubljana**	**150.53**	**346**	⇑*i*P	**PKiKP**	**13 43 41.7**	**-0.2**
VTS	**Vitosha**	**150.55**	**332**	⇑P	**PKiKP**	**13 43 42.5**	**+0.2**
VTS	**Vitosha**	**150.55**	**332**	⇑PKIKP	**PKiKP**	**13 43 42.5**	**+0.2**
CRNS	**Crni Vrh**	**150.56**	**346**	*e*PKPdf	**PKPdf**	**13 43 35.5**	**-0.3**
CRNS				*i* PKPbc	**PKPbc**	**13 43 41.4**	**-0.1**
CRNS				*e*PKPab	**PKPab**	**13 43 48.6**	**-0.5**
CRNS				*e*		13 44 00.3	
CRNS				*e*pPKPdf	**pPKPdf**	**13 44 35.3**	**-8.3**
CRNS				*e*		13 44 55.1	
DIVS	**Divibare**	**150.66**	**337**	⇑*i*P	**PKiKP**	**13 43 42.4**	**0.0**
CEY	**Cerknica**	**150.84**	**346**	⇑*i*P	**PKPbc**	**13 43 41.9**	**-0.2**
BOJS	**Bojanci**	**150.87**	**345**	*e*PKPdf	**PKPdf**	**13 43 36.8**	**+0.6**
BOJS				*i* PKPbc	**PKiKP**	**13 43 42.8**	**+0.1**
TUE	**Stuetta**	**151.00**	**353**		**PKiKP**	**13 43 43.0**	**-0.2**
BLY	**Banja Luka**	**151.03**	**342**	⇑*i*P	**PKiKP**	**13 43 43.1**	**+0.1**
HAPS	**Han Pijesak,Bl**	**151.04**	**339**	*e*P	**PKPbc**	**13 43 42.4**	**-0.4**
BBLS	**Lazići**	**151.08**	**338**	⇑*i*P	**PKiKP**	**13 43 43.4**	**+0.1**
RUDO	**Rudo**	**151.30**	**338**	⇑*i*P	**PKPbc**	**13 43 42.8**	**-0.4**
UPM	**Unac-Piva**	**151.83**	**338**	⇑*i*P	**PKPbc**	**13 43 43.7**	**-1.0**
BRY	**Bratogost**	**152.23**	**338**	*e*P	**PKPbc**	**13 43 44.7**	**-0.8**
PDG	**Podgorica**	**152.37**	**336**	⇓P	**PKPbc**	**13 43 45.7**	**+0.1**
PDG	**Podgorica**	**152.37**	**336**	⇑*i*P	**PKPbc**	**13 43 45.6**	**0.0**
DRME	**Dracevica, Mon**	**152.60**	**336**	⇑*i*P	**PKiKP**	**13 43 46.3**	**-0.1**
BNI	**Bardonecchia**	**152.62**	**357**	PKIKP	**PKiKP**	**13 43 47.8**	**+1.3**
BNI	**Bardonecchia**	**152.62**	**357**		**PKiKP**	**13 43 47.8**	**+1.3**
PBRG	**Braganca**	**153.98**	**20**	*e*PKPab	**PKPab**	**13 44 04.3**	**+0.6**
PVRL	**Vila Real**	**154.12**	**22**	*e*PKPab	**PKPab**	**13 44 05.1**	**+0.8**
PVIS	**Viseu**	**154.54**	**23**	*e*PKPab	**PKPab**	**13 44 06.9**	**+0.8**
PCAS	**Castmilo, Conde**	**154.88**	**25**	*e*PKPab	**PKPab**	**13 44 04.0**	**-3.5**
MTE	**Manteigas**	**154.95**	**23**	*e*PKPab	**PKPab**	**13 44 08.7**	**+0.8**
PSBE	**So Bento**	**155.22**	**26**	*e*PKPab	**PKPab**	**13 44 10.1**	**+1.1**
PCBR	**Castelo Branco**	**155.46**	**23**	*e*PKPab	**PKPab**	**13 44 10.7**	**+0.7**
PMTG	**Montargil**	**155.83**	**25**	*e*PKPab	**PKPab**	**13 44 12.7**	**+1.1**
PMRV	**Marv??o**	**155.85**	**23**	*e*PKPab	**PKPab**	**13 44 12.2**	**+0.5**
ESBB	**Sonseca Array**	**156.77**	**17**	PKPab	**PKPab**	**13 44 16.3**	**+0.6**
ESDC	**Sonseca Array**	**156.77**	**17**	PKP	**PKPdf**	**13 43 45.0**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=329,slow=2.4,SNR=6.7						
ESDC				PKPab	**PKPab**	**13 44 16.5**	**+0.8**
	comp=Z,6.9nm,1.0s,baz=330,slow=3.8,SNR=25						
ESDC				PP	**PP**	**13 47 56.5**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=336,slow=6.8,SNR=4.5						
ESDC	**Sonseca Array**	**156.77**	**17**	PKPab	**PKPab**	**13 44 16.6**	**+0.9**
PBEJ	**Beja**	**156.87**	**26**	*e*PKPab	**PKPab**	**13 44 16.8**	**+0.7**
PCVE	**Castro Verde**	**157.13**	**27**	*e*PKPab	**PKPab**	**13 44 18.8**	**+1.6**
PVAQ	**Vaqueiros**	**157.46**	**27**	*e*PKPab	**PKPab**	**13 44 19.7**	**+1.0**
TORD	**Torodi Ar. Bea**	**174.65**	**146**	PKP	**PKPdf**	**13 43 59.1**	**-0.7**
	comp=Z,4.5nm,1.1s,baz=300,slow=1.1,SNR=9.8						
TORD				PKPab	**PKPab**	**13 45 34.9**	**0.0**
	comp=Z,4.5nm,1.1s,baz=233,slow=3.7,SNR=8.7						

*IDC **21** 13:34:24.9±3.9, 35°.97N×70°.78E, h49km±35km, mb3.7/4, mb1 3.7/8, mb1mx3.3/47, mbtmp3.8/8, ML3.6/4, Error ellipse: s-maj=35.6km s-min=27.3km az=156.0*
*NNC **21** 13:34:33.1±6.7, 36°.92N×70°.16E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=67.9km s-min=35.1km az=157.0*
ISC 21 13:34:24.6±1.3, 36°.0N±0°.1×70°.6E±0°.1, h35km, n21, σ2s65/25, mb4.1/3, 4C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.56**	**21**	P		**Pn**	**13 36 02.2**	**+3.3**
	SNR=115							
UCH	**Uchtor**	**6.90**	**25**	P		**Pn**	**13 36 06.8**	**+3.1**
	SNR=17							
KZA	**Kyzart**	**7.05**	**30**	P		**Pn**	**13 36 08.5**	**+2.8**
	SNR=15							
KK31	**Karatay Array**	**7.07**	**360**	P		**Pn**	**13 36 07.5**	**+2.0**
	3.6nm,0.3s,baz=177,slow=13,SNR=66							
KK31				⇑S		**Sn**	**13 37 19.3**	**-5.4**
	2.4nm,0.4s,baz=187,slow=23,SNR=4.7							
EKS2	**Erkin-Say**	**7.07**	**19**	P		**Pn**	**13 36 09.2**	**+3.5**
	SNR=9.6							
AAK	**Ala-Archa**	**7.26**	**23**	P		**Pn**	**13 36 10.2**	**+1.8**
	3.2nm,0.3s,baz=197,slow=6.3,SNR=18							
AAK				S		**Sn**	**13 37 29.8**	**+0.2**
	0.5nm,0.3s,baz=133,slow=15,SNR=3.9							
AAK	**Ala-Archa**	**7.26**	**23**	P		**Pn**	**13 36 11.7**	**+3.3**
	SNR=6.6							
AAK	**Ala-Archa**	**7.26**	**23**	⇓P		**Pn**	**13 36 11.7**	**+3.3**
	7.3nm,0.5s							
AAK				⇑S		**Sn**	**13 37 29.2**	**-0.5**
	13nm,0.8s							
CHMS	**Chumysh**	**7.67**	**23**	P		**Pn**	**13 36 17.0**	**+3.2**
	SNR=11							
USP	**Ospenovka**	**7.83**	**21**	P		**Pn**	**13 36 19.2**	**+3.1**
	SNR=16							
TKM2	**Tokmak 2**	**7.90**	**28**	P		**Pn**	**13 36 20.4**	**+3.3**
	SNR=9.0							
TKM2	**Tokmak 2**	**7.90**	**28**	⇓P		**Pn**	**13 36 20.2**	**+3.1**
	6.0nm,0.6s							
TKM2				⇑S		**Sn**	**13 37 44.7**	**-0.6**
	3.0nm,0.7s							
GEYT	**Alibeck**	**10.16**	**284**	P		**Pn**	**13 36 49.4**	**+1.3**
	0.7nm,0.3s,baz=106,slow=1.1,SNR=5.1							
MKAR	**Makanchi Array**	**13.87**	**96**	P		**Pn**	**13 37 39.0**	**+0.4**
	0.1nm,0.3s,baz=211,slow=13,SNR=2.0							
AB31	**Akbulak array**	**15.35**	**333**	⇑P		**Pn**	**13 37 57.2**	**-1.3**
	4.2nm,0.5s							
BVAR	**Borovoye Array**	**17.00**	**360**	P		**Pn**	**13 38 18.3**	**-1.2**
	0.4nm,0.3s,baz=164,slow=13,SNR=5.2							
AKTO	**Aktyubinsk**	**17.04**	**332**	⇓P		**Pn**	**13 38 20.1**	**+0.1**
	3.7nm,0.7s							
ZALV	**Zalesovo Beam**	**20.48**	**25**	P		**P**	**13 38 57.2**	**-2.0**
	4.7nm,0.4s,baz=210,slow=12,SNR=11							
FINES	**FINESS Array B**	**37.70**	**327**	P		**P**	**13 41 36.5**	**+0.2**
	2.9nm,1.0s,baz=124,slow=12,SNR=1.8							
ARCES	**ARCESS Array B**	**41.46**	**338**	P		**P**	**13 42 07.9**	**+0.3**
	3.5nm,0.9s,baz=91,slow=7.5,SNR=1.8							
WRA	**Warramunga Arr**	**82.02**	**122**	P		**P**	**13 46 39.1**	**-2.2**
	0.5nm,1.0s,baz=324,slow=5.2,SNR=1.5							

*MAN **21** 14:11:47.7, 6°.30N×126°.49E, h120km, mb4.6, ML3.5, MS3.4*
*IDC **21** 14:11:49.8±3.7, 6°.33N×126°.35E, h127km±34km, mb3.6/12, mb1 3.7/14, mb1mx3.5/41, mbtmp4.0/14, MS3.0/1, Ms1 3.0/1, ms1mx2.3/35, Error ellipse: s-maj=34.7km s-min=12.9km az=84.0*
*DJA **21** 14:12:04.3±2.4, 5°.1N±21°.1×12°.6E±°, h124km±12km, M4.5/9, mb4.6/8, mB5.1/5, MLv4.5/9, Mw(mB)4.4/5*
ISC 21 14:11:49.8±0.8, 6°.26N±0°.05×126°.40E±0°.07, h127km±7km, n41, σ1s59/47, mb3.9/13, 2C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.69**	**348**	*e*P		**Pn**	**14 12 09.0**	**-0.8**
MATI				*e*S		**Sn**	**14 12 24.2**	**-0.8**
DDMP	**Don Marcelino,**	**0.70**	**257**	*e*P		**Pn**	**14 12 09.1**	**-0.7**
DDMP				*e*S		**Sn**	**14 12 24.1**	**-0.9**
DMPH	**Davao City--Mi**	**1.20**	**313**	⇓*e*P		**Pn**	**14 12 17.1**	**+2.7**
DMPH				*e*S		**Sn**	**14 12 37.2**	**+4.1**
GSPH	**General Santos**	**1.45**	**263**	⇓*i*P		**Pn**	**14 12 15.8**	**-1.4**
GSPH				*i* S		**Sn**	**14 12 36.2**	**-1.9**
KCP	**Kidapawan**	**1.50**	**300**	⇑*e*P		**Pn**	**14 12 17.5**	**-0.2**
KCP				*i* S		**Sn**	**14 12 37.6**	**-1.3**
SKMP	**Bagumbayan, Su**	**1.86**	**278**	*e*P		**Pn**	**14 12 20.9**	**-1.0**
SKMP				*e*S		**Sn**	**14 12 47.2**	**+0.8**
BIPH	**Bislig**	**1.91**	**359**	⇓*i*P		**Pn**	**14 12 24.3**	**+1.9**
BIPH				*i* S		**Sn**	**14 12 47.9**	**+0.4**
BUKP	**Musuan**	**2.08**	**321**	*e*P		**Pn**	**14 12 24.3**	**-0.4**
BUKP				*e*S		**Sn**	**14 12 50.5**	**-0.9**
CGP	**Cagayan de Oro**	**2.76**	**322**	⇓*i*P		**Pn**	**14 12 30.7**	**-2.5**
CGP				*e*S		**Sn**	**14 13 05.1**	**-1.4**
PAGZ	**Pagadian**	**3.38**	**298**	*e*P		**Pn**	**14 12 41.4**	**+0.2**
MSLP	**Maasin**	**4.14**	**339**	*e*P		**Pn**	**14 12 48.9**	**-2.4**
TBP	**Tagbilaran**	**4.23**	**324**	*e*P		**Pn**	**14 12 51.4**	**-1.2**
KMSI	**Cibinong**	**6.14**	**203**	P		**Pn**	**14 13 19.5**	**+1.3**
	0.4nm123nm,0.8s							
RCP	**Roxas**	**6.38**	**326**	⇑*e*P		**Pn**	**14 13 21.9**	**+0.4**
CNP	**Catarman**	**6.44**	**345**	*e*P		**Pn**	**14 13 22.1**	**0.0**
LBMI	**Labuha**	**6.94**	**171**	P		**Pn**	**14 13 29.4**	**+0.4**
	0.3nm1µm65nm,0.5s							
MRSI	**Marisa**	**7.27**	**218**	P		**Pn**	**14 13 34.2**	**+0.8**
	0.3nm1µm52nm,0.7s							
LUWI	**Luwuk**	**8.11**	**207**	P		Pn	14 13 49.9	+5.2
SANI	**Sanana**	**8.27**	**183**	P		**Pn**	**14 13 43.3**	**-3.6**
	0.6nm2µm109nm,0.7s							
APSI	**Ampana**	**8.56**	**214**	P		Pn	14 13 46.7	-4.1
SIJI	**Sorong**	**8.59**	**145**	P		**Pn**	**14 13 51.3**	**+0.1**
	2.8nm,0.3s,baz=304,slow=21,SNR=11							
MPSI	**Mapaga**	**8.76**	**228**	P		Pn	14 13 59.6	+6.1
	6.0nm,0.5s							
NLAI	**Namlea**	**9.46**	**176**	P		**Pn**	**14 14 01.2**	**-1.8**
	58nm,0.7s							
TTSI	**Tana Toraja**	**11.34**	**216**	P		**Pn**	**14 14 31.7**	**+3.5**
KAPI	**Kappang**	**13.02**	**211**	LR		LR	14 21 01.7	
	comp=Z,56nm,18.2s,baz=200,slow=42							
BATI	**Baumata**	**16.59**	**189**	P		**Pn**	**14 15 35.8**	**+0.8**
	3.3nm,0.3s,baz=26,slow=4.4,SNR=2.4							
FITZ	**Fitzroy Crossi**	**24.22**	**182**	P		**P**	**14 16 54.9**	**+0.1**
	1.6nm,0.3s,baz=7.3,slow=9.0,SNR=22							
WHN	**Wuhan**	**26.68**	**336**	P		**P**	**14 17 19.3**	**+2.4**
WRA	**Warramunga Arr**	**27.19**	**163**	P		**P**	**14 17 24.0**	**+2.3**
	1.7nm,0.6s,baz=345,slow=10,SNR=11							
ASAR	**Alice Springs**	**30.64**	**166**	P		**P**	**14 17 52.6**	**+0.4**
	0.3nm,0.3s,baz=346,slow=7.5,SNR=8.0							
ASAR				PcP		**PcP**	**14

	baz=0.0								
KUU	**Kurty**	**1.93**	**301**	*e*P		**Pn**	**14 24 27.3**	**+1.4**
	0.9nm,0.1s								
KUU				*e*S		**Sb**	**14 24 52.5**	**0.0**
	8.4nm,0.2s								
KST	**Kastek**	**1.97**	**274**	Pg		**Pn**	**14 24 28.5**	**+2.0**
	2.0nm,0.3s								
KST				Lg		Lg	14 24 54.0		
	2.6nm,0.4s								
BOOM	**Boomskoye usch**	**2.04**	**258**	⇑*i*P		**Pn**	**14 24 28.7**	**+1.2**
	baz=58								
BOOM				⇑*i*S		**Sn**	**14 24 53.9**	**+0.3**
	baz=58								
DGS	**Degeres**	**2.12**	**279**	*e*P		**Pn**	**14 24 31.7**	**+3.0**
	2.8nm,0.4s								
DGS				*e*S		**Sb**	**14 24 59.3**	**+1.2**
	7.2nm,0.5s								
DGS	**Degeres**	**2.12**	**279**	Pg		**Pn**	**14 24 31.7**	**+3.0**
	2.8nm,0.4s								
DGS				Lg		Lg	14 24 59.3		
	7.2nm,0.5s								
TKM2	**Tokmak 2**	**2.23**	**271**	⇑*i*P		**Pn**	**14 24 31.5**	**+1.2**
	baz=71								
TKM2				⇑*i*S		**Sn**	**14 24 59.8**	**+1.3**
	baz=71								
KAPS	**Kapalarasan**	**2.41**	**12**	*e*P		**Pn**	**14 24 36.1**	**+3.6**
	0.5nm,0.2s								
KAPS				*e*S		**Sb**	**14 25 07.1**	**+0.9**
	3.1nm,0.2s								
KAPS	**Kapalarasan**	**2.41**	**12**	Pg		**Pb**	**14 24 36.7**	**+0.5**
	0.5nm,0.2s								
KAPS				Lg		Lg	14 25 07.4		
	3.0nm,0.3s								
KZA	**Kyzart**	**2.65**	**252**	⇑*i*P		**Pn**	**14 24 37.4**	**+1.3**
	baz=52								
KZA				⇑*i*S		**Sn**	**14 25 09.0**	**+0.1**
	baz=52								

*ISK **21** 14:33:24.6, 40˚.30N×25˚.60E, h8km, ML3.5/28*
*THE **21** 14:33:25.9, 40˚.30N×25˚.64E, h10km±1km, ML3.1/11, Error ellipse: s-maj=1.3km s-min=0.6km az=45.0*
*ATH **21** 14:33:25.1, 40˚.31N×25˚.62E, h22km±1km, ML3.1/13, Error ellipse: s-maj=1.8km s-min=0.9km az=72.0*
*DDA **21** 14:33:26.6, 40˚.28N×25˚.68E, h1†km, MW3.5*
*SOF **21** 14:33:26.0, 40˚.35N×25˚.37E, h2km, MD3.1*

ISC 21 14:33:25.8±0.8, 40˚.29N±0˚.02×25˚.63E±0˚.02, h11km±6km, n121, σ0§68/158, 24C-1D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMTH	**Samothraki Isl**	**0.19**	**338**	P		**Pg**	**14 33 30.0**	**-0.1**
SMTH				S		**Sg**	**14 33 33.0**	**0.0**
	10μm,0.1s							
SMTH	**Samothraki Isl**	**0.19**	**338**	P		**Pg**	**14 33 30.0**	**-0.1**
SMTH				S		**Sg**	**14 33 32.7**	**-0.3**
SMTH				AML	AML		14 33 33.3	
	comp=N,17402μm,0.2s							
SMTH				AML	AML		14 33 33.4	
	comp=E,22184μm,0.1s							
GADA	**Gvkgeada**	**0.23**	**116**	P		**Pg**	**14 33 30.4**	**-0.2**
GADA				S		**Sg**	**14 33 34.0**	**+0.1**
	comp=E,5μm,0.5s							
GADA	**Gvkgeada**	**0.23**	**116**	PG		**Pg**	**14 33 30.5**	**-0.2**
GADA				SG		**Sg**	**14 33 34.1**	**+0.1**
GOKA	**anakkale-Gk**	**0.24**	**115**	*i*P		**Pg**	**14 33 30.7**	**-0.1**
GOKA				*i*S		**Sg**	**14 33 33.7**	**-0.4**
GOKA				IAML			14 33 34.0	
	comp=E,15μm,0.5s							
GOKA				IAML			14 33 35.0	
	comp=N,8μm,0.4s							
LIA	**Limnos Island**	**0.52**	**221**	P		**Pg**	**14 33 36.2**	**+0.2**
LIA				S		**Sb**	**14 33 44.4**	**0.0**
	comp=N,2μm,0.3s							
LIA	**Limnos Island**	**0.52**	**221**	P		**Pg**	**14 33 36.2**	**+0.2**
LIA				S		**Sg**	**14 33 43.9**	**+1.0**
LIA				AML	AML		14 33 45.0	
	comp=N,3616μm,0.3s							
LIA				AML	AML		14 33 47.9	
	comp=E,4554μm,0.4s							
BOZC	**Bozcaada**	**0.56**	**144**	PG		**Pg**	**14 33 36.5**	**-0.2**
BOZC	**Bozcaada**	**0.56**	**144**	*i*P		**Pg**	**14 33 36.6**	**0.0**
BOZC				*i*S		**Sg**	**14 33 43.9**	**-0.1**
BOZC				IAML			14 33 44.0	
	comp=N,1μm,0.3s							
BOZC				IAML			14 33 45.0	
	comp=E,2μm,0.3s							
ENEZ	**Enez**	**0.60**	**42**	P		**Pg**	**14 33 36.8**	**-0.7**
ENEZ				S		**Sg**	**14 33 46.0**	**+0.6**
	comp=E,5μm,0.3s							
ENEZ	**Enez**	**0.60**	**42**	PG		**Pg**	**14 33 36.9**	**-0.6**
ENEZ				SG		**Sg**	**14 33 45.7**	**+0.3**
GELI	**Tayfur-Gelibol**	**0.66**	**80**	PG		**Pg**	**14 33 37.8**	**-0.8**
ALN	**Alexandroupoli**	**0.68**	**28**	P		**Pg**	**14 33 38.4**	**-0.7**
ALN				S		**Sg**	**14 33 48.1**	**0.0**
	comp=E,2μm,0.6s							
ALN	**Alexandroupoli**	**0.68**	**28**	P		**Pg**	**14 33 38.4**	**-0.7**
ALN				S		**Sg**	**14 33 47.6**	**-0.5**
ALN				AML	AML		14 33 48.9	
	comp=N,3154μm,0.4s							
ALN				AML	AML		14 33 51.5	
	comp=E,4206μm,0.3s							
ALN	**Alexandroupoli**	**0.68**	**28**	PG		**Pg**	**14 33 38.5**	**-0.7**
EZN	**Ezine**	**0.71**	**131**	P		**Pg**	**14 33 39.0**	**-0.6**
EZN				S		**Sg**	**14 33 48.7**	**-0.2**
	comp=E,742nm,0.3s							
EZN	**Ezine**	**0.71**	**131**	PG		**Pg**	**14 33 39.2**	**-0.4**
THAS	**Thassos island**	**0.76**	**295**	P		**Pb**	**14 33 41.0**	**-0.1**
THAS				S		**Sb**	**14 33 51.7**	**+0.3**
	comp=E,1μm,0.2s							
THAS	**Thassos island**	**0.76**	**295**	P		**Pg**	**14 33 40.5**	**-0.1**
THAS				S		**Sg**	**14 33 50.4**	**-0.2**
THAS				AML	AML		14 33 53.6	
	comp=E,2004μm,0.2s							
THAS				AML	AML		14 33 54.9	
	comp=N,2289μm,0.2s							
ERIK	**Erikli-Kesan**	**0.78**	**60**	PG		**Pg**	**14 33 39.7**	**-1.1**
RDO	**Rodhopi**	**0.86**	**355**	P		**Pg**	**14 33 41.7**	**-0.7**
RDO				S		**Sg**	**14 33 53.4**	**-0.2**
	comp=N,792nm,0.3s							
RDO	**Rodhopi**	**0.86**	**355**	P		**Pg**	**14 33 41.7**	**-0.7**
RDO				S		**Sg**	**14 33 52.9**	**-0.7**
RDO				AML	AML		14 33 53.6	
	comp=E,1540μm,0.4s							
RDO				AML	AML		14 33 57.4	
	comp=N,1748μm,0.2s							
RDO	**Rodhopi**	**0.86**	**355**	PG		**Pg**	**14 33 41.1**	**-1.3**
LPK	**Lapseki**	**0.87**	**84**	PG		**Pg**	**14 33 41.2**	**-1.4**
BAYC	**CANAKKALE_Bayr**	**0.90**	**128**	*i*P		**Pg**	**14 33 42.8**	**-0.3**
BAYC				*i*S		**Sg**	**14 33 53.7**	**-1.0**
BAYC				IAML			14 33 57.0	
	comp=E,440nm,0.2s							
BAYC				IAML			14 33 59.0	
	comp=N,371nm,0.3s							
KESN	**Edirne-Kesan**	**0.96**	**56**	*i*P		**Pg**	**14 33 44.0**	**-0.5**
KESN				*i*S		**Sg**	**14 33 55.9**	**-1.2**
KESN				IAML			14 33 58.0	
	comp=N,2μm,0.3s							
KESN				IAML			14 33 58.0	
	comp=E,3μm,0.3s							
SIGR	**SIGRI**	**1.09**	**171**	P		**Pb**	**14 33 46.6**	**-0.1**
SIGR				S		**Sb**	**14 34 01.7**	**+0.8**
	comp=E,3μm,0.8s							
SIGR	**SIGRI**	**1.09**	**171**	P		**Pb**	**14 33 46.1**	**-0.6**
SIGR				S		**Sg**	**14 34 01.0**	**0.0**
SIGR				AML	AML		14 34 02.7	
	comp=E,3897μm,0.8s							
SIGR				AML	AML		14 34 02.9	
	comp=N,6052μm,0.4s							
SIGR	**SIGRI**	**1.09**	**171**	PN		**Pb**	**14 33 46.4**	**-0.3**
KAVA	**Kavala**	**1.10**	**310**	P		**Pg**	**14 33 46.6**	**-0.4**
KAVA	**Kavala**	**1.10**	**310**	P		**Pg**	**14 33 46.2**	**-0.9**
KAVA				AML	AML		14 34 02.5	
	comp=N,1015μm,0.2s							
KAVA				AML	AML		14 34 03.6	
	comp=E,965μm,0.4s							
UKOP	**Uzunkopru-Edir**	**1.13**	**42**	PN		**Pb**	**14 33 46.9**	**-0.5**
PRK	**Paraskevi**	**1.16**	**154**	P		**Pg**	**14 33 48.4**	**+0.3**
PRK				S		**Sn**	**14 34 04.4**	**+0.8**
	comp=E,2μm,0.8s							
PRK	**Paraskevi**	**1.16**	**154**	P		**Pb**	**14 33 48.0**	**+0.3**
PRK				S		**Sg**	**14 34 03.7**	**+0.6**
PRK				AML	AML		14 34 06.4	
	comp=E,2790μm,0.4s							
PRK				AML	AML		14 34 06.4	
	comp=N,3085μm,0.5s							
RKY	**Sarkoy-Tekirda**	**1.25**	**71**	PN		**Pn**	**14 33 48.7**	**-0.5**
OUR	**Ouranopolis**	**1.26**	**273**	P		**Pn**	**14 33 48.4**	**-0.9**
OUR				S		**Sb**	**14 34 05.7**	**0.0**
	comp=N,738nm,0.5s							
OUR	**Ouranopolis**	**1.26**	**273**	P		**Pn**	**14 33 48.6**	**-0.7**
OUR				S		**Sg**	**14 34 06.1**	**-0.3**
OUR				AML	AML		14 34 09.4	
	comp=E,1418μm,0.2s							
OUR				AML	AML		14 34 13.8	
	comp=N,1550μm,0.6s							
OUR	**Ouranopolis**	**1.26**	**273**	PN		**Pn**	**14 33 48.6**	**-0.7**
AYVA	**Ayvalik**	**1.28**	**140**	*i*P		**Pn**	**14 33 49.1**	**-0.5**
AYVA				*i*S		**Sb**	**14 34 05.6**	**-0.7**
AYVA				IAML			14 34 08.0	
	comp=N,1μm,0.6s							
AYVA				IAML			14 34 09.0	
	comp=E,791nm,0.7s							
KDZ	**Kurdzhali**	**1.37**	**353**	P		**Pn**	**14 33 50.9**	**+0.1**
KDZ	**Kurdzhali**	**1.37**	**353**	PN		**Pn**	**14 33 49.5**	**-1.3**
KNL	**Balıkesir**	**1.45**	**90**	*i*P		**Pn**	**14 33 51.9**	**-0.1**
KNL				*i*S		**Sn**	**14 34 10.3**	**-0.7**
KNL				IAML			14 34 13.0	
	comp=E,1μm,0.4s							
KNL				IAML			14 34 13.0	
	comp=N,939nm,0.7s							
MRMT	**Marmara Adasi**	**1.53**	**78**	PN		**Pn**	**14 33 51.6**	**-1.6**
PAIG	**Paliouri**	**1.54**	**257**	P		**Pn**	**14 33 52.3**	**-0.8**
RZN	**Rozhen**	**1.56**	**334**	P		**Pn**	**14 33 53.9**	**+0.3**
DKL	**Dikili**	**1.57**	**141**	PN		**Pn**	**14 33 53.2**	**-0.3**
GONE	**Gonen-Balikesi**	**1.60**	**98**	PN		**Pn**	**14 33 54.1**	**+0.2**
BALY	**Balya**	**1.63**	**109**	*i*P		**Pn**	**14 33 54.7**	**+0.3**
BALY				*i*S		**Sn**	**14 34 15.6**	**+0.3**
BALY				IAML			14 34 19.0	
	comp=N,896nm,0.6s							
BALY				IAML			14 34 21.0	
	comp=E,479nm,0.6s							
SKY	**Skiros Island**	**1.64**	**211**	P		**Pn**	**14 33 53.7**	**-0.8**
PLG	**Polygyros**	**1.67**	**274**	P		**Pn**	**14 33 54.3**	**-0.7**
PLG	**Polygyros**	**1.67**	**274**	P		**Pn**	**14 33 54.4**	**-0.6**
PLG				AML	AML		14 34 22.6	
	comp=N,803μm,0.8s							
PLG				AML	AML		14 34 22.8	
	comp=E,672μm,0.4s							
NVR	**Nevrokopi**	**1.71**	**309**	P		**Pn**	**14 33 55.1**	**-0.4**
NVR	**Nevrokopi**	**1.71**	**309**	P		**Pn**	**14 33 55.3**	**-0.2**
NVR				AML	AML		14 34 35.1	
	comp=N,414μm,0.7s							
NVR				AML	AML		14 34 35.2	
	comp=E,392μm,0.6s							
EDC	**Edincik**	**1.71**	**87**	PN		**Pn**	**14 33 55.7**	**+0.2**
ZEDA	**zmir-Bergama**	**1.73**	**139**	*i*P		**Pn**	**14 33 55.7**	**-0.1**
ZEDA				*i*S		**Sb**	**14 34 19.4**	**0.0**
ZEDA				IAML			14 34 22.0	
	comp=N,236nm,0.3s							
ZEDA				IAML			14 34 22.0	
	comp=E,361nm,0.5s							
AOS	**Alonnisos**	**1.75**	**231**	P		**Pn**	**14 33 55.8**	**-0.3**
AOS	**Alonnisos**	**1.75**	**231**	P		**Pn**	**14 33 56.1**	**+0.1**
AOS				AML	AML		14 34 32.8	
	comp=N,721μm,1.3s							
AOS				AML	AML		14 34 33.3	
	comp=E,1129μm,0.8s							
AOS	**Alonnisos**	**1.75**	**231**	PN		**Pn**	**14 33 55.7**	**-0.3**
SRS	**Serrai**	**1.75**	**299**	P		**Pn**	**14 33 55.8**	**-0.3**
SRS	**Serrai**	**1.75**	**299**	P		**Pn**	**14 33 56.4**	**+0.3**
DIM	**Dimitrovgrad**	**1.76**	**358**	P		**Pb**	**14 33 58.3**	**+0.2**
EDRB	**Edirne**	**1.77**	**28**	P		**Pn**	**14 33 55.7**	**-0.6**
EDRB	**Edirne**	**1.77**	**28**	PN		**Pn**	**14 33 56.0**	**-0.3**
CRLT	**Corlu**	**1.81**	**62**	PN		**Pn**	**14 33 57.2**	**+0.3**
BALB	**Balikesir**	**1.85**	**110**	PN		**Pn**	**14 33 57.6**	**+0.2**
STEP	**BALIKESIR_Sava**	**1.85**	**119**	*i*P		**Pn**	**14 33 57.3**	**-0.2**
STEP				IAML			14 34 37.0	
	comp=N,372nm,1.0s							
STEP				IAML			14 34 41.0	
	comp=E,270nm,0.7s							
KIRK	**Kırklareli**	**1.86**	**36**	*i*P		**Pn**	**14 33 57.4**	**-0.2**
KIRK				IAML			14 34 31.0	
	comp=N,106nm,0.6s							
BOTS	**Marmara Eregli**	**1.92**	**68**	PN		**Pn**	**14 33 58.9**	**+0.5**
MMB	**Musomiste**	**1.94**	**313**	P		**Pn**	**14 33 58.3**	**-0.4**
PLD	**Plovdiv**	**1.94**	**339**	P		**Pb**	**14 34 02.0**	**+0.8**
PLD	**Plovdiv**	**1.94**	**339**	PN		**Pn**	**14 33 58.6**	**-0.1**
HORT	**Hortiatis**	**1.95**	**280**	P		**Pn**	**14 33 59.5**	**+0.6**
HORT				S		**Sn**	**14 34 23.4**	**-0.1**
HORT				AML	AML		14 34 39.8	
	comp=N,579μm,0.7s							
HORT				AML	AML		14 34 41.0	
	comp=E,368μm,0.8s							
HORT	**Hortiatis**	**1.95**	**280**	PN		**Pn**	**14 33 58.6**	**-0.3**
URLA	**Izmir**	**2.07**	**158**	PN		**Pn**	**14 34 00.4**	**-0.1**
URLA	**Izmir**	**2.07**	**158**	*i*P		**Pn**	**14 33 59.9**	**-0.6**
URLA				IAML			14 34 38.0	
	comp=N,110nm,0.9s							
URLA				IAML			14 34 42.0	
	comp=E,79nm,0.5s							
KCTX	**Karacabey (Bur**	**2.09**	**90**	PN		**Pn**	**14 34 00.6**	**-0.1**
SLVT	**Silivri**	**2.17**	**64**	PN		**Pn**	**14 34 02.4**	**+0.5**
BLCB	**Balcova**	**2.20**	**150**	PN		**Pn**	**14 34 01.7**	**-0.5**
AKHS	**Akhisar**	**2.20**	**129**	*i*P		**Pn**	**14 34 02.5**	**+0.2**
AKHS				IAML			14 34 38.0	
	comp=E,53nm,0.4s							
JMB	**Yambol**	**2.29**	**18**	P		**Pb**	**14 34 07.7**	**+0.6**
DURS	**Dursunbey**	**2.29**	**107**	*i*P		**Pb**	**14 34 07.6**	**+0.3**
DURS				*i*S		**Sn**	**14 34 32.4**	**+0.5**
DURS				IAML			14 34 39.0	
	comp=N,300nm,0.4s							
DURS				IAML			14 34 40.0	
	comp=E,297nm,0.3s							
CTYL	**Yalıkoy Yolu**	**2.34**	**59**	PN		**Pn**	**14 34 04.5**	**+0.3**
CTKS	**Kestanelik-??a**	**2.38**	**66**	PN		**Pn**	**14 34 05.4**	**+0.7**
DST	**Dursunbey**	**2.40**	**106**	PN		**Pn**	**14 34 05.4**	**+0.3**
DGB	**zmir**	**2.44**	**156**	*i*P		**Pn**	**14 34 04.8**	**-0.7**
ARMT	**Armutlu**	**2.48**	**83**	PN		**Pn**	**14 34 06.6**	**+0.4**
MDNY	**Mudanya-Bursa**	**2.49**	**87**	PN		**Pn**	**14 34 06.6**	**+0.4**
ORLT	**Orhaneli**	**2.52**	**95**	PN		**Pn**	**14 34 07.3**	**+0.6**
ELND	**Elena**	**2.64**	**4**	⇑P		**Pn**	**14 34 09.2**	**+0.8**
ELND				⇑S		**Sn**	**14 34 40.2**	**-0.2**
DEMI	**Demirci**	**2.69**	**117**	*i*P		**Pn**	**14 34 09.7**	**+0.7**
DEMI				IAML			14 34 52.0	
	comp=E,86nm,0.6s							
DEMI				IAML			14 34 53.0	
	comp=N,79nm,0.3s							
ULDT	**Uludag**	**2.69**	**92**	*i*P		**Pn**	**14 34 09.2**	**0.0**
ULDT				*i*S		**Sb**	**14 34 49.1**	**+2.0**
ULDT				IAML			14 34 51.0	
	comp=E,194nm,0.6s							
ULDT				IAML			14 34 52.0	
	comp=N,147nm,0.7s							
IGD	**Bursa**	**2.73**	**89**	*i*P		**Pn**	**14 34 07.0**	**-2.6**
IGD				*i*S		**Sb**	**14 34 49.6**	**+1.4**
IGD				IAML			14 34 54.0	
	comp=N,51nm,0.3s							
IGD				IAML			14 34 55.0	
	comp=E,60nm,0.3s							
MANT	**Manisa**	**2.90**	**127**	*i*P		**Pn**	**14 34 12.0**	**0.0**
MANT				IAML			14 34 58.0	
	comp=E,50nm,0.4s							
MANT				IAML			14 35 01.0	
	comp=N,52nm,0.4s							
VTS	**Vitosha**	**2.94**	**323**	⇑P		**Pn**	**14 34 12.9**	**+0.4**
VTS				⇑S		**Sn**	**14 34 49.5**	**+1.7**
VTS	**Vitosha**	**2.94**	**323**	P		**Pn**	**14 34 14.5**	**+1.9**
STIP	**Stip**	**2.96**	**299**	*i*Pn		**Pn**	**14 34 11.2**	**-1.5**
USAK	**Uak-Merkez**	**3.06**	**120**	*i*P		**Pn**	**14 34 15.1**	**+0.9**
USAK				IAML			14 36 00.0	
	comp=E,39nm,3.5s							
USAK				IAML			14 36 00.0	
	comp=N,41nm,4.1s							
AYDN	**Tasoluk**	**3.16**	**146**	*i*P		**Pn**	**14 34 15.6**	**+0.1**
AYDN				IAML			14 35 09.0	
	comp=N,21nm,0.6s							
AYDN				IAML			14 35 10.0	
	comp=E,32nm,0.4s							
PLVB	**Pleven**	**3.18**	**347**	⇑P		**Pn**	**14 34 15.9**	**+0.1**
PLVB				⇑S		**Sn**	**14 34 54.3**	**+0.6**
APE	**Apeiranthos**	**3.22**	**181**	⇑P		**Pn**	**14 34 14.6**	**-1.7**
APE				⇑S		**Sn**	**14 34 52.7**	**-1.9**
RAZG	**Razgrad**	**3.34**	**11**	⇑P		**Pn**	**14 34 18.2**	**+0.2**
KHAL	**Karahalli**	**3.56**	**121**	*i*P		**Pn**	**14 34 21.6**	**+0.6**
KHAL				IAML			14 35 05.0	
	comp=E,15nm,0.5s							
KHAL				IAML			14 35 05.0	
	comp=N,16nm,0.3s							
KAND	**Kocaeli-Kandir**	**3.56**	**76**	*i*P		**Pn**	**14 34 20.5**	**-0.5**
KAND				IAML			14 35 21.0	
	comp=N,63nm,0.8s							
KAND				IAML			14 35 23.0	
	comp=E,54nm,0.7s							
TAVA	**DENIZLI_Tavas**	**3.81**	**137**	*i*P		**Pn**	**14 34 24.7**	**+0.2**
TAVA				IAML			14 35 49.0	
	comp=N,12nm,2.1s							
TAVA				IAML			14 35 51.0	
	comp=E,11nm,2.3s							
SGRR	**Singureni**	**3.94**	**4**	⇑P		**Pn**	**14 34 26.2**	**+0.1**
ICOR	**Ion Corvin**	**4.15**	**22**	⇑P		**Pn**	**14 34 28.8**	**-0.2**
SULR		**4.41**	**6**	⇑P		**Pn**	**14 34 33.4**	**+0.8**
AUMIH	**MIHALICIK**	**4.51**	**93**	*i*P		**Pn**	**14 34 34.5**	**+0.3**
TIRR	**Tirgusor**	**4.65**	**25**	⇑P		**Pn**	**14 34 35.9**	**0.0**
TOPG	**Topolog**	**5.01**	**23**	⇑P		**Pn**	**14 34 40.8**	**-0.1**
VOIR		**5.16**	**355**	⇑P		**Pn**	**14 34 42.7**	**-0.4**
HERR	**Herculane**	**5.16**	**334**	⇑P		**Pn**	**14 34 42.6**	**-0.4**
MLR	**Muntele Rosu**	**5.20**	**2**	⇑P		**Pn**	**14 34 43.4**	**-0.2**
CFR	**Carcaliu**	**5.22**	**20**	⇑P		**Pn**	**14 34 43.4**	**-0.4**
MDVR	**Moldovita**	**5.34**	**328**	⇑P		**Pn**	**14 34 45.5**	**0.0**
PLOR	**Plostina**	**5.61**	**7**	⇑P		**Pn**	**14 34 50.5**	**+1.4**
VRI	**Vrincioaia**	**5.63**	**8**	⇑P		**Pn**	**14 34 50.0**	**+0.5**
DOPR	**Dopca**	**5.68**	**358**	⇑P		**Pn**	**14 34 50.6**	**+0.6**
BZS	**Buzias**	**6.08**	**332**	⇑P		**Pn**	**14 34 55.4**	**-0.2**
SIRR	**Siria**	**6.64**	**335**	⇓P		**Pn**	**14 35 03.2**	**-0.1**
DRGR		**6.83**	**343**	⇑P		**Pn**	**14 35 06.8**	**+0.8**

*IDC **21** 14:37:19.6±1.0, 75˚.11N×133˚.35E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.5/44, mbtmp3.6/8, ML5.7/1, Error ellipse: s-maj=35.8km s-min=18.8km az=142.0*
*YARS **21** 14:37:28.3±0.0, 74˚.50N×134˚.23E, h27km, ML2.4/3*

ISC 21 14:37:21.4±0.9, 74˚.83N±0˚.08×134˚.03E±0˚.07, h10km±6km, n12, σ1§79/18, mb3.6/7, Laptev Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TIXI	**Tiksi**	**3.53**	**208**	P		**Pn**	**14 38 16.3**	**+0.2**
	2.4nm,0.3s,baz=25,slow=6.5,SNR=22							
TIXI				Sn		**Sn**	**14 38 56.8**	**-0.9**
	2.6nm,0.3s,baz=139,slow=20,SNR=4.0							
TIXI	**Tiksi**	**3.53**	**208**	*e*P		**Pn**	**14 38 17.3**	**+1.2**
	4.0nm,0.2s,baz=211							
TIXI				*e*S		**Sn**	**14 38 56.6**	**-1.2**
	4.5nm,0.2s,baz=211							
TIXI				*e*S		**Sn**	**14 38 56.6**	**-1.2**
	11nm,0.3s,baz=211							
DEPR	**Deputatskiy**	**5.75**	**159**	*e*P		**Pn**	**14 38 47.1**	**+0.5**
	2.0nm,0.6s,baz=158							
DEPR				*e*S		**Sn**	**14 39 49.6**	**-3.0**
	12nm,0.2s,baz=158							
YBGR	**Belaya Gora**	**7.38**	**143**	*e*P		**Pn**	**14 39 10.5**	**+1.6**
	2.3nm,0.3s,baz=142							
YBGR				*e*S		**Sn**	**14 40 30.3**	**-2.1**
	4.1nm,0.2s,baz=142							
MOMR	**Moma**	**8.92**	**156**	*e*P		**Pn**	**14 39 31.4**	**+1.4**
	3.3nm,0.2s,baz=155							
MOMR				*e*S		**Sn**	**14 41 08.3**	**-2.1**
	7.3nm,0.5s,baz=155							
PETK	**Petropavlovsk-**	**23.78**	**143**	P		**P**	**14 42 36.6**	**+3.0**
	0.4nm,0.6s,baz=359,slow=8.4,SNR=2.2							
ILAR	**Eielson Array**	**26.75**	**69**	P		**P**	**14 43 01.4**	**+0.8**
	0.6nm,0.7s,baz=324,slow=9.5,SNR=7.2							
SONM	**Songino Array**	**29.53**	**219**	P		**P**	**14 43 27.1**	**+1.4**
	1.5nm,0.7s,baz=7.8,slow=9.9,SNR=7.3							
MKAR	**Makanchi Array**	**35.61**	**249**	P		**P**	**14 44 18.6**	**0.0**
	0.5nm,0.7s,baz=34,slow=5.2,SNR=4.9							
NVAR	**Mina Array Bea**	**57.70**	**62**	P		**P**	**14 47 12.7**	**+0.8**
	0.7nm,0.6s,baz=346,slow=5.1,SNR=7.2							
TXAR	**Lajitas Array**	**69.68**	**52**	P		**P**	**14 48 29.0**	**-1.8**
	0.3nm,0.6s,baz=10,slow=5.5,SNR=4.5							
TORD	**Torodi Ar. Bea**	**87.40**	**314**	P		**P**	**14 50 06.3**	**-2.2**
	0.5nm,0.8s,baz=2.7,slow=6.3,SNR=2.5							

*IDC **21** 14:46:16.2±10.0, 52˚.18N×174˚.10W, h123km±100km, mb3.1/5, mb1 3.5/8, mb1mx3.1/48, mbtmp3.6/8, ML3.6/3, Error ellipse: s-maj=85.6km s-min=21.9km az=169.0*
*NEIC **21** 14:46:23.1±2.0, 52˚.5N±0˚.2×174˚.2W±0˚.1, h195km±4km, Error ellipse: s-maj=29.0km s-min=8.9km az=164.0*
*AEIC **21** 14:46:24.1±1.6, 52˚.4N±0˚.2×174˚.3W±0˚.1, h200km±3km, mb4.0/15(NEIC), Error ellipse: s-maj=30.3km s-min=8.7km az=166.0*

ISC 21 14:46:22.9±0.7, 52˚.6N±0˚.2×174˚.26W±0˚.06, h194km±7km, n45, σ1§16/50, mb3.2/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KOKL	**Mount Kliuchef**	**0.28**	**173**			**Pn**	**14 46 49.8**	**+1.1**
KOSE	**Korovin Southe**	**0.28**	**153**			**Pn**	**14 46 49.4**	**+0.7**
KOFP	**Korovin Flat P**	**0.34**	**163**			**Pn**	**14 46 49.5**	**+0.6**
ATKA	**Atka Island**	**0.40**	**175**			**Pn**	**14 46 49.1**	**+0.2**
ATKA						**Sn**	**14 47 09

comp=Z,0.4nm,0.7s,baz=29,slow=4.5,SNR=6.1

*ISK **21** 15:22:35.0, 37˚.37N× 42˚.62E, h3km, ML2.6/7*
*DDA **21** 15:22:35.5, 37˚.36N× 42˚.59E, h8km± 4km, ML2.3*
ISC 21 15:22:35.7±1.2, **37˚.38N**±0˚.05× **42˚.63E**±0˚.03, **h5**km±10km, **n20**, σ0**s74**/29, **Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIRT	**Sirnak**	**0.19**	**310**	PG	**Pg**	**15 22 39.5**	**0.0**
SIRT				SG	**Sg**	**15 22 43.1**	**+1.0**
SIRN	**Srnak**	**0.21**	**305**	*i* P	**Pg**	**15 22 39.7**	**-0.1**
SIRN				*i* S	**Sg**	**15 22 43.1**	**+0.6**
SIRN	comp=E,1μm,0.5s			IAML		15 22 47.0	
SIRN	comp=N,670nm,0.5s			IAML		15 22 48.0	
CUKT	**Cukurca**	**0.79**	**99**	PG	**Pg**	**15 22 51.2**	**+0.2**
CUKT				SG	**Sb**	**15 23 02.9**	**-0.4**
CUKT	**Cukurca**	**0.79**	**99**	*i* P	**Pg**	**15 22 50.8**	**-0.2**
CUKT				*i* S	**Sb**	**15 23 04.0**	**+0.8**
CUKT	comp=E,173nm,0.5s			IAML		15 23 08.0	
CUKT	comp=N,107nm,0.6s			IAML		15 23 09.0	
SRTM	**Siirt_Merkez**	**0.83**	**318**	*i* P	**Pg**	**15 22 51.5**	**-0.1**
SRTM				*i* S	**Sn**	**15 23 05.7**	**-1.2**
SRTM	comp=N,111nm,0.6s			IAML		15 23 10.0	
SRTM	comp=E,91nm,0.5s			IAML		15 23 11.0	
HAKT	**HAKKARI**	**0.88**	**78**	*i* P	**Pg**	**15 22 51.7**	**-0.9**
AKDM	**Akdamar-Van**	**0.99**	**16**	PG	**Pg**	**15 22 54.9**	**+0.2**
AKDM				SG	**Sb**	**15 23 09.6**	**+0.6**
GEVA	**Gevas**	**0.99**	**20**	*i* P	**Pg**	**15 22 54.8**	**0.0**
BLIS	**Bitlis-Merkez**	**1.11**	**339**	*i* P	**Pn**	**15 22 58.0**	**-0.2**
BTMN	**Batman**	**1.19**	**296**	*i* P	**Pn**	**15 22 59.2**	**0.0**
BTMN				*i* S	**Sn**	**15 23 17.8**	**+1.9**
BTMN	comp=E,178nm,0.5s			IAML		15 23 20.0	
BTMN	comp=N,94nm,0.8s			IAML		15 23 20.0	
GURO	**Guroymak-BITLI**	**1.26**	**338**	PN	**Pn**	**15 23 00.1**	**-0.1**
YOVA	**Hakkari_Yksek**	**1.34**	**81**	*i* P	**Pb**	**15 23 01.3**	**-0.2**
YOVA	comp=E,51nm,0.4s			IAML		15 23 25.0	
YOVA	comp=N,56nm,0.5s			IAML		15 23 25.0	
SVAN	**Silvan-Diyarba**	**1.37**	**305**	PN	**Pg**	**15 23 01.9**	**-0.1**
SVAN	**Silvan-Diyarba**	**1.37**	**305**	*i* P	**Pg**	**15 23 01.4**	**-0.6**
SVAN	comp=N,29nm,0.5s			IAML		15 23 24.0	
MARD	**Mardin**	**1.47**	**268**	*i* P	**Pb**	**15 23 03.0**	**-0.7**
MARD				*i* S	**Sg**	**15 23 23.4**	**+0.4**
MUSM	**Mu-Merkez**	**1.61**	**327**	*i* P	**Pb**	**15 23 05.5**	**-0.5**
MUSM				*i* S	**Sg**	**15 23 27.0**	**-0.4**
MAZI	**Mazidag**	**1.74**	**273**	PN	**Pb**	**15 23 07.3**	**-0.9**
HANI	**Diyarbakir_Han**	**2.04**	**301**	*i* P	**Pb**	**15 23 12.3**	**-1.1**
HANI	comp=E,14nm,0.3s			IAML		15 23 43.0	
DIYA	**Diyarbakir**	**2.06**	**286**	*i* P	**Pb**	**15 23 12.8**	**-0.9**
SVRC	**Sivrice-ELAZID**	**2.81**	**292**	PN	**Pn**	**15 23 22.5**	**+1.0**

*TAP **21** 15:26:45.5, 24˚.47N× 122˚.33E, h6km, ML2.5, D*
*JMA **21** 15:26:46.8, 24˚.41N× 122˚.28E, h8km, M2.1*
ISC 21 15:26:46.0±1.0, **24˚.47N**±0˚.03× **122˚.30E**±0˚.02, **h10**km±10km, **n52**, σ0**s64**/93, **1D**, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.44**	**289**	*i*↓P	**Pg**	**15 26 53.9**	**-0.7**
TWC	baz=287			*i* S	**Sg**	**15 27 00.7**	**+0.4**
EGS	baz=287	**0.51**	**318**	P	**Pg**	**15 26 55.4**	**-0.5**
EGS	baz=316			S	**Sg**	**15 27 03.0**	**+0.4**
ENA	**Nanau**	**0.51**	**266**	P	**Pg**	**15 26 55.9**	**-0.1**
ENA	baz=265			S	**Sg**	**15 27 03.3**	**+0.5**
NTC	**Toucheng**	**0.58**	**312**	*e*P	**Pg**	**15 26 56.5**	**-0.7**
NTC	baz=309			S	**Sg**	**15 27 05.4**	**+0.6**
ILA	**Ilan**	**0.59**	**301**	*e*S	**Sg**	**15 27 06.3**	**+1.2**
JYNG	**Yonagunijimaku**	**0.59**	**91**	P	**Pb**	**15 26 58.6**	**+0.3**
JYNG				S	**Sb**	**15 27 06.3**	**-0.4**
TWB1	**Santiao Chiao**	**0.61**	**332**	*e*P	**Pg**	**15 26 57.2**	**-0.7**
TWB1	baz=330			*e*S	**Sg**	**15 27 05.3**	**-0.6**
TWE	**Neicheng**	**0.63**	**294**	P	**Pg**	**15 26 57.8**	**-0.5**
TWE	baz=292			S	**Sg**	**15 27 06.7**	**+0.1**
YOJ	**Yonaguni jima**	**0.65**	**90**	*e*P	**Pb**	**15 26 59.7**	**+0.4**
YOJ	baz=90			*e*S	**Sb**	**15 27 08.4**	**0.0**
YOJ	**Yonaguni jima**	**0.65**	**90**	P	**Pb**	**15 26 59.7**	**+0.4**
YOJ				*e*S	**Sb**	**15 27 09.9**	**+1.5**
TIPB	**Shuangxi**	**0.67**	**319**	*e*P	**Pg**	**15 26 58.6**	**-0.2**
TIPB	baz=317			*e*S	**Sg**	**15 27 07.8**	**+0.2**
ENTT	**Nioudou**	**0.69**	**285**	*e*P	**Pg**	**15 26 58.9**	**-0.5**
ENTT	baz=283			*e*S	**Sg**	**15 27 09.0**	**+0.5**
NACB	**Ninganchiao**	**0.71**	**246**	*e*P	**Pg**	**15 26 59.7**	**+0.1**
NACB	baz=246			*e*S	**Sg**	**15 27 09.4**	**+0.5**
NDT	**Datong Townshi**	**0.73**	**281**	*e*P	**Pg**	**15 26 59.7**	**-0.4**
NDT	baz=280			*e*S	**Sg**	**15 27 10.0**	**+0.3**
TWD	**Chiawan**	**0.75**	**239**	*e*P	**Pg**	**15 26 59.6**	**-0.8**
NWF	**Wu-fen Shan**	**0.77**	**322**	*e*P	**Pg**	**15 27 01.0**	**+0.2**
NWF	baz=320			*e*S	**Sg**	**15 27 10.8**	**0.0**
WFSB	**Wu-fen Shan**	**0.77**	**322**	*e*P	**Pg**	**15 27 00.9**	**+0.1**
WFSB	baz=320			*e*S	**Sg**	**15 27 10.9**	**+0.1**
ETLH	**Xiulin Townshi**	**0.79**	**251**	*e*P	**Pg**	**15 27 01.1**	**-0.1**
ETLH	baz=251			*e*S	**Sg**	**15 27 12.1**	**+0.5**
NWLT	**Wulai**	**0.79**	**293**	*e*P	**Pg**	**15 27 01.1**	**-0.1**
NWLT	baz=292			*e*S	**Sg**	**15 27 12.3**	**+0.7**
TWA	**Mucha**	**0.83**	**308**	*e*P	**Pg**	**15 27 01.2**	**-0.8**
TWA	baz=306			*e*S	**Sg**	**15 27 13.5**	**+0.7**
NNSB	**Datong**	**0.84**	**268**	*e*P	**Pg**	**15 27 01.7**	**-0.4**
NNSB	baz=267			*e*S	**Sg**	**15 27 12.9**	**-0.2**
NNSH	**Datong**	**0.84**	**268**	*e*P	**Pg**	**15 27 01.8**	**-0.4**
NNSH	baz=267			*e*S	**Sg**	**15 27 12.0**	**-1.1**
NNS	**Nan Shan**	**0.85**	**268**	*e*P	**Pg**	**15 27 01.8**	**-0.5**
NNS	baz=267			*e*S	**Sg**	**15 27 13.0**	**-0.4**
NHDH	**Xindian Distri**	**0.86**	**305**	*e*P	**Pg**	**15 27 01.7**	**-0.9**
NHDH	baz=303			*e*S	**Sg**	**15 27 14.4**	**+0.6**
YHNB	**Yeheng**	**0.87**	**284**	*e*P	**Pg**	**15 27 02.5**	**-0.3**
YHNB	baz=282			*e*S	**Sg**	**15 27 14.1**	**+0.1**
NSK	**Sanguang**	**0.89**	**284**	*e*P	**Pg**	**15 27 02.8**	**-0.2**
NSK	baz=282			*e*S	**Sg**	**15 27 14.4**	**-0.2**
TATO	**Taipei**	**0.90**	**305**	*e*P	**Pg**	**15 27 03.0**	**-0.2**
TATO	baz=303			*e*S	**Sg**	**15 27 15.3**	**+0.3**
YM08	**YM08**	**0.97**	**318**	*e*P	**Pg**	**15 27 03.4**	**-1.3**
YM04	baz=313			*e*S	**Sg**	**15 27 17.8**	**+0.3**
WHF	**Hehuan Shan**	**1.00**	**252**	*e*P	**Pg**	**15 27 05.2**	**-0.1**
WHF	baz=251			*e*S	**Sg**	**15 27 18.6**	**+0.3**
ESL	**Shilin**	**1.02**	**231**	*e*P	**Pg**	**15 27 05.5**	**-0.2**
ESL	baz=231			*e*S	**Sb**	**15 27 20.0**	**+0.7**
TWY	**Chenhua**	**1.03**	**322**	*e*P	**Pg**	**15 27 05.4**	**-0.4**
TWY	baz=320			*e*S	**Sg**	**15 27 18.7**	**-0.4**
WLTB	**Daxi**	**1.03**	**292**	*e*P	**Pb**	**15 27 06.8**	**+1.0**
LIOB	baz=291			*e*S	**Sb**	**15 27 24.9**	**+0.9**
TDCB	**Techi**	**1.06**	**259**	*e*P	**Pn**	**15 27 07.7**	**+0.7**
TDCB	baz=258			*e*S	**Sb**	**15 27 21.3**	**+0.7**
CHGB	**Renai**	**1.11**	**249**	*e*P	**Pg**	**15 27 06.7**	**-0.6**
CHGB	baz=248			*e*S	**Sg**	**15 27 21.0**	**-0.6**
EGFH	**Guangfu**	**1.13**	**225**	*e*P	**Pg**	**15 27 06.3**	**-1.3**
PCYT	**Pengchaiyu**	**1.18**	**350**	*e*S	**Sg**	**15 27 22.3**	**-1.6**
LIOB	**Emei**	**1.19**	**279**	*e*P	**Pg**	**15 27 09.0**	**+0.3**
NSTT	baz=277			*e*S	**Sg**	**15 27 24.6**	**+0.1**
WHP	**Taichung City**	**1.25**	**262**	*e*P	**Pb**	**15 27 09.7**	**0.0**
WHP	baz=261			*e*S	**Sg**	**15 27 26.2**	**0.0**
VWDT	**VWDT**	**1.28**	**236**	*e*P	**Pg**	**15 27 10.8**	**+0.4**
VWDT	baz=236			*e*S	**Sn**	**15 27 27.2**	**+0.2**
IRIF	**Iriomote-Funau**	**1.31**	**95**	P	**Pg**	**15 27 11.9**	**+0.8**
IRIF				S	**Sn**	**15 27 29.0**	**+1.2**
DPDB	**Guoxing**	**1.33**	**251**	*e*P	**Pb**	**15 27 11.2**	**+0.2**
SSLB	baz=251			*e*S	**Sb**	**15 27 12.6**	**+0.3**
SSLB	**Suanglung**	**1.41**	**242**	*e*P	**Pb**	**15 27 12.6**	**+0.3**
SSLB	baz=241			*e*S	**Sb**	**15 27 29.2**	**-1.1**
YULB	**Yu-li**	**1.41**	**221**	*e*P	**Pn**	**15 27 10.6**	**-1.1**
YULB	baz=221			*e*S	**Sb**	**15 27 29.2**	**-1.3**
TYC	**Yuchr**	**1.43**	**247**	*e*P	**Pg**	**15 27 14.4**	**+1.0**
WHYT	**Xinyi Township**	**1.53**	**240**	*e*P	**Pn**	**15 27 13.8**	**+0.4**
JKRS	**Kuro-shima**	**1.57**	**98**	P	**Pn**	**15 27 14.5**	**+0.6**
JKRS				*e*S	**Sn**	**15 27 33.9**	**-0.4**
JIJ	**Ishigaki jima**	**1.68**	**93**	P	**Pb**	**15 27 16.9**	**-0.1**
JIJ				S	**Sn**	**15 27 35.8**	**-1.2**
CHN5	**Tsauling**	**1.72**	**240**	*e*P	**Pb**	**15 27 17.7**	**0.0**
JISG	**Ishigakijimahi**	**1.83**	**86**	P	**Pn**	**15 27 16.8**	**-0.7**
JISG				*e*S	**Sn**	**15 27 39.6**	**-1.2**
TPUB	**Ta-pu**	**1.92**	**233**	*e*S	**Sb**	**15 27 45.1**	**0.0**

*PRU **21** 15:32:17.1±0.0, 51˚.51N× 16˚.11E, h0km, Felt In Harrachov*
*VIE **21** 15:32:18.8±0.9, 51˚.34N× 15˚.92E, h0km, mb2.2/4, ml2.6/5,*
Error ellipse: s-maj=9.7km s-min=4.3km az=35.0 81 km
WNW of Wroclaw Suspected Mining induced.
ISC 21 15:32:16.2±1.2, **51˚.51N**±0˚.05× **16˚.13E**±0˚.03, **h0**km, **n23**, σ0**s70**/53, **Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.68**	**171**	*e*Pg	**Pg**	**15 32 29.7**	**+0.5**
KSP				*e*Sg	**Sg**	**15 32 38.7**	**+0.8**
CHVC	**Chvalec**	**0.93**	**183**	*e*PG	**Pb**	**15 32 34.5**	**-0.6**
CHVC	comp=Z,36nm,0.4s			*e*SG	**Sb**	**15 32 47.2**	**-0.8**
OSTC	**Ostas**	**0.96**	**177**	*e*PG	**Pb**	**15 32 35.1**	**-0.6**
OSTC	comp=Z,45nm,0.6s			*e*SG	**Sg**	**15 32 47.8**	**+0.9**
UPC	**Upice**	**1.01**	**184**	*e*PG	**Pg**	**15 32 35.7**	**+0.2**
UPC	comp=Z,53nm,0.3s			*e*SG	**Sg**	**15 32 49.3**	**+0.8**
DPC	**Dobruska-Polom**	**1.17**	**174**	*e*PG	**Pg**	**15 32 38.5**	**-0.1**
DPC	comp=Z,26nm,0.6s			*e*SG	**Sg**	**15 32 53.6**	**-0.1**
PVCC	**Panska Ves**	**1.39**	**226**	*e*PG	**Pg**	**15 32 42.8**	**-0.1**
PVCC				*e*SG	**Sn**	**15 33 01.9**	**-0.1**
BRG	**Berggiesshubel**	**1.52**	**246**	PN	**Pn**	**15 32 44.1**	**-0.5**
BRG				PG	**Pg**	**15 32 45.9**	**+0.7**
BRG	99nm,0.5s			SG	**Sn**	**15 33 05.1**	**0.0**
GOPC	**GO Pecny, Ondr**	**1.81**	**209**	*e*PN	**Pn**	**15 32 48.4**	**-0.3**
GOPC				*e*PG	**Pb**	**15 32 50.2**	**0.0**
GOPC	comp=Z,14nm,0.2s			*e*SG	**Sb**	**15 33 13.7**	**+0.2**
PRU	**Pruhonice**	**1.83**	**214**	*e*PN	**Pn**	**15 32 48.1**	**-0.8**
PRU				*e*PG	**Pb**	**15 32 50.1**	**-0.4**
PRU	comp=Z,18nm,0.5s			*e*SG	**Sb**	**15 33 13.9**	**0.0**
MORC	**Moravsky Berou**	**1.96**	**152**	*e*PN	**Pn**	**15 32 50.1**	**-0.6**
MORC				*e*SG	**Sg**	**15 33 18.3**	**-0.7**
CLL	**Collm**	**1.97**	**265**	*i* Pn	**Pn**	**15 32 49.5**	**-1.3**
CLL				*e*Pg	**Pb**	**15 32 53.0**	**+0.1**
CLL				*e*		15 32 56.0	
CLL	comp=Z,21nm,0.6s			*i* Sg	**Sb**	**15 33 18.6**	**+0.6**
VRAC	**Vranov**	**2.23**	**172**	*e*PN	**Pn**	**15 32 54.7**	**+0.4**
VRAC				*e*SG	**Sb**	**15 33 24.8**	**-0.6**
TREC	**Trest**	**2.26**	**191**	*e*PN	**Pn**	**15 32 54.4**	**-0.4**
TREC				*e*PG	**Pb**	**15 32 57.9**	**+0.1**
TREC	comp=Z,19nm,0.6s			*e*SG	**Sg**	**15 33 28.8**	**+0.2**
KRUC	**Moravsky**	**2.46**	**176**	*e*PN	**Pn**	**15 32 57.7**	**+0.2**
KRUC				*e*SG	**Sg**	**15 33 34.5**	**-0.6**
OJC	**Ojcow**	**2.66**	**118**	*e*Pg	**Pg**	**15 33 07.2**	**+0.1**
OJC				*e*Sg	**Sg**	**15 33 42.5**	**+0.9**
JAVC	**Velka Javorina**	**2.83**	**159**	*e*PN	**Pn**	**15 33 02.6**	**-0.1**
JAVC				*e*SG	**Sn**	**15 33 39.3**	**+1.7**
KHC	**Kasperske Hory**	**2.89**	**215**	*e*PN	**Pn**	**15 33 03.1**	**-0.4**
KHC				*e*PG	**Pb**	**15 33 09.2**	**+0.6**
KHC				*e*SN	**Sn**	**15 33 39.5**	**+0.5**
KHC	comp=Z,6.9nm,0.4s			*e*SG	**Sg**	**15 33 48.3**	**-0.7**
LANS	**Liptovska Anna**	**3.19**	**137**	*e*PG	**Pg**	**15 33 17.3**	**+0.1**
LANS				*e*SG	**Sg**	**15 33 59.2**	**+0.7**
MODS	**Modra-Piesok**	**3.23**	**166**	*e*PG	**Pg**	**15 33 16.9**	**-1.1**
MODS				*e*SG	**Sg**	**15 34 00.4**	**+0.6**
VYHS	**Vyhne**	**3.49**	**149**	*e*PN	**Pn**	**15 33 09.3**	**-2.4**
VYHS				*e*PG	**Pg**	**15 33 23.2**	**+0.2**
VYHS				*e*SG	**Sg**	**15 34 09.6**	**+1.4**
CONA	**Conrad Observa**	**3.59**	**183**	*e*Pn	**Pn**	**15 33 13.5**	**+0.3**
CONA	comp=Z,0.3nm,0.1s			Sg	**Sg**	**15 34 11.2**	**-0.3**
MOA	**Molln**	**3.86**	**199**	*i* Pn	**Pn**	**15 33 17.0**	**+0.1**
MOA	comp=Z,1.4nm,0.2s			Sg	**Sg**	**15 34 20.4**	**+0.3**
ARSA	**Arzberg**	**4.28**	**186**	Sg	**Sg**	**15 34 33.7**	**0.0**
	comp=Z,3.5nm,0.5s						

*IDC **21** 15:56:55.6±13.0, 26˚.95S× 179˚.10W, h459km±109km,*
mb3.2/6, mb1 3.4/7, mb1mx3.1/30, mbtmp4.1/7, Error
ellipse: s-maj=121.0km s-min=40.9km az=128.0
ISC 21 15:56:39.2±1.3, **27˚.76S**±0˚.07× **177˚.4W**±0˚.2, **h400**km, **n40**, σ2**s37**/49, **mb3.7/6**, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIZ	**Raoul Island**	**1.54**	**196**	P	**Pn**	**15 57 29.3**	**-3.2**
RIZ				S	**S**	**15 58 12.6**	**-3.0**
GLKZ	**Green Lake**	**1.56**	**196**	P	**Pn**	**15 57 30.2**	**-2.4**
GLKZ				S	**S**	**15 58 10.9**	**-4.9**
WMGZ	**Waiomatatini S**	**10.62**	**198**	P	**Pn**	**15 59 07.1**	**+2.9**
WMGZ				S	**S**	**16 01 00.6**	**-2.0**
WCZ	**Waipu Caves**	**10.73**	**219**	P	**Pn**	**15 59 09.7**	**+4.1**
HAZ	**Te Kaha**	**10.75**	**201**	P	**Pn**	**15 59 08.4**	**+2.7**
HAZ				S	**S**	**16 01 04.4**	**-0.7**
PKGZ	**Pakihiroa**	**10.78**	**199**	P	**Pn**	**15 59 07.4**	**+1.2**
PKGZ				S	**S**	**16 01 07.7**	**+1.8**
PUZ	**Puketiti**	**10.90**	**198**	P	**Pn**	**15 59 09.5**	**+2.0**
PUZ				S	**S**	**16 01 07.2**	**-1.1**
RUGZ	**Raukumara Rang**	**10.97**	**201**	P	**Pn**	**15 59 10.7**	**+2.3**
RUGZ				S	**S**	**16 01 08.5**	**-1.5**
TWGZ	**Tauwhareparae**	**11.07**	**199**	P	**Pn**	**15 59 11.5**	**+1.9**
TWGZ				S	**S**	**16 01 14.4**	**+2.5**
OPRZ	**Ohinepanea**	**11.25**	**205**	P	**Pn**	**15 59 15.8**	**+4.3**
CNGZ	**Carnagh Statio**	**11.30**	**198**	P	**Pn**	**15 59 14.5**	**+2.3**
MWZ	**Matawai**	**11.36**	**201**	P	**P**	**15 59 11.7**	**0.0**
MWZ				S	**S**	**16 01 19.0**	**+1.3**
TKGZ	**Te Karaka**	**11.36**	**199**	P	**Pn**	**15 59 16.4**	**+3.6**
TKGZ				S	**S**	**16 01 18.4**	**+0.9**
URZ	**Urewera**	**11.42**	**202**	P	**P**	**15 59 12.4**	**+0.1**
URZ				S	**S**	**16 01 20.6**	**+1.7**
RIGZ	**Rimuhau**	**11.63**	**199**	P	**Pn**	**15 59 19.4**	**+3.4**
RIGZ				S	**S**	**16 01 23.2**	**0.0**
MUGZ	**Murupara**	**11.73**	**203**	P	**P**	**15 59 17.1**	**+1.2**
SNGZ	**Shannon Statio**	**11.82**	**200**	P	**Pn**	**15 59 21.2**	**+3.0**
MHGZ	**Mahia Peninsul**	**12.01**	**198**	P	**Pn**	**15 59 22.5**	**+2.2**
RAHZ	**Arahi**	**12.03**	**201**	P	**Pn**	**15 59 22.7**	**+2.2**
TLZ	**Tolley Road**	**12.07**	**207**	P	**Pn**	15 59 26.7	+5.6
WHNZ	**Waihua**	**12.13**	**200**	P	**Pn**	**15 59 24.6**	**+2.9**
NMHZ	**Naumai**	**12.28**	**202**	P	**Pn**	**15 59 26.0**	**+2.4**
ARHZ	**Aropaoanui**	**12.37**	**201**	P	**Pn**	**15 59 27.3**	**+2.8**
BKZ	**Black Stump Fm**	**12.45**	**202**	P	**Pn**	**15 59 26.4**	**+1.0**
HIZ	**Hauiti**	**12.51**	**209**	P	**Pn**	15 59 31.7	+5.5
FWVZ	**Far West T-bar**	**12.86**	**205**	P	**Pn**	**15 59 32.6**	**+2.1**
KAHZ	**Kahuranaki**	**12.90**	**200**	P	**Pn**	**15 59 32.9**	**+2.2**
KRHZ	**Kereru**	**12.92**	**202**	P	**Pn**	**15 59 31.6**	**+0.7**
MOVZ	**Moawhango**	**12.92**	**204**	P	**Pn**	**15 59 32.4**	**+1.4**
PXZ	**Pawanui**	**13.12**	**200**	P	**Pn**	**15 59 34.7**	**+1.6**
DVHZ	**Dannevirke**	**13.58**	**201**	P	**Pn**	**15 59 40.5**	**+2.0**
DZM	**Mont Dzumac**	**15.68**	**288**	P	**P**	**15 59 56.9**	**-2.4**
	0.6nm,0.3s,baz=114,slow=16,SNR=6.5						
CTA	**Charters Tower**	**33.97**	**275**	P	**P**	**16 02 46.6**	**-0.7**
	3.8nm,1.0s,baz=92,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**43.81**	**264**	P	**P**	**16 04 08.6**	**+0.7**
	0.5nm,0.5s,baz=98,slow=7.0,SNR=8.3						
WRA	**Warramunga Arr**	**44.56**	**269**	P	**P**	**16 04 13.5**	**-0.3**
	1.4nm,0.7s,baz=107,slow=7.5,SNR=8.6						
SIJI	**Sorong**	**55.88**	**289**	P	**P**	**16 05 39.1**	**+1.6**
	2.9nm,0.6s,baz=90,slow=17,SNR=2.2						
MJAR	**Matsushiro Arr**	**76.38**	**325**	P	**P**	**16 07 46.9**	**+1.2**
	1.1nm,0.6s,baz=150,slow=4.6,SNR=5.0						
PETK	**Petropavlovsk-**	**83.39**	**345**	P	P	16 08 27.4	+5.0
	1.5nm,0.8s,baz=118,slow=8.1,SNR=6.7						
NOA	**NORSAR Array B**	**146.22**	**352**	PKPbc	**PKiKP**	**16 15 40.0**	**+4.5**
	1.4nm,1.0s,baz=11,slow=2.8,SNR=3.4						
AKASG	**Malin Array Be**	**149.46**	**326**	PKPbc	**PKPab**	**16 15 47.8**	**-0.2**
	1.2nm,0.4s,baz=45,slow=3.3,SNR=4.2						

*HYB **21** 15:59:29.8±0.6, 21˚.93N× 73˚.08E, h10km, ML3.7*
*IDC **21** 15:59:31.9±1.2, 20˚.89N× 72˚.95E, h0km, mb3.7/6,*
mb1 3.9/6, mb1mx3.5/37, mbtmp3.7/6, Error ellipse:
s-maj=36.0km s-min=25.9km az=50.0
ISC 21 15:59:37.9±0.9, **21˚.43N**±0˚.07× **73˚.42E**±0˚.08, **h35**km, **n28**, σ2**s43**/39, **mb3.7/6**, **1D**, **Southern India**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
POO	**Poona**	**2.91**	**172**	*e*x	**Pn**	**16 00 21.0**	**-0.8**
POO				*i* x	**Sn**	**16 00 58.0**	**+2.4**
KAD	**Karad**	**4.16**	**170**	↓*i* x	**Pn**	**16 00 40.2**	**+1.2**
KAD				*i* x	**Sn**	**16 01 28.3**	**+1.8**
KLRI	**Killari**	**4.48**	**138**	*e*P	**Pn**	**16 00 45.4**	**+1.9**
KLRI				*e*S	**Sn**	**16 01 36.6**	**+2.2**
KLRI	comp=Z,332nm,0.4s			IAML		16 02 14.8	
SRSP	**Sriramsagar**	**5.25**	**117**	*e*P	**Pn**	**16 00 55.5**	**+1.5**
SRSP				*e*S	**Sn**	**16 01 55.3**	**+2.0**
SRSP	comp=Z,85nm,0.4s			IAML		16 02 25.4	
RPR	**Rampur**	**6.08**	**114**	*e*P	**Pn**	**16 01 07.2**	**+1.8**
RPR				*e*S	**Sn**	**16 02 14.9**	**+1.1**
RPR	comp=Z,143nm,0.4s			IAML		16 02 50.9	
HYBB	**Hyderabad (bro**	**6.27**	**129**	*e*P	**Pn**	**16 01 09.3**	**+1.2**
HYBB				*e*S	**Sn**	**16 02 18.5**	**0.0**
HYBB	comp=Z,129nm,0.4s			IAML		16 03 05.9	
HYB	**Hyderabad**	**6.27**	**129**	*i* P	**Pn**	**16 01 10.0**	**+1.9**
HYB				*e*S	**Sn**	**16 02 18.0**	**-0.6**
NJS	**Nagarjunasagar**	**7.38**	**130**	*e*P	**Pn**	**16 01 24.0**	**+0.8**
NJS				*e*S	**Sn**	**16 02 43.1**	**-2.7**
NJS	comp=Z,64nm,0.5s			IAML		16 03 37.3	
URV	**Uravakonda**	**7.40**	**150**	*e*P	**Pn**	**16 01 24.2**	**+0.6**
URV				*e*S	**Sn**	**16 02 44.9**	**-1.6**
URV	comp=Z,49nm,0.7s			IAML		16 03 35.0	
SRLM	**Srisailam**	**7.41**	**135**	*e*P	**Pn**	**16 01 23.9**	**+0.2**
SRLM				*e*S	**Sn**	**16 02 45.7**	**-0.8**
SRLM	comp=Z,136nm,0.4s			IAML		16 03 32.3	
ADKI	**Addanki**	**8.33**	**131**	*e*P	**Pn**	**16 01 34.1**	**-2.1**
ADKI				*e*S	**Sn**	**16 03 07.5**	**-1.5**
ADKI	comp=Z,99nm,0.5s			IAML		16 04 02.5	
PVM	**Polavaram**	**8.79**	**117**	*e*P	**Pn**	**16 01 44.0**	**+1.5**
PVM	comp=Z,32nm,0.4s			IAML		16 04 20.1	
SKHT	**Srikalahasti**	**9.71**	**141**	*e*P	**Pn**	**16 01 56.1**	**+0.8**
SKHT				*e*S	Sn	16 03 34.0	-9.1
SKHT	comp=Z,65nm,0.4s			IAML		16 04 42.7	
KOLN	**Koldanda**	**11.21**	**54**	*e*P	**Pn**	**16 02 12.2**	**-3.7**
DANN	**Dangsing**	**11.64**	**52**	*e*P	**Pn**	**16 02 19.0**	**-2.9**
GKN	**Gorkha**	**12.11**	**55**	*e*P	**Pn**	**16 02 24.6**	**-3.6**
DMN	**Daman**	**12.29**	**58**	*e*P	**Pn**	**16 02 27.6**	**-3.1**
PKIN	**Phulchoki**	**12.50**	**58**	*e*P	**Pn**	**16 02 30.6**	**-3.0**
PKI	**Pulchoki**	**12.51**	**58**	*e*P	**Pn**	**16 02 30.6**	**-3.2**
JIRN	**Jiri**	**13.17**	**59**	*e*P	**Pn**	**16 02 40.0**	**-2.9**
RAMN	**Ramite**	**13.22**	**63**	*e*P	**Pn**	**16 02 40.5**	**-3.0**
ODAN	**Odare**	**13.85**	**64**	*e*P	**Pn**	**16 02 48.3**	**-3.7**
AAK	**Ala-Archa**	**21.17**	**2**	P	**P**	**16 04 25.1**	**+4.8**
	comp=Z,0.9nm,0.3s,baz=213,slow=17,SNR=1.9						
CMAR	**Chiang Mai Arr**	**24.16**	**93**	P	**P**	**16 04 53.9**	**+2.8**
	comp=Z,1.3nm,0.8s,baz=284,slow=12,SNR=6.5						
MKAR	**Makanchi Array**	**26.31**	**14**	P	**P**	**16 05 14.9**	**+4.6**
	comp=Z,0.7nm,0.7s,baz=199,slow=10,SNR=5.3						
TORD	**Torodi Ar. Bea**	**68.49**	**276**	P	**P**	**16 10 34.1**	**-3.1**
	comp=Z,1.3nm,1.1s,baz=76,slow=4.7,SNR=3.5						
WRA	**Warramunga Arr**	**72.37**	**120**	P	**P**	**16 11 00.1**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=312,slow=6.4,SNR=5.2						
**

PSI	**Prapat**	**2.71**	**77**	Pn	**Pn**	**16 30 44.2**	**-2.2**
	4.6nm,0.3s,baz=180,slow=12,SNR=16						
LHMI	**Lhok Sumawe**	**3.08**	**13**	P	**Pn**	**16 30 51.5**	**+0.2**
MNSI	**Mandailing Nat**	**3.59**	**113**	P	**Pn**	**16 30 59.5**	**+1.1**
MNSI				S	**Sn**	**16 31 39.9**	**0.0**
CMAR	**Chiang Mai Arr**	**16.36**	**9**	Pn	**Pn**	**16 33 51.6**	**-0.8**
	0.1nm,0.3s,baz=197,slow=11,SNR=12						
H08S2	**Diego Garcia H**	**25.66**	**247**	T	T	17 02 13.9	
	baz=68,slow=76,SNR=508						
H08S3	**Diego Garcia H**	**25.67**	**247**	T	T	17 02 12.5	
	baz=68,slow=76,SNR=585						
H08S1	**Diego Garcia H**	**25.68**	**247**	T	T	17 02 13.7	
	baz=68,slow=76,SNR=544						
H01W3	**Cape Leeuwin H**	**40.52**	**157**	T	T	17 20 47.2	
	baz=332,slow=76,SNR=111						
H01W2	**Cape Leeuwin H**	**40.54**	**157**	T	T	17 20 48.1	
	baz=332,slow=76,SNR=90						
H01W1	**Cape Leeuwin H**	**40.54**	**157**	T	T	17 20 57.7	
	baz=332,slow=76,SNR=77						
WRA	**Warramunga Arr**	**43.35**	**122**	P	**P**	**16 38 04.0**	**-0.7**
	0.4nm,0.4s,baz=302,slow=9.1,SNR=6.0						
ASAR	**Alice Springs**	**44.74**	**127**	P	**P**	**16 38 16.0**	**+0.1**
	0.2nm,0.5s,baz=299,slow=8.1,SNR=6.8						
MKAR	**Makanchi Array**	**46.05**	**347**	P	**P**	**16 38 26.2**	**+0.3**
	1.7nm,0.7s,baz=161,slow=8.2,SNR=18						
SONM	**Songino Array**	**46.29**	**9**	P	**P**	**16 38 27.1**	**-0.8**
	0.8nm,0.6s,baz=192,slow=9.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**52.43**	**351**	P	**P**	**16 39 15.0**	**+0.5**
	1.9nm,0.5s,baz=176,slow=7.8,SNR=13						
FINES	**FINESS Array B**	**78.68**	**333**	P	**P**	**16 42 04.0**	**0.0**
	4.5nm,1.0s,baz=153,slow=9.4,SNR=3.8						

*ECX **21** 16:34:12.6±0.4,30.66N×114.22W,h6km±927km,MD3.2, ML3.4*
*MEX **21** 16:34:14.0±0.6,30.90N×114.11W,h10km,MD3.9*
ISC 21 16:34:10.5±2.3,30.6N±0.1×114.19W±0.07,h18km±7km, n12,σ1°04/21,2C,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFX	**San Felipe**	**0.69**	**305**	*eP*	**Pb**	**16 34 24.3**	**+0.3**
SFX				*eS*	**Sb**	**16 34 33.2**	**0.0**
ECBX	**El Chinero**	**1.11**	**319**	*eP*	**Pb**	**16 34 29.9**	**-1.2**
PIX	**Pinacate**	**1.11**	**34**	*eP*	**Pn**	**16 34 31.7**	**+0.6**
SPX	**San Pedro Mart**	**1.16**	**290**	*eP*	**Pn**	**16 34 32.5**	**+0.3**
SPX				*eS*	**Sn**	**16 34 48.1**	**+0.2**
SPX				⇑*e*		16 34 49.2	
SPX				IAML		16 34 57.1	
	comp=N,833nm,0.6s						
SPX	**San Pedro Mart**	**1.16**	**290**	*eP*	**Pn**	**16 34 32.4**	**+0.3**
SPX				*i* S	**Sn**	**16 34 48.0**	**+0.2**
SPIG	**San Pedro Mart**	**1.17**	**291**	*eP*	**Pg**	**16 34 32.9**	**-0.3**
SPIG				*eS*	**Sn**	**16 34 48.1**	**+0.1**
SPIG	**San Pedro Mart** baz=97,slow=12	**1.17**	**291**	*eP*	**Pg**	**16 34 33.0**	**-0.2**
SPIG				*eS*	**Sn**	**16 34 48.0**	**+0.1**
SQX	**San Quintin**	**1.45**	**268**	*eP*	**Pn**	**16 34 35.6**	**-0.3**
SQX				*eS*	**Sn**	**16 34 55.0**	**+0.6**
VTX	**Valle De La Tr**	**1.56**	**299**	*eP*	**Pb**	**16 34 38.8**	**-0.1**
VTX				*eS*	**Sg**	**16 34 59.6**	**-1.3**
CBX	**Cerro Bola**	**2.69**	**309**	⇑*e*	**Sg**	**16 35 40.3**	**+3.3**
CBX				IAML		16 35 40.3	
	comp=E,212nm,0.8s						
CBX	**Cerro Bola**	**2.69**	**309**	*i* P	**Pg**	**16 35 01.1**	**-1.0**
CBX				*eS*	**Sb**	**16 35 31.4**	**+0.5**
TJIG	**Tijuana**	**2.77**	**311**	*i* P	**Pn**	**16 34 53.9**	**-0.1**
TJIG				*i* S	**Sn**	**16 35 25.6**	**-1.5**

RSNC 21 16:46:57.2±1.4,7.15N×73.28W,h120km±12km,ML1.9,2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BRRC	**Barranca, Sant**	**0.43**	**264**	⇑*eP*	Pn	16 47 14.9	+0.2
BRRC				*eS*	Sn	16 47 27.4	-0.4
BRRC				*i*		16 47 29.1	
	comp=Z,32nm,0.0s						
BRRC	**Barranca, Sant**	**0.43**	**264**	⇑*eP*	Pn	16 47 14.9	+0.2
BRRC				*eS*	Sn	16 47 27.5	-0.4
BRRC				*i*		16 47 29.1	
	comp=Z,32nm,0.0s						
BARC	**Barichara**	**0.56**	**170**	*eP*	Pn	16 47 16.1	+0.3
BARC				*eS*	Sn	16 47 30.0	+0.1
BARC				*i*		16 47 32.0	
	comp=Z,34nm,0.3s						
BARC	**Barichara**	**0.56**	**170**	*eP*	Pn	16 47 16.1	+0.3
BARC				*eS*	Sn	16 47 30.0	+0.1
BARC				*i*		16 47 32.0	
	comp=Z,34nm,0.3s						
OCAC	**Ocana**	**1.08**	**358**	*eS*	Sn	16 47 36.7	-0.9
OCAC	**Ocana**	**1.08**	**358**	*eS*	Sn	16 47 36.7	-0.9
RUSC	**La Rusia**	**1.27**	**171**	*eP*	Pn	16 47 21.5	-1.0
RUSC				*eS*	Sn	16 47 41.7	0.0
RUSC	**La Rusia**	**1.27**	**171**	*eP*	Pn	16 47 21.5	-1.0
RUSC				*eS*	Sn	16 47 41.9	+0.3
PTBC	**PUERTO BERRIO,**	**1.32**	**243**	*eP*	Pn	16 47 21.5	-1.1
PTBC				*eS*	Sn	16 47 40.6	-1.2
PTBC				*i*		16 47 44.5	
	comp=Z,8.8nm,0.1s						
PTBC	**PUERTO BERRIO,**	**1.32**	**243**	*eP*	Pn	16 47 21.5	-1.1
PTBC				*eS*	Sn	16 47 42.0	+0.2
PTBC				*i*		16 47 44.5	
	comp=Z,8.8nm,0.1s						
ZARC	**Zaragoza, Cauc**	**1.60**	**282**	*eP*	Pn	16 47 25.9	+0.1
ZARC				*eS*	Sn	16 47 48.1	+0.5
ZARC				*i*		16 47 54.8	
	comp=Z,6.9nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.60**	**282**	*eP*	Pn	16 47 25.9	+0.1
ZARC				*eS*	Sn	16 47 48.1	+0.5
ZARC				*i*		16 47 54.8	
	comp=Z,6.9nm,0.3s						
SMLC	**San Martn de**	**1.82**	**334**	*eP*	Pn	16 47 28.1	-0.3
SMLC				*eS*	Sn	16 47 51.0	-1.2
SMLC				*i*		16 47 54.8	
	comp=Z,8.9nm,0.1s						
NORC	**Norcasia**	**2.23**	**225**	*eS*	Sn	16 48 02.6	+1.1
UREC	**San Jos de Ur**	**2.31**	**285**	*eP*	Pn	16 47 35.1	+0.5
UREC				*eS*	Sn	16 48 00.0	-3.3
UREC				*i*		16 48 09.4	
	comp=Z,927nm,0.0s						
UREC	**San Jos de Ur**	**2.31**	**285**	*eP*	Pn	16 47 35.1	+0.5
UREC				*eS*	Sn	16 48 00.0	-3.3
UREC				*i*		16 48 09.4	
	comp=Z,927nm,0.0s						

*KRNET **21** 16:48:19.8±0.1,39.38N×76.40E,mb2.4*
SOME 21 16:48:18.4,42.33N×80.95E,h0km,4C-4D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.37**	**307**	*eP*	Pg	16 48 40.8	-3.9
	2.6nm,0.3s						
SHLS				*eS*	Sg	16 48 57.3	-5.2
	6.2nm,0.2s						
UZB	**Uzynbulak**	**1.64**	**300**	*eP*	Pg	16 48 50.7	+0.9
	1.5nm,0.2s						
UZB				*eS*	Sg	16 49 13.9	+2.9
	2.1nm,0.1s						
SATY	**Saty**	**2.01**	**292**	*eP*	Pg	16 48 57.0	0.0
	1.4nm,0.2s						
SATY				*eS*	Sg	16 49 24.6	+1.6
	3.4nm,0.2s						
KPKS	**Kokpek**	**2.01**	**305**	*eP*	Pg	16 48 56.6	-0.4
	6.0nm,0.2s						
KPKS				*eS*	Sg	16 49 24.0	+0.9
	8.8nm,0.2s						
DJR	**Jarkent**	**2.17**	**337**	*eP*	Pg	16 48 59.9	-0.1
	0.8nm,0.2s						
DJR				*eS*	Sg	16 49 29.7	+1.6
	1.2nm,0.3s						
TARG	**Taragay, Kyrgy** baz=24	**2.42**	**257**	⇓*eP*	Pg	16 49 04.8	0.0
TARG				⇓*iS*	Sg	16 49 37.5	+1.4
	baz=24						
KDJ	**Kajisay**	**2.81**	**267**	⇓*iP*	Pb	16 49 07.8	-1.7
	baz=12						
KDJ				⇓*iS*	Sb	16 49 43.1	-1.4
	baz=12						
KAPS	**Kapalarasan**	**3.17**	**339**	*eP*	Pg	16 49 17.6	-1.5
	0.4nm,0.2s						
KAPS				*eS*	Sg	16 50 00.1	-0.1
	1.7nm,0.3s						
ULHL	**Ulahol**	**3.49**	**270**	⇑*eP*	Pn	16 49 08.4	-5.8
	baz=58						
ULHL				⇑*iS*	Sn	16 49 44.4	-12
	baz=58						
BOOM	**Boomskoye usch**	**3.71**	**274**	⇑*iP*	Pn	16 49 12.6	-4.6
	baz=54						
BOOM				⇑*iS*	Sn	16 49 50.5	-11
	baz=54						

RSNC 21 16:48:51.6±0.7,6.86N×73.18W,h144km±6km,ML2.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.27**	**180**	*eP*	Pn	16 49 11.4	-0.3
BARC				*eS*	Sn	16 49 26.6	-0.4
BARC				*i*		16 49 29.5	
	comp=Z,5.2nm,0.1s						
RUSC	**La Rusia**	**0.97**	**174**	*eP*	Pn	16 49 15.9	-0.3
RUSC				*eS*	Sn	16 49 34.0	-0.8
RUSC				*i*		16 49 37.3	
	comp=Z,1.9nm,0.1s						
PTBC	**PUERTO BERRIO,**	**1.31**	**256**	*eP*	Pn	16 49 18.5	-0.2
PTBC				*eS*	Sn	16 49 38.8	-0.7
PTBC				*i*		16 49 45.6	
	comp=Z,4.7nm,0.2s						
ZARC	**Zaragoza, Cauc**	**1.78**	**291**	*eS*	Sn	16 49 48.0	-0.5
SMLC	**San Martn de**	**2.12**	**335**	*eP*	Pn	16 49 26.6	-1.2
SMLC				*eS*	Sn	16 49 55.5	-0.1
SMLC				*i*		16 50 03.3	
	comp=Z,6.9nm,0.1s						
NORC	**Norcasia**	**2.12**	**233**	*eS*	Sn	16 49 55.4	-0.3

MEX 21 16:49:27.3±0.3,30.58N×114.14W,h5km,MD3.6,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPX	**San Pedro Mart**	**1.23**	**292**	*eP*	Pg	16 49 47.9	-3.0
SPX				*eS*	Sg	16 50 03.0	-3.8
SPIG	**San Pedro Mart** baz=112,slow=18	**1.23**	**292**	*eP*	Pg	16 49 47.7	-3.2
SPIG				*eS*	Sg	16 50 03.0	-3.8

IDC 21 16:57:42.4±2.7,6.99S×128.20E,h0km,mb3.3/1, mb1 3.5/3,mb1mx3.3/23,mbtmpg3.3/3,ML3.3/2,Error ellipse: s-maj=287.9km s-min=33.0km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.19**	**156**	Pn	Pn	17 01 04.4	-0.4
	0.2nm,0.3s,baz=332,slow=14,SNR=8.8						
WRA					Sn	17 03 27.8	-15
	0.2nm,0.3s,baz=158,slow=7.3,SNR=6.3						
ASAR	**Alice Springs**	**17.46**	**162**	P	Pn	17 01 47.8	+0.2
	0.1nm,0.3s,baz=346,slow=11,SNR=14						
MKAR	**Makanchi Array**	**67.25**	**328**	P	P	17 08 38.8	0.0
	0.1nm,0.4s,baz=115,slow=9.7,SNR=2.3						

*KRNET **21** 17:18:37.6±0.1,39.08N×71.32E,h14km,mb3.1*
*SOME **21** 17:18:38.5,39.42N×71.90E,h0km*
*NNC **21** 17:18:44.0±4.6,39.39N×71.16E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=35.2km s-min=18.8km az=9.0*
ISC 21 17:18:42.6±1.5,39.33N±0.05×71.04E±0.05,h8km±11km, n22,σ2s04/37,14C-11D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**0.65**	**240**	⇑*iP*	Pg	17 18 52.8	-2.3
	baz=64						
GAR				⇑*iS*	**Sg**	**17 19 03.7**	**+0.1**
	baz=64						
BTK	**Batken**	**0.75**	**347**	⇑*iP*	**Pg**	**17 18 57.9**	**+0.9**
	baz=38						
BTK				⇑*iS*	**Sn**	**17 19 12.3**	**+1.2**
	baz=38						
CHGR	**Chuyangaron**	**1.61**	**246**	⇓*iP*	**Pn**	**17 19 10.3**	**-1.1**
	baz=57						
CHGR				⇓*iS*	**Sn**	**17 19 33.8**	**+1.4**
	baz=57						
OHH	**Osh**	**1.80**	**48**	⇓*iP*	**Pn**	**17 19 11.6**	**-2.4**
	baz=38						
OHH				⇓*iS*	**Sb**	**17 19 36.7**	**-1.8**
	baz=38						
ARSB	**Arslanbob**	**2.48**	**36**	⇑*iP*	**Pn**	**17 19 22.8**	**-0.7**
	baz=29						
ARSB				⇑*iS*	**Sb**	**17 19 55.4**	**-3.0**
	baz=29						
IUG	**Iuzhnay**	**2.92**	**345**	*eP*	**Pg**	**17 19 38.0**	**-0.4**
	2.0nm,0.2s						
IUG				*eS*	**Sg**	**17 20 16.0**	**-0.3**
	67nm,0.5s						
IUG	**Iuzhnay**	**2.92**	**345**	Pg	**Pb**	**17 19 37.3**	**+2.4**
	2.0nm,0.2s						
IUG				Lg	Lg	17 20 15.4	
	67nm,0.5s						
AML	**Almayashu**	**3.45**	**35**	⇑*iP*	**Pn**	**17 19 36.2**	**-0.8**
	baz=30						
AML				⇑*iS*	**Sn**	**17 20 19.1**	**+0.9**
	baz=30						
ARLS	**Aral**	**3.56**	**44**	⇓*eP*	**Pn**	**17 19 36.9**	**-1.3**
	baz=39						
ARLS				⇓*iS*	**Sn**	**17 20 20.4**	**-0.1**
	baz=39						
KK31	**Karatay Array**	**3.79**	**354**	Pn	**Pn**	**17 19 44.9**	**+3.6**
	1.0nm,0.3s,baz=175,slow=12,SNR=17						
KK31				⇑Sn	**Sb**	**17 20 35.5**	**-0.4**
	3.1nm,0.3s,baz=175,slow=30,SNR=4.2						
MRKS	**Merke**	**3.79**	**25**	*eP*	**Pn**	**17 19 43.3**	**+1.9**
	2.5nm,0.3s						
MRKS				*eS*	**Sb**	**17 20 32.1**	**-3.8**
	8.5nm,0.3s						
MRKS	**Merke**	**3.79**	**25**	Pg	**Pb**	**17 19 47.2**	**-2.6**
	2.5nm,0.3s						
MRKS				Lg	Lg	17 20 32.1	
	8.5nm,0.3s						
BRLS	**Borolday**	**3.81**	**347**	*eP*	**Pb**	**17 19 47.9**	**-2.2**
	2.1nm,0.4s						
BRLS				*eS*	**Sb**	**17 20 33.5**	**-2.8**
	7.7nm,0.4s						
BRLS	**Borolday**	**3.81**	**347**	Pg	**Pb**	**17 19 47.9**	**-2.2**
	2.1nm,0.4s						
BRLS				Lg	Lg	17 20 33.5	
	7.7nm,0.4s						
UCH	**Uchtor**	**3.92**	**41**	⇓*eP*	**Pn**	**17 19 42.2**	**-1.2**
	baz=37						
UCH				⇓*iS*	**Sn**	**17 20 29.6**	**-0.2**
	baz=37						
EKS2	**Erkin-Say**	**3.92**	**31**	⇓*iP*	**Pn**	**17 19 43.1**	**-0.1**
	baz=27						
EKS2				⇓*iS*	**Sn**	**17 20 30.7**	**+1.2**
	baz=27						
AAK	**Ala-Archa**	**4.21**	**37**	⇑*iP*	**Pn**	**17 19 46.5**	**-0.8**
	baz=33						
AAK				⇑*iS*	**Sn**	**17 20 36.9**	**+0.2**
	baz=33						
AAK	**Ala-Archa**	**4.21**	**37**	⇑Pn	**Pn**	**17 19 48.1**	**+0.8**
	1.4nm,0.3s						
AAK				⇑Sn	**Sn**	**17 20 40.5**	**+3.7**
	12nm,0.6s						
SGDS	**Sogindy**	**4.92**	**32**	Pg	**Pb**	**17 20 11.6**	**+2.5**
SGDS				Lg	Lg	17 21 13.7	
TKM2	**Tokmak 2**	**4.97**	**42**	⇓Pn	**Pn**	**17 19 57.6**	**-0.1**
	1.2nm,0.4s						
TKM2				⇑Sn	**Sn**	**17 20 58.7**	**+3.2**
	1.9nm,0.7s						
KST	**Kastek**	**5.25**	**43**	Pg	**Pb**	**17 20 16.1**	**+1.4**
	2.5nm,0.7s						
KST				Lg	Lg	17 21 21.6	
	3.7nm,0.5s						
TNSS	**Tian-Shan**	**5.79**	**48**	Pg	**Pb**	**17 20 27.7**	**+3.6**
	1.5nm,0.4s						
TNSS				Lg	Lg	17 21 41.0	
	2.8nm,0.6s						

*NCEDC **21** 17:22:08.6±2.1,37.61N±0.02×122.01W±0.05,h6km±4km, Md2.9/141,Error ellipse: s-maj=5.6km s-min=2.4km az=67.0*
NEIC 21 17:22:08.4±1.2,37.56N±0.02×122.04W±0.05,h14km±3km, Error ellipse: s-maj=6.0km s-min=2.6km az=68.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CYD1	**Coyote D'meter**	**0.05**	**275**		Pg	17 22 10.8	-0.3
CNIC	**Niles Canyon**	**0.08**	**49**		Pg	17 22 11.1	-0.3
CSU1	**Sunol Dilatome**	**0.11**	**42**		Pg	17 22 11.7	-0.1
C055	**Cottonwood Ave**	**0.12**	**329**		Pg	17 22 11.0	-0.7
C055					Sg	17 22 13.3	-0.7
CVLM	**Vallecito**	**0.17**	**67**		Pg	17 22 12.2	-0.4
CSLM	**San Leandro Hi**	**0.18**	**338**		Pg	17 22 11.9	-0.7
CLCB	**Lake Chabot**	**0.18**	**353**		Pg	17 22 12.1	-0.6
JRSC	**Jasper Ridge**	**0.22**	**226**		Pb	17 22 14.4	+0.1
JCPM	**Coyote Point**	**0.23**	**278**		Pb	17 22 14.1	-0.2
WENL	**Wente Vineyard**	**0.23**	**74**		Pg	17 22 13.3	-0.1
JFP	**Foothills Park**	**0.23**	**212**		Pb	17 22 14.8	+0.4
CDOM	**Doolan Road**	**0.23**	**43**		Pg	17 22 13.4	-0.1
JHPM	**Huddart Park**	**0.24**	**242**		Pb	17 22 15.0	+0.5
CMCM	**Mills College**	**0.25**	**334**		Pg	17 22 13.8	0.0
JJRM	**Joaquin Road**	**0.25**	**211**		Pb	17 22 15.2	+0.5
BGC	**Bolinger Road**	**0.26**	**356**		Pg	17 22 13.6	-0.4
JCHM	**Cahill Ridge**	**0.27**	**261**		Pb	17 22 15.2	+0.1
CRHM	**Round Hill Res**	**0.30**	**7**		Pg	17 22 14.9	+0.2
SCCB	**Santa Clara Co**	**0.30**	**153**		Pb	17 22 15.6	0.0
CMOB	**Morgan Territo**	**0.31**	**36**		Pg	17 22 14.9	0.0
CMLM	**Mount Lewis**	**0.32**	**105**		Pg	17 22 15.2	+0.2
BGH	**Bear Gulch**	**0.32**	**228**		Pb	17 22 16.7	+0.7
BKS	**Berkeley--Byer**	**0.35**	**334**		Pg	17 22 15.5	-0.1
CVPM	**Vollmer Peak**	**0.36**	**336**		Pg	17 22 15.7	-0.1
BL67	**Building 67, L**	**0.36**	**331**		Pg	17 22 15.6	-0.2
CYBM	**Yerba Buena Is**	**0.36**	**315**		Pg	17 22 15.6	-0.1
VAK	**Adit at Lawren**	**0.36**	**332**		Pg	17 22 15.5	-0.2
BRK	**Berkeley--Havi**	**0.36**	**331**		Pg	17 22 15.4	-0.3
BL88	**Building 88, L**	**0.36**	**332**		Pg	17 22 15.8	0.0
BRIB	**Briones**	**0.37**	**346**		Pg	17 22 16.2	+0.2
MHC	**Mount Hamilton**	**0.38**	**124**		Pg	17 22 16.5	+0.3
JSTM	**Santa Teresa H**	**0.40**	**151**		Pb	17 22 17.3	0.0
CBSNC	**Byron Hot Spri**	**0.41**	**50**		Pg	17 22 16.9	+0.3
JUMM	**Mount Umunhum**	**0.41**	**164**		Pb	17 22 17.8	+0.2
CCOB	**Coe Ranch Numb**	**0.42**	**136**		Pb	17 22 17.7	+0.2
BDM	**Black Diamond**	**0.42**	**19**		Pg	17 22 16.9	+0.1
JPRM	**Presidio of Sa**	**0.42**	**304**		Pg	17 22 17.0	+0.2
AMC	**Almaden**	**0.43**	**159**		Pb	17 22 17.9	+0.2
CMMM	**Mount Mocho**	**0.44**	**103**		Pg	17 22 17.5	+0.2
JBNB	**Ben Lomond Mou**	**0.45**	**192**		Pb	17 22 18.6	+0.6
ARN	**Arnold Ranch**	**0.45**	**117**		Pg	17 22 17.6	+0.2
CPIM	**Pinole Ridge**	**0.45**	**342**		Pg	17 22 17.8	+0.4
CSPM	**San Pablo Ridg**	**0.45**	**331**		Pg	17 22 17.8	+0.3
CTAM	**Taylor**	**0.47**	**2**		Pb	17 22 18.2	-0.2
JLAB	**Laurel Hill**	**0.47**	**149**		Pb	17 22 18.5	+0.1
JHLM	**Holstrom Ranch**	**0.48**	**160**		Pb	17 22 18.8	+0.2
HERB	**Hercules**	**0.49**	**339**		Pg	17 22 18.2	+0.1
CPMM	**Point Molate**	**0.49**	**323**		Pg	17 22 17.8	-0.3
CADM	**Anderson Res.**	**0.51**	**140**		Pb	17 22 19.3	+0.1
JRGM	**Rodeo Gulch Ro**	**0.52**	**174**		Pb	17 22 19.9	+0.5
NLHM	**Lake Herman**	**0.57**	**351**		Pb	17 22 19.9	-0.3
CMPM	**Mikes Peak**	**0.61**	**109**		Pg	17 22 20.5	+0.2
HSPM	**Sheep**	**0.61**	**137**		Pb	17 22 20.9	0.0
HLPM	**Lions Peak**	**0.61**	**148**		Pb	17 22 20.9	+0.1
JELB	**Ellicott, Sant**	**0.65**	**165**		Pn	17 22 22.4	-0.8
GHS	**Gilroy Hot Spr**	**0.66**	**134**		Pb	17 22 21.7	-0.1
CBC	**Chamberlain**	**0.69**	**154**		Pb	17 22 22.9	+0.6
HCOM	**Corn Cob Canyo**	**0.72**	**158**		Pb	17 22 23.4	+0.7
ANZ	**Anzar Road**	**0.76**	**152**		Pb	17 22 24.0	+0.6
HFEM	**San Felipe**	**0.77**	**138**		Pb	17 22 23.8	+0.3
OCR	**O'Connell Ranc**	**0.77**	**146**		Pb	17 22 23.8	+0.3
FARB	**Farallon Islan**	**0.78**	**281**		Pn	17 22 25.6	+0.6
HPCM	**Pacheco Lake**	**0.79**	**129**		Pg	17 22 23.7	+0.1
HTUM	**Tustin Road**	**0.80**	**157**		Pb	17 22 24.2	+0.2
HERM	**Elkhorn Road**	**0.80**	**161**		Pn	17 22 24.7	-0.6
SLD	**San Luis Dam**	**0.81**	**126**		Pg	17 22 24.1	0.0
PACP	**Pacheco Peak**	**0.81**	**132**		Pb	17 22 24.5	+0.2
HJGM	**San Juan Grade**	**0.84**	**154**		Pb	17 22 24.9	+0.1
CVS	**Carmenet Viney**	**0.85**	**337**		Pg	17 22 24.2	-0.8
SFJWR	**San Luis Fatjo**	**0.86**	**126**		Pb	17 22 25.2	+0.2
MOBB	**Monterey Bay O**	**0.87**	**187**		Pb	17 22 24.9	-0.3
MCCM	**Marconi Confer**	**0.89**	**312**		Pb	17 22 25.1	-0.5
MCCM	**Marconi Confer**	**0.89**	**312**	Pg	Pb	17 22 24.8	-0.8
NPRM	**Point Reyes**	**0.89**	**300**		Pb	17 22 25.0	-0.6
NADM	**Allendale**	**0.90**	**3**		Pb	17 22 25.2	-0.6
FRP	**Fremont Peak**	**0.92**	**151**		Pb	17 22 25.7	-0.4
SAO	**San Andreas Ge**	**0.92**	**149**	Pg	Pb	17 22 26.2	0.0
HJSM	**John Smith Roa**	**0.95**	**141**		Pg	17 22 26.8	0.0
BVYM	**Vineyard**	**0.95**	**148**		Pg	17 22 26.9	+0.1
BSLM	**Silva Ranch**	**0.96**	**145**		Pn	17 22 27.4	0.0
HMOM	**Monterey**	**0.96**	**174**		Pg	17 22 27.2	+0.2
NTYM	**Taylor**	**0.96**	**329**		Pb	17 22 26.3	-0.6
BSRM	**Salinas Radio**	**0.98**	**155**		Pb	17 22 26.9	-0.3
BCHM	**Cienega Road**	**1.01**	**147**		Pb	17 22 28.0	0.0
BHRM	**Hodges Ranch**	**1.03**	**143**		Pb	17 22 28.1	+0.1
BPCNC	**Pine Canyon**	**1.04**	**161**		Pn	17 22 28.5	0.0
SCZ	**Santa Cruz**	**1.08**	**152**		Pb	17 22 28.1	-0.8
NBPM	**Berryessa Peak**	**1.11**	**354**		Pb	17 22 29.0	-0.4
BEHM	**Elkhorn Ranch**	**1.13**	**142**		Pb	17 22 29.3	-0.4
BJCM	**Johnson Can.**	**1.13**	**153**		Pb	17 22 29.1	-0.7
NHSM	**Mount Saint He**	**1.19**	**338**		Pn	17 22 29.9	-0.8
BVL	**Bear Valley**	**1.19**	**145**		Pn	17 22 30.1	-0.5
MCUB	**Copperopolis B**	**1.20**	**69**		Pn	17 22 29.0	-1.7
BAVM	**Antelope Valle**	**1.22**	**138**		Pn	17 22 30.7	-0.3
HAST	**Hastings Reser**	**1.23**	**161**		Pn	17 22 30.7	-0.5
NMCNC	**Mill Creek

ESL	**Shilin**	**0.11**	**294**	P	Pb	17 25 57.5	+0.4
	baz=295						
ESL				S	Sb	17 26 01.1	+0.5
	baz=295						
EGFH	**Guangfu**	**0.15**	**228**	*eP*	Pb	17 25 57.9	+0.6
	baz=228						
EGFH				*eS*	Sb	17 26 01.9	+0.9
	baz=228						
HWA	**Hwalien**	**0.22**	**14**	*eP*	Pn	17 25 59.0	-0.4
	baz=16						
HWA				*eS*	Sb	17 26 03.8	+1.6
	baz=16						
TWD	**Chiawan**	**0.32**	**8**	*eP*	Pb	17 25 59.9	+0.4
	baz=9.0						
TWD				*eS*	Sn	17 26 06.2	-0.4
	baz=9.0						
EHY	**Hungye**	**0.33**	**219**	*eP*	Pb	17 26 00.2	+0.5
	baz=217						
EHY				*eS*	Sb	17 26 04.7	-0.2
	baz=217						
VWDT	**VWDT**	**0.37**	**268**	*eP*	Pn	17 26 01.0	-0.6
	baz=268						
VWDT				*eS*	Sn	17 26 07.1	-0.8
	baz=268						
NACB	**Ninganchiao**	**0.41**	**6**	*eP*	Pb	17 26 01.4	+0.5
	baz=6.0						
NACB				*eS*	Sn	17 26 08.0	-0.8
	baz=6.0						
YULB	**Yu-li**	**0.44**	**212**	*eP*	Pb	17 26 01.1	-0.2
	baz=211						
YULB				*eS*	Sb	17 26 08.1	+0.5
	baz=211						
ETLH	**Xiulin Townshi**	**0.44**	**352**	P	Pb	17 26 01.5	0.0
	baz=352						
ETLH				*eS*	Sn	17 26 09.2	-0.6
	baz=352						
CHGB	**Renai**	**0.45**	**311**	P	Pn	17 26 02.4	-0.5
	baz=310						
CHGB				S	Sn	17 26 09.5	-0.7
	baz=310						
WHF	**Hehuan Shan**	**0.46**	**326**	*eP*	Pb	17 26 02.2	+0.3
	baz=326						
WHF				*eS*	Sb	17 26 09.3	+0.6
	baz=326						
TWF1	**Yuli**	**0.47**	**209**	*eP*	Pn	17 26 02.6	-0.4
	baz=208						
TWF1				*eS*	Sn	17 26 10.2	-0.2
	baz=208						
SSLB	**Suanglung**	**0.54**	**272**	*eP*	Pn	17 26 03.8	-0.2
	baz=272						
SSLB				*eS*	Sb	17 26 10.9	+0.3
	baz=272						
SMLT	**Sun Moon Lake**	**0.60**	**281**	*eP*	Pb	17 26 04.4	+0.3
	baz=281						
SMLT				*eS*	Sn	17 26 13.8	0.0
	baz=281						
DPDB	**Guoxing**	**0.63**	**295**	*eP*	Pn	17 26 05.6	+0.4
	baz=295						
DPDB				*eS*	Sn	17 26 15.0	+0.6
	baz=295						
WHYT	**Xinyi Township**	**0.64**	**264**	*eP*	Pb	17 26 04.8	+0.2
	baz=263						
WHYT				*eS*	Sn	17 26 14.1	-0.5
	baz=263						
NNSB	**Datong**	**0.68**	**347**	*eP*	Pb	17 26 05.5	+0.1
	baz=347						
NNSB				*eS*	Sb	17 26 14.7	+0.3
	baz=347						
NNSH	**Datong**	**0.68**	**347**	*eP*	Pb	17 26 05.6	+0.2
	baz=347						
NNSH				*eS*	Sb	17 26 14.5	+0.1
	baz=347						
ENA	**Nanau**	**0.68**	**15**	*eP*	Pb	17 26 05.5	+0.1
	baz=15						
NNS	**Nan Shan**	**0.69**	**347**	*eP*	Pn	17 26 05.9	-0.2
	baz=347						
NNS				*eS*	Sn	17 26 15.5	-0.5
	baz=347						
ALS	**Alishan**	**0.73**	**250**	*eP*	Pn	17 26 07.1	+0.3
	baz=249						
ALS				*eS*	Sn	17 26 17.0	-0.2
	baz=249						
CHN5	**Tsauling**	**0.81**	**258**	*eP*	Pb	17 26 05.8	-1.8
	baz=258						
CHN5				*eS*	Sn	17 26 20.8	+1.7
	baz=258						
CHN5	**Tsauling**	**0.81**	**258**	*eP*	Pb	17 26 05.8	-1.9
	baz=339						
NDT	**Datong Townshi**	**0.83**	**358**	*eP*	Pn	17 26 10.1	+2.2
	baz=357						
YHNB	**Yeheng**	**0.91**	**350**	*eS*	Sn	17 26 21.3	-0.1
	baz=350						

TAP 21 17:25:56.0, 23°.18N × 120°.85E, h6 km ± 1 km, ML1.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.09**	**257**	*i* P	Pg	17 25 58.7	+0.6
	baz=254						
STYT				S	Sg	17 25 59.8	+0.4
	baz=254						
ELDTW	**Lidau**	**0.15**	**88**	P	Pg	17 26 00.6	+1.4
	baz=88						
ELDTW				S	Sg	17 26 03.2	+1.8
	baz=88						
WTP	**Ta-pu**	**0.23**	**286**	*eP*	Pg	17 26 01.4	+1.0
	baz=286						
WTP				S	Sg	17 26 05.5	+2.0
	baz=286						
TPUB	**Ta-pu**	**0.23**	**300**	P	Pg	17 26 02.1	+1.5
	baz=300						
TPUB				S	Sg	17 26 05.7	+1.9
	baz=300						
SGST	**Jiashian**	**0.27**	**248**	*eP*	Pg	17 26 01.9	+0.6
	baz=246						
SGST				*eS*	Sg	17 26 06.3	+1.5
	baz=246						
SLGT	**Liugui**	**0.27**	**225**	*eP*	Pb	17 26 02.4	-0.9
	baz=224						
SLGT				*eS*	Sb	17 26 06.6	-1.5
	baz=224						
CHN4	**Tsaushan**	**0.29**	**305**	*eP*	Pb	17 26 03.2	-0.5
	baz=305						
CHN4				*eS*	Sb	17 26 07.3	-1.4
	baz=305						
CHN1	**Nanshi**	**0.29**	**270**	*eP*	Pb	17 26 03.7	-0.1
	baz=270						
CHN1				*eS*	Sb	17 26 08.3	-0.7
	baz=270						
SNST	**Tainan City**	**0.33**	**277**	*eS*	Sb	17 26 09.8	0.0
	baz=276						
ALS	**Alishan**	**0.33**	**353**	*eP*	Pg	17 26 03.4	+0.8
	baz=354						
ALS				*eS*	Sb	17 26 09.0	-1.2
	baz=354						
CHN5	**Tsauling**	**0.44**	**339**	*eS*	Sb	17 26 13.3	+0.1
	baz=339						
TWF1	**Yuli**	**0.45**	**68**	*eP*	Pb	17 26 06.3	-0.1
	baz=68						
TWF1				*eS*	Sb	17 26 13.2	-0.1
	baz=68						
YULB	**Yu-li**	**0.46**	**63**	*eP*	Pg	17 26 05.6	+0.6
	baz=63						
YULB				*eS*	Sb	17 26 13.8	0.0
	baz=63						
CHY	**Chiayi**	**0.50**	**309**	*eP*	Pb	17 26 06.9	-0.4
	baz=309						
CHY				*eS*	Sb	17 26 15.4	+0.5
	baz=309						
WHYT	**Xinyi Township**	**0.51**	**0**	*eP*	Pb	17 26 07.0	-0.5
WHYT				*eS*	Sb	17 26 15.3	+0.1

IDC ***21*** *17:30:44.7±10.0, 28°.43N × 138°.45E, h0 km, mb3.5/3, mb1 3.7/3, mb1mx3.3/39, mbtmp3.5/3, Error ellipse: s-maj=423.9km s-min=31.5km az=66.0*
JMA ***21*** *17:31:22.5±0.2, 28°.99N × 140°.08E, h434 km, M3.1*
ISC 21 17:31:21.7±1.0, 28°.92N±0°.09 × 139°.4E±0°.2, h400 km, n7, σ1 9 07/10, mb2.8/3, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.06**	**126**	P	**Pn**	**17 32 26.1**	**+0.6**
CBIJ				S	**S**	**17 33 16.2**	**-0.8**
JHH2	**Haha-jima-NKT2**	**3.36**	**132**	P	**Pn**	**17 32 28.8**	**+0.8**
JHH2				S	**S**	**17 33 21.5**	**-0.1**
JAG	**Ashikaga**	**7.48**	**0**	P	**P**	**17 33 11.6**	**+0.4**
JHO	**Hitachi**	**7.73**	**7**	P	**P**	**17 33 15.2**	**+1.3**
JHO				*eS*	**S**	**17 34 43.3**	**-1.7**
MKAR	**Makanchi Array**	**47.41**	**308**	P	**P**	**17 39 18.1**	**+0.3**
	0.2nm,0.4s,baz=109,slow=7.9,SNR=5.8						
WRA	**Warramunga Arr**	**48.82**	**186**	P	**P**	**17 39 27.6**	**-0.9**
	0.3nm,0.4s,baz=4.0,slow=7.7,SNR=7.3						
ASAR	**Alice Springs**	**52.55**	**186**	P	**P**	**17 39 55.4**	**-0.6**
	0.3nm,0.5s,baz=1.2,slow=7.1,SNR=6.6						

NEIC ***21*** *17:33:48.2±2.1, 18°.28N±0°.07 × 68°.94W±0°.03, h135 km±5 km, Error ellipse: s-maj=10.4km s-min=3.9km az=181.0*
RSPR ***21*** *17:33:48.9, 18°.08N × 68°.88W, h135 km±2 km, MD4.5/19*
IDC ***21*** *17:33:48.6±1.6, 18°.25N × 68°.86W, h140 km±17 km, mb3.5/7, mb1 3.8/11, mb1mx3.5/40, mbtmp4.1/11, MS2.8/1, Ms1 2.8/1, ms1mx2.3/28, Error ellipse: s-maj=18.2km s-min=16.1km az=114.0*
OSPL ***21*** *17:33:49.9±1.5, 18°.35N × 68°.92W, h142 km±10 km, ML4.0*
ISC 21 17:33:48.6±0.6, 18°.26N±0°.05 × 68°.83W±0°.04, h143 km±6 km, n221, σ1 9 80/245, mb4.3/13, 20C-6D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.49**	**59**	*eP*	**Pn**	**17 34 08.5**	**-0.6**
PCDR	**Punta Cana, DR**	**0.49**	**59**		**Pn**	**17 34 08.5**	**-0.6**
PCDR					**Sn**	**17 34 24.2**	**-0.4**
PCDR	**Punta Cana, DR**	**0.49**	**59**	*i* P	**Pn**	**17 34 08.4**	**-0.6**
PCDR				*eS*	**Sn**	**17 34 24.9**	**+0.3**
PCDR				IAML		17 34 27.4	
	comp=Z,13μm,0.7s						
DR12	**Loma Pena Alta**	**0.74**	**315**		**Pn**	**17 34 08.2**	**-2.5**
SDD	**Santo Domingo**	**1.05**	**281**	Pn	**Pn**	**17 34 12.0**	**-1.1**
SDD				Sn	**Sn**	**17 34 28.3**	**-3.4**
SDD	**Santo Domingo**	**1.05**	**281**	*i* P	**Pn**	**17 34 11.9**	**-1.1**
SDD				*eS*	**Sn**	**17 34 28.4**	**-3.4**
SDD				IAML		17 34 34.8	
	comp=Z,986nm,0.6s						
IDE	**Isla Desecheo**	**1.29**	**84**	*eP*	**Pn**	**17 34 15.2**	**-0.3**
IDE	**Isla Desecheo**	**1.29**	**84**	*eS*	**Sn**	**17 34 36.6**	**+0.6**
IDE	**Isla Desecheo**	**1.29**	**84**		**Pn**	**17 34 15.2**	**-0.3**
IDE					**Sn**	**17 34 36.6**	**+0.6**
BANI	**BANI**	**1.46**	**276**		**Pn**	**17 34 15.8**	**-1.5**
MPR	**Mayaguez**	**1.60**	**91**		**Pn**	**17 34 18.8**	**+0.1**
MPR	**Mayaguez**	**1.60**	**91**	*i* P	**Pn**	**17 34 19.1**	**+0.3**
BON1	**Bonao**	**1.64**	**295**	*i* P	**Pn**	**17 34 17.3**	**-1.8**
BON1				IAML		17 34 41.5	
	comp=Z,2μm,0.5s						
AGPR	**Aguadilla, PR**	**1.64**	**82**	*eP*	**Pn**	**17 34 20.4**	**+1.2**
AGPR	**Aguadilla, PR**	**1.64**	**82**	*eS*	**Sn**	**17 34 44.5**	**+1.9**
AGPR	**Aguadilla, PR**	**1.64**	**82**		**Pn**	**17 34 20.4**	**+1.2**
AGPR					**Sn**	**17 34 44.5**	**+1.9**
AGPR	**Aguadilla, PR**	**1.64**	**82**		**Pn**	**17 34 20.2**	**+1.1**
AGPR	**Aguadilla, PR**	**1.64**	**82**	*i* P	**Pn**	**17 34 20.3**	**+1.2**
AGPR				IAML		17 34 49.2	
	comp=Z,5μm,0.3s						
CRPR	**Cabo Rojo, PR**	**1.65**	**98**	*eP*	**Pn**	**17 34 19.5**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.65**	**98**	*eS*	**Sn**	**17 34 42.7**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.65**	**98**		**Pn**	**17 34 19.5**	**+0.2**
CRPR					**Sn**	**17 34 42.7**	**0.0**
LSP	**Las Mesas**	**1.66**	**93**	*eP*	**Pn**	**17 34 19.8**	**+0.4**
LSP	**Las Mesas**	**1.66**	**93**		**Pn**	**17 34 19.8**	**+0.4**
MLPR	**Magueyes Islan**	**1.72**	**99**	*eP*	**Pn**	**17 34 20.1**	**+0.1**
MLPR	**Magueyes Islan**	**1.72**	**99**	*eS*	**Sn**	**17 34 43.7**	**-0.4**
MLPR	**Magueyes Islan**	**1.72**	**99**		**Pn**	**17 34 20.1**	**+0.1**
MLPR					**Sn**	**17 34 43.7**	**-0.4**
GBPR	**Guanica, Bosqu**	**1.87**	**98**	*eP*	**Pn**	**17 34 22.3**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.87**	**98**	*eS*	**Sn**	**17 34 48.0**	**+0.8**
GBPR	**Guanica, Bosqu**	**1.87**	**98**		**Pn**	**17 34 22.3**	**+0.5**
GBPR					**Sn**	**17 34 48.0**	**+0.8**
AOPR	**Arecibo Observ**	**1.97**	**87**	*eP*	**Pn**	**17 34 23.7**	**+0.7**
AOPR	**Arecibo Observ**	**1.97**	**87**	*eP*	**Pn**	**17 34 24.3**	**+1.3**
AOPR				*eS*	**Sn**	**17 34 50.9**	**+1.5**
AOPR	**Arecibo Observ**	**1.97**	**87**		**Pn**	**17 34 24.3**	**+1.3**
AOPR					**Sn**	**17 34 50.8**	**+1.5**
UUPR	**Utuado, UPR, P**	**2.00**	**90**		**Pn**	**17 34 24.1**	**+0.8**
OBIP	**Obispado Ponce**	**2.12**	**95**	*eP*	**Pn**	**17 34 25.1**	**+0.3**
OBIP	**Obispado Ponce**	**2.12**	**95**	*eS*	**Sn**	**17 34 53.4**	**+0.9**
OBIP	**Obispado Ponce**	**2.12**	**95**		**Pn**	**17 34 25.1**	**+0.3**
OBIP					**Sn**	**17 34 53.4**	**+0.9**
SC01	**Santiago de lo**	**2.14**	**303**		**Pn**	**17 34 23.4**	**-1.7**
SC01				Sn	**Sn**	**17 34 51.0**	**-2.1**
SC01	**Santiago de lo**	**2.14**	**303**	*i* P	**Pn**	**17 34 23.3**	**-1.7**
SC01				IAML		17 34 54.9	
	comp=Z,1μm,0.5s						
EMPR	**Esperanza - Ma**	**2.19**	**84**	*eP*	**Pn**	**17 34 26.2**	**+0.6**
EMPR	**Esperanza - Ma**	**2.19**	**84**	*eS*	**Sn**	**17 34 55.2**	**+1.2**
EMPR	**Esperanza - Ma**	**2.19**	**84**		**Pn**	**17 34 26.2**	**+0.6**
EMPR					**Sn**	**17 34 55.2**	**+1.2**
ICMP	**Isla Caja de M**	**2.22**	**99**	*eP*	**Pn**	**17 34 26.1**	**+0.2**
ICMP	**Isla Caja de M**	**2.22**	**99**	*eS*	**Sn**	**17 34 54.8**	**+0.2**
ICMP	**Isla Caja de M**	**2.22**	**99**		**Pn**	**17 34 26.1**	**+0.2**
ICMP					**Sn**	**17 34 54.8**	**+0.2**
SDDR	**Presa de Saban**	**2.44**	**288**	Pn	**Pn**	**17 34 26.8**	**-2.0**
SDDR				Sn	**Sn**	**17 34 57.2**	**-2.4**
SDDR	**Presa de Saban**	**2.44**	**288**	*i* P	**Pn**	**17 34 27.0**	**-1.8**
SDDR				IAML		17 35 03.7	
	comp=Z,602nm,0.6s						
SJG	**San Juan**	**2.55**	**93**	P	**Pn**	**17 34 30.8**	**+0.8**
	comp=Z,86nm,0.3s,baz=300,slow=8.8,SNR=84						
SJG				S	**Sn**	**17 35 02.3**	**+0.5**
	comp=Z,380nm,0.3s,baz=284,slow=16,SNR=11						
SJG	**San Juan**	**2.55**	**93**	*eP*	**Pn**	**17 34 30.5**	**+0.5**
SJG	**San Juan**	**2.55**	**93**		**Pn**	**17 34 30.4**	**+0.4**
SJG				Sn	**Sn**	**17 35 01.7**	**-0.2**
IGPR	**InterUniversit**	**2.60**	**96**	*eP*	**Pn**	**17 34 31.2**	**+0.5**
IGPR				*eS*	**Sn**	**17 35 04.2**	**+1.1**
IGPR	**InterUniversit**	**2.60**	**96**	*eP*	**Pn**	**17 34 30.8**	**+0.1**
IGPR	**InterUniversit**	**2.60**	**96**		**Pn**	**17 34 31.2**	**+0.5**
IGPR					**Sn**	**17 35 04.2**	**+1.1**
GCPR	**Guaynabo City**	**2.61**	**88**	*eP*	**Pn**	**17 34 30.7**	**-0.1**
GCPR	**Guaynabo City**	**2.61**	**88**	*eS*	**Sn**	**17 35 04.0**	**+0.9**
GCPR	**Guaynabo City**	**2.61**	**88**		**Pn**	**17 34 30.7**	**-0.1**
GCPR					**Sn**	**17 35 04.0**	**+0.9**
PDPR	**Patillas Dam,**	**2.68**	**95**	*eP*	**Pn**	**17 34 31.8**	**+0.2**
PDPR	**Patillas Dam,**	**2.68**	**95**	*eS*	**Sn**	**17 35 06.1**	**+1.4**
PDPR	**Patillas Dam,**	**2.68**	**95**		**Pn**	**17 34 31.8**	**+0.2**
PDPR					**Sn**	**17 35 06.1**	**+1.4**
CBYP	**Canovanas**	**2.82**	**89**	*eP*	**Pn**	**17 34 33.4**	**-0.1**
CBYP	**Canovanas**	**2.82**	**89**	*eP*	**Pn**	**17 34 33.5**	**0.0**
CBYP				*eS*	**Sn**	**17 35 08.4**	**+0.3**
CBYP	**Canovanas**	**2.82**	**89**		**Pn**	**17 34 33.5**	**0.0**
CBYP					**Sn**	**17 35 08.4**	**+0.3**
HUMP	**Col San Antoni**	**2.83**	**92**	*eP*	**Pn**	**17 34 33.8**	**+0.2**
HUMP	**Col San Antoni**	**2.83**	**92**	*eP*	**Pn**	**17 34 34.0**	**+0.4**
HUMP				*eS*	**Sn**	**17 35 08.6**	**+0.4**
HUMP	**Col San Antoni**	**2.83**	**92**		**Pn**	**17 34 34.0**	**+0.4**
HUMP					**Sn**	**17 35 08.6**	**+0.4**
MTP	**Monte Pirata**	**3.12**	**92**	*eP*	**Pn**	**17 34 37.9**	**+0.7**
MTP	**Monte Pirata**	**3.12**	**92**	*eS*	**Sn**	**17 35 16.7**	**+2.0**
MTP	**Monte Pirata**	**3.12**	**92**		**Pn**	**17 34 37.9**	**+0.7**
MTP					**Sn**	**17 35 16.7**	**+2.0**
PAPH	**Port-au-Prince**	**3.31**	**275**		**Pn**	**17 34 38.2**	**-1.5**
PAPH	**Port-au-Prince**	**3.31**	**275**	*i* P	**Pn**	**17 34 38.4**	**-1.3**
PAPH				IAML		17 35 20.5	
	comp=Z,210nm,0.5s						
CUPR	**Culebra, Puert**	**3.37**	**89**	*eP*	**Pn**	**17 34 40.5**	**0.0**
CUPR	**Culebra, Puert**	**3.37**	**89**		**Pn**	**17 34 40.5**	**0.0**
JAKH	**Jacmel**	**3.51**	**270**	Pn	**Pn**	**17 34 40.8**	**-1.5**
JAKH	**Jacmel**	**3.51**	**270**	*i* P	**Pn**	**17 34 40.8**	**-1.5**
JAKH				IAML		17 35 29.1	
	comp=Z,116nm,0.7s						
LGNH	**Logne**	**3.60**	**275**		**Pn**	**17 34 42.2**	**-1.3**
LGNH	**Logne**	**3.60**	**275**	*i* P	**Pn**	**17 34 41.8**	**-1.6**
LGNH				IAML		17 35 26.9	
	comp=Z,90nm,0.6s						
STVI	**Saint Thomas**	**3.68**	**88**	*eP*	**Pn**	**17 34 44.6**	**+0.1**
STVI	**Saint Thomas**	**3.68**	**88**	*eP*	**Pn**	**17 34 45.0**	**+0.5**
STVI	**Saint Thomas**	**3.68**	**88**	*eS*	**Sn**	**17 35 28.3**	**+0.5**
STVI	**Saint Thomas**	**3.68**	**88**		**Pn**	**17 34 45.0**	**+0.5**
STVI					**Sn**	**17 35 28.3**	**+0.5**
CDVI	**St. Croix**	**3.90**	**97**	*eP*	**Pn**	**17 34 47.1**	**-0.2**
CDVI				*eS*	**Sn**	**17 35 29.6**	**-3.3**
CDVI	**St. Croix**	**3.90**	**97**	*eP*	**Pn**	**17 34 46.8**	**-0.5**
CDVI	**St. Croix**	**3.90**	**97**		**Pn**	**17 34 46.8**	**-0.5**
GRTK	**Grand Turk**	**3.90**	**327**		**Pn**	**17 34 43.1**	**-4.3**
TBVI	**Tortola**	**4.00**	**87**	*eP*	**Pn**	**17 34 48.6**	**-0.1**
TBVI	**Tortola**	**4.00**	**87**		**Pn**	**17 34 48.6**	**-0.1**
SABA	**Saba**	**5.35**	**96**	*eP*	**Pn**	**17 35 09.2**	**+2.6**
SABA	**Saba**	**5.35**	**96**	*eS*	**Sn**	**17 36 13.5**	**+6.0**
SABA	**Saba**	**5.35**	**96**	Pn	**Pn**	**17 35 08.8**	**+2.1**
SMRT	**St. Maarten**	**5.47**	**91**	*eP*	**Pn**	**17 35 08.3**	**+0.1**
SMRT	**St. Maarten**	**5.47**	**91**	*eS*	**Sn**	**17 36 08.4**	**-2.0**
SMRT	**St. Maarten**	**5.47**	**91**	Pn	**Pn**	**17 35 07.8**	**-0.4**
SEUS	**St. Eustatius**	**5.62**	**97**	*eP*	**Pn**	**17 35 09.1**	**-1.1**
SKI	**Saint Kitts**	**5.87**	**98**	*eP*	**Pn**	**17 35 12.0**	**-1.6**
SKI	**Saint Kitts**	**5.87**	**98**	*eP*	**Pn**	**17 35 14.5**	**+0.9**
SKI	**Saint Kitts**	**5.87**	**98**	*eS*	**Sn**	**17 36 14.0**	**-6.0**
SKI	**Saint Kitts**	**5.87**	**98**	Pn	**Pn**	**17 35 12.3**	**-1.3**
SKOC	**St. Kitts, UWI**	**5.89**	**98**	*eP*	**Pn**	**17 35 09.4**	**-4.4**
NVDO	**Nevis, Disaste**	**6.03**	**100**	*eS*	**Sn**	**17 36 25.3**	**+1.7**
HATO	**Hato, Curacao**	**6.04**	**181**	Pn	**Pn**	**17 35 18.0**	**+2.1**
GTBY	**Guantanamo Bay**	**6.17**	**287**	Pn	Pn	17 35 12.5	-5.0
MLYT	**Lee's Yard**	**6.51**	**103**	*eP*	**Pn**	**17 35 22.7**	**+0.5**
MLYT	**Lee's Yard**	**6.51**	**103**	*eS*	**Sn**	**17 36 38.0**	**+2.6**
ANWB	**Willy Bob**	**6.73**	**94**	*eP*	**Pn**	**17 35 23.8**	**-1.3**
ANWB	**Willy Bob**	**6.73**	**94**	*eP*	**Pn**	**17 35 24.1**	**-0.9**
ANWB	**Willy Bob**	**6.73**	**94**	*eS*	**Sn**	**17 36 38.9**	**-1.6**
ANWB	**Willy Bob**	**6.73**	**94**	Pn	**Pn**	**17 35 24.0**	**-1.1**
URIC	**Uribia, Colomb**	**7.20**	**206**	Pn	**Pn**	**17 35 29.5**	**-1.9**
ABD	**La Joyeuse, An**	**7.23**	**103**	*eP*	**Pn**	**17 35 33.2**	**+1.4**
ABD	**La Joyeuse, An**	**7.23**	**103**	*eS*	**Sn**	**17 36 52.7**	**+0.1**
ABD	**La Joyeuse, An**	**7.23**	**103**	Pn	**Pn**	**17 35 32.9**	**+1.1**
CBE	**Ff, Capester**	**7.24**	**106**	*eP*	**Pn**	**17 35 35.1**	**+3.2**
CBE	**Ff, Capester**	**7.24**	**106**	*eS*	**Sn**	**17 36 50.2**	**-2.6**
TDBA	**Terre de Bas,**	**7.28**	**108**	*eP*	**Pn**	**17 35 34.1**	**+1.6**
MAGL	**Barre de l'ile**	**7.57**	**107**	*eP*	**Pn**	**17 35 37.9**	**+1.6**
MAGL	**Barre de l'ile**	**7.57**	**107**	*eS*	**Sn**	**17 36 56.3**	**-4.5**
MAGL	**Barre de l'ile**	**7.57**	**107**	Pn	**Pn**	**17 35 38.0**	**+1.6**
DSLB	**Salisbury**	**7.62**	**110**	*eP*	**Pn**	**17 35 38.2**	**+1.1**
DSLB	**Salisbury**	**7.62**	**110**	*eS*	**Sn**	**17 37 00.3**	**-1.9**
DWS	**Wesley**	**7.67**	**109**	*eP*	**Pn**	**17 35 39.6**	**+1.8**
DWS	**Wesley**	**7.67**	**109**	*eS*	**Sn**	**17 37 05.2**	**+1.8**
MDN	**Morne-Daniel**	**7.70**	**111**	*eP*	**Pn**	**17 35 38.6**	**+0.6**
MDN	**Morne-Daniel**	**7.70**	**111**	*eS*	**Sn**	**17 37 03.9**	**+0.1**
DPMT	**Pointe Michel**	**7.73**	**112**	*eP*	Pn	17 35 26.9	-12
DSHT	**Scott's Head**	**7.75**	**112**	*eP*	Pn	17 35 27.5	-11
DLPL	**La Plaine**	**7.82**	**111**	*eP*	Pn	17 35 26.8	-13
DLPL	**La Plaine**	**7.82**	**111**	*e*	Pn	17 35 44.7	+5.0
DLPL	**La Plaine**	**7.82**	**111**	Pn	**Pn**	**17 35 44.0**	**+4.2**
FDF	**Fort de France**	**8.15**	**114**	*eP*	**Pn**	**17 35 41.4**	**-2.8**
FDF	**Fort de France**	**8.15**	**114**	*eS*	**Sn**	**17 37 08.3**	**-6.7**
FDF	**Fort de France**	**8.15**	**114**	Pn	**Pn**	**17 35 46.1**	**+1.9**
MTDJ	**Mount Denham**	**8.27**	**271**	Pn	**Pn**	**17 35 43.0**	**-2.9**
BIM	**Bigot**	**8.32**	**115**	*eP*	**Pn**	**17 35 48.5**	**+2.0**
BIM	**Bigot**	**8.32**	**115**	*eS*	**Sn**	**17 37 18.7**	**-0.3**
MPOM	**Morne Pois Mar**	**8.54**	**115**	*eP*	**Pn**	**17 35 51.4**	**+2.1**
MPOM	**Morne Pois Mar**	**8.54**	**115**	*eS*	**Sn**	**17 37 23.3**	**-0.9**
SLBI	**Saint Lucia, B**	**8.64**	**118**	*eP*	**Pn**	**17 35 52.0**	**+1.4**
SLBI	**Saint Lucia, B**	**8.64**	**118**	*eS*	**Sn**	**17 37 24.3**	**-2.3**
SLBI				*eT*	T	11 15 21.6	
SLW	**Petit Monier**	**8.67**	**118**	*eP*	**Pn**	**17 35 52.2**	**+1.0**
SLW	**Petit Monier**	**8.67**	**118**	*eS*	**Sn**	**17 37 26.7**	**-0.8**
SLW				T	T	11 15 36.9	
SLDE	**Delcer**	**8.68**	**120**	*eP*	**Pn**	**17 35 51.3**	**0.0**
SLDE	**Delcer**	**8.68**	**120**	*eS*	**Sn**	**17 37 28.4**	**+0.7**
SLDE				*eT*	T	11 15 23.7	
SLB	**Belfond**	**8.68**	**119**	*eP*	**Pn**	**17 35 54.4**	**+3.1**
SLAC	**Saint Lucia, A**	**8.77**	**118**	*eP*	**Pn**	**17 35 55.0**	**+2.5**
SLAC	**Saint Lucia, A**	**8.77**	**118**	*eS*	**Sn**	**17 37 28.0**	**-1.8**
SLAC				*eT*	T	11 15 25.4	
SLPA	**Patience**	**8.77**	**119**	*eP*	**Pn**	**17 35 50.9**	**-1.6**
SLPA	**Patience**	**8.77**	**119**	*eS*	**Sn**	**17 37 28.3**	**-1.5**
SVB	**Belmont**	**8.82**	**123**	*eP*	**Pn**	**17 35 53.1**	**0.0**
SVB	**Belmont**	**8.82**	**123**	*eS*	**Sn**	**17 37 28.9**	**-2.0**
SVB				*eT*	T	11 16 14.7	
SVB	**Belmont**	**8.82**	**123**		**Pn**	**17 35 52.6**	**-0.5**
SVV	**Soufriere Volc**	**8.82**	**123**	*eP*	**Pn**	**17 35 55.4**	**+2.3**
SVV				*eT*	T	11 16 16.5	
MCLT	**Moule a Chique**	**8.83**	**120**	*eP*	**Pn**	**17 35 57.3**	**+4.1**
MCLT	**Moule a Chique**	**8.83**	**120**	*eS*	**S

NVAR	**Mina Array Bea**	**47.34**	**306**	P		**P**	**17 42 08.7**	**+0.2**
ESDC	**Sonseca Array**	**59.37**	**54**	P		**P**	**17 43 37.5**	**+1.4**
	comp=Z,0.9nm,1.1s,baz=268,slow=9.8,SNR=2.4							
ESDC	**Sonseca Array**	**59.37**	**54**	P		**P**	**17 43 37.3**	**+1.2**
TORD	**Torodi Ar. Bea**	**67.72**	**83**	P		**P**	**17 44 32.6**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=284,slow=5.6,SNR=2.5							
TORD	**Torodi Ar. Bea**	**67.72**	**83**	P		**P**	**17 44 32.0**	**+0.7**
SBLHI	**Steaming Bluff**	**80.87**	**287**	P		**P**	**17 45 47.6**	**+0.1**
OBL	**Observatory Le**	**80.89**	**287**	P		**P**	**17 45 46.6**	**-1.0**
STKA	**Stephens Creek**	**149.41**	**238**	PKPbc		**PKPbc**	**17 53 20.2**	**-1.1**
	comp=Z,2.3nm,0.7s,baz=85,slow=4.8,SNR=6.4							
STKA	**Stephens Creek**	**149.41**	**238**	PKPbc		**PKPbc**	**17 53 20.6**	**-0.7**
WRA	**Warramunga Arr**	**158.05**	**262**	PKPab		**PKPab**	**17 54 01.1**	**-2.5**
	comp=Z,0.7nm,0.8s,baz=99,slow=3.7,SNR=2.1							
ASAR	**Alice Springs**	**158.11**	**252**	PKPab		**PKPab**	**17 54 02.9**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=94,slow=4.8,SNR=8.3							

*IDC **21** 18:14:57.4±0.7, 7.°99S×156.°05E, h0km, mb4.3/15, mb1 4.4/17, mb1mx4.3/28, mbtmp4.2/17, ML3.7/2, MS3.5/19, Ms1 3.5/19, ms1mx3.5/25, Error ellipse: s-maj=21.9km s-min=16.2km az=112.0*

*NEIC **21** 18:15:05.1±1.0, 8.°1S±0.°1×156.°18E±0.°07, h64km±7km, mb4.5/14, Error ellipse: s-maj=19.4km s-min=2.7km az=210.0*

ISC 21 18:15:00.5±0.5, 8.°0S±0.°1×155.°95E±0.°09, h18km, n58, σ1s42/48, mb4.6/22, MS3.5/18, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**4.21**	**110**	Pn		**Pn**	**18 16 03.1**	**-0.7**
	9.8nm,0.3s,baz=288,slow=5.2,SNR=1.8							
HNR				LR		LR	18 17 34.9	
	comp=Z,902nm,20.4s,baz=233,slow=38							
HNR	**Honiara**	**4.21**	**110**			**Pn**	**18 16 03.7**	**-0.1**
RABL	**Rabaul**	**5.32**	**315**			Pn	18 16 25.9	+6.8
KRVT	**Keravat (AS076**	**5.34**	**313**	Pn		**Pn**	**18 16 20.9**	**+1.6**
	0.9nm,0.3s,baz=238,slow=13,SNR=1.6							
PMG	**Port Moresby**	**8.80**	**260**	LR		LR	18 20 27.4	
	comp=Z,384nm,18.8s,baz=74,slow=37							
DZM	**Mont Dzumac**	**17.28**	**145**	*e*LR		LR	18 23 21.5	
	comp=Z,755nm,28.7s							
DZM	**Mont Dzumac**	**17.28**	**145**	LR		LR	18 24 51.5	
	comp=Z,357nm,19.4s,baz=318,slow=34							
WR0	**Warramunga Arr**	**23.91**	**238**	P		**P**	**18 20 15.1**	**+1.5**
WR0				IAmb		IAmb	18 20 17.9	
	comp=Z,19nm,1.1s							
WB0	**Warramunga Arr**	**23.94**	**238**	P		**P**	**18 20 15.2**	**+1.3**
WB2	**Warramunga Ar**	**24.06**	**238**	P		**P**	**18 20 16.2**	**+1.2**
WB2				IAmb		IAmb	18 20 18.8	
	comp=Z,20nm,1.2s							
WRA	**Warramunga Arr**	**24.07**	**238**	P		**P**	**18 20 15.2**	**+0.1**
	comp=Z,8.9nm,0.9s,baz=62,slow=9.3,SNR=13							
WRA				PcP		**PcP**	**18 23 57.3**	**+0.7**
	comp=Z,3.1nm,1.0s,baz=55,slow=1.9,SNR=6.0							
WRA	**Warramunga Arr**	**24.07**	**238**	P		**P**	**18 20 15.1**	**0.0**
GUMO	**Guam**	**24.09**	**333**	LR		LR	18 28 47.5	
	comp=Z,61nm,20.5s,baz=182,slow=34							
SIJI	**Sorong**	**25.58**	**285**	P		**P**	**18 20 29.4**	**+0.5**
	comp=Z,3.8nm,0.6s,baz=160,slow=12,SNR=3.1							
ASAR	**Alice Springs**	**26.26**	**231**	P		**P**	**18 20 34.6**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=58,slow=9.1,SNR=8.2							
ASAR				PcP		**PcP**	**18 24 01.3**	**-0.2**
	comp=Z,2.0nm,1.1s,baz=113,slow=1.9,SNR=4.9							
ASAR				LR		LR	18 28 51.7	
	comp=Z,66nm,21.1s,baz=51,slow=32							
STKA	**Stephens Creek**	**27.27**	**207**	P		**P**	**18 20 44.8**	**+0.8**
	comp=Z,5.3nm,0.9s,baz=27,slow=9.6,SNR=8.4							
STKA				LR		LR	18 31 34.8	
	comp=Z,124nm,18.4s,baz=27,slow=36							
STKA	**Stephens Creek**	**27.27**	**207**	P		**P**	**18 20 43.9**	**0.0**
FITZ	**Fitzroy Crossi**	**31.14**	**248**	P		**P**	**18 21 18.1**	**-0.4**
	comp=Z,2.2nm,0.7s,baz=82,slow=6.0,SNR=7.4							
FITZ	**Fitzroy Crossi**	**31.14**	**248**	P		**P**	**18 21 18.9**	**+0.4**
MJAR	**Matsushiro Arr**	**47.32**	**341**	P		**P**	**18 23 32.8**	**-0.4**
	comp=Z,4.8nm,0.8s,baz=164,slow=7.7,SNR=15							
MJAR				LR		LR	18 43 45.9	
	comp=Z,20nm,18.1s,baz=195,slow=36							
MJAR	**Matsushiro Arr**	**47.32**	**341**	P		**P**	**18 23 33.6**	**+0.4**
MAJO	**Matsushiro**	**47.32**	**341**	P		**P**	**18 23 33.4**	**+0.2**
MAJO				IAmb		IAmb	18 23 37.5	
	comp=Z,7.4nm,0.8s							
MJB9	**Matsu-Tunnel**	**47.32**	**341**	P		**P**	**18 23 33.7**	**+0.4**
KSRS	**Korea Array**	**52.25**	**332**	P		**P**	**18 24 11.1**	**+0.4**
KSRS				LR		LR	18 46 31.9	
	comp=Z,21nm,18.1s,baz=152,slow=36							
KSAR	**Wonju Array Be**	**52.25**	**332**	P		**P**	**18 24 11.4**	**+0.7**
PPT	**Papeete**	**53.82**	**106**	LR		LR	18 43 06.6	
	comp=Z,30nm,18.9s,baz=328,slow=31							
PPT2	**Papeete2**	**53.82**	**106**	*e*S		**S**	**18 32 04.1**	**+6.8**
	comp=Z,34nm,23.8s							
PPT2				*e*LR		LR	18 40 14.7	
	comp=Z,99nm,27.8s							
TBI	**Tubuai**	**54.43**	**113**	*e*LR		LR	18 40 37.8	
	comp=Z,140nm,32.5s							
USRK	**Ussuriysk Ar.**	**56.28**	**339**	P		**P**	**18 24 40.4**	**+0.5**
	comp=Z,6.3nm,1.0s,baz=141,slow=5.2,SNR=8.0							
USRK				LR		LR	18 45 22.6	
	comp=Z,41nm,21.1s,baz=166,slow=32							
USRK	**Ussuriysk Ar.**	**56.28**	**339**			**P**	**18 24 40.3**	**+0.3**
PEA0B	**Petropavlovsk-**	**60.87**	**1**	P		**P**	**18 25 11.3**	**-0.5**
PETK	**Petropavlovsk-**	**60.87**	**1**	P		**P**	**18 25 10.9**	**-0.9**
	comp=Z,5.0nm,0.9s,baz=170,slow=8.6,SNR=13							
PETK				LR		LR	18 48 51.2	
	comp=Z,95nm,20.8s,baz=234,slow=33							
PETK	**Petropavlovsk-**	**60.87**	**1**	P		**P**	**18 25 11.3**	**-0.5**
CMAR	**Chiang Mai Arr**	**62.06**	**296**	P		**P**	**18 25 21.6**	**+1.0**
	comp=Z,2.2nm,1.0s,baz=116,slow=5.2,SNR=9.0							
CMAR				LR		LR	18 53 24.7	
	comp=Z,27nm,18.0s,baz=193,slow=37							
VNDA	**Vanda**	**69.58**	**179**	LR		LR	18 50 58.5	
	comp=Z,72nm,19.2s,baz=330,slow=31							
SONM	**Songino Array**	**70.67**	**327**	P		**P**	**18 26 16.5**	**+1.2**
	comp=Z,3.7nm,0.8s,baz=135,slow=6.3,SNR=20							
SONM				LR		LR	18 58 29.1	
	comp=Z,18nm,18.0s,baz=134,slow=37							
SONM	**Songino Array**	**70.67**	**327**	P		**P**	**18 26 15.9**	**+0.6**
BILL	**Bilibino**	**76.19**	**4**	P		**P**	**18 26 46.8**	**-0.4**
BILL				IAmb		IAmb	18 26 48.9	
	comp=Z,7.4nm,1.0s							
QSPA	**South Pole Qui**	**82.00**	**180**	P		**P**	**18 27 17.8**	**-1.6**
QSPA				IAmb		IAmb	18 27 21.9	
	comp=Z,9.4nm,1.2s							
ILAR	**Eielson Array**	**83.94**	**21**	P		**P**	**18 27 27.8**	**-1.4**
	comp=Z,0.8nm,0.9s,baz=254,slow=4.3,SNR=5.3							
ILAR				LR		LR	18 59 52.9	
	comp=Z,28nm,19.6s,baz=311,slow=32							
ILAR	**Eielson Array**	**83.94**	**21**	P		**P**	**18 27 27.6**	**-1.6**
MK31	**Makanchi Array**	**84.76**	**319**	P		**P**	**18 27 33.9**	**+0.1**
MK31				IAmb		IAmb	18 27 38.5	
	comp=Z,4.3nm,1.1s							
MKAR	**Makanchi Array**	**84.76**	**319**	P		**P**	**18 27 34.6**	**+0.9**
	comp=Z,3.5nm,0.8s,baz=94,slow=6.0,SNR=15							
MKAR				LR		LR	19 03 35.0	
	comp=Z,34nm,21.9s,baz=92,slow=34							
MKAR	**Makanchi Array**	**84.76**	**319**	P		**P**	**18 27 34.3**	**+0.5**
MAKZ	**Makanchi**	**84.97**	**318**	P		**P**	**18 27 35.5**	**+0.6**
MAKZ				IAmb		IAmb	18 27 56.0	
	comp=Z,3.6nm,0.8s							
ZALV	**Zalesovo Beam**	**85.52**	**326**	P		**P**	**18 27 36.6**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=72,slow=4.8,SNR=4.1							
ZALV				LR		LR	19 08 24.0	
	comp=Z,16nm,18.2s,baz=96,slow=38							
ZALV	**Zalesovo Beam**	**85.52**	**326**			**P**	**18 27 36.9**	**-0.5**
NRIK	**Noril'sk**	**89.97**	**341**	LR		LR	19 07 45.1	
	comp=Z,37nm,21.7s,baz=56,slow=35							
NVAR	**Mina Array Bea**	**91.59**	**52**	P		**P**	**18 28 07.1**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=244,slow=6.1,SNR=3.8							
NVAR	**Mina Array Bea**	**91.59**	**52**	P		**P**	**18 28 06.2**	**-0.8**
YKA	**Yellowknife Ar**	**96.76**	**28**	LR		LR	19 05 51.0	
	comp=Z,16nm,22.0s,baz=0.0,slow=32							
GERES	**GERESS Array B**	**128.38**	**329**	PKP		**PKPdf**	**18 34 04.8**	**-1.5**
	comp=Z,1.0nm,0.9s,baz=0.0,slow=2.9,SNR=6.1							
GERES	**GERESS Array B**	**128.38**	**329**			**PKPdf**	**18 34 04.4**	**-2.0**
LPAZ	**La Paz**	**130.16**	**119**	PKP		**PKPdf**	**18 34 11.0**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=290,slow=4.1,SNR=4.4							
LPAZ	**La Paz**	**130.16**	**119**			**PKPdf**	**18 34 07.8**	**-3.5**
ESDC	**Sonseca Array**	**143.67**	**333**	PKP		PKPab	18 34 33.9	+2.4
	comp=Z,1.0nm,1.0s,baz=56,slow=3.2,SNR=4.3							
ESDC	**Sonseca Array**	**143.67**	**333**			PKPab	18 34 33.4	+1.9
TORD	**Torodi Ar. Bea**	**154.18**	**284**	PKPbc		**PKPbc**	**18 35 00.4**	**-0.1**
	comp=Z,0.9nm,1.1s,baz=45,slow=2.3,SNR=4.1							

*IDC **21** 18:27:56.0±1.9, 7.°46S×128.°49E, h159km±22km, mb3.2/5, mb1 3.2/10, mb1mx3.1/33, mbtmp3.7/10, Error ellipse: s-maj=23.9km s-min=18.3km az=122.0*

ISC 21 18:27:54.5±0.7, 7.°57S±0.°06×128.°68E±0.°09, h151km, n10, σ2s08/15, mb3.5/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
BATI	**Baumata**	**5.61**	**242**	P		**Pn**	**18 29 17.6**	**+1.6**
	20nm,0.3s,baz=92,slow=4.0,SNR=33							
BATI				S		**Sn**	**18 30 18.3**	**-1.5**
	32nm,0.3s,baz=359,slow=17,SNR=14							
SIJI	**Sorong**	**7.14**	**21**	P		**Pn**	**18 29 37.9**	**+1.4**
	1.3nm,0.3s,baz=230,slow=23,SNR=9.5							
SIJI				S		**Sn**	**18 30 55.0**	**-1.6**
	1.0nm,0.3s,baz=239,slow=23,SNR=6.3							
FITZ	**Fitzroy Crossi**	**10.88**	**195**	P		**Pn**	**18 30 27.3**	**+1.1**
	0.2nm,0.3s,baz=2.5,slow=9.2,SNR=14							
FITZ				S		**Sn**	**18 32 24.2**	**-2.3**
	1.3nm,0.3s,baz=181,slow=9.9,SNR=7.5							
WRA	**Warramunga Arr**	**13.47**	**157**	P		**Pn**	**18 31 02.6**	**+2.8**
	0.3nm,0.3s,baz=339,slow=12,SNR=9.5							
WRA				S		**Sn**	**18 33 26.4**	**-2.7**
	0.7nm,0.3s,baz=328,slow=22,SNR=8.4							
ASAR	**Alice Springs**	**16.77**	**163**	P		**Pn**	**18 31 44.1**	**+3.4**
	0.1nm,0.3s,baz=336,slow=8.9,SNR=10							
ASAR				S		**S**	**18 34 45.8**	**-1.5**
	0.2nm,0.3s,baz=20,slow=26,SNR=4.2							
MJAR	**Matsushiro Arr**	**44.78**	**11**	P		**P**	**18 35 51.3**	**-1.9**
	0.6nm,0.8s,baz=189,slow=8.0,SNR=2.4							
SONM	**Songino Array**	**58.57**	**343**	P		**P**	**18 37 35.0**	**-0.5**
	0.3nm,0.6s,baz=169,slow=8.8,SNR=2.1							
PETK	**Petropavlovsk-**	**65.27**	**19**	P		**P**	**18 38 20.8**	**+0.8**
	0.8nm,0.7s,baz=182,slow=8.9,SNR=4.3							
MKAR	**Makanchi Array**	**67.99**	**328**	P		**P**	**18 38 37.8**	**+0.4**
	0.3nm,0.4s,baz=119,slow=7.0,SNR=6.9							
ZALV	**Zalesovo Beam**	**71.52**	**334**	P		**P**	**18 38 57.1**	**-1.7**
	0.4nm,0.4s,baz=123,slow=10,SNR=1.8							

IDC 21 18:37:30.2±4.5, 7.°76S×155.°43E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, MS2.6/1, Ms1 2.6/1, ms1mx2.2/25, Error ellipse: s-maj=127.2km s-min=30.3km az=114.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**23.66**	**334**	LR		LR	18 51 10.3	
	comp=Z,16nm,20.3s,baz=168,slow=35							
WRA	**Warramunga Arr**	**23.75**	**237**	P		P	18 42 45.1	+0.6
	2.2nm,0.8s,baz=62,slow=9.6,SNR=6.0							
ASAR	**Alice Springs**	**26.00**	**230**	P		P	18 43 03.9	-1.3
	0.4nm,0.8s,baz=53,slow=8.3,SNR=3.1							
MJAR	**Matsushiro Arr**	**46.94**	**341**	P		P	18 46 02.2	-0.6
	0.7nm,0.7s,baz=160,slow=7.6,SNR=4.2							
MKAR	**Makanchi Array**	**84.26**	**319**	P		P	18 50 04.7	+0.7
	0.4nm,0.6s,baz=102,slow=5.9,SNR=5.0							

*BYKL **21** 19:31:33.7±0.4, 56.°69N×121.°59E, h11km±5km*

*YARS **21** 19:31:33.2±0.0, 56.°62N×121.°49E, h9km, ML3.4/11*

*MOS **21** 19:31:34.1±1.0, 56.°57N×121.°61E, h8km, mb4.0/1, Error ellipse: s-maj=17.8km s-min=11.0km az=58.3*

*IDC **21** 19:31:35.4±1.2, 56.°61N×121.°65E, h0km, mb3.4/5, mb1 3.5/8, mb1mx3.3/40, mbtmp3.5/8, ML3.7/3, MS2.5/2, Ms1 2.5/2, ms1mx2.1/29, Error ellipse: s-maj=22.3km s-min=14.4km az=141.0*

ISC 21 19:31:34.2±0.7, 56.°62N±0.°03×121.°57E±0.°02, h9km±4km, n76, σ2s96/127, mb3.3/4, 5C-6D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
YKLR	**Yuktali**	**0.06**	**122**	⇑*i*	Pg	**Pg**	**19 31 35.8**	**-0.4**
YKLR				*e*			19 31 36.5	
YKLR				*e*	Sg	**Sg**	**19 31 37.2**	**-0.4**
YKLR	**Yuktali**	**0.06**	**122**	*i*	Pg	**Pg**	**19 31 35.8**	**-0.4**
	3μm,0.2s,baz=105							
YKLR				*e*	Sg	**Sg**	**19 31 37.2**	**-0.4**
	39μm,0.2s,baz=105							
YKLR				*e*	Sg	**Sg**	**19 31 37.2**	**-0.4**
	31μm,0.1s,baz=105							
YKLR	**Yuktali**	**0.06**	**122**	⇑*i*	P	**Pg**	**19 31 35.8**	**-0.4**
YKLR				*e*	S	**Sg**	**19 31 37.2**	**-0.4**
KHNR	**Khani**	**0.93**	**290**	*e*	Pg	**Pg**	**19 31 50.7**	**-1.3**
KHNR				*e*	Sg	**Sg**	**19 32 02.4**	**-1.6**
KHN	**Khani**	**1.02**	**288**	*e*	Pg	**Pg**	**19 31 50.7**	**-3.2**
	184nm,0.1s,baz=291							
KHN				*e*	Sg	**Sg**	**19 32 02.4**	**-4.8**
	5μm,0.1s,baz=291							
KHN				*e*	Sg	**Sg**	**19 32 02.4**	**-4.8**
	4μm,0.2s,baz=291							
CRS	**Chara**	**1.84**	**280**	⇓*i*	Pg	**Pn**	**19 32 06.9**	**+1.0**
CRS				Pmax			19 32 08.8	
	470nm,0.9s							
CRS				*e*	Sg	**Sn**	**19 32 30.7**	**+1.5**
CRS				Smax			19 32 33.5	
	2μm,1.1s							
CRS	**Chara**	**1.84**	**280**	*i*	Pg	**Pn**	**19 32 06.9**	**+1.0**
	470nm,0.9s,baz=280							
CRS				*e*	Sg	**Sn**	**19 32 30.7**	**+1.5**
	2μm,1.1s,baz=280							
CRS	**Chara**	**1.84**	**280**	⇑*i*	P	**Pn**	**19 32 07.1**	**+1.2**
CRS				*e*			19 32 33.1	
CRS				pmax		pmax		
	comp=Z,470nm,0.9s							
CRS				smax		smax		
	comp=N,2μm,0.8s							
CLNS	**Chul'man**	**1.84**	**82**	*e*	Pg	**Pb**	**19 32 07.4**	**-0.6**
CLNS				*e*	Sg	**Sb**	**19 32 30.7**	**-0.5**
CLNS	**Chul'man**	**1.84**	**82**	*e*	Pg	**Pb**	**19 32 07.5**	**-0.6**
	comp=N,91nm,0.3s,baz=82							
CLNS				*i*	Sn	**Sb**	**19 32 30.2**	**-1.0**
	baz=82							
CLNS				*i*	Sg	**Sg**	**19 32 31.1**	**-2.3**
	comp=N,1μm,0.8s,baz=82							
CLNS				*i*	Sg	**Sg**	**19 32 31.1**	**-2.3**
	comp=N,361nm,0.3s,baz=82							
CLNS	**Chul'man**	**1.84**	**82**	⇓*i*	P	**Pb**	**19 32 07.8**	**-0.2**
CLNS				*e*	S	**Sg**	**19 32 33.4**	**0.0**
IENR	**Iengra**	**1.87**	**101**	*e*	Pn	**Pb**	**19 32 07.4**	**-1.1**
IENR				*e*	Pg	**Pg**	**19 32 08.6**	**-1.4**
IENR				*i*	Sg	**Sg**	**19 32 33.3**	**-0.9**
IENR	**Iengra**	**1.87**	**101**	*e*	Pg	**Pb**	**19 32 08.1**	**-0.3**
	comp=N,46nm,0.2s,baz=101							
IENR				*i*	Sg	**Sb**	**19 32 32.0**	**+0.1**
	comp=N,689nm,0.5s,baz=101							
IENR				*i*	Sg	**Sb**	**19 32 32.0**	**+0.1**
	comp=N,1μm,0.5s,baz=101							
TNDR	**Tynda**	**2.31**	**128**	*e*	Pn	**Pn**	**19 32 13.2**	**+0.8**
	baz=128							
TNDR				*e*	Pg	**Pb**	**19 32 14.7**	**-1.2**
	comp=N,245nm,0.4s,baz=128							
TNDR				*i*	Sn	**Sn**	**19 32 41.1**	**+0.3**
	baz=128							
TNDR				*e*	Sg	**Sb**	**19 32 45.7**	**+1.1**
	comp=N,512nm,0.3s,baz=128							
TNDR				*e*	Sg	**Sb**	**19 32 45.7**	**+1.1**
	comp=N,397nm,0.4s,baz=128							
TUP	**Tupik**	**2.38**	**203**	⇓*i*	Pn	**Pn**	**19 32 13.3**	**-0.1**
TUP				⇓*i*	Pg	**Pb**	**19 32 16.2**	**-1.0**
TUP				Pmax			19 32 20.3	
	comp=N,108nm,0.3s							
TUP				*e*	Sg	**Sb**	**19 32 47.9**	**+1.2**
TUP				Smax			19 32 49.4	
	comp=N,3μm,0.3s							
TUP	**Tupik**	**2.38**	**203**	*i*	Pn	**Pn**	**19 32 13.3**	**-0.1**
	baz=202							
TUP				*i*	Pn	**Pn**	**19 32 13.3**	**-0.1**
	baz=202							
TUP				*i*	Pn	**Pn**	**19 32 13.3**	**-0.1**
	baz=202							
TUP				*i*	Pg	**Pb**	**19 32 16.2**	**-1.0**
	comp=N,108nm,0.3s,baz=202							
TUP				*e*	Sg	**Sb**	**19 32 47.9**	**+1.2**
	comp=N,3μm,0.3s,baz=202							
TUP	**Tupik**	**2.38**	**203**	⇓*i*	P	**Pn**	**19 32 13.3**	**-0.1**
TUP				*e*			19 32 47.5	
TUP				smax		smax		
	comp=E,3μm,1.1s							
ALDR	**Aldan**	**2.87**	**44**	*i*	Pn	**Pn**	**19 32 21.4**	**+1.4**
	baz=45							
ALDR				*i*	Pg	**Pb**	**19 32 26.3**	**+0.8**
	comp=E,21nm,0.3s,baz=45							
ALDR				*i*	Sn	**Sn**	**19 32 55.5**	**+0.8**
	baz=45							
ALDR				*i*	Sg	**Sg**	**19 33 03.6**	**-2.7**
	comp=E,142nm,0.2s,baz=45							
KROS	**Kirovskiy**	**3.77**	**123**	*e*	Pn	**Pn**	**19 32 33.8**	**+1.4**
	comp=E,5.0nm,0.3s,baz=123							
KROS				*e*	Sn	**Sn**	**19 33 15.0**	**-1.8**
	comp=E,430nm,0.3s,baz=123							
OLMR	**Olekminsk**	**3.81**	**352**	*e*	Pn	**Pn**	**19 32 33.2**	**+0.3**
	comp=E,49nm,0.4s,baz=352							
OLMR				*e*	Pg	**Pb**	**19 32 42.4**	**+1.0**
	comp=E,99nm,0.4s,baz=352							
OLMR				*e*	Sn	**Sn**	**19 33 17.9**	**+0.1**
	baz=352							
OLMR				*e*	Sg	**Sg**	**19 33 32.6**	**-3.8**
	comp=E,623nm,0.9s,baz=352							
BOD	**Bodaibo**	**4.29**	**289**	*e*	Pn	**Pn**	**19 32 38.4**	**-1.0**
BOD				*e*	Pg	**Pb**	**19 32 48.3**	**-1.2**
BOD				*e*			19 33 06.7	
BOD				max			19 33 13.0	
	comp=E,27nm,1.4s							
BOD				*e*	Sn	**Sn**	**19 33 26.6**	**-2.8**
BOD				*e*	Sg	**Sb**	**19 33 43.8**	**+2.5**
BOD				Smax			19 33 48.4	
	comp=E,463nm,1.2s							
BOD	**Bodaibo**	**4.29**	**289**	*e*	Pn	**Pn**	**19 32 38.4**	**-1.0**
	baz=290							
BOD				*e*	Pg	**Pb**	**19 32 48.3**	**-1.2**
	comp=E,27nm,1.4s,baz=290							
BOD				*e*	Sn	**Sn**	**19 33 26.6**	**-2.8**
	baz=290							
BOD				*e*	Sg	**Sb**	**19 33 43.8**	**+2.5**
	comp=E,463nm,1.0s,baz=290							
BOD	**Bodaibo**	**4.29**	**289**	*e*	P	**Pb**	**19 32 48.1**	**-1.4**
BOD				pmax		pmax		
	comp=E,11nm,0.7s							
SVKR	**Severomuysk**	**4.48**	**267**	*e*	Pg	**Pb**	**19 32 52.9**	**-0.1**
SVKR				Pmax			19 32 58.4	
	comp=Z,37nm,0.5s							
SVKR				*e*	Sg	**Sb**	**19 33 51.7**	**+4.6**
SVKR				*e*			19 34 04.3	
SVKR				max			19 34 05.1	
	comp=Z,654nm,1.2s							
BMKR	**Bomnak**	**4.54**	**112**	*e*	Pg	**Pb**	**19 32 55.1**	**+1.2**
	comp=Z,41nm,0.2s,baz=112							
BMKR				*e*	Sn	**Sn**	**19 33 36.1**	**+0.3**
	comp=Z,49nm,0.2s,baz=112							
BMKR				*e*	Sg	**Sg**	**19 33 54.1**	**-5.7**
	comp=Z,437nm,0.2s,baz=112							
UKT	**Uakit**	**4.59**	**259**	*e*	Pn	**Pn**	**19 32 44.4**	**+0.6**
UKT				*e*	Pg	**Pb**	**19 32 55.0**	**+0.1**
UKT				Pmax			19 33 02.7	
	comp=Z,36nm,0.9s							
UKT				*e*	Sg	**Sb**	**19 33 56.0**	**+5.7**
UKT				Smax			19 34 01.4	
	comp=Z,263nm,1.0s							
CGD	**Chagda**	**5.30**	**63**	*i*	Pn	**Pn**	**19 32 54.2**	**+0.8**
	baz=63							
CGD				*i*	Pg	**Pb**	**19 33 09.6**	**+2.8**
	comp=Z,15nm,0.3s,baz=63							
CGD				*i*	Sn	**Sn**	**19 33 55.3**	**+0.8**
	baz=63							
CGD				*i*	Sg	**Sg**	**19 34 20.3**	**-3.9**
	comp=Z,324nm,0.4s,baz=63							
YOA	**Uoyan**	**5.49**	**269**	*e*	Pg	**Pb**	**19 33 13.2**	**+3.0**
YOA				Pmax			19 33 21.6	
	comp=Z,39nm,0.6s							
YOA				*e*	Sg	**Sg**	**19 34 25.1**	**-5.3**
YOA				*e*			19 34 33.9	
YOA				max			19 34 38.5	
	comp=Z,1μm,1.4s							
VTMR	**Vitim**	**5.56**	**304**	*e*		**Pb**	**19 33 10.3**	**-1.0**
VTMR				*e*			19 34 14.8	
VTMR				*e*	Sg	**Sb**	**19 34 24.4**	**+6.4**
VTMR	**Vitim**	**5.56**	**304**	*i*	Pn	**Pn**	**19 32 58.8**	**+1.9**
	comp=Z,40nm,0.3s,baz=304							
VTMR				*i*	Sg	**Sb**	**19 34 25.7**	**+7.7**
	comp=Z,667nm,0.5s,baz=304							
KMO	**Kumora**	**5.83**	**267**	*e*	Pn	**Pn**	**19 33 01.6**	**+1.0**
KMO				*e*	Pg	**Pb**	**19 33 17.3**	**+1.5**
KMO				Pmax			19 33 23.3	
	comp=Z,16nm,0.4s							
KMO				*e*			19 33 27.0	
KM

KELR				*e*Sg		**Sg**	**19 36 05.8**	**-7.8**
KPC	**Khapcheranga**	**8.85**	**222**	*e*		**Pn**	**19 33 40.9**	**-1.3**
KPC				*e*			19 33 58.3	
KPC					Pg	Pg	19 34 13.5	-10
KPC					Pmax		19 34 19.0	
	comp=N,2.0nm,0.6s							
KPC				*e*			19 35 28.9	
KPC				*e*Sg		Sg	19 36 09.2	-8.8
KPC					Smax		19 36 15.8	
	comp=N,200nm,1.1s							
KPC				*e*			19 36 21.3	
KPC	**Khapcheranga**	**8.85**	**222**	*e*P		**Pn**	**19 33 40.8**	**-1.4**
KPC					pmax	pmax		
	comp=Z,4.0nm,0.4s							
UUDB	**Ulan-Yde**	**9.43**	**246**	*e*Pn		**Pn**	**19 33 49.9**	**-0.1**
UUDB				*e*			19 34 08.6	
UUDB					max		19 34 24.0	
	comp=Z,11nm,0.7s							
UUDB				*e*Sg		Sn	19 36 25.3	+49
UUDB					Smax		19 36 37.6	
	comp=Z,196nm,1.6s							
KLR	**Kul'dur**	**9.61**	**136**	Pn		**Pn**	**19 33 53.5**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=326,slow=12,SNR=12							
KLR				Sn		**Sn**	**19 35 33.3**	**-7.3**
	comp=Z,0.4nm,0.3s,baz=52,slow=22,SNR=5.6							
KLR				Lg		Lg	19 36 36.6	
	comp=Z,0.6nm,0.3s,baz=56,slow=23,SNR=3.6							
KLR				LR		LR	19 37 16.8	
	comp=Z,26nm,20.8s,baz=179,slow=36							
KLR	**Kul'dur**	**9.61**	**136**⇓	*e*P		**Pn**	**19 33 54.1**	**+1.6**
TRG	**Tyrgan**	**9.62**	**253**	*e*Pn		**Pn**	**19 33 53.2**	**+0.5**
TRG				*e*			19 33 59.2	
TRG				*e*			19 34 08.5	
	comp=Z,1.0nm,0.4s							
TRG				*e*Sg		Sn	19 36 31.9	+51
TRG				*e*			19 36 36.6	
TRG					max		19 36 48.4	
	comp=Z,56nm,1.5s							
FFNB	**Fofonovo**	**9.78**	**248**	*e*Sg		Sn	19 36 37.2	+53
KAB	**Kabansk**	**9.84**	**249**	*e*			19 36 27.4	
KAB				*e*Sg		Sn	19 36 40.6	+55
KAB					Smax		19 37 07.8	
	comp=Z,547nm,1.3s							
STDB	**Stepnoy Dvoret**	**9.92**	**250**	Sg		Sn	19 36 40.7	+53
STDB				*e*			19 36 55.1	
HRMR	**Khuramsha**	**9.92**	**246**	*e*			19 36 20.4	
HRMR				*e*Sg		Sn	19 36 42.9	+55
HRMR					Smax		19 36 58.5	
	comp=Z,268nm,1.5s							
BGT	**Bolshoye Golou**	**10.48**	**251**	Sg		Sn	19 37 00.5	+59
BGT					Smax		19 37 24.9	
	comp=Z,23nm,1.3s							
LSTR	**Listvyanka**	**10.88**	**251**	*e*Sg			19 37 13.4	
LSTR					Smax		19 37 30.6	
	comp=Z,37nm,1.8s							
IRK	**Irkutsk**	**10.98**	**254**	Sg			19 37 15.6	
IRK				*e*			19 37 21.7	
IRK				*e*			19 37 40.3	
IRK					max		19 37 40.6	
	comp=Z,108nm,0.4s							
IVK	**Ivanovka**	**11.13**	**252**	*e*			19 37 15.5	
IVK				Sg			19 37 21.3	
IVK				*e*			19 37 29.7	
IVK					max		19 37 51.4	
	comp=Z,33nm,1.5s							
TLY	**Talaya**	**11.60**	**252**	Lg		Lg	19 37 39.3	
	comp=Z,0.0nm,0.3s,baz=129,slow=5.7,SNR=4.7							
TLY	**Talaya**	**11.60**	**252**	*e*Sg			19 37 35.2	
TLY				*e*			19 37 38.4	
TLY					max		19 38 01.5	
	comp=Z,22nm,1.5s							
ARS	**Arshan**	**12.13**	**255**	*e*			19 35 40.4	
ARS				*e*Sn		**Sn**	**19 36 36.8**	**-5.4**
ARS				*e*			19 37 45.3	
ARS				*e*Sg			19 37 51.7	
ARS					Smax		19 38 12.5	
	comp=Z,59nm,1.6s							
ZAK	**Zakamensk**	**12.53**	**248**	*e*			19 37 47.2	
ZAK				*e*Sg			19 38 01.8	
ZAK					Smax		19 38 21.1	
	comp=Z,40nm,1.4s							
SONM	**Songino Array**	**12.78**	**233**	Pn		**Pn**	**19 34 39.8**	**+3.9**
	comp=Z,0.1nm,0.3s,baz=40,slow=15,SNR=2.0							
SONM				Lg		Lg	19 38 15.3	
	comp=Z,0.7nm,0.3s,baz=50,slow=28,SNR=9.4							
MOY	**Mondy**	**13.02**	**256**	*e*Sg		S	19 38 17.5	+48
MOY				*e*			19 38 27.8	
MOY					max		19 38 34.9	
	comp=Z,45nm,1.6s							
ORL	**Orlik**	**13.25**	**261**	*e*			19 38 20.1	
ORL				*e*Sg		S	19 38 24.4	+50
ORL					Smax		19 38 44.5	
	comp=Z,36nm,1.9s							
TDJR	**Todzha**	**15.34**	**265**	*e*Sg			19 39 28.4	
TDJR				*e*			19 40 02.1	
TIXI	**Tiksi**	**15.40**	**9**⇓	*e*P		**Pn**	**19 35 06.8**	**-4.4**
TIXI					pmax	pmax		
	comp=Z,2.0nm,0.6s							
MA2	**Magadan**	**15.65**	**67**	LR		LR	19 41 16.2	
	comp=Z,25nm,21.9s,baz=320,slow=37							
PETK	**Petropavlovsk-**	**20.93**	**84**	P		Pn	19 36 19.9	+0.6
	comp=Z,0.9nm,0.8s,baz=312,slow=12,SNR=1.3							
KURK	**Kurchatov**	**25.78**	**275**	P		**P**	**19 37 08.9**	**+4.0**
KURBB	**Kurchatov Arra**	**25.87**	**275**	P		**P**	**19 37 08.9**	**+3.1**
	comp=Z,0.1nm,0.3s,baz=61,slow=9.6,SNR=1.8							
MK31	**Makanchi Array**	**25.91**	**265**	*e*P		**P**	**19 37 08.6**	**+2.4**
MKAR	**Makanchi Array**	**25.91**	**265**	P		**P**	**19 37 09.1**	**+2.9**
	comp=Z,0.3nm,0.8s,baz=56,slow=11,SNR=2.3							
ILAR	**Eielson Array**	**41.71**	**40**	P		**P**	**19 39 25.6**	**+2.9**
	comp=Z,0.7nm,0.6s,baz=295,slow=4.9,SNR=8.4							
FINES	**FINESS Array B**	**45.14**	**318**	P		**P**	**19 39 52.6**	**+2.3**
	comp=Z,1.2nm,0.8s,baz=56,slow=7.1,SNR=3.9							

*KRSC **21** 19:36:02.2±0.7, 55.°94N×161.°14E, h116km±6km, ML3.8*
*IDC **21** 19:36:03.7±2.4, 55.°94N×160.°90E, h114km±25km, mb3.2/6, mb1 3.4/7, mb1mx3.1/38, mbtmp3.5/7, Error ellipse: s-maj=27.3km s-min=20.9km az=166.0*

ISC 21 19:36:03.8±0.8, 55.°94N±0.°03×161.°10E±0.°04, h112km±5km, n50, σ0s94/79, mb3.3/6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZLN	**Zelenaya**	**0.18**	**294**	*e*P	**Pn**	**19 36 19.6**	**+0.1**
ZLN				*e*S	**Sn**	**19 36 32.7**	**+1.4**
BZGR	**Bezymyannyi-Gr**	**0.23**	**270**	*e*P	**Pn**	**19 36 19.6**	**0.0**
BZGR				*e*S	**Sn**	**19 36 32.4**	**+0.8**
CIRR	**Tsirk**	**0.26**	**311**	*e*P	**Pn**	**19 36 19.6**	**-0.2**
CIRR				*e*S	**Sn**	**19 36 32.8**	**+0.9**
LGNR	**Loginova**	**0.27**	**302**	*i* P	**Pn**	**19 36 19.9**	**-0.1**
LGNR				*e*S	**Sn**	**19 36 33.2**	**+1.0**
BZWR	**Bezymyannyi-We**	**0.34**	**274**	*e*P	**Pn**	**19 36 20.1**	**-0.1**
BZWR				*e*S	**Sn**	**19 36 33.7**	**+1.2**
BZMR	**Bezymyannaya**	**0.34**	**269**	*e*P	**Pn**	**19 36 19.9**	**-0.2**
BZMR				*e*S	**Sn**	**19 36 32.9**	**+0.5**
KRSR	**Krestovskiy**	**0.41**	**313**	*e*P	**Pn**	**19 36 19.9**	**-0.5**
KRSR				*e*S	**Sn**	**19 36 33.0**	**+0.1**
KIRR	**Kirishev**	**0.43**	**272**	*e*P	**Pn**	**19 36 20.1**	**-0.5**
KIRR				*e*S	**Sn**	**19 36 33.1**	**-0.1**
KLY	**Klyuchi**	**0.45**	**326**	*e*P	**Pn**	**19 36 19.9**	**-0.6**
KLY				*e*S	**Sn**	**19 36 32.9**	**-0.2**
KPT	**Kopyto**	**0.49**	**273**	*e*P	**Pn**	**19 36 20.5**	**-0.4**
KPT				*e*S	**Sn**	**19 36 34.0**	**+0.2**
KMNR	**Kamenistaya**	**0.52**	**249**	*i* P	**Pn**	**19 36 20.7**	**-0.4**
KMNR				*e*S	**Sn**	**19 36 34.7**	**+0.6**
BDR	**Baidarnaya**	**0.63**	**5**	*e*P	**Pn**	**19 36 22.0**	**+0.2**
BDR				*e*S	**Sn**	**19 36 36.2**	**+0.7**
SMKR	**Semkarok**	**0.67**	**18**	*e*P	**Pn**	**19 36 22.0**	**-0.2**
SMKR				*e*S	**Sn**	**19 36 36.4**	**+0.3**
KOZ	**Kozyrevsk**	**0.70**	**280**	*e*P	**Pn**	**19 36 22.0**	**-0.3**
KOZ				*e*S	**Sn**	**19 36 36.7**	**+0.4**
SRKR	**Sorokina**	**0.71**	**3**	*e*P	**Pn**	**19 36 22.5**	**0.0**
SRKR				*e*S	**Sn**	**19 36 38.9**	**+2.2**
TUMD	**Tumrok D**	**0.84**	**209**	*e*P	**Pn**	**19 36 23.0**	**-0.6**
TUMD				*e*S	**Sn**	**19 36 38.2**	**-0.3**
TUMR	**Tumrok**	**0.85**	**220**	*i* P	**Pn**	**19 36 23.8**	**0.0**
TUMR				*e*S	**Sn**	**19 36 39.1**	**+0.2**
SRDR	**Sredinnyy**	**0.86**	**296**	*e*P	**Pn**	**19 36 23.3**	**-0.5**
SRDR				*e*S	**Sn**	**19 36 38.7**	**-0.2**
KZV	**Kizimen**	**0.95**	**209**	*e*P	**Pn**	**19 36 24.2**	**-0.6**
KZV				*e*S	**Sn**	**19 36 39.6**	**-1.0**
KBG	**Krutoberegovo**	**0.95**	**70**	*e*P	**Pn**	**19 36 24.2**	**-0.4**
KBG				*e*S	**Sn**	**19 36 40.6**	**+0.3**
KBTR	**Krutoberegovo**	**1.00**	**74**	*i* P	**Pn**	**19 36 24.8**	**-0.3**
KBTR				*e*S	**Sn**	**19 36 40.8**	**-0.4**
ESO	**Esso**	**1.35**	**270**	*e*P	**Pn**	**19 36 28.4**	**-0.5**
ESO				*e*S	**Sn**	**19 36 48.2**	**+0.2**
KII	**Karymskiy**	**2.13**	**207**	*e*P	**Pn**	**19 36 38.6**	**0.0**
KII				*e*S	**Sn**	**19 37 06.0**	**+0.8**
BKI	**Bering**	**2.86**	**103**	*e*P	**Pn**	**19 36 47.5**	**-0.4**
BKI				*e*S	**Sn**	**19 37 20.3**	**-1.6**
SPN	**Mys Shipunski**	**2.92**	**193**	*e*P	**Pn**	**19 36 47.4**	**-1.3**
SPN				*e*S	**Sn**	**19 37 22.1**	**-1.2**
KRX	**Arik**	**2.95**	**210**	*e*P	**Pn**	**19 36 50.7**	**+1.4**
NLC	**Nalytchevo**	**2.96**	**201**	*e*P	**Pn**	**19 36 51.1**	**+1.9**
NLC				*e*S	**Sn**	**19 37 25.8**	**+1.6**
SDLR	**Sedlovina**	**2.96**	**207**	*e*P	**Pn**	**19 36 49.7**	**+0.3**
KRER	**Koryakskii**	**2.98**	**208**	*e*P	**Pn**	**19 36 51.6**	**+2.0**
SMAR	**Somma**	**3.00**	**207**	*i* P	**Pn**	**19 36 51.4**	**+1.4**
AVH	**Avacha**	**3.01**	**208**	*e*P	**Pn**	**19 36 51.3**	**+1.3**
KOK	**Koryaka**	**3.02**	**209**	*i* P	**Pn**	**19 36 51.5**	**+1.4**
UGLR	**Uglovaya**	**3.04**	**207**	*e*P	**Pn**	**19 36 51.5**	**+1.1**
PALN	**Palana**	**3.21**	**349**	*e*P	**Pn**	**19 36 51.9**	**-0.6**
DALK	**Dalny**	**3.22**	**206**	*e*P	**Pn**	**19 36 53.2**	**+0.5**
DALK				*e*S	**Sn**	**19 37 30.4**	**0.0**
PET	**Petropavlovsk**	**3.25**	**207**	*e*P	**Pn**	**19 36 53.9**	**+0.8**
PET				*e*S	**Sn**	**19 37 33.4**	**+2.2**
PETK	**Petropavlovsk-**	**3.46**	**216**	P	**Pn**	**19 36 54.9**	**-1.1**
	0.8nm,0.3s,baz=67,slow=15,SNR=26						
OSSR	**Ossora**	**3.48**	**17**	*e*P	**Pn**	**19 36 57.1**	**+1.0**
OSSR				*e*S	**Sn**	**19 37 37.7**	**+1.2**
RUS	**Russkaya**	**3.83**	**204**	*i* P	**Pn**	**19 37 02.6**	**+1.8**
GRL	**Gorelyy**	**3.83**	**209**	P	**Pn**	**19 37 02.4**	**+1.4**
MTVR	**Mutnovka**	**3.87**	**208**	P	**Pn**	**19 37 00.6**	**-0.8**
ASAK	**Asacha**	**4.03**	**209**	P	**Pn**	**19 37 04.1**	**+0.5**
KDTR	**Khodutka, Kamc**	**4.51**	**205**	*e*P	**Pn**	**19 37 08.8**	**-1.1**
MA2	**Magadan**	**6.62**	**308**	P	**Pn**	**19 37 37.3**	**-1.0**
	0.4nm,0.3s,baz=104,slow=10.0,SNR=5.1						
ILAR	**Eielson Array**	**26.45**	**49**	P	**P**	**19 41 29.5**	**-0.2**
	0.3nm,0.5s,baz=254,slow=7.7,SNR=5.4						
KURBB	**Kurchatov Arra**	**46.87**	**300**	P	**P**	**19 44 21.0**	**-1.1**
	0.3nm,0.5s,baz=58,slow=7.1,SNR=1.9						
MKAR	**Makanchi Array**	**47.49**	**294**	P	**P**	**19 44 26.1**	**-1.0**
	0.3nm,0.7s,baz=36,slow=9.0,SNR=3.6						
NVAR	**Mina Array Bea**	**54.27**	**73**	P	**P**	**19 45 19.9**	**+1.6**
	0.5nm,0.7s,baz=300,slow=6.7,SNR=4.1						
TXAR	**Lajitas Array**	**69.01**	**69**	P	**P**	**19 46 57.2**	**+0.1**
	0.1nm,0.5s,baz=280,slow=4.3,SNR=6.7						
ASAR	**Alice Springs**	**82.60**	**205**	P	**P**	**19 48 13.3**	**-0.8**
	1.5nm,1.3s,baz=20,slow=4.5,SNR=5.0						

IDC 21 19:50:53.9±2.0, 26.°26N×142.°59E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/36, mbtmp3.5/5, Error ellipse: s-maj=65.4km s-min=27.8km az=77.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**40.95**	**268**	P	P	19 58 39.0	+0.4
	0.3nm,0.6s,baz=64,slow=6.1,SNR=5.1						
WRA	**Warramunga Arr**	**46.62**	**191**	P	P	19 59 23.2	-0.8
	0.5nm,0.4s,baz=9.4,slow=8.5,SNR=5.9						
ASAR	**Alice Springs**	**50.34**	**190**	P	P	19 59 53.2	+0.5
	0.6nm,1.0s,baz=22,slow=10,SNR=2.9						
MKAR	**Makanchi Array**	**51.29**	**310**	P	P	19 59 58.8	-0.9
	0.1nm,0.4s,baz=90,slow=10,SNR=2.3						
FINES	**FINESS Array B**	**78.85**	**334**	P	P	20 02 58.8	+0.2
	0.5nm,0.4s,baz=67,slow=5.0,SNR=7.8						

*KRSC **21** 20:08:30.6±1.3, 48.°33N×153.°77E, h476km±10km, ML3.9*
*IDC **21** 20:08:31.6±1.7, 49.°55N×150.°80E, h381km±20km, mb2.9/3, mb1 2.8/7, mb1mx2.6/48, mbtmp3.6/7, Error ellipse: s-maj=30.5km s-min=19.0km az=108.0*

ISC 21 20:08:31.0±0.8, 49.°5N±0.°2×151.°1E±0.°1, h400km, n15, σ2s23/18, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**4.99**	**60**	P	**Pn**	**20 09 52.8**	**+0.1**
KDTR				S	**S**	**20 10 55.8**	**-3.4**
ASAK	**Asacha**	**5.16**	**54**	P	**Pn**	**20 09 56.9**	**+2.3**
MTVR	**Mutnovka**	**5.36**	**54**	S	**S**	**20 11 07.7**	**+1.1**
PETK	**Petropavlovsk-**	**5.47**	**47**	P	**Pn**	**20 09 59.1**	**+1.3**
	0.1nm,0.3s,baz=221,slow=8.8,SNR=6.4						
RUS	**Russkaya**	**5.51**	**55**	P	**Pn**	**20 09 59.0**	**+0.8**
RUS				S	**S**	**20 11 06.9**	**-2.3**
KOK	**Koryaka**	**6.03**	**48**	P	**Pn**	**20 10 06.8**	**+2.7**
AVH	**Avacha**	**6.07**	**49**	P	**Pn**	**20 10 06.7**	**+2.4**
UGLR	**Uglovaya**	**6.08**	**50**	P	**Pn**	**20 10 06.1**	**+1.7**
SPN	**Mys Shipunski**	**6.63**	**54**	P	**Pn**	**20 10 10.7**	**+0.3**
SPN				S	**S**	**20 11 27.5**	**-4.1**
ASAJ	**Asahikawa**	**7.96**	**230**	P	**Pn**	**20 10 23.9**	**-1.6**
	0.7nm,0.3s,baz=62,slow=11,SNR=13						
KLR	**Kul'dur**	**12.62**	**276**	P	**Pn**	**20 11 17.0**	**-2.3**
	0.1nm,0.3s,baz=78,slow=9.1,SNR=4.4						
MJAR	**Matsushiro Arr**	**16.01**	**221**	P	**P**	**20 11 54.4**	**0.0**
	0.1nm,0.3s,baz=12,slow=12,SNR=10						
MKAR	**Makanchi Array**	**44.52**	**294**	P	**P**	**20 16 05.3**	**+0.6**
	0.3nm,0.7s,baz=68,slow=8.7,SNR=2.9						
FINES	**FINESS Array B**	**60.95**	**333**	P	**P**	**20 18 04.3**	**+1.3**
	1.0nm,0.3s,baz=36,slow=7.5,SNR=21						
ASAR	**Alice Springs**	**74.46**	**196**	P	**P**	**20 19 29.0**	**+2.3**
	0.2nm,0.4s,baz=12,slow=6.0,SNR=7.6						

IDC 21 20:11:36.4±3.7, 26.°07N×142.°79E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/44, mbtmp3.5/4, Error ellipse: s-maj=184.3km s-min=28.3km az=80.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11N2	**WAKE ISLAND Hy**	**23.07**	**101**	T	T	20 40 23.8	
	baz=290,slow=74						
H11N1	**WAKE ISLAND Hy**	**23.07**	**101**	T	T	20 40 21.5	
	baz=290						
H11N3	**WAKE ISLAND Hy**	**23.08**	**101**	T	T	20 40 23.7	
	baz=290,slow=74						
WRA	**Warramunga Arr**	**46.47**	**191**	P	P	20 20 04.7	-0.7
	0.7nm,0.6s,baz=9.6,slow=8.5,SNR=6.3						
ASAR	**Alice Springs**	**50.19**	**191**	P	P	20 20 34.7	+0.6
	0.3nm,0.8s,baz=22,slow=10,SNR=1.7						
KURBB	**Kurchatov Arra**	**54.14**	**315**	P	P	20 21 03.2	-0.1
	0.3nm,0.6s,baz=91,slow=9.0,SNR=3.4						
FINES	**FINESS Array B**	**79.10**	**334**	P	P	20 23 42.5	0.0
	0.9nm,0.7s,baz=64,slow=4.8,SNR=4.4						

*GUC **21** 20:17:50.0±0.7, 21.°37S×68.°46W, h146km±4km, ML3.7*
*NEIC **21** 20:17:50.1±1.2, 21.°39S±0.°04×68.°53W±0.°10, h142km±6km, Error ellipse: s-maj=13.4km s-min=6.4km az=94.0*
*IDC **21** 20:17:56.9±9.2, 20.°87S×67.°84W, h170km±76km, mb3.5/1, mb1 3.1/2, mb1mx2.9/20, mbtmp3.6/2, MS4.0/1, Ms1 4.0/1, ms1mx2.9/13, Error ellipse: s-maj=107.5km s-min=88.8km az=84.0*

ISC 21 20:17:50.0±0.8, 21.°37S±0.°03×68.°47W±0.°08, h143km±7km, n50, σ0s96/73, mb4.1/3, 12C-2D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.84**	**239**	*i* P	**Pn**	**20 18 13.0**	**+0.1**
PB09				*i* S	**Sn**	**20 18 30.6**	**+0.2**
PB09				IAML		20 18 32.3	
	comp=E,720nm,0.4s						
PB09	**IPOC Station P**	**0.84**	**239**		**Pn**	**20 18 12.8**	**-0.1**
PB09				Sn	**Sn**	**20 18 30.1**	**-0.2**
PB01	**IPOC Station P**	**1.00**	**289**	*i* P	**Pn**	**20 18 13.9**	**-0.3**
PB01				*i* S	**Sn**	**20 18 31.9**	**-0.7**
PB01				IAML		20 18 33.4	
	comp=E,1μm,0.2s						
PB01	**IPOC Station P**	**1.00**	**289**		**Pn**	**20 18 13.9**	**-0.3**
PB01				Sn	**Sn**	**20 18 31.9**	**-0.7**
LVC	**Limon Verde**	**1.30**	**198**	*e*P	**Pn**	**20 18 16.9**	**-0.4**
LVC				*e*S	**Sn**	**20 18 37.3**	**-1.0**
LVC	**Limon Verde**	**1.30**	**198**		**Pn**	**20 18 16.9**	**-0.4**
LVC				Sn	**Sn**	**20 18 37.3**	**-1.0**
PB02	**IPOC Station P**	**1.33**	**272**	*i* P	**Pn**	**20 18 17.5**	**+0.1**
PB02				*i* S	**Sn**	**20 18 38.3**	**+0.1**
PB02				IAML		20 18 40.2	
	comp=E,2μm,0.5s						
PB07	**IPOC Station P**	**1.37**	**255**	*i* S	**Sn**	**20 18 38.6**	**-0.4**
PB07				IAML		20 18 40.5	
	comp=N,1μm,0.4s						
PB07	**IPOC Station P**	**1.37**	**255**		**Pn**	**20 18 17.6**	**-0.2**
PB07				Sn	**Sn**	**20 18 38.6**	**-0.4**
PB03	**IPOC Station P**	**1.37**	**240**⇑	*i* P	**Pn**	**20 18 17.8**	**0.0**
PB03				*i* S	**Sn**	**20 18 38.8**	**-0.3**
PB03				IAML		20 18 41.2	
	comp=E,774nm,0.2s						
PB08	**IPOC Station P**	**1.38**	**332**⇑	*i* P	**Pn**	**20 18 18.6**	**+0.4**
PB08				*i* S	**Sn**	**20 18 40.0**	**+0.4**
PB08				IAML		20 18 42.7	
	comp=N,446nm,0.5s						
PB08	**IPOC Station P**	**1.38**	**332**		**Pn**	**20 18 18.4**	**+0.2**
PB08				Sn	**Sn**	**20 18 39.6**	**0.0**
PB06	**IPOC Station P**	**1.68**	**217**⇑	*i* P	**Pn**	**20 18 21.0**	**-0.1**
PB06				*i* S	**Sn**	**20 18 45.0**	**-0.1**
PB06	**IPOC Station P**	**1.68**	**217**		**Pn**	**20 18 21.1**	**-0.1**
PB06				Sn	**Sn**	**20 18 44.7**	**-0.3**
TA01	**Diego Aracena**	**1.79**	**296**⇑	*i* P	**Pn**	**20 18 22.2**	**0.0**
TA01				*i* S	**Sn**	**20 18 46.6**	**-0.2**
TA01	**Diego Aracena**	**1.79**	**296**		**Pn**	**20 18 22.2**	**0.0**
GO01	**Chusmiza**	**1.82**	**338**⇓	*i* P	**Pn**	**20 18 23.5**	**+0.4**
GO01				*e*S	**Sn**	**20 18 48.7**	**+0.3**
GO01				IAML		20 18 52.5	
	comp=N,1μm,0.2s						
GO01	**Chusmiza**	**1.82**	**338**		**Pn**	**20 18 23.4**	**+0.4**
PB04	**IPOC Station P**	**1.83**	**238**⇑	*i* P	**Pn**	**20 18 22.8**	**-0.1**
PB04				*i* S	**Sn**	**20 18 47.9**	**-0.2**
PB04	**IPOC Station P**	**1.83**	**238**		**Pn**	**20 18 22.6**	**-0.3**
TA02	**Huaiquique**	**1.90**	**305**	*e*P	**Pn**	**20 18 23.5**	**0.0**
TA02				*e*S	**Sn**	**20 18 48.8**	**-0.4**
PB11	**IPOC Station P**	**1.95**	**325**⇑	*i* P	**Pn**	**20 18 24.1**	**-0.1**
PB11				*i* S	**Sn**	**20 18 50.0**	**-0.5**
PB11				IAML		20 18 54.2	
	comp=E,563nm,0.2s						
PB11	**IPOC Station P**	**1.95**	**325**		**Pn**	**20 18 23.9**	**-0.3**
PB15	**IPOC Station P**	**2.05**	**207**	*i* P	**Pn**	**20 18 25.6**	**+0.1**
PB15				*i* S	**Sn**	**20 18 53.5**	**+0.6**
PB15	**IPOC Station P**	**2.05**	**207**		**Pn**	**20 18 25.4**	**-0.2**
PB05	**IPOC Station P**	**2.19**	**227**⇑	*i* P	**Pn**	**20 18 26.7**	**-0.3**
PB05				*e*S	**Sn**	**20 18 55.0**	**-0.5**
PSGC	**Pisagua**	**2.35**	**318**⇑	*i* P	**Pn**	**20 18 28.3**	**-0.7**
PSGC				*i* S	**Sn**	**20 18 57.6**	**-1.4**
PSGC				IAML		20 18 59.7	
	comp=E,270nm,0.3s						
PSGCX	**Pisagua**	**2.35**	**318**		**Pn**	**20 18 28.3**	**-0.6**
MNMC	**Minye Minye**	**2.46**	**334**⇓	*i* P	**Pn**	**20 18 31.1**	**+0.5**
MNMC				*i* S	**Sn**	**20 19 02.0**	**+0.2**
MNMC				IAML		20 19 05.0	
	comp=N,504nm,0.2s						
MNMC	**Minye Minye**	**2.46**	**334**		**Pn**	**20 18 31.1**	**+0.5**
PB10	**IPOC Station P**	**2.88**	**222**	*e*P	**Pn**	**20 18 35.3**	**-0.2**
PB10				IAML		20 19 21.9	
	comp=E,68nm,0.6s						
PB10	**IPOC Station P**	**2.88**	**222**		**Pn**	**20 18 35.3**	**-0.2**
PB12	**IPOC Station P**	**3.25**	**327**⇑	*i* P	**Pn**	**20 18 40.0**	**-0.4**
PB12				*i* S	**Sn**	**20 19 17.8**	**-1.6**
PB12				IAML		20 19 23.4	
	comp=N,109nm,0.1s						
PB12	**IPOC Station P**	**3.25**	**327**		**Pn**	**20 18 39.5**	**-0.8**
GO02	**Mina Guanaco**	**3.92**	**195**		**Pn**	**20 18 48.4**	**-0.8**
LPAZ	**La Paz**	**5.06**	**4**	P	**Pn**	**20 19 05.6**	**+0.9**
	comp=N,0.5nm,0.3s,baz=154,slow=7.5,SNR=12						
LPAZ				S	**Sn**	**20 19 59.8**	**-3.1**
	comp=N,0.2nm,0.3s,baz=163,slow=11,SNR=1.5						
LPAZ	**La Paz**	**5.06**	**4**		**Pn**	**20 19 05.4**	**+0.7**
AC01	**Pan de Azucar**	**5.14**	**202**		**Pn**	**20 19 03.1**	**-2.1**
GO03	**Copiap**	**6.40**	**194**	Pn	**Pn**	**20 19 19.4**	**-2.7**
AC05	**El Transito**	**7.62**	**192**	Pn	**Pn**	**20 19 35.6**	**-2.8**
CO01	**Juntas del Tor**	**8.70**	**189**	Pn	**Pn**	**20 19 52.4**	**-0.6**
GO04	**Tololo Observa**	**9.02**	**193**	Pn	**Pn**	**20 19 53.9**	**-3.3**
PTGA	**Pitinga**	**22.12**	**23**	P	**P**	**20 22 32.4**	**-1.8**
PCRV	**Puerto La Cruz**	**31.57**	**7**	LR	LR	20 37 03.3	
	comp=N,318nm,21.0s,slow=37						
SNAA	**Sanae**	**62.27**	**161**	P	**P**	**20 27 57.3**	**+0.8**
QSPA	**South Pole Qui**	**68.82**	**180**	P	**P**	**20 28 40.5**	**+1.8**
QSPA				IAmb	IAmb	20 28 45.0	
	comp=Z,5.3nm,1.4s						
TOA0	**Torodi Ar. Sit**	**76.92

comp=Z,48nm,20.9s,baz=88,slow=33
PTGA Pitinga 21.41 217 P **P 20 38 48.5 -0.8**
2.2nm,0.7s,baz=76,slow=8.3,SNR=2.6
RCBR Riachuelo 25.00 153 LR LR 20 46 00.8
comp=Z,61nm,21.1s,baz=14,slow=29
LPAZ La Paz 38.73 213 P **P 20 41 28.2 +1.8**
0.5nm,0.5s,baz=9.1,slow=12,SNR=1.4
H10N3 ASCENSION HYDR 40.49 125 T T 21 24 06.6
baz=308,slow=75,SNR=38
H10N2 ASCENSION HYDR 40.49 124 T T 21 24 04.2
baz=308,slow=75,SNR=42
H10N1 ASCENSION HYDR 40.51 124 T T 21 24 08.6
baz=308,slow=75,SNR=41
H10S3 ASCENSION HYDR 41.04 126 T T 21 24 48.3
baz=306,slow=74,SNR=17
H10S2 ASCENSION HYDR 41.06 126 T T 21 24 49.8
baz=274,slow=74,SNR=11
DBIC Dimbokro 42.55 98 LR LR 20 58 55.5
comp=Z,44nm,18.3s,baz=178,slow=35
CPUP Villa Florida 43.88 193 P **P 20 42 06.6 -1.3**
1.7nm,0.8s,baz=22,slow=12,SNR=3.8
CPUP LR LR 20 59 20.9
comp=Z,45nm,21.2s,baz=184,slow=35
TORD Torodi Ar. Bea 47.27 87 P **P 20 42 35.4 +0.3**
0.6nm,0.8s,baz=269,slow=6.6,SNR=2.0
TORD LR LR 21 00 01.4
comp=Z,32nm,18.6s,baz=150,slow=33
BORG Borgarnes 51.12 14 LR LR 20 59 21.1
comp=Z,18nm,19.5s,baz=354,slow=30
ULM Lac du Bonnet 51.32 322 LR LR 21 04 38.6
comp=Z,25nm,18.1s,baz=313,slow=36
TXAR Lajitas Array 53.04 294 P **P 20 43 18.8 0.0**
0.2nm,0.7s,baz=114,slow=9.0,SNR=2.1
TXAR LR LR 21 07 34.2
comp=Z,18nm,18.6s,baz=0.0,slow=38
PDAR Pinedale Array 58.64 310 P **P 20 43 59.3 +0.4**
0.9nm,0.9s,baz=116,slow=6.9,SNR=6.7
PDAR LR LR 21 08 21.7
comp=Z,18nm,19.0s,baz=121,slow=35
ILAR Eielson Array 79.13 335 P **P 20 46 05.0 -0.7**
1.4nm,0.9s,baz=79,slow=4.6,SNR=9.8

YARS ***21*** *21:12:43.6±0.0,61.97N×142.44E,h8km,ML3.4/7*
NERS ***21*** *21:12:44.7±0.0,61.79N×142.25E,h3km*
ISC 21 21:12:47.9±0.7,61.90N±0.04×142.45E±0.03,h10km,n16,
σ2s28/42,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHR	**Omchak**	**2.58**	**93**	*eP*	**Pn**	**21 13 30.5**	**+0.7**
OCHR				*ePg*	**Pb**	**21 13 32.8**	**-1.5**
OCHR				Pgmax		21 13 33.8	
	30nm,0.3s						
OCHR				*eSg*	**Sb**	**21 14 08.7**	**+2.6**
OCHR				Sgmax		21 14 10.4	
	150nm,0.6s						
ATKR	**Artyk**	**2.60**	**27**	*ePg*	**Pn**	**21 13 29.9**	**0.0**
	69nm,0.4s,baz=28						
ATKR				*eSg*	**Sb**	**21 14 07.6**	**+1.2**
	615nm,0.2s,baz=28						
SUUS	**Susuman**	**2.81**	**69**	*eP*	**Pn**	**21 13 33.3**	**+0.5**
SUUS				*ePg*	**Pb**	**21 13 38.3**	**+0.2**
SUUS				Pgmax		21 13 41.1	
	40nm,0.3s						
SUUS				*eSg*	**Sb**	**21 14 15.1**	**+2.6**
SUUS				Sgmax		21 14 17.7	
	160nm,0.4s						
MGD	**Magadan 1**	**4.44**	**111**	*eP*	**Pn**	**21 13 54.3**	**-0.9**
MGD				*eSg*	**Sb**	**21 15 03.0**	**+3.6**
MGD				Sgmax		21 15 04.3	
	90nm,0.4s						
MOMR	**Moma**	**4.60**	**4**	*ePn*	Pn	21 13 52.9	-4.5
	3.1nm,0.3s,baz=4.0						
MOMR				*ePg*	**Pb**	**21 14 07.0**	**-1.5**
	11nm,0.4s,baz=4.0						
MOMR				*eLg*	Lg	21 15 07.9	
	baz=4.0						
MOMR				*eSg*	**Sg**	**21 15 13.5**	**-1.8**
	135nm,0.6s,baz=4.0						
MOMR				*eSg*	**Sg**	**21 15 13.5**	**-1.8**
	167nm,0.9s,baz=4.0						
MA2	**Magadan**	**4.70**	**116**	*ePg*	**Pb**	**21 14 11.8**	**+1.5**
MA2				*eSg*	**Sg**	**21 15 14.4**	**-4.2**
MA2				Sgmax		21 15 20.4	
	60nm,0.6s						
MA2				Sgmax		21 15 20.4	
	10.0nm,0.3s						
MA2	**Magadan**	**4.70**	**116**	*ePn*	**Pn**	**21 13 55.0**	**-3.8**
	baz=117						
MA2				*ePg*	**Pb**	**21 14 09.9**	**-0.4**
	baz=117						
MA2				*eSn*	**Sn**	**21 14 51.0**	**-2.3**
	baz=117						
MA2				*eLg*	Lg	21 15 14.4	
	baz=117						
MA2				*eSg*	**Sg**	**21 15 20.3**	**+1.7**
	baz=117						
SEY	**Seymchan**	**4.73**	**73**	Pmax		21 13 00.5	
	20nm,0.5s						
SEY				*eP*	**Pn**	**21 13 59.9**	**+0.7**
SEY				*eSg*	**Sg**	**21 15 17.4**	**-2.2**
SEY				Sgmax		21 15 22.3	
	70nm,0.5s						
TLAR	**Talaya**	**4.83**	**95**	*eP*	**Pn**	**21 14 01.4**	**+0.9**
TLAR				*ePg*	**Pb**	**21 14 15.6**	**+3.2**
TLAR				Pgmax		21 14 16.4	
	20nm,0.4s						
TLAR				*eSg*	**Sg**	**21 15 19.6**	**-3.0**
TLAR				Sgmax		21 15 23.2	
	130nm,0.4s						
YAK	**Yakutsk**	**6.03**	**277**	*ePn*	**Pn**	**21 14 12.8**	**-4.1**
	baz=276						
YAK				*ePg*	**Pb**	**21 14 33.2**	**+0.4**
	15nm,0.5s,baz=276						
YAK				*eSn*	**Sn**	**21 15 22.9**	**-2.9**
	baz=276						
YAK				*eLg*	Lg	21 15 54.6	
	baz=276						
YAK				*eSg*	**Sg**	**21 16 02.5**	**+1.4**
	60nm,0.6s,baz=276						
TBGR	**Tabaga**	**6.07**	**275**	*ePn*	**Pn**	**21 14 13.4**	**-4.0**
	80nm,0.5s,baz=274						
TBGR				*ePg*	**Pb**	**21 14 34.0**	**+0.5**
	259nm,0.5s,baz=274						
TBGR				*eSn*	**Sn**	**21 15 24.0**	**-2.8**
	100nm,0.3s,baz=274						
TBGR				*eLg*	Lg	21 15 55.8	
	baz=274						
TBGR				*eSg*	**Sg**	**21 16 04.1**	**+1.7**
	baz=274						
OMS	**Omsukchan**	**6.26**	**78**	*eSg*	**Sg**	**21 16 05.3**	**-3.4**
BLSR	**Buluus**	**6.42**	**271**	*ePg*	**Pb**	**21 14 40.7**	**+1.2**
	226nm,0.7s,baz=270						
BLSR				*eLg*	Lg	21 16 06.8	
	baz=270						
BLSR				*eSg*	**Sg**	**21 16 15.4**	**+1.7**
	218nm,0.6s,baz=270						
CGD	**Chagda**	**6.67**	**247**	*ePg*	**Pb**	**21 14 45.7**	**+2.0**
	2.3nm,0.3s,baz=246						
CGD				*eSn*	**Sn**	**21 15 39.6**	**-2.0**
	baz=246						
CGD				*eLg*	Lg	21 16 16.3	
	baz=246						
CGD				*eSg*	**Sg**	**21 16 25.1**	**+3.5**
	61nm,0.4s,baz=246						
YBGR	**Belaya Gora**	**6.84**	**12**	*ePg*	**Pb**	**21 14 47.1**	**+0.4**
	2.8nm,0.8s,baz=12						
YBGR				*eLg*	Lg	21 16 18.8	
	baz=12						
YBGR				*eSg*	**Sg**	**21 16 27.6**	**+0.4**
	13nm,0.8s,baz=12						
DEPR	**Deputatskiy**	**7.60**	**353**	*ePg*	**Pb**	**21 15 00.8**	**+1.3**
	0.8nm,0.4s,baz=353						
DEPR				*eSg*	**Sg**	**21 16 52.7**	**+1.3**
	14nm,0.7s,baz=353						

IDC ***21*** *21:22:38.3±2.3,36.63N×143.52E,h0km,mb3.3/2,*
mb1 3.5/5,mb1mx3.3/41,mbtmp3.5/5,ML3.1/3,Error
ellipse: s-maj=40.8km s-min=28.7km az=87.0
JMA ***21*** *21:22:39.9±0.2,37.09N×143.45E,h51km,M3.4*
ISC 21 21:22:39.7±1.5,37.07N±0.05×143.52E±0.09,h35km,n19,
σ1s67/31,Off east coast of Honshu

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

JIKH	**Ishinomakikobu**	**2.05**	**308**	P	**Pn**	**21 23 11.9**	**+0.2**
JIKH				S	**Sn**	**21 23 35.7**	**-0.3**
JFK	**Kawauchi**	**2.13**	**279**	P	**Pn**	**21 23 13.1**	**+0.2**
JFK				S	**Sn**	**21 23 37.6**	**-0.6**
ONAJ	**Iwakimizuishiy**	**2.18**	**272**	P	**Pn**	**21 23 14.2**	**+0.7**
ONAJ				*e*S	**Sn**	**21 23 39.0**	**-0.3**
JMST	**Minamisoumatoc**	**2.20**	**288**	P	**Pn**	**21 23 14.0**	**+0.3**
JMST				S	**Sn**	**21 23 39.2**	**-0.5**
JIO	**Ouri**	**2.21**	**309**	P	**Pn**	**21 23 14.3**	**+0.4**
JIO				S	**Sn**	**21 23 39.3**	**-0.7**
JMM	**Marumori**	**2.31**	**291**	P	**Pn**	**21 23 15.8**	**+0.5**
JMM				S	**Sn**	**21 23 42.6**	**+0.1**
JFT	**Otama**	**2.58**	**281**	P	**Pn**	**21 23 20.3**	**+1.3**
JFT				S	**Sn**	**21 23 49.8**	**+0.6**
JMK	**Ichinoseki**	**2.62**	**317**	P	**Pn**	**21 23 19.9**	**+0.4**
JMK				*e*S	**Sn**	**21 23 49.1**	**-0.9**
JOM	**Ohasama**	**2.97**	**324**	P	**Pn**	**21 23 25.2**	**+0.8**
JOM				S	**Sn**	**21 23 58.5**	**-0.3**
JYK	**Kaneyama**	**3.11**	**307**	P	**Pn**	**21 23 27.2**	**+1.0**
BSO1	**Boso 1**	**3.18**	**221**	P	**Pn**	**21 23 27.1**	**+0.4**
BSO1				*e*S	**Sn**	**21 24 04.0**	**+0.9**
JAG	**Ashikaga**	**3.33**	**260**	P	**Pn**	**21 23 30.3**	**+1.0**
JAG				*e*S	**Sn**	**21 24 07.8**	**+0.1**
JANG	**Nango**	**3.65**	**335**	P	**Pn**	**21 23 34.4**	**+0.6**
MJAR	**Matsushiro Arr**	**4.30**	**265**	Pn	**Pn**	**21 23 43.5**	**+0.9**
	0.2nm,0.3s,baz=87,slow=15,SNR=12						
MJAR				Sn	**Sn**	**21 24 34.0**	**+2.4**
	0.1nm,0.3s,baz=86,slow=28,SNR=5.3						
JHJ	**Hachijo jima 2**	**4.99**	**219**	Pn	**Pn**	**21 23 49.3**	**-2.9**
	5.0nm,0.3s,baz=53,slow=20,SNR=1.0						
JHJ				Sn	**Sn**	**21 24 43.2**	**-5.5**
	7.6nm,0.3s,baz=52,slow=20,SNR=1.5						
JCH	**Churui**	**5.54**	**359**	P	**Pn**	**21 23 58.6**	**-1.0**
JCH				*e*S	**Sn**	**21 24 57.3**	**-4.7**
ASAJ	**Asahikawa**	**7.08**	**355**	Pn	Pn	21 24 27.0	+6.3
	0.4nm,0.3s,baz=170,slow=17,SNR=3.5						
MKAR	**Makanchi Array**	**45.53**	**302**	P	P	21 31 03.1	+7.3
	0.1nm,0.6s,baz=90,slow=8.6,SNR=1.5						
WRA	**Warramunga Arr**	**57.36**	**190**	P	**P**	**21 32 24.9**	**+0.4**
	0.4nm,0.8s,baz=7.5,slow=7.2,SNR=0.9						

IDC ***21*** *21:24:42.6±0.5,50.33N×178.15W,h0km,mb4.2/34,*
mb1 4.4/36,mb1mx4.3/46,mbtmp4.2/36,ML5.2/1,MS3.3/12,
Ms1 3.3/12,ms1mx3.0/56,Error ellipse: s-maj=17.7km
s-min=9.5km az=175.0
MOS ***21*** *21:24:44.2±1.1,50.27N×178.01W,h25km,mb4.8/29,*
Error ellipse: s-maj=7.3km s-min=5.6km az=91.8
NEIC ***21*** *21:24:45.2±1.6,50.32N±0.07×178.08W±0.08,h22km±4km,*
Error ellipse: s-maj=9.7km s-min=7.5km az=174.0
AEIC ***21*** *21:24:46.0±1.7,50.37N±0.07×178.08W±0.08,h41km±4km,*
ML4.0/35,mb4.7/273(NEIC),Error ellipse: s-maj=9.8km
s-min=7.3km az=168.0
UNK ***21*** *21:24:47.0,50.28N×178.00W,h34km*
ISC 21 21:24:45.0±0.8,50.32N±0.06×178.05W±0.04,h17km±4km,
h17km:pP-P,n676,σ1s01/677,mb4.7/203,MS3.3/10,
17C-19D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPA	**Tanaga Point A**	**1.51**	**6**		**Pn**	**21 25 10.4**	**-0.9**
GALAA	**Gareloi Lava P**	**1.52**	**343**		**Pn**	**21 25 10.8**	**-0.6**
TASE	**Tanaga Southea**	**1.52**	**0**		**Pn**	**21 25 10.7**	**-0.8**
GAEA	**Gareloi East**	**1.53**	**344**		**Pn**	**21 25 10.8**	**-0.8**
GAEA					**Sn**	**21 25 29.6**	**-1.5**
KIMD	**Kanaga Island**	**1.53**	**19**		**Pn**	**21 25 10.6**	**-1.0**
TAFP	**Tanaga Falls P**	**1.58**	**1**		**Pn**	**21 25 11.4**	**-0.9**
TAFP					**Sn**	**21 25 31.1**	**-1.4**
KIWB	**Kanaga Island**	**1.64**	**20**	Pn	**Pg**	**21 25 16.5**	**0.0**
KIKV	**Kanaga Island**	**1.66**	**19**		**Pn**	**21 25 12.5**	**-0.8**
KICM	**Kanaga Island**	**1.69**	**18**		**Pn**	**21 25 13.3**	**-0.4**
KINC	**Kanaga Island**	**1.72**	**19**		**Pn**	**21 25 13.7**	**-0.4**
ADK	**Adak**	**1.79**	**28**	P	**Pn**	**21 25 14.2**	**-0.9**
ADK	**Adak**	**1.79**	**28**		**Pn**	**21 25 14.2**	**-0.9**
ADAG	**Mount Adagdak**	**1.90**	**28**		**Pn**	**21 25 16.4**	**-0.2**
AMKA	**Amchitka**	**1.99**	**303**		**Pn**	**21 25 15.9**	**-1.9**
GSTD	**Great Sitkin T**	**2.11**	**34**		**Pn**	**21 25 19.3**	**-0.3**
GSTD					**Sn**	**21 25 44.9**	**-0.6**
GSMY	**Great Sitkin M**	**2.13**	**35**		**Pn**	**21 25 19.4**	**-0.5**
CERAA	**Semis' Rag'd T**	**2.14**	**319**		**Pn**	**21 25 19.3**	**-0.6**
GSTR	**Great Sitkin T**	**2.17**	**34**		**Pn**	**21 25 20.3**	**-0.1**
CESW	**Semis' Southwe**	**2.19**	**317**		**Pn**	**21 25 20.0**	**-0.5**
LSPA	**Little Sitkin**	**2.69**	**309**		**Pn**	**21 25 27.3**	**-0.2**
LSPA					**Sn**	**21 25 59.3**	**-0.3**
LSNW	**Little Sitkin**	**2.72**	**309**		**Pn**	**21 25 27.2**	**-0.7**
ATKA	**Atka Island**	**3.07**	**51**		**Pn**	**21 25 32.0**	**-0.6**
KOFP	**Korovin Flat P**	**3.16**	**50**		**Pn**	**21 25 34.1**	**+0.1**
KOSE	**Korovin Southe**	**3.23**	**49**		**Pn**	**21 25 35.6**	**+0.7**
SMY	**Shemya**	**5.46**	**299**	P	**Pn**	**21 26 05.7**	**+0.2**
SMY	**Shemya**	**5.46**	**299**	Pn	**Pn**	**21 26 05.7**	**+0.2**
NIKH	**Nikolski High**	**6.31**	**62**		**Pn**	**21 26 17.7**	**+0.5**
OKNC	**Okmok New Cone**	**6.90**	**59**		**Pn**	**21 26 25.9**	**+0.6**
MREP	**Makushin Rep't**	**7.79**	**59**		**Pn**	**21 26 38.4**	**+0.8**
MSW	**Makushin Switc**	**7.81**	**58**		**Pn**	**21 26 38.7**	**+0.8**
MNAT	**Makushin Natee**	**7.86**	**59**		**Pn**	**21 26 39.1**	**+0.7**
UNV	**Unalaska Valle**	**7.94**	**59**	Pn	**Pn**	**21 26 40.3**	**+0.8**
SPIA	**Saint Paul Isl**	**8.28**	**31**	Pn	**Pn**	**21 26 44.8**	**+0.7**
AKUT	**Akutan**	**8.45**	**58**	Pn	**Pn**	**21 26 47.9**	**+1.4**
SDPT	**Sand Point**	**11.75**	**58**	Pn	**Pn**	**21 27 31.1**	**-0.6**
CNBA	**Chernabura Isl**	**12.09**	**61**	Pn	**Pn**	**21 27 34.9**	**-1.5**
CHIR	**Chirikof Islan**	**14.53**	**59**	Pn	**Pn**	**21 28 07.0**	**-2.7**
PEA0B	**Petropavlovsk-**	**15.27**	**290**	*ePn*	**Pn**	**21 28 19.2**	**-0.4**
PEA0B	**Petropavlovsk-**	**15.27**	**290**		**Pn**	**21 28 20.6**	**+1.0**
PETK	**Petropavlovsk-**	**15.27**	**290**	Pn	**Pn**	**21 28 18.2**	**-1.4**
	0.1nm,0.3s,baz=93,slow=18,SNR=7.5						
PETK				LR	LR	21 35 44.4	
	comp=Z,31nm,18.7s,baz=61,slow=44						
PETK	**Petropavlovsk-**	**15.27**	**290**		**Pn**	**21 28 20.4**	**+0.9**
SII	**Sitkinak Islan**	**15.48**	**57**	Pn	**Pn**	**21 28 19.9**	**-2.5**
ANM	**Nome**	**15.78**	**20**	P	**Pn**	**21 28 26.8**	**+0.7**
ANM				pmax	pmax		
	comp=Z,13nm,1.0s						
ANM	**Nome**	**15.78**	**20**		**Pn**	**21 28 26.8**	**+0.7**
OHAK	**Old Harbor**	**16.12**	**55**	P	**Pn**	**21 28 30.8**	**+0.2**
SVW2	**Sparrevohn**	**16.54**	**41**		**Pn**	**21 28 36.4**	**+0.5**
KDAK	**Kodiak Island**	**16.64**	**54**	Pn	**Pn**	**21 28 33.2**	**-3.9**
	comp=Z,1.2nm,0.3s,baz=177,slow=3.7,SNR=33						
KDAK				Sn	**Sn**	**21 31 41.6**	**+0.3**
	comp=Z,2.3nm,0.3s,baz=161,slow=18,SNR=12						
KDAK				LR	LR	21 36 12.2	
	comp=Z,278nm,19.0s,baz=245,slow=41						
KDAK	**Kodiak Island**	**16.64**	**54**	P	**Pn**	**21 28 34.8**	**-2.4**
KDAK				pmax	pmax		
	comp=Z,23nm,1.1s						
KDAK	**Kodiak Island**	**16.64**	**54**	Pn	**Pn**	**21 28 34.8**	**-2.4**
RSO	**Redoubt South**	**17.48**	**45**	P	**Pn**	**21 28 47.2**	**-0.6**
CNPM	**China Poot**	**17.84**	**49**		**Pn**	**21 28 51.4**	**-0.8**
PPLA	**Purkeypile**	**18.83**	**38**		**Pn**	**21 29 06.1**	**+1.7**
SEW	**Seward**	**18.88**	**48**	P	**P**	**21 29 03.4**	**-0.8**
BILL	**Bilibino**	**19.39**	**342**	*de*P	**Pn**	**21 29 11.8**	**+0.9**
BILL				pmax	pmax		
	comp=Z,11nm,1.0s						
BILL				MLR	MLR		
	comp=Z,148nm,20.0s						
BILL	**Bilibino**	**19.39**	**342**		**Pn**	**21 29 10.8**	**-0.1**
GHO	**Glory Hole Cre**	**19.70**	**43**	P	**Pn**	**21 29 14.8**	**0.0**
KNK	**Knik Glacier**	**19.78**	**45**	P	**P**	**21 29 14.2**	**+0.2**
TRF	**Thorofare Moun**	**19.86**	**38**		**Pn**	**21 29 16.2**	**-0.5**
TRF				IAmb	IAmb	21 29 31.9	
	comp=Z,32nm,1.3s						
BPAW	**Bear Paw Mtn.**	**19.91**	**36**		**P**	**21 29 16.2**	**+0.7**
SML	**Sawmill**	**19.98**	**44**	P	**Pn**	**21 29 17.4**	**-0.7**
MA2	**Magadan**	**19.98**	**310**	P	**P**	**21 29 15.8**	**-0.5**
	comp=Z,0.7nm,0.3s,baz=87,slow=12,SNR=5.9						
MA2				LR	LR	21 37 12.3	
	comp=Z,58nm,19.8s,baz=122,slow=38						
MA2	**Magadan**	**19.98**	**310**	*ie*P	**Pn**	**21 29 17.9**	**-0.2**
MA2				pmax	pmax		
	comp=Z,13nm,1.7s						
MA2	**Magadan**	**19.98**	**310**	P	**P**	**21 29 16.1**	**-0.2**
GLI	**Glacier Island**	**20.23**	**47**	P	**P**	**21 29 18.3**	**-0.6**
HIN	**Hinchinbrook I**	**20.37**	**48**	P	**P**	**21 29 21.0**	**+0.4**
HIN				IAmb	IAmb	21 29 32.0	
	comp=Z,35nm,1.2s						
RND	**Reindeer**	**20.41**	**39**	P	**P**	**21 29 21.2**	**+0.2**
RND				pmax	pmax		
	comp=Z,13nm,1.0s						
RND	**Reindeer**	**20.41**	**39**		**P**	**21 29 21.2**	**+0.2**
SCM	**Sheep Creek Mo**	**20.43**	**44**	P	**P**	**21 29 22.0**	**+0.8**
SCM				pmax	pmax		
	comp=Z,9.0nm,0.7s						

SCM	**Sheep Creek Mo**	**20.43**	**44**	P	**P**	**21 29 22.0**	**+0.8**
FID	**Port Fidalgo**	**20.48**	**47**	P	**P**	**21 29 21.5**	**-0.2**
FID				IAmb	IAmb	21 29 25.3	
	comp=Z,26nm,1.2s						
MLY	**Manley**	**20.50**	**34**	P	**P**	**21 29 22.7**	**+0.8**
MLY				IAmb	IAmb	21 29 41.7	
	comp=Z,17nm,0.7s						
MCK	**McKinley**	**20.52**	**38**	P	**P**	**21 29 21.7**	**-0.4**
MCK				pmax	pmax		
	comp=Z,16nm,0.8s						
MCK	**McKinley**	**20.52**	**38**	P	**P**	**21 29 21.7**	**-0.4**
MCK				IAmb	IAmb	21 29 40.9	
	comp=Z,16nm,0.8s						
DHY	**Denali Highway**	**20.88**	**41**	IAmb	IAmb	21 29 42.3	
	comp=Z,34nm,0.8s						
NEA2	**Nenana**	**20.88**	**36**	P	Pn	21 29 28.0	-0.6
	baz=240						
WRH	**Wood River Hil**	**21.19**	**37**	P	**P**	**21 29 28.8**	**-0.5**
MDM	**Murphy Dome**	**21.37**	**36**	P	**P**	**21 29 31.5**	**+0.2**
CCB	**Clear Creek Bu**	**21.39**	**36**	P	**P**	**21 29 31.6**	**+0.3**
HDA	**Harding Lake**	**21.61**	**38**	P	**P**	**21 29 35.4**	**+1.6**
	baz=244						
HDA	**Harding Lake**	**21.61**	**38**	P	**P**	**21 29 34.0**	**+0.3**
PAX	**Paxson**	**21.64**	**42**	P	**P**	**21 29 35.5**	**+1.2**
PAX				pmax	pmax		
	comp=Z,16nm,0.8s						
PAX	**Paxson**	**21.64**	**42**	P	**P**	**21 29 35.5**	**+1.2**
PAX				IAmb	IAmb	21 29 52.2	
	comp=Z,16nm,0.8s						
IL31		**21.79**	**37**	P	**P**	**21 29 36.2**	**+0.5**
ILAR	**Eielson Array**	**21.79**	**37**	P	**P**	**21 29 36.1**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=236,slow=9.6,SNR=10						
ILAR				S	**S**	**21 33 31.6**	**-4.2**
	comp=Z,0.4nm,0.5s,baz=232,slow=19,SNR=5.1						
ILAR				LR	LR	21 38 56.3	
	comp=Z,82nm,18.6s,baz=221,slow=39						
ILAR	**Eielson Array**	**21.79**	**37**	P	**P**	**21 29 37.3**	**+1.5**
ILAR	**Eielson Array**	**21.79**	**37**	P	**P**	**21 29 37.3**	**+1.5**
GLB	**Gilahina Butte**	**21.91**	**46**	P	**P**	**21 29 39.5**	**+2.3**
COLD	**Coldfoot**	**21.93**	**29**	P	**P**	**21 29 37.6**	**+0.4**
	baz=233						
COLD	**Coldfoot**	**21.93**	**29**	P	**P**	**21 29 36.2**	**-1.1**
VRDI	**Verde Repeater**	**22.03**	**47**	P	**P**	**21 29 39.0**	**+0.4**
WAX	**Waxell Ridge**	**22.14**	**49**	P	**P**	**21 29 39.7**	**0.0**
RIDG	**Independent Ri**	**22.18**	**40**	P	**P**	**21 29 40.0**	**0.0**
MCARA	**McCarthy VSAT**	**22.27**	**47**	P	**P**	**21 29 40.0**	**-0.9**
MCARA				IAmb	IAmb	21 29 59.6	
	comp=Z,14nm,0.8s						
DOT	**Dot Lake**	**22.48**	**41**	P	**P**	**21 29 42.5**	**-0.7**
BALM	**Baldy**	**22.51**	**48**	P	**P**	**21 29 42.5**	**-1.1**
SCRK	**Sand Creek**	**22.62**	**40**	P	**P**	**21 29 43.4**	**-1.4**
CTGM	**Chitina Glacie**	**22.98**	**48**	P	**P**	**21 29 49.0**	**+0.4**
FYU	**Fort Yukon**	**23.23**	**33**	P	**P**	**21 29 51.8**	**+0.8**
FYU				IAmb	IAmb	21 30 01.4	
	comp=Z,15nm,0.7s						
BCAR	**Beaver Creek A**	**23.27**	**43**	P	**P**	**21 29 51.5**	**+0.1**
PCA	**Pinnacle**	**23.36**	**51**	P	**P**	**21 29 52.6**	**+0.2**
PCA				IAmb	IAmb	21 30 06.6	
	comp=Z,14nm,0.8s						
BMAR	**Burnt Mountain**	**23.87**	**32**	P	**P**	**21 29 57.2**	**-0.1**
EGAK	**Eagle**	**24.05**	**39**	P	**P**	**21 29 59.0**	**0.0**
HYT	**Haines Junctio**	**24.81**	**49**	P	**P**	**21 30 07.1**	**+1.1**
SIT	**Sitka**	**25.83**	**58**	P	**P**	**21 30 16.0**	**+0.9**
SIT				pmax	pmax		
	comp=Z,34nm,1.2s						
SIT	**Sitka**	**25.83**	**58**	P	**P**	**21 30 16.0**	**+0.9**
SIT				IAmb	IAmb	21 30 28.2	
	comp=Z,34nm,1.2s						
YSS	**Yuzh-Sakhalins**	**25.91**	**278**	*e*P	**P**	**21 30 16.3**	**+0.4**
YSS				pmax	pmax		
	comp=Z,16nm,1.4s						
ASAJ	**Asahikawa**	**27.20**	**272**	P	**P**	**21 30 26.7**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=45,slow=8.6,SNR=1.6						
INK	**Inuvik**	**28.07**	**34**	LR	LR	21 43 25.5	
	comp=Z,120nm,18.3s,baz=276,slow=40						
DLBC	**Dease Lake**	**28.57**	**55**	P	**P**	**21 30 40.4**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=184,slow=22,SNR=5.6						
DLBC				LR	LR	21 43 30.7	
	comp=Z,88nm,18.5s,baz=291,slow=39						
DLBC	**Dease Lake**	**28.57**	**55**	P	**P**	**21 30 41.2**	**+1.4**
YAK	**Yakutsk**	**30.48**	**313**	*e*P	**P**	**21 30 56.6**	**0.0**
YAK				pmax	pmax		
	comp=Z,11nm,0.8s						
BBB	**Bella Bella**	**30.82**	**67**	P	**P**	**21 31 01.6**	**+1.9**
KLR	**Kul'dur**	**31.94**	**288**	*d*iP	**P**	**21 31 09.4**	**-0.2**
KLR				pmax	pmax		
	comp=Z,15nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**32.78**	**207**	T	T	22 05 54.4	
	baz=18,slow=76,SNR=5.6						
H11N3	**WAKE ISLAND Hy**	**32.79**	**207**	T	T	22 05 53.8	
	baz=18,slow=76,SNR=4.8						
H11N1	**WAKE ISLAND Hy**	**32.80**	**207**	T	T	22 05 55.7	
	baz=18,slow=76,SNR=5.5						
USA0B	**Ussuriysk Arra**	**33.92**	**279**	P	**P**	**21 31 27.6**	**+0.7**
USA0B				pmax	pmax		
	comp=Z,6.0nm,1.0s						
USA0B	**Ussuriysk Arra**	**33.92**	**279**	P	**P**	**21 31 27.6**	**+0.7**
USA0B				IAmb	IAmb	21 31 28.5	
	comp=Z,6.4nm,1.0s						
USRK	**Ussuriysk Ar.**	**33.92**	**279**	P	**P**	**21 31 27.0**	**+0.1**
	comp=Z,6.1nm,1.0s,baz=60,slow=9.2,S

WALA	**Waterton Lakes**	**40.36**	**66**	P	**P**	**21 32 21.2**	**-0.4**
WALA				lAmb	lAmb	21 32 23.9	
	comp=Z,6.9nm,0.8s						
RES	**Resolute Bay**	**40.52**	**24**	LR	LR	21 53 23.2	
	comp=Z,53nm,19.2s,baz=244,slow=42						
MSO	**Missoula**	**41.39**	**69**	P	**P**	**21 32 30.4**	**+0.1**
	baz=299						
HRY	**Holter Researc**	**42.71**	**68**	P	**P**	**21 32 41.0**	**0.0**
HLID	**Hailey**	**42.78**	**74**	P	**P**	**21 32 42.5**	**+0.8**
	baz=302						
HLID	**Hailey**	**42.78**	**74**	P	**P**	**21 32 41.3**	**-0.3**
DLMT	**Dillon**	**42.94**	**70**	P	**P**	**21 32 40.6**	**-2.3**
RYN	**Ryan**	**42.96**	**82**	P	**P**	**21 32 40.5**	**-2.7**
KVN	**Kaiserville**	**42.98**	**81**	P	**P**	**21 32 43.0**	**-0.4**
KVN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KVN	**Kaiserville**	**42.98**	**81**	P	**P**	**21 32 43.0**	**-0.4**
MCMT	**McKenzie Canyo**	**43.06**	**71**	P	**P**	**21 32 43.7**	**-0.3**
NVAR	**Mina Array Bea**	**43.22**	**82**	P	**P**	**21 32 46.3**	**+1.0**
	comp=Z,2.0nm,0.9s,baz=296,slow=6.2,SNR=10						
NVAR				PcP	**PcP**	**21 34 35.3**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=259,slow=2.7,SNR=6.2						
NVAR	**Mina Array Bea**	**43.22**	**82**	P	**P**	**21 32 45.4**	**+0.1**
EGMT	**Eagleton**	**43.28**	**65**	P	**P**	**21 32 44.4**	**-1.1**
	baz=300						
EGMT	**Eagleton**	**43.28**	**65**	P	**P**	**21 32 43.6**	**-1.9**
EGMT				lAmb	lAmb	21 32 46.5	
	comp=Z,10.0nm,0.8s						
BOZ	**Bozeman (W)**	**43.40**	**69**	P	**P**	**21 32 47.2**	**+0.6**
	baz=301						
BOZ	**Bozeman (W)**	**43.40**	**69**	P	**P**	**21 32 46.5**	**-0.1**
BOZ				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BOZ	**Bozeman (W)**	**43.40**	**69**	P	**P**	**21 32 46.5**	**-0.1**
ELK	**Elko**	**43.82**	**77**	P	**P**	**21 32 50.4**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=299,slow=11,SNR=15						
ELK	**Elko**	**43.82**	**77**	P	**P**	**21 32 51.4**	**+1.3**
ELK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ELK	**Elko**	**43.82**	**77**	P	**P**	**21 32 51.4**	**+1.3**
YHL	**Hebgen Lake**	**44.06**	**70**	P	**P**	**21 32 51.6**	**-0.5**
YHB	**Horse Butte**	**44.11**	**70**	P	**P**	**21 32 50.2**	**-2.2**
YHH	**Holmes Hill**	**44.29**	**70**	P	**P**	**21 32 53.1**	**-0.9**
GCMT	**Greycliff**	**44.47**	**68**	P	**P**	**21 32 54.7**	**-0.5**
YNE	**Yellowstone No**	**44.68**	**69**	P	**P**	**21 32 56.5**	**-0.5**
TPAW	**Teton Pass**	**44.94**	**72**	P	**P**	**21 32 56.9**	**-2.1**
R11A	**Troy Canyon, C**	**44.99**	**80**	P	**P**	**21 33 00.5**	**+1.1**
	baz=306						
R11A	**Troy Canyon, C**	**44.99**	**80**	P	**P**	**21 32 59.4**	**-0.1**
RLMT	**Red Lodge**	**45.07**	**69**	P	**P**	**21 33 01.2**	**+1.2**
	baz=302						
BGU	**Big Grassy Mou**	**45.09**	**76**	P	**P**	**21 33 00.1**	**-0.2**
MPMC	**Manual Prospec**	**45.16**	**84**	P	**P**	**21 33 02.3**	**+1.4**
	baz=308						
SPUT	**South Promonto**	**45.23**	**75**	P	**P**	**21 33 00.7**	**-0.6**
FURC	**Furnace Creek,**	**45.31**	**83**	P	**P**	**21 33 03.5**	**+1.8**
	baz=308						
TPNV	**Topopah Spring**	**45.41**	**82**	P	**P**	**21 33 04.4**	**+1.6**
	baz=308,SNR=6.5						
TPNV	**Topopah Spring**	**45.41**	**82**	P	**P**	**21 33 02.6**	**-0.2**
TPNV				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TPNV	**Topopah Spring**	**45.41**	**82**	P	**P**	**21 33 02.6**	**-0.2**
TPNV				lAmb	lAmb	21 33 05.1	
	comp=Z,6.7nm,0.8s						
NRIK	**Noril'sk**	**45.57**	**330**	P	**P**	**21 33 03.3**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=115,slow=3.0,SNR=3.7						
DUG	**Dugway, Tooele**	**45.65**	**77**	P	**P**	**21 33 06.1**	**+1.5**
	baz=306						
DUG	**Dugway, Tooele**	**45.65**	**77**	P	**P**	**21 33 04.5**	**-0.1**
DUG				pmax	pmax		
	comp=Z,7.0nm,1.2s						
DUG	**Dugway, Tooele**	**45.65**	**77**	P	**P**	**21 33 04.5**	**-0.1**
DUG				lAmb	lAmb	21 33 06.9	
	comp=Z,7.0nm,1.1s						
PSUT	**Pine Spring**	**45.97**	**79**	P	**P**	**21 33 06.9**	**-0.4**
GSC	**Goldstone, Bar**	**46.07**	**85**	P	**P**	**21 33 09.4**	**+1.4**
	baz=309						
GSC	**Goldstone, Bar**	**46.07**	**85**	P	**P**	**21 33 07.3**	**-0.6**
GSC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GSC	**Goldstone, Bar**	**46.07**	**85**	P	**P**	**21 33 07.3**	**-0.6**
GSC				lAmb	lAmb	21 33 10.2	
	comp=Z,7.2nm,0.9s						
BJI	**Beijing**	**46.07**	**284**	P	**P**	**21 33 06.8**	**-1.0**
BJI				pmax	pmax		
	comp=Z,3.0nm,0.7s						
BJT	**Baijiatuau**	**46.09**	**284**	P	**P**	**21 33 06.8**	**-1.1**
BJT				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BJT	**Baijiatuau**	**46.09**	**284**	P	**P**	**21 33 06.8**	**-1.1**
BJT				lAmb	lAmb	21 33 09.1	
	comp=Z,7.7nm,1.1s						
BW06	**Boulder Array**	**46.19**	**72**	P	**P**	**21 33 09.6**	**+0.7**
	baz=304						
BW06	**Boulder Array**	**46.19**	**72**	P	**P**	**21 33 09.5**	**+0.5**
BW06				lAmb	lAmb	21 33 10.6	
	comp=Z,6.1nm,0.9s						
PD31	**Pinedale Array**	**46.19**	**72**	P	**P**	**21 33 08.9**	**-0.1**
PD31				lAmb	lAmb	21 33 10.7	
	comp=Z,5.8nm,0.9s						
PDAR	**Pinedale Array**	**46.19**	**72**	P	**P**	**21 33 09.6**	**+0.7**
	comp=Z,4.8nm,0.8s,baz=316,slow=4.1,SNR=32						
PDAR	**Pinedale Array**	**46.19**	**72**	P	**P**	**21 33 09.2**	**+0.2**
JLU	**Jordanelle**	**46.26**	**75**	P	**P**	**21 33 09.8**	**+0.2**
FCC	**Fort Churchill**	**46.36**	**46**	P	**P**	**21 33 09.5**	**-0.2**
FCC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
FCC	**Fort Churchill**	**46.36**	**46**	P	**P**	**21 33 09.5**	**-0.2**
FCC				lAmb	lAmb	21 33 11.6	
	comp=Z,7.6nm,0.8s						
HEC	**Hector,Ludlow**	**46.66**	**85**	P	**P**	**21 33 13.6**	**+1.0**
	baz=309						
CCUT	**Cedar City**	**46.87**	**80**	P	**P**	**21 33 13.8**	**-0.6**
MSU	**Marysvale**	**47.04**	**78**	P	**P**	**21 33 15.9**	**+0.2**
MSU	**Marysvale**	**47.04**	**78**	P	**P**	**21 33 15.8**	**+0.2**
TLY	**Talaya**	**47.04**	**304**	⇓*eP*	**P**	**21 33 15.7**	**+0.4**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.7s						
GMRC	**Granite Mounta**	**47.12**	**84**	P	**P**	**21 33 17.4**	**+1.1**
	baz=309						
ULN	**Ulaanbaatar**	**47.16**	**298**	⇑*iP*	**P**	**21 33 17.3**	**+0.8**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TMUT	**Trail Mountain**	**47.17**	**77**	P	**P**	**21 33 15.4**	**-1.5**
LCMT	**Little Creek M**	**47.27**	**80**	P	**P**	**21 33 17.2**	**-0.2**
MTPU	**Mount Pierson**	**47.32**	**79**	P	**P**	**21 33 17.9**	**-0.1**
Q16A	**Castle Valley**	**47.42**	**77**	P	**P**	**21 33 18.9**	**+0.2**
RDMU	**Red Mountain**	**47.44**	**74**	P	**P**	**21 33 18.7**	**-0.1**
KNB	**Kanab**	**47.54**	**80**	P	**P**	**21 33 18.2**	**-1.3**
KNB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KNB	**Kanab**	**47.54**	**80**	P	**P**	**21 33 18.2**	**-1.3**
SONM	**Songino Array**	**47.55**	**298**	P	**P**	**21 33 20.0**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=57,slow=8.8,SNR=16						
SONM				PcP	**PcP**	**21 34 49.1**	**0.0**
	comp=Z,0.6nm,0.5s,baz=55,slow=1.6,SNR=2.4						
SONM	**Songino Array**	**47.55**	**298**	P	**P**	**21 33 19.8**	**+0.4**
SRU	**San Rafael Swe**	**47.71**	**76**	P	**P**	**21 33 20.6**	**-0.2**
SRU				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SRU	**San Rafael Swe**	**47.71**	**76**	P	**P**	**21 33 20.6**	**-0.2**
ZAK	**Zakamensk**	**47.92**	**302**	*eP*	**P**	**21 33 22.3**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.2s						
W13A	**Hualapai Mount**	**48.06**	**83**	P	**P**	**21 33 22.8**	**-0.8**
K22A	**Casper**	**48.09**	**70**	P	**P**	**21 33 24.2**	**+0.5**
	baz=305						
U15A	**North Rim**	**48.24**	**80**	P	**P**	**21 33 23.8**	**-1.3**
U15A				lAmb	lAmb	21 33 27.4	
	comp=Z,8.7nm,1.1s						
HHC	**Hu-ho-hao-te**	**48.45**	**287**	*eP*	**P**	**21 33 28.6**	**+2.2**
HHC				pmax	pmax		
	comp=Z,11nm,1.1s						
HHC				pmax	pmax		
	comp=Z,32nm,6.0s						
MOY	**Mondy**	**48.45**	**305**	*eP*	P	21 33 39.3	+13
O20A	**White River Ci**	**48.52**	**74**	P	**P**	**21 33 27.7**	**+0.6**
	baz=307						
O20A	**White River Ci**	**48.52**	**74**	P	**P**	**21 33 25.2**	**-1.9**
O20A				lAmb	lAmb	21 33 28.6	
	comp=Z,6.8nm,0.8s						
RSSD	**Black Hills**	**48.73**	**67**	P	**P**	**21 33 28.5**	**-0.2**
	baz=305						
PV09	**Paradox Valley**	**48.95**	**76**	P	**P**	**21 33 29.9**	**-0.7**
PV21	**Cone Mtn., Par**	**49.01**	**76**	P	**P**	**21 33 30.2**	**-0.8**
PV21				lAmb	lAmb	21 33 32.4	
	comp=Z,6.7nm,1.1s						
PV23	**Carpenter Ridg**	**49.05**	**76**	P	**P**	**21 33 31.3**	**0.0**
PV23				lAmb	lAmb	21 33 38.2	
	comp=Z,3.8nm,0.8s						
PV22	**Blue Mesa, Par**	**49.14**	**76**	P	**P**	**21 33 31.6**	**-0.3**
PV22				lAmb	lAmb	21 33 34.9	
	comp=Z,5.0nm,0.9s						
MDND	**Maddock**	**49.17**	**61**	P	**P**	**21 33 32.9**	**+1.1**
	baz=304						
MDND	**Maddock**	**49.17**	**61**	P	**P**	**21 33 31.5**	**-0.3**
PV11	**David Mesa, Pa**	**49.23**	**76**	P	**P**	**21 33 31.4**	**-1.2**
PV11				lAmb	lAmb	21 33 36.4	
	comp=Z,6.7nm,0.7s						
PV18	**Skein Mesa, Pa**	**49.24**	**76**	P	**P**	**21 33 31.3**	**-1.4**
PV18				lAmb	lAmb	21 33 34.2	
	comp=Z,9.0nm,1.1s						
E28A	**Huff**	**49.27**	**63**	P	**P**	**21 33 31.8**	**-0.8**
E28A				lAmb	lAmb	21 33 36.1	
	comp=Z,8.5nm,1.1s						
PV03	**Paradox Valley**	**49.27**	**76**	P	**P**	**21 33 32.9**	**-0.1**
PV03				lAmb	lAmb	21 33 34.4	
	comp=Z,8.5nm,1.1s						
PV07	**Paradox Valley**	**49.29**	**76**	P	**P**	**21 33 31.9**	**-1.2**
PV07				lAmb	lAmb	21 33 33.9	
	comp=Z,3.7nm,0.7s						
NJ2	**Nanjing**	**49.33**	**273**	*eP*	**P**	**21 33 32.0**	**-1.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
PV13	**Radium Mtn., P**	**49.35**	**76**	P	**P**	**21 33 32.4**	**-1.1**
Y14A	**Wickenburg**	**49.35**	**83**	P	**P**	**21 33 33.2**	**-0.2**
Y14A				lAmb	lAmb	21 33 35.4	
	comp=Z,6.3nm,1.1s						
WUAZ	**Wupatki**	**49.39**	**81**	P	**P**	**21 33 35.2**	**+1.4**
	baz=309						
WUAZ	**Wupatki**	**49.39**	**81**	P	**P**	**21 33 32.2**	**-1.6**
WUAZ				lAmb	lAmb	21 33 36.0	
	comp=Z,14nm,1.5s						
N23A	**Red Feather La**	**49.47**	**72**	P	**P**	**21 33 35.5**	**+1.0**
	baz=307						
N23A	**Red Feather La**	**49.47**	**72**	P	**P**	**21 33 33.7**	**-0.8**
N23A				lAmb	lAmb	21 33 36.4	
	comp=Z,5.9nm,0.9s						
PV01	**Paradox Valley**	**49.52**	**76**	P	**P**	**21 33 33.9**	**-1.0**
PV01				lAmb	lAmb	21 33 36.3	
	comp=Z,5.6nm,0.7s						
ULM	**Lac du Bonnet**	**49.87**	**56**	LR	LR	21 55 27.1	
	comp=Z,33nm,18.6s,baz=322,slow=37						
MVCO	**Mesa Verde**	**50.14**	**77**	P	**P**	**21 33 38.4**	**-1.1**
MVCO				lAmb	lAmb	21 33 41.2	
	comp=Z,10nm,1.4s						
ISCO	**Idaho Springs**	**50.33**	**73**	P	**P**	**21 33 40.2**	**-0.9**
ISCO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ISCO	**Idaho Springs**	**50.33**	**73**	P	**P**	**21 33 40.2**	**-0.9**
214A	**Organ Pipe Nat**	**50.77**	**85**	P	**P**	**21 33 44.9**	**+0.8**
	baz=311						
214A	**Organ Pipe Nat**	**50.77**	**85**	P	**P**	**21 33 43.4**	**-0.7**
214A				lAmb	lAmb	21 33 46.7	
	comp=Z,6.2nm,1.2s						
S22A	**4UR Ranch, Cre**	**50.84**	**75**	P	**P**	**21 33 46.5**	**+1.5**
	baz=308						
S22A	**4UR Ranch, Cre**	**50.84**	**75**	P	**P**	**21 33 43.9**	**-1.0**
AGMN	**Agassiz Nation**	**50.99**	**58**	P	**P**	**21 33 45.4**	**-0.1**
	baz=305						
AGMN	**Agassiz Nation**	**50.99**	**58**	P	**P**	**21 33 44.2**	**-1.3**
SPA0	**Spitsbergen Ar**	**51.47**	**356**	P	**P**	**21 33 47.8**	**-0.9**
TUC	**Tucson**	**51.83**	**83**	P	**P**	**21 33 53.0**	**+0.9**
	baz=311						
TUC	**Tucson**	**51.83**	**83**	P	**P**	**21 33 51.9**	**-0.2**
TUC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TUC	**Tucson**	**51.83**	**83**	P	**P**	**21 33 51.9**	**-0.2**
TUC				lAmb	lAmb	21 33 54.2	
	comp=Z,4.6nm,0.9s						
YOJ	**Yonaguni jima**	**51.87**	**263**	P	**P**	**21 33 50.1**	**-2.3**
YOJ	**Yonaguni jima**	**51.87**	**263**	P	**P**	**21 33 50.1**	**-2.3**
B35A	**Bob, Littlefor**	**52.11**	**57**	P	**P**	**21 33 51.6**	**-2.3**
F33A	**5 Mile Ranch,**	**52.19**	**61**	P	**P**	**21 33 53.6**	**-0.9**
ANMO	**Albuquerque**	**52.85**	**78**	P	**P**	**21 34 00.4**	**+0.6**
	baz=310						
ANMO	**Albuquerque**	**52.85**	**78**	P	**P**	**21 34 00.6**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=335,slow=12,SNR=3.2						
ANMO	**Albuquerque**	**52.85**	**78**	⇓*eP*	**P**	**21 34 00.3**	**+0.5**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ANMO	**Albuquerque**	**52.85**	**78**	P	**P**	**21 33 59.1**	**-0.7**
LENM	**Lemitar**	**53.03**	**79**	P	**P**	**21 34 00.9**	**-0.3**
BNM	**Barren Site**	**53.26**	**79**	P	**P**	**21 34 02.2**	**-0.7**
ECSD	**EROS Data Cent**	**53.28**	**63**	P	**P**	**21 34 01.2**	**-1.4**
319A	**Douglas**	**53.40**	**83**	P	**P**	**21 34 02.2**	**-1.7**
319A				lAmb	lAmb	21 34 06.4	
	comp=Z,6.0nm,1.1s						
EYMN	**Ely**	**53.55**	**57**	P	**P**	**21 34 04.0**	**-0.6**
EYMN				lAmb	lAmb	21 34 07.6	
	comp=Z,11nm,1.2s						
SUMG	**Summit**	**54.21**	**14**	*iP*	**P**	**21 34 09.0**	**-0.5**
	comp=Z,14nm,0.9s						
SUMG	**Summit**	**54.21**	**14**	*iP*	**P**	**21 34 09.0**	**-0.5**
SUMG				pmax	pmax		
	comp=Z,15nm,0.9s						
SUMG	**Summit**	**54.21**	**14**	P	**P**	**21 34 09.7**	**+0.2**
SUMG				lAmb	lAmb	21 34 14.6	
	comp=Z,8.2nm,1.0s						
XAN	**Xi'an**	**54.34**	**282**	P	**P**	**21 34 09.8**	**-0.8**
XAN				pP	pwP	21 34 21.9	-1.0
XAN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
XAN				pmax	pmax		
	comp=Z,89nm,5.9s						
I37A	**Lemond, Waseca**	**54.93**	**61**	P	**P**	**21 34 14.5**	**-0.2**
I37A				lAmb	lAmb	21 34 15.9	
	comp=Z,7.5nm,0.9s						
ZAA0	**Zalesovo Array**	**55.11**	**314**	P	**P**	**21 34 15.4**	**-0.4**
ZALV	**Zalesovo Beam**	**55.11**	**314**	P	**P**	**21 34 15.4**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=24,slow=8.6,SNR=4.7						
ZALV				PcP	**PcP**	**21 35 17.4**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=35,slow=5.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**55.11**	**314**	*iP*	**P**	**21 34 18.2**	**+2.4**
ZALV				pmax	pmax		
	comp=Z,1.0nm,0.8s						
N35A	**Tabor**	**55.64**	**66**	P	**P**	**21 34 19.3**	**-0.5**
MNTX	**Cornudas Mount**	**55.66**	**80**	P	**P**	**21 34 20.8**	**+0.7**
	baz=312,SNR=12						
MNTX	**Cornudas Mount**	**55.66**	**80**	P	**P**	**21 34 19.5**	**-0.6**
MNTX				lAmb	lAmb	21 34 22.0	
	comp=Z,6.8nm,0.9s						
MSTX	**Muleshoe**	**55.79**	**76**	P	**P**	**21 34 21.3**	**+0.2**
	baz=312						
MSTX	**Muleshoe**	**55.79**	**76**	P	**P**	**21 34 20.5**	**-0.7**
MSTX				lAmb	lAmb	21 34 23.1	
	comp=Z,9.8nm,1.1s						
COWI	**Conover**	**55.97**	**57**	P	**P**	**21 34 21.4**	**-0.8**
COWI				lAmb	lAmb	21 34 32.9	
	comp=Z,4.0nm,0.9s						
ENH	**Enshi**	**56.49**	**278**	P	**P**	**21 34 25.6**	**-0.5**
DGZ	**Jazzator, Alta**	**56.57**	**309**	⇓*iP*	**P**	**21 34 26.9**	**+0.4**
DGZ				pmax	pmax		
	comp=Z,8.0nm,1.5s						
JFWS	**Jewell Farm**	**57.40**	**61**	P	**P**	**21 34 32.1**	**-0.2**
JFWS	**Jewell Farm**	**57.40**	**61**	P	**P**	**21 34 31.8**	**-0.5**
JFWS				pmax	pmax		
	comp=Z,12nm,1.3s						
JFWS	**Jewell Farm**	**57.40**	**61**	P	**P**	**21 34 31.8**	**-0.5**
JFWS				lAmb	lAmb	21 34 33.9	
	comp=Z,12nm,1.2s						
L40A	**Anamosa**	**57.41**	**62**	P	**P**	**21 34 30.3**	**-2.1**
L40A				lAmb	lAmb	21 34 33.5	
	comp=Z,4.8nm,0.7s						
I42A	**Draeger Farm,**	**57.51**	**59**	P	**P**	**21 34 28.8**	**-4.2**
I42A				lAmb	lAmb	21 34 34.3	
	comp=Z,14nm,1.3s						
P38A	**Dawn**	**57.67**	**65**	P	**P**	**21 34 33.1**	**-1.2**
WMOK	**Wichita Mounta**	**57.75**	**73**	P	**P**	**21 34 34.5**	**-0.4**
WMOK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WMOK	**Wichita Mounta**	**57.75**	**73**	P	**P**	**21 34 34.5**	**-0.4**
D46A	**Sault St. Mari**	**58.14**	**54**	P	**P**	**21 34 37.8**	**+0.3**
	baz=311						
TX32	**Lajitas Array**	**58.35**	**81**	lAmb	lAmb	21 34 40.7	
	comp=Z,9.5nm,1.2s						
TXAR	**Lajitas Array**	**58.35**	**81**	P	**P**	**21 34 39.6**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=299,slow=4.8,SNR=31						
TXAR				PcP	**PcP**	**21 35 31.0**	**+0.8**
	comp=Z,1.6nm,0.8s,baz=285,slow=4.4,SNR=4.6						
TXAR	**Lajitas Array**	**58.35**	**81**	P	**P**	**21 34 39.5**	**+0.3**
E46A	**Sault Ste Mari**	**58.35**	**54**	P	**P**	**21 34 39.5**	**+0.6**
E46A				lAmb	lAmb	21 34 55.6	
	comp=Z,6.6nm,0.9s						
D47A	**Chapleau**	**58.52**	**53**	P	**P**	**21 34 40.1**	**0.0**
	baz=312						
ABTX	**Abilene, Hawle**	**58.63**	**75**	P	**P**	**21 34 41.5**	**+0.4**
	baz=313						
ABTX	**Abilene, Hawle**	**58.63**	**75**	P	**P**	**21 34 40.7**	**-0.4**
ABTX				lAmb	lAmb	21 34 43.1	
	comp=Z,8.6nm,1.1s						
HPIG		**58.73**	**85**	P	**P**	**21 34 41.2**	**-0.9**
HPIG				lAmb	lAmb	21 34 43.5	
	comp=Z,4.1nm,0.8s						
E47A	**Iron Bridge**	**58.82**	**54**	P	**P**	**21 34 43.1**	**+0.9**
	baz=312,SNR=6.0						
D48A	**Paudash Townsh**	**59.10**	**52**	P	**P**	**21 34 44.9**	**+0.8**
	baz=312,SNR=6.9						
ARCES	**ARCESS Array B**	**59.22**	**351**	P	**P**	**21 34 43.9**	**-0.7**
	comp=Z,2.5nm,0.7s,baz=30,slow=7.4,SNR=9.6						
D49A	**Beulah Townshi**	**59.26**	**52**	P	**P**	**21 34 46.3**	**+1.1**
	baz=312						
E48A	**Lockeyer**	**59.38**	**53**	P	**P**	**21 34 47.1**	**+1.0**
	baz=312						
MATQ	**Matagami**	**59.40**	**48**	P	**P**	**21 34 46.7**	**+0.6**
	baz=313						
LVZ	**Lovozero**	**59.58**	**346**	⇓*eP*	**P**	**21 34 46.0**	**-1.2**
LVZ				pmax	pmax		
	comp=Z,65nm,1.8s						
F48A	**Evansville**	**59.59**	**54**	P	**P**	**21 34 48.4**	**+0.9**
	baz=312						
F49A	**Sandfield**	**59.93**	**54**	P	**P**	**21 34 51.0**	**+1.1**
	baz=313,SNR=7.5						
P43A	**Skaggs, Pawnee**	**59.97**	**63**	P	**P**	**21 34 49.3**	**-1.0**
CCM	**Cathedral Cave**	**60.04**	**65**	P	**P**	**21 34 48.6**	**-2.1**
CCM				pmax	pmax		
	comp=Z,7.0nm,1.5s						
CCM	**Cathedral Cave**	**60.04**	**65**	P	**P**	**21 34 48.6**	**-2.1**
CCM				lAmb	lAmb	21 34 50.6	
	comp=Z,7.0nm,1.5s						
D50A	**G1974 Best Tow**	**60.09**	**51**	P	**P**	**21 34 51.4**	**+0.4**
	baz=313						
KURK	**Kurchatov**	**60.10**	**314**	*diP*	**P**	**21 34 50.6**	**-0.3**
KURK				pmax	pmax		
	comp=Z,12nm,1.3s						
KURK	**Kurchatov**	**60.10**	**314**	P	**P**	**21 34 50.9**	**-0.1**
KURK				lAmb	lAmb	21 34 52.0	
	comp=Z,9.4nm,1.1s						
E50A	**Wahnapitae**	**60.15**	**52**	P	**P**	**21 34 52.5**	**+1.1**
	baz=313,SNR=6.6						
J47A	**Sunmer**	**60.16**	**57**	P	**P**	**21 34 51.1**	**-0.4**
LSQQ	**Lebel-sur-Quev**	**60.19**	**48**	P	**P**	**21 34 51.6**	**0.0**
	baz=314						
U40A	**Yellville**	**60.24**	**68**	P	**P**	**21 34 51.3**	**-0.9**
	baz=313						
WMQ	**Urumqi**	**60.32**	**304**	*eP*	**P**	**21 34 55.3**	**+2.6**
WMQ				pP	pwP	21 35 06.3	+1.1
WMQ				LR	LR		
	comp=N,9.0nm,13.7s						
WMQ				LR	LR		
	comp=E,32nm,13.7s						
WMQ				LR	LR		
	comp=Z,72nm,13.7s						
W39A	**Magazine**	**60.47**	**69**	P	**P**	**21 34 53.6**	**-0.2**
	baz=313						
W39A	**Magazine**	**60.47**	**69**	P	**P**	**21 34 52.7**	**-1.1**
W39A				lAmb	lAmb	21 34 55.5	
	comp=Z,3.8nm,0.9s						
SCHQ	**Schefferville**	**60.54**	**38**	P	**P**	**21 34 54.4**	**+0.5**
	comp=Z,3.2nm,0.7s,baz=32,slow=3.5,SNR=4.7						
SCHQ	**Schefferville**	**60.54**	**38**	P	**P**	**21 34 53.7**	**-0.3**
SCHQ				lAmb	lAmb	21 34 55.4	
	comp=Z,11nm,1.2s						
VLDQ	**Val d'Or**	**60.62**	**49**	P	**P**	**21 34 52.7**	**-1.8**
VLDQ				lAmb	lAmb	21 35 08.8	
	comp=Z,4.5nm,0.8s						
E51A	**G1948 Merrick**	**60.70**	**52**	P	**P**	**21 34 55.8**	**+0.7**
	baz=313,SNR=5.2						
CHGQ	**Chibougamau**	**60.82**	**46**	P	**P**	**21 34 55.5**	**-0.4**
	baz=314						
SFIN	**Lafayette**	**60.85**	**61**	P	**P**	**21 34 56.8**	**+0.6**
	baz=313						
SFIN	**Lafayette**	**60.85**	**61**	P	**P**	**21 34 55.6**	**-0.7**
F51A	**Arnstein**	**60.90**	**52**	P	**P**	**21 34 57.2**	**+0.7**
	baz=314						
D52A	**ZEK Kipawa Sen**	**60.93**	**51**	P	**P**	**21 34 57.0**	**+0.3**
	baz=314						
FCAR	**Ozark Folk Cen**	**60.99**	**68**	lAmb	lAmb	21 34 57.2	
	comp=Z,4.4nm,0.9s						
MK31	**Makanchi Array**	**61.07**	**309**	lAmb	lAmb	21 35 09.9	
	comp=Z,4.3nm,1.2s						
MKAR	**Makanchi Array**	**61.07**	**309**	P	**P**	**21 34 57.3**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=52,slow=6.3,SNR=24						
MKAR	**Makanchi Array**	**61.07**	**309**	*iP*	**P**	**21 34 57.2**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s	

WCI pmax pmax
comp=Z,6.0nm,0.9s
WCI Wyandotte Cave 62.77 62 P P 21 35 08.1 -1.1
WCI IAmb IAmb 21 35 10.2
comp=Z,5.6nm,0.8s
HKT Hockley 62.83 75 P P 21 35 08.5 -1.1
HKT pmax pmax
comp=Z,2.0nm,0.9s
HKT Hockley 62.83 75 P P 21 35 08.5 -1.1
E56A St. Veronique 62.89 49 P P 21 35 09.4 -0.5
baz=316
PLVO Plevna 62.95 51 P P 21 35 10.1 -0.2
PLVO IAmb IAmb 21 35 26.0
comp=Z,3.6nm,0.6s
G55A Calabogie 62.98 51 P P 21 35 10.9 +0.4
baz=315
DELO Deloro Mine 63.05 52 P P 21 35 10.9 -0.1
DELO IAmb IAmb 21 35 26.1
comp=Z,8.4nm,1.2s
N51A Ashland 63.08 58 P P 21 35 11.7 +0.5
baz=314
N51A Ashland 63.08 58 P P 21 35 11.1 -0.2
T47A Sharon Grove 63.17 64 P P 21 35 10.5 -1.4
ACSO Alum Creek Sta 63.23 59 P P 21 35 13.2 +0.9
baz=314
ACSO Alum Creek Sta 63.23 59 P P 21 35 11.1 -1.2
ACSO IAmb IAmb 21 35 13.5
comp=Z,6.7nm,0.9s
I55A Frankford 63.23 52 P P 21 35 13.0 +0.8
baz=315
H55A Tweed 63.24 52 P P 21 35 12.7 +0.5
baz=315
WVT Waverly 63.35 65 P P 21 35 13.0 0.0
baz=314
WVT Waverly 63.35 65 P P 21 35 12.1 -1.0
WVT pmax pmax
comp=Z,4.0nm,0.9s
WVT Waverly 63.35 65 P P 21 35 12.1 -1.0
WVT IAmb IAmb 21 35 14.1
comp=Z,4.2nm,0.9s
O51A Pataskala 63.49 59 P P 21 35 14.3 +0.3
baz=315
D58A Chemin du LacG 63.52 47 P P 21 35 16.9 +2.8
baz=316
OXF Oxford 63.55 67 P P 21 35 13.3 -1.1
OXF pmax pmax
comp=Z,19nm,1.1s
OXF Oxford 63.55 67 P P 21 35 13.3 -1.1
M53A WI Miller and 63.63 56 P P 21 35 15.7 +0.8
baz=315
M53A WI Miller and 63.63 56 P P 21 35 14.4 -0.4
H56A Elgin 63.68 51 P P 21 35 15.6 +0.5
baz=316
ARU Arti 63.76 329 *d i* P P 21 35 17.2 +1.8
ARU 21 35 52.0
ARU 21 37 34.6
ARU S S 21 43 52.4 +3.3
ARU SS SS 21 47 59.8 +3.8
ARU pmax pmax
comp=Z,5.0nm,1.0s
ARU Arti 63.76 329 P P 21 35 15.8 +0.3
ARU IAmb IAmb 21 35 18.3
comp=Z,3.8nm,0.9s
ALLY Alegheny Colle 63.76 56 P P 21 35 15.7 0.0
PECO Prince Edward 63.78 52 P P 21 35 14.7 -1.0
J55A Hilton 63.83 53 P P 21 35 15.4 -0.7
J55A IAmb IAmb 21 35 20.7
comp=Z,8.1nm,0.8s
R50A Paris 63.85 61 P P 21 35 15.3 -1.1
R50A IAmb IAmb 21 35 33.1
comp=Z,4.8nm,0.7s
Q51A Peebles 63.87 60 P P 21 35 16.2 -0.3
O52A Adamsville 63.94 58 P P 21 35 17.5 +0.6
baz=315,SNR=7.0
O52A Adamsville 63.94 58 P P 21 35 16.5 -0.4
N53A Lisbon 63.99 57 P P 21 35 17.7 +0.5
baz=315
N53A Lisbon 63.99 57 P P 21 35 16.6 -0.7
N53A IAmb IAmb 21 35 18.7
comp=Z,11nm,1.0s
PLAL Pickwick Lake 64.01 66 P P 21 35 14.6 -2.9
PLAL IAmb IAmb 21 35 17.9
comp=Z,4.9nm,0.8s
WVNY West Valley, N 64.04 54 P P 21 35 15.9 -1.6
P52A Corning 64.11 59 P P 21 35 16.9 -1.2
P52A IAmb IAmb 21 35 19.1
comp=Z,9.2nm,1.0s
M54A Oil Creek Stat 64.12 56 P P 21 35 17.4 -0.7
M54A IAmb IAmb 21 35 31.5
comp=Z,11nm,1.2s
O53A New Philadelph 64.18 58 P P 21 35 19.0 +0.5
baz=315
O53A New Philadelph 64.18 58 P P 21 35 17.8 -0.7
AFI Afiamalu 64.19 173 P P 21 35 18.3 -0.4
AFI Afiamalu 64.19 173 P P 21 35 18.3 -0.4
V48A Smith Brothers 64.20 65 P P 21 35 17.8 -1.0
V48A IAmb IAmb 21 35 19.4
comp=Z,3.5nm,0.8s
CLTN Cedars of Leba 64.24 64 P P 21 35 18.0 -1.0
CLTN IAmb IAmb 21 35 20.2
comp=Z,7.8nm,1.0s
U49A Red Boiling Sp 64.26 63 P P 21 35 18.8 -0.3
U49A IAmb IAmb 21 35 19.6
comp=Z,4.0nm,0.7s
N54A Moraine State 64.33 56 P P 21 35 20.2 +0.7
baz=315
N54A Moraine State 64.33 56 P P 21 35 19.9 +0.4
KMI Kunming 64.35 279 P P 21 35 20.4 +0.3
KMI pmax pmax
comp=Z,11nm,0.8s
T50A Nancy 64.44 62 P P 21 35 20.1 -0.2
T50A IAmb IAmb 21 35 21.5
comp=Z,7.6nm,0.8s
K56A Middlesex 64.49 53 P P 21 35 21.4 +0.8
baz=316
Q52A Bidwell 64.51 59 P P 21 35 21.4 +0.7
baz=315
M55A Ridgway 64.62 55 P P 21 35 22.2 +0.8
baz=316
M55A Ridgway 64.62 55 P P 21 35 21.8 +0.4
M55A IAmb IAmb 21 35 35.0
comp=Z,11nm,1.2s
P53A Whipple 64.62 58 P P 21 35 22.2 +0.7
baz=315
P53A Whipple 64.62 58 P P 21 35 21.2 -0.2
J57A Williamstown 64.66 52 P P 21 35 21.5 -0.1
baz=316
J57A Williamstown 64.66 52 P P 21 35 19.9 -1.7
J57A IAmb IAmb 21 35 22.7
comp=Z,6.7nm,0.9s
O54A Avella 64.68 57 P P 21 35 20.3 -1.5
S51A Beattyville 64.71 61 P P 21 35 21.1 -0.9
S51A IAmb IAmb 21 35 23.1
comp=Z,6.8nm,0.8s
L56A Greenwood 64.77 54 P P 21 35 23.6 +1.2
baz=316
L56A Greenwood 64.77 54 P P 21 35 22.2 -0.2
K57A Scipio Center 64.88 53 P P 21 35 23.5 +0.5
baz=316
M56A Emporium 64.92 55 P P 21 35 23.9 +0.6
baz=316
I58A Old Forge 64.97 51 P P 21 35 23.8 +0.2
baz=316
X48A Hartselle 64.98 66 P P 21 35 22.0 -1.8
X48A IAmb IAmb 21 35 23.9
comp=Z,5.5nm,1.1s
N55A Marion Center 65.00 56 P P 21 35 24.2 +0.4
baz=316
Q53A Leroy 65.00 59 P P 21 35 24.6 +0.7
baz=315,SNR=6.8
P54A Burton 65.04 58 P P 21 35 24.4 +0.3
baz=316
KLMR Klimovskoe 65.13 341 P P 21 35 22.7 -1.6
KLMR pmax pmax
comp=Z,14nm,1.5s
KLMR Klimovskoe 65.13 341 P P 21 35 22.8 -1.6
KLMR AMP 21 35 28.1
comp=Z,14nm,1.5s
R53A Hurricane 65.14 60 P P 21 35 25.6 +0.9
baz=315
R53A Hurricane 65.14 60 P P 21 35 24.5 -0.3
L57A Andrews Acres 65.24 54 P P 21 35 25.9 +0.5
baz=316
Q54A Coxs Mills 65.28 58 P P 21 35 26.4 +0.7
baz=316,SNR=5.4
Q54A Coxs Mills 65.28 58 P P 21 35 25.1 -0.6

K58A Earlville 65.30 52 P P 21 35 25.7 -0.1
baz=316
K58A Earlville 65.30 52 P P 21 35 25.3 -0.5
K58A IAmb IAmb 21 35 40.5
comp=Z,8.4nm,1.1s
D62A Allapoint, All 65.31 45 P P 21 35 26.3 +0.6
baz=318
P55A Reedsville 65.46 57 P P 21 35 27.9 +1.0
baz=316
W50A Signal Mountai 65.46 64 P P 21 35 26.5 -0.5
W50A IAmb IAmb 21 35 27.9
comp=Z,9.5nm,1.1s
TZTN Tazewell 65.51 62 P P 21 35 27.5 +0.3
baz=316
TZTN Tazewell 65.51 62 P P 21 35 26.8 -0.4
TZTN IAmb IAmb 21 35 28.7
comp=Z,5.5nm,0.9s
BINY Binghamton 65.54 53 P P 21 35 28.1 +0.7
baz=316
M57A Sunshine Farm, 65.57 54 P P 21 35 28.4 +0.8
baz=316
M57A Sunshine Farm, 65.57 54 P P 21 35 27.2 -0.3
M57A IAmb IAmb 21 35 29.5
comp=Z,7.7nm,1.1s
O56A Blue Knob Stat 65.59 56 P P 21 35 28.4 +0.7
baz=316
O56A Blue Knob Stat 65.59 56 P P 21 35 26.2 -1.5
O56A IAmb IAmb 21 35 29.0
comp=Z,7.0nm,1.0s
SSPA Standing Stone 65.68 55 P P 21 35 28.5 +0.2
baz=316
SSPA Standing Stone 65.68 55 P P 21 35 27.4 -0.8
SSPA IAmb IAmb 21 35 29.8
comp=Z,10nm,1.1s
Q55A Buckhannon 65.69 58 P P 21 35 29.6 +1.2
baz=316,SNR=5.3
L58A Harry Jones Me 65.72 53 P P 21 35 29.7 +1.1
baz=317
CPCT Cooper Cave 65.73 63 P P 21 35 27.9 -0.8
CPCT IAmb IAmb 21 35 29.6
comp=Z,8.9nm,1.4s
FPAL Fort Paine 65.75 65 P P 21 35 27.4 -1.5
T53A Wise 65.77 61 P P 21 35 29.8 +0.8
baz=316
R54A Victor 65.77 59 P P 21 35 29.9 +1.0
baz=316,SNR=9.0
S54A Dingess, Beckl 65.87 60 P P 21 35 30.5 +0.9
baz=316
S54A Dingess, Beckl 65.87 60 P P 21 35 29.7 +0.1
V52A Sevierville 65.98 62 P P 21 35 29.0 -1.3
V52A IAmb IAmb 21 35 31.1
comp=Z,6.0nm,0.8s
P56A Dayton Farm, R 65.99 57 P P 21 35 31.1 +0.9
baz=316
G62A West of Eustis 66.01 48 P P 21 35 30.2 -0.1
baz=318
TKL Tuckaleechee C 66.01 63 P P 21 35 30.6 +0.1
comp=Z,5.1nm,0.9s,baz=299,slow=5.3,SNR=7.1
TKL Tuckaleechee C 66.01 63 P P 21 35 30.0 -0.5
TKL pmax pmax
comp=Z,7.0nm,1.0s
TKL Tuckaleechee C 66.01 63 P P 21 35 30.0 -0.5
TKL IAmb IAmb 21 35 31.5
comp=Z,7.0nm,0.9s
L59A Walton 66.03 52 P P 21 35 31.5 +1.0
baz=317
O57A Amberson 66.12 55 P P 21 35 31.7 +0.6
baz=316
X51A Calhun 66.17 64 P P 21 35 28.3 -3.2
R55A Marlinton 66.18 58 P P 21 35 32.3 +0.7
baz=316,SNR=5.0
R55A Marlinton 66.18 58 P P 21 35 31.2 -0.4
H62A Milan 66.19 48 P P 21 35 31.9 +0.4
baz=318
H62A Milan 66.19 48 P P 21 35 29.5 -2.0
H62A IAmb IAmb 21 35 32.6
comp=Z,8.5nm,0.8s
T54A Tazewell 66.25 60 P P 21 35 33.1 +1.0
baz=316,SNR=8.9
M59A Waymart 66.30 53 P P 21 35 32.4 +0.2
baz=317
S55A Lewisburg 66.33 59 P P 21 35 33.2 +0.6
baz=316
E64A Bridgewater 66.36 45 P P 21 35 32.4 -0.1
baz=319
J61A Chester 66.42 50 P P 21 35 33.7 +0.7
baz=318
P57A Homestead Farm 66.45 56 P P 21 35 33.6 +0.4
baz=316
P57A Homestead Farm 66.45 56 P P 21 35 33.1 -0.1
P57A IAmb IAmb 21 35 34.5
comp=Z,8.2nm,1.1s
R56A Bull Pasture M 66.48 58 P P 21 35 33.6 +0.1
baz=316
U54A Nelsons Funny 66.50 61 P P 21 35 34.5 +0.8
baz=316
U54A Nelsons Funny 66.50 61 P P 21 35 32.6 -1.0
V53A Saluda 66.55 62 P P 21 35 33.1 -0.9
V53A IAmb IAmb 21 35 35.4
comp=Z,6.9nm,0.8s
N59A State Game Lan 66.58 54 P P 21 35 33.8 -0.2
baz=317
T55A Pulaski 66.65 60 P P 21 35 35.6 +1.0
baz=316
BLA Blacksburg 66.78 59 P P 21 35 36.1 +0.7
baz=316
BLA Blacksburg 66.78 59 P P 21 35 35.4 0.0
BLA pmax pmax
comp=Z,12nm,0.8s
BLA Blacksburg 66.78 59 P P 21 35 35.4 0.0
M60A Port Jervis 66.87 53 P P 21 35 36.8 +0.9
baz=317
S56A Natural Bridge 66.92 59 P P 21 35 37.1 +0.9
baz=316
FINES FINESS Array B 66.92 348 P P 21 35 35.6 -0.2
comp=Z,1.9nm,0.7s,baz=21,slow=7.0,SNR=9.9
FINES FINESS Array B 66.92 348 *i* P P 21 35 35.5 -0.3
FINES pmax pmax
comp=Z,2.0nm,0.7s
U55A TA2, Sparta 66.95 60 P P 21 35 37.1 +0.6
baz=316,SNR=5.8
N60A Cedar Hill Far 66.96 53 P P 21 35 37.3 +0.9
baz=317
V54A Nebo 66.96 61 P P 21 35 37.1 +0.5
baz=316,SNR=6.4
BG3 Lake Jocassee 66.97 63 P P 21 35 35.0 -1.6
BG3 IAmb IAmb 21 35 38.6
comp=Z,9.0nm,1.2s
Q58A Fox Den Farm, 67.02 56 P P 21 35 37.2 +0.4
baz=317
R57A Stanardsville 67.03 57 P P 21 35 37.9 +0.9
baz=317
BOOM Boomskoye usch 67.31 310 P P 21 35 39.2 +0.3
BOOM pmax pmax
comp=Z,15nm,1.5s
BOOM Boomskoye usch 67.31 310 P P 21 35 39.2 +0.3
BOOM IAmb IAmb 21 35 40.9
comp=Z,15nm,1.5s
R58A Rapidan 67.31 57 P P 21 35 39.1 +0.4
baz=317
V55A Taylorsville 67.32 61 P P 21 35 39.5 +0.7
baz=316,SNR=5.2
V55A Taylorsville 67.32 61 P P 21 35 37.4 -1.4
W54A Cherokee Point 67.33 62 P P 21 35 39.4 +0.5
baz=316
T57A Hurt 67.58 59 P P 21 35 40.8 +0.4
baz=317
T57A Hurt 67.58 59 P P 21 35 39.5 -0.9
X54A Belton 67.61 63 P P 21 35 41.0 +0.3
baz=316,SNR=5.2
R58B Mineral 67.62 57 P P 21 35 41.4 +0.8
baz=317
R58B Mineral 67.62 57 P P 21 35 40.1 -0.6
R58B IAmb IAmb 21 35 42.4
comp=Z,9.0nm,1.1s
FRU1 Bishkek 67.71 311 P P 21 35 41.2 -0.1
FRU1 pmax pmax
comp=Z,8.0nm,0.8s
FRU1 Bishkek 67.71 311 P P 21 35 41.2 -0.1
PAULI Pauline 67.73 62 P P 21 35 40.8 -0.7
PAULI IAmb IAmb 21 35 42.6
comp=Z,10nm,1.0s
WES Weston 67.74 50 P P 21 35 40.0 -1.3
WES pmax pmax
comp=Z,7.0nm,0.9s
WES Weston 67.74 50 P P 21 35 40.0 -1.3
WES IAmb IAmb 21 35 56.5

comp=Z,7.5nm,0.9s
V56A Mocksville 67.75 61 P P 21 35 42.0 +0.4
baz=317
KMSC Kings Mountain 67.77 62 P P 21 35 42.3 +0.7
baz=317,SNR=6.5
KMSC Kings Mountain 67.77 62 P P 21 35 40.8 -0.8
GOGA Godfrey 67.80 64 P P 21 35 41.4 -0.5
baz=316
GOGA Godfrey 67.80 64 P P 21 35 39.6 -2.3
GOGA pmax pmax
comp=Z,5.0nm,0.9s
GOGA Godfrey 67.80 64 P P 21 35 39.5 -2.3
GOGA IAmb IAmb 21 35 42.9
comp=Z,5.4nm,0.8s
HODGE Hodges 67.90 63 P P 21 35 42.0 -0.5
HODGE IAmb IAmb 21 35 43.6
comp=Z,7.3nm,0.7s
AAK Ala-Archa 67.91 311 ⇓ *e* P P 21 35 43.3 +0.7
AAK pmax pmax
comp=Z,9.0nm,1.7s
AAK Ala-Archa 67.91 311 P P 21 35 42.1 -0.5
AAK IAmb IAmb 21 35 44.5
comp=Z,5.0nm,0.9s
U57A Blanch 67.94 59 P P 21 35 43.5 +0.8
baz=317,SNR=5.3
T58A Grand View Acr 68.01 58 P P 21 35 43.5 +0.4
baz=317
X55A Gracelyn & Ava 68.09 62 P P 21 35 44.2 +0.6
baz=317
V57A Coltrane Farms 68.10 60 P P 21 35 44.0 +0.3
baz=317
W56A Indian Trail 68.20 61 P P 21 35 44.7 +0.3
baz=317
LSA Lhasa 68.25 291 P P 21 35 45.9 +0.5
LSA pmax pmax
comp=Z,3.0nm,0.8s
LSA Lhasa 68.25 291 P P 21 35 45.9 +0.5
Y55A Saluda 68.34 63 P P 21 35 45.8 +0.6
baz=317
X56A White Oak 68.41 62 P P 21 35 46.4 +0.7
baz=317
JSC Jenkinsville 68.43 62 P P 21 35 45.2 -0.6
JSC pmax pmax
comp=Z,3.0nm,0.7s
JSC Jenkinsville 68.43 62 P P 21 35 45.2 -0.6
W57A Gilead 68.51 61 P P 21 35 46.6 +0.3
baz=317
W57A Gilead 68.51 61 P P 21 35 45.1 -1.2
W57A IAmb IAmb 21 35 47.1
comp=Z,6.0nm,0.7s
T59A Double "B" Far 68.53 58 P P 21 35 47.1 +0.7
baz=317
T59A Double "B" Far 68.53 58 P P 21 35 46.2 -0.1
V58A Windy Hill, Pi 68.53 60 P P 21 35 47.3 +0.9
baz=317
V58A Windy Hill, Pi 68.53 60 P P 21 35 46.1 -0.3
V58A IAmb IAmb 21 35 48.4
comp=Z,15nm,1.2s
BIRD Birdtown, Kers 68.62 61 P P 21 35 45.9 -1.1
NB2 NORSAR Subarra 68.74 355 P P 21 35 47.3 -0.1
comp=Z,3.9nm,1.0s,baz=7.5,slow=6.5
NOA NORSAR Array B 68.74 355 P P 21 35 47.6 +0.2
comp=Z,2.3nm,0.8s,baz=5.6,slow=6.3,SNR=7.6
NOA LR LR 22 04 24.9
comp=Z,12nm,21.8s,baz=350,slow=35
W58A Raeford 69.03 60 P P 21 35 50.3 +0.7
baz=317
V59A Middlesex 69.04 59 P P 21 35 50.5 +0.9
baz=318,SNR=5.6
ABKAR Akbulak array 69.07 323 P P 21 35 49.1 -0.5
X58A Rowland 69.32 61 P P 21 35 50.5 -0.8
255A Hazlehurst 69.45 65 P P 21 35 50.7 -1.5
KK31 Karatay Array 69.45 313 IAmb IAmb 21 35 53.4
comp=Z,4.4nm,0.9s
KKAR Karatay Array 69.45 313 P P 21 35 52.2 +0.1
KKAR Karatay Array 69.45 313 P P 21 35 52.2 +0.1
KKAR Karatay Array 69.45 313 IAmb IAmb 21 35 53.4
comp=Z,4.4nm,0.9s
KSH Kashi 69.52 307 *e* P P 21 35 57.1 +4.4
KSH pmax pmax
comp=Z,15nm,0.7s
KSH pmax pmax
comp=Z,160nm,4.6s
ARSB Arslanbob 69.64 311 P P 21 35 53.1 -0.3
ARSB pmax pmax
comp=Z,6.0nm,0.9s
ARSB Arslanbob 69.64 311 P P 21 35 53.1 -0.3
ARSB IAmb IAmb 21 35 55.4
comp=Z,5.7nm,0.8s
VSU Vasula 69.70 346 ⇑ *e* P P 21 35 53.3 +0.1
VSU pmax pmax
comp=Z,31nm,1.0s
OBN Obninsk 71.03 340 *e* P P 21 36 01.0 -0.4
OBN *e* 21 36 21.1
OBN *e* 21 38 35.9
OBN *e* PPP PPP 21 40 20.6
OBN pmax pmax
comp=Z,19nm,1.7s
CMAR Chiang Mai Arr 71.60 277 P P 21 36 05.4 -0.1
comp=Z,2.4nm,0.8s,baz=30,slow=6.4,SNR=18
CMAR Chiang Mai Arr 71.60 277 *i* P P 21 36 05.6 +0.1
CMAR pmax pmax
comp=Z,2.0nm,0.8s
BTK Batken 71.66 311 P P 21 36 05.9 +0.2
BTK pmax pmax
comp=Z,6.0nm,0.6s
BTK Batken 71.66 311 P P 21 36 05.9 +0.2
BTK IAmb IAmb 21 36 20.4
comp=Z,6.2nm,0.6s
NIL Nilore 75.41 305 P P 21 36 29.1 +1.3
NIL pmax pmax
comp=Z,10.0nm,0.9s
NIL Nilore 75.41 305 P P 21 36 29.1 +1.3
NIL IAmb IAmb 21 36 29.6
comp=Z,10.0nm,0.9s
AKASG Malin Array Be 76.70 343 P P 21 36 35.1 +0.3
comp=Z,5.0nm,0.7s,baz=21,slow=6.0,SNR=15
AKBB Malin Array Si 76.70 343 ⇑ *e* P P 21 36 35.1 +0.3
AKBB Malin Array Si 76.70 343 IAmb IAmb 21 36 47.7
comp=Z,7.2nm,0.8s
CLL Collm 78.31 353 *e* (P) P 21 36 44.0 +0.2
CLL Collm 78.31 353 *e* P P 21 36 44.0 +0.2
GOF Gofitskoye 78.52 332 ⇑ *e* P P 21 36 46.1 +1.1
GOF pmax pmax
comp=Z,32nm,0.9s
PVCC Panska Ves 78.95 352 *e* P P 21 36 48.1 +0.8
PVCC Panska Ves 78.95 352 *e* P P 21 36 48.1 +0.8
DPC Dobruska-Polom 78.96 351 *e* P P 21 36 48.3 +0.9
DPC Dobruska-Polom 78.96 351 *e* P P 21 36 48.3 +0.9
GEYT Alibeck 79.19 318 P P 21 36 48.6 -0.3
comp=Z,0.7nm,0.4s,baz=76,slow=6.1,SNR=3.7
GEYT Alibeck 79.19 318 IAmb IAmb 21 36 50.6
comp=Z,2.1nm,1.1s
SORM Soroca 79.33 342 ⇑ P P 21 36 50.0 +0.6
MORC Moravsky Berou 79.39 350 ⇑ P P 21 36 49.6 -0.2
PRU Pruhonice 79.49 352 *e* P P 21 36 50.8 +0.5
PRU *ex* x 21 37 02.9
PRU Pruhonice 79.49 352 *e* P P 21 36 50.8 +0.5
PRU *e* 21 37 02.9
KOLS Kolonicke sedl 79.60 347 *e* P P 21 36 51.9 +1.0
KOLS pmax pmax
comp=Z,3.0nm,0.9s
KOLS Kolonicke sedl 79.60 347 *e* P P 21 36 51.9 +1.0
KIV Kislovodsk 79.63 331 *e* P P 21 36 52.7 +1.5
KIV pmax pmax
comp=Z,28nm,1.0s
KIV Kislovodsk 79.63 331 P P 21 36 52.1 +0.8
KIV IAmb IAmb 21 36 53.6
comp=Z,15nm,1.3s
BMRD Maredsous 79.73 358 P P 21 36 52.7 +1.2
CRVS Cervenica-Dubn 79.75 347 *e* P P 21 36 52.7 +1.0
CRVS Cervenica-Dubn 79.75 347 *e* P P 21 36 52.7 +1.0
KBZ Khabaz 79.77 331 P P 21 36 52.6 +0.7
comp=Z,5.9nm,0.8s,baz=326,slow=2.4,SNR=8.1
KBZ Khabaz 79.77 331 *e* *e* P P 21 36 53.1 +1.3
KBZ pmax pmax
comp=Z,11nm,1.0s
LANS Liptovska Anna 79.78 348 *e* P P 21 36 53.6 +1.7
LANS pmax pmax
comp=Z,5.0nm,1.3s
LANS Liptovska Anna 79.78 348 *e* P P 21 36 53.6 +1.7
UZH Uzhgorod 79.89 346 P P 21 36 53.5 +1.1
VRAC Vranov 79.96 350 ⇓ P P 21 36 54.0 +1.1
ZEI Tsey 80.30 330 *e* P P 21 36 55.0 0.0
ZEI *e* 21 37 07.3

ZEI pmax pmax
comp=Z,28nm,1.2s
WLF Walferdange 80.33 357 P **P** 21 36 55.7 +0.9
TRPA Tarpa 80.34 346 ⇓P **P** 21 36 56.3 +1.4
BUR08 Bucovina Ar. S 80.38 344 IAmb IAmb 21 36 57.2
comp=Z,6.6nm,0.9s
BURAR Bucovina Array 80.40 344 ⇑P **P** 21 36 56.5 +1.1
BURAR Bucovina Array 80.40 344 P **P** 21 36 56.1 +0.7
KHC Kasperske Hory 80.43 352 *eP* **P** 21 36 56.4 +1.0
KHC *ex* x 21 37 08.5
KHC Kasperske Hory 80.43 352 *deP* **P** 21 36 55.8 +0.4
KHC pmax pmax
comp=Z,12nm,1.3s
VYHS Vyhne 80.50 349 *eP* **P** 21 36 56.7 +0.9
VYHS *e* 21 37 08.5
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 80.50 349 *eP* **P** 21 36 56.7 +0.9
VYHS *e* 21 37 08.5
GERES GERESS Array B 80.70 352 P **P** 21 36 57.3 +0.4
comp=Z,1.2nm,0.6s,baz=28,slow=6.0,SNR=14
MODS Modra-Piesok 80.81 350 *eP* **P** 21 36 58.0 +0.6
MODS pmax pmax
comp=Z,7.0nm,1.2s
MODS Modra-Piesok 80.81 350 *eP* **P** 21 36 58.0 +0.6
BIZ Bicaz 80.90 344 ⇑P **P** 21 36 59.5 +1.6
ARCR ARCALIA 81.06 345 ⇑P **P** 21 37 00.8 +2.0
CONA Conrad Observa 81.40 351 *e*PcP **P** 21 37 02.1 +1.4
comp=Z,3.4nm,0.8s
CONA *es*P **pwP** 21 37 13.3 0.0
comp=Z,3.1nm,0.8s
WRA Warramunga Arr 81.58 225 P **P** 21 37 01.2 -0.6
comp=Z,2.3nm,0.7s,baz=35,slow=5.6,SNR=7.9
WRA Warramunga Arr 81.58 225 IAmb IAmb 21 37 02.6
comp=Z,0.2nm,0.9s
DRGR 81.62 346 ⇓P **P** 21 37 02.4 +0.6
AKH Akhalkalaki 81.67 330 ⇑P **P** 21 37 04.1 +1.8
AKH Akhalkalaki 81.67 330 P **P** 21 37 04.1 +1.8
AKH Akhalkalaki 81.67 330 IAmb IAmb 21 37 04.6
comp=Z,12nm,1.0s
DOPR Dopca 81.97 344 ⇑P **P** 21 37 05.5 +1.8
ARSA Arzberg 82.11 351 *e*PcP **P** 21 37 05.8 +1.4
comp=Z,3.4nm,0.9s
ARSA *es*P **pwP** 21 37 17.6 +0.7
comp=Z,2.4nm,0.8s
RETA Reutte 82.28 354 *e*PcP **P** 21 37 06.1 +0.8
comp=Z,3.9nm,1.4s
MLR Muntele Rosu 82.33 343 ⇓P **P** 21 37 07.2 +1.6
MLR Muntele Rosu 82.33 343 IAmb IAmb 21 37 08.6
comp=Z,6.7nm,0.9s
WATA Walderalm 82.37 353 PcP **P** 21 37 07.0 +1.1
comp=Z,5.4nm,1.1s,SNR=4.2
WATA *es*P **pwP** 21 37 19.3 +0.8
comp=Z,6.6nm,0.9s
MOTA Moosalm 82.40 354 *e*PcP **P** 21 37 07.0 +1.0
comp=Z,5.9nm,1.2s
MOTA *es*P **pwP** 21 37 18.3 -0.3
comp=Z,4.2nm,1.2s
WTTA Wattenberg 82.44 353 *e*PcP **P** 21 37 07.6 +1.3
comp=Z,4.5nm,0.8s,SNR=5.8
WTTA *es*P **pwP** 21 37 19.5 +0.7
comp=Z,8.8nm,0.9s
KBA Koelnbreinsper 82.48 352 *e*PcP **P** 21 37 08.2 +1.7
comp=Z,11nm,0.8s
KBA *es*P **pwP** 21 37 20.2 +1.1
comp=Z,16nm,0.9s
SQTA Sankt Quirin 82.51 354 *e*PcP **P** 21 37 07.7 +1.2
comp=Z,4.1nm,0.8s
SQTA *i* sP **pwP** 21 37 19.4 +0.2
comp=Z,3.1nm,0.7s
VOIR 82.54 344 ⇓P **P** 21 37 08.3 +1.6
ARR Arges 82.68 344 ⇑P **P** 21 37 09.1 +1.7
SOKA Soboth 82.72 351 PcP **P** 21 37 08.9 +1.2
comp=Z,6.7nm,0.9s,SNR=6.9
SOKA *es*P **pwP** 21 37 20.6 +0.4
comp=Z,8.7nm,1.1s
FETA Feichten 82.75 354 *e*PcP **P** 21 37 09.0 +1.2
comp=Z,5.4nm,1.0s
FETA *es*P **pwP** 21 37 21.4 +0.9
comp=Z,6.3nm,1.0s
PERS Pernice 82.76 351 *i* P **P** 21 37 08.7 +0.9
PERS *ep*P **pwP** 21 37 20.7 +0.3
ABTA Abfaltersbach 82.88 353 PcP **P** 21 37 09.3 +0.8
comp=Z,7.4nm,1.1s,SNR=5.0
ABTA *es*P **pwP** 21 37 21.7 +0.6
comp=Z,5.0nm,0.9s
GROS Grobnik 82.89 351 *i* P **P** 21 37 09.1 +0.6
MYKA Terra Mystica 82.90 352 *e*PcP **P** 21 37 09.7 +1.1
comp=Z,1.3nm,0.7s
BZS Buzias 82.93 346 ⇑P **P** 21 37 09.5 +0.9
OBKA Obir 82.94 351 PcP **P** 21 37 09.7 +1.0
comp=Z,3.1nm,0.7s,SNR=4.0
OBKA *es*P **pwP** 21 37 22.2 +0.8
comp=Z,3.4nm,0.7s
SSF Saint Saulge 82.99 359 *eP* **P** 21 37 09.6 +0.7
SSF pmax pmax
comp=Z,6.0nm,1.1s
PRED Cave del Predi 83.10 352 IAmb IAmb 21 37 23.0
comp=Z,4.6nm,0.9s
HERR Herculane 83.53 346 ⇑P **P** 21 37 12.5 +0.8
MDVR Moldovita 83.73 346 ⇑P **P** 21 37 12.7 -0.1
COPA Copaceanca 83.77 343 ⇑P **P** 21 37 12.9 -0.1
GBRS Gornja Briga 83.88 351 *i* P **P** 21 37 13.9 +0.3
FITZ Fitzroy Crossi 84.19 233 P **P** 21 37 15.1 -0.1
FITZ IAmb IAmb 21 37 17.4
comp=Z,8.0nm,1.0s
DIVS Divibare 84.66 347 P **P** 21 37 17.6 0.0
DIVS IAmb IAmb 21 37 31.2
comp=Z,7.0nm,1.0s
ILGA Ilgaz 84.84 336 P **P** 21 37 18.4 -0.4
BNI Bardonecchia 84.92 357 P **P** 21 37 18.8 -0.2
BNI pmax pmax
comp=Z,10.0nm,1.0s
BNI Bardonecchia 84.92 357 P **P** 21 37 18.8 -0.2
ASAR Alice Springs 85.03 223 P **P** 21 37 18.9 -0.6
comp=Z,1.5nm,0.8s,baz=27,slow=4.9,SNR=10
ASAR Alice Springs 85.03 223 P **P** 21 37 19.3 -0.2
ASAR Alice Springs 85.03 223 P **P** 21 37 19.3 -0.2
ZCCA Zocca 85.39 354 P **P** 21 37 20.0 -1.2
BRTR Keskin Array B 86.11 336 P **P** 21 37 25.2 +0.2
comp=Z,2.7nm,0.8s,baz=94,slow=2.1,SNR=10
BRTR Keskin Array B 86.11 336 *i* P **P** 21 37 25.7 +0.7
BRTR pmax pmax
comp=Z,3.0nm,0.8s
OSSC Osservatorio P 86.19 353 P **P** 21 37 24.6 -0.6
MURB Monte Urbino 86.34 352 P **P** 21 37 25.7 -0.3
NRCA Norcia 86.72 352 P **P** 21 37 26.9 -1.0
NRCA IAmb IAmb 21 37 42.4
comp=Z,6.6nm,1.0s
INTR Introdacqua 87.46 351 P **P** 21 37 27.3 -4.1
INTR IAmb IAmb 21 37 28.8
comp=Z,8.5nm,1.2s
STKA Stephens Creek 89.30 213 P **P** 21 37 40.7 +0.8
comp=Z,1.5nm,0.9s,baz=360,slow=2.9,SNR=5.9
ESDC Sonseca Array 90.23 5 P **P** 21 37 44.1 -0.5
comp=Z,1.6nm,1.1s,baz=343,slow=5.0,SNR=6.5
ESDC Sonseca Array 90.23 5 P **P** 21 37 44.7 +0.1
TORD Torodi Ar. Bea 116.81 0 PKP **PKPdf** 21 43 28.1 -0.6
comp=Z,0.7nm,1.0s,baz=349,slow=3.9,SNR=2.9
PLCA Paso Flores 130.19 108 PKP **PKPdf** 21 43 53.8 +0.2
comp=Z,0.9nm,0.6s,baz=244,slow=3.6,SNR=3.4
BOSA Boshof 152.04 312 PKPbc **PKiKP** 21 44 39.5 -0.1
comp=Z,5.1nm,0.7s,baz=49,slow=2.3,SNR=12

PRU 21 21:29:23.2±0.0, 49.82N×18.53E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.25**	**274**	*e*PG	Pg	21 29 28.3	+0.3
OKC				*e*SG	Sg	21 29 32.5	+1.3
	comp=Z,11nm,0.7s						
MORC	**Moravsky Berou**	**0.64**	**267**	*e*PG	Pg	21 29 35.6	+0.1
MORC				*e*SG	Sg	21 29 43.4	-0.4
LANS	**Liptovska Anna**	**0.91**	**137**	*e*PG	Pg	21 29 39.9	-0.7
LANS				*e*SG	Sg	21 29 53.1	+0.8
LANS				*e*LG	Lg	21 29 56.0	
JAVC	**Velka Javorina**	**1.11**	**211**	*e*PG	Pg	21 29 44.5	0.0
VYHS	**Vyhne**	**1.34**	**171**	*e*PG	Pg	21 29 47.7	-1.2
VYHS				*e*SG	Sg	21 30 06.0	-0.3
VRAC	**Vranov**	**1.36**	**249**	*e*PG	Pg	21 29 48.4	-0.9
VRAC				*e*SG	Sg	21 30 06.0	-0.9
DPC	**Dobruska-Polom**	**1.52**	**291**	*e*PG	Pn	21 29 50.8	-0.9
DPC				*e*SG	Sg	21 30 11.5	-0.4
	comp=Z,2.9nm,0.7s						
KRUC	**Moravsky**	**1.59**	**242**	*e*PG	Pn	21 29 51.9	-0.6
KRUC				*e*SG	Sn	21 30 13.0	-0.8
OSTC	**Ostas**	**1.66**	**297**	*e*PG	Pn	21 29 53.5	-0.1
OSTC				*e*SG	Sb	21 30 16.0	-0.1
UPC	**Upice**	**1.76**	**294**	*e*SG	Sg	21 30 19.4	-0.3
CHVC	**Chvalec**	**1.77**	**297**	*e*SG	Sg	21 30 19.9	0.0
GOPC	**GO Pecny, Ondr**	**2.42**	**274**	*e*SG	Sg	21 30 40.8	-0.2
KHC	**Kasperske Hory**	**3.30**	**260**	*e*SG	Sg	21 31 08.2	-1.0

IDC 21 21:39:10.9±18.0, 26.93S×67.63E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/40, mbtmp3.6/4, Error ellipse: s-maj=619.3km s-min=44.6km az=50.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Garcia H**	**19.73**	**14**	T	T	22 03 22.8	
	baz=193						
H08S2	**Diego Garcia H**	**19.73**	**14**	T	T	22 03 22.5	
	baz=193						
H08S3	**Diego Garcia H**	**19.74**	**14**	T	T	22 03 22.7	
	baz=193						
ASAR	**Alice Springs**	**59.39**	**103**	P	P	21 49 15.3	-0.2
	0.4nm,0.8s,baz=250,slow=6.5,SNR=4.6						
WRA	**Warramunga Arr**	**61.00**	**99**	P	P	21 49 26.7	+0.1
	0.9nm,1.1s,baz=257,slow=8.7,SNR=1.7						
ZALV	**Zalesovo Beam**	**81.91**	**10**	P	P	21 51 31.6	-0.3
	0.6nm,0.6s,baz=184,slow=5.8,SNR=3.5						
SONM	**Songino Array**	**82.18**	**25**	P	P	21 51 34.1	+0.4
	0.2nm,0.3s,baz=203,slow=6.3,SNR=2.2						

NNC 21 21:50:51.9±6.4, 37.14N×71.04E, h0km, mb4.0, mpv3.6, 3C-3D, Error ellipse: s-maj=53.3km s-min=46.6km az=138.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**5.39**	**22**	P	Pn	21 52 14.7	+0.8
	SNR=43						
UCH	**Uchtor**	**5.74**	**27**	P	Pn	21 52 19.3	+0.5
	SNR=26						
EKS2	**Erkin-Say**	**5.90**	**20**	P	Pn	21 52 21.4	+0.8
	SNR=6.5						
KK31	**Karatay Array**	**5.97**	**356**	⇑P	Pn	21 52 22.5	+1.0
	0.5nm,0.2s,baz=194,slow=15,SNR=35						
KK31				⇓S	Sn	21 53 31.2	+0.6
	7.4nm,0.8s,baz=198,slow=24,SNR=14						
AAK	**Ala-Archa**	**6.10**	**25**	P	Pn	21 52 23.9	+0.5
	SNR=5.5						
AAK	**Ala-Archa**	**6.10**	**25**	⇑P	Pn	21 52 23.2	-0.2
	3.2nm,0.4s						
AAK				⇓S	Sn	21 53 36.4	+2.4
	5.0nm,0.6s						
KBK	**Karagaybulak**	**6.28**	**27**	P	Pn	21 52 26.6	+0.7
	SNR=5.2						
TKM2	**Tokmak 2**	**6.75**	**30**	P	Pn	21 52 32.2	-0.2
	SNR=12						
TKM2	**Tokmak 2**	**6.75**	**30**	⇓P	Pn	21 52 31.6	-0.7
	8.4nm,0.7s						
TKM2				⇑S	Sn	21 53 50.2	+0.1
	3.7nm,0.9s						

*UNK **21** 21:51:50.5, 0.10S×122.94E, h117km*
*MOS **21** 21:51:50.7±1.2, 0.00S×122.88E, h129km, mb5.6/61, Error ellipse: s-maj=6.5km s-min=3.8km az=113.9*
*NEIC **21** 21:51:50.5±1.9, 0.10S±0.06×122.94E±0.06, h117km±1km, mb5.7/269, Mwb5.4/29, Mwc5.5(GCMT), Error ellipse: s-maj=11.0km s-min=10.3km az=8.0*
*NEIC **21** 21:51:50.6, 0.12S×122.92E, h114km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.13; $M_{\theta\theta}$-0.43; $M_{\phi\phi}$-0.71; $M_{r\theta}$0.71; $M_{\theta\phi}$0.69; $M_{r\theta}$0.43; Fault plane solution: $M_0$1.47000×10^{17} NP1:ϕ_s113.81000°, δ54.95000°, λ53.40000°. NP2:ϕ_s346.10000°, δ48.91000°, λ130.37000°. Principal axes: T 1.6022, Plg61.0000°, Azm325.0000°; N -0.3236, Plg29.0000°, Azm137.0000°; P -1.2786, Plg3.0000°, Azm229.0000°;*
*BJI **21** 21:51:51.0±0.0, 0.00N×123.00E, h123km, mB5.7/62, mb5.7/83*
*DJA **21** 21:51:51.6±0.1, 0.7S±1.2×122.3E±0.5, h102km±2km, M5.4/78, mB5.9/71, mb5.7/78, MLv6.1/24, Mw(mB)5.5/71, Mwp5.4/25*
*GCMT **21** 21:51:51.5±0.1, 0.03S±0.01×122.99E±0.01, h123km, MW5.4/162, Moment Tensor Solution. s143,c240; s162,c322; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}1.17±.01; $M_{\theta\theta}$0.27±.02; $M_{\phi\phi}$-1.44±.02; $M_{r\theta}$0.69±.01; $M_{\theta\phi}$0.69±.02; $M_{r\theta}$0.50±.01; Best double couple: $M_0$1.72200×10^{17} NP1:ϕ_s131.00000°, δ49.00000°, λ43.00000°. NP2:ϕ_s10.00000°, δ59.00000°, λ130.00000°. Principal axes: T 1.7380, Plg56.0000°, Azm335.0000°; N -0.0300, Plg33.0000°, Azm166.0000°; P -1.7050, Plg5.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **21** 21:51:52.0±0.8, 0.07S×122.85E, h126km±6km, mb5.1/33, mb1 5.2/39, mb1mx5.2/41, mbtmp5.5/39, MS4.1/18, Ms1 4.1/18, ms1mx3.9/34 Error ellipse: s-maj=9.5km s-min=5.5km az=66.0*
*NEIC **21** 21:51:53, 0.02S×123.02E, h125km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.22; $M_{\theta\theta}$0.26; $M_{\phi\phi}$-1.48; $M_{r\theta}$0.70; $M_{\theta\phi}$0.71; $M_{r\theta}$0.48; Fault plane solution: $M_0$1.76000×10^{17} NP1:ϕ_s132.00000°, δ50.00000°, λ44.00000°. NP2:ϕ_s9.00000°, δ58.00000°, λ130.00000°. Principal axes: T 1.7719, Plg57.0000°, Azm335.0000°; N -0.0199, Plg33.0000°, Azm165.0000°; P -1.7519, Plg5.0000°, Azm72.0000°;*
*KLM **21** 21:51:53.0, 0.07S×123.10E, h137km, mb5.7*

ISC 21 21:51:51.5±0.2, 0.07S±0.02×122.95E±0.03, h126km±1km, h126km:pP-P,n1550,σ1§40/1772,mb5.7/269,105C-16D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.98**	**191**	P	**Pn**	**21 52 11.7**	**-2.2**
LUWI				S	**Sn**	**21 52 27.8**	**-3.0**
LUWI	**Luwuk**	**0.98**	**191**	Pn	**Pn**	**21 52 11.9**	**-2.0**
MRSI	**Marisa**	**1.15**	**298**	P	**Pn**	**21 52 14.2**	**-1.3**
MRSI				S	**Sn**	**21 52 31.0**	**-2.7**
KMSI	**Cibinong**	**1.22**	**58**	P	**Pn**	**21 52 16.7**	**+0.5**
KMSI				S	**Sn**	**21 52 32.7**	**-2.3**
APSI	**Ampana**	**1.54**	**237**	P	**Pn**	**21 52 19.4**	**-0.4**
APSI				S	**Sn**	**21 52 38.8**	**-2.6**
MPSI	**Mapaga**	**3.08**	**278**	P	**Pn**	**21 52 39.3**	**+0.3**
MPSI				S	**Sn**	**21 53 12.5**	**-3.2**
SANI	**Sanana**	**3.62**	**123**	P	**Pn**	**21 52 43.1**	**-3.0**
SANI				S	**Sn**	**21 53 21.6**	**-6.8**
TTSI	**Tana Toraja**	**4.30**	**227**	P	**Pn**	**21 52 55.3**	**+0.1**
TTSI				S	**Sn**	**21 53 42.8**	**-1.9**
TNTI	**Ternate**	**4.50**	**79**	P	**Pn**	**21 52 57.1**	**-0.8**
TNTI				S	**Sn**	**21 53 50.2**	**+0.9**
TNTI	**Ternate**	**4.50**	**79**	Pn	**Pn**	**21 52 57.0**	**-0.8**
SPSI	**Sidrap Palu**	**5.00**	**219**	P	**Pn**	**21 53 04.1**	**-0.5**
	25nm14μm71μm6μm,0.9s						
SPSI				S	**Sn**	**21 53 59.8**	**-1.8**
	25nm14μm71μm6μm,0.9s						
BNSI	**Bone**	**5.15**	**213**	P	**Pn**	**21 53 06.2**	**-0.4**
	19nm112μm36μm4μm,1.2s						
BNSI				S	**Sn**	**21 54 04.6**	**-0.5**
	19nm112μm36μm4μm,1.2s						
NLAI	**Namlea**	**5.20**	**127**	P	**Pn**	**21 53 06.9**	**-0.4**
	36nm101μm2μm,1.0s						
NLAI				S	**Sn**	**21 54 02.6**	**-3.8**
	36nm101μm2μm,1.0s						
BBSI	**Bau Bau**	**5.39**	**184**	P	**Pn**	**21 53 09.5**	**-0.4**
	1.8nm3μm278nm,0.9s						
SMKI	**Samanda**	**5.75**	**266**	P	**Pn**	**21 53 16.3**	**+1.6**
	34nm19μm83μm11μm,0.9s						
KAPI	**Kappang**	**5.86**	**213**	P	**Pn**	**21 53 15.8**	**-0.3**
	184nm,0.3s,baz=13,slow=5.3,SNR=571						
KAPI				S	**Sn**	**21 54 18.1**	**-4.0**
	49nm,0.3s,baz=221,slow=20,SNR=19						
KAPI	**Kappang**	**5.86**	**213**	P	**Pn**	**21 53 17.2**	**+1.1**
KAPI				S	**Sn**	**21 54 20.2**	**-1.9**
KAPI	**Kappang**	**5.86**	**213**	Pn	**Pn**	**21 53 15.4**	**-0.7**
BKB	**Balikpapan**	**6.17**	**259**	P	**Pn**	**21 53 20.9**	**+0.6**
	14nm16μm48μm5μm,1.0s						
BKB	**Balikpapan**	**6.17**	**259**	Pn	**Pn**	**21 53 20.5**	**+0.2**

AAI Ambon 6.35 124 P **Pn** **21 53 23.4 +0.6**
13nm13μm18μm2μm,0.8s
GSPH General Santos 6.44 18 ⇑*iP* **Pn** **21 53 26.2 +2.2**
DDMP Don Marcelino, 6.73 24 *eP* **Pn** **21 53 29.2 +1.3**
SKMP Bagumbayan, Su 6.74 14 *eP* **Pn** **21 53 28.1 +0.1**
MSAI Masohi 6.80 119 P **Pn** **21 53 29.3 +0.4**
7.2nm8μm5μm615nm,0.8s
ZCP Zamboanga City 7.01 353 ⇓*iP* **Pn** **21 53 33.2 +1.5**
ZCP *i* S **Sn** **21 54 52.2 +2.1**
KCP Kidapawan 7.35 17 ⇑*eP* **Pn** **21 53 39.4 +3.1**
KBKI Kotabaru 7.50 245 P **Pn** **21 53 37.7 -0.6**
8.5nm1μm20μm3μm,0.8s
DMPH Davao City--Mi 7.55 20 ⇑*eP* Pn 21 53 46.0 +6.9
MATI Mati 7.71 25 *eP* **Pn** **21 53 41.9 +0.7**
PAGZ Pagadian 7.88 3 *eP* **Pn** **21 53 44.4 +0.9**
SPMM Sapulut 8.03 306 P **Pn** **21 53 47.0 +1.5**
MTKI Muara Teweh, K 8.10 264 P **Pn** **21 53 46.9 +0.5**
2.0nm11μm502nm,0.8s
BUKP Musuan 8.18 15 *eP* **Pn** **21 53 49.6 +2.1**
BNDI Bandanaira 8.23 123 P **Pn** **21 53 49.0 +0.8**
13nm6μm34μm4μm,1.2s
SIJI Sorong 8.35 95 P **Pn** **21 53 49.1 -0.7**
94nm,0.3s,baz=285,slow=8.4,SNR=164
DCPH Dipolog City 8.61 3 ⇑*eP* **Pn** **21 53 57.5 +4.2**
CGP Cagayan de Oro 8.65 12 ⇑*eP* **Pn** **21 53 57.9 +4.2**
KKM Kota Kinabalu 9.06 312 Pn **Pn** **21 54 01.8 +2.3**
SNPH Sibulan 9.36 2 *eP* **Pn** **21 54 08.2 +4.7**
SOEI Soe 9.71 172 P Pn 21 54 15.5 +7.3
SOEI Soe 9.71 172 Pn **Pn** **21 54 06.8 -1.3**
FAKI Fak Fak 9.71 107 P **Pn** **21 54 05.8 -2.4**
3μm6μm602nm,1.1s
FAKI Fak Fak 9.71 107 Pn **Pn** **21 54 05.8 -2.4**
CNOP Candoni, Negro 9.84 358 *eP* **Pn** **21 54 13.4 +3.5**
WSI Waingapu 9.89 195 P **Pn** **21 54 12.8 +2.3**
15μm913nm,1.1s
BATI Baumata 10.09 176 P **Pn** **21 54 15.2 +1.9**
5.5nm,0.3s,baz=298,slow=1.8,SNR=8.2
BATI LR LR 21 58 23.6
comp=Z,2μm,19.5s,baz=17,slow=39
BATI PcP **PcP** **22 00 13.3 +1.6**
4.7nm,0.3s,baz=291,slow=18,SNR=2.3
BATI ScP **ScP** **22 03 35.8 +3.1**
4.7nm,0.3s,baz=265,slow=1.6,SNR=7.6
BATI Baumata 10.09 176 P Pn 21 54 21.5 +8.3
PLAI Plampang 10.11 211 P **Pn** **21 54 15.2 +1.7**
5μm11μm878nm,1.1s
WBSI Waikabubak, Su 10.14 200 P **Pn** **21 54 15.6 +1.6**
4μm254nm,0.8s
BATP Bataraza 10.20 330 *eP* **Pn** **21 54 13.6 -1.1**
MSLP Maasin 10.32 11 *eP* **Pn** **21 54 20.4 +4.1**
BASI Baing, Sumba 10.35 193 P Pn 21 54 31.7 +15
GUIM Jordan 10.64 358 *eP* **Pn** **21 54 23.6 +3.1**
JAP San Jose, Anti 10.80 355 ⇑*eP* Pn 21 54 27.6 +5.0
SBUM Sibu 11.02 283 **Pn** **21 54 25.5 -0.1**
SBUM Sibu 11.02 283 P **Pn** **21 54 27.0 +1.4**
CUYO Cuyo Island 11.02 350 *eP* **Pn** **21 54 30.0 +4.3**
RKPI Ransiki, Papua 11.32 97 P **P** **21 54 34.8 -3.7**
KMPI Kaimana, Papua 11.32 108 P **Pn** **21 54 27.9 -1.8**
9μm1μm,0.7s
KMMI Kalianget 11.33 232 P **Pn** **21 54 33.8 +4.0**
10μm469nm,1.3s
SAUI Saumlaki 11.45 134 P **P** **21 54 35.7 -4.2**
SAUI Saumlaki 11.45 134 Pn **Pn** **21 54 30.6 -0.8**
DNP Denpasar 11.51 222 P **Pn** **21 54 35.6 +3.4**
18μm908nm,1.1s
RCP Roxas 11.56 359 ⇑*eP* **Pn** **21 54 36.6 +3.8**
JAGI Jajag, Banyuwa 12.10 226 P **Pn** **21 54 42.0 +2.0**
5μm11μm684nm,1.7s
JAGI Jajag, Banyuwa 12.10 226 Pn **Pn** **21 54 40.6 +0.7**
BUSP Coron 12.30 347 *eP* **Pn** **21 54 45.4 +2.8**
OTRP Odiongan 12.39 356 *eP* **Pn** **21 54 46.7 +3.0**
GRJI Gresik 12.46 237 P **Pn** **21 54 47.2 +2.5**
4μm464nm,1.2s
SJMP San Jose 12.59 352 *eP* **P** **21 54 53.1 +0.4**
CNP Catarman 12.62 8 *eP* **Pn** **21 54 49.7 +3.0**
KSM Kuching 12.73 277 Pn **Pn** **21 54 49.0 +0.8**
KSM Kuching 12.73 277 P **Pn** **21 54 50.0 +1.8**
SRPI Serui, Papua 13.41 98 P **P** **21 55 04.1 +2.3**
BOAC Boac 13.49 355 *eP* **P** **21 55 02.1 -0.7**
NGJI Ngawi 13.56 237 P **P** **21 55 02.6 -0.9**
8μm430nm,1.0s
PGP Puerto Galera 13.63 352 ⇑*eP* **P** **21 55 02.8 -1.6**
PVCP Virac 13.63 5 *eP* **P** **21 55 02.4 -1.9**
LUBP Lubang 13.98 349 *eP* **P** **21 55 06.5 -1.6**
TGY Tagaytay City 14.22 352 P **Pn** **21 55 08.4 +1.0**
36nm,0.3s,baz=201,slow=3.0,SNR=16
WOJI Wonogiri, Jawa 14.26 237 P **P** **21 55 09.9 -1.4**
4μm321nm,1.4s
SMRI Semarang 14.27 241 P **P** **21 55 12.3 +0.8**
6μm357nm,1.2s
SMRI Semarang 14.27 241 Pn **Pn** **21 55 05.8 -2.2**
UGM Wanagama 14.63 238 P **P** **21 55 18.9 +3.4**
UGM Wanagama 14.63 238 Pn **Pn** **21 55 11.4 -1.2**
MTN Manton Dam 15.06 148 P **Pn** **21 55 17.7 -0.2**
baz=15,SNR=30
MTN Manton Dam 15.06 148 Pn **Pn** **21 55 17.1 -0.8**
TPI Tanjungpandan 15.52 260 P **P** **21 55 25.0 -0.3**
2μm162nm,1.4s
KDU Kakadu 15.69 143 P **Pn** **21 55 25.7 0.0**
baz=16,SNR=40
BALP Baler 15.77 355 *eP* **P** **21 55 28.6 +0.5**
SCZP Santa Cruz 16.03 349 *eP* **Pn** **21 55 26.9 -3.0**
SMPP San Manuel, Pa 16.28 352 *eP* **P** **21 55 34.3 +0.6**
KNRA Kununurra 16.53 160 P **P** **21 55 36.7 +0.3**
baz=17,SNR=34
KNRA Kununurra 16.53 160 **Pn** **21 55 35.2 -0.9**
BOLP Bolinao 16.62 350 *eP* **P** **21 55 38.2 +0.8**
LEM Lembang 16.70 246 P **P** **21 55 38.9 +0.3**
6.6nm,0.3s,baz=49,slow=11,SNR=59
LEM ScP **ScP** **22 03 43.9 +0.3**
1.4nm,0.3s,baz=139,slow=24,SNR=2.2
LEM ScS **ScS** **22 07 24.4 +0.8**
2.1nm,0.3s,baz=73,slow=19,SNR=2.2
CISI Cisompet, Garu 16.82 243 P **P** **21 55 41.7 +1.9**
4μm9μm1μm,1.0s
CISI Cisompet, Garu 16.82 243 **Pn** **21 55 39.1 -0.7**
PPBI Pangkal Pinang 16.94 263 P **Pn** **21 55 42.3 +1.2**
3μm149nm,0.7s
CAUP Cauayan 16.95 356 *eP* **Pn** **21 55 43.4 +2.3**
CBJI Citeko 17.26 248 P **Pn** **21 55 47.8 +2.8**
13μm1μm,0.9s
CNJI Cibinong 17.34 245 P **Pn** **21 55 48.2 +2.3**
11μm1μm,1.1s
GENI Genyem 17.39 98 P **Pn** **21 55 47.6 +1.0**
5μm14μm1μm,1.3s
DBJI Dramaga 17.40 248 P **Pn** **21 55 48.2 +1.5**
5μm143nm,0.9s
SZP Santa 17.68 352 P **Pn** **21 55 49.7 -0.3**
SZP IAmb IAmb 21 55 53.9
comp=Z,288nm,0.8s
SKJI Sukabumi 17.74 247 P **Pn** **21 55 53.7 +2.9**
comp=Z,8μmcomp=Z,668nm,1.2s
ABRA Dolores 17.75 353 *eP* **Pn** **21 55 51.8 +1.0**
APYP Conner 17.90 355 *eP* **Pn** **21 55 52.4 -0.3**
JAY Jayapura 17.91 98 P **Pn** **21 55 53.1 +0.2**
comp=Z,16nm,0.3s,baz=226,slow=5.3,SNR=67
JAY Jayapura 17.91 98 P **Pn** **21 55 53.4 +0.5**
comp=Z,2μmcomp=Z,141nm,1.0s
FITZ Fitzroy Crossi 18.11 172 P **Pn** **21 55 55.0 -0.1**
baz=18,SNR=109
FITZ Fitzroy Crossi 18.11 172 P **Pn** **21 55 54.8 -0.3**
comp=Z,5.3nm,0.3s,baz=6.5,slow=7.8,SNR=113
FITZ S **S** **21 59 14.4 -0.6**
comp=Z,0.2nm,0.3s,baz=128,slow=14,SNR=2.4
FITZ ScP **ScP** **22 03 46.4 +0.2**
comp=Z,0.7nm,0.3s,baz=237,slow=2.0,SNR=8.0
FITZ Fitzroy Crossi 18.11 172 P **P** **21 55 52.2 -1.6**
FITZ **Pn** **21 55 54.2 -0.8**
PMBI Palembang 18.39 261 P **Pn** **21 56 00.8 +2.3**
comp=Z,12μmcomp=Z,1μm,1.2s
PMBI Palembang 18.39 261 P **P** **21 55 56.8 -0.2**
BLSI Bandar Lampung 18.45 253 P **Pn** **21 56 01.2 +2.0**
comp=Z,4μmcomp=Z,203nm,0.8s
DLV T Lat 18.68 310 P **Pn** **21 56 01.9 -0.2**
KLI Kotabumi 18.69 255 P **Pn** **21 56 04.4 +2.4**
MYKOM **Kota Tinggi 19.19 276** P **Pn** **21 56 07.0 -0.9**
MYKOM **PcP** **22 00 23.4 -0.9**
MYKOM **Kota Tinggi 19.19 276** P **Pn** **21 56 08.0 +0.1**
KASI Kota Agung 19.20 253 P **Pn** **21 56 09.8 +1.7**
comp=Z,3μmcomp=Z,4μmcomp=Z,259nm,0.9s
**LWLI

XMIS IAmb IAmb 21 56 17.8
comp=Z,327nm,0.8s
MNAI Manna 20.42 258 P **P** **21 56 20.6 +1.6**
MNAI IAmb IAmb 21 56 27.8
comp=Z,400nm,1.0s
RGRI Rengat 20.62 269 P Pn 21 56 25.4 +0.8
comp=Z,10µmcomp=Z,129nm,0.7s
MASI Maura Aman, Be 20.92 261 P Pn 21 56 29.0 +0.7
comp=Z,14µmcomp=Z,1µm,1.1s
SDSI Sungai Dareh 21.54 268 P **P** **21 56 32.0 +1.0**
comp=Z,3µmcomp=Z,192nm,1.2s
KRJI Kerinci 21.58 265 P **P** **21 56 33.9 +2.4**
comp=Z,6µmcomp=Z,16µmcomp=Z,1µm,0.9s
PSA00 Pilbara Seismi 21.58 188 P **P** **21 56 30.7 -0.7**
PSA00 Pilbara Seismi 21.58 188 P **P** **21 56 30.2 -1.1**
IPM Ipoh 22.36 282 P **P** **21 56 40.0 +0.4**
IPM Ipoh 22.36 282 P **P** **21 56 41.0 +1.4**
PDSI Padang 22.50 268 P **P** **21 56 41.3 +0.4**
comp=Z,2µmcomp=Z,4µmcomp=Z,350nm,0.8s
WRAB Tennant Creek 22.68 151 *de*P **P** **21 56 41.8 -0.7**
WRAB pmax pmax
comp=Z,146nm,1.0s
WRAB Tennant Creek 22.68 151 P **P** **21 56 42.6 +0.1**
WRA Warramunga Arr 22.68 151 P **P** **21 56 42.4 -0.1**
comp=Z,58nm,0.7s,baz=330,slow=10,SNR=20
WRA PcP **PcP** **22 00 31.6 +0.7**
comp=Z,13nm,0.6s,baz=328,slow=2.2,SNR=4.7
WRA S **S** **22 00 42.8 +1.2**
comp=Z,11nm,0.7s,baz=332,slow=16,SNR=5.0
WRA ScP **ScP** **22 03 57.7 +0.5**
comp=Z,68nm,0.9s,baz=333,slow=3.0,SNR=28
WRA ScS **ScS** **22 07 42.8 -0.2**
comp=Z,6.1nm,1.0s,baz=298,slow=3.7,SNR=4.9
WRA PKiKP **PKiKP** **22 08 15.4 -0.6**
comp=Z,2.6nm,0.6s,baz=315,slow=1.2,SNR=9.3
WRA Warramunga Arr 22.68 151 P **P** **21 56 42.0 -0.6**
KULM Kulim 22.90 284 P **P** **21 56 44.3 -0.4**
KULM Kulim 22.90 284 P **P** **21 56 46.0 +1.3**
QIZ Qiongzhong 22.93 327 P **P** **21 56 46.1 +1.1**
QIZ sP **sP** **21 57 24.6 -0.6**
QIZ S **S** **22 00 49.9 +4.4**
QIZ pmax pmax
comp=Z,300nm,1.5s
QIZ pmax pmax
comp=Z,2µm,2.7s
QIZ Qiongzhong 22.93 327 IAmb IAmb 21 56 48.0
comp=Z,419nm,1.1s
PPSI Pulau Pagai 23.09 263 P P 21 56 55.5 +9.0
TPUB Ta-pu 23.34 355 P **P** **21 56 49.8 +1.0**
MNSI Mandailing Nat 23.39 272 P **P** **21 56 49.7 +0.4**
comp=Z,4µmcomp=Z,237nm,0.6s
SSLB Suanglung 23.80 355 P **P** **21 56 53.0 +0.1**
SSLB IAmb IAmb 21 56 56.8
comp=Z,417nm,0.9s
HKPS Hong Kong Po S 23.82 339 P **P** **21 56 53.9 +0.8**
HKPS IAmb IAmb 21 56 58.7
comp=Z,387nm,0.9s
HKC Hong Kong Obse 23.83 340 ⇑P **P** **21 56 55.0 +1.9**
SISI Saibi 23.89 267 P **P** **21 56 53.9 +0.1**
comp=Z,3µmcomp=Z,197nm,0.8s
GIRL Giralia 23.98 200 P **P** **21 56 56.5 +1.9**
baz=24,SNR=5.3
RPSI Rantau Prapat 24.18 277 P **P** **21 56 57.0 +0.6**
RPSI PcP **PcP** **22 00 34.6 +0.4**
RPSI Rantau Prapat 24.18 277 PcP **PcP** **22 00 34.0 -0.1**
RPSI ScP **ScP** **22 04 00.0 -1.2**
PSI Prapat 24.19 277 P **P** **21 56 56.8 +0.1**
comp=Z,126nm,0.8s,baz=177,slow=0.5,SNR=55
PSI PcP **PcP** **22 00 34.0 -0.3**
comp=Z,55nm,0.9s,baz=350,slow=0.0,SNR=7.3
PSI ScP **ScP** **22 04 00.0 -1.4**
comp=Z,11nm,0.4s,baz=359,slow=1.4,SNR=6.8
COEN Coen 24.31 125 P **P** **21 56 58.4 +0.8**
baz=24,SNR=33
COEN S **S** **22 01 13.8 +5.9**
baz=24,SNR=10.0
YOJ Yonaguni jima 24.39 0 P **P** **21 56 58.8 +0.6**
YOJ pmax pmax
comp=Z,297nm,0.9s
YOJ Yonaguni jima 24.39 0 P **P** **21 56 58.8 +0.6**
YOJ IAmb IAmb 21 57 04.5
comp=Z,297nm,0.9s
TSI Tuntungan 24.63 279 P **P** **21 57 01.9 +1.4**
comp=Z,4µmcomp=Z,216nm,0.8s
YHNB Yeheng 24.64 357 IAmb IAmb 21 57 04.8
comp=Z,199nm,0.8s
KNMB Chin-men Tao 24.79 350 P **P** **21 57 03.0 +1.2**
KNMB IAmb IAmb 21 57 05.9
comp=Z,407nm,1.1s
TATO Taipei 24.94 357 P **P** **21 57 03.5 +0.3**
TATO S S 22 01 28.8 +11
TATO Taipei 24.94 357 P **P** **21 57 03.5 +0.3**
TATO IAmb IAmb 21 57 05.6
comp=Z,250nm,0.8s
QZH Quanzhou 25.23 351 ⇑*i*P **P** **21 57 07.1 +1.3**
QZH S **S** **22 01 22.9 +0.9**
QZH pmax pmax
comp=Z,290nm,1.0s
QZH pmax pmax
comp=Z,700nm,5.9s
QZH LR LR
comp=Z,590nm,16.6s
QZH LR LR
comp=Z,610nm,15.6s
QZH LR LR
comp=Z,580nm,14.2s
WRKA Warakurna 25.35 169 P **P** **21 57 07.2 +0.2**
baz=26,SNR=269
GSI Gunungsitoli 25.41 273 P **P** **21 57 07.1 -0.5**
comp=Z,16µmcomp=Z,984nm,1.3s
GSI Gunungsitoli 25.41 273 P **P** **21 57 06.8 -0.9**
KCSI Kotacane, Aceh 25.42 278 P **P** **21 57 07.4 -0.3**
comp=Z,1µmcomp=Z,72nm,1.1s
GUMO Guam 25.61 57 P **P** **21 57 10.8 +1.5**
comp=Z,47nm,0.5s,baz=187,slow=11,SNR=8.3
GUMO Guam 25.61 57 P **P** **21 57 10.2 +0.8**
GUMO pmax pmax
comp=Z,152nm,1.2s
GUMO Guam 25.61 57 P **P** **21 57 10.2 +0.8**
ASAR Alice Springs 25.75 156 P **P** **21 57 11.2 +0.6**
comp=Z,14nm,0.4s,baz=343,slow=15,SNR=106
ASAR PcP **PcP** **22 00 37.9 +0.4**
comp=Z,24nm,0.6s,baz=341,slow=2.1,SNR=14
ASAR ScP **ScP** **22 04 06.6 +1.0**
comp=Z,49nm,0.7s,baz=340,slow=2.7,SNR=30
ASAR ScS **ScS** **22 07 55.0 -0.3**
comp=Z,2.2nm,0.7s,baz=345,slow=3.2,SNR=5.7
ASAR PKiKP **PKiKP** **22 08 17.1 -0.5**
comp=Z,3.0nm,0.8s,baz=0.6,slow=1.0,SNR=7.8
ASAR P3KPbc 22 29 56.0
comp=Z,0.4nm,0.8s,baz=131,slow=3.8,SNR=1.7
ASAR Alice Springs 25.75 156 P **P** **21 57 10.9 +0.3**
PMG Port Moresby 25.82 112 P **P** **21 57 12.1 +0.7**
comp=Z,35nm,0.8s,baz=18,slow=2.8,SNR=9.4
PMG Port Moresby 25.82 112 *ce*P **P** **21 57 13.0 +1.7**
PMG pmax pmax
comp=Z,86nm,1.3s
PMG Port Moresby 25.82 112 P **P** **21 57 12.4 +1.1**
QIS Mount Isa 26.07 142 P **P** **21 57 14.6 +1.1**
baz=26,SNR=72
LHMI Lhok Sumawe 26.50 282 P **P** **21 57 19.8 +2.4**
comp=Z,144nm,0.8s
LHMI Lhok Sumawe 26.50 282 P **P** **21 57 17.4 0.0**
LHMI IAmb IAmb 21 57 26.2
comp=Z,185nm,1.0s
MEEK Meekatharra 26.74 189 P **P** **21 57 19.0 -0.4**
baz=27,SNR=49
MLSI Meulaboh, Aceh 26.87 280 P **P** **21 57 21.1 +0.3**
comp=Z,4µmcomp=Z,183nm,1.3s
JOW Kunigami 27.24 10 P **P** **21 57 25.0 +1.1**
comp=Z,3.1nm,0.5s,baz=114,slow=6.9,SNR=5.5
JOW Kunigami 27.24 10 P **P** **21 57 24.9 +1.1**
MTSU Mount Surprise 27.63 132 P **P** **21 57 29.6 +2.1**
baz=28,SNR=12
SLVN Son La 28.26 320 P **P** **21 57 34.9 +1.8**
SLVN IAmb IAmb 21 57 37.1
comp=Z,206nm,1.2s
KRVT Keravat (AS076 29.35 99 P **P** **21 57 44.6 +1.7**
comp=Z,304nm,0.8s,baz=115,slow=2.8,SNR=39
RABL Rabaul 29.47 98 P **P** **21 57 45.0 +1.1**
MORW Morawa 29.58 192 P **P** **21 57 44.4 -0.3**
baz=30,SNR=23
MORW Morawa 29.58 192 P **P** **21 57 44.9 +0.3**
CM31 Chiang Mai Arr 29.93 309 P **P** **21 57 50.7 +2.8**
SNR=97
CM31 S **S** **22 02 43.4 +7.0**

CM31 Chiang Mai Arr 29.93 309 P **P** **21 57 49.6 +1.7**
CMAR Chiang Mai Arr 29.93 309 P **P** **21 57 50.1 +2.2**
comp=Z,167nm,0.8s,baz=136,slow=7.1,SNR=830
CMAR PcP **PcP** **22 00 49.0 +1.2**
comp=Z,21nm,0.8s,baz=156,slow=1.9,SNR=9.7
CMAR S **S** **22 02 41.4 +5.2**
comp=Z,0.5nm,0.3s,baz=181,slow=19,SNR=2.1
CMAR ScP **ScP** **22 04 18.4 0.0**
comp=Z,14nm,1.0s,baz=168,slow=2.5,SNR=12
CMAR PKiKP **PKiKP** **22 08 20.2 -0.1**
comp=Z,5.8nm,0.7s,baz=272,slow=1.3,SNR=22
CMAR LR LR 22 10 23.0
comp=Z,495nm,19.4s,baz=159,slow=37
CMAR PKPPKP P'P'df 22 31 31.6 -16
comp=Z,0.6nm,0.8s,baz=303,slow=2.7,SNR=4.6
CMAR Chiang Mai Arr 29.93 309 P **P** **21 57 48.1 +0.2**
CMAR S **S** **22 02 41.5 +5.2**
CMAR Chiang Mai Arr 29.93 309 P **P** **21 57 48.1 +0.2**
CHTO Chiang Mai 30.13 310 P **P** **21 57 52.2 +2.5**
CHTO Chiang Mai 30.13 310 P **P** **21 57 51.3 +1.6**
CHTO pmax pmax
comp=Z,589nm,1.0s
CHTO Chiang Mai 30.13 310 P **P** **21 57 51.3 +1.6**
CTA Charters Tower 30.27 132 P **P** **21 57 52.4 +1.5**
comp=Z,30nm,1.0s,baz=313,slow=11,SNR=18
CTA PcP **PcP** **22 00 50.1 +1.5**
comp=Z,23nm,0.8s,baz=11,slow=2.3,SNR=6.0
CTA S **S** **22 02 44.3 +2.6**
comp=Z,7.8nm,0.9s,baz=135,slow=17,SNR=3.1
CTA ScP **ScP** **22 04 21.4 +1.9**
comp=Z,44nm,1.1s,baz=232,slow=7.9,SNR=7.1
CTA PKiKP **PKiKP** **22 08 20.1 -0.3**
comp=Z,6.5nm,0.9s,baz=48,slow=20,SNR=3.9
CTA LR LR 22 12 06.8
comp=Z,378nm,18.4s,baz=318,slow=40
CTAO Charters Tower 30.27 132 P **P** **21 57 50.5 -0.4**
CTAO pmax pmax
comp=Z,39nm,1.0s
CTAO Charters Tower 30.27 132 P **P** **21 57 50.5 -0.4**
GYA Guiyang 30.69 330 ⇑*i*P **P** **21 57 56.8 +2.1**
GYA pP pP 21 58 17.9 -4.2
GYA PcP **PcP** **22 00 50.6 +0.8**
GYA S **S** **22 02 49.6 +1.2**
GYA ScP **ScP** **22 04 20.5 -0.5**
GYA ScS **ScS** **22 08 15.4 -2.5**
GYA pmax pmax
comp=Z,240nm,1.0s
GYA pmax pmax
comp=Z,810nm,3.5s
GYA LR LR
comp=Z,430nm,13.6s
GYA LR LR
comp=Z,330nm,15.5s
GYA LR LR
comp=Z,470nm,17.5s
FORT Forrest 30.92 171 P **P** **21 57 56.8 +0.4**
baz=31,SNR=30
FORT Forrest 30.92 171 P **P** **21 57 56.1 -0.3**
FORT IAmb IAmb 21 58 08.2
comp=Z,87nm,0.6s
BLDU Ballidu 30.95 191 P **P** **21 57 56.4 -0.3**
baz=31,SNR=50
SSE Sheshan 31.04 357 P **P** **21 57 59.3 +1.8**
SSE S **S** **22 02 55.0 +1.6**
SSE pmax pmax
comp=Z,19nm,1.2s
SSE pmax pmax
comp=Z,240nm,4.2s
SSE LR LR
comp=Z,300nm,23.7s
SSE Sheshan 31.04 357 P **P** **21 57 58.0 +0.5**
WHN Wuhan 31.53 346 ⇓P **P** **21 58 05.0 +3.2**
WHN pP **pP** **21 58 29.1 -0.2**
WHN S **S** **22 03 05.5 +4.5**
WHN pmax pmax
comp=Z,2µm,2.3s
WHN pmax pmax
comp=Z,2µm,2.8s
WHN LR LR
comp=Z,940nm,13.0s
WHN LR LR
comp=Z,850nm,10.9s
WHN LR LR
comp=Z,1µm,19.8s
KLBR Kellerberrin 31.73 188 P **P** **21 58 03.6 0.0**
baz=32,SNR=21
KMI Kunming 31.77 324 P **P** **21 58 07.3 +3.0**
KMI pP pP 21 58 35.3 +3.5
KMI sP sP 21 58 47.5 +1.2
KMI S **S** **22 03 09.3 +3.8**
KMI sS sS 22 03 58.6 +6.2
KMI pmax pmax
comp=Z,200nm,1.3s
KMI pmax pmax
comp=Z,670nm,3.5s
KMI LR LR
comp=Z,370nm,15.7s
KMI LR LR
comp=Z,340nm,9.4s
KMI LR LR
comp=Z,450nm,17.3s
KMI Kunming 31.77 324 P **P** **21 58 06.4 +2.1**
KMI pmax pmax
comp=Z,326nm,1.3s
KMI Kunming 31.77 324 P **P** **21 58 06.4 +2.1**
KMI IAmb IAmb 21 58 08.5
comp=Z,326nm,1.3s
PBA Port Blair 32.18 292 *e*P P 21 58 07.9 +0.2
PBA IAmb IAmb 21 58 12.5
comp=Z,228nm,1.2s
PBA Port Blair 32.18 292 P P 21 58 09.0 +1.2
PBA Port Blair 32.18 292 P P 21 58 07.0 -0.7
PBA IAmb IAmb 21 58 12.2
comp=Z,260nm,1.1s
NJ2 Nanjing 32.19 353 ⇑*i*P **P** **21 58 09.8 +2.3**
NJ2 pP **pP** **21 58 34.5 -0.5**
NJ2 PcP **PcP** **22 00 54.0 +0.5**
NJ2 S **S** **22 03 12.3 +1.1**
NJ2 ScP **ScP** **22 04 27.8 +2.1**
NJ2 pmax pmax
comp=Z,52nm,0.8s
NJ2 pmax pmax
comp=Z,670nm,5.1s
NJ2 LR LR
comp=Z,500nm,12.2s
NJ2 LR LR
comp=Z,670nm,13.7s
NJ2 LR LR
comp=Z,820nm,19.4s
MUN Mundaring 32.37 191 P **P** **21 58 09.0 -0.1**
baz=32,SNR=5.8
DGPR DIGLIPUR 32.54 295 *e*P **P** **21 58 11.3 +0.4**
DGPR *ex* x 21 58 12.2
DGPR IAmb IAmb 21 58 12.4
comp=Z,66nm,0.7s
JCJ Chichijima 32.74 33 P **P** **21 58 11.2 -1.3**
NWAO Narrogin (SRO) 33.12 189 P **P** **21 58 16.0 +0.3**
baz=33,SNR=15
NWAO Narrogin (SRO) 33.12 189 P **P** **21 58 15.8 +0.2**
comp=Z,16nm,0.5s,baz=30,slow=8.8,SNR=18
NWAO PcP **PcP** **22 00 56.9 +0.8**
comp=Z,18nm,0.7s,baz=90,slow=4.0,SNR=2.2
NWAO Narrogin (SRO) 33.12 189 P **P** **21 58 15.4 -0.3**
NWAO Narrogin (SRO) 33.12 189 IAmb IAmb 21 58 19.9
comp=Z,56nm,1.1s
QLP Quilpie 33.39 144 P **P** **21 58 19.0 +0.9**
baz=34,SNR=14
BBOO Buckleboo 34.83 160 P **P** **21 58 30.8 +0.3**
baz=35,SNR=39
BBOO Buckleboo 34.83 160 P **P** **21 58 30.1 -0.4**
CD2 Chengdu 35.80 331 ⇑*i*P **P** **21 58 40.3 +1.4**
CD2 sP sP 21 59 20.0 -1.1
CD2 PP **PnPn** **22 00 06.3 +2.9**
CD2 S **S** **22 04 12.3 +5.2**
CD2 pmax pmax
comp=Z,880nm,5.1s
CD2 LR LR
comp=Z,860nm,12.7s
CD2 LR LR
comp=Z,1µm,14.3s
PATS Pohnpei 35.94 78 P **P** **21 58 39.8 -0.4**
baz=36,SNR=3.8
PATS Pohnpei 35.94 78 P **P** **21 58 40.0 -0.2**
PATS IAmb IAmb 21 58 46.7
comp=Z,86nm,1.1s
RMQ Roma 36.16 139 P **P** **21 58 42.9 +1.0**
baz=36,SNR=11
STKA Stephens Creek 36.22 153 P **P** **21 58 43.0 +0.6**
baz=36,SNR=31
STKA Stephens Creek 36.22 153 P **P** **21 58 43.1 +0.8**
comp=Z,28nm,0.5s,baz=325,slow=8.6,SNR=94
STKA PcP **PcP** **22 01 05.7 +0.6**
comp=Z,21nm,0.6s,baz=328,slow=2.7,SNR=5.1
STKA S **S** **22 04 13.4 0.0**
comp=Z,9.9nm,0.9s,baz=140,slow=12,SNR=3.7
STKA ScP **ScP** **22 04 42.3 +2.2**
comp=Z,33nm,0.7s,baz=318,slow=6.1,SNR=13
STKA LR LR 22 14 17.5
comp=Z,231nm,19.8s,baz=323,slow=37
STKA Stephens Creek 36.22 153 P **P** **21 58 42.3 -0.1**
XAN Xi'an 36.40 340 P **P** **21 58 44.9 +1.0**
XAN PP **PnPn** **22 00 11.8 +1.2**
XAN PcP **PcP** **22 01 05.6 -0.1**
XAN S **S** **22 04 18.3 +2.1**
XAN ScP **ScP** **22 04 42.0 +1.2**
XAN PcS **PcS** **22 04 58.4 +4.7**
XAN ScS **ScS** **22 08 44.3 -3.1**
XAN pmax pmax
comp=Z,330nm,0.9s
XAN pmax pmax
comp=Z,1µm,4.3s
XAN LR LR
comp=Z,580nm,16.3s
XAN LR LR
comp=Z,520nm,15.2s
XAN LR LR
comp=Z,510nm,14.1s
XAN Xi'an 36.40 340 P **P** **21 58 43.9 0.0**
XAN pmax pmax
comp=Z,247nm,0.9s
XAN Xi'an 36.40 340 P **P** **21 58 43.9 0.0**
HTT Hallett 36.42 157 P **P** **21 58 45.2 +1.0**
baz=37,SNR=48
TJN Taejon 36.50 6 ⇓*e*P **P** **21 58 44.4 -0.2**
TIA Tai'an 36.51 352 P **P** **21 58 45.5 +0.7**
TIA S **S** **22 04 17.4 -0.3**
TIA pmax pmax
comp=Z,29nm,0.7s
TIA pmax pmax
comp=Z,450nm,3.5s
TIA LR LR
comp=Z,360nm,18.6s
TIA LR LR
comp=Z,250nm,13.1s
EIDS Eidsvold 37.03 135 P **P** **21 58 49.9 +0.6**
baz=37,SNR=3.7
INCN Inchon 37.53 5 P **P** **21 58 56.5 +3.1**
INU Inuyama 37.61 19 IAmb IAmb 21 58 55.4
comp=Z,160nm,1.0s
KSAR Wonju Array Be 37.61 6 P **P** **21 58 53.7 -0.3**
KSAR Wonju Array Be 37.61 6 P **P** **21 58 53.7 -0.3**
KSRS Korea Array 37.62 6 P **P** **21 58 54.4 +0.3**
comp=Z,23nm,0.8s,baz=184,slow=10,SNR=98
KSRS PcP **PcP** **22 01 09.8 +0.6**
comp=Z,24nm,1.0s,baz=191,slow=4.7,SNR=10
KSRS ScP **ScP** **22 04 45.7 +0.5**
comp=Z,10nm,0.8s,baz=186,slow=3.5,SNR=18
KSRS PKiKP **PKiKP** **22 08 24.9 -0.4**
comp=Z,2.6nm,0.8s,baz=224,slow=1.1,SNR=8.4
KSRS LR LR 22 16 26.4
comp=Z,139nm,19.2s,baz=180,slow=39
KS19 Wonju Array Si 37.66 6 P **P** **21 58 53.9 -0.6**
BRDH Bariadhala 37.94 309 P **P** **21 58 57.0 -0.1**
comp=Z,191nm,0.6s,baz=95,slow=15,SNR=12
HNR Honiara 37.98 105 P **P** **21 58 57.0 -0.5**
HNR pmax pmax
comp=Z,193nm,0.7s
HNR Honiara 37.98 105 P **P** **21 58 57.0 -0.5**
CMSA Cobar Meteorol 37.99 148 P **P** **21 58 58.8 +1.4**
baz=38,SNR=86
CMSA S **ScP** **22 04 51.0 +4.3**
baz=38,SNR=7.9
DL2 Dalian 38.81 358 P **P** **21 59 01.9 -2.2**
DL2 S **S** **22 04 46.3 -6.1**
DL2 ScP **ScP** **22 04 49.8 +0.2**
DL2 SS **SS** **22 07 39.3 -10**
DL2 pmax pmax
comp=Z,68nm,0.7s
DL2 pmax pmax
comp=Z,330nm,4.0s
TIY Taiyuan 38.83 347 *e*P **P** **21 59 05.8 +1.4**
TIY S **S** **22 04 52.4 -0.6**
TIY sS **sS** **22 05 38.8 -2.0**
TIY pmax pmax
comp=Z,98nm,1.5s
TIY LR LR
comp=Z,340nm,14.2s
TIY LR LR
comp=Z,210nm,13.4s
TIY LR LR
comp=Z,340nm,16.2s
MAJO Matsushiro 39.09 20 *c i*P **P** **21 59 05.3 -1.2**
MAJO pmax pmax
comp=Z,213nm,1.1s
MAJO Matsushiro 39.09 20 P **P** **21 59 05.7 -0.8**
MAJO IAmb IAmb 21 59 06.9
comp=Z,170nm,1.0s
MAT Matsushiro 39.09 20 P **P** **21 59 05.5 -1.0**
MAT S **S** **22 04 59.6 +2.9**
MJAR Matsushiro Arr 39.09 20 P **P** **21 59 05.4 -1.1**
comp=Z,97nm,0.9s,baz=197,slow=9.3,SNR=252
MJAR PcP **PcP** **22 01 14.8 +0.9**
comp=Z,24nm,1.0s,baz=195,slow=4.6,SNR=5.2
MJAR ScP **ScP** **22 04 51.2 +0.4**
comp=Z,13nm,0.8s,baz=202,slow=4.8,SNR=13
MJAR PKiKP **PKiKP** **22 08 26.4 -0.3**
comp=Z,1.2nm,0.8s,baz=195,slow=2.3,SNR=3.7
MJAR LR LR 22 13 34.9
comp=Z,288nm,21.4s,baz=200,slow=33
MJAR Matsushiro Arr 39.09 20 P **P** **21 59 04.8 -1.7**
MJAR Matsushiro Arr 39.09 20 P **ScP** **22 04 51.7 +0.8**
MJB9 Matsu-Tunnel 39.09 20 IAmb IAmb 21 59 06.9
comp=Z,181nm,1.0s
SHL Shillong 39.37 313 *e*P **P** **21 59 10.4 +1.3**
SHL IAmb IAmb 21 59 11.7
comp=Z,161nm,0.5s
SHL *i* pP **sP** **21 59 52.5 +1.0**
SHL Shillong 39.37 313 P **P** **21 59 10.6 +1.4**
SNR=18
SHL Shillong 39.37 313 P **P** **21 59 09.7 +0.5**
SHL pmax pmax
comp=Z,334nm,0.9s
SHL Shillong 39.37 313 P **P** **21 59 09.7 +0.5**
LZH Lanzhou 40.13 336 *e*P **P** **21 59 17.8 +2.5**
LZH sP sP 21 59 58.4 +0.5
LZH PP **PnPn** **22 00 53.1 -1.8**
LZH ScP **ScP** **22 04 54.8 -0.3**
LZH S **S** **22 05 18.3 +5.8**
LZH sS sS 22 06 04.4 +3.9
LZH ScS **ScS** **22 09 06.6 -2.4**
LZH pmax pmax
comp=Z,240nm,1.2s
LZH pmax pmax
comp=Z,890nm,5.4s
LZH LR LR
comp=Z,320nm,14.1s
LZH LR LR
comp=Z,580nm,14.8s
LZH LR LR
comp=Z,660nm,15.6s
BJI Beijing 40.40 352 P **P** **21 59 17.6 +0.4**
BJI sP **sP** **22 00 00.3 +0.4**
BJI PP **PnPn** **22 00 55.5 -2.4**
BJI PcP **PcP** **22 01 18.6 +0.7**
BJI S **S** **22 05 13.4 -2.7**
BJI pmax pmax
comp=Z,23nm,0.9s
BJI LR LR
comp=Z,210nm,14.8s
BJI LR LR
comp=Z,260nm,23.1s
ARPS Mount Arapiles 40.49 156 P **P** **21 59 19.3 +1.3**
baz=41,SNR=74
ARMA Armidale 40.67 140 P **P** **21 59 22.1 +2.3**
baz=41,SNR=51
ARMA S **ScP** **22 05 02.5 +5.2**
baz=41,SNR=6.4
ARMA Armidale 40.67 140 P **P** **21 59 20.4 +0.6**
YNG Young 41.56 148 P **P** **21 59 29.3 +2.4**
baz=42,SNR=5.8
BWNR Bhubaneshwar 41.60 301 *e*P **P** **21 59 28.5 +1.1**
BWNR IAmb IAmb 21 59 29.9

comp=Z,100nm,0.8s
HHC Hu-ho-hao-te 42.03 347 *e*P **P** **21 59 32.3 +1.6**
HHC S **S** **22 05 43.8 +3.4**
HHC pmax pmax
comp=Z,28nm,1.0s
HHC pmax pmax
comp=Z,170nm,5.2s
BTO Baotou 42.16 345 *e*P **P** **21 59 31.3 -0.5**
MGCD Mangrove Creek 42.28 144 P **P** **21 59 35.4 +2.6**
baz=42,SNR=24
LSA Lhasa 42.37 317 P **P** **21 59 36.5 +2.4**
LSA Lhasa 42.37 317 *i* P **P** **21 59 36.0 +1.9**
SNR=116
LSA Lhasa 42.37 317 P **P** **21 59 36.3 +2.2**
LSA Lhasa 42.37 317 P **P** **21 59 35.7 +1.6**
LSA pmax pmax
comp=Z,209nm,0.7s
LSA Lhasa 42.37 317 P **P** **21 59 35.7 +1.6**
CAN Canberra 42.66 148 P **P** **21 59 36.5 +0.7**
CAN pmax pmax
comp=Z,70nm,0.8s
CAN Canberra 42.66 148 P **P** **21 59 36.5 +0.7**
TOO Toolangi 42.72 153 P **P** **21 59 38.6 +2.3**
baz=43,SNR=53
TOO Toolangi 42.72 153 P **P** **21 59 37.0 +0.7**
TOO pmax pmax
comp=Z,117nm,1.3s
TOO Toolangi 42.72 153 P **P** **21 59 37.0 +0.7**
TOO IAmb IAmb 21 59 39.5
comp=Z,117nm,1.2s
RIV Riverview 42.75 145 P **P** **21 59 39.2 +2.7**
baz=43,SNR=4.7
GTK Tadong 42.78 312 *e*P **P** **21 59 38.4 +1.4**
GTK IAmb IAmb 21 59 40.8
comp=Z,144nm,0.8s
CNB Canberra Magne 42.85 148 P **P** **21 59 39.6 +2.2**
baz=43,SNR=14
BOK Bokaro 43.08 306 *e*P **P** **21 59 40.3 +0.9**
BOK IAmb IAmb 21 59 42.5
comp=Z,29nm,0.7s
MSHR Mys Shultsa 43.10 9*c i*P **P** **21 59 39.4 +0.2**
MSHR pmax pmax
comp=Z,47nm,1.0s
ODAN Odare 43.44 311 *e*P **P** **21 59 43.8 +1.3**
comp=Z,408nm,0.7s
TAPN Taplejung 43.46 312 *e*P **P** **21 59 44.0 +1.3**
comp=Z,511nm,0.8s
CN2 Changchun 43.74 3 *e*P **P** **21 59 43.1 -1.2**
CN2 PcP **PP** **22 01 28.5 -0.2**
CN2 *e*S **S** **22 06 02.3 -2.8**
CN2 SS SS 22 09 12.4 -14
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,190nm,7.7s
CN2 LR LR
comp=Z,270nm,17.0s
CN2 LR LR
comp=Z,450nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
VLA Vladivostok 43.74 9*ce*P **P** **21 59 44.8 +0.5**
VLA pmax pmax
comp=Z,65nm,0.9s
RAMN Ramite 44.08 310 *e*P **P** **21 59 49.1 +1.5**
comp=Z,884nm,0.9s
PVM Polavaram 44.17 295 *e*P **P** **21 59 49.6 +1.4**
PVM IVmBBB 22 00 33.0
comp=Z,327nm,1.6s
GTA Gaotai 44.64 334 ⇑P **P** **21 59 53.0 +1.3**
GTA pP pP 22 00 18.0 -2.5
GTA sP sP 22 00 30.8 -3.9
GTA PP **PP** **22 01 40.4 +2.0**
GTA ScP **ScP** **22 05 12.9 -0.2**
GTA S S **22 06 20.1 +1.5**
GTA ScS **ScS** **22 09 34.0 -2.7**
GTA pmax pmax
comp=Z,29nm,0.8s
GTA pmax pmax
comp=Z,720nm,11.3s
GTA LR LR
comp=Z,220nm,17.2s
GTA LR LR
comp=Z,380nm,19.9s
GTA LR LR
comp=Z,440nm,21.3s
JIRN Jiri 44.76 311 *e*P **P** **21 59 54.3 +1.1**
comp=Z,842nm,0.8s
USA0B Ussuriysk Arra 44.81 9 IAmb IAmb 21 59 54.1
comp=Z,90nm,0.8s
USRK Ussuriysk Ar. 44.81 9 P **P** **21 59 53.0 +0.2**
comp=Z,97nm,0.8s,baz=195,slow=7.2,SNR=297
USRK ScP **ScP** **22 05 13.4 -0.1**
comp=Z,4.1nm,0.8s,baz=232,slow=4.1,SNR=4.0
USRK Ussuriysk Ar. 44.81 9 P **P** **21 59 53.0 +0.2**
USRK Ussuriysk Ar. 44.81 9 P **P** **21 59 52.0 -0.8**
MDJ Mudanjiang 44.89 7 IAmb IAmb 21 59 54.9
comp=Z,136nm,0.8s
SKHT Srikalahasti 44.96 290 *e*P **P** **21 59 56.1 +1.6**
SKHT IVmB_BB 22 00 40.7
comp=Z,340nm,2.1s
GUN Gumba 45.13 311 *e*P **P** **21 59 57.1 +1.0**
comp=Z,854nm,0.8s
ADKI Addanki 45.27 293 *e*P **P** **21 59 58.5 +1.6**
ADKI IVmB_BB 22 00 41.4
comp=Z,393nm,2.2s
PKI Pulchoki 45.31 310 *e*P **P** **21 59 58.1 +0.6**
comp=Z,398nm,1.0s
PKIN Phulchoki 45.32 310 *e*P **P** **21 59 58.0 +0.5**
comp=Z,287nm,0.8s
KKN Kakani 45.52 311 *e*P **P** **22 00 00.0 +1.0**
comp=Z,3.5nm,0.8s
DMN Daman 45.56 310 *e*P **P** **22 00 00.1 +0.7**
comp=Z,667nm,1.0s
ERM Erimo 45.70 21*c i*P **P** **22 00 00.4 +0.6**
ERM pmax pmax
comp=Z,82nm,1.0s
ERM Erimo 45.70 21 P **P** **21 59 59.7 -0.1**
NJS Nagarjunasagar 46.08 293 *e*P **P** **22 00 02.9 -0.4**
NJS IVmBBB 22 00 47.1
comp=Z,553nm,2.1s
GKN Gorkha 46.12 310 *e*P **P** **22 00 04.3 +0.7**
SANVU Saraoutou 46.29 111 P **P** **22 00 05.4 +0.5**
SANVU IAmb IAmb 22 00 09.5
comp=Z,113nm,0.9s
SRLM Srisailam 46.34 292 *e*P **P** **22 00 06.3 +1.0**
SRLM IVmBBB 22 00 09.3
comp=Z,629nm,3.2s
TEY Ternei 46.52 13⇑*i*P **P** **22 00 06.6 +0.4**
TEY pmax pmax
comp=E,100nm,2.2s
TEY pmax pmax
comp=Z,200nm,2.9s
TEY pmax pmax
comp=Z,180nm,0.9s
TEY pmax pmax
comp=N,100nm,0.8s
RPR Rampur 46.79 296 *e*P **P** **22 00 09.8 +1.1**
RPR IVmB_BB 22 00 53.0
comp=Z,363nm,1.7s
KOLN Koldanda 46.79 310 *e*P **P** **22 00 09.9 +0.9**
comp=Z,1μm,0.8s
DANN Dangsing 46.96 310 *e*P **P** **22 00 11.1 +0.8**
comp=Z,706nm,0.7s
WAKE Wake Island 46.97 63 P **P** **22 00 10.2 0.0**
WAKE IAmb IAmb 22 00 19.1
comp=Z,210nm,1.4s
HYB Hyderabad 47.02 294 *i* P **P** **22 00 11.0 +0.4**
HYB *e* 22 00 41.0
HYB *es*P **sP** **22 00 52.0 -1.0**
HYB Hyderabad 47.02 294 *e*P **P** **22 00 11.5 +0.8**
HYB IAmb IAmb 22 00 14.6
comp=Z,68nm,0.3s
HYBB Hyderabad (bro 47.02 294 *e*P **P** **22 00 11.3 +0.7**
HYBB IVmBBB 22 00 56.0
comp=Z,506nm,1.3s
ASAJ Asahikawa 47.36 19 P **P** **22 00 11.9 -0.9**
ASAJ pmax pmax
comp=Z,197nm,1.0s
JKA Kamikawa-asahi 47.36 19 P **P** **22 00 11.9 -0.9**
JKA IAmb IAmb 22 00 14.7
comp=Z,197nm,1.0s
PYUN Piuthan 47.43 310 *e*P **P** **22 00 15.1 +1.2**
comp=Z,2μm,0.9s
URV Uravakonda 47.56 290 *e*P **P** **22 00 14.9 +0.1**
URV IVmBBB 22 00 57.8

comp=Z,296nm,1.5s
SRSP Sriramsagar 47.66 296 *e*P **P** **22 00 16.1 +0.5**
SRSP IVmB_BB 22 00 59.4
comp=Z,452nm,1.8s
DZM Mont Dzumac 47.67 120 *e*P **P** **22 00 17.2 +1.5**
comp=Z,66nm,1.0s
DZM *ep*P **pP** **22 00 44.0 -0.3**
comp=Z,129nm,1.1s
DZM Mont Dzumac 47.67 120 *e*LR LR 22 13 46.8
comp=Z,503nm,30.4s
DZM Mont Dzumac 47.67 120 P **P** **22 00 17.3 +1.5**
comp=Z,34nm,1.0s,baz=116,slow=4.0,SNR=16
DZM Mont Dzumac 47.67 120 P **P** **22 00 15.9 +0.2**
NGP Nagpur 47.77 299 *e*P **P** **22 00 17.7 +1.3**
NGP IAmb IAmb 22 00 19.8
comp=Z,42nm,0.7s
NGP *i* pP **pP** **22 00 51.0 +6.0**
TAU Tasmania Unive 47.92 156 P **P** **22 00 17.7 +0.5**
TAU pmax pmax
comp=Z,50nm,1.3s
TAU Tasmania Unive 47.92 156 P **P** **22 00 17.7 +0.5**
YUK Yuzh-Kuril'sk 48.44 22 *e*P P 22 00 14.3 -6.8
YUK *i* 22 02 21.3
YUK *e*S **S** **22 07 04.8 -7.5**
YUK *e*SSS SSS 22 12 09.9
YUK pmax pmax
comp=Z,309nm,1.0s
KLRI Killari 48.99 294 *e*P **P** **22 00 26.3 +0.4**
KLRI IVmB_BB 22 01 09.2
comp=Z,662nm,2.1s
HIA Hailar 49.23 357*c i*P **P** **22 00 27.0 -0.1**
HIA pmax pmax
comp=Z,137nm,1.6s
HIA Hailar 49.23 357 IAmb IAmb 22 00 29.7
comp=Z,72nm,1.0s
HIA **PcP** **22 01 49.0 +0.7**
KLR Kul'dur 49.70 8*c i*P **P** **22 00 29.7 -0.9**
KLR pmax pmax
comp=Z,98nm,2.2s
ULN Ulaanbaatar 49.71 346 P **P** **22 00 32.0 +1.1**
ULN Ulaanbaatar 49.71 346 P **P** **22 00 31.4 +0.4**
ULN pmax pmax
comp=Z,149nm,0.9s
ULN Ulaanbaatar 49.71 346 P **P** **22 00 31.4 +0.4**
ULN IAmb IAmb 22 00 33.9
comp=Z,149nm,0.8s
SONM Songino Array 49.84 345 P **P** **22 00 32.8 +0.9**
comp=Z,155nm,0.7s,baz=162,slow=7.3,SNR=352
SONM PcP **PcP** **22 01 50.6 -0.1**
comp=Z,29nm,0.8s,baz=158,slow=4.5,SNR=7.8
SONM ScP **ScP** **22 05 34.6 -0.2**
comp=Z,23nm,0.9s,baz=158,slow=4.6,SNR=17
SONM PKiKP **PKiKP** **22 08 36.7 -0.1**
comp=Z,1.5nm,0.8s,baz=131,slow=4.0,SNR=3.8
SONM PKPPKP P'P'df 22 31 09.6 -14
comp=Z,0.4nm,0.5s,baz=355,slow=1.2,SNR=3.6
SONM PKP2ab **P'P'ab** **22 32 14.5 +1.5**
comp=Z,0.8nm,0.7s,baz=338,slow=3.4,SNR=2.9
SONM Songino Array 49.84 345 P **P** **22 00 31.4 -0.5**
BHPL Bhopal 49.92 301 *e*P **P** **22 00 33.5 +0.7**
BHPL IAmb IAmb 22 00 36.6
comp=Z,73nm,0.6s
YSS Yuzh-Sakhalins 49.94 18α *i*P **P** **22 00 32.6 +0.1**
YSS *e* 22 01 51.8
YSS *e* 22 02 32.4
YSS *e*PPP PPP 22 03 33.5
YSS *e*S **S** **22 07 25.2 -8.0**
YSS pmax pmax
comp=Z,500nm,2.7s
YSS pmax pmax
comp=Z,120nm,1.3s
YSS MLR MLR
comp=Z,200nm,17.0s
YSS Yuzh-Sakhalins 49.94 18 P **P** **22 00 32.5 0.0**
YSS IAmb IAmb 22 00 33.7
comp=Z,190nm,1.2s
KUR Kuril'sk 50.21 23*de*P **P** **22 00 35.4 +0.9**
GRNR Gornyy 51.94 11⇑*i*P **P** **22 00 48.0 +0.6**
GRNR *e*S **S** **22 08 03.0 +2.3**
GRNR pmax pmax
comp=E,10.0nm,0.8s
GRNR pmax pmax
comp=N,40nm,1.0s
GRNR pmax pmax
comp=Z,90nm,0.9s
GRNR smax smax
comp=N,6.0nm,0.9s
GRNR MLR MLR
comp=Z,110nm,16.0s
NDI New Delhi 52.22 307 *e*P **P** **22 00 49.0 -0.9**
DDI Dehra Dun 52.27 310 *e*P **P** **22 00 50.4 0.0**
DDI IAmb IAmb 22 00 53.2
comp=Z,95nm,0.9s
ZAK Zakamensk 53.00 344 *e*P **P** **22 00 55.7 +0.4**
ZAK pmax pmax
comp=Z,38nm,1.5s
WMQ Urumqi 53.83 329 P **P** **22 01 02.8 +1.3**
WMQ S **S** **22 08 29.0 +2.2**
WMQ sS sS 22 09 15.3 +0.2
WMQ pmax pmax
comp=Z,120nm,0.9s
WMQ pmax pmax
comp=Z,470nm,3.7s
WMQ LR LR
comp=Z,250nm,13.7s
WMQ LR LR
comp=Z,190nm,17.5s
WMQ LR LR
comp=Z,310nm,17.5s
WMQ Urumqi 53.83 329 P **P** **22 01 01.6 +0.1**
WMQ pmax pmax
comp=Z,146nm,0.9s
WMQ Urumqi 53.83 329 P **P** **22 01 01.6 +0.1**
BHK Bhakra 54.02 310 *e*P **P** **22 01 04.6 +1.5**
TLY Talaya 54.09 345 P **P** **22 01 02.9 -0.2**
comp=Z,36nm,0.7s,baz=173,slow=4.6,SNR=4.5
TLY ScP **ScP** **22 05 52.4 -0.6**
comp=Z,4.2nm,0.5s,baz=175,slow=4.9,SNR=4.7
TLY Talaya 54.09 345 P **P** **22 01 04.1 +1.0**
TLY Talaya 54.09 345*c i*P **P** **22 01 03.6 +0.5**
TLY *e*S **S** **22 08 32.2 +2.4**
TLY pmax pmax
comp=Z,212nm,1.2s
TLY Talaya 54.09 345 IAmb IAmb 22 01 06.2
comp=Z,52nm,0.9s
IRK Irkutsk 54.45 346 *e*P **P** **22 01 05.4 -0.3**
IRK pmax pmax
comp=Z,152nm,2.4s
MOY Mondy 54.79 343 *e*P **P** **22 01 09.1 +0.8**
MOY pmax pmax
comp=Z,213nm,2.0s
THN Thein Dam 55.00 311 *e*P **P** **22 01 12.0 +1.9**
THN *e*S **S** **22 08 44.0 +1.3**
MSVF Nonsavu 56.93 111 P **P** **22 01 24.8 +0.7**
MSVF pmax pmax
comp=Z,52nm,1.0s
MSVF Nonsavu 56.93 111 P **P** **22 01 24.8 +0.7**
MSVF IAmb IAmb 22 01 28.5
comp=Z,52nm,0.9s
NIL Nilore 57.40 311 P **P** **22 01 27.1 -0.1**
NIL pmax pmax
comp=Z,166nm,0.8s
NIL Nilore 57.40 311 P **P** **22 01 27.1 -0.1**
ZSN Zaisan 57.77 330⇑*i*P **P** **22 01 29.7 +0.2**
comp=Z,46nm,1.2s,baz=330
ZSN *e*S **S** **22 09 19.4 +0.6**
baz=330
ZSN Zaisan 57.77 330*c i*P **P** **22 01 29.6 +0.1**
ZSN *e*S **S** **22 09 19.4 +0.6**
ZSN pmax pmax
comp=Z,46nm,1.2s
SHLS Shalkode 57.99 324⇑*i*P **P** **22 01 30.4 -0.8**
comp=Z,94nm,0.8s,baz=324
SHLS *es*P **sP** **22 02 16.5 +1.4**
baz=324
SHLS *e*S **S** **22 09 19.9 -2.2**
baz=324
SHLS Shalkode 57.99 324*c i*P **P** **22 01 30.4 -0.8**
SHLS *e*SP **sP** **22 02 16.5 +1.4**
SHLS *e*S **S** **22 09 19.8 -2.2**
SHLS pmax pmax
comp=Z,94nm,0.8s
PDGK Podgornoye 58.08 324 *i* P **P** **22 01 32.5 +0.7**
PDGK pmax pmax
comp=Z,190nm,0.9s

BOD Bodaibo 58.16 354 *e*P **P** **22 01 31.4 -0.5**
BOD pmax pmax
comp=Z,150nm,1.9s
DGZ Jazzator, Alta 58.16 334*c i*P **P** **22 01 32.7 +0.4**
DGZ pmax pmax
comp=Z,143nm,1.0s
TARG Taragay, Kyrgy 58.19 321 IAmb IAmb 22 01 45.3
comp=Z,94nm,1.3s
KSH Kashi 58.20 318 P **P** **22 01 34.0 +1.2**
KSH S **S** **22 09 22.8 -2.1**
KSH ScS **ScS** **22 11 06.4 -4.1**
KSH pmax pmax
comp=Z,54nm,0.8s
KSH pmax pmax
comp=Z,200nm,3.9s
UZB Uzynbulak 58.25 323⇑*i*P **P** **22 01 33.8 +0.7**
comp=Z,78nm,1.2s,baz=323
UZB *es*P **sP** **22 02 19.2 +2.2**
baz=323
UZB *e*S **S** **22 09 26.4 +0.9**
baz=323
UZB Uzynbulak 58.25 323*c i*P **P** **22 01 33.7 +0.7**
UZB *e**SP **sP** **22 02 19.2 +2.2**
UZB *e*S **S** **22 09 26.3 +0.9**
UZB pmax pmax
comp=Z,78nm,1.2s
SATY Saty 58.57 323⇑*i*P **P** **22 01 36.1 +0.8**
comp=Z,110nm,1.0s,baz=323
SATY *es*P **sP** **22 02 21.6 +2.3**
baz=323
SATY *e*S **S** **22 09 30.5 +1.0**
baz=323
SATY Saty 58.57 323*c i*P **P** **22 01 36.1 +0.8**
SATY *e**SP **sP** **22 02 21.5 +2.3**
SATY *e*S **S** **22 09 30.5 +1.0**
SATY pmax pmax
comp=Z,110nm,1.0s
KPKS Kokpek 58.63 323⇑*i*P **P** **22 01 36.2 +0.5**
comp=Z,137nm,0.9s,baz=323
KPKS *e*S **S** **22 09 31.1 +0.7**
baz=323
KPKS Kokpek 58.63 323*c i*P **P** **22 01 36.2 +0.5**
KPKS *e*S **S** **22 09 31.0 +0.7**
KPKS pmax pmax
comp=Z,137nm,0.9s
MK31 Makanchi Array 58.65 328 P **P** **22 01 35.0 -0.6**
MK31 pmax pmax
comp=Z,81nm,1.0s
MK31 Makanchi Array 58.65 328 P **P** **22 01 35.0 -0.6**
MK31 IAmb IAmb 22 01 37.6
comp=Z,81nm,1.0s
MKAR Makanchi Array 58.65 328 P **P** **22 01 35.8 +0.2**
comp=Z,58nm,0.7s,baz=126,slow=8.4,SNR=511
MKAR PcP **PcP** **22 02 24.0 -0.4**
comp=Z,34nm,0.8s,baz=124,slow=5.9,SNR=7.2
MKAR ScP **ScP** **22 06 10.2 -3.1**
comp=Z,15nm,0.9s,baz=127,slow=5.0,SNR=7.5
MKAR PKiKP **PKiKP** **22 08 46.5 -0.2**
comp=Z,0.4nm,0.6s,baz=176,slow=1.8,SNR=1.3
MKAR S **S** **22 09 33.8 +3.5**
comp=Z,1.3nm,0.8s,baz=123,slow=10,SNR=3.1
MKAR PKKP **PKKPdf** **22 22 52.2 -1.3**
comp=Z,0.4nm,0.8s,baz=355,slow=1.6,SNR=3.5
MKAR LR LR 22 29 04.9
comp=Z,162nm,19.3s,baz=124,slow=38
MKAR PKPPKP **P'P'df** **22 31 11.5 +0.2**
comp=Z,1.2nm,0.8s,baz=344,slow=2.6,SNR=4.8
MKAR Makanchi Array 58.65 328 P **P** **22 01 34.9 -0.7**
MKAR S **S** **22 09 33.8 +3.5**
MKAR Makanchi Array 58.65 328 P **P** **22 01 34.9 -0.7**
MAKZ Makanchi 58.82 328 P **P** **22 01 36.9 +0.1**
MAKZ pmax pmax
comp=Z,249nm,1.5s
MAKZ Makanchi 58.82 328 P **P** **22 01 36.9 +0.1**
TNSS Tian-Shan 59.44 322⇑*i*P **P** **22 01 42.6 +1.0**
baz=322
TNSS *e*S **S** **22 09 42.3 +0.8**
baz=322
TNSS Tian-Shan 59.44 322*c i*P **P** **22 01 42.6 +1.0**
TNSS *e*S **S** **22 09 42.2 +0.8**
MDOK Medeo 59.45 322 *i* P **P** **22 01 42.1 +0.7**
baz=322
MDOK *e*S **S** **22 09 41.8 +0.8**
baz=322
MDOK Medeo 59.45 322 *i* P **P** **22 01 42.1 +0.7**
MDOK *e*S **S** **22 09 41.8 +0.8**
ULHL Ulahol 59.45 321 P **P** **22 01 42.8 +1.3**
SNR=41
AAA Alma-Ata 59.56 322 *e*P **P** **22 01 42.8 +0.7**
comp=Z,82nm,1.3s,baz=322
AAA *e*S **S** **22 09 43.2 +1.0**
baz=322
AAA Alma-Ata 59.56 322 *e*P **P** **22 01 42.7 +0.7**
AAA *e*S **S** **22 09 43.2 +1.0**
AAA pmax pmax
comp=Z,82nm,1.3s
DCZ Deep Cove 59.64 145 P **P** **22 01 43.1 +0.7**
TDK Taldyqorghan 59.69 325 *i* P **P** **22 01 43.5 +0.7**
comp=Z,248nm,1.0s,baz=325
TDK *e*S **S** **22 09 44.7 +1.0**
baz=325
TDK Taldyqorghan 59.69 325 *i* P **P** **22 01 43.5 +0.7**
TDK *e*S **S** **22 09 44.7 +1.0**
TDK pmax pmax
comp=Z,248nm,1.0s
BOOM Boomskoye usch 59.77 321 IAmb IAmb 22 01 46.0
comp=Z,107nm,1.1s
MTBS Maitube 59.81 322 *e*P **P** **22 01 44.8 +1.0**
baz=322
MTBS *e*S **S** **22 09 46.8 +1.2**
baz=322
MTBS Maitube 59.81 322 *e*P **P** **22 01 44.7 +1.0**
MTBS *e*S **S** **22 09 46.7 +1.2**
CHKK Chushkaly 59.87 323 *e*P **P** **22 01 44.3 +0.2**
baz=323
CHKK *e*S **S** **22 09 46.5 +0.4**
baz=323
CHKK Chushkaly 59.87 323 *e*P **P** **22 01 44.3 +0.2**
CHKK *e*S **S** **22 09 46.5 +0.4**
KZA Kyzart 59.99 321 P **P** **22 01 46.5 +1.1**
SNR=77
MLZ Mavora Lakes 60.14 145 P **P** **22 01 46.3 +0.4**
MLZ IAmb IAmb 22 01 48.3
comp=Z,95nm,1.5s
TKM2 Tokmak 2 60.21 321 P **P** **22 01 47.4 +0.7**
SNR=79
TKM2 Tokmak 2 60.21 321 *i* P **P** **22 01 46.7 0.0**
TKM2 pmax pmax
comp=Z,146nm,1.2s
KUU Kurty 60.28 323⇑*i*P **P** **22 01 47.3 +0.4**
comp=Z,318nm,1.2s,baz=323
KUU *es*P **sP** **22 02 33.0 +2.6**
baz=323
KUU *e*PP **PP** **22 04 01.5 +0.2**
baz=323
KUU *e*S **S** **22 09 52.0 +0.6**
baz=323
KUU Kurty 60.28 323*c i*P **P** **22 01 47.2 +0.4**
KUU *e**SP **sP** **22 02 33.0 +2.6**
KUU *e* 22 04 01.5
KUU *e*S **S** **22 09 51.9 +0.6**
KUU pmax pmax
comp=Z,318nm,1.2s
WHZ Wether Hill Ro 60.34 145 IAmb IAmb 22 01 49.9
comp=Z,49nm,0.9s
PEA0B Petropavlovsk- 60.37 23 P **P** **22 01 46.8 -0.5**
PEA0B pmax pmax
comp=Z,231nm,1.5s
PEA0B Petropavlovsk- 60.37 23 P **P** **22 01 46.8 -0.5**
PETK Petropavlovsk- 60.37 23 P **P** **22 01 48.1 +0.9**
comp=Z,34nm,0.6s,baz=199,slow=6.9,SNR=122
PETK PcP **PcP** **22 02 31.2 +0.1**
comp=Z,20nm,0.5s,baz=215,slow=6.2,SNR=10
PETK PKPPKP 22 31 10.7
comp=Z,0.9nm,0.5s,baz=116,slow=6.8,SNR=3.7
PETK LR LR 22 31 14.6
comp=Z,96nm,18.4s,baz=232,slow=39
PETK Petropavlovsk- 60.37 23 P **P** **22 01 47.5 +0.2**
QRZ Quartz Range 60.47 138 P **P** **22 01 49.2 +1.0**
QRZ IAmb IAmb 22 02 07.3
comp=Z,136nm,1.4s
KBK Karagaybulak 60.48 321 P **P** **22 01 49.5 +1.0**
SNR=74
UCH Uchtor 60.53 320 P **P** **22 01 50.1 +0.9**
SNR=72
PET Petropavlovsk 60.69 24α *i*P **P** **22 01 50.2 +0.8**

PET eS **S** **22 09 57.0 +0.9**
PET e 22 11 30.8
PET eSS **SS** **22 14 00.6 +3.6**
PET pmax pmax
comp=Z,139nm,1.6s
PET pmax pmax
comp=Z,500nm,5.1s
PET pmax pmax
comp=Z,200nm,12.5s
PET Petropavlovsk 60.69 24 P **P** **22 01 50.3 +0.8**
AAK Ala-Archa 60.76 321 P **P** **22 01 51.1 +0.8**
comp=Z,58nm,0.9s,baz=126,slow=4.9,SNR=99
AAK ScP **ScP** **22 06 23.1 +0.3**
comp=Z,2.3nm,0.6s,baz=78,slow=9.3,SNR=2.1
AAK Ala-Archa 60.76 321 P **P** **22 01 51.2 +0.9**
SNR=44
AAK Ala-Archa 60.76 321 P **P** **22 01 51.5 +1.2**
AAK Ala-Archa 60.76 321 *c iP* **P** **22 01 50.8 +0.5**
AAK pmax pmax
comp=Z,127nm,1.2s
AAK Ala-Archa 60.76 321 P **P** **22 01 51.2 +0.9**
AAK IAmb IAmb 22 01 52.9
comp=Z,116nm,1.1s
FRU1 Bishkek 60.76 321 P **P** **22 01 50.4 +0.2**
FRU1 pmax pmax
comp=Z,55nm,1.3s
FRU1 Bishkek 60.76 321 P **P** **22 01 50.4 +0.2**
CHMS Chumysh 60.78 321 P **P** **22 01 51.5 +1.1**
SNR=18
LBZ Lake Benmore 60.81 143 P **P** **22 01 50.7 +0.3**
LBZ IAmb IAmb 22 01 53.7
comp=Z,40nm,0.7s
KBL Kabul 60.95 310 P **P** **22 01 51.7 -0.2**
KBL Kabul 60.95 310 P **P** **22 01 51.8 0.0**
KBL pmax pmax
comp=Z,379nm,0.9s
KBL Kabul 60.95 310 P **P** **22 01 51.8 0.0**
RPZ Rata Peaks 60.98 142 P **P** **22 01 52.8 +1.1**
comp=Z,261nm,0.9s,baz=246,slow=2.1,SNR=38
AML Almayashu 61.01 320 P **P** **22 01 53.0 +0.7**
SNR=123
USP Ospenovka 61.08 321 P **P** **22 01 52.6 +0.2**
SNR=121
ARSB Arslanbob 61.08 319 IAmb IAmb 22 01 54.7
comp=Z,130nm,0.9s
SGDS Sogindy 61.09 322⇑ *iP* **P** **22 01 52.5 0.0**
comp=Z,105nm,1.5s,baz=321
SGDS eS **S** **22 10 01.9 +0.1**
baz=321
SGDS Sogindy 61.09 322 *c iP* **P** **22 01 52.4 0.0**
SGDS eS **S** **22 10 01.9 +0.1**
SGDS pmax pmax
comp=Z,105nm,1.5s
THZ Tophouse 61.17 139 P **P** **22 01 53.4 +0.4**
THZ IAmb IAmb 22 01 57.5
comp=Z,43nm,0.8s
EKS2 Erkin-Say 61.22 320 P **P** **22 01 54.2 +0.8**
SNR=128
OXZ Oxford 61.39 141 P **P** **22 01 54.2 -0.2**
OXZ IAmb IAmb 22 01 58.9
comp=Z,55nm,0.6s
BSWZ Blackbirch Sta 61.79 139 P **P** **22 01 57.6 +0.6**
KHZ Kahutara 61.90 140 IAmb IAmb 22 02 00.4
comp=Z,83nm,0.7s
BTK Batken 61.95 317 IAmb IAmb 22 02 00.2
comp=Z,83nm,0.9s
SEM Semipalatinsk 62.01 331 *eP* **P** **22 01 57.6 -1.1**
comp=Z,59nm,1.7s,baz=330
SEM Semipalatinsk 62.01 331 *eP* **P** **22 01 57.5 -1.1**
SEM pmax pmax
comp=Z,59nm,1.7s
SNZO South Karori 62.15 138 P **P** **22 01 59.2 -0.3**
YAK Yakutsk 62.16 4 *c iP* **P** **22 01 58.7 -0.3**
YAK *e* 22 02 36.5
YAK eS **S** **22 10 11.5 -2.8**
YAK *e* 22 11 33.0
YAK eSSS SSS 22 17 09.1
YAK pmax pmax
comp=Z,225nm,0.8s
YAK pmax pmax
comp=N,77nm,1.0s
YAK pmax pmax
comp=E,20nm,1.0s
YAK smax smax
comp=E,106nm,2.3s
YAK smax smax
comp=N,76nm,1.9s
YAK Yakutsk 62.16 4 P **P** **22 01 58.7 -0.3**
BTLS Baital 62.28 323⇑ *iP* **P** **22 02 00.1 -0.3**
comp=N,51nm,1.5s,baz=323
BTLS eS **S** **22 10 16.6 0.0**
baz=323
BTLS Baital 62.28 323 *c iP* **P** **22 02 00.0 -0.3**
BTLS eS **S** **22 10 16.6 0.0**
BTLS pmax pmax
comp=Z,51nm,1.5s
ZAA0 Zalesovo Array 62.36 336 IAmb IAmb 22 02 01.2
comp=Z,140nm,1.1s
ZALV Zalesovo Beam 62.36 336 P **P** **22 02 00.2 -0.4**
comp=Z,111nm,1.0s,baz=123,slow=5.5,SNR=176
ZALV PP **PP** **22 04 20.4 +1.1**
comp=Z,30nm,1.1s,baz=120,slow=5.8,SNR=4.6
ZALV S **S** **22 10 17.7 +0.5**
comp=Z,4.9nm,0.9s,baz=134,slow=12,SNR=6.2
ZALV PKPPKP **P'P'df** **22 31 04.7 -0.2**
comp=Z,1.1nm,0.8s,baz=304,slow=2.9,SNR=3.8
ZALV Zalesovo Beam 62.36 336 *i P* **P** **22 02 00.2 -0.4**
ZALV pmax pmax
comp=Z,105nm,1.0s
ZALV Zalesovo Beam 62.36 336 P **P** **22 01 58.8 -1.8**
BKZ Black Stump Fm 62.44 135 IAmb IAmb 22 02 05.1
comp=Z,95nm,0.6s
MSWZ Moikau Station 62.56 138 P **P** **22 02 01.1 -1.1**
PLWZ Palliser 62.63 138 P **P** **22 02 02.9 +0.1**
DZA Taraz 62.91 320 *eP* **P** **22 02 04.4 -0.2**
comp=Z,23nm,0.9s,baz=320
DZA Taraz 62.91 320 *eP* **P** **22 02 04.3 -0.2**
DZA pmax pmax
comp=Z,23nm,0.9s
BFZ Birch Farm 62.91 137 P **P** **22 02 04.2 -0.3**
BFZ IAmb IAmb 22 02 07.3
comp=Z,56nm,0.6s
KURBB Kurchatov Arra 63.00 330 P **P** **22 02 04.8 -0.1**
comp=Z,94nm,0.8s,baz=130,slow=5.9,SNR=739
KURBB PP **PP** **22 04 25.1 0.0**
comp=Z,7.8nm,0.8s,baz=134,slow=6.8,SNR=4.5
KURBB S **S** **22 10 25.5 +0.2**
comp=Z,1.1nm,0.9s,baz=133,slow=11,SNR=4.1
KURK Kurchatov 63.02 330 P **P** **22 02 05.0 0.0**
KURK Kurchatov 63.02 330 P **P** **22 02 04.8 -0.2**
KURK S **S** **22 10 25.5 0.0**
KURK Kurchatov 63.02 330 P **P** **22 02 04.6 -0.4**
KURK Kurchatov 63.02 330 S **S** **22 10 25.5 0.0**
MXZ Matakaoa Point 63.09 133 P **P** **22 02 06.4 +0.6**
MXZ IAmb IAmb 22 02 08.7
comp=Z,90nm,0.6s
MA2 Magadan 63.32 15 *c iP* **P** **22 02 07.6 +0.7**
MA2 pmax pmax
comp=Z,218nm,0.9s
MA2 Magadan 63.32 15 P **P** **22 02 07.8 +0.9**
IUG luzhnay 63.41 318⇑ *iP* **P** **22 02 08.2 +0.1**
comp=Z,13nm,0.9s,baz=318
IUG eS **S** **22 10 31.4 +0.3**
baz=318
IUG luzhnay 63.41 318 *c iP* **P** **22 02 08.1 +0.1**
IUG eS **S** **22 10 31.3 +0.3**
IUG pmax pmax
comp=Z,13nm,0.9s
KK31 Karatay Array 63.54 320 IAmb IAmb 22 02 10.8
comp=Z,62nm,1.0s
KKAR Karatay Array 63.54 320 P **P** **22 02 07.4 -1.3**
KKAR Karatay Array 63.54 320 P **P** **22 02 07.4 -1.3**
KKAR Karatay Array 63.54 320 IAmb IAmb 22 02 10.8
comp=Z,62nm,1.0s
TAS Tashkent 63.54 317 P **P** **22 02 08.7 -0.1**
TAS pmax pmax
comp=Z,174nm,0.8s
TAS Tashkent 63.54 317 P **P** **22 02 08.7 -0.1**
MIDW Midway 63.58 58 P **P** **22 02 06.9 -2.3**
MIDW IAmb IAmb 22 02 11.8
comp=Z,99nm,0.8s
CHM Chimkent 63.78 318 *eP* **P** **22 02 10.6 +0.3**
comp=Z,76nm,1.8s,baz=318
CHM eS **S** **22 10 36.6 +1.2**
baz=318
CHM Chimkent 63.78 318 *eP* **P** **22 02 10.6 +0.3**

CHM eS **S** **22 10 36.5 +1.2**
CHM pmax pmax
comp=Z,76nm,1.8s
BRZS Berezniki 65.69 327 *i* P **P** **22 02 22.3 -0.2**
comp=Z,89nm,0.9s,baz=327
BRZS *es*P **sP** **22 03 08.2 +1.8**
baz=327
BRZS Berezniki 65.69 327 *i* P **P** **22 02 22.3 -0.2**
BRZS *e**SP **sP** **22 03 08.2 +1.8**
BRZS pmax pmax
comp=Z,89nm,0.9s
AFI Afiamalu 66.02 105 P **P** **22 02 25.1 -0.2**
AFI pmax pmax
comp=Z,128nm,1.3s
AFI Afiamalu 66.02 105 P **P** **22 02 25.1 -0.2**
AFI IAmb IAmb 22 02 30.4
comp=Z,128nm,1.3s
HRA Herat 66.18 308 P **P** **22 02 25.2 -1.0**
CASY Casey 66.66 185 P **P** **22 02 29.0 +0.7**
CASY IAmb IAmb 22 02 30.8
comp=Z,52nm,0.8s
SMY Shemya 67.64 31 P **P** **22 02 35.6 +0.9**
SMY pmax pmax
comp=Z,273nm,1.1s
SMY Shemya 67.64 31 P **P** **22 02 35.6 +0.9**
SHAO Shalim 68.50 289 P **P** **22 02 37.9 -3.0**
BRVK Borovoye 68.59 329 P **P** **22 02 40.3 -0.5**
BRVK Borovoye 68.59 329 *c iP* **P** **22 02 39.9 -0.8**
BRVK pmax pmax
comp=Z,140nm,1.2s
BRVK Borovoye 68.59 329 P **P** **22 02 40.3 -0.5**
BRVK IAmb IAmb 22 02 41.8
comp=Z,130nm,1.1s
MDH Madha 69.01 297 P **P** **22 02 41.2 -2.7**
UOSS Minazif 69.03 297 P **P** **22 02 43.1 -1.0**
HATD Hatta, Dubai 69.07 297 *i* P **P** **22 02 42.6 -1.8**
SNR=5.2
HATD Hatta, Dubai 69.07 297 P **P** **22 02 45.0 +0.6**
SNR=6.0
ASHO Ashiyiah 69.12 296 P **P** **22 02 43.0 -1.6**
ASHO Ashiyiah 69.12 296 P **P** **22 02 44.9 +0.3**
BANOM Banah 69.12 298 P **P** **22 02 44.9 +0.2**
MSFE Esma-Masafi 69.14 297 P **P** **22 02 43.3 -1.5**
ALNE Al Ain 69.28 296 *i* P **P** **22 02 43.9 -1.8**
SNR=11
SHME Shamm 69.29 298 P **P** **22 02 44.4 -1.2**
SOCY Socotra 69.47 283 P **P** **22 02 45.3 -1.7**
SOCY IAmb IAmb 22 02 47.4
comp=Z,107nm,1.1s
AJN Ajban 70.06 296 *i* P **P** **22 02 48.4 -2.0**
SNR=6.1
AJN Ajban 70.06 296 P **P** **22 02 50.1 -0.2**
SNR=6.2
ASHT Ashkhabad 70.20 311 P **P** **22 02 50.7 -0.3**
ASHT pmax pmax
comp=Z,92nm,0.8s
ASHT Ashkhabad 70.20 311 P **P** **22 02 50.6 -0.3**
ASHT IAmb IAmb 22 02 53.3
comp=Z,92nm,0.8s
GEYT Alibeck 70.40 311 P **P** **22 02 51.9 -0.3**
comp=Z,54nm,0.8s,baz=140,slow=4.8,SNR=98
GEYT PP **PP** **22 05 29.9 +0.1**
comp=Z,15nm,1.1s,baz=145,slow=5.3,SNR=4.3
GEYT LR LR 22 40 00.3
comp=Z,66nm,18.5s,baz=25,slow=41
GEYT Alibeck 70.40 311 P **P** **22 02 52.0 -0.3**
GYA0B ALIBECK ARRAY 70.40 311 IAmb IAmb 22 02 54.5
comp=Z,70nm,0.9s
TIXI Tiksi 71.71 2 *c iP* **P** **22 02 57.9 -1.5**
TIXI pmax pmax
comp=Z,182nm,1.1s
TIXI Tiksi 71.71 2 P **P** **22 02 58.1 -1.3**
TIXI IAmb IAmb 22 03 00.6
comp=Z,224nm,1.2s
ADK Adak 72.21 34 P **P** **22 03 03.3 +0.5**
ADK pmax pmax
comp=Z,90nm,1.0s
ADK Adak 72.21 34 P **P** **22 03 03.3 +0.5**
ADK IAmb IAmb 22 03 04.8
comp=Z,90nm,0.9s
ABKAR Akbulak array 72.76 322 P **P** **22 03 04.2 -1.9**
NRIK Noril'sk 73.25 348 P **P** **22 03 08.3 -0.3**
comp=Z,79nm,0.6s,baz=136,slow=5.8,SNR=74
NRIK LR LR 22 37 06.1
comp=Z,192nm,20.7s,baz=142,slow=37
BILL Bilibino 74.19 16 *c iP* **P** **22 03 13.8 -0.3**
BILL *e* 22 03 27.8
BILL *e**PP **pP** **22 03 43.5 -1.7**
BILL *e**SP **sP** **22 03 59.3 +0.6**
BILL pmax pmax
comp=Z,102nm,1.4s
BILL Bilibino 74.19 16 P **P** **22 03 13.7 -0.4**
BILL IAmb IAmb 22 03 15.2
comp=Z,119nm,1.4s
SVE Sverdlovsk 75.26 330 *d iP* **P** **22 03 19.9 -0.6**
SVE pmax pmax
comp=Z,189nm,1.5s
ARU Arti 76.17 329 *c iP* **P** **22 03 24.3 -1.3**
ARU *PP **pP** **22 03 57.9 +1.0**
ARU 22 06 13.8
ARU S **S** **22 13 00.3 +1.0**
ARU *SS **sS** **22 13 52.4 -1.1**
ARU SS **SS** **22 17 55.6 +0.2**
ARU pmax pmax
comp=Z,139nm,1.1s
ARU Arti 76.17 329 P **P** **22 03 23.7 -2.0**
ARU IAmb IAmb 22 03 25.7
comp=Z,102nm,0.9s
ABPO Ambohimpanom 76.48 251 P **P** **22 03 27.7 -0.7**
ABPO pmax pmax
comp=Z,16nm,0.9s
ABPO Ambohimpanom 76.48 251 P **P** **22 03 27.7 -0.7**
OPO Ambohidratompo 76.48 251 P **P** **22 03 27.4 -1.0**
comp=Z,21nm,0.9s,baz=74,slow=4.5,SNR=13
NIKH Nikolski High 77.08 35 P **P** **22 03 30.6 -0.3**
NIKH IAmb IAmb 22 03 33.7
comp=Z,95nm,1.0s
RAYN Ar Rayn 78.52 294 P **P** **22 03 37.7 -1.8**
RAYN pmax pmax
comp=Z,22nm,0.9s
RAYN Ar Rayn 78.52 294 P **P** **22 03 37.7 -1.8**
UNV Unalaska Valle 78.68 35 IAmb IAmb 22 03 41.5
comp=Z,159nm,1.1s
MAW Mawson 78.91 200 P **P** **22 03 41.6 +1.0**
baz=79,SNR=25
MAW Mawson 78.91 200 P **P** **22 03 41.7 +1.0**
comp=Z,29nm,0.7s,baz=63,slow=5.9,SNR=30
MAW PKKPbc **PKKPbc** **22 22 33.5 -2.9**
comp=Z,5.4nm,0.3s,baz=273,slow=14,SNR=10
MAW LR LR 22 32 38.7
comp=Z,168nm,21.6s,baz=50,slow=31
MAW Mawson 78.91 200 P **P** **22 03 40.6 -0.1**
MAW pmax pmax
comp=Z,10.0nm,0.9s
MAW Mawson 78.91 200 P **P** **22 03 40.6 -0.1**
DAMY Dhamar 78.95 285 P **P** **22 03 43.9 +1.6**
DAMY Dhamar 78.95 285 P **P** **22 03 40.8 -1.5**
AKT Akhty 79.00 312 *eP* **P** **22 03 41.3 -0.6**
AKT *e* 22 03 50.5
AKT *e**PP **pP** **22 04 10.9 -2.1**
AKT *e**SP **sP** **22 04 25.5 -0.7**
AKT *e* 22 06 41.8
AKT pmax pmax
comp=Z,171nm,0.9s
GAMB Gambell 79.39 24 P **P** **22 03 44.3 +1.0**
GAMB IAmb IAmb 22 03 45.7
comp=Z,131nm,1.2s
MAK Makhachkala 79.42 314 *eP* **P** **22 03 40.6 -3.3**
MAK *e**PP **pP** **22 04 13.0 -2.1**
MAK *e**SP **sP** **22 04 26.4 -1.9**
MAK *eS* **S** **22 13 29.4 -5.4**
MAK *e**SS **sS** **22 14 27.0 -2.8**
MAK pmax pmax
comp=Z,369nm,1.3s
MAK MLR MLR
comp=Z,126nm,17.0s
XMAS Kiritimati 79.61 88 P **P** **22 03 45.2 -0.4**
XMAS IAmb IAmb 22 03 53.0
comp=Z,124nm,1.2s
KIP Kipapa 79.82 68 P **P** **22 03 46.9 +0.3**
KIP pmax pmax
comp=Z,38nm,0.8s
KIP Kipapa 79.82 68 P **P** **22 03 46.9 +0.3**
HON Honolulu 79.83 68 P **P** **22 03 46.3 -0.3**
HON pmax pmax
comp=Z,215nm,1.0s
HON Honolulu 79.83 68 P **P** **22 03 46.3 -0.3**
HON IAmb IAmb 22 03 51.0
comp=Z,215nm,1.0s
VNDA Vanda 80.18 172 P **P** **22 03 48.1 +0.7**
comp=Z,28nm,0.7s,baz=316,slow=6.3,SNR=242
VNDA PKKPbc **PKKPbc** **22 22 31.0 -2.9**
comp=Z,2.4nm,0.9s,baz=180,slow=7.1,SNR=12
VNDA LR LR 22 38 14.8
comp=Z,158nm,21.4s,baz=328,slow=35
ATD Arta Tunnel 80.32 282 P **P** **22 03 49.5 0.0**
comp=Z,9.7nm,0.8s,baz=318,slow=5.0,SNR=6.9
ATD Arta Tunnel 80.32 282 P **P** **22 03 51.7 +2.3**
ATD Arta Tunnel 80.32 282 P **P** **22 03 47.9 -1.5**
GROC Groznyy 80.69 314 *eP* **P** **22 03 51.1 +0.3**
GROC *e**SP **sP** **22 04 38.9 +3.6**
GROC *e* 22 06 58.1
GROC *eS* **S** **22 13 44.6 -3.6**
GROC pmax pmax
comp=Z,116nm,1.0s
TBLG Delisi 81.25 312 P **P** **22 03 54.1 +0.2**
TBLG Delisi 81.25 312 IAmb IAmb 22 03 55.5
comp=Z,128nm,0.9s
KHLH Kahului Airpor 81.26 69 P **P** **22 03 54.3 0.0**
KHLH IAmb IAmb 22 03 58.4
comp=Z,339nm,1.4s
HLK Haleakala 81.42 69 P **P** **22 03 54.4 -1.1**
HLK IAmb IAmb 22 03 59.1
comp=Z,205nm,1.2s
KIRV Kirov 81.53 329 *i* P **P** **22 03 53.7 -1.1**
KHLU Kahalu`u 81.69 70 P **P** **22 03 56.2 -0.5**
KHLU IAmb IAmb 22 04 00.2
comp=Z,253nm,1.3s
HUH Hualalai 81.75 70 P **P** **22 03 55.3 -1.9**
HUH IAmb IAmb 22 04 00.7
comp=Z,195nm,1.4s
HPAH Hawaii Prepara 81.90 70 P **P** **22 03 56.9 -0.9**
HPAH IAmb IAmb 22 04 01.8
comp=Z,240nm,1.2s
KHU Kahuku 81.94 71 P **P** **22 03 57.5 -0.6**
KHU pmax pmax
comp=Z,135nm,1.1s
KHU Kahuku 81.94 71 P **P** **22 03 57.5 -0.6**
KHU IAmb IAmb 22 04 12.2
comp=Z,135nm,1.1s
MWH Moku'aweowe 81.96 70 P **P** **22 03 57.4 -1.2**
MLOA Mauna Loa Obse 81.99 70 P **P** **22 03 58.2 -0.5**
ZEI Tsey 82.01 313 *eP* **P** **22 03 56.3 -1.8**
ZEI *e* 22 07 05.6
ZEI pmax pmax
comp=Z,94nm,0.9s
POHA Pohakuloa 82.04 70 P **P** **22 03 58.3 -0.4**
POHA IAmb IAmb 22 04 02.8
comp=Z,202nm,1.2s
HMH Humu'ula Sheep 82.08 70 P **P** **22 03 57.3 -1.7**
HMH IAmb IAmb 22 04 03.8
comp=Z,284nm,1.3s
AIN Ainahou 82.09 71 P **P** **22 03 59.0 +0.2**
AKH Akhalkalaki 82.14 312⇑ *P* **P** **22 03 59.0 +0.3**
AKH Akhalkalaki 82.14 312 P **P** **22 03 59.1 +0.3**
AKH Akhalkalaki 82.14 312 IAmb IAmb 22 04 01.6
comp=Z,185nm,1.0s
MLH Mauna Loa 82.16 70 P **P** **22 03 59.1 -0.2**
HLP Hilina Pali 82.23 71 P **P** **22 03 57.9 -1.5**
HLP IAmb IAmb 22 04 03.7
comp=Z,244nm,1.1s
WRMHI West Rim 82.24 71 P **P** **22 03 59.4 -0.2**
SDHHI Sand Hill 82.25 71 P **P** **22 03 58.9 -0.7**
UWE Uwekahuna 82.25 71 P **P** **22 03 58.5 -1.1**
OBL Observatory Le 82.26 71 P **P** **22 03 58.1 -1.6**
ANM Nome 82.26 24 P **P** **22 03 58.6 0.0**
ANM pmax pmax
comp=Z,65nm,0.8s
ANM Nome 82.26 24 P **P** **22 03 58.6 0.0**
ANM IAmb IAmb 22 04 03.0
comp=Z,65nm,0.8s
SBLHI Steaming Bluff 82.27 70 P **P** **22 03 58.3 -1.5**
SBLHI IAmb IAmb 22 03 59.4
comp=Z,183nm,0.8s
KKO Keanakako`i 82.27 71 P **P** **22 03 59.2 -0.6**
PUH Pauahi 82.32 71 P **P** **22 03 58.7 -1.3**
PUH IAmb IAmb 22 04 04.0
comp=Z,228nm,1.0s
KBZ Khabaz 82.86 314 P **P** **22 04 01.4 -0.7**
comp=Z,41nm,0.8s,baz=109,slow=3.0,SNR=54
KBZ PKKPbc **PKKPbc** **22 22 26.7 +0.3**
comp=Z,3.9nm,0.9s,baz=270,slow=2.0,SNR=5.9
KBZ Khabaz 82.86 314 *ceP* **P** **22 04 01.2 -0.9**
KBZ pmax pmax
comp=Z,64nm,0.9s
GOF Gofitskoye 82.92 315⇓ *iP* **P** **22 04 02.4 0.0**
GOF pmax pmax
comp=Z,81nm,0.9s
KIV Kislovodsk 83.04 314 P **P** **22 04 02.4 -0.7**
KIV Kislovodsk 83.04 314 *eP* **P** **22 04 02.6 -0.6**
KIV pmax pmax
comp=Z,67nm,1.1s
KIV MLR MLR
comp=Z,186nm,19.0s
KIV Kislovodsk 83.04 314 P **P** **22 04 02.2 -1.0**
BCA Boroka 83.54 312⇑ *P* **P** **22 04 04.3 -1.4**
VRH Novokhopyorsk 84.55 321 *eP* **P** **22 04 09.3 -1.3**
VRH pmax pmax
comp=Z,120nm,0.9s
SOC Sochi 85.14 314 *eP* **P** **22 04 10.3 -3.4**
SOC *eS* **SKSac** **22 14 20.7 -6.3**
SOC pmax pmax
comp=Z,72nm,0.9s
CHIR Chirikof Islan 85.23 34 IAmb IAmb 22 04 16.1
comp=Z,149nm,0.8s
KMBO Kilima Mbogo 85.70 269 P **P** **22 04 17.9 +0.5**
comp=Z,16nm,1.1s,baz=63,slow=6.8,SNR=13
KMBO LR LR 22 40 42.4
comp=Z,128nm,18.3s,baz=94,slow=34
KMBO Kilima Mbogo 85.70 269 P **P** **22 04 16.6 -0.8**
KMBO Kilima Mbogo 85.70 269 P **P** **22 04 17.4 -0.1**
KMBO pmax pmax
comp=Z,26nm,1.1s
KMBO Kilima Mbogo 85.70 269 P **P** **22 04 17.4 -0.1**
SVW2 Sparrevohn 85.93 29 IAmb IAmb 22 04 20.2
comp=Z,54nm,0.8s
VORD Divnogorie 86.05 321 *eP* **P** **22 04 16.7 -1.3**
VORD pmax pmax
comp=Z,230nm,0.8s
VSR Storozhevoye 86.15 321 *eP* **P** **22 04 17.5 -1.0**
VSR pmax pmax
comp=Z,270nm,0.9s
LPSR Galich'ya Gora 86.42 323 *eP* **P** **22 04 18.7 -1.1**
LPSR pmax pmax
comp=Z,220nm,0.9s
GAZ Gaziantep 86.64 307 IAmb IAmb 22 04 23.7
comp=Z,129nm,1.0s
OHAK Old Harbor 86.67 33 IAmb IAmb 22 04 24.1
comp=Z,99nm,0.9s
KLMR Klimovskoe 86.85 331 *eP* **P** **22 04 19.3 -2.4**
KLMR *e**PP **pP** **22 04 51.9 -1.5**
KLMR *e* 22 07 40.9
KLMR pmax pmax
comp=Z,75nm,0.8s
KLMR Klimovskoe 86.85 331 *eP* **P** **22 04 19.4 -2.3**
comp=Z,75nm,0.8s
KLMR AMP 22 04 21.9
KLMR *e*PP **pP** **22 04 52.0 -1.5**
KLMR *e*PP **PP** **22 07 40.9 -5.2**
ANN Anapa 86.86 315 *eP* **P** **22 04 21.4 -0.7**
ANN *e**PP **pP** **22 04 52.8 -1.0**
ANN *eS* **SKSac** **22 14 35.5 -2.1**
ANN pmax pmax
comp=Z,340nm,1.0s
KDAK Kodiak Island 87.10 32 P **P** **22 04 23.5 +0.5**
KDAK pmax pmax
comp=Z,49nm,0.8s
KDAK Kodiak Island 87.10 32 P **P** **22 04 23.5 +0.5**
KDAK IAmb IAmb 22 04 24.7
comp=Z,49nm,0.8s
MOS Moscow 87.42 326 *eP* **P** **22 04 21.5 -3.1**
MOS *e**PP **pP** **22 04 55.9 -0.5**
MOS *eS* **SKSac** **22 14 36.8 -3.7**
MOS pmax pmax
comp=Z,163nm,1.6s
SYO Syowa Base 87.54 201⇓ *iP* **P** **22 04 24.0 -0.9**
SYO Syowa Base 87.54 201⇓ *i*PcP **PcP** **22 04 27.0 +0.3**
SYO Syowa Base 87.54 201⇓ *i*pP pP 22 04 55.9 -1.3
PPT2 Papeete2 87.57 107 *eS* **S** **22 14 57.1 -0.7**
comp=Z,303nm,27.0s

SPU **Mount Spurr** 87.64 29 P P 22 04 24.7 -1.0
HOM **Homer** 87.73 30 P P 22 04 23.6 -2.4
TBI **Tubuai** 87.75 113 *e*S S 22 14 57.8 -1.4
comp=Z,180nm,26.2s
TMCR **Tamitsa** 87.84 334 *e*P P 22 04 24.6 -1.8
TMCR *e*S SKSac 22 14 39.2 -3.5
TMCR pmax pmax
comp=Z,100nm,0.9s
CNPM **China Poot** 87.93 31 IAmb IAmb 22 04 28.3
comp=Z,77nm,0.9s
OBN **Obninsk** 87.98 325 *c i*P P 22 04 25.7 -1.5
OBN *e**PP pP 22 04 59.0 -0.1
OBN *e* 22 07 51.6
OBN pmax pmax
comp=Z,157nm,1.3s
OBN **Obninsk** 87.98 325 P P 22 04 26.0 -1.2
OBN IAmb IAmb 22 04 28.5
comp=Z,170nm,1.3s
BRLK **Bradley Lake** 88.12 30 IAmb IAmb 22 04 29.1
comp=Z,120nm,0.9s
BPAW **Bear Paw Mtn.** 88.34 26 IAmb IAmb 22 04 30.6
comp=Z,46nm,0.9s
TRF **Thorofare Moun** 88.61 27 IAmb IAmb 22 04 31.0
comp=Z,52nm,1.0s
COLD **Coldfoot** 88.84 23 P P 22 04 31.8 +0.7
baz=267
COLD **Coldfoot** 88.84 23 IAmb IAmb 22 04 33.6
comp=Z,85nm,0.8s
SEW **Seward** 88.86 30 IAmb IAmb 22 04 32.8
comp=Z,69nm,0.9s
TOLK **Toolik Lake Re** 89.14 21 P P 22 04 33.1 +0.5
baz=268
TOLK **Toolik Lake Re** 89.14 21 IAmb IAmb 22 04 34.5
comp=Z,40nm,0.8s
NEA2 **Nenana** 89.19 26 P P 22 04 33.4 +0.6
baz=268
RND **Reindeer** 89.25 27 IAmb IAmb 22 04 34.1
comp=Z,86nm,0.8s
KNK **Knik Glacier** 89.39 29 IAmb IAmb 22 04 35.6
comp=Z,90nm,0.9s
LVZ **Lovozero** 89.42 338 ⇓ *e*P P 22 04 32.3 -1.6
LVZ pmax pmax
comp=Z,45nm,1.2s
ILGA **Ilgaz** 89.47 311 P P 22 04 32.8 -2.1
BR131 **Keskin Array S** 89.52 310 P P 22 04 33.3 -1.8
SNR=8.8
BRTR **Keskin Array B** 89.52 310 P P 22 04 33.2 -1.8
comp=Z,15nm,0.9s,baz=121,slow=4.8,SNR=30
BRTR PP PP 22 08 07.7 -0.5
comp=Z,4.8nm,0.9s,baz=111,slow=6.8,SNR=4.5
BRTR PKKPbc PKKPbc 22 22 10.5 0.0
comp=Z,1.2nm,0.9s,baz=238,slow=4.6,SNR=3.6
BRTR **Keskin Array B** 89.52 310 P P 22 04 33.1 -2.0
WRH **Wood River Hil** 89.61 26 IAmb IAmb 22 04 35.3
comp=Z,77nm,1.1s
COLA **College** 89.72 25 P P 22 04 34.3 -0.9
COLA pmax pmax
comp=Z,28nm,0.7s
COLA **College** 89.72 25 P P 22 04 34.3 -0.9
CSS **Mathiatis** 89.73 305 IAmb IAmb 22 04 37.5
comp=Z,49nm,0.9s
CCB **Clear Creek Bu** 89.74 26 IAmb IAmb 22 04 36.2
comp=Z,48nm,0.8s
QSPA **South Pole Qui** 89.86 180 S SKSac 22 14 51.2 -3.7
comp=Z,2.7nm,0.8s,baz=195,slow=2.3,SNR=19
QSPA PKKP PKKPdf 22 22 07.3 +1.1
comp=Z,3.2nm,0.8s,baz=110,slow=0.4,SNR=6.9
QSPA **South Pole Qui** 89.86 180 P P 22 04 36.9 +0.8
APA **Apatity** 89.89 337 ⇓ *i*P P 22 04 33.9 -2.1
APA pmax pmax
comp=Z,17nm,1.0s
POKR **Poker Plat Res** 89.90 25 P P 22 04 34.5 -1.6
baz=270
DHY **Denali Highway** 89.92 27 IAmb IAmb 22 04 38.3
comp=Z,48nm,0.6s
SCM **Sheep Creek Mo** 89.93 28 IAmb IAmb 22 04 37.7
comp=Z,60nm,0.9s
GLI **Glacier Island** 90.04 29 IAmb IAmb 22 04 38.0
comp=Z,61nm,1.0s
HDA **Harding Lake** 90.11 26 P P 22 04 35.5 -1.6
baz=270
HDA **Harding Lake** 90.11 26 IAmb IAmb 22 04 37.5
comp=Z,36nm,0.7s
ILAR **Eielson Array** 90.14 25 P P 22 04 35.0 -2.2
comp=Z,10nm,0.6s,baz=243,slow=4.6,SNR=137
ILAR S SKSac 22 14 52.7 -3.6
comp=Z,0.2nm,0.4s,baz=29,slow=12,SNR=2.0
ILAR PKKPbc PKKPbc 22 22 07.6 -2.3
comp=Z,4.0nm,0.7s,baz=86,slow=1.8,SNR=25
ILAR PKPPKP P'P'df 22 30 10.5 -5.2
comp=Z,0.6nm,0.8s,baz=116,slow=2.1,SNR=4.8
ILAR LR LR 22 50 30.1
comp=Z,18nm,19.5s,baz=272,slow=39
ILAR **Eielson Array** 90.14 25 P P 22 04 34.6 -2.6
ANTO **Ankara** 90.17 310 P P 22 04 36.1 -1.9
ANTO pmax pmax
comp=Z,33nm,1.3s
ANTO **Ankara** 90.17 310 P P 22 04 36.1 -1.9
HIN **Hinchinbrook I** 90.34 30 P P 22 04 37.1 -1.1
HIN IAmb IAmb 22 04 39.7
comp=Z,70nm,0.9s
FID **Port Fidalgo** 90.34 29 P P 22 04 38.1 -0.1
FID IAmb IAmb 22 04 39.5
comp=Z,62nm,0.9s
EYAK **Cordova Ski Ar** 90.71 30 P P 22 04 39.5 -0.4
PAX **Paxson** 90.79 27 IAmb IAmb 22 04 41.8
comp=Z,57nm,1.0s
FYU **Fort Yukon** 90.79 24 IAmb IAmb 22 04 42.3
comp=Z,78nm,1.0s
BMAR **Burnt Mountain** 91.02 23 P P 22 04 42.2 +0.9
RIDG **Independent Ri** 91.05 26 IAmb IAmb 22 04 42.6
comp=Z,59nm,0.9s
RAGM **Ragged Mountai** 91.24 30 P P 22 04 41.5 -1.0
RAGM IAmb IAmb 22 04 44.3
comp=Z,33nm,0.8s
MDUB **Mudurnu** 91.39 310 P P 22 04 41.9 -1.8
MDUB IAmb IAmb 22 04 53.9
comp=Z,83nm,1.1s
DOT **Dot Lake** 91.40 26 IAmb IAmb 22 04 44.3
comp=Z,28nm,0.8s
MENT **Mentasta** 91.59 27 P P 22 04 43.6 -0.5
GLB **Gilahina Butte** 91.62 29 P P 22 04 43.3 -1.0
GLB IAmb IAmb 22 04 45.9
comp=Z,55nm,0.9s
VRDI **Verde Repeater** 91.80 29 P P 22 04 44.6 -0.7
VRDI IAmb IAmb 22 04 46.7
comp=Z,34nm,0.9s
ISP **Isparta** 91.97 308 P P 22 04 44.2 -2.3
ISP pmax pmax
comp=Z,44nm,0.8s
ISP **Isparta** 91.97 308 P P 22 04 44.2 -2.3
ISP IAmb IAmb 22 04 46.7
comp=Z,44nm,0.8s
CRQM **Cirque** 91.98 29 P P 22 04 45.6 -0.5
CRQM IAmb IAmb 22 04 47.8
comp=Z,55nm,0.9s
MCARA **McCarthy VSAT** 92.00 29 P P 22 04 45.6 -0.3
MCARA IAmb IAmb 22 04 50.8
comp=Z,42nm,0.8s
TGL **Tana Glacier** 92.14 29 P P 22 04 45.9 -0.8
TGL IAmb IAmb 22 04 48.5
comp=Z,77nm,1.0s
WAX **Waxell Ridge** 92.14 30 P P 22 04 46.5 -0.2
MBAR **Mbarara** 92.21 269 PKKPbc PKKPbc 22 22 05.0 +2.3
comp=Z,1.6nm,0.3s,baz=315,slow=2.9,SNR=4.9
MBAR **Mbarara** 92.21 269 *ce*P P 22 04 49.6 +1.4
MBAR pmax pmax
comp=Z,19nm,2.5s
BALM **Baldy** 92.35 29 P P 22 04 46.7 -1.0
BALM IAmb IAmb 22 04 49.6
comp=Z,60nm,0.9s
AKASG **Malin Array Be** 92.42 321 P P 22 04 45.9 -2.2
comp=Z,7.0nm,0.5s,baz=70,slow=4.6,SNR=37
AKASG PP PP 22 08 30.6 0.0
comp=Z,1.0nm,0.5s,baz=80,slow=6.4,SNR=2.6
AKASG PKiKP PKiKP 22 09 36.7 +0.2
comp=Z,0.7nm,0.4s,baz=73,slow=2.0,SNR=3.0
AKASG PKKP PKKPdf 22 22 00.8 +0.1
comp=Z,1.0nm,0.5s,baz=276,slow=2.8,SNR=8.9
AKASG LR LR 22 49 35.0
comp=Z,74nm,21.6s,baz=95,slow=38
AKASG **Malin Array Be** 92.42 321 P P 22 04 46.1 -2.0
AKBB **Malin Array Si** 92.42 321 ⇓ *e*P P 22 04 46.3 -1.8
BCAR **Beaver Creek A** 92.46 27 P P 22 04 47.4 -0.7
EGAK **Eagle** 92.59 25 IAmb IAmb 22 04 50.0
comp=Z,62nm,1.1s

MESA **MESA** 92.61 30 P P 22 04 49.0 0.0
MESA IAmb IAmb 22 04 51.3
comp=Z,52nm,0.9s
ARCES **ARCESS Array B** 92.68 340 P P 22 04 47.2 -1.7
comp=Z,12nm,0.7s,baz=87,slow=6.0,SNR=34
ARCES PKiKP PKiKP 22 09 37.1 +0.7
comp=Z,2.0nm,0.4s,baz=108,slow=1.3,SNR=14
ARCES PKKP PKKPdf 22 21 59.1 -1.5
comp=Z,1.5nm,0.5s,baz=242,slow=2.5,SNR=19
ARCES LR LR 22 51 05.7
comp=Z,107nm,19.5s,baz=74,slow=38
ARCES **ARCESS Array B** 92.68 340 P P 22 04 47.0 -1.9
ARE0 **ARCESS Array S** 92.68 340 *e*P P 22 04 47.2 -1.7
MILM **Milestii Mici** 92.89 317 ⇑ P P 22 04 48.1 -2.2
TABL **Table Mountain** 92.99 30 P P 22 04 50.9 +0.1
TABL IAmb IAmb 22 04 53.4
comp=Z,59nm,0.9s
MICGM **Minsk** 93.01 324 *e* P 22 04 50.0 -0.7
MNK **Minsk** 93.01 324 *e*P P 22 04 50.0 -0.7
HAMF **Hammerfest** 93.15 341 *e*P P 22 04 49.2 -1.8
TIRR **Tirgusor** 93.30 314 ⇑ P P 22 04 50.9 -1.4
TIRR **Tirgusor** 93.30 314 IAmb IAmb 22 04 52.3
comp=Z,42nm,1.1s
VSU **Vasula** 93.33 328 *e*P P 22 04 50.9 -1.2
VSU **Vasula** 93.33 328 *c i*P P 22 04 50.1 -1.9
VSU pmax pmax
comp=Z,101nm,0.8s
FIA1 **FINESS Array S** 93.36 331 P P 22 04 50.8 -1.3
FINES **FINESS Array B** 93.36 331 P P 22 04 49.8 -2.3
comp=Z,5.3nm,0.5s,baz=60,slow=4.9,SNR=42
FINES PKiKP PKiKP 22 09 37.8 0.0
comp=Z,1.6nm,0.4s,baz=95,slow=2.4,SNR=12
FINES LR LR 22 51 31.0
comp=Z,76nm,18.4s,baz=82,slow=38
FINES **FINESS Array B** 93.36 331 *i* P P 22 04 50.4 -1.8
FINES pmax pmax
comp=Z,5.0nm,0.5s
FINES **FINESS Array B** 93.36 331 P P 22 04 50.0 -2.2
DAWY **Dawson** 93.43 26 P P 22 04 52.0 -0.5
SPA0 **Spitsbergen Ar** 93.44 349 *e*P P 22 04 51.2 -1.1
CFR **Carcaliu** 93.45 315 ⇑ P P 22 04 50.5 -2.4
KTK1 **Kautokeino** 93.55 339 *e*P P 22 04 51.9 -1.0
TLBR **Topalu** 93.56 314 ⇑ P P 22 04 51.4 -2.1
VASR **Vaslui** 93.61 317 ⇑ P P 22 04 51.8 -1.9
NACGM **Naroch** 93.62 325 *e*P P 22 04 51.2 -2.5
HARR **Narsova** 93.63 315 ⇑ P P 22 04 52.4 -1.4
IZAR **Zarasai** 93.85 326 *e*P P 22 04 54.4 -0.1
IZAR *e*sP sP 22 05 38.9 -0.5
IIGN **Ignalina** 93.90 325 *e*P P 22 04 53.6 -1.2
ISAL **Salakas** 93.93 326 *e*P P 22 04 53.3 -1.6
ISAL *e*sP sP 22 05 38.3 -1.5
HSPB **Hornsund (broa** 93.96 347 *e*P P 22 04 53.8 -0.8
KBS **Kingsbay** 94.05 350 *d i*P P 22 04 54.0 -1.0
KBS pmax pmax
comp=Z,57nm,1.1s
KBS **Kingsbay** 94.05 350 P P 22 04 54.1 -1.0
KBS IAmb IAmb 22 04 54.9
comp=Z,48nm,1.1s
KBS **Kingsbay** 94.05 350 *e*P P 22 04 54.0 -1.0
MATP **Matogo** 94.15 250 PKiKP PKiKP 22 09 40.9 +0.4
comp=Z,2.0nm,0.7s,baz=257,slow=3.9,SNR=2.1
EPYK **Eagle Plains** 94.21 23 P P 22 04 55.9 -0.1
baz=279
VRI **Vrincioaia** 94.40 316 ⇑ P P 22 04 56.4 -0.9
TESR **Tescani** 94.40 316 ⇑ P P 22 04 55.7 -1.6
PLOR **Plostina** 94.45 316 ⇑ P P 22 04 56.3 -1.3
LSZ **Lusaka** 94.58 255 PKiKP PKiKP 22 09 41.9 +0.6
comp=Z,15nm,1.3s,baz=292,slow=1.0,SNR=6.8
LSZ PKKPbc PKKPbc 22 21 57.2 +0.5
comp=Z,2.0nm,0.7s,baz=270,slow=7.1,SNR=4.2
LSZ **Lusaka** 94.58 255 P P 22 04 57.8 -1.1
LSZ pmax pmax
comp=Z,17nm,0.7s
LSZ **Lusaka** 94.58 255 P P 22 04 57.8 -1.1
LSZ IAmb IAmb 22 05 00.8
comp=Z,18nm,0.7s
PRAR **RASCA** 94.62 317 ⇑ P P 22 04 56.2 -2.1
HYT **Haines Junctio** 94.72 29 P P 22 04 58.9 +0.2
RAZG **Razgrad** 94.73 314 ⇑ P P 22 04 57.0 -1.9
NEHR **Nehoiu** 94.73 315 ⇑ P P 22 04 57.9 -1.0
BIZ **Bicaz** 94.74 317 ⇑ P P 22 04 56.9 -2.0
SULR 94.82 315 ⇑ P P 22 04 58.7 -0.6
MLR **Muntele Rosu** 94.97 316 ⇑ P P 22 04 58.5 -1.7
MLR **Muntele Rosu** 94.97 316 P P 22 04 58.4 -1.7
MLR pmax pmax
comp=Z,28nm,1.2s
MLR **Muntele Rosu** 94.97 316 P P 22 04 58.4 -1.7
MLR IAmb IAmb 22 05 01.1
comp=Z,28nm,1.2s
OZUR 95.03 316 ⇑ P P 22 04 59.6 -0.7
INK **Inuvik** 95.06 21 IAmb IAmb 22 05 00.8
comp=Z,42nm,0.8s
PABE **Paberze** 95.16 326 *e*P P 22 04 59.5 -0.9
PABE *e*pP pwP 22 05 33.9 -0.9
ELND **Elena** 95.24 313 ⇑ P P 22 04 58.2 -3.0
BURAR **Bucovina Array** 95.28 318 P P 22 05 00.2 -1.2
BUR08 **Bucovina Ar. S** 95.29 318 IAmb IAmb 22 05 02.9
comp=Z,36nm,0.9s
DOPR **Dopca** 95.32 316 ⇑ P P 22 05 01.0 -0.6
VOIR 95.61 316 ⇑ P P 22 05 02.4 -0.6
HUMR **Humele** 95.74 315 ⇑ P P 22 05 00.7 -2.8
SUW **Suwalki** 95.81 324 IAmb IAmb 22 05 04.5
comp=Z,44nm,0.9s
LVV **L'vov** 95.82 320 *e*P P 22 05 02.0 -1.7
ARR **Arges** 95.91 315 ⇑ P P 22 05 02.4 -1.8
ARCR **ARCALIA** 95.92 317 ⇑ P P 22 05 03.3 -0.9
APE **Apeiranthos** 95.97 307 ⇑ P P 22 05 01.4 -3.3
PLVB **Pleven** 96.11 313 ⇑ P P 22 05 04.1 -1.0
VLAD **Vladila** 96.21 314 ⇑ P P 22 05 04.1 -1.5
PBUR **Paburge** 96.22 326 *e*P P 22 05 04.0 -1.4
BMR **Baia Mare** 96.43 318 ⇑ P P 22 05 05.7 -0.8
CJR **Cluj-Napoca** 96.47 317 ⇑ P P 22 05 05.4 -1.4
LOT **Lotru** 96.50 316 ⇑ P P 22 05 05.7 -1.3
NOR **Nord** 96.51 354 ⇑ *i*P P 22 05 04.6 -1.6
comp=Z,16nm,0.8s
NOR **Nord** 96.51 354 ⇑ *i*P P 22 05 04.6 -1.6
NOR pmax pmax
comp=Z,16nm,0.8s
IDI **Anoyia** 96.63 305 ⇑ P P 22 05 06.1 -1.7
IDI **Anoyia** 96.63 305 IAmb IAmb 22 05 08.4
comp=Z,19nm,0.8s
STEI **Steigen** 96.67 339 *e*P P 22 05 04.9 -2.2
KWP **Kalwaria Pacla** 96.70 320 *e*P P 22 05 06.7 -1.0
A36M **Sachs Harbour** 96.71 17 P P 22 05 06.8 -0.4
baz=291,SNR=5.9
JIS **Juneau Island** 96.72 31 P P 22 05 07.5 -0.1
BOSA **Boshof** 96.72 241 P P 22 05 07.8 -0.6
comp=Z,8.2nm,0.9s,baz=143,slow=3.6,SNR=8.7
BOSA PKKP PKKPbc 22 21 51.1 -0.2
comp=Z,5.8nm,0.8s,baz=286,slow=4.0,SNR=9.0
BOSA LR LR 22 42 12.2
comp=Z,148nm,21.8s,baz=80,slow=31
BOSA **Boshof** 96.72 241 P P 22 05 07.4 -1.1
BOSA pmax pmax
comp=Z,25nm,1.4s
BOSA **Boshof** 96.72 241 P P 22 05 07.3 -1.1
BOSA IAmb IAmb 22 05 09.2
comp=Z,25nm,1.4s
MMB **Musomiste** 96.95 312 *i* P P 22 05 06.1 -3.0
DEV **Deva** 97.05 316 ⇑ P P 22 05 08.8 -0.6
DRGR 97.07 317 ⇑ P P 22 05 07.8 -1.8
KOLS **Kolonicke sedl** 97.07 319 *e*P P 22 05 09.2 -0.2
KOLS **Kolonicke sedl** 97.07 319 *e*PDIFF P 22 05 09.2 -0.2
UZH **Uzhgorod** 97.10 319 *e*P P 22 05 06.2 -3.3
UZH *e* 22 05 44.6
VTS **Vitosha** 97.21 313 *i* P P 22 05 08.3 -2.1
KKB **Krupnik** 97.40 312 *i* P P 22 05 09.0 -2.1
KLNR **Kaliningrad** 97.43 325 ⇓ *e*P Pdif 22 05 11.6 +0.7
KLNR pmax pmax
comp=Z,182nm,1.5s
MOR8 **Moi Rana** 97.48 337 *e*P P 22 05 07.8 -3.1
HERR **Herculane** 97.52 315 ⇑ P P 22 05 09.7 -1.8
CRVS **Cervenica-Dubn** 97.61 319 *e*P P 22 05 11.7 -0.1
CRVS **Cervenica-Dubn** 97.61 319 *e*PDIFF P 22 05 11.7 -0.1
VAY **Valandovo** 97.85 312 *i* P P 22 05 11.0 -2.1
SIRR **Siria** 97.86 317 ⇑ P P 22 05 11.7 -1.3
BZS **Buzias** 97.98 316 ⇑ P P 22 05 11.1 -2.5
MDVR **Moldovita** 98.03 315 ⇑ P P 22 05 12.9 -1.0
STIP **Stip** 98.09 312 *i* P P 22 05 11.1 -3.1
WRAK **Wrangell Islan** 98.17 33 P P 22 05 12.9 -1.2
NIE **Niedzica** 98.28 320 *e*P Pdif 22 05 15.6 +0.7
OJC **Ojcow** 98.46 321 *e*P P 22 05 15.4 -0.2
OJC **Ojcow** 98.46 321 IAmb IAmb 22 05 17.0
comp=Z,28nm,1.1s
PSZ **Piszkesteto** 98.80 318 ⇑ P P 22 05 15.5 -1.8
PSZ **Piszkesteto** 98.80 318 IAmb IAmb 22 05 17.7
comp=Z,15nm,1.1s
LANS **Liptovska Anna** 98.86 320 *e*P Pdif 22 05 17.7 +0.2
LANS **Liptovska Anna** 98.86 320 *e*PDIFF Pdif 22 05 17.7 +0.2
DLBC **Dease Lake** 98.92 31 P P 22 05 16.9 -0.7
DLBC IAmb IAmb 22 05 19.9
comp=Z,17nm,0.8s
NSS **Namsos** 98.97 336 *e*P P 22 05 15.2 -2.4
VYHS **Vyhne** 99.39 319 *e*P Pdif 22 05 20.0 +0.2
VYHS **Vyhne** 99.39 319 *e*PDIFF Pdif 22 05 20.0 +0.2
OKC **Ostrava-Krasne** 99.58 321 *e*PDIFF Pdif 22 05 19.7 -0.9
OKC *e*PP PP 22 09 32.4 +6.6
OKC **Ostrava-Krasne** 99.58 321 *e*P Pdif 22 05 19.7 -0.9
OKC *e* 22 09 32.4
MORC **Moravsky Berou** 99.97 321 ⇑ P Pdif 22 05 21.5 -0.9
MORC **Moravsky Berou** 99.97 321 *e*PDIFF Pdif 22 05 21.5 -0.9
MORC *e*PP PP 22 09 32.0 +3.1
JAVC **Velka Javorina** 100.08 320 *e*PDIFF Pdif 22 05 22.5 -0.4
JAVC *e*PP PP 22 09 32.7 +3.0
PDG **Podgorica** 100.14 313 ⇑ P Pdif 22 05 20.3 -3.0
SUR **Sutherland** 100.21 237 P Pdif 22 05 24.4 +0.3
comp=Z,12nm,0.9s,baz=37,slow=4.2,SNR=4.1
NB2 **NORSAR Subarra** 100.45 333 P Pdif 22 05 21.8 -2.5
comp=Z,5.4nm,0.8s,baz=73,slow=4.4
NB2 **NORSAR Subarra** 100.45 333 P Pdif 22 05 21.8 -2.5
baz=73,slow=4.4
NOA **NORSAR Array B** 100.45 333 P Pdif 22 05 21.8 -2.5
comp=Z,3.4nm,0.8s,baz=73,slow=4.6,SNR=12
NOA PP PP 22 09 32.0 0.0
comp=Z,3.5nm,0.9s,baz=71,slow=7.2,SNR=6.0
NOA PKiKP PKiKP 22 09 50.5 +0.2
comp=Z,2.2nm,0.7s,baz=261,slow=3.1,SNR=6.2
DAG **Danmarks Havn** 100.47 352 *i* P Pdif 22 05 22.4 -1.6
comp=Z,46nm,1.1s
DAG **Danmarks Havn** 100.47 352 *i* P Pdif 22 05 22.4 -1.6
DAG pmax pmax
comp=Z,46nm,1.1s
KSP **Ksiaz** 100.53 322 *e*P Pdif 22 05 24.2 -0.6
SNAA **Sanae** 100.59 195 PKiKP PKiKP 22 09 53.6 +3.3
SNAA **Sanae** 100.59 195 Pdiff Pdif 22 05 24.1 -0.6
SNAA **Sanae** 100.59 195 *ce*P Pdif 22 05 25.7 +1.0
DPC **Dobruska-Polom** 100.62 321 *e*PDIFF Pdif 22 05 24.9 -0.4
DPC **Dobruska-Polom** 100.62 321 *e*P Pdif 22 05 24.9 -0.4
OSTC **Ostas** 100.64 322 *e*PDIFF Pdif 22 05 24.3 -1.0
OSTC *e*PKKP PKKPbc 22 21 41.6 +0.4
VRAC **Vranov** 100.68 320 ⇓ P Pdif 22 05 25.5 0.0
VRAC **Vranov** 100.68 320 *e*PDIFF Pdif 22 05 24.4 -1.1
CHVC **Chvalec** 100.73 322 *e*PDIFF Pdif 22 05 25.4 -0.4
KRUC **Moravsky** 100.86 320 *e*PDIFF Pdif 22 05 25.3 -1.0
KRUC *e*PP PP 22 09 37.1 +1.6
CONA **Conrad Observa** 101.45 319 *e*Pdiff Pdif 22 05 29.2 +0.1
comp=Z,4.7nm,1.3s
CONA *e*PP PP 22 09 42.5 +2.3
comp=Z,26nm,1.4s
CONA *e*PKKPdf PKKPbc 22 21 39.1 +0.3
comp=Z,5.3nm,1.0s
PVCC **Panska Ves** 101.67 322 *e*PDIFF Pdif 22 05 30.8 +0.9
PVCC **Panska Ves** 101.67 322 *e*P Pdif 22 05 30.8 +0.9
GOPC **GO Pecny, Ondr** 101.68 321 *e*PDIFF Pdif 22 05 30.2 +0.2
GOPC *e*PKKP PKKPbc 22 21 38.4 +0.2
GOPC **GO Pecny, Ondr** 101.68 321 *e*P Pdif 22 05 30.2 +0.2
PRU **Pruhonice** 101.82 321 *e*PDIFF Pdif 22 05 31.6 +1.0
PRU *e*PP PP 22 09 45.9 +3.2
PRU AMS AMS 22 53 30.0
comp=Z,200nm,18.2s
PRU **Pruhonice** 101.82 321 *e*P Pdif 22 05 31.6 +1.0
PRU *e* 22 09 45.9
PRU MLR MLR
comp=Z,200nm,18.2s
ARSA **Arzberg** 101.83 318 *e*Pdiff Pdif 22 05 30.0 -0.7
comp=Z,6.5nm,1.9s
ARSA *e*PP PP 22 09 44.7 +1.8
comp=Z,7.8nm,1.4s
ARSA *e*PKKPbc PKKPbc 22 21 36.8 -0.8
comp=Z,1.5nm,0.7s
BRG **Berggiesshubel** 101.97 322 *e*PDIFF Pdif 22 05 30.3 -0.9
comp=Z,17nm,1.4s
BRG *e*PP PP 22 09 39.1 -4.7
comp=Z,12nm,1.2s
BRG **Berggiesshubel** 101.97 322 *e*PKP PKiKP 22 09 48.3 -5.1
comp=Z,12nm,1.2s
BRG *e*PKKP PKKPbc 22 21 37.8 +0.4
comp=Z,7.4nm,1.2s
BRG **Berggiesshubel** 101.97 322 *e*P Pdif 22 05 30.3 -0.9
BRG *e* 22 09 48.3
BRG pmax pmax
comp=Z,17nm,1.4s
BRG pmax pmax
comp=Z,12nm,1.2s
GCIS **Gornji Cirnik** 102.06 317 *i* P Pdif 22 05 30.6 -1.2
PBCC **Pribram** 102.24 321 *e*PDIFF Pdif 22 05 31.3 -1.1
PBCC *e*PKKP PKKPbc 22 21 36.7 +0.2
SOKA **Soboth** 102.28 318 *e*Pdiff Pdif 22 05 32.0 -0.9
comp=Z,3.4nm,1.2s
SOKA *e*PP PP 22 09 48.0 +1.6
comp=Z,32nm,1.4s
SOKA PKKPbc PKKPbc 22 21 34.7 -1.7
comp=Z,4.0nm,1.2s
FBE **Freiberg** 102.31 322 *e*Pdiff Pdif 22 05 33.1 +0.4
baz=73,slow=4.7
CLL **Collm** 102.42 323 *e*Pdif Pdif 22 05 30.0 -3.2
comp=Z,52nm,2.5s
CLL *e* 22 06 07.0
CLL *e*PP PP 22 09 49.0 +1.9
CLL *e*SKSac SKSac 22 15 56.0 -5.1
CLL *e*Sdif Sdif 22 17 06.0 -0.5
CLL *e*(PS) 22 18 45.0
CLL *e*(PPS) 22 19 34.0
CLL *i* PKKPdf PKKPbc 22 21 36.0 0.0
comp=Z,21nm,1.8s
CLL *e*SKKPdf SKKPbc 22 25 07.0 +1.0
CLL *e*SSS SSS 22 28 06.0
CLL *e*(SSSS) 22 31 12.0
CLL *e* 22 33 06.0
CLL LmV 23 58 00.0
comp=Z,100nm,21.4s
CLL **Collm** 102.42 323 *e*P Pdif 22 05 30.0 -3.2
CLL *e* 22 09 49.0
CLL *e* 22 15 56.0
CLL *e*S Sdif 22 17 06.0 -0.5
CLL pmax pmax
comp=Z,52nm,2.5s
MOA **Molln** 102.52 319 *e*Pdiff Pdif 22 05 34.1 +0.4
comp=Z,7.9nm,1.1s
MOA *e*PP PP 22 09 48.4 +0.4
comp=Z,6.8nm,1.2s
MOA *e*PKKPdf PKKPbc 22 21 35.9 +0.3
comp=Z,5.0nm,0.9s
VNA3 **Neumayer Olymp** 102.58 194 PKiKP PKiKP 22 09 54.7 +0.7
VNA3 **Neumayer Olymp** 102.58 194 Pdiff Pdif 22 05 35.2 +1.7
GEC2 **GERESS Array S** 102.64 320 *e*Pdiff Pdif 22 05 34.4 +0.1
baz=73,slow=4.7
GERES **GERESS Array B** 102.64 320 P Pdif 22 05 33.5 -0.8
comp=Z,3.8nm,0.9s,baz=90,slow=4.5,SNR=22
GERES PP PP 22 09 48.6 -0.4
comp=Z,1.6nm,0.8s,baz=76,slow=7.0,SNR=5.0
GERES PKiKP PKiKP 22 09 54.5 -0.2
comp=Z,2.4nm,0.8s,baz=54,slow=1.7,SNR=4.3
GERES PKKPbc PKKPbc 22 21 35.3 -0.1
comp=Z,2.4nm,0.9s,baz=236,slow=1.4,SNR=15
GERES PKPPKP P'P'df 22 29 54.6 +1.4
comp=Z,0.2nm,0.7s,baz=122,slow=4.9,SNR=4.6
GERES **GERESS Array B** 102.64 320 Pdif 22 05 33.1 -1.3
KHC **Kasperske Hory** 102.64 321 *e*PDIFF Pdif 22 05 33.5 -0.8
KHC *e*PP PKiKP 22 09 54.5 -0.2
KHC *ex* x 22 19 13.1
KHC *e*PKKP PKKPbc 22 21 35.2 -0.2
KHC AMS AMS 22 52 40.0
comp=Z,200nm,18.5s
KHC **Kasperske Hory** 102.64 321 *e*P Pdif 22 05 33.5 -0.8
KHC *e* 22 09 54.5
KHC MLR MLR
comp=Z,200nm,18.5s
OBKA **Obir** 102.65 318 *e*Pdiff Pdif 22 05 33.6 -0.8
comp=Z,4.0nm,1.1s
OBKA *e*PP PP 22 09 48.9 -0.2
comp=Z,9.1nm,1.1s
OBKA *e*PKKPdf PKKPbc 22 21 35.8 +0.5
comp=Z,5.4nm,1.1s
TANN **Tannenbergstha** 103.00 322 *e*Pdiff Pdif 22 05 36.1 +0.2
baz=73,slow=4.7
WERN **Wernitzgruen** 103.09 322 *e*Pdiff Pdif 22 05 36.6 +0.4
baz=73,slow=4.7

PLN	Plauen	103.17	322	*e*Pdiff		Pdif	22 05 36.7	+0.1		
	baz=73,slow=4.7									
MYKA	Terra Mystica	103.23	318	*e*PKKPbc	PKKPbc		22 21 32.7	-0.9		
	comp=Z,2.6nm,0.5s									
ROTZ	Rotzenmuhle	103.33	321	*e*Pdiff		Pdif	22 05 37.8	+0.5		
	baz=73,slow=4.7									
ROBS	Robic	103.41	318	*e*P		Pdif	22 05 35.7	-2.0		
MOX	Moxa	103.45	322	*e*Pdiff		Pdif	22 05 38.3	+0.5		
	baz=73,slow=4.7									
NRDL	Niedersach Rie	103.79	325	*e*Pdiff		Pdif	22 05 40.7	+1.5		
	baz=73,slow=4.7									
ABTA	Abfaltersbach	103.95	318	*e*Pdiff		Pdif	22 05 38.6	-1.7		
	comp=Z,5.2nm,1.1s									
ABTA				PP		PKiKP	22 09 57.3	+0.1		
	comp=Z,8.5nm,0.9s									
ABTA				*e*PKKPbc		PKKPbc	22 21 32.0	+0.6		
	comp=Z,4.9nm,1.0s									
GRF	Grafenberg Arr	103.97	322	*e*Pdiff		Pdif	22 05 40.3	+0.1		
	baz=73,slow=4.7									
GRF				*e*PP		PP	22 10 00.3	+1.6		
	baz=76,slow=6.6									
WTTA	Wattenberg	104.39	319	*e*Pdiff		Pdif	22 05 41.3	-1.0		
	comp=Z,8.6nm,0.9s									
WTTA				*e*PKiKP		PKiKP	22 09 57.7	-0.4		
	comp=Z,13nm,0.9s									
WTTA				*e*PKKPbc		PKKPbc	22 21 31.0	+0.7		
	comp=Z,5.4nm,0.8s									
WATA	Walderalm	104.41	319	*e*Pdiff		Pdif	22 05 41.2	-1.1		
	comp=Z,8.1nm,1.2s,SNR=5.2									
WATA				*e*PKKPbc		PKKPbc	22 21 30.8	+0.6		
	comp=Z,3.0nm,0.9s									
TSUM	Tsumeb	104.48	250	PKKPbc	PKKPbc		22 21 29.5	+0.5		
	comp=Z,1.2nm,0.7s,baz=269,slow=5.3,SNR=9.0									
YKA	Yellowknife Ar	104.49	24	Pdiff		Pdif	22 05 42.5	+0.3		
	comp=Z,3.8nm,0.7s,baz=290,slow=4.6,SNR=11									
YKA		PKiKP				PKiKP	22 09 57.8	+0.2		
	comp=Z,4.9nm,0.7s,baz=301,slow=1.7,SNR=16									
YKA				PKKPbc		PKKPbc	22 21 25.9	-4.3		
	comp=Z,5.2nm,0.7s,baz=121,slow=2.2,SNR=15									
SQTA	Sankt Quirin	104.68	319	*e*Pdiff		Pdif	22 05 42.5	-1.0		
	comp=Z,6.8nm,0.8s									
SQTA				*e*PKKPbc		PKKPbc	22 21 30.0	+0.7		
	comp=Z,7.9nm,1.2s									
MOTA	Moosalm	104.71	319	*e*Pdiff		Pdif	22 05 43.5	-0.2		
	comp=Z,9.9nm,1.0s,SNR=7.6									
MOTA				*e*PKKPbc		PKKPbc	22 21 28.7	-0.5		
	comp=Z,5.9nm,1.0s									
RETA	Reutte	104.90	319	*e*Pdiff		Pdif	22 05 44.5	+0.1		
	comp=Z,4.3nm,1.2s									
FETA	Feichten	105.05	319	*e*Pdiff		Pdif	22 05 44.6	-0.6		
	comp=Z,5.9nm,0.9s									
FETA				*e*PKiKP		PKiKP	22 10 00.1	+0.8		
	comp=Z,8.5nm,1.1s									
FETA				*e*PKKPbc		PKKPbc	22 21 29.0	+0.8		
	comp=Z,4.0nm,1.2s									
DAVA	Damuels	105.53	319	*e*PKiKP		PKiKP	22 09 59.5	-0.7		
	comp=Z,11nm,1.2s									
D03D	Eldon	106.03	40	PKiKP		PKiKP	22 10 02.8	+1.9		
	baz=288									
B05A	Bryant	106.43	39	PKiKP		PKiKP	22 10 02.8	+1.3		
	baz=289									
SUMG	Summit	106.66	354	*i* P		Pdif	22 05 54.9	+2.8		
	comp=Z,14nm,0.8s									
SUMG	Summit	106.66	354	*i* P		Pdif	22 05 54.9	+2.8		
SUMG				pmax		pmax				
	comp=Z,14nm,0.8s									
E04D	Cinebar	106.67	41	PKiKP		PKiKP	22 10 03.8	+1.7		
	baz=288									
J01E	Myrtle Point	106.75	45	PKiKP		PKiKP	22 10 04.2	+1.8		
	baz=286									
I03D	Drain, OR	107.00	44	PKiKP		PKiKP	22 10 04.5	+1.7		
	baz=287,SNR=5.4									
K02D	Willamette Mer	107.07	45	PKiKP		PKiKP	22 10 04.1	+1.1		
	baz=286									
H04D	Lebanon	107.18	43	PKiKP		PKiKP	22 10 05.0	+1.9		
	baz=288,SNR=5.5									
I04A	Tendick Farm,	107.62	44	PKiKP		PKiKP	22 10 05.1	+1.1		
	baz=288,SNR=6.1									
J04D	Umpqua Nationa	108.00	44	PKiKP		PKiKP	22 10 06.2	+1.3		
	baz=288,SNR=14									
M02C	Callahan	108.01	46	PKiKP		PKiKP	22 10 06.6	+1.7		
	baz=286,SNR=11									
L04D	Klamath Falls	108.17	45	PKiKP		PKiKP	22 10 06.3	+1.1		
	baz=287,SNR=13									
I05D	Terrebonne, OR	108.19	43	PKiKP		PKiKP	22 10 06.4	+1.3		
	baz=288									
N02D	Trinity Center	108.24	47	PKiKP		PKiKP	22 10 07.0	+1.6		
	baz=286,SNR=10									
O02D	Mt. Diablo Mer	108.40	47	PKiKP		PKiKP	22 10 07.0	+1.3		
	baz=286,SNR=5.2									
J05D	Fort Rock, OR	108.59	44	PKiKP		PKiKP	22 10 07.6	+1.6		
	baz=288,SNR=28									
M04C	Macdoel	108.63	46	PKiKP		PKiKP	22 10 06.9	+0.8		
	baz=287,SNR=9.6									
KEST	Kesra	109.06	308	PKiKP		PKiKP	22 10 07.3	+0.3		
	comp=Z,6.4nm,1.0s,baz=264,slow=3.1,SNR=6.5									
O03E	Paynes Creek	109.09	47	PKiKP		PKiKP	22 10 07.7	+0.8		
	baz=287,SNR=8.8									
NEW	Newport	109.53	38	PKiKP		PKiKP	22 10 09.4	+1.9		
	baz=293									
CWF	Charnwood Fore	110.08	328	*e*P		PKiKP	22 10 07.5	-0.8		
KESW	Keswick, Cumbr	110.10	330	*e*P		PKiKP	22 10 08.6	+0.4		
SWN1	Swindon	110.93	327	*e*P		PKiKP	22 10 10.2	+0.3		
STRD	Stroud	111.00	327	*e*P		PKiKP	22 10 10.1	0.0		
FOEL	Foel Wylfa	111.01	328	*e*P		PKiKP	22 10 07.9	-2.1		
LLW	Llanuwchllyn	111.27	329	*e*P		PKiKP	22 10 10.8	+0.2		
MCH1	Michaelchurch	111.34	327	*e*P		PKiKP	22 10 10.1	-0.6		
WLF1	Llynfaes	111.42	329	*e*P		PKiKP	22 10 10.9	+0.2		
MSO	Missoula	112.08	38	PKiKP		PKiKP	22 10 13.0	+0.5		
	baz=295,SNR=21									
PKM	Mcpherson Peak	112.14	52	PKiKP		PKiKP	22 10 14.9	+1.8		
	baz=286,SNR=6.9									
NVAR	Mina Array Bea	112.24	48	Pdiff		Pdif	22 06 18.9	+1.4		
	comp=Z,1.1nm,0.6s,baz=276,slow=6.1,SNR=7.9									
NVAR				PKiKP		PKiKP	22 10 14.4	+1.2		
	comp=Z,15nm,0.6s,baz=248,slow=2.1,SNR=97									
NVAR				SKP		SKPdf	22 13 37.7	+0.5		
	comp=Z,2.0nm,0.8s,baz=241,slow=2.8,SNR=4.1									
NVAR				PKKPbc		PKKPbc	22 21 00.8	-4.4		
	comp=Z,1.0nm,0.7s,baz=131,slow=6.1,SNR=4.0									
NVAR	Mina Array Bea	112.24	48	Pdif		Pdif	22 06 17.6	+0.1		
RSBS	Rosebush, Pemb	112.30	328	*e*P		PKiKP	22 10 10.8	-1.7		
VES	Vestal, Richgr	112.44	51	PKiKP		PKiKP	22 10 14.1	+0.8		
	baz=287									
TIN	Tinemaha, Big	112.73	49	PKiKP		PKiKP	22 10 16.1	+2.1		
	baz=288									
ARVC	Arvin	112.85	52	PKiKP		PKiKP	22 10 16.0	+1.9		
	baz=287									
ISA	Isabella, Lake	112.97	51	PKiKP		PKiKP	22 10 15.6	+1.2		
	baz=288									
CWC	Cottonwood Cre	113.04	50	PKiKP		PKiKP	22 10 16.3	+1.6		
	baz=288									
HLID	Hailey	113.14	42	PKiKP		PKiKP	22 10 16.2	+1.6		
	baz=294									
GRAC	Grapevine Rang	113.41	49	PKiKP		PKiKP	22 10 16.7	+1.6		
	baz=289									
DECC	Green Verdugo	113.50	52	PKiKP		PKiKP	22 10 16.9	+1.5		
	baz=287									
EDW2	Edwards Air Fo	113.58	52	PKiKP		PKiKP	22 10 17.6	+2.0		
	baz=288,SNR=11									
MPMC	Manual Prospec	113.61	50	P		PKiKP	22 10 17.6	+1.8		
	baz=288,SNR=34									
CIS	Catalina Islan	113.68	53	P		PKiKP	22 10 16.8	+1.0		
	baz=287									
FURC	Furnace Creek,	113.96	50	P		PKiKP	22 10 18.2	+2.1		
	baz=289,SNR=37									
BFSC	Mount Baldy Ra	114.03	52	P		PKiKP	22 10 17.9	+1.3		
	baz=288,SNR=5.9									
EGMT	Eagleton	114.06	36	P		PKiKP	22 10 16.7	+0.6		
	baz=300,SNR=9.5									
BOZ	Bozeman (W)	114.07	39	P		PKiKP	22 10 17.2	+0.9		
	baz=297,SNR=21									
TPNV	Topopah Spring	114.27	49	P		PKiKP	22 10 18.0	+1.0		
	baz=290									
R11A	Troy Canyon, C	114.28	47	P		PKiKP	22 10 18.2	+1.2		
	baz=291									
GSC	Goldstone, Bar	114.38	51	P		PKiKP	22 10 18.8	+1.7		
	baz=288,SNR=18									
SHOC	Shoshone, Teco	114.59	50	P		PKiKP	22 10 19.5	+2.0		
	baz=289									
MURC	Murrieta	114.59	53	P		PKiKP	22 10 19.2	+1.6		
	baz=288									
109C	Camp Elliot, M	114.88	53	P		PKPdf	22 10 19.7	+1.7		
	baz=287									
HEC	Hector,Ludlow	114.89	51	P		PKPdf	22 10 19.6	+1.5		
	baz=289,SNR=9.7									
TUQ	Turquoise Moun	115.02	50	P		PKPdf	22 10 19.7	+1.3		
	baz=289,SNR=11									
PFO	Pinyon Flats O	115.17	53	P		PKPdf	22 10 20.1	+1.3		
	baz=288,SNR=12									
PFO	Pinyon Flats O	115.17	53	*c i* PKIKP		PKPdf	22 10 19.9	+1.1		
PFO	Pinyon Flats O	115.17	53			PKiKP	22 10 18.7	-0.1		
XPFO	Pion Flat	115.18	53			PKiKP	22 10 17.4	-1.3		
TPFO	Pinon Flats	115.18	53	P		PKPdf	22 10 20.2	+1.4		
	baz=288,SNR=18									
YPP	Pitchstone Pla	115.19	40			PKPdf	22 10 19.0	+0.3		
H17A	Grant Village	115.28	40	P		PKPdf	22 10 20.8	+2.0		
	baz=297									
YMP	Mirror Lake Pl	115.39	39			PKPdf	22 10 20.3	+1.2		
BELC	Belle Mtn. Jos	115.42	52	P		PKPdf	22 10 21.4	+2.1		
	baz=288,SNR=13									
MONP2	Monument Peak	115.42	53	P		PKPdf	22 10 21.1	+1.8		
	baz=288,SNR=26									
GMRC	Granite Mounta	115.43	51	P		PKPdf	22 10 21.1	+1.8		
	baz=289,SNR=62									
DUG	Dugway, Tooele	115.58	45	P		PKPdf	22 10 20.5	+1.2		
	baz=294,SNR=52									
AHID	Auburn Hatcher	115.67	41			PKPdf	22 10 20.4	+0.8		
IKP	In-Ko-Pah, Jac	115.75	53	P		PKiKP	22 10 21.5	+1.6		
	baz=288,SNR=18									
RLMT	Red Lodge	115.76	38	P		PKPdf	22 10 20.7	+1.1		
	baz=299,SNR=9.1									
SWSC	Sam W. Stewart	115.91	53	P		PKiKP	22 10 21.6	+1.6		
	baz=288,SNR=13									
BC3	Big Chuckawall	115.96	52	P		PKiKP	22 10 22.0	+1.7		
	baz=289									
IRM	Iron Mountain	116.04	52	P		PKiKP	22 10 22.1	+1.8		
	baz=289,SNR=10.0									
CTU	Camp Tracy	116.12	44			PKiKP	22 10 20.8	+0.3		
TCUT	Toone Canyon	116.17	43			PKiKP	22 10 21.1	+0.4		
CCUT	Cedar City	116.21	47			PKiKP	22 10 21.6	+0.8		
JLU	Jordanelle	116.36	44			PKPdf	22 10 20.9	-0.1		
MPU	Maple Canyon	116.48	44			PKiKP	22 10 22.1	+0.9		
GLA	Glamis	116.65	53	P		PKiKP	22 10 23.1	+1.6		
	baz=289									
BW06	Boulder Array	116.68	41	P		PKiKP	22 10 22.1	+0.5		
	baz=297									
PDAR	Pinedale Array	116.68	41	PKP		PKiKP	22 10 22.1	+0.5		
	comp=Z,10nm,0.6s,baz=163,slow=1.5,SNR=39									
PDAR				SKP		SKPdf	22 13 45.0	-0.6		
	comp=Z,2.7nm,0.9s,baz=72,slow=5.8,SNR=3.7									
PDAR				PKKPbc		PKKPbc	22 20 48.1	-2.1		
	comp=Z,2.2nm,0.7s,baz=118,slow=6.1,SNR=15									
PDAR				PKKPab		PKKPab	22 20 53.5	-0.4		
	comp=Z,13nm,0.7s,baz=116,slow=6.8,SNR=38									
PDAR				SKKPbc		SKKPbc	22 24 23.8	-1.3		
	comp=Z,0.4nm,0.6s,baz=122,slow=8.6,SNR=2.6									
PDAR	Pinedale Array	116.68	41			PKiKP	22 10 21.5	0.0		
PDMCI	Parker Dam,Lak	116.77	51	P		PKiKP	22 10 23.3	+1.6		
	baz=290									
LAO	LASA Array	116.81	36	P		PKiKP	22 10 22.7	+1.2		
	baz=302									
DGMT	Dagmar	116.97	33	P		PKiKP	22 10 22.5	+0.8		
	baz=305									
SESP	Santiago Espad	117.31	314	P		PKiKP	22 10 23.1	+0.3		
	SNR=7.0									
ESDC	Sonseca Array	117.67	316	PKP		PKPdf	22 10 23.2	-0.1		
	comp=Z,6.8nm,0.9s,baz=12,slow=3.3,SNR=39									
ESDC				PP		PP	22 11 36.4	-1.0		
	comp=Z,4.8nm,1.2s,baz=57,slow=7.4,SNR=2.1									
ESDC				PKKPbc		PKKPbc	22 20 47.5	+1.1		
	comp=Z,1.8nm,0.8s,baz=287,slow=4.2,SNR=5.6									
PAB	San Pablo	117.99	316	PKiKP		PKiKP	22 10 24.6	+0.6		
PAB	San Pablo	117.99	316			PKiKP	22 10 24.6	+0.6		
WUAZ	Wupatki	118.46	49	P		PKiKP	22 10 26.6	+1.5		
	baz=293,SNR=67									
PBRG	Braganca	118.58	319	*e*PKPdf		PKiKP	22 10 25.5	+0.5		
214A	Organ Pipe Nat	118.62	53	P		PKiKP	22 10 26.4	+1.1		
	baz=290									
K22A	Casper	118.70	40	P		PKPdf	22 10 25.3	0.0		
	baz=300									
O20A	White River Ci	118.77	43	P		PKiKP	22 10 26.6	+0.9		
	baz=297,SNR=88									
O20A				S		SKiKP	22 13 50.6	+0.7		
	baz=297,SNR=6.3									
TDRA	Tendrara	118.83	308	P		PKiKP	22 10 28.0	+2.1		
	SNR=5.4									
MVO	Moncorvo	119.07	319	*e*PKPdf		PKiKP	22 10 26.4	+0.4		
HORN	Hornachuelos	119.37	314	P		PKiKP	22 10 27.3	+0.7		
	SNR=16									
PCAB	Cabril	119.46	320	*e*PKPdf		PKiKP	22 10 27.9	+1.2		
PVRL	Vila Real	119.47	319	*e*PKPdf		PKiKP	22 10 27.6	+0.8		
RSSD	Black Hills	119.48	37	P		PKPdf	22 10 26.8	-0.2		
	baz=303									
RSSD	Black Hills	119.48	37	PKiKP		PKPdf	22 10 26.7	-0.2		
RSSD	Black Hills	119.48	37			PKPdf	22 10 26.7	-0.2		
PGAV	Gavieira, Arco	119.49	320	*e*PKPdf		PKiKP	22 10 27.3	+0.4		
MTE	Manteigas	119.78	318	*e*PKPdf		PKiKP	22 10 27.9	+0.5		
MDND	Maddock	119.81	32	P		PKiKP	22 10 27.2	0.0		
	baz=305,SNR=15									
W18A	Petrified Fore	119.85	49	P		PKiKP	22 10 29.4	+1.6		
	baz=294,SNR=11									
PVIS	Viseu	119.86	318	*e*PKPdf		PKiKP	22 10 27.8	+0.2		
MVCO	Mesa Verde	119.89	46	P		PKiKP	22 10 29.2	+1.2		
	baz=296									
N23A	Red Feather La	119.95	41	P		PKiKP	22 10 28.3	+0.3		
	baz=300									
PCBR	Castelo Branco	120.01	317	*e*PKPdf		PKiKP	22 10 28.2	+0.4		
ULM	Lac du Bonnet	120.07	28	PKP		PKPdf	22 10 27.4	-0.1		
	comp=Z,66nm,0.7s,baz=314,slow=2.7,SNR=53									
ULM				SKP		SKPdf	22 13 50.4	-1.2		
	comp=Z,5.6nm,0.7s,baz=299,slow=5.7,SNR=3.6									
ULM				PKKPbc		PKKPbc	22 20 36.2	-1.8		
	comp=Z,5.8nm,0.6s,baz=105,slow=2.3,SNR=5.1									
TUC	Tucson	120.10	52	P		PKiKP	22 10 29.6	+1.3		
	baz=291									
TUC	Tucson	120.10	52	PKiKP		PKiKP	22 10 30.0	+1.7		
TUC	Tucson	120.10	52			PKiKP	22 10 30.0	+1.7		
PTO	Porto	120.12	319	*e*PKPdf		PKiKP	22 10 29.0	+1.1		
PMRV	Marv??o	120.14	317	*e*PKPdf		PKiKP	22 10 28.4	+0.3		
TORD	Torodi Ar. Bea	120.38	285	PKP		PKPdf	22 10 28.5	-0.6		
	comp=Z,46nm,0.7s,baz=56,slow=2.0,SNR=203									
TORD				SKP		SKPdf	22 13 53.3	+0.2		
	comp=Z,6.5nm,0.8s,baz=55,slow=1.9,SNR=6.7									
TORD				PKKPab		PKKPab	22 20 37.5	-0.1		
	comp=Z,9.8nm,0.7s,baz=291,slow=3.5,SNR=30									
TORD				PKKP		PKKPdf	22 21 09.2	+0.7		
	comp=Z,3.2nm,0.9s,baz=267,slow=5.1,SNR=4.6									
TORD	Torodi Ar. Bea	120.38	285			PKPdf	22 10 28.2	-0.9		
COI	Coimbra	120.46	318	*e*PKPdf		PKiKP	22 10 29.5	+0.9		
CHEFC	Chefchaouen	120.58	312	P		PKiKP	22 10 30.0	+0.8		
	SNR=8.9									
PCAS	Casmilo, Conde	120.59	318	*e*PKPdf		PKPdf	22 10 25.7	-3.1		
ISCO	Idaho Springs	120.71	42	P		PKiKP	22 10 30.1	+0.5		
	baz=299,SNR=40									
S22A	4UR Ranch, Cre	120.84	45	P		PKiKP	22 10 31.3	+1.4		
	baz=297									
PMTG	Montargil	120.89	317	*e*PKPdf		PKiKP	22 10 29.9	+0.4		
EVO	Evora	121.00	316	*e*PKPdf		PKiKP	22 10 30.1	+0.3		
RSA	Sarsar	121.03	312	P		PKiKP	22 10 31.0	+0.9		
	SNR=17									
PSBE	So Bento	121.06	318	*e*PKPdf		PKiKP	22 10 30.6	+0.7		
PBEJ	Beja	121.13	316	*e*PKPdf		PKiKP	22 10 30.6	+0.5		
CZD	Col de Zad	121.18	309	P		PKiKP	22 10 32.0	+1.3		
	SNR=11									
PVAQ	Vaqueiros	121.31	315	*e*PKPdf		PKiKP	22 10 30.9	+0.5		
AGMN	Agassiz Nation	121.42	29	P		PKPdf	22 10 29.7	-0.5		
	baz=313,SNR=17									
Q24A	Divide	121.43	43	P		PKiKP	22 10 31.3	+0.3		
	baz=299,SNR=16									
PCVE	Castro Verde	121.44	315	*e*PKPdf		PKiKP	22 10 31.3	+0.6		
MESJ	Messejana	121.47	316	*e*PKPdf		PKiKP	22 10 30.9	+0.1		
MESJ	Messejana	121.47	316	*e*PKPdf		PKiKP	22 10 31.3	+0.6		
PBDV	Barranco-do-Ve	121.54	315	*e*PKPdf		PKiKP	22 10 31.8	+0.9		
PNCL	Nicolau / Gran	121.55	316	*e*PKPdf		PKiKP	22 10 31.3	+0.4		
GOLM	Goulmima	121.62	308	P		PKiKP	22 10 33.0	+1.6		
	SNR=16									
PMAFR	Mafra	121.66	317	*e*PKPdf		PKiKP	22 10 31.7	+0.6		
PTEO	Sao Teotonio	121.96	316	*e*PKPdf		PKiKP	22 10 32.4	+0.7		
MORF	Marmelete	122.02	315	*e*PKPdf		PKiKP	22 10 31.9	0.0		
MORF	Marmelete	122.02	315	*e*PKPdf		PKiKP	22 10 32.8	+0.9		
PFVI	Vila Bisbo	122.22	315	*e*PKPdf		PKiKP	22 10 32.9	+0.7		
ZHG	ZHG	122.25	310	P		PKiKP	22 10 33.1	+0.6		
	SNR=15									
SUSD	Miller	122.28	34	P		PKPdf	22 10 31.9	-0.1		
	baz=308									
ANMO	Albuquerque	122.36	48	P		PKiKP	22 10 34.0	+1.1		
	baz=296									
ANMO	Albuquerque	122.36	48	*c i* PKIKP		PKiKP	22 10 33.8	+1.0		
ANMO	Albuquerque	122.36	48			PKiKP	22 10 33.9	+1.1		
121A	Cookes Peak, D	122.36	51	P		PKiKP	22 10 34.3	+1.5		
	baz=294									
Y22D	IRIS PASSCAL I	122.39	49	P		PKiKP	22 10 34.6	+1.7		
	baz=295									
TZRR	Tazzarine	122.45	307	P		PKiKP	22 10 33.3	+0.3		
	SNR=28									
ZGR	Zagora	122.74	306	P		PKiKP	22 10 34.0	+0.4		
	SNR=39									
T25A	Trinidad	122.83	44	P		PKiKP	22 10 34.6	+0.9		
	baz=299									
KSCO	Kaye Shedlock'	123.10	42	P		PKiKP	22 10 34.4	+0.3		
	baz=302,SNR=9.4									
OUZM	OUZ	123.35	308	P		PKiKP	22 10 35.0	+0.2		
	SNR=24									
SRHM	Skhour des Reh	123.61	310	P		PKiKP	22 10 36.0	+0.8		
	SNR=11									
SLBS	Sierra La Lagu	123.61	61			PKiKP	22 10 36.9	+1.5		
EYMN	Ely	123.74	27	P		PKPdf	22 10 34.5	-0.1		
	baz=317,SNR=28									
ECSD	EROS Data Cent	124.03	34	P		PKPdf	22 10 35.2	-0.1		
	baz=310									
ECSD				S		SKiKP	22 14 00.3	+0.2		
	baz=310									
OUK	Oukaimeden	124.11	308	P		PKiKP	22 10 37.2	+0.6		
	SNR=28									
MNTX	Cornudas Mount	124.57	51	P		PKiKP	22 10 38.0	+0.9		
	baz=295									
BGNE	Belgrade	124.59	37	P		PKPdf	22 10 36.3	-0.2		
	baz=307									
TTIG	Tnine Tigouga,	124.83	308	P		PKiKP	22 10 38.0	+0.2		
	SNR=13									
SCHQ	Schefferville	124.83	7	PKP		PKiKP	22 10 37.0	+0.1		
	comp=Z,59nm,0.8s,baz=18,slow=2.1,SNR=77									
SCHQ				SKP			22 14 01.1			
	comp=Z,3.1nm,0.6s,baz=3.4,slow=6.4,SNR=4.5									
SPMN	Marine on St.	125.06	30	P		PKiKP	22 10 37.9	+0.3		
	baz=315									
CBKS	Cedar Bluff	125.10	40	P		PKiKP	22 10 37.9	-0.1		
	baz=304									
MSTX	Mulesh e	125.51	47	P		PKiKP	22 10 39.1	+0.1		
	baz=298,SNR=35									
AMTX	Amarillo	125.86	45	P		PKiKP	22 10 39.8	+0.2		
	baz=300									
TXAR	Lajitas Array	126.90	53	PKhKP		PKPdf	22 10 38.8	-2.5		
	comp=Z,1.0nm,0.7s,baz=233,slow=4.0,SNR=3.8									
TXAR				SKPab	SKPab		22 13 47.2			
	comp=Z,5.2nm,1.0s,baz=302,slow=2.0,SNR=5.1									
TXAR				PKKPbc		PKKPbc	22 20 12.2	+0.6		
	comp=Z,0.4nm,0.8s,baz=100,slow=5.2,SNR=3.8									
TXAR				SKKPbc		SKKPbc	22 23 51.5	+0.4		
	comp=Z,0.8nm,0.9s,baz=133,slow=5.3,SNR=4.6									
TXAR	Lajitas Array	126.90	53			PKPpre	22 10 31.0			
KSU1	Kansas State U	126.92	38	P		PKPdf	22 10 41.2	+0.2		
	baz=307,SNR=42

J48A	Bridge Port baz=324,SNR=36	130.76	26	P		PKPdf	22 10 48.1	-0.1
CCM	Cathedral Cave baz=312	130.82	36	P		PKPdf	22 10 48.3	-0.1
E55A	Montcerf-Lytto baz=335,SNR=9.9	130.89	17	P		PKiKP	22 10 49.2	0.0
435B	Jarrell baz=301	130.90	48	P		PKiKP	22 10 49.3	-0.4
LATQ	La Tuque baz=339,SNR=20	130.92	14	P		PKPdf	22 10 48.8	+0.4
U40A	Yellville baz=309,SNR=43	130.95	39	P		PKPdf	22 10 48.6	-0.1
U40A	Yellville	130.95	39	PKPdf		PKPdf	22 10 49.1	+0.4
D57A	Chemin Vers le baz=338,SNR=11	130.98	15	P		PKPdf	22 10 48.0	-0.5
J49A	Marlette baz=324,SNR=14	130.99	25	P		PKPdf	22 10 48.2	-0.4
W39A	Magazine baz=308,SNR=36	131.08	41	P		PKPdf	22 10 49.0	0.0
E56A	St. Veronique baz=336,SNR=18	131.10	16	P		PKPdf	22 10 48.9	+0.2
D58A	Chemin du LacG baz=339,SNR=14	131.17	14	P		PKPdf	22 10 48.3	-0.6
G54A	Lake Saint Pet baz=332,SNR=25	131.19	20	P		PKPdf	22 10 48.6	-0.4
H52A	Wyevale baz=329	131.21	22	P		PKPdf	22 10 48.8	-0.2
G53A	Haliburton baz=331,SNR=28	131.25	20	P		PKPdf	22 10 49.0	-0.1
K49A	Clarkson baz=324	131.32	26	P		PKPdf	22 10 49.4	+0.1
F55A	Otter Lake baz=334,SNR=6.9	131.36	18	P		PKiKP	22 10 49.7	-0.5
Z38A	Mt. Pleasant	131.42	43			PKiKP	22 10 50.6	-0.1
SFIN	Lafayette baz=318,SNR=7.4	131.46	31	P		PKPdf	22 10 49.5	0.0
E57A	Chemin Saint G baz=337,SNR=16	131.47	16	P		PKPdf	22 10 49.4	-0.1
I51A	Listowel baz=327,SNR=20	131.49	23	P		PKPdf	22 10 49.5	0.0
Q44A	Meyer Farm, Va	131.51	33			PKiKP	22 10 50.4	-0.4
237A	Washetta, Mont	131.54	45			PKiKP	22 10 50.6	-0.4
I52A	Shelburne baz=328,SNR=8.4	131.59	22	P		PKPdf	22 10 49.7	0.0
MIAR	Mount Ida baz=307,SNR=45	131.61	41	P		PKiKP	22 10 50.7	-0.4
MIAR	Mount Ida	131.61	41	PKiKP		PKiKP	22 10 51.2	+0.1
MIAR	Mount Ida	131.61	41	PKPdf		PKiKP	22 10 51.1	+0.1
AAM	Ann Arbor baz=323,SNR=5.9	131.62	26	P		PKiKP	22 10 50.4	-0.4
D61A	St Aubert, Com baz=342,SNR=5.7	131.68	12	P		PKiKP	22 10 50.3	-0.5
FCAR	Ozark Folk Cen	131.71	39	PKPdf		PKPdf	22 10 49.8	-0.4
H53A	Bobcaygeon baz=331,SNR=16	131.74	21	P		PKPdf	22 10 50.2	+0.3
E58A	La Victoria baz=338,SNR=6.7	131.74	15	P		PKiKP	22 10 50.6	-0.4
G55A	Calabogie baz=333,SNR=14	131.76	19	P		PKPdf	22 10 49.6	-0.5
ORIO	Orleans, Innes baz=335,SNR=13	131.96	17	P		PKPdf	22 10 50.8	+0.5
P46A	Rosedale	131.97	31	PKPdf		PKiKP	22 10 51.2	-0.4
I53A	Kortright Cn E baz=329	132.02	22	P		PKiKP	22 10 51.2	-0.4
D62A	Allapoint, All baz=344	132.02	11	P		PKPdf	22 10 50.9	+0.4
D62A	Allapoint, All	132.02	11	PKPpre		PKPpre	22 10 38.2	
D62A				PKPdf		PKPdf	22 10 48.9	-1.5
W41B	Gary Mavity, V baz=309,SNR=9.5	132.08	40	P		PKPdf	22 10 51.2	+0.3
DELO	Deloro Mine	132.12	20	PKPdf		PKPdf	22 10 50.6	-0.1
X40A	Basin Creek Fa baz=308,SNR=7.9	132.13	41	P		PKiKP	22 10 52.4	+0.3
OLIL	Olney	132.13	33	PKPdf		PKiKP	22 10 51.8	-0.1
J52A	Paris baz=328,SNR=18	132.18	23	P		PKPdf	22 10 51.2	+0.3
LCAR	Lake Charles	132.19	38	PKPdf		PKPdf	22 10 50.4	-0.7
E60A	Ste Agathe de baz=340	132.19	13	P		PKPdf	22 10 50.9	+0.1
K51A	Iona Station baz=326,SNR=11	132.19	24	P		PKiKP	22 10 51.4	-0.6
L50A	Kingsville baz=324,SNR=9.8	132.20	26	P		PKPdf	22 10 51.2	+0.3
H55A	Tweed baz=332,SNR=14	132.24	19	P		PKPdf	22 10 51.1	+0.2
D63A	Stockholm baz=345	132.24	10	P		PKPdf	22 10 50.9	0.0
BATG	Bathurst New B	132.33	8	PKPdf		PKPdf	22 10 50.9	-0.2
E61A	Lac Etchemin baz=342,SNR=14	132.35	13	P		PKiKP	22 10 51.9	-0.3
F59A	Saint Guilaume baz=338	132.35	15	P		PKPdf	22 10 51.3	+0.2
I55A	Frankford baz=332,SNR=8.8	132.36	20	P		PKPdf	22 10 51.5	+0.3
E62A	Clayton Lake baz=343,SNR=7.4	132.37	12	P		PKPdf	22 10 51.2	0.0
G57A	Newington baz=335,SNR=14	132.43	17	P		PKPdf	22 10 51.6	+0.4
WLAR	White Oak Lake	132.43	42	PKPdf		PKiKP	22 10 52.2	-0.5
F60A	Warwick baz=340,SNR=14	132.45	14	P		PKPdf	22 10 51.7	+0.4
K52A	Tillsonburg baz=327,SNR=6.4	132.47	24	P		PKPdf	22 10 51.5	+0.1
N49A	Columbus Grove	132.47	28	PKPdf		PKPdf	22 10 51.7	+0.2
NATX	Nacogdoches baz=304	132.49	45	P		PKiKP	22 10 53.2	+0.3
H56A	Elgin baz=334,SNR=12	132.50	19	P		PKiKP	22 10 52.2	-0.3
O48A	Farmland baz=320,SNR=9.4	132.52	29	P		PKPdf	22 10 51.5	-0.1
PQI	Presque Isle	132.61	10	PKPdf		PKPdf	22 10 51.2	-0.3
HKT	Hockley	132.62	48	PKiKP		PKiKP	22 10 53.7	+0.6
HKT	Hockley	132.62	48			PKiKP	22 10 53.7	+0.6
PARMO	Parma	132.64	36	PKPdf		PKiKP	22 10 52.9	-0.1
BLO	Bloomington	132.65	31	PKiKP		PKiKP	22 10 52.5	-0.5
BLO	Bloomington	132.65	31	PKPdf		PKiKP	22 10 52.5	-0.5
G58A	Ormstown baz=337,SNR=7.5	132.66	16	P		PKPdf	22 10 51.8	+0.1
F61A	St Evariste baz=341	132.67	13	P		PKiKP	22 10 52.4	-0.4
E63A	Oxbow baz=344,SNR=7.5	132.77	11	P		PKPdf	22 10 52.1	+0.3
J54A	Appleton baz=330,SNR=7.3	132.85	22	P		PKPdf	22 10 52.4	+0.3
E64A	Bridgewater baz=345,SNR=5.8	132.88	10	P		PKPdf	22 10 52.0	0.0
H57A	Richville baz=335,SNR=13	132.89	18	P		PKPdf	22 10 52.3	+0.1
Z41A	Richland Creek baz=307	132.90	42	P		PKPdf	22 10 52.5	+0.1
G59A	Clarenceville baz=338,SNR=9.1	132.96	16	P		PKPdf	22 10 52.2	0.0
F62A	Pittston Farm, baz=342,SNR=6.4	132.97	12	P		PKPdf	22 10 52.8	+0.5
F62A	Pittston Farm,	132.97	12	PKPdf		PKPdf	22 10 51.9	-0.4
O49A	Covington	132.97	29	PKPdf		PKPdf	22 10 52.5	0.0
MOQ	Mont Orford	132.99	15	PKPdf		PKPdf	22 10 52.1	-0.3
LONY	Lake Ozonia baz=336,SNR=8.0	132.99	17	P		PKiKP	22 10 53.0	-0.6
P48A	Milroy	133.00	30	PKPdf		PKPdf	22 10 52.4	-0.1
M51A	Elyria baz=325,SNR=5.4	133.05	26	P		PKPdf	22 10 52.8	+0.3
FRNY	Flat Rock	133.08	16	PKPpre		PKPpre	22 10 40.5	
J55A	Hilton baz=331,SNR=27	133.15	21	P		PKPdf	22 10 52.8	+0.2
G60A	Masonville baz=339	133.17	15	P		PKiKP	22 10 54.0	+0.1
G61A	St-Isidore-de- baz=340	133.19	14	P		PKiKP	22 10 54.0	+0.1
H59A	Cadyville baz=337,SNR=7.1	133.22	16	P		PKPdf	22 10 53.3	+0.5
M52A	Chesterland baz=326,SNR=8.2	133.24	25	P		PKPdf	22 10 53.5	+0.5
I57A	Carthage baz=334,SNR=17	133.28	18	P		PKPdf	22 10 53.4	+0.5
H58A	Gabriels baz=336,SNR=8.9	133.29	17	P		PKPdf	22 10 53.6	+0.6
P49A	Miami Univ. Ec baz=320,SNR=11	133.29	30	P		PKPdf	22 10 53.3	+0.2
P49A	Miami Univ. Ec	133.29	30	PKPdf		PKPdf	22 10 52.6	-0.4
N51A	Ashland baz=324,SNR=12	133.30	26	P		PKPdf	22 10 53.5	+0.4
ERPA	Erie baz=328,SNR=9.9	133.32	23	P		PKPdf	22 10 53.2	+0.2
F64A	Sherman baz=344,SNR=11	133.33	11	P		PKiKP	22 10 53.6	-0.5
F63A	Nahmakanta, Br	133.33	12	P		PKiKP	22 10 53.7	-0.6
	baz=343,SNR=9.5							
L53A	Girard baz=327,SNR=8.3	133.34	24	P		PKPdf	22 10 53.4	+0.3
K54A	Basiliko Farm, baz=330,SNR=6.1	133.40	22	P		PKPdf	22 10 53.5	+0.2
WCI	Wyandotte Cave baz=318	133.47	32	P		PKiKP	22 10 54.2	-0.5
WCI	Wyandotte Cave	133.47	32	PKiKP		PKPdf	22 10 53.7	+0.3
WCI	Wyandotte Cave	133.47	32	PKPdf		PKPdf	22 10 53.7	+0.3
J56A	Wolcott baz=332,SNR=14	133.47	20	P		PKPdf	22 10 53.7	+0.4
L54A	Sinclairville baz=329,SNR=17	133.48	23	P		PKPdf	22 10 53.9	+0.5
G62A	West of Eustis baz=341	133.49	13	P		PKiKP	22 10 54.0	-0.6
G62A	West of Eustis	133.49	13	PKPdf		PKPdf	22 10 53.2	-0.1
K55A	Perry baz=330,SNR=12	133.53	21	P		PKPdf	22 10 53.8	+0.4
H60A	Morristown baz=338,SNR=7.7	133.57	15	P		PKiKP	22 10 54.3	-0.5
ACSO	Alum Creek Sta baz=323,SNR=16	133.58	28	P		PKiKP	22 10 54.2	-0.6
M53A	WI Miller and baz=326,SNR=21	133.60	25	P		PKPdf	22 10 54.0	+0.4
WVNY	West Valley, N	133.61	22	PKPdf		PKPdf	22 10 53.5	-0.1
J57A	Williamstown baz=333,SNR=11	133.64	19	P		PKiKP	22 10 54.5	-0.4
J57A	Williamstown	133.64	19	PKPdf		PKPdf	22 10 53.6	0.0
NCB	Newcomb	133.69	17	PKPdf		PKPdf	22 10 54.0	+0.3
N52A	McGinn's Farm, baz=325,SNR=24	133.69	26	P		PKiKP	22 10 54.5	-0.6
I58A	Old Forge baz=335,SNR=17	133.72	18	P		PKPdf	22 10 54.4	+0.6
PKME	Peaks-Kenny Pk baz=343,SNR=5.7	133.72	12	P		PKiKP	22 10 54.5	-0.4
PKME	Peaks-Kenny Pk	133.72	12	PKPdf		PKPdf	22 10 54.0	+0.4
G63A	Kingsbury baz=342,SNR=9.7	133.79	12	P		PKPdf	22 10 54.2	+0.3
H61A	Lyndonville baz=339	133.80	15	P		PKiKP	22 10 55.0	-0.2
O51A	Pataskala baz=323,SNR=18	133.82	27	P		PKPdf	22 10 54.4	+0.3
K56A	Middlesex baz=331,SNR=9.7	133.82	21	P		PKPdf	22 10 54.5	+0.5
G64A	Maxfield baz=344,SNR=6.2	133.84	11	P		PKiKP	22 10 54.6	-0.6
L55A	Hinsdale baz=330,SNR=18	133.86	22	P		PKPdf	22 10 54.7	+0.6
LMN	Caledonia Moun	133.90	8	PKPdf		PKPdf	22 10 53.5	-0.5
J58A	Remsen baz=334,SNR=21	133.91	18	P		PKiKP	22 10 55.0	-0.5
J58A	Remsen	133.91	18	PKPdf		PKPdf	22 10 54.0	-0.2
I59A	Olmsteadville baz=336,SNR=8.5	133.95	17	P		PKiKP	22 10 55.1	-0.5
H62A	Milan baz=340	133.95	14	P		PKiKP	22 10 55.6	+0.1
H62A	Milan	133.95	14	PKPdf		PKPdf	22 10 54.5	+0.3
M54A	Oil Creek Stat baz=328,SNR=26	133.96	24	P		PKiKP	22 10 55.0	-0.7
N53A	Lisbon baz=326,SNR=15	134.06	25	P		PKPdf	22 10 54.8	+0.2
J59A	Piesco baz=335,SNR=16	134.06	18	P		PKiKP	22 10 55.2	-0.5
I60A	Shoreham baz=337,SNR=6.1	134.07	16	P		PKiKP	22 10 55.4	-0.3
K57A	Scipio Center baz=332,SNR=15	134.07	20	P		PKiKP	22 10 55.1	-0.7
LBNH	Lisbon baz=339,SNR=9.4	134.07	15	P		PKiKP	22 10 55.5	-0.2
LBNH	Lisbon	134.07	15	PKiKP		PKiKP	22 10 55.6	-0.2
LBNH	Lisbon	134.07	15	PKPdf		PKiKP	22 10 55.6	-0.1
G65A	Princeton baz=345,SNR=9.3	134.11	10	P		PKiKP	22 10 55.1	-0.7
H63A	New Sharon baz=342	134.13	13	P		PKPdf	22 10 55.0	+0.6
WVT	Waverly baz=315	134.13	35	P		PKPdf	22 10 55.2	+0.5
P51A	Williamsport baz=322,SNR=9.7	134.13	28	P		PKPdf	22 10 54.9	+0.3
P51A	Williamsport	134.13	28	PKPdf		PKPdf	22 10 54.2	-0.4
O52A	Adamsville baz=324,SNR=12	134.19	27	P		PKPdf	22 10 55.1	+0.4
O52A	Adamsville	134.19	27	PKPdf		PKPdf	22 10 54.6	-0.1
L56A	Greenwood baz=331,SNR=11	134.23	21	P		PKPdf	22 10 55.4	+0.6
I61A	Oroboro, Fairl baz=339,SNR=6.0	134.28	15	P		PKiKP	22 10 56.0	-0.2
N54A	Malone State baz=327,SNR=12	134.29	24	P		PKPdf	22 10 54.9	-0.1
N54A	Moraine State	134.29	24	PKPdf		PKPdf	22 10 54.5	-0.4
OXF	Oxford baz=312	134.29	38	P		PKPdf	22 10 55.3	+0.2
OXF	Oxford	134.29	38	PKiKP		PKPdf	22 10 55.0	-0.1
OXF	Oxford	134.29	38	PKPdf		PKPdf	22 10 55.0	-0.1
WVL	Waterville	134.30	13	PKPdf		PKPdf	22 10 54.5	-0.3
H64A	Troy baz=343	134.32	12	P		PKPdf	22 10 55.0	+0.1
K58A	Earlville baz=329,SNR=12	134.33	19	P		PKiKP	22 10 55.7	-0.6
M55A	Ridgway baz=329,SNR=14	134.35	23	P		PKPdf	22 10 55.2	+0.1
M55A	Ridgway	134.35	23	PKPdf		PKPdf	22 10 54.9	-0.1
Q51A	Peebles	134.36	29	PKPdf		PKPdf	22 10 54.6	-0.5
O53A	New Philadelph baz=325,SNR=12	134.36	26	P		PKPdf	22 10 55.5	+0.5
O53A	New Philadelph	134.36	26	PKPdf		PKPdf	22 10 55.4	+0.3
ACCN	Adirondack Com	134.39	17			PKPpre	22 10 44.7	
ACCN				PKPdf		PKPdf	22 10 55.0	0.0
P52A	Corning baz=329,SNR=18	134.44	27	P		PKPdf	22 10 55.6	+0.4
P52A	Corning	134.44	27	PKPdf		PKPdf	22 10 55.1	-0.1
H65A	Eastbrook baz=344,SNR=12	134.47	11	P		PKPdf	22 10 55.3	+0.2
HNH	Hanover	134.48	15	PKPdf		PKiKP	22 10 56.4	-0.2
H66A	Whiting baz=346,SNR=9.0	134.56	10	P		PKiKP	22 10 56.0	-0.6
M56A	Emporium baz=330,SNR=14	134.56	22	P		PKPdf	22 10 56.0	+0.6
M56A	Emporium	134.56	22	PKPdf		PKPdf	22 10 55.0	-0.4
I62A	Tamworth baz=340	134.56	15	P		PKPdf	22 10 55.7	+0.3
K59A	Cooperstown baz=335	134.58	18	P		PKPdf	22 10 56.0	+0.6
I63A	Otisfield baz=341	134.58	14	P		PKiKP	22 10 56.2	-0.6
J60A	Lant Hill Farm baz=337	134.59	17	P		PKiKP	22 10 56.2	-0.7
L57A	Andrews Acres baz=332,SNR=22	134.60	21	P		PKPdf	22 10 56.1	+0.6
Y45A	Yeager Farm, C	134.63	39	PKPdf		PKPdf	22 10 55.8	0.0
BINY	Binghamton baz=333,SNR=21	134.72	20	P		PKiKP	22 10 56.5	-0.7
J61A	Chester baz=338	134.74	16	P		PKPdf	22 10 56.1	+0.4
O54A	Avella baz=326,SNR=15	134.78	25	P		PKiKP	22 10 56.6	-0.7
O54A	Avella	134.78	25	PKPdf		PKPdf	22 10 55.6	-0.3
PLAL	Pickwick Lake	134.78	37	PKPdf		PKPdf	22 10 55.4	-0.6
N55A	Marion Center baz=328,SNR=9.0	134.85	24	P		PKPdf	22 10 56.4	+0.4
P53A	Whipple baz=324,SNR=16	134.90	27	P		PKiKP	22 10 56.8	-0.7
P53A	Whipple	134.90	27	PKPdf		PKPdf	22 10 55.8	-0.3
L58A	Harry Jones Me baz=333,SNR=8.0	134.91	20	P		PKiKP	22 10 56.9	-0.7
Q52A	Bidwell baz=323,SNR=16	134.92	28	P		PKPdf	22 10 56.3	+0.2
I64A	Boothbay baz=342,SNR=7.0	134.92	13	P		PKPdf	22 10 56.3	+0.4
V48A	Smith Brothers	134.98	35	PKPdf		PKPdf	22 10 56.1	-0.3
N56A	West Decatur baz=329,SNR=14	135.00	23	P		PKPdf	22 10 56.9	+0.6
K60A	Five Rivers En baz=336	135.02	18	P		PKiKP	22 10 57.1	-0.6
L59A	Walton baz=334,SNR=7.5	135.05	19	P		PKPdf	22 10 56.8	+0.5
L59A	Walton	135.05	19	PKPdf		PKPdf	22 10 55.8	-0.6
J62A	Henniker baz=339	135.05	15	P		PKiKP	22 10 57.4	-0.4
VBMS	Vicksburg baz=309	135.05	41	P		PKiKP	22 10 57.5	-0.6
M57A	Sunshine Farm, baz=331,SNR=9.9	135.08	21	P		PKPdf	22 10 56.9	+0.5
K61A	Williamstown baz=337	135.16	17	P		PKiKP	22 10 57.5	-0.6
J63A	Strafford baz=340	135.19	15	P		PKPdf	22 10 57.2	+0.7
O55A	Ligonier baz=328,SNR=9.8	135.20	24	P		PKPdf	22 10 57.4	+0.7
P54A	Burton baz=326	135.21	26	P		PKPdf	22 10 56.7	0.0
M58A	Price's Panora baz=332,SNR=8.4	135.29	21	P		PKPdf	22 10 57.1	+0.3
S51A	Beattyville	135.31	30	PKPdf		PKPdf	22 10 56.9	0.0
Q53A	Leroy baz=324,SNR=11	135.35	27	P		PKPdf	22 10 57.7	+0.7
KSPA	Keystone Colle	135.37	20	PKPdf		PKPdf	22 10 56.2	-0.7
SSPA	Standing Stone baz=330	135.40	23	P		PKPdf	22 10 57.5	+0.5
N57A	Milroy baz=350,SNR=9.0	135.43	22	P		PKPdf	22 10 57.4	+0.4
MCWV	Mont Chateau baz=327	135.44	25	P		PKPdf	22 10 57.8	+0.7
O56A	Blue Knob Stat baz=329	135.45	24	P		PKPdf	22 10 57.1	-0.1
O56A	Blue Knob Stat	135.45	24	PKPdf		PKPdf	22 10 56.5	-0.6
K62A	Royalston baz=338	135.46	16	P		PKiKP	22 10 58.2	-0.4
L60A	Shokan baz=335,SNR=7.2	135.49	18	P		PKiKP	22 10 57.9	-0.8
M59A	Waymart baz=333,SNR=9.0	135.50	20	P		PKPdf	22 10 57.7	+0.5
L61A	Hillsdale 1, H baz=336,SNR=6.5	135.51	18	P		PKiKP	22 10 57.9	-0.8
L61B	Northampton baz=338,SNR=6.2	135.53	17	P		PKiKP	22 10 58.0	-0.7
Q54A	Coxs Mills baz=325,SNR=9.5	135.56	27	P		PKPdf	22 10 58.1	+0.7
Q54A	Coxs Mills	135.56	27			PKPdf	22 10 57.5	+0.2
P55A	Reedsville baz=326,SNR=8.7	135.57	25	P		PKPdf	22 10 58.0	+0.6
R53A	Hurricane baz=323,SNR=12	135.57	28	P		PKPdf	22 10 58.1	+0.7
R53A	Hurricane	135.57	28	PKPdf		PKPdf	22 10 57.1	-0.3
K63A	Dunstable baz=339	135.62	15	P		PKiKP	22 10 58.2	-0.7
N58A	Sunbury baz=331,SNR=14	135.67	21	P		PKPdf	22 10 58.0	+0.5
146A	Union	135.74	40	PKPdf		PKiKP	22 10 58.7	-0.7
HRV	Adam Dziewonsk baz=339	135.79	15	P		PKiKP	22 10 58.6	-0.6
O57A	Amberson baz=330,SNR=11	135.87	23	P		PKPdf	22 10 58.3	+0.4
Q55A	Buckhannon baz=326,SNR=14	135.88	26	P		PKPdf	22 10 58.2	+0.2
N59A	State Game Lan baz=333	135.94	20	P		PKPdf	22 10 58.0	0.0
N59A	State Game Lan	135.94	20	PKPdf		PKPdf	22 10 57.4	-0.6
M60A	Port Jervis baz=334	135.96	19	P		PKPdf	22 10 57.8	-0.2
P56A	Dayton Farm, R baz=328,SNR=11	135.99	24	P		PKiKP	22 10 58.9	-0.9
Z47A	Carrollton	135.99	38	PKPdf		PKPdf	22 10 57.5	-0.8
S53A	Williamson baz=322,SNR=5.6	136.00	29	P		PKiKP	22 10 59.3	-0.7
R54A	Victor baz=324,SNR=10	136.14	27	P		PKPdf	22 10 58.9	+0.4
TZTN	Tazewell baz=320,SNR=5.6	136.18	31	P		PKiKP	22 10 59.6	-0.7
TZTN	Tazewell	136.18	31	PKPdf		PKPdf	22 10 58.5	-0.1
ODNJ	Ogdensburg	136.18	19	PKPdf		PKPdf	22 10 57.8	-0.7
N60A	Cedar Hill Far baz=334,SNR=9.8	136.21	20	P		PKPdf	22 10 58.8	+0.4
O58A	Lewisberry baz=331,SNR=10	136.22	22	P		PKPdf	22 10 58.9	+0.3
W50A	Signal Mountai	136.22	34	PKPdf		PKPdf	22 10 58.6	-0.2
Q56A	Snyder Ridge, baz=327,SNR=6.2	136.23	25	P		PKPdf	22 10 59.3	+0.7
Q56A	Snyder Ridge,	136.23	25	PKPdf		PKPdf	22 10 58.0	-0.6
M61A	Granite Spring baz=336,SNR=12	136.25	18	P		PKiKP	22 10 59.4	-0.8
S54A	Dingess, Beckl baz=324,SNR=6.9	136.30	28	P		PKPdf	22 10 59.5	+0.7
S54A	Dingess, Beckl	136.30	28	PKPdf		PKPdf	22 10 58.7	-0.1
V51A	Loudon	136.31	33	PKPdf		PKPdf	22 10 59.6	+0.8
O59A	Robesonia baz=332	136.32	21	P		PKPdf	22 10 59.5	+0.7
P57A	Homestead Farm baz=329,SNR=9.7	136.34	24	P		PKPdf	22 10 59.5	+0.8
P57A	Homestead Farm	136.34	24	PKPdf		PKPdf	22 10 59.0	+0.2
T53A	Wise baz=322	136.35	30	P		PKPdf	22 10 59.5	+0.5
L63A	North Scituate baz=339	136.37	16	P		PKPdf	22 10 58.9	+0.2
M62A	Hamden baz=337	136.39	17	P		PKPdf	22 10 58.8	0.0
R55A	Marlinton baz=325	136.46	27	P		PKiKP	22 11 00.5	-0.4
R55A	Marlinton	136.46	27	PKPdf		PKPdf	22 10 59.3	+0.2
CPCT	Cooper Cave	136.48	33	PKPdf		PKPdf	22 10 59.0	-0.1
PAL	Palisades baz=335,SNR=5.6	136.48	19	P		PKiKP	22 10 59.9	-0.8
PAL	Palisades	136.48	19	PKiKP		PKPdf	22 10 59.5	+0.5
PAL	Palisades	136.48	19	PKPdf		PKPdf	22 10 59.5	+0.5
L64A	Middleborough baz=340	136.51	15	P		PKiKP	22 11 00.1	-0.7
MVL	Millersville	136.54	22	PKPdf		PKPdf	22 10 59.5	+0.4
Q57A	Strasburg baz=328,SNR=8.2	136.56	24	P		PKPdf	22 10 59.6	+0.4
N61A	South Mountain baz=334	136.58	19	P		PKPdf	22 10 59.9	+0.7
O60A	Telford baz=333,SNR=7.3	136.60	21	P		PKPdf	22 10 59.7	+0.5
P58A	Pank, Wackersv baz=330,SNR=10	136.62	23	P		PKPdf	22 10 59.7	+0.4
R56A	Bull Pasture M baz=326,SNR=12	136.67	26	P		PKPdf	22 11 00.2	+0.6
V52A	Sevierville	136.68	32	PKPdf		PKPdf	22 11 00.2	+0.6
S55A	Lewisburg baz=325	136.70	27	P		PKPdf	22 10 59.4	-0.2
TKL	Tuckaleechee C	136.73	32	PKiKP		PKPdf	22 11 00.1	+0.5
TKL	Tuckaleechee C	136.73	32	PKPdf		PKPdf	22 11 00.1	+0.5
T54A	Tazewell baz=323,SNR=7.7	136.76	29	P		PKPdf	22 11 00.3	+0.6
LRAL	Lakeview Retre baz=313	136.76	38	P		PKPdf	22 11 00.2	+0.5
M64A	Tiverton baz=339	136.77	16	P		PKiKP	22 11 00.7	-0.6
P59A	Jarrettsville baz=331	136.85	22	P		PKPdf	22 10 59.9	+0.2
SDMD	Soldier's Deli	136.87	23	PKPdf		PKPdf	22 10 59.3	-0.4
Q58A	Fox Den Farm, baz=329,SNR=15	136.94	24	P		PKPdf	22 11 00.5	+0.6
X51A	Calhoun	136.94	34			PKiKP	22 11 01.1	-0.8
P60A	Greenville baz=332	136.96	21	P		PKPdf	22 11 00.5	+0.6
P60A	Greenville	136.96	21	PKPdf		PKPdf	22 11 00.1	+0.2

R59A	**King George, V**	**137.80**	**24**	P		**PKiKP**	**22 11 02.7**	**-0.8**
	baz=329,SNR=5.1							
V55A	**Taylorsville**	**137.90**	**30**	P		**PKPdf**	**22 11 02.6**	**+0.8**
	baz=322,SNR=14							
V55A	**Taylorsville**	**137.90**	**30**	PKPdf		**PKPdf**	**22 11 02.3**	**+0.5**
T57A	**Hurt**	**137.90**	**27**	P		**PKPdf**	**22 11 02.1**	**+0.3**
	baz=326,SNR=9.0							
T57A	**Hurt**	**137.90**	**27**	PKPdf		**PKPdf**	**22 11 01.7**	**-0.1**
V52A	**Lilburn**	**137.90**	**34**	PKPdf		**PKPdf**	**22 11 02.6**	**+0.7**
U56A	**King**	**137.91**	**28**	P		**PKPdf**	**22 11 02.2**	**+0.4**
	baz=324							
S58A	**Poland Farm, P**	**137.91**	**25**	PKPdf		**PKPdf**	**22 11 02.0**	**+0.3**
250A	**Grady**	**137.94**	**38**	PKPdf		**PKPdf**	**22 11 02.4**	**+0.4**
R60A	**Leonardtown, M**	**137.96**	**23**	P		**PKiKP**	**22 11 02.8**	**-1.0**
	baz=330							
W54A	**Cherokee Point**	**138.00**	**31**	P		**PKPdf**	**22 11 02.3**	**+0.3**
	baz=321							
S59A	**Mechanicsville**	**138.10**	**24**	P		**PKPdf**	**22 11 02.9**	**+0.9**
	baz=329							
T58A	**Grand View Acr**	**138.27**	**26**	P		**PKPdf**	**22 11 03.1**	**+0.7**
	baz=327,SNR=12							
V56A	**Mocksville**	**138.28**	**29**	P		**PKPdf**	**22 11 02.9**	**+0.4**
	baz=323,SNR=9.1							
X54A	**Belton**	**138.32**	**32**	P		**PKPdf**	**22 11 03.4**	**+0.9**
	baz=320,SNR=27							
U57A	**Blanch**	**138.33**	**27**	P		**PKPdf**	**22 11 02.9**	**+0.4**
	baz=325,SNR=6.9							
152A	**Waverly Hall**	**138.39**	**36**	PKPdf		**PKPdf**	**22 11 03.0**	**+0.3**
KMSC	**Kings Mountain**	**138.40**	**31**	P		**PKPdf**	**22 11 03.2**	**+0.4**
	baz=322,SNR=14							
KMSC	**Kings Mountain**	**138.40**	**31**	PKPdf		**PKPdf**	**22 11 03.4**	**+0.6**
PAULI	**Pauline**	**138.40**	**31**	PKPdf		**PKPdf**	**22 11 02.8**	**0.0**
V57A	**Coltrane Farms**	**138.57**	**28**	P		**PKPdf**	**22 11 03.9**	**+0.9**
	baz=324							
GOGA	**Godfrey**	**138.57**	**34**	P		**PKPdf**	**22 11 03.6**	**+0.5**
	baz=318,SNR=13							
GOGA	**Godfrey**	**138.57**	**34**	PKIKP		**PKPdf**	**22 11 03.4**	**+0.3**
GOGA	**Godfrey**	**138.57**	**34**	PKPdf		**PKPdf**	**22 11 03.4**	**+0.3**
HODGE	**Hodges**	**138.62**	**32**	PKPdf		**PKPdf**	**22 11 03.9**	**+0.8**
T59A	**Double "B" Far**	**138.67**	**25**	P		**PKPdf**	**22 11 03.8**	**+0.7**
	baz=328,SNR=5.7							
T59A	**Double "B" Far**	**138.67**	**25**	PKPdf		**PKPdf**	**22 11 03.5**	**+0.4**
U58A	**Oxford**	**138.72**	**27**	P		**PKPdf**	**22 11 03.6**	**+0.4**
	baz=326							
X55A	**Gracelyn & Ava**	**138.77**	**31**	P		**PKPdf**	**22 11 03.6**	**+0.2**
	baz=321,SNR=16							
W56A	**Indian Trail**	**138.78**	**30**	P		**PKPdf**	**22 11 02.7**	**-0.7**
	baz=323,SNR=9.9							
LC01	**Cunco**	**138.90**	**162**	PKPdf		**PKiKP**	**22 11 04.8**	**-1.0**
V58A	**Windy Hill, Pi**	**138.95**	**28**	P		**PKPdf**	**22 11 04.1**	**+0.4**
	baz=325							
V58A	**Windy Hill, Pi**	**138.95**	**28**	PKPdf		**PKPdf**	**22 11 03.9**	**+0.2**
W57A	**Gilead**	**139.06**	**29**	P		**PKPdf**	**22 11 04.6**	**+0.7**
	baz=324,SNR=14							
W57A	**Gilead**	**139.06**	**29**	PKPdf		**PKiKP**	**22 11 05.2**	**-1.0**
Y55A	**Saluda**	**139.06**	**32**	P		**PKiKP**	**22 11 07.0**	**+0.8**
	baz=320,SNR=26							
X56A	**White Oak**	**139.06**	**31**	P		**PKiKP**	**22 11 05.0**	**-1.1**
	baz=322,SNR=8.8							
U59A	**Littleton**	**139.09**	**26**	PKPdf		**PKPdf**	**22 11 04.3**	**+0.4**
352A	**Blakely**	**139.10**	**38**	PKPdf		**PKPdf**	**22 11 04.8**	**+0.7**
JSC	**Jenkinsville**	**139.11**	**31**	PKiKP		**PKPdf**	**22 11 04.5**	**+0.5**
JSC	**Jenkinsville**	**139.11**	**31**	PKPdf		**PKPdf**	**22 11 04.5**	**+0.5**
BIRD	**Birdtown, Kers**	**139.23**	**30**	PKPdf		**PKPdf**	**22 11 05.0**	**+0.8**
U60A	**Pendleton**	**139.26**	**25**	P		**PKPdf**	**22 11 05.1**	**+0.9**
	baz=328							
V59A	**Middlesex**	**139.38**	**27**	P		**PKiKP**	**22 11 05.6**	**-1.2**
	baz=326,SNR=5.9							
W58A	**Raeford**	**139.53**	**29**	P		**PKiKP**	**22 11 06.7**	**-0.4**
	baz=325							
Y57A	**Sumter**	**139.76**	**31**	PKPdf		**PKiKP**	**22 11 06.9**	**-0.7**
Z56A	**Williston**	**139.79**	**32**	P		**PKiKP**	**22 11 08.1**	**+0.4**
	baz=320							
V60A	**Jim Taylor Roa**	**139.81**	**26**	P		**PKiKP**	**22 11 08.4**	**+0.8**
	baz=328							
X58A	**Rowland**	**139.85**	**29**	P		**PKPdf**	**22 11 05.8**	**+0.5**
	baz=324							
X58A	**Rowland**	**139.85**	**29**	PKPdf		**PKiKP**	**22 11 06.9**	**-0.9**
TIGA	**Tifton**	**139.94**	**36**	P		**PKPdf**	**22 11 06.1**	**+0.5**
	baz=316							
Z57A	**Bowman**	**140.16**	**32**	P		**PKPdf**	**22 11 05.7**	**-0.2**
	baz=321,SNR=15							
W60A	**Pink Hill**	**140.21**	**27**	P		**PKiKP**	**22 11 08.1**	**-0.4**
	baz=327							
Y58A	**Scranton**	**140.21**	**30**	P		**PKiKP**	**22 11 08.2**	**-0.3**
	baz=323							
157A	**Early Branch**	**140.48**	**33**	P		**PKiKP**	**22 11 08.1**	**-1.0**
	baz=320							
Y59A	**Loris**	**140.54**	**29**	P		**PKPdf**	**22 11 07.4**	**+0.8**
	baz=324							
Z58A	**St. Stephen**	**140.59**	**31**	P		**PKPdf**	**22 11 07.9**	**+1.2**
	baz=323							
BI02	**San Fabin de**	**141.14**	**162**	PKPdf		**PKiKP**	**22 11 09.8**	**-0.7**
TEIG	**Tepich**	**143.46**	**55**			**PKPbc**	22 11 10.4	+0.7
DWPF	**Disney Wildern**	**143.63**	**38**	P		**PKPdf**	**22 11 11.2**	**-1.1**
	baz=316							
MT02	**Curacav**	**144.29**	**160**			PKPbc	22 11 12.6	+0.7
MT05	**Renca**	**144.31**	**160**			**PKPdf**	**22 11 13.1**	**-0.4**
PEL	**Peldehue**	**144.55**	**160**	*i* P		**PKPdf**	**22 11 13.6**	**-0.3**
ROC1	**El Roble**	**144.59**	**160**	*i* P		PKPbc	22 11 13.5	+0.4
AAGR	**Agrelo**	**145.20**	**163**	*i* P		**PKPdf**	**22 11 16.1**	**+1.1**
ARCO	**CERRO ARCO**	**145.40**	**162**	*i* P		**PKPab**	**22 11 16.5**	**+0.7**
ASAL	**Salagasta**	**145.66**	**162**	*i* P		**PKPab**	**22 11 17.2**	**+0.5**
AUSP	**Uspallata**	**145.82**	**161**	*i* P		**PKPab**	**22 11 18.6**	**+1.0**
RTLS	**Leoncito**	**146.25**	**161**	*i* P		**PKPab**	**22 11 19.2**	**0.0**
RTCV	**Cerro Valdivia**	**146.43**	**162**	*i* P		**PKPbc**	**22 11 18.5**	**-0.1**
ACAN	**Cantantal**	**146.43**	**162**	*i* P		**PKPbc**	**22 11 18.6**	**0.0**
MRA	**San Martin**	**146.66**	**167**	*i* P		**PKPbc**	**22 11 19.0**	**-0.3**
ZON	**Zonda**	**146.68**	**162**	*i* P		**PKPab**	**22 11 20.1**	**-0.5**
PAYG	**Puerto Ayora**	**146.76**	**91**			**PKPab**	**22 11 21.3**	**-0.2**
CFA	**Coronel Fontan**	**146.76**	**162**	SKPbc		**SKiKP**	**22 14 47.2**	**+0.3**
	comp=Z,8.4nm,0.7s,baz=236,slow=3.4,SNR=3.4							
CFA	**Coronel Fontan**	**146.76**	**162**	*i* P		**PKPbc**	**22 11 20.0**	**+0.5**
TGUH	**Tegucigalpa,Un**	**147.02**	**64**			**PKPbc**	**22 11 20.0**	**-0.8**
BBSR	**BB Station**	**147.07**	**12**			**PKPbc**	**22 11 20.8**	**+0.6**
GO04	**Tololo Observa**	**147.19**	**158**	*i* P		**PKPdf**	**22 11 19.1**	**+0.4**
AMOG	**MOGNA**	**147.30**	**162**	*i* P		**PKPbc**	**22 11 20.2**	**-0.9**
ACCO	**Cerro Coronel**	**147.44**	**161**	*i* P		**PKPbc**	**22 11 21.1**	**-0.7**
AROD	**Rodeo**	**147.68**	**160**	*i* P		**PKPbc**	**22 11 22.0**	**-0.5**
ACDV	**Cuesta del Vie**	**147.80**	**160**	*i* P		**PKPdf**	**22 11 20.1**	**+0.5**
TCA	**Tanti**	**147.95**	**168**	*i* P		**PKPbc**	**22 11 21.4**	**-1.5**
APLL	**PUNTA DE LOS L**	**148.38**	**164**	*i* P		**PKPdf**	**22 11 21.8**	**+1.3**
AC05	**El Transito**	**148.59**	**157**	PKPbc		**PKiKP**	**22 11 26.1**	**-0.1**
MATN	**Matagalpa**	**148.65**	**65**	PKPbc		**PKPbc**	**22 11 25.7**	**+0.6**
AC04	**Llanos de Chal**	**148.83**	**156**	PKPbc		**PKiKP**	**22 11 26.6**	**+0.2**
BOAB	**BOACO BROADBAND**	**149.06**	**66**			**PKiKP**	**22 11 27.7**	**+0.5**
VCA	**Vinchina**	**149.43**	**160**	*i* P		**PKPdf**	**22 11 24.5**	**+2.2**
ACON	**Acoyapa**	**149.69**	**66**			**PKiKP**	**22 11 28.9**	**+0.3**
GO03	**Copiap**	**149.72**	**156**			**PKiKP**	**22 11 29.9**	**+1.5**
GO03	**Copiap**	**149.72**	**156**	*i* P		**PKPdf**	**22 11 24.5**	**+1.9**
CBCY	**The Bluff, Cay**	**150.39**	**47**	PKPbc		**PKiKP**	**22 11 29.9**	**+0.1**
CYA	**Choya**	**150.43**	**164**	*i* P		**PKPdf**	**22 11 25.1**	**+1.4**
JTS	**Las Juntas de**	**150.45**	**69**	PKIKP		**PKPdf**	**22 11 24.8**	**+0.7**
JTS	**Las Juntas de**	**150.45**	**69**			**PKPdf**	**22 11 24.8**	**+0.7**
JTS						**PKiKP**	**22 11 30.4**	**+0.2**
AC02	**Maricunga**	**150.83**	**157**	PKPbc		**PKiKP**	**22 11 32.6**	**+1.3**
AC01	**Pan de Azucar**	**150.84**	**154**	PKPbc		**PKiKP**	**22 11 30.9**	**+0.3**
GO02	**Mina Guanaco**	**152.13**	**155**	PKPbc		**PKiKP**	**22 11 34.7**	**+1.0**
PRVC	**Isla de Provid**	**152.52**	**60**	*eP*		**PKiKP**	**22 11 35.1**	**+0.8**
CPUP	**Villa Florida**	**153.75**	**179**	PKP		**PKPdf**	**22 11 29.2**	**+0.6**
	comp=Z,25nm,1.0s,baz=130,slow=1.1,SNR=37							
CPUP				PKPbc		**PKiKP**	**22 11 37.8**	**+1.2**
	comp=Z,27nm,0.7s,baz=171,slow=1.1,SNR=22							
CPUP				PKPab		**PKPab**	**22 11 50.7**	**+1.1**
	comp=Z,28nm,0.7s,baz=167,slow=5.4,SNR=10							
PB04	**IPOC Station P**	**154.33**	**151**	PKPbc		**PKiKP**	**22 11 39.9**	**+1.7**
PB07	**IPOC Station P**	**154.97**	**151**	PKPbc		**PKiKP**	**22 11 40.9**	**+1.4**
BCIP	**Isla Barro Col**	**155.58**	**68**	*eP*		**PKPdf**	**22 11 37.5**	**+6.0**
BCIP	**Isla Barro Col**	**155.58**	**68**	PKIKP		**PKPdf**	**22 11 30.8**	**-0.6**
BCIP	**Isla Barro Col**	**155.58**	**68**			**PKPdf**	**22 11 30.8**	**-0.6**
PB01	**IPOC Station P**	**155.75**	**151**			**PKPdf**	**22 11 32.3**	**+0.6**
SC01	**Santiago de lo**	**156.55**	**34**			**PKPdf**	**22 11 32.3**	**-0.3**
SDDR	**Presa de Saban**	**156.58**	**36**	PKPab		**PKPab**	**22 12 03.1**	**+1.1**
NNA	**Nana**	**156.99**	**122**	PKIKP		**PKPdf**	**22 11 35.2**	**+1.8**
NNA	**Nana**	**156.99**	**122**			**PKPdf**	**22 11 35.2**	**+1.8**
CAPC	**Capurgana**	**158.06**	**67**	*eP*		**PKPdf**	**22 11 35.6**	**+0.9**
RCBR	**Riachuelo**	**158.09**	**254**	PKP		**PKPdf**	**22 11 34.9**	**+0.1**
	comp=Z,28nm,0.8s,baz=82,slow=1.7,SNR=14							
RCBR	**Riachuelo**	**158.09**	**254**			**PKPdf**	**22 11 36.0**	**+1.2**
PAC1	**Pacto, Paraso**	**158.26**	**89**	*eP*		**PKPdf**	**22 11 36.0**	**+0.9**
GR1C	**Gorgona, Isla**	**158.69**	**82**	*eP*		**PKPdf**	**22 11 36.2**	**+0.8**
CMBC	**Cumbal**	**159.21**	**88**	*eP*		**PKPdf**	**22 11 39.8**	**+3.2**
MALC	**Bahia Malaga**	**159.36**	**79**	*eP*		**PKPdf**	**22 11 37.9**	**+1.6**
AOPR	**Arecibo Observ**	**159.49**	**27**	PKPab		**PKPab**	**22 12 13.1**	**-1.5**
SJCC	**San Jacinto, C**	**159.49**	**61**	*eP*		**PKPdf**	**22 11 37.8**	**+1.4**
GCUF	**Volcan Galeras**	**159.67**	**87**	*eP*		**PKPdf**	**22 11 38.8**	**+1.6**
SMRC	**Santa Marta, M**	**159.69**	**57**	*eP*		**PKPdf**	**22 11 37.8**	**+1.3**
BBAC	**Balboa, Cauca**	**159.72**	**84**	*eP*		**PKPdf**	**22 11 37.5**	**+0.6**
SJG	**San Juan**	**159.97**	**26**	PKIKP		**PKPdf**	**22 11 36.6**	**-0.1**
SJG							22 12 17.7	
SJG	**San Juan**	**159.97**	**26**			**PKPdf**	**22 11 36.6**	**-0.1**
SJG						**PKPab**	**22 12 17.7**	**+1.1**
ICMP	**Isla Caja de M**	**160.00**	**27**	PKPab		**PKPab**	**22 12 16.2**	**-0.5**
UREC	**San Jos de Ur**	**160.06**	**67**	*eP*		**PKPdf**	**22 11 37.1**	**+0.1**
HUMP	**Col San Antoni**	**160.07**	**25**	PKPab		**PKPab**	**22 12 17.7**	**+0.6**
PLMC	**San Jos del P**	**160.20**	**76**	*eP*		**PKPdf**	**22 11 38.0**	**+0.8**
CBOC	**Ciudad Bolivar**	**160.22**	**73**	*eP*		**PKPdf**	**22 11 38.2**	**+0.8**
ARGC	**Ariguani, Magd**	**160.32**	**60**	*eP*		**PKPdf**	**22 11 39.1**	**+1.8**
YOTC	**Yotoco, Valle**	**160.33**	**78**	*eP*		**PKPdf**	**22 11 37.3**	**-0.2**
SOTA	**Rioblanco**	**160.34**	**84**	*eP*		**PKPdf**	**22 11 38.8**	**+0.8**
LPAZ	**La Paz**	**160.41**	**147**	PKP		**PKPdf**	**22 11 38.8**	**+0.7**
	comp=Z,28nm,1.0s,baz=34,slow=1.4,SNR=70							
LPAZ				PKPab		**PKPab**	**22 12 21.0**	**+1.7**
	comp=Z,9.4nm,0.7s,baz=177,slow=5.8,SNR=2.0							
HELC	**Santa Helena**	**160.58**	**71**	*eP*		**PKPdf**	**22 11 38.2**	**+0.1**
ZARC	**Zaragoza, Cauc**	**160.77**	**67**	*eP*		**PKPdf**	**22 11 38.0**	**+0.2**
MARP	**Paez Belalcaza**	**160.90**	**82**	*eP*		**PKPdf**	**22 11 39.0**	**+0.7**
SMLC	**San Martn de**	**160.96**	**62**	*eP*		**PKPdf**	**22 11 38.2**	**+0.2**
GUY2C	**Guyana, Caldas**	**161.01**	**74**	*eP*		**PKPdf**	**22 11 38.7**	**0.0**
RREF	**El Recreo**	**161.11**	**75**	*eP*		**PKPdf**	**22 11 40.2**	**+1.3**
ANIL	**Santa Ana**	**161.15**	**76**	*eP*		**PKPdf**	**22 11 39.6**	**+1.0**
TOLC	**Tolima**	**161.21**	**76**	*eP*		**PKPdf**	**22 11 39.1**	**+0.4**
NORC	**Norcasia**	**161.39**	**73**	*eP*		**PKPdf**	**22 11 37.9**	**-0.7**
ORTC	**Ortega, Tolima**	**161.42**	**78**	*eP*		**PKPdf**	**22 11 38.1**	**-0.4**
BETC	**Betania**	**161.43**	**82**	*eP*		**PKPdf**	**22 11 40.1**	**+1.5**
GARC	**Garzon, Huila**	**161.44**	**83**	*eP*		**PKPdf**	**22 11 39.9**	**+1.1**
PTBC	**PUERTO BERRIO**	**161.48**	**69**	*eP*		**PKPdf**	**22 11 38.5**	**0.0**
PRAC	**Prado**	**161.81**	**78**	*eP*		**PKPdf**	**22 11 39.4**	**+0.4**
OCAC	**Ocana**	**161.87**	**63**	*eP*		**PKPdf**	**22 11 39.3**	**+0.2**
BRRC	**Barranca, Sant**	**161.97**	**67**	*eP*		**PKPdf**	**22 11 39.7**	**+0.6**
BDFB	**Brasilia**	**162.01**	**209**	PKP		**PKPdf**	**22 11 39.5**	**+0.4**
	comp=Z,16nm,1.0s,baz=175,slow=1.3,SNR=18							
BDFB				PKPab		**PKPab**	**22 12 26.0**	**+0.2**
	comp=Z,31nm,0.8s,baz=172,slow=3.3,SNR=15							
BDFB	**Brasilia**	**162.01**	**209**			**PKPdf**	**22 11 40.1**	**+1.0**
ROSC	**El Rosal**	**162.11**	**74**	PKP		**PKPdf**	**22 11 40.8**	**+1.0**
	comp=Z,64nm,0.8s,baz=210,slow=1.5,SNR=42							
ROSC				PKPab		**PKPab**	**22 12 28.4**	**+1.5**
	comp=Z,90nm,0.8s,baz=165,slow=6.8,SNR=9.8							
ROSC	**El Rosal**	**162.11**	**74**	*eP*		**PKPdf**	**22 11 40.7**	**+1.0**
SPBC	**San Pablo de B**	**162.12**	**72**	*eP*		**PKPdf**	**22 11 39.3**	**0.0**
BARC	**Barichara**	**162.65**	**68**	*eP*		**PKPdf**	**22 11 40.2**	**+0.2**
CHIC	**Chingaza**	**162.73**	**75**	*eP*		**PKPdf**	**22 11 40.8**	**+0.4**
PAMC	**Pamplona, Colo**	**162.81**	**65**	*eP*		**PKPdf**	**22 11 42.1**	**+1.6**
VILC	**Villavicencio,**	**162.89**	**76**	*eP*		**PKPdf**	**22 11 40.7**	**+0.6**
RUSC	**La Rusia**	**162.98**	**70**	*eP*		**PKPdf**	**22 11 40.6**	**-0.1**
MACC	**Macarena, Meta**	**163.08**	**83**	*eP*		**PKPdf**	**22 11 40.1**	**-0.1**
SIV	**San Ignacio**	**163.55**	**166**	PKP		**PKPdf**	**22 11 41.9**	**+1.4**
	comp=Z,30nm,0.9s,baz=194,slow=0.9,SNR=19							
SIV				PKPab		**PKPab**	**22 12 32.7**	**+0.4**
	comp=Z,8.2nm,0.7s,baz=205,slow=4.4,SNR=6.2							
SIV				PP		**PP**	**22 16 18.6**	**+2.3**
	comp=Z,1.5nm,0.8s,baz=189,slow=6.5,SNR=2.4							
SDV	**Santo Domingo**	**163.89**	**57**			**PKPdf**	**22 11 41.5**	**+0.4**
SDV						**PKPab**	**22 12 36.5**	**+2.1**
PTGC	**Puerto Gaitan,**	**164.38**	**75**	*eP*		**PKPdf**	**22 11 41.0**	**-0.4**
SAML	**Samuel**	**169.15**	**146**	PKIKP		**PKPdf**	**22 11 45.5**	**+0.6**
SAML	**Samuel**	**169.15**	**146**			**PKPdf**	**22 11 45.5**	**+0.6**
MDP	**Montagnes des**	**173.34**	**319**	PKP		**PKPdf**	**22 11 46.6**	**-0.4**
	comp=Z,34nm,1.1s,baz=314,slow=3.2,SNR=4.4							
PTGA	**Pitinga**	**176.97**	**105**	PKP		**PKPdf**	**22 11 47.5**	**-0.5**
	comp=Z,19nm,0.8s,baz=5.7,slow=10							
PTGA				PKPab		**PKPab**	**22 13 33.5**	**+1.3**
	comp=Z,7.5nm,0.7s,baz=238,slow=4.8,SNR=5.8							
PTGA				PP		**PP**	**22 17 27.7**	**+2.1**
	comp=Z,9.5nm,1.2s,baz=320,slow=3.8,SNR=6.2							

*NERS **21** 22:21:03.3±0.0,61.85N×142.27E,h3km*
*YARS **21** 22:21:03.0±0.0,61.96N×142.13E,h6km, ML3.1/6*
ISC 21 22:21:05.2±0.8,61.87N±0.04×142.41E±0.03,h10km,n13,
σ2s34/34,Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OCHR	**Omchak**	**2.60**	**92**	*eP*		**Pn**	**22 21 48.9**	**+1.5**
OCHR				*e*Sg		**Sb**	**22 22 24.8**	**+0.8**
OCHR				Sgmax			22 22 26.6	
	40nm,0.3s							
SUUS	**Susuman**	**2.84**	**69**	*eP*		**Pn**	**22 21 50.3**	**-0.3**
SUUS				*e*Pg		**Pb**	**22 21 55.6**	**-0.3**
SUUS				Pgmax			22 21 55.8	
	10.0nm,0.2s							
SUUS				*e*S		**Sn**	**22 22 23.9**	**-0.9**
SUUS				*e*Sg		**Sb**	**22 22 31.6**	**+0.9**
SUUS				Sgmax			22 22 34.6	
	70nm,0.3s							
SUUS				Sgmax			22 22 34.6	
	50nm,0.3s							
MGD	**Magadan 1**	**4.45**	**111**	*e*Sg		**Sg**	**22 23 25.0**	**-3.0**
MGD				Sgmax			22 23 27.8	
	30nm,0.3s							
MOMR	**Moma**	**4.63**	**4**	*e*Pn		**Pn**	**22 22 12.5**	**-2.6**
	3.3nm,0.6s,baz=5.5							
MOMR				*e*Pg		**Pb**	**22 22 26.6**	**+0.2**
	4.2nm,0.3s,baz=5.5							
MOMR				*e*Sn		**Sn**	**22 23 06.4**	**-2.4**
	11nm,0.6s,baz=5.5							
MOMR				*e*Lg		Lg	22 23 27.5	
	baz=5.5							
MOMR				*e*Sg		**Sg**	**22 23 33.6**	**+0.1**
	71nm,1.1s,baz=5.5							
MA2	**Magadan**	**4.71**	**116**	*eP*		**Pn**	**22 22 15.4**	**-0.8**
MA2				*e*Sg		**Sb**	**22 23 30.2**	**+5.8**
MA2				Sgmax			22 23 36.5	
	10.0nm,0.6s							
MA2				Sgmax			22 23 36.5	
	30nm,0.6s							
SEY	**Seymchan**	**4.76**	**73**	*eP*		**Pn**	**22 22 16.4**	**-0.5**
SEY				*e*Sg		**Sg**	**22 23 34.8**	**-3.1**
SEY				Sgmax			22 23 38.5	
	30nm,0.5s							
SEY				Sgmax			22 23 38.5	
	20nm,0.5s							
TLAR	**Talaya**	**4.84**	**94**	*e*Pg		**Pb**	**22 22 32.1**	**+2.0**
TLAR				*e*S		**Sb**	**22 23 27.0**	**-1.4**
TLAR				*e*Sg		**Sg**	**22 23 36.7**	**-3.9**
	50nm,0.3s							
YAK	**Yakutsk**	**6.01**	**277**	*e*Pg		**Pb**	**22 22 50.1**	**+0.3**
	11nm,0.4s,baz=276							
YAK				*e*Lg		Lg	22 24 09.3	
	baz=276							
YAK				*e*Sg		**Sg**	**22 24 16.9**	**-0.8**
	22nm,0.6s,baz=276							
TBGR	**Tabaga**	**6.05**	**275**	*e*Pn		**Pn**	**22 22 31.1**	**-3.4**
	28nm,0.3s,baz=274							
TBGR				*e*Pg		**Pb**	**22 22 50.7**	**+0.2**
	85nm,0.4s,baz=274							
TBGR				*e*Sn		**Sn**	**22 23 39.8**	**-3.8**
	baz=274							
TBGR				*e*Lg		Lg	22 24 10.7	
	baz=274							
TBGR				*e*Sg		**Sg**	**22 24 18.4**	**-0.7**
	65nm,0.3s,baz=274							
BLSR	**Buluus**	**6.40**	**271**	*e*Pg		**Pb**	**22 22 57.5**	**+1.0**
	66nm,0.6s,baz=270							
BLSR				*e*Lg		Lg	22 24 22.2	
	baz=270							
BLSR				*e*Sg		**Sg**	**22 24 30.4**	**0.0**
	120nm,0.7s,baz=270							
CGD	**Chagda**	**6.64**	**247**	*e*Pg		**Pb**	**22 23 02.9**	**+2.3**
	1.6nm,0.3s,baz=246							
CGD				*e*Lg		Lg	22 24 31.5	
	baz=246							
CGD				*e*Sg		**Sg**	**22 24 40.0**	**+2.0**
	37nm,0.4s,baz=246							
YBGR	**Belaya Gora**	**6.87**	**12**	*e*Pg		**Pb**	**22 23 07.4**	**+2.9**
	0.9nm,0.5s,baz=13							
YBGR				*e*Sn		**Sn**	**22 24 02.2**	**-1.7**
	baz=13							
YBGR				*e*Lg		Lg	22 24 39.5	
	baz=13							
YBGR				*e*Sg		**Sg**	**22 24 48.4**	**+2.9**
	6.4nm,0.8s,baz=13							
DEPR	**Deputatskiy**	**7.62**	**353**	*e*Pg		**Pb**	**22 23 20.2**	**+2.9**
	0.8nm,0.3s,baz=354							
DEPR				*e*Sn		**Sn**	**22 24 19.5**	**-2.9**
	baz=354							
DEPR				*e*Lg		Lg	22 25 01.8	
	baz=354							
DEPR				*i* Sg		**Sg**	**22 25 11.5**	**+2.0**
	7.0nm,0.8s,baz=354							

*THE **21** 22:37:47.5,35.16N×21.35E,h32km±18km, ML2.7/2, Error ellipse: s-maj=18.3km s-min=0.8km az=64.0*
*ATH **21** 22:37:48.4,35.39N×21.76E,h20km±3km, ML2.2/3, Error ellipse: s-maj=3.7km s-min=1.6km az=48.0*
*IDC **21** 22:37:50.7±8.6,36.85N×21.69E,h0km, mb3.5/3, mb1 3.6/3,mb1mx3.3/32,mbtmp3.6/3, Error ellipse: s-maj=300.7km s-min=33.4km az=174.0*
ISC 21 22:37:45.4±3.2,35.3N±0.1×21.44E±0.08,h14km±16km,
n64,σ1s96/67,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PYL	**PYLOS**	**1.61**	**9**	P		**Pn**	**22 38 15.1**	**+1.6**
PYL	**PYLOS**	**1.61**	**9**	P		**Pb**	**22 38 16.0**	**+0.9**
PYL				S		**Sg**	**22 38 37.4**	**-0.1**
PYL				AML		AML	22 38 43.8	
	comp=E,74μm,0.3s							
PYL				AML		AML	22 38 48.4	
	comp=N,58μm,0.6s							
ANKY	**Antikythira Is**	**1.62**	**69**	P		**Pb**	**22 38 15.3**	**+0.2**
ANKY				S		**Sg**	**22 38 36.6**	**-1.1**
ANKY	**Antikythira Is**	**1.62**	**69**	P		**Pn**	**22 38 13.9**	**+0.3**
KTHA	**Kythira Island**	**1.63**	**54**	P		**Pb**	**22 38 15.9**	**+0.6**
KTHA				S		**Sg**	**22 38 37.4**	**-0.6**
	comp=N,155nm,0.8s							
KTHA	**Kythira Island**	**1.63**	**54**	P		**Pn**	**22 38 14.2**	**+0.4**
KTHA				AML		AML	22 38 49.6	
	comp=E,377μm,0.6s							
KTHA				AML		AML	22 38 52.9	
	comp=N,192μm,0.8s							
VLI	**Velai**	**1.87**	**40**	P		**P

TACO	**Tacachico**	**1.02**	**29**	⇓	*i*P		**Pb**	**23 02 06.1**	**-0.7**
TACO					IAML			23 02 23.5	
	comp=Z,2μm,0.6s								
LBRS	**Las Brisas**	**1.04**	**50**	⇓	*i*P		**Pb**	**23 02 07.0**	**-0.1**
LBRS	**Las Brisas**	**1.04**	**50**	⇓	*i*P		**Pb**	**23 02 07.0**	**-0.1**
PAVA	**Las Pavas**	**1.10**	**55**	⇓	*i*P		**Pb**	**23 02 08.2**	**0.0**
PAVA					IAML			23 02 28.0	
	comp=Z,3μm,0.4s								
PAVA	**Las Pavas**	**1.10**	**55**	⇓	*i*P		**Pb**	**23 02 08.2**	**0.0**
PAVA					IAML			23 02 28.0	
	comp=Z,3μm,0.4s								
IXG	**Ixpaco**	**1.23**	**333**	⇑	*i*P		**Pn**	**23 02 09.6**	**+1.0**
ALJI	**Alcalda de J**	**1.28**	**79**		*e*P		**Pb**	**23 02 11.1**	**-0.1**
ALJI					*e*S		**Sb**	**23 02 27.2**	**-0.1**
ALJI					IAML			23 02 35.2	
	comp=Z,1μm,0.4s								
ALJI	**Alcalda de J**	**1.28**	**79**		*e*P		**Pb**	**23 02 11.1**	**-0.1**
ALJI					*e*S		**Sb**	**23 02 27.2**	**-0.1**
ALJI					IAML			23 02 35.2	
	comp=Z,1μm,0.4s								
COEB	**Comit de Eme**	**1.36**	**72**	⇑	*e*P		**Pn**	**23 02 11.8**	**+1.4**
COEB					IAML			23 02 31.2	
	comp=Z,2μm,0.4s								
COEB	**Comit de Eme**	**1.36**	**72**	⇑	*e*P		**Pn**	**23 02 11.8**	**+1.4**
COEB					IAML			23 02 31.2	
	comp=Z,2μm,0.4s								
TECA	**Tecapa**	**1.39**	**72**	⇑	*e*P		**Pn**	**23 02 12.3**	**+1.4**
TECA	**Tecapa**	**1.39**	**72**	⇑	*e*P		**Pn**	**23 02 12.3**	**+1.4**
MTO3	**Montecristo**	**1.41**	**20**	⇓	*i*P		**Pn**	**23 02 11.6**	**+0.5**
MTO3	**Montecristo**	**1.41**	**20**		Pn		**Pn**	**23 02 11.8**	**+0.6**
MTO3					Sn		**Sb**	**23 02 28.2**	**-2.9**
MTO3	**Montecristo**	**1.41**	**20**	⇓	*i*P		**Pn**	**23 02 11.6**	**+0.5**
ESQI	**Esquipulas**	**1.56**	**19**		*e*P		**Pn**	**23 02 13.9**	**+0.8**
LCY	**Lacayo**	**1.57**	**77**		*e*P		**Pn**	**23 02 15.4**	**+2.1**
LCY	**Lacayo**	**1.57**	**77**		*e*P		**Pn**	**23 02 15.4**	**+2.1**
NBG	**Las Nubes**	**1.58**	**343**	⇓	*e*P		**Pb**	**23 02 15.7**	**-0.5**
NBG					*e*S		**Sb**	**23 02 34.6**	**-1.3**
JUCU	**Jucuarįn**	**1.58**	**83**		*e*P		**Pn**	**23 02 15.1**	**+1.6**
JUCU					IAML			23 02 43.1	
	comp=Z,1μm,0.3s								
JUCU	**Jucuarįn**	**1.58**	**83**		*e*P		**Pn**	**23 02 15.1**	**+1.6**
JUCU					IAML			23 02 43.1	
	comp=Z,1μm,0.3s								
BLLM	**Bellamira**	**1.62**	**77**		*e*P		**Pn**	**23 02 16.2**	**+2.2**
BLLM	**Bellamira**	**1.62**	**77**		*e*P		**Pn**	**23 02 16.2**	**+2.2**
FUG	**Fuego 3**	**1.67**	**325**		*e*P		**Pn**	**23 02 16.0**	**+1.3**
FAGO	**Alcalda de S**	**1.82**	**70**		*e*P		**Pn**	**23 02 17.7**	**+1.1**
FAGO	**Alcalda de S**	**1.82**	**70**		*e*P		**Pn**	**23 02 17.7**	**+1.1**
LCND	**La Caada**	**1.94**	**83**	⇑	*e*P		**Pn**	**23 02 20.4**	**+2.2**
LCND	**La Caada**	**1.94**	**83**	⇑	*e*P		**Pn**	**23 02 20.4**	**+2.2**
MRL	**Marmol**	**2.00**	**5**		*e*P		**Pn**	**23 02 21.0**	**+1.7**
ERG	**Entre ros, C**	**2.14**	**310**		*e*P		**Pn**	**23 02 22.9**	**+1.9**
ERG					*e*S		**Sn**	**23 02 46.4**	**-0.1**
TGUH	**Tegucigalpa,Un**	**2.70**	**68**		Pn		**Pn**	**23 02 30.3**	**+1.4**
MATN	**Matagalpa**	**3.84**	**92**				**Pn**	**23 02 46.5**	**+2.0**
CCIG	**Comitan**	**3.88**	**326**		Pn		**Pn**	**23 02 47.5**	**+2.5**
BOAB	**BOACO BROADBAN**	**4.14**	**98**		Pn		**Pn**	**23 02 49.9**	**+1.4**
PCIG		**4.17**	**309**				**Pn**	**23 02 50.6**	**+1.6**
ACON	**Acoyapa**	**4.71**	**103**		Pn		**Pn**	**23 02 57.2**	**+0.8**
ESPN	**Las Esperanzas**	**5.50**	**99**		Pn		**Pn**	**23 03 06.7**	**-0.5**
JTS	**Las Juntas de**	**5.55**	**119**		Pn		**Pn**	**23 03 06.0**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=320,slow=5.3,SNR=1.3								
JTS					Pg		**Pb**	**23 03 21.4**	**-2.4**
	comp=Z,2.7nm,0.3s,baz=12,slow=7.9,SNR=18								
JTS					Sn		**Sn**	**23 04 09.6**	**-1.1**
	comp=Z,1.9nm,0.3s,baz=93,slow=23,SNR=1.5								
JTS					Lg		Lg	23 04 36.5	
	comp=Z,0.9nm,0.3s,baz=150,slow=17,SNR=4.4								
JTS	**Las Juntas de**	**5.55**	**119**				**Pn**	**23 03 06.9**	**-1.1**
CMIG	**Matias Romero**	**6.28**	**310**		Pn		**Pn**	**23 03 20.6**	**+2.6**
	comp=Z,3.3nm,0.3s,baz=133,slow=13,SNR=39								
CMIG					Sn		**Sn**	**23 04 29.8**	**+1.1**
	comp=Z,3.7nm,0.3s,baz=254,slow=21,SNR=5.9								
CMIG	**Matias Romero**	**6.28**	**310**				**Pn**	**23 03 20.2**	**+2.2**
CMIG							**Sn**	**23 04 26.4**	**-2.3**
TEIG	**Tepich**	**7.27**	**12**		Pn		**Pn**	**23 03 31.5**	**-0.1**
	comp=Z,4.5nm,0.3s,baz=139,slow=0.9,SNR=19								
TEIG					Lg		Lg	23 05 38.9	
	comp=Z,1.5nm,0.3s,baz=139,slow=2.2,SNR=6.9								
TEIG	**Tepich**	**7.27**	**12**				**Pn**	**23 03 33.4**	**+1.8**
HKT	**Hockley**	**17.68**	**343**		P		**Pn**	**23 05 51.8**	**+0.5**
344A	**Westbrook Farm**	**18.31**	**358**		P		**P**	**23 05 59.3**	**+0.3**
TXAR	**Lajitas Array**	**20.64**	**324**		P		**P**	**23 06 25.9**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=148,slow=11,SNR=16								
TXAR	**Lajitas Array**	**20.64**	**324**		P		**P**	**23 06 26.4**	**+1.9**
TX31	**Lajitas Ar. Si**	**20.64**	**324**		P		**P**	**23 06 25.8**	**+1.2**
TX31					IAmb		IAmb	23 06 52.9	
	comp=Z,14nm,1.4s								
TX32	**Lajitas Array**	**20.64**	**324**		P		Pn	23 06 26.8	-0.2
OXF	**Oxford**	**21.35**	**1**		P		**P**	**23 06 32.3**	**+0.3**
OXF					IAmb		IAmb	23 06 49.5	
	comp=Z,12nm,1.0s								
WHAR	**Wooly Hollow**	**22.23**	**355**		P		**P**	**23 06 40.6**	**-0.8**
WHAR					IAmb		IAmb	23 07 26.2	
	comp=Z,28nm,2.0s								
LCAR	**Lake Charles**	**22.93**	**357**		P		**P**	**23 06 47.4**	**-1.5**
V51A	**Loudon**	**23.17**	**11**		P		**P**	**23 06 49.0**	**-2.4**
V51A					IAmb		IAmb	23 06 52.0	
	comp=Z,7.9nm,1.2s								
SJG	**San Juan**	**23.37**	**75**		LR		LR	23 16 43.6	
	comp=Z,52nm,19.2s,baz=309,slow=39								
U49A	**Red Boiling Sp**	**23.63**	**8**		P		**P**	**23 06 54.0**	**-1.9**
U49A					IAmb		IAmb	23 07 10.6	
	comp=Z,6.5nm,1.1s								
SAML	**Samuel**	**34.36**	**128**		P		**P**	**23 08 32.6**	**+0.8**
NV11	**Mina Array Sit**	**35.61**	**320**		P		**P**	**23 08 44.5**	**+2.0**
NV11					IAmb		IAmb	23 08 45.1	
	comp=Z,2.8nm,1.0s								
NVAR	**Mina Array Bea**	**35.70**	**320**		P		**P**	**23 08 44.3**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=127,slow=10,SNR=5.6								
SCHQ	**Schefferville**	**45.40**	**19**		P		**P**	**23 09 59.3**	**-3.7**
	comp=Z,2.6nm,0.6s,baz=218,slow=6.5,SNR=5.7								
CMAR	**Chiang Mai Arr**	**147.49**	**344**		PKPbc		**PKPdf**	**23 21 28.1**	**+1.3**
	comp=Z,0.6nm,0.6s,baz=345,slow=3.1,SNR=5.8								

*IDC **21** 23:05:07.1±1.2,4.°93S×102.°14E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.8/35, mbtmp4.0/10, ML4.0/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/30, Error ellipse: s-maj=50.0km s-min=14.7km az=60.0*

*NEIC **21** 23:05:10.7±0.6, 4.°95S±0.°06×102.°14E±0.°08, h28km±3km, mb4.3/8, Error ellipse: s-maj=11.1km s-min=9.0km az=72.0*

*DJA **21** 23:05:12.1±0.4, 5.°S±3.°×10.°2E±.°, h18km±4km, M4.4/7, mb5.1/1, MLv4.0/7*

ISC 21 23:05:12.1±0.7, **4.°98S**±0.°06×**102.°19E**±0.°08, **h36**km, **n44,** σ1§**10**/41, **mb4.2**/15, **Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.98**	**51**	P	**Pn**	**23 05 28.7**	**-0.6**
MNAI				S	**Sn**	**23 05 39.8**	**-2.1**
MNAI	**Manna**	**0.98**	**51**	Pn	**Pn**	**23 05 28.7**	**-0.6**
MNAI				Sn	**Sn**	**23 05 41.4**	**-0.6**
LHSI	**Lahat**	**1.75**	**49**	P	**Pn**	**23 05 40.2**	**+0.3**
LHSI				S	**Sn**	**23 06 00.2**	**-0.8**
MASI	**Maura Aman, Be**	**1.83**	**1**	P	**Pn**	**23 05 42.4**	**+1.4**
LWLI	**Liwa**	**1.86**	**91**	P	**Pn**	**23 05 43.4**	**+1.9**
KASI	**Kota Agung**	**2.36**	**103**	P	**Pn**	**23 05 48.7**	**+0.5**
KASI				S	**Sn**	**23 06 16.2**	**+0.3**
BLSI	**Bandar Lampung**	**3.06**	**97**	P	Pn	23 06 05.4	+7.4
SDSI	**Sungai Dareh**	**4.09**	**349**	P	Pn	23 06 20.2	+8.0
PDSI	**Padang**	**4.40**	**337**	P	**Pn**	**23 06 17.9**	**+1.5**
LEM	**Lembang**	**5.70**	**109**	Pn	**Pn**	**23 06 35.4**	**+1.0**
	4.5nm,0.3s,baz=127,slow=23,SNR=2.9						
LEM				Sn	Sn	23 07 50.1	+11
	3.3nm,0.3s,baz=145,slow=23,SNR=1.5						
LEM				LR	LR	23 09 23.5	
	comp=Z,95nm,21.1s,baz=182,slow=44						
CISI	**Cisompet, Garu**	**6.14**	**115**	Pn	**Pn**	**23 06 40.5**	**+0.1**
CISI				Sn	**Sn**	**23 07 46.6**	**-3.0**
XMIS	**Christmas Isla**	**6.45**	**148**	Pn	**Pn**	**23 06 41.4**	**-3.1**
GSI	**Gunungsitoli**	**7.76**	**323**	Pn	**Pn**	**23 07 00.9**	**-1.7**
SMRI	**Semarang**	**8.46**	**104**	Pn	**Pn**	**23 07 12.2**	**+0.1**
UGM	**Wanagama**	**8.77**	**110**	Pn	**Pn**	**23 07 16.7**	**+0.2**
JAGI	**Jajag, Banyuwa**	**12.37**	**107**	Pn	**Pn**	**23 08 06.3**	**+0.6**
CMAR	**Chiang Mai Arr**	**23.51**	**352**	P	**P**	**23 10 18.0**	**-1.0**
	1.8nm,0.9s,baz=186,slow=8.8,SNR=10.0						
FITZ	**Fitzroy Crossi**	**26.36**	**122**	P	**P**	**23 10 45.7**	**+0.6**
	3.3nm,1.0s,baz=295,slow=12,SNR=2.3						
H08S2	**Diego Garcia H**	**29.63**	**263**	T	T	23 42 08.9	
	baz=86,slow=75,SNR=24						
H08S3	**Diego Garcia H**	**29.64**	**263**	T	T	23 41 39.8	
	baz=86,slow=75,SNR=27						
H08S1	**Diego Carcia H**	**29.65**	**263**	T	T	23 41 41.7	
	baz=86,slow=75,SNR=14						
NWAO	**Narrogin (SRO)**	**31.15**	**155**	P	**P**	**23 11 28.3**	**+0.7**
	22nm,1.2s,baz=161,slow=1.9,SNR=3.1						
H01W3	**Cape Leeuwin H**	**31.74**	**161**	T	T	23 45 28.8	
	baz=339,slow=74						
H01W2	**Cape Leeuwin H**	**31.75**	**161**	T	T	23 45 26.6	
	baz=339,slow=74						
H01W1	**Cape Leeuwin H**	**31.76**	**161**	T	T	23 45 21.0	
	baz=339						
WB0	**Warramunga Arr**	**34.62**	**118**	P	**P**	**23 11 58.3**	**+0.2**
WRA	**Warramunga Arr**	**34.63**	**118**	P	**P**	**23 11 58.6**	**+0.4**
	0.5nm,0.4s,baz=307,slow=9.5,SNR=7.0						
WRA	**Warramunga Arr**	**34.63**	**118**	P	**P**	**23 11 58.3**	**+0.1**
WB2	**Warramunga Arr**	**34.64**	**118**	P	**P**	**23 11 58.5**	**+0.2**
WB2				IAmb	IAmb	23 12 06.5	
	comp=Z,3.8nm,1.0s						
WR0	**Warramunga Arr**	**34.81**	**118**	P	**P**	**23 11 59.5**	**-0.2**
WR0				IAmb	IAmb	23 11 60.0	
	comp=Z,4.2nm,1.1s						
YOJ	**Yonaguni jima**	**35.60**	**34**	P	**P**	**23 12 05.1**	**-1.3**
ASAR	**Alice Springs**	**35.75**	**124**	P	**P**	**23 12 08.4**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=296,slow=7.4,SNR=30						
ASAR	**Alice Springs**	**35.75**	**124**	P	**P**	**23 12 07.8**	**0.0**
AS31	**Alice Springs**	**35.76**	**124**	P	**P**	**23 12 08.1**	**+0.2**
AS31				IAmb	IAmb	23 12 09.5	
	comp=Z,0.7nm,0.5s						
STKA	**Stephens Creek**	**45.55**	**131**	P	**P**	**23 13 28.4**	**-0.2**
	comp=Z,2.0nm,0.8s,baz=294,slow=10.0,SNR=2.0						
SONM	**Songino Array**	**52.72**	**4**	P	**P**	**23 14 23.3**	**0.0**
	comp=Z,1.4nm,0.5s,baz=184,slow=9.4,SNR=12						
MKAR	**Makanchi Array**	**54.48**	**343**	P	**P**	**23 14 35.9**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=146,slow=8.6,SNR=20						
ZAA0	**Zalesovo Array**	**60.50**	**348**	P	**P**	**23 15 17.2**	**-1.0**
ZAA0				IAmb	IAmb	23 15 19.0	
	comp=Z,2.4nm,0.5s						
ZALV	**Zalesovo Beam**	**60.50**	**348**	P	**P**	**23 15 18.2**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=170,slow=5.7,SNR=10						
ZALV	**Zalesovo Beam**	**60.50**	**348**	P	**P**	**23 15 17.8**	**-0.4**
BRVK	**Borovoye**	**63.79**	**339**	P	**P**	**23 15 39.8**	**-0.6**
BRVK				IAmb	IAmb	23 15 40.9	
	comp=Z,1.4nm,0.6s						
ABKAR	**Akbulak array**	**65.29**	**331**	P	**P**	**23 15 50.7**	**+0.5**
VNDA	**Vanda**	**78.83**	**169**	P	**P**	**23 17 12.3**	**+1.4**
	comp=Z,0.5nm,1.0s,baz=330,slow=6.1,SNR=2.1						
TXAR	**Lajitas Array**	**145.57**	**42**	PKPbc	**PKPab**	**23 24 48.5**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=300,slow=1.1,SNR=30						

*IDC **21** 23:38:21.5±0.7, 36.°05N×34.°17W, h0km, mb3.9/12, mb1 4.1/12, mb1mx3.8/43, mbtmp3.9/12, MS3.6/18, Ms1 3.6/18, ms1mx3.5/31, Error ellipse: s-maj=23.5km s-min=17.5km az=144.0*

*NEIC **21** 23:38:23.3±2.8, 36.°1N±0.°1×34.°2W±0.°1, h10km±1km, mb4.6/52, Error ellipse: s-maj=18.9km s-min=15.4km az=140.0*

*BGR **21** 23:38:26.0±0.0, 35.°42N×33.°41W, h10km, mb4.6*

ISC 21 23:38:24.7±0.5, **36.°1N**±0.°1×**34.°18W**±0.°07, **h18**km, **n95,** σ1§**31**/84, **mb4.5**/38, **MS3.6**/21, **Azores Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H07S1	**FLORES T-PHASE**	**4.05**	**35**	Pn	**Pn**	**23 39 23.0**	**-2.8**
	SNR=92						
HAL	**Halifax**	**23.89**	**300**	P	**P**	**23 43 35.9**	**-1.3**
HAL				IAmb	IAmb	23 43 38.8	
	comp=Z,19nm,1.2s						
ESDC	**Sonseca Array**	**24.06**	**72**	P	**P**	**23 43 37.5**	**-1.4**
	comp=Z,1.5nm,1.1s,baz=282,slow=7.4,SNR=5.3						
ESDC				LR	LR	23 51 33.0	
	comp=Z,127nm,18.4s,baz=265,slow=33						
ESDC	**Sonseca Array**	**24.06**	**72**	P	**P**	**23 43 38.2**	**-0.8**
NRS	**Narsarsuaq**	**26.10**	**348**	P	**P**	**23 43 55.5**	**-1.6**
GGN	**Saint George**	**26.25**	**300**	P	**P**	**23 43 58.5**	**0.0**
GGN				IAmb	IAmb	23 44 03.3	
	comp=Z,22nm,1.4s						
F63A	**Nahmakanta, Br**	**27.91**	**301**	P	**P**	**23 44 11.6**	**-1.9**
F63A				IAmb	IAmb	23 44 16.6	
	comp=Z,16nm,1.3s						
D62A	**Allapoint, All**	**28.09**	**304**	P	**P**	**23 44 14.3**	**-0.8**
D62A				IAmb	IAmb	23 44 30.9	
	comp=Z,10nm,1.4s						
EKA	**Eskdalemuir Ar**	**28.62**	**38**	P	**P**	**23 44 20.4**	**+0.7**
	comp=Z,1.7nm,0.9s,baz=228,slow=8.7,SNR=4.2						
SCHQ	**Schefferville**	**29.21**	**320**	LR	LR	23 55 05.2	
	comp=Z,133nm,20.6s,baz=126,slow=34						
I62A	**Tamworth**	**29.33**	**297**	P	**P**	**23 44 24.4**	**-1.8**
I62A				IAmb	IAmb	23 44 29.5	
	comp=Z,17nm,1.4s						
LBNH	**Lisbon**	**29.77**	**298**	P	**P**	**23 44 30.0**	**-0.1**
LBNH				IAmb	IAmb	23 44 32.5	
	comp=Z,7.0nm,1.1s						
TRQ	**Mont Tremblant**	**31.74**	**301**	P	**P**	**23 44 45.9**	**-1.7**
ODNJ	**Ogdensburg**	**31.79**	**291**	P	**P**	**23 44 46.5**	**-1.4**
ODNJ				IAmb	IAmb	23 44 53.5	
	comp=Z,9.3nm,1.1s						
WLF	**Walferdange**	**32.12**	**52**	P	**P**	**23 44 49.8**	**-1.0**
WLF				IAmb	IAmb	23 44 53.6	
	comp=Z,9.7nm,1.1s						
BFO	**Black Forest**	**33.37**	**55**	P	**P**	**23 44 58.0**	**-3.8**
BFO				IAmb	IAmb	23 45 03.9	
	comp=Z,8.8nm,1.4s						
PECO	**Prince Edward**	**33.42**	**297**	P	**P**	**23 45 00.1**	**-2.1**
PECO				IAmb	IAmb	23 45 05.5	
	comp=Z,6.9nm,1.4s						
TUE	**Stuetta**	**33.93**	**58**	P	**P**	**23 45 07.8**	**+0.9**
D53A	**Lac Vacive, Po**	**33.96**	**303**	P	**P**	**23 45 07.7**	**+0.8**
D53A				IAmb	IAmb	23 45 12.2	
	comp=Z,5.9nm,1.1s						
MMNY	**Mt. Morris Dam**	**34.13**	**295**	P	**P**	**23 45 07.1**	**-1.4**
GRA1	**Grafenberg Arr**	**35.39**	**53**	P	**P**	**23 45 19.6**	**+0.4**
GRA1				IAmb	IAmb	23 45 24.9	
	comp=Z,13nm,1.2s						
GRF	**Grafenberg Arr**	**35.39**	**53**	*e*P	**P**	**23 45 20.4**	**+1.2**
	comp=Z,11nm,1.3s,baz=263,slow=8.6						
M54A	**Oil Creek Stat**	**35.55**	**293**	P	**P**	**23 45 18.4**	**-2.3**
M54A				IAmb	IAmb	23 45 23.7	
	comp=Z,14nm,1.4s						
NKC	**Novy Kostel**	**36.23**	**52**	*e*P	**P**	**23 45 28.2**	**+1.8**
NKC				AMS	AMS	23 58 30.0	
	comp=Z,100nm,19.6s						
Y59A	**Loris**	**36.42**	**280**	P	**P**	**23 45 27.1**	**-1.1**
ZOU	**Zoufplan**	**36.44**	**58**	P	**P**	**23 45 28.9**	**+0.5**
SUMG	**Summit**	**36.64**	**358**	*i* P	**P**	**23 45 31.0**	**+0.9**
	comp=Z,37nm,1.1s						
SUMG	**Summit**	**36.64**	**358**	P	**P**	**23 45 30.5**	**+0.5**
SUMG				IAmb	IAmb	23 45 32.9	
	comp=Z,15nm,1.1s						
TAM	**Tamanrasset**	**36.77**	**100**	P	**P**	**23 45 32.7**	**+1.2**
BLA	**Blacksburg**	**36.84**	**286**	P	**P**	**23 45 30.9**	**-0.9**
BLA				IAmb	IAmb	23 45 31.9	
	comp=Z,4.4nm,0.7s						
PRED	**Cave del Predi**	**36.85**	**59**	P	**P**	**23 45 33.2**	**+1.4**
KHC	**Kasperske Hory**	**36.89**	**54**	*e*P	**P**	**23 45 33.3**	**+1.2**
KHC				*e*pP	**pP**	**23 45 37.4**	**+0.4**
KHC	**Kasperske Hory**	**36.89**	**54**	P	**P**	**23 45 31.6**	**-0.5**
GEC2	**GERESS Array S**	**36.96**	**55**	P	**P**	**23 45 33.5**	**+0.8**
GERES	**GERESS Array B**	**36.96**	**55**	P	**P**	**23 45 32.9**	**+0.2**
	comp=Z,1.5nm,1.0s,baz=262,slow=6.3,SNR=11						
GERES				LR	LR	23 58 23.4	
	comp=Z,40nm,21.5s,baz=188,slow=32						
GERES	**GERESS Array B**	**36.96**	**55**	P	**P**	**23 45 32.6**	**-0.2**
BRG	**Berggiesshubel**	**37.23**	**51**	*e*P	**P**	**23 45 36.0**	**+1.1**
	comp=Z,17nm,1.8s						
PRU	**Pruhonice**	**37.55**	**53**	*e*P	**P**	**23 45 39.8**	**+2.1**
PRU				AMS	AMS	23 59 50.0	
	comp=Z,100nm,11.9s						
PVCC	**Panska Ves**	**37.60**	**52**	AMS	AMS	23 58 20.0	
	comp=Z,100nm,17.6s						
NOA	**NORSAR Array B**	**37.90**	**34**	LR	LR	23 58 38.4	
	comp=Z,51nm,21.1s,baz=250,slow=32						
UPC	**Upice**	**38.52**	**52**	*e*P	**P**	**23 45 47.7**	**+1.9**
CHVC	**Chvalec**	**38.55**	**52**	*e*P	**P**	**23 45 47.8**	**+1.7**
OSTC	**Ostas**	**38.65**	**52**	*e*P	**P**	**23 45 47.8**	**+0.8**
TORD	**Torodi Ar. Bea**	**39.47**	**116**	P	**P**	**23 45 52.7**	**-1.4**
	comp=Z,1.1nm,1.1s,baz=324,slow=7.6,SNR=4.4						
TORD				LR	LR	00 01 21.2	
	comp=Z,150nm,19.6s,baz=305,slow=35						
TORD	**Torodi Ar. Bea**	**39.47**	**116**		**P**	**23 45 53.8**	**-0.3**
V52A	**Sevierville**	**39.65**	**285**	P	**P**	**23 45 55.3**	**-0.2**
DBIC	**Dimbokro**	**39.71**	**130**	LR	LR	23 59 52.0	
	comp=Z,80nm,21.1s,baz=302,slow=32						
255A	**Hazlehurst**	**39.93**	**278**	P	**P**	**23 45 56.7**	**-1.1**
VYHS	**Vyhne**	**40.36**	**55**	*e*P	**P**	**23 46 02.1**	**+0.9**
PSZ	**Piszkesteto**	**41.10**	**56**	P	**P**	**23 46 06.9**	**-0.5**
DIVS	**Divibare**	**41.56**	**62**	P	**P**	**23 46 11.1**	**-0.1**
KWP	**Kalwaria Pacla**	**42.84**	**53**	P	**P**	**23 46 22.5**	**+1.0**
KWP				IAmb	IAmb	23 46 30.5	
	comp=Z,16nm,1.5s						
BURAR	**Bucovina Array**	**44.70**	**56**	P	**P**	**23 46 36.5**	**-0.2**
Y45A	**Yeager Farm, C**	**44.90**	**284**	P	**P**	**23 46 36.3**	**-2.0**
CCM	**Cathedral Cave**	**44.96**	**290**	P	**P**	**23 46 37.7**	**-1.0**
FINES	**FINESS Array B**	**44.98**	**36**	LR	LR	00 03 38.4	
	comp=Z,64nm,19.5s,baz=283,slow=34						
P40A	**Paris**	**45.18**	**293**	P	**P**	**23 46 40.0**	**-0.4**
P40A				IAmb	IAmb	23 46 42.2	
	comp=Z,5.4nm,1.0s						
ULM	**Lac du Bonnet**	**45.88**	**308**	LR	LR	00 04 48.8	
	comp=Z,163nm,21.4s,baz=101,slow=35						
S39A	**Bolivar**	**46.64**	**291**	P	**P**	**23 46 50.8**	**-1.2**
U40A	**Yellville**	**46.69**	**289**	P	**P**	**23 46 51.4**	**-0.9**
U40A				IAmb	IAmb	23 46 57.2	
	comp=Z,3.3nm,0.9s						
AKASG	**Malin Array Be**	**46.91**	**51**	P	**P**	**23 46 53.5**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=276,slow=7.7,SNR=8.3						
AKASG				LR	LR	00 05 53.4	
	comp=Z,56nm,18.1s,baz=260,slow=35						
ROSC	**El Rosal**	**48.22**	**239**	LR	LR	00 07 10.6	
	comp=Z,59nm,19.2s,baz=52,slow=36						
FFC	**Flin Flon**	**49.07**	**315**	P	**P**	**23 47 11.9**	**+1.3**
FFC				IAmb	IAmb	23 47 12.8	
	comp=Z,11nm,1.4s						
OBN	**Obninsk**	**50.70**	**44**	P	**P**	**23 47 24.0**	**+1.2**
BRTR	**Keskin Array B**	**52.48**	**64**	LR	LR	00 08 21.8	
	comp=Z,26nm,21.9s,baz=231,slow=34						
BDFB	**Brasilia**	**53.08**	**197**	P	**P**	**23 47 41.0**	**-0.1**
	comp=Z,2.9nm,0.9s,baz=54,slow=27,SNR=3.5						
BDFB	**Brasilia**	**53.08**	**197**	IAmb	IAmb	23 47 41.9	
	comp=Z,12nm,1.3s						
YKA	**Yellowknife Ar**	**54.42**	**326**	P	**P**	**23 47 50.6**	**+0.2**
	comp=Z,2.9nm,1.0s,baz=84,slow=7.8,SNR=8.4						
YKA				LR	LR	00 10 12.5	
	comp=Z,47nm,19.2s,baz=0.0,slow=35						
PDAR	**Pinedale Array**	**56.82**	**302**	LR	LR	00 12 43.5	
	comp=Z,79nm,18.6s,baz=102,slow=36						
TXAR	**Lajitas Array**	**57.75**	**285**	P	**P**	**23 48 14.6**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=79,slow=6.6,SNR=4.8						
TXAR				LR	LR	00 12 55.7	
	comp=Z,49nm,18.1s,baz=0.0,slow=36						
AHID	**Auburn Hatcher**	**57.88**	**302**	P	**P**	**23 48 17.6**	**+1.9**
LPAZ	**La Paz**	**61.19**	**218**	P	**P**	**23 48 38.9**	**-0.3**
	comp=Z,3.8nm,1.0s,baz=8.3,slow=7.3,SNR=10						
LPAZ				LR	LR	00 12 11.8	
	comp=Z,75nm,19.3s,baz=360,slow=33						
LPAZ	**La Paz**	**61.19**	**218**		**P**	**23 48 39.3**	**+0.2**
ARU	**Arti**	**62.23**	**39

KDAK	Kodiak Island	62.27	32	LR	LR	00 24 46.6	
	comp=Z,33nm,19.9s,baz=136,slow=35						
ZALV	Zalesovo Beam	62.32	324	P	P	23 58 41.8	-0.6
	comp=Z,0.9nm,0.3s,baz=106,slow=5.3,SNR=5.0						
ZALV	Zalesovo Beam	62.32	324	P	P	23 58 42.5	+0.1
MK31	Makanchi Array	62.50	315	P	P	23 58 43.5	-0.3
MKAR	Makanchi Array	62.50	315	P	P	23 58 44.1	+0.2
	comp=Z,3.0nm,0.5s,baz=91,slow=8.7,SNR=25						
MKAR	Makanchi Array	62.50	315	P	P	23 58 44.0	+0.1
MAKZ	Makanchi	62.72	315	P	P	23 58 44.4	-0.9
MAKZ				IAmb	IAmb	23 58 46.4	
	comp=Z,4.6nm,0.7s						
KURK	Kurchatov	65.45	319	P	P	23 59 02.5	-0.6
ILAR	Eielson Array	66.95	25	P	P	23 59 12.8	+0.3
	comp=Z,0.3nm,0.6s,baz=251,slow=5.8,SNR=4.2						
BMAR	Burnt Mountain	68.56	23	P	P	23 59 24.1	+1.5
BCAR	Beaver Creek A	68.76	28	P	P	23 59 24.2	+0.2
KK31	Karatay Array	70.63	311	P	P	23 59 35.8	0.0
KK31				IAmb	IAmb	23 59 38.1	
	comp=Z,3.7nm,1.0s						
KKAR	Karatay Array	70.63	311	P	P	23 59 35.8	0.0
KKAR				IAmb	IAmb	23 59 38.1	
	comp=Z,3.7nm,1.0s						
KKAR	Karatay Array	70.63	311	P	P	23 59 35.0	-0.8
BRVK	Borovoye	70.78	322	P	P	23 59 36.5	0.0
BRVK				IAmb	IAmb	23 59 39.1	
	comp=Z,4.9nm,0.9s						
ABKAR	Akbulak array	77.47	318	P	P	00 00 14.1	-1.6
GEYT	Alibeck	80.58	307	P	P	00 00 33.8	+0.8
	comp=Z,0.7nm,0.4s,baz=116,slow=6.7,SNR=3.1						
GEYT	Alibeck	80.58	307	IAmb	IAmb	00 00 36.2	
	comp=Z,1.3nm,1.0s						
FINES	FINESS Array B	91.41	336	P	P	00 01 26.0	0.0
	comp=Z,1.2nm,0.8s,baz=76,slow=8.0,SNR=5.0						
DBIC	Dimbokro	145.26	305	PKPbc	PKPdf	00 07 59.7	+0.9
	comp=Z,6.7nm,0.6s,baz=18,slow=2.1,SNR=11						
KIC	Kosan Boka	145.35	305	*e*PKIKP	PKPdf	00 08 00.2	+1.2
	comp=Z,18nm,0.8s						
TIC	Toumodi	145.40	305	*e*PKIKP	PKPab	00 08 00.4	+1.2
LIC	Lamto	145.66	305	*e*PKIKP	PKPab	00 08 00.2	+0.1
	comp=Z,58nm,1.1s						

*NEIC **21** 23:52:09.5±1.3,20.7°S±0.1°×177.7°W±0.1°,h434km±7km, mb4.4/63, Error ellipse: s-maj=15.7km s-min=13.9km az=139.0*

*IDC **21** 23:52:15.1±2.7,20.67°S×177.83°W,h492km±29km, mb3.8/16,mb1 3.9/17,mb1mx3.7/34,mbtmp4.6/17, Error ellipse: s-maj=15.6km s-min=12.5km az=142.0*

ISC 21 23:52:10.3±0.4, 20.71°S±0.05°×177.68°W±0.07, h450km, n=168, σ=1°9 12/175, mb4.3/47, 8C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.00	306		P	23 53 33.7	-1.2
NIUE	Niue	7.47	79	P	P	23 53 59.5	-0.6
GLKZ	Green Lake	8.52	181	P	P	23 54 11.4	+0.2
GLKZ				S	S	23 55 48.9	-1.6
AFI	Afiamalu	8.80	41	P	P	23 54 12.9	-1.7
DZM	Mont Dzumac	14.85	262	P	P	23 55 22.4	+2.4
	0.3nm,0.3s,baz=128,slow=19,SNR=2.3						
DZM	Mont Dzumac	14.85	262	P	P	23 55 19.7	-0.3
SANVU	Saraoutou	15.29	288	P	P	23 55 21.4	-3.3
SANVU				IAmb	IAmb	23 55 40.1	
	comp=Z,23nm,0.9s						
OUZ	Omahuta	16.37	206	P	P	23 55 35.8	0.0
OUZ				IAmb	IAmb	23 55 47.4	
	comp=Z,12nm,1.2s						
RAR	Rarotonga	16.74	95	P	P	23 55 39.1	-0.7
MXZ	Matakaoa Point	17.15	191	P	P	23 55 47.4	+3.3
MXZ				S	S	23 58 41.6	+1.1
MXZ	Matakaoa Point	17.15	191	P	P	23 55 44.1	0.0
WMGZ	Waiomatatini S	17.38	190	P	P	23 55 48.0	+1.5
HAZ	Te Kaha	17.44	192	P	P	23 55 47.7	+0.6
HAZ				S	S	23 58 41.9	-3.7
PUZ	Puketiti	17.66	191	P	P	23 55 51.8	+2.4
PUZ				S	S	23 58 46.1	-3.6
RUGZ	Raukumara Rang	17.66	192	P	P	23 55 49.9	+0.4
RUGZ				S	S	23 58 48.4	-1.5
MWZ	Matawai	18.05	192	P	P	23 55 54.4	+1.0
MWZ				S	S	23 58 52.8	-3.6
URZ	Urewera	18.06	193	P	P	23 55 54.3	+0.9
URZ				S	S	23 58 55.2	-1.3
CNGZ	Carnagh Statio	18.07	190	P	P	23 55 55.4	+1.8
TKGZ	Te Karaka	18.09	191	P	P	23 55 53.9	+0.2
TKGZ				S	S	23 58 54.8	-2.1
RIGZ	Rimuhau	18.36	191	P	P	23 55 56.8	+0.4
HIZ	Hauiti	18.88	198	P	P	23 56 01.6	+0.4
BKZ	Black Stump Fm	19.07	194	P	P	23 56 02.5	-0.6
BFZ	Birch Farm	20.57	193	P	P	23 56 17.4	+0.7
SNZO	South Karori	21.53	196	P	P	23 56 24.9	-0.5
QRZ	Quartz Range	21.71	200	P	P	23 56 28.9	+1.7
QRZ				IAmb	IAmb	23 56 42.1	
	comp=Z,11nm,0.9s						
NNZ	Nelson	21.81	198	P	P	23 56 28.2	+0.2
TUWZ	Tuamarina	21.84	197	P	P	23 56 28.8	+0.6
CMWZ	Cape Campbell	22.07	196	P	P	23 56 31.1	+0.8
BSWZ	Blackbirch Sta	22.13	197	P	P	23 56 30.9	+0.1
THZ	Tophouse	22.45	199	P	P	23 56 34.6	+0.8
THZ				IAmb	IAmb	23 56 49.1	
	comp=Z,15nm,1.2s						
KHZ	Kahutara	22.87	197	P	P	23 56 36.2	-1.2
LTZ	Lake Taylor	23.57	199	P	P	23 56 44.8	+0.9
LTZ				IAmb	IAmb	23 56 55.0	
	comp=Z,21nm,1.1s						
ODZ	Otahua Downs	26.12	199	P	P	23 57 06.2	-0.2
ODZ				IAmb	IAmb	23 57 21.9	
	comp=Z,10nm,1.1s						
WKZ	Wanaka	26.45	202	P	P	23 57 09.5	0.0
WHZ	Wether Hill Ro	27.75	202	P	P	23 57 22.0	+1.1
EIDS	Eidsvold	29.08	255	P	P	23 57 33.4	+0.6
ARMA	Armidale	29.25	244	P	P	23 57 35.4	+1.1
CAN	Canberra	32.64	236	P	P	23 58 04.3	+0.8
CAN				IAmb	IAmb	23 58 06.0	
	comp=Z,20nm,1.1s						
CTAO	Charters Tower	33.77	265	P	P	23 58 12.9	-0.4
CTAO				IAmb	IAmb	23 58 15.5	
	comp=Z,13nm,0.6s						
TOO	Toolangi	36.02	234	P	P	23 58 32.0	+0.1
TOO				IAmb	IAmb	23 58 34.3	
	comp=Z,7.9nm,0.6s						
COEN	Coen	37.89	274	P	P	23 58 48.3	+0.5
STKA	Stephens Creek	37.97	244	P	P	23 58 48.7	+0.5
	comp=Z,5.3nm,0.6s,baz=87,slow=9.7,SNR=9.1						
STKA	Stephens Creek	37.97	244	IAmb	IAmb	23 58 50.2	
	comp=Z,1.6nm,0.8s						
WAKE	Wake Island	42.60	338	P	P	23 59 25.9	+0.4
BBOO	Buckleboo	42.72	244	P	P	23 59 27.3	+0.9
BBOO				IAmb	IAmb	23 59 27.7	
	comp=Z,17nm,0.8s						
JAY	Jayapura	44.39	288	P	P	23 59 39.9	+0.1
	comp=Z,10.0nm,0.5s,baz=103,slow=3.9,SNR=11						
WR0	Warramunga Arr	44.68	262	P	P	23 59 42.1	+0.1
AS31	Alice Springs	44.76	257	P	P	23 59 43.3	+0.8
ASAR	Alice Springs	44.76	257	P	P	23 59 43.2	+0.6
	comp=Z,19nm,0.6s,baz=95,slow=7.9,SNR=181						
ASAR				PcP	PcP	00 01 15.8	+0.2
	comp=Z,1.4nm,0.6s,baz=98,slow=4.0,SNR=5.2						
ASAR				S	S	00 05 43.0	-2.9
	comp=Z,0.9nm,0.9s,baz=94,slow=16,SNR=5.6						
ASAR	Alice Springs	44.76	257	P	P	23 59 42.4	-0.2
WB0	Warramunga Arr	44.85	262	P	P	23 59 43.5	+0.2
WB0				IAmb	IAmb	23 59 44.2	
	comp=Z,14nm,0.6s						
WB2	Warramunga Arr	44.86	262	P	P	23 59 43.3	0.0
WB2				IAmb	IAmb	23 59 44.3	
	comp=Z,15nm,1.0s						
WRA	Warramunga Arr	44.87	262	P	P	23 59 43.6	+0.2
	comp=Z,3.4nm,0.3s,baz=97,slow=7.6,SNR=41						
WRA	Warramunga Arr	44.87	262	P	P	23 59 43.5	+0.1
MTN	Manton Dam	49.46	271	P	P	00 00 18.6	+0.3
MTN				IAmb	IAmb	00 00 19.5	
	comp=Z,20nm,0.8s						
FORT	Forrest	49.49	247	P	P	00 00 18.6	+0.3
KNRA	Kununurra	50.94	266	P	P	00 00 30.1	+0.9
KNRA				IAmb	IAmb	00 00 30.8	
	comp=Z,15nm,0.7s						
FAKI	Fak Fak	51.84	283	P	P	00 00 35.7	0.0
FAKI				IAmb	IAmb	00 00 44.2	
	comp=Z,15nm,1.0s						
FITZ	Fitzroy Crossi	53.30	262	P	P	00 00 47.3	+1.1
SIJI	Sorong	53.58	285	P	P	00 00 49.0	+0.7
	comp=Z,33nm,0.7s,baz=101,slow=6.2,SNR=21						
SOEI	Soe	56.80	272	P	P	00 01 11.0	-0.1
VNDA	Vanda	57.73	185	P	P	00 01 16.7	+0.5
PSA00	Pilbara Seismi	57.91	257	P	P	00 01 18.9	+0.4
MORW	Morawa	60.02	248	P	P	00 01 32.7	+0.1
MORW				IAmb	IAmb	00 01 44.6	
	comp=Z,21nm,1.1s						
GIRL	Giralia	62.78	255	P	P	00 01 50.8	0.0
CASY	Casey	63.90	205	P	P	00 01 57.9	+0.6
QSPA	South Pole Qui	69.36	180	P	P	00 02 32.9	+1.5
	comp=Z,2.8nm,0.6s,baz=341,slow=0.8,SNR=26						
QSPA	South Pole Qui	69.36	180	IAmb	IAmb	00 02 34.2	
	comp=Z,3.5nm,0.8s						
KKM	Kota Kinabalu	70.10	285	P	P	00 02 36.9	+0.2
KKM				IAmb	IAmb	00 02 38.6	
	comp=Z,14nm,0.9s						
MJAR	Matsushiro Arr	70.56	324	P	P	00 02 39.3	+0.4
	comp=Z,4.3nm,0.6s,baz=154,slow=6.0,SNR=21						
MJAR	Matsushiro Arr	70.56	324	P	P	00 02 39.5	+0.7
MAJO	Matsushiro	70.56	324	P	P	00 02 39.6	+0.8
MAJO				IAmb	IAmb	00 02 40.2	
	comp=Z,5.5nm,0.6s						
MAT	Matsushiro	70.56	324	P	P	00 02 39.4	+0.5
MJB9	Matsu-Tunnel	70.56	324	P	P	00 02 39.0	+0.1
MJB9				IAmb	IAmb	00 02 40.1	
	comp=Z,5.7nm,0.6s						
ADK	Adak	72.28	1	P	P	00 02 47.6	-1.0
ADK				IAmb	IAmb	00 02 57.7	
	comp=Z,10nm,1.1s						
ASAJ	Asahikawa	74.05	331	P	P	00 02 59.7	+0.7
	comp=Z,13nm,0.8s,baz=202,slow=8.6,SNR=12						
TPUB	Ta-pu	74.34	303	P	P	00 03 00.3	-0.8
PEA0B	Petropavlovsk-	76.55	345	P	P	00 03 13.6	+0.8
PEA0B				IAmb	IAmb	00 03 14.2	
	comp=Z,5.4nm,0.8s						
PETK	Petropavlovsk-	76.55	345	P	P	00 03 13.1	+0.3
	comp=Z,5.7nm,0.8s,baz=143,slow=8.4,SNR=18						
PETK	Petropavlovsk-	76.55	345	P	P	00 03 13.0	+0.2
KSRS	Korea Array	77.24	318	P	P	00 03 18.0	+1.1
	comp=Z,1.9nm,0.6s,baz=137,slow=6.2,SNR=8.9						
KSAR	Wonju Array Be	77.26	318	P	P	00 03 18.1	+1.1
MWC	Mount Wilson	78.73	47	P	P	00 03 26.1	+0.7
USRK	Ussuriysk Ar.	79.31	326	P	P	00 03 28.3	+0.4
	comp=Z,6.9nm,0.8s,baz=109,slow=3.7,SNR=14						
USRK	Ussuriysk Ar.	79.31	326	P	P	00 03 29.3	+1.3
YBH	Yreka Blue Hor	80.27	38	P	P	00 03 34.2	+1.0
NVAR	Mina Array Bea	80.97	43	P	P	00 03 38.3	+1.1
	comp=Z,1.4nm,0.8s,baz=228,slow=8.6,SNR=6.5						
NVAR	Mina Array Bea	80.97	43	P	P	00 03 38.0	+0.9
K05A	Summer Lake	81.94	39	P	P	00 03 44.0	+2.0
K05A				IAmb	IAmb	00 03 45.2	
	comp=Z,10.0nm,1.2s						
CN2	Changchun	82.65	322	*e*P	P	00 03 46.5	+1.2
U15A	North Rim	83.88	48	P	P	00 03 52.6	+0.5
U15A				IAmb	IAmb	00 03 55.0	
	comp=Z,3.4nm,0.7s						
GLI	Glacier Island	84.97	14	P	P	00 03 56.4	-0.2
GLI				IAmb	IAmb	00 03 56.9	
	comp=Z,5.1nm,0.8s						
GSI	Gunungsitoli	85.54	273	P	P	00 04 01.0	+0.6
PPLA	Purkeypile	85.73	11	P	P	00 03 58.8	-1.5
SCM	Sheep Creek Mo	85.76	14	P	P	00 04 01.1	+0.7
SCM				IAmb	IAmb	00 04 01.6	
	comp=Z,5.2nm,0.8s						
F10A	Beach Ranch, E	85.99	37	P	P	00 04 02.6	+0.6
F10A				IAmb	IAmb	00 04 03.7	
	comp=Z,6.2nm,0.9s						
TRF	Thorofare Moun	86.59	12	P	P	00 04 04.5	0.0
TRF				IAmb	IAmb	00 04 05.5	
	comp=Z,5.7nm,1.0s						
MNTX	Cornudas Mount	86.63	54	P	P	00 04 06.0	+0.7
RND	Reindeer	86.84	13	P	P	00 04 06.3	+0.8
RND				IAmb	IAmb	00 04 06.5	
	comp=Z,3.7nm,0.7s						
TXAR	Lajitas Array	86.92	57	P	P	00 04 08.4	+1.6
	comp=Z,0.8nm,0.7s,baz=213,slow=7.0,SNR=13						
SNAA	Sanae	87.79	178	P	P	00 04 10.3	+0.2
VNA3	Neumayer Olymp	87.91	176	P	P	00 04 11.1	+0.5
WRH	Wood River Hil	87.94	12	P	P	00 04 09.9	-0.7
WRH				IAmb	IAmb	00 04 11.2	
	comp=Z,3.4nm,0.7s						
HDA	Harding Lake	88.12	13	IAmb	IAmb	00 04 12.1	
	comp=Z,3.4nm,0.6s						
CCB	Clear Creek Bu	88.16	12	IAmb	IAmb	00 04 11.9	
	comp=Z,4.5nm,0.6s						
ILAR	Eielson Array	88.45	13	P	P	00 04 12.2	-0.8
	comp=Z,1.2nm,0.6s,baz=222,slow=6.0,SNR=11						
ILAR	Eielson Array	88.45	13	P	P	00 04 12.3	-0.6
XAN	Xi'an	88.50	307	P	P	00 04 15.5	+1.5
XAN				pmax	pmax		
	comp=Z,13nm,1.0s						
XAN				pmax	pmax		
	comp=Z,110nm,5.9s						
VNA1	Neumayer--Stat	88.58	176	P	P	00 04 14.3	+0.6
PDAR	Pinedale Array	88.91	43	P	P	00 04 16.9	+1.0
	comp=Z,1.0nm,0.8s,baz=196,slow=2.6,SNR=7.5						
PDAR	Pinedale Array	88.91	43	P	P	00 04 16.5	+0.5
HHC	Hu-ho-hao-te	89.71	314	*e*P	P	00 04 20.1	+0.5
HHC				pmax	pmax		
	comp=Z,12nm,0.8s						
HHC				pmax	pmax		
	comp=Z,47nm,5.2s						
CMAR	Chiang Mai Arr	90.47	289	P	P	00 04 24.3	+0.8
	comp=Z,2.9nm,0.9s,baz=126,slow=2.9,SNR=16						
CMAR	Chiang Mai Arr	90.47	289	P	P	00 04 24.5	+1.1
ZALV	Zalesovo Beam	110.84	321	PKiKP	PKiKP	00 09 50.1	-0.8
	comp=Z,0.7nm,0.6s,baz=116,slow=3.4,SNR=4.1						
MKAR	Makanchi Array	111.56	313	PKiKP	PKiKP	00 09 51.6	-1.0
	comp=Z,0.4nm,0.4s,baz=107,slow=0.4,SNR=7.9						
ARCES	ARCESS Array B	129.18	350	PKP	PKiKP	00 10 25.6	-0.8
	comp=Z,2.9nm,0.9s,baz=0.0,slow=1.7,SNR=6.9						
FINES	FINESS Array B	136.06	344	PKhKP	PKPdf	00 10 35.2	-3.5
	comp=Z,1.3nm,0.8s,baz=57,slow=5.1,SNR=3.5						
AKASG	Malin Array Be	143.34	331	PKhKP	PKPab	00 10 49.5	-0.5
	comp=Z,4.9nm,0.6s,baz=41,slow=4.4,SNR=26						
SORM	Soroca	145.54	329	⇑P	PKPab	00 10 57.1	-1.3
RUE	Ruedersdorf	147.07	347	*e*PKPbc	PKPbc	00 11 01.5	+0.1
	baz=17,slow=2.4						
BRTR	Keskin Array B	147.20	312	PKPbc	PKPbc	00 11 02.3	-0.2
	comp=Z,1.4nm,0.5s,baz=158,slow=3.1,SNR=5.8						
BUR08	Bucovina Ar. S	147.38	331		PKPab	00 11 04.4	-1.5
BURAR	Bucovina Array	147.39	331	⇑P	PKiKP	00 11 04.0	-0.4
BURAR	Bucovina Array	147.39	331		PKPab	00 11 04.5	-1.5
BIZ	Bicaz	147.46	329	⇑P	PKiKP	00 11 03.7	-0.7
TOPG	Topolog	147.69	324	⇑P	PKiKP	00 11 03.3	-1.6
TRPA	Tarpa	148.16	334	⇓P	PKiKP	00 11 04.8	-1.0
OSTC	Ostas	148.26	343	*e*PKP	PKiKP	00 11 04.8	-1.2
OSTC				*ex*	x	00 11 10.9	
CHVC	Chvalec	148.27	343	*e*PKP	PKiKP	00 11 04.8	-1.2
OKC	Ostrava-Krasne	148.33	340	*e*PKP	PKPbc	00 11 04.5	-0.3
CLL	Collm	148.33	347	*i* PKPbc	PKiKP	00 11 04.8	-1.2
	comp=Z,10.0nm,0.9s						
CLL				*e*PKPab	PKPab	00 11 10.0	+0.5
CLL				LmV		00 40 00.0	
	comp=Z,100nm,20.2s						
CLL	Collm	148.33	347	*e*PKPbc	PKiKP	00 11 04.7	-1.4
	baz=17,slow=2.4						
DPC	Dobruska-Polom	148.41	343	*e*PKP	PKiKP	00 11 05.8	-0.5
DOPR	Dopca	148.50	328	⇑P	PKiKP	00 11 05.4	-1.3
BRG	Berggiesshubel	148.54	346	*e*PKPbc	PKiKP	00 11 05.6	-0.9
	baz=17,slow=2.4						
MLR	Muntele Rosu	148.56	327	⇓P	PKiKP	00 11 05.7	-1.2
FBE	Freiberg	148.62	347	*e*PKPbc	PKiKP	00 11 06.0	-0.7
	baz=17,slow=2.4						
NEUB	Neuenburg	148.67	349	*e*PKPbc	PKiKP	00 11 05.7	-1.0
	baz=17,slow=2.4						
PVCC	Panska Ves	148.71	345	*e*PKP	PKiKP	00 11 06.5	-0.4
PRU	Pruhonice	149.22	345	*e*PKP	PKiKP	00 11 07.3	-0.6
PRU				*ex*	x	00 11 13.9	
PLN	Plauen	149.28	348	*e*PKPbc	PKiKP	00 11 07.2	-0.9
	baz=17,slow=2.4						
TANN	Tannenbergstha	149.29	347	*e*PKPbc	PKiKP	00 11 07.3	-0.8
	baz=17,slow=2.4						
ARR	Arges	149.30	328	⇓P	PKiKP	00 11 07.5	-0.9
GUNZ	Gunzen	149.37	347	*e*PKPbc	PKiKP	00 11 07.5	-0.8
	baz=17,slow=2.4						
PBCC	Pribram	149.63	345	*e*PKP	PKiKP	00 11 08.2	-0.6
MANZ	Manzenberg	149.77	347	*e*PKPbc	PKiKP	00 11 08.4	-0.7
	baz=17,slow=2.4						
ROTZ	Rotzenmuhle	149.96	347	*e*PKPbc	PKiKP	00 11 08.8	-0.6
	baz=17,slow=2.4						
SIRR	Siria	150.00	333	⇑P	PKiKP	00 11 08.9	-0.8
MEM	Membach	150.02	355	PKPbc	PKiKP	00 11 09.3	-0.3
MEM				PKiKP	PKPbc	00 11 10.0	+1.1
KHC	Kasperske Hory	150.25	345	*e*PKP	PKiKP	00 11 09.8	-0.3
KHC				*ex*	x	00 11 18.5	
GEC2	GERESS Array S	150.48	345	*e*PKPbc	PKiKP	00 11 09.9	-0.8
	baz=17,slow=2.4						
GERES	GERESS Array B	150.48	345	PKPbc	PKiKP	00 11 10.2	-0.5
	comp=Z,1.1nm,0.6s,baz=26,slow=2.1,SNR=13						
BZS	Buzias	150.52	332	⇑P	PKiKP	00 11 10.3	-0.4
PLVB	Pleven	150.70	326	⇓P	PKiKP	00 11 10.1	-1.1
HERR	Herculane	150.72	330	⇑P	PKPbc	00 11 10.1	-0.7
CONA	Conrad Observa	150.72	341	*i* PKPbc	PKiKP	00 11 11.0	-0.3
	comp=Z,2.2nm,0.5s						
MDVR	Moldovita	151.12	331	⇓P	PKiKP	00 11 11.2	-0.9
MOA	Molln	151.25	343	*i* PKPbc	PKiKP	00 11 11.6	-0.7
	comp=Z,1.0nm,0.5s						
ARSA	Arzberg	151.43	341	*i* PKPbc	PKiKP	00 11 12.8	+0.2
	comp=Z,0.6nm,0.6s						
VTS	Vitosha	151.97	326	⇓P	PKiKP	00 11 13.8	-0.2
SOKA	Soboth	152.10	341	*e*PKPbc	PKiKP	00 11 13.2	-0.9
	comp=Z,1.4nm,0.8s						
UBR	Ueberruh	152.36	349	*e*PKPbc	PKiKP	00 11 14.2	-0.4
	baz=17,slow=2.4						
OBKA	Obir	152.39	342	*e*PKPbc	PKPbc	00 11 13.5	-1.1
	comp=Z,1.8nm,0.6s						
WTTA	Wattenberg	152.45	346	*e*PKPbc	PKiKP	00 11 14.5	-0.4
	comp=Z,1.5nm,0.4s						
MYKA	Terra Mystica	152.54	343	*i* PKPbc	PKiKP	00 11 14.1	-0.9
	comp=Z,1.5nm,0.4s						
ABTA	Abfaltersbach	152.73	345	*i* PKPbc	PKPbc	00 11 14.4	-0.8
	comp=Z,2.4nm,0.5s						
TORD	Torodi Ar. Bea	172.46	175	PKPab	PKPab	00 12 55.7	+0.7
	comp=Z,0.4nm,0.9s,baz=186,slow=3.0,SNR=1.7						

IDC 22 00:11:14.5±21.0, 17.47°S×178.68°W, h490km±188km, mb3.1/4, mb1 3.3/4, mb1mx2.9/32, mbtmp3.9/4, Error ellipse: s-maj=164.6km s-min=42.3km az=104.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	38.61	241	P	P	00 17 54.6	-0.2
	0.6nm,0.4s,baz=63,slow=9.0,SNR=1.1						
WRA	Warramunga Arr	44.45	259	P	P	00 18 41.7	+0.2
	0.4nm,0.3s,baz=93,slow=7.4,SNR=2.6						
WRA				PcP	PcP	00 20 14.4	-0.3
	0.5nm,0.7s,baz=94,slow=3.3,SNR=1.6						
ASAR	Alice Springs	44.66	254	P	P	00 18 42.8	-0.2
	2.9nm,0.7s,baz=89,slow=8.1,SNR=42						
ASAR				PcP	PcP	00 20 15.1	-0.4
	0.4nm,0.5s,baz=102,slow=4.0,SNR=5.9						
MJAR	Matsushiro Arr	67.40	323	P	P	00 21 20.3	-0.3
	0.8nm,0.6s,baz=145,slow=7.0,SNR=4.0						
GERES	GERESS Array B	147.13	345	PKPbc	PKPbc	00 30 01.5	-0.5
	0.3nm,0.5s,baz=3.3,slow=3.4,SNR=3.1						

*NEIC **22** 00:21:08.0±2.1,35.87°N±0.08°×33.93°W±0.10,h10km±1km, mb4.3/20, Error ellipse: s-maj=16.8km s-min=9.9km az=221.0*

*IDC **22** 00:21:07.8±2.1,35.98°N×34.14°W,h0km,mb3.7/9, mb1 3.9/9,mb1mx3.7/50,mbtmp3.7/9,MS3.6/19, Ms1 3.6/19,ms1mx3.5/34, Error ellipse: s-maj=51.9km s-min=26.8km az=24.0*

ISC 22 00:21:09.7±0.7, 36.0°N±0.1°×33.93°W±0.07, h18km, n=50, σ=1°9 34/37, mb4.3/19, MS3.6/19, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSA	Rosais	5.31	57	Pn	Pn	00 22 24.6	-3.5
CMLA	Cha da Macela	6.98	72	Pn	Pn	00 22 49.3	-1.7
ESDC	Sonseca Array	23.91	72	P	P	00 26 25.2	+2.7
	1.1nm,1.0s,baz=267,slow=10,SNR=4.1						
ESDC				LR	LR	00 33 39.1	
	comp=Z,135nm,19.9s,baz=265,slow=31						
ESDC	Sonseca Array	23.91	72	P	P	00 26 22.6	+0.1
MDT	Midelt	24.36	89	LR	LR	00 34 01.7	
	comp=Z,190nm,18.8s,baz=308,slow=32						
LMN	Caledonia Moun	25.21	303	P	P	00 26 34.2	0.0
LMN				IAmb	IAmb	00 26 38.5	
	comp=Z,9.4nm,1.0s						
BBSR	BB Station	25.66	271	P	P	00 26 38.5	+0.1
EKA	Eskdalemuir Ar	28.59	38	P	P	00 27 06.3	+1.7
	comp=Z,0.9nm,0.6s,baz=229,slow=9.8,SNR=5.2						
SCHQ	Schefferville	29.44	320	LR	LR	00 37 49.5	
	comp=Z,145nm,19.5s,baz=107,slow=34						
TRQ	Mont Tremblant	31.98	301		P	00 27 33.3	-1.5
D53A	Lac Vacive

MKAR **Makanchi Array** 79.73 39 P P 00 33 17.6 +1.2
comp=Z,0.5nm,0.9s,baz=220,slow=5.5,SNR=4.2
MKAR **Makanchi Array** 79.73 39 P P 00 33 16.7 +0.3
BOSA **Boshof** 85.01 131 LR LR 01 08 08.5
comp=Z,64nm,18.0s,baz=62,slow=33

UCR ***22*** *00:26:52.0± 1.2, 14°.65N×91°.24W, h176km± 10km, ML4.5, mb4.7(NEIC)*
GCG ***22*** *00:26:53.7± 0.4, 14°.55N×91°.22W, h169km± 32km, MD4.4*
SNET ***22*** *00:26:54.3± 0.6, 14°.68N×91°.13W, h159km± 7km, ML4.7*
UNK ***22*** *00:26:54.4, 14°.63N×91°.17W, h166km*
NEIC ***22*** *00:26:54.4± 1.5, 14°.63N± 0°.04×91°.17W± 0°.05, h166km± 3km, mb4.7/334, Md4.6/25(MEX), Error ellipse: s-maj=7.7km s-min=6.2km az=74.0*
IDC ***22*** *00:26:56.0± 0.9, 14°.88N×90°.63W, h169km± 7km, mb3.9/16, mb1 4.0/17,mb1mx3.9/33,mbtmp4.3/17, MS3.3/4, Ms1 3.3/4,ms1mx2.9/31, Error ellipse: s-maj=21.4km s-min=9.7km az=62.0*
INET ***22*** *00:26:59.2, 14°.17N×90°.63W, h264km, ML5.1*
BGR ***22*** *00:27:19.8± 0.0, 15°.08N×92°.12W, h33km, mb4.7*

ISC 22 00:26:54.3±0.5, 14°.69N±0°.04×91°.08W±0°.04, h165km±4km, n783, σ1.9/16/734, mb4.7/170, 7C-22D, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
FUG	**Fuego 3**	**0.33**	**136**	↑ *i*P		**Pn 00 27 17.4**	**+0.4**
STG3	**Santiaguito 3,**	**0.47**	**273**	*e*P		**Pn 00 27 17.6**	**+0.1**
PCG	**Pacaya**	**0.54**	**122**	⇑ *e*P		**Pn 00 27 18.8**	**+0.9**
RTAL	**Retalhuleu**	**0.62**	**255**	↑ *i*P		**Pn 00 27 16.9**	**-1.0**
RTAL				IAML		00 27 17.6	
	comp=Z,13μm,0.4s						
RTAL				*e*S		**Sn 00 27 34.9**	**-1.0**
NBG	**Las Nubes**	**0.72**	**98**	⇓ *i*P		**Pn 00 27 20.5**	**+1.7**
HUEH	**Huehuetenango**	**0.75**	**327**	↑ *i*P		**Pn 00 27 19.2**	**+0.2**
HUEH				*e*S		**Sn 00 27 38.0**	**0.0**
HUEH				IAML		00 27 45.4	
	comp=Z,8μm,0.6s						
IXG	**Ixpaco**	**0.80**	**129**	⇓ *e*P		**Pn 00 27 20.0**	**+0.8**
THIG		**1.17**	**281**			**Pn 00 27 21.0**	**-0.8**
THIG						**Sn 00 27 41.7**	**-1.3**
MRL	**Marmol**	**1.41**	**74**	↑ *i*P		**Pn 00 27 26.6**	**+2.3**
RTR	**El Retiro**	**1.60**	**119**	⇓ *i*P		**Pn 00 27 27.0**	**+0.9**
RTR	**El Retiro**	**1.60**	**119**	⇓ *i*P		**Pn 00 27 27.0**	**+0.9**
SBLS	**San Blas**	**1.64**	**121**	*e*P		**Pn 00 27 27.2**	**+0.5**
SBLS	**San Blas**	**1.64**	**121**	*e*P		**Pn 00 27 27.2**	**+0.5**
SNJE	**San Jose**	**1.64**	**119**	⇓ *i*P		**Pn 00 27 27.4**	**+0.7**
SNJE	**San Jose**	**1.64**	**119**	⇓ *i*P		**Pn 00 27 27.4**	**+0.7**
MTO3	**Montecristo**	**1.69**	**99**	⇓ *i*P		**Pn 00 27 28.2**	**+1.0**
MTO3	**Montecristo**	**1.69**	**99**	Pn		**Pn 00 27 28.2**	**+1.0**
MTO3	**Montecristo**	**1.69**	**99**	⇓ *i*P		**Pn 00 27 28.2**	**+1.0**
TACO	**Tacachico**	**1.82**	**113**	⇓ *i*P		**Pn 00 27 29.0**	**+0.6**
TACO	**Tacachico**	**1.82**	**113**	⇓ *i*P		**Pn 00 27 29.0**	**+0.6**
CEDA	**San Andres**	**1.85**	**118**	⇓ *i*P		**Pn 00 27 29.5**	**+0.7**
CEDA	**San Andres**	**1.85**	**118**	⇓ *i*P		**Pn 00 27 29.5**	**+0.7**
CCIG	**Comitan**	**1.89**	**327**			**Pn 00 27 29.5**	**+0.3**
CCIG				Sn		**Sn 00 27 56.2**	**-0.1**
BOQS	**Boqueron**	**1.98**	**118**	⇓ *e*P		**Pn 00 27 31.3**	**+0.9**
BOQS	**Boqueron**	**1.98**	**118**	⇓ *e*P		**Pn 00 27 31.3**	**+0.9**
UEES	**Universidad Ev**	**2.03**	**118**	⇓ *i*P		**Pn 00 27 31.6**	**+0.9**
UEES	**Universidad Ev**	**2.03**	**118**	⇓ *i*P		**Pn 00 27 31.6**	**+0.9**
SNET	**Serv Nac Est T**	**2.05**	**119**			**Pn 00 27 30.9**	**-0.1**
LALI	**Alcalda de L**	**2.08**	**125**	*e*P		**Pn 00 27 31.9**	**+0.7**
LALI	**Alcalda de L**	**2.08**	**125**	*e*P		**Pn 00 27 31.9**	**+0.7**
LBRS	**Las Brisas**	**2.19**	**115**	*e*P		**Pn 00 27 33.4**	**+0.9**
LBRS	**Las Brisas**	**2.19**	**115**	*e*P		**Pn 00 27 33.4**	**+0.9**
LFRS	**El Faro**	**2.22**	**118**	⇓ *i*P		**Pn 00 27 33.7**	**+0.7**
LFRS	**El Faro**	**2.22**	**118**	⇓ *i*P		**Pn 00 27 33.7**	**+0.7**
PAVA	**Las Pavas**	**2.29**	**115**	⇓ *i*P		**Pn 00 27 34.9**	**+1.1**
PAVA	**Las Pavas**	**2.29**	**115**	⇓ *i*P		**Pn 00 27 34.9**	**+1.1**
PCIG		**2.30**	**296**			**Pn 00 27 32.9**	**-0.8**
PCIG						**Sn 00 28 00.9**	**-3.4**
COEB	**Comit de Eme**	**2.74**	**115**	⇓ *e*P		**Pn 00 27 40.2**	**+1.0**
COEB				IAML		00 28 24.4	
	comp=Z,1μm,0.3s						
COEB	**Comit de Eme**	**2.74**	**115**	⇓ *e*P		**Pn 00 27 40.2**	**+1.0**
COEB				IAML		00 28 24.4	
	comp=Z,1μm,0.3s						
TECA	**Tecapa**	**2.77**	**115**	*e*P		**Pn 00 27 40.5**	**+1.0**
TECA	**Tecapa**	**2.77**	**115**	*e*P		**Pn 00 27 40.5**	**+1.0**
TGIG		**2.86**	**317**			**Pn 00 27 39.9**	**-0.7**
BLLM	**Bellamira**	**3.02**	**114**	*e*P		**Pn 00 27 43.6**	**+1.0**
BLLM	**Bellamira**	**3.02**	**114**	*e*P		**Pn 00 27 43.6**	**+1.0**
FAGO	**Alcalda de S**	**3.05**	**108**	*e*P		**Pn 00 27 43.5**	**+0.7**
FAGO	**Alcalda de S**	**3.05**	**108**	*e*P		**Pn 00 27 43.5**	**+0.7**
JUCU	**Jucuarɲn**	**3.10**	**117**	*e*P		**Pn 00 27 44.6**	**+1.1**
JUCU	**Jucuarɲn**	**3.10**	**117**	*e*P		**Pn 00 27 44.6**	**+1.1**
LCND	**La Caada**	**3.38**	**113**	*e*P		**Pn 00 27 48.0**	**+1.0**
LCND	**La Caada**	**3.38**	**113**	*e*P		**Pn 00 27 48.0**	**+1.0**
TGUH	**Tegucigalpa,Un**	**3.74**	**99**			**Pn 00 27 52.9**	**+1.2**
SCIG	**Sabancuy**	**4.26**	**359**			**Pn 00 27 58.5**	**+0.2**
CMIG	**Matias Romero**	**4.37**	**304**	P		**Pn 00 27 59.1**	**-0.6**
	comp=Z,5.4nm,0.3s,baz=145,slow=9.5,SNR=63						
CMIG				S		**Sn 00 28 45.7**	**-5.2**
	comp=Z,23nm,0.3s,baz=138,slow=7.6,SNR=15						
CMIG	**Matias Romero**	**4.37**	**304**			**Pn 00 27 59.0**	**-0.8**
CRIN	**San Cristobal**	**4.39**	**116**	Pn		**Pn 00 28 02.1**	**+2.1**
HUIG	**Huatulco**	**4.97**	**283**			**Pn 00 28 05.1**	**-2.5**
HUIG						Sn 00 28 54.4	-11
MATN	**Matagalpa**	**5.30**	**109**	Pn		**Pn 00 28 13.2**	**+1.1**
BOAB	**BOACO BROADBAN**	**5.71**	**112**	Pn		**Pn 00 28 18.3**	**+0.9**
TEIG	**Tepich**	**6.13**	**25**	P		**Pn 00 28 23.4**	**+0.6**
	comp=Z,15nm,0.3s,baz=139,slow=0.5,SNR=116						
TEIG				S		**Sn 00 29 28.0**	**-4.3**
	baz=319,slow=19,SNR=1.3						
TEIG	**Tepich**	**6.13**	**25**			**Pn 00 28 23.5**	**+0.7**
ACON	**Acoyapa**	**6.35**	**114**			**Pn 00 28 26.9**	**+1.1**
MYIG	**Mrida**	**6.37**	**11**			**Pn 00 28 26.8**	**+0.8**
GBS3	**Finca Las Img**	**6.72**	**125**	*e*P		**Pn 00 28 31.9**	**+1.1**
NY14	**Universidad de**	**6.74**	**126**	*e*P		**Pn 00 28 33.7**	**+2.7**
GB1A	**Boringuen Arri**	**6.74**	**124**	*e*P		**Pn 00 28 32.1**	**+1.0**
BUEV	**Buena Vista**	**6.75**	**124**	*e*P		**Pn 00 28 33.0**	**+1.8**
BUAI	**Buenos Aires**	**6.76**	**123**	*e*P		**Pn 00 28 33.0**	**+1.6**
GPS3	**Bodega del ICE**	**6.81**	**124**	*e*P		**Pn 00 28 33.6**	**+1.7**
LIM1	**Limonal**	**6.93**	**124**	*e*P		**Pn 00 28 35.3**	**+1.8**
GUAB	**Guayabo de Bag**	**6.94**	**124**	*e*P		**Pn 00 28 35.2**	**+1.4**
HORNC	**Hornillas**	**6.98**	**124**	*e*P		**Pn 00 28 36.0**	**+1.8**
COLC	**Colonia**	**6.99**	**124**	*e*P		**Pn 00 28 36.0**	**+1.7**
GUAI	**GUAI**	**6.99**	**128**	*e*P		**Pn 00 28 36.3**	**+2.0**
CUI	**Cuipilapa**	**7.02**	**124**	*e*P		**Pn 00 28 36.3**	**+1.5**
ESPN	**Las Esperanzas**	**7.04**	**110**	Pn		**Pn 00 28 34.7**	**-0.3**
PTEN	**Parque Tenorio**	**7.13**	**123**	⇑ *e*P		**Pn 00 28 37.9**	**+1.6**
ACAL	**Aguas Claras**	**7.14**	**124**	*e*P		**Pn 00 28 38.2**	**+1.9**
JTS	**Las Juntas de**	**7.41**	**125**	P		**Pn 00 28 41.2**	**+1.4**
	comp=Z,16nm,0.3s,baz=24,slow=12,SNR=60						
JTS				S		**Sn 00 29 58.0**	**-5.0**
	comp=Z,66nm,0.3s,baz=341,slow=18,SNR=12						
TLIG	**Tlapa**	**7.74**	**293**	Pn		**Pn 00 28 45.1**	**+0.7**
HDC	**Heredia**	**8.24**	**124**	Pn		**Pn 00 28 51.4**	**+0.3**
LCR2	**La Lucha 2**	**8.48**	**125**	*e*P		**Pn 00 28 56.1**	**+1.8**
CVTR	**Volcan Turrial**	**8.52**	**122**	*e*P		**Pn 00 28 56.7**	**+1.7**
EDDO	**Dominical**	**8.89**	**127**	*e*P		**Pn 00 29 02.4**	**+2.9**
DRK0	**Durika**	**9.37**	**124**	*e*P		**Pn 00 29 07.4**	**+1.4**
MOIG	**Morelia**	**10.86**	**299**	Pn		**Pn 00 29 25.7**	**+0.1**
CBCY	**The Bluff, Cay**	**11.93**	**63**	Pn		**Pn 00 29 40.9**	**+1.7**
MTDJ	**Mount Denham**	**13.46**	**73**			**P 00 30 04.5**	**+1.9**
ZAIG	**Zacatecas**	**13.52**	**308**	Pn		**Pn 00 29 59.3**	**-0.6**
061Z	**Ochoppi**	**14.65**	**39**	Pn		**P 00 30 14.7**	**-0.8**
PAYG	**Puerto Ayora**	**15.28**	**177**			**Pn 00 30 21.5**	**-0.1**
PAYG				IAmb		IAmb 00 30 33.6	
	comp=Z,50nm,1.1s						
735A	**Kenedy**	**15.42**	**337**			**P 00 30 23.8**	**-0.3**
735A				IAmb		IAmb 00 30 28.3	
	comp=Z,21nm,0.5s						
833A	**Chaparral WMA,**	**15.61**	**332**	P		**P 00 30 28.3**	**+2.1**
	baz=149						
833A	**Chaparral WMA,**	**15.61**	**332**			**P 00 30 26.2**	**0.0**
HKT	**Hockley**	**15.81**	**345**			**P 00 30 29.0**	**+0.6**
441A	**DeRidder**	**16.11**	**353**	P		**P 00 30 32.9**	**+1.2**
441A				IAmb		IAmb 00 30 36.3	
	comp=Z,48nm,0.8s						
GTBY	**Guantanamo Bay**	**16.11**	**69**			**P 00 30 32.7**	**+0.9**
SJCC	**San Jacinto, C**	**16.25**	**105**	*e*P		**Pn 00 30 33.5**	**0.0**
553A	**Crawfordville**	**16.60**	**21**			**Pn 00 30 37.8**	**+0.3**
656A	**Willston**	**16.61**	**27**	P		**Pn 00 30 38.1**	**+0.4**
342A	**Flagon Creek P**	**16.65**	**356**	P		**Pn 00 30 38.8**	**+0.6**
342A				IAmb		IAmb 00 30 42.1	
	comp=Z,43nm,1.1s						
346A	**Big Creek Wild**	**16.69**	**5**	P		**Pn 00 30 39.9**	**+1.2**
346A				IAmb		IAmb 00 30 44.5	
	comp=Z,20nm,0.8s						
344A	**Westbrook Farm**	**16.69**	**1**			**Pn 00 30 39.6**	**+0.9**
344A				IAmb		IAmb 00 30 45.0	
	comp=Z,22nm,0.8s						
435B	**Jarrell**	**17.10**	**341**	P		**Pn 00 30 43.6**	**0.0**
CBOC	**Ciudad Bolivar**	**17.21**	**119**	*e*P		**Pn 00 30 45.6**	**+0.4**
NATX	**Nacogdoches**	**17.31**	**350**	P		**Pn 00 30 47.4**	**+1.4**
	baz=169						
NATX	**Nacogdoches**	**17.31**	**350**	P		**P 00 30 45.4**	**+0.4**
NATX				IAmb		IAmb 00 30 48.3	
	comp=Z,31nm,1.1s						
ETX02	**Prairie Street**	**17.41**	**351**	P		**P 00 30 46.6**	**+0.6**
ZARC	**Zaragoza, Cauc**	**17.44**	**112**	*e*P		**P 00 30 45.9**	**-0.6**
VBMS	**Vicksburg**	**17.46**	**2**	P		**Pn 00 30 49.5**	**+1.7**
	baz=182						
VBMS	**Vicksburg**	**17.46**	**2**	P		**Pn 00 30 48.0**	**+0.2**
VBMS				IAmb		IAmb 00 30 51.3	
	comp=Z,31nm,0.8s						
352A	**Blakely**	**17.64**	**18**	P		**Pn 00 30 52.2**	**+0.2**
SMLC	**San Martn de**	**17.64**	**107**	*e*P		**P 00 30 48.0**	**-0.8**
JCT	**Junction City**	**17.65**	**334**	P		**Pn 00 30 51.3**	**+1.1**
	baz=152						
JCT	**Junction City**	**17.65**	**334**			**Pn 00 30 49.9**	**-0.2**
250A	**Grady**	**17.77**	**14**	P		**Pn 00 30 52.2**	**+0.7**
250A				IAmb		IAmb 00 30 54.0	
	comp=Z,48nm,1.1s						
237A	**Washetta, Mont**	**17.77**	**347**	P		**Pn 00 30 50.9**	**-0.7**
237A				IAmb		IAmb 00 30 54.8	
	comp=Z,33nm,1.1s						
143A	**Socs Landing,**	**17.94**	**359**	P		**Pn 00 30 53.5**	**0.0**
146A	**Union**	**17.97**	**6**	P		**Pn 00 30 53.2**	**-0.6**
146A				IAmb		IAmb 00 30 56.3	
	comp=Z,37nm,0.9s						
YOTC	**Yotoco, Valle**	**18.00**	**125**	*e*P		**P 00 30 53.6**	**+0.8**
456A	**Hilliard**	**18.00**	**26**	P		**Pn 00 30 54.2**	**0.0**
456A				IAmb		IAmb 00 30 56.9	
	comp=Z,36nm,0.7s						
TIGA	**Tifton**	**18.03**	**21**	P		**Pn 00 30 56.0**	**+1.4**
	baz=204,SNR=15						
TIGA	**Tifton**	**18.03**	**21**	P		**Pn 00 30 54.7**	**+0.1**
GUY2C	**Guyana, Caldas**	**18.09**	**120**	*e*P		**Pn 00 30 55.7**	**-0.3**
JAKH	**Jacmel**	**18.15**	**76**	P		**Pn 00 30 55.5**	**-0.6**
WHTX	**Lake Whitney,**	**18.19**	**342**	P		**Pn 00 30 56.4**	**0.0**
	baz=168,SNR=7.3						
WHTX	**Lake Whitney,**	**18.19**	**342**	IAmb		IAmb	00 31 00.6
	comp=Z,43nm,1.1s						
PTBC	**PUERTO BERRIO,**	**18.22**	**115**	*e*P		**P 00 30 54.1**	**-1.1**
HPIG		**18.27**	**314**	P		**Pn 00 30 56.8**	**-0.8**
RREF	**El Recreo**	**18.28**	**121**	*e*P		**P 00 30 56.8**	**+0.3**
NORC	**Norcasia**	**18.34**	**118**	*e*P		**P 00 30 56.9**	**+0.5**
PAPH	**Port-au-Prince**	**18.40**	**75**	P		**P 00 30 57.7**	**+0.8**
ANIL	**Santa Ana**	**18.46**	**122**	*e*P		**P 00 30 57.5**	**-0.5**
TOLC	**Tolima**	**18.48**	**121**	*e*P		**Pn 00 31 00.4**	**0.0**
OCAC	**Ocana**	**18.54**	**108**	*e*P		**P 00 30 57.3**	**-1.4**
Z41A	**Richland Creek**	**18.56**	**355**	P		**Pn 00 31 00.6**	**-0.1**
	baz=175,SNR=13						
Z41A	**Richland Creek**	**18.56**	**355**	P		**Pn 00 31 00.6**	**-0.1**
Z47A	**Carolina**	**18.63**	**8**	P		**Pn 00 31 01.8**	**+0.2**
LRAL	**Lakeview Retre**	**18.64**	**11**	P		**Pn 00 31 02.6**	**+0.8**
	baz=193,SNR=35						
LRAL	**Lakeview Retre**	**18.64**	**11**			**Pn 00 31 02.6**	**+0.8**
LRAL				IAmb		IAmb 00 31 03.8	
	comp=Z,61nm,1.1s						
TXAR	**Lajitas Array**	**18.65**	**323**	P		**Pn 00 31 02.6**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=148,slow=12,SNR=23						
TXAR				pP		**pP 00 31 32.5**	**+4.5**
	comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=6.6						
TXAR				PcP		**PcP 00 35 22.1**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=175,slow=4.7,SNR=4.3						
TXAR				ScP		**ScP 00 38 43.5**	**+2.0**
	comp=Z,0.0nm,0.3s,baz=159,slow=4.8,SNR=5.3						
TXAR	**Lajitas Array**	**18.65**	**323**	P		**Pn 00 31 01.5**	**-0.5**
TX31	**Lajitas Ar. Si**	**18.65**	**323**	P		**Pn 00 31 01.7**	**-0.3**
TX32	**Lajitas Array**	**18.65**	**323**	P		**P 00 31 00.7**	**+1.0**
152A	**Waverly Hall**	**18.82**	**17**	P		**Pn 00 31 03.9**	**+0.1**
Z38A	**Mt. Pleasant**	**18.83**	**350**	P		**Pn 00 31 02.8**	**-1.2**
Z38A				IAmb		IAmb 00 31 07.7	
	comp=Z,25nm,0.8s						
255A	**Hazlehurst**	**18.88**	**23**	P		**Pn 00 31 03.7**	**-0.8**
ORTC	**Ortega, Tolima**	**18.92**	**123**	*e*P		**Pn 00 31 04.0**	**-1.2**
SOTA	**Rioblanco**	**18.96**	**130**	*e*P		**Pn 00 31 05.9**	**-0.3**
SPBC	**San Pablo de B**	**18.98**	**116**	*e*P		**P 00 31 03.0**	**-0.4**
PCON	**Cinco Dias**	**19.00**	**129**	*e*P		**Pn 00 31 07.0**	**+0.4**
MARP	**Paez Belalcaza**	**19.00**	**127**	*e*P		**Pn 00 31 06.6**	**+0.2**
WLAR	**White Oak Lake**	**19.01**	**355**	P		**Pn 00 31 05.6**	**-0.4**
GCUF	**Volcan Galeras**	**19.05**	**133**	*e*P		**Pn 00 31 06.0**	**-1.2**
Y45A	**Yeager Farm, C**	**19.15**	**4**	P		**P 00 31 06.2**	**+1.3**
Y45A				IAmb		IAmb 00 31 23.6	
	comp=Z,18nm,0.8s						
CCAR	**Cane Creek**	**19.16**	**358**	P		**Pn 00 31 07.2**	**-0.6**
ROSC	**El Rosal**	**19.18**	**119**	P		**Pn 00 31 08.0**	**-0.7**
	comp=Z,1.8nm,0.3s,baz=111,slow=9.9,SNR=7.7						
ROSC	**El Rosal**	**19.18**	**119**	P		**P 00 31 06.5**	**+0.6**
ROSC				IAmb		IAmb 00 31 09.9	
	comp=Z,19nm,0.8s						
154A	**Montrose**	**19.27**	**21**	P		**Pn 00 31 08.2**	**-0.9**
Z51A	**Franklin**	**19.31**	**15**	P		**Pn 00 31 08.3**	**-1.2**
PRAC	**Prado**	**19.33**	**123**	*e*P		**P 00 31 08.2**	**+1.1**
Z35A	**Perchaven, San**	**19.39**	**344**	P		**P 00 31 08.6**	**+1.0**
Z35A				IAmb		IAmb 00 31 10.0	
	comp=Z,27nm,0.9s						
SDDR	**Presa de Saban**	**19.42**	**75**	P		**P 00 31 09.5**	**+1.5**
SDDR				IAmb		IAmb 00 31 11.9	
	comp=Z,27nm,0.8s						
ABTX	**Abilene, Hawle**	**19.49**	**338**	P		**P 00 31 10.2**	**+1.5**
	baz=155,SNR=5.2						
ABTX	**Abilene, Hawle**	**19.49**	**338**	P		**P 00 31 09.0**	**+0.3**
ABTX				IAmb		IAmb 00 31 11.4	
	comp=Z,20nm,1.0s						
Y49A	**Blount Mountai**	**19.55**	**12**	P		**Pn 00 31 11.8**	**-0.6**
RUSC	**La Rusia**	**19.73**	**114**	*e*P		**P 00 31 11.1**	**-0.9**
RUSC	**La Rusia**	**19.73**	**114**	P		**P 00 31 11.7**	**-0.3**
GARC	**Garzon, Huila**	**19.77**	**127**	*e*P		**P 00 31 13.3**	**+1.2**
X40A	**Basin Creek Fa**	**19.78**	**356**	P		**P 00 31 12.9**	**+1.1**
	baz=175,SNR=16						
X40A	**Basin Creek Fa**	**19.78**	**356**	P		**P 00 31 12.5**	**+0.8**
CHIC	**Chingaza**	**19.79**	**119**	*e*P		**P 00 31 10.9**	**-1.6**
OXF	**Oxford**	**19.80**	**4**	P		**P 00 31 12.9**	**+0.9**
	baz=185,SNR=6.0						
OXF	**Oxford**	**19.80**	**4**	P		**P 00 31 12.8**	**+0.8**
GOGA	**Godfrey**	**19.88**	**19**	P		**Pn 00 31 15.1**	**-1.2**
	baz=202,SNR=57						
GOGA	**Godfrey**	**19.88**	**19**	P		**Pn 00 31 14.9**	**-1.5**
MIAR	**Mount Ida**	**19.90**	**354**	P		**P 00 31 14.1**	**+1.0**
	baz=173,SNR=16						
MIAR	**Mount Ida**	**19.90**	**354**	P		**P 00 31 14.1**	**+1.0**
MIAR				IAmb		IAmb 00 31 16.0	
	comp=Z,20nm,1.0s						
SLBS	**Sierra La Lagu**	**19.92**	**300**	P		**Pn 00 31 15.6**	**-1.4**
SC01	**Santiago de lo**	**20.02**	**74**	P		**P 00 31 15.7**	**+1.2**
X48A	**Hartselle**	**20.02**	**10**	P		**P 00 31 15.4**	**+1.1**
UALR	**University of**	**20.04**	**357**	P		**P 00 31 15.3**	**+0.8**
Y52A	**Lilburn**	**20.12**	**17**	P		**P 00 31 16.8**	**+1.3**
GRTK	**Grand Turk**	**20.13**	**67**	P		**P 00 31 16.4**	**+0.8**
X37A	**Clayton**	**20.19**	**350**	IAmb		IAmb	00 31 20.0
	comp=Z,25nm,1.1s						
BANI	**BANI**	**20.20**	**77**	P		**P 00 31 17.0**	**+0.4**
FPAL	**Fort Paine**	**20.38**	**13**	P		**P 00 31 19.6**	**+1.4**
PLAL	**Pickwick Lake**	**20.39**	**7**	P		**P 00 31 19.4**	**+1.1**
W41B	**Gary Mavity, V**	**20.43**	**357**	P		**P 00 31 19.7**	**+1.1**
	baz=177,SNR=16						
W41B	**Gary Mavity, V**	**20.43**	**357**	IAmb		IAmb	00 31 21.0
	comp=Z,26nm,1.0s						
158A	**Hollywood**	**20.52**	**27**	P		**Pn 00 31 23.0**	**-1.1**
	baz=212						
Z56A	**Williston**	**20.55**	**24**	P		**Pn 00 31 23.8**	**-0.5**
	baz=208						
Z56A	**Williston**	**20.55**	**24**	P		**P 00 31 21.9**	**+1.9**
WHAR	**Wooly Hollow**	**20.55**	**357**	P		**P 00 31 21.0**	**+1.0**
WHAR				IAmb		IAmb 00 31 22.1	
	comp=Z,50nm,1.0s						
W39A	**Magazine**	**20.57**	**354**	P		**P 00 31 21.3**	**+1.1**
	baz=173,SNR=23						
W39A	**Magazine**	**20.57**	**354**	P		**P 00 31 20.9**	**+0.8**
W39A				IAmb		IAmb 00 31 25.0	
	comp=Z,38nm,1.1s						
X51A	**Calhoun**	**20.58**	**15**	P		**P 00 31 22.1**	**+1.8**
X51A				IAmb		IAmb 00 31 25.0	
	comp=Z,39nm,1.1s						
X34A	**Smith Ranch, M**	**20.75**	**344**	P		**P 00 31 23.7**	**+1.6**
X34A				IAmb		IAmb 00 31 31.1	
	comp=Z,22nm,0.9s						
HBAR	**Harrisburg**	**20.79**	**1**	P		**P 00 31 23.3**	**+0.8**
Z57A	**Bowman**	**20.79**	**25**	P		**Pn 00 31 25.9**	**-1.4**
	baz=210,SNR=6.2						
CSU	**Charleston Sou**	**20.79**	**27**	P		**P 00 31 24.0**	**+1.5**
NHSC	**New Hope**	**20.84**	**26**	P		**Pn 00 31 26.9**	**-1.1**
	baz=211,SNR=6.7						
NHSC	**New Hope**	**20.84**	**26**	P		**P 00 31 24.5**	**+1.3**
Y55A	**Saluda**	**20.91**	**22**	P		**P 00 31 25.1**	**+1.3**
	baz=206,SNR=6.4						
HODGE	**Hodges**	**21.03**	**21**	P		**P 00 31 26.3**	**+1.1**
HODGE				IAmb		IAmb 00 31 28.5	
	comp=Z,36nm,0.9s						
W50A	**Signal Mountai**	**21.08**	**13**	P		**P 00 31 26.6**	**+0.9**
W50A				IAmb		IAmb 00 31 36.4	
	comp=Z,17nm,0.8s						
MACC	**Macarena, Meta**	**21.09**	**125**	*e*P		**P 00 31 27.2**	**+1.2**
FCAR	**Ozark Folk Cen**	**21.14**	**358**	IAmb		IAmb	00 31 27.9
	comp=Z,34nm,0.9s						
WMOK	**Wichita Mounta**	**21.14**	**342**	P		**P 00 31 26.0**	**-0.3**
	baz=159						
Z58A	**St. Stephen**	**21.20**	**27**	P		**P 00 31 29.6**	**+2.7**
	baz=212,SNR=6.4						
FNO	**Franklin**	**21.26**	**346**	P		**P 00 31 28.1**	**+0.5**
X54A	**Belton**	**21.28**	**20**	P		**P 00 31 29.5**	**+1.6**
	baz=204,SNR=20						
LCAR	**Lake Charles**	**21.30**	**360**	IAmb		IAmb	00 31 30.0
	comp=Z,23nm,1.2s						
V48A	**Smith Brothers**	**21.31**	**10**	P		**P 00 31 29.2**	**+1.1**
V48A				IAmb		IAmb 00 31 31.2	
	comp=Z,34nm,1.1s						
Z59A	**Georgetown, SC**	**21.36**	**28**	P		**P 00 31 31.0**	**+2.3**
	baz=213						
PEBM	**Pemiscott Bayo**	**21.37**	**3**	P		**P 00 31 28.6**	**-0.1**
PEBM				IAmb		IAmb 00 31 30.2	
	comp=Z,35nm,0.9s						
LNXT	**Lenox**	**21.38**	**4**	P		**P 00 31 27.7**	**-1.1**
MNTX	**Cornudas Mount**	**21.40**	**325**	P		**P 00 31 30.4**	**+1.3**
	baz=140,SNR=10						
MNTX	**Cornudas Mount**	**21.40**	**325**	P		**P 00 31 30.4**	**+1.3**
OKCFA	**Oklahoma City**	**21.42**	**346**	P		**P 00 31 29.5**	**+0.2**
OKCFA				IAmb		IAmb 00 31 38.6	
	comp=Z,29nm,1.0s						
JSC	**Jenkinsville**	**21.43**	**23**	P		**P 00 31 30.4**	**+0.9**
JSC				IAmb		IAmb 00 31 32.9	
	comp=Z,25nm,1.1s						
X55A	**Gracelyn & Ava**	**21.47**	**22**	P		**P 00 31 31.4**	**+1.6**
	baz=206,SNR=18						
CPCT	**Cooper Cave**	**21.50**	**15**	P		**P 00 31 32.1**	**+1.1**
CPCT				IAmb		IAmb 00 31 33.5	
	comp=Z,34nm,1.1s						
BG3	**Lake

USIN				IAmb	IAmb	00 31 49.5
	comp=Z,18nm,1.0s					
121A	**Cookes Peak, D**	**23.39**	**322**	P	**P**	**00 31 50.2 +1.7**
V57A	**Coltrane Farms**	**23.42**	**24**	P	**P**	**00 31 50.2 +1.7**
	baz=209,SNR=34					
T53A	**Wise**	**23.48**	**17**	P	**P**	**00 31 50.5 +1.4**
	baz=201,SNR=12					
U55A	**TA2, Sparta**	**23.50**	**21**	P	**P**	**00 31 51.0 +1.6**
	baz=205,SNR=39					
319A	**Douglas**	**23.53**	**318**	P	**P**	**00 31 50.8 +1.1**
R40A	**Maddies Statio**	**23.54**	**358**	IAmb	IAmb	00 31 51.6
	comp=Z,40nm,1.0s					
U56A	**King**	**23.60**	**22**	P	**P**	**00 31 51.8 +1.7**
	baz=207,SNR=12					
V58A	**Windy Hill, Pi**	**23.60**	**25**	P	**P**	**00 31 51.5 +1.4**
	baz=210,SNR=47					
CNNC	**Cliffs of the**	**23.66**	**28**	P	**P**	**00 31 52.1 +1.4**
	baz=213,SNR=8.0					
CNNC	**Cliffs of the**	**23.66**	**28**	P	**P**	**00 31 50.9 +0.2**
S51A	**Beattyville**	**23.81**	**15**	IAmb	IAmb	00 31 56.5
	comp=Z,21nm,0.8s					
WCI	**Wyandotte Cave**	**23.83**	**9**	P	**P**	**00 31 53.1 +0.8**
	baz=192					
WCI	**Wyandotte Cave**	**23.83**	**9**	P	**P**	**00 31 53.2 +1.0**
T54A	**Tazewell**	**23.84**	**19**	P	**P**	**00 31 53.4 +1.0**
	baz=203,SNR=8.6					
SLM	**Saint Louis**	**23.87**	**2**	P	**P**	**00 31 53.3 +0.8**
SLM				IAmb	IAmb	00 31 55.6
	comp=Z,13nm,0.6s					
BNM	**Barren Site**	**23.94**	**327**	P	**P**	**00 31 55.2 +1.6**
V59A	**Middlesex**	**23.94**	**26**	P	**P**	**00 31 54.5 +1.2**
	baz=212,SNR=21					
W61A	**Ground Anchor**	**24.02**	**29**	P	**P**	**00 31 55.6 +1.6**
	baz=215,SNR=5.1					
U57A	**Blanch**	**24.07**	**24**	P	**P**	**00 31 56.0 +1.6**
	baz=209,SNR=27					
R49A	**Shelbyville**	**24.09**	**11**	IAmb	IAmb	00 31 56.2
	comp=Z,27nm,0.9s					
OLIL	**Olney**	**24.10**	**6**	IAmb	IAmb	00 31 56.4
	comp=Z,17nm,1.1s					
T55A	**Pulaski**	**24.15**	**20**	P	**P**	**00 31 56.8 +1.6**
	baz=205,SNR=8.6					
Q44A	**Meyer Farm, Va**	**24.19**	**4**	P	**P**	**00 31 56.0 +0.5**
Q44A				IAmb	IAmb	00 31 58.2
	comp=Z,12nm,0.8s					
S53A	**Williamson**	**24.25**	**18**	P	**P**	**00 31 57.5 +1.4**
	baz=202					
R50A	**Paris**	**24.25**	**13**	IAmb	IAmb	00 31 59.8
	comp=Z,24nm,0.9s					
T56A	**Rocky Mt**	**24.33**	**22**	P	**P**	**00 31 58.9 +2.0**
	baz=207					
U58A	**Oxford**	**24.35**	**25**	P	**P**	**00 31 58.3 +1.4**
	baz=211,SNR=6.5					
BLA	**Blacksburg**	**24.36**	**21**	P	**P**	**00 31 58.9 +1.8**
	baz=206,SNR=9.7					
BLA	**Blacksburg**	**24.36**	**21**	P	**P**	**00 31 58.1 +1.0**
BLA				IAmb	IAmb	00 32 02.5
	comp=Z,29nm,0.9s					
V60A	**Jim Taylor Roa**	**24.38**	**28**	P	**P**	**00 31 59.0 +1.8**
	baz=214,SNR=5.7					
V60A	**Jim Taylor Roa**	**24.38**	**28**	P	**P**	**00 31 58.4 +1.2**
ANMO	**Albuquerque**	**24.47**	**328**	pP	pP	00 32 34.7 +3.0
	comp=Z,1.9nm,0.9s,baz=140,slow=14,SNR=3.8					
R32A	**Long Quarter,**	**24.59**	**345**	P	**P**	**00 31 59.6 +0.5**
R32A				IAmb	IAmb	00 32 03.4
	comp=Z,17nm,1.1s					
T57A	**Hurt**	**24.59**	**23**	P	**P**	**00 32 01.1 +1.9**
	baz=208,SNR=11					
T57A	**Hurt**	**24.59**	**23**	IAmb	IAmb	00 32 01.8
	comp=Z,26nm,0.8s					
S54A	**Dingess, Beckl**	**24.60**	**19**	P	**P**	**00 32 00.6 +1.4**
	baz=203					
S54A	**Dingess, Beckl**	**24.60**	**19**	P	**P**	**00 31 59.1 -0.2**
S54A				IAmb	IAmb	00 32 04.3
	comp=Z,18nm,0.8s					
U59A	**Littleton**	**24.63**	**26**	P	**P**	**00 32 01.1 +1.6**
	baz=212,SNR=7.8					
U59A	**Littleton**	**24.63**	**26**	P	**P**	**00 32 00.3 +0.8**
U59A				IAmb	IAmb	00 32 01.7
	comp=Z,21nm,0.8s					
V61A	**Roper**	**24.71**	**29**	P	**P**	**00 32 01.7 +1.4**
	baz=215					
V61A	**Roper**	**24.71**	**29**	P	**P**	**00 32 01.3 +1.0**
BLO	**Bloomington**	**24.72**	**8**	P	**P**	**00 32 00.5 +0.2**
BLO				IAmb	IAmb	00 32 01.5
	comp=Z,12nm,0.7s					
P40A	**Paris**	**24.77**	**358**	IAmb	IAmb	00 32 03.1
	comp=Z,26nm,1.0s					
KSU1	**Kansas State U**	**24.80**	**350**	P	**P**	**00 32 02.6 +1.5**
	baz=167,SNR=5.8					
KSU1	**Kansas State U**	**24.80**	**350**	IAmb	IAmb	00 32 04.0
	comp=Z,19nm,0.7s					
T58A	**Grand View Acr**	**24.83**	**24**	P	**P**	**00 32 02.5 +1.2**
	baz=210,SNR=7.6					
S55A	**Lewisburg**	**24.84**	**20**	P	**P**	**00 32 02.9 +1.4**
	baz=205					
P43A	**Skaggs, Pawnee**	**24.90**	**3**	P	**P**	**00 32 02.2 +0.3**
P43A				IAmb	IAmb	00 32 06.4
	comp=Z,9.4nm,0.6s					
R53A	**Hurricane**	**24.90**	**17**	P	**P**	**00 32 03.3 +1.3**
	baz=202,SNR=5.4					
R53A	**Hurricane**	**24.90**	**17**	P	**P**	**00 32 02.2 +0.3**
R53A				IAmb	IAmb	00 32 04.4
	comp=Z,28nm,1.0s					
P38A	**Dawn**	**24.94**	**356**	IAmb	IAmb	00 32 04.8
	comp=Z,21nm,0.8s					
U60A	**Pendleton**	**25.01**	**27**	P	**P**	**00 32 04.5 +1.6**
	baz=213,SNR=9.5					
R54A	**Victor**	**25.05**	**19**	P	**P**	**00 32 04.6 +1.3**
	baz=204,SNR=6.1					
ATAH	**Atahualpa**	**25.07**	**149**	P	**P**	**00 32 06.9 +2.8**
	comp=Z,8.7nm,0.6s,baz=5.1,slow=4.0,SNR=5.8					
P46A	**Rosedale**	**25.07**	**7**	P	**P**	**00 32 04.1 +0.7**
P46A				IAmb	IAmb	00 32 06.2
	comp=Z,25nm,1.1s					
S56A	**Natural Bridge**	**25.08**	**22**	P	**P**	**00 32 05.0 +1.4**
	baz=207					
TUC	**Tucson**	**25.11**	**318**	P	**P**	**00 32 06.5 +2.5**
	baz=130					
TUC	**Tucson**	**25.11**	**318**	P	**P**	**00 32 05.4 +1.4**
P48A	**Milroy**	**25.18**	**10**	P	**P**	**00 32 04.3 -0.1**
P48A				IAmb	IAmb	00 32 05.8
	comp=Z,42nm,1.1s					
U61A	**Possum Corner**	**25.22**	**29**	P	**P**	**00 32 06.4 +1.6**
	baz=215					
U61A	**Possum Corner**	**25.22**	**29**	P	**P**	**00 32 05.5 +0.7**
T59A	**Double "B" Far**	**25.26**	**26**	P	**P**	**00 32 06.6 +1.5**
	baz=212,SNR=25					
T59A	**Double "B" Far**	**25.26**	**26**	P	**P**	**00 32 06.0 +0.8**
P49A	**Miami Univ. Ec**	**25.38**	**12**	P	**P**	**00 32 06.5 +0.2**
P49A				IAmb	IAmb	00 32 07.0
	comp=Z,15nm,1.1s					
S57A	**Dark Hollow, R**	**25.38**	**23**	P	**P**	**00 32 07.3 +1.1**
	baz=208					
Q52A	**Bidwell**	**25.40**	**16**	P	**P**	**00 32 08.0 +1.6**
	baz=200,SNR=11					
R55A	**Marlinton**	**25.43**	**20**	P	**P**	**00 32 08.6 +1.8**
	baz=205,SNR=10.0					
R55A	**Marlinton**	**25.43**	**20**	P	**P**	**00 32 07.6 +0.8**
R55A				IAmb	IAmb	00 32 09.0
	comp=Z,20nm,1.1s					
O44A	**Mansfield**	**25.48**	**5**	P	**P**	**00 32 06.5 -0.6**
Q53A	**Leroy**	**25.51**	**18**	P	**P**	**00 32 09.0 +1.5**
	baz=202,SNR=7.3					
S58A	**Poland Farm, P**	**25.60**	**24**	P	**P**	**00 32 09.6 +1.3**
	baz=210,SNR=7.2					
S58A	**Poland Farm, P**	**25.60**	**24**	P	**P**	**00 32 09.4 +1.1**
S58A				IAmb	IAmb	00 32 10.7
	comp=Z,27nm,1.1s					
P51A	**Williamsport**	**25.69**	**14**	P	**P**	**00 32 09.0 0.0**
P51A				IAmb	IAmb	00 32 10.6
	comp=Z,13nm,0.8s					
R56A	**Bull Pasture M**	**25.79**	**21**	P	**P**	**00 32 10.8 +0.8**
	baz=207					
HDIL	**Hopedale**	**25.82**	**3**	P	**P**	**00 32 09.9 -0.3**
HDIL				IAmb	IAmb	00 32 11.7
	comp=Z,14nm,1.1s					
Q54A	**Coxs Mills**	**25.83**	**19**	P	**P**	**00 32 12.0 +1.6**
	baz=203,SNR=12					
Q54A	**Coxs Mills**	**25.83**	**19**	P	**P**	**00 32 10.4 0.0**
Q54A				IAmb	IAmb	00 32 12.4
	comp=Z,23nm,0.8s					
SFIN	**Lafayette**	**25.83**	**7**	P	**P**	**00 32 10.1 -0.2**
R58B	**Mineral**	**25.97**	**24**	P	**P**	**00 32 13.0 +1.4**
	baz=210,SNR=7.3					
R58B	**Mineral**	**25.97**	**24**	IAmb	IAmb	00 32 14.9
	comp=Z,22nm,1.1s					
O48A	**Farmland**	**26.00**	**10**	P	**P**	**00 32 12.1 +0.2**
	baz=193,SNR=7.8					
R57A	**Stanardsville**	**26.01**	**23**	P	**P**	**00 32 13.2 +1.3**
	baz=209,SNR=7.4					
S59A	**Mechanicsville**	**26.04**	**25**	P	**P**	**00 32 14.3 +2.1**
	baz=212					
P52A	**Corning**	**26.07**	**16**	P	**P**	**00 32 13.5 +1.1**
	baz=200					
P52A	**Corning**	**26.07**	**16**	P	**P**	**00 32 12.4 0.0**
P52A				IAmb	IAmb	00 32 14.6
	comp=Z,18nm,1.1s					
Q55A	**Buckhannon**	**26.08**	**20**	P	**P**	**00 32 14.0 +1.3**
	baz=205					
P53A	**Whipple**	**26.13**	**17**	P	**P**	**00 32 14.9 +1.8**
	baz=202,SNR=12					
P53A	**Whipple**	**26.13**	**17**	P	**P**	**00 32 13.8 +0.8**
R58A	**Rapidan**	**26.21**	**24**	P	**P**	**00 32 15.1 +1.4**
	baz=210,SNR=6.1					
214A	**Organ Pipe Nat**	**26.25**	**315**	P	**P**	**00 32 16.8 +2.5**
	baz=126					
214A	**Organ Pipe Nat**	**26.25**	**315**	P	**P**	**00 32 15.0 +0.8**
W18A	**Petrified Fore**	**26.37**	**324**	P	**P**	**00 32 15.8 +0.3**
CBN	**Corbin Frederi**	**26.38**	**25**	P	**P**	**00 32 16.4 +1.1**
CBN				IAmb	IAmb	00 32 17.6
	comp=Z,27nm,0.9s					
N35A	**Tabor**	**26.38**	**352**	P	**P**	**00 32 15.6 +0.3**
N35A				IAmb	IAmb	00 32 19.6
	comp=Z,16nm,0.6s					
ACSO	**Alum Creek Sta**	**26.42**	**14**	P	**P**	**00 32 16.7 +1.1**
	baz=198,SNR=7.5					
ACSO	**Alum Creek Sta**	**26.42**	**14**	P	**P**	**00 32 16.0 +0.4**
ACSO				IAmb	IAmb	00 32 17.2
	comp=Z,20nm,0.7s					
Q56A	**Snyder Ridge,**	**26.43**	**21**	P	**P**	**00 32 17.2 +1.4**
	baz=207					
Q56A	**Snyder Ridge,**	**26.43**	**21**	IAmb	IAmb	00 32 18.9
	comp=Z,14nm,1.1s					
O51A	**Pataskala**	**26.43**	**15**	P	**P**	**00 32 17.0 +1.3**
	baz=199,SNR=6.5					
R59A	**King George, V**	**26.48**	**25**	P	**P**	**00 32 18.3 +2.2**
	baz=212					
P54A	**Burton**	**26.51**	**19**	P	**P**	**00 32 17.9 +1.5**
	baz=204,SNR=10.0					
N47A	**Urbana**	**26.52**	**9**	IAmb	IAmb	00 32 17.4
	comp=Z,20nm,1.1s					
O52A	**Adamsville**	**26.60**	**16**	P	**P**	**00 32 18.6 +1.4**
	baz=200,SNR=11					
O52A	**Adamsville**	**26.60**	**16**	P	**P**	**00 32 18.2 +1.0**
P55A	**Reedsville**	**26.63**	**20**	P	**P**	**00 32 18.9 +1.3**
	baz=205					
Q57A	**Strasburg**	**26.70**	**22**	P	**P**	**00 32 19.8 +1.7**
	baz=208					
M44A	**Midewin, Midew**	**26.74**	**5**	P	**P**	**00 32 17.9 -0.6**
M44A				IAmb	IAmb	00 32 20.3
	comp=Z,17nm,1.0s					
MCWV	**Mont Chateau**	**26.76**	**20**	P	**P**	**00 32 19.3 +0.6**
O53A	**New Philadelph**	**26.89**	**17**	P	**P**	**00 32 21.1 +1.3**
	baz=202,SNR=8.3					
O53A	**New Philadelph**	**26.89**	**17**	IAmb	IAmb	00 32 22.1
	comp=Z,22nm,1.0s					
P56A	**Dayton Farm, R**	**26.96**	**21**	P	**P**	**00 32 22.1 +1.6**
	baz=207,SNR=5.7					
O54A	**Avella**	**27.07**	**18**	P	**P**	**00 32 22.4 +1.0**
	baz=203					
O54A	**Avella**	**27.07**	**18**	P	**P**	**00 32 21.3 -0.2**
O54A				IAmb	IAmb	00 32 23.1
	comp=Z,13nm,0.8s					
N51A	**Ashland**	**27.21**	**15**	P	**P**	**00 32 22.5 -0.2**
N51A				IAmb	IAmb	00 32 24.0
	comp=Z,16nm,1.1s					
P57A	**Homestead Farm**	**27.24**	**22**	P	**P**	**00 32 25.0 +2.1**
	baz=209,SNR=12					
P57A	**Homestead Farm**	**27.24**	**22**	IAmb	IAmb	00 32 26.0
	comp=Z,25nm,0.9s					
L42A	**Oliver, Polo**	**27.25**	**2**	P	**P**	**00 32 22.5 -0.5**
N52A	**McGinn's Farm,**	**27.29**	**16**	P	**P**	**00 32 24.6 +1.2**
	baz=200,SNR=5.9					
113A	**Mohawk Valley,**	**27.38**	**315**	P	**P**	**00 32 24.5 +0.2**
O55A	**Ligonier**	**27.43**	**20**	P	**P**	**00 32 25.7 +1.0**
	baz=205					
N53A	**Lisbon**	**27.52**	**17**	P	**P**	**00 32 26.6 +1.3**
	baz=202,SNR=11					
P58A	**Pank, Wackersv**	**27.52**	**24**	P	**P**	**00 32 26.6 +1.2**
	baz=210					
M50A	**Fremont**	**27.52**	**13**	P	**P**	**00 32 26.0 +0.6**
M50A				IAmb	IAmb	00 32 29.3
	comp=Z,18nm,0.8s					
L44A	**Lake County Fo**	**27.53**	**5**	P	**P**	**00 32 25.8 +0.3**
Y14A	**Wickenburg**	**27.58**	**318**	P	**P**	**00 32 25.5 -0.6**
SDMD	**Soldier's Deli**	**27.63**	**24**	P	**P**	**00 32 27.0 +0.6**
SDMD				IAmb	IAmb	00 32 28.7
	comp=Z,9.6nm,0.8s					
M51A	**Elyria**	**27.65**	**15**	P	**P**	**00 32 27.4 +0.8**
	baz=199					
Q60A	**Greensboro**	**27.69**	**26**	P	**P**	**00 32 27.5 +0.5**
O56A	**Blue Knob Stat**	**27.74**	**21**	P	**P**	**00 32 28.9 +1.4**
	baz=207,SNR=9.2					
O56A	**Blue Knob Stat**	**27.74**	**21**	P	**P**	**00 32 28.1 +0.7**
O56A				IAmb	IAmb	00 32 30.0
	comp=Z,24nm,1.1s					
L48A	**N Adams**	**27.77**	**11**	P	**P**	**00 32 27.3 -0.3**
K38A	**Parkersburg**	**27.90**	**357**	P	**P**	**00 32 28.6 -0.3**
N54A	**Moraine State**	**27.91**	**18**	P	**P**	**00 32 30.1 +1.3**
	baz=204,SNR=9.0					
N54A	**Moraine State**	**27.91**	**18**	P	**P**	**00 32 29.0 +0.1**
P59A	**Jarrettsville**	**27.96**	**25**	P	**P**	**00 32 30.9 +1.5**
	baz=212					
O57A	**Amberson**	**28.02**	**22**	P	**P**	**00 32 31.4 +1.5**
	baz=209					
K43A	**Burlington**	**28.02**	**4**	P	**P**	**00 32 30.1 +0.3**
K43A				IAmb	IAmb	00 32 31.8
	comp=Z,13nm,0.9s					
N55A	**Marion Center**	**28.06**	**20**	P	**P**	**00 32 31.2 +0.9**
	baz=206					
M52A	**Chesterland**	**28.06**	**16**	P	**P**	**00 32 30.7 +0.5**
	baz=200					
M52A	**Chesterland**	**28.06**	**16**	P	**P**	**00 32 30.0 -0.2**
M52A				IAmb	IAmb	00 32 32.1
	comp=Z,21nm,0.8s					
JFWS	**Jewell Farm**	**28.14**	**1**	P	**P**	**00 32 31.3 +0.4**
M53A	**WI Miller and**	**28.15**	**17**	P	**P**	**00 32 31.9 +0.9**
	baz=202,SNR=8.1					
M53A	**WI Miller and**	**28.15**	**17**	IAmb	IAmb	00 32 33.0
	comp=Z,20nm,0.8s					
O58A	**Lewisberry**	**28.21**	**23**	P	**P**	**00 32 32.9 +1.4**
	baz=210					
AAM	**Ann Arbor**	**28.26**	**12**	P	**P**	**00 32 31.7 -0.2**
AAM				IAmb	IAmb	00 32 35.3
	comp=Z,7.4nm,0.5s					
SSPA	**Standing Stone**	**28.30**	**21**	P	**P**	**00 32 33.7 +1.3**
	baz=208					
SSPA	**Standing Stone**	**28.30**	**21**	P	**P**	**00 32 33.1 +0.8**
SSPA				IAmb	IAmb	00 32 34.8
	comp=Z,22nm,1.1s					
MVL	**Millersville**	**28.33**	**24**	P	**P**	**00 32 32.8 +0.2**
MVL				IAmb	IAmb	00 32 35.2
	comp=Z,16nm,0.9s					
N56A	**West Decatur**	**28.41**	**21**	P	**P**	**00 32 34.7 +1.3**
	baz=207,SNR=9.3					
P60A	**Greenville**	**28.46**	**25**	P	**P**	**00 32 35.1 +1.4**
	baz=213					
P60A	**Greenville**	**28.46**	**25**	P	**P**	**00 32 34.3 +0.5**
P60A				IAmb	IAmb	00 32 36.1
	comp=Z,19nm,0.9s					
ALLY	**Alegheny Colle**	**28.49**	**17**	P	**P**	**00 32 34.2 +0.1**
ALLY				IAmb	IAmb	00 32 36.0
	comp=Z,16nm,0.8s					
M54A	**Oil Creek Stat**	**28.50**	**18**	P	**P**	**00 32 35.2 +1.0**
	baz=204					
M54A	**Oil Creek Stat**	**28.50**	**18**	P	**P**	**00 32 34.3 +0.1**
M54A				IAmb	IAmb	00 32 36.3
	comp=Z,14nm,1.1s					
N57A	**Milroy**	**28.53**	**22**	P	**P**	**00 32 35.7 +1.3**
	baz=208,SNR=5.8					
O59A	**Robesonia**	**28.66**	**24**	P	**P**	**00 32 36.8 +1.2**
	baz=211					
L53A	**Girard**	**28.74**	**17**	P	**P**	**00 32 37.3 +1.0**
	baz=202					
M55A	**Ridgway**	**28.75**	**19**	P	**P**	**00 32 37.3 +0.9**
	baz=206					
M55A	**Ridgway**	**28.75**	**19**	IAmb	IAmb	00 32 37.8
	comp=Z,12nm,1.1s					
K49A	**Clarkson**	**28.76**	**12**	P	**P**	**00 32 36.2 -0.2**
	baz=196					
U15A	**North Rim**	**28.77**	**323**	P	**P**	**00 32 36.9 -0.1**
W13A	**Hualapai Mount**	**28.87**	**319**	P	**P**	**00 32 37.6 -0.2**
N58A	**Sunbury**	**28.91**	**23**	P	**P**	**00 32 39.1 +1.3**
	baz=210					
N58A	**Sunbury**	**28.91**	**23**	P	**P**	**00 32 37.8 0.0**
M56A	**Emporium**	**28.95**	**20**	P	**P**	**00 32 39.2 +1.1**
	baz=207,SNR=13					
M56A	**Emporium**	**28.95**	**20**	IAmb	IAmb	00 32 41.0
	comp=Z,20nm,0.9s					
ERPA	**Erie**	**28.97**	**17**	P	**P**	**00 32 39.9 +1.6**
	baz=203					
ERPA	**Erie**	**28.97**	**17**	P	**P**	**00 32 37.5 -0.8**
ERPA				IAmb	IAmb	00 32 40.2
	comp=Z,17nm,0.7s					
I42A	**Draeger Farm,**	**29.17**	**3**	P	**P**	**00 32 39.5 -0.5**
M57A	**Sunshine Farm,**	**29.19**	**22**	P	**P**	**00 32 41.7 +1.5**
	baz=209,SNR=8.0					
M57A	**Sunshine Farm,**	**29.19**	**22**	P	**P**	**00 32 41.8 +1.5**
M57A				IAmb	IAmb	00 32 42.1
	comp=Z,15nm,0.8s					
J48A	**Bridge Port**	**29.20**	**11**	P	**P**	**00 32 40.1 -0.2**
	baz=195					
L54A	**Sinclairville**	**29.27**	**18**	P	**P**	**00 32 41.9 +1.0**
	baz=204					
I37A	**Lemond, Waseca**	**29.30**	**357**	P	**P**	**00 32 39.5 -1.6**
ECSD	**EROS Data Cent**	**29.34**	**352**	P	**P**	**00 32 41.7 +0.2**
	baz=169					
N59A	**State Game Lan**	**29.34**	**24**	P	**P**	**00 32 42.9 +1.3**
	baz=211					
N59A	**State Game Lan**	**29.34**	**24**	P	**P**	**00 32 42.3 +0.7**
N59A				IAmb	IAmb	00 32 43.6
	comp=Z,12nm,1.0s					
J49A	**Marlette**	**29.38**	**12**	P	**P**	**00 32 41.6 -0.3**
	baz=196					
M58A	**Price's Panora**	**29.47**	**23**	P	**P**	**00 32 44.0 +1.3**
	baz=210,SNR=7.1					
KNB	**Kanab**	**29.48**	**323**	P	**P**	**00 32 43.6 +0.5**
L55A	**Hinsdale**	**29.50**	**19**	P	**P**	**00 32 43.6 +0.6**
	baz=206					
I45A	**Fountain**	**29.54**	**7**	P	**P**	**00 32 42.6 -0.7**
I46A	**Reed City**	**29.55**	**8**	P	**P**	**00 32 43.0 -0.4**
	baz=191					
N60A	**Cedar Hill Far**	**29.57**	**25**	P	**P**	**00 32 45.1 +1.5**
	baz=213,SNR=7.0					
WVNY	**West Valley, N**	**29.65**	**19**	P	**P**	**00 32 44.7 +0.4**
WVNY				IAmb	IAmb	00 32 46.5
	comp=Z,14nm,0.9s					
XPFO	**Pion Flat**	**29.72**	**314**	P	**P**	**00 32 44.7 -0.5**
L56A	**Greenwood**	**29.75**	**21**	P	**P**	**00 32 46.4 +1.2**
	baz=207,SNR=8.3					
L56A	**Greenwood**	**29.75**	**21**	P	**P**	**00 32 45.3 +0.1**
L56A				IAmb	IAmb	00 32 47.3
	comp=Z,26nm,1.1s					
N61A	**South Mountain**	**29.81**	**26**	P	**P**	**00 32 46.7 +1.1**
	baz=214					
H43A	**Windswept, Lux**	**29.82**	**5**	P	**P**	**00 32 43.9 -1.8**
GMRC	**Granite Mounta**	**29.84**	**317**	P	**P**	**00 32 48.6 +2.4**
	baz=126					
L57A	**Andrews Acres**	**29.87**	**22**	P	**P**	**00 32 47.8 +1.5**
	baz=209,SNR=7.3					
J52A	**Paris**	**29.88**	**16**	P	**P**	**00 32 47.0 +0.7**
	baz=201,SNR=7.3					
ODNJ	**Ogdensburg**	**29.95**	**25**	P	**P**	**00 32 47.1 +0.2**
ODNJ				IAmb	IAmb	00 32 49.2
	comp=Z,24nm,1.2s					
I49A	**Point Hope**	**30.00**	**12**	P	**P**	**00 32 47.5 +0.2**
	baz=196					
I49A	**Point Hope**	**30.00**	**12**	IAmb	IAmb	00 32 48.1
	comp=Z,27nm,1.0s					
M59A	**Waymart**	**30.00**	**24**	P	**P**	**00 32 49.1 +1.7**
	baz=212,SNR=7.4					
SZCU	**Shurtz Canyon**	**30.03**	**324**	P	**P**	**00 32 46.5 -1.5**
K55A	**Perry**	**30.11**	**19**	P	**P**	**00 32 49.5 +1.2**
	baz=206,SNR=5.3					
M60A	**Port Jervis**	**30.15**	**25**	P	**P**	**00 32 50.1 +1.4**
	baz=213,SNR=6.9					
CCUT	**Cedar City**	**30.16**	**323**	P	**P**	**00 32 48.9 -0.3**
MMNY	**Mt. Morris Dam**	**30.16**	**20**	P	**P**	**00 32 49.4 +0.6**
MMNY				IAmb	IAmb	00 32 51.6
	comp=Z,21nm,1.1s					
H46A	**Fife Lake**	**30.17**	**8**	P	**P**	**00 32 48.8 0.0**
	baz=192					
PAL	**Palisades**	**30.18**	**26**	P	**P**	**00 32 50.1 +1.1**
	baz=215					
PAL	**Palisades**	**30.18**	**26**	P	**P**	**00 32 48.7 -0.2**
PAL				IAmb	IAmb	00 32 50.6
	comp=Z,16nm,0.8s					
I51A	**Listowel**	**30.27**	**15**	P	**P**	**00 32 50.5 +0.8**
	baz=200,SNR=5.6					
L58A	**Harry Jones Me**	**30.28**	**23**	P	**P**	**00 32 51.1 +1.2**
	baz=210,SNR=6.1					
K56A	**Middlesex**	**30.32**	**20**	P	**P**	**00 32 51.4 +1.1**
	baz=207,SNR=11					
BINY	**Binghamton**	**30.36**	**23**	P	**P**	**00 32 51.7 +1.2**
	baz=210,SNR=8.7					
BINY	**Binghamton**	**30.36**	**23**	P	**P**	**00 32 51.2 +0.6**
J54A	**Appleton**	**30.42**	**18**	P	**P**	**00 32 52.2 +1.2**
	baz=204					
J54A	**Appleton**	**30.42**	**18**	P	**P**	**00 32 51.1 0.0**
J54A				IAmb	IAmb	00 32 53.0
	comp=Z,22nm,0.8s					
SPMN	**Marine on St.**	**30.48**	**358**	P	**P**	**00 32 50.7 -0.8**
SPMN				IAmb	IAmb	00 32 52.6
	comp=Z,12nm,0.8s					
M61A	**Granite Spring**	**30.49**	**26**	P	**P**	**00 32 53.0 +1.2**
	baz=215,SNR=7.5					
SHPR	**Sheep Range**	**30.56**	**320**	P	**P**	**00 32 52.8 +0.2**
WSPT	**Westport, CT**	**30.57**	**27**	P	**P**	**00 32 52.0 -0.4**
G45A	**Suttons Bay**	**30.61**	**8**	P	**P**	**00 32 52.9 +0.3**
	baz=190					
K57A	**Scipio Center**	**30.63**	**21**	P	**P**	**00 32 54.1 +1.1**
	baz=209,SNR=6.3					
H48A	**Harrisville**	**30.64**	**11**	P	**P**	**00 32 53.7 +0.8**
	baz=195					
H48A	**Harrisville**	**30.64**	**11**	P	**P**	**00 32 52.9 -0.1**
H48A				IAmb	IAmb	00 32 54.5
	comp=Z,19nm,0.8s					
J55A	**Hilton**	**30.67**	**19**	P	**P**	**00 32 54.0 +0.7**
	baz=206					
J55A	**Hilton**	**30.67**	**19**	IAmb	IAmb	00 32 55.1
	comp=Z,16nm,0.9s					
L59A	**Walton**	**30.71**	**24**	P	**P**	**00 32 55.0 +1.3**
	baz=212,SNR=8.2					
L59A	**Walton**	**30.71**	**24**	IAmb	IAmb	00 32 56.0
	comp=Z,23nm,0.9s					
I52A	**Shelburne**	**30.73**	**15**	P	**P**	**00 32 54.5 +0.7**
	baz=201,SNR=8.9					
L60A	**Shokan**	**30.87**	**25**	P	**P**	**00 32 56.3 +1.3**
	baz=213,SNR=8.2					
K22A	**Casper**	**30.88**	**337**	P	**P**	**00 32 51.9 -3.5**
K58A	**Earlville**	**30.97**	**22**	P	**P**	**00 32 57.0 +1.0**
	baz=210,SNR=20					
M62A	**Hamden**	**30.98**	**27**	P	**P**	**00 32 57.1 +1.1**
	baz=216					
J56A	**Wolcott**	**31.00**	**20**	P	**P**	**00 32 57.1 +1.0**
	baz=208,SNR=21					
G47A	**Hillman**	**31.00**	**10**	P	**P**	**00 32 55.7 -0.4**
	baz=194					
F45A	**CMU Biological**	**31.25**	**8**	P	**P**	**00 32 58.4 +0.1**
	baz=190					
K59A	**Cooperstown**	**31.28**	**23**	P	**P**	**00 32 59.7 +1.0**
	baz=211					
L61A	**Hillsdale 1, H**	**31.31**	**26**	P	**P**	**00 33 00.2 +1.3**
	baz=214,SNR=5.4					
M63A	**Gales Ferry**	**31.33**	**28**	P	**P**	**00 33 00.3 +1.2**
	baz=217,SNR=7.8					
H52A	**Wyevale**	**31.34**	**15**	P	**P**	**00 33 00.3 +1.2**
	baz=201					
COWI	**Conover**	**31.36**	**3**	P	**P**	**00 32 58.5 -0.8**
F33A	**5 Mile Ranch,**	**31.37**	**353**	P	**P**	**00 32 57.5 -1.8**
J57A	**Williamstown**	**31.41**	**21**	P	**P**	**00 33 00.6 +0.8**
	baz=209,SNR=14					
J57A	**Williamstown**	**31.41**	**21**	IAmb	IAmb	00 33 01.6
	comp=Z,23nm,0.8s					
TPNV	**Topopah Spring**	**31.52**	**319**	P	**P**	**00 33 00.8 -0.3**
PECO	**Prince Edward**	**31.54**	**20**	IAmb	IAmb	00 33 02.6
	comp=Z,28nm,1.2s					
L62A	**Suffield**	**31.56**	**27**	P	**P**	**00 33 02.5 +1.4**
	baz=216					
I55A	**Frankford**	**31.57**	**19**	P	**P**	**00 33 01.6 +0.4**
	baz=205,SNR=19					
J58A	**Remsen**	**31.62**	**22**	P	**P**	**00 33 02.5 +0.8**
	baz=210,SNR=12					
J58A	**Remsen**	**31.62**	**22**	IAmb	IAmb	00 33 03.7
	comp=Z,17nm,0.9s					
H53A	**Bobcaygeon**	**31.63**	**17**	P	**P**	**00 33 02.4 +0.8**
	baz=204,SNR=17					
SADO	**Sadowa**	**31.65**	**16**	IAmb	IAmb	00 33 03.4
	comp=Z,21nm,1.1s					

TRY	Troy	31.71	25	P		P	00 33 02.9	+0.5
TCUT	Toone Canyon	31.72	330	P		P	00 32 58.8	-4.0
E43A	Lone Tree Farm	31.78	5	IAmb		IAmb	00 33 03.7	
	comp=Z,12nm,1.0s							
E38A	The Farm, Brul	31.82	359	P		P	00 33 03.0	-0.3
E38A				IAmb		IAmb	00 33 04.3	
	comp=Z,13nm,1.0s							
K61A	Williamstown	31.83	25	P		P	00 33 05.0	+1.6
	baz=214,SNR=9.8							
F48A	Evansville	31.85	11	P		P	00 33 03.1	-0.5
	baz=196,SNR=11							
DELO	Deloro Mine	31.86	18	P		P	00 33 03.7	0.0
L61B	Northampton	31.89	26	P		P	00 33 04.6	+0.6
	baz=215							
L63A	North Scituate	31.89	28	P		P	00 33 05.0	+1.0
	baz=218							
F49A	Sandfield	31.90	12	P		P	00 33 03.6	-0.4
	baz=197,SNR=11							
I57A	Carthage	31.99	21	P		P	00 33 04.8	0.0
	baz=209							
J59A	Piesco	32.00	23	P		P	00 33 05.7	+0.7
	baz=211,SNR=9.0							
J59A	Piesco	32.00	23	IAmb		IAmb	00 33 06.9	
	comp=Z,16nm,1.0s							
R11A	Troy Canyon, C	32.00	322	P		P	00 33 07.4	+2.1
	baz=131,SNR=6.3							
R11A	Troy Canyon, C	32.00	322	P		P	00 33 05.0	-0.3
I58A	Old Forge	32.02	22	P		P	00 33 06.1	+0.9
	baz=210,SNR=22							
E46A	Sault Ste Mari	32.09	9	IAmb		IAmb	00 33 06.0	
	comp=Z,11nm,1.0s							
G53A	Haliburton	32.12	17	P		P	00 33 06.4	+0.4
	baz=203,SNR=10							
J60A	Lant Hill Farm	32.24	25	P		P	00 33 08.5	+1.4
	baz=213,SNR=8.2							
ACCN	Adirondack Com	32.26	24	P		P	00 33 07.1	-0.1
ACCN				IAmb		IAmb	00 33 09.2	
	comp=Z,13nm,0.9s							
K62A	Royalston	32.26	27	P		P	00 33 07.8	+0.6
	baz=216							
K62A	Royalston	32.26	27	P		P	00 33 06.9	-0.3
K62A				IAmb		IAmb	00 33 10.8	
	comp=Z,9.5nm,0.9s							
L64A	Middleborough	32.31	29	P		P	00 33 09.3	+1.7
	baz=219,SNR=5.4							
E47A	Iron Bridge	32.34	10	P		P	00 33 07.9	0.0
	baz=194,SNR=15							
H56A	Elgin	32.36	20	P		P	00 33 09.3	+1.3
	baz=208,SNR=8.2							
HRV	Adam Dziewonsk	32.43	27	P		P	00 33 09.7	+1.1
	baz=217							
HRV	Adam Dziewonsk	32.43	27	P		P	00 33 10.1	+1.4
WES	Weston	32.44	28	P		P	00 33 09.6	+0.9
WES				IAmb		IAmb	00 33 12.4	
	comp=Z,16nm,1.0s							
BCX	Boston College	32.47	28	P		P	00 33 09.2	+0.2
BCX				IAmb		IAmb	00 33 11.9	
	comp=Z,30nm,1.2s							
PLVO	Plevna	32.50	19	P		P	00 33 09.4	+0.2
PLVO				IAmb		IAmb	00 33 11.0	
	comp=Z,21nm,1.1s							
G54A	Lake Saint Pet	32.52	17	P		P	00 33 10.2	+0.7
	baz=204,SNR=11							
I59A	Olmsteadville	32.53	23	P		P	00 33 10.0	+0.5
	baz=212							
F51A	Arnstein	32.53	15	P		P	00 33 10.3	+0.8
	baz=200							
NCB	Newcomb	32.54	23	IAmb		IAmb	00 33 11.5	
	comp=Z,16nm,1.0s							
H57A	Richville	32.54	21	P		P	00 33 10.6	+0.9
	baz=209,SNR=8.1							
F52A	Sundridge	32.56	15	P		P	00 33 09.9	+0.2
	baz=202,SNR=8.1							
E48A	Lockeyer	32.57	11	P		P	00 33 10.1	+0.3
	baz=196,SNR=8.8							
K63A	Dunstable	32.59	27	P		P	00 33 11.2	+1.2
	baz=217							
D46A	Sault St. Mari	32.64	9	P		P	00 33 10.6	+0.1
	baz=193,SNR=27							
J61A	Chester	32.68	25	P		P	00 33 12.4	+1.5
	baz=215							
I60A	Shoreham	32.79	24	P		P	00 33 13.1	+1.3
	baz=213,SNR=21							
G55A	Calabogie	32.80	19	P		P	00 33 12.7	+0.8
	baz=206,SNR=12							
E50A	Wahnapitae	32.81	13	P		P	00 33 11.7	-0.2
	baz=199,SNR=5.6							
J62A	Henniker	32.90	26	P		P	00 33 14.3	+1.6
	baz=216							
H58A	Gabriels	32.94	23	P		P	00 33 13.8	+0.7
	baz=211,SNR=14							
D47A	Chapleau	32.95	10	P		P	00 33 13.0	-0.2
	baz=194,SNR=5.9							
LONY	Lake Ozonia	32.97	22	P		P	00 33 14.1	+0.7
	baz=210,SNR=20							
ALGO	Algonquin Park	33.05	17	P		P	00 33 14.0	0.0
	baz=204,SNR=5.1							
HNH	Hanover	33.09	25	P		P	00 33 14.1	-0.2
EYMN	Ely	33.17	359	P		P	00 33 15.1	+0.1
	baz=179							
EYMN	Ely	33.17	359	P		P	00 33 14.5	-0.5
E52A	Mattawa	33.19	16	P		P	00 33 15.1	-0.1
	baz=202							
E51A	G1948 Merrick	33.20	15	P		P	00 33 15.6	+0.3
	baz=201,SNR=13							
G57A	Newington	33.24	21	P		P	00 33 16.6	+0.9
	baz=209							
J63A	Strafford	33.26	27	P		P	00 33 17.2	+1.3
	baz=217,SNR=7.7							
D48A	Paudash Townsh	33.30	12	P		P	00 33 15.8	-0.4
	baz=197,SNR=9.3							
I61A	Oroboro, Fairl	33.30	25	P		P	00 33 17.6	+1.3
	baz=215							
H59A	Cadyville	33.32	23	P		P	00 33 16.9	+0.5
	baz=212,SNR=7.8							
ORIO	Orleans, Innes	33.37	20	P		P	00 33 17.5	+0.7
	baz=208,SNR=8.1							
ORIO	Orleans, Innes	33.37	20	P		P	00 33 16.8	+0.1
VT1	Waterbury	33.41	24	P		P	00 33 17.6	+0.4
VT1				IAmb		IAmb	00 33 20.4	
	comp=Z,15nm,1.1s							
F55A	Otter Lake	33.44	19	P		P	00 33 18.4	+1.0
	baz=207							
D49A	Beulah Townshi	33.49	12	P		P	00 33 17.7	-0.1
	baz=197,SNR=13							
FRNY	Flat Rock	33.52	23	IAmb		IAmb	00 33 20.1	
	comp=Z,18nm,1.0s							
E53A	Dumoine, Ponti	33.54	17	P		P	00 33 18.6	+0.3
	baz=204,SNR=7.2							
G58A	Ormstown	33.61	22	P		P	00 33 19.7	+0.8
	baz=211,SNR=5.8							
I62A	Tamworth	33.62	26	P		P	00 33 20.1	+1.1
	baz=216,SNR=9.5							
NV11	Mina Array Sit	33.62	320	P		P	00 33 19.5	+0.2
H60A	Morristown	33.63	24	P		P	00 33 20.1	+1.0
	baz=214,SNR=11							
LBNH	Lisbon	33.67	25	P		P	00 33 20.4	+1.0
	baz=215							
LBNH	Lisbon	33.67	25	P		P	00 33 19.8	+0.3
D50A	G1974 Best Tow	33.71	14	P		P	00 33 19.7	-0.1
	baz=200,SNR=6.0							
NVAR	Mina Array Bea	33.72	320	P		P	00 33 23.1	+3.0
	comp=Z,7.1nm,0.9s,baz=133,slow=9.0,SNR=20							
NVAR				PcP		PcP	00 35 57.4	+1.3
	comp=Z,0.8nm,0.6s,baz=119,slow=3.1,SNR=4.4							
NVAR				ScP		ScP	00 39 27.2	+1.9
	comp=Z,1.1nm,0.9s,baz=147,slow=5.0,SNR=4.2							
NVAR	Mina Array Bea	33.72	320	P		P	00 33 21.7	+1.5
E54A	Lac Daplat, Po	33.73	17	P		P	00 33 20.5	+0.6
	baz=205,SNR=14							
MDPB	Devils Postpil	33.74	318	P		P	00 33 20.5	0.0
AGMN	Agassiz Nation	33.75	354	P		P	00 33 20.2	+0.1
	baz=172							
D51A	Lot 18 Range I	33.75	14	P		P	00 33 20.1	0.0
	baz=201							
MDND	Maddock	33.81	350	P		P	00 33 20.9	+0.3
MDND				IAmb		IAmb	00 33 22.7	
	comp=Z,12nm,0.8s							
G59A	Clarenceville	33.88	23	P		P	00 33 22.2	+1.1
	baz=212,SNR=11							
D52A	ZEK Kipawa Sen	33.89	16	P		P	00 33 21.9	+0.6
	baz=202,SNR=9.7							
H61A	Lyndonville	33.91	25	P		P	00 33 22.4	+0.9
	baz=215							
KVN	Kaiserville	33.97	321	P		P	00 33 22.5	+0.2
RYN	Ryan	33.97	320	P		P	00 33 21.9	-0.4
I63A	Otisfield	34.09	27	P		P	00 33 24.4	+1.4
	baz=217,SNR=9.7							
I63A	Otisfield	34.09	27	P		P	00 33 23.4	+0.4
D53A	Lac Vacive, Po	34.17	16	P		P	00 33 24.6	+0.9
	baz=204,SNR=9.7							
D53A	Lac Vacive, Po	34.17	16	IAmb		IAmb	00 33 25.0	
	comp=Z,9.8nm,0.8s							
G60A	Masonville	34.22	24	P		P	00 33 24.9	+0.8
	baz=214,SNR=9.6							
H62A	Milan	34.27	26	P		P	00 33 25.6	+1.1
	baz=216							
H62A	Milan	34.27	26	P		P	00 33 24.8	+0.2
PTGA	Pitinga	34.38	114	P		P	00 33 25.0	-1.0
PTGA				IAmb		IAmb	00 33 25.5	
	comp=Z,8.1nm,0.8s							
PTGA	Pitinga	34.38	114	*e*P		P	00 33 23.6	-2.4
PTGA				*e*pP		P	00 33 25.7	-0.2
PTGA	Pitinga	34.38	114	*e*P		P	00 33 23.6	-2.4
PTGA				*e*pP		P	00 33 25.7	-0.2
E56A	St. Veronique	34.49	20	P		P	00 33 27.5	+1.1
	baz=208,SNR=10							
D54A	Lac Fusel, La	34.53	17	P		P	00 33 27.1	+0.3
	baz=205,SNR=9.9							
E57A	Chemin Saint G	34.67	21	P		P	00 33 28.4	+0.4
	baz=210,SNR=8.2							
F59A	Saint Guilaume	34.68	23	P		P	00 33 28.7	+0.7
	baz=212							
G61A	St-Isidore-de-	34.69	25	P		P	00 33 29.6	+1.4
	baz=215,SNR=6.3							
D55A	Sainte-Anne-du	34.77	19	P		P	00 33 29.6	+0.8
	baz=207,SNR=11							
CMB	Columbia Colle	34.82	317	P		P	00 33 29.2	-0.3
WVL	Waterville	34.90	27	P		P	00 33 30.5	+0.5
WVL				IAmb		IAmb	00 33 32.3	
	comp=Z,20nm,1.0s							
E58A	La Victoria	34.94	22	P		P	00 33 31.0	+0.7
	baz=211,SNR=9.1							
D56A	ZEC Mazanza, M	35.02	20	P		P	00 33 31.7	+0.6
	baz=208,SNR=7.2							
G62A	West of Eustis	35.05	26	P		P	00 33 32.5	+1.2
	baz=216,SNR=16							
F60A	Warwick	35.09	23	P		P	00 33 32.3	+0.7
	baz=214,SNR=17							
H64A	Troy	35.16	27	P		P	00 33 33.2	+1.0
	baz=219,SNR=6.9							
VLDQ	Val d'Or	35.19	16	P		P	00 33 32.0	-0.3
MCMT	McKenzie Canyo	35.26	333	P		P	00 33 34.0	+0.6
D57A	Chemin Vers le	35.28	20	P		P	00 33 33.9	+0.6
	baz=210,SNR=8.8							
G63A	Kingsbury	35.35	27	P		P	00 33 35.1	+1.2
	baz=218,SNR=7.9							
F61A	St Evariste	35.47	24	P		P	00 33 35.2	+0.3
	baz=215							
DLMT	Dillon	35.57	334	P		P	00 33 35.7	-0.3
PKME	Peaks-Kenny Pk	35.61	27	P		P	00 33 37.2	+1.2
	baz=218,SNR=8.2							
PKME	Peaks-Kenny Pk	35.61	27	IAmb		IAmb	00 33 38.2	
	comp=Z,30nm,1.1s							
E60A	Ste Agathe de	35.62	24	P		P	00 33 36.9	+0.8
	baz=214,SNR=10							
H65A	Eastbrook	35.64	28	P		P	00 33 37.7	+1.4
	baz=220,SNR=5.5							
ULM	Lac du Bonnet	35.68	355	P		P	00 33 36.1	-0.5
	comp=Z,9.4nm,0.8s,baz=167,slow=11,SNR=6.5							
ULM	Lac du Bonnet	35.68	355	IAmb		IAmb	00 33 36.9	
	comp=Z,9.8nm,0.8s							
D58A	Chemin du LacG	35.70	21	P		P	00 33 37.7	+0.9
	baz=211,SNR=9.5							
F62A	Pittston Farm,	35.83	25	P		P	00 33 38.7	+0.8
	baz=217							
F62A	Pittston Farm,	35.83	25	P		P	00 33 38.0	+0.1
F62A				IAmb		IAmb	00 33 39.7	
	comp=Z,16nm,1.1s							
G64A	Maxfield	35.84	27	P		P	00 33 38.9	+0.9
	baz=219,SNR=9.9							
LATQ	La Tuque	35.98	21	P		P	00 33 40.3	+1.1
	baz=211,SNR=7.1							
LATQ	La Tuque	35.98	21	P		P	00 33 39.1	-0.1
EMMW	East Machias	36.02	29	P		P	00 33 39.8	+0.3
EMMW				IAmb		IAmb	00 33 41.1	
	comp=Z,17nm,0.8s							
F63A	Nahmakanta, Br	36.04	26	P		P	00 33 40.5	+0.7
	baz=218,SNR=6.1							
F63A	Nahmakanta, Br	36.04	26	IAmb		IAmb	00 33 40.9	
	comp=Z,13nm,0.8s							
H66A	Whiting	36.14	29	P		P	00 33 40.9	+0.3
	baz=221							
LSQQ	Lebel-sur-Quev	36.18	16	P		P	00 33 41.0	+0.2
	baz=204							
D60A	Saint Jean D'O	36.27	24	P		P	00 33 43.0	+1.3
	baz=214							
SAML	Samuel	36.28	129	P		P	00 33 40.8	-1.3
SAML				IAmb		IAmb	00 33 41.9	
	comp=Z,21nm,1.1s							
G65A	Princeton	36.34	28	P		P	00 33 43.5	+1.2
	baz=221,SNR=12							
G65A	Princeton	36.34	28	P		P	00 33 42.8	+0.6
F64A	Sherman	36.49	27	P		P	00 33 44.4	+0.9
	baz=219,SNR=7.9							
F64A	Sherman	36.49	27	IAmb		IAmb	00 33 45.5	
	comp=Z,24nm,1.1s							
E62A	Clayton Lake	36.59	25	P		P	00 33 45.2	+0.8
	baz=217,SNR=6.3							
E62A	Clayton Lake	36.59	25	P		P	00 33 45.2	+0.8
GGN	Saint George	36.61	29	IAmb		IAmb	00 33 46.1	
	comp=Z,7.7nm,0.8s							
MATQ	Matagami	36.66	15	P		P	00 33 45.2	+0.2
	baz=202,SNR=22							
D61A	St Aubert, Com	36.80	24	P		P	00 33 47.3	+1.2
	baz=215,SNR=7.2							
E63A	Oxbow	36.90	26	P		P	00 33 48.0	+1.0
	baz=218,SNR=9.4							
J08A	Circle Bar Ran	36.96	326	P		P	00 33 48.1	+0.4
E64A	Bridgewater	37.15	27	P		P	00 33 50.1	+1.0
	baz=219,SNR=6.9							
D62A	Allapoint, All	37.16	25	P		P	00 33 50.2	+1.1
	baz=217							
PQI	Presque Isle	37.27	26	P		P	00 33 50.3	+0.2
PQI				IAmb		IAmb	00 33 51.4	
	comp=Z,16nm,0.9s							
D63A	Stockholm	37.52	26	P		P	00 33 53.0	+0.8
	baz=218,SNR=7.2							
CHGQ	Chibougamau	37.68	18	P		P	00 33 53.6	+0.1
	baz=207							
LMN	Caledonia Moun	38.12	30	P		P	00 33 57.4	+0.1
LMN				IAmb		IAmb	00 33 59.0	
	comp=Z,21nm,1.0s							
LPAZ	La Paz	38.22	143	P		P	00 33 59.7	+0.6
	comp=Z,4.1nm,0.8s,baz=326,slow=6.6,SNR=17							
LPAZ				PcP		PcP	00 36 11.1	+0.8
	comp=Z,1.8nm,0.5s,baz=323,slow=4.5,SNR=5.8							
LPAZ	La Paz	38.22	143			P	00 33 58.9	-0.3
LPAZ	La Paz	38.22	143	P		P	00 33 58.3	-0.9
LPAZ				IAmb		IAmb	00 34 00.9	
	comp=Z,5.4nm,0.9s							
LPAZ						PcP	00 36 11.4	+1.2
LPAZ	La Paz	38.22	143	*e*P		P	00 33 58.8	-0.3
LPAZ	La Paz	38.22	143	*e*P		P	00 33 58.8	-0.3
BATG	Bathurst New B	38.59	27	IAmb		IAmb	00 34 02.5	
	comp=Z,14nm,1.0s							
MNMC	Minye Minye	39.71	147	P		P	00 34 11.0	-0.1
MNMC				IAmb		IAmb	00 34 14.1	
	comp=Z,22nm,1.0s							
MNMC						PcP	00 36 16.5	+2.0
PB11	IPOC Station P	40.20	148	P		P	00 34 15.2	+0.2
PB11				IAmb		IAmb	00 34 17.9	
	comp=Z,16nm,1.0s							
PB11						PcP	00 36 17.0	+1.1
GO01	Chusmiza	40.36	147	P		P	00 34 16.7	0.0
FFC	Flin Flon	40.85	350	P		P	00 34 19.2	-0.5
VILB	Vilhena	41.10	130	*e*P		P	00 34 21.9	-0.4
VILB	Vilhena	41.10	130	*e*P		P	00 34 21.9	-0.4
PB01	IPOC Station P	41.36	149			PcP	00 36 21.2	+1.6
NPGB	Novo Progresso	41.48	119	*e*P		P	00 34 23.9	-1.6
NPGB				*e*pP		P	00 34 26.7	+1.2
NPGB	Novo Progresso	41.48	119	*e*P		P	00 34 23.9	-1.6
NPGB				*e*pP		P	00 34 26.7	+1.2
PB09	IPOC Station P	42.11	149	P		P	00 34 30.3	-0.2
CLDB	Colider	43.22	124	*e*P		P	00 34 36.2	-3.3
CLDB	Colider	43.22	124	*e*P		P	00 34 36.2	-3.3
PTLB	Pontes e Lacer	43.51	132	*e*P		P	00 34 41.2	-0.5
PTLB	Pontes e Lacer	43.51	132	*e*P		P	00 34 41.2	-0.5
FCC	Fort Churchill	44.06	358	P		P	00 34 43.3	-2.1
DRLN	Deer Lake	44.06	31	P		P	00 34 45.2	-0.5
DRLN				IAmb		IAmb	00 34 46.0	
	comp=Z,12nm,0.6s							
SCHQ	Schefferville	44.28	20	P		P	00 34 47.2	-0.2
	comp=Z,13nm,0.7s,baz=222,slow=7.3,SNR=28							
SCHQ	Schefferville	44.28	20	P		P	00 34 47.5	+0.1
SCHQ				IAmb		IAmb	00 34 49.0	
	comp=Z,21nm,0.9s							
SALV	Santo Antonio	46.33	130	*e*P		P	00 35 03.1	-0.8
SALV	Santo Antonio	46.33	130	*e*P		P	00 35 03.1	-0.8
AC02	Maricunga	46.46	153	P		P	00 35 05.4	0.0
ARAG	Araguaiana, MT	49.17	126	*e*P		P	00 35 25.0	-0.9
ARAG	Araguaiana, MT	49.17	126	*e*P		P	00 35 25.0	-0.9
CO02	Combarbal	49.54	157	P		P	00 35 28.7	+0.1
YKA	Yellowknife Ar	50.57	346	P		P	00 35 36.1	+0.3
	comp=Z,2.0nm,0.7s,baz=145,slow=7.5,SNR=5.9							
YKA				pP		pP	00 36 13.7	+0.1
	comp=Z,3.2nm,1.0s,baz=147,slow=8.7,SNR=4.6							
ZON	Zonda	50.75	155	P		P	00 35 38.1	+0.5
BDFB	Brasilia	52.15	124	P		P	00 35 47.4	-0.9
	comp=Z,4.8nm,0.8s,baz=299,slow=9.7,SNR=5.8							
BDFB	Brasilia	52.15	124	P		P	00 35 47.7	-0.6
CPUP	Villa Florida	52.34	141	P		P	00 35 48.8	-0.6
	comp=Z,5.9nm,0.8s,baz=323,slow=7.1,SNR=15							
CPUP				PcP		PcP	00 36 59.2	+0.9
	comp=Z,1.9nm,0.5s,baz=296,slow=3.3,SNR=5.1							
CPUP	Villa Florida	52.34	141	P		P	00 35 48.6	-0.8
ITRB	Iturama	52.66	129	*e*P		P	00 35 51.4	-0.5
ITRB				*e*pP		P	00 35 54.0	+2.1
ITRB	Iturama	52.66	129	*e*P		P	00 35 51.4	-0.5
ITRB				*e*pP		P	00 35 54.0	+2.1
PCMB	Pacaembu	53.17	132	*e*P		P	00 35 55.2	-0.4
PCMB	Pacaembu	53.17	132	*e*P		P	00 35 55.2	-0.4
IPMB	Ipameri, GO	53.29	126	*e*P		P	00 35 55.8	-0.8
IPMB	Ipameri, GO	53.29	126	*e*P		P	00 35 55.8	-0.8
SIT	Sitka	53.86	332	P		P	00 35 59.7	-0.3
PTGB	Pitanga	54.61	135	*e*P		P	00 36 05.2	-0.9
PTGB	Pitanga	54.61	135	*e*P		P	00 36 05.2	-0.9
RCLB	Rio Claro- Sao	56.39	130	*e*P		P	00 36 18.3	-0.6
RCLB	Rio Claro- Sao	56.39	130	*e*P		P	00 36 18.3	-0.6
VAO	Valinhos	57.16	130	*e*P		P	00 36 23.8	-0.5
VAO				*e*pP		P	00 36 26.7	+2.4
VAO	Valinhos	57.16	130	*e*P		P	00 36 23.8	-0.5
VAO				*e*pP		P	00 36 26.7	+2.4
BSCB	Bom Sucesso	57.66	127	*e*P		P	00 36 27.8	0.0
BSCB	Bom Sucesso	57.66	127	*e*P		P	00 36 27.8	0.0
PET01	Itanhaem-SP	57.71	132	*e*P		P	00 36 27.9	-0.1
PET01	Itanhaem-SP	57.71	132	*e*P		P	00 36 27.9	-0.1
PLCA	Paso Flores	58.33	162	P		P	00 36 33.1	+1.0
	comp=Z,3.1nm,0.8s,baz=352,slow=6.2,SNR=4.2							
PLCA				LR		LR	00 56 50.8	
	comp=Z,55nm,18.2s,baz=137,slow=31							
PLCA	Paso Flores	58.33	162	P		P	00 36 30.8	-1.4
PLTB	Pedras Altas	58.52	143	*e*P		P	00 36 33.8	+0.3
PLTB	Pedras Altas	58.52	143	*e*P		P	00 36 33.8	+0.3
BCAR	Beaver Creek A	59.78	336	P		P	00 36 41.9	+0.1
ILAR	Eielson Array	62.57	336	P		P	00 37 00.6	+0.2
	comp=Z,1.6nm,1.0s,baz=123,slow=4.7,SNR=11							
ILAR				PcP		pP	00 37 39.2	-0.9
	comp=Z,1.6nm,1.1s,baz=120,slow=3.4,SNR=4.6							
ILAR	Eielson Array	62.57	336	P		P	00 37 00.2	-0.3
BMAR	Burnt Mountain	62.96	340	P		P	00 37 02.4	-0.7
SUMG	Summit	65.34	15	P		P	00 37 18.9	0.0
SUMG				IAmb		IAmb	00 37 19.4	
	comp=Z,5.5nm,0.6s							
EKA	Eskdalemuir Ar	76.89	36	P		P	00 38 27.0	-1.1
	comp=Z,4.6nm,0.6s,baz=273,slow=6.0,SNR=34							
EKA				pP		pP	00 39 08.7	-0.2
	comp=Z,0.4nm,0.5s,baz=272,slow=6.3,SNR=1.7							
ESDC	Sonseca Array	78.59	52	P		P	00 38 36.7	-1.3
	comp=Z,1.1nm,0.6s,baz=288,slow=5.0,SNR=12							
ESDC				pP		pP	00 39 18.2	-0.7
	comp=Z,0.8nm,0.9s,baz=290,slow=6.0,SNR=4.0							
ESDC	Sonseca Array	78.59	52	P		P	00 38 37.0	-1.0
MDT	Midelt	79.28	59	P		P	00 38 40.7	-1.2
	comp=Z,1.1nm,0.7s,baz=312,slow=8.4,SNR=2.3							
NOA	NORSAR Array B	83.12	29	P		P	00 39 01.5	0.0
	comp=Z,0.6nm,0.7s,baz=289,slow=5.2,SNR=3.7							
NOA				LR		LR	01 16 13.0	
	comp=Z,4.5nm,19.3s,baz=10.0,slow=36							
ARCES	ARCESS Array B	85.21	18	P		P	00 39 11.5	-0.4
	comp=Z,2.9nm,1.0s,baz=291,slow=3.8,SNR=5.4							
GRF	Grafenberg Arr	86.69	39	*e*P		pP	00 40 01.6	+0.5
	comp=Z,8.9nm,1.3s,baz=290,slow=4.8							
MLFH	Mildenfurth	86.86	38	*e*P		pP	00 40 02.3	+0.4
	comp=Z,4.8nm,1.2s,baz=290,slow=4.8							
HKWD	Heukewalde	86.96	38	*e*P		pP	00 40 02.8	+0.4
	comp=Z,4.2nm,0.9s,baz=290,slow=4.8							
PLN	Plauen	87.00	39	*e*P		pP	00 40 03.0	+0.3
	comp=Z,4.9nm,1.2s,baz=290,slow=4.8							
TRIB	Obertriebel	87.04	39	*e*P		pP	00 40 03.3	+0.4
	comp=Z,3.8nm,0.8s,baz=290,slow=4.8							
MODW	Modelwitz	87.04	38	*e*P		pP	00 40 03.3	+0.5
	comp=Z,4.0nm,1.1s,baz=290,slow=4.8							
ABG1	Leinwald	87.09	38	*e*P		pP	00 40 03.5	+0.5
	comp=Z,6.5nm,0.8s,baz=290,slow=4.8							
RETA	Reutte	87.11	42	*e*pP		pP	00 40 02.3	-1.0
	comp=Z,3.4nm,0.9s							
MANZ	Manzenberg	87.14	39	*e*P		pP	00 40 03.7	+0.3
	comp=Z,3.9nm,1.1s,baz=290,

CO01	**Juntas del Tor**	**1.44**	**96**	*e*P		**Pn**	**00 48 36.9**	**-0.5**
CO01				*e*S		**Sn**	**00 48 54.8**	**-0.4**
CO01				IAML			00 48 57.4	
	comp=N,2μm,0.4s							
CO02	**Combarbal**	**1.51**	**155**	⇓*i*P		**Pn**	**00 48 37.9**	**-0.2**
CO02				*i* S		**Sn**	**00 48 57.7**	**+1.0**
AC05	**El Transito**	**1.63**	**53**	⇓*i*P		**Pn**	**00 48 39.7**	**-0.2**
AC05				*i* S		**Sn**	**00 49 00.2**	**+0.5**
AC05				IAML			00 49 06.3	
	comp=N,3μm,0.7s							
AC04	**Llanos de Chal**	**1.73**	**20**	⇓*i*P		**Pn**	**00 48 40.3**	**-0.8**
AC04				*i* S		**Sn**	**00 49 02.7**	**+0.7**
AC04				IAML			00 49 15.1	
	comp=N,954nm,0.3s							
AROD	**Rodeo**	**2.00**	**100**	*i* P		Pn	00 48 46.8	+1.7
AROD				*e*S		**Sn**	**00 49 10.8**	**+1.7**
ACCO	**Cerro Coronel**	**2.44**	**109**	*i* P		Pn	00 48 54.2	+3.0
ACCO				IAML			00 49 34.7	
	comp=Z,533nm,0.3s							
GO03	**Copiap**	**2.60**	**31**	*e*P		**Pn**	**00 48 53.0**	**-0.2**
GO03				*i* S		**Sn**	**00 49 24.6**	**+1.0**
GO03	**Copiap**	**2.60**	**31**	*i* P		**Pn**	**00 48 53.1**	**-0.1**
GO03				*e*S		Sn	00 49 31.0	+7.4
RTLS	**Leoncito**	**2.88**	**133**	*i* P		Pn	00 48 59.9	+2.7
RTLS				*e*S		Sn	00 49 36.9	+6.3
RTLS				IAML			00 49 40.5	
	comp=Z,530nm,0.5s							
ZON	**Zonda**	**3.14**	**124**	*i* P		Pn	00 49 03.8	+3.2
ZON				IAML			00 49 56.9	
	comp=Z,221nm,0.9s							
ROCH	**El Roble**	**3.19**	**169**	*e*P		**Pn**	**00 49 02.0**	**+0.6**
RTLL	**Cerro Villicun**	**3.19**	**119**	*i* P		Pn	00 49 03.7	+2.5
RTLL				*i* P			00 49 03.9	
RTLL				*e*S		**Sn**	**00 49 40.7**	**+2.6**
RTLL				*e*S			00 49 45.5	
RTLL				IAML			00 49 59.0	
	comp=Z,353nm,0.5s							
VCA	**Vinchina**	**3.28**	**71**	*e*P		Pn	00 49 06.8	+4.1
VCA				*i* P			00 49 07.0	
VCA				*e*S		Sn	00 49 51.9	+11
VCA				*e*S			00 49 52.0	
VCA				IAML			00 49 59.3	
	comp=Z,500nm,0.4s							
PEL	**Peldehue**	**3.42**	**165**	*i* P		**Pn**	**00 49 05.2**	**+0.9**
PEL				*e*S		Sn	00 49 52.3	+8.6
RTCV	**Cerro Valdivia**	**3.42**	**127**	*i* P		Pn	00 49 07.0	+2.6
RTCV				IAML			00 49 59.6	
	comp=Z,217nm,0.3s							
CFA	**Coronel Fontan**	**3.50**	**121**	*i* P		Pn	00 49 07.7	+2.2
CFA				*e*S		Sn	00 49 52.2	+6.5
CFA				IAML			00 50 02.3	
	comp=Z,191nm,0.4s							
ASAL	**Salagasta**	**3.71**	**138**	*i* P		Pn	00 49 11.8	+3.4
ASAL				*e*S		Sn	00 50 09.9	+19
ASAL				IAML			00 50 16.1	
	comp=Z,346nm,0.7s							
ARCO	**CERRO ARCO**	**3.84**	**142**	*i* P		Pn	00 49 14.5	+4.2
ARCO				*e*S		Sn	00 50 07.6	+13
ARCO				IAML			00 50 18.4	
	comp=Z,305nm,0.5s							
AAGR	**Agrelo**	**4.09**	**143**	*i* P		Pn	00 49 17.6	+3.9
AAGR				IAML			00 50 36.4	
	comp=Z,223nm,0.6s							
APLL	**PUNTA DE LOS L**	**4.56**	**98**	*i* P		Pn	00 49 21.5	+1.4
APLL				*e*S		Sn	00 50 21.4	+10
CYA	**Choya**	**5.38**	**76**	*i* P		**Pn**	**00 49 32.2**	**+0.8**
CYA				*e*P			00 49 32.5	
CYA				*e*S		Sn	00 50 38.4	+6.2
CYA				*e*S			00 50 39.5	
CYA				IAML			00 51 01.8	
	comp=Z,89nm,0.6s							
MRA	**San Martin**	**5.78**	**118**	*i* P		**Pn**	**00 49 37.1**	**+0.3**
MRA				IAML			00 50 53.9	
	comp=Z,114nm,0.5s							
TCA	**Tanti**	**6.34**	**105**	*e*P		**Pn**	**00 49 44.5**	**-0.1**
TCA				*i* P		**Pn**	**00 49 44.5**	**-0.1**
TCA				*e*S		**Sn**	**00 50 57.4**	**+1.5**
TCA				*e*S			00 51 03.8	
TCA				IAML			00 51 36.4	
	comp=Z,62nm,0.5s							
PB10	**IPOC Station P**	**6.39**	**10**	*i* P		**Pn**	**00 49 44.4**	**-0.8**
PB10				IAML			00 51 46.1	
	comp=Z,28nm,0.7s							
PB15	**IPOC Station P**	**6.91**	**18**	*i* P		**Pn**	**00 49 50.4**	**-2.1**
PB15				IAML			00 51 51.0	
	comp=Z,119nm,1.1s							
PB05	**IPOC Station P**	**7.09**	**12**	*i* P		**Pn**	**00 49 51.2**	**-3.8**
PB05				IAML			00 52 06.8	
	comp=Z,30nm,0.8s							

*IDC **22** 01:03:24.2±1.6,3.˚33S×100.˚81E,h0km,mb4.0/11, mb1 4.1/11,mb1mx3.8/56,mbtmp4.0/11,MS3.7/2, Ms1 3.7/2,ms1mx2.8/38,Error ellipse: s-maj=61.1km s-min=18.4km az=53.0*

*NEIC **22** 01:03:28.8±1.2,3.˚4S±0.˚1×100.˚7E±0.˚1,h37km±7km, mb4.3/14,Error ellipse: s-maj=22.9km s-min=10.5km az=217.0*

*DJA **22** 01:03:29.1±3.1,3.˚S±5˚×10.˚1E±.˚,h28km±37km,M4.1/8, MLv4.1/8*

ISC 22 01:03:28.0±0.7,**3.˚49S**±0.˚08×**100.˚70E**±0.˚07,**h32**km,**n49, σ0s82/39,mb4.2**/15,**Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPSI	**Pulau Pagai**	**0.99**	**316**	P	**Pb**	**01 03 47.2**	**+0.5**
MASI	**Maura Aman, Be**	**1.58**	**77**	P	**Pn**	**01 03 54.5**	**+0.7**
KRJI	**Kerinci**	**1.58**	**29**	P	**Pn**	**01 03 53.6**	**-0.4**
MNAI	**Manna**	**2.42**	**111**	Pn	**Pn**	**01 04 05.6**	**+0.3**
PDSI	**Padang**	**2.57**	**355**	P	**Pn**	**01 04 06.9**	**-0.6**
SDSI	**Sungai Dareh**	**2.64**	**16**	P	**Pn**	**01 04 09.0**	**+0.6**
SISI	**Saibi**	**2.68**	**323**	P	**Pn**	**01 04 09.7**	**+0.8**
LHSI	**Lahat**	**2.84**	**97**	P	**Pn**	**01 04 11.6**	**+0.4**
LWLI	**Liwa**	**3.68**	**114**	P	Pb	01 04 43.1	+11
KASI	**Kota Agung**	**4.29**	**118**	P	**Pb**	**01 04 43.2**	**+0.4**
MNSI	**Mandailing Nat**	**4.40**	**345**	P	**Pb**	**01 04 45.4**	**+0.8**
GSI	**Gunungsitoli**	**5.69**	**327**		**Pn**	**01 04 49.5**	**-0.8**
LUWI	**Luwuk**	**22.19**	**84**	P	**P**	**01 08 21.3**	**-0.5**
H08S2	**Diego Garcia H** baz=83,slow=76,SNR=115	**28.36**	**260**	T	T	01 38 48.2	
H08S3	**Diego Garcia H** baz=83,slow=76,SNR=130	**28.37**	**260**	T	T	01 38 45.9	
H08S1	**Diego Garcia H** baz=83,slow=76,SNR=211	**28.38**	**260**	T	T	01 38 54.3	
H01W3	**Cape Leeuwin H** baz=336,slow=76,SNR=4.4	**33.64**	**160**	T	T	01 45 48.1	
H01W2	**Cape Leeuwin H** baz=336,slow=76,SNR=5.2	**33.65**	**160**	T	T	01 45 51.0	
H01W1	**Cape Leeuwin H** baz=336,slow=76,SNR=3.8	**33.65**	**160**	T	T	01 45 48.9	
ENH	**Enshi**	**34.61**	**13**	P	**P**	**01 10 13.8**	**-0.4**
WRA	**Warramunga Arr** 0.6nm,0.7s,baz=320,slow=11,SNR=8.8	**36.66**	**119**	P	**P**	**01 10 32.4**	**+0.4**
FORT	**Forrest**	**37.47**	**139**	P	**P**	**01 10 38.0**	**-0.7**
ASAR	**Alice Springs** 0.7nm,0.6s,baz=301,slow=7.8,SNR=13	**37.83**	**125**	P	**P**	**01 10 42.7**	**+0.7**
AS31	**Alice Springs**	**37.83**	**125**	P	**P**	**01 10 38.7**	**-3.3**
CTA	**Charters Tower** comp=Z,220nm,22.0s,baz=296,slow=37	**47.35**	**114**	LR	LR	01 32 29.8	
SONM	**Songino Array** 3.7nm,0.8s,baz=183,slow=9.1,SNR=17	**51.35**	**5**	P	**P**	**01 12 29.3**	**-0.3**
SONM	**Songino Array**	**51.35**	**5**	P	**P**	**01 12 30.2**	**+0.6**
ULN	**Ulaanbaatar**	**51.44**	**5**	P	**P**	**01 12 29.8**	**-0.5**
ULN				IAmb	IAmb	01 12 31.7	
	comp=Z,2.7nm,0.6s						
AAK	**Ala-Archa**	**51.68**	**335**	P	**P**	**01 12 32.2**	**0.0**
MK31	**Makanchi Array**	**52.64**	**344**	P	**P**	**01 12 38.7**	**-0.4**
MK31				IAmb	IAmb	01 12 40.2	
	comp=Z,1.5nm,0.9s						
MKAR	**Makanchi Array** comp=Z,1.2nm,0.6s,baz=151,slow=8.5,SNR=15	**52.64**	**344**	P	**P**	**01 12 39.6**	**+0.5**
MKAR				LR	LR	01 38 22.9	
	comp=Z,28nm,18.1s,baz=264,slow=40						
MKAR	**Makanchi Array**	**52.64**	**344**	P	**P**	**01 12 39.1**	**+0.1**
USRK	**Ussuriysk Ar,** comp=Z,4.7nm,0.8s,baz=216,slow=6.0,SNR=5.3	**55.14**	**27**	P	**P**	**01 12 57.2**	**-0.2**
KURBB	**Kurchatov Arra** comp=Z,1.0nm,0.8s,baz=162,slow=6.8,SNR=9.8	**57.16**	**343**	P	**P**	**01 13 11.9**	**+0.2**
KURK	**Kurchatov**	**57.22**	**343**	P	**P**	**01 13 11.9**	**-0.2**
KURK	**Kurchatov** comp=Z,10nm,1.9s	**57.22**	**343**	IAmb	IAmb	01 14 32.1	
ZAA0	**Zalesovo Array**	**58.75**	**349**	P	**P**	**01 13 22.9**	**+0.2**
ZAA0				IAmb	IAmb	01 13 23.5	
	comp=Z,1.9nm,0.8s						
ZALV	**Zalesovo Beam** comp=Z,0.9nm,0.3s,baz=188,slow=6.0,SNR=8.1	**58.75**	**349**	P	**P**	**01 13 23.0**	**+0.3**
ZALV	**Zalesovo Beam**	**58.75**	**349**	P	**P**	**01 13 22.4**	**-0.3**
KLR	**Kul'dur** comp=Z,0.2nm,0.3s,baz=204,slow=12,SNR=4.2	**59.01**	**23**	P	**P**	**01 13 24.4**	**-0.2**
BVAR	**Borovoye Array** comp=Z,0.9nm,0.5s,baz=146,slow=9.6,SNR=8.6	**61.81**	**340**	P	**P**	**01 13 43.6**	**-0.1**
ABKAR	**Akbulak array**	**63.27**	**331**	P	**P**	**01 13 53.7**	**+0.2**
KMBO	**Kilima Mbogo**	**63.43**	**270**	P	**P**	**01 13 55.1**	**-0.5**
TIXI	**Tiksi** comp=Z,0.5nm,0.3s,baz=270,slow=4.0,SNR=1.9	**77.21**	**9**	P	**P**	**01 15 17.0**	**-1.4**
TIXI	**Tiksi** comp=Z,4.8nm,1.4s	**77.21**	**9**	IAmb	IAmb	01 15 25.1	
FINES	**FINESS Array B** comp=Z,2.5nm,1.0s,baz=98,slow=7.4,SNR=4.0	**85.74**	**332**	P	**P**	**01 16 04.6**	**+0.9**
CLTB	**Caltabellotta**	**90.11**	**307**	P	**P**	**01 16 26.8**	**+1.5**
TXAR	**Lajitas Array** comp=Z,1.4nm,0.7s,baz=290,slow=0.8,SNR=21	**145.43**	**39**	PKPbc	**PKPbc**	**01 23 04.5**	**+0.8**
TXAR	**Lajitas Array**	**145.43**	**39**		**PKPbc**	**01 23 04.3**	**+0.7**

IDC 22 01:19:55.7±9.0,**20.˚84S**×**178.˚69W,h497**km±89km, **mb3.2/6,mb1 3.3/7,mb1mx3.0/33,mbtmp4.1/7,Error ellipse: s-maj=81.3km s-min=29.1km az=55.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac** 0.4nm,0.3s,baz=61,slow=19,SNR=2.8	**13.90**	**262**	P	P	01 22 54.4	-0.1
CTA	**Charters Tower** 2.2nm,0.6s,baz=126,slow=8.7,SNR=2.5	**32.82**	**265**	P	P	01 25 48.5	+0.9
STKA	**Stephens Creek** 0.8nm,0.3s,baz=95,slow=12,SNR=2.9	**37.06**	**244**	P	P	01 26 22.1	-0.8
JAY	**Jayapura** 8.3nm,0.6s,baz=139,slow=7.5,SNR=11	**43.54**	**289**	P	P	01 27 15.0	-0.1
ASAR	**Alice Springs** 2.3nm,0.8s,baz=84,slow=8.6,SNR=19	**43.81**	**257**	P	P	01 27 16.9	-0.2
WRA	**Warramunga Arr** 1.5nm,0.7s,baz=98,slow=8.8,SNR=9.7	**43.92**	**263**	P	P	01 27 17.8	-0.1
VNDA	**Vanda** 0.5nm,0.7s,baz=0.4,slow=6.8,SNR=5.0	**57.51**	**185**	P	P	01 28 56.3	0.0

*BNS **22** 01:32:10.6±0.3,44.˚04N×6.˚79E,h10km,ML3.5*

*ZUR **22** 01:32:11.3,44.˚19N×6.˚44E,h3km,Ml3.6/51*

*BGR **22** 01:32:13.8±0.6,44.˚41N×6.˚41E,h10km,ML3.9/11,Error ellipse: s-maj=12.2km s-min=10.0km az=100.0*

*BGS **22** 01:32:14.6±0.1,44.˚69N×6.˚96E,h10km,ML3.9,ML3.9*

*ROM **22** 01:32:14.8±0.1,44.˚491N±0.˚002×6.˚700E±0.˚003, h11km,ML3.4/1,Mw3.3,Error ellipse: s-maj=0.3km s-min=0.1km az=224.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.33; $M_{\theta\theta}$=0.66; $M_{\phi\phi}$=0.99; $M_{r\theta}$=0.51; $M_{\theta\phi}$=0.07; $M_{r\phi}$=0.18; Fault plane solution: $M_0$1.02958×10^{14} NP1:ϕ_s37.00000˚,δ58.00000˚, λ-21.00000˚. NP2:ϕ_s138.00000˚,δ72.00000˚, λ-146.00000˚.*

*GEN **22** 01:32:14.6,44.˚49N×6.˚65E,h5km±2km, Ml3.5*

*STR **22** 01:32:14.8±0.2,45.˚N±1˚×±.˚,h12km±2km,MLv3.6/10, smi:scs/0.6/LOCSAT earthModelID smi:scs/0.6/alpes_taup-2.11 preliminary*

*NEIC **22** 01:32:14.9±1.8,44.˚52N±0.˚03×6.˚67E±0.˚07,h6km±8km, Error ellipse: s-maj=8.4km s-min=2.2km az=60.0*

*LDG **22** 01:32:15.0±0.1,44.˚50N×6.˚68E,h2km,Md3.6/2,Ml3.8/64, Error ellipse: s-maj=1.6km s-min=1.3km az=42.0*

*IDC **22** 01:32:15.9±1.7,44.˚76N×6.˚46E,h0km,mb3.4/2,mb1 3.9/8, mb1mx3.5/42,mbtmp3.7/8,ML4.1/6,MS2.5/2,Ms1 2.5/2, ms1mx2.1/32,Error ellipse: s-maj=30.5km s-min=15.4km az=136.0*

*PRU **22** 01:32:16.2±0.0,44.˚69N×6.˚56E,h0km*

ISC 22 01:32:15.2±0.8,**44.˚51N**±0.˚01×**6.˚73E**±0.˚01,**h17**km±4km, **n335,σ2s09/452,23C-36D,France**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SURF	**Saint Ours**	**0.07**	**114**	Pg	**Pg**	**01 32 17.6**	**-1.0**
SURF				Sg	**Sg**	**01 32 19.5**	**-1.4**
OGAG	**Argentiere**	**0.14**	**249**	Pg	**Pb**	**01 32 21.0**	**+1.4**
OGAG				Sg	**Sb**	**01 32 25.2**	**+2.7**
MBDF	**Montbardon**	**0.22**	**8**	*e*Pg	**Pg**	**01 32 19.8**	**-0.7**
MBDF				*e*Sg	**Sg**	**01 32 23.4**	**-0.7**
	7μm,0.4s						
PZZ	**Stroppo**	**0.28**	**90**	P	**Pg**	**01 32 21.2**	**-0.2**
PZZ				S	**Sb**	**01 32 25.6**	**-0.7**
PZZ	**Stroppo**	**0.28**	**90**	P	**Pg**	**01 32 21.2**	**-0.2**
PZZ				S	**Sb**	**01 32 25.8**	**-0.5**
PZZ				AML	AML		
	comp=N,22250μm,1.5s						
PZZ				AML	AML		
	comp=E,16800μm,0.9s						
DOI	**San Damiano**	**0.37**	**90**	⇑*i*Pg	**Pg**	**01 32 22.7**	**-0.2**
DOI	**San Damiano**	**0.37**	**90**	P	**Pg**	**01 32 22.7**	**-0.2**
DOI				S	**Sb**	**01 32 29.2**	**+0.2**
DOI				AML	AML		
	comp=E,5495μm,0.2s						
DOI				AML	AML		
	comp=N,7100μm,0.2s						
ISO	**Isola**	**0.40**	**144**	Pg	**Pg**	**01 32 22.7**	**-0.7**
ISO				Sg	**Sg**	**01 32 27.9**	**-1.0**
RRL	**Rocca Remolon**	**0.42**	**6**	P	**Pg**	**01 32 23.3**	**-0.5**
RRL				S	**Sg**	**01 32 29.0**	**-0.7**
RRL	**Rocca Remolon**	**0.42**	**6**	P	**Pg**	**01 32 23.3**	**-0.5**
RRL				S	**Sg**	**01 32 29.5**	**-0.1**
RRL				AML	AML		
	comp=E,9265μm,0.2s						
RRL				AML	AML		
	comp=N,14000μm,0.6s						
RRL				AML	AML		
	comp=E,9260μm,0.2s						
OGDI	**Digne**	**0.50**	**218**	Pg	**Pg**	**01 32 25.5**	**+0.3**
OGDI				Sg	**Sg**	**01 32 32.6**	**+0.6**
STV	**Sant Anna di V**	**0.50**	**121**	P	**Pg**	**01 32 24.9**	**-0.3**
STV				S	**Sg**	**01 32 31.8**	**-0.3**
STV	**Sant Anna di V**	**0.50**	**121**	P	**Pg**	**01 32 24.9**	**-0.3**
STV				S	**Sg**	**01 32 31.9**	**-0.2**
STV				AML	AML		
	comp=E,2975μm,0.4s						
STV				AML	AML		
	comp=N,4715μm,0.3s						
BHB	**Bricherasio**	**0.51**	**49**	P	**Pg**	**01 32 25.1**	**-0.3**
BHB				S	**Sg**	**01 32 32.1**	**-0.2**
BHB	**Bricherasio**	**0.51**	**49**	P	**Pg**	**01 32 25.1**	**-0.3**
BHB				S	**Sg**	**01 32 32.0**	**-0.2**
BHB				AML	AML		
	comp=N,7370μm,0.3s						
BHB				AML	AML		
	comp=E,6570μm,0.4s						
BNI	**Bardonecchia**	**0.55**	**356**	⇓*i*Pg	**Pg**	**01 32 25.3**	**-0.9**
BNI	**Bardonecchia**	**0.55**	**356**	P	**Pg**	**01 32 25.4**	**-0.8**
BNI				S	**Sg**	**01 32 33.1**	**-0.4**
BNI				AML	AML		
	comp=N,1405μm,0.3s						
BNI				AML	AML		
	comp=N,1715μm,0.3s						
BNI				AML	AML		
	comp=E,1620μm,0.3s						
BNI				AML	AML		
	comp=E,2140μm,1.2s						
BNI	**Bardonecchia**	**0.55**	**356**	Pg	**Pg**	**01 32 25.1**	**-1.0**
ENR	**Entracque**	**0.57**	**119**	P	**Pg**	**01 32 26.1**	**-0.4**
ENR				S	**Sg**	**01 32 33.8**	**-0.4**
ENR	**Entracque**	**0.57**	**119**	P	**Pg**	**01 32 26.2**	**-0.4**
ENR				AML	AML		
	comp=E,2995μm,0.8s						
ENR				AML	AML		
	comp=N,2800μm,1.2s						
OGMO	**Fort Saint-Gob**	**0.70**	**358**	Pg	**Pg**	**01 32 28.4**	**-0.6**
OGMO				Sg	**Sg**	**01 32 37.6**	**-0.7**
TURF	**col de Turini**	**0.71**	**138**	Pg	**Pg**	**01 32 28.7**	**-0.5**
TURF				Sg	**Sb**	**01 32 38.5**	**-0.4**
ORIF	**Oris-en-Rattie**	**0.73**	**305**	*e*Pg	**Pg**	**01 32 28.1**	**-1.4**
ORIF				*e*Sg	**Sg**	**01 32 37.8**	**-1.5**
	comp=N,3μm,0.3s						
ORIF	**Oris-en-Rattie**	**0.73**	**305**	P	**Pg**	**01 32 28.1**	**-1.4**
ORIF				S	**Sg**	**01 32 37.6**	**-1.7**
BLAF	**les Blancs**	**0.74**	**222**	Pg	**Pg**	**01 32 29.0**	**-0.7**
BLAF				Sg	**Sg**	**01 32 38.9**	**-0.7**
RSP	**Reno Superiore**	**0.75**	**31**	⇑*i*P*P		01 32 29.6	
RSP	**Reno Superiore**	**0.75**	**31**	P	**Pg**	**01 32 29.6**	**-0.3**
RSP				S	**Sg**	**01 32 39.7**	**-0.1**
RSP	**Reno Superiore**	**0.75**	**31**	P	**Pg**	**01 32 29.6**	**-0.3**
RSP				S	**Sg**	**01 32 39.8**	**0.0**
RSP				AML	AML		
	comp=N,3610μm,0.2s						
RSP				AML	AML		
	comp=E,4490μm,1.4s						
RSP				AML	AML		
	comp=N,3965μm,0.2s						
RSP				AML	AML		
	comp=E,4280μm,1.4s						
RSP				AML	AML		
	comp=N,3605μm,0.2s						
CALF	**Calern**	**0.77**	**169**	Pg	**Pg**	**01 32 29.8**	**-0.5**
CALF				Sg	**Sg**	**01 32 39.6**	**-0.8**
SAOF	**Saorge**	**0.79**	**131**	P	**Pg**	**01 32 30.2**	**-0.4**
SAOF				S	**Sb**	**01 32 41.0**	**0.0**
SAOF	**Saorge**	**0.79**	**131**	AML	AML		
	comp=N,2475μm,0.6s						
SAOF				AML	AML		
	comp=E,2455μm,0.3s						
SAOF	**Saorge**	**0.79**	**131**	Pg	**Pg**	**01 32 30.2**	**-0.4**
SAOF				Sg	**Sb**	**01 32 40.6**	**-0.4**
ESCA	**l'Escarene**	**0.82**	**145**	Pg	**Pg**	**01 32 30.8**	**-0.4**
GDM	**Grand'Maison**	**0.82**	**328**	Pg	**Pg**	**01 32 30.1**	**-1.2**
GDM				Sg	**Sg**	**01 32 40.3**	**-1.9**
SBF	**Sospel**	**0.82**	**141**	*e*Pg	**Pg**	**01 32 30.7**	**-0.5**
SBF				*e*Sg	**Sb**	**01 32 42.0**	**+0.1**
	comp=E,3μm,0.5s						
GBOS	**Grotte di Boss**	**0.84**	**108**	P	**Pg**	**01 32 31.2**	**-0.5**
GBOS				S	**Sb**	**01 32 42.1**	**-0.3**
GBOS	**Grotte di Boss**	**0.84**	**108**	P	**Pg**	**01 32 31.1**	**-0.5**
GBOS				S	**Sb**	**01 32 42.2**	**-0.3**
GBOS				AML	AML		
	comp=E,3210μm,0.4s						
GBOS				AML	AML		
	comp=N,2785μm,0.3s						
MLYF	**Mely**	**0.86**	**233**	Pg	**Pb**	**01 32 31.3**	**-0.5**
MON	**Monaco**	**0.93**	**147**	Pg	**Pb**	**01 32 32.8**	**0.0**
FRF	**La Foret Royal**	**0.95**	**184**	*e*Pg	**Pb**	**01 32 32.6**	**-0.6**
FRF				*e*Sg	**Sb**	**01 32 44.9**	**-0.6**
	comp=N,747nm,0.2s						
NEGI	**Seborga**	**0.96**	**133**	P	**Pb**	**01 32 33.4**	**-0.1**
NEGI				S	**Sg**	**01 32 46.3**	**-0.2**
NEGI	**Seborga**	**0.96**	**133**	P	**Pb**	**01 32 33.4**	**-0.1**
NEGI				S	**Sg**	**01 32 46.2**	**-0.4**
NEGI				AML	AML		
	comp=E,4400μm,0.4s						
NEGI				AML	AML		
	comp=N,2910μm,0.6s						
SMRF	**Simiane la Rot**	**0.98**	**238**	*e*Pg	**Pb**	**01 32 33.3**	**-0.6**
SMRF				*e*Sn	**Sb**	**01 32 45.1**	**-1.5**
	comp=N,713nm,0.3s						
LPG	**La Plagne**	**0.99**	**1**	*e*Pg	**Pb**	**01 32 33.6**	**-0.5**
LPG				*e*Sg	**Sb**	**01 32 47.1**	**+0.1**
	comp=N,479nm,0.2s						
LSD	**Lago del Serru**	**0.99**	**17**	⇓*i*P*		**Pb**	**01 32 33.7**	**-0.5**
LSD	**Lago del Serru**	**0.99**	**17**	P		**Pb**	**01 32 33.7**	**-0.5**
LSD				S		**Sb**	**01 32 46.3**	**-0.8**
LSD	**Lago del Serru**	**0.99**	**17**	P		**Pb**	**01 32 33.8**	**-0.5**
LSD				S		**Sb**	**01 32 47.2**	**+0.1**
LSD				AML	AML			
	comp=N,2290μm,0.3s							
LSD				AML	AML			
	comp=E,4260μm,0.8s							
BSTF	**la Bastide-des**	**1.00**	**232**	Pg	**Pb**	**01 32 34.6**	**+0.5**
LPL	**La Plagne**	**1.01**	**0**	*e*Pg	**Pb**	**01 32 33.9**	**-0.5**
LPL				*e*Sg	**Sb**	**01 32 48.2**	**+0.7**
	comp=E,678nm,0.3s						
MONC	**Moncucco Torin**	**1.02**	**56**	⇑*i*Pn	**Pg**	**01 32 35.1**	**0.0**
MONC	**Moncucco Torin**	**1.02**	**56**	AML	AML		
	comp=E,4610μm,0.3s						
MONC				AML	AML		
	comp=N,4370μm,1.6s						
MONC				AML	AML		
	comp=N,4375μm,1.6s						
IMI	**Imperia**	**1.03**	**125**	P	**Pb**	**01 32 34.5**	**-0.1**
IMI				S	**Sg**	**01 32 48.3**	**-0.4**
IMI	**Imperia**	**1.03**	**125**	P	**Pb**	**01 32 34.5**	**-0.1**
IMI				AML	AML		
	comp=E,4775μm,0.4s						
IMI				AML	AML		
	comp=N,5985μm,1.6s						
RORO	**Rocca Rossa**	**1.04**	**112**	P	**Pb**	**01 32 34.4**	**-0.3**
RORO				AML	AML		
	comp=E,1835μm,1.0s						
RORO				AML	AML		
	comp=N,1745μm,0.3s						
RUSF	**Rustrel**	**1.06**	**238**	Pg	**Pb**	**01 32 35.3**	**+0.1**
RUSF				Sg	**Sb**	**01 32 49.1**	**+0.4**
ARTF	**Artigues**	**1.14**	**216**	Pg	**Pb**	**01 32 36.4**	**0.0**
ARTF				Sg	**Sb**	**01 32 51.0**	**+0.1**
QLNO	**Quiliano**	**1.17**	**98**	P	**Pb**	**01 32 36.8**	**-0.3**
QLNO				AML	AML		
	comp=E,1126μm,0.8s						
QLNO				AML	AML		
	comp=N,1165μm,0.3s						
RSL	**Roselend**	**1.18**	**357**	⇓*i*Pn	**Pn**	**01 32 36.9**	**-0.2**
RSL	**Roselend**	**1.18**	**357**	Pg	**Pn**	**01 32 37.2**	**+0.1**
LMR	**La Mourre**	**1.18**	**188**	*e*Pg	**Pn**	**01 32 36.6**	**-0.4**
LMR				*e*Sg	**Sb**	**01 32 52.2**	**0.0**
	comp=N,719nm,0.3s						
ROTM	**Rocchetta Tana**	**1.21**	**73**	P	**Pb**	**01 32 38.1**	**+0.5**
ROTM				AML	AML		
	comp=N,5225μm,0.4s						
ROTM				AML	AML		
	comp=E,4020μm,0.5s						
TRAV	**Traversella**	**1.24**	**35**	⇑*i*Pn	**Pn**	**01 32 37.1**	**-0.8**
TRAV	**Traversella**	**1.24**	**35**	P	**Pn**	**01 32 37.2**	**-0.7**
TRAV				AML	AML		
	comp=E,3090μm,0.2s						
TRAV				AML	AML		
	comp=N,2200μm,0.3s						
MRGE	**Morge**	**1.28**	**10**	⇓*i*Pn	**Pn**	**01 32 38.9**	**+0.3**
MRGE	**Morge**	**1.28**	**10**	P	**Pn**	**01 32 38.7**	**+0.1**
MRGE				AML	AML		
	comp=E,954μm,0.4s						
MRGE				AML	AML	

GORR AML AML
comp=E,762µm,0.5s
GORR AML AML
comp=N,719µm,0.6s
SENIN Lac Senin/Sane 1.90 12⇓ *i*Pn **Pb 01 32 50.4 +0.8**
SENIN Lac Senin/Sane 1.90 12 Pb 01 32 49.7 +0.1
SIMPL Simplonpass 1.96 27⇓ *i*Pn **Pb 01 32 50.2 -0.3**
BOB Bobbio (Coli) 1.96 81⇑ *i*Pn **Pb 01 32 50.6 +0.1**
BOB Bobbio (Coli) 1.96 81 P Pb 01 32 50.5 +0.1
BOB AML AML
comp=E,428µm,0.5s
BOB AML AML
comp=N,528µm,1.6s
BOB AML AML
comp=E,432µm,0.4s
BOB AML AML
comp=N,544µm,1.3s
LKBD Leukerbad 1.98 18⇓ *i*Pn **Pb 01 32 51.8 +0.8**
MSSA Maissana 2.01 94 P **Pn 01 32 48.6 +0.2**
MSSA AML AML
comp=E,222µm,0.7s
MSSA AML AML
comp=N,203µm,0.9s
MSSA Maissana 2.01 94 Pn 01 32 50.0 +1.6
LAUCH Lauchernalp 2.04 21⇓ *i*Pn **Pb 01 32 52.7 +0.7**
GIMEL St. Georges / 2.05 351⇓ *i*Pn **Pn 01 32 50.9 +1.8**
GIMEL St. Georges / 2.05 351 P Pn 01 32 50.9 +1.8
GIMEL AML AML
comp=E,414µm,1.0s
GIMEL AML AML
comp=N,364µm,0.9s
LASF Ste Croix 2.11 259 *e*Pn **Pn 01 32 49.2 -0.5**
LASF Ste Croix 2.11 259 *e*Pg **Pb 01 32 54.2 +1.2**
LASF *e*Sn **Sn 01 33 12.9 -2.7**
comp=N,124nm,0.2s
CABF La Chapelle 2.15 348 *e*P **Pn 01 32 52.0 +1.6**
CABF La Chapelle 2.15 348 *e*Pg **Pb 01 32 55.9 +2.1**
CABF *e*Sg **Sg 01 33 25.0 +0.6**
comp=N,260nm,0.5s
FIESA Fiescheralp 2.16 26⇑ *i*Pn **Pb 01 32 53.9 -0.1**
MUGIO Muggio 2.16 48⇑ *i*Pn **Pn 01 32 51.2 +0.7**
MUGIO Muggio 2.16 48 P Pn 01 32 51.2 +0.7
MUGIO AML AML
comp=E,295µm,0.5s
MUGIO AML AML
comp=N,370µm,0.6s
WIMIS Wimmis 2.25 16⇓ *i*Pn **Pb 01 32 54.6 -0.8**
TORNY Torny/Romont 2.27 4⇓ *i*Pn **Pn 01 32 54.1 +2.1**
PLMA Palmaria, Port 2.29 100 P **Pn 01 32 52.8 +0.6**
PLMA AML AML
comp=E,202µm,1.0s
PLMA AML AML
comp=N,191µm,0.4s
GRIMS Grimsel Gerste 2.35 28⇓ *i*Pn **Pb 01 32 56.7 -0.6**
FUSO Fusio 2.38 34⇓ *i*Pn **Pn 01 32 55.0 +1.5**
FUSIO Fusio 2.38 34 P Pn 01 32 56.0 +2.5
FUSIO AML AML
comp=E,333µm,1.1s
FUSIO AML AML
comp=N,249µm,0.5s
BRANT Les Verrieres 2.44 356⇓ *i*Pn **Pn 01 32 56.0 +1.6**
HASLI Hasliberg/Brie 2.46 23⇓ *i*Pn **Pb 01 32 58.0 -1.1**
MDI Monti di Nese 2.46 58⇓ *i*Pn **Pn 01 32 55.6 +0.9**
MDI Monti di Nese 2.46 58 AML AML
comp=N,371µm,0.5s
MDI AML AML
comp=E,374µm,0.4s
EQUI Equi 2.48 97 P **Pn 01 32 55.5 +0.7**
EQUI AML AML
comp=E,124µm,0.3s
EQUI AML AML
comp=N,162µm,0.4s
PGF Pioggiola 2.56 139 *e*Pn **Pn 01 32 56.4 +0.3**
PGF *e*Sn **Sn 01 33 25.6 -1.3**
comp=N,143nm,0.4s
PGF Pioggiola 2.56 139 P **Pn 01 32 56.4 +0.3**
PGF AML AML
comp=E,189µm,0.5s
PGF AML AML
comp=N,188µm,0.5s
PRMA PARMA 2.57 83 Pn **Pn 01 32 58.4 +2.3**
LBL Lubilhac 2.58 288 Pn **Pn 01 32 56.5 +0.2**
BNALP Bannalp 2.65 26⇓ *i*Pn **Pb 01 33 00.6 -1.7**
BNALP Bannalp 2.65 26 P **Pb 01 33 00.5 -1.7**
BNALP AML AML
comp=E,406µm,1.2s
BNALP AML AML
comp=N,536µm,0.7s
VLC Villacollemand 2.65 96 Pn 01 32 58.4 +1.2
TUE Stuetta 2.69 42⇑ *i*Pn **Pn 01 32 59.6 +1.6**
TUE Stuetta 2.69 42 P **Pn 01 32 59.6 +1.6**
TUE AML AML
comp=E,428µm,0.4s
TUE AML AML
comp=N,293µm,0.5s
TUE Stuetta 2.69 42 Pn **Pn 01 32 59.8 +1.8**
VDL Val di Lei 2.75 43⇓ *i*Pn **Pn 01 33 00.7 +1.9**
MUO Muotathal 2.80 28⇓ *i*Pn **Pn 01 33 02.8 +3.4**
BDI Bagni Di Lucca 2.81 98 P **Pn 01 33 00.2 +0.7**
BDI AML AML
comp=E,200µm,0.4s
BDI AML AML
comp=N,164µm,0.4s
LLS Linth-Limmern 2.83 34⇓ *i*Pn **Pb 01 33 04.6 -0.8**
PII Pisa 2.84 105 P **Pn 01 33 00.8 +0.9**
PII AML AML
comp=E,167µm,0.4s
PII AML AML
comp=N,135µm,1.0s
PANIX Pigniu (Panix) 2.86 35⇓ *e*Pn **Pb 01 33 04.6 -1.3**
BALST Balsthal 2.91 13⇑ *i*Pn **Pn 01 33 02.5 +1.7**
BALST Balsthal 2.91 13 *e*Pn **Pn 01 33 02.3 +1.5**
BOURR Bourrignon 2.91 7⇑ *i*Pn **Pn 01 33 02.2 +1.4**
SALO Salr 2.91 66 Pn **Pn 01 33 04.0 +3.2**
PYM Petit Puy Mans 2.91 297 Pn **Pn 01 33 01.0 +0.2**
POPM Popiglio 2.93 98 P **Pn 01 33 01.9 +0.8**
POPM AML AML
comp=E,192µm,1.0s
POPM AML AML
comp=N,136µm,0.4s
SMF Signal de Mont 2.95 318 *e*P **Pn 01 33 01.8 +0.5**
SMF Signal de Mont 2.95 318 *e*Pg **Pb 01 33 10.2 +2.9**
SMF *e*Sg **Sb 01 33 47.0 +4.0**
comp=N,314nm,0.5s
BERNI Berninapass 3.00 49⇑ *i*Pn **Pn 01 33 03.8 +1.5**
MAGA Magasa 3.04 64 AML AML
comp=N,548µm,0.4s
MAGA AML AML
comp=E,768µm,0.4s
ZCCA Zocca 3.05 91 Pb 01 33 06.2 -2.9
SMPL Sampolo 3.05 141 P **Pn 01 33 03.8 +1.1**
SMPL Sampolo 3.05 141 AML AML
comp=E,8655µm,0.9s
SMPL AML AML
comp=N,7090µm,0.4s
CRMI Carmignano 3.14 102 P **Pn 01 33 05.0 +1.2**
CRMI AML AML
comp=E,30µm,0.8s
CRMI AML AML
comp=N,29µm,1.2s
ZUR Degenried 3.14 24⇑ *e*Pn **Pn 01 33 06.4 +2.5**
PLONS Plons/SG 3.15 35⇓ *i*Pn **Pn 01 33 06.7 +2.5**
PLONS Plons/SG 3.15 35 *e*Pn **Pn 01 33 06.5 +2.4**
PLONS *e*Sn **Sb 01 33 47.5 -1.3**
PLONS Plons/SG 3.15 35 AML AML
comp=E,222µm,0.9s
PLONS AML AML
comp=N,280µm,0.5s
DAVOX Davos/Dischmat 3.17 43⇓ *i*Pn **Pn 01 33 06.8 +2.3**
DAVOX Davos/Dischmat 3.17 43 Pn **Pn 01 33 06.8 +2.3**
comp=N,3.8nm,0.3s,baz=237,slow=9.4,SNR=40
DAVOX Sn **Sn 01 33 46.3 +4.2**
comp=N,8.2nm,0.3s,baz=154,slow=19,SNR=6.0
DAVOX Lg Lg 01 33 56.1
comp=N,5.8nm,0.3s,baz=325,slow=15,SNR=8.4
DAVOX LR LR 01 34 25.0
comp=N,71nm,18.1s,baz=260,slow=41
DAVOX Davos/Dischmat 3.17 43 AML AML
comp=E,128µm,1.2s
DAVOX AML AML
comp=N,140µm,0.7s
SULZ Cheisacher 3.17 17 *i*Pn **Pn 01 33 05.8 +1.4**
SULZ Cheisacher 3.17 17 *e*Pn **Pn 01 33 05.8 +1.4**
SULZ *e*Sn **Sn 01 33 44.7 +2.9**
BRMO Bormio 3.23 51⇑ *i*Pn **Pn 01 33 07.5 +2.2**

FUORN Ofenpass-Fuorn 3.26 48⇓ *i*Pn **Pn 01 33 08.2 +2.4**
FUORN Ofenpass-Fuorn 3.26 48 Pn **Pn 01 33 08.3 +2.4**
WILA Wila 3.28 27⇓ *i*Pn **Pn 01 33 08.3 +2.4**
WILA Wila 3.28 27 *e*Pn **Pn 01 33 08.1 +2.2**
ROVR Rover Verones 3.28 68 AML AML
comp=N,120µm,0.3s
ROVR AML AML
comp=E,91µm,0.8s
AVF Avril sur Loir 3.29 315 *e*P **Pn 01 33 06.6 +0.6**
AVF Avril sur Loir 3.29 315 *e*Pg **Pg 01 33 17.1 -1.1**
AVF *e*Sg **Sb 01 33 57.0 +4.2**
comp=E,162nm,0.5s
HINF Hinteralfeld 3.31 1 *e*P **Pn 01 33 06.9 +0.6**
HINF Hinteralfeld 3.31 1 *e*Pg **Pg 01 33 17.2 -1.4**
HINF *e*Sn **Sn 01 33 42.4 -2.9**
comp=E,24nm,0.2s
HINF *e*Sg **Sg 01 33 59.7 -1.8**
comp=E,68nm,0.4s
FLACH Flaach 3.32 22⇑ *i*Pn **Pn 01 33 08.2 +1.8**
CAF Calviac 3.35 279 *e*P **Pn 01 33 07.3 +0.4**
CAF Calviac 3.35 279 *e*Pg **Pb 01 33 17.0 +2.8**
CAF *e*Sn **Sn 01 33 45.4 -0.9**
comp=E,118nm,0.5s
CAF *e*Sg **Sb 01 33 59.0 +4.3**
comp=E,126nm,0.7s
METMA Mettma DE 3.38 18 *e*Pn **Pn 01 33 08.3 +1.1**
METMA *e*Sn **Sn 01 33 49.4 +2.5**
SGT04 Schlatt-Haslen 3.38 32⇑ *e*Pn **Pn 01 33 10.4 +3.2**
LIENZ Kamor/St.Gall 3.39 34⇑ *e*Pn **Pn 01 33 11.5 +4.0**
OSSC Osservatorio P 3.40 105 P **Pn 01 33 08.9 +1.3**
OSSC AML AML
comp=E,102µm,0.8s
OSSC AML AML
comp=N,68µm,0.8s
OSSC Osservatorio P 3.40 105 Pn 01 33 08.6 +1.0
SSF Saint Saulge 3.41 320 *e*P **Pn 01 33 08.4 +0.8**
SSF Saint Saulge 3.41 320 *e*Pg **Pb 01 33 18.5 +3.4**
SSF *e*Sn **Sn 01 33 44.8 -2.8**
comp=N,40nm,0.3s
SSF *e*Sg **Sb 01 34 01.7 +5.5**
comp=N,195nm,0.5s
WEIN Weingarten 3.41 27⇓ *i*Pn **Pn 01 33 09.8 +2.2**
LOR Lormes 3.41 325 *e*P **Pn 01 33 09.0 +1.3**
baz=146
LOR Lormes 3.41 325 *e*Pg **Pb 01 33 18.3 +3.1**
baz=146
LOR *e*Sn **Sn 01 33 45.2 -2.5**
comp=N,95nm,0.3s,baz=144
LOR *e*Sg **Sg 01 34 02.2 -2.5**
comp=N,166nm,0.4s,baz=145
BGF Bois d'Agland 3.41 308 *e*P **Pn 01 33 08.4 +0.7**
BGF Bois d'Agland 3.41 308 *e*Pg **Pb 01 33 17.4 +2.2**
BGF *e*Sg **Sb 01 34 01.2 +4.8**
comp=N,276nm,0.3s
TRULL Truellikon 3.42 23⇑ *e*Pn **Pn 01 33 09.5 +1.6**
SGT00 Sennhusen 3.43 31⇑ *i*Pn **Pn 01 33 10.7 +2.7**
CASP Castiglione de 3.46 118 P **Pn 01 33 09.3 +1.0**
CASP AML AML
comp=E,166µm,1.2s
CASP AML AML
comp=N,101µm,0.4s
CASP Castiglione de 3.46 118 Pn **Pn 01 33 08.9 +0.6**
MTLF Montolieu 3.46 252 *e*Pn **Pn 01 33 08.3 -0.1**
MTLF Montolieu 3.46 252 *e*Pg **Pb 01 33 18.8 +2.8**
MTLF *e*Sn **Sn 01 33 46.9 -2.0**
comp=N,49nm,0.3s
MTLF *e*Sg **Sb 01 34 02.8 +5.0**
comp=N,42nm,0.4s
MTLF Montolieu 3.46 252 P **Pn 01 33 08.2 -0.1**
MTLF AML AML
comp=E,103µm,0.6s
MTLF AML AML
comp=N,110µm,0.6s
SLE Schleitheim 3.48 20⇓ *i*Pn **Pn 01 33 09.7 +1.0**
SLE Schleitheim 3.48 20 *e*Pn **Pn 01 33 09.6 +1.0**
STEIN Stein am Rhein 3.50 24⇓ *i*Pn **Pn 01 33 10.7 +1.8**
HAU Haudompre 3.51 356 *e*P **Pn 01 33 09.9 +0.9**
HAU *e*Sn **Sn 01 33 50.3 +0.1**
comp=N,131nm,0.3s
HAU *e*Sg **Sg 01 34 05.4 -2.5**
comp=N,65nm,0.3s
BERGE Lenzkirch (DE) 3.51 16 *e*Pn **Pn 01 33 09.9 +0.8**
DAVA Damuels 3.54 37 *e*Pn **Pn 01 33 12.5 +2.9**
DAVA *e*Sn **Sb 01 33 58.0 -2.4**
DAVA Damuels 3.54 37 *e*Pn **Pn 01 33 12.5 +2.9**
comp=N,3.4nm,0.2s,SNR=13
DAVA *e*Sn **Sb 01 33 56.5 -3.9**
comp=N,36nm,0.3s
KIZ Kirchzarten 3.55 13⇑ *i*Pn **Pn 01 33 10.2 +0.6**
TCF Toulx Ste Croi 3.65 301 *e*P **Pn 01 33 11.7 +0.8**
TCF Toulx Ste Croi 3.65 301 *e*Pg **Pg 01 33 23.4 -1.7**
TCF *e*Sn **Sn 01 33 51.5 -2.1**
comp=N,22nm,0.2s
TCF *e*Sg **Sg 01 34 10.9 -1.4**
comp=N,100nm,0.6s
EMING Emmingen-Lipti 3.69 23 *e*Pn **Pn 01 33 12.6 +1.1**
EMING *e*Sn **Sn 01 33 57.1 +2.4**
ASQU Asqua 3.71 99 AML AML
comp=E,51µm,0.8s
ASQU AML AML
comp=N,59µm,0.6s
ECH Echery 3.72 4 *e*Pn **Pn 01 33 12.8 +0.9**
ECH Echery 3.72 4 Pn **Pn 01 33 12.7 +0.8**
FETA Feichten 3.76 47 *i*Pn **Pn 01 33 16.1 +3.5**
comp=N,1.7nm,0.3s,SNR=7.5
FETA *e*Sn **Sn 01 34 01.6 +5.0**
comp=N,22nm,0.5s
RJF Les Rejaudoux 3.79 284 *e*P **Pn 01 33 13.7 +0.9**
RJF Les Rejaudoux 3.79 284 *e*Pg **Pb 01 33 24.3 +2.7**
RJF *e*Sg **Sb 01 34 12.5 +5.3**
comp=N,64nm,0.4s
CTI Castel Tesino 3.80 64 Pn 01 33 14.2 +1.1
OBER Oberstdorf 3.82 39 *e*Pn **Pn 01 33 17.3 +3.9**
CGRP Cima Grappa 3.84 67⇑ *i*Pn **Pn 01 33 14.1 +0.3**
CRE Caprese Michel 3.87 101 AML AML
comp=N,90µm,0.4s
CRE AML AML
comp=E,101µm,1.1s
SFTF Sexfontaines 3.88 343 *e*P **Pn 01 33 15.5 +1.4**
baz=163
SFTF *e*Sn **Sn 01 33 56.8 -2.5**
comp=E,35nm,0.3s
SFTF *e*Sg **Sg 01 34 16.5 -3.2**
comp=E,112nm,0.5s
CDF Champ du Feu 3.92 5 *e*P **Pn 01 33 15.2 +0.4**
CDF *e*Sn **Sn 01 33 57.3 -3.2**
comp=E,18nm,0.3s
CDF *e*Sg **Sg 01 34 20.3 -0.9**
comp=E,22nm,0.4s
GUT Gutenstein 3.93 24⇓ *i*Pn **Pn 01 33 15.8 +1.0**
UBR Ueberruh 3.95 35 *e*Pn **Pn 01 33 18.0 +2.9**
UBR *e*Sn **Sn 01 34 05.0 +3.9**
CAFI Castiglion Fio 3.96 105 AML AML
comp=E,33µm,0.6s
CAFI AML AML
comp=N,23µm,1.6s
HYF Humbligny 3.97 315 *e*P **Pn 01 33 16.9 +1.5**
HYF Humbligny 3.97 315 *e*Pg **Pb 01 33 27.7 +3.0**
HYF *e*Sn **Sn 01 34 02.2 +0.7**
HYF *e*Sg **Sg 01 34 21.1 -1.6**
BFO Black Forest 3.98 16⇓ *i*Pn **Pn 01 33 15.9 +0.4**
BFO Black Forest 3.98 16 *e*Pn **Pn 01 33 15.8 +0.3**
BFO *e*Sn **Sn 01 34 03.4 +1.6**
BFO Black Forest 3.98 16 Pn **Pn 01 33 15.4 -0.1**
RETA Reutte 4.10 42 *i*Pn **Pn 01 33 19.2 +2.1**
comp=N,8.6nm,0.3s,SNR=5.6
PAGF Fort de Pagny 4.11 351 *e*P **Pn 01 33 18.8 +1.6**
baz=171
PAGF *e*Sn **Sn 01 34 02.3 -2.6**
comp=N,45nm,0.2s
PAGF *e*Sg **Sg 01 34 24.6 -2.4**
comp=N,56nm,0.5s,baz=170
SQTA Sankt Quirin 4.14 47 *i*Pn **Pn 01 33 20.7 +2.9**
comp=N,1.2nm,0.2s,SNR=22
SQTA *e*Sn **Sn 01 34 10.9 +5.0**
comp=N,23nm,0.4s
AGOR Agordo 4.15 63⇓ *e*Pn **Pn 01 33 19.9 +2.1**
MEZF Maizieres J'vi 4.16 344 *e*P **Pn 01 33 19.8 +1.9**
baz=165
MEZF Maizieres J'vi 4.16 344 *e*Pg **Pg 01 33 32.5 -2.4**
baz=164
MEZF *e*Sn **Sn 01 34 02.9 -3.2**
comp=N,53nm,0.3s
MEZF *e*Sg **Sg 01 34 25.5 -3.2**
comp=N,95nm,0.4s

MOTA Moosalm 4.17 46 *i*Pn **Pn 01 33 20.7 +2.5**
comp=N,1.3nm,0.2s,SNR=18
MOTA *e*Sn **Sn 01 34 10.1 +3.5**
comp=N,20nm,0.3s
ATTE AVT- Monte Tez 4.27 106 AML AML
comp=E,39µm,0.7s
ATTE AML AML
comp=N,51µm,0.6s
PART Garmisch-Parte 4.28 44 *e*Pn **Pn 01 33 24.1 +4.5**
LFF La Frestale 4.29 278 *e*P **Pn 01 33 20.5 +0.8**
LFF La Frestale 4.29 278 *e*Pg **Pg 01 33 35.1 -2.2**
LFF *e*Sn **Sn 01 34 05.0 -4.3**
comp=N,84nm,0.5s
LFF *e*Sg **Sb 01 34 28.7 +7.1**
comp=N,80nm,0.4s
MURB Monte Urbino 4.37 105 Pn 01 33 21.6 +0.7
WTTA Wattenberg 4.40 49 *i*Pn **Pn 01 33 24.3 +2.9**
comp=N,3.3nm,0.3s,SNR=15
WTTA *e*Sn **Sn 01 34 18.6 +6.3**
comp=N,18nm,0.4s
WTTA Wattenberg 4.40 49 AML AML
comp=N,85µm,0.5s
WTTA AML AML
comp=E,143µm,0.7s
CIMO Cimolais 4.41 64 Pn **Pn 01 33 22.7 +1.3**
WATA Walderalm 4.41 48 *e*Pn **Pn 01 33 23.7 +2.1**
comp=E,3.8nm,0.2s,SNR=16
WATA *e*Sn **Sn 01 34 18.9 +6.4**
comp=E,10nm,0.4s
STU Stuttgart 4.59 21 Pn **Pn 01 33 25.9 +2.1**
ABTA Abfaltersbach 4.63 59 *e*Pn **Pn 01 33 27.1 +2.6**
comp=E,2.5nm,0.3s,SNR=11
ABTA *e*Sn **Sn 01 34 22.6 +4.6**
comp=E,11nm,0.3s
CLF Chambon-Foret 4.69 320 Pn **Pn 01 33 27.4 +2.2**
ZOU Zoufplan 4.84 63 Pn 01 33 28.1 +0.6
EPF Esparros 4.86 255 *e*Pn **Pn 01 33 26.6 -1.0**
EPF *e*Sn **Sn 01 34 17.4 -6.0**
comp=E,13nm,0.3s
EPF *e*Sg **Sg 01 34 46.2 -4.8**
comp=E,21nm,0.4s
NORI Noerdlinger Ri 5.00 31 *e*Pn **Pn 01 33 30.8 +1.4**
TRI Trieste 5.12 74 Pn **Pn 01 33 33.0 +1.8**
WLF Walferdange 5.17 356 *e*Pn **Pn 01 33 34.2 +2.4**
WLF *e*Sn **Sn 01 34 33.2 +2.0**
WLF Walferdange 5.17 356 Pn **Pn 01 33 33.8 +2.0**
MFF Saint Martin d 5.26 296 *e*P **Pn 01 33 34.2 +1.1**
MFF Saint Martin d 5.26 296 *e*Pg Pb 01 33 51.7 +5.0
MFF *e*Sn **Sn 01 34 30.5 -2.8**
comp=E,24nm,0.6s
MFF *e*Sg **Sg 01 35 00.4 -3.6**
comp=E,39nm,0.5s
CHIF Chize 5.29 290 *e*P **Pn 01 33 34.5 +1.1**
KBA Koelnbreinsper 5.29 59 *e*Pn **Pn 01 33 36.1 +2.5**
comp=E,10.0nm,0.6s
KBA *e*Sn **Sn 01 34 41.1 +6.8**
comp=E,7.0nm,0.5s
MYKA Terra Mystica 5.30 64 *e*Sn **Sn 01 34 36.4 +2.1**
comp=E,2.8nm,0.3s
AQU L'Aquila 5.32 112 Pn **Pn 01 33 36.2 +2.3**
VSL Villasalto 5.38 158 Pn **Pn 01 33 36.1 +1.4**
ETSF Etsaut 5.52 256 *e*P **Pn 01 33 39.5 +2.8**
ETSF Etsaut 5.52 256 *e*Pg Pb 01 33 56.1 +4.9
ETSF *e*Sn **Sn 01 34 33.1 -6.8**
comp=E,23nm,0.4s
ETSF *e*Sg **Sg 01 35 07.5 -4.9**
comp=E,7.2nm,0.3s
RIY Rijeka 5.57 79 *e*Pn **Pn 01 33 37.0 -0.3**
CEY Cerknica 5.58 75 *e*Pn **Pn 01 33 37.7 +0.2**
LJU Ljubljana 5.71 72 *e*Pn **Pn 01 33 42.0 +2.7**
BGG Burgeitz 5.72 4 *e*Pn **Pn 01 33 40.7 +1.4**
BGG *e*Sn **Sn 01 34 49.2 +4.7**
comp=E,8.7nm,0.4s
GIVF Givet 5.75 348 *e*P **Pn 01 33 41.6 +1.9**
GIVF *e*Sn **Sn 01 34 44.0 -1.2**
comp=E,20nm,0.2s
HILG Hillesheim 5.79 360 *e*Pn **Pn 01 33 41.5 +1.2**
INTR Introdacqua 5.80 113 Pn **Pn 01 33 41.3 +0.7**
BAIF Baives 5.81 344 *e*P **Pn 01 33 42.2 +1.6**
BAIF *e*Sn **Sn 01 34 45.1 -1.7**
comp=E,16nm,0.3s
BAIF *e*Sg **Sg 01 35 17.6 -4.0**
comp=E,18nm,0.6s
TNS Taunus Mts 5.84 11 *e*Pn **Pn 01 33 41.7 +0.7**
TNS *e*Sn **Sn 01 34 48.3 +0.8**
OBKA Obir 5.85 67 *e*Pn **Pn 01 33 42.9 +1.6**
comp=E,3.2nm,0.4s
GRA1 Grafenberg Arr 6.03 29 Pn **Pn 01 33 44.6 +1.0**
GRF Grafenberg Arr 6.03 29 *e*Pn **Pn 01 33 43.1 -0.4**
GRF *e*Sn **Sn 01 34 53.0 +0.9**
STB Steinbach 6.09 1 *e*Pn **Pn 01 33 46.0 +1.6**
KLL Kalltalsperre 6.15 358 *e*Pn **Pn 01 33 46.7 +1.4**
DREG Dreilaegerbach 6.17 357 *e*Pn **Pn 01 33 47.1 +1.6**
MOA Molln 6.21 55 *e*Pn **Pn 01 33 48.6 +2.5**
MOA Molln 6.21 55 *i*Pn **Pn 01 33 47.4 +1.3**
comp=E,3.1nm,0.4s,SNR=5.7
MOA *e*Sn **Sn 01 35 00.4 +3.7**
comp=E,5.2nm,0.4s
SOKA Soboth 6.22 67 *e*Pn **Pn 01 33 47.6 +1.3**
comp=E,1.4nm,0.3s
SOKA *e*Sn **Sn 01 34 59.0 +2.0**
comp=E,3.2nm,0.4s
LDF La Druitiere 6.25 313 *e*P **Pn 01 33 47.7 +1.1**
LDF *e*Sn **Sn 01 34 52.3 -5.2**
comp=E,9.8nm,0.3s
LDF *e*Sg **Sg 01 35 30.2 -5.3**
comp=E,61nm,0.9s
WET Wettzell 6.27 40 *e*Pn **Pn 01 33 47.4 +0.5**
WET *e*Sn **Sn 01 34 58.6 +0.5**
CRES Cresnjev 6.31 75 *e*Pn **Pn 01 33 47.9 +0.4**
ROTZ Rotzenmuhle 6.45 33 *e*Pn **Pn 01 33 49.7 +0.3**
GEC2 GERESS Array S 6.47 45 *e*Pn **Pn 01 33 51.0 +1.3**
GEC2 *e*Sn **Sn 01 35 04.3 +1.1**
GEC2 GERESS Array S 6.47 45 Pn 01 33 51.1 +1.4
GERES GERESS Array B 6.47 45 Pn **Pn 01 33 51.1 +1.4**
comp=E,9.3nm,0.3s,baz=226,slow=12,SNR=106
GERES Sn **Sn 01 35 02.8 -0.3**
comp=E,2.1nm,0.3s,baz=239,slow=24,SNR=7.1
GERES GERESS Array B 6.47 45 Pn **Pn 01 33 50.6 +0.9**
GRR Gorron 6.52 309 *e*P **Pn 01 33 51.3 +1.0**
GRR *e*Sn **Sn 01 34 59.9 -4.4**
GRR *e*Sg **Sg 01 35 38.1 -6.2**
comp=E,14nm,0.5s
FLN La Foliniere 6.54 313 *e*P **Pn 01 33 51.7 +1.1**
baz=133
FLN *e*Sn **Sn 01 35 00.3 -4.4**
comp=E,8.4nm,0.3s
FLN *e*Sg **Sg 01 35 39.3 -5.6**
comp=E,30nm,0.6s,baz=134
MANZ Manzenberg 6.59 32 *e*Pn **Pn 01 33 51.1 -0.2**
KHC Kasperske Hory 6.59 43 *e*PN **Pn 01 33 52.8 +1.4**
KHC *e*SN **Sn 01 35 05.9 -0.2**
KHC Kasperske Hory 6.59 43 Pn **Pn 01 33 52.5 +1.1**
ARSA Arzberg 6.72 63 *e*Pn **Pn 01 33 54.6 +1.4**
ARSA Arzberg 6.72 63 *i*Pn **Pn 01 33 54.6 +1.4**
comp=E,2.0nm,0.3s
ARSA *e*Sn **Sn 01 35 11.0 +1.6**
comp=E,1.7nm,0.6s
MOX Moxa 6.97 27 *e*Pn **Pn 01 33 56.4 -0.1**
MOX *e*Sn **Sn 01 35 16.7 +1.3**
PBCC Pribram 7.17 41 *e*PN **Pn 01 34 00.4 +1.1**
PBCC *e*SN **Sn 01 35 19.2 -1.1**
CONA Conrad Observa 7.20 58 *e*Pn **Pn 01 34 01.0 +1.2**
comp=E,0.5nm,0.4s
CONA *e*Sn **Sn 01 35 24.1 +3.0**
comp=E,4.8nm,0.5s
BEHE Becsehely 7.33 71 *e*Pn **Pn 01 33 59.8 -1.7**
MGRS Mrkonjic Grad 7.41 87 *e*Pn **Pn 01 34 04.6 +2.0**
SGMF Saint Gilles 7.43 304 *e*P **Pn 01 34 03.5 +0.6**
SGMF *e*Sn **Sn 01 35 21.5 -5.2**
comp=E,6.9nm,0.4s
SGMF *e*Sg **Sg 01 36 06.7 -6.9**
comp=E,31nm,0.8s
BLY Banja Luka 7.46 84 *e*Pn **Pn 01 34 02.0 -1.3**
PRU Pruhonice 7.63 41 *e*PN **Pn 01 34 07.1 +1.5**
QUIF Quistinic 7.66 300 *e*P **Pn 01 34 07.5 +1.5**
QUIF *e*Sn **Sn 01 35 25.6 -6.7**
QUIF *e*Sg Sb 01 36 13.8 +15
comp=E,20nm,0.6s
TREC Trest 7.67 48 *e*PN **Pn 01 34 07.2 +1.0**
TREC *e*SN **Sn 01 35 31.8 -0.9**
JSA Saint Aubin 7.69 311 *e*P **Pn 01 34 06.7 +0.4**
JSA IAML 01 36 32.8
comp=E,9.9nm,0.8s

JSA				IAML			01 36 40.4	
	comp=N,12nm,0.8s							
GOPC	**GO Pecny, Ondr**	**7.70**	**43**	*e*PN	**Pn**		**01 34 08.1**	**+1.5**
GOPC				*e*SN	**Sn**		**01 35 31.2**	**-2.2**
ROSF	**Rostrenen**	**7.90**	**303**	*e*P	**Pn**		**01 34 11.1**	**+1.8**
ROSF				*e*Sg	Sb		01 36 21.8	+16
	comp=N,6.1nm,0.5s							
ROSF	**Rostrenen**	**7.90**	**303**	*e*P	**Pn**		**01 34 10.0**	**+0.7**
CLL	**Collm**	**8.00**	**30**	*e*Pn	**Pn**		**01 34 10.0**	**-0.6**
CLL				*e*Pg	Pb		01 34 52.0	+19
CLL				*e*Sn	Sn		01 35 29.0	-12
CLL				*e*Sg	Sb		01 36 32.0	+24
	comp=Z,9.0nm,0.8s							
CLL	**Collm**	**8.00**	**30**	Pn	**Pn**		**01 34 11.2**	**+0.6**
BRG	**Berggiesshubel**	**8.01**	**35**	PN	**Pn**		**01 34 11.7**	**+0.9**
BRG	**Berggiesshubel**	**8.01**	**35**	SG	Sb		01 36 32.5	+24
	comp=Z,11nm,1.2s							
KRUC	**Moravsky**	**8.05**	**52**	*e*PN	**Pn**		**01 34 13.5**	**+2.2**
KRUC				*e*SN	**Sn**		**01 35 41.0**	**-0.8**
MODS	**Modra-Piesok**	**8.25**	**58**	*e*PN	**Pn**		**01 34 16.2**	**+2.1**
VRAC	**Vranov**	**8.29**	**51**	Pn	**Pn**		**01 34 16.8**	**+2.3**
	comp=Z,1.1nm,0.3s,baz=246,slow=16,SNR=11							
VRAC				Sn	**Sn**		**01 35 48.6**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=328,slow=21,SNR=4.9							
VRAC	**Vranov**	**8.29**	**51**	*e*PN	**Pn**		**01 34 16.3**	**+1.7**
VRAC				*e*SN	**Sn**		**01 35 46.5**	**-1.2**
MORH	**Mrgy, Hungar**	**8.56**	**74**	*e*Pn	**Pn**		**01 34 16.4**	**-2.0**
TREB	**Trebinje**	**8.62**	**98**	*e*Pn	**Pn**		**01 34 20.5**	**+1.3**
UPC	**Upice**	**8.69**	**43**	*e*PN	**Pn**		**01 34 21.4**	**+1.4**
BRY	**Bratogost**	**8.71**	**97**	*e*Pn	**Pn**		**01 34 21.0**	**+0.5**
DPC	**Dobruska-Polom**	**8.74**	**45**	*e*PN	**Pn**		**01 34 22.0**	**+1.2**
CHVC	**Chvalec**	**8.76**	**43**	*e*PN	**Pn**		**01 34 21.6**	**+0.5**
HAPS	**Han Pijesak,BI**	**8.78**	**88**	*e*Pn	**Pn**		**01 34 19.8**	**-1.6**
OSTC	**Ostas**	**8.82**	**43**	*e*PN	**Pn**		**01 34 23.1**	**+1.2**
KEST	**Kesra**	**8.99**	**166**	Pn	Pn		01 34 31.7	+7.3
	comp=Z,0.3nm,0.3s,baz=351,slow=9.3,SNR=7.4							
KOLL	**Kolacno**	**9.02**	**59**	*e*PN	**Pn**		**01 34 28.0**	**+3.4**
SWN1	**Swindon**	**9.04**	**324**	*e*P	**Pn**		**01 34 26.8**	**+1.9**
MORC	**Moravsky Berou**	**9.06**	**51**	*e*PN	**Pn**		**01 34 26.2**	**+1.0**
MORC	**Moravsky Berou**	**9.06**	**51**	Pn	**Pn**		**01 34 25.3**	**+0.2**
WACR	**West Acre**	**9.16**	**336**	*e*P	**Pn**		**01 34 28.3**	**+1.9**
VYHS	**Vyhne**	**9.25**	**60**	*e*PN	**Pn**		**01 34 31.3**	**+3.5**
ESDC	**Sonseca Array**	**9.30**	**242**	Pn	**Pn**		**01 34 29.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=54,slow=14,SNR=16							
DYA	**Yadsworthy**	**9.34**	**313**	*e*P	**Pn**		**01 34 29.6**	**+0.6**
DYA				*e*S	**Sn**		**01 36 08.7**	**-4.8**
DYA				IAML			01 36 14.8	
	comp=N,7.0nm,0.5s							
DYA				IAML			01 36 17.9	
	comp=E,5.6nm,0.3s							
STRD	**Stroud**	**9.39**	**324**	*e*P	**Pn**		**01 34 31.2**	**+1.6**
CWF	**Charnwood Fore**	**9.80**	**330**	*e*P	**Pn**		**01 34 36.6**	**+1.4**
CWF				*e*S	**Sn**		**01 36 20.4**	**-4.4**
CWF				IAML			01 36 26.9	
	comp=E,4.7nm,0.4s							
CWF				IAML			01 36 28.7	
	comp=N,2.7nm,0.4s							
LANS	**Liptovska Anna**	**9.89**	**57**	*e*PN	**Pn**		**01 34 40.8**	**+4.3**
MCH1	**Michaelchurch**	**9.90**	**323**	*e*P	**Pn**		**01 34 37.3**	**+0.6**
LBWR	**Ladybower, Pea**	**10.49**	**331**	*e*P	**Pn**		**01 34 46.5**	**+1.8**
FOEL	**Foel Wylfa**	**10.64**	**326**	*e*P	**Pn**		**01 34 48.4**	**+1.6**
LLW	**Llanuwychllyn**	**10.80**	**324**	*e*P	**Pn**		**01 34 50.5**	**+1.6**
HPK	**Haverah Park**	**10.91**	**324**	*e*P	**Pn**		**01 34 51.9**	**+1.4**
WLF1	**Llynfaes**	**11.43**	**324**	*e*P	**Pn**		**01 34 58.2**	**+0.7**
EDMD	**Edmundbyers**	**11.76**	**335**	*e*P	**Pn**		**01 35 02.8**	**+0.8**
EKA	**Eskdalemuir Ar**	**12.55**	**333**	Pn	**Pn**		**01 35 13.1**	**+0.2**
	baz=143,slow=15,SNR=26							
EKA				Sn	Sn		01 37 24.6	-7.7
	baz=142,slow=26,SNR=6.2							
ESK	**Eskdalemuir**	**12.55**	**333**	*e*P	**Pn**		**01 35 13.7**	**+0.7**
MLR	**Muntele Rosu**	**13.64**	**79**	LR	LR		01 41 43.1	
	comp=N,22nm,18.3s,baz=126,slow=41							
FINES	**FINESS Array B**	**20.44**	**27**	P	**P**		**01 36 52.7**	**+1.3**
	comp=N,1.8nm,0.6s,baz=224,slow=7.8,SNR=12							
BRTR	**Keskin Array B**	**20.48**	**94**	P	Pn		01 36 57.7	+3.2
	comp=N,0.8nm,0.7s,baz=299,slow=8.0,SNR=2.1							

GUC 22 02:03:57.3±0.7, 23°98S×70°44W, h40km±1km, ML3.4, 3C-6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB10	**IPOC Station P**	**0.48**	**348**	⇑*i*P	Pn	02 04 08.1	+0.3
PB10				*i* S	Sn	02 04 15.1	0.0
PB10	**IPOC Station P**	**0.48**	**348**	⇓*i*P	Pn	02 04 07.7	-0.1
PB10				*i* S	Sn	02 04 15.1	0.0
PB05	**IPOC Station P**	**1.15**	**11**	⇓*i*P	Pn	02 04 18.3	+1.3
PB05				*i* S	Sn	02 04 33.2	+1.7
PB15	**IPOC Station P**	**1.18**	**49**	⇓*i*P	Pn	02 04 18.8	+1.3
PB15				*e*S	Sn	02 04 34.5	+2.1
GO02	**Mina Guanaco**	**1.41**	**147**	*e*P	Pn	02 04 22.6	+1.9
GO02				*i* S	Sn	02 04 41.1	+2.9
GO02				IAML		02 04 43.6	
	comp=N,1μm,0.4s						
GO02	**Mina Guanaco**	**1.41**	**147**	*e*P	Pn	02 04 22.7	+1.9
GO02				*e*S	Sn	02 04 41.2	+2.9
GO02				IAML		02 04 43.6	
	comp=N,1μm,0.4s						
PB06	**IPOC Station P**	**1.50**	**32**	*e*P	Pn	02 04 24.0	+2.1
PB06				*e*S	Sn	02 04 43.5	+3.1
PB06				IAML		02 04 48.4	
	comp=N,658nm,0.4s						
PB04	**IPOC Station P**	**1.66**	**9**	*e*P	Pn	02 04 25.5	+1.4
PB04				*i* S	Sn	02 04 47.4	+3.0
PB04				IAML		02 04 48.9	
	comp=E,650nm,0.6s						
LVC	**Limon Verde**	**1.96**	**46**	*e*P	Pn	02 04 31.7	+3.2
LVC				*e*S	Sn	02 04 57.0	+5.0
LVC	**Limon Verde**	**1.96**	**46**	*e*P	Pn	02 04 31.7	+3.3
LVC				*e*S	Sn	02 04 57.5	+5.5
PB03	**IPOC Station P**	**2.03**	**18**	⇓*e*P	Pn	02 04 30.9	+1.7
PB03				*i* S	Sn	02 04 57.5	+4.2
PB03				IAML		02 05 02.6	
	comp=E,391nm,0.3s						
AC01	**Pan de Azucar**	**2.16**	**184**	*e*P	Pn	02 04 31.4	+0.6
AC01				*i* S	Sn	02 04 57.2	+0.8
AC01				IAML		02 05 06.6	
	comp=N,243nm,0.4s						
AC01	**Pan de Azucar**	**2.16**	**184**	*e*P	Pn	02 04 31.5	+0.6
AC01				*e*S	Sn	02 05 00.7	+4.2
AC01				IAML		02 05 05.8	
	comp=E,257nm,0.3s						
PB07	**IPOC Station P**	**2.30**	**13**	⇓*i*P	Pn	02 04 34.4	+1.5
PB07				*e*S	Sn	02 05 03.4	+3.2
PB07				IAML		02 05 11.1	
	comp=N,246nm,0.4s						
PB02	**IPOC Station P**	**2.70**	**11**	*e*P	Pn	02 04 40.1	+1.8
PB02				*e*S	Sn	02 05 13.1	+3.2
PB02				IAML		02 05 25.9	
	comp=E,268nm,0.7s						
PB01	**IPOC Station P**	**3.06**	**17**	⇑*i*P	Pn	02 04 44.9	+1.7
PB01				*e*S	Sn	02 05 20.0	+1.4
PB01				IAML		02 05 34.1	
	comp=E,106nm,0.5s						
AC02	**Maricunga**	**3.08**	**158**	⇑*e*P	Pn	02 04 47.7	+3.9
AC02				*e*S	Sn	02 05 22.5	+2.8
AC02				IAML		02 05 33.4	
	comp=N,160nm,0.3s						
AC02	**Maricunga**	**3.08**	**158**	⇓*e*P	Pn	02 04 47.9	+4.0
AC02				*e*S	Sn	02 05 24.1	+4.3

DJA 22 02:08:41.4±0.9, 0°S±9°×12°0E±1°2, h11km±8km, M3.7/5, MLv3.7/5, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**0.55**	**36**	P	Pg	02 08 52.4	+0.2
MPSI				S	Sb	02 09 01.4	+0.4
MRSI	**Marisa**	**2.44**	**76**	P	Pg	02 09 29.2	+1.0
TTSI	**Tana Toraja**	**2.93**	**175**	P	Pn	02 09 30.5	+2.6
LUWI	**Luwuk**	**3.33**	**106**	P	Pn	02 09 32.3	-1.2
SPSI	**Sidrap Palu**	**3.83**	**177**	P	Pb	02 09 51.8	+2.7

NIED ***22*** *02:27:00, 34°.20N×140°.20E, h71km, Mw4.0 Best double couple: M₀9.50000×10¹⁴ NP1:φs250.00000°, δ76.00000°, λ94.00000°. NP2:φs54.00000°, δ14.00000°, λ74.00000°.*
NEIC ***22*** *02:27:11.9±2.1, 34°.26N±0°.05×140°.4E±0°.1, h86km±7km, mb4.2/13, Error ellipse: s-maj=16.1km s-min=7.5km az=91.0*

JMA ***22*** *02:27:12.2±0.2, 34°.20N×140°.16E, h88km±2km, M4.1*
JMA Felt I J1.
IDC ***22*** *02:27:14.6±0.8, 34°.13N×139°.93E, h102km±6km, mb3.8/11, mb1 3.9/13, mb1mx3.7/36, mbtmp4.1/13, MS2.6/5, Ms1 2.7/5, ms1mx2.5/39, Error ellipse: s-maj=27.5km s-min=7.3km az=73.0*

ISC 22 02:27:12.8±0.7, 34°25N±0°.03×140°19E±0°.05, h89km±6km, n68, σ1°54/77, mb4.2/17, 5C-5b, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BSO3	**Boso 3**	**0.61**	**26**	⇑P	**Pn**	**02 27 29.3**	**+1.1**
BSO3				X		02 27 42.9	
JMKN	**Mikurajimanish**	**0.61**	**234**	⇓P	**Pn**	**02 27 28.0**	**-0.5**
JMKN				S	**Sn**	**02 27 38.9**	**-1.2**
BSO4	**Boso 4**	**0.75**	**10**	⇑P	**Pn**	**02 27 31.0**	**+1.3**
BSO4				*e*X		02 27 46.1	
JNIO	**Niijimaoohara**	**0.76**	**278**	P	**Pn**	**02 27 29.6**	**-0.3**
JNIO				*e*S	**Sn**	**02 27 43.1**	**+0.4**
BSO1	**Boso 1**	**0.77**	**58**	P	**Pn**	**02 27 30.5**	**+1.2**
BSO1				X		02 27 44.6	
JIM2	**Oshima 3**	**0.78**	**307**	⇑P	**Pn**	**02 27 30.1**	**0.0**
JIM2				S	**Sn**	**02 27 43.0**	**0.0**
JTHY	**Toshimahigashi**	**0.79**	**290**	P	**Pn**	**02 27 30.5**	**+0.3**
JTHY				S	**Sn**	**02 27 44.8**	**+1.6**
JKO	**Kozu shima**	**0.87**	**266**	⇑P	**Pn**	**02 27 30.7**	**-0.4**
JKO				S	**Sn**	**02 27 44.6**	**-0.1**
JHJ2	**Mitsune**	**1.18**	**195**	⇓P	**Pn**	**02 27 34.5**	**-0.1**
JHJ2				S	**Sn**	**02 27 51.4**	**+0.5**
JHJ2	**Mitsune**	**1.18**	**195**		**Pn**	**02 27 34.4**	**-0.2**
JHJ	**Hachijo jima 2**	**1.18**	**197**	P	**Pn**	**02 27 34.6**	**0.0**
	1μm,0.3s,baz=329,slow=15,SNR=340						
JHJ				S	**Sn**	**02 27 51.5**	**+0.5**
	858nm,0.3s,baz=244,slow=23,SNR=20						
JIZS	**Izushimoda**	**1.18**	**294**	⇑P	**Pn**	**02 27 34.8**	**+0.2**
JIZS				S	**Sn**	**02 27 50.8**	**-0.1**
JOD2	**Odawara 2**	**1.36**	**318**	⇓P	**Pn**	**02 27 37.1**	**+0.3**
JOD2				S	**Sn**	**02 27 55.2**	**+0.4**
JFNN	**Fujinakano**	**1.56**	**308**	⇓P	**Pn**	**02 27 40.2**	**+1.0**
JFNN				S	**Sn**	**02 28 00.4**	**+1.2**
JAOM	**Aogashimamukai**	**1.82**	**191**	P	**Pn**	**02 27 43.1**	**+0.4**
JAOM				*e*S	**Sn**	**02 28 05.5**	**+0.2**
SHZ3	**Shizuoka 3**	**1.82**	**297**	P	**Pn**	**02 27 43.9**	**+1.2**
JYN	**Shimob**	**1.84**	**313**	⇓P	**Pn**	**02 27 44.0**	**+1.1**
TK04	**Tokai 4**	**1.92**	**273**	P	**Pn**	**02 27 44.7**	**+0.9**
TK02	**Tokai 2**	**2.04**	**262**	P	**Pn**	**02 27 46.0**	**+0.7**
MJAR	**Matsushiro Arr**	**2.80**	**325**	P	**Pn**	**02 27 56.8**	**+1.1**
	10nm,0.3s,baz=156,slow=10,SNR=652						
MJAR				S	**Sn**	**02 28 30.7**	**+2.1**
	3.8nm,0.3s,baz=157,slow=12,SNR=6.4						
MJAR				LR	LR	02 29 09.9	
	comp=Z,62nm,20.7s,baz=210,slow=42						
MJAR	**Matsushiro Arr**	**2.80**	**325**	Pn	**Pn**	**02 27 55.6**	**-0.1**
MAJO	**Matsushiro**	**2.80**	**325**	Pn	**Pn**	**02 27 57.0**	**+1.4**
MAT	**Matsushiro**	**2.80**	**325**	P	**Pn**	**02 27 56.7**	**+1.0**
MAT				S	**Sn**	**02 28 30.5**	**+1.9**
MJB9	**Matsu-Tunnel**	**2.81**	**325**		**Pn**	**02 27 57.1**	**+1.4**
INU	**Inuyama**	**2.83**	**294**	Pn	**Pn**	**02 27 57.1**	**+1.1**
JNU	**Nakatsue**	**7.84**	**264**	P	**Pn**	**02 29 05.8**	**+1.6**
	0.4nm,0.3s,baz=82,slow=17,SNR=1.6						
JNU				LR	LR	02 31 54.1	
	comp=Z,38nm,20.0s,baz=134,slow=37						
ASAJ	**Asahikawa**	**10.03**	**10**	P	**Pn**	**02 29 31.6**	**-2.3**
	1.8nm,0.3s,baz=210,slow=14,SNR=9.9						
ASAJ				S	**Sn**	**02 31 18.0**	**-6.5**
	0.9nm,0.3s,baz=68,slow=19,SNR=3.3						
JKA	**Kamikawa-asahi**	**10.03**	**10**		**Pn**	**02 29 31.6**	**-2.3**
JKA					**Sn**	**02 31 18.0**	**-6.5**
KSRS	**Korea Array**	**10.45**	**291**	P	**Pn**	**02 29 43.2**	**+3.5**
	0.3nm,0.3s,baz=109,slow=14,SNR=15						
KSRS				LR	LR	02 34 17.5	
	comp=Z,21nm,18.2s,baz=210,slow=41						
USRK	**Ussuriysk Ar.**	**11.79**	**330**	P	**Pn**	**02 29 58.4**	**+0.7**
	baz=141,slow=12,SNR=7.2						
USRK				LR	LR	02 34 35.7	
	comp=Z,51nm,20.4s,baz=173,slow=37						
KLR	**Kul'dur**	**16.22**	**340**	P	**Pn**	**02 30 53.4**	**-1.9**
	2.1nm,0.3s,baz=161,slow=11,SNR=40						
HHC	**Hu-ho-hao-te**	**23.57**	**295**	*e*P	**P**	**02 32 14.8**	**-0.6**
HHC				pmax	pmax		
	comp=Z,11nm,1.2s						
HHC				pmax	pmax		
	comp=Z,38nm,5.3s						
H11N2	**WAKE ISLAND Hy**	**27.74**	**115**	T	T	03 01 55.5	
	baz=306,slow=75,SNR=111						
H11N1	**WAKE ISLAND Hy**	**27.75**	**115**	T	T	03 01 55.9	
	baz=306,slow=75,SNR=63						
H11N3	**WAKE ISLAND Hy**	**27.76**	**115**	T	T	03 02 21.7	
	baz=306,slow=75,SNR=62						
H11S3	**WAKE ISLAND Hy**	**28.34**	**117**	T	T	03 03 27.8	
	baz=310,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**28.34**	**117**	T	T	03 03 42.0	
	baz=310,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**28.36**	**117**	T	T	03 03 25.7	
	baz=310,slow=76,SNR=14						
SONM	**Songino Array**	**28.62**	**309**	P	**P**	**02 33 00.9**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=108,slow=9.8,SNR=4.3						
SONM	**Songino Array**	**28.62**	**309**	lAmb	lAmb	02 33 01.4	
	comp=Z,2.3nm,1.5s						
KMI	**Kunming**	**33.62**	**264**	P	**P**	**02 33 46.8**	**+1.7**
KMI				pmax	pmax		
	comp=Z,18nm,0.5s						
TIXI	**Tiksi**	**37.94**	**354**	P	**P**	**02 34 21.2**	**+0.1**
TIXI				lAmb	lAmb	02 34 22.5	
	comp=Z,2.7nm,0.8s						
WMQ	**Urumqi**	**41.27**	**299**	*e*P	**P**	**02 34 49.8**	**+0.5**
ZAA0	**Zasovo Array**	**43.10**	**315**	P	**P**	**02 35 04.1**	**+0.2**
ZALV	**Zalesovo Beam**	**43.10**	**315**	P	**P**	**02 35 04.0**	**+0.1**
	comp=Z,1.8nm,0.4s,baz=96,slow=8.4,SNR=6.6						
ZALV				PcP	**PcP**	**02 36 52.5**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=123,slow=3.3,SNR=3.8						
ZALV	**Zalesovo Beam**	**43.10**	**315**	P	**P**	**02 35 03.6**	**-0.3**
MK31	**Makanchi Array**	**44.80**	**304**	P	**P**	**02 35 17.3**	**-0.4**
MK31				lAmb	lAmb	02 35 18.4	
	comp=Z,2.5nm,0.7s						
MKAR	**Makanchi Array**	**44.80**	**304**	P	**P**	**02 35 17.6**	**-0.1**
	comp=Z,2.6nm,0.6s,baz=91,slow=10.0,SNR=33						
MKAR	**Makanchi Array**	**44.80**	**304**	P	**P**	**02 35 16.8**	**-0.9**
MAKZ	**Makanchi**	**45.02**	**304**	P	**P**	**02 35 18.0**	**-1.4**
MAKZ				lAmb	lAmb	02 35 20.1	
	comp=Z,3.0nm,0.9s						
KURK	**Kurchatov**	**46.91**	**310**	P	**P**	**02 35 33.0**	**-1.1**
AAK	**Ala-Archa**	**50.97**	**300**	P	**P**	**02 36 04.7**	**-0.8**
ILAR	**Eielson Array**	**52.38**	**31**	P	**P**	**02 36 17.4**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=285,slow=7.3,SNR=5.5						
KK31	**Karatay Array**	**53.69**	**302**	P	**P**	**02 36 25.7**	**+0.2**
KKAR	**Karatay Array**	**53.69**	**302**	P	**P**	**02 36 24.3**	**-1.2**
WR0	**Warramunga Arr**	**54.18**	**187**	P	**P**	**02 36 27.4**	**-1.7**
WRA	**Warramunga Arr**	**54.18**	**187**	P	**P**	**02 36 27.9**	**-1.1**
	comp=Z,4.9nm,0.6s,baz=3.7,slow=7.6,SNR=42						
CHGR	**Chuyangaron**	**55.99**	**297**	P	**P**	**02 36 40.6**	**-1.5**
AS31	**Alice Springs**	**57.91**	**187**	P	**P**	**02 36 54.8**	**-0.8**
AS31				lAmb	lAmb	02 36 56.0	
	comp=Z,1.4nm,0.6s						
ASAR	**Alice Springs**	**57.91**	**187**	P	**P**	**02 36 54.8**	**-0.9**
	comp=Z,1.9nm,0.7s,baz=18,slow=12,SNR=35						
ASAR	**Alice Springs**	**57.91**	**187**	P	**P**	**02 36 53.6**	**-2.1**
ABKAR	**Akbulak array**	**58.99**	**311**	P	**P**	**02 37 02.7**	**-0.2**
STKA	**Stephens Creek**	**65.79**	**179**	P	**P**	**02 37 48.2**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=355,slow=9.0,SNR=2.9						
FINES	**FINESS Array B**	**70.81**	**332**	P	**P**	**02 38 19.8**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=36,slow=6.6,SNR=19						
AKASG	**Malin Array Be**	**75.88**	**322**	P	**P**	**02 38 49.2**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=46,slow=6.6,SNR=4.7						
NOA	**NORSAR Array B**	**76.36**	**337**	P	**P**	**02 38 52.3**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=47,slow=5.2,SNR=1.5						
NOA				LR	LR	03 15 32.6	
	comp=Z,10nm,18.9s,baz=180,slow=38						
TXAR	**Lajitas Array**	**92.62**	**52**	P	**P**	**02 40 16.5**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=316,slow=3.5,SNR=4.3						
LPAZ	**La Paz**	**148.92**	**62**	PKPbc	**PKPbc**	**02 46 52.5**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=357,slow=4.2,SNR=4.5						

IDC 22 02:53:00.1±18.0, 23°88S×174°76W, h0km, mb4.3/5, mb1 4.5/5, mb1mx3.9/32, mbtmp4.3/5, Error ellipse: s-maj=331.1km s-min=150.5km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.27**	**268**	P	P	03 00 05.7	+0.3
	5.5nm,0.3s,baz=97,slow=11,SNR=15						
STKA	**Stephens Creek**	**39.18**	**248**	P	P	03 00 30.4	+0.5
	4.3nm,1.1s,baz=90,slow=9.1,SNR=5.0						
ASAR	**Alice Springs**	**46.76**	**259**	P	P	03 01 30.9	-0.6
	0.8nm,0.3s,baz=96,slow=8.7,SNR=35						
WRA	**Warramunga Arr**	**47.19**	**264**	P	P	03 01 34.1	-0.7
	1.8nm,0.3s,baz=106,slow=8.1,SNR=17						
FITZ	**Fitzroy Crossi**	**55.60**	**264**	P	P	03 02 38.2	+0.3
	1.4nm,0.6s,baz=96,slow=7.0,SNR=6.7						

IDC ***22*** *02:59:08.3±0.8, 0°.04N×98°.53E, h0km, mb4.3/15, mb1 4.4/17, mb1mx4.2/38, mbtmp4.3/17, ML4.5/2, MS3.4/14, Ms1 3.4/14, ms1mx3.2/41, Error ellipse: s-maj=26.8km s-min=13.9km az=65.0*
DJA ***22*** *02:59:13.6±0.3, 0°N±2°×9°9E±°, h10km, M4.8/19, mB5.0/1, mb5.0/4, MLv4.7/19, Mw(mB)4.3/1*
NEIC ***22*** *02:59:15.8±1.7, 0°.16N±0°.08×98°.54E±0°.07, h57km±6km, mb4.5/26, Error ellipse: s-maj=14.9km s-min=3.8km az=219.0*
KLM ***22*** *02:59:16.0, 0°.09N×98°.44E, h49km, mb4.7*

ISC 22 02:59:15.1±0.5, 0°.15N±0°.04×98°51E±0°.05, h48km, n108, σ1°25/96, mb4.5/25, MS3.5/13, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MNSI	**Mandailing Nat**	**1.25**	**59**	P	**Pn**	**02 59 35.8**	**-0.5**
MNSI				S	**Sn**	**02 59 51.7**	**-0.3**
SBSI	**Sibolga**	**1.45**	**15**	P	**Pn**	**02 59 40.0**	**+1.1**
GSI	**Gunungsitoli**	**1.48**	**321**	P	**Pn**	**02 59 39.7**	**+0.3**
GSI	**Gunungsitoli**	**1.48**	**321**	Pn	**Pn**	**02 59 39.8**	**+0.4**
SISI	**Saibi**	**1.57**	**158**	P	**Pn**	**02 59 41.1**	**+0.4**
PDSI	**Padang**	**2.22**	**118**	P	**Pn**	**02 59 49.7**	**+0.2**
BKNI	**Bangkinang**	**2.54**	**86**		**Pn**	**02 59 55.2**	**+1.3**
RPSI	**Rantau Prapat**	**2.57**	**9**	Pn	**Pn**	**02 59 54.6**	**+0.3**
RPSI	**Rantau Prapat**	**2.57**	**9**		**Pn**	**02 59 54.6**	**+0.3**
RPSI					**Sn**	**03 00 27.9**	**+3.6**
PSI	**Prapat**	**2.67**	**9**	Pn	**Pn**	**02 59 54.6**	**-1.2**
	69nm,0.3s,baz=180,slow=5.4,SNR=120						
PSI				Sn	**Sn**	**03 00 27.9**	**+0.8**
	23nm,0.3s,baz=180,slow=12,SNR=3.6						
PSI				LR	LR	03 01 15.1	
	comp=Z,1μm,20.0s,baz=192,slow=48						
SDSI	**Sungai Dareh**	**3.11**	**110**	P	**Pn**	**03 00 03.4**	**+1.6**
PPSI	**Pulau Pagai**	**3.26**	**153**	P	**Pn**	**03 00 05.3**	**+1.6**
TSI	**Tuntungan**	**3.33**	**1**	P	**Pn**	**03 00 06.5**	**+1.7**
TPTI		**3.37**	**337**	P	**Pn**	**03 00 04.8**	**-0.4**
KCSI	**Kotacane, Aceh**	**3.43**	**348**	P	**Pn**	**03 00 06.1**	**-0.1**
KRJI	**Kerinci**	**3.70**	**127**	P	**Pn**	**03 00 12.5**	**+2.6**
MLSI	**Meulaboh, Aceh**	**4.60**	**333**	P	**Pn**	**03 00 22.2**	**0.0**
IPM	**Ipoh**	**4.99**	**30**	Pn	**Pn**	**03 00 28.8**	**+1.2**
IPM	**Ipoh**	**4.99**	**30**	P	**Pn**	**03 00 29.0**	**+1.5**
LHMI	**Lhok Sumawe**	**5.28**	**343**	P	**Pn**	**03 00 32.7**	**+1.1**
	0.9nm138nm,0.9s						
LHMI	**Lhok Sumawe**	**5.28**	**343**	Pn	**Pn**	**03 00 33.0**	**+1.5**
KULM	**Kulim**	**5.54**	**23**	Pn	**Pn**	**03 00 36.2**	**+1.1**
KULM	**Kulim**	**5.54**	**23**	P	**Pn**	**03 00 37.0**	**+1.9**
MYKOM	**Kota Tinggi**	**5.59**	**73**	Pn	**Pn**	**03 00 36.2**	**+0.4**
MYKOM	**Kota Tinggi**	**5.59**	**73**	P	**Pn**	**03 00 38.0**	**+2.2**
MNAI	**Manna**	**6.31**	**135**	P	**Pn**	**03 00 46.6**	**+0.9**
	1.3nm274nm,1.2s						
MDSI	**Maura Dua**	**7.30**	**129**	P	**Pn**	**03 01 00.2**	**+0.9**
LEM	**Lembang**	**11.43**	**127**	LR	LR	03 06 12.4	
	comp=Z,87nm,21.8s,baz=242,slow=37						
KSM	**Kuching**	**11.88**	**84**	P	**Pn**	**03 02 04.0**

KKAR	Karatay Array	49.58	333		P	P	03 08 00.9	-0.6
CN2	Changchun	49.67	25	*e*	P	P	03 08 01.5	-0.7
CN2					pmax	pmax		
	comp=Z,10.0nm,0.6s							
MAJO	Matsushiro	51.60	41		P	P	03 08 14.2	-2.7
MAT	Matsushiro	51.60	41		P	P	03 08 15.6	-1.3
MJB9	Matsu-Tunnel	51.60	41		P	P	03 08 15.0	-2.0
MJB9					IAmb	IAmb	03 09 50.8	
	comp=Z,8.5nm,1.2s							
MJAR	Matsushiro Arr	51.60	41		P	P	03 08 16.2	-0.7
	comp=Z,2.2nm,0.7s,baz=232,slow=6.8,SNR=11							
MJAR					LR	LR	03 30 59.5	
	comp=Z,18nm,19.7s,baz=230,slow=37							
MJAR	Matsushiro Arr	51.60	41		P	P	03 08 16.0	-0.9
STKA	Stephens Creek	51.69	132		P	P	03 08 17.7	+0.1
	comp=Z,3.2nm,0.8s,baz=278,slow=7.4,SNR=3.6							
USRK	Ussuriysk Ar.	53.01	30		P	P	03 08 27.4	+0.2
	comp=Z,7.5nm,0.8s,baz=223,slow=4.0,SNR=23							
USRK	Ussuriysk Ar.	53.01	30		P	P	03 08 27.1	-0.1
KURK	Kurchatov	53.15	344		P	P	03 08 27.8	-0.3
KURK					IAmb	IAmb	03 08 29.6	
	comp=Z,4.7nm,0.8s							
ZALV	Zalesovo Beam	54.81	350		P	P	03 08 40.6	+0.6
	comp=Z,6.1nm,0.4s,baz=176,slow=7.8,SNR=9.8							
ZALV	Zalesovo Beam	54.81	350		P	P	03 08 40.4	+0.3
KLR	Kul'dur	56.62	25		LR	LR	03 35 16.1	
	comp=Z,43nm,18.4s,baz=178,slow=38							
BRVK	Borovoye	57.73	340		P	P	03 09 00.3	-0.7
BRVK					IAmb	IAmb	03 09 15.3	
	comp=Z,4.8nm,1.1s							
ASAJ	Asahikawa	58.73	36		LR	LR	03 34 36.3	
	comp=Z,16nm,19.1s,baz=230,slow=36							
ABKAR	Akbulak array	59.05	332		P	P	03 09 09.9	-0.4
PETK	Petropavlovsk-	71.89	33		P	P	03 10 33.1	-0.1
	comp=Z,1.0nm,0.5s,baz=193,slow=6.1,SNR=4.4							
PETK					LR	LR	03 42 22.9	
	comp=Z,21nm,20.9s,baz=243,slow=36							
TIXI	Tiksi	74.00	10		P	P	03 10 44.9	-0.3
BOSA	Boshof	75.39	240		LR	LR	03 40 20.6	
	comp=Z,66nm,20.6s,baz=71,slow=33							
BURAR	Bucovina Array	78.67	319		P	P	03 11 12.8	+0.4
FINES	FINESS Array B	81.53	332		P	P	03 11 27.6	+0.2
	comp=Z,1.8nm,0.7s,baz=90,slow=1.9,SNR=10							
ARCES	ARCESS Array B	83.96	340		P	P	03 11 40.4	+0.5
	comp=Z,0.8nm,0.4s,baz=100,slow=5.0,SNR=9.1							
GERES	GERESS Array B	86.46	319		P	P	03 11 53.4	+0.5
	comp=Z,0.2nm,0.6s,baz=107,slow=3.4,SNR=1.9							
CLL	Collm	87.07	321	*e*(P)		P	03 11 59.0	+3.3
YERR	Yerington	127.93	37			PKPdf	03 18 15.2	-1.3
NVAR	Mina Array Bea	128.85	37		PKP	PKiKP	03 18 19.4	+0.6
	comp=Z,0.5nm,0.7s,baz=280,slow=3.3,SNR=4.8							
PDAR	Pinedale Array	130.40	27		PKP	PKPdf	03 18 21.4	+0.3
	comp=Z,0.4nm,0.6s,baz=97,slow=3.4,SNR=3.8							
R11A	Troy Canyon, C	130.51	35			PKPdf	03 18 21.7	+0.4
TX32	Lajitas Array	143.84	34			PKPbc	03 18 44.2	+0.5
TXAR	Lajitas Array	143.84	34		PKP	PKPbc	03 18 44.7	+1.0
	comp=Z,0.6nm,0.6s,baz=327,slow=1.0,SNR=8.4							
WLAR	White Oak Lake	144.62	17			PKPbc	03 18 46.3	+0.5
OXF	Oxford	144.74	11		PKPdf	PKPab	03 18 46.4	+0.3
KMSC	Kings Mountain	144.89	360			PKPab	03 18 46.5	-0.1
CPUP	Villa Florida	145.07	220		PKPbc	PKPbc	03 18 47.1	-0.5
	comp=Z,1.2nm,0.7s,baz=61,slow=3.2,SNR=3.9							
X48A	Hartselle	145.19	8			PKPbc	03 18 46.4	-1.3
FPAL	Fort Paine	145.28	6			PKPbc	03 18 47.2	-0.8
X51A	Calhoun	145.33	5			PKPbc	03 18 47.6	-0.5
LRAL	Lakeview Retre	146.59	8			PKPdf	03 18 51.5	+1.0

*BYKL **22** 03:03:18.3±0.3,51°.37N×99°.25E*
*ASRS **22** 03:03:24.1±0.2,52°.N±3°.×9°.9E±°,h10km,MLv4.0/13,*
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/iasp91 confirmed

ISC 22 03:03:19.8±0.7,51°.50N±0°.04×99°.26E±0°.02,h10km,n50,
σ3^{6}48/75,1C-1D,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ORL	Orlik	1.09	18	⇓*i* P*g*		Pb	03 03 41.2	+0.4
ORL				*e* P*b*		Pg	03 03 43.0	+2.2
ORL				*e*			03 03 44.0	
ORL				*e* S*g*		Sb	03 03 57.1	+1.9
ORL				*e*			03 04 01.2	
ORL				max				
	235nm,0.4s							
ORL				max				
	293nm,0.3s							
ORL	Orlik	1.09	18	P		Pb	03 03 41.2	+0.4
ORL				S		Sb	03 03 56.4	+1.2
MOY	Mondy	1.09	81	⇑*i* P*g*		Pb	03 03 39.7	-1.2
MOY				*e* S*g*		Sg	03 03 54.6	-0.4
MOY				*e* S*b*		Sn	03 03 59.0	+2.5
MOY				Pmax				
	88nm,0.2s							
MOY				max				
	718nm,0.3s							
MOY	Mondy	1.09	81	P		Pb	03 03 39.7	-1.2
MOY				S		Sg	03 03 54.6	-0.4
ARS	Arshan	2.01	77	*e* P*n*		Pb	03 03 54.7	-1.8
ARS				*e* P*g*		Pg	03 03 56.0	-2.3
ARS				*e* S*g*		Sb	03 04 21.9	+0.3
ARS				Pmax				
	91nm,0.3s							
ARS				Smax				
	1μm,0.6s							
TDJR	Todzha	2.15	296	*e* P*g*		Pb	03 03 58.6	-0.2
TDJR				*e* S*g*		Sg	03 04 27.9	-1.0
TDJR	Todzha	2.15	296	P		Pb	03 03 58.7	-0.2
TDJR				S		Sb	03 04 27.5	+1.8
TLY	Talaya	2.74	85	*e* P*n*		Pn	03 04 04.0	+0.2
TLY				*e* P*g*		Pb	03 04 08.4	-0.5
TLY				*e* S*g*		Sb	03 04 43.5	+1.0
TLY				Pmax				
	16nm,0.2s							
TLY				Smax				
	208nm,0.5s							
TLY	Talaya	2.74	85	P		Pb	03 04 07.4	-1.4
TLY				S		Sb	03 04 40.0	-2.5
ZAK	Zakamensk	2.78	112	*e* P*n*		Pn	03 03 43.8	-0.7
ZAK				*e*			03 04 07.0	
ZAK				*e* P*g*		Pb	03 04 07.9	-1.7
ZAK				*e* S*n*		Sn	03 04 36.3	-1.8
ZAK				*e* S*g*		Sg	03 04 44.2	-4.9
ZAK				Pmax				
	101nm,0.3s							
ZAK				Smax				
	143nm,0.5s							
ZAK	Zakamensk	2.78	112	P		Pb	03 04 06.2	-3.4
ZAK				S		Sb	03 04 43.6	-0.2
KZLR	Kyzyl	3.00	276	*e* P*g*		Pb	03 04 12.8	-0.6
KZLR				*e* S*g*		Sg	03 04 52.1	-4.1
KZLR	Kyzyl	3.00	276	P		Pb	03 04 11.9	-1.4
KZLR				S		Sb	03 04 50.7	+0.6
IRK	Irkutsk	3.19	75	P		Pb	03 04 14.2	-2.4
IRK				S		Sb	03 04 56.0	+0.4
IVK	Ivanovka	3.22	83	*e* P*n*		Pn	03 04 08.9	-1.6
IVK				*e* P*g*		Pb	03 04 15.9	-1.2
IVK				*e*			03 04 22.0	
IVK				*e*			03 04 56.4	
IVK				*e* S*g*		Sb	03 04 58.7	+2.3
IVK				Pmax				
	11nm,0.4s							
IVK				Smax				
	97nm,0.5s							
LSTR	Listvyanka	3.49	82	*e* P*n*		Pn	03 04 12.4	-1.7
LSTR				*e* P*g*		Pb	03 04 20.7	-0.9
LSTR				*e*			03 04 45.1	
LSTR				*e* S*g*		Sb	03 05 06.2	+2.2
LSTR				Pmax				
	11nm,0.4s							
LSTR				Smax				
	128nm,0.5s							
ARDR	Aradan	3.76	289	*e* P*g*		Pb	03 04 25.4	-0.8
ARDR				*e* S*n*		Sn	03 05 00.5	-1.6
ARDR				*e* S*g*		Sb	03 05 14.9	+3.1
ARDR	Aradan	3.76	289	P		Pb	03 04 22.8	-3.4
ARDR				S		Sb	03 05 08.8	-3.0
BGT	Bolshoye Golou	3.86	80	*e* P*g*		Pb	03 04 27.7	-0.2
BGT				*e* S*g*		Sb	03 05 17.0	+2.4
BGT				Pmax				
	47nm,0.3s							
BGT				Smax				
	339nm,0.7s							
ORY	Orie	4.30	326	P		Pn	03 04 30.2	+5.0
ORY				S		Sb	03 05 23.1	-4.2
TRG	Tyrgan	4.54	71	*e* P*g*		Pb	03 04 40.1	+0.5
TRG				*e* S*g*		Sb	03 05 39.6	+5.2
TRG				Pmax				
	18nm,0.3s							
TRG				Smax				
	259nm,1.7s							
TRG	Tyrgan	4.54	71	P		Pn	03 04 31.9	+3.3
TRG				S		Sb	03 05 29.2	-5.2
FFNB	Fofonovo	4.69	80	*e* P*n*		Pn	03 04 29.5	-1.1
FFNB				*e* P*g*		Pb	03 04 42.8	+0.7
FFNB				*e*			03 05 38.0	
FFNB				*e* S*g*		Sb	03 05 43.4	+4.8
HRMR	Khuramsha	4.80	86	*e* P*n*		Pn	03 04 31.0	-1.2
HRMR				*e* P*g*		Pb	03 04 44.4	+0.4
HRMR				*e*			03 05 42.9	
HRMR				*e* S*g*		Sg	03 05 47.0	-6.9
HRMR				Pmax				
	33nm,0.4s							
HRMR				Smax				
	169nm,0.3s							
CERR	Cheremushki	5.01	289	S		Sb	03 05 40.0	-7.9
UUDB	Ulan-Yde	5.24	83	*e* P*g*		Pb	03 04 52.8	+1.3
UUDB				*e* S*g*		Sb	03 06 00.2	+5.8
UUDB				Pmax				
	12nm,0.8s							
UUDB				Smax				
	92nm,1.3s							
ABNR	Abakan	5.26	298	P		Pn	03 04 42.5	+4.2
ABNR				S		Sn	03 05 45.2	+6.2
TBTR	Tabat	5.44	289	P		Pb	03 04 51.0	-3.9
OGRR	Ongureny	5.52	64	*e*		Pb	03 04 48.9	-7.2
OGRR				*e* P*g*		Pg	03 04 59.1	-6.3
OGRR				*e*			03 05 52.2	
OGRR				*e* S*g*		Sg	03 06 11.4	-5.3
OGRR				Pmax				
	15nm,0.3s							
OGRR				Smax				
	127nm,0.8s							
KELR	Kotokel	5.58	74	*e* S*g*		Sg	03 06 12.5	-6.2
VEH	Verkhnyaya Baz	5.75	291	P		Pn	03 04 50.6	+5.4
MXMB	Maximikha	6.07	69	*e* S*g*		Sg	03 06 27.6	-6.9
ULN	Ulaanbaatar	6.23	123	P		Pb	03 05 01.1	-7.3
ULN				S		Sn	03 06 09.1	+5.9
SHRR	Shira	6.25	302	P		Pn	03 04 56.9	+4.9
SHRR				S		Sn	03 06 10.6	+7.1
LUZB	Luzhba, Kemero	6.67	293	P		Pn	03 05 02.6	+4.8
SYVR	Suvo	6.89	68	*e* P*n*		Pn	03 05 02.1	+1.3
SYVR				*e* P*g*		Pb	03 05 24.0	+4.5
SYVR				*e* S*g*		Sg	03 06 52.4	-8.4
SYVR				Pmax				
	10.0nm,1.1s							
SYVR				Smax				
	100nm,2.5s							
CUR	Chagan-Uzun	7.06	263	P		Pn	03 05 08.9	+5.7
AKAR	Aktash	7.46	265	P		Pb	03 05 18.1	-11
NIZ	Nizh Angarsk	7.46	51	*e* P*n*		Pn	03 05 08.3	-0.3
NIZ				*e* P*g*		Pb	03 05 33.7	+4.5
NIZ				*e*			03 06 38.3	
NIZ				*e* S*g*		Sg	03 07 11.6	-7.3
NIZ				Pmax				
	7.0nm,0.2s							
NIZ				Smax				
	171nm,0.9s							
CHBI	Chibit, Altay	7.53	265	P		Pn	03 05 16.4	+6.7
CHBI				S		Sn	03 06 42.4	+7.4
DGZ	Jazzator, Alta	7.74	261	P		Pn	03 05 18.7	+6.1
YLYR	Ulyunkhan	7.91	60	*e*			03 06 51.8	
YLYR				*e* S*g*		Sg	03 07 24.6	-8.7
YLYR				Smax				
	130nm,1.6s							
ELT	Eltsovka	8.16	288	P		Pn	03 05 23.4	+5.3
KMO	Kumora	8.33	54	*e*		Pn	03 05 27.9	+7.4
KMO				*e*			03 05 41.4	
KMO				*e*			03 06 59.5	
KMO				*e* S*g*		Sg	03 07 38.4	-8.5
KMO				Smax				
	100nm,1.5s							
KPC	Khapcheranga	8.54	97	*e* P*n*		Pn	03 05 23.7	+0.2
KPC				*e* P*g*		Pg	03 05 52.0	-11
KPC				*e*			03 06 19.9	
KPC				*e* S*g*		Sg	03 07 43.3	-10
KPC				Pmax				
	1.0nm,0.3s							
KPC				Smax				
	31nm,1.1s							
YOA	Uoyan	8.71	53	*e* S*g*		Sg	03 07 51.3	-7.6
UKT	Uakit	9.44	59	*e*		Pn	03 06 08.2	+32
UKT				*e* S*n*		Sn	03 07 17.9	-4.1
UKT				*e* S*g*			03 08 12.3	
UKT				Smax				
	32nm,1.6s							
BOD	Bodaibo	10.61	48	*e* S*g*		Sn	03 08 49.7	+59
BOD				Smax				
	34nm,2.0s							
CRS	Chara	12.35	57	*e* S*g*			03 09 42.9	
CRS				Smax				
	24nm,1.3s							
TUP	Tupik	12.80	69	*e* S*g*			03 09 55.6	
TUP				Smax				
	47nm,2.3s							

TRN 22 03:04:11.3,17°.51N×61°.20W,h20km,MD3.5,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ANWB	Willy Bob	0.58	286	*e* P		Pn	03 04 25.2	+0.7
ANWB				*e* S		Sn	03 04 34.9	+1.4
ABD	La Joyeuse, An	1.07	195	*e*		Pg	03 04 31.7	-0.4
ABD	La Joyeuse, An	1.07	195	*e* P		Pg	03 04 32.3	+0.2
ABD				*e* S		Sg	03 04 49.7	+3.6
DEG	La Desirade	1.20	174	*e* P		Pg	03 04 35.1	+0.6
MLYT	Lee's Yard	1.23	231	*e* P		Pg	03 04 35.7	+0.4
MLYT				*e* S		Sg	03 04 52.5	+1.2
SKI	Saint Kitts	1.48	263	*e* P		Pg	03 04 39.3	-0.7
SKI				*e* S		Sg	03 04 59.2	-0.2
SKOC	St. Kitts, UWI	1.48	262	*e* P		Pb	03 04 38.2	0.0
CBE	Ff, Capester	1.48	195	*e* P		Pb	03 04 38.5	+0.2
CBE				*e* S		Sg	03 04 58.6	-0.8
MAGL	Barre de l'ile	1.55	183	*e* P		Pb	03 04 39.4	0.0
MAGL				*e* S		Sg	03 05 01.0	-0.5
SEUS	St. Eustatius	1.70	270	*e* P		Pn	03 04 40.7	+0.8
SEUS				*e* S		Sb	03 05 04.4	+1.4
TDBA	Terre de Bas,	1.70	194	*e* P		Pb	03 04 42.1	+0.1
TDBA				*e* S		Sb	03 05 04.0	+1.0
DWS	Wesley	1.93	183	*e* P		Pb	03 04 45.6	-0.3
DWS				*e*T		T	11 14 47.5	
DWS				T		T	11 15 05.8	
SABA	Saba	1.96	274	*e* P		Pb	03 04 45.3	-1.0
DSLB	Salisbury	2.07	186	*e* P		Pb	03 04 47.6	-0.7
DSLB				*e* S		Sb	03 05 12.1	-1.5
DLPL	La Plaine	2.17	181	*e* P		Pb	03 04 48.4	-1.4
DPMT	Pointe Michel	2.24	184	*e* P		Pb	03 04 49.5	-1.6
DSHT	Scott's Head	2.29	184	*e* P		Pn	03 04 49.2	+1.2
MPOM	Morne Pois Mar	3.06	174	*e* P		Pn	03 05 00.2	+1.6
MPOM				*e*T		T	11 14 57.6	
MPOM				T		T	11 15 08.5	

*IDC **22** 03:15:21.6±1.6, 10°.65S×120°.15E,h0km,mb3.9/3,*
mb1 3.8/7,mb1mx3.6/34,mbtmpg3.7/7,ML3.5/4,MS2.8/1,
Ms1 2.8/1,ms1mx2.4/41,Error ellipse: s-maj=60.3km
s-min=21.8km az=48.0

ISC 22 03:15:26.1±1.1,10°.64S±0°.10×120°.66E±0°.09,h30km,n8,
σ3^{6}35/11,mb4.1/3,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATI	Baumata	2.99	82	P		Pb	03 16 18.0	-0.7
	7.2nm,0.3s,baz=272,slow=4.0,SNR=4.5							
BATI						Sb	03 16 56.9	+2.1
	6.6nm,0.3s,baz=349,slow=21,SNR=10							
KAPI	Kappang	5.67	351	LR		LR	03 18 55.6	
	comp=Z,94nm,19.8s,baz=218,slow=38							
FITZ	Fitzroy Crossi	8.84	148	P		Pn	03 17 34.5	+2.5
	0.4nm,0.3s,baz=344,slow=15,SNR=17							
FITZ						Sn	03 19 09.0	-1.7
	0.5nm,0.3s,baz=188,slow=20,SNR=6.2							
WRA	Warramunga Arr	16.10	127	P		Pn	03 19 12.7	+2.2
	0.2nm,0.3s,baz=309,slow=15,SNR=1.5							
WRA						Sn	03 22 02.1	-6.2
	0.1nm,0.3s,baz=305,slow=25,SNR=1.5							
ASAR	Alice Springs	18.09	137	P		P	03 19 39.1	+3.6
	0.2nm,0.3s,baz=316,slow=12,SNR=10							
ASAR				S		Sn	03 22 52.4	-4.0
	0.1nm,0.3s,baz=315,slow=25,SNR=3.3							
SONM	Songino Array	59.58	349	P		P	03 25 26.7	-0.4
	0.8nm,0.5s,baz=171,slow=9.1,SNR=3.7							
MKAR	Makanchi Array	66.66	332	P		P	03 26 13.1	-0.9
	0.4nm,0.6s,baz=150,slow=7.4,SNR=5.5							
ZALV	Zalesovo Beam	71.16	339	P		P	03 26 40.2	-1.6
	0.9nm,0.5s,baz=152,slow=6.5,SNR=4.1							

*IDC **22** 03:26:29.0±5.2, 10°.05N×125°.83E,h0km,mb3.5/3,*
mb1 3.7/3,mb1mx3.4/39,mbtmp3.5/3,Error ellipse:
s-maj=455.9km s-min=29.5km az=65.0

ISC 22 03:26:33.4±1.6,10°.2N±0°.2×126°.4E±0°.1,h35km,n8,
σ1^{9}90/7,mb3.5/3,1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.96	247	⇑*e* P		Pn	03 26 49.1	-1.3
SCPH				*e* S		Sn	03 27 01.0	-1.9
TBP	Tagbilaran	2.53	260	*e* P		Pn	03 27 13.1	+1.0
TBP				*i* S		Sn	03 27 44.1	+2.4
WRA	Warramunga Arr	30.92	165	P		P	03 32 47.9	+0.8
	0.7nm,0.7s,baz=341,slow=7.3,SNR=2.3							
ASAR	Alice Springs	34.41	168	P		P	03 33 18.4	+0.7
	0.1nm,0.3s,baz=350,slow=7.0,SNR=4.9							
H11N1	WAKE ISLAND Hy	40.18	72	T		T	04 17 29.3	
	baz=264,slow=74,SNR=13							
H11N2	WAKE ISLAND Hy	40.19	71	T		T	04 17 30.1	
	baz=264,slow=74,SNR=14							
H11N3	WAKE ISLAND Hy	40.20	72	T		T	04 17 32.8	
	baz=264,slow=74,SNR=14							
MKAR	Makanchi Array	52.18	323	P		P	03 35 39.7	-1.0
	0.3nm,0.5s,baz=125,slow=7.6,SNR=3.9							

IDC 22 03:32:01.8±2.7,10°.17S×120°.79E,h0km,mb3.8/3,
mb1 3.7/5,mb1mx3.5/29,mbtmp3.6/5,ML3.4/2,MS3.4/1,
Ms1 3.4/1,ms1mx2.6/28,Error ellipse: s-maj=178.1km
s-min=28.8km az=54.0,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.29	128	P		Pn	03 35 51.8	-0.3
	0.1nm,0.3s,baz=308,slow=15,SNR=2.0							
ASAR	Alice Springs	18.36	139	P		P	03 36 18.2	0.0
	0.1nm,0.3s,baz=314,slow=12,SNR=5.8							
STKA	Stephens Creek	28.94	141	LR		LR	03 50 19.6	
	comp=Z,76nm,18.7s,baz=205,slow=38							
SONM	Songino Array	59.14	349	P		P	03 42 05.1	+0.7
	0.7nm,0.5s,baz=174,slow=8.5,SNR=4.3							
MKAR	Makanchi Array	66.30	332	P		P	03 42 52.2	+0.1
	0.3nm,0.7s,baz=136,slow=9.3,SNR=3.1							
ZALV	Zalesovo Beam	70.76	338	P		P	03 43 18.8	-1.0
	0.8nm,0.5s,baz=136,slow=5.9,SNR=2.9							

*UNK **22** 03:33:23.7,24°.63S×67°.51W,h120km*
*NEIC **22** 03:33:24.4±2.3,24°.60S±0°.04×67°.56W±0°.08,h126km±6km,*
mb4.4/66,Md3.8(SJA),Error ellipse: s-maj=12.0km
s-min=3.5km az=64.0
*SJA **22** 03:33:25.1±0.8,24°.58S×67°.86W,h162km±10km,ML4.0,*
MW3.9
*IDC **22** 03:33:26.3±1.1,24°.50S×67°.60W,h130km±9km,mb3.9/13,*
mb1 4.0/19,mb1mx3.9/28,mbtmp4.3/19,Error ellipse:
s-maj=16.6km s-min=11.5km az=54.0
*GUC **22** 03:33:27.7±0.6,24°.49S×68°.14W,h156km±7km,ML4.4*
*VAO **22** 03:33:28.6±0.7,24°.36S×67°.76W,h167km±6km,mb4.4*

ISC 22 03:33:26.3±0.6,24°.53S±0°.03×67°.83W±0°.04,h138km±6km,
n309,σ1^{9}46/310,mb4.4/33,8C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GO02	Mina Guanaco	1.71	248	⇑*i* P		Pn	03 33 58.8	+1.2
GO02				*i* S		Sn	03 34 22.5	+0.9
GO02				IAML			03 34 24.2	
	comp=E,10μm,0.4s							
GO02	Mina Guanaco	1.71	248	P		Pn	03 33 58.8	+1.2
PB15	IPOC Station P	2.00	311	⇑*i* P		Pn	03 34 02.4	+1.5
PB15				*i* S		Sn	03 34 27.6	+0.3
PB15	IPOC Station P	2.00	311			Pn	03 34 02.3	+1.5
PB15	IPOC Station P	2.00	311	*e* P		Pn	03 34 02.4	+1.5
PB15				*e* S		Sn	03 34 28.2	+0.9
SLA	San Lorenzo	2.13	95	*e* P		Pn	03 34 03.2	+0.8
SLA				*e* S		Sn	03 34 32.4	+2.4
SLA				IAML			03 34 33.3	
	comp=Z,224nm,1.3s							
LVC	Limon Verde	2.15	333	P		Pn	03 34 04.5	+1.6
	comp=Z,30nm,0.3s,baz=155,slow=8.7,SNR=245							
LVC				S		Sn	03 34 32.2	+1.2
	comp=Z,129nm,0.3s,baz=3.9,slow=20,SNR=49							
LVC	Limon Verde	2.15	333	P		Pn	03 34 04.5	+1.6
LVC				*i* S		Sn	03 34 32.5	+1.5
LVC	Limon Verde	2.15	333	*e* P		Pn	03 34 04.5	+1.6
LVC				*e* S		Sn	03 34 32.9	+1.9
LVC				IAML			03 34 34.7	
	comp=Z,221nm,0.4s							
LVC	Limon Verde	2.15	333	*e* P		Pn	03 34 04.6	+1.6
LVC	Limon Verde	2.15	333	*e* P		Pn	03 34 04.6	+1.6
PB06	IPOC Station P	2.42	318	⇑*i* P		Pn	03 34 07.3	+1.3
PB06				*i* S		Sn	03 34 36.8	+0.4
PB06				IAML			03 34 39.3	
	comp=E,2μm,0.3s							
PB06	IPOC Station P	2.42	318			Pn	03 34 07.3	+1.3
PB06	IPOC Station P	2.42	318	*e* P		Pn	03 34 07.3	+1.3
PB06				*e* S		Sn	03 34 36.9	+0.4
PB06				IAML			03 34 42.2	
	comp=Z,732nm,0.7s							
AC02	Maricunga	2.57	207	⇑*i* P		Pn	03 34 09.4	+1.2
AC02				*i* S		Sn	03 34 44.0	+3.6
AC02	Maricunga	2.57	207	Pn		Pn	03 34 08.2	-0.1
HJA	Humahuaca	2.58	60	*e* P		Pn	03 34 10.5	+2.2
PB10	IPOC Station P	2.69	292	⇑*i* P		Pn	03 34 10.1	+0.9
PB10				*i* S		Sn	03 34 40.4	-1.8
PB10				IAML			03 34 45.1	
	comp=N,1μm,0.4s							
PB10	IPOC Station P	2.69	292	Pn		Pn	03 34 10.1	+0.9
PB10

PB04 IAML 03 35 01.1
comp=Z,541nm,0.5s
YJA Yavi 3.17 43 *e*P **Pn** **03 34 17.9 +2.0**
PB07 IPOC Station P 3.37 326 *e*P **Pn** **03 34 19.6 +1.4**
PB07 *e*S **Sn** **03 34 56.9 -1.5**
PB07 IAML 03 35 04.4
comp=E,645nm,0.6s
PB07 IPOC Station P 3.37 326 Pn **Pn** **03 34 18.4 +0.2**
PB02 IPOC Station P 3.72 329 *e*P **Pn** **03 34 23.9 +1.2**
PB02 *e*S **Sn** **03 35 02.1 -4.3**
GO03 Copiap 3.73 215 *e*P **Pn** **03 34 22.0 -0.8**
GO03 Copiap 3.73 215 *i* P **Pn** **03 34 22.0 -0.8**
GO03 *e*S **Sn** **03 35 05.8 -0.8**
PB01 IPOC Station P 3.79 336 *e*P **Pn** **03 34 25.1 +1.5**
PB01 *i* S **Sn** **03 35 03.4 -4.8**
PB01 IPOC Station P 3.79 336 **Pn** **03 34 24.3 +0.6**
VCA Vinchina 4.20 184 *e*P **Pn** **03 34 29.9 +0.9**
VCA *i* P 03 34 30.1
VCA *e*S **Sn** **03 35 18.6 +0.9**
VCA IAML 03 35 25.7
comp=Z,84nm,0.9s
CYA Choya 4.30 155 *i* P **Pn** **03 34 30.7 +0.5**
TA01 Diego Aracena 4.51 331 **Pn** **03 34 32.3 -0.7**
PB08 IPOC Station P 4.54 344 **Pn** **03 34 34.1 +0.3**
AC04 Llanos de Chal 4.67 218 Pn Pn 03 34 32.8 -2.3
AC05 El Transito 4.81 206 Pn Pn 03 34 35.8 -1.2
ACLC CERRO LA CRUZ 4.94 171 *i* P **Pn** **03 34 39.4 +0.7**
GO01 Chusmiza 5.00 345 **Pn** **03 34 40.0 0.0**
PB11 IPOC Station P 5.04 340 Pn **Pn** **03 34 39.3 -0.9**
PSGCX Pisagua 5.35 336 **Pn** **03 34 42.8 -1.5**
ACDV Cuesta del Vie 5.73 191 *i* P **Pn** **03 34 49.1 -0.3**
ACDV *e*S **Sn** **03 35 51.4 -2.8**
ACDV IAML 03 35 54.9
comp=Z,54nm,0.5s
CO01 Juntas del Tor 5.78 200 **Pn** **03 34 48.2 -2.0**
AROD Rodeo 5.80 194 *i* P **Pn** **03 34 50.3 -0.1**
AROD *e*S **Sn** **03 35 54.5 -1.6**
APLL PUNTA DE LOS L 5.95 169 *i* P **Pn** **03 34 51.2 -1.1**
ACCO Cerro Coronel 6.13 190 *i* P **Pn** **03 34 54.3 -0.6**
ACCO *e*S **Sn** **03 36 00.6 -3.4**
ACCO IAML 03 36 04.2
comp=Z,64nm,0.4s
GO04 Tololo Observa 6.20 204 Pn Pn 03 34 53.3 -2.5
PB12 IPOC Station P 6.33 338 Pn **Pn** **03 34 56.5 -1.0**
CO03 El Pedregal 6.77 201 Pn Pn 03 35 01.0 -2.3
RTLL Cerro Villicun 6.79 185 *e*P **Pn** **03 35 02.1 -1.4**
RTLL *i* P 03 35 02.7
RTLL IAML 03 36 18.1
comp=Z,68nm,0.4s
ZON Zonda 7.03 186 Pn Pn 03 35 02.9 -3.8
ZON Zonda 7.03 186 *i* P **Pn** **03 35 05.5 -1.2**
ZON IAML 03 36 27.2
comp=Z,19nm,0.6s
CFA Coronel Fontan 7.05 183 P **Pn** **03 35 06.1 -0.9**
comp=Z,8.2nm,0.3s,baz=6.4,slow=15,SNR=100
CFA S **Sn** **03 36 20.9 -5.0**
comp=Z,6.6nm,0.3s,baz=247,slow=20,SNR=9.9
CFA Coronel Fontan 7.05 183 *i* P **Pn** **03 35 05.9 -1.1**
CFA IAML 03 36 26.2
comp=Z,19nm,0.7s
CO02 Combarbal 7.21 202 Pn 03 35 05.8 -3.5
RTCV Cerro Valdivia 7.33 185 *i* P **Pn** **03 35 09.4 -1.3**
RTCV IAML 03 36 35.6
comp=Z,26nm,0.4s
RTLS Leoncito 7.35 190 *i* P **Pn** **03 35 09.7 -1.6**
RTLS IAML 03 36 39.8
comp=Z,28nm,0.7s
TCA Tanti 7.36 158 *i* P **Pn** **03 35 10.6 -0.6**
TCA IAML 03 36 43.3
comp=Z,6.5nm,0.8s
MRA San Martin 8.07 167 *i* P **Pn** **03 35 18.9 -1.8**
MRA IAML 03 37 04.5
comp=Z,6.8nm,0.4s
LPAZ La Paz 8.21 358 P **Pn** **03 35 23.4 +0.2**
comp=Z,2.5nm,0.3s,baz=105,slow=3.9,SNR=78
LPAZ S **Sn** **03 36 54.1 -0.7**
comp=Z,0.4nm,0.3s,baz=288,slow=20,SNR=1.9
LPAZ La Paz 8.21 358 Pn **Pn** **03 35 22.5 -0.7**
LPAZ La Paz 8.21 358 *e*P **Pn** **03 35 23.9 +0.8**
LPAZ *e*S **Sn** **03 36 53.2 -1.6**
LPAZ La Paz 8.21 358 *e*P **Pn** **03 35 23.9 +0.8**
LPAZ *e*S **Sn** **03 36 53.2 -1.6**
VA03 San Esteban 8.54 196 Pn 03 35 24.2 -2.8
ROC1 El Roble 8.86 198 Pn 03 35 26.6 -4.8
PEL Peldehue 8.93 196 Pn Pn 03 35 27.8 -4.4
MT05 Renca 9.18 195 Pn Pn 03 35 31.2 -4.4
CPUP Villa Florida 9.66 103 P **Pn** **03 35 39.3 -2.7**
comp=Z,0.2nm,0.3s,baz=274,slow=13,SNR=6.6
BO02 Sierra Bellavi 10.54 193 Pn Pn 03 35 48.8 -4.9
SIV San Ignacio 10.60 38 P **Pn** **03 35 51.6 -3.1**
comp=Z,11nm,0.3s,baz=246,slow=9.7,SNR=181
TRCB Terra Rica 14.04 86 *e*P **Pn** **03 36 39.2 -0.1**
TRCB Terra Rica 14.04 86 *e*P **Pn** **03 36 39.2 -0.1**
CPSB Cacapava Do Su 14.05 118 *e*P **Pn** **03 36 41.0 +1.6**
CPSB Cacapava Do Su 14.05 118 *e*P **Pn** **03 36 41.0 +1.6**
SALV Santo Antonio 14.26 55 *e*P **Pn** **03 36 40.2 -1.9**
SALV Santo Antonio 14.26 55 *e*P **Pn** **03 36 40.2 -1.9**
PTGB Pitanga 14.35 94 *e*P **P** **03 36 45.2 -1.0**
PTGB Pitanga 14.35 94 *e*P **P** **03 36 45.2 -1.0**
PLTB Pedras Altas 14.46 123 *e*P **Pn** **03 36 45.2 +0.7**
PLTB Pedras Altas 14.46 123 *e*P **Pn** **03 36 45.2 +0.7**
PCMB Pacaembu 15.53 83 *e*P **Pn** **03 36 56.7 -1.2**
PCMB Pacaembu 15.53 83 *e*P **Pn** **03 36 56.7 -1.2**
SAML Samuel 16.12 17 P **Pn** **03 37 03.7 -1.5**
PLCA Paso Flores 16.31 187 P **P** **03 37 10.3 +2.4**
comp=Z,0.1nm,0.3s,baz=295,slow=13,SNR=3.1
PLCA Paso Flores 16.31 187 IAmb IAmb 03 37 46.3
comp=Z,42nm,2.0s
FRTB Fartura 16.75 90 *e*P **Pn** **03 37 13.3 +0.4**
FRTB Fartura 16.75 90 *e*P **Pn** **03 37 13.3 +0.4**
ITRB Iturama 16.89 77 *e*P **P** **03 37 13.2 -1.1**
ITRB Iturama 16.89 77 *e*P **P** **03 37 13.2 -1.1**
ARAG Araguaiana, MT 17.41 63 *e*P **P** **03 37 19.5 -0.5**
ARAG Araguaiana, MT 17.41 63 *e*P **P** **03 37 19.5 -0.5**
CLDB Colider 17.76 42 *e*P **P** **03 37 21.7 -2.2**
CLDB Colider 17.76 42 *e*P **P** **03 37 21.7 -2.2**
PET01 Itanhaem-SP 18.73 94 *e*P **P** **03 37 34.3 -0.1**
PET01 Itanhaem-SP 18.73 94 *e*P **P** **03 37 34.3 -0.1**
VAO Valinhos 19.16 90 *e*P **P** **03 37 38.4 -0.8**
VAO Valinhos 19.16 90 *e*P **P** **03 37 38.4 -0.8**
IPMB Ipameri, GO 19.41 74 *e*P **P** **03 37 40.9 -1.0**
IPMB Ipameri, GO 19.41 74 *e*P **P** **03 37 40.9 -1.0**
BDFB Brasilia 20.59 68 P **P** **03 37 53.3 -1.5**
comp=Z,15nm,0.6s,baz=241,slow=10,SNR=26
BDFB Brasilia 20.59 68 P **P** **03 37 51.0 -3.8**
NPGB Novo Progresso 21.10 37 *e*P **P** **03 37 57.3 -2.8**
NPGB Novo Progresso 21.10 37 *e*P **P** **03 37 57.3 -2.8**
MACA Manacapuru-AM 22.34 19 *e*P **P** **03 38 11.1 -1.9**
MACA Manacapuru-AM 22.34 19 *e*P **P** **03 38 11.1 -1.9**
JANB Januaria 24.02 71 *e*P **P** **03 38 27.1 -1.6**
JANB Januaria 24.02 71 *e*P **P** **03 38 27.1 -1.6**
SMTB Santa Maria do 24.82 55 *e*P **P** **03 38 34.9 -1.0**
SMTB Santa Maria do 24.82 55 *e*P **P** **03 38 34.9 -1.0**
PTGA Pitinga 24.86 19 P **P** **03 38 35.8 -0.4**
comp=Z,1.9nm,0.3s,baz=218,slow=17,SNR=11
PTGA Pitinga 24.86 19 P **P** **03 38 34.7 -1.5**
PRPB Parauapebas 25.14 46 *e*P **P** **03 38 37.0 -1.8**
PRPB Paraupebas 25.14 46 *e*P **P** **03 38 37.0 -1.8**
RIB01 Linhares ES 25.96 84 *e*P **P** **03 38 44.7 -1.5**
RIB01 Linhares ES 25.96 84 *e*P **P** **03 38 44.7 -1.5**
MALB Monte Alegre 26.09 32 *e*P **P** **03 38 45.2 -2.1**
MALB Monte Alegre 26.09 32 *e*P **P** **03 38 45.2 -2.1**
GDU01 Guandu, BA 28.73 73 *e*P **P** **03 39 09.3 -1.6**
GDU01 Guandu, BA 28.73 73 *e*P **P** **03 39 09.3 -1.6**
VNA3 Neumayer Olymp 56.90 161 P **P** **03 42 57.2 +0.8**
VNA1 Neumayer--Stat 57.11 160 P **P** **03 42 59.1 +1.2**
250A Grady 58.89 342 P **P** **03 43 09.5 -1.2**
SNAA Sanae 59.10 160 P **P** **03 43 12.4 +0.5**
SNAA Sanae 59.10 160 P **P** **03 43 11.1 -0.7**
SNAA IAmb IAmb 03 43 13.0
comp=Z,4.1nm,0.6s
Y55A Saluda 59.66 346 P **P** **03 43 17.0 +1.0**
baz=165
X58A Rowland 59.77 349 P **P** **03 43 18.1 +1.4**
baz=168
X56A White Oak 60.02 347 P **P** **03 43 19.7 +1.2**
baz=166
LRAL Lakeview Retre 60.09 341 P **P** **03 43 19.0 +0.1**
baz=160
X55A Gracelyn & Ava 60.13 347 P **P** **03 43 20.1 +0.9**
baz=165
W58A Raeford 60.21 349 P **P** **03 43 20.9 +1.2**
baz=168
X54A Belton 60.36 346 P **P** **03 43 21.7 +0.9**
baz=164
W57A Gilead 60.47 349 P **P** **03 43 22.3 +0.8**
baz=167
833A Chaparral WMA, 60.71 328 P **P** **03 43 24.6 +1.4**
baz=147
W54A Chokee Point 60.84 347 P **P** **03 43 25.0 +1.0**
baz=165
V56A Mocksville 61.20 348 P **P** **03 43 27.7 +1.3**
baz=167
V55A Taylorsville 61.38 348 P **P** **03 43 28.9 +1.3**
baz=166
V54A Nebo 61.45 347 P **P** **03 43 29.0 +0.8**
baz=165
OXF Oxford 62.19 340 P **P** **03 43 33.0 -0.1**
baz=158
PLAL Pickwick Lake 62.23 341 IAmb IAmb 03 43 33.8
comp=Z,5.1nm,0.9s
T56A Rocky Mt 62.30 349 P **P** **03 43 35.4 +1.6**
baz=167
JCT Junction City 62.70 329 P **P** **03 43 37.8 +1.1**
baz=147
JCT Junction City 62.70 329 IAmb IAmb 03 43 38.5
comp=Z,4.8nm,0.9s
CLTN Cedars of Leba 62.78 343 IAmb IAmb 03 43 38.0
comp=Z,5.6nm,0.7s
S55A Lewisburg 63.11 349 P **P** **03 43 40.5 +1.3**
baz=167
WVT Waverly 63.23 342 P **P** **03 43 39.8 -0.1**
baz=159
WVT Waverly 63.23 342 P **P** **03 43 39.9 -0.1**
S54A Dingess, Beckl 63.28 348 P **P** **03 43 40.8 +0.4**
baz=166
R54A Victor 63.59 348 P **P** **03 43 43.3 +0.9**
baz=166
MIAR Mount Ida 63.63 336 P **P** **03 43 43.4 +0.7**
baz=154
TXAR Lajitas Array 63.67 325 P **P** **03 43 44.5 +1.3**
comp=Z,0.6nm,0.7s,baz=152,slow=7.5,SNR=11
TXAR Lajitas Array 63.67 325 P **P** **03 43 44.2 +1.1**
Q57A Strasburg 64.01 351 P **P** **03 43 46.5 +1.5**
baz=169
Q55A Buckhannon 64.23 349 P **P** **03 43 47.8 +1.3**
baz=167
W39A Magazine 64.29 337 P **P** **03 43 48.3 +1.4**
baz=154
Q54A Coxs Mills 64.35 349 P **P** **03 43 47.7 +0.5**
baz=167
P57A Homestead Farm 64.39 351 P **P** **03 43 49.1 +1.7**
baz=169
P55A Reedsville 64.69 350 P **P** **03 43 50.7 +1.3**
baz=168
WCI Wyandotte Cave 64.79 344 P **P** **03 43 50.0 -0.2**
baz=161
WCI Wyandotte Cave 64.79 344 P **P** **03 43 49.7 -0.5**
P54A Burton 64.89 349 P **P** **03 43 51.6 +0.9**
baz=167
P53A Whipple 64.94 348 P **P** **03 43 52.0 +0.9**
baz=166
U40A Yellville 65.01 338 P **P** **03 43 52.2 +0.7**
baz=155
U40A Yellville 65.01 338 IAmb IAmb 03 43 52.8
comp=Z,4.7nm,0.8s
P52A Corning 65.22 348 P **P** **03 43 52.8 -0.1**
baz=165
HHAR Hobbs 65.32 337 IAmb IAmb 03 43 55.1
comp=Z,8.1nm,1.4s
O52A Adamsville 65.63 348 P **P** **03 43 56.1 +0.6**
baz=166
QSPA South Pole Qui 65.67 180 P **P** **03 43 55.3 -0.4**
N55A Marion Center 65.80 351 P **P** **03 43 57.9 +1.3**
baz=169
O51A Patiskala 65.81 348 P **P** **03 43 56.6 0.0**
baz=165
WMOK Wichita Mounta 65.86 332 P **P** **03 43 57.2 +0.1**
baz=149
CCM Cathedral Cave 66.03 340 P **P** **03 43 58.6 +0.5**
baz=156
CCM Cathedral Cave 66.03 340 P **P** **03 43 57.8 -0.3**
M59A Waymart 66.12 354 P **P** **03 44 00.2 +1.6**
baz=172
L63A North Scituate 66.15 357 P **P** **03 43 60.0 +1.2**
baz=176
M56A Emporium 66.38 352 P **P** **03 44 01.5 +1.2**
baz=169
M55A Ridgway 66.45 351 P **P** **03 44 01.7 +1.0**
baz=169
MNTX Cornudas Mount 66.45 325 P **P** **03 44 01.5 +0.5**
baz=143
O48A Farmland 66.45 346 P **P** **03 44 00.4 -0.4**
baz=163
R40A Madies Statio 66.57 339 IAmb IAmb 03 44 02.7
comp=Z,11nm,1.1s
M54A Oil Creek Stat 66.62 350 P **P** **03 44 02.6 +0.8**
baz=168
L58A Harry Jones Me 66.66 354 P **P** **03 44 03.6 +1.6**
baz=172
L59A Walton 66.72 354 P **P** **03 44 04.0 +1.6**
baz=173
HRV Adam Dziewonsk 66.79 357 P **P** **03 44 04.6 +1.8**
baz=176
L61B Northampton 66.80 356 P **P** **03 44 03.8 +0.9**
baz=175
BINY Binghamton 66.82 353 P **P** **03 44 04.6 +1.5**
baz=172
L56A Greenwood 66.94 352 P **P** **03 44 05.1 +1.3**
baz=170
N47A Urbana 67.17 345 P **P** **03 44 04.9 -0.3**
L54A Sinclairville 67.28 351 P **P** **03 44 07.1 +1.1**
baz=168
K59A Cooperstown 67.28 354 P **P** **03 44 07.5 +1.5**
baz=173,SNR=6.0
K58A Earlville 67.35 354 P **P** **03 44 07.9 +1.5**
baz=172
K58A Earlville 67.35 354 IAmb IAmb 03 44 09.0
comp=Z,7.5nm,0.9s
K57A Scipio Center 67.41 353 P **P** **03 44 07.8 +1.1**
baz=171
K56A Middlesex 67.47 352 P **P** **03 44 08.1 +0.9**
baz=170
K55A Perry 67.59 352 P **P** **03 44 08.8 +0.9**
baz=170
J59A Piesco 67.94 355 P **P** **03 44 11.5 +1.4**
baz=173
J59A Piesco 67.94 355 IAmb IAmb 03 44 12.4
comp=Z,6.8nm,0.8s
J56A Wolcott 67.98 353 P **P** **03 44 11.2 +0.9**
baz=171,SNR=6.9
J57A Williamstown 68.02 354 P **P** **03 44 11.2 +0.6**
baz=172
J57A Williamstown 68.02 354 IAmb IAmb 03 44 12.4
comp=Z,6.3nm,0.9s
I58A Old Forge 68.20 354 P **P** **03 44 12.6 +0.8**
baz=173
J52A Paris 68.44 350 P **P** **03 44 13.8 +0.7**
baz=167
I57A Carthage 68.51 354 P **P** **03 44 14.8 +1.2**
baz=172
PECO Prince Edward 68.65 353 IAmb IAmb 03 44 16.2
comp=Z,5.5nm,0.9s
DBIC Dimbokro 68.69 72 P **P** **03 44 15.4 0.0**
comp=Z,4.9nm,0.8s,baz=190,slow=6.1,SNR=2.3
H58A Gabriels 68.86 355 P **P** **03 44 17.0 +1.2**
baz=174
I55A Frankford 69.01 352 P **P** **03 44 17.6 +1.0**
baz=170
H57A Richville 69.01 354 P **P** **03 44 17.6 +1.0**
baz=172
I51A Listowel 69.07 350 P **P** **03 44 17.8 +0.7**
baz=167
I52A Shelburne 69.20 351 P **P** **03 44 18.9 +1.0**
baz=168
H56A Elgin 69.22 354 P **P** **03 44 19.2 +1.2**
baz=172
H55A Tweed 69.28 353 P **P** **03 44 19.4 +1.1**
baz=171
H53A Bocayageon 69.47 352 P **P** **03 44 20.4 +0.8**
baz=169
ANMO Albuquerque 69.57 327 P **P** **03 44 22.6 +2.0**
baz=143
ANMO Albuquerque 69.57 327 P **P** **03 44 22.9 +2.3**
L40A Anamosa 69.70 342 IAmb IAmb 03 44 22.1
comp=Z,7.4nm,0.8s
G53A Haliburton 70.02 352 P **P** **03 44 23.8 +0.9**
baz=169
F64A Sherman 70.06 360 P **P** **03 44 24.3 +1.2**
baz=179
G54A Lake Saint Pet 70.22 352 P **P** **03 44 25.0 +0.9**
baz=170
JFWS Jewell Farm 70.22 343 P **P** **03 44 24.8 +0.7**
baz=158,SNR=7.9
T25A Trinidad 70.35 330 P **P** **03 44 27.3 +1.9**
baz=145
H46A Fife Lake 70.55 347 P **P** **03 44 25.8 -0.3**
baz=163
ALGO Algonquin Park 70.76 352 P **P** **03 44 28.0 +0.6**
baz=170,SNR=5.9
F52A Sundridge 70.77 352 P **P** **03 44 28.1 +0.7**
baz=169
F51A Arnstein 70.98 351 P **P** **03 44 29.4 +0.7**
baz=168
E56A St. Veronique 71.04 355 P **P** **03 44 29.7 +0.7**
baz=173
E53A Dumoine, Ponti 71.14 353 P **P** **03 44 30.5 +0.9**
baz=170
E54A Lac Daplat, Po 71.14 353 P **P** **03 44 30.3 +0.6**
baz=171
F49A Sandfield 71.14 350 P **P** **03 44 30.0 +0.3**
baz=166,SNR=7.4
D62A Allapoint, All 71.29 359 P **P** **03 44 31.7 +1.2**
baz=178
F48A Evansville 71.31 349 P **P** **03 44 31.0 +0.4**
baz=166,SNR=6.7
BGNE Belgrade 71.38 336 P **P** **03 44 32.6 +1.3**
baz=151,SNR=5.1
D57A Chemin Vers le 71.42 356 P **P** **03 44 32.6 +1.2**
baz=174
D58A Chemin du LacG 71.44 356 P **P** **03 44 32.5 +1.1**
baz=175
E51A G1948 Merrick 71.52 352 P **P** **03 44 32.2 +0.3**
baz=169
D56A ZEC Mazanza, M 71.52 355 P **P** **03 44 32.7 +0.8**
baz=173
D55A Sainte-Anne-du 71.55 354 P **P** **03 44 32.7 +0.6**
baz=172
E50A Wahnapitae 71.58 351 P **P** **03 44 32.7 +0.4**
baz=167
LATQ La Tuque 71.72 356 P **P** **03 44 33.9 +0.9**
baz=175
D52A ZEK Kipawa Sen 71.81 352 P **P** **03 44 34.6 +0.9**
baz=170
D53A Lac Vacive, Po 71.83 353 P **P** **03 44 34.3 +0.5**
baz=170
E48A Lockeyer 71.86 350 P **P** **03 44 34.6 +0.7**
baz=166,SNR=7.2
E47A Iron Bridge 72.03 349 P **P** **03 44 35.4 +0.4**
baz=165,SNR=8.0
E46A Sault Ste Mari 72.13 348 IAmb IAmb 03 44 36.6
comp=Z,7.3nm,0.7s
Q24A Divide 72.18 330 P **P** **03 44 38.6 +2.2**
baz=144
D50A G1974 Best Tow 72.18 351 P **P** **03 44 36.5 +0.7**
baz=168
MVCO Mesa Verde 72.37 327 P **P** **03 44 39.6 +2.1**
baz=141
D47A Chapleau 72.58 349 P **P** **03 44 38.4 +0.2**
baz=165
ECSD EROS Data Cent 72.89 339 P **P** **03 44 40.8 +0.6**
baz=152,SNR=5.8
ECSD EROS Data Cent 72.89 339 IAmb IAmb 03 44 41.1
comp=Z,2.9nm,0.6s
SPMN Marine on St. 73.06 342 P **P** **03 44 41.6 +0.5**
baz=156
SPMN Marine on St. 73.06 342 IAmb IAmb 03 44 42.1
comp=Z,6.1nm,0.8s
ISCO Idaho Springs 73.06 330 P **P** **03 44 43.3 +1.7**
baz=144
LSQQ Lebel-sur-Quev 73.71 354 P **P** **03 44 45.3 +0.5**
baz=171
F36A Milaca 73.85 342 IAmb IAmb 03 44 46.7
comp=Z,4.1nm,0.8s
GMRC Granite Mounta 74.41 321 P **P** **03 44 52.0 +2.6**
baz=136
O20A White River Ci 74.54 329 P **P** **03 44 52.4 +2.3**
baz=142
O20A White River Ci 74.54 329 IAmb IAmb 03 44 53.1
comp=Z,4.9nm,0.8s
EYMN Ely 75.22 344 P **P** **03 44 54.3 +0.7**
baz=158
RSSD Black Hills 75.95 334 P **P** **03 44 59.8 +1.7**
baz=146
B35A Bob, Littlefor 76.19 343 IAmb IAmb 03 45 00.2
comp=Z,3.7nm,0.6s
TPNV Topopah Spring 76.28 322 P **P** **03 45 02.8 +2.7**
baz=135
TPNV Topopah Spring 76.28 322 IAmb IAmb 03 45 03.6
comp=Z,5.8nm,1.4s
FURC Furnace Creek, 76.29 321 P **P** **03 45 02.4 +2.6**
baz=135
AGMN Agassiz Nation 76.73 341 P **P** **03 45 03.5 +1.4**
baz=154
DUG Dugway, Tooele 76.82 326 P **P** **03 45 05.1 +2.1**
baz=138
DUG Dugway, Tooele 76.82 326 P **P** **03 45 04.6 +1.6**
R11A Troy Canyon, C 76.92 323 P **P** **03 45 06.0 +2.4**
baz=136
PDAR Pinedale Array 77.22 330 P **P** **03 45 06.7 +1.4**
comp=Z,0.7nm,0.4s,baz=130,slow=8.0,SNR=13
PDAR Pinedale Array 77.22 330 P **P** **03 45 05.9 +0.6**
TOA0 Torodi Ar. Sit 77.47 69 P **P** **03 45 04.6 -2.4**
TORD Torodi Ar. Bea 77.47 69 P **P** **03 45 06.9 -0.1**
comp=Z,3.6nm,0.7s,baz=262,slow=5.1,SNR=44
TORD Torodi Ar. Bea 77.47 69 P **P** **03 45 05.3 -1.7**
MDND Maddock 77.51 339 P **P** **03 45 08.3 +1.8**
baz=150
NVAR Mina Array Bea 78.48 322 P **P** **03 45 14.3 +2.0**
comp=Z,0.4nm,0.6s,baz=147,slow=6.7,SNR=3.7
ULM Lac du Bonnet 78.50 342 P **P** **03 45 12.5 +0.7**
comp=Z,2.6nm,0.4s,baz=150,slow=4.9,SNR=3.1
ULM Lac du Bonnet 78.50 342 IAmb IAmb 03 45 13.3
comp=Z,5.0nm,0.9s
RLMT Red Lodge 78.94 331 P **P** **03 45 16.7 +1.9**
baz=142
SCHQ Schefferville 79.05 1 P **P** **03 45 15.5 +0.7**
comp=Z,2.4nm,0.7s,baz=230,slow=6.5,SNR=7.1
SCHQ Schefferville 79.05 1 IAmb IAmb 03 45 15.8
comp=Z,30nm,1.9s
HLID Hailey 80.12 328 P **P** **03 45 23.9 +2.8**
baz=138
HLID Hailey 80.12 328 P **P** **03 45 22.8 +1.7**
HLID IAmb IAmb 03 45 24.5
comp=Z,5.8nm,0.8s
BOZ Bozeman (W) 80.36 330 P **P** **03 45 23.9 +1.6**
baz=140
MAW Mawson 81.15 163 P **P** **03 45 27.2 +1.1**
comp=Z,1.9nm,0.5s,baz=262,slow=7.1,SNR=2.2
MAW Mawson 81.15 163 P **P** **03 45 25.7 -0.4**
BOSA Boshof 81.17 117 P **P** **03 45 27.5 +0.4**
comp=Z,1.5nm,0.4s,baz=264,slow=4.3,SNR=9.9
BOSA Boshof 81.17 117 P **P** **03 45 25.9 -1.3**
EGMT Eagleton 81.44 333 P **P** **03 45 29.1 +1.2**
baz=142
BMO Blue Mountains 82.49 327 P **P** **03 45 33.4 0.0**
BMO IAmb IAmb 03 46 23.0
comp=Z,14nm,2.0s
J05D Fort Rock, OR 83.43 324 P **P** **03 45 40.2 +1.8**
baz=132
ESDC Sonseca Array 87.31 44 P **P** **03 45 58.1 +0.5**
comp=Z,0.6nm,0.8s,baz=266,slow=5.0,SNR=3.8
YKA Yellowknife Ar 94.36 340 P **P** **03 46 30.8 +1.0**
comp=Z,1.1nm,0.6s,baz=130,slow=5.1,SNR=5.5
VYHS Vyhne 105.85 44 *e*PDIFF **Pdif** **03 47 24.1 +2.5**
ASAR Alice Springs 127.65 205 PKP **PKPdf** **03 52 16.5 +0.5**
comp=Z,2.1nm,0.7s,baz=137,slow=1.8,SNR=25
WRA Warramunga Arr 130.80 208 PKP **PKPdf** **03 52 22.8 +0.8**
comp=Z,1.7nm,0.6s,baz=156,slow=1.8,SNR=13
PETK Petropavlovsk- 135.57 322 PKP **PKPdf** **03 52 30.6 +0.7**
comp=Z,0.5nm,0.6s,baz=248,slow=2.7,SNR=2.7
ZALV Zalesovo Beam 144.22 28 PKP PKPbc 03 52 45.3 +1.2
comp=Z,7.2nm,0.6s,baz=307,slow=4.4,SNR=31
ZALV pPKP pPKPdf 03 53 19.8 -3.8
comp=Z,1.2nm,0.4s,baz=318,slow=1.9,SNR=1.9
ZALV Zalesovo Beam 144.22 28 PKPbc **PKPdf** **03 52 44.9 +0.8**
MKAR Makanchi Array 147.42 39 PKPbc **PKPdf** **03 52 52.5 +1.3**
comp=Z,4.3nm,0.6s,baz=301,slow=3.2,SNR=41
MKAR pPKPbc **pPKPdf** **03 53 31.6 +2.3**
comp=Z,0.9nm,0.6s,baz=313,slow=3.4,SNR=3.2
MKAR Makanchi Array 147.42 39 **PKPdf** **03 52 52.2 +1.0**
GTA Gaotai 161.87 32 *e*PKP **PKPdf** **03 53 04.3 -7.1**

ECX ***22*** *03:41:21.8±0.9, 30°.54N×114°.34W, h4km±9km, ML2.9*
MEX ***22*** *03:41:22.5±0.3, 29°.93N×115°.72W, h5km, MD3.6*
ISC 22 03:41:18.9±3.2**, 30°.6N**±0°.1×**114°.3W**±0°.1**, h12**km±11km**, n11,**

σ0^{s}84/21, **4C-1D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFX	**San Felipe**	**0.66**	**311**	*e*P	**Pb**	**03 41 32.9**	**+0.5**
SFX				*e*S	**Sb**	**03 41 41.8**	**+0.3**
ECBX	**El Chinero**	**1.09**	**322**	*e*P	**Pn**	**03 41 41.0**	**+0.9**
ECBX				*e*S	**Sn**	**03 41 55.5**	**+0.3**
SPX	**San Pedro Mart**	**1.11**	**293**	*e*P	**Pn**	**03 41 41.3**	**+0.7**
SPX				*e*S	**Sn**	**03 41 56.5**	**+0.4**
SPX	comp=E,130nm,0.3s			IAML		03 41 57.6	
SPX				⇑*e*		03 41 57.6	
SPX	comp=N,203nm,0.5s			IAML		03 42 05.6	
SPX	**San Pedro Mart**	**1.11**	**293**	*e*P	**Pn**	**03 41 41.2**	**+0.5**
SPX				*e*S	**Sg**	**03 41 55.4**	**+0.4**
SPIG	**San Pedro Mart**	**1.12**	**293**	*e*P	**Pn**	**03 41 40.8**	**+0.1**
SPIG				*e*S	**Sn**	**03 41 56.5**	**+0.3**
SPIG	**San Pedro Mart** baz=191,slow=8.6	**1.12**	**293**	*e*P	**Pn**	**03 41 41.3**	**+0.6**
SPIG				*e*S	**Sn**	**03 41 56.3**	**+0.1**
SQX	**San Quintin**	**1.39**	**269**	⇓*e*P	**Pn**	**03 41 44.0**	**0.0**
SQX				*e*S	**Sn**	**03 42 02.0**	**-0.3**
SQX				⇑*e*		03 42 05.9	
SQX	comp=E,223nm,0.2s			IAML		03 42 05.9	
SQX	comp=N,196nm,0.3s			IAML		03 42 06.4	
VTX	**Valle De La Tr**	**1.52**	**301**	*e*P	**Pg**	**03 41 48.1**	**0.0**
VTX				*e*S	**Sg**	**03 42 07.8**	**-0.1**
CBX	**Cerro Bola**	**2.66**	**310**	*e*P	**Pb**	**03 42 05.8**	**-0.8**
CBX	comp=N,104nm,0.5s			IAML		03 42 46.1	
CBX				⇑*e*		03 42 46.1	
CBX				⇑*e*		03 42 46.2	
CBX	comp=E,74nm,0.4s			IAML		03 42 46.2	
CBX	**Cerro Bola**	**2.66**	**310**	*e*P	**Pg**	**03 42 09.3**	**-0.6**
CBX				*e*S	**Sb**	**03 42 39.8**	**+0.5**
TJIG	**Tijuana**	**2.75**	**312**	*e*P	**Pn**	**03 42 03.0**	**+0.2**
TJIG				*i* S	**Sn**	**03 42 33.1**	**-2.8**

*BGR **22** 03:50:00.9±0.0, 22°.33S×177°.39W, h400km*
*IDC **22** 03:50:03.7±1.8, 21°.23S×177°.88W, h395km±17km, mb3.8/17, mb1 4.0/19, mb1mx3.9/33, mbtmp4.6/19, Error ellipse: s-maj=14.0km s-min=11.6km az=139.0*
*NEIC **22** 03:50:03.6±1.7, 21°.2S±0°.1×177°.8W±0°.1, h404km±5km, mb4.4/63, Error ellipse: s-maj=15.8km s-min=14.6km az=179.0*

ISC 22 03:50:03.0±0.3, 21°.37S±0°.06×177°.76W±0°.07, h400km, n261, σ1^{s}33/270, mb4.4/46, 38C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.36**	**312**		**Pn**	**03 51 28.4**	**-0.5**
NIUE	**Niue**	**7.70**	**74**		**Pn**	**03 51 52.9**	**-1.7**
GLKZ	**Green Lake**	**7.86**	**181**	S	S	03 53 21.9	-7.1
AFI	**Afiamalu**	**9.36**	**38**	P	P	03 52 07.8	-5.9
DZM	**Mont Dzumac** 1.4nm,0.3s,baz=100,slow=16,SNR=14	**14.70**	**264**	P	**P**	**03 53 13.3**	**+0.8**
DZM	**Mont Dzumac**	**14.70**	**264**	P	**P**	**03 53 13.5**	**+1.0**
OUZ	**Omahuta**	**15.75**	**207**	P	**P**	**03 53 27.4**	**+4.0**
OUZ	**Omahuta**	**15.75**	**207**	P	**P**	**03 53 26.1**	**+2.7**
MXZ	**Matakaoa Point**	**16.49**	**191**	P	**P**	**03 53 32.7**	**+1.3**
RAR	**Rarotonga** 1.7nm,0.3s,baz=250,slow=9.1,SNR=5.8	**16.76**	**93**	P	**P**	**03 53 35.6**	**+1.1**
HAZ	**Te Kaha**	**16.78**	**192**	P	**P**	**03 53 35.8**	**+1.3**
PKGZ	**Pakihiroa**	**16.85**	**191**	P	**P**	**03 53 35.8**	**+0.4**
RUGZ	**Raukumara Rang**	**17.00**	**192**	P	**P**	**03 53 37.1**	**+0.1**
TKGZ	**Te Karaka**	**17.43**	**192**	P	**P**	**03 53 43.0**	**+1.6**
TKGZ				S	**S**	**03 56 37.2**	**-4.9**
OMRZ	**Omania**	**17.43**	**196**	P	**P**	**03 53 45.1**	**+3.7**
UTU	**Utuhina**	**17.54**	**196**	P	**P**	**03 53 46.5**	**+3.9**
RAGZ	**Rawiri**	**17.57**	**193**	P	**P**	**03 53 43.7**	**+0.8**
MUGZ	**Murupara**	**17.69**	**194**	P	**P**	**03 53 44.6**	**+0.5**
MUGZ				S	**S**	**03 56 44.1**	**-3.1**
HRRZ	**Handcock Road**	**17.72**	**196**	P	**P**	**03 53 46.9**	**+2.3**
RTZ	**Ruatahuna**	**17.77**	**194**	P	**P**	**03 53 45.7**	**+0.5**
SNGZ	**Shannon Statio**	**17.86**	**193**	P	**P**	**03 53 47.8**	**+1.8**
TLZ	**Tolley Road**	**17.86**	**197**	P	**P**	**03 53 49.4**	**+3.3**
PRGZ	**Paritu Road**	**17.89**	**191**	P	**P**	**03 53 47.1**	**+0.8**
PRGZ				S	**S**	**03 56 47.9**	**-3.2**
RAHZ	**Arahi**	**18.04**	**193**	P	**P**	**03 53 48.6**	**+0.8**
RAHZ				S	**S**	**03 56 51.2**	**-2.7**
MHGZ	**Mahia Peninsul**	**18.11**	**191**	P	**P**	**03 53 51.3**	**+2.7**
HIZ	**Hauiti**	**18.23**	**199**	P	**P**	**03 53 52.6**	**+2.8**
HIZ	**Hauiti**	**18.23**	**199**	P	**P**	**03 53 52.0**	**+2.1**
NMHZ	**Naumai**	**18.27**	**194**	P	**P**	**03 53 50.5**	**+0.1**
NMHZ				S	**S**	**03 56 53.5**	**-4.7**
RATZ	**Rangitukua**	**18.30**	**196**	P	**P**	**03 53 51.4**	**+0.6**
BKZ	**Black Stump Fm**	**18.41**	**194**	P	**P**	**03 53 51.2**	**+0.7**
BKZ				S	**S**	**03 56 58.1**	**-2.5**
BKZ	**Black Stump Fm**	**18.41**	**194**	P	**P**	**03 53 51.3**	**-0.5**
BKZ	comp=Z,24nm,0.9s			IAmb	IAmb	03 54 01.7	
KATZ	**Kakaramea**	**18.43**	**196**	P	**P**	**03 53 53.3**	**+1.2**
TWVZ	**Taurewa**	**18.58**	**197**	P	**P**	**03 53 54.8**	**+1.1**
WTVZ	**West Tongariro**	**18.59**	**196**	P	**P**	**03 53 53.6**	**-0.2**
MCHZ	**McNeill Hill**	**18.63**	**194**	P	**P**	**03 53 53.8**	**-0.3**
KWHZ	**Kaweka Forest**	**18.67**	**194**	P	**P**	**03 53 54.0**	**-0.7**
KWHZ				S	**S**	**03 57 03.1**	**-2.1**
TUVZ	**Tukino**	**18.71**	**196**	P	**P**	**03 53 54.6**	**-0.5**
TRVZ	**Turoa**	**18.77**	**196**	P	**P**	**03 53 55.6**	**-0.2**
PKVZ	**Pokaka**	**18.81**	**197**	P	**P**	**03 53 56.8**	**+0.7**
MOVZ	**Moawhango**	**18.82**	**196**	P	**P**	**03 53 56.1**	**0.0**
BHHZ	**Black Hill Sta**	**18.82**	**195**	P	**P**	**03 53 54.9**	**-1.3**
BHHZ				S	**S**	**03 57 04.9**	**-2.8**
VRZ	**Vera Road**	**18.82**	**198**	P	**P**	**03 53 57.9**	**+1.7**
KRHZ	**Kereru**	**18.89**	**194**	P	**P**	**03 53 55.9**	**-1.0**
KAHZ	**Kahuranaki**	**18.93**	**193**	P	**P**	**03 53 57.5**	**+0.2**
PKE	**Pukeiti**	**19.12**	**200**	P	**P**	**03 54 02.2**	**+3.1**
PXZ	**Pawanui**	**19.16**	**193**	P	**P**	**03 53 59.9**	**+0.4**
PNHZ	**Pukenui**	**19.19**	**194**	P	**P**	**03 53 59.1**	**-0.7**
KHEZ	**Kahui Hut**	**19.21**	**200**	P	**P**	**03 54 02.8**	**+2.8**
NBEZ	**Newall Road No**	**19.23**	**200**	P	**P**	**03 54 03.7**	**+3.6**
LREZ	**Lake Rotokare**	**19.24**	**199**	P	**P**	**03 54 01.0**	**+0.8**
WAZ	**Wanganui**	**19.35**	**197**	P	**P**	**03 54 01.5**	**+0.2**
TSZ	**Takapari Road**	**19.38**	**195**	P	**P**	**03 54 01.5**	**-0.1**
DVHZ	**Dannevirke**	**19.57**	**194**	P	**P**	**03 54 02.6**	**-0.8**
ANWZ	**Angora Road**	**19.65**	**193**	P	**P**	**03 54 04.9**	**+0.8**
PRWZ	**Pori Road**	**19.85**	**194**	P	**P**	**03 54 06.0**	**0.0**
BFZ	**Birch Farm**	**19.91**	**193**	P	**P**	**03 54 05.6**	**-0.9**
BFZ	**Birch Farm**	**19.91**	**193**	P	**P**	**03 54 06.7**	**+0.1**
MRZ	**Mangatainoka R**	**20.05**	**195**	P	**P**	**03 54 06.4**	**-1.3**
HOWZ	**Holdsworth Sta**	**20.29**	**195**	P	**P**	**03 54 08.7**	**-1.3**
OGWZ	**Otaki Gorge**	**20.29**	**196**	P	**P**	**03 54 08.9**	**-1.1**
TMWZ	**Te Maipa**	**20.40**	**194**	P	**P**	**03 54 10.6**	**-0.4**
KIW	**Kapiti Island**	**20.40**	**196**	P	**P**	**03 54 10.1**	**-0.9**
CAW	**Cannon Point**	**20.59**	**196**	P	**P**	**03 54 12.5**	**-0.3**
TRWZ	**Traveller**	**20.72**	**194**	P	**P**	**03 54 14.5**	**+0.6**
MSWZ	**Moikau Station**	**20.84**	**195**	P	**P**	**03 54 14.6**	**-0.4**
PLWZ	**Palliser**	**20.98**	**195**	P	**P**	**03 54 16.0**	**-0.3**
QRZ	**Quartz Range**	**21.07**	**201**	P	**P**	**03 54 18.9**	**+1.7**
NNZ	**Nelson**	**21.16**	**199**	P	**P**	**03 54 17.5**	**-0.4**
TUWZ	**Tuamarina**	**21.19**	**197**	P	**P**	**03 54 17.2**	**-1.0**
THZ	**Tophouse**	**21.80**	**199**	P	**P**	**03 54 25.1**	**+1.3**
KHZ	**Kahutara**	**22.22**	**197**	P	**P**	**03 54 29.1**	**+1.6**
OXZ	**Oxford**	**23.49**	**199**	P	**P**	**03 54 40.0**	**+1.0**
RPZ	**Rata Peaks** comp=Z,22nm,0.5s,baz=358,slow=6.4,SNR=14	**24.15**	**200**	P	**P**	**03 54 46.8**	**+1.8**
RPZ	**Rata Peaks**	**24.15**	**200**	P	**P**	**03 54 47.8**	**+2.9**
EIDS	**Eidsvold**	**28.85**	**256**	P	**P**	**03 55 26.5**	**-0.3**
EIDS	comp=Z,11nm,0.5s			IAmb	IAmb	03 55 28.4	
ARMA	**Armidale**	**28.90**	**246**	P	**P**	**03 55 27.9**	**+0.6**
ARMA	comp=Z,21nm,0.7s			IAmb	IAmb	03 55 29.9	
CAN	**Canberra**	**32.22**	**237**	P	**P**	**03 55 57.2**	**+1.1**
CTAO	**Charters Tower**	**33.64**	**266**	P	**P**	**03 56 08.0**	**-0.4**
CTAO	comp=Z,15nm,0.5s			IAmb	IAmb	03 56 09.9	
TOO	**Toolangi**	**35.58**	**235**	P	**P**	**03 56 25.3**	**+0.7**
PMG	**Port Moresby**	**35.77**	**284**	P	**P**	**03 56 25.1**	**-1.3**
PMG	comp=Z,28nm,0.8s			IAmb	IAmb	03 56 28.7	
STKA	**Stephens Creek** comp=Z,28nm,0.4s,baz=94,slow=11,SNR=53	**37.62**	**245**	P	**P**	**03 56 42.5**	**+0.8**
STKA	**Stephens Creek**	**37.62**	**245**	P	**P**	**03 56 42.0**	**+0.3**
WR0	**Warramunga Arr** comp=Z,37nm,1.6s	**44.52**	**263**	IAmb	IAmb	03 57 38.7	
JAY	**Jayapura** comp=Z,30nm,0.4s,baz=136,slow=3.7,SNR=43	**44.54**	**289**	P	**P**	**03 57 37.4**	**-0.1**
JAY	**Jayapura** comp=Z,26nm,0.6s	**44.54**	**289**	P	**P**	**03 57 36.8**	**-0.7**
AS31	**Alice Springs**	**44.55**	**258**	P	**P**	**03 57 36.7**	**-0.7**
ASAR	**Alice Springs** comp=Z,9.1nm,0.4s,baz=84,slow=7.9,SNR=166	**44.55**	**258**	P	**P**	**03 57 37.1**	**-0.4**
ASAR				PcP	**PcP**	**03 59 12.7**	**0.0**
	comp=Z,2.2nm,0.6s,baz=105,slow=3.8,SNR=5.6						
ASAR	comp=Z,1.3nm,0.9s,baz=104,slow=4.6,SNR=4.3			ScP	**ScP**	**04 02 27.4**	**+1.4**
ASAR	**Alice Springs**	**44.55**	**258**	P	**P**	**03 57 36.4**	**-1.1**
WB0	**Warramunga Arr** comp=Z,20nm,0.9s	**44.69**	**263**	IAmb	IAmb	03 57 38.9	
WB2	**Warramunga Arr** comp=Z,11nm,0.8s	**44.70**	**263**	IAmb	IAmb	03 57 39.0	
WRAB	**Tennant Creek**	**44.70**	**263**	P	**P**	**03 57 36.6**	**-2.1**
WRAB	comp=Z,12nm,0.8s			IAmb	IAmb	03 57 38.9	
WRA	**Warramunga Arr** comp=Z,4.7nm,0.3s,baz=95,slow=7.9,SNR=201	**44.71**	**263**	P	**P**	**03 57 38.0**	**-0.8**
FORT	**Forrest**	**49.16**	**247**	P	**P**	**03 58 11.9**	**-0.7**
MTN	**Manton Dam** comp=Z,19nm,0.6s	**49.40**	**271**	IAmb	IAmb	03 58 14.8	
FITZ	**Fitzroy Crossi** comp=Z,38nm,1.4s	**53.14**	**263**	IAmb	IAmb	03 58 43.1	
SOEI	**Soe** comp=Z,84nm,1.0s	**56.76**	**272**	P	**P**	**03 59 04.4**	**-3.3**
VNDA	**Vanda** comp=Z,1.6nm,0.5s,baz=4.9,slow=8.7,SNR=17	**57.07**	**185**	P	**P**	**03 59 11.3**	**+2.7**
VNDA	**Vanda**	**57.07**	**185**	P	**P**	**03 59 10.1**	**+1.4**
MBWA	**Marble Bar**	**57.89**	**258**	P	**P**	**03 59 14.4**	**-0.9**
TNTI	**Ternate**	**57.90**	**285**	P	**P**	**03 59 15.2**	**-0.2**
SANI	**Sanana** comp=Z,2μmcomp=Z,35nm,0.8s	**57.97**	**281**	P	**P**	**03 59 16.0**	**+0.1**
PLAI	**Plampang** comp=Z,59nm,0.8s	**63.11**	**271**	P	**P**	**03 59 50.2**	**0.0**
CASY	**Casey**	**63.28**	**205**	P	**P**	**03 59 51.2**	**+0.8**
CASY	comp=Z,14nm,0.9s			IAmb	IAmb	03 59 55.1	
MPSI	**Mapaga** comp=Z,30nm,0.9s	**64.50**	**281**	P	**P**	**03 59 58.7**	**-0.5**
JAGI	**Jajag, Banyuwa**	**66.61**	**270**	P	**P**	**04 00 11.0**	**-1.5**
QSPA	**South Pole Qui**	**68.70**	**180**	P	**P**	**04 00 26.7**	**+2.0**
QSPA	comp=Z,12nm,0.9s			IAmb	IAmb	04 00 27.6	
KKM	**Kota Kinabalu**	**70.20**	**285**	P	**P**	**04 00 33.0**	**-1.6**
MJAR	**Matsushiro Arr** comp=Z,0.7nm,0.5s,baz=150,slow=5.5,SNR=5.0	**71.04**	**324**	P	**P**	**04 00 38.8**	**-0.2**
MJAR	**Matsushiro Arr** comp=Z,3.6nm,1.5s	**71.04**	**324**	IAmb	IAmb	04 00 40.3	
SBUM	**Sibu**	**72.38**	**280**	P	**P**	**04 00 47.1**	**-0.3**
SBUM	comp=Z,7.8nm,1.2s			IAmb	IAmb	04 00 49.1	
LEM	**Lembang** comp=Z,55nm,0.8s,baz=62,slow=15,SNR=7.6	**73.25**	**269**	P	**P**	**04 00 53.2**	**+0.6**
KSM	**Kuching**	**73.76**	**278**	P	**P**	**04 00 54.8**	**-0.5**
PETK	**Petropavlovsk-** comp=Z,3.7nm,0.6s,baz=143,slow=8.2,SNR=13	**77.17**	**345**	P	**P**	**04 01 13.9**	**+0.3**
PETK	**Petropavlovsk-**	**77.17**	**345**	P	**P**	**04 01 13.6**	**0.0**
KSRS	**Korea Array** comp=Z,1.7nm,0.9s,baz=157,slow=6.6,SNR=5.8	**77.69**	**319**	P	**P**	**04 01 17.9**	**+1.1**
KSAR	**Wonju Array Be**	**77.70**	**319**	P	**P**	**04 01 16.9**	**0.0**
KCPM	**Cahto Peak**	**79.02**	**40**	P	**P**	**04 01 23.3**	**-0.8**
USRK	**Ussuriysk Ar.** comp=Z,3.1nm,0.7s,baz=123,slow=4.1,SNR=7.9	**79.81**	**326**	P	**P**	**04 01 29.4**	**+1.4**
USRK	**Ussuriysk Ar.**	**79.81**	**326**	P	**P**	**04 01 26.9**	**-1.1**
NJ2	**Nanjing**	**80.61**	**310**	*e*P	**P**	**04 01 32.9**	**+0.3**
NJ2	comp=Z,7.0nm,0.6s			pmax	pmax		
YBH	**Yreka Blue Hor** comp=Z,3.3nm,0.6s,baz=205,slow=4.3,SNR=15	**80.83**	**38**	P	**P**	**04 01 35.5**	**+1.9**
YBH	**Yreka Blue Hor** comp=Z,4.5nm,0.7s	**80.83**	**38**	IAmb	IAmb	04 01 36.0	
NVAR	**Mina Array Bea** comp=Z,2.1nm,0.8s,baz=224,slow=8.4,SNR=13	**81.50**	**43**	P	**P**	**04 01 38.6**	**+1.2**
NVAR	**Mina Array Bea**	**81.50**	**43**	P	**P**	**04 01 38.3**	**+0.9**
NV11	**Mina Array Sit**	**81.60**	**43**	P	**P**	**04 01 38.8**	**+1.0**
NV11	comp=Z,7.8nm,1.5s			IAmb	IAmb	04 03 16.1	
TPNV	**Topopah Spring**	**81.99**	**45**	P	**P**	**04 01 40.2**	**+0.4**
TPNV	comp=Z,15nm,1.8s			IAmb	IAmb	04 03 18.3	
KVN	**Kaiserville**	**81.99**	**43**	P	**P**	**04 01 39.7**	**-0.2**
MOD	**Modoc Plateau**	**82.34**	**39**	P	**P**	**04 01 41.5**	**-0.1**
Y14A	**Wickenburg**	**82.58**	**49**	P	**P**	**04 01 42.8**	**0.0**
CN2	**Changchun**	**83.12**	**322**	*e*P	**P**	**04 01 45.8**	**+0.5**
CN2	comp=Z,10.0nm,0.7s			pmax	pmax		
PINE	**Pine Mountain**	**83.13**	**38**	P	**P**	**04 01 46.2**	**+0.7**
PINE	comp=Z,5.6nm,0.8s			IAmb	IAmb	04 01 48.0	
KLR	**Kul'dur** comp=Z,1.7nm,0.8s,baz=90,slow=6.1,SNR=5.4	**83.39**	**329**	P	**P**	**04 01 47.7**	**+1.2**
I07A	**Izee**	**84.13**	**38**	P	**P**	**04 01 50.7**	**+0.2**
U15A	**North Rim** comp=Z,4.5nm,0.8s	**84.38**	**47**	IAmb	IAmb	04 01 54.7	
GSI	**Gunungsitoli**	**85.50**	**273**	P	**P**	**04 01 59.6**	**+1.8**
GSI	**Gunungsitoli**	**85.50**	**273**	P	**P**	**04 01 57.3**	**-0.5**
SYO	**Syowa Base**	**85.93**	**193**	⇑*e*P	**P**	**04 01 57.0**	**-1.8**
F10A	**Beach Ranch, E** comp=Z,7.1nm,0.8s	**86.55**	**37**	IAmb	IAmb	04 02 03.6	
SNAA	**Sanae**	**87.14**	**178**	P	**P**	**04 02 04.9**	**+0.3**
VNA3	**Neumayer Olymp**	**87.26**	**176**	P	**P**	**04 02 05.8**	**+0.6**
TXAR	**Lajitas Array** comp=Z,1.2nm,0.8s,baz=198,slow=4.6,SNR=7.1	**87.33**	**57**	P	**P**	**04 02 07.8**	**+1.6**
TXAR				PKKPbc	**PKKPbc**	**04 19 57.0**	**+2.2**
TXAR	**Lajitas Array** comp=Z,0.1nm,0.4s,baz=151,slow=2.9,SNR=4.6	**87.33**	**57**	P	**P**	**04 02 06.9**	**+0.6**
RND	**Reindeer**	**87.49**	**13**	P	**P**	**04 02 05.4**	**-0.8**
PV09	**Paradox Valley**	**87.59**	**47**	P	**P**	**04 02 05.8**	**-1.7**
MCK	**McKinley**	**87.77**	**12**	P	**P**	**04 02 06.4**	**-1.0**
VNA1	**Neumayer--Stat**	**87.93**	**177**	P	**P**	**04 02 09.0**	**+0.8**
RIDG	**Independent Ri**	**88.65**	**14**	P	**P**	**04 02 12.6**	**+1.1**
CCB	**Clear Creek Bu** comp=Z,3.0nm,0.6s	**88.81**	**12**	IAmb	IAmb	04 02 12.0	
XAN	**Xi'an**	**88.84**	**307**	P	**P**	**04 02 14.8**	**+1.6**
XAN	comp=Z,8.0nm,0.9s			pmax	pmax		
ILAR	**Eielson Array** comp=Z,1.0nm,0.6s,baz=225,slow=5.2,SNR=6.6	**89.11**	**13**	P	**P**	**04 02 12.8**	**-0.9**
ILAR	**Eielson Array**	**89.11**	**13**	P	**P**	**04 02 12.6**	**-1.1**
IMW	**Indian Meadow** comp=Z,2.8nm,0.8s	**89.14**	**42**	IAmb	IAmb	04 02 16.7	
QLMT	**Earthquake Lak**	**89.33**	**41**	P	**P**	**04 02 15.7**	**+0.3**
PDAR	**Pinedale Array** comp=Z,1.5nm,0.8s,baz=208,slow=2.0,SNR=14	**89.44**	**43**	P	**P**	**04 02 16.7**	**+0.7**
PDAR	**Pinedale Array**	**89.44**	**43**	P	**P**	**04 02 15.4**	**-0.6**
HHC	**Hu-ho-hao-te**	**90.12**	**314**	*e*P	**P**	**04 02 21.8**	**+2.7**
HHC	comp=Z,7.0nm,0.9s			pmax	pmax		
HHC	comp=Z,71nm,5.8s			pmax	pmax		
CMAR	**Chiang Mai Arr** comp=Z,1.8nm,0.7s,baz=114,slow=3.2,SNR=12	**90.62**	**289**	P	**P**	**04 02 23.6**	**+1.8**
CMAR	**Chiang Mai Arr**	**90.62**	**289**	P	**P**	**04 02 22.2**	**+0.5**
ZALV	**Zalesovo Beam** comp=Z,0.9nm,0.5s,baz=337,slow=2.1,SNR=4.3	**111.31**	**321**	PKiKP	**PKiKP**	**04 07 48.5**	**-1.3**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.5s,baz=58,slow=1.8,SNR=5.4	**111.96**	**313**	PKiKP	**PKiKP**	**04 07 50.2**	**-1.1**
KKAR	**Karatay Array**	**119.96**	**308**	PKPdf	**PKPdf**	**04 08 05.9**	**-0.9**
SPITS	**Spitsbergen Ar** comp=Z,3.5nm,0.7s,baz=67,slow=3.7,SNR=5.9	**122.74**	**357**	PKP	**PKPdf**	**04 08 10.9**	**-0.3**
ARCES	**ARCESS Array B** comp=Z,1.7nm,0.5s,baz=24,slow=1.2,SNR=19	**129.81**	**350**	PKP	**PKPdf**	**04 08 24.3**	**-0.6**
MATP	**Matopo** comp=Z,1.1nm,0.4s,baz=198,slow=6.4,SNR=4.1	**131.17**	**213**	PKP	**PKPdf**	**04 08 29.7**	**+0.6**
FINES	**FINESS Array B** comp=Z,1.4nm,1.0s,baz=46,slow=5.5,SNR=3.9	**136.67**	**344**	PKhKP	PKPpre	04 08 27.7	
FINES	comp=Z,0.9nm,0.4s,baz=46,slow=4.0,SNR=2.7			PKP	**PKPdf**	**04 08 36.2**	**-1.8**
FINES	comp=Z,3.1nm,0.9s,baz=64,slow=3.2,SNR=5.2			SKPbc	**SKPbc**	**04 11 33.1**	**+0.9**
NB2	**NORSAR Subarra** comp=Z,0.1nm,0.4s,baz=17,slow=2.6	**139.87**	**353**	PKP	**PKPdf**	**04 08 36.8**	**-7.1**
AKASG	**Malin Array Be** comp=Z,14nm,0.4s,baz=42,slow=4.3,SNR=80	**143.88**	**331**	PKhKP	PKPab	04 08 48.9	-1.0
AKASG	**Malin Array Be**	**143.88**	**331**	PKPdf	PKPab	04 08 48.6	-1.2
MBAR	**Mbarara**	**144.62**	**235**		PKPbc	04 08 53.5	-0.2
SORM	**Soroca**	**146.06**	**328**	⇑P	**PKPbc**	**04 08 56.2**	**-0.5**
VASR	**Vaslui**	**147.35**	**327**	⇑P	**PKiKP**	**04 09 01.7**	**-0.5**
BR131	**Keskin Array S**	**147.59**	**311**		**PKPbc**	**04 09 00.9**	**-0.5**
BRTR	**Keskin Array B** comp=Z,4.7nm,0.6s,baz=146,slow=4.3,SNR=15	**147.59**	**311**	PKPbc	**PKPbc**	**04 09 00.9**	**-0.5**
BRTR	**Keskin Array B**	**147.59**	**311**		**PKPbc**	**04 09 00.6**	**-0.8**
TLCR		**147.74**	**324**	⇑P	**PKPbc**	**04 09 01.2**	**-0.2**
BUR08	**Bucovina Ar. S**	**147.91**	**330**		**PKPbc**	**04 09 02.4**	**+0.4**
BURAR	**Bucovina Array**	**147.93**	**330**	⇑P	**PKiKP**	**04 09 03.0**	**-0.5**
BURAR	**Bucovina Array**	**147.93**	**330**		**PKPbc**	**04 09 02.4**	**+0.4**
JURR	**Jurilovca**	**147.97**	**323**	⇓P	**PKPdf**	**04 08 57.6**	**-0.7**
BIZ	**Bicaz**	**147.99**	**328**	⇑P	**PKPbc**	**04 09 02.7**	**+0.7**
ANTO	**Ankara**	**148.11**	**312**		**PKPbc**	**04 09 02.8**	**+0.1**
CFR	**Carcaliu**	**148.12**	**324**	⇑P	**PKPbc**	**04 09 01.0**	**-1.4**
TOPG	**Topolog**	**148.18**	**324**	⇑P	**PKPbc**	**04 09 02.1**	**-0.5**
KOLS	**Kolonicke sedl**	**148.19**	**335**	*e*PKP	**PKPbc**	**04 09 02.9**	**+0.4**
KOLS				*e*		04 09 07.6	
VRI	**Vrincioaia**	**148.42**	**326**	⇑P	**PKPbc**	**04 09 02.4**	**-0.8**
PLOR	**Plostina**	**148.47**	**326**	⇑P	**PKPbc**	**04 09 03.5**	**+0.2**
CRVS	**Cervenica-Dubn**	**148.54**	**335**	*e*PKP	**PKPbc**	**04 09 09.4**	**+1.2**
HARR	**Harsova**	**148.54**	**324**	⇑P	**PKPbc**	**04 09 03.2**	**-0.3**
TLBR	**Topalu**	**148.57**	**323**	⇑P	**PKPbc**	**04 09 04.2**	**+0.7**
ARCR	**ARCALIA**	**148.72**	**330**	⇑P	**PKiKP**	**04 09 05.6**	**+0.6**
OSTC	**Ostas**	**148.87**	**343**	⇑*e*PKP	**PKPbc**	**04 09 04.4**	**+0.3**
CLZ	**Clausthal** baz=16,slow=2.3	**148.94**	**350**	*e*PKPbc	**PKPbc**	**04 09 04.5**	**+0.2**
CLL	**Collm** comp=Z,9.0nm,0.8s	**148.96**	**347**	⇓*i*PKPbc	**PKPbc**	**04 09 04.2**	**-0.1**
CLL				⇓*i*PKiKP	**PKiKP**	**04 09 05.7**	**+0.4**
CLL	comp=Z,13nm,0.6s			⇑*i*PKPab	**PKPab**	**04 09 10.0**	**+0.2**
CLL	**Collm** comp=Z,8.0nm,0.7s baz=16,slow=2.3	**148.96**	**347**	*e*PKPbc	**PKPbc**	**04 09 04.3**	**0.0**
CLL	baz=15,slow=4.2			*e*PKPab	**PKPab**	**04 09 10.0**	**+0.2**
UPC	**Upice**	**148.97**	**343**	⇑*e*PKP	**PKiKP**	**04 09 05.9**	**+0.5**
UPC				*e*PKPAB	**PKPab**	**04 09 10.8**	**+0.9**
DPC	**Dobruska-Polom**	**149.02**	**342**	⇑*e*PKP	**PKPbc**	**04 09 04.9**	**+0.3**
DPC				*e*PKPAB	**PKPab**	**04 09 11.1**	**+0.9**
DOPR	**Dopca**	**149.03**	**328**	⇑P	**PKPbc**	**04 09 05.2**	**+0.5**
LANS	**Liptovska Anna**	**149.07**	**338**	*e*PKP	**PKiKP**	**04 09 05.7**	**0.0**
LANS				*e*		04 09 12.1	
MLR	**Muntele Rosu**	**149.07**	**327**	⇑P	**PKPbc**	**04 09 04.0**	**-0.4**
MLR	**Muntele Rosu**	**149.07**	**327**		**PKPbc**	**04 09 04.0**	**-0.9**
BRG	**Berggiesshubel** baz=16,slow=2.3	**149.16**	**345**	*i* PKP	**PKPbc**	**04 09 04.5**	**-0.3**
BRG	comp=Z,5.2nm,0.6s			*e*		04 09 11.1	
BRG	**Berggiesshubel** comp=Z,4.4nm,0.8s baz=16,slow=2.3	**149.16**	**345**	*e*PKPbc	**PKPbc**	**04 09 05.0**	**+0.2**
BRG	baz=15,slow=4.2			*e*PKPab	**PKPab**	**04 09 11.4**	**+0.8**
MORC	**Moravsky Berou**	**149.17**	**341**	*e*PKP	**PKiKP**	**04 09 05.9**	**0.0**
FBE	**Freiberg** baz=16,slow=2.3	**149.25**	**346**	*e*PKPbc	**PKPbc**	**04 09 05.5**	**+0.5**
FBE	baz=15,slow=4.2			*e*PKPab	**PKPab**	**04 09 11.9**	**+0.9**
GTTG	**Gottingen** baz=16,slow=2.3	**149.29**	**351**	*e*PKPbc	**PKPbc**	**04 09 05.5**	**+0.5**
PVCC	**Panska Ves**	**149.32**	**345**	⇑*e*PKP	**PKPbc**	**04 09 05.6**	**+0.4**
CJR	**Cluj-Napoca**	**149.34**	**331**	⇑P	**PKPbc**	**04 09 05.

LFRS	El Faro	0.46	30	ǁ	*i*	P	Pn	03 56 14.7	-0.3
SNET	Serv Nac Est T	0.47	8	ǁ	*i*	P	Pn	03 56 14.6	-0.4
SNET					IAML			03 56 15.7	
	comp=Z,26μm,0.2s								
SNET					*e*	S	Sn	03 56 24.1	+0.9
SNET	Serv Nac Est T	0.47	8			P	Pn	03 56 14.2	-0.8
SNET	Serv Nac Est T	0.47	8	ǁ	*i*	P	Pn	03 56 14.6	-0.4
SNET					IAML			03 56 15.7	
	comp=Z,26μm,0.2s								
SNET					*e*	S	Sn	03 56 24.1	+0.9
UTEC	Universidad Te	0.49	11	ǁ	*e*	P	Pn	03 56 14.8	-0.4
UTEC	Universidad Te	0.49	11	ǁ	*e*	P	Pn	03 56 14.8	-0.4
UEES	Universidad Ev	0.50	7	ǁ	*i*	P	Pn	03 56 15.0	-0.4
UEES	Universidad Ev	0.50	7	ǁ	*i*	P	Pn	03 56 15.0	-0.4
OPAM	Oficina de Pla	0.50	11	ǁ	*i*	P	Pn	03 56 15.0	-0.3
OPAM	Oficina de Pla	0.50	11	ǁ	*i*	P	Pn	03 56 15.0	-0.3
UESS	Universidad de	0.51	11		*e*	P	Pn	03 56 15.1	-0.3
UESS	Universidad de	0.51	11		*e*	P	Pn	03 56 15.1	-0.3
AEIL	Aeropuerto Ilo	0.51	21	ǁ	*i*	P	Pn	03 56 15.4	0.0
AEIL					IAML			03 56 16.0	
	comp=Z,43μm,0.3s								
AEIL	Aeropuerto Ilo	0.51	21	ǁ	*i*	P	Pn	03 56 15.4	0.0
AEIL					IAML			03 56 16.0	
	comp=Z,43μm,0.3s								
IGN	Direccin Gen	0.51	14	⇑	*e*	P	Pn	03 56 15.3	-0.1
IGN	Direccin Gen	0.51	14	⇑	*e*	P	Pn	03 56 15.3	-0.1
BOQS	Boqueron	0.51	2	ǁ	*i*	P	Pn	03 56 15.4	-0.3
BOQS	Boqueron	0.51	2	ǁ	*i*	P	Pn	03 56 15.4	-0.3
LBRS	Las Brisas	0.57	26	ǁ	*i*	P	Pn	03 56 16.3	+0.1
LBRS	Las Brisas	0.57	26	ǁ	*i*	P	Pn	03 56 16.3	+0.1
CEDA	San Andres	0.59	351	ǁ	*i*	P	Pn	03 56 15.9	-0.4
CEDA					*e*	S	Sn	03 56 26.5	+1.1
CEDA					IAML			03 56 29.8	
	comp=Z,18μm,0.4s								
CEDA	San Andres	0.59	351	ǁ	*i*	P	Pn	03 56 15.9	-0.4
CEDA					*e*	S	Sn	03 56 26.5	+1.1
CEDA					IAML			03 56 29.8	
	comp=Z,18μm,0.4s								
PAVA	Las Pavas	0.60	36	ǁ	*i*	P	Pn	03 56 16.6	0.0
PAVA	Las Pavas	0.60	36	ǁ	*i*	P	Pn	03 56 16.6	0.0
UESV	Universidad de	0.65	50	ǁ	*i*	P	Pn	03 56 16.7	-0.3
UESV	Universidad de	0.65	50	ǁ	*i*	P	Pn	03 56 16.7	-0.3
SBLS	San Blas	0.69	333	ǁ	*i*	P	Pn	03 56 17.1	-0.6
SBLS	San Blas	0.69	333	ǁ	*i*	P	Pn	03 56 17.1	-0.6
SNJE	San Jose	0.71	335	ǁ	*i*	P	Pn	03 56 17.3	-0.6
SNJE	San Jose	0.71	335	ǁ	*i*	P	Pn	03 56 17.3	-0.6
ALJI	Alcalda de J	0.72	81	ǁ	*e*	P	Pn	03 56 17.4	-0.5
ALJI	Alcalda de J	0.72	81	ǁ	*e*	P	Pn	03 56 17.4	-0.5
TACO	Tacachico	0.75	356	ǁ	*i*	P	Pn	03 56 17.8	-0.5
TACO	Tacachico	0.75	356	ǁ	*i*	P	Pn	03 56 17.8	-0.5
UNIC	Universidad Ca	0.79	342		*e*	P	Pn	03 56 18.4	-0.5
UNIC	Universidad Ca	0.79	342		*e*	P	Pn	03 56 18.4	-0.5
COEB	Comit de Eme	0.80	70	ǁ	*e*	P	Pn	03 56 18.5	-0.5
COEB					*e*	S	Sn	03 56 31.0	+0.8
COEB					IAML			03 56 33.6	
	comp=Z,11μm,0.3s								
COEB	Comit de Eme	0.80	70	ǁ	*e*	P	Pn	03 56 18.5	-0.5
COEB					*e*	S	Sn	03 56 31.0	+0.8
COEB					IAML			03 56 33.6	
	comp=Z,11μm,0.3s								
TECA	Tecapa	0.82	71	ǁ	*i*	P	Pn	03 56 18.9	-0.5
TECA	Tecapa	0.82	71	ǁ	*i*	P	Pn	03 56 18.9	-0.5
LLGN	La Laguna	1.00	20	ǁ	*i*	P	Pn	03 56 21.3	-0.3
LLGN	La Laguna	1.00	20	ǁ	*i*	P	Pn	03 56 21.3	-0.3
LCY	Lacayo	1.00	78		*e*	P	Pn	03 56 21.6	0.0
LCY	Lacayo	1.00	78		*e*	P	Pn	03 56 21.6	0.0
RANC	El Ranchito	1.01	78		*e*	P	Pn	03 56 21.9	+0.2
RANC	El Ranchito	1.01	78		*e*	P	Pn	03 56 21.9	+0.2
JUCU	Jucuarˌn	1.02	88	ǁ	*e*	P	Pn	03 56 21.2	-0.7
JUCU					*e*	S	Sn	03 56 36.4	+1.0
JUCU					IAML			03 56 37.8	
	comp=Z,12μm,0.3s								
JUCU	Jucuarˌn	1.02	88	ǁ	*e*	P	Pn	03 56 21.2	-0.7
JUCU					*e*	S	Sn	03 56 36.4	+1.0
JUCU					IAML			03 56 37.8	
	comp=Z,12μm,0.3s								
BLLM	Bellamira	1.06	78	⇑	*e*	P	Pn	03 56 22.3	0.0
BLLM	Bellamira	1.06	78	⇑	*e*	P	Pn	03 56 22.3	0.0
MTO3	Montecristo	1.17	357	ǁ	*i*	P	Pn	03 56 23.6	-0.4
MTO3	Montecristo	1.17	357			P	Pn	03 56 23.7	-0.4
MTO3	Montecristo	1.17	357	ǁ	*i*	P	Pn	03 56 23.6	-0.4
FAGO	Alcalda de S	1.25	68	ǁ	*i*	P	Pn	03 56 24.4	-0.5
FAGO	Alcalda de S	1.25	68	ǁ	*i*	P	Pn	03 56 24.4	-0.5
LCND	La Caada	1.38	86	ǁ	*i*	P	Pn	03 56 26.5	-0.1
LCND					IAML			03 56 49.9	
	comp=Z,9μm,0.3s								
LCND	La Caada	1.38	86	ǁ	*i*	P	Pn	03 56 26.5	-0.1
LCND					IAML			03 56 49.9	
	comp=Z,9μm,0.3s								
IXG	Ixpaco	1.46	311	⇑	*i*	P	Pn	03 56 27.5	-0.4
NBG	Las Nubes	1.70	323		*e*	P	Pn	03 56 31.9	+0.7
PCG	Pacaya	1.72	313		*e*	P	Pn	03 56 31.6	0.0
MRL	Marmol	1.89	349		*e*	P	Pn	03 56 34.6	+0.9
FUG	Fuego 3	1.93	309		*e*	P	Pn	03 56 34.2	-0.1
FUG					*e*	S	Sn	03 57 00.3	+2.8
TGUH	Tegucigalpa,Un	2.14	67			Pn	Pn	03 56 36.8	-0.2
CRIN	San Cristobal	2.25	103				Pn	03 56 38.4	-0.2
MATN	Matagalpa	3.30	95			Pn	Pn	03 56 52.0	-1.0
BOAB	BOACO BROADBAN	3.63	102				Pn	03 56 56.0	-1.4
CCIG	Comitan	4.10	318			Pn	Pn	03 57 04.4	+0.4
ACON	Acoyapa	4.22	107				Pn	03 57 03.3	-2.2
GBS3	Finca Las Img	4.47	122		*e*	P	Pn	03 57 10.8	+1.8
NY14	Universidad de	4.49	124		*e*	P	Pn	03 57 10.5	+1.4
LAPC	Finca la Perla	4.50	122		*i*	P	Pn	03 57 10.6	+1.2
GB1A	Borinquen Arri	4.50	122		*e*	P	Pn	03 57 10.9	+1.4
BUEV	Buena Vista	4.51	122		*e*	P	Pn	03 57 10.9	+1.4
BUAI	Buenos Aires	4.53	121		*e*	P	Pn	03 57 12.1	+2.4
GPS1	Guardaparques	4.57	122		*e*	P	Pn	03 57 11.7	+1.4
GPS2	Hotel Rincn d	4.58	122		*e*	P	Pn	03 57 11.1	+0.7
LIM1	Limonal	4.69	122		*e*	P	Pn	03 57 11.5	-0.5
GUAI	GUAI	4.73	128		*e*	P	Pn	03 57 13.2	+0.7
HORNC	Hornillas	4.74	121		*e*	P	Pn	03 57 12.7	0.0
COLC	Colonia	4.75	122		*e*	P	Pn	03 57 14.4	+1.6
CUI	Cuipilapa	4.78	122		*e*	P	Pn	03 57 14.0	+0.7
ACAL	Aguas Claras	4.90	121		*e*	P	Pn	03 57 15.0	+0.1
ESPN	Las Esperanzas	4.98	101				Pn	03 57 14.6	-1.4
JTS	Las Juntas de	5.16	124			Pn	Pn	03 57 18.4	0.0
TEIG	Tepich	7.04	8			Pn	Pn	03 57 44.4	+0.3
TLIG	Tlapa	9.92	297			Pn	Pn	03 58 24.1	+0.3
435B	Jarrell	19.08	338			P	P	04 00 21.0	-0.7
435B						IAmb	IAmb	04 00 31.4	
	comp=Z,7.7nm,1.1s								
NATX	Nacogdoches	19.10	346			P	P	04 00 20.9	-1.0
NATX						IAmb	IAmb	04 00 38.1	
	comp=Z,13nm,0.9s								
JCT	Junction City	19.73	332			P	P	04 00 28.4	-0.5
WHTX	Lake Whitney,	20.13	339			P	P	04 00 32.4	-0.7
TXAR	Lajitas Array	20.85	323			P	P	04 00 41.0	-0.2
TX31	Lajitas Ar. Si	20.85	323			P	P	04 00 40.2	-1.0
TX31							Pn	04 00 41.3	-2.9
TX32	Lajitas Array	20.85	323			P	P	04 00 40.4	-0.7
TX32							Pn	04 00 41.3	-2.9
TX32						IAmb	IAmb	04 00 58.3	
	comp=Z,15nm,2.0s								
LPAR	Lepanto	22.30	358			P	P	04 00 55.1	-1.4
FCAR	Ozark Folk Cen	22.71	354			P	P	04 01 01.1	+0.2
FCAR						IAmb	IAmb	04 01 16.6	
	comp=Z,4.6nm,0.9s								
LCAR	Lake Charles	22.81	356			P	P	04 00 59.5	-2.4
U40A	Yellville	23.26	353			P	P	04 01 04.4	-2.0
PBMO	Poplar Bluff	23.48	358			P	P	04 01 06.7	-1.8
PBMO						IAmb	IAmb	04 01 24.0	
	comp=Z,6.0nm,0.9s								
S39A	Bolivar	24.63	352			P	P	04 01 19.0	0.0
S39A						IAmb	IAmb	04 01 34.8	
	comp=Z,3.5nm,0.8s								
CCM	Cathedral Cave	24.79	356			P	P	04 01 20.0	-0.4
CCM						IAmb	IAmb	04 01 36.1	
	comp=Z,8.5nm,0.8s								
WCI	Wyandotte Cave	25.05	6			P	P	04 01 23.4	+0.6
WCI						IAmb	IAmb	04 01 39.0	
	comp=Z,8.4nm,0.8s								

*IDC **22** 04:20:08.4±2.3, 10.°59S×120.°24E, h0km, mb3.8/3, mb1 3.7/6, mb1mx3.5/41, mbtmp3.6/6, ML3.3/3, MS3.0/1, Ms1 3.0/1, ms1mx2.4/38, Error ellipse: s-maj=155.3km s-min=23.6km az=55.0*

ISC 22 04:20:13.0±1.4, **10.°5S**±0.°3×**120.°5E**±0.°5, **h30**km, **n7**, σ0§**63**/**6**, **mb3.9**/3, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.18**	**85**	LR	LR	04 22 22.3	
	comp=Z,247nm,21.0s,baz=156,slow=40						
FITZ	**Fitzroy Crossi**	**9.05**	**147**	Pn	**Pn**	**04 22 21.3**	**-0.4**
	0.3nm,0.3s,baz=324,slow=14,SNR=2.3						
FITZ				Sn	Sn	04 23 53.5	-9.1
	0.3nm,0.3s,baz=305,slow=18,SNR=2.3						
WRA	**Warramunga Arr**	**16.33**	**127**	Pn	**Pn**	**04 24 00.0**	**-0.3**
	0.1nm,0.3s,baz=300,slow=13,SNR=4.9						
ASAR	**Alice Springs**	**18.31**	**137**	P	**Pn**	**04 24 25.6**	**+0.7**
	0.1nm,0.3s,baz=315,slow=12,SNR=9.2						
SONM	**Songino Array**	**59.43**	**349**	P	**P**	**04 30 13.4**	**+0.4**
	0.8nm,0.5s,baz=168,slow=8.9,SNR=4.5						
MKAR	**Makanchi Array**	**66.46**	**332**	P	**P**	**04 30 59.6**	**0.0**
	0.3nm,0.6s,baz=148,slow=8.4,SNR=3.1						
ZALV	**Zalesovo Beam**	**70.97**	**339**	P	**P**	**04 31 26.9**	**-0.6**
	0.5nm,0.5s,baz=158,slow=4.7,SNR=2.4						

*IDC **22** 04:23:31.9±1.3, 28.°67N×67.°39E, h0km, mb3.8/11, mb1 3.9/13, mb1mx3.7/53, mbtmp3.9/13, ML3.9/2, MS3.0/4, Ms1 3.1/4, ms1mx2.7/45, Error ellipse: s-maj=31.8km s-min=20.5km az=132.0*

*NEIC **22** 04:23:33.9±2.0, 28.°76N±0.°09×67.°4E±0.°1, h14km±5km, mb4.0/11, Error ellipse: s-maj=15.7km s-min=10.8km az=134.0*

ISC 22 04:23:36.5±0.7, **28.°77N**±0.°09×**67.°35E**±0.°06, **h35**km, **n48**, σ1§**62**/**47**, **mb3.8**/14, **Pakistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THW	**Thamme Wali**	**5.51**	**42**	P	**Pn**	**04 24 56.5**	**+0.4**
KBL	**Kabul**	**5.93**	**14**	Pn	**Pn**	**04 25 02.8**	**+0.8**
CEP	**Cherat**	**6.37**	**37**	P	**Pn**	**04 25 08.3**	**+0.3**
NIL	**Nilore**	**7.01**	**45**	Pn	**Pn**	**04 25 16.6**	**-0.1**
CHCP	**Chirah Chowk**	**7.03**	**45**	P	**Pn**	**04 25 17.2**	**+0.3**
HRA	**Herat**	**7.10**	**323**	Pn	**Pn**	**04 25 17.4**	**-0.7**
SMLA	**Simla**	**8.83**	**72**	*e*P	**Pn**	**04 25 43.2**	**+1.6**
SMLA				*e*S	**Sn**	**04 27 18.8**	**-1.2**
SMLA				IAML		04 27 22.6	
	comp=E,165nm,0.4s						
SMLA				IAML		04 27 23.1	
	comp=N,112nm,0.6s						
WSAR	**Wadi Sarin**	**9.58**	**237**	Pn	**Pn**	**04 25 50.7**	**-1.3**
	comp=N,0.6nm,0.3s,baz=70,slow=12,SNR=1.0						
WSAR				Sn	**Sn**	**04 27 34.9**	**-3.6**
	comp=N,0.6nm,0.3s,baz=320,slow=3.1,SNR=3.6						
CHGR	**Chuyangaron**	**9.98**	**8**	Pn	**Pn**	**04 25 56.8**	**-0.6**
GAR	**Garm**	**10.50**	**13**	Pn	**Pn**	**04 26 04.2**	**-0.4**
UOSS	**Minazif**	**10.65**	**252**	Pn	**Pn**	**04 26 05.9**	**-0.8**
GEYT	**Alibeck**	**11.95**	**322**	LR	LR	04 31 35.8	
	comp=N,43nm,18.5s,baz=335,slow=40						
PYUN	**Piuthan**	**13.78**	**89**	*e*P	**Pn**	**04 26 50.6**	**+1.0**
	comp=N,9.7nm,0.3s						
KOLN	**Koldanda**	**14.36**	**90**	*e*P	**Pn**	**04 26 58.5**	**+1.1**
	comp=N,13nm,0.4s						
DANN	**Dangsing**	**14.43**	**88**	*e*P	**Pn**	**04 26 58.2**	**-0.3**
	comp=N,35nm,0.7s						
KKAR	**Karatay Array**	**14.53**	**9**	Pn	**Pn**	**04 26 58.4**	**-1.1**
AAK	**Ala-Archa**	**15.00**	**21**	Pn	**Pn**	**04 27 06.9**	**+1.0**
	comp=N,0.8nm,0.3s,baz=208,slow=16,SNR=7.0						
AAK				Sn	**Sn**	**04 29 45.2**	**-5.7**
	comp=N,0.2nm,0.3s,baz=219,slow=13,SNR=2.6						
AAK				LR	LR	04 34 22.0	
	comp=N,51nm,20.1s,baz=190,slow=43						
AAK	**Ala-Archa**	**15.00**	**21**	Pn	**Pn**	**04 27 04.8**	**-1.2**
AAK				IAmb	IAmb	04 27 11.6	
	comp=Z,3.9nm,0.7s						
BOOM	**Boomskoye usch**	**15.36**	**25**	Pn	**Pn**	**04 27 08.2**	**-2.5**
TARG	**Taragay, Kyrgy**	**15.48**	**31**	Pn	**Pn**	**04 27 11.0**	**-1.5**
TARG				IAmb	IAmb	04 27 25.2	
	comp=Z,4.0nm,0.7s						
PKIN	**Phulchoki**	**15.96**	**90**	*e*P	**Pn**	**04 27 16.9**	**-1.8**
PKI	**Pulchoki**	**15.97**	**90**	*e*P	**Pn**	**04 27 17.3**	**-1.6**
GUN	**Gumba**	**16.34**	**89**	*e*P	**Pn**	**04 27 21.1**	**-2.5**
	comp=Z,56nm,0.5s						
JIRN	**Jiri**	**16.64**	**89**	*e*P	**Pn**	**04 27 25.4**	**-2.1**
	comp=Z,42nm,0.6s						
RAMN	**Ramite**	**17.12**	**92**	*e*P	**Pn**	**04 27 31.3**	**-2.0**
	comp=Z,14nm,0.6s						
ABKAR	**Akbulak array**	**21.23**	**347**	P	**P**	**04 28 18.4**	**-0.8**
MAKZ	**Makanchi**	**21.34**	**28**	P	**P**	**04 28 19.8**	**-0.7**
MKAR	**Makanchi Array**	**21.46**	**29**	P	**P**	**04 28 21.7**	**0.0**
	comp=Z,2.5nm,0.7s,baz=208,slow=11,SNR=29						
MKAR	**Makanchi Array**	**21.46**	**29**	P	**P**	**04 28 21.0**	**-0.7**
MK31	**Makanchi Array**	**21.46**	**29**	P	**P**	**04 28 22.0**	**+0.3**
AKTO	**Aktyubinsk**	**22.77**	**344**	P	**P**	**04 28 37.9**	**+2.2**
	comp=Z,3.6nm,0.6s,baz=146,slow=11,SNR=9.5						
KURBB	**Kurchatov Arra**	**23.41**	**18**	P	**P**	**04 28 42.8**	**+0.7**
	comp=Z,2.7nm,0.7s,baz=209,slow=9.8,SNR=10						
KURK	**Kurchatov**	**23.52**	**18**	P	**P**	**04 28 43.7**	**+0.6**
KURK				IAmb	IAmb	04 28 49.0	
	comp=Z,4.2nm,0.7s						
BVAR	**Borovoye Array**	**24.34**	**4**	P	**P**	**04 28 52.0**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=181,slow=8.6,SNR=7.5						
BRVK	**Borovoye**	**24.36**	**4**	P	**P**	**04 28 50.7**	**-0.4**
ZAA0	**Zalesovo Array**	**28.21**	**22**	P	**P**	**04 29 25.7**	**-0.1**
ZAA0				IAmb	IAmb	04 29 56.3	
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**28.21**	**22**	P	**P**	**04 29 28.3**	**+2.5**
	comp=Z,0.4nm,0.3s,baz=220,slow=11,SNR=2.7						
CMAR	**Chiang Mai Arr**	**30.63**	**103**	LR	LR	04 43 12.6	
	comp=Z,21nm,18.5s,baz=190,slow=39						
VTS	**Vitosha**	**37.98**	**303**	P	**P**	**04 30 51.6**	**+0.5**
VTS				IAmb	IAmb	04 30 52.3	
	comp=Z,2.4nm,1.0s						
FINES	**FINESS Array B**	**42.53**	**332**	P	**P**	**04 31 29.2**	**+0.9**
	comp=Z,1.7nm,1.0s,baz=134,slow=4.0,SNR=1.3						
ARCES	**ARCESS Array B**	**47.30**	**341**	P	**P**	**04 32 07.2**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=126,slow=7.6,SNR=13						
ESDC	**Sonseca Array**	**58.57**	**301**	P	**P**	**04 33 30.5**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=64,slow=7.2,SNR=5.3						
ESDC	**Sonseca Array**	**58.57**	**301**	IAmb	IAmb	04 33 34.0	
	comp=Z,6.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**62.56**	**270**	P	**P**	**04 33 58.6**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=58,slow=6.8,SNR=8.2						
TORD	**Torodi Ar. Bea**	**62.56**	**270**	P	**P**	**04 33 58.9**	**+1.5**
FITZ	**Fitzroy Crossi**	**73.08**	**122**	LR	LR	05 08 22.6	
	comp=Z,23nm,18.4s,baz=242,slow=37						
ASAR	**Alice Springs**	**82.58**	**122**	P	**P**	**04 35 56.6**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=305,slow=5.5,SNR=2.4						
ILAR	**Eilson Array**	**83.02**	**14**	P	**P**	**04 36 00.3**	**+2.4**
	comp=Z,0.2nm,0.6s,baz=312,slow=4.3,SNR=2.4						

*SJA **22** 04:26:28.5±1.3, 31.°40S×68.°40W, h104km±4km, ML3.7, MW3.8*

*IDC **22** 04:26:28.2±0.8, 31.°40S×68.°51W, h101km±5km, mb3.3/2, mb1 3.6/7, mb1mx3.4/24, mbtmp3.8/7, Error ellipse: s-maj=28.7km s-min=17.1km az=78.0*

ISC 22 04:26:28.7±0.7, **31.°40S**±0.°04×**68.°38W**±0.°04, **h105**km±5km, **n35**, σ1§**12**/**54**, **San Juan Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.11**	**311**	*e*P	**Pn**	**04 26 43.8**	**+0.4**
RTLL				*i* P		04 26 43.9	
RTLL				IAML		04 27 15.1	
	comp=Z,2μm,2.0s						
CFA	**Coronel Fontan**	**0.23**	**150**	LR	LR	04 26 32.4	
	comp=Z,54nm,18.7s,baz=51,slow=14						
CFA				P	**Pn**	**04 26 44.3**	**+0.6**
	comp=Z,826nm,0.3s,baz=275,slow=5.2						
CFA				S	**Sn**	**04 26 55.7**	**+0.8**
	comp=Z,975nm,0.3s,baz=156,slow=23,SNR=253						
CFA	**Coronel Fontan**	**0.23**	**150**	*i* P	**Pn**	**04 26 44.5**	**+0.8**
CFA				*e*S	**Sn**	**04 26 55.7**	**+0.8**
CFA				IAML		04 26 56.5	
	comp=Z,3μm,0.2s						
ZON	**Zonda**	**0.29**	**241**	*i* P	**Pn**	**04 26 44.4**	**+0.4**
ZON				*e*S	**Sn**	**04 26 55.4**	**+0.1**
ZON				IAML		04 26 58.2	
	comp=Z,1μm,0.2s						
RTCV	**Cerro Valdivia**	**0.48**	**197**	*i* P	**Pn**	**04 26 45.8**	**+0.8**
RTCV				IAML		04 27 00.5	
	comp=Z,558nm,0.4s						
RTLS	**Leoncito**	**0.88**	**243**	*i* P	**Pn**	**04 26 49.8**	**+1.2**
RTLS				*e*S	**Sn**	**04 27 04.9**	**+1.3**
RTLS				IAML		04 27 05.7	
	comp=Z,1μm,0.8s						
ACCO	**Cerro Coronel**	**1.01**	**324**	*i* P	**Pn**	**04 26 50.7**	**+0.7**
ACCO				*e*S	**Sn**	**04 27 06.6**	**+0.7**
ACCO				IAML		04 27 07.8	
	comp=Z,2μm,3.2s						
AUSP	**Uspallata**	**1.19**	**226**	*i* P	**Pn**	**04 26 52.9**	**+1.1**
AUSP				*e*S	**Sn**	**04 27 10.8**	**+1.4**
ASAL	**Salagasta**	**1.25**	**198**	*i* P	**Pn**	**04 26 53.6**	**+1.3**
ASAL				IAML		04 27 15.8	
	comp=Z,1μm,0.5s						
ACDV	**Cuesta del Vie**	**1.39**	**332**	*e*P	**Pn**	**04 26 54.7**	**+0.6**
ACDV				IAML		04 27 18.7	
	comp=Z,443nm,0.3s						
ARCO	**CERRO ARCO**	**1.51**	**198**	*i* P	**Pn**	**04 26 56.9**	**+1.4**
ARCO				*e*S	**Sn**	**04 27 17.7**	**+1.8**
ARCO				IAML		04 27 20.3	
	comp=Z,2μm,0.3s						
UTNM	**Universidad Te**	**1.54**	**195**	*i* P	**Pn**	**04 26 57.6**	**+1.8**
UTNM				*e*S	**Sn**	**04 27 17.3**	**+0.9**
UTNM				IAML		04 27 18.8	
	comp=Z,658nm,0.4s						
AROD	**Rodeo**	**1.55**	**322**	*e*P	**Pn**	**04 26 57.0**	**+0.8**
AROD				*e*S	**Sn**	**04 27 17.7**	**+0.6**
AAGR	**Agrelo**	**1.72**	**193**	*i* P	**Pn**	**04 26 59.5**	**+1.4**
AAGR				*e*S	**Sn**	**04 27 21.2**	**+0.8**
AAGR				IAML		04 27 23.5	
	comp=Z,648nm,0.5s						
APLL	**PUNTA DE LOS L**	**1.88**	**58**	*e*P	**Pn**	**04 27 01.1**	**+1.1**
APLL				*e*S	**Sn**	**04 27 23.6**	**-0.3**
ACLC	**CERRO LA CRUZ**	**2.32**	**32**	*i* P	**Pn**	**04 27 06.6**	**+0.8**
GO04	**Tololo Observa**	**2.42**	**300**	*i* P	**Pn**	**04 27 07.5**	**+0.3**
GO04				*e*S	**Sn**	**04 27 37.9**	**+1.2**
PEL	**Peldehue**	**2.62**	**228**	*i* P	**Pn**	**04 27 10.8**	**+1.2**
PEL				*e*S	**Sn**	**04 27 41.9**	**+1.1**
VCA	**Vinchina**	**2.66**	**3**	*i* P	**Pn**	**04 27 11.3**	**+1.0**
VCA				*i* P		04 27 11.5	
VCA				*e*S	**Sn**	**04 27 46.1**	**+3.9**
VCA				IAML		04 27 51.8	
	comp=Z,647nm,0.5s						
ROC1	**El Roble**	**2.73**	**234**	*i* P	**Pn**	**04 27 11.5**	**+0.3**
ROC1				*e*S	**Sn**	**04 27 44.8**	**+0.8**
TCA	**Tanti**	**3.23**	**90**	*e*P	**Pn**	**04 27 18.6**	**+0.8**
TCA				IAML		04 28 13.3	
	comp=Z,333nm,0.7s						
LAMA	**Las Malvinas**	**3.59**	**191**	*i* P	**Pn**	**04 27 23.0**	**+0.5**
CYA	**Choya**	**3.70**	**38**	*i* P	**Pn**	**04 27 23.7**	**-0.3**
CYA				*e*S	Sn	04 27 57.3	-9.5
CYA				IAML		04 28 06.1	
	comp=Z,144nm,0.6s						
EDS3	**Malargue**	**4.44**	**191**	*i* P	**Pn**	**04 27 34.6**	**+0.6**
LVC	**Limon Verde**	**8.77**	**357**	P	**Pn**	**04 28 31.1**	**-2.0**
	comp=Z,7.2nm,0.3s,baz=171,slow=13,SNR=19						
PLCA	**Paso Flores**	**9.47**	**190**	P	**Pn**	**04 28 41.7**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=0.0,slow=20,SNR=1.8						
CPUP	**Villa Florida**	**10.92**	**65**	P	**Pn**	**04 29 02.7**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=245,slow=14,SNR=1.5						
LPAZ	**La Paz**	**15.05**	**1**	P	**Pn**	**04 29 56.0**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=191,slow=7.8,SNR=12						
SIV	**San Ignacio**	**16.73**	**25**	P	**Pn**	**04 30 16.9**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=222,slow=11,SNR=12						
TXAR	**Lajitas Array**	**69.10**	**327**	P	**P**	**04 37 23.1**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=155,slow=7.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**80.40**	**68**	P	**P**	**04 38 29.5**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=283,slow=7.7,SNR=5.0						
TORD				pP	**pP**	**04 38 55.6**	**-1.3**
	comp=Z,2.1nm,0.8s,baz=281,slow=6.6,SNR=10.0			

mb1 3.7/6, mb1mx3.6/19, mbtmp3.5/6, ML3.6/2, Error ellipse: s-maj=30.6km s-min=20.8km az=68.0
GUC ***22*** *05:07:20.7± 1.4, 34°28S× 72°44W, h32km± 8km, ML3.8*
ISC 22 05:07:21.6±2.2, 34°26S±0°05× 72°33W±0°06, h13km±15km, n44, σ1s33/50, mb3.7/4, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BO02	**Sierra Bellavi**	**1.38**	**113**	***e*P**	**Pn**	**05 07 46.2**	**-0.5**
BO02				*i* S	**Sn**	**05 08 04.9**	**0.0**
BO02				IAML		05 08 08.0	
	comp=E,3μm,0.3s						
MT02	**Curacav**	**1.41**	**45**	***e*P**	**Pn**	**05 07 46.2**	**-0.7**
MT02				*i* S	**Sb**	**05 08 05.2**	**-0.3**
ROC1	**El Roble**	**1.69**	**41**	*i* P	**Pn**	**05 07 50.9**	**0.0**
ROC1				*e*S	**Sg**	**05 08 18.4**	**+2.6**
ROCH	**El Roble**	**1.69**	**41**	***e*P**	**Pn**	**05 07 51.0**	**0.0**
ROCH				*i* S	**Sg**	**05 08 15.9**	**-0.1**
ROCH				IAML		05 08 24.9	
	comp=N,1μm,0.4s						
MT03	**Universidad Ad**	**1.69**	**64**	***e*P**	**Pn**	**05 07 50.9**	**-0.1**
MT03				*i* S	**Sb**	**05 08 13.8**	**-0.2**
CLCH	**Cerro Calan**	**1.72**	**61**	***e*P**	**Pn**	**05 07 51.5**	**+0.2**
CLCH				*i* S	**Sb**	**05 08 14.6**	**-0.1**
PEL	**Peldehue**	**1.77**	**51**	***e*P**	**Pn**	**05 07 52.3**	**+0.4**
PEL				*i* S	**Sb**	**05 08 16.2**	**+0.3**
PEL				IAML		05 08 23.5	
	comp=N,1μm,0.3s						
PEL	**Peldehue**	**1.77**	**51**	*i* P	**Pn**	**05 07 52.6**	**+0.7**
PEL				*e*S	**Sg**	**05 08 19.2**	**+0.8**
LMEL	**Las Melosas**	**1.81**	**77**	***e*P**	**Pn**	**05 07 52.8**	**+0.1**
LMEL				*i* S	**Sb**	**05 08 17.4**	**0.0**
VA03	**San Esteban**	**2.10**	**45**	***e*P**	**Pn**	**05 07 57.0**	**+0.4**
BI02	**San Fabin de**	**2.55**	**161**	**⇓*i*P**	**Pn**	**05 08 03.9**	**+1.2**
BI02				*e*S	**Sn**	**05 08 34.0**	**+0.4**
BI03	**Tigo**	**2.64**	**192**	**⇓*i*P**	**Pn**	**05 08 04.1**	**+0.2**
BI03				*i* S	**Sn**	**05 08 34.0**	**-1.8**
BI03				IAML		05 08 50.7	
	comp=N,787nm,0.5s						
AAGR	**Agrelo**	**3.15**	**69**	*i* P	**Pb**	**05 08 15.6**	**-1.8**
AAGR				IAML		05 09 09.2	
	comp=Z,64nm,0.5s						
AUSP	**Uspallata**	**3.19**	**51**	*i* P	**Pn**	**05 08 14.5**	**+2.7**
ASAL	**Salagasta**	**3.36**	**61**	*i* P	**Pb**	**05 08 17.9**	**-3.2**
ASAL				IAML		05 09 18.1	
	comp=Z,77nm,0.9s						
RTLS	**Leoncito**	**3.54**	**47**	*i* P	**Pn**	**05 08 18.7**	**+2.2**
RTLS				IAML		05 09 18.1	
	comp=Z,88nm,0.5s						
RTCV	**Cerro Valdivia**	**3.98**	**54**	*i* P	**Pn**	**05 08 24.2**	**+1.8**
RTCV				IAML		05 09 33.5	
	comp=Z,44nm,0.8s						
GO04	**Tololo Observa**	**4.28**	**18**	*i* P	**Pn**	**05 08 26.4**	**-0.2**
ACCO	**Cerro Coronel**	**4.58**	**38**	*i* P	**Pn**	**05 08 33.1**	**+2.2**
ACCO				IAML		05 09 48.9	
	comp=Z,59nm,0.6s						
AROD	**Rodeo**	**4.74**	**31**	*i* P	**Pn**	**05 08 35.4**	**+2.3**
ACDV	**Cuesta del Vie**	**4.90**	**35**	*i* P	**Pn**	**05 08 37.5**	**+2.4**
ACDV				IAML		05 10 06.7	
	comp=Z,37nm,1.2s						
H03S1	**Juan Fernandez**	**5.48**	**273**	Pn	**Pn**	**05 08 41.9**	**-0.7**
H03S1				T	T	05 14 36.6	
	baz=96,slow=75,SNR=578						
H03S3	**Juan Fernandez**	**5.48**	**273**	Pn	**Pn**	**05 08 42.1**	**-0.6**
H03S3				T	T	05 14 37.6	
	baz=96,slow=75,SNR=641						
H03S2	**Juan Fernandez**	**5.49**	**273**	Pn	**Pn**	**05 08 41.9**	**-0.9**
H03S2				T	T	05 14 36.3	
	baz=96,slow=75,SNR=610						
H03N1	**Juan Fernandez**	**5.54**	**277**	Pn	**Pn**	**05 08 44.9**	**+1.4**
H03N3	**Juan Fernandez**	**5.55**	**276**	Pn	**Pn**	**05 08 44.9**	**+1.3**
H03N2	**Juan Fernandez**	**5.55**	**277**	Pn	**Pn**	**05 08 44.9**	**+1.2**
MRA	**San Martin**	**5.83**	**73**	*i* P	**Pn**	**05 08 49.9**	**+2.1**
MRA				IAML		05 10 37.3	
	comp=Z,14nm,0.7s						
APLL	**PUNTA DE LOS L**	**6.24**	**53**	*i* P	**Pn**	**05 08 54.4**	**+1.0**
VCA	**Vinchina**	**6.53**	**34**	*i* P	**Pn**	**05 08 58.5**	**+0.9**
VCA				IAML		05 10 58.4	
	comp=Z,42nm,1.0s						
PLCA	**Paso Flores**	**6.62**	**168**	Pn	**Pn**	**05 09 00.0**	**+1.4**
PLCA				Sn	**Sn**	**05 10 15.8**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=83,slow=21,SNR=1.1						
ACLC	**CERRO LA CRUZ**	**6.64**	**45**	*i* P	**Pn**	**05 08 59.5**	**+0.5**
TCA	**Tanti**	**7.13**	**68**	*i* P	**Pn**	**05 09 05.8**	**+0.1**
TCA				IAML		05 11 13.9	
	comp=Z,8.2nm,0.8s						
LPAZ	**La Paz**	**18.29**	**13**	P	**P**	**05 11 36.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=219,slow=4.9,SNR=5.0						
SNAA	**Sanae**	**51.44**	**158**	P	**P**	**05 16 25.8**	**-0.2**
	comp=Z,0.8nm,0.9s,baz=285,slow=6.6,SNR=6.2						
QSPA	**South Pole Qui**	**55.98**	**180**	P	**P**	**05 16 59.9**	**+0.5**
	comp=Z,1.8nm,1.1s,baz=235,slow=4.7,SNR=2.4						
TXAR	**Lajitas Array**	**69.84**	**331**	P	**P**	**05 18 32.7**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=150,slow=8.4,SNR=5.0						
TORD	**Torodi Ar. Bea**	**84.52**	**70**	P	**P**	**05 19 53.5**	**-1.1**
	comp=Z,0.6nm,1.0s,baz=256,slow=4.3,SNR=2.1						
H11S2	**WAKE ISLAND Hy**	**125.53**	**269**	T	T	07 44 50.5	
	baz=120,slow=75,SNR=3.2						
H11S1	**WAKE ISLAND Hy**	**125.54**	**269**	T	T	07 44 50.5	
	baz=120,slow=75,SNR=5.4						
H11S3	**WAKE ISLAND Hy**	**125.54**	**269**	T	T	07 44 54.0	
	baz=120,slow=75,SNR=3.4						
H11N3	**WAKE ISLAND Hy**	**125.95**	**271**	T	T	07 45 27.0	
	baz=122						
H11N1	**WAKE ISLAND Hy**	**125.96**	**271**	T	T	07 45 18.4	
	baz=122						
H11N2	**WAKE ISLAND Hy**	**125.96**	**271**	T	T	07 45 25.0	
	baz=122						

IDC ***22*** *05:08:03.5± 1.5, 10°75S× 120°05E, h0km, mb3.9/3, mb1 3.8/8, mb1mx3.6/37, mbtmp3.7/8, ML3.4/5, Error ellipse: s-maj=54.4km s-min=20.8km az=52.0*
ISC 22 05:08:08.2±1.0, 10°54S±0°08× 120°64E±0°09, h31km, n8, σ3s20/12, mb4.1/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**2.99**	**84**	Pn	**Pb**	**05 09 00.6**	**-0.3**
	4.0nm,0.3s,baz=294,slow=19,SNR=1.5						
BATI				Sn	**Sb**	**05 09 39.1**	**+2.1**
	3.4nm,0.3s,baz=353,slow=20,SNR=7.9						
KAPI	**Kappang**	**5.56**	**351**	Pn	**Pn**	**05 09 30.5**	**+1.6**
	1.3nm,0.3s,baz=146,slow=4.2,SNR=6.0						
KAPI				Sn	**Sn**	**05 10 27.3**	**-4.5**
	0.4nm,0.3s,baz=76,slow=18,SNR=1.2						
FITZ	**Fitzroy Crossi**	**8.94**	**148**	Pn	**Pn**	**05 10 16.7**	**+1.5**
	0.4nm,0.3s,baz=319,slow=14,SNR=9.0						
FITZ				Sn	**Sn**	**05 11 50.4**	**-4.5**
	0.5nm,0.3s,baz=167,slow=18,SNR=5.9						
WRA	**Warramunga Arr**	**16.18**	**127**	Pn	**Pn**	**05 11 54.7**	**+1.3**
	0.1nm,0.3s,baz=296,slow=13,SNR=1.1						
WRA				Sn	**Sn**	**05 14 46.3**	**-5.7**
	0.1nm,0.3s,baz=82,slow=35,SNR=2.9						
ASAR	**Alice Springs**	**18.18**	**138**	P	**P**	**05 12 21.4**	**+2.9**
	0.1nm,0.3s,baz=315,slow=12,SNR=12						
SONM	**Songino Array**	**59.48**	**349**	P	**P**	**05 18 08.6**	**+0.2**
	0.8nm,0.5s,baz=158,slow=7.4,SNR=4.1						
MKAR	**Makanchi Array**	**66.56**	**332**	P	**P**	**05 18 55.3**	**0.0**
	0.5nm,0.6s,baz=135,slow=7.9,SNR=6.9						
ZALV	**Zalesovo Beam**	**71.05**	**339**	P	**P**	**05 19 22.6**	**-0.5**
	1.3nm,0.5s,baz=144,slow=5.3,SNR=5.0						

DJA ***22*** *05:35:01.4± 0.8, 11°S× 4°× 12°0E±°, h17km± 7km, M4.3/9, mb4.6/7, MLv4.2/9, Mwp5.4/1*
NEIC ***22*** *05:35:03.3± 2.0, 10°65S± 0°05× 120°32E± 0°05, h48km± 7km, mb4.2/18, Error ellipse: s-maj=9.2km s-min=4.0km az=223.0*
IDC ***22*** *05:35:05.4± 2.4, 10°48S× 120°45E, h52km± 22km, mb3.9/18, mb1 4.0/21, mb1mx3.8/51, mbtmp4.2/21, ML4.2/3, MS3.5/3, Ms1 3.5/3, ms1mx2.9/29, Error ellipse: s-maj=18.2km s-min=10.7km az=58.0*
ISC 22 05:35:02.0±0.4, 10°70S±0°04× 120°38E±0°04, h31km, n75, σ1s91/82, mb4.2/21, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**0.51**	**22**	P	**Pb**	**05 35 11.5**	**-1.2**
WSI	**Waingapu**	**1.02**	**355**	P	**Pb**	**05 35 21.2**	**0.0**
WBSI	**Waikabubak, Su**	**1.43**	**317**	P	**Pn**	**05 35 26.3**	**+0.4**
MMRI	**Maumere**	**2.75**	**42**	P	**Pn**	**05 35 42.8**	**-1.2**
MMRI	**Maumere**	**2.75**	**42**	Pn	**Pn**	**05 35 44.3**	**+0.3**
MMRI				Sn	**Sn**	**05 36 14.0**	**-2.1**
PLAI	**Plampang**	**3.17**	**306**	P	**Pn**	**05 35 50.9**	**+1.1**
PLAI				S	**Sn**	**05 36 27.1**	**+0.5**
BATI	**Baumata**	**3.26**	**82**	P	**Pn**	**05 35 53.8**	**+2.7**
	28nm,0.3s,baz=282,slow=4.0,SNR=14						
BATI				S	**Sn**	**05 36 30.1**	**+1.2**
	18nm,0.3s,baz=342,slow=19,SNR=10						
BATI	**Baumata**	**3.26**	**82**	P	**Pn**	**05 35 53.8**	**+2.7**
SOEI	**Soe**	**3.94**	**77**	P	**Pn**	**05 36 01.4**	**+0.9**
SOEI	**Soe**	**3.94**	**77**	Pn	**Pn**	**05 36 02.2**	**+1.7**
KAPI	**Kappang**	**5.68**	**354**	P	**Pn**	**05 36 24.0**	**-0.3**
	6.9nm,0.3s,baz=168,slow=8.2,SNR=10						
KAPI				S	**Sn**	**05 37 26.7**	**-1.8**
	0.8nm,0.3s,baz=55,slow=22,SNR=0.9						
KAPI				LR	LR	05 38 56.1	
	comp=Z,363nm,18.3s,baz=173,slow=42						
JAGI	**Jajag, Banyuwa**	**6.53**	**289**	P	**Pn**	**05 36 35.5**	**-0.5**
	0.3nm28nm,0.6s						
JAGI	**Jajag, Banyuwa**	**6.53**	**289**	Pn	**Pn**	**05 36 35.9**	**-0.1**
JAGI				Sn	**Sn**	**05 37 48.0**	**-1.5**
FITZ	**Fitzroy Crossi**	**8.95**	**146**	P	**Pn**	**05 37 10.6**	**+1.3**
	1.3nm,0.3s,baz=336,slow=10,SNR=62						
FITZ				S	**Sn**	**05 38 43.7**	**-5.3**
	2.7nm,0.3s,baz=179,slow=19,SNR=4.5						
FITZ	**Fitzroy Crossi**	**8.95**	**146**	Pn	**Pn**	**05 37 10.3**	**+1.0**
KNRA	**Kununurra**	**9.54**	**122**	Pn	**Pn**	**05 37 19.0**	**+1.6**
KNRA				Sn	**Sn**	**05 39 04.8**	**+1.1**
PSAD1	**Pilbara Seismi**	**10.71**	**183**	Pn	**Pn**	**05 37 35.0**	**+1.6**
MTN	**Manton Dam**	**10.74**	**103**	Pn	**Pn**	**05 37 34.8**	**+1.0**
PSAC1	**Pilbara Seismi**	**10.79**	**183**	Pn	**Pn**	**05 37 35.3**	**+0.8**
PSAC1				Sn	**Sn**	**05 39 28.4**	**-5.9**
PSAB1	**Pilbara Seismi**	**10.83**	**183**	Pn	**Pn**	**05 37 35.9**	**+0.9**
PSAB1				Sn	**Sn**	**05 39 30.1**	**-5.1**
PSA00	**Pilbara Seismi**	**10.83**	**183**	Pn	**Pn**	**05 37 36.2**	**+1.2**
PSA00				Sn	**Sn**	**05 39 30.4**	**-4.8**
CISI	**Cisompet, Garu**	**12.79**	**283**	Pn	**Pn**	**05 38 02.2**	**+0.2**
GIRL	**Giralia**	**13.26**	**206**	Pn	**Pn**	**05 38 07.9**	**-0.3**
WB0	**Warramunga Arr**	**16.24**	**125**	Pn	**Pn**	**05 38 48.4**	**+0.3**
WB0				IAmb	IAmb	05 38 57.4	
	comp=Z,16nm,1.1s						
WRA	**Warramunga Arr**	**16.29**	**126**	P	**Pn**	**05 38 48.0**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=297,slow=13,SNR=16						
WRA				S	Sn	05 41 37.0	-12
	comp=Z,0.2nm,0.3s,baz=292,slow=22,SNR=2.3						
WRA	**Warramunga Arr**	**16.29**	**126**	Pn	**Pn**	**05 38 49.2**	**+0.5**
WRAB	**Tennant Creek**	**16.29**	**126**	Pn	**Pn**	**05 38 48.4**	**-0.3**
WRAB				IAmb	IAmb	05 38 58.0	
	comp=Z,15nm,1.2s						
WB2	**Warramunga Arr**	**16.30**	**126**	Pn	**Pn**	**05 38 48.5**	**-0.3**
WR0	**Warramunga Arr**	**16.46**	**126**	Pn	**Pn**	**05 38 50.8**	**-0.1**
WR0				IAmb	IAmb	05 38 59.8	
	comp=Z,19nm,1.4s						
KKM	**Kota Kinabalu**	**17.14**	**346**	P	**Pn**	**05 38 57.1**	**-2.4**
AS31	**Alice Springs**	**18.23**	**137**		**Pn**	**05 39 15.6**	**+2.7**
ASAR	**Alice Springs**	**18.23**	**137**	P	**Pn**	**05 39 14.7**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=315,slow=12,SNR=56						
ASAR				S	Sn	05 42 24.8	-11
	comp=Z,0.1nm,0.3s,baz=306,slow=21,SNR=4.3						
ASAR	**Alice Springs**	**18.23**	**137**	P	**Pn**	**05 39 15.6**	**+2.7**
MORW	**Morawa**	**18.73**	**192**	P	**Pn**	**05 39 19.7**	**+0.8**
MORW				IAmb	IAmb	05 39 25.6	
	comp=Z,6.5nm,0.6s						
NWAO	**Narrogin (SRO)**	**22.32**	**187**	P	**P**	**05 40 00.5**	**+3.3**
	comp=Z,7.1nm,0.7s,baz=343,slow=11,SNR=1.2						
NWAO				S	**S**	**05 43 53.3**	**-7.5**
	comp=Z,9.3nm,0.8s,baz=260,slow=5.3,SNR=1.3						
RPSI	**Rantau Prapat**	**25.16**	**301**	P	**P**	**05 40 25.9**	**+1.0**
RPSI	**Rantau Prapat**	**25.16**	**301**	P	**P**	**05 40 25.8**	**+1.0**
PSI	**Prapat**	**25.22**	**301**	P	**P**	**05 40 25.8**	**+0.4**
	comp=Z,5.4nm,0.4s,baz=359,slow=1.0,SNR=4.6						
STKA	**Stephens Creek**	**28.79**	**140**	P	**P**	**05 40 60.0**	**+2.7**
	comp=Z,2.3nm,0.9s,baz=323,slow=15,SNR=1.8						
STKA				S	S	05 45 33.7	-11
	comp=Z,2.1nm,0.7s,baz=267,slow=17,SNR=1.9						
STKA	**Stephens Creek**	**28.79**	**140**	P	**P**	**05 40 58.1**	**+0.8**
CMAR	**Chiang Mai Arr**	**35.87**	**324**	P	**P**	**05 42 00.1**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=155,slow=6.9,SNR=5.9						
CMAR				LR	LR	05 58 11.9	
	comp=Z,56nm,19.6s,baz=170,slow=39						
CMAR	**Chiang Mai Arr**	**35.87**	**324**	P	**P**	**05 41 59.3**	**-0.1**
HNR	**Honiara**	**38.96**	**92**	LR	LR	06 01 27.9	
	comp=Z,81nm,18.5s,baz=152,slow=41						
H08S2	**Diego Garcia H**	**47.34**	**269**	T	T	06 34 12.5	
	baz=96,slow=75,SNR=12						
H08S3	**Diego Garcia H**	**47.35**	**269**	T	T	06 34 13.9	
	baz=96,slow=75,SNR=11						
H08S1	**Diego Carcia H**	**47.36**	**269**	T	T	06 34 10.5	
	baz=96,slow=75,SNR=6.7						
MJAR	**Matsushiro Arr**	**49.89**	**19**	P	**P**	**05 43 51.2**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=188,slow=7.9,SNR=4.2						
HHC	**Hu-ho-hao-te**	**51.93**	**352**	***e*P**	**P**	**05 44 09.3**	**+1.2**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,48nm,4.8s						
USRK	**Ussuriysk Ar.**	**55.64**	**10**	P	**P**	**05 44 33.8**	**-1.2**
	comp=Z,1.4nm,0.6s,baz=184,slow=7.2,SNR=5.5						
USRK	**Ussuriysk Ar.**	**55.64**	**10**	P	**P**	**05 44 34.5**	**-0.5**
ASAJ	**Asahikawa**	**58.17**	**19**	P	**P**	**05 44 52.5**	**-0.5**
	comp=Z,4.4nm,0.6s,baz=236,slow=10,SNR=7.7						
JKA	**Kamikawa-asahi**	**58.17**	**19**	P	**P**	**05 44 52.8**	**-0.2**
SONM	**Songino Array**	**59.58**	**349**	P	**P**	**05 45 03.1**	**+0.2**
	comp=Z,4.7nm,0.5s,baz=167,slow=8.1,SNR=26						
SONM	**Songino Array**	**59.58**	**349**	P	**P**	**05 45 03.2**	**+0.3**
WMQ	**Urumqi**	**61.87**	**334**	***e*P**	**P**	**05 45 20.0**	**+1.5**
MK31	**Makanchi Array**	**66.58**	**332**	P	**P**	**05 45 49.5**	**+0.2**
MK31				IAmb	IAmb	05 45 50.0	
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**66.58**	**332**	P	**P**	**05 45 49.2**	**0.0**
	comp=Z,2.2nm,0.6s,baz=142,slow=7.7,SNR=19						
AAK	**Ala-Archa**	**67.64**	**325**	P	**P**	**05 45 56.7**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=161,slow=4.6,SNR=4.3						
AAK	**Ala-Archa**	**67.64**	**325**	P	**P**	**05 45 56.2**	**-0.1**
AAK				IAmb	IAmb	05 45 58.4	
	comp=Z,2.1nm,0.6s						
VNDA	**Vanda**	**70.11**	**171**	P	**P**	**05 46 12.8**	**+1.9**
	comp=Z,0.7nm,0.9s,baz=260,slow=6.1,SNR=5.9						
KURBB	**Kurchatov Arra**	**71.08**	**333**	P	**P**	**05 46 16.7**	**-0.5**
	comp=Z,1.4nm,0.6s,baz=144,slow=5.8,SNR=10						
PETK	**Petropavlovsk-**	**71.09**	**23**	P	**P**	**05 46 16.8**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=191,slow=6.8,SNR=2.5						
PETK	**Petropavlovsk-**	**71.09**	**23**	P	**P**	**05 46 15.9**	**-1.2**
ZAA0	**Zalesovo Array**	**71.10**	**339**	P	**P**	**05 46 16.2**	**-1.0**
ZALV	**Zalesovo Beam**	**71.10**	**339**	P	**P**	**05 46 16.4**	**-0.8**
	comp=Z,5.6nm,0.5s,baz=141,slow=5.0,SNR=24						
ZALV	**Zalesovo Beam**	**71.10**	**339**	P	**P**	**05 46 16.2**	**-1.0**
KURK	**Kurchatov**	**71.11**	**333**	P	**P**	**05 46 16.6**	**-0.7**
KURK				IAmb	IAmb	05 46 18.1	
	comp=Z,2.6nm,0.7s						
BVAR	**Borovoye Array**	**76.42**	**332**	P	**P**	**05 46 48.8**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=126,slow=7.7,SNR=9.2						
QSPA	**South Pole Qui**	**79.31**	**180**	P	**P**	**05 47 07.0**	**+2.5**
	comp=Z,0.6nm,0.5s,baz=90,slow=0.6,SNR=7.0						
QSPA	**South Pole Qui**	**79.31**	**180**	P	**P**	**05 47 04.4**	**-0.1**
QSPA				IAmb	IAmb	05 47 05.3	
	comp=Z,6.3nm,1.4s						
ABKAR	**Akbulak array**	**79.72**	**325**	P	**P**	**05 47 06.2**	**-0.7**
AKTO	**Aktyubinsk**	**81.39**	**325**	P	**P**	**05 47 16.2**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=120,slow=8.2,SNR=6.1						
TIXI	**Tiksi**	**82.36**	**3**	P	**P**	**05 47 20.1**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=165,slow=1.0,SNR=3.1						
SNAA	**Sanae**	**89.74**	**195**	P	**P**	**05 47 56.5**	**-0.5**
TORD	**Torodi Ar. Bea**	**120.08**	**279**	PKP	**PKiKP**	**05 53 52.4**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=83,slow=1.3,SNR=3.2						

NEIC ***22*** *05:50:45.0± 1.0, 22°1N± 0°1× 144°6E± 0°2, h96km± 9km, mb4.2/16, Error ellipse: s-maj=23.0km s-min=16.6km az=78.0*
IDC ***22*** *05:50:50.3± 6.2, 22°13N× 144°53E, h143km± 55km, mb3.5/10, mb1 3.5/11, mb1mx3.3/46, mbtmp3.9/11, MS3.2/3, Ms1 3.2/3, ms1mx2.6/33, Error ellipse: s-maj=73.5km s-min=16.4km az=81.0*
ISC 22 05:50:45.5±0.9, 22°1N±0°1× 144°6E±0°1, h100km, n39, σ0s78/34, mb4.1/16, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.39**	**337**	Pn	**Pn**	**05 52 03.3**	**-0.2**
MJAR	**Matsushiro Arr**	**15.38**	**340**	P	**P**	**05 54 18.6**	**-0.9**
	0.0nm,0.3s,baz=157,slow=10,SNR=2.5						
MJAR	**Matsushiro Arr**	**15.38**	**340**		**Pn**	**05 54 17.8**	**+0.8**
YOJ	**Yonaguni jima**	**19.93**	**281**	P	**P**	**05 55 08.9**	**-0.6**
KSRS	**Korea Array**	**20.96**	**320**	P	**P**	**05 55 21.9**	**+1.4**
	0.8nm,0.4s,baz=143,slow=8.1,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**21.06**	**96**	T	T	06 17 27.7	
	baz=282						
H11S1	**WAKE ISLAND Hy**	**21.07**	**96**	T	T	06 17 31.9	
	baz=282						
H11S2	**WAKE ISLAND Hy**	**21.08**	**96**	T	T	06 17 27.6	
	baz=282						
ASAJ	**Asahikawa**	**21.98**	**356**	LR	LR	06 04 12.3	
	comp=Z,28nm,18.9s,baz=191,slow=36						
USRK	**Ussuriysk Ar.**	**24.34**	**338**	P	**P**	**05 55 55.3**	**+1.4**
	1.6nm,0.7s,baz=146,slow=8.6,SNR=4.6						
USRK	**Ussuriysk Ar.**	**24.34**	**338**	P	**P**	**05 55 55.0**	**+1.1**
MDJ	**Mudanjiang**	**25.59**	**335**	P	**P**	**05 56 06.0**	**+0.7**
MDJ				IAmb	IAmb	05 56 20.4	
	comp=Z,7.9nm,0.5s						
KLR	**Kul'dur**	**28.89**	**342**	P	**P**	**05 56 35.8**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=161,slow=9.7,SNR=6.4						
KLR				LR	LR	06 07 04.4	
	comp=Z,26nm,20.7s,baz=232,slow=34						
BATI	**Baumata**	**38.12**	**215**	LR	LR	06 13 54.5	
	comp=Z,104nm,18.3s,baz=132,slow=36						
WB2	**Warramunga Arr**	**42.99**	**194**	P	**P**	**05 58 34.9**	**-0.2**
WRA	**Warramunga Arr**	**43.00**	**194**	P	**P**	**05 58 34.9**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=13,slow=8.7,SNR=8.1						
WRA	**Warramunga Arr**	**43.00**	**194**	P	**P**	**05 58 34.9**	**-0.2**
ASAR	**Alice Springs**	**46.69**	**193**	P	**P**	**05 59 05.7**	**+1.2**
	comp=Z,0.5nm,0.9s,baz=14,slow=7.8,SNR=1.8						
UNV	**Unalaska Valle**	**48.50**	**37**	P	**P**	**05 59 18.1**	**+0.1**
ZAA0	**Zalesovo Array**	**54.67**	**321**	P	**P**	**06 00 02.6**	**-1.4**
ZAA0				IAmb	IAmb	06 00 18.9	
	comp=Z,1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**54.67**	**321**	P	**P**	**06 00 03.0**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=103,slow=8.1,SNR=2.4						
ZALV	**Zalesovo Beam**	**54.67**	**321**	P	**P**	**06 00 02.5**	**-1.5**
MK31	**Makanchi Array**	**55.35**	**312**	P	**P**	**06 00 07.8**	**-1.3**
MKAR	**Makanchi Array**	**55.35**	**312**	P	**P**	**06 00 09.2**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=90,slow=8.8,SNR=15						
MKAR	**Makanchi Array**	**55.35**	**312**	P	**P**	**06 00 08.3**	**-0.8**
KURK	**Kurchatov**	**58.03**	**317**	P	**P**	**06 00 28.0**	**+0.1**
KURK				IAmb	IAmb	06 00 28.5	
	comp=Z,2.2nm,0.9s						
KURBB	**Kurchatov Arra**	**58.08**	**317**	P	**P**	**06 00 28.4**	**+0.1**
	comp=Z,1.6nm,0.4s,baz=92,slow=7.6,SNR=31						
PAX	**Paxson**	**61.42**	**29**	P	**P**	**06 00 51.5**	**+0.4**
PAX				IAmb	IAmb	06 00 51.6	
	comp=Z,2.1nm,1.2s						
DOT	**Dot Lake**	**62.14**	**29**	P	**P**	**06 00 55.8**	**-0.1**
DOT				IAmb	IAmb	06 00 57.0	
	comp=Z,2.4nm,1.2s						
SCRK	**Sand Creek**	**62.21**	**28**	P	**P**	**06 00 56.8**	**+0.4**
BVAR	**Borovoye Array**	**63.17**	**319**	P	**P**	**06 01 03.2**	**+0.4**
	comp=Z,2.2nm,0.4s,baz=96,slow=7.7,SNR=12						
BRVK	**Borovoye**	**63.24**	**319**	P	**P**	**06 01 03.2**	**0.0**
BRVK				IAmb	IAmb	06 01 04.2	
	comp=Z,3.4nm,0.9s						
KK31	**Karatay Array**	**63.79**	**308**	P	**P**	**06 01 07.4**	**+0.2**
KK31				IAmb	IAmb	06 01 08.3	
	comp=Z,1.8nm,0.8s						
KKAR	**Karatay Array**	**63.79**	**308**	P	**P**	**06 01 07.1**	**0.0**
KKAR	**Karatay Array**	**63

LVC	**Limon Verde**	**1.58**	**188**	Pn		**Pn**	**05 53 33.9**	**+0.7**
LVC				Sn		**Sn**	**05 53 55.7**	**+1.1**
LVC	**Limon Verde**	**1.58**	**188**	*e*P		**Pn**	**05 53 33.9**	**+0.7**
LVC				*e*S		**Sn**	**05 53 55.3**	**+0.7**
LVC				IAML			05 53 59.0	
	comp=Z,873nm,1.1s							
LVC	**Limon Verde**	**1.58**	**188**	*e*P		**Pn**	**05 53 34.0**	**+0.8**
LVC				*e*S		**Sn**	**05 53 55.6**	**+0.9**
LVC	**Limon Verde**	**1.58**	**188**	*e*P		**Pn**	**05 53 34.0**	**+0.8**
LVC				*e*S		**Sn**	**05 53 55.6**	**+0.9**
PB06	**IPOC Station P**	**1.85**	**207**	⇑*i*P		**Pn**	**05 53 36.3**	**0.0**
PB06				*i* S		**Sn**	**05 54 00.3**	**-0.1**
PB06				IAML			05 54 01.4	
	comp=E,3μm,0.4s							
PB06	**IPOC Station P**	**1.85**	**207**			**Pn**	**05 53 36.4**	**0.0**
PB06	**IPOC Station P**	**1.85**	**207**	*e*P		**Pn**	**05 53 36.5**	**0.0**
PB06				*e*S		**Sn**	**05 54 00.5**	**+0.1**
PB06				IAML			05 54 05.1	
	comp=Z,2μm,0.4s							
PB04	**IPOC Station P**	**1.88**	**227**	⇑*i*P		**Pn**	**05 53 36.3**	**-0.5**
PB04				*i* S		**Sn**	**05 54 00.1**	**-0.8**
PB04				IAML			05 54 09.7	
	comp=E,3μm,0.6s							
PB04	**IPOC Station P**	**1.88**	**227**	Pn		**Pn**	**05 53 36.0**	**-0.7**
PB04	**IPOC Station P**	**1.88**	**227**	*e*P		**Pn**	**05 53 36.4**	**-0.3**
PB04				*e*S		**Sn**	**05 53 59.0**	**-1.9**
PB04				IAML			05 54 04.1	
	comp=Z,2μm,0.1s							
PSGC	**Pisagua**	**1.98**	**316**	⇑*i*P		**Pn**	**05 53 37.6**	**-0.3**
PSGC				*i* S		**Sn**	**05 54 01.7**	**-1.3**
PSGCX	**Pisagua**	**1.98**	**316**			**Pn**	**05 53 37.6**	**-0.3**
PSGCX				Sn		**Sn**	**05 54 02.8**	**-0.2**
PSGCX	**Pisagua**	**1.98**	**316**	*e*P		**Pn**	**05 53 37.6**	**-0.3**
PSGCX				*e*S		**Sn**	**05 54 03.0**	**0.0**
PSGCX				IAML			05 54 05.3	
	comp=Z,1μm,0.4s							
MNMC	**Minye Minye**	**2.09**	**335**	⇓*i*P		**Pn**	**05 53 40.2**	**+0.8**
MNMC				*i* S		**Sn**	**05 54 07.0**	**+1.2**
MNMC	**Minye Minye**	**2.09**	**335**			**Pn**	**05 53 40.4**	**+0.9**
MNMC				Sn		**Sn**	**05 54 07.6**	**+1.8**
PB15	**IPOC Station P**	**2.28**	**199**	⇑*i*P		**Pn**	**05 53 42.7**	**+0.9**
PB15				*i* S		**Sn**	**05 54 10.6**	**+0.6**
PB15	**IPOC Station P**	**2.28**	**199**			**Pn**	**05 53 42.7**	**+0.9**
PB15	**IPOC Station P**	**2.28**	**199**	*e*P		**Pn**	**05 53 42.8**	**+0.9**
PB15				IAML			05 54 20.6	
	comp=Z,3μm,0.2s							
PB05	**IPOC Station P**	**2.29**	**218**	⇑*i*P		**Pn**	**05 53 41.0**	**-0.9**
PB05				*i* S		**Sn**	**05 54 08.2**	**-2.0**
PB05				IAML			05 54 19.0	
	comp=E,1μm,0.1s							
PB05	**IPOC Station P**	**2.29**	**218**	*e*P		**Pn**	**05 53 42.1**	**+0.1**
PB05				IAML			05 54 21.4	
	comp=Z,1μm,0.7s							
PB12	**IPOC Station P**	**2.87**	**327**	*e*P		**Pn**	**05 53 49.8**	**+0.4**
PB12				*i* S		**Sn**	**05 54 22.5**	**-1.2**
PB12				IAML			05 54 25.9	
	comp=E,935nm,0.6s							
PB12	**IPOC Station P**	**2.87**	**327**	Pn		**Pn**	**05 53 48.7**	**-0.8**
PB12				Sn		**Sn**	**05 54 22.8**	**-0.9**
PB10	**IPOC Station P**	**3.01**	**215**	*e*P		**Pn**	**05 53 51.9**	**+0.7**
PB10				*e*S		**Sn**	**05 54 27.6**	**+0.7**
PB10				IAML			05 54 39.2	
	comp=N,642nm,0.5s							
PB10	**IPOC Station P**	**3.01**	**215**	Pn		**Pn**	**05 53 50.8**	**-0.4**
AP01	**Chacalluta**	**3.08**	**329**	*e*P		**Pn**	**05 53 53.2**	**+1.0**
AP01				*i* S		**Sn**	**05 54 29.4**	**+0.8**
AP01	**Chacalluta**	**3.08**	**329**			**Pn**	**05 53 51.5**	**-0.7**
AP01				Sn		**Sn**	**05 54 28.1**	**-0.5**
GO02	**Mina Guanaco**	**4.19**	**191**	Pn		**Pn**	**05 54 05.8**	**-1.3**
LPAZ	**La Paz**	**4.75**	**6**	P		**Pn**	**05 54 16.6**	**+1.5**
	comp=N,30nm,0.3s,baz=202,slow=4.7,SNR=656							
LPAZ				LR		LR	05 56 45.6	
	comp=N,88nm,19.3s,baz=180,slow=47							
LPAZ	**La Paz**	**4.75**	**6**	Pn		**Pn**	**05 54 16.8**	**+1.7**
AC02	**Maricunga**	**5.78**	**184**	Pn		**Pn**	**05 54 27.9**	**-1.0**
GO03	**Copiap**	**6.68**	**192**			**Pn**	**05 54 45.0**	**+4.4**
AC05	**El Transito**	**7.90**	**190**	Pn		**Pn**	**05 54 54.0**	**-3.2**
SIV	**San Ignacio**	**8.79**	**56**	P		**Pn**	**05 55 06.2**	**-3.0**
	comp=N,15nm,0.3s,baz=251,slow=10.0,SNR=317							
SIV				S		Sn	05 56 29.0	-18
	baz=322,slow=17,SNR=2.6							
SIV				LR		LR	05 58 34.2	
	comp=N,48nm,20.6s,baz=290,slow=38							
CO01	**Juntas del Tor**	**8.99**	**188**			**Pn**	**05 55 12.3**	**+0.2**
GO04	**Tololo Observa**	**9.29**	**191**	Pn		Pn	05 55 21.6	+5.4
CO03	**El Pedregal**	**9.92**	**190**	Pn		**Pn**	**05 55 25.9**	**+1.3**
VILB	**Vilhena**	**11.41**	**47**	*e*P		**Pn**	**05 55 44.3**	**-0.4**
VILB	**Vilhena**	**11.41**	**47**	*e*P		**Pn**	**05 55 44.3**	**-0.4**
CPUP	**Villa Florida**	**11.65**	**119**	P		**Pn**	**05 55 45.4**	**-2.4**
	comp=N,0.1nm,0.3s,baz=301,slow=12,SNR=5.8							
AQDB	**Aquidauana**	**12.15**	**90**	*e*P		**Pn**	**05 55 53.5**	**-0.9**
AQDB	**Aquidauana**	**12.15**	**90**	*e*P		**Pn**	**05 55 53.5**	**-0.9**
MT02	**Curacav**	**12.37**	**190**	Pn		**Pn**	**05 55 56.0**	**-1.2**
SALV	**Santo Antonio**	**13.33**	**70**	*e*P		**P**	**05 56 11.7**	**-3.7**
SALV	**Santo Antonio**	**13.33**	**70**	*e*P		**P**	**05 56 11.7**	**-3.7**
TRCB	**Terra Rica**	**14.99**	**100**	*e*P		**P**	**05 56 31.8**	**-2.1**
TRCB	**Terra Rica**	**14.99**	**100**	*e*P		**P**	**05 56 31.8**	**-2.1**
PTGB	**Pitanga**	**15.74**	**107**	*e*P		**P**	**05 56 42.6**	**+0.5**
PTGB	**Pitanga**	**15.74**	**107**	*e*P		**P**	**05 56 42.6**	**+0.5**
CLDB	**Colider**	**15.97**	**53**	*e*P		**P**	**05 56 43.6**	**-1.1**
CLDB	**Colider**	**15.97**	**53**	*e*P		**P**	**05 56 43.6**	**-1.1**
PCMB	**Pacaembu**	**16.24**	**95**	*e*P		**P**	**05 56 47.7**	**0.0**
PCMB	**Pacaembu**	**16.24**	**95**	*e*P		**P**	**05 56 47.7**	**0.0**
ARAG	**Araguaiana, MT**	**16.86**	**74**	*e*P		**P**	**05 56 54.6**	**+0.1**
ARAG	**Araguaiana, MT**	**16.86**	**74**	*e*P		**P**	**05 56 54.6**	**+0.1**
FRTB	**Fartura**	**17.85**	**101**	*e*P		**Pn**	**05 57 05.2**	**-1.1**
FRTB	**Fartura**	**17.85**	**101**	*e*P		**Pn**	**05 57 05.2**	**-1.1**
CNLB	**Canela**	**18.10**	**121**	*e*P		**Pn**	**05 57 07.9**	**-1.3**
CNLB	**Canela**	**18.10**	**121**	*e*P		**Pn**	**05 57 07.9**	**-1.3**
NPGB	**Novo Progresso**	**18.96**	**45**	*e*P		**P**	**05 57 16.0**	**-1.7**
NPGB	**Novo Progresso**	**18.96**	**45**	*e*P		**P**	**05 57 16.0**	**-1.7**
MACA	**Manacapuru-AM**	**19.40**	**25**	*e*P		**P**	**05 57 20.2**	**-2.1**
MACA	**Manacapuru-AM**	**19.40**	**25**	*e*P		**P**	**05 57 20.2**	**-2.1**
IPMB	**Ipameri, GO**	**19.53**	**85**	*e*P		**P**	**05 57 22.7**	**-1.1**
IPMB	**Ipameri, GO**	**19.53**	**85**	*e*P		**P**	**05 57 22.7**	**-1.1**
PLCA	**Paso Flores**	**19.70**	**184**	P		**P**	**05 57 25.4**	**0.0**
	comp=N,0.1nm,0.3s,baz=1.3,slow=14,SNR=2.0							
PLCA	**Paso Flores**	**19.70**	**184**	IAmb		IAmb	05 57 28.2	
	comp=Z,0.3nm,0.7s							
VAO	**Valinhos**	**20.22**	**100**	*e*P		**P**	**05 57 29.5**	**-1.8**
VAO	**Valinhos**	**20.22**	**100**	*e*P		**P**	**05 57 29.5**	**-1.8**
BDFB	**Brasilia**	**20.33**	**78**	P		**P**	**05 57 31.1**	**-1.5**
	comp=Z,3.7nm,0.4s,baz=246,slow=9.9,SNR=13							
BDFB	**Brasilia**	**20.33**	**78**	P		**P**	**05 57 31.2**	**-1.3**
PTGA	**Pitinga**	**21.90**	**24**	P		**P**	**05 57 47.0**	**-2.3**
PUAC	**Puerto Asis, P**	**22.80**	**339**	*e*P		**P**	**05 57 59.6**	**+1.2**
MALB	**Monte Alegre**	**23.69**	**38**	*e*P		**P**	**05 58 05.5**	**-1.1**
MALB	**Monte Alegre**	**23.69**	**38**	*e*P		**P**	**05 58 05.5**	**-1.1**
JANB	**Januaria**	**23.90**	**80**	*e*P		**P**	**05 58 06.9**	**-1.8**
JANB	**Januaria**	**23.90**	**80**	*e*P		**P**	**05 58 06.9**	**-1.8**
GARC	**Garzon, Huila**	**24.03**	**343**	*e*P		**P**	**05 58 10.1**	**+0.1**
BBAC	**Balboa, Cauca**	**24.41**	**339**	*e*P		**P**	**05 58 14.6**	**+1.2**
PCON	**Cinco Dias**	**24.43**	**341**	*e*P		**P**	**05 58 15.9**	**+2.0**
PRAC	**Prado**	**25.34**	**345**	*e*P		**P**	**05 58 21.0**	**-0.7**
ORTC	**Ortega, Tolima**	**25.62**	**345**	*e*P		**P**	**05 58 24.5**	**+0.3**
YOTC	**Yotoco, Valle**	**25.98**	**342**	*e*P		**P**	**05 58 26.8**	**-0.8**
ROSC	**El Rosal**	**26.31**	**347**	P		**P**	**05 58 31.8**	**+1.0**
	comp=Z,7.3nm,0.7s,baz=155,slow=11,SNR=4.8							
ROSC	**El Rosal**	**26.31**	**347**	P		**P**	**05 58 32.0**	**+1.2**
ROSC				IAmb		IAmb	05 58 32.6	
	comp=Z,20nm,1.4s							
RREF	**El Recreo**	**26.60**	**345**	*e*P		**P**	**05 58 35.0**	**+1.4**
GUY2C	**Guyana, Caldas**	**26.91**	**345**	*e*P		**P**	**05 58 35.6**	**-0.7**
SPBC	**San Pablo de B**	**27.05**	**348**	*e*P		**P**	**05 58 36.3**	**-0.7**
RUSC	**La Rusia**	**27.11**	**350**	*e*P		**P**	**05 58 37.8**	**-0.3**
RUSC	**La Rusia**	**27.11**	**350**	P		**P**	**05 58 38.6**	**+0.6**
NORC	**Norcasia**	**27.13**	**346**	*e*P		**P**	**05 58 37.8**	**0.0**
CBOC	**Ciudad Bolivar**	**27.69**	**344**	*e*P		**P**	**05 58 41.2**	**-1.7**
HELC	**Santa Helena**	**27.89**	**345**	*e*P		**P**	**05 58 43.4**	**-1.4**
PTBC	**PUERTO BERRIO,**	**27.99**	**348**	*e*P		**P**	**05 58 42.8**	**-2.6**
ZARC	**Zaragoza, Cauc**	**29.00**	**347**	*e*P		**P**	**05 58 52.0**	**-2.4**
SMLC	**San Martn de**	**30.12**	**349**	*e*P		**P**	**05 59 01.1**	**-3.1**
PLCV	**Puerto La Cruz**	**31.27**	**8**	P		**P**	**05 59 13.9**	**-0.5**
PCRV	**Puerto La Cruz**	**31.27**	**8**	P		**P**	**05 59 13.9**	**-0.6**
	comp=Z,8.4nm,0.7s,baz=215,slow=16,SNR=2.4							
TOSP	**Speyside**	**33.12**	**15**	P		**P**	**05 59 30.7**	**+0.2**
ICMP	**Isla Caja de M**	**38.74**	**3**	P		**P**	**06 00 18.0**	**-0.4**
MLPR	**Magueyes Islan**	**38.80**	**2**	P		**P**	**06 00 17.3**	**-1.6**
MLPR				IAmb		IAmb	06 00 17.9	
	comp=Z,17nm,0.8s							
CRPR	**Cabo Rojo, PR**	**38.84**	**2**	P		**P**	**06 00 17.7**	**-1.5**
OBIP	**Obispado Ponce**	**38.89**	**3**	P		**P**	**06 00 19.3**	**-0.4**
SJG	**San Juan**	**38.99**	**4**	P		**P**	**06 00 17.6**	**-2.9**
ZAIG	**Zacatecas**	**54.66**	**321**	P		**P**	**06 02 25.1**	**+2.2**
ZAIG				IAmb		IAmb	06 02 25.7	
	comp=Z,4.4nm,0.7s							
BIRD	**Birdtown, Kers**	**56.50**	**348**	P		**P**	**06 02 36.0**	**+0.6**
X48A	**Hartselle**	**57.89**	**342**	P		**P**	**06 02 45.0**	**-0.1**
X48A				IAmb		IAmb	06 02 45.6	
	comp=Z,5.5nm,0.8s							
W50A	**Signal Mountai**	**58.12**	**344**	P		**P**	**06 02 46.9**	**0.0**
W50A				IAmb		IAmb	06 02 47.0	
	comp=Z,6.1nm,0.6s							
V52A	**Sevierville**	**58.31**	**346**	P		**P**	**06 02 48.0**	**-0.1**
V52A				IAmb		IAmb	06 02 48.7	
	comp=Z,9.5nm,1.0s							
U54A	**Nelsons Funny**	**58.58**	**348**	P		**P**	**06 02 49.4**	**-0.7**
PLAL	**Pickwick Lake**	**58.68**	**341**	P		**P**	**06 02 50.0**	**-0.7**
PLAL				IAmb		IAmb	06 02 50.6	
	comp=Z,5.4nm,1.0s							
V48A	**Smith Brothers**	**59.03**	**343**	P		**P**	**06 02 52.8**	**-0.3**
V48A				IAmb		IAmb	06 02 53.5	
	comp=Z,8.9nm,0.7s							
W45A	**Hickory Valley**	**59.18**	**340**	P		**P**	**06 02 53.8**	**-0.4**
W45A				IAmb		IAmb	06 02 54.7	
	comp=Z,14nm,1.1s							
WLAR	**White Oak Lake**	**59.20**	**336**	P		**P**	**06 02 55.6**	**+1.3**
CLTN	**Cedars of Leba**	**59.23**	**343**	P		**P**	**06 02 54.3**	**-0.2**
CLTN				IAmb		IAmb	06 02 54.9	
	comp=Z,7.0nm,0.7s							
U49A	**Red Boiling Sp**	**59.48**	**344**	P		**P**	**06 02 55.6**	**-0.6**
U49A				IAmb		IAmb	06 02 56.0	
	comp=Z,5.7nm,0.5s							
WVT	**Waverly**	**59.68**	**342**	P		**P**	**06 02 56.9**	**-0.7**
S54A	**Dingess, Beckl**	**59.72**	**348**	P		**P**	**06 02 58.2**	**+0.3**
T50A	**Nancy**	**59.73**	**345**	P		**P**	**06 02 57.6**	**-0.3**
T50A				IAmb		IAmb	06 02 58.1	
	comp=Z,3.9nm,0.8s							
MIAR	**Mount Ida**	**60.14**	**336**	P		**P**	**06 03 00.8**	**+0.1**
MIAR				IAmb		IAmb	06 03 01.6	
	comp=Z,5.2nm,0.8s							
T47A	**Sharon Grove**	**60.28**	**343**	P		**P**	**06 03 01.2**	**-0.5**
TXAR	**Lajitas Array**	**60.38**	**325**	P		**P**	**06 03 02.9**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=150,slow=10,SNR=5.3							
VNA3	**Neumayer Olymp**	**60.44**	**161**	P		**P**	**06 03 03.2**	**+0.8**
HICK	**Hickman**	**60.47**	**341**	P		**P**	**06 03 02.8**	**-0.1**
Q56A	**Snyder Ridge,**	**60.57**	**351**	P		**P**	**06 03 04.7**	**+1.1**
Q56A				IAmb		IAmb	06 03 05.3	
	comp=Z,8.8nm,0.7s							
T45A	**Paducah**	**60.74**	**342**	P		**P**	**06 03 04.7**	**0.0**
Q54A	**Coxs Mills**	**60.78**	**349**	P		**P**	**06 03 05.2**	**+0.2**
Q54A				IAmb		IAmb	06 03 05.8	
	comp=Z,7.2nm,0.7s							
W39A	**Magazine**	**60.79**	**337**	P		**P**	**06 03 05.7**	**+0.6**
W39A				IAmb		IAmb	06 03 07.1	
	comp=Z,7.4nm,0.7s							
FCAR	**Ozark Folk Cen**	**60.82**	**338**	P		**P**	**06 03 05.0**	**-0.3**
FCAR				IAmb		IAmb	06 03 05.6	
	comp=Z,4.4nm,0.9s							
X37A	**Clayton**	**60.87**	**335**	P		**P**	**06 03 06.7**	**+1.0**
X37A				IAmb		IAmb	06 03 07.3	
	comp=Z,4.8nm,0.7s							
PBMO	**Poplar Bluff**	**61.07**	**340**	P		**P**	**06 03 06.6**	**-0.3**
PBMO				IAmb		IAmb	06 03 07.4	
	comp=Z,8.3nm,0.7s							
WCI	**Wyandotte Cave**	**61.23**	**344**	P		**P**	**06 03 07.4**	**-0.6**
P53A	**Whipple**	**61.37**	**349**	P		**P**	**06 03 09.7**	**+0.7**
P53A				IAmb		IAmb	06 03 10.1	
	comp=Z,11nm,0.8s							
U40A	**Yellville**	**61.49**	**338**	P		**P**	**06 03 09.8**	**-0.1**
U40A				IAmb		IAmb	06 03 10.5	
	comp=Z,5.2nm,0.8s							
P52A	**Corning**	**61.65**	**348**	P		**P**	**06 03 10.7**	**-0.2**
P52A				IAmb		IAmb	06 03 11.3	
	comp=Z,6.8nm,0.7s							
HHAR	**Hobbs**	**61.82**	**337**	P		**P**	**06 03 12.2**	**+0.2**
HHAR				IAmb		IAmb	06 03 12.8	
	comp=Z,6.2nm,1.0s							
O53A	**New Philadelph**	**62.08**	**349**	P		**P**	**06 03 14.1**	**+0.3**
O53A				IAmb		IAmb	06 03 14.2	
	comp=Z,8.4nm,0.7s							
U38A	**Gravette**	**62.12**	**337**	P		**P**	**06 03 14.2**	**+0.1**
CCM	**Cathedral Cave**	**62.49**	**340**	P		**P**	**06 03 16.3**	**-0.2**
CCM				IAmb		IAmb	06 03 17.1	
	comp=Z,8.2nm,0.8s							
N54A	**Moraine State**	**62.57**	**350**	P		**P**	**06 03 17.6**	**+0.6**
N54A				IAmb		IAmb	06 03 18.5	
	comp=Z,12nm,1.0s							
O49A	**Covington**	**62.64**	**347**	P		**P**	**06 03 17.0**	**-0.5**
O49A				IAmb		IAmb	06 03 17.7	
	comp=Z,13nm,1.2s							
SNAA	**Sanae**	**62.64**	**161**	P		**P**	**06 03 17.8**	**+0.5**
SNAA	**Sanae**	**62.64**	**161**	P		**P**	**06 03 17.7**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=277,slow=8.0,SNR=21							
SNAA				pP		**pP**	**06 03 46.6**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=289,slow=6.3,SNR=4.7							
SNAA	**Sanae**	**62.64**	**161**	P		**P**	**06 03 17.5**	**+0.3**
S39A	**Bolivar**	**62.86**	**338**	P		**P**	**06 03 18.8**	**-0.2**
N49A	**Columbus Grove**	**63.31**	**347**	P		**P**	**06 03 21.6**	**-0.2**
N49A				IAmb		IAmb	06 03 22.2	
	comp=Z,12nm,0.8s							
ERPA	**Erie**	**63.70**	**351**	P		**P**	**06 03 24.7**	**+0.3**
ERPA				IAmb		IAmb	06 03 25.4	
	comp=Z,12nm,0.8s							
P40A	**Paris**	**64.09**	**340**	P		**P**	**06 03 27.1**	**0.0**
P40A				IAmb		IAmb	06 03 27.5	
	comp=Z,7.4nm,0.8s							
J59A	**Piesco**	**64.41**	**355**	P		**P**	**06 03 29.8**	**+0.8**
J59A				IAmb		IAmb	06 03 30.4	
	comp=Z,5.2nm,0.8s							
P38A	**Dawn**	**64.67**	**339**	P		**P**	**06 03 30.8**	**+0.1**
P38A				IAmb		IAmb	06 03 31.3	
	comp=Z,4.8nm,0.8s							
BGNE	**Belgrade**	**67.88**	**336**	P		**P**	**06 03 51.8**	**+0.5**
DBIC	**Dimbokro**	**68.39**	**73**	P		**P**	**06 03 54.3**	**-0.8**
	comp=Z,1.8nm,0.6s,baz=237,slow=6.2,SNR=4.2							
DBIC	**Dimbokro**	**68.39**	**73**	IAmb		IAmb	06 04 04.4	
	comp=Z,17nm,1.4s							
QSPA	**South Pole Qui**	**69.15**	**180**	P		**P**	**06 04 00.2**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=118,slow=0.4,SNR=11							
QSPA				pP		**pP**	**06 04 29.2**	**+1.0**
	comp=Z,1.8nm,1.1s,baz=291,slow=2.0,SNR=2.6							
U15A	**North Rim**	**70.46**	**324**	P		**P**	**06 04 10.2**	**+2.6**
KNB	**Kanab**	**71.18**	**324**	P		**P**	**06 04 14.7**	**+2.8**
CCUT	**Cedar City**	**71.87**	**324**	P		**P**	**06 04 19.0**	**+2.9**
B35A	**Bob, Littlefor**	**72.64**	**343**	P		**P**	**06 04 19.9**	**-0.2**
PDAR	**Pinedale Array**	**73.82**	**330**	P		**P**	**06 04 28.0**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=132,slow=8.8,SNR=4.3							
HWUT	**Hardware Ranch**	**73.91**	**328**	P		**P**	**06 04 29.4**	**+1.4**
MDND	**Maddock**	**73.98**	**339**	P		**P**	**06 04 29.0**	**+0.9**
MDND				IAmb		IAmb	06 04 29.6	
	comp=Z,12nm,0.6s							
SPUT	**South Promonto**	**74.13**	**327**	P		**P**	**06 04 31.0**	**+1.8**
AHID	**Auburn Hatcher**	**74.56**	**329**	P		**P**	**06 04 33.2**	**+1.5**
ULM	**Lac du Bonnet**	**74.95**	**342**	P		**P**	**06 04 33.3**	**-0.2**
	comp=Z,3.4nm,0.6s,baz=177,slow=6.1,SNR=3.5							
ULM	**Lac du Bonnet**	**74.95**	**342**	IAmb		IAmb	06 04 34.0	
	comp=Z,4.5nm,0.6s							
NVAR	**Mina Array Bea**	**75.27**	**322**	P		**P**	**06 04 37.5**	**+1.5**
	comp=Z,0.8nm,0.8s,baz=152,slow=6.7,SNR=5.9							
RLMT	**Red Lodge**	**75.52**	**332**	P		**P**	**06 04 39.0**	**+1.8**
KVN	**Kaiserville**	**75.57**	**322**	P		**P**	**06 04 39.5**	**+1.8**
PAHR	**Pah Rah Range**	**76.75**	**322**	P		**P**	**06 04 46.7**	**+2.5**
HLID	**Hailey**	**76.77**	**328**	P		**P**	**06 04 46.6**	**+2.3**
TOA0	**Torodi Ar. Sit**	**77.00**	**70**	P		**P**	**06 04 45.1**	**-0.8**
TOA0				IAmb		IAmb	06 04 45.9	
	comp=Z,6.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**77.00**	**70**	P		**P**	**06 04 45.1**	**-0.8**
	comp=Z,3.9nm,0.6s,baz=252,slow=5.3,SNR=30							
TORD	**Torodi Ar. Bea**	**77.00**	**70**	P		**P**	**06 04 45.0**	**-1.0**
ESDC	**Sonseca Array**	**85.35**	**44**	P		**P**	**06 05 30.2**	**+0.5**
	comp=Z,0.9nm,1.0s,baz=236,slow=5.9,SNR=4.6							
ESDC	**Sonseca Array**	**85.35**	**44**	IAmb		IAmb	06 05 31.4	
	comp=Z,9.9nm,1.5s							
MATP	**Matopo**	**89.17**	**111**	P		**P**	**06 05 49.7**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=234,slow=8.7,SNR=2.4							
YKA	**Yellowknife Ar**	**90.83**	**341**	P		**P**	**06 05 55.9**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=134,slow=4.3,SNR=5.5							
ASAR	**Alice Springs**	**130.42**	**208**	PKP		**PKPdf**	**06 12 03.3**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=133,slow=1.8,SNR=1.7							
ZALV	**Zalesovo Beam**	**141.45**	**25**	PKP		**PKPdf**	**06 12 21.9**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=311,slow=3.1,SNR=4.4							
KSH	**Kashi**	**144.64**	**51**	*e*PKP		**PKPdf**	**06 12 28.8**	**0.0**
MAKZ	**Makanchi**	**144.96**	**36**			**PKPdf**	**06 12 28.9**	**0.0**
MK31	**Makanchi Array**	**145.13**	**36**			**PKPdf**	**06 12 29.6**	**+0.4**
MKAR	**Makanchi Array**	**145.13**	**36**	PKPbc		**PKPdf**	**06 12 29.7**	**+0.5**
	comp=Z,4.9nm,0.8s,baz=326,slow=4.2,SNR=32							
MJAR	**Matsushiro Arr**	**151.95**	**309**	PKPbc		**PKPbc**	**06 12 45.4**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=105,slow=2.0,SNR=2.7							
SONM	**Songino Array**	**152.97**	**7**	PKPbc		**PKiKP**	**06 12 49.8**	**+0.4**
	comp=Z,0.9nm,0.4s,baz=205,slow=1.5,SNR=4.2							
SONM				PKPab		**PKPab**	**06 13 01.0**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=333,slow=0.6,SNR=1.5							
SONM	**Songino Array**	**152.97**	**7**			**PKiKP**	**06 12 53.3**	**+3.8**
LZH	**Lanzhou**	**163.64**	**22**	*e*PKP		**PKPdf**	**06 12 55.9**	**+0.8**
LZH				pPKP		pPKPdf	06 13 25.3	-2.0
LZH				sPKP			06 13 36.8	
CD2	**Chengdu**	**168.05**	**33**	PKP		**PKPdf**	**06 12 57.0**	**-1.7**

UCR 22 06:02:01.5±1.6, 9°.39N×84°.23W, h26km±2km, MD3.7, 6C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EDDO	**Dominical**	**0.39**	**111**	⇑*i*P			Pb	06 02 09.9	0.0
EDDO				*e*S			Sn	06 02 16.9	-1.0
LCR2	**La Lucha 2**	**0.41**	**33**	⇓*i*P			Pb	06 02 10.3	-0.3
LCR2				*e*S			Sb	06 02 17.2	+0.6
SJS	**Escuela Geolog**	**0.57**	**18**	*i* P			Pb	06 02 12.7	-0.3
SJS				*e*S			Sb	06 02 21.8	+0.8
HDC	**Heredia**	**0.62**	**11**	⇓*e*P			Pb	06 02 13.5	-0.3
HDC				*e*S			Sn	06 02 23.2	-0.6
EDLM	**Las Mercedes**	**0.64**	**100**	⇑*e*P			Pb	06 02 13.8	-0.4
EDLM				*e*S			Sn	06 02 24.1	-0.2
SRA1	**San Ramn**	**0.73**	**340**	⇑*e*P			Pb	06 02 14.9	-0.9
SRA1				*e*S			Sb	06 02 25.6	+0.1
CVTR	**Volcan Turrial**	**0.78**	**36**	*i* P			Pb	06 02 16.2	-0.5
CVTR				*e*S			Sn	06 02 28.3	+0.1
EDPN	**Palmar Norte**	**0.87**	**119**	*e*P			Pb	06 02 17.2	-0.8
EDPN			

NEIC ***22*** *06:35:09.7±1.1, 17.°93S±0.°10×178.°0W±0.°1, h590km±8km, mb4.3/23, Error ellipse: s-maj=17.8km s-min=14.1km az=79.0*

IDC ***22*** *06:35:14.3±8.5, 18.°09S×178.°21W, h634km±111km, mb3.0/9, mb1 3.3/10, mb1mx3.1/38, mbtmp4.1/10, Error ellipse: s-maj=45.2km s-min=29.8km az=108.0*

ISC 22 06:35:10.8±0.6, **17.°9S**±0.°1×**178.°0W**±0.°1, **h600**km, **n41**, σ1**§09**/41, **mb4.2**/19, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.74**	**272**	P	**P**	**06 36 34.9**	**+0.3**
AFI	**Afiamalu**	**7.22**	**57**	P	**P**	**06 36 59.9**	**-3.1**
DZM	**Mont Dzumac**	**15.16**	**252**	P	**P**	**06 38 20.6**	**0.0**
	0.4nm,0.3s,baz=158,slow=18,SNR=1.9						
DZM	**Mont Dzumac**	**15.16**	**252**	P	**P**	**06 38 21.4**	**+0.8**
DZM				IAmb	IAmb	06 38 31.1	
	comp=Z,18nm,1.2s						
OUZ	**Omahuta**	**18.76**	**202**	P	**P**	**06 38 54.0**	**+0.8**
EIDS	**Eidsvold**	**29.60**	**250**	P	**P**	**06 40 29.1**	**-0.1**
EIDS				IAmb	IAmb	06 40 29.4	
	comp=Z,4.6nm,0.8s						
WHZ	**Wether Hill Ro**	**30.22**	**200**	P	**P**	**06 40 33.6**	**-0.6**
ARMA	**Armidale**	**30.24**	**240**	P	**P**	**06 40 34.9**	**+0.1**
ARMA				IAmb	IAmb	06 40 36.0	
	comp=Z,13nm,1.5s						
CTA	**Charters Tower**	**33.80**	**261**	P	**P**	**06 41 04.1**	**-0.8**
	comp=Z,2.0nm,0.4s,baz=100,slow=12,SNR=6.0						
CTAO	**Charters Tower**	**33.80**	**261**	P	**P**	**06 41 05.3**	**+0.5**
CTAO				IAmb	IAmb	06 41 13.9	
	comp=Z,8.8nm,1.4s						
CAN	**Canberra**	**33.98**	**233**	P	**P**	**06 41 06.3**	**+0.1**
CAN				IAmb	IAmb	06 41 06.6	
	comp=Z,14nm,1.0s						
TOO	**Toolangi**	**37.44**	**231**	P	**P**	**06 41 34.8**	**+0.1**
TOO				IAmb	IAmb	06 41 38.2	
	comp=Z,14nm,1.3s						
COEN	**Coen**	**37.47**	**270**	P	**P**	**06 41 36.7**	**+1.5**
COEN				IAmb	IAmb	06 41 41.7	
	comp=Z,13nm,1.4s						
STKA	**Stephens Creek**	**38.94**	**241**	P	**P**	**06 41 47.2**	**+0.4**
	comp=Z,7.4nm,0.8s,baz=86,slow=8.5,SNR=8.3						
STKA	**Stephens Creek**	**38.94**	**241**	P	**P**	**06 41 47.2**	**+0.4**
BBOO	**Buckleboo**	**43.71**	**241**	P	**P**	**06 42 24.4**	**0.0**
WR0	**Warramunga Arr**	**44.79**	**260**	P	**P**	**06 42 33.0**	**+0.1**
WR0				IAmb	IAmb	06 42 40.5	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**44.95**	**260**	P	**P**	**06 42 34.2**	**+0.1**
WB0				IAmb	IAmb	06 42 53.3	
	comp=Z,9.6nm,1.2s						
WB2	**Warramunga Arr**	**44.97**	**260**	P	**P**	**06 42 33.8**	**-0.5**
WB2				IAmb	IAmb	06 42 37.6	
	comp=Z,8.0nm,1.1s						
WRAB	**Tennant Creek**	**44.98**	**260**	P	**P**	**06 42 33.7**	**-0.5**
WRAB				IAmb	IAmb	06 42 40.8	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**44.98**	**260**	P	**P**	**06 42 34.1**	**-0.3**
	comp=Z,2.6nm,0.4s,baz=94,slow=7.1,SNR=50						
WRA	**Warramunga Arr**	**44.98**	**260**	P	**P**	**06 42 33.7**	**-0.6**
AS31	**Alice Springs**	**45.13**	**254**	P	**P**	**06 42 35.5**	**0.0**
ASAR	**Alice Springs**	**45.13**	**254**	P	**P**	**06 42 35.5**	**0.0**
	comp=Z,5.4nm,0.4s,baz=92,slow=7.6,SNR=98						
ASAR	**Alice Springs**	**45.13**	**254**	P	**P**	**06 42 35.2**	**-0.3**
FORT	**Forrest**	**50.33**	**245**	P	**P**	**06 43 13.1**	**-0.9**
QSPA	**South Pole Qui**	**72.12**	**180**	P	**P**	**06 45 34.8**	**-0.7**
	comp=Z,0.8nm,0.9s,baz=50,slow=7.6,SNR=5.1						
QSPA	**South Pole Qui**	**72.12**	**180**	P	**P**	**06 45 35.4**	**-0.1**
YHNB	**Yeheng**	**72.65**	**304**	P	**P**	**06 45 36.8**	**-2.3**
KSAR	**Wonju Array Be**	**74.98**	**318**	P	**P**	**06 45 51.9**	**0.0**
KS19	**Wonju Array Si**	**75.02**	**318**	P	**P**	**06 45 51.8**	**-0.3**
KS19				IAmb	IAmb	06 45 52.3	
	comp=Z,6.7nm,0.9s						
ORV	**Oroville**	**77.77**	**41**	P	**P**	**06 46 06.4**	**-0.8**
NVAR	**Mina Array Bea**	**79.19**	**44**	P	**P**	**06 46 16.8**	**+1.8**
	comp=Z,0.4nm,0.8s,baz=219,slow=7.0,SNR=2.1						
PV05	**Paradox Valley**	**85.28**	**48**		pP	06 48 51.4	-1.6
CCB	**Clear Creek Bu**	**85.53**	**13**	P	**P**	**06 46 46.8**	**+0.8**
TXAR	**Lajitas Array**	**85.70**	**57**	P	**P**	**06 46 50.3**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=220,slow=6.0,SNR=12						
TXAR	**Lajitas Array**	**85.70**	**57**	P	**P**	**06 46 50.4**	**+2.6**
ILAR	**Eielson Array**	**85.83**	**13**	P	**P**	**06 46 48.2**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=217,slow=4.8,SNR=4.3						
PDAR	**Pinedale Array**	**87.12**	**43**	P	**P**	**06 46 55.6**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=242,slow=3.8,SNR=2.9						
AKASG	**Malin Array Be**	**140.75**	**333**	PKP	**PKPdf**	**06 53 32.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=107,slow=1.6,SNR=1.5						
CLL	**Collm**	**145.56**	**348**	*e*PKPbc	**PKPab**	**06 53 44.0**	**-0.7**
CLL				*e*PKPab	**PKiKP**	**06 53 47.0**	**+1.2**

IDC ***22*** *06:36:02.0±2.0, 10.°58S×120.°17E, h0km, mb3.7/4, mb1 3.6/7, mb1mx3.5/43, mbtmp3.5/7, ML3.2/3, Error ellipse: s-maj=150.2km s-min=22.9km az=55.0*

ISC 22 06:36:06.5±1.2, **10.°6S**±0.°1×**120.°2E**±0.°1, **h30**km, **n8**, σ1**§47/8**, **mb3.8**/4, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.40**	**84**	Sn	**Sn**	**06 37 37.2**	**+0.4**
	5.0nm,0.3s,baz=233,slow=18,SNR=1.4						
FITZ	**Fitzroy Crossi**	**9.12**	**146**	Pn	**Pn**	**06 38 15.4**	**-0.6**
	0.3nm,0.3s,baz=320,slow=5.2,SNR=13						
FITZ				Sn	Sn	06 39 49.1	-8.6
	0.2nm,0.3s,baz=256,slow=1.6,SNR=2.3						
WRA	**Warramunga Arr**	**16.47**	**126**	Pn	**Pn**	**06 39 53.5**	**-2.0**
	0.1nm,0.3s,baz=301,slow=12,SNR=1.4						
ASAR	**Alice Springs**	**18.41**	**137**	P	**Pn**	**06 40 20.6**	**+1.0**
	0.1nm,0.3s,baz=310,slow=12,SNR=5.2						
SONM	**Songino Array**	**59.45**	**349**	P	**P**	**06 46 06.6**	**0.0**
	0.8nm,0.4s,baz=169,slow=8.5,SNR=4.0						
MKAR	**Makanchi Array**	**66.42**	**333**	P	**P**	**06 46 51.0**	**-1.8**
	0.2nm,0.5s,baz=137,slow=5.3,SNR=2.3						
KURBB	**Kurchatov Arra**	**70.93**	**333**	P	**P**	**06 47 22.1**	**+1.3**
	0.2nm,0.6s,baz=135,slow=6.2,SNR=1.9						
ZALV	**Zalesovo Beam**	**70.95**	**339**	P	**P**	**06 47 21.5**	**+0.6**
	0.6nm,0.4s,baz=150,slow=6.3,SNR=1.9						

DJA ***22*** *06:38:50.7±0.2, 8.°S±3.°×10.°8E±0.°, h58km±3km, M5.2/50, mb5.2/50, mB5.6/28, MLv5.5/25, Mw(mB)5.1/28, Mwp5.1/3*

UNK ***22*** *06:38:50.0, 7.°85S×107.°91E, h71km*

MOS ***22*** *06:38:51.6±1.2, 7.°56S×108.°06E, h87km, mb5.0/58, Error ellipse: s-maj=8.4km s-min=4.4km az=118.6*

BJI ***22*** *06:38:51.0±0.0, 7.°90S×107.°90E, h80km, mB5.0/33, mb5.0/53, Ms4.5/30, Ms7 4.3/31*

NEIC ***22*** *06:38:51.4±1.7, 7.°76S±0.°07×108.°05E±0.°06, h72km±4km, mb5.1/110, Error ellipse: s-maj=11.1km s-min=6.3km az=216.0*

KLM ***22*** *06:38:52.0, 8.°09S×107.°94E, h74km, mb5.3*

GCMT ***22*** *06:38:52.4±0.2, 8.°20S±0.°02×108.°10E±0.°02, h65km±1km, MW5.0/93, Moment Tensor Solution. s89,c117; s93,c145; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.88±.12; Mθθ-4.36±.10; Mϕϕ0.48±.12; Mrθ1.89±.09; Mθϕ0.78±.09; Mϕr-0.06±.09; Best double couple: Mo4.59000×10^16 NP1:ϕs283.00000°, δ33.00000°, λ96.00000°. NP2:ϕs96.00000°, δ57.00000°, λ86.00000°. Principal axes: T 4.2960, Plg77.0000°, Azm353.0000°; N 0.5900, Plg3.0000°, Azm98.0000°; P -4.8840, Plg12.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***22*** *06:38:52.9±0.6, 7.°67S×108.°10E, h87km±4km, mb4.6/46, mb1 4.7/48, mb1mx4.7/55, mbtmp5.0/48, MS3.8/15, Ms1 3.8/15, ms1mx3.8/19 Error ellipse: s-maj=10.7km s-min=6.8km az=43.0*

ISC 22 06:38:51.3±0.4, **7.°79S**±0.°04×**108.°02E**±0.°03, **h77**km±3km, **n1035**, σ1**§80**/1029, **mb5.0**/134, **38C-14D, Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**0.31**	**319**	P	**Pn**	**06 39 01.5**	**-1.9**
CISI	**Cisompet, Garu**	**0.31**	**319**		**Pn**	**06 39 01.6**	**-1.7**
CISI				Sn	**Sn**	**06 39 09.6**	**-2.6**
CNJI	**Cibinong**	**1.00**	**298**	P	**Pn**	**06 39 08.6**	**-1.6**
LEM	**Lembang**	**1.04**	**337**	P	**Pn**	**06 39 12.5**	**+1.7**
	5μm,0.3s,baz=215,slow=1.1,SNR=1229						
LEM				S	**Sn**	**06 39 27.5**	**+2.2**
	2μm,0.3s,baz=55,slow=21,SNR=8.3						
LEM	**Lembang**	**1.04**	**337**	P	**Pn**	**06 39 12.5**	**+1.7**
SKJI	**Sukabumi**	**1.65**	**298**	P	**Pn**	**06 39 18.1**	**-0.4**
DBJI	**Dramaga**	**1.76**	**314**	P	**Pn**	**06 39 21.4**	**+1.4**
TNG	**Tangerang**	**2.11**	**320**	P	**Pn**	**06 39 26.2**	**+1.6**
UGM	**Wanagama**	**2.48**	**93**	P	**Pn**	**06 39 29.6**	**0.0**
UGM	**Wanagama**	**2.48**	**93**		**Pn**	**06 39 29.7**	**+0.1**
UGM				Sn	**Sn**	**06 39 58.4**	**-0.6**
SMRI	**Semarang**	**2.51**	**73**	P	**Pn**	**06 39 32.7**	**+2.7**
SMRI	**Semarang**	**2.51**	**73**	Pn	**Pn**	**06 39 32.8**	**+2.7**
SMRI				Sn	**Sn**	**06 40 04.7**	**+5.0**
WOJI	**Wonogiri, Jawa**	**2.88**	**91**	P	**Pn**	**06 39 34.7**	**-0.2**
UWJI	**Ujung Watu**	**3.21**	**65**	P	**Pn**	**06 39 41.8**	**+2.4**
NGJI	**Ngawi**	**3.44**	**83**	P	**Pn**	**06 39 45.1**	**+2.6**
XMIS	**Christmas Isla**	**3.55**	**221**		Pn	06 39 37.5	-6.6
XMIS					Sn	06 40 11.7	-13
BLSI	**Bandar Lampung**	**3.66**	**311**	P	**Pn**	**06 39 47.7**	**+2.1**
KASI	**Kota Agung**	**4.16**	**303**	P	**Pn**	**06 39 53.0**	**+0.6**
GRJI	**Gresik**	**4.51**	**79**	P	**Pn**	**06 39 58.4**	**+1.3**
LWLI	**Liwa**	**4.80**	**305**	P	**Pn**	**06 40 03.2**	**+1.9**
TPI	**Tanjungpandan**	**5.01**	**356**	P	**Pn**	**06 40 06.6**	**+2.5**
	1.6nm3μm291nm,0.7s						
MDSI	**Maura Dua**	**5.04**	**310**	P	**Pn**	**06 40 05.9**	**+1.5**
	1.3nm3μm288nm,1.3s						
PPBI	**Pangkal Pinang**	**5.90**	**341**	P	**Pn**	**06 40 19.7**	**+3.5**
	2.4nm26μm536nm,0.9s						
KMMI	**Kalianget**	**5.94**	**83**	P	**Pn**	**06 40 16.5**	**-0.2**
	1.1nm5μm199nm,0.6s						
LHSI	**Lahat**	**5.96**	**311**	P	**Pn**	**06 40 20.1**	**+3.1**
	1.8nm11μm454nm,1.1s						
MNAI	**Manna**	**6.08**	**304**	P	**Pn**	**06 40 19.1**	**+0.5**
	3.0nm12μm549nm,0.7s						
MNAI	**Manna**	**6.08**	**304**	Pn	**Pn**	**06 40 19.2**	**+0.5**
JAGI	**Jajag, Banyuwa**	**6.11**	**97**	P	**Pn**	**06 40 20.5**	**+1.5**
	4.3nm9μm536nm,0.6s						
JAGI	**Jajag, Banyuwa**	**6.11**	**97**	Pn	**Pn**	**06 40 16.1**	**-2.9**
JAGI				Sn	**Sn**	**06 41 25.3**	**-2.2**
PBKI	**Pangkalan Bun**	**6.22**	**36**	P	**Pn**	**06 40 24.0**	**+3.4**
	3.7nm16μm1μm,1.0s						
SRBI	**Singaraja**	**7.13**	**93**	P	**Pn**	**06 40 35.9**	**+2.9**
	2.5nm5μm311nm,0.6s						
KBKI	**Kotabaru**	**9.25**	**62**	P	**Pn**	**06 41 04.9**	**+2.9**
	109nm,0.8s						
PPSI	**Pulau Pagai**	**9.41**	**302**	P	**Pn**	**06 41 02.4**	**-1.7**
	6μm534nm,0.7s						
SDSI	**Sungai Dareh**	**9.46**	**316**	P	**Pn**	**06 41 03.8**	**-1.1**
	4μm33nm,0.6s						
KSM	**Kuching**	**9.48**	**14**	Pn	**Pn**	**06 41 07.9**	**+2.8**
KSM	**Kuching**	**9.48**	**14**	P	**Pn**	**06 41 09.0**	**+3.9**
PLAI	**Plampang**	**9.71**	**97**	P	**Pn**	**06 41 09.2**	**+1.0**
	3μm220nm,0.7s						
PDSI	**Padang**	**10.17**	**312**	P	**Pn**	**06 41 13.2**	**-1.4**
	9μm38nm,0.4s						
MYKOM	**Kota Tinggi**	**10.39**	**336**	P	Pn	06 41 22.0	+4.5
BKNI	**Bangkinang**	**10.65**	**319**	Pn	**Pn**	**06 41 21.3**	**+0.2**
SBUM	**Sibu**	**11.00**	**23**	Pn	**Pn**	**06 41 24.7**	**-1.2**
SBUM	**Sibu**	**11.00**	**23**	P	Pn	06 41 32.0	+6.1
WBSI	**Waikabubak, Su**	**11.39**	**100**	P	**Pn**	**06 41 28.2**	**-3.0**
KAPI	**Kappang**	**11.98**	**77**	P	**Pn**	**06 41 40.9**	**+1.7**
	2.6nm,0.3s,baz=251,slow=13,SNR=16						
KAPI	**Kappang**	**11.98**	**77**	Pn	**Pn**	**06 41 37.0**	**-2.2**
SPSI	**Sidrap Palu**	**12.29**	**73**	P	**P**	**06 41 48.0**	**-4.7**
	38nm,1.0s						
BNSI	**Bone**	**12.48**	**75**	P	**Pn**	**06 41 50.2**	**+4.2**
	906nm45nm,0.9s						
TTSI	**Tana Toraja**	**12.65**	**69**	P	**P**	**06 41 55.4**	**-1.3**
	1μm77nm,1.1s						
GSI	**Gunungsitoli**	**13.79**	**311**	Pn	Pn	06 41 57.8	-5.7
PSI	**Prapat**	**13.89**	**319**	LR	LR	06 48 43.4	
	comp=Z,408nm,18.0s,baz=90,slow=43						
IPM	**Ipoh**	**14.05**	**330**		**Pn**	**06 42 05.5**	**-1.3**
IPM	**Ipoh**	**14.05**	**330**	P	**P**	**06 42 11.0**	**-1.2**
MMRI	**Maumere**	**14.10**	**94**	P	**Pn**	**06 42 06.5**	**-1.0**
	3μm230nm,0.5s						
MMRI	**Maumere**	**14.10**	**94**	Pn	Pn	06 42 02.6	-4.9
MPSI	**Mapaga**	**14.33**	**56**	P	**P**	**06 42 16.7**	**+1.3**
	51nm,0.7s						
KULM	**Kulim**	**14.93**	**330**		**Pn**	**06 42 18.8**	**+0.5**
KULM	**Kulim**	**14.93**	**330**	P	**Pn**	**06 42 20.0**	**+1.7**
KCSI	**Kotacane, Aceh**	**15.19**	**317**	P	**Pn**	**06 42 19.2**	**-2.5**
	19nm,0.6s						
BATI	**Baumata**	**15.64**	**100**	P	**Pn**	**06 42 24.4**	**-2.9**
	23nm,0.3s,baz=278,slow=3.9,SNR=14						
BATI				S	**Sn**	**06 45 12.3**	**-7.6**
	9.4nm,0.3s,baz=55,slow=17,SNR=2.1						
BATI	**Baumata**	**15.64**	**100**	P	**Pn**	**06 42 26.1**	**-1.2**
	2μm218nm,0.7s						
KKM	**Kota Kinabalu**	**15.99**	**31**		**Pn**	**06 42 31.8**	**0.0**
LUWI	**Luwuk**	**16.16**	**66**		**Pn**	**06 42 33.9**	**+0.1**
LUWI				IAmb	IAmb	06 42 51.6	
	comp=Z,64nm,0.7s						
SOEI	**Soe**	**16.18**	**98**	P	**Pn**	**06 42 35.1**	**+0.9**
	comp=Z,4μmcomp=Z,319nm,0.8s						
SOEI	**Soe**	**16.18**	**98**	P	**Pn**	**06 42 31.2**	**-3.0**
SOEI				IAmb	IAmb	06 42 44.3	
	comp=Z,168nm,0.8s						
PSA00	**Pilbara Seismi**	**17.83**	**141**	P	**P**	**06 42 51.3**	**-2.8**
PSA00	**Pilbara Seismi**	**17.83**	**141**	P	**P**	**06 42 52.0**	**-2.1**
PSA00				IAmb	IAmb	06 43 07.3	
	comp=Z,15nm,0.6s						
NLAI	**Namlea**	**19.52**	**78**	P	**Pn**	**06 43 16.3**	**+1.7**
	comp=Z,3μmcomp=Z,290nm,0.6s						
DLV	**T Lat**	**19.61**	**1**	P	**P**	**06 43 13.4**	**-0.4**
DLV				IAmb	IAmb	06 43 23.7	
	comp=Z,106nm,1.2s						
FITZ	**Fitzroy Crossi**	**19.98**	**123**	P	**P**	**06 43 18.7**	**+1.1**
	comp=Z,3.3nm,0.3s,baz=295,slow=6.8,SNR=78						
FITZ	**Fitzroy Crossi**	**19.98**	**123**	P	**P**	**06 43 15.5**	**-2.1**
LBMI	**Labuha**	**20.68**	**71**	P	Pn	06 43 27.3	-0.9
	comp=Z,4μmcomp=Z,493nm,0.9s						
TNTI	**Ternate**	**21.08**	**67**	P	**P**	**06 43 30.1**	**+0.5**
	comp=Z,3μmcomp=Z,212nm,1.1s						
TNTI	**Ternate**	**21.08**	**67**	P	**P**	**06 43 29.8**	**+0.2**
KNRA	**Kununurra**	**21.75**	**113**	P	**P**	**06 43 36.8**	**+0.1**
KNRA				IAmb	IAmb	06 43 39.8	
	comp=Z,85nm,0.7s						
SKMP	**Bagumbayan, Su**	**21.76**	**50**	*e*P	**P**	**06 43 38.2**	**+1.3**
ENPP	**El Nido**	**22.02**	**31**	*e*P	**P**	**06 43 40.9**	**+1.3**
DDMP	**Don Marcelino,**	**22.40**	**52**	*e*P	**P**	**06 43 44.9**	**+1.1**
MORW	**Morawa**	**22.47**	**161**	P	**P**	**06 43 42.7**	**-1.7**
KCP	**Kidapawan**	**22.49**	**50**	*i*P	**P**	**06 43 48.8**	**+4.1**
CNOP	**Candoni, Negro**	**22.77**	**40**	*e*P	**P**	**06 43 48.6**	**+1.1**
BUKP	**Musuan**	**23.04**	**48**	*e*P	**P**	**06 43 52.5**	**+2.1**
MTN	**Manton Dam**	**23.28**	**104**	P	**P**	**06 43 52.4**	**-0.2**
MATI	**Mati**	**23.35**	**52**	*e*P	**P**	**06 43 56.6**	**+3.4**
SJMP	**San Jose**	**23.96**	**33**	*e*P	**P**	**06 44 01.4**	**+2.7**
SIJI	**Sorong**	**24.16**	**75**	P	**P**	**06 44 00.5**	**-0.2**
	comp=Z,63nm,0.6s,baz=296,slow=7.2,SNR=20						
SIJI				S	**S**	**06 48 12.5**	**-1.0**
	comp=Z,3.1nm,0.4s,baz=162,slow=22,SNR=1.4						
RCP	**Roxas**	**24.17**	**37**	*i*P	**P**	**06 44 05.2**	**+4.7**
OTRP	**Odiongan**	**24.38**	**35**	*e*P	**P**	**06 44 05.2**	**+2.7**
FAKI	**Fak Fak**	**24.60**	**80**	P	**P**	**06 44 06.3**	**+1.8**
	comp=Z,1μmcomp=Z,95nm,0.6s						
FAKI	**Fak Fak**	**24.60**	**80**	P	**P**	**06 44 03.2**	**-1.4**
FAKI				IAmb	IAmb	06 44 08.1	
	comp=Z,62nm,0.6s						
NWAO	**Narrogin (SRO)**	**26.43**	**162**	P	**P**	**06 44 20.9**	**0.0**
	comp=Z,20nm,1.1s,baz=299,slow=12,SNR=2.2						
NWAO				LR	LR	06 54 05.3	
	comp=Z,455nm,21.4s,baz=333,slow=34						
NWAO	**Narrogin (SRO)**	**26.43**	**162**	P	**P**	**06 44 21.0**	**0.0**
NWAO	**Narrogin (SRO)**	**26.43**	**162**	P	**P**	**06 44 20.2**	**-0.8**
NWAO				IAmb	IAmb	06 44 22.8	
	comp=Z,53nm,1.4s						
QIZ	**Qiongzhong**	**26.71**	**4**	P	**P**	**06 44 23.9**	**+0.3**
QIZ				S	**S**	**06 48 59.8**	**+6.1**
QIZ				LR	LR		
	comp=Z,260nm,29.4s						
QIZ				LR	LR		
	comp=Z,300nm,18.6s						
QIZ				LR	LR		
	comp=Z,410nm,33.3s						
SMPP	**San Manuel, Pa**	**26.89**	**28**	*e*P	**P**	**06 44 24.3**	**-0.9**
H01W3	**Cape Leeuwin H**	**27.54**	**169**	T	T	07 14 27.2	
	baz=347,slow=76,SNR=10						
H01W1	**Cape Leeuwin H**	**27.56**	**169**	T	T	07 14 22.4	
	baz=347,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**27.56**	**169**	T	T	07 14 23.5	
	baz=347,slow=76,SNR=25						
CM31	**Chiang Mai Arr**	**27.58**	**341**	P	**P**	**06 44 31.7**	**+0.3**
CMAR	**Chiang Mai Arr**	**27.58**	**341**	P	**P**	**06 44 30.0**	**-1.4**
	comp=Z,3.1nm,0.5s,baz=180,slow=8.9,SNR=12						
CMAR				PcP	**PcP**	**06 47 48.5**	**+0.9**
	comp=Z,4.6nm,0.7s,baz=205,slow=3.4,SNR=10						
CMAR				ScP	**ScP**	**06 51 21.2**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=194,slow=3.8,SNR=6.1						
CMAR				LR	LR	06 55 45.3	
	comp=Z,292nm,21.8s,baz=214,slow=37						
CMAR	**Chiang Mai Arr**	**27.58**	**341**	P	**P**	**06 44 30.9**	**-0.5**
CHTO	**Chiang Mai**	**27.91**	**341**	P	**P**	**06 44 33.8**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
CHTO	**Chiang Mai**	**27.91**	**341**	P	**P**	**06 44 33.8**	**-0.5**
WB0	**Warramunga Arr**	**28.19**	**118**	P	**P**	**06 44 37.8**	**+0.8**
WB0				IAmb	IAmb	06 44 57.1	
	comp=Z,40nm,1.3s						
WRA	**Warramunga Arr**	**28.21**	**118**	P	**P**	**06 44 37.5**	**+0.4**
	comp=Z,8.9nm,0.4s,baz=294,slow=12,SNR=25						
WRA	**Warramunga Arr**	**28.21**	**118**	P	**P**	**06 44 37.8**	**+0.7**
WRA	**Warramunga Arr**	**28.21**	**118**	P	**P**	**06 44 37.8**	**+0.7**
WRAB	**Tennant Creek**	**28.22**	**118**	*ce*P	**P**	**06 44 36.9**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,16nm,0.8s						
WRAB	**Tennant Creek**	**28.22**	**118**	P	**P**	**06 44 37.0**	**-0.1**
WB2	**Warramunga Arr**	**28.22**	**118**	P	**P**	**06 44 37.7**	**+0.6**
WR0	**Warramunga Arr**	**28.39**	**118**	IAmb	IAmb	06 44 57.8	
	comp=Z,48nm,1.5s						
ASAR	**Alice Springs**	**29.41**	**125**	P	**P**	**06 44 48.1**	**+0.4**
	comp=Z,4.2nm,0.7s,baz=302,slow=8.3,SNR=23						
ASAR				PcP	**PcP**	**06 47 53.0**	**+0.8**
	comp=Z,6.0nm,0.7s,baz=324,slow=2.0,SNR=9.2						
ASAR				ScP	**ScP**	**06 51 27.1**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=311,slow=2.0,SNR=4.2						
ASAR				LR	LR	06 56 17.9	
	comp=Z,175nm,20.7s,baz=303,slow=36						
ASAR	**Alice Springs**	**29.41**	**125**	P	**P**	**06 44 47.4**	**-0.3**
AS31	**Alice Springs**	**29.41**	**125**	P	**P**	**06 44 48.1**	**+0.4**
FORT	**Forrest**	**29.57**	**143**	P	**P**	**06 44 47.9**	**-1.1**
FORT				IAmb	IAmb	06 45 02.7	
	comp=Z,90nm,1.4s						
PALK	**Pallekele**	**31.08**	**298**	P	**P**	**06 45 05.3**	**+2.7**
JAY	**Jayapura**	**32.96**	**83**	P	**P**	**06 45 17.4**	**-1.7**
	comp=Z,24nm,0.8s,baz=238,slow=4.3,SNR=8.2						
JAY	**Jayapura**	**32.96**	**83**	P	**P**	**06 45 19.6**	**+0.5**
	comp=Z,16nm,0.8s						
KMI	**Kunming**	**33.12**	**351**	P	**P**	**06 45 22.3**	**+1.9**
KMI				pP	pP	06 45 39.8	+0.9
KMI				sP	sP	06 45 49.0	+1.0
KMI				S	**S**	**06 50 31.6**	**-2.8**
KMI				pmax	pmax		
	comp=Z,18nm,0.9s						
KMI				pmax	pmax		
	comp=Z,74nm,5.2s						
KMI				LR	LR		
	comp=Z,400nm,17.2s						
KMI				LR	LR		
	comp=Z,220nm,16.0s						
KMI				LR	LR		
	comp=Z,530nm,18.8s						
SSLB	**Suanglung**	**33.83**	**22**	P	**P**	**06 45 27.8**	**+1.3**
SSLB				IAmb	IAmb	06 45 30.0	
	comp=Z,18nm,0.9s						
GYA	**Guiyang**	**34.07**	**358**	*e*P	**P**	**06 45 32.0**	**+3.4**
GYA				pmax	pmax		
	comp=Z,21nm,0.6s						
GYA				LR	LR		
	comp=Z,320nm,20.5s						
GYA				LR	LR		
	comp=Z,250nm,13.9s						
GYA				LR	LR		
	comp=Z,450nm,23.6s						
QZH	**Quanzhou**	**34.13**	**17**	⇑P	**P**	**06 45 30.0**	**+1.1**
QZH				*e*S	**S**	**06 50 47.6**	**-2.0**
COEN	**Coen**	**35.03**	**103**	P	**P**	**06 45 37.6**	**+0.6**
COEN				IAmb	IAmb	06 45 38.2	
	comp=Z,23nm,0.7s						
H08S2	**Diego Garcia H**	**35.20**	**268**	T	T	07 22 46.8	
	baz=92,slow=76,SNR=885						
H08S3	**Diego Garcia H**	**35.21**	**268**	T	T	07 22 50.4	
	baz=92,slow=76,SNR=2057						
H08S1	**Diego Garcia H**	**35.22**	**268**	T

comp=Z,22nm,0.3s,baz=11,slow=2.9,SNR=5.9
GUMO Guam 42.30 60 P P 06 46 37.7 -0.1
GUMO pmax pmax
comp=Z,49nm,1.0s
GUMO Guam 42.30 60 P P 06 46 37.7 -0.1
GUMO IAmb IAmb 06 46 42.6
comp=Z,49nm,0.9s
LZH Lanzhou 43.82 355 *eP* **P 06 46 50.9 +1.0**
LZH pP pP 06 47 06.8 -2.2
LZH pmax pmax
comp=Z,27nm,1.2s
LZH pmax pmax
comp=Z,120nm,4.3s
LZH LR LR
comp=Z,310nm,13.6s
LZH LR LR
comp=Z,210nm,15.2s
LZH LR LR
comp=Z,230nm,15.7s
EIDS Eidsvold 44.58 118 P P 06 46 58.1 +2.1
TIA Tai'an 44.60 11 P P 06 46 55.8 -0.1
TIA pmax pmax
comp=Z,9.0nm,0.6s
TIY Taiyuan 45.45 5 *eP* **P 06 47 06.3 +3.5**
TIY pmax pmax
comp=Z,37nm,0.7s
CAN Canberra 46.43 132 P P 06 47 12.7 +2.1
CAN pmax pmax
comp=Z,8.0nm,0.7s
CAN Canberra 46.43 132 P P 06 47 12.7 +2.1
ARMA Armidale 46.56 125 P P 06 47 14.5 +2.8
NDI New Delhi 46.88 322 *eP* **P 06 47 11.0 -3.1**
GTA Gaotai 47.58 351 *eP* **P 06 47 20.0 +0.6**
GTA pP pP 06 47 38.4 -0.3
GTA sP sP 06 47 47.0 -0.6
GTA PcP **PcP 06 48 49.3 +1.1**
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,91nm,8.3s
GTA LR LR
comp=Z,260nm,20.3s
GTA LR LR
comp=Z,260nm,19.7s
GTA LR LR
comp=Z,360nm,18.7s
JCJ Chichijima 47.94 42 P P 06 47 20.4 -1.9
BJT Baijiatuan 48.16 8 P P 06 47 24.5 +0.7
BJT pmax pmax
comp=Z,9.0nm,0.6s
BJT Baijiatuan 48.16 8 P P 06 47 24.4 +0.7
BJT IAmb IAmb 06 47 24.8
comp=Z,8.9nm,0.6s
BJI Beijing 48.19 8 P P 06 47 24.0 +0.1
BJI PcP **PcP 06 48 51.4 +1.2**
BJI pmax pmax
comp=Z,14nm,0.6s
BJI LR LR
comp=Z,140nm,17.1s
BJI LR LR
comp=Z,100nm,17.1s
BJI LR LR
comp=Z,140nm,22.7s
BTO Baotou 48.19 2 *eP* **P 06 47 24.4 +0.3**
HHC Hu-ho-hao-te 48.51 4 *eP* **P 06 47 27.9 +1.3**
HHC pmax pmax
comp=Z,7.0nm,1.1s
HHC pmax pmax
comp=Z,46nm,5.4s
KSAR Wonju Array Be 48.68 21 P P 06 47 28.2 +0.3
KSAR Wonju Array Be 48.68 21 P P 06 47 28.1 +0.3
KSRS Korea Array 48.71 21 P P 06 47 28.4 +0.4
comp=Z,1.1nm,0.4s,baz=205,slow=8.4,SNR=2.9
KSRS PcP **PcP 06 48 52.8 +0.6**
comp=Z,3.3nm,0.7s,baz=200,slow=3.6,SNR=7.1
KSRS LR LR 07 09 24.4
comp=Z,48nm,21.0s,baz=218,slow=38
MAT Matsushiro 52.41 31 P P 06 47 54.5 -1.5
MAT *eS* **S 06 55 19.0 +2.6**
MJAR Matsushiro Arr 52.42 31 P P 06 47 54.5 -1.5
comp=Z,1.4nm,0.4s,baz=208,slow=8.0,SNR=7.7
MJAR PcP **PcP 06 49 06.3 +0.4**
comp=Z,3.3nm,0.7s,baz=204,slow=4.2,SNR=6.3
MJAR LR LR 07 11 08.2
comp=Z,38nm,20.6s,baz=220,slow=37
MJAR Matsushiro Arr 52.42 31 P P 06 47 56.4 +0.4
MJAR pmax pmax
comp=Z,2.0nm,0.8s
MJAR Matsushiro Arr 52.42 31 P P 06 47 56.4 +0.4
NIL Nilore 52.79 323 P P 06 47 58.8 -0.1
NIL pmax pmax
comp=Z,42nm,1.1s
NIL Nilore 52.79 323 P P 06 47 58.8 -0.1
CN2 Changchun 53.73 16 *eP* **P 06 48 03.8 -1.7**
CN2 PcP **PcP 06 49 10.6 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 LR LR
comp=Z,100nm,23.0s
CN2 LR LR
comp=Z,100nm,23.0s
CN2 LR LR
comp=Z,100nm,23.0s
WMQ Urumqi 54.57 342 *eP* **P 06 48 13.5 +1.7**
WMQ LR LR
comp=Z,120nm,29.1s
WMQ LR LR
comp=Z,81nm,29.5s
WMQ LR LR
comp=Z,150nm,29.5s
SONM Songino Array 55.40 359 P P 06 48 17.7 0.0
comp=Z,8.8nm,0.5s,baz=176,slow=8.3,SNR=45
SONM PcP **PcP 06 49 17.7 +0.4**
comp=Z,17nm,0.5s,baz=177,slow=3.7,SNR=30
SONM ScP **ScP 06 53 08.2 -1.2**
comp=Z,1.5nm,0.7s,baz=172,slow=4.5,SNR=3.9
SONM Songino Array 55.40 359 P P 06 48 18.4 +0.7
SONM pmax pmax
comp=Z,7.0nm,0.6s
SONM Songino Array 55.40 359 P P 06 48 18.4 +0.7
ULN Ulaanbaatar 55.42 359 P P 06 48 17.9 0.0
ULN Ulaanbaatar 55.42 359 *ce* **P P 06 48 17.6 -0.3**
ULN pmax pmax
comp=Z,15nm,0.7s
ULN Ulaanbaatar 55.42 359 P P 06 48 17.9 0.0
ULN IAmb IAmb 06 48 19.5
comp=Z,16nm,0.6s
KSH Kashi 55.64 330 *eP* **P 06 48 18.4 -1.2**
KSH pmax pmax
comp=Z,30nm,0.6s
KSH pmax pmax
comp=Z,170nm,5.4s
KSH LR LR
comp=Z,520nm,13.5s
KSH LR LR
comp=Z,270nm,6.9s
KSH LR LR
comp=Z,230nm,12.2s
KBL Kabul 55.95 321 P P 06 48 21.0 -1.0
KBL Kabul 55.95 321 P P 06 48 21.1 -1.0
KBL pmax pmax
comp=Z,32nm,1.4s
KBL Kabul 55.95 321 P P 06 48 21.1 -1.0
KBL IAmb IAmb 06 48 22.1
comp=Z,32nm,1.4s
USRK Ussuriysk Ar. 56.10 21 P P 06 48 22.1 -0.6
comp=Z,2.1nm,0.5s,baz=197,slow=6.7,SNR=8.7
TARG Taragay, Kyrgy 56.52 333 P P 06 48 25.2 -1.0
TARG IAmb IAmb 06 48 36.5
comp=Z,22nm,1.5s
WBK Wadi Bani Khal 56.73 303 P P 06 48 28.4 +0.8
MHTO MHTO 56.87 301 P P 06 48 28.9 +0.4
SHLS Shalkode 56.97 335 *eP* **P 06 48 26.4 -2.6**
comp=Z,6.9nm,0.5s,baz=336
SHLS *eS* **S 06 56 13.3 -4.3**
baz=336
SHLS Shalkode 56.97 335 *eP* **P 06 48 26.4 -2.6**
SHLS *eS* **S 06 56 13.2 -4.3**
SHLS pmax pmax
comp=Z,7.0nm,0.5s
UZB Uzynbulak 57.14 335 *eP* **P 06 48 29.2 -1.0**
comp=Z,3.3nm,0.4s,baz=335
UZB Uzynbulak 57.14 335 *eP* **P 06 48 29.2 -1.0**
UZB pmax pmax
comp=Z,3.0nm,0.4s
WSAR Wadi Sarin 57.29 304 P P 06 48 32.3 +0.8
comp=Z,26nm,0.6s,baz=135,slow=8.0,SNR=4.7
WSAR Wadi Sarin 57.29 304 P P 06 48 31.5 0.0
SATY Saty 57.33 335 *eP* **P 06 48 30.5 -1.1**
comp=Z,2.7nm,0.5s,baz=335
SATY *eS* **S 06 56 20.7 -1.7**
baz=335
SATY Saty 57.33 335 *eP* **P 06 48 30.4 -1.1**
SATY *eS* **S 06 56 20.6 -1.7**
SATY pmax pmax
comp=Z,3.0nm,0.5s
JMDO Jabal Madar 57.34 303 P P 06 48 32.6 +0.7
KPKS Kokpek 57.55 335 *eP* **P 06 48 31.9 -1.2**
comp=Z,14nm,1.5s,baz=335
KPKS Kokpek 57.55 335 *eP* **P 06 48 31.8 -1.2**
KPKS pmax pmax
comp=Z,14nm,1.5s
SMDO Samad 57.69 303 P P 06 48 35.2 +0.9
HIA Hailar 57.74 9 P P 06 48 34.0 -0.1
HIA pmax pmax
comp=Z,11nm,0.4s
HIA Hailar 57.74 9 P P 06 48 34.0 -0.1
HIA IAmb IAmb 06 48 37.8
comp=Z,11nm,0.4s
BIDO Bidbid 57.83 304 P P 06 48 36.2 +0.9
SNR=8.1
DZM Mont Dzumac 57.89 111 P P 06 48 36.2 +0.4
comp=Z,11nm,0.9s,baz=315,slow=9.5,SNR=4.6
DZM Mont Dzumac 57.89 111 P P 06 48 34.0 -1.8
DZM IAmb IAmb 06 48 38.2
comp=Z,12nm,0.9s
TNSS Tian-Shan 57.95 333 *eP* **P 06 48 34.8 -1.4**
baz=334
TNSS Tian-Shan 57.95 333 *eP* **P 06 48 34.8 -1.4**
BOOM Boomskoye usch 57.97 332 P P 06 48 34.7 -1.4
BOOM Boomskoye usch 57.97 332 P P 06 48 34.7 -1.4
KZA Kyzart 57.97 332 P P 06 48 36.7 +0.3
SNR=12
MDOK Medeo 58.00 334 *eP* **P 06 48 35.2 -1.2**
baz=334
MDOK Medeo 58.00 334 *eP* **P 06 48 35.1 -1.2**
GAR Garm 58.23 326 P P 06 48 36.6 -1.4
MTBS Maitube 58.25 333 *eP* **P 06 48 36.5 -1.5**
baz=333
MTBS Maitube 58.25 333 *eP* **P 06 48 36.4 -1.5**
BSY Bisya 58.26 303 P P 06 48 39.2 +0.9
CASY Casey 58.42 179 P P 06 48 38.1 -0.6
CASY IAmb IAmb 06 48 57.4
comp=Z,10nm,0.9s
UCH Uchtor 58.43 331 P P 06 48 39.2 -0.4
SNR=7.2
TKM2 Tokmak 2 58.46 332 P P 06 48 39.7 +0.2
SNR=8.5
HOQ Hoqain 58.52 304 P P 06 48 41.2 +1.1
KBK Karagaybulak 58.56 332 P P 06 48 40.8 +0.6
SNR=18
CHKK Chushkaly 58.58 334 *eP* **P 06 48 38.4 -1.8**
baz=334
CHKK Chushkaly 58.58 334 *eP* **P 06 48 38.3 -1.8**
CHGR Chuyangaron 58.65 325 P P 06 48 38.5 -2.3
BTK Batken 58.71 327 P P 06 48 39.7 -1.4
BTK pmax pmax
comp=Z,43nm,1.3s
BTK Batken 58.71 327 P P 06 48 39.7 -1.4
ZSN Zaisan 58.71 342 *eP* **P 06 48 40.1 -0.8**
comp=Z,4.4nm,0.6s,baz=342
ZSN Zaisan 58.71 342 *eP* **P 06 48 40.1 -0.8**
ZSN pmax pmax
comp=Z,4.0nm,0.6s
AML Almayashu 58.76 331 P P 06 48 41.7 -0.1
SNR=17
AAK Ala-Archa 58.76 332 P P 06 48 40.2 -1.4
comp=Z,2.7nm,0.5s,baz=132,slow=6.7,SNR=7.3
AAK PcP **PcP 06 49 31.3 +0.8**
comp=Z,6.0nm,0.5s,baz=143,slow=5.1,SNR=4.8
AAK Ala-Archa 58.76 332 P P 06 48 41.7 +0.2
AAK Ala-Archa 58.76 332 P P 06 48 41.0 -0.6
AAK pmax pmax
comp=Z,16nm,1.5s
AAK Ala-Archa 58.76 332 P P 06 48 41.0 -0.6
AAK IAmb IAmb 06 48 42.7
comp=Z,16nm,1.4s
RBK Rabkut 58.80 296 P P 06 48 43.3 +1.1
KUU Kurty 58.90 334 *eP* **P 06 48 40.3 -2.1**
comp=Z,12nm,0.6s,baz=334
KUU Kurty 58.90 334 *eP* **P 06 48 40.2 -2.1**
KUU pmax pmax
comp=Z,12nm,0.6s
MKAR Makanchi Array 58.97 340 P P 06 48 41.5 -1.3
comp=Z,29nm,0.5s,baz=150,slow=7.4,SNR=116
MKAR PcP **PcP 06 49 31.4 +0.3**
comp=Z,6.1nm,0.7s,baz=155,slow=5.9,SNR=4.5
MKAR ScP **ScP 06 53 24.8 -0.2**
comp=Z,0.6nm,0.8s,baz=153,slow=4.8,SNR=2.7
ARQ Araqi 59.07 303 P P 06 48 44.6 +0.6
MAKZ Makanchi 59.09 339 P P 06 48 42.1 -1.5
MAKZ pmax pmax
comp=Z,11nm,1.3s
MAKZ Makanchi 59.09 339 P P 06 48 42.1 -1.5
EKS2 Erkin-Say 59.12 331 P P 06 48 44.5 +0.5
SNR=12
USP Ospenovka 59.24 332 P P 06 48 44.6 -0.1
SNR=12
SGDS Sogindy 59.32 332 *eP* **P 06 48 43.5 -1.8**
comp=Z,5.2nm,0.8s,baz=332
SGDS Sogindy 59.32 332 *eP* **P 06 48 43.5 -1.8**
SGDS pmax pmax
comp=Z,5.0nm,0.8s
TLY Talaya 59.35 357 P P 06 48 45.3 0.0
comp=Z,2.9nm,0.6s,baz=203,slow=9.5,SNR=1.0
TLY Talaya 59.35 357 *eP* **P 06 48 45.5 +0.2**
TLY pmax pmax
comp=Z,6.0nm,0.7s
TLY MLR MLR
comp=Z,512nm,16.0s
TLY Talaya 59.35 357 IAmb IAmb 06 48 52.4
comp=Z,4.3nm,0.7s
SOHO SOHO 59.41 304 *i* P **P 06 48 46.2 0.0**
SNR=9.7
SOHO SOHO 59.41 304 P P 06 48 46.4 +0.3
ABTO Aybut 59.56 295 P P 06 48 48.1 +0.6
DGZ Jazzator, Alta 60.01 345 *c i* P **P 06 48 49.2 -0.8**
DGZ pmax pmax
comp=Z,26nm,0.8s
UOSS Minazif 60.03 305 P P 06 48 50.7 +0.2
UOSS Minazif 60.03 305 P P 06 48 50.2 -0.3
ASHO Ashiyiah 60.03 304 *i* P **P 06 48 51.1 +0.6**
SNR=21
ASHO Ashiyiah 60.03 304 P P 06 48 51.2 +0.6
SNR=6.4
HATD Hatta, Dubai 60.03 304 *i* P **P 06 48 51.1 +0.6**
SNR=18
HATD Hatta, Dubai 60.03 304 P P 06 48 51.3 +0.7
SNR=12
MDH Madha 60.10 305 *i* P **P 06 48 50.3 -0.6**
SNR=16
MDH Madha 60.10 305 P P 06 48 50.6 -0.4
SNR=6.0
MSFE Esma-Masafi 60.24 305 *i* P **P 06 48 52.6 +0.6**
SNR=12
HRA Herat 60.27 317 P P 06 48 50.9 -1.4
HRA IAmb IAmb 06 48 52.1
comp=Z,12nm,1.0s
BANOM Banah 60.38 306 *i* P **P 06 48 53.0 +0.1**
SNR=13
BANOM Banah 60.38 306 P P 06 48 53.1 +0.2
SNR=5.4
FAQ Al Faqa, Dubai 60.44 304 *i* P **P 06 48 53.7 +0.4**
SNR=11
FAQ Al Faqa, Dubai 60.44 304 P P 06 48 53.9 +0.6
KLR Kul'dur 60.47 18 *ce* **P P 06 48 51.6 -1.4**
KLR pmax pmax
comp=Z,15nm,1.5s
NAZ Nazwa, Dubai 60.49 304 *i* P **P 06 48 54.0 +0.4**
SNR=8.3
NAZ Nazwa, Dubai 60.49 304 P P 06 48 54.3 +0.7
SNR=7.0
SHME Shamm 60.56 306 *i* P **P 06 48 54.5 +0.4**
SNR=12
IUG Iuzhnay 60.61 328 *eP* **P 06 48 52.8 -1.5**
comp=Z,1.8nm,1.5s,baz=328
IUG Iuzhnay 60.61 328 *eP* **P 06 48 52.7 -1.5**
BTLS Baital 60.82 333 *eP* **P 06 48 53.9 -1.5**
comp=Z,1.6nm,0.6s,baz=333
BTLS Baital 60.82 333 *eP* **P 06 48 53.9 -1.5**
BTLS pmax pmax
comp=Z,2.0nm,0.6s
AJN Ajban 60.86 304 P P 06 48 56.3 +0.1
KK31 Karatay Array 61.05 329 P P 06 48 56.0 -1.1
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KK31 Karatay Array 61.05 329 P P 06 48 56.0 -1.1
KKAR Karatay Array 61.05 329 P P 06 48 55.9 -1.2
KKAR Karatay Array 61.05 329 P P 06 48 55.9 -1.2
KKAR Karatay Array 61.05 329 IAmb IAmb 06 48 58.0
comp=Z,3.2nm,0.6s
YSS Yuzh-Sakhalins 62.63 26 *eP* **P 06 49 07.6 0.0**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=Z,100nm,18.0s
YSS Yuzh-Sakhalins 62.63 26 P P 06 49 07.8 +0.2
SEM Semipalatinsk 62.77 340 *eP* **P 06 49 07.2 -1.5**
comp=Z,5.8nm,0.7s,baz=341
SEM Semipalatinsk 62.77 340 *eP* **P 06 49 07.2 -1.5**
SEM pmax pmax
comp=Z,6.0nm,0.7s
ZEA Zeya 63.42 13 *eP* **P 06 49 13.8 +1.1**
ZEA pmax pmax
comp=Z,23nm,1.0s
KURBB Kurchatov Arra 63.54 339 P P 06 49 12.3 -1.2
comp=Z,12nm,0.6s,baz=152,slow=5.7,SNR=89
KURBB PcP **PcP 06 49 49.4 0.0**
comp=Z,6.5nm,0.4s,baz=148,slow=4.0,SNR=14
KURBB Kurchatov Arra 63.54 339 P P 06 49 13.4 -0.1
KURK Kurchatov 63.59 340 *i* P **P 06 49 13.4 -0.4**
KURK pmax pmax
comp=Z,16nm,0.7s
KURK Kurchatov 63.59 340 P P 06 49 12.8 -1.0
KURK IAmb IAmb 06 49 15.4
comp=Z,16nm,0.7s
ZAA0 Zalesovo Array 64.55 345 P P 06 49 20.0 -0.1
ZALV Zalesovo Beam 64.55 345 P P 06 49 18.6 -1.5
comp=Z,5.1nm,0.4s,baz=150,slow=3.3,SNR=18
ZALV PcP **PcP 06 49 53.0 -0.6**
comp=Z,5.1nm,0.5s,baz=165,slow=4.3,SNR=4.9
ZALV Zalesovo Beam 64.55 345 P P 06 49 19.5 -0.5
GEYT Alibeck 65.02 318 P P 06 49 23.6 +0.1
comp=Z,18nm,0.5s,baz=144,slow=4.3,SNR=40
GEYT Alibeck 65.02 318 P P 06 49 23.8 +0.3
GYA0B ALIBECK ARRAY 65.02 318 IAmb IAmb 06 49 24.7
comp=Z,32nm,0.8s
RPZ Rata Peaks 65.26 135 P P 06 49 26.4 +1.4
comp=Z,17nm,0.8s,baz=275,slow=4.4,SNR=7.4
RPZ Rata Peaks 65.26 135 P P 06 49 26.6 +1.5
RPZ IAmb IAmb 06 49 26.8
comp=Z,43nm,1.2s
BOD Bodaibo 65.57 4 *eP* **P 06 49 25.4 -1.2**
BOD pmax pmax
comp=Z,9.0nm,1.2s
QRZ Quartz Range 65.71 131 P P 06 49 30.0 +2.0
MAW Mawson 66.91 197 P P 06 49 36.0 +0.9
comp=Z,11nm,0.6s,baz=71,slow=5.2,SNR=11
MAW Mawson 66.91 197 P P 06 49 36.1 +1.1
MAW pmax pmax
comp=Z,4.0nm,0.8s
MAW Mawson 66.91 197 P P 06 49 36.1 +1.1
HIZ Hauiti 67.09 128 P P 06 49 39.3 +2.4
KUZ Kuaotunu 67.53 126 P P 06 49 39.8 +0.2
TLZ Tolley Road 67.59 128 P P 06 49 39.7 -0.4
FWVZ Far West T-bar 67.74 129 P P 06 49 42.9 +1.7
TRVZ Turoa 67.74 129 P P 06 49 43.0 +1.8
BHHZ Black Hill Sta 68.16 129 P P 06 49 44.7 +1.0
MKRZ Makatiti 68.29 128 P P 06 49 35.8 -8.7
BKZ Black Stump Fm 68.45 129 P P 06 49 46.4 +1.0
BKZ Black Stump Fm 68.45 129 P P 06 49 46.4 +1.0
BKZ IAmb IAmb 06 49 51.3
comp=Z,60nm,1.3s
BFZ Birch Farm 68.47 131 P P 06 50 03.4 +18
BVA0 Borovoye Array 68.49 337 *i* P **P 06 49 43.9 -1.3**
RAYN Ar Rayn 68.51 299 P P 06 49 46.3 +0.2
RAYN pmax pmax
comp=Z,35nm,1.4s
RAYN Ar Rayn 68.51 299 P P 06 49 46.3 +0.2
RAYN IAmb IAmb 06 49 47.2
comp=Z,35nm,1.4s
BRVK Borovoye 68.56 337 *ce* **P P 06 49 45.7 +0.1**
BRVK pmax pmax
comp=Z,8.0nm,0.5s
BRVK Borovoye 68.56 337 P P 06 49 44.9 -0.7
BRVK IAmb IAmb 06 49 46.4
comp=Z,16nm,0.5s
MCHZ McNeill Hill 68.64 129 P P 06 49 48.7 +2.2
URZ Urewera 68.81 128 P P 06 49 48.8 +1.2
MWZ Matawai 69.15 128 P P 06 49 50.3 +0.5
RUGZ Raukumara Rang 69.22 128 P P 06 49 52.0 +1.7
HAZ Te Kaha 69.28 127 P P 06 49 51.1 +0.6
MXZ Matakaoa Point 69.67 127 P P 06 49 54.2 +1.2
PUZ Puketiti 69.69 128 P P 06 49 51.3 -1.8
AB31 Akbulak array 70.61 329 *eP* **P 06 49 58.0 -0.3**
ABKAR Akbulak array 70.61 329 P P 06 49 58.4 0.0
ABKAR Akbulak array 70.61 329 P P 06 49 57.8 -0.5
KMBO Kilima Mbogo 70.79 272 P P 06 50 01.6 +1.0
comp=Z,3.2nm,0.7s,baz=80,slow=9.5,SNR=4.8
KMBO Kilima Mbogo 70.79 272 P P 06 50 02.4 +1.9
KMBO Kilima Mbogo 70.79 272 P P 06 49 59.4 -1.2
KMBO pmax pmax
comp=Z,11nm,1.3s
KMBO Kilima Mbogo 70.79 272 P P 06 49 59.4 -1.2
YAK Yakutsk 71.61 11 *eP* **P 06 50 03.0 -1.1**
YAK *e*PP **pP 06 50 26.1 +1.5**
YAK *e* 06 52 42.2
YAK *e*PPP PPP 06 54 27.2
YAK *e*S **S 06 59 17.4 +0.1**
YAK *e*SS **sS 06 59 53.4 +1.4**
YAK *e* 07 00 00.3
YAK *e*SS **SS 07 03 55.7 +1.4**
YAK pmax pmax
comp=Z,21nm,0.7s
YAK pmax pmax
comp=N,9.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.8s
YAK pmax pmax
comp=Z,65nm,3.5s
YAK pmax pmax
comp=N,42nm,3.0s
YAK pmax pmax
comp=E,19nm,2.3s
YAK smax smax
comp=N,20nm,1.8s
YAK smax smax
comp=E,19nm,2.0s
YAK Yakutsk 71.61 11 P P 06 50 02.9 -1.3
LKRN Lenkeran, Azer 71.78 315 P P 06 50 06.0 +0.3
AKTO Aktyubinsk 72.32 329 P P 06 50 08.5 -0.2
comp=E,7.2nm,0.3s,baz=99,slow=6.1,SNR=19
AKT Akhty 73.73 317 *eP* **P 06 50 17.5 +0.2**
AKT *e* 06 50 31.9
AKT *e*PP **pP 06 50 38.7 +0.8**
AKT *e*SP **sP 06 50 46.7 +0.3**
AKT pmax pmax
comp=Z,72nm,1.7s
PEA0B Petropavlovsk- 73.79 29 P P 06 50 16.9 -0.4
PEA0B pmax pmax
comp=Z,12nm,1.2s
PEA0B Petropavlovsk- 73.79 29 P P 06 50 16.9 -0.4
PETK Petropavlovsk- 73.79 29 P P 06 50 17.0 -0.3
comp=Z,4.8nm,0.7s,baz=210,slow=6.0,SNR=14
PETK Petropavlovsk- 73.79 29 P P 06 50 16.8 -0.5
MNGR Mingechevir, A 73.86 316 P P 06 50 18.4 +0.5
SEKA Sheki 73.97 317 P P 06 50 18.9 +0.2
NAX Nakhchivan 74.30 314 P P 06 50 20.8 +0.1
GANJ Ganja 74.33 316 P P 06 50 20.7 0.0
VNDA Vanda 75.01 170 P P 06 50 24.6 +0.6
comp=Z,5.4nm,0.6s,baz=317,slow=6.0,SNR=51
VNDA LR LR 07 21 15.6
comp=Z,74nm,18.7s,baz=269,slow=34
VNDA Vanda 75.01 170 P P 06 50 21.2 -2.8
SYO Syowa Base 75.11 200 ‖ *eX* **P 06 50 23.8 -0.9**
SYO Syowa Base 75.11 200 ‖ *eX* P 06 50 33.0 +8.3
SVE Sverdlovsk 75.15 335 *eP* **P 06 50 25.5 +0.5**
SVE pmax pmax
comp=Z,21nm,0.8s
MA2 Magadan 75.26 21 *i* P **P 06 50 25.8 +0.2**
MA2 pmax pmax
comp=Z,8.0nm,0.9s
ARU Arti 75.77 334 P **P 06 50 28.3 -0.3**
comp=Z,2.3nm,0.3s,baz=95,slow=21,SNR=2.5
ARU Arti 75.77 334 *c i* P **P 06 50 27.9 -0.7**
ARU 06 53 15.5

ARU S **S** **07 00 02.9 -1.4**
ARU SS **SS** **07 04 56.0 -1.9**
ARU pmax pmax
comp=Z,20nm,1.2s
ARU Arti 75.77 334 P **P** **06 50 27.7 -0.9**
ARU IAmb IAmb 06 50 33.8
comp=Z,15nm,0.9s
GROC Groznyy 75.77 318 *e*P **P** **06 50 28.7 -0.2**
GROC *e* 06 50 40.5
GROC *e**PP **pP** **06 50 49.8 +0.2**
GROC *e* 06 53 17.5
GROC *e*S **S** **07 00 04.9 0.0**
GROC pmax pmax
comp=Z,87nm,1.3s
TBLG Delisi 75.87 316 P **P** **06 50 29.8 +0.2**
TBLG pmax pmax
comp=Z,29nm,0.8s
TBLG Delisi 75.87 316 P **P** **06 50 29.8 +0.2**
TBLG IAmb IAmb 06 50 32.1
comp=Z,29nm,0.8s
KZRT Kazreti 75.96 316 P **P** **06 50 31.1 +1.0**
AKH Akhalkalaki 76.60 316 P **P** **06 50 36.4 +2.5**
AKH Akhalkalaki 76.60 316 P **P** **06 50 34.2 +0.3**
ZEI Tsey 76.86 317 *e*P **P** **06 50 34.5 -0.9**
ZEI pmax pmax
comp=Z,13nm,0.6s
MBAR Mbarara 77.32 271 P **P** **06 50 40.2 +1.7**
MBAR pmax pmax
comp=Z,13nm,0.8s
MBAR Mbarara 77.32 271 P **P** **06 50 40.2 +1.7**
MBAR IAmb IAmb 06 50 41.0
comp=Z,12nm,0.8s
BLWY Bulawayo 77.46 251 *i* P **P** **06 50 40.5 +1.4**
BLWY Bulawayo 77.46 251 *i* P **P** **06 50 40.5 +1.4**
BLWY Bulawayo 77.46 251 *i* P **P** **06 50 40.5 +1.4**
MATP Matopo 77.54 251 *i* P **P** **06 50 41.1 +1.5**
MATP Matopo 77.54 251 *i* P **P** **06 50 41.1 +1.5**
MATP Matopo 77.54 251 *i* P **P** **06 50 41.1 +1.5**
KBZ Khabaz 77.91 318 P **P** **06 50 41.2 +0.3**
comp=Z,9.9nm,0.7s,baz=129,slow=4.1,SNR=18
KBZ LR LR 07 30 06.5
comp=Z,35nm,19.1s,baz=124,slow=40
KBZ Khabaz 77.91 318 *ce*P **P** **06 50 41.1 +0.2**
KBZ pmax pmax
comp=Z,42nm,1.8s
KVAR Kislovodsk Arr 78.14 318 P **P** **06 50 44.1 +1.8**
comp=Z,3.7nm,0.6s,baz=267,slow=23,SNR=2.2
KIV Kislovodsk 78.14 318 P **P** **06 50 43.4 +1.0**
KIV Kislovodsk 78.14 318 *e*P **P** **06 50 43.0 +0.6**
KIV pmax pmax
comp=Z,76nm,1.0s
KIV MLR MLR
comp=Z,113nm,19.0s
KIV Kislovodsk 78.14 318 P **P** **06 50 43.2 +0.9**
KIV IAmb IAmb 06 50 46.4
comp=Z,18nm,0.7s
LSZ Lusaka 78.22 256 *i* P **P** **06 50 45.1 +1.6**
LSZ Lusaka 78.22 256 *i* P **P** **06 50 45.1 +1.6**
LSZ Lusaka 78.22 256 *i* P **P** **06 50 45.1 +1.6**
LSZ Lusaka 78.22 256 P **P** **06 50 44.9 +1.5**
LSZ pmax pmax
comp=Z,29nm,0.7s
LSZ Lusaka 78.22 256 P **P** **06 50 44.9 +1.5**
LSZ IAmb IAmb 06 50 45.5
comp=Z,29nm,0.7s
NRIK Noril'sk 78.25 353 P **P** **06 50 41.1 -1.1**
comp=Z,4.4nm,0.4s,baz=145,slow=6.8,SNR=7.7
GOF Gofitskoye 78.34 319‖ *e*P **P** **06 50 43.8 +0.5**
ASF Jabal al Asfar 78.43 305 P **P** **06 50 45.6 +1.3**
comp=Z,14nm,0.7s,baz=60,slow=4.2,SNR=22
EIL Elat 79.35 302 P **P** **06 50 50.0 +0.8**
comp=Z,22nm,0.7s,baz=109,slow=2.2,SNR=13
LBTB Lobatse 79.91 246 *i* P **P** **06 50 54.0 +1.5**
LBTB Lobatse 79.91 246 *i* P **P** **06 50 54.0 +1.5**
LBTB Lobatse 79.91 246 *i* P **P** **06 50 54.0 +1.5**
LBTB Lobatse 79.91 246 P **P** **06 50 54.0 +1.5**
LBTB pmax pmax
comp=Z,18nm,0.7s
LBTB Lobatse 79.91 246 P **P** **06 50 54.0 +1.5**
LBTB IAmb IAmb 06 50 54.4
comp=Z,18nm,0.7s
BOSA Boshof 79.99 242 P **P** **06 50 54.1 +1.3**
comp=Z,12nm,0.5s,baz=111,slow=4.0,SNR=86
BOSA Boshof 79.99 242 *i* P **P** **06 50 54.5 +1.6**
BOSA Boshof 79.99 242 *i* P **P** **06 50 54.5 +1.6**
BOSA Boshof 79.99 242 *i* P **P** **06 50 54.5 +1.6**
BOSA Boshof 79.99 242 P **P** **06 50 54.2 +1.3**
BOSA IAmb IAmb 06 50 55.4
comp=Z,12nm,0.7s
TIXI Tiksi 80.47 7 *ce*P **P** **06 50 52.6 -1.7**
TIXI pmax pmax
comp=Z,15nm,0.8s
TIXI Tiksi 80.47 7 P **P** **06 50 53.1 -1.1**
TIXI IAmb IAmb 06 50 54.2
comp=Z,14nm,0.8s
KIRV Kirov 81.05 333 P **P** **06 50 58.0 +0.4**
comp=Z,26nm,0.7s,baz=112,slow=3.3,SNR=11
VRH Novokhopyorsk 81.61 324 *e*P **P** **06 51 00.0 -0.8**
VRH pmax pmax
comp=Z,100nm,0.8s
CSS Mathiatis 82.06 307 P **P** **06 51 04.1 +0.5**
QSPA South Pole Qui 82.20 180 P **P** **06 51 04.4 +0.5**
comp=Z,8.5nm,0.6s,baz=293,slow=1.3,SNR=92
QSPA South Pole Qui 82.20 180 P **P** **06 51 04.6 +0.7**
QSPA IAmb IAmb 06 51 07.4
comp=Z,14nm,0.9s
VSR Storozhevoye 83.10 324 *e*P **P** **06 51 07.7 -0.9**
VSR pmax pmax
comp=Z,70nm,0.5s
BR131 Keskin Array S 83.11 312 P **P** **06 51 09.5 +0.4**
BR131 pmax pmax
comp=Z,14nm,0.8s
BR131 Keskin Array S 83.11 312 P **P** **06 51 09.5 +0.4**
BR131 IAmb IAmb 06 51 12.6
comp=Z,14nm,0.8s
BRTR Keskin Array B 83.11 312 P **P** **06 51 08.9 -0.2**
comp=Z,10nm,0.7s,baz=132,slow=6.9,SNR=36
BRTR LR LR 07 30 05.8
comp=Z,33nm,20.8s,baz=108,slow=37
BRTR Keskin Array B 83.11 312 *ce*P **P** **06 51 08.8 -0.3**
BRTR pmax pmax
comp=Z,10.0nm,0.7s
BRTR Keskin Array B 83.11 312 P **P** **06 51 09.4 +0.3**
SUR Sutherland 83.53 238 P **P** **06 51 14.2 +2.6**
SUR IAmb IAmb 06 51 14.9
comp=Z,23nm,0.8s
LPSR Galich'ya Gora 83.75 325 *e*P **P** **06 51 11.3 -0.5**
LPSR pmax pmax
comp=Z,40nm,0.8s
ANTO Ankara 83.77 312 ⇑P **P** **06 51 12.4 0.0**
ISP Isparta 84.97 309 P **P** **06 51 17.1 -1.5**
ISP pmax pmax
comp=Z,8.0nm,0.9s
ISP Isparta 84.97 309 P **P** **06 51 17.1 -1.5**
MDUB Mudurnu 85.11 312 P **P** **06 51 19.4 +0.2**
ELL Elmali 85.20 308 P **P** **06 51 20.0 +0.3**
ELL pmax pmax
comp=Z,123nm,1.4s
ELL Elmali 85.20 308 P **P** **06 51 20.0 +0.3**
MOS Moscow 85.59 328 *e*P **P** **06 51 18.5 -2.5**
MOS *e* 07 01 45.3
MOS pmax pmax
comp=Z,57nm,0.7s
MOS pmax pmax
comp=Z,100nm,1.1s
BILL Bilibino 85.91 19 *d i*P **P** **06 51 22.0 -0.4**
BILL *e* 06 54 46.1
BILL pmax pmax
comp=Z,5.0nm,0.9s
BILL MLR MLR
comp=Z,106nm,21.0s
BILL Bilibino 85.91 19 P **P** **06 51 21.9 -0.5**
OBN Obninsk 85.94 327 P **P** **06 51 22.9 +0.1**
comp=Z,15nm,0.7s,baz=98,slow=5.7,SNR=10
OBN Obninsk 85.94 327 *c i*P **P** **06 51 22.6 -0.2**
OBN pmax pmax
comp=Z,44nm,0.8s
OBN Obninsk 85.94 327 P **P** **06 51 22.5 -0.2**
ORH Orhaniye 86.03 312 P P 06 51 47.0 +23
KLMR Klimovskoe 86.54 333 *e*P **P** **06 51 24.4 -1.2**
KLMR pmax pmax
comp=Z,39nm,1.2s
KLMR Klimovskoe 86.54 333 *e*P **P** **06 51 24.4 -1.2**
KLMR AMP 06 51 28.3
comp=Z,39nm,1.2s
MANT Manisa 86.63 309 P **P** **06 51 26.6 -0.3**
KARP Karpathos 87.11 306 P **P** **06 51 28.9 -0.2**
TSUM Tsumeb 87.89 251 *i* P **P** **06 51 35.0 +1.8**
TSUM Tsumeb 87.89 251 *i* P **P** **06 51 35.0 +1.8**
TSUM Tsumeb 87.89 251 *i* P **P** **06 51 35.0 +1.8**
TSUM Tsumeb 87.89 251 P **P** **06 51 34.9 +1.6**
TLCR 87.94 316 ⇑P **P** **06 51 33.6 +0.9**
TLCR 87.94 316 P **P** **06 51 33.6 +0.9**
TIRR Tirgusor 88.05 315 ⇓P **P** **06 51 34.1 +0.9**
TOPG Topolog 88.17 316 ⇑P **P** **06 51 34.5 +0.6**
CVDA Cernavoda 88.29 315 ⇑P **P** **06 51 35.7 +1.3**
TLBR Topalu 88.33 315 ⇑P **P** **06 51 35.4 +0.8**
MILM Milestii Mici 88.33 318 ⇓P **P** **06 51 34.5 -0.1**
CFR Carcaliu 88.40 316 ⇓P **P** **06 51 35.4 +0.5**
TMCR Tamitsa 88.42 336 *e*P **P** **06 51 33.5 -1.0**
TMCR pmax pmax
comp=Z,28nm,0.8s
HARR Harsova 88.44 315 ⇑P **P** **06 51 36.4 +1.3**
PRD Provadia 88.50 314 *i* P **P** **06 51 36.1 +0.7**
NEF NEVSHA 88.60 314 *i* P **P** **06 51 36.4 +0.5**
LEOM Leova 88.61 317 ⇑P **P** **06 51 37.2 +1.3**
SANT Santorini 88.62 307 ⇑P **P** **06 51 36.3 +0.1**
SANT Santorini 88.62 307 P **P** **06 51 35.8 -0.4**
ATKA Atka Island 88.69 37 P **P** **06 51 35.9 -0.2**
ATKA IAmb IAmb 06 51 36.3
comp=Z,17nm,0.7s
APE Apeiranthos 88.70 308 ⇑P **P** **06 51 36.6 0.0**
IDI Anoyia 88.88 306 P **P** **06 51 38.6 +1.1**
comp=Z,16nm,0.7s,baz=91,slow=6.9,SNR=29
IDI Anoyia 88.88 306 ⇑P **P** **06 51 38.7 +1.2**
IDI Anoyia 88.88 306 P **P** **06 51 38.6 +1.1**
AKASG Malin Array Be 88.94 321 P **P** **06 51 36.5 -0.8**
comp=Z,5.2nm,0.5s,baz=84,slow=4.8,SNR=24
AKASG PP **PP** **06 55 06.3 -1.6**
comp=Z,3.1nm,0.8s,baz=89,slow=6.5,SNR=7.4
AKASG LR LR 07 38 42.1
comp=Z,45nm,18.5s,baz=80,slow=40
AKASG Malin Array Be 88.94 321 P **P** **06 51 36.8 -0.5**
AKASG pmax pmax
comp=Z,7.0nm,1.2s
AKASG Malin Array Be 88.94 321 P **P** **06 51 36.8 -0.5**
AKBB Malin Array Si 88.94 321 P **P** **06 51 36.7 -0.6**
AKBB pmax pmax
comp=Z,9.0nm,0.7s
AKBB Malin Array Si 88.94 321 P **P** **06 51 36.7 -0.6**
AKBB IAmb IAmb 06 51 38.4
comp=Z,8.6nm,0.7s
ALN Alexandroupoli 89.02 311 IAmb IAmb 06 51 38.8
comp=Z,14nm,0.7s
SNAA Sanae 89.08 197 P **P** **06 51 39.0 +1.2**
SNAA Sanae 89.08 197 *ce*P **P** **06 51 38.9 +1.2**
SNAA pmax pmax
comp=Z,13nm,0.6s
SNAA Sanae 89.08 197 P **P** **06 51 39.2 +1.4**
VRI Vrincioaia 89.51 316 ⇑P **P** **06 51 41.0 +0.8**
SZH Strazhica 89.56 314 *i* P **P** **06 51 40.1 -0.3**
PLOR Plostina 89.56 316 ⇑P **P** **06 51 40.0 -0.4**
KDZ Kurdzhali 89.63 312 *i* P **P** **06 51 41.1 +0.3**
TESR Tescani 89.70 317 ⇓P **P** **06 51 41.8 +0.8**
MLR Muntele Rosu 89.98 316 P **P** **06 51 43.1 +0.6**
comp=Z,11m,0.5s,baz=12,slow=4.5,SNR=13
MLR Muntele Rosu 89.98 316 ⇓P **P** **06 51 43.4 +0.9**
MLR Muntele Rosu 89.98 316 IAmb IAmb 06 51 54.0
comp=Z,14nm,0.9s
BIZ Bicaz 90.15 317 ⇓P **P** **06 51 43.9 +0.8**
PRAR RASCA 90.15 318 ⇑P **P** **06 51 43.1 0.0**
RZN Rozhen 90.15 312 *i* P **P** **06 51 43.8 +0.3**
DOPR Dopca 90.45 316 ⇑P **P** **06 51 44.6 0.0**
PLVB Pleven 90.52 314 ⇓P **P** **06 51 45.9 +1.0**
VOIR 90.59 316 ⇑P **P** **06 51 45.5 +0.3**
PGB Panagyurishte 90.71 313 *i* P **P** **06 51 45.7 -0.2**
ARR Arges 90.86 316 ⇑P **P** **06 51 46.7 +0.2**
BURAR Bucovina Array 90.87 318 ⇑P **P** **06 51 47.4 +0.9**
BURAR Bucovina Array 90.87 318 P **P** **06 51 47.7 +1.1**
BUR08 Bucovina Ar. S 90.89 318 IAmb IAmb 06 51 49.0
comp=Z,4.5nm,0.7s
VNA1 Neumayer--Stat 91.11 197 P **P** **06 51 48.4 +1.3**
VNA3 Neumayer Olymp 91.23 197 P **P** **06 51 48.8 +1.1**
ARCR ARCALIA 91.35 317 ⇑P **P** **06 51 49.1 +0.4**
KKB Krupnik 91.39 312 *i* P **P** **06 51 48.6 -0.4**
VTS Vitosha 91.40 313 ⇑P **P** **06 51 49.3 +0.1**
VTS Vitosha 91.40 313 *i* P **P** **06 51 48.9 -0.3**
VTS Vitosha 91.40 313 P **P** **06 51 49.9 +0.7**
VTS pmax pmax
comp=Z,5.0nm,0.7s
VTS Vitosha 91.40 313 P **P** **06 51 49.9 +0.7**
VTS IAmb IAmb 06 51 50.4
comp=Z,4.8nm,0.7s
HERR Herculane 92.33 315 ⇑P **P** **06 51 53.7 +0.4**
DRGR 92.42 317 ⇓P **P** **06 51 54.1 +0.4**
MDVR Moldovita 92.81 315 ⇓P **P** **06 51 56.5 +0.9**
FIA1 FINESS Array S 92.94 332 P **P** **06 51 55.8 +0.1**
FINES FINESS Array B 92.94 332 P **P** **06 51 55.6 0.0**
comp=Z,11nm,0.6s,baz=116,slow=6.9,SNR=52
FINES PKiKP **PKiKP** **06 56 43.0 +0.2**
comp=Z,1.5nm,0.7s,baz=101,slow=2.3,SNR=6.1
FINES LR LR 07 38 59.6
comp=Z,40nm,21.3s,baz=108,slow=39
FINES FINESS Array B 92.94 332 P **P** **06 51 55.8 +0.1**
BZS Buzias 93.00 315 ⇓P **P** **06 51 56.3 0.0**
KOLS Kolonicke sedl 93.03 319 *e*P **P** **06 51 57.1 +0.7**
KOLS Kolonicke sedl 93.03 319 *e*P **P** **06 51 57.1 +0.7**
SIRR Siria 93.06 316 ⇓P **P** **06 51 57.1 +0.5**
DIVS Divibare 93.95 314 IAmb IAmb 06 52 02.2
comp=Z,11nm,1.1s
PDG Podgorica 94.28 312 ⇓P **P** **06 52 02.4 +0.1**
PDG Podgorica 94.28 312 IAmb IAmb 06 52 02.5
comp=Z,8.7nm,0.9s
ARCES ARCESS Array B 94.63 340 P **P** **06 52 02.9 -0.4**
comp=Z,1.6nm,0.4s,baz=103,slow=4.5,SNR=25
ARCES PKiKP **PKiKP** **06 56 45.9 +0.3**
comp=Z,2.2nm,0.8s,baz=94,slow=2.7,SNR=5.9
ARCES LR LR 07 40 59.8
comp=Z,56nm,19.3s,baz=138,slow=39
ARE0 ARCESS Array S 94.63 340 *e*P **P** **06 52 03.0 -0.3**
KTK1 Kautokeino 95.35 339 *e*P **P** **06 52 06.0 -0.5**
JAVC Velka Javorina 96.03 318 *e*P **P** **06 52 10.7 +0.5**
MORC Moravsky Berou 96.19 319 ⇑P **P** **06 52 10.9 -0.1**
MORC Moravsky Berou 96.19 319 *e*P **P** **06 52 10.8 -0.1**
MORC Moravsky Berou 96.19 319 P **P** **06 52 11.5 +0.6**
MORC pmax pmax
comp=Z,4.0nm,0.7s
MORC Moravsky Berou 96.19 319 P **P** **06 52 11.5 +0.6**
MORC IAmb IAmb 06 52 12.4
comp=Z,3.6nm,0.7s
SPA0 Spitsbergen Ar 97.91 348 *e*P **P** **06 52 17.8 -0.3**
N2IH Innhavet 97.95 338 *e*P **P** **06 52 17.8 -0.6**
STEI Steigen 98.21 338 *e*P **P** **06 52 18.9 -0.6**
N2TV T¥rnvik 98.25 337 *e*P **P** **06 52 19.4 -0.3**
MOR8 Moi Rana 98.52 336 *e*P **P** **06 52 20.0 -1.0**
GERES GERESS Array B 98.65 318 P **P** **06 52 22.1 -0.1**
comp=Z,0.9nm,0.6s,baz=92,slow=4.0,SNR=12
GERES PP **PP** **06 56 21.5 -2.4**
comp=Z,0.7nm,0.9s,baz=74,slow=7.5,SNR=5.9
GERES PKiKP **PKiKP** **06 56 53.6 +0.3**
comp=Z,0.3nm,0.6s,baz=108,slow=3.2,SNR=2.1
GERES LR LR 07 45 12.7
comp=Z,49nm,19.5s,baz=96,slow=40
GERES GERESS Array B 98.65 318 P **P** **06 52 22.0 -0.1**
NBB05 Inndyr 98.68 337 *e*P **P** **06 52 21.2 -0.4**
NBB17 Glomfjord B¥r 98.71 336 *e*P **P** **06 52 21.6 -0.2**
N2SV S¸rv¥gen 99.06 338 *e*P **Pdif** **06 52 22.3 -0.9**
CLL Collm 99.16 321 *e*PP **PP** **06 56 22.0 -5.6**
CLL *e*PS PS 07 05 30.0 +4.4
PPT Papeete 99.36 109 LR LR 07 34 00.4
comp=Z,45nm,21.7s,baz=264,slow=33
NB2 NORSAR Subarra100.07 331 P **Pdif** **06 52 27.7 -0.4**
comp=Z,3.1nm,1.1s,baz=72,slow=4.4
NB2 NORSAR Subarra100.07 331 P **Pdif** **06 52 27.7 -0.4**
baz=72,slow=4.4
NOA NORSAR Array B100.07 331 P **Pdif** **06 52 27.6 -0.4**
comp=Z,1.2nm,0.8s,baz=76,slow=4.3,SNR=3.9
NOA LR LR 07 43 00.5
comp=Z,47nm,21.1s,baz=100,slow=38
TOLK Toolik Lake Re 101.73 21 P **Pdif** **06 52 35.6 +0.3**
baz=279
ILAR Eielson Array 103.43 25 PKiKP **PKiKP** **06 57 00.2 -1.1**
comp=Z,0.1nm,0.5s,baz=293,slow=2.4,SNR=2.7
ILAR PKKPbc **PKKPbc** **07 08 37.0 -2.1**
comp=Z,0.5nm,0.7s,baz=113,slow=1.4,SNR=6.3
EPYK Eagle Plains 107.08 22 P **PKiKP** **06 57 08.7 +0.6**
baz=290
TORD Torodi Ar. Bea 107.56 281 PKiKP **PKiKP** **06 57 10.4 0.0**
comp=Z,2.6nm,0.6s,baz=100,slow=0.8,SNR=27
ESDC Sonseca Array 111.83 310 PKiKP **PKiKP** **06 57 18.2 +0.3**
comp=Z,0.6nm,0.4s,baz=40,slow=2.9,SNR=6.4
ESDC PP **PP** **06 58 08.8 +7.2**
comp=Z,0.6nm,0.9s,baz=83,slow=7.2,SNR=5.1
KIC Kosan Boka 113.32 274 *e*PKiKP **PKiKP** **06 57 20.8 -0.5**
comp=Z,12nm,0.8s
DBIC Dimbokro 113.46 274 PKiKP **PKiKP** **06 57 21.6 +0.1**
comp=Z,3.7nm,0.8s,baz=87,slow=5.1,SNR=8.5
LIC Lamto 113.59 273 *e*PKiKP **PKiKP** **06 57 21.1 -0.7**
comp=Z,20nm,0.6s
TIC Toumodi 113.62 274 *e*PKiKP **PKiKP** **06 57 21.3 -0.6**
PVRL Vila Real 114.38 312 *e*PKPdf **PKiKP** **06 57 23.6 +1.0**
MTE Manteigas 114.42 311 *e*PKPdf PKPdf 06 57 23.4 +0.6
PCBR Castelo Branco 114.48 310 *e*PKPdf **PKiKP** **06 57 23.8 +1.0**
PVIS Viseu 114.62 311 *e*PKPdf **PKiKP** **06 57 24.0 +0.9**
PVAQ Vaqueiros 115.09 308 *e*PKPdf **PKiKP** **06 57 24.0 -0.1**
PCAS Casmilo, Conde 115.21 311 *e*PKPdf **PKiKP** **06 57 21.0 -3.2**
PBDV Barranco-do-Ve 115.29 307 *e*PKPdf **PKPdf** **06 57 25.9 +1.4**
PCVE Castro Verde 115.31 308 *e*PKPdf **PKPdf** **06 57 25.5 +1.0**
MESJ Messejana 115.41 308 *e*PKPdf **PKPdf** **06 57 25.5 +0.8**
PSBE So Bento 115.54 310 *e*PKPdf **PKiKP** **06 57 24.9 0.0**
PNCL Nicolau / Gran 115.60 309 *e*PKPdf **PKiKP** **06 57 26.1 +1.1**
MORF Marmelete 115.84 308 *e*PKPdf **PKPdf** **06 57 24.1 -1.4**
MORF Marmelete 115.84 308 *e*PKPdf **PKiKP** **06 57 26.9 +1.3**
PFVI Vila Bisbo 116.01 307 *e*PKPdf **PKiKP** **06 57 27.0 +1.2**
PMAFR Mafra 116.02 310 *e*PKPdf **PKPdf** **06 57 23.5 -2.3**
YKA Yellowknife Ar 117.25 21 PKP **PKPdf** **06 57 27.7 +0.3**
comp=Z,4.1nm,0.5s,baz=2.3,slow=1.8,SNR=38
D03D Eldon 121.37 38 P **PKiKP** **06 57 37.9 +1.9**
baz=296
B05A Bryant 121.65 37 P **PKiKP** **06 57 37.8 +1.4**
baz=297
D04E Lakebay 121.72 38 P **PKiKP** **06 57 38.7 +2.0**
baz=296
E04D Cinebar 122.11 39 P **PKiKP** **06 57 38.9 +1.5**
baz=296
G03D McMinnville, O 122.23 41 P **PKiKP** **06 57 39.1 +1.4**
baz=294
F04A Amboy 122.47 40 PKPdf **PKiKP** **06 57 39.1 +0.9**
LON Longmire 122.50 39 PKiKP **PKPdf** **06 57 38.2 +0.1**
LON Longmire 122.50 39 **PKPdf** **06 57 38.2 +0.1**
J01E Myrtle Point 122.59 43 P **PKiKP** **06 57 39.9 +1.4**
baz=292
I03D Drain, OR 122.78 42 P **PKiKP** **06 57 40.4 +1.5**
baz=293
H04D Lebanon 122.85 41 P **PKiKP** **06 57 40.7 +1.7**
baz=294,SNR=6.2
K02D Willamette Mer 122.95 44 P **PKiKP** **06 57 40.5 +1.2**
baz=292
LTY Liberty 122.97 38 **PKiKP** **06 57 40.1 +0.8**
I04A Tendick Farm, 123.36 42 P **PKPdf** **06 57 40.6 +0.8**
baz=294
J04D Umpqua Nationa 123.79 42 P **PKiKP** **06 57 42.2 +1.1**
baz=294,SNR=7.4
I05D Terrebonne, OR 123.84 41 P **PKiKP** **06 57 42.3 +1.2**
baz=295
M02C Callahan 124.00 45 P **PKiKP** **06 57 43.0 +1.5**
baz=292
L04D Klamath Falls 124.06 44 P **PKiKP** **06 57 42.4 +0.8**
baz=293,SNR=5.1
N02D Trinity Center 124.26 45 P **PKiKP** **06 57 43.2 +1.2**
baz=292
PINE Pine Mountain 124.33 41 PKPdf **PKiKP** **06 57 44.0 +1.8**
J05D Fort Rock, OR 124.35 42 P **PKiKP** **06 57 43.4 +1.2**
baz=295,SNR=8.7
O02D Mt. Diablo Mer 124.49 46 P **PKiKP** **06 57 44.3 +1.9**
baz=291
M04C Macdoel 124.55 44 P **PKiKP** **06 57 43.6 +0.9**
baz=293
NEW Newport 124.56 35 P **PKPdf** **06 57 42.7 +0.7**
baz=302
O03E Paynes Creek 125.15 46 P **PKPdf** **06 57 43.6 +0.1**
baz=292
MSO Missoula 127.14 35 P **PKiKP** **06 57 48.0 +0.4**
baz=304
FFC Flin Flon 127.41 21 PKIKP **PKPdf** **06 57 47.9 +0.7**
FFC Flin Flon 127.41 21 PKPdf **PKPdf** **06 57 47.9 +0.7**
NVAR Mina Array Bea 128.38 46 PKP **PKiKP** **06 57 51.8 +1.3**
comp=Z,1.8nm,0.7s,baz=273,slow=2.3,SNR=14
NVAR Mina Array Bea 128.38 46 PKPdf **PKiKP** **06 57 51.4 +0.9**
HLID Hailey 128.62 39 P **PKiKP** **06 57 52.2 +1.4**
baz=301
EGMT Eagleton 128.73 32 P **PKiKP** **06 57 51.2 +0.5**
baz=309
BOZ Bozeman (W) 129.16 35 P **PKiKP** **06 57 53.2 +1.5**
baz=306
CWC Cottonwood Cre 129.32 49 P **PKiKP** **06 57 53.6 +1.2**
baz=293
MPMC Manual Prospec 129.91 49 P **PKiKP** **06 57 55.0 +1.4**
baz=293,SNR=7.0
EDW2 Edwards Air Fo 129.97 51 P **PKiKP** **06 57 55.0 +1.4**
baz=292
FURC Furnace Creek, 130.21 48 P **PKiKP** **06 57 56.0 +2.1**
baz=294
R11A Troy Canyon, C 130.34 45 P **PKiKP** **06 57 56.1 +1.7**
baz=296
BFSC Mount Baldy Ra 130.46 51 P **PKiKP** **06 57 55.4 +0.7**
baz=291
TPNV Topopah Spring 130.47 47 P **PKPdf** **06 57 54.6 +0.8**
baz=295
H17A Grant Village 130.47 36 P **PKiKP** **06 57 57.4 +2.8**
baz=306
GSC Goldstone, Bar 130.72 50 P **PKiKP** **06 57 56.9 +1.8**
baz=293
RLMT Red Lodge 130.79 35 P **PKiKP** **06 57 56.5 +1.3**
baz=308
DGMT Dagmar 131.18 28 P **PKiKP** **06 57 56.5 +1.0**
baz=316
DUG Dugway, Tooele 131.37 42 P **PKiKP** **06 57 57.2 +0.9**
baz=300,SNR=6.6
LAO LASA Array 131.42 31 P **PKiKP** **06 57 56.8 +0.7**
baz=312
PFO Pinyon Flats O 131.62 51 P **PKiKP** **06 57 58.7 +1.6**
baz=292
PLCA Paso Flores 131.70 181 PKP **PKiKP** **06 57 59.0 +0.9**
comp=Z,1.3nm,0.6s,baz=89,slow=3.0,SNR=5.1
PLCA SKPab **SKPbc** **07 01 16.4 +1.4**
comp=Z,11nm,1.0s,baz=173,slow=4.8,SNR=10.0
GMRC Granite Mounta 131.78 50 P **PKiKP** **06 57 59.1 +1.8**
baz=294,SNR=7.5
BELC Belle Mtn. Jos 131.83 51 P **PKiKP** **06 57 59.3 +1.8**
baz=293
MONP2 Monument Peak 131.91 52 P **PKiKP** **06 57 59.7 +1.9**
baz=291
BW06 Boulder Array 132.02 37 P **PKiKP** **06 57 57.9 +0.2**
baz=306
PD31 Pinedale Array 132.02 37 **PKPdf** **06 57 55.8 -0.9**
PDAR Pinedale Array 132.02 37 PKP **PKPdf** **06 57 57.0 +0.3**
comp=Z,1.4nm,0.5s,baz=147,slow=2.0,SNR=18
PDAR SKPbc **SKPbc** **07 01 16.0 -0.2**
comp=Z,1.4nm,0.6s,baz=346,slow=0.6,SNR=11
PDAR Pinedale Array 132.02 37 PKPdf **PKPdf** **06 57 56.8 +0.1**
SCHQ Schefferville 132.91 356 PKP **PKPdf** **06 57 58.6 +0.9**
comp=Z,7.0nm,0.5s,baz=298,slow=2.0,SNR=34
SCHQ SKPab **SKPbc** **07 01 19.6 +1.0**
comp=Z,6.2nm,0.8s,baz=350,slow=4.5,SNR=10
SCHQ Schefferville 132.91 356 PKPdf **PKPdf** **06 57 58.7 +1.1**
Q16A Castle Valley 133.11 42 **PKPdf** **06 57 58.4 -0.4**
ULM Lac du Bonnet 133.22 21 PKP **PKPdf** **06 57 59.3 +1.0**
comp=Z,7.1nm,0.7s,baz=327,slow=2.5,SNR=6.7
ULM SKPab **SKPbc** **07 01 20.9 +1.1**
comp=Z,5.2nm,0.6s,baz=335,slow=4.2,SNR=5.0
MDND Maddock 133.70 26 P **PKPdf** **06 58 00.3 +0.9**
baz=321
K22A Casper 133.87 35 P **PKPdf** **06 58 00.1 +0.1**
baz=309
K22A Casper 133.87 35 **PKPdf** **06 58 00.2 +0.1**
RSSD Black Hills 134.29 32 P **PKPdf** **06 58 01.5 +0.7**
baz=313
RSSD Black Hills 134.29 32 PKIKP **PKPdf** **06 58 01.6 +0.7**
RSSD Black Hills 134.29 32 PKPdf **PKPdf** **06 58 01.6 +0.7**
O20A White River Ci 134.35 39 P **PKiKP** **06 58 02.5 0.0**
baz=305,SNR=24
WUAZ Wupatki 134.63 47 P **PKiKP** **06 58 05.0 +1.9**
baz=298
PV22 Blue Mesa, Par 134.89 42 PKPdf **PKiKP** **06 58 04.0 +0.4**
MVCO Mesa Verde 135.80 43 P **PKiKP** **06 58 05.7 +0.1**
baz=302,SNR=6.7
W18A Petrified Fore 136.00 46 P **PKPdf** **06 58 05.6 +1.3**
baz=299
ISCO Idaho Springs 136.17 38 P **PKiKP** **06 58 06.2 -0.1**
baz=308
TUC Tucson 136.51 50 P **PKiKP** **06 58 07.8 +0.9**
baz=296
S22A 4UR Ranch, Cre 136.61 41 P **PKiKP** **06 58 07.5 +0.3**
baz=305

EYMN	Ely baz=331	136.69	19	P		PKPdf	06 58 06.0	+1.1
MATQ	Matagami baz=352	137.90	5	P		PKPdf	06 58 07.3	+0.3
CHGQ	Chibougamau baz=357	137.97	2	P		PKPdf	06 58 07.6	+0.4
ECSD	EROS Data Cent baz=322	138.22	27	P		PKPdf	06 58 01.9	-6.0
ANMO	Albuquerque baz=302	138.40	44	P		PKPdf	06 58 06.8	-1.9
ANMO	Albuquerque	138.40	44	PKIKP		PKPdf	06 58 07.2	-1.5
ANMO	Albuquerque	138.40	44	PKPdf		PKPdf	06 58 07.2	-1.5
T25A	Trinidad baz=307	138.53	40	P		PKPdf	06 58 06.3	-2.6
SPMN	Marine on St. baz=328	138.57	22	P		PKPdf	06 58 08.5	0.0
LSQQ	Lebel-sur-Quev baz=353	138.66	5	P		PKPdf	06 58 00.4	-8.1
BGNE	Belgrade baz=318	139.26	31	P		PKPdf	06 58 04.0	-5.9
VA03	San Esteban	139.65	182			PKPdf	06 58 10.0	-1.0
D46A	Sault St. Mari baz=342	139.69	13	P		PKPdf	06 58 02.3	-8.2
D47A	Chapleau baz=343	139.73	12	P		PKPdf	06 58 05.9	-4.7
D49A	Beulah Townshi baz=346	139.85	10	P		PKPdf	06 58 05.3	-5.5
D48A	Paudash Townsh baz=345	139.87	10	P		PKPdf	06 58 05.3	-5.5
D50A	G1974 Best Tow baz=348	140.19	8	P		PKPdf	06 58 03.8	-7.6
E47A	Iron Bridge baz=342	140.27	12	P		PKPdf	06 58 04.6	-6.9
D51A	Lot 18 Range I baz=349	140.33	8	P		PKiKP	06 58 13.6	-0.5
E48A	Lockeyer baz=344	140.47	11	P		PKPdf	06 58 05.5	-6.3
F45A	CMU Biological baz=339	140.48	15	P		PKPdf	06 58 08.0	-3.9
LATQ	La Tuque baz=359	140.54	1	P		PKPdf	06 58 12.4	+0.4
D53A	Lac Vacive, Po baz=351	140.55	6	P		PKPdf	06 58 03.9	-8.1
D52A	ZEK Kipawa Sen baz=350	140.57	7	P		PKPdf	06 58 04.2	-7.9
D54A	Lac Fusel, La baz=353	140.58	5	P		PKPdf	06 58 04.4	-7.7
D61A	St Aubert, Com baz=3.0	140.70	358	P		PKPdf	06 58 05.7	-6.5
D63A	Stockholm baz=6.2	140.75	356	P		PKPdf	06 58 05.7	-6.7
D62A	Allapoint, All baz=4.8	140.77	357	P		PKPdf	06 58 06.2	-6.2
E50A	Wahnapitae baz=346	140.78	10	P		PKPdf	06 58 08.5	-4.0
D55A	Sainte-Anne-du baz=355	140.80	4	P		PKPdf	06 58 04.7	-7.8
D56A	ZEC Mazanza, M baz=356	140.81	3	P		PKPdf	06 58 05.3	-7.2
D58A	Chemin du LacG baz=359	140.83	1	P		PKPdf	06 58 05.5	-7.0
MNTX	Cornudas Mount baz=300	140.85	48	P		PKPdf	06 58 07.8	-5.3
E51A	G1948 Merrick baz=348	140.86	8	P		PKPdf	06 58 07.2	-5.4
D57A	Chemin Vers le baz=357	140.88	2	P		PKPdf	06 58 05.5	-7.1
G46A	Petoskey baz=340	140.98	14	P		PKPdf	06 58 07.8	-5.1
F48A	Evansville baz=343	141.01	12	P		PKPdf	06 58 06.7	-6.1
G45A	Suttons Bay baz=338	141.04	15	P		PKPdf	06 58 05.8	-7.1
F49A	Sandfield baz=344	141.18	11	P		PKPdf	06 58 06.8	-6.4
E52A	Mattawa baz=350	141.22	7	P		PKPdf	06 58 06.4	-6.8
E54A	Lac Daplat, Po baz=352	141.24	6	P		PKPdf	06 58 06.4	-6.9
E53A	Dumoine, Ponti baz=351	141.24	6	P		PKPdf	06 58 07.0	-6.3
E56A	St. Veronique baz=355	141.30	3	P		PKPdf	06 58 07.3	-6.1
E55A	Montcerf-Lytto baz=354	141.32	5	P		PKPdf	06 58 07.3	-6.1
G47A	Hillman baz=341	141.36	13	P		PKPdf	06 58 07.6	-5.9
E63A	Oxbow baz=5.8	141.39	356	P		PKPdf	06 58 07.9	-5.6
F51A	Arnstein baz=348	141.39	9	P		PKPdf	06 58 08.5	-5.1
MSTX	Muleshoe baz=306	141.47	43	P		PKPdf	06 58 08.9	-5.4
E57A	Chemin Saint G baz=357	141.47	2	P		PKPdf	06 58 08.2	-5.6
E61A	Lac Etchemin baz=2.5	141.48	358	P		PKPdf	06 58 07.8	-6.0
JFWS	Jewell Farm baz=330	141.50	22	P		PKPdf	06 58 07.9	-6.0
E58A	La Victoria baz=358	141.54	1	P		PKPdf	06 58 07.6	-6.2
E60A	Ste Agathe de baz=1.0	141.56	359	P		PKPdf	06 58 07.5	-6.3
F52A	Sundridge baz=348	141.61	8	P		PKPdf	06 58 09.3	-4.7
ALGO	Algonquin Park baz=350	141.62	7	P		PKPdf	06 58 08.1	-5.9
H46A	Fife Lake baz=339	141.62	15	P		PKPdf	06 58 08.8	-5.3
AMTX	Amarillo baz=308	141.65	41	P		PKPdf	06 58 06.3	-8.2
KSU1	Kansas State U baz=318	141.76	32	P		PKPdf	06 58 08.4	-6.1
H47A	Mio baz=340	141.82	14	P		PKPdf	06 58 09.3	-5.1
F55A	Otter Lake baz=353	141.91	5	P		PKPdf	06 58 08.2	-6.3
F64A	Sherman baz=6.0	141.94	356	P		PKPdf	06 58 08.8	-5.7
F61A	St Evariste baz=1.8	141.95	359	P		PKPdf	06 58 09.7	-4.9
F60A	Warwick baz=0.2	141.96	360	P		PKPdf	06 58 09.2	-5.4
F62A	Pittston Farm, baz=3.4	142.00	358	P		PKPdf	06 58 09.2	-5.5
F59A	Saint Guilaume baz=359	142.07	1	P		PKPdf	06 58 09.9	-4.8
I46A	Reed City baz=338	142.11	16	P		PKPdf	06 58 10.9	-4.0
G54A	Lake Saint Pet baz=350	142.16	7	P		PKPdf	06 58 09.6	-5.4
ORIO	Orleans, Innes baz=354	142.36	4	P		PKPdf	06 58 10.3	-5.0
G53A	Haliburton baz=349	142.37	8	P		PKPdf	06 58 10.8	-4.6
G55A	Calabogie baz=352	142.45	5	P		PKPdf	06 58 11.3	-4.1
G65A	Princeton baz=7.4	142.53	355	P		PKPdf	06 58 11.3	-4.3
G64A	Maxfield baz=5.4	142.57	356	P		PKPdf	06 58 11.6	-4.1
PKME	Peaks-Kenny Pk baz=4.6	142.59	357	P		PKPdf	06 58 11.7	-4.0
G61A	St-Isidore-de- baz=0.9	142.65	359	P		PKPdf	06 58 11.3	-4.5
H52A	Wyevale baz=347	142.65	9	P		PKPdf	06 58 11.5	-4.4
G62A	West of Eustis baz=2.5	142.69	358	P		PKPdf	06 58 11.3	-4.7
G57A	Newington baz=355,SNR=9.9	142.74	4	P		PKPdf	06 58 11.5	-4.5
G58A	Ormstown baz=357	142.74	2	P		PKPdf	06 58 11.4	-4.5
G63A	Kingsbury baz=4.0	142.76	357	P		PKPdf	06 58 11.7	-4.4
I49A	Point Hope baz=342	142.76	13	P		PKPdf	06 58 12.7	-3.4
G60A	Masonville baz=360	142.83	0	P		PKPdf	06 58 12.8	-3.4
G59A	Clarenceville baz=358	142.84	1	P		PKPdf	06 58 12.4	-3.7
H53A	Bobcaygeon baz=349	142.91	8	P		PKPdf	06 58 12.4	-3.9
J47A	Sunmer baz=339	142.94	16	P		PKPdf	06 58 13.2	-3.2
H65A	Eastbrook baz=6.3	143.09	356	P		PKPab	06 58 11.4	-0.7
H55A	Tweed baz=352	143.10	6	P		PKPab	06 58 12.7	+0.6
J48A	Bridge Port baz=340	143.15	14	P		PKPbc	06 58 14.1	+0.3
H56A	Elgin baz=353,SNR=12	143.15	5	P		PKPbc	06 58 13.7	-0.1
I52A	Shelburne baz=347	143.16	10	P		PKPab	06 58 13.6	+1.2
H64A	Troy baz=4.8	143.21	357	P		PKPab	06 58 13.5	+0.9
CPUP	Villa Florida comp=Z,4.9nm,0.8s,baz=169,slow=2.9,SNR=9.0	143.22	202	PKhKP		PKPpre	06 58 15.0	
CPUP	comp=Z,3.1nm,0.9s,baz=244,slow=1.5,SNR=3.0			SKPbc		SKPbc	07 01 50.5	+1.3
H63A	New Sharon baz=3.4	143.23	358	P		PKPbc	06 58 14.1	+0.2
LONY	Lake Ozonia baz=356,SNR=8.9	143.24	3	P		PKPbc	06 58 14.1	0.0
J49A	Marlette baz=342	143.24	14	P		PKPab	06 58 13.9	+1.1
H59A	Cadyville baz=357,SNR=11	143.26	2	P		PKPab	06 58 13.9	+1.1
I51A	Listowel baz=345	143.26	11	P		PKPbc	06 58 14.5	+0.4
TXAR	Lajitas Array comp=Z,2.6nm,0.5s,baz=252,slow=0.8,SNR=110	143.31	50	PKP		PKPbc	06 58 15.8	+1.0
TXAR	comp=Z,0.4nm,0.7s,baz=277,slow=1.5,SNR=2.5			SKPbc		SKPbc	07 01 49.4	0.0
TXAR	Lajitas Array	143.31	50	PKPdf		PKPbc	06 58 15.6	+0.8
H57A	Richville baz=354,SNR=9.9	143.35	4	P		PKPab	06 58 14.1	+0.9
H62A	Milan baz=1.6	143.35	359	P		PKPbc	06 58 14.5	+0.2
H60A	Morristown baz=359,SNR=6.2	143.37	1	P		PKPbc	06 58 14.7	+0.3
I55A	Frankford baz=351	143.38	7	P		PKPab	06 58 13.9	+0.7
H61A	Lyndonville baz=0.3,SNR=5.8	143.40	360	P		PKPab	06 58 14.6	+1.2
H58A	Gabriels baz=356,SNR=9.2	143.46	3	P		PKPab	06 58 14.7	+1.1
WMOK	Wichita Mounta baz=311,SNR=32	143.59	39	P		PKPbc	06 58 16.4	+1.0
LBNH	Lisbon baz=0.3,SNR=6.0	143.69	360	P		PKPbc	06 58 15.7	+0.3
K49A	Clarkson baz=341	143.71	14	P		PKPab	06 58 15.6	+1.0
I57A	Carthage baz=354,SNR=15	143.85	5	P		PKPab	06 58 15.6	+0.5
I63A	Otisfield baz=2.5,SNR=6.6	143.86	358	P		PKPbc	06 58 16.2	+0.4
HDIL	Hopedale baz=330,SNR=10	143.90	23	P		PKPbc	06 58 16.5	+0.4
J52A	Paris baz=346	143.91	11	P		PKPab	06 58 16.3	+0.9
K50A	Casco baz=342	143.92	13	P		PKPbc	06 58 16.4	+0.3
I64A	Boothbay baz=4.1,SNR=5.7	143.95	357	P		PKPab	06 58 16.2	+0.7
I61A	Oroboro, Fairl baz=360	144.00	0	P		PKPab	06 58 16.5	+0.8
I62A	Tamworth baz=1.3,SNR=6.9	144.05	359	P		PKPbc	06 58 16.8	+0.4
I60A	Shoreham baz=356,SNR=25	144.07	2	P		PKPbc	06 58 17.0	+0.6
I59A	Olmsteadville baz=357,SNR=21	144.10	2	P		PKPbc	06 58 17.0	+0.4
AAM	Ann Arbor baz=340	144.12	15	P		PKPbc	06 58 17.2	+0.5
I58A	Old Forge baz=355,SNR=14	144.15	4	P		PKPab	06 58 16.7	+0.4
J54A	Appleton baz=349	144.18	8	P		PKPab	06 58 16.8	+0.4
K51A	Iona Station baz=344	144.21	12	P		PKPbc	06 58 17.4	+0.5
J55A	Hilton baz=350,SNR=9.2	144.30	7	P		PKPab	06 58 17.0	+0.3
K52A	Tillsonburg baz=345,SNR=8.7	144.31	11	P		PKPab	06 58 17.6	+0.7
J57A	Williamstown baz=353,SNR=42	144.35	5	P		PKPab	06 58 17.6	+0.7
ABTX	Abilene, Hawle baz=344,SNR=18	144.38	42	P		PKPdf	06 58 19.6	+0.3
J56A	Wolcott baz=352,SNR=15	144.40	6	P		PKPab	06 58 17.5	+0.4
J59A	Piesco baz=356,SNR=16	144.40	3	P		PKPab	06 58 17.7	+0.5
J58A	Remsen baz=355,SNR=21	144.45	4	P		PKPab	06 58 18.0	+0.6
TUL1	Leonard baz=317,SNR=21	144.54	34	P		PKPbc	06 58 19.4	+1.1
L50A	Kingsville baz=342,SNR=18	144.57	14	P		PKPab	06 58 18.5	+0.7
J61A	Chester baz=359,SNR=25	144.58	1	P		PKPbc	06 58 18.8	+0.7
J63A	Strafford baz=1.7,SNR=5.3	144.64	359	P		PKPab	06 58 18.5	+0.4
J60A	Lant Hill Farm baz=358,SNR=27	144.66	2	P		PKPab	06 58 18.8	+0.6
J62A	Henniker baz=0.5,SNR=19	144.71	360	P		PKPbc	06 58 19.1	+0.6
K55A	Perry baz=350,SNR=33	144.79	8	P		PKPab	06 58 18.9	+0.2
K54A	Basiliko Farm, baz=349,SNR=37	144.82	9	P		PKPab	06 58 19.1	+0.3
SFIN	Lafayette baz=334,SNR=6.6	144.85	20	P		PKPbc	06 58 19.9	+0.8
K56A	Middlesex baz=351,SNR=21	144.91	7	P		PKPab	06 58 19.4	+0.2
K57A	Scipio Center baz=352,SNR=41	144.97	6	P		PKPab	06 58 19.8	+0.5
K58A	Earlville baz=354,SNR=17	145.02	5	P		PKPbc	06 58 19.8	+0.3
K59A	Cooperstown baz=355,SNR=18	145.06	4	P		PKPbc	06 58 19.7	+0.1
ERPA	Erie baz=346,SNR=25	145.09	10	P		PKPbc	06 58 20.1	+0.4
L54A	Sinclairville baz=347,SNR=52	145.09	10	P		PKPbc	06 58 20.1	+0.3
CCM	Cathedral Cave baz=325	145.19	27	P		PKPab	06 58 20.9	+0.6
CCM	Cathedral Cave	145.19	27	PKIKP		PKPbc	06 58 20.6	+0.4
CCM	Cathedral Cave	145.19	27			PKPbc	06 58 20.6	+0.4
L53A	Girard baz=346,SNR=13	145.20	11	P		PKPbc	06 58 20.4	+0.3
K63A	Dunstable baz=1.0,SNR=20	145.24	359	P		PKPbc	06 58 20.5	+0.4
K61A	Williamstown baz=358,SNR=30	145.24	2	P		PKPbc	06 58 20.9	+0.7
K62A	Royalston baz=360,SNR=21	145.26	0	P		PKPab	06 58 21.0	+0.6
K60A	Five Rivers En baz=357,SNR=15	145.27	2	P		PKPdf	06 58 21.2	+0.8
L55A	Hinsdale baz=349,SNR=34	145.28	8	P		PKPbc	06 58 20.7	+0.3
M52A	Chesterland baz=344,SNR=22	145.38	12	P		PKPbc	06 58 21.3	+0.6
M51A	Elyria baz=342,SNR=7.6	145.39	14	P		PKPbc	06 58 21.0	+0.3
HRV	Adam Dziewonsk baz=0.9	145.42	359	P		PKPbc	06 58 21.4	+0.6
HRV	Adam Dziewonsk	145.42	359	PKIKP		PKPbc	06 58 21.1	+0.3
HRV	Adam Dziewonsk	145.42	359	PKPdf		PKPbc	06 58 21.1	+0.3
L56A	Greenwood baz=350,SNR=49	145.44	7	P		PKPbc	06 58 21.1	+0.2
L61B	Northampton baz=359,SNR=16	145.48	1	P		PKPdf	06 58 21.4	+0.6
JCT	Junction City baz=305	145.54	45	P		PKPab	06 58 22.8	+0.9
WES	Weston	145.54	359	PKIKP		PKPdf	06 58 21.3	+0.4
WES	Weston	145.54	359			PKPdf	06 58 21.3	+0.4
BINY	Binghamton baz=353,SNR=34	145.55	5	P		PKPdf	06 58 21.7	+0.7
O48A	Farmland baz=337,SNR=53	145.59	18	P		PKPdf	06 58 21.9	+0.7
M53A	WI Miller and baz=345,SNR=52	145.61	12	P		PKPdf	06 58 21.8	+0.7
L59A	Walton baz=355,SNR=50	145.63	4	P		PKPdf	06 58 21.9	+0.7
L57A	Andrews Acres baz=352,SNR=39	145.66	6	P		PKPdf	06 58 21.8	+0.5
L61A	Hillsdale 1, H baz=357,SNR=37	145.71	2	P		PKPdf	06 58 22.0	+0.7
L58A	Harry Jones Me baz=353,SNR=77	145.72	5	P		PKPbc	06 58 22.3	+0.6
M54A	Oil Creek Stat baz=347,SNR=59	145.74	10	P		PKPdf	06 58 22.2	+0.8
N51A	Ashland baz=342,SNR=33	145.74	14	P		PKPdf	06 58 21.9	+0.5
U40A	Yellville baz=321,SNR=84	145.78	31	P		PKPdf	06 58 22.2	+0.6
L60A	Shokan baz=356,SNR=12	145.88	3	P		PKPdf	06 58 22.3	+0.7
L62A	Suffield baz=359,SNR=5.8	145.89	1	P		PKPdf	06 58 22.5	+1.0
M55A	Ridgway baz=348,SNR=37	145.93	9	P		PKPdf	06 58 22.7	+1.0
L64A	Middleborough baz=2.2,SNR=5.3	145.98	358	P		PKPdf	06 58 22.3	+0.6
M56A	Emporium baz=349,SNR=40	146.00	8	P		PKPdf	06 58 22.8	+1.0
N52A	McGinn's Farm, baz=343,SNR=29	146.00	13	P		PKPdf	06 58 22.9	+1.1
L63A	North Scituate baz=0.9,SNR=11	146.07	360	P		PKPdf	06 58 22.6	+0.7
W39A	Magazine baz=319,SNR=31	146.18	33	P		PKPdf	06 58 23.4	+1.1
N53A	Lisbon baz=344,SNR=35	146.19	12	P		PKPdf	06 58 23.0	+0.8
N54A	Moraine State baz=346,SNR=24	146.21	11	P		PKPbc	06 58 23.5	+0.2
WHTX	Lake Whitney, baz=310,SNR=26	146.21	41	P		PKPbc	06 58 23.7	+0.1
WHTX	Lake Whitney,	146.21	41			PKPab	06 58 25.2	+0.9
ACSO	Alum Creek Sta baz=340,SNR=38	146.23	15	P		PKPdf	06 58 23.1	+0.9
M59A	Waymart baz=354,SNR=40	146.25	5	P		PKPdf	06 58 23.4	+1.2
M57A	Sunshine Farm, baz=351,SNR=43	146.28	7	P		PKPdf	06 58 23.5	+1.3
M58A	Price's Panora baz=352,SNR=32	146.32	6	P		PKPdf	06 58 23.0	+0.6
M64A	Tiverton baz=1.6	146.37	359	P		PKPdf	06 58 23.0	+0.6
P49A	Miami Univ. Ec baz=337,SNR=26	146.39	18	P		PKPdf	06 58 23.3	+0.8
O51A	Pataskala baz=341,SNR=55	146.41	15	P		PKPdf	06 58 23.7	+1.2
M62A	Hamden baz=359,SNR=6.9	146.48	1	P		PKPdf	06 58 23.3	+0.8
M60A	Port Jervis baz=356,SNR=22	146.52	4	P		PKPdf	06 58 23.7	+1.1
M63A	Gales Ferry baz=0.1,SNR=5.1	146.53	0	P		PKPdf	06 58 23.9	+1.3
N56A	West Decatur baz=349,SNR=18	146.54	9	P		PKPdf	06 58 24.2	+1.4
N55A	Marion Center baz=348,SNR=29	146.56	10	P		PKPbc	06 58 24.5	+0.2
M61A	Granite Spring baz=357,SNR=13	146.58	2	P		PKPdf	06 58 23.7	+0.9
O52A	Adamsville baz=342,SNR=27	146.63	14	P		PKPbc	06 58 24.4	-0.1
O53A	New Philadelph baz=343,SNR=24	146.64	13	P		PKPbc	06 58 24.5	0.0
BDFB	Brasilia comp=Z,39nm,0.6s,baz=120,slow=2.7,SNR=75	146.75	226	PKPbc		PKPdf	06 58 25.1	+1.3
MIAR	Mount Ida baz=318,SNR=96	146.78	34	P		PKPbc	06 58 25.8	+0.7
N57A	Milroy baz=350,SNR=42	146.80	8	P		PKPdf	06 58 24.4	+1.2
N58A	Sunbury baz=352,SNR=28	146.82	7	P		PKPbc	06 58 25.3	+0.2
N59A	State Game Lan baz=353,SNR=40	146.84	5	P		PKPbc	06 58 25.3	+0.2
SSPA	Standing Stone baz=350	146.87	8	P		PKPdf	06 58 24.5	+1.2
SSPA	Standing Stone	146.87	8	PKPdf		PKPdf	06 58 24.1	+0.9
PAL	Palisades baz=357,SNR=21	146.88	3	P		PKPdf	06 58 24.7	+1.5
O54A	Avella baz=345,SNR=36	146.88	12	P		PKPbc	06 58 25.5	+0.3
435B	Jarrell baz=309,SNR=9.6	146.89	43	P		PKPbc	06 58 25.6	0.0
P51A	Williamsport baz=340,SNR=17	146.91	16	P		PKPbc	06 58 25.4	+0.1
N63A	Mattituck baz=359	146.94	1	P		PKPbc	06 58 25.1	-0.2
N60A	Cedar Hill Far baz=355,SNR=16	146.94	4	P		PKPdf	06 58 24.7	+1.3
N62A	Caumsett State baz=358,SNR=13	146.97	2	P		PKPbc	06 58 25.8	+0.4
W41B	Gary Mavity, V baz=321,SNR=14	147.01	31	P		PKPdf	06 58 25.1	+1.5
P52A	Corning baz=342,SNR=46	147.01	14	P		PKPdf	06 58 24.4	+0.8
833A	Chaparral WMA, baz=303	147.04	48	P		PKPbc	06 58 26.0	-0.1
WCI	Wyandotte Cave baz=334	147.05	21	P		PKPdf	06 58 24.4	+0.8
WCI	Wyandotte Cave	147.05	21	PKP2		PKPdf	06 58 24.4	+0.8
WCI	Wyandotte Cave	147.05	21	PKPdf		PKPdf	06 58 24.4	+0.8
WCI				PKPbc		PKPbc	06 58 26.8	+1.0
O55A	Ligonier baz=347,SNR=12	147.06	10	P		PKPbc	06 58 26.0	+0.3
N61A	South Mountain baz=356,SNR=12	147.11	3	P		PKPdf	06 58 24.0	+0.4
O56A	Blue Knob Stat baz=348,SNR=39	147.13	9	P		PKPbc	06 58 25.9	-0.1
O56A	Blue Knob Stat	147.13	9			PKPbc	06 58 26.8	+0.8
GO02	Mina Guanaco	147.16	184			PKPbc	06 58 28.1	+1.3
T45A	Paducah	147.19	25			PKPbc	06 58 27.4	+1.2
X40A	Basin Creek Fa baz=320,SNR=13	147.22	33	P		PKPbc	06 58 26.5	+0.2
X40A	Basin Creek Fa	147.22	33			PKPbc	06 58 27.5	+1.1
O57A	Amberson baz=350,SNR=16	147.32	8	P		PKPdf	06 58 25.1	+1.1
P53A	Whipple baz=343,SNR=24	147.33	14	P		PKPbc	06 58 26.5	0.0
P53A	Whipple	147.33	14			PKPbc	06 58 27.4	+0.9
HICK	Hickman	147.35	26			PKPbc	06 58 27.8	+1.2
R49A	Shelbyville	147.38	19			PKPbc	06 58 27.6	+0.9
O59A	Robesonia baz=352,SNR=20	147.40	6	P		PKPdf	06 58 25.3	+1.1
P54A	Burton baz=344,SNR=46	147.42	12	P		PKPbc	06 58 27.4	+0.6
O60A	Telford baz=354,SNR=10	147.47	5	P		PKPdf	06 58 25.4	+1.1
MCWV	Mont Chateau baz=346,SNR=43	147.50	11	P		PKPbc	06 58 27.6	+0.6
MCWV	Mont Chateau	147.50	11			PKPbc	06 58 27.8	+0.8
O58A	Lewisberry baz=351,SNR=20	147.50	7	P		PKPbc	06 58 27.3	+0.4
Q52A	Bidwell baz=341,SNR=17	147.61	15	P		PKPbc	06 58 26.7	-0.6
P55A	Reedsville baz=346,SNR=23	147.64	11	P		PKPdf	06 58 25.1	+0.5
MVL	Millersville	147.69	6			PKPbc	06 58 28.2	+0.8
O61A	Allentown baz=355,SNR=12	147.75	4	P		PKPbc	06 58 28.0	+0.4
P56A	Dayton Farm, R baz=347,SNR=27	147.83	10	P		PKPbc	06 58 28.4	+0.6
T47A	Sharon Grove	147.84	23			PKPbc	06 58 29.0	+1.1
Q53A	Leroy baz=342	147.90	14	P		PKPbc	06 58 28.6	+0.5
Q54A	Coxs Mills baz=344,SNR=27	147.94	13	P		PKPbc	06 58 28.7	+0.6
P60A	Greenville baz=353,SNR=18	147.95	5	P		PKPbc	06 58 28.6	+0.5
P60A	Greenville	147.95	5			PKPbc	06 58 29.1	+0.9
P57A	Homestead Farm baz=349,SNR=27	147.98	9	P		PKPbc	06 58 28.7	+0.4
P57A	Homestead Farm	147.98	9	PKPbc		PKPbc	06 58 29.1	+0.9
P59A	Jarrettsville baz=352,SNR=13	148.07	7	P		PKPbc	06 58 28.8	+0.3
P58A	Pank, Wackersv baz=350,SNR=20	148.08	8	P		PKPbc	06 58 29.1	+0.5
Q55A	Buckhannon baz=345,SNR=22	148.09	12	P		PKPbc	06 58 29.3	+0.6
NATX	Nacogdoches baz=314,SNR=6.6	148.14	38	P		PKiKP	06 58 30.7	0.0
P61A	Hammonton baz=355	148.16	4	P		PKPbc	06 58 29.0	+0.3
Z41A	Richland Creek baz=318	148.16	34	P		PKiKP	06 58 30.5	-0.1
Z41A	Richland Creek	148.16	34			PKiKP	06 58 30.5	-0.1
X43A	Marvell baz=323,SNR=9.6	148.22	31	P		PKPbc	06 58 30.0	+0.9
Q56A	Snyder Ridge, baz=347,SNR=18	148.22	11	P		PKPbc	06 58 29.3	+0.4
Q56A	Snyder Ridge,	148.22	11			PKPbc	06 58 29.9	+1.0
R53A	Hurricane baz=341,SNR=22	148.29	15	P		PKPbc	06 58 29.8	+0.7
WVT	Waverly baz=329	148.29	25	P		PKPbc	06 58 30.2	+1.0
WVT	Waverly	148.29	25	PKIKP		PKPdf	06 58 26.5	+0.7
WVT				PKP		PKPbc	06 58 30.2	+1.0

WVT	**Waverly**	**148.29**	**25**	PKPdf	**PKPdf**	**06 58 26.5**	**+0.7**
WVT				PKPbc	**PKPbc**	**06 58 30.2**	**+1.0**
Q57A	**Strasburg**	**148.36**	**10**	P	**PKPbc**	**06 58 29.9**	**+0.6**
	baz=348,SNR=13						
S51A	**Beattyville**	**148.47**	**18**	PKPbc	**PKPbc**	**06 58 30.4**	**+0.7**
Q58A	**Fox Den Farm,**	**148.56**	**9**	P	**PKPbc**	**06 58 30.4**	**+0.6**
	baz=349,SNR=9.7						
HKT	**Hockley**	**148.59**	**42**	PKP2	**PKPbc**	**06 58 29.0**	**-1.0**
HKT	**Hockley**	**148.59**	**42**	PKPdf	**PKPbc**	**06 58 29.0**	**-1.0**
HKT				PKPbc	**PKiKP**	**06 58 32.2**	**+0.6**
T50A	**Nancy**	**148.64**	**20**	PKPdf	**PKPdf**	**06 58 25.0**	**-1.3**
T50A				PKPbc	**PKPbc**	**06 58 30.6**	**+0.5**
R54A	**Victor**	**148.67**	**14**	P	**PKPbc**	**06 58 30.4**	**+0.2**
	baz=343,SNR=10						
Q60A	**Greensboro**	**148.73**	**6**	P	**PKPbc**	**06 58 31.1**	**+0.9**
	baz=353						
U49A	**Red Boiling Sp**	**148.76**	**22**	PKPbc	**PKPbc**	**06 58 31.2**	**+0.8**
R55A	**Marlinton**	**148.76**	**12**	P	**PKPbc**	**06 58 30.9**	**+0.5**
	baz=345,SNR=10						
R55A	**Marlinton**	**148.76**	**12**	PKPdf	**PKPdf**	**06 58 27.3**	**+0.7**
R55A				PKPbc	**PKPbc**	**06 58 31.1**	**+0.6**
Q59A	**Harwood**	**148.78**	**7**	P	**PKPbc**	**06 58 31.4**	**+1.1**
	baz=351						
R56A	**Bull Pasture M**	**148.79**	**11**	P	**PKPbc**	**06 58 31.2**	**+0.7**
	baz=346,SNR=17						
S53A	**Williamson**	**148.85**	**16**	P	**PKPbc**	**06 58 31.4**	**+0.7**
	baz=340,SNR=22						
CLTN	**Cedars of Leba**	**148.93**	**23**	PKPbc	**PKPbc**	**06 58 31.9**	**+1.1**
OXF	**Oxford**	**148.94**	**29**	P	**PKPbc**	**06 58 31.6**	**+0.7**
	baz=325,SNR=23						
OXF	**Oxford**	**148.94**	**29**	PKIKP	**PKPdf**	**06 58 26.9**	**0.0**
OXF						06 58 32.1	
OXF	**Oxford**	**148.94**	**29**	PKPdf	**PKPdf**	**06 58 26.9**	**0.0**
OXF				PKPbc	**PKPbc**	**06 58 32.1**	**+1.2**
S54A	**Dingess, Beckl**	**148.95**	**14**	P	**PKPbc**	**06 58 31.2**	**+0.3**
	baz=342,SNR=18						
S54A	**Dingess, Beckl**	**148.95**	**14**		**PKPbc**	**06 58 31.7**	**+0.8**
V48A	**Smith Brothers**	**149.04**	**24**		**PKPbc**	**06 58 31.7**	**+0.5**
R57A	**Stanardsville**	**149.06**	**10**	P	**PKPbc**	**06 58 31.9**	**+0.8**
	baz=348,SNR=14						
PB15	**IPOC Station P**	**149.09**	**184**		**PKiKP**	**06 58 33.6**	**+0.4**
R58A	**Rapidan**	**149.14**	**9**	P	**PKPbc**	**06 58 32.0**	**+0.7**
	baz=349,SNR=18						
PLAL	**Pickwick Lake**	**149.16**	**26**	PKPdf	**PKPdf**	**06 58 26.8**	**-0.4**
PLAL				PKPbc	**PKPbc**	**06 58 31.7**	**+0.3**
S55A	**Lewisburg**	**149.17**	**13**	P	**PKPbc**	**06 58 31.6**	**+0.1**
	baz=344						
CBN	**Corbin Frederi**	**149.33**	**8**	P	**PKPbc**	**06 58 32.3**	**+0.6**
	baz=350						
R60A	**Leonardtown, M**	**149.37**	**7**	P	**PKPbc**	**06 58 33.0**	**+1.2**
	baz=351						
T53A	**Wise**	**149.40**	**17**	P	**PKPbc**	**06 58 32.8**	**+0.7**
	baz=339,SNR=14						
Y45A	**Yeager Farm, C**	**149.40**	**30**	PKPbc	**PKiKP**	**06 58 33.6**	**+0.4**
S56A	**Natural Bridge**	**149.46**	**12**	P	**PKPbc**	**06 58 32.6**	**+0.4**
	baz=345,SNR=11						
R58B	**Mineral**	**149.49**	**9**	P	**PKPbc**	**06 58 32.9**	**+0.8**
	baz=349,SNR=11						
R58B	**Mineral**	**149.49**	**9**		**PKPbc**	**06 58 32.8**	**+0.7**
TZTN	**Tazewell**	**149.50**	**19**	P	**PKPbc**	**06 58 33.0**	**+0.8**
	baz=337,SNR=17						
TZTN	**Tazewell**	**149.50**	**19**	PKPdf	**PKPdf**	**06 58 28.6**	**+0.8**
TZTN					**PKPbc**	**06 58 33.4**	**+1.1**
S57A	**Dark Hollow, R**	**149.50**	**11**	P	**PKPbc**	**06 58 32.9**	**+0.7**
	baz=346,SNR=12						
S57A	**Dark Hollow, R**	**149.50**	**11**		**PKiKP**	**06 58 33.5**	**+0.2**
T54A	**Tazewell**	**149.58**	**15**	P	**PKPbc**	**06 58 33.1**	**+0.6**
	baz=341,SNR=31						
PB06	**IPOC Station P**	**149.60**	**184**	PKPdf	**PKPdf**	**06 58 27.1**	**-1.4**
PB06					**PKiKP**	**06 58 34.8**	**+0.7**
LVC	**Limon Verde**	**149.64**	**186**	PKP2	**PKiKP**	**06 58 35.2**	**+0.7**
LVC	**Limon Verde**	**149.64**	**186**		**PKiKP**	**06 58 35.2**	**+0.7**
BLA	**Blacksburg**	**149.72**	**13**	P	**PKPbc**	**06 58 33.2**	**+0.3**
	baz=344,SNR=6.1						
BLA	**Blacksburg**	**149.72**	**13**	PKP2	**PKPbc**	**06 58 33.3**	**+0.5**
BLA	**Blacksburg**	**149.72**	**13**		**PKPbc**	**06 58 33.3**	**+0.5**
T55A	**Pulaski**	**149.73**	**14**	P	**PKPbc**	**06 58 33.5**	**+0.6**
	baz=343,SNR=19						
S59A	**Mechanicsville**	**149.78**	**8**	P	**PKPbc**	**06 58 33.9**	**+1.1**
	baz=350,SNR=18						
S58A	**Poland Farm, P**	**149.81**	**10**	P	**PKPbc**	**06 58 33.6**	**+0.7**
	baz=348,SNR=15						
V51A	**Loudon**	**149.91**	**20**		**PKPdf**	**06 58 27.6**	**-0.8**
V51A				PKPbc	**PKPbc**	**06 58 34.3**	**+1.0**
T56A	**Rocky Mt**	**149.99**	**13**	P	**PKPbc**	**06 58 34.0**	**+0.5**
	baz=344,SNR=22						
PB04	**IPOC Station P**	**150.01**	**183**		**PKiKP**	**06 58 35.8**	**+0.8**
U54A	**Nelsons Funny**	**150.03**	**16**	P	**PKPbc**	**06 58 33.9**	**+0.3**
	baz=340,SNR=7.1						
U54A	**Nelsons Funny**	**150.03**	**16**	PKPdf	**PKPdf**	**06 58 26.9**	**-1.7**
U54A					**PKPbc**	**06 58 34.2**	**+0.5**
X48A	**Hartselle**	**150.06**	**25**	PKPbc	**PKPbc**	**06 58 33.8**	**+0.1**
W50A	**Signal Mountai**	**150.10**	**22**		**PKPbc**	**06 58 34.5**	**+0.7**
V52A	**Sevierville**	**150.12**	**19**	PKPbc	**PKiKP**	**06 58 35.1**	**+0.5**
CPCT	**Cooper Cave**	**150.17**	**21**	PKPdf	**PKPdf**	**06 58 28.9**	**+0.1**
CPCT				PKPbc	**PKiKP**	**06 58 35.0**	**+0.3**
T57A	**Hurt**	**150.18**	**12**	P	**PKPbc**	**06 58 34.5**	**+0.6**
	baz=346,SNR=12						
T57A	**Hurt**	**150.18**	**12**		**PKPbc**	**06 58 34.4**	**+0.5**
VBMS	**Vicksburg**	**150.20**	**33**	P	**PKPbc**	**06 58 34.1**	**+0.1**
	baz=321,SNR=5.3						
TKL	**Tuckaleechee C**	**150.23**	**20**	PKIKP	**PKPbc**	**06 58 35.0**	**+0.9**
TKL	**Tuckaleechee C**	**150.23**	**20**	PKPbc	**PKPbc**	**06 58 35.0**	**+0.9**
U55A	**TA2, Sparta**	**150.25**	**15**	P	**PKPbc**	**06 58 34.7**	**+0.5**
	baz=342,SNR=27						
T58A	**Grand View Acr**	**150.37**	**11**	P	**PKPbc**	**06 58 35.2**	**+0.9**
	baz=347,SNR=15						
T60A	**Surry**	**150.47**	**8**	P	**PKPbc**	**06 58 35.5**	**+1.0**
	baz=351						
T60A	**Surry**	**150.47**	**8**		**PKPbc**	**06 58 35.5**	**+1.0**
T59A	**Double "B" Far**	**150.51**	**9**	P	**PKiKP**	**06 58 35.8**	**+0.4**
	baz=349,SNR=20						
T59A	**Double "B" Far**	**150.51**	**9**		**PKiKP**	**06 58 35.9**	**+0.5**
V53A	**Saluda**	**150.53**	**18**	PKPbc	**PKPbc**	**06 58 35.8**	**+0.9**
U56A	**King**	**150.56**	**14**	P	**PKPbc**	**06 58 35.5**	**+0.7**
	baz=343,SNR=16						
U56A	**King**	**150.56**	**14**		**PKPbc**	**06 58 35.5**	**+0.7**
PB07	**IPOC Station P**	**150.59**	**184**		**PKiKP**	**06 58 37.4**	**+1.2**
146A	**Union**	**150.63**	**30**		**PKiKP**	**06 58 36.7**	**+0.9**
Z47A	**Carrollton**	**150.65**	**28**		**PKPbc**	**06 58 36.1**	**+1.0**
V54A	**Nebo**	**150.69**	**17**	P	**PKPbc**	**06 58 35.8**	**+0.6**
	baz=340,SNR=24						
U57A	**Blanch**	**150.71**	**12**	P	**PKPbc**	**06 58 35.8**	**+0.6**
	baz=345,SNR=17						
V55A	**Taylorsville**	**150.82**	**16**	P	**PKPbc**	**06 58 36.1**	**+0.7**
	baz=341,SNR=18						
V55A	**Taylorsville**	**150.82**	**16**		**PKPbc**	**06 58 36.2**	**+0.7**
X51A	**Calhoun**	**150.84**	**22**		**PKPbc**	**06 58 36.4**	**+0.8**
Y49A	**Blount Mountai**	**150.84**	**25**		**PKPbc**	**06 58 36.4**	**+0.8**
Y49A				PKPab	**PKPab**	**06 58 40.5**	**-2.4**
U58A	**Oxford**	**150.90**	**11**	P	**PKPbc**	**06 58 36.5**	**+0.9**
	baz=347,SNR=16						
V56A	**Mocksville**	**151.04**	**14**	P	**PKPbc**	**06 58 36.6**	**+0.6**
	baz=343,SNR=20						
U60A	**Pendleton**	**151.06**	**9**	P	**PKiKP**	**06 58 37.0**	**+0.5**
	baz=350,SNR=27						
U59A	**Littleton**	**151.08**	**10**	P	**PKPbc**	**06 58 36.9**	**+0.9**
	baz=348,SNR=11						
U59A	**Littleton**	**151.08**	**10**		**PKiKP**	**06 58 37.1**	**+0.6**
BG3	**Lake Jocassee**	**151.12**	**19**		**PKiKP**	**06 58 37.5**	**+0.7**
V57A	**Coltrane Farms**	**151.14**	**13**	P	**PKPbc**	**06 58 36.8**	**+0.6**
	baz=344,SNR=13						
PB01	**IPOC Station P**	**151.24**	**185**		**PKiKP**	**06 58 38.5**	**+1.1**
W54A	**Cherokee Point**	**151.26**	**18**	P	**PKPbc**	**06 58 37.2**	**+0.7**
	baz=339,SNR=13						
LRAL	**Lakeview Retre**	**151.28**	**27**	P	**PKPbc**	**06 58 37.3**	**+0.7**
	baz=328,SNR=20						
LRAL	**Lakeview Retre**	**151.28**	**27**	PKPbc	**PKiKP**	**06 58 37.7**	**+0.6**
U61A	**Possum Corner**	**151.30**	**8**	P	**PKiKP**	**06 58 37.6**	**+0.6**
	baz=351						
V58A	**Windy Hill, Pi**	**151.37**	**12**	P	**PKPbc**	**06 58 37.4**	**+0.7**
	baz=345,SNR=8.2						
V58A	**Windy Hill, Pi**	**151.37**	**12**		**PKPbc**	**06 58 37.6**	**+0.9**
346A	**Big Creek Wild**	**151.41**	**32**		**PKiKP**	**06 58 38.0**	**+0.6**
KMSC	**Kings Mountain**	**151.46**	**16**	P	**PKPbc**	**06 58 37.6**	**+0.7**
	baz=341,SNR=20						
V59A	**Middlesex**	**151.57**	**11**	P	**PKiKP**	**06 58 38.1**	**+0.5**
	baz=347,SNR=12						
W56A	**Indian Trail**	**151.66**	**15**	P	**PKPbc**	**06 58 38.0**	**+0.6**
	baz=342,SNR=9.9						
X54A	**Belton**	**151.70**	**18**	P	**PKiKP**	**06 58 38.6**	**+0.6**
	baz=338,SNR=42						
V60A	**Jim Taylor Roa**	**151.74**	**9**	P	**PKiKP**	**06 58 38.6**	**+0.6**
	baz=349,SNR=17						
V60A	**Jim Taylor Roa**	**151.74**	**9**		**PKiKP**	**06 58 38.7**	**+0.8**

Y52A	**Lilburn**	**151.75**	**22**		**PKiKP**	**06 58 39.1**	**+1.1**
W57A	**Gilead**	**151.79**	**14**	P	**PKPbc**	**06 58 38.3**	**+0.6**
	baz=343,SNR=9.5						
W57A	**Gilead**	**151.79**	**14**		**PKPbc**	**06 58 38.5**	**+0.8**
V61A	**Roper**	**151.81**	**8**	P	**PKiKP**	**06 58 39.0**	**+1.0**
	baz=351,SNR=8.2						
V61A	**Roper**	**151.81**	**8**		**PKiKP**	**06 58 39.1**	**+1.0**
X55A	**Gracelyn & Ava**	**152.00**	**17**	P	**PKiKP**	**06 58 39.0**	**+0.5**
	baz=340,SNR=30						
W58A	**Raeford**	**152.09**	**13**	P	**PKPbc**	**06 58 39.0**	**+0.6**
	baz=345,SNR=10						
W59A	**Clinton**	**152.11**	**11**	P	**PKiKP**	**06 58 39.5**	**+0.7**
	baz=346						
CNNC	**Cliffs of the**	**152.15**	**10**	P	**PKPbc**	**06 58 39.0**	**+0.5**
	baz=348						
X56A	**White Oak**	**152.15**	**16**	P	**PKPbc**	**06 58 39.3**	**+0.8**
	baz=341,SNR=14						
BIRD	**Birdtown, Kers**	**152.16**	**15**		**PKiKP**	**06 58 39.7**	**+0.9**
W61A	**Ground Anchor**	**152.36**	**9**	P	**PKiKP**	**06 58 39.8**	**+0.5**
	baz=350						
W60A	**Pink Hill**	**152.36**	**10**	P	**PKiKP**	**06 58 40.0**	**+0.8**
	baz=348,SNR=14						
GOGA	**Godfrey**	**152.38**	**21**	P	**PKiKP**	**06 58 40.2**	**+0.8**
	baz=335,SNR=15						
GOGA	**Godfrey**	**152.38**	**21**	PKIKP	**PKiKP**	**06 58 40.3**	**+1.0**
GOGA	**Godfrey**	**152.38**	**21**		**PKiKP**	**06 58 40.3**	**+1.0**
X57A	**Johnson Farm,**	**152.42**	**15**	P	**PKPbc**	**06 58 39.9**	**+0.8**
	baz=343,SNR=7.5						
Y55A	**Saluda**	**152.43**	**18**	P	**PKiKP**	**06 58 40.2**	**+0.8**
	baz=339,SNR=13						
250A	**Grady**	**152.50**	**27**	PKPbc	**PKiKP**	**06 58 40.8**	**+1.1**
X58A	**Rowland**	**152.52**	**13**	P	**PKPbc**	**06 58 40.0**	**+0.6**
	baz=344,SNR=7.4						
PB11	**IPOC Station P**	**152.53**	**185**		**PKiKP**	**06 58 41.0**	**+0.8**
152A	**Waverly Hall**	**152.56**	**24**		**PKPdf**	**06 58 32.4**	**-0.1**
152A				PKPbc	**PKiKP**	**06 58 40.6**	**+0.8**
X59A	**McDuffie Farm,**	**152.66**	**12**	P	**PKiKP**	**06 58 40.5**	**+0.6**
	baz=346,SNR=8.7						
Y56A	**Pelion**	**152.73**	**17**	P	**PKiKP**	**06 58 41.0**	**+0.9**
	baz=340,SNR=7.4						
Y57A	**Sumter**	**152.77**	**15**	P	**PKiKP**	**06 58 40.7**	**+0.6**
	baz=342,SNR=8.8						
Y57A	**Sumter**	**152.77**	**15**		**PKiKP**	**06 58 40.8**	**+0.6**
X60A	**Albert Glenn T**	**152.78**	**11**	P	**PKiKP**	**06 58 40.9**	**+0.8**
	baz=347,SNR=11						
Y58A	**Scranton**	**153.06**	**14**	P	**PKiKP**	**06 58 41.8**	**+1.0**
	baz=343						
MNMC	**Minye Minye**	**153.15**	**185**		**PKiKP**	**06 58 43.2**	**+1.5**
Z56A	**Williston**	**153.15**	**18**	P	**PKiKP**	**06 58 41.9**	**+0.9**
	baz=339,SNR=5.5						
Z56A	**Williston**	**153.15**	**18**		**PKiKP**	**06 58 42.1**	**+1.2**
Y59A	**Loris**	**153.16**	**13**	P	**PKPbc**	**06 58 41.5**	**+0.7**
	baz=345						
154A	**Montrose**	**153.23**	**21**		**PKiKP**	**06 58 42.1**	**+1.0**
Z57A	**Bowman**	**153.36**	**16**	P	**PKPbc**	**06 58 42.0**	**+0.7**
	baz=341						
Z58A	**St. Stephen**	**153.57**	**15**	P	**PKPbc**	**06 58 42.4**	**+0.7**
	baz=343						
NHSC	**New Hope**	**153.69**	**16**	P	**PKiKP**	**06 58 43.3**	**+1.3**
	baz=342						
PB12	**IPOC Station P**	**153.71**	**184**	PKPdf	**PKPdf**	**06 58 33.6**	**-1.1**
PB12				PKPbc	**PKiKP**	**06 58 43.7**	**+1.1**
TIGA	**Tifton**	**154.10**	**23**	P	**PKiKP**	**06 58 44.1**	**+1.2**
	baz=333						
LPAZ	**La Paz**	**155.77**	**189**	PKP	**PKPdf**	**06 58 39.7**	**+1.5**
	comp=Z,1.5nm,0.8s,baz=236,slow=3.6,SNR=5.4						
PTGA	**Pitinga**	**165.33**	**235**	PKPab	**PKPab**	**06 59 47.2**	**+1.2**
ACON	**Acoyapa**	**166.36**	**71**		**PKPab**	**06 59 51.7**	**+1.2**
ROSC	**El Rosal**	**176.26**	**141**	PKP	**PKPdf**	**06 58 54.4**	**+0.2**
	comp=Z,2.1nm,0.3s,baz=189,slow=4.3,SNR=4.7						
RUSC	**La Rusia**	**177.82**	**150**		**PKPdf**	**06 58 53.3**	**-1.3**

MAN 22 06:39:53.3, 5°19N×126°38E, h182km, mb4.7, ML3.5, MS3.4, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.13**	**324**	*eP*		Pn		06 40 18.8	-3.4
DDMP				*eS*		Sn		06 40 43.9	-0.7
GSPH	**General Santos**	**1.68**	**302**	⇑*iP*		Pn		06 40 26.1	-1.3
GSPH				*i* S		Sn		06 40 55.8	+2.1
DMPH	**Davao City--Mi**	**2.07**	**335**	*eP*		Sn		06 40 57.5	-3.5
DMPH				*i* S		Sn		06 41 02.2	+1.3
KCP	**Kidapawan**	**2.22**	**325**	⇑*eP*		Pn		06 40 34.2	+1.2
KCP				*i* S		Sn		06 41 14.7	+11
SKMP	**Bagumbayan, Su**	**2.26**	**306**	*eP*		Pn		06 40 34.0	+0.6
SKMP				*eS*		Sn		06 41 05.2	+0.7
BUKP	**Musuan**	**2.98**	**334**	*eP*		Pn		06 40 41.8	0.0
BUKP				*eS*		Sn		06 41 20.4	+0.6

IDC ***22*** *06:42:46.5±1.9, 10°63S×120°24E, h0km, mb4.2/5, mb1 4.2/7, mb1mx3.9/44, mbtmp4.2/7, ML3.6/2, Error ellipse: s-maj=50.7km s-min=26.2km az=29.0*
NEIC ***22*** *06:42:52.8±1.9, 10°81S±0°08×120°43E±0°05, h54km±11km, mb4.0/3, Error ellipse: s-maj=12.5km s-min=5.3km az=161.0*

ISC 22 06:42:50.3±0.8, 10°74S±0°07×120°49E±0°06, h31km, n16, σ1885/21, mb4.1/7, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**2.71**	**40**	Pn		**Pn**		**06 43 34.1**	**+2.3**
MMRI				Sn		**Sb**		**06 44 08.0**	**-3.1**
BATI	**Baumata**	**3.17**	**81**	Pn		**Pn**		**06 43 41.4**	**+3.2**
	5.2nm,0.3s,baz=279,slow=20,SNR=0.9								
BATI				Sn		**Sb**		**06 44 22.0**	**-2.2**
	11nm,0.3s,baz=11,slow=21,SNR=1.7								
JAGI	**Jajag, Banyuwa**	**6.64**	**289**	Pn		**Pn**		**06 44 26.2**	**+0.3**
JAGI				Sn		**Sn**		**06 45 38.6**	**-2.0**
FITZ	**Fitzroy Crossi**	**8.85**	**146**	Pn		**Pn**		**06 44 59.0**	**+2.8**
	0.6nm,0.3s,baz=318,slow=14,SNR=1.2								
FITZ				Sn		**Sn**		**06 46 33.0**	**-1.9**
	0.9nm,0.3s,baz=316,slow=13,SNR=1.7								
FITZ	**Fitzroy Crossi**	**8.85**	**146**			**Pn**		**06 44 57.8**	**+1.6**
FITZ						**Sn**		**06 46 31.7**	**-3.2**
USRK	**Ussuriysk Ar.**	**55.67**	**10**	P		**P**		**06 52 23.8**	**+0.2**
	1.5nm,0.6s,baz=201,slow=7.2,SNR=1.9								
USRK	**Ussuriysk Ar.**	**55.67**	**10**	P		**P**		**06 52 23.6**	**0.0**
SONM	**Songino Array**	**59.65**	**349**	P		**P**		**06 52 51.8**	**+0.2**
	2.6nm,0.5s,baz=167,slow=8.9,SNR=7.7								
SONM	**Songino Array**	**59.65**	**349**	P		**P**		**06 52 52.2**	**+0.6**
MK31	**Makanchi Array**	**66.67**	**332**	P		**P**		**06 53 39.0**	**+0.8**
MK31				IAmb		IAmb		06 53 44.5	
	comp=Z,1.9nm,1.2s								
MKAR	**Makanchi Array**	**66.67**	**332**	P		**P**		**06 53 38.1**	**0.0**
	comp=Z,1.1nm,0.6s,baz=144,slow=7.4,SNR=4.3								
MKAR	**Makanchi Array**	**66.67**	**332**	P		**P**		**06 53 38.5**	**+0.4**
KURBB	**Kurchatov Arra**	**71.17**	**333**	P		**P**		**06 54 06.0**	**0.0**
	comp=Z,0.7nm,0.6s,baz=142,slow=5.7,SNR=4.5								
ZALV	**Zalesovo Beam**	**71.19**	**339**	P		**P**		**06 54 05.0**	**-1.0**
	comp=Z,2.6nm,0.6s,baz=138,slow=4.8,SNR=6.3								
ZALV	**Zalesovo Beam**	**71.19**	**339**	P		**P**		**06 54 05.7**	**-0.3**
KURK	**Kurchatov**	**71.20**	**333**	P		**P**		**06 54 06.9**	**+0.8**
KURK				IAmb		IAmb		06 54 10.2	
	comp=Z,1.3nm,0.7s								

RSNC 22 06:47:58.1±1.0, 6°80N×73°18W, h138km±4km, ML3.3, Mw3.5, 6C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**182**	⇓*iP*		Pn		06 48 17.0	-0.3
BARC				*eS*		Sn		06 48 31.8	+0.1
BARC				*i*				06 48 32.7	
	comp=Z,520nm,0.2s								
PAMC	**Pamplona, Colo**	**0.71**	**41**	⇑*iP*		Pn		06 48 19.8	-0.1
PAMC				*eS*		Sn		06 48 36.6	+0.1
PAMC				*i*				06 48 37.8	
	comp=Z,409nm,0.2s								
RUSC	**La Rusia**	**0.91**	**174**	⇓*eP*		Pn		06 48 20.9	-0.6
RUSC				*eS*		Sn		06 48 38.8	-0.5
RUSC				*i*				06 48 40.6	
	comp=Z,193nm,0.3s								
PTBC	**PUERTO BERRIO,**	**1.30**	**259**	⇑*eP*		Pn		06 48 23.5	-1.1
PTBC				*eS*		Sn		06 48 44.0	-0.8
PTBC				*i*				06 48 46.9	
	comp=Z,449nm,0.1s								
TAMC	**Tame, Arauca**	**1.42**	**105**	⇓*iP*		Pn		06 48 25.3	-0.6
TAMC				*eS*		Sn		06 48 46.2	-1.0
TAMC				*i*				06 48 47.4	
	comp=Z,268nm,0.2s								
OCAC	**Ocana**	**1.44**	**354**	⇑*eP*		Pn		06 48 25.3	-0.9
OCAC				*eS*		Sn		06 48 46.8	-0.9
OCAC				*i*				06 48 52.1	
	comp=Z,440nm,0.2s								
SPBC	**San Pablo de B**	**1.45**	**218**	⇑*iP*		Pn		06 48 25.9	-0.4
SPBC				*eS*		Sn		06 48 47.0	-0.8
SPBC				*i*				06 48 50.1	
	comp=Z,226nm,0.4s								
ZARC	**Zaragoza, Cauc**	**1.81**	**292**	*eP*		Pn		06 48 29.7	-0.5
ZARC				*eS*		Sn		06 48 55.5	+0.8
ZARC				*i*				06 49 04.0	
	comp=Z,323nm,0.3s								
NORC	**Norcasia**	**2.08**	**234**	*eP*		Pn		06 48 33.2	-0.4
NORC				*eS*		Sn		06 49 00.0	-0.8
NORC				*i*				06 49 06.7	
	comp=Z,135nm,0.2s								
SMLC	**San Martn de**	**2.18**	**336**	*eP*		Pn		06 48 33.4	-1.3
SMLC				*eS*		Sn		06 49 02.2	-0.6
SMLC				*i*				06 49 09.0	
	comp=Z,448nm,0.3s								
CHIC	**Chingaza**	**2.23**	**194**	*eP*		Pn		06 48 35.5	-0.3
CHIC				*eS*		Sn		06 49 04.9	+0.4
CHIC				*i*				06 49 11.8	
	comp=Z,47nm,0.3s								
ROSC	**El Rosal**	**2.26**	**210**	*eP*		Pn		06 48 37.1	+1.1
ROSC				*eS*		Sn		06 49 07.2	+2.1
ROSC				*i*				06 49 15.4	
	comp=Z,97nm,0.4s								
HELC	**Santa Helena**	**2.42**	**256**	*eP*		Pn		06 48 37.3	-0.6
HELC				*eS*		Sn		06 49 07.6	-0.9
HELC				*i*				06 49 17.7	
	comp=Z,121nm,0.3s								
UREC	**San Jos de Ur**	**2.52**	**292**	*eP*		Pn		06 48 37.3	-1.6
UREC				*eS*		Sn		06 49 09.0	-1.3
UREC				*i*				06 49 21.8	
	comp=Z,205nm,0.3s								
GUY2C	**Guyana, Caldas**	**2.68**	**234**	*eP*		Pn		06 48 41.6	+0.2
GUY2C				*eS*		Sn		06 49 13.7	-1.0
GUY2C				*i*				06 49 24.6	
	comp=Z,110nm,0.7s								
RREF	**El Recreo**	**2.87**	**229**	*eP*		Pn		06 48 43.9	0.0
RREF				*eS*		Sn		06 49 19.7	+0.6
RREF				*i*				06 49 31.2	
	comp=Z,68nm,0.3s								
CBOC	**Ciudad Bolivar**	**2.97**	**252**	*eP*		Pn		06 48 44.9	+0.1
CBOC				*eS*		Sn		06 49 18.1	-2.6
CBOC				*i*				06 49 25.4	
	comp=Z,35nm,0.3s								
DBBC	**Dabeiba**	**3.02**	**274**	⇑*eP*		Pn		06 48 45.2	-0.1
DBBC				*eS*		Sn		06 49 21.0	-0.8
TOLC	**Tolima**	**3.07**	**224**	*eP*		Pn		06 48 46.2	0.0
TOLC				*eS*		Sn		06 49 22.8	-0.4
TOLC				*i*				06 49 31.9	
	comp=Z,152nm,0.4s								
ANIL	**Santa Ana**	**3.19**	**224**	*eP*		Pn		06 48 47.6	-0.2
ANIL				*eS*		Sn		06 49 25.9	-0.2
ARGC	**Ariguani, Magd**	**3.22**	**341**	*eP*		Pn		06 48 47.8	-0.1
ARGC				*eS*		Sn		06 49 25.9	-0.4
ARGC				*i*				06 49 40.2	
	comp=Z,55nm,0.6s								
ORTC	**Ortega, Tolima**	**3.54**	**216**	*eP*		Pn		06 48 51.9	-0.1
ORTC				*eS*		Sn		06 49 32.9	-0.9
ORTC				*i*				06

comp=N,3537μm,0.2s
EVGI Lefkada island 0.28 28 P **Pg 07 06 41.2 +0.2**
EVGI S **Sg 07 06 46.2 +1.5**
comp=N,1μm,0.3s
EVGI Lefkada island 0.28 28 P **Pg 07 06 41.3 +0.2**
EVGI S **Sg 07 06 45.7 +1.0**
MGNA Meganis 0.36 40 P **Pg 07 06 42.8 0.0**
MGNA S **Sg 07 06 48.6 +1.0**
LKD2 Lefkada island 0.43 18 P **Pg 07 06 43.7 -0.3**
LKD2 S **Sg 07 06 50.5 +0.8**
LKD2 Lefkada island 0.43 18 P **Pg 07 06 43.7 -0.3**
LKD2 S **Sg 07 06 50.0 +0.3**
LKD2 AML AML 07 06 52.1
comp=N,1201μm,0.2s
LKD2 AML AML 07 06 52.5
comp=E,994μm,0.5s
TSLK Tsoukalades, L 0.47 16 P **Pg 07 06 44.7 +0.1**
TSLK S **Sb 07 06 52.5 -0.7**
comp=E,692nm,0.4s
TSLK Tsoukalades, L 0.47 16 P **Pg 07 06 44.6 0.0**
TSLK S **Sg 07 06 51.2 +0.5**
TSLK AML AML 07 06 54.0
comp=E,1469μm,0.3s
TSLK AML AML 07 06 55.5
comp=N,1246μm,0.6s
AST1 Astakos 0.50 71 P **Pg 07 06 45.6 +0.4**
AST1 S **Sb 07 06 54.3 +0.1**
comp=N,1μm,0.4s
KRI1 kERI 0.76 160 P **Pg 07 06 49.8 -0.4**
RLS Riolos of Patr 0.83 112 P **Pg 07 06 51.5 -0.1**
RLS Riolos of Patr 0.83 112 P **Pg 07 06 51.1 -0.5**
RLS AML AML 07 07 10.3
comp=E,252μm,0.3s
RLS AML AML 07 07 13.3
comp=N,355μm,0.6s
PVO Paravola 0.85 73 P **Pg 07 06 52.0 +0.1**
PVO S **Sb 07 07 05.2 +1.0**
comp=N,310nm,0.5s
PVO Paravola 0.85 73 P **Pg 07 06 52.0 +0.1**
PVO S **Sg 07 07 03.0 +0.1**
PVO AML AML 07 07 11.4
comp=E,614μm,0.3s
PVO AML AML 07 07 13.7
comp=N,622μm,0.6s
DRO Drossia 1.05 113 P **Pg 07 06 55.4 -0.4**
DRO Drossia 1.05 113 P **Pg 07 06 55.1 -0.7**
DRO S **Sg 07 07 08.8 -0.7**
DRO AML AML 07 07 18.0
comp=N,714μm,0.4s
DRO AML AML 07 07 18.4
comp=E,222μm,0.4s
ANX Ano Chora 1.14 79 P **Pb 07 06 57.0 -0.8**
ANX S **Sn 07 07 17.5 +3.4**
comp=E,172nm,0.4s
ANX Ano Chora 1.14 79 P **Pb 07 06 57.1 -0.7**
ANX AML AML 07 07 23.9
comp=N,321μm,0.4s
ANX AML AML 07 07 25.4
comp=E,417μm,0.5s
IGT Igoumenitsa 1.16 354 P **Pb 07 06 57.3 -0.7**
IGT S **Sb 07 07 13.2 0.0**
IGT AML AML 07 07 20.4
comp=E,244μm,0.4s
IGT AML AML 07 07 23.3
comp=N,132μm,0.5s
EVR Evrytania 1.17 62 P **Pb 07 06 57.2 -0.9**
EVR S **Sb 07 07 13.8 +0.3**
EVR AML AML 07 07 23.8
comp=E,150μm,0.8s
EVR AML AML 07 07 24.7
comp=N,207μm,0.8s
SERG Sergoula 1.23 88 P **Pn 07 06 58.1 -1.2**
SERG Sergoula 1.23 88 P **Pn 07 06 58.1 -1.2**
SERG AML AML 07 07 23.2
comp=N,278μm,0.6s
SERG AML AML 07 07 24.0
comp=E,270μm,0.8s
TRIZ Trizonia 1.24 90 P **Pn 07 06 58.3 -1.1**
TRIZ S **Sn 07 07 17.5 +1.1**
comp=E,152nm,0.4s
TRIZ Trizonia 1.24 90 P **Pn 07 06 58.1 -1.3**
KALE Kalithea 1.30 89 P **Pn 07 06 59.0 -1.2**
KALE Kalithea 1.30 89 P **Pn 07 06 59.2 -1.0**
KALE AML AML 07 07 25.4
comp=N,303μm,0.7s
KALE AML AML 07 07 27.1
comp=E,209μm,0.6s
KLV Kalavryta, Ach 1.35 104 P **Pn 07 07 00.2 -0.7**
KLV Kalavryta, Ach 1.35 104 P **Pn 07 07 00.3 -0.6**
KLV AML AML 07 07 30.1
comp=N,90μm,0.8s
KLV AML AML 07 07 32.5
comp=E,87μm,0.5s

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*IDC **22** 07:08:28.4±1.5, 10°.51S×120°.34E, h0km, mb4.0/3, mb1 3.8/7, mb1mx3.6/42, mbtmp3.7/7, ML3.5/4, Error ellipse: s-maj=46.2km s-min=20.7km az=42.0*
*NEIC **22** 07:08:33.4±2.1, 10°.69S±0°.05×120°.31E±0°.06, h45km±10km, mb4.1/6, Error ellipse: s-maj=10.7km s-min=4.5km az=129.0*
*DJA **22** 07:08:33.1±0.8, 10°.5±6°×12°0E±°, h24km±7km, M3.7/7, mb4.0/2, MLv3.6/7*

ISC 22 07:08:31.3±0.6, 10°.60S±0°.05×120°.43E±0°.04, h31km, n27, σ2s17/33, mb4.2/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.41**	**22**	P	**Pn**	**07 08 42.3**	**+1.3**
WSI	**Waingapu**	**0.93**	**352**	P	**Pn**	**07 08 46.4**	**-1.9**
WBSI	**Waikabubak, Su**	**1.39**	**313**	P	**Pb**	**07 08 56.4**	**-0.4**
MMRI	**Maumere**	**2.65**	**43**	P	**Pn**	**07 09 11.3**	**-0.6**
MMRI	**Maumere**	**2.65**	**43**	Pn	**Pb**	**07 09 15.0**	**-3.0**
MMRI				Sn	**Sb**	**07 09 49.0**	**-1.1**
PLAI	**Plampang**	**3.15**	**304**	P	**Pb**	**07 09 22.3**	**-4.3**
BATI	**Baumata**	**3.21**	**83**	Pn	**Pn**	**07 09 21.2**	**+1.6**
	13nm,0.3s,baz=301,slow=4.1,SNR=6.5						
BATI				Sn	**Sb**	**07 10 02.5**	**-3.8**
	5.4nm,0.3s,baz=6.0,slow=21,SNR=7.1						
BATI	**Baumata**	**3.21**	**83**	P	**Pb**	**07 09 24.8**	**-2.8**
SOEI	**Soe**	**3.87**	**78**	Pn	**Pn**	**07 09 31.8**	**+2.9**
SOEI					**Sn**	**07 10 15.5**	**+2.1**
JAGI	**Jajag, Banyuwa**	**6.54**	**288**	Pn	**Pn**	**07 10 04.8**	**-0.7**
JAGI				Sn	**Sn**	**07 11 18.9**	**-0.1**
FITZ	**Fitzroy Crossi**	**9.01**	**146**	Pn	**Pn**	**07 10 40.5**	**+1.2**
	0.5nm,0.3s,baz=336,slow=12,SNR=8.1						
FITZ				Sn	**Sn**	**07 12 15.2**	**-4.5**
	0.6nm,0.3s,baz=175,slow=18,SNR=7.2						
FITZ	**Fitzroy Crossi**	**9.01**	**146**		**Pn**	**07 10 40.8**	**+1.6**
FITZ					**Sn**	**07 12 20.2**	**+0.5**
KNRA	**Kununurra**	**9.56**	**123**	Pn	**Pn**	**07 10 50.3**	**+3.4**
GIRL	**Giralia**	**13.36**	**206**	Pn	**Pn**	**07 11 39.1**	**+0.2**
WB0	**Warramunga Arr**	**16.26**	**126**	Pn	**P**	**07 12 19.9**	**-0.4**
WRA	**Warramunga Arr**	**16.31**	**126**	Pn	**P**	**07 12 19.6**	**-1.3**
	0.1nm,0.3s,baz=308,slow=14,SNR=1.5						
WRA	**Warramunga Arr**	**16.31**	**126**		**P**	**07 12 19.5**	**-1.5**
WRAB	**Tennant Creek**	**16.32**	**126**	Pn	**P**	**07 12 19.1**	**-1.9**
WRAB				IAmb	IAmb	07 12 19.3	
	comp=Z,25nm,1.6s						
WR0	**Warramunga Arr**	**16.48**	**126**	Pn	**P**	**07 12 22.3**	**-0.5**
WR0				IAmb	IAmb	07 12 23.7	
	comp=Z,29nm,1.8s						
ASAR	**Alice Springs**	**18.28**	**137**	P	**Pn**	**07 12 46.4**	**+3.6**
	comp=Z,0.1nm,0.3s,baz=314,slow=12,SNR=5.4						
COEN	**Coen**	**22.48**	**101**	P	**P**	**07 13 27.7**	**-0.6**
USRK	**Ussuriysk Ar.**	**55.54**	**10**	P	**P**	**07 18 03.2**	**-0.4**
SONM	**Songino Array**	**59.49**	**349**	P	**P**	**07 18 32.9**	**+1.3**
	comp=Z,0.9nm,0.5s,baz=168,slow=8.5,SNR=5.4						
SONM	**Songino Array**	**59.49**	**349**	P	**P**	**07 18 33.6**	**+2.0**
MKAR	**Makanchi Array**	**66.51**	**332**	P	**P**	**07 19 19.6**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=145,slow=7.4,SNR=5.3						
MKAR	**Makanchi Array**	**66.51**	**332**	P	**P**	**07 19 19.8**	**+1.7**
ZALV	**Zalesovo Beam**	**71.03**	**339**	P	**P**	**07 19 46.7**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=135,slow=3.9,SNR=4.2						

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*DJA **22** 07:11:00.8±0.7, 11°.5±5°×12°0E±°, h13km±6km, M4.4/8, mb4.5/4, MLv4.4/8*
*NEIC **22** 07:11:02.9±2.6, 10°.62S±0°.07×120°.32E±0°.06, h49km±9km, mb4.6/18, Error ellipse: s-maj=10.6km s-min=8.5km az=201.0*
*IDC **22** 07:11:04.1±2.7, 10°.51S×120°.38E, h55km±24km, mb4.0/11, mb1 4.1/15, mb1mx3.9/38, mbtmp4.3/15, ML4.1/4, MS3.7/3, Ms1 3.8/3, ms1mx3.0/32, Error ellipse: s-maj=21.9km s-min=13.5km az=49.0*

ISC 22 07:11:00.9±0.5, 10°.65S±0°.05×120°.34E±0°.05, h31km, n62, σ1s70/66, mb4.5/18, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.49**	**29**	P	**Pb**	**07 11 10.5**	**-0.7**
WSI	**Waingapu**	**0.97**	**358**	P	**Pb**	**07 11 20.8**	**+1.5**
WBSI	**Waikabubak, Su**	**1.36**	**317**	P	**Pn**	**07 11 24.6**	**+0.7**
WBSI				S	**Sb**	**07 11 42.7**	**-0.3**
MMRI	**Maumere**	**2.74**	**43**	P	**Pn**	**07 11 43.4**	**+0.6**
MMRI	**Maumere**	**2.74**	**43**		**Pn**	**07 11 43.3**	**+0.6**
PLAI	**Plampang**	**3.10**	**305**	P	**Pn**	**07 11 49.5**	**+1.7**
BATI	**Baumata**	**3.30**	**83**	P	**Pn**	**07 11 52.5**	**+2.0**
	37nm,0.3s,baz=291,slow=4.9,SNR=16						
BATI				S	**Sn**	**07 12 31.1**	**+2.3**
	17nm,0.3s,baz=215,slow=23,SNR=15						
BATI	**Baumata**	**3.30**	**83**	P	**Pn**	**07 11 52.6**	**+2.0**
SOEI	**Soe**	**3.97**	**77**	P	**Pn**	**07 12 02.6**	**+2.7**
SOEI	**Soe**	**3.97**	**77**		**Pn**	**07 12 02.5**	**+2.7**
KAPI	**Kappang**	**5.63**	**354**	P	**Pn**	**07 12 24.2**	**+1.7**
	3.4nm,0.3s,baz=173,slow=3.7,SNR=14						
KAPI				S	**Sn**	**07 13 25.4**	**-0.7**
	baz=85,slow=21,SNR=1.1						
KAPI				LR	LR	07 14 53.4	
	comp=Z,758nm,18.3s,baz=172,slow=42						
KAPI	**Kappang**	**5.63**	**354**		**Pn**	**07 12 24.6**	**+2.1**
JAGI	**Jajag, Banyuwa**	**6.47**	**289**	P	**Pn**	**07 12 31.7**	**-2.4**
	0.4nm54nm,0.8s						
JAGI	**Jajag, Banyuwa**	**6.47**	**289**		**Pn**	**07 12 33.2**	**-0.9**
JAGI				Sn	**Sn**	**07 13 45.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**9.01**	**146**	P	**Pn**	**07 13 09.3**	**+0.3**
	2.0nm,0.3s,baz=328,slow=7.1,SNR=9.3						
FITZ				S	**Sn**	**07 14 43.3**	**-6.2**
	1.6nm,0.3s,baz=172,slow=20,SNR=3.4						
FITZ	**Fitzroy Crossi**	**9.01**	**146**	Pn	**Pn**	**07 13 10.7**	**+1.6**
FITZ					**Sn**	**07 14 46.8**	**-2.8**
KNRA	**Kununurra**	**9.61**	**122**	Pn	**Pn**	**07 13 20.4**	**+3.2**
UGM	**Wanagama**	**10.06**	**285**	Pn	**Pn**	**07 13 25.2**	**+1.8**
MTN	**Manton Dam**	**10.79**	**103**	Pn	**Pn**	**07 13 34.1**	**+0.7**
GIRL	**Giralia**	**13.28**	**205**	Pn	**Pn**	**07 14 07.2**	**-0.3**
FAKI	**Fak Fak**	**14.10**	**58**	Pn	**Pn**	**07 14 17.9**	**-0.7**
SIJI	**Sorong**	**14.57**	**49**	P	**Pn**	**07 14 24.6**	**-0.5**
	1.0nm,0.3s,baz=322,slow=8.0,SNR=5.5						
WB0	**Warramunga Arr**	**16.31**	**125**	Pn	**Pn**	**07 14 47.4**	**-0.4**
WRA	**Warramunga Arr**	**16.36**	**126**	P	**Pn**	**07 14 46.5**	**-1.9**
	0.4nm,0.3s,baz=309,slow=15,SNR=7.4						
WRA				S	Sn	07 17 36.6	-12
	0.3nm,0.3s,baz=262,slow=20,SNR=3.4						
WRA	**Warramunga Arr**	**16.36**	**126**		**Pn**	**07 14 49.1**	**+0.7**
WB2	**Warramunga Arr**	**16.36**	**126**	Pn	**Pn**	**07 14 47.3**	**-1.3**
WB2				IAmb	IAmb	07 14 56.5	
	comp=Z,52nm,1.8s						
WR0	**Warramunga Arr**	**16.52**	**126**	Pn	**Pn**	**07 14 49.9**	**-0.7**
AS31	**Alice Springs**	**18.30**	**137**		**Pn**	**07 15 13.5**	**+0.8**
ASAR	**Alice Springs**	**18.30**	**137**	P	**Pn**	**07 15 14.2**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=314,slow=12,SNR=25						
ASAR				S	Sn	07 18 25.0	-11
	comp=Z,0.3nm,0.3s,baz=309,slow=23,SNR=7.5						
ASAR	**Alice Springs**	**18.30**	**137**	P	**Pn**	**07 15 15.0**	**+2.3**
MORW	**Morawa**	**18.76**	**192**	P	**Pn**	**07 15 19.6**	**+1.4**
MORW				IAmb	IAmb	07 15 46.0	
	comp=Z,87nm,1.8s						
NWAO	**Narrogin (SRO)**	**22.36**	**187**	P	**P**	**07 15 58.2**	**+1.7**
	comp=Z,22nm,1.0s,baz=258,slow=2.1,SNR=3.0						
NWAO				S	**S**	**07 19 58.6**	**-1.8**
	comp=Z,11nm,0.9s,baz=58,slow=1.1,SNR=1.7						
NWAO	**Narrogin (SRO)**	**22.36**	**187**	IAmb	IAmb	07 16 00.7	
	comp=Z,72nm,1.4s						
PMG	**Port Moresby**	**26.44**	**90**	LR	LR	07 29 25.1	
	comp=Z,184nm,18.2s,baz=206,slow=42						
CMAR	**Chiang Mai Arr**	**35.80**	**324**	P	**P**	**07 17 58.0**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=146,slow=8.2,SNR=5.5						
CMAR				LR	LR	07 34 10.1	
	comp=Z,83nm,19.7s,baz=150,slow=39						
CMAR	**Chiang Mai Arr**	**35.80**	**324**	P	**P**	**07 17 56.8**	**-0.9**
GYA	**Guiyang**	**39.20**	**340**	*e*P	P	07 18 33.6	+7.0
GYA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
XAN	**Xi'an**	**45.74**	**347**	P	**P**	**07 19 18.3**	**-1.2**
XAN				pP	sP	07 19 31.3	-0.4
XAN				pmax	pmax		
	comp=Z,12nm,0.9s						
XAN	**Xi'an**	**45.74**	**347**	P	**P**	**07 19 18.4**	**-1.1**
XAN				IAmb	IAmb	07 19 19.3	
	comp=Z,9.1nm,0.9s						
KSRS	**Korea Array**	**48.37**	**8**	P	**P**	**07 19 39.1**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=188,slow=9.3,SNR=2.1						
MJAR	**Matsushiro Arr**	**49.86**	**19**	P	**P**	**07 19 48.9**	**-2.5**
	comp=Z,2.3nm,0.9s,baz=200,slow=8.4,SNR=5.0						
MJAR	**Matsushiro Arr**	**49.86**	**19**	P	**P**	**07 19 49.3**	**-2.1**
BJT	**Baijiatuan**	**50.55**	**356**	P	**P**	**07 19 53.5**	**-3.0**
BJT				IAmb	IAmb	07 19 56.5	
	comp=Z,8.5nm,0.9s						
USRK	**Ussuriysk Ar.**	**55.60**	**10**	P	**P**	**07 20 32.2**	**-1.4**
	comp=Z,1.5nm,0.5s,baz=186,slow=6.5,SNR=6.2						
USRK	**Ussuriysk Ar.**	**55.60**	**10**	P	**P**	**07 20 32.4**	**-1.3**
SONM	**Songino Array**	**59.52**	**349**	P	**P**	**07 21 01.5**	**+0.1**
	comp=Z,6.8nm,0.5s,baz=167,slow=8.6,SNR=33						
SONM	**Songino Array**	**59.52**	**349**	P	**P**	**07 21 02.0**	**+0.6**
TLY	**Talaya**	**63.73**	**348**	P	**P**	**07 21 30.0**	**+0.4**
	comp=Z,4.7nm,0.7s,baz=204,slow=10.0,SNR=6.9						
TLY	**Talaya**	**63.73**	**348**	P	**P**	**07 21 30.3**	**+0.8**
KSH	**Kashi**	**64.70**	**323**	*e*P	**P**	**07 21 36.9**	**+0.6**
MK31	**Makanchi Array**	**66.51**	**333**	P	**P**	**07 21 48.2**	**+0.5**
MK31				IAmb	IAmb	07 21 48.5	
	comp=Z,2.5nm,0.7s						
MKAR	**Makanchi Array**	**66.51**	**333**	P	**P**	**07 21 47.9**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=140,slow=7.7,SNR=38						
ZAA0	**Zalesovo Array**	**71.04**	**339**	P	**P**	**07 22 15.3**	**-0.5**
ZAA0				IAmb	IAmb	07 22 15.6	
	comp=Z,7.0nm,0.7s						
ZALV	**Zalesovo Beam**	**71.04**	**339**	P	**P**	**07 22 15.1**	**-0.6**
	comp=Z,7.0nm,0.6s,baz=138,slow=4.4,SNR=22						
ZALV	**Zalesovo Beam**	**71.04**	**339**	P	**P**	**07 22 15.4**	**-0.3**
KURK	**Kurchatov**	**71.05**	**333**	P	**P**	**07 22 15.6**	**-0.2**
KURK				IAmb	IAmb	07 22 18.0	
	comp=Z,3.0nm,0.8s						
PETK	**Petropavlovsk-**	**71.06**	**23**	P	**P**	**07 22 15.7**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=188,slow=9.5,SNR=2.8						
ABKAR	**Akbulak array**	**79.66**	**325**	P	**P**	**07 23 05.9**	**+0.6**
AKTO	**Aktyubinsk**	**81.32**	**325**	P	**P**	**07 23 14.4**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=124,slow=4.7,SNR=9.4						
SNAA	**Sanae**	**89.77**	**195**	P	**P**	**07 23 59.5**	**+3.4**
SNAA				IAmb	IAmb	07 24 00.4	
	comp=Z,3.4nm,1.1s						
RDOG	**Red Dog Mine**	**94.90**	**22**	P	**P**	**07 24 21.2**	**+1.6**
TORD	**Torodi Ar. Bea**	**120.03**	**279**	PKP	**PKiKP**	**07 29 50.5**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=80,slow=2.3,SNR=3.9						

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*IDC **22** 07:17:26.3±1.6, 10°.57S×120°.17E, h0km, mb4.0/3, mb1 3.9/8, mb1mx3.6/33, mbtmp3.8/8, ML3.5/5, Error ellipse: s-maj=54.1km s-min=20.9km az=51.0*
*DJA **22** 07:17:29.8±0.4, 11°.5±5°×12°0E±°, h10km, M3.6/7, mb3.7/2, MLv3.6/7*
*NEIC **22** 07:17:31.6±1.7, 10°.64S±0°.07×120°.27E±0°.02, h46km±10km, mb4.2/5, Error ellipse: s-maj=10.4km s-min=1.9km az=172.0*

ISC 22 07:17:30.3±0.7, 10°.63S±0°.06×120°.26E±0°.05, h31km, n30, σ1s54/34, mb4.2/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.51**	**38**	P	**Pb**	**07 17 40.3**	**-0.7**
BASI				S	**Sn**	**07 17 50.3**	**+1.1**
WSI	**Waingapu**	**0.95**	**2**	P	**Pb**	**07 17 49.6**	**+1.3**
WBSI	**Waikabubak, Su**	**1.30**	**319**	P	**Pb**	**07 17 54.7**	**+0.5**
MMRI	**Maumere**	**2.78**	**45**	P	**Pn**	**07 18 13.3**	**+0.6**
MMRI	**Maumere**	**2.78**	**45**	Pn	**Pn**	**07 18 13.1**	**+0.4**
MMRI				Sn	**Sn**	**07 18 46.0**	**+0.8**
PLAI	**Plampang**	**3.03**	**306**	P	**Pb**	**07 18 20.7**	**-2.9**
BATI	**Baumata**	**3.37**	**83**	Pn	**Pn**	**07 18 21.9**	**+1.1**
	11nm,0.3s,baz=305,slow=4.4,SNR=6.1						
BATI				Sn	**Sn**	**07 19 01.1**	**+1.2**
	7.1nm,0.3s,baz=8.9,slow=22,SNR=7.9						
BATI	**Baumata**	**3.37**	**83**	P	**Pn**	**07 18 22.8**	**+1.9**
SOEI	**Soe**	**4.04**	**78**	Pn	**Pn**	**07 18 31.9**	**+1.8**
KAPI	**Kappang**	**5.60**	**355**	Pn	**Pn**	**07 18 51.4**	**-0.1**
	1.1nm,0.3s,baz=142,slow=6.8,SNR=2.2						
KAPI	**Kappang**	**5.60**	**355**		**Pn**	**07 18 52.4**	**+1.0**
JAGI	**Jajag, Banyuwa**	**6.39**	**289**	Pn	**Pn**	**07 19 03.5**	**+1.1**
FITZ	**Fitzroy Crossi**	**9.07**	**146**	Pn	**Pn**	**07 19 39.4**	**+0.2**
	0.5nm,0.3s,baz=334,slow=11,SNR=9.5						
FITZ	**Fitzroy Crossi**	**9.07**	**146**		**Pn**	**07 19 40.3**	**+1.1**
FITZ				Sn	**Sn**	**07 21 18.7**	**-1.6**
KNRA	**Kununurra**	**9.68**	**122**	Pn	**Pn**	**07 19 47.3**	**-0.2**
MTN	**Manton Dam**	**10.87**	**103**	Pn	**Pn**	**07 20 03.1**	**-0.8**
MTN				Sn	**Sn**	**07 21 59.1**	**-5.5**
GIRL	**Giralia**	**13.27**	**205**	Pn	**Pn**	**07 20 37.4**	**+0.9**
WRA	**Warramunga Arr**	**16.43**	**126**	Pn	**Pn**	**07 21 18.0**	**-0.6**
	0.1nm,0.3s,baz=308,slow=15,SNR=1.4						
WRA				Sn	Sn	07 24 08.0	-12
	0.1nm,0.3s,baz=301,slow=25,SNR=2.0						
WRA	**Warramunga Arr**	**16.43**	**126**	IAmb	IAmb	07 21 25.6	
	comp=Z,0.2nm,0.9s						
WB2	**Warramunga Arr**	**16.44**	**126**	Pn	**Pn**	**07 21 18.5**	**-0.2**
WB2				IAmb	IAmb	07 21 32.3	
	comp=Z,38nm,1.8s						
ASAR	**Alice Springs**	**18.37**	**137**	P	**Pn**	**07 21 45.2**	**+2.5**
	comp=Z,0.1nm,0.3s,baz=312,slow=12,SNR=5.1						
ASAR				S	Sn	07 24 53.1	-14
	comp=Z,0.0nm,0.3s,baz=311,slow=23,SNR=1.5						
ASAR	**Alice Springs**	**18.37**	**137**	P	**Pn**	**07 21 44.0**	**+1.2**
SONM	**Songino Array**	**59.49**	**349**	P	**P**	**07 27 30.0**	**-0.5**
	comp=Z,0.9nm,0.5s,baz=164,slow=9.2,SNR=4.4						
SONM	**Songino Array**	**59.49**	**349**	P	**P**	**07 27 29.9**	**-0.5**
HIA	**Hailar**	**59.64**	**360**	P	**P**	**07 27 29.7**	**-1.6**
MKAR	**Makanchi Array**	**66.46**	**333**	P	**P**	**07 28 17.6**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=135,slow=7.6,SNR=7.2						
MKAR	**Makanchi Array**	**66.46**	**333**	P	**P**	**07 28 17.7**	**+1.0**
ZALV	**Zalesovo Beam**	**71.00**	**339**	P	**P**	**07 28 44.7**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=164,slow=3.4,SNR=1.7						
ZALV	**Zalesovo Beam**	**71.00**	**339**	P	**P**	**07 28 45.0**	**+0.2**
GEYT	**Alibeck**	**75.46**	**314**	P	**P**	**07 29 10.7**	**-0.9**

TAP 22 07:17:31.7, 22°.85N×121°.26E, h56km, ML2.4, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.14**	**229**	P	Pn	07 17 41.1	+0.6
	baz=226						
TTN				*e*S	Sn	07 17 47.5	+0.8
	baz=226						
TWGBT	**Beinan**	**0.17**	**260**	P	Pn	07 17 40.5	-0.2
	baz=259						
TWGBT				S	Sn	07 17 47.7	+0.7
	baz=259						
TWG	**Pinlang**	**0.18**	**261**	*i* P	Pn	07 17 40.4	-0.3
	baz=259						
TWG				*i* S	Sn	07 17 47.8	+0.7
	baz=259						
CHKT	**Chengkung**	**0.27**	**21**	*e*P	Pn	07 17 41.6	+0.4
	baz=22						
CHKT				*e*S	Sn	07 17 49.4	+1.3
	baz=22						
ECL	**Taimali**	**0.38**	**229**	P	Pn	07 17 42.2	+0.1
	baz=227						
ECL				*i* S	Sn	07 17 50.0	+0.3
	baz=227						
ELDTW	**Lidau**	**0.41**	**326**	*i* P	Pn	07 17 43.5	+0.9
	baz=327						
ELDTW				*i* S	Sn	07 17 51.1	+0.7
	baz=327						
TWF1	**Yuli**	**0.50**	**4**	P	Pn	07 17 44.3	+0.8
	baz=4.0						
TWF1				S	Sn	07 17 52.9	+0.9
	baz=4.0						
YULB	**Yu-li**	**0.54**	**3**	P	Pn	07 17 43.2	-0.7
	baz=3.0						
YULB				S	Sn	07 17 52.5	-0.3
	baz=3.0						
STYT	**Tauyuan**	**0.56**	**304**	*i* P	Pn	07 17 44.5	+0.3
	baz=304						
STYT				S	Sn	07 17 54.4	+1.1
	baz=304						
SLGT	**Liugui**	**0.59**	**284**	*e*P	Pn	07 17 44.6	+0.2
	baz=284						
SLGT				*e*S	Sn	07 17 55.0	+1.4
	baz=284						
SSD	**Sandimen**	**0.59**	**260**	P	Pn	07 17 45.5	+1.0
	baz=259						
SSD				S	Sn	07 17 55.0	+1.3
	baz=259						
EAST	**Anshuo**	**0.60**	**220**	*i* P	Pn	07 17 45.2	+0.5
	baz=218						
EAST				*i* S	Sn	07 17 54.7	+0.7
	baz=218						
MASBT	**Mashibuluo**	**0.63**	**248**	P	Pn	07 17 44.7	-0.2
	baz=247						
MASBT				S	Sn	07 17 55.0	+0.6
	baz=247						
EHY	**Hungye**	**0.66**	**5**	P	Pn	07 17 45.5	+0.2
	baz=5.0						
EHY				*i* S	Sn	07 17 54.6	-0.6
	baz=5.0						
SGST	**Jiashian**	**0.67**	**291**	*e*P	Pn	07 17 46.2	+0.8
	baz=290						
SGST				S	Sn	07 17 56.4	+1.0
	baz=290						
WTP	**Ta-pu**	**0.72**	**304**	P	Pn	07 17 46.8	+0.7
	baz=303						
WTP				S	Sn	07 17 57.5	+1.1
	baz=303						
SGLT	**Jiouru**	**0.72**	**260**	P	Pn	07 17 46.8	+0.8
	baz=260						
SGLT				S	Sn	07 17 57.9	+1.4
	baz=260						
SSPT	**Xinbi**	**0.74**	**241**	P	Pn	07 17 46.7	+0.4
	baz=240						
SSPT				S	Sn	07 17 58.0	+1.2
	baz=240						
TPUB	**Ta-pu**	**0.74**	**308**	P	Pn	07 17 46.4	+0.1
	baz=307						
TPUB				S	Sn	07 17 57.3	+0.4
	baz=307						
CHN1	**Nanshi**	**0.76**	**297**	*i* P	Pn	07 17 46.5	0.0
	baz=296						
CHN1				*i* S	Sn	07 17 57.5	+0.2
	baz=296						
SCZT	**Fangliau**	**0.76**	**232**	*i* P	Pn	07 17 47.7	+1.2
	baz=230						
SCZT				S	Sn	07 17 58.6	+1.3
	baz=230						
ALS	**Alishan**	**0.78**	**328**	*e*S	Sn	07 17 58.9	+0.6
	baz=327						
CHN4	**Tsaushan**	**0.79**	**309**	*i* P	Pn	07 17 46.7	-0.3
	baz=309						
CHN4				*i* S	Sn	07 17 59.2	+1.0

TAI1	**Yung-k'ang**	**0.97**	**282**	*eP*	Pn	07 17 50.9 +1.6
	baz=281					
TAI1				*eS*	Sn	07 18 03.1 +0.9
	baz=281					
ESL	**Shilin**	**0.97**	**9**	*eP*	Pn	07 17 50.7 +1.4
	baz=9.0					
ESL				*eS*	Sn	07 18 03.5 +1.2
	baz=9.0					
SSLB	**Suanglung**	**0.98**	**343**	P	Pn	07 17 49.4 0.0
	baz=343					
SSLB				S	Sn	07 18 04.1 +1.7
	baz=343					
SSLB	**Suanglung**	**0.98**	**343**	P	Pn	07 17 49.5 +0.1
CHN2	**Minshiung**	**0.99**	**313**	*eP*	Pn	07 17 50.7 +1.1
	baz=313					
CHN2				*eS*	Sn	07 18 03.8 +1.1
	baz=313					
TWKBT	**Hengchun**	**0.99**	**205**	*eP*	Pn	07 17 50.9 +1.3
	baz=204					
TWKBT				*eS*	Sn	07 18 04.3 +1.5
	baz=204					
TWK1	**Hengchun**	**0.99**	**205**	*eP*	Pn	07 17 50.9 +1.3
	baz=204					
TWK1				*eS*	Sn	07 18 04.1 +1.4
	baz=204					
TSEB	**Hengchuen, Pin**	**1.00**	**200**	*eP*	Pn	07 17 51.0 +1.3
	baz=201					
TSEB				*eS*	Sn	07 18 04.6 +1.7
	baz=201					
SCLT	**Jiali**	**1.04**	**289**	*eP*	Pn	07 17 51.3 +1.2
	baz=288					
SCLT				*eS*	Sn	07 18 05.0 +1.3
	baz=288					
SMLT	**Sun Moon Lake**	**1.08**	**342**	P	Pn	07 17 51.9 +1.0
	baz=342					
SMLT				S	Sn	07 18 05.6 +0.6
	baz=342					
OWD	**Renai**	**1.10**	**356**	*eP*	Pn	07 17 52.0 +0.8
	baz=355					
TYC	**Yuchr**	**1.11**	**341**	P	Pn	07 17 52.0 +0.9
	baz=341					
TYC				S	Sn	07 18 06.7 +1.0
	baz=341					
CHGB	**Renai**	**1.21**	**356**	P	Pn	07 17 53.4 +0.7
	baz=356					
CHGB				S	Sn	07 18 09.2 +1.0
	baz=356					
DPDB	**Guoxing**	**1.22**	**345**	*eP*	Pn	07 17 54.0 +1.3
	baz=345					
WSF	**Szhu**	**1.24**	**310**	*eS*	Sn	07 18 09.2 +0.6
	baz=309					
WHF	**Hehuan Shan**	**1.29**	**0**	P	Pn	07 17 54.4 +0.5
WHF				S	Sn	07 18 11.4 +1.0
NACB	**Ninganchiao**	**1.35**	**13**	*eP*	Pn	07 17 54.9 +0.5
	baz=13					
NACB				*eS*	Sn	07 18 12.5 +1.1
	baz=13					
ETLH	**Xiulin Townshi**	**1.37**	**8**	*eP*	Pn	07 17 55.8 +1.1
	baz=8.0					
ETLH				*eS*	Sn	07 18 12.3 +0.5
	baz=8.0					
WHP	**Taichung City**	**1.45**	**349**	P	Pn	07 17 56.2 +0.4
	baz=348					
WHP				*eS*	Sn	07 18 15.9 +2.0
	baz=348					
WDGT	**Dungji**	**1.53**	**286**	*eP*	Pn	07 17 57.3 +0.5
	baz=285					
WDGT				*eS*	Sn	07 18 17.2 +1.6
	baz=285					
NNSB	**Datong**	**1.58**	**4**	*eP*	Pn	07 17 58.9 +1.4
	baz=4.0					
NNSB				*eS*	Sn	07 18 17.1 +0.1
	baz=4.0					
NNSH	**Datong**	**1.58**	**4**	*eP*	Pn	07 17 58.8 +1.2
	baz=4.0					
NNSH				*eS*	Sn	07 18 17.5 +0.6
	baz=4.0					

*INET **22** 07:29:37.7, 12°.55N×87°.75W, h76 km, ML3.9*
SNET 22 07:29:38.7±0.6, **12°.52N×87°.89W, h31** km±2 km, **ML3.4, 1D, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.78**	**360**	*iP*	Pn	07 29 53.3	-0.3
LCND				*eS*	Sn	07 30 05.2	+0.9
LCND				IAML		07 30 07.3	
	comp=Z,1 μm,0.3s						
JUCU	**Jucuarn**	**0.81**	**334**	*eP*	Pn	07 29 53.8	-0.3
JUCU				*eS*	Sn	07 30 05.9	+0.9
JUCU				IAML		07 30 10.9	
	comp=Z,1 μm,0.4s						
ALJI	**Alcalda de J**	**1.04**	**320**	*eP*	Pn	07 29 57.2	+0.1
ALJI				IAML		07 30 13.2	
	comp=Z,968nm,0.2s						
COEB	**Comit de Eme**	**1.15**	**327**	*eP*	Pn	07 29 58.9	0.0
COEB				*eS*	Sb	07 30 14.8	0.0
COEB				IAML		07 30 17.7	
	comp=Z,506nm,0.3s						
FAGO	**Alcalda de S**	**1.19**	**350**	*eP*	Pn	07 29 59.0	-0.2
FAGO				*eS*	Sb	07 30 15.0	-0.6
PAVA	**Las Pavas**	**1.56**	**319**	*eP*	Pn	07 30 05.2	+0.7
TACO	**Tacachico**	**2.03**	**315**	*eP*	Pn	07 30 11.1	+0.3

*NEIC **22** 07:41:25.4±2.0, 25°.49N×109°.09×141°.1E±0°.1, h174 km±8 km, mb4.2/14, Error ellipse: s-maj=18.9km s-min=13.1km az=104.0*
*JMA **22** 07:41:27.4±0.3, 25°.62N×140°.71E, h116 km, M4.3*
*IDC **22** 07:41:32.0±3.5, 25°.49N×140°.94E, h242 km±35 km, mb3.5/14, mb1 3.6/17, mb1mx3.3/43, mbtmp4.1/17, Error ellipse: s-maj=26.0km s-min=11.4km az=91.0*
ISC 22 07:41:23.8±0.6, **25°.50N**±0°.07×**140°.92E**±0°.09, **h160** km, **n50, σ1°41/54, mb4.2/18, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**1.60**	**45**	P	Pn	07 41 56.7	+1.6
JHH2				*eS*	Sn	07 42 18.7	-0.6
CBIJ	**Chichi jima**	**1.95**	**35**	P	Pn	07 42 01.0	+2.0
CBIJ				*eS*	Sn	07 42 26.3	+0.1
JCJ	**Chichijima**	**1.95**	**35**	Pn	Pn	07 42 00.7	+1.7
JCJ				Sn	Sn	07 42 27.3	+1.1
BSO3	**Boso 3**	**9.27**	**358**	P	Pn	07 43 33.9	+0.1
BSO4	**Boso 4**	**9.47**	**357**	P	Pn	07 43 38.0	+1.5
JHU	**Hanno**	**10.41**	**353**	P	Pn	07 43 49.2	+0.2
JHU				*eS*	Sn	07 45 41.0	-3.3
JAG	**Ashikaga**	**10.96**	**354**	P	Pn	07 43 54.4	-1.8
JHO	**Hitachi**	**11.08**	**359**	P	Pn	07 43 56.9	-0.8
MJAR	**Matsushiro Arr**	**11.24**	**349**	P	Pn	07 44 01.4	+1.4
	0.1nm,0.3s,baz=167,slow=11,SNR=4.1						
MJAR	**Matsushiro Arr**	**11.24**	**349**		Pn	07 44 02.7	+2.7
MAJO	**Matsushiro**	**11.25**	**349**	Pn	Pn	07 44 03.0	+3.0
MJB9	**Matsu-Tunnel**	**11.25**	**349**	Pn	Pn	07 44 02.9	+2.9
JOW	**Kunigami**	**11.43**	**279**	Pn	P	07 44 06.3	-3.4
JNU	**Nakatsue**	**11.59**	**313**	P	P	07 44 11.5	+0.1
	0.3nm,0.3s,baz=140,slow=14,SNR=2.4						
JNU	**Nakatsue**	**11.59**	**313**		Pn	07 44 06.9	+2.4
KSRS	**Korea Array**	**16.25**	**320**	P	P	07 45 06.0	+3.0
	0.3nm,0.3s,baz=131,slow=12,SNR=7.0						
ASAJ	**Asahikawa**	**18.62**	**4**	P	Pn	07 45 31.8	+0.6
	0.7nm,0.3s,baz=182,slow=12,SNR=7.4						
JKA	**Kamikawa-asahi**	**18.62**	**4**	P	Pn	07 45 30.4	-0.8
JKA				IAmb	IAmb	07 45 32.6	
	comp=Z,4.5nm,0.7s						
MDJ	**Mudanjiang**	**21.16**	**337**	P	P	07 45 57.5	+1.2
KLR	**Kul'dur**	**24.74**	**346**	P	P	07 46 31.5	+1.1
	comp=Z,0.6nm,0.3s,baz=216,slow=4.2,SNR=5.1						
WB0	**Warramunga Arr**	**45.44**	**189**	P	P	07 49 26.9	0.0
WB0				IAmb	IAmb	07 49 27.6	
	comp=Z,9.1nm,1.2s						
WRAB	**Tennant Creek**	**45.61**	**189**	P	P	07 49 28.5	+0.3
WR0	**Warramunga Arr**	**45.61**	**188**	P	P	07 49 28.5	+0.3
CTA	**Charters Tower**	**45.62**	**173**	P	P	07 49 27.2	-1.0
	comp=Z,2.0nm,0.7s,baz=337,slow=7.7,SNR=1.8						
WB2	**Warramunga Arr**	**45.62**	**189**	P	P	07 49 28.6	+0.3
WB2				IAmb	IAmb	07 49 30.2	
	comp=Z,7.2nm,1.1s						
WRA	**Warramunga Arr**	**45.62**	**189**	P	P	07 49 28.6	+0.2
	comp=Z,1.1nm,0.3s,baz=10,slow=8.6,SNR=12						
WRA	**Warramunga Arr**	**45.62**	**189**	P	P	07 49 27.5	-0.8
ASAR	**Alice Springs**	**49.35**	**188**	P	P	07 49 56.6	-0.4
	comp=Z,0.2nm,0.4s,baz=7.6,slow=5.7,SNR=1.6						
ASAR	**Alice Springs**	**49.35**	**188**	P	P	07 49 58.4	+1.3

EIDS	**Eidsvold**	**51.52**	**168**	P	P	07 50 13.8 +0.5
EIDS				IAmb	IAmb	07 50 30.2
	comp=Z,6.6nm,1.3s					
NRIK	**Noril'sk**	**53.72**	**339**	P	P	07 50 28.2 -0.7
	comp=Z,6.7nm,1.1s,baz=112,slow=5.4,SNR=2.5					
KDAK	**Kodiak Island**	**56.32**	**36**	P	P	07 50 47.8 +0.2
	comp=Z,1.7nm,0.6s,baz=284,slow=4.2,SNR=7.8					
STKA	**Stephens Creek**	**57.06**	**179**	P	P	07 50 53.2 0.0
	comp=Z,2.6nm,0.8s,baz=4.4,slow=9.8,SNR=3.6					
STKA	**Stephens Creek**	**57.06**	**179**	P	P	07 50 53.3 0.0
PPLA	**Purkeypile**	**57.11**	**30**	P	P	07 50 53.8 +0.4
PPLA				IAmb	IAmb	07 50 58.2
	comp=Z,6.3nm,1.3s					
KKAR	**Karatay Array**	**59.10**	**306**	P	P	07 51 09.1 +1.6
ILAR	**Eielson Array**	**59.65**	**28**	P	P	07 51 09.9 -0.9
	comp=Z,0.5nm,0.8s,baz=265,slow=5.7,SNR=6.1					
BMAR	**Burnt Mountain**	**60.78**	**25**	P	P	07 51 19.9 +1.4
SCRK	**Sand Creek**	**60.87**	**29**	P	P	07 51 19.8 +0.5
INK	**Inuvik**	**64.94**	**24**	P	P	07 51 45.7 -0.2
	comp=Z,1.3nm,0.6s,baz=286,slow=4.2,SNR=1.6					
INK	**Inuvik**	**64.94**	**24**	P	P	07 51 45.7 -0.2
INK				IAmb	IAmb	07 51 54.1
	comp=Z,5.6nm,1.4s					
YKA	**Yellowknife Ar**	**74.08**	**28**	P	P	07 52 41.2 -0.8
	comp=Z,0.4nm,0.5s,baz=289,slow=6.1,SNR=2.2					
ARCES	**ARCESS Array B**	**74.66**	**341**	P	P	07 52 44.0 -1.3
	comp=Z,4.3nm,1.0s,baz=75,slow=8.5,SNR=3.7					
ARCES	**ARCESS Array B**	**74.66**	**341**	P	P	07 52 44.9 -0.4
FIA1	**FINESS Array S**	**78.86**	**334**	P	P	07 53 08.5 -0.4
FINES	**FINESS Array B**	**78.86**	**334**	P	P	07 53 08.5 -0.4
	comp=Z,2.2nm,0.3s,baz=68,slow=4.8,SNR=46					
FINES	**FINESS Array B**	**78.86**	**334**	P	P	07 53 08.4 -0.5
AKASG	**Malin Array Be**	**83.22**	**323**	P	P	07 53 31.8 -0.3
	comp=Z,0.6nm,0.4s,baz=54,slow=5.1,SNR=2.4					
NB2	**NORSAR Subarra**	**84.66**	**338**	P	P	07 53 37.9 -1.4
	comp=Z,0.6nm,0.4s,baz=44,slow=5.1					
NOA	**NORSAR Array B**	**84.66**	**338**	P	P	07 53 38.3 -1.1
	comp=Z,1.1nm,0.5s,baz=53,slow=6.6,SNR=11					

IDC 22 07:51:03.6±5.5, **8°.04S×124°.11E, h149** km±62 km, **mb3.0**/1, **mb1 3.1/5, mb1mx3.0/32, mbtmp3.5/5, Error ellipse: s-maj=99.3km s-min=31.2km az=49.0, Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.20**	**192**	P	Pn	07 51 41.9	+0.8
	21nm,0.3s,baz=179,slow=2.2,SNR=10						
BATI				S	Sn	07 52 10.3	+0.3
	14nm,0.3s,baz=98,slow=23,SNR=2.4						
FITZ	**Fitzroy Crossi**	**10.11**	**172**	P	Pn	07 53 23.2	-1.9
	0.1nm,0.3s,baz=348,slow=12,SNR=2.1						
FITZ				S	Sn	07 55 05.6	-11
	0.2nm,0.3s,baz=255,slow=16,SNR=2.4						
WRA	**Warramunga Arr**	**15.43**	**141**	P	Pn	07 54 33.8	+0.2
	0.2nm,0.3s,baz=316,slow=13,SNR=6.6						
WRA				S	Sn	07 57 15.0	-10
	0.1nm,0.3s,baz=330,slow=19,SNR=2.0						
ASAR	**Alice Springs**	**18.16**	**150**	P	P	07 55 05.5	+0.7
	0.1nm,0.3s,baz=333,slow=12,SNR=7.3						
MKAR	**Makanchi Array**	**66.04**	**330**	P	P	08 01 34.3	-0.1
	0.2nm,0.5s,baz=126,slow=7.3,SNR=2.2						

*NEIC **22** 08:33:17.9±1.5, 17°.49N×0°.05×94°.39W×0°.06, h172 km±4 km, Error ellipse: s-maj=8.3km s-min=6.9km az=84.0*
*IDC **22** 08:33:17.7±1.0, 17°.62N×94°.21W, h156 km±11 km, mb3.1/2, mb1 3.5/5, mb1mx3.1/36, mbtmp3.8/5, Error ellipse: s-maj=32.2km s-min=14.8km az=171.0*
*MEX **22** 08:33:19.2±0.7, 17°.49N×94°.39W, h177 km±4 km, MD4.1*
ISC 22 08:33:17.8±0.7, **17°.52N**±0°.05×**94°.37W**±0°.04, **h175** km±6 km, **n38, σ1°42/50, mb4.1/7, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUIG	**Tuzandepetl**	**0.52**	**355**		Pn	08 33 42.4	+0.4
TUIG					Sn	08 34 00.1	-0.8
TUIG	**Tuzandepetl**	**0.52**	**355**	*i* P	Pn	08 33 42.5	+0.4
TUIG				*i* S	Sn	08 34 00.1	-0.8
CMIG	**Matias Romero**	**0.65**	**229**	P	Pn	08 33 42.6	-0.1
	49nm,0.3s,baz=51,slow=5.7,SNR=922						
CMIG				S	Sn	08 34 00.7	-1.2
	75nm,0.3s,baz=10,slow=6.1,SNR=20						
CMIG	**Matias Romero**	**0.65**	**229**		Pn	08 33 42.9	+0.1
CMIG	**Matias Romero**	**0.65**	**229**	*i* P	Pn	08 33 42.9	+0.1
CMIG				*i* S	Sn	08 34 01.1	-0.8
TGIG		**1.40**	**121**		Pn	08 33 48.9	+0.4
TGIG					Sn	08 34 11.0	-1.1
TGIG		**1.40**	**121**	*i* P	Pn	08 33 48.9	+0.4
TGIG				*i* S	Sn	08 34 11.0	-1.1
PCIG		**2.11**	**148**		Pn	08 33 56.2	+0.4
PCIG					Sn	08 34 24.4	-0.9
PCIG		**2.11**	**148**	*i* P	Pn	08 33 56.2	+0.4
PCIG				*i* S	Sn	08 34 24.4	-0.9
HUIG	**Huatulco**	**2.41**	**224**		Pn	08 33 57.0	-2.1
HUIG					Sn	08 34 30.0	-1.3
HUIG	**Huatulco**	**2.41**	**224**	*eP*	Pn	08 33 57.0	-2.1
HUIG				*eS*	Sn	08 34 30.0	-1.3
CCIG	**Comitan**	**2.47**	**120**	Pn	Pn	08 34 00.5	+0.5
CCIG				Sn	Sn	08 34 33.1	+0.4
TLIG	**Tlapa**	**4.00**	**271**		Pn	08 34 18.9	-0.1
UNM	**Universidad Na**	**4.91**	**292**	Pn	Pn	08 34 33.1	+2.4
TEIG	**Tepich**	**6.37**	**64**	P	Pn	08 34 47.7	-1.9
	5.7nm,0.3s,baz=319,slow=1.1,SNR=52						
TEIG				S	Sn	08 35 56.8	-5.1
	baz=329,slow=19						
TGUH	**Tegucigalpa,Un**	**7.65**	**116**	Pn	Pn	08 35 08.6	+1.9
JTS	**Las Juntas de**	**11.62**	**127**	P	Pn	08 35 58.7	+0.1
	1.1nm,0.3s,baz=25,slow=16,SNR=13						
JTS	**Las Juntas de**	**11.62**	**127**	Pn	Pn	08 35 59.2	+0.5
435B	**Jarrell**	**13.53**	**348**	P	Pn	08 36 24.6	+1.8
TXAR	**Lajitas Array**	**14.52**	**326**	P	P	08 36 37.4	+0.2
	0.1nm,0.3s,baz=155,slow=16,SNR=5.9						
TXAR	**Lajitas Array**	**14.52**	**326**		Pn	08 36 34.0	-1.3
TX32	**Lajitas Array**	**14.52**	**326**	Pn	Pn	08 36 34.5	-0.9
W35A	**Tecumseh**	**17.71**	**353**	P	P	08 37 12.6	+0.5
MSTX	**Muleshoe**	**18.03**	**337**	P	P	08 37 16.2	+0.4
MSTX				IAmb	IAmb	08 37 20.2	
	comp=Z,6.8nm,1.1s						
AMTX	**Amarillo**	**18.48**	**341**	P	P	08 37 20.5	-0.2
121A	**Cookes Peak, D**	**19.24**	**324**	P	P	08 37 30.9	+1.9
121A				IAmb	IAmb	08 37 32.6	
	comp=Z,4.0nm,0.7s						
T35A	**Sooner Cattle**	**19.42**	**355**	P	P	08 37 29.9	-0.7
T35A				IAmb	IAmb	08 37 30.7	
	comp=Z,6.2nm,0.7s						
X18A	**Snowflake**	**21.93**	**324**	P	P	08 37 58.1	+0.5
MVCO	**Mesa Verde**	**23.23**	**330**	P	P	08 38 10.5	+0.8
PV13	**Radium Mtn., P**	**24.15**	**331**	P	P	08 38 18.6	+0.5
PV13				IAmb	IAmb	08 38 22.1	
	comp=Z,4.6nm,0.7s						
PV05	**Paradox Valley**	**24.21**	**331**	P	P	08 38 20.1	+1.4
PV03	**Paradox Valley**	**24.24**	**331**	P	P	08 38 21.2	+2.4
PV03				IAmb	IAmb	08 38 22.9	
	comp=Z,3.9nm,0.6s						
PV23	**Carpenter Ridg**	**24.48**	**331**	P	P	08 38 21.5	+0.5
PV23				IAmb	IAmb	08 38 25.0	
	comp=Z,6.6nm,1.1s						
NVAR	**Mina Array Bea**	**29.52**	**320**	P	P	08 39 09.1	+3.0
	comp=Z,0.9nm,0.7s,baz=124,slow=9.4,SNR=8.7						
NVAR	**Mina Array Bea**	**29.52**	**320**	P	P	08 39 06.4	+0.3
J08A	**Circle Bar Ran**	**32.87**	**327**	P	P	08 39 37.3	+2.1
J08A				IAmb	IAmb	08 39 37.7	
	comp=Z,3.5nm,0.7s						
F10A	**Beach Ranch, E**	**34.15**	**331**	P	P	08 39 47.2	+1.0
F10A				IAmb	IAmb	08 39 47.7	
	comp=Z,3.0nm,0.8s						
ILAR	**Eielson Array**	**58.72**	**337**	P	P	08 42 56.8	-0.1
	comp=Z,0.3nm,0.4s,baz=137,slow=6.3,SNR=5.0						

*NEIC **22** 08:44:31.2±2.6, 6°.46S±0°.06×130°.1E±0°.1, h94 km±9 km, mb4.0/6, Error ellipse: s-maj=15.3km s-min=9.1km az=100.0*
*IDC **22** 08:44:31.7±2.5, 6°.50S×129°.88E, h67 km±28 km, mb3.7/3, mb1 4.0/8, mb1mx3.6/31, mbtmp4.1/8, ML4.1/5, Error ellipse: s-maj=33.7km s-min=18.1km az=66.0*
ISC 22 08:44:31.1±0.6, **6°.50S**±0°.05×**130°.09E**±0°.08, **h100** km, **n29, σ3°21/36, mb4.0/5, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.90**	**141**		Pn	08 45 09.9	+7.5
FAKI	**Fak Fak**	**4.16**	**31**		Pn	08 45 33.1	+0.5
FAKI					Sn	08 46 16.5	-3.6
SIJI	**Sorong**	**5.72**	**12**	P	Pn	08 45 54.5	+0.8
	5.4nm,0.3s,baz=202,slow=19,SNR=3.0						
SIJI				S	Sn	08 46 52.8	-5.2
	12nm,0.3s,baz=66,slow=24,SNR=12						
MTN	**Manton Dam**	**6.39**	**171**		Pn	08 46 09.4	+6.7
MTN					Sn	08 47 15.6	+1.4
KNRA	**Kununurra**	**9.21**	**188**		Pn	08 46 45.6	+4.5
KNRA					Sn	08 48 24.0	+1.0
KAPI	**Kappang**	**10.39**	**278**	P	Pn	08 46 55.0	-2.2
	3.5nm,0.3s,baz=163,slow=15,SNR=5.1						
KAPI	**Kappang**	**10.39**	**278**		Pn	08 46 55.4	-1.8
FITZ	**Fitzroy Crossi**	**12.31**	**200**	P	Pn	08 47 24.6	+1.6
	1.4nm,0.3s,baz=32,slow=12,SNR=29						
FITZ				S	Sn	08 49 34.0	-4.5
	2.1nm,0.3s,baz=69,slow=12,SNR=12						
FITZ	**Fitzroy Crossi**	**12.31**	**200**		Pn	08 47 25.9	+2.9
FITZ					Sn	08 49 35.5	-3.0
WB0	**Warramunga Arr**	**13.84**	**163**		Pn	08 47 44.0	+1.0
WB0				S	Sn	08 50 07.3	-8.1
WRAB	**Tennant Creek**	**13.98**	**163**	Pn	Pn	08 47 46.3	+1.4
WRA	**Warramunga Arr**	**13.98**	**163**	P	Pn	08 47 46.0	+1.0
	0.5nm,0.3s,baz=339,slow=13,SNR=37						
WRA				S	Sn	08 50 12.1	-7.0
	2.9nm,0.3s,baz=342,slow=22,SNR=11						
WRA	**Warramunga Arr**	**13.98**	**163**		Pn	08 47 45.8	+0.8
WB2	**Warramunga Arr**	**13.99**	**163**		Pn	08 47 46.6	+1.6
WB2					Sn	08 50 12.8	-6.3
WR0	**Warramunga Arr**	**14.06**	**162**		Pn	08 47 47.2	+1.2
COEN	**Coen**	**14.85**	**121**		Pn	08 47 56.2	+0.1
AS31	**Alice Springs**	**17.46**	**168**	P	Pn	08 48 29.1	+0.7
ASAR	**Alice Springs**	**17.46**	**168**	P	Pn	08 48 32.5	+4.1
	0.7nm,0.3s,baz=349,slow=10,SNR=44						
ASAR				S	Sn	08 51 36.2	-6.7
	0.7nm,0.3s,baz=353,slow=28,SNR=9.6						
ASAR	**Alice Springs**	**17.46**	**168**	P	Pn	08 48 30.9	+2.5
ASAR					Sn	08 51 39.8	-3.0
CTA	**Charters Tower**	**20.71**	**132**	P	Pn	08 49 07.8	+0.9
	1.2nm,0.5s,baz=326,slow=11,SNR=1.9						
STKA	**Stephens Creek**	**27.44**	**158**	P	P	08 50 11.8	+4.2
	4.0nm,1.1s,baz=335,slow=14,SNR=4.7						
STKA	**Stephens Creek**	**27.44**	**158**	P	P	08 50 09.6	+1.9
STKA				IAmb	IAmb	08 50 26.3	
	comp=Z,5.5nm,1.6s						
CASY	**Casey**	**61.20**	**189**	P	P	08 54 34.3	-0.8
CASY				IAmb	IAmb	08 54 35.2	
	comp=Z,11nm,1.6s						
TLY	**Talaya**	**62.23**	**342**	P	P	08 54 42.0	-0.2
PETK	**Petropavlovsk-**	**63.83**	**18**	P	P	08 54 54.1	+1.4
MK31	**Makanchi Array**	**67.86**	**327**	P	P	08 55 22.4	+3.6
MK31				IAmb	IAmb	08 55 23.0	
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	08 55 22.3	+3.5
	comp=Z,1.1nm,0.6s,baz=121,slow=7.8,SNR=14						
MKAR	**Makanchi Array**	**67.86**	**327**	P	P	08 55 20.3	+1.6
MAKZ	**Makanchi**	**68.04**	**327**	P	P	08 55 21.5	+1.6
MAKZ				IAmb	IAmb	08 55 35.8	
	comp=Z,2.4nm,1.2s						

*NEIC **22** 08:57:01.1±1.1, 60°.03N±0°.02×152°.91W±0°.07, h114 km±4 km, Error ellipse: s-maj=5.5km s-min=2.1km az=59.0*
AEIC 22 08:57:02.2±1.1, **60°.04N**±0°.03×**152°.90W**±0°.08, **h112** km±4 km, **ML2.7/119, Error ellipse: s-maj=5.7km s-min=4.8km az=90.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIM	**Iliamna**	**0.05**	**324**		Pn	08 57 16.7	-0.9
IVE	**Iliamna Volcan**	**0.06**	**247**		Pn	08 57 16.6	-1.1
IVE					Sn	08 57 28.4	-0.9
ILS	**Iliamna Low So**	**0.12**	**225**		Pn	08 57 16.8	-1.0
ILW	**Iliamna West**	**0.12**	**279**		Pn	08 57 16.9	-0.9
ILW					Sn	08 57 29.9	+0.3
RED	**Redoubt Volcan**	**0.39**	**10**		Pn	08 57 17.8	-0.9
RED					Sn	08 57 30.2	-0.9
RDSO	**Redoubt South**	**0.42**	**11**		Sn	08 57 30.5	-1.1
RSO	**Redoubt South**	**0.43**	**10**		Pn	08 57 18.2	-0.8
RSO					Sn	08 57 31.0	-0.7
RDWB	**Redoubt West**	**0.45**	**4**		Pn	08 57 18.2	-0.9
RDWB					Sn	08 57 30.7	-1.1
RDJH	**Redoubt Jeurge**	**0.55**	**5**		Pn	08 57 19.0	-0.8
RDJH					Sn	08 57 33.0	+0.1
AU22	**Augustine Moun**	**0.71**	**199**		Pn	08 57 20.1	-0.7
AU22					Sn	08 57 34.1	-0.7
AU2	**Augustine Isla**	**0.71**	**200**		Pn	08 57 20.2	-0.7
AUP	**Augustine Pinn**	**0.73**	**201**		Pn	08 57 20.5	-0.6
AUH	**Augustine H**	**0.73**	**202**		Pn	08 57 20.5	-0.5
HOM	**Homer**	**0.74**	**121**		Pn	08 57 20.6	-0.4
HOM					Sn	08 57 35.6	+0.3
CNPM	**China Poot**	**0.99**	**121**		Pn	08 57 22.8	-0.7
CNPM					Sn	08 57 38.6	-0.8
BRLK	**Bradley Lake**	**1.05**	**104**		Pn	08 57 23.4	-0.7
BRLK					Sn	08 57 39.4	-1.2
BRSE	**Bradley Lake S**	**1.13**	**104**		Pn	08 57 24.2	-0.7
BRSE					Sn	08 57 41.3	-0.8
CAPN	**Captain Cook N**	**1.13**	**49**		Pn	08 57 25.9	+1.0
CKT	**Bend**	**1.21**	**16**		Pn	08 57 25.2	-0.7
SPU	**Mount Spurr**	**1.22**	**20**		Pn	08 57 25.1	-0.8
SPU					Sn	08 57 43.

KIAG	Kiagna River	5.29	76		Pn	08 58 17.9	-1.1
BALM	Baldy	5.31	75		Pn	08 58 18.4	-0.8
RIDG	Independent Ri	5.32	42		Pn	08 58 18.9	-0.3
PS08	TAPS Pump Stn8	5.33	30		Pn	08 58 17.9	-1.5
TCOL	CIGO, UAF Yank	5.38	24		Pn	08 58 18.9	-1.1
COLA	College	5.39	24		Pn	08 58 19.3	-0.8
MDM	Murphy Dome	5.39	22		Pn	08 58 19.1	-1.1
IL31		5.51	28		Pn	08 58 20.1	-1.6
ILAR	Eielson Array	5.51	28	Pn	Pn	08 58 19.9	-1.9
DOT	Dot Lake	5.53	45	Pn	Pn	08 58 20.2	-2.0
GRNC	Granite Creek	5.57	78		Pn	08 58 22.0	-0.9
YAH	Yahtse	5.58	82		Pn	08 58 22.5	-0.4
POKR	Poker Plat Res	5.69	24		Pn	08 58 22.9	-1.2
SCRK	Sand Creek	5.75	43		Pn	08 58 23.3	-2.0
CTGM	Chitina Glacie	5.79	76		Pn	08 58 25.6	-0.2
TABL	Table Mountain	5.87	81	Pn	Pn	08 58 26.2	-0.8
CHX	Chaix Hills	5.91	85		Pn	08 58 26.6	-0.6
LOGN	Logan Glacier	5.95	77		Pn	08 58 27.1	-0.8
IM01	Indian Mountai	5.99	357		Pn	08 58 27.3	-0.9
BC03		6.12	56		Pn	08 58 28.5	-1.4
BCAR	Beaver Creek A	6.12	56	Pn	Pn	08 58 28.0	-2.1
YUK2	White River	6.14	68		Pn	08 58 29.8	-0.6
YUK3	Moose Creek	6.31	69		Pn	08 58 31.4	-1.5
PCA	Pinnacle	6.33	84		Pn	08 58 32.4	-0.6
YUK1	Sand Pete Hill	6.36	65		Pn	08 58 32.3	-1.2
PRP	Porcupine Dome	6.45	28		Pn	08 58 33.3	-1.3
PNL	Peninsula	6.81	87		Pn	08 58 38.0	-1.5
EGAK	Eagle	7.23	44		Pn	08 58 43.1	-1.8
YUK6	Outpost Mounta	7.24	77		Pn	08 58 43.8	-1.7
FALS	False Pass	7.69	232	Pn	Pn	08 58 51.6	+0.3
BM03	Burnt Mountain	8.26	23		Pn	08 58 56.9	-2.1
BMAR	Burnt Mountain	8.27	23	Pn	Pn	08 58 57.5	-1.7

IDC ***22*** *09:08:54.0±0.3, 10.˚84N×126.˚68E, h0km, mb4.7/33, mb1 4.8/37, mb1mx4.8/43, mbtmp4.8/37, ML4.4/4, MS3.8/24, Ms1 3.8/24, ms1mx3.7/37, Error ellipse: s-maj=16.0km s-min=8.8km az=82.0*

MOS ***22*** *09:08:55.7±0.9, 10.˚86N×126.˚69E, h22km, mb5.2/58, Error ellipse: s-maj=9.2km s-min=4.3km az=118.9*

NEIC ***22*** *09:08:55.6±1.6, 10.˚90N±0.˚07×126.˚73E±0.˚09, h10km±1km, mb5.1/123, Error ellipse: s-maj=15.2km s-min=12.6km az=259.0*

BJI ***22*** *09:08:56.1±0.0, 10.˚45N×126.˚91E, h47km, mB5.1/43, mb4.9/69, Ms4.4/50, Ms7 4.1/53*

MAN ***22*** *09:08:56.8, 11.˚02N×126.˚79E, h45km, MS4.8*

GCMT ***22*** *09:08:58.6±0.3, 10.˚96N±0.˚02×126.˚75E±0.˚02, h19km, MW4.9/97, Moment Tensor Solution. s38,c44; s97,c134; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.87±.14; Mθθ1.21±.09; Mϕϕ1.66±.09; Mrθ0.99±.18; Mrϕ-1.06±.05; Mθϕ-0.38±.17; Best double couple: Mo2.88800×10¹⁶ NP1:φs149.00000°, δ36.00000°, λ-76.00000°. NP2: φs312.00000°, δ55.00000°, λ-100.00000°. Principal axes: T 2.6740, Plg10.0000°, Azm49.0000°; N 0.4290, Plg8.0000°, Azm317.0000°; P -3.1030, Plg77.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***22*** *09:08:59.5±0.6, 11.˚N±4.˚×12.˚7E±.˚, h45km±5km, M4.6/61, mb5.1/61, mB5.4/25, MLv3.2/1, Mw(mB)4.9/25*

UNK ***22*** *09:08:59.0, 10.˚88N×126.˚74E, h33km*

KLM ***22*** *09:09:04.0, 10.˚80N×126.˚93E, h88km, mb5.1*

ISC 22 09:08:56.9±0.6, 10.˚86N±0.˚03×126.˚78E±0.˚04, h18km±3km, n486, σ1$39/508, mb5.0/166, MS3.9/36, 28C-23D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.66**	**230**	⇓*e*P	**Pn**	**09 09 25.1**	**-0.1**
SCPH				*e*S	**Sn**	**09 09 44.5**	**-1.5**
LLP	**Lapu-Lapu**	**2.82**	**259**	⇓*e*P	**Pn**	**09 09 42.3**	**+1.2**
LLP				*i* S	**Sn**	**09 10 14.7**	**+0.1**
TBP	**Tagbilaran**	**3.10**	**248**	*e*P	**Pn**	**09 09 46.7**	**+1.8**
CGP	**Cagayan de Oro**	**3.15**	**221**	⇑*i*P	**Pn**	**09 09 46.2**	**+0.6**
CGP				*i* S	**Sn**	**09 10 22.3**	**-0.6**
SNPH	**Sibulan**	**3.80**	**247**	*e*P	**Pn**	**09 09 56.6**	**+1.9**
SNPH				*e*S	**Sn**	**09 10 39.0**	**0.0**
KCP	**Kidapawan**	**4.17**	**204**	⇑*e*P	**Pn**	**09 10 03.2**	**+3.4**
KCP				*i* S	**Sn**	**09 10 47.0**	**-1.2**
JAP	**San Jose, Anti**	**4.75**	**269**	⇑*e*P	**Pb**	**09 10 19.3**	**-0.4**
LQP	**Lukban**	**6.05**	**303**	⇑*e*P	**Pn**	**09 10 22.0**	**-3.7**
TGY	**Tagaytay City**	**6.55**	**300**	LR	LR	09 12 59.2	
	comp=Z,153nm,18.7s,baz=122,slow=38						
TNTI	**Ternate**	**10.04**	**177**	P	**Pn**	**09 11 21.6**	**+1.3**
	2µm134nm,0.7s						
TNTI	**Ternate**	**10.04**	**177**	Pn	**Pn**	**09 11 21.2**	**+0.9**
MRSI	**Marisa**	**11.38**	**205**	P	Pn	09 11 44.2	+5.5
	970nm37nm,1.0s						
LBMI	**Labuha**	**11.44**	**176**	P	**Pn**	**09 11 41.7**	**+2.1**
	120nm,1.2s						
LUWI	**Luwuk**	**12.48**	**199**	P	**Pn**	**09 11 55.6**	**+1.9**
	1µm79nm,1.3s						
LUWI	**Luwuk**	**12.48**	**199**		**Pn**	**09 11 54.9**	**+1.2**
SIJI	**Sorong**	**12.48**	**159**	Pn	**Pn**	**09 11 52.1**	**-1.6**
	1.5nm,0.3s,baz=96,slow=7.2,SNR=4.4						
SIJI				Sn	Sn	09 14 02.4	-10
	1.3nm,0.3s,baz=67,slow=23,SNR=6.5						
MPSI	**Mapaga**	**12.49**	**214**	P	P	09 12 01.3	-4.3
	2µm17nm,0.5s						
APSI	**Ampana**	**12.76**	**204**	P	P	09 12 04.0	-4.5
	724nm36nm,0.7s						
SANI	**Sanana**	**12.85**	**184**	P	**Pn**	**09 11 55.6**	**-3.2**
NLAI	**Namlea**	**14.01**	**179**	P	**Pn**	**09 12 13.2**	**-1.4**
	111nm,0.8s						
MSAI	**Masohi**	**14.27**	**171**	P	**P**	**09 12 28.3**	**+2.9**
YHNB	**Yeheng**	**14.66**	**340**	P	**Pn**	**09 12 26.1**	**+2.4**
SMKI	**Samarinda**	**14.72**	**221**	P	**P**	**09 12 34.9**	**+4.5**
FAKI	**Fak Fak**	**14.73**	**158**	P	**Pn**	**09 12 24.9**	**+0.4**
FAKI	**Fak Fak**	**14.73**	**158**	Pn	**Pn**	**09 12 24.3**	**-0.2**
TTSI	**Tana Toraja**	**15.45**	**207**	P	**P**	**09 12 36.6**	**-1.9**
BKB	**Balikpapan**	**15.54**	**220**	P	**P**	**09 12 41.8**	**+2.3**
	4µm291nm,1.1s						
BNDI	**Bandanaira**	**15.59**	**168**	P	**P**	**09 12 41.2**	**+1.1**
	10µm222nm,1.2s						
QZH	**Quanzhou**	**16.02**	**332**	*e*P	**P**	**09 12 44.8**	**+0.1**
QZH				*e*S	**Sn**	**09 15 39.6**	**+1.0**
QZH				LR	LR		
	comp=Z,350nm,14.7s						
SPSI	**Sidrap Palu**	**16.30**	**206**	P	**P**	**09 12 48.2**	**+0.3**
	1µm75nm,1.0s						
BNSI	**Bone**	**16.55**	**204**	P	**P**	**09 12 50.8**	**+0.1**
	2µm107nm,1.1s						
SBUM	**Sibu**	**16.69**	**241**		**P**	**09 12 51.8**	**-0.5**
KAPI	**Kappang**	**17.25**	**204**	P	**Pn**	**09 12 56.6**	**-0.5**
	4.7nm,0.3s,baz=106,slow=16,SNR=1.8						
KAPI				LR	LR	09 19 56.5	
	comp=Z,340nm,19.7s,baz=36,slow=38						
KAPI	**Kappang**	**17.25**	**204**	P	**P**	**09 12 58.4**	**-0.1**
KAPI				pmax	pmax		
	comp=Z,68nm,0.8s						
KAPI	**Kappang**	**17.25**	**204**	P	**P**	**09 12 58.4**	**-0.1**
KBKI	**Kotabaru**	**17.59**	**217**	P	**P**	**09 13 03.1**	**+0.9**
	comp=Z,96nm,1.0s						
GUMO	**Guam**	**17.89**	**79**	P	**P**	**09 13 06.2**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=246,slow=6.4,SNR=4.2						
GUMO				LR	LR	09 19 00.9	
	comp=Z,345nm,19.3s,baz=248,slow=34						
GUMO	**Guam**	**17.89**	**79**	P	**P**	**09 13 05.3**	**-0.2**
GUMO				pmax	pmax		
	comp=Z,189nm,1.2s						
GUMO	**Guam**	**17.89**	**79**	P	**P**	**09 13 05.3**	**-0.2**
GUMO				IAmb	IAmb	09 13 10.5	
	comp=Z,189nm,1.2s						
QIZ	**Qiongzhong**	**18.26**	**298**	P	**P**	**09 13 10.1**	**+0.5**
QIZ				S	**Sn**	**09 16 32.1**	**-1.0**
QIZ				pmax	pmax		
	comp=Z,23nm,1.5s						
QIZ				LR	LR		
	comp=Z,300nm,14.2s						
QIZ				LR	LR		
	comp=Z,440nm,17.2s						
QIZ				LR	LR		
	comp=Z,440nm,16.7s						
KSM	**Kuching**	**18.83**	**241**	Pn	**Pn**	**09 13 17.5**	**+1.0**
KSM	**Kuching**	**18.83**	**241**	P	**Pn**	**09 13 19.0**	**+2.5**
JAY	**Jayapura**	**19.20**	**133**	P	**Pn**	**09 13 20.7**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=301,slow=6.8,SNR=13						
JAY				LR	LR	09 21 13.9	
	comp=Z,340nm,18.0s,baz=286,slow=38						
JAY	**Jayapura**	**19.20**	**133**	P	**P**	**09 13 20.1**	**+0.1**
	comp=Z,18nm,1.0s						
MMRI	**Maumere**	**19.89**	**193**	P	**Pn**	**09 13 30.3**	**+1.2**
	comp=Z,3µmcomp=Z,214nm,0.8s						
MMRI	**Maumere**	**19.89**	**193**	P	**Pn**	**09 13 29.4**	**+0.3**
EDFI	**Ende, Flores**	**20.13**	**195**	P	Pn	09 13 31.5	-0.6
	comp=Z,453nmcomp=Z,37nm,1.1s						
SOEI	**Soe**	**20.63**	**187**	P	Pn	09 13 39.3	+1.3
	comp=Z,3µmcomp=Z,177nm,0.8s						
SOEI	**Soe**	**20.63**	**187**	P	Pn	09 13 37.1	-0.9
SSE	**Sheshan**	**20.80**	**346**	P	Pn	09 13 41.8	+2.1
SSE				S	**S**	**09 17 30.8**	**+2.2**
SSE				pmax	pmax		
	comp=Z,25nm,1.0s						
SSE				LR	LR		
	comp=Z,210nm,18.5s						
BATI	**Baumata**	**21.16**	**189**	P	**P**	**09 13 40.0**	**-1.3**
	comp=Z,142nm,0.9s,baz=104,slow=2.0,SNR=9.1						
BATI	**Baumata**	**21.16**	**189**	P	**P**	**09 13 42.5**	**+1.2**
	comp=Z,82nm,0.8s						
PLAI	**Plampang**	**21.51**	**205**	P	**P**	**09 13 48.7**	**+3.6**
	comp=Z,72nm,0.9s						
WBSI	**Waikabubak, Su**	**21.65**	**200**	P	**P**	**09 13 52.6**	**+6.0**
	comp=Z,56nm,0.9s						
NJ2	**Nanjing**	**22.32**	**342**	*e*P	**P**	**09 13 55.8**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
JNU	**Nakatsue**	**22.48**	**9**	P	**P**	**09 13 55.5**	**+0.2**
	comp=Z,8.7nm,0.8s,baz=154,slow=2.2,SNR=3.6						
JNU				LR	LR	09 23 10.7	
	comp=Z,246nm,18.1s,baz=168,slow=38						
JNU	**Nakatsue**	**22.48**	**9**	P	**P**	**09 13 55.5**	**+0.2**
WHN	**Wuhan**	**22.74**	**331**	⇓P	**P**	**09 13 59.6**	**+1.5**
WHN				pP	**pwP**	**09 14 11.3**	**+1.2**
WHN				S	**S**	**09 18 07.9**	**+1.8**
WHN				LR	LR		
	comp=Z,640nm,16.4s						
JAGI	**Jajag, Banyuwa**	**22.95**	**214**	P	**P**	**09 14 00.3**	**-0.1**
JAGI				IAmb	IAmb	09 14 06.2	
	comp=Z,54nm,0.9s						
TPI	**Tanjungpandan**	**23.35**	**236**	P	**P**	**09 14 03.3**	**-1.2**
	comp=Z,914nmcomp=Z,71nm,1.1s						
NGJI	**Ngawi**	**23.67**	**221**	P	**P**	**09 14 09.4**	**+1.8**
	comp=Z,101nm,1.0s						
MTN	**Manton Dam**	**23.94**	**169**	P	**P**	**09 14 09.8**	**-0.4**
SMRI	**Semarang**	**24.10**	**223**	P	**P**	**09 14 12.0**	**+0.2**
PPBI	**Pangkal Pinang**	**24.27**	**239**	P	**P**	**09 14 12.8**	**-0.6**
	comp=Z,18µmcomp=Z,235nm,0.9s						
SLVN	**Son La**	**24.29**	**298**	P	**P**	**09 14 11.1**	**-2.5**
WOJI	**Wonogiri, Jawa**	**24.37**	**221**	P	**P**	**09 14 15.4**	**+1.2**
	comp=Z,114nm,1.2s						
MYKOM	**Kota Tinggi**	**24.48**	**250**	P	**P**	**09 14 14.2**	**-1.1**
MYKOM				IAmb	IAmb	09 14 19.6	
	comp=Z,102nm,1.2s						
MYKOM	**Kota Tinggi**	**24.48**	**250**	P	**P**	**09 14 16.0**	**+0.7**
GYA	**Guiyang**	**24.52**	**312**	⇑P	**P**	**09 14 16.6**	**+1.0**
GYA				pP	pwP	09 14 29.1	+1.1
GYA				PP	**PnPn**	**09 14 51.4**	**+4.6**
GYA				S	**S**	**09 18 35.3**	**-0.3**
GYA				SS	**SnSn**	**09 19 30.6**	**+10**
GYA				pmax	pmax		
	comp=Z,18nm,0.9s						
GYA				pmax	pmax		
	comp=Z,220nm,5.6s						
GYA				LR	LR		
	comp=Z,280nm,16.8s						
GYA				LR	LR		
	comp=Z,330nm,18.6s						
GYA				LR	LR		
	comp=Z,440nm,18.7s						
UGM	**Wanagama**	**24.69**	**222**	P	**P**	**09 14 22.3**	**+5.2**
	comp=Z,172nm,1.3s						
UGM	**Wanagama**	**24.69**	**222**	P	**P**	**09 14 18.0**	**+0.8**
ENH	**Enshi**	**25.14**	**323**	IAmb	IAmb	09 14 26.6	
	comp=Z,39nm,0.9s						
JHJ	**Hachijo jima 2**	**25.17**	**26**	LR	LR	09 23 12.7	
	comp=Z,330nm,20.5s,baz=238,slow=34						
PMBI	**Palembang**	**25.83**	**239**	P	**P**	**09 14 29.8**	**+2.3**
LEM	**Lembang**	**25.93**	**228**	P	**P**	**09 14 29.4**	**+0.8**
	comp=Z,64nm,0.8s,baz=305,slow=18,SNR=9.5						
INU	**Inuyama**	**26.10**	**19**	P	**P**	**09 14 30.2**	**+0.5**
IPM	**Ipoh**	**26.28**	**258**	P	**P**	**09 14 30.4**	**-1.3**
IPM				IAmb	IAmb	09 14 35.4	
	comp=Z,28nm,0.9s						
IPM	**Ipoh**	**26.28**	**258**	P	**P**	**09 14 31.0**	**-0.7**
KNRA	**Kununurra**	**26.44**	**176**	P	**P**	**09 14 32.9**	**0.0**
KNRA				IAmb	IAmb	09 14 34.1	
	comp=Z,45nm,0.8s						
KULM	**Kulim**	**26.44**	**260**	P	**P**	**09 14 33.9**	**+0.9**
KULM				IAmb	IAmb	09 14 36.4	
	comp=Z,19nm,0.7s						
KULM	**Kulim**	**26.44**	**260**	P	**P**	**09 14 34.0**	**+0.9**
KSAR	**Wonju Array Be**	**26.49**	**2**	P	**P**	**09 14 33.3**	**+0.1**
KSAR						09 17 57.8	
KSAR	**Wonju Array Be**	**26.49**	**2**	P	**P**	**09 14 33.3**	**+0.1**
KSAR				PcP	**PcP**	**09 17 57.8**	**-0.2**
KSRS	**Korea Array**	**26.50**	**2**	P	**P**	**09 14 33.6**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=176,slow=9.4,SNR=8.4						
KSRS				LR	LR	09 26 31.7	
	comp=Z,334nm,18.3s,baz=172,slow=40						
TIA	**Tai'an**	**26.71**	**342**	P	**P**	**09 14 35.6**	**+0.3**
TIA				pmax	pmax		
	comp=Z,14nm,0.8s						
BLSI	**Bandar Lampung**	**26.82**	**234**	P	**P**	**09 14 42.1**	**+5.6**
KMI	**Kunming**	**26.84**	**305**	P	**P**	**09 14 38.9**	**+2.1**
KMI				pP	pwP	09 14 49.5	-0.3
KMI				sP	sP	09 14 54.5	+13
KMI				pmax	pmax		
	comp=Z,27nm,0.9s						
KMI				LR	LR		
	comp=Z,180nm,14.9s						
KMI				LR	LR		
	comp=Z,230nm,21.5s						
KMI				LR	LR		
	comp=Z,380nm,19.5s						
MDSI	**Maura Dua**	**27.18**	**237**	P	**P**	**09 14 37.2**	**-2.4**
	comp=Z,19nm,1.4s						
MAT	**Matsushiro**	**27.58**	**20**	P	**P**	**09 14 41.8**	**-1.3**
MAT				S	**S**	**09 19 23.4**	**-0.4**
MJAR	**Matsushiro Arr**	**27.58**	**20**	P	**P**	**09 14 41.8**	**-1.2**
	comp=Z,4.0nm,0.8s,baz=196,slow=9.8,SNR=6.8						
MJAR				LR	LR	09 25 55.1	
	comp=Z,470nm,18.3s,baz=200,slow=37						
MJAR	**Matsushiro Arr**	**27.58**	**20**	P	**P**	**09 14 41.9**	**-1.2**
MJAR				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MJAR	**Matsushiro Arr**	**27.58**	**20**	P	**P**	**09 14 41.9**	**-1.2**
BKNI	**Bangkinang**	**27.64**	**249**	P	**P**	**09 14 43.6**	**-0.2**
SDSI	**Sungai Dareh**	**27.80**	**247**	P	**P**	**09 14 44.1**	**-1.1**
	comp=Z,24nm,1.4s						
CM31	**Chiang Mai Arr**	**27.94**	**289**	P	**P**	**09 14 45.0**	**-1.6**
CMAR	**Chiang Mai Arr**	**27.94**	**289**	P	**P**	**09 14 44.9**	**-1.7**
	comp=Z,4.0nm,0.7s,baz=99,slow=7.7,SNR=16						
CMAR				PcP	**PcP**	**09 18 02.7**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=93,slow=1.5,SNR=9.1						
CMAR				LR	LR	09 25 56.7	
	comp=Z,50nm,18.5s,baz=94,slow=37						
CMAR	**Chiang Mai Arr**	**27.94**	**289**	*ce*P	**P**	**09 14 45.0**	**-1.5**
CMAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**27.94**	**289**	P	**P**	**09 14 44.2**	**-2.3**
CMAR				PcP	**PcP**	**09 18 02.6**	**+0.8**
CHTO	**Chiang Mai**	**28.02**	**290**	P	**P**	**09 14 46.7**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CHTO	**Chiang Mai**	**28.02**	**290**	P	**P**	**09 14 46.7**	**-0.5**
XAN	**Xi'an**	**28.27**	**327**	P	**P**	**09 14 49.0**	**-0.3**
XAN				S	**S**	**09 19 31.8**	**-3.0**
XAN				sS	sS	09 19 54.6	+14
XAN				pmax	pmax		
	comp=Z,38nm,1.2s						
XAN				pmax	pmax		
	comp=Z,150nm,3.7s						
XAN				LR	LR		
	comp=Z,240nm,14.1s						
XAN				LR	LR		
	comp=Z,340nm,16.3s						
XAN	**Xi'an**	**28.27**	**327**	P	**P**	**09 14 48.8**	**-0.5**
XAN				pmax	pmax		
	comp=Z,66nm,1.4s						
XAN	**Xi'an**	**28.27**	**327**	P	**P**	**09 14 48.8**	**-0.5**
XAN				IAmb	IAmb	09 14 53.4	
	comp=Z,66nm,1.4s						
PMG	**Port Moresby**	**28.57**	**134**	*i* P	**P**	**09 14 52.2**	**+0.1**
PMG				pmax	pmax		
	comp=Z,20nm,1.0s						
PSI	**Prapat**	**28.77**	**256**	PcP	**PcP**	**09 18 04.2**	**0.0**
	comp=Z,13nm,1.0s,baz=180,slow=3.0,SNR=4.7						
PSI				LR	LR	09 28 26.5	
	comp=Z,294nm,18.6s,baz=272,slow=41						
FITZ	**Fitzroy Crossi**	**28.80**	**182**	P	**P**	**09 14 53.4**	**-0.7**
	comp=Z,1nm,0.6s,baz=13,slow=9.0,SNR=18						
FITZ	**Fitzroy Crossi**	**28.80**	**182**	P	**P**	**09 14 51.9**	**-2.1**
FITZ				PcP	**PcP**	**09 18 03.4**	**-0.5**
RPSI	**Rantau Prapat**	**28.80**	**256**		**PcP**	**09 18 04.2**	**+0.1**
MNSI	**Mandailing Nat**	**28.81**	**252**	P	**P**	**09 14 52.9**	**-1.4**
	comp=Z,2µmcomp=Z,30nm,0.8s						
CD2	**Chengdu**	**29.22**	**316**	⇑P	**P**	**09 14 57.6**	**-0.2**
CD2				PP	**PnPn**	**09 15 51.3**	**+0.3**
CD2				S	**S**	**09 19 49.1**	**-0.7**
CD2				sS	sS	09 20 08.8	+13
CD2				SS	**SnSn**	**09 21 20.3**	**+4.9**
CD2				pmax	pmax		
	comp=Z,40nm,0.6s						
CD2				pmax	pmax		
	comp=Z,90nm,6.3s						
CD2				LR	LR		
	comp=Z,560nm,14.3s						
CD2				LR	LR		
	comp=Z,510nm,16.1s						
CD2				LR	LR		
	comp=Z,770nm,16.5s						
COEN	**Coen**	**29.54**	**146**	P	**P**	**09 14 59.9**	**-0.8**
COEN				IAmb	IAmb	09 15 01.1	
	comp=Z,17nm,0.8s						
KCSI	**Kotacane, Aceh**	**29.67**	**258**	P	**P**	**09 14 59.7**	**-2.2**
	comp=Z,905nmcomp=Z,31nm,0.7s						
BJI	**Beijing**	**30.55**	**344**	P	**P**	**09 15 09.3**	**0.0**
BJI				sP	pwP	09 15 31.3	+10
BJI				S	**S**	**09 20 12.3**	**+2.0**
BJI				sS	sS	09 20 35.1	+19
BJI				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BJI				LR	LR		
	comp=Z,190nm,14.2s						
BJI				LR	LR		
	comp=Z,140nm,15.2s						
WB0	**Warramunga Arr**	**31.34**	**166**	IAmb	IAmb	09 15 16.5	
	comp=Z,26nm,1.1s						
WRAB	**Tennant Creek**	**31.49**	**166**	*ce*P	**P**	**09 15 17.3**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,29nm,1.7s						
WRAB	**Tennant Creek**	**31.49**	**166**	P	**P**	**09 15 17.0**	**-0.9**
WRAB				IAmb	IAmb	09 15 18.0	
	comp=Z,26nm,1.1s						
WRAB				PcP	**PcP**	**09 18 10.8**	**-0.1**
WRA	**Warramunga Arr**	**31.50**	**166**	P	**P**	**09 15 16.8**	**-1.1**
	comp=Z,12nm,0.9s,baz=344,slow=10.0,SNR=28						
WRA				PcP	**PcP**	**09 18 11.0**	**+0.1**
	comp=Z,5.6nm,0.6s,baz=342,slow=3.1,SNR=8.0						
WRA	**Warramunga Arr**	**31.50**	**166**	P	**P**	**09 15 16.9**	**-1.1**
WRA						09 18 11.4	
WRA	**Warramunga Arr**	**31.50**	**166**	P	**P**	**09 15 16.9**	**-1.1**
WRA				PcP	**PcP**	**09 18 11.4**	**+0.5**
WB2	**Warramunga Arr**	**31.50**	**166**	P	**P**	**09 15 16.6**	**-1.3**
WB2				IAmb	IAmb	09 15 18.1	
	comp=Z,24nm,1.0s						
WB2				PcP	**PcP**	**09 18 11.2**	**+0.3**
WR0	**Warramunga Arr**	**31.56**	**166**	P	**P**	**09 15 17.5**	**-1.1**
WR0				IAmb	IAmb	09 15 18.6	
	comp=Z,32nm,1.1s						
WR0				PcP	**PcP**	**09 18 11.6**	**+0.5**
LZH	**Lanzhou**	**32.59**	**324**	*e*P	**P**	**09 15 29.1**	**+1.5**
LZH				pP	pwP	09 15 43.8	+3.8
LZH				sP	sP	09 15 49.3	+17
LZH				SS	SS	09 22 38.8	-24
LZH				pmax	pmax		
	comp=Z,41nm,1.5s						
LZH				pmax	pmax		
	comp=Z,190nm,5.4s						
LZH				LR	LR		
	comp=Z,360nm,12.5s						
LZH				LR	LR		
	comp=Z,460nm,13.0s						
LZH				LR	LR		
	comp=Z,590nm,13.4s						
CN2	**Changchun**	**32.84**	**358**	*e*P	**P**	**09 15 32.8**	**+3.3**
CN2				*e*S	**S**	**09 20 44.8**	**-1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,15.0s						
PSA00	**Pilbara Seismi**	**32.94**	**192**	P	**P**	**09 15 29.8**	**-0.7**
PSA00				PcP	**PcP**	**09 18 14.9**	**+0.1**
BTO	**Baotou**	**33.12**	**336**	*e*P	P	09 15 26.4	-5.8
USA0B	**Ussuriysk Arra**	**33.52**	**7**	P	**P**	**09 15 36.2**	**+0.8**
USA0B				pmax	pmax		
	comp=Z,10.0nm,1.0s						
USA0B	**Ussuriysk Arra**	**33.52**	**7**	P	**P**	**09 15 36.2**	**+0.8**
USRK	**Ussuriysk Ar.**	**33.52**	**7**	P	**P**	**09 15 36.1**	**+0.7**
	comp=Z,6.1nm,0.8s,baz=187,slow=8.5,SNR=13						
USRK				LR	LR	09 28 07.8	
	comp=Z,175nm,20.6s,baz=165,slow=34						
USRK	**Ussuriysk Ar.**	**33.52**	**7**	P	**P**	**09 15 35.6**	**+0.2**
USRK	**Ussuriysk Ar.**	**33.52**	**7**	P	**P**	**09 15 35.6**	**+0.2**
MDJ	**Mudanjiang**	**33.72**	**4**	P	**P**	**09 15 39.8**	**+2.6**
MDJ				pmax	pmax		
	comp=Z,11nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,140nm,3.1s						
AS31	**Alice Springs**	**35.01**	**169**	P	**P**	**09 15 48.3**	**-0.3**
AS31				PcP	**PcP**	**09 18 20.9**	**+0.2**
ASAR	**Alice Springs**	**35.01**	**169**	P	**P**	**09 15 48.1**

H11N1 **WAKE ISLAND Hy** 39.60 72 T T 10 00 12.8
baz=265,slow=74,SNR=16
H11N2 **WAKE ISLAND Hy** 39.60 72 T T 10 00 13.3
baz=265,slow=74,SNR=9.5
H11N3 **WAKE ISLAND Hy** 39.62 72 T T 10 00 14.2
baz=265,slow=74,SNR=13
TAPN Taplejung 40.19 300 *e*P P **09 16 31.4 -1.4**
comp=Z,32nm,0.5s
ODAN Odare 40.33 299 *e*P P **09 16 32.6 -1.3**
comp=Z,119nm,0.8s
ULN Ulaanbaatar 40.45 339 *ce*P P **09 16 34.9 +0.4**
ULN pmax pmax
comp=Z,27nm,1.7s
ULN Ulaanbaatar 40.45 339 P P **09 16 35.5 +1.0**
GRNR Gornyy 40.58 9 *ij*P P **09 16 36.7 +1.4**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=E,120nm,16.0s
GRNR MLR MLR
comp=N,200nm,17.0s
SONM Songino Array 40.65 339 P P **09 16 36.4 +0.3**
comp=N,15nm,1.1s,baz=157,slow=9.1,SNR=15
SONM PcP **PcP** **09 18 37.3 -0.5**
comp=N,3.5nm,1.0s,baz=170,slow=4.5,SNR=4.0
SONM LR LR 09 36 04.0
comp=N,113nm,18.3s,baz=142,slow=40
SONM Songino Array 40.65 339 P P **09 16 36.4 +0.3**
SONM 09 18 36.7
SONM pmax pmax
comp=Z,13nm,1.2s
SONM Songino Array 40.65 339 P P **09 16 36.4 +0.3**
SONM **PcP** **09 18 36.7 -1.1**
RAMN Ramite 41.03 299 *e*P P **09 16 38.6 -1.2**
comp=Z,49nm,0.6s
FORT Forrest 41.42 178 P P **09 16 42.8 +0.3**
JIRN Jiri 41.57 300 *e*P P **09 16 43.1 -1.2**
comp=Z,46nm,0.3s
GUN Gumba 41.91 300 *e*P P **09 16 45.6 -1.4**
comp=Z,158nm,0.9s
PKI Pulchoki 42.22 299 *e*P P **09 16 47.5 -2.1**
comp=Z,33nm,0.8s
PKIN Phulchoki 42.23 299 *e*P P **09 16 47.5 -2.1**
DMN Daman 42.49 299 *e*P P **09 16 49.8 -1.9**
comp=Z,36nm,0.8s
ZEA Zeya 42.77 0 *e*P P **09 16 53.0 -0.2**
GKN Gorkha 42.99 300 *e*P P **09 16 53.6 -2.0**
comp=Z,24nm,0.4s
EIDS Eidsvold 43.10 147 P P **09 16 55.7 -0.5**
KOLN Koldanda 43.82 299 *e*P P **09 17 00.7 -1.7**
comp=Z,80nm,0.9s
DANN Dangsing 43.83 300 *e*P P **09 17 00.7 -1.8**
comp=Z,66nm,0.8s
ZAK Zakamensk 43.90 338 *e*P P **09 17 02.1 -0.5**
ZAK *e* 09 18 46.8
ZAK pmax pmax
comp=Z,5.0nm,1.5s
ZAK pmax pmax
comp=Z,6.0nm,1.1s
BBOO Buckleboo 44.32 169 P P **09 17 06.8 +0.8**
BBOO **PP** **09 18 49.8 +0.2**
STKA Stephens Creek 44.80 162 P P **09 17 10.0 +0.2**
comp=Z,25nm,0.5s,baz=338,slow=8.2,SNR=54
STKA PcP **PcP** **09 18 52.2 +0.5**
comp=Z,7.7nm,0.7s,baz=25,slow=7.6,SNR=3.6
STKA LR LR 09 39 49.9
comp=Z,75nm,19.2s,baz=5.2,slow=41
STKA Stephens Creek 44.80 162 *d i*P P **09 17 09.7 -0.1**
STKA Stephens Creek 44.80 162 P P **09 17 10.0 +0.2**
STKA PcP **PcP** **09 18 52.2 +0.5**
TLY Talaya 44.85 340 P P **09 17 10.8 +0.8**
comp=Z,2.1nm,0.4s,baz=167,slow=7.3,SNR=9.0
TLY Talaya 44.85 340 *e*P P **09 17 11.1 +1.0**
TLY *e*S S **09 23 51.4 +4.6**
TLY pmax pmax
comp=Z,40nm,1.4s
TLY MLR MLR
comp=Z,168nm,14.0s
TLY Talaya 44.85 340 P P **09 17 10.9 +0.8**
MOY Mondy 45.79 338 *e*P P **09 17 18.6 +1.0**
MOY pmax pmax
comp=Z,38nm,2.3s
WMQ Urumqi 47.07 321 *e*P P **09 17 29.4 +1.6**
WMQ LR LR
comp=Z,170nm,20.5s
WMQ LR LR
comp=Z,180nm,22.3s
WMQ LR LR
comp=Z,160nm,20.7s
BOD Bodaibo 47.87 351 *e*P P **09 17 33.7 +0.1**
BOD pmax pmax
comp=Z,18nm,1.5s
PEA0B Petropavlovsk- 48.90 24 P P **09 17 42.6 +0.9**
PEA0B pmax pmax
comp=Z,10.0nm,0.9s
PEA0B Petropavlovsk- 48.90 24 P P **09 17 42.6 +0.9**
PEA0B IAmb IAmb 09 17 44.0
comp=Z,10nm,0.8s
PETK Petropavlovsk- 48.90 24 P P **09 17 43.1 +1.5**
comp=Z,5.1nm,0.7s,baz=199,slow=5.8,SNR=21
PETK PcP **PcP** **09 19 05.0 -0.9**
comp=Z,3.6nm,1.0s,baz=137,slow=0.2,SNR=3.1
PETK LR LR 09 38 03.3
comp=Z,206nm,19.1s,baz=240,slow=36
PETK Petropavlovsk- 48.90 24 P P **09 17 43.0 +1.4**
PETK 09 19 04.8
PETK Petropavlovsk- 48.90 24 P P **09 17 43.0 +1.4**
PETK **PcP** **09 19 04.8 -1.1**
CAN Canberra 50.51 156 P P **09 17 55.5 +1.4**
CAN IAmb IAmb 09 17 56.7
comp=Z,35nm,1.2s
CAN PcP **PcP** **09 19 13.3 +1.2**
DGZ Jazzator, Alta 50.54 328 *i*P P **09 17 53.9 -0.5**
DGZ pmax pmax
comp=Z,24nm,1.0s
ZSN Zaisan 50.68 324 *e*P P **09 17 58.5 +3.2**
comp=Z,6.0nm,1.0s,baz=324
ZSN *e*S S **09 25 11.2 +1.4**
baz=324
ZSN Zaisan 50.68 324 *e*P P **09 17 58.5 +3.2**
ZSN *e*S S **09 25 11.1 +1.4**
ZSN pmax pmax
comp=Z,6.0nm,1.0s
DZM Mont Dzumac 50.84 130 P P **09 17 57.6 +0.7**
DZM IAmb IAmb 09 17 58.9
comp=Z,21nm,0.7s
YAK Yakutsk 51.13 2 P P **09 17 59.0 +0.6**
comp=Z,6.3nm,0.3s,baz=187,slow=2.3,SNR=2.0
YAK Yakutsk 51.13 2 *e*P P **09 17 58.8 +0.4**
YAK *e**PP **pwP** **09 18 11.3 +0.8**
YAK *e* 09 19 13.3
YAK *e* 09 19 56.0
YAK *e*PPP PPP 09 20 55.6
YAK *e*S S **09 25 12.8 -2.5**
YAK *e* 09 27 43.0
YAK *e*SS **SS** **09 28 53.4 +2.8**
YAK *e*SSS SSS 09 30 27.6
YAK pmax pmax
comp=Z,14nm,1.0s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,1.0nm,1.0s
YAK pmax pmax
comp=Z,42nm,2.4s
YAK pmax pmax
comp=N,31nm,2.0s
YAK pmax pmax
comp=E,21nm,1.9s
YAK smax smax
comp=N,54nm,3.1s
YAK smax smax
comp=E,34nm,3.2s
YAK Yakutsk 51.13 2 P **09 17 58.6 +0.3**
TOO Toolangi 51.27 161 P P **09 18 01.4 +1.5**
TOO pmax pmax
comp=Z,35nm,1.1s
TOO Toolangi 51.27 161 P P **09 18 01.4 +1.5**
TOO IAmb IAmb 09 18 02.3
comp=Z,35nm,1.1s
MA2 Magadan 51.84 15 P P **09 18 04.8 +1.0**
comp=Z,6.6nm,0.8s,baz=199,slow=22,SNR=2.5
MA2 Magadan 51.84 15 *i*P P **09 18 04.2 +0.4**
MA2 pmax pmax
comp=Z,9.0nm,1.0s

MA2 Magadan 51.84 15 P P **09 18 04.4 +0.6**
MA2 IAmb IAmb 09 18 05.1
comp=Z,20nm,1.3s
MKAR Makanchi Array 51.87 322 P P **09 18 04.7 +0.4**
comp=Z,21nm,0.8s,baz=120,slow=8.1,SNR=48
MKAR PcP **PcP** **09 19 16.8 -0.2**
comp=Z,7.3nm,0.9s,baz=115,slow=5.5,SNR=3.6
MKAR LR LR 09 41 03.5
comp=Z,125nm,19.5s,baz=116,slow=37
MKAR Makanchi Array 51.87 322 P P **09 18 04.1 -0.2**
MKAR 09 19 16.5
MKAR Makanchi Array 51.87 322 P P **09 18 04.1 -0.2**
MKAR **PcP** **09 19 16.5 -0.5**
SHLS Shalkode 52.05 317 *ij e*P P **09 18 04.2 -1.7**
comp=Z,38nm,1.1s,baz=317
SHLS Shalkode 52.05 317 *de*P P **09 18 04.1 -1.7**
SHLS pmax pmax
comp=Z,38nm,1.1s
MAKZ Makanchi 52.06 322 P P **09 18 06.1 +0.4**
MAKZ pmax pmax
comp=Z,44nm,1.3s
MAKZ Makanchi 52.06 322 P P **09 18 06.1 +0.4**
MAKZ IAmb IAmb 09 18 08.3
comp=Z,44nm,1.2s
UZB Uzynbulak 52.35 317 *e*P P **09 18 08.4 +0.3**
comp=Z,20nm,0.8s,baz=317
UZB Uzynbulak 52.35 317 *e*P P **09 18 08.3 +0.3**
UZB pmax pmax
comp=Z,20nm,0.8s
TARG Taragay, Kyrgy 52.64 315 IAmb IAmb 09 18 12.5
comp=Z,67nm,1.7s
KPKS Kokpek 52.70 317 *e*P P **09 18 11.1 +0.5**
comp=Z,48nm,1.3s,baz=317
KPKS Kokpek 52.70 317 *e*P P **09 18 11.1 +0.5**
KPKS pmax pmax
comp=Z,48nm,1.3s
SATY Saty 52.73 316 *e*P P **09 18 11.3 +0.4**
comp=Z,26nm,1.0s,baz=316
SATY Saty 52.73 316 *e*P P **09 18 11.2 +0.4**
SATY pmax pmax
comp=Z,26nm,1.0s
KSH Kashi 53.22 312 P P **09 18 16.5 +2.0**
KSH S S **09 25 43.0 -2.0**
KSH pmax pmax
comp=Z,140nm,1.5s
KSH pmax pmax
comp=Z,310nm,4.7s
TDK Taldyqorghan 53.50 319 *e*P P **09 18 17.7 +1.3**
comp=Z,70nm,0.8s,baz=319
TDK Taldyqorghan 53.50 319 *e*P P **09 18 17.6 +1.3**
TDK pmax pmax
comp=Z,70nm,0.8s
MDOK Medeo 53.69 316 *e*P P **09 18 18.6 +0.7**
baz=316
MDOK Medeo 53.69 316 *e*P P **09 18 18.6 +0.7**
TNSS Tian-Shan 53.71 316 *e*P P **09 18 19.2 +0.8**
baz=316
TNSS Tian-Shan 53.71 316 *e*P P **09 18 19.2 +0.8**
AAA Alma-Ata 53.80 316 *e*P P **09 18 19.0 +0.3**
comp=Z,12nm,0.5s,baz=316
AAA Alma-Ata 53.80 316 *e*P P **09 18 18.9 +0.3**
AAA pmax pmax
comp=Z,12nm,0.5s
NIL Nilore 53.82 304 P P **09 18 18.1 -0.8**
NIL pmax pmax
comp=Z,48nm,0.9s
NIL Nilore 53.82 304 P P **09 18 18.1 -0.8**
ULHL Ulahol 53.92 315 P P **09 18 20.3 +0.6**
SNR=24
CHKK Chushkaly 53.98 317 *e*P P **09 18 19.9 -0.1**
baz=317
CHKK Chushkaly 53.98 317 *e*P P **09 18 19.8 -0.2**
BOOM Boomskoye usch 54.21 315 IAmb IAmb 09 18 23.2
comp=Z,24nm,1.2s
ZAA0 Zalesovo Array 54.35 331 IAmb IAmb 09 18 26.0
comp=Z,13nm,0.8s
ZALV Zalesovo Beam 54.35 331 P P **09 18 21.9 -0.5**
comp=Z,11nm,0.8s,baz=116,slow=6.4,SNR=14
ZALV LR LR 09 43 34.5
comp=Z,85nm,19.0s,baz=84,slow=38
ZALV Zalesovo Beam 54.35 331 P P **09 18 21.7 -0.7**
ZALV Zalesovo Beam 54.35 331 P P **09 18 21.7 -0.7**
KUU Kurty 54.44 317 *e*P P **09 18 23.5 +0.3**
comp=Z,73nm,0.9s,baz=317
KUU Kurty 54.44 317 *e*P P **09 18 23.5 +0.3**
KUU pmax pmax
comp=Z,73nm,0.9s
KZA Kyzart 54.55 314 P P **09 18 25.6 +1.0**
SNR=46
TKM2 Tokmak 2 54.60 315 P P **09 18 25.1 +0.4**
SNR=15
SEM Semipalatinsk 54.81 325 *e*P P **09 18 24.9 -1.1**
comp=Z,6.3nm,1.2s,baz=325
SEM Semipalatinsk 54.81 325 *e*P P **09 18 24.4 -1.7**
SEM pmax pmax
comp=Z,6.0nm,1.2s
KBK Karagaybulak 54.96 315 P P **09 18 28.4 +1.1**
SNR=15
UCH Uchtor 55.12 314 P P **09 18 29.7 +0.9**
SNR=84
CHMS Chumysh 55.21 315 P P **09 18 29.4 +0.6**
SNR=13
AAK Ala-Archa 55.27 315 P P **09 18 30.4 +0.9**
SNR=5.6
AAK Ala-Archa 55.27 315 *ce*P P **09 18 29.3 -0.1**
AAK pmax pmax
comp=Z,28nm,1.9s
AAK Ala-Archa 55.27 315 P P **09 18 29.3 -0.1**
AAK IAmb IAmb 09 18 31.3
comp=Z,70nm,2.0s
SGDS Sogindy 55.44 316 *e*P P **09 18 30.4 -0.3**
comp=Z,4.0nm,1.0s,baz=316
SGDS Sogindy 55.44 316 *e*P P **09 18 30.3 -0.3**
SGDS pmax pmax
comp=Z,4.0nm,1.0s
USP Ospenovka 55.47 315 P P **09 18 30.7 0.0**
SNR=18
AML Almayashu 55.67 314 P P **09 18 33.4 +0.7**
SNR=51
EKS2 Erkin-Say 55.77 315 P P **09 18 33.7 +0.7**
SNR=35
KURK Kurchatov 55.87 325 *ce*P P **09 18 33.5 +0.1**
KURK pmax pmax
comp=Z,59nm,1.0s
KURK Kurchatov 55.87 325 P P **09 18 33.1 -0.3**
KURBB Kurchatov Arra 55.88 325 P P **09 18 31.8 -1.7**
BTLS Baital 56.38 317 *e*P P **09 18 36.8 -0.4**
comp=Z,12nm,0.9s,baz=317
BTLS Baital 56.38 317 *e*P P **09 18 36.7 -0.4**
BTLS pmax pmax
comp=Z,12nm,0.9s
KBL Kabul 57.42 304 P P **09 18 43.6 -1.4**
KBL pmax pmax
comp=Z,21nm,0.7s
KBL Kabul 57.42 304 P P **09 18 43.6 -1.4**
KBL IAmb IAmb 09 18 45.4
comp=Z,21nm,0.7s
DZA Taraz 57.56 314 *e*P P 09 18 51.0 +5.3
comp=Z,18nm,1.0s,baz=314
DZA Taraz 57.56 314 *e*P P 09 18 51.0 +5.3
DZA pmax pmax
comp=Z,18nm,1.0s
CHGR Chuyangaron 58.11 309 P P **09 18 49.0 -0.6**
KK31 Karatay Array 58.20 314 *i*P P **09 18 49.1 -1.0**
KK31 Karatay Array 58.20 314 IAmb IAmb 09 18 51.0
comp=Z,40nm,1.1s
KKAR Karatay Array 58.20 314 P P **09 18 49.7 -0.4**
KKAR Karatay Array 58.20 314 P P **09 18 49.7 -0.4**
KKAR Karatay Array 58.20 314 IAmb IAmb 09 18 51.0
comp=Z,40nm,1.1s
IUG luzhnay 58.28 313 *e*P P **09 18 51.2 +0.4**
comp=Z,5.8nm,0.9s,baz=313
IUG luzhnay 58.28 313 *e*P P **09 18 51.2 +0.4**
IUG pmax pmax
comp=Z,6.0nm,0.9s
BRZS Berezniki 59.02 322 *e*P P **09 18 55.8 +0.1**
comp=Z,11nm,1.0s,baz=322
BRZS Berezniki 59.02 322 *e*P P **09 18 55.7 +0.1**
BRZS pmax pmax
comp=Z,11nm,1.0s
TIXI Tiksi 60.76 1 *ce*P P **09 19 07.1 -0.1**
TIXI pmax pmax
comp=Z,19nm,1.2s
TIXI Tiksi 60.76 1 P P **09 19 06.9 -0.3**
TIXI IAmb IAmb 09 19 08.0
comp=Z,16nm,1.1s

BVA0 Borovoye Array 61.47 325 *i*P P **09 19 11.9 -0.5**
BRVK Borovoye 61.54 325 *ce*P P **09 19 12.7 -0.2**
BRVK pmax pmax
comp=Z,21nm,1.0s
BRVK Borovoye 61.54 325 P P **09 19 12.3 -0.6**
BILL Bilibino 62.70 16 *i*P P **09 19 21.1 +0.7**
BILL pmax pmax
comp=Z,14nm,1.2s
BILL MLR MLR
comp=Z,92nm,19.0s
BILL Bilibino 62.70 16 P P **09 19 20.2 -0.2**
BILL IAmb IAmb 09 19 21.9
comp=Z,12nm,1.1s
HRA Herat 62.97 303 P P **09 19 21.8 -1.2**
HRA IAmb IAmb 09 20 02.1
comp=Z,13nm,1.1s
NRIK Noril'sk 63.57 345 P P **09 19 25.9 -0.2**
comp=Z,14nm,1.1s,baz=134,slow=4.8,SNR=7.7
NRIK LR LR 09 50 49.9
comp=Z,210nm,18.1s,baz=168,slow=40
GEYT Alibeck 66.59 307 P P **09 19 46.4 0.0**
comp=Z,16nm,1.0s,baz=129,slow=4.2,SNR=16
GEYT PcP **PcP** **09 20 16.4 +0.7**
comp=Z,7.1nm,0.9s,baz=29,slow=3.4,SNR=5.0
GEYT Alibeck 66.59 307 P P **09 19 46.4 0.0**
GYA0B ALIBECK ARRAY 66.59 307 P P **09 19 46.3 -0.1**
GYA0B IAmb IAmb 09 19 51.4
comp=Z,29nm,1.1s
AB31 Akbulak array 66.76 319 *i*P P **09 19 46.9 -0.3**
ABKAR Akbulak array 66.76 319 P **09 19 46.7 -0.5**
ABKAR PcP **PcP** **09 20 15.5 -0.6**
RPZ Rata Peaks 67.60 147 P P **09 19 53.5 +0.9**
LTZ Lake Taylor 67.65 145 P P **09 19 53.9 +1.0**
BKZ Black Stump Fm 67.91 140 P P **09 19 55.5 +0.8**
SVE Sverdlovsk 67.99 327 *e*P P **09 19 54.6 -0.2**
SVE pmax pmax
comp=Z,37nm,1.1s
AKTO Aktyubinsk 68.19 320 P P **09 19 54.7 -1.6**
ARU Arti 69.01 326 *d i*P P **09 20 00.3 -0.9**
ARU *PP **pwP** **09 20 13.0 -1.6**
ARU 09 22 29.4
ARU S S **09 29 03.4 -1.9**
ARU SS **SS** **09 33 28.4 -2.5**
ARU pmax pmax
comp=Z,15nm,0.7s
ARU Arti 69.01 326 P P **09 20 00.5 -0.7**
ARU IAmb IAmb 09 20 04.5
comp=Z,14nm,0.7s
RDOG Red Dog Mine 72.67 22 IAmb IAmb 09 20 28.4
comp=Z,18nm,1.2s
LKRN Lenkeran, Azer 73.96 307 P P **09 20 30.9 -0.5**
KIRV Kirov 74.22 328 *e*P P **09 20 31.7 -0.8**
SVW2 Sparrevohn 74.59 29 P P **09 20 36.1 +1.4**
AKT Akhty 74.71 310 *e*P P **09 20 35.6 -0.3**
AKT *e* 09 20 48.5
AKT pmax pmax
comp=Z,34nm,1.0s
SEKA Sheki 75.11 310 P P **09 20 37.3 -0.9**
MNGR Mingechevir, A 75.21 309 P P **09 20 38.2 -0.5**
ZKTA Zakatala 75.54 310 P P **09 20 40.3 -0.3**
GANJ Ganja 75.80 309 P P **09 20 41.7 -0.4**
DDFL Dedoflistskaro 75.92 310 P P **09 20 45.2 +2.3**
GROC Groznyy 76.10 312 *e*P P **09 20 43.6 -0.1**
GROC *e* 09 20 55.9
GROC *e* 09 23 35.3
GROC *e*S S **09 30 25.8 -0.9**
GROC pmax pmax
comp=Z,36nm,0.8s
BPAW Bear Paw Mtn. 76.91 27 IAmb IAmb 09 20 49.8
comp=Z,22nm,1.2s
TRF Thorofare Moun 77.20 27 IAmb IAmb 09 20 54.9
comp=Z,19nm,1.3s
COLD Coldfoot 77.36 23 P P **09 20 51.0 +0.7**
baz=268
ZEI Tsey 77.50 312 *e*P P **09 20 50.2 -1.8**
ZEI pmax pmax
comp=Z,37nm,0.9s
TOLK Toolik Lake Re 77.64 22 P P **09 20 52.6 +0.6**
baz=268
NEA2 Nenana 77.76 26 P P **09 20 53.3 +0.6**
baz=270
MCK McKinley 77.81 27 IAmb IAmb 09 20 54.0
comp=Z,23nm,1.1s
RAYN Ar Rayn 77.82 292 P P **09 20 52.2 -1.7**
RAYN pmax pmax
comp=Z,10.0nm,1.3s
RAYN Ar Rayn 77.82 292 P P **09 20 52.2 -1.7**
CASY Casey 77.86 187 P P **09 20 52.9 -0.1**
AKH Akhalkalaki 77.89 310 P P **09 20 54.7 +0.6**
KNK Knik Glacier 78.04 29 IAmb IAmb 09 21 16.8
comp=Z,14nm,1.0s
SML Sawmill 78.09 29 IAmb IAmb 09 20 58.8
comp=Z,16nm,1.0s
KBZ Khabaz 78.18 313 P P **09 20 54.5 -0.9**
comp=Z,12nm,1.0s,baz=118,slow=2.2,SNR=11
KBZ Khabaz 78.18 313 *de*P P **09 20 54.9 -0.5**
KBZ pmax pmax
comp=Z,21nm,1.1s
TCOL CIGO, UAF Yank 78.28 26 P P **09 20 55.1 -0.4**
baz=270
COLA College 78.28 26 *i*P P **09 20 55.5 0.0**
COLA pmax pmax
comp=Z,7.0nm,1.3s
KIV Kislovodsk 78.32 313 *e*P P **09 20 55.8 -0.5**
KIV pmax pmax
comp=Z,89nm,1.1s
KIV Kislovodsk 78.32 313 P P **09 20 56.2 -0.1**
KIV IAmb IAmb 09 20 57.8
comp=Z,25nm,0.9s
VRH Novokhopyorsk 78.54 320 *e*P P **09 20 55.3 -1.9**
VRH pmax pmax
comp=Z,20nm,1.0s
SCM Sheep Creek Mo 78.57 29 IAmb IAmb 09 20 59.5
comp=Z,33nm,1.2s
HDA Harding Lake 78.68 26 P P **09 20 57.2 -0.6**
baz=271
ILAR Eielson Array 78.69 26 P P **09 20 56.9 -0.9**
comp=Z,1.3nm,0.8s,baz=244,slow=5.3,SNR=9.9
ILAR LR LR 09 53 24.4
comp=Z,42nm,21.9s,baz=292,slow=34
ILAR Eielson Array 78.69 26 P P **09 20 57.4 -0.5**
ILAR Eielson Array 78.69 26 P P **09 20 57.4 -0.5**
KLMR Klimovskoe 79.27 330 *e*P P **09 20 58.6 -2.4**
KLMR pmax pmax
comp=Z,26nm,1.1s
KLMR Klimovskoe 79.27 330 *e*P P **09 20 58.7 -2.3**
KLMR AMP 09 21 04.5
comp=Z,26nm,1.1s
FYU Fort Yukon 79.32 24 IAmb IAmb 09 21 05.5
comp=Z,21nm,1.4s
BMAR Burnt Mountain 79.53 23 P P **09 21 03.8 +1.3**
RIDG Independent Ri 79.63 27 IAmb IAmb 09 21 04.8
comp=Z,22nm,1.3s
TMCR Tamitsa 79.77 334 *e*P P **09 21 03.4 -0.2**
TMCR pmax pmax
comp=Z,13nm,0.8s
VORD Divnogorie 80.08 320 *e*P P **09 21 04.8 -0.8**
VORD pmax pmax
comp=Z,10.0nm,1.4s
VSR Storozhevoye 80.14 320 *e*P P **09 21 04.6 -1.4**
VSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 80.17 322 *e*P P **09 21 04.9 -1.2**
LPSR pmax pmax
comp=Z,20nm,0.9s
MOS Moscow 80.64 325 *e*P P **09 21 06.7 -1.9**
MOS pmax pmax
comp=Z,32nm,0.8s
BCAR Beaver Creek A 81.06 27 P P **09 21 12.8 +2.0**
OBN Obninsk 81.31 324 *i*P P **09 21 11.6 -0.5**
OBN *i* 09 21 14.8
OBN *i* 09 24 18.8
OBN pmax pmax
comp=Z,29nm,1.3s
OBN MLR MLR
comp=Z,51nm,17.0s
CTGM Chitina Glacie 81.51 30 IAmb IAmb 09 21 15.9
comp=Z,27nm,1.3s
EPYK Eagle Plains 82.73 24 P P **09 21 19.6 +0.2**
baz=280
HYT Haines Junctio 83.38 29 P P **09 21 20.8 -2.3**
HYT IAmb IAmb 09 21 29.8
comp=Z,15nm,1.4s
ARCES ARCESS Array B 83.82 340 P P **09 21 24.8 -0.2**
comp=Z,12nm,0.8s,baz=80,slow=6.4,SNR=23

ARCES				LR	LR	10 03 02.7		
	comp=Z,41nm,21.2s,baz=112,slow=39							
ARCES	**ARCESS Array B**	**83.82**	**340**	P	**P**	**09 21 24.6**	**-0.4**	
ARCES	**ARCESS Array B**	**83.82**	**340**	P	**P**	**09 21 24.6**	**-0.4**	
ARE0	**ARCESS Array S**	**83.82**	**340**		**P**	**09 21 25.0**	**0.0**	
WHY	**Whitehorse**	**84.68**	**29**	IAmb	IAmb	09 21 36.3		
	comp=Z,20nm,1.4s							
SUF	**Sumiainen**	**85.26**	**333**	P	**P**	**09 21 33.8**	**+1.4**	
SUF				pmax	pmax			
	comp=Z,18nm,2.0s							
BR131	**Keskin Array S**	**85.55**	**309**	IAmb	IAmb	09 21 34.1		
	comp=Z,7.7nm,0.8s							
BRTR	**Keskin Array B**	**85.55**	**309**	P	**P**	**09 21 33.5**	**-1.0**	
	comp=Z,6.3nm,0.7s,baz=110,slow=4.6,SNR=22							
BRTR	**Keskin Array B**	**85.55**	**309**	*ce*P	**P**	**09 21 33.5**	**-1.0**	
BRTR				pmax	pmax			
	comp=Z,7.0nm,0.8s							
BRTR	**Keskin Array B**	**85.55**	**309**	P	**P**	**09 21 33.9**	**-0.6**	
FINES	**FINESS Array B**	**85.61**	**332**	P	**P**	**09 21 33.7**	**-0.5**	
	comp=Z,10nm,0.9s,baz=82,slow=4.8,SNR=29							
FINES				LR	LR	10 01 56.1		
	comp=Z,58nm,21.9s,baz=54,slow=37							
FINES	**FINESS Array B**	**85.61**	**332**	P	**P**	**09 21 33.9**	**-0.3**	
VSU	**Vasula**	**86.03**	**329**	*i* P	**P**	**09 21 36.0**	**-0.3**	
VSU				pmax	pmax			
	comp=Z,69nm,1.1s							
AKASG	**Malin Array Be**	**86.43**	**321**	P	**P**	**09 21 37.7**	**-0.6**	
	comp=Z,9.0nm,1.0s,baz=61,slow=4.6,SNR=26							
AKASG	**Malin Array Be**	**86.43**	**321**	P	**P**	**09 21 37.8**	**-0.6**	
AKASG				pmax	pmax			
	comp=Z,12nm,1.2s							
AKASG	**Malin Array Be**	**86.43**	**321**	P	**P**	**09 21 37.8**	**-0.6**	
AKBB	**Malin Array Si**	**86.43**	**321**	*ce*P	**P**	**09 21 37.1**	**-1.3**	
AKBB	**Malin Array Si**	**86.43**	**321**	IAmb	IAmb	09 21 42.3		
	comp=Z,24nm,1.2s							
TOPG	**Topolog**	**88.31**	**315**	⇑P	**P**	**09 21 47.5**	**-0.1**	
ISP	**Isparta**	**88.31**	**308**	IAmb	IAmb	09 21 47.0		
	comp=Z,11nm,0.9s							
TIRR	**Tirgusor**	**88.38**	**315**	⇓P	**P**	**09 21 48.0**	**+0.1**	
TIRR	**Tirgusor**	**88.38**	**315**	⇓P	**P**	**09 21 48.0**	**+0.1**	
CFR	**Carcaliu**	**88.40**	**316**	⇑P	**P**	**09 21 48.6**	**+0.6**	
CFR	**Carcaliu**	**88.40**	**316**	⇑P	**P**	**09 21 48.6**	**+0.6**	
HARR	**Harsova**	**88.66**	**315**	⇑P	**P**	**09 21 49.8**	**+0.5**	
HARR	**Harsova**	**88.66**	**315**	⇑P	**P**	**09 21 49.8**	**+0.5**	
TESR	**Tescani**	**89.08**	**317**	⇓P	**P**	**09 21 51.0**	**-0.2**	
VRI	**Vrincioaia**	**89.19**	**317**	⇓P	**P**	**09 21 52.5**	**+0.7**	
VRI	**Vrincioaia**	**89.19**	**317**	⇓P	**P**	**09 21 52.5**	**+0.7**	
PLOR	**Plostina**	**89.25**	**317**	⇓P	**P**	**09 21 52.7**	**+0.6**	
PLOR	**Plostina**	**89.25**	**317**	⇓P	**P**	**09 21 52.7**	**+0.6**	
BIZ	**Bicaz**	**89.33**	**318**	⇑P	**P**	**09 21 53.3**	**+0.9**	
BURAR	**Bucovina Array**	**89.73**	**318**	⇓P	**P**	**09 21 54.3**	**-0.1**	
BURAR	**Bucovina Array**	**89.73**	**318**	⇓P	**P**	**09 21 54.3**	**-0.1**	
BURAR	**Bucovina Array**	**89.73**	**318**	P	**P**	**09 21 54.3**	**-0.1**	
BUR08	**Bucovina Ar. S**	**89.74**	**319**	IAmb	IAmb	09 21 58.4		
	comp=Z,9.4nm,0.9s							
MLR	**Muntele Rosu**	**89.82**	**316**	⇓P	**P**	**09 21 55.1**	**+0.2**	
MLR	**Muntele Rosu**	**89.82**	**316**	⇓P	**P**	**09 21 55.1**	**+0.2**	
MLR	**Muntele Rosu**	**89.82**	**316**	IAmb	IAmb	09 21 58.6		
	comp=Z,9.0nm,1.1s							
LVV	**L'vov**	**89.87**	**321**	*e*P	**P**	**09 21 54.0**	**-0.9**	
MAW	**Mawson**	**90.42**	**200**	P	**P**	**09 21 56.9**	**+0.1**	
	comp=Z,13nm,0.9s,baz=358,slow=3.5,SNR=8.4							
MAW	**Mawson**	**90.42**	**200**	P	**P**	**09 21 57.0**	**+0.1**	
MAW				pmax	pmax			
	comp=Z,8.0nm,1.2s							
MAW	**Mawson**	**90.42**	**200**	P	**P**	**09 21 57.0**	**+0.1**	
VOIR		**90.44**	**316**	⇑P	**P**	**09 21 58.3**	**+0.6**	
VOIR		**90.44**	**316**	⇑P	**P**	**09 21 58.3**	**+0.6**	
VNDA	**Vanda**	**90.45**	**173**	P	**P**	**09 21 57.1**	**+0.2**	
	comp=Z,4.8nm,0.7s,baz=315,slow=6.5,SNR=28							
VNDA				LR	LR	10 05 09.3		
	comp=Z,45nm,19.0s,baz=268,slow=37							
VNDA	**Vanda**	**90.45**	**173**	P	**P**	**09 21 57.3**	**+0.4**	
VNDA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
VNDA	**Vanda**	**90.45**	**173**	P	**P**	**09 21 57.3**	**+0.4**	
VNDA				IAmb	IAmb	09 21 58.3		
	comp=Z,9.5nm,1.0s							
KOLS	**Kolonicke sedl**	**91.23**	**320**	*e*P	**P**	**09 22 01.0**	**-0.3**	
KOLS				pmax	pmax			
	comp=Z,9.0nm,1.4s							
KOLS	**Kolonicke sedl**	**91.23**	**320**	*e*P	**P**	**09 22 01.0**	**-0.3**	
UZH	**Uzhgorod**	**91.31**	**320**	*e*P	**P**	**09 22 01.5**	**-0.1**	
UZH				*e*		09 22 05.3		
UZH				*e*		09 22 12.9		
DRGR		**91.61**	**318**	⇓P	**P**	**09 22 03.0**	**-0.1**	
DRGR		**91.61**	**318**	⇓P	**P**	**09 22 03.0**	**-0.1**	
RZN	**Rozhen**	**91.70**	**313**	*e*P	**P**	**09 22 00.6**	**-3.2**	
CRVS	**Cervenica-Dubn**	**91.75**	**320**	*e*P	**P**	**09 22 03.8**	**+0.1**	
CRVS				pmax	pmax			
	comp=Z,53nm,1.2s							
CRVS	**Cervenica-Dubn**	**91.75**	**320**	*e*P	**P**	**09 22 03.8**	**+0.1**	
MPEP	**Malo Peshtene**	**91.93**	**315**	*e*P	**P**	**09 22 04.4**	**-0.2**	
NB2	**NORSAR Subarra**	**92.45**	**334**	P	**P**	**09 22 04.8**	**-1.9**	
	comp=Z,24nm,0.8s,baz=66,slow=4.6							
NOA	**NORSAR Array B**	**92.45**	**334**	P	**P**	**09 22 05.2**	**-1.5**	
	comp=Z,2.0nm,0.8s,baz=65,slow=4.5,SNR=5.3							
NOA				LR	LR	10 10 40.4		
	comp=Z,48nm,18.6s,baz=65,slow=40							
VTS	**Vitosha**	**92.50**	**314**	*e*P	**P**	**09 22 06.1**	**-1.3**	
BZS	**Buzias**	**92.69**	**317**	⇑P	**P**	**09 22 07.2**	**-0.8**	
BZS	**Buzias**	**92.69**	**317**	⇑P	**P**	**09 22 07.2**	**-0.8**	
MDVR	**Moldovita**	**92.89**	**316**	⇓P	**P**	**09 22 08.5**	**-0.6**	
YKA	**Yellowknife Ar**	**93.02**	**24**	P	**P**	**09 22 08.6**	**-0.6**	
	comp=Z,4.9nm,1.1s,baz=288,slow=4.5,SNR=6.4							
YKA				LR	LR	10 08 24.2		
	comp=Z,39nm,18.3s,baz=0.0,slow=38							
PSZ	**Piszkesteto**	**93.06**	**320**	IAmb	IAmb	09 22 14.2		
	comp=Z,14nm,1.2s							
VYHS	**Vyhne**	**93.53**	**321**	*e*P	**P**	**09 22 11.6**	**-0.3**	
VYHS				pmax	pmax			
	comp=Z,11nm,1.7s							
VYHS	**Vyhne**	**93.53**	**321**	*e*P	**P**	**09 22 11.6**	**-0.3**	
MORC	**Moravsky Berou**	**93.86**	**322**	*e*P	**P**	**09 22 13.2**	**-0.2**	
JAVC	**Velka Javorina**	**94.12**	**321**	*e*P	**P**	**09 22 15.2**	**+0.6**	
DIVS	**Divibare**	**94.28**	**316**	IAmb	IAmb	09 22 15.8		
	comp=Z,8.5nm,1.2s							
VRAC	**Vranov**	**94.61**	**322**	*e*P	**P**	**09 22 16.4**	**-0.4**	
KRUC	**Moravsky**	**94.82**	**322**	*e*P	**P**	**09 22 17.8**	**0.0**	
D03D	**Eldon**	**95.25**	**40**	P	**P**	**09 22 19.5**	**-0.3**	
	baz=292							
PDG	**Podgorica**	**95.34**	**315**	⇑P	**P**	**09 22 19.8**	**-0.5**	
PDG	**Podgorica**	**95.34**	**315**	IAmb	IAmb	09 22 20.2		
	comp=Z,11nm,1.0s							
BRG	**Berggiesshubel**	**95.55**	**324**	*e*P	**P**	**09 22 20.6**	**-0.5**	
	comp=Z,5.9nm,1.2s							
BRG	**Berggiesshubel**	**95.55**	**324**	*e*P	**P**	**09 22 20.6**	**-0.5**	
BRG				pmax	pmax			
	comp=Z,6.0nm,1.2s							
CONA	**Conrad Observa**	**95.59**	**321**	*e*PcP	**P**	**09 22 20.9**	**-0.5**	
	comp=Z,8.0nm,1.4s							
CLL	**Collm**	**95.91**	**325**	*e*P	**P**	**09 22 22.0**	**-0.6**	
	comp=Z,5.0nm,1.1s							
CLL				*i* pP	**pP**	**09 22 25.3**	**-1.1**	
CLL	**Collm**	**95.91**	**325**	*e*P	**P**	**09 22 22.0**	**-0.6**	
CLL				*i*		09 22 25.3		
CLL				pmax	pmax			
	comp=Z,5.0nm,1.1s							
ARSA	**Arzberg**	**96.06**	**320**	*i* PcP	**P**	**09 22 22.7**	**-0.8**	
KHC	**Kasperske Hory**	**96.49**	**323**	*e*P	**P**	**09 22 23.9**	**-1.5**	
KHC	**Kasperske Hory**	**96.49**	**323**	*e*P	**P**	**09 22 23.9**	**-1.5**	
GERES	**GERESS Array B**	**96.54**	**322**	P	**P**	**09 22 25.0**	**-0.8**	
	comp=Z,0.7nm,0.8s,baz=46,slow=3.9,SNR=8.0							
SOKA	**Soboth**	**96.59**	**320**	*e*PcP	**P**	**09 22 25.4**	**-0.7**	
	comp=Z,7.0nm,1.1s,SNR=5.9							
MOA	**Molln**	**96.60**	**321**	*e*PcP	**P**	**09 22 25.9**	**0.0**	
	comp=Z,10nm,1.1s,SNR=6.5							
OBKA	**Obir**	**96.97**	**320**	*e*PcP	**P**	**09 22 27.0**	**-0.8**	
	comp=Z,6.1nm,1.0s							
MYKA	**Terra Mystica**	**97.49**	**320**	*e*PcP	**P**	**09 22 28.8**	**-1.3**	
	comp=Z,4.0nm,1.2s							
GRF	**Grafenberg Arr**	**97.64**	**324**	*e*Pdiff	**P**	**09 22 30.4**	**-0.2**	
ZOU	**Zoufplan**	**97.94**	**320**	IAmb	IAmb	09 22 35.8		
	comp=Z,7.3nm,1.2s							
ABTA	**Abfaltersbach**	**98.15**	**321**	*e*P	**P**	**09 22 31.5**	**-1.5**	
	comp=Z,4.1nm,0.9s							
TIP	**Timpagrande**	**98.26**	**312**	IAmb	IAmb	09 22 34.1		
	comp=Z,11nm,1.3s							
CIMO	**Cimolais**	**98.38**	**320**	IAmb	IAmb	09 22 37.6		
	comp=Z,7.7nm,1.2s							
WTTA	**Wattenberg**	**98.47**	**321**	*e*PcP	**P**	**09 22 34.1**	**-0.5**	
	comp=Z,5.9nm,1.0s,SNR=5.6							
WATA	**Walderalm**	**98.47**	**322**	*e*PcP	**P**	**09 22 33.9**	**-0.7**	
	comp=Z,7.3nm,1.5s							
SQTA	**Sankt Quirin**	**98.75**	**322**	*e*Pdiff	**P**	**09 22 35.1**	**-0.6**	
	comp=Z,5.5nm,0.9s							
MOTA	**Moosalm**	**98.75**	**322**	*e*Pdiff	**P**	**09 22 34.8**	**-1.0**	
	comp=Z,5.6nm,1.2s							
SYO	**Syowa Base**	**99.05**	**201**	⇓*e*Pdiff	**Pdif**	**09 22 34.7**	**-1.6**	
FETA	**Feichten**	**99.13**	**321**	*e*Pdiff	**Pdif**	**09 22 36.1**	**-1.4**	
	comp=Z,5.8nm,1.1s							
FUORN	**Ofenpass-Fuorn**	**99.59**	**321**	P	**Pdif**	**09 22 39.5**	**-0.2**	
FUORN				IAmb	IAmb	09 22 43.8		
	comp=Z,13nm,1.2s							
NVAR	**Mina Array Bea**	**102.08**	**47**	P	**Pdif**	**09 22 52.3**	**+1.4**	
	comp=Z,0.4nm,0.8s,baz=269,slow=3.6,SNR=2.7							
NVAR				PKKPbc	**PKKPbc**	**09 38 54.1**	**-1.4**	
	comp=Z,1.0nm,0.8s,baz=113,slow=4.1,SNR=8.0							
NVAR	**Mina Array Bea**	**102.08**	**47**		**Pdif**	**09 22 52.1**	**+1.2**	
PDAR	**Pinedale Array**	**105.92**	**40**	PKKP	**PKKPdf**	**09 38 55.7**	**+0.7**	
	comp=Z,0.5nm,0.8s,baz=114,slow=5.4,SNR=4.6							
ESDC	**Sonseca Array**	**112.07**	**321**	PP	**PP**	**09 28 17.4**	**+2.3**	
	comp=Z,1.1nm,1.0s,baz=54,slow=7.4,SNR=5.7							
TXAR	**Lajitas Array**	**117.06**	**49**	PKP	**PKPdf**	**09 27 41.5**	**-0.1**	
	comp=Z,0.9nm,0.9s,baz=214,slow=1.0,SNR=8.4							
TXAR	**Lajitas Array**	**117.06**	**49**	PKIKP	**PKPdf**	**09 27 41.4**	**-0.3**	
TXAR	**Lajitas Array**	**117.06**	**49**		**PKPdf**	**09 27 41.4**	**-0.3**	
S39A	**Bolivar**	**118.82**	**36**		**PKPdf**	**09 27 43.7**	**-1.0**	
R40A	**Maddies Statio**	**119.00**	**35**		**PKPdf**	**09 27 44.7**	**-0.3**	
JCT	**Junction City**	**119.24**	**46**	PKIKP	**PKiKP**	**09 27 46.7**	**+0.9**	
JCT	**Junction City**	**119.24**	**46**		**PKiKP**	**09 27 46.7**	**+0.9**	
TORD	**Torodi Ar. Bea**	**120.51**	**292**	PKP	**PKPdf**	**09 27 48.1**	**-0.4**	
	comp=Z,3.0nm,0.7s,baz=48,slow=2.1,SNR=17							
TORD				PKKPbc	**PKKPbc**	**09 37 53.6**	**-0.4**	
	comp=Z,1.4nm,0.7s,baz=273,slow=3.4,SNR=7.1							
TORD	**Torodi Ar. Bea**	**120.51**	**292**		**PKPdf**	**09 27 47.7**	**-0.8**	
J59A	**Piesco**	**122.56**	**18**		**PKPdf**	**09 27 51.7**	**-0.1**	
WVT	**Waverly**	**123.00**	**33**	PKIKP	**PKPdf**	**09 27 52.3**	**-0.4**	
WVT	**Waverly**	**123.00**	**33**		**PKPdf**	**09 27 52.3**	**-0.4**	
DBIC	**Dimbokro**	**128.81**	**288**	PKP	**PKPdf**	**09 28 03.3**	**-1.1**	
	comp=Z,5.7nm,1.0s,baz=112,slow=5.4,SNR=2.6							
DBIC	**Dimbokro**	**128.81**	**288**	PKIKP	**PKPdf**	**09 28 02.7**	**-1.7**	
DBIC	**Dimbokro**	**128.81**	**288**		**PKPdf**	**09 28 02.7**	**-1.7**	
SDDR	**Presa de Saban**	**145.41**	**31**		**PKPab**	**09 28 34.7**	**-0.2**	
DR12	**Loma Pena Alta**	**146.51**	**29**		**PKPbc**	**09 28 37.9**	**-0.2**	
PLCA	**Paso Flores**	**146.54**	**156**	PKPbc	**PKPdf**	**09 28 36.9**	**+0.7**	
	comp=Z,33nm,1.0s,baz=212,slow=4.7,SNR=25							
LC01	**Cunco**	**147.49**	**152**		**PKPbc**	**09 28 40.4**	**+0.1**	
BI02	**San Fabin de**	**149.31**	**151**		**PKiKP**	**09 28 46.5**	**-0.5**	
BO02	**Sierra Bellavi**	**151.30**	**149**		**PKiKP**	**09 28 50.3**	**-0.3**	
SMLC	**San Martn de**	**151.51**	**48**	*e*P	**PKPbc**	**09 28 48.3**	**-2.7**	
CBOC	**Ciudad Bolivar**	**151.88**	**55**	*e*P	**PKPbc**	**09 28 52.1**	**0.0**	
HELC	**Santa Helena**	**152.07**	**54**	*e*P	**PKPbc**	**09 28 52.0**	**-0.7**	
OCAC	**Ocana**	**152.43**	**47**	*e*P	**PKPbc**	**09 28 53.3**	**0.0**	
PTBC	**PUERTO BERRIO**	**152.69**	**52**	*e*P	**PKPbc**	**09 28 51.3**	**-2.4**	
GUY2C	**Guyana, Caldas**	**152.77**	**55**	*e*P	**PKPbc**	**09 28 54.3**	**-0.2**	
BBAC	**Balboa, Cauca**	**152.89**	**63**	*e*P	**PKPbc**	**09 28 53.9**	**-0.5**	
RREF	**El Recreo**	**152.98**	**56**	*e*P	**PKPbc**	**09 28 54.6**	**-0.5**	
ORTC	**Ortega, Tolima**	**153.62**	**57**	*e*P	**PKPbc**	**09 28 55.2**	**-0.6**	
BARC	**Barichara**	**153.63**	**50**	*e*P	**PKPbc**	**09 28 54.3**	**-1.8**	
PRAC	**Prado**	**154.03**	**57**	*e*P	**PKPdf**	**09 28 52.5**	**+3.8**	
RUSC	**La Rusia**	**154.16**	**51**	*e*P	**PKPbc**	**09 28 55.1**	**-2.4**	
RUSC	**La Rusia**	**154.16**	**51**		**PKPbc**	**09 28 55.2**	**-2.4**	
CO03	**El Pedregal**	**154.35**	**143**		**PKPbc**	**09 28 56.4**	**-0.6**	
CPUP	**Villa Florida**	**164.13**	**166**	PKP	**PKPdf**	**09 28 59.7**	**-0.3**	
	comp=Z,3.5nm,0.9s,baz=252,slow=1.0,SNR=5.7							
CPUP				PKPab	**PKPab**	**09 29 54.0**	**+0.8**	
	comp=Z,6.1nm,0.9s,baz=195,slow=7.0,SNR=7.8							
CPUP	**Villa Florida**	**164.13**	**166**	PKP2	**PKPab**	**09 29 53.5**	**+0.3**	
CPUP	**Villa Florida**	**164.13**	**166**		**PKPab**	**09 29 53.5**	**+0.3**	
LPAZ	**La Paz**	**164.54**	**112**	PKP	**PKPdf**	**09 29 01.8**	**+0.4**	
	comp=Z,3.5nm,1.1s,baz=318,slow=1.7,SNR=7.4							
LPAZ				PKPab	**PKPab**	**09 29 57.0**	**+0.7**	
	comp=Z,3.3nm,1.0s,baz=352,slow=1.0,SNR=5.3							
LPAZ	**La Paz**	**164.54**	**112**	PKIKP	**PKPdf**	**09 29 02.0**	**+0.6**	
LPAZ						09 29 56.2		
LPAZ	**La Paz**	**164.54**	**112**		**PKPdf**	**09 29 02.0**	**+0.6**	
LPAZ					**PKPab**	**09 29 56.1**	**-0.2**	
SAML	**Samuel**	**170.00**	**80**	PKIKP	**PKPdf**	**09 29 04.3**	**-0.4**	
SAML	**Samuel**	**170.00**	**80**		**PKPdf**	**09 29 04.3**	**-0.4**	

NIED ***22*** *09:09:00,36°.80N×141°.20E,h47km,Mw4.1 Best double couple: M0 1.35000×10^15 NP1:φs37.00000°,δ87.00000°, λ-89.00000°. NP2:φs207.00000°,δ3.00000°, λ-100.00000°.*
JMA ***22*** *09:09:42.8±0.1,36°.77N×141°.14E,h47km±1km,M3.9*
JMA Felt II J1.
NEIC ***22*** *09:09:43.8±2.2,36°.73N±0°.07×141°.2E±0°.1,h49km±2km, mb4.3/13,Error ellipse: s-maj=13.2km s-min=9.1km az=110.0*
IDC ***22*** *09:09:44.0±1.7,36°.75N×141°.09E,h49km±17km,mb3.7/15, mb1 3.9/19,mb1mx3.8/46,mbtmp3.9/19,ML3.6/4,MS2.9/4, Ms1 2.9/4,ms1mx2.7/34,Error ellipse: s-maj=19.0km s-min=12.0km az=89.0*

ISC 22 09:09:42.8±0.5,36.77N±0.04×141.24E±0.08,h39km±4km, n68,σ0s97/71,mb4.1/19,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.48**	**313**	P		**Pn**	**09 09 52.7**	**-0.6**
ONAJ				S		**Sn**	**09 09 59.3**	**-1.4**
JHO	**Hitachi**	**0.56**	**254**	P		**Pn**	**09 09 53.6**	**-0.8**
JHO				S		**Sn**	**09 10 01.2**	**-1.3**
JFFD	**Fukushimafurud**	**0.63**	**301**	P		**Pn**	**09 09 54.6**	**-0.7**
JFFD				S		**Sn**	**09 10 03.0**	**-1.2**
JFK	**Kawauchi**	**0.66**	**334**	P		**Pn**	**09 09 55.2**	**-0.6**
JFK				S		**Sn**	**09 10 03.9**	**-1.1**
JHYU	**Hitachinakayam**	**0.68**	**231**	P		**Pn**	**09 09 55.3**	**-0.6**
JHYU				S		**Sn**	**09 10 04.0**	**-1.3**
JYT	**Yasato**	**1.00**	**237**	P		**Pn**	**09 09 59.4**	**-0.9**
JYT				S		**Sn**	**09 10 11.9**	**-1.2**
JFT	**Otama**	**1.04**	**316**	P		**Pn**	**09 10 01.2**	**+0.3**
JFT				S		**Sn**	**09 10 14.2**	**+0.1**
JSB	**Shiboa**	**1.07**	**281**	P		**Pn**	**09 10 01.3**	**-0.1**
JSB				S		**Sn**	**09 10 14.4**	**-0.7**
MJAR	**Matsushiro Arr**	**2.44**	**266**	P		**Pn**	**09 10 20.4**	**+0.1**
	4.9nm,0.3s,baz=89,slow=15,SNR=295							
MJAR				S		**Sn**	**09 10 50.6**	**+1.7**
	5.3nm,0.3s,baz=236,slow=49,SNR=2.8							
MJAR				LR		LR	09 11 26.7	
	comp=Z,230nm,20.1s,baz=100,slow=45							
MJAR	**Matsushiro Arr**	**2.44**	**266**			**Pn**	**09 10 19.5**	**-0.7**
MAJO	**Matsushiro**	**2.45**	**266**			**Pn**	**09 10 21.2**	**+0.9**
MAT	**Matsushiro**	**2.45**	**266**	P		**Pn**	**09 10 21.0**	**+0.8**
MAT				*e*S		**Sn**	**09 10 49.9**	**+1.0**
MJB9	**Matsu-Tunnel**	**2.45**	**266**			**Pn**	**09 10 21.2**	**+0.9**
INU	**Inuyama**	**3.70**	**249**			**Pn**	**09 10 38.6**	**+1.2**
JHJ2	**Mitsune**	**3.83**	**198**	Pn		**Pn**	**09 10 40.4**	**+1.2**
JHJ	**Hachijo jima 2**	**3.83**	**199**	P		**Pn**	**09 10 37.8**	**-1.5**
	20nm,0.3s,baz=113,slow=22,SNR=9.5							
JHJ				S		**Sn**	**09 11 24.3**	**+1.2**
	32nm,0.3s,baz=66,slow=23,SNR=1.6							
ERM	**Erimo**	**5.45**	**15**	Pn		**Pn**	**09 11 02.7**	**+1.3**
ASAJ	**Asahikawa**	**7.41**	**9**	P		**Pn**	**09 11 27.9**	**-0.4**
	2.0nm,0.3s,baz=203,slow=12,SNR=21							
ASAJ				S		**Sn**	**09 12 49.0**	**-2.2**
	1.9nm,0.3s,baz=280,slow=21,SNR=2.0							
ASAJ				LR		LR	09 14 23.0	
	comp=Z,28nm,19.2s,baz=166,slow=38							
JKA	**Kamikawa-asahi**	**7.41**	**8**			**Pn**	**09 11 29.2**	**+0.8**
USA0B	**Ussuriysk Arra**	**10.22**	**319**	Pn		Pn	09 12 11.3	+4.4
USRK	**Ussuriysk Ar.**	**10.22**	**319**	P		Pn	09 12 11.6	+4.7
	baz=131,slow=13,SNR=26							
KSRS	**Korea Array**	**10.65**	**278**	P		Pn	09 12 17.9	+5.1
	0.2nm,0.3s,baz=88,slow=13,SNR=17							
KSRS				LR		LR	09 16 07.0	
	comp=Z,102nm,19.5s,baz=78,slow=36							
KLR	**Kul'dur**	**14.24**	**334**	P		**Pn**	**09 13 04.2**	**+2.4**
	0.2nm,0.3s,baz=229,slow=11,SNR=2.1							
KLR				LR		LR	09 18 36.2	
	comp=Z,83nm,18.9s,baz=122,slow=37							
PETK	**Petropavlovsk-**	**19.99**	**30**	P		Pn	09 14 14.4	+0.7
	0.7nm,0.7s,baz=226,slow=14,SNR=2.7							
PETK	**Petropavlovsk-**	**19.99**	**30**	P		**P**	**09 14 12.5**	**+0.8**
SONM	**Songino Array**	**27.82**	**304**	P		**P**	**09 15 28.0**	**-0.4**
	4.3nm,0.6s,baz=103,slow=10.0,SNR=16							
SONM	**Songino Array**	**27.82**	**304**			**P**	**09 15 27.7**	**-0.6**
H11N2	**WAKE ISLAND Hy**	**28.14**	**120**	T		T	09 45 07.0	
	baz=313,slow=75,SNR=207							
H11N1	**WAKE ISLAND Hy**	**28.14**	**120**	T		T	09 45 08.9	
	baz=313,slow=75,SNR=223							
H11N3	**WAKE ISLAND Hy**	**28.16**	**120**	T		T	09 45 09.8	
	baz=313,slow=75,SNR=264							
H11S1	**WAKE ISLAND Hy**	**28.84**	**122**	T		T	09 46 18.0	
	baz=314,slow=75,SNR=89							
H11S3	**WAKE ISLAND Hy**	**28.84**	**122**	T		T	09 46 10.7	
	baz=314,slow=75,SNR=164							
H11S2	**WAKE ISLAND Hy**	**28.85**	**122**	T		T	09 46 25.8	
	baz=314,slow=75,SNR=90							
ZAA0	**Zalesovo Array**	**41.99**	**313**	P		**P**	**09 17 29.9**	**0.0**
ZAA0				IAmb		IAmb	09 17 30.3	
	comp=Z,3.3nm,0.8s							
ZALV	**Zalesovo Beam**	**41.99**	**313**	P		**P**	**09 17 29.6**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=89,slow=5.6,SNR=9.4							
ZALV				PcP		**PcP**	**09 19 25.1**	**+0.7**
	comp=Z,3.9nm,0.8s,baz=146,slow=3.5,SNR=2.2							
ZALV	**Zalesovo Beam**	**41.99**	**313**	P		**P**	**09 17 29.8**	**-0.1**
MK31	**Makanchi Array**	**44.14**	**302**	P		**P**	**09 17 47.3**	**-0.1**
MK31				IAmb		IAmb	09 18 06.3	
	comp=Z,12nm,0.8s							
MKAR	**Makanchi Array**	**44.14**	**302**	P		**P**	**09 17 47.0**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=90,slow=10.0,SNR=20							
MKAR	**Makanchi Array**	**44.14**	**302**	P		**P**	**09 17 47.7**	**+0.3**
KDAK	**Kodiak Island**	**47.39**	**42**	P		**P**	**09 18 14.0**	**+1.1**
ILAR	**Eielson Array**	**49.79**	**32**	P		**P**	**09 18 31.2**	**0.0**
	comp=Z,0.3nm,0.8s,baz=285,slow=4.6,SNR=3.4							
ILAR	**Eielson Array**	**49.79**	**32**	P		**P**	**09 18 31.0**	**-0.2**
PAX	**Paxson**	**50.53**	**35**	P		**P**	**09 18 38.6**	**+1.6**
PAX				IAmb		IAmb	09 18 38.8	
	comp=Z,3.5nm,1.0s							
WB0	**Warramunga Arr**	**56.60**	**188**	P		**P**	**09 19 21.0**	**-0.8**
WB0				IAmb		IAmb	09 19 38.1	
	comp=Z,5.8nm,0.9s							
WR0	**Warramunga Arr**	**56.78**	**188**	P		**P**	**09 19 22.4**	**-0.6**
WRA	**Warramunga Arr**	**56.78**	**188**	P		**P**	**09 19 22.1**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=4.7,slow=7.3,SNR=8.1							
WRA	**Warramunga Arr**	**56.78**	**188**	P		**P**	**09 19 22.1**	**-0.9**
ABKAR	**Akbulak array**	**58.00**	**310**	P		**P**	**09 19 30.2

EDLM **Las Mercedes** 5.22 127 *e*P Pn 09 16 49.6 +1.7
DRK0 **Durika** 5.50 125 *e*P Pn 09 16 53.3 +1.4

IDC 22 09:33:59.8±2.6, 10°14'S×120°88'E, h0km, mb3.7/3, mb1 3.6/5, mb1mx3.5/24, mbtmp3.5/5, ML3.3/2, Error ellipse: s-maj=178.6km s-min=28.2km az=53.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.23**	**128**	Pn	Pn	09 37 48.2	-1.3
	0.1nm,0.3s,baz=309,slow=15,SNR=6.4						
WRA				Sn	Sn	09 40 40.3	-10
	0.1nm,0.3s,baz=306,slow=25,SNR=1.8						
ASAR	**Alice Springs**	**18.32**	**139**	P	P	09 38 16.2	+0.5
	0.1nm,0.3s,baz=311,slow=12,SNR=8.7						
ASAR				S	Sn	09 41 25.3	-16
	0.0nm,0.3s,baz=304,slow=22,SNR=2.3						
SONM	**Songino Array**	**59.13**	**349**	P	P	09 44 03.1	+0.8
	0.7nm,0.5s,baz=174,slow=8.3,SNR=3.0						
MKAR	**Makanchi Array**	**66.32**	**332**	P	P	09 44 50.0	-0.2
	0.3nm,0.5s,baz=139,slow=7.6,SNR=4.6						
ZALV	**Zalesovo Beam**	**70.77**	**338**	P	P	09 45 17.3	-0.5
	0.5nm,0.4s,baz=140,slow=4.7,SNR=2.0						

*KRSC **22** 09:47:44.3±1.6, 51°53N×151°86E, h574km±30km, ML4.7*
*SKHL **22** 09:47:46.6±0.2, 51°74N×151°57E, h544km±56km, mb4.8/9, msh4.8/5*
*MOS **22** 09:47:46.5±0.7, 51°79N×151°41E, h534km, mb4.0/31, Error ellipse: s-maj=8.9km s-min=5.2km az=56.6*
*UNK **22** 09:47:47.3, 51°81N×151°40E, h528km*
*NEIC **22** 09:47:47.3±1.7, 51°8N±0°1×151°4E±0°1, h527km±6km, mb4.1/102, Error ellipse: s-maj=15.5km s-min=11.7km az=153.0*
*IDC **22** 09:47:47.5±0.7, 51°87N×151°37E, h534km±8km, mb3.3/22, mb1 3.5/29, mb1mx3.5/38, mbtmp4.3/29, Error ellipse: s-maj=10.7km s-min=7.9km az=149.0*

ISC 22 09:47:46.9±0.4, 51°78N±0°04×151°47E±0°04, h530km±5km, n416, σ1§29/484, mb4.1/86, 14C-6D, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**2.72**	**108**	*e*P	**P**	**09 48 59.3**	**+0.6**
ALID	**Alaid**	**2.72**	**108**	P	**P**	**09 48 59.3**	**+0.6**
SKR	**Severo-Kuril's**	**3.12**	**109**	*e*P	**P**	**09 49 00.9**	**0.0**
SKR				*e*S	**S**	**09 50 02.7**	**+1.3**
SKR	**Severo-Kuril's**	**3.12**	**109**	*e*P	**P**	**09 49 01.0**	**0.0**
SKR				AMB	AMB	09 49 01.7	
	200nm,2.0s						
SKR				AMB	AMB	09 49 02.4	
	40nm,0.4s						
SKR				*e*S	**S**	**09 49 59.2**	**-2.2**
SKR				A	A	09 50 02.6	
	150nm,2.0s						
SKR				A	A	09 50 02.6	
	150nm,2.0s						
SKR				A	A	09 50 03.9	
	80nm,0.4s						
SKR				A	A	09 50 03.9	
	60nm,0.4s						
SKR	**Severo-Kuril's**	**3.12**	**109**	*e*P	**P**	**09 49 01.2**	**+0.2**
SKR				*e*S	**S**	**09 50 02.6**	**+1.2**
SKR				pmax	pmax		
	comp=Z,55nm,0.8s						
SKR				pmax	pmax		
	comp=Z,300nm,2.6s						
SKR				smax	smax		
	comp=N,132nm,0.9s						
SKR				smax	smax		
	comp=E,76nm,0.8s						
SKR				MLR	MLR		
	comp=Z,36nm,18.0s						
SKR				MLR	MLR		
	comp=E,49nm,16.0s						
MIPR	**Malaya Ipel'ka**	**3.30**	**79**	*e*P	**P**	**09 49 02.7**	**+0.5**
MIPR	**Malaya Ipel'ka**	**3.30**	**79**	P	**P**	**09 49 02.7**	**+0.5**
PAU	**Pauzhetka**	**3.34**	**93**	*e*P	**P**	**09 49 02.9**	**+0.4**
PAU	**Pauzhetka**	**3.34**	**93**	*e*P	**P**	**09 49 02.7**	**+0.2**
PAU				AMB	AMB	09 49 03.7	
	comp=E,900nm,2.0s						
PAU				AMB	AMB	09 49 04.7	
	comp=E,300nm,0.9s						
PAU				*e*S	**S**	**09 50 02.2**	**-2.0**
PAU				A	A	09 50 07.2	
	comp=E,310nm,0.7s						
PAU				A	A	09 50 07.8	
	comp=E,700nm,2.0s						
PAU	**Pauzhetka**	**3.34**	**93**	P	**P**	**09 49 02.9**	**+0.4**
APC	**Apacha**	**3.67**	**70**	*e*P	**P**	**09 49 05.4**	**+0.7**
APC	**Apacha**	**3.67**	**70**	P	**P**	**09 49 05.4**	**+0.7**
ASAK	**Asacha**	**4.01**	**79**	*e*P	**P**	**09 49 08.7**	**+1.3**
ASAK				*e*S	**S**	**09 50 14.0**	**+0.8**
ASAK	**Asacha**	**4.01**	**79**	P	**P**	**09 49 08.7**	**+1.3**
ASAK				S	**S**	**09 50 14.0**	**+0.8**
PEA0B	**Petropavlovsk-**	**4.04**	**68**	*de*P	**P**	**09 49 08.2**	**+0.7**
PEA0B	**Petropavlovsk-**	**4.04**	**68**		**P**	**09 49 07.6**	**+0.1**
PEA0B				S	**S**	**09 50 14.3**	**+0.9**
PETK	**Petropavlovsk-**	**4.04**	**68**	P	**P**	**09 49 07.6**	**+0.1**
	comp=E,6.0nm,0.3s,baz=242,slow=0.6,SNR=156						
PETK				S	**S**	**09 50 14.2**	**+0.7**
	baz=164,slow=17,SNR=1.7						
PETK	**Petropavlovsk-**	**4.04**	**68**		**P**	**09 49 07.5**	**0.0**
KDTR	**Khodutka, Kamc**	**4.10**	**87**	*e*P	**P**	**09 49 07.2**	**-0.8**
KDTR				*e*S	**S**	**09 50 10.8**	**-3.5**
KDTR	**Khodutka, Kamc**	**4.10**	**87**	P	**P**	**09 49 07.2**	**-0.8**
KDTR				S	**S**	**09 50 10.8**	**-3.5**
GRL	**Gorelyy**	**4.14**	**77**	*e*P	**P**	**09 49 09.6**	**+1.2**
GRL	**Gorelyy**	**4.14**	**77**	P	**P**	**09 49 09.6**	**+1.2**
MTVR	**Mutnovka**	**4.19**	**78**	*e*P	**P**	**09 49 09.6**	**+0.7**
MTVR				*e*S	**S**	**09 50 16.7**	**+0.7**
MTVR	**Mutnovka**	**4.19**	**78**	P	**P**	**09 49 09.6**	**+0.7**
MTVR				S	**S**	**09 50 16.7**	**+0.7**
KRMR	**Karymshinskiy**	**4.22**	**73**	*e*P	**P**	**09 49 10.4**	**+1.5**
KRMR	**Karymshinskiy**	**4.22**	**73**	P	**P**	**09 49 10.4**	**+1.5**
RUS	**Russkaya**	**4.39**	**79**	*e*P	**P**	**09 49 09.9**	**-0.4**
RUS				*e*S	**S**	**09 50 16.1**	**-2.4**
RUS	**Russkaya**	**4.39**	**79**	*e*P	**P**	**09 49 09.9**	**-0.4**
RUS	**Russkaya**	**4.39**	**79**	P	**P**	**09 49 09.9**	**-0.4**
RUS				S	**S**	**09 50 16.1**	**-2.4**
PET	**Petropavlovsk**	**4.57**	**71**	*e*P	**P**	**09 49 12.0**	**+0.3**
PET				*e*S	**S**	**09 50 20.0**	**-1.2**
PET	**Petropavlovsk**	**4.57**	**71**	*e*P	**P**	**09 49 12.7**	**+1.0**
PET				AMB	AMB	09 49 13.0	
	comp=E,400nm,2.0s						
PET				AMB	AMB	09 49 13.8	
	comp=E,160nm,0.7s						
PET				*e*S	**S**	**09 50 19.7**	**-1.5**
PET				A	A	09 50 21.7	
	comp=E,600nm,3.0s						
PET				A	A	09 50 21.7	
	comp=E,700nm,3.0s						
PET				A	A	09 50 24.1	
	comp=E,170nm,0.6s						
PET				A	A	09 50 24.1	
	comp=E,310nm,0.6s						
PET	**Petropavlovsk**	**4.57**	**71**	⇑ *i*P	**P**	**09 49 12.7**	**+1.0**
PET				*e*S	**S**	**09 50 18.8**	**-2.4**
PET				pmax	pmax		
	comp=Z,400nm,1.6s						
PET				pmax	pmax		
	comp=Z,100nm,4.3s						
PET				pmax	pmax		
	comp=Z,164nm,0.7s						
PET				smax	smax		
	comp=N,600nm,3.5s						
PET				smax	smax		
	comp=E,700nm,3.3s						
PET				smax	smax		
	comp=N,200nm,5.9s						
PET				smax	smax		
	comp=E,200nm,5.7s						
PET				smax	smax		
	comp=E,374nm,0.6s						
PET				smax	smax		
	comp=N,234nm,0.6s						
PET	**Petropavlovsk**	**4.57**	**71**	P	**P**	**09 49 12.0**	**+0.3**
PET					**S**	**09 50 20.0**	**-1.2**
KOK	**Koryaka**	**4.63**	**68**	*e*P	**P**	**09 49 14.0**	**+1.6**
KOK	**Koryaka**	**4.63**	**68**	*e*P	**P**	**09 49 14.0**	**+1.6**
KOK	**Koryaka**	**4.63**	**68**	P	**P**	**09 49 14.0**	**+1.6**
DALK	**Dalny**	**4.63**	**71**	*e*P	**P**	**09 49 12.4**	**+0.2**
DALK				*e*S	**S**	**09 50 20.9**	**-1.2**
DALK	**Dalny**	**4.63**	**71**	P	**P**	**09 49 12.4**	**+0.2**
DALK				S	**S**	**09 50 20.9**	**-1.2**
KRX	**Arik**	**4.65**	**67**	*e*P	**P**	**09 49 13.3**	**+0.7**
KRX	**Arik**	**4.65**	**67**	P	**P**	**09 49 13.3**	**+0.7**
AVH	**Avacha**	**4.68**	**69**	*e*P	**P**	**09 49 14.2**	**+1.4**
AVH	**Avacha**	**4.68**	**69**	P	**P**	**09 49 14.2**	**+1.4**
UGLR	**Uglovaya**	**4.71**	**69**	*e*P	**P**	**09 49 14.0**	**+0.9**
UGLR				*e*S	**S**	**09 50 25.0**	**+1.4**
UGLR	**Uglovaya**	**4.71**	**69**	P	**P**	**09 49 14.0**	**+0.9**
UGLR				S	**S**	**09 50 25.0**	**+1.4**
SMAR	**Somma**	**4.71**	**69**	*e*P	**P**	**09 49 14.2**	**+1.0**
SMAR				*e*S	**S**	**09 50 24.5**	**+0.6**
SMAR	**Somma**	**4.71**	**69**	P	**P**	**09 49 14.2**	**+1.0**
SMAR				S	**S**	**09 50 24.5**	**+0.6**
SDLR	**Sedlovina**	**4.77**	**69**	*e*P	**P**	**09 49 13.7**	**+0.1**
SDLR	**Sedlovina**	**4.77**	**69**	P	**P**	**09 49 13.7**	**+0.1**
NLC	**Nalytchevo**	**5.01**	**71**	*e*S	**S**	**09 50 25.7**	**-2.3**
Kll	**Karymskiy**	**5.33**	**62**	*e*P	**P**	**09 49 19.2**	**+0.8**
Kll	**Karymskiy**	**5.33**	**62**	P	**P**	**09 49 19.2**	**+0.8**
SPN	**Mys Shipunski**	**5.39**	**73**	*e*P	**P**	**09 49 17.6**	**-1.3**
SPN				*e*S	**S**	**09 50 28.7**	**-5.5**
SPN	**Mys Shipunski**	**5.39**	**73**	P	**P**	**09 49 17.6**	**-1.3**
SPN				S	**S**	**09 50 28.7**	**-5.5**
OKH	**Okha**	**5.49**	**292**	*e*P	**P**	**09 49 20.3**	**+0.6**
OKH				AMB	AMB	09 49 22.3	
	comp=N,280nm,0.5s						
OKH				AMB	AMB	09 49 22.4	
	comp=N,600nm,2.0s						
OKH				*e*S	**S**	**09 50 36.1**	**+0.4**
TYV	**Tymovskoe**	**5.60**	**264**	*e*P	**P**	**09 49 22.1**	**+1.3**
TYV				AMB	AMB	09 49 22.5	
	comp=N,70nm,0.4s						
TYV				AMB	AMB	09 49 23.0	
	comp=N,400nm,2.0s						
TYV	**Tymovskoe**	**5.60**	**264**	*e*P	**P**	**09 49 22.1**	**+1.3**
TYV				pmax	pmax		
	comp=Z,70nm,0.4s						
TYV				pmax	pmax		
	comp=Z,400nm,2.3s						
KZV	**Kizimen**	**6.24**	**54**	*e*P	**P**	**09 49 28.6**	**+1.8**
KZV				*e*S	**S**	**09 50 48.4**	**-0.2**
KZV	**Kizimen**	**6.24**	**54**	P	**P**	**09 49 28.6**	**+1.8**
KZV				S	**S**	**09 50 48.4**	**-0.2**
TUMR	**Tumrok**	**6.25**	**52**	*e*P	**P**	**09 49 27.8**	**+1.0**
TUMR				*e*S	**S**	**09 50 48.9**	**+0.2**
TUMR	**Tumrok**	**6.25**	**52**	P	**P**	**09 49 27.8**	**+1.0**
TUMR				S	**S**	**09 50 48.9**	**+0.2**
TUMD	**Tumrok D**	**6.33**	**54**	*e*P	**P**	**09 49 28.7**	**+1.2**
TUMD				*e*S	**S**	**09 50 49.6**	**-0.5**
KMNR	**Kamenistaya**	**6.54**	**49**	*e*P	**P**	**09 49 30.5**	**+0.9**
KMNR	**Kamenistaya**	**6.54**	**49**	P	**P**	**09 49 30.5**	**+0.9**
KOZ	**Kozyrevsk**	**6.55**	**46**	*e*P	**P**	**09 49 30.9**	**+1.3**
KOZ	**Kozyrevsk**	**6.55**	**46**	P	**P**	**09 49 30.9**	**+1.3**
UGL	**Uglegorsk**	**6.59**	**249**	*i* P	**P**	**09 49 31.6**	**+1.5**
UGL				AMB	AMB	09 49 32.1	
	comp=Z,230nm,0.6s						
UGL				AMB	AMB	09 49 35.2	
	comp=Z,630nm,3.0s						
SRDR	**Sredinnyy**	**6.65**	**44**	*e*P	**P**	**09 49 31.5**	**+1.0**
SRDR	**Sredinnyy**	**6.65**	**44**	P	**P**	**09 49 31.5**	**+1.0**
KPT	**Kopyto**	**6.66**	**48**	*e*P	**P**	**09 49 31.8**	**+1.1**
KPT				*e*S	**S**	**09 50 56.8**	**+1.0**
KPT	**Kopyto**	**6.66**	**48**	P	**P**	**09 49 31.8**	**+1.1**
KPT				S	**S**	**09 50 56.8**	**+1.0**
KIRR	**Kirishev**	**6.70**	**48**	*e*P	**P**	**09 49 32.5**	**+1.3**
KIRR				*e*S	**S**	**09 50 56.8**	**0.0**
KIRR	**Kirishev**	**6.70**	**48**	P	**P**	**09 49 32.5**	**+1.3**
KIRR				S	**S**	**09 50 56.8**	**0.0**
NKL	**Nikolayevsk**	**6.74**	**286**	*i* P	**P**	**09 49 32.6**	**+1.2**
NKL				AMB	AMB	09 49 33.1	
	comp=Z,430nm,0.6s						
BZWR	**Bezymyannyi-We**	**6.78**	**48**	*e*P	**P**	**09 49 33.0**	**+1.0**
BZWR	**Bezymyannyi-We**	**6.78**	**48**	P	**P**	**09 49 33.0**	**+1.0**
BZGR	**Bezymyannyi-Gr**	**6.86**	**49**	*e*P	**P**	**09 49 34.2**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**6.86**	**49**	P	**P**	**09 49 34.2**	**+1.5**
LGNR	**Loginova**	**6.94**	**48**	*e*P	**P**	**09 49 34.8**	**+1.2**
LGNR	**Loginova**	**6.94**	**48**	P	**P**	**09 49 34.8**	**+1.2**
ZLN	**Zelenaya**	**6.96**	**49**	*e*P	**P**	**09 49 35.4**	**+1.8**
ZLN	**Zelenaya**	**6.96**	**49**	P	**P**	**09 49 35.4**	**+1.8**
KRSR	**Krestovskiy**	**6.96**	**47**	*e*P	**P**	**09 49 33.7**	**+0.1**
KRSR	**Krestovskiy**	**6.96**	**47**	P	**P**	**09 49 33.7**	**+0.1**
KUR	**Kuril'sk**	**6.98**	**201**	*e*P	**P**	**09 49 33.8**	**-0.1**
KUR				AMB	AMB	09 49 36.1	
	comp=Z,300nm,5.0s						
KUR				AMB	AMB	09 49 36.4	
	comp=Z,30nm,0.5s						
KUR				*e*S	**S**	**09 50 59.0**	**-2.5**
KUR				A	A	09 51 07.0	
	comp=Z,400nm,4.0s						
KUR				A	A	09 51 07.0	
	comp=Z,600nm,4.0s						
KUR	**Kuril'sk**	**6.98**	**201**	*e*P	**P**	**09 49 33.8**	**-0.1**
KUR				S	**S**	**09 51 01.2**	**-0.3**
KUR				pmax	pmax		
	comp=Z,31nm,0.5s						
KUR				pmax	pmax		
	comp=N,5.0nm,0.1s						
KUR				pmax	pmax		
	comp=E,12nm,0.4s						
CIRR	**Tsirk**	**6.98**	**48**	*e*P	**P**	**09 49 35.4**	**+1.5**
CIRR				*e*S	**S**	**09 51 02.0**	**+0.3**
CIRR	**Tsirk**	**6.98**	**48**	P	**P**	**09 49 35.4**	**+1.5**
CIRR				S	**S**	**09 51 02.0**	**+0.3**
YSS	**Yuzh-Sakhalins**	**7.46**	**233**	*i* P	**P**	**09 49 39.7**	**+1.1**
YSS				AMB	AMB	09 49 40.6	
	comp=E,60nm,0.6s						
YSS				AMB	AMB	09 49 41.7	
	comp=E,100nm,7.0s						
YSS				*e*S	**S**	**09 51 09.8**	**-0.4**
YSS	**Yuzh-Sakhalins**	**7.46**	**233**	⇑ *i*P	**P**	**09 49 39.8**	**+1.1**
YSS				*e*S	**S**	**09 51 10.7**	**+0.5**
YSS				pmax	pmax		
	comp=Z,60nm,0.6s						
YSS				pmax	pmax		
	comp=Z,100nm,6.7s						
YSS	**Yuzh-Sakhalins**	**7.46**	**233**	P	**P**	**09 49 39.8**	**+1.2**
KHLM	**Kholmsk**	**7.75**	**236**	*e*P	**P**	**09 49 42.6**	**+1.1**
KHLM				AMB	AMB	09 49 43.4	
	comp=Z,150nm,0.6s						
MA2	**Magadan**	**7.82**	**357**	P	**P**	**09 49 42.5**	**+0.5**
	comp=Z,2.2nm,0.3s,baz=157,slow=9.1,SNR=19						
MA2				S	**S**	**09 51 15.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=2.1,slow=22,SNR=1.0						
MA2	**Magadan**	**7.82**	**357**	*e*P	**P**	**09 49 42.3**	**+0.3**
MA2	**Magadan**	**7.82**	**357**	*de*P	**P**	**09 49 42.3**	**+0.3**
MA2				pmax	pmax		
	comp=Z,24nm,1.7s						
KBG	**Krutoberegovo**	**7.99**	**51**	*e*P	**P**	**09 49 42.6**	**-1.1**
KBG				AMB	AMB	09 49 43.0	
	comp=Z,80nm,0.6s						
KBG				AMB	AMB	09 49 43.3	
	comp=Z,200nm,2.0s						
KBG				*e*S	**S**	**09 51 15.8**	**-3.8**
KBG				A	A	09 51 20.3	
	comp=Z,530nm,2.0s						
KBG				A	A	09 51 20.3	
	comp=Z,550nm,2.0s						
KBG				A	A	09 51 21.1	
	comp=Z,240nm,0.6s						
KBG				A	A	09 51 21.1	
	comp=Z,240nm,0.6s						
KBTR	**Krutoberegovo**	**8.02**	**52**	*e*P	**P**	**09 49 41.4**	**-2.6**
KBTR	**Krutoberegovo**	**8.02**	**52**	P	**P**	**09 49 41.4**	**-2.6**
YUK	**Yuzh-Kuril'sk**	**8.62**	**208**	*e*P	**P**	**09 49 49.3**	**-1.0**
YUK				AMB	AMB	09 49 49.4	
	comp=Z,140nm,0.5s						
YUK				*e*S	**S**	**09 51 29.8**	**-1.8**
YUK				A	A	09 51 36.1	
	comp=Z,170nm,0.8s						
YUK				A	A	09 51 36.1	
	comp=Z,290nm,0.8s						
LAGR	**Lagunnoye**	**8.62**	**208**	*e*S	**S**	**09 51 31.0**	**-0.6**
GRPR	**Tuman**	**8.68**	**208**	*e*P	**P**	**09 49 49.6**	**-1.4**
GRPR				AMB	AMB	09 49 50.4	
	comp=Z,170nm,0.4s						
GRPR				*e*S	**S**	**09 51 32.0**	**-0.8**
GRPR	**Tuman**	**8.68**	**208**	*e*P	**P**	**09 49 49.6**	**-1.4**
GRPR				*e*S	**S**	**09 51 32.0**	**-0.8**
GRPR				pmax	pmax		
	comp=Z,171nm,0.4s						
GRPR				pmax	pmax		
	comp=N,85nm,0.1s						
GRPR				pmax	pmax		
	comp=E,77nm,0.3s						
PALN	**Palana**	**8.77**	**30**	*e*P	**P**	**09 49 51.9**	**+0.4**
PALN	**Palana**	**8.77**	**30**	P	**P**	**09 49 51.9**	**+0.4**
NMR	**Nemuro--Hokkai**	**9.27**	**207**	*d i*P	P	09 49 52.1	-4.9
NMR				*e*S	**S**	**09 51 35.7**	**-8.1**
BKI	**Bering**	**9.30**	**63**	*e*P	**P**	**09 49 57.8**	**+0.8**
BKI				*e*S	**S**	**09 51 39.9**	**-4.1**
BKI	**Bering**	**9.30**	**63**	P	**P**	**09 49 57.8**	**+0.8**
BKI				S	**S**	**09 51 39.9**	**-4.1**
GRNR	**Gornyy**	**9.49**	**270**	*e*P	**P**	**09 50 00.2**	**+1.0**
GRNR				AMB	AMB	09 50 00.6	
	comp=E,20nm,0.6s						
GRNR				*e*S	**S**	**09 51 46.0**	**-1.9**
GRNR				A	A	09 51 46.4	
	comp=E,6.0nm,0.8s						
GRNR	**Gornyy**	**9.49**	**270**	⇑ *i*P	**P**	**09 50 00.2**	**+1.0**
GRNR				*e*S	**S**	**09 51 46.0**	**-1.9**
GRNR				pmax	pmax		
	comp=E,20nm,0.6s						
GRNR				pmax	pmax		
	comp=N,8.0nm,0.5s						
GRNR				pmax	pmax		
	comp=Z,20nm,0.5s						
GRNR				smax	smax		
	comp=E,6.0nm,0.8s						
GRNR				MLR	MLR		
	comp=N,60nm,13.0s						
GRNR				MLR	MLR		
	comp=Z,40nm,15.0s						
JKA	**Kamikawa-asahi**	**9.70**	**221**	P	**P**	**09 50 01.1**	**-0.4**
ASAJ	**Asahikawa**	**9.70**	**221**	P	**P**	**09 50 01.5**	**0.0**
	comp=Z,1.5nm,0.3s,baz=42,slow=3.1,SNR=19						
ERM	**Erimo**	**11.30**	**213**	*ce*P	**P**	**09 50 16.8**	**-1.3**
ERM				pmax	pmax		
	comp=Z,43nm,1.3s						
ERM	**Erimo**	**11.30**	**213**	P	**P**	**09 50 16.6**	**-1.5**
EKMR	**Ekimchan**	**11.38**	**284**	*e*P	**P**	**09 50 18.8**	**0.0**
EKMR				AMB	AMB	09 50 19.9	
	comp=Z,20nm,0.9s						
TEY	**Ternei**	**11.95**	**241**	*e*P	**P**	**09 50 25.4**	**+0.5**
KLR	**Kul'dur**	**12.81**	**266**	P	**P**	**09 50 34.2**	**+0.5**
	comp=Z,2.0nm,0.3s,baz=65,slow=9.3,SNR=28						
KLR				S	**S**	**09 52 53.1**	**+2.0**
	comp=Z,0.1nm,0.3s,baz=304,slow=19,SNR=5.9						
KLR	**Kul'dur**	**12.81**	**266**	*e*P	**P**	**09 50 34.0**	**+0.3**
BMKR	**Bomnak**	**13.85**	**291**	*e*P	**P**	**09 50 44.0**	**-0.5**
SMY	**Shemya**	**13.88**	**77**	P	**P**	**09 50 45.3**	**+0.5**
SMY	**Shemya**	**13.88**	**77**		**P**	**09 50 45.3**	**+0.5**
KROS	**Kirovskiy**	**14.93**	**290**	*e*P	**P**	**09 50 54.8**	**-0.9**
KROS				AMB	AMB	09 50 55.1	
	comp=Z,3.0nm,0.8s						
KROS				AMB	AMB	09 50 55.1	
	comp=Z,80nm,0.8s						
KROS				AMB	AMB	09 50 55.1	
	comp=Z,10.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**15.06**	**247**	P	**P**	**09 50 56.9**	**-0.4**
	baz=56,slow=11,SNR=5.0						
USRK	**Ussuriysk Ar.**	**15.06**	**247**	P	**P**	**09 50 57.4**	**+0.2**
YAK	**Yakutsk**	**15.63**	**319**	P	**P**	**09 51 00.8**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=131,slow=5.0,SNR=1.8						
YAK				S	**S**	**09 53 41.4**	**-2.4**
	baz=105,slow=19,SNR=7.9						
YAK	**Yakutsk**	**15.63**	**319**	*e*P	**P**	**09 51 01.2**	**-1.6**
YAK	**Yakutsk**	**15.63**	**319**	*e*P	**P**	**09 51 01.1**	**-1.7**
YAK				*e*S	**S**	**09 53 42.1**	**-1.7**
YAK				pmax	pmax		
	comp=Z,14nm,1.3s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.1s						
YAK				smax	smax		
	comp=N,70nm,1.5s						
YAK				smax	smax		
	comp=E,81nm,1.8s						
YAK	**Yakutsk**	**15.63**	**319**	P	**P**	**09 51 00.8**	**-2.0**
BILL	**Bilibino**	**17.82**	**18**	*e*P	**P**	**09 51 23.4**	**-0.3**
BILL	**Bilibino**	**17.82**	**18**	*i* P	**P**	**09 51 23.4**	**-0.3**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BILL	**Bilibino**	**17.82**	**18**	P	**P**	**09 51 23.1**	**-0.6**
MJB9	**Matsu-Tunnel**	**17.91**	**217**	P	**P**	**09 51 25.0**	**0.0**
MAJO	**Matsushiro**	**17.92**	**217**	*i* P	**P**	**09 51 23.3**	**-1.8**
MAJO	**Matsushiro**	**17.92**	**217**	P	**P**	**09 51 25.0**	**0.0**
MAT	**Matsushiro**	**17.92**	**217**	P	**P**	**09 51 25.3**	**+0.2**
MAT				*e*S	**S**	**09 54 25.4**	**+2.6**
MJAR	**Matsushiro Arr**	**17.92**	**217**	P	**P**	**09 51 25.2**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=18,slow=8.7,SNR=39						
MJAR	**Matsushiro Arr**	**17.92**	**217**	P	**P**	**09 51 25.3**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MJAR	**Matsushiro Arr**	**17.92**	**217**	P	**P**	**09 51 25.3**	**+0.2**
KSRS	**Korea Array**	**21.92**	**238**	P	**P**	**09 52 02.7**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=45,slow=9.6,SNR=7.3						
KSRS				PcP	**PcP**	**09 55 38.7**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=355,slow=2.6,SNR=4.2						
TIXI	**Tiksi**	**22.34**	**341**	*e*P	**P**	**09 52 04.9**	**+0.4**
TIXI	**Tiksi**	**22.34**	**341**	*i* P	**P**	**09 52 04.9**	**+0.4**
SPIA	**Saint Paul Isl**	**22.66**	**61**	P	**P**	**09 52 08.9**	**+1.3**
UNV	**Unalaska Valle**	**25.22**	**69**	P	**P**	**09 52 29.5**	**-0.8**
CNBA	**Chernabura Isl**	**28.93**	**64**	P	**P**	**09 53 01.8**	**-1.1**
SONM	**Songino Array**	**29.00**	**280**	P	**P**	**09 53 04.2**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=64,slow=7.3,SNR=7.6						
SONM				PcP	**PcP**	**09 55 53.7**	**-1.5**
	comp=Z,0.7nm,0.5s,baz=86,slow=1.5,SNR=4.3						
SONM				ScP	**ScP**	**09 58 44.8**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=72,slow=4.7,SNR=4.0						
SONM	**Songino Array**	**29.00**	**280**	P	**P**	**09 53 03.5**	**-0.3**
SONM				PcP	**PcP**	**09 55 54.2**	**-1.0**
TLY	**Talaya**	**29.20**	**289**	*e*P	**P**	**09 53 06.0**	**+0.6**
TLY	**Talaya**	**29.20**	**289**	*i* P	**P**	**09 53 06.0**	**+0.6**
TLY				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HHC	**Hu-ho-hao-te**	**29.30**	**264**	*e*P	**P**	**09 53 06.3**	**-0.1**
HHC				pmax	pmax		
	comp=Z,11nm,1.0s						
HHC				pmax	pmax

ILAR	**Eielson Array**	**33.44**	**43**	P		**P**		**09 53 41.4**	**+0.1**
HDA	**Harding Lake**	**33.46**	**44**	P		**P**		**09 53 41.5**	**0.0**
	baz=278,SNR=6.8								
PRP	**Porcupine Dome**	**33.91**	**42**	P		**P**		**09 53 46.5**	**+0.9**
GLI	**Glacier Island**	**34.02**	**50**	P		**P**		**09 53 46.9**	**+0.6**
GLI				IAmb		IAmb		09 53 51.6	
	comp=Z,5.6nm,1.0s								
RIDG	**Independent Ri**	**34.48**	**45**	P		**P**		**09 53 49.9**	**-0.3**
DOT	**Dot Lake**	**34.84**	**45**	P		**P**		**09 53 52.6**	**-0.5**
GLB	**Gilahina Butte**	**35.44**	**49**	P		**P**		**09 53 59.2**	**+1.1**
GLB				IAmb		IAmb		09 54 03.7	
	comp=Z,3.2nm,0.7s								
EGAK	**Eagle**	**35.86**	**42**	P		**P**		**09 54 01.5**	**0.0**
BCAR	**Beaver Creek A**	**35.97**	**45**	P		**P**		**09 54 03.2**	**+0.7**
BCAR				PcP		**PcP**		**09 56 17.4**	**+2.9**
BALM	**Baldy**	**36.23**	**49**	P		**P**		**09 54 06.5**	**+1.7**
BALM				IAmb		IAmb		09 54 06.9	
	comp=Z,6.8nm,0.7s								
YAH	**Yahtse**	**36.71**	**50**	P		**P**		**09 54 10.3**	**+1.4**
CTGM	**Chitina Glacie**	**36.72**	**49**	P		**P**		**09 54 10.6**	**+1.6**
EPYK	**Eagle Plains**	**37.31**	**39**	P		**P**		**09 54 14.1**	**+0.5**
	baz=283,SNR=5.5								
EPYK	**Eagle Plains**	**37.31**	**39**	P		**P**		**09 54 14.7**	**+1.1**
EPYK				IAmb		IAmb		09 54 15.2	
	comp=Z,8.2nm,0.8s								
GTA	**Gaotai**	**37.43**	**272**	*e*P		**P**		**09 54 16.6**	**+1.6**
GTA				pmax		pmax			
	comp=Z,6.0nm,0.9s								
INK	**Inuvik**	**38.07**	**36**	P		**P**		**09 54 20.0**	**+0.4**
INK				pmax		pmax			
	comp=Z,7.0nm,0.6s								
INK	**Inuvik**	**38.07**	**36**	P		**P**		**09 54 20.0**	**+0.4**
HYT	**Haines Junctio**	**38.55**	**48**	P		**P**		**09 54 25.9**	**+2.2**
ZALV	**Zalesovo Beam**	**38.96**	**300**	P		**P**		**09 54 26.5**	**-0.5**
	comp=Z,2.0nm,0.3s,baz=72,slow=5.6,SNR=4.1								
ZALV				ScP		**ScP**		**09 59 19.5**	**-2.0**
	comp=Z,0.8nm,0.3s,baz=123,slow=2.4,SNR=1.9								
DGZ	**Jazzator, Alta**	**39.42**	**293**	*i* P		**P**		**09 54 31.6**	**+0.6**
DGZ				pmax		pmax			
	comp=Z,6.0nm,0.8s								
WHY	**Whitehorse**	**39.81**	**48**	P		**P**		**09 54 35.4**	**+1.5**
WHY				IAmb		IAmb		09 54 36.5	
	comp=Z,7.3nm,0.9s								
JIS	**Juneau Island**	**40.98**	**51**	P		**P**		**09 54 45.6**	**+2.5**
WMQ	**Urumqi**	**42.32**	**285**	*e*P		**P**		**09 54 54.5**	**+0.4**
KURK	**Kurchatov**	**43.83**	**299**	*e*P		**P**		**09 55 05.2**	**-0.4**
KURK	**Kurchatov**	**43.83**	**299**	*ce*P		**P**		**09 55 05.2**	**-0.4**
KURK				pmax		pmax			
	comp=Z,9.0nm,0.7s								
KURK	**Kurchatov**	**43.83**	**299**	P		**P**		**09 55 05.7**	**+0.1**
KURK				PcP		**PcP**		**09 56 39.1**	**-1.1**
MK31	**Makanchi Array**	**43.86**	**292**	P		**P**		**09 55 05.9**	**-0.1**
MK31				pmax		pmax			
	comp=Z,8.0nm,1.2s								
MK31	**Makanchi Array**	**43.86**	**292**	P		**P**		**09 55 05.9**	**-0.1**
MK31				IAmb		IAmb		09 55 06.7	
	comp=Z,8.4nm,1.2s								
MKAR	**Makanchi Array**	**43.86**	**292**	P		**P**		**09 55 05.9**	**0.0**
	comp=Z,3.3nm,0.4s,baz=55,slow=6.3,SNR=91								
MKAR				ScP		**ScP**		**09 59 38.0**	**-3.4**
	comp=Z,0.4nm,0.8s,baz=60,slow=4.8,SNR=3.7								
MKAR	**Makanchi Array**	**43.86**	**292**	*e*P		**P**		**09 55 06.0**	**0.0**
BRVK	**Borovoye**	**46.98**	**305**	*e*P		**P**		**09 55 29.5**	**-0.2**
BRVK	**Borovoye**	**46.98**	**305**	*ce*P		**P**		**09 55 29.5**	**-0.2**
BRVK				pmax		pmax			
	comp=Z,5.0nm,1.0s								
YKA	**Yellowknife Ar**	**47.60**	**39**	P		**P**		**09 55 33.8**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=304,slow=6.8,SNR=20								
TARG	**Taragay, Kyrgy**	**49.43**	**289**	P		**P**		**09 55 49.4**	**+0.8**
TARG				IAmb		IAmb		09 55 50.5	
	comp=Z,3.8nm,0.6s								
ARU	**Arti**	**50.65**	**314**	*e*P		**P**		**09 55 56.4**	**-0.4**
ARU	**Arti**	**50.65**	**314**	*d i*P		**P**		**09 55 56.2**	**-0.6**
ARU								09 57 56.0	
ARU				S		**S**		**10 02 31.0**	**-0.7**
ARU				pmax		pmax			
	comp=Z,9.0nm,0.8s								
ARU	**Arti**	**50.65**	**314**	P		**P**		**09 55 55.8**	**-0.9**
ARU				IAmb		IAmb		09 55 57.3	
	comp=Z,8.1nm,0.8s								
AAK	**Ala-Archa**	**50.79**	**292**	*e*P		**P**		**09 55 58.6**	**+0.4**
AAK	**Ala-Archa**	**50.79**	**292**	*ce*P		**P**		**09 55 58.6**	**+0.4**
AAK				pmax		pmax			
	comp=Z,6.0nm,0.7s								
AAK	**Ala-Archa**	**50.79**	**292**	P		**P**		**09 55 58.2**	**0.0**
AAK				IAmb		IAmb		09 55 59.5	
	comp=Z,5.3nm,0.7s								
D03D	**Eldon**	**52.43**	**58**	P		**P**		**09 56 10.9**	**+1.2**
	baz=309								
B05A	**Bryant**	**52.49**	**57**	P		**P**		**09 56 11.2**	**+1.0**
	baz=309								
CMAR	**Chiang Mai Arr**	**52.75**	**251**	P		**P**		**09 56 12.1**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=28,slow=7.2,SNR=5.5								
CMAR				PcP		**PcP**		**09 57 11.8**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=18,slow=3.2,SNR=4.2								
CMAR	**Chiang Mai Arr**	**52.75**	**251**	*ce*P		**P**		**09 56 13.5**	**+1.0**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.4s								
ARCES	**ARCESS Array B**	**52.75**	**339**	P		**P**		**09 56 10.4**	**-1.3**
	comp=Z,3.8nm,0.9s,baz=30,slow=9.3,SNR=1.8								
ARCES	**ARCESS Array B**	**52.75**	**339**	P		**P**		**09 56 12.0**	**+0.2**
ARCES	**ARCESS Array B**	**52.75**	**339**	P		**P**		**09 56 12.0**	**+0.2**
KKAR	**Karatay Array**	**52.77**	**295**	P		**P**		**09 56 11.2**	**-1.1**
KKAR	**Karatay Array**	**52.77**	**295**	P		**P**		**09 56 11.2**	**-1.1**
TAPN	**Taplejung**	**52.96**	**268**	*e*P		**P**		**09 56 13.8**	**-0.4**
ODAN	**Odare**	**53.51**	**268**	*e*P		**P**		**09 56 18.3**	**+0.2**
	comp=Z,9.5nm,0.5s								
JIRN	**Jiri**	**53.68**	**270**	*e*P		**P**		**09 56 19.6**	**+0.2**
GUN	**Gumba**	**53.70**	**270**	*e*P		**P**		**09 56 19.6**	**+0.1**
	comp=Z,20nm,0.5s								
F04A	**Amboy**	**53.80**	**60**	P		**P**		**09 56 21.5**	**+2.0**
F04A				IAmb		IAmb		09 56 21.6	
	comp=Z,6.8nm,0.6s								
LTY	**Liberty**	**53.88**	**57**	P		**P**		**09 56 20.9**	**+0.7**
RAMN	**Ramite**	**53.93**	**269**	*e*P		**P**		**09 56 21.0**	**-0.1**
	comp=Z,45nm,0.4s								
PKI	**Pulchoki**	**54.23**	**270**	*e*P		**P**		**09 56 23.4**	**+0.1**
PKIN	**Phulchoki**	**54.23**	**270**	*e*P		**P**		**09 56 23.4**	**+0.2**
	comp=Z,25nm,0.8s								
DMN	**Daman**	**54.39**	**271**	*e*P		**P**		**09 56 24.5**	**+0.2**
	comp=Z,32nm,0.8s								
GKN	**Gorkha**	**54.40**	**271**	*e*P		**P**		**09 56 24.6**	**+0.3**
	comp=Z,22nm,0.3s								
ABKAR	**Akbulak array**	**54.47**	**306**	P		**P**		**09 56 23.6**	**-0.6**
DANN	**Dangsing**	**54.70**	**272**	*e*P		**P**		**09 56 27.0**	**+0.5**
	comp=Z,56nm,0.5s								
I03D	**Drain, OR**	**54.74**	**62**	P		**P**		**09 56 27.8**	**+1.7**
	baz=311								
HAWA	**Hanford**	**55.03**	**58**	P		**P**		**09 56 29.1**	**+0.9**
I04A	**Tendick Farm,**	**55.19**	**62**	P		**P**		**09 56 31.0**	**+1.6**
	baz=311								
KOLN	**Koldanda**	**55.21**	**272**	*e*P		**P**		**09 56 30.1**	**+0.1**
	comp=Z,16nm,0.5s								
KLMR	**Klimovskoe**	**55.28**	**326**	*e*P		**P**		**09 56 27.3**	**-2.3**
KLMR				pmax		pmax			
	comp=Z,9.0nm,1.4s								
KLMR	**Klimovskoe**	**55.28**	**326**	*e*P		**P**		**09 56 27.4**	**-2.2**
KLMR				AMP				09 56 34.3	
	comp=Z,9.0nm,1.4s								
I05D	**Terrebonne, OR**	**55.41**	**61**	P		**P**		**09 56 32.4**	**+1.4**
	baz=311								
J04D	**Umpqua Nationa**	**55.72**	**62**	P		**P**		**09 56 35.3**	**+2.0**
	baz=312								
PINE	**Pine Mountain**	**55.99**	**61**	P		**P**		**09 56 36.9**	**+1.8**
PINE				IAmb		IAmb		09 56 38.7	
	comp=Z,7.2nm,0.9s								
J05D	**Fort Rock, OR**	**56.17**	**61**	P		**P**		**09 56 38.4**	**+2.1**
	baz=312,SNR=7.2								
L04D	**Klamath Falls**	**56.29**	**63**	P		**P**		**09 56 38.9**	**+1.7**
	baz=312								
YBH	**Yreka Blue Hor**	**56.39**	**64**	P		**P**		**09 56 40.0**	**+2.2**
YBH				pmax		pmax			
	comp=Z,5.0nm,1.0s								
YBH	**Yreka Blue Hor**	**56.39**	**64**	P		**P**		**09 56 40.0**	**+2.2**
CHGR	**Chuyangaron**	**56.46**	**291**	P		**P**		**09 56 38.4**	**+0.1**
I07A	**Izee**	**56.57**	**60**	P		**P**		**09 56 40.5**	**+1.4**
K05A	**Summer Lake**	**56.73**	**62**	P		**P**		**09 56 42.3**	**+2.1**
K05A				IAmb		IAmb		09 56 44.2	
	comp=Z,8.0nm,1.1s								
K05A				PcP		**PcP**		**09 57 29.8**	**+1.1**
M04C	**Macdoel**	**56.84**	**63**	P		**P**		**09 56 42.5**	**+1.6**
	baz=312								
BMO	**Blue Mountains**	**57.22**	**58**	P		**P**		**09 56 44.6**	**+1.1**
BMO				pmax		pmax			
	comp=Z,4.0nm,1.3s								
BMO	**Blue Mountains**	**57.22**	**58**	P		**P**		**09 56 44.6**	**+1.1**
NIL	**Nilore**	**57.45**	**284**	P		**P**		**09 56 45.6**	**+0.4**
NIL				pmax		pmax			
	comp=Z,15nm,1.1s								
NIL	**Nilore**	**57.45**	**284**	P		**P**		**09 56 45.6**	**+0.4**
NIL				IAmb		IAmb		09 56 47.1	
	comp=Z,15nm,1.1s								
MOD	**Modoc Plateau**	**57.60**	**62**	P		**P**		**09 56 47.8**	**+1.6**
MOD				IAmb		IAmb		09 56 48.8	
	comp=Z,9.5nm,1.5s								
FFC	**Flin Flon**	**57.61**	**41**	P		**P**		**09 56 46.2**	**+0.4**
FFC				pmax		pmax			
	comp=Z,4.0nm,0.8s								
FFC	**Flin Flon**	**57.61**	**41**	P		**P**		**09 56 46.2**	**+0.4**
MSO	**Missoula**	**57.62**	**54**	P		**P**		**09 56 46.5**	**+0.4**
	baz=313								
FCC	**Fort Churchill**	**57.67**	**34**	P		**P**		**09 56 45.8**	**-0.3**
FCC				pmax		pmax			
	comp=Z,10.0nm,1.1s								
FCC	**Fort Churchill**	**57.67**	**34**	P		**P**		**09 56 45.8**	**-0.3**
FCC				IAmb		IAmb		09 56 50.7	
	comp=Z,10nm,1.1s								
O03E	**Paynes Creek**	**57.86**	**64**	P		**P**		**09 56 49.1**	**+1.2**
	baz=313								
HRY	**Holter Researc**	**58.75**	**53**	P		**P**		**09 56 55.6**	**+1.7**
EGMT	**Eagleton**	**58.85**	**51**	P		**P**		**09 56 55.1**	**+0.7**
	baz=314								
EGMT	**Eagleton**	**58.85**	**51**	P		**P**		**09 56 55.8**	**+1.3**
FIA1	**FINESS Array S**	**59.05**	**333**	P		**P**		**09 56 55.4**	**+0.1**
FIA1				IAmb		IAmb		09 57 02.6	
	comp=Z,12nm,1.2s								
FINES	**FINESS Array B**	**59.05**	**333**	P		**P**		**09 56 54.6**	**-0.7**
	comp=Z,1.0nm,0.3s,baz=31,slow=6.8,SNR=29								
FINES	**FINESS Array B**	**59.05**	**333**	*ce*P		**P**		**09 56 54.5**	**-0.9**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.3s								
PUL	**Pulkovo**	**59.11**	**330**	*e*P		**P**		**09 56 55.9**	**+0.1**
PUL	**Pulkovo**	**59.11**	**330**	*i* P		**P**		**09 56 55.9**	**+0.1**
PUL				pmax		pmax			
	comp=Z,43nm,0.8s								
DLMT	**Dillon**	**59.30**	**55**	P		**P**		**09 56 58.9**	**+1.3**
DLMT				IAmb		IAmb		09 57 00.4	
	comp=Z,5.5nm,0.9s								
PAHR	**Pah Rah Range**	**59.62**	**63**	P		**P**		**09 57 01.1**	**+1.3**
PAHR				IAmb		IAmb		09 57 02.6	
	comp=Z,6.8nm,1.1s								
BOZ	**Bozeman (W)**	**59.63**	**54**	P		**P**		**09 57 00.8**	**+1.1**
	baz=314,SNR=9.2								
BOZ	**Bozeman (W)**	**59.63**	**54**	P		**P**		**09 57 00.9**	**+1.1**
BOZ				pmax		pmax			
	comp=Z,4.0nm,0.8s								
BOZ	**Bozeman (W)**	**59.63**	**54**	P		**P**		**09 57 00.8**	**+1.1**
PNTR	**Pine Nut**	**59.92**	**64**	P		**P**		**09 57 03.2**	**+1.3**
CMB	**Columbia Colle**	**60.22**	**65**	P		**P**		**09 57 05.0**	**+1.3**
CMB								09 57 43.5	
CMB				pmax		pmax			
	comp=Z,4.0nm,1.3s								
CMB	**Columbia Colle**	**60.22**	**65**	P		**P**		**09 57 05.0**	**+1.3**
CMB				PcP		**PcP**		**09 57 43.5**	**+0.9**
WAKR	**Walker**	**60.42**	**64**	P		**P**		**09 57 06.9**	**+1.7**
WAKR				IAmb		IAmb		09 57 07.3	
	comp=Z,7.1nm,1.4s								
OBN	**Obninsk**	**60.59**	**323**	*e*P		**P**		**09 57 05.6**	**-0.1**
OBN	**Obninsk**	**60.59**	**323**	*i* P		**P**		**09 57 03.5**	**-2.2**
OBN				pmax		pmax			
	comp=Z,16nm,1.3s								
KVN	**Kaiserville**	**60.78**	**63**	P		**P**		**09 57 08.8**	**+1.2**
KVN				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KVN	**Kaiserville**	**60.78**	**63**	P		**P**		**09 57 08.8**	**+1.2**
H17A	**Grant Village**	**61.01**	**54**	P		**P**		**09 57 11.9**	**+2.9**
	baz=315								
NVAR	**Mina Array Bea**	**61.11**	**64**	P		**P**		**09 57 11.1**	**+1.4**
	comp=Z,1.8nm,0.7s,baz=299,slow=6.9,SNR=15								
NVAR	**Mina Array Bea**	**61.11**	**64**	P		**P**		**09 57 11.3**	**+1.6**
RLMT	**Red Lodge**	**61.14**	**53**	P		**P**		**09 57 11.2**	**+1.4**
	baz=316								
ELK	**Elko**	**61.16**	**60**	P		**P**		**09 57 11.2**	**+1.1**
ELK				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ELK	**Elko**	**61.16**	**60**	P		**P**		**09 57 11.2**	**+1.1**
MDPB	**Devils Postpil**	**61.24**	**65**	P		**P**		**09 57 12.8**	**+2.1**
FXWY	**Fox Creek**	**61.31**	**55**	P		**P**		**09 57 12.5**	**+1.5**
LAO	**LASA Array**	**61.49**	**50**	P		**P**		**09 57 13.4**	**+1.5**
	baz=316								
BGU	**Big Grassy Mou**	**62.21**	**58**	P		**P**		**09 57 18.3**	**+1.5**
HWUT	**Hardware Ranch**	**62.49**	**57**	P		**P**		**09 57 19.8**	**+1.1**
HWUT				IAmb		IAmb		09 57 20.3	
	comp=Z,7.3nm,1.4s								
CWC	**Cottonwood Cre**	**62.64**	**65**	P		**P**		**09 57 20.6**	**+0.9**
	baz=316								
GRAC	**Grapevine Rang**	**62.65**	**64**	P		**P**		**09 57 21.4**	**+1.8**
	baz=316								
R11A	**Troy Canyon, C**	**62.67**	**62**	P		**P**		**09 57 20.3**	**+0.4**
	baz=316								
R11A	**Troy Canyon, C**	**62.67**	**62**	P		**P**		**09 57 20.3**	**+0.4**
BW06	**Boulder Array**	**62.69**	**55**	P		**P**		**09 57 20.6**	**+0.7**
	baz=316,SNR=5.7								
BW06	**Boulder Array**	**62.69**	**55**	P		**P**		**09 57 20.7**	**+0.7**
PD31	**Pinedale Array**	**62.69**	**55**	P		**P**		**09 57 20.6**	**+0.6**
PDAR	**Pinedale Array**	**62.69**	**55**	P		**P**		**09 57 20.6**	**+0.6**
	comp=Z,1.4nm,0.5s,baz=352,slow=1.7,SNR=26								
PDAR	**Pinedale Array**	**62.69**	**55**	P		**P**		**09 57 20.2**	**+0.2**
DUG	**Dugway, Tooele**	**62.85**	**59**	P		**P**		**09 57 22.3**	**+1.4**
	baz=316								
DUG	**Dugway, Tooele**	**62.85**	**59**	P		**P**		**09 57 22.0**	**+1.0**
DUG				pmax		pmax			
	comp=Z,8.0nm,1.4s								
DUG	**Dugway, Tooele**	**62.85**	**59**	P		**P**		**09 57 21.9**	**+1.0**
DUG				IAmb		IAmb		09 57 23.4	
	comp=Z,7.6nm,1.4s								
NB2	**NORSAR Subarra**	**63.12**	**340**	P		**P**		**09 57 21.4**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=26,slow=6.5								
NOA	**NORSAR Array B**	**63.12**	**340**	P		**P**		**09 57 21.6**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=28,slow=6.6,SNR=5.8								
GEYT	**Alibeck**	**63.20**	**298**	P		**P**		**09 57 23.4**	**+0.3**
	comp=Z,3.9nm,0.5s,baz=29,slow=3.4,SNR=7.9								
GEYT	**Alibeck**	**63.20**	**298**	P		**P**		**09 57 23.0**	**-0.1**
GYA0B	**ALIBECK ARRAY**	**63.20**	**298**	P		**P**		**09 57 23.7**	**+0.6**
GYA0B				IAmb		IAmb		09 57 24.4	
	comp=Z,7.4nm,0.6s								
MPMC	**Manual Prospec**	**63.25**	**65**	P		**P**		**09 57 24.7**	**+1.0**
	baz=316								
TPNV	**Topopah Spring**	**63.30**	**64**	P		**P**		**09 57 25.2**	**+1.2**
	baz=316,SNR=5.4								
TPNV	**Topopah Spring**	**63.30**	**64**	P		**P**		**09 57 25.4**	**+1.4**
TPNV				pmax		pmax			
	comp=Z,15nm,1.5s								
TPNV	**Topopah Spring**	**63.30**	**64**	P		**P**		**09 57 25.4**	**+1.4**
TPNV				IAmb		IAmb		09 57 26.3	
	comp=Z,15nm,1.5s								
FURC	**Furnace Creek,**	**63.31**	**64**	P		**P**		**09 57 25.0**	**+1.3**
	baz=316,SNR=5.8								
EDW2	**Edwards Air Fo**	**63.81**	**66**	P		**P**		**09 57 28.3**	**+1.2**
	baz=316								
TMUT	**Trail Mountain**	**64.35**	**59**	P		**P**		**09 57 31.9**	**+1.2**
RSSD	**Black Hills**	**64.42**	**51**	P		**P**		**09 57 31.3**	**+0.2**
	baz=318								
CCUT	**Cedar City**	**64.46**	**61**	P		**P**		**09 57 32.7**	**+1.3**
BFSC	**Mount Baldy Ra**	**64.46**	**67**	P		**P**		**09 57 32.3**	**+1.0**
	baz=317								
SRU	**San Rafael Swe**	**64.85**	**58**	P		**P**		**09 57 33.9**	**+0.1**
SRU				pmax		pmax			
	comp=Z,5.0nm,1.2s								
SRU	**San Rafael Swe**	**64.85**	**58**	P		**P**		**09 57 33.9**	**+0.1**
O20A	**White River Ci**	**65.29**	**56**	P		**P**		**09 57 37.1**	**+0.6**
	baz=318								
O20A	**White River Ci**	**65.29**	**56**	P		**P**		**09 57 36.9**	**+0.4**
O20A				IAmb		IAmb		09 57 38.2	
	comp=Z,6.3nm,1.4s								
PFO	**Pinyon Flats O**	**65.60**	**66**	P		**P**		**09 57 39.2**	**+0.7**
PFO				pmax		pmax			
	comp=Z,6.0nm,1.3s								
PFO	**Pinyon Flats O**	**65.60**	**66**	P		**P**		**09 57 39.2**	**+0.7**
PFO				IAmb		IAmb		09 57 40.4	
	comp=Z,5.9nm,1.2s								
COEN	**Coen**	**65.86**	**189**	P		**P**		**09 57 40.9**	**+0.9**
COEN				IAmb		IAmb		09 57 56.4	
	comp=Z,8.9nm,1.1s								
IRM	**Iron Mountain**	**65.95**	**65**	P		**P**		**09 57 41.8**	**+1.3**
	baz=317								
KIV	**Kislovodsk**	**66.58**	**312**	*e*P		**P**		**09 57 44.8**	**+0.5**
KIV	**Kislovodsk**	**66.58**	**312**	*e*P		**P**		**09 57 44.8**	**+0.5**
KIV				pmax		pmax			
	comp=Z,15nm,1.0s								
KBZ	**Khabaz**	**66.65**	**312**	P		**P**		**09 57 45.0**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=94,slow=4.9,SNR=5.6								
KBZ	**Khabaz**	**66.65**	**312**	*ce*P		**P**		**09 57 45.1**	**+0.4**
KBZ				pmax		pmax			
	comp=Z,8.0nm,1.6s								
AKASG	**Malin Array Be**	**66.80**	**324**	P		**P**		**09 57 44.0**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=29,slow=7.1,SNR=6.1								
AKASG	**Malin Array Be**	**66.80**	**324**	P		**P**		**09 57 45.1**	**-0.3**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.9s								
AKASG	**Malin Array Be**	**66.80**	**324**	P		**P**		**09 57 45.1**	**-0.3**
ISCO	**Idaho Springs**	**66.88**	**55**	P		**P**		**09 57 47.7**	**+1.2**
	baz=319								
WUAZ	**Wupatki**	**67.04**	**62**	P		**P**		**09 57 49.5**	**+2.1**
	baz=318								
Y14A	**Wickenburg**	**67.31**	**64**	P		**P**		**09 57 50.2**	**+1.2**
Y14A				IAmb		IAmb		09 57 51.3	
	comp=Z,3.0nm,0.6s								
MVCO	**Mesa Verde**	**67.33**	**58**	P		**P**		**09 57 50.1**	**+0.8**
	baz=319								
ECSD	**EROS Data Cent**	**68.17**	**46**	P		**P**		**09 57 53.6**	**-0.4**
	baz=322								
ECSD	**EROS Data Cent**	**68.17**	**46**	P		**P**		**09 57 53.6**	**-0.4**
ECSD				IAmb		IAmb		09 57 54.7	
	comp=Z,3.2nm,0.7s								
SCHQ	**Schefferville**	**69.08**	**23**	P		**P**		**09 57 58.1**	**-1.1**
	comp=Z,1.8nm,0.9s,baz=304,slow=7.3,SNR=1.9								
SCHQ	**Schefferville**	**69.08**	**23**	P		**P**		**09 57 58.0**	**-1.3**
SCHQ				IAmb		IAmb		09 58 02.5	
	comp=Z,12nm,1.4s								
I37A	**Lemond, Waseca**	**69.37**	**44**	P		**P**		**09 58 00.9**	**-0.3**
I37A				IAmb		IAmb		09 58 02.1	
	comp=Z,6.8nm,0.6s								
ANMO	**Albuquerque**	**70.12**	**59**	P		**P**		**09 58 07.9**	**+1.8**
	baz=320								
ANMO	**Albuquerque**	**70.12**	**59**	*i* P		**P**		**09 58 06.4**	**+0.3**
BUR08	**Bucovina Ar. S**	**70.81**	**325**	P		**P**		**09 58 09.3**	**-0.5**
BURAR	**Bucovina Array**	**70.82**	**325**	⇓P		**P**		**09 58 08.0**	**-1.9**
D47A	**Chapleau**	**71.00**	**36**	P		**P**		**09 58 09.5**	**-1.3**
	baz=328								
319A	**Douglas**	**71.30**	**63**	P		**P**		**09 58 14.4**	**+1.4**
319A				IAmb		IAmb		09 58 15.4	
	comp=Z,7.6nm,1.2s								
CLL	**Collm**	**71.45**	**334**	*e*P		**P**		**09 58 13.0**	**-0.4**
CTAO	**Charters Tower**	**71.70**	**185**	P		**P**		**09 58 15.6**	**+0.4**
CTAO				pmax		pmax			
	comp=Z,17nm,1.5s								
CTAO	**Charters Tower**	**71.70**	**185**	P		**P**		**09 58 15.6**	**+0.4**
CTAO				IAmb		IAmb		09 58 26.6	
	comp=Z,17nm,1.4s								
D50A	**G1974 Best Tow**	**72.06**	**34**	P		**P**		**09 58 15.6**	**-1.5**
	baz=330								
MLR	**Muntele Rosu**	**72.36**	**323**	⇓P		**P**		**09 58 19.1**	**+0.2**
F49A	**Sandfield**	**72.48**	**36**	P		**P**		**09 58 18.0**	**-1.5**
	baz=329								
E51A	**G1948 Merrick**	**72.73**	**34**	P		**P**		**09 58 18.4**	**-2.5**
	baz=330								
VOIR		**72.74**	**324**	⇑P		**P**		**09 58 20.2**	**-0.9**
D53A	**Lac Vacive, Po**	**72.87**	**33**	P		**P**		**09 58 20.7**	**-1.0**
	baz=331								
WR0	**Warramunga Arr**	**72.95**	**197**	P		**P**		**09 58 22.7**	**+0.2**
WR0				IAmb		IAmb		09 58 37.9	
	comp=Z,6.2nm,1.2s								
WB2	**Warramunga Arr**	**72.97**	**197**	P		**P**		**09 58 22.7**	**+0.2**
WB2				IAmb		IAmb		09 58 25.1	
	comp=Z,8.0nm,1.1s								
WRA	**Warramunga Arr**	**72.97**	**197**	P		**P**		**09

SNAA	**Sanae**	**157.00 201**	PKIKP	**PKPdf**	**10 06 44.8 +4.5**	
SNAA	**Sanae**	**157.00 201**	PKPdf	**PKPab**	**10 06 44.8 +4.5**	
SNAA			PKPab	**PKPab**	**10 07 13.2 -1.0**	

*INET **22** 10:41:31.7, 11°.59N×85°.92W, h183km, ML3.0*
UCR 22 10:41:34.6±1.6, 11°.29N×85°.75W, h162km±4km, MD3.9,3C, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BUAI	**Buenos Aires**	**0.58**	**135**	*i*	P	Pn	10 41 57.4	-0.4
BUAI				*i*	S	Sn	10 42 16.0	+0.5
GB1A	**Borinquen Arri**	**0.58**	**143**	*e*	P	Pn	10 41 57.8	0.0
GB1A				*i*	S	Sn	10 42 16.3	+0.7
GBS3	**Finca Las Img**	**0.58**	**150**	*i*	P	Pn	10 41 57.0	-0.8
GBS3				*i*	S	Sn	10 42 15.9	+0.4
BUEV	**Buena Vista**	**0.60**	**145**	*e*	P	Pn	10 41 57.6	-0.3
BUEV				*i*	S	Sn	10 42 16.5	+0.7
LAPC	**Finca la Perla**	**0.61**	**149**	*i*	P	Pn	10 41 57.3	-0.6
LAPC				*i*	S	Sn	10 42 16.4	+0.6
GPS1	**Guardaparques**	**0.65**	**142**	*i*	P	Pn	10 41 58.0	-0.2
NY14	**Universidad de**	**0.67**	**161**	*i*	P	Pn	10 41 58.0	-0.2
NY14				*i*	S	Sn	10 42 17.5	+1.2
CUI	**Cuipilapa**	**0.85**	**137**	*e*	P	Pn	10 41 59.6	+0.1
CUI				*e*	S	Sn	10 42 19.9	+1.4
ACAL	**Aguas Claras**	**0.96**	**133**	*i*	P	Pn	10 42 00.4	+0.1
PLVR	**Palo Verde**	**1.02**	**157**	*e*	P	Pn	10 42 00.8	-0.1
PLVR				*e*	S	Sn	10 42 22.1	+1.1
GUAI	**GUAI**	**1.04**	**167**	*i*	P	Pn	10 42 00.9	+0.1
GUAI				*i*	S	Sn	10 42 21.9	+0.8
JTS	**Las Juntas de**	**1.27**	**142**	*e*	P	Pn	10 42 03.0	+0.1
JTS				*e*	S	Sn	10 42 24.8	+0.2
CEDE	**Laguna Cedeo**	**1.30**	**128**	*e*	P	Pn	10 42 04.0	+0.7
ARE1	**Arenal 1**	**1.31**	**129**	*e*	P	Pn	10 42 03.9	+0.6
SRA1	**San Ramn**	**1.73**	**134**	*e*	P	Pn	10 42 08.9	+1.2
SRA1				*e*	S	Sn	10 42 34.5	+1.4
HDC	**Heredia**	**2.06**	**128**	*e*	S	Sn	10 42 41.0	+1.4
LCR2	**La Lucha 2**	**2.31**	**132**	*e*	P	Pn	10 42 15.1	+0.9
LCR2				*e*	S	Sn	10 42 46.0	+1.1
EDLM	**Las Mercedes**	**2.92**	**133**	*e*	P	Pn	10 42 23.6	+2.0
EDLM				*e*	S	Sn	10 42 58.9	+0.9
DRK0	**Durika**	**3.19**	**129**	*e*	P	Pn	10 42 25.6	+0.6
DRK0				*e*	S	Sn	10 43 04.6	+0.6
EDBA	**Buenos Aires**	**3.23**	**131**	*e*	P	Pn	10 42 26.4	+1.1
EDBA				*e*	S	Sn	10 43 05.5	+0.7
EDPN	**Palmar Norte**	**3.23**	**135**	*e*	P	Pn	10 42 27.0	+1.6
EDPN				*e*	S	Sn	10 43 06.5	+1.6

*TEH **22** 10:51:40.4, 30°.27N×52°.00E, h8km, ML3.0*
*OMAN **22** 10:51:47.2±0.8, 29°.67N×51°.78E, h27km±22km, ml3.3/1, Error ellipse: s-maj=26.3km s-min=10.7km az=52.0*
ISC 22 10:51:40.7±1.6, 29°.98N±0°.09×51°.8E±0°.1, h8km, n16, σ1s23/17, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SHI	**Shiraz**	**0.72**	**118**	*e*	Pg	**Pg**	**10 51 54.8**	**+0.1**
SHI				*e*	Sg	**Sn**	**10 52 07.6**	**-1.2**
SHI				*e*			10 52 10.3	
KLNJ	**Kolanjah**	**1.03**	**351**	*e*	Pg	Pg	10 51 56.6	-4.1
KLNJ				*e*			10 52 13.1	
IRAM	**Ramesheh**	**1.89**	**16**	*e*	Pg	Pn	10 52 10.5	-3.1
IGAR	**Gharneh**	**2.42**	**5**	*e*	Pn	**Pn**	**10 52 20.5**	**-0.4**
JHBN	**Jahan bin**	**2.44**	**337**	*e*	Pn	**Pn**	**10 52 20.9**	**-0.3**
ROKH	**ROKH**	**2.44**	**345**	*e*	Pn	**Pn**	**10 52 21.5**	**+0.4**
ISAD	**Sadrabad**	**2.53**	**40**	*e*		**Pb**	**10 52 27.3**	**+0.8**
IPIR	**Pirpir**	**2.80**	**344**	*e*	Pn	**Pn**	**10 52 25.5**	**-0.6**
IZEF	**Zefreh**	**2.94**	**9**	*e*	Pn	**Pn**	**10 52 27.9**	**-0.2**
IKLH	**Kolahrood**	**3.33**	**357**	*e*	Pn	**Pn**	**10 52 32.9**	**-0.5**
HSAM	**Samen**	**5.00**	**328**	*e*	Pn	**Pn**	**10 52 56.5**	**+0.1**
BANOM	**Banah** SNR=7.0	**5.69**	**134**	P		**Pn**	**10 53 07.0**	**+1.4**
BANOM				S		**Sn**	**10 54 09.5**	**-1.6**
NAZ	**Nazwa, Dubai**	**6.05**	**144**	P		**Pn**	**10 53 13.0**	**+2.4**
MDH	**Madha**	**6.15**	**138**	P		**Pn**	**10 53 12.6**	**+0.7**
UOSS	**Minazif**	**6.37**	**141**	P		**Pn**	**10 53 15.6**	**+0.6**
UOSS				S		**Sn**	**10 54 26.0**	**-2.0**
ASHO	**Ashiyiah** SNR=5.5	**6.50**	**143**	P		**Pn**	**10 53 18.6**	**+1.8**

*IDC **22** 10:53:32.0±0.6, 23°.58N×45°.11W, h0km, mb4.1/18, mb1 4.3/18, mb1mx4.1/41, mbtmp4.1/18, MS3.6/17, Ms1 3.7/17, ms1mx3.4/36, Error ellipse: s-maj=19.5km s-min=14.0km az=152.0*
*NEIC **22** 10:53:34.1±2.1, 23°.5N±0°.1×45°.0W±0°.1, h10km±1km, mb4.5/91, Error ellipse: s-maj=18.7km s-min=17.1km az=146.0*
ISC 22 10:53:34.8±0.5, 23°.51N±0°.09×45°.07W±0°.07, h15km, n137, σ0s95/120, mb4.4/54, MS3.6/17, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H05N1	**Guadeloupe/Mar** SNR=4.3	**16.64**	**247**	T		T	11 14 09.2	
ANWB	**Willy Bob**	**16.69**	**253**	P		**Pn**	**10 57 27.8**	**-0.4**
H05S1	**Guadeloupe/Mar** SNR=29	**17.42**	**242**	T		T	11 15 15.4	
MTP	**Monte Pirata**	**19.89**	**258**	P		**Pn**	**10 58 07.5**	**+0.1**
MTP				IAmb	IAmb		10 58 23.0	
	comp=Z,27nm,1.2s							
PDPR	**Patillas Dam,**	**20.33**	**258**	P		Pn	10 58 15.6	+2.9
SJG	**San Juan**	**20.42**	**259**	P		Pn	10 58 16.2	+2.6
	comp=Z,9.5nm,0.9s,baz=77,slow=16,SNR=4.3							
SJG				LR		LR	11 04 20.2	
	comp=Z,144nm,21.8s,baz=92,slow=32							
SJG	**San Juan**	**20.42**	**259**	P		Pn	10 58 16.6	+3.0
SJG				IAmb		IAmb	10 58 26.6	
	comp=Z,17nm,1.1s							
OBIP	**Obispado Ponce**	**20.85**	**259**			Pn	10 58 17.8	-0.9
HAL	**Halifax**	**25.95**	**329**	P		**P**	**10 59 08.1**	**+1.5**
HAL				IAmb		IAmb	10 59 19.4	
	comp=Z,7.5nm,1.1s							
LMN	**Caledonia Moun**	**27.43**	**329**	P		**P**	**10 59 20.9**	**+1.0**
PTGA	**Pitinga**	**28.11**	**213**	P		**P**	**10 59 26.2**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=328,slow=11,SNR=4.0							
PTGA				LR		LR	11 09 25.2	
	comp=Z,80nm,18.8s,baz=26,slow=34							
PTGA	**Pitinga**	**28.11**	**213**	P		**P**	**10 59 25.8**	**-0.5**
SDV	**Santo Domingo**	**28.46**	**243**	P		**P**	**10 59 30.1**	**+0.5**
PQI	**Presque Isle**	**29.57**	**327**	P		**P**	**10 59 39.7**	**+0.7**
PQI				IAmb		IAmb	10 59 41.2	
	comp=Z,14nm,1.5s							
D62A	**Allapoint, All**	**30.37**	**327**	P		**P**	**10 59 47.5**	**+1.5**
RCBR	**Riachuelo**	**30.50**	**162**	P		**P**	**10 59 48.2**	**+0.7**
RUSC	**La Rusia**	**32.15**	**241**	P		**P**	**11 00 04.2**	**+1.5**
ROSC	**El Rosal**	**33.76**	**241**	LR		LR	11 14 01.0	
	comp=Z,167nm,19.7s,baz=346,slow=36							
SCHQ	**Schefferville**	**35.24**	**338**	LR		LR	11 13 00.9	
	comp=Z,58nm,20.9s,baz=87,slow=33							
TKL	**Tuckaleechee C**	**35.55**	**299**	P		**P**	**11 00 31.3**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=127,slow=6.2,SNR=3.5							
TKL	**Tuckaleechee C**	**35.55**	**299**	P		**P**	**11 00 30.6**	**-0.9**
TKL				IAmb		IAmb	11 00 35.3	
	comp=Z,8.3nm,1.2s							
Q51A	**Peebles**	**35.90**	**305**	P		**P**	**11 00 34.7**	**+0.3**
Q51A				IAmb		IAmb	11 00 40.9	
	comp=Z,7.2nm,1.1s							
T50A	**Nancy**	**36.63**	**301**	P		**P**	**11 00 41.7**	**+1.0**
T50A				IAmb		IAmb	11 00 43.9	
	comp=Z,5.3nm,1.0s							
ESDC	**Sonseca Array**	**38.18**	**55**	P		**P**	**11 00 54.0**	**+0.1**
	comp=Z,1.1nm,1.1s,baz=256,slow=7.7,SNR=4.5							
ESDC				LR		LR	11 13 31.4	
	comp=Z,49nm,21.5s,baz=145,slow=31							
ESDC	**Sonseca Array**	**38.18**	**55**	P		**P**	**11 00 54.0**	**+0.1**
Z47A	**Carrollton**	**38.83**	**294**	P		**P**	**11 01 00.5**	**+1.2**
Z47A				IAmb		IAmb	11 01 03.6	
	comp=Z,7.6nm,0.8s							
E46A	**Sault Ste Mari**	**38.88**	**316**	P		**P**	**11 00 59.9**	**+0.4**
WVT	**Waverly**	**38.88**	**299**	P		**P**	**11 01 00.7**	**+1.0**
USIN	**University of**	**39.00**	**302**	P		**P**	**11 01 01.3**	**+0.6**
HDC	**Heredia**	**39.59**	**257**	P		**P**	**11 01 05.3**	**-0.6**
GNAR	**Gosnell**	**40.62**	**298**	P		**P**	**11 01 14.0**	**-0.2**
CCM	**Cathedral Cave**	**41.82**	**301**	P		**P**	**11 01 23.8**	**-0.3**
DBIC	**Dimbokro**	**42.09**	**107**	LR		LR	11 16 53.3	
	comp=Z,163nm,18.2s,baz=270,slow=33							
SIV	**San Ignacio**	**42.26**	**203**	P		**P**	**11 01 27.8**	**0.0**
	comp=Z,3.0nm,1.1s,baz=30,slow=8.1,SNR=7.3							
W41B	**Gary Mavity, V**	**42.38**	**297**	P		**P**	**11 01 28.1**	**-0.6**
WHAR	**Wooly Hollow**	**42.42**	**297**	P		**P**	**11 01 29.6**	**+0.5**
U40A	**Yellville**	**42.94**	**299**	P		**P**	**11 01 32.4**	**-0.9**
WLAR	**White Oak Lake**	**43.05**	**295**	P		**P**	**11 01 35.1**	**+0.9**
WLAR				IAmb		IAmb	11 01 40.6	
	comp=Z,10nm,1.0s							
H10N2	**ASCENSION HYDR** baz=317,slow=75,SNR=248	**43.17**	**133**	T		T	11 47 26.4	
H10N3	**ASCENSION HYDR** baz=317,slow=75,SNR=250	**43.17**	**133**	T		T	11 47 26.5	
H10N1	**ASCENSION HYDR** baz=317,slow=75,SNR=280	**43.19**	**133**	T		T	11 47 27.9	
N38A	**Joes South For**	**43.70**	**305**	P		**P**	**11 01 38.3**	**-1.0**
N38A				IAmb		IAmb	11 01 46.6	
	comp=Z,12nm,1.4s							
H10S3	**ASCENSION HYDR** baz=264,slow=74,SNR=194	**43.88**	**134**	T		T	11 48 21.0	
H10S2	**ASCENSION HYDR** baz=316,slow=74,SNR=87	**43.89**	**134**	T		T	11 48 21.1	
TOA0	**Torodi Ar. Su**	**45.40**	**95**	P		**P**	**11 01 52.6**	**-0.5**
TORD	**Torodi Ar. Bea**	**45.40**	**95**	P		**P**	**11 01 52.3**	**-0.9**
	comp=Z,5.5nm,0.9s,baz=296,slow=8.2,SNR=17							
TORD				LR		LR	11 18 38.6	
	comp=Z,128nm,21.4s,baz=185,slow=33							
TORD	**Torodi Ar. Bea**	**45.40**	**95**	P		**P**	**11 01 52.2**	**-0.9**
LPAZ	**La Paz**	**45.53**	**212**	P		**P**	**11 01 55.0**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=58,slow=9.9,SNR=8.5							
LPAZ				LR		LR	11 20 54.2	
	comp=Z,53nm,18.3s,baz=26,slow=36							
LPAZ	**La Paz**	**45.53**	**212**	P		**P**	**11 01 53.2**	**-1.5**
KSU1	**Kansas State U**	**46.10**	**302**	P		**P**	**11 01 58.6**	**+0.2**
KSU1				IAmb		IAmb	11 02 00.4	
	comp=Z,4.6nm,0.9s							
TAM	**Tamanrasset**	**46.32**	**80**	P		**P**	**11 02 01.8**	**+1.2**
TAM				IAmb		IAmb	11 02 13.2	
	comp=Z,6.8nm,1.3s							
WHTX	**Lake Whitney,**	**46.75**	**292**	P		**P**	**11 02 04.8**	**+1.2**
WHTX				IAmb		IAmb	11 02 10.7	
	comp=Z,3.4nm,0.7s							
AGMN	**Agassiz Nation**	**46.94**	**315**	P		**P**	**11 02 04.7**	**-0.2**
AGMN				IAmb		IAmb	11 02 12.6	
	comp=Z,4.1nm,1.2s							
BNI	**Bardonecchia**	**46.95**	**50**	P		**P**	**11 02 07.6**	**+2.4**
ULM	**Lac du Bonnet**	**47.42**	**317**	LR		LR	11 20 06.8	
	comp=Z,114nm,20.2s,baz=123,slow=34							
WMOK	**Wichita Mounta**	**47.74**	**296**	P		**P**	**11 02 11.6**	**+0.2**
WMOK				IAmb		IAmb	11 02 16.4	
	comp=Z,3.0nm,1.0s							
KEST	**Kesra**	**48.30**	**62**	P		**P**	**11 02 14.8**	**-0.9**
	comp=Z,7.7nm,0.8s,baz=223,slow=4.8,SNR=8.4							
KEST	**Kesra**	**48.30**	**62**	P		**P**	**11 02 15.2**	**-0.5**
BFO	**Black Forest**	**48.65**	**46**	P		**P**	**11 02 18.3**	**+0.1**
BFO				IAmb		IAmb	11 02 20.7	
	comp=Z,4.4nm,1.0s							
SUMG	**Summit**	**49.23**	**3**	P		**P**	**11 02 22.2**	**-0.5**
SUMG				IAmb		IAmb	11 02 25.9	
	comp=Z,7.3nm,1.0s							
PB11	**IPOC Station P**	**49.24**	**211**	P		**P**	**11 02 22.0**	**-1.1**
PRMA	**PARMA**	**49.47**	**50**	P		**P**	**11 02 24.2**	**-0.2**
OSSC	**Osservatorio P**	**50.02**	**52**	P		**P**	**11 02 30.0**	**+1.3**
CTI	**Castel Tesino**	**50.54**	**49**	P		**P**	**11 02 33.9**	**+1.1**
ZOU	**Zoufplan**	**51.51**	**48**	P		**P**	**11 02 38.3**	**-1.8**
ZOU				IAmb		IAmb	11 02 42.1	
	comp=Z,5.8nm,1.1s							
PRED	**Cave del Predi**	**51.91**	**49**	P		**P**	**11 02 42.0**	**-0.9**
PRED				IAmb		IAmb	11 02 50.1	
	comp=Z,6.1nm,1.0s							
CLL	**Collm**	**52.16**	**42**	*e*	P	**P**	**11 02 45.0**	**+0.4**
KHC	**Kasperske Hory**	**52.20**	**45**	P		**P**	**11 02 46.0**	**+0.9**
GEC2	**GERESS Array S**	**52.25**	**46**	P		**P**	**11 02 46.7**	**+1.2**
GEC2				IAmb		IAmb	11 02 47.9	
	comp=Z,6.3nm,1.3s							
GERES	**GERESS Array B**	**52.25**	**46**	P		**P**	**11 02 44.6**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=258,slow=6.4,SNR=9.9							
GERES	**GERESS Array B**	**52.25**	**46**	P		**P**	**11 02 45.0**	**-0.5**
TXAR	**Lajitas Array**	**52.34**	**290**	P		**P**	**11 02 45.6**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=99,slow=8.0,SNR=7.6							
TXAR				LR		LR	11 23 43.2	
	comp=Z,52nm,21.7s,baz=0.0,slow=35							
TXAR	**Lajitas Array**	**52.34**	**290**	P		**P**	**11 02 45.9**	**-0.5**
TX31	**Lajitas Ar. Si**	**52.34**	**290**	P		**P**	**11 02 45.8**	**-0.7**
TX31				IAmb		IAmb	11 02 56.0	
	comp=Z,12nm,1.5s							
TX32	**Lajitas Array**	**52.34**	**290**	P		**P**	**11 02 45.9**	**-0.5**
Q24A	**Divide**	**52.74**	**302**	P		**P**	**11 02 50.4**	**+0.8**
NB2	**NORSAR Subarra**	**53.52**	**30**	P		**P**	**11 02 55.1**	**+0.5**
	comp=Z,4.6nm,1.0s,baz=251,slow=7.9							
NOA	**NORSAR Array B**	**53.52**	**30**	P		**P**	**11 02 55.0**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=252,slow=7.8,SNR=4.8							
NOA				LR		LR	11 21 47.0	
	comp=Z,26nm,20.3s,baz=180,slow=32							
S22A	**4UR Ranch, Cre**	**54.12**	**300**	P		**P**	**11 03 01.8**	**+2.1**
BNM	**Barren Site**	**54.25**	**296**	P		**P**	**11 03 01.6**	**+0.9**
RWWY	**Rawlins**	**54.26**	**305**	P		**P**	**11 03 01.2**	**+0.6**
RWWY				IAmb		IAmb	11 03 04.3	
	comp=Z,5.5nm,0.8s							
MORC	**Moravsky Berou**	**54.84**	**45**	P		**P**	**11 03 03.6**	**-0.8**
PV07	**Paradox Valley**	**55.50**	**301**	P		**P**	**11 03 10.9**	**+1.3**
PV07				IAmb		IAmb	11 03 14.3	
	comp=Z,4.0nm,1.3s							
VYHS	**Vyhne**	**55.61**	**46**	*e*	P	**P**	**11 03 11.1**	**+1.1**
PDG	**Podgorica**	**55.87**	**54**	P		**P**	**11 03 14.2**	**+2.4**
PDG				IAmb		IAmb	11 03 15.0	
	comp=Z,7.3nm,1.1s							
PV09	**Paradox Valley**	**55.88**	**302**	P		**P**	**11 03 14.2**	**+1.8**
PV05	**Paradox Valley**	**55.88**	**301**	P		**P**	**11 03 12.7**	**+0.4**
PV05				IAmb		IAmb	11 03 13.1	
	comp=Z,3.8nm,0.9s							
PD31	**Pinedale Array**	**55.98**	**307**	P		**P**	**11 03 11.8**	**-1.1**
PDAR	**Pinedale Array**	**55.98**	**307**	P		**P**	**11 03 12.1**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=99,slow=9.2,SNR=12							
PDAR				LR		LR	11 25 24.6	
	comp=Z,85nm,19.6s,baz=124,slow=34							
PDAR	**Pinedale Array**	**55.98**	**307**	P		**P**	**11 03 11.4**	**-1.6**
BW06	**Boulder Array**	**55.98**	**307**	P		**P**	**11 03 11.7**	**-1.3**
BW06				IAmb		IAmb	11 03 13.7	
	comp=Z,3.4nm,1.1s							
GCMT	**Greycliff**	**56.02**	**310**	P		**P**	**11 03 13.2**	**+0.2**
EGMT	**Eagleton**	**56.12**	**313**	P		**P**	**11 03 12.8**	**-0.8**
EGMT				IAmb		IAmb	11 03 17.1	
	comp=Z,4.3nm,0.8s							
SNOW	**Snow King Moun**	**56.83**	**308**	P		**P**	**11 03 19.0**	**0.0**
SNOW				IAmb		IAmb	11 03 21.9	
	comp=Z,4.3nm,1.2s							
SRU	**San Rafael Swe**	**56.91**	**302**	P		**P**	**11 03 19.6**	**0.0**
IMW	**Indian Meadow**	**56.95**	**308**	P		**P**	**11 03 19.6**	**-0.4**
IMW				IAmb		IAmb	11 03 36.7	
	comp=Z,3.9nm,1.0s							
YHL	**Hebgen Lake**	**57.10**	**309**	P		**P**	**11 03 21.6**	**+0.6**
YHB	**Horse Butte**	**57.11**	**309**	P		**P**	**11 03 21.4**	**+0.4**
BOZ	**Bozeman (W)**	**57.40**	**310**	P		**P**	**11 03 22.3**	**-0.6**
TMUT	**Trail Mountain**	**57.43**	**303**	P		**P**	**11 03 23.8**	**+0.4**
MPU	**Maple Canyon**	**57.69**	**304**	P		**P**	**11 03 25.0**	**-0.2**
WUAZ	**Wupatki**	**57.97**	**298**	P		**P**	**11 03 28.3**	**+1.2**
WUAZ				IAmb		IAmb	11 03 31.9	
	comp=Z,4.8nm,1.1s							
MSU	**Marysvale**	**58.26**	**302**	P		**P**	**11 03 30.0**	**+0.9**
DUG	**Dugway, Tooele**	**58.58**	**304**	P		**P**	**11 03 31.7**	**+0.4**
DUG				IAmb		IAmb	11 03 32.8	
	comp=Z,4.6nm,0.9s							
U15A	**North Rim**	**58.59**	**299**	P		**P**	**11 03 32.5**	**+0.9**
BGU	**Big Grassy Mou**	**58.68**	**305**	P		**P**	**11 03 32.3**	**+0.3**
CCUT	**Cedar City**	**59.30**	**301**	P		**P**	**11 03 37.1**	**+0.7**
HLID	**Hailey**	**59.48**	**308**	P		**P**	**11 03 37.4**	**-0.1**
Y14A	**Wickenburg**	**59.53**	**297**	P		**P**	**11 03 38.8**	**+1.0**
Y14A				IAmb		IAmb	11 03 42.4	
	comp=Z,3.2nm,0.9s							
YKA	**Yellowknife Ar**	**59.98**	**330**	P		**P**	**11 03 39.1**	**-1.3**
	comp=Z,1.4nm,0.9s,baz=98,slow=7.5,SNR=4.1							
YKA				LR		LR	11 28 41.8	
	comp=Z,51nm,19.2s,baz=0.0,slow=35							
ELK	**Elko**	**60.36**	**305**	P		**P**	**11 03 43.5**	**-0.2**
ELK				IAmb		IAmb	11 03 44.3	
	comp=Z,2.5nm,0.9s							
MFID	**Camas Ranch**	**60.52**	**308**	P		**P**	**11 03 44.9**	**+0.3**
MFID				IAmb		IAmb	11 03 48.1	
	comp=Z,2.8nm,0.9s							
MLR	**Muntele Rosu**	**60.53**	**50**	LR		LR	11 26 12.6	
	comp=Z,51nm,21.4s,baz=310,slow=32							
MLR	**Muntele Rosu**	**60.53**	**50**	P		**P**	**11 03 44.8**	**+0.2**
FINES	**FINESS Array B**	**60.63**	**31**	P		**P**	**11 03 44.9**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=227,slow=7.6,SNR=4.6							
FINES				LR		LR	11 25 00.6	
	comp=Z,32nm,21.3s,baz=200,slow=31							
FINES	**FINESS Array B**	**60.63**	**31**	P		**P**	**11 03 45.8**	**+1.0**
R11A	**Troy Canyon, C**	**60.93**	**302**	P		**P**	**11 03 47.9**	**+0.3**
R11A				IAmb		IAmb	11 03 48.7	
	comp=Z,3.2nm,1.3s							
NEW	**Newport**	**61.05**	**313**	P		**P**	**11 03 47.4**	**-0.5**
NEW				IAmb		IAmb	11 03 51.4	
	comp=Z,4.1nm,0.8s							
ARCES	**ARCESS Array B**	**61.40**	**22**	P		**P**	**11 03 49.9**	**0.0**
	comp=Z,2.7nm,0.8s,baz=316,slow=5.1,SNR=4.2							
ARCES	**ARCESS Array B**	**61.40**	**22**	P		**P**	**11 03 49.7**	**-0.3**
AKASG	**Malin Array Be**	**62.34**	**44**	P		**P**	**11 03 55.9**	**-0.7**
	comp=Z,2.6nm,0.7s,baz=274,slow=5.9,SNR=9.6							
AKASG	**Malin Array Be**	**62.34**	**44**	P		**P**	**11 03 57.4**	**+0.8**
NVAR	**Mina Array Bea**	**63.03**	**302**	P		**P**	**11 04 00.0**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=88,slow=6.9,SNR=6.2							
NVAR				LR		LR	11 29 07.3	
	comp=Z,167nm,21.6s,baz=30,slow=34							
NVAR	**Mina Array Bea**	**63.03**	**302**	P		**P**	**11 03 59.6**	**-2.1**
ISA	**Isabella, Lake**	**63.66**	**299**	P		**P**	**11 04 07.1**	**+1.4**
K05A	**Summer Lake**	**64.29**	**308**	P		**P**	**11 04 11.3**	**+1.4**
BRTR	**Keskin Array B**	**66.97**	**55**	P		**P**	**11 04 26.4**	**-0.9**
	comp=Z,1.6nm,0.9s,baz=256,slow=5.0,SNR=4.3							
BRTR	**Keskin Array B**	**66.97**	**55**	P		**P**	**11 04 26.1**	**-1.1**
H09W1	**TRISTAN DA CUN** SNR=80	**67.72**	**152**	T		T	12 18 11.0	
BMAR	**Burnt Mountain**	**72.10**	**336**	P		**P**	**11 04 58.7**	**+0.5**
BCAR	**Beaver Creek A**	**72.29**	**332**	P		**P**	**11 04 59.0**	**-0.4**
IL31		**73.87**	**334**	P		**P**	**11 05 07.0**	**-1.7**
IL31				IAmb		IAmb	11 05 11.4	
	comp=Z,3.2nm,0.8s							
ILAR	**Eielson Array**	**73.87**	**334**	P		**P**	**11 05 07.0**	**-1.8**
	comp=Z,2.2nm,0.8s,baz=71,slow=4.5,SNR=15							
ILAR				LR		LR	11 38 27.6	
	comp=Z,59nm,18.0s,baz=124,slow=36							
ILAR	**Eielson Array**	**73.87**	**334**	P		**P**	**11 05 08.5**	**-0.2**
CCB	**Clear Creek Bu**	**74.28**	**334**	P		**P**	**11 05 10.8**	**-0.3**
CCB				IAmb		IAmb	11 05 12.3	
	comp=Z,8.9nm,1.4s							
WRH	**Wood River Hil**	**74.46**	**334**	P		**P**	**11 05 12.6**	**+0.4**
WRH				IAmb		IAmb	11 05 13.2	
	comp=Z,9.5nm,1.4s							
TRF	**Thorofare Moun**	**75.75**	**333**	P		**P**	**11 05 21.8**	**+1.9**
TRF				IAmb		IAmb	11 05 22.6	
	comp=Z,6.1nm,1.0s							

*IDC **22** 10:58:16.0±3.3, 5°.92S×147°.88E, h0km, mb3.9/3, mb1 4.0/5, mb1mx3.6/39, mbtmp3.9/5, ML3.7/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/27, Error ellipse: s-maj=66.4km s-min=41.5km az=87.0*
*NEIC **22** 10:58:35.0±2.4, 7°.0S±0°.1×147°.5E±0°.1, h69km±15km, mb4.0/13, Error ellipse: s-maj=19.2km s-min=10.6km az=218.0*
ISC 22 10:58:24.7±2.1, 6°.2S±0°.2×147°.8E±0°.3, h51km, n19, σ1s08/19, mb4.0/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby** 10nm,0.3s,baz=25,slow=17,SNR=23	**3.24**	**191**	Pn		**Pn**	**10 59 13.0**	**-0.1**
PMG				Sn		**Sn**	**10 59 49.7**	**-0.8**
	5.9nm,0.3s,baz=336,slow=20,SNR=3.2							
PMG				LR		LR	11 00 29.9	
	comp=Z,58nm,18.3s,baz=111,slow=38							
PMG	**Port Moresby**	**3.24**	**191**			**Pn**	**10 59 12.8**	**-0.4**
COEN	**Coen**	**8.95**	**210**	Pn		**Pn**	**11 00 33.0**	**+1.6**
WB0	**Warramunga Arr**	**18.75**	**223**	P		**P**	**11 02 38.5**	**-1.1**
WR0	**

MJB9	**Matsu-Tunnel**	**1.99**	**279**	P	Pn	11 06 37.4 +1.3

*IDC **22** 11:06:40.5±0.6, 10°.89N×126°.92E, h0km, mb4.0/16, mb1 4.1/16, mb1mx3.9/50, mbtmp4.0/16, MS3.0/6, Ms1 3.0/6, ms1mx2.7/38, Error ellipse: s-maj=31.9km s-min=12.7km az=75.0*
*MAN **22** 11:06:42.9, 11.01N×126°.89E, h37km, MS3.7*
*NEIC **22** 11:06:42.5±1.6, 10°.89N±0°.09×126°.8E±0°.1, h8km±4km, mb4.6/29, Error ellipse: s-maj=19.6km s-min=12.3km az=79.0*

ISC 22 11:06:41.9±2.1, 10°.92N±0°.04×126°.79E±0°.06, h7km±13km, n80, σ1°52/91, mb4.4/30, MS2.9/5, 3C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.71**	**229**	⇑*eP*		**Pn**	**11 07 12.6**	**+0.4**
SCPH				*eS*		**Sn**	**11 07 30.4**	**-3.9**
MSLP	**Maasin**	**2.05**	**248**	*eP*		**Pb**	**11 07 18.1**	**-1.5**
MSLP				*eS*		**Sn**	**11 07 40.2**	**-2.6**
OCLP	**Ormoc**	**2.15**	**274**	*eP*		**Pg**	**11 07 23.1**	**0.0**
OCLP				*eS*		**Sn**	**11 07 45.0**	**-0.2**
CNP	**Catarman**	**2.62**	**307**	*eP*		**Pn**	**11 07 24.0**	**-0.7**
CNP				*eS*		**Sn**	**11 07 55.4**	**-1.3**
LLP	**Lapu-Lapu**	**2.84**	**258**	*eP*		**Pn**	**11 07 29.5**	**+1.7**
LLP				*eS*		**Sn**	**11 08 03.0**	**+0.7**
TBP	**Tagbilaran**	**3.13**	**247**	*eP*		**Pn**	**11 07 33.9**	**+2.2**
CGP	**Cagayan de Oro**	**3.20**	**220**	⇓*eP*		**Pn**	**11 07 33.4**	**+0.6**
CGP				*eS*		**Sn**	**11 08 09.9**	**-1.3**
BUKP	**Musuan**	**3.47**	**210**	*eP*		**Pn**	**11 07 37.8**	**+1.4**
BUKP				*eS*		**Sn**	**11 08 18.8**	**+0.9**
PVCP	**Virac**	**3.71**	**316**	*eP*		**Pn**	**11 07 38.0**	**-1.7**
PVCP				*eS*		**Sn**	**11 08 20.1**	**-3.5**
MATI	**Mati**	**3.98**	**188**	*eP*		**Pn**	**11 07 42.5**	**-1.0**
MATI				*eS*		**Sn**	**11 08 25.8**	**-4.7**
RCP	**Roxas**	**4.02**	**280**	⇑*eP*		**Pn**	**11 07 45.9**	**+1.9**
CNOP	**Candoni, Negro**	**4.22**	**256**	*eP*		**Pn**	**11 07 47.2**	**+0.4**
CNOP				*eS*		**Sn**	**11 08 30.4**	**-6.1**
PAGZ	**Pagadian**	**4.54**	**228**	*eP*		**Pn**	**11 07 54.0**	**+2.8**
DDMP	**Don Marcelino,**	**4.90**	**193**	*eP*		**Pn**	**11 07 57.9**	**+1.7**
DDMP				*eS*		Sn	11 08 42.6	-11
LQP	**Lukban**	**6.03**	**302**	⇑*eP*		**Pn**	**11 08 13.5**	**+1.6**
TNTI	**Ternate**	**10.10**	**177**	Pn		**Pn**	**11 09 09.4**	**+1.9**
LUWI	**Luwuk**	**12.54**	**199**	Pn		**Pn**	**11 09 39.1**	**-1.8**
GUMO	**Guam**	**17.86**	**80**	LR		LR	11 16 50.8	
	comp=Z,64nm,18.2s,baz=251,slow=34							
SAUI	**Saumlaki**	**19.30**	**166**	P		**P**	**11 11 06.8**	**-1.0**
BATI	**Baumata**	**21.21**	**189**	P		**P**	**11 11 27.2**	**-1.4**
	38nm,0.8s,baz=60,slow=20,SNR=2.6							
JNU	**Nakatsue**	**22.42**	**9**	LR		LR	11 19 43.1	
	comp=Z,28nm,18.9s,baz=333,slow=35							
MTN	**Manton Dam**	**24.00**	**170**	P		**P**	**11 11 57.6**	**+0.1**
MTN				IAmb		IAmb	11 12 01.6	
	comp=Z,11nm,0.8s							
JHJ	**Hachijo jima 2**	**25.12**	**26**	LR		LR	11 19 39.6	
	comp=Z,55nm,20.4s,baz=288,slow=31							
KSRS	**Korea Array**	**26.44**	**2**	P		**P**	**11 12 18.2**	**-1.3**
	comp=Z,0.6nm,0.6s,baz=182,slow=8.9,SNR=2.1							
KSRS				LR		LR	11 24 09.4	
	comp=Z,15nm,18.3s,baz=225,slow=40							
KULM	**Kulim**	**26.46**	**260**	P		**P**	**11 12 23.4**	**+3.3**
KULM				IAmb		IAmb	11 12 29.2	
	comp=Z,14nm,1.2s							
KNRA	**Kununurra**	**26.50**	**176**	P		**P**	**11 12 20.8**	**+0.6**
KNRA				IAmb		IAmb	11 12 32.8	
	comp=Z,28nm,1.4s							
MJAR	**Matsushiro Arr**	**27.52**	**20**	P		**P**	**11 12 27.3**	**-2.0**
	comp=Z,1.3nm,0.8s,baz=200,slow=10,SNR=5.0							
MJAR				LR		LR	11 23 44.4	
	comp=Z,29nm,18.2s,baz=200,slow=37							
MJAR	**Matsushiro Arr**	**27.52**	**20**	P		**P**	**11 12 29.9**	**+0.6**
CMAR	**Chiang Mai Arr**	**27.93**	**289**	P		**P**	**11 12 32.4**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=102,slow=6.2,SNR=4.2							
CMAR	**Chiang Mai Arr**	**27.93**	**289**	P		**P**	**11 12 31.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**28.85**	**182**	P		**P**	**11 12 40.5**	**-0.8**
	comp=Z,4.3nm,0.9s,baz=265,slow=12,SNR=2.2							
FITZ	**Fitzroy Crossi**	**28.85**	**182**	P		**P**	**11 12 41.9**	**+0.6**
FITZ				IAmb		IAmb	11 12 47.6	
	comp=Z,13nm,1.3s							
FITZ				PcP		**PcP**	**11 15 51.7**	**+0.7**
COEN	**Coen**	**29.58**	**146**	P		**P**	**11 12 48.8**	**+1.0**
COEN				IAmb		IAmb	11 12 59.2	
	comp=Z,24nm,1.5s							
WB0	**Warramunga Arr**	**31.40**	**166**	P		**P**	**11 13 02.9**	**-1.0**
WRAB	**Tennant Creek**	**31.55**	**166**	P		**P**	**11 13 04.1**	**-1.1**
WRAB				IAmb		IAmb	11 13 14.8	
	comp=Z,11nm,1.3s							
WRAB				PcP		**PcP**	**11 15 58.4**	**+0.4**
WRA	**Warramunga Arr**	**31.55**	**166**	P		**P**	**11 13 03.4**	**-1.9**
	comp=Z,0.7nm,0.7s,baz=348,slow=9.2,SNR=5.3							
WRA				PcP		**PcP**	**11 15 56.3**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=338,slow=3.5,SNR=2.8							
WRA	**Warramunga Arr**	**31.55**	**166**	P		**P**	**11 13 04.6**	**-0.6**
WRA				PcP		**PcP**	**11 15 58.2**	**+0.2**
WB2	**Warramunga Arr**	**31.56**	**166**	P		**P**	**11 13 04.3**	**-0.9**
WB2				IAmb		IAmb	11 13 24.1	
	comp=Z,20nm,1.5s							
WR0	**Warramunga Arr**	**31.62**	**166**	P		**P**	**11 13 06.5**	**+0.8**
WR0				IAmb		IAmb	11 13 17.3	
	comp=Z,7.7nm,1.3s							
WR0				PcP		**PcP**	**11 15 58.5**	**+0.3**
PSA00	**Pilbara Seismi**	**33.00**	**192**	P		**P**	**11 13 17.7**	**-0.2**
PSA00				IAmb		IAmb	11 13 32.4	
	comp=Z,28nm,1.5s							
AS31	**Alice Springs**	**35.07**	**169**	P		**P**	**11 13 34.8**	**-1.1**
ASAR	**Alice Springs**	**35.07**	**169**	P		**P**	**11 13 35.2**	**-0.7**
	comp=Z,0.9nm,0.6s,baz=351,slow=7.4,SNR=22							
ASAR				PcP		**PcP**	**11 16 08.1**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=345,slow=2.9,SNR=7.5							
ASAR	**Alice Springs**	**35.07**	**169**	P		**P**	**11 13 35.5**	**-0.3**
ASAR				PcP		**PcP**	**11 16 08.2**	**+0.3**
H11N1	**WAKE ISLAND Hy**	**39.57**	**72**	T		T	11 57 38.9	
	baz=265,slow=74,SNR=4.3							
H11N2	**WAKE ISLAND Hy**	**39.58**	**72**	T		T	11 57 41.2	
	baz=265,slow=74,SNR=4.4							
H11N3	**WAKE ISLAND Hy**	**39.59**	**72**	T		T	11 57 41.2	
	baz=265,slow=74,SNR=4.0							
SONM	**Songino Array**	**40.60**	**339**	P		**P**	**11 14 22.6**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=166,slow=7.0,SNR=2.1							
FORT	**Forrest**	**41.47**	**178**	P		**P**	**11 14 30.3**	**+0.6**
BBOO	**Buckleboo**	**44.37**	**169**	P		**P**	**11 14 53.9**	**+0.7**
STKA	**Stephens Creek**	**44.85**	**162**	P		**P**	**11 14 56.6**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=330,slow=9.4,SNR=6.1							
STKA	**Stephens Creek**	**44.85**	**162**	P		**P**	**11 14 57.2**	**+0.1**
PETK	**Petropavlovsk-**	**48.84**	**24**	LR		LR	11 38 02.0	
	comp=Z,14nm,18.7s,baz=234,slow=38							
MK31	**Makanchi Array**	**51.83**	**322**	P		**P**	**11 15 51.1**	**+0.3**
MKAR	**Makanchi Array**	**51.83**	**322**	P		**P**	**11 15 52.3**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=115,slow=8.6,SNR=10							
MKAR	**Makanchi Array**	**51.83**	**322**	P		**P**	**11 15 50.8**	**0.0**
ZALV	**Zalesovo Beam**	**54.31**	**331**	P		**P**	**11 16 09.5**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=108,slow=6.8,SNR=1.3							
ZALV	**Zalesovo Beam**	**54.31**	**331**	P		**P**	**11 16 08.6**	**-0.3**
KURK	**Kurchatov**	**55.83**	**325**	P		**P**	**11 16 21.1**	**+1.1**
KURK				IAmb		IAmb	11 16 24.0	
	comp=Z,4.8nm,0.8s							
KURBB	**Kurchatov Arra**	**55.84**	**325**	P		**P**	**11 16 21.1**	**+1.1**
	comp=Z,1.6nm,0.6s,baz=125,slow=7.0,SNR=12							
GAR	**Garm**	**57.27**	**309**	P		**P**	**11 16 32.2**	**+1.6**
GAR				IAmb		IAmb	11 16 32.8	
	comp=Z,7.2nm,0.7s							
KK31	**Karatay Array**	**58.17**	**314**	P		**P**	**11 16 37.0**	**+0.3**
KK31				IAmb		IAmb	11 16 40.4	
	comp=Z,7.4nm,1.4s							
KKAR	**Karatay Array**	**58.17**	**314**	P		**P**	**11 16 37.0**	**+0.3**
KKAR	**Karatay Array**	**58.17**	**314**	P		**P**	**11 16 37.4**	**+0.7**
KKAR				IAmb		IAmb	11 16 40.4	
	comp=Z,7.4nm,1.4s							
TIXI	**Tiksi**	**60.70**	**1**	P		**P**	**11 16 53.7**	**0.0**
BVAR	**Borovoye Array**	**61.43**	**325**	P		**P**	**11 16 59.7**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=174,slow=7.3,SNR=5.2							
NIKH	**Nikolski High**	**65.99**	**37**	P		**P**	**11 17 30.0**	**+1.0**
ABKAR	**Akbulak array**	**66.72**	**319**	P		**P**	**11 17 34.7**	**+0.9**
ABKAR				PcP		**PcP**	**11 18 03.0**	**+0.2**
UNV	**Unalaska Valle**	**67.56**	**36**	P		**P**	**11 17 39.4**	**+0.3**
BKZ	**Black Stump Fm**	**67.95**	**140**	P		**P**	**11 17 42.4**	**+0.6**
BPAW	**Bear Paw Mtn.**	**76.86**	**27**	P		**P**	**11 18 36.2**	**+1.6**
BPAW				IAmb		IAmb	11 18 36.5	
	comp=Z,4.2nm,0.9s							
MCK	**McKinley**	**77.75**	**27**	P		**P**	**11 18 40.4**	**+0.9**
MCK				IAmb		IAmb	11 18 40.9	
	comp=Z,6.5nm,1.0s							

ILAR	**Eielson Array**	**78.64**	**26**	P	**P**	**11 18 44.6**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=239,slow=5.9,SNR=5.5						
ILAR	**Eielson Array**	**78.64**	**26**	P	**P**	**11 18 43.6**	**-0.8**
BMAR	**Burnt Mountain**	**79.48**	**23**	P	**P**	**11 18 51.1**	**+2.1**
SCRK	**Sand Creek**	**79.94**	**27**	P	**P**	**11 18 51.7**	**0.0**
FINES	**FINESS Array B**	**85.57**	**332**	P	**P**	**11 19 19.5**	**-1.3**
	comp=Z,1.3nm,0.7s,baz=90,slow=3.8,SNR=6.0						
FINES	**FINESS Array B**	**85.57**	**332**	P	**P**	**11 19 19.7**	**-1.2**
VNDA	**Vanda**	**90.50**	**173**	P	**P**	**11 19 42.6**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=310,slow=5.7,SNR=5.8						
PLCA	**Paso Flores**	**146.59**	**156**	PKPbc	**PKPbc**	**11 26 25.0**	**+0.2**
	comp=Z,3.8nm,1.0s,baz=288,slow=4.3,SNR=4.9						
PLCA	**Paso Flores**	**146.59**	**156**		**PKPbc**	**11 26 25.1**	**+0.4**

*JMA **22** 11:32:17.0, 24°.15N×122°.11E, h40km±1km, M2.0*
*TAP **22** 11:32:17.2, 24°.28N×122°.11E, h13km±1km, ML3.0, C*

ISC 22 11:32:17.0±1.0, 24°.24N±0°.02×122°.14E±0°.02, h19km±2km, n87, σ0°56/163, 2C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ENA	**Nanau**	**0.41**	**298**	*i* P		**Pg**	**11 32 25.0**	**-0.5**
	baz=293							
ENA				*i* S		**Sg**	**11 32 30.8**	**-0.4**
	baz=293							
TWC	**Suao**	**0.45**	**325**	⇓*i* P		**Pg**	**11 32 25.6**	**-0.7**
	baz=324							
TWC				*i* S		**Sg**	**11 32 31.6**	**-0.9**
	baz=324							
NACB	**Ninganchiao**	**0.50**	**263**	⇑P		**Pb**	**11 32 27.4**	**+0.3**
	baz=257							
NACB				S		**Sn**	**11 32 35.9**	**-1.3**
	baz=257							
TWD	**Chiawan**	**0.52**	**252**	*i* P		**Pg**	**11 32 27.8**	**+0.3**
	baz=246							
TWD				*i* S		**Sb**	**11 32 35.2**	**+0.6**
	baz=246							
HWA	**Hwalien**	**0.55**	**242**	*eP*		**Pg**	**11 32 28.2**	**+0.1**
	baz=236							
ETLH	**Xiulin Townshi**	**0.60**	**267**	P		**Pg**	**11 32 29.1**	**+0.1**
	baz=262							
ETLH				S		**Sg**	**11 32 37.7**	**+0.7**
	baz=262							
ILA	**Ilan**	**0.63**	**326**	P		**Pb**	**11 32 28.8**	**-0.5**
	baz=326							
ILA				S		**Sg**	**11 32 39.0**	**+1.0**
	baz=326							
TWE	**Neicheng**	**0.64**	**318**	⇓*i* P		**Pb**	**11 32 29.1**	**-0.5**
	baz=318							
TWE				*i* S		**Sb**	**11 32 37.4**	**-0.7**
	baz=318							
ENTT	**Nioudou**	**0.65**	**308**	*i* P		**Pg**	**11 32 30.5**	**+0.5**
	baz=305							
ENTT				*i* S		**Sb**	**11 32 38.4**	**0.0**
	baz=305							
NTC	**Toucheng**	**0.67**	**336**	*eP*		**Pb**	**11 32 29.7**	**-0.4**
	baz=335							
NTC				*eS*		**Sg**	**11 32 39.3**	**-0.1**
	baz=335							
NDT	**Datong Townshi**	**0.67**	**303**	P		**Pb**	**11 32 30.0**	**-0.1**
	baz=300							
NDT				S		**Sb**	**11 32 38.7**	**-0.3**
	baz=300							
NNSH	**Datong**	**0.71**	**285**	P		**Pg**	**11 32 31.2**	**+0.1**
	baz=282							
NNSH				*eS*		**Sn**	**11 32 41.6**	**-1.0**
	baz=282							
NNSB	**Datong**	**0.71**	**285**	P		**Pb**	**11 32 30.9**	**0.0**
	baz=282							
NNSB				S		**Sn**	**11 32 41.7**	**-1.0**
	baz=282							
NNS	**Nan Shan**	**0.72**	**286**	⇑*i* P		**Pb**	**11 32 31.1**	**0.0**
	baz=283							
NNS				*i* S		**Sg**	**11 32 41.2**	**+0.2**
	baz=283							
JYNG	**Yonagunijimaku**	**0.77**	**74**	P		**Pg**	**11 32 32.3**	**+0.2**
JYNG				S		**Sg**	**11 32 42.9**	**+0.6**
ESL	**Shilin**	**0.77**	**237**	*i* P		**Pg**	**11 32 32.2**	**+0.1**
	baz=232							
ESL				*i* S		**Sn**	**11 32 44.8**	**+0.9**
	baz=232							
TWB1	**Santiao Chiao**	**0.78**	**350**	*i* P		**Pb**	**11 32 31.8**	**-0.1**
	baz=351							
TWB1				*i* S		**Sb**	**11 32 42.0**	**-0.1**
	baz=351							
TIPB	**Shuangxi**	**0.78**	**339**	⇓*i* P		**Pb**	**11 32 31.8**	**-0.2**
	baz=339							
TIPB				S		**Sb**	**11 32 41.8**	**-0.5**
	baz=339							
NWLT	**Wulai**	**0.79**	**313**	P		**Pg**	**11 32 32.3**	**-0.2**
	baz=311							
NWLT				*eS*		**Sb**	**11 32 42.6**	**+0.2**
	baz=311							
WHF	**Hehuan Shan**	**0.80**	**263**	*i* P		**Pb**	**11 32 32.4**	**-0.1**
	baz=259							
WHF				*i* S		**Sg**	**11 32 43.6**	**+0.1**
	baz=259							
YHNB	**Yeheng**	**0.81**	**302**	P		**Pb**	**11 32 32.5**	**0.0**
	baz=299							
YHNB				S		**Sg**	**11 32 43.8**	**-0.1**
	baz=299							
YOJ	**Yonaguni jima**	**0.83**	**74**	P		**Pb**	**11 32 33.0**	**+0.2**
	baz=77							
YOJ				S		**Sn**	**11 32 45.1**	**-0.3**
	baz=77							
YOJ	**Yonaguni jima**	**0.83**	**74**	P		**Pb**	**11 32 33.1**	**+0.3**
YOJ				*eS*		**Sn**	**11 32 45.0**	**-0.3**
NSK	**Sanguang**	**0.83**	**302**	*i* P		**Pb**	**11 32 32.7**	**-0.2**
	baz=299							
NSK				S		**Sb**	**11 32 43.1**	**-0.6**
	baz=299							
EGFH	**Guangfu**	**0.86**	**229**	*eP*		**Pg**	**11 32 33.8**	**0.0**
	baz=225							
EGFH				*eS*		**Sn**	**11 32 47.9**	**+1.7**
	baz=225							
TWT	**Tachien**	**0.88**	**271**	*i* P		**Pn**	**11 32 34.5**	**0.0**
	baz=267							
TWT				S		**Sn**	**11 32 47.0**	**+0.3**
	baz=267							
NWF	**Wu-fen Shan**	**0.89**	**339**	*i* P		**Pb**	**11 32 34.0**	**+0.2**
	baz=339							
NWF				*i* S		**Sg**	**11 32 46.4**	**+0.2**
	baz=339							
WFSB	**Wu-fen Shan**	**0.89**	**339**	P		**Pg**	**11 32 34.2**	**-0.2**
	baz=339							
WFSB				S		**Sg**	**11 32 46.2**	**0.0**
	baz=339							
TDCB	**Techi**	**0.89**	**271**	P		**Pg**	**11 32 34.3**	**-0.1**
	baz=268							
TDCB				S		**Sb**	**11 32 45.7**	**+0.2**
	baz=268							
TWA	**Mucha**	**0.89**	**326**	*i* P		**Pg**	**11 32 34.2**	**-0.2**
	baz=325							
TWA				*eS*		**Sg**	**11 32 46.2**	**-0.1**
	baz=325							
CHGB	**Renai**	**0.90**	**259**	P		**Pb**	**11 32 33.8**	**-0.2**
	baz=255							
CHGB				S		**Sn**	**11 32 48.6**	**+1.2**
	baz=255							
NHDH	**Xindian Distri**	**0.91**	**322**	P		**Pg**	**11 32 34.8**	**+0.1**
	baz=321							
NHDH				S		**Sn**	**11 32 47.6**	**+0.2**
	baz=321							
TATO	**Taipei**	**0.94**	**321**	P		**Pb**	**11 32 34.7**	**0.0**
	baz=320							
TATO				S		**Sb**	**11 32 47.3**	**+0.5**
	baz=320							
TAP1	**Taipei**	**0.97**	**325**	*eP*		**Pg**	**11 32 36.6**	**+0.7**
	baz=324							
TAP1				*eS*		**Sn**	**11 32 49.6**	**+0.8**
	baz=324							
TAP	**Taipei**	**0.98**	**324**	P		**Pb**	**11 32 35.3**	**0.0**
	baz=324							
TAP				*eS*		**Sb**	**11 32 48.3**	**+0.4**
	baz=324							
WLTB	**Daxi**	**1.01**	**307**	P		**Pg**	**11 32 36.6**	**0.0**
	baz=306							
WLTB				*eS*		**Sn**	**11 32 49.6**	**-0.2**
	baz=306							
VWDT	**VWDT**	**1.03**	**242**	P		**Pn**	**11 32 36.4**	**0.0**
	baz=239							
VWDT				*eS*		**Sg**	**11 32 52.9**	**+2.3**
	baz=239							
EHY	**Hungye**	**1.04**	**226**	P		**Pg**	**11 32 37.5**	**+0.2**
	baz=222							
EHY				S		**Sg**	**11 32 51.4**	**+0.4**
	baz=222							

YM10	**YM10**	**1.05**	**330**	P	**Pb**	**11 32 36.6**	**0.0**
	baz=330						
YM11	**YM11**	**1.05**	**331**	P	**Pn**	**11 32 37.1**	**+0.3**
	baz=330						
YM05	**YM05**	**1.06**	**331**	P	**Pb**	**11 32 36.8**	**0.0**
	baz=330						
YM05				*eS*	**Sb**	**11 32 50.5**	**+0.3**
	baz=330						
YM04	**YM04**	**1.06**	**329**	P	**Pn**	**11 32 37.1**	**+0.2**
	baz=328						
YM04				S	**Sg**	**11 32 52.9**	**+1.3**
	baz=328						
YM08	**YM08**	**1.07**	**332**	P	**Pb**	**11 32 36.6**	**-0.3**
	baz=332						
YM08				S	**Sb**	**11 32 50.7**	**+0.3**
	baz=332						
TWS1	**Kuangyinshan**	**1.08**	**323**	*i* P	**Pn**	**11 32 37.3**	**+0.2**
	baz=322						
TWS1				*i* S	**Sg**	**11 32 52.2**	**+0.1**
	baz=322						
YM03	**YM03**	**1.08**	**330**	P	**Pn**	**11 32 37.5**	**+0.3**
	baz=329						
YM03				*eS*	**Sn**	**11 32 51.8**	**+0.1**
	baz=329						
WHP	**Taichung City**	**1.09**	**272**	P	**Pn**	**11 32 37.4**	**+0.1**
	baz=269						
WHP				*eS*	**Sg**	**11 32 52.2**	**-0.2**
	baz=269						
ANP	**Anpu**	**1.10**	**329**	P	**Pg**	**11 32 37.9**	**-0.4**
	baz=329						
ANP				S	**Sb**	**11 32 51.6**	**+0.2**
	baz=329						
LIOB	**Emei**	**1.10**	**292**	P	**Pb**	**11 32 37.7**	**+0.3**
	baz=289						
LIOB				S	**Sn**	**11 32 52.0**	**0.0**
	baz=289						
NSTT	**Nanjuang**	**1.10**	**291**	*i* P	**Pg**	**11 32 38.1**	**-0.3**
	baz=288						
NSTT				S	**Sg**	**11 32 53.1**	**+0.1**
	baz=288						
NTST	**Danshui**	**1.11**	**326**	*eP*	**Pg**	**11 32 38.6**	**0.0**
	baz=325						
DPDB	**Guoxing**	**1.12**	**260**	P	**Pn**	**11 32 37.5**	**-0.3**
	baz=257						
DPDB				S	**Sg**	**11 32 53.5**	**-0.1**
	baz=257						
NCUH	**Zhongli**	**1.13**	**310**	P	**Pb**	**11 32 38.1**	**+0.2**
	baz=309						
NCUH				S	**Sn**	**11 32 52.5**	**-0.3**
	baz=309						
YULB	**Yu-li**	**1.14**	**222**	*eP*	**Pn**	**11 32 37.7**	**-0.2**
	baz=220						
YULB				*eS*	**Sn**	**11 32 53.3**	**+0.3**
	baz=220						
TWY	**Chenhua**	**1.14**	**335**	*i* P	**Pb**	**11 32 38.6**	**+0.5**
	baz=335						
TWY				S	**Sg**	**11 32 55.1**	**+0.9**
	baz=335						
SSLB	**Suanglung**	**1.17**	**248**	P	**Pn**	**11 32 37.5**	**-0.9**
	baz=245						
SSLB				*eS*	**Sg**	**11 32 54.9**	**-0.2**
	baz=245						
SMLT	**Sun Moon Lake**	**1.18**	**253**	P	**Pn**	**11 32 37.9**	**-0.7**
	baz=250						
SMLT				S	**Sb**	**11 32 54.0**	**+0.1**
	baz=250						
TYC	**Yuchr**	**1.22**	**254**	P	**Pn**	**11 32 38.1**	**-0.8**
	baz=251						
TYC				S	**Sg**	**11 32 56.8**	**+0.3**
	baz=251						
TWQ1	**Liyutan**	**1.25**	**275**	*eP*	**Pg**	**11 32 41.0**	**-0.2**
	baz=272						
TWQ1				S	**Sg**	**11 32 56.8**	**-0.7**
	baz=272						
NMLH	**Miaoli**	**1.26**	**284**	P	**Pb**	**11 32 40.5**	**+0.3**
	baz=281						
NMLH				*eS*	**Sg**	**11 32 58.5**	**+0.6**
	baz=281						
NSY	**Sanyi**	**1.27**	**278**	P	**Pg**	**11 32 41.2**	**-0.3**
	baz=276						
WHYT	**Xinyi Township**	**1.29**	**245**	P	**Pb**	**11 32 41.0**	**+0.3**
	baz=243						
WHYT				*eS*	**Sg**	**11 32 59.4**	**+0.5**
	baz=243						
TCU	**Taichung**	**1.34**	**266**	*eP*	**Pb**	**11 32 41.6**	**+0.2**
	baz=264						
TCU				*eS*	**Sg**	**11 33 00.3**	**-0.1**
	baz=264						
WJS	**Zhushan**	**1.35**	**252**	*eP*	**Pb**	**11 32 42.3**	**+0.5**
	baz=250						
WJS				*eS*	**Sg**	**11 33 01.8**	**+0.9**
	baz=250						
WNT	**Mingjian**	**1.38**	**255**	*eP*	**Pb**	**11 32 42.5**	**+0.4**
	baz=252						
WNT				S	**Sb**	**11 32 59.8**	**+0.5**
	baz=252						
ALS	**Alishan**	**1.42**	**239**	P	**Pb**	**11 32 43.2**	**+0.1**
	baz=237						
ALS				*eS*	**Sg**	**11 33 02.6**	**-0.4**
	baz=237						
IRIF	**Iriomote-Funau**	**1.46**	**86**	P	**Pn**	**11 32 42.2**	**-0.1**
IRIF				*eS*	**Sn**	**11 33 00.1**	**-0.8**
CHN5	**Tsauling**	**1.48**	**245**	*eP*	**Pn**	**11 32 42.9**	**+0.2**
	baz=242						
CHN5				*eS*	**Sb**	**11 33 02.4**	**0.0**
	baz=242						
WDLH	**Douliu**	**1.56**	**250**	*eP*	**Pb**	**11 32 44.6**	**-0.6**
	baz=247						
WDLH				*eS*	**Sb**	**11 33 04.2**	**-0.5**
	baz=247						
STYT	**Tauyuan**	**1.66**	**230**	P	**Pb**	**11 32 46.6**	**-0.4**
	baz=227						
STYT				*eS*	**Sb**	**11 33 08.1**	**+0.6**
	baz=227						
RLNB	**Erlin**	**1.66**	**258**	*eS*	**Sb**	**11 33 08.3**	**+0.8**
	baz=256						
**TPU

*GUC **22** 11:33:27.4±0.7,21°.54S×68°.47W,h132^{km}±4^{km},ML3.6*
*IDC **22** 11:33:30.8±9.3,21°.30S×68°.31W,h158^{km}±70^{km},mb3.4/1, mb1 3.3/2,mb1mx3.0/21,mbtmp3.7/2,Error ellipse: s-maj=122.1km s-min=81.1km az=82.0*
ISC 22 11:33:27.0±1.1,21°.53S±0°.04×68°.57W±0°.09,h138^{km}±9^{km}, n19,σ0°.47/36,8C-3D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.68**	**247**	⇑*iP*	**Pn**	**11 33 48.3**	**+0.1**
PB09				*i* S	**Sn**	**11 34 04.6**	**+0.2**
PB09				IAML		11 34 06.7	
	comp=E,1μm,0.5s						
PB01	**IPOC Station P**	**0.98**	**299**	⇑*iP*	**Pn**	**11 33 50.4**	**-0.2**
PB01				*i* S	**Sn**	**11 34 08.3**	**-0.2**
PB01				IAML		11 34 09.7	
	comp=E,1μm,0.4s						
LVC	**Limon Verde**	**1.12**	**196**	*e*P	**Pn**	**11 33 51.8**	**-0.4**
LVC				*e*S	**Sn**	**11 34 10.2**	**-1.2**
PB03	**IPOC Station P**	**1.22**	**245**	*e*P	**Pn**	**11 33 53.1**	**+0.2**
PB03				*i* S	**Sn**	**11 34 12.6**	**0.0**
PB03				IAML		11 34 13.8	
	comp=N,1μm,0.2s						
PB07	**IPOC Station P**	**1.24**	**261**	⇑*iP*	**Pn**	**11 33 53.5**	**+0.4**
PB07				*i* S	**Sn**	**11 34 13.4**	**+0.4**
PB07				IAML		11 34 14.4	
	comp=N,2μm,0.4s						
PB08	**IPOC Station P**	**1.48**	**338**	⇑*iP*	**Pn**	**11 33 56.3**	**+0.4**
PB08				*i* S	**Sn**	**11 34 18.1**	**+0.2**
PB06	**IPOC Station P**	**1.50**	**218**	⇓*iP*	**Pn**	**11 33 56.0**	**+0.2**
PB06				*e*S	**Sn**	**11 34 18.3**	**+0.5**
PB06				IAML		11 34 19.3	
	comp=E,717nm,0.1s						
PB04	**IPOC Station P**	**1.67**	**241**	⇓*iP*	**Pn**	**11 33 58.0**	**+0.3**
PB04				*i* S	**Sn**	**11 34 21.4**	**+0.2**
PB04				IAML		11 34 25.6	
	comp=E,462nm,0.1s						
TA01	**Diego Aracena**	**1.78**	**302**	⇑*iP*	**Pn**	**11 33 59.0**	**+0.2**
TA01				*i* S	**Sn**	**11 34 23.7**	**+0.5**
TA01				IAML		11 34 24.9	
	comp=E,881nm,0.2s						
PB15	**IPOC Station P**	**1.87**	**206**	*e*P	**Pn**	**11 34 00.3**	**+0.2**
PB15				*e*S	**Sn**	**11 34 26.3**	**+0.9**
TA02	**Huaiquique**	**1.92**	**310**	*e*P	**Pn**	**11 34 00.3**	**-0.1**
TA02				*e*S	**Sn**	**11 34 25.9**	**-0.2**
GO01	**Chusmiza**	**1.94**	**342**	*e*P	**Pn**	**11 34 01.3**	**+0.2**
GO01				*e*S	**Sn**	**11 34 27.4**	**+0.1**
GO01				IAML		11 34 30.4	
	comp=N,656nm,0.2s						
PB05	**IPOC Station P**	**2.01**	**229**	⇓*iP*	**Pn**	**11 34 01.7**	**+0.1**
PB05				*i* S	**Sn**	**11 34 28.0**	**-0.2**
PB05				IAML		11 34 29.4	
	comp=N,160nm,0.2s						
PB11	**IPOC Station P**	**2.03**	**330**	⇑*iP*	**Pn**	**11 34 01.8**	**-0.2**
PB11				*i* S	**Sn**	**11 34 28.4**	**-0.4**
PB11				IAML		11 34 29.4	
	comp=E,508nm,0.2s						
PSGC	**Pisagua**	**2.41**	**323**	⇑*iP*	**Pn**	**11 34 05.8**	**-0.7**
PSGC				*i* S	**Sn**	**11 34 36.2**	**-0.7**
PSGC				IAML		11 34 37.3	
	comp=N,194nm,0.4s						
PB10	**IPOC Station P**	**2.70**	**222**	⇑*iP*	**Pn**	**11 34 10.3**	**+0.3**
PB10				*i* S	**Sn**	**11 34 42.4**	**-0.8**
PB10				IAML		11 34 53.9	
	comp=E,54nm,0.3s						
LPAZ	**La Paz**	**5.23**	**5**	P	**Pn**	**11 34 44.8**	**+1.0**
	comp=E,1.2nm,0.3s,baz=170,slow=3.8,SNR=35						
LPAZ				S	**Sn**	**11 35 43.1**	**-0.5**
	baz=103,slow=12,SNR=0.7						
TORD	**Torodi Ar. Bea**	**77.06**	**70**	P	**P**	**11 45 05.3**	**0.0**
	comp=E,0.6nm,0.6s,baz=254,slow=5.5,SNR=6.5						
MKAR	**Makanchi Array**	**145.47**	**36**	PKPbc	**PKPdf**	**11 52 48.4**	**-0.2**
	comp=E,0.2nm,0.4s,baz=298,slow=3.1,SNR=2.8						

IDC 22 11:59:07.8±4.9,30°.38N×141°.71E,h0^{km},mb3.3/3, mb1 3.5/4,mb1mx3.3/26,mbtmp3.2/4,ML2.4/1,Error ellipse: s-maj=195.4km s-min=27.5km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.80**	**336**	Pn	Pn	12 00 47.5	-1.4
	0.1nm,0.3s,baz=158,slow=10,SNR=6.8						
MKAR	**Makanchi Array**	**48.11**	**307**	P	P	12 07 49.9	+0.5
	0.2nm,0.5s,baz=97,slow=4.9,SNR=1.6						
WRA	**Warramunga Arr**	**50.53**	**189**	P	P	12 08 07.7	-0.4
	0.3nm,0.5s,baz=6.3,slow=7.7,SNR=7.1						
ASAR	**Alice Springs**	**54.26**	**189**	P	P	12 08 35.7	0.0
	0.3nm,0.9s,baz=0.0,slow=5.6,SNR=1.7						

*GUC **22** 12:07:14.6±0.8,31°.90S×70°.62W,h95^{km}±5^{km},ML4.3*
*SJA **22** 12:07:14.5±1.0,31°.87S×70°.46W,h89^{km}±8^{km},ML4.0, MW4.0*
*NEIC **22** 12:07:14.6±1.4,31°.89S±0°.04×70°.47W±0°.07,h102^{km}±3^{km}, mb4.3/16,ML4.2(GUC),Error ellipse: s-maj=8.1km s-min=5.0km az=95.0*
*IDC **22** 12:07:16.2±3.1,31°.77S×70°.32W,h112^{km}±21^{km},mb4.0/5, mb1 3.8/8,mb1mx3.6/24,mbtmp4.2/8,MS2.8/1,Ms1 2.8/1, ms1mx2.6/23,Error ellipse: s-maj=31.6km s-min=21.5km az=79.0*
ISC 22 12:07:14.6±0.6,31°.85S±0°.03×70°.45W±0°.03,h101^{km}±5^{km}, n107,σ1^{s}49/141,mb4.2/13,4C-4D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO02	**Combarbal**	**0.80**	**324**	⇑*iP*	**Pn**	**12 07 33.8**	**+0.6**
CO02				*i* S	**Sn**	**12 07 47.7**	**+0.5**
CO02				IAML		12 07 49.2	
	comp=N,24μm,0.2s						
CO02	**Combarbal**	**0.80**	**324**		**Pn**	**12 07 33.9**	**+0.6**
CO02				Sn	**Sn**	**12 07 48.2**	**+1.0**
VA03	**San Esteban**	**0.91**	**185**	⇓*iP*	**Pn**	**12 07 34.5**	**+0.2**
VA03				*i* S	**Sn**	**12 07 49.4**	**+0.3**
VA03				IAML		12 07 51.0	
	comp=E,12μm,0.1s						
VA03	**San Esteban**	**0.91**	**185**		**Pn**	**12 07 34.5**	**+0.2**
VA03				Sn	**Sn**	**12 07 49.4**	**+0.3**
AUSP	**Uspallata**	**0.97**	**112**	*i* P	**Pn**	**12 07 35.6**	**+0.4**
AUSP				*e*S	**Sn**	**12 07 51.0**	**+0.3**
RTLS	**Leoncito**	**0.98**	**87**	*i* P	**Pn**	**12 07 35.8**	**+0.6**
RTLS				*e*S	**Sn**	**12 07 51.7**	**+0.9**
RTLS				IAML		12 07 53.1	
	comp=Z,3μm,0.4s						
CO03	**El Pedregal**	**1.03**	**349**	⇑*iP*	**Pn**	**12 07 36.2**	**+0.6**
CO03				*i* S	**Sn**	**12 07 52.7**	**+1.4**
CO03	**El Pedregal**	**1.03**	**349**		**Pn**	**12 07 36.5**	**+0.9**
CO03				Sn	**Sn**	**12 07 52.5**	**+1.1**
ROCH	**El Roble**	**1.21**	**203**	⇓*iP*	**Pn**	**12 07 37.4**	**-0.3**
ROCH				*i* S	**Sn**	**12 07 54.8**	**-0.3**
ROCH				IAML		12 07 59.2	
	comp=E,5μm,0.7s						
ROC1	**El Roble**	**1.22**	**203**		**Pn**	**12 07 37.4**	**-0.4**
ROC1				Sn	**Sn**	**12 07 54.7**	**-0.6**
ROC1	**El Roble**	**1.22**	**203**	*i* P	**Pn**	**12 07 37.5**	**-0.4**
ROC1				*e*S	**Sn**	**12 07 55.2**	**-0.1**
PEL	**Peldehue**	**1.30**	**189**	*e*P	**Pn**	**12 07 37.9**	**-0.7**
PEL				*i* S	**Sn**	**12 07 56.4**	**-0.2**
PEL	**Peldehue**	**1.30**	**189**		**Pn**	**12 07 38.4**	**-0.2**
PEL				Sn	**Sn**	**12 07 56.6**	**-0.1**
PEL	**Peldehue**	**1.30**	**189**	*i* P	**Pn**	**12 07 38.3**	**-0.2**
PEL				*e*S	**Sn**	**12 07 56.5**	**-0.2**
MT02	**Curacav**	**1.52**	**202**	⇓*iP*	**Pn**	**12 07 40.6**	**-0.6**
MT02				*i* S	**Sn**	**12 08 00.5**	**-0.8**
MT02	**Curacav**	**1.52**	**202**		**Pn**	**12 07 40.7**	**-0.4**
MT02				Sn	**Sn**	**12 08 00.1**	**-1.1**
ZON	**Zonda**	**1.54**	**79**		**Pn**	**12 07 42.0**	**+0.6**
ZON				Sn	**Sn**	**12 08 02.6**	**+0.7**
ZON	**Zonda**	**1.54**	**79**	*i* P	**Pn**	**12 07 42.1**	**+0.6**
ZON				*e*S	**Sn**	**12 08 02.5**	**+0.6**
ZON				IAML		12 08 05.7	
	comp=Z,1μm,0.6s						
MT05	**Renca**	**1.55**	**189**		**Pn**	**12 07 41.7**	**0.0**
MT05				Sn	**Sn**	**12 08 02.1**	**-0.1**
ASAL	**Salagasta**	**1.55**	**119**	*i* P	**Pn**	**12 07 42.7**	**+1.0**
ASAL				IAML		12 08 07.8	
	comp=Z,1μm,0.4s						
ARCO	**CERRO ARCO**	**1.62**	**128**	*i* P	**Pn**	**12 07 44.0**	**+1.4**
ARCO				*e*S	**Sn**	**12 08 05.2**	**+1.4**
ARCO				IAML		12 08 07.2	
	comp=Z,2μm,0.8s						
FSR	**Penalolen**	**1.62**	**182**	⇑*iP*	**Pn**	**12 07 43.9**	**+1.5**
FSR				*i* S	**Sn**	**12 08 04.2**	**+0.6**
RTCV	**Cerro Valdivia**	**1.63**	**91**	*i* P	**Pn**	**12 07 43.0**	**+0.5**
RTCV				IAML		12 08 09.6	
	comp=Z,702nm,0.7s						
MT03	**Universidad Ad**	**1.64**	**182**	⇓*iP*	**Pn**	**12 07 43.0**	**+0.3**
MT03				*i* S	**Sn**	**12 08 04.4**	**+0.4**
MT03				IAML		12 08 06.2	
	comp=E,4μm,0.3s						
RCDM	**Rinconada Maip**	**1.66**	**190**	*e*P	**Pn**	**12 07 43.3**	**+0.4**
RCDM				*i* S	**Sn**	**12 08 04.4**	**0.0**
GO04	**Tololo Observa**	**1.70**	**350**	*e*P	**Pn**	**12 07 44.8**	**+1.1**
GO04				*i* S	**Sn**	**12 08 07.1**	**+1.3**
GO04	**Tololo Observa**	**1.70**	**350**	Pn	**Pn**	**12 07 44.3**	**+0.5**
GO04				Sn	**Sn**	**12 08 07.0**	**+1.2**
GO04	**Tololo Observa**	**1.70**	**350**	*i* P	**Pn**	**12 07 44.2**	**+0.5**
UTNM	**Universidad Te**	**1.71**	**128**	*i* P	**Pn**	**12 07 45.4**	**+1.9**
UTNM				IAML		12 08 12.5	
	comp=Z,576nm,0.3s						
ACCO	**Cerro Coronel**	**1.73**	**44**	*i* P	**Pn**	**12 07 45.4**	**+1.3**
ACCO				IAML		12 08 16.6	
	comp=Z,949nm,0.4s						
RTLL	**Cerro Villicun**	**1.77**	**73**	*i* P	**Pn**	**12 07 44.6**	**+0.3**
RTLL				IAML		12 08 09.1	
	comp=Z,2μm,0.3s						
AAGR	**Agrelo**	**1.84**	**132**	*i* P	**Pn**	**12 07 46.9**	**+1.6**
AAGR				IAML		12 08 14.2	
	comp=Z,796nm,0.9s						
AROD	**Rodeo**	**1.88**	**27**	*i* P	**Pn**	**12 07 48.1**	**+2.1**
CO01	**Juntas del Tor**	**1.90**	**9**		**Pn**	**12 07 47.7**	**+1.5**
CFA	**Coronel Fontan**	**1.90**	**83**	P	**Pn**	**12 07 46.3**	**+0.3**
	comp=Z,121nm,0.3s,baz=254,slow=11,SNR=765						
CFA				S	**Sn**	**12 08 10.2**	**+0.2**
	comp=Z,609nm,0.3s,baz=215,slow=6.5,SNR=124						
CFA	**Coronel Fontan**	**1.90**	**83**	*i* P	**Pn**	**12 07 46.3**	**+0.3**
CFA				IAML		12 08 15.6	
	comp=Z,1μm,0.6s						
ACDV	**Cuesta del Vie**	**2.03**	**35**	*i* P	**Pn**	**12 07 49.6**	**+1.8**
ACDV				IAML		12 08 19.1	
	comp=Z,548nm,0.8s						
AVIZ	**Vizcacheras**	**2.29**	**135**	*i* P	**Pn**	**12 07 52.0**	**+0.9**
ACAN	**Cantantal**	**2.80**	**99**	*i* P	**Pn**	**12 07 56.3**	**-1.5**
ACAN				IAML		12 08 55.2	
	comp=Z,357nm,0.9s						
LCO	**Las Campanas**	**2.84**	**356**	Pn	**Pn**	**12 07 58.8**	**+0.2**
LCO				Sn	**Sn**	**12 08 33.3**	**+1.0**
LCO	**Las Campanas**	**2.84**	**356**	*i* PZ		12 08 00.6	
BO02	**Sierra Bellavi**	**2.94**	**185**	⇑*iP*	**Pn**	**12 07 59.8**	**+0.1**
BO02				*i* S	**Sn**	**12 08 33.6**	**-0.8**
BO02				IAML		12 08 35.9	
	comp=E,1μm,0.3s						
BO02	**Sierra Bellavi**	**2.94**	**185**	Pn	**Pn**	**12 07 59.5**	**-0.2**
BO02				Sn	**Sn**	**12 08 33.5**	**-0.8**
AC05	**El Transito**	**3.01**	**3**	*e*P	**Pn**	**12 08 02.7**	**+2.0**
AC05				*i* S	**Sn**	**12 08 36.4**	**+0.2**
AC05				IAML		12 08 39.2	
	comp=N,1μm,0.3s						
AC05	**El Transito**	**3.01**	**3**	Pn	**Pn**	**12 08 01.8**	**+1.1**
AC05				Sn	**Sn**	**12 08 37.0**	**+0.9**
LAMA	**Las Malvinas**	**3.24**	**162**	*i* P	**Pn**	**12 08 04.4**	**+0.8**
COIS	**El Sosneado**	**3.32**	**168**	*i* P	**Pn**	**12 08 05.9**	**+1.2**
VCA	**Vinchina**	**3.66**	**33**	*i*	Pn	12 07 59.1	-10
VCA	**Vinchina**	**3.66**	**33**	*i* P	**Pn**	**12 08 10.5**	**+1.0**
VCA				IAML		12 08 58.4	
	comp=Z,391nm,0.2s						
APLL	**PUNTA DE LOS L**	**3.67**	**68**	*i* P	**Pn**	**12 08 09.0**	**-0.3**
AC04	**Llanos de Chal**	**3.68**	**351**	Pn	**Pn**	**12 08 09.9**	**+0.5**
PUMA	**Malargue**	**3.73**	**167**	*i* P	**Pn**	**12 08 10.9**	**+0.8**
ACLC	**CERRO LA CRUZ**	**3.87**	**52**	*i* P	**Pn**	**12 08 12.7**	**+0.5**
MRA	**San Martin**	**4.05**	**99**	*i* P	**Pn**	**12 08 13.6**	**-1.0**
MRA				IAML		12 09 22.6	
	comp=Z,351nm,0.5s						
GO03	**Copiap**	**4.25**	**3**		**Pn**	**12 08 17.2**	**0.0**
GO03				Sn	**Sn**	**12 09 05.7**	**-0.2**
GO03	**Copiap**	**4.25**	**3**	*i* P	**Pn**	**12 08 17.2**	**0.0**
BI02	**San Fabin de**	**4.85**	**188**	Pn	**Pn**	**12 08 24.3**	**-1.0**
BI02				Sn	**Sn**	**12 09 17.6**	**-2.7**
TCA	**Tanti**	**5.02**	**86**	*i* P	**Pn**	**12 08 26.4**	**-1.3**
TCA				IAML		12 09 31.8	
	comp=Z,185nm,0.5s						
AC02	**Maricunga**	**5.13**	**13**		**Pn**	**12 08 29.6**	**0.0**
CYA	**Choya**	**5.27**	**51**	*i* P	**Pn**	**12 08 29.0**	**-2.0**
CYA				IAML		12 09 30.3	
	comp=Z,95nm,1.0s						
BI03	**Tigo**	**5.41**	**202**		**Pn**	**12 08 30.0**	**-2.9**
BI03				Sn	**Sn**	**12 09 27.5**	**-6.4**
AC01	**Pan de Azucar**	**5.69**	**359**		**Pn**	**12 08 34.1**	**-2.5**
GO02	**Mina Guanaco**	**6.71**	**7**		**Pn**	**12 08 48.1**	**-2.8**
LC01	**Cunco**	**7.12**	**189**		**Pn**	**12 08 53.9**	**-2.2**
PB15	**IPOC Station P**	**8.66**	**6**		**Pn**	**12 09 13.9**	**-3.3**
PLCA	**Paso Flores**	**8.86**	**180**	P	**Pn**	**12 09 18.4**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=352,slow=12,SNR=14						
PB06	**IPOC Station P**	**9.15**	**5**	Pn	**Pn**	**12 09 24.3**	**+0.4**
LVC	**Limon Verde**	**9.31**	**9**	P	**Pn**	**12 09 22.3**	**-3.9**
	comp=Z,1.0nm,0.3s,baz=171,slow=6.9,SNR=13						
LVC				S	**Sn**	**12 11 02.7**	**-6.7**
	comp=Z,0.6nm,0.3s,baz=188,slow=7.1,SNR=2.2						
PB04	**IPOC Station P**	**9.49**	**2**	Pn	**Pn**	**12 09 24.4**	**-4.1**
PB07	**IPOC Station P**	**10.10**	**3**	Pn	**Pn**	**12 09 24.6**	**-2.3**
TA01	**Diego Aracena**	**11.24**	**1**	Pn	**Pn**	**12 09 53.5**	**+1.3**
PB08	**IPOC Station P**	**11.72**	**6**	Pn	Pn	12 09 53.9	-5.1
GO01	**Chusmiza**	**12.19**	**6**	Pn	**Pn**	**12 10 08.2**	**+2.9**
CPUP	**Villa Florida**	**12.72**	**68**	P	**Pn**	**12 10 11.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=222,slow=14,SNR=2.1						
CPUP				S	**Sn**	**12 12 26.1**	**-5.5**
	comp=Z,0.3nm,0.3s,baz=234,slow=19,SNR=1.8						
CPUP				LR	LR	12 14 28.6	
	comp=Z,46nm,20.2s,baz=217,slow=34						
CPUP	**Villa Florida**	**12.72**	**68**	Pn	**Pn**	**12 10 11.8**	**+0.1**
PB12	**IPOC Station P**	**13.18**	**1**		**Pn**	**12 10 18.8**	**+0.8**
LPAZ	**La Paz**	**15.64**	**8**	P	**Pn**	**12 10 50.3**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=186,slow=9.6,SNR=11						
LPAZ	**La Paz**	**15.64**	**8**	P	**Pn**	**12 10 50.7**	**+0.7**
SIV	**San Ignacio**	**17.95**	**31**	P	**P**	**12 11 15.5**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=241,slow=10,SNR=7.3						
EFI	**East Falkland**	**21.80**	**159**	P	**P**	**12 11 58.3**	**+0.2**
BDFB	**Brasilia**	**26.04**	**57**	P	**P**	**12 12 36.7**	**-1.9**
	comp=Z,4.8nm,0.8s,baz=190,slow=10,SNR=4.8						
BDFB	**Brasilia**	**26.04**	**57**	P	**P**	**12 12 38.2**	**-0.4**
RUSC	**La Rusia**	**37.62**	**356**	P	**P**	**12 14 21.4**	**+1.2**
HUMP	**Col San Antoni**	**49.91**	**6**	P	**P**	**12 15 57.8**	**-0.1**
SNAA	**Sanae**	**53.08**	**159**	P	**P**	**12 16 21.7**	**+0.6**
SNAA	**Sanae**	**53.08**	**159**	P	**P**	**12 16 21.6**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=271,slow=8.2,SNR=22						
SNAA	**Sanae**	**53.08**	**159**	P	**P**	**12 16 21.8**	**+0.7**
SNAA				IAmb	IAmb	12 16 22.5	
	comp=Z,2.9nm,0.8s						
QSPA	**South Pole Qui**	**58.38**	**180**	P	**P**	**12 17 00.3**	**+1.2**
QSPA				IAmb	IAmb	12 17 17.8	
	comp=Z,1.9nm,1.0s						
TXAR	**Lajitas Array**	**68.55**	**329**	P	**P**	**12 18 06.3**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=148,slow=5.3,SNR=2.4						
TXAR				pP	**pP**	**12 18 33.0**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=150,slow=7.4,SNR=5.0						
TXAR	**Lajitas Array**	**68.55**	**329**	P	**P**	**12 18 06.5**	**+0.1**
R40A	**Maddies Statio**	**72.69**	**342**	P	**P**	**12 18 32.0**	**+0.8**
R40A				IAmb	IAmb	12 18 33.7	
	comp=Z,2.4nm,0.8s						
DBIC	**Dimbokro**	**73.22**	**71**	P	**P**	**12 18 34.3**	**-0.6**
	comp=Z,3.6nm,0.5s,baz=207,slow=8.9,SNR=7.8						
DBIC	**Dimbokro**	**73.22**	**71**	P	**P**	**12 18 35.0**	**+0.1**
SUR	**Sutherland**	**74.69**	**119**	P	**P**	**12 18 45.0**	**+1.5**
SUR				IAmb	IAmb	12 18 45.2	
	comp=Z,4.9nm,0.8s						
VLDQ	**Val d'Or**	**79.85**	**355**	P	**P**	**12 19 14.2**	**+2.7**
BOSA	**Boshof**	**79.87**	**117**	P	**P**	**12 19 12.4**	**0.0**
	comp=Z,2.4nm,0.8s,baz=230,slow=4.4,SNR=5.0						
BOSA	**Boshof**	**79.87**	**117**	P	**P**	**12 19 12.5**	**0.0**
BOSA				IAmb	IAmb	12 19 13.6	
	comp=Z,3.4nm,0.8s						
LBTB	**Lobatse**	**81.98**	**114**	P	**P**	**12 19 24.0**	**+0.3**
LBTB				IAmb	IAmb	12 19 24.4	
	comp=Z,4.9nm,0.6s						
TOA0	**Torodi Ar. Sit**	**82.22**	**69**	P	**P**	**12 19 25.4**	**+0.6**
TOA0				IAmb	IAmb	12 19 26.0	
	comp=Z,5.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**82.22**	**69**	P	**P**	**12 19 25.0**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=282,slow=6.9,SNR=16						
TORD				pP	**pP**	**12 19 53.6**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=254,slow=5.5,SNR=3.1						
TORD	**Torodi Ar. Bea**	**82.22**	**69**	P	**P**	**12 19 24.8**	**-0.1**
OMMB	**Old Mammoth Mi**	**82.64**	**323**	P	**P**	**12 19 26.8**	**-0.1**
OMMB				IAmb	IAmb	12 19 41.6	
	comp=Z,4.5nm,1.4s						
NVAR	**Mina Array Bea**	**82.91**	**324**	pP	pP	12 19 55.6	+0.1
	comp=Z,0.3nm,0.6s,baz=159,slow=5.4,SNR=2.4						
ZALV	**Zalesovo Beam**	**151.70**	**31**	PKPbc	**PKiKP**	**12 26 57.5**	**+0.4**
	comp=Z,3.1nm,0.4s,baz=316,slow=3.5,SNR=12						
ZALV	**Zalesovo Beam**	**151.70**	**31**		**PKiKP**	**12 26 57.1**	**0.0**
MKAR	**Makanchi Array**	**154.34**	**47**	PKPab	**PKPab**	**12 27 17.6**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=291,slow=4.3,SNR=9.3						
MKAR	**Makanchi Array**	**154.34**	**47**		**PKPab**	**12 27 17.4**	**+0.1**

*IDC **22** 12:20:06.5±1.9,15°.72N×145°.76E,h191^{km}±14^{km},mb3.3/7, mb1 3.5/8,mb1mx3.2/47,mbtmp3.8/8,MS3.1/2,Ms1 3.1/2, ms1mx2.6/24,Error ellipse: s-maj=38.6km s-min=18.1km az=87.0*
*NEIC **22** 12:20:09.0±2.2,15°.67N±0°.06×145°.6E±0°.2,h207^{km}±8^{km}, mb4.2/11,Error ellipse: s-maj=29.7km s-min=8.2km az=95.0*
ISC 22 12:20:07.7±0.9,15°.73N±0°.08×145°.6E±0°.2,h200^{km},n33, σ1^{s}03/27,mb4.0/13,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.23**	**198**	P	**Pn**	**12 20 49.0**	**+0.3**
	12nm,0.3s,baz=73,slow=19,SNR=11						
GUMO				S	**Sn**	**12 21 19.5**	**-1.2**
	9.5nm,0.3s,baz=312,slow=23,SNR=8.0						
GUMO	**Guam**	**2.23**	**198**		**Pn**	**12 20 50.0**	**+1.2**
GUMO					**Sn**	**12 21 20.6**	**-0.1**
JOW	**Kunigami**	**19.51**	**307**	P	**P**	**12 24 19.9**	**0.0**
H11N1	**WAKE ISLAND Hy**	**20.69**	**76**	T	T	12 45 42.3	
	baz=263,slow=75,SNR=8.6						
H11N2	**WAKE ISLAND Hy**	**20.70**	**76**	T	T	12 45 42.8	
	baz=263,slow=75,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**20.71**	**76**	T	T	12 45 43.7	
	baz=263,slow=75,SNR=9.4						
KSRS	**Korea Array**	**26.69**	**328**	LR	LR	12 35 15.5	
	comp=Z,16nm,21.2s,baz=200,slow=34						
WHN	**Wuhan**	**32.14**	**303**	P	P	12 26 27.8	+11
CTAO	**Charters Tower**	**35.60**	**179**	P	**P**	**12 26 45.7**	**-0.7**
CTAO				IAmb	IAmb	12 27 05.3	
	comp=Z,12nm,1.4s						
WB0	**Warramunga Arr**	**36.95**	**198**	P	**P**	**12 26 58.0**	**+0.2**
WR0	**Warramunga Arr**	**37.08**	**197**	P	**P**	**12 27 00.2**	**+1.2**
WR0				IAmb	IAmb	12 27 17.6	
	comp=Z,10nm,1.3s						
WRAB	**Tennant Creek**	**37.11**	**198**	P	**P**	**12 26 59.4**	**+0.1**
WRAB				IAmb	IAmb	12 27 00.5	
	comp=Z,9.3nm,1.3s						
WB2	**Warramunga Arr**	**37.12**	**198**	P	**P**	**12 27 00.2**	**+0.9**
WB2				IAmb	IAmb	12 27 08.7	
	comp=Z,5.4nm,1.1s						
WRA	**Warramunga Arr**	**37.13**	**198**	P	**P**	**12 26 59.3**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=11,slow=8.4,SNR=6.3						
WRA	**Warramunga Arr**	**37.13**	**198**	P	**P**	**12 26 59.6**	**+0.3**
HHC	**Hu-ho-hao-te**	**38.63**	**317**	*e*P	**P**	**12 27 10.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**38.93**	**211**	LR	LR	12 44 05.5	
	comp=Z,73nm,19.9s,baz=294,slow=37						
AS31	**Alice Springs**	**40.78**	**196**	P	**P**	**12 27 29.7**	**+0.1**
ASAR	**Alice Springs**	**40.78**	**196**	P	**P**	**12 27 29.7**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=15,slow=11,SNR=14						
ASAR	**Alice Springs**	**40.78**	**196**	P	**P**	**12 27 30.5**	**+0.9**
CMAR	**Chiang Mai Arr**	**44.56**	**280**	P	**P**	**12 28 01.3**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=83,slow=7.4,SNR=2.0						
MK31	**Makanchi Array**	**60.44**	**315**	P	**P**	**12 29 57.3**	**+1.0**
MKAR	**Makanchi Array**	**60.44**	**315**	P	**P**	**12 29 57.3**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=91,slow=8.9,SNR=9.0						
MAKZ	**Makanchi**	**60.66**	**315**	P	**P**	**12 29 58.9**	**+1.1**
MAKZ				IAmb	IAmb	12 29 59.0	
	comp=Z,1.4nm,0.3s						
**K

TWB1	**Santiao Chiao**	**0.63**	**297**	⇓*i*P	**Pn**	**12 26 31.5**	**-0.3**
	baz=298						
TWB1				*e*S	**Sn**	**12 26 43.3**	**-1.4**
	baz=298						
TWC	**Suao**	**0.70**	**261**	⇑*i*P	**Pn**	**12 26 31.7**	**-0.7**
	baz=258						
TWC				*e*S	**Sn**	**12 26 43.5**	**-2.3**
	baz=258						
NTC	**Toucheng**	**0.72**	**281**	*e*P	**Pn**	**12 26 32.5**	**0.0**
	baz=278						
NTC				*e*S	**Sn**	**12 26 44.7**	**-1.4**
	baz=278						
TIPB	**Shuangxi**	**0.75**	**290**	⇓*i*P	**Pn**	**12 26 32.8**	**-0.1**
	baz=285						
TIPB				*e*S	**Sn**	**12 26 45.2**	**-1.5**
	baz=285						
ILA	**Ilan**	**0.78**	**273**	*e*P	**Pn**	**12 26 32.9**	**-0.2**
	baz=270						
ILA				*e*S	**Sn**	**12 26 46.5**	**-0.6**
	baz=270						
NWF	**Wu-fen Shan**	**0.83**	**295**	⇓*i*P	**Pn**	**12 26 33.6**	**-0.1**
	baz=289						
NWF				*e*S	**Sn**	**12 26 47.1**	**-0.9**
	baz=289						
WFSB	**Wu-fen Shan**	**0.83**	**295**	⇓*i*P	**Pn**	**12 26 33.7**	**+0.1**
	baz=291						
WFSB				*e*S	**Sn**	**12 26 47.1**	**-0.8**
	baz=291						
ENA	**Nanau**	**0.84**	**250**	⇑*i*P	**Pn**	**12 26 33.3**	**-0.4**
	baz=250						
ENA				*e*S	**Sn**	**12 26 47.0**	**-1.1**
	baz=250						
TWE	**Neicheng**	**0.85**	**270**	⇑*i*P	**Pn**	**12 26 33.6**	**-0.2**
	baz=271						
TWE				*e*S	**Sn**	**12 26 47.1**	**-1.2**
	baz=271						
ENTT	**Nioudou**	**0.95**	**265**	⇑*i*P	**Pn**	**12 26 34.9**	**+0.1**
	baz=266						
ENTT				*e*S	**Sn**	**12 26 49.8**	**-0.3**
	baz=266						
TWA	**Mucha**	**0.96**	**286**	⇓*i*P	**Pn**	**12 26 34.9**	**0.0**
	baz=278						
TWA				*e*S	**Sn**	**12 26 49.4**	**-1.0**
	baz=278						
NDT	**Datong Townshi**	**1.00**	**263**	⇑*i*P	**Pn**	**12 26 35.7**	**+0.4**
	baz=262						
NDT				*e*S	**Sn**	**12 26 50.0**	**-1.0**
	baz=262						
NWLT	**Wulai**	**1.01**	**273**	P	**Pn**	**12 26 35.3**	**-0.1**
	baz=280						
NWLT				*e*S	**Sn**	**12 26 49.6**	**-1.6**
	baz=280						
NHDH	**Xindian Distri**	**1.01**	**284**	⇓*i*P	**Pn**	**12 26 35.5**	**0.0**
	baz=276						
NHDH				*e*S	**Sn**	**12 26 50.0**	**-1.1**
	baz=276						
PCYT	**Pengchaiyu**	**1.03**	**332**	⇓*i*P	**Pn**	**12 26 36.1**	**+0.5**
	baz=332						
TAP1	**Taipei**	**1.03**	**288**	⇓P	**Pn**	**12 26 35.6**	**0.0**
	baz=279						
TAP1				*e*S	**Sn**	**12 26 50.7**	**-0.9**
	baz=279						
YM08	**YM08**	**1.03**	**297**	⇓*i*P	**Pn**	**12 26 35.4**	**-0.3**
	baz=292						
YM08				*e*S	**Sn**	**12 26 50.0**	**-1.7**
	baz=292						
TATO	**Taipei**	**1.05**	**284**	⇓*i*P	**Pn**	**12 26 35.7**	**-0.1**
	baz=276						
TATO				*e*S	**Sn**	**12 26 50.4**	**-1.5**
	baz=276						
TATO	**Taipei**	**1.05**	**284**		**Pn**	**12 26 35.7**	**-0.1**
TATO				Sn	**Sn**	**12 26 50.2**	**-1.6**
TAP	**Taipei**	**1.05**	**288**	⇓P	**Pn**	**12 26 35.6**	**-0.2**
	baz=279						
TAP				*e*S	**Sn**	**12 26 49.8**	**-2.1**
	baz=279						
YM04	**YM04**	**1.06**	**294**	⇓*i*P	**Pn**	**12 26 35.9**	**-0.2**
	baz=286						
YM04				*e*S	**Sn**	**12 26 51.1**	**-1.1**
	baz=286						
TWY	**Chenhua**	**1.07**	**301**	⇓*i*P	**Pn**	**12 26 36.2**	**+0.2**
	baz=301						
TWY				*e*S	**Sn**	**12 26 51.9**	**-0.3**
	baz=301						
YM03	**YM03**	**1.07**	**295**	⇓*i*P	**Pn**	**12 26 36.0**	**-0.1**
	baz=287						
NACB	**Ninganchiao**	**1.07**	**240**	⇑*i*P	**Pn**	**12 26 35.0**	**-1.1**
	baz=240						
NACB				*e*S	**Sn**	**12 26 50.2**	**-2.2**
	baz=240						
NACB	**Ninganchiao**	**1.07**	**240**		**Pn**	**12 26 35.1**	**-1.0**
NACB				Sn	**Sn**	**12 26 50.8**	**-1.5**
ANP	**Anpu**	**1.09**	**295**	⇓*i*P	**Pn**	**12 26 36.2**	**-0.2**
	baz=287						
ANP				*e*S	**Sn**	**12 26 52.1**	**-0.7**
	baz=287						
IRIF	**Iriomote-Funau**	**1.09**	**110**	P	**Pn**	**12 26 36.0**	**-0.3**
IRIF				S	**Sn**	**12 26 51.8**	**-0.9**
TWD	**Chiawan**	**1.12**	**235**	⇑*i*P	**Pn**	**12 26 35.6**	**-1.0**
	baz=230						
TWD				*e*S	**Sn**	**12 26 51.5**	**-1.8**
	baz=230						
YHNB	**Yeheng**	**1.12**	**268**	⇑*i*P	**Pn**	**12 26 36.9**	**+0.1**
	baz=274						
YHNB				*e*S	**Sn**	**12 26 52.9**	**-0.7**
	baz=274						
YHNB	**Yeheng**	**1.12**	**268**		**Pn**	**12 26 37.1**	**+0.4**
YHNB				Sn	**Sn**	**12 26 52.8**	**-0.7**
NSK	**Sanguang**	**1.14**	**268**	⇑*i*P	**Pn**	**12 26 37.0**	**+0.1**
	baz=273						
NSK				*e*S	**Sn**	**12 26 52.9**	**-0.9**
	baz=273						
NTST	**Danshui**	**1.14**	**293**	⇓*i*P	**Pn**	**12 26 37.0**	**+0.2**
	baz=287						
NTST				*e*S	**Sn**	**12 26 53.5**	**-0.2**
	baz=287						
TWS1	**Kuangyinshan**	**1.14**	**290**	⇓*i*P	**Pn**	**12 26 37.1**	**+0.2**
	baz=290						
TWS1				*e*S	**Sn**	**12 26 53.4**	**-0.4**
	baz=290						
ETLH	**Xiulin Townshi**	**1.15**	**244**	⇑*i*P	**Pn**	**12 26 36.4**	**-0.6**
	baz=238						
ETLH				*e*S	**Sn**	**12 26 52.2**	**-1.8**
	baz=238						
NNSB	**Datong**	**1.15**	**256**	⇑*i*P	**Pn**	**12 26 36.8**	**-0.3**
	baz=249						
NNSB				*e*S	**Sn**	**12 26 52.8**	**-1.4**
	baz=249						
NNSH	**Datong**	**1.15**	**256**	⇑*i*P	**Pn**	**12 26 36.9**	**-0.2**
	baz=250						
NNSH				*e*S	**Sn**	**12 26 52.8**	**-1.3**
	baz=250						
NNS	**Nan Shan**	**1.16**	**256**	⇑*i*P	**Pn**	**12 26 36.9**	**-0.3**
	baz=251						
NNS				*e*S	**Sn**	**12 26 52.5**	**-1.7**
	baz=251						
HWA	**Hwalien**	**1.18**	**231**	⇑*i*P	**Pn**	**12 26 36.8**	**-0.4**
	baz=226						
HWA				*e*S	**Sn**	**12 26 53.9**	**-0.5**
	baz=226						
WLTB	**Daxi**	**1.24**	**276**	P	**Pn**	**12 26 38.1**	**+0.2**
	baz=280						
WLTB				*e*S	**Sn**	**12 26 56.1**	**+0.4**
	baz=280						
HATJ	**Hateruma jima**	**1.28**	**121**	P	**Pn**	**12 26 38.5**	**+0.1**
HATJ				*e*S	**Sn**	**12 26 56.3**	**-0.1**
NCU	**National Centr**	**1.31**	**281**	⇓*i*P	**Pn**	**12 26 39.0**	**+0.2**
	baz=281						
NCU				*e*S	**Sn**	**12 26 57.7**	**+0.5**
	baz=281						
NCUH	**Zhongli**	**1.31**	**281**	*e*P	**Pn**	**12 26 38.8**	**-0.1**
	baz=289						
NCUH				*e*S	**Sn**	**12 26 57.2**	**-0.1**
	baz=289						
WHF	**Hehuan Shan**	**1.35**	**245**	⇑*i*P	**Pn**	**12 26 39.4**	**-0.3**
	baz=240						
WHF				*e*S	**Sn**	**12 26 57.1**	**-1.6**
	baz=240						
JKRS	**Kuro-shima**	**1.36**	**110**	P	**Pn**	**12 26 39.6**	**+0.2**
JKRS				S	**Sn**	**12 26 58.4**	**+0.1**
TWT	**Tachien**	**1.39**	**251**	⇑*i*P	**Pn**	**12 26 40.3**	**+0.4**
	baz=244						
TWT				*e*S	**Sn**	**12 26 58.2**	**-0.8**
	baz=244						
TDCB	**Techi**	**1.40**	**251**	⇑*i*P	**Pn**	**12 26 40.2**	**+0.2**
	baz=245						
TDCB				*e*S	**Sn**	**12 26 57.9**	**-1.4**
	baz=245						
ESL	**Shilin**	**1.40**	**230**	⇑*i*P	**Pn**	**12 26 38.9**	**-1.0**
	baz=224						
ESL				*e*S	**Sn**	**12 26 56.7**	**-2.4**
	baz=224						
JIJ	**Ishigaki jima**	**1.44**	**104**	P	**Pn**	**12 26 40.1**	**-0.2**
JIJ				S	**Sn**	**12 26 59.2**	**-0.7**
LIOB	**Emei**	**1.45**	**267**	⇑*i*P	**Pn**	**12 26 40.6**	**+0.2**
	baz=268						
LIOB				*e*S	**Sn**	**12 26 59.7**	**-0.4**
	baz=268						
CHGB	**Renai**	**1.46**	**244**	⇑*i*P	**Pn**	**12 26 40.9**	**+0.1**
	baz=238						
CHGB				*e*S	**Sn**	**12 26 59.3**	**-1.5**
	baz=238						
NSTT	**Nanjuang**	**1.46**	**267**	⇑*i*P	**Pn**	**12 26 40.7**	**+0.1**
	baz=267						
NSTT				*e*S	**Sn**	**12 26 59.8**	**-0.6**
	baz=267						
SBCB	**Hsinchu**	**1.48**	**273**	*i* P	**Pn**	**12 26 41.1**	**+0.4**
	baz=273						
SBCB				S	**Sn**	**12 27 00.5**	**-0.2**
	baz=273						
HSN	**Hsinchu**	**1.49**	**273**	P	**Pn**	**12 26 40.8**	**-0.1**
	baz=275						
HSN				*e*S	**Sn**	**12 27 00.0**	**-0.9**
	baz=275						
EGFH	**Guangfu**	**1.50**	**226**	⇑*i*P	**Pn**	**12 26 40.2**	**-0.9**
	baz=222						
EGFH				*e*S	**Sn**	**12 26 59.1**	**-2.2**
	baz=222						
OWD	**Renai**	**1.51**	**240**	⇑*i*P	**Pn**	**12 26 41.2**	**-0.2**
	baz=236						
OWD				*e*S	**Sn**	**12 26 59.9**	**-1.8**
	baz=236						
JISG	**Ishigakijimahi**	**1.56**	**95**	P	**Pn**	**12 26 41.6**	**-0.1**
JISG				S	**Sn**	**12 27 01.7**	**-0.7**
WHP	**Taichung City**	**1.58**	**254**	⇑*i*P	**Pn**	**12 26 43.1**	**+1.0**
	baz=252						
WHP				*e*S	**Sn**	**12 27 02.8**	**-0.2**
	baz=252						
VWDT	**VWDT**	**1.65**	**235**	⇑*i*P	**Pn**	**12 26 43.0**	**+0.1**
	baz=229						
VWDT				*e*S	**Sn**	**12 27 03.2**	**-1.2**
	baz=229						
NMLH	**Miaoli**	**1.66**	**264**	⇑*i*P	**Pn**	**12 26 43.5**	**+0.5**
	baz=264						
NMLH				*e*S	**Sn**	**12 27 03.9**	**-0.9**
	baz=264						
DPDB	**Guoxing**	**1.68**	**246**	⇑*i*P	**Pn**	**12 26 44.1**	**+0.8**
	baz=247						
DPDB				*e*S	**Sn**	**12 27 04.6**	**-0.6**
	baz=247						
EHY	**Hungye**	**1.69**	**224**	⇑*i*P	**Pn**	**12 26 42.2**	**-1.1**
	baz=232						
NSY	**Sanyi**	**1.71**	**260**	⇑*i*P	**Pn**	**12 26 44.1**	**+0.5**
	baz=260						
NSY				*e*S	**Sn**	**12 27 06.0**	**+0.2**
	baz=260						
TWQ1	**Liyutan**	**1.71**	**258**	⇑*i*P	**Pn**	**12 26 44.0**	**+0.3**
	baz=258						
TWQ1				*e*S	**Sn**	**12 27 05.4**	**-0.5**
	baz=258						
PTSB	**Yuanli**	**1.75**	**261**	⇑*i*P	**Pn**	**12 26 44.6**	**+0.4**
	baz=262						
PTSB				*e*S	**Sn**	**12 27 06.2**	**-0.5**
	baz=262						
SSLB	**Suanglung**	**1.77**	**239**	⇑*i*P	**Pn**	**12 26 44.4**	**0.0**
	baz=236						
SSLB				*e*S	**Sn**	**12 27 07.2**	**-0.1**
	baz=236						
SSLB	**Suanglung**	**1.77**	**239**	Pn	**Pn**	**12 26 44.5**	**0.0**
SSLB				Sn	**Sn**	**12 27 08.0**	**+0.8**
YULB	**Yu-li**	**1.78**	**222**	⇑*i*P	**Pn**	**12 26 43.5**	**-1.1**
	baz=230						
YULB				*e*S	**Sn**	**12 27 05.0**	**-2.5**
	baz=230						
YULB	**Yu-li**	**1.78**	**222**		**Pn**	**12 26 43.5**	**-1.1**
YULB				Sn	**Sn**	**12 27 05.2**	**-2.3**
TYC	**Yuchr**	**1.79**	**243**	P	**Pn**	**12 26 45.2**	**+0.6**
	baz=239						
TYC				*e*S	**Sn**	**12 27 07.0**	**-0.6**
	baz=239						
TWF1	**Yuli**	**1.81**	**222**	⇑*i*P	**Pn**	**12 26 44.0**	**-1.0**
	baz=229						
TWF1				*e*S	**Sn**	**12 27 05.4**	**-2.7**
	baz=229						
WDJ	**Dajia District**	**1.83**	**259**	⇑*i*P	**Pn**	**12 26 45.7**	**+0.6**
	baz=259						
WDJ				*e*S	**Sn**	**12 27 07.7**	**-0.7**
	baz=259						
TCU	**Taichung**	**1.85**	**252**	⇑*i*P	**Pn**	**12 26 46.0**	**+0.6**
	baz=253						
TCU				*e*S	**Sn**	**12 27 09.0**	**+0.1**
	baz=253						
WHYT	**Xinyi Township**	**1.90**	**238**	⇑*i*P	**Pn**	**12 26 46.7**	**+0.7**
	baz=233						
WHYT				*e*S	**Sn**	**12 27 10.6**	**+0.5**
	baz=233						
JTJ	**Tarama**	**1.91**	**92**	P	**Pn**	**12 26 46.5**	**+0.4**
JTJ				S	**Sn**	**12 27 10.5**	**+0.3**
WJS	**Zhushan**	**1.94**	**243**	⇑*i*P	**Pn**	**12 26 47.4**	**+0.9**
	baz=253						
WJS				*e*S	**Sn**	**12 27 11.7**	**+0.8**
	baz=253						
WNT	**Mingjian**	**1.94**	**245**	⇑*i*P	**Pn**	**12 26 47.3**	**+0.7**
	baz=245						
WNT				*e*S	**Sn**	**12 27 11.6**	**+0.6**
	baz=245						
CHKT	**Chengkung**	**1.97**	**215**	⇑*i*P	**Pn**	**12 26 45.9**	**-1.1**
	baz=211						
CHKT				*e*S	**Sn**	**12 27 08.4**	**-3.3**
	baz=211						
WCHH	**Zhanghua**	**1.97**	**252**	⇑*i*P	**Pn**	**12 26 47.2**	**+0.2**
	baz=252						
WCHH				*e*S	**Sn**	**12 27 10.8**	**-0.9**
	baz=252						
ALS	**Alishan**	**2.04**	**234**	⇑*i*P	**Pn**	**12 26 48.8**	**+0.7**
	baz=229						
CHN5	**Tsauling**	**2.09**	**238**	⇑*i*P	**Pn**	**12 26 49.3**	**+0.8**
	baz=249						
CHN5				*e*S	**Sn**	**12 27 16.1**	**+1.6**
	baz=249						
ELDTW	**Lidau**	**2.11**	**224**	⇑*i*P	**Pn**	**12 26 48.0**	**-0.8**
	baz=222						
ELDTW				*e*S	**Sn**	**12 27 13.8**	**-1.1**
	baz=222						
WGK	**Gukeng**	**2.13**	**242**	⇑*i*P	**Pn**	**12 26 49.9**	**+0.9**
	baz=242						
WGK				*e*S	**Sn**	**12 27 16.4**	**+1.1**
	baz=242						
WDLH	**Douliu**	**2.15**	**242**	⇑*i*P	**Pn**	**12 26 50.0**	**+0.8**
	baz=253						
WDLH				*e*S	**Sn**	**12 27 16.3**	**+0.5**
	baz=253						
RLNB	**Erlin**	**2.21**	**249**	⇑*i*P	**Pn**	**12 26 50.2**	**+0.2**
	baz=257						
RLNB				*e*S	**Sn**	**12 27 16.6**	**-0.6**
	baz=257						
WTCT	**Ta-ch'eng**	**2.29**	**249**	⇑*i*P	**Pn**	**12 26 50.8**	**-0.2**
	baz=257						
WTCT				*e*S	**Sn**	**12 27 18.3**	**-0.7**
	baz=257						
CHN4	**Tsaushan**	**2.29**	**234**	⇑*i*P	**Pn**	**12 26 52.0**	**+0.9**
	baz=234						
CHN4				*e*S	**Sn**	**12 27 20.7**	**+1.6**
	baz=234						
STYT	**Tauyuan**	**2.30**	**228**	⇑*i*P	**Pn**	**12 26 51.8**	**+0.6**
	baz=228						
STYT				*e*S	**Sn**	**12 27 20.4**	**+1.2**
	baz=228						
TPUB	**Ta-pu**	**2.30**	**232**	⇑*i*P	**Pn**	**12 26 51.8**	**+0.6**
	baz=227						
TPUB				*e*S	**Sn**	**12 27 20.7**	**+1.5**
	baz=227						
TPUB	**Ta-pu**	**2.30**	**232**		**Pn**	**12 26 51.9**	**+0.6**
TPUB				Sn	**Sn**	**12 27 20.3**	**+1.1**
JIRB	**Irabujima**	**2.33**	**87**	P	**Pn**	**12 26 51.9**	**+0.3**
JIRB				*e*S	**Sn**	**12 27 19.9**	**-0.1**
CHY	**Chiayi**	**2.34**	**239**	⇑*i*P	**Pn**	**12 26 52.2**	**+0.6**
	baz=250						
CHY				*e*S	**Sn**	**12 27 20.1**	**0.0**
	baz=250						
WTP	**Ta-pu**	**2.34**	**232**	⇑*i*P	**Pn**	**12 26 52.4**	**+0.6**
	baz=232						
WTP				*e*S	**Sn**	**12 27 21.1**	**+0.8**
	baz=232						
TWGBT	**Beinan**	**2.36**	**217**	⇑*i*P	**Pn**	**12 26 50.7**	**-1.3**
	baz=223						
TWGBT				*e*S	**Sn**	**12 27 18.4**	**-2.2**
	baz=223						
TWG	**Pinlang**	**2.36**	**217**	P	**Pn**	**12 26 50.8**	**-1.2**
	baz=223						
TWG				*e*S	**Sn**	**12 27 18.5**	**-2.1**
	baz=223						
TWG	**Pinlang**	**2.36**	**217**		**Pn**	**12 26 50.8**	**-1.2**
WMLT	**Mailiao**	**2.36**	**248**	*e*P	**Pn**	**12 26 52.0**	**+0.1**
	baz=248						
WMLT				*e*S	**Sn**	**12 27 20.0**	**-0.6**
	baz=248						
TTN	**Taitung**	**2.37**	**215**	*e*P	**Pn**	**12 26 51.9**	**-0.2**
	baz=222						
JIKM	**Ikemajima**	**2.41**	**85**	P	**Pn**	**12 26 53.4**	**+0.8**
JIKM				S	**Sn**	**12 27 21.9**	**+0.2**
TWK	**Hsinying**	**2.42**	**234**	⇑*i*P	**Pn**	**12 26 53.4**	**+0.6**
	baz=234						
TWK				*e*S	**Sn**	**12 27 23.6**	**+1.5**
	baz=234						
WSF	**Szhu**	**2.43**	**244**	⇑*i*P	**Pn**	**12 26 53.0**	**+0.1**
	baz=244						
WSF				*e*S	**Sn**	**12 27 22.1**	**-0.1**
	baz=244						
CHN1	**Nanshi**	**2.44**	**232**	⇑*i*P	**Pn**	**12 26 53.7**	**+0.6**
	baz=232						
CHN1				*e*S	**Sn**	**12 27 23.3**	**+0.8**
	baz=232						
SNST	**Tainan City**	**2.44**	**233**	⇑*i*P	**Pn**	**12 26 53.6**	**+0.6**
	baz=233						
SNST				*e*S	**Sn**	**12 27 23.6**	**+1.0**
	baz=233						
JMJ	**Miyako jima 2**	**2.44**	**87**	*e*P	**Pn**	**12 26 53.7**	**+0.7**
	baz=87						
WLGB	**Puzi**	**2.44**	**240**	⇑*i*P	**Pn**	**12 26 53.7**	**+0.6**
	baz=241						
WLGB				*e*S	**Sn**	**12 27 23.2**	**+0.6**
	baz=241						
SGST	**Jiashian**	**2.47**	**229**	⇑*i*P	**Pn**	**12 26 53.4**	**0.0**
	baz=230						
SGST				*e*S	**Sn**	**12 27 23.2**	**0.0**
	baz=230						
JMJ2	**Miyako jima3**	**2.47**	**89**	P	**Pn**	**12 26 54.0**	**+0.6**
JMJ2				*e*S	**Sn**	**12 27 23.6**	**+0.3**
SLGT	**Liugui**	**2.49**	**227**	⇑*i*P	**Pn**	**12 26 54.6**	**+1.0**
	baz=227						
SLGT				*e*S	**Sn**	**12 27 25.1**	**+1.5**
	baz=227						
JOGS	**Gusukube**	**2.55**	**89**	P	**Pn**	**12 26 55.3**	**+0.9**
JOGS				S	**Sn**	**12 27 25.4**	**+0.4**
CHN8	**Yiju**	**2.58**	**238**	P	**Pn**	**12 26 55.3**	**+0.4**
	baz=239						
CHN8				*e*S	**Sn**	**12 27 26.4**	**+0.5**
	baz=239						
ECL	**Taimali**	**2.60**	**216**	⇑*i*P	**Pn**	**12 26 54.0**	**-1.2**
	baz=216						
ECL				*e*S	**Sn**	**12 27 23.7**	**-2.6**
	baz=216						
CHN3	**Shinhua**	**2.62**	**232**	*e*P	**Pn**	**12 26 57.0**	**+1.6**
	baz=241						
SSD	**Sandimen**	**2.67**	**223**	*e*P	**Pn**	**12 26 57.2**	**+1.2**
	baz=230						
PTTC	**Pingtan**	**2.69**	**287**	⇓*i*P	**Pn**	**12 26 55.8**	**-0.4**
	baz=286						
SCLT	**Jiali**	**2.69**	**236**	P	**Pn**	**12 26 57.3**	**+1.0**
	baz=228						
SCLT				*e*S	**Sn**	**12 27 29.7**	**+1.3**
	baz=228						
TAI1	**Yung-k'ang**	**2.75**	**233**	⇓P	**Pn**	**12 26 58.7**	**+1.7**
	baz=233						
TAI1				*e*S	**Sn**	**12 27 31.2**	**+1.6**
	baz=233						
TWM1	**Shoushan**	**2.75**	**227**	P	**Pn**	**12 26 58.9**	**+1.8**
	baz=227						
MASBT	**Mashibuluo**	**2.77**	**221**	⇑*i*P	**Pn**	**12 26 57.9**	**+0.5**
	baz=233						
MASBT				*e*S	**Sn**	**12 27 30.4**	**0.0**
	baz=233						
SGLT	**Jiouru**	**2.78**	**225**	⇑*i*P	**Pn**	**12 26 59.0**	**+1.5**
	baz=225						
MATB	**Ma-tsu**	**2.80**	**301**	⇓*e*P	**Pn**	**12 26 57.1**	**-0.5**
	baz=299						
EAST	**Anshuo**	**2.83**	**215**	*e*P	**Pn**	**12 26 57.3**	**-1.0**
	baz=211						
LAY	**Lan-yu**	**2.84**	**200**	*e*P	**Pn**	**12 26 57.3**	**-1.1**
	baz=201						
SNJT	**Kaohsiung City**	**2.86**	**227**	⇑P	**Pn**	**12 26 59.9**	**+1.3**
	baz=228						
VWUC	**VWUC**	**2.88**	**276**	⇓P	**Pn**	**12 26 58.3**	**-0.5**
	baz=275						
SSPT	**Xinbi**	**2.91**	**220**	*e*P	**Pn**	**12 27 00.7**	**+1.5**
	baz=221						
SCZT	**Fangliau**	**2.96**	**218**	*e*P	**Pn**	**12 27 00.5**	**+0.6**
	baz=231						
PNG	**Penghu**	**3.02**	**248**	⇑*i*P	**Pn**	**12 26 59.7**	**-0.9**
	baz=248						
PNG				*e*S	**Sn**	**12 27 33.5**	**-2.6**
	baz=248						
PHUB	**P'eng-hu**	**3.02**	**247**	⇑*i*P	**Pn**	**12 26 59.7**	**-0.9**
	baz=247						
PHUB				*e*S	**Sn**	**12 27 33.7**	**-2.6**
	baz=247						
WDGT	**Dungji**	**3.06**	**242**	⇑*i*P	**Pn**	**12 27 00.8**	**-0.5**
	baz=243						
WDGT				*e*S	**Sn**	**12 27 33.7**	**-3.5**
	baz=243						
XPSS	**Dashiqiu**	**3.10**	**316**	⇓*e*P	**Pn**	**12 27 01.1**	**-0.5**
	baz=314						
WLCH	**Liuqiu**	**3.12**	**221**	*e*P	**Pn**	**12 27 03.7**	**+1.6**
	baz=222						
TWP	**Hsiaoliuchiu**	**3.14**	**222**	*e*P	**Pn**	**12 27 03.6**	**+1.4**
	baz=222						
LYJJ	**Jianjiangzhen**	**3.15**	**306**	⇓*e*P	**Pn**	**12 27 02.0**	**-0.4**
	baz=304						
PTMZ	**Houxiangcun**	**3.18**	**276**	*e*P	**Pn**	**12 27 02.3**	**-0.5**
	baz=275						
HEN	**Hengchun**	**3.20**	**213**	*e*P	**Pn**	**12 27 03.5**	**+0.4**
	baz=208						
TSEB	**Hengchuen, Pin**	**3.22**	**210**	*e*P	**Pn**	**12 27 03.3**	**0.0**
	baz=211						
TWKBT	**Hengchun**	**3.22**	**211**	*e*P	**Pn**	**12 27 03.0**	**-0.3**
	baz=212						
TWK1	**Hengchun**	**3.22**	**211**	*e*P	**Pn**	**12 27 03.1**	**-0.3**
	baz=212						
VCHM	**Qimei**	**3.27**	**243**	*e*P	**Pn**	**12 27 03.3**	**-0.7**
	baz=244						
MHZQ	**Yeshan**	**3.51**	**294**	*e*P	**Pn**	**12 27 06.4**	**-0.9**
	baz=292						
QZH	**Quanzhou**	**3.66**	**274**	⇓*i*P	**Pn**	**12 27 08.6**	**-0.5**
QZH				S	**Sn**	**12 27 47.8**	**-3.6**
QZH				smax	smax		
	comp=N,670nm,0.4s						
QZH				smax	smax		
	comp=E,420nm,0.6s						
QZH				LR	LR		
	comp=Z,380nm,7.6s						
KNM	**Kinmen**	**3.81**	**266**	*e*P	**Pn**	**12 27 12.1**	**+0.9**
	baz=265						
KNMB	**Chin-men Tao**	**3.85**	**267**	*e*P	**Pn**	**12 27 11.1**	**-0.7**
	baz=266						
KNMB	**Chin-men Tao**	**3.85**	**267**	Pn	**Pn**	**12 27 11.1**	**-0.7**
KNMB				Sn	**Sn**	**12 27 51.7**	**-4.4**
AXDP	**Jialang**	**4.22**	**273**	*e*P	**Pn**	**12 27 16.5**	**-0.2**
	baz=272						
ZPLA	**Ao Xicun**	**4.50**	**261**	*e*P	**Pn**	**12 27 20.2**	**-0.3**
	baz=260						
ZZJH	**Jiuhuzhen**	**4.54**	**268**	*e*P	**Pn**	**12 27 20.5**	**-0.5**
	baz=260						
JOW	**Kunigami**	**5.53**	**66**	*e*P	**Pn**	**12 27 33.

XAN					sP	Pn	12 29 58.8	+16	
XAN					pmax	pmax			
	comp=Z,21nm,1.4s								
XAN					pmax	pmax			
	comp=Z,140nm,3.5s								
XAN	**Xi'an**	**15.10**	**311**		P	**P**	**12 29 45.8**	**+0.7**	
XAN					IAmb	IAmb	12 29 46.6		
	comp=Z,18nm,1.0s								
INU	**Inuyama**	**16.35**	**46**		P	**P**	**12 29 58.6**	**-0.2**	
CD2	**Chengdu**	**17.77**	**295**	⇑*iP*		**Pn**	**12 30 15.6**	**+0.4**	
CD2					pmax	pmax			
	comp=Z,30nm,1.0s								
MAJO	**Matsushiro**	**17.83**	**45**		P	**Pn**	**12 30 17.8**	**+1.8**	
MAT	**Matsushiro**	**17.83**	**45**		P	**Pn**	**12 30 16.7**	**+0.8**	
MJB9	**Matsu-Tunnel**	**17.83**	**45**		P	**Pn**	**12 30 17.3**	**+1.4**	
MJAR	**Matsushiro Arr**	**17.84**	**45**		P	**P**	**12 30 14.4**	**-0.8**	
	comp=Z,0.1nm,0.3s,baz=237,slow=8.4,SNR=4.4								
MJAR	**Matsushiro Arr**	**17.84**	**45**			**P**	**12 30 15.1**	**-0.1**	
HHC	**Hu-ho-hao-te**	**18.54**	**333**	*eP*		**Pn**	**12 30 24.9**	**+0.4**	
HHC					pmax	pmax			
	comp=Z,6.0nm,1.1s								
HHC					pmax	pmax			
	comp=Z,34nm,5.7s								
CN2	**Changchun**	**19.18**	**6**	*eP*		**Pn**	**12 30 31.1**	**-0.7**	
CN2					pmax	pmax			
	comp=Z,10.0nm,0.7s								
USA0B	**Ussuriysk Arra**	**20.89**	**19**		P	**P**	**12 30 48.1**	**-0.2**	
USA0B					IAmb	IAmb	12 30 49.1		
	comp=Z,11nm,0.6s								
USRK	**Ussuriysk Ar.**	**20.89**	**19**		P	**P**	**12 30 48.2**	**-0.1**	
	comp=Z,11nm,0.6s,baz=196,slow=7.6,SNR=36								
USRK	**Ussuriysk Ar.**	**20.89**	**19**		P	**P**	**12 30 47.8**	**-0.4**	
CMAR	**Chiang Mai Arr**	**22.85**	**259**		P	**P**	**12 31 10.6**	**+1.4**	
	comp=Z,0.7nm,0.4s,baz=60,slow=8.1,SNR=3.1								
CMAR	**Chiang Mai Arr**	**22.85**	**259**		P	**P**	**12 31 10.3**	**+1.2**	
ERM	**Erimo**	**24.23**	**40**		P	**P**	**12 31 18.7**	**-2.8**	
ERM					IAmb	IAmb	12 31 19.8		
	comp=Z,10nm,0.6s								
SBUM	**Sibu**	**24.30**	**206**		P	**P**	**12 31 23.3**	**+0.9**	
ASAJ	**Asahikawa**	**25.30**	**35**		P	**P**	**12 31 29.8**	**-1.4**	
	comp=Z,8.8nm,0.4s,baz=232,slow=9.5,SNR=54								
JKA	**Kamikawa-asahi**	**25.30**	**35**		P	**P**	**12 31 30.4**	**-0.8**	
KLR	**Kul'dur**	**25.49**	**14**		P	**P**	**12 31 30.9**	**-2.0**	
	comp=Z,1.7nm,0.5s,baz=204,slow=12,SNR=5.3								
SONM	**Songino Array**	**26.40**	**335**		P	**P**	**12 31 40.7**	**-0.6**	
	comp=Z,2.2nm,0.6s,baz=150,slow=10,SNR=7.4								
SONM					pP	**pP**	**12 32 05.8**	**+1.6**	
	comp=Z,2.1nm,0.7s,baz=151,slow=9.9,SNR=4.6								
SONM					PcP	**PcP**	**12 35 03.1**	**-1.0**	
	comp=Z,0.5nm,0.3s,baz=153,slow=5.0,SNR=1.7								
SONM	**Songino Array**	**26.40**	**335**		P	**P**	**12 31 41.2**	**-0.1**	
IPM	**Ipoh**	**28.91**	**229**		P	**P**	**12 32 04.4**	**+0.6**	
IPM					IAmb	IAmb	12 32 17.4		
	comp=Z,18nm,1.5s								
WMQ	**Urumqi**	**34.23**	**313**	*eP*		**P**	**12 32 51.6**	**+1.3**	
WMQ					LR	LR			
	comp=Z,190nm,24.7s								
WMQ					LR	LR			
	comp=Z,290nm,29.3s								
WMQ					LR	LR			
	comp=Z,160nm,26.5s								
MTN	**Manton Dam**	**38.25**	**166**		P	**P**	**12 33 24.2**	**-0.4**	
MTN					IAmb	IAmb	12 33 35.2		
	comp=Z,8.0nm,0.8s								
MK31	**Makanchi Array**	**38.87**	**315**		P	**P**	**12 33 29.3**	**-0.3**	
MK31					PcP	**PcP**	**12 35 38.2**	**-0.3**	
MKAR	**Makanchi Array**	**38.87**	**315**		P	**P**	**12 33 29.4**	**-0.2**	
	comp=Z,1.1nm,0.5s,baz=100,slow=9.6,SNR=16								
MKAR					pP	**pP**	**12 33 55.1**	**+1.6**	
	comp=Z,1.2nm,0.5s,baz=100,slow=11,SNR=4.5								
MKAR					PcP	**PcP**	**12 35 38.0**	**-0.5**	
	comp=Z,1.0nm,0.7s,baz=87,slow=6.2,SNR=4.7								
MKAR					ScP	**ScP**	**12 39 15.8**	**-1.5**	
	comp=Z,0.5nm,0.7s,baz=105,slow=5.2,SNR=5.4								
MKAR					LR	LR	12 50 18.8		
	comp=Z,28nm,18.0s,baz=181,slow=37								
MKAR	**Makanchi Array**	**38.87**	**315**		P	**P**	**12 33 28.7**	**-0.9**	
MKAR					PcP	**PcP**	**12 35 37.4**	**-1.1**	
MAKZ	**Makanchi**	**39.07**	**315**		P	**P**	**12 33 31.1**	**-0.2**	
ZAA0	**Zalesovo Array**	**40.51**	**326**		P	**P**	**12 33 41.7**	**-1.3**	
ZALV	**Zalesovo Beam**	**40.51**	**326**		P	**P**	**12 33 41.5**	**-1.6**	
	comp=Z,0.9nm,0.4s,baz=110,slow=7.3,SNR=6.1								
ZALV					pP	**pP**	**12 34 07.7**	**+0.7**	
	comp=Z,2.3nm,0.5s,baz=111,slow=7.7,SNR=6.9								
ZALV					PcP	**PcP**	**12 35 42.1**	**-1.4**	
	comp=Z,0.6nm,0.5s,baz=105,slow=5.7,SNR=1.7								
ZALV	**Zalesovo Beam**	**40.51**	**326**		P	**P**	**12 33 41.9**	**-1.1**	
KNRA	**Kununurra**	**40.60**	**171**		P	**P**	**12 33 44.0**	**-0.1**	
KNRA					IAmb	IAmb	12 33 53.7		
	comp=Z,14nm,1.2s								
H11N1	**WAKE ISLAND Hy**	**41.17**	**88**		T	T	13 19 28.0		
	baz=282,slow=75,SNR=9.5								
H11N2	**WAKE ISLAND Hy**	**41.17**	**88**		T	T	13 19 28.0		
	baz=282,slow=75,SNR=15								
H11N3	**WAKE ISLAND Hy**	**41.18**	**88**		T	T	13 19 27.4		
	baz=282,slow=75,SNR=10.0								
H11S3	**WAKE ISLAND Hy**	**41.31**	**90**		T	T	13 19 36.0		
	baz=282								
H11S1	**WAKE ISLAND Hy**	**41.32**	**90**		T	T	13 19 35.7		
	baz=282,slow=74								
H11S2	**WAKE ISLAND Hy**	**41.33**	**90**		T	T	13 19 37.4		
	baz=282,slow=74								
PMG	**Port Moresby**	**41.52**	**142**		P	**P**	**12 33 53.0**	**+1.2**	
KURK	**Kurchatov**	**42.52**	**319**		P	**P**	**12 34 00.8**	**+1.3**	
KURK					IAmb	IAmb	12 34 03.4		
	comp=Z,2.3nm,0.5s								
KURBB	**Kurchatov Arra**	**42.54**	**319**		P	**P**	**12 33 58.8**	**-0.8**	
	comp=Z,0.5nm,0.4s,baz=108,slow=9.7,SNR=9.7								
KURBB					pP	**pP**	**12 34 24.6**	**+0.8**	
	comp=Z,0.6nm,0.6s,baz=110,slow=9.7,SNR=2.7								
FITZ	**Fitzroy Crossi**	**42.66**	**176**		P	**P**	**12 34 00.7**	**-0.2**	
	comp=Z,2.3nm,0.8s,baz=338,slow=5.4								
FITZ	**Fitzroy Crossi**	**42.66**	**176**		P	**P**	**12 34 00.5**	**-0.5**	
FITZ					IAmb	IAmb	12 34 15.0		
	comp=Z,5.7nm,1.2s								
COEN	**Coen**	**43.37**	**150**		P	**P**	**12 34 07.2**	**+0.5**	
WB0	**Warramunga Arr**	**45.69**	**164**		P	**P**	**12 34 25.3**	**+0.3**	
WRAB	**Tennant Creek**	**45.83**	**165**		P	**P**	**12 34 26.6**	**+0.4**	
WRAB					IAmb	IAmb	12 34 27.7		
	comp=Z,6.4nm,0.9s								
WRA	**Warramunga Arr**	**45.84**	**165**		P	**P**	**12 34 26.8**	**+0.4**	
	comp=Z,2.4nm,0.7s,baz=347,slow=8.7,SNR=12								
WRA	**Warramunga Arr**	**45.84**	**165**		P	**P**	**12 34 26.7**	**+0.4**	
WB2	**Warramunga Arr**	**45.84**	**165**		P	**P**	**12 34 26.3**	**0.0**	
WB2					IAmb	IAmb	12 34 31.4		
	comp=Z,14nm,1.3s								
WR0	**Warramunga Arr**	**45.91**	**164**		P	**P**	**12 34 27.4**	**+0.6**	
WR0					IAmb	IAmb	12 34 28.3		
	comp=Z,6.9nm,1.1s								
KKAR	**Karatay Array**	**46.18**	**307**		P	**P**	**12 34 29.0**	**+0.1**	
KKAR					PcP	**PcP**	**12 36 03.2**	**+0.2**	
TIXI	**Tiksi**	**47.09**	**3**		P	**P**	**12 34 34.4**	**-1.0**	
TIXI					IAmb	IAmb	12 34 34.5		
	comp=Z,2.3nm,0.5s								
TIXI					PcP	**PcP**	**12 36 04.6**	**-1.0**	
AS31	**Alice Springs**	**49.33**	**166**		P	**P**	**12 34 54.3**	**+1.0**	
AS31					IAmb	IAmb	12 34 58.6		
	comp=Z,3.8nm,1.4s								
ASAR	**Alice Springs**	**49.33**	**166**		P	**P**	**12 34 54.4**	**+1.1**	
	comp=Z,0.5nm,0.3s,baz=352,slow=7.0,SNR=19								
ASAR	**Alice Springs**	**49.33**	**166**		P	**P**	**12 34 53.6**	**+0.3**	
ADK	**Adak**	**52.98**	**43**		P	**P**	**12 35 21.0**	**+0.8**	
ADK					PcP	**PcP**	**12 36 28.1**	**+0.5**	
ABKAR	**Akbulak array**	**54.00**	**314**		P	**P**	**12 35 27.0**	**-0.7**	
SVW2	**Sparrevohn**	**64.76**	**32**		P	**P**	**12 36 42.7**	**+1.1**	
SVW2					IAmb	IAmb	12 36 57.6		
	comp=Z,3.5nm,1.1s								
OHAK	**Old Harbor**	**66.44**	**36**		P	**P**	**12 36 52.1**	**-0.2**	
TOLK	**Toolik Lake Re**	**66.44**	**24**		P	**P**	**12 36 52.1**	**-0.2**	
BPAW	**Bear Paw Mtn.**	**66.50**	**29**		P	**P**	**12 36 53.3**	**+0.5**	
KDAK	**Kodiak Island**	**66.72**	**36**		P	**P**	**12 36 52.6**	**-1.5**	
	comp=Z,3.4nm,0.8s,baz=247,slow=0.8,SNR=7.7								
KDAK	**Kodiak Island**	**66.72**	**36**		P	**P**	**12 36 53.9**	**-0.2**	
KDAK					IAmb	IAmb	12 36 56.3		
	comp=Z,9.9nm,1.2s								
RND	**Reindeer**	**67.55**	**29**		P	**P**	**12 36 59.5**	**+0.1**	
RND					IAmb	IAmb	12 37 00.3		
	comp=Z,3.9nm,0.7s								
PMR	**Palmer**	**67.76**	**31**		P	**P**	**12 37 00.6**	**-0.1**	
SEW	**Seward**	**67.89**	**33**		P	**P**	**12 37 01.5**	**0.0**	
SEW					IAmb	IAmb	12 37 15.4		
	comp=Z,11nm,1.2s								
ILAR	**Eielson Array**	**68.14**	**28**		P	**P**	**12 37 01.8**	**-1.3**	
	comp=Z,0.3nm,0.5s,baz=262,slow=5.0,SNR=7.9								
ILAR	**Eielson Array**	**68.14**	**28**		P	**P**	**12 37 02.0**	**-1.1**	
BMAR	**Burnt Mountain**	**68.50**	**24**		P	**P**	**12 37 05.9**	**+0.6**	
SPA0	**Spitsbergen Ar**	**69.24**	**348**		P	**P**	**12 37 08.6**	**-1.0**	
ARCES	**ARCESS Array B**	**69.53**	**338**		P	**P**	**12 37 10.4**	**-1.2**	
	comp=Z,2.4nm,0.9s,baz=81,slow=5.8,SNR=7.5								
ARCES	**ARCESS Array B**	**69.53**	**338**		P	**P**	**12 37 11.4**	**-0.1**	
DOT	**Dot Lake**	**69.60**	**28**		P	**P**	**12 37 12.5**	**+0.4**	
GLB	**Gilahina Butte**	**70.28**	**31**		P	**P**	**12 37 16.0**	**-0.3**	
GLB					IAmb	IAmb	12 37 27.7		
	comp=Z,5.5nm,1.2s								
VRDI	**Verde Repeater**	**70.50**	**31**		P	**P**	**12 37 17.9**	**0.0**	
VRDI					IAmb	IAmb	12 37 18.1		
	comp=Z,4.2nm,1.0s								
EGAK	**Eagle**	**70.52**	**27**		P	**P**	**12 37 18.3**	**+0.6**	
BCAR	**Beaver Creek A**	**70.74**	**29**		P	**P**	**12 37 19.7**	**+0.5**	
DAWY	**Dawson**	**71.47**	**27**		P	**P**	**12 37 24.0**	**+0.6**	
CTGM	**Chitina Glacie**	**71.57**	**31**		P	**P**	**12 37 24.6**	**+0.4**	
CTGM					IAmb	IAmb	12 37 25.4		
	comp=Z,4.0nm,0.6s								
FIA1	**FINESS Array S**	**71.64**	**330**		P	**P**	**12 37 23.7**	**-0.8**	
FINES	**FINESS Array B**	**71.64**	**330**		P	**P**	**12 37 23.7**	**-0.8**	
	comp=Z,1.0nm,0.5s,baz=56,slow=5.3,SNR=16								
FINES	**FINESS Array B**	**71.64**	**330**		P	**P**	**12 37 23.4**	**-1.0**	
EPYK	**Eagle Plains**	**71.78**	**25**		P	**P**	**12 37 25.5**	**+0.2**	
EPYK					IAmb	IAmb	12 37 43.2		
	comp=Z,7.8nm,1.3s								
INK	**Inuvik**	**72.24**	**22**		P	**P**	**12 37 26.0**	**-1.9**	
	comp=Z,3.1nm,0.8s,baz=2.7,slow=3.4,SNR=5.0								
INK	**Inuvik**	**72.24**	**22**		P	**P**	**12 37 27.4**	**-0.6**	
INK					IAmb	IAmb	12 37 30.2		
	comp=Z,7.6nm,1.2s								
NC405	**NORSAR Array S**	**78.11**	**332**		P	**P**	**12 38 01.5**	**-0.3**	
NB2	**NORSAR Subarra**	**78.35**	**332**		P	**P**	**12 38 01.7**	**-1.4**	
	comp=Z,0.6nm,0.5s,baz=56,slow=5.3								
NOA	**NORSAR Array B**	**78.35**	**332**		P	**P**	**12 38 01.8**	**-1.4**	
	comp=Z,0.4nm,0.5s,baz=52,slow=5.5,SNR=4.0								
NC204	**NORSAR Array S**	**78.42**	**333**		P	**P**	**12 38 02.4**	**-1.1**	
YKA	**Yellowknife Ar**	**81.97**	**23**		P	**P**	**12 38 21.4**	**-1.0**	
	comp=Z,0.2nm,0.3s,baz=322,slow=6.0,SNR=4.2								
B08A	**Colville Reser**	**88.59**	**36**		P	**P**	**12 38 55.7**	**-0.1**	
B08A					IAmb	IAmb	12 38 57.0		
	comp=Z,3.5nm,0.8s								
PINE	**Pine Mountain**	**90.38**	**40**			**P**	**12 39 06.0**	**+1.6**	
PINE					IAmb	IAmb	12 39 06.5		
	comp=Z,4.5nm,0.8s								
MOD	**Modoc Plateau**	**91.86**	**42**		P	**P**	**12 39 11.8**	**+0.5**	
J08A	**Circle Bar Ran**	**92.08**	**40**		P	**P**	**12 39 12.8**	**+0.6**	
VCNR	**Virginia City**	**93.79**	**43**		P	**P**	**12 39 21.6**	**+1.3**	
DLMT	**Dillon**	**94.07**	**35**		P	**P**	**12 39 22.0**	**+0.6**	
DLMT					IAmb	IAmb	12 39 22.6		
	comp=Z,2.3nm,0.8s								
KVN	**Kaiserville**	**94.91**	**43**		P	**P**	**12 39 26.4**	**+1.0**	
KVN					IAmb	IAmb	12 39 26.6		
	comp=Z,2.8nm,1.0s								
NVAR	**Mina Array Bea**	**95.15**	**44**		P	**P**	**12 39 27.1**	**+0.6**	
	comp=Z,1.5nm,0.7s,baz=299,slow=5.0,SNR=16								
NVAR	**Mina Array Bea**	**95.15**	**44**		P	**P**	**12 39 26.6**	**+0.1**	

JMA ***22*** *12:27:44.7,23.74N×121.54E,h12km±2km,M3.5*
NEIC ***22*** *12:27:45.4±1.6,23.81N±0.01×121.40E±0.02,h14km±5km,*
mb4.1/5,ML4.4(TAP),Error ellipse: s-maj=2.3km
s-min=1.9km az=102.0
TAP ***22*** *12:27:45.0,23.78N×121.46E,h19km,ML4.3,C*
ISC 22 12:27:45.3±0.8,23.78N±0.01×121.46E±0.02,h16km±4km,
n115,o0s56/173,5C-5D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.04**	**325**	⇑*iP*		**Pg**	**12 27 48.5**	**+0.3**
	baz=336							
ESL				S		**Sg**	**12 27 50.6**	**+0.5**
	baz=336							
EGFH	**Guangfu**	**0.11**	**196**	⇓*iP*		**Pb**	**12 27 49.1**	**-0.1**
	baz=192							
EGFH				S		**Sb**	**12 27 51.4**	**-0.2**
	baz=192							
HWA	**Hwalien**	**0.24**	**34**	*eP*		**Pb**	**12 27 51.4**	**+0.1**
	baz=32							
HWA				*eS*		**Sb**	**12 27 56.0**	**+0.7**
	baz=32							
VWDT	**VWDT**	**0.29**	**265**	⇑*iP*		**Pg**	**12 27 51.6**	**+0.1**
	baz=259							
VWDT				*eS*		**Sg**	**12 27 55.7**	**-0.1**
	baz=259							
EHY	**Hungye**	**0.30**	**205**	*eP*		**Pg**	**12 27 51.2**	**-0.4**
	baz=203							
EHY				*eS*		**Sg**	**12 27 55.5**	**-0.4**
	baz=203							
OWD	**Renai**	**0.31**	**304**	P		**Pg**	**12 27 51.7**	**-0.2**
	baz=304							
OWD				*eS*		**Sg**	**12 27 56.0**	**-0.6**
	baz=304							
TWD	**Chiawan**	**0.33**	**22**	*eP*		**Pg**	**12 27 52.3**	**+0.3**
	baz=21							
TWD				*eS*		**Sg**	**12 27 57.1**	**+0.4**
	baz=21							
CHGB	**Renai**	**0.38**	**317**	⇓*iP*		**Pg**	**12 27 53.2**	**0.0**
	baz=324							
CHGB				*eS*		**Sg**	**12 27 58.0**	**-0.6**
	baz=324							
WHF	**Hehuan Shan**	**0.41**	**334**	*eP*		**Pg**	**12 27 53.3**	**-0.4**
	baz=336							
WHF				*eS*		**Sg**	**12 27 58.8**	**-0.7**
	baz=336							
YULB	**Yu-li**	**0.41**	**201**	*eP*		**Pg**	**12 27 53.0**	**-0.6**
	baz=197							
YULB				*eS*		**Sg**	**12 27 59.4**	**+0.1**
	baz=197							
YULB	**Yu-li**	**0.41**	**201**			**Pg**	**12 27 53.0**	**-0.6**
YULB					Sg	**Sg**	**12 27 59.5**	**+0.2**
NACB	**Ninganchiao**	**0.41**	**17**	*eP*		**Pg**	**12 27 53.0**	**-0.7**
	baz=19							
NACB				*eS*		**Sg**	**12 27 59.1**	**-0.2**
	baz=19							
NACB	**Ninganchiao**	**0.41**	**17**			**Pg**	**12 27 53.4**	**-0.3**
NACB					Sg	**Sg**	**12 27 59.5**	**+0.1**
ETLH	**Xiulin Townshi**	**0.43**	**3**	⇑*iP*		**Pg**	**12 27 53.6**	**-0.3**
	baz=4.0							
ETLH				*eS*		**Sg**	**12 27 59.3**	**-0.5**
	baz=4.0							
TWF1	**Yuli**	**0.45**	**200**	P		**Pg**	**12 27 53.9**	**-0.4**
	baz=201							
TWF1				*eS*		**Sg**	**12 28 00.4**	**0.0**
	baz=201							
SSLB	**Suanglung**	**0.46**	**271**	*eP*		**Pg**	**12 27 54.0**	**-0.6**
	baz=271							
SSLB				*eS*		**Sg**	**12 27 59.2**	**-1.7**
	baz=271							
SSLB	**Suanglung**	**0.46**	**271**			**Pg**	**12 27 54.1**	**-0.5**
SSLB						**Sg**	**12 27 59.6**	**-1.3**
TWT	**Tachien**	**0.54**	**331**	⇓*iP*		**Pg**	**12 27 56.1**	**+0.1**
	baz=330							
TWT				*eS*		**Sg**	**12 28 02.4**	**-0.9**
	baz=330							
TDCB	**Techi**	**0.55**	**330**	⇓*iP*		**Pg**	**12 27 56.1**	**-0.1**
	baz=330							
TDCB				*eS*		**Sg**	**12 28 02.4**	**-1.1**
	baz=330							
DPDB	**Guoxing**	**0.55**	**298**	⇓*iP*		**Pg**	**12 27 55.9**	**-0.3**
	baz=303							
DPDB				*eS*		**Sg**	**12 28 02.8**	**-0.9**
	baz=303							
WHYT	**Xinyi Township**	**0.56**	**262**	*eP*		**Pg**	**12 27 56.4**	**-0.1**
	baz=256							
WHYT				*eS*		**Sg**	**12 28 03.4**	**-0.6**
	baz=256							
TYC	**Yuchr**	**0.57**	**283**	*eP*		**Pg**	**12 27 55.9**	**-0.6**
	baz=283							
TYC				*eS*		**Sg**	**12 28 02.8**	**-1.3**
	baz=283							
NNSB	**Datong**	**0.65**	**354**	⇑*iP*		**Pg**	**12 27 57.9**	**-0.2**
	baz=3.0							
NNSB				*eS*		**Sg**	**12 28 06.2**	**-0.7**
	baz=3.0							
NNSH	**Datong**	**0.65**	**354**	*eP*		**Pg**	**12 27 57.9**	**-0.2**
	baz=3.0							
NNSH				*eS*		**Sg**	**12 28 06.0**	**-0.8**
	baz=3.0							
ALS	**Alishan**	**0.66**	**246**	*eP*		**Pg**	**12 27 58.0**	**-0.2**
	baz=245							
ALS				*eS*		**Sg**	**12 28 06.4**	**-0.7**
	baz=245							
NNS	**Nan Shan**	**0.66**	**353**	⇑*iP*		**Pg**	**12 27 58.1**	**-0.2**
	baz=3.0							
NNS				*eS*		**Sg**	**12 28 06.6**	**-0.6**
	baz=3.0							
WJS	**Zhushan**	**0.67**	**274**	*eP*		**Pb**	**12 27 59.3**	**+0.7**
	baz=273							
WJS				*eS*		**Sn**	**12 28 09.1**	**-1.4**
	baz=273							
CHKT	**Chengkung**	**0.68**	**187**	*eP*		**Pg**	**12 27 58.4**	**-0.2**
	baz=176							
CHKT				*eS*		**Sb**	**12 28 08.8**	**+0.8**
	baz=176							
WHP	**Taichung City**	**0.69**	**317**	*eP*		**Pg**	**12 27 58.6**	**-0.1**
	baz=317							
ENA	**Nanau**	**0.70**	**22**	*eP*		**Pg**	**12 27 57.9**	**-1.0**
	baz=23							
ELDTW	**Lidau**	**0.71**	**215**	*eP*		**Pg**	**12 27 58.3**	**-0.9**
	baz=207							
ELDTW				*eS*		**Sg**	**12 28 08.0**	**-0.7**
	baz=207							
WNT	**Mingjian**	**0.72**	**278**	*eP*		**Pb**	**12 27 59.8**	**+0.3**
	baz=280							
WNT				*eS*		**Sn**	**12 28 10.2**	**-1.3**
	baz=280							
CHN5	**Tsauling**	**0.74**	**256**	*eP*		**Pb**	**12 27 59.9**	**0.0**
	baz=249							
CHN5				*eS*		**Sb**	**12 28 10.6**	**+0.7**
	baz=249							
TCU	**Taichung**	**0.81**	**297**	*eP*		**Pn**	**12 28 01.5**	**-0.6**
	baz=299							
TCU				*eS*		**Sn**	**12 28 12.7**	**-1.1**
	baz=299							
NDT	**Datong Townshi**	**0.82**	**3**	*eP*		**Pb**	**12 28 01.1**	**-0.1**
	baz=4.0							
NDT				*eS*		**Sb**	**12 28 11.5**	**-0.6**
	baz=4.0							
WGK	**Gukeng**	**0.83**	**264**	*eP*		**Pg**	**12 28 01.5**	**+0.1**
	baz=263							
WGK				*eS*		**Sn**	**12 28 13.7**	**-0.6**
	baz=263							
TWQ1	**Liyutan**	**0.85**	**312**	*eP*		**Pg**	**12 28 01.7**	**-0.1**
	baz=318							
TWQ1				*eS*		**Sg**	**12 28 13.7**	**+0.8**
	baz=318							
WDLH	**Douliu**	**0.85**	**264**	*eP*		**Pg**	**12 28 02.1**	**+0.3**
	baz=262							
ENTT	**Nioudou**	**0.86**	**6**	*eP*		**Pg**	**12 28 02.0**	**-0.1**
	baz=8.0							
ENTT				*eS*		**Sb**	**12 28 13.2**	**-0.1**
	baz=8.0							
WCHH	**Zhanghua**	**0.88**	**290**	*eP*		**Pb**	**12 28 01.9**	**-0.3**
	baz=289							
WCHH				*eS*		**Sb**	**12 28 13.7**	**-0.1**
	baz=289							
STYT	**Tauyuan**	**0.89**	**227**	*eP*		**Pb**	**12 28 02.2**	**-0.2**
	baz=226							
STYT				*eS*		**Sg**	**12 28 14.2**	**-0.1**
	baz=226							
YHNB	**Yeheng**	**0.89**	**355**	*eP*		**Pg**	**12 28 02.6**	**0.0**
	baz=356							
YHNB				*eS*		**Sb**	**12 28 13.5**	**-0.7**
	baz=356							
YHNB	**Yeheng**	**0.89**	**355**			**Pb**	**12 28 01.9**	**-0.6**
YHNB					Sg	**Sb**	**12 28 13.2**	**-0.9**
NSK	**Sanguang**	**0.90**	**354**	*eP*		**Pb**	**12 28 02.6**	**0.0**
	baz=355							
NSK				*eS*		**Sb**	**12 28 13.7**	**-0.7**
	baz=355							
TPUB	**Ta-pu**	**0.90**	**238**	*eP*		**Pb**	**12 28 02.3**	**-0.3**
	baz=238							
TPUB				*eS*		**Sb**	**12 28 14.2**	**-0.1**
	baz=238							
TPUB	**Ta-pu**	**0.90**	**238**			**Pg**	**12 28 03.0**	**+0.3**
TPUB						**Sb**	**12 28 13.8**	**-0.5**
TWC	**Suao**	**0.90**	**23**	*eP*		**Pb**	**12 28 02.1**	**-0.5**
	baz=18							
TWC				*eS*		**Sg**	**12 28 14.7**	**+0.1**
	baz=18							
NSY	**Sanyi**	**0.90**	**315**	*eP*		**Pn**	**12 28 03.7**	**+0.3**
	baz=321							
NSY				*eS*		**Sn**	**12 28 16.2**	**0.0**
	baz=321							
CHN4	**Tsaushan**	**0.90**	**242**	*eP*		**Pn**	**12 28 03.2**	**-0.1**
	baz=232							
CHN4				*eS*		**Sg**	**12 28 15.2**	**+0.5**
	baz=232							
WDJ	**Dajia District**	**0.94**	**307**	*eP*		**Pn**	**12 28 03.8**	**-0.1**
	baz=320							
WDJ				*eS*		**Sn**	**12 28 17.9**	**+0.8**
	baz=320							
WTP	**Ta-pu**	**0.94**	**236**	*eP*		**Pn**	**12 28 03.8**	**-0.1**
	baz=235							
WTP				*eS*		**Sg**	**12 28 15.8**	**0.0**
	baz=235							

baz=15
WFSB Wu-fen Shan 1.32 13 *e*P Pn 12 28 08.8 -0.3
baz=15
YM04 YM04 1.37 3 *e*P Pg 12 28 11.2 -0.5
baz=23
NTST Danshui 1.38 360 *e*P Pn 12 28 10.0 0.0
baz=21
MASBT Mashibuluo 1.39 213 *e*P Pb 12 28 10.9 0.0
baz=206
YM03 YM03 1.40 3 *e*P Pn 12 28 10.5 +0.3
baz=23
ANP Anpu 1.40 2 *e*P Pn 12 28 10.4 +0.1
baz=23
YM08 YM08 1.41 5 *e*P Pn 12 28 09.2 -1.2
baz=7.0
JYNG Yonaguni jima 1.51 63 P Pn 12 28 11.4 -0.4
JYNG eS Sn 12 28 31.0 -0.2
YOJ Yonaguni jima 1.57 64 P Pn 12 28 12.4 -0.2
YOJ eS Sn 12 28 32.5 -0.1
YOJ Yonaguni jima 1.57 64 Pn Pn 12 28 12.2 -0.4
IRIF Iriomote-Funau 2.15 75 P Pn 12 28 20.8 +0.3
HATJ Hateruma jima 2.16 82 P Pn 12 28 20.3 -0.4
HATJ eS Sn 12 28 46.7 -0.5
JKRS Kuro-shima 2.38 78 S Sn 12 28 53.1 +0.6
JIJ Ishigaki jima 2.52 76 P Pn 12 28 25.3 -0.3
JIJ S Sn 12 28 55.1 -0.9
JISG Ishigakijimahi 2.73 72 P Pn 12 28 28.2 -0.2
JISG S Sn 12 29 00.8 -0.3
JTJ Tarama 3.08 73 P Pn 12 28 33.5 +0.2
JTJ eS Sn 12 29 10.3 +0.4
JOW Kunigami 6.88 62 Pn Pn 12 29 24.4 -1.2
SLVN Son La 16.40 265 P Pn 12 31 36.0 +1.0
SLVN IAmb IAmb 12 32 03.5
comp=Z,26nm,1.9s
MK31 Makanchi Array 38.80 316 P P 12 35 10.2 +0.8
MKAR Makanchi Array 38.80 316 P P 12 35 09.7 +0.3
ZAA0 Zalesovo Array 40.72 327 P P 12 35 26.1 +0.9
ZAA0 IAmb IAmb 12 36 57.3
comp=Z,4.2nm,1.6s
ZALV Zalesovo Beam 40.72 327 P P 12 35 25.6 +0.4
ABKAR Akbulak array 53.91 315 P P 12 37 09.0 +1.0
RND Reindeer 68.88 29 P P 12 38 47.9 -1.2
BMAR Burnt Mountain 69.79 24 P P 12 38 54.6 -0.1
EGAK Eagle 71.83 27 P P 12 39 06.4 -0.6
EGAK IAmb IAmb 12 41 05.1
comp=Z,5.7nm,1.4s
FINES FINESS Array B 71.92 330 P P 12 39 07.9 +0.3
BCAR Beaver Creek A 72.07 28 P P 12 39 08.7 +0.1

*IDC **22** 12:27:45.7±1.0,2°.87N×83°.98W, h0km, mb3.9/6, mb1 4.3/9, mb1mx3.9/35, mbtmp4.0/9, ML3.9/3, MS3.5/18, Ms1 3.5/18, ms1mx3.4/33, Error ellipse: s-maj=56.5km s-min=17.4km az=57.0*
*NEIC **22** 12:27:47.9±2.4,2°.57N±0°.08×84°.62W±0°.09, h10km±1km, mb4.3/20, Error ellipse: s-maj=15.5km s-min=13.2km az=245.0*
ISC 22 12:27:49.8±0.6,**2°.65N**±0°.07×**84°.40W**±0°.09,**h26**km,**n75**, σ1**s56**/62,**mb4.2**/14,**MS3.6**/13,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAC1	**Pacto, Paraso**	**6.09**	**113**	*e*P	**Pn**	**12 29 17.7**	**-0.7**
PAYG	**Puerto Ayora**	**6.74**	**241**	Pn	**Pn**	**12 29 27.9**	**+0.7**
HDC	**Heredia**	**7.31**	**2**	Pn	**Pn**	**12 29 35.2**	**0.0**
JTS	**Las Juntas de**	**7.62**	**356**	Pn	**Pn**	**12 29 37.4**	**-1.8**
	11nm,0.3s,baz=234,slow=6.5,SNR=37						
JTS				Sn	**Sn**	**12 31 00.6**	**-4.2**
	baz=173,slow=18,SNR=1.1						
JTS	**Las Juntas de**	**7.62**	**356**	Pn	**Pn**	**12 29 39.1**	**-0.1**
SOTA	**Rioblanco**	**7.80**	**94**	*e*P	**Pn**	**12 29 44.2**	**+2.0**
PCON	**Cinco Dias**	**8.00**	**92**	*e*P	**Pn**	**12 29 43.4**	**-1.7**
YOTC	**Yotoco, Valle**	**8.15**	**80**	*e*P	**Pn**	**12 29 45.9**	**-0.8**
MARP	**Paez Belalcaza**	**8.44**	**88**	*e*P	Pn	12 29 43.4	-7.4
TOLC	**Tolima**	**9.27**	**78**	*e*P	**Pn**	**12 30 01.0**	**-1.1**
ACON	**Acoyapa**	**9.29**	**355**		**Pn**	**12 30 03.3**	**+1.1**
RREF	**El Recreo**	**9.31**	**76**	*e*P	**Pn**	**12 30 03.5**	**+0.5**
GUY2C	**Guyana, Caldas**	**9.37**	**74**	*e*P	**Pn**	**12 30 06.4**	**+2.6**
HELC	**Santa Helena**	**9.52**	**68**	*e*P	**Pn**	**12 30 07.4**	**+1.7**
PRAC	**Prado**	**9.56**	**83**	*e*P	**Pn**	**12 30 10.6**	**+4.7**
BOAB	**BOACO BROADBAN**	**9.82**	**353**	Pn	**Pn**	**12 30 11.4**	**+2.0**
NORC	**Norcasia**	**9.94**	**73**	*e*P	**Pn**	**12 30 11.7**	**+0.5**
ROSC	**El Rosal**	**10.29**	**77**	LR	LR	12 33 31.6	
	comp=Z,110nm,18.2s,baz=166,slow=35						
MACC	**Macarena, Meta**	**10.56**	**92**	*e*P	**Pn**	**12 30 23.1**	**+3.5**
PTBC	**PUERTO BERRIO,**	**10.64**	**68**	*e*P	**Pn**	**12 30 22.8**	**+2.1**
ATAH	**Atahualpa**	**11.42**	**148**	Pn	**Pn**	**12 30 29.8**	**-1.9**
	0.2nm,0.3s,baz=38,slow=18,SNR=2.3						
ATAH				LR	LR	12 34 29.2	
	comp=Z,305nm,18.2s,baz=327,slow=35						
TGUH	**Tegucigalpa,Un**	**11.69**	**346**	Pn	**Pn**	**12 30 38.2**	**+3.1**
RUSC	**La Rusia**	**11.74**	**74**	Pn	**Pn**	**12 30 40.0**	**+3.8**
MTO3	**Montecristo**	**12.66**	**338**		**Pn**	**12 30 48.5**	**-0.1**
NNA	**Nana**	**16.36**	**153**	LR	LR	12 37 55.2	
	comp=Z,71nm,18.6s,baz=312,slow=37						
CMIG	**Matias Romero**	**17.67**	**325**	P	**Pn**	**12 31 54.5**	**+0.3**
	0.2nm,0.3s,baz=84,slow=3.8,SNR=5.6						
CMIG				LR	LR	12 37 22.1	
	comp=Z,182nm,20.5s,baz=140,slow=32						
TEIG	**Tepich**	**17.88**	**348**	LR	LR	12 38 24.9	
	comp=Z,144nm,18.6s,baz=228,slow=36						
SJG	**San Juan**	**23.59**	**48**	LR	LR	12 41 36.5	
	comp=Z,71nm,21.7s,baz=242,slow=36						
SAML	**Samuel**	**24.08**	**119**	P	**P**	**12 33 04.5**	**+1.0**
SAML				IAmb	IAmb	12 33 07.2	
	comp=Z,7.8nm,1.2s						
PTGA	**Pitinga**	**24.66**	**97**	LR	LR	12 42 49.8	
	comp=Z,156nm,18.4s,baz=262,slow=37						
LPAZ	**La Paz**	**24.75**	**140**	P	**P**	**12 33 09.8**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=318,slow=7.3,SNR=15						
LPAZ	**La Paz**	**24.75**	**140**	P	**P**	**12 33 11.7**	**+1.5**
LPAZ				IAmb	IAmb	12 33 20.4	
	comp=Z,6.2nm,1.0s						
MDP	**Montagnes des**	**31.78**	**85**	LR	LR	12 46 57.5	
	comp=Z,63nm,20.1s,baz=324,slow=37						
OXF	**Oxford**	**32.05**	**352**	P	**P**	**12 34 14.1**	**-0.3**
TXAR	**Lajitas Array**	**32.25**	**327**	P	**P**	**12 34 16.0**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=144,slow=7.4,SNR=4.8						
TXAR				LR	LR	12 46 45.0	
	comp=Z,51nm,20.4s,baz=0.0,slow=35						
TXAR	**Lajitas Array**	**32.25**	**327**		**P**	**12 34 16.7**	**+0.3**
TKL	**Tuckaleechee C**	**32.85**	**1**	LR	LR	12 47 19.0	
	comp=Z,35nm,20.4s,baz=191,slow=36						
MNTX	**Cornudas Mount**	**35.01**	**328**	P	**P**	**12 34 40.2**	**-0.2**
CCM	**Cathedral Cave**	**35.80**	**351**	P	**P**	**12 34 46.9**	**-0.1**
CCM				IAmb	IAmb	12 34 47.8	
	comp=Z,4.4nm,0.8s						
S39A	**Bolivar**	**35.83**	**348**	P	**P**	**12 34 47.0**	**-0.2**
S39A				IAmb	IAmb	12 34 47.6	
	comp=Z,4.7nm,0.8s						
H03N2	**Juan Fernandez**	**36.26**	**172**	T	T	13 13 12.8	
	baz=351,slow=76,SNR=16						
H03N1	**Juan Fernandez**	**36.27**	**172**	T	T	13 13 15.9	
	baz=351,slow=76,SNR=25						
H03N3	**Juan Fernandez**	**36.28**	**172**	T	T	13 13 13.2	
	baz=351,slow=76,SNR=22						
ANMO	**Albuquerque**	**38.12**	**330**	P	**P**	**12 35 07.5**	**+0.5**
CBKS	**Cedar Bluff**	**38.62**	**341**	P	**P**	**12 35 11.7**	**+0.6**
CPUP	**Villa Florida**	**38.92**	**139**	LR	LR	12 53 12.7	
	comp=Z,87nm,18.4s,baz=19,slow=39						
BDFB	**Brasilia**	**40.32**	**118**	LR	LR	12 51 53.7	
	comp=Z,81nm,18.2s,baz=272,slow=36						
PV15	**Paradox Valley**	**41.80**	**331**	P	**P**	**12 35 38.9**	**+1.3**
PV15				IAmb	IAmb	12 35 39.6	
	comp=Z,5.2nm,0.9s						
PV12	**Saucer Basin,**	**41.94**	**331**	P	**P**	**12 35 39.2**	**+0.5**
PV12				IAmb	IAmb	12 35 40.3	
	comp=Z,4.0nm,0.9s						
W13A	**Hualapai Mount**	**42.33**	**323**	P	**P**	**12 35 42.8**	**+0.7**
SPMN	**Marine on St.**	**43.04**	**351**	P	**P**	**12 35 46.6**	**-0.7**
SPMN				IAmb	IAmb	12 35 47.0	
	comp=Z,9.6nm,1.2s						
SRU	**San Rafael Swe**	**43.40**	**330**	P	**P**	**12 35 51.1**	**+0.5**
MSU	**Marysvale**	**43.80**	**328**	P	**P**	**12 35 54.7**	**+0.9**
RWWY	**Rawlins**	**43.94**	**335**	P	**P**	**12 35 55.0**	**0.0**
RWWY				IAmb	IAmb	12 35 56.4	
	comp=Z,4.3nm,0.9s						
RDMU	**Red Mountain**	**44.08**	**332**	P	**P**	**12 35 56.0**	**0.0**
PD31	**Pinedale Array**	**45.82**	**334**	P	**P**	**12 36 09.4**	**-0.6**
PDAR	**Pinedale Array**	**45.82**	**334**	P	**P**	**12 36 09.3**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=140,slow=9.5,SNR=7.4						
PDAR				PcP	**PcP**	**12 37 46.9**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=157,slow=5.8,SNR=1.8						
PDAR				LR	LR	12 56 02.8	
	comp=Z,84nm,20.6s,baz=136,slow=37						
PDAR	**Pinedale Array**	**45.82**	**334**	P	**P**	**12 36 09.0**	**-0.9**
HWUT	**Hardware Ranch**	**45.83**	**331**	P	**P**	**12 36 09.9**	**0.0**
HWUT				IAmb	IAmb	12 36 10.7	
	comp=Z,3.9nm,0.9s						
MDND	**Maddock**	**46.91**	**346**	P	**P**	**12 36 19.8**	**+1.7**
NVAR	**Mina Array Bea**	**47.19**	**323**	P	**P**	**12 36 21.3**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=124,slow=7.5,SNR=11						
NVAR				PcP	**PcP**	**12 37 52.7**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=130,slow=4.4,SNR=3.7						
NVAR				LR	LR	12 54 01.1	
	comp=Z,74nm,20.7s,baz=154,slow=33						
NVAR	**Mina Array Bea**	**47.19**	**323**	P	**P**	**12 36 20.7**	**0.0**
QLMT	**Earthquake Lak**	**48.29**	**334**	P	**P**	**12 36 31.0**	**+1.9**
YKA	**Yellowknife Ar**	**63.80**	**345**	LR	LR	13 08 32.5	
	comp=Z,25nm,18.2s,baz=0.0,slow=38						
PPT	**Papeete**	**67.27**	**250**	LR	LR	13 00 08.3	
	comp=Z,94nm,19.0s,baz=80,slow=29						
SCM	**Sheep Creek Mo**	**75.16**	**334**	P	**P**	**12 39 31.8**	**+2.0**
ILAR	**Eielson Array**	**76.16**	**337**	P	**P**	**12 39 35.0**	**-0.3**
	comp=Z,0.9nm,0.9s,baz=121,slow=4.5,SNR=9.4						
ILAR				LR	LR	13 14 39.0	
	comp=Z,36nm,20.0s,baz=136,slow=37						
ILAR	**Eielson Array**	**76.16**	**337**	P	**P**	**12 39 34.9**	**-0.5**
BMAR	**Burnt Mountain**	**76.46**	**340**	P	**P**	**12 39 37.4**	**+0.3**
DBIC	**Dimbokro**	**79.32**	**84**	P	**P**	**12 39 50.9**	**-3.0**
	comp=Z,10nm,1.1s,baz=298,slow=8.5,SNR=3.1						
FINES	**FINESS Array B**	**97.34**	**27**	LR	LR	13 23 00.7	
	comp=Z,20nm,19.1s,baz=72,slow=34						
ASAR	**Alice Springs**	**137.48**	**237**	PKP	**PKPdf**	**12 47 11.4**	**-0.9**
	comp=Z,0.3nm,0.8s,baz=127,slow=1.2,SNR=1.7						
ASAR	**Alice Springs**	**137.48**	**237**		**PKPdf**	**12 47 11.9**	**-0.3**
WRA	**Warramunga Arr**	**138.47**	**243**	PKP	**PKPdf**	**12 47 13.9**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=91,slow=1.9,SNR=1.6						
WRA	**Warramunga Arr**	**138.47**	**243**		**PKPdf**	**12 47 13.4**	**-0.7**

*IDC **22** 12:33:35.5±1.1,6°.66S×154°.52E, h0km, mb4.0/10, mb1 4.1/12, mb1mx3.9/40, mbtmp4.0/12, ML2.9/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/29, Error ellipse: s-maj=37.3km s-min=18.3km az=123.0*
*NEIC **22** 12:33:38.8±1.7, 6°.63S±0°.10×154°.54E±0°.08, h21km±5km, mb4.1/10, Error ellipse: s-maj=14.9km s-min=10.5km az=155.0*
ISC 22 12:33:42.4±0.8,**6°.62S**±0°.09×**154°.5E**±0°.1,**h48**km,**n29**, σ1**s05**/29,**mb4.0**/14,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.33**	**316**		**Pn**	**12 34 30.8**	**-1.3**
HNR	**Honiara**	**6.10**	**118**	LR	LR	12 36 52.8	
	comp=Z,64nm,21.2s,baz=254,slow=33						
PMG	**Port Moresby**	**7.75**	**249**	Pn	**Pn**	**12 35 32.2**	**-0.5**
	1.5nm,0.3s,baz=66,slow=9.6,SNR=4.0						
PMG				Sn	**Sn**	**12 37 01.4**	**+2.2**
	0.6nm,0.3s,baz=54,slow=19,SNR=2.1						
PMG	**Port Moresby**	**7.75**	**249**		**Pn**	**12 35 32.0**	**-0.7**
CTA	**Charters Tower**	**15.58**	**210**	Pn	**Pn**	**12 37 16.7**	**-2.3**
	0.2nm,0.3s,baz=28,slow=18,SNR=2.3						
CTAO	**Charters Tower**	**15.58**	**210**	P	**P**	**12 37 23.5**	**+1.0**
WR0	**Warramunga Arr**	**23.45**	**234**	P	**P**	**12 38 46.8**	**-1.0**
WR0				IAmb	IAmb	12 38 48.1	
	comp=Z,10nm,1.2s						
WB0	**Warramunga Arr**	**23.47**	**234**	P	**P**	**12 38 48.0**	**0.0**
WB0				IAmb	IAmb	12 38 54.3	
	comp=Z,9.3nm,1.5s						
WRAB	**Tennant Creek**	**23.59**	**234**	P	**P**	**12 38 49.3**	**+0.2**
WRAB				IAmb	IAmb	12 38 56.6	
	comp=Z,7.9nm,1.1s						
WB2	**Warramunga Arr**	**23.60**	**234**	P	**P**	**12 38 48.3**	**-0.9**
WRA	**Warramunga Arr**	**23.61**	**234**	P	**P**	**12 38 48.1**	**-1.1**
	comp=Z,1.9nm,0.4s,baz=59,slow=9.6,SNR=17						
WRA	**Warramunga Arr**	**23.61**	**234**	P	**P**	**12 38 48.4**	**-0.9**
AS31	**Alice Springs**	**26.03**	**227**	P	**P**	**12 39 10.7**	**-0.6**
ASAR	**Alice Springs**	**26.04**	**227**	P	**P**	**12 39 10.7**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=58,slow=9.2,SNR=17						
ASAR	**Alice Springs**	**26.04**	**227**	P	**P**	**12 39 11.6**	**+0.2**
STKA	**Stephens Creek**	**27.86**	**204**	P	**P**	**12 39 26.6**	**-1.0**
	comp=Z,3.3nm,0.7s,baz=40,slow=16,SNR=4.5						
STKA	**Stephens Creek**	**27.86**	**204**	P	**P**	**12 39 26.8**	**-0.8**
STKA				IAmb	IAmb	12 39 30.6	
	comp=Z,4.4nm,1.4s						
KSRS	**Korea Array**	**50.37**	**332**	P	**P**	**12 42 34.1**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=140,slow=5.8,SNR=3.0						
SONM	**Songino Array**	**68.75**	**327**	P	**P**	**12 44 43.1**	**+1.6**
	comp=Z,0.6nm,0.6s,baz=116,slow=3.4,SNR=2.7						
MK31	**Makanchi Array**	**82.78**	**319**	P	**P**	**12 46 02.4**	**+0.9**
MK31				IAmb	IAmb	12 46 03.5	
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**82.78**	**319**	P	**P**	**12 46 02.2**	**+0.6**
	comp=Z,1.3nm,0.5s,baz=97,slow=6.5,SNR=12						
ILAR	**Eielson Array**	**83.22**	**22**	P	**P**	**12 46 02.5**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=258,slow=4.4,SNR=2.9						
QSPA	**South Pole Qui**	**83.35**	**180**	P	**P**	**12 46 05.2**	**+1.0**
ZALV	**Zalesovo Beam**	**83.58**	**326**	P	**P**	**12 46 05.2**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=112,slow=4.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**83.58**	**326**	P	**P**	**12 46 05.6**	**+0.2**
NVAR	**Mina Array Bea**	**91.90**	**52**	P	**P**	**12 46 47.6**	**+1.3**
	comp=Z,0.6nm,0.8s,baz=255,slow=9.2,SNR=3.3						
NVAR	**Mina Array Bea**	**91.90**	**52**	P	**P**	**12 46 46.5**	**+0.3**
PDAR	**Pinedale Array**	**98.84**	**48**	P	**P**	**12 47 18.7**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=270,slow=2.3,SNR=2.0						
TORD	**Torodi Ar. Bea**	**152.43**	**286**	PKPbc	**PKPbc**	**12 53 34.3**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=52,slow=2.9,SNR=12						

*IDC **22** 12:36:45.6±1.2, 10°.54S×120°.33E, h0km, mb4.1/6, mb1 4.2/12, mb1mx3.9/35, mbtmp4.1/12, ML3.7/6, MS3.5/2, Ms1 3.6/2, ms1mx2.9/31, Error ellipse: s-maj=32.7km s-min=17.7km az=44.0*
*NEIC **22** 12:36:49.6±1.9, 10°.63S±0°.07×120°.29E±0°.07, h27km±6km, mb4.0/10, Error ellipse: s-maj=10.8km s-min=10.1km az=191.0*
*DJA **22** 12:36:50.4±1.2, 11°.5±8°.×12°.0E±°, h17km±5km, M4.1/6, mb4.4/2, MLv4.0/6*
ISC 22 12:36:50.5±0.5,**10°.59S**±0°.05×**120°.34E**±0°.04,**h31**km,**n46**, σ1**s25**/48,**mb4.1**/7,**Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.43**	**33**	P	**Pb**	**12 36 59.6**	**-0.3**
BASI				S	**Sb**	**12 37 07.2**	**+0.8**
WSI	**Waingapu**	**0.91**	**357**	P	**Pb**	**12 37 08.3**	**+0.5**
WBSI	**Waikabubak, Su**	**1.32**	**315**	P	**Pn**	**12 37 13.4**	**+0.5**
WBSI				S	**Sb**	**12 37 31.6**	**+0.2**
MMRI	**Maumere**	**2.69**	**44**	P	**Pn**	**12 37 32.0**	**+0.3**
MMRI	**Maumere**	**2.69**	**44**		**Pn**	**12 37 32.0**	**+0.3**
PLAI	**Plampang**	**3.07**	**304**	P	**Pn**	**12 37 38.3**	**+1.4**
PLAI				S	**Sn**	**12 38 14.3**	**+1.7**
BATI	**Baumata**	**3.29**	**84**	Pn	**Pn**	**12 37 40.5**	**+0.6**
	18nm,0.3s,baz=281,slow=4.4,SNR=12						
BATI				Sn	**Sn**	**12 38 19.6**	**+1.5**
	14nm,0.3s,baz=227,slow=19,SNR=15						
BATI	**Baumata**	**3.29**	**84**	P	**Pn**	**12 37 41.7**	**+1.8**
BATI				S	**Sn**	**12 38 20.7**	**+2.6**
SOEI	**Soe**	**3.95**	**78**	P	Pb	12 38 18.4	+19
SOEI	**Soe**	**3.95**	**78**		**Pn**	**12 37 51.0**	**+1.9**
KAPI	**Kappang**	**5.56**	**354**	Pn	**Pn**	**12 38 10.7**	**-0.5**
	1.0nm,0.3s,baz=113,slow=7.7,SNR=2.1						
KAPI				Sn	**Sn**	**12 39 13.8**	**-0.3**
	0.7nm,0.3s,baz=178,slow=19,SNR=1.8						
KAPI				LR	LR	12 40 41.8	
	comp=Z,463nm,18.7s,baz=178,slow=43						
KAPI	**Kappang**	**5.56**	**354**		**Pn**	**12 38 12.6**	**+1.4**
JAGI	**Jajag, Banyuwa**	**6.45**	**288**	Pn	**Pn**	**12 38 23.2**	**-0.2**
FITZ	**Fitzroy Crossi**	**9.06**	**146**	Pn	**Pn**	**12 38 58.2**	**-1.0**
	0.8nm,0.3s,baz=335,slow=8.6,SNR=26						
FITZ				Sn	Sn	12 40 32.0	-8.2
	0.7nm,0.3s,baz=243,slow=10,SNR=3.1						
FITZ	**Fitzroy Crossi**	**9.06**	**146**		**Pn**	**12 38 58.0**	**-1.2**
KNRA	**Kununurra**	**9.64**	**123**	Pn	**Pn**	**12 39 06.8**	**-0.3**
MTN	**Manton Dam**	**10.81**	**103**	Pn	**Pn**	**12 39 22.7**	**-0.4**
GIRL	**Giralia**	**13.34**	**205**	Pn	**Pn**	**12 39 56.0**	**-1.7**
FAKI	**Fak Fak**	**14.06**	**58**	Pn	**Pn**	**12 40 06.4**	**-1.3**
SIJI	**Sorong**	**14.53**	**49**	Pn	**Pn**	**12 40 12.8**	**-1.3**
	0.8nm,0.3s,baz=218,slow=17,SNR=5.1						
WB0	**Warramunga Arr**	**16.34**	**126**	Pn	**Pn**	**12 40 36.0**	**-1.8**
WB0				IAmb	IAmb	12 40 38.6	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**16.39**	**126**	Pn	**Pn**	**12 40 35.8**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=296,slow=13,SNR=6.5						
WRA				Sn	Sn	12 43 29.4	-10
	comp=Z,0.2nm,0.3s,baz=294,slow=22,SNR=4.8						
WRA	**Warramunga Arr**	**16.39**	**126**		**Pn**	**12 40 37.5**	**-0.9**
WRAB	**Tennant Creek**	**16.39**	**126**	Pn	**Pn**	**12 40 36.1**	**-2.3**
WRAB				IAmb	IAmb	12 40 45.0	
	comp=Z,11nm,1.3s						
WB2	**Warramunga Arr**	**16.40**	**126**	Pn	**Pn**	**12 40 36.6**	**-1.9**
WB2				IAmb	IAmb	12 40 45.7	
	comp=Z,14nm,1.5s						
WR0	**Warramunga Arr**	**16.56**	**126**	Pn	**Pn**	**12 40 38.7**	**-1.8**
AS31	**Alice Springs**	**18.34**	**137**	P	**P**	**12 41 02.4**	**-0.2**
ASAR	**Alice Springs**	**18.34**	**137**	P	**P**	**12 41 03.0**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=315,slow=12,SNR=18						
ASAR				S	Sn	12 44 15.9	-11
	comp=Z,0.1nm,0.3s,baz=314,slow=24,SNR=4.9						
ASAR	**Alice Springs**	**18.34**	**137**	P	**Pn**	**12 41 04.1**	**+1.4**
MORW	**Morawa**	**18.82**	**192**	P	**P**	**12 41 08.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**35.76**	**324**	P	**P**	**12 43 47.9**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=152,slow=6.7,SNR=3.5						
CMAR				LR	LR	13 00 07.5	
	comp=Z,74nm,18.2s,baz=170,slow=39						
H08S2	**Diego Garcia H**	**47.30**	**269**	T	T	13 35 48.2	
	baz=96						
H08S3	**Diego Garcia H**	**47.31**	**269**	T	T	13 35 49.7	
	baz=96						
H08S1	**Diego Carcia H**	**47.32**	**269**	T	T	13 35 51.5	
	baz=96						
MJAR	**Matsushiro Arr**	**49.80**	**19**	P	**P**	**12 45 38.6**	**-1.9**
	comp=Z,2.0nm,1.0s,baz=189,slow=8.7,SNR=5.2						
SONM	**Songino Array**	**59.47**	**349**	P	**P**	**12 46 50.3**	**-0.2**
	comp=Z,3.3nm,0.6s,baz=167,slow=9.3,SNR=17						
SONM	**Songino Array**	**59.47**	**349**	P	**P**	**12 46 50.3**	**-0.2**
WMQ	**Urumqi**	**61.75**	**334**	*e*P	**P**	**12 47 05.9**	**-0.2**
MK31	**Makanchi Array**	**66.46**	**332**	P	**P**	**12 47 37.0**	**0.0**
MK31				IAmb	IAmb	12 47 37.3	
	comp=Z,1.2nm,0.7s						
MKAR	**Makanchi Array**	**66.46**	**332**	P	**P**	**12 47 36.7**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=139,slow=7.5,SNR=13						
ZALV	**Zalesovo Beam**	**70.98**	**339**	P	**P**	**12 48 03.9**	**-1.0**
	comp=Z,4.3nm,0.7s,baz=140,slow=4.2,SNR=17						
ZALV	**Zalesovo Beam**	**70.98**	**339**	P	**P**	**12 48 04.1**	**-0.8**
PETK	**Petropavlovsk-**	**71.00**	**23**	P	**P**	**12 48 04.9**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=191,slow=4.4,SNR=2.4						
PETK	**Petropavlovsk-**	**71.00**	**23**	P	**P**	**12 48 05.6**	**+0.5**
QSPA	**South Pole Qui**	**79.42**	**180**	P	**P**	**12 48 55.3**	**+1.8**
ABKAR	**Akbulak array**	**79.61**	**325**	P	**P**	**12 48 55.9**	**+1.3**

*IDC **22** 12:55:18.5±0.9, 38°.39N×20°.31E, h0km, mb3.8/10, mb1 3.8/16, mb1mx3.7/43, mbtmp3.7/16, ML3.7/5, MS3.0/6, Ms1 3.0/6, ms1mx2.6/47, Error ellipse: s-maj=17.4km s-min=15.1km az=23.0*
*PDG **22** 12:55:19.7±0.2, 38°.30N×20°.35E, h19km, ML4.1/14, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*
*ATH **22** 12:55:20.6, 38°.28N×20°.47E, h13km±1km, ML3.7/7, Error ellipse: s-maj=1.5km s-min=0.9km az=257.0*
*THE **22** 12:55:20.1, 38°.30N×20°.34E, h8km±1km, ML3.7/7, Error ellipse: s-maj=1.6km s-min=0.6km az=86.0*
*NEIC **22** 12:55:22.6±2.6, 38°.33N±0°.06×20°.38E±0°.07, h27km±5km, Error ellipse: s-maj=9.0km s-min=7.8km az=195.0*
ISC 22 12:55:20.7±0.7,**38°.31N**±0°.02×**20°.38E**±0°.02,**h12**km±4km, **n184**, σ1**s47**/235,**mb3.9**/13,**13C-20D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF4	**Livadi, Kephal**	**0.06**	**146**	P	**Pg**	**12 55 23.1**	**0.0**
KEF4				S	**Sg**	**12 55 24.7**	**0.0**
KEF5	**Kardakata, Kep**	**0.07**	**113**	P	**Pg**	**12 55 22.9**	**-0.3**
KEF5				S	**Sg**	**12 55 24.3**	**-0.7**
KEF3	**Kipouria, Keph**	**0.11**	**195**	P	**Pg**	**12 55 23.7**	**+0.1**
KEF3				S	**Sg**	**12 55 25.6**	**0.0**
ARGA	**Argostoli. Kep**	**0.15**	**149**	P	**Pg**	**12 55 23.9**	**-0.3**
ARGA				S	**Sg**	**12 55 26.2**	**-0.5**
ARG2	**Argostoli**	**0.15**	**147**	P	**Pg**	**12 55 24.0**	**-0.2**
ARG2				S	**Sg**	**12 55 26.5**	**-0.2**
VSK1	**VASILIKIADES**	**0.18**	**54**	P	**Pg**

KLV AML AML 12 56 11.7
comp=N,2742µm,1.0s
KLV AML AML 12 56 13.3
comp=E,2092µm,0.7s
KEK Kerkira 1.48 342 P **Pb** **12 55 47.6 -0.5**
KASA Kassiopi 1.48 347 P **Pg** **12 55 48.2 -1.0**
MAKR Makrakomi, Fth 1.54 62 P **Pb** **12 55 48.7 -0.5**
GUR Goura 1.59 103 P **Pn** **12 55 48.5 -0.3**
MEV Metsovon 1.62 24 P **Pg** **12 55 51.4 -0.4**
ITM Ithomi 1.66 132 P **Pb** **12 55 50.0 -1.3**
ITM Ithomi 1.66 132 *i* **Sn** **12 55 49.5 -0.2**
TRIP Tripoli 1.68 117 P **Pb** **12 55 51.3 -0.3**
AGG Agios Georgios 1.68 64 P **Pb** **12 55 52.0 +0.3**
AGG Agios Georgios 1.68 64 **Pb** **12 55 51.9 +0.3**
PYL PYLOS 1.77 142 P **Pn** **12 55 51.0 -0.2**
THL Klokotos Trika 1.79 45 P **Pb** **12 55 53.3 -0.2**
VLX Vlachokerasia 1.84 120 P **Pb** **12 55 53.6 -0.7**
AXAR Agios Charalam 1.84 75 P **Pb** **12 55 53.0 -1.4**
PROD Prodromos 1.98 91 P **Pb** **12 55 55.6 -1.1**
LTK Loutraki 2.06 97 P **Pb** **12 55 56.2 -1.8**
NEST Nestorio 2.17 14 P **Pb** **12 55 59.4 -0.5**
SCTE Santa Cesarea 2.31 320 **Pn** **12 55 58.9 +0.4**
DID Didima 2.40 109 P **Pn** **12 56 01.1 +1.3**
OHR Ohrid 2.82 6 *i* Pn **Pb** **12 56 08.4 -2.7**
TIP Timpagrande 2.96 288 ⇓P **Pn** **12 56 08.5 +0.8**
TIP ⇓S **Sn** **12 56 42.6 -0.6**
TIP Timpagrande 2.96 288 **Pn** **12 56 08.4 +0.7**
TIR Tirane 3.06 353 ⇓S **Sn** **12 56 45.1 -0.5**
TIR Tirane 3.06 353 **Pn** **12 56 08.9 +1.0**
TAR1 Taranto 3.27 314 ⇑*i*Pn **Pn** **12 56 12.1 +0.4**
VAY Valandovo 3.45 29 *i* Pn **Pn** **12 56 15.1 +0.8**
CEL Celeste 3.53 271 **Pn** **12 56 15.2 -0.3**
STIP Stip 3.66 22 *i* Pn **Pn** **12 56 19.8 +2.7**
MATE Matera 3.68 311 ⇑P **Pn** **12 56 17.8 +0.3**
ULC Ulcinj 3.76 347 ⇓*i*Pn **Pn** **12 56 17.9 -0.6**
ULC *i* Sn **Sn** **12 57 00.7 -2.0**
SG1 Sgolgore (BA) 3.82 313 ⇑*i*Pn **Pn** **12 56 19.8 +0.4**
BAI Bari 3.89 317 ⇓*i*Pn **Pn** **12 56 20.5 +0.2**
DRME Dracevica, Mon 3.98 347 ⇑*i*Pn **Pn** **12 56 21.2 -0.4**
DRME *i* Sn **Sn** **12 57 07.8 -0.4**
KKB Krupnik 4.12 29 *i* P **Pn** **12 56 24.4 +1.0**
BUM Brajici-Budva 4.15 345 ⇓*i*Pn **Pn** **12 56 23.3 -0.7**
BUM *i* Sn **Sn** **12 57 11.8 -0.6**
MMB Musomiste 4.17 37 *i* P **Pn** **12 56 24.8 +0.6**
MMB *i* S **Sn** **12 57 08.9 -3.9**
PDG Podgorica 4.21 349 ⇓P **Pn** **12 56 24.5 -0.2**
PDG ⇓S **Sn** **12 57 12.0 -1.8**
PDG Podgorica 4.21 349 **Pn** **12 56 24.4 -0.2**
TTG Podgorica 4.21 349 ⇑*i*Pn **Pn** **12 56 24.2 -0.5**
TTG *i* Sn **Sn** **12 57 13.0 -0.8**
APE Apeiranthos 4.27 105 ⇓P **Pn** **12 56 26.9 +1.4**
APE ⇓S **Sn** **12 57 16.6 +1.3**
PVY Plav 4.30 356 ⇓*i*Pn **Pn** **12 56 25.8 -0.2**
PVY *i* Sn **Sn** **12 57 15.5 -0.6**
CEME Cevo 4.38 346 ⇑*i*Pn **Pn** **12 56 26.2 -0.9**
CEME *i* Sn **Sn** **12 57 16.9 -1.2**
HCY Herceg Novi 4.38 341 ⇓*i*Pn **Pn** **12 56 25.9 -1.2**
HCY *i* Sn **Sn** **12 57 17.4 -0.6**
IVA Berane 4.58 355 ⇓*i*Pn **Pn** **12 56 29.3 -0.5**
IVA *i* Sn **Sn** **12 57 22.0 -1.0**
KOME Kolasin 4.59 352 ⇓*i*Pn **Pn** **12 56 29.7 -0.3**
KOME *i* Sn **Sn** **12 57 22.5 -0.8**
NKME Niksic 4.59 347 ⇓*i*Pn **Pn** **12 56 29.4 -0.6**
NKME *i* Sn **Sn** **12 57 22.5 -0.7**
NKY Niksic 4.62 347 ⇓*i*Pn **Pn** **12 56 30.2 -0.3**
NKY *i* Sn **Sn** **12 57 23.0 -1.2**
IDI Anoyia 4.71 128 Pn **Pn** **12 56 32.5 +0.9**
comp=E,1.0nm,0.3s,baz=234,slow=7.0,SNR=9.8
IDI Sn **Sn** **12 57 27.2 +1.0**
comp=E,3.5nm,0.3s,baz=344,slow=24,SNR=9.8
IDI Anoyia 4.71 128 ⇑P **Pn** **12 56 32.8 +1.2**
RZN Rozhen 4.74 43 *i* P **Pn** **12 56 32.5 +0.3**
RZN *i* S **Sn** **12 57 29.4 +2.2**
VAE Valguarnera 4.79 262 Pn **Pn** **12 56 33.4 +0.5**
comp=E,0.8nm,0.3s,baz=124,slow=7.3,SNR=1.2
VAE Sn **Sn** **12 57 27.8 -0.5**
comp=E,3.4nm,0.3s,baz=114,slow=12,SNR=3.8
BRY Bratogost 4.80 344 ⇓*i*Pn **Pn** **12 56 31.8 -1.2**
BRY *i* Sn **Sn** **12 57 27.1 -1.5**
VTS Vitosha 4.83 26 ⇑P **Pn** **12 56 33.5 +0.2**
VTS Vitosha 4.83 26 *i* P **Pn** **12 56 34.1 +0.8**
VTS Vitosha 4.83 26 Pn **Pn** **12 56 33.2 -0.1**
SGRT San Giovanni R 4.95 316 Pn **Pn** **12 56 34.6 -0.4**
UPM Unac-Piva 5.02 348 ⇓*i*Pn **Pn** **12 56 35.6 -0.4**
UPM *i* Sn **Sn** **12 57 32.8 -1.2**
PLE Pljevlja 5.08 352 ⇓*i*Pn **Pn** **12 56 36.4 -0.3**
PLE *i* Sn **Sn** **12 57 34.3 -1.0**
ALN Alexandroupoli 5.08 58 **Pn** **12 56 36.6 0.0**
KDZ Kurdzhali 5.11 48 *i* P **Pn** **12 56 39.9 +2.8**
PAOL Paolisi 5.25 303 **Pn** **12 56 40.4 +1.4**
WDD Wied Dalam 5.28 244 Pn **Pn** **12 56 38.8 -0.8**
CORL Corleone 5.60 268 **Pn** **12 56 45.1 +1.3**
CLTB Caltabellotta 5.71 265 **Pn** **12 56 45.6 +0.2**
DIVS Divibare 5.79 357 **Pn** **12 56 45.6 -1.0**
PLVB Pleven 6.01 31 ⇑P **Pn** **12 56 48.8 -0.6**
INTR Introdacqua 6.19 309 **Pn** **12 56 53.9 +1.9**
MDVR Moldovita 6.55 8 ⇑P **Pn** **12 56 57.1 +0.3**
AQU L'Aquila 6.69 309 **Pn** **12 57 00.1 +1.3**
HERR Herculane 6.74 12 ⇓P **Pn** **12 56 58.8 -0.7**
NRCA Norcia 7.14 312 **Pn** **12 57 06.5 +1.4**
BZS Buzias 7.36 7 ⇓P **Pn** **12 57 06.6 -1.4**
MURB Monte Urbino 7.75 312 **Pn** **12 57 15.2 +1.9**
VOIR 7.93 25 ⇑P **Pn** **12 57 16.1 +0.2**
MLR Muntele Rosu 8.29 28 Pn **Pn** **12 57 21.6 +0.8**
comp=E,0.3nm,0.3s,baz=266,slow=16,SNR=4.9
MLR Muntele Rosu 8.29 28 ⇑P **Pn** **12 57 19.7 -1.1**
MLR Muntele Rosu 8.29 28 **Pn** **12 57 23.2 +2.4**
OSSC Osservatorio P 8.66 310 Pn **Pn** **12 57 28.2 +2.4**
TRI Trieste 8.88 328 Pn **Pn** **12 57 28.1 -0.7**
KEST Kesra 9.19 257 Pn **Pn** **12 57 34.4 +1.2**
SOKA Soboth 9.25 336 *i* Pn **Pn** **12 57 32.4 -1.5**
comp=E,5.9nm,0.3s,SNR=22
SOKA *e*Sn **Sn** **12 59 09.7 -8.3**
comp=E,3.6nm,0.5s
OBKA Obir 9.26 334 *e*Pn **Pn** **12 57 33.7 -0.4**
comp=E,6.5nm,0.2s,SNR=6.2
VLC Villacollemand 9.53 311 Pn **Pn** **12 57 39.0 +1.3**
PRED Cave del Predi 9.56 330 **Pn** **12 57 37.8 -0.5**
ARSA Arzberg 9.62 340 *e*Pn **Pn** **12 57 36.6 -2.4**
comp=E,1.9nm,0.3s
MYKA Terra Mystica 9.69 331 *e*Pn **Pn** **12 57 39.5 -0.5**
comp=E,3.0nm,0.4s
STAL STALIGIAL 9.77 327 Pn **Pn** **12 57 39.6 -1.4**
ZOU Zoufplan 9.89 329 **Pn** **12 57 41.9 -1.0**
CIMO Cimolais 9.92 326 **Pn** **12 57 41.3 -1.8**
CTI Castel Tesino 10.09 323 **Pn** **12 57 44.2 -1.2**
MSSA Maissana 10.14 310 Pn **Pn** **12 57 48.8 +2.6**
CONA Conrad Observa 10.17 343 *e*Pn **Pn** **12 57 47.5 +1.0**
comp=E,0.6nm,0.3s
ABTA Abfaltersbach 10.24 328 *e*Pn **Pn** **12 57 46.7 -0.8**
comp=E,1.8nm,0.3s
VYHS Vyhne 10.24 354 *e*SN **Sn** **12 59 38.0 -4.3**
SALO Salr 10.35 318 Pn **Pn** **12 57 48.9 -0.1**
BRTR Keskin Array B 10.41 78 LR LR 13 01 52.1
comp=E,56nm,19.8s,baz=254,slow=38
MOA Molln 10.53 337 *i* Pn **Pn** **12 57 50.5 -1.0**
comp=E,1.9nm,0.2s,SNR=16
WTTA Wattenberg 11.01 327 *e*Pn **Pn** **12 57 57.8 -0.4**
comp=E,3.6nm,0.3s,SNR=5.7
WTTA *e*Sn **Sn** **12 59 56.0 -5.4**
comp=E,4.4nm,0.4s
WATA Walderalm 11.09 327 *e*Pn **Pn** **12 57 59.4 +0.1**
comp=E,3.6nm,0.4s,SNR=6.0
SQTA Sankt Quirin 11.16 326 *e*Pn **Pn** **12 58 00.5 +0.3**
comp=E,1.3nm,0.2s
FUORN Ofenpass-Fuorn 11.17 321 **Pn** **12 58 00.4 0.0**
FETA Feichten 11.23 324 *e*Pn **Pn** **12 58 00.8 -0.4**
comp=E,0.5nm,0.3s
MOTA Moosalm 11.31 326 *e*Pn **Pn** **12 58 00.8 -1.4**
comp=E,2.7nm,0.4s,SNR=4.4
MOTA Sn **Sn** **13 00 04.3 -4.2**
comp=E,6.5nm,0.6s
VRAC Vranov 11.33 347 LR LR 13 02 54.6
comp=E,50nm,18.4s,baz=166,slow=41
DAVOX Davos/Dischmat 11.47 321 Pn **Pn** **12 58 04.1 -0.3**
comp=E,0.4nm,0.3s,baz=148,slow=21,SNR=6.0
DAVOX Sn **Sn** **13 00 08.7 -3.8**
comp=E,0.2nm,0.3s,baz=180,slow=20,SNR=1.7
DAVOX LR LR 13 03 06.0
comp=E,62nm,19.6s,baz=82,slow=41
TUE Stuetta 11.53 319 **Pn** **12 58 05.4 +0.1**
RETA Reutte 11.56 326 *e*Pn **Pn** **12 58 03.8 -1.9**
comp=E,1.1nm,0.3s,SNR=4.3
GEC2 GERESS Array S 11.59 338 Pn **Pn** **12 58 05.7 -0.3**
GERES GERESS Array B 11.59 338 Pn **Pn** **12 58 04.1 -1.9**
comp=E,0.3nm,0.3s,baz=154,slow=13,SNR=14
GERES Sn **Sn** **13 00 07.9 -7.5**
comp=E,0.4nm,0.3s,baz=157,slow=25,SNR=6.2
GERES GERESS Array B 11.59 338 Pn **Pn** **12 58 04.6 -1.3**
MORC Moravsky Berou 11.65 351 Pn **Pn** **12 58 07.3 +0.6**
KHC Kasperske Hory 11.88 338 *e*PN **Pn** **12 58 10.1 +0.2**
KHC *e*SN **Sn** **13 00 17.3 -5.1**
OJC Ojcow 11.92 358 Pn **Pn** **12 58 10.9 +0.5**
SENIN Lac Senin/Sane 12.58 314 **Pn** **12 58 19.9 +0.3**
ECH Echery 13.80 320 Pn **Pn** **12 58 35.4 -0.7**
AKASG Malin Array Be 13.89 24 Pn **Pn** **12 58 40.5 +3.2**
comp=E,0.4nm,0.3s,baz=212,slow=10,SNR=1.9
AKASG Malin Array Be 13.89 24 **Pn** **12 58 38.7 +1.4**
CLL Collm 14.00 341 *e*PP **P** **12 58 48.0 +1.2**
WLF Walferdange 15.26 323 P **P** **12 59 01.9 +1.1**
WLF IAmb IAmb 12 59 11.3
comp=E,5.3nm,0.7s
KVAR Kislovodsk Arr 17.71 64 LR LR 13 08 19.7
comp=E,49nm,21.9s,baz=103,slow=44
ESDC Sonseca Array 18.96 282 P **P** **12 59 41.1 -0.7**
comp=E,0.0nm,0.3s,baz=80,slow=11,SNR=4.2
ESDC Sonseca Array 18.96 282 P **Pn** **12 59 42.5 0.0**
HFS Hagfors 22.26 351 P **P** **13 00 15.5 -1.8**
comp=E,2.2nm,0.5s,baz=125,slow=9.6,SNR=5.2
HFS LR LR 13 09 20.8
comp=E,29nm,20.6s,baz=122,slow=38
NC602 NORSAR Array S 23.13 349 P **P** **13 00 27.2 +0.7**
NC602 IAmb IAmb 13 00 27.8
comp=E,22nm,1.2s
EKA Eskdalemuir Ar 23.26 325 P **P** **13 00 26.8 -1.0**
comp=E,1.3nm,0.8s,baz=124,slow=8.6,SNR=4.0
FINES FINESS Array B 23.43 7 P **P** **13 00 28.1 -1.3**
comp=E,1.5nm,0.5s,baz=166,slow=10,SNR=9.2
FINES FINESS Array B 23.43 7 P **P** **13 00 28.3 -1.2**
NB2 NORSAR Subarra 23.47 349 P **P** **13 00 32.6 +2.6**
comp=E,3.0nm,1.1s,baz=159,slow=9.3
NOA NORSAR Array B 23.47 349 P **P** **13 00 29.2 -0.8**
comp=E,1.4nm,1.1s,baz=157,slow=10,SNR=2.3
GEYT Alibeck 29.56 79 P **P** **13 01 26.3 +1.0**
comp=E,1.0nm,0.5s,baz=270,slow=9.7,SNR=2.5
GEYT Alibeck 29.56 79 P **Pn** **13 01 26.1 +0.8**
TOA0 Torodi Ar. Sit 30.06 219 P **P** **13 01 29.5 -0.4**
TOA0 IAmb IAmb 13 01 45.4
comp=E,3.0nm,1.1s
TORD Torodi Ar. Bea 30.06 219 P **P** **13 01 29.3 -0.6**
comp=E,1.0nm,0.8s,baz=35,slow=9.1,SNR=5.5
TORD Torodi Ar. Bea 30.06 219 P **P** **13 01 29.6 -0.3**
KKAR Karatay Array 37.84 66 P **P** **13 02 36.9 -0.4**
DBIC Dimbokro 38.91 222 LR LR 13 19 11.3
comp=Z,74nm,18.1s,baz=112,slow=37
MAKZ Makanchi 45.11 59 P **P** **13 03 36.9 0.0**
MK31 Makanchi Array 45.33 58 P **P** **13 03 37.3 -1.2**
MK31 IAmb IAmb 13 03 51.1
comp=E,3.5nm,1.4s
MKAR Makanchi Array 45.33 58 P **P** **13 03 37.1 -1.4**
comp=E,0.9nm,0.5s,baz=271,slow=8.6,SNR=11
ZALV Zalesovo Beam 45.69 48 P **P** **13 03 40.1 -1.1**
comp=E,2.3nm,0.4s,baz=275,slow=8.8,SNR=7.6
ZALV Zalesovo Beam 45.69 48 P **P** **13 03 39.5 -1.7**
NRS Narsarsuaq 45.87 322 P **P** **13 03 44.6 +2.0**
KSRS Korea Array 79.33 51 P **P** **13 07 26.4 0.0**
comp=E,0.3nm,0.4s,baz=316,slow=5.2,SNR=4.2
MJAR Matsushiro Arr 85.97 46 P **P** **13 08 01.6 +0.6**
comp=E,0.9nm,0.8s,baz=339,slow=5.8,SNR=4.1

IDC 22 12:57:03.9±2.1, 10°13'S×120°93'E, h0km, mb3.3/1, mb1 3.5/4, mb1mx3.3/32, mbtmp3.3/4, ML3.2/3, Error ellipse: s-maj=174.0km s-min=28.1km az=55.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.14**	**151**	Pn	Pn	12 59 15.6	-1.6
	0.3nm,0.3s,baz=330,slow=14,SNR=14						
FITZ				Sn	Sn	13 00 49.7	-11
	0.1nm,0.3s,baz=265,slow=18,SNR=1.8						
WRA	**Warramunga Arr**	**16.20**	**129**	Pn	Pn	13 00 52.4	-0.8
	0.1nm,0.3s,baz=308,slow=15,SNR=2.4						
ASAR	**Alice Springs**	**18.29**	**139**	P	P	13 01 21.2	+1.6
	0.1nm,0.3s,baz=316,slow=13,SNR=8.4						
MKAR	**Makanchi Array**	**66.33**	**332**	P	P	13 07 54.3	-0.1
	0.1nm,0.5s,baz=141,slow=7.4,SNR=2.4						

*THE **22** 13:01:16.2, 38°59N×24°15E, h10km±1km, ML3.0/10, Error ellipse: s-maj=1.1km s-min=0.6km az=76.0*
*ATH **22** 13:01:16.1, 38°59N×24°13E, h14km±2km, ML3.1/17, Error ellipse: s-maj=2.7km s-min=0.7km az=69.0*
*DDA **22** 13:01:26.0, 38°75N×25°23E, h7km, 8km, ML2.6*

ISC 22 13:01:15.7±0.8, 38°60N±0°02×24°17E±0°02, h16km±5km, n45, σ0°98°/79°, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYMI	**Kymi, Euboea I**	**0.06**	**302**	P	**Pg**	**13 01 18.7**	**-0.1**
KYMI				S	**Sg**	**13 01 20.3**	**-0.5**
	31µm,0.2s						
KYMI	**Kymi, Euboea I**	**0.06**	**302**	P	**Pg**	**13 01 18.7**	**-0.1**
KYMI				S	**Sg**	**13 01 20.3**	**-0.5**
KYMI				AML	AML	13 01 20.4	
	comp=E,72527µm,0.2s						
KYMI				AML	AML	13 01 20.6	
	comp=N,49894µm,0.2s						
SKY	**Skiros Island**	**0.41**	**47**	P	**Pg**	**13 01 24.7**	**+0.7**
SKY				S	**Sb**	**13 01 31.4**	**+0.8**
	comp=N,6µm,0.1s						
SKY	**Skiros Island**	**0.41**	**47**	P	**Pg**	**13 01 24.7**	**+0.7**
SKY				S	**Sg**	**13 01 30.6**	**+0.9**
SKY				AML	AML	13 01 32.0	
	comp=E,11244µm,0.2s						
SKY				AML	AML	13 01 33.1	
	comp=N,12032µm,0.1s						
MRKA	**Markates**	**0.46**	**283**	P	**Pg**	**13 01 24.8**	**-0.2**
MRKA				S	**Sg**	**13 01 31.9**	**+0.5**
	comp=N,2µm,0.4s						
MRKA	**Markates**	**0.46**	**283**	P	**Pg**	**13 01 24.9**	**-0.2**
MRKA				S	**Sg**	**13 01 31.8**	**+0.4**
MRKA				AML	AML	13 01 33.6	
	comp=E,3554µm,0.5s						
MRKA				AML	AML	13 01 35.0	
	comp=N,2643µm,0.2s						
DION	**Dionisos Attik**	**0.55**	**199**	P	**Pg**	**13 01 26.9**	**+0.2**
DION	**Dionisos Attik**	**0.55**	**199**	P	**Pg**	**13 01 26.9**	**+0.2**
DION				S	**Sg**	**13 01 34.4**	**+0.3**
DION				AML	AML	13 01 37.7	
	comp=N,17414µm,0.4s						
DION				AML	AML	13 01 38.5	
	comp=E,14306µm,0.2s						
ALNA	**Alonissos**	**0.59**	**337**	P	**Pg**	**13 01 27.6**	**+0.2**
ALNA				S	**Sg**	**13 01 35.5**	**+0.1**
PTL	**Penteli**	**0.60**	**203**	P	**Pg**	**13 01 27.7**	**+0.1**
PTL				S	**Sb**	**13 01 36.2**	**+0.1**
	comp=E,2µm,0.4s						
PTL	**Penteli**	**0.60**	**203**	P	**Pg**	**13 01 27.8**	**+0.1**
PTL				S	**Sg**	**13 01 35.8**	**+0.2**
PTL				AML	AML	13 01 39.0	
	comp=E,3431µm,0.3s						
PTL				AML	AML	13 01 39.3	
	comp=N,4322µm,0.4s						
KARY	**Karystos**	**0.61**	**159**	P	**Pg**	**13 01 27.8**	**+0.1**
KARY				S	**Sg**	**13 01 35.8**	**0.0**
	comp=N,1µm,0.2s						
KARY	**Karystos**	**0.61**	**159**	P	**Pg**	**13 01 27.9**	**+0.1**
KARY				S	**Sg**	**13 01 35.6**	**-0.2**
KARY				AML	AML	13 01 36.5	
	comp=E,2306µm,0.2s						
KARY				AML	AML	13 01 38.6	
	comp=N,2519µm,0.3s						
AOS	**Alonnisos**	**0.61**	**339**	P	**Pg**	**13 01 27.9**	**+0.1**
AOS				S	**Sg**	**13 01 36.2**	**+0.3**
	comp=N,1µm,0.3s						
AOS	**Alonnisos**	**0.61**	**339**	P	**Pg**	**13 01 27.9**	**+0.1**
AOS				S	**Sg**	**13 01 35.5**	**-0.4**
AOS				AML	AML	13 01 37.5	
	comp=E,1978µm,0.2s						
AOS				AML	AML	13 01 38.9	
	comp=N,3074µm,0.3s						
ATHU	**Athens Univers**	**0.70**	**205**	P	**Pg**	**13 01 29.4**	**0.0**
ATHU				S	**Sb**	**13 01 39.3**	**+0.3**
ATHU				AML	AML	13 01 41.6	
	comp=E,1013µm,0.4s						
ATHU AML AML 13 01 42.0
comp=N,1820µm,0.3s
SKIA Skiathos 0.79 316 P **Pg** **13 01 31.4 +0.3**
SKIA S **Sb** **13 01 42.5 +1.1**
comp=N,3µm,0.3s
SKIA Skiathos 0.79 316 P **Pg** **13 01 31.4 +0.3**
SKIA S **Sg** **13 01 41.3 -0.2**
SKIA AML AML 13 01 44.2
comp=E,4824µm,0.3s
SKIA AML AML 13 01 44.5
comp=N,5248µm,0.3s
VILL Villia 0.80 237 P **Pg** **13 01 30.8 -0.5**
VLY Voula,Athens 0.80 201 P **Pg** **13 01 31.3 -0.1**
VLY Voula,Athens 0.80 201 P **Pg** **13 01 31.5 +0.1**
VLY S **Sg** **13 01 41.4 -0.6**
VLY AML AML 13 01 45.1
comp=N,5408µm,0.3s
VLY AML AML 13 01 46.6
comp=E,3637µm,0.4s
VIL2 Platees 0.81 241 P **Pg** **13 01 30.8 -0.7**
VIL2 S **Sg** **13 01 42.2 +0.1**
VIL2 AML AML 13 01 45.4
comp=N,1991µm,0.4s
VIL2 AML AML 13 01 45.7
comp=E,2930µm,0.2s
LKR Lokris 0.91 273 P **Pg** **13 01 32.7 -0.8**
LKR S **Sb** **13 01 46.6 +1.5**
comp=E,275nm,0.3s
LKR Lokris 0.91 273 P **Pg** **13 01 32.5 -1.0**
NEO Neokhori 1.02 314 P **Pg** **13 01 35.6 +0.1**
NEO S **Sg** **13 01 49.0 +0.2**
comp=E,1µm,0.3s
NEO Neokhori 1.02 314 P **Pg** **13 01 35.5 +0.1**
NEO S **Sg** **13 01 48.0 -0.8**
NEO AML AML 13 01 50.7
comp=E,2127µm,0.2s
NEO AML AML 13 01 51.1
comp=N,2513µm,0.3s
PROD Prodromos 1.05 251 P **Pg** **13 01 35.2 -0.9**
PROD Prodromos 1.05 251 P **Pg** **13 01 35.4 -0.7**
PROD S **Sg** **13 01 49.5 -0.3**
PROD AML AML 13 01 52.7
comp=E,2124µm,0.2s
PROD AML AML 13 01 54.0
comp=N,2007µm,0.3s
XOR Xorichti 1.08 316 P **Pg** **13 01 36.5 -0.1**
XOR Xorichti 1.08 316 P **Pg** **13 01 36.5 -0.1**
LTK Loutraki 1.10 239 P **Pb** **13 01 37.0 +0.5**
LTK S **Sg** **13 01 51.3 -0.3**
LTK AML AML 13 01 54.2
comp=N,2677µm,0.4s
LTK AML AML 13 01 55.5
comp=E,3138µm,0.5s
LOUT Loutraki 1.12 237 P **Pb** **13 01 37.0 +0.3**
LOUT S **Sg** **13 01 51.4 -0.6**
LOUT AML AML 13 01 54.1
comp=N,460µm,0.3s
LOUT AML AML 13 01 56.4
comp=E,638µm,0.3s
AXAR Agios Charalam 1.19 278 P **Pb** **13 01 38.2 +0.3**
AXAR S **Sn** **13 01 55.3 +1.7**
comp=E,555nm,0.3s
AXAR Agios Charalam 1.19 278 P **Pb** **13 01 38.0 +0.1**
AXAR S **Sn** **13 01 55.0 +1.4**
AXAR AML AML 13 01 57.8
comp=N,1129µm,0.4s
AXAR AML AML 13 01 59.6
comp=E,804µm,0.5s
DID Didima 1.32 214 P **Pn** **13 01 39.5 0.0**
DID S **Sg** **13 01 58.6 +0.4**
DID AML AML 13 02 02.8
comp=E,1034µm,0.3s
DID AML AML 13 02 03.8
comp=N,864µm,0.2s
PAIG Paliouri 1.38 344 P **Pn** **13 01 40.4 +0.1**
AGG Agios Georgios 1.49 287 P **Pn** **13 01 42.7 +0.8**
LIA Limnos Island 1.52 31 P **Pn** **13 01 42.0 -0.2**
BOZC Bozcaada 1.92 49 *i* P **Pn** **13 01 48.0 +0.2**
BOZC *i* S **Sn** **13 02 08.0 -3.6**
URLA Izmir 1.92 96 *i* P **Pn** **13 01 48.4 +0.6**
URLA *i* S **Sg** **13 02 18.9 +1.2**
GOKA anakkale-Gk 2.08 40 *i* P **Pg** **13 01 55.6 -0.1**
GOKA *i* S **Sn** **13 02 17.2 +1.6**
GOKA IAML 13 02 20.0
comp=N,81nm,0.8s
GOKA IAML 13 02 20.0
comp=E,120nm,1.6s
BAYC CANAKKALE_Bayr 2.17 58 *i* P **Pn** **13 01 51.3 0.0**
BAYC *i* S **Sn** **13 02 12.6 -5.3**
MMB Musomiste 3.00 354 *e*P **Pn** **13 02 03.0 +0.3**
MMB *e*S **Sn** **13 02 36.3 -2.1**
RZN Rozhen 3.11 8 *e*P **Pn** **13 02 05.0 +0.7**
RZN *e*S **Sn** **13 02 39.8 -1.5**
KKB Krupnik 3.37 346 *e*P **Pn** **13 02 06.7 -0.9**
KKB *e*S **Sn** **13 02 37.7 -10**

IDC 22 13:08:53.2±3.1, 10°19S×120°79E, h0km, mb3.6/2, mb1 3.7/4, mb1mx3.4/37, mbtmp3.6/4, ML3.2/2, Error ellipse: s-maj=194.5km s-min=29.4km az=54.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.27**	**128**	Pn	Pn	13 12 41.7	-1.7
	0.1nm,0.3s,baz=304,slow=12,SNR=2.4						
WRA				Sn	Sn	13 15 29.0	-16
	0.0nm,0.3s,baz=292,slow=28,SNR=1.1						
ASAR	**Alice Springs**	**18.33**	**139**	P	P	13 13 10.0	+0.7
	0.1nm,0.3s,baz=316,slow=12,SNR=9.6						
ASAR				S	Sn	13 16 22.7	-12
	0.0nm,0.3s,baz=313,slow=25,SNR=2.2						
SONM	**Songino Array**	**59.17**	**349**	P	P	13 18 56.3	+0.3
	0.8nm,0.5s,baz=160,slow=9.7,SNR=4.1						
MKAR	**Makanchi Array**	**66.32**	**332**	P	P	13 19 43.2	-0.4
	0.2nm,0.5s,baz=157,slow=4.6,SNR=3.1						

*IDC **22** 13:10:57.8±0.9, 10°14N×139°81E, h0km, mb3.8/6, mb1 4.1/8, mb1mx3.8/42, mbtmp3.9/8, ML4.2/2, MS3.4/12, Ms1 3.4/12, ms1mx3.2/44, Error ellipse: s-maj=28.8km s-min=20.1km az=90.0*

ISC 22 13:11:02.7±0.8, 10°1N±0°1×139°9E±0°1, h35km, n24, σ0°95°/10°, mb3.8/6, MS3.4/9, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.97**	**54**	Pn	**Pn**	**13 12 29.0**	**+0.4**
	13nm,0.3s,baz=347,slow=19,SNR=8.3						
GUMO				Sn	**Sn**	**13 13 35.2**	**-0.7**
	4.4nm,0.3s,baz=192,slow=15,SNR=1.6						
GUMO				LR	LR	13 15 01.5	
	comp=Z,134nm,20.1s,baz=232,slow=40						
JAY	**Jayapura**	**12.59**	**176**	Pn	**Pn**	**13 13 59.5**	**-0.1**
	0.7nm,0.3s,baz=354,slow=8.7,SNR=5.4						
JAY				LR	LR	13 17 43.8	
	comp=Z,325nm,20.1s,baz=32,slow=32						
SIJI	**Sorong**	**13.89**	**219**	LR	LR	13 18 16.7	
	comp=Z,160nm,18.6s,baz=62,slow=32						
PMG	**Port Moresby**	**20.72**	**159**	LR	LR	13 22 28.5	
	comp=Z,166nm,19.5s,baz=316,slow=33						
JHJ	**Hachijo jima 2**	**22.88**	**360**	LR	LR	13 22 46.2	
	comp=Z,236nm,20.8s,baz=240,slow=31						
JNU	**Nakatsue**	**24.33**	**341**	LR	LR	13 24 30.1	
	comp=Z,54nm,19.6s,baz=176,slow=33						
MJAR	**Matsushiro Arr**	**26.33**	**357**	LR	LR	13 26 07.6	
	comp=Z,52nm,19.9s,baz=160,slow=35						
H11S3	**WAKE ISLAND Hy 27.24**	**69**		T	T	13 45 16.1	
	baz=256,slow=75,SNR=1707						
H11S1	**WAKE ISLAND Hy 27.26**	**69**		T	T	13 45 18.0	
	baz=256,slow=75,SNR=1177						
H11S2	**WAKE ISLAND Hy 27.26**	**69**		T	T	13 45 15.7	
	baz=256,slow=75,SNR=1619						
H11N1	**WAKE ISLAND Hy 27.75**	**67**		T	T	13 45 52.6	
	baz=250,slow=7.3,SNR=1554						
H11N2	**WAKE ISLAND Hy 27.76**	**67**		T	T	13 45 52.7	
	baz=250,slow=7.3,SNR=1365						
H11N3	**WAKE ISLAND Hy 27.76**	**67**		T	T	13 45 56.7	
	baz=250,slow=7.3,SNR=931						
KSRS	**Korea Array**	**29.26**	**340**	LR	LR	13 27 31.8	
	comp=Z,41nm,18.6s,baz=156,slow=34						
WRA	**Warramunga Arr**	**30.38**	**190**	P	**P**	**13 17 11.4**	**-0.3**
	1.2nm,0.7s,baz=14,slow=8.8,SNR=6.0						
ASAR	**Alice Springs**	**34.10**	**190**	P	**P**	**13 17 43.6**	**-0.6**
	0.5nm,0.7s,baz=20,

CMAR	**Chiang Mai Arr**	**40.45**	**287**	P		**P**	**13 18 38.0**	**-0.2**
	1.5nm,0.7s,baz=92,slow=7.2,SNR=11							
STKA	**Stephens Creek**	**41.80**	**178**	LR		LR	13 36 06.9	
	comp=Z,120nm,18.9s,baz=343,slow=36							
PETK	**Petropavlovsk-**	**45.20**	**15**	LR		LR	13 36 32.6	
	comp=Z,37nm,19.3s,baz=239,slow=34							
SONM	**Songino Array**	**46.96**	**329**	P		**P**	**13 19 30.5**	**+0.1**
	0.5nm,0.3s,baz=111,slow=6.3,SNR=2.5							
MKAR	**Makanchi Array**	**60.69**	**318**	P		**P**	**13 21 10.7**	**0.0**
	1.2nm,0.9s,baz=91,slow=8.5,SNR=5.3							
ILAR	**Eielson Array**	**73.76**	**25**	P		**P**	**13 22 32.5**	**-0.6**
	0.5nm,0.6s,baz=247,slow=5.9,SNR=6.5							
ILAR				LR		LR	13 55 15.3	
	comp=Z,19nm,19.0s,baz=312,slow=36							
ARCES	**ARCESS Array B**	**88.81**	**341**	LR		LR	14 06 30.7	
	comp=Z,37nm,20.9s,baz=111,slow=38							
LPAZ	**La Paz**	**152.07**	**106**	PKPbc		**PKiKP**	**13 30 58.7**	**+2.2**
	0.8nm,0.6s,baz=304,slow=5.3,SNR=4.2							

*IDC **22** 13:17:01.2±1.7, 10°.75S×120°.08E, h0km, mb3.8/3, mb1 3.8/7, mb1mx3.6/40, mbtmp3.7/7, ML3.4/4, Error ellipse: s-maj=60.6km s-min=22.3km az=48.0*
*NEIC **22** 13:17:07.7±2.4, 10°.71S±0°.05×120°.31E±0°.10, h50km±10km, mb4.3/6, Error ellipse: s-maj=14.5km s-min=5.1km az=71.0*

ISC 22 13:17:06.4±0.8, **10°.85S**±0°.07×**120°.35E**±0°.07, **h35**km, **n20,** σ3s**21**/23, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MMRI	**Maumere**	**2.88**	**40**	Pn		**Pn**	**13 17 49.1**	**-0.8**
BATI	**Baumata**	**3.32**	**79**	Pn		**Pn**	**13 17 58.6**	**+2.7**
	5.6nm,0.3s,baz=346,slow=6.8,SNR=4.4							
BATI				Sn		**Sn**	**13 18 38.2**	**+4.1**
	4.1nm,0.3s,baz=0.8,slow=22,SNR=5.8							
SOEI	**Soe**	**4.00**	**75**	Pn		**Pn**	**13 18 07.8**	**+2.4**
KAPI	**Kappang**	**5.83**	**354**	Pn		**Pn**	**13 18 30.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**8.84**	**145**	Pn		**Pn**	**13 19 13.8**	**+2.1**
	0.4nm,0.3s,baz=335,slow=10,SNR=9.1							
FITZ				Sn		**Sn**	**13 20 47.8**	**-2.3**
	0.3nm,0.3s,baz=171,slow=23,SNR=2.0							
KNRA	**Kununurra**	**9.49**	**121**	Pn		**Pn**	**13 19 23.6**	**+3.0**
MTN	**Manton Dam**	**10.74**	**102**	Pn		**Pn**	**13 19 39.5**	**+1.7**
CISI	**Cisompet, Garu**	**12.80**	**284**	Pn		**Pn**	**13 20 05.1**	**-1.0**
GIRL	**Giralia**	**13.11**	**206**	Pn		**Pn**	**13 20 12.7**	**+2.6**
WB0	**Warramunga Arr**	**16.18**	**125**	Pn		**P**	**13 20 52.7**	**-1.4**
WRA	**Warramunga Arr**	**16.22**	**126**	Pn		**Pn**	**13 20 52.7**	**+0.9**
	0.1nm,0.3s,baz=307,slow=14,SNR=2.9							
WRA				Sn		**Sn**	**13 23 41.9**	**-8.9**
	0.1nm,0.3s,baz=359,slow=4.1,SNR=2.0							
WB2	**Warramunga Arr**	**16.23**	**126**	Pn		**Pn**	**13 20 53.0**	**+1.1**
WB2				IAmb	IAmb	IAmb	13 21 36.9	
	comp=Z,31nm,1.9s							
WR0	**Warramunga Arr**	**16.39**	**125**	P		**Pn**	**13 20 54.9**	**+0.9**
WR0				IAmb	IAmb	IAmb	13 20 59.7	
	comp=Z,39nm,1.8s							
ASAR	**Alice Springs**	**18.14**	**136**	P		**P**	**13 21 18.1**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=313,slow=12,SNR=8.4							
ASAR				S		**Sn**	**13 24 32.0**	**-5.4**
	comp=Z,0.0nm,0.3s,baz=312,slow=22,SNR=2.6							
MORW	**Morawa**	**18.57**	**192**	Pn		**Pn**	**13 21 25.3**	**+4.5**
SONM	**Songino Array**	**59.73**	**349**	P		**P**	**13 27 06.9**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=175,slow=7.5,SNR=4.4							
SONM	**Songino Array**	**59.73**	**349**	IAmb		IAmb	13 27 07.8	
	comp=Z,0.8nm,0.6s							
MKAR	**Makanchi Array**	**66.70**	**333**	P		**P**	**13 27 53.4**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=148,slow=5.0,SNR=2.6							
ZAA0	**Zalesovo Array**	**71.23**	**339**	P		**P**	**13 28 19.7**	**-2.1**
ZAA0				IAmb		IAmb	13 30 36.0	
	comp=Z,4.3nm,0.5s							
ZALV	**Zalesovo Beam**	**71.23**	**339**	P		**P**	**13 28 20.1**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=139,slow=6.8,SNR=2.5							

*IDC **22** 13:29:39.4±0.8, 10°.47S×120°.36E, h0km, mb4.4/13, mb1 4.5/18, mb1mx4.3/36, mbtmp4.5/18, ML4.4/5, MS4.0/2, Ms1 4.0/2, ms1mx3.2/27, Error ellipse: s-maj=22.8km s-min=15.9km az=52.0*
*DJA **22** 13:29:43.8±0.6, 11°.3S×12°.0E±°, h29km±5km, M4.6/29, mb4.7/29, mB5.1/8, MLv4.7/13, Mw(mB)4.4/8*
*NEIC **22** 13:29:45.0±1.7, 10°.50S±0°.08×120°.37E±0°.07, h44km±6km, mb4.6/44, Error ellipse: s-maj=12.2km s-min=8.7km az=216.0*

ISC 22 13:29:42.8±0.4, **10°.68S**±0°.05×**120°.43E**±0°.05, **h31**km, **n120,** σ1s**76**/123, **mb4.6**/37, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BASI	**Baing, Sumba**	**0.48**	**18**	P		**Pn**	**13 29 53.5**	**-0.1**
WSI	**Waingapu**	**1.02**	**353**	P		**Pb**	**13 30 01.8**	**-0.1**
WBSI	**Waikabubak, Su**	**1.45**	**315**	P		**Pn**	**13 30 06.7**	**-0.3**
MMRI	**Maumere**	**2.71**	**41**	P		**Pn**	**13 30 25.4**	**+1.2**
MMRI	**Maumere**	**2.71**	**41**	Pn		**Pn**	**13 30 25.1**	**+0.9**
PLAI	**Plampang**	**3.20**	**305**	P		**Pn**	**13 30 31.6**	**+0.6**
BATI	**Baumata**	**3.22**	**82**	Pn		**Pn**	**13 30 35.1**	**+3.8**
	62nm,0.3s,baz=293,slow=2.8,SNR=39							
BATI				Sn		**Sn**	**13 31 11.3**	**+2.7**
	73nm,0.3s,baz=27,slow=20,SNR=12							
BATI	**Baumata**	**3.22**	**82**	P		**Pn**	**13 30 34.6**	**+3.3**
SOEI	**Soe**	**3.89**	**77**	P		**Pb**	**13 30 47.6**	**-3.2**
SOEI	**Soe**	**3.89**	**77**	Pn		**Pn**	**13 30 43.2**	**+2.6**
BBSI	**Bau Bau**	**5.58**	**22**	P		**Pn**	**13 31 05.3**	**+1.5**
	0.1nm203nm23nm,0.8s							
KAPI	**Kappang**	**5.67**	**353**	Pn		**Pn**	**13 31 03.7**	**-1.4**
	3.0nm,0.3s,baz=180,slow=7.2,SNR=11							
KAPI				LR		LR	13 33 53.5	
	comp=Z,2μm,18.2s,baz=190,slow=47							
KAPI	**Kappang**	**5.67**	**353**	Pn		**Pn**	**13 31 06.2**	**+1.2**
BNSI	**Bone**	**6.25**	**357**	P		**Pn**	**13 31 14.9**	**+1.9**
	0.4nm1μm71nm,1.3s							
JAGI	**Jajag, Banyuwa**	**6.57**	**289**	P		**Pn**	**13 31 16.1**	**-1.3**
	0.7nm2μm68nm,0.7s							
JAGI	**Jajag, Banyuwa**	**6.57**	**289**	Pn		**Pn**	**13 31 14.3**	**-3.0**
SPSI	**Sidrap Palu**	**6.71**	**354**	P		**Pn**	**13 31 21.8**	**+2.6**
	0.2nm61nm,0.7s							
TTSI	**Tana Toraja**	**7.61**	**355**	P		**Pn**	**13 31 33.6**	**+1.9**
	0.2nm62nm,1.1s							
FITZ	**Fitzroy Crossi**	**8.93**	**146**	Pn		**Pn**	**13 31 51.4**	**+1.6**
	4.7nm,0.3s,baz=344,slow=8.9,SNR=64							
FITZ				Sn		**Sn**	**13 33 26.7**	**-2.7**
	3.3nm,0.3s,baz=184,slow=21,SNR=1.7							
FITZ	**Fitzroy Crossi**	**8.93**	**146**	Pn		**Pn**	**13 31 51.0**	**+1.2**
KNRA	**Kununurra**	**9.51**	**122**	Pn		**Pn**	**13 31 59.8**	**+2.0**
NLAI	**Namlea**	**9.93**	**42**	P		**Pn**	**13 32 05.8**	**+2.4**
	41nm,0.9s							
UGM	**Wanagama**	**10.16**	**285**	P		**Pn**	**13 32 07.3**	**+0.7**
	69nm,0.9s							
UGM	**Wanagama**	**10.16**	**285**	Pn		**Pn**	**13 32 06.6**	**-0.1**
MTN	**Manton Dam**	**10.70**	**103**	Pn		**Pn**	**13 32 15.0**	**+1.0**
PSA00	**Pilbara Seismi**	**10.84**	**183**	Pn		**Pn**	**13 32 15.4**	**-0.6**
MTKI	**Muara Teweh, K**	**11.13**	**330**	P		**Pn**	**13 32 21.8**	**+1.8**
MRSI	**Marisa**	**11.19**	**8**	P		**Pn**	**13 32 22.3**	**+1.6**
	29nm,0.9s							
CISI	**Cisompet, Garu**	**12.84**	**283**	Pn		**Pn**	**13 32 42.5**	**-0.9**
LEM	**Lembang**	**13.23**	**286**	Pn		**Pn**	**13 32 47.0**	**-1.8**
	3.3nm,0.3s,baz=339,slow=22,SNR=2.4							
GIRL	**Giralia**	**13.29**	**206**	Pn		**Pn**	**13 32 48.8**	**-0.6**
TNTI	**Ternate**	**13.31**	**32**	P		**Pn**	**13 32 51.7**	**+2.0**
	25nm,0.9s							
FAKI	**Fak Fak**	**14.04**	**58**	P		**Pn**	**13 33 00.2**	**+0.5**
	32nm,0.9s							
FAKI	**Fak Fak**	**14.04**	**58**	Pn		**Pn**	**13 32 59.1**	**-0.6**
SIJI	**Sorong**	**14.53**	**49**	Pn		**Pn**	**13 33 06.2**	**-0.2**
	1.5nm,0.3s,baz=217,slow=1.1,SNR=9.6							
SIJI				LR		LR	13 39 10.4	
	comp=Z,339nm,19.7s,baz=194,slow=40							
SBUM	**Sibu**	**15.39**	**327**	P		**P**	**13 33 20.6**	**-1.6**
KSM	**Kuching**	**15.72**	**320**			**Pn**	**13 33 23.5**	**+1.3**
WB0	**Warramunga Arr**	**16.21**	**125**	Pn		**Pn**	**13 33 29.1**	**+0.6**
WRA	**Warramunga Arr**	**16.26**	**126**	Pn		**Pn**	**13 33 28.1**	**-1.0**
	1.1nm,0.3s,baz=296,slow=13,SNR=50							
WRA				Sn		**Sn**	**13 36 19.1**	**-10**
	0.8nm,0.3s,baz=307,slow=25,SNR=2.6							
WRA	**Warramunga Arr**	**16.26**	**126**	Pn		**Pn**	**13 33 29.3**	**+0.2**
WRAB	**Tennant Creek**	**16.26**	**126**			**Pn**	**13 33 28.9**	**-0.3**
WB2	**Warramunga Arr**	**16.27**	**126**	Pn		**Pn**	**13 33 28.8**	**-0.4**
WR0	**Warramunga Arr**	**16.43**	**126**			**Pn**	**13 33 31.3**	**+0.1**
KASI	**Kota Agung**	**16.58**	**287**	P		**P**	**13 33 35.1**	**-0.3**
	2μm104nm,1.0s							
LWLI	**Liwa**	**17.16**	**288**	P		**P**	**13 33 41.8**	**-0.2**
	109nm,0.9s							
MDSI	**Maura Dua**	**17.24**	**290**	P		**P**	**13 33 42.2**	**-0.5**
	15nm,0.9s							
LHSI	**Lahat**	**18.09**	**291**	P		**P**	**13 33 53.4**	**+1.3**
	67nm,1.0s							
AS31	**Alice Springs**	**18.21**	**137**	P		**Pn**	**13 33 55.8**	**+2.3**
ASAR	**Alice Springs**	**18.21**	**137**	P		**Pn**	**13 33 56.2**	**+2.8**
	1.1nm,0.3s,baz=315,slow=13,SNR=59							
ASAR				Sn		**Sn**	**13 37 11.0**	**-5.0**
	0.5nm,0.3s,baz=310,slow=23,SNR=6.7							
ASAR	**Alice Springs**	**18.21**	**137**	P		**Pn**	**13 33 56.0**	**+2.5**
MNAI	**Manna**	**18.42**	**289**	P		**P**	**13 33 55.3**	**-0.5**
MORW	**Morawa**	**18.75**	**192**			**Pn**	**13 34 01.1**	**+1.2**
MORW				IAmb		IAmb	13 34 33.5	
	comp=Z,33nm,1.1s							
KRJI	**Kerinci**	**20.68**	**293**	P		Pn	13 34 21.9	-1.1
	comp=Z,137nm,0.6s							
SDSI	**Sungai Dareh**	**21.22**	**296**	P		**P**	**13 34 26.6**	**+0.3**
	comp=Z,994nmcomp=Z,7.0nm,1.0s							
JAY	**Jayapura**	**21.70**	**69**	P		**P**	**13 34 33.9**	**+2.4**
	comp=Z,13nm,1.0s,baz=215,slow=9.5,SNR=4.9							
COEN	**Coen**	**22.46**	**101**	P		**P**	**13 34 42.4**	**+2.8**
COEN				IAmb		IAmb	13 35 31.4	
	comp=Z,44nm,1.8s							
TGY	**Tagaytay City**	**24.63**	**1**	P		**P**	**13 35 00.7**	**-0.1**
	comp=Z,85nm,0.4s,baz=108,slow=6.2,SNR=4.7							
RPSI	**Rantau Prapat**	**25.19**	**301**	P		**P**	**13 35 06.1**	**+0.2**
RPSI	**Rantau Prapat**	**25.19**	**301**	P		**P**	**13 35 05.8**	**-0.1**
PSI	**Prapat**	**25.25**	**301**	P		**P**	**13 35 05.8**	**-0.8**
	comp=Z,5.0nm,0.8s,baz=180,slow=6.9,SNR=4.0							
KULM	**Kulim**	**25.29**	**308**	P		**P**	**13 35 06.5**	**-0.3**
KULM				IAmb		IAmb	13 35 07.6	
	comp=Z,31nm,1.4s							
TPTI		**26.97**	**300**	P		**P**	**13 35 23.1**	**+1.1**
	comp=Z,6.1nm,1.1s							
STKA	**Stephens Creek**	**28.77**	**140**	P		**P**	**13 35 40.9**	**+3.0**
	comp=Z,4.0nm,0.9s,baz=308,slow=5.5,SNR=3.1							
PBKT	**Sadao Pong**	**33.22**	**324**	P		**P**	**13 36 17.3**	**+0.1**
SLVN	**Son La**	**35.72**	**333**	P		**P**	**13 36 39.4**	**+0.5**
SLVN				IAmb		IAmb	13 36 40.2	
	comp=Z,5.6nm,0.9s							
CMAR	**Chiang Mai Arr**	**35.89**	**324**	P		**P**	**13 36 40.8**	**+0.5**
	comp=Z,2.9nm,0.9s,baz=146,slow=6.2,SNR=10							
CMAR	**Chiang Mai Arr**	**35.89**	**324**	P		**P**	**13 36 39.7**	**-0.6**
CHTO	**Chiang Mai**	**36.17**	**324**	P		**P**	**13 36 42.5**	**-0.3**
CHTO				IAmb		IAmb	13 36 43.7	
	comp=Z,8.1nm,1.1s							
ENH	**Enshi**	**42.06**	**346**	P		**P**	**13 37 31.2**	**-0.7**
ENH				IAmb		IAmb	13 37 32.0	
	comp=Z,15nm,0.8s							
XAN	**Xi'an**	**45.80**	**347**	P		**P**	**13 38 00.9**	**-1.0**
XAN				pP		sP	13 38 15.1	+1.0
XAN	**Xi'an**	**45.80**	**347**	P		**P**	**13 38 00.6**	**-1.3**
XAN				IAmb		IAmb	13 38 01.5	
	comp=Z,12nm,0.9s							
KSAR	**Wonju Array Be**	**48.38**	**8**	P		**P**	**13 38 20.9**	**-1.0**
KSRS	**Korea Array**	**48.40**	**8**	P		**P**	**13 38 21.4**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=183,slow=8.1,SNR=12							
MJAR	**Matsushiro Arr**	**49.87**	**19**	P		**P**	**13 38 31.3**	**-2.1**
	comp=Z,2.5nm,0.7s,baz=198,slow=8.7,SNR=10							
MJAR	**Matsushiro Arr**	**49.87**	**19**	P		**P**	**13 38 30.9**	**-2.5**
MAJO	**Matsushiro**	**49.87**	**19**	P		**P**	**13 38 31.3**	**-2.0**
MJB9	**Matsu-Tunnel**	**49.87**	**19**	P		**P**	**13 38 31.2**	**-2.1**
BJT	**Baijiatuao**	**50.60**	**356**	P		**P**	**13 38 37.4**	**-1.3**
GTA	**Gaotai**	**53.40**	**340**	*eP*		**P**	**13 38 59.6**	**-0.2**
GTA				pP		pP	13 39 04.1	-4.6
GTA				sP		pwP	13 39 06.8	-4.2
GTA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
USRK	**Ussuriysk Ar.**	**55.62**	**10**	P		**P**	**13 39 14.5**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=203,slow=6.3,SNR=7.2							
MDJ	**Mudanjiang**	**55.66**	**8**	P		**P**	**13 39 15.5**	**-0.4**
ULN	**Ulaanbaatar**	**59.49**	**350**	P		**P**	**13 39 41.6**	**-1.4**
SONM	**Songino Array**	**59.58**	**349**	P		**P**	**13 39 43.7**	**0.0**
	comp=Z,13nm,0.7s,baz=166,slow=8.6,SNR=39							
SONM	**Songino Array**	**59.58**	**349**	P		**P**	**13 39 43.0**	**-0.7**
YSS	**Yuzh-Sakhalins**	**60.75**	**17**	P		**P**	**13 39 50.8**	**-0.6**
WMQ	**Urumqi**	**61.88**	**334**	*eP*		**P**	**13 40 00.9**	**+1.6**
WMQ				pmax		pmax		
	comp=Z,9.0nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,71nm,4.5s							
WMQ				LR		LR		
	comp=N,200nm,29.0s							
WMQ				LR		LR		
	comp=E,1μm,28.8s							
WMQ				LR		LR		
	comp=Z,80nm,29.0s							
TLY	**Talaya**	**63.78**	**348**	P		**P**	**13 40 11.6**	**-0.2**
TLY				IAmb		IAmb	13 40 13.1	
	comp=Z,6.4nm,0.7s							
KSH	**Kashi**	**64.79**	**323**	*eP*		**P**	**13 40 18.9**	**+0.1**
KSH				pmax		pmax		
	comp=Z,33nm,1.0s							
KSH				pmax		pmax		
	comp=Z,200nm,5.7s							
TARG	**Taragay, Kyrgy**	**65.22**	**326**	P		**P**	**13 40 20.9**	**-1.0**
TARG				IAmb		IAmb	13 40 25.2	
	comp=Z,5.0nm,1.0s							
KBL	**Kabul**	**66.27**	**315**	P		**P**	**13 40 28.1**	**-0.4**
KBL				IAmb		IAmb	13 40 30.3	
	comp=Z,6.1nm,0.7s							
MK31	**Makanchi Array**	**66.59**	**332**	P		**P**	**13 40 29.3**	**-0.8**
MK31				IAmb		IAmb	13 40 30.7	
	comp=Z,3.4nm,0.8s							
MKAR	**Makanchi Array**	**66.59**	**332**	P		**P**	**13 40 30.0**	**-0.1**
	comp=Z,4.2nm,0.7s,baz=139,slow=7.5,SNR=50							
MKAR	**Makanchi Array**	**66.59**	**332**	P		**P**	**13 40 29.2**	**-1.0**
MAKZ	**Makanchi**	**66.74**	**332**	P		**P**	**13 40 30.6**	**-0.5**
BOOM	**Boomskoye usch**	**66.75**	**326**	P		**P**	**13 40 30.6**	**-0.9**
BOOM				IAmb		IAmb	13 40 32.3	
	comp=Z,6.1nm,0.9s							
AAK	**Ala-Archa**	**67.66**	**325**	P		**P**	**13 40 36.5**	**-0.7**
AAK				IAmb		IAmb	13 40 38.7	
	comp=Z,3.7nm,0.8s							
GAR	**Garm**	**67.93**	**320**	P		**P**	**13 40 38.2**	**-0.7**
KKAR	**Karatay Array**	**70.24**	**323**	P		**P**	**13 40 52.5**	**-0.5**
PEA0B	**Petropavlovsk-**	**71.06**	**23**	P		**P**	**13 40 58.7**	**+0.9**
PEA0B				IAmb		IAmb	13 43 27.9	
	comp=Z,16nm,1.4s							
PETK	**Petropavlovsk-**	**71.06**	**23**	P		**P**	**13 40 58.3**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=229,slow=7.0,SNR=8.0							
ZAA0	**Zalesovo Array**	**71.11**	**339**	P		**P**	**13 40 56.2**	**-1.9**
ZALV	**Zalesovo Beam**	**71.11**	**339**	P		**P**	**13 40 57.2**	**-0.8**
	comp=Z,12nm,0.6s,baz=140,slow=4.5,SNR=42							
ZALV	**Zalesovo Beam**	**71.11**	**339**	P		**P**	**13 40 56.6**	**-1.4**
KURK	**Kurchatov**	**71.12**	**333**	P		**P**	**13 40 57.4**	**-0.7**
KURK				IAmb		IAmb	13 41 01.7	
	comp=Z,4.7nm,0.8s							
MA2	**Magadan**	**74.15**	**16**	P		**P**	**13 41 16.9**	**+1.0**
GEYT	**Alibeck**	**75.62**	**314**	P		**P**	**13 41 24.8**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=84,slow=4.6,SNR=4.9							
GEYT	**Alibeck**	**75.62**	**314**	P		**P**	**13 41 25.4**	**+0.4**
BRVK	**Borovoye**	**76.51**	**332**	P		**P**	**13 41 28.3**	**-1.4**
BRVK				IAmb		IAmb	13 41 30.5	
	comp=Z,3.9nm,0.7s							
QSPA	**South Pole Qui**	**79.32**	**180**	P		**P**	**13 41 48.6**	**+3.2**
QSPA				IAmb		IAmb	13 44 44.8	
	comp=Z,21nm,1.9s							
ABKAR	**Akbulak array**	**79.74**	**325**	P		**P**	**13 41 47.4**	**-0.3**
TIXI	**Tiksi**	**82.34**	**3**	P		**P**	**13 41 59.8**	**-1.2**
TIXI				IAmb		IAmb	13 42 01.4	
	comp=Z,4.4nm,1.1s							
ARU	**Arti**	**84.01**	**330**	P		**P**	**13 42 09.0**	**-1.1**
ARU				IAmb		IAmb	13 42 11.8	
	comp=Z,5.3nm,0.6s							
KBZ	**Khabaz**	**88.45**	**315**	P		**P**	**13 42 33.5**	**+1.4**
	comp=Z,2.4nm,0.8s,baz=284,slow=22,SNR=5.1							
KLMR	**Klimovskoe**	**94.85**	**331**	P		**P**	**13 42 59.9**	**-1.5**
KLMR				AMP			13 43 01.9	
	comp=Z,5.0nm,1.0s							
ILAR	**Eielson Array**	**100.73**	**26**	P		**Pdif**	**13 43 27.5**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=237,slow=5.4,SNR=5.6							
FINES	**FINESS Array B**	**101.38**	**331**	P		**Pdif**	**13 43 30.1**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=232,slow=9.2,SNR=4.2							
TORD	**Torodi Ar. Bea**	**120.13**	**279**	PKP		**PKiKP**	**13 48 32.3**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=62,slow=1.7,SNR=5.0							
TORD	**Torodi Ar. Bea**	**120.13**	**279**	PKPdf		**PKiKP**	**13 48 33.8**	**+2.0**
TXAR	**Lajitas Array**	**134.92**	**59**	PKP		**PKiKP**	**13 49 02.8**	**+1.7**
	comp=Z,0.3nm,0.9s,baz=271,slow=4.1,SNR=2.4							
LPAZ	**La Paz**	**151.90**	**162**	PKPbc		**PKiKP**	**13 49 39.5**	**+2.6**
	comp=Z,1.7nm,1.0s,baz=80,slow=2.9,SNR=5.2							

*IDC **22** 13:30:18.3±1.3, 10°.30S×120°.61E, h0km, mb4.3/9, mb1 4.5/12, mb1mx4.2/35, mbtmp4.3/12, ML4.2/3, Error ellipse: s-maj=42.9km s-min=21.9km az=54.0*

*NEIC **22** 13:30:24.2±1.3, 10°.43S±0°.09×120°.63E±0°.08, h51km±9km, mb4.6/24, Error ellipse: s-maj=13.2km s-min=11.2km az=195.0*

ISC 22 13:30:22.8±0.6, **10°.45S**±0°.08×**120°.60E**±0°.08, **h35**km, **n50,** σ0s**93**/50, **mb4.5**/20, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MMRI	**Maumere**	**2.42**	**42**	Pn		**Pn**	**13 31 00.1**	**+0.1**
JAGI	**Jajag, Banyuwa**	**6.66**	**287**	Pn		**Pn**	**13 31 58.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**9.04**	**148**	Pn		**Pn**	**13 32 30.7**	**-0.1**
	2.7nm,0.3s,baz=331,slow=11,SNR=2.0							
FITZ	**Fitzroy Crossi**	**9.04**	**148**			**Pn**	**13 32 30.4**	**-0.5**
KNRA	**Kununurra**	**9.50**	**124**	Pn		**Pn**	**13 32 39.0**	**+1.8**
UGM	**Wanagama**	**10.26**	**283**	Pn		**Pn**	**13 32 50.0**	**+2.2**
MTN	**Manton Dam**	**10.59**	**104**	Pn		**Pn**	**13 32 53.9**	**+1.7**
KSM	**Kuching**	**15.66**	**319**	P		**P**	**13 34 05.7**	**+1.0**
WRA	**Warramunga Arr**	**16.26**	**127**	Pn		**P**	**13 34 10.1**	**-1.3**
	0.8nm,0.3s,baz=307,slow=12,SNR=5.2							
WRA	**Warramunga Arr**	**16.26**	**127**			**Pn**	**13 34 09.4**	**+0.7**
WR0	**Warramunga Arr**	**16.43**	**127**	P		**P**	**13 34 12.2**	**-1.1**
ASAR	**Alice Springs**	**18.27**	**138**	P		**Pn**	**13 34 35.2**	**+1.5**
	0.6nm,0.3s,baz=312,slow=12,SNR=4.3							
ASAR	**Alice Springs**	**18.27**	**138**	P		**Pn**	**13 34 35.2**	**+1.5**
MNAI	**Manna**	**18.51**	**288**	P		**Pn**	**13 34 36.7**	**+0.1**
MORW	**Morawa**	**19.01**	**192**	P		**P**	**13 34 40.2**	**-1.5**
RPSI	**Rantau Prapat**	**25.22**	**300**	P		**P**	**13 35 45.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**35.80**	**323**	P		**P**	**13 37 19.2**	**+0.1**
	2.8nm,0.9s,baz=151,slow=6.8,SNR=6.0							
CMAR	**Chiang Mai Arr**	**35.80**	**323**			**P**	**13 37 18.6**	**-0.5**
CHTO	**Chiang Mai**	**36.08**	**324**	P		**P**	**13 37 21.3**	**-0.1**
CHTO				IAmb		IAmb	13 37 22.4	
	comp=Z,5.8nm,0.9s							
KMI	**Kunming**	**39.41**	**334**	P		**P**	**13 37 51.4**	**+1.6**
KMI				pmax		pmax		
	comp=Z,12nm,1.0s							
ENH	**Enshi**	**41.88**	**346**	P		**P**	**13 38 09.9**	**+0.1**
XAN	**Xi'an**	**45.62**	**346**	P		**P**	**13 38 39.4**	**-0.5**
XAN				pP		sP	13 38 53.0	-1.3
XAN				pmax		pmax		
	comp=Z,16nm,0.8s							
XAN				pmax		pmax		
	comp=Z,15nm,0.9s							
XAN	**Xi'an**	**45.62**	**346**	P		**P**	**13 38 39.2**	**-0.6**
KSAR	**Wonju Array Be**	**48.13**	**8**	P		**P**	**13 38 58.6**	**-0.7**
KSRS	**Korea Array**	**48.14**	**8**	P		**P**	**13 38 59.1**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=180,slow=8.3,SNR=5.9							
KSRS	**Korea Array**	**48.14**	**8**	P		**P**	**13 38 59.1**	**-0.4**
MJAR	**Matsushiro Arr**	**49.59**	**19**	P		**P**	**13 39 09.2**	**-1.5**
	comp=Z,1.2nm,0.5s,baz=199,slow=9.8,SNR=6.7							
MJAR	**Matsushiro Arr**	**49.59**	**19

ENH	**Enshi**	**42.07**	**346**	P	**P**	**13 41 37.6**	**-0.5**
ENH				IAmb	IAmb	13 41 38.8	
	comp=Z,8.5nm,0.8s						
XAN	**Xi'an**	**45.82**	**347**	P	**P**	**13 42 07.5**	**-0.7**
H08S2	**Diego Garcia H**	**47.41**	**269**	T	T	14 33 00.8	
	baz=95,slow=76,SNR=6.6						
H08S3	**Diego Garcia H**	**47.42**	**269**	T	T	14 32 54.9	
H08S1	**Diego Garcia H**	**47.42**	**269**	T	T	14 33 02.2	
	baz=85,slow=76,SNR=6.7						
KSAR	**Wonju Array Be**	**48.39**	**8**	P	**P**	**13 42 27.8**	**-0.3**
KSRS	**Korea Array**	**48.40**	**8**	P	**P**	**13 42 28.1**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=179,slow=8.3,SNR=6.2						
MJAR	**Matsushiro Arr**	**49.87**	**19**	P	**P**	**13 42 38.2**	**-1.4**
	comp=Z,2.8nm,0.9s,baz=202,slow=9.4,SNR=6.3						
BJT	**Baijiatuan**	**50.61**	**356**	P	**P**	**13 42 44.5**	**-0.6**
USRK	**Ussuriysk Ar.**	**55.63**	**10**	P	**P**	**13 43 21.1**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=194,slow=6.3,SNR=5.5						
ULN	**Ulaanbaatar**	**59.50**	**350**	P	**P**	**13 43 49.5**	**+0.1**
ULN				IAmb	IAmb	13 43 50.2	
	comp=Z,3.3nm,0.8s						
SONM	**Songino Array**	**59.59**	**349**	P	**P**	**13 43 50.1**	**+0.2**
	comp=Z,5.7nm,0.7s,baz=167,slow=7.9,SNR=16						
SONM	**Songino Array**	**59.59**	**349**	P	**P**	**13 43 50.1**	**+0.2**
TLY	**Talaya**	**63.80**	**348**	P	**P**	**13 44 17.9**	**-0.2**
TLY				IAmb	IAmb	13 44 20.1	
	comp=Z,4.7nm,0.9s						
MK31	**Makanchi Array**	**66.61**	**332**	P	**P**	**13 44 36.2**	**-0.2**
MKAR	**Makanchi Array**	**66.61**	**332**	P	**P**	**13 44 36.8**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=153,slow=7.3,SNR=9.7						
MKAR	**Makanchi Array**	**66.61**	**332**	P	**P**	**13 44 36.3**	**-0.1**
MAKZ	**Makanchi**	**66.76**	**332**	P	**P**	**13 44 37.2**	**-0.2**
MAKZ				IAmb	IAmb	13 44 37.8	
	comp=Z,5.6nm,1.4s						
GAR	**Garm**	**67.95**	**320**	P	**P**	**13 44 44.5**	**-0.7**
KKAR	**Karatay Array**	**70.26**	**323**	P	**P**	**13 44 58.8**	**-0.6**
PETK	**Petropavlovsk-**	**71.06**	**23**	P	**P**	**13 45 05.1**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=220,slow=6.7,SNR=5.1						
ZAA0	**Zalesovo Array**	**71.13**	**339**	P	**P**	**13 45 03.7**	**-0.6**
ZAA0				IAmb	IAmb	13 45 04.8	
	comp=Z,6.2nm,0.9s						
ZALV	**Zalesovo Beam**	**71.13**	**339**	P	**P**	**13 45 04.0**	**-0.3**
	comp=Z,2.9nm,0.5s,baz=145,slow=4.6,SNR=13						
ZALV	**Zalesovo Beam**	**71.13**	**339**	P	**P**	**13 45 03.8**	**-0.5**
KURK	**Kurchatov**	**71.14**	**333**	P	**P**	**13 45 04.5**	**+0.1**
ABKAR	**Akbulak array**	**79.76**	**325**	P	**P**	**13 45 54.0**	**-0.1**
TIXI	**Tiksi**	**82.35**	**3**	P	**P**	**13 46 07.4**	**+0.1**
TIXI				IAmb	IAmb	13 46 08.3	
	comp=Z,3.6nm,1.1s						
TORD	**Torodi Ar. Bea**	**120.15**	**279**	PKP	**PKPdf**	**13 52 37.0**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=48,slow=2.1,SNR=3.0						

*IDC **22** 13:44:31.5±0.7, 10°.33S×120°.53E, h0km, mb4.3/11, mb1 4.4/13, mb1mx4.2/30, mbtmp4.3/13, ML4.3/2, MS3.4/4, Ms1 3.4/4, ms1mx2.9/39, Error ellipse: s-maj=29.2km s-min=15.2km az=69.0*

*DJA **22** 13:44:33.8±0.6, 11°.S±3°×12°.0E±°, h11km±4km, M4.4/13, mB4.5/2, mb4.6/9, MLv4.4/13, MLv4.3/7, Mw(mB)3.6/2*

*NEIC **22** 13:44:36.0±2.1, 10°.50S±0°.07×120°.36E±0°.07, h37km±6km, mb4.6/32, Error ellipse: s-maj=10.7km s-min=9.4km az=212.0*

ISC 22 13:44:35.1±0.4, 10°.56S±0°.05×120°.49E±0°.03, h31km, n100, σ1§73/91, mb4.6/27, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.35**	**14**	P	**Pn**	**13 44 44.8**	**+0.7**
BASI				S	**Sn**	**13 44 52.7**	**+2.7**
WSI	**Waingapu**	**0.91**	**348**	P	**Pb**	**13 44 53.6**	**+1.2**
WBSI	**Waikabubak, Su**	**1.42**	**310**	P	**Pb**	**13 44 58.9**	**-2.1**
WBSI				S	**Sb**	**13 45 17.1**	**-1.7**
MMRI	**Maumere**	**2.57**	**42**	P	**Pb**	**13 45 17.6**	**-3.1**
MMRI	**Maumere**	**2.57**	**42**	Pn	**Pb**	**13 45 17.1**	**-3.6**
BATI	**Baumata**	**3.14**	**84**	Pn	**Pb**	**13 45 27.1**	**-3.2**
	54nm,0.3s,baz=296,slow=3.3,SNR=63						
BATI				Sn	**Sb**	**13 46 05.7**	**-2.5**
	28nm,0.3s,baz=20,slow=22,SNR=20						
BATI	**Baumata**	**3.14**	**84**	P	**Pb**	**13 45 27.1**	**-3.2**
BATI				S	**Sb**	**13 46 05.1**	**-3.1**
PLAI	**Plampang**	**3.18**	**303**	P	**Pn**	**13 45 23.4**	**+0.3**
PLAI				S	**Sn**	**13 45 59.5**	**-0.6**
SOEI	**Soe**	**3.80**	**78**	P	**Pn**	**13 45 36.4**	**+4.7**
SOEI	**Soe**	**3.80**	**78**	Pn	**Pn**	**13 45 35.8**	**+4.0**
BBSI	**Bau Bau**	**5.44**	**22**	P	Pn	13 45 58.1	+3.9
	0.1nm172nm14nm,0.7s						
KAPI	**Kappang**	**5.56**	**352**	Pn	Pn	13 45 57.9	+2.1
	3.5nm,0.3s,baz=178,slow=9.0,SNR=13						
KAPI				LR	LR	13 48 36.0	
	comp=Z,809nm,18.1s,baz=190,slow=46						
KAPI	**Kappang**	**5.56**	**352**	Pn	Pn	13 45 58.3	+2.5
BNSI	**Bone**	**6.13**	**356**	P	Pn	13 46 06.7	+3.0
	0.2nm0.2nm49nm,0.8s						
JAGI	**Jajag, Banyuwa**	**6.59**	**288**	P	**Pn**	**13 46 07.7**	**-2.3**
	0.4nm39nm,1.0s						
JAGI	**Jajag, Banyuwa**	**6.59**	**288**	Pn	**Pn**	**13 46 06.4**	**-3.6**
SPSI	**Sidrap Palu**	**6.59**	**354**	P	Pb	13 46 18.4	-11
	0.1nm35nm,0.7s						
TTSI	**Tana Toraja**	**7.50**	**355**	P	Pb	13 46 38.7	-5.8
FITZ	**Fitzroy Crossi**	**9.00**	**147**	Pn	**Pn**	**13 46 44.0**	**+0.9**
	2.4nm,0.3s,baz=335,slow=7.8,SNR=66						
FITZ				Sn	**Sn**	**13 48 19.5**	**-3.9**
	2.0nm,0.3s,baz=179,slow=9.3,SNR=8.0						
FITZ	**Fitzroy Crossi**	**9.00**	**147**	Pn	**Pn**	**13 46 43.6**	**+0.6**
KNRA	**Kununurra**	**9.53**	**123**	Pn	**Pn**	**13 46 51.7**	**+1.5**
NLAI	**Namlea**	**9.79**	**42**	P	Pn	13 47 04.6	+11
UGM	**Wanagama**	**10.19**	**284**	Pn	**Pn**	**13 46 58.1**	**-1.3**
MTN	**Manton Dam**	**10.66**	**103**	Pn	**Pn**	**13 47 07.1**	**+1.2**
PSA00	**Pilbara Seismi**	**10.97**	**183**	Pn	**Pn**	**13 47 09.0**	**-1.0**
MRSI	**Marisa**	**11.06**	**8**	P	Pn	13 47 23.0	+12
TNTI	**Ternate**	**13.17**	**32**	P	**P**	**13 47 51.5**	**+1.7**
GIRL	**Giralia**	**13.42**	**206**	Pn	**Pn**	**13 47 40.8**	**-2.8**
FAKI	**Fak Fak**	**13.92**	**58**	Pn	**Pn**	**13 47 51.0**	**+0.6**
TNG	**Tangerang**	**14.37**	**287**	P	P	13 47 58.0	-5.2
SIJI	**Sorong**	**14.40**	**49**	Pn	**Pn**	**13 47 57.6**	**+0.6**
	2.2nm,0.3s,baz=205,slow=11,SNR=7.1						
SIJI				LR	LR	13 55 35.3	
	comp=Z,81nm,18.1s,baz=182,slow=47						
KSM	**Kuching**	**15.67**	**319**	P	**P**	**13 48 16.9**	**-0.8**
WB0	**Warramunga Arr**	**16.23**	**126**	Pn	**Pn**	**13 48 21.1**	**+0.1**
WRA	**Warramunga Arr**	**16.28**	**127**	Pn	**Pn**	**13 48 20.5**	**-1.2**
	0.6nm,0.3s,baz=297,slow=13,SNR=18						
WRA				Sn	Sn	13 51 12.4	-9.1
	0.3nm,0.3s,baz=290,slow=30,SNR=1.9						
WRA				LR	LR	13 54 59.5	
	comp=Z,137nm,21.6s,baz=300,slow=38						
WRA	**Warramunga Arr**	**16.28**	**127**	Pn	**Pn**	**13 48 21.5**	**-0.2**
WRAB	**Tennant Creek**	**16.29**	**127**	Pn	**Pn**	**13 48 20.8**	**-0.9**
WB2	**Warramunga Arr**	**16.29**	**127**	Pn	**Pn**	**13 48 21.7**	**-0.1**
WR0	**Warramunga Arr**	**16.45**	**126**		**Pn**	**13 48 23.4**	**-0.5**
MDSI	**Maura Dua**	**17.26**	**289**	P	P	13 48 44.9	+10
LHSI	**Lahat**	**18.11**	**290**	P	**P**	**13 48 47.9**	**+3.3**
AS31	**Alice Springs**	**18.26**	**137**		**Pn**	**13 48 48.0**	**+1.7**
ASAR	**Alice Springs**	**18.26**	**137**	P	**Pn**	**13 48 48.5**	**+2.2**
	0.9nm,0.3s,baz=315,slow=12,SNR=76						
ASAR				S	Sn	13 52 01.2	-8.2
	0.2nm,0.3s,baz=306,slow=23,SNR=7.1						
ASAR				LR	LR	13 56 47.7	
	comp=Z,114nm,18.6s,baz=308,slow=40						
ASAR	**Alice Springs**	**18.26**	**137**	P	**Pn**	**13 48 48.4**	**+2.0**
MORW	**Morawa**	**18.88**	**192**	P	**P**	**13 48 52.0**	**-1.0**
MORW				IAmb	IAmb	13 49 09.5	
	comp=Z,90nm,1.7s						
KRJI	**Kerinci**	**20.69**	**293**	P	Pn	13 49 16.5	+1.1
JAY	**Jayapura**	**21.60**	**70**	P	**P**	**13 49 23.0**	**+0.3**
	comp=Z,3.0nm,0.5s,baz=355,slow=7.1,SNR=3.3						
IPM	**Ipoh**	**24.47**	**307**	P	**P**	**13 49 49.4**	**-2.3**
IPM				IAmb	IAmb	13 50 29.5	
	comp=Z,25nm,1.6s						
KULM	**Kulim**	**25.27**	**308**	P	**P**	**13 49 58.2**	**-0.7**
KULM				IAmb	IAmb	13 50 26.5	
	comp=Z,25nm,1.5s						
STKA	**Stephens Creek**	**28.82**	**141**	P	**P**	**13 50 33.4**	**+2.7**
	comp=Z,2.0nm,0.7s,baz=320,slow=16,SNR=1.5						
STKA	**Stephens Creek**	**28.82**	**141**	IAmb	IAmb	13 50 39.7	
	comp=Z,1.1nm,1.9s						
CMAR	**Chiang Mai Arr**	**35.83**	**323**	P	**P**	**13 51 32.2**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=150,slow=6.6,SNR=8.7						
CMAR	**Chiang Mai Arr**	**35.83**	**323**	P	**P**	**13 51 31.7**	**-0.4**
CMAR					pP	13 51 32.0	-8.7
CHTO	**Chiang Mai**	**36.11**	**324**	P	**P**	**13 51 34.0**	**-0.5**
CHTO				IAmb	IAmb	13 51 36.3	
	comp=Z,5.7nm,1.1s						
LHI	**Lord Howe Isla**	**41.30**	**126**	P	**P**	**13 52 19.3**	**+1.3**
ENH	**Enshi**	**41.95**	**346**	P	**P**	**13 52 22.8**	**-0.6**
ENH				IAmb	IAmb	13 52 23.9	
	comp=Z,12nm,0.7s						
JNU	**Nakatsue**	**44.55**	**12**	P	**P**	**13 52 44.2**	**-0.1**
XAN	**Xi'an**	**45.70**	**347**	P	**P**	**13 52 52.6**	**-0.8**
XAN				pP	sP	13 53 05.4	-0.4
XAN				pmax	pmax		
	comp=Z,14nm,0.8s						
XAN	**Xi'an**	**45.70**	**347**	P	**P**	**13 52 52.5**	**-0.8**
XAN				IAmb	IAmb	13 52 53.5	
	comp=Z,8.6nm,0.7s						
H08S2	**Diego Garcia H**	**47.45**	**269**	T	T	14 43 40.8	
	baz=96,slow=75,SNR=10						
H08S3	**Diego Garcia H**	**47.46**	**269**	T	T	14 43 42.2	
	baz=96,slow=75,SNR=10						
H08S1	**Diego Garcia H**	**47.47**	**269**	T	T	14 43 42.3	
	baz=96,slow=75,SNR=10						
KSAR	**Wonju Array Be**	**48.25**	**8**	P	**P**	**13 53 13.2**	**0.0**
KSRS	**Korea Array**	**48.27**	**8**	P	**P**	**13 53 12.6**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=185,slow=8.7,SNR=9.7						
KSRS				PcP	**PcP**	**13 54 40.9**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=185,slow=4.2,SNR=4.1						
MAJO	**Matsushiro**	**49.73**	**19**	P	**P**	**13 53 22.2**	**-2.4**
MJAR	**Matsushiro Arr**	**49.73**	**19**	P	**P**	**13 53 22.5**	**-2.1**
	comp=Z,0.7nm,0.4s,baz=197,slow=9.5,SNR=7.2						
MJAR	**Matsushiro Arr**	**49.73**	**19**	P	**P**	**13 53 22.2**	**-2.5**
MJB9	**Matsu-Tunnel**	**49.73**	**19**	P	**P**	**13 53 22.3**	**-2.3**
GTA	**Gaotai**	**53.31**	**340**	*eP*	**P**	**13 53 51.5**	**0.0**
GTA				pP	pP	13 53 55.6	-4.8
GTA				sP	sP	13 53 58.6	-5.4
GTA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**55.49**	**10**	P	**P**	**13 54 06.2**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=185,slow=7.7,SNR=9.0						
USRK	**Ussuriysk Ar.**	**55.49**	**10**	P	**P**	**13 54 06.0**	**-1.0**
USA0B	**Ussuriysk Arra**	**55.49**	**10**	P	**P**	**13 54 06.1**	**-0.9**
MDJ	**Mudanjiang**	**55.53**	**8**	P	**P**	**13 54 05.6**	**-1.8**
MDJ				IAmb	IAmb	13 55 52.5	
	comp=Z,16nm,1.4s						
ULN	**Ulaanbaatar**	**59.38**	**350**	P	**P**	**13 54 34.0**	**-0.6**
ULN				IAmb	IAmb	13 54 35.7	
	comp=Z,5.0nm,0.6s						
SONM	**Songino Array**	**59.47**	**349**	P	**P**	**13 54 35.5**	**+0.2**
	comp=Z,3.0nm,0.5s,baz=166,slow=8.6,SNR=51						
SONM	**Songino Array**	**59.47**	**349**	P	**P**	**13 54 35.1**	**-0.1**
WMQ	**Urumqi**	**61.80**	**334**	*eP*	P	13 54 54.6	+3.5
WMQ				pmax	pmax		
	comp=Z,53nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,62nm,6.3s						
WMQ				LR	LR		
	comp=N,130nm,14.5s						
WMQ				LR	LR		
	comp=E,160nm,26.7s						
WMQ				LR	LR		
	comp=Z,65nm,20.7s						
TLY	**Talaya**	**63.68**	**348**	P	**P**	**13 55 03.5**	**+0.1**
TLY				IAmb	IAmb	13 55 05.5	
	comp=Z,6.2nm,0.7s						
KSH	**Kashi**	**64.73**	**323**	*eP*	**P**	**13 55 10.9**	**+0.2**
MK31	**Makanchi Array**	**66.51**	**332**	P	**P**	**13 55 21.5**	**-0.4**
MK31				IAmb	IAmb	13 55 22.6	
	comp=Z,2.8nm,0.7s						
MKAR	**Makanchi Array**	**66.51**	**332**	P	**P**	**13 55 21.9**	**-0.1**
	comp=Z,3.5nm,0.6s,baz=140,slow=7.5,SNR=49						
MKAR	**Makanchi Array**	**66.51**	**332**		**P**	**13 55 21.3**	**-0.6**
MAKZ	**Makanchi**	**66.66**	**332**	P	**P**	**13 55 22.1**	**-0.8**
MAKZ				IAmb	IAmb	13 55 23.9	
	comp=Z,9.7nm,1.6s						
CHGR	**Chuyangaron**	**68.43**	**319**	P	**P**	**13 55 33.5**	**-0.8**
KKAR	**Karatay Array**	**70.18**	**323**	P	**P**	**13 55 44.0**	**-1.0**
VNDA	**Vanda**	**70.23**	**171**	P	**P**	**13 55 46.6**	**+1.9**
	comp=Z,1.6nm,1.1s,baz=289,slow=6.0,SNR=6.4						
PEA0B	**Petropavlovsk-**	**70.92**	**23**	P	**P**	**13 55 50.2**	**+0.9**
PEA0B				IAmb	IAmb	13 56 51.9	
	comp=Z,10nm,1.4s						
PETK	**Petropavlovsk-**	**70.92**	**23**	P	**P**	**13 55 49.0**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=218,slow=5.0,SNR=8.3						
PETK	**Petropavlovsk-**	**70.92**	**23**	P	**P**	**13 55 50.3**	**+1.0**
ZAA0	**Zalesovo Array**	**71.02**	**339**	P	**P**	**13 55 48.5**	**-1.3**
ZALV	**Zalesovo Beam**	**71.02**	**339**	P	**P**	**13 55 49.0**	**-0.8**
	comp=Z,8.9nm,0.6s,baz=140,slow=4.8,SNR=38						
ZALV	**Zalesovo Beam**	**71.02**	**339**	P	**P**	**13 55 48.7**	**-1.1**
KURK	**Kurchatov**	**71.04**	**333**		**P**	**13 55 49.8**	**-0.2**
KURK				IAmb	IAmb	13 55 51.8	
	comp=Z,5.6nm,0.9s						
QSPA	**South Pole Qui**	**79.44**	**180**	P	**P**	**13 56 40.2**	**+1.9**
QSPA				IAmb	IAmb	13 57 26.8	
	comp=Z,13nm,1.6s						
ABKAR	**Akbulak array**	**79.68**	**325**	P	**P**	**13 56 39.4**	**-0.3**
TIXI	**Tiksi**	**82.22**	**3**	P	**P**	**13 56 52.1**	**-0.7**
TIXI				IAmb	IAmb	13 56 53.4	
	comp=Z,2.5nm,0.9s						
ILAR	**Eielson Array**	**100.59**	**26**	P	**Pdif**	**13 58 18.7**	**-0.9**
	comp=Z,0.2nm,0.6s,baz=238,slow=5.2,SNR=2.2						
FINES	**FINESS Array B**	**101.31**	**331**	P	**Pdif**	**13 58 23.0**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=114,slow=9.7,SNR=1.7						
TORD	**Torodi Ar. Bea**	**120.17**	**279**	PKP	**PKiKP**	**14 03 25.2**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=106,slow=1.9,SNR=5.6						
BDFB	**Brasilia**	**151.59**	**204**	PKPbc	**PKiKP**	**14 04 29.7**	**+1.7**
	comp=Z,1.6nm,0.5s,baz=90,slow=4.0,SNR=2.0						
LPAZ	**La Paz**	**151.99**	**162**	PKPbc	**PKiKP**	**14 04 31.4**	**+2.0**
	comp=Z,1.1nm,0.7s,baz=308,slow=2.7,SNR=4.0						

*IDC **22** 13:51:47.4±1.7, 10°.73S×120°.09E, h0km, mb3.8/3, mb1 3.6/7, mb1mx3.5/35, mbtmp3.6/7, ML3.3/4, Error ellipse: s-maj=61.3km s-min=22.8km az=47.0*

*NEIC **22** 13:51:54.6±1.5, 10°.71S±0°.08×120°.35E±0°.08, h59km±10km, mb4.2/6, Error ellipse: s-maj=14.4km s-min=9.4km az=224.0*

ISC 22 13:51:52.3±0.8, 10°.67S±0°.09×120°.30E±0°.08, h30km, n18, σ1§13/19, mb4.1/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**2.78**	**44**	Pn	**Pn**	**13 52 35.8**	**+0.9**
BATI	**Baumata**	**3.34**	**82**	Pn	**Pn**	**13 52 44.1**	**+1.5**
	4.4nm,0.3s,baz=297,slow=3.0,SNR=4.6						
BATI				Sn	**Sn**	**13 53 22.5**	**+1.1**
	4.3nm,0.3s,baz=330,slow=17,SNR=6.4						
KAPI	**Kappang**	**5.64**	**354**	Pn	**Pn**	**13 53 16.5**	**+2.4**
FITZ	**Fitzroy Crossi**	**9.02**	**146**	Pn	**Pn**	**13 54 00.8**	**+0.2**
	0.3nm,0.3s,baz=229,slow=15,SNR=2.2						
FITZ				Sn	Sn	13 55 33.4	-7.8
	0.3nm,0.3s,baz=182,slow=23,SNR=6.9						
KNRA	**Kununurra**	**9.63**	**122**	Pn	**Pn**	**13 54 09.0**	**0.0**
MTN	**Manton Dam**	**10.83**	**103**	Pn	**Pn**	**13 54 24.6**	**-0.9**
GIRL	**Giralia**	**13.25**	**205**	Pn	**Pn**	**13 54 59.8**	**+1.3**
WRA	**Warramunga Arr**	**16.38**	**126**	Pn	**Pn**	**13 55 39.0**	**-1.2**
	0.1nm,0.3s,baz=297,slow=13,SNR=2.0						
WB2	**Warramunga Arr**	**16.39**	**126**	Pn	**Pn**	**13 55 38.8**	**-1.5**
WB2				IAmb	IAmb	13 56 06.4	
	comp=Z,29nm,1.8s						
WR0	**Warramunga Arr**	**16.55**	**126**	Pn	**Pn**	**13 55 42.1**	**-0.2**
WR0				IAmb	IAmb	13 55 43.7	
	comp=Z,27nm,1.6s						
ASAR	**Alice Springs**	**18.32**	**137**	P	**P**	**13 56 03.9**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=316,slow=12,SNR=2.0						
LHMI	**Lhok Sumawe**	**28.10**	**303**	P	**P**	**13 57 40.2**	**-1.5**
RABL	**Rabaul**	**32.23**	**81**	P	**P**	**13 58 18.1**	**-0.3**
RABL				IAmb	IAmb	13 59 23.9	
	comp=Z,11nm,0.8s						
SONM	**Songino Array**	**59.54**	**349**	P	**P**	**14 01 52.8**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=173,slow=8.2,SNR=3.8						
MKAR	**Makanchi Array**	**66.51**	**333**	P	**P**	**14 02 39.2**	**0.0**
	comp=Z,0.4nm,0.6s,baz=128,slow=7.9,SNR=4.1						
MKAR	**Makanchi Array**	**66.51**	**333**	P	**P**	**14 02 38.7**	**-0.6**
ZALV	**Zalesovo Beam**	**71.04**	**339**	P	**P**	**14 03 06.5**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=129,slow=6.1,SNR=3.6						
ZALV	**Zalesovo Beam**	**71.04**	**339**	P	**P**	**14 03 06.2**	**-1.0**

*IDC **22** 13:54:04.5±1.8, 10°.74S×120°.07E, h0km, mb3.5/2, mb1 3.9/6, mb1mx3.6/36, mbtmp3.8/6, ML3.9/4, Error ellipse: s-maj=59.5km s-min=23.4km az=48.0*

*NEIC **22** 13:54:10.1±2.2, 10°.70S±0°.08×120°.28E±0°.07, h47km±10km, mb4.1/9, Error ellipse: s-maj=11.5km s-min=9.9km az=209.0*

*DJA **22** 13:54:11.1±0.7, 10°.S±6°×12°.0E±°, h18km±3km, M3.7/6, mb4.0/1, MLv3.7/6, MLv3.6/2*

ISC 22 13:54:09.0±0.7, 10°.68S±0°.05×120°.32E±0°.04, h31km, n32, σ1§84/38, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.52**	**30**	P	**Pb**	**13 54 19.0**	**-0.9**
BASI				S	**Sb**	**13 54 23.4**	**-3.9**
WSI	**Waingapu**	**1.00**	**359**	P	**Pn**	**13 54 27.4**	**+0.4**
WBSI	**Waikabubak, Su**	**1.37**	**318**	P	**Pn**	**13 54 33.0**	**+0.9**
WBSI				S	**Sn**	**13 54 50.2**	**+0.9**
MMRI	**Maumere**	**2.78**	**43**	P	**Pn**	**13 54 52.0**	**+0.6**
MMRI				S	**Sn**	**13 55 22.7**	**-1.2**
MMRI	**Maumere**	**2.78**	**43**		**Pn**	**13 54 51.7**	**+0.3**
PLAI	**Plampang**	**3.10**	**306**	P	**Pn**	**13 54 57.9**	**+2.0**
PLAI				S	**Sn**	**13 55 33.7**	**+1.7**
BATI	**Baumata**	**3.33**	**82**	Pn	**Pn**	**13 55 01.8**	**+2.8**
	13nm,0.3s,baz=279,slow=4.9,SNR=11						
BATI				Sn	**Sn**	**13 55 39.8**	**+2.3**
	14nm,0.3s,baz=349,slow=22,SNR=8.5						
BATI	**Baumata**	**3.33**	**82**	P	**Pn**	**13 55 01.8**	**+2.8**
BATI				S	**Sn**	**13 55 40.6**	**+3.1**
SOEI	**Soe**	**4.00**	**77**	Pn	**Pn**	**13 55 09.6**	**+1.3**
KAPI	**Kappang**	**5.65**	**354**	Pn	**Pn**	**13 55 33.3**	**+2.3**
	1.0nm,0.3s,baz=236,slow=7.5,SNR=1.6						
KAPI	**Kappang**	**5.65**	**354**		**Pn**	**13 55 32.8**	**+1.8**
JAGI	**Jajag, Banyuwa**	**6.46**	**289**	Pn	**Pn**	**13 55 41.2**	**-0.9**
FITZ	**Fitzroy Crossi**	**9.00**	**146**	Pn	**Pn**	**13 56 17.0**	**+0.1**
	1.0nm,0.3s,baz=330,slow=12,SNR=2.9						
FITZ				Sn	**Sn**	**13 57 51.3**	**-6.0**
	1.4nm,0.3s,baz=177,slow=20,SNR=6.6						
KNRA	**Kununurra**	**9.61**	**122**	Pn	**Pn**	**13 56 25.9**	**+0.6**
MTN	**Manton Dam**	**10.81**	**103**	Pn	**Pn**	**13 56 42.0**	**+0.3**
GIRL	**Giralia**	**13.24**	**205**	Pn	**Pn**	**13 57 15.3**	**+0.2**
FAKI	**Fak Fak**	**14.13**	**58**	Pn	**Pn**	**13 57 27.9**	**+0.7**
SBUM	**Sibu**	**15.33**	**328**	P	**P**	**13 57 48.2**	**+0.5**
SBUM				IAmb	IAmb	13 57 53.2	
	comp=Z,10nm,1.8s						
WB0	**Warramunga Arr**	**16.30**	**125**	Pn	**Pn**	**13 57 55.6**	**-0.3**
WB0				IAmb	IAmb	13 58 24.4	
	comp=Z,22nm,1.5s						
WRA	**Warramunga Arr**	**16.35**	**126**	Pn	**Pn**	**13 57 55.9**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=297,slow=13,SNR=15						
WRA	**Warramunga Arr**	**16.35**	**126**		**Pn**	**13 57 56.0**	**-0.4**
WRAB	**Tennant Creek**	**16.36**	**126**	Pn	**Pn**	**13 57 55.9**	**-0.6**
WRAB				IAmb	IAmb	13 58 14.9	
	comp=Z,34nm,1.9s						
WB2	**Warramunga Arr**	**16.36**	**126**	Pn	**Pn**	**13 57 55.6**	**-1.0**
WB2				IAmb	IAmb	13 58 29.1	
	comp=Z,33nm,1.6s						
WR0	**Warramunga Arr**	**16.52**	**126**	Pn	**Pn**	**13 57 58.1**	**-0.5**
WR0				IAmb	IAmb	13 58 21.9	
	comp=Z,41nm,1.9s						
AS31	**Alice Springs**	**18.29**	**137**	Pn	**Pn**	**13 58 22.6**	**+1.9**
ASAR	**Alice Springs**	**18.29**	**137**	P	**Pn**	**13 58 22.4**	**+1.8**
	comp=Z,0.4nm,0.3s,baz=316,slow=13,SNR=23						
MORW	**Morawa**	**18.73**	**192**	Pn	**Pn**	**13 58 27.8**	**+1.9**
USRK	**Ussuriysk Ar.**	**55.64**	**10**	P	**P**	**14 03 41.7**	**-0.2**
SONM	**Songino Array**	**59.55**	**349**	P	**P**	**14 04 09.5**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=163,slow=8.9,SNR=2.3						
SONM	**Songino Array**	**59.55**	**349**	IAmb	IAmb	14 04 18.2	
	comp=Z,2.4nm,1.6s						
MKAR	**Makanchi Array**	**66.53**	**333**	P	**P**	**14 04 56.2**	**+

BATI	**Baumata**	**7.39**	**240**	P		**Pn**	**14 03 18.8**	**+0.5**
	0.7nm3µm170nm,1.1s							
TNTI	**Ternate**	**7.73**	**339**	P		**Pn**	**14 03 24.1**	**+1.2**
	0.1nm642nm16nm,0.8s							
KNRA	**Kununurra**	**9.22**	**188**	Pn		**Pn**	**14 03 41.0**	**-1.8**
MRSI	**Marisa**	**10.71**	**310**	P		**Pn**	**14 04 04.4**	**+1.8**
	1µm152nm,0.8s							
JAY	**Jayapura**	**11.26**	**70**	P		**Pn**	**14 04 11.2**	**+1.4**
	0.6nm,0.3s,baz=179,slow=16,SNR=4.8							
FITZ	**Fitzroy Crossi**	**12.34**	**200**	P		**Pn**	**14 04 21.1**	**-2.6**
	4.2nm,0.3s,baz=24,slow=10,SNR=14							
FITZ				S		Sn	14 06 28.9	-11
	13nm,0.3s,baz=69,slow=18,SNR=8.6							
FITZ	**Fitzroy Crossi**	**12.34**	**200**	Pn		**Pn**	**14 04 21.2**	**-2.5**
WB0	**Warramunga Arr**	**13.83**	**163**	Pn		**Pn**	**14 04 40.3**	**-2.5**
WRAB	**Tennant Creek**	**13.97**	**163**			**Pn**	**14 04 41.4**	**-3.3**
WRA	**Warramunga Arr**	**13.98**	**163**	P		**Pn**	**14 04 42.3**	**-2.4**
	3.7nm,0.3s,baz=351,slow=13,SNR=45							
WRA				S		Sn	14 07 08.2	-12
	9.8nm,0.3s,baz=344,slow=22,SNR=8.9							
WRA	**Warramunga Arr**	**13.98**	**163**	Pn		**Pn**	**14 04 40.8**	**-4.0**
WB2	**Warramunga Arr**	**13.98**	**163**	Pn		**Pn**	**14 04 41.7**	**-3.0**
WR0	**Warramunga Arr**	**14.05**	**163**	P		**Pn**	**14 04 42.8**	**-2.9**
COEN	**Coen**	**14.82**	**121**	Pn		**Pn**	**14 04 54.2**	**-1.1**
PMG	**Port Moresby**	**17.11**	**101**	P		**P**	**14 05 22.4**	**-0.3**
AS31	**Alice Springs**	**17.45**	**168**	P		**P**	**14 05 26.8**	**+0.4**
AS31				IAmb		IAmb	14 05 35.7	
	comp=Z,4.5nm,0.5s							
ASAR	**Alice Springs**	**17.45**	**168**	P		**Pn**	**14 05 28.2**	**+0.8**
	comp=Z,2.5nm,0.3s,baz=344,slow=8.1,SNR=139							
ASAR				S			**14 08 33.8**	**-6.8**
	comp=Z,2.4nm,0.3s,baz=358,slow=28,SNR=6.8							
ASAR	**Alice Springs**	**17.45**	**168**			**P**	**14 05 27.1**	**+0.7**
PSA00	**Pilbara Seismi**	**17.99**	**213**			**Pn**	**14 05 33.3**	**-0.5**
PSA00	**Pilbara Seismi**	**17.99**	**213**	P		**P**	**14 05 31.7**	**-0.5**
PSA00				IAmb		IAmb	14 05 39.6	
	comp=Z,23nm,0.8s							
KKM	**Kota Kinabalu**	**18.66**	**312**	P		**Pn**	**14 05 40.2**	**-1.6**
KKM				IAmb		IAmb	14 05 42.1	
	comp=Z,13nm,0.7s							
CTA	**Charters Tower**	**20.68**	**132**	P		**P**	**14 06 03.7**	**+2.3**
	comp=Z,5.5nm,0.7s,baz=308,slow=14,SNR=10							
CTAO	**Charters Tower**	**20.68**	**132**	P		**P**	**14 06 03.7**	**+2.3**
CTAO				IAmb		IAmb	14 06 09.7	
	comp=Z,9.7nm,1.1s							
BBOO	**Buckleboo**	**26.76**	**169**	P		**P**	**14 07 00.0**	**+1.2**
BBOO				IAmb		IAmb	14 07 11.7	
	comp=Z,5.3nm,0.8s							
STKA	**Stephens Creek**	**27.43**	**158**	P		**P**	**14 07 06.3**	**+1.4**
	comp=Z,3.3nm,0.8s,baz=325,slow=11,SNR=5.5							
STKA	**Stephens Creek**	**27.43**	**158**	P		**P**	**14 07 06.2**	**+1.4**
CAN	**Canberra**	**33.53**	**151**	P		**P**	**14 07 57.8**	**-0.8**
CAN				IAmb		IAmb	14 08 16.0	
	comp=Z,5.2nm,1.0s							
CMAR	**Chiang Mai Arr**	**39.51**	**309**	P		**P**	**14 08 49.0**	**-0.4**
	comp=Z,1.0nm,0.7s,baz=145,slow=6.6,SNR=5.8							
MJAR	**Matsushiro Arr**	**43.48**	**9**	P		**P**	**14 09 21.1**	**-0.3**
	comp=Z,3.1nm,0.7s,baz=190,slow=9.7,SNR=18							
MJAR	**Matsushiro Arr**	**43.48**	**9**	P		**P**	**14 09 20.0**	**-1.4**
MAJO	**Matsushiro**	**43.48**	**9**	P		**P**	**14 09 20.3**	**-1.1**
MAJO				IAmb		IAmb	14 09 21.7	
	comp=Z,4.8nm,0.7s							
MAT	**Matsushiro**	**43.48**	**9**	P		**P**	**14 09 20.9**	**-0.5**
MJB9	**Matsu-Tunnel**	**43.48**	**9**	P		**P**	**14 09 20.4**	**-1.1**
MJB9				IAmb		IAmb	14 09 21.7	
	comp=Z,4.8nm,0.7s							
KSRS	**Korea Array**	**43.77**	**357**	P		**P**	**14 09 24.5**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=182,slow=8.5,SNR=5.4							
HHC	**Hu-ho-hao-te**	**50.11**	**342**	*e*P		**P**	**14 10 13.6**	**+0.6**
HHC				pmax		pmax		
	comp=Z,8.0nm,1.1s							
HHC				pmax		pmax		
	comp=Z,27nm,5.3s							
USRK	**Ussuriysk Ar.**	**50.49**	**2**	P		**P**	**14 10 16.5**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=148,slow=39,SNR=2.6							
USRK	**Ussuriysk Ar.**	**50.49**	**2**	P		**P**	**14 10 16.0**	**+0.4**
ODZ	**Otahua Downs**	**52.06**	**144**	P		**P**	**14 10 26.1**	**-1.4**
TUWZ	**Tuamarina**	**52.17**	**139**	P		**P**	**14 10 29.4**	**+1.1**
WMQ	**Urumqi**	**63.05**	**327**	*e*P		**P**	**14 11 44.5**	**+0.2**
PETK	**Petropavlovsk-**	**63.81**	**18**	P		**P**	**14 11 50.6**	**+1.6**
	comp=Z,2.1nm,0.6s,baz=176,slow=5.4,SNR=8.2							
PETK	**Petropavlovsk-**	**63.81**	**18**	P		**P**	**14 11 50.2**	**+1.1**
MK31	**Makanchi Array**	**67.88**	**327**	P		**P**	**14 12 15.9**	**+0.6**
MKAR	**Makanchi Array**	**67.88**	**327**	P		**P**	**14 12 16.6**	**+1.3**
	comp=Z,0.7nm,0.4s,baz=116,slow=8.2,SNR=11							
MKAR	**Makanchi Array**	**67.88**	**327**	P		**P**	**14 12 16.1**	**+0.8**
VNDA	**Vanda**	**72.93**	**173**	P		**P**	**14 12 46.6**	**+1.2**
TIXI	**Tiksi**	**77.99**	**360**	P		**P**	**14 13 14.5**	**+0.3**
TIXI				IAmb		IAmb	14 13 15.3	
	comp=Z,2.1nm,0.4s							
BILL	**Bilibino**	**78.60**	**13**	P		**P**	**14 13 17.1**	**-0.5**
QSPA	**South Pole Qui**	**83.48**	**180**	P		**P**	**14 13 45.5**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=291,slow=1.3,SNR=6.5							
QSPA	**South Pole Qui**	**83.48**	**180**	IAmb		IAmb	14 13 59.6	
	comp=Z,2.9nm,1.1s							

*IDC **22** 14:01:49.1±1.6, 10°.43S×120°.35E, h0km, mb4.1/5, mb1 4.3/7, mb1mx3.9/35, mbtmp4.2/7, ML4.2/2, MS3.3/2, Ms1 3.3/2, ms1mx2.8/37, Error ellipse: s-maj=70.1km s-min=25.0km az=61.0*
*DJA **22** 14:01:52.9±1.0, 11°.5S±6°.×12°.0E±°., h19km±5km, M4.2/8, mb4.5/3, MLv4.2/8, MLv4.1/2*
*NEIC **22** 14:01:54.5±2.1, 10°.69S±0°.09×120°.24E±0°.08, h57km±10km, mb4.4/6, Error ellipse: s-maj=13.7km s-min=11.1km az=189.0*

ISC 22 14:01:52.6±0.6, **10°.67S**±0°.06×**120°.35E**±0°.05, **h31**km, **n32,**
σ1°**78**/37, **mb4.5**/8, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.50**	**26**	P	**Pb**	**14 02 03.2**	**0.0**
BASI				S	**Sb**	**14 02 09.2**	**-1.2**
BASI	**Baing, Sumba**	**0.50**	**26**	P	**Pn**	**14 02 03.5**	**-0.2**
WSI	**Waingapu**	**1.00**	**357**	P	**Pb**	**14 02 11.9**	**+0.5**
WSI	**Waingapu**	**1.00**	**357**	P	**Pb**	**14 02 12.6**	**+1.2**
WBSI	**Waikabubak, Su**	**1.40**	**317**	P	**Pn**	**14 02 16.8**	**+0.8**
WBSI				S	**Sb**	**14 02 37.1**	**+1.5**
WBSI	**Waikabubak, Su**	**1.40**	**317**	P	**Pb**	**14 02 17.1**	**-1.1**
MMRI	**Maumere**	**2.75**	**43**	P	**Pn**	**14 02 36.5**	**+1.9**
MMRI	**Maumere**	**2.75**	**43**		**Pn**	**14 02 36.1**	**+1.5**
PLAI	**Plampang**	**3.13**	**306**	P	**Pn**	**14 02 41.4**	**+1.5**
PLAI				S	**Sn**	**14 03 17.9**	**+1.6**
PLAI	**Plampang**	**3.13**	**306**	P	**Pn**	**14 02 43.5**	**+3.6**
BATI	**Baumata**	**3.29**	**82**	Pn	**Pn**	**14 02 45.9**	**+3.8**
	12nm,0.3s,baz=81,slow=2.7,SNR=13						
BATI	**Baumata**	**3.29**	**82**	P	**Pn**	**14 02 45.2**	**+3.1**
BATI				S	**Sn**	**14 03 19.4**	**-0.8**
SOEI	**Soe**	**3.96**	**77**	Pn	**Pn**	**14 02 53.8**	**+2.4**
KAPI	**Kappang**	**5.65**	**354**	Pn	**Pn**	**14 03 16.4**	**+1.8**
	2.4nm,0.3s,baz=115,slow=16,SNR=4.2						
KAPI				LR	LR	14 05 46.1	
	comp=Z,374nm,18.0s,baz=196,slow=44						
JAGI	**Jajag, Banyuwa**	**6.50**	**289**	P	**Pn**	**14 03 26.9**	**+0.7**
JAGI	**Jajag, Banyuwa**	**6.50**	**289**		**Pn**	**14 03 25.4**	**-0.8**
FITZ	**Fitzroy Crossi**	**8.98**	**146**	Pn	**Pn**	**14 04 02.5**	**+2.2**
	1.8nm,0.3s,baz=327,slow=8.3,SNR=19						
FITZ				Sn	**Sn**	**14 05 36.9**	**-3.6**
	1.0nm,0.3s,baz=25,slow=20,SNR=1.9						
UGM	**Wanagama**	**10.08**	**285**	Pn	**Pn**	**14 04 16.8**	**+1.4**
CISI	**Cisompet, Garu**	**12.76**	**283**	Pn	**Pn**	**14 04 52.2**	**0.0**
GIRL	**Giralia**	**13.27**	**205**	Pn	**Pn**	**14 04 59.3**	**+0.3**
PMBI	**Palembang**	**17.27**	**295**		**Pn**	**14 05 51.4**	**-0.3**
ASAR	**Alice Springs**	**18.27**	**137**	P	**Pn**	**14 06 06.9**	**+2.9**
	0.8nm,0.3s,baz=321,slow=11,SNR=4.2						
MNAI	**Manna**	**18.34**	**289**	P	**P**	**14 06 02.1**	**-2.7**
XAN	**Xi'an**	**45.77**	**347**	P	**P**	**14 10 11.3**	**-0.2**
XAN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KSRS	**Korea Array**	**48.40**	**8**	P	**P**	**14 10 31.0**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=186,slow=8.6,SNR=6.3						
KSRS				LR	LR	14 32 44.9	
	comp=Z,22nm,19.0s,baz=215,slow=38						
MJAR	**Matsushiro Arr**	**49.88**	**19**	P	**P**	**14 10 41.9**	**-1.3**
	comp=Z,1.0nm,0.8s,baz=189,slow=7.1,SNR=4.5						
SONM	**Songino Array**	**59.55**	**349**	P	**P**	**14 11 53.7**	**+0.4**
	comp=Z,7nm,0.6s,baz=164,slow=8.1,SNR=14						
SONM	**Songino Array**	**59.55**	**349**		**P**	**14 11 53.4**	**+0.1**
MKAR	**Makanchi Array**	**66.55**	**332**	P	**P**	**14 12 39.6**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=131,slow=8.3,SNR=4.7						
ZAA0	**Zalesovo Array**	**71.07**	**339**	P	**P**	**14 13 06.8**	**-0.8**
ZAA0				IAmb	IAmb	14 13 08.3	
	comp=Z,3.1nm,0.8s						
ZALV	**Zalesovo Beam**	**71.07**	**339**	P	**P**	**14 13 06.9**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=147,slow=4.9,SNR=9.8						
TIXI	**Tiksi**	**82.33**	**3**	P	**P**	**14 14 09.1**	**-1.8**
TIXI				IAmb	IAmb	14 14 12.0	
	comp=Z,2.7nm,0.5s						

*IDC **22** 14:05:38.0±12.0, 11°.06S×119°.97E, h0km, mb3.8/3, mb1 3.8/4, mb1mx3.5/39, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=317.2km s-min=43.3km az=10.0*
*NEIC **22** 14:05:48.1±1.6, 10°.5S±0°.1×120°.3E±0°.1, h55km±12km, mb4.4/3, Error ellipse: s-maj=19.8km s-min=17.6km az=130.0*

ISC 22 14:05:45.9±1.7, **10°.5S**±0°.2×**120°.17E**±0°.10, **h35**km, **n10,**
σ0**85**/11, **mb4.2**/5, **Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**2.77**	**47**	Pn	**Pn**	**14 06 27.6**	**-0.3**
BATI	**Baumata**	**3.45**	**85**	Pn	**Pn**	**14 06 37.0**	**-0.2**
	9.3nm,0.3s,baz=287,slow=20,SNR=2.7						
BATI				Sn	**Sn**	**14 07 15.4**	**-1.5**
	5.8nm,0.3s,baz=3.4,slow=23,SNR=2.3						
SOEI	**Soe**	**4.10**	**80**	Pn	**Pn**	**14 06 47.2**	**+0.9**
FAKI	**Fak Fak**	**14.17**	**59**	Pn	**Pn**	**14 09 05.2**	**+1.0**
SONM	**Songino Array**	**59.38**	**349**	P	**P**	**14 15 45.6**	**+0.8**
	0.9nm,0.5s,baz=168,slow=8.3,SNR=4.9						
SONM	**Songino Array**	**59.38**	**349**	P	**P**	**14 15 45.1**	**+0.2**
TARG	**Taragay, Kyrgy**	**64.95**	**326**	P	**P**	**14 16 21.6**	**-1.1**
TARG				IAmb	IAmb	14 18 09.2	
	comp=Z,2.1nm,0.7s						
KBL	**Kabul**	**65.99**	**315**	P	**P**	**14 16 29.4**	**+0.1**
KBL				IAmb	IAmb	14 18 44.9	
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**66.34**	**333**	P	**P**	**14 16 31.2**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=146,slow=7.9,SNR=3.1						
ZALV	**Zalesovo Beam**	**70.88**	**339**	P	**P**	**14 16 59.0**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=104,slow=3.6,SNR=3.8						

*IDC **22** 14:09:49.1±1.4, 4°.51S×153°.26E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.7/40, mbtmp3.8/7, MS3.7/2, Ms1 3.7/2, ms1mx2.8/38, Error ellipse: s-maj=39.5km s-min=21.7km az=129.0*
*NEIC **22** 14:09:53.9±1.3, 4°.3S±0°.1×153°.1E±0°.1, h29km±6km, mb4.6/11, Error ellipse: s-maj=18.6km s-min=16.3km az=125.0*

ISC 22 14:09:57.3±0.9, **4°.31S**±0°.10×**153°.0E**±0°.1, **h55**km, **n26,**
σ1°**08**/25, **mb4.4**/12, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**0.80**	**278**		**Pn**	**14 10 11.8**	**-0.8**
KRVT	**Keravat (AS076**	**0.93**	**270**	Pn	**Pn**	**14 10 13.6**	**-0.7**
	127nm,0.3s,baz=232,slow=2.6,SNR=399						
KRVT				Sn	**Sn**	**14 10 25.6**	**-1.2**
	422nm,0.3s,baz=312,slow=22,SNR=15						
PMG	**Port Moresby**	**7.67**	**228**	Pn	**Pn**	**14 11 47.6**	**+1.1**
	0.3nm,0.3s,baz=163,slow=5.6,SNR=2.8						
PMG				Sn	**Sn**	**14 13 13.1**	**+1.1**
	0.6nm,0.3s,baz=354,slow=23,SNR=3.0						
MTN	**Manton Dam**	**23.17**	**247**	P	**P**	**14 14 58.3**	**-1.1**
MTN				IAmb	IAmb	14 14 59.8	
	comp=Z,65nm,2.0s						
WB0	**Warramunga Arr**	**23.74**	**228**	P	**P**	**14 15 04.9**	**+0.2**
WR0	**Warramunga Arr**	**23.75**	**228**	P	**P**	**14 15 05.3**	**+0.5**
WR0				IAmb	IAmb	14 15 08.9	
	comp=Z,23nm,1.6s						
WRAB	**Tennant Creek**	**23.88**	**228**	P	**P**	**14 15 06.3**	**+0.3**
WRAB				IAmb	IAmb	14 15 08.5	
	comp=Z,48nm,1.9s						
WB2	**Warramunga Arr**	**23.88**	**228**	P	**P**	**14 15 06.5**	**+0.5**
WB2				IAmb	IAmb	14 15 08.5	
	comp=Z,7.8nm,0.5s						
WRA	**Warramunga Arr**	**23.89**	**228**	P	**P**	**14 15 05.7**	**-0.5**
	comp=Z,5.2nm,0.5s,baz=53,slow=9.6,SNR=24						
WRA	**Warramunga Arr**	**23.89**	**228**	P	**P**	**14 15 06.1**	**0.0**
ARMA	**Armidale**	**26.00**	**183**	P	**P**	**14 15 23.1**	**-2.2**
ARMA				IAmb	IAmb	14 16 17.9	
	comp=Z,28nm,1.6s						
KNRA	**Kununurra**	**26.33**	**243**	P	**P**	**14 15 29.0**	**+0.6**
AS31	**Alice Springs**	**26.62**	**222**	P	**P**	**14 15 30.5**	**-0.3**
ASAR	**Alice Springs**	**26.62**	**222**	P	**P**	**14 15 30.4**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=53,slow=9.0,SNR=3.4						
LHI	**Lord Howe Isla**	**27.67**	**169**	P	**P**	**14 15 38.1**	**-2.1**
STKA	**Stephens Creek**	**29.43**	**200**	LR	LR	14 26 59.1	
	comp=Z,86nm,19.1s,baz=210,slow=35						
FITZ	**Fitzroy Crossi**	**30.03**	**241**	P	**P**	**14 16 01.1**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=36,slow=4.9,SNR=1.9						
FITZ	**Fitzroy Crossi**	**30.03**	**241**	IAmb	IAmb	14 16 03.5	
	comp=Z,26nm,1.8s						
PETK	**Petropavlovsk-**	**57.34**	**3**	P	**P**	**14 19 40.7**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=162,slow=7.3,SNR=5.4						
PETK	**Petropavlovsk-**	**57.34**	**3**	P	**P**	**14 19 39.2**	**-0.4**
SONM	**Songino Array**	**66.00**	**328**	P	**P**	**14 20 40.7**	**+2.4**
	comp=Z,0.3nm,0.4s,baz=134,slow=6.2,SNR=2.2						
VNDA	**Vanda**	**73.31**	**178**	LR	LR	14 46 57.3	
	comp=Z,70nm,19.6s,baz=262,slow=30						
MKAR	**Makanchi Array**	**80.06**	**319**	P	**P**	**14 22 01.9**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=114,slow=3.6,SNR=1.5						
ILAR	**Eielson Array**	**81.65**	**22**	P	**P**	**14 22 08.4**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=232,slow=4.4,SNR=2.8						
TORD	**Torodi Ar. Bea**	**150.30**	**289**	PKPbc	**PKiKP**	**14 29 44.1**	**-0.2**
	comp=Z,1.8nm,0.5s,baz=64,slow=2.1,SNR=13						
TORD	**Torodi Ar. Bea**	**150.30**	**289**		**PKPbc**	**14 29 43.5**	**0.0**

TAP 22 14:14:32.2, 24°.68N×121°.71E, h11km, **ML2.2, A, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWE	**Neicheng**	**0.06**	**314**	*i* P	Pg	14 14 34.8	+0.3
	baz=324						
TWE				S	Sg	14 14 36.1	0.0
	baz=324						
ILA	**Ilan**	**0.09**	**22**	P	Pg	14 14 35.7	+0.9
	baz=26						
ILA				S	Sg	14 14 37.8	+1.0
	baz=26						
ENTT	**Nioudou**	**0.14**	**252**	*i* P	Pb	14 14 36.2	-0.7
	baz=250						
ENTT				S	Sg	14 14 39.9	+2.1
	baz=250						
TWC	**Suao**	**0.14**	**120**	*i* P	Pb	14 14 36.5	-0.5
	baz=118						
TWC				S	Sg	14 14 39.6	+1.6
	baz=118						
NDT	**Datong Townshi**	**0.20**	**246**	P	Pb	14 14 37.3	-0.6
	baz=246						
NDT				S	Sg	14 14 42.1	+2.7
	baz=246						
NTC	**Toucheng**	**0.20**	**32**	P	Pb	14 14 37.6	-0.4
	baz=32						
NTC				S	Sg	14 14 40.4	+0.9
	baz=32						
NWLT	**Wulai**	**0.21**	**297**	P	Pb	14 14 37.6	-0.6
	baz=296						
NWLT				S	Sg	14 14 40.6	+0.8
	baz=296						
ENA	**Nanau**	**0.25**	**174**	P	Pb	14 14 38.6	-0.3
	baz=172						
ENA				*e*S	Sg	14 14 42.0	+1.0
	baz=172						
YHNB	**Yeheng**	**0.30**	**268**	P	Pb	14 14 39.2	-0.6
	baz=267						
YHNB				S	Sb	14 14 44.1	-0.7
	baz=267						
TIPB	**Shuangxi**	**0.31**	**20**	P	Pb	14 14 39.4	-0.5
	baz=19						
TIPB				S	Sg	14 14 43.6	+1.0
	baz=19						
TWA	**Mucha**	**0.32**	**339**	P	Pb	14 14 39.9	-0.1
	baz=339						
TWA				S	Sb	14 14 44.9	-0.3
	baz=339						
NSK	**Sanguang**	**0.32**	**269**	P	Pb	14 14 39.6	-0.5
	baz=268						
NSK				S	Sg	14 14 44.2	+1.1
	baz=268						
NHDH	**Xindian Distri**	**0.33**	**329**	*e*P	Pb	14 14 40.0	-0.1
	baz=328						
NHDH				S	Sg	14 14 44.3	+1.1
	baz=328						
TATO	**Taipei**	**0.36**	**325**	*e*P	Pb	14 14 40.8	+0.2
	baz=326						
TATO				S	Sb	14 14 45.7	-0.5
	baz=326						
NNS	**Nan Shan**	**0.39**	**232**	P	Pb	14 14 40.7	-0.6
	baz=230						
NNS				S	Sb	14 14 47.0	-0.4
	baz=230						
NNSB	**Datong**	**0.39**	**230**	P	Pg	14 14 40.6	+0.6
	baz=229						
NNSB				S	Sb	14 14 46.8	-0.6
	baz=229						
NNSH	**Datong**	**0.39**	**230**	P	Pb	14 14 40.7	-0.6
	baz=229						
NNSH				*e*S	Sb	14 14 47.1	-0.3
	baz=229						
WLTB	**Daxi**	**0.45**	**292**	P	Pb	14 14 43.0	+0.8
	baz=292						
WLTB				S	Sb	14 14 50.3	+1.3
	baz=292						
TWS1	**Kuangyinshan**	**0.49**	**327**	P	Pn	14 14 44.2	-1.1
	baz=327						
TWS1				S	Sb	14 14 50.3	0.0
	baz=327						
YM04	**YM04**	**0.50**	**341**	P	Pb	14 14 43.8	+0.8
	baz=341						
YM04				S	Sb	14 14 50.0	-0.3
	baz=341						
YM08	**YM08**	**0.52**	**348**	P	Pb	14 14 43.8	+0.4
	baz=347						
YM08				S	Sb	14 14 50.5	-0.4
	baz=347						
ETLH	**Xiulin Townshi**	**0.52**	**204**	P	Pb	14 14 43.3	-0.1
	baz=203						
ETLH				S	Sb	14 14 50.7	-0.3
	baz=203						
NACB	**Ninganchiao**	**0.52**	**192**	P	Pb	14 14 43.3	0.0
	baz=191						
NACB				S	Sb	14 14 51.0	+0.1
	baz=191						
YM03	**YM03**	**0.52**	**343**	P	Pb	14 14 43.9	+0.4
	baz=342						
TWD	**Chiawan**	**0.61**	**190**	*e*P	Pb	14 14 44.7	-0.2
	baz=189						
TWD				S	Sb	14 14 52.8	-0.7
	baz=189						
LIOB	**Emei**	**0.63**	**267**	*e*P	Pb	14 14 46.0	+0.7
	baz=266						
LIOB				*e*S	Sb	14 14 54.7	+0.5
	baz=266						
NSTT	**Nanjuang**	**0.65**	**266**	P	Pb	14 14 45.2	-0.3
	baz=265						
NSTT				S	Sb	14 14 55.1	+0.5
	baz=265						
TWT	**Tachien**	**0.65**	**229**	P	Pb	14 14 46.5	+0.8
	baz=229						
TWT				S	Sn	14 14 56.4	-1.5
	baz=229						
TDCB	**Techi**	**0.66**	**230**	P	Pn	14 14 46.8	-0.9
	baz=229						
TDCB				S	Sb	14 14 56.0	+0.9
	baz=229						
WHF	**Hehuan Shan**	**0.67**	**217**	P	Pg	14 14 45.7	+0.4
	baz=216						
WHF				*e*S	Sb	14 14 55.6	-0.1
	baz=216						
CHGB	**Renai**	**0.79**	**218**	P	Pb	14 14 48.1	-0.1
	baz=218						
CHGB				S	Sb	14 14 59.2	+0.3
	baz=218						
WHP	**Taichung City**	**0.81**	**240**	P	Pn	14 14 49.5	-0.1
	baz=240						
WHP				S	Sb	14 14 60.0	+0.7
	baz=240						
NMLH	**Miaoli**	**0.85**	**260**	*e*P	Pn	14 14 50.7	+0.5
	baz=260						
ESL	**Shilin**	**0.90**	**196**	*e*P	Pg	14 14 48.2	-1.4
	baz=195						
ESL				*e*S	Sg	14 15 01.0	-0.3
	baz=195						
EGFH	**Guangfu**	**1.04**	**194**	P	Pb	14 14 52.0	-0.3
	baz=194						
EGFH				*e*S	Sn	14 15 07.8	+0.4
	baz=194						
VWDT	**VWDT**	**1.06**	**209**	*e*P	Pn	14 14 53.6	+0.5
	baz=209						
VWDT				*e*S	Sn	14 15 07.9	+0.1
	baz=209						
SMLT	**Sun Moon Lake**	**1.09**	**223**	*e*P	Pn	14 14 54.7	+1.2
	baz=222						
TYC	**Yuchr**	**1.10**	**225**	*e*P	Pg	14 14 53.5	+0.1
	baz=224						
SSLB	**Suanglung**	**1.13**	**218**	*e*P	Pn	14 14 54.4	+0.3
	baz=217						
SSLB				*e*S	Sg	14 15 09.0	+0.3
	baz=217						
WHYT	**Xinyi Township**	**1.26**	**219**	*e*P	Pb	14 14 56.4	0.0
	baz=218						
YULB	**Yu-li**	**1.34**	**196**	*e*P	Pg	14 14 58.6	+0.6
	baz=196						
YULB				*e*S	Sg	14 15 16.1	+0.8
	baz=196						
ALS	**Alishan**	**1.43**	**216**	*e*P	Pn	14 14 58.5	+0.1
	baz=215						
ALS				*e*S	Sb	14 15 17.5	0.0
	baz=215						
CHN5	**Tsauling**	**1.43**	**221**	*e*P	Pn	14 14 58.3	0.0
	baz=221						
CHN5				*e*S	Sb	14 15 17.6	+0.2
	baz=221						

JMA 22 14:14:35.2±0.1, **24°.90N**×**123°.41E**, **h29**km±4km, **M1.0,**
**South

KSRS	**Korea Array**	**20.10**	**324**	P	**P**	**14 19 50.5**	**+1.1**
	comp=Z,10nm,0.6s,baz=146,slow=8.8,SNR=71						
KSAR	**Wonju Array Be**	**20.11**	**323**	P	**P**	**14 19 50.2**	**+0.7**
KS19	**Wonju Array Si**	**20.16**	**324**	P	**P**	**14 19 50.4**	**+0.3**
KS19				IAmb	IAmb	14 19 52.0	
	comp=Z,9.9nm,0.6s						
SSLB	**Suanglung**	**20.20**	**279**	P	**P**	**14 19 50.6**	**+0.1**
SSLB				IAmb	IAmb	14 20 14.3	
	comp=Z,33nm,1.6s						
JMP	**Maruseppu**	**22.02**	**1**	P	**P**	**14 20 09.9**	**+2.3**
ASAJ	**Asahikawa**	**22.12**	**360**	P	**P**	**14 20 11.1**	**+2.6**
	comp=Z,2.8nm,0.6s,baz=198,slow=12,SNR=5.3						
ASAJ	**Asahikawa**	**22.12**	**360**	P	**P**	**14 20 11.1**	**+2.6**
SONM	**Songino Array**	**38.91**	**320**	P	**P**	**14 22 36.2**	**+1.2**
	comp=Z,1.5nm,0.4s,baz=135,slow=7.0,SNR=14						
SONM	**Songino Array**	**38.91**	**320**	P	**P**	**14 22 35.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**41.19**	**273**	P	**P**	**14 22 54.4**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=72,slow=7.4,SNR=2.2						
WB0	**Warramunga Arr**	**42.25**	**192**	P	**P**	**14 23 01.6**	**-0.7**
WB0				IAmb	IAmb	14 23 27.5	
	comp=Z,38nm,1.9s						
WRAB	**Tennant Creek**	**42.42**	**192**	P	**P**	**14 23 03.1**	**-0.4**
WRAB				IAmb	IAmb	14 24 03.2	
	comp=Z,38nm,1.9s						
WB2	**Warramunga Arr**	**42.43**	**192**	P	**P**	**14 23 03.4**	**-0.3**
WB2				IAmb	IAmb	14 23 55.1	
	comp=Z,38nm,1.9s						
WRA	**Warramunga Arr**	**42.43**	**192**	P	**P**	**14 23 03.5**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=11,slow=8.1,SNR=7.5						
FITZ	**Fitzroy Crossi**	**43.18**	**204**	P	**P**	**14 23 09.2**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=157,slow=21,SNR=1.6						
ADK	**Adak**	**43.21**	**36**	P	**P**	**14 23 10.1**	**+0.6**
ASAR	**Alice Springs**	**46.15**	**191**	P	**P**	**14 23 31.8**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=19,slow=8.4,SNR=4.7						
EIDS	**Eidsvold**	**47.71**	**170**	P	**P**	**14 23 42.9**	**-1.9**
EIDS				IAmb	IAmb	14 25 25.1	
	comp=Z,26nm,1.9s						
NIKH	**Nikolski High**	**48.02**	**37**	P	**P**	**14 23 46.9**	**0.0**
NIKH				IAmb	IAmb	14 25 29.1	
	comp=Z,32nm,1.1s						
UNV	**Unalaska Valle**	**49.64**	**37**	P	**P**	**14 23 59.0**	**0.0**
UNV				IAmb	IAmb	14 24 07.9	
	comp=Z,18nm,1.1s						
AKUT	**Akutan**	**50.15**	**37**	P	**P**	**14 24 03.2**	**+0.4**
ZAA0	**Zalesovo Array**	**53.79**	**322**	P	**P**	**14 24 29.9**	**+0.4**
ZALV	**Zalesovo Beam**	**53.79**	**322**	P	**P**	**14 24 29.6**	**+0.1**
	comp=Z,1.5nm,0.3s,baz=115,slow=6.7,SNR=8.6						
ZALV	**Zalesovo Beam**	**53.79**	**322**	P	**P**	**14 24 29.8**	**+0.3**
MKAR	**Makanchi Array**	**54.26**	**313**	P	**P**	**14 24 34.3**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=91,slow=9.4,SNR=8.9						
MKAR				PcP	**PcP**	**14 25 31.4**	**-1.8**
	comp=Z,0.5nm,0.7s,baz=98,slow=6.3,SNR=3.1						
MAKZ	**Makanchi**	**54.48**	**313**	P	**P**	**14 24 35.5**	**+0.9**
SII	**Sitkinak Islan**	**57.15**	**36**	P	**P**	**14 24 54.2**	**+0.8**
SVW2	**Sparrevohn**	**57.39**	**30**	P	**P**	**14 24 56.1**	**+1.1**
OHAK	**Old Harbor**	**57.75**	**35**	P	**P**	**14 24 57.8**	**+0.3**
KDAK	**Kodiak Island**	**58.22**	**35**	P	**P**	**14 25 01.1**	**+0.5**
	comp=Z,2.6nm,0.5s,baz=230,slow=1.3,SNR=9.2						
KDAK	**Kodiak Island**	**58.22**	**35**	IAmb	IAmb	14 25 10.7	
	comp=Z,23nm,1.2s						
BPAW	**Bear Paw Mtn.**	**60.13**	**28**	P	**P**	**14 25 14.5**	**+0.9**
TRF	**Thorofare Moun**	**60.31**	**28**	P	**P**	**14 25 15.5**	**+0.5**
TRF				IAmb	IAmb	14 26 02.6	
	comp=Z,15nm,1.6s						
FID	**Port Fidalgo**	**61.71**	**32**	P	**P**	**14 25 24.7**	**+0.4**
FID				IAmb	IAmb	14 25 32.8	
	comp=Z,19nm,1.3s						
ILAR	**Eielson Array**	**62.00**	**27**	P	**P**	**14 25 25.6**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=252,slow=6.0,SNR=6.1						
KKAR	**Karatay Array**	**62.61**	**308**	P	**P**	**14 25 30.7**	**+0.1**
DOT	**Dot Lake**	**63.10**	**29**	P	**P**	**14 25 34.5**	**+1.1**
BMAR	**Burnt Mountain**	**63.28**	**24**	P	**P**	**14 25 36.0**	**+1.5**
INK	**Inuvik**	**67.50**	**24**	P	**P**	**14 26 00.8**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=308,slow=12,SNR=2.0						
INK	**Inuvik**	**67.50**	**24**	IAmb	IAmb	14 26 28.4	
	comp=Z,13nm,1.6s						
ABKAR	**Akbulak array**	**69.12**	**316**	P	**P**	**14 26 12.4**	**+0.8**
HRA	**Herat**	**70.42**	**300**	P	**P**	**14 26 18.3**	**-1.9**
HRA				IAmb	IAmb	14 26 19.0	
	comp=Z,5.3nm,0.7s						
YKA	**Yellowknife Ar**	**76.42**	**28**	P	**P**	**14 26 54.8**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=186,slow=37,SNR=2.2						
ARCES	**ARCESS Array B**	**78.58**	**341**	P	**P**	**14 27 07.2**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=76,slow=8.8,SNR=12						
ARE0	**ARCESS Array S**	**78.58**	**341**	P	**P**	**14 27 07.4**	**+1.6**
KBZ	**Khabaz**	**81.93**	**314**	P	**P**	**14 27 25.3**	**+1.2**
	comp=Z,3.7nm,0.7s,baz=88,slow=4.1,SNR=8.6						
FINES	**FINESS Array B**	**82.80**	**334**	P	**P**	**14 27 28.4**	**+0.2**
	comp=Z,2.7nm,0.4s,baz=65,slow=5.1,SNR=41						
NVAR	**Mina Array Bea**	**83.29**	**51**	P	**P**	**14 27 31.6**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=271,slow=6.0,SNR=3.9						
AKASG	**Malin Array Be**	**87.09**	**324**	P	**P**	**14 27 49.3**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=50,slow=5.3,SNR=2.5						

*IDC **22** 14:15:38.8±1.6, 10°.73S×120°.02E, h0km, mb3.9/3, mb1 3.8/8, mb1mx3.6/37, mbtmp3.8/8, ML3.5/5, Error ellipse: s-maj=53.5km s-min=21.1km az=51.0*
*NEIC **22** 14:15:43.0±2.9, 10°.76S±0°.09×120°.14E±0°.04, h44km±10km, mb4.3/8, Error ellipse: s-maj=12.9km s-min=5.6km az=184.0*

ISC 22 14:15:42.9±0.8, 10°.79S±0°.08×120°.21E±0°.07, h35km, n21, σ1§69/22, mb4.2/4, Suma region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**2.93**	**43**		**Pn**	**14 16 25.6**	**-1.5**
BATI	**Baumata**	**3.44**	**81**	Pn	**Pn**	**14 16 35.8**	**+1.6**
	11nm,0.3s,baz=289,slow=5.6,SNR=8.8						
BATI				Sn	**Sn**	**14 17 13.5**	**-0.3**
	9.2nm,0.3s,baz=8.2,slow=21,SNR=9.7						
SOEI	**Soe**	**4.12**	**76**	Pn	**Pn**	**14 16 46.5**	**+2.9**
KAPI	**Kappang**	**5.76**	**355**	Pn	**Pn**	**14 17 05.5**	**-0.5**
	0.7nm,0.3s,baz=235,slow=22,SNR=1.3						
JAGI	**Jajag, Banyuwa**	**6.40**	**291**	Pn	**Pn**	**14 17 14.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**8.97**	**145**	Pn	**Pn**	**14 17 52.2**	**+2.2**
	0.6nm,0.3s,baz=167,slow=21,SNR=2.6						
FITZ				Sn	**Sn**	**14 19 26.2**	**-3.6**
	0.6nm,0.3s,baz=343,slow=23,SNR=2.4						
KNRA	**Kununurra**	**9.64**	**121**	Pn	**Pn**	**14 18 00.6**	**+1.4**
MTN	**Manton Dam**	**10.88**	**102**	Pn	**Pn**	**14 18 16.3**	**-0.1**
WB0	**Warramunga Arr**	**16.32**	**125**	Pn	**Pn**	**14 19 29.6**	**0.0**
WB0				IAmb	IAmb	14 19 39.9	
	comp=Z,39nm,1.8s						
WRA	**Warramunga Arr**	**16.37**	**125**	Pn	**Pn**	**14 19 30.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=296,slow=13,SNR=1.5						
WB2	**Warramunga Arr**	**16.38**	**125**	Pn	**Pn**	**14 19 29.5**	**-0.8**
WR0	**Warramunga Arr**	**16.54**	**125**	Pn	**Pn**	**14 19 32.5**	**+0.1**
ASAR	**Alice Springs**	**18.28**	**136**	P	**Pn**	**14 19 57.4**	**+3.4**
	comp=Z,0.2nm,0.3s,baz=316,slow=12,SNR=9.4						
NWAO	**Narrogin (SRO)**	**22.20**	**187**	P	**P**	**14 20 33.6**	**-2.7**
COEN	**Coen**	**22.65**	**100**	P	**P**	**14 20 41.7**	**+0.5**
COEN				IAmb	IAmb	14 21 32.9	
	comp=Z,22nm,1.4s						
PMG	**Port Moresby**	**26.56**	**89**	P	**P**	**14 21 17.4**	**-0.5**
SONM	**Songino Array**	**59.64**	**349**	P	**P**	**14 25 44.3**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=162,slow=8.5,SNR=7.1						
SONM	**Songino Array**	**59.64**	**349**	IAmb	IAmb	14 25 44.9	
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**66.58**	**333**	P	**P**	**14 26 29.8**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=131,slow=8.0,SNR=5.5						
ZALV	**Zalesovo Beam**	**71.13**	**339**	P	**P**	**14 26 57.7**	**0.0**
	comp=Z,0.7nm,0.4s,baz=134,slow=4.3,SNR=3.6						
ZALV	**Zalesovo Beam**	**71.13**	**339**	P	**P**	**14 26 57.4**	**-0.3**

*IDC **22** 14:16:02.3±1.5, 10°.61S×120°.28E, h0km, mb4.0/3, mb1 3.9/7, mb1mx3.6/35, mbtmp3.8/7, ML3.6/4, Error ellipse: s-maj=46.8km s-min=21.2km az=42.0*
*NEIC **22** 14:16:08.1±1.9, 10°.72S±0°.09×120°.4E±0°.1, h51km±11km, mb4.2/5, Error ellipse: s-maj=14.9km s-min=12.7km az=62.0*

ISC 22 14:16:06.6±0.8, 10°.61S±0°.09×120°.27E±0°.09, h31km, n17, σ1§36/17, mb4.2/3, Suma region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**2.76**	**45**	Pn	**Pn**	**14 16 49.5**	**+0.8**
BATI	**Baumata**	**3.36**	**83**	Pn	**Pn**	**14 16 56.4**	**-0.6**
	7.9nm,0.3s,baz=294,slow=22,SNR=2.0						
BATI				Sn	**Sn**	**14 17 37.0**	**+1.1**
	5.1nm,0.3s,baz=327,slow=16,SNR=5.9						
FITZ	**Fitzroy Crossi**	**9.08**	**146**	Pn	**Pn**	**14 18 13.7**	**-1.8**
	0.4nm,0.3s,baz=330,slow=16,SNR=3.1						
KNRA	**Kununurra**	**9.68**	**122**	Pn	**Pn**	**14 18 25.0**	**+1.2**
GIRL	**Giralia**	**13.28**	**205**	Pn	**Pn**	**14 19 13.8**	**+0.6**
WRA	**Warramunga Arr**	**16.43**	**126**	Pn	**Pn**	**14 19 53.2**	**-1.7**
	0.2nm,0.3s,baz=299,slow=13,SNR=6.2						
WRA	**Warramunga Arr**	**16.43**	**126**		**Pn**	**14 19 52.5**	**-2.5**
WRAB	**Tennant Creek**	**16.43**	**126**	Pn	**Pn**	**14 19 53.5**	**-1.5**
WRAB				IAmb	IAmb	14 20 38.1	
	comp=Z,37nm,1.9s						
WB2	**Warramunga Arr**	**16.43**	**126**	Pn	**Pn**	**14 19 53.7**	**-1.4**
WB2				IAmb	IAmb	14 20 09.6	
	comp=Z,47nm,1.9s						
WR0	**Warramunga Arr**	**16.59**	**126**	Pn	**Pn**	**14 19 55.7**	**-1.4**
WR0				IAmb	IAmb	14 20 10.2	
	comp=Z,25nm,1.9s						
ASAR	**Alice Springs**	**18.37**	**137**	P	**Pn**	**14 20 20.2**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=316,slow=12,SNR=5.5						
CMAR	**Chiang Mai Arr**	**35.74**	**324**	P	**P**	**14 23 02.2**	**-0.6**
USRK	**Ussuriysk Ar.**	**55.58**	**10**	P	**P**	**14 25 38.2**	**-1.0**
SONM	**Songino Array**	**59.48**	**349**	P	**P**	**14 26 07.4**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=167,slow=8.9,SNR=5.8						
SONM	**Songino Array**	**59.48**	**349**	IAmb	IAmb	14 26 08.4	
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**66.46**	**333**	P	**P**	**14 26 53.6**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=145,slow=7.1,SNR=4.1						
ZALV	**Zalesovo Beam**	**70.99**	**339**	P	**P**	**14 27 21.3**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=135,slow=6.4,SNR=4.2						

*IDC **22** 14:24:59.1±1.5, 10°.63S×120°.05E, h0km, mb3.7/5, mb1 3.8/8, mb1mx3.6/39, mbtmp3.8/8, ML3.7/3, Error ellipse: s-maj=53.8km s-min=22.4km az=49.0*
*NEIC **22** 14:25:03.7±2.4, 10°.81S±0°.08×120°.19E±0°.03, h52km±9km, mb4.2/9, Error ellipse: s-maj=11.9km s-min=4.1km az=173.0*

ISC 22 14:25:02.4±0.7, 10°.77S×120°.07×120°.21E±0°.07, h35km, n25, σ1§99/27, mb3.9/6, Suma region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**2.92**	**43**	Pn	**Pn**	**14 25 45.6**	**-0.7**
BATI	**Baumata**	**3.44**	**81**	Pn	**Pn**	**14 25 56.0**	**+2.4**
	6.4nm,0.3s,baz=322,slow=2.5,SNR=6.9						
BATI				Sn	**Sn**	**14 26 34.9**	**+1.6**
	5.9nm,0.3s,baz=115,slow=23,SNR=6.7						
KAPI	**Kappang**	**5.74**	**355**	Pn	**Pn**	**14 26 26.9**	**+1.7**
	1.2nm,0.3s,baz=357,slow=3.4,SNR=1.6						
KAPI				Sn	**Sn**	**14 27 28.0**	**-1.9**
	baz=97,slow=12,SNR=0.9						
JAGI	**Jajag, Banyuwa**	**6.39**	**290**	Pn	**Pn**	**14 26 34.2**	**0.0**
FITZ	**Fitzroy Crossi**	**8.98**	**145**	Pn	**Pn**	**14 27 12.8**	**+3.1**
	0.6nm,0.3s,baz=342,slow=12,SNR=14						
FITZ				Sn	**Sn**	**14 28 46.6**	**-3.0**
	0.6nm,0.3s,baz=186,slow=19,SNR=3.2						
FITZ	**Fitzroy Crossi**	**8.98**	**145**		**Pn**	**14 27 12.2**	**+2.6**
KNRA	**Kununurra**	**9.65**	**121**	Pn	**Pn**	**14 27 21.1**	**+2.3**
MTN	**Manton Dam**	**10.89**	**102**	Pn	**Pn**	**14 27 36.4**	**+0.6**
WB0	**Warramunga Arr**	**16.34**	**125**	Pn	**P**	**14 28 49.6**	**-2.2**
WB0				IAmb	IAmb	14 29 08.7	
	comp=Z,42nm,2.0s						
WRA	**Warramunga Arr**	**16.38**	**125**	Pn	**P**	**14 28 50.2**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=295,slow=13,SNR=3.6						
WRAB	**Tennant Creek**	**16.39**	**125**	Pn	**Pn**	**14 28 49.5**	**-0.4**
WRAB				IAmb	IAmb	14 28 55.6	
	comp=Z,26nm,1.6s						
WB2	**Warramunga Arr**	**16.39**	**125**	Pn	**P**	**14 28 50.3**	**-2.1**
WB2				IAmb	IAmb	14 29 38.0	
	comp=Z,35nm,1.9s						
WR0	**Warramunga Arr**	**16.55**	**125**	Pn	**P**	**14 28 52.4**	**-1.9**
ASAR	**Alice Springs**	**18.30**	**136**	P	**Pn**	**14 29 17.1**	**+3.5**
	comp=Z,0.2nm,0.3s,baz=312,slow=12,SNR=25						
KSRS	**Korea Array**	**48.52**	**8**	P	**P**	**14 33 42.4**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=188,slow=7.4,SNR=3.0						
CASY	**Casey**	**55.83**	**185**	P	**P**	**14 34 32.7**	**-3.2**
SONM	**Songino Array**	**59.63**	**349**	P	**P**	**14 35 04.2**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=164,slow=8.8,SNR=8.1						
SONM	**Songino Array**	**59.63**	**349**	P	**P**	**14 35 02.6**	**-0.4**
TARG	**Taragay, Kyrgy**	**65.17**	**326**	P	**P**	**14 35 39.2**	**-1.4**
MKAR	**Makanchi Array**	**66.57**	**333**	P	**P**	**14 35 49.7**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=148,slow=6.7,SNR=5.5						
KURBB	**Kurchatov Arra**	**71.08**	**333**	P	**P**	**14 36 18.3**	**+1.4**
	comp=Z,0.2nm,0.4s,baz=138,slow=4.4,SNR=2.7						
KURK	**Kurchatov**	**71.11**	**334**	P	**P**	**14 36 18.3**	**+1.3**
KURK	**Kurchatov**	**71.11**	**334**	IAmb	IAmb	14 38 53.5	
	comp=Z,4.8nm,1.4s						
ZALV	**Zalesovo Beam**	**71.11**	**339**	P	**P**	**14 36 17.7**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=138,slow=3.4,SNR=5.5						
ZALV	**Zalesovo Beam**	**71.11**	**339**	P	**P**	**14 36 17.3**	**+0.2**

*IDC **22** 14:29:29.9±1.0, 10°.39S×120°.53E, h0km, mb4.3/14, mb1 4.3/18, mb1mx4.1/44, mbtmp4.3/18, ML4.1/4, MS3.3/3, Ms1 3.4/3, ms1mx2.9/36, Error ellipse: s-maj=31.2km s-min=19.9km az=52.0*
*DJA **22** 14:29:33.3±0.8, 11°.5S±5°×12°.0E±°, h12km±5km, M4.3/10, mb4.5/7, MLv4.2/10*
*NEIC **22** 14:29:35.2±1.9, 10°.65S±0°.07×120°.26E±0°.07, h45km±8km, mb4.5/24, Error ellipse: s-maj=10.6km s-min=9.6km az=188.0*

ISC 22 14:29:33.4±0.5, 10°.70S±0°.05×120°.40E±0°.06, h31km, n80, σ2§06/80, mb4.5/21, Suma region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**0.50**	**20**	P	**Pb**	**14 29 43.1**	**-0.9**
WSI	**Waingapu**	**1.02**	**354**	P	**Pb**	**14 29 52.4**	**-0.3**
WBSI	**Waikabubak, Su**	**1.45**	**316**	P	**Pn**	**14 29 57.8**	**+0.3**
MMRI	**Maumere**	**2.73**	**42**	P	**Pn**	**14 30 16.0**	**+0.8**
MMRI	**Maumere**	**2.73**	**42**	Pn	**Pn**	**14 30 16.0**	**+0.8**
PLAI	**Plampang**	**3.19**	**305**	P	**Pn**	**14 30 22.5**	**+1.1**
BATI	**Baumata**	**3.24**	**82**	Pn	**Pn**	**14 30 25.9**	**+3.6**
	48nm,0.3s,baz=288,slow=4.6,SNR=49						
BATI				Sn	**Sn**	**14 31 04.4**	**+4.5**
	30nm,0.3s,baz=11,slow=22,SNR=24						
BATI	**Baumata**	**3.24**	**82**	P	**Pn**	**14 30 25.6**	**+3.3**
SOEI	**Soe**	**3.92**	**77**	P	**Pn**	**14 30 35.2**	**+3.6**
SOEI	**Soe**	**3.92**	**77**	Pn	**Pn**	**14 30 35.2**	**+3.6**
KAPI	**Kappang**	**5.68**	**353**	Pn	**Pn**	**14 30 57.2**	**+1.4**
	4.1nm,0.3s,baz=193,slow=3.3,SNR=16						
KAPI				LR	LR	14 33 26.4	
	comp=Z,454nm,18.2s,baz=193,slow=44						
KAPI	**Kappang**	**5.68**	**353**	Pn	**Pn**	**14 30 56.9**	**+1.1**
BNSI	**Bone**	**6.26**	**357**	P	**Pn**	**14 31 03.1**	**-0.6**
	0.2nm34nm,0.7s						
JAGI	**Jajag, Banyuwa**	**6.55**	**289**	Pn	**Pn**	**14 31 05.7**	**-2.0**
SPSI	**Sidrap Palu**	**6.72**	**355**	P	**Pn**	**14 31 11.5**	**+1.5**
	0.1nm20nm,0.6s						
GRJI	**Gresik**	**8.68**	**295**	P	**Pn**	**14 31 37.8**	**+0.8**
	31nm,0.5s						
FITZ	**Fitzroy Crossi**	**8.94**	**146**	Pn	**Pn**	**14 31 42.8**	**+2.3**
	2.4nm,0.3s,baz=337,slow=11,SNR=20						
FITZ				Sn	**Sn**	**14 33 16.3**	**-3.9**
	1.8nm,0.3s,baz=167,slow=21,SNR=2.8						
FITZ	**Fitzroy Crossi**	**8.94**	**146**	Pn	**Pn**	**14 31 42.3**	**+1.8**
KNRA	**Kununurra**	**9.53**	**122**	Pn	**Pn**	**14 31 50.6**	**+2.0**
BKB	**Balikpapan**	**10.00**	**339**	Pn	**Pn**	**14 31 57.3**	**+2.2**
UGM	**Wanagama**	**10.13**	**285**	Pn	**Pn**	**14 31 57.3**	**+0.3**
MTN	**Manton Dam**	**10.72**	**103**	Pn	**Pn**	**14 32 05.4**	**+0.5**
PSA00	**Pilbara Seismi**	**10.83**	**183**	Pn	**Pn**	**14 32 07.1**	**+0.7**
PSA00	**Pilbara Seismi**	**10.83**	**183**	Pn	**Pn**	**14 32 08.6**	**+2.1**
SAUI	**Saumlaki**	**11.09**	**77**	Pn	**Pn**	**14 32 12.9**	**+2.9**
CISI	**Cisompet, Garu**	**12.81**	**283**	Pn	**Pn**	**14 32 32.1**	**-1.5**
GIRL	**Giralia**	**13.27**	**206**	Pn	**Pn**	**14 32 40.0**	**+0.3**
FAKI	**Fak Fak**	**14.06**	**58**	Pn	**Pn**	**14 32 50.0**	**-0.7**
SIJI	**Sorong**	**14.55**	**49**	Pn	**Pn**	**14 32 54.0**	**-3.4**
	1.0nm,0.3s,baz=262,slow=23,SNR=5.2						
SIJI				LR	LR	14 38 38.6	
	comp=Z,76nm,20.0s,baz=349,slow=38						
KSM	**Kuching**	**15.72**	**320**	P	**P**	**14 33 17.7**	**+1.3**
WB0	**Warramunga Arr**	**16.22**	**125**	Pn	**Pn**	**14 33 18.4**	**-0.8**
WRA	**Warramunga Arr**	**16.27**	**126**	Pn	**Pn**	**14 33 19.5**	**-0.4**
	0.4nm,0.3s,baz=294,slow=14,SNR=12						
WRA				Sn	**Sn**	**14 36 10.1**	**-9.5**
	0.4nm,0.3s,baz=294,slow=22,SNR=3.2						
WRA	**Warramunga Arr**	**16.27**	**126**	Pn	**Pn**	**14 33 19.2**	**-0.7**
WB2	**Warramunga Arr**	**16.28**	**126**	Pn	**Pn**	**14 33 19.6**	**-0.4**
WR0	**Warramunga Arr**	**16.44**	**126**	Pn	**Pn**	**14 33 22.6**	**+0.6**
WR0				IAmb	IAmb	14 33 57.5	
	comp=Z,53nm,2.0s						
AS31	**Alice Springs**	**18.22**	**137**	P	**Pn**	**14 33 45.9**	**+1.7**
ASAR	**Alice Springs**	**18.22**	**137**	P	**Pn**	**14 33 46.6**	**+2.4**
	comp=Z,0.8nm,0.3s,baz=315,slow=12,SNR=29						
ASAR				S	**Sn**	**14 37 01.9**	**-4.9**
	comp=Z,0.4nm,0.3s,baz=310,slow=23,SNR=8.5						
ASAR	**Alice Springs**	**18.22**	**137**		**Pn**	**14 33 46.8**	**+2.6**
MORW	**Morawa**	**18.73**	**192**		**Pn**	**14 33 51.3**	**+1.0**
COEN	**Coen**	**22.48**	**101**	P	**P**	**14 34 33.0**	**+2.5**
COEN				IAmb	IAmb	14 35 17.5	
	comp=Z,23nm,1.4s						
SSLB	**Suanglung**	**34.27**	**1**	P	**P**	**14 36 17.0**	**0.0**
CMAR	**Chiang Mai Arr**	**35.88**	**324**	P	**P**	**14 36 30.6**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=152,slow=6.0,SNR=5.5						
CMAR				LR	LR	14 53 34.5	
	comp=Z,51nm,19.5s,baz=202,slow=40						
CMAR	**Chiang Mai Arr**	**35.88**	**324**	P	**P**	**14 36 29.9**	**-1.0**
ENH	**Enshi**	**42.06**	**346**	P	**P**	**14 37 21.6**	**-0.9**
ENH				IAmb	IAmb	14 37 22.7	
	comp=Z,7.1nm,0.7s						
XAN	**Xi'an**	**45.81**	**347**	P	**P**	**14 37 51.8**	**-0.8**
XAN				pmax	pmax		
	comp=Z,8.0nm,0.7s						
XAN	**Xi'an**	**45.81**	**347**	P	**P**	**14 37 51.2**	**-1.3**
XAN				IAmb	IAmb	14 37 52.2	
	comp=Z,5.3nm,0.6s						
H08S2	**Diego Garcia H**	**47.36**	**269**	T	T	15 28 37.9	
	baz=96,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**47.37**	**269**	T	T	15 28 44.1	
	baz=96,slow=75,SNR=12						
H08S1	**Diego Carcia H**	**47.38**	**269**	T	T	15 28 37.4	
	baz=96,slow=75,SNR=10						
KSRS	**Korea Array**	**48.41**	**8**	P	**P**	**14 38 11.3**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=188,slow=8.1,SNR=4.8						
MJAR	**Matsushiro Arr**	**49.89**	**19**	P	**P**	**14 38 21.6**	**-2.5**
	comp=Z,1.3nm,0.7s,baz=196,slow=9.2,SNR=4.7						
USA0B	**Ussuriysk Arra**	**55.64**	**10**	P	**P**	**14 39 06.0**	**-0.4**
USRK	**Ussuriysk Ar.**	**55.64**	**10**	P	**P**	**14 39 04.8**	**-1.7**
	comp=Z,1.5nm,0.5s,baz=202,slow=6.4,SNR=7.6						
USRK	**Ussuriysk Ar.**	**55.64**	**10**	P	**P**	**14 39 05.0**	**-1.4**
ASAJ	**Asahikawa**	**58.16**	**19**	P	**P**	**14 39 23.4**	**-0.9**
	comp=Z,4.1nm,0.6s,baz=236,slow=8.3,SNR=10						
JKA	**Kamikawa-asahi**	**58.16**	**19**	P	**P**	**14 39 23.4**	**-0.9**
ULN	**Ulaanbaatar**	**59.49**	**350**	P	**P**	**14 39 34.0**	**+0.2**
ULN				IAmb	IAmb	14 39 34.4	
	comp=Z,3.4nm,0.5s						
SONM	**Songino Array**	**59.59**	**349**	P	**P**	**14 39 34.5**	**+0.1**
	comp=Z,5.9nm,0.5s,baz=167,slow=8.6,SNR=40						
SONM	**Songino Array**	**59.59**	**349**		**P**	**14 39 34.2**	**-0.1**
WMQ	**Urumqi**	**61.88**	**334**	*e*P	**P**	**14 39 51.3**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,23nm,4.7s						
WMQ				LR	LR		
	comp=N,300nm,28.9s						
WMQ				LR	LR		
	comp=E,1μm,29.2s						
WMQ				LR	LR		
	comp=Z,170nm,29.1s						
TLY	**Talaya**	**63.79**	**348**	P	**P**	**14 40 02.2**	**-0.3**
	comp=Z,3.3nm,0.7s,baz=

IDC 22 14:53:30.6±2.9, 10°08'S×120°99'E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.4/34, mbtmp3.4/4, ML3.2/2, Error ellipse: s-maj=188.1km s-min=29.8km az=54.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.19**	**129**	Pn	Pn	14 57 19.0	-0.6
	0.1nm,0.3s,baz=307,slow=14,SNR=3.0						
ASAR	**Alice Springs**	**18.29**	**139**	P	P	14 57 46.3	+0.1
	0.1nm,0.3s,baz=315,slow=13,SNR=7.9						
SONM	**Songino Array**	**59.10**	**349**	P	P	15 03 33.1	+0.3
	0.3nm,0.4s,baz=168,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**66.31**	**332**	P	P	15 04 20.5	-0.4
	0.1nm,0.5s,baz=148,slow=6.3,SNR=1.7						

*TAP **22** 14:55:42.2, 24°.84N×122°.25E, h7km, ML2.9, C*
*JMA **22** 14:55:43.1, 24°.76N×122°.29E, h18km±3km, M1.9*
ISC 22 14:55:42.4±1.0, 24°80N±0°02×122°29E±0°02, h12km±8km, n69, σ0°49/127, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.34**	**307**	*i* P	**Pg**	**14 55 49.0**	**-0.3**
	baz=305						
TWB1				S	**Sg**	**14 55 53.3**	**-0.6**
	baz=305						
NTC	**Toucheng**	**0.42**	**277**	P	**Pg**	**14 55 50.8**	**0.0**
	baz=272						
NTC				S	**Sb**	**14 55 57.4**	**-0.8**
	baz=272						
TWC	**Suao**	**0.44**	**244**	P	**Pg**	**14 55 51.0**	**-0.2**
	baz=247						
TWC				*e*S	**Sg**	**14 55 57.3**	**+0.2**
	baz=247						
TIPB	**Shuangxi**	**0.45**	**292**	*e*P	**Pg**	**14 55 51.3**	**0.0**
	baz=288						
TIPB				S	**Sg**	**14 55 56.8**	**-0.7**
	baz=288						
ILA	**Ilan**	**0.49**	**266**	*e*P	**Pg**	**14 55 52.3**	**+0.2**
	baz=249						
ILA				*e*S	**Sb**	**14 55 59.9**	**-0.4**
	baz=249						
TWE	**Neicheng**	**0.57**	**262**	P	**Pg**	**14 55 53.2**	**-0.4**
	baz=249						
TWE				*e*S	**Sg**	**14 56 01.3**	**+0.2**
	baz=249						
ENA	**Nanau**	**0.62**	**233**	P	**Pg**	**14 55 54.8**	**+0.2**
	baz=228						
ENA				S	**Sb**	**14 56 03.5**	**-0.5**
	baz=228						
TWA	**Mucha**	**0.67**	**286**	*e*P	**Pg**	**14 55 55.6**	**+0.3**
	baz=282						
TWA				S	**Sb**	**14 56 04.7**	**-0.6**
	baz=282						
ENTT	**Nioudou**	**0.68**	**256**	P	**Pg**	**14 55 55.5**	**-0.1**
	baz=252						
ENTT				S	**Sb**	**14 56 05.3**	**-0.3**
	baz=252						
JYNG	**Yonagunijimaku**	**0.69**	**120**	P	**Pg**	**14 55 56.0**	**+0.2**
JYNG				S	**Sg**	**14 56 05.3**	**+0.4**
NHDH	**Xindian Distri**	**0.71**	**283**	P	**Pb**	**14 55 57.2**	**+0.4**
	baz=280						
NHDH				S	**Sb**	**14 56 06.6**	**0.0**
	baz=280						
NWLT	**Wulai**	**0.71**	**268**	*i* P	**Pg**	**14 55 56.5**	**+0.2**
	baz=256						
NWLT				S	**Sb**	**14 56 06.5**	**-0.2**
	baz=256						
NDT	**Datong Townshi**	**0.73**	**254**	*e*P	**Pg**	**14 55 56.3**	**-0.3**
	baz=251						
NDT				*e*S	**Sb**	**14 56 07.0**	**-0.2**
	baz=251						
TAP1	**Taipei**	**0.73**	**289**	*e*P	**Pg**	**14 55 56.8**	**+0.1**
	baz=285						
YOJ	**Yonaguni jima**	**0.74**	**117**	*e*S	**Sn**	**14 56 09.7**	**-0.2**
	baz=119						
YOJ	**Yonaguni jima**	**0.74**	**117**	P	**Pg**	**14 55 56.7**	**0.0**
YOJ				S	**Sg**	**14 56 07.0**	**+0.6**
YM08	**YM08**	**0.74**	**301**	*e*P	**Pb**	**14 55 57.4**	**0.0**
	baz=299						
YM08				*e*S	**Sb**	**14 56 07.4**	**0.0**
	baz=299						
YM11	**YM11**	**0.74**	**299**	*e*P	**Pb**	**14 55 57.6**	**+0.2**
	baz=297						
YM11				*e*S	**Sb**	**14 56 08.4**	**+0.8**
	baz=297						
YM05	**YM05**	**0.75**	**299**	P	**Pg**	**14 55 57.1**	**+0.2**
	baz=296						
YM10	**YM10**	**0.75**	**298**	P	**Pb**	**14 55 57.4**	**-0.1**
	baz=296						
YM10				*e*S	**Sb**	**14 56 07.4**	**-0.3**
	baz=296						
YM04	**YM04**	**0.77**	**297**	P	**Pg**	**14 55 57.4**	**+0.1**
	baz=295						
YM04				S	**Sb**	**14 56 08.2**	**-0.1**
	baz=295						
YM03	**YM03**	**0.78**	**299**	*e*P	**Pb**	**14 55 58.0**	**0.0**
	baz=297						
YM03				*e*S	**Sb**	**14 56 08.2**	**-0.4**
	baz=297						
TWY	**Chenhua**	**0.78**	**307**	P	**Pb**	**14 55 58.0**	**0.0**
	baz=305						
TWY				S	**Sb**	**14 56 09.1**	**+0.5**
	baz=305						
ANP	**Anpu**	**0.80**	**299**	*e*P	**Pb**	**14 55 58.3**	**0.0**
	baz=296						
ANP				S	**Sg**	**14 56 08.5**	**+0.2**
	baz=296						
YHNB	**Yeheng**	**0.84**	**261**	P	**Pg**	**14 55 58.5**	**-0.1**
	baz=251						
YHNB				S	**Sg**	**14 56 09.2**	**-0.5**
	baz=251						
NTST	**Danshui**	**0.84**	**296**	*e*P	**Pb**	**14 55 59.5**	**+0.5**
	baz=306						
NTST				*e*S	**Sb**	**14 56 11.0**	**+0.6**
	baz=306						
TWS1	**Kuangyinshan**	**0.84**	**291**	*e*P	**Pb**	**14 55 59.3**	**+0.2**
	baz=301						
TWS1				*e*S	**Sn**	**14 56 11.6**	**-1.0**
	baz=301						
PCYT	**Pengchaiyu**	**0.85**	**347**	P	**Pg**	**14 55 58.9**	**+0.1**
	baz=337						
PCYT				*e*S	**Sn**	**14 56 11.8**	**-0.8**
	baz=337						
NSK	**Sanguang**	**0.86**	**262**	P	**Pg**	**14 55 58.5**	**-0.4**
	baz=251						
NSK				S	**Sg**	**14 56 10.2**	**0.0**
	baz=251						
NACB	**Ninganchiao**	**0.89**	**225**	*e*P	**Pg**	**14 55 59.4**	**-0.2**
	baz=223						
NACB				*e*S	**Sb**	**14 56 11.6**	**-0.1**
	baz=223						
NNSB	**Datong**	**0.91**	**246**	P	**Pg**	**14 55 59.7**	**-0.2**
	baz=232						
NNSB				*e*S	**Sb**	**14 56 12.2**	**-0.1**
	baz=232						
NNSH	**Datong**	**0.91**	**246**	P	**Pg**	**14 55 59.6**	**-0.3**
	baz=234						
NNSH				S	**Sb**	**14 56 12.5**	**+0.3**
	baz=234						
NNS	**Nan Shan**	**0.91**	**247**	P	**Pg**	**14 55 59.6**	**-0.3**
	baz=233						
NNS				S	**Sb**	**14 56 12.6**	**+0.3**
	baz=233						
WLTB	**Daxi**	**0.94**	**273**	*e*S	**Sb**	**14 56 13.2**	**0.0**
	baz=262						
ETLH	**Xiulin Townshi**	**0.94**	**231**	P	**Pb**	**14 56 00.8**	**0.0**
	baz=229						
ETLH				S	**Sb**	**14 56 13.9**	**+0.6**
	baz=229						
TWD	**Chiawan**	**0.96**	**221**	*e*P	**Pg**	**14 56 00.8**	**0.0**
	baz=229						
TWD				S	**Sn**	**14 56 14.8**	**-0.5**
	baz=229						
HWA	**Hwalien**	**1.03**	**217**	*e*S	**Sn**	**14 56 18.0**	**+0.8**
	baz=226						
WHF	**Hehuan Shan**	**1.14**	**235**	P	**Pb**	**14 56 04.2**	**-0.1**
	baz=233						
WHF				S	**Sn**	**14 56 19.9**	**-0.6**
	baz=233						
TDCB	**Techi**	**1.17**	**242**	*e*P	**Pg**	**14 56 05.0**	**+0.1**
	baz=233						
TDCB				S	**Sn**	**14 56 20.6**	**-0.1**
	baz=233						
LIOB	**Emei**	**1.17**	**263**	*e*P	**Pg**	**14 56 05.8**	**+0.9**
	baz=261						
LIOB				*e*S	**Sn**	**14 56 21.4**	**+0.8**
	baz=261						
NSTT	**Nanjuang**	**1.18**	**262**	P	**Pg**	**14 56 06.1**	**+0.9**
	baz=260						
NSTT				*i* S	**Sn**	**14 56 22.1**	**+1.2**
	baz=260						
SBCB	**Hsinchu**	**1.19**	**270**	*e*S	**Sn**	**14 56 21.0**	**+0.1**
	baz=287						
CHGB	**Renai**	**1.26**	**234**	*e*P	**Pg**	**14 56 06.8**	**+0.2**
	baz=234						
CHGB				S	**Sg**	**14 56 23.4**	**+0.4**
	baz=234						
ESL	**Shilin**	**1.26**	**219**	P	**Pg**	**14 56 07.0**	**+0.4**
	baz=226						
ESL				S	**Sg**	**14 56 23.6**	**+0.7**
	baz=226						
WHP	**Taichung City**	**1.33**	**247**	P	**Pg**	**14 56 08.5**	**+0.5**
	baz=246						
WHP				S	**Sg**	**14 56 25.3**	**0.0**
	baz=246						
EGFH	**Guangfu**	**1.38**	**215**	*e*P	**Pb**	**14 56 08.4**	**+0.3**
	baz=236						
EGFH				*e*S	**Sg**	**14 56 27.9**	**+1.2**
	baz=236						
NMLH	**Miaoli**	**1.39**	**259**	*e*P	**Pg**	**14 56 09.2**	**+0.1**
	baz=258						
NMLH				S	**Sg**	**14 56 28.5**	**+1.3**
	baz=258						
IRIF	**Iriomote-Funau**	**1.39**	**109**	P	**Pn**	**14 56 08.1**	**+0.4**
IRIF				*e*S	**Sn**	**14 56 26.3**	**+0.3**
TWQ1	**Liyutan**	**1.45**	**252**	P	**Pg**	**14 56 10.2**	**-0.2**
	baz=251						
TWQ1				S	**Sg**	**14 56 29.8**	**+0.6**
	baz=251						
DPDB	**Guoxing**	**1.46**	**239**	P	**Pg**	**14 56 10.4**	**-0.1**
	baz=238						
DPDB				S	**Sg**	**14 56 29.2**	**-0.2**
	baz=238						
VWDT	**VWDT**	**1.48**	**225**	P	**Pg**	**14 56 10.5**	**-0.3**
	baz=225						
VWDT				S	**Sg**	**14 56 29.9**	**-0.1**
	baz=225						
PTSB	**Yuanli**	**1.48**	**257**	*e*P	**Pb**	**14 56 10.4**	**+0.4**
	baz=273						
PTSB				*e*S	**Sg**	**14 56 30.0**	**-0.2**
	baz=273						
SMLT	**Sun Moon Lake**	**1.56**	**234**	*e*P	**Pg**	**14 56 12.4**	**0.0**
	baz=226						
SMLT				S	**Sg**	**14 56 32.8**	**0.0**
	baz=226						
EHY	**Hungye**	**1.56**	**215**	P	**Pn**	**14 56 10.6**	**+0.5**
	baz=220						
EHY				S	**Sg**	**14 56 32.6**	**-0.1**
	baz=220						
HATJ	**Hateruma jima**	**1.57**	**118**	*e*S	**Sn**	**14 56 29.7**	**-0.7**
SSLB	**Suanglung**	**1.58**	**231**	P	**Pb**	**14 56 12.1**	**+0.4**
	baz=231						
SSLB				S	**Sg**	**14 56 32.9**	**-0.5**
	baz=231						
TYC	**Yuchr**	**1.58**	**236**	P	**Pg**	**14 56 13.0**	**+0.2**
	baz=228						
TYC				S	**Sg**	**14 56 32.6**	**-0.7**
	baz=228						
JKRS	**Kuro-shima**	**1.66**	**109**	P	**Pn**	**14 56 11.0**	**-0.5**
JKRS				S	**Sn**	**14 56 31.8**	**-1.0**
YULB	**Yu-li**	**1.67**	**213**	*e*P	**Pn**	**14 56 11.0**	**-0.6**
	baz=219						
TWF1	**Yuli**	**1.70**	**212**	*e*P	**Pb**	**14 56 13.3**	**-0.4**
	baz=219						
WHYT	**Xinyi Township**	**1.71**	**230**	*e*P	**Pg**	**14 56 14.7**	**-0.6**
	baz=232						
WNT	**Mingjian**	**1.73**	**238**	P	**Pg**	**14 56 15.2**	**-0.4**
	baz=241						
WNT				*e*S	**Sg**	**14 56 39.0**	**+1.0**
	baz=241						
JIJ	**Ishigaki jima**	**1.74**	**104**	P	**Pn**	**14 56 12.8**	**+0.3**
JIJ				*e*S	**Sn**	**14 56 34.9**	**+0.2**
ALS	**Alishan**	**1.87**	**227**	P	**Pb**	**14 56 16.9**	**+0.2**
	baz=231						
ALS				S	**Sg**	**14 56 43.0**	**+0.5**
	baz=231						
CHN5	**Tsauling**	**1.90**	**231**	P	**Pb**	**14 56 17.5**	**+0.4**
	baz=235						
CHN5				S	**Sg**	**14 56 43.8**	**+0.3**
	baz=235						
WDLH	**Douliu**	**1.94**	**236**	*e*S	**Sg**	**14 56 45.3**	**+0.3**
	baz=238						
CHN4	**Tsaushan**	**2.12**	**227**	*e*P	**Pb**	**14 56 21.3**	**+0.5**
	baz=232						
CHN4				*e*S	**Sg**	**14 56 50.5**	**-0.1**
	baz=232						
TPUB	**Ta-pu**	**2.13**	**226**	*e*P	**Pb**	**14 56 20.9**	**-0.1**
	baz=231						
TPUB				*e*S	**Sg**	**14 56 49.2**	**-1.7**
	baz=231						
STYT	**Tauyuan**	**2.15**	**221**	P	**Pb**	**14 56 20.7**	**-0.7**
	baz=227						
STYT				*e*S	**Sg**	**14 56 50.2**	**-1.3**
	baz=227						

*IDC **22** 15:02:37.4±2.9, 10°.50S×120°.35E, h0km, mb3.7/3, mb1 3.8/5, mb1mx3.5/29, mbtmp3.6/5, ML3.4/2, Error ellipse: s-maj=178.8km s-min=28.0km az=53.0*
*NEIC **22** 15:02:43.6±1.4, 10°.64S±0°.05×120°.5E±0°.1, h54km±11km, mb4.0/5, Error ellipse: s-maj=16.8km s-min=6.4km az=103.0*
ISC 22 15:02:42.5±0.9, 10°6S±0°.1×120°4E±0°.1, h31km, n14, σ1s24/13, mb3.9/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**2.63**	**43**	Pn	**Pn**	**15 03 24.3**	**+1.4**
FITZ	**Fitzroy Crossi**	**9.03**	**147**	Pn	**Pn**	**15 04 50.4**	**-0.4**
KNRA	**Kununurra**	**9.58**	**123**	Pn	**Pn**	**15 04 58.5**	**+0.2**
MTN	**Manton Dam**	**10.73**	**103**	Pn	**Pn**	**15 05 13.3**	**-0.9**
CISI	**Cisompet, Garu**	**12.80**	**283**	Pn	**Pn**	**15 05 43.4**	**+0.9**
WRA	**Warramunga Arr**	**16.33**	**126**	Pn	**Pn**	**15 06 27.9**	**-1.8**
	0.2nm,0.3s,baz=298,slow=13,SNR=5.8						
WB2	**Warramunga Arr**	**16.34**	**126**	Pn	**Pn**	**15 06 28.2**	**-1.6**
WB2				IAmb	IAmb	15 06 35.9	
	comp=Z,24nm,1.5s						
WR0	**Warramunga Arr**	**16.50**	**126**	Pn	**Pn**	**15 06 30.2**	**-1.6**
WR0				IAmb	IAmb	15 06 56.8	
	comp=Z,36nm,1.9s						
AS31	**Alice Springs**	**18.30**	**137**		**P**	**15 06 53.4**	**-0.6**
AS31				IAmb	IAmb	15 07 24.5	
	comp=Z,6.1nm,1.9s						
ASAR	**Alice Springs**	**18.30**	**137**	P	**Pn**	**15 06 55.0**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=317,slow=12,SNR=10						
SONM	**Songino Array**	**59.47**	**349**	P	**P**	**15 12 41.8**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=172,slow=10.0,SNR=5.2						
SONM	**Songino Array**	**59.47**	**349**	IAmb	IAmb	15 12 42.2	
	comp=Z,2.1nm,1.5s						
MKAR	**Makanchi Array**	**66.49**	**332**	P	**P**	**15 13 28.4**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=149,slow=6.7,SNR=2.5						
ZALV	**Zalesovo Beam**	**71.00**	**339**	P	**P**	**15 13 55.9**	**-1.2**
	comp=Z,0.6nm,0.6s,baz=139,slow=4.8,SNR=3.5						

*IDC **22** 15:03:41.5±2.6, 10°.02S×120°.97E, h0km, mb3.8/3, mb1 3.8/5, mb1mx3.5/30, mbtmp3.7/5, ML3.4/2, Error ellipse: s-maj=175.9km s-min=28.2km az=54.0*
*NEIC **22** 15:03:45.5±2.0, 10°.2S±0°.2×120°.9E±0°.3, h37km±7km, mb4.0/8, Error ellipse: s-maj=52.0km s-min=11.8km az=61.0*
ISC 22 15:03:45.6±1.5, 10°1S±0°.3×121°0E±0°.4, h35km, n16, σ1s23/15, mb4.0/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.16**	**346**	Pn	**Pn**	**15 04 59.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**9.18**	**151**	Pn	**Pn**	**15 05 52.8**	**-2.8**
WB0	**Warramunga Arr**	**16.15**	**128**	Pn	**Pn**	**15 07 29.5**	**-0.5**
WB0				IAmb	IAmb	15 07 40.3	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**16.21**	**129**	Pn	**Pn**	**15 07 30.1**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=311,slow=15,SNR=5.0						
WRAB	**Tennant Creek**	**16.21**	**129**	Pn	**Pn**	**15 07 31.1**	**+0.2**
WB2	**Warramunga Arr**	**16.22**	**129**	Pn	**Pn**	**15 07 30.5**	**-0.4**
WB2				IAmb	IAmb	15 07 44.3	
	comp=Z,22nm,1.6s						
WR0	**Warramunga Arr**	**16.38**	**128**	Pn	**Pn**	**15 07 32.8**	**0.0**
WR0				IAmb	IAmb	15 08 24.8	
	comp=Z,18nm,1.5s						
AS31	**Alice Springs**	**18.31**	**139**	P	**Pn**	**15 07 57.7**	**+0.7**
ASAR	**Alice Springs**	**18.31**	**139**	P	**Pn**	**15 07 58.2**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=315,slow=13,SNR=7.1						
CMAR	**Chiang Mai Arr**	**35.72**	**322**	P	**P**	**15 10 39.9**	**-1.2**
SONM	**Songino Array**	**59.08**	**349**	P	**P**	**15 13 44.4**	**+2.0**
	comp=Z,0.7nm,0.6s,baz=178,slow=5.5,SNR=4.2						
SONM	**Songino Array**	**59.08**	**349**	IAmb	IAmb	15 13 45.6	
	comp=Z,0.6nm,0.6s						
MKAR	**Makanchi Array**	**66.29**	**332**	P	**P**	**15 14 31.1**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=128,slow=8.0,SNR=3.7						
MKAR	**Makanchi Array**	**66.29**	**332**	P	**P**	**15 14 30.8**	**+0.4**
ZAA0	**Zalesovo Array**	**70.73**	**338**	P	**P**	**15 14 58.2**	**+0.3**
ZAA0				IAmb	IAmb	15 16 25.9	
	comp=Z,2.1nm,1.0s						
ZALV	**Zalesovo Beam**	**70.73**	**338**	P	**P**	**15 14 58.4**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=140,slow=6.8,SNR=4.2						

*ISK **22** 15:20:02.2, 37°.36N×42°.63E, h11km, ML2.5/7*
*DDA **22** 15:20:02.8, 37°.37N×42°.63E, h8km±3km, ML2.5*
ISC 22 15:20:02.8±1.1, 37°37N±0°06×42°64E±0°03, h11km±8km, n15, σ0°42/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.21**	**310**	PG	**Pg**	**15 20 06.7**	**-0.5**
SIRT				SG	**Sg**	**15 20 10.6**	**+0.4**
SIRN	**Sırnak**	**0.22**	**306**	*i* P	**Pg**	**15 20 07.0**	**-0.4**
SIRN				*i* S	**Sg**	**15 20 11.5**	**+0.9**
SIRN				IAML		15 20 19.0	
	comp=E,818nm,0.8s						
CUKT	**Cukurca**	**0.78**	**99**	PG	**Pg**	**15 20 18.1**	**+0.2**
CUKT	**Cukurca**	**0.78**	**99**	*i* P	**Pb**	**15 20 18.7**	**+0.2**
CUKT				*i* S	**Sb**	**15 20 29.4**	**+0.2**
SRTM	**Siirt_Merkez**	**0.84**	**318**	*i* P	**Pb**	**15 20 19.1**	**-0.5**
SRTM				*i* S	**Sb**	**15 20 31.2**	**+0.3**
HAKT	**HAKKARI**	**0.87**	**77**	*i* P	**Pg**	**15 20 19.0**	**-0.6**
HAKT				*i* S	**Sg**	**15 20 30.7**	**-0.3**
AKDM	**Akdamar-Van**	**1.00**	**16**	PG	**Pg**	**15 20 21.9**	**-0.1**
BLIS	**Bitlis-Merkez**	**1.12**	**339**	*i* P	**Pn**	**15 20 25.3**	**+0.6**
BTMN	**Batman**	**1.20**	**296**	*i* P	**Pg**	**15 20 26.2**	**+0.3**
BTMN				*i* S	**Sn**	**15 20 41.9**	**-0.2**
BTMN				IAML		15 20 46.0	
	comp=E,92nm,0.6s						
BTMN				IAML		15 20 46.0	
	comp=N,56nm,0.7s						
GURO	**Guroymak-BITLI**	**1.27**	**338**	PN	**Pn**	**15 20 26.5**	**-0.2**
SVAN	**Silvan-Diyarba**	**1.38**	**305**	PN	**Pn**	**15 20 28.0**	**-0.1**
MARD	**Mardin**	**1.48**	**268**	*i* P	**Pb**	**15 20 30.0**	**-0.4**
MARD				*i* S	**Sb**	**15 20 49.1**	**-0.2**
MARD				IAML		15 20 53.0	
	comp=E,101nm,0.6s						
MARD				IAML		15 20 56.0	
	comp=N,150nm,0.6s						
MUSM	**Mu-Merkez**	**1.62**	**327**	*i* P	**Pb**	**15 20 32.6**	**-0.1**
MUSM				*i* S	**Sb**	**15 20 53.4**	**+0.1**
MAZI	**Mazidag**	**1.75**	**274**	PN	**Pn**	**15 20 33.2**	**0.0**
SVRC	**Sivrice-ELAZID**	**2.82**	**292**	PN	**Pn**	**15 20 48.4**	**+0.4**

*IDC **22** 15:22:01.0±1.6, 10°.71S×120°.00E, h0km, mb3.8/3, mb1 3.8/7, mb1mx3.6/30, mbtmp3.7/7, ML3.3/4, Error ellipse: s-maj=60.2km s-min=21.4km az=48.0*
*DJA **22** 15:22:05.4±0.4, 11°.5S±3°×12°.0E±°, h10km, M3.6/5, mb3.9/2, MLv3.5/5*
*NEIC **22** 15:22:06.8±1.1, 10°.79S±0°.08×120°.23E±0°.03, h48km±11km, mb4.1/8, Error ellipse: s-maj=12.4km s-min=4.5km az=177.0*
ISC 22 15:22:04.9±0.7, 10°78S±0°06×120°29E±0°06, h30km, n25, σ2s01/28, mb4.1/4, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.62**	**27**	P	**Pn**	**15 22 15.6**	**-2.1**
BASI				S	**Sb**	**15 22 22.8**	**-3.1**
WBSI	**Waikabubak, Su**	**1.43**	**322**	P	**Pb**	**15 22 29.5**	**-1.5**
WBSI				S	**Sb**	**15 22 49.4**	**+0.5**
MMRI	**Maumere**	**2.87**	**42**	Pn	**Pn**	**15 22 48.8**	**+0.1**
PLAI	**Plampang**	**3.14**	**308**	P	Pb	15 22 54.4	-5.7
BATI	**Baumata**	**3.37**	**81**	Pn	**Pn**	**15 22 58.6**	**+3.1**
	4.0nm,0.3s,baz=288,slow=6.5,SNR=6.3						
BATI				Sn	**Sn**	**15 23 37.1**	**+2.5**
	2.9nm,0.3s,baz=341,slow=19,SNR=6.5						
BATI	**Baumata**	**3.37**	**81**	P	**Pn**	**15 22 58.3**	**+2.7**
KAPI	**Kappang**	**5.75**	**355**	Pn	**Pn**	**15 23 30.3**	**+2.0**
	0.8nm,0.3s,baz=267,slow=23,SNR=1.9						
KAPI	**Kappang**	**5.75**	**355**		**Pn**	**15 23 29.8**	**+1.6**
JAGI	**Jajag, Banyuwa**	**6.47**	**290**	Pn	**Pn**	**15 23 38.5**	**+0.3**
FITZ	**Fitzroy Crossi**	**8.94**	**145**	Pn	**Pn**	**15 24 14.0**	**+2.0**
	0.3nm,0.3s,baz=339,slow=11,SNR=15						
FITZ				Sn	**Sn**	**15 25 49.6**	**-2.1**
	0.2nm,0.3s,baz=90,slow=21,SNR=2.0						
KNRA	**Kununurra**	**9.58**	**121**	Pn	**Pn**	**15 24 23.3**	**+2.5**
MTN	**Manton Dam**	**10.82**	**102**	Pn	**Pn**	**15 24 40.5**	**+2.7**
WRA	**Warramunga Arr**	**16.32**	**126**	Pn	**P**	**15 25 54.4**	**-0.3**
	0.1nm,0.3s,baz=296,slow=13,SNR=5.4						
WRA				Sn	**Sn**	**15 28 48.4**	**-3.9**
	0.1nm,0.3s,baz=92,slow=25,SNR=1.6						
WRAB	**Tennant Creek**	**16.32**	**126**	P	**P**	**15 25 54.6**	**-0.2**
WRAB				IAmb	IAmb	15 26 04.8	
	comp=Z,23nm,1.8s						
WB2	**Warramunga Arr**	**16.33**	**126**	P	**P**	**15 25 54.5**	**-0.4**
WB2				IAmb	IAmb	15 26 43.1	
	comp=Z,26nm,1.6s						
WR0	**Warramunga Arr**	**16.49**	**125**	Pn	**P**	**15 25 55.1**	**-1.5**
AS31	**Alice Springs**	**18.24**	**136**	P	**Pn**	**15 26 16.0**	**+0.1**
ASAR	**Alice Springs**	**18.24**	**136**	P	**Pn**	**15 26 19.7**	**+3.7**
	comp=Z,0.2nm,0.3s,baz=312,slow=12,SNR=20						
ASAR	**Alice Springs**	**18.24**	**136**	P	**Pn**	**15 26 16.3**	**+0.3**
NWAO	**Narrogin (SRO)**	**22.22**	**187**	P	**P**	**15 26 58.2**	**-0.9**
SONM	**Songino Array**	**59.64**	**349**	P	**P**	**15 32 06.1**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=170,slow=8.6,SNR=6.2						
SONM	**Songino Array**	**59.64**	**349**	IAmb	IAmb	15 32 07.3	
	comp=Z,1.1nm,0.8s						
MKAR	**Makanchi Array**	**66.61**	**333**	P	**P**	**15 32 52.3**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=133,slow=6.5,SNR=3.9						
ZAA0	**Zalesovo Array**	**71.14**	**339**	P	**P**	**15 33 20.4**	**0.0**
ZAA0				IAmb	IAmb	15 35 00.7	
	comp=Z,4.1nm,1.4s						
ZALV	**Zalesovo Beam**	**71.14**	**339**	P	**P**	**15 33 20.2**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=127,slow=2.8,SNR=5.4						

*IDC **22** 15:39:09.9±1.0, 3°.85S×135°.30E, h0km, mb4.1/4, mb1 4.3/8, mb1mx3.9/37, mbtmp4.2/8, ML4.2/4, MS3.3/3, Ms1 3.2/3, ms1mx2.6/36, Error ellipse: s-maj=28.0km s-min=25.6km az=66.0*
*NEIC **22** 15:39:14.5±0.8, 3°.98S±0°.10×135°.32E±0°.08, h33km±6km, mb4.3/14, Error ellipse: s-maj=13.8km s-min=11.5km az=191.0*
*DJA **22** 15:39:14.7±0.3, 4°.5S±4°×13°5E±°, h98km±11km, M4.1/7, mb4.1/5, mB5.3/1, mb4.5/2, MLv3.9/7, Mw(mB)4.7/1*
**ISC 22 15:39:11.0±0.5, 4°07S±0°05×135°29E±0°04, h20km, n43, σ

1.6nm,0.3s,baz=131,slow=20,SNR=1.2
KNRA Kununurra 13.20 209 Pn **Pn** **15 42 18.4 +1.1**
WB0 Warramunga Arr 15.62 183 Pn **Pn** **15 42 48.9 -1.3**
WB0 IAmb IAmb 15 43 14.5
comp=Z,56nm,1.9s
WRAB Tennant Creek 15.79 183 Pn **Pn** **15 42 49.7 -2.7**
WB2 Warramunga Arr 15.80 183 Pn **Pn** **15 42 50.1 -2.4**
WB2 IAmb IAmb 15 43 11.9
comp=Z,22nm,1.4s
WRA Warramunga Arr 15.80 183 Pn **Pn** **15 42 51.4 -1.1**
comp=Z,0.2nm,0.3s,baz=2.5,slow=13,SNR=8.9
WRA Sn **Sn** **15 45 39.9 -7.3**
comp=Z,0.5nm,0.3s,baz=4.4,slow=23,SNR=5.1
WRA Warramunga Arr 15.80 183 Pn **Pn** **15 42 50.4 -2.1**
WR0 Warramunga Arr 15.81 183 Pn **Pn** **15 42 51.8 -0.7**
FITZ Fitzroy Crossi 16.84 213 P **P** **15 43 06.0 -1.7**
comp=Z,0.5nm,0.3s,baz=28,slow=9.8,SNR=18
FITZ LR LR 15 50 18.9
comp=Z,82nm,21.8s,baz=294,slow=39
FITZ Fitzroy Crossi 16.84 213 Pn **Pn** **15 43 05.3 -0.3**
FITZ IAmb IAmb 15 43 33.7
comp=Z,33nm,1.9s
CTAO Charters Tower 19.17 147 P **Pn** **15 43 37.0 +2.5**
CTAO IAmb IAmb 15 44 32.0
comp=Z,30nm,1.8s
AS31 Alice Springs 19.52 184 **Pn** **15 43 40.5 +1.8**
ASAR Alice Springs 19.52 184 P **Pn** **15 43 41.3 +2.6**
comp=Z,1.1nm,0.3s,baz=6.5,slow=12,SNR=112
ASAR Alice Springs 19.52 184 P **Pn** **15 43 40.5 +1.9**
STKA Stephens Creek 28.29 169 LR LR 15 56 42.7
comp=Z,69nm,20.8s,baz=311,slow=37
CMAR Chiang Mai Arr 42.23 303 P **P** **15 47 04.7 +1.5**
ASAJ Asahikawa 48.42 7 LR LR 16 07 44.4
comp=Z,27nm,18.3s,baz=176,slow=36
PEA0B Petropavlovsk- 60.02 15 P **P** **15 49 17.1 +0.9**
PETK Petropavlovsk- 60.02 15 P **P** **15 49 17.2 +1.0**
comp=Z,0.5nm,0.6s,baz=182,slow=8.4,SNR=5.7
PETK Petropavlovsk- 60.02 15 P **P** **15 49 17.6 +1.4**
MK31 Makanchi Array 68.83 324 P **P** **15 50 15.4 +1.4**
MK31 IAmb IAmb 15 50 16.7
comp=Z,3.0nm,1.3s
MKAR Makanchi Array 68.83 324 P **P** **15 50 15.9 +1.9**
comp=Z,2.0nm,0.7s,baz=110,slow=8.4,SNR=23
MKAR Makanchi Array 68.83 324 P **P** **15 50 15.6 +1.5**
MAKZ Makanchi 69.02 324 P **P** **15 50 15.9 +0.7**
ZALV Zalesovo Beam 71.44 331 P **P** **15 50 29.6 -0.2**
comp=Z,2.0nm,0.4s,baz=116,slow=6.7,SNR=7.6
ZALV Zalesovo Beam 71.44 331 P **P** **15 50 30.5 +0.6**
KURK Kurchatov 72.90 326 P **P** **15 50 40.0 +1.3**
KURK IAmb IAmb 15 50 40.9
comp=Z,3.0nm,0.9s
KK31 Karatay Array 74.73 317 P **P** **15 50 51.0 +1.3**
KKAR Karatay Array 74.73 317 P **P** **15 50 50.8 +1.1**
BRVK Borovoye 78.57 326 P **P** **15 51 11.7 +0.6**
BRVK IAmb IAmb 15 51 13.4
comp=Z,3.5nm,0.9s
ILAR Eielson Array 88.49 25 P **P** **15 52 01.0 -0.8**
comp=Z,0.5nm,0.6s,baz=269,slow=4.7,SNR=5.0
LPAZ La Paz 149.25 132 PKPbc **PKPab** **15 59 03.0 -1.6**
comp=Z,0.6nm,0.4s,baz=232,slow=1.6,SNR=5.6

*IDC **22** 15:56:43.5±2.6,27.74N×143.30E,h0km,mb3.8/7, mb1 3.8/10,mb1mx3.6/45,mbtmp3.7/10,ML2.7/3,MS2.5/1, Ms1 2.5/1,ms1mx2.1/49,Error ellipse: s-maj=101.5km s-min=17.8km az=76.0*
*NEIC **22** 15:56:45.2±0.6,27.72N±0.04×143.1E±0.1,h10km±2km, mb4.5/13,Error ellipse: s-maj=19.2km s-min=3.2km az=71.0*
*JMA **22** 15:56:46.3±0.1,27.84N×143.01E,h18km,M4.1*
ISC 22 15:56:47.5±1.2,27.81N±0.06×143.0E±0.1,h22km,n34, σ1$27/38,mb4.2/12,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.02**	**226**	P	**Pb**	**15 57 05.5**	**-0.9**
CBIJ				*eS*	**Sn**	**15 57 19.3**	**-0.7**
JCJ	**Chichijima**	**1.02**	**226**	Pn	**Pb**	**15 57 05.2**	**-1.2**
JHH2	**Haha-jima-NKT2**	**1.38**	**213**	P	**Pn**	**15 57 11.3**	**-0.2**
JHH2				*eS*	**Sb**	**15 57 29.2**	**-0.7**
BSO3	**Boso 3**	**7.29**	**344**	P	**Pn**	**15 58 33.0**	**+0.5**
BSO3				*eS*	**Sn**	**15 59 52.8**	**-1.7**
JHU	**Hanno**	**8.62**	**339**	P	**Pn**	**15 58 51.8**	**+0.8**
JHU				S	**Sn**	**16 00 23.4**	**-4.2**
MJAR	**Matsushiro Arr**	**9.61**	**336**	Pn	**Pn**	**15 59 04.8**	**+0.3**
	0.1nm,0.3s,baz=123,slow=20,SNR=11						
MJAR				Sn	**Sn**	**16 00 49.8**	**-2.1**
	0.0nm,0.3s,baz=280,slow=37,SNR=2.3						
MJAR				LR	LR	16 02 39.3	
	comp=Z,25nm,19.0s,baz=180,slow=36						
MJAR	**Matsushiro Arr**	**9.61**	**336**		**Pn**	**15 59 03.8**	**-0.7**
MAJO	**Matsushiro**	**9.61**	**336**	Pn	**Pn**	**15 59 03.6**	**-0.9**
MJB9	**Matsu-Tunnel**	**9.62**	**336**	Pn	**Pn**	**15 59 03.5**	**-1.1**
ERM	**Erimo**	**14.18**	**0**	Pn	**Pn**	**16 00 04.3**	**-2.6**
KSRS	**Korea Array**	**15.92**	**311**	Pn	**P**	**16 00 33.5**	**-0.1**
	0.1nm,0.3s,baz=123,slow=14,SNR=5.0						
USRK	**Ussuriysk Ar.**	**18.60**	**334**	P	**Pn**	**16 01 04.0**	**+0.5**
	baz=142,slow=10,SNR=2.7						
SONM	**Songino Array**	**34.72**	**315**	P	**P**	**16 03 38.4**	**+2.5**
	0.5nm,0.5s,baz=113,slow=6.6,SNR=2.6						
SONM	**Songino Array**	**34.72**	**315**	IAmb	IAmb	16 03 39.9	
	comp=Z,0.5nm,0.7s						
MTN	**Manton Dam**	**42.02**	**197**	P	**P**	**16 04 36.5**	**-0.9**
MTN				IAmb	IAmb	16 04 50.2	
	comp=Z,23nm,1.3s						
WB0	**Warramunga Arr**	**48.02**	**191**	P	**P**	**16 05 24.1**	**-1.0**
WR0	**Warramunga Arr**	**48.19**	**191**	P	**P**	**16 05 25.4**	**-1.0**
WRAB	**Tennant Creek**	**48.19**	**191**	P	**P**	**16 05 25.4**	**-1.0**
WRAB				IAmb	IAmb	16 05 37.6	
	comp=Z,6.3nm,0.8s						
WB2	**Warramunga Arr**	**48.20**	**191**	P	**P**	**16 05 25.6**	**-0.8**
WRA	**Warramunga Arr**	**48.20**	**191**	P	**P**	**16 05 25.9**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=11,slow=8.6,SNR=13						
WRA	**Warramunga Arr**	**48.20**	**191**	P	**P**	**16 05 25.6**	**-0.9**
FITZ	**Fitzroy Crossi**	**48.63**	**202**	P	**P**	**16 05 29.6**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=30,slow=8.1,SNR=2.0						
FITZ	**Fitzroy Crossi**	**48.63**	**202**	P	**P**	**16 05 29.3**	**-0.5**
ZALV	**Zalesovo Beam**	**49.44**	**319**	P	**P**	**16 05 36.5**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=110,slow=12,SNR=2.3						
MK31	**Makanchi Array**	**50.59**	**309**	P	**P**	**16 05 45.1**	**+0.5**
MKAR	**Makanchi Array**	**50.59**	**309**	P	**P**	**16 05 44.3**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=97,slow=7.6,SNR=3.6						
AS31	**Alice Springs**	**51.92**	**191**	P	**P**	**16 05 53.7**	**-1.0**
ASAR	**Alice Springs**	**51.92**	**191**	P	**P**	**16 05 53.8**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=8.1,slow=5.8,SNR=15						
KURK	**Kurchatov**	**53.01**	**314**	P	**P**	**16 06 03.1**	**+0.6**
KURK				IAmb	IAmb	16 06 04.1	
	comp=Z,11nm,1.8s						
KK31	**Karatay Array**	**59.27**	**306**	P	**P**	**16 06 47.7**	**+0.3**
KK31				IAmb	IAmb	16 07 47.1	
	comp=Z,4.1nm,1.4s						
KKAR	**Karatay Array**	**59.27**	**306**	P	**P**	**16 06 47.5**	**+0.1**
KKAR	**Karatay Array**	**59.27**	**306**	P	**P**	**16 06 47.7**	**+0.3**
KKAR				IAmb	IAmb	16 07 47.1	
	comp=Z,4.1nm,1.4s						
ABKAR	**Akbulak array**	**65.13**	**314**	P	**P**	**16 07 27.7**	**+1.2**
FINES	**FINESS Array B**	**77.63**	**334**	P	**P**	**16 08 42.8**	**+1.0**
	comp=Z,1.0nm,0.6s,baz=162,slow=32,SNR=3.8						

*IDC **22** 16:05:45.1±1.6,10.63S×120.01E,h0km,mb4.0/3, mb1 4.0/6,mb1mx3.7/32,mbtmp3.9/6,ML3.7/3,MS3.3/2, Ms1 3.3/2,ms1mx2.6/40,Error ellipse: s-maj=60.4km s-min=22.8km az=48.0*
*NEIC **22** 16:05:51.2±2.4,10.74S±0.08×120.21E±0.09,h56km±8km, mb4.0/9,Error ellipse: s-maj=13.6km s-min=10.2km az=54.0*
ISC 22 16:05:48.9±0.7,10.65S±0.07×120.52E±0.06,h30km,n26, σ2$59/27,mb4.2/4,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.13**	**82**	Pn	**Pb**	**16 06 42.4**	**-1.6**
	6.3nm,0.3s,baz=358,slow=2.1,SNR=7.1						
BATI				Sn	**Sb**	**16 07 21.9**	**+0.3**
	6.4nm,0.3s,baz=17,slow=21,SNR=6.9						
SOEI	**Soe**	**3.80**	**77**	Pn	**Pb**	**16 06 52.4**	**-3.0**
KAPI	**Kappang**	**5.65**	**352**	Pn	**Pn**	**16 07 13.7**	**+2.8**
	1.1nm,0.3s,baz=154,slow=19,SNR=1.8						
KAPI				LR	LR	16 09 51.8	
	comp=Z,128nm,18.2s,baz=240,slow=44						
JAGI	**Jajag, Banyuwa**	**6.64**	**288**	Pn	**Pn**	**16 07 22.4**	**-2.1**
FITZ	**Fitzroy Crossi**	**8.91**	**147**	Pn	**Pn**	**16 07 59.1**	**+3.3**
	0.6nm,0.3s,baz=326,slow=10,SNR=18						
FITZ				Sn	**Sn**	**16 09 33.2**	**-2.0**
	0.6nm,0.3s,baz=183,slow=23,SNR=7.3						
FITZ	**Fitzroy Crossi**	**8.91**	**147**		**Pn**	**16 07 58.7**	**+3.0**
KNRA	**Kununurra**	**9.46**	**123**	Pn	**Pn**	**16 08 08.0**	**+4.7**
UGM	**Wanagama**	**10.23**	**285**	Pn	**Pn**	**16 08 13.3**	**-0.6**
MTN	**Manton Dam**	**10.62**	**103**	Pn	**Pn**	**16 08 23.3**	**+4.1**
GIRL	**Giralia**	**13.35**	**206**	Pn	**Pn**	**16 08 56.7**	**+0.2**
WB0	**Warramunga Arr**	**16.16**	**126**	P	**P**	**16 09 38.3**	**+1.3**
WB0				IAmb	IAmb	16 10 01.1	
	comp=Z,19nm,1.5s						
WRA	**Warramunga Arr**	**16.21**	**126**	Pn	**P**	**16 09 36.7**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=297,slow=13,SNR=3.7						
WRA				Sn	**Sn**	**16 12 26.9**	**-6.9**
	comp=Z,0.1nm,0.3s,baz=295,slow=18,SNR=1.4						
WRAB	**Tennant Creek**	**16.21**	**126**	Pn	**P**	**16 09 37.1**	**-0.5**
WRAB				IAmb	IAmb	16 10 24.3	
	comp=Z,18nm,1.4s						
WB2	**Warramunga Arr**	**16.22**	**126**	Pn	**P**	**16 09 37.1**	**-0.6**
WB2				IAmb	IAmb	16 09 49.2	
	comp=Z,8.6nm,1.2s						
WR0	**Warramunga Arr**	**16.38**	**126**	Pn	**P**	**16 09 38.9**	**-0.5**
WR0				IAmb	IAmb	16 09 45.0	
	comp=Z,46nm,1.9s						
AS31	**Alice Springs**	**18.18**	**137**	P	**Pn**	**16 09 59.3**	**0.0**
ASAR	**Alice Springs**	**18.18**	**137**	P	**P**	**16 10 03.8**	**+4.5**
	comp=Z,0.2nm,0.3s,baz=311,slow=12,SNR=23						
MORW	**Morawa**	**18.80**	**192**	P	**P**	**16 10 05.2**	**-0.9**
SONM	**Songino Array**	**59.56**	**349**	P	**P**	**16 15 50.2**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=167,slow=8.8,SNR=8.7						
SONM	**Songino Array**	**59.56**	**349**	IAmb	IAmb	16 15 51.5	
	comp=Z,1.4nm,0.6s						
MKAR	**Makanchi Array**	**66.60**	**332**	P	**P**	**16 16 35.8**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=139,slow=8.0,SNR=6.0						
MKAR	**Makanchi Array**	**66.60**	**332**	P	**P**	**16 16 35.2**	**-1.2**
ZAA0	**Zalesovo Array**	**71.11**	**339**	P	**P**	**16 17 04.2**	**-0.1**
ZAA0				IAmb	IAmb	16 17 05.0	
	comp=Z,1.9nm,0.8s						
ZALV	**Zalesovo Beam**	**71.11**	**339**	P	**P**	**16 17 03.5**	**-0.7**
	comp=Z,1.4nm,0.6s,baz=127,slow=4.4,SNR=7.1						
ZALV	**Zalesovo Beam**	**71.11**	**339**	P	**P**	**16 17 03.8**	**-0.5**
ARU	**Arti**	**84.02**	**330**	LR	LR	16 58 11.3	
	comp=Z,28nm,18.7s,baz=170,slow=38						

*IDC **22** 16:15:46.0±3.2,20.07S×168.53E,h0km,mb4.1/4, mb1 4.3/4,mb1mx3.7/33,mbtmp4.1/4,ML3.0/1,Error ellipse: s-maj=92.6km s-min=30.0km az=131.0*
*NEIC **22** 16:15:51.0±1.5,20.35S±0.4×168.5E±0.5,h34km±15km, mb4.5/5,Error ellipse: s-maj=85.1km s-min=14.1km az=131.0*
ISC 22 16:15:49.3±2.5,20.3S±0.4×168.6E±0.4,h26km,n13, σ0$79/12,mb4.2/6,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.63**	**228**	Pn	**Pn**	**16 16 31.0**	**+0.7**
	2.3nm,0.3s,baz=99,slow=8.4,SNR=110						
DZM				Sn	**Sn**	**16 17 00.0**	**-1.4**
	9.8nm,0.3s,baz=118,slow=6.5,SNR=9.9						
DZM	**Mont Dzumac**	**2.63**	**228**		**Pn**	**16 16 30.8**	**+0.6**
WR0	**Warramunga Arr**	**31.91**	**265**	P	**P**	**16 22 13.0**	**0.0**
WR0				IAmb	IAmb	16 22 46.0	
	comp=Z,19nm,1.6s						
WB2	**Warramunga Arr**	**32.09**	**265**	P	**P**	**16 22 15.0**	**+0.5**
WRA	**Warramunga Arr**	**32.10**	**265**	P	**P**	**16 22 14.7**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=90,slow=9.5,SNR=4.6						
WRA	**Warramunga Arr**	**32.10**	**265**	IAmb	IAmb	16 22 15.6	
	comp=Z,0.3nm,1.1s						
AS31	**Alice Springs**	**32.26**	**258**	P	**P**	**16 22 16.7**	**+0.7**
AS31				IAmb	IAmb	16 23 23.4	
	comp=Z,3.1nm,1.2s						
ASAR	**Alice Springs**	**32.26**	**258**	P	**P**	**16 22 16.9**	**+0.8**
	comp=Z,3.9nm,0.9s,baz=84,slow=9.0,SNR=44						
FITZ	**Fitzroy Crossi**	**40.51**	**266**	P	**P**	**16 23 27.4**	**+0.9**
	comp=Z,4.6nm,0.8s,baz=114,slow=8.4,SNR=7.5						
FITZ	**Fitzroy Crossi**	**40.51**	**266**	IAmb	IAmb	16 23 54.2	
	comp=Z,1.5nm,1.2s						
PETK	**Petropavlovsk-**	**73.73**	**353**	P	**P**	**16 27 20.0**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=156,slow=11,SNR=4.4						
GERES	**GERESS Array B**	**145.13**	**331**	PKP	**PKPdf**	**16 35 24.5**	**0.0**
	comp=Z,0.2nm,0.6s,baz=15,slow=4.1,SNR=1.8						
GERES	**GERESS Array B**	**145.13**	**331**		**PKPbc**	**16 35 24.0**	**-0.1**

*NEIC **22** 16:24:27.4±1.1,3.98N±0.10×127.9E±0.1,h112km±11km, mb4.4/17,Error ellipse: s-maj=18.2km s-min=13.2km az=68.0*
*IDC **22** 16:24:27.9±3.1,4.02N×128.00E,h118km±34km,mb3.5/7, mb1 3.7/8,mb1mx3.3/34,mbtmp3.9/8,Error ellipse: s-maj=44.0km s-min=14.9km az=71.0*
ISC 22 16:24:26.4±0.7,4.02N±0.07×127.9E±0.1,h100km,n29, σ0$90/29,mb4.2/13,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**3.26**	**189**		**Pn**	**16 25 17.4**	**+1.7**
SIJI	**Sorong**	**5.91**	**145**	P	**Pn**	**16 25 53.5**	**+1.9**
	3.3nm,0.3s,baz=160,slow=23,SNR=37						
SIJI				S	**Sn**	**16 26 57.8**	**-0.2**
	6.2nm,0.3s,baz=182,slow=23,SNR=18						
LUWI	**Luwuk**	**7.17**	**226**	Pn	**Pn**	**16 26 09.8**	**+1.2**
FAKI	**Fak Fak**	**8.15**	**148**	Pn	**Pn**	**16 26 23.2**	**+1.2**
MTN	**Manton Dam**	**17.06**	**169**	P	**Pn**	**16 28 16.7**	**-2.1**
MTN				IAmb	IAmb	16 28 26.3	
	comp=Z,42nm,1.6s						
JAGI	**Jajag, Banyuwa**	**18.48**	**228**	P	**P**	**16 28 33.3**	**-1.4**
JAGI				IAmb	IAmb	16 28 38.5	
	comp=Z,32nm,1.4s						
KNRA	**Kununurra**	**19.59**	**177**	P	**P**	**16 28 46.8**	**+0.1**
FITZ	**Fitzroy Crossi**	**22.09**	**186**	P	**P**	**16 29 13.9**	**+0.4**
	comp=Z,2.6nm,0.8s,baz=2.7,slow=9.7,SNR=6.3						
FITZ	**Fitzroy Crossi**	**22.09**	**186**	P	**P**	**16 29 13.0**	**-0.5**
WB0	**Warramunga Arr**	**24.48**	**165**	P	**P**	**16 29 35.5**	**-0.9**
WB0				IAmb	IAmb	16 30 04.4	
	comp=Z,31nm,1.8s						
WRAB	**Tennant Creek**	**24.63**	**165**	P	**P**	**16 29 36.9**	**-0.8**
WRAB				IAmb	IAmb	16 29 59.4	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**24.64**	**165**	P	**P**	**16 29 37.2**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=345,slow=10.0,SNR=19						
WRA	**Warramunga Arr**	**24.64**	**165**	P	**P**	**16 29 37.1**	**-0.7**
WB2	**Warramunga Arr**	**24.64**	**165**	P	**P**	**16 29 37.1**	**-0.7**
WB2				IAmb	IAmb	16 30 06.8	
	comp=Z,13nm,1.2s						
WR0	**Warramunga Arr**	**24.71**	**165**	P	**P**	**16 29 37.8**	**-0.6**
WR0				IAmb	IAmb	16 30 10.5	
	comp=Z,35nm,1.9s						
AS31	**Alice Springs**	**28.13**	**168**	P	**P**	**16 30 08.7**	**-0.6**
ASAR	**Alice Springs**	**28.13**	**168**	P	**P**	**16 30 08.8**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=351,slow=7.4,SNR=73						
CMAR	**Chiang Mai Arr**	**31.73**	**299**	P	**P**	**16 30 41.6**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=90,slow=7.7,SNR=4.3						
KSRS	**Korea Array**	**33.28**	**0**	P	**P**	**16 30 54.0**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=178,slow=9.6,SNR=6.6						
MAJO	**Matsushiro**	**33.74**	**15**	P	**P**	**16 30 58.6**	**+0.2**
MJB9	**Matsu-Tunnel**	**33.74**	**15**	P	**P**	**16 30 58.5**	**+0.1**
MJB9				IAmb	IAmb	16 31 24.4	
	comp=Z,11nm,1.4s						
BBOO	**Buckleboo**	**37.44**	**169**	P	**P**	**16 31 30.1**	**0.0**
STKA	**Stephens Creek**	**38.00**	**161**	P	**P**	**16 31 34.6**	**-0.2**
	comp=Z,1.8nm,0.3s,baz=350,slow=7.1,SNR=12						
STKA	**Stephens Creek**	**38.00**	**161**	IAmb	IAmb	16 32 02.1	
	comp=Z,17nm,1.9s						
PEA0B	**Petropavlovsk-**	**54.74**	**22**	P	**P**	**16 33 45.1**	**-0.3**
PETK	**Petropavlovsk-**	**54.74**	**22**	P	**P**	**16 33 45.8**	**+0.4**
MK31	**Makanchi Array**	**57.98**	**325**	P	**P**	**16 34 08.3**	**-0.4**
MKAR	**Makanchi Array**	**57.98**	**325**	P	**P**	**16 34 08.7**	**0.0**
	comp=Z,0.5nm,0.8s,baz=121,slow=8.6,SNR=7.3						
KURK	**Kurchatov**	**62.12**	**327**	P	**P**	**16 34 36.9**	**+0.1**
KURK				IAmb	IAmb	16 35 28.5	
	comp=Z,11nm,1.9s						

*BJI **22** 16:34:50.3±0.0,2.55N×128.74E,h60km,mB5.0/51, mb5.1/73,Ms4.5/56,Ms7 4.3/58*
*MOS **22** 16:34:53.9±1.0,3.27N×128.20E,h38km,mb5.2/48, MS4.2/7,Error ellipse: s-maj=7.5km s-min=4.0km az=112.6*
*MAN **22** 16:34:54.0,2.69N×128.04E,h150km,MS5.0*
*KLM **22** 16:34:54.0,3.15N×128.59E,h37km,mb5.1*
*NEIC **22** 16:34:56.5±1.5,3.25N±0.02×128.19E±0.07,h46km±4km, mb5.3/138,Error ellipse: s-maj=10.0km s-min=1.2km az=71.0*
*IDC **22** 16:34:56.1±1.8,3.29N×128.21E,h39km±15km,mb4.8/40, mb1 4.9/43,mb1mx4.8/58,mbtmp5.0/43,ML4.6/3,MS4.1/38, Ms1 4.2/38,ms1mx4.1/44,Error ellipse: s-maj=11.0km s-min=7.2km az=70.0*
*GCMT **22** 16:34:57.5±0.2,3.34N±0.01×128.07E±0.01,h45km, MW5.1/108,Moment Tensor Solution. s96,c117; s108,c158; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.61±.13; $M_{\theta\theta}$-0.65±.09; $M_{\phi\phi}$-3.96±.10; $M_{r\theta}$0.15±.08; $M_{\theta\phi}$2.18±.07; $M_{\phi r}$-2.12±.10; Best double couple: $M_0$5.28000×10^{16} NP1:ϕs324.00000°,δs35.00000°, λ74.00000°. NP2:ϕs163.00000°,δ57.00000°,λ101.00000°. Principal axes: T 5.1290, Plg75.0000°, Azm105.0000°; N 0.2990, Plg9.0000°, Azm337.0000°; P -5.4320, Plg11.0000°, Azm245.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **22** 16:34:59.3±0.4,3.7N±3×12.8E±,h50km±3km,M4.9/54, mb5.3/54,mB5.4/37,MLv5.4/16,Mw(mB)4.8/37,Mwp5.1/8*
ISC 22 16:34:57.5±0.4,3.19N±0.03×128.24E±0.04,h54km±3km, h54km:pP-P,n619,σ1$56/648,mb5.2/161,MS4.2/54, 33C-20D,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.55**	**200**	P	**Pn**	**16 35 37.1**	**+0.6**
TNTI	**Ternate**	**2.55**	**200**	Pn	**Pn**	**16 35 37.1**	**+0.6**
DDMP	**Don Marcelino,**	**3.84**	**319**	*eP*	**Pn**	**16 35 51.9**	**-2.3**
DDMP				*eS*	**Sn**	**16 36 46.5**	**+8.4**
LBMI	**Labuha**	**3.87**	**191**	P	**Pn**	**16 35 55.7**	**+1.1**
MATI	**Mati**	**4.23**	**332**	*eP*	**Pn**	**16 36 02.4**	**+2.9**
MATI				*eS*	**Sn**	**16 36 56.0**	**+8.5**
GSPH	**General Santos**	**4.37**	**311**	*iP*	**Pn**	**16 36 01.0**	**-0.5**
DMPH	**Davao City--Mi**	**4.73**	**325**	*iP*	Pn	16 36 11.9	+5.5
DMPH				*eS*	**Sn**	**16 37 05.7**	**+5.7**
KCP	**Kidapawan**	**4.93**	**321**	*eP*	**Pn**	**16 36 11.3**	**+2.2**
KCP				*iS*	Sn	16 37 18.9	+14
SKMP	**Bagumbayan, Su**	**4.96**	**312**	*eP*	**Pn**	**16 36 10.4**	**+1.0**
SKMP				*eS*	**Sn**	**16 37 07.1**	**+1.6**
KMSI	**Cibinong**	**4.99**	**239**	P	**Pn**	**16 36 10.6**	**+0.7**
SIJI	**Sorong**	**5.04**	**143**	Pn	**Pn**	**16 36 11.0**	**+0.5**
	23nm,0.3s,baz=141,slow=16,SNR=113						
SIJI				Sn	**Sn**	**16 37 07.2**	**-0.4**
	54nm,0.3s,baz=84,slow=22,SNR=16						
SIJI				LR	LR	16 38 20.6	
	comp=Z,5μm,21.8s,baz=311,slow=40						
BUKP	**Musuan**	**5.63**	**326**	*eP*	**Pn**	**16 36 21.3**	**+2.5**
BUKP				*eS*	**Sn**	**16 37 28.6**	**+6.3**
SANI	**Sanana**	**5.67**	**203**	P	**Pn**	**16 36 20.0**	**+0.8**
	1.1nm5μm280nm,0.9s						
CGP	**Cagayan de Oro**	**6.31**	**326**	*iP*	Pn	16 36 32.9	+4.8
CGP				*iS*	**Sn**	**16 37 43.5**	**+4.6**
NLAI	**Namlea**	**6.48**	**190**	P	**Pn**	**16 36 32.6**	**+2.2**
MSAI	**Masohi**	**6.53**	**174**	P	**Pn**	**16 36 35.3**	**+4.3**
	0.5nm1μm129nm,1.1s						
PAGZ	**Pagadian**	**6.70**	**314**	*eP*	**Pn**	**16 36 34.3**	**+1.0**
AAI	**Ambon**	**6.83**	**180**	P	**Pn**	**16 36 39.3**	**+4.2**
	1.1nm4μm3μm356nm,1.0s						
MRSI	**Marisa**	**6.85**	**247**	P	**Pn**	**16 36 36.9**	**+1.5**
	17nm3μm45μm6μm,0.7s						
LUWI	**Luwuk**	**6.89**	**233**	P	**Pn**	**16 36 37.0**	**+0.9**
	4.6nm4μm5μm507nm,0.9s						
LUWI	**Luwuk**	**6.89**	**233**	Pn	**Pn**	**16 36 35.1**	**-1.0**
ZCP	**Zamboanga City**	**7.18**	**301**	*iP*	**Pn**	**16 36 39.1**	**-0.8**
ZCP				*iS*	**Sn**	**16 37 55.4**	**-4.9**
FAKI	**Fak Fak**	**7.27**	**147**	P	**Pn**	**16 36 42.1**	**+0.9**
	0.6nm3μm1μm108nm,0.7s						
FAKI	**Fak Fak**	**7.27**	**147**	Pn	**Pn**	**16 36 42.2**	**+1.0**
MSLP	**Maasin**	**7.68**	**334**	*eP*	**Pn**	**16 36 48.3**	**+1.6**
MSLP				*eS*	**Sn**	**16 38 04.7**	**-7.7**
APSI	**Ampana**	**7.75**	**238**	P	**Pn**	**16 36 48.9**	**+1.2**
	2.0nm2μm5μm605nm,0.9s						
BNDI	**Bandanaira**	**7.83**	**168**	P	**Pn**	**16 36 52.6**	**+3.7**
	1.3nm304nm,0.8s						
OCLP	**Ormoc**	**8.61**	**335**	*eP*	**Pn**	**16 37 02.7**	**+3.2**
CNOP	**Candoni, Negro**	**8.63**	**320**	*eP*	**Pn**	**16 36 59.3**	**-0.6**
CNOP				*eS*	**Sn**	**16 38 38.9**	**+3.0**
MPSI	**Mapaga**	**8.81**	**251**	P	**Pn**	**16 37 03.0**	**+0.7**
	4μm3μm282nm,0.8s						
GUIM	**Jordan**	**9.28**	**323**	*eP*	**Pn**	**16 37 10.6**	**+1.9**
SRPI	**Serui, Papua**	**9.44**	**122**	P	Pn	16 37 17.8	+6.8
CNP	**Catarman**	**9.92**	**339**	*eP*	**Pn**	**16 37 18.5**	**+1.0**
CNP				*eS*	Sn	16 38 54.5	-13
BBSI	**Bau Bau**	**10.31**	**213**	P	**Pn**	**16 37 25.0**	**+2.1**
	219nm26nm,0.9s						
TTSI	**Tana Toraja**

GUMO Guam 19.41 57 P **Pn** 16 39 20.4 -0.6
GUMO pmax pmax
comp=Z,265nm,1.5s
GUMO Guam 19.41 57 IAmb IAmb 16 40 11.5
comp=Z,265nm,1.5s
NGJI Ngawi 19.76 238 P **Pn** 16 39 24.7 -0.4
comp=Z,129nm,0.9s
WOJI Wonogiri, Jawa 20.46 238 P **P** 16 39 31.9 +1.1
comp=Z,76nm,0.9s
TWG Pinlang 20.72 341 P **P** 16 39 31.0 -2.6
TWG IAmb IAmb 16 39 56.1
comp=Z,124nm,0.6s
UGM Wanagama 20.83 238 P **P** 16 39 35.3 +0.3
comp=Z,182nm,1.1s
UGM Wanagama 20.83 238 P **P** 16 39 33.7 -1.3
UGM IAmb IAmb 16 39 42.1
comp=Z,293nm,1.3s
YULB Yu-li 21.18 342 P **P** 16 39 35.9 -2.7
FITZ Fitzroy Crossi 21.30 187 P **P** 16 39 40.0 0.0
baz=22
FITZ Fitzroy Crossi 21.30 187 P **P** 16 39 39.9 0.0
comp=Z,12nm,0.5s,baz=5.7,slow=6.8,SNR=26
FITZ LR LR 16 49 39.0
comp=Z,184nm,18.4s,baz=18,slow=41
FITZ Fitzroy Crossi 21.30 187 P **P** 16 39 40.1 +0.2
TPUB Ta-pu 21.31 340 P **P** 16 39 37.8 -2.2
TPUB IAmb IAmb 16 39 50.3
comp=Z,76nm,0.8s
TPI Tanjungpandan 21.41 254 P **P** 16 39 41.1 0.0
comp=Z,641nmcomp=Z,67nm,0.8s
DLV T Lat 21.41 295 P **P** 16 39 40.1 -1.2
DLV IAmb IAmb 16 39 56.2
comp=Z,58nm,0.8s
SSLB Suanglung 21.66 342 P **P** 16 39 42.2 -1.5
YOJ Yonaguni jima 21.75 347 P **P** 16 39 43.3 -1.3
YOJ pmax pmax
comp=Z,119nm,1.1s
YOJ Yonaguni jima 21.75 347 P **P** 16 39 43.2 -1.3
YOJ IAmb IAmb 16 40 11.8
comp=Z,119nm,1.1s
NACB Ninganchiao 21.83 343 P **P** 16 39 44.9 -0.6
YHNB Yeheng 22.36 343 P **P** 16 39 50.0 -1.3
YHNB IAmb IAmb 16 40 03.2
comp=Z,145nm,1.4s
COEN Coen 22.57 139 P **P** 16 39 52.7 -0.9
baz=23
COEN Coen 22.57 139 P **P** 16 39 54.5 +0.9
TATO Taipei 22.62 344 P **P** 16 39 52.6 -1.4
PMG Port Moresby 22.62 124 P **P** 16 39 55.4 +1.3
comp=Z,13nm,0.7s,baz=25,slow=3.9,SNR=4.2
PMG LR LR 16 49 32.2
comp=Z,1μm,20.4s,baz=330,slow=39
PMG Port Moresby 22.62 124 *i* P **P** 16 39 54.8 +0.7
PMG pmax pmax
comp=Z,16nm,1.0s
PMG Port Moresby 22.62 124 P **P** 16 39 54.5 +0.3
PPBI Pangkal Pinang 22.73 257 P **P** 16 39 57.5 +2.3
LEM Lembang 22.86 244 P **P** 16 39 57.4 +0.5
comp=Z,37nm,0.7s,baz=86,slow=12,SNR=9.7
LEM S **S** 16 44 04.3 +1.5
comp=Z,4.8nm,0.4s,baz=287,slow=21,SNR=1.3
LEM LR LR 16 51 31.2
comp=Z,321nm,18.9s,baz=38,slow=44
CISI Cisompet, Garu 23.01 242 P **P** 16 39 59.2 +1.0
CISI Cisompet, Garu 23.01 242 P **P** 16 39 57.7 -0.5
CBJI Citeko 23.39 246 P **P** 16 40 05.3 +3.4
comp=Z,371nm,0.9s
CNJI Cibinong 23.51 244 P **P** 16 40 04.0 +1.1
comp=Z,3μmcomp=Z,351nm,0.9s
JOW Kunigami 23.51 0 P **P** 16 40 02.1 -0.7
comp=Z,6.4nm,0.8s,baz=173,slow=14,SNR=8.0
JOW Kunigami 23.51 0 P **P** 16 40 01.9 -0.9
JOW IAmb IAmb 16 40 05.5
comp=Z,57nm,1.0s
QZH Quanzhou 23.55 338 ⇓ *i* P **P** 16 40 03.8 +0.7
QZH S **S** 16 44 09.0 -4.4
QZH LR LR
comp=Z,410nm,15.2s
WB0 Warramunga Arr 23.60 165 P **P** 16 40 03.1 -0.6
WRAB Tennant Creek 23.75 166 *ce* P **P** 16 40 05.3 +0.2
WRAB pmax pmax
comp=Z,29nm,0.4s
WRAB Tennant Creek 23.75 166 P **P** 16 40 04.1 -0.9
WRAB IAmb IAmb 16 40 08.5
comp=Z,120nm,0.7s
WRA Warramunga Arr 23.75 166 P **P** 16 40 04.7 -0.4
comp=Z,81nm,0.6s,baz=346,slow=9.9,SNR=105
WRA S **S** 16 44 21.9 +5.0
comp=Z,3.0nm,0.8s,baz=268,slow=4.7,SNR=2.1
WRA LR LR 16 50 14.4
comp=Z,626nm,21.3s,baz=340,slow=38
WRA Warramunga Arr 23.75 166 P **P** 16 40 04.0 -1.2
WRA S **S** 16 44 21.9 +5.0
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 23.75 166 P **P** 16 40 04.0 -1.2
WB2 Warramunga Arr 23.75 166 P **P** 16 40 04.9 -0.3
baz=24
WB2 Warramunga Arr 23.75 166 P **P** 16 40 04.6 -0.5
WB2 IAmb IAmb 16 40 08.5
comp=Z,123nm,0.7s
WR0 Warramunga Arr 23.82 165 P **P** 16 40 05.4 -0.3
WR0 IAmb IAmb 16 40 08.3
comp=Z,98nm,0.7s
SKJI Sukabumi 23.90 245 P **P** 16 40 07.7 +1.2
comp=Z,219nm,0.8s
QIZ Qiongzhong 23.91 313 P **P** 16 40 06.3 -0.3
QIZ S **S** 16 44 18.8 -0.6
QIZ pmax pmax
comp=Z,25nm,1.7s
QIZ LR LR
comp=Z,390nm,18.1s
QIZ LR LR
comp=Z,410nm,21.6s
QIZ LR LR
comp=Z,470nm,19.1s
QIZ Qiongzhong 23.91 313 P **P** 16 40 05.6 -1.0
MYKOM Kota Tinggi 24.41 267 P **P** 16 40 10.8 -0.5
BLSI Bandar Lampung 24.49 250 P **P** 16 40 14.6 +2.6
comp=Z,3μmcomp=Z,273nm,0.8s
KRVT Keravat (AS076 24.90 107 P **P** 16 40 14.6 -1.2
comp=Z,136nm,0.7s,baz=336,slow=8.0,SNR=12
KRVT LR LR 16 48 06.9
comp=Z,2μm,20.5s,baz=262,slow=32
RABL Rabaul 25.00 107 P **P** 16 40 16.7 +0.1
MDSI Maura Dua 25.22 253 P **P** 16 40 20.6 +2.0
comp=Z,793nmcomp=Z,104nm,1.0s
KASI Kota Agung 25.25 250 P **P** 16 40 21.7 +2.9
comp=Z,2μmcomp=Z,182nm,1.0s
LWLI Liwa 25.50 251 P **P** 16 40 23.6 +2.3
comp=Z,123nm,0.8s
LHSI Lahat 25.67 254 P **P** 16 40 27.7 +5.0
PSA00 Pilbara Seismi 25.94 198 P **P** 16 40 24.5 -0.5
PSA00 IAmb IAmb 16 40 29.0
comp=Z,58nm,0.9s
PSA00 Pilbara Seismi 25.94 198 P **P** 16 40 24.4 -0.7
PSA00 IAmb IAmb 16 40 29.0
comp=Z,26nm,0.8s
QIS Mount Isa 26.10 155 P **P** 16 40 25.1 -1.3
baz=26
XMIS Christmas Isla 26.27 239 P **P** 16 40 27.7 -0.4
MTSU Mount Surprise 26.45 144 P **P** 16 40 28.7 -1.0
baz=27
SDSI Sungai Dareh 27.11 262 P **P** 16 40 39.1 +3.4
IPM Ipoh 27.19 274 P **P** 16 40 35.4 -1.0
IPM Ipoh 27.19 274 P **P** 16 40 36.0 -0.4
AS31 Alice Springs 27.25 169 P **P** 16 40 36.4 -0.5
ASAR Alice Springs 27.25 169 P **P** 16 40 36.5 -0.3
comp=Z,44nm,0.8s,baz=352,slow=7.7,SNR=184
ASAR PcP **PcP** 16 43 56.0 +0.2
comp=Z,7.0nm,0.5s,baz=356,slow=2.5,SNR=10
ASAR ScP **ScP** 16 47 32.2 +0.2
comp=Z,1.0nm,0.6s,baz=342,slow=2.9,SNR=4.3
ASAR PKiKP **PKiKP** 16 51 32.8 -0.7
comp=Z,0.4nm,0.8s,baz=326,slow=0.6,SNR=5.2
ASAR LR LR 16 54 12.8
comp=Z,594nm,18.2s,baz=336,slow=42
ASAR Alice Springs 27.25 169 P **P** 16 40 36.3 -0.6
KRJI Kerinci 27.28 259 P **P** 16 40 42.5 +5.2
KULM Kulim 27.59 275 P **P** 16 40 38.0 -2.0
KULM Kulim 27.59 275 P **P** 16 40 41.0 +1.0
PDSI Padang 28.07 262 P **P** 16 40 46.3 +2.0
MNSI Mandailing Nat 28.74 266 P **P** 16 40 52.7 +2.4
GIRL Giralia 29.09 207 P **P** 16 40 53.5 +0.3
CTA Charters Tower 29.12 143 P **P** 16 40 53.5 0.0
baz=29
CTA Charters Tower 29.12 143 P **P** 16 40 54.1 +0.6
comp=Z,4.6nm,0.7s,baz=337,slow=3.4,SNR=4.5
CTAO Charters Tower 29.12 143 P **P** 16 40 53.4 -0.1
CTAO pmax pmax
comp=Z,13nm,1.0s
CTAO Charters Tower 29.12 143 P **P** 16 40 53.4 -0.1
PSI Prapat 29.28 270 P **P** 16 40 55.8 +0.6
comp=Z,24nm,1.0s,baz=180,slow=1.6,SNR=12
PSI LR LR 16 54 26.9
comp=Z,376nm,22.0s,baz=90,slow=40
PSI Prapat 29.28 270 P **P** 16 40 54.9 -0.3
PSI pmax pmax
comp=Z,36nm,1.1s
RPSI Rantau Prapat 29.28 270 P **P** 16 40 54.9 -0.2
RPSI Rantau Prapat 29.28 270 P **P** 16 40 55.8 +0.7
SLVN Son La 29.76 309 P **P** 16 40 58.7 -0.6
JNU Nakatsue 29.88 4 P **P** 16 40 59.2 -0.9
comp=Z,16nm,0.8s,baz=166,slow=5.5,SNR=8.4
JNU LR LR 16 52 01.8
comp=Z,530nm,21.4s,baz=176,slow=34
JNU Nakatsue 29.88 4 P **P** 16 40 59.7 -0.5
NJ2 Nanjing 30.04 344 *e* P **P** 16 41 02.6 +1.1
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
WHN Wuhan 30.22 336 ⇓ P P 16 41 08.1 +5.0
WHN S S 16 46 09.0 +10
WHN LR LR
comp=Z,2μm,21.8s
GSI Gunungsitoli 30.70 267 P **P** 16 41 06.8 -0.8
GSI IAmb IAmb 16 41 09.6
comp=Z,40nm,0.6s
GYA Guiyang 31.04 320 ⇑ P **P** 16 41 12.8 +2.2
GYA sP sP 16 41 29.9 +0.3
GYA PP **PP** 16 42 20.8 -0.7
GYA S **S** 16 46 15.8 +3.6
GYA sS sS 16 46 38.8 +5.4
GYA pmax pmax
comp=Z,6.0nm,0.7s
GYA LR LR
comp=Z,420nm,15.0s
GYA LR LR
comp=Z,370nm,18.3s
GYA LR LR
comp=Z,550nm,19.3s
MEEK Meekatharra 31.08 197 P **P** 16 41 10.1 -0.6
baz=31
JHJ Hachijo jima 2 31.68 19 LR LR 16 54 06.8
comp=Z,417nm,19.6s,baz=206,slow=36
ENH Enshi 32.26 329 P **P** 16 41 20.6 -0.6
ENH IAmb IAmb 16 41 28.1
comp=Z,39nm,0.9s
CM31 Chiang Mai Arr 32.45 300 P **P** 16 41 23.3 +0.3
CMAR Chiang Mai Arr 32.45 300 P **P** 16 41 23.4 +0.4
comp=Z,10nm,0.8s,baz=118,slow=7.3,SNR=60
CMAR PcP **PcP** 16 44 11.1 +1.7
comp=Z,3.3nm,1.0s,baz=134,slow=1.7,SNR=5.3
CMAR LR LR 16 55 42.3
comp=Z,241nm,18.3s,baz=175,slow=38
CMAR Chiang Mai Arr 32.45 300 *i* P **P** 16 41 24.2 +1.2
CMAR pmax pmax
comp=Z,11nm,0.8s
CMAR Chiang Mai Arr 32.45 300 P **P** 16 41 22.9 0.0
CMAR PcP **PcP** 16 44 09.9 +0.5
CHTO Chiang Mai 32.59 301 P **P** 16 41 24.3 0.0
CHTO pmax pmax
comp=Z,17nm,0.8s
CHTO Chiang Mai 32.59 301 P **P** 16 41 24.3 0.0
KMI Kunming 32.84 314 P **P** 16 41 28.5 +2.0
KMI pP pP 16 41 39.8 +0.4
KMI PP **PP** 16 42 42.0 +0.4
KMI S **S** 16 46 41.8 +1.3
KMI pmax pmax
comp=Z,86nm,1.0s
KMI pmax pmax
comp=Z,120nm,3.5s
KMI LR LR
comp=Z,290nm,18.1s
KMI LR LR
comp=Z,280nm,19.8s
KMI LR LR
comp=Z,500nm,22.4s
INU Inuyama 33.02 13 P **P** 16 41 26.5 -1.2
INU IAmb IAmb 16 41 29.1
comp=Z,59nm,0.7s
TJN Taejon 33.04 359 *ce* P **P** 16 41 27.5 -0.3
QLP Quilpie 33.39 153 P **P** 16 41 30.5 -0.5
baz=34
FORT Forrest 33.77 180 P **P** 16 41 35.3 +1.0
baz=34
FORT Forrest 33.77 180 P **P** 16 41 34.5 +0.2
HNR Honiara 33.99 112 P **P** 16 41 35.7 -0.6
comp=Z,41nm,0.7s,baz=265,slow=11,SNR=4.6
HNR Honiara 33.99 112 P **P** 16 41 35.8 -0.6
HNR pmax pmax
comp=Z,58nm,0.9s
HNR Honiara 33.99 112 P **P** 16 41 35.8 -0.6
HNR IAmb IAmb 16 41 39.9
comp=Z,58nm,0.9s
KSAR Wonju Array Be 34.09 359 P **P** 16 41 35.1 -1.9
KSAR 16 44 13.6
KSAR Wonju Array Be 34.09 359 P **P** 16 41 35.1 -1.9
KSAR PcP **PcP** 16 44 13.6 0.0
KSRS Korea Array 34.10 360 P **P** 16 41 36.9 -0.2
comp=Z,14nm,0.8s,baz=175,slow=10.0,SNR=96
KSRS PcP **PcP** 16 44 14.2 +0.6
comp=Z,1.5nm,0.8s,baz=171,slow=3.7,SNR=5.2
KSRS LR LR 16 54 41.4
comp=Z,277nm,21.4s,baz=178,slow=35
MORW Morawa 34.14 199 P **P** 16 41 37.8 +0.2
baz=34
MORW Morawa 34.14 199 P **P** 16 41 36.4 -1.2
MORW IAmb IAmb 16 42 13.5
comp=Z,124nm,1.9s
KS19 Wonju Array Si 34.15 359 P **P** 16 41 35.9 -1.6
TIA Tai'an 34.43 344 P **P** 16 41 39.6 -0.4
TIA pmax pmax
comp=Z,6.0nm,0.6s
MJAR Matsushiro Arr 34.44 14 P **P** 16 41 38.3 -1.7
comp=Z,36nm,0.7s,baz=184,slow=9.5,SNR=111
MJAR PcP **PcP** 16 44 16.1 +1.5
comp=Z,3.4nm,0.7s,baz=193,slow=3.9,SNR=6.4
MJAR LR LR 16 53 28.4
comp=Z,705nm,21.9s,baz=190,slow=32
MJAR Matsushiro Arr 34.44 14 P **P** 16 41 37.2 -2.9
MJAR PcP **PcP** 16 44 14.9 +0.3
MAJO Matsushiro 34.44 14 P **P** 16 41 37.5 -2.6
MAJO pmax pmax
comp=Z,37nm,0.7s
MAJO Matsushiro 34.44 14 P **P** 16 41 37.5 -2.6
MAJO IAmb IAmb 16 41 41.3
comp=Z,37nm,0.7s
MAT Matsushiro 34.44 14 P **P** 16 41 38.1 -2.0
MAT *e* S **S** 16 47 00.5 -4.1
MJB9 Matsu-Tunnel 34.45 14 P **P** 16 41 37.7 -2.5
MJB9 IAmb IAmb 16 41 41.3
comp=Z,38nm,0.7s
KMBL Kambalda 34.89 190 P **P** 16 41 44.0 0.0
baz=35
BLDU Ballidu 35.37 197 P **P** 16 41 48.5 +0.4
baz=36
RMQ Roma 35.55 147 P **P** 16 41 49.4 -0.4
baz=36
XAN Xi'an 35.59 332 P **P** 16 41 49.8 -0.3
XAN pP pP 16 42 03.4 +0.2
XAN sP sP 16 42 09.6 +0.4
XAN pmax pmax
comp=Z,72nm,1.0s
XAN LR LR
comp=Z,440nm,23.9s
XAN LR LR
comp=Z,680nm,29.3s
XAN Xi'an 35.59 332 P **P** 16 41 48.7 -1.4
XAN pmax pmax
comp=Z,54nm,0.9s
XAN Xi'an 35.59 332 P **P** 16 41 48.7 -1.4
XAN IAmb IAmb 16 41 54.7
comp=Z,54nm,0.9s
CD2 Chengdu 35.98 323 P **P** 16 41 52.5 -0.9
CD2 S **S** 16 47 27.3 -1.2
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,180nm,5.1s
CD2 LR LR
comp=Z,630nm,18.9s
CD2 LR LR
comp=Z,600nm,21.1s
CD2 LR LR
comp=Z,900nm,21.9s
KLBR Kellerberrin 36.00 195 P **P** 16 41 54.1 +0.6
baz=36
EIDS Eidsvold 36.01 143 P **P** 16 41 51.9 -1.7
baz=36
EIDS Eidsvold 36.01 143 P **P** 16 41 53.1 -0.5
BBOO Buckleboo 36.56 169 P **P** 16 41 57.7 -0.6
baz=37
BBOO Buckleboo 36.56 169 P **P** 16 41 58.2 0.0
STKA Stephens Creek 37.11 161 P **P** 16 42 03.1 +0.1
baz=37
STKA Stephens Creek 37.11 161 P **P** 16 42 03.4 +0.4
comp=Z,30nm,0.4s,baz=336,slow=8.8,SNR=62
STKA LR LR 16 59 16.4
comp=Z,577nm,20.3s,baz=336,slow=39
STKA Stephens Creek 37.11 161 P **P** 16 42 02.6 -0.3
STKA pmax pmax
comp=Z,13nm,0.7s
STKA Stephens Creek 37.11 161 P **P** 16 42 02.6 -0.3
NWAO Narrogin (SRO) 37.40 195 P **P** 16 42 05.3 -0.1
baz=38
NWAO Narrogin (SRO) 37.40 195 P **P** 16 42 05.8 +0.4
NWAO pmax pmax
comp=Z,165nm,1.7s
NWAO Narrogin (SRO) 37.40 195 P **P** 16 42 05.8 +0.4
BJT Baijiatuan 38.26 345 P **P** 16 42 11.0 -1.6
BJT pmax pmax
comp=Z,20nm,0.7s
BJT Baijiatuan 38.26 345 P **P** 16 42 11.0 -1.6
BJT IAmb IAmb 16 42 17.1
comp=Z,20nm,0.7s
BJI Beijing 38.28 345 P **P** 16 42 11.8 -0.9
BJI pP **pP** 16 42 24.8 -1.1
BJI sP **sP** 16 42 30.8 -1.2
BJI S **S** 16 48 06.3 +3.2
BJI pmax pmax
comp=Z,11nm,1.0s
BJI pmax pmax
comp=Z,180nm,3.6s
BJI LR LR
comp=Z,170nm,18.0s
BJI LR LR
comp=Z,160nm,18.0s
BJI LR LR
comp=Z,230nm,24.5s
CMSA Cobar Meteorol 38.32 156 P **P** 16 42 12.6 -0.5
baz=38
MSHR Mys Shultsa 39.31 3 *ce* P **P** 16 42 21.4 +0.1
MSHR pmax pmax
comp=Z,26nm,1.0s
LZH Lanzhou 39.74 328 *e* P **P** 16 42 26.5 +1.2
LZH sP sP 16 42 46.4 +1.8
LZH S **S** 16 48 25.3 -0.3
LZH pmax pmax
comp=Z,82nm,1.2s
LZH pmax pmax
comp=Z,170nm,4.3s
LZH LR LR
comp=Z,560nm,15.7s
LZH LR LR
comp=Z,300nm,16.4s
LZH LR LR
comp=Z,640nm,17.3s
VLA Vladivostok 39.90 4 *i* P **P** 16 42 25.7 -0.5
VLA pmax pmax
comp=Z,34nm,0.9s
ARMA Armidale 40.20 148 P **P** 16 42 28.3 -0.7
baz=40
ARMA Armidale 40.20 148 P **P** 16 42 28.5 -0.5
ARMA IAmb IAmb 16 42 36.7
comp=Z,27nm,0.7s
HHC Hu-ho-hao-te 40.40 340 *e* P **P** 16 42 30.4 -0.1
HHC pmax pmax
comp=Z,14nm,0.9s
HHC pmax pmax
comp=Z,45nm,5.3s
CN2 Changchun 40.52 357 *e* P **P** 16 42 34.1 +2.8
CN2 *e* S **S** 16 48 39.9 +3.3
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,19.0s
H11S3 WAKE ISLAND Hy 40.58 65 T T 17 25 47.0
baz=253,slow=75,SNR=59
H11S2 WAKE ISLAND Hy 40.59 65 T T 17 25 52.3
baz=253,slow=75,SNR=90
H11S1 WAKE ISLAND Hy 40.59 65 T T 17 25 47.6
baz=253,slow=75,SNR=61
ERM Erimo 40.90 17 *ce* P **P** 16 42 35.1 +0.6
ERM pmax pmax
comp=Z,32nm,0.8s
ERM Erimo 40.90 17 P **P** 16 42 34.9 +0.4
ERM IAmb IAmb 16 42 37.1
comp=Z,31nm,0.8s
USA0B Ussuriysk Arra 40.98 4 P **P** 16 42 34.6 -0.5
USA0B pmax pmax
comp=Z,38nm,0.8s
USA0B Ussuriysk Arra 40.98 4 P **P** 16 42 34.6 -0.5
USA0B IAmb IAmb 16 42 36.9
comp=Z,38nm,0.8s
USRK Ussuriysk Ar. 40.98 4 P **P** 16 42 35.4 +0.3
comp=Z,39nm,0.7s,baz=185,slow=7.4,SNR=65
USRK LR LR 16 57 28.2
comp=Z,285nm,21.9s,baz=170,slow=33
USRK Ussuriysk Ar. 40.98 4 P **P** 16 42 34.6 -0.5
USRK Ussuriysk Ar. 40.98 4 P **P** 16 42 34.6 -0.5
H11N1 WAKE ISLAND Hy 41.13 63 T T 17 26 38.6
baz=250,slow=75,SNR=15
H11N2 WAKE ISLAND Hy 41.15 63 T T 17 26 51.1
baz=250,slow=75,SNR=7.9
H11N3 WAKE ISLAND Hy 41.15 63 T T 17 26 46.0
baz=250,slow=75,SNR=14
MDJ Mudanjiang 41.28 1 P **P** 16 42 37.0 -0.5
MDJ IAmb IAmb 16 42 39.5
comp=Z,46nm,1.0s
SHL Shillong 41.41 306 P **P** 16 42 38.6 -0.6
SHL pmax pmax
comp=Z,77nm,0.8s
SHL Shillong 41.41 306 P **P** 16 42 38.6 -0.6
SHL IAmb IAmb 16 42 43.0
comp=Z,77nm,0.8s
YNG Young 41.84 155 P **P** 16 42 42.8 +0.4
baz=42
TEY Ternei 42.32 9 ⇑ *i* P **P** 16 42 45.9 -0.2
TEY *e* 16 42 54.0
TEY pmax pmax
comp=N,20nm,0.9s
TEY pmax pmax
comp=Z,40nm,0.8s
ASAJ Asahikawa 42.69 15 LR LR 17 01 59.9
comp=Z,300nm,18.6s,baz=194,slow=38
CAN Canberra 42.97 155 P **P** 16 42 51.5 0.0
baz=43
CAN Canberra 42.97 155 P **P** 16 42 52.1 +0.5
CAN pmax pmax
comp=Z,20nm,0.9s
CAN Canberra 42.97 155 P **P** 16 42 52.1 +0.5
CNB Canberra Magne 43.12 154 P **P** 16 42 52.4 -0.4
baz=43
YUK Yuzh-Kuril'sk 43.56 18 *e* P **P** 16 42 56.5 +0.4
YUK *e* 16 44 38.1
YUK *e* S **S** 16 49 23.3 +1.8
YUK pmax pmax
comp=Z,99nm,2.7s
TOO Toolangi 43.60 160 P **P** 16 42 56.1 -0.5
baz=44
TOO Toolangi 43.60 160 P **P** 16 42 57.7 +1.1
TOO pmax pmax
comp=Z,48nm,1.5s
TOO Toolangi 43.60 160 P **P** 16 42 57.7 +1.1
TOO IAmb IAmb 16 42 59.8
comp=Z,48nm,1.4s
LSA Lhasa 43.93 311 P **P** 16 43 02.1 +2.2
LSA pmax pmax
comp=Z,200nm,0.7s
LSA Lhasa 43.93 311 P **P** 16 42 57.9 -2.1
LSA pmax pmax

comp=Z,45nm,0.9s
LSA Lhasa 43.93 311 P P 16 42 57.9 -2.1
LSA IAmb IAmb 16 43 04.4
comp=Z,45nm,0.9s
GTA Gaotai 44.34 328 *e*P **P 16 43 03.0 +0.3**
GTA pP pP 16 43 15.0 -1.2
GTA sP pwP 16 43 19.9 +1.1
GTA S **S 16 49 38.5 +5.2**
GTA pmax pmax
comp=Z,17nm,0.9s
GTA pmax pmax
comp=Z,120nm,6.0s
GTA LR LR
comp=Z,270nm,17.8s
GTA LR LR
comp=Z,350nm,18.7s
GTA LR LR
comp=Z,530nm,17.8s
DZM Mont Dzumac 44.99 126 *e*P **P 16 43 08.3 +0.3**
comp=Z,20nm,0.7s
DZM *e*S **S 16 49 45.8 +2.7**
comp=Z,376nm,26.9s
DZM *e*LR LR 16 55 50.5
comp=Z,429nm,23.9s
DZM Mont Dzumac 44.99 126 P **P 16 43 08.4 +0.3**
comp=Z,13nm,0.8s,baz=257,slow=19,SNR=8.0
DZM LR LR 17 02 43.3
comp=Z,239nm,18.1s,baz=323,slow=37
DZM Mont Dzumac 44.99 126 P **P 16 43 08.5 +0.5**
KUR Kuril'sk 45.28 20 *i* P **P 16 43 09.6 -0.2**
YSS Yuzh-Sakhalins 45.38 14‖ *e*P **P 16 43 10.7 +0.1**
YSS *e**SP **pP 16 43 25.2 +1.1**
YSS *e*S **S 16 49 49.5 +1.7**
YSS *e*SSS SSS 16 54 04.2
YSS pmax pmax
comp=Z,100nm,2.0s
YSS pmax pmax
comp=Z,50nm,0.7s
YSS MLR MLR
comp=N,100nm,16.0s
YSS MLR MLR
comp=E,100nm,14.0s
YSS Yuzh-Sakhalins 45.38 14 P **P 16 43 10.3 -0.3**
YSS IAmb IAmb 16 43 12.2
comp=Z,45nm,0.8s
TAPN Taplejung 45.55 306 *e*P **P 16 43 14.3 +1.6**
comp=Z,146nm,1.1s
ODAN Odare 45.61 305 *e*P **P 16 43 14.6 +1.5**
comp=Z,110nm,0.9s
KLR Kul'dur 45.97 3 P **P 16 43 14.7 -0.6**
comp=Z,12nm,0.7s,baz=205,slow=5.3,SNR=39
KLR LR LR 17 00 25.8
comp=Z,319nm,21.3s,baz=183,slow=33
KLR Kul'dur 45.97 3*ce*P **P 16 43 15.3 0.0**
KLR pmax pmax
comp=Z,19nm,1.1s
KLR MLR MLR
comp=Z,333nm,21.0s
RAMN Ramite 46.30 305 *e*P **P 16 43 20.3 +1.8**
comp=Z,142nm,1.1s
JIRN Jiri 46.91 306 *e*P **P 16 43 25.2 +1.7**
comp=Z,195nm,1.0s
GUN Gumba 47.27 306 *e*P **P 16 43 27.6 +1.4**
comp=Z,170nm,0.9s
PKI Pulchoki 47.51 305 *e*P **P 16 43 29.1 +1.0**
comp=Z,70nm,1.1s
PKIN Phulchoki 47.53 305 *e*P **P 16 43 29.0 +0.9**
KKN Kakani 47.70 305 *e*P **P 16 43 31.1 +1.7**
DMN Daman 47.78 305 *e*P **P 16 43 31.4 +1.3**
comp=Z,106nm,0.9s
PVM Polavaram 47.81 290 *e*P **P 16 43 30.8 +0.7**
PVM IVmB_BB 16 43 50.1
comp=Z,202nm,5.4s
GRNR Gornyy 47.91 7‖ *i*P **P 16 43 31.1 +0.7**
GRNR *e*S **S 16 50 29.0 +5.0**
GRNR pmax pmax
comp=N,20nm,0.8s
GRNR pmax pmax
comp=Z,40nm,0.8s
GRNR smax smax
comp=E,2.0nm,1.0s
GRNR MLR MLR
comp=N,80nm,13.0s
ULN Ulaanbaatar 48.11 341*ce*P **P 16 43 31.7 -0.5**
ULN pmax pmax
comp=Z,16nm,0.8s
ULN Ulaanbaatar 48.11 341 P **P 16 43 30.3 -1.9**
ULN IAmb IAmb 16 43 36.5
comp=Z,14nm,0.8s
SONM Songino Array 48.30 340 P **P 16 43 32.8 -0.8**
comp=Z,6.6nm,0.8s,baz=151,slow=8.4,SNR=21
SONM PcP **PcP 16 45 00.5 +0.7**
comp=Z,3.3nm,0.8s,baz=162,slow=4.8,SNR=2.1
SONM LR LR 17 05 27.1
comp=Z,203nm,21.5s,baz=154,slow=38
SONM Songino Array 48.30 340 P **P 16 43 32.7 -0.9**
GKN Gorkha 48.31 305 *e*P **P 16 43 35.5 +1.4**
comp=Z,105nm,1.1s
MOO Moorlands 48.55 161 P **P 16 43 34.6 -0.8**
baz=49
TAU Tasmania Unive 49.02 161 P **P 16 43 39.8 +0.8**
TAU pmax pmax
comp=Z,91nm,1.5s
TAU Tasmania Unive 49.02 161 P **P 16 43 39.8 +0.8**
TYV Tymovskoe 49.04 12 *e*P **P 16 43 39.4 +0.4**
TYV pmax pmax
comp=Z,25nm,0.8s
TYV pmax pmax
comp=Z,69nm,2.1s
SKHT Srikalahasti 49.04 285 *e*P **P 16 43 41.4 +1.8**
SKHT IVmB_BB 16 43 54.0
comp=Z,306nm,3.5s
KOLN Koldanda 49.07 305 *e*P **P 16 43 40.7 +0.7**
comp=Z,198nm,0.9s
ADKI Addanki 49.11 288 *e*P **P 16 43 41.5 +1.4**
ADKI IVmB_BB 16 44 37.7
comp=Z,379nm,4.0s
DANN Dangsing 49.16 305 *e*P **P 16 43 41.1 +0.4**
comp=Z,231nm,0.7s
PYUN Piuthan 49.70 305 *e*P **P 16 43 45.7 +1.0**
comp=Z,237nm,1.0s
NJS Nagarjunasagar 49.86 289 *e*P **P 16 43 46.7 +0.8**
NJS IVmBBB 16 44 20.0
comp=Z,381nm,3.8s
SRLM Srisailam 50.17 288 *e*P **P 16 43 48.3 0.0**
RPR Rampur 50.30 292 *e*P **P 16 43 50.1 +0.9**
RPR IVmB_BB 16 44 27.9
comp=Z,296nm,4.4s
ZEA Zeya 50.40 359 *e*P P 16 43 42.6 -6.7
ZEA pmax pmax
comp=Z,36nm,1.6s
ZEA MLR MLR
comp=N,200nm,18.0s
ZEA MLR MLR
comp=Z,300nm,18.0s
HYB Hyderabad 50.72 290 *i* P **P 16 43 54.0 +1.6**
HYBB Hyderabad (bro 50.72 290 *e*P **P 16 43 53.6 +1.2**
HYBB IVmB_BB 16 43 55.5
comp=Z,284nm,7.5s
SRSP Sriramsagar 51.20 292 *e*P **P 16 43 56.9 +1.0**
SRSP IVmB_BB 16 44 32.3
comp=Z,264nm,4.2s
ZAK Zakamensk 51.54 340 *e*P **P 16 43 57.0 -1.1**
ZAK pmax pmax
comp=Z,4.0nm,1.0s
URV Uravakonda 51.56 286 *e*P **P 16 43 59.2 +0.5**
URV IVmB_BB 16 44 08.9
comp=Z,453nm,4.2s
KLRI Killari 52.67 290 *e*P **P 16 44 06.1 -0.9**
KLRI IVmB_BB 16 44 46.4
comp=Z,535nm,4.4s
SKR Severo-Kuril's 52.84 22 *e*P **P 16 44 08.3 +0.8**
SKR *e*S **S 16 51 32.3 0.0**
SKR pmax pmax
comp=Z,100nm,3.4s
SKR MLR MLR
comp=Z,100nm,17.0s
MSVF Nonsavu 53.31 115 P **P 16 44 12.8 +1.1**
MSVF pmax pmax
comp=Z,25nm,0.9s
MSVF Nonsavu 53.31 115 P **P 16 44 12.8 +1.1**
MSVF IAmb IAmb 16 44 15.0
comp=Z,25nm,0.9s
MOY Mondy 53.41 339 *e*P **P 16 44 12.4 +0.4**
WMQ Urumqi 54.04 324 *e*P **P 16 44 17.6 +1.0**
WMQ sP sP 16 44 35.3 -0.7
WMQ S **S 16 51 48.3 -0.7**
WMQ pmax pmax
comp=Z,38nm,0.9s
WMQ pmax pmax
comp=Z,90nm,4.5s
WMQ LR LR
comp=Z,220nm,21.9s
WMQ LR LR
comp=Z,280nm,19.1s
WMQ LR LR
comp=Z,470nm,24.5s
WMQ Urumqi 54.04 324 P **P 16 44 15.9 -0.7**
WMQ pmax pmax
comp=Z,51nm,0.8s
WMQ Urumqi 54.04 324 P **P 16 44 15.9 -0.7**
NDI New Delhi 54.68 303 *ex* P **P** 16 44 10.0 -11
PEA0B Petropavlovsk- 55.38 21 P **P 16 44 25.9 -0.1**
PEA0B pmax pmax
comp=Z,58nm,0.7s
PEA0B Petropavlovsk- 55.38 21 P **P 16 44 25.9 -0.1**
PETK Petropavlovsk- 55.38 21 P **P 16 44 26.2 +0.2**
comp=Z,63nm,0.8s,baz=194,slow=6.0,SNR=138
PETK LR LR 17 06 34.0
comp=Z,118nm,20.5s,baz=236,slow=34
PETK Petropavlovsk- 55.38 21 P **P 16 44 25.9 -0.1**
BOD Bodaibo 55.63 351 *e*P **P 16 44 26.2 -1.5**
BOD pmax pmax
comp=Z,7.0nm,1.4s
PET Petropavlovsk 55.66 22 P **P 16 44 27.6 -0.4**
PET pmax pmax
comp=Z,71nm,1.3s
PET Petropavlovsk 55.66 22 P **P 16 44 27.6 -0.4**
PET IAmb IAmb 16 44 30.1
comp=Z,71nm,1.3s
BHK Bhakra 56.20 306 *ex* **P 16 44 34.0 +1.6**
THN Thein Dam 57.10 307 *ex* P 16 44 46.5 +7.8
ZSN Zaisan 57.78 327 *e*P **P 16 44 44.1 +0.8**
comp=Z,11nm,1.1s,baz=327
ZSN Zaisan 57.78 327 *e*P **P 16 44 44.1 +0.8**
ZSN pmax pmax
comp=Z,11nm,1.1s
DGZ Jazzator, Alta 57.81 330 *i* P **P 16 44 43.3 -0.3**
DGZ pmax pmax
comp=Z,9.0nm,0.8s
YAK Yakutsk 58.72 1 *e*P **P 16 44 47.3 -2.2**
YAK *e**PP **pP 16 45 04.0 +0.5**
YAK *e* 16 45 39.2
YAK *e* 16 46 57.2
YAK *e*S **S 16 52 48.1 -2.0**
YAK *e**SS **sS 16 53 16.7 +4.1**
YAK *e* 16 54 31.5
YAK *e*SS **SS 16 56 43.4 -0.6**
YAK *e*SSS SSS 16 59 13.1
YAK pmax pmax
comp=Z,10.0nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK pmax pmax
comp=Z,24nm,2.6s
YAK pmax pmax
comp=N,55nm,2.4s
YAK pmax pmax
comp=E,43nm,2.3s
YAK smax smax
comp=N,89nm,2.4s
YAK smax smax
comp=E,57nm,2.5s
YAK Yakutsk 58.72 1 P **P 16 44 49.2 -0.3**
YAK IAmb IAmb 16 45 06.1
comp=Z,30nm,0.7s
SHLS Shalkode 58.73 320 *e*P **P 16 44 48.7 -1.4**
comp=Z,22nm,0.8s,baz=320
SHLS Shalkode 58.73 320 *e*P **P 16 44 48.7 -1.4**
SHLS pmax pmax
comp=Z,22nm,0.8s
MK31 Makanchi Array 58.86 325 P **P 16 44 50.5 -0.4**
MK31 pmax pmax
comp=Z,21nm,0.9s
MK31 Makanchi Array 58.86 325 P **P 16 44 50.5 -0.4**
MK31 IAmb IAmb 16 44 55.4
comp=Z,21nm,0.8s
MKAR Makanchi Array 58.86 325 P **P 16 44 50.8 -0.1**
comp=Z,25nm,0.7s,baz=119,slow=8.5,SNR=180
MKAR LR LR 17 11 50.2
comp=Z,278nm,18.9s,baz=118,slow=38
MKAR Makanchi Array 58.86 325 P **P 16 44 50.4 -0.5**
MA2 Magadan 58.87 13*ce*P **P 16 44 50.6 0.0**
MA2 pmax pmax
comp=Z,20nm,0.8s
MA2 Magadan 58.87 13 P **P 16 44 50.6 0.0**
MA2 IAmb IAmb 16 44 52.6
comp=Z,22nm,0.7s
UZB Uzynbulak 59.01 320 *i* P **P 16 44 52.3 +0.2**
comp=Z,16nm,0.9s,baz=320
UZB *e*S **S 16 52 59.0 +4.0**
baz=320
UZB Uzynbulak 59.01 320 *i* P **P 16 44 52.3 +0.2**
UZB *e*S **S 16 52 59.0 +4.0**
UZB pmax pmax
comp=Z,16nm,0.9s
MAKZ Makanchi 59.05 325 P **P 16 44 51.5 -0.6**
MAKZ pmax pmax
comp=Z,44nm,0.9s
MAKZ Makanchi 59.05 325 P **P 16 44 51.5 -0.6**
TARG Taragay, Kyrgy 59.16 318 P **P 16 44 52.2 -1.3**
TARG IAmb IAmb 16 45 13.1
comp=Z,30nm,0.9s
SATY Saty 59.37 319 *i* P **P 16 44 54.9 +0.4**
comp=Z,43nm,0.9s,baz=320
SATY Saty 59.37 319 *i* P **P 16 44 54.9 +0.4**
SATY pmax pmax
comp=Z,43nm,0.9s
KPKS Kokpek 59.38 320 *i* P **P 16 44 54.7 +0.1**
comp=Z,32nm,0.8s,baz=320
KPKS Kokpek 59.38 320 *i* P **P 16 44 54.6 +0.1**
KPKS pmax pmax
comp=Z,32nm,0.8s
NIL Nilore 59.45 308 P **P 16 44 54.4 -0.8**
NIL pmax pmax
comp=Z,126nm,1.1s
NIL Nilore 59.45 308 P **P 16 44 54.4 -0.8**
KSH Kashi 59.49 315 *e*P **P 16 44 57.9 +2.4**
KSH S **S 16 53 01.3 0.0**
KSH pmax pmax
comp=Z,29nm,0.6s
KSH pmax pmax
comp=Z,260nm,4.2s
DCZ Deep Cove 59.50 149 P **P 16 44 56.5 +1.3**
QRZ Quartz Range 59.57 142 P **P 16 44 57.5 +1.7**
FOZ Fox Glacier 59.64 146 P **P 16 44 57.5 +1.3**
MLZ Mavora Lakes 59.93 149 P **P 16 44 58.3 +0.1**
WKZ Wanaka 60.05 148 P **P 16 44 59.0 0.0**
MDOK Medeo 60.30 319 *i* P **P 16 45 01.5 +0.5**
baz=319
MDOK *e*S **S 16 53 15.8 +4.2**
baz=319
MDOK LR LR 17 11 06.5
comp=Z,103nm,17.0s,baz=319
MDOK Medeo 60.30 319 *i* P **P 16 45 01.4 +0.5**
MDOK *e*S **S 16 53 15.8 +4.2**
MDOK MLR MLR
comp=Z,103nm,17.0s
TNSS Tian-Shan 60.31 319 *i* P **P 16 45 02.0 +0.7**
baz=319
TNSS Tian-Shan 60.31 319 *i* P **P 16 45 02.0 +0.7**
NNZ Nelson 60.32 142 P **P 16 44 59.9 -1.1**
THZ Tophouse 60.35 143 P **P 16 44 59.9 -1.3**
LBZ Lake Benmore 60.40 147 P **P 16 45 02.2 +0.8**
LBZ IAmb IAmb 16 45 05.0
comp=Z,20nm,0.6s
AAA Alma-Ata 60.41 319 *e*P **P 16 45 02.6 +0.9**
comp=Z,17nm,0.7s,baz=319
AAA Alma-Ata 60.41 319 *e*P **P 16 45 02.5 +0.9**
AAA pmax pmax
comp=Z,17nm,0.7s
RPZ Rata Peaks 60.45 145 P **P 16 45 01.1 -0.7**
RPZ IAmb IAmb 16 45 04.9
comp=Z,57nm,1.3s
LTZ Lake Taylor 60.58 144 P **P 16 45 03.9 +1.2**
LTZ IAmb IAmb 16 45 17.3
comp=Z,38nm,1.4s
CHKK Chushkaly 60.65 320 *e*P **P 16 45 03.0 -0.2**
baz=320
CHKK Chushkaly 60.65 320 *e*P **P 16 45 03.0 -0.2**
BOOM Boomskoye usch 60.74 318 P **P 16 45 03.4 -0.6**
BOOM pmax pmax
comp=Z,19nm,1.2s
BOOM Boomskoye usch 60.74 318 P **P 16 45 03.4 -0.6**
BOOM IAmb IAmb 16 45 08.2
comp=Z,19nm,1.2s
OXZ Oxford 60.78 145 P **P 16 45 03.9 -0.1**
KZA Kyzart 61.03 317 P **P 16 45 07.2 +0.9**
SNR=35
KUU Kurty 61.08 319 *i* P **P 16 45 05.9 -0.2**
comp=Z,39nm,0.8s,baz=320
KUU Kurty 61.08 319 *i* P **P 16 45 05.9 -0.2**
KUU pmax pmax
comp=Z,39nm,0.8s
KHZ Kahutara 61.12 143 P **P 16 45 06.3 +0.1**
TKM2 Tokmak 2 61.15 318 P **P 16 45 07.1 +0.3**
SNR=20
BKZ Black Stump Fm 61.17 139 P **P 16 45 07.3 +0.5**
BKZ IAmb IAmb 16 45 23.0
comp=Z,29nm,1.0s
MOZ McQueen's Vall 61.36 145 P **P 16 45 09.6 +1.7**
KBK Karagaybulak 61.48 318 P **P 16 45 10.5 +1.5**
SNR=7.5
UCH Uchtor 61.59 317 P **P 16 45 10.8 +0.7**
SNR=42
ZAA0 Zalesovo Array 61.76 333 P **P 16 45 08.6 -1.9**
ZALV Zalesovo Beam 61.76 333 P **P 16 45 08.8 -1.6**
comp=Z,8.9nm,0.9s,baz=114,slow=6.6,SNR=27
ZALV LR LR 17 13 16.0
comp=Z,120nm,22.0s,baz=104,slow=37
ZALV Zalesovo Beam 61.76 333 P **P 16 45 08.6 -1.9**
AAK Ala-Archa 61.77 318*ce*P **P 16 45 10.8 -0.2**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 61.77 318 P **P 16 45 09.2 -1.8**
SGDS Sogindy 62.02 318 *i* P **P 16 45 12.2 -0.4**
comp=Z,5.4nm,0.9s,baz=318
SGDS Sogindy 62.02 318 *i* P **P 16 45 12.1 -0.4**
SGDS pmax pmax
comp=Z,5.0nm,0.9s
USP Ospenovka 62.03 318 P **P 16 45 12.6 0.0**
SNR=25
AML Almayashu 62.12 317 P **P 16 45 14.2 +0.6**
SNR=32
SMY Shemya 62.18 30 P **P 16 45 11.7 -1.5**
SMY pmax pmax
comp=Z,56nm,0.9s
SMY Shemya 62.18 30 P **P 16 45 11.7 -1.5**
EKS2 Erkin-Say 62.27 317 P **P 16 45 14.8 +0.5**
SNR=19
KURBB Kurchatov Arra 63.01 327 P **P 16 45 18.3 -0.6**
comp=Z,32nm,0.9s,baz=124,slow=5.9,SNR=125
KURBB Kurchatov Arra 63.01 327 P **P 16 45 17.9 -1.0**
KURK Kurchatov 63.01 327*ce*P **P 16 45 18.3 -0.6**
KURK pmax pmax
comp=Z,24nm,0.7s
KURK Kurchatov 63.01 327 P **P 16 45 18.1 -0.8**
KURK IAmb IAmb 16 45 23.1
comp=Z,38nm,0.8s
KBL Kabul 63.05 307 P **P 16 45 19.4 -0.3**
KBL pmax pmax
comp=Z,46nm,1.1s
KBL Kabul 63.05 307 P **P 16 45 19.4 -0.3**
KBL IAmb IAmb 16 45 23.8
comp=Z,46nm,1.1s
BTLS Baital 63.06 320 *e*P **P 16 45 18.9 -0.4**
comp=Z,8.6nm,0.9s,baz=320
BTLS Baital 63.06 320 *e*P **P 16 45 18.9 -0.4**
BTLS pmax pmax
comp=Z,9.0nm,0.9s
BTK Batken 63.38 314 P **P 16 45 21.3 -0.4**
BTK pmax pmax
comp=Z,20nm,0.8s
BTK Batken 63.38 314 P **P 16 45 21.2 -0.4**
BTK IAmb IAmb 16 45 28.1
comp=Z,20nm,0.8s
GAR Garm 63.40 312 P **P 16 45 21.3 -0.6**
DZA Taraz 64.02 317 *e*P **P 16 45 25.6 -0.2**
baz=317
DZA Taraz 64.02 317 *e*P **P 16 45 25.5 -0.2**
CHGR Chuyangaron 64.15 312 P **P 16 45 26.0 -0.8**
CHGR IAmb IAmb 16 45 31.4
comp=Z,29nm,0.8s
IUG Iuzhnay 64.66 316 *e*P **P 16 45 30.4 +0.3**
comp=Z,3.6nm,0.7s,baz=316
IUG Iuzhnay 64.66 316 *e*P **P 16 45 30.3 +0.3**
IUG pmax pmax
comp=Z,4.0nm,0.7s
KK31 Karatay Array 64.66 317 P **P 16 45 29.1 -0.8**
KK31 Karatay Array 64.66 317 P **P 16 45 29.1 -0.8**
KK31 IAmb IAmb 16 45 33.5
comp=Z,23nm,0.9s
KKAR Karatay Array 64.66 317 P **P 16 45 29.1 -0.8**
KKAR pmax pmax
comp=Z,23nm,1.0s
KKAR Karatay Array 64.66 317 P **P 16 45 29.1 -0.8**
KKAR Karatay Array 64.66 317 P **P 16 45 29.1 -0.8**
KKAR IAmb IAmb 16 45 33.5
comp=Z,23nm,0.9s
CHM Chimkent 65.01 316 *e*P **P 16 45 32.3 0.0**
baz=316
CHM Chimkent 65.01 316 *e*P **P 16 45 32.2 0.0**
BRZS Berezniki 66.00 324 *i* P **P 16 45 38.0 -0.5**
comp=Z,13nm,1.0s,baz=324
BRZS Berezniki 66.00 324 *i* P **P 16 45 38.0 -0.5**
BRZS pmax pmax
comp=Z,13nm,1.0s
ADK Adak 66.57 34 P **P 16 45 41.6 -0.4**
ADK pmax pmax
comp=Z,16nm,0.7s
ADK Adak 66.57 34 P **P 16 45 41.5 -0.4**
ADK IAmb IAmb 16 45 48.9
comp=Z,16nm,0.7s
GSTR Great Sitkin T 67.01 34 P **P 16 45 44.6 -0.2**
ATKA Atka Island 68.09 34 P **P 16 45 51.3 -0.3**
TIXI Tiksi 68.37 0 P **P 16 45 51.8 -1.2**
comp=Z,3.8nm,0.5s,baz=174,slow=5.4,SNR=23
TIXI Tiksi 68.37 0*ce*P **P 16 45 52.4 -0.6**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 68.37 0 P **P 16 45 51.6 -1.4**
BVA0 Borovoye Array 68.60 327 P **P 16 45 53.5 -1.3**
BVAR Borovoye Array 68.60 327 P **P 16 45 54.2 -0.6**
comp=Z,10nm,0.6s,baz=123,slow=7.3,SNR=60
BRVK Borovoye 68.67 327*ce*P **P 16 45 54.5 -0.7**
BRVK pmax pmax
comp=Z,24nm,1.0s
BRVK Borovoye 68.67 327 P **P 16 45 54.3 -1.0**
BRVK IAmb IAmb 16 46 03.1
comp=Z,51nm,0.9s
BILL Bilibino 69.70 14 *i* P **P 16 46 00.5 -0.8**
BILL *i* 16 46 26.7
BILL *i* 16 48 35.7
BILL pmax pmax
comp=Z,7.0nm,1.3s
BILL Bilibino 69.70 14 P **P 16 46 00.5 -0.8**
CASY Casey 70.47 188 P **P 16 46 06.4 +0.4**
CASY IAmb IAmb 16 46 08.5
comp=Z,23nm,0.8s
HOQ Hoqain 71.26 294 P P 16 46 05.0 -6.8
BSY Bisya 71.30 293 P **P 16 46 09.4 -2.7**
NRIK Noril'sk 71.32 346 P **P 16 46 10.5 -0.7**
comp=Z,14nm,0.8s,baz=115,slow=6.4,SNR=23
NRIK LR LR 17 23 22.2
comp=Z,179nm,18.1s,baz=158,slow=41
NIKH Nikolski High 71.40 35 P **P 16 46 11.9 -0.1**
NIKH IAmb IAmb 16 46 13.3
comp=Z,37nm,0.8s
ARQ Araqi 71.97 293 P **P 16 46 15.1 -0.9**
SOHO SOHO 72.02 294 P **P 16 46 12.9 -3.3**
SPIA Saint Paul Isl 72.20 30 P **P 16 46 16.9 +0.2**
SPIA IAmb IAmb 16 46 18.5
comp=Z,39nm,0.9s
MDH Madha 72.33 295 P **P 16 46 13.3 -4.8**
BANOM Banah 72.38 296 P P 16 46 12.7 -5.8
UOSS Minazif 72.38 295 P **P 16 46 15.2 -3.3**
UOSS Minazif 72.38 295 P **P 16 46 18.5 0.0**
GEYT Alibeck 72.41 309 P **P 16 46 18.4 0.0**
comp=Z,15nm,0.8s,baz=145,slow=3.6,SNR=22
GEYT LR LR 17 22 45.5
comp=Z,114nm,19.7s,baz=75,slow=40
GEYT Alibeck 72.41 309 P **P 16 46 18.3 -0.1**
GYA0 ALIBECK ARRAY 72.41 309 P **P 16 46 18.7 +0.3**
GYA0B ALIBECK ARRAY 72.41 309 P **P 16 46 18.1 -0.4**

GYA0B IAmb IAmb 16 46 22.6
comp=Z,22nm,1.1s
HATD Hatta, Dubai 72.44 295 P P 16 46 16.1 -2.7
ASHO Ashiyiah 72.49 295 P P 16 46 17.4 -1.8
UNV Unalaska Valle 73.01 34 P P 16 46 21.3 -0.3
UNV IAmb IAmb 16 46 24.1
comp=Z,16nm,0.6s
AKUT Akutan 73.52 34 P P 16 46 24.3 -0.2
AKUT IAmb IAmb 16 46 27.0
comp=Z,50nm,0.8s
AB31 Akbulak array 73.53 321 P P 16 46 22.2 -2.5
ABKAR Akbulak array 73.53 321 P P 16 46 23.2 -1.5
SOCY Socotra 73.95 282 P P 16 46 26.9 -1.1
AKTO Aktyubinsk 75.02 321 P P 16 46 32.9 -0.6
comp=Z,7.2nm,0.8s,baz=101,slow=5.9,SNR=24
FALS False Pass 75.04 34 P P 16 46 32.6 -0.8
SVE Sverdlovsk 75.21 328 eP P 16 46 34.0 -0.4
SVE pmax pmax
comp=Z,32nm,1.1s
HMH Humu'ula Sheep 76.01 71 P P 16 46 40.2 +0.1
MLH Mauna Loa 76.10 71 P P 16 46 42.1 +1.6
ARU Arti 76.20 328 d iP P 16 46 39.0 -1.0
ARU S S 16 56 21.1 +1.0
ARU SS SS 17 01 14.1 -0.4
ARU pmax pmax
comp=Z,7.0nm,0.6s
ARU Arti 76.20 328 P P 16 46 39.0 -1.0
SDPT Sand Point 76.80 34 P P 16 46 42.6 -0.8
CNBA Chernabura Isl 77.17 34 P P 16 46 44.6 -0.9
CNBA IAmb IAmb 16 46 47.3
comp=Z,29nm,1.2s
RDOG Red Dog Mine 79.25 21 P P 16 46 56.7 -0.1
RDOG IAmb IAmb 16 47 37.7
comp=Z,13nm,0.6s
CHIR Chirikof Islan 79.59 34 P P 16 46 59.6 +0.8
AKT Akhty 80.79 311 eP P 16 47 06.1 +0.3
AKT e 16 47 12.5
AKT pmax pmax
comp=Z,13nm,0.9s
ABPO Ambohimpanom 82.55 250 P P 16 47 15.1 -0.5
ABPO pmax pmax
comp=Z,15nm,1.0s
ABPO Ambohimpanom 82.55 250 P P 16 47 15.1 -0.5
ABPO IAmb IAmb 16 47 19.0
comp=Z,15nm,0.9s
VNDA Vanda 82.70 173 P P 16 47 15.3 +0.3
comp=Z,35nm,0.9s,baz=315,slow=6.0,SNR=112
VNDA LR LR 17 24 59.2
comp=Z,134nm,18.4s,baz=326,slow=36
VNDA Vanda 82.70 173 P P 16 47 15.0 0.0
VNDA pmax pmax
comp=Z,31nm,0.9s
VNDA Vanda 82.70 173 P P 16 47 15.0 0.0
VNDA IAmb IAmb 16 47 17.2
comp=Z,31nm,0.8s
TBLG Delisi 83.04 311 P P 16 47 15.5 -2.0
TBLG Delisi 83.04 311 P P 16 47 15.5 -2.0
PPT Papeete 83.51 108 eLR LR 17 20 52.8
comp=Z,83nm,18.3s,baz=306,slow=33
PPT2 Papeete2 83.51 108 eLR LR 17 13 38.9
comp=Z,405nm,27.8s
ZEI Tsey 83.69 313 eP P 16 47 18.4 -2.7
ZEI pmax pmax
comp=Z,9.0nm,0.4s
MAW Mawson 83.77 201 P P 16 47 21.4 +0.8
comp=Z,27nm,0.8s,baz=45,slow=5.1,SNR=11
MAW Mawson 83.77 201 P P 16 47 21.6 +1.0
MAW pmax pmax
comp=Z,6.0nm,0.9s
MAW Mawson 83.77 201 P P 16 47 21.6 +1.0
AKH Akhalkalaki 83.97 311 ⇓P P 16 47 23.1 +0.6
AKH Akhalkalaki 83.97 311 P P 16 47 22.1 -0.4
AKH pmax pmax
comp=Z,10.0nm,0.8s
AKH Akhalkalaki 83.97 311 P P 16 47 22.1 -0.4
TBI Tubuai 84.19 114 eLR LR 17 13 57.2
comp=Z,420nm,26.5s
KBZ Khabaz 84.45 313 P P 16 47 24.9 +0.4
comp=Z,4.4nm,0.9s,baz=156,slow=6.4,SNR=6.2
KBZ LR LR 17 31 07.3
comp=Z,85nm,18.3s,baz=82,slow=40
KBZ Khabaz 84.45 313 ceP P 16 47 25.2 +0.6
KBZ pmax pmax
comp=Z,7.0nm,1.1s
KIV Kislovodsk 84.60 314 ⇓P P 16 47 24.2 -1.4
KIV Kislovodsk 84.60 314 eP P 16 47 25.5 0.0
KIV pmax pmax
comp=Z,19nm,0.9s
KIV MLR MLR
comp=Z,225nm,20.0s
ATD Arta Tunnel 84.86 281 P P 16 47 26.9 -0.5
ATD IAmb IAmb 16 47 32.0
comp=Z,21nm,0.9s
ILAR Eielson Array 84.94 25 LR LR 17 22 26.7
comp=Z,51nm,21.3s,baz=294,slow=34
BATM Batumi 85.32 311 ⇓P P 16 47 29.4 +0.3
BATM Batumi 85.32 311 ⇓P P 16 47 29.4 +0.3
VRH Novokhopyorsk 85.35 321 eP P 16 47 27.1 -1.9
VRH pmax pmax
comp=Z,20nm,1.0s
BCA Borcka 85.37 311 ⇓P P 16 47 29.8 +0.4
KLMR Klimovskoe 86.62 331 eP P 16 47 32.9 -2.1
KLMR pmax pmax
comp=Z,11nm,0.9s
KLMR Klimovskoe 86.62 331 eP P 16 47 32.9 -2.1
KLMR AMP 16 47 34.7
comp=Z,11nm,0.9s
VORD Divnogorie 86.89 321 eP P 16 47 34.7 -1.8
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 86.96 321 eP P 16 47 35.3 -1.6
VSR pmax pmax
comp=Z,10.0nm,0.7s
LPSR Galich'ya Gora 87.07 322 eP P 16 47 35.9 -1.5
LPSR pmax pmax
comp=Z,10.0nm,0.7s
TMCR Tamitsa 87.25 334 eP P 16 47 48.2 +10
TMCR pmax pmax
comp=Z,11nm,0.8s
ANN Anapa 88.35 315 eP P 16 47 40.6 -3.1
ANN pmax pmax
comp=Z,77nm,1.3s
OBN Obninsk 88.37 325 i P P 16 47 41.1 -2.4
OBN pmax pmax
comp=Z,9.0nm,0.9s
OBN MLR MLR
comp=Z,160nm,20.0s
APA Apatity 88.93 338 ⇑iP P 16 47 44.6 -1.3
APA pmax pmax
comp=Z,4.0nm,1.0s
ASF Jabal al Asfar 89.46 302 P P 16 47 48.1 -1.2
comp=Z,8.0nm,0.9s,baz=14,slow=2.2,SNR=9.6
INK Inuvik 90.11 22 P P 16 47 49.6 -1.7
comp=Z,6.1nm,0.7s,baz=205,slow=11,SNR=3.4
INK Inuvik 90.11 22 P P 16 47 49.7 -1.7
INK pmax pmax
comp=Z,37nm,1.4s
INK Inuvik 90.11 22 IAmb IAmb 16 48 21.4
comp=Z,37nm,1.4s
MMAI Mount Meron Ar 90.67 303 P P 16 47 54.5 -0.4
comp=Z,6.2nm,0.9s,baz=80,slow=7.0,SNR=4.6
KMBO Kilima Mbogo 91.05 269 P P 16 47 59.6 +2.3
comp=Z,4.0nm,0.9s,baz=46,slow=5.1,SNR=8.1
EIL Elat 91.30 300 P P 16 47 57.1 -0.8
comp=Z,6.4nm,0.8s,baz=321,slow=3.6,SNR=5.0
ARCES ARCESS Array B 91.47 340 P P 16 47 55.7 -2.1
comp=Z,3.9nm,0.6s,baz=76,slow=4.5,SNR=15
ARCES LR LR 17 35 07.1
comp=Z,86nm,18.1s,baz=90,slow=40
BRTR Keskin Array B 91.53 310 P P 16 47 56.8 -2.1
comp=Z,2.9nm,0.9s,baz=142,slow=4.6,SNR=7.8
BRTR LR LR 17 36 36.6
comp=Z,17nm,19.3s,baz=44,slow=40
BRTR Keskin Array B 91.53 310 i P P 16 47 57.5 -1.4
BRTR pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 91.53 310 P P 16 47 56.6 -2.3
CSS Mathiatis 92.22 305 P P 16 48 02.3 +0.3
CSS IAmb IAmb 16 48 04.4
comp=Z,15nm,0.9s
SYO Syowa Base 92.47 201 ⇑iP P 16 48 01.7 -0.6
SYO Syowa Base 92.47 201 ⇓ePcP PcP 16 48 05.0 +2.0
SYO Syowa Base 92.47 201 ⇑epP pP 16 48 16.0 -0.6
H02N1 VAN INLET T-PH 92.98 36 T T 18 30 08.6
SNR=12

FINES FINESS Array B 93.02 332 P P 16 48 02.8 -2.3
comp=Z,0.7nm,0.5s,baz=128,slow=3.1,SNR=11
FINES LR LR 17 34 28.3
comp=Z,142nm,20.0s,baz=72,slow=38
QSPA South Pole Qui 93.09 180 P P 16 48 05.7 +0.3
AKASG Malin Array Be 93.26 321 P P 16 48 04.3 -2.1
comp=Z,3.1nm,0.7s,baz=67,slow=4.8,SNR=7.4
AKASG Malin Array Be 93.26 321 i P P 16 48 04.3 -2.1
AKASG pmax pmax
comp=Z,4.0nm,0.7s
AKASG Malin Array Be 93.26 321 P P 16 48 04.6 -1.9
AKBB Malin Array Si 93.26 321 ceP P 16 48 05.2 -1.2
SORM Soroca 94.24 319 ⇑P P 16 48 08.8 -2.2
SORM Soroca 94.24 319 ⇑P P 16 48 08.8 -2.2
TIRR Tirgusor 94.79 315 ⇓P P 16 48 12.6 -1.0
TIRR Tirgusor 94.79 315 ⇓P P 16 48 12.6 -1.0
CFR Carcaliu 94.87 316 ⇓P P 16 48 12.5 -1.4
CFR Carcaliu 94.87 316 ⇓P P 16 48 12.5 -1.4
TESR Tescani 95.66 317 ⇑P P 16 48 16.3 -1.3
VRI Vrincioaia 95.73 317 ⇑P P 16 48 16.8 -1.1
VRI Vrincioaia 95.73 317 ⇑P P 16 48 16.8 -1.1
PLOR Plostina 95.78 317 ⇑P P 16 48 17.4 -0.8
PLOR Plostina 95.78 317 ⇑P P 16 48 17.4 -0.8
MLR Muntele Rosu 96.33 316 ⇑P P 16 48 20.6 -0.2
MLR Muntele Rosu 96.33 316 P P 16 48 19.8 -1.0
MLR pmax pmax
comp=Z,4.0nm,0.9s
MLR Muntele Rosu 96.33 316 P P 16 48 19.8 -1.0
BURAR Bucovina Array 96.41 318 ⇓P P 16 48 20.0 -1.1
BURAR Bucovina Array 96.41 318 ⇓P P 16 48 20.0 -1.1
BURAR Bucovina Array 96.41 318 P P 16 48 19.3 -1.8
BUR08 Bucovina Ar. S 96.41 318 P P 16 48 19.2 -1.9
RKT Rikitea 97.48 113 eLR LR 17 20 06.1
comp=Z,450nm,28.2s
DRGR 98.25 318 ⇑P P 16 48 27.6 -1.8
DRGR 98.25 318 ⇑P P 16 48 27.6 -1.8
BZS Buzias 99.28 317 ⇑P Pdif 16 48 33.1 -0.7
BZS Buzias 99.28 317 ⇑P Pdif 16 48 33.1 -0.7
YKA Yellowknife Ar 99.36 25 P Pdif 16 48 33.1 -0.7
comp=Z,4.8nm,0.9s,baz=297,slow=4.3,SNR=11
YKA LR LR 17 32 54.4
comp=Z,60nm,20.2s,baz=0.0,slow=35
NB2 NORSAR Subarra 99.94 334 P Pdif 16 48 34.9 -1.6
comp=Z,3.9nm,1.2s,baz=69,slow=4.8
NOA NORSAR Array B 99.94 334 P Pdif 16 48 34.8 -1.7
comp=Z,0.4nm,0.8s,baz=232,slow=21,SNR=3.6
NOA LR LR 17 38 17.7
comp=Z,90nm,19.4s,baz=70,slow=38
CLL Collm 102.96 324 ePdif Pdif 16 48 52.0 +1.9
CLL LmV 17 38 00.0
comp=Z,100nm,20.8s
CLL Collm 102.96 324 eP Pdif 16 48 52.0 +1.9
GERES GERESS Array B 103.44 322 Pdiff Pdif 16 48 52.8 +0.4
comp=Z,0.1nm,0.4s,baz=46,slow=7.6,SNR=3.8
GERES PP PKiKP 16 53 10.5 -0.6
comp=Z,0.3nm,0.7s,baz=85,slow=7.2,SNR=3.7
NVAR Mina Array Bea 106.14 49 Pdiff Pdif 16 49 05.8 +0.9
comp=Z,1.0nm,0.8s,baz=262,slow=5.8,SNR=7.4
PDAR Pinedale Array 110.76 42 PKKPbc PKKPbc 17 04 21.6 -3.3
comp=Z,0.6nm,0.8s,baz=121,slow=5.7,SNR=6.5
ECSD EROS Data Cent 118.36 36 PKPdf PKPdf 16 53 38.9 -0.5
MNTX Cornudas Mount 118.42 51 PKPdf PKiKP 16 53 40.4 +0.5
ESDC Sonseca Array 118.85 319 PP PP 16 54 58.1 -1.0
ESDC PKKPbc **PKKPbc 17 03 55.1 -1.6**
comp=Z,0.9nm,0.9s,baz=241,slow=4.8,SNR=6.5
TX31 Lajitas Ar. Si 120.73 53 PKPdf PKPdf 16 53 44.3 -0.1
TXAR Lajitas Array 120.73 53 PKP PKiKP 16 53 44.7 +0.2
comp=Z,1.2nm,0.7s,baz=253,slow=1.0,SNR=15
TXAR PKKPbc **PKKPab 17 03 50.9 +0.1**
comp=Z,1.7nm,0.9s,baz=130,slow=4.4,SNR=14
TXAR Lajitas Array 120.73 53 PKPdf PKPdf 16 53 44.5 0.0
E43A Lone Tree Farm 121.65 28 PKPdf PKiKP 16 53 46.2 +0.4
E46A Sault Ste Mari 122.89 26 PKPdf PKPdf 16 53 47.9 0.0
JCT Junction City 123.26 50 PKIKP PKPdf 16 53 49.2 0.0
JCT Junction City 123.26 50 PKPdf PKPdf 16 53 49.2 0.0
P40A Paris 123.64 37 PKiKP 16 53 50.0 +0.1
S39A Bolivar 123.99 39 PKPdf PKPdf 16 53 49.9 -0.5
R40A Maddies Statio 124.28 38 PKPdf PKPdf 16 53 50.5 -0.4
TOA0 Torodi Ar. Sit 124.52 288 PKPdf PKPdf 16 53 50.6 -1.4
TORD Torodi Ar. Bea 124.52 288 PKP PKPdf 16 53 51.6 -0.3
comp=Z,6.4nm,0.8s,baz=40,slow=2.3,SNR=24
TORD PKKPbc **PKKPab 17 03 35.8 +1.3**
comp=Z,1.3nm,0.8s,baz=284,slow=4.0,SNR=4.7
TORD Torodi Ar. Bea 124.52 288 PKPdf PKPdf 16 53 50.7 -1.3
J47A Sunmer 125.02 29 PKPdf PKiKP 16 53 51.6 -0.5
CCM Cathedral Cave 125.06 38 PKIKP PKiKP 16 53 52.7 0.0
CCM Cathedral Cave 125.06 38 PKPdf PKiKP 16 53 52.7 0.0
U40A Yellville 125.09 40 PKPdf PKPdf 16 53 51.8 -0.7
T42A Van Buren 125.80 39 PKiKP 16 53 54.1 -0.1
L48A N Adams 126.17 30 PKPdf 16 53 54.3 -0.1
M54A Oil Creek Stat 128.78 27 PKPdf 16 53 59.4 0.0
J58A Remsen 129.04 22 PKPdf 16 54 00.2 +0.3
J59A Piesco 129.24 21 PKPdf PKiKP 16 54 01.3 +0.3
W50A Signal Mountai 130.52 37 PKiKP 16 54 03.8 0.0
KIC Kosan Boka 132.11 281 ePKIKP PKiKP 16 54 07.4 -0.1
comp=Z,71nm,1.5s
DBIC Dimbokro 132.17 282 PKP PKPdf 16 54 06.7 +0.2
comp=Z,6.6nm,0.8s,baz=76,slow=5.8,SNR=4.9
TIC Toumodi 132.33 282 ePKIKP PKPdf 16 54 07.2 +0.3
LIC Lamto 132.41 281 ePKIKP PKPdf 16 54 07.2 +0.2
comp=Z,37nm,1.1s
PLCA Paso Flores 138.96 158 PKhKP PKPpre 16 54 13.2
comp=Z,3.5nm,1.1s,baz=331,slow=5.3,SNR=3.2
PLCA PKP **PKiKP 16 54 19.8 -1.0**
comp=Z,3.2nm,0.5s,baz=254,slow=2.5,SNR=17
BO02 Sierra Bellavi 143.92 153 PKPdf PKPbc 16 54 26.1 +0.6
JTS Las Juntas de 144.34 68 PKIKP PKPbc 16 54 28.0 +0.7
JTS Las Juntas de 144.34 68 PKPbc 16 54 28.0 +0.7
MT02 Curacav 145.02 151 PKPbc 16 54 28.9 0.0
MT05 Renca 145.10 152 PKPdf 16 54 30.0 +0.2
ROC1 El Roble 145.31 151 PKPdf 16 54 30.9 +0.6
ROC1 El Roble 145.31 151 eP PKPdf 16 54 31.3 +1.0
PEL Peldehue 145.33 151 PKIKP PKPbc 16 54 29.7 -0.2
PEL Peldehue 145.33 151 PKPdf PKPbc 16 54 29.7 -0.2
VA03 San Esteban 145.71 151 PKPdf 16 54 30.6 -0.2
AAGR Agrelo 146.23 154 eP PKPab 16 54 33.8 +0.2
ARCO CERRO ARCO 146.39 153 eP PKPab 16 54 34.6 +0.3
ARCO IAML 16 54 40.4
comp=Z,23nm,0.7s
ASAL Salagasta 146.65 153 eP PKPbc 16 54 34.4 +0.4
AUSP Uspallata 146.70 152 eP PKPab 16 54 35.5 -0.2
CO02 Combarbal 146.74 149 PKPbc 16 54 34.2 -0.2
RTLS Leoncito 147.10 152 eP PKPbc 16 54 36.2 +0.6
CO03 El Pedregal 147.19 149 PKPbc 16 54 35.0 -0.6
RTCV Cerro Valdivia 147.40 153 eP PKPbc 16 54 35.9 -0.2
ZON Zonda 147.60 152 PKP2 PKPbc 16 54 36.3 -0.4
ZON Zonda 147.60 152 PKPbc 16 54 36.3 -0.4
ACAN Cantantal 147.64 155 eP PKPbc 16 54 37.2 +0.5
GO04 Tololo Observa 147.67 148 PKPbc PKPbc 16 54 36.6 -0.5
CFA Coronel Fontan 147.75 153 PKPbc PKPbc 16 54 37.0 -0.1
comp=Z,34nm,0.5s,baz=206,slow=2.4,SNR=71
CFA Coronel Fontan 147.75 153 eP PKPbc 16 54 37.0 -0.1
MRA San Martin 148.10 157 eP PKPbc 16 54 38.1 0.0
AMOG MOGNA 148.19 152 eP PKPbc 16 54 38.8 +0.5
ACCO Cerro Coronel 148.21 151 eP PKPdf 16 54 36.9 +1.6
AROD Rodeo 148.35 150 eP PKiKP 16 54 40.2 -0.5
ACDV Cuesta del Vie 148.53 150 eP PKPbc 16 54 39.9 +0.6
AC05 El Transito 149.00 147 PKPbc 16 54 40.6 +0.1
AC04 Llanos de Chal 149.05 145 PKPbc 16 54 40.7 +0.2
TCA Tanti 149.49 158 eP PKPbc 16 54 42.0 +0.3
APLL PUNTA DE LOS L 149.54 154 eP PKPbc 16 54 41.7 0.0
GO03 Copiap 149.99 146 PKiKP 16 54 43.7 -0.1
VCA Vinchina 150.16 150 eP PKiKP 16 54 44.4 +0.1
ACLC CERRO LA CRUZ 150.18 153 eP PKPbc 16 54 43.7 +0.2
CYA Choya 151.54 153 eP PKiKP 16 54 48.4 +1.4
GO02 Mina Guanaco 152.21 143 PKPbc 16 54 48.4 -0.1
NNA Nana 153.67 111 PKPbc PKiKP 16 54 52.8 +1.1
comp=Z,2.9nm,0.5s,baz=30,slow=9.0,SNR=3.6
NNA PKPab **sPKPdf 16 55 04.0 -0.1**
comp=Z,4.7nm,0.5s,baz=275,slow=5.7,SNR=3.6
PB06 IPOC Station P 154.03 140 PKiKP 16 54 52.7 +0.3
ROSC El Rosal 156.09 71 PKPab PKPab 16 55 15.8 +0.6
comp=Z,21nm,0.8s,baz=113,slow=8.8,SNR=9.1
CPUP Villa Florida 156.37 167 PKP PKPdf 16 54 47.2 0.0
comp=Z,1.2nm,0.7s,baz=70,slow=6.9,SNR=2.2
CPUP PKPab **PKPab 16 55 15.8 +0.5**
comp=Z,12nm,0.9s,baz=205,slow=3.8,SNR=8.4
CPUP Villa Florida 156.37 167 PKPdf PKPdf 16 54 46.8 -0.3
LPAZ La Paz 159.29 130 PKP PKPdf 16 54 52.9 +1.1
comp=Z,1.2nm,0.7s,baz=354,slow=3.9,SNR=5.8
LPAZ PKPab **PKPab 16 55 31.7 +2.6**
comp=Z,9.8nm,0.8s,baz=176,slow=4.2,SNR=19

SIV San Ignacio 164.32 145 PKPab PKPab 16 55 52.6 +2.3
comp=Z,4.8nm,0.9s,baz=194,slow=2.7,SNR=7.2
BDFB Brasilia 167.09 196 PKPab PKPab 16 56 04.5 +2.0
comp=Z,7.1nm,1.1s,baz=172,slow=12,SNR=4.3
SAML Samuel 167.28 117 PKP2 PKPab 16 56 04.0 +0.4
SAML Samuel 167.28 117 PKPab PKPab 16 56 04.0 +0.4
PTGA Pitinga 171.44 74 PKPab PKPab 16 56 22.5 +0.3
comp=Z,8.2nm,0.9s,baz=288,slow=7.7,SNR=8.4

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*IDC **22** 16:44:20.8±2.1,62.54N×151.19W,h73km±20km,mb3.4/9, mb1 3.6/12,mb1mx3.3/74,mbtmpg3.7/12,MS2.9/2, Ms1 2.9/2,ms1mx2.5/32,Error ellipse: s-maj=25.4km s-min=16.3km az=121.0*

*NEIC **22** 16:44:21,62.40N×150.96W,h82km,Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr-0.57; Mθθ-6.85; Mφφ 7.42; Mrθ-2.83; Mθφ 0.04; Mrφ1.90; Fault plane solution: M0 7.92000×10^14^ NP1:φs136.38000°, δ84.56000°,λ-154.76000°. NP2:φs43.82000°,δ64.88000°, λ-6.01000°. Principal axes: T 7.8740, Plg13.0000°, Azm268.0000°; N 0.0959, Plg64.0000°, Azm148.0000°; P -7.9698, Plg22.0000°, Azm3.0000°;*

*AEIC **22** 16:44:21±1.2,62.40N±0.03×150.96W±0.07,h73km±5km, ML3.8/114,mb4.3/4(NEIC),Mwr3.9/11(NEIC) Error ellipse: s-maj=4.9km s-min=4.5km az=139.0*

ISC 22 16:44:21.0±0.7,62.41N±0.03×150.98W±0.04,h82km±7km, n137,σθ85/145,mb3.9/9,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time h m s	Res ISC
PPLA	**Purkeypile**	**0.74**	**312**			**Pn 16 44 37.6**	**+0.2**
PPLA						**Sn 16 44 49.4**	**-0.2**
STLK	**Strandline Lak**	**1.00**	**204**			**Pn 16 44 40.1**	**0.0**
TRF	**Thorofare Moun**	**1.09**	**17**			**Pn 16 44 42.0**	**+0.5**
TRF						**Sn 16 44 57.0**	**+0.3**
CAST	**Castle Rocks**	**1.13**	**334**			**Pn 16 44 41.9**	**+0.2**
GHO	**Glory Hole Cre**	**1.16**	**122**			**Pn 16 44 42.6**	**+0.5**
PMR	**Palmer**	**1.20**	**132**			**Pn 16 44 42.7**	**+0.2**
WAT1	**Susitna Watana**	**1.20**	**68**			**Pn 16 44 42.8**	**+0.2**
WAT1						**Sn 16 44 58.4**	**-0.4**
SPCG	**Spurr Capps Gl**	**1.22**	**204**			**Pn 16 44 42.6**	**-0.4**
SPCG						**Sn 16 44 58.9**	**-0.5**
WAT2	**Susitna Watana**	**1.24**	**62**			**Pn 16 44 43.4**	**+0.2**
WAT2						**Sn 16 44 59.6**	**-0.1**
FIS	**Fire Island**	**1.32**	**164**			**Pn 16 44 45.8**	**+1.7**
SPNN	**North Nagishla**	**1.32**	**219**			**Pn 16 44 44.6**	**+0.3**
SPBG	**Spurr Blockage**	**1.33**	**210**			**Pn 16 44 44.7**	**+0.5**
SPBG						**Sn 16 45 01.6**	**-0.1**
SPCR	**Spurr Chakacha**	**1.34**	**206**			**Pn 16 44 44.4**	**0.0**
SML	**Sawmill**	**1.38**	**115**			**Pn 16 44 45.5**	**+0.6**
RND	**Reindeer**	**1.40**	**43**			**Pn 16 44 45.4**	**+0.3**
WAT6	**Susitna Watana**	**1.52**	**82**			**Pn 16 44 46.7**	**0.0**
KNK	**Knik Glacier**	**1.56**	**129**			**Pn 16 44 47.7**	**+0.6**
CHUM	**Lake Minchumin**	**1.60**	**338**			**Pn 16 44 48.0**	**+0.4**
MCK	**McKinley**	**1.62**	**34**			**Pn 16 44 48.6**	**+0.6**
CAPN	**Captain Cook N**	**1.65**	**183**			**Pn 16 44 50.7**	**+2.4**
BPAW	**Bear Paw Mtn.**	**1.70**	**360**			**Pn 16 44 49.2**	**+0.2**
DHY	**Denali Highway**	**1.79**	**66**			**Pn 16 44 50.5**	**+0.2**
SCM	**Sheep Creek Mo**	**1.81**	**107**			**Pn 16 44 50.9**	**+0.4**
SLKM	**Skilak Lake**	**1.94**	**169**			**Pn 16 44 52.1**	**-0.1**
PWL	**Port Wells**	**2.00**	**140**			**Pn 16 44 52.6**	**-0.4**
RDJH	**Redoubt Jeurge**	**2.02**	**206**			**Pn 16 44 54.0**	**+0.6**
RDWB	**Redoubt West**	**2.12**	**206**			**Pn 16 44 55.4**	**+0.7**
RSO	**Redoubt South**	**2.13**	**204**			**Pn 16 44 55.4**	**+0.6**
RED	**Redoubt Volcan**	**2.17**	**204**			**Pn 16 44 55.9**	**+0.6**
TT01	**Tatalina**	**2.38**	**284**			**Pn 16 44 58.0**	**0.0**
TTA	**Tatalina**	**2.38**	**285**			**Pn 16 44 58.1**	**+0.1**
GLI	**Glacier Island**	**2.41**	**128**			**Pn 16 44 58.0**	**-0.3**
SEW	**Seward**	**2.43**	**162**			**Pn 16 44 58.9**	**+0.3**
WRH	**Wood River Hil**	**2.44**	**31**			**Pn 16 44 59.0**	**+0.2**
SVW2	**Sparrevohn**	**2.55**	**241**			**Pn 16 45 00.4**	**+0.1**
ILW	**Iliamna West**	**2.58**	**205**			**Pn 16 45 01.6**	**+0.9**
IVE	**Iliamna Volcan**	**2.59**	**203**			**Pn 16 45 01.3**	**+0.3**
PS10	**TAPS Pump St10**	**2.59**	**65**			**Pn 16 45 02.5**	**+1.6**
PS11	**TAPS Pump St11**	**2.60**	**95**			**Pn 16 45 02.0**	**+1.1**
PAX	**Paxson**	**2.60**	**75**			**Pn 16 45 01.9**	**+0.9**
MLY	**Manley**	**2.64**	**2**			**Pn 16 45 02.0**	**+0.5**
BRLK	**Bradley Lake**	**2.65**	**179**			**Pn 16 45 02.6**	**+0.9**
ILS	**Iliamna Low So**	**2.66**	**203**			**Pn 16 45 02.7**	**+0.9**
CCB	**Clear Creek Stu**	**2.66**	**31**			**Pn 16 45 01.9**	**+0.2**
BRSE	**Bradley Lake S**	**2.68**	**177**			**Pn 16 45 02.6**	**+0.6**
HDA	**Harding Lake**	**2.71**	**40**			**Pn 16 45 02.8**	**+0.5**
FID	**Port Fidalgo**	**2.72**	**126**			**Pn 16 45 01.8**	**-0.7**
HOM	**Homer**	**2.78**	**187**			**Pn 16 45 05.5**	**+2.2**
MDM	**Murphy Dome**	**2.84**	**24**			**Pn 16 45 04.7**	**+0.5**
TCOL	**CIGO, UAF Yank**	**2.84**	**28**			**Pn 16 45 04.6**	**+0.5**
COLA	**College**	**2.84**	**28**			**Pn 16 45 04.5**	**+0.4**
PS08	**TAPS Pump Stn8**	**2.84**	**39**			**Pn 16 45 04.7**	**+0.5**
CNPM	**China Poot**	**2.90**	**183**			**Pn 16 45 06.2**	**+1.2**
HIN	**Hinchinbrook I**	**2.95**	**131**			**Pn 16 45 05.3**	**-0.4**
IL31		**3.00**	**36**			**Pn 16 45 06.5**	**+0.4**
ILAR	**Eielson Array**	**3.00**	**36**	P		**Pn 16 45 06.5**	**+0.3**
	47nm,0.3s,baz=220,slow=14,SNR=948						
ILAR				S		**Sn 16 45 39.4**	**-1.7**
	41nm,0.3s,baz=171,slow=38,SNR=4.0						
ILAR	**Eielson Array**	**3.00**	**36**	Pn		**Pn 16 45 05.9**	**-0.4**
RIDG	**Independent Ri**	**3.10**	**62**			**Pn 16 45 09.4**	**+1.8**
EYAK	**Cordova Ski Ar**	**3.13**	**124**			**Pn 16 45 08.6**	**+0.6**
POKR	**Poker Plat Res**	**3.14**	**29**			**Pn 16 45 08.8**	**+0.6**
PS07	**TAPS Pump Stn7**	**3.15**	**21**			**Pn 16 45 08.9**	**+0.6**
AU22	**Augustine Moun**	**3.26**	**202**			**Pn 16 45 10.7**	**+0.9**
AUP	**Augustine Pinn**	**3.28**	**202**			**Pn 16 45 11.2**	**+1.0**
AUW	**Augustine West**	**3.28**	**203**			**Pn 16 45 11.1**	**+1.0**
AUH	**Augustine H**	**3.28**	**203**			**Pn 16 45 11.4**	**+1.2**
DOT	**Dot Lake**	**3.39**	**65**			**Pn 16 45 12.1**	**+0.5**
MENT	**Mentasta**	**3.39**	**78**			**Pn 16 45 11.9**	**+0.3**
PS06	**TAPS Pump Stn6**	**3.50**	**8**			**Pn 16 45 14.4**	**+1.3**
GLB	**Gilahina Butte**	**3.53**	**103**			**Pn 16 45 12.9**	**-0.6**
SCRK	**Sand Creek**	**3.54**	**61**			**Pn 16 45 13.7**	**0.0**
RAGM	**Ragged Mountai**	**3.65**	**121**			**Pn 16 45 15.4**	**+0.3**
MID	**Middleton Isla**	**3.75**	**141**			**Pn 16 45 17.0**	**+0.5**
VRDE	**Verde Repeater**	**3.76**	**105**			**Pn 16 45 16.1**	**-0.3**
MCARA	**McCarthy VSAT**	**3.90**	**102**			**Pn 16 45 18.7**	**+0.1**
PRP	**Porcupine Dome**	**3.94**	**35**			**Pn 16 45 19.9**	**+0.7**
BERG	**Berg Lake**	**4.04**	**117**			**Pn 16 45 20.1**	**-0.4**
KHIT	**Khitrov Hills**	**4.21**	**115**			**Pn 16 45 22.6**	**-0.2**
PTPK	**Patty Peak**	**4.22**	**103**			**Pn 16 45 22.9**	**-0.2**
TGL	**Tana Glacier**	**4.23**	**109**			**Pn 16 45 22.8**	**-0.3**
GRIN	**Grindle Hills**	**4.26**	**117**			**Pn 16 45 23.9**	**+0.5**
KAHC	**Katmai Hardscr**	**4.26**	**210**			**Pn 16 45 24.1**	**+0.5**
BC03		**4.28**	**77**			**Pn 16 45 24.0**	**+0.4**
BCAR	**Beaver Creek A**	**4.28**	**77**	Pn		**Pn 16 45 23.4**	**-0.3**
BALM	**Baldy**	**4.33**	**105**			**Pn 16 45 23.9**	**-0.6**
WAX	**Waxell Ridge**	**4.37**	**113**			**Pn 16 45 24.8**	**-0.1**
KIAG	**Kiagna River**	**4.37**	**106**			**Pn 16 45 24.6**	**-0.5**
PS05	**TAPS Pump Stn5**	**4.42**	**2**			**Pn 16 45 26.8**	**+1.2**
ISLE	**Juniper Island**	**4.52**	**110**			**Pn 16 45 26.4**	**-0.6**
BARN	**Barnard Glacie**	**4.63**	**103**	Pn		**Pn 16 45 28.6**	**-0.1**
KABU	**Katmai Buttres**	**4.67**	**209**			**Pn 16 45 28.0**	**+1.0**
BAGL	**Bagley Icefiel**	**4.68**	**110**			**Pn 16 45 29.3**	**+0.2**
KDAK	**Kodi

CHIR	**Chirikof Islan**	**7.02**	**202**	Pn	**Pn**	**16 46 00.7**	**-0.3**
EPYK	**Eagle Plains**	**7.34**	**51**	Pn	**Pn**	**16 46 05.0**	**-0.4**
WHY	**Whitehorse**	**7.89**	**96**	Pn	**Pn**	**16 46 12.4**	**-0.5**
SKAG	**Skagway**	**8.17**	**104**	Pn	**Pn**	**16 46 16.4**	**-0.3**
CNBA	**Chernabura Isl**	**8.83**	**214**	Pn	**Pn**	**16 46 25.5**	**-0.1**
JIS	**Juneau Island**	**9.20**	**109**	Pn	**Pn**	**16 46 30.1**	**-0.6**
INK	**Inuvik**	**9.36**	**43**	P	**Pn**	**16 46 33.9**	**+1.1**
	0.5nm,0.3s,baz=228,slow=15,SNR=8.4						
INK				S	**Sn**	**16 48 11.6**	**-4.5**
	0.1nm,0.3s,baz=116,slow=24,SNR=1.1						
UNV	**Unalaska Vale**	**11.84**	**231**	Pn	**Pn**	**16 47 05.9**	**-0.7**
YKA	**Yellowknife Ar**	**16.69**	**74**	P	**P**	**16 48 11.7**	**+1.4**
	0.2nm,0.3s,baz=283,slow=13,SNR=5.0						
GSTR	**Great Sitkin T**	**16.93**	**244**	P	**P**	**16 48 14.8**	**+1.7**
ADK	**Adak**	**17.34**	**244**		**P**	**16 48 18.4**	**+0.8**
ADK				IAmb	IAmb	16 48 54.7	
	comp=Z,44nm,1.6s						
RES	**Resolute Bay**	**22.75**	**35**	P	**P**	**16 49 16.1**	**+0.2**
	comp=Z,6.1nm,0.9s,baz=246,slow=11,SNR=9.8						
RES				LR	LR	17 00 31.6	
	comp=Z,36nm,18.8s,baz=308,slow=43						
RES	**Resolute Bay**	**22.75**	**35**	IAmb	IAmb	16 49 44.6	
	comp=Z,8.8nm,0.9s						
ECSD	**EROS Data Cent**	**36.27**	**95**		**PcP**	**16 53 40.0**	**+0.7**
TXAR	**Lajitas Array**	**45.01**	**115**	P	**P**	**16 52 30.2**	**+2.0**
	comp=Z,0.1nm,0.6s,baz=327,slow=4.9,SNR=2.4						
KSRS	**Korea Array**	**53.61**	**282**	P	**P**	**16 53 34.3**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=38,slow=5.9,SNR=5.7						
ZALV	**Zalesovo Beam**	**56.01**	**324**	P	**P**	**16 53 49.8**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=31,slow=29,SNR=2.5						
FINES	**FINESS Array B**	**56.45**	**2**	P	**P**	**16 53 52.5**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=357,slow=3.8,SNR=2.0						
BVAR	**Borovoye Array**	**60.38**	**333**	P	**P**	**16 54 20.6**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=240,slow=43,SNR=2.4						
MKAR	**Makanchi Array**	**63.15**	**322**	P	**P**	**16 54 39.3**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=42,slow=7.0,SNR=3.2						
AKASG	**Malin Array Be**	**67.24**	**360**	P	**P**	**16 55 05.0**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=3.0,slow=6.1,SNR=6.3						
ESDC	**Sonseca Array**	**74.85**	**26**	P	**P**	**16 55 52.3**	**0.0**
	comp=Z,0.6nm,0.7s,baz=2.1,slow=5.7,SNR=4.9						

*UCR **22** 16:51:03.9±2.4,8°.27N×82°.78W, h4km±5km, MD3.9*
*UPA **22** 16:51:04.8±2.3,8°.32N×82°.76W, h12km±6km, MW4.4*
ISC 22 16:51:03.6±1.3,**8°.28N**±0°.04×**82°.78W**±0°.02,**h5**km±10km,
n38,σ0**°98**/62,**3C-8D, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.35**	**65**	*i* P	**Pb**	**16 51 12.5**	**+0.1**
DVD				*e*S	**Sb**	**16 51 18.5**	**+0.1**
CHIR3	**Chiriqui UPA,**	**0.45**	**76**	*i* P	**Pb**	**16 51 13.9**	**-0.2**
CHIR3				*e*S	**Sb**	**16 51 20.8**	**-0.4**
BCO2	**Palmira**	**0.50**	**29**	*e*S	**Sb**	**16 51 22.0**	**-0.6**
BRU2	**Volcan**	**0.52**	**9**	*i* P	**Pb**	**16 51 14.9**	**-0.3**
BRU2				*e*S	**Sb**	**16 51 22.9**	**-0.2**
BRU2	**Volcan**	**0.52**	**9**	*i* P	**Pb**	**16 51 15.0**	**-0.3**
BRU2				*e*S	**Sb**	**16 51 23.2**	**+0.1**
BC3P	**Paso Ancho**	**0.55**	**17**	*e*P	**Pg**	**16 51 15.5**	**+1.2**
EDSV	**San Vito**	**0.57**	**340**	*e*P	**Pb**	**16 51 15.9**	**-0.3**
EDSV				*e*S	**Sb**	**16 51 25.1**	**+0.5**
PTJ1	**Puerto Jimnez**	**0.58**	**296**	*e*P	**Pg**	**16 51 15.3**	**+0.5**
PTJ1				*e*S	**Sb**	**16 51 25.2**	**+0.4**
PTJ1	**Puerto Jimnez**	**0.58**	**296**	*e*P	**Pg**	**16 51 15.5**	**+0.8**
PTJ1				*e*S	**Sb**	**16 51 25.7**	**+0.9**
PSOM3	**Paja de Sombre**	**0.60**	**48**	*i* P	**Pg**	**16 51 16.0**	**+0.9**
PSOM3				*e*S	**Sb**	**16 51 24.5**	**-0.9**
CHGR2	**Aguacate**	**0.90**	**44**	*i* P	**Pg**	**16 51 20.4**	**-0.5**
CHGR2				*e*S	**Sg**	**16 51 31.9**	**-0.7**
EDPN	**Palmar Norte**	**0.95**	**315**	*e*P	**Pg**	**16 51 20.1**	**-0.6**
EDPN				*e*S	**Sg**	**16 51 34.4**	**+0.1**
EDBA	**Buenos Aires**	**1.00**	**331**	*e*P	**Pg**	**16 51 22.6**	**-0.3**
EDBA				*e*S	**Sb**	**16 51 37.4**	**+0.3**
DRK0	**Durika**	**1.08**	**335**	*e*P	**Pg**	**16 51 23.4**	**-0.9**
DRK0				*e*S	**Sg**	**16 51 37.9**	**-0.5**
CNI2	**El Empalme, Bo**	**1.17**	**15**	*i* P	**Pb**	**16 51 25.2**	**-1.2**
CNI2				*e*S	**Sg**	**16 51 40.5**	**-0.9**
PVID3	**Puerto Vidal,**	**1.18**	**101**	*e*P	**Pb**	**16 51 24.5**	**-2.0**
EDLM	**Las Mercedes**	**1.28**	**321**	*e*P	**Pn**	**16 51 26.9**	**-1.3**
EDLM				*e*S	**Sb**	**16 51 44.1**	**-0.8**
RGM0	**Gandoca**	**1.31**	**7**	*e*P	**Pn**	**16 51 28.7**	**+0.2**
RGM0				*e*S	**Sn**	**16 51 48.7**	**+2.3**
EDDO	**Dominical**	**1.45**	**312**	*e*P	**Pn**	**16 51 30.5**	**0.0**
EDDO				*e*S	**Sn**	**16 51 49.4**	**-0.4**
GMAL	**Guarumal, Vera**	**1.61**	**109**	*e*P	**Pn**	**16 51 30.5**	**-2.2**
LCR2	**La Lucha 2**	**1.89**	**320**	*e*P	**Pn**	**16 51 36.8**	**0.0**
LCR2				*e*S	**Sn**	**16 52 01.6**	**+0.5**
CVTR	**Volcan Turrial**	**1.98**	**331**	*e*P	**Pn**	**16 51 37.4**	**-0.8**
CVTR				*e*S	**Sn**	**16 52 03.9**	**+0.3**
CACAO	**El Cacao, Vera**	**2.11**	**116**	*e*P	**Pn**	**16 51 38.4**	**-1.2**
CACAO				*e*S	**Sg**	**16 52 14.6**	**+3.1**
HDC	**Heredia**	**2.16**	**322**	*i* P	**Pn**	**16 51 41.7**	**+1.3**
HDC				*e*S	**Sb**	**16 52 09.2**	**-1.2**
HDC	**Heredia**	**2.16**	**322**	*e*P	**Pn**	**16 51 41.4**	**+1.0**
HDC				*e*S	**Sb**	**16 52 09.5**	**-0.9**
PNME	**Penonome**	**2.43**	**85**	*e*P	**Pn**	**16 51 44.0**	**0.0**
SRA1	**San Ramn**	**2.46**	**317**	*e*P	**Pn**	**16 51 44.0**	**-0.5**
SRA1				*e*S	**Sb**	**16 52 17.9**	**-1.2**
AZU	**Azuero**	**2.52**	**101**	*e*P	**Pn**	**16 51 45.1**	**-0.2**
AZU	**Azuero**	**2.52**	**101**	*e*P	**Pn**	**16 51 45.6**	**+0.4**
AZU				*e*S	**Sn**	**16 52 16.9**	**+0.5**
ARE1	**Arenal 1**	**2.89**	**319**	*e*P	**Pn**	**16 51 52.1**	**+1.7**
CEDE	**Laguna Cedeo**	**2.90**	**319**	*e*P	**Pn**	**16 51 52.1**	**+1.5**
ZANG	**Zanguenga, Cho**	**2.95**	**77**	*e*P	**Pn**	**16 51 51.8**	**+0.6**
BCIP	**Isla Barro Col**	**3.03**	**73**	*e*P	**Pn**	**16 51 52.6**	**+0.3**
BCIP				*e*S	**Sb**	**16 52 36.7**	**+1.2**
BCIP	**Isla Barro Col**	**3.03**	**73**	*e*P	**Pn**	**16 51 51.6**	**-0.7**
PLVR	**Palo Verde**	**3.27**	**309**	*e*P	**Pn**	**16 51 55.9**	**+0.2**
UPA	**Univ. de Panam**	**3.28**	**78**	*e*P	**Pb**	**16 52 01.5**	**-0.8**
CUI	**Cuipilapa**	**3.33**	**315**	*e*P	**Pn**	**16 51 57.5**	**+0.9**
ACON	**Acoyapa**	**4.36**	**327**	*e*P	**Pn**	**16 52 11.3**	**+0.8**

*IDC **22** 16:51:14.6±7.5,31°.07S×179°.26W, h0km, mb3.7/2,*
mb1 3.9/2, mb1mx3.5/42, mbtmp3.7/2, MS3.4/1, Ms1 3.4/1,
ms1mx2.8/34, Error ellipse: s-maj=309.9km s-min=61.0km
az=157.0
*WEL **22** 16:51:58.2±0.5,32°.5S×179°.6E±2°.4, h226km±20km,*
M4.2/16, mB4.1/4, MLv4.5/16, Mw(mB)3.2/4
ISC 22 16:51:54.1±1.4,**31°.56S**±0°.09×**178°.8E**±0°.1,**h250**km,**n30,**
σ2**°33**/43,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.67**	**52**	S	**S**	**16 53 39.8**	**-1.8**
MXZ	**Matakaoa Point**	**6.00**	**183**	P	**Pn**	**16 53 25.8**	**+3.8**
MXZ				S	**S**	**16 54 30.8**	**-1.6**
HAZ	**Te Kaha**	**6.23**	**187**	P	**Pn**	**16 53 29.4**	**+4.4**
HAZ				S	**S**	**16 54 38.2**	**+0.4**
WMGZ	**Waiomatatini S**	**6.25**	**183**	P	**Pn**	**16 53 28.7**	**+3.5**
WMGZ				S	**S**	**16 54 38.9**	**+0.7**
PKGZ	**Pakihiroa**	**6.33**	**185**	P	**Pn**	**16 53 30.0**	**+3.6**
PKGZ				S	**S**	**16 54 39.2**	**-1.1**
RUGZ	**Raukumara Rang**	**6.45**	**188**	P	**Pn**	**16 53 31.5**	**+3.6**
RUGZ				S	**S**	**16 54 40.3**	**-2.7**
PUZ	**Puketiti**	**6.50**	**184**	P	**Pn**	**16 53 32.0**	**+3.5**
PUZ				S	**S**	**16 54 42.1**	**-2.0**
URZ	**Urewera**	**6.82**	**191**	P	**Pn**	**16 53 35.6**	**+3.2**
URZ				S	**S**	**16 54 50.2**	**-1.0**
MWZ	**Matawai**	**6.83**	**188**	P	**Pn**	**16 53 36.1**	**+3.6**
MWZ				S	**S**	**16 54 51.8**	**+0.2**
TKGZ	**Te Karaka**	**6.90**	**186**	P	**Pn**	**16 53 35.2**	**+1.8**
TKGZ				S	**S**	**16 54 51.3**	**-1.8**
RAGZ	**Rawiri**	**7.00**	**189**	P	**Pn**	**16 53 37.6**	**+2.8**
RAGZ				S	**S**	**16 54 54.4**	**-1.2**
MUGZ	**Murupara**	**7.09**	**193**	P	**Pn**	**16 53 37.1**	**+1.3**
MUGZ				S	**S**	**16 54 57.9**	**+0.4**
RIGZ	**Rimuhau**	**7.17**	**186**	P	**Pn**	**16 53 37.0**	**+0.1**
RIGZ				S	**S**	**16 54 55.1**	**-4.4**
SNGZ	**Shannon Statio**	**7.29**	**189**	P	**Pn**	**16 53 35.8**	**-2.6**
SNGZ				S	**S**	**16 54 59.3**	**-3.0**
NMHZ	**Naumai**	**7.68**	**191**	P	**Pn**	**16 53 45.5**	**+2.1**
NMHZ				S	**S**	**16 55 10.0**	**-1.3**
BKZ	**Black Stump Fm**	**7.81**	**193**	P	**Pn**	**16 53 46.8**	**+1.8**
BKZ				S	**S**	**16 55 11.8**	**-2.4**
MCHZ	**McNeill Hill**	**8.04**	**192**	P	**Pn**	**16 53 50.1**	**+2.3**
KWHZ	**Kaweka Forest**	**8.07**	**193**	P	**Pn**	**16 53 49.9**	**+1.7**
FWVZ	**Far West T-bar**	**8.11**	**198**	P	**Pn**	**16 53 52.0**	**+3.1**
BHHZ	**Black Hill Sta**	**8.21**	**195**	P	**Pn**	**16 53 50.1**	**+0.1**
KRHZ	**Kereru**	**8.29**	**193**	P	**Pn**	**16 53 52.2**	**+1.2**
PNHZ	**Pukenui**	**8.59**	**193**	P	**Pn**	**16 53 55.0**	**+0.2**
PXZ	**Pawanui**	**8.59**	**190**	P	**Pn**	**16 53 55.2**	**+0.4**
PRHZ	**Porangahau**	**8.85**	**191**	P	**Pn**	**16 53 58.5**	**+0.4**
BFZ	**Birch Farm**	**9.32**	**192**	P	**Pn**	**16 54 03.3**	**-0.7**
OGWZ	**Otaki Gorge**	**9.68**	**196**	P	**Pn**	**16 54 07.9**	**-0.6**
RAR	**Rarotonga**	**21.78**	**67**	LR	LR	17 01 25.8	
	comp=Z,117nm,21.3s,baz=288,slow=30						
ASAR	**Alice Springs**	**40.30**	**270**	P	**P**	**16 59 07.2**	**-0.3**
	0.2nm,0.3s,baz=105,slow=7.1,SNR=12						
WRA	**Warramunga Arr**	**41.40**	**275**	P	**P**	**16 59 16.6**	**+0.2**
	0.5nm,0.3s,baz=111,slow=8.1,SNR=8.7						
FINES	**FINESS Array B**	**145.21**	**337**	PKPbc	PKPdf	17 10 52.8	-8.2
	0.8nm,0.8s,baz=74,slow=6.8,SNR=3.7						

*IDC **22** 16:57:05.5±4.8,3°.24N×128°.52E, h67km±45km, mb3.6/6,*
mb1 3.7/7, mb1mx3.3/38, mbtmp3.9/7, ML3.5/1, Error
ellipse: s-maj=59.7km s-min=19.8km az=78.0
*NEIC **22** 16:57:06.2±0.9,3°.10N±0°.08×128°.2E±0°.1, h69km±11km,*
mb4.3/17, Error ellipse: s-maj=15.1km s-min=12.0km
az=70.0
ISC 22 16:57:03.1±0.7,**3°.21N**±0°.08×**128°.31E**±0°.09,**h35**km,**n32,**
σ1**°16**/32,**mb4.2**/10,**North of Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.60**	**201**		**Pn**	**16 57 44.2**	**+1.6**
SIJI	**Sorong**	**5.02**	**144**	P	**Pn**	**16 58 18.4**	**+2.5**
	2.1nm,0.3s,baz=128,slow=23,SNR=7.8						
SIJI				S	**Sn**	**16 59 12.2**	**-0.6**
	baz=263,slow=24,SNR=1.1						
LUWI	**Luwuk**	**6.96**	**233**	Pn	**Pn**	**16 58 43.0**	**+0.3**
FAKI	**Fak Fak**	**7.25**	**147**	Pn	**Pn**	**16 58 49.4**	**+2.7**
BKB	**Balikpapan**	**12.24**	**249**	Pn	**Pn**	**16 59 54.9**	**-0.1**
SBUM	**Sibu**	**16.09**	**268**	P	**P**	**17 00 50.9**	**+1.2**
MTN	**Manton Dam**	**16.20**	**170**	P	**P**	**17 00 50.5**	**-0.5**
MTN				IAmb	IAmb	17 01 32.9	
	comp=Z,26nm,1.4s						
KSM	**Kuching**	**18.07**	**265**	P	**P**	**17 01 12.6**	**+0.9**
KNRA	**Kununurra**	**18.77**	**179**	P	**P**	**17 01 18.4**	**-1.1**
KNRA				IAmb	IAmb	17 01 25.0	
	comp=Z,33nm,1.6s						
FITZ	**Fitzroy Crossi**	**21.34**	**187**	P	**P**	**17 01 47.8**	**+0.5**
WB0	**Warramunga Arr**	**23.61**	**166**	P	**P**	**17 02 10.2**	**-0.8**
WB0				IAmb	IAmb	17 02 12.0	
	comp=Z,21nm,1.4s						
WRAB	**Tennant Creek**	**23.76**	**166**	P	**P**	**17 02 11.5**	**-0.9**
WRA	**Warramunga Arr**	**23.76**	**166**	P	**P**	**17 02 12.2**	**-0.3**
	comp=Z,2.8nm,0.5s,baz=344,slow=10,SNR=18						
WRA	**Warramunga Arr**	**23.76**	**166**	P	**P**	**17 02 11.3**	**-1.2**
WB2	**Warramunga Arr**	**23.77**	**166**	P	**P**	**17 02 11.8**	**-0.7**
WB2				IAmb	IAmb	17 02 48.7	
	comp=Z,38nm,1.9s						
WR0	**Warramunga Arr**	**23.83**	**165**	P	**P**	**17 02 12.4**	**-0.7**
QIZ	**Qiongzhong**	**23.94**	**312**	P	**P**	**17 02 15.1**	**+0.9**
MYKOM	**Kota Tinggi**	**24.48**	**267**	P	**P**	**17 02 18.5**	**-0.7**
MYKOM				IAmb	IAmb	17 02 40.8	
	comp=Z,14nm,1.3s						
AS31	**Alice Springs**	**27.27**	**169**	P	**P**	**17 02 43.1**	**-1.2**
ASAR	**Alice Springs**	**27.27**	**169**	P	**P**	**17 02 43.5**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=351,slow=7.7,SNR=26						
ASAR	**Alice Springs**	**27.27**	**169**	P	**P**	**17 02 43.1**	**-1.3**
BBOO	**Buckleboo**	**36.57**	**169**	P	**P**	**17 04 05.0**	**-0.7**
STKA	**Stephens Creek**	**37.11**	**161**	P	**P**	**17 04 09.2**	**-1.1**
	comp=Z,4.7nm,0.9s,baz=337,slow=8.4,SNR=8.8						
STKA	**Stephens Creek**	**37.11**	**161**	IAmb	IAmb	17 04 37.2	
	comp=Z,11nm,1.7s						
JKA	**Kamikawa-asahi**	**42.65**	**15**	P	**P**	**17 04 55.6**	**-0.6**
PEA0B	**Petropavlovsk-**	**55.33**	**21**	P	**P**	**17 06 33.3**	**+0.1**
PETK	**Petropavlovsk-**	**55.33**	**21**	P	**P**	**17 06 31.7**	**-1.5**
	comp=Z,1.6nm,0.9s,baz=165,slow=6.2,SNR=4.3						
PETK	**Petropavlovsk-**	**55.33**	**21**	P	**P**	**17 06 33.4**	**+0.1**
MK31	**Makanchi Array**	**58.88**	**325**	P	**P**	**17 07 00.2**	**+1.7**
MK31				IAmb	IAmb	17 07 42.1	
	comp=Z,4.0nm,1.8s						
MKAR	**Makanchi Array**	**58.88**	**325**	P	**P**	**17 06 57.8**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=128,slow=8.2,SNR=8.3						
MKAR	**Makanchi Array**	**58.88**	**325**	P	**P**	**17 06 59.6**	**+1.1**
VNDA	**Vanda**	**82.72**	**173**	P	**P**	**17 09 21.8**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=345,slow=11,SNR=2.4						

*IDC **22** 16:59:02.3±1.7,3°.00N×127°.65E, h0km, mb3.7/4,*
mb1 3.9/5, mb1mx3.4/39, mbtmp3.7/5, ML3.3/1, Error
ellipse: s-maj=96.0km s-min=24.8km az=62.0
*NEIC **22** 16:59:08.2±0.7,3°.0N±0°.1×127°.9E±0°.1, h44km±13km,*
mb4.5/10, Error ellipse: s-maj=19.9km s-min=13.3km
az=53.0
ISC 22 16:59:07.5±1.3,**3°.0N**±0°.1×**127°.8E**±0°.1,**h35**km,**n17,**
σ0**°63**/17,**mb4.3**/7,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.26**	**192**	Pn	**Pn**	**16 59 42.8**	**+0.4**
SIJI	**Sorong**	**5.16**	**138**	Pn	**Pn**	**17 00 22.5**	**+0.2**
	1.1nm,0.3s,baz=226,slow=23,SNR=2.4						
SIJI				Sn	**Sn**	**17 01 19.9**	**-0.8**
	0.8nm,0.3s,baz=207,slow=23,SNR=1.6						
FAKI	**Fak Fak**	**7.36**	**143**	Pn	**Pn**	**17 00 54.2**	**+1.6**
SBUM	**Sibu**	**15.60**	**268**	P	**P**	**17 02 49.7**	**+0.9**
KNRA	**Kununurra**	**18.58**	**177**	P	**P**	**17 03 22.2**	**+0.4**
KNRA				IAmb	IAmb	17 04 07.2	
	comp=Z,20nm,1.2s						
WB0	**Warramunga Arr**	**23.53**	**164**	P	**P**	**17 04 14.6**	**-0.1**
WB0				IAmb	IAmb	17 04 46.8	
	comp=Z,37nm,1.9s						
WRAB	**Tennant Creek**	**23.67**	**165**	P	**P**	**17 04 16.2**	**+0.1**
WRAB				IAmb	IAmb	17 05 10.0	
	comp=Z,25nm,1.7s						
WRA	**Warramunga Arr**	**23.68**	**165**	P	**P**	**17 04 16.5**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=344,slow=10,SNR=9.1						
WRA	**Warramunga Arr**	**23.68**	**165**	IAmb	IAmb	17 04 16.9	
	comp=Z,0.7nm,1.9s						
WB2	**Warramunga Arr**	**23.68**	**165**	P	**P**	**17 04 16.3**	**+0.1**
WB2				IAmb	IAmb	17 04 47.4	
	comp=Z,26nm,1.6s						
WR0	**Warramunga Arr**	**23.75**	**164**	P	**P**	**17 04 16.9**	**0.0**
ASAR	**Alice Springs**	**27.16**	**168**	P	**P**	**17 04 47.9**	**0.0**
	comp=Z,0.4nm,0.5s,baz=350,slow=7.8,SNR=4.6						
MORW	**Morawa**	**33.83**	**199**	P	**P**	**17 05 45.9**	**-0.8**
BBOO	**Buckleboo**	**36.46**	**168**	P	**P**	**17 06 08.9**	**-0.3**
STKA	**Stephens Creek**	**37.07**	**160**	P	**P**	**17 06 14.2**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=341,slow=6.0,SNR=4.1						
STKA	**Stephens Creek**	**37.07**	**160**	P	**P**	**17 06 14.3**	**-0.2**
STKA				IAmb	IAmb	17 06 23.7	
	comp=Z,14nm,1.8s						
MKAR	**Makanchi Array**	**58.77**	**325**	P	**P**	**17 09 01.9**	**-0.4**
	comp=Z,0.3nm,0.4s,baz=120,slow=7.2,SNR=3.8						

*UCR **22** 17:07:39.9±1.9,8°.14N×82°.56W, h12km±19km, MD3.9*
*UPA **22** 17:07:41.0±2.4,8°.16N×82°.63W, h14km±6km, MW4.1*
ISC 22 17:07:38.8±1.5,**8°.10N**±0°.05×**82°.62W**±0°.04,**h14**km±11km,
n22,σ1**°06**/37,**Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.37**	**27**	*e*P	**Pb**	**17 07 48.1**	**+1.0**
DVD				*e*S	**Sb**	**17 07 54.4**	**+1.5**
CHIR3	**Chiriqui UPA,**	**0.41**	**44**	*e*P	**Pn**	**17 07 49.0**	**-1.3**
CHIR3				*e*S	**Sb**	**17 07 54.9**	**+1.0**
BRU2	**Volcan**	**0.69**	**354**	*e*P	**Pn**	**17 07 54.2**	**-0.1**
BRU2	**Volcan**	**0.69**	**354**	*e*P	**Pb**	**17 07 52.9**	**+0.2**
BRU2				*e*S	**Sb**	**17 08 02.2**	**0.0**
BC3P	**Paso Ancho**	**0.71**	**1**	*e*P	**Pg**	**17 07 53.1**	**+0.4**
EDSV	**San Vito**	**0.80**	**334**	*e*P	**Pn**	**17 07 55.7**	**0.0**
EDSV				*e*S	**Sn**	**17 08 07.4**	**0.0**
PTJ1	**Puerto Jimnez**	**0.80**	**303**	*e*P	**Pn**	**17 07 55.1**	**-0.5**
PTJ1				*e*S	**Sn**	**17 08 07.9**	**+0.6**
CHGR2	**Aguacate**	**0.96**	**29**	*e*P	**Pb**	**17 07 55.7**	**-1.5**
CHGR2				*e*S	**Sb**	**17 08 08.3**	**-1.3**
EDPN	**Palmar Norte**	**1.19**	**316**	*e*P	**Pb**	**17 08 00.7**	**-0.4**
EDPN				*e*S	**Sg**	**17 08 17.8**	**+0.5**
DRK0	**Durika**	**1.31**	**332**	*e*P	**Pn**	**17 08 02.2**	**-0.6**
DRK0				*e*S	**Sb**	**17 08 19.7**	**-0.3**
DRK0	**Durika**	**1.31**	**332**	*e*P	**Pn**	**17 08 02.3**	**-0.5**
DRK0				*e*S	**Sg**	**17 08 20.7**	**-0.5**
CNI2	**El Empalme, Bo**	**1.32**	**6**	*e*P	**Pn**	**17 08 02.7**	**-0.2**
CNI2				*e*S	**Sn**	**17 08 19.8**	**-0.4**
GMAL	**Guarumal, Vera**	**1.42**	**104**	*e*P	**Pn**	**17 08 03.7**	**-0.4**
GMAL				*e*S	**Sb**	**17 08 22.8**	**-0.1**
CACAO	**El Cacao, Vera**	**1.90**	**113**	*e*P	**Pb**	**17 08 12.6**	**-0.6**
CACAO				*e*S	**Sb**	**17 08 37.1**	**+0.3**
LCR2	**La Lucha 2**	**2.13**	**320**	*e*P	**Pn**	**17 08 14.3**	**+0.2**
LCR2				*e*S	**Sb**	**17 08 42.8**	**-0.8**
CVTR	**Volcan Turrial**	**2.21**	**330**	*e*P	**Pn**	**17 08 16.4**	**+0.9**
PNME	**Penonome**	**2.30**	**80**	*e*P	**Pb**	**17 08 19.8**	**-0.3**
AZU	**Azuero**	**2.34**	**97**	*e*P	**Pb**	**17 08 21.6**	**+0.8**
AZU				*e*S	**Sb**	**17 08 48.1**	**-1.5**
HDC	**Heredia**	**2.40**	**322**	*e*P	**Pb**	**17 08 19.6**	**-2.2**
HDC				*e*S	**Sn**	**17 08 48.2**	**+1.2**
HDC	**Heredia**	**2.40**	**322**	*e*P	**Pb**	**17 08 19.4**	**-2.3**
ARE1	**Arenal 1**	**3.13**	**319**	*e*P	**Pn**	**17 08 29.8**	**+2.1**
CUI	**Cuipilapa**	**3.57**	**316**	*e*P	**Pn**	**17 08 35.8**	**+1.9**

*NEIC **22** 17:30:50.2±1.1,43°.76N±0°.05×105°.29W±0°.06, h0km±2km,*
ML3.1/40, Error ellipse: s-maj=9.1km s-min=6.3km
az=336.0
*IDC **22** 17:30:50.3±1.3,43°.87N×105°.61W, h0km, mb1 3.5/5,*
mb1mx3.3/44, mbtmp3.2/5, ML3.2/5, Error ellipse:
s-maj=26.8km s-min=11.1km az=155.0
ISC 22 17:30:50.2±1.0,**43°.80N**±0°.06×**105°.29W**±0°.06,**h0**km,**n47,**
σ1**°11**/47,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSSD	**Black Hills**	**0.96**	**70**		**Pb**	**17 31 08.8**	**-1.1**
K22A	**Casper**	**1.46**	**219**		**Pn**	**17 31 15.4**	**-2.6**
K22A				IAML		17 31 38.2	
	comp=E,291nm,0.4s						
PHWY	**Pilot Hill**	**2.50**	**183**		**Pn**	**17 31 31.7**	**-0.8**
RWWY	**Rawlins**	**2.54**	**215**		**Pn**	**17 31 33.1**	**+0.2**
RWWY				IAML		17 32 07.9	
	comp=E,112nm,0.6s						
N23A	**Red Feather La**	**2.94**	**190**	Pn	**Pn**	**17 31 38.3**	**-0.2**
N23A				IAML		17 32 20.7	
	comp=N,70nm,0.7s						
N23A				IAML		17 32 27.1	
	comp=E,55nm,0.6s						
LAO	**LASA Array**	**2.96**	**347**		**Pn**	**17 31 38.7**	**+0.1**
RLMT	**Red Lodge**	**3.14**	**296**	Pn	**Pn**	**17 31 41.2**	**0.0**
RLMT				IAML		17 32 28.9	
	comp=E,41nm,0.4s						
RLMT				IAML		17 32 38.5	
	comp=E,34nm,0.6s						
PD31	**Pinedale Array**	**3.28**	**253**		**Pn**	**17 31 42.7**	**-0.5**
PDAR	**Pinedale Array**	**3.28**	**253**	Pn	**Pn**	**17 31 42.6**	**-0.5**
	comp=E,2.6nm,0.3s,baz=65,slow=15,SNR=31						
PDAR				Lg	Lg	17 32 26.7	
	comp=E,12nm,0.3s,baz=75,slow=35,SNR=8.5						
PDAR	**Pinedale Array**	**3.28**	**253**	Pn	**Pn**	**17 31 42.5**	**-0.7**
YNE	**Yellowstone No**	**3.59**	**291**	Pn	**Pn**	**17 31 47.3**	**-0.1**
GCMT	**Greycliff**	**3.70**	**304**		**Pn**	**17 31 49.0**	**+0.2**
H17A	**Grant Village**	**3.85**	**281**		**Sg**	**

*IDC **22** 18:05:54.1±0.4, 13°.70S×75°.52W, h74km±3km, mb4.3/23, mb1 4.5/26, mb1mx4.5/33, mbtmp4.7/26, MS4.0/23, Ms1 4.0/23, ms1mx3.9/25, Error ellipse: s-maj=12.4km s-min=7.6km az=55.0*

*VAO **22** 18:05:55.1±1.3, 13°.70S×75°.42W, h76km±9km, mb5.2*

*GCMT **22** 18:05:58.0±0.2, 13°.81S±0°.01×75°.53W±0°.01, h78km±2km, MW5.2/123, Moment Tension Solution. s81,c106; s123,c204; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.83±.15; $M_{\theta\theta}$4.93±.15; $M_{\phi\phi}$-5.76±.17; $M_{r\theta}$-4.54±.08; $M_{\theta\phi}$1.41±.14; $M_{r\phi}$1.70±.11; Best double couple: M_o7.32900×10^{16} NP1:ϕ_s213.00000°, δ51.00000°, λ170.00000°. NP2:ϕ_s309.00000°, δ82.00000°, λ39.00000°. Principal axes: T 7.8680, Plg33.0000°, Azm179.0000°; N -1.0740, Plg50.0000°, Azm319.0000°; P -6.7900, Plg20.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 18:05:53.5±0.4, **13°.78S**±0°.04×**75°.60W**±0°.06, **h72**km±3km, **h72**km:**pP-P**, **n611**, σ**1**§**21**/549, **mb4.9**/101, **3C-1D**, **Central Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.16**	**326**	P	**Pn**	**18 06 28.0**	**+0.6**
	1µm,0.3s,baz=161,slow=14,SNR=1144						
NNA				S	**Sn**	**18 06 54.9**	**+1.7**
	2µm,0.3s,baz=139,slow=13,SNR=5.7						
NNA				LR	LR	18 07 10.4	
	comp=Z,3µm,20.9s,baz=163,slow=36						
NNA	**Nana**	**2.16**	**326**	Pn	**Pn**	**18 06 25.9**	**-1.5**
NNA				Sn	**Sn**	**18 06 52.5**	**-0.7**
AP01	**Chacalluta**	**6.81**	**133**		**Pn**	**18 07 30.0**	**-0.7**
PB12	**IPOC Station P**	**6.98**	**134**		**Pn**	**18 07 33.2**	**0.0**
ATAH	**Atahualpa**	**7.15**	**337**	P	Pn	18 07 40.9	+5.0
	24nm,0.3s,baz=169,slow=8.9,SNR=71						
ATAH				S	**Sn**	**18 09 01.3**	**+5.4**
	27nm,0.3s,baz=274,slow=19,SNR=1.3						
ATAH				LR	LR	18 10 31.7	
	comp=Z,1µm,21.0s,baz=184,slow=39						
LPAZ	**La Paz**	**7.63**	**110**	P	**Pn**	**18 07 46.4**	**+3.8**
	28nm,0.3s,baz=295,slow=10.0,SNR=405						
LPAZ				S	**Sn**	**18 09 11.8**	**+3.9**
	baz=141,slow=18,SNR=1.4						
LPAZ				LR	LR	18 11 26.3	
	comp=Z,2µm,21.0s,baz=296,slow=44						
LPAZ	**La Paz**	**7.63**	**110**	*e*P	**Pn**	**18 07 46.8**	**+4.2**
LPAZ	**La Paz**	**7.63**	**110**	Pn	**Pn**	**18 07 42.0**	**-0.6**
PSGCX	**Pisagua**	**7.81**	**139**		**Pn**	**18 07 43.0**	**-1.5**
TA01	**Diego Aracena**	**8.50**	**143**	Pn	**Pn**	**18 07 52.5**	**-1.4**
PB08	**IPOC Station P**	**8.83**	**137**		**Pn**	**18 07 58.3**	**-0.5**
PB01	**IPOC Station P**	**9.28**	**142**		**Pn**	**18 08 05.0**	**+0.4**
PB07	**IPOC Station P**	**9.59**	**146**	Pn	**Pn**	**18 08 08.1**	**-0.9**
PB02	**IPOC Station P**	**9.96**	**149**	Pn	**Pn**	**18 08 14.0**	**0.0**
PB09	**IPOC Station P**	**10.01**	**144**		**Pn**	**18 08 14.6**	**0.0**
PB06	**IPOC Station P**	**10.56**	**148**		**Pn**	**18 08 21.8**	**-0.3**
PB10	**IPOC Station P**	**10.79**	**154**	Pn	**Pn**	**18 08 24.7**	**-0.6**
LVC	**Limon Verde**	**10.84**	**145**	P	**Pn**	**18 08 27.0**	**+0.9**
	4.7nm,0.3s,baz=336,slow=10,SNR=22						
LVC				S	**Sn**	**18 10 22.7**	**-3.2**
	14nm,0.3s,baz=308,slow=23,SNR=6.8						
LVC				LR	LR	18 12 24.8	
	comp=Z,615nm,20.8s,baz=324,slow=36						
LVC	**Limon Verde**	**10.84**	**145**	Pn	**Pn**	**18 08 27.2**	**+1.1**
LVC	**Limon Verde**	**10.84**	**145**	*e*P	**Pn**	**18 08 27.4**	**+1.3**
LVC	**Limon Verde**	**10.84**	**145**	*e*P	**Pn**	**18 08 27.4**	**+1.3**
PB15	**IPOC Station P**	**11.03**	**149**		**Pn**	**18 08 28.0**	**-0.6**
GO02	**Mina Guanaco**	**12.66**	**154**	Pn	**Pn**	**18 08 52.0**	**+1.1**
SAML	**Samuel**	**13.08**	**70**	*e*P	**Pn**	**18 08 53.3**	**-3.1**
SAML	**Samuel**	**13.08**	**70**	Pn	**Pn**	**18 08 54.6**	**-1.8**
SAML	**Samuel**	**13.08**	**70**	*e*P	**Pn**	**18 08 54.4**	**-2.0**
SAML	**Samuel**	**13.08**	**70**	*e*P	**Pn**	**18 08 54.4**	**-2.0**
AC01	**Pan de Azucar**	**13.17**	**160**	Pn	**Pn**	**18 08 59.5**	**+2.0**
CASC	**Dorado de Casc**	**13.93**	**353**	*e*P	**Pn**	**18 09 07.3**	**-0.6**
SIV	**San Ignacio**	**14.21**	**101**	P	**Pn**	**18 09 10.7**	**-0.7**
	3.2nm,0.3s,baz=293,slow=10.0,SNR=54						
CUSE	**Cuicocha Este**	**14.27**	**349**	*e*P	**P**	**18 09 20.3**	**+2.7**
PUAC	**Puerto Asis, P**	**14.27**	**356**	*e*P	**Pn**	**18 09 12.9**	**+0.7**
PAC1	**Pacto, Paraso**	**14.31**	**347**	*e*P	**Pn**	**18 09 12.9**	**+0.1**
AC02	**Maricunga**	**14.33**	**156**		**Pn**	**18 09 15.6**	**+2.3**
GO03	**Copiap**	**14.63**	**161**	P	**Pn**	**18 09 18.2**	**+1.5**
CMBC	**Cumbal**	**14.79**	**351**	*e*P	**P**	**18 09 26.9**	**+3.4**
VILB	**Vilhena**	**15.00**	**89**	*e*P	**Pn**	**18 09 21.1**	**-0.5**
VILB	**Vilhena**	**15.00**	**89**	*e*P	**Pn**	**18 09 21.1**	**-0.5**
GCUF	**Volcan Galeras**	**15.01**	**353**	*e*P	**Pn**	**18 09 23.6**	**+1.4**
CCUFI	**Cufio, Nario**	**15.01**	**353**	*e*P	**Pn**	**18 09 22.5**	**+0.3**
CRUC	**La Cruz**	**15.31**	**355**	*e*P	**P**	**18 09 28.0**	**-1.2**
AC05	**El Transito**	**15.78**	**163**		**P**	**18 09 33.3**	**-0.8**
BBAC	**Balboa, Cauca**	**15.78**	**354**	*e*P	**P**	**18 09 33.4**	**-0.9**
SOTA	**Rioblanco**	**15.84**	**356**	*e*P	**P**	**18 09 34.7**	**-0.6**
GARC	**Garzon, Huila**	**15.86**	**0**	*e*P	**Pn**	**18 09 31.2**	**-1.6**
BETC	**Betania**	**16.36**	**1**	*e*P	**P**	**18 09 40.0**	**-0.5**
VCA	**Vinchina**	**16.39**	**156**	*i*P	**P**	**18 09 41.8**	**+0.9**
GUVC	**San Jose del G**	**16.48**	**11**	*e*P	**Pn**	**18 09 41.0**	**+0.7**
MARP	**Paez Belalcaza**	**16.52**	**359**	*e*P	**Pn**	**18 09 40.1**	**-0.9**
CO01	**Juntas del Tor**	**16.90**	**163**	P	**P**	**18 09 47.4**	**+0.8**
GO04	**Tololo Observa**	**16.91**	**166**		**P**	**18 09 46.5**	**-0.2**
GO04	**Tololo Observa**	**16.91**	**166**	*i*P	**P**	**18 09 46.5**	**-0.2**
CYA	**Choya**	**17.20**	**150**	*i*P	**P**	**18 09 50.8**	**+1.0**
ACDV	**Cuesta del Vie**	**17.38**	**161**	*i*P	**P**	**18 09 52.4**	**+1.6**
ACLC	**CERRO LA CRUZ**	**17.39**	**154**	*i*P	**P**	**18 09 55.6**	**+2.4**
CO03	**El Pedregal**	**17.57**	**166**	P	**P**	**18 09 54.6**	**+0.8**
CO03				IAmb	IAmb	18 09 56.6	
	comp=Z,96nm,1.1s						
ORTC	**Ortega, Tolima**	**17.58**	**1**	*e*P	**Pn**	**18 09 52.1**	**-1.8**
YOTC	**Yotoco, Valle**	**17.66**	**358**	*e*P	**Pn**	**18 09 59.6**	**+4.6**
ACCO	**Cerro Coronel**	**17.78**	**161**	*i*P	**Pn**	**18 09 58.4**	**+1.9**
CO02	**Combarbal**	**17.85**	**167**	P	**Pn**	**18 09 57.9**	**+0.7**
VILC	**Villavicencio,**	**17.88**	**6**	*e*P	**Pn**	**18 09 58.5**	**+0.9**
MACA	**Manacapuru-AM**	**18.12**	**56**	*e*P	**P**	**18 09 59.4**	**-0.5**
MACA	**Manacapuru-AM**	**18.12**	**56**	*e*P	**P**	**18 09 59.4**	**-0.5**
ANIL	**Santa Ana**	**18.15**	**1**	*e*P	**Pn**	**18 10 05.0**	**+3.9**
TOLC	**Tolima**	**18.25**	**1**	*e*P	Pn	18 10 09.5	+7.2
AMOG	**MOGNA**	**18.29**	**160**	*i*P	**Pn**	**18 10 03.3**	**+0.9**
CHIC	**Chingaza**	**18.38**	**6**	*e*P	**Pn**	**18 10 06.7**	**+2.7**
APIL	**PUNTA DE LOS L**	**18.53**	**155**	*i*P	**Pn**	**18 10 05.7**	**+0.4**
ROSC	**El Rosal**	**18.54**	**4**	P	**Pn**	**18 10 09.4**	**+3.5**
	comp=Z,4.7nm,0.3s,baz=200,slow=3.0,SNR=13						
ROSC				S	Sn	18 13 51.7	+19
	comp=Z,1.8nm,0.3s,baz=0.0,slow=20,SNR=1.8						
ROSC				LR	LR	18 18 03.6	
	comp=Z,1µm,18.2s,baz=214,slow=40						
ROSC	**El Rosal**	**18.54**	**4**	*e*P	**Pn**	**18 10 08.4**	**+2.6**
RTLL	**Cerro Villicun**	**18.65**	**161**	*i*P	**Pn**	**18 10 07.4**	**+0.6**
ZON	**Zonda**	**18.79**	**161**		**Pn**	**18 10 09.1**	**+0.6**
ZON	**Zonda**	**18.79**	**161**	*i*P	**Pn**	**18 10 08.7**	**+0.2**
RTLS	**Leoncito**	**18.84**	**163**	*i*P	**Pn**	**18 10 09.9**	**+0.6**
GUY2C	**Guyana, Caldas**	**18.88**	**1**	*e*P	**P**	**18 10 09.4**	**+0.6**
CFA	**Coronel Fontan**	**18.98**	**160**	P	**Pn**	**18 10 11.0**	**+0.3**
	comp=Z,5.0nm,0.3s,baz=340,slow=10,SNR=132						
CFA	**Coronel Fontan**	**18.98**	**160**	*i*P	**Pn**	**18 10 11.1**	**+0.3**
RTCV	**Cerro Valdivia**	**19.13**	**161**	*i*P	**Pn**	**18 10 12.5**	**+0.1**
AUSP	**Uspallata**	**19.22**	**164**	*i*P	**Pn**	**18 10 14.4**	**+0.7**
SALV	**Santo Antonio**	**19.35**	**99**	*e*P	**P**	**18 10 13.8**	**+0.4**
SALV	**Santo Antonio**	**19.35**	**99**	*e*P	**P**	**18 10 13.8**	**+0.4**
CBOC	**Ciudad Bolivar**	**19.52**	**359**	*e*P	**P**	**18 10 15.7**	**+0.3**
CLDB	**Colider**	**19.56**	**84**	*e*P	**P**	**18 10 14.3**	**-1.4**
CLDB	**Colider**	**19.56**	**84**	*e*P	**P**	**18 10 14.3**	**-1.4**
ROC1	**El Roble**	**19.56**	**168**	*i*P	**Pn**	**18 10 17.3**	**-0.4**
RUSC	**La Rusia**	**19.70**	**7**	Pn	**Pn**	**18 10 19.5**	**-0.3**
ASAL	**Salagasta**	**19.72**	**163**	*i*P	**Pn**	**18 10 19.6**	**+0.2**
PEL	**Peldehue**	**19.79**	**168**	P	**Pn**	**18 10 19.1**	**-1.1**
H03N1	**Juan Fernandez**	**19.80**	**188**	P	**Pn**	**18 10 20.9**	**+0.8**
H03N1				T	T	18 29 40.9	
	baz=13,slow=74,SNR=2258						
H03N2	**Juan Fernandez**	**19.81**	**188**	P	**Pn**	**18 10 20.7**	**+0.6**
H03N2				T	T	18 29 38.1	
	baz=13,slow=74,SNR=2530						
H03N3	**Juan Fernandez**	**19.82**	**188**	P	**Pn**	**18 10 20.6**	**+0.3**
H03N3				T	T	18 29 39.6	
	baz=13,slow=74,SNR=3242						
ARCO	**CERRO ARCO**	**19.93**	**163**	*i*P	**Pn**	**18 10 22.1**	**+0.1**
ACAN	**Cantantal**	**19.95**	**159**	*i*P	**Pn**	**18 10 21.8**	**-0.3**
MT05	**Renca**	**20.02**	**168**	IAmb	IAmb	18 10 28.2	
	comp=Z,97nm,1.0s						
AQDB	**Aquidauana**	**20.14**	**112**	*e*P	**P**	**18 10 22.5**	**+0.6**
AQDB	**Aquidauana**	**20.14**	**112**	*e*P	**P**	**18 10 22.5**	**+0.6**
H03S3	**Juan Fernandez**	**20.18**	**188**	P	Pn	18 10 26.7	+2.2
PTGA	**Pitinga**	**20.18**	**51**	P	**P**	**18 10 22.6**	**+0.1**
	comp=Z,43nm,0.8s,baz=224,slow=11,SNR=61						
PTGA				S	**S**	**18 14 03.8**	**-1.4**
	comp=Z,28nm,0.9s,baz=150,slow=20,SNR=3.0						
PTGA	**Pitinga**	**20.18**	**51**	*e*P	**P**	**18 10 22.4**	**0.0**
PTGA	**Pitinga**	**20.18**	**51**	*e*P	**P**	**18 10 22.5**	**0.0**
PTGA	**Pitinga**	**20.18**	**51**	*e*P	**P**	**18 10 22.5**	**0.0**
AAGR	**Agrelo**	**20.18**	**163**	*i*P	Pn	18 10 24.7	-0.2
TCA	**Tanti**	**20.19**	**152**	*i*P	**P**	**18 10 23.5**	**+1.0**
H03S2	**Juan Fernandez**	**20.20**	**188**	P	Pn	18 10 26.9	+2.2
H03S1	**Juan Fernandez**	**20.20**	**188**	P	Pn	18 10 26.7	+2.0
PTBC	**PUERTO BERRIO,**	**20.22**	**3**	*e*P	**P**	**18 10 23.7**	**+0.9**
BARC	**Barichara**	**20.38**	**7**	*e*P	**P**	**18 10 25.8**	**+1.0**
TAMC	**Tame, Arauca**	**20.43**	**11**	*e*P	Pn	18 10 28.1	+0.1
TAMC	**Tame, Arauca**	**20.43**	**11**	*e*P	Pn	18 10 28.1	+0.1
MRA	**San Martin**	**20.64**	**156**	*i*P	**P**	**18 10 28.3**	**+1.0**
DBBC	**Dabeiba**	**20.67**	**358**	*e*P	Pn	18 10 32.2	+1.5
BRRC	**Barranca, Sant**	**20.84**	**5**	*e*P	**P**	**18 10 28.7**	**-0.8**
NPGB	**Novo Progresso**	**20.99**	**73**	*e*P	**P**	**18 10 29.7**	**-1.5**
NPGB	**Novo Progresso**	**20.99**	**73**	*e*P	**P**	**18 10 29.7**	**-1.5**
CPUP	**Villa Florida**	**21.19**	**129**	P	**P**	**18 10 33.8**	**+0.6**
	comp=Z,12nm,0.9s,baz=309,slow=10,SNR=23						
CPUP	**Villa Florida**	**21.19**	**129**	P	**P**	**18 10 33.5**	**+0.4**
BO02	**Sierra Bellavi**	**21.37**	**169**	IAmb	IAmb	18 10 48.8	
	comp=Z,114nm,1.1s						
UREC	**San Jos de Ur**	**21.39**	**0**	*e*P	**P**	**18 10 41.1**	**+5.7**
ELOV	**Elorza**	**21.52**	**17**	*e*P	**P**	**18 10 36.6**	**-0.2**
ITTB	**Itaituba**	**21.71**	**66**	*e*P	**P**	**18 10 37.2**	**-1.6**
ITTB	**Itaituba**	**21.71**	**66**	*e*P	**P**	**18 10 37.2**	**-1.6**
AZU	**Azuero**	**21.93**	**348**	*e*P	**P**	**18 10 36.2**	**-4.9**
SOCV	**Socops**	**22.42**	**12**	*e*P	**P**	**18 10 45.5**	**-1.0**
SMLC	**San Martin de**	**22.48**	**4**	*e*P	**P**	**18 10 49.9**	**+2.7**
SDV	**Santo Domingo**	**23.05**	**13**	P	**P**	**18 10 53.5**	**+0.4**
	comp=Z,35nm,0.5s,baz=218,slow=6.9,SNR=8.3						
SDV	**Santo Domingo**	**23.05**	**13**	P	**P**	**18 10 53.0**	**-0.2**
SDV	**Santo Domingo**	**23.05**	**13**	*e*P	**P**	**18 10 53.6**	**+0.4**
SDV	**Santo Domingo**	**23.05**	**13**	*e*P	**P**	**18 10 53.6**	**+0.4**
ARAG	**Araguaiana, MT**	**23.08**	**98**	*e*P	**P**	**18 10 52.0**	**-1.3**
ARAG	**Araguaiana, MT**	**23.08**	**98**	*e*P	**P**	**18 10 52.0**	**-1.3**
BI03	**Tigo**	**23.08**	**175**	P	**P**	**18 10 53.3**	**+0.2**
BI02	**San Fabin de**	**23.11**	**171**	P	**P**	**18 10 53.9**	**+0.4**
BI02				IAmb	IAmb	18 10 56.1	
	comp=Z,77nm,1.0s						
ARGC	**Ariguani, Magd**	**23.52**	**3**	*e*P	**P**	**18 10 55.8**	**-1.6**
SJCC	**San Jacinto, C**	**23.53**	**1**	*e*P	**P**	**18 11 00.8**	**+3.2**
TRCB	**Terra Rica**	**23.55**	**116**	*e*P	**P**	**18 10 58.1**	**+0.4**
TRCB	**Terra Rica**	**23.55**	**116**	*e*P	**P**	**18 10 58.1**	**+0.4**
MALB	**Monte Alegre**	**24.19**	**63**	*e*P	**P**	**18 11 03.2**	**-0.3**
MALB	**Monte Alegre**	**24.19**	**63**	*e*P	**P**	**18 11 03.2**	**-0.3**
PCMB	**Pacaembu**	**24.43**	**112**	*e*P	**P**	**18 11 06.2**	**+0.5**
PCMB	**Pacaembu**	**24.43**	**112**	*e*P	**P**	**18 11 06.2**	**+0.5**
PTGB	**Pitanga**	**24.69**	**120**	*e*P	**P**	**18 11 08.8**	**+0.7**
PTGB	**Pitanga**	**24.69**	**120**	*e*P	**P**	**18 11 08.8**	**+0.7**
ITRB	**Iturama**	**24.86**	**107**	*e*P	**P**	**18 11 10.3**	**+0.8**
ITRB	**Iturama**	**24.86**	**107**	*e*P	**P**	**18 11 10.3**	**+0.8**
LC01	**Cunco**	**25.23**	**173**	P	**P**	**18 11 12.6**	**-0.1**
PCRV	**Puerto La Cruz**	**26.17**	**25**	P	**P**	**18 11 21.9**	**+0.5**
	comp=Z,32nm,0.8s,baz=202,slow=3.3,SNR=11						
FRTB	**Fartura**	**26.41**	**115**	*e*P	**P**	**18 11 24.1**	**+0.5**
FRTB	**Fartura**	**26.41**	**115**	*e*P	**P**	**18 11 24.1**	**+0.5**
PRPB	**Parauapebas**	**26.47**	**76**	*e*P	**P**	**18 11 23.7**	**-0.5**
PRPB	**Parauapebas**	**26.47**	**76**	*e*P	**P**	**18 11 23.7**	**-0.5**
PEXB	**Peixe**	**26.65**	**90**	*e*P	**P**	**18 11 25.2**	**-0.6**
PEXB	**Peixe**	**26.65**	**90**	*e*P	**P**	**18 11 25.2**	**-0.6**
IPMB	**Ipameri, GO**	**26.66**	**103**	*e*P	**P**	**18 11 25.2**	**-0.7**
IPMB	**Ipameri, GO**	**26.66**	**103**	*e*P	**P**	**18 11 25.2**	**-0.7**
BDFB	**Brasilia**	**26.73**	**97**	P	**P**	**18 11 25.8**	**-0.9**
	comp=Z,5.6nm,0.9s,baz=241,slow=14,SNR=5.2						
BDFB				LR	LR	18 22 57.8	
	comp=Z,612nm,21.6s,baz=283,slow=38						
BDFB	**Brasilia**	**26.73**	**97**	P	**P**	**18 11 24.5**	**-2.2**
PLTB	**Pedras Altas**	**26.95**	**135**	*e*P	**P**	**18 11 28.5**	**+0.1**
PLTB	**Pedras Altas**	**26.95**	**135**	*e*P	**P**	**18 11 28.5**	**+0.1**
PLCA	**Paso Flores**	**27.21**	**172**	P	**P**	**18 11 31.0**	**+0.3**
	comp=Z,56nm,0.9s,baz=344,slow=10.0,SNR=113						
PLCA				LR	LR	18 20 20.9	
	comp=Z,268nm,21.4s,baz=345,slow=32						
PLCA	**Paso Flores**	**27.21**	**172**	P	**P**	**18 11 29.9**	**-0.7**
PLCA				IAmb	IAmb	18 11 32.1	
	comp=Z,58nm,0.8s						
PLCA	**Paso Flores**	**27.21**	**172**	*e*P	**P**	**18 11 31.0**	**+0.3**
PLCA	**Paso Flores**	**27.21**	**172**	*e*P	**P**	**18 11 31.0**	**+0.3**
SMTB	**Santa Maria do**	**27.88**	**83**	*e*P	**P**	**18 11 37.1**	**+0.3**
SMTB	**Santa Maria do**	**27.88**	**83**	*e*P	**P**	**18 11 37.1**	**+0.3**
RCLB	**Rio Claro- Sao**	**27.99**	**112**	*e*P	**P**	**18 11 38.1**	**+0.4**
RCLB	**Rio Claro- Sao**	**27.99**	**112**	*e*P	**P**	**18 11 38.1**	**+0.4**
MDP	**Montagnes des**	**29.51**	**52**	LR	LR	18 24 20.6	
	comp=Z,1µm,20.2s,baz=276,slow=38						
OBIP	**Obispado Ponce**	**32.84**	**16**	P	**P**	**18 12 19.9**	**-0.6**
ROSB	**Rosrio**	**32.91**	**74**	*e*P	**P**	**18 12 20.7**	**-0.6**
ROSB	**Rosrio**	**32.91**	**74**	*e*P	**P**	**18 12 20.7**	**-0.6**
BSFB	**Barra de Sao F**	**33.69**	**103**	*e*P	**P**	**18 12 27.3**	**-0.7**
BSFB	**Barra de Sao F**	**33.69**	**103**	*e*P	**P**	**18 12 27.3**	**-0.7**
ANWB	**Willy Bob**	**34.09**	**24**	P	**P**	**18 12 28.4**	**-3.0**
RIB01	**Linhares ES**	**34.15**	**104**	*e*P	**P**	**18 12 31.9**	**-0.1**
RIB01	**Linhares ES**	**34.15**	**104**	*e*P	**P**	**18 12 31.9**	**-0.1**
TEIG	**Tepich**	**36.02**	**339**	P	**P**	**18 12 48.2**	**+0.3**
	comp=Z,13nm,1.0s,baz=139,slow=4.9,SNR=5.8						
RCBR	**Riachuelo**	**39.86**	**83**	LR	LR	18 30 42.8	
	comp=Z,398nm,20.8s,baz=245,slow=37						
NHSC	**New Hope**	**46.83**	**355**	P	**P**	**18 14 17.5**	**+1.3**
	baz=174						
833A	**Chaparral WMA,**	**47.78**	**331**	P	**P**	**18 14 24.6**	**+0.9**
	baz=148						
LRAL	**Lakeview Retre**	**47.81**	**347**	P	**P**	**18 14 22.8**	**-1.0**
	baz=165						
Y55A	**Saluda**	**47.82**	**353**	P	**P**	**18 14 23.3**	**-0.6**
	baz=172						
X58A	**Rowland**	**48.20**	**356**	P	**P**	**18 14 26.9**	**+0.1**
	baz=175						
X56A	**White Oak**	**48.28**	**354**	P	**P**	**18 14 27.3**	**-0.2**
	baz=173						
X55A	**Gracelyn & Ava**	**48.32**	**353**	P	**P**	**18 14 27.7**	**-0.1**
	baz=172						
X54A	**Belton**	**48.49**	**353**	P	**P**	**18 14 28.3**	**-0.8**
	baz=171						
W58A	**Raeford**	**48.65**	**356**	P	**P**	**18 14 29.9**	**-0.4**
	baz=175						
W57A	**Gilead**	**48.84**	**355**	P	**P**	**18 14 31.2**	**-0.5**
	baz=174,SNR=5.4						
W57A	**Gilead**	**48.84**	**355**	IAmb	IAmb	18 14 32.2	
	comp=Z,23nm,1.1s						
W56A	**Indian Trail**	**48.87**	**355**	P	**P**	**18 14 31.2**	**-0.8**
	baz=174						
KMSC	**Kings Mountain**	**48.95**	**354**	P	**P**	**18 14 32.5**	**-0.1**
	baz=173						
FPAL	**Fort Paine**	**48.99**	**349**	IAmb	IAmb	18 14 34.0	
	comp=Z,13nm,1.0s						
W54A	**Cherokee Point**	**49.00**	**353**	P	**P**	**18 14 32.8**	**-0.2**
	baz=172,SNR=5.1						
V59A	**Middlesex**	**49.34**	**357**	P	**P**	**18 14 35.5**	**0.0**
	baz=177						
V58A	**Windy Hill, Pi**	**49.41**	**356**	P	**P**	**18 14 35.6**	**-0.5**
	baz=176						
V56A	**Mocksville**	**49.54**	**355**	P	**P**	**18 14 36.6**	**-0.5**
	baz=174						
V57A	**Coltrane Farms**	**49.55**	**356**	P	**P**	**18 14 36.6**	**-0.6**
	baz=175						
Z41A	**Richland Creek**	**49.57**	**341**	P	**P**	**18 14 37.7**	**+0.3**
	baz=158						
V55A	**Taylorsville**	**49.65**	**354**	P	**P**	**18 14 37.6**	**-0.3**
	baz=173						
V54A	**Nebo**	**49.65**	**353**	P	**P**	**18 14 37.5**	**-0.5**
	baz=172						
V52A	**Sevierville**	**49.93**	**352**	IAmb	IAmb	18 14 41.2	
	comp=Z,14nm,1.0s						
V51A	**Loudon**	**50.00**	**351**	IAmb	IAmb	18 14 41.7	
	comp=Z,13nm,1.0s						
U56A	**King**	**50.06**	**355**	P	**P**	**18 14 41.0**	**-0.1**
	baz=174						
U57A	**Blanch**	**50.06**	**356**	P	**P**	**18 14 40.5**	**-0.6**
	baz=175,SNR=6.0						
WHTX	**Lake Whitney,**	**50.10**	**336**	P	**P**	**18 14 41.6**	**+0.1**
	baz=152						
U55A	**TA2, Sparta**	**50.27**	**354**	P	**P**	**18 14 41.4**	**-1.3**
	baz=173						
U54A	**Nelsons Funny**	**50.37**	**353**	P	**P**	**18 14 42.8**	**-0.6**
	baz=172						
U54A	**Nelsons Funny**	**50.37**	**353**	IAmb	IAmb	18 14 43.1	
	comp=Z,16nm,1.1s						
V48A	**Smith Brothers**	**50.38**	**348**	IAmb	IAmb	18 15 01.3	
	comp=Z,10nm,0.9s						
T59A	**Double "B" Far**	**50.51**	**358**	P	**P**	**18 14 44.4**	**0.0**
	baz=178						
T58A	**Grand View Acr**	**50.53**	**357**	P	**P**	**18 14 44.2**	**-0.3**
	baz=176,SNR=5.9						
TZTN	**Tazewell**	**50.61**	**352**	P	**P**	**18 14 44.6**	**-0.6**
	baz=170						
T57A	**Hurt**	**50.62**	**356**	P	**P**	**18 14 44.9**	**-0.3**
	baz=175,SNR=9.2						
T56A	**Rocky Mt**	**50.71**	**355**	P	**P**	**18 14 46.1**	**+0.2**
	baz=174,SNR=6.3						
TXAR	**Lajitas Array**	**50.71**	**328**	P	**P**	**18 14 46.3**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=151,slow=8.7,SNR=44						
TXAR				pP	**pP**	**18 15 06.0**	**+1.1**
	comp=Z,4.2nm,0.7s,baz=146,slow=9.3,SNR=9.3						
TXAR				LR	LR	18 35 46.7	
	comp=Z,23nm,20.1s,baz=0.0,slow=35						
TXAR	**Lajitas Array**	**50.71**	**328**	P	**P**	**18 14 46.1**	**-0.1**
TX31	**Lajitas Ar. Si**	**50.71**	**328**	IAmb	IAmb	18 14 48.9	
	comp=Z,22nm,1.1s						
T55A	**Pulaski**	**50.86**	**355**	P	**P**	**18 14 46.9**	**-0.2**
	baz=174,SNR=5.2						
T54A	**Tazewell**	**50.88**	**354**	P	**P**	**18 14 46.8**	**-0.5**
	baz=172,SNR=6.6						
T53A	**Wise**	**50.91**	**353**	P	**P**	**18 14 46.6**	**-0.9**
	baz=171,SNR=5.9						
BLA	**Blacksburg**	**50.92**	**355**	P	**P**	**18 14 47.1**	**-0.4**
	baz=174						
WVT	**Waverly**	**50.97**	**347**	P	**P**	**18 14 45.5**	**-2.4**
	baz=165						
WVT	**Waverly**	**50.97**	**347**	P	**P**	**18 14 44.9**	**-3.0**
MIAR	**Mount Ida**	**51.01**	**341**	P	**P**	**18 14 48.8**	**+0.6**
	baz=157,SNR=6.8						
W41B	**Gary Mavity, V**	**51.18**	**342**	P	**P**	**18 14 49.7**	**+0.2**
	baz=159,SNR=6.5						
WHAR	**Wooly Hollow**	**51.30**	**342**	P	**P**	**18 14 49.6**	**-0.8**
WHAR				IAmb	IAmb	18 14 54.0	
	comp=Z,15nm,1.2s						
S55A	**Lewisburg**	**51.48**	**355**	P	**P**	**18 14 51.5**	**-0.3**
	baz=174,SNR=5.7						
R58B	**Mineral**	**51.51**	**358**	P	**P**	**18 14 52.3**	**+0.4**
	baz=177						
S53A	**Williamson**	**51.55**	**353**	P	**P**	**18 14 51.2**	**-1.1**
	baz=172						
ABTX	**Abilene, Hawle**	**51.56**	**334**	P	**P**	**18 14 52.5**	**+0.1**
	baz=150

baz=169,SNR=11
N53A Lisbon 54.52 355 P P 18 15 12.9 -1.1
baz=174
U32A Winter Ranch, 54.56 337 IAmb IAmb 18 15 19.6
comp=Z,11nm,0.9s
N54A Moraine State 54.61 356 P P 18 15 13.4 -1.3
baz=175
M60A Port Jervis 54.83 1 P P 18 15 16.3 +0.1
baz=181
M57A Sunshine Farm, 54.85 359 P P 18 15 16.6 +0.2
baz=178,SNR=7.5
M58A Price's Panora 54.88 359 P P 18 15 16.8 +0.2
baz=179,SNR=5.5
M62A Hamden 55.00 2 P P 18 15 17.4 0.0
baz=183
M63A Gales Ferry 55.00 3 P P 18 15 19.7 +2.3
baz=184
N49A Columbus Grove 55.00 352 IAmb IAmb 18 15 16.8
comp=Z,25nm,1.1s
M56A Emporium 55.04 358 P P 18 15 17.1 -0.6
baz=177,SNR=5.5
M56A Emporium 55.04 358 IAmb IAmb 18 15 19.1
comp=Z,13nm,1.1s
M59A Waymart 55.04 0 P P 18 15 18.3 +0.5
baz=180,SNR=8.5
M55A Ridgway 55.05 357 P P 18 15 16.8 -1.0
baz=176
M55A Ridgway 55.05 357 IAmb IAmb 18 15 19.6
comp=Z,11nm,1.0s
M54A Oil Creek Stat 55.14 356 P P 18 15 17.7 -0.7
baz=175,SNR=6.1
M54A Oil Creek Stat 55.14 356 IAmb IAmb 18 15 18.4
comp=Z,13nm,0.9s
121A Cookes Peak, D 55.40 327 P P 18 15 21.4 +0.7
baz=141
L63A North Scituate 55.48 4 P P 18 15 20.7 -0.2
baz=185
L60A Shokan 55.50 1 P P 18 15 21.5 +0.4
baz=182,SNR=6.5
L57A Andrews Acres 55.51 359 P P 18 15 20.9 -0.3
baz=178
BRYW Bryant College 55.54 4 P P 18 15 21.1 -0.2
L58A Harry Jones Me 55.55 360 P P 18 15 21.4 0.0
baz=180,SNR=8.5
L56A Greenwood 55.66 358 P P 18 15 21.8 -0.5
baz=178
L56A Greenwood 55.66 358 IAmb IAmb 18 15 22.7
comp=Z,12nm,0.9s
L59A Walton 55.69 0 P P 18 15 22.9 +0.4
baz=181,SNR=15
BINY Binghamton 55.70 360 P P 18 15 22.7 +0.2
baz=180,SNR=7.5
BINY Binghamton 55.70 360 IAmb IAmb 18 15 23.1
comp=Z,11nm,0.7s
L61A Hillsdale 1, H 55.72 2 P P 18 15 22.5 -0.2
baz=182
L55A Hinsdale 55.74 357 P P 18 15 22.3 -0.5
baz=177,SNR=5.4
L54A Sinclairville 55.84 357 P P 18 15 22.8 -0.7
baz=176
WVNY West Valley, N 55.97 357 IAmb IAmb 18 15 24.9
comp=Z,19nm,0.9s
L61B Northampton 56.01 3 P P 18 15 24.5 -0.2
baz=183
HRV Adam Dziewonsk 56.13 4 P P 18 15 25.7 +0.2
baz=185
HRV Adam Dziewonsk 56.13 4 P P 18 15 23.2 -2.3
HRV IAmb IAmb 18 15 26.6
comp=Z,19nm,1.0s
K54A Basiliko Farm, 56.18 357 P P 18 15 25.6 -0.4
baz=176
K61A Williamstown 56.21 2 P P 18 15 26.0 -0.1
baz=183
K57A Scipio Center 56.24 359 P P 18 15 25.8 -0.5
baz=179
K62A Royalston 56.25 3 P P 18 15 26.4 0.0
baz=184
K58A Earlville 56.26 360 P P 18 15 26.7 +0.2
baz=180,SNR=9.8
K55A Perry 56.27 358 P P 18 15 26.1 -0.5
baz=177
K59A Cooperstown 56.28 1 P P 18 15 27.1 +0.5
baz=181,SNR=14
K52A Tillsonburg 56.48 355 P P 18 15 27.0 -0.9
baz=174
ANMO Albuquerque 56.62 330 P P 18 15 29.5 +0.1
baz=144
ANMO Albuquerque 56.62 330 P P 18 15 28.9 -0.5
RKT Rikitea 56.77 251 *e*LR LR 18 31 56.6
comp=Z,450nm,28.2s
RKT Rikitea 56.77 251 *e*T T 19 15 55.7
comp=Z,17nm,0.3s
J60A Lant Hill Farm 56.78 2 P P 18 15 30.7 +0.6
baz=182,SNR=6.7
J56A Wolcott 56.79 359 P P 18 15 29.4 -0.7
baz=178
J56A Wolcott 56.79 359 IAmb IAmb 18 15 31.8
comp=Z,17nm,0.9s
J55A Hilton 56.80 358 P P 18 15 28.8 -1.5
baz=177
J58A Remsen 56.86 0 P P 18 15 30.6 -0.1
baz=180,SNR=5.9
J58A Remsen 56.86 0 IAmb IAmb 18 15 32.7
comp=Z,7.5nm,0.8s
TUC Tucson 56.87 324 P P 18 15 31.6 +0.4
baz=138
J57A Williamstown 56.91 360 P P 18 15 30.6 -0.4
baz=180
J57A Williamstown 56.91 360 IAmb IAmb 18 15 32.4
comp=Z,12nm,0.9s
J61A Chester 56.91 3 P P 18 15 31.7 +0.6
baz=184,SNR=6.3
J52A Paris 56.92 356 P P 18 15 29.7 -1.4
baz=174,SNR=6.3
J63A Strafford 56.93 4 P P 18 15 30.0 -1.2
baz=185
J59A Piesco 56.97 1 P P 18 15 31.8 +0.2
baz=181,SNR=11
I58A Old Forge 57.19 1 P P 18 15 33.0 -0.1
baz=181,SNR=8.3
J49A Marlette 57.28 353 P P 18 15 31.5 -2.2
baz=171
J48A Bridge Port 57.29 353 P P 18 15 31.9 -1.8
baz=171
I59A Olmsteadville 57.32 1 P P 18 15 33.7 -0.3
baz=182,SNR=7.5
J47A Sunmer 57.36 352 P P 18 15 32.7 -1.6
baz=169,SNR=6.0
I60A Shoreham 57.38 2 P P 18 15 34.7 +0.4
baz=183,SNR=7.3
I57A Carthage 57.44 360 P P 18 15 34.5 -0.3
baz=180
PECO Prince Edward 57.45 359 IAmb IAmb 18 15 35.0
comp=Z,12nm,0.8s
T25A Trinidad 57.45 333 P P 18 15 35.4 +0.1
baz=146
NCB Newcomb 57.48 1 IAmb IAmb 18 15 37.6
comp=Z,9.3nm,0.8s
I61A Oroboro, Fairl 57.51 3 P P 18 15 35.9 +0.6
baz=184,SNR=9.7
I51A Listowel 57.52 355 P P 18 15 33.7 -1.7
baz=174
I52A Shelburne 57.72 356 P P 18 15 35.5 -1.2
baz=175
I63A Otisfield 57.73 4 P P 18 15 36.7 -0.1
baz=186
I55A Frankford 57.75 358 P P 18 15 35.9 -1.0
baz=178,SNR=5.5
LBNH Lisbon 57.84 3 P P 18 15 38.2 +0.6
baz=184
H58A Gabriels 57.93 1 P P 18 15 38.2 0.0
baz=182,SNR=6.8
H57A Richville 57.96 0 P P 18 15 38.0 -0.4
baz=180,SNR=13
DELO Deloro Mine 58.05 358 IAmb IAmb 18 15 40.5
comp=Z,17nm,1.1s
H55A Tweed 58.07 359 P P 18 15 38.3 -0.8
baz=178,SNR=5.3
I47A Gladwin 58.09 352 P P 18 15 37.7 -1.7
baz=170
H56A Elgin 58.09 359 P P 18 15 38.9 -0.5
baz=179,SNR=12
H60A Morristown 58.12 2 P P 18 15 39.5 -0.1
baz=183
LONY Lake Ozonia 58.12 1 P P 18 15 39.6 0.0
baz=181,SNR=9.3
LONY Lake Ozonia 58.12 1 IAmb IAmb 18 15 42.0
comp=Z,9.9nm,0.9s

H61A Lyndonville 58.13 3 P P 18 15 40.2 +0.6
baz=184,SNR=6.8
H53A Bobcaygeon 58.14 357 P P 18 15 38.2 -1.4
baz=177
H59A Cadyville 58.17 2 P P 18 15 39.9 +0.1
baz=182,SNR=8.2
H62A Milan 58.21 4 P P 18 15 40.6 +0.3
baz=185
SADO Sadowa 58.36 357 IAmb IAmb 18 15 40.1
comp=Z,7.2nm,0.7s
FRNY Flat Rock 58.36 2 P P 18 15 40.9 -0.3
H63A New Sharon 58.38 5 P P 18 15 42.2 +0.9
baz=186
H64A Troy 58.43 5 P P 18 15 41.9 +0.2
baz=187
PLVO Plevna 58.55 359 IAmb IAmb 18 15 42.3
comp=Z,6.0nm,0.7s
H65A Eastbrook 58.58 6 P P 18 15 43.0 +0.3
baz=188
G57A Newington 58.60 1 P P 18 15 42.5 -0.3
baz=181,SNR=9.1
G58A Ormstown 58.66 1 P P 18 15 43.2 -0.1
baz=182
G60A Masonville 58.67 3 P P 18 15 43.8 +0.4
baz=184
G53A Haliburton 58.69 357 P P 18 15 42.4 -1.0
baz=177
H46A Fife Lake 58.69 352 P P 18 15 41.6 -2.0
baz=169,SNR=7.1
G55A Calabogie 58.76 359 P P 18 15 43.3 -0.6
baz=179,SNR=9.1
H66A Whiting 58.77 7 P P 18 15 44.3 +0.3
baz=189,SNR=5.7
G63A Kingsbury 58.86 5 P P 18 15 45.1 +0.4
baz=187,SNR=7.9
G62A West of Eustis 58.90 4 P P 18 15 45.6 +0.6
baz=186,SNR=13
G61A St-Isidore-de- 58.90 3 P P 18 15 45.8 +0.9
baz=185,SNR=13
G54A Lake Saint Pet 58.94 358 P P 18 15 44.1 -1.1
baz=177,SNR=6.1
ORIO Orleans, Innes 58.95 0 P P 18 15 44.8 -0.4
baz=180
PKME Peaks-Kenny Pk 59.04 5 P P 18 15 45.8 -0.1
baz=187,SNR=6.7
PKME Peaks-Kenny Pk 59.04 5 IAmb IAmb 18 15 47.1
comp=Z,14nm,0.9s
S22A 4UR Ranch, Cre 59.05 331 P P 18 15 46.8 +0.2
baz=144,SNR=6.3
G64A Maxfield 59.08 6 P P 18 15 46.5 +0.3
baz=188,SNR=5.7
G47A Hillman 59.15 353 P P 18 15 44.8 -1.8
baz=171
G65A Princeton 59.15 7 P P 18 15 47.1 +0.4
baz=189,SNR=6.8
F52A Sundridge 59.39 357 P P 18 15 47.0 -1.4
baz=176
MVCO Mesa Verde 59.42 330 P P 18 15 49.4 +0.3
baz=142
F63A Nahmakanta, Br 59.49 5 P P 18 15 48.9 -0.1
baz=187
ALGO Algonquin Park 59.49 358 P P 18 15 47.9 -1.1
baz=177,SNR=7.1
F49A Sandfield 59.55 355 P P 18 15 47.2 -2.2
baz=173
F51A Arnstein 59.55 357 P P 18 15 47.6 -1.9
baz=175
F60A Warwick 59.56 3 P P 18 15 49.3 -0.2
baz=184
WUAZ Wupatki 59.59 326 P P 18 15 51.3 +1.1
baz=139,SNR=5.7
F62A Pittston Farm, 59.61 5 P P 18 15 50.2 +0.4
baz=186
F61A St Evariste 59.62 4 P P 18 15 48.6 -1.3
baz=185
F48A Evansville 59.66 354 P P 18 15 48.1 -2.1
baz=172
F64A Sherman 59.72 6 P P 18 15 51.1 +0.5
baz=188,SNR=7.3
F64A Sherman 59.72 6 IAmb IAmb 18 15 51.9
comp=Z,12nm,0.9s
E52A Mattawa 59.85 358 P P 18 15 50.6 -0.9
baz=177
F45A CMU Biological 59.86 352 P P 18 15 49.6 -2.0
baz=169
E53A Dumoine, Ponti 59.91 358 P P 18 15 50.9 -0.9
baz=178
E57A Chemin Saint G 59.92 1 P P 18 15 52.3 +0.3
baz=182,SNR=12
E54A Lac Daplat, Po 59.95 359 P P 18 15 51.3 -0.9
baz=178,SNR=7.7
E60A Ste Agathe de 59.98 3 P P 18 15 52.2 -0.2
baz=185
E56A St. Veronique 60.04 0 P P 18 15 52.6 -0.2
baz=181,SNR=15
E61A Lac Etchemin 60.11 4 P P 18 15 53.1 -0.2
baz=186
E51A G1948 Merrick 60.13 357 P P 18 15 52.3 -1.2
baz=176
ISCO Idaho Springs 60.18 334 P P 18 15 54.0 -0.3
baz=146
E63A Oxbow 60.27 6 P P 18 15 54.5 +0.2
baz=188,SNR=5.1
E48A Lockeyer 60.27 355 P P 18 15 52.5 -1.8
baz=173
E64A Bridgewater 60.32 6 P P 18 15 54.1 -0.6
baz=189
E47A Iron Bridge 60.35 354 P P 18 15 53.0 -1.9
baz=171
E62A Clayton Lake 60.37 5 P P 18 15 55.2 +0.2
baz=187,SNR=5.4
ECSD EROS Data Cent 60.37 343 P P 18 15 54.0 -1.1
baz=156,SNR=6.6
D55A Sainte-Anne-du 60.52 0 P P 18 15 55.4 -0.7
baz=180,SNR=9.6
D52A ZEK Kipawa Sen 60.53 358 P P 18 15 55.0 -1.1
baz=177,SNR=7.4
D57A Chemin Vers le 60.53 1 P P 18 15 55.9 -0.3
baz=182,SNR=10
D56A ZEC Mazanza, M 60.55 1 P P 18 15 55.5 -0.8
baz=181,SNR=7.6
BC3 Big Chuckawall 60.56 322 P P 18 15 57.8 +1.1
baz=134
D53A Lac Vacive, Po 60.61 358 P P 18 15 55.9 -0.8
baz=178,SNR=7.1
D58A Chemin du LacG 60.64 2 P P 18 15 56.9 0.0
baz=183,SNR=11
D54A Lac Fusel, La 60.66 359 P P 18 15 55.9 -1.1
baz=179,SNR=6.7
IRM Iron Mountain 60.73 323 P P 18 15 59.0 +1.2
baz=135,SNR=5.6
SPMN Marine on St. 60.76 346 P P 18 15 56.7 -1.0
baz=161,SNR=5.3
D50A G1974 Best Tow 60.78 357 P P 18 15 56.5 -1.3
baz=175
D46A Sault St. Mari 60.86 353 P P 18 15 56.5 -1.9
baz=171
D62A Allapoint, All 60.87 5 P P 18 15 58.5 +0.1
baz=187,SNR=8.5
D62A Allapoint, All 60.87 5 P P 18 15 58.1 -0.2
D62A IAmb IAmb 18 16 02.9
comp=Z,8.5nm,0.8s
D63A Stockholm 60.91 6 P P 18 15 58.9 +0.2
baz=188
D48A Paudash Townsh 60.93 355 P P 18 15 57.3 -1.5
baz=173
D47A Chapleau 60.93 354 P P 18 15 56.6 -2.3
baz=172,SNR=6.5
BELC Belle Mtn. Jos 61.12 322 P P 18 16 01.9 +1.2
baz=134
PFO Pinyon Flats O 61.13 321 P P 18 16 02.1 +1.4
baz=134
PFO Pinyon Flats O 61.13 321 P P 18 15 59.8 -0.8
comp=Z,1.6nm,0.8s,baz=156,slow=8.4,SNR=5.4
BATG Bathurst New B 61.37 7 P P 18 16 01.6 -0.2
BATG IAmb IAmb 18 16 03.1
comp=Z,15nm,1.0s
GMRC Granite Mounta 61.47 323 P P 18 16 03.9 +1.0
baz=135
F36A Milaca 61.53 346 IAmb IAmb 18 16 02.7
comp=Z,9.6nm,0.8s
O20A White River Ci 61.62 332 P P 18 16 04.4 +0.4
baz=144
HEC Hector,Ludlow 61.90 323 P P 18 16 06.8 +1.1
baz=134
F33A 5 Mile Ranch, 62.22 344 IAmb IAmb 18 16 06.9
comp=Z,8.6nm,0.6s
LSQG Lebel-sur-Quev 62.57 359 P P 18 16 09.2 -0.6

baz=178
K22A Casper 62.93 335 P P 18 16 12.4 -0.2
baz=146
EYMN Ely 63.06 348 P P 18 16 11.5 -1.6
baz=163
RSSD Black Hills 63.19 337 P P 18 16 14.4 +0.1
baz=149
MATQ Matagami 63.28 359 P P 18 16 13.4 -1.1
baz=178,SNR=5.7
TPNV Topopah Spring 63.33 324 P P 18 16 16.4 +1.1
baz=135,SNR=5.7
TAOE Nuku Hiva Isla 63.34 267 *e*LR LR 18 34 54.5
comp=Z,588nm,26.6s
FURC Furnace Creek, 63.34 323 P P 18 16 16.7 +1.5
baz=134
CHGQ Chibougamau 63.42 1 P P 18 16 14.9 -0.6
baz=181
MPMC Manual Prospec 63.43 323 P P 18 16 16.0 -0.1
baz=134
ISA Isabella, Lake 63.74 322 P P 18 16 19.0 +1.0
baz=133
DUG Dugway, Tooele 63.86 329 P P 18 16 19.8 +1.1
baz=139,SNR=9.0
B35A Bob, Littlefor 63.93 347 IAmb IAmb 18 16 18.4
comp=Z,14nm,1.1s
R11A Troy Canyon, C 63.96 326 P P 18 16 20.4 +1.0
baz=136,SNR=11
CWC Cottonwood Cre 64.04 323 P P 18 16 20.9 +0.9
baz=133
PDAR Pinedale Array 64.32 333 P P 18 16 21.5 -0.3
comp=Z,0.6nm,0.6s,baz=147,slow=8.5,SNR=10
PDAR pP **pP** 18 16 40.2 -1.0
comp=Z,1.2nm,0.7s,baz=115,slow=11,SNR=4.0
PDAR LR LR 18 46 17.9
comp=Z,35nm,19.7s,baz=146,slow=38
AGMN Agassiz Nation 64.38 345 P P 18 16 21.0 -0.7
baz=158,SNR=8.4
DRLN Deer Lake 64.77 13 P P 18 16 22.6 -1.7
DRLN IAmb IAmb 18 16 25.1
comp=Z,21nm,0.9s
ELK Elko 65.51 328 P P 18 16 29.8 +0.2
comp=Z,1.1nm,0.6s,baz=116,slow=6.3,SNR=6.2
ELK pP **pP** 18 16 49.2 +0.2
comp=Z,2.5nm,0.8s,baz=100,slow=1.0,SNR=4.2
NVAR Mina Array Bea 65.53 324 P P 18 16 30.3 +0.6
comp=Z,1.5nm,0.7s,baz=141,slow=7.1,SNR=12
NVAR pP **pP** 18 16 48.6 -0.6
comp=Z,2.5nm,0.7s,baz=143,slow=6.6,SNR=8.6
NVAR Mina Array Bea 65.53 324 P P 18 16 29.1 -0.7
RLMT Red Lodge 66.09 335 P P 18 16 33.3 0.0
baz=144
ULM Lac du Bonnet 66.20 346 P P 18 16 21.8 -1.7
comp=Z,9.5nm,0.6s,baz=169,slow=4.1,SNR=9.1
ULM Lac du Bonnet 66.20 346 P P 18 16 31.6 -1.9
ULM IAmb IAmb 18 16 33.3
comp=Z,15nm,1.1s
HLID Hailey 67.19 330 P P 18 16 41.0 +0.8
baz=139
BOZ Bozeman (W) 67.47 333 P P 18 16 42.2 +0.3
baz=142,SNR=7.5
EGMT Eagleton 68.64 336 P P 18 16 49.1 +0.1
baz=144,SNR=5.2
SCHQ Schefferville 68.75 5 P P 18 16 48.2 -1.3
comp=Z,2.6nm,0.6s,baz=185,slow=5.1,SNR=4.4
SCHQ pP **pP** 18 17 08.7 -0.7
comp=Z,3.0nm,0.8s,baz=180,slow=5.1,SNR=3.1
SCHQ LR LR 18 48 23.9
comp=Z,82nm,19.5s,baz=181,slow=37
VNA3 Neumayer Olymp 69.38 162 P P 18 16 54.1 +0.8
MSO Missoula 69.44 333 P P 18 16 54.9 +0.8
baz=140,SNR=8.1
MEH Mehetia 69.46 256 *e*T T 19 31 54.5
comp=Z,7.6nm,0.2s
VNA1 Neumayer--Stat 69.64 161 P P 18 16 56.4 +1.5
VNA2 Neumayer--Watz 69.99 161 P P 18 16 58.0 +1.0
baz=291,slow=7.1
TBI Tubuai 70.04 250 *e*LR LR 18 38 04.2
comp=Z,378nm,29.0s
TBI Tubuai 70.04 250 *e*T T 19 32 38.8
comp=Z,36nm,0.3s
J05D Fort Rock, OR 70.47 326 P P 18 17 01.3 +0.7
baz=133
TVO Taravao 70.59 256 *e*T T 19 33 19.2
comp=Z,1.2nm,0.3s
TIAR Tiarei 70.71 256 *e*T T 19 33 28.2
comp=Z,5.4nm,0.2s
J04D Umpqua Nationa 70.91 326 P P 18 17 04.3 +1.0
baz=132
PPT2 Papeete2 70.92 256 *e*LR LR 18 38 28.2
comp=Z,334nm,29.8s
PPT Papeete 70.93 256 LR LR 18 38 43.0
comp=Z,51nm,20.6s,baz=28,slow=28
I05D Terrebonne, OR 71.23 327 P P 18 17 06.2 +1.1
baz=133
SNAA Sanae 71.60 161 P P 18 17 07.4 +0.5
SNAA Sanae 71.60 161 P P 18 17 07.4 +0.5
SNAA IAmb IAmb 18 17 08.2
comp=Z,11nm,0.7s
NEW Newport 71.94 332 P P 18 17 09.5 +0.3
baz=137
LIC Lamto 72.79 79 *e*P P 18 17 14.0 -0.9
comp=Z,94nm,1.1s
TIC Toumodi 72.92 79 *e*P P 18 17 14.8 -0.9
DBIC Dimbokro 73.08 79 P P 18 17 16.4 -0.3
comp=Z,33nm,0.7s,baz=237,slow=6.6,SNR=42
DBIC LR LR 18 48 14.9
comp=Z,83nm,19.6s,baz=232,slow=35
KIC Kosan Boka 73.10 79 *e*P P 18 17 16.1 -0.7
comp=Z,228nm,1.1s
B05A Bryant 74.29 330 P P 18 17 23.1 +0.2
baz=133
D03D Eldon 74.29 329 P P 18 17 24.0 +1.0
baz=132
QSPA South Pole Qui 76.36 180 P P 18 17 35.8 +1.0
comp=Z,20nm,0.8s,baz=153,slow=0.9,SNR=123
QSPA South Pole Qui 76.36 180 P P 18 17 35.3 +0.4
QSPA IAmb IAmb 18 17 37.2
comp=Z,31nm,0.9s
PFVI Vila Bisbo 80.56 48 *e*P P 18 18 00.5 +2.2
MORF Marmelete 80.76 48 *e*P P 18 17 59.8 +0.4
MORF AMb AMB 18 18 02.4
comp=Z,38nm,1.0s
MORF Marmelete 80.76 48 *e*P P 18 18 01.4 +2.0
comp=Z,35nm,1.0s
MORF *e*pP **pP** 18 18 21.6 +1.6
MORF *i* LQ LQ 18 18 29.3
PTEO Sao Teotonio 80.81 48 *e*P P 18 18 01.7 +2.1
comp=Z,54nm,1.4s
PTEO *i* LQ LQ 18 18 31.2
PMAFR Mafra 81.02 46 *e*SKS **SKSac** 18 28 13.4 0.0
TORD Torodi Ar. Bea 81.10 74 P P 18 18 01.4 -0.1
comp=Z,42nm,0.8s,baz=264,slow=5.1,SNR=152
TORD LR LR 18 52 59.1
comp=Z,127nm,20.3s,baz=180,slow=35
TORD Torodi Ar. Bea 81.10 74 P P 18 18 01.6 0.0
PNCL Nicolau / Gran 81.19 47 *e*P P 18 18 03.0 +1.4
comp=Z,21nm,1.5s
PNCL *i* LQ LQ 18 18 49.9
PNCL *e*SKS **SKSac** 18 28 14.5 0.0
PBDV Barranco-do-Ve 81.25 48 *e*P P 18 18 03.8 +1.8
comp=Z,40nm,1.8s
MESJ Messejana 81.30 48 *e*P P 18 18 02.5 +0.3
MESJ AMb AMB 18 18 18.5
comp=Z,29nm,3.6s
MESJ Messejana 81.30 48 *e*P P 18 18 04.1 +1.9
comp=Z,26nm,1.7s
MESJ *e*pP **pP** 18 18 24.2 +1.4
MESJ *i* LQ LQ 18 18 32.1
PCVE Castro Verde 81.34 48 *e*P P 18 18 04.3 +1.9
comp=Z,24nm,0.9s
PCVE *e*pP **pP** 18 18 24.5 +1.4
PCVE *i* LQ LQ 18 18 32.4
PVAQ Vaqueiros 81.48 48 *e*P P 18 18 02.9 -0.2
PVAQ Vaqueiros 81.48 48 *e*LR LR 18 44 34.9
comp=Z,87nm,18.0s
PBEJ Beja 81.63 48 *e*P P 18 18 05.3 +1.4
comp=Z,18nm,1.3s
EVO Evora 81.73 47 *e*P P 18 18 05.7 +1.2
comp=Z,13nm,1.5s
EVO *e*pP **pP** 18 18 26.1 +1.3
PMTG Montargil 81.81 47 *e*P P 18 18 06.2 +1.4
comp=Z,29nm,1.3s
PMTG *e*pP **pP** 18 18 26.9 +1.7
PMTG *i* LQ LQ 18 18 34.3
YKA Yellowknife Ar 81.90 343 P P 18 18 03.8 -0.9
comp=Z,3.1nm,0.8s,baz=139,slow=5.6,SNR=11
YKA pP **pP** 18 18 23.4 -1.6

	comp=Z,3.9nm,0.8s,baz=140,slow=5.7,SNR=7.5								
YKA					LR		LR	18 57 05.1	
	comp=Z,33nm,21.0s,baz=0.0,slow=38								
PCAS	**Casmilo, Conde**	**82.04**	**46**	*e*P		**P**		**18 18 03.3**	**-2.7**
	comp=Z,26nm,1.9s								
PCAS					*e*pP		**pP**	**18 18 24.2**	**-2.2**
COI	**Coimbra**	**82.16**	**45**	*e*P		**P**		**18 18 08.4**	**+1.7**
	comp=Z,44nm,0.9s								
PTO	**Porto**	**82.43**	**45**	*e*P		**P**		**18 18 09.5**	**+1.5**
PMRV	**Marv??o**	**82.55**	**46**	*e*P		**P**		**18 18 09.5**	**+0.8**
	comp=Z,13nm,1.9s								
PMRV					*e*pP		**pP**	**18 18 29.3**	**+0.2**
PMRV					*i* LQ		LQ	18 18 37.6	
PMRV					*e*SKS		**SKSac**	**18 28 24.8**	**+1.1**
PMRV	**Marv??o**	**82.55**	**46**	*e*LR		LR		18 44 53.6	
	comp=Z,78nm,20.0s								
PCBR	**Castelo Branco**	**82.66**	**46**	*e*P		**P**		**18 18 10.6**	**+1.3**
	comp=Z,23nm,1.9s								
PCBR					*e*pP		**pP**	**18 18 31.6**	**+1.9**
PCBR					*i* LQ		LQ	18 18 38.2	
PVIS	**Viseu**	**82.74**	**45**	*e*P		**P**		**18 18 10.7**	**+1.0**
	comp=Z,49nm,1.3s								
PVIS					*e*pP		**pP**	**18 18 31.3**	**+1.2**
PVIS					*i* LQ		LQ	18 18 38.5	
MTE	**Manteigas**	**82.85**	**46**	*e*P		**P**		**18 18 11.7**	**+1.4**
	comp=Z,29nm,1.2s								
MTE					*e*pP		**pP**	**18 18 31.6**	**+0.9**
MTE					*i* LQ		LQ	18 18 39.0	
MTE	**Manteigas**	**82.85**	**46**	*e*LR		LR		18 45 24.3	
	comp=Z,95nm,20.0s								
PGAV	**Gavieira, Arco**	**83.01**	**44**	*e*LR		LR		18 44 43.7	
	comp=Z,87nm,20.0s								
PCAB	**Cabril**	**83.07**	**44**	*e*P		**P**		**18 18 12.6**	**+1.2**
	comp=Z,30nm,1.8s								
PCAB					*e*pP		**pP**	**18 18 33.3**	**+1.5**
PCAB					*i* LQ		LQ	18 18 40.3	
PVRL	**Vila Real**	**83.09**	**45**	*e*P		**P**		**18 18 12.5**	**+0.9**
	comp=Z,27nm,2.0s								
PVRL					*i* LQ		LQ	18 18 40.6	
VNDA	**Vanda**	**83.26**	**191**	P		**P**		**18 18 13.7**	**+1.9**
	comp=Z,4.0nm,0.9s,baz=123,slow=4.9,SNR=25								
VNDA					LR		LR	18 51 08.7	
	comp=Z,99nm,19.7s,baz=128,slow=33								
VNDA	**Vanda**	**83.26**	**191**	P		**P**		**18 18 12.6**	**+0.8**
MVO	**Moncorvo**	**83.52**	**45**	*e*P		**P**		**18 18 14.6**	**+0.8**
	comp=Z,29nm,1.7s								
MVO					*i* LQ		LQ	18 18 43.0	
MVO					*e*SKS		**SKSac**	**18 28 33.4**	**+3.2**
MVO	**Moncorvo**	**83.52**	**45**	*e*LR		LR		18 45 39.0	
	comp=Z,72nm,22.0s								
PBRG	**Braganca**	**83.98**	**45**	*e*P		**P**		**18 18 17.0**	**+0.9**
	comp=Z,28nm,1.6s								
PAB	**San Pablo**	**84.75**	**47**	P		**P**		**18 18 20.4**	**+0.3**
ESDC	**Sonseca Array**	**85.08**	**47**	P		**P**		**18 18 22.2**	**+0.5**
	comp=Z,1.9nm,0.7s,baz=264,slow=5.0,SNR=16								
ESDC					pP		**pP**	**18 18 42.9**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=263,slow=5.0,SNR=4.3								
ESDC					LR		LR	18 53 29.5	
	comp=Z,76nm,20.7s,baz=230,slow=34								
ESDC	**Sonseca Array**	**85.08**	**47**	P		**P**		**18 18 22.6**	**+0.9**
SYO	**Syowa Base**	**85.88**	**161⇑**	*e*PcP		**P**		**18 18 23.6**	**-1.5**
SYO	**Syowa Base**	**85.88**	**161⇑**	*e*pP		pP		18 18 41.4	-3.9
SYO	**Syowa Base**	**85.88**	**161⇑**	*e*sP		sP		18 18 51.4	-1.9
TSUM	**Tsumeb**	**88.48**	**109**	P		**P**		**18 18 38.9**	**0.0**
SUMG	**Summit**	**89.56**	**10⇓**	*i* P		**P**		**18 18 43.1**	**+0.1**
	comp=Z,35nm,0.9s								
SUMG	**Summit**	**89.56**	**10**	IAmb		IAmb		18 18 44.2	
	comp=Z,13nm,0.8s								
BOSA	**Boshof**	**92.75**	**120**	P		**P**		**18 18 58.2**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=289,slow=4.8,SNR=6.3								
BOSA					LR		LR	18 57 43.5	
	comp=Z,96nm,18.4s,baz=246,slow=34								
BOSA	**Boshof**	**92.75**	**120**	P		**P**		**18 18 57.9**	**-0.7**
MAW	**Mawson**	**93.44**	**165**	LR		LR		19 01 08.9	
	comp=Z,157nm,18.7s,baz=216,slow=36								
KEST	**Kesra**	**93.89**	**54**	LR		LR		19 01 48.7	
	comp=Z,98nm,18.6s,baz=251,slow=36								
ILAR	**Eielson Array**	**94.60**	**336**	P		**P**		**18 19 05.3**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=178,slow=4.6,SNR=4.5								
ILAR					LR		LR	19 06 09.2	
	comp=Z,29nm,19.6s,baz=124,slow=38								
NEA2	**Nenana**	**95.41**	**335**	P		**P**		**18 19 11.0**	**+1.4**
	baz=111								
DAVA	**Damuels**	**96.96**	**43**	*e*PcP		**P**		**18 19 18.0**	**+0.7**
	comp=Z,4.8nm,0.8s								
FETA	**Feichten**	**97.47**	**44**	*e*PcP		Pdif		18 19 20.4	+0.7
	comp=Z,5.7nm,1.5s								
RETA	**Reutte**	**97.59**	**43**	*e*PcP		Pdif		18 19 20.4	+0.3
	comp=Z,6.2nm,1.0s								
MOTA	**Moosalm**	**97.79**	**43**	*e*Pdiff		Pdif		18 19 21.5	+0.4
	comp=Z,9.1nm,0.9s								
SQTA	**Sankt Quirin**	**97.83**	**43**	*e*Pdiff		Pdif		18 19 21.5	+0.2
	comp=Z,2.2nm,0.9s								
WATA	**Walderalm**	**98.10**	**43**	*e*Pdiff		Pdif		18 19 22.9	+0.4
	comp=Z,5.2nm,0.7s								
WTTA	**Wattenberg**	**98.13**	**43**	*e*Pdiff		Pdif		18 19 23.2	+0.6
	comp=Z,10.0nm,0.8s								
ABTA	**Abfaltersbach**	**98.61**	**44**	*e*Pdiff		Pdif		18 19 25.4	+0.7
	comp=Z,7.8nm,0.9s								
GERES	**GERESS Array B**	**99.78**	**42**	P		**Pdif**		**18 19 30.1**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=241,slow=2.7,SNR=17								
GERES					pP		**pP**	**18 19 50.8**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=280,slow=3.9,SNR=2.3								
GERES					LR		LR	19 02 05.2	
	comp=Z,39nm,18.3s,baz=280,slow=34								
MOA	**Molln**	**99.98**	**43**	*e*Pdiff		**Pdif**		**18 19 31.1**	**+0.4**
	comp=Z,4.3nm,0.9s								
SOKA	**Soboth**	**100.31**	**44**	*e*Pdiff		**Pdif**		**18 19 32.5**	**+0.2**
	comp=Z,2.3nm,1.2s								
ARSA	**Arzberg**	**100.73**	**44**	*e*Pdiff		**Pdif**		**18 19 34.4**	**+0.4**
	comp=Z,3.7nm,1.3s								
CONA	**Conrad Observa**	**101.06**	**43**	*e*Pdiff		**Pdif**		**18 19 36.2**	**+0.7**
	comp=Z,2.7nm,1.1s								
DZM	**Mont Dzumac**	**109.52**	**240**	*e*LR		LR		18 56 25.4	
	comp=Z,286nm,30.9s								
KBZ	**Khabaz**	**119.94**	**47**	PKP		**PKiKP**		**18 24 36.6**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=230,slow=4.8,SNR=3.6								
H11N3	**WAKE ISLAND Hy**	**120.13**	**285**	T		T		20 35 10.6	
	baz=96,slow=74,SNR=334								
H11N2	**WAKE ISLAND Hy**	**120.14**	**285**	T		T		20 35 14.9	
	baz=96,slow=74,SNR=513								
H11N1	**WAKE ISLAND Hy**	**120.15**	**285**	T		T		20 35 11.8	
	baz=96,slow=74,SNR=203								
H11S2	**WAKE ISLAND Hy**	**120.21**	**284**	T		T		20 35 20.9	
	baz=93,slow=74,SNR=404								
H11S1	**WAKE ISLAND Hy**	**120.22**	**284**	T		T		20 35 09.1	
	baz=93,slow=74,SNR=344								
H11S3	**WAKE ISLAND Hy**	**120.23**	**284**	T		T		20 35 29.6	
	baz=93,slow=74,SNR=284								
STKA	**Stephens Creek**	**122.28**	**217**	PKP		**PKiKP**		**18 24 41.6**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=11,slow=2.9,SNR=4.7								
PETK	**Petropavlovsk-**	**122.61**	**325**	PKP		**PKiKP**		**18 24 40.9**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=145,slow=5.3,SNR=2.9								
ABKAR	**Akbulak array**	**129.28**	**36**	PKPdf		**PKiKP**		**18 24 55.0**	**+0.6**
BVAR	**Borovoye Array**	**132.46**	**27**	PKP		**PKiKP**		**18 25 00.1**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=264,slow=2.9,SNR=2.8								
ASAR	**Alice Springs**	**132.91**	**218**	PKP		**PKPdf**		**18 25 01.4**	**0.0**
	comp=Z,2.1nm,0.6s,baz=125,slow=2.1,SNR=42								
ASAR					pPKP		**pPKPdf**	**18 25 22.0**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=123,slow=1.9,SNR=3.3								
WRA	**Warramunga Arr**	**135.39**	**222**	PKP		**PKPdf**		**18 25 06.2**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=141,slow=1.7,SNR=5.0								
WRA	**Warramunga Arr**	**135.39**	**222**			**PKPdf**		**18 25 05.5**	**-0.6**
ZALV	**Zalesovo Beam**	**137.05**	**17**	PKhKP		PKPpre		18 24 58.1	
	comp=Z,0.3nm,0.3s,baz=306,slow=5.0,SNR=2.0								
ZALV					PKP		**PKPdf**	**18 25 06.6**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=329,slow=1.7,SNR=7.5								
ZALV					pPKP		pPKPdf	18 25 29.4	-0.2
	comp=Z,2.4nm,0.7s,baz=266,slow=2.2,SNR=4.0								
KURBB	**Kurchatov Arra**	**137.67**	**24**	PKhKP		PKPpre		18 25 05.3	
	comp=Z,1.1nm,0.8s,baz=314,slow=2.2,SNR=4.6								
KURBB					PKP		**PKPdf**	**18 25 09.8**	**+0.4**
	comp=Z,1.4nm,0.9s,baz=310,slow=2.5,SNR=12								
KURBB					pPKP		pPKPdf	18 25 31.4	+0.7
	comp=Z,1.3nm,0.7s,baz=314,slow=2.6,SNR=5.5								
KLR	**Kul'dur**	**138.11**	**333**	PKP		**PKPdf**		**18 25 10.2**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=288,slow=12,SNR=3.6								
AAK	**Ala-Archa**	**141.37**	**36**	PKhKP		PKPpre		18 25 12.4	
	comp=Z,0.7nm,0.3s,baz=225,slow=4.4,SNR=1.8								
MKAR	**Makanchi Array**	**142.22**	**25**	PKhKP		PKPpre		18 25 12.8	
	comp=Z,1.1nm,0.7s,baz=325,slow=3.3,SNR=15								
MKAR					pPKP		pPKPdf	18 25 37.1	-2.1
	comp=Z,0.8nm,0.8s,baz=312,slow=2.6,SNR=3.5								
MJAR	**Matsushiro Arr**	**142.23**	**313**	PKhKP		PKPpre		18 25 14.4	
	comp=Z,0.6nm,0.8s,baz=70,slow=11,SNR=2.7								
MJAR					PKP		**PKPdf**	**18 25 17.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=110,slow=1.5,SNR=4.4								
MJAR					pPKP		pPKPdf	18 25 38.3	-1.1
	comp=Z,2.2nm,0.7s,baz=80,slow=3.4,SNR=4.8								
KSH	**Kashi**	**144.18**	**39**	*e*PKP		**PKPdf**		**18 25 21.4**	**-0.2**
NIL	**Nilore**	**145.50**	**50**			**PKPab**		**18 25 24.6**	**+0.1**
SONM	**Songino Array**	**146.01**	**358**	PKPbc		**PKPbc**		**18 25 25.6**	**+0.3**
	comp=Z,7.3nm,0.7s,baz=324,slow=1.9,SNR=48								
SONM					pPKPbc	pPKPab		18 25 46.5	-0.2
	comp=Z,6.8nm,0.5s,baz=326,slow=2.2,SNR=6.9								
WMQ	**Urumqi**	**146.81**	**22**	*e*PKPbc		**PKPdf**		**18 25 25.3**	**-0.6**
WMQ					LR	LR			
	comp=Z,140nm,24.9s								
KSRS	**Korea Array**	**148.46**	**323**	PKP		**PKPdf**		**18 25 29.3**	**+0.6**
	comp=Z,2.9nm,1.0s,baz=34,slow=1.6,SNR=14								
KSRS					PKPbc	**PKiKP**		**18 25 33.2**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=74,slow=3.7,SNR=11								
JNU	**Nakatsue**	**149.16**	**313**	PKPbc		**PKPbc**		**18 25 34.1**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=63,slow=4.5,SNR=1.6								
JNU					pPKPbc	**pPKPbc**		**18 25 54.0**	**-1.2**
	comp=Z,12nm,1.0s,baz=298,slow=13,SNR=4.2								
BJI	**Beijing**	**151.87**	**341**	PKPbc		**PKPdf**		**18 25 35.9**	**+1.9**
HHC	**Hu-ho-hao-te**	**152.31**	**348**	*e*PKPbc		**PKPbc**		**18 25 38.5**	**-3.1**
BTO	**Baotou**	**152.83**	**351**	*e*P		**PKiKP**		**18 25 47.5**	**+4.5**
NJ2	**Nanjing**	**157.51**	**326**	*e*PKP		**PKPdf**		**18 25 42.3**	**+0.3**
LZH	**Lanzhou**	**157.78**	**1**	*e*PKP		**PKPdf**		**18 25 37.8**	**-4.7**
LZH					pPKP	pPKPdf		18 26 01.0	-2.8
LZH					sPKP			18 26 10.8	
CD2	**Chengdu**	**162.94**	**2**	PKP		**PKPdf**		**18 25 46.5**	**-1.7**
CMAR	**Chiang Mai Arr**	**172.99**	**48**	PKP		**PKPdf**		**18 25 54.4**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=275,slow=5.1,SNR=4.1								
CMAR					pPKP	**pPKPdf**		**18 26 17.3**	**+0.6**
	comp=Z,0.7nm,0.8s,baz=289,slow=2.8,SNR=3.0								
CMAR					PKPab	**PKPab**		**18 27 22.3**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=300,slow=4.5,SNR=4.9								

*IDC **22** 18:07:50.8±1.5, 10.62S×120.19E, h0km, mb3.4/4, mb1 3.5/7, mb1mx3.3/41, mbtmp3.4/7, ML3.1/3, MS3.3/1, Ms1 3.3/1, ms1mx2.6/18, Error ellipse: s-maj=46.5km s-min=21.9km az=40.0*

ISC 22 18:07:55.4±1.1, 10.5S±0.1×120.62E±0.10, h30km, n9, σ1°45°/9, mb3.6/4, Suмba region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.01**	**86**	Pn		**Pb**	**18 08 46.8**	**-1.5**
	3.8nm,0.3s,baz=277,slow=4.9,SNR=7.7							
BATI				Sn		**Sb**	**18 09 26.7**	**+2.0**
	2.6nm,0.3s,baz=37,slow=20,SNR=2.2							
FITZ	**Fitzroy Crossi**	**9.03**	**148**	Pn		**Pn**	**18 10 03.3**	**-0.5**
	0.1nm,0.3s,baz=331,slow=11,SNR=14							
FITZ				Sn		Sn	18 11 34.9	-10
	0.2nm,0.3s,baz=0.0,slow=20,SNR=1.1							
WRA	**Warramunga Arr**	**16.25**	**127**	Pn		**Pn**	**18 11 39.9**	**-1.8**
	0.1nm,0.3s,baz=306,slow=14,SNR=1.4							
ASAR	**Alice Springs**	**18.26**	**138**	P		**Pn**	**18 12 07.9**	**+1.2**
	0.1nm,0.3s,baz=316,slow=12,SNR=7.1							
JAY	**Jayapura**	**21.45**	**70**	LR		LR	18 22 50.7	
	comp=Z,77nm,19.1s,baz=0.0,slow=41							
SONM	**Songino Array**	**59.38**	**349**	P		**P**	**18 17 55.6**	**+0.6**
	0.5nm,0.6s,baz=172,slow=4.4,SNR=3.5							
MKAR	**Makanchi Array**	**66.47**	**332**	P		**P**	**18 18 41.8**	**-0.2**
	0.2nm,0.7s,baz=157,slow=8.8,SNR=2.5							
ZALV	**Zalesovo Beam**	**70.96**	**339**	P		**P**	**18 19 09.0**	**-0.8**
	0.4nm,0.5s,baz=145,slow=5.3,SNR=2.4							
KURBB	**Kurchatov Arra**	**70.97**	**333**	P		**P**	**18 19 10.7**	**+0.8**
	0.1nm,0.5s,baz=138,slow=5.8,SNR=4.1							

*DDA **22** 18:23:15.3, 35.81N×30.85E, h7km±4km, ML1.9*
*ISK **22** 18:23:16.8, 35.99N×30.75E, h24km, ML2.4/13*
*NIC **22** 18:23:19.0±0.0, 35.74N×30.49E, h22km±2km, Ml2.6/2*

ISC 22 18:23:17.6±1.1, 35.87N±0.05×30.70E±0.03, h28km±13km, n27, σ1°56/37, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AKUM	**Antalya-Kumluc**	**0.54**	**328**	*i* P		**Pb**	**18 23 27.7**	**-1.0**
AKUM				*i* S		**Sn**	**18 23 38.7**	**+1.0**
AKUM				IAML			18 23 39.0	
	comp=N,77nm,0.4s							
AKUM				IAML			18 23 40.0	
	comp=E,40nm,0.2s							
KSL	**Kastellorizon**	**0.95**	**288**	P		**Pb**	**18 23 34.8**	**-0.7**
KSL				S		**Sb**	**18 23 48.0**	**+0.3**
AKAS	**Kas**	**0.96**	**293**	PG		**Pb**	**18 23 35.3**	**-0.5**
AKAS	**Kas**	**0.96**	**293**	*i* P		**Pn**	**18 23 35.9**	**+0.5**
AKAS				*i* S		**Sb**	**18 23 48.5**	**+0.3**
AKAS				IAML			18 23 55.0	
	comp=N,30nm,0.7s							
AKAS				IAML			18 23 57.0	
	comp=E,26nm,1.1s							
ANTB	**Antalya**	**1.03**	**358**	PG		**Pn**	**18 23 34.7**	**-1.6**
ELL	**Elmali**	**1.09**	**324**	PG		**Pn**	**18 23 36.6**	**-0.6**
ELL	**Elmali**	**1.09**	**324**	P		**Pb**	**18 23 38.8**	**+0.9**
ELL				S		**Sn**	**18 23 54.8**	**+3.3**
KEPZ	**Antalya-Kepez**	**1.27**	**35**	*i* P		**Pn**	**18 23 39.1**	**-0.4**
KEPZ				IAML			18 23 56.0	
	comp=E,16nm,0.4s							
KEPZ				IAML			18 23 56.0	
	comp=N,29nm,1.0s							
KEPZ				*i* S		**Sn**	**18 23 56.1**	**+0.4**
GAZI	**Gazipasa**	**1.36**	**74**	PN		**Pn**	**18 23 39.7**	**-1.1**
GAZI				SN		**Sn**	**18 23 56.8**	**-1.1**
GAZI	**Gazipasa**	**1.36**	**74**	*i* P		**Pn**	**18 23 39.9**	**-0.9**
GAZI				*i* S		**Sn**	**18 23 57.1**	**-0.8**
GAZI				IAML			18 23 58.0	
	comp=N,46nm,0.8s							
GAZI				IAML			18 23 58.0	
	comp=E,32nm,0.5s							
FETY	**Fethiye**	**1.52**	**301**	PN		**Pn**	**18 23 42.4**	**-0.6**
AKMS	**Akamas**	**1.58**	**122**	P		**Pb**	**18 23 47.2**	**+1.1**
AKMS				S		**Sb**	**18 24 08.0**	**+2.3**
AKMS				AML	AML		18 24 12.9	
	comp=E,0.1nm,0.3s							
AKMS				AML	AML		18 24 12.9	
	comp=E,0.1nm,0.3s							
AKMS				AML	AML		18 24 15.6	
	comp=E,0.2nm,0.9s							
AKMS				AML	AML		18 24 15.6	
	comp=E,0.2nm,0.9s							
GOLH	**Golhisar**	**1.65**	**326**	*i* P		**Pn**	**18 23 45.5**	**+0.6**
ALFC	**Alefka**	**1.70**	**114**	P		**Pb**	**18 23 48.5**	**+0.3**
ALFC				S		**Sb**	**18 24 12.8**	**+3.5**
ALFC				AML	AML		18 24 17.2	
	comp=E,0.1nm,0.4s							
ALFC				AML	AML		18 24 17.2	
	comp=E,0.1nm,0.4s							
ALFC				AML	AML		18 24 22.4	
	comp=E,0.2nm,0.7s							
ALFC				AML	AML		18 24 22.4	
	comp=E,0.2nm,0.7s							
SEYD	**Seydisehir-KON**	**1.79**	**30**	PN		**Pn**	**18 23 45.2**	**-1.6**
TEKE	**Tekeli-Mersin**	**1.98**	**81**	PN		**Pn**	**18 23 49.2**	**0.0**
BERE	**Bereket-Mersin**	**2.10**	**76**	PN		**Pn**	**18 23 50.8**	**-0.3**
ARG	**Arkhangelos**	**2.12**	**280**	PN		**Pn**	**18 23 51.5**	**+0.3**
AKKU	**Akkuyu-Mersin**	**2.33**	**82**	PN		**Pn**	**18 23 53.9**	**-0.2**
CSS	**Mathiatis**	**2.33**	**112**	PN		**Pn**	**18 23 55.0**	**+0.9**
IKL	**Isikli**	**2.45**	**80**	PN		**Pn**	**18 23 55.4**	**-0.3**
KONT	**Konya--Tatoy**	**2.47**	**32**	PN		**Pn**	**18 23 54.8**	**-1.2**
KEBE	**Keben-Mersin**	**2.50**	**76**	PN		**Pn**	**18 23 56.2**	**-0.4**
KARP	**Karpathos**	**2.90**	**265**	P		**Pn**	**18 24 02.1**	**+0.1**
KARP				S		**Sn**	**18 24 34.1**	**-1.8**
BODT	**Bodrum**	**2.98**	**295**	PN		**Pn**	**18 24 03.9**	**+0.8**
OSC2	**CSNet OBS 4**	**3.07**	**155**	S		**Sb**	**18 24 43.2**	**-5.3**
CHBY	**Cihanbeyli**	**3.23**	**32**	PN		**Pn**	**18 24 05.4**	**-1.2**

*IDC **22** 18:49:39.5±1.6, 10.77S×120.03E, h0km, mb3.8/3, mb1 3.7/7, mb1mx3.5/30, mbtmp3.6/7, ML3.2/4, MS3.0/1, Ms1 3.0/1, ms1mx2.4/34, Error ellipse: s-maj=59.7km s-min=21.4km az=48.0*

ISC 22 18:49:44.3±1.2, 10.9S±0.1×120.1E±0.1, h35km, n8, σ1°51/9, mb3.9/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.53**	**80**	Pn		**Pn**	**18 50 37.1**	**+0.4**
	2.5nm,0.3s,baz=74,slow=4.8,SNR=4.7							
BATI				Sn		**Sn**	**18 51 16.6**	**-0.7**
	2.5nm,0.3s,baz=25,slow=21,SNR=6.5							
FITZ	**Fitzroy Crossi**	**8.94**	**144**	Pn		**Pn**	**18 51 50.9**	**-0.2**
	0.3nm,0.3s,baz=338,slow=7.3,SNR=14							
FITZ				Sn		**Sn**	**18 53 28.6**	**-2.0**
	0.2nm,0.3s,baz=128,slow=19,SNR=3.0							
WRA	**Warramunga Arr**	**16.39**	**125**	Pn		**Pn**	**18 53 31.7**	**-0.1**
	0.1nm,0.3s,baz=298,slow=12,SNR=1.4							
WRA				Sn		Sn	18 56 20.6	-12
	0.1nm,0.3s,baz=297,slow=25,SNR=1.7							
ASAR	**Alice Springs**	**18.28**	**136**	P		**Pn**	**18 53 58.2**	**+2.9**
	0.1nm,0.3s,baz=314,slow=12,SNR=12							
JHJ	**Hachijo jima 2**	**47.59**	**22**	LR		LR	19 20 27.6	
	comp=Z,16nm,19.9s,baz=108,slow=39							
SONM	**Songino Array**	**59.71**	**349**	P		**P**	**18 59 44.9**	**-0.6**
	1.0nm,0.6s,baz=167,slow=8.5,SNR=8.2							
MKAR	**Makanchi Array**	**66.62**	**333**	P		**P**	**19 00 31.1**	**-0.1**
	0.1nm,0.5s,baz=140,slow=8.1,SNR=3.7							
ZALV	**Zalesovo Beam**	**71.18**	**339**	P		**P**	**19 00 59.1**	**-0.3**
	0.7nm,0.5s,baz=161,slow=5.5,SNR=4.5							

*IDC **22** 19:05:53.5±2.5, 48.08N×152.85E, h152km±27km, mb3.0/3, mb1 3.1/7, mb1mx2.9/44, mbtmp3.6/7, Error ellipse: s-maj=36.7km s-min=18.1km az=140.0*

ISC 22 19:05:51.6±1.4, 47.9N±0.2×153.0E±0.2, h128km, n13, σ1°59/8, mb3.3/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.00**	**28**	P		**Pn**	**19 07 17.4**	**-0.6**
	0.2nm,0.3s,baz=201,slow=14,SNR=7.6							
PETK				S		**Sn**	**19 08 27.1**	**+1.7**
	0.7nm,0.3s,baz=180,slow=40,SNR=2.7							
ASAJ	**Asahikawa**	**8.18**	**246**	P		**Pn**	**19 07 48.6**	**+1.2**
	0.2nm,0.3s,baz=80,slow=17,SNR=16							
KLR	**Kul'dur**	**14.13**	**283**	P		**Pn**	**19 09 07.0**	**+1.0**
	0.2nm,0.3s,baz=75,slow=9.9,SNR=5.7							
USRK	**Ussuriysk Ar.**	**15.05**	**264**	P		**Pn**	**19 09 18.4**	**+0.9**
	baz=72,slow=15,SNR=2.7							
KSRS	**Korea Array**	**21.11**	**250**	P		**P**	**19 10 25.4**	**-0.5**
	1.1nm,0.8s,baz=49,slow=9.6,SNR=7.7							
H11N2	**WAKE ISLAND Hy**	**30.29**	**153**	T		T	19 43 45.0	
	baz=334							
H11N1	**WAKE ISLAND Hy**	**30.30**	**153**	T		T	19 43 41.6	
	baz=334							
H11N3	**WAKE ISLAND Hy**	**30.30**	**153**	T		T	19 43 44.5	
	baz=334							
H11S1	**WAKE ISLAND Hy**	**31.38**	**154**	T		T	19 44 43.0	
	baz=331,slow=78,SNR=5.9							
H11S3	**WAKE ISLAND Hy**	**31.39**	**154**	T		T	19 44 54.3	
	baz=331,slow=78,SNR=4.4							
H11S2	**WAKE ISLAND Hy**	**31.40**	**154**	T		T	19 45 08.9	
	baz=331,slow=78,SNR=4.5							
MKAR	**Makanchi Array**	**46.35**	**296**	P		**P**	**19 14 02.2**	**-2.4**
	0.3nm,0.5s,baz=68,slow=8.5,SNR=4.8							
ASAR	**Alice Springs**	**73.29**	**198**	P		**P**	**19 17 09.2**	**+0.3**
	0.3nm,0.6s,baz=10,slow=5.7,SNR=5.8							

*IDC **22** 19:20:33.7±1.8, 12.51N×88.18W, h46km±23km, mb3.5/5, mb1 3.9/8, mb1mx3.5/42, mbtmp3.8/8, ML3

BOAB	**BOACO BROADBAN**	**2.43**	**94**		**Pn**		**19 21 10.8**	**-0.7**
ACON	**Acoyapa**	**2.98**	**102**		**Pn**		**19 21 18.2**	**-0.8**
GBS3	**Finca Las Img**	**3.21**	**125**	*eP*	**Pn**		**19 21 23.8**	**+1.4**
NY14	**Universidad de**	**3.23**	**127**	*eP*	**Pn**		**19 21 23.7**	**+1.2**
LAPC	**Finca la Perla**	**3.24**	**125**	*eP*	**Pn**		**19 21 24.8**	**+2.1**
BUAI	**Buenos Aires**	**3.26**	**122**	*eP*	**Pn**		**19 21 25.0**	**+2.0**
LIM1	**Limonal**	**3.42**	**124**	*eP*	**Pn**		**19 21 27.0**	**+1.8**
HORNC	**Hornillas**	**3.48**	**123**	*eP*	**Pn**		**19 21 25.4**	**-0.6**
COLC	**Colonia**	**3.48**	**124**	*eP*	**Pn**		**19 21 26.6**	**+0.6**
GUAI	**GUAI**	**3.49**	**132**	*eP*	**Pn**		**19 21 26.5**	**+0.4**
CUI	**Cuipilapa**	**3.52**	**124**	*eP*	**Pn**		**19 21 27.7**	**+1.2**
ESPN	**Las Esperanzas**	**3.78**	**96**		**Pn**		**19 21 30.0**	**0.0**
JTS	**Las Juntas de**	**3.90**	**126**	P	**Pn**		**19 21 32.1**	**+0.4**
	comp=Z,3.8nm,0.3s,baz=24,slow=16,SNR=18							
JTS				S	**Sn**		**19 22 13.8**	**-2.4**
	comp=Z,5.2nm,0.3s,baz=18,slow=18,SNR=1.3							
JTS				Lg	Lg		19 22 32.8	
	comp=Z,24nm,0.3s,baz=162,slow=19,SNR=13							
JTS	**Las Juntas de**	**3.90**	**126**	Pn	**Pn**		**19 21 34.6**	**+2.9**
TEIG	**Tepich**	**7.55**	**359**	P	**Pn**		**19 22 24.3**	**+2.4**
	comp=Z,1.0nm,0.3s,baz=139,slow=3.9,SNR=7.7							
CMIG	**Matias Romero**	**7.88**	**305**	P	**Pn**		**19 22 26.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=146,slow=11,SNR=2.0							
CMIG				S	**Sn**		**19 23 54.8**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=130,slow=22,SNR=1.6							
GOGA	**Godfrey**	**21.12**	**11**	P	**P**		**19 25 11.8**	**-3.1**
GOGA				IAmb	IAmb		19 25 34.4	
	comp=Z,7.4nm,0.9s							
TX32	**Lajitas Array**	**22.01**	**321**	P	**P**		**19 25 23.9**	**-0.7**
TXAR	**Lajitas Array**	**22.01**	**321**	P	**P**		**19 25 24.8**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=138,slow=9.6,SNR=29							
TXAR	**Lajitas Array**	**22.01**	**321**	P	**P**		**19 25 24.6**	**+0.1**
TX31	**Lajitas Ar. Si**	**22.01**	**321**	P	**P**		**19 25 24.8**	**+0.3**
TX31				IAmb	IAmb		19 25 26.9	
	comp=Z,6.2nm,0.8s							
TKL	**Tuckaleechee C**	**23.26**	**9**	P	**P**		**19 25 37.8**	**+0.3**
	comp=Z,3.9nm,0.8s,baz=187,slow=13,SNR=5.4							
TKL	**Tuckaleechee C**	**23.26**	**9**	IAmb	IAmb		19 25 38.5	
	comp=Z,4.9nm,0.9s							
V58A	**Windy Hill, Pi**	**24.46**	**18**	P	**P**		**19 25 47.4**	**-1.1**
V58A				IAmb	IAmb		19 26 06.9	
	comp=Z,8.0nm,0.8s							
PTGA	**Pitinga**	**30.95**	**113**	P	**P**		**19 26 47.4**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=194,slow=14,SNR=6.9							
PDAR	**Pinedale Array**	**35.30**	**332**	P	**P**		**19 27 24.6**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=143,slow=7.6,SNR=1.9							
REDW	**Red Top Meadow**	**36.35**	**332**	P	**P**		**19 27 32.5**	**-1.3**
NVAR	**Mina Array Bea**	**37.12**	**319**	P	**P**		**19 27 41.0**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=125,slow=7.8,SNR=2.1							
WRA	**Warramunga Arr**	**138.67**	**254**	pPKP	pPKPdf		19 40 09.3	-1.5
	comp=Z,3.1nm,0.9s,baz=72,slow=1.5,SNR=7.0							
ASAR	**Alice Springs**	**138.71**	**249**	pPKP	pPKPdf		19 40 12.5	+1.8
	comp=Z,0.6nm,1.0s,baz=78,slow=1.9,SNR=4.7							

*GUC **22** 19:21:51.6±0.8, 19°.70S×71°.09W, h42km±2km, ML3.6*
*IDC **22** 19:22:04.9±2.8, 20°.10S×69°.90W, h94km±22km, mb3.6/3, mb1 3.6/6, mb1mx3.4/34, mbtmp3.8/6, MS3.0/2, Ms1 3.0/2, ms1mx2.6/26, Error ellipse: s-maj=50.7km s-min=22.0km az=102.0*

ISC 22 19:21:53.3±2.0, 19°.69S±0°.05×71°.1W±0°.1, h42km±20km, n28, σ0°.93/33, 6C-2D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.93**	**84**	⇓*iP*	**Pn**	**19 22 08.6**	**-1.4**
PSGC				*i* S	**Sn**	**19 22 21.5**	**-0.7**
TA02	**Huaiquique**	**1.08**	**122**	*i* P	**Pn**	**19 22 10.6**	**-1.4**
TA02				*i* S	**Sn**	**19 22 25.2**	**-0.6**
TA02				IAML		19 22 27.1	
	comp=N,2μm,0.2s						
TA01	**Diego Aracena**	**1.23**	**135**	⇑*iP*	**Pn**	**19 22 13.1**	**-1.0**
TA01				*i* S	**Sn**	**19 22 28.0**	**-1.5**
PB12	**IPOC Station P**	**1.30**	**35**	⇑*iP*	**Pn**	**19 22 14.3**	**-0.7**
PB12				*i* S	**Sn**	**19 22 32.0**	**+0.7**
PB12				IAML		19 22 34.1	
	comp=N,838nm,0.4s						
PB11	**IPOC Station P**	**1.37**	**93**	⇑*iP*	**Pn**	**19 22 15.6**	**-0.5**
PB11				*i* S	**Sn**	**19 22 33.4**	**+0.4**
PB11				IAML		19 22 44.0	
	comp=E,1μm,0.6s						
MNMC	**Minye Minye**	**1.53**	**69**	⇑*iP*	**Pn**	**19 22 18.4**	**0.0**
MNMC				*i* S	**Sn**	**19 22 39.0**	**+1.8**
GO01	**Chusmiza**	**1.80**	**90**	⇑*iP*	**Pn**	**19 22 22.2**	**-0.1**
GO01				*i* S	**Sn**	**19 22 45.5**	**+1.4**
GO01				IAML		19 22 52.1	
	comp=N,1μm,0.8s						
PB08	**IPOC Station P**	**1.89**	**104**	⇑*iP*	**Pn**	**19 22 23.3**	**-0.1**
PB08				*i* S	**Sn**	**19 22 47.8**	**+1.6**
PB08				IAML		19 22 50.9	
	comp=N,380nm,0.5s						
PB02	**IPOC Station P**	**1.98**	**145**	⇓*iP*	**Pn**	**19 22 23.8**	**-0.6**
PB02				*eS*	**Sn**	**19 22 48.5**	**+0.5**
PB01	**IPOC Station P**	**2.03**	**132**	*iP*	**Pn**	**19 22 24.9**	**-0.2**
PB01				*i* S	**Sn**	**19 22 49.1**	**-0.2**
PB01				IAML		19 23 03.4	
	comp=N,577nm,0.6s						
PB07	**IPOC Station P**	**2.33**	**151**	*eP*	**Pn**	**19 22 29.0**	**-0.3**
PB07				*eS*	**Sn**	**19 22 57.4**	**+0.7**
PB07				IAML		19 23 10.6	
	comp=E,576nm,0.6s						
PB03	**IPOC Station P**	**2.67**	**152**	*eP*	**Pn**	**19 22 33.7**	**-0.2**
PB03				*eS*	**Sn**	**19 23 06.0**	**+0.9**
PB03				IAML		19 23 24.5	
	comp=E,254nm,0.4s						
PB09	**IPOC Station P**	**2.73**	**141**	*iP*	**Pn**	**19 22 35.0**	**+0.3**
PB09				*i* S	**Sn**	**19 23 06.9**	**+0.3**
PB04	**IPOC Station P**	**2.78**	**161**	*eP*	**Pn**	**19 22 35.0**	**-0.5**
PB04				*eS*	**Sn**	**19 23 09.2**	**+1.4**
PB04				IAML		19 23 29.3	
	comp=E,419nm,0.6s						
LVC	**Limon Verde**	**3.55**	**145**	P	**Pn**	**19 22 47.0**	**+0.7**
	comp=E,3.9nm,0.3s,baz=301,slow=8.6,SNR=11						
LVC				S	**Sn**	**19 23 27.4**	**+0.1**
	comp=E,17nm,0.3s,baz=134,slow=22,SNR=7.5						
LPAZ	**La Paz**	**4.41**	**40**	P	Pn	19 23 04.9	+6.6
	comp=E,1.0nm,0.3s,baz=184,slow=5.7,SNR=9.7						
SIV	**San Ignacio**	**10.23**	**71**	P	**Pn**	**19 24 18.4**	**+0.7**
	comp=E,0.6nm,0.3s,baz=268,slow=11,SNR=5.6						
SIV				LR	LR	19 28 41.3	
	comp=E,89nm,19.2s,baz=286,slow=42						
CPUP	**Villa Florida**	**14.30**	**120**	LR	LR	19 30 32.2	
	comp=E,59nm,20.0s,baz=212,slow=39						
H03N1	**Juan Fernandez**	**15.37**	**205**	T	T	19 41 25.5	
	baz=33,slow=70,SNR=8.2						
H03N2	**Juan Fernandez**	**15.37**	**205**	T	T	19 41 19.3	
	baz=33,slow=70,SNR=5.5						
H03N3	**Juan Fernandez**	**15.38**	**205**	T	T	19 41 25.1	
	baz=33,slow=70,SNR=5.6						
PLCA	**Paso Flores**	**20.98**	**179**	P	Pn	19 26 35.5	-0.4
	comp=E,3.3nm,1.1s,baz=336,slow=6.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**78.71**	**72**	P	**P**	**19 33 52.3**	**+0.4**
	comp=E,1.5nm,0.7s,baz=258,slow=5.6,SNR=8.3						
YKA	**Yellowknife Ar**	**88.81**	**341**	P	P	19 34 53.1	+11
	comp=E,0.7nm,0.7s,baz=145,slow=5.5,SNR=3.5						
H11S2	**WAKE ISLAND Hyl**	**25.59**	**279**	T	T	22 00 09.4	
	baz=98						
H11S1	**WAKE ISLAND Hyl**	**25.60**	**279**	T	T	22 00 10.5	
	baz=98						
H11S3	**WAKE ISLAND Hyl**	**25.61**	**279**	T	T	22 00 25.6	
	baz=98						
MKAR	**Makanchi Array**	**145.30**	**33**	PKPbc	**PKiKP**	**19 41 28.9**	**-1.7**
	comp=E,0.7nm,0.8s,baz=334,slow=4.0,SNR=6.4						

*IDC **22** 19:42:02.0±27.0, 18°.74S×172°.79W, h0km, mb4.6/4, mb1 4.7/4, mb1mx3.8/32, mbtmp4.6/4, Error ellipse: s-maj=505.6km s-min=159.8km az=75.0*

NEIC 22 19:42:07.7±1.0, 19°.0S±0°.6×172°.8W±0°.4, h34km±18km, mb4.6/11, Error ellipse: s-maj=89.5km s-min=54.4km az=163.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**38.55**	**261**	P	P	19 49 26.9	-0.5
	4.9nm,0.2s,baz=87,slow=7.3,SNR=1.9						
STKA	**Stephens Creek**	**42.84**	**243**	P	P	19 50 02.7	0.0
	4.4nm,1.0s,baz=97,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**42.84**	**243**	IAmb	IAmb	19 50 09.8	
	comp=Z,3.2nm,1.2s						
BBOO	**Buckleboo**	**47.59**	**243**	P	P	19 50 40.4	0.0
WR0	**Warramunga Arr**	**49.49**	**260**	P	P	19 50 55.2	0.0
WR0				IAmb	IAmb	19 51 13.3	
	comp=Z,7.6nm,1.4s						
AS31	**Alice Springs**	**49.64**	**255**	P	P	19 50 56.7	+0.3
ASAR	**Alice Springs**	**49.64**	**255**	P	P	19 50 56.4	0.0
	comp=Z,5.6nm,0.5s,baz=91,slow=8.2,SNR=95						
WB0	**Warramunga Arr**	**49.66**	**260**	P	P	19 50 56.8	+0.3
WB0				IAmb	IAmb	19 50 57.1	
	comp=Z,5.2nm,0.6s						
WB2	**Warramunga Arr**	**49.67**	**260**	P	P	19 50 56.5	-0.1
WB2				IAmb	IAmb	19 50 57.4	
	comp=Z,4.7nm,0.9s						
WRAB	**Tennant Creek**	**49.67**	**260**	P	P	19 50 56.4	-0.2
WRAB				IAmb	IAmb	19 50 57.3	
	comp=Z,4.9nm,0.9s						
WRA	**Warramunga Arr**	**49.68**	**260**	P	P	19 50 56.3	-0.4
	comp=Z,3.0nm,0.7s,baz=97,slow=7.0,SNR=39						
WRA	**Warramunga Arr**	**49.68**	**260**	IAmb	IAmb	19 50 57.2	
	comp=Z,0.1nm,0.8s						
MTN	**Manton Dam**	**54.10**	**268**	P	P	19 51 30.2	+0.6
KNRA	**Kununurra**	**55.68**	**264**	P	P	19 51 42.6	+1.6
KNRA				IAmb	IAmb	19 51 47.9	
	comp=Z,6.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**58.10**	**260**	P	P	19 51 59.8	+1.5
PSA00	**Pilbara Seismi**	**62.79**	**255**	P	P	19 52 28.6	-1.7

IDC 22 19:44:56.6±7.9, 31°.61S×177°.67W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.4/28, mbtmp3.6/2, Error ellipse: s-maj=353.2km s-min=60.3km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.34**	**268**	P	P	19 53 00.4	-0.3
	0.3nm,0.4s,baz=105,slow=7.4,SNR=4.1						
WRA	**Warramunga Arr**	**44.44**	**273**	P	P	19 53 09.7	+0.2
	0.6nm,0.5s,baz=115,slow=8.0,SNR=2.2						
FINES	**FINESS Array B**	**146.38**	**340**	PKPbc	PKPdf	20 04 37.8	+0.4
	1.4nm,0.7s,baz=52,slow=5.4,SNR=6.3						

KRSC 22 20:27:00.8±1.5, 50°.11N×158°.91E, h60km±30km, ML3.6, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**1.78**	**343**	*eP*	Pn	20 27 31.5	+2.3
KDTR				*eS*	Sn	20 27 53.3	+2.5
SKR	**Severo-Kuril's**	**1.88**	**289**	*eP*	Pn	20 27 32.3	+1.8
SKR				*eS*	Sn	20 27 54.8	+1.7
PAU	**Pauzhetka**	**1.90**	**316**	*eS*	Sn	20 27 57.1	+3.4
ALID	**Alaid**	**2.28**	**291**	*eP*	Pn	20 27 38.6	+2.5
ALID				*eS*	Sn	20 28 05.9	+2.8
RUS	**Russkaya**	**2.34**	**354**	*eP*	Pn	20 27 39.1	+2.3
RUS				*eS*	Sn	20 28 06.3	+1.9
ASAK	**Asacha**	**2.36**	**345**	*eP*	Pn	20 27 40.3	+3.1
ASAK				*eS*	Sn	20 28 08.6	+3.5
MTVR	**Mutnovka**	**2.42**	**349**	*eP*	Pn	20 27 40.9	+2.8
MTVR				*eS*	Sn	20 28 09.7	+3.1
GRL	**Gorelyy**	**2.50**	**348**	*eP*	Pn	20 27 42.4	+3.2
GRL				*eS*	Sn	20 28 12.0	+3.4
MIPR	**Malaya Ipel'ka**	**2.56**	**329**	*eP*	Pn	20 27 43.2	+3.4
KRMR	**Karymshinskiy**	**2.77**	**350**	*eS*	Sn	20 28 19.7	+4.8
DALK	**Dalny**	**2.93**	**358**	*eP*	Pn	20 27 47.2	+2.4
DALK				*eS*	Sn	20 28 20.5	+1.7
SPN	**Mys Shipunski**	**3.07**	**13**	*eP*	Pn	20 27 49.4	+2.6
SPN				*eS*	Sn	20 28 23.7	+1.4
UGLR	**Uglovaya**	**3.11**	**359**	*eP*	Pn	20 27 49.9	+2.5
AVH	**Avacha**	**3.16**	**358**	*eP*	Pn	20 27 51.0	+2.9
SDLR	**Sedlovina**	**3.17**	**360**	*iP*	Pn	20 27 50.0	+1.7
KOK	**Koryaka**	**3.19**	**357**	*eP*	Pn	20 27 51.7	+3.1
KRX	**Arik**	**3.24**	**357**	*eP*	Pn	20 27 52.3	+2.8
TUMR	**Tumrok**	**5.24**	**8**	*eP*	Pn	20 28 20.5	+4.0
KMNR	**Kamenistaya**	**5.71**	**8**	*eP*	Pn	20 28 27.7	+4.7
BZGR	**Bezymyannyi-Gr**	**5.94**	**10**	*eP*	Pn	20 28 30.8	+4.7
BZWR	**Bezymyannyi-We**	**5.94**	**9**	*eP*	Pn	20 28 30.9	+4.7
KBTR	**Krutoberegovo**	**6.55**	**20**	*eP*	Pn	20 28 37.0	+2.7

*TIR **22** 20:38:35.7, 42°.70N×20°.57E, h4km, Md2.7/3*
*PDG **22** 20:38:36.0±0.2, 42°.70N×20°.58E, h10km±1km, MD2.6/1, ML2.5/13, Error ellipse: s-maj=0.5km s-min=0.6km az=0.0*
*RHSSO **22** 20:38:36.9±0.7, 42°.74N×20°.58E, h7km±2km, ML2.1/8*
*BEO **22** 20:38:37.1±0.3, 42°.71N×20°.55E, h4km±2km, ML2.2/13*
*SKO **22** 20:38:37.3, 42°.65N×20°.51E, h12km*

ISC 22 20:38:36.3±1.1, 42°.71N±0°.02×20°.56E±0°.02, h5km±9km, n55, σ0°.85/99, 19C-8D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PVY	**Plav**	**0.46**	**255**	⇓*iPg*	**Pg**	**20 38 45.0**	**-0.3**
PVY				*i* Sg	**Sg**	**20 38 52.6**	**+1.3**
BCI	**Bajram Curri**	**0.51**	**227**	*i* PG	**Pg**	**20 38 45.9**	**-0.1**
BCI				*i* SG	**Sg**	**20 38 52.4**	**-0.2**
IVA	**Berane**	**0.52**	**288**	⇑*iPg*	**Pg**	**20 38 46.4**	**+0.1**
IVA				*i* Sg	**Sb**	**20 38 54.5**	**-1.3**
SELS	**Selova**	**0.65**	**39**	*ePg*	**Pg**	**20 38 48.9**	**+0.1**
SELS				*eSg*	**Sg**	**20 38 58.0**	**+0.8**
SJES	**Sjenica**	**0.70**	**322**	*ePg*	**Pg**	**20 38 49.8**	**+0.1**
SJES				*eSg*	**Sg**	**20 38 59.2**	**+0.4**
KOME	**Kolasin**	**0.78**	**280**	⇑*iPg*	**Pg**	**20 38 51.1**	**-0.3**
KOME				*i* Sg	**Sb**	**20 39 03.4**	**0.0**
PUK	**Puka**	**0.83**	**217**	*i* PG	**Pg**	**20 38 52.3**	**-0.1**
PUK				*i* SG	**Sb**	**20 39 04.3**	**-0.5**
BARS	**Barje**	**0.93**	**83**	*ePg*	**Pb**	**20 38 54.7**	**-0.2**
BARS	**Barje**	**0.93**	**83**	*ePn*	**Sb**	**20 39 07.6**	**+0.1**
BARS				*eSg*	**Sn**	**20 39 08.1**	**-1.6**
BARS				*eSg*	Sg	**20 39 08.8**	**+25**
SKO	**Skopje**	**0.99**	**138**	*iPg*	**Pg**	**20 38 54.7**	**-0.5**
PDG	**Podgorica**	**1.01**	**254**	*ePg*	**Pg**	**20 38 54.5**	**-1.1**
PDG				*eSg*	**Sg**	**20 39 08.5**	**-0.2**
PDG	**Podgorica**	**1.01**	**254**	⇑*iPg*	**Pg**	**20 38 54.5**	**-1.1**
PDG				⇓*iS*	**Sg**	**20 39 08.5**	**-0.2**
PDG	**Podgorica**	**1.01**	**254**	*ePg*	**Pg**	**20 38 54.5**	**-1.1**
PDG				*eSg*	**Sg**	**20 39 08.8**	**+0.1**
TTG	**Podgorica**	**1.01**	**254**	⇑*iPg*	**Pg**	**20 38 54.6**	**-1.1**
TTG				*i* Sg	**Sn**	**20 39 10.8**	**-0.8**
PHP	**Peshkopia**	**1.03**	**185**	*i* PG	**Pg**	**20 38 55.6**	**-0.5**
PHP				*i* SG	**Sb**	**20 39 11.0**	**+0.5**
PLE	**Pljevlja**	**1.06**	**306**	⇓*iPg*	**Pg**	**20 38 56.2**	**-0.4**
DRME	**Dracevica, Mon**	**1.15**	**243**	⇑*iPg*	**Pg**	**20 38 57.3**	**-1.0**
DRME				*i* Sg	**Sn**	**20 39 15.7**	**+0.6**
DRME	**Dracevica, Mon**	**1.15**	**243**	⇑*iPg*	**Pg**	**20 38 57.8**	**-0.5**
DRME				*eSg*	**Sg**	**20 39 14.7**	**-0.4**
NKY	**Niksic**	**1.16**	**275**	⇑*iPg*	**Pg**	**20 38 57.8**	**-0.8**
NKY				*i* Sg	**Sn**	**20 39 16.0**	**+0.4**
GRUS	**Gruza**	**1.18**	**5**	*ePg*	**Pb**	**20 38 59.3**	**+0.1**
GRUS				*eSg*	**Sg**	**20 39 14.5**	**+0.3**
NKME	**Niksic**	**1.19**	**273**	⇑*iPg*	**Pg**	**20 38 58.1**	**-1.0**
NKME				*i* Sg	**Sn**	**20 39 17.2**	**+1.1**
CEME	**Cevo**	**1.23**	**263**	⇑*iPg*	**Pg**	**20 38 58.5**	**-1.3**
CEME				*i* Sg	**Sn**	**20 39 18.3**	**+1.2**
ULC	**Ulcinj**	**1.23**	**233**	⇓*iPg*	**Pg**	**20 38 59.2**	**-0.7**
ULC				*i* Sg	**Sn**	**20 39 18.5**	**+1.3**
BOVS	**Bovan**	**1.24**	**42**	*ePg*	**Pn**	**20 39 00.4**	**+0.1**
BOVS				*eSg*	**Sg**	**20 39 16.4**	**+0.1**
RUDO	**Rudo**	**1.26**	**316**	*ePg*	**Pg**	**20 38 58.6**	**-1.8**
RUDO				*eSg*	**Sg**	**20 39 16.3**	**-0.4**
BUM	**Brajici-Budva**	**1.30**	**252**	⇓*iPg*	**Pn**	**20 39 00.2**	**-1.0**
BUM				*i* Sg	**Sn**	**20 39 20.9**	**+1.9**
UPM	**Unac-Piva**	**1.31**	**292**	⇑*iPg*	**Pn**	**20 39 00.9**	**-0.5**
UPM				*i* Sg	**Sn**	**20 39 21.3**	**+1.9**
UPM	**Unac-Piva**	**1.31**	**292**	*ePg*	**Pn**	**20 39 01.0**	**-0.5**
UPM				*eSg*	**Sb**	**20 39 18.8**	**+0.1**
BBLS	**Lazići**	**1.43**	**324**	*ePg*	**Pn**	**20 39 02.7**	**-0.2**
BBLS	**Lazići**	**1.43**	**324**	*ePg*	**Pn**	**20 39 03.0**	**+0.1**
BBLS				*eSg*	**Sg**	**20 39 22.4**	**+0.2**
BOSS	**Bosilegrad**	**1.43**	**98**	*ePg*	**Pn**	**20 39 02.7**	**-0.2**
BOSS				*eSg*	**Sb**	**20 39 22.1**	**+0.1**
DIVS	**Divibare**	**1.45**	**343**	*ePg*	**Pn**	**20 39 02.9**	**-0.3**
DIVS				*eSg*	**Sb**	**20 39 22.4**	**-0.1**
DIVS	**Divibare**	**1.45**	**343**	⇑*iPg*	**Pn**	**20 39 02.9**	**-0.3**
DIVS				*eSg*	**Sb**	**20 39 21.7**	**-0.8**
BRY	**Bratogost**	**1.50**	**278**	⇓*iPg*	**Pn**	**20 39 03.5**	**-0.5**
BRY				*i* Sg	**Sg**	**20 39 27.8**	**+3.2**
BRY	**Bratogost**	**1.50**	**278**	*ePg*	**Pn**	**20 39 03.6**	**-0.5**
TRUS	**Trudelj**	**1.51**	**356**	*ePg*	**Pb**	**20 39 05.0**	**+0.1**
TRUS				*eSg*	**Sg**	**20 39 24.9**	**0.0**
HCY	**Herceg Novi**	**1.55**	**261**	⇑*iPg*	**Pn**	**20 39 04.1**	**-0.5**
HCY				*i* Sg	**Sg**	**20 39 29.4**	**+3.2**
HCY	**Herceg Novi**	**1.55**	**261**	*ePn*	**Pn**	**20 39 05.3**	**-0.3**
HCY				*eSn*	**Sg**	**20 39 26.5**	**+0.3**
STIP	**Stip**	**1.58**	**130**	*i* Pn	**Pg**	**20 39 06.4**	**-0.2**
ZAPS	**Zavoj**	**1.62**	**69**	*ePg*	**Pb**	**20 39 06.6**	**-0.1**
ZAPS				*eSg*	**Sg**	**20 39 28.6**	**+0.3**
TREB	**Trebinje**	**1.63**	**271**	*ePn*	**Pb**	**20 39 06.6**	**-0.3**
TREB				*eSn*	**Sb**	**20 39 27.7**	**0.0**
TREB	**Trebinje**	**1.63**	**271**	*ePn*	**Pb**	**20 39 06.4**	**-0.5**
TREB				*eSn*	**Sb**	**20 39 27.8**	**0.0**
ZAGS	**Zajecar**	**1.64**	**47**	*ePn*	**Pb**	**20 39 06.7**	**-0.3**
ZAGS				*eSn*	**Sg**	**20 39 29.3**	**+0.3**
HAPS	**Han Pijesak,Bl**	**1.81**	**320**	*ePn*	**Pn**	**20 39 08.6**	**+0.4**
HAPS	**Han Pijesak,Bl**	**1.81**	**320**	*ePn*	**Pn**	**20 39 08.5**	**+0.4**
HAPS				*eSn*	**Sn**	**20 39 30.8**	**-0.7**
VTS	**Vitosha**	**1.97**	**92**	*ePn*	**Pn**	**20 39 10.6**	**+0.1**
VTS	**Vitosha**	**1.97**	**92**	⇑*P*	**Pn**	**20 39 10.5**	**0.0**
VTS				⇑*S*	**Sn**	**20 39 36.0**	**+0.4**
TEKS	**Tekeris**	**1.98**	**338**	*eSg*	**Pb**	**20 39 13.6**	**+0.7**
TEKS	**Tekeris**	**1.98**	**338**	*ePg*	**Sg**	**20 39 41.0**	**+1.0**
TEKS	**Tekeris**	**1.98**	**338**	*ePn*	**Pn**	**20 39 10.4**	**-0.1**
TEKS				*eSn*	**Sn**	**20 39 35.9**	**+0.2**
MDVR	**Moldovita**	**2.23**	**22**	⇑*P*	**Pb**	**20 39 15.8**	**-1.3**
MDVR				⇓*S*	**Sg**	**20 39 47.9**	**0.0**
FRGS	**Fruska Gora**	**2.50**	**348**	*ePn*	**Pn**	**20 39 17.7**	**0.0**
FRGS				*eSn*	**Sn**	**20 39 47.9**	**-0.7**
HERR	**Herculane**	**2.55**	**31**	⇑*P*	**Pn**	**20 39 19.7**	**+1.4**
HERR				⇑*S*	**Sb**	**20 39 55.5**	**+1.4**
SRE	**Strehaia**	**2.73**	**44**	⇑*S*	**Sb**	**20 39 59.0**	**-0.4**
BZS	**Buzias**	**3.00**	**14**	⇑*P*	**Pn**	**20 39 25.3**	**+0.9**
BZS				⇓*S*	**Sb**	**20 40 06.8**	**-0.3**

ATH 22 20:39:25.7, 40°.22N×23°.87E, h14km±3km, ML1.3/1, Error ellipse: s-maj=3.7km s-min=1.1km az=55.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OUR	**Ouranopolis**	**0.14**	**37**	P	Pg	20 39 29.5	0.0
OUR				S	Sg	20 39 32.0	+0.1
OUR				AML	AML	20 39 32.1	
	comp=N,318μm,0.2s						
OUR				AML	AML	20 39 32.4	
	comp=E,297μm,0.2s						
PAIG	**Paliouri**	**0.33**	**206**	P	Pg	20 39 32.3	-0.2
PAIG				S	Sg	20 39 37.0	0.0
PLG	**Polygyros**	**0.36**	**295**	P	Pg	20 39 33.0	-0.1
PLG				S	Sg	20 39 38.3	+0.2
HORT	**Hortiatis**	**0.70**	**303**	P	Pg	20 39 39.3	0.0
THAS	**Thassos island**	**0.76**	**59**	P	Pg	20 39 40.4	0.0
KAVA	**Kavala**	**0.92**	**32**	P	Pb	20 39 42.2	-1.2

*NEIC **22** 20:47:16.1±0.7, 19°.51N±0°.09×65°.99W±0°.06, h38km±36km, Error ellipse: s-maj=14.5km s-min=5.6km az=210.0*

RSPR 22 20:47:17.1, 19°.53N×65°.98W, h35km±23km, MD3.4/3, 5C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**1.17**	**207**	Pn	Pn	20 47 34.0	-3.0
GCPR	**Guaynabo City**	**1.22**	**185**	⇑*eP*	Pn	20 47 36.3	-1.4
GCPR	**Guaynabo City**	**1.22**	**185**	

SPCG					Sn	21 53 02.8	+0.2		
SPNN	**North Nagishla**	**1.18**	**360**		Pn	21 52 46.0	0.0		
SLKM	**Skilak Lake**	**1.26**	**74**		Pn	21 52 47.2	+0.4		
STLK	**Strandline Lak**	**1.38**	**17**		Pn	21 52 48.3	+0.1		
O22K	**Cooper Landing**	**1.50**	**78**		Pn	21 52 49.8	+0.3		
FIS	**Fire Island**	**1.54**	**51**		Pn	21 52 51.4	+1.3		
SEW	**Seward**	**1.62**	**92**		Pn	21 52 50.5	-0.5		
SVW2	**Sparrevohn**	**1.69**	**304**		Pn	21 52 51.5	-0.5		
KAHC	**Katmai Hardscr**	**1.95**	**219**		Pn	21 52 55.7	+0.4		
KAHG	**Katmai Hook Gl**	**1.95**	**210**		Pn	21 52 56.1	+0.7		
KAWH	**Katmai**	**2.12**	**212**		Pn	21 52 57.9	+0.5		
PMR	**Palmer**	**2.23**	**49**		Pn	21 52 58.5	-0.3		
PMR					Sn	21 53 25.2	-0.9		
PWL	**Port Wells**	**2.25**	**71**		Pn	21 52 58.5	-0.6		
KABU	**Katmai Buttres**	**2.35**	**216**		Pn	21 53 01.2	+0.8		
KNK	**Knik Glacier**	**2.41**	**58**		Pn	21 53 00.7	-0.4		
KDAK	**Kodiak Island**	**2.42**	**179**	P	Pn	21 53 00.5	-0.8		
KDAK	50nm,0.3s,baz=14,slow=10,SNR=258			S	Sn	21 53 28.5	-2.0		
KDAK	37nm,0.3s,baz=190,slow=18,SNR=12 **Kodiak Island**	**2.42**	**179**		Pn	21 53 00.7	-0.6		
GHO	**Glory Hole Cre**	**2.42**	**48**		Pn	21 53 01.0	-0.4		
GHO					Sn	21 53 30.4	-0.3		
ANCK	**Angle Creek**	**2.47**	**217**		Pn	21 53 02.9	+0.9		
CAHL	**Cahill**	**2.54**	**213**		Pn	21 53 04.3	+1.4		
SML	**Sawmill**	**2.67**	**51**		Pn	21 53 04.2	-0.4		
SML					Sn	21 53 35.9	-0.5		
PPLA	**Purkeypile**	**2.72**	**5**		Pn	21 53 06.2	+0.8		
GLI	**Glacier Island**	**2.84**	**74**		Pn	21 53 05.3	-1.6		
OHAK	**Old Harbor**	**3.00**	**186**		Pn	21 53 08.1	-0.8		
PLK2	**Peulik 2**	**3.08**	**219**		Pn	21 53 11.1	+1.0		
HIN	**Hinchinbrook I**	**3.08**	**84**		Pn	21 53 09.6	-0.5		
SCM	**Sheep Creek Mo**	**3.08**	**55**		Pn	21 53 09.7	-0.4		
PLK5	**Peulik 5**	**3.09**	**226**		Pn	21 53 11.1	+1.1		
FID	**Port Fidalgo**	**3.12**	**77**		Pn	21 53 08.4	-2.1		
PLK3	**Peulik 3**	**3.12**	**218**		Pn	21 53 12.3	+1.7		
PLK1	**Peulik 1**	**3.14**	**222**		Pn	21 53 12.1	+1.3		
TT01	**Tatalina**	**3.16**	**331**		Pn	21 53 10.9	-0.1		
TTA	**Tatalina**	**3.17**	**331**		Pn	21 53 11.1	-0.3		
CAST	**Castle Rocks**	**3.25**	**5**		Pn	21 53 13.0	+0.7		
MID	**Middleton Isla**	**3.29**	**101**		Pn	21 53 13.4	+0.6		
WAT1	**Susitna Watana**	**3.30**	**35**		Pn	21 53 13.2	+0.2		
WAT6	**Susitna Watana**	**3.38**	**43**		Pn	21 53 14.2	+0.1		
WAT2	**Susitna Watana**	**3.40**	**33**		Pn	21 53 14.5	+0.1		
EYAK	**Cordova Ski Ar**	**3.46**	**81**		Pn	21 53 15.5	+0.4		
THF	**Thorofare Moun**	**3.46**	**18**		Pn	21 53 15.3	+0.1		
RND	**Reindeer**	**3.70**	**28**		Pn	21 53 16.5	+0.2		
CHUM	**Lake Minchumin**	**3.71**	**3**		Pn	21 53 19.0	+0.7		
SII	**Sitkinak Islan**	**3.73**	**193**		Pn	21 53 18.1	-0.7		
DHY	**Denali Highway**	**3.84**	**39**		Pn	21 53 20.5	+0.1		
PS12	**TAPS Pump St12**	**3.91**	**68**		Pn	21 53 20.8	-0.3		
GOAT	**Goat Mountain**	**3.97**	**81**		Pn	21 53 21.4	-0.5		
MCK	**McKinley**	**3.97**	**25**		Pn	21 53 22.6	+0.7		
PS11	**TAPS Pump St11**	**3.97**	**58**		Pn	21 53 21.8	-0.2		
RAGM	**Ragged Mountai**	**3.99**	**84**		Pn	21 53 21.6	-0.6		
BPAW	**Bear Paw Mtn.**	**4.00**	**11**		Pn	21 53 21.8	-0.5		
PAX	**Paxson**	**4.43**	**48**		Pn	21 53 28.6	+0.3		
GLB	**Gilahina Butte**	**4.52**	**70**		Pn	21 53 28.5	-0.9		
PS10	**TAPS Pump St10**	**4.61**	**42**		Pn	21 53 30.6	0.0		
VRDI	**Verde Repeater**	**4.65**	**73**		Pn	21 53 30.6	-0.7		
CHIR	**Chirikof Islan**	**4.65**	**201**		Pn	21 53 30.3	-0.9		
GRIN	**Grindle Hills**	**4.67**	**85**		Pn	21 53 31.7	+0.4		
KHIT	**Khitrov Hills**	**4.70**	**83**		Pn	21 53 31.8	0.0		
NEA2	**Nenana**	**4.72**	**19**		Pn	21 53 31.6	-0.5		
WRH	**Wood River Hil**	**4.80**	**25**		Pn	21 53 33.0	0.0		
MCARA	**McCarthy VSAT**	**4.88**	**72**		Pn	21 53 34.2	0.0		
TGL	**Tana Glacier**	**4.91**	**79**		Pn	21 53 35.0	+0.3		
HDA	**Harding Lake**	**5.00**	**30**		Pn	21 53 36.2	+0.3		
CCB	**Clear Creek Bu**	**5.01**	**25**		Pn	21 53 35.9	-0.1		
PTPK	**Patty Peak**	**5.12**	**74**		Pn	21 53 37.9	+0.2		
RIDG	**Independent Ri**	**5.13**	**43**		Pn	21 53 38.0	+0.4		
ISLE	**Juniper Island**	**5.15**	**81**		Pn	21 53 38.1	+0.2		
KIAG	**Kiagna River**	**5.15**	**77**		Pn	21 53 37.7	-0.3		
PS08	**TAPS Pump Stn8**	**5.15**	**29**		Pn	21 53 37.8	0.0		
BALM	**Baldy**	**5.16**	**76**		Pn	21 53 37.5	-0.6		
TCOL	**CIGO, UAF Yank**	**5.20**	**23**		Pn	21 53 38.8	+0.3		
COLA	**College**	**5.20**	**23**		Pn	21 53 38.9	+0.4		
MDM	**Murphy Dome**	**5.21**	**21**		Pn	21 53 38.5	-0.1		
IL31		**5.32**	**28**	P	Pn	21 53 40.0	-0.1		
ILAR	**Eielson Array**	**5.32**	**28**	P	Pn	21 53 39.5	-0.6		
ILAR	13nm,0.3s,baz=210,slow=13,SNR=183			S	Sn	21 54 37.5	-2.6		
ILAR	3.2nm,0.3s,baz=199,slow=16,SNR=5.1 **Eielson Array**	**5.32**	**28**	Pn	Pn	21 53 39.3	-0.9		
DOT	**Dot Lake**	**5.35**	**46**		Pn	21 53 40.7	+0.2		
GRNC	**Granite Creek**	**5.43**	**80**		Pn	21 53 42.4	+0.4		
YAH	**Yahtse**	**5.45**	**83**		Pn	21 53 42.6	+0.5		
POKR	**Poker Plat Res**	**5.50**	**24**		Pn	21 53 43.0	+0.4		
PS07	**TAPS Pump Stn7**	**5.52**	**20**		Pn	21 53 42.8	0.0		
CTGM	**Chitina Glacie**	**5.65**	**77**		Pn	21 53 45.1	+0.4		
TABL	**Table Mountain**	**5.74**	**83**	Pn	Pn	21 53 45.1	-0.9		
LOGN	**Logan Glacier**	**5.81**	**79**		Pn	21 53 47.2	+0.3		
BC03		**5.94**	**56**		Pn	21 53 48.2	-0.2		
BCAR	**Beaver Creek A**	**5.94**	**56**	Pn	Pn	21 53 48.0	-0.6		
YUK2	**White River**	**5.98**	**69**		Pn	21 53 49.0	-0.2		
YUK3	**Moose Creek**	**6.18**	**70**		Pn	21 53 51.7	0.0		
PCA	**Pinnacle**	**6.21**	**86**		Pn	21 53 52.6	+0.3		
PRP	**Porcupine Dome**	**6.26**	**28**		Pn	21 53 53.4	+0.4		
PNL	**Peninsula**	**6.70**	**89**		Pn	21 53 58.7	-0.1		
EGAK	**Eagle**	**7.04**	**44**		Pn	21 54 03.2	-0.2		
YUK6	**Outpost Mounta**	**7.10**	**78**		Pn	21 54 04.3	-0.2		
COLD	**Coldfoot**	**7.15**	**8**		Pn	21 54 05.2	+0.3		
FYU	**Fort Yukon**	**7.21**	**24**	Pn	Pn	21 54 05.8	0.0		
YUK7	**Dusty Glacier**	**7.22**	**81**		Pn	21 54 05.6	-0.5		
DAWY	**Dawson**	**7.34**	**52**	Pn	Pn	21 54 08.2	+0.8		
HYT	**Haines Junctio**	**7.52**	**79**	Pn	Pn	21 54 09.3	-0.7		
BM03	**Burnt Mountain**	**8.08**	**23**		Pn	21 54 16.3	-1.2		
BMAR	**Burnt Mountain**	**8.09**	**23**	Pn	Pn	21 54 15.9	-1.8		
TOLK	**Toolik Lake Re**	**8.59**	**8**	Pn	Pn	21 54 25.5	+1.0		
INK	**Inuvik**	**11.59**	**37**	P	Pn	21 55 03.5	-1.4		
DLBC	0.5nm,0.3s,baz=240,slow=16,SNR=5.1 **Dease Lake**	**11.69**	**89**	P	Pn	21 55 08.7	+2.2		
YKA	0.2nm,0.3s,baz=236,slow=7.3,SNR=2.5 **Yellowknife Ar**	**18.23**	**66**	P	Pn	21 56 29.4	+0.4		
KNB	0.1nm,0.3s,baz=284,slow=9.5,SNR=2.9 **Kanab**	**34.28**	**114**		pP	21 59 23.4	+0.6		
PV03	**Paradox Valley**	**35.13**	**109**		pP	21 59 28.0	-2.1		
SONM	**Songino Array**	**54.81**	**306**	P	**P**	**22 01 43.1**	**+1.0**		
ZALV	1.0nm,0.7s,baz=55,slow=5.5,SNR=4.0 **Zalesovo Beam**	**57.31**	**324**	P	**P**	**22 01 59.5**	**-0.1**		
MKAR	0.7nm,0.6s,baz=29,slow=6.6,SNR=3.7 **Makanchi Array**	**64.38**	**321**	P	**P**	**22 02 47.2**	**-0.4**		
	0.3nm,0.6s,baz=32,slow=6.0,SNR=3.6								

*KRNET **22** 22:08:22.7±0.1,39°.32N×79°.95E,mb2.4*
SOME 22 22:08:25.4, 42°.32N×80°.83E, h0km, 8C-2D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.18**	**343**	*eP*	Pn	22 08 49.9	+0.6
KTMS	0.4nm,0.1s			*eS*	Sn	22 09 07.1	+0.9
SHLS	2.3nm,0.2s **Shalkode**	**1.31**	**310**	*eP*	Pg	22 08 48.8	-1.8
SHLS	2.4nm,0.1s			*eS*	Sg	22 09 05.0	-2.6
UZB	6.3nm,0.2s **Uzynbulak**	**1.57**	**302**	*eP*	Pg	22 08 57.7	+2.1
UZB	1.6nm,0.2s			*eS*	Sb	22 09 20.9	+5.0
SATY	2.4nm,0.2s **Saty**	**1.94**	**293**	*eP*	Pg	22 09 04.3	+1.8
SATY	1.2nm,0.2s			*eS*	Sg	22 09 32.1	+4.5
KPKS	5.4nm,0.1s **Kokpek**	**1.95**	**307**	*eP*	Pg	22 09 03.1	+0.2
KPKS	6.3nm,0.1s			*eS*	Sg	22 09 30.3	+2.2
TARG	7.6nm,0.2s **Taragay, Kyrgy**	**2.33**	**256**	⇓*iP*	Pg	22 09 09.9	-0.2
TARG	baz=26			⇓*iS*	Sg	22 09 44.4	+4.1
MNBS	baz=26 **Baschi**	**2.50**	**316**	*eP*	Pb	22 09 12.0	+0.7
MNBS	1.5nm,0.2s			*eS*	Sg	22 09 46.6	+0.8
KDJ	3.5nm,0.2s **Kajisay**	**2.72**	**267**	⇑*iP*	Pg	22 09 18.4	+0.9
KDJ	baz=24			⇑*iS*	Sg	22 09 58.9	+6.1
ULHL	**Ulahol**	**3.41**	**270**	⇑*eP*	Pb	22 09 25.5	-1.3
ULHL	baz=17			⇑*iS*	Sb	22 10 11.8	+3.0
BOOM	baz=17 **Boomskoye usch**	**3.63**	**274**	⇑*iP*	Pb	22 09 30.5	0.0
BOOM	baz=18			⇑*eS*	Sg	22 10 20.1	-1.8
KZA	baz=18 **Kyzart**	**4.16**	**269**	⇑*iP*	Pn	22 09 32.5	+2.0
KZA	baz=9.0			⇑*eS*	Sn	22 10 23.1	+3.2
	baz=9.0						

*IDC **22** 22:31:55.9±6.5, 6°.60S×153°.66E, h110km±39km, mb3.4/3, mb1 3.6/6, mb1mx3.3/38, mbtmp3.9/6, Error ellipse: s-maj=97.2km s-min=25.0km az=106.0*
ISC 22 22:31:54.9±1.9, 6°.49S±0°.09×153°.7E±0°.2, h100km±8, n7, σ1°48/8, mb3.3/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**2.75**	**322**	P	**Pn**	**22 32 38.4**	**+1.0**
KRVT	13nm,0.3s,baz=135,slow=7.1,SNR=5.3			S	**Sn**	**22 33 08.9**	**-1.2**
PMG	17nm,0.3s,baz=122,slow=19,SNR=3.9 **Port Moresby**	**7.13**	**246**	P	**Pn**	**22 33 37.9**	**+1.3**
CTA	0.9nm,0.3s,baz=22,slow=9.9,SNR=4.2 **Charters Tower**	**15.35**	**208**	P	**Pn**	**22 35 26.4**	**+0.2**
WRA	0.2nm,0.3s,baz=29,slow=13,SNR=4.2 **Warramunga Arr**	**23.10**	**233**	P	**P**	**22 36 51.4**	**-1.0**
ASAR	4.4nm,0.7s,baz=58,slow=9.6,SNR=4.9 **Alice Springs**	**25.60**	**226**	P	**P**	**22 37 12.7**	**-2.3**
MKAR	0.5nm,0.4s,baz=59,slow=8.8,SNR=8.3 **Makanchi Array**	**82.20**	**319**	P	**P**	**22 44 05.7**	**+0.7**
TORD	0.2nm,0.6s,baz=90,slow=4.3,SNR=2.1 **Torodi Ar. Bea**	**151.68**	**286**	PKPbc	**PKPbc**	**22 51 38.6**	**-0.1**
	0.3nm,0.6s,baz=77,slow=1.6,SNR=4.3						

*JMA **22** 22:31:57.3±0.1, 42°.94N×145°.48E, h45km±1km, M3.0*
*IDC **22** 22:32:03.9±6.3, 45°.02N×144°.74E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/36, mbtmp3.7/4, MS2.2/1, Ms1 2.2/1, ms1mx1.9/43, Error ellipse: s-maj=132.6km s-min=27.6km az=130.0*
ISC 22 22:31:57.3±1.6, 42°.9N±0°.1×145°.50E±0°.08, h42km±9km, n15, σ0°59/22, mb3.7/4, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.29**	**304**	P	**Pn**	**22 32 05.8**	**+0.1**
JKHN				*eS*	**Sn**	**22 32 11.8**	**+0.3**
NEM2	**Nemuro 2**	**0.48**	**22**	P	**Pn**	**22 32 07.7**	**-0.2**
NEM2				*eS*	**Sn**	**22 32 15.0**	**-0.4**
JAK	**Akkeshi**	**0.59**	**278**	P	**Pn**	**22 32 09.2**	**-0.1**
JAK				*eS*	**Sn**	**22 32 18.0**	**+0.1**
JNK	**Nakash**	**0.88**	**320**	P	**Pn**	**22 32 12.8**	**-0.4**
JNK				*eS*	**Sn**	**22 32 23.9**	**-0.9**
JNSB	**Nemuroshibetsu**	**0.93**	**337**	P	**Pn**	**22 32 13.8**	**-0.1**
JNSB				*eS*	**Sn**	**22 32 26.3**	**+0.2**
JRA	**Rausu**	**1.05**	**345**	P	**Pn**	**22 32 15.8**	**+0.2**
JRA				*eS*	**Sn**	**22 32 28.9**	**-0.2**
JOB	**Onbets**	**1.22**	**270**	P	**Pn**	**22 32 17.5**	**-0.4**
JAR	**Ashorobuto**	**1.32**	**287**	P	**Pn**	**22 32 19.2**	**-0.1**
JAR				*eS*	**Sn**	**22 32 34.8**	**-0.9**
JTKR	**Abashiri--Toko**	**1.56**	**313**	P	**Pn**	**22 32 23.1**	**+0.5**
ASAJ	**Asahikawa**	**2.42**	**301**	Pn	**Pn**	**22 32 35.8**	**+1.3**
ASAJ	3.4nm,0.3s,baz=103,slow=15,SNR=28			Sn	**Sn**	**22 33 01.8**	**-1.1**
KSRS	1.9nm,0.3s,baz=181,slow=32,SNR=1.7 **Korea Array**	**14.49**	**254**	LR	LR	22 40 27.8	
SONM	comp=Z,10nm,20.8s,baz=215,slow=34 **Songino Array**	**27.69**	**294**	P	**P**	**22 37 42.2**	**+0.8**
MKAR	0.2nm,0.3s,baz=81,slow=11,SNR=3.5 **Makanchi Array**	**43.90**	**298**	P	**P**	**22 39 59.9**	**+0.2**
FINES	0.6nm,0.8s,baz=79,slow=7.9,SNR=5.5 **FINESS Array B**	**65.06**	**333**	P	**P**	**22 42 32.8**	**-0.1**
AKASG	1.4nm,0.9s,baz=56,slow=7.1,SNR=5.9 **Malin Array Be**	**71.53**	**323**	P	**P**	**22 43 13.3**	**-0.3**
	0.7nm,0.5s,baz=42,slow=6.1,SNR=4.3						

*IDC **22** 22:49:24.1±1.0, 5°.42S×153°.22E, h0km, mb3.9/11, mb1 4.1/12, mb1mx4.0/27, mbtmp3.9/12, ML2.1/1, MS3.3/6, Ms1 3.3/6, ms1mx3.0/29, Error ellipse: s-maj=25.9km s-min=19.1km az=123.0*
*NEIC **22** 22:49:30.2±1.2, 5°.34S±0°.09×153°.14E±0°.08, h36km±8km, mb4.1/7, Error ellipse: s-maj=17.1km s-min=2.4km az=139.0*
ISC 22 22:49:30.0±0.8, 5°.41S±0°.08×153°.2E±0°.1, h37km, n29, σ1°06/26, mb3.9/14, MS3.2/6, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.56**	**321**	Pn	**Pn**	**22 49 54.6**	**-0.6**
KRVT	**Keravat (AS076**	**1.57**	**314**	Pn	**Pn**	**22 49 54.7**	**-0.6**
KRVT	268nm,0.3s,baz=169,slow=1.3,SNR=121			Sn	**Sn**	**22 50 15.1**	**+0.8**
KRVT	166nm,0.3s,baz=240,slow=16,SNR=7.6			LR	LR	22 50 24.4	
PMG	comp=Z,443nm,18.9s,baz=98,slow=37 **Port Moresby**	**7.14**	**236**	Pn	**Pn**	**22 51 12.6**	**+0.6**
PMG	1.7nm,0.3s,baz=122,slow=19,SNR=2.1			Sn	**Sn**	**22 52 29.9**	**-2.0**
PMG	2.4nm,0.3s,baz=42,slow=18,SNR=10 **Port Moresby**	**7.14**	**236**		**Sn**	**22 52 33.0**	**+1.1**
WB0	**Warramunga Arr**	**23.17**	**230**	P	**P**	**22 54 32.6**	**-0.9**
WB0	comp=Z,19nm,1.4s			IAmb	IAmb	22 54 40.2	
WR0	**Warramunga Arr**	**23.17**	**230**	P	**P**	**22 54 34.4**	**+0.9**
WR0	comp=Z,7.5nm,1.1s			IAmb	IAmb	22 54 47.3	
WRAB	**Tennant Creek**	**23.30**	**230**	P	**P**	**22 54 35.2**	**+0.4**
WRA	**Warramunga Arr**	**23.31**	**230**	P	**P**	**22 54 33.4**	**-1.5**
AS31	comp=Z,3.8nm,0.9s,baz=54,slow=9.8,SNR=5.4 **Alice Springs**	**25.94**	**224**	P	**P**	**22 54 57.4**	**-1.7**
AS31	comp=Z,8.9nm,1.9s			IAmb	IAmb	22 55 40.9	
ASAR	**Alice Springs**	**25.95**	**224**	P	**P**	**22 54 58.9**	**-0.3**
STKA	comp=Z,1.0nm,0.9s,baz=57,slow=8.8,SNR=4.9 **Stephens Creek**	**28.47**	**201**	LR	LR	23 06 52.5	
FITZ	comp=Z,60nm,18.4s,baz=99,slow=37 **Fitzroy Crossi**	**29.68**	**243**	P	**P**	**22 55 33.5**	**+1.0**
RPZ	comp=Z,3.4nm,1.1s,baz=76,slow=23,SNR=2.7 **Rata Peaks**	**41.28**	**160**	LR	LR	23 14 26.7	
MJAR	comp=Z,94nm,18.8s,baz=253,slow=36 **Matsushiro Arr**	**44.02**	**343**	LR	LR	23 13 40.8	
KSRS	comp=Z,24nm,21.3s,baz=255,slow=33 **Korea Array**	**48.70**	**333**	LR	LR	23 18 41.5	
PEA0B	comp=Z,26nm,18.1s,baz=219,slow=36 **Petropavlovsk-**	**58.42**	**3**	P	**P**	**22 59 21.9**	**+0.1**
PETK	**Petropavlovsk-**	**58.42**	**3**	P	**P**	**22 59 22.7**	**+0.9**
PETK	comp=Z,2.8nm,0.8s,baz=155,slow=7.4,SNR=6.8			LR	LR	23 20 03.0	
CMAR	comp=Z,14nm,21.8s,baz=242,slow=32 **Chiang Mai Arr**	**58.45**	**295**	P	**P**	**22 59 23.4**	**+0.7**
SONM	comp=Z,0.3nm,0.4s,baz=106,slow=4.7,SNR=4.1 **Songino Array**	**67.02**	**328**	P	**P**	**23 00 20.4**	**+1.0**
SONM	comp=Z,0.2nm,0.3s,baz=222,slow=48,SNR=2.2			LR	LR	23 27 41.1	
SONM	comp=Z,23nm,21.1s,baz=254,slow=34 **Songino Array**	**67.02**	**328**	IAmb	IAmb	23 00 21.2	
MKAR	comp=Z,1.5nm,1.4s **Makanchi Array**	**81.01**	**319**	P	**P**	**23 01 39.9**	**-1.2**
ZAA0	comp=Z,0.1nm,0.4s,baz=97,slow=7.6,SNR=2.7 **Zalesovo Array**	**81.85**	**326**	P	**P**	**23 01 45.1**	**-0.2**
ZALV	**Zalesovo Beam**	**81.85**	**326**	P	**P**	**23 01 43.8**	**-1.4**
ZALV	comp=Z,1.6nm,0.8s,baz=98,slow=5.2,SNR=6.9 **Zalesovo Beam**	**81.85**	**326**	P	**P**	**23 01 44.9**	**-0.4**
ILAR	**Eielson Array**	**82.59**	**22**	P	**P**	**23 01 47.6**	**-1.3**
NVAR	comp=Z,0.9nm,0.9s,baz=264,slow=4.5,SNR=6.8 **Mina Array Bea**	**92.19**	**52**	P	**P**	**23 02 37.4**	**+1.0**
YKA	comp=Z,0.4nm,0.7s,baz=276,slow=7.3,SNR=2.6 **Yellowknife Ar**	**95.80**	**28**	P	**P**	**23 02 52.4**	**+0.3**
TORD	comp=Z,0.2nm,0.6s,baz=106,slow=19,SNR=2.1 **Torodi Ar. Bea**	**150.82**	**287**	PKPbc	**PKiKP**	**23 09 19.0**	**-1.2**
TORD	comp=Z,1.5nm,0.8s,baz=100,slow=1.8,SNR=9.1 **Torodi Ar. Bea**	**150.82**	**287**		**PKiKP**	**23 09 19.6**	**-0.7**

*BGR **22** 23:05:23.8±0.0, 18°.97S×176°.53W, h33km*
*IDC **22** 23:06:03.5±9.6, 17°.95S×177°.42W, h337km±94km, mb3.7/8, mb1 3.9/8, mb1mx3.5/25, mbtmp4.4/8, Error ellipse: s-maj=30.8km s-min=25.2km az=140.0*
ISC 22 23:05:59.9±0.8, 17°.9S±0°.3×177°.4W±0°.2, h300km, n56, σ1°17/55, mb3.9/8, 2C-10D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**34.41**	**260**	P	**P**	**23 12 19.8**	**0.0**
STKA	5.9nm,1.0s,baz=99,slow=12,SNR=6.9 **Stephens Creek**	**39.49**	**241**	P	**P**	**23 13 02.8**	**+0.6**
WRA	4.2nm,0.8s,baz=76,slow=7.7,SNR=4.0 **Warramunga Arr**	**45.59**	**259**	P	**P**	**23 13 50.5**	**-0.6**
ASAR	2.2nm,0.3s,baz=156,slow=17,SNR=17 **Alice Springs**	**45.73**	**254**	P	**P**	**23 13 52.5**	**+0.3**
QSPA	13nm,0.6s,baz=89,slow=8.3,SNR=181 **South Pole Qui**	**72.16**	**180**	P	**P**	**23 16 51.3**	**-0.8**
NVAR	1.9nm,0.8s,baz=26,slow=1.7,SNR=7.3 **Mina Array Bea**	**78.75**	**43**	P	**P**	**23 17 30.0**	**+0.1**
TXAR	1.2nm,0.7s,baz=222,slow=8.1,SNR=10 **Lajitas Array**	**85.17**	**57**	P	**P**	**23 18 03.9**	**+0.7**
ILAR	4.3nm,1.0s,baz=216,slow=6.0,SNR=28 **Eielson Array**	**85.66**	**13**	P	**P**	**23 18 03.8**	**-0.9**
VASR	0.6nm,0.4s,baz=223,slow=5.2,SNR=11 **Vaslui**	**144.60**	**330**	⇑P	PKPbc	23 24 59.6	-0.8
BURAR	**Bucovina Array**	**145.05**	**333**	⇓P	**PKPdf**	**23 25 02.0**	**+0.3**
BIZ	**Bicaz**	**145.17**	**331**	⇓P	**PKPdf**	**23 25 02.0**	**+0.2**
TESR	**Tescani**	**145.24**	**330**	⇑P	**PKPdf**	**23 25 01.8**	**-0.1**
ASSE	**Asse, Remlinge**	**145.25**	**351**	*e*PKPbc	**PKPdf**	**23 25 01.6**	**-0.1**
CFR	baz=14,slow=2.7 **Carcaliu**	**145.46**	**327**	⇓P	**PKPdf**	**23 25 00.9**	**-1.4**
BRTR	**Keskin Array B**	**145.46**	**315**	PKPbc	**PKPdf**	**23 25 02.9**	**+0.1**
CLZ	0.7nm,0.5s,baz=129,slow=3.7,SNR=2.8 **Clausthal**	**145.58**	**351**	*e*PKPbc	**PKPdf**	**23 25 02.6**	**+0.1**
OSTC	baz=14,slow=2.7 **Ostas**	**145.65**	**345**	*e*PKP	**PKPdf**	**23 25 03.3**	**+0.7**
OSTC				*ex*	x	23 25 09.9	
CLL	**Collm**	**145.66**	**348**	*i* PKPbc	**PKPdf**	**23 25 02.5**	**0.0**
CLL	comp=Z,6.0nm,0.7s			*e*		23 25 07.0	
CLL	**Collm**	**145.66**	**348**	*e*PKPbc	**PKPdf**	**23 25 02.6**	**+0.1**
CHRS	baz=14,slow=2.7 **Christianenhau**	**145.74**	**351**	*e*PKPbc	**PKPdf**	**23 25 03.0**	**+0.3**
DPC	baz=14,slow=2.7 **Dobruska-Polom**	**145.81**	**344**	*e*PKP	**PKPdf**	**23 25 03.7**	**+0.8**
BRG	**Berggiesshubel**	**145.88**	**347**	*e*PKP	**PKPdf**	**23 25 03.1**	**+0.2**
BRG	comp=Z,2.6nm,0.7s **Berggiesshubel**	**145.88**	**347**	*e*PKPbc	**PKPdf**	**23 25 03.3**	**+0.4**
FBE	baz=14,slow=2.7 **Freiberg**	**145.96**	**348**	*e*PKPbc	**PKPdf**	**23 25 04.1**	**+1.1**
MORC	baz=14,slow=2.7 **Moravsky Berou**	**146.00**	**343**	⇓P	**PKPdf**	**23 25 03.7**	**+0.5**
MORC	**Moravsky Berou**	**146.00**	**343**	*e*PKP	**PKPdf**	**23 25 03.9**	**+0.7**
ABG1	**Leinawald**	**146.07**	**349**	*e*PKPbc	**PKPdf**	**23 25 04.2**	**+1.0**
MODW	baz=14,slow=2.7 **Modelwitz**	**146.11**	**349**	*e*PKPbc	**PKPdf**	**23 25 04.4**	**+1.1**
CJR	baz=14,slow=2.7 **Cluj-Napoca**	**146.45**	**334**	⇓P	**PKPdf**	**23 25 04.9**	**+0.8**
PRU	**Pruhonice**	**146.58**	**346**	*e*PKP	**PKPdf**	**23 25 05.6**	**+1.5**
PLN	**Plauen**	**146.60**	**349**	*e*PKPbc	**PKPdf**	**23 25 05.7**	**+1.5**
DRGR	baz=14,slow=2.7	**146.76**	**334**	⇓P	**PKPdf**	**23 25 06.0**	**+1.4**
JAVC	**Velka Javorina**	**146.79**	**342**	*e*PKP	**PKPbc**	**23 25 07.0**	**+0.2**
NKC	**Novy Kostel**	**146.79**	**348**	*e*PKPbc	**PKPdf**	**23 25 06.1**	**+1.6**
KRUC	baz=14,slow=2.7 **Moravsky**	**146.97**	**343**	*e*PKP	**PKPdf**	**23 25 06.5**	**+1.7**
ARR	**Arges**	**147.03**	**331**	⇓P	**PKPdf**	**23 25 06.9**	**+1.8**
MANZ	**Manzenberg**	**147.09**	**349**	*e*PKPbc	**PKPbc**	**23 25 07.1**	**-0.5**
ROTZ	baz=14,slow=2.7 **Rotzenmuhle**	**147.28**	**348**	*e*PKPbc	**PKPbc**	**23 25 07.6**	**-0.5**
TNS	baz=14,slow=2.7 **Taunus Mts**	**147.41**	**353**	*e*PKPbc	**PKPdf**	**23 25 07.7**	**+2.1**
KHC	baz=14,slow=2.7 **Kasperske Hory**	**147.60**	**347**	*

baz=316
RNF eSG Sb 23 46 05.8 -0.2
BURU Burvik 3.29 171 eP Pn 23 45 41.9 +2.3
baz=1.0
OUL Oulu 3.58 138 ePG Pb 23 45 53.2 +2.2
baz=309
UMAU Umeaa 3.97 177 eS Sn 23 46 37.5 +1.5
KU6 Riekki 4.22 111 ePB Pb 23 45 59.3 -2.7

UPP 22 23:44:59.1±0.1, **67°.83N**×**20°.20E, h0**km, **ML2.2, Explosion, Sweden**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.13**	**22**	P	Pg	23 45 01.9	+0.2
RATU	**Laukkuluspa**	**0.23**	**268**	P	Pg	23 45 03.8	+0.3
RATU				S	Sg	23 45 07.1	+0.6
KOVU	**Salmi**	**0.39**	**358**	P	Pg	23 45 06.8	+0.1
KOVU				S	Sg	23 45 11.6	-0.1
NIKU	**Nikkaluokta**	**0.45**	**275**	P	Pg	23 45 07.5	-0.1
PAJU	**Pajala**	**1.39**	**124**	P	Pg	23 45 24.6	-1.0
PAJU				S	Sg	23 45 43.2	-0.3

NIED ***22*** *23:55:00, 28°.30N×142°.60E, h5km, Mw4.7 Best double couple: M₀1.33000×10¹⁶ NP1:φs166.00000°, δ46.00000°, λ83.00000°. NP2:φs356.00000°, δ44.00000°, λ97.00000°.*
IDC ***22*** *23:55:46.9±0.6, 28°.13N×143°.00E, h0km, mb4.3/21, mb1 4.4/25, mb1mx4.3/52, mbtmp4.3/25, ML3.6/4, MS3.8/24, Ms1 3.8/24, ms1mx3.7/57, Error ellipse: s-maj=17.8km s-min=14.4km az=72.0*
NEIC ***22*** *23:55:48.8±1.6, 28°.20N±0°.06×142°.80E±0°.06, h15km±3km, mb4.7/47, Error ellipse: s-maj=9.4km s-min=6.3km az=137.0*
GCMT ***22*** *23:55:49.8±0.4, 28°.00N±0°.05×143°.09E±0°.03, h14km±1km, MW4.7/70, Moment Tensor Solution. s13,c13; s70,c92; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr 1.39±.14; Mθθ 0.18±.09; Mϕϕ -1.58±.10; Mrθ 0.55±.25; Mϕθ -0.01±.06; Mϕr 0.21±.17; Best double couple: M₀1.60600×10¹⁶ NP1:φs160.00000°, δ45.00000°, λ60.00000°. NP2: φs20.00000°, δ53.00000°, λ117.00000°. Principal axes: T 1.6170, Plg69.0000°, Azm351.0000°; N -0.0280, Plg21.0000°, Azm183.0000°; P -1.5950, Plg4.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
JMA ***22*** *23:55:50.5±0.1, 28°.29N×142°.58E, h30km±3km, M4.6*
ISC 22 23:55:50.2±0.5, **28°.20N**±0°.04×**142°.78E**±0°.07, **h22**km, **n127, σ1833/113, mb4.6**/35, **MS4.0**/25, **1C, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.23**	**206**	P	**Pn**	**23 56 12.3**	**+0.3**
CBIJ				S	**Sn**	**23 56 27.9**	**0.0**
JCJ	**Chichijima**	**1.23**	**206**	Pn	**Pn**	**23 56 12.1**	**+0.1**
JHH2	**Haha-jima-NKT2**	**1.66**	**199**	P	**Pn**	**23 56 18.9**	**+0.9**
JHCJ	**Hachijojimakas**	**5.49**	**333**	eS	**Sn**	**23 58 11.6**	**-1.6**
JHJ2	**Mitsune**	**5.52**	**333**	Pn	**Pn**	**23 57 11.5**	**+0.4**
JHJ	**Hachijo jima 2**	**5.54**	**333**	Pn	**Pn**	**23 57 13.5**	**+2.2**
	7.5nm,0.3s,baz=90,slow=20,SNR=7.4						
JHJ				Sn	**Sn**	**23 58 13.8**	**-0.5**
	7.9nm,0.3s,baz=88,slow=23,SNR=2.0						
JHJ				LR	LR	23 59 12.7	
	comp=Z,924nm,19.1s,baz=157,slow=36						
BSO1	**Boso 1**	**6.61**	**347**	P	**Pn**	**23 57 25.1**	**-0.5**
BSO1				eS	**Sn**	**23 58 38.5**	**-1.5**
BSO3	**Boso 3**	**6.86**	**344**	P	**Pn**	**23 57 29.8**	**+0.6**
BSO4	**Boso 4**	**7.08**	**343**	S	**Sn**	**23 58 51.6**	**-0.5**
JOD2	**Odawara 2**	**7.71**	**337**	P	**Pn**	**23 57 42.4**	**+1.2**
JHU	**Hanno**	**8.18**	**340**	P	**Pn**	**23 57 47.6**	**-0.1**
JHU				eS	**Sn**	**23 59 15.5**	**-3.9**
JRY	**Ryogami san**	**8.46**	**338**	X		23 57 51.9	
JHO	**Hitachi**	**8.59**	**348**	P	**Pn**	**23 57 52.6**	**-0.6**
INU	**Inuyama**	**8.65**	**327**	Pn	**Pn**	**23 57 53.9**	**-0.2**
JAG	**Ashikaga**	**8.67**	**342**	P	**Pn**	**23 57 53.4**	**-0.9**
MJAR	**Matsushiro Arr**	**9.17**	**336**	Pn	**Pn**	**23 58 01.6**	**+0.4**
	0.5nm,0.3s,baz=155,slow=10,SNR=54						
MJAR				LR	LR	00 01 21.5	
	comp=Z,632nm,18.2s,baz=160,slow=36						
MJAR	**Matsushiro Arr**	**9.17**	**336**	Pn	**Pn**	**23 58 01.3**	**+0.1**
MAJO	**Matsushiro**	**9.17**	**336**	Pn	**Pn**	**23 58 00.2**	**-1.0**
MAT	**Matsushiro**	**9.17**	**336**	P	**Pn**	**23 58 01.7**	**+0.5**
MAT				eS	**Sn**	**23 59 39.8**	**-3.9**
MJB9	**Matsu-Tunnel**	**9.17**	**336**		**Pn**	**23 58 00.6**	**-0.6**
JNU	**Nakatsue**	**11.36**	**298**	Pn	Pn	23 58 38.2	+7.0
	0.2nm,0.3s,baz=54,slow=3.2,SNR=3.7						
JNU				LR	LR	00 02 49.5	
	comp=Z,512nm,18.9s,baz=121,slow=37						
JNU	**Nakatsue**	**11.36**	**298**		**Pn**	**23 58 38.0**	**-0.5**
GUMO	**Guam**	**14.67**	**172**	LR	LR	00 03 52.3	
	comp=Z,163nm,19.6s,baz=307,slow=33						
KSRS	**Korea Array**	**15.51**	**310**	Pn	**P**	**23 59 30.2**	**-1.6**
	0.6nm,0.3s,baz=117,slow=11,SNR=16						
KSRS				LR	LR	00 05 25.9	
	comp=Z,188nm,18.4s,baz=120,slow=37						
KSAR	**Wonju Array Be**	**15.53**	**310**	Pn	**Pn**	**23 59 26.5**	**-1.4**
KS19	**Wonju Array Si**	**15.57**	**310**	Pn	**Pn**	**23 59 27.8**	**-0.7**
JKA	**Kamikawa-asahi**	**15.88**	**360**	Pn	**Pn**	**23 59 30.6**	**-1.7**
ASAJ	**Asahikawa**	**15.88**	**360**	LR	LR	00 07 33.3	
	comp=Z,342nm,20.4s,baz=184,slow=44						
INCN	**Inchon**	**16.41**	**308**	Pn	**Pn**	**23 59 35.7**	**-3.4**
INCN				IAmb	IAmb	23 59 44.3	
	comp=Z,41nm,0.9s						
YOJ	**Yonaguni jima**	**18.11**	**263**		**Pn**	**23 59 58.8**	**-1.6**
USA0B	**Ussuriysk Arra**	**18.16**	**334**		**Pn**	**23 59 59.4**	**-1.5**
USRK	**Ussuriysk Ar.**	**18.16**	**334**	P	**Pn**	**00 00 00.1**	**-0.7**
	baz=153,slow=11,SNR=14						
USRK	**Ussuriysk Ar.**	**18.16**	**334**		**Pn**	**23 59 59.4**	**-1.5**
YSS	**Yuzh-Sakhalins**	**18.72**	**360**	P	**P**	**00 00 05.4**	**-1.8**
YSS				IAmb	IAmb	00 00 21.4	
	comp=Z,33nm,1.1s						
MDJ	**Mudanjiang**	**19.48**	**331**	P	**Pn**	**00 00 18.3**	**+1.5**
MDJ				S	Sn	00 04 12.3	+18
MDJ				pmax	pmax		
	comp=Z,27nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,420nm,5.3s						
MDJ				LR	LR		
	comp=N,410nm,17.3s						
MDJ				LR	LR		
	comp=E,460nm,14.7s						
MDJ				LR	LR		
	comp=Z,320nm,18.4s						
MDJ	**Mudanjiang**	**19.48**	**331**	P	**P**	**00 00 15.8**	**+0.2**
MDJ				IAmb	IAmb	00 00 31.8	
	comp=Z,32nm,1.0s						
YULB	**Yu-li**	**19.92**	**261**	P	**P**	**00 00 20.5**	**-0.1**
SSLB	**Suanglung**	**20.10**	**262**	P	**P**	**00 00 22.8**	**+0.2**
SSLB				IAmb	IAmb	00 00 29.9	
	comp=Z,38nm,0.8s						
KLR	**Kul'dur**	**22.64**	**341**	P	**P**	**00 00 50.5**	**+0.9**
	comp=Z,3.4nm,0.6s,baz=149,slow=11,SNR=8.8						
TIA	**Tai'an**	**23.09**	**297**	P	**P**	**00 00 54.5**	**+0.1**
TIA				PP	**PnPn**	**00 01 26.1**	**+6.3**
TIA				S	**S**	**00 05 04.5**	**+0.1**
TIA				pmax	pmax		
	comp=Z,15nm,0.9s						
TIA				pmax	pmax		
	comp=Z,65nm,4.7s						
TIA				LR	LR		
	comp=N,340nm,12.1s						
TIA				LR	LR		
	comp=E,220nm,16.4s						
TIA				LR	LR		
	comp=Z,230nm,13.5s						
TGY	**Tagaytay City**	**24.68**	**240**	LR	LR	00 09 47.3	
	comp=Z,245nm,20.9s,baz=130,slow=34						
BJT	**Baijiatuau**	**24.89**	**305**	P	**P**	**00 01 10.1**	**-1.4**
HIA	**Hailar**	**27.47**	**326**	P	**P**	**00 01 34.7**	**0.0**
ENH	**Enshi**	**29.07**	**282**	P	**P**	**00 01 48.6**	**-0.6**
XAN	**Xi'an**	**29.48**	**290**	P	**P**	**00 01 52.6**	**-0.2**
XAN				pP	pwP	00 02 06.9	+4.2
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
XAN				LR	LR		
	comp=N,360nm,16.3s						
XAN				LR	LR		
	comp=E,380nm,16.3s						
XAN				LR	LR		
	comp=Z,470nm,17.4s						
XAN	**Xi'an**	**29.48**	**290**	P	**P**	**00 01 51.7**	**-1.1**
XAN				IAmb	IAmb	00 01 55.0	
	comp=Z,6.8nm,0.7s						
JAY	**Jayapura**	**30.61**	**184**	LR	LR	00 12 24.0	
	comp=Z,127nm,20.3s,baz=325,slow=33						
SIJI	**Sorong**	**30.95**	**203**	LR	LR	00 12 13.7	
	comp=Z,326nm,19.6s,baz=52,slow=32						
GYA	**Guiyang**	**32.06**	**275**	P	**P**	**00 02 16.3**	**+0.6**
GYA				pP	pwP	00 02 33.9	+8.8
GYA				PP	**PnPn**	**00 03 23.1**	**+1.7**
GYA				S	**S**	**00 07 24.0**	**-2.8**
GYA				SS	**SS**	**00 09 45.4**	**+0.8**
GYA				pmax	pmax		
	comp=Z,14nm,1.0s						
GYA				LR	LR		
	comp=N,230nm,15.5s						
GYA				LR	LR		
	comp=E,200nm,17.0s						
GYA				LR	LR		
	comp=Z,190nm,16.5s						
ULN	**Ulaanbaatar**	**33.90**	**315**		**P**	**00 02 32.0**	**+0.4**
ULN				IAmb	IAmb	00 02 36.7	
	comp=Z,12nm,0.9s						
SONM	**Songino Array**	**34.30**	**315**	P	**P**	**00 02 36.8**	**+1.8**
	comp=Z,5.4nm,0.7s,baz=119,slow=7.9,SNR=23						
SONM	**Songino Array**	**34.30**	**315**	P	**P**	**00 02 35.1**	**+0.1**
KMI	**Kunming**	**35.81**	**275**	P	**P**	**00 02 48.5**	**+0.1**
KMI				IAmb	IAmb	00 02 50.7	
	comp=Z,15nm,1.0s						
SLVN	**Son La**	**35.84**	**268**	P	**P**	**00 02 48.4**	**-0.2**
SLVN				IAmb	IAmb	00 02 51.2	
	comp=Z,16nm,1.0s						
GTA	**Gaotai**	**37.10**	**299**	eP	**P**	**00 02 59.6**	**+0.4**
GTA				pP	pP	00 03 03.9	-0.7
GTA				sP	sP	00 03 06.9	-0.5
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TLY	**Talaya**	**37.43**	**320**	P	**P**	**00 03 03.7**	**+2.1**
	comp=Z,12nm,0.8s,baz=153,slow=5.5,SNR=14						
TLY	**Talaya**	**37.43**	**320**	P	**P**	**00 03 03.2**	**+1.5**
KAPI	**Kappang**	**39.79**	**218**	LR	LR	00 21 28.8	
	comp=Z,46nm,18.9s,baz=56,slow=39						
CMAR	**Chiang Mai Arr**	**41.22**	**266**	P	**P**	**00 03 34.8**	**+1.1**
	comp=Z,1.4nm,0.8s,baz=55,slow=8.6,SNR=8.6						
CMAR				LR	LR	00 20 28.9	
	comp=Z,116nm,19.4s,baz=94,slow=36						
CMAR	**Chiang Mai Arr**	**41.22**	**266**	P	**P**	**00 03 33.0**	**-0.7**
TIXI	**Tiksi**	**44.17**	**354**	P	**P**	**00 03 57.8**	**+0.9**
	comp=Z,4.6nm,0.6s,baz=149,slow=3.1,SNR=2.4						
TIXI	**Tiksi**	**44.17**	**354**	P	**P**	**00 03 56.5**	**-0.4**
TIXI				IAmb	IAmb	00 04 00.5	
	comp=Z,5.1nm,0.7s						
WB0	**Warramunga Arr**	**48.38**	**191**	P	**P**	**00 04 29.6**	**-1.0**
WR0	**Warramunga Arr**	**48.54**	**190**	P	**P**	**00 04 30.9**	**-1.0**
WRAB	**Tennant Creek**	**48.55**	**191**	P	**P**	**00 04 31.3**	**-0.5**
WB2	**Warramunga Arr**	**48.55**	**191**	P	**P**	**00 04 31.0**	**-1.0**
WRA	**Warramunga Arr**	**48.55**	**191**	P	**P**	**00 04 31.2**	**-0.7**
	comp=Z,6.6nm,0.6s,baz=12,slow=8.2,SNR=46						
WRA				PcP	**PcP**	**00 05 59.4**	**+1.8**
	comp=Z,1.2nm,0.6s,baz=7.2,slow=4.0,SNR=1.1						
WRA	**Warramunga Arr**	**48.55**	**191**	P	**P**	**00 04 31.0**	**-0.9**
RPSI	**Rantau Prapat**	**48.88**	**247**	P	**P**	**00 04 34.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**48.93**	**202**	LR	LR	00 25 25.5	
	comp=Z,92nm,18.9s,baz=358,slow=36						
ZALV	**Zalesovo Beam**	**49.01**	**318**	PcP	**PcP**	**00 05 59.4**	**+0.5**
	comp=Z,2.7nm,0.6s,baz=101,slow=4.7,SNR=1.9						
SANVU	**Saraoutou**	**49.42**	**148**	P	**P**	**00 04 37.5**	**-1.1**
MNAI	**Manna**	**50.18**	**236**	P	**P**	**00 04 43.6**	**-0.9**
MK31	**Makanchi Array**	**50.19**	**309**	P	**P**	**00 04 44.7**	**+0.4**
MKAR	**Makanchi Array**	**50.19**	**309**	P	**P**	**00 04 45.4**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=92,slow=8.5,SNR=18						
MKAR	**Makanchi Array**	**50.19**	**309**	P	**P**	**00 04 43.6**	**-0.7**
MAKZ	**Makanchi**	**50.40**	**309**	P	**P**	**00 04 46.0**	**+0.1**
GSI	**Gununguitoli**	**50.78**	**246**	P	**P**	**00 04 48.5**	**-0.7**
NRIK	**Noril'sk**	**51.82**	**338**	LR	LR	00 29 11.5	
	comp=Z,62nm,18.5s,baz=156,slow=39						
ASAR	**Alice Springs**	**52.27**	**190**	P	**P**	**00 04 59.8**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=6.2,slow=6.1,SNR=16						
ASAR				PcP	**PcP**	**00 06 10.7**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=19,slow=5.9,SNR=2.0						
ASAR	**Alice Springs**	**52.27**	**190**	P	**P**	**00 04 59.5**	**-0.6**
KDAK	**Kodiak Island**	**53.16**	**37**	P	**P**	**00 05 06.0**	**-0.2**
	comp=Z,7.7nm,1.0s,baz=225,slow=4.3,SNR=4.7						
DZM	**Mont Dzumac**	**54.95**	**153**	eLR	LR	00 21 22.0	
	comp=Z,219nm,23.9s						
PMR	**Palmer**	**55.22**	**33**	P	**P**	**00 05 20.7**	**-0.5**
KSH	**Kashi**	**55.47**	**300**	eP	P	00 05 19.1	-4.5
KSH				pmax	pmax		
	comp=Z,11nm,0.5s						
KSH				pmax	pmax		
	comp=Z,250nm,4.8s						
SCM	**Sheep Creek Mo**	**56.09**	**32**	P	**P**	**00 05 27.3**	**-0.3**
ILAR	**Eielson Array**	**56.49**	**29**	P	**P**	**00 05 29.8**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=270,slow=7.2,SNR=6.7						
BVAR	**Borovoye Array**	**57.59**	**317**	P	**P**	**00 05 41.3**	**+3.1**
	comp=Z,5.8nm,0.7s,baz=94,slow=7.6,SNR=13						
BVAR				LR	LR	00 32 08.9	
	comp=Z,132nm,18.0s,baz=64,slow=38						
KKAR	**Karatay Array**	**58.87**	**305**	P	**P**	**00 05 47.1**	**-0.3**
KKAR	**Karatay Array**	**58.87**	**305**	P	**P**	**00 05 47.3**	**-0.1**
KKAR				IAmb	IAmb	00 05 50.3	
	comp=Z,10nm,1.0s						
NIL	**Nilore**	**58.88**	**294**	P	**P**	**00 05 46.6**	**-1.1**
NIL				IAmb	IAmb	00 05 57.8	
	comp=Z,8.6nm,1.1s						
KBL	**Kabul**	**62.01**	**296**	P	**P**	**00 06 08.0**	**-1.2**
KBL				IAmb	IAmb	00 06 12.4	
	comp=Z,5.0nm,0.8s						
ARU	**Arti**	**63.88**	**322**	P	**P**	**00 06 22.1**	**+1.2**
	comp=Z,2.7nm,0.6s,baz=345,slow=22,SNR=5.2						
ARU				LR	LR	00 36 36.8	
	comp=Z,94nm,18.6s,baz=93,slow=38						
ARU	**Arti**	**63.88**	**322**	IAmb	IAmb	00 06 22.5	
	comp=Z,7.5nm,0.7s						
AKTO	**Aktyubinsk**	**65.61**	**316**	LR	LR	00 34 50.9	
	comp=Z,68nm,18.9s,baz=78,slow=36						
HRA	**Herat**	**67.40**	**298**	P	**P**	**00 06 44.2**	**-0.2**
HRA				IAmb	IAmb	00 06 47.4	
	comp=Z,6.0nm,0.9s						
KIRV	**Kirov**	**68.08**	**326**	LR	LR	00 39 17.7	
	comp=Z,104nm,18.3s,baz=72,slow=38						
GEYT	**Alibeck**	**69.35**	**303**	P	**P**	**00 06 58.0**	**+1.6**
	comp=Z,4.1nm,0.9s,baz=5.7,slow=1.4,SNR=10						
GEYT	**Alibeck**	**69.35**	**303**	P	**P**	**00 06 56.5**	**+0.2**
GYA0B	**ALIBECK ARRAY**	**69.35**	**303**	P	**P**	**00 06 56.2**	**-0.1**
YKA	**Yellowknife Ar**	**70.92**	**29**	P	**P**	**00 07 05.6**	**+0.2**
	comp=Z,1.7nm,0.6s,baz=292,slow=6.3,SNR=6.4						
OBN	**Obninsk**	**75.92**	**325**	LR	LR	00 43 43.1	
	comp=Z,37nm,19.2s,baz=26,slow=38						
KBZ	**Khabaz**	**77.64**	**313**	P	**P**	**00 07 44.9**	**0.0**
	comp=Z,10.0nm,1.0s,baz=16,slow=2.6,SNR=4.2						
KVAR	**Kislovodsk Arr**	**77.67**	**313**	LR	LR	00 43 34.7	
	comp=Z,130nm,18.1s,baz=247,slow=37						
KVN	**Kaiserville**	**79.27**	**51**	IAmb	IAmb	00 08 14.1	
	comp=Z,7.8nm,1.2s						
NVAR	**Mina Array Bea**	**79.42**	**52**	P	**P**	**00 07 53.7**	**-1.5**
	comp=Z,0.5nm,0.6s,baz=311,slow=4.4,SNR=5.5						
NVAR	**Mina Array Bea**	**79.42**	**52**	P	**P**	**00 07 55.8**	**+0.6**
PPT	**Papeete**	**79.67**	**116**	LR	LR	00 41 17.4	
	comp=Z,53nm,18.6s,baz=314,slow=34						
PPT2	**Papeete2**	**79.69**	**116**	eLR	LR	00 32 40.1	
	comp=Z,146nm,27.0s						
LRM	**Limekiln Ridge**	**79.70**	**43**	P	**P**	**00 07 55.7**	**-0.9**
ELK	**Elko**	**80.42**	**49**	P	**P**	**00 08 00.2**	**-0.4**
TPNV	**Topopah Spring**	**81.55**	**53**	P	**P**	**00 08 07.3**	**+0.7**
AKASG	**Malin Array Be**	**82.04**	**324**	P	**P**	**00 08 09.4**	**+0.8**
	comp=Z,2.3nm,0.8s,baz=44,slow=4.8,SNR=4.5						
AKASG				LR	LR	00 47 26.1	
	comp=Z,135nm,18.4s,baz=20,slow=38						
AKASG	**Malin Array Be**	**82.04**	**324**	P	**P**	**00 08 08.9**	**+0.2**
NOA	**NORSAR Array B**	**82.78**	**338**	P	**P**	**00 08 12.0**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=344,slow=14,SNR=3.7						
NOA				LR	LR	00 50 06.3	
	comp=Z,82nm,19.9s,baz=50,slow=39						
TAOE	**Nuku Hiva Isla**	**82.92**	**104**	eLR	LR	00 34 22.9	
	comp=Z,175nm,27.7s						
TBI	**Tubuai**	**83.00**	**121**	eLR	LR	00 33 51.4	
	comp=Z,189nm,31.5s						
PDAR	**Pinedale Array**	**83.05**	**45**	P	**P**	**00 08 15.5**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=311,slow=2.9,SNR=2.0						
RAYN	**Ar Rayn**	**85.19**	**294**	P	**P**	**00 08 27.7**	**+2.3**
Y14A	**Wickenburg**	**85.35**	**54**	IAmb	IAmb	00 08 37.9	
	comp=Z,5.6nm,1.1s						
BRTR	**Keskin Array B**	**85.64**	**313**	P	**P**	**00 08 29.1**	**+1.6**
	comp=Z,2.0nm,0.8s,baz=126,slow=3.2,SNR=4.4						
PV18	**Skein Mesa, Pa**	**85.90**	**49**	IAmb	IAmb	00 08 41.0	
	comp=Z,5.4nm,0.8s						
ULM	**Lac du Bonnet**	**86.23**	**33**	LR	LR	00 48 16.1	
	comp=Z,52nm,19.2s,baz=294,slow=36						
SCHQ	**Schefferville**	**93.47**	**17**	LR	LR	00 53 18.4	
	comp=Z,30nm,21.3s,baz=20,slow=37						
TXAR	**Lajitas Array**	**94.52**	**53**	P	**P**	**00 09 09.7**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=327,slow=2.1,SNR=10.0						
TORD	**Torodi Ar. Bea**	**124.24**	**312**	PKP	**PKPdf**	**00 14 47.6**	**-0.4**
	comp=Z,0.6nm,1.0s,baz=22,slow=3.7,SNR=2.1						
LPAZ	**La Paz**	**149.12**	**74**	PKPbc	**PKPbc**	**00 15 38.4**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=50,slow=7.2,SNR=6.9						

DSN ***22*** *23:58:15.6±0.7, 27°.04N×56°.06E, h10km, ML3.0/8, Error ellipse: s-maj=16.8km s-min=3.9km az=76.0*
TEH ***22*** *23:58:15.3, 26°.92N×55°.76E, h8km, ML2.9*
OMAN ***22*** *23:58:15.1±1.6, 26°.99N×55°.80E, h4km±31km, ml2.7/9, Mwp4.5/3, Error ellipse: s-maj=47.7km s-min=12.9km az=316.0*
ISC 22 23:58:16.4±1.2, **26°.90N**±0°.03×**55°.81E**±0°.06, **h7**km±11km, **n35, σ1919/46, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENO	**Geno**	**0.59**	**33**	ePg	**Pg**	**23 58 27.2**	**-0.7**
SHME	**Shamm**	**0.90**	**161**	eP	**Pb**	**23 58 33.6**	**-0.7**
	SNR=19						
SHME				S	**Sn**	**23 58 48.8**	**+0.1**
BANOM	**Banah**	**1.07**	**156**	eP	**Pn**	**23 58 37.1**	**-0.6**
	SNR=12						
BANOM				S	**Sn**	**23 58 53.4**	**+0.6**
BANOM	**Banah**	**1.07**	**156**	P	**Pn**	**23 58 37.0**	**-0.7**
	SNR=154						
BANOM				P	**Pn**	**23 58 37.0**	**-0.7**
	SNR=154						
BANOM				S	**Sn**	**23 58 53.4**	**+0.6**
BANOM				S	**Sn**	**23 58 53.4**	**+0.6**
BANOM	**Banah**	**1.07**	**156**	ePn	**Pn**	**23 58 37.1**	**-0.6**
UMQ	**Umm Al-Quwin**	**1.38**	**186**	eP	**Pg**	**23 58 43.2**	**+0.4**
	SNR=6.9						
UMQ	**Umm Al-Quwin**	**1.38**	**186**	P	**Pg**	**23 58 43.3**	**+0.4**
	SNR=6.9						
UMQ				S	**Sg**	**23 59 04.7**	**+4.1**
LAR1	**LAR**	**1.49**	**301**	ePg	**Pg**	**23 58 43.4**	**-1.6**
LAR1				e		23 59 17.8	
MSFE	**Esma-Masafi**	**1.57**	**168**	eP	**Pb**	**23 58 45.2**	**-0.5**
	SNR=8.5						
MDH	**Madha**	**1.65**	**165**	P	**Pb**	**23 58 46.0**	**-1.2**
MDH	**Madha**	**1.65**	**165**	P	**Pb**	**23 58 46.0**	**-1.2**
MDH				P	**Pb**	**23 58 46.0**	**-1.2**
MDH				S	**Sg**	**23 59 09.8**	**+0.2**
MDH				S	**Sg**	**23 59 09.8**	**+0.2**
MDH	**Madha**	**1.65**	**165**	ePn	**Pb**	**23 58 46.1**	**-1.2**
NAZ	**Nazwa, Dubai**	**1.91**	**184**	P	**Pb**	**23 58 50.5**	**-1.0**
NAZ	**Nazwa, Dubai**	**1.91**	**184**	ePn	**Pb**	**23 58 50.8**	**-0.7**
KHNJ	**Kahnooj**	**1.98**	**58**	ePn	**Pb**	**23 58 52.4**	**-0.3**
UOSS	**Minazif**	**1.98**	**170**	P	**Pn**	**23 58 50.7**	**+0.4**
HATD	**Hatta, Dubai**	**2.09**	**172**	P	**Pb**	**23 58 53.0**	**-1.6**
HATD	**Hatta, Dubai**	**2.09**	**172**	P	**Pn**	**23 58 52.2**	**+0.5**
HATD	**Hatta, Dubai**	**2.09**	**172**	ePn	**Pb**	**23 58 53.2**	**-1.4**
ASHO	**Ashiyiah**	**2.22**	**174**	eP	**Pb**	**23 58 54.4**	**-2.4**
	SNR=10						
ASHO	**Ashiyiah**	**2.22**	**174**	P	**Pb**	**23 58 54.4**	**-2.4**
	SNR=10						
ASHO				S	**Sn**	**23 59 22.0**	**+0.7**
ASHO	**Ashiyiah**	**2.22**	**174**	ePn	**Pn**	**23 58 54.3**	**+0.7**
SOHO	**SOHO**	**2.83**	**167**	ePn	**Pn**	**23 59 01.7**	**-0.3**
NGRK	**Negar Kerman**	**2.85**	**16**	ePn	**Pn**	**23 59 03.3**	**+0.7**
NGRK				e		23 59 50.5	
TVBK	**TV Kerman**	**3.19**	**15**	e	**Sb**	**23 59 51.3**	**-1.3**
KHGB	**Koh Gabri**	**3.51**	**9**	ePn	**Pn**	**23 59 13.7**	**+2.1**
KHGB				e		23 59 59.4	
HOQ	**Hoqain**	**3.57**	**157**	P	**Pn**	**23 59 12.2**	**0.0**
ARQ	**Araqi**	**3.61**	**170**	P	**Pn**	**23 59 13.0**	**+0.3**
	SNR=7.1						
ARQ				S	**Sn**	**23 59 55.9**	**+0.3**
WSAR	**Wadi Sarin**	**4.45**	**144**	P	**Pn**	**23 59 24.7**	**+0.4**
IMEH	**Mehriz**	**4.59**	**347**	ePn	**Pn**	**23 59 27.6**	**+1.1**
IBAF	**Bafgh**	**4.68**	**357**	ePn	**Pn**	**23 59 28.2**	**+0.7**
JMDO	**Jabal Madar**	**4.97**	**155**	P	**Pn**	**23 59 31.4**	**0.0**
WBK	**Wadi Bani Khal**	**5.15**	**145**	P	**Pn**	**23 59 34.0**	**+0.1**
	SNR=8.3						
ISAD	**Sadrabad**	**5.33**	**340**	ePn	**Pn**	**23 59 38.0**	**+1.4**
IRAM	**Ramesheh**	**5.73**	**329**	ePn	**Pn**	**23 59 42.7**	**+0.6**

MOS ***22*** *23:58:22.8±0.9, 78°.58N×125°.89E, h12km, mb4.9/82, MS4.1/18, Error ellipse: s-maj=20.6km s-min=5.0km az=92.4*
*I

YAK **Yakutsk** 16.62 174 eP Pn 00 02 16.2 -0.3
YAK eS Sn 00 05 23.0 +2.2
YAK pmax pmax
comp=Z,17nm,1.0s
YAK pmax pmax
comp=N,16nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK smax smax
comp=N,59nm,2.8s
YAK smax smax
comp=E,92nm,2.7s
YAK MLR MLR
comp=Z,318nm,20.0s
YAK MLR MLR
comp=N,321nm,18.0s
YAK MLR MLR
comp=E,190nm,18.0s
YAK **Yakutsk** 16.62 174 P Pn 00 02 16.2 -0.3
YAK IAmb IAmb 00 02 30.0
comp=Z,96nm,1.0s
NOR **Nord** 18.96 344 *i* P Pn 00 02 46.0 +0.7
comp=Z,83nm,2.0s
NOR **Nord** 18.96 344 *i* P Pn 00 02 46.0 +0.7
NOR pmax pmax
comp=Z,83nm,2.0s
KBS **Kingsbay** 18.99 327 eP Pn 00 02 46.3 +0.7
KBS eS Sn 00 06 16.9 -0.8
KBS **Kingsbay** 18.99 327 ceP Pn 00 02 46.4 +0.7
KBS pmax pmax
comp=Z,48nm,1.2s
KBS **Kingsbay** 18.99 327 P Pn 00 02 45.4 -0.3
SPA0 **Spitsbergen Ar** 19.10 324 eP P 00 02 44.6 -1.6
SPA0 eS Sn 00 06 16.1 -4.4
SPA0 **Spitsbergen Ar** 19.10 324 P P 00 02 45.5 -0.8
SPA0 IAmb IAmb 00 02 48.8
comp=Z,91nm,1.4s
SPITS **Spitsbergen Ar** 19.10 324 P P 00 02 45.9 -0.3
baz=33,slow=19,SNR=10
SPITS LR LR 00 08 46.0
comp=Z,124nm,19.3s,baz=30,slow=33
HSPB **Hornsund (broa** 20.18 322 eP P 00 02 57.2 -0.8
HSPB eL L 00 10 21.8
comp=Z,164nm,17.4s
HSPB **Hornsund (broa** 20.18 322 eP P 00 02 56.5 -1.4
HSPB S S 00 06 41.5 -2.4
MA2 **Magadan** 20.65 143 P P 00 03 03.2 +0.1
comp=Z,10nm,0.7s,baz=325,slow=18,SNR=2.6
MA2 LR LR 00 12 09.7
comp=Z,287nm,18.2s,baz=342,slow=40
MA2 **Magadan** 20.65 143 *i* P Pn 00 03 05.4 0.0
MA2 pmax pmax
comp=Z,61nm,1.5s
MA2 MLR MLR
comp=Z,365nm,17.0s
MA2 **Magadan** 20.65 143 P P 00 03 03.3 +0.1
BOD **Bodaibo** 21.17 198 eP P 00 03 10.1 +1.3
BOD pmax pmax
comp=Z,64nm,1.5s
RDOG **Red Dog Mine** 21.24 79 P P 00 03 09.3 -0.2
RDOG P 00 03 10.8 +1.3
GAMB **Gambell** 23.24 93 P P 00 03 28.0 -2.6
TOLK **Toolik Lake Re** 23.29 67 P P 00 03 32.0 +0.8
baz=330
TOLK **Toolik Lake Re** 23.29 67 P P 00 03 31.8 +0.6
TOLK IAmb IAmb 00 03 34.8
comp=Z,61nm,1.2s
DAG **Danmarks Havn** 23.67 341 ⇓ *i* P P 00 03 34.0 -0.8
comp=Z,11nm,0.9s
DAG **Danmarks Havn** 23.67 341 ⇓ *i* P P 00 03 34.0 -0.8
DAG pmax pmax
comp=Z,11nm,0.9s
ANM **Nome** 23.80 86 P P 00 03 36.2 0.0
ANM pmax pmax
comp=Z,103nm,1.4s
ANM **Nome** 23.80 86 P P 00 03 36.2 0.0
A36M **Sachs Harbour** 24.36 46 P P 00 03 41.9 +0.4
baz=333
COLD **Coldfoot** 24.40 70 P P 00 03 42.6 +0.8
baz=331,SNR=11
COLD **Coldfoot** 24.40 70 P P 00 03 42.7 +0.8
COLD IAmb IAmb 00 03 55.6
comp=Z,23nm,0.9s
KEV **Kevo** 24.80 305 P P 00 03 45.1 -0.3
KEV pmax pmax
comp=Z,24nm,1.0s
KEV **Kevo** 24.80 305 P P 00 03 45.1 -0.3
KEV IAmb IAmb 00 03 46.5
comp=Z,24nm,1.0s
TULEG **Thule** 24.89 8 P P 00 03 44.6 -1.5
LVZ **Lovozero** 25.13 297 *i* P P 00 03 49.0 +0.6
LVZ MLR MLR
comp=Z,304nm,21.0s
LVZ **Lovozero** 25.13 297 P P 00 03 47.5 -0.9
ARCES **ARCESS Array B** 25.24 306 P P 00 03 48.6 -0.7
comp=Z,6.9nm,0.8s,baz=37,slow=8.3,SNR=11
ARCES **ARCESS Array B** 25.24 306 P P 00 03 47.6 -1.8
ARE0 **ARCESS Array S** 25.24 306 P P 00 03 47.0 -2.4
BMAR **Burnt Mountain** 25.26 65 P P 00 03 49.9 +0.3
RES **Resolute Bay** 25.28 24 P P 00 03 48.0 -1.7
comp=Z,6.7nm,1.0s,baz=307,slow=15,SNR=4.1
RES LR LR 00 13 39.7
comp=Z,119nm,18.5s,baz=34,slow=36
RES **Resolute Bay** 25.28 24 P P 00 03 49.0 -0.7
RES pmax pmax
comp=Z,29nm,1.3s
RES **Resolute Bay** 25.28 24 P P 00 03 49.0 -0.7
RES IAmb IAmb 00 04 01.5
comp=Z,29nm,1.3s
FYU **Fort Yukon** 25.91 66 P P 00 03 56.3 +0.9
FYU IAmb IAmb 00 04 00.2
comp=Z,31nm,0.8s
NKL **Nikolayevsk** 26.02 159 eP P 00 03 58.9 +2.4
NKL eS S 00 08 26.3 -0.5
NKL pmax pmax
comp=Z,24nm,1.3s
NKL pmax pmax
comp=E,2.0nm,0.9s
NKL MLR MLR
comp=Z,316nm,13.0s
INK **Inuvik** 26.39 55 P P 00 04 00.7 +0.9
comp=Z,5.3nm,0.9s,baz=352,slow=8.7,SNR=1.6
INK LR LR 00 16 14.9
comp=Z,98nm,20.6s,baz=320,slow=41
INK **Inuvik** 26.39 55 P P 00 04 00.0 +0.3
INK pmax pmax
comp=Z,9.0nm,0.9s
INK **Inuvik** 26.39 55 P P 00 04 00.0 +0.3
MDM **Murphy Dome** 26.80 70 P P 00 04 04.5 +1.0
PRP **Porcupine Dome** 26.80 68 P P 00 04 04.2 +0.5
PRP IAmb IAmb 00 04 09.2
comp=Z,20nm,1.2s
COLA **College** 26.94 70 *i* P P 00 04 07.3 +2.5
COLA pmax pmax
comp=Z,6.0nm,1.1s
NEA2 **Nenana** 26.97 71 P P 00 04 06.4 +1.4
baz=334,SNR=12
BPAW **Bear Paw Mtn.** 27.05 74 P P 00 04 05.8 0.0
CCB **Clear Creek Bu** 27.16 70 P P 00 04 06.5 -0.2
IL31 27.22 69 P P 00 04 06.9 -0.3
ILAR **Eielson Array** 27.22 69 P P 00 04 08.6 +1.3
comp=Z,2.2nm,0.8s,baz=332,slow=8.5,SNR=28
ILAR PcP PcP 00 07 26.3 -0.4
comp=Z,0.7nm,0.9s,baz=318,slow=2.8,SNR=2.4
ILAR **Eielson Array** 27.22 69 P P 00 04 07.8 +0.6
WRH **Wood River Hil** 27.26 71 P P 00 04 07.7 +0.1
HDA **Harding Lake** 27.53 70 P P 00 04 10.7 +0.7
baz=334,SNR=11
HDA **Harding Lake** 27.53 70 P P 00 04 10.8 +0.7
EPYK **Eagle Plains** 27.60 60 P P 00 04 11.4 +0.6
baz=335,SNR=7.1
EPYK **Eagle Plains** 27.60 60 P P 00 04 10.1 -0.6
TRF **Thorofare Moun** 27.77 74 P P 00 04 12.9 +0.5
MCK **McKinley** 27.77 72 P P 00 04 11.9 -0.4
MCK pmax pmax
comp=Z,14nm,1.3s
MCK **McKinley** 27.77 72 P P 00 04 11.9 -0.4
PEA0B **Petropavlovsk-** 27.85 137 P P 00 04 10.8 -2.2
PEA0B pmax pmax
comp=Z,17nm,1.4s
PEA0B **Petropavlovsk-** 27.85 137 P P 00 04 10.8 -2.2
PETK **Petropavlovsk-** 27.85 137 P P 00 04 15.3 +2.3
comp=Z,1.0nm,0.4s,baz=28,slow=3.5,SNR=3.7
PETK LR LR 00 17 03.7
comp=Z,217nm,18.1s,baz=234,slow=40
PETK **Petropavlovsk-** 27.85 137 P P 00 04 12.5 -0.5
TMCR **Tamitsa** 27.86 290 eP P 00 04 11.9 -1.1
TMCR pmax pmax
comp=Z,29nm,1.1s
PPLA **Purkeypile** 27.90 76 P P 00 04 13.3 -0.2
PPLA IAmb IAmb 00 04 29.9
comp=Z,22nm,1.4s
PET **Petropavlovsk** 28.06 136 *i* P P 00 04 17.3 +2.4
RND **Reindeer** 28.08 72 P P 00 04 12.7 -2.4
RND pmax pmax
comp=Z,7.0nm,1.1s
RND **Reindeer** 28.08 72 P P 00 04 12.7 -2.4
TLY **Talaya** 28.10 210 LR LR 00 17 17.3
comp=Z,253nm,19.1s,baz=32,slow=40
TLY **Talaya** 28.10 210 *i* P P 00 04 16.0 +0.7
TLY pmax pmax
comp=Z,4.0nm,0.8s
TLY **Talaya** 28.10 210 P P 00 04 15.6 +0.3
EGAK **Eagle** 28.27 65 P P 00 04 17.5 +0.9
EGAK IAmb IAmb 00 04 35.0
comp=Z,13nm,1.0s
ZAA0 **Zalesovo Array** 28.41 235 P P 00 04 18.8 +0.8
ZAA0 IAmb IAmb 00 04 37.9
comp=Z,25nm,1.4s
ZALV **Zalesovo Beam** 28.41 235 P P 00 04 19.1 +1.1
comp=Z,0.8nm,0.4s,baz=0.0,slow=8.9,SNR=4.5
ZALV LR LR 00 16 54.1
comp=Z,145nm,18.9s,baz=68,slow=39
ZALV **Zalesovo Beam** 28.41 235 P P 00 04 18.6 +0.6
RIDG **Independent Ri** 28.53 69 P P 00 04 19.0 -0.1
DHY **Denali Highway** 28.66 71 P P 00 04 19.7 -0.7
DOT **Dot Lake** 28.76 68 P P 00 04 21.2 +0.1
SUMG **Summit** 28.82 350 *i* P P 00 04 21.9 0.0
comp=Z,50nm,1.5s
SUMG **Summit** 28.82 350 *i* P P 00 04 21.9 0.0
SUMG pmax pmax
comp=Z,50nm,1.5s
SUMG **Summit** 28.82 350 P P 00 04 21.5 -0.4
SUMG IAmb IAmb 00 04 24.1
comp=Z,21nm,1.5s
SVW2 **Sparrevohn** 28.88 80 P P 00 04 20.5 -1.7
PAX **Paxson** 29.12 70 P P 00 04 23.5 -0.9
PAX pmax pmax
comp=Z,20nm,1.4s
PAX **Paxson** 29.12 70 P P 00 04 23.5 -0.9
PAX IAmb IAmb 00 04 26.3
comp=Z,20nm,1.4s
DAWY **Dawson** 29.24 64 P P 00 04 24.5 -0.8
MENT **Mentasta** 29.48 68 P P 00 04 26.8 -0.7
MENT IAmb IAmb 00 04 35.9
comp=Z,7.5nm,0.6s
KLR **Kul'dur** 29.49 172 LR LR 00 18 29.8
comp=Z,321nm,18.4s,baz=17,slow=41
KLR **Kul'dur** 29.49 172 *i* P P 00 04 29.1 +1.5
KLR pmax pmax
comp=Z,1.0nm,1.1s
KLR MLR MLR
comp=Z,410nm,16.0s
BCAR **Beaver Creek A** 29.72 67 P P 00 04 31.5 +1.9
KNK **Knik Glacier** 29.98 74 P P 00 04 32.0 +0.2
KNK IAmb IAmb 00 04 33.7
comp=Z,16nm,1.0s
RSO **Redoubt South** 30.02 78 P P 00 04 33.2 +0.7
CAPN **Captain Cook N** 30.05 77 P P 00 04 33.3 +0.9
baz=337
SVE **Sverdlovsk** 30.16 263 eP P 00 04 36.2 +2.7
SVE pmax pmax
comp=Z,15nm,0.9s
KLMR **Klimovskoe** 30.61 286 eP P 00 04 35.9 -1.5
KLMR **Klimovskoe** 30.61 286 eP P 00 04 35.9 -1.5
KLMR LQ LQ 00 15 11.7
KLMR LQ LQ 00 15 11.7
KLMR LR LR 00 16 09.4
GLI **Glacier Island** 30.73 73 P P 00 04 37.9 -0.6
GLI IAmb IAmb 00 04 39.9
comp=Z,13nm,0.9s
ARU **Arti** 30.95 265 P P 00 04 40.6 +0.2
comp=Z,0.7nm,0.7s,baz=102,slow=9.3,SNR=3.4
ARU **Arti** 30.95 265 P P 00 04 40.9 +0.5
ARU 00 05 37.5
ARU S S 00 09 45.7 +1.4
ARU MLR MLR
comp=Z,209nm,19.0s
FID **Port Fidalgo** 30.97 72 P P 00 04 39.5 -1.1
FID IAmb IAmb 00 04 48.9
comp=Z,23nm,1.2s
SUF **Sumiainen** 31.35 299 P P 00 04 40.4 -3.5
SUF pmax pmax
comp=Z,23nm,1.2s
BALM **Baldy** 31.49 69 P P 00 04 45.3 0.0
BALM IAmb IAmb 00 05 01.0
comp=Z,11nm,1.1s
ULN **Ulaanbaatar** 31.57 204 *i* P P 00 04 46.8 +0.6
ULN pmax pmax
comp=Z,8.0nm,1.2s
ULN **Ulaanbaatar** 31.57 204 P P 00 04 46.3 +0.1
SONM **Songino Array** 31.66 205 P P 00 04 48.0 +1.1
comp=Z,2.3nm,0.7s,baz=2.8,slow=9.5,SNR=8.2
SONM PcP PcP 00 07 39.2 +0.7
comp=Z,0.6nm,0.4s,baz=61,slow=39,SNR=3.1
SONM LR LR 00 17 21.0
comp=Z,265nm,19.1s,baz=106,slow=36
SONM **Songino Array** 31.66 205 P P 00 04 47.0 +0.1
BRVK **Borovoye** 31.84 251 *d* P P 00 04 49.8 +1.5
BRVK pmax pmax
comp=Z,3.0nm,0.5s
BRVK **Borovoye** 31.84 251 P P 00 04 49.2 +0.9
BRVK IAmb IAmb 00 05 00.7
comp=Z,8.1nm,0.7s
BVAR **Borovoye Array** 31.85 251 P P 00 04 50.0 +1.5
comp=Z,4.7nm,0.7s,baz=35,slow=8.0,SNR=34
BVAR **Borovoye Array** 31.85 251 P P 00 04 50.0 +1.5
DGZ **Jazzator, Alta** 32.11 229 *i* P P 00 04 51.4 +0.5
DGZ pmax pmax
comp=Z,9.0nm,1.0s
YSS **Yuzh-Sakhalins** 32.33 158 eP P 00 04 54.6 +2.0
YSS *e* 00 05 04.3
YSS pmax pmax
comp=Z,30nm,1.0s
YSS **Yuzh-Sakhalins** 32.33 158 P P 00 04 51.7 -0.9
ILULI **Ilulissat** 32.45 358 P P 00 04 54.4 +0.9
ILULI pmax pmax
comp=Z,22nm,1.3s
ILULI **Ilulissat** 32.45 358 P P 00 04 54.4 +0.9
ILULI IAmb IAmb 00 05 05.0
comp=Z,22nm,1.3s
KDAK **Kodiak Island** 32.54 80 P P 00 04 54.1 -0.3
comp=Z,2.5nm,0.6s,baz=0.6,slow=8.1,SNR=5.8
KDAK **Kodiak Island** 32.54 80 P P 00 04 55.1 +0.7
KDAK pmax pmax
comp=Z,17nm,1.2s
KDAK **Kodiak Island** 32.54 80 P P 00 04 55.1 +0.7
KDAK IAmb IAmb 00 05 02.1
comp=Z,17nm,1.1s
FIA1 **FINESS Array S** 32.55 298 P P 00 04 53.7 -0.7
FIA1 IAmb IAmb 00 05 08.9
comp=Z,22nm,1.4s
FINES **FINESS Array B** 32.55 298 P P 00 04 53.8 -0.6
comp=Z,4.8nm,0.9s,baz=38,slow=9.6,SNR=9.6
FINES LR LR 00 19 55.7
comp=Z,218nm,20.6s,baz=24,slow=40
FINES **FINESS Array B** 32.55 298 *i* P P 00 04 54.4 0.0
FINES pmax pmax
comp=Z,5.0nm,0.9s
FINES **FINESS Array B** 32.55 298 P P 00 04 53.4 -1.1
KURK **Kurchatov** 32.57 240 ceP P 00 04 55.5 +0.8
KURK pmax pmax
comp=Z,11nm,1.6s
KURK **Kurchatov** 32.57 240 P P 00 04 55.6 +0.9
KURK **Kurchatov** 32.57 240 PcP 00 07 41.2 +0.6
HYT **Haines Junctio** 32.57 65 P P 00 04 55.0 +0.2
HYT IAmb IAmb 00 04 58.1
comp=Z,20nm,1.2s
KURBB **Kurchatov Arra** 32.67 240 P P 00 04 56.5 +0.9
comp=Z,2.7nm,0.8s,baz=29,slow=8.1,SNR=27
KURBB PcP PcP 00 07 41.2 +0.3
comp=Z,1.5nm,0.7s,baz=8.4,slow=2.3,SNR=4.5
PCA **Pinnacle** 32.75 68 P P 00 04 56.9 +0.6
WHY **Whitehorse** 33.20 63 P P 00 05 00.5 +0.2
UNV **Unalaska Valle** 33.46 96 P P 00 05 02.6 +0.2
NIKH **Nikolski High** 33.81 99 P P 00 05 05.2 -0.3
USA0B **Ussuriysk Arra** 34.53 172 *i* P P 00 05 10.8 -1.0
SFJD **Kangerlussuaq** 34.68 358 LR LR 00 17 35.9
comp=Z,128nm,18.5s,baz=2.0,slow=33
YKA **Yellowknife Ar** 34.73 45 P P 00 05 12.9 -0.5
comp=Z,1.5nm,0.7s,baz=345,slow=7.7,SNR=9.9
YKA LR LR 00 19 22.0
comp=Z,86nm,21.2s,baz=0.0,slow=36
VSU **Vasula** 35.23 296 eP P 00 05 18.1 +0.4
NB201 **NORSAR Array S** 35.36 310 IAmb IAmb 00 05 19.5
comp=Z,15nm,0.7s
NB2 **NORSAR Subarra** 35.38 310 P P 00 05 18.9 -0.2
comp=Z,16nm,0.8s,baz=17,slow=8.6
NOA **NORSAR Array B** 35.38 310 P P 00 05 19.1 0.0
comp=Z,8.1nm,0.7s,baz=18,slow=8.5,SNR=18
NOA LR LR 00 20 24.6
comp=Z,90nm,20.0s,baz=15,slow=37
NBO00 **NORSAR Array S** 35.46 311 P P 00 05 19.4 -0.3
BORG **Borgarnes** 35.62 336 P P 00 05 21.8 +0.8
BORG pmax pmax
comp=Z,21nm,1.5s
BORG **Borgarnes** 35.62 336 P P 00 05 21.8 +0.8
BORG IAmb IAmb 00 05 28.3
comp=Z,21nm,1.4s
ANGG **Ammassalik, Gr** 35.74 348 P P 00 05 22.7 +0.7
ANGG IAmb IAmb 00 05 23.7
comp=Z,16nm,1.1s
MKAR **Makanchi Array** 35.75 234 P P 00 05 22.2 -0.2
comp=Z,1.5nm,0.8s,baz=115,slow=11,SNR=6.0
MKAR PcP PcP 00 07 50.1 +0.2
comp=Z,0.7nm,0.6s,baz=340,slow=1.1,SNR=2.0
MKAR LR LR 00 21 30.1
comp=Z,270nm,18.2s,baz=58,slow=39
MOS **Moscow** 35.75 285 eP P 00 05 21.2 -1.0
MOS *e* 00 07 45.6
MOS pmax pmax
comp=Z,25nm,0.8s
MOS MLR MLR
comp=Z,400nm,17.0s
MAKZ **Makanchi** 35.78 234 P P 00 05 22.6 -0.1
MAKZ pmax pmax
comp=Z,17nm,1.0s
MAKZ **Makanchi** 35.78 234 P P 00 05 22.6 -0.1
MAKZ IAmb IAmb 00 05 34.2
comp=Z,17nm,1.0s
DLBC **Dease Lake** 36.14 60 P P 00 05 26.8 +1.1
comp=Z,11nm,0.9s,baz=311,slow=9.1,SNR=12
DLBC **Dease Lake** 36.14 60 P P 00 05 25.8 +0.2
DLBC IAmb IAmb 00 05 28.6
comp=Z,14nm,0.9s
OBN **Obninsk** 36.55 285 ⇑ *i* P P 00 05 29.6 +0.6
OBN *i* 00 06 49.9
OBN *i* 00 07 52.0
OBN pmax pmax
comp=Z,51nm,1.5s
OBN MLR MLR
comp=Z,403nm,17.0s
OBN **Obninsk** 36.55 285 P P 00 05 29.8 +0.8
ABKAR **Akbulak array** 37.46 259 P P 00 05 37.7 +0.8
FRB **Frobisher Bay** 37.70 10 LR LR 00 20 30.7
comp=Z,68nm,19.5s,baz=50,slow=35
WMQ **Urumqi** 37.81 227 eP P 00 05 42.3 +2.3
IZAR **Zarasai** 37.88 295 eP P 00 05 41.0 +0.7
ISAL **Salakas** 38.07 295 eP P 00 05 43.0 +1.1
HHC **Hu-ho-hao-te** 38.23 198 eP P 00 05 44.9 +1.3
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,33nm,5.1s
IIGN **Ignalina** 38.27 295 eP P 00 05 44.4 +0.8
LPSR **Galich'ya Gora** 38.46 282 eP P 00 05 45.6 +0.3
LPSR pmax pmax
comp=Z,30nm,1.0s
LPSR MLR MLR
comp=Z,650nm,18.0s
PABE **Paberze** 38.53 297 eP P 00 05 46.2 +0.4
BJI **Beijing** 38.80 192 P P 00 05 50.1 +1.9
BJI sP **pwP** 00 05 53.8 -0.3
BJI pmax pmax
comp=Z,16nm,0.9s
BJI LR LR
comp=N,280nm,12.5s
BJI LR LR
comp=E,270nm,16.8s
BJI LR LR
comp=Z,220nm,28.4s
BJT **Baijiatuau** 38.82 192 P P 00 05 48.2 -0.2
BJT pmax pmax
comp=Z,25nm,1.1s
BJT **Baijiatuau** 38.82 192 P P 00 05 48.2 -0.2
BJT IAmb IAmb 00 06 01.7
comp=Z,25nm,1.1s
VRH **Novokhopyorsk** 39.24 278 eP P 00 05 50.5 -1.3
VRH pmax pmax
comp=Z,8.0nm,0.7s
VRH MLR MLR
comp=Z,230nm,15.0s
VSR **Storozhevoye** 39.73 281 eP P 00 05 55.9 0.0
VSR pmax pmax
comp=Z,30nm,1.0s
VSR MLR MLR
comp=Z,500nm,15.0s
SUW **Suwalki** 40.09 297 eP P 00 05 59.0 +0.2
SUW eL L 00 23 32.1
comp=Z,174nm,21.5s
NRS **Narsarsuaq** 40.45 353 P P 00 06 00.6 -1.1
NRS pmax pmax
comp=Z,22nm,1.1s
NRS **Narsarsuaq** 40.45 353 P P 00 06 00.6 -1.1
NRS IAmb IAmb 00 06 04.0
comp=Z,22nm,1.1s
AAK **Ala-Archa** 41.10 241 ceP P 00 06 09.3 +1.7
AAK pmax pmax
comp=Z,23nm,1.7s
AAK **Ala-Archa** 41.10 241 P P 00 06 08.6 +1.0
KSRS **Korea Array** 41.19 177 P P 00 06 08.2 +0.2
comp=Z,0.4nm,0.3s,baz=358,slow=7.5,SNR=4.3
KSRS LR LR 00 24 12.7
comp=Z,124nm,18.8s,baz=354,slow=38
TARG **Taragay, Kyrgy** 41.42 237 P P 00 06 11.0 +0.6
GKP **Gorka Klasztor** 41.84 301 eP P 00 06 13.9 +0.7
GKP eL L 00 27 09.1
comp=Z,407nm,17.9s
AKASG **Malin Array Be** 42.14 290 P P 00 06 16.0 +0.3
comp=Z,13nm,0.7s,baz=19,slow=8.9,SNR=32
AKASG LR LR 00 27 59.8
comp=Z,98nm,18.8s,baz=5.0,slow=42
AKASG **Malin Array Be** 42.14 290 P P 00 06 16.1 +0.4
AKBB **Malin Array Si** 42.14 290 ceP P 00 06 16.0 +0.3
AKBB **Malin Array Si** 42.14 290 IAmb IAmb 00 06 17.1
comp=Z,12nm,0.8s
MJAR **Matsushiro Arr** 42.41 165 P P 00 06 19.1 +1.0
comp=Z,1.1nm,0.7s,baz=348,slow=8.5,SNR=4.8
MJAR PcP PcP 00 08 11.5 +0.5
comp=Z,0.5nm,0.3s,baz=75,slow=6.4,SNR=2.3
BEL **Belsk** 42.60 298 eP P 00 06 20.6 +1.1
BEL eL L 00 27 16.8
comp=Z,190nm,17.4s
ESK **Eskdalemuir** 42.96 319 P P 00 06 22.5 +0.1
ESK pmax pmax
comp=Z,8.0nm,0.9s
ESK **Eskdalemuir** 42.96 319 P P 00 06 22.5 +0.1
LZH **Lanzhou** 43.54 206 eP P 00 06 25.8 -1.6
LZH pP sP 00 06 30.8 -0.1
LZH sP pwP 00 06 33.8 +0.5
LZH pmax pmax
comp=Z,30nm,1.2s
LZH pmax pmax
comp=Z,100nm,6.0s
LZH LR LR
comp=N,260nm,13.0s
LZH LR LR
comp=E,290nm,15.2s
LZH LR LR
comp=Z,300nm,16.3s
KSH **Kashi** 43.88 239 eP P 00 06 35.1 +5.0
KSH pmax pmax
comp=Z,12nm,0.7s
KSH pmax pmax
comp=Z,230nm,4.7s
LVV **L'vov** 43.95 294 eP P 00 06 31.1 +0.7
BTK **Batken** 44.26 244 P P 00 06 34.2 +1.1
BTK pmax pmax
comp=Z,38nm,1.5s
BTK **Batken** 44.26 244 P P 00 06 34.2 +1.1
OJC **Ojcow** 44.33 298 eP P 00 06 34.3 +0.9
OJC eL L 00 28 37.6
comp=Z,229nm,17.7s
OJC **Ojcow** 44.33 298 IAmb IAmb 00 06 36.4
comp=Z,12nm,1.1s
KSP **Ksiaz** 44.34 301 eP P 00 06 34.5 +1.0

KSP *eL* L 00 28 56.8
comp=Z,356nm,18.4s
KWP Kalwaria Pacla 44.37 295 *eP* **P 00 06 35.3 +1.5**
KWP *eL* L 00 26 43.5
comp=Z,175nm,22.2s
KWP Kalwaria Pacla 44.37 295 P **P 00 06 33.9 +0.1**
KWP pmax pmax
comp=Z,49nm,1.1s
KWP Kalwaria Pacla 44.37 295 P **P 00 06 33.9 +0.1**
CLL Collm 44.44 304 ⇓ *iP* **P 00 06 34.1 -0.2**
comp=Z,12nm,0.8s
CLL *e* 00 06 43.0
CLL *i* PP **PP 00 08 18.0 +0.4**
comp=Z,9.0nm,1.4s
CLL Lm MLR 00 28 00.0
comp=Z,200nm,18.1s
CLL Collm 44.44 304 ⇓ *iP* **P 00 06 34.1 -0.2**
CLL *e* 00 06 43.0
CLL *i* 00 08 18.0
CLL pmax pmax
comp=Z,12nm,0.8s
CLL Collm 44.44 304 IAmb IAmb 00 06 35.6
comp=Z,9.5nm,0.8s
CHVC Chvalec 44.62 301 *eP* **P 00 06 36.7 +0.9**
CHVC *ex* x 00 06 51.6
CHVC AMS AMS 00 28 50.0
comp=Z,300nm,17.1s
OSTC Ostas 44.63 301 *eP* **P 00 06 36.6 +0.8**
OSTC *ex* x 00 06 51.7
OSTC AMS AMS 00 29 00.0
comp=Z,300nm,13.9s
BRG Berggiesshubel 44.71 303 *iP* **P 00 06 36.8 +0.4**
comp=Z,7.0nm,1.2s
BRG *e* PP **PP 00 08 22.1 +1.6**
comp=Z,3.5nm,1.1s
comp=N,178nm,15.5s
comp=E,109nm,15.1s
comp=Z,215nm,16.6s
BRG Berggiesshubel 44.71 303 *iP* **P 00 06 36.8 +0.4**
BRG *e* 00 08 22.1
BRG pmax pmax
comp=Z,7.0nm,1.2s
BRG pmax pmax
comp=Z,4.0nm,1.1s
BRG MLR MLR
comp=N,178nm,15.5s
BRG MLR MLR
comp=E,109nm,15.1s
BRG MLR MLR
comp=Z,215nm,16.6s
UPC Upice 44.71 301 AMS AMS 00 29 00.0
comp=Z,400nm,19.5s
SORM Soroca 44.77 289 ⇓P **P 00 06 37.0 +0.1**
DPC Dobruska-Polom 44.81 301 *eP* **P 00 06 38.4 +1.1**
DPC *ex* x 00 06 48.4
DPC AMS AMS 00 29 10.0
comp=Z,300nm,18.5s
DPC Dobruska-Polom 44.81 301 *eP* **P 00 06 38.4 +1.1**
DPC *e* 00 06 48.4
DPC MLR MLR
comp=Z,300nm,18.5s
GOF Gofitskoye 44.85 274 ⇑ *eP* **P 00 06 39.3 +1.7**
GOF pmax pmax
comp=Z,55nm,1.0s
PVCC Panska Ves 44.94 303 *eP* **P 00 06 39.3 +1.0**
PVCC AMS AMS 00 30 20.0
comp=Z,300nm,15.3s
PVCC Panska Ves 44.94 303 *eP* **P 00 06 39.3 +1.0**
PVCC MLR MLR
comp=Z,300nm,15.3s
OKC Ostrava-Krasne 44.99 299 *eP* **P 00 06 39.5 +0.8**
OKC *ex* x 00 06 49.6
OKC AMS AMS 00 28 00.0
comp=Z,200nm,13.0s
OKC Ostrava-Krasne 44.99 299 *eP* **P 00 06 39.5 +0.8**
OKC *e* 00 06 49.6
OKC MLR MLR
comp=Z,200nm,13.0s
NIE Niedzica 45.01 297 *eP* **P 00 06 40.5 +1.6**
NIE *eL* L 00 27 40.8
comp=Z,106nm,19.0s
LLLB Lillooet 45.03 56 P **P 00 06 39.3 +0.2**
MORC Moravsky Berou 45.15 300 ⇓P **P 00 06 40.8 +0.8**
MORC Moravsky Berou 45.15 300 *eP* **P 00 06 40.8 +0.8**
MORC Moravsky Berou 45.15 300 P **P 00 06 40.5 +0.4**
MORC pmax pmax
comp=Z,13nm,1.3s
MORC Moravsky Berou 45.15 300 P **P 00 06 40.5 +0.4**
MORC IAmb IAmb 00 06 42.3
comp=Z,13nm,1.3s
XAN Xi'an 45.17 200 P **P 00 06 40.9 +0.5**
XAN pP pwP 00 06 55.3 +9.0
XAN pmax pmax
comp=Z,13nm,0.7s
XAN LR LR
comp=N,420nm,16.3s
XAN LR LR
comp=Z,590nm,15.2s
PRA Prague 45.40 303 AMS AMS 00 30 30.0
comp=Z,200nm,14.6s
UZH Uzhgorod 45.41 295 ⇑ *iP* **P 00 06 41.9 -0.1**
UZH *e* 00 06 49.7
PRU Pruhonice 45.46 302 *eP* **P 00 06 43.4 +1.0**
PRU AMS AMS 00 30 20.0
comp=Z,300nm,14.3s
PRU Pruhonice 45.46 302 *eP* **P 00 06 43.4 +1.0**
PRU MLR MLR
comp=Z,300nm,14.3s
GOPC GO Pecny, Ondr 45.49 302 *eP* **P 00 06 44.2 +1.5**
GOPC GO Pecny, Ondr 45.49 302 *eP* **P 00 06 44.2 +1.5**
NKC Novy Kostel 45.57 304 *eP* **P 00 06 44.3 +0.9**
NKC *ex* x 00 06 57.0
NKC AMS AMS 00 29 20.0
comp=Z,200nm,14.7s
NKC Novy Kostel 45.57 304 *eP* **P 00 06 44.3 +0.9**
NKC MLR MLR
comp=Z,200nm,14.7s
VRAC Vranov 45.77 300 ⇑P **P 00 06 46.4 +1.5**
VRAC Vranov 45.77 300 *eP* **P 00 06 45.7 +0.8**
BUR08 Bucovina Ar. S 45.83 292 P **P 00 06 45.5 0.0**
BUR08 IAmb IAmb 00 06 47.6
comp=Z,19nm,1.4s
PBCC Pribram 45.84 303 *eP* **P 00 06 46.6 +1.1**
BURAR Bucovina Array 45.85 292 ⇓P **P 00 06 46.3 +0.6**
BURAR Bucovina Array 45.85 292 P **P 00 06 46.2 +0.6**
PRAR RASCA 45.91 291 ⇑P **P 00 06 46.9 +0.9**
CHGR Chuyangaron 45.92 246 P **P 00 06 46.8 +0.5**
MAK Makhachkala 45.97 269 *eP* P 00 06 38.8 -7.7
MAK pmax pmax
comp=Z,95nm,1.1s
TREC Trest 45.97 301 AMS AMS 00 29 50.0
comp=Z,300nm,16.5s
KIV Kislovodsk 45.98 274 ⇓P **P 00 06 48.5 +1.8**
KIV Kislovodsk 45.98 274 *eP* **P 00 06 48.4 +1.7**
KIV MLR MLR
comp=Z,276nm,16.0s
KIV Kislovodsk 45.98 274 P **P 00 06 48.1 +1.4**
JAVC Velka Javorina 46.01 299 *eP* **P 00 06 48.9 +2.0**
KRUC Moravsky 46.04 300 *eP* **P 00 06 47.9 +0.9**
BMR Baia Mare 46.11 294 ⇑P **P 00 06 48.9 +1.3**
KBZ Khabaz 46.15 274 P **P 00 06 50.0 +2.0**
comp=Z,22nm,0.8s,baz=4.9,slow=6.0,SNR=47
KBZ LR LR 00 28 05.3
comp=Z,164nm,20.7s,baz=22,slow=39
KBZ Khabaz 46.15 274 *deP* **P 00 06 50.1 +2.2**
KBZ pmax pmax
comp=Z,6.0nm,0.8s
MEM Membach 46.24 310 ⇓P **P 00 06 49.1 +0.5**
GRA1 Grafenberg Arr 46.30 305 P **P 00 06 49.8 +0.7**
GRA1 IAmb IAmb 00 06 50.8
comp=Z,7.5nm,0.8s
GRF Grafenberg Arr 46.30 305 P **P 00 06 49.8 +0.7**
GRF pmax pmax
comp=Z,8.0nm,0.8s
VASR Vaslui 46.31 289 ⇓P **P 00 06 49.4 +0.3**
BIZ Bicaz 46.34 291 ⇑P **P 00 06 49.8 +0.4**
KHC Kasperske Hory 46.45 303 *eP* **P 00 06 51.5 +1.2**
KHC *ex* x 00 07 00.0
KHC AMS AMS 00 31 20.0
comp=Z,200nm,13.4s
KHC Kasperske Hory 46.45 303 *ceP* **P 00 06 51.2 +0.9**
KHC pmax pmax
comp=Z,10.0nm,0.9s
ARCR ARCALIA 46.52 293 ⇓P **P 00 06 52.2 +1.3**
BCLA Clavier 46.53 311 P **P 00 06 51.1 +0.3**
comp=Z,8.6nm,1.3s
PSZ Piszkesteto 46.53 297 ⇓P **P 00 06 52.6 +1.6**
PSZ Piszkesteto 46.53 297 P **P 00 06 51.9 +0.9**
PSZ pmax pmax
comp=Z,16nm,1.1s
PSZ Piszkesteto 46.53 297 P **P 00 06 51.9 +0.9**
PSZ IAmb IAmb 00 06 53.8
comp=Z,16nm,1.1s
TESR Tescani 46.65 290 ⇓P **P 00 06 52.3 +0.5**
PGC Sidney 46.66 59 P **P 00 06 51.6 -0.2**
NJ2 Nanjing 46.67 188 *eP* **P 00 06 51.3 -0.8**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
SCHQ Schefferville 46.68 10 P **P 00 06 51.8 -0.2**
comp=Z,4.4nm,0.8s,baz=359,slow=8.9,SNR=7.4
SCHQ Schefferville 46.68 10 IAmb IAmb 00 07 02.0
comp=Z,7.3nm,0.9s
GERES GERESS Array B 46.71 303 P **P 00 06 53.4 +1.0**
comp=Z,2.3nm,0.7s,baz=22,slow=7.4,SNR=24
GERES LR LR 00 30 36.5
comp=Z,145nm,18.4s,baz=46,slow=41
A04D Lummi Island 46.72 58 P **P 00 06 52.6 +0.3**
baz=345
BMRD Maredsous 46.72 311 P **P 00 06 53.0 +0.7**
ZEI Tsey 46.86 273 *eP* **P 00 06 55.1 +1.3**
ZEI pmax pmax
comp=Z,12nm,0.8s
SOC Sochi 46.93 277 *eP* **P 00 06 53.1 -0.9**
SOC *e* 00 08 41.9
SOC *e* PPP PPP 00 09 33.1
SOC *eS* S **00 13 43.7 -0.8**
SOC *e* SSS SSS 00 18 13.6
SOC MLR MLR
comp=Z,240nm,14.0s
DOU Dourbes 46.95 311 ⇓P **P 00 06 54.5 +0.4**
CJR Cluj-Napoca 47.02 293 ⇑P **P 00 06 56.2 +1.4**
DRGR 47.11 294 ⇓P **P 00 06 56.6 +1.1**
DRGR 47.11 294 P **P 00 06 56.5 +1.0**
DRGR pmax pmax
comp=Z,11nm,1.2s
WLF Walferdange 47.13 310 P **P 00 06 56.7 +1.1**
WLF Walferdange 47.13 310 P **P 00 06 55.6 0.0**
WLF pmax pmax
comp=Z,11nm,1.1s
WLF Walferdange 47.13 310 P **P 00 06 55.6 0.0**
WLF IAmb IAmb 00 06 57.2
comp=Z,11nm,1.1s
OZUR 47.21 291 ⇓P **P 00 06 57.2 +1.0**
CONA Conrad Observa 47.23 301 *i* pP **P 00 06 57.7 +1.2**
comp=Z,12nm,1.7s,SNR=6.6
VRI Vrincioaia 47.25 290 ⇓P **P 00 06 57.2 +0.6**
B05A Bryant 47.26 57 P **P 00 06 56.8 +0.2**
baz=345,SNR=6.1
PLOR Plostina 47.28 290 ⇓P **P 00 06 57.6 +0.7**
AKT Akhty 47.35 268 *eP* **P 00 06 59.1 +1.6**
AKT *e* 00 08 30.8
AKT *e* 00 08 50.9
AKT pmax pmax
comp=Z,47nm,1.4s
DOPR Dopca 47.41 291 ⇓P **P 00 06 59.2 +1.4**
MOA Molln 47.58 302 *i* pP **P 00 07 00.1 +1.0**
comp=Z,15nm,2.0s,SNR=7.6
B08A Colville Reser 47.63 55 P **P 00 07 00.2 +0.6**
CFR Carcaliu 47.65 288 ⇓P **P 00 07 00.6 +0.9**
TBLG Delisi 47.71 271 P **P 00 07 00.5 +0.3**
TBLG pmax pmax
comp=Z,10.0nm,0.7s
TBLG Delisi 47.71 271 P **P 00 07 00.5 +0.3**
TBLG IAmb IAmb 00 07 02.9
comp=Z,9.6nm,0.7s
NEHR Nehoiu 47.76 290 ⇓P **P 00 07 02.4 +1.9**
MLR Muntele Rosu 47.76 291 ⇓P **P 00 07 02.2 +1.5**
MLR Muntele Rosu 47.76 291 P **P 00 07 00.8 +0.1**
MLR pmax pmax
comp=Z,7.0nm,0.8s
MLR Muntele Rosu 47.76 291 P **P 00 07 00.8 +0.1**
MLR IAmb IAmb 00 07 04.6
comp=Z,7.1nm,0.8s
D03D Eldon 47.80 59 P **P 00 07 01.9 +1.1**
baz=345,SNR=13
NLWA Neilton Lookou 47.80 59 P **P 00 07 01.9 +1.0**
NLWA IAmb IAmb 00 07 04.1
comp=Z,10.0nm,1.2s
SIRR Siria 47.80 295 ⇑P **P 00 07 01.9 +1.0**
WALA Waterton Lakes 47.81 50 P **P 00 07 01.2 +0.1**
WALA IAmb IAmb 00 07 13.0
comp=Z,12nm,0.8s
ARSA Arzberg 47.94 301 *i* pP **P 00 07 04.4 +2.5**
comp=Z,4.4nm,1.1s
VOIR 47.98 291 ⇓P **P 00 07 03.8 +1.5**
NEW Newport 48.08 53 P **P 00 07 03.8 +0.8**
baz=346,SNR=15
BFO Black Forest 48.09 307 P **P 00 07 04.2 +1.1**
BFO pmax pmax
comp=Z,6.0nm,1.1s
BFO Black Forest 48.09 307 P **P 00 07 04.2 +1.1**
ARR Arges 48.13 292 ⇑P **P 00 07 04.9 +1.5**
HARR Harsova 48.16 288 ⇓P **P 00 07 04.3 +0.7**
D04E Lakebay 48.20 58 P **P 00 07 04.9 +1.1**
baz=346
AKH Akhalkalaki 48.27 273 ⇓P **P 00 07 06.7 +2.0**
AKH Akhalkalaki 48.27 273 P **P 00 07 05.0 +0.3**
AKH pmax pmax
comp=Z,12nm,1.1s
AKH Akhalkalaki 48.27 273 P **P 00 07 05.0 +0.3**
AKH IAmb IAmb 00 07 07.9
comp=Z,12nm,1.1s
TIRR Tirgusor 48.29 288 P **P 00 07 04.7 +0.1**
TIRR pmax pmax
comp=Z,74nm,1.5s
TIRR Tirgusor 48.29 288 P **P 00 07 04.7 +0.1**
D05A Enumclaw 48.32 58 P **P 00 07 06.3 +1.5**
C09A Chrisman Ranch 48.34 54 P **P 00 07 04.8 -0.2**
C09A IAmb IAmb 00 07 07.1
comp=Z,14nm,1.4s
BZS Buzias 48.44 295 ⇓P **P 00 07 06.9 +1.1**
KBA Koelnbreinsper 48.48 302 *i* pP **P 00 07 08.2 +1.9**
comp=Z,16nm,0.9s,SNR=12
RETA Reutte 48.51 305 *i* P **P 00 07 06.1 -0.3**
comp=Z,4.1nm,1.1s
WATA Walderalm 48.53 304 *i* pP **P 00 07 07.6 +1.0**
comp=Z,12nm,1.8s
SOKA Soboth 48.58 301 *i* pP **P 00 07 08.1 +1.1**
comp=Z,7.8nm,1.9s
WTTA Wattenberg 48.59 304 *i* pP **P 00 07 08.4 +1.3**
comp=Z,10nm,1.1s,SNR=7.6
MOTA Moosalm 48.59 305 *i* P **P 00 07 07.3 +0.2**
comp=Z,5.3nm,1.2s
E03A Lebam 48.67 59 P **P 00 07 07.4 -0.1**
CD2 Chengdu 48.68 205 P **P 00 07 07.4 -0.4**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
SQTA Sankt Quirin 48.70 304 *i* pP **P 00 07 08.8 +1.0**
comp=Z,6.9nm,1.1s
GEYT Alibeck 48.72 257 P **P 00 07 09.9 +1.9**
comp=Z,6.4nm,0.8s,baz=330,slow=5.1,SNR=12
OBKA Obir 48.83 301 *i* pP **P 00 07 10.4 +1.5**
comp=Z,10nm,0.8s
E04D Cinebar 48.84 58 P **P 00 07 09.8 +1.0**
baz=346,SNR=7.7
DAVA Damuels 48.85 306 *i* P **P 00 07 09.2 +0.1**
comp=Z,4.4nm,0.9s
MYKA Terra Mystica 48.86 302 *i* pP **P 00 07 10.4 +1.3**
comp=Z,4.7nm,0.7s
ENH Enshi 48.88 199 P **P 00 07 08.8 -0.6**
ABTA Abfaltersbach 48.94 303 *i* pP **P 00 07 10.9 +1.2**
comp=Z,6.1nm,0.9s
D08A Wollman Farm, 48.96 55 P **P 00 07 09.4 -0.4**
D08A IAmb IAmb 00 07 11.7
comp=Z,12nm,1.0s
FETA Feichten 48.97 305 *i* P **P 00 07 08.5 -1.5**
comp=Z,8.4nm,1.9s
HERR Herculane 49.01 294 ⇓P **P 00 07 10.8 +0.7**
JTMT Jette 49.03 51 P **P 00 07 10.2 -0.2**
JTMT IAmb IAmb 00 07 26.6
comp=Z,14nm,0.9s
ZOU Zoufplan 49.05 303 P **P 00 07 11.2 +0.6**
ZOU IAmb IAmb 00 07 12.7
comp=Z,12nm,1.1s
PRED Cave del Predi 49.06 302 P **P 00 07 11.2 +0.6**
ULM Lac du Bonnet 49.06 34 LR LR 00 29 18.1
comp=Z,79nm,18.5s,baz=308,slow=38
ULM Lac du Bonnet 49.06 34 P **P 00 07 09.4 -1.1**
ULM pmax pmax
comp=Z,8.0nm,1.1s
ULM Lac du Bonnet 49.06 34 P **P 00 07 09.4 -1.1**
F04D Rainier, OR 49.22 59 P **P 00 07 12.3 +0.6**
baz=346
MDVR Moldovita 49.23 294 ⇓P **P 00 07 12.6 +0.7**
LEGS Legarje 49.24 300 *i* P **P 00 07 12.8 +1.0**
E07A Sunnyside 49.29 56 P **P 00 07 12.4 +0.1**
CRNS Crni Vrh 49.29 301 *i* P **P 00 07 13.0 +0.7**
CLF Chambon-Foret 49.32 312 P **P 00 07 12.9 +0.5**
CLF IAmb IAmb 00 07 14.3
comp=Z,18nm,1.0s
CIMO Cimolais 49.38 303 P **P 00 07 12.6 -0.4**
KTUT Trabzon 49.42 276 ⇑P **P 00 07 14.0 +0.7**
FUORN Ofenpass-Fuorn 49.44 305 P **P 00 07 14.4 +0.7**
EGMT Eagleton 49.44 47 P **P 00 07 13.6 +0.1**
baz=347
EGMT Eagleton 49.44 47 P **P 00 07 12.8 -0.7**
EGMT IAmb IAmb 00 07 15.8
comp=Z,11nm,1.3s
F04A Amboy 49.47 59 P **P 00 07 14.1 +0.5**
HAWA Hanford 49.50 56 P **P 00 07 14.6 +0.7**
HAWA IAmb IAmb 00 07 15.9
comp=Z,11nm,1.1s
E09A Wood Farm, Sta 49.61 55 IAmb IAmb 00 07 17.0
comp=Z,19nm,1.1s
F05D White Salmon 49.67 58 P **P 00 07 16.3 +1.0**
baz=346
TUE Stuetta 49.73 306 P **P 00 07 16.6 +0.8**
TUE IAmb IAmb 00 07 17.9
comp=Z,10nm,0.8s
CTI Castel Tesino 49.76 304 P **P 00 07 16.1 +0.1**
CTI pmax pmax
comp=Z,8.0nm,1.0s
CTI Castel Tesino 49.76 304 P **P 00 07 16.1 +0.1**
DGMT Dagmar 49.78 42 P **P 00 07 16.5 +0.5**
baz=348
DGMT Dagmar 49.78 42 P **P 00 07 16.7 +0.7**
F07A Phinny Hill Vi 49.92 56 P **P 00 07 17.1 +0.1**
KBL Kabul 49.95 244 P **P 00 07 18.9 +1.2**
KBL pmax pmax
comp=Z,18nm,1.1s
KBL Kabul 49.95 244 P **P 00 07 18.9 +1.2**
KBL IAmb IAmb 00 07 19.6
comp=Z,18nm,1.1s
G03D McMinnville, O 50.02 60 P **P 00 07 18.7 +0.9**
baz=346
PLVB Pleven 50.04 291 ⇓P **P 00 07 18.6 +0.6**
NIL Nilore 50.07 240 P **P 00 07 19.3 +0.9**
NIL pmax pmax
comp=Z,58nm,1.4s
NIL Nilore 50.07 240 P **P 00 07 19.3 +0.9**
SSF Saint Saulge 50.07 311 *eP* **P 00 07 17.8 -0.4**
SSF pmax pmax
comp=Z,19nm,1.4s
SENIN Lac Senin/Sane 50.16 308 P **P 00 07 19.7 +0.5**
F10A Beach Ranch, E 50.29 54 P **P 00 07 20.4 +0.4**
SALO Salr 50.37 305 IAmb IAmb 00 07 21.8
comp=Z,11nm,0.8s
HRY Holter Researc 50.41 49 P **P 00 07 20.6 -0.3**
G06A Carlson Farm, 50.44 57 P **P 00 07 20.9 -0.3**
G06A IAmb IAmb 00 07 38.0
comp=Z,22nm,1.2s
ILGA Ilgaz 50.55 282 P **P 00 07 22.9 +0.7**
ILGA IAmb IAmb 00 07 25.3
comp=Z,17nm,1.0s
COR Corvallis 50.62 60 P **P 00 07 22.8 +0.5**
COR pmax pmax
comp=Z,34nm,1.0s
COR Corvallis 50.62 60 P **P 00 07 22.8 +0.5**
H04A Detroit Lake 50.72 59 P **P 00 07 23.1 -0.1**
H04A IAmb IAmb 00 07 38.4
comp=Z,9.9nm,0.8s
H04D Lebanon 50.78 59 P **P 00 07 23.0 -0.5**
baz=346
AGMN Agassiz Nation 50.99 35 P **P 00 07 24.1 -1.0**
baz=350,SNR=8.6
AGMN Agassiz Nation 50.99 35 P **P 00 07 24.5 -0.6**
AGMN IAmb IAmb 00 07 25.7
comp=Z,14nm,1.0s
VTS Vitosha 51.04 292 ⇓P **P 00 07 26.0 +0.2**
MFF Saint Martin d 51.06 314 *eP* **P 00 07 25.6 -0.1**
MFF pmax pmax
comp=Z,8.0nm,1.2s
MATQ Matagami 51.19 19 P **P 00 07 26.2 -0.4**
baz=354,SNR=6.4
I05D Terrebonne, OR 51.20 58 P **P 00 07 26.4 -0.4**
baz=346
LSA Lhasa 51.23 219 P **P 00 07 27.5 -0.2**
LSA pmax pmax
comp=Z,8.0nm,1.2s
LSA Lhasa 51.23 219 P **P 00 07 27.5 -0.2**
PRMA PARMA 51.23 304 P **P 00 07 28.0 +1.0**
CHGQ Chibougamau 51.24 17 P **P 00 07 26.7 -0.4**
baz=355
LAO LASA Array 51.25 44 P **P 00 07 27.5 +0.3**
baz=348
LAO LASA Array 51.25 44 P **P 00 07 27.8 +0.6**
LAO IAmb IAmb 00 07 29.6
comp=Z,17nm,0.9s
HRA Herat 51.36 251 P **P 00 07 28.6 +0.2**
HRA IAmb IAmb 00 07 31.2
comp=Z,17nm,1.4s
BMO Blue Mountains 51.37 54 IAmb IAmb 00 07 45.5
comp=Z,18nm,0.9s
I03D Drain, OR 51.47 60 P **P 00 07 29.9 +1.1**
baz=346
ZCCA Zocca 51.52 304 IAmb IAmb 00 07 33.4
comp=Z,9.5nm,0.9s
BOZ Bozeman (W) 51.53 49 P **P 00 07 29.8 +0.4**
baz=348,SNR=5.9
I04A Tendick Farm, 51.54 59 P **P 00 07 29.5 +0.1**
baz=346
MDUB Mudurnu 51.60 284 P **P 00 07 31.0 +1.1**
DLMT Dillon 51.62 50 P **P 00 07 30.6 +0.6**
GCMT Greycliff 51.64 47 P **P 00 07 30.8 +0.6**
SSB Saint Sauveur 51.65 310 P **P 00 07 30.0 -0.2**
SSB Saint Sauveur 51.65 310 **P 00 07 30.5 +0.3**
I07A Izee 51.76 57 P **P 00 07 31.7 +0.6**
PINE Pine Mountain 51.80 58 P **P 00 07 32.3 +0.8**
PINE IAmb IAmb 00 07 44.2
comp=Z,16nm,0.9s
EYMN Ely 51.81 31 P **P 00 07 30.0 -1.3**
baz=351
EYMN Ely 51.81 31 P **P 00 07 30.5 -0.8**
BR131 Keskin Array S 51.85 281 P **P 00 07 33.3 +1.5**
BR131 pmax pmax
comp=Z,12nm,1.0s
BR131 Keskin Array S 51.85 281 P **P 00 07 33.3 +1.5**
BR131 IAmb IAmb 00 07 34.5
comp=Z,12nm,0.9s
BRTR Keskin Array B 51.85 281 P **P 00 07 33.5 +1.7**
comp=Z,6.2nm,0.9s,baz=22,slow=4.7,SNR=35
BRTR PcP **PcP 00 08 43.8 -0.8**
comp=Z,1.8nm,0.7s,baz=128,slow=1.5,SNR=2.6
BRTR LR LR 00 34 13.7
comp=Z,110nm,18.6s,baz=346,slow=42
BRTR Keskin Array B 51.85 281 *iP* **P 00 07 33.5 +1.7**
BRTR pmax pmax
comp=Z,7.0nm,0.9s
BRTR Keskin Array B 51.85 281 P **P 00 07 33.3 +1.5**
ANTO Ankara 51.87 282 ⇓P **P 00 07 33.8 +1.9**
ANTO Ankara 51.87 282 P **P 00 07 33.2 +1.3**
ANTO pmax pmax
comp=Z,25nm,1.0s
ANTO Ankara 51.87 282 P **P 00 07 33.2 +1.3**
J01E Myrtle Point 51.89 61 P **P 00 07 31.9 0.0**
baz=346
BR231 Keskin MP Arra 51.90 282 P **P 00 07 34.3 +2.1**
LSQQ Lebel-sur-Quev 51.94 19 P **P 00 07 32.4 +0.2**
baz=354
PDG Podgorica 51.95 296 ⇓P **P 00 07 32.5 +0.1**
SKO Skopje 52.00 294 *i* P **P 00 07 33.5 +0.7**
MCMT McKenzie Canyo 52.10 50 P **P 00 07 34.7 +0.9**
STIP Stip 52.13 293 *i* P **P 00 07 33.2 -0.5**
J04D Umpqua Nationa 52.13 59 P **P 00 07 34.6 +0.6**
baz=346
ALN Alexandroupoli 52.18 289 P **P 00 07 34.2 +0.1**
ALN pmax pmax
comp=Z,12nm,1.3s
ALN Alexandroupoli 52.18 289 P **P 00 07 34.1 +0.1**
ALN IAmb IAmb 00 07 36.1
comp=Z,12nm,1.3s
J05D Fort Rock, OR 52.24 58 P **P 00 07 35.6 +0.9**
baz=346,SNR=5.9
YHL Hebgen Lake 52.33 49 P **P 00 07 35.3 -0.2**
RLMT Red Lodge 52.35 47 P **P 00 07 36.5 +0.9**

baz=348,SNR=7.1
RLMT Red Lodge 52.35 47 IAmb IAmb 00 07 49.0
comp=Z,20nm,1.4s
YNE Yellowstone No 52.35 48 P **P** **00 07 36.1 +0.4**
CAF Calviac 52.37 312 *eP* **P** **00 07 36.0 +0.4**
CAF pmax pmax
comp=Z,10.0nm,1.2s
K02D Willamette Mer 52.39 61 P **P** **00 07 36.2 +0.4**
baz=346
YHH Holmes Hill 52.44 49 P **P** **00 07 36.9 +0.5**
YMP Mirror Lake Pl 52.59 48 P **P** **00 07 38.0 +0.5**
J08A Circle Bar Ran 52.63 56 P **P** **00 07 38.7 +1.1**
NRCA Norcia 52.64 301 P **P** **00 07 37.4 -0.2**
K05A Summer Lake 52.84 58 IAmb IAmb 00 07 55.8
comp=Z,21nm,1.1s
VLDQ Val d'Or 52.85 19 P **P** **00 07 37.8 -1.1**
GYA Guiyang 52.86 202 *eP* P 00 07 49.8 +10
GYA pmax pmax
comp=Z,9.0nm,0.5s
GYA LR LR
comp=N,190nm,10.9s
GYA LR LR
comp=E,190nm,13.1s
GYA LR LR
comp=Z,330nm,13.1s
H17A Grant Village 52.87 49 P **P** **00 07 40.8 +1.2**
baz=348
H17A Grant Village 52.87 49 P **P** **00 07 40.7 +1.2**
H17A IAmb IAmb 00 07 53.5
comp=Z,14nm,1.3s
TIR Tirane 52.89 295 P **P** **00 07 39.4 0.0**
TIR pmax pmax
comp=Z,14nm,1.2s
TIR Tirane 52.89 295 P **P** **00 07 39.4 0.0**
TIR IAmb IAmb 00 07 55.7
comp=Z,14nm,1.2s
YPP Pitchstone Pla 52.95 49 P **P** **00 07 40.2 +0.1**
D41A Chassel 52.98 29 P **P** **00 07 38.7 -1.3**
D41A IAmb IAmb 00 07 50.1
comp=Z,16nm,1.2s
MFID Camas Ranch 53.01 53 P **P** **00 07 41.0 +0.7**
AQU L'Aquila 53.06 301 P **P** **00 07 41.3 +0.6**
AQU pmax pmax
comp=Z,29nm,1.0s
AQU L'Aquila 53.06 301 P **P** **00 07 41.2 +0.6**
HLID Hailey 53.09 52 P **P** **00 07 42.0 +1.0**
L04D Klamath Falls 53.09 60 P **P** **00 07 41.6 +0.6**
baz=347
FLWY Flagg Ranch 53.15 49 P **P** **00 07 42.5 +0.9**
FLWY IAmb IAmb 00 08 01.4
comp=Z,18nm,1.4s
IMW Indian Meadow 53.30 49 P **P** **00 07 43.4 +0.7**
INTR Introdacqua 53.30 300 IAmb IAmb 00 07 43.9
comp=Z,19nm,1.3s
D49A Beulah Townshi 53.40 23 P **P** **00 07 43.2 +0.1**
baz=353,SNR=12
D48A Paudash Townsh 53.46 23 P **P** **00 07 43.0 -0.5**
baz=353
WVOR Wild Horse Val 53.50 56 P **P** **00 07 44.8 +0.8**
WVOR pmax pmax
comp=Z,9.0nm,1.0s
WVOR Wild Horse Val 53.50 56 P **P** **00 07 44.8 +0.8**
WVOR IAmb IAmb 00 07 58.3
comp=Z,8.9nm,1.0s
FXWY Fox Creek 53.54 49 P **P** **00 07 44.7 +0.3**
D46A Sault St. Mari 53.56 25 P **P** **00 07 43.7 -0.5**
baz=353
DANN Dangsing 53.57 227 *eP* **P** **00 07 45.4 +0.5**
M04C Macdoel 53.59 59 P **P** **00 07 44.3 -0.4**
baz=347
GAZ Gaziantep 53.61 277 P **P** **00 07 46.0 +1.2**
D50A G1974 Best Tow 53.62 22 P **P** **00 07 44.6 0.0**
baz=354,SNR=9.0
TPAW Teton Pass 53.70 49 P **P** **00 07 46.3 +0.7**
TPAW IAmb IAmb 00 07 54.1
comp=Z,15nm,1.4s
GUN Gumba 53.70 225 *eP* **P** **00 07 47.0 +1.1**
D51A Lot 18 Range I 53.73 21 P **P** **00 07 45.4 0.0**
baz=354
MOD Modoc Plateau 53.74 58 P **P** **00 07 46.0 +0.2**
MOD IAmb IAmb 00 08 02.7
comp=Z,9.8nm,1.0s
GKN Gorkha 53.78 226 *eP* **P** **00 07 46.8 +0.5**
comp=Z,50nm,0.8s
M02C Callahan 53.80 60 P **P** **00 07 46.4 +0.2**
baz=347
REDW Red Top Meadow 53.83 49 P **P** **00 07 46.7 +0.1**
REDW IAmb IAmb 00 07 58.7
comp=Z,16nm,1.4s
LATQ La Tuque 53.85 16 P **P** **00 07 46.6 +0.2**
baz=356
D54A Lac Fusel, La 53.85 19 P **P** **00 07 46.8 +0.5**
baz=355,SNR=12
D53A Lac Vacive, Po 53.86 20 P **P** **00 07 46.8 +0.4**
baz=354
D53A Lac Vacive, Po 53.86 20 IAmb IAmb 00 07 47.9
comp=Z,10nm,0.7s
JIRN Jiri 53.90 224 *eP* **P** **00 07 48.5 +1.1**
D52A ZEK Kipawa Sen 53.91 20 P **P** **00 07 47.1 +0.3**
baz=354,SNR=11
TAPN Taplejung 54.00 223 *eP* **P** **00 07 48.9 +0.9**
MANT Manisa 54.03 286 P **P** **00 07 48.0 -0.1**
D55A Sainte-Anne-du 54.06 18 P **P** **00 07 48.1 +0.2**
baz=355
RSSD Black Hills 54.07 43 P **P** **00 07 48.0 -0.3**
baz=349
RSSD Black Hills 54.07 43 P **P** **00 07 48.5 +0.2**
RSSD pmax pmax
comp=Z,6.0nm,0.9s
RSSD Black Hills 54.07 43 P **P** **00 07 48.5 +0.2**
D56A ZEC Mazanza, M 54.08 17 P **P** **00 07 48.1 +0.1**
baz=355
PKIN Phulchoki 54.09 225 *eP* **P** **00 07 49.5 +0.8**
comp=Z,14nm,0.7s
PKI Pulchoki 54.10 225 *eP* **P** **00 07 49.5 +0.7**
DMN Daman 54.10 226 *eP* **P** **00 07 50.0 +1.3**
E48A Lockeyer 54.12 24 P **P** **00 07 48.9 +0.5**
baz=353
D58A Chemin du LacG 54.14 16 P **P** **00 07 48.6 +0.2**
baz=355
PAOL Paolisi 54.14 300 P **P** **00 07 48.5 -0.1**
KHMM Horse Mountain 54.15 61 P **P** **00 07 48.3 -0.5**
D57A Chemin Vers le 54.16 17 P **P** **00 07 48.7 +0.1**
baz=355
KOLN Koldanda 54.16 227 *eP* **P** **00 07 49.4 +0.3**
N02D Trinity Center 54.23 60 P **P** **00 07 50.2 +0.9**
baz=347
BATG Bathurst New B 54.26 10 P **P** **00 07 50.1 +0.8**
BATG IAmb IAmb 00 08 00.7
comp=Z,9.1nm,0.9s
E51A G1948 Merrick 54.28 21 P **P** **00 07 49.8 +0.3**
baz=354,SNR=8.8
E50A Wahnapitae 54.29 22 P **P** **00 07 49.6 0.0**
baz=354
ISP Isparta 54.30 284 P **P** **00 07 49.3 -0.5**
ISP pmax pmax
comp=Z,25nm,1.2s
ISP Isparta 54.30 284 P **P** **00 07 49.3 -0.5**
D62A Allapoint, All 54.34 12 P **P** **00 07 50.2 +0.4**
baz=356
SPMN Marine on St. 54.36 33 P **P** **00 07 48.8 -1.3**
baz=351
SPMN Marine on St. 54.36 33 IAmb IAmb 00 07 50.5
comp=Z,12nm,1.0s
ODAN Odare 54.52 223 *eP* **P** **00 07 52.6 +0.8**
comp=Z,29nm,0.7s
E54A Lac Daplat, Po 54.53 19 P **P** **00 07 51.3 0.0**
baz=354,SNR=9.3
RAMN Ramite 54.54 224 *eP* **P** **00 07 52.4 +0.5**
E53A Dumoine, Ponti 54.56 20 P **P** **00 07 52.0 +0.5**
baz=354,SNR=9.9
E56A St. Veronique 54.56 18 P **P** **00 07 51.9 +0.3**
baz=355
E52A Mattawa 54.58 21 P **P** **00 07 51.1 -0.6**
baz=354,SNR=7.4
BW06 Boulder Array 54.61 48 P **P** **00 07 51.8 -0.5**
baz=348
BW06 Boulder Array 54.61 48 P **P** **00 07 52.7 +0.5**
PDAR Pinedale Array 54.61 48 P **P** **00 07 52.5 +0.2**
comp=Z,1.5nm,0.7s,baz=17,slow=3.4,SNR=14
PDAR Pinedale Array 54.61 48 P **P** **00 07 52.3 +0.1**
WDC Whiskeytown Da 54.64 60 P **P** **00 07 52.5 +0.3**
WDC pmax pmax
comp=Z,9.0nm,1.0s
WDC Whiskeytown Da 54.64 60 P **P** **00 07 52.5 +0.3**
WDC IAmb IAmb 00 08 06.3
comp=Z,9.2nm,0.9s
E57A Chemin Saint G 54.75 17 P **P** **00 07 52.4 -0.5**
baz=355,SNR=5.4
E62A Clayton Lake 54.78 13 P **P** **00 07 53.2 +0.1**
baz=356,SNR=5.3
E62A Clayton Lake 54.78 13 IAmb IAmb 00 08 04.5
comp=Z,14nm,1.0s
F51A Arnstein 54.85 22 P **P** **00 07 53.0 -0.6**
baz=354
F49A Sandfield 54.85 24 P **P** **00 07 53.0 -0.6**
baz=353
E61A Lac Etchemin 54.92 14 P **P** **00 07 54.8 +0.7**
baz=356
E60A Ste Agathe de 54.94 15 P **P** **00 07 54.6 +0.4**
baz=356
ALGO Algonquin Park 54.95 20 P **P** **00 07 54.8 +0.4**
baz=354
O02D Mt. Diablo Mer 54.99 61 P **P** **00 07 55.6 +0.8**
baz=347
E63A Oxbow 55.02 12 P **P** **00 07 54.9 0.0**
baz=357
F52A Sundridge 55.02 21 P **P** **00 07 55.2 +0.3**
baz=354,SNR=9.0
E64A Bridgewater 55.05 11 P **P** **00 07 55.1 +0.1**
baz=357
K22A Casper 55.17 45 P **P** **00 07 55.7 -0.5**
baz=349,SNR=6.3
K22A Casper 55.17 45 IAmb IAmb 00 07 56.6
comp=Z,8.0nm,0.8s
F55A Otter Lake 55.19 19 P **P** **00 07 56.2 +0.1**
baz=355
F61A St Evariste 55.35 14 P **P** **00 07 57.5 +0.2**
baz=356
F59A Saint Guilaume 55.38 16 P **P** **00 07 57.2 -0.2**
baz=356
YER Yerkesik 55.40 286 P P 00 08 07.8 +10
YER pmax pmax
comp=Z,12nm,0.8s
ECSD EROS Data Cent 55.40 36 P **P** **00 07 56.6 -1.1**
baz=351,SNR=12
ECSD EROS Data Cent 55.40 36 P **P** **00 07 56.7 -0.9**
ECSD IAmb IAmb 00 07 57.6
comp=Z,8.0nm,0.8s
ELL Elmali 55.45 284 P **P** **00 07 58.2 0.0**
ELL pmax pmax
comp=Z,49nm,1.4s
ELL Elmali 55.45 284 P **P** **00 07 58.2 0.0**
F62A Pittston Farm, 55.48 13 P **P** **00 07 58.1 -0.1**
baz=356
F62A Pittston Farm, 55.48 13 P **P** **00 07 59.2 +1.1**
F62A IAmb IAmb 00 08 10.0
comp=Z,14nm,1.1s
G54A Lake Saint Pet 55.51 20 P **P** **00 07 58.4 0.0**
baz=354,SNR=9.0
TIP Timpagrande 55.56 297 ⇑P **P** **00 07 59.4 +0.6**
TIP Timpagrande 55.56 297 P **P** **00 07 59.5 +0.6**
TIP IAmb IAmb 00 08 00.9
comp=Z,21nm,1.5s
F64A Sherman 55.58 12 P **P** **00 07 59.0 +0.1**
baz=357
F64A Sherman 55.58 12 P **P** **00 07 59.4 +0.5**
ORIO Orleans, Innes 55.62 18 P **P** **00 07 59.1 -0.1**
baz=355
ORIO Orleans, Innes 55.62 18 IAmb IAmb 00 08 10.9
comp=Z,7.6nm,1.0s
F63A Nahmakanta, Br 55.71 13 P **P** **00 07 60.0 +0.1**
baz=356
G53A Haliburton 55.74 21 P **P** **00 08 00.2 +0.2**
baz=354,SNR=6.0
G55A Calabogie 55.74 19 P **P** **00 08 00.3 +0.2**
baz=355
ORV Oroville 55.82 60 P **P** **00 07 59.1 -1.6**
ORV pmax pmax
comp=Z,10.0nm,1.0s
ORV Oroville 55.82 60 P **P** **00 07 59.1 -1.6**
ORV IAmb IAmb 00 08 16.4
comp=Z,10nm,1.0s
PLVO Plevna 55.93 19 IAmb IAmb 00 08 12.5
comp=Z,14nm,1.0s
G57A Newington 56.00 18 P **P** **00 08 02.0 +0.2**
baz=355
G58A Ormstown 56.01 17 P **P** **00 08 02.7 +0.8**
baz=355,SNR=7.1
RWWY Rawlins 56.01 46 IAmb IAmb 00 08 14.1
comp=Z,18nm,1.3s
G61A Store-de- 56.02 15 P **P** **00 08 02.5 +0.5**
baz=356
PAHR Pah Rah Range 56.03 58 P **P** **00 07 59.3 -3.1**
PAHR IAmb IAmb 00 08 14.4
comp=Z,11nm,1.0s
SADO Sadowa 56.06 21 IAmb IAmb 00 08 13.8
comp=Z,16nm,1.2s
G59A Clarenceville 56.13 16 P **P** **00 08 03.3 +0.5**
baz=356
G62A West of Eustis 56.13 14 P **P** **00 08 03.9 +1.0**
baz=356
PKME Peaks-Kenny Pk 56.14 13 P **P** **00 08 03.6 +0.7**
baz=356
PKME Peaks-Kenny Pk 56.14 13 P **P** **00 08 03.4 +0.5**
PKME IAmb IAmb 00 08 14.3
comp=Z,9.9nm,1.1s
G60A Masonville 56.16 15 P **P** **00 08 04.1 +1.0**
baz=356
G64A Maxfield 56.17 12 P **P** **00 08 04.2 +1.1**
baz=356
G63A Kingsbury 56.27 13 P **P** **00 08 04.7 +0.8**
baz=356
I48A Sherman Twp 56.27 25 P **P** **00 08 03.9 0.0**
baz=353
G65A Princeton 56.28 11 P **P** **00 08 03.9 +0.1**
baz=357
H53A Bobcaygeon 56.29 21 P **P** **00 08 04.1 +0.1**
baz=354
GGN Saint George 56.39 11 P **P** **00 08 05.9 +1.3**
H55A Tweed 56.41 20 P **P** **00 08 05.3 +0.5**
baz=355
H56A Elgin 56.43 19 P **P** **00 08 05.6 +0.6**
baz=355
JLU Jordanelle 56.44 50 P **P** **00 08 05.4 0.0**
AFDM Forest Hills D 56.50 59 P **P** **00 08 06.2 +0.6**
AFDM IAmb IAmb 00 08 22.2
comp=Z,11nm,1.1s
LONY Lake Ozonia 56.51 17 P **P** **00 08 06.1 +0.6**
baz=355
LONY Lake Ozonia 56.51 17 IAmb IAmb 00 08 17.6
comp=Z,17nm,1.2s
CSS Mathiatis 56.52 280 P **P** **00 08 05.6 -0.1**
CSS IAmb IAmb 00 08 08.1
comp=Z,11nm,1.0s
VSL Villasalto 56.52 304 P **P** **00 08 05.2 -0.5**
VSL IAmb IAmb 00 08 07.2
comp=Z,14nm,1.1s
H59A Cadyville 56.53 17 P **P** **00 08 06.1 +0.4**
baz=355
ITM Ithomi 56.56 292 P **P** **00 08 05.5 -0.5**
ITM IAmb IAmb 00 08 06.9
comp=Z,16nm,1.0s
H57A Richville 56.61 18 P **P** **00 08 06.7 +0.5**
baz=355,SNR=5.6
DUG Dugway, Tooele 56.63 52 P **P** **00 08 07.4 +0.7**
baz=348
DUG Dugway, Tooele 56.63 52 P **P** **00 08 07.4 +0.7**
DUG pmax pmax
comp=Z,6.0nm,1.0s
DUG Dugway, Tooele 56.63 52 P **P** **00 08 07.4 +0.7**
DUG IAmb IAmb 00 08 22.4
comp=Z,6.1nm,1.0s
PHWY Pilot Hill 56.64 45 P **P** **00 08 07.0 +0.1**
H60A Morristown 56.67 16 P **P** **00 08 07.1 +0.3**
baz=356
H66A Whiting 56.70 11 P **P** **00 08 07.3 +0.4**
baz=357
I55A Frankford 56.71 20 P **P** **00 08 07.1 +0.2**
baz=354,SNR=5.3
H58A Gabriels 56.73 17 P **P** **00 08 07.1 -0.1**
baz=355
H61A Lyndonville 56.74 15 P **P** **00 08 07.8 +0.6**
baz=356
YERR Yerington 56.76 58 P **P** **00 08 07.8 +0.1**
YERR IAmb IAmb 00 08 21.7
comp=Z,12nm,0.8s
H64A Troy 56.77 13 P **P** **00 08 08.7 +1.3**
baz=356
VT1 Waterbury 56.90 16 P **P** **00 08 08.8 +0.5**
VT1 IAmb IAmb 00 08 20.5
comp=Z,15nm,1.2s
N23A Red Feather La 56.97 45 P **P** **00 08 09.2 0.0**
baz=349
LBNH Lisbon 57.03 15 P **P** **00 08 10.2 +0.9**
baz=356
LBNH Lisbon 57.03 15 IAmb IAmb 00 08 21.2
comp=Z,12nm,1.0s
I57A Carthage 57.12 18 P **P** **00 08 10.3 +0.4**
baz=355,SNR=6.3
NCB Newcomb 57.17 17 IAmb IAmb 00 08 21.9
comp=Z,9.2nm,1.0s
I61A Oroboro, Fairl 57.33 15 P **P** **00 08 12.3 +1.0**
baz=356
I60A Shoreham 57.35 16 P **P** **00 08 12.4 +0.9**
baz=356
O20A White River Ci 57.38 47 P **P** **00 08 12.3 +0.2**
baz=349
I58A Old Forge 57.41 18 P **P** **00 08 12.9 +0.9**
baz=355,SNR=6.6
CORL Corleone 57.41 300 P **P** **00 08 11.7 -0.4**
CORL IAmb IAmb 00 08 16.8
comp=Z,14nm,1.2s
I62A Tamworth 57.43 15 P **P** **00 08 13.0 +1.0**
baz=356
NVAR Mina Array Bea 57.46 57 P **P** **00 08 14.3 +1.7**
comp=Z,2.3nm,0.7s,baz=319,slow=4.9,SNR=9.8
I64A Boothbay 57.47 13 P **P** **00 08 14.0 +1.7**
baz=356
NV11 Mina Array Sit 57.48 57 P **P** **00 08 13.0 +0.3**
J57A Williamstown 57.62 19 P **P** **00 08 13.7 +0.3**
baz=355,SNR=8.1
J55A Hilton 57.65 20 P **P** **00 08 14.0 +0.4**
baz=354
J55A Hilton 57.65 20 P **P** **00 08 12.8 -0.8**
J55A IAmb IAmb 00 08 24.8
comp=Z,12nm,0.9s
L40A Anamosa 57.66 32 IAmb IAmb 00 08 13.1
comp=Z,11nm,0.9s
J59A Piesco 57.66 17 P **P** **00 08 14.7 +0.9**
baz=355
J56A Wolcott 57.70 19 P **P** **00 08 13.9 0.0**
baz=355
J58A Remsen 57.72 18 P **P** **00 08 14.6 +0.5**
baz=355
J58A Remsen 57.72 18 P **P** **00 08 15.3 +1.1**
J58A IAmb IAmb 00 08 25.4
comp=Z,9.5nm,1.0s
CLTB Caltabellotta 57.74 300 P **P** **00 08 13.3 -1.1**
CLTB IAmb IAmb 00 08 16.0
comp=Z,16nm,1.4s
L42A Oliver, Polo 57.88 31 P **P** **00 08 13.1 -2.1**
L42A IAmb IAmb 00 08 14.9
comp=Z,11nm,1.0s
L44A Lake County Fo 57.88 29 P **P** **00 08 15.5 +0.2**
baz=352
J60A Lant Hill Farm 57.95 17 P **P** **00 08 15.3 -0.4**
baz=356
R11A Troy Canyon, C 57.99 55 P **P** **00 08 16.1 -0.2**
baz=348,SNR=9.2
R11A Troy Canyon, C 57.99 55 P **P** **00 08 16.1 -0.2**
R11A IAmb IAmb 00 08 29.0
comp=Z,20nm,1.4s
MMAI Mount Meron Ar 57.99 278 LR LR 00 37 58.8
comp=Z,70nm,18.2s,baz=5.0,slow=41
J63A Strafford 58.04 15 P **P** **00 08 17.4 +1.1**
baz=356
J62A Henniker 58.05 15 P **P** **00 08 17.0 +0.5**
baz=356
PSUT Pine Spring 58.09 53 P **P** **00 08 17.5 +0.4**
ISCO Idaho Springs 58.09 45 P **P** **00 08 17.8 +0.6**
baz=349
ISCO Idaho Springs 58.09 45 IAmb IAmb 00 08 29.8
comp=Z,11nm,1.5s
MDPB Devils Postpil 58.11 58 P **P** **00 08 17.7 +0.4**
MDPB IAmb IAmb 00 08 26.2
comp=Z,9.0nm,0.9s
Q16A Castle Valley 58.13 50 P **P** **00 08 16.7 -0.6**
OMMB Old Mammoth Mi 58.14 58 P **P** **00 08 18.1 +0.5**
K56A Middlesex 58.24 20 P **P** **00 08 18.0 +0.1**
baz=355
K57A Scipio Center 58.27 19 P **P** **00 08 18.1 +0.2**
baz=355
K59A Cooperstown 58.33 18 P **P** **00 08 19.1 +0.7**
baz=355
MSU Marysvale 58.38 51 P **P** **00 08 19.6 +0.5**
MSU Marysvale 58.38 51 P **P** **00 08 19.6 +0.5**
ESDC Sonseca Array 58.39 316 P **P** **00 08 19.3 +0.3**
comp=Z,2.6nm,1.2s,baz=2.7,slow=7.3,SNR=11
ESDC LR LR 00 37 12.2
comp=Z,29nm,19.5s,baz=185,slow=40
ESDC Sonseca Array 58.39 316 P **P** **00 08 19.1 +0.1**
K61A Williamstown 58.53 16 P **P** **00 08 20.9 +1.1**
baz=356
PAB San Pablo 58.57 316 P **P** **00 08 20.8 +0.5**
PAB pmax pmax
comp=Z,12nm,1.4s
PAB San Pablo 58.57 316 P **P** **00 08 20.8 +0.5**
PAB IAmb IAmb 00 08 22.0
comp=Z,12nm,1.4s
K62A Royalston 58.59 16 P **P** **00 08 21.3 +1.1**
baz=356
L55A Hinsdale 58.68 21 P **P** **00 08 20.8 -0.1**
baz=354
L53A Girard 58.77 23 P **P** **00 08 21.5 -0.1**
baz=354
L61B Northampton 58.78 16 P **P** **00 08 21.7 +0.2**
baz=356
HRV Adam Dziewonsk 58.78 15 P **P** **00 08 21.8 +0.2**
baz=356
PV21 Cone Mtn., Par 58.82 48 P **P** **00 08 21.4 -0.8**
BINY Binghamton 58.83 19 P **P** **00 08 22.6 +0.7**
baz=355
MTPU Mount Pierson 58.84 52 P **P** **00 08 23.9 +1.4**
PV09 Paradox Valley 58.85 49 P **P** **00 08 22.4 -0.1**
PV22 Blue Mesa, Par 58.87 48 P **P** **00 08 24.0 +1.5**
L59A Walton 58.90 18 P **P** **00 08 22.8 +0.4**
baz=355
L59A Walton 58.90 18 IAmb IAmb 00 08 36.5
comp=Z,13nm,1.2s
WES Weston 58.91 15 P **P** **00 08 23.0 +0.6**
WES pmax pmax
comp=Z,13nm,1.3s
WES Weston 58.91 15 P **P** **00 08 23.0 +0.6**
WES IAmb IAmb 00 08 34.3
comp=Z,13nm,1.3s
PV23 Carpenter Ridg 58.92 49 P **P** **00 08 23.3 +0.4**
PV23 IAmb IAmb 00 08 34.2
comp=Z,16nm,1.3s
QUA2 Belchertown 58.97 16 P **P** **00 08 23.7 +0.8**
L57A Andrews Acres 58.97 20 P **P** **00 08 23.1 +0.1**
baz=355
Q24A Divide 58.98 45 P **P** **00 08 23.7 +0.3**
L61A Hillsdale 1, H 58.98 17 P **P** **00 08 23.1 +0.1**
baz=356
PV07 Paradox Valley 58.99 48 P **P** **00 08 22.5 -0.8**
L58A Harry Jones Me 58.99 19 P **P** **00 08 23.6 +0.6**
baz=355
PV04 Paradox Valley 58.99 48 IAmb IAmb 00 08 34.7
comp=Z,8.6nm,1.1s
PV14 Lion Creek, Pa 59.09 49 P **P** **00 08 24.7 +1.3**
PV11 David Mesa, Pa 59.09 48 P **P** **00 08 24.9 +0.9**
PV11 IAmb IAmb 00 08 36.1
comp=Z,15nm,1.2s
PV17 East Wray Mesa 59.10 49 P **P** **00 08 25.3 +1.2**
PV17 IAmb IAmb 00 08 40.8
comp=Z,10nm,0.9s
M52A Chesterland 59.10 24 P **P** **00 08 23.7 -0.1**
baz=354
PV15 Paradox Valley 59.11 48 P **P** **00 08 24.0 -0.2**
CCUT Cedar City 59.13 53 P **P** **00 08 25.2 +0.8**
PV03 Paradox Valley 59.14 48 IAmb IAmb 00 08 36.4
comp=Z,17nm,1.5s
L60A Shokan 59.15 17 P **P** **00 08 24.3 +0.2**
baz=355
PV02 Paradox Valley 59.20 48 IAmb IAmb 00 08 36.8
comp=Z,14nm,1.1s
PV13 Radium Mtn., P 59.23 48 IAmb IAmb 00 08 37.1
comp=Z,13nm,0.9s
M54A Oil Creek Stat 59.26 22 P **P** **00 08 24.3 -0.6**
M54A IAmb IAmb 00 08 25.6
comp=Z,8.8nm,1.1s
PV05 Paradox Valley 59.27 49 IAmb IAmb 00 08 41.0
comp=Z,7.2nm,1.0s
KSCO Kaye Shedlock' 59.28 43 P **P** **00 08 25.3 +0.1**
baz=350
PV01 Paradox Valley 59.30 48 P **P** **00 08 25.4 -0.1**
M55A Ridgway 59.37 21 P **P** **00 08 25.5 -0.2**
baz=354
M56A Emporium 59.39 21 P **P** **00 08 26.0 +0.1**

baz=355
CWC Cottonwood Cre 59.44 57 P P 00 08 27.1 +0.7
baz=348
N49A Columbus Grove 59.47 26 P P 00 08 24.1 -2.3
N49A IAmb IAmb 00 08 36.3
comp=Z,8.5nm,1.0s
M57A Sunshine Farm, 59.61 20 P P 00 08 27.2 -0.1
baz=355
M58A Price's Panora 59.62 19 P P 00 08 27.5 +0.1
baz=355
LCMT Little Creek M 59.67 53 P P 00 08 27.7 -0.3
N54A Moraine State 59.78 22 P P 00 08 28.4 -0.2
baz=354
M60A Port Jervis 59.78 18 P P 00 08 28.3 -0.2
baz=355
SHPR Sheep Range 59.86 55 P P 00 08 29.1 -0.2
SHPR IAmb IAmb 00 08 41.3
comp=Z,9.0nm,1.4s
MPMC Manual Prospec 59.91 57 P P 00 08 30.6 +0.9
baz=348,SNR=6.4
S22A 4UR Ranch, Cre 59.93 47 P P 00 08 30.4 +0.5
baz=349,SNR=7.6
S22A 4UR Ranch, Cre 59.93 47 P P 00 08 30.6 +0.6
S22A IAmb IAmb 00 08 42.5
comp=Z,11nm,1.2s
N56A West Decatur 59.95 21 P P 00 08 29.7 +0.1
baz=355
KSU1 Kansas State U 59.97 37 P P 00 08 29.1 -0.7
baz=351
N55A Marion Center 60.03 22 P P 00 08 29.7 -0.6
baz=354
P40A Paris 60.07 33 IAmb IAmb 00 08 30.3
comp=Z,11nm,0.9s
N59A State Game Lan 60.12 19 P P 00 08 31.0 +0.2
baz=355
N59A State Game Lan 60.12 19 P P 00 08 30.6 -0.3
N59A IAmb IAmb 00 08 42.5
comp=Z,9.9nm,0.9s
SDCO Great Sand Dun 60.13 46 P P 00 08 31.3 +0.1
SDCO IAmb IAmb 00 08 43.2
comp=Z,16nm,1.4s
N58A Sunbury 60.13 20 P P 00 08 31.6 +0.6
baz=355
N58A Sunbury 60.13 20 P P 00 08 32.8 +1.9
N58A IAmb IAmb 00 08 41.5
comp=Z,11nm,1.1s
N57A Milroy 60.16 20 P P 00 08 31.4 +0.3
baz=355
KEST Kesra 60.20 303 P P 00 08 32.2 +0.7
comp=Z,8.1nm,1.0s,baz=333,slow=2.2,SNR=8.7
KEST Kesra 60.20 303 P P 00 08 32.2 +0.7
KEST IAmb IAmb 00 08 33.6
comp=Z,12nm,0.9s
MVCO Mesa Verde 60.21 48 P P 00 08 32.6 +0.8
baz=349
MVCO Mesa Verde 60.21 48 P P 00 08 31.8 -0.1
MVCO IAmb IAmb 00 08 45.0
comp=Z,13nm,1.1s
R32A Long Quarter, 60.38 39 P P 00 08 30.1 -2.6
O53A New Philadelph 60.39 24 P P 00 08 32.5 -0.2
baz=354
O59A Robesonia 60.70 19 P P 00 08 34.8 0.0
baz=355
O57A Amberson 60.70 20 P P 00 08 34.9 +0.1
baz=355
O58A Lewisberry 60.83 20 P P 00 08 35.2 -0.6
baz=355
P51A Williamsport 61.00 25 IAmb IAmb 00 08 46.2
comp=Z,10nm,1.0s
P53A Whipple 61.13 24 P P 00 08 37.0 -0.7
baz=354
R40A Maddies Statio 61.27 34 IAmb IAmb 00 08 37.6
comp=Z,7.4nm,0.8s
P56A Dayton Farm, R 61.31 22 P P 00 08 38.8 -0.2
baz=354
EIL Elat 61.33 277 LR LR 00 37 33.7
comp=Z,75nm,19.9s,baz=25,slow=38
P59A Jarrettsville 61.38 19 P P 00 08 39.6 +0.2
baz=355
P57A Homestead Farm 61.40 21 P P 00 08 39.5 0.0
baz=355
WUAZ Wupatki 61.43 51 P P 00 08 39.6 -0.4
baz=349
WUAZ Wupatki 61.43 51 P P 00 08 39.1 -0.9
WUAZ IAmb IAmb 00 08 51.7
comp=Z,7.1nm,1.0s
W13A Hualapai Mount 61.44 54 P P 00 08 40.4 +0.2
W13A IAmb IAmb 00 08 52.5
comp=Z,15nm,1.5s
CMAR Chiang Mai Arr 61.46 209 P P 00 08 39.9 -0.3
comp=Z,1.6nm,0.9s,baz=351,slow=9.8,SNR=6.9
CMAR LR LR 00 38 11.8
comp=Z,108nm,19.1s,baz=59,slow=39
GMRC Granite Mounta 61.46 55 P P 00 08 41.5 +1.3
baz=348
CCM Cathedral Cave 61.62 33 P P 00 08 39.1 -2.0
baz=352
CCM Cathedral Cave 61.62 33 P P 00 08 39.6 -1.5
CCM pmax pmax
comp=Z,11nm,0.9s
CCM Cathedral Cave 61.62 33 P P 00 08 39.6 -1.5
CCM IAmb IAmb 00 08 40.6
comp=Z,11nm,0.9s
BFSC Mount Baldy Ra 61.66 57 P P 00 08 41.4 -0.1
baz=348
UOSS Minazif 61.69 255 P P 00 08 41.0 -0.7
UOSS IAmb IAmb 00 08 42.6
comp=Z,10.0nm,0.8s
S39A Bolivar 61.75 35 P P 00 08 40.7 -1.2
S39A IAmb IAmb 00 08 51.7
comp=Z,10nm,1.1s
WCI Wyandotte Cave 61.95 28 P P 00 08 42.7 -0.6
baz=353
Q58A Fox Den Farm, 61.96 21 P P 00 08 43.0 -0.3
baz=355
W18A Petrified Fore 62.08 50 P P 00 08 45.3 +0.9
baz=349,SNR=7.1
BELC Belle Mtn. Jos 62.17 56 P P 00 08 45.6 +0.6
baz=348
PDMCI Parker Dam,Lak 62.18 54 P P 00 08 45.9 +1.0
baz=349
R53A Hurricane 62.24 24 P P 00 08 44.7 -0.5
R57A Stanardsville 62.54 21 P P 00 08 46.9 -0.3
baz=355
R58A Rapidan 62.57 21 P P 00 08 48.1 +0.6
baz=355
T42A Van Buren 62.65 33 IAmb IAmb 00 08 57.2
comp=Z,7.0nm,1.1s
ANMO Albuquerque 62.74 47 P P 00 08 49.0 +0.1
baz=350
ANMO Albuquerque 62.74 47 *i* P **P 00 08 49.1 +0.3**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO Albuquerque 62.74 47 P P 00 08 49.0 +0.1
ANMO IAmb IAmb 00 09 00.5
comp=Z,9.9nm,1.1s
WSAR Wadi Sarin 62.89 252 LR LR 00 41 38.5
comp=Z,84nm,18.1s,baz=50,slow=41
TUL1 Leonard 63.22 37 P P 00 08 51.2 -0.6
baz=351
TUL1 Leonard 63.22 37 P P 00 08 51.0 -0.8
T50A Nancy 63.28 27 P P 00 08 51.0 -1.2
T50A IAmb IAmb 00 09 01.9
comp=Z,8.8nm,1.1s
T53A Wise 63.53 25 P P 00 08 52.6 -1.3
baz=354
TZTN Tazewell 63.87 26 P P 00 08 54.9 -1.2
baz=354
WMOK Wichita Mounta 64.00 40 P P 00 08 57.0 0.0
baz=351,SNR=15
CLTN Cedars of Leba 64.06 29 P P 00 08 57.2 -0.2
CLTN IAmb IAmb 00 09 07.6
comp=Z,10.0nm,1.1s
U55A TA2, Sparta 64.13 24 P P 00 08 57.5 -0.3
baz=354
W39A Magazine 64.16 35 P P 00 08 57.6 -0.4
baz=352
MSTX Muleshoe 64.22 44 P P 00 08 57.7 -0.9
baz=350
W41B Gary Mavity, V 64.36 34 P P 00 08 58.1 -1.2
baz=352,SNR=5.6
U58A Oxford 64.43 22 P P 00 08 59.4 -0.3
baz=355
TUC Tucson 64.67 51 P P 00 09 01.5 0.0
baz=349
TUC Tucson 64.67 51 P P 00 09 02.1 +0.7
TUC pmax pmax
comp=Z,8.0nm,1.3s
TUC Tucson 64.67 51 P P 00 09 02.1 +0.7
TUC IAmb IAmb 00 09 13.6
comp=Z,8.1nm,1.2s
214A Organ Pipe Nat 64.69 53 P P 00 09 01.3 -0.3
baz=349
V55A Taylorsville 64.76 24 P P 00 09 01.4 -0.5
baz=354
V56A Mocksville 64.86 23 P P 00 09 02.0 -0.5
baz=354
X40A Basin Creek Fa 64.97 35 P P 00 09 02.3 -1.0
baz=352
X40A Basin Creek Fa 64.97 35 IAmb IAmb 00 09 03.6
comp=Z,7.2nm,0.9s
PLAL Pickwick Lake 64.99 30 IAmb IAmb 00 09 13.3
comp=Z,9.8nm,1.1s
V59A Middlesex 65.08 21 P P 00 09 03.2 -0.7
baz=355
OXF Oxford 65.32 32 P P 00 09 04.4 -1.2
baz=353
W54A Cherokee Point 65.44 25 P P 00 09 05.9 -0.4
baz=354
KMSC Kings Mountain 65.45 24 P P 00 09 05.2 -1.2
baz=354
KMSC Kings Mountain 65.45 24 IAmb IAmb 00 09 06.1
comp=Z,7.4nm,0.9s
ABTX Abilene, Hawle 65.97 41 P P 00 09 09.3 -0.5
baz=351
MNTX Cornudas Mount 66.08 47 P P 00 09 10.5 0.0
baz=350,SNR=5.2
MNTX Cornudas Mount 66.08 47 IAmb IAmb 00 09 22.0
comp=Z,10.0nm,1.2s
Y49A Blount Mountai 66.27 29 P P 00 09 11.5 -0.2
Y49A IAmb IAmb 00 09 21.1
comp=Z,9.5nm,1.1s
Z47A Carrollton 66.76 31 P P 00 09 13.3 -1.5
Y58A Scranton 66.81 23 P P 00 09 14.8 -0.3
baz=355
WHTX Lake Whitney, 66.88 39 P 00 09 15.4 -0.2
GOGA Godfrey 66.99 26 P P 00 09 15.9 -0.3
baz=354
LRAL Lakeview Retre 67.03 30 P P 00 09 16.0 -0.6
baz=353
JCT Junction City 68.06 42 P P 00 09 22.8 -0.3
baz=351
JCT Junction City 68.06 42 P P 00 09 23.2 +0.1
JCT pmax pmax
comp=Z,28nm,1.1s
JCT Junction City 68.06 42 P P 00 09 23.2 +0.1
TXAR Lajitas Array 68.65 45 P P 00 09 27.1 +0.2
comp=Z,9.4nm,0.8s,baz=360,slow=3.9,SNR=49
TAM Tamanrasset 73.49 304 P P 00 09 57.2 +0.8
TAM pmax pmax
comp=Z,7.0nm,1.5s
TAM Tamanrasset 73.49 304 P P 00 09 57.2 +0.8
TORD Torodi Ar. Bea 83.57 306 P P 00 10 51.5 -0.3
comp=Z,9.2nm,0.7s,baz=3.1,slow=5.6,SNR=53
TORD Torodi Ar. Bea 83.57 306 P P 00 10 51.5 -0.3
SKI Saint Kitts 84.20 8 P P 00 10 54.1 -1.0
SKI Saint Kitts 84.20 8 P P 00 10 54.1 -1.0
KMBO Kilima Mbogo 90.81 268 LR LR 00 55 16.6
comp=Z,57nm,18.5s,baz=90,slow=38
WRA Warramunga Arr 98.39 172 P P 00 12 00.8 -0.6
comp=Z,0.8nm,0.7s,baz=356,slow=4.9,SNR=6.9
WRA Warramunga Arr 98.39 172 *i* P Pdif 00 12 02.5 +1.1
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 98.39 172 IAmb IAmb 00 12 02.5
comp=Z,0.5nm,1.5s
PLCA Paso Flores 141.52 20 PKP PKPdf 00 17 55.3 +1.4
comp=Z,2.7nm,0.9s,baz=270,slow=5.1,SNR=3.7
CASY Casey 144.87 191 PKPbc 00 17 58.4 +0.3
SNAA Sanae 165.70 271 PKIKP PKPdf 00 18 25.9 -0.6
SNAA Sanae 165.70 271 PKPdf 00 18 25.9 -0.6

IDC ***23*** *00:27:51.1±0.6,38.°38N×70.°47E,h0km,mb4.3/25, mb1 4.4/32,mb1mx4.3/48,mbtmp4.3/32,ML3.5/7,MS3.5/2, Ms1 3.5/2,ms1mx2.8/41,Error ellipse: s-maj=13.8km s-min=10.1km az=165.0*
NNC ***23*** *00:27:51.3±2.2,38.°42N×69.°88E,h0km,mb4.7,mpv4.5, Error ellipse: s-maj=21.7km s-min=11.5km az=162.0*
MOS ***23*** *00:27:53.5±0.9,38.°45N×70.°39E,h25km,mb4.7/41,Error ellipse: s-maj=4.9km s-min=3.4km az=79.2*
BJI ***23*** *00:27:53.9±0.0,38.°67N×70.°46E,h20km,mB4.7/23, mb4.6/35,ML4.4/1,Ms4.0/12,Ms7 3.8/12*
NEIC ***23*** *00:27:54.4±1.5,38.°46N±0.°04×70.°33E±0.°08,h21km±4km, mb4.5/90,Error ellipse: s-maj=8.6km s-min=5.4km az=97.0*

ISC 23 00:27:54.6±0.3,38.°48N±0.°03×70.°32E±0.°03,h23km,n387,
σ2ᵠ07/413,mb4.5/112,MS3.5/4,31C-27D,
Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**0.52**	**0**		**Pb**	**00 28 02.8**	**-2.5**
CHGR	**Chuyangaron**	**0.93**	**282**		**Pb**	**00 28 11.7**	**-0.4**
BTK	**Batken**	**1.63**	**14**	PN	**Pn**	**00 28 22.5**	**+0.6**
BTK	**Batken**	**1.63**	**14**		**Pn**	**00 28 22.5**	**+0.6**
TAS	**Tashkent**	**2.95**	**345**	PN	**Pn**	**00 28 41.2**	**+1.1**
TAS	**Tashkent**	**2.95**	**345**	Pn	**Pn**	**00 28 41.2**	**+1.1**
ARSB	**Arslanbob**	**3.51**	**35**	PN	**Pn**	**00 28 48.6**	**+0.8**
ARSB	**Arslanbob**	**3.51**	**35**	Pn	**Pn**	**00 28 48.6**	**+0.8**
IUG	**Iuzhnay**	**3.67**	**357**	*e*P	**Pn**	**00 28 52.4**	**+2.3**
	baz=356						
IUG	**Iuzhnay**	**3.67**	**357**	*e*PN	**Pn**	**00 28 52.3**	**+2.3**
KBL	**Kabul**	**4.06**	**195**	PN	**Pn**	**00 28 57.9**	**+2.4**
KBL	**Kabul**	**4.06**	**195**	Pn	**Pn**	**00 28 57.9**	**+2.4**
AML	**Almayashu**	**4.47**	**34**	P	**Pn**	**00 29 03.4**	**+2.1**
SNR=40							
DZA	**Taraz**	**4.48**	**10**	*e*P	**Pn**	**00 29 03.8**	**+2.7**
65nm,0.9s,baz=9.2							
DZA	**Taraz**	**4.48**	**10**	*e*PN	**Pn**	**00 29 03.8**	**+2.7**
DZA				pmax	pmax		
comp=Z,65nm,0.9s							
KSH	**Kashi**	**4.53**	**75**	Pn	**Pn**	**00 28 59.4**	**-2.5**
KSH				Sn	**Sn**	**00 29 50.3**	**-3.6**
KSH				smax	smax		
comp=N,1μm,0.7s							
KSH				smax	smax		
comp=E,960nm,1.0s							
KK31	**Karatay Array**	**4.62**	**2**	P	**Pn**	**00 29 05.6**	**+2.5**
comp=E,19nm,0.3s,baz=197,slow=15,SNR=451							
KK31				⇑S	**Sn**	**00 30 00.2**	**+4.2**
comp=E,47nm,0.5s,baz=191,slow=30							
KK31	**Karatay Array**	**4.62**	**2**	*i* PN	**Pn**	**00 29 05.6**	**+2.5**
KK31						00 30 00.2	
KK31	**Karatay Array**	**4.62**	**2**	Pn	**Pn**	**00 29 05.5**	**+2.4**
KKAR	**Karatay Array**	**4.62**	**2**	PN	**Pn**	**00 29 05.2**	**+2.1**
KKAR	**Karatay Array**	**4.62**	**2**	Pn	**Pn**	**00 29 05.3**	**+2.3**
KKAR	**Karatay Array**	**4.62**	**2**		**Pn**	**00 29 05.2**	**+2.1**
CEP	**Cherat**	**4.82**	**164**	P	**Pn**	**00 29 09.5**	**+3.6**
CEP				S	**Sn**	**00 30 08.0**	**+7.0**
UCH	**Uchtor**	**4.93**	**39**	P	**Pn**	**00 29 09.7**	**+2.0**
SNR=48							
EKS2	**Erkin-Say**	**4.94**	**31**	P	**Pn**	**00 29 11.2**	**+3.6**
SNR=8.3							
KZA	**Kyzart**	**5.21**	**45**	P	**Pn**	**00 29 13.5**	**+2.0**
SNR=39							
AAK	**Ala-Archa**	**5.24**	**36**	Pn	**Pn**	**00 29 13.6**	**+2.1**
comp=E,4.9nm,0.3s,baz=209,slow=7.0,SNR=30							
AAK				Sn	**Sn**	**00 30 14.5**	**+3.2**
comp=E,4.2nm,0.3s,baz=139,slow=19,SNR=1.2							
AAK				Lg	Lg	00 30 35.8	
comp=E,1.9nm,0.3s,baz=156,slow=20,SNR=2.1							
AAK	**Ala-Archa**	**5.24**	**36**	P	**Pn**	**00 29 13.8**	**+2.2**
SNR=21							
AAK	**Ala-Archa**	**5.24**	**36**	⇑P	**Pn**	**00 29 13.7**	**+2.1**
comp=E,40nm,0.5s							
AAK				⇑S	**Sn**	**00 30 18.8**	**+7.5**
comp=E,173nm,0.8s							
AAK	**Ala-Archa**	**5.24**	**36**	PN	**Pn**	**00 29 13.7**	**+2.1**
AAK				S	**Sn**	**00 30 18.8**	**+7.5**
AAK	**Ala-Archa**	**5.24**	**36**	Pn	**Pn**	**00 29 12.6**	**+1.0**
CHCP	**Chirah Chowk**	**5.37**	**153**	P	**Pn**	**00 29 17.3**	**+4.0**
NIL	**Nilore**	**5.37**	**153**	PN	**Pn**	**00 29 14.2**	**+0.8**
NIL	**Nilore**	**5.37**	**153**	Pn	**Pn**	**00 29 14.2**	**+0.8**
FRU1	**Bishkek**	**5.43**	**36**	PN	**Pn**	**00 29 14.5**	**+0.3**
FRU1	**Bishkek**	**5.43**	**36**		**Pn**	**00 29 14.5**	**+0.3**
KBK	**Karagaybulak**	**5.46**	**39**	P	**Pn**	**00 29 17.5**	**+2.7**
SNR=27							
CHMS	**Chumysh**	**5.63**	**35**	P	**Pn**	**00 29 19.0**	**+2.0**
SNR=31							
USP	**Ospenovka**	**5.74**	**32**	P	**Pn**	**00 29 20.4**	**+2.0**
SNR=8.2							
THW	**Thamme Wali**	**5.79**	**168**	P	**Pn**	**00 29 23.7**	**+4.6**
BOOM	**Boomskoye usch**	**5.87**	**45**	PN	**Pn**	**00 29 21.3**	**+1.0**
BOOM	**Boomskoye usch**	**5.87**	**45**	Pn	**Pn**	**00 29 21.3**	**+1.0**
ULHL	**Ulahol**	**5.89**	**48**	P	**Pn**	**00 29 21.8**	**+1.2**
SNR=23							
SGDS	**Sogindy**	**5.95**	**32**	*e*P	**Pn**	**00 29 22.3**	**+1.0**
baz=31							
SGDS				*e*S	**Sn**	**00 30 31.5**	**+2.7**
baz=31							
SGDS	**Sogindy**	**5.95**	**32**	*e*PN	**Pn**	**00 29 22.2**	**+1.0**
SGDS				*e*S	**Sn**	**00 30 31.4**	**+2.7**
TKM2	**Tokmak 2**	**5.98**	**40**	P	**Pn**	**00 29 23.5**	**+1.6**
SNR=35							
TKM2	**Tokmak 2**	**5.98**	**40**	⇑P	**Pn**	**00 29 23.7**	**+1.8**
comp=E,36nm,0.5s							
TKM2				⇓S	**Sn**	**00 30 36.6**	**+6.8**
comp=E,38nm,0.7s							
TKM2	**Tokmak 2**	**5.98**	**40**	PN	**Pn**	**00 29 23.7**	**+1.8**
TKM2				S	**Sn**	**00 30 36.6**	**+6.8**
MTBS	**Maitube**	**6.56**	**43**	*e*P	**Pn**	**00 29 31.0**	**+1.2**
baz=42							
MTBS	**Maitube**	**6.56**	**43**	*e*PN	**Pn**	**00 29 31.0**	**+1.2**
TARG	**Taragay, Kyrgy**	**6.60**	**58**	Pn	**Pn**	**00 29 30.4**	**-0.2**
TNSS	**Tian-Shan**	**6.79**	**46**	*e*P	**Pn**	**00 29 34.7**	**+1.6**
baz=45							
TNSS	**Tian-Shan**	**6.79**	**46**	*e*PN	**Pn**	**00 29 34.7**	**+1.6**
AAA	**Alma-Ata**	**6.88**	**45**	*e*P	**Pn**	**00 29 35.1**	**+1.0**
baz=44							
AAA	**Alma-Ata**	**6.88**	**45**	*e*PN	**Pn**	**00 29 35.1**	**+1.0**
MDOK	**Medeo**	**6.93**	**45**	*e*P	**Pn**	**00 29 36.2**	**+1.4**
baz=45							
MDOK	**Medeo**	**6.93**	**45**	P	**Pn**	**00 29 36.8**	**+2.0**
comp=E,20nm,0.6s							
MDOK				S	Sb	00 31 04.6	-12
comp=E,108nm,1.4s							
MDOK	**Medeo**	**6.93**	**45**	PN	**Pn**	**00 29 36.8**	**+2.0**
MDOK				S	Sb	00 31 04.6	-12
KUU	**Kurty**	**7.06**	**38**	*e*P	**Pn**	**00 29 37.3**	**+0.7**
comp=E,2.8nm,0.6s,baz=38							
KUU	**Kurty**	**7.06**	**38**	*e*PN	**Pn**	**00 29 37.2**	**+0.7**
KUU				pmax	pmax		
comp=Z,3.0nm,0.6s							
BTLS	**Baital**	**7.13**	**22**	*e*P	**Pn**	**00 29 39.2**	**+1.8**
comp=Z,1.6nm,1.0s,baz=22							
BTLS	**Baital**	**7.13**	**22**	*e*PN	**Pn**	**00 29 39.2**	**+1.8**
BTLS				pmax	pmax		
comp=Z,2.0nm,1.0s							
CHKK	**Chushkaly**	**7.36**	**41**	*e*P	**Pn**	**00 29 41.4**	**+0.7**
baz=40							
CHKK	**Chushkaly**	**7.36**	**41**	*e*P	**Pn**	**00 29 41.3**	**+0.7**
THN	**Thein Dam**	**7.47**	**142**	*e*P	Pn	00 29 24.5	-18
THN				eS	**Sn**	**00 31 12.5**	**+6.5**
SATY	**Saty**	**7.66**	**51**	*e*P	**Pn**	**00 29 46.3**	**+1.4**
comp=Z,2.0nm,0.7s,baz=50							
SATY	**Saty**	**7.66**	**51**	*e*P	**Pn**	**00 29 46.2**	**+1.4**
SATY				pmax	pmax		
comp=Z,2.0nm,0.7s							
HRA	**Herat**	**7.68**	**240**	Pn	**Pn**	**00 29 45.1**	**-0.2**
KPKS	**Kokpek**	**8.05**	**49**	*e*P	**Pn**	**00 29 51.7**	**+1.5**
comp=Z,12nm,0.7s,baz=49							
KPKS	**Kokpek**	**8.05**	**49**	*e*P	**Pn**	**00 29 51.7**	**+1.5**
KPKS				pmax	pmax		
comp=Z,11nm,0.7s							
UZB	**Uzynbulak**	**8.08**	**52**	*i* P	**Pn**	**00 29 52.3**	**+1.6**
comp=Z,4.8nm,0.7s,baz=52							
UZB	**Uzynbulak**	**8.08**	**52**	*i* P	**Pn**	**00 29 52.3**	**+1.6**
UZB				pmax	pmax		
comp=Z,5.0nm,0.7s							
SHLS	**Shalkode**	**8.36**	**53**	*i* P	**Pn**	**00 29 59.1**	**+4.6**
comp=Z,3.3nm,0.6s,baz=54							
SHLS	**Shalkode**	**8.36**	**53**	*i* P	**Pn**	**00 29 59.0**	**+4.6**
SHLS				pmax	pmax		
comp=Z,3.0nm,0.6s							
PDGK	**Podgornoye**	**8.47**	**52**	⇑P	**Pn**	**00 29 56.7**	**+0.7**
comp=Z,13nm,0.7s							
PDGK				⇓S	Sn	00 31 40.5	+10
comp=Z,49nm,1.1s							
PDGK	**Podgornoye**	**8.47**	**52**	P	**Pn**	**00 29 56.7**	**+0.7**
PDGK				S	Sn	00 31 40.5	+10
SMLA	**Simla**	**9.24**	**140**	*e*P	**Pn**	**00 30 07.1**	**+0.7**
SMLA				*e*S	**Sn**	**00 31 48.9**	**-0.8**
SMLA				IAML		00 31 57.4	
comp=E,94nm,0.6s							
SMLA				IAML		00 31 57.5	
comp=N,153nm,0.5s							
GEYT	**Alibeck**	**9.62**	**271**	Pn	**Pn**	**00 30 08.6**	**-3.0**
comp=N,2.9nm,0.3s,baz=92,slow=11,SNR=21							
GEYT				Sn	**Sn**	**00 31 58.7**	**-0.3**
comp=N,3.0nm,0.3s,baz=93,slow=28,SNR=5.5							
GEYT				Lg	Lg	00 33 03.3	
baz=89,slow=32,SNR=1.6							
GEYT	**Alibeck**	**9.62**	**271**	Pn	**Pn**	**00 30 10.4**	**-1.3**
GYA0	**ALIBECK ARRAY**	**9.62**	**271**	P	**Pn**	**00 30 08.3**	**-3.3**
GYA0B	**ALIBECK ARRAY**	**9.62**	**271**	⇓P	**Pn**	**00 30 08.3**	**-3.4**
GYA0B				⇑S	**Sn**	**00 31 52.4**	**-6.6**
GYA0B	**ALIBECK ARRAY**	**9.62**	**271**	Pn	**Pn**	**00 30 10.6**	**-1.0**
OTUK	**Ortayu**	**9.87**	**8**	⇑P	**Pn**	**00 30 17.0**	**+2.0**
comp=N,5.1nm,0.6s							
OTUK				⇓S	**Sn**	**00 32 10.3**	**+5.1**
comp=N,10nm,0.7s							
OTUK	**Ortayu**	**9.87**	**8**	P	**Pn**	**00 30 17.1**	**+2.0**
OTUK				S	**Sn**	**00 32 10.3**	**+5.1**
MAKZ	**Makanchi**	**11.95**	**42**	P	**Pn**	**00 30 43.9**	**+0.4**
MAKZ	**Makanchi**	**11.95**	**42**		**Pn**	**00 30 43.9**	**+0.4**
MK31	**Makanchi Array**	**12.11**	**43**	P	**Pn**	**00 30 45.8**	**+0.1**
MK31	**Makanchi Array**	**12.11**	**43**		**Pn**	**00 30 45.8**	**+0.1**
MKAR	**Makanchi Array**	**12.11**	**43**	Pn	**Pn**	**00 30 46.5**	**+0.8**
comp=N,0.5nm,0.3s,baz=224,slow=14,SNR=46							
MKAR	**Makanchi Array**	**12.11**	**43**	P	**Pn**	**00 30 45.1**	**-0.5**
MKAR	**Makanchi Array**	**12.11**	**43**		**Pn**	**00 30 45.1**	**-0.5**
AB31	**Akbulak array**	**13.10**	**329**	⇑P	**Pn**	**00 30 58.1**	**-1.1**
comp=N,4.2nm,0.3s,baz=134,slow=12,SNR=625							
AB31				⇑S	**Sn**	**00 33 22.8**	**-1.3**
comp=N,10.0nm,0.5s,baz=146,slow=26,SNR=4.7							
AB31	**Akbulak array**	**13.10**	**329**	P	**Pn**	**00 30 58.1**	**-1.1**
AB31				S	**Sn**	**00 33 22.8**	**-1.3**
ABKAR	**Akbulak array**	**13.10**	**329**		**Pn**	**00 30 57.3**	**-1.9**
ABKAR	**Akbulak array**	**13.10**	**329**		**Pn**	**00 30 58.5**	**-0.7**
KURBB	**Kurchatov Arra**	**13.47**	**23**	Pn	**Pn**	**00 31 00.6**	**-3.5**
comp=N,0.1nm,0.3s,baz=212,slow=13,SNR=4.9							
KURBB				Lg	Lg	00 34 52.8	
baz=217,slow=31,SNR=1.4							
KURBB	**Kurchatov Arra**	**13.47**	**23**	⇑P	**Pn**	**00 31 05.6**	**+1.4**
comp=N,4.6nm,1.0s							
KURBB	**Kurchatov Arra**	**13.47**	**23**	P	**Pn**	**00 31 02.8**	**-1.4**
KURK	**Kurchatov**	**13.58**	**23**	*ce*P	**Pn**	**00 31 06.7**	**+1.0**
KURK				pmax	pmax		
comp=Z,8.0nm,2.5s							
KURK	**Kurchatov**	**13.58**	**23**	Pn	**Pn**	**00 31 04.3**	**-1.4**
SEM	**Semipalatinsk**	**13.86**	**27**	*e*P	**Pn**	**00 31 11.3**	**+1.5**
baz=27							
SEM	**Semipalatinsk**	**13.86**	**27**	*e*P	**Pn**	**00 31 11.2**	**+1.5**
WMQ	**Urumqi**	**14.13**	**62**	*e*P	**Pn**	**00 31 16.6**	**+3.2**
WMQ				pmax	pmax		
comp=Z,17nm,0.9s							
WMQ				pmax	pmax		
comp=Z,89nm,4.3s							
BVA0	**Borovoye Array**	**14.55**	**0**	⇑P	**Pn**	**00 31 20.4**	**+1.4**
comp=Z,5.3nm,0.6s,baz=174,slow=13,SNR=38							
BVA0	**Borovoye Array**	**14.55**	**0**	*i* P	**Pn**	**00 31 20.2**	**+1.2**
BVAR	**Borovoye Array**	**14.55**	**0**	Pn	**Pn**	**00 31 17.0**	**-2.0**
comp=Z,1.2nm,0.3s,baz=168,slow=14,SNR=22							
BVAR				Sn	**Sn**	**00 33 52.4**	**-7.0**
comp=Z,0.2nm,0.3s,baz=174,slow=27,SNR=1.7							
BVAR	**Borovoye Array**	**14.55**	**0**	P	**Pn**	**00 31 17.0**	**-2.0**
BRVK	**Borovoye**	**14.58**	**360**	⇓P	**Pn**	**00 31 19.6**	**+0.2**
comp=Z,8.8nm,0.7s							
BRVK	**Borovoye**	**14.58**	**360**	P	**Pn**	**00 31 19.0**	**-0.4**
BRVK	**Borovoye**	**14.58**	**360**		**Pn**	**00 31 19.0**	**-0.4**
PYUN	**Piuthan**	**14.80**	**131**	*e*P	**Pn**	**00 31 18.4**	**-4.2**
AKTO	**Aktyubinsk**	**14.81**	**328**	Pn	**Pn**	**00 31 20.7**	**-1.8**
comp=Z,0.9nm,0.3s,baz=134,slow=13,SNR=40							
AKTO				Sn	**Sn**	**00 34 01.4**	**-4.3**
comp=Z,0.4nm,0.3s,baz=52,slow=19,SNR=2.6							
AKTO	**Aktyubinsk**	**14.81**	**328**	⇓P	**Pn**	**00 31 18.3**	**-4.2**
comp=Z,31nm,0.8s							
AKTO				⇑S	**Sn**	**00 34 02.3**	**-3.4**
comp=Z,21nm,1.1s							
AKTO	**Aktyubinsk**	**14.81**	**328**	P	**Pn**	**00 31 18.3**	**-4.2**
AKTO				S	**Sn**	**00 34 02.3**	**-3.4**
DANN	**Dangsing**	**15.08**	**128**	*e*P	**Pn**	**00 31 21.6**	**-4.9**
comp=Z,91nm,0.6s							
KOLN	**Koldanda**	**15.40**	**130**	*e*P	**Pn**	**00 31 26.3**	**-4.4**
GKN	**Gorkha**	**15.88**	**127**	*e*P	**Pn**	**00 31 32.7**	**-4.0**

BHPL Bhopal 16.36 156 eP P 00 31 46.4 +0.8
BHPL eS Sn 00 34 36.6 -7.1
DMN Daman 16.45 127 eP Pn 00 31 40.4 -3.7
comp=Z,39nm,0.6s
DGZ Jazzator, Alta 16.60 42 i P P 00 31 47.8 -0.4
DGZ pmax pmax
comp=Z,14nm,0.6s
PKIN Phulchoki 16.65 126 eP Pn 00 31 42.2 -4.6
PKI Pulchoki 16.66 126 eP Pn 00 31 42.3 -4.7
comp=Z,39nm,0.6s
GUN Gumba 16.73 124 eP Pn 00 31 42.7 -5.1
LKRN Lenkeran, Azer 16.84 278 P P 00 31 51.5 +0.8
JIRN Jiri 17.10 124 eP Pn 00 31 48.5 -4.0
AKT Akhty 17.56 287 eP Pn 00 31 58.7 +0.8
AKT pmax pmax
comp=Z,9.0nm,0.6s
MAK Makhachkala 17.85 292 eP Pn 00 31 59.5 -1.8
MAK eS Sn 00 35 18.1 -1.4
MAK pmax pmax
comp=Z,102nm,1.1s
MAK MLR MLR
comp=Z,312nm,15.0s
RAMN Ramite 17.85 125 eP Pn 00 31 57.6 -4.1
comp=Z,64nm,0.8s
SEKA Sheki 17.95 286 P P 00 32 04.7 +1.6
UOSS Minazif 18.03 226 Pn 00 32 01.9 -1.8
MNGR Mingechevir, A 18.04 285 P P 00 32 06.5 +2.6
TAPN Taplejung 18.31 122 eP Pn 00 32 03.3 -4.1
comp=Z,30nm,0.7s
ZAA0 Zalesovo Array 18.39 28 P P 00 32 06.2 -1.5
ZALV Zalesovo Beam 18.39 28 P P 00 32 05.5 -2.1
comp=Z,1.1nm,0.3s,baz=225,slow=11,SNR=20
ZKTA Zakatala 18.40 287 P Pn 00 32 09.5 +1.4
ODAN Odare 18.43 124 eP P 00 32 06.1 -2.5
comp=Z,38nm,0.6s
GROC Groznyy 19.12 292 eP Pn 00 32 18.2 +1.4
GROC S S 00 35 55.5 +4.5
GROC pmax pmax
comp=Z,61nm,1.0s
LSA Lhasa 19.32 111 P P 00 32 16.0 -2.6
LSA pmax pmax
comp=Z,7.0nm,0.8s
LSA Lhasa 19.32 111 P P 00 32 16.0 -2.6
NAX Nakhchivan 19.34 280 P Pn 00 32 20.7 +1.1
SVE Sverdlovsk 19.45 344 eP P 00 32 20.0 +0.7
SVE eS S 00 35 55.7 -1.9
SVE pmax pmax
comp=Z,12nm,0.9s
ARU Arti 19.59 340 P P 00 32 20.9 0.0
comp=Z,0.0nm,0.3s,baz=177,slow=9.3,SNR=20
ARU Arti 19.59 340c iP P 00 32 21.3 +0.4
ARU S Sn 00 36 04.2 +2.8
ARU pmax pmax
comp=Z,8.0nm,0.7s
ARU MLR MLR
comp=Z,219nm,14.0s
ARU Arti 19.59 340 P P 00 32 21.1 +0.2
TBLG Delisi 19.81 288 P P 00 32 23.6 +0.1
TBLG pmax pmax
comp=Z,39nm,1.1s
TBLG Delisi 19.81 288 P P 00 32 23.6 +0.1
TBLG IAmb IAmb 00 32 32.0
comp=Z,39nm,1.1s
ZEI Tsey 20.47 291 eP P 00 32 29.8 -1.0
ZEI pmax pmax
comp=Z,9.0nm,0.4s
AKH Akhalkalaki 20.75 287 ⇑P Pn 00 32 37.0 +0.7
AKH Akhalkalaki 20.75 287 P P 00 32 34.1 +0.3
AKH pmax pmax
comp=Z,19nm,1.1s
AKH Akhalkalaki 20.75 287 P P 00 32 34.1 +0.3
AKH IAmb IAmb 00 32 39.8
comp=Z,19nm,1.1s
KBZ Khabaz 21.27 293 P P 00 32 39.4 +0.2
comp=Z,19nm,0.8s,baz=129,slow=8.8,SNR=41
KBZ LR LR 00 43 24.9
comp=Z,181nm,18.4s,baz=96,slow=44
KBZ Khabaz 21.27 293 ceP P 00 32 39.9 +0.7
KBZ pmax pmax
comp=Z,7.0nm,0.9s
GOF Gofitskoye 21.32 297 ⇓iP P 00 32 41.6 +1.9
GOF pmax pmax
comp=Z,103nm,0.8s
KVAR Kislovodsk Arr 21.43 294 P P 00 32 42.3 +1.2
comp=Z,5.1nm,0.4s,baz=120,slow=20,SNR=7.6
KIV Kislovodsk 21.44 294 ⇑P P 00 32 42.0 +0.8
KIV Kislovodsk 21.44 294 eP P 00 32 42.1 +0.9
KIV pmax pmax
comp=Z,84nm,1.0s
KIV MLR MLR
comp=Z,254nm,14.0s
KIV Kislovodsk 21.44 294 P P 00 32 41.0 -0.2
KIV IAmb IAmb 00 32 45.4
comp=Z,22nm,0.7s
BATM Batumi 22.09 287 ⇓P P 00 32 51.0 +2.9
BATM Batumi 22.09 287 P P 00 32 50.9 +2.9
HYB Hyderabad 22.19 159 iP P 00 32 51.0 +1.8
VRH Novokhopyorsk 23.77 312 eP P 00 33 06.3 +1.2
VRH pmax pmax
comp=Z,10.0nm,0.5s
KIRV Kirov 24.23 333 P P 00 33 10.4 +1.0
comp=Z,34nm,0.7s,baz=214,slow=1.0,SNR=19
VORD Divnogorie 25.13 310 eP P 00 33 18.5 +0.9
VORD pmax pmax
comp=Z,20nm,0.8s
MOY Mondy 25.15 48 eP P 00 33 18.1 +0.1
VSR Storozhevoye 25.28 310 eP P 00 33 19.7 +0.7
VSR pmax pmax
comp=Z,30nm,0.7s
RAYN Ar Rayn 25.86 242 P P 00 33 24.6 0.0
RAYN pmax pmax
comp=Z,8.0nm,0.8s
RAYN Ar Rayn 25.86 242 P P 00 33 24.6 0.0
RAYN IAmb IAmb 00 33 28.3
comp=Z,7.9nm,0.8s
LPSR Galich'ya Gora 25.88 313 eP P 00 33 25.2 +0.8
LPSR pmax pmax
comp=Z,30nm,0.7s
GAZ Gaziantep 26.11 278 P P 00 33 27.6 +0.8
LZH Lanzhou 26.70 85 eP P 00 33 33.4 +1.1
LZH pP pP 00 33 39.8 -0.3
LZH sP sP 00 33 42.8 -0.4
LZH pmax pmax
comp=Z,13nm,1.1s
TLY Talaya 26.72 50 iP P 00 33 32.8 +0.7
TLY pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 27.71 59 P P 00 33 41.1 -0.1
comp=Z,1.2nm,0.8s,baz=262,slow=8.9,SNR=5.4
SONM Songino Array 27.71 59 P P 00 33 41.1 -0.1
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 27.71 59 P P 00 33 41.1 -0.1
OBN Obninsk 28.10 317 P P 00 33 45.5 +1.1
comp=Z,3.9nm,0.4s,baz=115,slow=19,SNR=6.2
OBN Obninsk 28.10 317 iP P 00 33 44.4 +0.1
OBN i 00 34 29.9
OBN pmax pmax
comp=Z,15nm,0.8s
OBN MLR MLR
comp=Z,137nm,18.0s
OBN Obninsk 28.10 317 P P 00 33 44.1 -0.3
ULN Ulaanbaatar 28.16 59 ceP P 00 33 45.7 +0.5
ULN pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 28.16 59 P P 00 33 43.1 -2.0
ULN P 00 33 45.7 +0.5
ULN IAmb IAmb 00 33 45.7
comp=Z,3.8nm,0.6s
BRTR Keskin Array B 28.37 284 P P 00 33 49.0 +1.9
comp=Z,0.7nm,0.5s,baz=96,slow=7.2,SNR=2.8
CD2 Chengdu 28.40 95 P P 00 33 47.8 +0.4
CD2 pmax pmax
comp=Z,20nm,0.5s
KLMR Klimovskoe 29.50 329 eP P 00 33 55.9 -0.8
KLMR e 00 34 48.4
KLMR pmax pmax
comp=Z,5.0nm,0.7s
KLMR Klimovskoe 29.50 329 eP P 00 33 56.0 -0.8
KLMR AMP 00 33 58.1
comp=Z,5.0nm,0.7s
KLMR ePP PnPn 00 34 48.5 -2.7
XAN Xi'an 31.29 86 P P 00 34 13.0 +0.1
XAN sP sP 00 34 27.6 +3.7
XAN pmax pmax
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 31.31 306 P P 00 34 13.7 +0.8
comp=Z,1.0nm,0.4s,baz=108,slow=8.9,SNR=9.7
AKASG Malin Array Be 31.31 306 ceP P 00 34 14.6 +1.8
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 31.31 306 P P 00 34 13.0 +0.1
AKBB Malin Array Si 31.31 306 ceP P 00 34 13.9 +1.1
AKBB Malin Array Si 31.31 306 IAmb IAmb 00 34 15.6
comp=Z,3.6nm,0.7s
MILM Milestii Mici 31.34 299 ⇓P P 00 34 14.7 +1.6
HHC Hu-ho-hao-te 31.64 72 eP P 00 34 19.3 +3.3
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,45nm,5.9s
SORM Soroca 31.68 301 ⇓P P 00 34 16.8 +0.7
CFR Carcaliu 31.85 296 ⇓P P 00 34 19.1 +1.4
CMAR Chiang Mai Arr 31.90 121 P P 00 34 18.5 +0.1
CMAR Chiang Mai Arr 31.90 121 P P 00 34 18.5 +0.1
VARL Varlezi 32.02 297 ⇓P P 00 34 22.0 +2.8
TMCR Tamitsa 32.03 334 eP P 00 34 19.1 +0.1
TMCR pmax pmax
comp=Z,11nm,0.7s
VRI Vrincioaia 32.81 297 ⇓P P 00 34 29.1 +3.0
VRI Vrincioaia 32.81 297 P P 00 34 28.9 +2.8
VRI pmax pmax
comp=Z,5.0nm,1.0s
TESR Tescani 32.84 298 ⇓P P 00 34 28.6 +2.3
PLOR Plostina 32.86 297 ⇓P P 00 34 30.0 +3.4
BIZ Bicaz 33.20 299 ⇓P P 00 34 32.1 +2.6
MLR Muntele Rosu 33.38 297 P P 00 34 34.2 +3.0
comp=Z,5.3nm,0.8s,baz=97,slow=2.0,SNR=15
MLR Muntele Rosu 33.38 297 ⇓P P 00 34 34.0 +2.8
MLR Muntele Rosu 33.38 297 P P 00 34 32.5 +1.3
MLR pmax pmax
comp=Z,6.0nm,0.9s
MLR Muntele Rosu 33.38 297 P P 00 34 32.5 +1.3
MLR IAmb IAmb 00 34 35.9
comp=Z,6.3nm,0.9s
OZUR 33.45 298 ⇓P P 00 34 33.8 +2.1
SLVN Son La 33.52 111 P P 00 34 31.6 -1.0
ELND Elena 33.69 292 ⇓P P 00 34 36.4 +2.7
DOPR Dopca 33.73 298 ⇓P P 00 34 36.6 +2.5
BURAR Bucovina Array 33.78 300 ⇓P P 00 34 36.9 +2.2
BURAR Bucovina Array 33.78 300 P P 00 34 36.9 +2.2
BURAR Bucovina Array 33.78 300 P P 00 34 35.4 +0.7
BUR08 Bucovina Ar. S 33.80 301 P P 00 34 35.0 +0.2
IIGN Ignalina 33.84 314 eP P 00 34 36.5 +1.6
JOF Joensuu 33.89 329 P P 00 34 36.8 +1.5
JOF pmax pmax
comp=Z,11nm,0.7s
IZAR Zarasai 33.91 315 eP P 00 34 37.4 +1.9
ISAL Salakas 33.94 315 eP P 00 34 37.3 +1.6
VOIR 34.01 297 ⇓P P 00 34 39.2 +2.5
ARR Arges 34.31 297 ⇓P P 00 34 41.4 +2.2
VSU Vasula 34.31 320 eP P 00 34 40.3 +1.3
VSU Vasula 34.31 320 iP P 00 34 40.0 +1.0
VSU pmax pmax
comp=Z,41nm,0.9s
ARCR ARCLIA 34.39 300 ⇑P P 00 34 42.3 +2.4
LOT Lotru 34.91 297 ⇓P P 00 34 46.6 +2.1
PABE Paberze 35.13 314 eP P 00 34 47.2 +1.1
SANT Santorini 35.42 281 P P 00 34 48.6 -0.3
DEV Deva 35.47 298 ⇑P P 00 34 51.7 +2.6
DRGR 35.53 299 ⇑P P 00 34 52.3 +2.6
DRGR 35.53 299 P P 00 34 52.5 +2.8
DRGR pmax pmax
comp=Z,8.0nm,0.8s
FIA1 FINESS Array S 35.55 325 P P 00 34 50.0 +0.4
FINES FINESS Array B 35.55 325 P P 00 34 50.4 +0.8
comp=Z,6.9nm,0.7s,baz=110,slow=9.6,SNR=19
FINES FINESS Array B 35.55 325 P P 00 34 49.9 +0.3
VTS Vitosha 35.65 292 ⇑P P 00 34 53.7 +2.7
VTS Vitosha 35.65 292 P P 00 34 52.3 +1.3
VTS pmax pmax
comp=Z,2.0nm,0.8s
VTS Vitosha 35.65 292 P P 00 34 52.3 +1.3
KOLS Kolonicke sedl 35.72 303 eP P 00 34 53.1 +1.8
KOLS pmax pmax
comp=Z,2.0nm,0.8s
KOLS Kolonicke sedl 35.72 303 eP P 00 34 53.1 +1.8
KOLS ePP PnPn 00 36 10.6 -0.6
IDI Anoyia 36.20 279 P P 00 34 56.5 +1.0
IDI IAmb IAmb 00 34 58.7
comp=Z,3.7nm,0.9s
SIRR Siria 36.30 298 ⇓P P 00 34 58.6 +2.3
PBUR Paburge 36.35 315 eP P 00 34 57.6 +1.1
BZS Buzias 36.39 297 ⇑P P 00 34 59.6 +2.6
SLIT Slitere, Latvi 36.42 318 eP P 00 34 57.5 +0.5
MDVR Moldovita 36.43 296 ⇓P P 00 34 59.2 +1.8
AGG Agios Georgios 37.08 286 P P 00 35 02.8 -0.3
AGG pmax pmax
comp=Z,2.0nm,0.9s
AGG Agios Georgios 37.08 286 P P 00 35 02.8 -0.3
OJC Ojcow 37.30 305 IAmb IAmb 00 35 07.6
comp=Z,3.6nm,0.6s
ARCES ARCESS Array B 39.12 337 P P 00 35 20.4 +0.6
comp=Z,3.7nm,0.6s,baz=114,slow=8.7,SNR=24
ARCES ARCESS Array B 39.12 337 P P 00 35 20.1 +0.3
VRAC Vranov 39.43 304 ⇓P P 00 35 24.2 +1.5
NJ2 Nanjing 39.78 84 eP P 00 35 25.8 +0.1
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
CONA Conrad Observa 40.05 302 iP P 00 35 30.9 +2.9
comp=Z,2.6nm,0.7s
ARSA Arzberg 40.37 301 iP P 00 35 34.5 +4.0
comp=Z,2.3nm,0.8s
SOKA Soboth 40.79 300 iP P 00 35 36.6 +2.5
comp=Z,2.7nm,1.0s
BRG Berggiesshubel 40.99 306 eP P 00 35 37.4 +1.8
comp=Z,5.6nm,0.9s
BRG S S 00 41 47.0 +0.7
BRG Berggiesshubel 40.99 306 eP P 00 35 37.4 +1.8
BRG S S 00 41 47.0 +0.7
BRG pmax pmax
comp=Z,6.0nm,0.9s
OBKA Obir 41.14 300 iP P 00 35 39.5 +2.5
comp=Z,2.5nm,0.9s
SGRT San Giovanni R 41.28 292 P P 00 35 38.3 +0.1
SGRT IAmb IAmb 00 35 44.1
comp=Z,16nm,1.1s
GERES GERESS Array B 41.37 303 P P 00 35 41.9 +3.1
comp=Z,0.7nm,0.7s,baz=72,slow=8.8,SNR=9.0
GERES PP PP 00 37 15.2 +0.9
comp=Z,1.4nm,1.0s,baz=68,slow=13,SNR=5.7
KHC Kasperske Hory 41.41 304 eP P 00 35 41.5 +2.4
KHC Kasperske Hory 41.41 304 ceP P 00 35 40.4 +1.3
KHC pmax pmax
comp=Z,5.0nm,1.0s
CLL Collm 41.55 307 iP P 00 35 41.5 +1.4
comp=Z,3.0nm,0.8s
CLL LmV 00 51 00.0
comp=Z,100nm,18.1s
CLL Collm 41.55 307 iP P 00 35 41.5 +1.4
CLL pmax pmax
comp=Z,3.0nm,0.8s
CLL Collm 41.55 307 P P 00 35 41.2 +1.1
MYKA Terra Mystica 41.74 300 iP P 00 35 43.0 +1.2
comp=Z,3.4nm,0.9s
PRED Cave del Predi 41.83 300 P P 00 35 44.0 +1.4
KBA Koelnbreisper 41.87 301 iPP P 00 35 45.2 +2.2
comp=Z,2.2nm,0.8s
NC405 NORSAR Array S 42.25 322 P P 00 35 46.2 +0.5
NC602 NORSAR Array S 42.30 321 P P 00 35 47.4 +1.3
NC303 NORSAR Array S 42.42 322 P P 00 35 47.0 -0.1
NC303 IAmb IAmb 00 35 48.5
comp=Z,13nm,0.8s
NB201 NORSAR Array S 42.45 322 P P 00 35 47.8 +0.5
NB201 IAmb IAmb 00 35 52.4
comp=Z,14nm,1.0s
ABTA Abfaltersbach 42.48 301 iP P 00 35 49.7 +1.8
comp=Z,1.4nm,0.6s
NB2 NORSAR Subarra 42.48 322 P P 00 35 47.7 0.0
comp=Z,1.7nm,0.6s,baz=95,slow=8.6
NOA NORSAR Array B 42.48 322 P P 00 35 48.1 +0.4
comp=Z,2.1nm,0.6s,baz=95,slow=8.0,SNR=13
NOA PP PP 00 37 26.1 0.0
comp=Z,1.4nm,0.8s,baz=92,slow=11,SNR=4.4
CIMO Cimolais 42.62 300 P P 00 35 49.9 +1.0
NAO01 NORSAR Array S 42.63 321 P P 00 35 49.6 +0.8
NBO00 NORSAR Array S 42.70 322 P P 00 35 49.6 +0.2
NBO00 IAmb IAmb 00 35 50.2
comp=Z,18nm,1.1s
NC204 NORSAR Array S 42.72 322 P P 00 35 50.0 +0.3
NC204 IAmb IAmb 00 35 52.2
comp=Z,17nm,1.1s
NRCA Norcia 42.90 295 P P 00 35 51.2 -0.2
WTTA Wattenberg 42.98 301 iP P 00 35 53.6 +1.5
comp=Z,4.2nm,1.0s
WATA Walderalm 43.01 302 ipP P 00 35 55.3 +3.0
comp=Z,2.1nm,0.8s
CTI Castel Tesino 43.20 300 P P 00 35 53.2 -0.6
CTI pmax pmax
comp=Z,3.0nm,0.8s
CTI Castel Tesino 43.20 300 P P 00 35 53.2 -0.6
SQTA Sankt Quirin 43.27 301 iP P 00 35 54.3 -0.1
comp=Z,1.3nm,0.5s
MOTA Moosalm 43.32 302 iP P 00 35 56.1 +1.3
comp=Z,3.2nm,0.5s
RETA Reutte 43.52 302 iP P 00 35 56.7 +0.4
comp=Z,0.1nm,0.4s
FETA Feichten 43.63 301 iP P 00 35 58.4 +1.0
comp=Z,1.8nm,0.8s
DAVA Damuels 44.15 302 iP P 00 36 02.3 +0.8
comp=Z,6.1nm,0.8s
TIXI Tiksi 44.16 23 P P 00 36 00.8 -0.2
comp=Z,3.2nm,0.5s,baz=280,slow=5.0,SNR=12
TIXI Tiksi 44.16 23 ceP P 00 36 01.3 +0.3
TIXI pmax pmax
comp=Z,7.0nm,1.0s
TIXI Tiksi 44.16 23 P P 00 36 00.8 -0.2
TIXI IAmb IAmb 00 36 07.3
comp=Z,5.9nm,0.7s
KLR Kul'dur 44.44 55 P P 00 36 03.5 -0.1
comp=Z,1.1nm,0.5s,baz=271,slow=8.8,SNR=3.3
KLR Kul'dur 44.44 55 iP P 00 36 05.0 +1.4
KLR pmax pmax
comp=Z,1.0nm,0.9s
KSAR Wonju Array Be 44.75 73 P P 00 36 06.4 +0.2
KSAR Wonju Array Be 44.75 73 P P 00 36 06.4 +0.2
KSRS Korea Array 44.78 73 P P 00 36 06.2 -0.2
comp=Z,0.8nm,0.5s,baz=285,slow=7.6,SNR=4.6
KSRS LR LR 00 56 52.6
comp=Z,46nm,20.3s,baz=50,slow=39
SENIN Lac Senin/Sane 46.08 301 P P 00 36 18.0 +1.1
SENIN IAmb IAmb 00 36 20.0
comp=Z,4.3nm,0.8s
KBS Kingsbay 46.57 347 ceP P 00 36 21.3 +1.3
KBS pmax pmax
comp=Z,9.0nm,0.8s
KBS Kingsbay 46.57 347 P P 00 36 20.2 +0.2
LPL La Plagne 46.67 300 eP P 00 36 23.8 +2.2
LPL pmax pmax
comp=Z,3.0nm,0.6s
BNI Bardonecchia 46.83 299 P P 00 36 23.5 +0.8
BNI pmax pmax
comp=Z,3.0nm,0.8s
BNI Bardonecchia 46.83 299 P P 00 36 23.5 +0.8
BNI IAmb IAmb 00 36 29.9
comp=Z,2.9nm,0.8s
UCC Uccle 47.02 308 P P 00 36 22.2 -1.6
UCC pmax pmax
comp=Z,3.0nm,0.7s
UCC Uccle 47.02 308 P P 00 36 22.2 -1.6
UCC IAmb IAmb 00 36 30.0
comp=Z,3.4nm,0.7s
MYKOM Kota Tinggi 47.69 132 P P 00 36 30.4 +0.9
KEST Kesra 47.92 287 P P 00 36 32.1 +0.9
KEST IAmb IAmb 00 36 34.9
comp=Z,7.4nm,1.1s
SSF Saint Saulge 48.43 303 eP P 00 36 35.6 +0.7
SSF pmax pmax
comp=Z,2.0nm,0.8s
CLF Chambon-Foret 48.99 304 P P 00 36 38.3 -0.9
CLF IAmb IAmb 00 36 54.7
comp=Z,5.6nm,0.8s
ESK Eskdalemuir 50.53 315 P P 00 36 50.5 -0.3
ESK pmax pmax
comp=Z,10.0nm,1.2s
ESK Eskdalemuir 50.53 315 P P 00 36 50.5 -0.3
ESK IAmb IAmb 00 37 03.4
comp=Z,9.6nm,1.1s
LFF La Frestale 50.90 301 eP P 00 36 55.0 +1.3
LFF pmax pmax
comp=Z,2.0nm,0.5s
DAG Danmarks Havn 52.68 343 ⇑iP P 00 37 07.6 +1.0
comp=Z,9.8nm,0.7s
DAG Danmarks Havn 52.68 343 ⇑iP P 00 37 07.6 +1.0
DAG pmax pmax
comp=Z,10.0nm,0.7s
MJAR Matsushiro Arr 52.76 70 P P 00 37 07.1 -0.6
comp=Z,1.1nm,0.6s,baz=296,slow=12,SNR=4.4
ERM Erimo 54.14 61 ceP P 00 37 16.9 -0.9
ERM pmax pmax
comp=Z,22nm,1.7s
ERM Erimo 54.14 61 P P 00 37 17.2 -0.5
ESBB Sonseca Array 56.07 296 P P 00 37 32.2 +0.4
ESBB IAmb IAmb 00 37 33.6
comp=Z,2.6nm,0.7s
ESDC Sonseca Array 56.07 296 P P 00 37 33.0 +1.1
comp=Z,3.5nm,0.8s,baz=57,slow=7.3,SNR=47
ESDC Sonseca Array 56.07 296 P P 00 37 32.1 +0.2
PAB San Pablo 56.40 296 P P 00 37 35.4 +1.2
PAB pmax pmax
comp=Z,4.0nm,1.2s
PAB San Pablo 56.40 296 P P 00 37 35.4 +1.2
PAB IAmb IAmb 00 37 39.5
comp=Z,4.3nm,1.1s
TAM Tamanrasset 56.83 274 P P 00 37 38.6 +1.0
TAM pmax pmax
comp=Z,1.0nm,0.7s
TAM Tamanrasset 56.83 274 P P 00 37 38.6 +1.0
BILL Bilibino 57.08 26 iP P 00 37 35.2 -3.3
BILL i 00 38 35.8
BILL i 00 39 49.1
BILL pmax pmax
comp=Z,1.0nm,1.2s
SUMG Summit 59.02 341 iP P 00 37 54.0 +1.5
comp=Z,16nm,0.9s
SUMG Summit 59.02 341 iP P 00 37 54.0 +1.5
SUMG pmax pmax
comp=Z,16nm,0.9s
SUMG Summit 59.02 341 P P 00 37 53.3 +0.8
PVAQ Vaqueiros 59.71 296 P P 00 37 57.3 -0.1
ANGG Ammassalik, Gr 62.40 334 P P 00 38 16.1 +1.0
ILULI Ilulissat 64.36 340 P P 00 38 29.1 +1.1
ILULI Ilulissat 64.36 340 P P 00 38 29.1 +1.1
TOA0 Torodi Ar. Sit 65.24 267 P P 00 38 35.0 +0.3
TOA0 IAmb IAmb 00 38 36.8
comp=Z,5.4nm,1.1s
TORD Torodi Ar. Bea 65.24 267 P P 00 38 35.0 +0.4
comp=Z,2.8nm,0.7s,baz=47,slow=6.4,SNR=27
TORD Torodi Ar. Bea 65.24 267 P P 00 38 34.5 -0.1
RES Resolute Bay 66.69 356 P P 00 38 42.7 -0.3
RES pmax pmax
comp=Z,13nm,1.1s
RES Resolute Bay 66.69 356 P P 00 38 42.7 -0.3
COLD Coldfoot 70.22 16 IAmb IAmb 00 39 07.2
comp=Z,4.4nm,0.8s
BMAR Burnt Mountain 71.15 13 P P 00 39 11.4 +0.5
FYU Fort Yukon 71.79 14 P P 00 39 15.5 +0.8
FYU IAmb IAmb 00 39 17.4
comp=Z,6.6nm,0.9s
INK Inuvik 72.04 9 P P 00 39 17.6 +1.4
comp=Z,4.8nm,0.7s,baz=349,slow=4.4,SNR=5.4
INK Inuvik 72.04 9 P P 00 39 16.9 +0.7
INK pmax pmax
comp=Z,6.0nm,1.0s
INK Inuvik 72.04 9 P P 00 39 16.9 +0.7
INK IAmb IAmb 00 39 18.7
comp=Z,6.4nm,0.9s
MDM Murphy Dome 72.58 16 P P 00 39 19.9 +0.4
MDM IAmb IAmb 00 39 21.3
comp=Z,2.5nm,0.9s
BPAW Bear Paw Mtn. 72.68 18 P P 00 39 20.4 +0.2
BPAW IAmb IAmb 00 39 26.4
comp=Z,2.3nm,0.9s
COLA College 72.73 16 P P 00 39 20.6 +0.3
COLA pmax pmax
comp=Z,7.0nm,0.8s
COLA College 72.73 16 P P 00 39 20.6 +0.3
CCB Clear Creek Bu 72.94 16 P P 00 39 22.4 +0.8
IL31 73.03 16 P P 00 39 22.5 +0.4
ILAR Eielson Array 73.03 16 P P 00 39 21.4 -0.8
comp=Z,1.6nm,0.8s,baz=317,slow=4.6,SNR=18
ILAR Eielson Array 73.03 16 P P 00 39 21.9 -0.2
ILAR Eielson Arrry 73.03 16 P P 00 39 21.9 -0.2
WRH Wood River Hil 73.03 16 P P 00 39 22.1 0.0

PPLA	**Purkeypile**	**73.39**	**19**	P	**P**	**00 39 24.3**	**-0.2**
PPLA				IAmb	IAmb	00 39 26.0	
	comp=Z,4.0nm,0.8s						
TRF	**Thorofare Moun**	**73.40**	**18**	P	**P**	**00 39 24.3**	**-0.3**
ATKA	**Atka Island**	**73.71**	**35**	P	**P**	**00 39 26.9**	**+0.5**
RND	**Reindeer**	**73.77**	**17**	P	**P**	**00 39 26.0**	**-0.6**
RND				pmax	pmax		
	comp=Z,3.0nm,1.0s						
RND	**Reindeer**	**73.77**	**17**	P	**P**	**00 39 26.0**	**-0.6**
RND				IAmb	IAmb	00 39 43.9	
	comp=Z,2.8nm,1.0s						
RIDG	**Independent Ri**	**74.37**	**15**	P	**P**	**00 39 30.3**	**+0.2**
RIDG				IAmb	IAmb	00 39 47.7	
	comp=Z,2.6nm,0.8s						
DHY	**Denali Highway**	**74.40**	**17**	P	**P**	**00 39 30.9**	**+0.5**
DHY				IAmb	IAmb	00 39 37.8	
	comp=Z,3.4nm,0.6s						
PAX	**Paxson**	**74.91**	**16**	IAmb	IAmb	00 39 34.8	
	comp=Z,4.1nm,0.8s						
DAWY	**Dawson**	**75.12**	**13**	P	**P**	**00 39 34.6**	**+0.2**
DAWY				IAmb	IAmb	00 39 40.7	
	comp=Z,2.1nm,0.8s						
GHO	**Glory Hole Cre**	**75.16**	**18**	P	**P**	**00 39 33.5**	**-1.2**
GHO				IAmb	IAmb	00 39 42.1	
	comp=Z,3.7nm,0.7s						
SML	**Sawmill**	**75.28**	**18**	P	**P**	**00 39 35.4**	**0.0**
SCM	**Sheep Creek Mo**	**75.49**	**17**	P	**P**	**00 39 36.3**	**-0.3**
SCM				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SCM	**Sheep Creek Mo**	**75.49**	**17**	P	**P**	**00 39 36.3**	**-0.3**
BCAR	**Beaver Creek A**	**75.59**	**14**	P	**P**	**00 39 37.8**	**+0.6**
TSUM	**Tsumeb**	**75.72**	**231**	P	**P**	**00 39 38.5**	**-0.1**
TSUM				IAmb	IAmb	00 39 44.2	
	comp=Z,3.5nm,1.1s						
LBTB	**Lobatse**	**75.79**	**221**	P	**P**	**00 39 38.4**	**-0.4**
LBTB				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LBTB	**Lobatse**	**75.79**	**221**	P	**P**	**00 39 38.4**	**-0.4**
LBTB				IAmb	IAmb	00 39 41.6	
	comp=Z,7.7nm,0.9s						
HYT	**Haines Junctio**	**78.46**	**13**	P	**P**	**00 39 53.3**	**-0.1**
HYT				IAmb	IAmb	00 39 56.6	
	comp=Z,5.6nm,0.9s						
BOSA	**Boshof**	**78.92**	**219**	P	**P**	**00 39 57.0**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=46,slow=4.8,SNR=6.7						
BOSA	**Boshof**	**78.92**	**219**	IAmb	IAmb	00 39 58.9	
	comp=Z,6.5nm,1.1s						
YKA	**Yellowknife Ar**	**79.30**	**2**	P	**P**	**00 39 59.0**	**+1.2**
	comp=Z,4.0nm,0.7s,baz=351,slow=5.4,SNR=22						
YKA	**Yellowknife Ar**	**79.30**	**2**	P	**P**	**00 39 59.0**	**+1.2**
SCHQ	**Schefferville**	**80.07**	**336**	P	**P**	**00 40 03.3**	**+1.1**
	comp=Z,3.7nm,0.7s,baz=43,slow=3.5,SNR=7.9						
SCHQ	**Schefferville**	**80.07**	**336**	IAmb	IAmb	00 40 03.7	
	comp=Z,7.0nm,1.1s						
WRA	**Warramunga Arr**	**83.49**	**122**	P	**P**	**00 40 19.8**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=325,slow=4.9,SNR=15						
WRA	**Warramunga Arr**	**83.49**	**122**	P	**P**	**00 40 20.4**	**-0.2**
WRA	**Warramunga Arr**	**83.49**	**122**	P	**P**	**00 40 20.4**	**-0.2**
WRAB	**Tennant Creek**	**83.49**	**122**	P	**P**	**00 40 20.1**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s						
WRAB	**Tennant Creek**	**83.49**	**122**	P	**P**	**00 40 20.1**	**-0.5**
WR0	**Warramunga Arr**	**83.64**	**122**	P	**P**	**00 40 20.4**	**-1.0**
WR0				IAmb	IAmb	00 40 27.3	
	comp=Z,4.6nm,1.1s						
ASAR	**Alice Springs**	**85.83**	**125**	P	**P**	**00 40 31.8**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=315,slow=5.3,SNR=9.7						
GBN	**Guysborough**	**85.93**	**328**	P	**P**	**00 40 29.7**	**-2.9**
FFC	**Flin Flon**	**86.93**	**356**	P	**P**	**00 40 38.0**	**+0.6**
FFC				pmax	pmax		
	comp=Z,6.0nm,1.1s						
FFC	**Flin Flon**	**86.93**	**356**	P	**P**	**00 40 38.0**	**+0.6**
FFC				IAmb	IAmb	00 40 39.9	
	comp=Z,6.1nm,1.1s						
EYMN	**Ely**	**92.44**	**348**	P	**P**	**00 41 04.0**	**+0.6**
DELO	**Deloro Mine**	**92.46**	**338**	P	**P**	**00 41 03.6**	**+0.1**

IDC ***23*** *00:33:42.8±3.0, 6°.32N×126°.29E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.3/37, mbtmp3.4/4, Error ellipse: s-maj=303.7km s-min=24.0km az=66.0*

ISC 23 00:33:44.2±1.6, 6°.4N±0°.3×126°.4E±0°.2, h10km, n11, σ0s75/5, mb3.3/4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCP	**Kidapawan**	**1.45**	**295**	⇓*i* P	**Sn**	**00 34 29.6**	**-0.1**
WRA	**Warramunga Arr**	**27.30**	**164**	P	**P**	**00 39 28.4**	**-0.9**
	0.6nm,1.0s,baz=343,slow=9.5,SNR=1.6						
ASAR	**Alice Springs**	**30.75**	**166**	P	**P**	**00 40 00.3**	**+0.5**
	0.3nm,0.3s,baz=342,slow=7.9,SNR=4.2						
H11S3	**WAKE ISLAND Hy**	**41.03**	**69**	T	T	01 24 25.6	
	baz=259,slow=73,SNR=5.0						
H11S1	**WAKE ISLAND Hy**	**41.04**	**69**	T	T	01 24 30.3	
	baz=259,slow=73,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**41.04**	**69**	T	T	01 24 29.9	
	baz=259,slow=73,SNR=6.2						
H11N1	**WAKE ISLAND Hy**	**41.48**	**67**	T	T	01 24 58.9	
	baz=258,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**41.48**	**67**	T	T	01 24 57.8	
	baz=258,slow=75,SNR=7.2						
H11N3	**WAKE ISLAND Hy**	**41.49**	**67**	T	T	01 25 00.2	
	baz=258,slow=75,SNR=11						
MKAR	**Makanchi Array**	**55.22**	**324**	P	**P**	**00 43 17.8**	**+0.3**
	0.2nm,0.5s,baz=113,slow=7.5,SNR=4.0						
KURBB	**Kurchatov Arra**	**59.35**	**327**	P	**P**	**00 43 46.2**	**-0.3**
	0.1nm,0.6s,baz=119,slow=5.7,SNR=5.6						

NEIC ***23*** *00:54:26.2±2.0, 31°.76S×0°.07×178°.3W±0°.1, h18km±2km, mb4.6/24, Error ellipse: s-maj=13.5km s-min=8.3km az=116.0*

IDC ***23*** *00:54:34.0±2.5, 31°.55S×178°.54W, h63km±23km, mb4.1/6, mb1 4.2/7, mb1mx3.9/27, mbtmp4.4/7, ML4.1/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/29, Error ellipse: s-maj=25.5km s-min=17.6km az=105.0*

ISC 23 00:54:30.4±0.5, 31°.78S±0°.05×178°.34W±0°.09, h45km, n115, σ1s60/110, mb4.5/13, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**2.54**	**8**	P	**Pn**	**00 55 11.3**	**+2.1**
GLKZ				S	**Sn**	**00 55 39.8**	**+1.0**
RAO	**Raoul Island**	**2.55**	**8**	P	**Pn**	**00 55 10.0**	**+0.8**
	50nm,0.3s,baz=135,slow=19,SNR=2.0						
RAO				S	**Sn**	**00 55 38.7**	**-0.4**
	167nm,0.3s,baz=107,slow=19,SNR=5.7						
RAO	**Raoul Island**	**2.55**	**8**		**Pn**	**00 55 05.8**	**-3.5**
RIZ	**Raoul Island**	**2.56**	**8**	P	**Pn**	**00 55 10.8**	**+1.5**
RIZ				S	**Sn**	**00 55 40.3**	**+1.1**
MXZ	**Matakaoa Point**	**6.39**	**205**	P	**Pn**	**00 56 00.6**	**-1.4**
MXZ				S	**Sn**	**00 57 13.8**	**+0.2**
MXZ	**Matakaoa Point**	**6.39**	**205**	Pn	**Pn**	**00 55 58.0**	**-3.9**
WMGZ	**Waiomatatini S**	**6.59**	**203**	P	**Pn**	**00 56 04.8**	**+0.2**
WMGZ				S	**Sn**	**00 57 18.9**	**+0.5**
HAZ	**Te Kaha**	**6.76**	**207**	P	**Pn**	**00 56 06.0**	**-1.0**
HAZ				S	**Sn**	**00 57 24.8**	**+2.2**
PKGZ	**Pakihiroa**	**6.76**	**205**	P	**Pn**	**00 56 05.3**	**-1.9**
PKGZ				S	**Sn**	**00 57 22.4**	**-0.5**
PUZ	**Puketiti**	**6.87**	**203**	P	**Pn**	**00 56 07.6**	**-0.9**
RUGZ	**Raukumara Rang**	**6.98**	**207**	P	**Pn**	**00 56 08.6**	**-1.6**
WHRZ	**Whale Island**	**7.18**	**211**	P	**Pn**	**00 56 16.3**	**+3.6**
WHRZ				S	**Sn**	**00 57 34.7**	**+1.7**
CNGZ	**Carnagh Statio**	**7.26**	**202**	P	**Pn**	**00 56 12.6**	**-1.2**
TKGZ	**Te Karaka**	**7.34**	**204**	P	**Pn**	**00 56 15.8**	**+0.8**
OPRZ	**Ohinepanea**	**7.36**	**213**	P	**Pn**	**00 56 17.5**	**+2.2**
MWZ	**Matawai**	**7.36**	**206**	P	**Pn**	**00 56 13.3**	**-2.0**
URZ	**Urewera**	**7.46**	**209**	P	**Pn**	**00 56 15.2**	**-1.4**
OUZ	**Omahuta**	**7.56**	**241**	P	**Pn**	**00 56 21.9**	**+3.9**
OUZ	**Omahuta**	**7.56**	**241**		**Pn**	**00 56 17.1**	**-0.8**
LIRZ	**Lichensteins R**	**7.57**	**213**	P	**Pn**	**00 56 20.3**	**+2.1**
RIGZ	**Rimuhau**	**7.61**	**204**	P	**Pn**	**00 56 18.4**	**-0.3**
PRGZ	**Paritu Road**	**7.76**	**202**	P	**Pn**	**00 56 21.5**	**+0.7**
MUGZ	**Murupara**	**7.79**	**210**	P	**Pn**	**00 56 19.6**	**-1.5**
TOZ	**Tahuroa Road**	**7.80**	**219**	P	Pn	00 56 26.5	+5.2
SNGZ	**Shannon Statio**	**7.82**	**206**	P	**Pn**	**00 56 22.2**	**+0.5**
RAHZ	**Arahi**	**8.04**	**206**	P	**Pn**	**00 56 24.4**	**-0.2**
MTHZ	**Maungataniwha**	**8.08**	**208**	P	**Pn**	**00 56 24.5**	**-0.6**
NMHZ	**Naumai**	**8.30**	**207**	P	**Pn**	**00 56 28.4**	**+0.1**
ARHZ	**Aropaoanui**	**8.37**	**206**	P	**Pn**	**00 56 29.1**	**0.0**
BKZ	**Black Stump Fm**	**8.48**	**208**	P	**Pn**	**00 56 29.9**	**-0.8**
BKZ	**Black Stump Fm**	**8.48**	**208**		**Pn**	**00 56 30.1**	**-0.7**
RATZ	**Rangitukua**	**8.55**	**213**	P	**Pn**	**00 56 31.4**	**-0.2**
KAHZ	**Kahuranaki**	**8.88**	**205**	P	**Pn**	**00 56 34.5**	**-1.7**
BHHZ	**Black Hill Sta**	**8.93**	**209**	P	**Pn**	**00 56 35.3**	**-1.6**
KRHZ	**Kereru**	**8.94**	**207**	P	**Pn**	**00 56 34.6**	**-2.3**
FWVZ	**Far West T-bar**	**8.96**	**212**	P	**Pn**	**00 56 36.2**	**-1.2**
WHVZ	**Whangaehu Hut**	**8.97**	**212**	P	**Pn**	**00 56 36.9**	**-0.6**
PXZ	**Pawanui**	**9.10**	**204**	P	**Pn**	**00 56 37.0**	**-2.1**
PRHZ	**Porangahau**	**9.39**	**204**	P	**Pn**	**00 56 40.6**	**-2.5**
OHWZ	**Ohakea**	**9.85**	**210**	P	**Pn**	**00 56 52.5**	**+3.2**
BFZ	**Birch Farm**	**9.89**	**205**	P	**Pn**	**00 56 46.5**	**-3.5**
KHZ	**Kahutara**	**12.43**	**209**	Pn	**Pn**	**00 57 22.7**	**-1.8**
LTZ	**Lake Taylor**	**13.27**	**212**	Pn	**Pn**	**00 57 33.1**	**-3.0**
RPZ	**Rata Peaks**	**14.55**	**212**	P	**Pn**	**00 57 53.7**	**+0.3**
	0.4nm,0.3s,baz=27,slow=14,SNR=1.9						
RPZ				S	Sn	01 00 16.6	-17
	1.1nm,0.3s,baz=30,slow=20,SNR=5.6						
RPZ	**Rata Peaks**	**14.55**	**212**		**Pn**	**00 57 51.1**	**-2.3**
DZM	**Mont Dzumac**	**16.65**	**302**	LR	LR	01 03 18.2	
	comp=Z,216nm,18.4s,baz=160,slow=32						
DZM	**Mont Dzumac**	**16.65**	**302**	Pn	**Pn**	**00 58 19.0**	**-1.7**
LHI	**Lord Howe Isla**	**19.24**	**265**	P	**P**	**00 58 49.7**	**-1.2**
LHI				IAmb	IAmb	00 58 53.2	
	comp=Z,42nm,0.9s						
SANVU	**Saraoutou**	**20.94**	**318**	P	**P**	**00 59 08.6**	**-0.9**
SANVU				IAmb	IAmb	00 59 26.3	
	comp=Z,20nm,0.6s						
TOO	**Toolangi**	**30.17**	**249**	P	**P**	**01 00 33.6**	**-2.7**
TOO				IAmb	IAmb	01 00 42.0	
	comp=Z,14nm,1.1s						
CMSA	**Cobar Meteorol**	**30.53**	**261**	P	**P**	**01 00 41.9**	**+2.4**
	baz=30						
CTAO	**Charters Tower**	**33.76**	**281**	P	**P**	**01 01 05.7**	**-2.3**
STKA	**Stephens Creek**	**33.91**	**259**	P	**P**	**01 01 10.2**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=108,slow=9.6,SNR=2.9						
HTT	**Hallett**	**35.86**	**256**	P	**P**	**01 01 27.0**	**+1.0**
	baz=36						
MTSU	**Mount Surprise**	**36.30**	**283**	P	**P**	**01 01 32.1**	**+2.3**
	baz=36						
BBOO	**Buckleboo**	**38.33**	**256**	P	**P**	**01 01 47.1**	**+0.2**
	baz=38						
BBOO	**Buckleboo**	**38.33**	**256**	P	**P**	**01 01 46.9**	**0.0**
COEN	**Coen**	**39.39**	**288**	P	**P**	**01 01 57.8**	**+1.8**
	baz=40						
COEN	**Coen**	**39.39**	**288**	P	**P**	**01 01 56.2**	**+0.2**
COEN				IAmb	IAmb	01 01 59.2	
	comp=Z,12nm,0.9s						
AS31	**Alice Springs**	**42.76**	**269**	P	**P**	**01 02 22.9**	**-0.8**
ASAR	**Alice Springs**	**42.76**	**269**	P	**P**	**01 02 23.6**	**-0.2**
	comp=Z,6.5nm,0.5s,baz=105,slow=7.4,SNR=55						
WR0	**Warramunga Arr**	**43.70**	**274**	P	**P**	**01 02 30.8**	**-0.5**
WC3	**Warramunga Arr**	**43.84**	**274**	P	**P**	**01 02 32.5**	**+0.1**
	baz=44						
WB2	**Warramunga Arr**	**43.87**	**274**	P	**P**	**01 02 32.3**	**-0.3**
WRAB	**Tennant Creek**	**43.87**	**274**	P	**P**	**01 02 31.5**	**-1.2**
WRA	**Warramunga Arr**	**43.88**	**274**	P	**P**	**01 02 33.0**	**+0.3**
	comp=Z,14nm,0.5s,baz=113,slow=7.9,SNR=40						
WB0	**Warramunga Arr**	**43.91**	**274**	P	**P**	**01 02 32.4**	**-0.5**
FORT	**Forrest**	**45.43**	**257**	P	**P**	**01 02 43.7**	**-1.2**
VNDA	**Vanda**	**46.69**	**186**	P	**P**	**01 02 58.7**	**+4.5**
	comp=Z,0.6nm,0.7s,baz=348,slow=7.8,SNR=5.3						
WRKA	**Warakurna**	**47.03**	**264**	P	**P**	**01 02 57.0**	**-0.7**
	baz=47						
KDU	**Kakadu**	**48.89**	**281**	P	**P**	**01 03 11.9**	**0.0**
	baz=49						
MTN	**Manton Dam**	**49.93**	**280**	P	**P**	**01 03 20.1**	**+0.2**
	baz=50						
MTN	**Manton Dam**	**49.93**	**280**	P	**P**	**01 03 19.6**	**-0.4**
KNRA	**Kununurra**	**50.53**	**276**	P	**P**	**01 03 24.4**	**-0.1**
	baz=51						
KNRA	**Kununurra**	**50.53**	**276**	P	**P**	**01 03 23.5**	**-1.0**
FITZ	**Fitzroy Crossi**	**52.08**	**271**	P	**P**	**01 03 36.1**	**0.0**
	baz=52						
FITZ	**Fitzroy Crossi**	**52.08**	**271**	P	**P**	**01 03 35.6**	**-0.5**
FITZ				IAmb	IAmb	01 03 36.6	
	comp=Z,5.9nm,1.0s						
KLBR	**Kellerberrin**	**53.64**	**252**	P	**P**	**01 03 46.1**	**-1.3**
	baz=54						
CASY	**Casey**	**53.78**	**208**	P	**P**	**01 03 47.1**	**-0.8**
PSAB3	**Pilbara Seismi**	**55.51**	**264**	P	**P**	**01 03 59.4**	**-1.8**
PSAA3	**Pilbara Seismi**	**55.52**	**264**	P	**P**	**01 03 59.8**	**-1.5**
PSA00	**Pilbara Seismi**	**55.53**	**264**	P	**P**	**01 04 00.3**	**-1.0**
PSA00				IAmb	IAmb	01 04 08.3	
	comp=Z,4.2nm,0.8s						
QSPA	**South Pole Qui**	**58.33**	**180**	P	**P**	**01 04 23.6**	**+3.0**
	comp=Z,1.8nm,0.7s,baz=126,slow=8.7,SNR=20						
QSPA	**South Pole Qui**	**58.33**	**180**	P	**P**	**01 04 21.2**	**+0.6**
RPN	**Rapa Nui**	**59.36**	**105**	LR	LR	01 24 58.2	
	comp=Z,30nm,20.0s,baz=210,slow=31						
SNAA	**Sanae**	**76.78**	**179**	P	P	01 06 23.1	+6.2
SNAA	**Sanae**	**76.78**	**179**	P	**P**	**01 06 17.3**	**+0.5**
SNAA				IAmb	IAmb	01 06 23.9	
	comp=Z,4.2nm,0.8s						
VNA3	**Neumayer Olymp**	**76.95**	**176**	P	P	01 06 24.8	+7.1
VNA2	**Neumayer--Watz**	**77.38**	**177**	P	P	01 06 27.7	+7.6
VNA1	**Neumayer--Stat**	**77.61**	**177**	P	P	01 06 28.9	+7.6
H03S2	**Juan Fernandez**	**79.94**	**123**	T	T	02 35 20.8	
	baz=237,slow=74,SNR=29						
H03S1	**Juan Fernandez**	**79.96**	**124**	T	T	02 35 19.7	
	baz=237,slow=74,SNR=35						
H03S3	**Juan Fernandez**	**79.96**	**123**	T	T	02 35 21.0	
	baz=237,slow=74,SNR=28						
H03N3	**Juan Fernandez**	**80.14**	**123**	T	T	02 35 26.7	
	baz=241,slow=72,SNR=32						
H03N2	**Juan Fernandez**	**80.15**	**123**	T	T	02 35 28.7	
	baz=241,slow=72,SNR=19						
H03N1	**Juan Fernandez**	**80.16**	**123**	T	T	02 35 24.8	
	baz=241,slow=72,SNR=67						
PETK	**Petropavlovsk-**	**87.08**	**346**	P	**P**	**01 07 11.5**	**+0.8**
	comp=Z,1.7nm,0.7s,baz=144,slow=8.0,SNR=2.6						
PETK	**Petropavlovsk-**	**87.08**	**346**	P	**P**	**01 07 09.5**	**-1.3**
FALS	**False Pass**	**87.24**	**9**	P	**P**	**01 07 11.9**	**+0.4**
NVAR	**Mina Array Bea**	**89.45**	**43**	P	**P**	**01 07 26.3**	**+3.6**
	comp=Z,0.5nm,0.8s,baz=205,slow=3.1,SNR=4.0						
NVAR	**Mina Array Bea**	**89.45**	**43**	P	**P**	**01 07 22.7**	**0.0**
TLIG	**Tlapa**	**90.74**	**70**	P	**P**	**01 07 27.1**	**-2.0**
TLIG				IAmb	IAmb	01 07 44.5	
	comp=Z,4.2nm,1.1s						
PMR	**Palmer**	**96.02**	**14**	P	**P**	**01 07 52.1**	**0.0**
MKAR	**Makanchi Array**	**118.43**	**310**	PKP	**PKPdf**	**01 13 12.7**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=135,slow=2.0,SNR=3.7						
MKAR	**Makanchi Array**	**118.43**	**310**		**PKPdf**	**01 13 11.8**	**-0.9**
BVAR	**Borovoye Array**	**127.18**	**315**	PKP	**PKPdf**	**01 13 29.5**	**+0.2**
	comp=Z,2.5nm,0.4s,baz=133,slow=3.2,SNR=3.3						
ARCES	**ARCESS Array B**	**139.87**	**347**	PKhKP	PKPpre	01 13 45.9	
	comp=Z,1.0nm,0.7s,baz=347,slow=2.7,SNR=4.0						
FINES	**FINESS Array B**	**146.34**	**339**	PKPbc	**PKPbc**	**01 14 05.7**	**+0.2**
	comp=Z,4.0nm,0.4s,baz=50,slow=4.2,SNR=60						
FINES	**FINESS Array B**	**146.34**	**339**		**PKPab**	**01 14 06.2**	**-0.2**
NB2	**NORSAR Subarra**	**150.07**	**351**	PKP	**PKiKP**	**01 14 16.1**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=16,slow=2.5						
NOA	**NORSAR Array B**	**150.07**	**351**	PKPbc	**PKiKP**	**01 14 16.1**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=14,slow=4.1,SNR=7.5						
AKASG	**Malin Array Be**	**152.21**	**321**	PKPbc	**PKiKP**	**01 14 20.9**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=45,slow=2.3,SNR=4.9						
BRTR	**Keskin Array B**	**152.97**	**296**	PKPbc	**PKiKP**	**01 14 23.3**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=153,slow=1.0,SNR=2.2						
TORD	**Torodi Ar. Bea**	**161.45**	**180**	PKPab	**PKPab**	**01 15 12.2**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=180,slow=2.8,SNR=13						
TORD	**Torodi Ar. Bea**	**161.45**	**180**	PKPdf	**PKPdf**	**01 14 25.5**	**-1.3**
TORD					**PKPab**	**01 15 11.7**	**+0.6**

KRSC ***23*** *01:14:27.4±1.8, 52°.20N×162°.06E, h80km±32km, ML3.9*
IDC ***23*** *01:14:29.8±1.5, 52°.98N×161°.90E, h0km, mb3.6/4, mb1 3.7/5, mb1mx3.4/48, mbtmp3.5/5, ML2.5/1, Error ellipse: s-maj=49.6km s-min=22.4km az=175.0*

ISC 23 01:14:32.7±1.2, 52°.27N±0°.07×161°.95E±0°.07, h35km, n30, σ1s69/50, mb3.7/4, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**1.44**	**306**	*e*P	**Pn**	**01 14 53.5**	**-2.7**
SPN				*e*S	**Sn**	**01 15 12.1**	**-1.8**
NLC	**Nalytchevo**	**1.82**	**301**	*e*P	**Pn**	**01 14 59.5**	**-2.0**
NLC				*e*S	**Sn**	**01 15 22.1**	**-1.3**
DALK	**Dalny**	**2.09**	**293**	*e*P	**Pn**	**01 15 04.5**	**-0.7**
SDLR	**Sedlovina**	**2.12**	**300**	*e*P	**Pn**	**01 15 04.1**	**-1.6**
SDLR				*e*S	**Sn**	**01 15 31.2**	**+0.3**
UGLR	**Uglovaya**	**2.12**	**298**	*e*P	**Pn**	**01 15 04.5**	**-1.2**
UGLR				*e*S	**Sn**	**01 15 31.2**	**+0.3**
PET	**Petropavlovsk**	**2.15**	**292**	*e*P	**Pn**	**01 15 04.4**	**-1.6**
PET				*e*S	**Sn**	**01 15 31.0**	**-0.3**
SMAR	**Somma**	**2.16**	**299**	*e*P	**Pn**	**01 15 05.3**	**-1.0**
SMAR				*e*S	**Sn**	**01 15 32.7**	**+0.8**
AVH	**Avacha**	**2.19**	**298**	*e*P	**Pn**	**01 15 05.4**	**-1.3**
AVH				*e*S	**Sn**	**01 15 34.2**	**+1.6**
KRER	**Koryakskii**	**2.20**	**299**	*e*P	**Pn**	**01 15 05.9**	**-1.1**
KRER				*e*S	**Sn**	**01 15 33.3**	**+0.2**
KOK	**Koryaka**	**2.26**	**298**	*e*P	**Pn**	**01 15 06.5**	**-1.1**
KOK				*e*S	**Sn**	**01 15 34.6**	**+0.3**
KRX	**Arik**	**2.28**	**300**	*e*P	**Pn**	**01 15 06.7**	**-1.3**
KRX				*e*S	**Sn**	**01 15 34.5**	**-0.4**
MTVR	**Mutnovka**	**2.32**	**277**	*e*P	**Pn**	**01 15 07.0**	**-1.5**
MTVR				*e*S	**Sn**	**01 15 34.7**	**-1.1**
GRL	**Gorelyy**	**2.39**	**278**	*e*P	**Pn**	**01 15 09.1**	**-0.4**
KRMR	**Karymshinskiy**	**2.40**	**285**	*e*P	**Pn**	**01 15 08.8**	**-0.6**
KRMR				*e*S	**Sn**	**01 15 37.9**	**+0.3**
KDTR	**Khodutka, Kamc**	**2.44**	**261**	*e*P	**Pn**	**01 15 07.2**	**-2.7**
KDTR				*e*S	**Sn**	**01 15 35.4**	**-3.1**
ASAK	**Asacha**	**2.49**	**274**	*e*P	**Pn**	**01 15 09.6**	**-1.2**
ASAK				*e*S	**Sn**	**01 15 40.0**	**+0.1**
PETK	**Petropavlovsk-**	**2.72**	**290**	Pn	**Pn**	**01 15 12.3**	**-1.6**
	5.3nm,0.3s,baz=100,slow=17,SNR=48						
PETK				Sn	**Sn**	**01 15 45.4**	**-0.1**
	4.1nm,0.3s,baz=95,slow=18,SNR=5.1						
APC	**Apacha**	**3.00**	**285**	*e*P	**Pn**	**01 15 17.5**	**-0.1**
APC				*e*S	**Sn**	**01 15 53.4**	**+1.1**
KZV	**Kizimen**	**3.02**	**342**	*e*P	**Pn**	**01 15 16.6**	**-1.5**
KZV				*e*S	**Sn**	**01 15 52.9**	**-0.1**
TUMD	**Tumrok D**	**3.08**	**343**	*e*P	**Pn**	**01 15 17.1**	**-1.8**
TUMD				*e*S	**Sn**	**01 15 53.6**	**-0.8**
MIPR	**Malaya Ipel'ka**	**3.19**	**272**	*e*P	**Pn**	**01 15 19.6**	**-0.7**
TUMR	**Tumrok**	**3.20**	**341**	*e*P	**Pn**	**01 15 19.6**	**-1.0**
TUMR				*e*S	**Sn**	**01 15 57.4**	**-0.2**
KBTR	**Krutoberegovo**	**3.98**	**7**	*e*P	**Pn**	**01 15 28.0**	**-3.2**
ALID	**Alaid**	**4.23**	**253**	*e*P	**Pn**	**01 15 32.9**	**-1.9**
ALID				*e*S	**Sn**	**01 16 19.3**	**-3.7**
SRDR	**Sredinnyy**	**4.26**	**343**	*e*P	**Pn**	**01 15 33.6**	**-1.5**
SRKR	**Sorokina**	**4.42**	**354**	*e*P	**Pn**	**01 15 36.6**	**-0.7**
MJAR	**Matsushiro Arr**	**22.97**	**236**	P	**P**	**01 19 39.8**	**+5.8**
	0.7nm,0.5s,baz=29,slow=10,SNR=1.9						
KURBB	**Kurchatov Arra**	**49.23**	**303**	P	**P**	**01 23 16.3**	**-1.0**
	0.6nm,0.6s,baz=59,slow=7.5,SNR=6.5						
MKAR	**Makanchi Array**	**49.53**	**297**	P	**P**	**01 23 18.8**	**-0.9**
	0.4nm,0.5s,baz=50,slow=6.4,SNR=6.2						
TXAR	**Lajitas Array**	**69.91**	**68**	P	**P**	**01 25 41.3**	**+1.1**
	0.3nm,0.5s,baz=310,slow=5.6,SNR=7.9						

ATH ***23*** *01:21:15.3, 36°.39N×28°.34E, h67km±3km, ML2.2/1, Error ellipse: s-maj=5.1km s-min=2.2km az=181.0*
ISK ***23*** *01:21:15.9, 36°.39N×28°.34E, h62km±1km, ML2.2/8*
NIC ***23*** *01:21:17.9±0.0, 36°.10N×28°.46E, h47km±2km, Ml3.1/2*
DDA ***23*** *01:21:18.5, 36°.57N×28°.30E, h7km±3km, ML1.5*

ISC 23 01:21:15.8±1.3, 36°.38N±0°.03×28°.32E±0°.03, h65km±7km, n35, σ1s50/55, 2C-1D, Dodecanese Islands

| Code | Station Name | Δ

0.8nm,0.3s,baz=125,slow=7.4,SNR=18

IDC 23 02:05:38.3±4.1, 4°48'S×105°66'W, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.8/25, mbtmp3.7/5, MS3.4/8, Ms1 3.4/8, ms1mx3.1/23, Error ellipse: s-maj=116.7km s-min=35.8km az=40.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**Las Juntas de**	**25.31**	**54**	LR	LR	02 18 13.9	
	comp=Z,90nm,20.1s,baz=249,slow=30						
ATAH	**Atahualpa**	**27.25**	**97**	P	P	02 11 25.1	+0.1
	4.3nm,0.7s,baz=294,slow=12,SNR=3.3						
ATAH				LR	LR	02 19 17.2	
	comp=Z,113nm,20.2s,baz=240,slow=30						
NNA	**Nana**	**29.45**	**106**	LR	LR	02 19 38.6	
	comp=Z,77nm,21.5s,baz=292,slow=28						
TEIG	**Tepich**	**29.91**	**34**	LR	LR	02 21 53.2	
	comp=Z,36nm,18.9s,baz=230,slow=33						
TXAR	**Lajitas Array**	**33.67**	**3**	P	P	02 12 21.9	+0.7
	0.4nm,0.8s,baz=188,slow=12,SNR=5.8						
TXAR				LR	LR	02 23 46.3	
	comp=Z,24nm,18.5s,baz=0.0,slow=32						
H03N2	**Juan Fernandez**	**38.08**	**142**	T	T	02 53 01.7	
	baz=317						
H03N1	**Juan Fernandez**	**38.09**	**142**	T	T	02 53 03.8	
	baz=317,slow=74						
H03N3	**Juan Fernandez**	**38.09**	**142**	T	T	02 53 11.1	
	baz=317,slow=74						
LPAZ	**La Paz**	**38.65**	**111**	LR	LR	02 26 23.4	
	comp=Z,36nm,18.1s,baz=268,slow=32						
PDAR	**Pinedale Array**	**47.16**	**356**	P	P	02 14 13.2	+0.3
	0.3nm,0.5s,baz=167,slow=8.3,SNR=4.0						
PLCA	**Paso Flores**	**47.91**	**144**	LR	LR	02 28 48.4	
	comp=Z,52nm,21.6s,baz=288,slow=29						
BDFB	**Brasilia**	**57.66**	**106**	LR	LR	02 37 42.9	
	comp=Z,52nm,18.8s,baz=276,slow=33						
YKA	**Yellowknife Ar**	**67.14**	**356**	P	P	02 16 32.2	-1.4
	0.4nm,0.7s,baz=163,slow=7.2,SNR=4.0						
ILAR	**Eielson Array**	**75.45**	**343**	P	P	02 17 24.2	+0.3
	1.3nm,0.9s,baz=149,slow=4.7,SNR=8.5						
H11N3	**WAKE ISLAND Hy**	**89.08**	**290**	T	T	03 57 50.8	
	baz=96,slow=74,SNR=27						
H11N2	**WAKE ISLAND Hy**	**89.09**	**290**	T	T	03 57 51.8	
	baz=96,slow=74,SNR=25						
H11N1	**WAKE ISLAND Hy**	**89.10**	**290**	T	T	03 57 50.9	
	baz=96,slow=74,SNR=25						
H11S2	**WAKE ISLAND Hy**	**89.17**	**289**	T	T	03 57 55.5	
	baz=94,slow=75,SNR=10						
H11S1	**WAKE ISLAND Hy**	**89.17**	**289**	T	T	03 57 55.9	
	baz=94,slow=75,SNR=9.2						
H11S3	**WAKE ISLAND Hy**	**89.19**	**289**	T	T	03 57 56.9	
	baz=94,slow=75,SNR=13						

*UCR **23** 02:21:44.5±2.5, 8°38N×82°62W, h8km±10km, MD3.8, MW3.3*
*UPA **23** 02:21:45.6±0.5, 8°42N×82°63W, h25km±3km, MW3.9*
ISC 23 02:21:46.0±1.1, 8°44N±0°05×82°66W±0°03, h11km±8km, n20, σ1°§21/36, 3C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVD	**David**	**0.21**	**91**	↑*iP*	**Pg**	**02 21 51.2**	**+0.8**
DVD				*eS*	**Sg**	**02 21 55.1**	**+1.7**
BCO2	**Palmira**	**0.31**	**25**	↓*iP*	**Pb**	**02 21 53.5**	**-0.1**
BCO2				*eS*	**Sb**	**02 21 59.3**	**+0.6**
CHIR3	**Chiriqui UPA,**	**0.33**	**98**	↓*iP*	**Pb**	**02 21 52.6**	**-1.2**
CHIR3				*eS*	**Sb**	**02 21 57.6**	**-1.6**
BRU2	**Volcan**	**0.35**	**355**	↑*eP*	**Pb**	**02 21 54.2**	**-0.2**
BRU2				*eS*	**Sb**	**02 22 00.4**	**+0.4**
BRU2	**Volcan**	**0.35**	**355**	↑*eP*	**Pb**	**02 21 54.2**	**-0.2**
BRU2				*eS*	**Sb**	**02 22 00.8**	**+0.8**
BC3P	**Paso Ancho**	**0.38**	**7**	*eP*	**Pb**	**02 21 54.3**	**-0.6**
BC3P				*eS*	**Sb**	**02 22 01.4**	**+0.6**
PSOM3	**Paja de Sombre**	**0.41**	**54**	↓*iP*	**Pb**	**02 21 54.1**	**-1.2**
PSOM3				*eS*	**Sb**	**02 22 01.2**	**-0.4**
EDSV	**San Vito**	**0.49**	**321**	*eP*	**Pb**	**02 21 56.4**	**-0.3**
EDSV				*i S*	**Sb**	**02 22 05.1**	**+1.2**
PTJ1	**Puerto Jimnez**	**0.64**	**279**	*eS*	**Sb**	**02 22 09.4**	**+1.3**
PTJ1	**Puerto Jimnez**	**0.64**	**279**	*eP*	**Pg**	**02 21 57.5**	**-0.9**
PTJ1				*eS*	**Sn**	**02 22 10.2**	**-1.0**
CHGR2	**Aguacate**	**0.71**	**46**	*eP*	**Pg**	**02 21 58.7**	**-1.1**
CHGR2				*eS*	**Sg**	**02 22 08.6**	**-0.6**
EDBA	**Buenos Aires**	**0.94**	**320**	*eS*	**Sg**	**02 22 16.9**	**+0.5**
EDPN	**Palmar Norte**	**0.94**	**303**	*i* P	**Pg**	**02 22 02.5**	**-1.6**
EDPN				*eS*	**Sg**	**02 22 15.3**	**-1.1**
DRK0	**Durika**	**1.00**	**325**	*eP*	**Pg**	**02 22 03.8**	**-1.5**
DRK0				*eS*	**Sg**	**02 22 17.7**	**-0.7**
DRK0	**Durika**	**1.00**	**325**	*eP*	**Pg**	**02 22 03.8**	**-1.5**
DRK0				*eS*	**Sg**	**02 22 17.9**	**-0.5**
LCR2	**La Lucha 2**	**1.85**	**314**	*eP*	**Pn**	**02 22 17.0**	**-0.9**
LCR2				*eS*	**Sg**	**02 22 45.5**	**-0.1**
CVTR	**Volcan Turrial**	**1.91**	**325**	*eP*	**Pn**	**02 22 18.4**	**-0.4**
JTS	**Las Juntas de**	**2.92**	**309**	*eP*	**Pn**	**02 22 32.8**	**+0.4**
JTS				*eS*	**Sn**	**02 23 09.4**	**+2.0**
PLVR	**Palo Verde**	**3.26**	**306**	*eP*	**Pn**	**02 22 38.6**	**+1.3**
CUI	**Cuipilapa**	**3.31**	**312**	*eP*	**Pn**	**02 22 40.4**	**+2.6**
CUI				*eS*	**Sn**	**02 23 19.8**	**+2.6**

*THE **23** 02:24:09.7, 37°73N×20°91E, h20km, ML2.5/7, Error ellipse: s-maj=0.6km s-min=0.3km az=260.0*
*ATH **23** 02:24:09.4, 37°71N×20°95E, h14km±2km, ML2.4/15, Error ellipse: s-maj=2.2km s-min=0.8km az=15.0*
ISC 23 02:24:09.1±1.0, 37°72N±0°03×20°91E±0°03, h22km±5km, n44, σ1°§12/65, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZAK2	**Zakynthos**	**0.07**	**353**	P	**Pb**	**02 24 12.9**	**-0.2**
ZAK2				S	**Sb**	**02 24 15.8**	**-0.1**
KRI1	**kERI**	**0.10**	**231**	P	**Pb**	**02 24 13.6**	**+0.3**
KRI1				S	**Sb**	**02 24 16.6**	**+0.4**
VTN	**Vitineika**	**0.29**	**48**	P	**Pb**	**02 24 15.9**	**+0.1**
VTN				S	**Sb**	**02 24 21.0**	**+0.7**
VTN	**Vitineika**	**0.29**	**48**	P	**Pb**	**02 24 15.7**	**0.0**
VTN				S	**Sb**	**02 24 19.8**	**-0.5**
VLS	**Valsamata**	**0.52**	**331**	P	**Pb**	**02 24 19.9**	**+0.4**
VLS				S	**Sb**	**02 24 27.7**	**+1.0**
	482nm,0.3s						
VLS	**Valsamata**	**0.52**	**331**	P	**Pb**	**02 24 20.0**	**+0.4**
VLS				S	**Sb**	**02 24 28.2**	**+1.4**
VLS				AML	AML	02 24 28.6	
	comp=E,890μm,0.2s						
VLS				AML	AML	02 24 28.6	
	comp=N,891μm,0.3s						
RLS	**Riolos of Patr**	**0.55**	**53**	P	**Pb**	**02 24 20.1**	**0.0**
RLS				S	**Sb**	**02 24 28.5**	**+0.9**
	comp=N,560nm,0.3s						
RLS	**Riolos of Patr**	**0.55**	**53**	P	**Pb**	**02 24 20.0**	**-0.1**
RLS				S	**Sb**	**02 24 27.7**	**+0.1**
RLS				AML	AML	02 24 29.8	
	comp=N,980μm,0.2s						
RLS				AML	AML	02 24 29.8	
	comp=E,1237μm,0.3s						
ARGA	**Argostoli. Kep**	**0.57**	**323**	P	**Pb**	**02 24 21.0**	**+0.6**
ARGA				S	**Sn**	**02 24 30.0**	**-0.5**
KEF3	**Kipouria, Keph**	**0.65**	**317**	P	**Pb**	**02 24 22.4**	**+0.5**
KEF3				S	**Sn**	**02 24 32.8**	**+0.2**
KEF5	**Kardakata, Kep**	**0.66**	**328**	P	**Pb**	**02 24 22.3**	**+0.4**
KEF5				S	**Sn**	**02 24 32.0**	**-0.6**
KEF4	**Livadi, Kephal**	**0.66**	**325**	P	**Pb**	**02 24 22.5**	**+0.6**
KEF4				S	**Sn**	**02 24 32.8**	**+0.1**
AMT	**Artemida-Makis**	**0.66**	**106**	P	**Pb**	**02 24 22.1**	**+0.1**
AMT				S	**Sn**	**02 24 32.1**	**-0.7**
	comp=E,1μm,0.3s						
AMT	**Artemida-Makis**	**0.66**	**106**	P	**Pb**	**02 24 21.9**	**0.0**
AMT				AML	AML	02 24 33.4	
	comp=E,2097μm,0.3s						
AMT				AML	AML	02 24 33.5	
	comp=N,2168μm,0.3s						
DRO	**Drossia**	**0.67**	**70**	P	**Pb**	**02 24 22.2**	**0.0**
DRO				S	**Sn**	**02 24 32.3**	**-0.8**
	comp=N,948nm,0.3s						
DRO	**Drossia**	**0.67**	**70**	P	**Pb**	**02 24 22.2**	**0.0**
DRO				S	**Sb**	**02 24 31.3**	**+0.2**
DRO				AML	AML	02 24 36.3	
	comp=E,722μm,0.3s						
DRO				AML	AML	02 24 36.6	
	comp=N,3025μm,0.4s						
FSK	**Fiskardo**	**0.79**	**340**	P	**Pb**	**02 24 24.5**	**+0.5**
FSK				S	**Sn**	**02 24 36.0**	**+0.2**
EVGl	**Lefkada island**	**0.92**	**348**	P	**Pb**	**02 24 26.7**	**+0.4**
ITM	**Ithomi**	**0.97**	**123**	P	**Pn**	**02 24 27.6**	**+0.2**
ITM				S	**Sn**	**02 24 41.7**	**+1.2**
	comp=N,260nm,0.5s						
ITM	**Ithomi**	**0.97**	**123**	P	**Pn**	**02 24 27.8**	**+0.5**
ITM				AML	AML	02 24 44.3	
	comp=E,546μm,0.2s						
ITM				AML	AML	02 24 48.7	
	comp=N,485μm,0.7s						
PVO	**Paravola**	**1.02**	**28**	P	**Pn**	**02 24 28.7**	**+0.7**
PVO				AML	AML	02 24 49.6	
	comp=E,518μm,0.3s						
PVO				AML	AML	02 24 51.3	
	comp=N,652μm,0.4s						
KLV	**Kalavryta, Ach**	**1.03**	**71**	P	**Pb**	**02 24 28.2**	**-0.1**
KLV				S	**Sn**	**02 24 42.8**	**+0.7**
	comp=N,122nm,0.5s						
KLV	**Kalavryta, Ach**	**1.03**	**71**	P	**Pb**	**02 24 28.1**	**-0.1**
KLV				AML	AML	02 24 49.3	
	comp=E,235μm,0.5s						
KLV				AML	AML	02 24 49.4	
	comp=N,235μm,0.4s						
PYL	**PYLOS**	**1.06**	**141**	P	**Pn**	**02 24 28.6**	**0.0**
LKD2	**Lefkada island**	**1.08**	**350**	P	**Pb**	**02 24 29.5**	**+0.3**
LKD2				AML	AML	02 24 52.6	
	comp=E,348μm,0.6s						
LKD2				AML	AML	02 24 56.2	
	comp=N,334μm,0.5s						
TRIP	**Tripoli**	**1.10**	**100**	P	**Pn**	**02 24 29.3**	**+0.2**
TRIP				AML	AML	02 24 52.4	
	comp=E,333μm,0.5s						
TRIP				AML	AML	02 24 57.2	
	comp=N,281μm,0.8s						
TSLK	**Tsoukalades, L**	**1.12**	**350**	P	**Pb**	**02 24 30.4**	**+0.6**
TRIZ	**Trizonia**	**1.12**	**55**	P	**Pn**	**02 24 29.7**	**+0.3**
SERG	**Sergoula**	**1.14**	**52**	P	**Pn**	**02 24 29.7**	**0.0**
SERG				S	**Sn**	**02 24 45.2**	**+0.6**
	comp=N,180nm,0.2s						
SERG	**Sergoula**	**1.14**	**52**	P	**Pn**	**02 24 29.9**	**+0.3**
SERG				AML	AML	02 24 49.9	
	comp=N,338μm,0.2s						
SERG				AML	AML	02 24 55.0	
	comp=E,382μm,0.3s						
KALE	**Kalithea**	**1.18**	**55**	P	**Pn**	**02 24 30.5**	**+0.3**
KALE				AML	AML	02 24 55.2	
	comp=N,365μm,0.3s						
KALE				AML	AML	02 24 56.0	
	comp=E,332μm,0.5s						
ANX	**Ano Chora**	**1.18**	**42**	P	**Pb**	**02 24 30.9**	**+0.1**
ANX				AML	AML	02 24 55.5	
	comp=E,569μm,0.7s						
ANX				AML	AML	02 24 57.0	
	comp=N,459μm,0.5s						
VLX	**Vlachokerasia**	**1.22**	**106**	P	**Pb**	**02 24 31.4**	**0.0**
VLX				AML	AML	02 24 56.5	
	comp=E,316μm,0.6s						
VLX				AML	AML	02 25 04.0	
	comp=N,373μm,0.7s						
MAKR	**Makrakomi, Fth**	**1.61**	**36**	P	**Pb**	**02 24 39.0**	**+0.9**
PROD	**Prodromos**	**1.66**	**71**	P	**Pb**	**02 24 40.6**	**+1.6**
PROD				AML	AML	02 25 09.4	
	comp=E,148μm,0.3s						
PROD				AML	AML	02 25 11.1	
	comp=N,141μm,0.4s						
AGG	**Agios Georgios**	**1.71**	**40**	P	**Pb**	**02 24 41.2**	**+1.3**
DID	**Didima**	**1.86**	**96**	P	**Pb**	**02 24 42.5**	**+0.1**
DID				AML	AML	02 25 16.2	
	comp=N,138μm,0.6s						
DID				AML	AML	02 25 19.4	
	comp=E,135μm,0.6s						
VIL2	**Platees**	**1.93**	**75**	P	**Pb**	**02 24 44.2**	**+0.7**
VLY	**Voula,Athens**	**2.29**	**86**	P	**Pb**	**02 24 48.3**	**-1.4**
DBRK	**Dubrovnik**	**5.38**	**338**	Sn	**Sn**	**02 26 28.1**	**-0.9**
MAKA	**Makarska**	**6.30**	**333**	Sn	**Sn**	**02 26 49.0**	**-2.7**
RICI	**Ricice**	**6.44**	**335**	*e*Pn	**Pn**	**02 25 41.0**	**-1.6**
RICI				Sn	**Sn**	**02 26 49.1**	**-6.3**
MORI	**Morici**	**7.30**	**329**	*e*Pn	**Pn**	**02 25 55.7**	**+1.5**
MORI				Sn	**Sn**	**02 27 14.5**	**-1.8**
DUGI	**Dugi Otok**	**7.67**	**327**	Sn	**Sn**	**02 27 26.5**	**+0.9**

*IDC **23** 02:38:02.3±1.1, 6°85S×154°88E, h0km, mb3.8/5, mb1 4.1/6, mb1mx3.8/26, mbtmp3.8/6, ML3.8/1, MS3.1/4, Ms1 3.1/4, ms1mx2.8/28, Error ellipse: s-maj=45.2km s-min=27.1km az=131.0*
*NEIC **23** 02:38:08.6±2.5, 7°07S±0°07×154°88E±0°08, h35km±2km, mb4.3/6, Error ellipse: s-maj=15.2km s-min=8.3km az=53.0*
ISC 23 02:38:08.8±0.7, 6°95S±0°07×154°85E±0°09, h41km, n25, σ1°§18/25, mb4.0/8, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.82**	**316**	Pn	**Pn**	**02 39 08.7**	**+3.4**
KRVT	**Keravat (AS076**	**3.84**	**313**	Pn	**Pn**	**02 39 03.3**	**-2.1**
	7.1nm,0.3s,baz=218,slow=2.0,SNR=1.7						
KRVT				Sn	**Sn**	**02 39 48.0**	**-1.3**
	12nm,0.3s,baz=29,slow=19,SNR=4.0						
KRVT				Lg	Lg	02 40 04.1	
	22nm,0.3s,baz=135,slow=20,SNR=2.6						
HNR	**Honiara**	**5.62**	**116**	LR	LR	02 41 45.9	
	comp=Z,218nm,19.0s,baz=176,slow=40						
PMG	**Port Moresby**	**7.99**	**252**	LR	LR	02 43 21.1	
	comp=Z,110nm,18.4s,baz=330,slow=40						
PMG	**Port Moresby**			Pn	**Pn**	**02 40 03.0**	**+0.6**
PMG				Sn	**Sn**	**02 41 33.0**	**+1.3**
PATS	**Pohnpei**	**14.12**	**14**	Pn	**Pn**	**02 41 27.8**	**+1.4**
DZM	**Mont Dzumac**	**18.75**	**145**		**Pn**	**02 42 24.9**	**-0.3**
DZM				IAmb	IAmb	02 42 42.2	
	comp=Z,20nm,1.5s						
WR0	**Warramunga Arr**	**23.57**	**235**	P	**P**	**02 43 16.4**	**+0.6**
WR0				IAmb	IAmb	02 43 22.1	
	comp=Z,8.8nm,1.1s						
WB2	**Warramunga Arr**	**23.71**	**235**	P	**P**	**02 43 17.2**	**0.0**
WB2				IAmb	IAmb	02 43 30.0	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**23.72**	**235**	P	**P**	**02 43 16.5**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=59,slow=9.5,SNR=4.6						
WRA				PcP	**PcP**	**02 47 01.3**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=58,slow=2.6,SNR=6.4						
ASAR	**Alice Springs**	**26.09**	**228**	P	**P**	**02 43 39.3**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=51,slow=9.9,SNR=6.6						
STKA	**Stephens Creek**	**27.72**	**205**	LR	LR	02 54 23.4	
	comp=Z,74nm,18.1s,baz=288,slow=35						
FITZ	**Fitzroy Crossi**	**30.54**	**246**	P	**P**	**02 44 18.1**	**-0.5**
NWAO	**Narrogin (SRO)**	**43.41**	**228**	P	**P**	**02 46 07.1**	**-0.7**
KSRS	**Korea Array**	**50.83**	**332**	LR	LR	03 05 54.3	
	comp=Z,8.7nm,21.5s,baz=40,slow=33						
PETK	**Petropavlovsk-**	**59.87**	**2**	P	**P**	**02 48 11.3**	**+1.0**
CMAR	**Chiang Mai Arr**	**60.63**	**296**	P	**P**	**02 48 16.1**	**0.0**
QSPA	**South Pole Qui**	**83.03**	**180**	P	**P**	**02 50 30.7**	**+0.9**
QSPA				IAmb	IAmb	02 50 32.5	
	comp=Z,5.6nm,1.3s						
MK31	**Makanchi Array**	**83.27**	**319**	P	**P**	**02 50 30.8**	**-0.5**
MKAR	**Makanchi Array**	**83.27**	**319**	P	**P**	**02 50 30.5**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=99,slow=4.2,SNR=6.0						
MKAR	**Makanchi Array**	**83.27**	**319**	P	**P**	**02 50 30.4**	**-0.9**
ILAR	**Eielson Array**	**83.38**	**22**	P	**P**	**02 50 30.2**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=252,slow=5.4,SNR=2.9						
NVAR	**Mina Array Bea**	**91.81**	**52**	P	**P**	**02 51 12.9**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=258,slow=7.0,SNR=3.7						
GERES	**GERESS Array B**	**126.93**	**329**	PKP	**PKPdf**	**02 57 08.3**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=82,slow=1.4,SNR=5.2						
TORD	**Torodi Ar. Bea**	**152.87**	**285**	PKPbc	**PKPbc**	**02 58 01.7**	**-0.9**
	comp=Z,1.5nm,0.7s,baz=71,slow=2.4,SNR=6.7						
TORD				PKPab	**pPKPbc**	**02 58 12.8**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=64,slow=2.2,SNR=5.3						

*MDD **23** 02:38:38.5±2.7, 37°38N×14°81W, h0km, mb3.7/2, Error ellipse: s-maj=25.5km s-min=21.1km az=177.0, PRXIMO*
*INMG **23** 02:38:41.7±1.4, 37°02N×15°07W, h10km, ML2.1, Error ellipse: s-maj=12.7km s-min=10.6km az=114.0*
ISC 23 02:38:39.6±4.0, 37°4N±0°1×14°6W±0°2, h10km, n41, σ1°§57/57, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMAFR	**Mafra**	**4.49**	**68**	P	**Pn**	**02 39 49.2**	**+1.5**
	0.9nm,0.2s,SNR=6.3						
PMAFR				S	**Sn**	**02 40 40.0**	**-0.1**
	5.8nm,0.2s,SNR=6.9						
PMAFR	**Mafra**	**4.49**	**68**	*e*Pn	**Pn**	**02 39 50.3**	**+2.6**
PMAFR				*e*Sn	**Sn**	**02 40 41.7**	**+1.6**
PMAFR				A	A	02 40 47.6	
	8.0nm,0.6s						
PFVI	**Vila Bisbo**	**4.63**	**91**	P	**Pn**	**02 39 49.2**	**-0.5**
	1.0nm,0.2s,SNR=4.0						
PFVI				S	**Sn**	**02 40 40.7**	**-2.8**
	1.2nm,0.3s,SNR=7.9						
PFVI	**Vila Bisbo**	**4.63**	**91**	*e*Pn	**Pn**	**02 39 50.4**	**+0.8**
PFVI				*e*Sn	**Sn**	**02 40 41.3**	**-2.2**
PTEO	**Sao Teotonio**	**4.70**	**86**	S	**Sn**	**02 40 43.9**	**-1.2**
PTEO	**Sao Teotonio**	**4.70**	**86**	*e*Sn	**Sn**	**02 40 43.9**	**-1.2**
MORF	**Marmelete**	**4.76**	**89**	P	**Pn**	**02 39 52.9**	**+1.4**
MORF				S	**Sn**	**02 40 45.6**	**-1.2**
	2.3nm,0.8s						
MORF	**Marmelete**	**4.76**	**89**	*e*Pn	**Pn**	**02 39 52.9**	**+1.4**
MORF				*e*Sn	**Sn**	**02 40 45.6**	**-1.2**
MORF				A	A	02 40 47.8	
	2.3nm,0.8s						
PNCL	**Nicolau / Gran**	**4.89**	**80**	S	**Sn**	**02 40 48.2**	**-1.5**
	1.3nm,0.8s						
PNCL	**Nicolau / Gran**	**4.89**	**80**	*e*Sn	**Sn**	**02 40 48.2**	**-1.5**
PNCL				A	A	02 41 03.4	
	1.3nm,0.8s						
PSBE	**So Bento**	**5.05**	**63**	*e*Sn	**Sn**	**02 40 57.1**	**+3.3**
MESJ	**Messejana**	**5.11**	**83**	S	**Sn**	**02 40 55.3**	**+0.1**
	1.8nm,0.5s						
MESJ	**Messejana**	**5.11**	**83**	*e*Sn	**Sn**	**02 40 55.3**	**+0.1**
MESJ				A	A	02 41 00.0	
	1.8nm,0.5s						
PCVE	**Castro Verde**	**5.24**	**85**	S	**Sn**	**02 40 57.8**	**-0.7**
	1.3nm,0.4s						
PCVE	**Castro Verde**	**5.24**	**85**	*e*Sn	**Sn**	**02 40 57.8**	**-0.7**
PCVE				A	A	02 41 03.6	
	1.3nm,0.4s						
PMTG	**Montagril**	**5.31**	**70**	P	**Pn**	**02 40 01.4**	**+2.4**
PMTG				S	**Sn**	**02 41 00.6**	**+0.3**
	1.0nm,0.2s						
PMTG	**Montagril**	**5.31**	**70**	*e*Pn	**Pn**	**02 40 01.4**	**+2.4**
PMTG				*e*Sn	**Sn**	**02 41 00.6**	**+0.3**
PMTG				A	A	02 41 04.1	
	1.0nm,0.2s						
PBDV	**Barranco-do-Ve**	**5.34**	**89**	P	**Pn**	**02 40 00.7**	**+1.3**
PBDV				S	**Sn**	**02 41 02.0**	**+1.1**
	1.6nm,0.7s						
PBDV	**Barranco-do-Ve**	**5.34**	**89**	*e*Pn	**Pn**	**02 40 00.7**	**+1.3**
PBDV				*e*Sn	**Sn**	**02 41 02.0**	**+1.1**
PBDV				A	A	02 41 06.7	
	1.6nm,0.7s						
EVO	**Evora**	**5.35**	**76**	S	**Sn**	**02 41 01.2**	**0.0**
	1.5nm,0.3s						
EVO	**Evora**	**5.35**	**76**	*e*Sn	**Sn**	**02 41 01.2**	**0.0**
EVO				A	A	02 41 05.9	
	1.5nm,0.3s						
PBEJ	**Beja**	**5.40**	**81**	S	**Sn**	**02 41 02.1**	**-0.3**
PBEJ	**Beja**	**5.40**	**81**	*e*Sn	**Sn**	**02 41 02.1**	**-0.3**
PCAS	**Casmilo, Conde**	**5.48**	**59**	S	**Sn**	**02 41 02.4**	**-2.1**
	1.1nm,0.7s						
PCAS	**Casmilo, Conde**	**5.48**	**59**	*e*Sn	**Sn**	**02 41 02.4**	**-2.1**
PCAS				A	A	02 41 09.7	
	1.1nm,0.7s						
PVAQ	**Vaqueiros**	**5.50**	**88**	S	**Sn**	**02 41 03.9**	**-1.0**
	1.7nm,0.5s						
PVAQ	**Vaqueiros**	**5.50**	**88**	*e*Sn	**Sn**	**02 41 03.9**	**-1.0**
PVAQ				A	A	02 41 08.5	
	1.7nm,0.5s						
EGRO	**El Granado**	**5.69**	**86**	S	**Sn**	**02 41 08.5**	**-0.9**
	0.7nm,0.2s,SNR=7.9						
PMRV	**Marv??o**	**6.04**	**68**	P	**Pn**	**02 40 09.6**	**+0.6**
PMRV				S	**Sn**	**02 41 17.9**	**-0.2**
	1.0nm,0.3s						
PMRV	**Marv??o**	**6.04**	**68**	*e*Pn	**Pn**	**02 40 09.6**	**+0.6**
PMRV				*e*Sn	**Sn**	**02 41 17.9**	**-0.2**
PMRV				A	A	02 41 20.4	
	1.0nm,0.3s						
EBAD	**Badajoz**	**6.16**	**75**	P	**Pn**	**02 40 11.1**	**+0.4**
	0.2nm,0.2s,SNR=7.9						
EBAD				S	**Sn**	**02 41 19.6**	**-1.6**
	0.8nm,0.6s,SNR=6.9						
PVIS	**Viseu**	**6.21**	**56**	S	**Sn**	**02 41 22.7**	**+0.4**
	0.7nm,0.1s						
PVIS	**Viseu**	**6.21**	**56**	*e*Sn	**Sn**	**02 41 22.7**	**+0.4**
PVIS				A	A	02 41 26.6	
	1.4nm,0.1s						
MTE	**Manteigas**	**6.29**	**59**	S	**Sn**	**02 41 25.7**	**+1.2**
	0.6nm,0.7s						
MTE	**Manteigas**	**6.29**	**59**	*e*Sn	**Sn**	**02 41 25.7**	**+1.2**
MTE				A	A	02 41 28.6	
	1.2nm,0.7s						
EMIN	**Mina Concepcio**	**6.33**	**84**	P	**Pn**	**02 40 13.6**	**+0.7**
	0.1nm,0.1s,SNR=4.0						
EMIN				S	**Sn**	**02 41 23.2**	**-2.1**
	0.3nm,0.1s,SNR=7.9						
EZAM	**Zamans**	**6.60**	**42**	S	**Sn**	**02 41 28.1**	**-3.7**
	0.4nm,0.1s,SNR=7.9						
ELOB	**Lobios**	**6.76**	**46**	P	**Pn**	**02 40 18.3**	**-0.7**
	0.1nm,0.1s,SNR=7.9						
ELOB				S	**Sn**	**02 41 33.3**	**-2.7**
	0.2nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**7.00**	**55**	S	**Sn**	**02 41 40.4**	**-1.5**
	0.0nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**7.33**	**82**	P	**Pn**	**02 40 27.2**	**+0.5**

PB08				*i* S		Sg	02 45 57.9	-0.8
PB08				IAML			02 46 00.0	
	comp=N,616nm,0.2s							
PB08	**IPOC Station P**	**1.72**	**94**			**Pb**	**02 45 34.9**	**-0.5**
PB08				Sn		**Sb**	**02 45 57.3**	**+0.1**
PB01	**IPOC Station P**	**1.73**	**126**	*eP*		**Pb**	**02 45 34.6**	**-0.8**
PB01				*i* S		**Sb**	**02 45 56.9**	**-0.4**
PB01				IAML			02 46 03.8	
	comp=E,582nm,0.6s							
PB01	**IPOC Station P**	**1.73**	**126**			**Pb**	**02 45 34.8**	**-0.5**
AP01	**Chacalluta**	**1.75**	**20**	⇓*i* P		**Pb**	**02 45 34.7**	**-0.8**
AP01				*eS*		**Sb**	**02 45 57.5**	**-0.1**
AP01	**Chacalluta**	**1.75**	**20**	Pn		**Pb**	**02 45 35.2**	**-0.4**
PB07	**IPOC Station P**	**1.98**	**149**	⇓*i* P		**Pn**	**02 45 37.9**	**+0.6**
PB07				*eS*		**Sg**	**02 46 08.2**	**+1.1**
PB07				IAML			02 46 16.1	
	comp=E,298nm,0.6s							
PB07	**IPOC Station P**	**1.98**	**149**			**Pn**	**02 45 37.6**	**+0.4**
PB03	**IPOC Station P**	**2.32**	**151**	⇓*i* P		**Pn**	**02 45 42.6**	**+0.7**
PB03				*eS*		**Sg**	**02 46 19.0**	**+1.0**
PB03				IAML			02 46 26.1	
	comp=E,165nm,0.1s							
PB09	**IPOC Station P**	**2.40**	**138**	Pn		**Pn**	**02 45 44.7**	**+1.7**
PB04	**IPOC Station P**	**2.43**	**162**	*eP*		**Pn**	**02 45 44.7**	**+1.2**
PB04				*eS*		**Sn**	**02 46 15.1**	**+1.6**
PB04				IAML			02 46 34.5	
	comp=E,253nm,0.5s							
PB04	**IPOC Station P**	**2.43**	**162**	Pn		**Pn**	**02 45 43.4**	**0.0**
PB06	**IPOC Station P**	**2.98**	**154**	Pn		**Pn**	**02 45 51.0**	**0.0**
LVC	**Limon Verde**	**3.22**	**144**	Pn		**Pn**	**02 45 56.3**	**+1.8**
PB15	**IPOC Station P**	**3.47**	**156**			**Pn**	**02 45 58.1**	**+0.3**
PB10	**IPOC Station P**	**3.50**	**174**	Pn		**Pn**	**02 45 57.2**	**-0.8**
LPAZ	**La Paz**	**4.59**	**37**	Pn		**Pn**	**02 46 18.0**	**+4.4**
	comp=E,0.2nm,0.3s,baz=203,slow=11,SNR=16							
LPAZ				Lg		Lg	02 47 31.4	
	comp=E,0.1nm,0.3s,baz=329,slow=19,SNR=1.0							
LPAZ				LR		LR	02 48 09.4	
	comp=E,108nm,19.5s,baz=240,slow=38							
LPAZ	**La Paz**	**4.59**	**37**			**Pn**	**02 46 14.9**	**+1.3**
GO02	**Mina Guanaco**	**5.28**	**166**	Pn		**Pn**	**02 46 23.0**	**+0.3**
H03N1	**Juan Fernandez**	**15.12**	**206**	T		T	03 04 25.0	
	baz=32,slow=72,SNR=15							
H03N2	**Juan Fernandez**	**15.13**	**206**	T		T	03 04 25.7	
	baz=32,slow=72,SNR=6.7							
H03N3	**Juan Fernandez**	**15.14**	**206**	T		T	03 04 24.6	
	baz=32,slow=72,SNR=8.2							
PTGA	**Pitinga**	**21.99**	**31**	P		**P**	**02 49 56.9**	**-1.0**
PTGA				IAmb		IAmb	02 50 00.0	
	comp=Z,5.9nm,1.1s							
RUSC	**La Rusia**	**25.83**	**355**	P		**P**	**02 50 37.0**	**+1.2**
GO09	**Cerro Castillo**	**31.21**	**182**	P		**P**	**02 51 22.7**	**-0.2**
GO09				IAmb		IAmb	02 51 33.1	
	comp=Z,35nm,1.4s							
TOA0	**Torodi Ar. Sit**	**78.70**	**71**	P		**P**	**02 57 05.5**	**-1.1**
TOA0				IAmb		IAmb	02 57 12.4	
	comp=Z,4.5nm,1.4s							
TORD	**Torodi Ar. Bea**	**78.70**	**71**	P		**P**	**02 57 05.5**	**-1.1**
	comp=Z,1.7nm,0.8s,baz=255,slow=4.9,SNR=7.3							
TORD	**Torodi Ar. Bea**	**78.70**	**71**	P		**P**	**02 57 05.7**	**-0.9**
H11S2	**WAKE ISLAND Hyl**	**25.75**	**279**	T		T	05 23 38.5	
	baz=104							
H11S1	**WAKE ISLAND Hyl**	**25.76**	**279**	T		T	05 23 25.1	
	baz=104							
H11S3	**WAKE ISLAND Hyl**	**25.77**	**279**	T		T	05 23 34.5	
	baz=104							
MKAR	**Makanchi Array**	**145.51**	**33**	PKPbc		**PKPab**	**03 04 42.9**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=316,slow=3.3,SNR=4.6							
MKAR	**Makanchi Array**	**145.51**	**33**			**PKPab**	**03 04 42.2**	**-0.1**
SONM	**Songino Array**	**152.17**	**4**	PKPbc		**PKiKP**	**03 05 00.1**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=11,slow=1.5,SNR=2.2							

*IDC **23** 02:56:16.1±2.7, 36.08N×82.03E, h0km, mb3.3/2, mb1 3.6/6, mb1mx3.3/44, mbtmp3.6/6, ML3.4/3, Error ellipse: s-maj=51.2km s-min=34.5km az=133.0*

ISC 23 02:56:21.9±2.0, 36.2N±0.2×82.0E±0.2, h35km, n7, σ1.1s43/7, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**8.63**	**320**	Lg	Lg	03 00 54.5	
	0.3nm,0.3s,baz=151,slow=19,SNR=1.7						
MKAR	**Makanchi Array**	**10.55**	**1**	Pn	**Pn**	**02 58 51.3**	**+0.8**
	0.4nm,0.3s,baz=181,slow=14,SNR=11						
MKAR					**Sn**	**03 00 47.1**	**-0.2**
	0.1nm,0.3s,baz=189,slow=25,SNR=3.0						
KURBB	**Kurchatov Arra**	**14.59**	**351**	Pn	**Pn**	**02 59 43.4**	**-2.3**
	0.1nm,0.3s,baz=168,slow=11,SNR=1.9						
ZALV	**Zalesovo Beam**	**17.82**	**5**	P	**Pn**	**03 00 25.9**	**-1.0**
	1.0nm,0.3s,baz=193,slow=12,SNR=1.5						
BVAR	**Borovoye Array**	**18.67**	**338**	P	**Pn**	**03 00 38.4**	**+1.1**
	baz=139,slow=11,SNR=2.0						
SONM	**Songino Array**	**21.40**	**50**	P	**P**	**03 01 06.8**	**+0.1**
	2.4nm,1.1s,baz=235,slow=12,SNR=4.8						
TORD	**Torodi Ar. Bea**	**74.60**	**275**	P	**P**	**03 07 57.4**	**-0.4**
	0.4nm,1.0s,baz=55,slow=6.8,SNR=1.7						

IDC 23 03:02:18.5±1.7, 7.92S×126.75E, h0km, mb3.9/2, mb1 3.9/4, mb1mx3.6/29, mbtmp3.8/4, ML3.7/2, Error ellipse: s-maj=239.9km s-min=30.8km az=63.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.03**	**149**	Pn	Pn	03 05 37.5	-1.3
	0.5nm,0.3s,baz=324,slow=14,SNR=5.3						
WRA				Sn	Sn	03 08 07.1	-8.3
	0.3nm,0.3s,baz=337,slow=32,SNR=2.0						
ASAR	**Alice Springs**	**17.09**	**157**	P	P	03 06 20.1	-0.8
	0.2nm,0.3s,baz=339,slow=14,SNR=14						
ASAR				S	Sn	03 09 23.2	-6.7
	0.1nm,0.3s,baz=326,slow=23,SNR=2.5						
MKAR	**Makanchi Array**	**67.28**	**329**	P	P	03 13 15.1	+0.1
	0.4nm,0.7s,baz=134,slow=8.3,SNR=4.0						
ZALV	**Zalesovo Beam**	**71.02**	**335**	P	P	03 13 38.0	-0.1
	0.8nm,0.3s,baz=131,slow=4.2,SNR=1.8						

*IDC **23** 03:02:28.2±6.2, 36.10N×70.69E, h180km±63km, mb3.3/3, mb1 3.1/7, mb1mx2.8/40, mbtmp3.7/7, Error ellipse: s-maj=64.5km s-min=43.7km az=134.0*

ISC 23 03:02:21.7±2.2, 35.9N±0.2×70.5E±0.2, h110km, n13, σ3.9s19/14, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**6.71**	**21**	P	**Pn**	**03 04 01.4**	**+3.5**
	SNR=51						
UCH	**Uchtor**	**7.05**	**25**	P	**Pn**	**03 04 06.4**	**+3.7**
	SNR=26						
EKS2	**Erkin-Say**	**7.22**	**19**	P	**Pn**	**03 04 08.6**	**+4.0**
	SNR=14						
AAK	**Ala-Archa**	**7.41**	**23**	P	**Pn**	**03 04 10.4**	**+3.1**
	2.6nm,0.3s,baz=220,slow=9.1,SNR=7.7						
AAK				S	**Sn**	**03 05 26.6**	**-3.2**
	0.5nm,0.3s,baz=109,slow=22,SNR=4.7						
AAK	**Ala-Archa**	**7.41**	**23**	P	**Pn**	**03 04 10.7**	**+3.4**
	SNR=6.9						
KBK	**Karagaybulak**	**7.58**	**26**	P	**Pn**	**03 04 13.4**	**+3.8**
	SNR=5.5						
TKM2	**Tokmak 2**	**8.05**	**28**	P	**Pn**	**03 04 19.1**	**+3.2**
	SNR=13						
MKAR	**Makanchi Array**	**14.01**	**35**	P	**P**	**03 05 36.9**	**-2.7**
	0.1nm,0.3s,baz=217,slow=11,SNR=2.5						
KURBB	**Kurchatov Arra**	**15.83**	**19**	P	**P**	**03 05 58.2**	**-1.5**
	0.1nm,0.3s,baz=206,slow=11,SNR=3.0						
AKTO	**Aktyubinsk**	**17.13**	**332**	P	**Pn**	**03 06 14.3**	**+0.2**
	0.3nm,0.3s,baz=114,slow=9.6,SNR=3.6						
ZALV	**Zalesovo Beam**	**20.63**	**24**	P	**P**	**03 06 50.4**	**-1.7**
	1.0nm,0.3s,baz=218,slow=10,SNR=1.6						
FINES	**FINESS Array B**	**37.78**	**327**	P	**P**	**03 09 25.8**	**-1.0**
	2.1nm,0.9s,baz=123,slow=10,SNR=4.2						
TORD	**Torodi Ar. Bea**	**65.32**	**269**	P	**P**	**03 12 52.1**	**-0.2**
	0.4nm,0.6s,baz=44,slow=5.5,SNR=9.7						

KRSC 23 03:03:31.7±2.6, 50.09N×158.48E, h48km±45km, ML4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.62**	**292**	*eP*	Pn	03 03 59.3	+1.5
SKR				*eS*	Sn	03 04 18.9	+1.4
PAU	**Pauzhetka**	**1.74**	**323**	*eP*	Pn	03 04 01.7	+2.3
PAU				*eS*	Sn	03 04 22.9	+2.5
KDTR	**Khodutka, Kamc**	**1.74**	**352**	*eP*	Pn	03 04 01.4	+2.0
KDTR				*eS*	Sn	03 04 23.0	+2.6
ALID	**Alaid**	**2.03**	**294**	*eP*	Pn	03 04 05.9	+2.4
ASAK	**Asacha**	**2.33**	**351**	*eP*	Pn	03 04 10.6	+3.1
RUS	**Russkaya**	**2.35**	**1**	*eP*	Pn	03 04 09.6	+1.9
RUS				*eS*	Sn	03 04 36.9	+1.6
MTVR	**Mutnovka**	**2.41**	**356**	*eP*	Pn	03 04 11.1	+2.4
MTVR				*eS*	Sn	03 04 39.9	+3.0
GRL	**Gorelyy**	**2.48**	**354**	*eP*	Pn	03 04 12.6	+2.9
GRL				*eS*	Sn	03 04 41.3	+2.5
KRMR	**Karymshinskiy**	**2.75**	**356**	*eP*	Pn	03 04 23.0	+10
PET	**Petropavlovsk**	**2.94**	**2**	*eP*	Pn	03 04 18.6	+2.7
DALK	**Dalny**	**2.95**	**3**	*eP*	Pn	03 04 18.8	+2.8
UGLR	**Uglovaya**	**3.13**	**4**	*eP*	Pn	03 04 21.5	+2.9
SPN	**Mys Shipunski**	**3.16**	**17**	*eP*	Pn	03 04 21.7	+2.8
AVH	**Avacha**	**3.19**	**3**	*eP*	Pn	03 04 22.8	+3.5
SMAR	**Somma**	**3.19**	**3**	*eP*	Pn	03 04 22.7	+3.3
SDLR	**Sedlovina**	**3.20**	**4**	*eP*	Pn	03 04 21.8	+2.2
KOK	**Koryaka**	**3.21**	**2**	*eP*	Pn	03 04 23.1	+3.5
KRER	**Koryakskii**	**3.23**	**3**	*eP*	Pn	03 04 23.4	+3.5
KRX	**Arik**	**3.28**	**2**	*eP*	Pn	03 04 23.8	+3.2
TUMD	**Tumrok D**	**5.25**	**12**	*eP*	Pn	03 04 51.4	+3.8
TUMR	**Tumrok**	**5.30**	**10**	*eP*	Pn	03 04 53.3	+5.0
KMNR	**Kamenistaya**	**5.78**	**10**	*eP*	Pn	03 05 00.8	+6.0
SRDR	**Sredinnyy**	**6.28**	**6**	*eP*	Pn	03 05 06.3	+4.6
BKI	**Bering**	**6.86**	**39**	*eP*	Pn	03 05 12.1	+2.6

*NEIC **23** 03:15:58.8±1.1, 19.47N±0.04×66.34W±0.04, h26km±13km, Error ellipse: s-maj=7.1km s-min=4.8km az=132.0*
*RSPR **23** 03:15:58.0, 19.63N×66.31W, h11km±6km, MD3.2/9*

ISC 23 03:15:55.7±2.1, 19.55N±0.09×66.24W±0.04, h13km±10km, n34, σ0.945/42, 11C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**1.10**	**194**	⇑*eP*	**Pg**	**03 16 16.8**	**0.0**
EMPR	**Esperanza - Ma**	**1.10**	**194**	*eS*	**Sn**	**03 16 31.9**	**+0.1**
EMPR	**Esperanza - Ma**	**1.10**	**194**		**Pg**	**03 16 17.0**	**+0.1**
GCPR	**Guaynabo City**	**1.24**	**173**	⇑*eP*	**Pg**	**03 16 19.6**	**0.0**
GCPR	**Guaynabo City**	**1.24**	**173**		**Pb**	**03 16 18.8**	**-0.1**
GCPR					**Sb**	**03 16 34.4**	**-0.4**
AOPR	**Arecibo Observ**	**1.29**	**202**	⇑*eP*	**Pn**	**03 16 19.3**	**-0.1**
AOPR	**Arecibo Observ**	**1.29**	**202**	*eS*	**Sg**	**03 16 37.0**	**-0.3**
AOPR	**Arecibo Observ**	**1.29**	**202**		**Pn**	**03 16 18.9**	**-0.5**
AOPR					**Sb**	**03 16 34.4**	**-1.9**
CBYP	**Canovanas**	**1.32**	**164**	⇑*eP*	**Pg**	**03 16 20.9**	**-0.2**
CBYP	**Canovanas**	**1.32**	**164**	⇑*eP*	**Pg**	**03 16 21.1**	**+0.1**
CBYP				*eS*	**Sg**	**03 16 38.4**	**+0.2**
CBYP	**Canovanas**	**1.32**	**164**	Pn	**Pb**	**03 16 20.4**	**+0.1**
CBYP					**Sn**	**03 16 37.7**	**+0.3**
AGPR	**Aguadilla, PR**	**1.35**	**218**	Pn	**Pg**	**03 16 22.5**	**+0.8**
SJG	**San Juan**	**1.43**	**177**	Pn	**Pb**	**03 16 22.3**	**+0.1**
CUPR	**Culebra, Puert**	**1.53**	**144**	⇑*eP*	**Pb**	**03 16 24.3**	**+0.4**
CUPR	**Culebra, Puert**	**1.53**	**144**	*eS*	**Sb**	**03 16 43.4**	**+0.2**
CUPR	**Culebra, Puert**	**1.53**	**144**		**Pb**	**03 16 24.0**	**+0.2**
PDPR	**Patillas Dam,**	**1.53**	**172**	*eS*	**Sb**	**03 16 43.5**	**+0.2**
PDPR	**Patillas Dam,**	**1.53**	**172**	Pn	**Pb**	**03 16 24.0**	**+0.1**
PDPR					**Sn**	**03 16 42.4**	**-0.1**
OBIP	**Obispado Ponce**	**1.54**	**193**	Pn	**Pb**	**03 16 23.8**	**-0.2**
IGPR	**InterUniversit**	**1.58**	**175**	⇑*eP*	**Pn**	**03 16 23.9**	**+0.6**
IGPR	**InterUniversit**	**1.58**	**175**	*eS*	**Sb**	**03 16 44.6**	**0.0**
LSP	**Las Mesas**	**1.58**	**211**	⇑*eP*	**Pn**	**03 16 23.6**	**+0.2**
LSP	**Las Mesas**	**1.58**	**211**	*eS*	**Sn**	**03 16 43.7**	**-0.1**
LSP	**Las Mesas**	**1.58**	**211**		**Pn**	**03 16 23.6**	**+0.2**
LSP					**Sn**	**03 16 43.7**	**-0.1**
MTP	**Monte Pirata**	**1.58**	**156**	⇑*eP*	**Pb**	**03 16 24.6**	**-0.2**
MTP	**Monte Pirata**	**1.58**	**156**	*eS*	**Sb**	**03 16 45.4**	**+0.7**
MTP	**Monte Pirata**	**1.58**	**156**		**Pb**	**03 16 24.6**	**-0.2**
MTP					**Sb**	**03 16 44.8**	**+0.1**
STVI	**Saint Thomas**	**1.70**	**134**	*eS*	**Sb**	**03 16 48.1**	**0.0**
STVI	**Saint Thomas**	**1.70**	**134**	Pn	**Pg**	**03 16 27.5**	**-0.8**
STVI					**Sb**	**03 16 47.9**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.74**	**208**	⇑*eP*	**Pn**	**03 16 25.9**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.74**	**208**		**Pn**	**03 16 26.2**	**+0.6**
MLPR	**Magueyes Islan**	**1.74**	**206**	⇑*eP*	**Pn**	**03 16 25.8**	**+0.2**
MLPR	**Magueyes Islan**	**1.74**	**206**		**Pn**	**03 16 25.8**	**+0.2**
SDDR	**Presa de Saban**	**4.80**	**264**	Pn	**Pn**	**03 17 07.8**	**0.0**

SVSA 23 03:42:44.5±1.1, 44.43N×24.74W, h10km, ML4.5, Error ellipse: s-maj=14.2km s-min=5.9km az=112.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGRA	**Graciosa**	**5.92**	**205**	*eP*	Pn	03 44 06.1	-6.1
PGRA				*eS*	Sn	03 45 06.9	-13
PGRA				A	A	03 45 12.7	
	23nm,0.2s						
PGRA				*eT*	T	03 49 54.5	
SRBC	**Serra Branca**	**5.93**	**206**	*eP*	Pn	03 44 06.1	-6.2
SRBC				*eS*	Sn	03 45 07.9	-12
SRBC				A	A	03 45 13.7	
	39nm,0.3s						
SRBC				*eT*	T	03 49 59.7	
PSCM	**Serra do Cume**	**6.00**	**198**	*eP*	Pn	03 44 06.6	-6.7
PSCM				*eS*	Sn	03 45 08.6	-13
PSCM				A	A	03 45 13.0	
	30nm,0.3s						
ROSA	**Rosais**	**6.28**	**206**	*eP*	Pn	03 44 10.9	-6.3
ROSA				*eS*	Sn	03 45 15.3	-14
ROSA				A	A	03 45 23.4	
	8.1nm,0.2s						
PMAN	**Manadas**	**6.31**	**205**	*eP*	Pn	03 44 11.8	-5.8
PMAN				*eS*	Sn	03 45 17.1	-13
PMAN				A	A	03 45 20.8	
	23nm,0.2s						
PCED	**Cedros**	**6.51**	**208**	*eP*	Pn	03 44 14.1	-6.3
PCED				*eS*	Sn	03 45 20.9	-14
PCED				A	A	03 45 24.6	
	19nm,0.3s						
PCED				*eT*	T	03 50 41.7	
CALA	**Caldeira**	**6.56**	**208**	*eP*	Pn	03 44 15.0	-6.0
CALA				*eS*	Sn	03 45 22.4	-13
CALA				A	A	03 45 28.4	
	19nm,0.2s						
CALA				*eT*	T	03 50 42.5	
BART	**Pico Bartolome**	**6.66**	**183**	*eP*	Pn	03 44 16.1	-6.3
BART				*eT*	T	03 50 53.8	
GRON	**Grota Negra**	**6.69**	**185**	*eP*	Pn	03 44 16.3	-6.5
CMLA	**Cha da Macela**	**6.69**	**185**	*eP*	Pn	03 44 16.4	-6.4
CMLA				*eS*	Sn	03 45 25.7	-13
PDA	**Ponta Delgada**	**6.71**	**186**	*eP*	Pn	03 44 16.8	-6.3
PSMN	**Pico do Norte,**	**7.42**	**182**	*eP*	Pn	03 44 26.9	-6.0

*IDC **23** 03:53:21.0±7.2, 4.80S×144.48E, h75km±57km, mb3.4/4, mb1 3.5/6, mb1mx3.3/24, mbtmp3.7/6, ML3.3/2, Error ellipse: s-maj=78.6km s-min=26.9km az=90.0*

ISC 23 03:53:21.8±1.3, 4.8S±0.1×144.4E±0.2, h82km, n6, σ1.1s19/7, mb3.5/4, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**4.32**	**302**	P	**Pn**	**03 54 25.8**	**+0.7**
	0.6nm,0.3s,baz=97,slow=12,SNR=2.5						
JAY				S	**Sn**	**03 55 13.4**	**-0.9**
	0.9nm,0.3s,baz=155,slow=19,SNR=1.2						
WRA	**Warramunga Arr**	**17.93**	**212**	P	**Pn**	**03 57 24.5**	**-1.3**
	0.2nm,0.3s,baz=32,slow=13,SNR=1.8						
ASAR	**Alice Springs**	**21.28**	**207**	P	**P**	**03 58 02.9**	**+1.1**
	1.1nm,0.8s,baz=26,slow=12,SNR=7.6						
MKAR	**Makanchi Array**	**74.93**	**321**	P	**P**	**04 04 55.0**	**+1.0**
	0.5nm,0.5s,baz=107,slow=7.6,SNR=6.9						
ZALV	**Zalesovo Beam**	**76.63**	**328**	P	**P**	**04 05 03.3**	**-0.2**
	1.3nm,0.5s,baz=106,slow=5.1,SNR=5.7						
ILAR	**Eielson Array**	**85.44**	**24**	P	**P**	**04 05 49.4**	**-0.6**
	0.3nm,0.7s,baz=252,slow=4.5,SNR=2.5						

*THR **23** 04:21:16.7±0.4, 28.50N×57.79E, h14km±8km, ML4.1*
*IDC **23** 04:21:17.1±2.8, 28.27N×58.32E, h0km, mb3.4/5, mb1 3.6/5, mb1mx3.3/50, mbtmp3.5/5, Error ellipse: s-maj=70.8km s-min=26.6km az=148.0*
*TEH **23** 04:21:19.5, 28.73N×58.08E, h8km, ML4.0*
*DSN **23** 04:21:22.2±0.7, 28.73N×58.14E, h10km, ML4.2/4, Error ellipse: s-maj=23.9km s-min=5.4km az=121.0*

ISC 23 04:21:20.3±1.4, 28.71N±0.03×58.07E±0.05, h7km±10km, n38, σ2.941/44, mb3.3/5, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.83**	**203**	*ePg*	**Pg**	**04 21 35.2**	**-1.0**
CHMN	**Cheshme madani**	**1.24**	**338**	*ePg*	**Pn**	**04 21 44.0**	**-0.4**
CHMN				*e*	**Sg**	**04 22 02.5**	**+2.3**
NGRK	**Negar Kerman**	**1.50**	**309**	*ePg*	**Pg**	**04 21 48.1**	**-1.0**
NGRK				*e*	**Sg**	**04 22 10.8**	**+2.3**
KRBR	**Kerman**	**1.71**	**318**	*ePg*	**Pn**	**04 21 48.3**	**-2.6**
KRBR				*eSg*	**Sn**	**04 22 11.8**	**-1.4**
KRBR	**Kerman**	**1.71**	**318**	*ePg*	**Pn**	**04 21 48.3**	**-2.6**
TVBK	**TV Kerman**	**1.71**	**318**	*ePg*	**Pg**	**04 21 52.1**	**-1.0**
TVBK				*e*	**Sg**	**04 22 20.9**	**+5.6**
GENO	**Geno**	**2.13**	**233**	*ePn*	**Pb**	**04 21 58.0**	**-1.4**
BNDS	**Bandar-Abbas**	**2.13**	**233**	*ePg*	**Pn**	**04 21 49.8**	**-6.7**
KHGB	**Koh Gabri**	**2.16**	**320**	*ePn*	**Pg**	**04 21 59.8**	**-2.0**
KHGB				*e*	**Sg**	**04 22 34.2**	**+4.3**
ZHSF	**Zahedan**	**2.53**	**69**	*ePn*	**Pb**	**04 22 03.7**	**-2.5**
ZHSF	**Zahedan**	**2.53**	**69**	*ePn*	**Pb**	**04 22 03.7**	**-2.5**
SZD1	**Zahaedan-tmp**	**2.56**	**72**	*ePn*	**Pb**	**04 22 03.8**	**-3.0**
SHME	**Shamm**	**3.16**	**213**	P	**Pb**	**04 22 13.2**	**-3.7**
SHME				S	**Sb**	**04 22 52.1**	**-3.6**
NHDN	**Nehbandan**	**3.18**	**32**	*ePn*	**Pn**	**04 22 11.7**	**+0.8**
BANOM	**Banah**	**3.19**	**210**	P	**Pn**	**04 22 12.8**	**+1.7**
BANOM				S	**Sb**	**04 22 52.6**	**-4.0**
BANOM	**Banah**	**3.19**	**210**	*ePn*	**Pn**	**04 22 12.8**	**+1.7**
BSRN	**Basiran**	**3.37**	**15**	*ePn*	**Pn**	**04 22 15.0**	**+1.4**
BSRN	**Basiran**	**3.37**	**15**	*ePn*	**Pn**	**04 22 15.0**	**+1.4**
MDH	**Madha**	**3.75**	**205**	*ePn*	**Pn**	**04 22 21.1**	**+2.4**
IKOO	**Kooshah**	**3.79**	**12**	*ePn*	**Pn**	**04 22 20.6**	**+1.1**
ITEG	**Tejag**	**4.21**	**8**	*ePn*	**Pn**	**04 22 25.9**	**+0.7**
HATD	**Hatta, Dubai**	**4.24**	**205**	P	**Pn**	**04 22 27.3**	**+1.8**
HATD	**Hatta, Dubai**	**4.24**	**205**	*ePn*	**Pb**	**04 22 29.8**	**-5.5**
NAZ	**Nazwa, Dubai**	**4.29**	**211**	*ePn*	**Pn**	**04 22 29.4**	**+3.3**
ASHO	**Ashiyiah**	**4.40**	**205**	P	**Pn**	**04 22 30.0**	**+2.3**
ASHO				S	**Sn**	**04 23 22.8**	**+3.7**
ASHO	**Ashiyiah**	**4.40**	**205**	*ePn*	**Pn**	**04 22 29.8**	**+2.2**
TPRV	**Parvadeh(Tabas**	**4.46**	**345**	*ePn*	**Pn**	**04 22 30.7**	**+2.1**
SOHO	**SOHO**	**4.76**	**197**	*ePn*	**Pn**	**04 22 35.3**	**+2.7**
AFRZ	**Afriz**	**4.77**	**10**	*ePn*	**Pn**	**04 22 33.6**	**+0.8**
TABS	**Tabas**	**4.99**	**351**	*ePn*	**Pn**	**04 22 35.9**	**+0.1**
TABS				IAML		04 24 07.3	
	comp=N,79nm,0.5s						
TABS	**Tabas**	**4.99**	**351**	*ePn*	**Pn**	**04 22 35.9**	**+0.1**
SHRT	**Shahrakht**	**5.27**	**21**	*ePn*	**Pn**	**04 22 41.2**	**+1.5**
SHRT	**Shahrakht**	**5.27**	**21**	*ePn*	**Pn**	**04 22 41.2**	**+1.5**
AKTO	**Aktyubinsk**	**21.70**	**360**	P	**P**	**04 26 12.3**	**+0.5**
	comp=N,0.8nm,0.5s,baz=195,slow=8.8,SNR=1.7						
MKAR	**Makanchi Array**	**26.15**	**40**	P	**P**	**04 26 55.1**	**-0.2**
	comp=N,0.6nm,0.9s,baz=227,slow=8.2,SNR=5.2						
KURBB	**Kurchatov Arra**	**26.79**	**30**	P	**P**	**04 27 01.4**	**+0.5**
	comp=N,0.3nm,0.6s,baz=229,slow=8.5,SNR=3.2						
GERES	**GERESS Array B**	**39.32**	**313**	P	**P**	**04 28 53.0**	**+2.8**
	comp=N,0.3nm,0.5s,baz=112,slow=7.8,SNR=4.8						
TORD	**Torodi Ar. Bea**	**54.42**	**266**	P	**P**	**04 30 47.2**	**-1.5**
	comp=N,0.4nm,0.4s,baz=59,slow=7.4,SNR=12						

JMA 23 04:31:15.3±0.1, 29.15N×140.18E, h423km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.71**	**139**	P	P	04 32 18.6	+0.5
CBIJ				*eS*	S	04 33 08.6	-0.3
JHH2	**Haha-jima-NKT2**	**3.07**	**144**	P	P	04 32 29.8	0.0
JHH2				*eS*	S	04 33 12.6	-1.3
TTO1	**TONANKAI O.B.S**	**5.32**	**328**	P	P	04 32 42.0	+1.0
**BSO1

VLKR	**Vladikavkaz**	**0.69**	**286**	*e*PG		**Pb**	**05 27 59.1**	**-0.5**
VLKR				*e*S		**Sb**	**05 28 09.1**	**+0.2**
PNSH	**Pansheti**	**0.75**	**253**	P		**Pb**	**05 27 58.8**	**-1.9**
PNSH				S		**Sb**	**05 28 08.8**	**-1.9**
PNSH	**Pansheti**	**0.75**	**253**	PG		**Pb**	**05 27 58.8**	**-1.9**
PNSH				S		**Sb**	**05 28 08.8**	**-1.9**
DLMR	**Dylym**	**0.79**	**74**	*e*Pg		**Pn**	**05 28 01.0**	**0.0**
DLMR				*e*Sg		**Sn**	**05 28 12.3**	**+0.5**
DLMR	**Dylym**	**0.79**	**74**	*e*PG		**Pn**	**05 28 01.0**	**0.0**
DLMR				*e*S		**Sn**	**05 28 12.3**	**+0.5**
DLMR				pmax	pmax			
	comp=Z,321nm,0.2s							
XNZR	**Khunzakh**	**0.88**	**111**	*e*Pg		**Pb**	**05 28 01.9**	**-1.0**
XNZR				*e*Sg		**Sn**	**05 28 13.6**	**-0.6**
XNZR	**Khunzakh**	**0.88**	**111**	*e*PG		**Pn**	**05 28 01.5**	**-0.9**
XNZR				*e*S		**Sn**	**05 28 13.7**	**-0.6**
UNCR	**Uncukul**	**0.90**	**99**	*i* Pg		**Pb**	**05 28 02.2**	**-0.9**
UNCR				*e*Sg		**Sn**	**05 28 14.0**	**-0.5**
UNCR	**Uncukul**	**0.90**	**99**	⇓*i*PG		**Pb**	**05 28 02.2**	**-0.9**
UNCR				*e*S		**Sn**	**05 28 14.0**	**-0.5**
UNCR				pmax	pmax			
	comp=Z,616nm,0.3s							
BTKR	**Batakoyurt**	**0.92**	**304**	*e*Pg		**Pn**	**05 28 03.3**	**+0.5**
BTKR				*e*Sg		**Sb**	**05 28 17.9**	**+2.5**
BTKR	**Batakoyurt**	**0.92**	**304**	*e*PG		**Pn**	**05 28 03.3**	**+0.5**
BTKR				*e*S		**Sb**	**05 28 17.2**	**+1.9**
DBC	**Dubki**	**0.93**	**80**	*e*Pg		**Pb**	**05 28 02.5**	**-1.0**
DBC				*e*Sg		**Sn**	**05 28 16.0**	**+0.8**
DBC	**Dubki**	**0.93**	**80**	*e*PG		**Pb**	**05 28 02.5**	**-1.0**
DBC				*e*S		**Sn**	**05 28 15.7**	**+0.5**
LACR	**Lac**	**0.95**	**268**	*i* Pg		**Pb**	**05 28 02.1**	**-1.1**
LACR				*e*Sg		**Sn**	**05 28 14.9**	**-0.9**
LACR	**Lac**	**0.95**	**268**	*i* PG		**Pn**	**05 28 02.1**	**-1.1**
LACR				*e*S		**Sn**	**05 28 14.9**	**-0.9**
KRNR	**Karanay**	**0.97**	**92**	*i* Pg		**Pb**	**05 28 03.5**	**-0.8**
KRNR				*e*Sg		**Sn**	**05 28 17.0**	**+0.7**
KRNR	**Karanay**	**0.97**	**92**	⇑*i*PG		**Pb**	**05 28 03.5**	**-0.8**
KRNR				*e*S		**Sn**	**05 28 17.0**	**+0.7**
KRNR				pmax	pmax			
	comp=Z,194nm,0.3s							
ARNR	**Ardon**	**1.01**	**289**	*e*Pg		**Pn**	**05 28 03.7**	**-0.2**
ARNR				*e*Sg		**Sb**	**05 28 19.2**	**+1.4**
ARNR	**Ardon**	**1.01**	**289**	*e*PG		**Pn**	**05 28 03.7**	**-0.2**
ARNR				*e*S		**Sb**	**05 28 19.2**	**+1.4**
TRKR	**Terskaya**	**1.06**	**324**	*e*Pg		**Pn**	**05 28 04.9**	**+0.2**
TRKR				*e*Sg		**Sb**	**05 28 21.7**	**+2.3**
TRKR	**Terskaya**	**1.06**	**324**	*e*PG		**Pn**	**05 28 04.9**	**+0.2**
TRKR				*e*S		**Sb**	**05 28 21.7**	**+2.3**
ARKR	**Arakani**	**1.07**	**103**	*i* Pg		**Pb**	**05 28 05.0**	**-0.9**
ARKR				*e*Sg		**Sb**	**05 28 19.0**	**-0.6**
ARKR	**Arakani**	**1.07**	**103**	*i* PG		**Pb**	**05 28 05.0**	**-0.9**
ARKR				*e*S		**Sb**	**05 28 19.0**	**-0.6**
ARKR				pmax	pmax			
	comp=Z,116nm,0.1s							
BUJR	**Buynaksk**	**1.12**	**91**	*e*Pg		**Pb**	**05 28 06.9**	**+0.1**
BUJR				*e*Sg		**Sb**	**05 28 22.8**	**+1.8**
BUJR	**Buynaksk**	**1.12**	**91**	⇓*e*PG		**Pb**	**05 28 06.6**	**-0.2**
BUJR				*e*			05 28 22.5	
BUJR				pmax	pmax			
	comp=Z,324nm,0.6s							
BUJR				smax	smax			
	comp=N,851nm,0.4s							
LGD	**Lagodekhi**	**1.14**	**154**	*e*Pg		**Pn**	**05 28 05.0**	**-0.7**
LGD	**Lagodekhi**	**1.14**	**154**	*e*PG		**Pn**	**05 28 05.0**	**-0.7**
KORR	**Kora**	**1.14**	**282**	*e*Pg		**Pb**	**05 28 07.0**	**-0.1**
KORR	**Kora**	**1.14**	**282**	*e*PG		**Pb**	**05 28 07.0**	**-0.1**
KORR				*e*S		**Sb**	**05 28 25.0**	**+3.5**
STDR	**Stavd-Durt**	**1.23**	**295**	*e*Pg		**Pn**	**05 28 07.8**	**+0.9**
STDR				*e*Sg		**Sn**	**05 28 23.7**	**+1.2**
STDR	**Stavd-Durt**	**1.23**	**295**	*e*PG		**Pn**	**05 28 07.8**	**+0.9**
STDR				*e*S		**Sn**	**05 28 23.7**	**+1.2**
ZEI	**Tsey**	**1.24**	**267**	*e*Pg		**Pn**	**05 28 07.2**	**-0.2**
ZEI				*e*Sg		**Sn**	**05 28 24.2**	**+1.0**
ZEI	**Tsey**	**1.24**	**267**	*e*PG		**Pn**	**05 28 07.2**	**-0.2**
ZEI				*e*S		**Sn**	**05 28 24.2**	**+1.0**
TBLG	**Delisi**	**1.29**	**209**	P		**Pn**	**05 28 08.7**	**+0.8**
TBLG				S		**Sb**	**05 28 26.2**	**+0.3**
TBLG	**Delisi**	**1.29**	**209**	*e*Pg		**Pn**	**05 28 08.7**	**+0.8**
TBLG				*e*Sg		**Sb**	**05 28 26.2**	**+0.3**
TBLG	**Delisi**	**1.29**	**209**	PG		**Pn**	**05 28 08.7**	**+0.8**
TBLG				S		**Sb**	**05 28 26.2**	**+0.3**
PRTR	**Priterechnaya**	**1.30**	**314**	*e*PG		**Pn**	**05 28 05.3**	**-2.7**
PRTR				*e*S		**Sb**	**05 28 27.3**	**+1.1**
BTNK	**Botanikuri**	**1.31**	**207**	P		**Pn**	**05 28 09.0**	**+0.8**
BTNK				S		**Sb**	**05 28 26.9**	**+0.4**
BTNK	**Botanikuri**	**1.31**	**207**	*e*Pg		**Pn**	**05 28 09.0**	**+0.8**
BTNK				*e*Sg		**Sb**	**05 28 26.9**	**+0.4**
BTNK	**Botanikuri**	**1.31**	**207**	PG		**Pn**	**05 28 09.0**	**+0.8**
BTNK				S		**Sb**	**05 28 26.9**	**+0.4**
KMKR	**Kumukh**	**1.33**	**123**	*e*Pg		**Pn**	**05 28 08.5**	**-0.1**
KMKR				*e*Sg		**Sb**	**05 28 27.0**	**-0.3**
KMKR	**Kumukh**	**1.33**	**123**	*e*PG		**Pn**	**05 28 08.5**	**-0.1**
KMKR				*e*S		**Sb**	**05 28 27.0**	**-0.3**
KMKR				pmax	pmax			
	comp=Z,41nm,0.2s							
LSNR	**Lesken**	**1.36**	**289**	*e*Pg		**Pb**	**05 28 10.2**	**-0.5**
LSNR	**Lesken**	**1.36**	**289**	*e*PG		**Pb**	**05 28 10.2**	**-0.5**
LSNR				*e*S		**Sn**	**05 28 27.5**	**+1.8**
MAK	**Makhachkala**	**1.41**	**85**	*e*Pg		**Pb**	**05 28 12.5**	**+0.8**
MAK				*e*Sg		**Sb**	**05 28 31.3**	**+2.0**
MAK	**Makhachkala**	**1.41**	**85**	*e*PG		**Pb**	**05 28 10.7**	**-1.0**
MAK				*e*			05 28 31.5	
MAK				pmax	pmax			
	comp=Z,220nm,0.3s							
MAK				smax	smax			
	comp=E,604nm,0.4s							
MAK				smax	smax			
	comp=E,527nm,0.4s							
DGRG	**David-gareji**	**1.42**	**186**	⇓*i*PG		**Pb**	**05 28 11.6**	**-0.2**
DGRG				S		**Sb**	**05 28 33.1**	**+3.6**
DDFL	**Dedoflistskaro**	**1.47**	**164**	P		**Pn**	**05 28 10.1**	**-0.2**
DDFL				S		**Sb**	**05 28 38.0**	**+7.0**
DDFL	**Dedoflistskaro**	**1.47**	**164**	PG		**Pn**	**05 28 10.1**	**-0.2**
DDFL				S		**Sb**	**05 28 37.9**	**+7.0**
ONI	**Oni**	**1.59**	**261**	P		**Pn**	**05 28 13.6**	**+1.5**
ONI	**Oni**	**1.59**	**261**	*e*Pg		**Pn**	**05 28 13.6**	**+1.5**
ONI	**Oni**	**1.59**	**261**	⇓*e*PG		**Pn**	**05 28 13.6**	**+1.5**
ONI				*e*S		**Sn**	**05 28 33.0**	**+1.3**
URKR	**Urkarakh**	**1.67**	**114**	*e*Pg		**Pb**	**05 28 14.4**	**-1.7**
URKR				*e*Sg		**Sb**	**05 28 38.1**	**+1.4**
URKR	**Urkarakh**	**1.67**	**114**	*e*PN		**Pb**	**05 28 14.4**	**-1.7**
URKR				*e*S		**Sb**	**05 28 38.1**	**+1.4**
KZRT	**Kazreti**	**1.72**	**211**	P		**Pn**	**05 28 15.1**	**+1.4**
KZRT				S		**Sb**	**05 28 37.8**	**-0.3**
KZRT	**Kazreti**	**1.72**	**211**	*e*Pg		**Pn**	**05 28 15.1**	**+1.4**
KZRT				*e*Sg		**Sb**	**05 28 37.8**	**-0.3**
KZRT	**Kazreti**	**1.72**	**211**	PN		**Pn**	**05 28 15.1**	**+1.4**
KZRT				S		**Sb**	**05 28 37.8**	**-0.3**
BKRG	**Bakuriani**	**1.89**	**235**	P		**Pn**	**05 28 18.3**	**+2.1**
BKRG				S		**Sb**	**05 28 43.5**	**+0.5**
BKRG	**Bakuriani**	**1.89**	**235**	PN		**Pn**	**05 28 18.3**	**+2.1**
BKRG				S		**Sb**	**05 28 43.5**	**+0.5**
AKT	**Akhty**	**2.11**	**130**	*e*Pg		**Pb**	**05 28 22.1**	**-1.5**
AKT				*e*Sg		**Sb**	**05 28 48.7**	**-0.6**
AKT	**Akhty**	**2.11**	**130**	*e*PN		**Pb**	**05 28 21.4**	**-2.2**
AKT				*e*			05 28 25.9	
AKT				*e*S		**Sb**	**05 28 54.4**	**+5.1**
AKT				*e*			05 28 58.8	
AKT				pmax	pmax			
	comp=Z,23nm,0.3s							
AKT				MLR	MLR			
	comp=Z,41nm,2.0s							
AKH	**Akhalkalaki**	**2.13**	**228**	P		**Pb**	**05 28 22.2**	**-1.8**
AKH				S		**Sb**	**05 28 49.6**	**-0.4**
AKH	**Akhalkalaki**	**2.13**	**228**	*e*Pg		**Pn**	**05 28 20.8**	**+1.3**
AKH				*e*Sg		**Sb**	**05 28 49.1**	**-0.9**
AKH	**Akhalkalaki**	**2.13**	**228**	PN		**Pb**	**05 28 22.1**	**-1.8**
AKH				S		**Sb**	**05 28 49.6**	**-0.4**
NEY	**Neytrino**	**2.13**	**281**	*e*PN		**Pn**	**05 28 18.8**	**-0.8**
NEY				*e*S		**Sb**	**05 28 49.3**	**-0.9**
KBZ	**Khabaz**	**2.15**	**295**	*e*Pg		**Pn**	**05 28 19.8**	**+0.2**
KBZ				*e*Sg		**Sb**	**05 28 48.4**	**+3.3**
KBZ	**Khabaz**	**2.15**	**295**	*e*PN		**Pn**	**05 28 19.8**	**+0.2**
KBZ				*e*S		**Sn**	**05 28 48.4**	**+3.3**
BGD	**Bogdanovka**	**2.17**	**224**	P		**Pn**	**05 28 21.5**	**+1.3**
BGD				S		**Sb**	**05 28 50.7**	**-0.7**
BGD	**Bogdanovka**	**2.17**	**224**	PN		**Pn**	**05 28 21.5**	**+1.3**
BGD				S		**Sb**	**05 28 50.7**	**-0.7**
DRN	**Derbent**	**2.19**	**111**	*e*PN		**Pb**	**05 28 24.9**	**0.0**
DRN				*e*S		**Sb**	**05 28 53.2**	**+1.5**
KIV1	**Kislovodsk Arr**	**2.38**	**298**	*e*Pn		**Pn**	**05 28 22.9**	**+0.1**
KIV1				*e*Sn		**Sb**	**05 28 55.6**	**-1.4**
KIV	**Kislovodsk**	**2.38**	**298**	PN		**Pn**	**05 28 20.1**	**-2.8**
GOF	**Gofitskoye**	**2.86**	**321**	⇑*e*PN		**Pn**	**05 28 27.3**	**-2.1**
GOF				*e*S		**Sn**	**05 29 02.5**	**-0.3**
GOF				pmax	pmax			
	comp=Z,21nm,0.6s							
GOF				smax	smax			
	comp=N,33nm,0.6s							
GOF				smax	smax			
	comp=E,41nm,0.8s							
ARXR	**Arkhyz**	**3.23**	**284**	*i* PN		**Pn**	**05 28 33.4**	**-1.2**
ARXR				pmax	pmax			
	comp=Z,7.0nm,0.4s							
ARU	**Arti**	**15.93**	**27**	*i* P		**Pn**	**05 31 28.0**	**+0.4**
ARU				pmax	pmax			
	comp=Z,2.0nm,0.9s							
BRVK	**Borovoye**	**19.34**	**50**	*i* P		**P**	**05 32 07.0**	**-1.5**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
PDGK				⇑Lg	Lg		05 36 39.9	
PDGK	**Podgornoye**	**10.40**	**228**	P		**Pn**	**05 33 41.8**	**+0.2**
SONM	**Songino Array**	**11.05**	**99**	Pn		**Pn**	**05 33 49.3**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=284,slow=17,SNR=3.2							
SONM				Lg	Lg		05 36 56.7	
	comp=Z,0.3nm,0.3s,baz=286,slow=36,SNR=4.6							
ULN	**Ulaanbaatar**	**11.45**	**98**	*i* P		**Pn**	**05 33 58.7**	**+2.8**
BVAR	**Borovoye Array**	**12.36**	**288**	Pn		**Pn**	**05 34 05.9**	**-2.3**
	comp=Z,0.9nm,0.3s,baz=72,slow=14,SNR=11							
BVAR				Sn		**Sn**	**05 36 17.6**	**-7.6**
	comp=Z,0.4nm,0.3s,baz=86,slow=20,SNR=3.0							
BVAR				LR	LR		05 38 38.4	
	comp=Z,23nm,18.4s,baz=20,slow=36							
BRVK	**Borovoye**	**12.43**	**288**	⇑*i*P		**Pn**	**05 34 07.4**	**-1.7**
BRVK				MLR	MLR			
	comp=Z,81nm,10.0s							
AAK	**Ala-Archa**	**13.45**	**239**	*e*P		**Pn**	**05 34 25.6**	**+2.4**
AAK				MLR	MLR			
	comp=Z,50nm,10.0s							
NRIK	**Noril'sk**	**18.63**	**357**	*i* P		**P**	**05 35 28.8**	**-0.6**
HIA	**Hailar**	**19.05**	**83**	*i* P		**Pn**	**05 35 36.3**	**+1.2**
HIA				pmax	pmax			
	comp=Z,5.0nm,0.5s							
ARU	**Arti**	**19.42**	**299**	P		**Pn**	**05 35 38.9**	**-0.5**
AKTO	**Aktyubinsk**	**20.28**	**281**	P		**P**	**05 35 47.4**	**-0.2**
	comp=Z,2.9nm,0.6s,baz=90,slow=12,SNR=8.1							
KLR	**Kul'dur**	**26.56**	**77**	*i* P		**P**	**05 36 50.7**	**+0.9**
KLR				pmax	pmax			
	comp=Z,2.0nm,1.1s							
KLR				MLR	MLR			
	comp=Z,219nm,17.0s							
TIXI	**Tiksi**	**27.15**	**26**	*e*P		**P**	**05 36 55.2**	**+0.4**
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.1s							
TIXI				MLR	MLR			
	comp=Z,80nm,16.0s							
MSHR	**Mys Shultsa**	**29.02**	**90**	*ce*P		**P**	**05 37 09.2**	**-2.6**
ARCES	**ARCESS Array B**	**34.98**	**326**	PcP		**PcP**	**05 40 34.7**	**-0.8**
	comp=Z,2.4nm,0.9s,baz=88,slow=2.2,SNR=3.9							
ARCES				LR	LR		05 54 34.4	
	comp=Z,70nm,18.3s,baz=209,slow=4.0							
FINES	**FINESS Array B**	**35.76**	**312**	PcP		**PcP**	**05 40 36.9**	**-1.0**
	comp=Z,1.7nm,0.8s,baz=94,slow=6.3,SNR=4.7							
SPITS	**Spitsbergen Ar**	**37.53**	**341**	PcP		**PcP**	**05 40 42.2**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=73,slow=4.8,SNR=5.3							
BRTR	**Keskin Array B**	**40.32**	**277**	P		**P**	**05 38 51.3**	**+1.9**
	comp=Z,0.9nm,0.6s,baz=108,slow=4.0,SNR=5.4							
NOA	**NORSAR Array B**	**42.71**	**315**	P		**P**	**05 39 08.2**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=62,slow=7.6,SNR=3.7							
CLL	**Collm**	**46.32**	**302**	*i* P		**P**	**05 39 37.8**	**+0.3**
ILAR	**Eielson Array**	**56.62**	**25**	P		**P**	**05 40 53.2**	**-1.2**
	comp=Z,0.6nm,0.7s,baz=318,slow=4.2,SNR=5.9							
ESDC	**Sonseca Array**	**62.81**	**300**	P		**P**	**05 41 37.3**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=39,slow=6.4,SNR=6.7							
YKA	**Yellowknife Ar**	**65.36**	**12**	P		**P**	**05 41 54.0**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=336,slow=6.3,SNR=3.3							
TORD	**Torodi Ar. Bea**	**78.93**	**277**	P		**P**	**05 43 15.3**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=34,slow=4.1,SNR=6.0							
CPUP	**Villa Florida**	**145.16**	**302**	PKPbc		**PKPbc**	**05 50 47.4**	**-1.4**
	comp=Z,1.3nm,0.6s,baz=23,slow=5.7,SNR=3.9							

NNC ***23*** *05:31:08.0±5.2, 50.73N×90.42E, h0km, mb4.4, mpv4.0, Error ellipse: s-maj=44.4km s-min=28.9km az=95.0*
BJI ***23*** *05:31:09.0±0.0, 51.23N×89.82E, h19km, mB4.3/3, mb4.1/4, ML4.3/3, Ms3.8/2, Ms7.3 6/2*
IDC ***23*** *05:31:10.8±1.0, 50.97N×90.11E, h0km, mb3.7/7, mb1 3.9/12, mb1mx3.7/40, mbtmp3.8/12, ML3.5/5, MS2.7/3, Ms1 2.7/3, ms1mx2.4/46, Error ellipse: s-maj=17.8km s-min=11.7km az=166.0*
MOS ***23*** *05:31:11.4±2.1, 50.90N×90.15E, h16km, mb4.0/3, Error ellipse: s-maj=8.4km s-min=7.6km az=48.0*
ASRS ***23*** *05:31:13.2±0.2, 51.2°N×90.9°E±, h10km, MLh4.5/17, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 23 05:31:13.7±0.7, 50.81N±0.04×90.09E±0.04, h22km±6km, n72, σ2s03/101, mb3.7/8, MS3.4/3, 9C-9D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**1.32**	**238**	P		**Pn**	**05 31 36.5**	**-0.5**
CUR				Sg		**Sb**	**05 31 54.7**	**+0.3**
CUR	**Chagan-Uzun**	**1.32**	**238**	PG		**Pn**	**05 31 36.5**	**-0.5**
CUR				S			05 31 54.7	
AKAR	**Aktash**	**1.65**	**254**	P		**Pn**	**05 31 42.0**	**+0.5**
AKAR				Sg		**Sb**	**05 32 04.4**	**+0.5**
AKAR	**Aktash**	**1.65**	**254**	PN		**Pb**	**05 31 43.0**	**-0.5**
AKAR				S			05 32 04.4	
CHBI	**Chibit, Altay**	**1.73**	**254**	P		**Pn**	**05 31 43.4**	**+0.9**
CHBI				Sg		**Sb**	**05 32 06.7**	**+0.7**
CHBI	**Chibit, Altay**	**1.73**	**254**	PN		**Pb**	**05 31 43.9**	**-0.8**
CHBI				S			05 32 06.7	
ARTR	**Artybash**	**2.02**	**300**	P		**Pn**	**05 31 47.0**	**+0.5**
ARTR				Sg		**Sn**	**05 32 12.4**	**+1.2**
ARTR	**Artybash**	**2.02**	**300**	PN		**Pn**	**05 31 47.0**	**+0.5**
ARTR				S			05 32 12.3	
DGZ	**Jazzator, Alta**	**2.04**	**238**	Pg		**Pb**	**05 31 50.0**	**-0.1**
DGZ				Sg		**Sb**	**05 32 17.5**	**+2.4**
DGZ	**Jazzator, Alta**	**2.04**	**238**	PN		**Pb**	**05 31 50.0**	**-0.1**
DGZ				S			05 32 17.4	
TBTR	**Tabat**	**2.16**	**10**	P		**Pn**	**05 31 47.9**	**-0.4**
TBTR				Sg		**Sn**	**05 32 14.2**	**-0.3**
TBTR	**Tabat**	**2.16**	**10**	PN		**Pn**	**05 31 47.9**	**-0.4**
TBTR				S			05 32 14.1	
CERR	**Cheremushki**	**2.21**	**21**	P		**Pn**	**05 31 48.6**	**-0.4**
CERR				S		**Sn**	**05 32 15.4**	**-0.1**
TASR	**Tashtagol**	**2.39**	**326**	P		**Pn**	**05 31 52.1**	**+0.5**
TASR				S		**Sn**	**05 32 22.1**	**+2.0**
TASR	**Tashtagol**	**2.39**	**326**	PN		**Pn**	**05 31 52.5**	**+1.0**
TASR				S			05 32 23.2	
VEH	**Verkhnyaya Baz**	**2.45**	**3**	P		**Pn**	**05 31 51.7**	**-0.8**
VEH				S		**Sn**	**05 32 23.2**	**+1.4**
TUNR	**Tungur**	**2.49**	**256**	P		**Pb**	**05 31 55.5**	**-2.2**
TUNR				S		**Sb**	**05 32 29.5**	**+1.6**
ELDR	**Elanda**	**2.56**	**281**	P		**Pn**	**05 31 55.7**	**+1.8**
ELDR				S		**Sb**	**05 32 29.1**	**-0.9**
ARDR	**Aradan**	**2.73**	**48**	P		**Pn**	**05 31 57.1**	**+0.8**
ARDR				S		**Sn**	**05 32 31.4**	**+2.8**
GALT	**Gorno-Altaysk,**	**2.84**	**295**	P		**Pn**	**05 32 00.2**	**+2.5**
GALT				S		**Sb**	**05 32 35.8**	**-2.3**
KZLR	**Kyzyl**	**2.88**	**70**	P		**Pn**	**05 31 57.9**	**-0.4**
KZLR				S		**Sn**	**05 32 34.5**	**+2.3**
LUZB	**Luzhba, Kemero**	**2.95**	**346**	P		**Pn**	**05 31 58.3**	**-0.9**
LUZB				S		**Sn**	**05 32 37.1**	**+3.2**
ABNR	**Abakan**	**3.03**	**15**	P		**Pn**	**05 32 00.7**	**+0.3**
ABNR				S		**Sn**	**05 32 38.8**	**+2.8**
UKR	**Ust'-Kan**	**3.37**	**274**	P		**Pn**	**05 32 06.9**	**+1.8**
UKR				S		**Sb**	**05 32 50.2**	**-3.2**
UKR	**Ust'-Kan**	**3.37**	**274**	PN		**Pb**	**05 32 11.8**	**-1.0**
UKR				S			05 32 54.1	
ELT	**Eltsovka**	**3.42**	**317**	P		**Pn**	**05 32 05.1**	**-0.6**
ELT				S		**Sn**	**05 32 50.0**	**+4.5**
SHRR	**Shira**	**3.69**	**1**	P		**Pn**	**05 32 11.3**	**+1.9**
SHRR				S		**Sn**	**05 32 56.4**	**+4.2**
TDJR	**Todzha**	**4.07**	**65**	P		**Pn**	**05 32 15.6**	**+0.9**
TDJR				S		**Sn**	**05 33 07.4**	**+5.8**
SALR	**Pechorkino, Sa**	**4.50**	**325**	P		**Pn**	**05 32 20.6**	**+0.2**
SALR				S		**Sn**	**05 33 17.3**	**+5.3**
ZAA0	**Zalesovo Array**	**4.51**	**316**	⇓Pn		**Pn**	**05 32 20.1**	**-0.5**
	1.4nm,0.5s							
ZAA0				⇑Pg		**Pb**	**05 32 31.5**	**-0.5**
	7.1nm,0.6s							
ZAA0				⇓Lg		Lg	05 33 36.1	
	61nm,1.1s							
ZALV	**Zalesovo Beam**	**4.51**	**316**	Pn		**Pn**	**05 32 19.3**	**-1.3**
	2.8nm,0.3s,baz=133,slow=13,SNR=27							
ZALV				Lg		Lg	05 33 28.3	
	20nm,0.3s,baz=130,slow=25,SNR=7.2							
ZALV				LR		LR	05 33 34.7	
	comp=Z,15nm,19.0s,baz=100,slow=33							
ZALV	**Zalesovo Beam**	**4.51**	**316**	*i* PN		**Pn**	**05 32 20.2**	**-0.4**
ZALV				pmax	pmax			
	comp=Z,5.0nm,0.3s							
MINR	**Mina**	**4.79**	**30**	P		**Pn**	**05 32 23.9**	**-0.6**
MINR				S		**Sn**	**05 33 26.2**	**+6.9**
ORY	**Orie**	**5.18**	**34**	P		**Pn**	**05 32 30.4**	**+0.5**
NVS	**Novosibirsk**	**5.79**	**317**	P		**Pn**	**05 32 39.0**	**+0.7**
NVS				S		**Sn**	**05 33 43.2**	**-0.7**
NVS	**Novosibirsk**	**5.79**	**317**	*i* PN		**Pn**	**05 32 36.6**	**-1.6**
MK31	**Makanchi Array**	**6.53**	**235**	⇑Pn		**Pn**	**05 32 49.1**	**+0.6**
	comp=Z,19nm,0.5s,baz=58,slow=13,SNR=271							
MK31				⇑Sn		**Sn**	**05 34 04.5**	**+2.2**
	comp=Z,22nm,0.6s							
MK31				⇓Lg		Lg	05 34 39.8	
	comp=Z,35nm,0.6s,baz=60,slow=30,SNR=3.5							
MK31	**Makanchi Array**	**6.53**	**235**	PN		**Pn**	**05 32 49.7**	**+1.2**
MK31				SN		**Sn**	**05 34 04.5**	**+2.2**
MKAR	**Makanchi Array**	**6.53**	**235**	Pn		**Pn**	**05 32 50.6**	**+2.1**
	comp=Z,7.0nm,0.3s,baz=52,slow=15,SNR=204							
MKAR				Lg		Lg	05 34 40.1	
	comp=Z,5.9nm,0.3s,baz=51,slow=30,SNR=3.5							
MAKZ	**Makanchi**	**6.69**	**236**	⇓Pn		**Pn**	**05 32 51.5**	**+0.9**
	comp=Z,9.9nm,0.5s							
MAKZ				⇓Lg		Lg	05 34 44.0	
	comp=Z,95nm,1.0s							
MAKZ	**Makanchi**	**6.69**	**236**	PN		**Pn**	**05 32 52.5**	**+1.9**
KURK	**Kurchatov**	**7.28**	**274**	⇓Pn		**Pn**	**05 32 58.8**	**+0.1**
	comp=Z,14nm,0.9s							
KURK				⇑Sn		**Sn**	**05 34 24.7**	**+4.1**
	comp=Z,57nm,0.8s							
KURK				⇓Lg		Lg	05 35 04.1	
	comp=Z,89nm,0.7s							
KURK	**Kurchatov**	**7.28**	**274**	P		**Pn**	**05 32 59.7**	**+1.1**
KURK							05 34 22.0	
KURBB	**Kurchatov Arra**	**7.35**	**273**	Pn		**Pn**	**05 32 59.7**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=86,slow=15,SNR=19							
KURBB				Sn		**Sn**	**05 34 22.0**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=79,slow=28,SNR=8.5							
KURBB				Lg		Lg	05 35 00.9	
	comp=Z,1.1nm,0.3s,baz=83,slow=34,SNR=14							
KURBB	**Kurchatov Arra**	**7.35**	**273**	⇑Pn		**Pn**	**05 32 58.7**	**-0.9**
	comp=Z,11nm,0.4s							
KURBB				⇓Sn		**Sn**	**05 34 24.3**	**+2.1**
	comp=Z,72nm,0.7s							
KURBB				⇓Lg		Lg	05 35 06.5	
	comp=Z,290nm,0.8s							
TLY	**Talaya**	**8.55**	**79**	Lg		Lg	05 35 33.7	
	comp=Z,0.0nm,0.3s,baz=41,slow=22,SNR=6.7							
TLY	**Talaya**	**8.55**	**79**	*i* P

TBI	Tubuai	23.54	113	*e*	T		T	06 02 50.3		
	comp=Z,26nm,0.3s									
MEH	Mehetia	24.04	99	*e*	P		P	05 38 41.0	-4.7	
	comp=Z,33nm,1.3s									
MEH	Mehetia	24.04	99	*e*	T		T	06 03 23.1		
	comp=Z,12nm,0.3s									
BKZ	Black Stump Fm	25.24	199		P		P	05 38 56.9	+0.5	
BFZ	Birch Farm	26.70	198		P		P	05 39 11.1	+1.5	
BFZ					IAmb		IAmb	05 39 14.8		
	comp=Z,34nm,0.9s									
HNR	Honiara	27.03	280		LR		LR	05 48 29.6		
	comp=Z,5μm,18.4s,baz=118,slow=34									
MSWZ	Moikau Station	27.68	199		P		P	05 39 16.5	-1.9	
QRZ	Quartz Range	28.11	204		P		P	05 39 23.0	+0.7	
QRZ					IAmb		IAmb	05 39 38.0		
	comp=Z,32nm,0.8s									
TUWZ	Tuamarina	28.12	201		P		P	05 39 20.6	-1.7	
NNZ	Nelson	28.13	202		P		P	05 39 21.7	-0.7	
NNZ					IAmb		IAmb	05 39 32.0		
	comp=Z,40nm,1.3s									
BSWZ	Blackbirch Sta	28.40	201		P		P	05 39 24.9	+0.1	
THZ	Tophouse	28.78	202		P		P	05 39 29.1	+0.8	
KHZ	Kahutara	29.14	201		P		P	05 39 32.3	+0.9	
LTZ	Lake Taylor	29.90	202		P		P	05 39 37.7	-0.5	
OXZ	Oxford	30.46	202		P		P	05 39 43.2	+0.1	
OXZ					IAmb		IAmb	05 39 47.4		
	comp=Z,25nm,0.7s									
RPZ	Rata Peaks	31.15	203		P		P	05 39 52.0	+2.7	
	comp=Z,11nm,0.7s,baz=14,slow=2.0,SNR=6.3									
RPZ	Rata Peaks	31.15	203		P		P	05 39 50.0	+0.8	
FOZ	Fox Glacier	31.47	204		P		P	05 39 51.0	-0.9	
FOZ					IAmb		IAmb	05 40 04.7		
	comp=Z,70nm,1.5s									
LBZ	Lake Benmore	32.05	203		P		P	05 39 58.2	+1.1	
ODZ	Otahua Downs	32.45	202		P		P	05 40 01.8	+1.3	
ODZ					IAmb		IAmb	05 40 09.2		
	comp=Z,33nm,1.3s									
TAOE	Nuku Hiva Isla	32.82	82	*e*	T		T	06 14 15.9		
	comp=Z,126nm,0.3s									
WKZ	Wanaka	32.87	204		P		P	05 40 04.8	+0.5	
WKZ					IAmb		IAmb	05 40 20.1		
	comp=Z,40nm,1.2s									
MLZ	Mavora Lakes	33.67	204		P		P	05 40 11.7	+0.4	
MLZ					IAmb		IAmb	05 40 25.1		
	comp=Z,24nm,0.8s									
DCZ	Deep Cove	34.14	205		P		P	05 40 15.5	+0.2	
WHZ	Wether Hill Ro	34.18	204		P		P	05 40 15.6	0.0	
EIDS	Eidsvold	34.89	248		P		P	05 40 20.9	-1.2	
ARMA	Armidale	35.54	239				P	05 40 26.0	-1.7	
RKT	Rikitea	36.63	108	*e*	T		T	06 19 09.7		
	comp=Z,20nm,0.3s									
CTAO	Charters Tower	38.92	257		P		P	05 40 55.0	-1.5	
CTAO					pmax		pmax			
	comp=Z,9.0nm,1.0s									
CTAO	Charters Tower	38.92	257		P		P	05 40 55.0	-1.5	
H11S2	WAKE ISLAND Hy	39.27	329		T		T	06 22 20.4		
	baz=149,slow=76,SNR=4.3									
H11S3	WAKE ISLAND Hy	39.28	329		T		T	06 22 15.5		
	baz=149,slow=76,SNR=22									
H11S1	WAKE ISLAND Hy	39.29	329		T		T	06 22 16.0		
	baz=149,slow=76,SNR=8.5									
KIP	Kipapa	39.61	22		P		P	05 41 02.3	+0.2	
KIP					pmax		pmax			
	comp=Z,106nm,1.1s									
KIP	Kipapa	39.61	22		P		P	05 41 02.3	+0.2	
WAKE	Wake Island	39.97	329		P		P	05 41 05.8	+0.7	
H11N3	WAKE ISLAND Hy	40.22	330		T		T	06 23 47.3		
	baz=149,slow=76,SNR=129									
H11N1	WAKE ISLAND Hy	40.22	330		T		T	06 23 48.3		
	baz=149,slow=76,SNR=142									
H11N2	WAKE ISLAND Hy	40.23	330		T		T	06 23 49.4		
	baz=149,slow=76,SNR=158									
COEN	Coen	42.30	266		P		P	05 41 24.9	+0.4	
TOO	Toolangi	42.62	231		P		P	05 41 26.2	-0.6	
TOO					pmax		pmax			
	comp=Z,42nm,1.2s									
TOO	Toolangi	42.62	231		P		P	05 41 26.2	-0.6	
TOO					IAmb		IAmb	05 41 28.9		
	comp=Z,42nm,1.2s									
STKA	Stephens Creek	44.24	240		P		P	05 41 39.4	-0.6	
	comp=Z,26nm,1.0s,baz=97,slow=9.5,SNR=18									
STKA					LR		LR	05 59 25.9		
	comp=Z,885nm,18.2s,baz=74,slow=35									
STKA	Stephens Creek	44.24	240		P		P	05 41 39.5	-0.4	
STKA					pmax		pmax			
	comp=Z,8.0nm,1.0s									
STKA	Stephens Creek	44.24	240		P		P	05 41 39.5	-0.4	
WR0	Warramunga Arr	49.94	257		P		P	05 42 23.6	-1.0	
WB0	Warramunga Arr	50.09	257		P		P	05 42 24.4	-1.4	
WB0					IAmb		IAmb	05 42 26.6		
	comp=Z,28nm,1.0s									
WB2	Warramunga Arr	50.11	257		P		P	05 42 24.6	-1.4	
WB2					IAmb		IAmb	05 42 26.9		
	comp=Z,22nm,0.8s									
WRAB	Tennant Creek	50.12	257	*ce*	P		P	05 42 24.4	-1.5	
WRAB					pmax		pmax			
	comp=Z,35nm,1.3s									
WRAB	Tennant Creek	50.12	257		P		P	05 42 24.5	-1.5	
WRAB					IAmb		IAmb	05 42 26.9		
	comp=Z,35nm,1.2s									
WRA	Warramunga Arr	50.12	257		P		P	05 42 25.1	-1.0	
	comp=Z,13nm,0.7s,baz=91,slow=6.9,SNR=24									
WRA					PcP		PcP	05 43 46.2	+0.6	
	comp=Z,5.1nm,0.6s,baz=95,slow=3.3,SNR=5.4									
WRA					LR		LR	06 02 08.7		
	comp=Z,3μm,20.2s,baz=80,slow=34									
WRA	Warramunga Arr	50.12	257		P		P	05 42 25.2	-0.9	
WRA	Warramunga Arr	50.12	257		P		P	05 42 25.2	-0.9	
AS31	Alice Springs	50.37	252				P	05 42 26.2	-1.7	
ASAR	Alice Springs	50.37	252		P		P	05 42 26.6	-1.4	
	comp=Z,24nm,0.5s,baz=86,slow=7.9,SNR=229									
ASAR					LR		LR	06 02 18.0		
	comp=Z,5μm,20.6s,baz=92,slow=34									
ASAR	Alice Springs	50.37	252				P	05 42 26.2	-1.7	
MTN	Manton Dam	54.05	265		P		P	05 42 54.1	-1.2	
MTN					IAmb		IAmb	05 42 56.7		
	comp=Z,16nm,0.8s									
SOEI	Soe	61.25	267		P		P	05 43 45.8	-0.4	
	comp=Z,65nm,1.0s									
SOEI	Soe	61.25	267		P		P	05 43 46.0	-0.1	
VNDA	Vanda	63.25	186		P		P	05 44 01.6	+3.2	
	comp=Z,4.8nm,0.9s,baz=4.4,slow=6.1,SNR=24									
VNDA					LR		LR	06 10 45.7		
	comp=Z,326nm,18.0s,baz=43,slow=35									
VNDA	Vanda	63.25	186		P		P	05 44 00.6	+2.2	
VNDA					pmax		pmax			
	comp=Z,16nm,1.3s									
VNDA	Vanda	63.25	186		P		P	05 44 00.6	+2.2	
PSA00	Pilbara Seismi	63.47	253				P	05 43 59.5	-1.3	
PSA00					IAmb		IAmb	05 44 09.8		
	comp=Z,17nm,0.8s									
KCP	Kidapawan	65.23	285	‖ *e*	P		P	05 44 12.0	-0.5	
MORW	Morawa	66.11	245		P		P	05 44 17.3	-0.7	
MORW					IAmb		IAmb	05 44 23.4		
	comp=Z,30nm,1.2s									
ADK	Adak	67.24	358		P		P	05 44 24.4	-0.1	
ADK					pmax		pmax			
	comp=Z,44nm,1.2s									
ADK	Adak	67.24	358		P		P	05 44 24.4	-0.1	
ATKA	Atka Island	67.49	359		P		P	05 44 26.2	+0.1	
MJAR	Matsushiro Arr	69.28	320		P		P	05 44 38.6	+1.0	
	comp=Z,4.2nm,0.7s,baz=149,slow=5.0,SNR=12									
MJAR					LR		LR	06 09 23.2		
	comp=Z,1μm,21.7s,baz=115,slow=31									
MJAR	Matsushiro Arr	69.28	320		P		P	05 44 36.1	-1.6	
MJAR					pmax		pmax			
	comp=Z,8.0nm,1.3s									
MJAR	Matsushiro Arr	69.28	320		P		P	05 44 36.0	-1.6	
MAJO	Matsushiro	69.28	320		P		P	05 44 37.9	+0.2	
MAJO					pmax		pmax			
	comp=Z,15nm,1.1s									
MAJO	Matsushiro	69.28	320		P		P	05 44 37.9	+0.2	
MAJO					IAmb		IAmb	05 44 39.2		
	comp=Z,15nm,1.1s									
MAT	Matsushiro	69.28	320		P		P	05 44 36.8	-0.9	
MAT					S		S	05 53 46.4	+2.6	
MJB9	Matsu-Tunnel	69.28	320		P		P	05 44 38.1	+0.4	
MJB9					IAmb		IAmb	05 44 39.2		
	comp=Z,14nm,1.0s									
UNV	Unalaska Valle	69.36	4		P		P	05 44 37.6	-0.1	
UNV					IAmb		IAmb	05 44 39.0		
	comp=Z,27nm,1.2s									
AKUT	Akutan	69.70	5		P		P	05 44 40.4	+0.6	
KUR	Kuril'sk	70.12	332	*ci*	P		P	05 44 43.4	+0.8	
KUR					pmax		pmax			
	comp=Z,87nm,1.4s									
YUK	Yuzh-Kuril'sk	70.17	330	*ci*	P		P	05 44 38.4	-4.5	
YUK				*e*				05 47 26.4		
YUK				*e*	S		S	05 53 46.7	-7.1	
YUK				*e*				05 54 41.3		
CASY	Casey	70.40	205		P		P	05 44 44.0	-0.1	
CASY					IAmb		IAmb	05 44 46.9		
	comp=Z,22nm,1.3s									
SBC	Santa Barbara	71.01	45		P		P	05 44 49.4	+1.1	
	baz=235									
JAGI	Jajag, Banyuwa	71.27	266		P		P	05 44 47.7	-2.7	
SKR	Severo-Kuril's	71.29	340	*eP*	P		P	05 44 48.8	-0.8	
SKR				*eS*	S		S	05 54 10.6	+4.0	
SKR					pmax		pmax			
	comp=Z,19nm,1.5s									
SKR					pmax		pmax			
	comp=Z,100nm,10.8s									
SKR					pmax		pmax			
	comp=Z,200nm,12.2s									
SKR					MLR		MLR			
	comp=Z,300nm,18.0s									
SKR					MLR		MLR			
	comp=Z,300nm,22.0s									
CIS	Catalina Islan	71.31	46		P		P	05 44 51.4	+1.2	
	baz=236									
SDPT	Sand Point	71.44	8		P		P	05 44 49.0	-1.4	
JKA	Kamikawa-asahi	71.85	328		P		P	05 44 52.3	-0.8	
ASAJ	Asahikawa	71.85	328		P		P	05 44 52.3	-0.9	
ASAJ					pmax		pmax			
	comp=Z,32nm,0.9s									
ARVC	Arvin	72.00	44		P		P	05 44 55.5	+1.2	
	baz=235									
JNU	Nakatsue	72.15	313		LR		LR	06 11 03.5		
	comp=Z,564nm,21.3s,baz=122,slow=31									
VES	Vestal, Richgr	72.23	44		P		P	05 44 56.9	+1.2	
	baz=235									
MURC	Murrieta	72.27	46		P		P	05 44 57.2	+1.2	
	baz=237									
BFSC	Mount Baldy Ra	72.30	46		P		P	05 44 57.1	+0.8	
	baz=236									
EDW2	Edwrds Air Fo	72.43	45		P		P	05 44 57.9	+1.0	
	baz=236,SNR=5.7									
MONP2	Monument Peak	72.43	47		P		P	05 44 58.6	+1.4	
	baz=238									
O02D	Mt. Diablo Mer	72.50	38		P		P	05 44 59.0	+1.6	
	baz=231									
IKP	In-Ko-Pah, Jac	72.53	48		P		P	05 44 58.8	+1.2	
	baz=238									
PET	Petropavlovsk	72.53	343	*eP*			P	05 44 53.4	-3.6	
PET				*eS*			S	05 54 15.5	-5.3	
PET					pmax		pmax			
	comp=Z,300nm,14.0s									
PET					MLR		MLR			
	comp=Z,500nm,18.0s									
PET					MLR		MLR			
	comp=Z,500nm,17.0s									
ISA	Isabella, Lake	72.54	44		P		P	05 44 58.7	+1.1	
	baz=235,SNR=6.3									
ISA	Isabella, Lake	72.54	44		P		P	05 44 57.5	-0.1	
ISA					pmax		pmax			
	comp=Z,20nm,1.5s									
ISA	Isabella, Lake	72.54	44		P		P	05 44 57.5	-0.1	
CMB	Columbia Colle	72.67	41		P		P	05 44 58.0	-0.3	
CMB					pmax		pmax			
	comp=Z,9.0nm,1.2s									
CMB	Columbia Colle	72.67	41		P		P	05 44 58.0	-0.3	
PFO	Pinyon Flats O	72.79	47		P		P	05 45 00.3	+1.0	
	baz=237									
PFO	Pinyon Flats O	72.79	47		P		P	05 44 59.5	+0.2	
PFO					pmax		pmax			
	comp=Z,13nm,1.2s									
PFO	Pinyon Flats O	72.79	47		P		P	05 44 59.5	+0.2	
XPFO	Pion Flat	72.80	47		P		P	05 44 59.6	+0.3	
BBRC	Big Bear Solar	72.82	46		P		P	05 45 00.7	+1.2	
	baz=237									
AFDM	Forest Hills D	72.85	40		P		P	05 45 00.3	+1.0	
PEA0B	Petropavlovsk-	72.89	342		P		P	05 44 59.0	-0.2	
PEA0B					pmax		pmax			
	comp=Z,53nm,1.3s									
PEA0B	Petropavlovsk-	72.89	342		P		P	05 44 59.0	-0.2	
PETK	Petropavlovsk-	72.89	342		P		P	05 44 59.1	-0.1	
	comp=Z,14nm,0.9s,baz=127,slow=9.4,SNR=27									
PETK					LR		LR	06 13 33.7		
	comp=Z,400nm,19.5s,baz=208,slow=33									
PETK	Petropavlovsk-	72.89	342		P		P	05 44 57.9	-1.3	
ORV	Oroville	72.90	39		P		P	05 45 00.4	+0.9	
ORV					pmax		pmax			
	comp=Z,12nm,1.4s									
ORV	Oroville	72.90	39		P		P	05 45 00.4	+0.9	
SWSC	Sam W. Stewart	72.91	48		P		P	05 45 00.9	+1.2	
	baz=238									
WDC	Whiskeytown Da	72.91	38		P		P	05 44 59.8	+0.2	
WDC					pmax		pmax			
	comp=Z,21nm,1.5s									
WDC	Whiskeytown Da	72.91	38		P		P	05 44 59.8	+0.2	
LRMC	Laurel Mtn Rad	72.97	45		P		P	05 45 01.4	+1.1	
	baz=236									
N02D	Trinity Center	73.06	38		P		P	05 45 01.9	+1.3	
	baz=231									
O03E	Paynes Creek	73.17	39		P		P	05 45 02.2	+0.9	
	baz=232									
M02C	Callahan	73.23	37		P		P	05 45 03.2	+1.6	
	baz=231									
CWC	Cottonwood Cre	73.24	44		P		P	05 45 03.0	+1.1	
	baz=235									
MDPB	Devils Postpil	73.27	42		P		P	05 45 01.8	-0.3	
OMMB	Old Mammoth Mi	73.31	42		P		P	05 45 02.2	-0.3	
BELC	Belle Mtn. Jos	73.33	47		P		P	05 45 03.4	+1.0	
	baz=238									
MPMC	Manual Prospec	73.42	44		P		P	05 45 04.3	+1.3	
	baz=236,SNR=14									
GSC	Goldstone, Bar	73.47	45		P		P	05 45 04.1	+0.9	
	baz=237,SNR=6.4									
GSC	Goldstone, Bar	73.47	45		P		P	05 45 02.8	-0.4	
GSC					pmax		pmax			
	comp=Z,25nm,1.5s									
GSC	Goldstone, Bar	73.47	45		P		P	05 45 02.8	-0.4	
GSC					IAmb		IAmb	05 45 06.2		
	comp=Z,25nm,1.5s									
TIN	Tinemaha, Big	73.49	43		P		P	05 45 04.9	+1.6	
	baz=235									
BC3	Big Chuckawall	73.53	47		P		P	05 45 04.6	+1.0	
	baz=238									
YBH	Yreka Blue Hor	73.53	37		P		P	05 45 03.3	-0.1	
YBH					pmax		pmax			
	comp=Z,13nm,0.9s									
YBH	Yreka Blue Hor	73.53	37		P		P	05 45 03.3	-0.1	
HEC	Hector,Ludlow	73.54	46		P		P	05 45 04.0	+0.4	
	baz=237									
WAKR	Walker	73.55	41		P		P	05 45 04.2	+0.4	
K02D	Willamette Mer	73.60	36		P		P	05 45 04.7	+0.9	
	baz=230									
GLA	Glamis	73.66	48		P		P	05 45 05.1	+0.9	
	baz=239									
J01E	Myrtle Point	73.76	35		P		P	05 45 06.0	+1.5	
	baz=229									
YSS	Yuzh-Sakhalins	73.79	330	⇑ *ci*	P		P	05 45 05.5	+0.9	
YSS				*e*				05 45 23.1		
YSS				*eS*	S		S	05 54 37.6	+2.3	
YSS					pmax		pmax			
	comp=Z,30nm,1.0s									
YSS	Yuzh-Sakhalins	73.79	330		P		P	05 45 04.1	-0.5	
GMRC	Granite Mounta	73.98	46		P		P	05 45 07.0	+0.8	
	baz=238,SNR=7.6									
IRM	Iron Mountain	74.01	47		P		P	05 45 07.3	+1.0	
	baz=238,SNR=8.2									
GRAC	Grapevine Rang	74.03	43		P		P	05 45 07.4	+1.0	
	baz=236,SNR=7.4									
M04C	Macdoel	74.07	37		P		P	05 45 07.6	+1.0	
	baz=231,SNR=5.3									
FURC	Furnace Creek,	74.07	44		P		P	05 45 07.5	+1.0	
	baz=236,SNR=6.6									
L04D	Klamath Falls	74.07	37		P		P	05 45 07.5	+0.9	
	baz=231,SNR=5.4									
TUQ	Turquoise Moun	74.15	45		P		P	05 45 08.1	+0.9	
	baz=237									
NVAR	Mina Array Bea	74.23	42		P		P	05 45 09.2	+1.5	
	comp=Z,5.8nm,1.0s,baz=228,slow=6.9,SNR=25									
NVAR					LR		LR	06 11 46.7		
	comp=Z,1μm,19.5s,baz=236,slow=31									
NVAR	Mina Array Bea	74.23	42		P		P	05 45 06.7	-1.0	
113A	Mohawk Valley,	74.28	49		P		P	05 45 07.9	+0.1	
PAHR	Pah Rah Range	74.29	40		IAmb		IAmb	05 45 10.6		
	comp=Z,26nm,1.4s									
OHAK	Old Harbor	74.36	11		IAmb		IAmb	05 45 09.2		
	comp=Z,27nm,1.1s									
I02D	Swisshome	74.42	34		P		P	05 45 09.8	+1.4	
	baz=229									
I03D	Drain, OR	74.43	35		P		P	05 45 09.6	+1.2	
	baz=230									
QSPA	South Pole Qui	74.48	180		P		P	05 45 09.6	+0.9	
QSPA					IAmb		IAmb	05 45 21.1		
	comp=Z,38nm,1.1s									
214A	Organ Pipe Nat	74.57	50		P		P	05 45 10.7	+1.1	
	baz=240									
K04D	Chiloquin, OR	74.65	37		P		P	05 45 11.5	+1.6	
	baz=231									
NEE2	Needles Airpor	74.70	47		P		P	05 45 11.3	+1.1	
	baz=238									
KVN	Kaiserville	74.72	41		P		P	05 45 09.9	-0.6	
KVN					pmax		pmax			
	comp=Z,22nm,1.4s									
KVN	Kaiserville	74.72	41		P		P	05 45 09.9	-0.6	
TPNV	Topopah Spring	74.75	44		P		P	05 45 11.9	+1.2	
	baz=237,SNR=10									
TPNV	Topopah Spring	74.75	44		P		P	05 45 09.8	-0.9	
TPNV					pmax		pmax			
	comp=Z,25nm,1.4s									
TPNV	Topopah Spring	74.75	44		P		P	05 45 09.8	-0.9	
TPNV					IAmb		IAmb	05 45 23.4		
	comp=Z,25nm,1.4s									
PDMCI	Parker Dam,Lak	74.79	47		P		P	05 45 12.1	+1.3	
	baz=239									
J04D	Umpqua Nationa	74.83	36		P		P	05 45 12.0	+1.0	
	baz=231,SNR=7.7									
I04A	Tendick Farm,	75.01	35		P		P	05 45 13.0	+1.1	
	baz=230,SNR=7.1									
KDAK	Kodiak Island	75.02	11		P		P	05 45 12.2	+0.7	
KDAK					pmax		pmax			
	comp=Z,51nm,1.3s									
KDAK	Kodiak Island	75.02	11		P		P	05 45 12.2	+0.7	
MOD	Modoc Plateau	75.05	38		P		P	05 45 12.1	-0.3	
MOD					IAmb		IAmb	05 45 14.9		
	comp=Z,23nm,1.1s									
K05A	Summer Lake	75.21	37		P		P	05 45 14.4	+1.2	
SHPR	Sheep Range	75.24	45		P		P	05 45 13.8	+0.2	
H04D	Lebanon	75.30	35		P		P	05 45 14.8	+1.4	
	baz=230									
J05D	Fort Rock, OR	75.36	36		P		P	05 45 15.7	+1.7	
	baz=232									
G03D	McMinnville, O	75.45	34		P		P	05 45 15.4	+1.1	
	baz=229									
H04A	Detroit Lake	75.70	35		P		P	05 45 15.1	-0.7	
H04A					IAmb		IAmb	05 45 18.0		
	comp=Z,33nm,1.2s									
I05D	Terrebonne, OR	75.95	35		P		P	05 45 18.5	+1.2	
	baz=231									
R11A	Troy Canyon, C	75.95	43		P		P	05 45 18.2	+0.6	
	baz=237,SNR=14									
R11A	Troy Canyon, C	75.95	43		P		P	05 45 16.7	-0.9	
TUC	Tucson	76.24	51		P		P	05 45 20.8	+1.5	
	baz=241									
TUC	Tucson	76.24	51		P		P	05 45 19.3	0.0	
TUC					pmax		pmax			
	comp=Z,14nm,1.1s									
TUC	Tucson	76.24	51		P		P	05 45 19.3	0.0	
WVOR	Wild Horse Val	76.36	38		IAmb		IAmb	05 45 22.4		
	comp=Z,24nm,1.1s									
F04A	Amboy	76.37	34		P		P	05 45 18.7	-0.9	
F04A					IAmb		IAmb	05 45 21.9		
	comp=Z,45nm,1.4s									
KSRS	Korea Array	76.50	315		P		P	05 45 22.1	+1.6	
	comp=Z,1.7nm,0.8s,baz=130,slow=5.9,SNR=8.4									
KSRS					LR		LR	06 13 21.1		
	comp=Z,481nm,21.5s,baz=110,slow=31									
KSAR	Wonju Array Be	76.52	315		P		P	05 45 18.6	-2.0	
KSAR	Wonju Array Be	76.52	315		P		P	05 45 18.6	-2.0	
G05D	Wamic, OR	76.53	35		P		P	05 45 21.4	+0.9	
	baz=231									
NLWA	Neilton Lookou	76.57	32		P		P	05 45 19.3	-1.4	
TYV	Tymovskoe	76.64	333	*eP*	P		P	05 45 22.0	+1.0	
TYV					pmax		pmax			
	comp=Z,23nm,1.2s									
E04D	Cinebar	76.70	33		P		P	05 45 22.6	+1.2	
	baz=230,SNR=9.4									
I07A	Izee	76.83	37		IAmb		IAmb	05 45 25.1		
	comp=Z,35nm,1.3s									
F05D	White Salmon	76.86	34		P		P	05 45 23.4	+1.0	
	baz=231									
CNPM	China Poot	76.90	11		P		P	05 45 21.9	-0.4	
CNPM					IAmb		IAmb	05 45 29.2		
	comp=Z,29nm,1.1s									
G06A	Carlson Farm,	76.90	35		P		P	05 45 22.8	+0.1	
G06A					IAmb		IAmb	05 45 25.0		
	comp=Z,30nm,1.3s									
D04E	Lakebay	76.99	33		P		P	05 45 24.7	+1.7	
	baz=230									
J08A	Circle Bar Ran	77.00	38		P		P	05 45 23.4	+0.1	
J08A					IAmb		IAmb	05 45 25.9		
	comp=Z,37nm,1.3s									
D03D	Eldon	77.06	32		P		P	05 45 24.3	+0.9	
	baz=229,SNR=7.5									
U15A	North Rim	77.18	46		IAmb		IAmb	05 45 27.9		
	comp=Z,29nm,1.2s									
BRLK	Bradley Lake	77.19	11		P		P	05 45 23.8	-0.1	
MSHR	Mys Shultsa	77.26	321	*ce*	P		P	05 45 25.1	+0.5	
MSHR					pmax		pmax			
	comp=Z,13nm,1.3s									
WUAZ	Wupatki

comp=Z,32nm,1.3s
NKL Nikolayevsk 79.14 334 *e*P **P 05 45 33.1 -1.7**
NKL pmax pmax
comp=Z,32nm,1.3s
NKL pmax pmax
comp=N,2.0nm,1.1s
PMR Palmer 79.22 11 IAmb IAmb 05 45 37.1
comp=Z,42nm,1.2s
F10A Beach Ranch, E 79.26 36 IAmb IAmb 05 45 37.6
comp=Z,36nm,1.1s
TMUT Trail Mountain 79.36 44 P **P 05 45 35.6 -1.2**
TTA Tatalina 79.37 8 P **P 05 45 34.7 -1.3**
TTA pmax pmax
comp=Z,37nm,1.2s
TTA Tatalina 79.37 8 P **P 05 45 34.7 -1.3**
TTA IAmb IAmb 05 45 42.8
comp=Z,37nm,1.2s
GHO Glory Hole Cre 79.42 11 IAmb IAmb 05 45 37.7
comp=Z,30nm,1.0s
GRNR Gornyy 79.45 330 *e*P P 05 45 31.1 -5.5
GRNR MLR MLR
comp=E,240nm,16.0s
GRNR MLR MLR
comp=N,290nm,18.0s
B08A Colville Reser 79.53 33 P **P 05 45 36.4 -0.7**
B08A IAmb IAmb 05 45 38.7
comp=Z,22nm,1.1s
HLID Hailey 79.55 39 P **P 05 45 38.1 +0.6**
baz=237
HLID Hailey 79.55 39 IAmb IAmb 05 45 40.3
comp=Z,34nm,1.1s
SML Sawmill 79.57 12 IAmb IAmb 05 45 38.4
comp=Z,47nm,1.4s
LLLB Lillooet 79.66 30 IAmb IAmb 05 45 39.7
comp=Z,24nm,1.1s
YAH Yahtse 79.75 15 IAmb IAmb 05 45 40.3
comp=Z,40nm,1.0s
C09A Chrisman Ranch 79.76 34 IAmb IAmb 05 45 40.4
comp=Z,29nm,1.1s
SCM Sheep Creek Mo 79.79 12 P **P 05 45 37.9 -0.4**
SCM pmax pmax
comp=Z,27nm,1.0s
SCM Sheep Creek Mo 79.79 12 P **P 05 45 37.9 -0.4**
SCM IAmb IAmb 05 45 40.2
comp=Z,27nm,1.0s
TGL Tana Glacier 79.83 15 P **P 05 45 38.1 -0.5**
MNTX Cornudas Mount 80.06 53 P **P 05 45 41.3 +0.9**
baz=245,SNR=24
MNTX Cornudas Mount 80.06 53 IAmb IAmb 05 45 44.0
comp=Z,27nm,1.3s
VRDI Verde Repeater 80.09 14 IAmb IAmb 05 45 41.6
comp=Z,42nm,1.2s
BALM Baldy 80.19 15 IAmb IAmb 05 45 42.1
comp=Z,36nm,1.2s
GLB Gilahina Butte 80.20 14 P **P 05 45 41.1 +0.7**
GLB IAmb IAmb 05 45 42.0
comp=Z,47nm,1.3s
PV05 Paradox Valley 80.20 46 IAmb IAmb 05 45 44.6
comp=Z,37nm,1.1s
MVCO Mesa Verde 80.22 47 P **P 05 45 42.6 +1.3**
baz=242
HWUT Hardware Ranch 80.30 42 P **P 05 45 41.8 +0.1**
MCARA McCarthy VSAT 80.33 14 IAmb IAmb 05 45 42.8
comp=Z,39nm,1.2s
CTGM Chitina Glacie 80.38 15 IAmb IAmb 05 45 43.3
comp=Z,36nm,1.2s
PV10 Paradox Valley 80.39 46 IAmb IAmb 05 45 44.7
comp=Z,33nm,1.1s
PV19 Morning Glory 80.40 46 IAmb IAmb 05 45 44.9
comp=Z,36nm,1.2s
PV17 East Wray Mesa 80.40 46 P **P 05 45 43.0 +0.7**
PV17 IAmb IAmb 05 45 44.9
comp=Z,37nm,1.2s
PV18 Skein Mesa, Pa 80.42 46 IAmb IAmb 05 45 45.0
comp=Z,30nm,1.2s
PV20 West Nyswonger 80.42 46 IAmb IAmb 05 45 45.0
comp=Z,31nm,1.1s
TX31 Lajitas Ar. Si 80.43 56 P **P 05 45 42.8 +0.3**
TX32 Lajitas Array 80.43 56 P **P 05 45 42.3 -0.2**
TX32 IAmb IAmb 05 45 46.4
comp=Z,36nm,1.4s
TXAR Lajitas Array 80.43 56 P **P 05 45 44.4 +1.9**
comp=Z,20nm,1.2s,baz=226,slow=5.0,SNR=62
TXAR LR LR 06 15 08.4
comp=Z,836nm,19.2s,baz=0.0,slow=31
TXAR Lajitas Array 80.43 56 P **P 05 45 44.0 +1.5**
PV13 Radium Mtn., P 80.44 46 IAmb IAmb 05 45 45.2
comp=Z,27nm,1.1s
PV23 Carpenter Ridg 80.44 46 IAmb IAmb 05 45 45.4
comp=Z,34nm,1.0s
PV03 Paradox Valley 80.46 46 IAmb IAmb 05 45 45.3
comp=Z,25nm,1.2s
PV11 David Mesa, Pa 80.47 46 IAmb IAmb 05 45 46.6
comp=Z,30nm,1.1s
PV04 Paradox Valley 80.49 46 IAmb IAmb 05 45 45.5
comp=Z,28nm,1.0s
PV02 Paradox Valley 80.52 46 IAmb IAmb 05 45 45.6
comp=Z,24nm,1.1s
PV21 Cone Mtn., Par 80.52 46 IAmb IAmb 05 45 45.8
comp=Z,33nm,1.1s
PV12 Saucer Basin, 80.52 46 IAmb IAmb 05 45 45.8
comp=Z,40nm,1.1s
NJ2 Nanjing 80.53 307 *e*P **P 05 45 43.3 +0.5**
NJ2 pmax pmax
comp=Z,14nm,0.7s
NJ2 LR LR
comp=Z,340nm,21.8s
NJ2 LR LR
comp=Z,470nm,20.8s
NJ2 LR LR
comp=Z,890nm,23.2s
PV01 Paradox Valley 80.60 46 IAmb IAmb 05 45 46.0
comp=Z,24nm,1.0s
ANMO Albuquerque 80.66 50 P **P 05 45 45.1 +1.3**
baz=244
ANMO Albuquerque 80.66 50*c e*P **P 05 45 44.1 +0.3**
ANMO pmax pmax
comp=Z,28nm,1.7s
ANMO Albuquerque 80.66 50 P **P 05 45 43.8 0.0**
NEW Newport 80.66 34 P **P 05 45 43.6 +0.3**
baz=234
NEW Newport 80.66 34 P **P 05 45 43.0 -0.2**
NEW pmax pmax
comp=Z,11nm,1.1s
NEW Newport 80.66 34 P **P 05 45 43.0 -0.2**
TRF Thorofare Moun 80.73 10 P **P 05 45 43.1 -0.4**
TRF IAmb IAmb 05 45 56.4
comp=Z,24nm,0.9s
PV15 Paradox Valley 80.76 46 IAmb IAmb 05 45 46.9
comp=Z,22nm,1.1s
SKAG Skagway 80.79 18 IAmb IAmb 05 45 49.5
comp=Z,22nm,1.1s
KLR Kul'dur 80.83 327 P **P 05 45 44.3 +0.2**
comp=Z,4.1nm,1.0s,baz=83,slow=6.3,SNR=8.0
KLR LR LR 06 15 50.8
comp=Z,760nm,21.7s,baz=156,slow=32
KLR Kul'dur 80.83 327*c e*P **P 05 45 43.9 -0.2**
KLR pmax pmax
comp=Z,10.0nm,1.3s
RND Reindeer 80.94 11 P **P 05 45 44.2 -0.3**
RND pmax pmax
comp=Z,60nm,1.2s
RND Reindeer 80.94 11 P **P 05 45 44.2 -0.3**
AHID Auburn Hatcher 81.19 41 IAmb IAmb 05 45 48.8
comp=Z,28nm,1.2s
BPAW Bear Paw Mtn. 81.22 10 P **P 05 45 45.2 -0.6**
HYT Haines Junctio 81.27 17 IAmb IAmb 05 45 48.6
comp=Z,33nm,1.2s
CN2 Changchun 81.42 320 *e*P **P 05 45 47.8 +0.4**
CN2 *e*PP **PP 05 48 56.5 +2.8**
CN2 *e*S **S 05 55 58.0 -0.2**
CN2 *es*S SKSac 05 56 06.1 -0.3
CN2 *e*SS **SS 06 01 18.4 +3.3**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,290nm,4.0s
CN2 LR LR
comp=Z,280nm,24.0s
CN2 LR LR
comp=Z,500nm,24.0s
CN2 LR LR
comp=Z,700nm,26.0s
DL2 Dalian 81.53 314 P **P 05 45 48.8 +0.8**
DL2 S **S 05 56 02.8 +3.3**
DL2 pmax pmax
comp=Z,12nm,0.8s
DL2 pmax pmax
comp=Z,420nm,11.8s
DL2 LR LR
comp=Z,300nm,24.9s
DL2 LR LR
comp=Z,380nm,25.1s
DL2 LR LR
comp=Z,640nm,23.6s
MENT Mentasta 81.54 13 IAmb IAmb 05 45 49.6
comp=Z,21nm,1.1s
DLMT Dillon 81.61 38 IAmb IAmb 05 45 51.1
comp=Z,31nm,1.2s
MSO Missoula 81.62 37 P **P 05 45 48.4 -0.1**
baz=237
MSO Missoula 81.62 37 P **P 05 45 48.2 -0.3**
SNY Shenyang 81.62 318 ||P **P 05 45 50.1 +1.7**
SNY S **S 05 56 00.0 -0.3**
SNY pmax pmax
comp=Z,17nm,1.2s
SNY pmax pmax
comp=Z,310nm,9.5s
SNY LR LR
comp=Z,280nm,17.5s
SNY LR LR
comp=Z,270nm,17.3s
SNY LR LR
comp=Z,500nm,20.2s
S22A 4UR Ranch, Cre 81.64 47 P **P 05 45 50.2 +1.2**
baz=243
S22A 4UR Ranch, Cre 81.64 47 IAmb IAmb 05 45 52.2
comp=Z,36nm,1.1s
TPAW Teton Pass 81.65 41 P **P 05 45 50.2 +1.3**
TPAW IAmb IAmb 05 45 51.6
comp=Z,37nm,1.2s
FXWY Fox Creek 81.67 40 P **P 05 45 50.6 +1.5**
FXWY IAmb IAmb 05 45 52.4
comp=Z,32nm,1.3s
O20A White River Ci 81.77 45 P **P 05 45 50.0 +0.5**
baz=242
O20A White River Ci 81.77 45 IAmb IAmb 05 45 53.2
comp=Z,26nm,1.4s
IMW Indian Meadow 81.86 40 P **P 05 45 50.4 +0.3**
WHY Whitehorse 81.89 18 IAmb IAmb 05 45 51.8
comp=Z,28nm,1.4s
LRM Limekiln Ridge 81.94 38 P **P 05 45 50.9 +0.5**
NEA2 Nenana 81.99 10 P **P 05 45 49.3 -0.6**
baz=203
RIDG Independent Ri 82.01 12 P **P 05 45 49.4 -0.7**
RIDG IAmb IAmb 05 45 51.6
comp=Z,36nm,1.2s
BCAR Beaver Creek A 82.08 14 P **P 05 45 48.1 -2.3**
DOT Dot Lake 82.09 13 IAmb IAmb 05 45 52.1
comp=Z,27nm,1.1s
FLWY Flagg Ranch 82.11 40 P **P 05 45 51.9 +0.7**
YPP Pitchstone Pla 82.14 40 P **P 05 45 52.0 +0.4**
BW06 Boulder Array 82.17 42 P **P 05 45 51.9 +0.3**
baz=240,SNR=24
BW06 Boulder Array 82.17 42 P **P 05 45 51.5 -0.2**
BW06 IAmb IAmb 05 45 53.7
comp=Z,32nm,1.4s
PD31 Pinedale Array 82.17 42 P **P 05 45 51.5 -0.2**
PD31 IAmb IAmb 05 45 53.7
comp=Z,30nm,1.4s
PDAR Pinedale Array 82.17 42 P **P 05 45 51.9 +0.2**
comp=Z,17nm,1.2s,baz=222,slow=2.0,SNR=53
PDAR LR LR 06 18 21.4
comp=Z,1μm,18.4s,baz=244,slow=33
PDAR Pinedale Array 82.17 42 P **P 05 45 51.3 -0.3**
HDA Harding Lake 82.20 11 P **P 05 45 50.6 -0.4**
baz=205,SNR=17
HDA Harding Lake 82.20 11 P **P 05 45 50.4 -0.6**
HDA IAmb IAmb 05 45 52.4
comp=Z,23nm,1.0s
CCB Clear Creek Bu 82.26 11 P **P 05 45 51.4 +0.1**
BOZ Bozeman (W) 82.31 38 P **P 05 45 52.8 +0.6**
baz=239,SNR=30
H17A Grant Village 82.34 40 P **P 05 45 54.3 +1.8**
baz=240,SNR=10
H17A Grant Village 82.34 40 IAmb IAmb 05 45 56.2
comp=Z,24nm,1.1s
TCOL CIGO, UAF Yank 82.46 11 P **P 05 45 52.0 -0.4**
baz=204,SNR=8.7
COLA College 82.46 11 P **P 05 45 51.8 -0.5**
COLA pmax pmax
comp=Z,40nm,1.0s
COLA College 82.46 11 P **P 05 45 51.8 -0.5**
MDM Murphy Dome 82.47 10 IAmb IAmb 05 45 53.7
comp=Z,23nm,1.4s
IL31 82.54 11 P **P 05 45 52.6 -0.1**
IL31 IAmb IAmb 05 45 59.3
comp=Z,26nm,1.2s
ILAR Eielson Array 82.54 11 P **P 05 45 52.0 -0.8**
comp=Z,7.7nm,1.1s,baz=206,slow=5.7,SNR=42
ILAR LR LR 06 20 01.3
comp=Z,386nm,18.4s,baz=210,slow=34
ILAR Eielson Array 82.54 11 P **P 05 45 52.0 -0.8**
ILAR Eielson Array 82.54 11 P **P 05 45 51.8 -1.0**
POKR Poker Flat Res 82.76 11 P **P 05 45 53.5 -0.4**
baz=205,SNR=9.2
WALA Waterton Lakes 82.86 35 P **P 05 45 55.2 +0.2**
WALA IAmb IAmb 05 45 56.9
comp=Z,33nm,1.2s
MSTX Muleshoe 83.00 52 P **P 05 45 56.7 +0.6**
baz=246
MSTX Muleshoe 83.00 52 P **P 05 45 55.1 -0.9**
T25A Trinidad 83.10 49 P **P 05 45 57.7 +1.1**
baz=245
T25A Trinidad 83.10 49 IAmb IAmb 05 45 59.0
comp=Z,22nm,1.1s
QIZ Qiongzhong 83.27 292 P **P 05 45 59.8 +2.2**
QIZ S **S 05 56 18.0 -0.2**
QIZ sS **sS 05 56 25.1 -0.4**
QIZ ScS **ScS 05 56 32.9 +0.9**
QIZ pmax pmax
comp=Z,220nm,5.3s
QIZ LR LR
comp=Z,270nm,18.0s
QIZ LR LR
comp=Z,480nm,21.8s
QIZ LR LR
comp=Z,690nm,25.1s
Q24A Divide 83.36 47 P **P 05 45 59.1 +1.0**
baz=244
ISCO Idaho Springs 83.41 46 P **P 05 45 59.0 +0.7**
baz=244
ISCO Idaho Springs 83.41 46 P **P 05 45 58.6 +0.3**
ISCO pmax pmax
comp=Z,14nm,1.1s
ISCO Idaho Springs 83.41 46 P **P 05 45 58.6 +0.3**
ISCO IAmb IAmb 05 46 16.9
comp=Z,14nm,1.1s
PRP Porcupine Dome 83.47 11 P **P 05 45 56.6 -1.2**
DAWY Dawson 83.50 14 P **P 05 45 57.5 -0.3**
DAWY IAmb IAmb 05 45 59.9
comp=Z,30nm,1.2s
833A Chaparral WMA, 83.51 58 P **P 05 45 59.3 +0.7**
baz=248
RLMT Red Lodge 83.51 40 P **P 05 45 59.4 +0.9**
baz=240,SNR=24
RLMT Red Lodge 83.51 40 P **P 05 45 57.9 -0.7**
N23A Red Feather La 83.67 45 P **P 05 46 00.5 +1.0**
baz=243
EGAK Eagle 83.70 13 IAmb IAmb 05 46 00.7
comp=Z,25nm,1.2s
JCT Junction City 83.97 56 P **P 05 46 01.0 0.0**
baz=248
K22A Casper 84.08 43 P **P 05 46 02.0 +0.5**
baz=243
PHWY Pilot Hill 84.18 44 P **P 05 46 01.7 -0.5**
PHWY IAmb IAmb 05 46 04.2
comp=Z,23nm,1.2s
COLD Coldfoot 84.25 9 P **P 05 46 02.3 +0.7**
baz=202,SNR=22
COLD Coldfoot 84.25 9 P **P 05 46 01.5 0.0**
EGMT Eagleton 84.66 37 P **P 05 46 04.7 +0.5**
baz=240,SNR=16
EGMT Eagleton 84.66 37 P **P 05 46 03.0 -1.1**
BILL Bilibino 84.71 352 *i* P **P 05 46 03.1 -0.7**
BILL *i* 05 46 13.0
BILL *i* 05 49 19.3
BILL pmax pmax
comp=Z,10.0nm,1.2s
BILL MLR MLR
comp=Z,402nm,19.0s
BILL Bilibino 84.71 352 P **P 05 46 04.5 +0.6**
H03S2 Juan Fernandez 84.84 124 T T 07 20 23.3
baz=253,slow=74,SNR=6.9
H03S1 Juan Fernandez 84.85 124 T T 07 20 39.3
baz=253,slow=74,SNR=6.5
H03S3 Juan Fernandez 84.86 124 T T 07 19 57.9
baz=253,SNR=5.9
ABTX Abilene, Hawle 84.89 54 P **P 05 46 05.9 +0.3**
baz=248,SNR=19
ABTX Abilene, Hawle 84.89 54 P **P 05 46 04.8 -0.8**
KSCO Kaye Shedlock' 85.16 47 P **P 05 46 07.3 +0.4**
baz=246
KSCO Kaye Shedlock' 85.16 47 P **P 05 46 05.1 -1.8**
KSCO IAmb IAmb 05 46 09.2
comp=Z,26nm,1.2s
BMAR Burnt Mountain 85.35 11 P **P 05 46 07.9 +0.7**
TOLK Toolik Lake Re 85.66 8 P **P 05 46 08.8 +0.1**
baz=203
TOLK Toolik Lake Re 85.66 8 IAmb IAmb 05 46 10.7
comp=Z,16nm,1.1s
ZEA Zeya 85.73 329 *e*P **P 05 46 09.0 -0.2**
ZEA *e*S **S 05 56 40.0 -1.3**
ZEA pmax pmax
comp=Z,37nm,1.4s
ZEA pmax pmax
comp=Z,400nm,10.0s
ZEA smax smax
comp=N,300nm,12.0s
ZEA MLR MLR
comp=E,300nm,18.0s
ZEA MLR MLR
comp=Z,600nm,18.0s
BJI Beijing 85.82 313 P **P 05 46 11.4 +1.4**
BJI sP **sP 05 46 17.3 +1.3**
BJI S **S 05 56 46.8 +4.1**
BJI pmax pmax
comp=Z,8.0nm,1.3s
BJI pmax pmax
comp=Z,300nm,4.3s
BJI LR LR
comp=Z,270nm,24.5s
BJI LR LR
comp=Z,240nm,24.3s
BJI LR LR
comp=Z,530nm,25.5s
435B Jarrell 85.86 57 P **P 05 46 11.1 +0.7**
baz=249
435B Jarrell 85.86 57 IAmb IAmb 05 46 13.0
comp=Z,33nm,1.2s
EPYK Eagle Plains 86.05 14 P **P 05 46 10.7 +0.1**
baz=215,SNR=7.6
EPYK Eagle Plains 86.05 14 P **P 05 46 10.3 -0.3**
LAO LASA Array 86.13 39 P **P 05 46 12.5 +1.0**
baz=243,SNR=11
WMOK Wichita Mounta 86.34 53 P **P 05 46 12.9 +0.1**
baz=248
RSSD Black Hills 86.36 42 P **P 05 46 12.7 -0.2**
baz=244
RSSD Black Hills 86.36 42 P **P 05 46 13.3 +0.4**
RSSD pmax pmax
comp=Z,32nm,1.5s
RSSD Black Hills 86.36 42 P **P 05 46 13.3 +0.4**
RSSD IAmb IAmb 05 46 15.3
comp=Z,32nm,1.5s
WHTX Lake Whitney, 86.39 56 P **P 05 46 13.4 +0.4**
baz=249
HKT Hockley 86.99 58 P **P 05 46 17.1 +1.2**
HKT pmax pmax
comp=Z,24nm,1.5s
HKT Hockley 86.99 58 P **P 05 46 17.1 +1.2**
HKT IAmb IAmb 05 46 19.8
comp=Z,24nm,1.4s
Z35A Perchaven, San 87.02 54 P **P 05 46 15.9 -0.2**
CBKS Cedar Bluff 87.16 49 P **P 05 46 16.3 -0.4**
baz=248
HIA Hailar 87.52 323*c i*P **P 05 46 18.7 +0.5**
HIA pmax pmax
comp=Z,12nm,1.3s
MAW Mawson 87.74 199 P **P 05 46 20.5 +1.5**
comp=Z,30nm,1.1s,baz=130,slow=6.0,SNR=9.4
MAW Mawson 87.74 199 P **P 05 46 19.1 +0.1**
MAW pmax pmax
comp=Z,5.0nm,1.1s
MAW Mawson 87.74 199 P **P 05 46 19.1 +0.1**
DGMT Dagmar 88.15 38 P **P 05 46 21.7 +0.5**
baz=244
DGMT Dagmar 88.15 38 P **P 05 46 20.2 -1.1**
INK Inuvik 88.35 14 P **P 05 46 20.7 -0.9**
INK pmax pmax
comp=Z,18nm,1.3s
INK Inuvik 88.35 14 P **P 05 46 20.7 -0.9**
INK IAmb IAmb 05 46 23.1
comp=Z,18nm,1.2s
GYA Guiyang 88.41 298 P **P 05 46 23.1 0.0**
GYA PP **PP 05 49 53.9 +2.8**
GYA S **S 05 57 04.3 -4.3**
GYA sS ScS 05 57 19.8 +5.4
GYA LR LR
comp=Z,180nm,15.4s
GYA LR LR
comp=Z,230nm,16.0s
GYA LR LR
comp=Z,280nm,18.5s
NATX Nacogdoches 88.54 57 P **P 05 46 24.7 +1.3**
baz=251
T35A Sooner Cattle 88.84 51 IAmb IAmb 05 46 38.9
comp=Z,14nm,1.1s
XAN Xi'an 88.99 306 P **P 05 46 27.1 +1.5**
XAN pP sP 05 46 38.3 +6.7
XAN pmax pmax
comp=Z,8.0nm,1.3s
XAN pmax pmax
comp=Z,280nm,6.1s
XAN LR LR
comp=Z,350nm,19.5s
XAN LR LR
comp=Z,240nm,18.4s
XAN LR LR
comp=Z,610nm,19.5s
TUL1 Leonard 89.04 52 P **P 05 46 26.3 +0.6**
baz=250
TUL1 Leonard 89.04 52 IAmb IAmb 05 46 29.2
comp=Z,20nm,1.4s
PLCA Paso Flores 89.16 132 LR LR 06 17 40.3
comp=Z,920nm,20.8s,baz=234,slow=30
BGNE Belgrade 89.25 47 P **P 05 46 27.6 +1.0**
baz=248
K31A O'Neill 89.28 45 IAmb IAmb 05 46 30.7
comp=Z,21nm,0.9s
HHC Hu-ho-hao-te 89.38 313 *e*P **P 05 46 27.0 -0.3**
HHC PP **PP 05 49 59.8 +1.2**
HHC S **S 05 57 13.3 -3.8**
HHC pmax pmax
comp=Z,5.0nm,1.2s
HHC pmax pmax
comp=Z,71nm,5.5s
HHC LR LR
comp=Z,83nm,19.0s
HHC LR LR
comp=Z,180nm,19.8s
HHC LR LR
comp=Z,230nm,21.0s
YAK Yakutsk 89.39 337 *e*P **P 05 46 25.9 -0.7**
YAK pmax pmax
comp=Z,46nm,1.7s
KSU1 Kansas State U 89.53 49 P **P 05 46 27.9 0.0**
baz=250
YKA Yellowknife Ar 90.12 23 P **P 05 46 30.4 +0.4**
comp=Z,5.6nm,1.0s,baz=233,slow=4.6,SNR=25
MIAR Mount Ida 90.30 54 P **P 05 46 31.7 +0.1**
baz=251
W39A Magazine 90.35 54 P **P 05 46 32.5 +0.7**
baz=251
Z41A Richland Creek 90.51 56 P **P 05 46 33.2 +0.6**
baz=252
X40A Basin Creek Fa 90.87 55 P **P 05 46 34.1 -0.1**
baz=252
ECSD EROS Data Cent 91.14 45 P **P 05 46 35.0 -0.3**
baz=250
ECSD EROS Data Cent 91.14 45 P **P 05 46 34.5 -0.9**
KMI Kunming 91.39 296|| *e*P **P 05 46 37.3 +0.1**
KMI pP PcP 05 46 39.1 +1.0
KMI pmax pmax
comp=Z,12nm,0.5s
KMI pmax pmax
comp=Z,150nm,4.4s
KMI LR LR
comp=Z,190nm,18.6s
KMI LR LR

comp=Z,400nm,20.5s
KMI LR LR
comp=Z,410nm,17.0s
U40A Yellville 91.44 53 P **P** 05 46 36.8 0.0
baz=252
S39A Bolivar 91.50 51 P **P** 05 46 36.7 -0.4
S39A IAmb IAmb 05 46 40.2
comp=Z,13nm,1.4s
W41B Gary Mavity, V 91.54 54 P **P** 05 46 37.9 +0.6
baz=252,SNR=7.6
W41B Gary Mavity, V 91.54 54 IAmb IAmb 05 46 40.5
comp=Z,20nm,1.4s
WHAR Wooly Hollow 91.54 54 P **P** 05 46 39.2 +1.9
WHAR IAmb IAmb 05 46 40.3
comp=Z,20nm,1.4s
FCAR Ozark Folk Cen 91.85 53 P **P** 05 46 37.2 -1.5
FCAR IAmb IAmb 05 46 41.3
comp=Z,16nm,1.4s
P38A Dawn 91.95 49 IAmb IAmb 05 46 40.3
comp=Z,17nm,1.4s
FFC Flin Flon 92.06 33 P **P** 05 46 38.3 -1.0
FFC pmax pmax
comp=Z,9.0nm,1.3s
FFC Flin Flon 92.06 33 P **P** 05 46 38.3 -1.0
CD2 Chengdu 92.17 301 P **P** 05 46 39.4 -1.1
CD2 PP **PP** 05 50 23.8 +2.9
CD2 S **S** 05 57 43.8 +0.8
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 LR LR
comp=Z,770nm,22.8s
CD2 LR LR
comp=Z,690nm,23.1s
CD2 LR LR
comp=Z,530nm,18.0s
SYO Syowa Base 92.50 191 ⇑*es*P sP 05 46 47.6 +0.4
LCAR Lake Charles 92.66 53 P **P** 05 46 40.8 -1.7
LCAR IAmb IAmb 05 46 44.9
comp=Z,12nm,1.2s
VNA3 Neumayer Olymp 92.66 175 P **P** 05 46 44.1 +2.2
SNAA Sanae 92.72 177 P **P** 05 46 44.2 +1.9
SNAA Sanae 92.72 177 P **P** 05 46 41.8 -0.5
SNAA pmax pmax
comp=Z,15nm,1.2s
SNAA Sanae 92.72 177 P **P** 05 46 41.8 -0.5
SNAA IAmb IAmb 05 46 53.9
comp=Z,15nm,1.2s
CMAR Chiang Mai Arr 92.98 288 P **P** 05 46 45.0 +0.6
comp=Z,1.5nm,0.6s,baz=109,slow=3.6,SNR=7.1
CMAR LR LR 06 23 35.2
comp=Z,419nm,21.6s,baz=145,slow=32
CMAR Chiang Mai Arr 92.98 288 P **P** 05 46 45.0 +0.6
CMAR Chiang Mai Arr 92.98 288 P **P** 05 46 42.5 -1.9
A36M Sachs Harbour 92.98 13 P **P** 05 46 43.6 +0.4
baz=226
VNA2 Neumayer--Watz 93.16 175 P **P** 05 46 46.8 +2.6
CCM Cathedral Cave 93.17 51 P **P** 05 46 45.2 +0.4
baz=253
CCM Cathedral Cave 93.17 51 P **P** 05 46 44.3 -0.5
CCM pmax pmax
comp=Z,18nm,1.5s
CCM Cathedral Cave 93.17 51 P **P** 05 46 44.3 -0.5
CCM IAmb IAmb 05 46 46.3
comp=Z,18nm,1.5s
AGMN Agassiz Nation 93.20 41 P **P** 05 46 45.4 +0.7
baz=250
AGMN Agassiz Nation 93.20 41 IAmb IAmb 05 46 46.1
comp=Z,23nm,1.5s
VNA1 Neumayer--Stat 93.36 175 P **P** 05 46 47.6 +2.5
PBMO Poplar Bluff 93.42 53 IAmb IAmb 05 46 48.2
comp=Z,19nm,1.4s
OXF Oxford 93.58 55 P **P** 05 46 47.2 +0.5
baz=254
NVL N'lazarevskaya 93.82 182 *e*P **P** 05 46 51.0 +3.8
NVL pmax pmax
comp=Z,7.0nm,0.7s
ULM Lac du Bonnet 93.85 39 P **P** 05 46 47.7 +0.1
comp=Z,1.8nm,0.5s,baz=250,slow=6.1,SNR=4.2
ULM LR LR 06 25 10.8
comp=Z,1μm,18.4s,baz=254,slow=33
ULM Lac du Bonnet 93.85 39 IAmb IAmb 05 47 00.4
comp=Z,8.9nm,1.1s
F36A Milaca 93.92 44 P **P** 05 46 47.2 -0.9
SPMN Marine on St. 94.21 44 P **P** 05 46 50.0 +0.5
baz=252
SPMN Marine on St. 94.21 44 IAmb IAmb 05 47 02.8
comp=Z,9.9nm,1.1s
L40A Anamosa 94.36 48 P **P** 05 46 49.8 -0.5
B35A Bob, Littlefor 94.57 41 IAmb IAmb 05 46 51.7
comp=Z,12nm,1.2s
PLAL Pickwick Lake 94.76 55 P **P** 05 46 52.6 +0.4
ULN Ulaanbaatar 94.77 318 *ce*P **P** 05 46 52.8 +0.6
ULN pmax pmax
comp=Z,4.0nm,1.0s
LRAL Lakeview Retre 95.11 57 P **P** 05 46 54.5 +0.7
baz=255
SONM Songino Array 95.19 318 P **P** 05 46 55.3 +1.3
comp=Z,0.9nm,0.9s,baz=121,slow=4.5,SNR=5.3
SONM LR LR 06 24 40.6
comp=Z,489nm,21.9s,baz=110,slow=32
SONM Songino Array 95.19 318 P **P** 05 46 54.0 -0.1
TIXI Tiksi 95.25 344 P **P** 05 46 53.8 +0.3
comp=Z,1.3nm,0.6s,baz=66,slow=4.9,SNR=4.0
TIXI Tiksi 95.25 344 *ce*P **P** 05 46 52.6 -0.9
TIXI pmax pmax
comp=Z,4.0nm,1.2s
TIXI Tiksi 95.25 344 P **P** 05 46 53.0 -0.6
WVT Waverly 95.26 54 P **P** 05 46 54.7 +0.2
baz=255
WVT Waverly 95.26 54 P **P** 05 46 54.7 +0.2
WVT pmax pmax
comp=Z,13nm,1.5s
WVT Waverly 95.26 54 P **P** 05 46 54.7 +0.2
WVT IAmb IAmb 05 46 56.1
comp=Z,13nm,1.5s
JFWS Jewell Farm 95.30 47 P **P** 05 46 54.1 -0.4
baz=254
HDIL Hopedale 95.33 50 P **P** 05 46 54.6 -0.1
baz=254
E38A The Farm, Brul 95.45 43 IAmb IAmb 05 46 55.9
comp=Z,11nm,1.4s
EYMN Ely 95.87 42 P **P** 05 46 56.7 -0.3
baz=253
G40A Rib Lake 95.98 45 P **P** 05 46 56.6 -0.9
G40A IAmb IAmb 05 46 59.5
comp=Z,13nm,1.4s
I42A Draeger Farm, 96.50 46 P **P** 05 46 58.9 -1.0
I42A IAmb IAmb 05 47 00.8
comp=Z,12nm,1.1s
K43A Burlington 96.60 48 P **P** 05 46 60.0 -0.4
SFIN Lafayette 96.91 50 P **P** 05 47 02.2 +0.4
baz=256,SNR=6.0
COWI Conover 96.92 44 P **P** 05 47 01.4 -0.4
U49A Red Boiling Sp 96.96 54 IAmb IAmb 05 47 04.0
comp=Z,8.4nm,1.2s
H43A Windswept, Lau 97.44 46 IAmb IAmb 05 47 05.7
comp=Z,12nm,1.2s
GTA Gaotai 97.54 309 *e*P **P** 05 47 03.4 -1.5
GTA pP pP 05 47 07.6 -1.8
GTA sP sP 05 47 10.8 -0.1
GTA pmax pmax
comp=Z,2.0nm,0.4s
TLY Talaya 97.97 321 LR LR 06 28 09.8
comp=Z,664nm,19.7s,baz=88,slow=34
GOGA Godfrey 98.07 58 P **P** 05 47 06.7 -0.6
baz=257
E43A Lone Tree Farm 98.43 44 P **P** 05 47 07.7 -0.9
H45A Beulah 98.68 46 P **P** 05 47 09.5 -0.2
baz=257
G45A Suttons Bay 99.04 46 P **Pdif** 05 47 11.4 0.0
baz=257
J47A Sunmer 99.23 48 P **Pdif** 05 47 12.7 +0.4
baz=257
H46A Fife Lake 99.24 46 P **Pdif** 05 47 12.2 -0.1
baz=257
F45A CMU Biological 99.28 45 P **Pdif** 05 47 12.7 +0.3
baz=257
ROSC El Rosal 99.69 88 LR LR 06 22 54.9
comp=Z,551nm,21.8s,baz=229,slow=30
H47A Mio 99.95 46 P **Pdif** 05 47 15.4 0.0
baz=258
Z57A Bowman 100.31 58 P **Pdif** 05 47 17.4 +0.2
baz=258
P52A Corning 100.45 52 P **Pdif** 05 47 17.7 0.0
baz=258
D46A Sault St. Mari 100.53 44 P **Pdif** 05 47 18.2 +0.3
baz=259
Q53A Leroy 100.76 53 P **Pdif** 05 47 20.1 +1.0
baz=259
E47A Iron Bridge 100.96 45 P **Pdif** 05 47 20.7 +0.8
baz=259,SNR=5.7
D47A Chapleau 101.19 44 P **Pdif** 05 47 20.8 -0.1
baz=259
F48A Evansville 101.29 45 P **Pdif** 05 47 21.5 +0.1
baz=259
F49A Sandfield 101.68 46 P **Pdif** 05 47 23.2 +0.1
baz=260
E48A Lockeyer 101.72 45 P **Pdif** 05 47 23.4 +0.1
baz=260
D48A Paudash Townsh 102.08 44 P **Pdif** 05 47 25.3 +0.5
baz=260
D49A Beulah Townshi 102.40 44 P **Pdif** 05 47 26.5 +0.2
baz=261
E50A Wahnapitae 102.68 45 P **Pdif** 05 47 27.6 +0.1
baz=261
Q57A Strasburg 103.19 53 P **Pdif** 05 47 29.9 0.0
baz=261
S58A Poland Farm, P 103.23 54 P **Pdif** 05 47 30.5 +0.3
baz=260
R58A Rapidan 103.38 54 P **Pdif** 05 47 30.8 0.0
baz=261
D50A G1974 Best Tow 103.41 44 P **Pdif** 05 47 30.9 +0.2
baz=262
R58B Mineral 103.42 54 P **Pdif** 05 47 31.1 +0.1
baz=261
E51A G1948 Merrick 103.55 45 P **Pdif** 05 47 31.5 +0.1
baz=262
L55A Hinsdale 103.66 50 P **Pdif** 05 47 32.3 +0.3
baz=261
H53A Bobcaygeon 103.90 47 P **Pdif** 05 47 33.5 +0.5
baz=262
G53A Haliburton 103.95 47 P **Pdif** 05 47 34.1 +0.9
baz=262
E52A Mattawa 104.09 45 P **Pdif** 05 47 34.3 +0.5
baz=262
T60A Surry 104.19 55 P **Pdif** 05 47 34.6 +0.2
baz=261
G54A Lake Saint Pet 104.36 46 P **Pdif** 05 47 35.8 +0.8
baz=262
O58A Lewisberry 104.49 52 P **Pdif** 05 47 36.5 +0.8
baz=262
L57A Andrews Acres 104.80 50 P **Pdif** 05 47 37.7 +0.6
baz=262
K57A Scipio Center 105.14 49 P **PKiKP** 05 51 53.4 +0.4
baz=263
L61A Hillsdale 1, H 107.26 50 P **PKiKP** 05 51 57.3 +0.4
baz=264
J61A Chester 108.09 49 P **PKiKP** 05 51 59.2 +0.7
baz=266
J63A Strafford 109.16 49 P **PKiKP** 05 52 01.1 +0.6
baz=266
KURK Kurchatov 113.48 319 *c* PKIKP **PKiKP** 05 52 08.7 +0.3
KURK pmax pmax
comp=Z,4.0nm,1.7s
KURBB Kurchatov Arra 113.54 319 PP **PP** 05 52 57.6 -2.8
comp=Z,1.3nm,1.0s,baz=88,slow=6.9,SNR=5.6
AAK Ala-Archa 116.84 310 *i* PKIKP **PKPdf** 05 52 14.7 -0.7
BVAR Borovoye Array 118.21 322 PKP **PKPdf** 05 52 17.1 -0.3
comp=Z,2.1nm,0.7s,baz=127,slow=0.7,SNR=9.9
BRVK Borovoye 118.27 322 *c i* PKIKP **PKPdf** 05 52 17.9 +0.4
BRVK pmax pmax
comp=Z,6.0nm,1.7s
KKAR Karatay Array 119.72 311 PKIKP **PKPdf** 05 52 20.7 0.0
KKAR Karatay Array 119.72 311 PKPdf **PKPdf** 05 52 20.7 0.0
ARU Arti 123.65 328 PKP **PKPdf** 05 52 28.5 +0.7
comp=Z,1.0nm,0.3s,baz=115,slow=2.8,SNR=5.7
ARU PP **PP** 05 54 07.4 -2.5
comp=Z,0.8nm,0.3s,baz=42,slow=4.1,SNR=6.1
ARU Arti 123.65 328 *i* PKIKP **PKiKP** 05 52 29.1 +1.1
ARU 05 54 10.6
ARU 05 59 40.7
ARU SS SS 06 10 52.1 -5.0
ARU MLR MLR
comp=Z,783nm,22.0s
ARU Arti 123.65 328 PKPdf **PKPdf** 05 52 28.1 +0.3
ARCES ARCESS Array B 124.82 352 PKP **PKPdf** 05 52 30.1 +0.5
comp=Z,4.2nm,0.9s,baz=323,slow=1.8,SNR=9.2
ARCES ARCESS Array B 124.82 352 **PKPdf** 05 52 29.7 +0.1
ABKAR Akbulak array 125.55 320 PKPdf **PKPdf** 05 52 31.5 -0.2
AKTO Aktyubinsk 126.32 322 PKP **PKPdf** 05 52 33.9 +0.9
comp=Z,0.9nm,0.4s,baz=335,slow=4.7,SNR=5.6
KIRV Kirov 126.83 334 PKP **PKPdf** 05 52 34.5 +0.7
comp=Z,11nm,0.6s,baz=146,slow=6.3,SNR=4.8
KLMR Klimovskoe 129.06 340 *e*PKIKP **PKPdf** 05 52 36.9 -1.0
KLMR pmax pmax
comp=Z,17nm,1.5s
KLMR Klimovskoe 129.06 340 *e*PKPdf **PKPdf** 05 52 37.0 -1.0
KLMR AMP 05 52 39.8
comp=Z,17nm,1.5s
KLMR LQ LQ 06 39 31.2
KLMR LQ LQ 06 39 31.2
KLMR LR LR 06 47 19.6
OBN Obninsk 134.39 337 *i* PKIKP **PKPdf** 05 52 48.0 -0.2
OBN *i* 05 55 21.0
OBN pmax pmax
comp=Z,6.0nm,0.7s
VSU Vasula 134.71 345 *i* PKIKP **PKPdf** 05 52 48.9 +0.2
KIV Kislovodsk 138.53 320 *i* PKIKP **PKiKP** 05 52 59.4 +0.9
KIV *e* 05 55 45.7
KIV *e*SS SS 06 13 55.2 -4.7
KIV pmax pmax
comp=Z,19nm,0.9s
KIV MLR MLR
comp=Z,1μm,24.0s
AKASG Malin Array Be 140.62 338 PKP **PKPdf** 05 53 00.6 +0.7
comp=Z,0.4nm,0.3s,baz=36,slow=3.9,SNR=8.6
AKASG Malin Array Be 140.62 338 PKPdf **PKPdf** 05 52 59.2 -0.7
OJC Ojcow 143.90 346 *e*PKP PKPab 05 53 02.9 +0.1
OJC Ojcow 143.90 346 PKIKP PKPab 05 53 03.8 +1.0
OJC Ojcow 143.90 346 PKPdf PKPab 05 53 03.8 +1.0
TSUM Tsumeb 143.90 197 PKPdf **PKPdf** 05 53 06.8 -0.1
CLL Collm 144.01 354 *e*PKPdf PKPbc 05 53 05.0 +1.3
comp=Z,7.0nm,0.7s
CLL *e*PP **PP** 05 56 19.0 +0.1
CLL LmV 07 01 00.0
comp=Z,400nm,20.8s
CLL Collm 144.01 354 *e*PKIKP PKPbc 05 53 05.0 +1.3
CLL *e* 05 56 19.0
CLL pmax pmax
comp=Z,7.0nm,0.7s
CLL MLR MLR
comp=Z,400nm,20.8s
CHVC Chvalec 144.30 350 *e*PKP **PKPab** 05 53 00.4 -4.0
CHVC AMS AMS 06 55 20.0
comp=Z,600nm,19.5s
OSTC Ostas 144.30 350 *e*PKP **PKiKP** 05 53 16.0 +5.9
OSTC AMS AMS 06 55 20.0
comp=Z,700nm,22.1s
BRG Berggiesshubel 144.33 352 *e*PKP **PKPdf** 05 53 08.4 +2.0
comp=Z,8nm,0.8s
comp=N,325nm,20.3s
comp=E,174nm,19.7s
comp=Z,540nm,20.8s
BRG Berggiesshubel 144.33 352 *e*PKIKP **PKPdf** 05 53 08.4 +2.0
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG MLR MLR
comp=N,325nm,20.3s
BRG MLR MLR
comp=E,174nm,19.7s
BRG MLR MLR
comp=Z,540nm,20.8s
UPC Upice 144.38 350 AMS AMS 06 55 00.0
comp=Z,600nm,21.9s
UPC Upice 144.38 350 *e*PKHKP PKPpre 05 52 57.7
UPC MLR MLR
comp=Z,600nm,21.9s
DPC Dobruska-Polom 144.48 350 *e*PKP PKPbc 05 53 06.6 +1.3
DPC *ex* x 05 53 18.1
DPC AMS AMS 06 52 50.0
comp=Z,600nm,23.6s
DPC Dobruska-Polom 144.48 350 *e*PKIKP PKPbc 05 53 06.6 +1.3
DPC *e* 05 53 18.1
DPC MLR MLR
comp=Z,600nm,23.6s
NIE Niedzica 144.52 345 *e*PKP **PKPab** 05 53 05.7 +0.4
PVCC Panska Ves 144.58 352 AMS AMS 06 55 20.0
comp=Z,600nm,22.0s
PVCC Panska Ves 144.58 352 *e*PKHKP PKPpre 05 52 57.7
PVCC MLR MLR
comp=Z,600nm,22.0s
BUR08 Bucovina Ar. S 144.62 339 PKPdf **PKPab** 05 53 06.3 +0.5
OKC Ostrava-Krasne 144.62 347 *e*PKP **PKPab** 05 53 03.2 -2.3
OKC AMS AMS 06 51 40.0
comp=Z,500nm,23.4s
BURAR Bucovina Array 144.64 338 ⇓P **PKPab** 05 53 06.2 +0.4
BURAR Bucovina Array 144.64 338 ⇓PKIKP **PKPab** 05 53 06.2 +0.4
BURAR Bucovina Array 144.64 338 PKPdf **PKPab** 05 53 06.2 +0.4
CRVS Cervenica-Dubn 144.69 343 *e*PKIKP **PKPdf** 05 53 07.6 +0.4
CRVS Cervenica-Dubn 144.69 343 *e*PKP **PKPdf** 05 53 07.6 +0.4
UZH Uzhgorod 144.69 342 *e*PKIKP **PKPab** 05 53 04.5 -1.3
UZH *i* 05 53 07.3
MORC Moravsky Berou 144.80 348 ⇓P PKPbc 05 53 07.7 +1.3
MORC Moravsky Berou 144.80 348 *e*PKP **PKPdf** 05 53 07.9 +0.5
MORC Moravsky Berou 144.80 348 ⇓PKIKP PKPbc 05 53 07.7 +1.3
MORC Moravsky Berou 144.80 348 PKPdf **PKPab** 05 53 06.3 +0.1
BIZ Bicaz 144.89 337 ⇓P **PKPab** 05 53 07.5 +0.9
ATD Arta Tunnel 144.89 268 PKP **PKPdf** 05 53 10.5 +2.0
comp=Z,8.3nm,0.8s,baz=341,slow=2.8,SNR=4.0
ATD Arta Tunnel 144.89 268 **PKPab** 05 53 04.7 -2.9
LANS Liptovska Anna 144.97 346 *e*PKIKP **PKPdf** 05 53 09.1 +1.4
LANS Liptovska Anna 144.97 346 *e*PKP **PKPdf** 05 53 09.1 +1.4
TESR Tescani 145.03 336 ⇓P **PKPab** 05 53 06.7 -0.4
MEM Membach 145.04 1 PKPdf **PKPab** 05 53 06.7 -0.3
PRA Prague 145.05 352 *e*PKP **PKPbc** 05 53 00.4 -6.7
PRA AMS AMS 06 55 40.0
comp=Z,400nm,24.9s
SNF Seneffe 145.08 3 PKPdf **PKPab** 05 53 08.0 +0.8
GHRR 145.10 335 ⇓P **PKPdf** 05 53 08.9 +0.9
PRU Pruhonice 145.12 351 *e*PKP **PKPdf** 05 53 08.5 +0.7
PRU *ex* x 05 53 20.0
PRU *ex* x 05 53 26.7
PRU AMS AMS 06 56 00.0
comp=Z,800nm,23.2s
PRU Pruhonice 145.12 351 *e*PKIKP **PKPdf** 05 53 08.5 +0.7
PRU *e* 05 53 20.0
PRU MLR MLR
comp=Z,800nm,23.2s
NKC Novy Kostel 145.13 354 *e*PKP PKPbc 05 53 00.4 -7.0
NKC AMS AMS 06 58 20.0
comp=Z,400nm,20.6s
GOPC GO Pecny, Ondr 145.15 351 *e*PKP **PKPdf** 05 53 09.0 +1.0
GOPC *ex* x 05 53 18.9
GOPC AMS AMS 06 56 10.0
comp=Z,600nm,20.1s
GOPC GO Pecny, Ondr 145.15 351 *e*PKIKP **PKPdf** 05 53 09.0 +1.0
GOPC *e* 05 53 18.9
GOPC MLR MLR
comp=Z,600nm,20.1s
BMR Baia Mare 145.17 340 ⇓P **PKPbc** 05 53 08.1 +0.6
BMR Baia Mare 145.17 340 ⇓PKIKP **PKPbc** 05 53 08.1 +0.6
BHOU Houvegnez 145.29 1 PKPdf **PKPab** 05 53 09.0 +1.0
BMRD Maredsous 145.31 2 PKPdf **PKPbc** 05 53 08.6 +0.7
ARCR ARCALIA 145.40 339 ⇓P **PKPbc** 05 53 09.0 +0.6
VRAC Vranov 145.43 349 ⇓P **PKPbc** 05 53 09.1 +0.7
VRAC Vranov 145.43 349 *e*PKP **PKPab** 05 53 09.4 +0.8
VRAC Vranov 145.43 349 ⇓PKIKP **PKPbc** 05 53 09.1 +0.7
PBCC Pribram 145.49 352 *e*PKP **PKPbc** 05 53 09.3 +0.8
PBCC *ex* x 05 53 21.3
CFR Carcaliu 145.49 333 ⇓P **PKPbc** 05 53 08.9 +0.3
CFR Carcaliu 145.49 333 ⇓PKIKP **PKPbc** 05 53 08.9 +0.3
DOU Dourbes 145.51 3 PKPdf **PKPbc** 05 53 09.1 +0.6
VRI Vrincioaia 145.53 335 ⇓P **PKPdf** 05 53 09.5 +0.8
VRI Vrincioaia 145.53 335 ⇓PKIKP **PKPdf** 05 53 09.5 +0.8
PLOR Plostina 145.57 335 ⇓P **PKPdf** 05 53 09.7 +0.9
PLOR Plostina 145.57 335 ⇓PKIKP **PKPdf** 05 53 09.7 +0.9
TOPG Topolog 145.62 333 ⇓P **PKPdf** 05 53 09.8 +1.0
TREC Trest 145.64 350 AMS AMS 06 55 50.0
comp=Z,600nm,21.4s
JAVC Velka Javorina 145.65 347 *e*PKP **PKPab** 05 53 11.3 +1.9
KRUC Moravsky 145.71 349 *e*PKP **PKPdf** 05 53 09.9 +1.0
OZUR 145.71 336 ⇓P **PKPab** 05 53 10.4 +0.7
VYHS Vyhne 145.74 346 *e*PKIKP **PKPab** 05 53 10.6 +0.9
VYHS Vyhne 145.74 346 *e*PKP **PKPab** 05 53 10.6 +0.9
KMBO Kilima Mbogo 145.76 244 PKPbc **PKPab** 05 53 13.6 +2.4
comp=Z,9.2nm,0.8s,baz=64,slow=2.8,SNR=10
KMBO Kilima Mbogo 145.76 244 **PKPdf** 05 53 10.0 -0.4
TIRR Tirgusor 145.93 332 ⇓P **PKPdf** 05 53 10.5 +1.1
TIRR Tirgusor 145.93 332 ⇓PKP2 **PKPdf** 05 53 10.5 +1.1
HARR Harsova 145.97 333 ⇓P **PKPbc** 05 53 10.9 +0.7
HARR Harsova 145.97 333 ⇓PKP2 **PKPbc** 05 53 10.9 +0.7
DOPR Dopca 145.97 337 ⇓P **PKPab** 05 53 11.3 +0.7
WLF Walferdange 145.98 1 PKPdf **PKPbc** 05 53 10.9 +0.9
WLF Walferdange 145.98 1 PKIKP **PKPdf** 05 53 08.9 -0.4
WLF Walferdange 145.98 1 PKPdf **PKPdf** 05 53 08.9 -0.4
PSZ Piszkesteto 146.01 344 ⇓P **PKPab** 05 53 11.6 +0.8
PSZ Piszkesteto 146.01 344 ⇓PKP2 **PKPab** 05 53 11.6 +0.8
PSZ Piszkesteto 146.01 344 PKPbc **PKPbc** 05 53 11.0 +0.7
TLBR Topalu 146.03 333 ⇓P **PKPab** 05 53 11.6 +0.7
KHC Kasperske Hory 146.09 352 *e*PKP **PKPbc** 05 53 11.4 +0.9
KHC *ex* x 05 53 18.0
KHC *ex* x 05 53 32.1
KHC AMS AMS 06 56 50.0
comp=Z,600nm,22.3s
KHC Kasperske Hory 146.09 352 *e*PKP2 **PKPbc** 05 53 11.4 +0.9
KHC MLR MLR
comp=Z,600nm,22.3s
KHC Kasperske Hory 146.09 352 PKPbc **PKPbc** 05 53 11.6 +1.1
MLR Muntele Rosu 146.15 336 ⇓P **PKPab** 05 53 12.5 +1.0
MLR Muntele Rosu 146.15 336 ⇓PKP2 **PKPab** 05 53 12.5 +1.0
MODS Modra-Piesok 146.19 348 *e*PKP2 **PKPbc** 05 53 11.4 +0.6
MODS Modra-Piesok 146.19 348 *e*PKP **PKPbc** 05 53 11.4 +0.6
DRGR 146.20 340 ⇓P **PKPbc** 05 53 11.5 +0.5
DRGR 146.20 340 ⇓PKP2 **PKPbc** 05 53 11.5 +0.5
ISR Istrita 146.22 335 ⇓P **PKPbc** 05 53 12.1 +1.1
ISR Istrita 146.22 335 ⇓PKP2 **PKPbc** 05 53 12.1 +1.1
GEC2 GERESS Array S 146.35 352 **PKPbc** 05 53 12.2 +0.9
GERES GERESS Array B 146.35 352 PKPbc **PKPbc** 05 53 11.7 +0.4
comp=Z,5.1nm,0.9s,baz=31,slow=3.1,SNR=38
GERES GERESS Array B 146.35 352 **PKPdf** 05 53 11.4 +1.3
BR131 Keskin Array S 146.49 321 PKP2 **PKPbc** 05 53 12.5 +0.4
BR131 Keskin Array S 146.49 321 **PKPbc** 05 53 12.5 +0.4
BRTR Keskin Array B 146.49 321 PKPbc **PKPdf** 05 53 11.7 +1.0
comp=Z,30nm,1.0s,baz=107,slow=1.9,SNR=40
BRTR Keskin Array B 146.49 321 PKPbc **PKPbc** 05 53 12.4 +0.2
VOIR 146.55 337 ⇓P **PKPbc** 05 53 13.1 +1.1
VOIR 146.55 337 ⇓PKP2 **PKPbc** 05 53 13.1 +1.1
ARR Arges 146.76 337 ⇓P **PKPab** 05 53 14.5 +0.7
CONA Conrad Observa 146.90 349 *i* PKPdf **PKPdf** 05 53 10.0 -1.1
comp=Z,23nm,1.5s,SNR=5.5
ANTO Ankara 146.91 322 PKP2 **PKPbc** 05 53 13.4 +0.2
ANTO Ankara 146.91 322 PKPbc **PKPbc** 05 53 13.4 +0.2
MOA Molln 147.24 351 *i* sPKPdf **PKPbc** 05 53 14.8 +1.0
comp=Z,30nm,1.5s,SNR=12
BFO Black Forest 147.31 358 PKP2 **PKPbc** 05 53 14.3 +0.3
BFO Black Forest 147.31 358 **PKPbc** 05 53 14.3 +0.3
MDUB Mudurnu 147.43 324 **PKPab** 05 53 16.7 0.0
ECH Echery 147.44 360 PKP2 **PKPbc** 05 53 15.1 +0.7
ECH Echery 147.44 360 **PKPbc** 05 53 15.1 +0.7
RAZG Razgrad 147.48 333 ⇓P **PKPbc** 05 53 16.0 +1.4
BZS Buzias 147.60 341 ⇓P **PKPbc** 05 53 15.2 +0.4
BZS Buzias 147.60 341 ⇓PKP2 **PKPbc** 05 53 15.2 +0.4
ARSA Arzberg 147.61 349 *i* PKPbc **PKPdf** 05 53 13.8 +1.6
comp=Z,16nm,1.4s
HERR Herculane 147.98 339 ⇓P **PKPbc** 05 53 16.3 +0.4
RETA Reutte 148.01 355 *i* PKiKP **PKPbc** 05 53 16.9 +0.9
comp=Z,17nm,1.2s,SNR=6.8
WATA Walderalm 148.09 354 *i* PKPbc **PKPdf** 05 53 14.7 +1.6
comp=Z,12nm,1.1s
MOTA Moosalm 148.12 355 *i* PKiKP **PKPbc** 05 53 17.3 +0.9
comp=Z,16nm,1.1s
KBA Koelnbreinsper 148.13 352 *i* sPKPdf **PKPbc** 05 53 16.8 +0.3
comp=Z,10nm,1.2s
WTTA Wattenberg 148.15 354 *i* sPKPdf **PKPbc** 05 53 16.2 -0.3
comp=Z,8.8nm,0.7s,SNR=6.3
SQTA Sankt Quirin 148.24 354 *i* PKiKP **PKPbc** 05 53 17.8 +1.1
comp=Z,8.5nm,0.8s
SOKA Soboth 148.25 349 *i* sPKPdf **PKPbc** 05 53 16.2 -0.5
comp=Z,21nm,2.0s,SNR=7.4
ELND Elena 148.27 333 ⇓P **PKPbc** 05 53 17.7 +1.0
DAVA Damuels 148.28 356 *i* PKPab **PKPbc** 05 53 18.4 +1.5
comp=Z,16nm,1.1s
PERS Pernice 148.28 349 *e*PKPbc **PKPbc** 05 53 16.1 -0.6
MDVR Moldovita 148.31 340 ⇓P **PKPbc** 05 53 18.0 +1.2
PLVB Pleven 148.43 335 ⇓P **PKPbc** 05 53 18.3 +1.2
FETA Feichten 148.48 355 *i* PKiKP **PKPbc** 05 53 18.2 +0.9
comp=Z,14nm,1.1s,SNR=6.5
OBKA Obir 148.50 350 *i* pPKPdf **PKPdf** 05 53 14.9 +1.1
comp=Z,4.4nm,0.9s
MYKA Terra Mystica 148.53 351 *i* sPKPdf **PKPbc** 05 53 16.6 -0.8
comp=Z,6.8nm,0.8s
ABTA Abfaltersbach 148.56 353 *i* sPKPdf **PKPbc** 05 53 17.7 +0.2
comp=Z,18nm,1.0s,SNR=6.9
ZOU Zoufplan 148.69 352 **PKPbc** 05 53 17.5 -0.4

PRED	**Cave del Predi**	**148.72**	**351**			**PKPbc**	**05 53 17.6**	**-0.3**
FUORN	**Ofenpass-Fuorn**	**148.91**	**356**			**PKPbc**	**05 53 18.7**	**+0.1**
LJU	**Ljubljana**	**148.95**	**350**		*e*PKPdf	**PKPdf**	**05 53 13.0**	**-1.5**
LJU					*e*PKPbc	**pPKPdf**	**05 53 18.5**	**-0.5**
CIMO	**Cimolais**	**149.00**	**353**			**PKPbc**	**05 53 18.3**	**-0.3**
TUE	**Stuetta**	**149.12**	**357**			**PKPbc**	**05 53 19.6**	**+0.5**
SENIN	**Lac Senin/Sane**	**149.29**	**360**			**PKPbc**	**05 53 18.8**	**-0.7**
BOJS	**Bojanci**	**149.34**	**348**		*e*PKPbc	**PKPbc**	**05 53 19.6**	**+0.2**
CTI	**Castel Tesino**	**149.35**	**354**		PKP2	**PKPbc**	**05 53 18.9**	**-0.7**
CTI	**Castel Tesino**	**149.35**	**354**			**PKPbc**	**05 53 18.9**	**-0.7**
CSS	**Mathiatis**	**149.45**	**314**			**PKPbc**	**05 53 20.5**	**+0.5**
DIVS	**Divibare**	**149.47**	**341**		PKPdf	**PKPdf**	**05 53 15.5**	**+0.1**
DIVS					PKPbc	**PKPbc**	**05 53 20.8**	**+0.9**
ISP	**Isparta**	**149.58**	**321**		PKP2	**PKPbc**	**05 53 20.7**	**+0.3**
ISP	**Isparta**	**149.58**	**321**			**PKPbc**	**05 53 20.7**	**+0.3**
VTS	**Vitosha**	**149.62**	**336**	⇓	P	**PKPbc**	**05 53 19.7**	**-0.7**
VTS	**Vitosha**	**149.62**	**336**	⇓	PKP2	**PKPbc**	**05 53 19.7**	**-0.7**
VTS	**Vitosha**	**149.62**	**336**			**PKPbc**	**05 53 20.9**	**+0.5**
VTS					PKPab	**PKPab**	**05 53 26.8**	**+1.3**
LEF	**Lefka**	**149.67**	**315**	⇓	P	**PKPbc**	**05 53 21.7**	**+1.1**
ALN	**Alexandroupoli**	**149.80**	**330**		PKP2	**PKPbc**	**05 53 20.4**	**-0.2**
ALN	**Alexandroupoli**	**149.80**	**330**			**PKPbc**	**05 53 20.4**	**-0.2**
SSB	**Saint Sauveur**	**150.31**	**3**		PKIKP	**PKPbc**	**05 53 20.3**	**-1.5**
SSB							05 53 28.1	
SSB	**Saint Sauveur**	**150.31**	**3**			**PKPbc**	**05 53 20.3**	**-1.5**
SSB					PKPab	**PKPab**	**05 53 28.1**	**+0.1**
PGAV	**Gavieira, Arco**	**150.60**	**23**	*e*LR		LR	06 50 30.2	
	comp=Z,626nm,20.0s							
STIP	**Stip**	**150.82**	**336**	*i* P		**PKPbc**	**05 53 24.0**	**+0.9**
PCAB	**Cabril**	**150.91**	**23**	*e*PKPbc		**PKPbc**	**05 53 24.3**	**+0.9**
PCAB				*i* LQ		LQ	05 53 44.4	
VAY	**Valandovo**	**150.99**	**335**	*i* P		**PKPbc**	**05 53 24.1**	**+0.6**
PDG	**Podgorica**	**151.21**	**341**	⇓	P	**PKPbc**	**05 53 24.3**	**+0.4**
PDG	**Podgorica**	**151.21**	**341**			**PKPbc**	**05 53 23.8**	**-0.1**
PDG					PKPab	**PKPab**	**05 53 31.8**	**+0.1**
PBRG	**Braganca**	**151.31**	**22**	*e*PKPbc		**PKPbc**	**05 53 25.1**	**+0.8**
PBRG				*i* LQ		LQ	05 53 45.5	
PVRL	**Vila Real**	**151.41**	**23**	*e*PKPbc		**PKPbc**	**05 53 25.7**	**+1.2**
PVRL				*i* LQ		LQ	05 53 46.8	
MVO	**Moncorvo**	**151.76**	**23**	*e*PKPbc		**PKPbc**	**05 53 26.5**	**+1.1**
MVO				*i* LQ		LQ	05 53 46.2	
MVO	**Moncorvo**	**151.76**	**23**	*e*SS		SS	06 16 42.3	+12
MVO	**Moncorvo**	**151.76**	**23**	*e*LR		LR	06 48 53.8	
	comp=Z,399nm,18.0s							
PVIS	**Viseu**	**151.82**	**24**	*e*PKPbc		**PKPbc**	**05 53 26.3**	**+0.8**
MURB	**Monte Urbino**	**151.98**	**351**			**PKPbc**	**05 53 25.0**	**-0.8**
MTE	**Manteigas**	**152.22**	**24**	*e*PKPbc		**PKPbc**	**05 53 27.2**	**+0.7**
MTE				*i* LQ		LQ	05 53 48.2	
MTE	**Manteigas**	**152.22**	**24**	*e*LR		LR	06 51 09.2	
	comp=Z,510nm,20.0s							
PSBE	**So Bento**	**152.45**	**27**	*e*PKPbc		**PKPbc**	**05 53 27.8**	**+0.9**
PSBE	**So Bento**	**152.45**	**27**	*e*SS		SS	06 16 36.2	-1.4
PCBR	**Castelo Branco**	**152.73**	**25**	*e*PKPbc		**PKPbc**	**05 53 28.4**	**+0.9**
PCBR				*i* LQ		LQ	05 53 49.2	
PMTG	**Montargil**	**153.06**	**27**	*e*PKPbc		**PKPbc**	**05 53 29.2**	**+0.9**
PMTG				*i* LQ		LQ	05 53 55.7	
PMTG	**Montargil**	**153.06**	**27**	*e*SS		SS	06 16 58.2	+14
PMRV	**Marv??o**	**153.11**	**25**	*e*PKPbc		**PKPbc**	**05 53 29.3**	**+0.9**
PMRV				*i* LQ		LQ	05 53 50.0	
PMRV	**Marv??o**	**153.11**	**25**	*e*LR		LR	06 51 00.0	
	comp=Z,354nm,18.0s							
PNCL	**Nicolau / Gran**	**153.72**	**28**	*e*PKPbc		**PKiKP**	**05 53 30.9**	**+1.1**
PNCL	**Nicolau / Gran**	**153.72**	**28**	*e*SS		SS	06 17 00.8	+9.4
MESJ	**Messejana**	**154.08**	**28**	*e*PP		PP	05 57 18.5	+0.6
MESJ					AMS	AMS	06 54 52.4	
	comp=Z,498nm,23.5s							
MESJ	**Messejana**	**154.08**	**28**	*e*PKPbc		**PKiKP**	**05 53 31.6**	**+1.0**
PTEO	**Sao Teotonio**	**154.08**	**29**	*i* LQ		LQ	05 53 51.0	
ESBB	**Sonseca Array**	**154.15**	**20**		PKPbc	**PKPbc**	**05 53 30.1**	**-0.6**
ESBB					PKPab	**PKPab**	**05 53 44.2**	**-0.1**
ESDC	**Sonseca Array**	**154.16**	**20**		PKP	**PKPdf**	**05 53 22.8**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=336,slow=2.8,SNR=2.1							
ESDC					PKPbc	**PKPbc**	**05 53 31.5**	**+0.8**
	comp=Z,0.7nm,0.5s,baz=327,slow=2.5,SNR=6.3							
ESDC					PKPab	**PKPab**	**05 53 45.5**	**+1.2**
	comp=Z,5.7nm,1.2s,baz=326,slow=4.4,SNR=14							
ESDC	**Sonseca Array**	**154.16**	**20**			**PKPbc**	**05 53 29.7**	**-1.0**
ESDC					PKPab	**PKPab**	**05 53 44.3**	**+0.1**
PFVI	**Vila Bisbo**	**154.36**	**30**	*e*SS		SS	06 17 10.4	+12
PVAQ	**Vaqueiros**	**154.66**	**28**	*e*LR		LR	06 49 25.9	
	comp=Z,491nm,20.0s							
PBDV	**Barranco-do-Ve**	**154.70**	**29**	*e*PKPbc		**PKPbc**	**05 53 32.3**	**+0.4**
TORD	**Torodi Ar. Bea**	**174.38**	**115**		PKP	**PKPdf**	**05 53 41.3**	**+0.2**
	comp=Z,2.6nm,1.1s,baz=358,slow=1.7,SNR=6.8							
TORD					PKPab	**PKPab**	**05 55 15.5**	**+1.8**
	comp=Z,0.9nm,0.9s,baz=278,slow=1.0,SNR=3.6							
TORD	**Torodi Ar. Bea**	**174.38**	**115**			**PKPdf**	**05 53 40.7**	**-0.4**
TORD						**PKPab**	**05 55 14.1**	**+0.4**

*IDC **23** 05:41:34.2±1.1,20.91S×67.40W,h172km±14km,mb2.9/2, mb1 3.2/6,mb1mx3.1/31,mbtmp3.5/6,Error ellipse: s-maj=27.5km s-min=11.4km az=104.0*
*SCB **23** 05:41:36.0±1.9,20.98S×67.67W,h202km±28km,ML3.8/2, Error ellipse: s-maj=12.8km s-min=11.9km az=1.0*

ISC 23 05:41:34.0±0.5,20.96S±0.05×67.61W±0.07,h183km,n18, σ2§10/23,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**1.76**	**267**	P	**Pn**	**05 42 09.6**	**+0.7**
LVC	**Limon Verde**	**2.04**	**216**	P	**Pn**	**05 42 13.9**	**+1.8**
	12nm,0.3s,baz=41,slow=9.2,SNR=90						
LVC				S	**Sn**	**05 42 43.7**	**+2.0**
	5.0nm,0.3s,baz=90,slow=22,SNR=19						
PB02	**IPOC Station P**	**2.17**	**260**	S	**Sn**	**05 42 43.7**	**+0.1**
PB02				AML	AML	05 42 45.6	
	426nm,0.3s						
PB11	**IPOC Station P**	**2.26**	**301**	P	**Pn**	**05 42 14.8**	**+0.5**
PB11				S	**Sn**	**05 42 45.0**	**-0.6**
YJA	**Yavi**	**2.30**	**122**	P	**Pn**	**05 42 16.8**	**+1.8**
MNMC	**Minye Minye**	**2.61**	**314**	P	**Pn**	**05 42 19.4**	**+1.0**
PSGC	**Pisagua**	**2.72**	**299**	P	**Pn**	**05 42 19.8**	**+0.2**
PSGC				S	**Sn**	**05 42 52.7**	**-2.4**
PSGC				AML	AML	05 42 54.9	
	157nm,0.4s						
PB04	**IPOC Station P**	**2.73**	**239**	P	**Pn**	**05 42 21.5**	**+1.7**
BBOJ	**La Paz, Jacaqu**	**4.00**	**352**	P	**Pn**	**05 42 38.0**	**+2.2**
BBOE	**La Paz, Chanca**	**4.14**	**355**	P	**Pn**	**05 42 39.8**	**+2.2**
BBOD	**La Paz, Gloria**	**4.40**	**348**	P	**Pn**	**05 42 42.7**	**+1.8**
LPAZ	**La Paz**	**4.67**	**354**	P	**Pn**	**05 42 45.7**	**+1.2**
	1.6nm,0.3s,baz=142,slow=6.0,SNR=54						
LPAZ				S	**Sn**	**05 43 38.3**	**-1.4**
	0.2nm,0.3s,baz=178,slow=16,SNR=2.1						
LPAZ	**La Paz**	**4.67**	**354**	P	**Pn**	**05 42 45.6**	**+1.2**
BBOB	**La Paz, Bander**	**4.82**	**354**	P	**Pn**	**05 42 47.1**	**+0.9**
SIV	**San Ignacio**	**7.93**	**53**	P	**Pn**	**05 43 23.9**	**-2.6**
	0.7nm,0.3s,baz=258,slow=12,SNR=25						
CFA	**Coronel Fontan**	**10.62**	**183**	P	**Pn**	**05 44 02.3**	**+0.7**
	0.3nm,0.3s,baz=5.8,slow=12,SNR=9.1						
CFA				S	**Sn**	**05 45 53.5**	**-6.2**
	0.4nm,0.3s,baz=258,slow=21,SNR=4.0						
TXAR	**Lajitas Array**	**60.89**	**324**	P	**P**	**05 51 29.3**	**+1.7**
	0.1nm,0.5s,baz=163,slow=7.5,SNR=2.4						
TORD	**Torodi Ar. Bea**	**76.03**	**70**	P	**P**	**05 53 02.0**	**+0.4**
	0.3nm,0.5s,baz=247,slow=7.0,SNR=1.8						

*SNET **23** 05:43:40.4±2.0, 12.43N×89.56W,h15km±10km, ML3.4*
*IDC **23** 05:43:49.7±3.8, 12.12N×89.33W,h136km±92km,mb3.2/3, mb1 3.3/4,mb1mx3.1/36,mbtmp3.6/4,Error ellipse: s-maj=195.6km s-min=38.5km az=21.0*

ISC 23 05:43:36.9±2.3,12.26N±0.08×89.40W±0.09,h16km±12km, n22,σ1§30/27,mb3.4/3,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**1.23**	**3**	*e*P	**Pg**	**05 44 00.8**	**+0.2**
LALI				*e*S	**Sb**	**05 44 15.2**	**-0.1**
LALI				IAML		05 44 16.3	
	comp=Z,484nm,0.4s						
ALJI	**Alcalda de J**	**1.33**	**37**	*e*P	**Pg**	**05 44 03.7**	**+1.1**
LFRS	**El Faro**	**1.40**	**13**	*e*P	**Pg**	**05 44 03.1**	**-0.7**
SNET	**Serv Nac Est T**	**1.43**	**6**	*e*P	**Pg**	**05 44 03.9**	**-0.6**
SNET				IAML		05 44 28.4	
	comp=Z,972nm,0.3s						
UEES	**Universidad Ev**	**1.46**	**6**	*e*P	**Pg**	**05 44 04.2**	**-0.8**
UEES				IAML		05 44 23.9	
	comp=Z,1μm,0.3s						
OPAM	**Oficina de Pla**	**1.46**	**8**	*e*P	**Pg**	**05 44 04.4**	**-0.6**
BOQS	**Boqueron**	**1.47**	**4**	*e*P	**Pg**	**05 44 04.7**	**-0.7**
COEB	**Comit de Eme**	**1.49**	**34**	*e*P	**Pg**	**05 44 05.8**	**+0.1**
COEB				IAML		05 44 31.7	
	comp=Z,764nm,0.4s						
JUCU	**Jucuarın**	**1.49**	**48**	*e*P	**Pg**	**05 44 06.3**	**+0.6**
JUCU				*e*S	**Sg**	**05 44 27.1**	**+1.9**
JUCU				IAML		05 44 35.0	
	comp=Z,551nm,0.3s						
TECA	**Tecapa**	**1.51**	**35**	*e*P	**Pg**	**05 44 06.8**	**+0.9**
LBRS	**Las Brisas**	**1.51**	**13**	*e*P	**Pg**	**05 44 05.3**	**-0.7**
PAVA	**Las Pavas**	**1.51**	**17**	*e*P	**Pg**	**05 44 05.3**	**-0.8**
CEDA	**San Andres**	**1.54**	**0**	*e*P	**Pb**	**05 44 04.9**	**-0.2**
CEDA				*e*S	**Sn**	**05 44 22.1**	**-1.4**
CEVE	**Cerro Verde**	**1.58**	**352**	*e*P	**Pn**	**05 44 03.2**	**-1.3**
CEVE				*e*S	**Sb**	**05 44 25.3**	**-0.4**
SBLS	**San Blas**	**1.59**	**352**	*e*P	**Pb**	**05 44 05.6**	**-0.5**
LCND	**La Caada**	**1.80**	**54**	*e*P	**Pg**	**05 44 11.2**	**-0.3**
LCND				IAML		05 44 42.1	
	comp=Z,498nm,0.3s						
FAGO	**Alcalda de S**	**1.90**	**41**	*e*P	**Pg**	**05 44 12.5**	**-1.0**
MTO3	**Montecristo**	**2.13**	**1**	*e*P	**Pb**	**05 44 13.8**	**-1.5**
MTO3				*e*S	**Sb**	**05 44 40.3**	**-1.3**
MTO3				IAML		05 44 43.0	
	comp=Z,161nm,0.3s						
JTS	**Las Juntas de**	**4.78**	**114**	P	**Pb**	**05 44 58.4**	**-1.9**
	comp=Z,1.3nm,0.3s,baz=331,slow=19,SNR=7.6						
TXAR	**Lajitas Array**	**21.56**	**324**	P	**P**	**05 48 29.9**	**+3.9**
	comp=Z,0.7nm,0.5s,baz=137,slow=10.0,SNR=11						
SCHQ	**Schefferville**	**46.03**	**18**	P	**P**	**05 51 59.8**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=227,slow=7.5,SNR=3.7						
YKA	**Yellowknife Ar**	**53.31**	**346**	P	**P**	**05 52 55.8**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=149,slow=6.6,SNR=5.5						

*IDC **23** 05:51:26.5±0.7,54.85S×130.20W,h0km,mb4.4/6, mb1 4.5/6,mb1mx4.2/21,mbtmp4.4/6,MS4.4/7,Ms1 4.3/7, ms1mx4.0/20,Error ellipse: s-maj=36.8km s-min=21.4km az=158.0*
*NEIC **23** 05:51:27.8±1.6,55.05S±0.2×130.1W±0.2,h10km±1km, mb4.8/17,Error ellipse: s-maj=26.9km s-min=19.2km az=336.0*
*GCMT **23** 05:51:32.8±0.2,55.07S±0.01×129.95W±0.02,h23km±1km, MW5.2/107,Moment Tensor Solution. s42,c56; s107,c155; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=1.14±.24; Mθθ4.82±.25; Mϕϕ-3.68±.18; Mrθ0.28±.30; Mθϕ5.01±.15; Mrϕ0.33±.27; Best double couple: M₀6.58200×10¹⁶ NP1:φ₁1 10.00000°,δ87.00000°, λ0.00000°. NP2:φ₂20.00000°,δ90.00000°,λ177.00000°. Principal axes: T 7.1580, Plg3.0000°, Azm335.0000°; N -1.1520, Plg87.0000°, Azm193.0000°; P -6.0060, Plg2.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 05:51:28.4±0.5,55.05S±0.1×129.9W±0.1,h10km,n87, σ1§43/57,mb4.8/15,MS4.4/10,1C,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKT	**Rikitea**	**32.05**	**351**	*e*T	T	06 31 12.1	
	22nm,0.3s						
VNDA	**Vanda**	**32.43**	**202**	P	**P**	**05 58 01.5**	**+3.5**
	12nm,0.8s,baz=89,slow=10,SNR=7.9						
VNDA	**Vanda**	**32.43**	**202**	P	**P**	**05 57 58.6**	**+0.6**
TBI	**Tubuai**	**34.80**	**327**	*e*LR	LR	06 07 19.5	
	comp=Z,1μm,29.2s,baz=167						
TBI	**Tubuai**	**34.80**	**327**	*e*T	T	06 34 38.9	
	141nm,0.3s						
QSPA	**South Pole Qui**	**35.19**	**180**	P	**P**	**05 58 23.8**	**+1.5**
	14nm,1.1s,baz=88,slow=3.1,SNR=23						
QSPA	**South Pole Qui**	**35.19**	**180**	P	**P**	**05 58 24.2**	**+1.9**
MEH	**Mehetia**	**39.57**	**332**	*e*T	T	06 40 37.3	
	26nm,0.2s						
TVO	**Taravao**	**39.99**	**331**	*e*T	T	06 41 08.3	
	1.7nm,0.3s						
PAE	**Paea**	**40.20**	**330**	*e*T	T	06 41 23.4	
	0.9nm,0.3s						
TIAR	**Tiarei**	**40.23**	**331**	*e*T	T	06 41 26.0	
	2.2nm,0.3s						
PPT2	**Papeete2**	**40.26**	**330**	*e*LR	LR	06 10 05.5	
	comp=Z,1μm,26.8s,baz=168						
PPT2	**Papeete2**	**40.26**	**330**	*e*T	T	06 41 28.6	
	3.5nm,0.4s						
PPT	**Papeete**	**40.28**	**330**	LR	LR	06 11 21.0	
	comp=Z,453nm,18.3s,baz=150,slow=30						
H03S2	**Juan Fernandez**	**40.97**	**80**	T	T	06 42 58.2	
	baz=222,slow=74,SNR=1338						
H03S1	**Juan Fernandez**	**40.97**	**80**	T	T	06 43 00.0	
	baz=222,slow=74,SNR=1200						
H03S3	**Juan Fernandez**	**40.98**	**80**	T	T	06 42 58.6	
	baz=222,slow=74,SNR=1505						
H03N3	**Juan Fernandez**	**41.25**	**80**	T	T	06 43 14.9	
	baz=224,slow=72,SNR=5724						
H03N2	**Juan Fernandez**	**41.25**	**80**	T	T	06 43 13.9	
	baz=224,slow=72,SNR=9113						
H03N1	**Juan Fernandez**	**41.26**	**80**	T	T	06 43 13.8	
	baz=224,slow=72,SNR=6889						
OUZ	**Omahuta**	**43.15**	**273**	P	**P**	**05 59 30.5**	**+1.6**
BO02	**Sierra Bellavi**	**44.95**	**89**	P	**P**	**05 59 43.7**	**+0.3**
BO02				IAmb	IAmb	05 59 44.0	
	comp=Z,10nm,0.8s						
TAOE	**Nuku Hiva Isla**	**46.73**	**346**	*e*S	**S**	**06 06 50.6**	**+3.3**
	comp=Z,351nm,25.9s						
TAOE				*e*LQ	LQ	06 10 42.7	
	comp=Z,368nm,26.0s						
TAOE				*e*LR	LR	06 13 01.0	
	comp=Z,884nm,27.7s,baz=184						
VNA3	**Neumayer Olymp**	**47.20**	**158**	P	**P**	**06 00 00.4**	**-0.2**
CO02	**Combarbal**	**47.43**	**85**	P	**P**	**06 00 04.0**	**+0.9**
VNA2	**Neumayer--Watz**	**47.94**	**158**	P	**P**	**06 00 06.8**	**+0.4**
	baz=236,slow=7.7						
VNA1	**Neumayer--Stat**	**47.95**	**158**	P	**P**	**06 00 06.5**	**+0.1**
SNAA	**Sanae**	**48.29**	**160**	P	**P**	**06 00 08.8**	**-0.3**
SNAA	**Sanae**	**48.29**	**160**	P	**P**	**06 00 07.8**	**-1.3**
CFA	**Coronel Fontan**	**48.72**	**88**	P	**P**	**06 00 12.6**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=240,slow=4.6,SNR=2.2						
CASY	**Casey**	**50.78**	**207**	P	**P**	**06 00 30.0**	**+1.9**
SYO	**Syowa Base**	**56.08**	**175**	⇑ *i* P	**P**	**06 01 05.6**	**-1.3**
PB11	**IPOC Station P**	**57.03**	**77**	P	**P**	**06 01 14.6**	**+0.1**
DZM	**Mont Dzumac**	**57.15**	**278**	LR	LR	06 21 51.5	
	comp=Z,175nm,18.1s,baz=78,slow=32						
MNMC	**Minye Minye**	**57.57**	**77**	P	**P**	**06 01 18.1**	**-0.4**
MNMC				IAmb	IAmb	06 01 29.9	
	comp=Z,12nm,0.9s						
LPAZ	**La Paz**	**60.68**	**76**	P	**P**	**06 01 40.9**	**+0.4**
	comp=Z,7.9nm,1.2s,baz=193,slow=3.8,SNR=13						
LPAZ	**La Paz**	**60.68**	**76**	P	**P**	**06 01 40.9**	**+0.4**
LPAZ				IAmb	IAmb	06 01 52.2	
	comp=Z,12nm,1.1s						
STKA	**Stephens Creek**	**63.76**	**251**	LR	LR	06 24 01.7	
	comp=Z,293nm,21.4s,baz=165,slow=31						
SAML	**Samuel**	**69.42**	**76**	P	**P**	**06 02 36.1**	**-0.5**
SAML				IAmb	IAmb	06 02 37.4	
	comp=Z,8.6nm,1.3s						
SOTA	**Rioblanco**	**71.69**	**58**	*e*P	P	06 03 01.3	+10
BDFB	**Brasilia**	**72.70**	**93**	LR	LR	06 33 50.5	
	comp=Z,351nm,20.5s,baz=246,slow=35						
MACC	**Macarena, Meta**	**73.06**	**60**	*e*P	**P**	**06 02 57.0**	**-1.6**
YOTC	**Yotoco, Valle**	**73.42**	**57**	*e*P	**P**	**06 03 00.4**	**-0.4**
ORTC	**Ortega, Tolima**	**73.89**	**58**	*e*P	**P**	**06 03 04.0**	**+0.4**
ASAR	**Alice Springs**	**74.39**	**251**	P	**P**	**06 03 05.2**	**-1.2**
	comp=Z,2.2nm,0.9s,baz=142,slow=5.6,SNR=9.8						
ASAR				LR	LR	06 33 02.7	
	comp=Z,163nm,18.1s,baz=60,slow=34						
ASAR	**Alice Springs**	**74.39**	**251**	P	**P**	**06 03 03.8**	**-2.7**
TOLC	**Tolima**	**74.44**	**57**	*e*P	**P**	**06 03 07.7**	**+0.7**
RREF	**El Recreo**	**74.70**	**57**	*e*P	**P**	**06 03 10.4**	**+1.5**
GUY2C	**Guyana, Caldas**	**74.98**	**57**	*e*P	**P**	**06 03 10.1**	**-0.3**
H01W1	**Cape Leeuwin H**	**75.05**	**230**	T	T	07 26 22.3	
	baz=147,slow=76,SNR=513						
H01W2	**Cape Leeuwin H**	**75.05**	**230**	T	T	07 26 21.6	
	baz=147,slow=76,SNR=586						
H01W3	**Cape Leeuwin H**	**75.07**	**230**	T	T	07 26 22.5	
	baz=147,slow=76,SNR=447						
ROSC	**El Rosal**	**75.15**	**58**	P	**P**	**06 03 12.2**	**+0.9**
	comp=Z,2.9nm,0.5s,baz=146,slow=8.0,SNR=5.4						
ROSC	**El Rosal**	**75.15**	**58**	*e*P	**P**	**06 03 11.2**	**-0.1**
ROSC	**El Rosal**	**75.15**	**58**	P	**P**	**06 03 12.7**	**+1.4**
NORC	**Norcasia**	**75.51**	**57**	*e*P	**P**	**06 03 12.6**	**-0.3**
HELC	**Santa Helena**	**75.74**	**56**	*e*P	**P**	**06 03 15.0**	**+0.5**
SPBC	**San Pablo de B**	**75.98**	**58**	*e*P	**P**	**06 03 13.6**	**-2.0**
PTBC	**PUERTO BERRIO,**	**76.56**	**57**	*e*P	**P**	**06 03 18.0**	**-0.8**
WB2	**Warramunga Arr**	**77.14**	**254**	P	**P**	**06 03 21.1**	**-1.0**
WB2				IAmb	IAmb	06 03 34.5	
	comp=Z,15nm,1.5s						
WRA	**Warramunga Arr**	**77.14**	**254**	P	**P**	**06 03 20.9**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=142,slow=5.5,SNR=6.0						
WRAB	**Tennant Creek**	**77.14**	**254**	P	**P**	**06 03 21.8**	**-0.4**
WRAB				IAmb	IAmb	06 03 25.7	
	comp=Z,14nm,1.3s						
WB0	**Warramunga Arr**	**77.25**	**254**	P	**P**	**06 03 19.1**	**-3.7**
WB0				IAmb	IAmb	06 03 37.6	
	comp=Z,14nm,1.3s						
FITZ	**Fitzroy Crossi**	**83.38**	**248**	P	**P**	**06 03 55.1**	**-0.6**
FITZ				IAmb	IAmb	06 04 06.7	
	comp=Z,9.0nm,1.4s						
TXAR	**Lajitas Array**	**86.95**	**23**	P	**P**	**06 04 15.6**	**+2.3**
	comp=Z,1.2nm,0.9s,baz=189,slow=8.9,SNR=8.5						
TXAR	**Lajitas Array**	**86.95**	**23**	P	**P**	**06 04 13.2**	**-0.2**
H11S2	**WAKE ISLAND Hy**	**90.73**	**302**	T	T	07 44 50.8	
	baz=148,slow=75,SNR=187						
H11S3	**WAKE ISLAND Hy**	**90.74**	**302**	T	T	07 44 53.9	
	baz=148,slow=75,SNR=115						
H11S1	**WAKE ISLAND Hy**	**90.75**	**302**	T	T	07 44 55.5	
	baz=148,slow=75,SNR=73						
H11N3	**WAKE ISLAND Hy**	**91.68**	**303**	T	T	07 46 02.3	
	baz=148,slow=76,SNR=87						
H11N1	**WAKE ISLAND Hy**	**91.68**	**303**	T	T	07 46 02.7	
	baz=148,slow=76,SNR=106						
H11N2	**WAKE ISLAND Hy**	**91.69**	**303**	T	T	07 46 03.3	
	baz=148,slow=76,SNR=102						
NVAR	**Mina Array Bea**	**93.58**	**9**	LR	LR	06 37 55.3	
	comp=Z,179nm,18.2s,baz=222,slow=30						
PDAR	**Pinedale Array**	**98.91**	**15**	LR	LR	06 42 55.6	
	comp=Z,128nm,18.3s,baz=284,slow=31						
ILAR	**Eielson Array**	**120.14**	**352**	PKP	**PKiKP**	**06 10 18.6**	**+0.6**
	comp=Z,0.5nm,0.6s,baz=204,slow=1.9,SNR=7.3						
ILAR	**Eielson Array**	**120.14**	**352**		**PKPdf**	**06 10 17.4**	**-0.4**
PETK	**Petropavlovsk-**	**123.16**	**317**	PKP	**PKiKP**	**06 10 24.2**	**0.0**
	comp=Z,1.9nm,0.8s,baz=86,slow=7.4,SNR=4.2						
TORD	**Torodi Ar. Bea**	**123.87**	**119**	PKP	**PKPdf**	**06 10 25.9**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=269,slow=1.9,SNR=3.1						
TORD	**Torodi Ar. Bea**	**123.87**	**119**		**PKPdf**	**06 10 26.1**	**-0.5**
XAN	**Xi'an**	**134.68**	**268**	PKPdf	**PKPdf**	**06 10 45.3**	**-1.3**
TIXI	**Tiksi**	**144.16**	**328**	PKP	**PKPab**	**06 11 00.5**	**+0.1**
	comp=Z,9.3nm,0.7s,baz=108,slow=2.9,SNR=22						
TIXI	**Tiksi**	**144.16**	**328**	PKPdf	**PKPab**	**06 11 00.3**	**-0.1**
SONM	**Songino Array**	**145.03**	**282**	PKP	**PKPab**	**06 11 03.7**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=148,slow=3.4,SNR=9.2						
SONM	**Songino Array**	**145.03**	**282**	PKPdf	**PKPab**	**06 11 03.6**	**-0.9**
MKAR	**Makanchi Array**	**158.27**	**261**	PKPab	**PKPab**	**06 11 56.9**	**-2.2**
	comp=Z,1.0nm,0.9s,baz=106,slow=4.7,SNR=4.1						
MKAR	**Makanchi Array**	**158.27**	**261**	PKPdf	**PKPdf**	**06 11 21.4**	**-3.4**
MKAR					**PKPab**	**06 11 56.9**	**-2.2**
SUW	**Suwalki**	**164.36**	**82**		**PKPab**	**06 12 25.1**	**-0.4**

*IDC **23** 06:32:27.2±0.9,46.64N×155.30E,h0km,mb3.8/8, mb1 4.1/9,mb1mx3.7/41,mbtmp3.8/9,ML2.8/1,MS3.9/2, Ms1 3.9/2,ms1mx3.0/45,Error ellipse: s-maj

ARMA					IAmb	IAmb	06 54 43.0	
	comp=Z,7.7nm,0.9s							
QSPA	**South Pole Qui**	**41.23**	**180**	P		**P**	**06 55 12.0**	**+0.2**
	comp=Z,2.8nm,1.0s,baz=308,slow=3.3,SNR=7.1							
QSPA	**South Pole Qui**	**41.23**	**180**	P		**P**	**06 55 12.1**	**+0.3**
KAPI	**Kappang**	**44.82**	**16**	LR		LR	07 12 47.3	
	comp=Z,76nm,20.6s,baz=184,slow=34							
SNAA	**Sanae**	**50.37**	**203**	P		**P**	**06 56 24.2**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=144,slow=12,SNR=13							
SNAA	**Sanae**	**50.37**	**203**	P		**P**	**06 56 24.3**	**+0.6**
SNAA					IAmb	IAmb	06 56 37.5	
	comp=Z,4.1nm,1.1s							
H08S2	**Diego Garcia H**	**50.92**	**312**	T		T	07 51 23.1	
	baz=157							
H08S1	**Diego Garcia H**	**50.93**	**312**	T		T	07 51 26.5	
	baz=157							
H08S3	**Diego Garcia H**	**50.94**	**312**	T		T	07 51 20.8	
	baz=157							
113A	**Mohawk Valley,**	**144.89**	**102**			**PKPdf**	**07 07 03.9**	**0.0**
PAHR	**Pah Rah Range**	**145.23**	**87**			**PKPdf**	**07 07 04.9**	**+0.5**
NVAR	**Mina Array Bea**	**145.26**	**90**	PKPbc		**PKPdf**	**07 07 04.6**	**0.0**
	comp=Z,2.7nm,0.7s,baz=226,slow=6.0,SNR=20							
NVAR	**Mina Array Bea**	**145.26**	**90**			**PKPbc**	**07 07 04.2**	**-0.2**
NV11	**Mina Array Sit**	**145.36**	**90**			**PKPbc**	**07 07 04.0**	**-0.6**
KVN	**Kaiserville**	**145.73**	**89**			**PKPab**	**07 07 06.5**	**+0.3**
TPNV	**Topopah Spring**	**145.80**	**94**	PKPbc		**PKPab**	**07 07 07.2**	**+0.7**
SHPR	**Sheep Range**	**146.26**	**95**	PKPbc		**PKPab**	**07 07 08.7**	**+0.5**
J08A	**Circle Bar Ran**	**147.59**	**82**			**PKPbc**	**07 07 11.4**	**+0.4**
ELK	**Elko**	**148.49**	**88**			**PKiKP**	**07 07 14.4**	**-0.8**
TX31	**Lajitas Ar. Si**	**148.82**	**117**			**PKPbc**	**07 07 14.7**	**+0.1**
TX32	**Lajitas Array**	**148.82**	**117**			**PKPbc**	**07 07 15.1**	**+0.5**
TXAR	**Lajitas Array**	**148.82**	**117**	PKPbc		**PKPbc**	**07 07 14.4**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=201,slow=5.5,SNR=24							
TXAR	**Lajitas Array**	**148.82**	**117**			**PKPbc**	**07 07 14.6**	**0.0**
MFID	**Camas Ranch**	**149.35**	**83**			**PKiKP**	**07 07 16.4**	**-0.3**
MNTX	**Cornudas Mount**	**149.48**	**112**			**PKPbc**	**07 07 16.5**	**+0.4**
ANMO	**Albuquerque**	**150.97**	**106**			**PKPbc**	**07 07 18.2**	**-1.6**
ANMO						**PKPab**	**07 07 27.2**	**-0.1**
PV12	**Saucer Basin,**	**151.46**	**98**			**PKiKP**	**07 07 21.6**	**+0.3**
PV12						**pPKPab**	**07 07 31.5**	**-0.2**
S22A	**4UR Ranch, Cre**	**152.42**	**101**			**PKiKP**	**07 07 24.2**	**+0.7**
IMW	**Indian Meadow**	**152.76**	**86**	PKPbc		**PKPbc**	**07 07 23.2**	**-0.6**
IMW				PKPab		**PKPab**	**07 07 35.2**	**+0.5**
YKA	**Yellowknife Ar**	**152.90**	**44**	PKPbc		**PKPbc**	**07 07 22.8**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=272,slow=2.1,SNR=7.4							
PDAR	**Pinedale Array**	**153.19**	**89**	PKPbc		**PKPbc**	**07 07 24.2**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=225,slow=0.6,SNR=6.1							
PDAR				PKPab		**PKPab**	**07 07 36.0**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=190,slow=4.5,SNR=4.6							
PDAR	**Pinedale Array**	**153.19**	**89**			**PKPbc**	**07 07 23.6**	**-1.0**
PDAR						**PKPab**	**07 07 36.0**	**-0.4**

IDC 23 07:06:11.2±5.4, 0.97N×99.61E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/54, mbtmp3.8/4, MS3.6/1, Ms1 3.6/1, ms1mx2.7/44, Error ellipse: s-maj=298.0km s-min=22.4km az=54.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S2	**Diego Garcia H**	**28.37**	**252**	T	T	07 40 09.5	
	baz=72,slow=75,SNR=5.2						
H08S3	**Diego Garcia H**	**28.37**	**252**	T	T	07 40 01.1	
	baz=72,slow=75,SNR=4.3						
H08S1	**Diego Garcia H**	**28.39**	**252**	T	T	07 40 01.8	
	baz=72,slow=75,SNR=4.1						
WRA	**Warramunga Arr**	**39.88**	**123**	P	P	07 13 46.8	-0.4
	1.8nm,0.6s,baz=301,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**41.35**	**129**	P	P	07 13 59.5	+0.2
	0.2nm,0.3s,baz=301,slow=7.4,SNR=4.8						
SONM	**Songino Array**	**47.05**	**6**	LR	LR	07 35 41.2	
	comp=Z,62nm,20.5s,baz=252,slow=38						
MKAR	**Makanchi Array**	**48.09**	**344**	P	P	07 14 52.9	+0.2
	0.8nm,0.3s,baz=159,slow=8.2,SNR=22						
KURBB	**Kurchatov Arra**	**52.61**	**343**	P	P	07 15 26.4	-0.4
	0.4nm,0.7s,baz=164,slow=7.0,SNR=5.2						

*SOME **23** 07:17:19.6, 42.°68N×79.°82E, h25km*
*KRNET **23** 07:17:19.3±0.1, 42.°71N×79.°80E, h23km, mb2.8*
*NNC **23** 07:17:19.2±0.7, 42.°72N×79.°75E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=4.1km s-min=2.8km az=139.0*

ISC 23 07:17:18.9±1.5, 42.72N±0.04×79.81E±0.04, h5km±10km, n51, σ1s00/91, 19C-13D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase		ID	Time	Res
				Op		ISC	h m s	ISC
SHLS	**Shalkode**	**0.50**	**329**	⇓	*iP*	**Pg**	**07 17 28.9**	**+0.3**
	baz=8.0							
SHLS				⇑	*iS*	**Sb**	**07 17 35.9**	**-2.2**
	baz=8.0							
SHLS	**Shalkode**	**0.50**	**329**	⇓	*iP*	**Pg**	**07 17 28.9**	**+0.3**
	206nm,0.2s							
SHLS				⇑	*iS*	**Sb**	**07 17 35.9**	**-2.2**
	102nm,0.3s							
SHLS	**Shalkode**	**0.50**	**329**	P		**Pg**	**07 17 28.9**	**+0.3**
	184nm,0.3s							
SHLS				S		**Sb**	**07 17 35.9**	**-2.2**
	86nm,0.2s							
PDGK	**Podgornoye**	**0.65**	**339**	⇓	P	**Pb**	**07 17 31.8**	**-1.0**
	4.1nm,0.5s							
PDGK				⇑	S	**Sb**	**07 17 40.8**	**-1.5**
	13nm,0.4s							
UZB	**Uzynbulak**	**0.72**	**306**	⇑	*iP*	**Pg**	**07 17 32.9**	**+0.2**
	baz=8.0							
UZB				⇑	*eS*	**Sg**	**07 17 42.7**	**+0.6**
	baz=8.0							
UZB	**Uzynbulak**	**0.72**	**306**	⇑	*iP*	**Pg**	**07 17 32.9**	**+0.2**
	5.7nm,0.2s							
UZB					*eS*	**Sg**	**07 17 42.6**	**+0.6**
	46nm,0.2s							
UZB	**Uzynbulak**	**0.72**	**306**	P		**Pg**	**07 17 32.7**	**0.0**
	5.7nm,0.2s							
UZB				S		**Sg**	**07 17 42.6**	**+0.6**
	45nm,0.2s							
KTMS	**Ketmen**	**0.82**	**29**	*eP*		**Pb**	**07 17 35.2**	**-0.6**
	baz=28							
KTMS					*eS*	**Sb**	**07 17 46.7**	**-0.5**
	baz=28							
KTMS	**Ketmen**	**0.82**	**29**	*eP*		**Pb**	**07 17 35.2**	**-0.6**
	3.5nm,0.1s							
KTMS					*eS*	**Sb**	**07 17 46.7**	**-0.5**
	21nm,0.1s							
KTMS	**Ketmen**	**0.82**	**29**	P		**Pb**	**07 17 35.2**	**-0.6**
	3.5nm,0.1s							
KTMS				S		**Sb**	**07 17 46.8**	**-0.5**
	14nm,0.1s							
PRZ	**Przheval'sk**	**1.07**	**257**	⇑	*iP*	**Pg**	**07 17 38.1**	**-1.3**
	baz=58							
PRZ				⇑	*iS*	**Sg**	**07 17 52.6**	**-0.7**
	baz=58							
SATY	**Saty**	**1.09**	**288**	*eP*		**Pg**	**07 17 39.6**	**-0.1**
	17nm,0.1s							
SATY					*eS*	**Sg**	**07 17 54.1**	**+0.3**
	35nm,0.1s							
SATY	**Saty**	**1.09**	**288**	P		**Pb**	**07 17 40.3**	**0.0**
	15nm,0.1s							
SATY				S		**Sb**	**07 17 54.9**	**0.0**
	36nm,0.1s							
KPKS	**Kokpek**	**1.11**	**312**	*eP*		**Pg**	**07 17 39.9**	**-0.3**
	baz=12							
KPKS					*eS*	**Sb**	**07 17 54.6**	**-0.9**
	baz=12							
KPKS	**Kokpek**	**1.11**	**312**	*eP*		**Pg**	**07 17 39.9**	**-0.3**
	10nm,0.1s							
KPKS					*eS*	**Sb**	**07 17 54.6**	**-0.9**
	58nm,0.2s							
KURS	**Kuram**	**1.43**	**303**	*eP*		**Pn**	**07 17 45.4**	**-0.1**
	baz=4.0							
KURS					*eS*	**Sb**	**07 18 04.4**	**-0.1**
	baz=4.0							
KURS	**Kuram**	**1.43**	**303**	*eP*		**Pn**	**07 17 45.4**	**-0.1**
	4.6nm,0.2s							
KURS					*eS*	**Sb**	**07 18 04.5**	**-0.1**
	7.5nm,0.4s							
KURS	**Kuram**	**1.43**	**303**	P		**Pn**	**07 17 45.4**	**-0.1**
	4.6nm,0.2s							
KURS				S		**Sb**	**07 18 04.3**	**-0.1**
	7.5nm,0.4s							
ANVS	**Anan'yevo**	**1.58**	**273**	⇓	*iP*	**Pn**	**07 17 48.3**	**+0.5**
	baz=74							
ANVS				⇓	*iS*	**Sn**	**07 18 09.0**	**+0.2**
	baz=74							
DJR	**Jarkent**	**1.61**	**359**	*eP*		**Pg**	**07 17 49.3**	**-0.4**
	7.1nm,0.2s							
DJR					*eS*	**Sg**	**07 18 11.1**	**+0.6**
	14nm,0.3s							
DJR	**Jarkent**	**1.61**	**359**	P		**Pg**	**07 17 49.3**	**-0.4**
	7.1nm,0.2s							
DJR				S		**Sg**	**07 18 11.1**	**+0.6**
	14nm,0.3s							
TARG	**Taragay, Kyrgy**	**1.79**	**237**	⇑	*iP*	**Pn**	**07 17 51.0**	**+0.1**
	baz=37							
TARG				⇑	*iS*	**Sn**	**07 18 13.8**	**-0.5**
	baz=37							
KDJ	**Kajisay**	**2.04**	**254**	⇑	*iP*	**Pn**	**07 17 54.1**	**0.0**
	baz=54							
KDJ				⇑	*iS*	**Sn**	**07 18 19.1**	**-0.9**
	baz=54							
KOTS	**Kotyrbulak**	**2.05**	**285**	*eP*		**Pb**	**07 17 56.9**	**+0.2**
	28nm,0.2s							
KOTS					*eS*	**Sg**	**07 18 23.9**	**-0.7**
	41nm,0.3s							
KOTS	**Kotyrbulak**	**2.05**	**285**	Pg		**Pb**	**07 17 56.6**	**0.0**
	28nm,0.2s							
KOTS				Lg		Lg	07 18 23.6	
	38nm,0.3s							
ARXS	**Arharly**	**2.08**	**317**	*eP*		**Pb**	**07 17 56.6**	**-0.5**
	3.9nm,0.2s							
ARXS					*eS*	**Sb**	**07 18 23.6**	**+0.4**
	25nm,0.4s							
ARXS	**Arharly**	**2.08**	**317**	Pg		**Pb**	**07 17 56.6**	**-0.5**
	3.9nm,0.2s							
ARXS				Lg		Lg	07 18 23.6	
	18nm,0.3s							
MDOK	**Medeo**	**2.08**	**283**	*eP*		**Pb**	**07 17 57.3**	**+0.1**
	11nm,0.2s							
MDOK					*eS*	**Sb**	**07 18 24.6**	**+1.3**
	4.2nm,0.2s							
MDOK	**Medeo**	**2.08**	**283**	Pg		**Pb**	**07 17 57.2**	**+0.1**
	11nm,0.2s							
MDOK				Lg		Lg	07 18 24.6	
	4.2nm,0.2s							
TNSS	**Tian-Shan**	**2.13**	**279**	*eP*		**Pb**	**07 17 58.2**	**0.0**
	16nm,0.3s							
TNSS					*eS*	**Sb**	**07 18 26.5**	**+1.4**
	22nm,0.3s							
TNSS	**Tian-Shan**	**2.13**	**279**	Pg		**Pb**	**07 17 58.2**	**0.0**
	16nm,0.2s							
TNSS				Lg		Lg	07 18 26.2	
	22nm,0.3s							
CHKK	**Chushkaly**	**2.35**	**300**	*eP*		**Pb**	**07 18 01.0**	**-0.8**
	2.3nm,0.3s							
CHKK					*eS*	**Sb**	**07 18 31.8**	**+0.6**
	28nm,0.2s							
CHKK	**Chushkaly**	**2.35**	**300**	Pg		**Pb**	**07 18 01.0**	**-0.8**
	2.3nm,0.3s							
CHKK				Lg		Lg	07 18 31.7	
	28nm,0.2s							
IZV	**Izvestkoviy**	**2.37**	**279**	*eP*		**Pb**	**07 18 01.9**	**-0.3**
	14nm,0.2s							
IZV					*eS*	**Sb**	**07 18 32.9**	**+1.0**
	12nm,0.2s							
IZV	**Izvestkoviy**	**2.37**	**279**	Pg		**Pb**	**07 18 01.9**	**-0.3**
	14nm,0.2s							
IZV				Lg		Lg	07 18 32.7	
	12nm,0.2s							
KTBS	**Karatobe**	**2.49**	**294**	*eP*		**Pb**	**07 18 04.1**	**-0.1**
	5.7nm,0.2s							
KTBS					*eS*	**Sb**	**07 18 36.3**	**+1.1**
	36nm,0.2s							
KTBS	**Karatobe**	**2.49**	**294**	Pg		**Pb**	**07 18 03.2**	**-1.0**
	5.5nm,0.2s							
KTBS				Lg		Lg	07 18 34.9	
	36nm,0.2s							
KAPS	**Kapalarasan**	**2.58**	**353**	*eP*		**Pb**	**07 18 06.0**	**+0.2**
	2.0nm,0.2s							
KAPS					*eS*	**Sg**	**07 18 39.4**	**-2.3**
	15nm,0.2s							
ULHL	**Ulahol**	**2.68**	**261**	⇓	*iP*	**Pn**	**07 18 03.1**	**+0.1**
	baz=61							
ULHL				⇓	*iS*	**Sn**	**07 18 35.0**	**-1.0**
	baz=61							
KUU	**Kurty**	**2.79**	**296**	*eP*		**Pb**	**07 18 09.2**	**-0.1**
	1.3nm,0.3s							
KUU					*eS*	**Sb**	**07 18 44.9**	**+1.1**
	8.6nm,0.4s							
KUU	**Kurty**	**2.79**	**296**	Pg		**Pb**	**07 18 08.3**	**-1.0**
	1.3nm,0.3s							
KUU				Lg		Lg	07 18 43.6	
	8.6nm,0.4s							
KST	**Kastek**	**2.85**	**278**	*eP*		**Pb**	**07 18 10.4**	**+0.1**
	7.3nm,0.3s							
KST					*eS*	**Sb**	**07 18 46.2**	**+0.7**
	8.8nm,0.4s							
BOOM	**Boomskoye usch**	**2.87**	**267**	⇑	*eP*	**Pn**	**07 18 05.7**	**+0.2**
	baz=67							
BOOM				⇑	*eS*	**Sn**	**07 18 39.4**	**-1.1**
	baz=67							
DGS	**Degeres**	**3.01**	**281**	*eP*		**Pb**	**07 18 13.3**	**+0.2**
	5.5nm,0.4s							
DGS					*eS*	**Sb**	**07 18 52.0**	**+1.8**
	16nm,0.5s							
TKM2	**Tokmak 2**	**3.11**	**275**	⇑	*iP*	**Pn**	**07 18 09.8**	**+1.0**
	baz=75							
TKM2				⇑	*iS*	**Sn**	**07 18 45.4**	**-1.1**
	baz=75							
TKM2	**Tokmak 2**	**3.11**	**275**	⇑	Pg	**Pn**	**07 18 12.1**	**+3.3**
	2.9nm,0.8s							
TKM2				⇑	Lg	Lg	07 18 55.0	
	4.9nm,0.6s							
KRBS	**Karabastau**	**3.18**	**289**	*eP*		**Pb**	**07 18 15.9**	**0.0**
	1.8nm,0.2s							
KRBS					*eS*	**Sb**	**07 18 57.0**	**+2.1**
	1.8nm,0.2s							
KZA	**Kyzart**	**3.44**	**261**	⇓	*iP*	**Pn**	**07 18 13.8**	**+0.2**
	baz=61							
KZA				⇓	*iS*	**Sn**	**07 18 53.2**	**-1.7**
	baz=61							
USP	**Ospenovka**	**3.94**	**280**	⇓	*eP*	**Pn**	**07 18 21.4**	**+1.4**
	baz=80							
USP				⇓	*eS*	**Sn**	**07 19 05.4**	**-1.2**
	baz=80							
MAKZ	**Makanchi**	**4.37**	**20**	⇓	Lg	Lg	07 19 41.1	
	0.5nm,0.5s							
MK31	**Makanchi Array**	**4.43**	**23**	⇓	Pn	**Pn**	**07 18 29.1**	**+2.2**
	0.1nm,0.2s,baz=203,slow=14,SNR=13							
MK31					Sn	**Sn**	**07 19 21.6**	**+2.7**
	0.2nm,0.3s,baz=208,slow=28,SNR=3.6							
MK31				⇑	Lg	Lg	07 19 41.7	
	0.6nm,0.5s,baz=205,slow=27,SNR=5.7							

*BJI **23** 07:36:29.3±0.0, 6.°20S×147.°32E, h57km, mB5.0/30, mb4.9/44, Ms4.4/10, Ms7 4.3/10*
*IDC **23** 07:36:33.2±1.9, 6.°01S×147.°02E, h48km±18km, mb4.5/22, mb1 4.7/26, mb1mx4.5/41, mbtmp4.8/26, ML4.8/4, MS4.0/13, Ms1 4.0/13, ms1mx3.8/30, Error ellipse: s-maj=16.1km s-min=10.1km az=83.0*
*NEIC **23** 07:36:34.2±1.8, 6.°03S±0.°06×147.°08E±0.°06, h65km±4km, mb4.9/85, Error ellipse: s-maj=9.6km s-min=7.7km az=129.0*
*DJA **23** 07:36:35.2±0.4, 6.°S±3.°×14.°7E±.°, h70km±4km, M5.0/50, mb5.1/50, mB5.5/17, MLv5.4/4, Mw(mB)4.9/17*
*GCMT **23** 07:36:36.2±0.3, 6.°10S±0.°02×147.°10E±0.°02, h42km±1km, MW4.9/58, Moment Tensor Solution. s43,c52; s58,c75; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.86±.18; Mθθ-2.84±.10; Mφφ-0.02±.12; Mr0.09±.10; Mθφ1.10±.09; Mθr-0.36±.12; Best double couple: Mw3.06600×10^16 NP1:ϕs282.00000°, δ44.00000°, λ80.00000°. NP2: ϕs116.00000°, δ47.00000°, λ100.00000°. Principal axes: T 2.9060, Plg83.0000°, Azm94.0000°; N 0.3160, Plg7.0000°, Azm289.0000°; P -3.2250, Plg2.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 07:36:35.5±0.3, 6.08S±0.04×147.13E±0.05, h78km, n251, σ1s38/240, mb5.0/80, 3C-1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase		ID	Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**3.30**	**180**	P		**Pn**	**07 37 23.6**	**-1.3**
	63nm,0.3s,baz=355,slow=5.1,SNR=61							
PMG				LR		LR	07 38 53.8	
	comp=Z,4μm,18.6s,baz=6.5,slow=42							
PMG	**Port Moresby**	**3.30**	**180**	Pn		**Pn**	**07 37 23.5**	**-1.4**
PMG				Sn		**Sn**	**07 38 04.0**	**+0.9**
KRVT	**Keravat (AS076**	**5.18**	**70**	P		**Pn**	**07 37 49.0**	**-1.6**
	116nm,0.3s,baz=320,slow=1.0,SNR=22							
KRVT				LR		LR	07 39 37.0	
	comp=Z,2μm,19.6s,baz=234,slow=35							

RABL	**Rabaul**	**5.35**	**70**	Pn		**Pn**	**07 37 51.1**	**-1.8**
JAY	**Jayapura**	**7.32**	**299**	P		**Pn**	**07 38 20.2**	**+0.4**
	2.8nm,0.3s,baz=88,slow=5.0,SNR=12							
JAY				LR		LR	07 41 35.4	
	comp=Z,2μm,20.0s,baz=150,slow=42							
JAY	**Jayapura**	**7.32**	**299**	P		**Pn**	**07 38 20.9**	**+1.1**
	0.1nm425nm25nm,1.1s							
GENI	**Genyem**	**7.76**	**296**	P		**Pn**	**07 38 26.4**	**+0.6**
	1.3nm4μm117nm,1.1s							
COEN	**Coen**	**8.74**	**206**	Pn		**Pn**	**07 38 37.1**	**-2.0**
COEN				Sn		**Sn**	**07 40 12.6**	**-3.5**
SMPI	**Sarmi**	**9.33**	**295**	P		**Pn**	**07 38 46.1**	**-1.1**
	34nm,1.3s							
HNR	**Honiara**	**13.13**	**105**	Pn		**Pn**	**07 39 37.4**	**-1.4**
CTA	**Charters Tower**	**13.95**	**183**	P		**Pn**	**07 39 50.1**	**+0.5**
	1.9nm,0.3s,baz=360,slow=13,SNR=12							
CTAO	**Charters Tower**	**13.95**	**183**	Pn		**Pn**	**07 39 49.9**	**+0.3**
FAKI	**Fak Fak**	**15.16**	**281**	P		**Pn**	**07 40 05.3**	**-0.1**
	879nm84nm,1.0s							
FAKI	**Fak Fak**	**15.16**	**281**	Pn		**Pn**	**07 40 03.5**	**-1.9**
FAKI				IAmb		IAmb	07 40 10.6	
	comp=Z,82nm,1.0s							
SIJI	**Sorong**	**16.66**	**288**	P		**Pn**	**07 40 22.6**	**-1.6**
	comp=Z,1.8nm,0.3s,baz=129,slow=14,SNR=3.8							
PATS	**Pohnpei**	**17.01**	**41**			**Pn**	**07 40 25.2**	**-3.3**
MTN	**Manton Dam**	**17.14**	**246**			**Pn**	**07 40 29.3**	**-0.9**
MSAI	**Masohi**	**18.34**	**278**	P		**Pn**	**07 40 44.7**	**-0.1**
	comp=Z,2μmcomp=Z,20nm,0.7s							
WB0	**Warramunga Arr**	**18.39**	**221**	P		**P**	**07 40 43.8**	**-0.7**
WR0	**Warramunga Arr**	**18.44**	**220**	P		**P**	**07 40 44.5**	**-0.4**
WRAB	**Tennant Creek**	**18.54**	**221**	P		**P**	**07 40 45.1**	**-0.9**
WRAB				IAmb		IAmb	07 40 50.3	
	comp=Z,76nm,1.0s							
WB2	**Warramunga Arr**	**18.55**	**221**	P		**P**	**07 40 45.5**	**-0.7**
WB2				IAmb		IAmb	07 40 50.4	
	comp=Z,65nm,0.9s							
WRA	**Warramunga Arr**	**18.56**	**221**	P		**P**	**07 40 45.6**	**-0.6**
	comp=Z,3.2nm,0.3s,baz=40,slow=11,SNR=54							
WRA				S		**Sn**	**07 44 16.3**	**+1.8**
	baz=43,slow=24,SNR=5.5							
WRA				PcP		**PcP**	**07 45 14.8**	**+1.9**
	comp=Z,1.0nm,0.3s,baz=26,slow=1.9,SNR=14							
WRA				LR		LR	07 49 07.0	
	comp=Z,2μm,18.0s,baz=50,slow=41							
WRA	**Warramunga Arr**	**18.56**	**221**	P		**P**	**07 40 45.1**	**-1.2**
WRA				PcP		**PcP**	**07 45 14.9**	**+2.0**
AAI	**Ambon**	**19.02**	**276**	P		**Pn**	**07 40 52.2**	**-0.6**
	comp=Z,2μmcomp=Z,231nm,0.8s							
EIDS	**Eidsvold**	**19.55**	**169**	P		**P**	**07 40 57.2**	**+0.3**
GUMO	**Guam**	**19.67**	**353**	LR		LR	07 47 02.0	
	comp=Z,454nm,21.9s,baz=166,slow=32							
GUMO	**Guam**	**19.67**	**353**	P		**P**	**07 40 57.1**	**-1.2**
GUMO				IAmb		IAmb	07 41 04.4	
	comp=Z,76nm,1.0s							
NLAI	**Namlea**	**20.16**	**277**	P		**P**	**07 41 04.1**	**+0.3**
	comp=Z,1μmcomp=Z,100nm,1.1s							
KNRA	**Kununurra**	**20.38**	**241**	P		**P**	**07 41 06.1**	**0.0**
KNRA				IAmb		IAmb	07 41 14.7	
	comp=Z,36nm,0.8s							
SANI	**Sanana**	**21.46**	**280**	P		**P**	**07 41 16.8**	**-0.9**
	comp=Z,1μmcomp=Z,74nm,1.0s							
AS31	**Alice Springs**	**21.62**	**215**	P		**P**	**07 41 19.3**	**-0.1**
ASAR	**Alice Springs**	**21.62**	**215**	P		**P**	**07 41 19.2**	**-0.2**
	comp=Z,124nm,1.2s,baz=47,slow=9.1,SNR=96							
ASAR				S		**S**	**07 45 13.3**	**-1.5**
	comp=Z,4.6nm,1.1s,baz=31,slow=22,SNR=3.0							
ASAR				LR		LR	07 50 29.0	
	comp=Z,829nm,18.5s,baz=38,slow=39							
ASAR	**Alice Springs**	**21.62**	**215**	P		**P**	**07 41 18.8**	**-0.6**
SANVU	**Saraoutou**	**21.78**	**117**	P		**P**	**07 41 21.8**	**+0.7**
SOEI	**Soe**	**22.93**	**259**	P		**P**	**07 41 33.7**	**+0.2**
	comp=Z,124nm,1.0s							
SOEI	**Soe**	**22.93**	**259**	P		**P**	**07 41 34.3**	**+0.8**
BATI	**Baumata**	**23.58**	**258**	P		**P**	**07 41 41.0**	**+1.5**
	comp=Z,1μmcomp=Z,88nm,0.7s							
KMSI	**Cibinong**	**24.04**	**285**	P		**P**	**07 41 44.3**	**+0.8**
	comp=Z,271nm,1.1s							
FITZ	**Fitzroy Crossi**	**24.13**	**238**	P		**P**	**07 41 44.2**	**-0.1**
	comp=Z,123nm,0.9s,baz=58,slow=10,SNR=86							
FITZ	**Fitzroy Crossi**	**24.13**	**238**	P		**P**	**07 41 44.2**	**-0.1**
DZM	**Mont Dzumac**	**24.51**	**132**	P		**P**	**07 41 48.7**	**+0.9**
	comp=Z,10nm,0.6s,baz=291,slow=8.8,SNR=17							
DZM	**Mont Dzumac**	**24.51**	**132**	P		**P**	**07 41 48.2**	**+0.3**
ARMA	**Armidale**	**24.57**	**171**	P		**P**	**07 41 48.6**	**+0.2**
LUWI	**Luwuk**	**24.82**	**281**	P		**P**	**07 41 51.5**	**+0.9**
	comp=Z,476nm,1.2s							
LUWI	**Luwuk**	**24.82**	**281**	P		**P**	**07 41 51.1**	**+0.5**
KCP	**Kidapawan**	**25.55**	**300**	⇓	*iP*	**P**	**07 41 59.3**	**+2.0**
MRSI	**Marisa**	**25.98**	**284**	P		**P**	**07 42 00.1**	**-1.0**
	comp=Z,2μmcomp=Z,51nm,1.1s							
STKA	**Stephens Creek**	**26.18**	**191**	P		**P**	**07 42 03.4**	**+0.7**
	comp=Z,15nm,0.8s,baz=16,slow=10.0,SNR=8.8							
STKA				LR		LR	07 53 13.7	
	comp=Z,978nm,19.0s,baz=17,slow=38							
STKA	**Stephens Creek**	**26

THZ	Tophouse	42.28	151	P	P	07 44 21.9	+0.4	
THZ				IAmb	IAmb	07 44 26.5		
comp=Z,26nm,0.9s								
KASI	Kota Agung	42.41	268	P	P	07 44 34.4	+12	
TUWZ	Tuamarina	42.54	150	P	P	07 44 25.3	+1.8	
BSWZ	Blackbirch Sta	42.72	150	P	P	07 44 25.9	+1.0	
LTZ	Lake Taylor	42.78	153	P	P	07 44 27.6	+2.2	
LTZ				IAmb	IAmb	07 44 28.3		
comp=Z,42nm,1.5s								
SNZO	South Karori	42.84	149	P	P	07 44 26.4	+0.6	
DCZ	Deep Cove	42.92	159	P	P	07 44 28.7	+2.3	
DCZ				IAmb	IAmb	07 44 32.5		
comp=Z,35nm,1.0s								
RPZ	Rata Peaks	42.98	154	P	P	07 44 29.0	+2.0	
comp=Z,25nm,0.7s,baz=268,slow=3.5,SNR=11								
RPZ	Rata Peaks	42.98	154	P	P	07 44 28.7	+1.7	
RPZ				IAmb	IAmb	07 44 31.8		
comp=Z,22nm,0.7s								
KHZ	Kahutara	43.09	151	P	P	07 44 28.4	+0.6	
KHZ				IAmb	IAmb	07 44 28.5		
comp=Z,47nm,1.3s								
OXZ	Oxford	43.10	153	P	P	07 44 28.7	+0.8	
OXZ				IAmb	IAmb	07 44 33.3		
comp=Z,24nm,1.2s								
LBZ	Lake Benmore	43.16	156	P	P	07 44 29.7	+1.2	
LBZ				IAmb	IAmb	07 44 30.7		
comp=Z,29nm,0.9s								
MLZ	Mavora Lakes	43.18	158	P	P	07 44 31.0	+2.4	
MLZ				IAmb	IAmb	07 44 42.9		
comp=Z,36nm,1.2s								
MSWZ	Moikau Station	43.19	149	P	P	07 44 28.4	-0.3	
MJAR	Matsushiro Arr	43.22	349	P	P	07 44 29.0	0.0	
comp=Z,6.6nm,0.9s,baz=177,slow=7.3,SNR=17								
MJAR	Matsushiro Arr	43.22	349	P	P	07 44 29.0	0.0	
MAJO	Matsushiro	43.22	349	P	P	07 44 29.4	+0.4	
MAT	Matsushiro	43.22	349	P	P	07 44 29.1	+0.1	
MAT				eS	S	07 50 56.2	+6.0	
MJB9	Matsu-Tunnel	43.22	349	P	P	07 44 29.4	+0.3	
MJB9				IAmb	IAmb	07 44 30.1		
comp=Z,16nm,0.9s								
PLWZ	Palliser	43.31	149	P	P	07 44 30.7	+1.0	
SDSI	Sungai Dareh	45.88	275	P	P	07 44 50.7	+0.1	
comp=Z,3μmcomp=Z,51nm,1.0s								
NJ2	Nanjing	46.52	326	eP	P	07 44 56.0	+0.7	
NJ2				pmax	pmax			
comp=Z,18nm,0.5s								
KSRS	Korea Array	46.88	339	P	P	07 44 58.2	+0.3	
comp=Z,9.4nm,0.8s,baz=156,slow=8.9,SNR=40								
KSRS				LR	LR	08 01 58.9		
comp=Z,194nm,21.2s,baz=156,slow=33								
KSAR	Wonju Array Be	46.88	339	P	P	07 44 58.6	+0.6	
KS19	Wonju Array Si	46.94	339	P	P	07 44 57.8	-0.6	
MNSI	Mandailing Nat	47.96	277	P	P	07 45 07.4	+0.6	
WHN	Wuhan	48.08	321	P	P	07 45 10.3	+2.9	
RPSI	Rantau Prapat	48.92	279	P	P	07 45 11.4	-2.8	
MCQ	Macquarie Isla	49.21	171	P	P	07 45 15.2	-0.5	
GSI	Gununggsitoli	50.02	277	P	P	07 45 20.8	-1.7	
JKA	Kamikawa-asahi	50.13	356	P	P	07 45 24.3	+1.5	
KCSI	Kotacane, Aceh	50.20	280	P	P	07 45 22.8	-1.2	
comp=Z,36nm,0.8s								
TIA	Tai'an	50.62	328	P	P	07 45 26.3	-0.4	
TIA				pmax	pmax			
comp=Z,5.0nm,0.4s								
USA0B	Ussuriysk Arra	51.88	346	P	P	07 45 35.6	-0.4	
USRK	Ussuriysk Ar.	51.88	346	P	P	07 45 35.8	-0.1	
comp=Z,6.4nm,0.7s,baz=162,slow=7.3,SNR=13								
USRK				LR	LR	08 06 24.1		
comp=Z,67nm,18.5s,baz=156,slow=35								
USRK	Ussuriysk Ar.	51.88	346	P	P	07 45 34.5	-1.4	
YSS	Yuzh-Sakhalins	52.95	356	P	P	07 45 44.4	+0.6	
CMAR	Chiang Mai Arr	53.40	298	P	P	07 45 48.6	+0.9	
comp=Z,1.3nm,0.5s,baz=124,slow=6.3,SNR=7.3								
CMAR				LR	LR	08 12 11.4		
comp=Z,18nm,18.3s,baz=145,slow=40								
CMAR	Chiang Mai Arr	53.40	298	P	P	07 45 49.0	+1.3	
XAN	Xi'an	53.83	320	P	P	07 45 49.5	-1.1	
XAN				pP	pP	07 46 03.4	-6.6	
XAN				sP	sP	07 46 10.3	-8.5	
XAN				PcP	PcP	07 46 58.3	+2.8	
XAN				pmax	pmax			
comp=Z,23nm,0.9s								
XAN	Xi'an	53.83	320	P	P	07 45 49.3	-1.3	
XAN				IAmb	IAmb	07 45 53.0		
comp=Z,14nm,0.8s								
BJT	Baijiatuan	54.02	331	P	P	07 45 51.0	-0.8	
BJT				IAmb	IAmb	07 45 54.0		
comp=Z,9.8nm,0.8s								
BJI	Beijing	54.04	331	P	P	07 45 51.4	-0.5	
BJI				pmax	pmax			
comp=Z,13nm,1.1s								
CD2	Chengdu	55.42	314	P	P	07 46 01.6	-0.6	
CD2				pmax	pmax			
comp=Z,10.0nm,0.5s								
KLR	Kul'dur	56.70	348	P	P	07 46 11.5	+0.6	
comp=Z,6.6nm,1.1s,baz=146,slow=3.9,SNR=7.6								
HHC	Hu-ho-hao-te	56.97	328	eP	P	07 46 27.0	+14	
HHC				pmax	pmax			
comp=Z,10.0nm,1.0s								
HHC				pmax	pmax			
comp=Z,33nm,5.6s								
LZH	Lanzhou	58.36	319	eP	P	07 46 25.5	+2.5	
LZH				pP	pP	07 46 42.3	-0.3	
LZH				pmax	pmax			
comp=Z,27nm,1.2s								
PEA0B	Petropavlovsk-	59.64	7	P	P	07 46 32.7	+1.4	
PEA0B				IAmb	IAmb	07 46 34.6		
comp=Z,16nm,0.9s								
PETK	Petropavlovsk-	59.64	7	P	P	07 46 32.4	+1.1	
comp=Z,16nm,0.9s,baz=165,slow=6.2,SNR=28								
PETK	Petropavlovsk-	59.64	7	P	P	07 46 31.2	-0.1	
HIA	Hailar	60.08	340	P	P	07 46 34.2	-0.2	
PPT	Papeete	62.75	107	LR	LR	08 11 06.7		
comp=Z,51nm,18.8s,baz=293,slow=33								
GTA	Gaotai	62.89	320	eP	P	07 46 54.4	+0.7	
GTA				pmax	pmax			
comp=Z,4.0nm,0.8s								
ULN	Ulaanbaatar	64.24	331	P	P	07 47 02.2	-0.3	
ULN				IAmb	IAmb	07 47 05.6		
comp=Z,12nm,0.8s								
SONM	Songino Array	64.54	331	P	P	07 47 04.4	0.0	
comp=Z,5.4nm,0.7s,baz=150,slow=9.2,SNR=16								
SONM				LR	LR	08 16 15.7		
comp=Z,72nm,19.3s,baz=128,slow=37								
SONM	Songino Array	64.54	331	P	P	07 47 04.4	0.0	
CASY	Casey	65.21	195	P	P	07 47 09.1	+0.8	
CASY				IAmb	IAmb	07 47 10.1		
comp=Z,15nm,0.8s								
MA2	Magadan	65.51	2	P	P	07 47 10.8	+0.5	
comp=Z,13nm,0.9s,baz=169,slow=13,SNR=5.9								
MA2	Magadan	65.51	2	P	P	07 47 12.1	+1.8	
YAK	Yakutsk	69.24	351	P	P	07 47 33.8	+0.1	
VNDA	Vanda	71.82	177	P	P	07 47 51.0	+1.7	
comp=Z,17nm,0.9s,baz=330,slow=6.5,SNR=92								
VNDA	Vanda	71.82	177	P	P	07 47 50.8	+1.5	
VNDA				IAmb	IAmb	07 47 52.0		
comp=Z,21nm,0.9s								
WMQ	Urumqi	72.94	319	eP	P	07 47 57.3	+0.7	
WMQ				pmax	pmax			
comp=Z,19nm,0.9s								
WMQ				pmax	pmax			
comp=Z,67nm,5.3s								
WMQ				LR	LR			
comp=Z,90nm,17.1s								
WMQ				LR	LR			
comp=Z,130nm,15.5s								
BILL	Bilibino	75.18	7	P	P	07 48 10.1	+1.1	
MK31	Makanchi Array	77.64	320	P	P	07 48 22.6	-0.9	
MKAR	Makanchi Array	77.64	320	P	P	07 48 23.1	-0.4	
comp=Z,1.5nm,0.5s,baz=111,slow=6.8,SNR=8.9								
MKAR	Makanchi Array	77.64	320	P	P	07 48 22.5	-1.0	
MAKZ	Makanchi	77.85	320	P	P	07 48 24.0	-0.6	
TIXI	Tiksi	78.51	354	P	P	07 48 26.6	-1.1	
TIXI				IAmb	IAmb	07 48 30.9		
comp=Z,11nm,0.8s								
ZAA0	Zalesovo Array	79.15	328	P	P	07 48 29.8	-1.8	
ZALV	Zalesovo Beam	79.15	328	P	P	07 48 30.3	-1.3	
comp=Z,8.2nm,0.7s,baz=109,slow=5.1,SNR=22								
NIL	Nilore	80.08	306	P	P	07 48 35.9	-1.2	
NIL				IAmb	IAmb	07 48 40.0		
comp=Z,9.7nm,0.8s								
KURBB	Kurchatov Arra	81.38	323	PKKPbc	PKKPbc	08 07 20.0	-0.2	
comp=Z,0.4nm,0.7s,baz=288,slow=2.7,SNR=6.0								
RDOG	Red Dog Mine	81.78	17	P	P	07 48 45.1	-0.3	
RDOG				IAmb	IAmb	07 48 49.5		
comp=Z,10nm,0.7s								
MAW	Mawson	82.22	203	P	P	07 48 48.6	+0.8	
comp=Z,6.6nm,0.4s,baz=167,slow=2.1,SNR=4.5								
MAW	Mawson	82.22	203	P	P	07 48 48.1	+0.4	
QSPA	South Pole Qui	83.89	180	P	P	07 48 57.5	+0.9	
RND	Reindeer	84.14	24	P	P	07 48 57.4	-0.4	
RND				IAmb	IAmb	07 49 01.5		
comp=Z,8.2nm,0.8s								
MCK	McKinley	84.25	24	P	P	07 48 57.8	-0.5	
MCK				IAmb	IAmb	07 49 00.5		
comp=Z,10nm,1.0s								
KKAR	Karatay Array	84.44	314	P	P	07 48 58.4	-1.3	
WRH	Wood River Hil	84.91	23	P	P	07 49 01.2	-0.3	
WRH				IAmb	IAmb	07 49 04.1		
comp=Z,12nm,1.2s								
COLA	College	85.17	23	P	P	07 49 02.3	-0.5	
COLA				IAmb	IAmb	07 49 04.7		
comp=Z,10nm,0.8s								
COLD	Coldfoot	85.37	20	P	P	07 49 04.1	+0.3	
NRIK	Noril'sk	85.39	342	P	P	07 49 03.6	-0.3	
comp=Z,16nm,0.8s,baz=133,slow=5.6,SNR=17								
IL31		85.51	23	P	P	07 49 03.2	-1.3	
IL31				IAmb	IAmb	07 49 06.0		
comp=Z,7.5nm,0.8s								
ILAR	Eielson Array	85.51	23	P	P	07 49 03.1	-1.5	
comp=Z,5.5nm,0.7s,baz=254,slow=4.9,SNR=44								
ILAR	Eielson Array	85.51	23	P	P	07 49 03.3	-1.2	
RIDG	Independent Ri	85.91	24	P	P	07 49 06.5	-0.2	
RIDG				IAmb	IAmb	07 49 08.9		
comp=Z,11nm,1.2s								
DOT	Dot Lake	86.20	25	P	P	07 49 07.7	-0.3	
DOT				IAmb	IAmb	07 49 10.5		
comp=Z,8.1nm,1.0s								
TOLK	Toolik Lake Re	86.23	19	P	P	07 49 09.1	+1.0	
BVAR	Borovoye Array	86.91	324	LR	LR	08 31 12.9		
comp=Z,32nm,18.1s,baz=80,slow=38								
BCAR	Beaver Creek A	86.96	26	P	P	07 49 11.7	0.0	
BMAR	Burnt Mountain	87.43	21	P	P	07 49 14.5	+0.6	
EGAK	Eagle	87.79	24	P	P	07 49 15.8	+0.2	
EGAK				IAmb	IAmb	07 49 19.4		
comp=Z,9.5nm,1.1s								
HYT	Haines Junctio	88.20	28	P	P	07 49 18.1	+0.3	
HYT				IAmb	IAmb	07 49 22.2		
comp=Z,11nm,1.0s								
DAWY	Dawson	88.29	25	P	P	07 49 18.9	+0.8	
DAWY				IAmb	IAmb	07 49 21.8		
comp=Z,14nm,1.1s								
EPYK	Eagle Plains	90.02	23	P	P	07 49 26.5	+0.3	
EPYK				IAmb	IAmb	07 49 29.9		
comp=Z,7.8nm,0.8s								
SYO	Syowa Base	90.56	200	eP	P	07 49 28.0	-0.6	
SYO	Syowa Base	90.56	200	ePcP	PcP	07 49 29.9	+0.2	
SYO	Syowa Base	90.56	200	epP	pP	07 49 46.0	-4.8	
ABKAR	Akbulak array	92.73	319	P	P	07 49 37.5	-1.6	
NVAR	Mina Array Bea	97.31	52	P	Pdif	07 50 02.4	+1.7	
comp=Z,0.4nm,0.7s,baz=256,slow=7.0,SNR=4.7								
NVAR	Mina Array Bea	97.31	52	P	P	07 50 00.1	-0.5	
YKA	Yellowknife Ar	99.18	28	P	Pdif	07 50 10.0	+1.9	
comp=Z,1.3nm,1.1s,baz=272,slow=5.2,SNR=6.2								
YKA				PKKPbc	PKKPbc	08 06 32.1	-3.3	
comp=Z,0.9nm,0.9s,baz=101,slow=3.2,SNR=5.1								
SNAA	Sanae	99.94	189	P	Pdif	07 50 11.6	+0.2	
VNA3	Neumayer Olymp	101.31	187	P	Pdif	07 50 18.0	+0.5	
TXAR	Lajitas Array	109.69	61	PKKP		08 06 15.1		
comp=Z,1.1nm,0.9s,baz=133,slow=7.0,SNR=8.6								
BOSA	Boshof	114.30	235	PKP	PKiKP	07 55 08.0	+1.0	
comp=Z,2.7nm,0.8s,baz=175,slow=20,SNR=4.8								
DIVS	Divibare	120.37	318	PKPdf	PKiKP	07 55 18.5	+0.2	
BRG	Berggiesshubel	120.84	327	ePKP	PKiKP	07 55 21.2	+2.3	
comp=Z,3.2nm,0.8s								
CLL	Collm	121.10	328	i PKPdf	PKiKP	07 55 21.6	+2.2	
comp=Z,8.0nm,0.6s								
PLCA	Paso Flores	121.98	147	PKP	PKiKP	07 55 23.2	+1.6	
comp=Z,3.3nm,0.8s,baz=212,slow=4.2,SNR=7.5								
GERES	GERESS Array B	122.05	326	PKP	PKiKP	07 55 23.4	+1.9	
comp=Z,1.9nm,0.6s,baz=48,slow=2.0,SNR=14								
GERES	GERESS Array B	122.05	326	PKPdf	PKiKP	07 55 22.4	+1.0	
VLDQ	Val d'Or	123.56	34	PKPdf	PKPdf	07 55 22.2	-1.8	
CIMO	Cimolais	124.10	323	PKPdf	PKPdf	07 55 22.9	-2.4	
TSUM	Tsumeb	124.33	242	PKPdf	PKPdf	07 55 26.7	+0.1	
BI02	San Fabin de	124.33	143	PKPdf	PKiKP	07 55 26.9	+0.5	
BO02	Sierra Bellavi	125.87	141	PKPdf	PKiKP	07 55 29.7	+0.2	
CO01	Juntas del Tor	129.40	137		PKiKP	07 55 37.4	+0.5	
AC05	El Transito	129.98	136		PKiKP	07 55 39.1	+1.1	
PB15	IPOC Station P	133.89	130		PKPdf	07 55 45.2	+0.5	
PB07	IPOC Station P	134.39	128	PKPdf	PKiKP	07 55 47.6	+0.6	
LVC	Limon Verde	134.65	130	PKPdf	PKiKP	07 55 48.3	+0.4	
PB01	IPOC Station P	135.07	128		PKPdf	07 55 46.9	0.0	
BBAC	Balboa, Cauca	135.56	93	eP	PKPdf	07 55 38.3	-10	
PB11	IPOC Station P	135.62	126	PKPdf	PKPdf	07 55 48.3	+0.3	
PB08	IPOC Station P	135.82	127		PKiKP	07 55 50.2	-0.1	
MNMC	Minye Minye	136.00	126	PKPdf	PKiKP	07 55 50.6	+0.1	
GO01	Chusmiza	136.04	126		PKiKP	07 55 50.6	-0.3	
PUAC	Puerto Asis, P	136.05	96	eP	PKPdf	07 55 45.6	-3.2	
YOTC	Yotoco, Valle	136.65	91	eP	PKPdf	07 55 38.8	-11	
CBOC	Ciudad Bolivar	137.10	88	eP	PKPdf	07 55 52.0	+1.1	
GUY2C	Guyana, Caldas	137.71	89	eP	PKPdf	07 55 43.9	-8.6	
TOLC	Tolima	137.71	90	eP	PKPdf	07 55 44.2	-8.0	
ORTC	Ortega, Tolima	137.74	91	eP	PKPdf	07 55 39.5	-12	
PRAC	Prado	138.08	91	eP	PKPdf	07 55 44.2	-8.3	
ZARC	Zaragoza, Cauc	138.29	86	eP	PKPdf	07 55 44.4	-8.5	
ROSC	El Rosal	138.73	90	PKP	PKiKP	07 55 55.6	-0.7	
comp=Z,9.2nm,0.5s,baz=239,slow=19,SNR=7.3								
ROSC	El Rosal	138.73	90	eP	PKPdf	07 55 49.7	-4.5	
ROSC	El Rosal	138.73	90	PKPdf	PKPdf	07 55 51.8	-2.4	
MACC	Macarena, Meta	138.95	94	eP	PKPdf	07 55 40.8	-13	
SPBC	San Pablo de B	139.02	88	eP	PKPdf	07 55 47.8	-6.5	
OCAC	Ocana	139.82	84	eP	PKPdf	07 55 50.0	-5.9	
CPUP	Villa Florida	139.99	145	PKP	PKiKP	07 55 57.2	-0.9	
comp=Z,1.1nm,0.8s,baz=181,slow=1,SNR=10.0								
CPUP	Villa Florida	139.99	145	PKPdf	PKPdf	07 55 55.2	-0.4	
RUSC	La Rusia	140.01	88	eP	PKPdf	07 55 47.8	-8.8	
RUSC	La Rusia	140.01	88	PKPdf	PKPdf	07 55 53.6	-3.0	
CRPR	Cabo Rojo, PR	144.56	67		PKPab	07 56 02.2	-0.3	
TOA0	Torodi Ar. Sit	145.24	284		PKPbc	07 56 05.0	-0.1	
TORD	Torodi Ar. Bea	145.24	284	PKPbc	PKPbc	07 56 05.0	0.0	
comp=Z,18nm,0.9s,baz=101,slow=1.9,SNR=43								
TORD	Torodi Ar. Bea	145.24	284		PKPdf	07 56 05.3	0.0	
SJG	San Juan	145.41	67		PKPab	07 56 06.1	+0.4	
GCPR	Guaynabo City	145.41	66		PKPab	07 56 06.4	+0.7	
PDPR	Patillas Dam,	145.55	67		PKPab	07 56 06.5	+0.2	
HUMP	Col San Antoni	145.67	67		PKPdf	07 56 05.8	-0.1	
SAML	Samuel	146.29	116	PKPbc	PKPbc	07 56 08.8	+0.5	
KIC	Kosan Boka	152.04	272	ePKP1	PKiKP	07 56 23.8	+0.5	
comp=Z,11nm,0.6s								
PTGA	Pitinga	152.11	103		PKiKP	07 56 23.9	+0.5	
PTGA				PKPab	PKPab	07 56 32.7	-0.2	
DBIC	Dimbokro	152.16	273	PKPbc	PKiKP	07 56 24.6	+1.1	
comp=Z,6.8nm,0.6s,baz=81,slow=2.7,SNR=15								
TIC	Toumodi	152.32	273	ePKP1	PKPbc	07 56 23.2	-0.4	
LIC	Lamto	152.32	272	ePKP1	PKiKP	07 56 24.1	+0.3	
comp=Z,27nm,0.7s								
BDFB	Brasilia	153.72	145	PKP	PKPdf	07 56 20.6	+1.8	
comp=Z,9.7nm,0.8s,baz=191,slow=3.0,SNR=14								
BDFB				PKPbc	PKiKP	07 56 28.2	+1.4	
comp=Z,10nm,0.5s,baz=228,slow=1.4,SNR=16								
BDFB	Brasilia	153.72	145	PKPdf	PKPdf	07 56 19.7	+0.9	
BDFB					PKiKP	07 56 28.3	+1.6	
BDFB				PKPab	PKPab	07 56 39.8	+0.3	

*IDC **23** 07:43:19.1±1.5, 8.53N×81.93W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.8/25, mbtmp3.8/5, MS3.4/1, Ms1 3.6/1, ms1mx2.8/21, Error ellipse: s-maj=127.2km s-min=25.4km az=70.0*

*UCR **23** 07:43:23.9±2.0, 8.11N×82.67W, h13km±5km, MD4.0, mb4.5(NEIC)*

*UPA **23** 07:43:25.8±2.3, 8.20N×82.67W, h26km±8km, MW4.6*

*NEIC **23** 07:43:26.6±2.1, 8.17N±0.09×82.73W±0.07, h48km±9km, mb4.5/13, Error ellipse: s-maj=14.3km s-min=8.0km az=209.0*

ISC 23 07:43:25.3±0.9, 8.17N±0.05×82.67W±0.03, h31km±5km, n128, σ1s54/147, mb4.2/10, 14C-11D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PEDE3	Pedregal, Chir	0.32	49	↓iP		Pb	07 43 33.6	+0.4
DVD	David	0.34	39	↑iP		Pb	07 43 33.6	+0.2
DVD				eS		Sn	07 43 39.5	-0.5
LOCO3	Loma Colorada,	0.34	46	↓iP		Pb	07 43 33.8	+0.4
LOMA3	Las Lomas, Chi	0.38	46	↓iP		Pb	07 43 34.0	+0.1
CHIR3	Chiriqui UPA,	0.40	56	↓iP		Pb	07 43 34.5	+0.2
CHIR3				eS		Sb	07 43 41.0	+0.7
BCO2	Palmira	0.56	14	eS		Sb	07 43 45.0	+0.1
PSOM3	Paja de Sombre	0.62	34	↓iP		Pb	07 43 36.9	-0.8
PSOM3				eS		Sb	07 43 45.4	-0.8
BRU2	Volcan	0.62	358	↓iP		Pb	07 43 37.2	-0.6
BRU2				eS		Sb	07 43 46.3	-0.1
BRU2	Volcan	0.62	358	eP		Pb	07 43 37.3	-0.6
BRU2				eS		Sb	07 43 46.6	+0.2
BC3P	Paso Ancho	0.65	5	↓iP		Pb	07 43 37.4	-0.9
EDSV	San Vito	0.71	335	iP		Pb	07 43 38.6	-0.8
EDSV				eS		Sn	07 43 49.6	+0.3
PTJ1	Puerto Jimnez	0.73	300	↑iP		Pb	07 43 38.5	-1.0
PTJ1				eS		Sb	07 43 49.3	+0.2
PTJ1	Puerto Jimnez	0.73	300	↑iP		Pb	07 43 38.5	-1.0
PTJ1				eS		Sn	07 43 50.2	+0.7
CHGR2	Aguacate	0.92	34	↑eP		Pb	07 43 41.1	-1.7
CHGR2				eS		Sb	07 43 53.0	-1.8
NANC3	Nancito, Chiri	0.93	86	↓iP		Pn	07 43 42.1	-0.2
NANC3				eS		Sb	07 43 53.2	-1.7
EDPN	Palmar Norte	1.11	315	iP		Pn	07 43 44.1	-0.6
EDPN				eS		Sn	07 43 59.2	+0.2
EDBA	Buenos Aires	1.16	329	↑eP		Pn	07 43 45.3	-0.1
EDBA				eS		Sb	07 44 02.1	+0.7
DRK0	Durika	1.23	332	↑eP		Pn	07 43 45.6	-0.9
DRK0				eS		Sn	07 44 02.7	+0.5
DRK0	Durika	1.23	332	↑eP		Pn	07 43 45.6	-0.9
DRK0				eS		Sb	07 44 03.2	-0.4
RGM0	Gandoca	1.41	2	↑eP		Pn	07 43 50.1	+1.2
RGM0				eS		Sb	07 44 10.6	+1.9
EDLM	Las Mercedes	1.43	320	↑eP		Pn	07 43 48.8	-0.4
EDLM				eS		Sb	07 44 08.9	-0.3
GMAL	Guarumal, Vera	1.48	106	↑iP		Pn	07 43 49.5	-0.3
GMAL				eS		Sn	07 44 08.7	+0.6
EDDO	Dominical	1.60	312	eP		Pn	07 43 51.3	-0.2
EDDO				eS		Sn	07 44 12.8	+1.7
CACAO	El Cacao, Vera	1.97	114	eP		Pn	07 43 56.2	-0.4
CACAO				eS		Sn	07 44 19.9	-0.3
LCR2	La Lucha 2	2.05	320	↑eP		Pn	07 43 57.6	-0.2
CVTR	Volcan Turrial	2.13	330	↑iP		Pn	07 43 60.0	+0.8
CVTR				eS		Sb	07 44 27.8	-2.0
SJS	Escuela Geolog	2.23	322	eP		Pn	07 44 01.1	+0.8
SJS				eS		Sn	07 44 28.7	+1.8
HDC	Heredia	2.31	322	iP		Pn	07 44 02.0	+0.5
HDC				eS		Sn	07 44 30.6	+1.6
HDC	Heredia	2.31	322	↑iP		Pn	07 44 02.1	+0.7
HDC				eS		Sn	07 44 30.9	+1.9
HDC	Heredia	2.31	322			Pn	07 44 01.9	+0.5
HDC						Sn	07 44 30.2	+1.2
AZU	Azuero	2.40	99	eP		Pn	07 44 03.5	+1.1
AZU				eS		Sn	07 44 33.4	+2.5
VTON	El Valle, Cocl	2.56	80	eP		Pn	07 44 07.1	+2.2
VTON				eS		Sb	07 44 40.5	-1.4
SRA1	San Ramn	2.61	317	eP		Pn	07 44 05.7	+0.2
BCIP	Isla Barro Col	2.97	70	eP		Pn	07 44 11.9	+1.6
BCIP	Isla Barro Col	2.97	70	eP		Pn	07 44 14.2	+3.9
BCIP	Isla Barro Col	2.97	70	eP		Pn	07 44 11.9	+1.6
BCIP						Sn	07 44 46.5	+1.6
FORC	Fortuna	3.02	319	eP		Pn	07 44 12.5	+1.5
CASO	Castillo	3.04	318	eP		Pn	07 44 12.7	+1.4
CEDE	Laguna Cedeo	3.06	319	eP		Pn	07 44 12.6	+1.0
JTS	Las Juntas de	3.09	313	eP		Pn	07 44 11.4	-0.6
JTS	Las Juntas de	3.09	313	Pn		Pn	07 44 11.1	-0.9
UPA	Univ. de Panam	3.20	75	eP		Pb	07 44 18.4	-3.1
UPA				eS		Sb	07 44 59.1	-1.0
ACAL	Aguas Claras	3.38	317	eP		Pn	07 44 16.9	+0.8
PTEN	Parque Tenorio	3.41	318	eP		Pn	07 44 17.6	+1.1
PLVR	Palo Verde	3.42	309	eP		Pn	07 44 16.8	+0.1
CUI	Cuipilapa	3.49	315	eP

comp=Z,0.6nm,0.6s,baz=136,slow=7.0,SNR=7.5
BCAR Beaver Creek A 69.08 335 P **P** **07 54 28.2 0.0**
IL31 71.82 336 P **P** **07 54 43.9 -0.8**
ILAR Eielson Array 71.82 336 P **P** **07 54 43.6 -1.2**
comp=Z,1.0nm,0.6s,baz=110,slow=4.8,SNR=17
ILAR Eielson Array 71.82 336 P **P** **07 54 44.1 -0.7**
BMAR Burnt Mountain 71.93 339 P **P** **07 54 45.0 -0.4**
KDAK Kodiak Island 72.46 328 P **P** **07 54 46.3 -2.5**
ASAR Alice Springs 141.75 242 PKhKP PKPpre 08 02 47.3
comp=Z,0.4nm,0.6s,baz=121,slow=3.6,SNR=4.6
ASAR PKP **PKPdf** **08 02 52.9 -1.8**
comp=Z,0.5nm,0.7s,baz=122,slow=2.0,SNR=7.8
ASAR Alice Springs 141.75 242 PKPdf 08 02 53.6 -1.2
WRA Warramunga Arr 142.34 248 PKhKP PKPpre 08 02 50.6
comp=Z,1.0nm,0.7s,baz=107,slow=2.2,SNR=5.5

NEIC ***23*** *07:46:45.7±1.3, 17.88N±0.10×145.5E±0.2, h209km±6km, mb4.3/19, Error ellipse: s-maj=33.7km s-min=12.4km az=101.0*
IDC ***23*** *07:46:46.8±3.0, 17.75N×145.46E, h204km±23km, mb3.5/4, mb1 3.7/5, mb1mx3.1/47, mbtmp4.0/5, Error ellipse: s-maj=49.6km s-min=22.8km az=83.0*

ISC 23 07:46:44.8±0.7, 17.87N±0.07×145.5E±0.2, h200km, n28, σ0899/30, mb4.3/12, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.31**	**189**	P	**P**	**07 47 52.1**	**+1.5**
	9.3nm,0.3s,baz=194,slow=23,SNR=5.8						
GUMO				S	**Sn**	**07 48 41.2**	**-1.0**
	19nm,0.3s,baz=152,slow=22,SNR=3.6						
GUMO	**Guam**	**4.31**	**189**		**Pn**	**07 47 51.6**	**+1.0**
GUMO					**Sn**	**07 48 41.5**	**-0.7**
MAJO	**Matsushiro**	**19.69**	**342**	P	**P**	**07 50 56.6**	**-2.2**
MAJO				IAmb	IAmb	07 51 15.1	
	comp=Z,4.5nm,0.8s						
MJB9	**Matsu-Tunnel**	**19.69**	**342**	P	**P**	**07 50 56.7**	**-2.2**
MJB9				IAmb	IAmb	07 51 15.1	
	comp=Z,4.6nm,0.8s						
FAKI	**Fak Fak**	**24.46**	**214**	P	**P**	**07 51 45.4**	**-0.2**
COEN	**Coen**	**31.71**	**184**	P	**P**	**07 52 49.0**	**-1.0**
COEN				IAmb	IAmb	07 52 53.0	
	comp=Z,16nm,1.5s						
MTN	**Manton Dam**	**33.67**	**206**	P	**P**	**07 53 07.6**	**+0.6**
KNRA	**Kununurra**	**37.21**	**207**	P	**P**	**07 53 37.1**	**-0.1**
KNRA				IAmb	IAmb	07 53 39.5	
	comp=Z,10nm,1.0s						
WB0	**Warramunga Arr**	**38.97**	**197**	P	**P**	**07 53 52.1**	**+0.2**
WB0				IAmb	IAmb	07 54 09.2	
	comp=Z,14nm,1.4s						
WR0	**Warramunga Arr**	**39.12**	**197**	P	**P**	**07 53 53.5**	**+0.4**
WR0				IAmb	IAmb	07 53 54.9	
	comp=Z,10nm,1.4s						
WRAB	**Tennant Creek**	**39.14**	**197**	P	**P**	**07 53 53.3**	**0.0**
WRAB				IAmb	IAmb	07 53 55.0	
	comp=Z,4.8nm,0.7s						
WB2	**Warramunga Arr**	**39.15**	**197**	P	**P**	**07 53 53.6**	**+0.3**
WB2				IAmb	IAmb	07 53 53.9	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**39.15**	**197**	P	**P**	**07 53 53.6**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=17,slow=8.6,SNR=26						
WRA	**Warramunga Arr**	**39.15**	**197**	P	**P**	**07 53 52.4**	**-0.9**
FITZ	**Fitzroy Crossi**	**40.75**	**210**	P	**P**	**07 54 07.2**	**+0.8**
AS31	**Alice Springs**	**42.82**	**196**	P	**P**	**07 54 23.9**	**+0.7**
ASAR	**Alice Springs**	**42.82**	**196**	P	**P**	**07 54 23.3**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=18,slow=7.0,SNR=14						
ASAR	**Alice Springs**	**42.82**	**196**	P	**P**	**07 54 23.1**	**-0.2**
ATKA	**Atka Island**	**46.56**	**33**	P	**P**	**07 54 53.2**	**+0.8**
ATKA				IAmb	IAmb	07 55 03.6	
	comp=Z,24nm,1.4s						
PSA00	**Pilbara Seismi**	**46.58**	**214**	P	**P**	**07 54 52.5**	**-0.4**
PSA00				IAmb	IAmb	07 55 09.8	
	comp=Z,32nm,1.4s						
STKA	**Stephens Creek**	**49.61**	**184**	P	**P**	**07 55 17.2**	**+1.3**
	comp=Z,4.4nm,1.1s,baz=12,slow=14,SNR=4.5						
STKA	**Stephens Creek**	**49.61**	**184**	P	**P**	**07 55 15.5**	**-0.4**
MORW	**Morawa**	**54.67**	**212**	P	**P**	**07 55 53.1**	**-0.3**
KURBB	**Kurchatov Arra**	**61.82**	**318**	P	**P**	**07 56 44.5**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=92,slow=7.4,SNR=5.0						
NNZ	**Nelson**	**64.22**	**157**	P	**P**	**07 56 57.3**	**-1.0**
TOLK	**Toolik Lake Re**	**64.41**	**22**	P	**P**	**07 56 59.3**	**-0.1**
LPAZ	**La Paz**	**147.81**	**92**	PKPbc	**PKPbc**	**08 06 08.3**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=4.3,slow=6.1,SNR=6.1						
LPAZ	**La Paz**	**147.81**	**92**		**PKPbc**	**08 06 07.7**	**0.0**

IDC 23 08:05:37.2±1.7, 10.66S×120.13E, h0km, mb4.1/2, mb1 4.0/5, mb1mx3.7/32, mbtmp3.9/5, ML3.7/3, Error ellipse: s-maj=60.9km s-min=23.7km az=49.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.50**	**83**	Pn	Pn	08 06 33.0	0.0
	13nm,0.3s,baz=281,slow=16,SNR=4.0						
BATI				Sn	Sn	08 07 12.2	-3.0
	10nm,0.3s,baz=22,slow=22,SNR=7.4						
FITZ	**Fitzroy Crossi**	**9.12**	**145**	Pn	Pn	08 07 49.6	-0.4
	0.3nm,0.3s,baz=328,slow=14,SNR=11						
FITZ				Sn	Sn	08 09 24.7	-8.8
	0.8nm,0.3s,baz=172,slow=19,SNR=10						
WRA	**Warramunga Arr**	**16.51**	**126**	Pn	Pn	08 09 27.0	-3.3
	0.2nm,0.3s,baz=297,slow=13,SNR=9.1						
WRA				Sn	Sn	08 12 16.3	-18
	0.1nm,0.3s,baz=293,slow=22,SNR=5.4						
ASAR	**Alice Springs**	**18.43**	**136**	P	P	08 09 54.5	+0.2
	0.2nm,0.3s,baz=314,slow=12,SNR=18						
SONM	**Songino Array**	**59.50**	**349**	P	P	08 15 42.2	-0.1
	1.7nm,0.6s,baz=166,slow=8.8,SNR=7.1						
MKAR	**Makanchi Array**	**66.44**	**333**	P	P	08 16 28.3	0.0
	0.9nm,0.6s,baz=140,slow=7.6,SNR=13						

JMA ***23*** *08:18:37.1, 26.07N×143.11E, h6km, M4.3*
IDC ***23*** *08:18:38.2±2.4, 25.96N×142.26E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/44, mbtmp3.8/6, Error ellipse: s-maj=103.9km s-min=25.6km az=80.0*
NEIC ***23*** *08:18:39.2±1.2, 25.94N±0.04×142.2E±0.3, h10km±2km, mb4.6/8, Error ellipse: s-maj=46.5km s-min=7.3km az=87.0*

ISC 23 08:18:43.1±1.3, 25.92N±0.08×142.1E±0.3, h35km, n26, σ1931/26, mb4.1/11, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**0.71**	**5**	P	**Pn**	**08 18 56.2**	**-0.4**
JHH2				*e*S	**Sn**	**08 19 09.6**	**+3.2**
CBIJ	**Chichi jima**	**1.17**	**3**	P	**Pn**	**08 19 01.5**	**-1.5**
CBIJ				*e*S	**Sn**	**08 19 19.1**	**+1.4**
JCJ	**Chichijima**	**1.17**	**3**	Pn	**Pn**	**08 19 01.4**	**-1.6**
JCJ				Sn	**Sn**	**08 19 14.8**	**-2.9**
BSO3	**Boso 3**	**8.96**	**352**	*e*S	**Sn**	**08 22 30.2**	**+1.0**
BSO4	**Boso 4**	**9.17**	**351**	*e*S	**Sn**	**08 22 33.8**	**-0.8**
H11N2	**WAKE ISLAND Hy**	**23.64**	**100**	T	T	08 47 21.5	
	baz=290,slow=74,SNR=19						
H11N1	**WAKE ISLAND Hy**	**23.64**	**100**	T	T	08 47 24.9	
	baz=290,slow=74,SNR=15						
H11N3	**WAKE ISLAND Hy**	**23.66**	**100**	T	T	08 47 22.7	
	baz=290,slow=74,SNR=20						
KLR	**Kul'dur**	**24.63**	**344**	P	**P**	**08 24 00.1**	**0.0**
	1.7nm,0.7s,baz=139,slow=9.0,SNR=6.7						
WB0	**Warramunga Arr**	**46.03**	**190**	P	**P**	**08 27 03.5**	**+0.2**
WB0				IAmb	IAmb	08 27 12.8	
	comp=Z,8.0nm,1.1s						
WR0	**Warramunga Arr**	**46.20**	**190**	P	**P**	**08 27 04.8**	**+0.1**
WR0				IAmb	IAmb	08 27 14.1	
	comp=Z,12nm,1.3s						
WRAB	**Tennant Creek**	**46.20**	**190**	P	**P**	**08 27 05.1**	**+0.4**
WRAB				IAmb	IAmb	08 27 09.8	
	comp=Z,4.8nm,1.0s						
WB2	**Warramunga Arr**	**46.21**	**190**	P	**P**	**08 27 03.7**	**-1.0**
WB2				IAmb	IAmb	08 27 15.1	
	comp=Z,7.8nm,1.1s						
WRA	**Warramunga Arr**	**46.21**	**190**	P	**P**	**08 27 05.4**	**+0.6**
	comp=Z,1.9nm,0.7s,baz=10.0,slow=8.3,SNR=11						
WRA	**Warramunga Arr**	**46.21**	**190**	P	**P**	**08 27 03.9**	**-0.9**
MKAR	**Makanchi Array**	**51.18**	**310**	P	**P**	**08 27 44.8**	**+2.0**
	comp=Z,0.2nm,0.5s,baz=93,slow=7.8,SNR=1.5						
MKAR	**Makanchi Array**	**51.18**	**310**	P	**P**	**08 27 44.0**	**+1.2**
MAKZ	**Makanchi**	**51.39**	**310**	P	**P**	**08 27 44.8**	**+0.4**
MAKZ				IAmb	IAmb	08 28 00.5	
	comp=Z,6.4nm,1.4s						
KURK	**Kurchatov**	**53.76**	**315**	P	**P**	**08 28 01.6**	**-0.2**
KURBB	**Kurchatov Arra**	**53.82**	**315**	P	**P**	**08 28 02.5**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=92,slow=7.8,SNR=8.4						
BVAR	**Borovoye Array**	**58.86**	**318**	P	**P**	**08 28 38.7**	**+0.5**
	comp=Z,0.9nm,0.6s,baz=69,slow=8.3,SNR=4.2						
KKAR	**Karatay Array**	**59.72**	**306**	P	**P**	**08 28 43.6**	**-0.7**
ABKAR	**Akbulak array**	**65.87**	**315**	P	**P**	**08 29 25.0**	**-0.1**
HRA	**Herat**	**67.95**	**299**	P	**P**	**08 29 38.4**	**-0.5**
FINES	**FINESS Array B**	**78.97**	**334**	P	**P**	**08 30 44.2**	**+1.3**
	comp=Z,1.5nm,0.9s,baz=63,slow=6.8,SNR=4.1						
FINES	**FINESS Array B**	**78.97**	**334**	P	**P**	**08 30 44.0**	**+1.1**

IDC 23 08:19:43.9±2.1, 35.80N×90.72E, h0km, mb3.7/2, mb1 3.7/5, mb1mx3.4/46, mbtmp3.6/5, ML3.3/3, MS3.2/5, Ms1 3.5/3, ms1mx2.8/42, Error ellipse: s-maj=67.6km s-min=29.7km az=66.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**12.67**	**333**	Pn	Pn	08 22 43.2	-2.2
	0.2nm,0.3s,baz=147,slow=13,SNR=6.0						
SONM	**Songino Array**	**16.73**	**39**	Pn	Pn	08 23 40.6	+1.0
	0.3nm,0.3s,baz=226,slow=14,SNR=5.7						
SONM				LR	LR	08 30 19.9	
	comp=Z,99nm,21.3s,baz=160,slow=38						
KURBB	**Kurchatov Arra**	**17.24**	**333**	Pn	Pn	08 23 42.6	-3.3
	0.0nm,0.3s,baz=139,slow=12,SNR=13						
TLY	**Talaya**	**18.37**	**26**	LR	LR	08 32 11.5	
	comp=Z,39nm,18.5s,baz=199,slow=41						
CMAR	**Chiang Mai Arr**	**18.75**	**155**	LR	LR	08 32 25.8	
	comp=Z,79nm,19.4s,baz=226,slow=41						
USRK	**Ussuriysk Ar.**	**32.43**	**62**	LR	LR	08 40 12.6	
	comp=Z,61nm,18.8s,baz=197,slow=38						
KLR	**Kul'dur**	**32.67**	**53**	LR	LR	08 40 56.4	
	comp=Z,43nm,18.8s,baz=249,slow=39						
ILAR	**Eielson Array**	**70.15**	**23**	P	P	08 30 57.4	-0.4
	0.6nm,0.8s,baz=297,slow=4.5,SNR=5.8						
ASAR	**Alice Springs**	**71.88**	**139**	P	P	08 31 09.1	+0.2
	0.8nm,1.0s,baz=319,slow=6.3,SNR=4.4						

IDC ***23*** *08:20:48.9±5.9, 1.32S×100.18E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/43, mbtmp3.6/3, Error ellipse: s-maj=322.3km s-min=28.7km az=53.0*
NEIC ***23*** *08:20:53.6±2.3, 1.45S±0.2×100.1E±0.2, h35km±2km, mb4.2/6, Error ellipse: s-maj=36.6km s-min=12.1km az=220.0*

ISC 23 08:20:53.5±1.5, 1.3S±0.5×100.2E±0.5, h33km, n19, σ1937/12, mb4.0/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**3.67**	**315**	Pn	**Pn**	**08 21 47.5**	**-0.5**
MNAI	**Manna**	**4.11**	**138**	Pn	**Pn**	**08 21 53.9**	**-0.1**
H08S2	**Diego Garcia H**	**28.32**	**256**	T	T	08 54 42.6	
	baz=78,slow=75,SNR=20						
H08S3	**Diego Garcia H**	**28.32**	**256**	T	T	08 54 39.0	
	baz=78,slow=75,SNR=19						
H08S1	**Diego Carcia H**	**28.33**	**256**	T	T	08 54 40.1	
	baz=78,slow=75,SNR=13						
H01W3	**Cape Leeuwin H**	**35.86**	**160**	T	T	09 05 36.4	
	baz=331,slow=76,SNR=3.7						
H01W2	**Cape Leeuwin H**	**35.87**	**160**	T	T	09 05 35.5	
	baz=331,slow=76,SNR=4.7						
H01W1	**Cape Leeuwin H**	**35.88**	**160**	T	T	09 05 37.4	
	baz=331,slow=76						
WB0	**Warramunga Arr**	**38.16**	**121**	P	**P**	**08 28 10.2**	**+0.1**
WB0				IAmb	IAmb	08 28 26.3	
	comp=Z,6.2nm,1.2s						
WRA	**Warramunga Arr**	**38.19**	**121**	P	**P**	**08 28 10.6**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=301,slow=9.1,SNR=3.3						
WRA	**Warramunga Arr**	**38.19**	**121**	P	**P**	**08 28 07.7**	**-2.7**
WRAB	**Tennant Creek**	**38.19**	**121**	P	**P**	**08 28 09.4**	**-1.0**
WB2	**Warramunga Arr**	**38.20**	**121**	P	**P**	**08 28 10.4**	**0.0**
WB2				IAmb	IAmb	08 28 26.5	
	comp=Z,5.0nm,1.2s						
WR0	**Warramunga Arr**	**38.37**	**121**	P	**P**	**08 28 09.6**	**-2.3**
WR0				IAmb	IAmb	08 28 24.4	
	comp=Z,3.6nm,1.1s						
ASAR	**Alice Springs**	**39.51**	**127**	P	**P**	**08 28 21.7**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=303,slow=8.2,SNR=7.3						
ASAR	**Alice Springs**	**39.51**	**127**	P	**P**	**08 28 22.8**	**+1.4**
MK31	**Makanchi Array**	**50.40**	**344**	P	**P**	**08 29 48.5**	**+0.8**
MKAR	**Makanchi Array**	**50.40**	**344**	P	**P**	**08 29 48.5**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=154,slow=8.3,SNR=5.7						
TXAR	**Lajitas Array**	**144.02**	**37**	PKP	PKPbc	08 40 24.6	+0.1
	comp=Z,0.2nm,0.5s,baz=169,slow=1.3,SNR=6.3						

DDA ***23*** *08:21:19.1, 39.28N×25.92E, h7km±4km, ML2.5*
ATH ***23*** *08:21:19.5, 39.28N×25.87E, h21km±1km, ML2.4/3, Error ellipse: s-maj=2.3km s-min=1.3km az=67.0*
ISK ***23*** *08:21:19.7, 39.32N×25.95E, h4km, ML2.7/17*
THE ***23*** *08:21:20.3, 39.32N×25.88E, h10km±1km, ML2.3/6, Error ellipse: s-maj=1.2km s-min=0.3km az=179.0*

ISC 23 08:21:19.8±0.8, 39.31N±0.02×25.89E±0.02, h15km±5km, n48, σ0947/76, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIGR	**SIGRI**	**0.10**	**197**	P	**Pg**	**08 21 23.0**	**-0.1**
SIGR				S	**Sg**	**08 21 25.1**	**-0.2**
SIGR	**SIGRI**	**0.10**	**197**	P	**Pg**	**08 21 23.1**	**-0.1**
SIGR				S	**Sg**	**08 21 25.0**	**-0.2**
SIGR				AML	AML	08 21 25.3	
	comp=N,11130μm,0.3s						
SIGR				AML	AML	08 21 25.5	
	comp=E,5710μm,0.2s						
SIGR	**SIGRI**	**0.10**	**197**	PG	**Pg**	**08 21 23.1**	**-0.1**
SIGR				SG	**Sg**	**08 21 25.5**	**+0.2**
PRK	**Paraskevi**	**0.30**	**101**	P	**Pg**	**08 21 26.6**	**+0.4**
PRK				S	**Sb**	**08 21 31.6**	**0.0**
	comp=E,1μm,0.4s						
PRK	**Paraskevi**	**0.30**	**101**	P	**Pb**	**08 21 26.9**	**0.0**
PRK				S	**Sg**	**08 21 31.0**	**+0.5**
PRK				AML	AML	08 21 31.6	
	comp=N,1813μm,0.5s						
PRK				AML	AML	08 21 32.9	
	comp=E,2217μm,0.2s						
BOZC	**Bozcaada**	**0.55**	**13**	PG	**Pg**	**08 21 30.6**	**-0.1**
BOZC				SG	**Sb**	**08 21 38.7**	**-0.1**
BOZC	**Bozcaada**	**0.55**	**13**	*i* P	**Pg**	**08 21 30.5**	**-0.1**
BOZC				*i* P	**Pg**	**08 21 30.6**	**-0.1**
BOZC				*i* S	**Sb**	**08 21 39.0**	**+0.1**
BOZC				IAML		08 21 41.0	
	comp=N,300nm,0.3s						
BOZC				IAML		08 21 41.0	
	comp=E,339nm,0.3s						
EZN	**Ezine**	**0.62**	**33**	P	**Pg**	**08 21 31.8**	**-0.2**
EZN				S	**Sb**	**08 21 40.8**	**0.0**
	comp=E,245nm,0.3s						
EZN	**Ezine**	**0.62**	**33**	PG	**Pg**	**08 21 31.8**	**-0.2**
EZN				SG	**Sg**	**08 21 40.6**	**+0.4**
AYVA	**Ayvalik**	**0.62**	**90**	*i* P	**Pg**	**08 21 31.3**	**-0.7**
AYVA				*i* S	**Sg**	**08 21 39.9**	**-0.4**
AYVA				IAML		08 21 44.0	
	comp=N,170nm,0.2s						
BAYC	**CANAKKALE_Bayr**	**0.67**	**49**	*i* P	**Pg**	**08 21 31.8**	**-1.1**
BAYC				*i* S	**Sg**	**08 21 41.1**	**-0.7**
BAYC				IAML		08 21 42.0	
	comp=E,156nm,0.3s						
PSRA	**Psara**	**0.81**	**199**	P	**Pg**	**08 21 35.0**	**-0.5**
LIA	**Limnos Island**	**0.81**	**317**	P	**Pg**	**08 21 35.2**	**-0.3**
LIA				S	**Sb**	**08 21 47.0**	**+0.8**
	comp=E,210nm,0.3s						
LIA	**Limnos Island**	**0.81**	**317**	P	**Pb**	**08 21 35.9**	**+0.4**
LIA				S	**Sn**	**08 21 47.2**	**-1.0**
LIA				AML	AML	08 21 48.9	
	comp=E,388μm,0.3s						
LIA				AML	AML	08 21 50.1	
	comp=N,452μm,0.3s						
DKL	**Dikili**	**0.82**	**106**	PG	**Pg**	**08 21 35.7**	**-0.1**
DKL				SG	**Sb**	**08 21 46.8**	**+0.2**
KRBN	**Karaburun**	**0.88**	**144**	PG	**Pn**	**08 21 37.3**	**-0.3**
GADA	**Gvkgeada**	**0.88**	**0**	P	**Pb**	**08 21 36.5**	**-0.3**
GADA				S	**Sg**	**08 21 49.2**	**+0.6**
	comp=N,205nm,0.4s						
GADA	**Gvkgeada**	**0.88**	**0**	PG	**Pb**	**08 21 36.6**	**-0.3**
GOKA	**anakkale-Gk**	**0.88**	**1**	*i* P	**Pb**	**08 21 36.6**	**-0.3**
GOKA				*i* S	**Sg**	**08 21 49.0**	**+0.4**
GOKA				IAML		08 21 50.0	
	comp=N,412nm,0.3s						
GOKA				IAML		08 21 51.0	
	comp=E,475nm,0.3s						
CHOS	**Chios island**	**0.93**	**172**	P	**Pg**	**08 21 38.0**	**+0.2**
CHOS				S	**Sn**	**08 21 51.4**	**0.0**
	comp=E,520nm,0.2s						
CHOS	**Chios island**	**0.93**	**172**	P	**Pb**	**08 21 37.5**	**-0.1**
CHOS	**Chios island**	**0.93**	**172**	PG	**Pn**	**08 21 38.3**	**0.0**
CHOS				SG	**Sn**	**08 21 51.9**	**+0.5**
ZEDA	**zmir-Bergama**	**0.98**	**110**	*i* P	**Pb**	**08 21 38.3**	**-0.2**
ZEDA				*i* S	**Sb**	**08 21 51.5**	**+0.3**
ZEDA				IAML		08 21 53.0	
	comp=N,134nm,0.2s						
ZEDA				IAML		08 21 54.0	
	comp=E,170nm,0.4s						
URLA	**Izmir**	**1.09**	**150**	PN	**Pb**	**08 21 40.4**	**0.0**
URLA	**Izmir**	**1.09**	**150**	*i* P	**Pb**	**08 21 39.4**	**-1.0**
URLA				*i* S	**Sb**	**08 21 53.9**	**-0.5**
URLA				IAML		08 21 57.0	
	comp=N,70nm,0.6s						
GELI	**Tayfur-Gelibol**	**1.18**	**22**	PN	**Pn**	**08 21 41.8**	**+0.1**
SMTH	**Samothraki Isl**	**1.20**	**347**	P	**Pn**	**08 21 41.4**	**-0.6**
SMTH				S	**Sg**	**08 21 58.4**	**-0.1**
	comp=N,78nm,0.4s						
SMTH	**Samothraki Isl**	**1.20**	**347**	P	**Pg**	**08 21 42.6**	**-0.3**
SMTH				S	**Sg**	**08 21 58.9**	**+0.3**
LPK	**Lapseki**	**1.26**	**32**	PN	**Pn**	**08 21 43.1**	**+0.3**
BLCB	**Balcova**	**1.28**	**135**	PN	**Pg**	**08 21 44.7**	**+0.1**
BALY	**Balya**	**1.41**	**71**	*i* P	**Pn**	**08 21 44.9**	**0.0**
BALY				*i* S	**Sn**	**08 22 02.9**	**-0.3**
BALY				IAML		08 22 05.0	
	comp=N,148nm,0.6s						
BALY				IAML		08 22 07.0	
	comp=E,120nm,0.4s						
STEP	**BALIKESIR_Sava**	**1.42**	**87**	*i* P	**Pn**	**08 21 45.6**	**+0.6**
STEP				*i* S	**Sn**	**08 22 03.9**	**+0.4**
STEP				IAML		08 22 07.0	
	comp=E,142nm,0.3s						
STEP				IAML		08 22 08.0	
	comp=N,96nm,0.4s						
ENEZ	**Enez**	**1.44**	**8**	PN	**Pb**	**08 21 46.6**	**+0.2**
ERIK	**Erikli-Kesan**	**1.44**	**19**	PN	**Pb**	**08 21 46.7**	**+0.3**
DGB	**zmir**	**1.47**	**148**	*i* P	**Pn**	**08 21 44.9**	**-0.8**
DGB				*i* S	**Sb**	**08 22 05.6**	**+0.3**
DGB				IAML		08 22 08.0	
	comp=E,42nm,0.3s						
AOS	**Alonnisos**	**1.57**	**266**	P	**Pn**	**08 21 47.4**	**+0.3**
AOS	**Alonnisos**	**1.57**	**266**	PN	**Pg**	**08 21 50.1**	**+0.1**
GONE	**Gonen-Balikesi**	**1.57**	**61**	PN	**Pb**	**08 21 48.6**	**+0.1**
BALB	**Balikesir**	**1.57**	**77**	PN	**Pb**	**08 21 48.3**	**-0.3**
ALN	**Alexandroupoli**	**1.59**	**4**	P	**Pb**	**08 21 48.4**	**-0.6**
ALN	**Alexandroupoli**	**1.59**	**4**	PN	**Pb**	**08 21 49.3**	**+0.4**
KESN	**Edirne-Kesan**	**1.63**	**21**	*i* P	**Pb**	**08 21 49.4**	**-0.4**
KESN				*i* S	**Sb**	**08 22 10.1**	**-0.3**
KESN				IAML		08 22 15.0	
	comp=E,33nm,0.3s						
RKY	**Sarkoy-Tekirda**	**1.70**	**35**	PN	**Pb**	**08 21 50.1**	**-0.6**
SMG	**Samos**	**1.76**	**155**	P	**Pn**	**08 21 50.3**	**+0.6**
MRMT	**Marmara Adasi**	**1.84**	**45**	PN	**Pn**	**08 21 52.0**	**+1.1**
RDO	**Rodhopi**	**1.86**	**352**	P	**Pb**	**08 21 53.0**	**-0.5**
RDO	**Rodhopi**	**1.86**	**352**	PN	**Pb**	**08 21 53.4**	**0.0**
DURS	**Dursunbey**	**2.02**	**81**	*i* P	**Pn**	**08 21 53.7**	**+0.3**
DURS				*i* S	**Sb**	**08 22 22.9**	**+1.6**
DURS				IAML		08 22 25.0	
	comp=E,76nm,0.8s						
DURS				IAML		08 22 27.0	
	comp=N,41nm,0.5s						

IDC 23 08:26:38.3±2.0, 15.68S×173.19W, h0km, mb3.6/5, mb1 4.0/5, mb1mx3.7/39, mbtmp3.6/5, MS3.5/1, Ms1 3.5/1, ms1mx2.7/22, Error ellipse: s-maj=134.6km s-min=25.6km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**20.28**	**249**	LR	LR	08 37 43.7	
	comp=Z,129nm,18.2s,baz=210,slow=33						
H11S2	**WAKE ISLAND Hy**	**39.31**	**329**	T	T	09 15 45.7	
	baz=149,slow=76,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**39.32**	**329**	T	T	09 15 50.4	
	baz=149,slow=76,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**39.33**	**329**	T	T	09 15 46.9	
	baz=149,slow=76,SNR=3.5						
H11N3	**WAKE ISLAND Hy**	**40.26**	**330**	T	T	09 16 59.5	
	baz=150,slow=76,SNR=9.4						
H11N1	**WAKE ISLAND Hy**	**40.26**	**330**	T	T	09 16 58.3	
	baz=150,slow=76,SNR=9.6						
H11N2	**WAKE ISLAND Hy**	**40.27**	**330**	T	T	09 17 03.7	
	baz=150,slow=76,SNR=11						
WRA	**Warramunga Arr**	**49.98**	**257**	P	P	08 35 34.6	0.0
	0.4nm,0.6s,baz=91,slow=6.6,SNR=8.9						
ASAR	**Alice Springs**	**50.22**	**252**	P	P	08 35 36.2	-0.3
	1.2nm,0.5s,baz=85,slow=8.2,SNR=29						
TXAR	**Lajitas Array**	**80.60**	**56**	P	P	08 38 53.6	+0.3
	0.4nm,0.9s,baz=251,slow=2.8,SNR=4.3						
PDAR	**Pinedale Array**	**82.34**	**42**	P	P	08 39 01.6	-0.7
	0.4nm,0.9s,baz=224,slow=3.6,SNR=2.6						
ILAR	**Eielson Array**	**82.68**	**11**	P	P	08 39 04.0	+0.6
	0.1nm,0.3

PB06	**IPOC Station P**	**2.39 311**		Pn	08 46 57.7 +0.1
PB06				S	08 47 30.3 -2.3
PB10	**IPOC Station P**	**2.80 286**		Pn	08 47 03.1 +1.4
PB10				S	08 47 39.5 -0.5
AC02	**Maricunga**	**2.87 208**		Pn	08 47 03.6 +0.6
PB09	**IPOC Station P**	**2.91 329**		Pn	08 47 02.6 -0.5
PB04	**IPOC Station P**	**3.04 310**	Pn	Pn	08 47 04.8 +0.2
AC01	**Pan de Azucar**	**3.27 235**		Pn	08 47 07.5 +0.5
PB07	**IPOC Station P**	**3.30 320**	Pn	Pn	08 47 07.6 -0.1
PB01	**IPOC Station P**	**3.67 332**		Pn	08 47 11.1 -0.8
GO03	**Copiap**	**4.04 215**	Pn	Pn	08 47 15.9 -0.2
PB08	**IPOC Station P**	**4.38 341**	Pn	Pn	08 47 19.9 -0.7
TA01	**Diego Aracena**	**4.41 327**	Pn	Pn	08 47 21.8 +1.1
GO01	**Chusmiza**	**4.83 342**	Pn	Pn	08 47 26.9 +0.5
PB11	**IPOC Station P**	**4.89 337**	Pn	Pn	08 47 28.4 +1.6
AC04	**Llanos de Chal**	**4.97 218**	Pn	Pn	08 47 26.4 -1.2
AC05	**El Transito**	**5.11 207**	Pn	Pn	08 47 29.6 +0.2
PSGCX	**Pisagua**	**5.22 333**	Pn	Pn	08 47 28.7 -2.2
MNMC	**Minye Minye**	**5.46 340**	Pn	Pn	08 47 34.4 +0.4
CO01	**Juntas del Tor**	**6.07 201**	Pn	Pn	08 47 42.0 +0.4
GO04	**Tololo Observa**	**6.50 205**	Pn	Pn	08 47 47.0 0.0
CO03	**El Pedregal**	**7.06 202**	Pn	Pn	08 47 54.3 +0.3
CO02	**Combarbal**	**7.50 203**	Pn	Pn	08 47 59.8 +0.1
LPAZ	**La Paz**	**7.99 356**	Pn	Pn	08 48 07.0 +0.4
BDFB	**Brasilia**	**20.32 69**	P	P	08 50 31.9 -0.2
BDFB			IAmb	IAmb	08 50 32.2
	comp=Z,3.4nm,0.6s				

BJI ***23*** *09:10:12.3±0.0, 15°.46S×168°.04E, h136km, mB4.8/25, mb4.7/36*

IDC ***23*** *09:10:14.0±0.5, 15°.99S×167°.88E, h152km±3km, mb4.4/24, mb1 4.6/27, mb1mx4.3/48, mbtmp4.9/27, MS3.7/15, Ms1 3.8/15, ms1mx3.5/39, Error ellipse: s-maj=13.2km s-min=9.2km az=95.0*

NEIC ***23*** *09:10:14.7±1.8, 15°.91S±0°.07×167°.72E±0°.09, h153km±4km, mb5.0/47, Error ellipse: s-maj=12.0km s-min=10.9km az=79.0*

GCMT ***23*** *09:10:15.7±0.2, 15°.90S±0°.01×167°.62E±0°.01, h154km±1km, MW5.2/115, Moment Tensor Solution. s72,c90; s115,c173; Duration: 1s0 Moment tensor: Scale 10¹⁶ Nm; Mrr1.52±.12; Mθθ 1.79±.18; Mϕϕ 0.27±.17; Mrθ -1.52±.11; Mrϕ 7.61±.14; Mθϕ -3.10±.11; Best double couple: Mo8.52200×10¹⁶ NP1:ϕs269.00000°, δ68.00000°, λ15.00000°. NP2:ϕs173.00000°, δ76.00000°, λ157.00000°. Principal axes: T 8.5200, Plg26.0000°, Azm130.0000°; N 0.0070, Plg64.0000°, Azm324.0000°; P -8.5240, Plg5.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 09:10:14.2±0.4, 15°.95S±0°.05×167°.85E±0°.06, h153km±3km, h154km:pP-P, n161, σ1911/178, mb4.9/56, 1C-2D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**0.79**	**309**	Pn	**Pn**	**09 10 36.6**	**-1.1**
DZM	**Mont Dzumac**	**6.24**	**192**	P	**Pn**	**09 11 44.1**	**0.0**
	53nm,0.3s,baz=47,slow=18,SNR=289						
DZM				S	**Sn**	**09 12 52.9**	**-1.7**
	32nm,0.3s,baz=306,slow=22,SNR=5.6						
DZM				LR	LR	09 13 15.7	
	comp=Z,734nm,19.9s,baz=66,slow=29						
DZM	**Mont Dzumac**	**6.24**	**192**	Pn	**Pn**	**09 11 44.0**	**-0.1**
MSVF	**Nonsavu**	**9.93**	**102**	Pn	**Pn**	**09 12 36.7**	**+3.3**
HNR	**Honiara**	**10.06**	**309**	P	**Pn**	**09 12 37.3**	**+2.3**
	140nm,0.3s,baz=172,slow=5.8,SNR=34						
HNR				LR	LR	09 16 05.4	
	comp=Z,858nm,21.1s,baz=184,slow=35						
HNR	**Honiara**	**10.06**	**309**		**Pn**	**09 12 34.2**	**-0.8**
HNR				P		09 12 37.2	-7.9
EIDS	**Eidsvold**	**18.26**	**236**	P	**Pn**	**09 14 17.2**	**-0.7**
	baz=18						
EIDS	**Eidsvold**	**18.26**	**236**	P	**Pn**	**09 14 18.3**	**+0.4**
EIDS					**P**	**09 14 18.4**	**+2.4**
RAO	**Raoul Island**	**18.63**	**138**	LR	LR	09 19 23.5	
	comp=Z,518nm,18.6s,baz=122,slow=30						
KRVT	**Keravat (AS076**	**19.38**	**305**	P	**Pn**	**09 14 30.7**	**-0.4**
	8.5nm,0.3s,baz=113,slow=20,SNR=4.5						
AFI	**Afiamalu**	**19.80**	**87**	P	**Pn**	**09 14 34.9**	**-1.1**
AFI				IAmb	IAmb	09 14 36.7	
	comp=Z,124nm,1.2s						
OUZ	**Omahuta**	**19.87**	**166**	P	**Pn**	**09 14 35.5**	**-1.2**
RMQ	**Roma**	**20.63**	**236**	P	**P**	**09 14 43.0**	**+1.4**
	baz=21						
ARMA	**Armidale**	**20.69**	**223**	P	**P**	**09 14 44.4**	**+1.9**
	baz=21						
ARMA	**Armidale**	**20.69**	**223**	P	**P**	**09 14 42.9**	**+0.5**
CTA	**Charters Tower**	**20.94**	**255**	P	**P**	**09 14 44.8**	**-0.2**
	comp=Z,31nm,0.7s,baz=85,slow=12,SNR=41						
CTAO	**Charters Tower**	**20.94**	**255**	P	**P**	**09 14 45.8**	**+0.7**
CTAO				IAmb	IAmb	09 14 48.8	
	comp=Z,72nm,1.1s						
PMG	**Port Moresby**	**21.19**	**285**	LR	LR	09 21 26.7	
	comp=Z,363nm,21.2s,baz=60,slow=32						
MTSU	**Mount Surprise**	**22.60**	**261**	P	**P**	**09 15 03.3**	**+1.2**
	baz=22						
MGCD	**Mangrove Creek**	**22.90**	**218**	P	**P**	**09 15 06.0**	**+1.3**
	baz=23						
URZ	**Urewera**	**23.68**	**162**	P	**P**	**09 15 13.4**	**+1.6**
URZ				IAmb	IAmb	09 15 15.8	
	comp=Z,45nm,0.9s						
COEN	**Coen**	**23.91**	**271**	P	**P**	**09 15 14.7**	**+0.5**
	baz=24						
COEN	**Coen**	**23.91**	**271**	P	**P**	**09 15 14.0**	**-0.1**
COEN				IAmb	IAmb	09 15 16.8	
	comp=Z,66nm,1.0s						
BKZ	**Black Stump Fm**	**24.34**	**164**	P	**P**	**09 15 18.9**	**+1.1**
QLP	**Quilpie**	**24.37**	**240**	P	**P**	**09 15 19.0**	**+0.8**
	baz=24						
PATS	**Pohnpei**	**24.52**	**337**	P	**P**	**09 15 21.0**	**+1.3**
	baz=25,SNR=10						
QRZ	**Quartz Range**	**25.12**	**172**	P	**P**	**09 15 26.1**	**+1.3**
QRZ				IAmb	IAmb	09 15 27.9	
	comp=Z,75nm,1.1s						
YNG	**Young**	**25.30**	**220**	P	**P**	**09 15 27.6**	**+1.1**
	baz=25						
CNB	**Canberra Magne**	**25.41**	**217**	P	**P**	**09 15 28.4**	**+0.9**
	baz=25						
CMSA	**Cobar Meteorol**	**25.46**	**229**	P	**P**	**09 15 28.3**	**+0.3**
	baz=25						
CAN	**Canberra**	**25.62**	**218**	P	**P**	**09 15 30.6**	**+1.1**
BFZ	**Birch Farm**	**25.70**	**165**	P	**P**	**09 15 30.3**	**+0.2**
BFZ				IAmb	IAmb	09 15 33.3	
	comp=Z,24nm,0.8s						
TUWZ	**Tuamarina**	**25.94**	**169**	P	**P**	**09 15 33.2**	**+1.1**
SNZO	**South Karori**	**25.96**	**168**	P	**P**	**09 15 34.7**	**+2.4**
THZ	**Tophouse**	**26.09**	**171**	P	**P**	**09 15 34.6**	**+1.0**
MSWZ	**Moikau Station**	**26.18**	**167**	P	**P**	**09 15 34.9**	**+0.5**
BSWZ	**Blackbirch Sta**	**26.20**	**170**	P	**P**	**09 15 36.4**	**+1.9**
KHZ	**Kahutara**	**26.83**	**171**	P	**P**	**09 15 40.4**	**+0.3**
KHZ				IAmb	IAmb	09 15 41.6	
	comp=Z,29nm,1.0s						
LTZ	**Lake Taylor**	**27.01**	**173**	P	**P**	**09 15 42.8**	**+1.0**
QIS	**Mount Isa**	**27.19**	**256**	P	**P**	**09 15 44.0**	**+0.3**
	baz=27						
OXZ	**Oxford**	**27.52**	**173**	IAmb	IAmb	09 15 47.5	
	comp=Z,31nm,0.7s						
FOZ	**Fox Glacier**	**27.55**	**177**	P	**P**	**09 15 47.7**	**+1.2**
FOZ				IAmb	IAmb	09 15 49.0	
	comp=Z,50nm,0.9s						
RPZ	**Rata Peaks**	**27.81**	**175**	P	**P**	**09 15 48.7**	**-0.2**
	comp=Z,26nm,0.6s,baz=287,slow=1.5,SNR=24						
RPZ	**Rata Peaks**	**27.81**	**175**	P	**P**	**09 15 50.0**	**+1.1**
RPZ				IAmb	IAmb	09 15 51.1	
	comp=Z,28nm,0.7s						
LBZ	**Lake Benmore**	**28.42**	**176**	P	**P**	**09 15 55.0**	**+0.7**
LBZ				IAmb	IAmb	09 15 56.2	
	comp=Z,30nm,0.8s						
STKA	**Stephens Creek**	**28.66**	**232**	P	**P**	**09 15 56.5**	**0.0**
	comp=Z,27nm,0.8s,baz=55,slow=7.1,SNR=16						
STKA				PcP	**PcP**	**09 19 03.2**	**-0.3**
	comp=Z,4.2nm,0.6s,baz=79,slow=3.9,SNR=5.4						
ODZ	**Otahua Downs**	**29.10**	**176**	P	**P**	**09 16 00.2**	**-0.1**
DCZ	**Deep Cove**	**29.43**	**181**	P	**P**	**09 16 04.6**	**+1.3**
DCZ				IAmb	IAmb	09 16 04.8	
	comp=Z,30nm,1.0s						
HTT	**Hallett**	**31.37**	**231**	P	**P**	**09 16 21.3**	**+0.8**
	baz=31,SNR=8.0						
WR0	**Warramunga Arr**	**31.90**	**258**	P	**P**	**09 16 24.2**	**-1.1**
WR0				IAmb	IAmb	09 16 24.9	
	comp=Z,26nm,1.2s						
WB0	**Warramunga Arr**	**32.04**	**258**	IAmb	IAmb	09 16 26.6	
	comp=Z,46nm,1.2s						
WB2	**Warramunga Arr**	**32.08**	**258**	P	**P**	**09 16 25.8**	**-1.1**
WB2				IAmb	IAmb	09 16 27.0	
	comp=Z,30nm,1.1s						
WRAB	**Tennant Creek**	**32.08**	**258**	P	**P**	**09 16 25.5**	**-1.4**
WRAB				IAmb	IAmb	09 16 27.0	
	comp=Z,35nm,1.2s						
WRA	**Warramunga Arr**	**32.09**	**258**	P	**P**	**09 16 25.7**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=83,slow=7.4,SNR=41						
WRA				PcP	**PcP**	**09 19 12.9**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=88,slow=2.8,SNR=4.7						
WRA				ScP	**ScP**	**09 22 43.1**	**+1.0**
	comp=Z,1.9nm,0.9s,baz=88,slow=3.5,SNR=4.3						
WRA				LR	LR	09 30 02.9	
	comp=Z,159nm,19.1s,baz=115,slow=37						
WRA	**Warramunga Arr**	**32.09**	**258**	P	**P**	**09 16 25.1**	**-1.9**
ASAR	**Alice Springs**	**32.78**	**251**	P	**P**	**09 16 32.5**	**-0.5**
	comp=Z,26nm,0.7s,baz=80,slow=8.8,SNR=249						
ASAR				PcP	**PcP**	**09 19 14.8**	**+0.1**
	comp=Z,3.4nm,0.7s,baz=84,slow=2.6,SNR=6.5						
ASAR				ScP	**ScP**	**09 22 44.5**	**-0.1**
	comp=Z,3.5nm,1.0s,baz=95,slow=3.0,SNR=10.0						
ASAR				LR	LR	09 27 56.2	
	comp=Z,263nm,19.8s,baz=83,slow=32						
ASAR	**Alice Springs**	**32.78**	**251**	P	**P**	**09 16 31.5**	**-1.5**
BBOO	**Buckleboo**	**33.29**	**234**	P	**P**	**09 16 37.9**	**+0.6**
	baz=33,SNR=7.3						
FAKI	**Fak Fak**	**37.34**	**287**	P	**P**	**09 17 11.0**	**-1.1**
FAKI				IAmb	IAmb	09 17 12.8	
	comp=Z,44nm,1.4s						
KNRA	**Kununurra**	**37.57**	**265**	P	**P**	**09 17 13.4**	**-0.6**
	baz=38						
WRKA	**Warakurna**	**38.02**	**250**	P	**P**	**09 17 17.5**	**-0.3**
	baz=38,SNR=33						
FORT	**Forrest**	**39.17**	**241**	P	**P**	**09 17 27.9**	**+0.6**
	baz=39						
FORT	**Forrest**	**39.17**	**241**	P	**P**	**09 17 27.0**	**-0.2**
FITZ	**Fitzroy Crossi**	**40.35**	**261**	P	**P**	**09 17 37.0**	**-0.1**
	comp=Z,23nm,0.7s,baz=79,slow=8.5,SNR=48						
FITZ	**Fitzroy Crossi**	**40.35**	**261**	P	**P**	**09 17 36.1**	**-1.0**
SANI	**Sanana**	**43.47**	**284**	P	**P**	**09 18 01.6**	**-0.9**
	comp=Z,642nmcomp=Z,16nm,0.9s						
PSA00	**Pilbara Seismi**	**45.66**	**255**	P	**P**	**09 18 19.5**	**-0.3**
PSA00				IAmb	IAmb	09 18 21.2	
	comp=Z,59nm,1.3s						
KCP	**Kidapawan**	**48.08**	**295**	*i* P	**P**	**09 18 39.9**	**+1.1**
KAPI	**Kappang**	**48.41**	**278**	P	**P**	**09 18 41.2**	**0.0**
	comp=Z,5.4nm,0.3s,baz=145,slow=6.4,SNR=4.3						
KAPI	**Kappang**	**48.41**	**278**	IAmb	IAmb	09 18 42.5	
	comp=Z,36nm,1.4s						
NWAO	**Narrogin (SRO)**	**48.61**	**240**	P	**P**	**09 18 42.7**	**+0.1**
	comp=Z,44nm,0.9s,baz=100,slow=5.2,SNR=12						
NWAO				pP	**pP**	**09 19 16.8**	**+0.6**
	comp=Z,20nm,0.9s,baz=83,slow=7.9,SNR=3.2						
NWAO	**Narrogin (SRO)**	**48.61**	**240**	P	**P**	**09 18 42.5**	**0.0**
MORW	**Morawa**	**49.25**	**245**	P	**P**	**09 18 47.4**	**0.0**
MUN	**Mundaring**	**49.36**	**241**	P	**P**	**09 18 48.1**	**-0.1**
	baz=49,SNR=4.6						
MPSI	**Mapaga**	**50.00**	**284**	P	**P**	**09 18 53.1**	**-0.2**
	comp=Z,30nm,1.0s						
MJAR	**Matsushiro Arr**	**59.23**	**332**	P	**P**	**09 19 59.4**	**-0.1**
	comp=Z,14nm,0.8s,baz=169,slow=8.2,SNR=29						
MJAR				pP	**pP**	**09 20 34.5**	**-0.3**
	comp=Z,7.3nm,0.8s,baz=170,slow=8.2,SNR=4.9						
MJAR	**Matsushiro Arr**	**59.23**	**332**	P	**P**	**09 19 59.2**	**-0.2**
MAJO	**Matsushiro**	**59.24**	**332**	P	**P**	**09 19 59.4**	**0.0**
MAJO				IAmb	IAmb	09 20 00.6	
	comp=Z,15nm,0.8s						
MAT	**Matsushiro**	**59.24**	**332**	P	**P**	**09 19 59.0**	**-0.4**
MAT				*e*S	S	09 28 13.2	+18
MJB9	**Matsu-Tunnel**	**59.24**	**332**	P	**P**	**09 19 59.6**	**+0.1**
MJB9				IAmb	IAmb	09 20 00.5	
	comp=Z,16nm,0.8s						
LEM	**Lembang**	**59.56**	**271**	P	**P**	**09 20 02.2**	**-0.2**
	comp=Z,52nm,0.6s,baz=145,slow=21,SNR=4.4						
JNU	**Nakatsue**	**60.23**	**324**	P	**P**	**09 20 07.2**	**+0.9**
	comp=Z,14nm,0.8s,baz=108,slow=1.6,SNR=16						
JNU				pP	**pP**	**09 20 41.5**	**-0.5**
	comp=Z,12nm,0.7s,baz=59,slow=3.1,SNR=5.0						
JNU				LR	LR	09 44 03.8	
	comp=Z,45nm,19.4s,baz=164,slow=34						
JNU	**Nakatsue**	**60.23**	**324**	P	**P**	**09 20 06.6**	**+0.3**
JNU				IAmb	IAmb	09 20 08.0	
	comp=Z,15nm,0.8s						
SSLB	**Suanglung**	**60.48**	**310**	P	**P**	**09 20 08.1**	**-0.1**
VNDA	**Vanda**	**61.67**	**181**	P	**P**	**09 20 16.1**	**+0.8**
	comp=Z,8.6nm,0.7s,baz=0.0,slow=7.2,SNR=51						
VNDA	**Vanda**	**61.67**	**181**	P	**P**	**09 20 15.8**	**+0.5**
CASY	**Casey**	**62.62**	**203**	P	**P**	**09 20 22.1**	**+0.3**
ASAJ	**Asahikawa**	**64.07**	**340**	P	**P**	**09 20 32.4**	**+0.8**
	comp=Z,6.1nm,0.7s,baz=213,slow=8.1,SNR=6.8						
ASAJ				pP	**pP**	**09 21 08.1**	**+0.6**
	comp=Z,23nm,0.9s,baz=229,slow=9.3,SNR=8.1						
KSRS	**Korea Array**	**65.05**	**326**	P	**P**	**09 20 39.5**	**+1.4**
	comp=Z,3.1nm,0.8s,baz=141,slow=7.1,SNR=18						
KSRS				pP	**pP**	**09 21 14.8**	**+0.7**
	comp=Z,4.1nm,1.0s,baz=145,slow=6.7,SNR=4.9						
KSAR	**Wonju Array Be**	**65.06**	**326**	P	**P**	**09 20 38.9**	**+0.7**
NJ2	**Nanjing**	**66.93**	**316**	*e*P	**P**	**09 20 52.8**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
USRK	**Ussuriysk Ar.**	**68.22**	**333**	P	**P**	**09 20 59.1**	**+1.1**
	comp=Z,9.3nm,0.8s,baz=135,slow=4.9,SNR=24						
USRK				pP	**pP**	**09 21 35.8**	**+1.7**
	comp=Z,16nm,1.1s,baz=146,slow=4.4,SNR=6.0						
USRK	**Ussuriysk Ar.**	**68.22**	**333**	P	**P**	**09 20 58.7**	**+0.7**
PETK	**Petropavlovsk-**	**69.32**	**353**	P	**P**	**09 21 05.3**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=302,slow=8.5,SNR=3.6						
PETK				pP	**pP**	**09 21 42.1**	**+0.4**
	comp=Z,4.8nm,0.8s,baz=143,slow=8.7,SNR=5.9						
PETK				LR	LR	09 48 17.6	
	comp=Z,48nm,19.3s,baz=226,slow=33						
PETK	**Petropavlovsk-**	**69.32**	**353**	P	**P**	**09 21 02.3**	**-2.4**
MDJ	**Mudanjiang**	**69.61**	**332**	P	**P**	**09 21 07.9**	**+1.2**
MDJ				pmax	pmax		
	comp=Z,22nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,45nm,5.4s						
CN2	**Changchun**	**70.97**	**329**	*e*P	**P**	**09 21 14.0**	**-0.9**
CN2				*e*pP	pP	09 21 48.4	-3.2
CN2				*e*S	**S**	**09 30 17.0**	**-1.3**
CN2				pmax	pmax		
	comp=Z,20nm,0.7s						
CN2				pmax	pmax		
	comp=Z,50nm,6.0s						
KLR	**Kul'dur**	**72.34**	**336**	P	**P**	**09 21 23.2**	**+0.2**
	comp=Z,4.9nm,0.7s,baz=117,slow=5.3,SNR=12						
KLR				pP	**pP**	**09 22 00.7**	**+1.0**
	comp=Z,6.8nm,1.0s,baz=131,slow=4.1,SNR=4.3						
KLR				LR	LR	09 48 44.4	
	comp=Z,26nm,21.6s,baz=156,slow=32						
BJI	**Beijing**	**73.56**	**321**	P	**P**	**09 21 31.9**	**+1.5**
BJI				S	**S**	**09 30 51.3**	**+3.4**
BJI				sS	**sS**	**09 31 51.0**	**-0.6**
BJI				pmax	pmax		
	comp=Z,12nm,0.6s						
BJI				LR	LR		
	comp=Z,76nm,9.5s						
BJI				LR	LR		
	comp=Z,70nm,9.5s						
QSPA	**South Pole Qui**	**74.09**	**180**	P	**P**	**09 21 33.9**	**+0.6**
	comp=Z,49nm,0.8s,baz=5.6,slow=1.3,SNR=175						
XAN	**Xi'an**	**74.92**	**313**	P	**P**	**09 21 39.0**	**+0.5**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CMAR	**Chiang Mai Arr**	**75.95**	**294**	P	**P**	**09 21 45.7**	**+1.1**
	comp=Z,2.2nm,0.7s,baz=132,slow=5.3,SNR=6.2						
CMAR				pP	**pP**	**09 22 22.2**	**+0.1**
	comp=Z,6.7nm,1.1s,baz=122,slow=4.4,SNR=3.7						
CMAR				LR	LR	09 56 17.4	
	comp=Z,28nm,19.2s,baz=130,slow=36						
RPN	**Rapa Nui**	**76.65**	**115**	LR	LR	09 50 47.3	
	comp=Z,19nm,19.8s,baz=135,slow=32						
HHC	**Hu-ho-hao-te**	**76.87**	**320**	*e*P	**P**	**09 21 51.3**	**+1.8**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,21nm,5.6s						
CD2	**Chengdu**	**77.19**	**308**	P	**P**	**09 21 51.1**	**-0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LZH	**Lanzhou**	**79.55**	**312**	*e*P	**P**	**09 22 06.8**	**+2.4**
LZH				pP	pP	09 22 43.4	+1.3
LZH				pmax	pmax		
	comp=Z,22nm,1.2s						
YAK	**Yakutsk**	**83.35**	**343**	pP	pP	09 23 01.7	+0.4
	comp=Z,12nm,0.5s,baz=255,slow=0.4,SNR=1.6						
ULN	**Ulaanbaatar**	**83.44**	**324**	P	**P**	**09 22 25.2**	**+0.6**
SONM	**Songino Array**	**83.80**	**323**	P	**P**	**09 22 27.0**	**+0.6**
	comp=Z,5.6nm,0.9s,baz=119,slow=3.2,SNR=19						
SONM				pP	**pP**	**09 23 05.2**	**+1.2**
	comp=Z,6.9nm,1.0s,baz=136,slow=4.5,SNR=7.3						
SONM				LR	LR	10 01 56.5	
	comp=Z,31nm,18.1s,baz=111,slow=37						
SONM	**Songino Array**	**83.80**	**323**	P	**P**	**09 22 26.0**	**-0.4**
GTA	**Gaotai**	**83.91**	**314**	*e*P	**P**	**09 22 29.1**	**+2.0**
GTA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YBH	**Yreka Blue Hor**	**85.89**	**45**	pP	pP	09 23 16.5	+1.2
	comp=Z,3.4nm,0.9s,baz=196,slow=1.9,SNR=5.2						
ILAR	**Eielson Array**	**87.51**	**18**	P	**P**	**09 22 42.4**	**-1.8**
	comp=Z,1.0nm,0.6s,baz=239,slow=4.9,SNR=17						
ILAR				pP	**pP**	**09 23 23.0**	**+0.7**
	comp=Z,2.8nm,0.8s,baz=235,slow=5.8,SNR=8.8						
ILAR				LR	LR	09 57 10.4	
	comp=Z,71nm,20.2s,baz=224,slow=32						
NVAR	**Mina Array Bea**	**87.64**	**49**	P	**P**	**09 22 45.7**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=234,slow=11,SNR=5.1						
NVAR				pP	**pP**	**09 23 24.7**	**+0.3**
	comp=Z,4.3nm,1.0s,baz=226,slow=7.5,SNR=9.2						
NVAR				PKKPbc	**PKKPbc**	**09 40 35.1**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=92,slow=3.2,SNR=5.2						
NVAR				LR	LR	09 55 23.0	
	comp=Z,59nm,20.0s,baz=198,slow=31						
NVAR	**Mina Array Bea**	**87.64**	**49**	P	**P**	**09 22 46.4**	**+0.8**
SYO	**Syowa Base**	**87.70**	**196**	*i* P	**P**	**09 22 44.0**	**-1.1**
SYO	**Syowa Base**	**87.70**	**196**	*i* ePcP	**PcP**	**09 22 47.0**	**+0.1**
U15A	**North Rim**	**91.42**	**53**	P	**P**	**09 23 04.5**	**+1.1**
SNAA	**Sanae**	**92.37**	**183**	P	**P**	**09 23 06.4**	**-0.5**
SNAA	**Sanae**	**92.37**	**183**	P	**P**	**09 23 06.2**	**-0.7**
VNA3	**Neumayer Olymp**	**93.01**	**181**	P	**P**	**09 23 09.3**	**-0.6**
VNA2	**Neumayer--Watz**	**93.29**	**182**	P	**P**	**09 23 11.2**	**+0.1**
	baz=180,slow=3.3						
VNA1	**Neumayer--Stat**	**93.58**	**181**	P	**P**	**09 23 12.0**	**-0.4**
WMQ	**Urumqi**	**93.97**	**314**	*e*P	**P**	**09 23 16.1**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,20nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,110nm,4.5s						
TXAR	**Lajitas Array**	**96.37**	**61**	pP	pP	09 24 05.5	+1.0
	comp=Z,0.4nm,0.8s,baz=233,slow=4.0,SNR=4.2						
YKA	**Yellowknife Ar**	**98.37**	**27**	pP	**pP**	**09 24 10.6**	**-1.9**
	comp=Z,1.4nm,0.9s,baz=230,slow=5.4,SNR=2.9						
YKA				PKiKP	**PKiKP**	**09 28 03.8**	**-1.8**
	comp=Z,0.5nm,0.9s,baz=207,slow=2.6,SNR=3.9						
YKA				LR	LR	10 05 02.5	
	comp=Z,24nm,18.5s,baz=0.0,slow=33						
MKAR	**Makanchi Array**	**98.46**	**316**	P	**P**	**09 23 34.0**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=94,slow=5.8,SNR=4.7						
MKAR				pP	**pP**	**09 24 12.3**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=93,slow=6.6,SNR=7.5						
MKAR				PKKPbc	**PKKPbc**	**09 40 03.5**	**-2.8**
	comp=Z,0.7nm,0.7s,baz=282,slow=3.6,SNR=7.3						
MKAR	**Makanchi Array**	**98.46**	**316**	P	Pdif	09 23 36.8	+1.7
ZALV	**Zalesovo Beam**	**98.69**	**324**	P	**P**	**09 23 33.9**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=88,slow=4.5,SNR=2.0						
ZALV				pP	**pP**	**09 24 12.6**	**-1.6**
	comp=Z,2.5nm,0.7s,baz=123,slow=5.5,SNR=4.1						
KURBB	**Kurchatov Arra**	**101.72**	**319**	PKKPbc	PKKPbc	09 39 55.6	-1.5
	comp=Z,0.5nm,0.3s,baz=284,slow=3.2,SNR=5.7						
ARCES	**ARCESS Array B**	**121.56**	**345**	PKP	**PKPdf**	**09 28 47.0**	**-1.9**
	comp=Z,1.9nm,0.6s,baz=81,slow=2.6,SNR=14						
ARCES				pPKP	**pPKPdf**	**09 29 28.7**	**-0.1**
	comp=Z,2.9nm,0.6s,baz=20,slow=1.4,SNR=3.9						
ARCES				PKKPbc	**PKKPab**	**09 38 48.6**	**-0.7**
	comp=Z,3.2nm,0.7s,baz=292,slow=3.8,SNR=7.1						
BOSA	**Boshof**	**122.80**	**219**	PKP	**PKPdf**	**09 28 52.0**	**-0.8**
	comp=Z,5.2nm,0.8s,baz=133,slow=1.1,SNR=9.6						
BOSA	**Boshof**	**122.80**	**219**	PKPdf	**PKiKP**	**09 28 53.2**	**+0.3**
RAYN	**Ar Rayn**	**125.50**	**288**		**PKPdf**	**09 28 57.2**	**-0.7**
FINES	**FINESS Array B**	**127.05**	**338**	PKP	**PKPdf**	**09 28 59.8**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=85,slow=2.

Ms1 3.4/2,ms1mx2.5/48, Error ellipse: s-maj=37.1km s-min=17.1km az=56.0

ISC 23 09:27:40.3±1.1, 39.0N±0.2×106.0E±0.2, h35km, n10, σ0.96/8, mb3.8/4, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**8.81**	**2**	**P**	**Pn**	**09 29 45.4**	**+0.2**
	0.3nm,0.3s,baz=183,slow=19,SNR=3.3						
SONM				Lg	Lg	09 32 14.8	
	0.4nm,0.3s,baz=188,slow=30,SNR=4.1						
TLY	**Talaya**	**12.76**	**353**	LR	LR	09 35 18.5	
	comp=Z,28nm,20.5s,baz=114,slow=36						
KSRS	**Korea Array**	**17.30**	**88**	**P**	**P**	**09 31 39.8**	**-0.3**
	baz=290,slow=12,SNR=1.7						
MKAR	**Makanchi Array**	**18.97**	**302**	P	**Pn**	**09 31 58.5**	**-0.8**
	0.1nm,0.3s,baz=101,slow=13,SNR=4.8						
ZALV	**Zalesovo Beam**	**20.74**	**323**	P	**P**	**09 32 16.9**	**-0.8**
	0.9nm,0.6s,baz=117,slow=11,SNR=4.0						
KURBB	**Kurchatov Arra**	**22.53**	**310**	P	**P**	**09 32 36.3**	**-0.6**
	1.7nm,0.6s,baz=108,slow=12,SNR=7.1						
BVAR	**Borovoye Array**	**28.07**	**312**	P	**P**	**09 33 29.8**	**+1.6**
	1.0nm,0.5s,baz=115,slow=10,SNR=6.4						
LEM	**Lembang**	**45.64**	**178**	LR	LR	09 55 17.2	
	comp=Z,216nm,19.2s,baz=176,slow=36						
WRA	**Warramunga Arr**	**64.39**	**150**	P	**P**	**09 38 12.3**	**-0.5**
	0.7nm,0.8s,baz=340,slow=7.0,SNR=2.1						
ASAR	**Alice Springs**	**67.62**	**152**	P	**P**	**09 38 33.9**	**+0.4**
	0.7nm,0.5s,baz=336,slow=6.5,SNR=17						

IDC 23 09:35:34.6±2.5, 10.7S×120.8E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.4/45, mbtmp3.4/4, ML3.1/3, Error ellipse: s-maj=203.7km s-min=27.4km az=52.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.08**	**144**	Pn	Pn	09 37 48.1	+1.0
	0.2nm,0.3s,baz=315,slow=11,SNR=8.6						
FITZ				Sn	Sn	09 39 21.0	-9.2
	0.2nm,0.3s,baz=128,slow=13,SNR=1.6						
WRA	**Warramunga Arr**	**16.51**	**125**	Pn	Pn	09 39 26.2	-1.6
	0.1nm,0.3s,baz=296,slow=13,SNR=3.1						
ASAR	**Alice Springs**	**18.41**	**136**	P	Pn	09 39 51.5	0.0
	0.1nm,0.3s,baz=311,slow=12,SNR=5.4						
MKAR	**Makanchi Array**	**66.48**	**333**	P	P	09 46 26.1	0.0
	0.3nm,0.5s,baz=147,slow=7.2,SNR=4.0						

*NEIC **23** 09:35:48.5±2.9, 34.20S±0.07×179.2W±0.1, h10km±1km, mb4.7/25, Error ellipse: s-maj=17.7km s-min=10.4km az=110.0*

*WEL **23** 09:35:50.2±0.5, 34.3×17.9W±, h33km, M5.0/16, mB5.4/6, ML5.2/16, MLv5.1/16, Mw(mB)4.9/6*

*IDC **23** 09:35:54.1±4.0, 34.03S×179.39W, h40km±34km, mb4.1/12, mb1 4.3/13, mb1mx4.1/32, mbtmp4.4/13, ML4.9/1, MS3.7/18, Ms1 3.8/18, ms1mx3.6/33, Error ellipse: s-maj=20.2km s-min=17.7km az=60.0*

ISC 23 09:35:54.4±0.4, 34.25S±0.05×179.16W±0.07, h50km, n170, σ2.30/144, mb4.7/24, MS3.8/21, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.90**	**211**	P	**Pn**	**09 36 50.4**	**-1.4**
MXZ				S	**Sn**	**09 37 37.7**	**+1.5**
MXZ	**Matakaoa Point**	**3.90**	**211**	Pn	**Pn**	**09 36 50.4**	**-1.4**
WMGZ	**Waiomatatini S**	**4.07**	**208**	P	**Pn**	**09 36 53.9**	**-0.2**
PKGZ	**Pakihiroa**	**4.27**	**211**	P	**Pn**	**09 36 56.0**	**-0.9**
PKGZ				S	**Sn**	**09 37 45.6**	**+0.2**
HAZ	**Te Kaha**	**4.29**	**214**	P	**Pn**	**09 36 56.5**	**-0.7**
HAZ				S	**Sn**	**09 37 49.4**	**+3.5**
PUZ	**Puketiti**	**4.35**	**208**	P	**Pn**	**09 36 57.2**	**-0.9**
PUZ				S	**Sn**	**09 37 45.9**	**-1.6**
RUGZ	**Raukumara Rang**	**4.51**	**214**	P	**Pn**	**09 36 59.2**	**-1.1**
RUGZ				S	**Sn**	**09 37 52.1**	**+0.6**
CNGZ	**Carnagh Statio**	**4.73**	**206**	P	**Pn**	**09 37 02.1**	**-1.1**
CNGZ				S	**Sn**	**09 37 57.9**	**+1.1**
WHRZ	**Whale Island**	**4.77**	**220**	P	**Pn**	**09 37 03.6**	**-0.3**
WHRZ				S	**Sn**	**09 37 59.3**	**+1.5**
TKGZ	**Te Karaka**	**4.83**	**209**	P	**Pn**	**09 37 02.7**	**-1.8**
TKGZ				S	**Sn**	**09 37 58.5**	**-0.7**
GRZ	**Great Barrier**	**4.84**	**244**	P	**Pn**	**09 37 04.2**	**-0.4**
KUZ	**Kuaotunu**	**4.86**	**238**	P	**Pn**	**09 37 05.8**	**+0.8**
MWZ	**Matawai**	**4.88**	**212**	P	**Pn**	**09 37 03.6**	**-1.7**
MWZ				S	**Sn**	**09 37 59.4**	**-1.1**
OPRZ	**Ohinepanea**	**5.00**	**223**	P	**Pn**	**09 37 06.2**	**-0.6**
URZ	**Urewera**	**5.01**	**216**	P	**Pn**	**09 37 05.4**	**-1.7**
URZ				S	**Sn**	**09 38 02.1**	**-1.6**
URZ	**Urewera**	**5.01**	**216**	Pn	**Pn**	**09 37 05.6**	**-1.5**
MARZ	**Manawahe**	**5.03**	**221**	P	**Pn**	**09 37 06.8**	**-0.5**
RAGZ	**Rawiri**	**5.06**	**212**	P	**Pn**	**09 37 06.2**	**-1.7**
RAGZ				S	**Sn**	**09 38 05.2**	**+0.2**
GLKZ	**Green Lake**	**5.08**	**12**	P	Pn	09 37 02.5	-5.5
GLKZ				S	**Sn**	**09 37 59.2**	**-6.2**
EDRZ	**Edgecumbe**	**5.08**	**220**	P	**Pn**	**09 37 09.2**	**+1.1**
RAO	**Raoul Island**	**5.09**	**12**	Pn	Pn	09 37 04.3	-3.9
	48nm,0.3s,baz=75,slow=20,SNR=2.6						
RAO				Sn	**Sn**	**09 38 00.1**	**-5.5**
	39nm,0.3s,baz=85,slow=23,SNR=1.6						
RIGZ	**Rimuhau**	**5.09**	**208**	P	**Pn**	**09 37 05.2**	**-3.1**
RIZ	**Raoul Island**	**5.09**	**12**	S	**Sn**	**09 38 02.7**	**-3.1**
PRGZ	**Paritu Road**	**5.24**	**206**	P	**Pn**	**09 37 08.0**	**-2.2**
MKRZ	**Makatiti**	**5.25**	**221**	P	**Pn**	**09 37 11.1**	**+0.7**
OMRZ	**Omania**	**5.28**	**222**	P	**Pn**	**09 37 11.9**	**+1.0**
TARZ	**Mount Tarawera**	**5.30**	**220**	P	**Pn**	**09 37 12.2**	**+1.1**
WIAZ	**Waiheke Island**	**5.30**	**240**	P	**Pn**	**09 37 13.4**	**+2.4**
SNGZ	**Shannon Statio**	**5.33**	**211**	P	**Pn**	**09 37 09.7**	**-1.7**
MUGZ	**Murupara**	**5.35**	**217**	P	**Pn**	**09 37 09.6**	**-2.1**
RTZ	**Ruatahuna**	**5.36**	**214**	P	**Pn**	**09 37 10.4**	**-1.5**
HLRZ	**Highlands Stat**	**5.40**	**221**	P	**Pn**	**09 37 13.0**	**+0.6**
MKAZ	**Moumakai**	**5.43**	**237**	P	**Pn**	**09 37 14.4**	**+1.6**
WCZ	**Waipu Caves**	**5.59**	**251**	P	**Pn**	**09 37 17.2**	**+2.2**
BKZ	**Black Stump Fm**	**6.03**	**214**	P	**Pn**	**09 37 18.0**	**-3.0**
BKZ	**Black Stump Fm**	**6.03**	**214**	Pn	**Pn**	**09 37 18.1**	**-3.0**
OUZ	**Omahuta**	**6.04**	**259**	P	**Pn**	**09 37 22.3**	**+1.1**
OUZ	**Omahuta**	**6.04**	**259**	Pn	**Pn**	**09 37 22.0**	**+0.8**
RATZ	**Rangitukua**	**6.16**	**220**	P	**Pn**	**09 37 21.6**	**-1.2**
KWHZ	**Kaweka Forest**	**6.26**	**213**	P	**Pn**	**09 37 21.5**	**-2.8**
KAHZ	**Kahuranaki**	**6.38**	**209**	P	**Pn**	**09 37 22.2**	**-3.7**
HIZ	**Hauiti**	**6.44**	**227**		**Pn**	**09 37 26.6**	**-0.1**
BHHZ	**Black Hill Sta**	**6.48**	**215**	P	**Pn**	**09 37 24.9**	**-2.4**
FWVZ	**Far West T-bar**	**6.56**	**219**	P	**Pn**	**09 37 27.5**	**-0.9**
WHVZ	**Whangaehu Hut**	**6.56**	**218**	P	**Pn**	**09 37 26.9**	**-1.6**
MOVZ	**Moawhango**	**6.57**	**217**	P	**Pn**	**09 37 26.1**	**-2.4**
PXZ	**Pawanui**	**6.59**	**208**	P	**Pn**	**09 37 25.3**	**-3.4**
BFZ	**Birch Farm**	**7.39**	**208**		**Pn**	**09 37 35.3**	**-4.3**
PRWZ	**Pori Road**	**7.39**	**210**	P	**Pn**	**09 37 37.0**	**-2.7**
TIWZ	**Tintock**	**7.61**	**210**	P	**Pn**	**09 37 39.9**	**-2.9**
TRWZ	**Traveller**	**8.22**	**208**	P	Pn	09 37 45.2	-5.8
MSWZ	**Moikau Station**	**8.41**	**210**	Pn	**Pn**	**09 37 50.9**	**-2.8**
MSWZ					**Sn**	**09 39 19.6**	**-7.6**
PLWZ	**Palliser**	**8.54**	**209**	Pn	**Pn**	**09 37 52.2**	**-3.2**
PLWZ					**Sn**	**09 39 22.2**	**-8.2**
BHW	**Baring Head**	**8.57**	**212**	Pn	**Pn**	**09 37 54.0**	**-1.8**
TUWZ	**Tuamarina**	**9.01**	**215**		**Pn**	**09 37 57.6**	**-4.2**
NNZ	**Nelson**	**9.13**	**218**	Pn	**Pn**	**09 37 59.5**	**-3.9**
BSWZ	**Blackbirch Sta**	**9.26**	**214**	Pn	**Pn**	**09 38 02.1**	**-3.2**
QRZ	**Quartz Range**	**9.31**	**223**	Pn	**Pn**	**09 38 03.9**	**-2.0**
THZ	**Tophouse**	**9.77**	**217**	P	Pn	09 38 07.0	-5.3
THZ	**Tophouse**	**9.77**	**217**	Pn	**Pn**	**09 38 07.7**	**-4.6**
KHZ	**Kahutara**	**9.97**	**213**	P	Pn	09 38 09.3	-5.6
KHZ	**Kahutara**	**9.97**	**213**	Pn	**Pn**	**09 38 12.4**	**-2.5**
LTZ	**Lake Taylor**	**10.84**	**216**	Pn	**Pn**	**09 38 22.9**	**-4.1**
INZ	**Inchbonnie**	**11.21**	**218**	P	Pn	09 38 27.0	-4.9
OKCZ	**Okains Bay**	**11.23**	**210**	P	Pn	09 38 26.5	-5.7
OXZ	**Oxford**	**11.37**	**215**		**Pn**	**09 38 29.7**	**-4.3**
MQZ	**McQueen's Vall**	**11.39**	**212**	Pn	Pn	09 38 29.0	-5.3
RPZ	**Rata Peaks**	**12.13**	**216**	Pn	Pn	09 38 38.2	-6.3
	2.6nm,0.3s,baz=24,slow=3.5,SNR=9.4						
RPZ				Sn	Sn	09 40 45.4	-13
	2.5nm,0.3s,baz=299,slow=22,SNR=10						
RPZ	**Rata Peaks**	**12.13**	**216**	Pn	**Pn**	**09 38 40.1**	**-4.4**
FOZ	**Fox Glacier**	**12.63**	**220**	Pn	**Pn**	**09 38 47.1**	**-4.1**
LBZ	**Lake Benmore**	**13.05**	**216**	P	Pn	09 38 51.9	-5.2
LBZ	**Lake Benmore**	**13.05**	**216**	Pn	**Pn**	**09 38 52.8**	**-4.3**
ODZ	**Otahua Downs**	**13.33**	**213**	Pn	Pn	09 38 55.5	-5.3
JCZ	**Jackson Bay**	**13.54**	**220**	P	Pn	09 38 58.8	-5.0
WKZ	**Wanaka**	**13.94**	**217**	Pn	**Pn**	**09 39 06.5**	**-2.7**
MLZ	**Mavora Lakes**	**14.78**	**217**	Pn	**Pn**	**09 39 17.5**	**-2.8**
DCZ	**Deep Cove**	**15.34**	**219**		**Pn**	**09 39 28.1**	**+0.6**
MSVF	**Nonsavu**	**16.63**	**351**	P	**Pn**	**09 39 44.5**	**+0.3**
DZM	**Mont Dzumac**	**17.53**	**310**	P	**P**	**09 39 56.9**	**+0.9**
	0.3nm,0.3s,baz=150,slow=8.9,SNR=5.3						
DZM				LR	LR	09 45 29.3	
	comp=Z,734nm,18.6s,baz=150,slow=33						
DZM	**Mont Dzumac**	**17.53**	**310**	P	**Pn**	**09 39 53.9**	**-1.5**
SANVU	**Saraoutou**	**22.39**	**323**	P	**P**	**09 40 47.4**	**-1.3**
SANVU					**P**	**09 40 49.3**	**+0.6**
EIDS	**Eidsvold**	**27.22**	**281**	P	**P**	**09 41 34.8**	**+1.1**
EIDS				IAmb	IAmb	09 41 35.2	
	comp=Z,7.8nm,0.6s						
TBI	**Tubuai**	**28.10**	**75**	*e*LR	LR	09 48 28.8	
	comp=Z,315nm,27.8s,baz=233						
TBI	**Tubuai**	**28.10**	**75**	*e*T	T	10 10 49.6	
	comp=Z,18nm,0.3s						
PAE	**Paea**	**31.15**	**65**	*e*T	T	10 14 42.8	
	comp=Z,2.8nm,0.3s						
PPT2	**Papeete2**	**31.20**	**65**	*e*LR	LR	09 50 01.7	
	comp=Z,286nm,24.5s,baz=216						
PPT2	**Papeete2**	**31.20**	**65**	*e*T	T	10 14 47.0	
	comp=Z,4.2nm,0.3s						
PPT	**Papeete**	**31.21**	**65**	LR	LR	09 52 21.0	
	comp=Z,108nm,22.0s,baz=254,slow=32						
HNR	**Honiara**	**31.26**	**317**	LR	LR	09 53 22.0	
	comp=Z,113nm,18.7s,baz=188,slow=34						
TVO	**Taravao**	**31.33**	**66**	*e*T	T	10 14 55.6	
	comp=Z,1.0nm,0.3s						
STKA	**Stephens Creek**	**32.84**	**263**	P	**P**	**09 42 23.2**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=94,slow=14,SNR=3.4						
STKA				LR	LR	09 55 02.0	
	comp=Z,299nm,18.1s,baz=41,slow=35						
CTA	**Charters Tower**	**33.67**	**286**	P	**P**	**09 42 29.9**	**-0.8**
	comp=Z,10.0nm,0.5s,baz=119,slow=10,SNR=31						
CTAO	**Charters Tower**	**33.67**	**286**	P	**P**	**09 42 31.6**	**+0.9**
COEN	**Coen**	**39.57**	**291**	P	**P**	**09 43 20.9**	**0.0**
KRVT	**Keravat (AS076**	**40.04**	**312**	P	**P**	**09 43 23.9**	**-0.9**
	comp=Z,382nm,1.0s,baz=78,slow=1.2,SNR=17						
RKT	**Rikitea**	**40.04**	**86**	*e*LR	LR	09 54 05.5	
	comp=Z,352nm,22.8s						
AS31	**Alice Springs**	**42.08**	**272**	P	**P**	**09 43 41.0**	**-0.7**
ASAR	**Alice Springs**	**42.08**	**272**	P	**P**	**09 43 39.7**	**-1.9**
	comp=Z,8.0nm,0.6s,baz=114,slow=7.5,SNR=109						
ASAR				S	**S**	**09 49 56.6**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=116,slow=16,SNR=7.5						
ASAR				LR	LR	10 00 23.3	
	comp=Z,160nm,20.1s,baz=138,slow=35						
ASAR	**Alice Springs**	**42.08**	**272**	P	**P**	**09 43 40.1**	**-1.6**
WR0	**Warramunga Arr**	**43.24**	**277**	P	**P**	**09 43 50.0**	**-1.1**
WR0				IAmb	IAmb	09 43 51.6	
	comp=Z,6.7nm,0.8s						
WB2	**Warramunga Arr**	**43.41**	**277**	P	**P**	**09 43 50.8**	**-1.6**
WB2				IAmb	IAmb	09 43 51.9	
	comp=Z,9.8nm,0.7s						
WRAB	**Tennant Creek**	**43.41**	**277**	P	**P**	**09 43 51.5**	**-1.0**
WRAB				IAmb	IAmb	09 43 52.0	
	comp=Z,10nm,0.7s						
WRA	**Warramunga Arr**	**43.42**	**277**	P	**P**	**09 43 51.0**	**-1.5**
	comp=Z,10nm,0.7s,baz=118,slow=7.3,SNR=38						
WRA	**Warramunga Arr**	**43.42**	**277**	P	**P**	**09 43 51.0**	**-1.5**
WB0	**Warramunga Arr**	**43.46**	**277**	P	**P**	**09 43 51.3**	**-1.5**
WB0				IAmb	IAmb	09 43 52.4	
	comp=Z,10nm,0.8s						
TAOE	**Nuku Hiva Isla**	**43.80**	**64**	*e*LR	LR	09 55 56.3	
	comp=Z,169nm,26.0s						
VNDA	**Vanda**	**44.18**	**186**	P	**P**	**09 44 00.5**	**+2.6**
	comp=Z,0.4nm,0.8s,baz=45,slow=6.6,SNR=3.8						
VNDA				LR	LR	09 58 36.1	
	comp=Z,72nm,19.2s,baz=353,slow=31						
FORT	**Forrest**	**44.24**	**259**	P	**P**	**09 43 57.9**	**-1.0**
JAY	**Jayapura**	**48.92**	**301**	P	**P**	**09 44 34.6**	**-1.1**
	comp=Z,5.5nm,0.8s,baz=303,slow=21,SNR=4.2						
KNRA	**Kununurra**	**50.15**	**278**	P	**P**	**09 44 44.2**	**-0.9**
KNRA				IAmb	IAmb	09 44 55.8	
	comp=Z,17nm,1.1s						
CASY	**Casey**	**51.30**	**209**	P	**P**	**09 44 54.0**	**+0.9**
CASY				IAmb	IAmb	09 45 08.2	
	comp=Z,8.2nm,1.0s						
FITZ	**Fitzroy Crossi**	**51.49**	**274**	P	**P**	**09 44 53.5**	**-1.6**
	comp=Z,5.1nm,0.7s,baz=142,slow=6.4,SNR=15						
FITZ	**Fitzroy Crossi**	**51.49**	**274**	P	**P**	**09 44 54.4**	**-0.8**
FITZ				IAmb	IAmb	09 44 54.9	
	comp=Z,6.1nm,0.8s						
QSPA	**South Pole Qui**	**55.87**	**180**	P	**P**	**09 45 29.3**	**+2.5**
	comp=Z,3.1nm,0.6s,baz=8.2,slow=1.2,SNR=20						
QSPA	**South Pole Qui**	**55.87**	**180**	P	**P**	**09 45 27.4**	**+0.6**
QSPA				IAmb	IAmb	09 45 39.6	
	comp=Z,19nm,1.4s						
BATI	**Baumata**	**57.27**	**280**	LR	LR	10 10 50.0	
	comp=Z,344nm,18.3s,baz=262,slow=37						
GUMO	**Guam**	**58.59**	**318**	LR	LR	10 07 12.1	
	comp=Z,17nm,221.7s,baz=156,slow=32						
SYO	**Syowa Base**	**73.16**	**194**	*ep*P	**P**	**09 47 21.9**	**+2.6**
SYO	**Syowa Base**	**73.16**	**194**	*ex*	P	09 47 38.2	+19
SNAA	**Sanae**	**74.34**	**179**	P	**P**	**09 47 28.8**	**+2.5**
SNAA	**Sanae**	**74.34**	**179**	P	**P**	**09 47 28.8**	**+2.5**
SNAA				IAmb	IAmb	09 47 37.5	
	comp=Z,5.2nm,1.0s						
VNA3	**Neumayer Olymp**	**74.54**	**176**	P	**P**	**09 47 29.9**	**+2.5**
VNA2	**Neumayer--Watz**	**74.96**	**177**	P	**P**	**09 47 30.2**	**+0.4**
	comp=Z,4.8nm						
H03S2	**Juan Fernandez**	**79.17**	**123**	T	T	11 16 13.5	
	baz=171,slow=4.8						
H03S1	**Juan Fernandez**	**79.18**	**124**	T	T	11 16 15.1	
	baz=234,slow=74,SNR=8.0						
H03S3	**Juan Fernandez**	**79.18**	**123**	T	T	11 16 05.6	
	baz=234,slow=74,SNR=11						
H03N3	**Juan Fernandez**	**79.38**	**123**	T	T	11 16 30.8	
	baz=238,slow=72,SNR=14						
H03N2	**Juan Fernandez**	**79.38**	**123**	T	T	11 16 30.4	
	baz=238,slow=72,SNR=14						
H03N1	**Juan Fernandez**	**79.39**	**123**	T	T	11 16 30.8	
	baz=238,slow=72,SNR=16						
PLCA	**Paso Flores**	**80.61**	**133**	P	**P**	**09 48 04.2**	**+2.4**
	comp=Z,1.2nm,0.8s,baz=267,slow=8.9,SNR=3.2						
PLCA				LR	LR	10 22 00.2	
	comp=Z,40nm,18.1s,baz=204,slow=34						
PLCA	**Paso Flores**	**80.61**	**133**	IAmb	IAmb	09 48 22.4	
	comp=Z,11nm,1.4s						
MJAR	**Matsushiro Arr**	**80.87**	**326**	LR	LR	10 19 15.0	
	comp=Z,27nm,21.9s,baz=65,slow=32						
KSRS	**Kosa Array**	**86.66**	**321**	P	**P**	**09 48 32.1**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=138,slow=5.3,SNR=6.5						
NJ2	**Nanjing**	**88.02**	**311**	*e*P	**P**	**09 48 41.3**	**+2.1**
NJ2				pmax	pmax		
	comp=Z,20nm,0.6s						
UNV	**Unalaska Valle**	**88.41**	**7**	P	**P**	**09 48 41.7**	**+1.2**
PEA0B	**Petropavlovsk-**	**89.29**	**346**	P	**P**	**09 48 45.1**	**+0.5**
PETK	**Petropavlovsk-**	**89.29**	**346**	P	**P**	**09 48 45.0**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=115,slow=5.6,SNR=8.5						
PETK	**Petropavlovsk-**	**89.29**	**346**	P	**P**	**09 48 45.0**	**+0.3**
NVAR	**Mina Array Bea**	**91.71**	**43**	P	**P**	**09 48 58.2**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=224,slow=7.6,SNR=3.1						
NVAR				LR	LR	10 23 51.4	
	comp=Z,53nm,19.2s,baz=192,slow=31						
PB01	**IPOC Station P**	**93.47**	**118**	P	**P**	**09 49 06.8**	**+1.6**
KLR	**Kul'dur**	**93.86**	**330**	LR	LR	10 29 24.2	
	comp=Z,20nm,18.7s,baz=167,slow=34						
KDAK	**Kodiak Island**	**94.37**	**14**	LR	LR	10 23 21.5	
	comp=Z,35nm,22.0s,baz=179,slow=30						
TXAR	**Lajitas Array**	**95.27**	**58**	LR	LR	10 25 12.7	
	comp=Z,25nm,19.8s,baz=6.0,slow=31						
MA2	**Magadan**	**96.74**	**345**	LR	LR	10 26 23.3	
	comp=Z,36nm,21.8s,baz=124,slow=31						
LPAZ	**La Paz**	**97.43**	**115**	LR	LR	10 25 11.2	
	comp=Z,26nm,21.1s,baz=190,slow=30						
HHC	**Hu-ho-hao-te**	**98.20**	**314**	*e*P	Pdif	09 49 26.9	+0.8
HHC				pmax	pmax		
	comp=Z,7.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,45nm,5.5s						
CPUP	**Villa Florida**	**98.33**	**130**	LR	LR	10 26 00.1	
	comp=Z,69nm,20.5s,baz=222,slow=30						
PD31	**Pinedale Array**	**99.58**	**44**	P	**Pdif**	**09 49 28.5**	**-3.8**
PD31				IAmb	IAmb	09 49 36.1	
	comp=Z,2.4nm,0.9s						
PDAR	**Pinedale Array**	**99.58**	**44**	LR	LR	10 27 34.6	
	comp=Z,35nm,20.4s,baz=292,slow=31						
WMQ	**Urumqi**	**114.80**	**307**	*e*P	PKPdf	09 54 28.3	-0.9
G45A	**Suttons Bay**	**115.53**	**52**		**PKPdf**	**09 54 29.5**	**-1.0**
M50A	**Fremont**	**115.81**	**56**		**PKPdf**	**09 54 30.9**	**-0.3**
MKAR	**Makanchi Array**	**119.45**	**309**	PKP	**PKPdf**	**09 54 36.7**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=134,slow=1.1,SNR=4.4						
KURK	**Kurchatov**	**122.95**	**312**	PKPdf	**PKPdf**	**09 54 40.9**	**-3.6**
KKAR	**Karatay Array**	**126.31**	**302**	PKPdf	**PKPdf**	**09 54 50.9**	**-0.5**
ARCES	**ARCESS Array B**	**142.10**	**346**	PKhKP	PKPpre	09 55 16.3	
	comp=Z,2.3nm,0.8s,baz=17,slow=3.8,SNR=7.8						
FIA1	**FINESS Array S**	**148.35**	**337**		**PKPbc**	**09 55 33.4**	**-0.9**
FINES	**FINESS Array B**	**148.35**	**337**	PKPbc	**PKPbc**	**09 55 33.9**	**-0.5**
	comp=Z,4.7nm,0.5s,baz=29,slow=5.5,SNR=21						
LIC	**Lamto**	**151.59**	**168**	*e*PKIKP	**PKPab**	**09 55 50.5**	**-1.7**
	comp=Z,34nm,0.9s						
KIC	**Kosan Boka**	**151.78**	**168**	*e*PKIKP	**PKPab**	**09 55 50.9**	**-2.1**
	comp=Z,3.7nm,0.4s						
TIC	**Toumodi**	**152.00**	**168**	*e*PKIKP	**PKPab**	**09 55 51.3**	**-2.7**
DBIC	**Dimbokro**	**152.06**	**168**	PKPbc	**PKPbc**	**09 55 45.1**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=162,slow=3.2,SNR=1.9						
NC303	**NORSAR Array S**	**152.16**	**349**		**PKiKP**	**09 55 44.3**	**+0.4**
NB2	**NORSAR Subarra**	**152.37**	**349**	PKP	**PKPbc**	**09 55 44.3**	**+0.2**
	comp=Z,2.0nm,0.5s,baz=13,slow=2.6						
NOA	**NORSAR Array B**	**152.37**	**349**	PKPbc	**PKPbc**	**09 55 44.5**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=22,slow=3.9,SNR=13						
NC602	**NORSAR Array S**	**152.60**	**349**		**PKPbc**	**09 55 45.0**	**+0.4**
BRTR	**Keskin Array B**	**153.33**	**291**	PKPbc	**PKPbc**	**09 55 46.1**	**-0.9**
	comp=Z,1.8nm,0.9s,baz=57,slow=7.5,SNR=5.1						
AKASG	**Malin Array Be**	**153.61**	**317**	PKPbc	**PKPbc**	**09 55 46.7**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=52,slow=2.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**158.98**	**182**	PKPab	**PKPab**	**09 56 25.2**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=171,slow=3.3,SNR=5.7						
TORD	**Torodi Ar. Bea**	**158.98**	**182**		**PKPab**	**09 56 25.9**	**+2.2**

*TAP **23** 09:44:11.7, 24.28N×122.98E, h44km, ML2.6, D*

*JMA **23** 09:44:12.1±0.1, 24.35N×122.97E, h48km±2km, M2.1*

ISC 23 09:44:12.5±1.2, 24.29N±0.06×122.98E±0.02, h42km±8km, n39, σ0.99/72, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.16**	**350**	P	**Pn**	**09 44 19.5**	**-0.3**
JYNG				S	**Sn**	**09 44 25.0**	**+0.1**
YOJ	**Yonaguni jima**	**0.17**	**11**	*i* P	**Pn**	**09 44 19.7**	**-0.1**
	baz=6.0						
YOJ				*i* S	**Sn**	**09 44 25.4**	**+0.4**
	baz=6.0						
YOJ	**Yonaguni jima**	**0.17**	**11**	P	**Pn**	**09 44 19.8**	**-0.1**
YOJ				S	**Sn**	**09 44 25.1**	**+0.1**
IRIF	**Iriomote-Funau**	**0.69**	**86**	P	**Pn**	**09 44 25.5**	**-0.4**
IRIF				S	**Sn**	**09 44 35.5**	**0.0**
HATJ	**Hateruma jima**	**0.79**	**107**	P	**Pn**	**09 44 27.6**	**+0.3**
HATJ				*e*S	**Sn**	**09 44 38.2**	**+0.2**
JKRS	**Kuro-shima**	**0.95**	**93**	P	**Pn**	**09 44 29.6**	**+0.2**
JKRS				S	**Sn**	**09 44 42.2**	**+0.5**
JIJ	**Ishigaki jima**	**1.07**	**86**	P	**Pn**	**09 44 30.7**	**-0.3**
JIJ				S	**Sn**	**09 44 44.0**	**-0.7**
TWC	**Suao**	**1.07**	**287**	*e*P	**Pn**	**09 44 31.5**	**+0.4**
	baz=297						
TWC				*e*S	**Sn**	**09 44 43.6**	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQUI	**Equi**	**0.03**	**224**	P	Pg	09 47 24.5	+0.1
EQUI				S	Sg	09 47 25.1	+0.2
SARO	**Sassorosso**	**0.16**	**90**	P	Pg	09 47 27.0	+0.2
SARO				S	Sg	09 47 29.5	+0.6
CARD	**Cardoso**	**0.27**	**126**	P	Pg	09 47 29.7	+0.9
CARD				S	Sg	09 47 32.9	+0.5
GRAM	**Graiana**	**0.32**	**345**	P	Pg	09 47 30.1	+0.3
GRAM				S	Sg	09 47 34.6	+0.7

*IPEC **23** 09:48:32.6±0.2, 50°.15N×19°.13E, h0km±1km, ML2.6/3, Error ellipse: s-maj=2.5km s-min=1.1km az=166.0*
*PRU **23** 09:48:33.4±0.0, 50°.11N×19°.14E, h0km*
*IDC **23** 09:48:35.8±1.7, 50°.22N×18°.86E, h0km, mb1 3.4/2, mb1mx3.1/41, mbtmp3.2/2, ML2.6/2, Error ellipse: s-maj=32.5km s-min=11.3km az=145.0*
ISC 23 09:48:31.3±0.7, 50°.20N±0°.03×19°.22E±0°.02, h0km, n48, σ1§42/76, 7C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.37**	**86**	*e*Pg	**Pb**	**09 48 40.9**	**+0.1**
OJC				*e*Sg	**Sb**	**09 48 46.8**	**-0.4**
OKC	**Ostrava-Krasne**	**0.78**	**243**	*e*PG	**Pg**	**09 48 46.5**	**+0.3**
OKC				*e*SG	**Sg**	**09 48 56.1**	**-0.2**
	comp=Z,111nm,0.5s						
NIE	**Niedzica**	**1.05**	**138**	*e*Pg	**Pb**	**09 48 52.2**	**-0.2**
NIE				*e*Sg	**Sg**	**09 49 05.6**	**+0.7**
LANS	**Liptovska Anna**	**1.06**	**171**	*e*PG	**Pg**	**09 48 51.8**	**+0.2**
LANS				*e*SG	**Sg**	**09 49 05.3**	**0.0**
LANS				*e*LG	Lg	09 49 12.5	
MORC	**Moravsky Berou**	**1.16**	**249**	⇓P	**Pg**	**09 48 53.4**	**-0.2**
MORC				⇓S	**Sg**	**09 49 09.1**	**+0.5**
MORC	**Moravsky Berou**	**1.16**	**249**	*e*PG	**Pg**	**09 48 53.5**	**0.0**
MORC				*e*SG	**Sg**	**09 49 07.1**	**-1.5**
MORC	**Moravsky Berou**	**1.16**	**249**	*e*Pg	**Pg**	**09 48 53.5**	**0.0**
	baz=69						
MORC				*e*Sg	**Sg**	**09 49 07.0**	**-1.5**
	84nm,0.5s,baz=69						
STHS	**Stebnicka Huta**	**1.53**	**120**	*e*SN	**Sn**	**09 49 23.7**	**+3.3**
JAVC	**Velka Javorina**	**1.68**	**218**	*e*PN	**Pn**	**09 49 02.3**	**+0.3**
JAVC	**Velka Javorina**	**1.68**	**218**	*e*Pn	**Pn**	**09 49 02.3**	**+0.3**
	baz=36						
VYHS	**Vyhne**	**1.72**	**188**	*e*PN	**Pn**	**09 49 02.0**	**-0.5**
VYHS				*e*SN	**Sn**	**09 49 24.0**	**-1.2**
DPC	**Dobruska-Polom**	**1.86**	**276**	*e*PG	**Pb**	**09 49 06.4**	**+0.1**
DPC				*e*SG	**Sg**	**09 49 31.5**	**+0.3**
	comp=Z,54nm,0.7s						
KECS	**Kecovo**	**1.91**	**154**	*e*PN	**Pn**	**09 49 04.8**	**-0.2**
KECS				*e*SN	**Sn**	**09 49 29.6**	**-0.1**
KECS				*e*LG	Lg	09 49 34.6	
VRAC	**Vranov**	**1.92**	**243**	⇓P	**Pn**	**09 49 05.2**	**-0.1**
VRAC				⇑S	**Sb**	**09 49 31.0**	**-0.7**
VRAC	**Vranov**	**1.92**	**243**	*e*PN	**Pn**	**09 49 05.3**	**0.0**
VRAC				*e*SG	**Sn**	**09 49 30.6**	**+0.5**
VRAC	**Vranov**	**1.92**	**243**	*e*Pn	**Pn**	**09 49 05.2**	**-0.1**
	baz=62						
VRAC				*e*Sg	**Sn**	**09 49 30.6**	**+0.5**
	55nm,0.8s,baz=62						
CRVS	**Cervenica-Dubn**	**1.95**	**131**	*e*PN	**Pg**	**09 49 08.7**	**0.0**
CRVS				*e*SN	**Sg**	**09 49 34.2**	**+0.2**
CRVS				*e*LG	Lg	09 49 36.4	
OSTC	**Ostas**	**1.96**	**282**	*e*PG	**Pb**	**09 49 07.3**	**-0.5**
OSTC				*e*SG	**Sg**	**09 49 34.6**	**+0.5**
	comp=Z,69nm,1.0s						
KSP	**Ksiaz**	**1.98**	**290**	*e*Pg	**Pg**	**09 49 09.2**	**0.0**
KSP				*e*Sg	**Sg**	**09 49 35.5**	**+0.8**
CHVC	**Chvalec**	**2.06**	**282**	*e*PG	**Pg**	**09 49 10.3**	**-0.5**
CHVC				*e*SG	**Sg**	**09 49 37.4**	**-0.1**
	comp=Z,58nm,0.9s						
UPC	**Upice**	**2.08**	**280**	*e*PG	**Pg**	**09 49 10.5**	**-0.6**
UPC				*e*SG	**Sg**	**09 49 38.5**	**+0.5**
	comp=Z,35nm,0.5s						
KRUC	**Moravsky**	**2.16**	**239**	*e*PN	**Pn**	**09 49 09.1**	**+0.6**
KRUC				*e*SG	**Sb**	**09 49 37.9**	**-0.6**
KRUC	**Moravsky**	**2.16**	**239**	*e*Pn	**Pn**	**09 49 09.1**	**+0.6**
	baz=58						
KRUC				*e*Sg	**Sb**	**09 49 37.8**	**-0.7**
	28nm,0.5s,baz=58						
PSZ	**Piszkesteto**	**2.32**	**169**	⇑P	**Pb**	**09 49 12.9**	**-1.2**
PSZ				⇑S	**Sb**	**09 49 44.2**	**+0.8**
GOPC	**GO Pecny, Ondr**	**2.87**	**266**	*e*PG	**Pg**	**09 49 23.9**	**+0.5**
GOPC				*e*SG	**Sg**	**09 50 02.3**	**-1.2**
	comp=Z,33nm,0.9s						
PVCC	**Panska Ves**	**3.00**	**278**	*e*SG	**Sg**	**09 50 07.4**	**-0.1**
	comp=Z,44nm,0.5s						
PRU	**Pruhonice**	**3.02**	**268**	*e*SG	**Sg**	**09 50 07.7**	**-0.5**
	comp=Z,24nm,0.9s						
PRA	**Prague**	**3.08**	**269**	*e*SG	**Sg**	**09 50 09.4**	**-0.9**
	comp=Z,15nm,0.6s						
CONA	**Conrad Observa**	**3.17**	**225**	*i* Pn	**Pn**	**09 49 24.7**	**+2.3**
	0.8nm,0.3s						
CONA				*i* Sn	**Sn**	**09 49 59.7**	**-1.2**
	1.0nm,0.2s						
PBCC	**Pribram**	**3.41**	**263**	*e*SG	**Sg**	**09 50 19.3**	**-1.6**
BRG	**Berggiesshubel**	**3.43**	**283**	PG	**Pg**	**09 49 39.9**	**+2.9**
BRG				SG	**Sg**	**09 50 21.9**	**+0.4**
	21nm,0.7s						
KHC	**Kasperske Hory**	**3.82**	**256**	*e*PN	**Pn**	**09 49 31.5**	**+0.2**
KHC				*e*PG	**Pg**	**09 49 43.5**	**-0.9**
KHC				*e*SG	**Sg**	**09 50 31.9**	**-1.9**
	comp=Z,16nm,0.6s						
ARSA	**Arzberg**	**3.83**	**221**	*i* Pn	**Pg**	**09 49 44.0**	**-0.7**
	1.6nm,0.3s						
ARSA				*i* Sg	**Sg**	**09 50 40.7**	**+6.4**
	1.8nm,0.4s						
GERES	**GERESS Array B**	**3.84**	**251**	Pn	**Pn**	**09 49 33.6**	**+1.9**
	0.2nm,0.3s,baz=68,slow=13,SNR=3.3						
GERES				Pg	**Pb**	**09 49 41.0**	**+1.0**
	1.0nm,0.3s,baz=68,slow=16,SNR=12						
GERES				Sn	**Sn**	**09 50 16.6**	**-1.0**
	0.9nm,0.3s,baz=66,slow=20,SNR=3.3						
GERES				Lg	Lg	09 50 31.5	
	2.5nm,0.3s,baz=70,slow=26,SNR=9.2						
MOA	**Molln**	**4.02**	**236**	*i* Pn	**Pn**	**09 49 33.6**	**-0.5**
	0.4nm,0.2s						
MOA				*i* Sg	**Sg**	**09 50 37.7**	**-2.6**
	12nm,0.5s						
CLL	**Collm**	**4.10**	**288**	*e*Sg	**Sg**	**09 50 44.0**	**+1.0**
	comp=Z,15nm,0.7s						
DRGR		**4.12**	**144**	⇑P	**Pn**	**09 49 35.6**	**0.0**
NKC	**Novy Kostel**	**4.35**	**273**	*e*SG	**Sg**	**09 50 50.8**	**-0.1**
	comp=Z,22nm,0.8s						
BURAR	**Bucovina Array**	**4.72**	**121**	⇑P	**Pn**	**09 49 43.8**	**-0.1**
BZS	**Buzias**	**4.86**	**160**	⇑P	**Pn**	**09 49 46.4**	**+0.8**
KBA	**Koelnbreinsper**	**4.99**	**234**	*i* Sg	**Sb**	**09 51 03.8**	**+3.6**
	comp=Z,3.6nm,0.5s						
MDVR	**Moldovita**	**5.67**	**162**	⇑P	**Pn**	**09 49 57.9**	**+1.0**
WTTA	**Wattenberg**	**5.81**	**243**	*i* Pn	**Pb**	**09 50 15.8**	**+2.2**
	comp=Z,0.9nm,0.3s						
WTTA				*i* Sg	**Sg**	**09 51 33.8**	**-4.1**
	comp=Z,2.2nm,0.4s						
AKASG	**Malin Array Be**	**6.41**	**82**	Pg	**Pg**	**09 50 32.2**	**-1.9**
	comp=Z,0.8nm,0.3s,baz=269,slow=14,SNR=1.8						
KIJV	**Kijevo**	**6.49**	**198**	*e*Pg	Pg	09 50 52.1	+17
KIJV				Sg	Sn	09 50 59.4	-23
MORI	**Morici**	**6.77**	**202**	Sg	Sn	09 51 16.3	-13
RICI	**Ricice**	**6.86**	**193**	*e*Pg	Pg	09 50 48.8	+6.2
RICI				Sg	Sn	09 50 54.4	-37
FINES	**FINESS Array B**	**11.90**	**16**	Pn	**Pn**	**09 51 20.9**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=201,slow=19,SNR=7.3						

*KRAR **23** 09:48:50.9±0.1, 53°.71N×87°.34E, M1.9, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
IDC 23 09:48:55.5±2.9, 53°.62N×87°.92E, h0km, mb1 3.5/2, mb1mx3.2/45, mbtmp3.5/2, ML3.1/2, Error ellipse: s-maj=27.1km s-min=16.8km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.87**	**281**	*i*		10 00 00.0	
	baz=98,slow=303,SNR=2.9						
ZALV	**Zalesovo Beam**	**1.87**	**281**	Pn	Pn	09 49 28.6	-0.1
	4.1nm,0.3s,baz=101,slow=14,SNR=28						
ZALV				Lg	Lg	09 49 54.7	
	4.4nm,0.3s,baz=94,slow=28,SNR=12						
KURBB	**Kurchatov Arra**	**6.51**	**246**	Pn	Pn	09 50 33.1	+0.6
	0.3nm,0.3s,baz=63,slow=14,SNR=5.0						
KURBB				Lg	Lg	09 52 21.9	
	0.1nm,0.3s,baz=62,slow=31,SNR=8.6						
MKAR	**Makanchi Array**	**7.73**	**210**	Pn	Pn	09 50 50.5	+1.2
	0.3nm,0.3s,baz=32,slow=14,SNR=16						
MKAR				Lg	Lg	09 52 58.9	
	0.1nm,0.3s,baz=35,slow=30,SNR=5.4						

*IDC **23** 09:49:42.0±1.3, 3°.74N×94°.88E, h0km, mb4.0/10, mb1 4.1/12, mb1mx3.8/52, mbtmp4.0/12, ML3.9/2, Error ellipse: s-maj=51.4km s-min=17.1km az=51.0*
*NEIC **23** 09:49:46.6±0.9, 3°.70N±0°.10×94°.9E±0°.1, h29km±6km, mb4.3/6, Error ellipse: s-maj=19.3km s-min=12.1km az=64.0*
ISC 23 09:49:46.8±0.9, 3°.7N±0°.1×94°.8E±0°.1, h33km, n27, σ0§68/22, mb4.1/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**2.62**	**53**	Pn	**Pn**	**09 50 28.0**	**+1.1**
GSI	**Gunungsitoli**	**3.60**	**130**	Pn	**Pn**	**09 50 40.9**	**+0.5**
PSI	**Prapat**	**4.17**	**102**	Pn	**Pn**	**09 50 48.6**	**+0.3**
	1.8nm,0.3s,baz=359,slow=2.9,SNR=7.7						
RPSI	**Rantau Prapat**	**4.20**	**103**		**Pn**	**09 50 48.6**	**+0.1**
CMAR	**Chiang Mai Arr**	**15.25**	**15**	Pn	**Pn**	**09 53 19.7**	**-0.1**
	0.4nm,0.3s,baz=208,slow=11,SNR=16						
H08S2	**Diego Garcia H**	**24.96**	**243**	T	T	10 21 02.8	
	baz=64,slow=76,SNR=164						
H08S3	**Diego Garcia H**	**24.96**	**243**	T	T	10 21 02.8	
	baz=64,slow=76,SNR=156						
H08S1	**Diego Garcia H**	**24.98**	**243**	T	T	10 21 07.2	
	baz=64,slow=76,SNR=107						
MK31	**Makanchi Array**	**44.32**	**348**	P	**P**	**09 57 53.5**	**-0.3**
MKAR	**Makanchi Array**	**44.32**	**348**	P	**P**	**09 57 52.5**	**-1.3**
	1.2nm,0.4s,baz=162,slow=9.0,SNR=13						
MKAR	**Makanchi Array**	**44.32**	**348**	P	**P**	**09 57 52.9**	**-0.9**
KKAR	**Karatay Array**	**44.83**	**335**	P	**P**	**09 57 58.0**	**+0.1**
SONM	**Songino Array**	**45.12**	**11**	P	**P**	**09 57 58.7**	**-1.6**
	0.5nm,0.5s,baz=171,slow=9.8,SNR=2.5						
SONM	**Songino Array**	**45.12**	**11**	IAmb	IAmb	09 57 60.0	
	comp=Z,1.1nm,1.2s						
WRA	**Warramunga Arr**	**45.34**	**123**	P	**P**	**09 58 02.0**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=300,slow=9.0,SNR=14						
WRA	**Warramunga Arr**	**45.34**	**123**	IAmb	IAmb	09 58 10.4	
	comp=Z,0.2nm,1.2s						
WRAB	**Tennant Creek**	**45.35**	**123**	P	**P**	**09 58 02.0**	**-0.3**
WRAB				IAmb	IAmb	09 58 16.8	
	comp=Z,4.8nm,1.1s						
WB2	**Warramunga Arr**	**45.35**	**123**	P	**P**	**09 58 02.5**	**+0.1**
WB2				IAmb	IAmb	09 58 16.9	
	comp=Z,3.5nm,0.9s						
WR0	**Warramunga Arr**	**45.52**	**123**	P	**P**	**09 58 04.1**	**+0.4**
ASAR	**Alice Springs**	**46.76**	**128**	P	**P**	**09 58 13.3**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=296,slow=8.2,SNR=10.0						
KURBB	**Kurchatov Arra**	**48.77**	**346**	P	**P**	**09 58 28.3**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=166,slow=7.4,SNR=10						
ZALV	**Zalesovo Beam**	**50.80**	**352**	P	**P**	**09 58 43.3**	**-0.5**
	comp=Z,2.5nm,0.4s,baz=165,slow=6.0,SNR=5.6						
BVAR	**Borovoye Array**	**53.18**	**342**	P	**P**	**09 59 01.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=138,slow=5.4,SNR=2.4						
ABKAR	**Akbulak array**	**54.25**	**332**	P	**P**	**09 59 09.8**	**+0.3**
FINES	**FINESS Array B**	**76.74**	**333**	P	**P**	**10 01 34.7**	**0.0**
	comp=Z,1.6nm,0.4s,baz=108,slow=6.8,SNR=10						
ARCES	**ARCESS Array B**	**79.44**	**340**	P	**P**	**10 01 49.7**	**+0.2**
	comp=Z,2.2nm,0.9s,baz=106,slow=8.9,SNR=4.2						
GERES	**GERESS Array B**	**81.42**	**319**	P	**P**	**10 02 01.9**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=101,slow=6.9,SNR=4.6						

*KRAR **23** 09:57:50.8±0.1, 53°.68N×87°.80E, M2.6, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
IDC 23 09:57:51.8±3.1, 53°.56N×87°.97E, h0km, mb1 3.0/2, mb1mx2.9/51, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=28.2km s-min=17.7km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**283**	*i*		10 09 40.7	
	baz=98,slow=296,SNR=5.3						
ZALV	**Zalesovo Beam**	**1.91**	**283**	Pn	Pn	09 58 25.8	+0.2
	3.2nm,0.3s,baz=100,slow=15,SNR=26						
ZALV				Lg	Lg	09 58 52.6	
	5.4nm,0.3s,baz=102,slow=26,SNR=16						
KURBB	**Kurchatov Arra**	**6.52**	**247**	Pn	Pn	09 59 29.2	+0.3
	0.1nm,0.3s,baz=66,slow=15,SNR=4.3						
KURBB				Lg	Lg	10 01 18.6	
	0.0nm,0.3s,baz=59,slow=32,SNR=5.5						
MKAR	**Makanchi Array**	**7.70**	**211**	Pn	Pn	09 59 46.4	+1.3
	0.2nm,0.3s,baz=29,slow=14,SNR=6.1						
MKAR				Lg	Lg	10 01 55.5	
	0.1nm,0.3s,baz=36,slow=31,SNR=9.3						

ISC 23 10:01:56.0±1.2, 48°.96N±0°.08×18°.05E±0°.06, h10km, n5, σ0§75/8, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.27**	**249**	*e*PG	**Pg**	**10 02 01.9**	**+0.5**
VYHS	**Vyhne**	**0.69**	**131**	*e*PG	**Pg**	**10 02 09.0**	**-0.4**
VYHS				*e*SG	**Sb**	**10 02 20.5**	**+0.7**
MORC	**Moravsky Berou**	**0.89**	**338**	*e*PG	**Pb**	**10 02 13.7**	**+0.2**
MORC				*e*SG	**Sb**	**10 02 26.1**	**+0.7**
VRAC	**Vranov**	**1.02**	**291**	*e*PG	**Pg**	**10 02 15.6**	**0.0**
VRAC				*e*SG	**Sg**	**10 02 27.7**	**-1.1**
KRUC	**Moravsky**	**1.09**	**276**	*e*PG	**Pg**	**10 02 16.6**	**-0.4**

*KRNET **23** 10:08:37.7±0.1, 41°.47N×71°.30E, h28km, mb3.0*
*SOME **23** 10:08:37.4, 41°.57N×71°.17E, h5km*
*NNC **23** 10:08:39.7±2.0, 41°.65N×71°.28E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=15.5km s-min=6.3km az=19.0*
ISC 23 10:08:36.1±1.2, 41°.50N±0°.03×71°.26E±0°.02, h2km±11km, n27, σ1§10/47, 16C-13D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.12**	**305**	⇓*i*P	**Pg**	**10 08 57.2**	**-0.4**
	6.9nm,0.2s						
IUG				⇑*i*S	**Sb**	**10 09 11.8**	**-1.5**
	51nm,0.4s						
ARSB	**Arslanbob**	**1.31**	**97**	⇑*i*P	**Pn**	**10 09 01.4**	**-0.2**
	baz=96						
ARSB				⇑*i*S	**Sg**	**10 09 17.8**	**-0.4**
	baz=96						
DZA	**Taraz**	**1.39**	**2**	*e*P	**Pg**	**10 09 04.0**	**+1.3**
	46nm,0.1s						
DZA				*e*S	**Sn**	**10 09 23.9**	**+2.3**
	206nm,0.2s						
BTK	**Batken**	**1.48**	**193**	⇑*i*P	**Pn**	**10 09 04.5**	**+0.6**
	baz=95						
BTK				⇑*i*S	**Sn**	**10 09 23.8**	**-0.1**
	baz=95						
TAS	**Tashkent**	**1.49**	**264**	⇓*e*P	**Pg**	**10 09 05.0**	**+0.4**
	baz=65						
TAS				⇓*e*S	**Sg**	**10 09 24.9**	**+1.0**
	baz=65						
OHH	**Osh**	**1.51**	**130**	⇑*i*P	**Pn**	**10 09 04.5**	**+0.2**
	baz=29						
OHH				⇑*i*S	**Sn**	**10 09 23.8**	**-0.9**
	baz=29						
KK31	**Karatay Array**	**1.69**	**341**	⇓P	**Pb**	**10 09 07.2**	**-0.8**
	6.6nm,0.5s,baz=160,slow=17,SNR=59						
KK31				S	**Sg**	**10 09 29.9**	**-0.7**
	23nm,0.5s,baz=152,slow=25,SNR=21						
BRLS	**Borolday**	**1.85**	**326**	*e*P	**Pn**	**10 09 08.6**	**-0.4**
	22nm,0.4s						
BRLS				*e*S	**Sn**	**10 09 31.5**	**-1.6**
	38nm,0.2s						
MRKS	**Merke**	**1.92**	**49**	*e*P	**Pg**	**10 09 13.5**	**+0.6**
	6.7nm,0.2s						
MRKS				*e*S	**Sg**	**10 09 40.0**	**+2.1**
	16nm,0.3s						
MRKS	**Merke**	**1.92**	**49**	Pg	**Pg**	**10 09 13.5**	**+0.6**
	6.7nm,0.2s						
MRKS				Lg	Lg	10 09 39.9	
	16nm,0.3s						
AML	**Almayashu**	**1.93**	**70**	⇑*e*P	**Pb**	**10 09 11.9**	**-0.3**
	baz=69						
AML				⇑*i*S	**Sb**	**10 09 36.1**	**-0.8**
	baz=69						
EKS2	**Erkin-Say**	**2.20**	**57**	⇑*i*P	**Pb**	**10 09 16.0**	**-0.8**
	baz=56						
EKS2				⇑*i*S	**Sb**	**10 09 43.0**	**-1.6**
	baz=56						
ARLS	**Aral**	**2.32**	**80**	⇑*i*P	**Pn**	**10 09 16.7**	**+1.1**
	baz=79						
ARLS				⇑*e*S	**Sn**	**10 09 45.0**	**+0.2**
	baz=79						
UCH	**Uchtor**	**2.54**	**72**	⇓*i*P	**Pn**	**10 09 20.4**	**+1.6**
	baz=71						
UCH				⇓*i*S	**Sn**	**10 09 50.9**	**+0.4**
	baz=71						
GAR	**Garm**	**2.60**	**196**	⇓*i*P	**Pn**	**10 09 21.3**	**+2.0**
	baz=97						
GAR				⇓*i*S	**Sn**	**10 09 52.4**	**+0.8**
	baz=97						
AAK	**Ala-Archa**	**2.66**	**64**	⇓*i*P	**Pn**	**10 09 21.9**	**+1.7**
	baz=63						
AAK				⇓*i*S	**Sn**	**10 09 53.9**	**+0.7**
	baz=63						
AAK	**Ala-Archa**	**2.66**	**64**	⇑Pg	**Pg**	**10 09 26.8**	**-0.4**
	1.7nm,0.5s						
AAK				⇑Lg	Lg	10 10 00.3	
	5.7nm,0.6s						
KZA	**Kyzart**	**3.04**	**78**	⇓*i*P	**Pn**	**10 09 27.6**	**+2.0**
	baz=77						
KZA				⇓*i*S	**Sn**	**10 10 03.1**	**+0.3**
	baz=77						
SGDS	**Sogindy**	**3.17**	**51**	Pg	**Pg**	**10 09 36.2**	**-0.6**
	1.4nm,0.3s						
SGDS				Lg	Lg	10 10 18.1	
	5.9nm,0.4s						
TKM2	**Tokmak 2**	**3.52**	**65**	⇓Pg	**Pg**	**10 09 42.7**	**-0.9**
	2.0nm,0.8s						
TKM2				⇑Lg	Lg	10 10 27.8	
	2.6nm,0.5s						
DGS	**Degeres**	**3.77**	**61**	*e*P	**Pg**	**10 09 47.5**	**-0.8**
	2.2nm,0.3s						
DGS				*e*S	**Sg**	**10 10 37.6**	**+0.4**
	7.2nm,0.6s						
DGS	**Degeres**	**3.77**	**61**	Pg	**Pg**	**10 09 47.5**	**-0.8**
	2.2nm,0.3s						
DGS				Lg	Lg	10 10 37.6	
	7.2nm,0.6s						
KST	**Kastek**	**3.82**	**65**	*e*P	**Pg**	**10 09 48.0**	**-1.3**
	0.8nm,0.2s						
KST				*e*S	**Sg**	**10 10 38.6**	**-0.1**
	5.6nm,0.4s						
KST	**Kastek**	**3.82**	**65**	Pg	**Pg**	**10 09 48.0**	**-1.3**
	0.8nm,0.2s						
KST				Lg	Lg	10 10 38.6	
	5.6nm,0.4s						
BTLS	**Baital**	**4.08**	**29**	*e*P	**Pg**	**10 09 53.6**	**-0.7**
	1.4nm,0.1s						
BTLS				*e*S	**Sg**	**10 10 48.1**	**+0.9**
	5.1nm,0.4s						
BTLS	**Baital**	**4.08**	**29**	Pg	**Pg**	**10 09 53.6**	**-0.7**
	1.4nm,0.1s						
BTLS				Lg	Lg	10 10 48.1	
	5.1nm,0.4s						
KUU	**Kurty**	**4.44**	**56**	*e*P	**Pg**	**10 10 00.2**	**-1.0**
	1.0nm,0.1s						
KUU				*e*S	**Sg**	**10 11 00.0**	**+1.3**
	3.2nm,0.4s						

*MEX **23** 10:12:30.7±1.2, 14°.14N×92°.10W, h16km±274km, MD3.7*
*GCG **23** 10:12:31.9±0.3, 14°.27N×91°.86W, h43km±53km, MD3.7*
ISC 23 10:12:28.2±2.6, 14°.1N±0°.1×92°.08W±0°.08, h30km±15km, n7, σ1§30/13, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STG3	**Santiaguito 3,**	**0.76**	**40**	*e*P	**Pn**	**10 12 43.6**	**+0.5**
STG3				*e*S	**Sn**	**10 12 52.8**	**-0.9**
THIG		**0.79**	**347**	*i* P	**Pb**	**10 12 43.6**	**+0.1**
THIG				*e*S	**Sb**	**10 12 53.2**	**-0.8**
FUG	**Fuego 3**	**1.24**	**75**	*e*P	**Pn**	**10 12 50.1**	**+0.5**
FUG				*e*S	**Sn**	**10 13 04.3**	**-1.2**
IXG	**Ixpaco**	**1.59**	**88**	*e*P	**Pn**	**10 12 55.4**	**+0.9**
PCIG		**1.92**	**325**	*e*P	**Pn**	**10 12 59.0**	**+0.2**
PCIG				*i* S	**Sn**	**10 13 20.7**	**-1.2**
CCIG	**Comitan**	**2.14**	**358**	*e*P	**Pn**	**10 13 03.8**	**+1.7**
CCIG				*i* S	**Sn**	**10 13 28.9**	**+1.1**
TGIG		**2.82**	**339**	*e*P	**Pn**	**10 13 12.6**	**+1.3**
TGIG				*i* S	**Sn**	**10 13 42.4**	**-1.9**

*DDA **23** 10:13:09.4, 40°.00N×36°.39E, h7km±4km, MW4.0*
*ISK **23** 10:13:09.0, 40°.03N×36°.43E, h4km, ML3.8/36*
ISC 23 10:13:10.0±1.1, 40°.03N±0°.02×36°.45E±0°.02, h2km±10km, n78, σ1§00/105, 14C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOKA	**Tokat**	**0.30**	**5**	⇑*i*P	**Pg**	**10 13 15.6**	**-0.1**
TOKA				*i* S	**Sg**	**10 13 20.2**	**+0.6**
TOKT	**Tokat**	**0.30**	**14**	PG	**Pg**	**10 13 15.7**	**-0.1**
TOKT				SG	**Sg**	**10 13 20.4**	**+0.6**
SVSK	**Karacayir**	**0.44**	**104**	PG	**Pg**	**10 13 18.4**	**+0.1**
SVSK				SG	**Sb**	**10 13 25.5**	**-1.9**
SCER	**sogukcermik**	**0.55**	**107**	⇑*i*P	**Pg**	**10 13 20.2**	**-0.2**
SCER				IAML		10 13 29.0	
	comp=E,9μm,0.5s						
SCER				*i* S	**Sb**	**10 13 29.2**	**-1.6**
SCER				IAML		10 13 30.0	
	comp=N,10μm,0.4s						
CUSAR	**Sarkisla-SIVAS**	**0.62**	**194**	⇑*i*P	**Pg**	**10 13 18.7**	**-3.3**
CUSAR				IAML		10 13 28.0	
	comp=N,3μm,0.4s						
CUSAR				*i* S	**Sg**	**10 13 28.1**	**-2.0**
CUSAR				IAML		10 13 31.0	
	comp=E,2μm,0.4s						
**ER

SAMS	**Samsun-Alacam**	**1.35**	**352**⇑	*i* P		**Pn**	**10 13 35.2**	**-0.6**
SAMS				*i* S		**Sn**	**10 13 54.4**	**+0.1**
SAMS				IAML			10 13 57.0	
	comp=E,314nm,1.4s							
SAMS				IAML			10 14 00.0	
	comp=N,306nm,0.6s							
SUSE	**Susehri**	**1.36**	**82**⇑	*i* P		**Pn**	**10 13 34.6**	**-1.5**
SUSE				*i* S		**Sn**	**10 13 55.0**	**+0.2**
SUSE				IAML			10 13 58.0	
	comp=E,2µm,0.6s							
SUSE				IAML			10 13 59.0	
	comp=N,2µm,0.7s							
CORM	**Corum**	**1.40**	**277**	PN		**Pn**	**10 13 35.6**	**-1.1**
CTAK	**Corum_Osmancik**	**1.41**	**297**⇓	*i* P		**Pn**	**10 13 35.9**	**-0.9**
CTAK				*i* S		**Sg**	**10 13 57.0**	**+1.7**
CTAK				IAML			10 13 57.0	
	comp=N,520nm,0.6s							
CTAK				IAML			10 14 00.0	
	comp=E,557nm,0.6s							
CUGUR	**Gurin_SVAS**	**1.45**	**154**⇓	*i* P		**Pb**	**10 13 38.0**	**+0.3**
CUGUR				*i* S		**Sg**	**10 14 00.1**	**+3.6**
CUGUR				IAML			10 14 03.0	
	comp=E,1µm,0.7s							
CUGUR				IAML			10 14 04.0	
	comp=N,1µm,0.5s							
SARI	**SarD1z-Kayseri**	**1.62**	**181**	PN		**Pn**	**10 13 39.7**	**+0.1**
HEKM	**Malatya_Hekimh**	**1.64**	**134**	*i* P		**Pb**	**10 13 41.2**	**+0.2**
HEKM				*i* S		**Sg**	**10 14 03.8**	**+1.3**
HEKM				IAML			10 14 06.0	
	comp=N,727nm,0.5s							
HEKM				IAML			10 14 09.0	
	comp=E,1µm,0.4s							
CDAG	**Cicekdag**	**1.65**	**257**⇑	*i* P		**Pn**	**10 13 39.3**	**-0.7**
CDAG				*i* S		**Sn**	**10 14 01.8**	**0.0**
CDAG				IAML			10 14 02.0	
	comp=N,1µm,0.7s							
DARE	**Darende-Malaty**	**1.66**	**151**	PN		**Pn**	**10 13 40.1**	**-0.1**
ARPR	**Arapgir-MALATY**	**1.73**	**122**	PN		**Pn**	**10 13 41.4**	**+0.2**
AVNS	**Nevsehir-Avano**	**1.74**	**226**⇑	*i* P		**Pn**	**10 13 40.7**	**-0.5**
AVNS				*i* S		**Sb**	**10 14 05.9**	**+1.0**
KEMA	**Kemaliye**	**1.75**	**115**⇓	*i* P		**Pn**	**10 13 41.8**	**+0.3**
KEMA				*i* S		**Sg**	**10 14 06.6**	**+0.4**
KEMA				IAML			10 14 08.0	
	comp=E,514nm,0.6s							
KEMA				IAML			10 14 16.0	
	comp=N,469nm,0.5s							
ELBS	**KAHRAMANMARAS**	**1.78**	**162**	*i* P		**Pb**	**10 13 43.6**	**+0.2**
ELBS				*i* S		**Sb**	**10 14 07.0**	**+0.8**
ELBS				IAML			10 14 15.0	
	comp=E,613nm,0.5s							
ELBS				IAML			10 14 21.0	
	comp=N,578nm,0.7s							
DIKM	**Dikmen**	**1.86**	**331**	PN		**Pn**	**10 13 42.5**	**-0.3**
REFA	**Refahiye_ERZN**	**1.90**	**109**	*i* P		**Pn**	**10 13 41.9**	**-1.5**
REFA				*i* S		**Sn**	**10 14 06.4**	**-1.6**
REFA				IAML			10 14 10.0	
	comp=E,345nm,0.5s							
REFA				IAML			10 14 12.0	
	comp=N,558nm,0.4s							
DELI	**KIRIKKALE**	**1.94**	**270**⇑	*i* P		**Pn**	**10 13 43.7**	**-0.4**
DELI				*i* S		**Sb**	**10 14 11.9**	**+1.1**
DELI				IAML			10 14 14.0	
	comp=N,422nm,0.7s							
DELI				IAML			10 14 16.0	
	comp=E,353nm,0.3s							
ESPY	**Espiye-Giresun**	**1.96**	**62**	PN		**Pn**	**10 13 43.9**	**-0.3**
SAIM	**ADANA**	**2.06**	**188**	*i* P		**Pb**	**10 13 47.8**	**-0.4**
SAIM				*i* S		**Sg**	**10 14 17.1**	**+0.8**
SAIM				IAML			10 14 22.0	
	comp=N,397nm,0.3s							
SAIM				IAML			10 14 23.0	
	comp=E,360nm,0.4s							
YAHY	**KAYSERI_Yahyal**	**2.10**	**204**	*i* P		**Pn**	**10 13 48.1**	**+1.8**
KIRS	**Kırehir-Merke**	**2.15**	**246**⇑	*i* P		**Pn**	**10 13 46.4**	**-0.5**
KIRS				*i* S		**Sb**	**10 14 17.2**	**+0.5**
KIRS				IAML			10 14 22.0	
	comp=N,417nm,0.6s							
KIRS				IAML			10 14 22.0	
	comp=E,419nm,0.5s							
KELT	**Kelkit**	**2.16**	**86**	*i* P		**Pn**	**10 13 47.6**	**+0.4**
KELT				*i* S		**Sb**	**10 14 16.2**	**-0.9**
KELT				IAML			10 14 29.0	
	comp=N,185nm,0.9s							
KELT				IAML			10 14 31.0	
	comp=E,258nm,0.6s							
BRTR	**Keskin Array B**	**2.18**	**263**	PN		**Pn**	**10 13 47.0**	**-0.4**
SNOP	**Sinop**	**2.20**	**335**	PN		**Pn**	**10 13 47.4**	**-0.1**
SINO	**SINOP_Merkez**	**2.20**	**335**	*i* P		**Pn**	**10 13 47.3**	**-0.3**
SINO				IAML			10 14 22.0	
	comp=N,137nm,0.5s							
SINO				IAML			10 14 36.0	
	comp=E,149nm,0.8s							
CANT	**Cankiri**	**2.24**	**286**	PN		**Pn**	**10 13 47.9**	**-0.2**
MALT	**Malatya**	**2.30**	**137**	PN		**Pn**	**10 13 49.4**	**+0.4**
ILGA	**Ilgaz**	**2.32**	**297**	*i* P		**Pn**	**10 13 50.0**	**+0.7**
ILGA				IAML			10 14 29.0	
	comp=E,154nm,0.8s							
ILGA				IAML			10 14 31.0	
	comp=N,139nm,1.2s							
ELDT	**Eldivan**	**2.36**	**282**	*i* P		**Pn**	**10 13 49.8**	**0.0**
ELDT				IAML			10 14 37.0	
	comp=E,133nm,0.4s							
GULA	**Gulagac**	**2.40**	**226**	PN		**Pn**	**10 13 50.1**	**-0.3**
ANDN	**Andirin**	**2.44**	**182**	*i* P		**Pn**	**10 13 52.3**	**+1.3**
ANDN				IAML			10 14 31.0	
	comp=E,141nm,0.8s							
ANDN				IAML			10 14 42.0	
	comp=N,205nm,0.7s							
SERE	**Sereflikochisa**	**2.48**	**245**	PN		**Pn**	**10 13 51.3**	**-0.1**
ELZG	**Elazig**	**2.49**	**127**	*i* P		**Pn**	**10 13 52.9**	**+1.2**
ELZG				IAML			10 14 32.0	
	comp=E,625nm,0.7s							
ELZG				IAML			10 14 33.0	
	comp=N,404nm,0.9s							
AKSY	**AKSARAY - Alti**	**2.50**	**237**	*i* P		**Pn**	**10 13 51.6**	**-0.1**
AKSY				IAML			10 14 33.0	
	comp=E,237nm,0.6s							
AKSY				IAML			10 14 37.0	
	comp=N,266nm,0.6s							
KMRS	**Kahramanmaras**	**2.54**	**172**	PN		**Pn**	**10 13 52.6**	**+0.4**
TNCL	**Tunceli-Merkez**	**2.56**	**110**	*i* P		**Pn**	**10 13 54.0**	**+1.4**
TNCL				IAML			10 14 35.0	
	comp=N,171nm,0.8s							
TNCL				IAML			10 14 48.0	
	comp=E,224nm,0.7s							
KOZT	**Kozan**	**2.59**	**191**	PN		**Pn**	**10 13 53.3**	**+0.5**
BBAL	**Bala**	**2.61**	**260**	*i* P		**Pn**	**10 13 53.7**	**+0.5**
BBAL				IAML			10 14 35.0	
	comp=E,331nm,0.5s							
BBAL				IAML			10 14 36.0	
	comp=N,316nm,0.4s							
CMRD	**Camardi-Nigde**	**2.62**	**206**	PN		**Pn**	**10 13 53.8**	**+0.4**
AFSR	**Afar-Bala (An**	**2.67**	**259**	PN		**Pn**	**10 13 53.8**	**-0.2**
AKO	**Adana**	**2.68**	**197**	*i* P		**Pb**	**10 13 57.9**	**-0.7**
AKO				IAML			10 14 46.0	
	comp=E,90nm,0.9s							
HCB	**Kahramanmara**	**2.70**	**172**	*i* P		**Pn**	**10 13 55.1**	**+0.7**
HCB				IAML			10 14 29.0	
	comp=N,186nm,2.0s							
HCB				IAML			10 14 29.0	
	comp=E,104nm,1.7s							
PELI	**Kastamonı-Ara**	**2.70**	**299**	*i* P		**Pb**	**10 13 59.7**	**+0.6**
PELI				IAML			10 14 41.0	
	comp=N,83nm,0.8s							
LOD	**Lodumlu**	**2.83**	**268**	PN		**Pn**	**10 13 56.0**	**-0.3**
KULU	**Kulu**	**2.84**	**251**	PN		**Pn**	**10 13 56.5**	**+0.1**
KKUL	**Konya-Kulu**	**2.86**	**254**	*i* P		**Pn**	**10 13 56.9**	**+0.2**
KKUL				IAML			10 14 52.0	
	comp=N,307nm,0.6s							
KKUL				IAML			10 14 52.0	
	comp=E,364nm,0.8s							
GAZ	**Gaziantep**	**2.91**	**168**	PN		**Pn**	**10 13 58.2**	**+0.8**
SULT	**Sultanhani-AKS**	**2.92**	**232**	PN		**Pn**	**10 13 57.9**	**+0.4**
BAYB	**BAYBURT**	**2.93**	**84**	*i* P		**Pb**	**10 14 02.8**	**-0.2**
BAYB				IAML			10 14 52.0	
	comp=E,184nm,0.6s							
BAYB				IAML			10 14 57.0	
	comp=N,193nm,0.8s							
YESY	**Yesilyurt**	**3.08**	**224**	PN		**Pn**	**10 14 00.2**	**+0.5**
CHBY	**Cihanbeyli**	**3.11**	**244**	PN		**Pn**	**10 14 00.7**	**+0.5**
LADK	**Ladik-KONYA**	**3.66**	**241**	PN		**Pn**	**10 14 08.0**	**+0.3**
YUVA	**Yuva-Kibriscik**	**3.66**	**277**	PN		**Pn**	**10 14 08.1**	**+0.4**
KIZT	**Kizilcal**	**3.71**	**254**	PN		**Pn**	**10 14 08.3**	**-0.2**
AUMIH	**MIHALICIK**	**3.82**	**269**	PN		**Pn**	**10 14 10.1**	**+0.2**
AUSIV	**SIVRIHISAR**	**3.83**	**263**	PN		**Pn**	**10 14 10.1**	**+0.1**
SVRH	**Sivrihisar-ESK**	**3.84**	**263**	PN		**Pn**	**10 14 10.5**	**+0.4**

*NEIC **23** 10:22:39.3±0.9, 10°.3S±0°.1×161°.6E±0°.1, h72km±10km, mb4.1/9, Error ellipse: s-maj=24.0km s-min=7.2km az=224.0*
*IDC **23** 10:22:39.0±2.9, 10°.39S×161°.57E, h71km±22km, mb3.7/7, mb1 3.8/9, mb1mx3.5/37, mbtmp4.0/9, MS3.1/4, Ms1 3.1/4, ms1mx2.7/25, Error ellipse: s-maj=26.6km s-min=18.3km az=77.0*

ISC 23 10:22:38.4±0.8, 10°.4S±0°.1×161°.6E±0°.1, h61km, n23, σ0§94/21, mb4.0/10, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.87**	**299**	P	**Pn**	**10 23 08.6**	**+0.5**
	214nm,0.3s,baz=171,slow=7.5,SNR=52						
HNR				S	**Sn**	**10 23 31.8**	**+1.1**
	200nm,0.3s,baz=152,slow=18,SNR=5.9						
HNR	**Honiara**	**1.87**	**299**		**Pn**	**10 23 08.9**	**+0.8**
SANVU	**Saraoutou**	**7.45**	**133**	Pn	**Pn**	**10 24 25.6**	**+1.2**
DZM	**Mont Dzumac**	**12.55**	**159**	P	**Pn**	**10 25 34.6**	**+0.3**
	0.5nm,0.3s,baz=62,slow=7.0,SNR=31						
DZM				LR	LR	10 29 20.7	
	comp=Z,102nm,21.2s,baz=31,slow=32						
CTA	**Charters Tower**	**17.68**	**235**	P	**Pn**	**10 26 40.0**	**-0.7**
	0.3nm,0.3s,baz=64,slow=14,SNR=7.6						
CTAO	**Charters Tower**	**17.68**	**235**	P	**P**	**10 26 41.1**	**+0.3**
CTAO				IAmb	IAmb	10 26 46.0	
	comp=Z,7.9nm,0.8s						
EIDS	**Eidsvold**	**17.97**	**212**	P	**Pn**	**10 26 44.5**	**+0.5**
EIDS				IAmb	IAmb	10 26 48.6	
	comp=Z,4.5nm,0.8s						
WR0	**Warramunga Arr**	**27.78**	**247**	P	**P**	**10 28 20.4**	**-1.4**
WR0				IAmb	IAmb	10 28 32.0	
	comp=Z,9.0nm,1.4s						
WB0	**Warramunga Arr**	**27.86**	**247**	P	**P**	**10 28 21.9**	**-0.6**
WB0				IAmb	IAmb	10 28 23.3	
	comp=Z,4.9nm,0.7s						
WRAB	**Tennant Creek**	**27.94**	**247**	P	**P**	**10 28 22.9**	**-0.4**
WRAB				IAmb	IAmb	10 28 27.4	
	comp=Z,10nm,1.3s						
WB2	**Warramunga Arr**	**27.94**	**247**	P	**P**	**10 28 23.2**	**-0.1**
WRA	**Warramunga Arr**	**27.95**	**247**	P	**P**	**10 28 23.1**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=76,slow=8.9,SNR=15						
WRA	**Warramunga Arr**	**27.95**	**247**	IAmb	IAmb	10 28 28.9	
	comp=Z,0.3nm,1.4s						
GUMO	**Guam**	**29.01**	**325**	LR	LR	10 38 58.5	
	comp=Z,39nm,21.1s,baz=141,slow=34						
ASAR	**Alice Springs**	**29.54**	**240**	P	**P**	**10 28 36.5**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=64,slow=9.9,SNR=6.6						
KNRA	**Kununurra**	**32.41**	**257**	P	**P**	**10 29 03.2**	**+0.4**
ASAJ	**Asahikawa**	**56.89**	**344**	P	**P**	**10 32 17.4**	**+0.5**
	comp=Z,3.4nm,0.8s,baz=120,slow=8.7,SNR=2.7						
KSRS	**Korea Array**	**57.08**	**328**	LR	LR	10 56 35.5	
	comp=Z,11nm,18.4s,baz=215,slow=36						
USRK	**Ussuriysk Ar.**	**60.58**	**336**	P	**P**	**10 32 42.7**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=116,slow=8.7,SNR=4.6						
PETK	**Petropavlovsk-**	**63.29**	**357**	LR	LR	10 55 36.6	
	comp=Z,14nm,20.7s,baz=90,slow=31						
SONM	**Songino Array**	**75.74**	**325**	P	**P**	**10 34 17.5**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=134,slow=5.1,SNR=4.7						
SONM				pP	**PcP**	**10 34 31.6**	**+1.4**
	comp=Z,1.9nm,0.7s,baz=146,slow=5.7,SNR=7.7						
ILAR	**Eielson Array**	**84.19**	**20**	P	**P**	**10 35 02.1**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=250,slow=4.8,SNR=6.1						
MKAR	**Makanchi Array**	**90.25**	**318**	P	**P**	**10 35 30.3**	**-2.2**
	comp=Z,0.2nm,0.5s,baz=113,slow=6.0,SNR=2.7						

*IDC **23** 10:25:42.3±1.4, 39°.55N×139°.70E, h175km±16km, mb3.1/7, mb1 3.3/9, mb1mx3.1/39, mbtmp3.5/9, Error ellipse: s-maj=25.6km s-min=16.6km az=113.0*
*JMA **23** 10:25:42.9±0.1, 39°.51N×139°.80E, h176km±1km, M3.3*

ISC 23 10:25:42.4±0.7, 39°.52N±0°.04×139°.75E±0°.06, h178km±5km, n30, σ1§17/46, mb3.3/7, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTB	**Tobi-shima**	**0.35**	**205**	P	**Pn**	**10 26 06.7**	**+0.3**
JTB				S	**Sn**	**10 26 25.3**	**+0.5**
JYW	**Yuwa**	**0.36**	**86**	P	**Pn**	**10 26 06.8**	**+0.4**
JYW				eS	**Sn**	**10 26 25.6**	**+0.8**
JYYZ	**Yamagatayuza**	**0.52**	**164**	P	**Pn**	**10 26 07.8**	**+0.8**
JOG3	**Oga3**	**0.66**	**308**	P	**Pn**	**10 26 06.9**	**-0.7**
JOG3				S	**Sn**	**10 26 25.0**	**-2.1**
JRG	**Rokugo**	**0.69**	**100**	P	**Pn**	**10 26 08.0**	**+0.1**
JRG				S	**Sn**	**10 26 27.4**	**0.0**
JYK	**Kaneyama**	**0.76**	**141**	P	**Pn**	**10 26 08.5**	**+0.2**
JYK				S	**Sn**	**10 26 28.6**	**+0.4**
JYA	**Atsumi**	**0.92**	**182**	P	**Pn**	**10 26 09.7**	**+0.3**
JYA				eS	**Sn**	**10 26 29.9**	**-0.2**
JAH	**Hinai**	**0.96**	**45**	P	**Pn**	**10 26 10.0**	**+0.5**
JAH				S	**Sn**	**10 26 30.2**	**-0.4**
JIW	**Iwasaki**	**1.09**	**10**	P	**Pn**	**10 26 11.3**	**+0.7**
JIW				S	**Sn**	**10 26 33.1**	**+0.6**
JAW	**Awa shima**	**1.13**	**200**	P	**Pn**	**10 26 11.1**	**+0.2**
JAW				S	**Sn**	**10 26 33.6**	**+0.8**
JOM	**Ohasama**	**1.20**	**92**	P	**Pn**	**10 26 11.4**	**0.0**
JOM				eS	**Sn**	**10 26 33.3**	**-0.5**
JMK	**Ichinoseki**	**1.27**	**116**	P	**Pn**	**10 26 12.0**	**-0.1**
JMK				eS	**Sn**	**10 26 34.2**	**-0.7**
JANG	**Nango**	**1.60**	**57**	P	**Pn**	**10 26 15.2**	**+0.1**
JNS	**Sasagawa**	**1.73**	**191**	P	**Pn**	**10 26 16.8**	**+0.3**
JNS				eS	**Sn**	**10 26 42.7**	**-0.1**
JSD	**Sado**	**1.88**	**219**	P	**Pn**	**10 26 18.6**	**+0.6**
JSD				eS	**Sn**	**10 26 46.0**	**+0.4**
JOMM	**Oshimamatsumae**	**2.02**	**6**	P	**Pn**	**10 26 20.1**	**+0.7**
JFT	**Otama**	**2.05**	**167**	P	**Pn**	**10 26 20.0**	**+0.1**
JFT				eS	**Sn**	**10 26 49.5**	**+0.6**
JOT	**Ohata**	**2.11**	**28**	P	**Pn**	**10 26 21.0**	**+0.6**
JKB	**Kayabe**	**2.56**	**22**	P	**Pn**	**10 26 26.0**	**+0.4**
JOSM	**Okushiri--Mats**	**2.57**	**355**	P	**Pn**	**10 26 26.2**	**+0.5**
MJAR	**Matsushiro Arr**	**3.21**	**203**	P	**Pn**	**10 26 33.6**	**+0.1**
	0.4nm,0.3s,baz=10,slow=13,SNR=22						
MJAR				S	**Sn**	**10 27 14.0**	**+0.6**
	baz=13,slow=22,SNR=1.4						
ASAJ	**Asahikawa**	**5.07**	**24**	P	**Pn**	**10 26 55.8**	**-1.3**
	1.8nm,0.3s,baz=225,slow=6.9,SNR=4.1						
ASAJ				S	**Sn**	**10 27 52.4**	**-3.3**
	1.3nm,0.3s,baz=277,slow=28,SNR=5.7						
JHJ	**Hachijo jima 2**	**6.38**	**180**	S	**Sn**	**10 28 21.4**	**-5.5**
	8.1nm,0.3s,baz=88,slow=22,SNR=6.6						
ZALV	**Zalesovo Beam**	**39.30**	**310**	P	**P**	**10 32 53.6**	**-0.1**
	0.8nm,0.3s,baz=61,slow=6.8,SNR=2.6						
MKAR	**Makanchi Array**	**41.72**	**300**	P	**P**	**10 33 13.6**	**-0.1**
	0.2nm,0.6s,baz=93,slow=8.9,SNR=2.1						
ILAR	**Eielson Array**	**48.12**	**33**	P	**P**	**10 34 04.8**	**+0.9**
	0.4nm,0.7s,baz=286,slow=6.4,SNR=5.4						
WRA	**Warramunga Arr**	**59.36**	**186**	P	**P**	**10 35 25.5**	**-0.3**
	0.4nm,0.8s,baz=2.0,slow=7.0,SNR=1.8						
FINES	**FINESS Array B**	**66.01**	**331**	P	**P**	**10 36 08.7**	**-0.6**
	0.7nm,0.5s,baz=35,slow=10,SNR=4.1						
NVAR	**Mina Array Bea**	**74.54**	**53**	P	**P**	**10 37 02.2**	**+0.3**
	0.3nm,0.6s,baz=316,slow=4.1,SNR=4.0						
TXAR	**Lajitas Array**	**89.62**	**51**	P	**P**	**10 38 20.6**	**+0.4**
	0.2nm,0.6s,baz=285,slow=4.9,SNR=3.6						

WEL 23 10:46:15.9, 39°.9S±0°.9×17°.7E±°, h17km±2km, M2.2/19, ML2.4/19, MLv2.2/19, Error ellipse: s-maj=0.0km s-min=0.0km az=85.8, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PXZ	**Pawanui**	**0.11**	**169**	P	Pb	10 46 20.1	+0.5
KAHZ	**Kahuranaki**	**0.14**	**13**	P	Pb	10 46 20.4	+0.3
WPHZ	**Waipukurau**	**0.33**	**246**	P	Pb	10 46 23.9	+0.4
PRHZ	**Porangahau**	**0.37**	**204**	P	Pb	10 46 24.8	+0.6
KRHZ	**Kereru**	**0.46**	**308**	P	Pb	10 46 25.7	+0.1
PNHZ	**Pukenui**	**0.49**	**271**	P	Pb	10 46 26.3	+0.2
MCHZ	**McNeill Hill**	**0.49**	**347**	P	Pb	10 46 26.6	+0.5
KWHZ	**Kaweka Forest**	**0.59**	**327**	P	Pb	10 46 28.0	0.0
ANWZ	**Angora Road**	**0.60**	**207**	P	Pn	10 46 30.1	+0.4
DVHZ	**Dannevirke**	**0.63**	**234**	P	Pb	10 46 28.6	0.0
TSZ	**Takapari Road**	**0.69**	**259**	P	Pg	10 46 29.4	0.0
BHHZ	**Black Hill Sta**	**0.74**	**306**	P	Pb	10 46 30.2	-0.2
BKZ	**Black Stump Fm**	**0.81**	**341**	P	Pb	10 46 31.1	-0.4
NMHZ	**Naumai**	**0.83**	**358**	P	Pb	10 46 31.9	0.0
MOVZ	**Moawhango**	**0.98**	**301**	P	Pb	10 46 34.3	-0.3
RAHZ	**Arahi**	**1.03**	**11**	P	Pg	10 46 47.6	+12
MTHZ	**Maungataniwha**	**1.07**	**0**	P	Pb	10 46 35.2	-0.9
MTHZ	**Maungataniwha**	**1.07**	**0**	P	Pg	10 46 45.6	+8.8
TUVZ	**Tukino**	**1.13**	**305**	P	Pn	10 46 37.2	+0.1
MHGZ	**Mahia Peninsul**	**1.13**	**47**	P	Sg	10 46 54.2	+1.5
MRHZ	**Matea Rd**	**1.14**	**343**	P	Pg	10 46 44.2	+6.2
WHVZ	**Whangaehu Hut**	**1.16**	**303**	P	Pn	10 46 37.6	0.0
FWVZ	**Far West T-bar**	**1.20**	**304**	P	Pb	10 46 38.4	+0.1
SNGZ	**Shannon Statio**	**1.21**	**19**	P	Pg	10 46 48.1	+8.8
MRZ	**Mangatainoka R**	**1.21**	**232**	P	Pn	10 46 36.3	-1.8
RITZ	**Rihia Road**	**1.21**	**321**	P	Pg	10 46 46.2	+6.8
WTVZ	**West Tongariro**	**1.26**	**310**	P	Pb	10 46 39.7	+0.4
PRGZ	**Paritu Road**	**1.29**	**39**	P	Sg	10 46 52.6	-5.0
RTZ	**Ruatahuna**	**1.31**	**5**	P	Pg	10 46 45.0	+3.7
RATZ	**Rangitukua**	**1.34**	**322**	P	Pg	10 46 45.4	+3.6
TWVZ	**Taurewa**	**1.38**	**308**	P	Pg	10 46 48.2	+5.7
RIGZ	**Rimuhau**	**1.42**	**31**	P	Pg	10 46 50.3	+7.1
MUGZ	**Murupara**	**1.45**	**358**	P	Pg	10 46 43.5	-0.3
RAGZ	**Rawiri**	**1.50**	**18**	P	Pg	10 46 48.4	+3.6
HRRZ	**Handcock Road**	**1.59**	**344**	P	Pn	10 46 42.6	-0.8
URZ	**Urewera**	**1.68**	**7**	P	Pn	10 46 45.0	+0.4
MWZ	**Matawai**	**1.68**	**19**	P	Pg	10 46 48.1	-0.1
TKGZ	**Te Karaka**	**1.68**	**28**	P	Pg	10 46 51.7	+3.4
CNGZ	**Carnagh Statio**	**1.79**	**37**	P	Pg	10 46 54.6	+4.2
VRZ	**Vera Road**	**1.80**	**296**	P	Pg	10 46 53.2	+2.8
OMRZ	**Omania**	**1.85**	**349**	P	Pn	10 46 43.2	-3.8
TLZ	**Tolley Road**	**1.89**	**327**	P	Pn	10 46 45.0	-2.5
NGRZ	**Ngongotaha**	**1.89**	**344**	P	Pn	10 46 42.8	-4.7
KARZ	**Kaharoa**	**1.96**	**346**	P	Pn	10 46 43.5	-4.9
RUGZ	**Raukumara Rang**	**2.06**	**19**	P	Pn	10 46 49.5	-0.5
HIZ	**Hauiti**	**2.09**	**312**	P	Pn	10 46 50.1	0.0
OPRZ	**Ohinepanea**	**2.09**	**354**	P	Pn	10 46 44.6	-5.6
PUZ	**Puketiti**	**2.16**	**31**	P	Pb	10 46 55.2	+0.6
PKGZ	**Pakihiroa**	**2.25**	**26**	P	Pn	10 46 54.3	+1.8
HAZ	**Te Kaha**	**2.29**	**19**	P	Pn	10 46 51.5	-1.4
WMGZ	**Waiomatatini S**	**2.44**	**31**	P	Pn	10 46 57.1	+2.1
MXZ	**Matakaoa Point**	**2.63**	**26**	P	Pn	10 46 58.1	+0.5
MKAZ	**Moumakai**	**3.11**	**334**	P	Pn	10 46 54.8	-9.4
KUZ	**Kuaotunu**	**3.29**	**344**	P	Pn	10 46 56.2	-11
ETAZ	**East Tamaki Re**	**3.33**	**333**	P	Pn	10 46 57.7	-9.5
WIAZ	**Waiheke Island**	**3.40**	**336**	P	Pn	10 46 58.2	-10

IDC 23 11:03:08.3±7.0, 17°.93S×178°.24W, h0km, mb3.8/3, mb1 4.1/3, mb1mx3.6/27, mbtmp3.8/3, Error ellipse: s-maj=307.4km s-min=34.3km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.78**	**260**	P	P	11 11 23.7	-0.5
	0.2nm,0.3s,baz=96,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**44.94**	**254**	P	P	11 11 25.6	+0.2
	1.4nm,0.5s,baz=86,slow=8.5,SNR=30						
ILAR	**Eielson Array**	**85.87**	**13**	P	P	11 15 49.5	0.0
	0.5nm,0.3s,baz=211,slow=7.4,SNR=11						

IDC 23 11:08:54.0±4.3, 2°.37N×102°.30W, h0km, mb3.5/4, mb1 3.9/4, mb1mx3.7/35, mbtmp3.5/4, MS3.3/6, Ms1 3.3/6, ms1mx3.0/21, Error ellipse: s-maj=219.4km s-min=60.3km az=95.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTS	**Las Juntas de**	**18.94**	**65**	LR	LR	11 18 15.4	
	comp=Z,96nm,19.9s,baz=320,slow=30						
ATAH	**Atahualpa**	**25.66**	**112**	LR	LR	11 22 40.1	
	comp=Z,29nm,20.5s,baz=305,slow=32						
TXAR	**Lajitas Array**	**26.85**	**357**	P	P	11 14 36.0	-0.6
	0.3nm,0.9s,baz=184,slow=11,SNR=2.9						
TXAR				LR	LR	11 24 37.6	
	comp=Z,32nm,18.2s,baz=0.0,slow=35						
NNA	**Nana**	**29.04**	**120**	LR	LR	11 23 57.9	
	comp=Z,36nm,19.5s,baz=290,slow=31						
LPAZ	**La Paz**	**38.51**	**120**	LR	LR	11 30 20.4	
	comp=Z,29nm,21.8s,baz=21,slow=33						
NVAR	**Mina Array

THIG		**1.16**	**90**	*eP*		**Pn**	**12 03 07.5**	**0.0**
THIG				*i S*		**Sn**	**12 03 22.1**	**-0.3**
CCIG	**Comitan**	**1.87**	**43**			**Pn**	**12 03 17.2**	**-0.2**
CCIG						**Sn**	**12 03 39.9**	**-0.1**
CCIG	**Comitan**	**1.87**	**43**	*eP*		**Pn**	**12 03 17.2**	**-0.2**
CCIG				*eS*		**Sn**	**12 03 39.9**	**-0.1**
TEIG	**Tepich**	**7.25**	**42**	Pn		**Pn**	**12 04 31.6**	**+0.8**

IDC 23 12:28:15.8±2.2, 4°58S×153°01E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/39, mbtmp3.6/3, Error ellipse: s-maj=40.8km s-min=14.9km az=27.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.02**	**285**	Pg	Pb	12 28 36.9	+0.5
	67nm,0.3s,baz=164,slow=1.6,SNR=91						
KRVT				Lg	Lg	12 28 48.7	
	220nm,0.3s,baz=104,slow=22,SNR=18						
KRVT				LR	LR	12 29 05.3	
	comp=Z,103nm,19.8s,baz=39,slow=48						
WRA	**Warramunga Arr**	**23.75**	**228**	P	P	12 33 30.5	+0.5
	1.3nm,0.6s,baz=54,slow=10.0,SNR=12						
ASAR	**Alice Springs**	**26.45**	**222**	P	P	12 33 56.0	+1.2
	0.1nm,0.4s,baz=55,slow=8.6,SNR=7.5						
FITZ	**Fitzroy Crossi**	**29.95**	**241**	P	P	12 34 25.2	-0.8
	1.6nm,0.8s,baz=68,slow=11,SNR=1.8						
TORD	**Torodi Ar. Bea**	**150.44**	**289**	PKPbc	PKPbc	12 48 08.5	-2.0
	0.4nm,0.3s,baz=58,slow=2.0,SNR=6.9						

*IDC **23** 12:34:52.5±1.8, 0°.25N×125°.47E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.6/43, mbtmp3.8/5, ML3.0/1, Error ellipse: s-maj=117.3km s-min=26.1km az=66.0*
*DJA **23** 12:34:57.9±0.2, 0°.3N±3°×12°.6E±°, h10km, M3.8/10, mb3.9/1, MLv3.8/10*

ISC 23 12:34:56.0±0.8, 0°.22N±0°.06×125°.66E±0°.04, h10km, n13, σ2s55/17, mb4.0/4, Northern Moluca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.71**	**282**	P	Pn	**12 35 27.0**	**+1.1**
KMSI				S	Sn	**12 35 47.7**	**-0.2**
TNTI	**Ternate**	**1.79**	**72**	P	Pb	**12 35 29.6**	**+0.6**
TNTI				S	Sn	**12 35 51.0**	**+1.1**
LBMI	**Labuha**	**2.03**	**115**	P	Pn	**12 35 33.1**	**+2.8**
SANI	**Sanana**	**2.28**	**172**	P	Pn	12 35 35.4	+1.7
SANI				S	Sn	**12 36 00.0**	**-1.9**
LUWI	**Luwuk**	**3.15**	**247**	P	Pb	**12 35 51.7**	**-0.4**
LUWI				S	Sb	**12 36 35.9**	**+5.4**
NLAI	**Namlea**	**3.73**	**157**	P	Pn	**12 35 56.5**	**+2.9**
MSAI	**Masohi**	**4.82**	**137**	P	Pn	**12 36 10.8**	**+2.1**
MPSI	**Mapaga**	**5.76**	**271**	P	Pn	**12 36 25.3**	**+3.7**
FITZ	**Fitzroy Crossi**	**18.20**	**180**	P	Pn	**12 39 07.1**	**-1.9**
	0.0nm,0.3s,baz=24,slow=10.0,SNR=1.2						
WRA	**Warramunga Arr**	**21.77**	**157**	P	**P**	**12 39 45.9**	**-2.3**
	1.8nm,0.3s,baz=335,slow=11,SNR=30						
ASAR	**Alice Springs**	**25.06**	**162**	P	**P**	**12 40 20.8**	**0.0**
	1.3nm,0.3s,baz=344,slow=12,SNR=49						
STKA	**Stephens Creek**	**35.31**	**156**	P	**P**	**12 41 50.0**	**-1.4**
	3.0nm,0.8s,baz=324,slow=8.7,SNR=4.3						
MKAR	**Makanchi Array**	**59.85**	**327**	P	**P**	**12 44 58.9**	**-3.0**
	0.2nm,0.4s,baz=127,slow=7.8,SNR=2.3						

IDC 23 12:38:02.8±2.3, 45°.70N×154°.21E, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/46, mbtmp3.6/4, ML3.2/2, Error ellipse: s-maj=77.8km s-min=26.6km az=152.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.76**	**16**	Pn	Pn	12 39 56.9	0.0
	0.5nm,0.3s,baz=194,slow=17,SNR=12						
ASAJ	**Asahikawa**	**8.39**	**263**	Pn	Pn	12 40 05.5	-0.2
	0.5nm,0.3s,baz=99,slow=27,SNR=6.7						
KSRS	**Korea Array**	**21.25**	**257**	P	P	12 42 50.9	+0.5
	0.6nm,0.8s,baz=58,slow=12,SNR=4.2						
PDAR	**Pinedale Array**	**64.75**	**54**	P	P	12 48 43.1	0.0
	0.3nm,0.3s,baz=300,slow=6.0,SNR=4.4						

*UCR **23** 12:52:22.1±1.9, 8°.27N×82°.81W, h10km±6km, MD3.7*
*UPA **23** 12:52:22.6±1.3, 8°.33N×82°.81W, h16km±2km, MW4.5*

ISC 23 12:52:22.5±1.0, 8°.31N±0°.04×82°.81W±0°.02, h17km±7km, n29, σ1s05/51, 4D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBAR3	**San Bartolo, C**	**0.08**	**279**	*eP*	**Pg**	**12 52 26.1**	**+0.3**
DVD	**David**	**0.38**	**70**	*eP*	**Pg**	**12 52 30.5**	**+0.2**
DVD				*eS*	**Sb**	**12 52 36.9**	**+0.7**
PEDE3	**Pedregal, Chir**	**0.39**	**79**	*eP*	**Pb**	**12 52 30.9**	**0.0**
PEDE3				*eS*	**Sb**	**12 52 37.5**	**+0.9**
LOCO3	**Loma Colorada,**	**0.40**	**75**	*eP*	**Pb**	**12 52 31.1**	**0.0**
LOCO3				*eS*	**Sb**	**12 52 37.7**	**+0.8**
LOMA3	**Las Lomas, Chi**	**0.43**	**73**	*eS*	**Sb**	**12 52 37.9**	**+0.1**
CHIR3	**Chiriqui UPA,**	**0.48**	**79**	*eP*	**Pg**	**12 52 32.4**	**+0.2**
CHIR3				*eS*	**Sb**	**12 52 40.0**	**+0.7**
BCO2	**Palmira**	**0.49**	**34**	*⇓iP*	**Pb**	**12 52 33.0**	**+0.1**
BCO2				*eS*	**Sb**	**12 52 41.0**	**+1.1**
BRU2	**Volcan**	**0.50**	**13**	*⇓iP*	**Pb**	**12 52 32.9**	**0.0**
BRU2				*eS*	**Sb**	**12 52 41.5**	**+1.5**
BRU2	**Volcan**	**0.50**	**13**	*iP*	**Pb**	**12 52 32.9**	**0.0**
BRU2				*eS*	**Sb**	**12 52 42.0**	**+2.1**
EDSV	**San Vito**	**0.54**	**342**	*eP*	**Pb**	**12 52 34.4**	**+0.9**
EDSV				*eS*	**Sb**	**12 52 42.6**	**+1.6**
PTJ1	**Puerto Jimnez**	**0.54**	**295**	*eP*	**Pg**	**12 52 32.6**	**-0.7**
PTJ1				*eS*	**Sb**	**12 52 41.8**	**+0.8**
BC3P	**Paso Ancho**	**0.54**	**21**	*⇓iP*	**Pg**	**12 52 33.4**	**0.0**
BC3P				*eS*	**Sb**	**12 52 42.4**	**+1.2**
PSOM3	**Paja de Sombre**	**0.61**	**52**	*⇓iP*	**Pg**	**12 52 34.3**	**-0.3**
PSOM3				*eS*	**Sb**	**12 52 43.5**	**+0.4**
CHGR2	**Aguacate**	**0.91**	**46**	*eP*	**Pg**	**12 52 38.3**	**-1.8**
CHGR2				*eS*	**Sg**	**12 52 51.1**	**-1.0**
EDPN	**Palmar Norte**	**0.92**	**315**	*eP*	**Pg**	**12 52 38.8**	**-1.5**
EDPN				*eS*	**Sg**	**12 52 51.9**	**-0.5**
EDBA	**Buenos Aires**	**0.97**	**331**	*eP*	**Pb**	**12 52 40.6**	**-0.3**
EDBA				*eS*	**Sb**	**12 52 54.6**	**+1.2**
DRK0	**Durika**	**1.04**	**336**	*eP*	**Pb**	**12 52 41.0**	**-1.2**
DRK0				*eS*	**Sb**	**12 52 55.8**	**+0.1**
DRK0	**Durika**	**1.04**	**336**	*eP*	**Pb**	**12 52 40.9**	**-1.3**
DRK0				*eS*	**Sb**	**12 52 55.8**	**+0.1**
NANC3	**Nancito, Chiri**	**1.06**	**93**	*eS*	**Sb**	**12 52 56.6**	**+0.5**
CNI2	**El Empalme, Bo**	**1.16**	**17**	*eP*	**Pg**	**12 52 43.2**	**-0.7**
CNI2				*eS*	**Sb**	**12 52 57.1**	**-1.8**
EDDO	**Dominical**	**1.41**	**312**	*eP*	**Pn**	**12 52 46.0**	**-1.4**
GMAL	**Guarumal, Vera**	**1.65**	**109**	*eP*	**Pn**	**12 52 48.7**	**-1.9**
GMAL				*eS*	**Sn**	**12 53 10.4**	**-1.0**
LCR2	**La Lucha 2**	**1.85**	**320**	*eP*	**Pn**	**12 52 54.4**	**+0.7**
LCR2				*eS*	**Sb**	**12 53 19.3**	**+0.3**
CVTR	**Volcan Turrial**	**1.94**	**331**	*eP*	**Pn**	**12 52 55.8**	**+0.7**
CVTR				*eS*	**Sb**	**12 53 21.7**	**-0.2**
HDC	**Heredia**	**2.12**	**323**	*eP*	**Pn**	**12 52 58.9**	**+1.5**
CACAO	**El Cacao, Vera**	**2.15**	**116**	*eP*	**Pn**	**12 52 56.9**	**-0.7**
CACAO				*eS*	**Sn**	**12 53 25.4**	**+1.5**
AZU	**Azuero**	**2.56**	**101**	*eP*	**Pn**	**12 53 04.1**	**+0.9**
AZU				*eS*	**Sn**	**12 53 35.4**	**+1.5**
JTS	**Las Juntas de**	**2.89**	**313**	*eP*	**Pn**	**12 53 09.1**	**+1.3**
CUI	**Cuipilapa**	**3.30**	**315**	*eP*	**Pn**	**12 53 15.0**	**+1.6**

HEL 23 13:02:42.2±0.6, 67°.63N×33°.94E, h0km, ML1.6, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRF	**Varrio**	**1.66**	**276**	PG	Pn	13 03 12.1	-0.3
	baz=88						
VRF				MSG		13 03 31.7	
	comp=Z,2.7nm,0.2s						
VRF				SG	Sn	13 03 32.7	-1.7
KU6	**Riekki**	**2.27**	**227**	PG	Pb	13 03 22.9	-1.1
	baz=41						
KU6				MSG		13 03 49.3	
	comp=Z,3.4nm,0.2s						
ARE0	**ARCESS Array S**	**3.64**	**306**	PN	Pn	13 03 39.0	-0.7
	baz=119						
ARE0				SN	Sn	13 04 22.0	-1.2

BER 23 13:03:08.5±0.9, 66°.71N×13°.49E, h0km±10km, ML1.0, 1C, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBB13	**Alf Garage**	**0.10**	**220**	*eP*	Pg	13 03 10.3	-0.2
NBB13				*eS*	Sg	13 03 11.7	0.0
NBB13				IAML		13 03 12.1	
	comp=Z,106nm,0.1s						
NBB17	**Glomfjord BYr**	**0.21**	**59**	*eP*	Pg	13 03 12.2	-0.4
NBB17				*eS*	Sg	13 03 15.4	0.0
NBB17	**Glomfjord BYr**	**0.21**	**59**	IAML		13 03 19.3	
	comp=Z,54nm,0.3s						
KONS	**Konsvik**	**0.26**	**216**	*⇑iP*	Pg	13 03 13.1	-0.3
KONS				*eS*	Sg	13 03 16.6	-0.1
KONS				IAML		13 03 17.2	
	comp=Z,10nm,0.3s						
NBB40	**Tonnes**	**0.27**	**225**	*eP*	Pg	13 03 13.4	-0.3
NBB40				*eS*	Sg	13 03 16.8	-0.4
NBB40				IAML		13 03 17.4	
	comp=Z,11nm,0.2s						
NBB30	**Finnes**	**0.28**	**20**	*eP*	Pg	13 03 13.4	-0.5
NBB30				*eS*	Sg	13 03 17.2	-0.4
NBB30				IAML		13 03 17.8	
	comp=Z,17nm,0.2s						
NBB14	**Nordeng Farm**	**0.41**	**189**	*eP*	Pg	13 03 16.0	-0.3
NBB14	**Nordeng Farm**	**0.41**	**189**	*eS*	Sg	13 03 21.2	-0.4
NBB14				IAML		13 03 22.1	
	comp=Z,5.9nm,0.3s						
STOK	**Stokkvaagen**	**0.42**	**207**	*eP*	Pg	13 03 15.9	-0.6
STOK				*eS*	Sg	13 03 22.0	+0.1
NBB28	**Valnes**	**0.62**	**38**	*eP*	Pg	13 03 19.8	-0.5
NBB28				*eS*	Sg	13 03 27.6	-0.8
NBB28				IAML		13 03 28.6	
	comp=Z,15nm,0.3s						
MOR8	**Moi Rana**	**0.66**	**144**	*eP*	Pg	13 03 19.7	-1.4
MOR8				*eS*	Sg	13 03 29.1	-0.5
MOR8				IAML		13 03 32.1	
	comp=Z,3.3nm,0.3s						
NBB03	**Karbol**	**0.71**	**55**	*eP*	Pg	13 03 21.3	-0.7
NBB03				*eS*	Sg	13 03 30.3	-0.8
NBB03				IAML		13 03 31.4	
	comp=Z,9.1nm,0.2s						
FAUS	**Fauske**	**0.98**	**45**	*eP*	Pg	13 03 25.4	-1.8
FAUS				*eSg*	Sg	13 03 38.5	-1.4
N2TV	**TYrnvik**	**1.07**	**36**	*eP*	Pg	13 03 27.5	-1.6
N2TV				*eS*	Sg	13 03 42.8	-0.2
N2TV				IAML		13 03 43.5	
	comp=Z,4.3nm,0.3s						
N2NF	**Nordfold**	**1.26**	**32**	*eS*	Sg	13 03 48.3	-0.5
N2IH	**Innhavet**	**1.58**	**36**	*eSg*	Sn	13 03 58.3	-0.5
N2IH				IAML		13 04 01.4	
	comp=Z,4.9nm,0.5s						

*IDC **23** 13:19:55.4±2.8, 36°.79N×72°.28E, h0km, mb3.9/4, mb1 3.8/11, mb1mx3.5/53, mbtmp3.7/11, ML3.4/7, MS4.7/1, Ms1 4.7/1, ms1mx2.5/48, Error ellipse: s-maj=53.7km s-min=20.5km az=138.0*
*NEIC **23** 13:20:10.0±2.2, 37°.40N±0°.06×72°.1E±0°.1, h101km±10km, mb4.1/2, Error ellipse: s-maj=12.4km s-min=8.8km az=96.0*
*NNC **23** 13:20:12.4±1.9, 37°.85N×71°.94E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=14.6km s-min=10.2km az=168.0*

ISC 23 13:20:09.7±0.6, 37°.32N±0°.05×72°.14E±0°.06, h130km, n55, σ2s21/61, mb3.8/4, 4C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.21**	**320**		**Pn**	**13 20 44.6**	**-1.7**
CHGR	**Chuyangaron**	**2.71**	**301**	Pn	**Pn**	**13 20 50.5**	**-2.1**
BTK	**Batken**	**2.93**	**340**		**Pn**	**13 20 55.5**	**+0.1**
CEP	**Cherat**	**3.49**	**183**	P	**Pn**	**13 21 04.4**	**+1.6**
KBL	**Kabul**	**3.74**	**223**	Pn	**Pn**	**13 21 07.4**	**+1.3**
CHCP	**Chirah Chowk**	**3.76**	**166**	P	**Pn**	**13 21 08.4**	**+2.0**
NIL	**Nilore**	**3.77**	**166**	Pn	**Pn**	**13 21 08.3**	**+1.9**
ARSB	**Arslanbob**	**4.06**	**9**	Pn	**Pn**	**13 21 09.7**	**-0.6**
THW	**Thamme Wali**	**4.52**	**184**	P	**Pn**	**13 21 17.3**	**+0.9**
AML	**Almayashu**	**4.96**	**14**	P	**Pn**	**13 21 22.9**	**+0.4**
	SNR=93						
UCH	**Uchtor**	**5.24**	**20**	P	**Pn**	**13 21 26.6**	**+0.4**
	SNR=18						
KZA	**Kyzart**	**5.33**	**26**	P	**Pn**	**13 21 27.5**	**+0.1**
	SNR=6.3						
SARP	**Sargodha**	**5.40**	**175**	P	**Pn**	**13 21 28.4**	**+0.3**
EKS2	**Erkin-Say**	**5.49**	**13**	P	**Pn**	**13 21 30.2**	**+0.9**
	SNR=12						
AAK	**Ala-Archa**	**5.62**	**18**	Pn	**Pn**	**13 21 30.3**	**-0.7**
	2.8nm,0.3s,baz=192,slow=5.9,SNR=16						
AAK				Sn	**Sn**	**13 22 32.4**	**-2.2**
	2.8nm,0.3s,baz=322,slow=21,SNR=18						
AAK				LR	LR	13 23 59.1	
	comp=Z,39nm,19.9s,baz=196,slow=40						
AAK	**Ala-Archa**	**5.62**	**18**	P	**Pn**	**13 21 32.2**	**+1.1**
	SNR=9.3						
AAK	**Ala-Archa**	**5.62**	**18**	*⇓P*	**Pn**	**13 21 31.7**	**+0.5**
	7.9nm,0.6s						
AAK				*⇑S*	**Sn**	**13 22 32.8**	**-1.8**
	28nm,0.6s						
AAK	**Ala-Archa**	**5.62**	**18**	Pn	**Pn**	**13 21 31.6**	**+0.5**
THN	**Thein Dam**	**5.69**	**148**	*eP*	**Pn**	**13 21 35.0**	**+3.0**
THN				*eS*	**Sn**	**13 22 34.0**	**-2.2**
KK31	**Karatay Array**	**5.91**	**348**	*⇓P*	**Pn**	**13 21 34.3**	**-0.6**
	11nm,0.3s,baz=164,slow=10.0,SNR=83						
KK31				*⇑S*	**Sn**	**13 22 37.3**	**-4.2**
	7.6nm,0.3s,baz=175,slow=22,SNR=8.5						
KK31	**Karatay Array**	**5.91**	**348**		**Pn**	**13 21 34.2**	**-0.8**
KKAR	**Karatay Array**	**5.91**	**348**		**Pn**	**13 21 34.1**	**-0.9**
BOOM	**Boomskoye usch**	**5.94**	**28**	Pn	**Pn**	**13 21 33.4**	**-2.0**
CHMS	**Chumysh**	**6.02**	**19**	P	**Pn**	**13 21 37.1**	**+0.8**
	SNR=5.4						
KDJ	**Kajisay**	**6.18**	**37**	Pn	**Pn**	**13 21 38.0**	**-0.7**
TKM2	**Tokmak 2**	**6.19**	**24**	*⇑P*	**Pn**	**13 21 38.9**	**0.0**
	1.4nm,0.4s						
TKM2				*⇓S*	**Sn**	**13 22 47.6**	**-1.0**
	3.1nm,0.6s						
TARG	**Taragay, Kyrgy**	**6.21**	**43**	Pn	**Pn**	**13 21 39.9**	**+0.5**
SMLA	**Simla**	**7.44**	**145**	*eP*	**Pn**	**13 21 54.6**	**-1.0**
GEYT	**Alibeck**	**11.14**	**277**	Pn	Pn	13 22 38.8	-6.4
	1.2nm,0.3s,baz=108,slow=9.4,SNR=7.2						
GEYT				Sn	**Sn**	**13 24 41.5**	**-6.5**
	1.9nm,0.3s,baz=114,slow=15,SNR=4.2						
MAKZ	**Makanchi**	**11.97**	**34**		**Pn**	**13 22 55.7**	**-0.2**
MK31	**Makanchi Array**	**12.10**	**35**	Pn	**Pn**	**13 22 57.6**	**-0.1**
MKAR	**Makanchi Array**	**12.10**	**35**	Pn	**Pn**	**13 22 57.3**	**-0.4**
	0.1nm,0.3s,baz=222,slow=12,SNR=5.1						
MKAR	**Makanchi Array**	**12.10**	**35**	Pn	**Pn**	**13 22 57.6**	**-0.2**
DANN	**Dangsing**	**13.23**	**129**	*eP*	**Pn**	**13 23 09.4**	**-3.5**
	11nm,0.2s						
KOLN	**Kolbanda**	**13.56**	**131**	*eP*	**Pn**	**13 23 14.0**	**-2.9**
	15nm,0.4s						
GKN	**Gorkha**	**14.03**	**128**	*eP*	**Pn**	**13 23 19.3**	**-3.6**
KURBB	**Kurchatov Arra**	**14.07**	**17**	Pn	**Pn**	**13 23 20.2**	**-2.8**
	0.0nm,0.3s,baz=205,slow=12,SNR=4.2						
KURK	**Kurchatov**	**14.18**	**17**		**P**	**13 23 28.9**	**+1.0**
DMN	**Daman**	**14.60**	**128**	*eP*	**Pn**	**13 23 26.5**	**-3.7**
PKIN	**Phulchoki**	**14.80**	**127**	*eP*	**Pn**	**13 23 29.8**	**-3.0**
	8.3nm,0.3s						
PKI	**Pulchoki**	**14.82**	**127**	*eP*	**Pn**	**13 23 30.3**	**-2.7**
	7.4nm,0.3s						
AB31	**Akbulak array**	**14.85**	**327**	P	**P**	**13 23 35.5**	**+0.1**
	0.8nm,0.2s,baz=133,slow=12,SNR=18						
AB31				*⇓S*	**Sn**	**13 26 15.3**	**-1.9**
	3.0nm,0.3s,baz=130,slow=24,SNR=4.4						
ABKAR	**Akbulak array**	**14.85**	**327**	Pn	**Pn**	**13 23 31.4**	**-1.5**
JIRN	**Jiri**	**15.26**	**125**	*eP*	**Pn**	**13 23 35.4**	**-3.2**
BVAR	**Borovoye Array**	**15.76**	**356**	Pn	**Pn**	**13 23 42.4**	**-1.8**
	0.2nm,0.3s,baz=170,slow=9.6,SNR=3.6						
RAMN	**Ramite**	**16.01**	**126**	*eP*	**Pn**	**13 23 44.7**	**-3.1**
AKTO	**Aktyubinsk**	**16.56**	**327**	Pn	**Pn**	**13 23 53.4**	**-0.7**
	0.3nm,0.3s,baz=127,slow=13,SNR=4.7						
AKTO	**Aktyubinsk**	**16.56**	**327**	*⇓P*	**P**	**13 23 58.2**	**+3.8**
	3.8nm,1.1s						
AKTO				*⇑S*	**Sn**	**13 26 58.8**	**+0.4**
	1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**18.80**	**24**	P	**P**	**13 24 19.8**	**+1.0**
	0.2nm,0.3s,baz=224,slow=10,SNR=2.9						
ZALV	**Zalesovo Beam**	**18.80**	**24**	P	**Pn**	**13 24 20.5**	**-0.3**
FINES	**FINESS Array B**	**37.33**	**325**	P	**P**	**13 27 11.9**	**+3.0**
	2.6nm,1.0s,baz=133,slow=8.1,SNR=4.3						
ARCES	**ARCESS Array B**	**40.75**	**337**	P	**P**	**13 27 41.9**	**+4.5**
	1.2nm,0.7s,baz=113,slow=9.5,SNR=5.1						
ESDC	**Sonseca Array**	**57.88**	**298**	P	**P**	**13 29 52.0**	**+4.1**
	0.7nm,0.7s,baz=45,slow=7.5,SNR=5.0						
SIJI	**Sorong**	**66.42**	**111**	LR	LR	14 01 41.6	
	comp=Z,492nm,18.2s,baz=120,slow=38						
TORD	**Torodi Ar. Bea**	**66.65**	**269**	P	**P**	**13 30 49.0**	**+2.4**
	0.8nm,0.5s,baz=42,slow=5.4,SNR=5.3						

IDC 23 13:22:06.7±2.4, 6°.87S×129°.96E, h0km, mb3.6/1, mb1 3.5/3, mb1mx3.3/32, mbtmp3.3/3, ML3.4/2, Error ellipse: s-maj=154.8km s-min=33.4km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.67**	**162**	Pn	Pn	13 25 22.5	+0.5
	0.2nm,0.3s,baz=345,slow=13,SNR=2.4						
WRA				Sn	Sn	13 27 42.5	-12
	0.4nm,0.3s,baz=212,slow=9.0,SNR=7.9						
ASAR	**Alice Springs**	**17.12**	**168**	P	Pn	13 26 07.2	-0.4
	0.1nm,0.3s,baz=343,slow=8.7,SNR=1.2						
MKAR	**Makanchi Array**	**68.09**	**327**	P	P	13 33 08.4	0.0
	0.5nm,0.6s,baz=126,slow=7.3,SNR=5.3						

*IDC **23** 13:23:35.1±2.0, 30°.37N×41°.71W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.6/55, mbtmp3.8/5, MS3.9/31, Ms1 3.9/31, ms1mx3.6/57, Error ellipse: s-maj=102.5km s-min=28.2km az=26.0*
*NEIC **23** 13:23:36.1±1.3, 30°.5N±0°.1×41°.6W±0°.1, h10km±2km, mb4.7/10, Error ellipse: s-maj=26.1km s-min=15.3km az=155.0*
*GCMT **23** 13:23:39.1±0.4, 31°.28N±0°.05×41°.52W±0°.03, h16km±1km, MW4.9/76, Moment Tensor Solution. s20,c21; s76,c99; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.63±.17; Mθθ=0.30±.11; Mφφ=1.33±.11; Mrθ=2.49±.57; Mrφ=0.49±.06; Mθφ=0.75±.27; Best double couple: Mo=2.96500×10^16 NP1:φs=13.00000°,δ21.00000°,λ-138.00000°. NP2: φs=242.00000°,δ76.00000°,λ-74.00000°. Principal axes: T 2.5690, Plg30.0000°, Azm320.0000°; N 0.7930, Plg15.0000°, Azm59.0000°; P -3.3610, Plg56.0000°, Azm172.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 13:23:36.3±0.9, 30°.5N±0°.2×41°.6W±0°.1, h10km, n48, σ0s85/16, mb4.5/9, MS3.9/31, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSA	**Rosais**	**13.71**	**50**		**Pn**	**13 26 49.9**	**-0.9**
MACI	**Morro de la Ar**	**21.97**	**90**	P	**P**	**13 28 30.3**	**-0.3**
CUPR	**Culebra, Puert**	**24.69**	**246**	P	**P**	**13 28 55.9**	**-1.7**
CUPR				IAmb	IAmb	13 29 15.8	
	comp=Z,29nm,1.1s						
PDPR	**Patillas Dam,**	**25.43**	**246**	P	**P**	**13 29 03.8**	**-0.5**
PDPR				IAmb	IAmb	13 29 33.6	
	comp=Z,16nm,1.1s						
MDT	**Midelt**	**31.47**	**76**	LR	LR	13 39 28.7	
	comp=Z,214nm,21.9s,baz=300,slow=30						
W57A	**Gilead**	**32.46**	**289**	P	**P**	**13 30 07.0**	**+0.2**
SADO	**Sadowa**	**32.66**	**306**	LR	LR	13 42 17.6	
	comp=Z,205nm,18.3s,baz=141,slow=34						
TKL	**Tuckaleechee C**	**35.52**	**290**	LR	LR	13 42 16.9	
	comp=Z,237nm,21.6s,baz=80,slow=32						
FRB	**Frobisher Bay**	**37.40**	**341**	LR	LR	13 43 50.2	
	comp=Z,52nm,21.7s,baz=166,slow=32						
ROSC	**El Rosal**	**40.01**	**237**	LR	LR	13 47 39.7	
	comp=Z,58nm,19.7s,baz=24,slow=36						
DBIC	**Dimbokro**	**41.81**	**117**	LR	LR	13 46 04.3	
	comp=Z,224nm,21.6s,baz=306,slow=32						
DAVOX	**Davos/Dischmat**	**42.59**	**53**	LR	LR	13 46 45.4	
	comp=Z,53nm,18.4s,baz=260,slow=32						
TEIG	**Tepich**	**43.14**	**268**	LR	LR	13 46 26.3	
	comp=Z,190nm,21.4s,baz=50,slow=32						
TORD	**Torodi Ar. Bea**	**43.44**	**104**	P	**P**	**13 31 40.4**	**+0.8**
	comp=Z,2.1nm,0.9s,baz=289,slow=7.0,SNR=5.7						
TORD				LR	LR	13 46 59.8	
	comp=Z,72nm,22.0s,baz=330,slow=32						
TORD	**Torodi Ar. Bea**	**43.44**	**104**	P	**P**	**13 31 40.5**	**+0.8**
TORD				IAmb	IAmb	13 31 42.1	
	comp=Z,3.1nm,1.1s						
ULM	**Lac du Bonnet**	**44.71**	**312**	LR	LR	13 50 05.1	
	comp=Z,92nm,19.2s,baz=60,slow=36						
JTS	**Las Juntas de**	**44.99**	**253**	LR	LR	13 50 33.3	
	comp=Z,77nm,19.3s,baz=110,slow=36						
H10N2	**ASCENSION HYDR**	**46.13**	**141**	T	T	14 21 27.2	
	baz=328,slow=75,SNR=83						
H10N3	**ASCENSION HYDR**	**46.14**	**141**	T	T	14 21 25.8	
	baz=328,slow=75,SNR=78						
H10N1	**ASCENSION HYDR**	**46.15**	**141**	T	T	14 21 28.6	
	baz=328,slow=75,SNR=83						
BDFB	**Brasilia**	**46.28**	**189**	LR	LR	13 49 16.0	
	comp=Z,60nm,19.8s,baz=120,slow=33						
**H10

Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**13.41**	**18**	LR	LR	13 35 39.5	
	comp=Z,101nm,20.8s,baz=220,slow=30						
DSB	**Dublin**	**14.74**	**77**	Pn	**Pn**	**13 32 20.1**	**-1.5**
ESK	**Eskdalemuir**	**16.48**	**68**	P	**P**	**13 32 47.1**	**+0.1**
ESK				IAmb	IAmb	13 32 48.6	
	comp=Z,15nm,0.8s						
EKA	**Eskdalemuir Ar**	**16.50**	**68**	Pn	**Pn**	**13 32 45.2**	**+0.6**
	baz=268,slow=9.8,SNR=20						
DRLN	**Deer Lake**	**17.19**	**271**	P	**Pn**	**13 32 51.9**	**-1.5**
PGAV	**Gavieira, Arco**	**18.34**	**115**	*e*LR	LR	13 36 50.0	
	comp=Z,220nm,18.0s						
PBRG	**Braganca**	**19.30**	**113**	*e*P	**Pn**	**13 33 23.6**	**+4.3**
PCAS	**Casmilo, Conde**	**19.54**	**120**	*e*P	**P**	**13 33 19.3**	**-1.5**
MVO	**Moncorvo**	**19.56**	**115**	*e*P	**P**	**13 33 21.4**	**+0.2**
MVO				*e*LR	LR	13 37 12.2	
	comp=Z,137nm,20.0s						
PSBE	**So Bento**	**19.77**	**122**	*e*P	**Pn**	**13 33 28.9**	**+4.0**
MTE	**Manteigas**	**19.81**	**118**	*e*LR	LR	13 36 46.0	
	comp=Z,160nm,18.0s						
PCBR	**Castelo Branco**	**20.24**	**119**	*e*P	Pn	13 33 29.6	-0.8
PMTG	**Montargil**	**20.40**	**121**	*e*P	Pn	13 33 31.9	-0.4
PMRV	**Marv??o**	**20.58**	**119**	*e*P	**P**	**13 33 32.1**	**-0.1**
PMRV				*e*LR	LR	13 36 47.6	
	comp=Z,114nm,22.0s						
SUMG	**Summit**	**20.66**	**353**	*i* P	Pn	13 33 36.0	+0.5
	comp=Z,15nm,0.7s						
SUMG	**Summit**	**20.66**	**353**	P	**P**	**13 33 33.8**	**+0.6**
PNCL	**Nicolau / Gran**	**20.96**	**124**	*e*P	**P**	**13 33 36.3**	**0.0**
SCHQ	**Schefferville**	**21.48**	**291**	P	**P**	**13 33 41.5**	**-0.3**
	comp=Z,2.1nm,0.4s,baz=92,slow=9.9,SNR=4.9						
SCHQ	**Schefferville**	**21.48**	**291**		**P**	**13 33 41.1**	**-0.6**
PVAQ	**Vaqueiros**	**21.92**	**124**	*e*LR	LR	13 36 45.2	
	comp=Z,416nm,20.0s						
PAB	**San Pablo**	**22.16**	**115**	P	**P**	**13 33 49.7**	**+0.4**
PAB				IAmb	IAmb	13 34 25.3	
	comp=Z,18nm,1.8s						
ESBB	**Sonseca Array**	**22.29**	**114**	P	**P**	**13 33 49.5**	**-1.2**
ESDC	**Sonseca Array**	**22.29**	**114**	P	**P**	**13 33 48.9**	**-1.7**
	comp=Z,2.6nm,0.5s,baz=315,slow=9.0,SNR=23						
ESDC	**Sonseca Array**	**22.29**	**114**	P	**P**	**13 33 48.6**	**-2.0**
NOA	**NORSAR Array B**	**24.25**	**52**	P	**P**	**13 34 08.3**	**-1.9**
	comp=Z,0.5nm,0.5s,baz=271,slow=9.3,SNR=3.0						
NOA				LR	LR	13 42 37.1	
	comp=Z,59nm,18.9s,baz=260,slow=34						
BFO	**Black Forest**	**25.02**	**83**	P	**P**	**13 34 16.6**	**-0.6**
BFO				IAmb	IAmb	13 34 19.7	
	comp=Z,4.2nm,0.9s						
HFS	**Hagfors**	**25.47**	**54**	P	**P**	**13 34 20.7**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=225,slow=14,SNR=1.5						
HFS				LR	LR	13 43 05.6	
	comp=Z,84nm,20.9s,baz=248,slow=34						
TUE	**Stuetta**	**26.45**	**87**	P	**P**	**13 34 31.2**	**+0.8**
TUE				IAmb	IAmb	13 34 32.0	
	comp=Z,3.6nm,0.8s						
CLL	**Collm**	**26.74**	**74**	*e*P	**P**	**13 34 33.0**	**+0.3**
CLL				*e*		13 34 38.0	
CLL				LmV		13 45 00.0	
	comp=Z,200nm,18.7s						
GERES	**GERESS Array B**	**28.07**	**79**	P	**P**	**13 34 44.0**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=302,slow=7.7,SNR=5.6						
GERES				LR	LR	13 45 34.6	
	comp=Z,87nm,20.0s,baz=292,slow=36						
ZCCA	**Zocca**	**28.49**	**89**	P	**P**	**13 34 48.1**	**-0.4**
VRAC	**Vranov**	**29.62**	**77**	LR	LR	13 46 37.7	
	comp=Z,59nm,19.0s,baz=288,slow=36						
ARCES	**ARCESS Array B**	**30.82**	**35**	P	**P**	**13 35 07.2**	**-1.7**
	comp=Z,0.8nm,0.8s,baz=227,slow=8.0,SNR=3.6						
FINES	**FINESS Array B**	**31.39**	**51**	P	**P**	**13 35 13.6**	**-0.2**
	comp=Z,2.1nm,0.9s,baz=289,slow=8.4,SNR=1.9						
FINES				LR	LR	13 46 31.3	
	comp=Z,83nm,21.5s,baz=275,slow=34						
KEST	**Kesra**	**32.70**	**104**	P	**P**	**13 35 24.9**	**-0.9**
	comp=Z,6.7nm,0.8s,baz=345,slow=3.4,SNR=7.6						
KEST	**Kesra**	**32.70**	**104**	P	**P**	**13 35 24.9**	**-1.0**
BUR08	**Bucovina Ar. S**	**35.49**	**75**	P	**P**	**13 35 50.4**	**+0.5**
BUR08				IAmb	IAmb	13 35 52.2	
	comp=Z,3.2nm,1.0s						
BURAR	**Bucovina Array**	**35.51**	**75**	P	**P**	**13 35 50.8**	**+0.7**
AKASG	**Malin Array Be**	**36.41**	**68**	P	**P**	**13 35 56.3**	**-1.3**
	comp=Z,2.1nm,0.4s,baz=289,slow=9.6,SNR=4.4						
MLR	**Muntele Rosu**	**37.02**	**77**	P	**P**	**13 36 02.1**	**-0.9**
MLR				IAmb	IAmb	13 37 10.7	
	comp=Z,13nm,1.7s						
AGG	**Agios Georgios**	**38.50**	**89**	P	**P**	**13 36 14.7**	**-0.7**
YKA	**Yellowknife Ar**	**43.20**	**318**	P	**P**	**13 36 54.5**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=65,slow=8.5,SNR=6.8						
BRTR	**Keskin Array B**	**44.97**	**80**	P	**P**	**13 37 07.9**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=292,slow=6.5,SNR=4.7						
BRTR	**Keskin Array B**	**44.97**	**80**	P	**P**	**13 37 08.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**46.85**	**134**	P	**P**	**13 37 22.5**	**-0.9**
	comp=Z,1.7nm,0.5s,baz=334,slow=7.8,SNR=11						
TORD	**Torodi Ar. Bea**	**46.85**	**134**	P	**P**	**13 37 21.8**	**-1.7**
ARU	**Arti**	**48.67**	**48**	LR	LR	13 57 05.9	
	comp=Z,69nm,19.9s,baz=299,slow=35						
BMAR	**Burnt Mountain**	**50.83**	**333**	P	**P**	**13 37 54.2**	**+0.8**
PDAR	**Pinedale Array**	**51.60**	**293**	P	**P**	**13 37 59.2**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=75,slow=7.8,SNR=4.2						
SCRK	**Sand Creek**	**53.08**	**330**	P	**P**	**13 38 11.3**	**+1.0**
SCRK				IAmb	IAmb	13 38 20.4	
	comp=Z,3.7nm,1.0s						
ILAR	**Eielson Array**	**53.38**	**331**	P	**P**	**13 38 13.1**	**+0.7**
	comp=Z,0.7nm,0.7s,baz=34,slow=5.3,SNR=6.3						
ILAR				PcP	**PcP**	**13 39 19.9**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=4.3,slow=3.6,SNR=2.7						
BVAR	**Borovoye Array**	**56.12**	**46**	LR	LR	14 01 55.6	
	comp=Z,57nm,18.7s,baz=307,slow=35						
TXAR	**Lajitas Array**	**57.21**	**277**	P	**P**	**13 38 41.3**	**+0.7**
	comp=Z,0.1nm,0.6s,baz=62,slow=11,SNR=2.3						
ROSC	**El Rosal**	**59.38**	**233**	LR	LR	14 04 52.6	
	comp=Z,41nm,19.2s,baz=111,slow=36						
AAK	**Ala-Archa**	**65.56**	**51**	LR	LR	14 07 36.8	
	comp=Z,53nm,19.3s,baz=328,slow=36						
MKAR	**Makanchi Array**	**65.90**	**44**	P	**P**	**13 39 39.2**	**+0.3**
	comp=Z,1.3nm,0.8s,baz=321,slow=3.0,SNR=7.5						
WMQ	**Urumqi**	**70.56**	**42**	*e*P	**P**	**13 40 11.0**	**+2.7**
HHC	**Hu-ho-hao-te**	**81.64**	**28**	*e*P	**P**	**13 41 12.3**	**+0.8**
HHC				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HHC				pmax	pmax		
	comp=Z,25nm,5.0s						
HHC				LR	LR		
	comp=N,110nm,20.0s						
HHC				LR	LR		
	comp=E,140nm,20.4s						
HHC				LR	LR		
	comp=Z,64nm,18.4s						
ASAJ	**Asahikawa**	**83.82**	**5**	LR	LR	14 16 15.7	
	comp=Z,95nm,21.2s,baz=178,slow=34						
WRA	**Warramunga Arr**	**145.69**	**26**	PKPbc	**PKPab**	**13 48 32.8**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=350,slow=3.6,SNR=3.8						
ASAR	**Alice Springs**	**149.10**	**28**	PKPbc	**PKPbc**	**13 48 40.6**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=355,slow=2.1,SNR=6.1						

*IDC **23** 13:44:58.5±1.1,36˚.94N×97˚.85W,h0km,mb3.4/1, mb1 3.7/5,mb1mx3.5/60,mbtmp3.3/5,ML3.7/4,MS3.3/1, Ms1 3.3/1,ms1mx2.5/34,Error ellipse: s-maj=16.8km s-min=12.3km az=164.0*

*TUL **23** 13:44:59.4±1.1,36˚.85N±0˚.04×97˚.86W±0˚.06,h6km±6km, ML3.5,Mwr3.4/14(SLM),Error ellipse: s-maj=7.4km s-min=5.1km az=57.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr0.00; Mθθ1.05; Mϕϕ-1.05; Mrθ-0.05; Mθϕ0.88; Mϕr-0.11;*

ISC 23 13:44:59.1±0.7,36˚.87N±0˚.04×97˚.78W±0˚.04,h10km,n85, σ1§24/85,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T35A	**Sooner Cattle**	**1.02**	**87**		**Pb**	**13 45 19.6**	**+0.7**
U32A	**Winter Ranch,**	**1.09**	**244**		**Pg**	**13 45 18.7**	**-1.5**
ADOK	**Arcadia Dam**	**1.25**	**164**	Pg	**Pn**	**13 45 22.9**	**+0.2**
OKCFA	**Oklahoma City**	**1.47**	**169**		**Pn**	**13 45 26.4**	**+0.6**
OKCSW	**OKLAHOMA CITY**	**1.48**	**169**		**Pn**	**13 45 26.5**	**+0.6**
FNO	**Franklin**	**1.63**	**169**		**Pb**	**13 45 29.1**	**-0.2**
R32A	**Long Quarter,**	**1.72**	**335**		**Pb**	**13 45 30.5**	**-0.3**
W35A	**Tecumseh**	**1.86**	**156**		**Pn**	**13 45 32.1**	**+1.0**
TUL1	**Leonard**	**1.87**	**120**		**Pb**	**13 45 32.9**	**-0.4**
WMOK	**Wichita Mounta**	**2.27**	**201**		**Pn**	**13 45 37.4**	**+0.6**
KSU1	**Kansas State U**	**2.42**	**22**	Pn	**Pn**	**13 45 40.6**	**+1.9**
CBKS	**Cedar Bluff**	**2.48**	**322**	Pn	**Pn**	**13 45 40.8**	**+1.1**
U38A	**Gravette**	**2.77**	**98**		**Pn**	**13 45 45.2**	**+1.7**
X37A	**Clayton**	**3.00**	**138**		**Pn**	**13 45 48.3**	**+1.5**
HHAR	**Hobbs**	**3.15**	**100**		**Pn**	**13 45 50.8**	**+2.0**
Z35A	**Perchaven, San**	**3.55**	**173**	Pn	**Pn**	**13 45 54.9**	**+0.6**
W39A	**Magazine**	**3.65**	**116**	Pn	**Pn**	**13 45 57.1**	**+1.5**
S39A	**Bolivar**	**3.65**	**76**		**Pn**	**13 45 57.3**	**+1.6**
AMTX	**Amarillo**	**3.73**	**239**		**Pn**	**13 45 57.2**	**+0.4**
N33A	**J Bar K, Exete**	**3.88**	**4**	Pn	**Pn**	**13 45 59.4**	**+0.6**
U40A	**Yellville**	**4.00**	**96**		**Pn**	**13 46 02.0**	**+1.5**
MIAR	**Mount Ida**	**4.13**	**123**		**Pn**	**13 46 04.5**	**+2.2**
Z38A	**Mt. Pleasant**	**4.27**	**147**	Pn	**Pn**	**13 46 05.3**	**+1.2**
N35A	**Tabor**	**4.33**	**22**	Pn	**Pn**	**13 46 06.4**	**+1.5**
P38A	**Dawn**	**4.33**	**49**	Pn	**Pn**	**13 46 07.0**	**+1.9**
KSCO	**Kaye Shedlock'**	**4.39**	**301**	Pn	**Pn**	**13 46 06.1**	**+0.2**
ABTX	**Abilene, Hawle**	**4.50**	**200**	Pn	**Pn**	**13 46 07.7**	**+0.3**
BGNE	**Belgrade**	**4.55**	**357**		**Pn**	**13 46 09.0**	**+1.0**
R40A	**Maddies Statio**	**4.61**	**70**	Pn	**Pn**	**13 46 10.2**	**+1.4**
FCAR	**Ozark Folk Cen**	**4.67**	**100**	Pn	**Pn**	**13 46 11.4**	**+1.8**
X40A	**Basin Creek Fa**	**4.67**	**119**	Pn	**Pn**	**13 46 11.3**	**+1.5**
WHAR	**Wooly Hollow**	**4.72**	**108**	Pn	**Pn**	**13 46 11.8**	**+1.5**
W41B	**Gary Mavity, V**	**4.79**	**109**	Pn	**Pn**	**13 46 13.3**	**+1.9**
WHTX	**Lake Whitney,**	**4.87**	**177**	Pn	**Pn**	**13 46 12.7**	**+0.3**
UALR	**University of**	**4.89**	**114**	Pn	**Pn**	**13 46 14.1**	**+1.4**
MSTX	**Muleshoe**	**4.99**	**236**	Pn	**Pn**	**13 46 14.0**	**-0.2**
237A	**Washetta, Mont**	**5.12**	**161**	Pn	**Pn**	**13 46 16.1**	**+0.3**
L34A	**Svendsen Farm,**	**5.21**	**12**	Pn	**Pn**	**13 46 17.8**	**+0.7**
P40A	**Paris**	**5.24**	**58**	Pn	**Pn**	**13 46 19.0**	**+1.5**
N38A	**Joes South For**	**5.29**	**41**		**Pn**	**13 46 19.4**	**+1.2**
T25A	**Trinidad**	**5.31**	**275**	Pn	**Pn**	**13 46 18.6**	**-0.1**
CCM	**Cathedral Cave**	**5.34**	**75**	Pn	**Pn**	**13 46 19.6**	**+0.8**
LCAR	**Lake Charles**	**5.40**	**96**	Pn	**Pn**	**13 46 21.9**	**+2.2**
K31A	**O'Neill**	**5.80**	**353**	Pn	**Pn**	**13 46 26.3**	**+1.1**
SCIA	**State Center**	**6.15**	**34**	Pn	**Pn**	**13 46 31.8**	**+1.7**
Q24A	**Divide**	**6.19**	**292**	Pn	**Pn**	**13 46 29.9**	**-1.0**
CPRX	**Cap Rock**	**6.29**	**234**	Pn	**Pn**	**13 46 32.4**	**+0.3**
JCT	**Junction City**	**6.59**	**195**	Pn	**Pn**	**13 46 35.8**	**-0.3**
N41A	**Harden Midland**	**6.63**	**53**	Pn	**Pn**	**13 46 38.3**	**+1.7**
N41A					**Pg**	**13 47 02.5**	**-3.6**
HENM	**Henderson Moun**	**6.67**	**89**	Pn	**Pn**	**13 46 38.5**	**+1.3**
ISCO	**Idaho Springs**	**6.82**	**298**	Pn	**Pn**	**13 46 39.6**	**+0.1**
S44A	**Carbondale**	**6.85**	**81**		**Pn**	**13 46 41.1**	**+1.5**
HICK	**Hickman**	**6.88**	**90**	Pn	**Pn**	**13 46 41.1**	**+1.0**
ECSD	**EROS Data Cent**	**6.92**	**7**	Pn	**Pn**	**13 46 40.3**	**-0.2**
P43A	**Skaggs, Pawnee**	**7.07**	**64**	Pn	**Pn**	**13 46 44.3**	**+1.7**
OXF	**Oxford**	**7.21**	**107**	Pn	**Pn**	**13 46 45.9**	**+1.4**
L40A	**Anamosa**	**7.26**	**42**		**Pn**	**13 46 46.3**	**+1.1**
ANMO	**Albuquerque**	**7.29**	**257**	Pn	**Pn**	**13 46 47.7**	**+1.8**
	0.2nm,0.3s,baz=104,slow=16,SNR=1.9						
ANMO				Pg	**Pb**	**13 47 05.4**	**-0.5**
	0.7nm,0.3s,baz=75,slow=17,SNR=5.7						
ANMO				Lg	Lg	13 48 46.5	
	2.2nm,0.3s,baz=324,slow=22,SNR=6.5						
ANMO	**Albuquerque**	**7.29**	**257**	Pn	**Pn**	**13 46 46.7**	**+0.8**
PHWY	**Pilot Hill**	**7.43**	**309**	Pn	**Pn**	**13 46 47.8**	**-0.1**
N23A	**Red Feather La**	**7.53**	**305**	Pn	**Pn**	**13 46 50.9**	**+1.7**
HDIL	**Hopedale**	**7.59**	**58**	Pn	**Pn**	**13 46 51.1**	**+1.3**
SUSD	**Miller**	**7.62**	**354**	Pn	**Pn**	**13 46 50.7**	**+0.4**
BNM	**Barren Site**	**7.70**	**252**	Pn	**Pn**	**13 46 51.2**	**-0.4**
WVT	**Waverly**	**8.05**	**92**	Pn	**Pn**	**13 46 56.8**	**+0.7**
L42A	**Oliver, Polo**	**8.11**	**48**	Pn	**Pn**	**13 46 58.5**	**+1.6**
MNTX	**Cornudas Mount**	**8.13**	**233**	Pn	**Pn**	**13 46 56.9**	**-0.3**
JFWS	**Jewell Farm**	**8.37**	**41**	Pn	**Pn**	**13 47 01.2**	**+0.8**
T47A	**Sharon Grove**	**8.55**	**86**	Pn	**Pn**	**13 47 05.4**	**+2.4**
RSSD	**Black Hills**	**8.67**	**329**	Pn	**Pn**	**13 47 05.6**	**+0.8**
K22A	**Casper**	**8.87**	**313**	Pn	**Pn**	**13 47 07.7**	**+0.2**
I40A	**Norwalk**	**8.89**	**36**		**Pn**	**13 47 08.2**	**+0.5**
TX31	**Lajitas Ar. Si**	**8.98**	**215**		**Pn**	**13 47 08.6**	**-0.4**
TX32	**Lajitas Array**	**8.98**	**215**	Pn	**Pn**	**13 47 08.6**	**-0.4**
TXAR	**Lajitas Array**	**8.98**	**215**	Pn	**Pn**	**13 47 08.0**	**-1.0**
	0.2nm,0.3s,baz=40,slow=10,SNR=16						
TXAR				Pg	Pg	13 47 43.0	-8.1
	0.8nm,0.3s,baz=35,slow=14,SNR=9.7						
TXAR				Lg	Lg	13 49 38.5	
	1.5nm,0.3s,baz=50,slow=20,SNR=4.7						
TXAR	**Lajitas Array**	**8.98**	**215**	Pn	**Pn**	**13 47 08.0**	**-1.0**
PDAR	**Pinedale Array**	**10.80**	**307**	Pn	**Pn**	**13 47 34.0**	**0.0**
	0.1nm,0.3s,baz=118,slow=16,SNR=2.3						
PDAR				Pg		13 48 16.6	
	0.4nm,0.3s,baz=113,slow=19,SNR=6.1						
PDAR				Lg	Lg	13 50 37.8	
	1.5nm,0.3s,baz=107,slow=35,SNR=11						
S51A	**Beattyville**	**11.34**	**82**	Pn	**Pn**	**13 47 42.7**	**+1.6**
TKL	**Tuckaleechee C**	**11.38**	**92**	Pn	**Pn**	**13 47 41.3**	**-0.4**
	0.6nm,0.3s,baz=225,slow=8.0,SNR=6.0						
TKL				Lg	Lg	13 50 53.8	
	1.3nm,0.3s,baz=2.6,slow=21,SNR=11						
TKL	**Tuckaleechee C**	**11.38**	**92**	Pn	**Pn**	**13 47 42.9**	**+1.2**
E43A	**Lone Tree Farm**	**12.46**	**37**	Pn	**Pn**	**13 47 56.8**	**+0.4**
S54A	**Dingess, Beckl**	**13.15**	**81**	Pn	**Pn**	**13 48 06.4**	**+0.5**
SADO	**Sadowa**	**16.15**	**55**	Lg	Lg	13 53 22.4	
	0.3nm,0.3s,baz=175,slow=20,SNR=3.3						
TEIG	**Tepich**	**18.54**	**151**	LR	LR	13 57 26.7	
	comp=Z,86nm,18.7s,baz=50,slow=40						
ILAR	**Eielson Array**	**40.12**	**330**	P	**P**	**13 52 36.2**	**+1.5**
	0.5nm,0.6s,baz=100,slow=6.0,SNR=5.2						

*BJI **23** 13:47:40.5±0.0,6˚.36S×146˚.84E,h122km,mB5.0/47, mb4.9/62*

*MOS **23** 13:47:40.0±1.0,6˚.41S×146˚.29E,h102km,mb5.2/45,Error ellipse: s-maj=7.3km s-min=4.5km az=110.4*

*NEIC **23** 13:47:42.8±1.6,6˚.45S±0˚.02×146˚.25E±0˚.06,h118km±4km, mb5.4/202,Error ellipse: s-maj=9.5km s-min=1.9km az=105.0*

*IDC **23** 13:47:42.7±0.4,6˚.49S×146˚.36E,h116km±3km,mb4.7/42, mb1 4.9/49,mb1mx4.8/60,mbtmp5.2/49,MS4.0/21, Ms1 4.0/21,ms1mx3.8/37,Error ellipse: s-maj=9.2km s-min=6.1km az=75.0*

*DJA **23** 13:47:43.9±0.3,6˚.S±2˚×14˚.6E±˚,h124km±3km,M5.3/88, mB5.8/57,mb5.5/88,MLv6.0/5,Mw(mB)5.3/57,Mwp5.3/13*

*UNK **23** 13:47:43.1,6˚.46S×146˚.25E,h121km*

*GCMT **23** 13:47:45.8±0.1,6˚.58S±0˚.01×146˚.27E±0˚.01,h126km±1km, MW5.4/139,Moment Tensor Solution. s115,c184; s139,c266; Duration: 1§2 Moment tensor: Scale 10¹⁷ Nm; Mrr0.18±.02; Mθθ0.93±.02; Mϕϕ-1.12±.02; Mrθ-0.62±.01; Mrϕ-0.56±.02; Mθϕ0.82±.02; Best double couple: M₀1.56100×10¹⁷ NP1:φ236.00000°,δ49.00000°, λ172.00000°. NP2:φ331.00000°,δ84.00000°,λ41.00000°. Principal axes: T 1.5850, Plg32.0000°, Azm202.0000°; N -0.0500, Plg48.0000°, Azm338.0000°; P -1.5380, Plg23.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 13:47:42.3±0.3,6˚.47S±0˚.03×146˚.31E±0˚.04,h113km±2km, h113km:pP-P,n1029,σ1§12/1021,mb5.3/215,36C-7D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.04**	**164**	P	**Pn**	**13 48 29.4**	**+0.5**
	434nm,0.3s,baz=7.8,slow=5.5,SNR=1239						
PMG				S	**Sn**	**13 49 03.6**	**-1.2**
	922nm,0.3s,baz=353,slow=24,SNR=38						
PMG				LR	LR	13 49 44.8	
	comp=Z,5μm,20.1s,baz=216,slow=41						
PMG	**Port Moresby**	**3.04**	**164**	Pn	**Pn**	**13 48 29.3**	**+0.4**
KRVT	**Keravat (AS076**	**6.08**	**70**	P	**Pn**	**13 49 10.3**	**+0.5**
	158nm,0.3s,baz=30,slow=1.7,SNR=27						
KRVT				LR	LR	13 51 43.3	
	comp=Z,3μm,20.4s,baz=238,slow=40						
MMPI	**Merauke**	**6.21**	**251**	P	**Pn**	**13 49 13.1**	**+1.6**
	9.9nm15μm33μm3μm,0.8s						
RABL	**Rabaul**	**6.25**	**69**	Pn	**Pn**	**13 49 13.3**	**+1.1**
JAY	**Jayapura**	**6.83**	**305**	P	**Pn**	**13 49 19.4**	**-0.7**
	11nm,0.3s,baz=154,slow=8.2,SNR=59						
JAY				LR	LR	13 51 57.5	
	comp=Z,920nm,19.0s,baz=62,slow=37						
JAY	**Jayapura**	**6.83**	**305**	P	**Pn**	**13 49 19.0**	**-1.1**
	0.6nm4μm2μm144nm,1.2s						
GENI	**Genyem**	**7.24**	**302**	P	**Pn**	**13 49 24.4**	**-1.1**
	4.7nm6μm9μm465nm,0.9s						
COEN	**Coen**	**8.06**	**202**	P	**Pn**	**13 49 38.6**	**+2.0**
	baz=8.1						
COEN	**Coen**	**8.06**	**202**	Pn	**Pn**	**13 49 38.0**	**+1.4**
SMPI	**Sarmi**	**8.79**	**300**	P	**Pn**	**13 49 46.0**	**-0.6**
	3μm3μm179nm,1.5s						
SRPI	**Serui, Papua**	**11.03**	**294**	P	**Pn**	**13 50 16.1**	**-0.8**
	62nm0.6nm,0.5s						
MTSU	**Mount Surprise**	**11.76**	**189**	P	**Pn**	**13 50 29.0**	**+2.4**
	baz=12						
RKPI	**Ransiki, Papua**	**13.07**	**292**	P	**Pn**	**13 50 44.5**	**+0.7**
	4μm300nm,0.9s						
CTA	**Charters Tower**	**13.54**	**180**	P	**Pn**	**13 50 52.0**	**+2.2**
	baz=14						
CTA	**Charters Tower**	**13.54**	**180**	P	**Pn**	**13 50 50.2**	**+0.4**
	1.7nm,0.3s,baz=358,slow=14,SNR=89						
CTA				LR	LR	13 55 31.8	
	comp=Z,531nm,21.2s,baz=12,slow=35						
CTAO	**Charters Tower**	**13.54**	**180**	P	**Pn**	**13 50 50.1**	**+0.2**
CTAO	**Charters Tower**	**13.54**	**180**	Pn	**Pn**	**13 50 50.1**	**+0.2**
HNR	**Honiara**	**13.82**	**103**	P	**Pn**	**13 50 52.9**	**-0.7**
	6.2nm,0.3s,baz=204,slow=3.3,SNR=31						
HNR				LR	LR	13 55 56.1	
	comp=Z,741nm,18.2s,baz=292,slow=36						
HNR	**Honiara**	**13.82**	**103**	Pn	**Pn**	**13 50 53.5**	**0.0**
FAKI	**Fak Fak**	**14.45**	**283**	P	**Pn**	**13 51 02.5**	**+0.9**
	3μm3μm325nm,0.9s						
FAKI	**Fak Fak**	**14.45**	**283**	Pn	**Pn**	**13 50 59.9**	**-1.7**
SAUI	**Saumlaki**	**14.97**	**263**	P	**P**	**13 51 10.7**	**-0.2**
	33μm4μm,1.2s						
SAUI	**Saumlaki**	**14.97**	**263**	P	**P**	**13 51 10.4**	**-0.5**
KDU	**Kakadu**	**14.97**	**245**	P	**Pn**	**13 51 08.2**	**-0.1**
	baz=15						
QIS	**Mount Isa**	**15.44**	**204**	P	**Pn**	**13 51 13.7**	**-0.4**
	baz=16						
SIJI	**Sorong**	**16.01**	**290**	P	**Pn**	**13 51 21.0**	**-0.2**
	11nm,0.3s,baz=94,slow=9.5,SNR=89						
MTN	**Manton Dam**	**16.24**	**246**	P	**Pn**	**13 51 23.4**	**-0.6**
	baz=16						
MTN	**Manton Dam**	**16.24**	**246**	Pn	**Pn**	**13 51 22.4**	**-1.7**
MTN				IAmb	IAmb	13 51 29.3	
	comp=Z,252nm,0.8s						
WB0	**Warramunga Arr**	**17.57**	**220**	P	**P**	**13 51 38.2**	**-1.5**
WB0				IAmb	IAmb	13 51 40.6	
	comp=Z,154nm,0.8s						
MSAI	**Masohi**	**17.59**	**279**	P	**Pn**	**13 51 41.0**	**+0.4**
	comp=Z,852nmcomp=Z,72nm,1.1s						
WR0	**Warramunga Arr**	**17.62**	**219**	P	**P**	**13 51 39.0**	**-1.2**
WR0				IAmb	IAmb	13 51 44.5	
	comp=Z,259nm,1.1s						
WRAB	**Tennant Creek**	**17.72**	**220**	*ce*P	**P**	**13 51 40.1**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,250nm,1.0s						
WRAB	**Tennant Creek**	**17.72**	**220**	P	**P**	**13 51 40.5**	**-0.8**
WRAB				IAmb	IAmb	13 51 42.2	
	comp=Z,185nm,0.7s						
WB2	**Warramunga Arr**	**17.73**	**220**	P	**P**	**13 51 41.4**	**0.0**
	baz=18						
WB2	**Warramunga Arr**	**17.73**	**220**	P	**P**	**13 51 40.6**	**-0.8**
WB2				IAmb	IAmb	13 51 46.5	
	comp=Z,225nm,0.9s						
WRA	**Warramunga Arr**	**17.74**	**220**	P	**P**	**13 51 40.6**	**-0.9**
	comp=Z,10nm,0.3s,baz=38,slow=11,SNR=146						
WRA				LR	LR	13 59 04.6	
	comp=Z,1μm,19.6s,baz=45,slow=38						
WRA	**Warramunga Arr**	**17.74**	**220**	P	**P**	**13 51 39.5**	**-2.0**
PATS	**Pohnpei**	**17.83**	**42**	P	**Pn**	**13 51 44.3**	**+0.9**
	baz=18						
PATS	**Pohnpei**	**17.83**	**42**	P	**P**	**13 51 42.9**	**+0.4**
AAI	**Ambon**	**18.26**	**278**	P	**Pn**	**13 51 49.1

comp=Z,2µmcomp=Z,737nmcomp=Z,26nm,1.1s
TARA Tarawa 27.68 75 P **P** **13 53 19.9 -0.1**
YNG Young 27.76 176 P **P** **13 53 21.4 +0.9**
baz=28
BBOO Buckleboo 27.89 199 P **P** **13 53 21.3 -0.3**
baz=28
BBOO Buckleboo 27.89 199 P **P** **13 53 21.1 -0.6**
CAN Canberra 28.82 175 P **P** **13 53 30.9 +0.9**
baz=29
CAN Canberra 28.82 175 P **P** **13 53 30.3 +0.4**
CAN pmax pmax
comp=Z,86nm,1.3s
CAN Canberra 28.82 175 P **P** **13 53 30.3 +0.4**
CAN IAmb IAmb 13 53 38.3
comp=Z,86nm,1.3s
CNB Canberra Magne 28.84 175 P **P** **13 53 31.0 +0.8**
baz=29
MBWA Marble Bar 29.58 238 P **P** **13 53 36.4 -0.4**
FORT Forrest 29.63 213 P **P** **13 53 36.8 -0.3**
baz=30
FORT Forrest 29.63 213 P **P** **13 53 36.1 -1.1**
KBKI Kotabaru 30.20 275 P **P** **13 53 42.3 0.0**
ARPS Mount Arapiles 30.43 187 P **P** **13 53 44.7 +0.6**
baz=31
TOO Toolangi 30.97 181 P **P** **13 53 50.0 +1.1**
baz=31
TOO Toolangi 30.97 181 P **P** **13 53 49.9 +1.1**
TOO pmax pmax
comp=Z,99nm,1.1s
TOO Toolangi 30.97 181 P **P** **13 53 49.9 +1.1**
TOO IAmb IAmb 13 53 52.6
comp=Z,99nm,1.1s
SPMM Sapulut 31.80 290 P **P** **13 53 59.0 +2.5**
MTKI Muara Teweh, K 31.82 279 P **P** **13 53 57.5 +0.9**
H11S3 WAKE ISLAND Hy 31.93 39 T T 14 27 14.7
baz=222,slow=74,SNR=19
H11S2 WAKE ISLAND Hy 31.93 39 T T 14 27 15.2
baz=222,slow=74,SNR=23
H11S1 WAKE ISLAND Hy 31.94 39 T T 14 27 15.6
baz=222,slow=74,SNR=13
JAGI Jajag, Banyuwa 31.94 264 P **P** **13 53 56.2 -1.5**
comp=Z,63nm,1.0s
JAGI Jajag, Banyuwa 31.94 264 P **P** **13 53 55.0 -2.7**
JAGI IAmb IAmb 13 54 03.2
comp=Z,46nm,0.9s
TGY Tagaytay City 32.43 309 P **P** **13 54 03.0 +1.0**
comp=Z,438nm,0.9s,baz=154,slow=8.4,SNR=8.6
WAKE Wake Island 32.50 38 P **P** **13 54 02.0 -0.4**
WAKE IAmb IAmb 13 54 04.3
comp=Z,137nm,1.4s
KKM Kota Kinabalu 32.51 292 P **P** **13 54 00.8 -2.0**
KKM IAmb IAmb 13 54 42.8
comp=Z,60nm,1.3s
MSVF Nonsavu 32.93 113*d* *i*P **P** **13 54 07.9 +1.5**
MSVF pmax pmax
comp=Z,170nm,1.3s
MSVF Nonsavu 32.93 113 P **P** **13 54 07.8 +1.4**
MEEK Meekatharra 33.13 230 P **P** **13 54 08.2 +0.3**
baz=33
KMBL Kambalda 33.71 220 P **P** **13 54 12.9 +0.1**
baz=34
GIRL Giralia 34.84 239 P **P** **13 54 23.5 +0.8**
baz=35
GIRL Giralia 34.84 239 P **P** **13 54 24.3 +1.5**
WOJI Wonogiri, Jawa 35.13 266 P **P** **13 54 25.5 +0.1**
comp=Z,75nm,1.5s
SBUM Sibu 35.17 284 P **P** **13 54 26.1 +0.3**
SBUM Sibu 35.17 284 P **P** **13 54 27.0 +1.3**
UGM Wanagama 35.53 265 P **P** **13 54 28.6 -0.2**
MOO Moorlands 35.83 179 P **P** **13 54 31.6 +0.7**
baz=36
TAU Tasmania Unive 36.30 179 P **P** **13 54 35.6 +0.7**
TAU pmax pmax
comp=Z,141nm,1.5s
TAU Tasmania Unive 36.30 179 P **P** **13 54 35.6 +0.7**
MORW Morawa 36.35 228 P **P** **13 54 35.1 -0.5**
baz=36
MORW Morawa 36.35 228 P **P** **13 54 35.0 -0.5**
KLBR Kellerberrin 36.56 223 P **P** **13 54 37.1 -0.3**
baz=37
BLDU Ballidu 36.72 225 P **P** **13 54 38.8 +0.1**
baz=37
KSM Kuching 36.80 281 P **P** **13 54 39.4 -0.2**
KSM Kuching 36.80 281 P **P** **13 54 40.0 +0.4**
NWAO Narrogin (SRO) 37.73 222 P **P** **13 54 47.0 -0.2**
baz=38
NWAO Narrogin (SRO) 37.73 222 P **P** **13 54 46.8 -0.4**
comp=Z,166nm,1.1s,baz=54,slow=7.9,SNR=26
NWAO Narrogin (SRO) 37.73 222 P **P** **13 54 46.4 -0.8**
NWAO pmax pmax
comp=Z,121nm,1.0s
NWAO Narrogin (SRO) 37.73 222 P **P** **13 54 46.4 -0.8**
MUN Mundaring 37.85 224 P **P** **13 54 48.2 -0.1**
baz=38
OUZ Omahuta 38.06 142 P **P** **13 54 51.8 +1.8**
TWG Pinlang 38.17 320 P **P** **13 54 49.7 -1.3**
CISI Cisompet, Garu 38.22 266 P **P** **13 54 50.6 -1.0**
comp=Z,15µmcomp=Z,328nm,1.0s
CISI Cisompet, Garu 38.22 266 P **P** **13 54 50.8 -0.9**
YOJ Yonaguni jima 38.22 324 P **P** **13 54 51.8 +0.4**
YOJ pmax pmax
comp=Z,441nm,1.7s
YOJ Yonaguni jima 38.22 324 P **P** **13 54 51.8 +0.4**
LEM Lembang 38.43 267 P **P** **13 54 53.2 -0.3**
comp=Z,111nm,0.8s,baz=43,slow=7.1,SNR=8.9
YULB Yu-li 38.45 321 P **P** **13 54 53.2 -0.1**
YULB IAmb IAmb 13 55 41.0
comp=Z,74nm,1.7s
TPI Tanjungpandan 38.70 274 P **P** **13 54 56.8 +1.2**
comp=Z,1µmcomp=Z,163nm,1.3s
TPUB Ta-pu 38.80 321 P **P** **13 54 55.4 -0.9**
TPUB IAmb IAmb 13 54 58.6
comp=Z,34nm,0.8s
NACB Ninganchiao 38.84 322 P **P** **13 54 57.2 +0.6**
NACB IAmb IAmb 13 55 27.0
comp=Z,78nm,1.2s
CNJI Cibinong 38.90 266 P **P** **13 54 57.0 -0.3**
comp=Z,5µmcomp=Z,567nm,1.2s
SSLB Suanglung 38.95 321 P **P** **13 54 57.4 -0.2**
SSLB IAmb IAmb 13 55 03.7
comp=Z,66nm,1.6s
YHNB Yeheng 39.35 323 P **P** **13 55 01.5 +0.6**
JHJ2 Mitsune 39.84 351 P **P** **13 55 03.2 -1.6**
PPBI Pangkal Pinang 40.28 274 P **P** **13 55 09.6 +0.9**
comp=Z,17µmcomp=Z,134nm,1.1s
XMIS Christmas Isla 40.39 261 P **P** **13 55 09.9 +0.2**
H01W1 Cape Leeuwin H 40.95 222 P **P** **13 55 15.2 +1.5**
baz=71,slow=6.4,SNR=22
H01W3 Cape Leeuwin H 40.96 222 P **P** **13 55 15.5 +1.7**
baz=71,slow=6.4,SNR=13
H01W2 Cape Leeuwin H 40.97 222 P **P** **13 55 15.7 +1.9**
baz=71,slow=6.4,SNR=7.6
HIZ Hauiti 41.04 145 P **P** **13 55 17.3 +2.7**
HIZ IAmb IAmb 13 55 18.9
comp=Z,70nm,1.0s
QRZ Quartz Range 41.46 150 P **P** **13 55 20.6 +2.6**
QRZ Quartz Range 41.46 150 P **P** **13 55 20.1 +2.1**
KASI Kota Agung 41.59 269 P **P** **13 55 17.1 -2.4**
comp=Z,204nm,1.0s
AFI Afiamalu 41.85 104 P **P** **13 55 22.6 +0.9**
AFI pmax pmax
comp=Z,203nm,0.9s
AFI Afiamalu 41.85 104 P **P** **13 55 22.6 +0.9**
MDSI Maura Dua 41.98 270 P **P** **13 55 22.0 -0.7**
comp=Z,1µmcomp=Z,115nm,1.3s
KNTN Kanton 41.98 87 P **P** **13 55 23.5 +0.8**
JNU Nakatsue 42.02 341 P **P** **13 55 22.8 +0.1**
comp=Z,13nm,1.0s,baz=161,slow=7.1,SNR=7.7
JNU Nakatsue 42.02 341 P **P** **13 55 22.8 +0.1**
LWLI Liwa 42.06 270 P **P** **13 55 21.7 -1.7**
comp=Z,248nm,1.0s
DUWZ D'Urville Isla 42.16 148 P **P** **13 55 27.1 +3.4**
NNZ Nelson 42.18 149 P **P** **13 55 24.9 +1.0**
JCZ Jackson Bay 42.32 156 P **P** **13 55 27.4 +2.3**
TPRI Tanjung Pinang 42.35 278 P **P** **13 55 26.1 +0.5**
THZ Tophouse 42.35 150 P **P** **13 55 25.1 -0.3**
BKZ Black Stump Fm 42.42 145 P **P** **13 55 26.8 +0.8**
BKZ IAmb IAmb 13 55 56.5
comp=Z,44nm,0.9s
MXZ Matakaoa Point 42.47 141 P **P** **13 55 27.2 +0.9**
MXZ IAmb IAmb 13 55 30.7
comp=Z,100nm,1.5s
TUWZ Tuamarina 42.62 149 P **P** **13 55 28.4 +1.0**
LHSI Lahat 42.69 271 P **P** **13 55 27.8 -0.6**
comp=Z,120nm,1.1s

BSWZ Blackbirch Sta 42.80 149 P **P** **13 55 29.8 +0.9**
OGWZ Otaki Gorge 42.83 147 P **P** **13 55 30.8 +1.7**
DCZ Deep Cove 42.85 158 P **P** **13 55 30.5 +1.2**
DCZ IAmb IAmb 13 55 32.3
comp=Z,65nm,0.9s
SNZO South Karori 42.93 148 P **P** **13 55 30.6 +0.6**
CAW Cannon Point 42.98 148 P **P** **13 55 26.0 -4.4**
RPZ Rata Peaks 42.99 154 P **P** **13 55 31.3 +0.9**
RPZ IAmb IAmb 13 55 32.9
comp=Z,80nm,1.1s
WKZ Wanaka 43.03 156 P **P** **13 55 31.8 +1.0**
WKZ IAmb IAmb 13 56 23.2
comp=Z,127nm,1.6s
HOWZ Holdsworth Sta 43.07 147 P **P** **13 55 32.2 +1.1**
BHW Baring Head 43.09 148 P **P** **13 55 31.3 +0.1**
MLZ Mavora Lakes 43.13 157 P **P** **13 55 32.7 +1.1**
MLZ IAmb IAmb 13 55 34.0
comp=Z,75nm,1.1s
LBZ Lake Benmore 43.15 155 P **P** **13 55 32.1 +0.4**
LBZ IAmb IAmb 13 55 38.2
comp=Z,45nm,1.0s
MYKOM Kota Tinggi 43.18 280 P **P** **13 55 32.4 +0.1**
MYKOM IAmb IAmb 13 55 34.4
comp=Z,81nm,1.3s
MYKOM Kota Tinggi 43.18 280 P **P** **13 55 33.0 +0.7**
MTW Mount Morrison 43.24 147 P **P** **13 55 33.5 +1.0**
PYZ Puysegur Point 43.29 159 P **P** **13 55 33.5 +0.8**
PYZ IAmb IAmb 13 55 35.4
comp=Z,101nm,0.9s
MSWZ Moikau Station 43.29 148 P **P** **13 55 33.3 +0.4**
BFZ Birch Farm 43.31 146 P **P** **13 55 34.0 +0.9**
BFZ IAmb IAmb 13 56 17.8
comp=Z,143nm,1.3s
PLWZ Palliser 43.41 148 P **P** **13 55 33.8 -0.1**
TMWZ Te Maipa 43.42 147 P **P** **13 55 34.8 +0.9**
MJAR Matsushiro Arr 43.45 350 P **P** **13 55 33.6 -0.6**
comp=Z,7.5nm,0.7s,baz=180,slow=9.6,SNR=22
MJAR ScP **ScP** **14 01 00.4 -1.3**
comp=Z,5.8nm,1.0s,baz=186,slow=5.2,SNR=8.0
MJAR Matsushiro Arr 43.45 350 P **P** **13 55 31.9 -2.3**
MJAR pmax pmax
comp=Z,6.0nm,1.0s
MJAR Matsushiro Arr 43.45 350 P **P** **13 55 31.9 -2.3**
MAJO Matsushiro 43.45 350*c* *i*P **P** **13 55 33.5 -0.7**
MAJO pmax pmax
comp=Z,12nm,0.9s
MAJO Matsushiro 43.45 350 P **P** **13 55 31.9 -2.3**
MAT Matsushiro 43.45 350 P **P** **13 55 32.4 -1.8**
MJB9 Matsu-Tunnel 43.46 350 P **P** **13 55 31.9 -2.4**
WHZ Wether Hill Ro 43.51 158 P **P** **13 55 34.8 +0.3**
QIZ Qiongzhong 43.97 306 P **P** **13 55 40.5 +1.9**
QIZ sP **sP** **13 56 18.9 +1.2**
QIZ PP **PP** **13 57 24.0 +0.7**
QIZ S **S** **14 01 59.0 -3.3**
QIZ pmax pmax
comp=Z,22nm,1.0s
QIZ Qiongzhong 43.97 306 P **P** **13 55 39.6 +1.1**
SSE Sheshan 44.42 329 P **P** **13 55 40.8 -1.1**
SSE IAmb IAmb 13 56 24.5
comp=Z,44nm,0.8s
KRJI Kerinci 44.92 274 P **P** **13 55 45.5 -0.9**
comp=Z,7µmcomp=Z,279nm,1.0s
SDSI Sungai Dareh 45.11 275 P **P** **13 55 47.5 -0.2**
comp=Z,22µmcomp=Z,76nm,0.7s
NJ2 Nanjing 46.40 327 *e*P **P** **13 55 57.8 +0.2**
NJ2 pmax pmax
comp=Z,14nm,0.5s
IPM Ipoh 46.50 282 P **P** **13 55 57.9 -0.9**
IPM IAmb IAmb 13 56 28.9
comp=Z,36nm,0.7s
IPM Ipoh 46.50 282 P **P** **13 55 59.0 +0.3**
KSRS Korea Array 46.95 340 P **P** **13 56 01.7 0.0**
comp=Z,6.5nm,0.9s,baz=157,slow=8.7,SNR=34
KSRS pP **pP** **13 56 30.4 +1.6**
comp=Z,20nm,1.0s,baz=158,slow=9.5,SNR=10
KSRS LR LR 14 14 00.9
comp=Z,159nm,19.3s,baz=162,slow=34
KSAR Wonju Array Be 46.95 340 P **P** **13 56 01.8 0.0**
KSAR Wonju Array Be 46.95 340 P **P** **13 56 01.8 0.0**
KS19 Wonju Array Si 47.01 340 P **P** **13 56 02.0 -0.2**
KULM Kulim 47.05 283 P **P** **13 56 02.2 -0.8**
KULM Kulim 47.05 283 P **P** **13 56 04.0 +1.0**
MNSI Mandailing Nat 47.20 277 P **P** **13 56 03.5 -0.6**
comp=Z,41nm,1.6s
RPSI Rantau Prapat 48.18 279 P **P** **13 56 10.9 -0.8**
RPSI IAmb IAmb 13 56 12.9
comp=Z,66nm,1.2s
RPSI Rantau Prapat 48.18 279 P **P** **13 56 11.4 -0.3**
PSI Prapat 48.20 280 P **P** **13 56 11.4 -0.6**
comp=Z,40nm,1.1s,baz=180,slow=4.0,SNR=17
PSI Prapat 48.20 280 P **P** **13 56 11.4 -0.6**
PSI pmax pmax
comp=Z,66nm,1.2s
ERM Erimo 48.34 357 *i* P **P** **13 56 13.1 +0.7**
ERM pmax pmax
comp=Z,11nm,1.0s
ERM Erimo 48.34 357 P **P** **13 56 13.1 +0.7**
TSI Tuntungan 48.69 280 P **P** **13 56 15.8 +0.2**
comp=Z,52nm,0.7s
GSI Gunungsitoli 49.26 277 P **P** **13 56 17.3 -2.7**
comp=Z,6µmcomp=Z,203nm,0.7s
GSI Gunungsitoli 49.26 277 P **P** **13 56 18.8 -1.2**
GSI IAmb IAmb 13 56 22.1
comp=Z,38nm,0.8s
KCSI Kotacane, Aceh 49.47 280 P **P** **13 56 19.5 -2.1**
comp=Z,674nmcomp=Z,50nm,1.4s
SLVN Son La 49.94 305 P **P** **13 56 23.5 -1.6**
TPTI 50.00 280 P **P** **13 56 25.1 -0.5**
comp=Z,17nm,1.4s
YUK Yuzh-Kuril'sk 50.27 360 *e*P **P** **13 56 25.4 -1.7**
YUK *i* *PP **pP** **13 56 48.1 -6.4**
YUK *i* S **S** **14 03 29.7 -1.2**
YUK *i* *SS sS 14 04 07.9 -9.1
ASAJ Asahikawa 50.46 357 P **P** **13 56 28.4 -0.1**
comp=Z,4.1nm,0.6s,baz=172,slow=14,SNR=3.5
ASAJ Asahikawa 50.46 357 P **P** **13 56 28.4 -0.1**
ASAJ pmax pmax
comp=Z,92nm,1.6s
JKA Kamikawa-asahi 50.46 357 P **P** **13 56 28.4 -0.1**
JKA Kamikawa-asahi 50.46 357 IAmb IAmb 13 57 03.0
comp=Z,92nm,1.6s
GYA Guiyang 50.48 312 ⇓P **P** **13 56 31.4 +2.2**
GYA pP pP 13 56 58.3 +2.3
GYA sP sP 13 57 13.0 +4.3
GYA PP **PP** **13 58 33.3 +7.2**
GYA ScP **ScP** **14 01 33.0 +1.4**
GYA S **S** **14 03 38.0 +3.2**
GYA SS **SS** **14 07 10.1 -0.3**
GYA pmax pmax
comp=Z,20nm,0.7s
TIA Tai'an 50.52 329 P **P** **13 56 29.9 +0.7**
TIA pmax pmax
comp=Z,4.0nm,0.4s
TIA pmax pmax
comp=Z,37nm,3.5s
TIA LR LR
comp=Z,220nm,18.5s
TIA LR LR
comp=Z,380nm,22.1s
TIA LR LR
comp=Z,72nm,14.2s
MSHR Mys Shultsa 50.73 346 *i* P **P** **13 56 31.4 +0.8**
MSHR pmax pmax
comp=Z,3.0nm,0.8s
ENH Enshi 50.80 318 P **P** **13 56 29.5 -1.9**
ENH IAmb IAmb 13 57 14.5
comp=Z,72nm,1.3s
MLSI Meulaboh, Aceh 50.95 281 P **P** **13 56 31.8 -1.0**
comp=Z,105nm,0.8s
VLA Vladivostok 51.06 346 *i* P **P** **13 56 32.3 -0.7**
VLA pmax pmax
comp=Z,12nm,1.2s
KUR Kuril'sk 51.49 1*d* *i*P **P** **13 56 38.3 +2.2**
KUR *e* 13 57 52.4
KUR *e*S **S** **14 03 51.3 +3.7**
KUR pmax pmax
comp=Z,209nm,1.3s
KUR pmax pmax
comp=E,89nm,1.7s
KUR pmax pmax
comp=N,69nm,1.3s
USA0B Ussuriysk Arra 52.07 347 P **P** **13 56 40.0 -0.5**
USA0B *PP **pP** **13 57 09.2 +1.1**
USA0B Ussuriysk Arra 52.07 347 P **P** **13 56 40.0 -0.5**

USA0B pP **pP** **13 57 09.2 +1.1**
USRK Ussuriysk Ar. 52.07 347 P **P** **13 56 40.5 +0.1**
comp=N,9.3nm,0.8s,baz=164,slow=8.2,SNR=18
USRK Ussuriysk Ar. 52.07 347 P **P** **13 56 39.9 -0.6**
KMI Kunming 52.74 308⇑ *e*P **P** **13 56 48.5 +2.3**
KMI pP pP 13 57 15.4 +2.0
KMI pmax pmax
comp=N,9.0nm,0.7s
KMI pmax pmax
comp=N,100nm,4.4s
CM31 Chiang Mai Arr 52.87 299 P **P** **13 56 47.1 +0.2**
CM31 IAmb IAmb 13 56 51.2
comp=Z,30nm,0.8s
CMAR Chiang Mai Arr 52.87 299 P **P** **13 56 48.9 +1.9**
comp=Z,28nm,0.9s,baz=123,slow=5.6,SNR=60
CMAR pP **pP** **13 57 15.8 +1.4**
comp=Z,9.5nm,0.7s,baz=119,slow=5.9,SNR=3.5
CMAR ScP **ScP** **14 01 42.5 +0.5**
comp=Z,6.6nm,1.2s,baz=113,slow=2.5,SNR=6.8
CMAR Chiang Mai Arr 52.87 299 P **P** **13 56 48.0 +1.0**
CHTO Chiang Mai 53.01 299 P **P** **13 56 46.9 -1.1**
CHTO pmax pmax
comp=Z,21nm,0.9s
CHTO Chiang Mai 53.01 299 P **P** **13 56 46.9 -1.1**
MDJ Mudanjiang 53.03 345 P **P** **13 56 47.2 -0.4**
YSS Yuzh-Sakhalins 53.28 357 *e*P **P** **13 56 49.7 +0.3**
CN2 Changchun 53.48 341 *e*P **P** **13 56 51.3 +0.4**
CN2 *e*pP pP 13 57 17.8 -0.9
CN2 *e*S **S** **14 04 14.3 -0.6**
CN2 *e*SS **SKiKP** **14 07 55.6 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,220nm,16.0s
CN2 LR LR
comp=Z,250nm,16.0s
CN2 LR LR
comp=Z,200nm,18.0s
XAN Xi'an 53.61 321 P **P** **13 56 52.9 +0.7**
XAN pP pP 13 57 19.0 -0.3
XAN sP sP 13 57 32.1 +0.2
XAN PcP **PcP** **13 58 01.3 +4.0**
XAN PP **PP** **13 58 58.0 +3.8**
XAN S **S** **14 04 13.4 -3.8**
XAN pmax pmax
comp=Z,28nm,1.1s
XAN pmax pmax
comp=Z,100nm,3.7s
XAN LR LR
comp=Z,160nm,18.4s
XAN LR LR
comp=Z,170nm,16.3s
XAN Xi'an 53.61 321 P **P** **13 56 51.2 -1.0**
XAN pmax pmax
comp=Z,40nm,1.1s
XAN Xi'an 53.61 321 P **P** **13 56 51.2 -1.0**
XAN IAmb IAmb 13 57 38.9
comp=Z,40nm,1.1s
BJI Beijing 53.98 332 P **P** **13 56 55.4 +0.8**
BJI sP **sP** **13 57 33.4 -1.3**
BJI sS **sS** **14 05 10.1 +2.8**
BJI LR LR
comp=Z,270nm,27.5s
BJI LR LR
comp=Z,210nm,22.7s
BJI LR LR
comp=Z,200nm,28.4s
RAR Rarotonga 54.10 111 P **P** **13 56 55.5 -0.4**
comp=Z,280nm,0.9s,baz=243,slow=7.1,SNR=4.4
RAR Rarotonga 54.10 111 P **P** **13 56 55.5 -0.4**
RAR pmax pmax
comp=Z,358nm,2.0s
CD2 Chengdu 55.11 315⇑ *i*P **P** **13 57 04.4 +1.3**
CD2 S **S** **14 04 38.6 +1.1**
CD2 sS sS 14 05 27.1 +3.0
CD2 ScS **ScS** **14 06 38.5 -3.1**
CD2 pmax pmax
comp=Z,90nm,0.7s
CD2 pmax pmax
comp=Z,100nm,3.9s
CD2 LR LR
comp=Z,340nm,17.5s
CD2 LR LR
comp=Z,280nm,15.0s
CD2 LR LR
comp=Z,250nm,16.5s
XMAS Kiritimati 56.78 83 P **P** **13 57 14.9 -0.3**
HHC Hu-ho-hao-te 56.88 329 *e*P **P** **13 57 16.5 +1.0**
HHC S **S** **14 04 57.9 -2.7**
HHC sS sS 14 05 50.3 +3.3
HHC pmax pmax
comp=Z,7.0nm,1.0s
HHC pmax pmax
comp=Z,39nm,5.7s
KLR Kul'dur 56.91 349 P **P** **13 57 15.6 +0.2**
comp=Z,2.5nm,0.6s,baz=182,slow=5.2,SNR=8.1
KLR LR LR 14 22 51.2
comp=Z,41nm,18.2s,baz=152,slow=37
KLR Kul'dur 56.91 349*c**e*P **P** **13 57 14.5 -0.9**
KLR pmax pmax
comp=Z,6.0nm,1.0s
SKR Severo-Kuril's 57.55 7 *e*P **P** **13 57 16.5 -3.4**
SKR *e**PP **pP** **13 57 41.3 -6.6**
SKR *e**SP **sP** **13 57 54.7 -5.9**
SKR *e* 13 58 12.2
SKR *e*S S 14 05 21.7 +13
SKR pmax pmax
comp=Z,100nm,2.5s
SKR pmax pmax
comp=Z,18nm,1.1s
GRNR Gornyy 57.65 353⇓ *i*P **P** **13 57 20.5 -0.1**
GRNR *e* 13 57 50.5
GRNR pmax pmax
comp=Z,4.0nm,1.1s
LZH Lanzhou 58.12 320 *e*P **P** **13 57 26.8 +2.4**
LZH pP pP 13 57 56.1 +4.1
LZH sP sP 13 58 08.8 +4.3
LZH *e*PP **PP** **13 59 38.5 +4.0**
LZH pmax pmax
comp=Z,22nm,1.0s
LZH pmax pmax
comp=Z,110nm,5.4s
PEA0B Petropavlovsk- 60.13 8 P **P** **13 57 38.1 +0.4**
PEA0B pmax pmax
comp=Z,45nm,1.2s
PEA0B Petropavlovsk- 60.13 8 P **P** **13 57 38.1 +0.4**
PEA0B IAmb IAmb 13 58 14.5
comp=Z,44nm,1.2s
PETK Petropavlovsk- 60.13 8 P **P** **13 57 38.4 +0.6**
comp=Z,4.8nm,0.4s,baz=174,slow=8.0,SNR=54
PETK pP **pP** **13 58 08.0 +1.9**
comp=Z,12nm,0.9s,baz=184,slow=5.7,SNR=4.6
PETK LR LR 14 20 14.9
comp=Z,61nm,21.7s,baz=225,slow=32
PETK Petropavlovsk- 60.13 8 P **P** **13 57 38.1 +0.4**
PET Petropavlovsk 60.19 9 *e*P **P** **13 57 38.8 +0.7**
PET *e* 13 58 01.0
PET *e* 13 58 22.4
PET *e*S **S** **14 05 40.7 -2.1**
PET pmax pmax
comp=Z,100nm,15.7s
KIP Kipapa 61.22 61*c**e*P **P** **13 57 46.3 +0.6**
KIP pmax pmax
comp=Z,177nm,2.5s
KIP Kipapa 61.22 61 P **P** **13 57 46.5 +0.8**
SHL Shillong 61.70 303 *e*P **P** **13 57 49.5 +0.3**
SHL *i* x x 13 58 18.8
SHL *e*x x 13 58 32.3
SHL Shillong 61.70 303 P **P** **13 57 48.8 -0.3**
SHL pmax pmax
comp=Z,62nm,1.0s
SHL Shillong 61.70 303 P **P** **13 57 48.8 -0.3**
SHL IAmb IAmb 13 58 37.2
comp=Z,62nm,1.0s
ZEA Zeya 62.10 347 *e*P **P** **13 57 51.2 +0.2**
ZEA pmax pmax
comp=Z,23nm,1.0s
KHLU Kahalu`u 62.48 64 P **P** **13 57 55.6 +1.2**
HLK Haleakala 62.54 63 P **P** **13 57 55.7 +0.7**
GTA Gaotai 62.67 321 *e*P **P** **13 57 56.4 +1.1**
GTA pP pP 13 58 26.1 +3.0
GTA sP sP 13 58 40.5 +4.9
GTA S **S** **14 06 15.4 +0.4**
GTA pmax pmax
comp=Z,6.0nm,0.7s

GTA pmax pmax
comp=Z,52nm,7.0s
GTA LR LR
comp=Z,150nm,17.8s
GTA LR LR
comp=Z,98nm,14.9s
GTA LR LR
comp=Z,170nm,15.9s
HPAH Hawaii Prepara 62.80 64 P **P** **13 57 56.8 +0.4**
HMH Humu'ula Sheep 62.85 64 P **P** **13 57 57.4 +0.3**
POHA Pohakuloa 62.86 64 P **P** **13 57 57.5 +0.4**
PAE Paea 63.42 106 *e*P **P** **13 58 01.8 +1.3**
comp=Z,5.2nm,1.0s
PPT Papeete 63.42 106 P **P** **13 58 00.3 -0.2**
comp=Z,38nm,0.8s,baz=51,slow=5.1,SNR=6.6
PPT2 Papeete2 63.42 106 *e*P **P** **13 58 02.2 +1.6**
comp=Z,39nm,0.9s
PPT2 *e*S **S** **14 06 21.9 -3.1**
comp=Z,349nm,26.0s
PPT2 *e*LQ LQ 14 14 23.5
comp=Z,606nm,23.8s
PPT2 *e*LR LR 14 17 02.5
comp=Z,204nm,24.0s
PPTF Pamatai, Papee 63.43 106 P **P** **13 58 01.4 +0.8**
SMY Shemya 63.53 18 P **P** **13 58 01.4 +1.0**
SMY pmax pmax
comp=Z,35nm,1.0s
SMY Shemya 63.53 18 P **P** **13 58 01.4 +1.0**
SMY IAmb IAmb 13 58 02.8
comp=Z,35nm,1.0s
TIAR Tiarei 63.64 106 *e*P **P** **13 58 03.6 +1.6**
comp=Z,28nm,1.0s
TVO Taravao 63.73 107 *e*P **P** **13 58 04.3 +1.7**
comp=Z,16nm,1.0s
TBI Tubuai 63.82 113 *e*P **P** **13 58 04.5 +1.5**
comp=Z,160nm,1.1s
TBI *e*S **S** **14 06 27.5 -2.2**
comp=Z,668nm,26.0s
TBI *e*LQ LQ 14 14 33.3
comp=Z,487nm,36.8s
TBI *e*LR LR 14 17 18.5
comp=Z,302nm,31.2s
LSA Lhasa 63.98 307 P **P** **13 58 06.4 +1.9**
LSA LR LR
comp=Z,58μm,24.2s
LSA LR LR
comp=Z,50μm,27.1s
LSA LR LR
comp=Z,103μm,19.9s
LSA Lhasa 63.98 307 P **P** **13 58 04.2 -0.3**
LSA pmax pmax
comp=Z,36nm,0.8s
LSA Lhasa 63.98 307 P **P** **13 58 04.2 -0.3**
LSA IAmb IAmb 13 58 07.5
comp=Z,36nm,0.8s
ULN Ulaanbaatar 64.19 332*ce*P **P** **13 58 05.5 +0.3**
ULN pmax pmax
comp=Z,10.0nm,1.0s
ULN Ulaanbaatar 64.19 332 P **P** **13 58 04.8 -0.4**
SONM Songino Array 64.48 331 P **P** **13 58 06.7 -0.4**
comp=Z,2.9nm,0.8s,baz=152,slow=10,SNR=17
SONM pP **pP** **13 58 37.1 +2.1**
comp=Z,10nm,0.9s,baz=124,slow=7.4,SNR=7.9
SONM LR LR 14 26 08.4
comp=Z,153nm,19.1s,baz=135,slow=36
SONM PKPPKP **P'P'df** **14 27 00.8 +6.9**
comp=Z,1.3nm,0.8s,baz=305,slow=1.7,SNR=7.6
SONM Songino Array 64.48 331 IAmb IAmb 13 58 44.8
comp=Z,16nm,1.1s
CASY Casey 64.63 195 P **P** **13 58 07.4 -0.1**
MEH Mehetia 64.86 107 *e*P **P** **13 58 11.3 +1.3**
comp=Z,32nm,1.1s
TAPN Taplejung 65.84 304 *e*P **P** **13 58 17.7 +1.3**
comp=Z,46nm,0.6s
ODAN Odare 65.92 303 *e*P **P** **13 58 18.1 +1.2**
MA2 Magadan 65.93 2 P **P** **13 58 15.8 -0.2**
comp=Z,8.2nm,0.7s,baz=179,slow=7.1,SNR=5.9
MA2 LR LR 14 24 46.0
comp=Z,59nm,21.8s,baz=192,slow=34
MA2 Magadan 65.93 2 *i* P **P** **13 58 14.6 -1.4**
MA2 pmax pmax
comp=Z,8.0nm,0.7s
BOK Bokaro 66.15 299 *e*P **P** **13 58 19.7 +1.6**
ADK Adak 66.17 24 P **P** **13 58 18.2 +0.6**
ADK pmax pmax
comp=Z,44nm,1.1s
ADK Adak 66.17 24 P **P** **13 58 18.2 +0.6**
ADK IAmb IAmb 13 58 19.9
comp=Z,44nm,1.1s
GSTR Great Sitkin T 66.58 24 P **P** **13 58 20.8 +0.5**
RAMN Ramite 66.61 303 *e*P **P** **13 58 22.5 +1.2**
comp=Z,19nm,0.5s
JIRN Jiri 67.21 303 *e*P **P** **13 58 26.5 +1.3**
comp=Z,61nm,0.8s
ATKA Atka Island 67.43 25 P **P** **13 58 25.7 +0.1**
ATKA IAmb IAmb 13 58 27.1
comp=Z,42nm,1.0s
GUN Gumba 67.55 304 *e*P **P** **13 58 28.6 +1.2**
comp=Z,123nm,0.8s
ZAK Zakamensk 67.72 332 *e*P **P** **13 58 28.2 +0.5**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
PKI Pulchoki 67.83 303 *e*P **P** **13 58 30.0 +0.9**
comp=Z,50nm,0.8s
PKIN Phulchoki 67.84 303 *e*P **P** **13 58 29.9 +0.8**
comp=Z,50nm,0.8s
KKN Kakani 68.01 303 *e*P **P** **13 58 31.1 +1.0**
comp=Z,105nm,0.9s
DMN Daman 68.09 303 *e*P **P** **13 58 31.9 +1.2**
comp=Z,181nm,1.0s
PVM Polavaram 68.10 291 *e*P **P** **13 58 30.3 -0.2**
PVM IVmB_BB 13 58 40.6
comp=Z,125nm,2.8s
TLY Talaya 68.45 333 P **P** **13 58 32.6 +0.5**
comp=Z,1.6nm,0.4s,baz=210,slow=7.6,SNR=3.0
TLY Talaya 68.45 333 *i* P **P** **13 58 32.3 +0.2**
GKN Gorkha 68.62 303 *e*P **P** **13 58 34.8 +1.0**
comp=Z,107nm,0.8s
SKHT Srikalahasti 69.08 287 *e*P **P** **13 58 37.1 +0.4**
SKHT IVmB_BB 13 58 55.2
comp=Z,239nm,2.5s
ADKI Addanki 69.31 290 *e*P **P** **13 58 38.4 +0.4**
ADKI IVmBBB 13 58 49.2
comp=Z,218nm,2.7s
KOLN Koldanda 69.40 303 *e*P **P** **13 58 39.7 +1.0**
comp=Z,137nm,0.9s
DANN Dangsing 69.46 303 *e*P **P** **13 58 39.8 +0.6**
comp=Z,123nm,0.8s
YAK Yakutsk 69.50 352 *e*P **P** **13 58 35.7 -2.6**
YAK *e* 13 58 55.9
YAK *e**PP **pP** **13 59 08.3 +1.1**
YAK *e*S **S** **14 07 34.8 -1.9**
YAK *e**SS **pS** **14 08 09.6 -0.3**
YAK *e*SS **SS** **14 12 03.3 -3.3**
YAK pmax pmax
comp=Z,9.0nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,1.9s
YAK smax smax
comp=E,87nm,2.6s
YAK smax smax
comp=N,25nm,2.1s
MOY Mondy 69.66 332 *e*P **P** **13 58 40.2 +0.5**
PYUN Piuthan 70.02 303 *e*P **P** **13 58 43.3 +0.8**
comp=N,117nm,0.5s
NJS Nagarjunasagar 70.09 290 *e*P **P** **13 58 42.3 -0.6**
NJS IVmBBB 13 58 59.8
comp=Z,333nm,4.9s
NIKH Nikolski High 70.30 27 P **P** **13 58 44.1 +0.7**
NIKH IAmb IAmb 13 58 44.8
comp=Z,65nm,1.0s
SRLM Srisailam 70.37 290 *e*P **P** **13 58 43.6 -1.0**
SRLM IVmB_BB 13 58 45.1
comp=Z,339nm,1.2s
RPR Rampur 70.64 292 *e*P **P** **13 58 46.3 +0.1**
RPR IVmBBB 13 58 51.1
comp=Z,164nm,3.2s
HYB Hyderabad 70.99 291 *i* P **P** **13 58 47.0 -1.4**
HYB *e*pP **pP** **13 59 17.0 -0.2**
HYB *e*sP **sP** **13 59 33.0 +3.4**
HYBB Hyderabad (bro 70.99 291 *e*P **P** **13 58 48.2 -0.2**
HYBB IVmBBB 13 59 00.0
comp=Z,307nm,3.4s
VNDA Vanda 71.49 176 P **P** **13 58 50.9 +0.6**
comp=Z,52nm,0.9s,baz=330,slow=6.7,SNR=256
VNDA LR LR 14 28 55.7
comp=Z,114nm,18.8s,baz=342,slow=35
VNDA Vanda 71.49 176 P **P** **13 58 50.3 +0.1**
VNDA pmax pmax
comp=Z,53nm,0.9s
VNDA Vanda 71.49 176 P **P** **13 58 50.3 +0.1**
VNDA IAmb IAmb 13 58 52.0
comp=Z,53nm,0.8s
SRSP Sriramsagar 71.53 292 *e*P **P** **13 58 50.6 -1.0**
SRSP IVmB_BB 13 58 52.0
comp=Z,200nm,1.0s
URV Uravakonda 71.66 288 *e*P **P** **13 58 52.1 -0.3**
URV IVmB_BB 13 58 53.1
comp=Z,230nm,5.4s
UNV Unalaska Valle 71.94 27 P **P** **13 58 53.3 0.0**
UNV IAmb IAmb 13 58 54.6
comp=Z,38nm,0.9s
AKUT Akutan 72.46 27 P **P** **13 58 56.0 -0.3**
AKUT IAmb IAmb 13 58 57.9
comp=Z,76nm,0.8s
SPIA Saint Paul Isl 72.60 23 P **P** **13 58 57.6 +0.5**
WMQ Urumqi 72.70 320 *e*P **P** **13 59 00.0 +1.8**
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ pmax pmax
comp=Z,50nm,6.7s
KLRI Killari 72.95 291 *e*P **P** **13 58 59.6 -0.4**
KLRI IVmB_BB 13 59 09.3
comp=Z,256nm,1.6s
FALS False Pass 73.98 28 P **P** **13 59 05.5 +0.2**
DGZ Jazzator, Alta 75.62 325 *i* P **P** **13 59 15.3 +0.2**
DGZ pmax pmax
comp=Z,13nm,0.8s
SDPT Sand Point 75.64 28 P **P** **13 59 15.1 +0.3**
BILL Bilibino 75.66 8 ⇑*i*P **P** **13 59 14.5 -0.2**
BILL Bilibino 75.66 8 P **P** **13 59 14.9 +0.2**
CNBA Chernabura Isl 75.76 29 P **P** **13 59 15.9 +0.4**
CNBA IAmb IAmb 13 59 17.1
comp=Z,94nm,1.2s
SMLA Simla 75.77 304 *e*P **P** **13 59 16.8 +0.7**
ZSN Zaisan 76.10 322 ⇑*i*P **P** **13 59 18.9 +1.2**
comp=Z,4.9nm,0.9s,baz=322
ZSN *e*S **S** **14 08 53.4 +1.1**
baz=322
ZSN *i* S **S** **14 08 53.7 +1.4**
baz=322
ZSN Zaisan 76.10 322*c i*P **P** **13 59 18.9 +1.2**
ZSN *e*S **S** **14 08 53.4 +1.1**
ZSN *i* S **S** **14 08 53.7 +1.4**
ZSN pmax pmax
comp=Z,5.0nm,0.9s
MK31 Makanchi Array 77.42 321 P **P** **13 59 25.1 0.0**
MK31 pmax pmax
comp=Z,17nm,0.9s
MK31 Makanchi Array 77.42 321 P **P** **13 59 25.1 0.0**
MKAR Makanchi Array 77.42 321 P **P** **13 59 25.7 +0.5**
comp=Z,20nm,0.8s,baz=109,slow=6.6,SNR=94
MKAR LR LR 14 35 14.5
comp=Z,28nm,18.6s,baz=110,slow=37
MKAR Makanchi Array 77.42 321 P **P** **13 59 25.0 -0.2**
MAKZ Makanchi 77.63 321 P **P** **13 59 26.3 0.0**
MAKZ pmax pmax
comp=Z,33nm,1.0s
MAKZ Makanchi 77.63 321 P **P** **13 59 26.2 0.0**
SHLS Shalkode 77.90 317 ⇑*i*P **P** **13 59 27.8 -0.2**
comp=Z,19nm,1.0s,baz=317
SHLS Shalkode 77.90 317*c i*P **P** **13 59 27.8 -0.2**
SHLS pmax pmax
comp=Z,19nm,1.0s
PDGK Podgornoye 77.94 317 P **P** **13 59 27.8 -0.5**
UZB Uzynbulak 78.20 316 ⇑*i*P **P** **13 59 31.1 +1.3**
comp=Z,16nm,0.8s,baz=316
UZB Uzynbulak 78.20 316*c i*P **P** **13 59 31.0 +1.3**
UZB pmax pmax
comp=Z,16nm,0.8s
CHIR Chirikof Islan 78.22 29 P **P** **13 59 29.7 +0.4**
CHIR IAmb IAmb 13 59 31.1
comp=Z,92nm,1.0s
KPKS Kokpek 78.54 317 ⇑*i*P **P** **13 59 32.8 +1.2**
comp=Z,20nm,1.1s,baz=317
KPKS *e*S **S** **14 09 19.3 +0.3**
baz=317
KPKS Kokpek 78.54 317*c i*P **P** **13 59 32.7 +1.2**
KPKS *e*S **S** **14 09 19.3 +0.3**
KPKS pmax pmax
comp=Z,20nm,1.1s
TARG Taragay, Kyrgy 78.56 315 P **P** **13 59 30.9 -1.2**
SATY Saty 78.59 316 *e*P **P** **13 59 33.2 +1.4**
comp=Z,8.4nm,0.6s,baz=316
SATY *e*S **S** **14 09 20.1 +0.5**
baz=316
SATY Saty 78.59 316 *e*P **P** **13 59 33.2 +1.4**
SATY *e*S **S** **14 09 20.1 +0.5**
SATY pmax pmax
comp=Z,8.0nm,0.6s
TIXI Tiksi 78.81 354 P **P** **13 59 31.0 -1.2**
comp=Z,6.2nm,0.7s,baz=143,slow=4.7,SNR=12
TIXI Tiksi 78.81 354*ce*P **P** **13 59 32.5 +0.3**
TIXI pmax pmax
comp=Z,6.0nm,0.9s
TIXI Tiksi 78.81 354 P **P** **13 59 32.0 -0.2**
ZAA0 Zalesovo Array 79.04 328 P **P** **13 59 32.9 -1.0**
ZALV Zalesovo Beam 79.04 328 P **P** **13 59 32.6 -1.3**
comp=Z,8.1nm,0.6s,baz=107,slow=5.9,SNR=31
ZALV LR LR 14 35 25.8
comp=Z,52nm,19.2s,baz=118,slow=36
ZALV Zalesovo Beam 79.04 328 *i* P **P** **13 59 33.5 -0.4**
ZALV pmax pmax
comp=Z,8.0nm,0.6s
KDJ Kajisay 79.14 315 P **P** **13 59 35.6 +0.7**
KDJ pmax pmax
comp=Z,38nm,0.8s
KDJ Kajisay 79.14 315 P **P** **13 59 35.5 +0.7**
KDJ IAmb IAmb 13 59 38.8
comp=Z,38nm,0.8s
KSH Kashi 79.18 312 P **P** **13 59 37.3 +2.2**
KSH pP pP 14 00 07.9 +3.6
KSH S **S** **14 09 26.6 +0.6**
KSH sS sS 14 10 20.8 +5.1
KSH pmax pmax
comp=Z,33nm,0.7s
KSH pmax pmax
comp=Z,300nm,4.4s
TDK Taldyqorghan 79.26 318 *e*P **P** **13 59 36.0 +0.7**
baz=318
TDK Taldyqorghan 79.26 318 *e*P **P** **13 59 36.0 +0.7**
SII Sitkinak Islan 79.28 29 P **P** **13 59 35.3 +0.1**
SII IAmb IAmb 13 59 37.0
comp=Z,68nm,1.0s
ANM Nome 79.37 19 P **P** **13 59 36.3 +0.9**
ANM Nome 79.37 19 P **P** **13 59 36.3 +0.9**
ANM IAmb IAmb 13 59 37.8
comp=Z,104nm,1.5s
MDOK Medeo 79.56 316 *i* P **P** **13 59 38.6 +1.4**
baz=316
MDOK *e*S **S** **14 09 31.3 +1.3**
baz=316
MDOK Medeo 79.56 316 *i* P **P** **13 59 38.5 +1.4**
MDOK *e*S **S** **14 09 31.2 +1.3**
TNSS Tian-Shan 79.59 316 ⇑*i*P **P** **13 59 39.2 +1.6**
baz=316
TNSS Tian-Shan 79.59 316*c i*P **P** **13 59 39.2 +1.6**
NIL Nilore 79.64 306 P **P** **13 59 38.4 +0.7**
NIL pmax pmax
comp=Z,101nm,0.8s
NIL Nilore 79.64 306 P **P** **13 59 38.4 +0.7**
AAA Alma-Ata 79.67 316 *e*P **P** **13 59 39.2 +1.5**
baz=316
AAA Alma-Ata 79.67 316 *e*P **P** **13 59 39.1 +1.5**
CHKK Chushkaly 79.83 317 *e*P **P** **13 59 39.1 +0.6**
baz=317
CHKK Chushkaly 79.83 317 *e*P **P** **13 59 39.0 +0.6**
MTBS Maitube 79.98 316 *e*P **P** **13 59 39.7 +0.3**
baz=316
MTBS Maitube 79.98 316 *e*P **P** **13 59 39.6 +0.3**
OHAK Old Harbor 80.03 29 P **P** **13 59 39.7 +0.6**
OHAK IAmb IAmb 13 59 40.8
comp=Z,44nm,0.9s
SEM Semipalatinsk 80.10 324 *e*P **P** **13 59 39.3 -0.6**
comp=Z,4.3nm,1.0s,baz=324
SEM Semipalatinsk 80.10 324 *e*P **P** **13 59 39.3 -0.6**
SEM pmax pmax
comp=Z,4.0nm,1.0s
BOOM Boomskoye usch 80.12 315 P **P** **13 59 40.5 +0.3**
BOOM pmax pmax
comp=Z,20nm,0.7s
BOOM Boomskoye usch 80.12 315 P **P** **13 59 40.5 +0.3**
KUU Kurty 80.29 316 ⇑*i*P **P** **13 59 41.9 +1.0**
comp=Z,27nm,0.7s,baz=316
KUU *e*S **S** **14 09 37.4 +0.1**
baz=316
KUU Kurty 80.29 316*c i*P **P** **13 59 41.8 +0.9**
KUU *e*S **S** **14 09 37.4 +0.1**
KUU pmax pmax
comp=Z,27nm,0.7s
KZA Kyzart 80.48 314 P **P** **13 59 43.9 +1.5**
SNR=83
TKM2 Tokmak 2 80.50 315 P **P** **13 59 43.3 +1.0**
SNR=18
TKM2 Tokmak 2 80.50 315 P **P** **13 59 41.5 -0.8**
KDAK Kodiak Island 80.64 28 P **P** **13 59 41.3 -1.0**
comp=Z,33nm,0.8s,baz=249,slow=3.4,SNR=20
KDAK Kodiak Island 80.64 28 P **P** **13 59 42.9 +0.6**
KDAK pmax pmax
comp=Z,55nm,1.0s
KDAK Kodiak Island 80.64 28 P **P** **13 59 42.9 +0.6**
KDAK IAmb IAmb 13 59 44.1
comp=Z,54nm,1.0s
SVW2 Sparrevohn 80.95 25 P **P** **13 59 44.5 +0.4**
UCH Uchtor 81.05 314 P **P** **13 59 47.2 +1.7**
SNR=50
CHMS Chumysh 81.11 315 P **P** **13 59 46.3 +1.0**
SNR=10
KURK Kurchatov 81.18 323*ce*P **P** **13 59 45.3 -0.1**
KURK pmax pmax
comp=Z,38nm,1.3s
KURK Kurchatov 81.18 323 P **P** **13 59 44.9 -0.5**
AAK Ala-Archa 81.18 315 P **P** **13 59 47.1 +1.2**
comp=Z,11nm,0.7s,baz=112,slow=4.2,SNR=18
AAK Ala-Archa 81.18 315 P **P** **13 59 47.1 +1.2**
SNR=12
AAK Ala-Archa 81.18 315 P **P** **13 59 46.2 +0.3**
AAK pmax pmax
comp=Z,75nm,1.8s
AAK Ala-Archa 81.18 315 P **P** **13 59 46.1 +0.3**
AAK IAmb IAmb 13 59 49.0
comp=Z,75nm,1.8s
KURBB Kurchatov Arra 81.20 323 P **P** **13 59 46.1 +0.6**
comp=Z,11nm,0.9s,baz=111,slow=4.0,SNR=85
KURBB Kurchatov Arra 81.20 323 P **P** **13 59 45.6 +0.1**
SGDS Sogindy 81.33 316 ⇑*i*P **P** **13 59 47.1 +0.6**
comp=Z,5.7nm,0.7s,baz=316
SGDS *e*S **S** **14 09 48.0 -0.2**
baz=316
SGDS Sogindy 81.33 316*c i*P **P** **13 59 47.1 +0.6**
SGDS *e*S **S** **14 09 48.0 -0.2**
SGDS pmax pmax
comp=Z,6.0nm,0.7s
USP Ospenovka 81.37 315 P **P** **13 59 47.8 +1.1**
SNR=13
MAW Mawson 81.55 203 P **P** **13 59 47.9 +0.8**
comp=Z,60nm,0.7s,baz=76,slow=7.2,SNR=8.7
MAW LR LR 14 35 07.6
comp=Z,51nm,19.1s,baz=41,slow=35
MAW Mawson 81.55 203 P **P** **13 59 47.2 +0.1**
MAW pmax pmax
comp=Z,18nm,0.8s
MAW Mawson 81.55 203 P **P** **13 59 47.2 +0.1**
AML Almayashu 81.60 314 P **P** **13 59 50.0 +1.6**
SNR=51
EKS2 Erkin-Say 81.70 315 P **P** **13 59 50.0 +1.5**
SNR=40
TTA Tatalina 81.75 23 P **P** **13 59 47.9 -0.4**
TTA pmax pmax
comp=Z,16nm,1.1s
TTA Tatalina 81.75 23 P **P** **13 59 47.9 -0.4**
RSO Redoubt South 81.84 26 P **P** **13 59 47.9 -1.0**
HOM Homer 81.95 27 P **P** **13 59 49.0 -0.2**
CNPM China Poot 82.07 27 P **P** **13 59 50.4 +0.4**
CNPM IAmb IAmb 13 59 51.4
comp=Z,82nm,1.0s
BTLS Baital 82.20 317 ⇑*i*P **P** **13 59 52.1 +1.1**
comp=Z,9.4nm,0.7s,baz=317
BTLS *e*S **S** **14 09 56.9 -0.1**
baz=317
BTLS Baital 82.20 317*c i*P **P** **13 59 52.0 +1.1**
BTLS *e*S **S** **14 09 56.9 -0.1**
BTLS pmax pmax
comp=Z,9.0nm,0.7s
BRLK Bradley Lake 82.34 27 P **P** **13 59 51.3 -0.1**
RDOG Red Dog Mine 82.39 17 P **P** **13 59 52.2 +0.8**
RDOG IAmb IAmb 13 59 53.4
comp=Z,36nm,0.8s
SEW Seward 83.14 27 P **P** **13 59 55.6 +0.3**
SEW IAmb IAmb 13 59 57.1
comp=Z,73nm,1.2s
BTK Batken 83.15 312 P **P** **13 59 55.9 -0.2**
BTK pmax pmax
comp=Z,18nm,1.0s
BTK Batken 83.15 312 P **P** **13 59 55.9 -0.2**
O22K Cooper Landing 83.18 27 P **P** **13 59 54.4 -1.2**
baz=244,SNR=5.4
PPLA Purkeypile 83.24 24 P **P** **13 59 55.7 -0.4**
PPLA IAmb IAmb 13 59 57.9
comp=Z,77nm,1.6s
KBL Kabul 83.25 306 P **P** **13 59 56.2 -0.7**
KBL pmax pmax
comp=Z,26nm,1.0s
KBL Kabul 83.25 306 P **P** **13 59 56.2 -0.7**
GAR Garm 83.27 310 P **P** **13 59 56.3 -0.4**
GAR IAmb IAmb 13 59 58.4
comp=Z,43nm,1.0s
DZA Taraz 83.49 314 *e*P **P** **13 59 58.6 +0.9**
comp=Z,25nm,0.9s,baz=314
DZA *e*S **S** **14 10 08.9 -1.4**
baz=314
DZA Taraz 83.49 314 *e*P **P** **13 59 58.6 +0.9**
DZA *e*S **S** **14 10 08.8 -1.4**
DZA pmax pmax
comp=Z,25nm,0.9s
QSPA South Pole Qui 83.50 180 P **P** **13 59 57.4 -0.1**
comp=Z,112nm,0.7s,baz=337,slow=1.2,SNR=513
QSPA South Pole Qui 83.50 180 P **P** **13 59 57.0 -0.5**
PMR Palmer 83.92 26 P **P** **13 59 58.9 -0.5**
PMR pmax pmax
comp=Z,31nm,0.9s
PMR Palmer 83.92 26 P **P** **13 59 58.9 -0.5**
PMR IAmb IAmb 14 00 00.1
comp=Z,31nm,0.9s
CHGR Chuyangaron 84.07 310 P **P** **13 59 60.0 -0.8**
GHO Glory Hole Cre 84.09 26 P **P** **14 00 00.3 -0.1**
GHO IAmb IAmb 14 00 01.3
comp=Z,37nm,0.9s
KK31 Karatay Array 84.13 314 P **P** **14 00 00.6 -0.3**
KK31 pmax pmax
comp=Z,32nm,1.2s
KK31 Karatay Array 84.13 314 P **P** **14 00 00.6 -0.3**
KKAR Karatay Array 84.13 314 P **P** **14 00 01.0 +0.1**
KKAR pmax pmax
comp=Z,32nm,1.2s
KKAR Karatay Array 84.13 314 P **P** **14 00 01.0 +0.1**
KKAR Karatay Array 84.13 314 P **P** **14 00 01.0 +0.1**
KKAR IAmb IAmb 14 00 02.7
comp=Z,32nm,1.1s
KNK Knik Glacier 84.14 26 P **P** **14 00 00.6 0.0**
KNK IAmb IAmb 14 00 01.9
comp=Z,46nm,0.9s
IUG Iuzhnay 84.24 313 ⇑*i*P **P** **14 00 02.5 +0.9**
comp=Z,2.9nm,0.7s,baz=313
IUG Iuzhnay 84.24 313*c i*P **P** **14 00 02.5 +0.9**
IUG pmax pmax
comp=Z,3.0nm,0.7s
OTUK Ortayu 84.25 320 P **P** **14 00 01.9 +0.5**
TRF Thorofare Moun 84.26 24 P **P** **14 00 00.2 -1.1**
BPAW Bear Paw Mtn. 84.28 23 P **P** **14 00 01.0 -0.2**
SML Sawmill 84.36 26 P **P** **14 00 01.5 -0.2**
GLI Glacier Island 84.52 27 P **P** **14 00 02.3 -0.1**
GLI IAmb IAmb 14 00 03.6
comp=Z,56nm,0.8s
BRZS Berezniki 84.53 322 ⇑*i*P **P** **14 00 03.7 +0.8**
comp=Z,32nm,1.0s,baz=322
BRZS Berezniki 84.53 322*c i*P **P** **14 00 03.6 +0.8**
BRZS pmax pmax
comp=Z,32nm,1.0s
HIN Hinchinbrook I 84.60 27 P **P** **14 00 02.2 -0.7**
HIN IAmb IAmb 14 00 04.3
comp=Z,53nm,0.9s
FID Port Fidalgo 84.75 27 P **P** **14 00 03.6 0.0**
FID IAmb IAmb 14 00 04.7

comp=Z,54nm,1.0s
SCM Sheep Creek Mo 84.80 26 P **P 14 00 03.9 -0.1**
SCM pmax pmax
comp=Z,66nm,1.0s
SCM Sheep Creek Mo 84.80 26 P **P 14 00 03.9 -0.1**
SCM lAmb lAmb 14 00 05.4
comp=Z,66nm,1.0s
RND Reindeer 84.82 24 P **P 14 00 03.3 -0.7**
RND pmax pmax
comp=Z,67nm,0.8s
RND Reindeer 84.82 24 P **P 14 00 03.3 -0.7**
RND lAmb lAmb 14 00 04.5
comp=Z,67nm,0.8s
MCK McKinley 84.93 24 P **P 14 00 03.9 -0.6**
MCK pmax pmax
comp=Z,98nm,1.0s
MCK McKinley 84.93 24 P **P 14 00 03.9 -0.6**
EYAK Cordova Ski Ar 85.00 27 P **P 14 00 04.5 -0.3**
NEA2 Nenana 85.25 23 P **P 14 00 05.0 -1.1**
baz=244,SNR=32
DHY Denali Highway 85.29 25 P **P 14 00 06.2 -0.2**
DHY lAmb lAmb 14 00 07.7
comp=Z,27nm,0.8s
NRIK Noril'sk 85.51 342 P **P 14 00 06.5 -0.7**
comp=Z,14nm,0.9s,baz=120,slow=5.0,SNR=14
NRIK LR LR 14 39 19.1
comp=Z,77nm,18.8s,baz=132,slow=36
WRH Wood River Hil 85.58 23 P **P 14 00 07.0 -0.7**
WRH lAmb lAmb 14 00 08.0
comp=Z,55nm,1.0s
CCB Clear Creek Bu 85.77 23 P **P 14 00 07.5 -1.1**
CCB lAmb lAmb 14 00 08.7
comp=Z,51nm,0.8s
TCOL CIGO, UAF Yank 85.84 23 P **P 14 00 07.8 -1.2**
baz=245,SNR=20
COLA College 85.84 23 *d iP* **P 14 00 07.7 -1.2**
COLA pmax pmax
comp=Z,44nm,0.9s
COLA College 85.84 23 P **P 14 00 08.1 -0.9**
COLA lAmb lAmb 14 00 09.2
comp=Z,53nm,0.8s
HDA Harding Lake 86.01 24 P **P 14 00 08.6 -1.2**
baz=246,SNR=22
HDA Harding Lake 86.01 24 P **P 14 00 08.6 -1.2**
COLD Coldfoot 86.01 20 P **P 14 00 10.3 +0.5**
baz=243,SNR=26
COLD Coldfoot 86.01 20 P **P 14 00 10.3 +0.5**
PAX Paxson 86.05 25 P **P 14 00 10.2 0.0**
PAX pmax pmax
comp=Z,36nm,1.4s
PAX Paxson 86.05 25 P **P 14 00 10.2 0.0**
POKR Poker Plat Res 86.11 23 P **P 14 00 08.9 -1.3**
baz=246,SNR=6.3
IL31 86.18 23 P **P 14 00 09.1 -1.4**
IL31 lAmb lAmb 14 00 10.5
comp=Z,45nm,0.8s
ILAR Eielson Array 86.18 23 P **P 14 00 09.2 -1.5**
comp=Z,39nm,0.7s,baz=253,slow=5.0,SNR=325
ILAR PKKP **PKKPdf 14 18 08.2 +3.5**
comp=Z,0.4nm,0.8s,baz=302,slow=1.5,SNR=4.5
ILAR LR LR 14 34 59.7
comp=Z,38nm,20.0s,baz=275,slow=33
ILAR Eielson Array 86.18 23 P **P 14 00 08.9 -1.7**
GLB Gilahina Butte 86.21 27 P **P 14 00 10.8 -0.1**
GLB lAmb lAmb 14 00 12.4
comp=Z,36nm,0.8s
VRDI Verde Repeater 86.30 27 P **P 14 00 11.6 +0.1**
VRDI lAmb lAmb 14 00 12.9
comp=Z,28nm,0.9s
WAX Waxell Ridge 86.30 28 P **P 14 00 11.9 +0.5**
WAX lAmb lAmb 14 00 13.3
comp=Z,67nm,1.2s
TGL Tana Glacier 86.42 28 P **P 14 00 12.2 +0.2**
TGL lAmb lAmb 14 00 14.4
comp=Z,81nm,1.3s
MCARA McCarthy VSAT 86.54 27 P **P 14 00 12.8 +0.3**
MCARA lAmb lAmb 14 00 14.2
comp=Z,26nm,0.9s
RIDG Independent Ri 86.60 25 P **P 14 00 12.9 +0.1**
RIDG lAmb lAmb 14 00 13.9
comp=Z,64nm,1.1s
BALM Baldy 86.73 28 P **P 14 00 14.1 +0.5**
BALM lAmb lAmb 14 00 15.3
comp=Z,52nm,1.0s
BVAR Borovoye Array 86.75 324 P **P 14 00 13.2 -0.5**
comp=Z,7.8nm,0.8s,baz=104,slow=6.3,SNR=43
BVAR pP **pP 14 00 43.7 +0.6**
comp=Z,6.1nm,0.8s,baz=101,slow=6.2,SNR=4.6
MENT Mentasta 86.78 25 P **P 14 00 14.1 +0.5**
MENT lAmb lAmb 14 00 15.2
comp=Z,25nm,0.8s
BRVK Borovoye 86.81 324 P **P 14 00 12.5 -1.5**
BRVK Borovoye 86.81 324 P **P 14 00 12.5 -1.5**
TOLK Toolik Lake Re 86.86 19 P **P 14 00 14.4 +0.5**
baz=244,SNR=8.5
TOLK Toolik Lake Re 86.86 19 P **P 14 00 14.8 +0.9**
TOLK lAmb lAmb 14 00 15.9
comp=Z,46nm,1.6s
DOT Dot Lake 86.89 25 P **P 14 00 14.0 -0.2**
DOT lAmb lAmb 14 00 16.0
comp=Z,58nm,1.0s
SCRK Sand Creek 87.04 24 P **P 14 00 14.9 -0.1**
CTGM Chitina Glacie 87.18 28 P **P 14 00 16.5 +0.7**
PCA Pinnacle 87.41 29 P **P 14 00 16.8 0.0**
PCA lAmb lAmb 14 00 19.0
comp=Z,35nm,0.9s
FYU Fort Yukon 87.52 22 P **P 14 00 17.8 +0.8**
FYU lAmb lAmb 14 00 19.6
comp=Z,64nm,1.3s
BCAR Beaver Creek A 87.65 26 P **P 14 00 18.1 +0.2**
BMAR Burnt Mountain 88.08 21 P **P 14 00 20.0 +0.2**
EGAK Eagle 88.47 24 P **P 14 00 22.1 +0.5**
EGAK lAmb lAmb 14 00 23.2
comp=Z,33nm,1.0s
HRA Herat 88.74 305 P **P 14 00 23.4 -0.5**
HRA lAmb lAmb 14 00 26.0
comp=Z,36nm,1.2s
HYT Haines Junctio 88.93 28 P **P 14 00 24.2 +0.2**
HYT lAmb lAmb 14 00 26.2
comp=Z,24nm,0.8s
DAWY Dawson 88.98 25 P **P 14 00 24.2 +0.1**
DAWY lAmb lAmb 14 00 26.7
comp=Z,50nm,1.1s
SKAG Skagway 89.65 30 P **P 14 00 27.8 +0.5**
SKAG lAmb lAmb 14 00 29.5
comp=Z,32nm,1.3s
BESE Bessie Mountai 89.69 31 P **P 14 00 28.1 +0.5**
BESE lAmb lAmb 14 00 29.7
comp=Z,40nm,1.2s
SYO Syowa Base 89.92 200 ‖ *iP* **P 14 00 28.0 -0.4**
SYO Syowa Base 89.92 200 ‖ *i* PcP **PcP 14 00 30.2 +0.6**
SYO Syowa Base 89.92 200 ‖ *i* pP pP 14 01 00.0 +1.8
EPYK Eagle Plains 90.69 23 P **P 14 00 32.3 +0.3**
baz=256
EPYK Eagle Plains 90.69 23 P **P 14 00 31.9 -0.1**
EPYK lAmb lAmb 14 00 34.0
comp=Z,46nm,1.1s
DLBC Dease Lake 92.15 32 P **P 14 00 38.8 -0.2**
comp=Z,1.6nm,0.4s,baz=293,slow=5.8,SNR=4.6
DLBC Dease Lake 92.15 32 P **P 14 00 39.1 +0.1**
INK Inuvik 92.34 22 P **P 14 00 39.5 -0.1**
comp=Z,13nm,1.1s,baz=230,slow=5.9,SNR=13
INK Inuvik 92.34 22 P **P 14 00 39.0 -0.5**
INK pmax pmax
comp=Z,15nm,1.1s
INK Inuvik 92.34 22 P **P 14 00 39.0 -0.5**
INK lAmb lAmb 14 00 40.9
comp=Z,15nm,1.1s
ABKAR Akbulak array 92.48 319 P **P 14 00 39.5 -1.1**
GEYT Alibeck 92.51 308 P **P 14 00 41.2 +0.1**
comp=Z,7.8nm,1.0s,baz=101,slow=1.5,SNR=11
GEYT Alibeck 92.51 308 P **P 14 00 40.3 -0.8**
GYA0B ALIBECK ARRAY 92.51 308 P **P 14 00 40.5 -0.6**
GYA0B lAmb lAmb 14 00 42.8
comp=Z,17nm,1.1s
AKTO Aktyubinsk 93.85 320 P **P 14 00 45.8 -1.2**
comp=Z,4.8nm,0.8s,baz=100,slow=6.5,SNR=12
ARU Arti 94.09 326 P **P 14 00 46.7 -1.1**
comp=Z,0.9nm,0.4s,baz=178,slow=20,SNR=6.3
ARU Arti 94.09 326 *d iP* **P 14 00 46.8 -1.1**
ARU *ePP* **pP 14 01 15.8 -1.8**
ARU 14 04 35.1
ARU S **SKSac 14 11 11.1 -1.2**
ARU SP SP 14 13 06.3 +2.5
ARU SS **SS 14 18 16.0 +4.2**

ARU pmax pmax
comp=Z,5.0nm,1.0s
ARU Arti 94.09 326 lAmb lAmb 14 00 47.8
comp=Z,6.7nm,0.9s
I03D Drain, OR 94.66 47 P **P 14 00 50.8 0.0**
baz=266
O02D Mt. Diablo Mer 94.81 50 P **P 14 00 52.3 +0.6**
baz=266
M02C Callahan 94.85 49 P **P 14 00 52.8 +0.9**
baz=266
N02D Trinity Center 94.93 49 P **P 14 00 52.7 +0.4**
baz=266
YBH Yreka Blue Hor 94.99 49 P **P 14 00 52.4 -0.1**
comp=Z,3.0nm,0.8s,baz=186,slow=4.9,SNR=6.0
YBH Yreka Blue Hor 94.99 49 P **P 14 00 53.0 +0.5**
YBH pmax pmax
comp=Z,9.0nm,1.3s
YBH Yreka Blue Hor 94.99 49 P **P 14 00 53.0 +0.5**
D03D Eldon 95.13 43 P **P 14 00 53.6 +0.8**
baz=266
L04D Klamath Falls 95.32 48 P **P 14 00 54.1 0.0**
baz=266
O03E Paynes Creek 95.57 50 P **P 14 00 55.3 +0.2**
baz=266
B05A Bryant 95.84 42 P **P 14 00 56.5 +0.5**
baz=267
AFDM Forest Hills D 96.13 52 P **P 14 00 58.0 +0.4**
AFDM lAmb lAmb 14 01 31.9
comp=Z,16nm,1.7s
I05D Terrebonne, OR 96.15 46 P **P 14 00 57.8 +0.1**
baz=267
J05D Fort Rock, OR 96.17 47 P **P 14 00 57.9 0.0**
baz=267
NVL N'lazarevskaya 97.19 194 *eP* **P 14 01 01.4 -0.3**
NVL *eS* **SKSac 14 11 28.9 +0.7**
NVL pmax pmax
comp=Z,6.0nm,0.6s
I07A Izee 97.46 46 P Pdif 14 01 04.0 +0.3
B08A Colville Reser 97.68 42 P **P 14 01 03.7 -0.7**
NVAR Mina Array Bea 98.19 52 P **P 14 01 06.5 -0.7**
comp=Z,1.8nm,0.8s,baz=249,slow=7.4,SNR=11
NVAR PP **PP 14 05 06.5 -1.6**
comp=Z,0.2nm,0.4s,baz=247,slow=7.6,SNR=4.0
NVAR PKKPbc **PKKPbc 14 17 41.1 +0.9**
comp=Z,0.5nm,0.7s,baz=72,slow=5.5,SNR=5.0
NVAR Mina Array Bea 98.19 52 P **P 14 01 06.9 -0.4**
NV11 Mina Array Sit 98.31 52 P **P 14 01 06.7 -1.0**
E09A Wood Farm, Sta 98.47 44 P **P 14 01 08.0 0.0**
E09A lAmb lAmb 14 01 10.6
comp=Z,14nm,1.2s
BMO Blue Mountains 99.05 46 P **Pdif 14 01 10.7 -0.1**
BMO pmax pmax
comp=Z,13nm,1.8s
BMO Blue Mountains 99.05 46 P **Pdif 14 01 10.7 -0.1**
BMO lAmb lAmb 14 01 12.3
comp=Z,12nm,1.8s
F10A Beach Ranch, E 99.10 45 **Pdif 14 01 10.9 0.0**
F10A lAmb lAmb 14 01 12.6
comp=Z,27nm,1.9s
NEW Newport 99.16 42 P **Pdif 14 01 11.2 +0.1**
baz=271
NEW Newport 99.16 42 P **Pdif 14 01 11.2 +0.1**
NEW pmax pmax
comp=Z,10.0nm,1.4s
NEW Newport 99.16 42 **Pdif 14 01 11.2 +0.1**
NEW lAmb lAmb 14 01 12.8
comp=Z,10nm,1.4s
SNAA Sanae 99.42 189 P **Pdif 14 01 11.4 -0.5**
SNAA Sanae 99.42 189 *ceP* **Pdif 14 01 10.3 -1.6**
SNAA pmax pmax
comp=Z,12nm,1.1s
YKA Yellowknife Ar 99.90 28 P **Pdif 14 01 13.2 -0.8**
comp=Z,5.2nm,1.0s,baz=271,slow=4.8,SNR=20
YKA PP **PP 14 05 25.1 +5.0**
comp=Z,3.7nm,1.2s,baz=266,slow=7.5,SNR=6.3
YKA PKKPbc **PKKPbc 14 17 32.5 -3.6**
comp=Z,1.7nm,0.8s,baz=96,slow=2.8,SNR=9.2
R11A Troy Canyon, C 100.33 52 P **Pdif 14 01 16.9 +0.2**
baz=270
BC3 Big Chuckawall 100.40 57 P **Pdif 14 01 16.9 -0.1**
baz=269
IRM Iron Mountain 100.66 57 P **Pdif 14 01 17.9 -0.2**
baz=269
VNA2 Neumayer--Watz 100.79 189 P **Pdif 14 01 17.6 -0.2**
baz=148,slow=5.2
VNA3 Neumayer Olymp 100.82 188 P **Pdif 14 01 17.3 -0.7**
HLID Hailey 101.14 47 P **Pdif 14 01 20.5 +0.3**
baz=272
VNA1 Neumayer--Stat 101.16 188 P **Pdif 14 01 18.9 -0.6**
BOZ Bozeman (W) 103.03 45 P **Pdif 14 01 28.7 +0.2**
baz=274
KLMR Klimovskoe 103.78 331 *eP* **Pdif 14 01 26.8 -4.4**
KLMR pmax pmax
comp=Z,7.0nm,1.1s
KLMR Klimovskoe 103.78 331 *ePdif* **Pdif 14 01 26.8 -4.4**
KLMR AMP 14 01 31.9
comp=Z,7.0nm,1.1s
EGMT Eagleton 104.10 42 P **Pdif 14 01 32.8 -0.3**
baz=276
PDAR Pinedale Array 104.74 48 PKiKP **PKiKP 14 05 52.5 +1.2**
comp=Z,0.9nm,0.9s,baz=253,slow=4.0,SNR=3.9
PDAR PKKPbc **PKKPbc 14 17 19.6 -1.8**
comp=Z,0.8nm,0.6s,baz=108,slow=6.3,SNR=7.1
ARCES ARCESS Array B 106.48 342 PKiKP **PKiKP 14 05 53.6 +0.2**
comp=Z,0.7nm,0.5s,baz=326,slow=0.4,SNR=4.6
ARCES PKKPbc **PKKPbc 14 17 13.1 -3.6**
comp=Z,1.5nm,0.5s,baz=277,slow=2.2,SNR=11
MNTX Cornudas Mount 108.94 59 P **PKiKP 14 05 58.7 -0.5**
baz=274
FINES FINESS Array B 109.79 334 PKiKP **PKiKP 14 05 59.8 0.0**
comp=Z,2.3nm,0.7s,baz=87,slow=4.0,SNR=9.0
TXAR Lajitas Array 110.59 61 PKiKP **PKiKP 14 06 02.4 0.0**
comp=Z,0.6nm,0.9s,baz=8.1,slow=1.8,SNR=4.0
TXAR PP **PP 14 06 39.7 -0.5**
comp=Z,1.4nm,1.1s,baz=260,slow=7.1,SNR=5.4
TXAR PKKPbc **PKKPbc 14 17 01.4 -1.0**
comp=Z,0.3nm,0.7s,baz=99,slow=4.0,SNR=4.6
AKASG Malin Array Be 111.97 322 PKiKP **PKiKP 14 06 03.6 -0.6**
comp=Z,1.5nm,0.5s,baz=68,slow=2.1,SNR=5.5
BOSA Boshof 113.42 235 PKiKP **PKiKP 14 06 07.7 -0.2**
comp=Z,3.0nm,0.8s,baz=100,slow=1.7,SNR=4.1
ECSD EROS Data Cent 113.89 45 P **PKiKP 14 06 07.9 -0.3**
baz=285
F36A Milaca 115.40 42 **PKiKP 14 06 10.2 -0.8**
BURAR Bucovina Array 115.45 320 **PKiKP 14 06 10.3 -0.9**
MLR Muntele Rosu 115.65 318 PKiKP **PKiKP 14 06 09.9 -1.8**
MLR Muntele Rosu 115.65 318 **PKiKP 14 06 09.9 -1.8**
EYMN Ely 116.03 39 P **PKPdf 14 06 11.3 -0.9**
baz=291
NB2 NORSAR Subarra 116.13 338 PKPdf **PKPdf 14 06 10.9 -1.1**
comp=Z,0.9nm,0.7s,baz=44,slow=1.9
NOA NORSAR Array B 116.13 338 PKP **PKPdf 14 06 11.5 -0.5**
comp=Z,1.4nm,0.7s,baz=54,slow=2.0,SNR=5.9
P38A Dawn 117.17 49 **PKPdf 14 06 13.2 -1.3**
U38A Gravette 117.28 52 **PKPdf 14 06 14.6 -0.3**
OJC Ojcow 117.75 324 PKiKP **PKPdf 14 06 14.8 -0.6**
OJC Ojcow 117.75 324 PKPdf **PKPdf 14 06 14.8 -0.6**
S39A Bolivar 117.82 51 PKPdf **PKPdf 14 06 15.0 -0.9**
W39A Magazine 118.03 54 P **PKPdf 14 06 15.6 -0.7**
baz=283
W39A Magazine 118.03 54 PKPdf **PKPdf 14 06 15.3 -1.1**
MIAR Mount Ida 118.34 54 P **PKPdf 14 06 16.9 -0.1**
baz=282
R40A Maddies Statio 118.47 50 PKPdf **PKPdf 14 06 16.7 -0.4**
U40A Yellville 118.50 52 P **PKPdf 14 06 16.7 -0.5**
baz=284
U40A Yellville 118.50 52 PKPdf **PKPdf 14 06 16.9 -0.4**
JFWS Jewell Farm 118.57 44 P **PKPdf 14 06 16.9 -0.2**
baz=289
VYHS Vyhne 119.06 323 *e*PKIKP **PKPdf 14 06 17.8 -0.2**
VYHS Vyhne 119.06 323 *e*PKP **PKPdf 14 06 17.8 -0.2**
MORC Moravsky Berou 119.25 325 *e*PKP **PKiKP 14 06 18.6 +0.2**
MORC Moravsky Berou 119.25 325 PKIKP **PKPdf 14 06 17.3 -1.0**
MORC Moravsky Berou 119.25 325 PKPdf **PKPdf 14 06 17.3 -1.0**
W41B Gary Mavity, V 119.26 53 P **PKPdf 14 06 18.2 -0.5**
baz=284
W41B Gary Mavity, V 119.26 53 **PKPdf 14 06 18.2 -0.5**
CCM Cathedral Cave 119.31 50 P **PKPdf 14 06 17.9 -0.8**
baz=286
CCM Cathedral Cave 119.31 50 PKIKP **PKPdf 14 06 17.9 -0.8**
CCM Cathedral Cave 119.31 50 PKPdf **PKPdf 14 06 17.9 -0.8**
JAVC Velka Javorina 119.59 324 *e*PKP **PKiKP 14 06 20.2 +1.1**
OSTC Ostas 119.63 326 *e*PKPDF **PKiKP 14 06 19.5 +0.4**
DPC Dobruska-Polom 119.67 326 *e*PKPDF **PKiKP 14 06 19.8 +0.6**
DPC Dobruska-Polom 119.67 326 *e*PKIKP **PKiKP 14 06 19.8 +0.6**
VRAC Vranov 120.02 324 *e*PKP **PKPdf 14 06 19.8 0.0**

MODS Modra-Piesok 120.05 323 *e*PKIKP **PKPdf 14 06 19.1 -0.8**
MODS Modra-Piesok 120.05 323 *e*PKP **PKPdf 14 06 19.1 -0.8**
DIVS Divibare 120.11 318 PKPdf **PKPdf 14 06 19.8 -0.5**
KRUC Moravsky 120.25 324 *e*PKP **PKiKP 14 06 20.3 0.0**
F45A CMU Biological 120.69 40 P **PKPdf 14 06 20.8 -0.3**
baz=295
BRG Berggiesshubel 120.72 327 *i* PKP **PKiKP 14 06 21.2 0.0**
comp=Z,11nm,0.8s
BRG Berggiesshubel 120.72 327 *i* PKIKP **PKiKP 14 06 21.2 0.0**
BRG pmax pmax
comp=Z,11nm,0.8s
GOPC GO Pecny, Ondr 120.75 326 *e*PKPDF **PKiKP 14 06 21.8 +0.5**
GOPC GO Pecny, Ondr 120.75 326 *e*PKIKP **PKiKP 14 06 21.8 +0.5**
PRU Pruhonice 120.85 326 *e*PKPDF **PKPdf 14 06 21.3 0.0**
PRU Pruhonice 120.85 326 *e*PKIKP **PKPdf 14 06 21.3 0.0**
CLL Collm 121.00 328 ‖ *i*PKPdf **PKPdf 14 06 21.4 -0.2**
comp=Z,12nm,0.7s
CLL *ep*PKPdf **pPKPdf 14 06 49.0 -3.5**
CLL *es*PKPdf **sPKPdf 14 07 02.0 -2.3**
CLL Collm 121.00 328 ‖ *i*PKIKP **PKPdf 14 06 21.4 -0.2**
CLL *e* 14 06 49.0
CLL pmax pmax
comp=Z,12nm,0.7s
CLL Collm 121.00 328 PKPdf **PKPdf 14 06 21.2 -0.3**
D46A Sault St. Mari 121.09 38 P **PKiKP 14 06 22.3 +0.2**
baz=297
CONA Conrad Observa 121.09 323 *i* PKiKP **PKPdf 14 06 21.9 -0.1**
comp=Z,5.5nm,0.7s,SNR=5.5
E46A Sault Ste Mari 121.15 39 PKPdf **PKPdf 14 06 21.3 -0.7**
G46A Petoskey 121.26 40 P **PKiKP 14 06 22.4 0.0**
baz=295
PBCC Pribram 121.31 326 *e*PKPDF **PKiKP 14 06 22.5 +0.1**
D47A Chapleau 121.58 38 P **PKPdf 14 06 22.6 -0.2**
baz=298,SNR=5.9
ARSA Arzberg 121.61 323 *e*PKiKP **PKPdf 14 06 22.5 -0.5**
comp=Z,7.8nm,1.1s
SFIN Lafayette 121.65 46 P **PKPdf 14 06 22.9 -0.2**
baz=290
OXF Oxford 121.69 53 P **PKPdf 14 06 22.7 -0.7**
baz=285
E47A Iron Bridge 121.75 38 P **PKPdf 14 06 22.6 -0.5**
baz=297
KHC Kasperske Hory 121.83 325 *e*PKPDF **PKiKP 14 06 23.5 0.0**
KHC *ep*PKP **pPKPdf 14 06 54.9 +0.6**
KHC Kasperske Hory 121.83 325 *e*PKIKP **PKiKP 14 06 23.5 0.0**
KHC *e* 14 06 54.9
KHC Kasperske Hory 121.83 325 PKPdf **PKPdf 14 06 23.2 -0.1**
NKC Novy Kostel 121.87 327 *e*PKPDF **PKiKP 14 06 23.6 +0.1**
NKC Novy Kostel 121.87 327 *e*PKIKP **PKiKP 14 06 23.6 +0.1**
GERES GERESS Array B 121.90 325 PKP **PKPdf 14 06 23.6 +0.1**
comp=Z,7.3nm,0.6s,baz=48,slow=2.0,SNR=63
GERES pPKP **pPKPdf 14 06 54.9 +0.4**
comp=Z,1.6nm,0.6s,baz=70,slow=1.7,SNR=3.2
G47A Hillman 121.96 40 P **PKPdf 14 06 23.3 -0.4**
baz=296
MOA Molln 122.07 324 *e*PKiKP **PKPdf 14 06 23.3 -0.5**
comp=Z,6.0nm,0.9s
PLCA Paso Flores 122.10 147 PKP **PKPdf 14 06 24.2 0.0**
comp=Z,4.2nm,0.7s,baz=210,slow=2.7,SNR=12
PLCA SKP 14 09 49.6
comp=Z,2.3nm,0.9s,baz=82,slow=4.0,SNR=3.5
PLCA Paso Flores 122.10 147 PKPdf **PKiKP 14 06 24.9 +0.5**
PERS Pernice 122.15 322 *i* PKPdf **PKPdf 14 06 23.6 -0.5**
SOKA Soboth 122.18 322 *e*PKiKP **PKPdf 14 06 23.8 -0.3**
comp=Z,10nm,1.1s,SNR=5.2
D48A Paudash Townsh 122.30 37 P **PKPdf 14 06 24.1 -0.1**
baz=299
E48A Lockeyer 122.42 38 P **PKPdf 14 06 23.9 -0.6**
baz=298
WVT Waverly 122.48 51 P **PKPdf 14 06 24.1 -0.8**
baz=287
D49A Beulah Townshi 122.52 37 P **PKPdf 14 06 24.7 0.0**
baz=300
OBKA Obir 122.55 322 *i* PKiKP **PKPdf 14 06 24.5 -0.3**
comp=Z,4.4nm,0.9s
BOJS Bojanci 122.59 321 *i* PKPdf **PKiKP 14 06 25.0 0.0**
T47A Sharon Grove 122.77 50 **PKPdf 14 06 25.3 -0.1**
LJU Ljubljana 122.79 322 *i* PKPdf **PKPdf 14 06 25.2 0.0**
J48A Bridge Port 122.81 42 P **PKPdf 14 06 24.8 -0.5**
baz=295
F49A Sandfield 122.83 39 P **PKPdf 14 06 25.1 -0.1**
baz=298
KBA Koelnbreinsper 123.00 323 *i* PKPdf **PKPdf 14 06 24.8 -1.0**
comp=Z,5.8nm,0.7s
MYKA Terra Mystica 123.04 323 *e*PKiKP **PKPdf 14 06 25.1 -0.7**
comp=Z,8.5nm,0.9s
I49A Point Hope 123.17 41 P **PKPdf 14 06 25.8 -0.2**
baz=296
J49A Marlette 123.21 41 P **PKPdf 14 06 25.8 -0.3**
baz=296
E50A Wahnapitae 123.31 37 P **PKPdf 14 06 25.7 -0.5**
baz=300
V48A Smith Brothers 123.37 51 **PKPdf 14 06 25.9 -0.8**
D50A G1974 Best Tow 123.47 36 P **PKPdf 14 06 26.1 -0.4**
baz=301,SNR=5.3
ZOU Zoufplan 123.48 323 PKPdf **PKPdf 14 06 25.7 -1.0**
N49A Columbus Grove 123.51 45 **PKPdf 14 06 26.2 -0.5**
CLTN Cedars of Leba 123.64 51 PKPdf **PKPdf 14 06 26.6 -0.6**
ABTA Abfaltersbach 123.66 323 *e*PKiKP **PKPdf 14 06 26.4 -0.6**
comp=Z,14nm,0.8s,SNR=6.7
P49A Miami Univ. Ec 123.66 46 P **PKPdf 14 06 27.1 0.0**
baz=292
D51A Lot 18 Range I 123.78 36 P **PKPdf 14 06 27.2 +0.1**
baz=301
WATA Walderalm 123.90 324 *i* PKiKP **PKPdf 14 06 27.4 -0.1**
comp=Z,17nm,1.2s
WTTA Wattenberg 123.91 324 *e*PKiKP **PKPdf 14 06 27.4 -0.1**
comp=Z,20nm,0.8s,SNR=8.0
CIMO Cimolais 123.92 323 PKPdf **PKPdf 14 06 26.2 -1.2**
E51A G1948 Merrick 124.00 37 P **PKPdf 14 06 26.8 -0.7**
baz=301
LRAL Lakeview Retre 124.02 54 P **PKPdf 14 06 27.0 -0.9**
baz=286
F51A Arnstein 124.05 37 P **PKPdf 14 06 27.5 -0.2**
baz=300
LSQQ Lebel-sur-Quev 124.06 33 P **PKPdf 14 06 27.0 -0.6**
baz=305
MOTA Moosalm 124.17 325 *e*PKiKP **PKPdf 14 06 27.9 -0.1**
comp=Z,19nm,0.7s,SNR=10
SQTA Sankt Quirin 124.17 324 *e*PKiKP **PKPdf 14 06 27.7 -0.3**
comp=Z,14nm,0.8s,SNR=5.7
TIP Timpagrande 124.21 314 PKPdf **PKPdf 14 06 27.3 -0.9**
RETA Reutte 124.29 325 *e*PKiKP **PKPdf 14 06 28.0 -0.2**
comp=Z,4.6nm,0.8s
VLDQ Val d'Or 124.33 34 PKPdf **PKPdf 14 06 26.9 -1.2**
I51A Listowel 124.39 40 P **PKPdf 14 06 28.2 -0.1**
baz=298
D52A ZEK Kipawa Sen 124.40 36 P **PKPdf 14 06 27.9 -0.4**
baz=302,SNR=5.4
T50A Nancy 124.47 49 PKPdf **PKPdf 14 06 27.8 -0.9**
F52A Sundridge 124.48 37 P **PKPdf 14 06 28.3 -0.2**
baz=301
CTI Castel Tesino 124.53 323 PKIKP **PKPdf 14 06 28.1 -0.6**
CTI Castel Tesino 124.53 323 PKPdf **PKPdf 14 06 28.1 -0.6**
FETA Feichten 124.56 324 *e*PKiKP **PKPdf 14 06 28.6 -0.2**
comp=Z,16nm,1.1s,SNR=9.3
E52A Mattawa 124.62 37 P **PKPdf 14 06 28.4 -0.3**
baz=302
W50A Signal Mountai 124.71 51 **PKPdf 14 06 29.0 -0.3**
D53A Lac Vacive, Po 124.76 35 P **PKPdf 14 06 28.7 -0.3**
baz=303,SNR=5.1
D53A Lac Vacive, Po 124.76 35 PKPdf **PKPdf 14 06 28.7 -0.3**
N51A Ashland 124.76 44 P **PKPdf 14 06 29.0 -0.2**
baz=295
P51A Williamsport 124.86 46 P **PKPdf 14 06 28.6 -0.8**
baz=293
DAVA Damuels 124.90 325 *e*PKiKP **PKPdf 14 06 29.5 0.0**
comp=Z,17nm,0.7s,SNR=6.2
O51A Pataskala 124.92 45 P **PKPdf 14 06 29.0 -0.4**
baz=294
CHGQ Chibougamau 124.93 31 P **PKPdf 14 06 28.4 -0.8**
baz=308
SCHQ Schefferville 124.94 23 PKP **PKiKP 14 06 29.4 0.0**
comp=Z,2.4nm,0.7s,baz=5.5,slow=5.2,SNR=3.9
MEM Membach 124.99 330 PKIKP **PKPdf 14 06 29.2 -0.1**
FUORN Ofenpass-Fuorn 125.04 324 PKPdf **PKiKP 14 06 30.1 -0.1**
ALGO Algonquin Park 125.16 37 P **PKPdf 14 06 29.7 -0.1**
baz=302
E53A Dumoine, Ponti 125.16 36 P **PKPdf 14 06 29.7 -0.1**
baz=303
BFO Black Forest 125.17 327 PKIKP **PKPdf 14 06 29.5 -0.2**
BFO Black Forest 125.17 327 PKPdf **PKPdf 14 06 29.5 -0.2**
S51A Beattyville 125.18 48 **PKPdf 14 06 30.1 +0.1**
NRCA Norcia 125.18 319 **PKPdf 14 06 29.8 -0.2**
M52A Chesterland 125.19 43 P **PKPdf 14 06 30.1 +0.1**
baz=296

CPCT	Cooper Cave	125.24	51	PKPdf	PKPdf	14 06 29.3	-1.0	
D54A	Lac Fusel, La baz=304	125.31	35	P	PKPdf	14 06 29.6	-0.4	
E54A	Lac Daplat, Po baz=303	125.41	36	P	PKPdf	14 06 30.1	-0.1	
G54A	Lake Saint Pet baz=302	125.42	37	P	PKPdf	14 06 30.3	0.0	
P52A	Corning baz=294	125.46	45	P	PKPdf	14 06 30.3	-0.2	
O52A	Adamsville baz=295	125.47	45	P	PKPdf	14 06 30.6	+0.1	
WLF	Walferdange	125.51	329	PKiKP	PKiKP	14 06 31.5	+0.8	
H53A	Bobcaygeon baz=301	125.55	38	P	PKPdf	14 06 30.0	-0.6	
BGES	Gesves	125.59	330	PKiKP	PKiKP	14 06 31.1	+0.3	
TZTN	Tazewell baz=291	125.61	49	P	PKPdf	14 06 31.0	+0.1	
TUE	Stuetta	125.66	325	PKPdf	PKPdf	14 06 30.0	-1.0	
M53A	Wi Miller and baz=297	125.69	43	P	PKPdf	14 06 30.7	-0.2	
TKL	Tuckaleechee C	125.75	50	PKIKP	PKPdf	14 06 29.6	-1.6	
TKL	Tuckaleechee C	125.75	50	PKPdf	PKPdf	14 06 29.6	-1.6	
BMRD	Maredsous	125.80	331	PKiKP	PKiKP	14 06 31.1	-0.1	
O53A	New Philadelph baz=295	125.85	44	P	PKiKP	14 06 31.6	-0.1	
N53A	Lisbon baz=296	125.86	43	P	PKiKP	14 06 32.1	+0.4	
N53A	Lisbon	125.86	43	PKPdf	PKPdf	14 06 31.0	-0.2	
152A	Waverly Hall	125.96	54	PKPdf	PKPdf	14 06 31.2	-0.4	
DOU	Dourbes	126.02	330	PKiKP	PKiKP	14 06 31.9	+0.3	
P53A	Whipple baz=295	126.05	45	P	PKPdf	14 06 31.6	0.0	
E55A	Montcerf-Lytto baz=304	126.05	35	P	PKPdf	14 06 31.4	0.0	
D55A	Sainte-Anne-du baz=305	126.06	34	P	PKPdf	14 06 31.6	+0.1	
R53A	Hurricane baz=294	126.11	47	P	PKiKP	14 06 32.2	0.0	
Y52A	Lilburn	126.12	53		PKPdf	14 06 32.1	+0.2	
J54A	Appleton baz=300	126.16	40	P	PKPdf	14 06 31.6	-0.1	
Q53A	Leroy baz=294	126.21	46	P	PKPdf	14 06 31.9	0.0	
PLVO	Plevna	126.22	37	PKPdf	PKPdf	14 06 32.0	+0.2	
L54A	Sinclairville baz=298	126.23	41	P	PKPdf	14 06 31.8	-0.1	
I55A	Frankford baz=301	126.29	38	P	PKPdf	14 06 31.5	-0.5	
G55A	Calabogie baz=303	126.32	37	P	PKPdf	14 06 31.6	-0.3	
M54A	Oil Creek Stat baz=298	126.34	42	P	PKPdf	14 06 31.8	-0.4	
N54A	Moraine State baz=297	126.37	43	P	PKPdf	14 06 31.7	-0.6	
N54A	Moraine State baz=301	126.37	43	P	SKPbc	14 09 36.8		
H55A	Tweed baz=302	126.42	38	P	PKPdf	14 06 31.6	-0.6	
D56A	ZEC Mazanza, M baz=306	126.44	34	P	PKPdf	14 06 32.0	-0.2	
O54A	Avella baz=296	126.45	44	P	PKPdf	14 06 32.4	0.0	
K54A	Basiliko Farm, baz=299	126.46	40	P	PKPdf	14 06 31.9	-0.4	
V53A	Saluda	126.47	50		PKPdf	14 06 32.5	-0.1	
E56A	St. Veronique baz=305	126.58	35	P	PKPdf	14 06 32.4	0.0	
P54A	Burton baz=296	126.63	45	P	PKPdf	14 06 32.4	-0.4	
Q54A	Coxs Mills baz=295	126.65	45	P	PKPdf	14 06 32.4	-0.4	
J55A	Hilton baz=300	126.69	39	P	PKPdf	14 06 32.1	-0.6	
GOGA	Godfrey baz=289	126.73	53	P	PKPdf	14 06 33.2	+0.1	
K55A	Perry baz=300	126.80	40	P	PKPdf	14 06 33.0	0.0	
L55A	Hinsdale baz=299	126.83	41	P	PKPdf	14 06 32.7	-0.4	
SENIN	Lac Senin/Sane	126.89	325	PKPdf	PKPdf	14 06 33.0	-0.3	
D57A	Chemin Vers le baz=307	126.94	34	P	PKiKP	14 06 33.5	-0.2	
H56A	Elgin baz=303	126.95	37	P	PKPdf	14 06 33.1	-0.1	
M55A	Ridgway baz=298	126.95	42	P	PKPdf	14 06 32.9	-0.5	
M55A	Ridgway baz=302	126.95	42	P	SKPbc	14 09 39.5		
V54A	Nebo baz=292	127.09	50	P	PKiKP	14 06 34.3	0.0	
P55A	Reedsville baz=296	127.13	44	P	PKPdf	14 06 34.0	+0.3	
N55A	Marion Center baz=298	127.13	43	P	PKPdf	14 06 33.8	+0.1	
E57A	Chemin Saint G baz=306	127.15	34	P	PKPdf	14 06 33.8	+0.2	
W54A	Cherokee Point baz=291	127.16	50	P	PKPdf	14 06 33.7	-0.3	
Q55A	Buckhannon baz=296	127.17	45	P	PKPdf	14 06 33.4	-0.5	
O55A	Ligonier baz=297	127.18	43	P	PKPdf	14 06 33.6	-0.2	
O55A	Ligonier baz=301	127.18	43	P	SKPbc	14 09 40.6		
X54A	Belton baz=291	127.21	51	P	PKiKP	14 06 34.4	-0.1	
J56A	Wolcott baz=302	127.28	39	P	PKPdf	14 06 33.9	+0.1	
J56A	Wolcott baz=304	127.28	39	P	SKPbc	14 09 40.5		
M56A	Emporium baz=299	127.33	41	P	PKPdf	14 06 34.0	0.0	
M56A	Emporium baz=302	127.33	41	P	SKPbc	14 09 41.2		
L56A	Greenwood baz=300	127.42	40	P	PKPdf	14 06 34.3	+0.1	
L56A	Greenwood baz=303	127.42	40	P	SKPbc	14 09 41.4		
L56A	Greenwood	127.42	40	PKPdf	PKPdf	14 06 33.7	-0.5	
G57A	Newington baz=304	127.43	36	P	PKPdf	14 06 33.7	-0.3	
R55A	Marlinton baz=295	127.45	46	P	PKPdf	14 06 34.5	+0.1	
R55A	Marlinton	127.45	46	PKPdf	PKPdf	14 06 34.7	+0.2	
U55A	TA2, Sparta baz=293	127.49	48	P	PKPdf	14 06 34.8	+0.2	
H57A	Richville baz=304	127.55	37	P	PKPdf	14 06 33.8	-0.5	
H57A	Richville baz=305	127.55	37	P	SKPbc	14 09 41.9		
V55A	Taylorsville baz=292	127.62	49	P	PKiKP	14 06 35.3	0.0	
V55A	Taylorsville baz=299,SNR=7.8	127.62	49	P	SKPbc	14 09 44.4		
O56A	Blue Knob Stat baz=298	127.65	43	P	PKPdf	14 06 34.1	-0.7	
O56A	Blue Knob Stat baz=302	127.65	43	P	SKPbc	14 09 42.7		
I57A	Carthage baz=303	127.67	38	P	PKiKP	14 06 35.1	-0.1	
I57A	Carthage baz=305	127.67	38	P	SKPbc	14 09 42.5		
BLA	Blacksburg baz=294	127.67	47	P	PKPdf	14 06 35.2	+0.3	
J57A	Williamstown baz=302	127.75	38	P	PKPdf	14 06 34.5	-0.3	
J57A	Williamstown baz=304	127.75	38	P	SKPbc	14 09 42.6		
Q56A	Snyder Ridge, baz=301	127.78	45	P	SKPbc	14 09 43.2		
K57A	Scipio Center baz=301	127.78	39	P	PKiKP	14 06 35.4	0.0	
K57A	Scipio Center baz=304	127.78	39	P	SKPbc	14 09 42.4		
KMSC	Kings Mountain baz=292	127.79	50	P	PKPdf	14 06 35.1	0.0	
KMSC	Kings Mountain baz=299	127.79	50	P	SKPbc	14 09 44.7		
KMSC	Kings Mountain	127.79	50		PKPdf	14 06 34.9	-0.2	
X55A	Gracelyn & Ava baz=291	127.81	51	P	PKPdf	14 06 34.9	-0.3	
P56A	Dayton Farm, R baz=297	127.81	44	P	PKPdf	14 06 34.4	-0.6	
P56A	Dayton Farm, R baz=302	127.81	44	P	SKPbc	14 09 43.2		
Y55A	Saluda baz=290	127.82	52	P	PKPdf	14 06 35.1	0.0	
Y55A	Saluda baz=298	127.82	52	P	SKPbc	14 09 44.5		
R56A	Bull Pasture M baz=296	127.91	45	P	PKPdf	14 06 34.9	-0.4	
SSPA	Standing Stone baz=299	127.94	42	P	PKPdf	14 06 35.0	-0.3	
SSPA	Standing Stone baz=302	127.94	42	P	SKPbc	14 09 43.3		
SSPA	Standing Stone	127.94	42	PKPdf	PKiKP	14 06 35.5	-0.3	
LONY	Lake Ozonia baz=305	127.94	36	P	PKPdf	14 06 35.0	-0.1	
G58A	Ormstown baz=306	127.94	36	P	PKPdf	14 06 34.9	-0.1	
G58A	Ormstown baz=306	127.94	36	P	SKPbc	14 09 42.7		
L57A	Andrews Acres baz=301	127.94	40	P	PKPdf	14 06 35.4	+0.2	
L57A	Andrews Acres baz=303	127.94	40	P	SKPbc	14 09 43.4		
BNI	Bardonecchia	128.00	324	PKIKP	PKiKP	14 06 35.9	-0.1	
BNI	Bardonecchia	128.00	324	PKPdf	PKiKP	14 06 35.9	-0.1	
T56A	Rocky Mt baz=294	128.03	47	P	PKPdf	14 06 35.4	-0.1	
T56A	Rocky Mt baz=300	128.03	47	P	SKPbc	14 09 44.5		
M57A	Sunshine Farm, baz=300	128.10	41	P	PKPdf	14 06 35.5	0.0	
M57A	Sunshine Farm, baz=303	128.10	41	P	SKPbc	14 09 44.1		
N57A	Milroy baz=299	128.10	42	P	PKPdf	14 06 35.8	+0.3	
N57A	Milroy baz=303	128.10	42	P	SKPbc	14 09 44.0		
V56A	Mocksville baz=293	128.17	49	P	PKiKP	14 06 36.1	-0.3	
V56A	Mocksville baz=300	128.17	49	P	SKPbc	14 09 45.7		
J58A	Remsen baz=303	128.21	38	P	PKiKP	14 06 36.4	+0.1	
J58A	Remsen baz=305	128.21	38	P	SKPbc	14 09 44.2		
I58A	Old Forge baz=304	128.22	38	P	PKPdf	14 06 35.5	-0.3	
I58A	Old Forge baz=305	128.22	38	P	SKPbc	14 09 43.4		
X56A	White Oak baz=292	128.26	51	P	PKiKP	14 06 36.8	+0.1	
X56A	White Oak baz=299	128.26	51	P	SKPbc	14 09 47.1		
H58A	Gabriels baz=305	128.29	36	P	PKPdf	14 06 35.8	0.0	
H58A	Gabriels baz=306	128.29	36	P	SKPbc	14 09 44.4		
O57A	Amberson baz=299	128.31	43	P	PKiKP	14 06 36.5	-0.1	
O57A	Amberson baz=302	128.31	43	P	SKPbc	14 09 44.6		
K58A	Earlville baz=302	128.31	39	P	PKiKP	14 06 36.3	-0.2	
K58A	Earlville baz=304	128.31	39	P	SKPbc	14 09 43.9		
K58A	Earlville	128.31	39	PKPdf	PKPdf	14 06 36.2	+0.3	
Q57A	Strasburg baz=297	128.32	44	P	PKPdf	14 06 36.3	+0.3	
Q57A	Strasburg baz=302	128.32	44	P	SKPbc	14 09 45.2		
W56A	Indian Trail baz=292	128.37	50	P	PKiKP	14 06 36.8	0.0	
W56A	Indian Trail baz=299,SNR=5.1	128.37	50	P	SKPbc	14 09 46.4		
P57A	Homestead Farm baz=302	128.39	44	P	SKPbc	14 09 45.2		
BINY	Binghamton baz=302	128.39	40	P	PKPdf	14 06 36.3	+0.2	
H59A	Cadyville baz=306	128.44	36	P	SKPbc	14 09 43.9		
M58A	Price's Panora baz=301	128.51	41	P	PKPdf	14 06 36.1	-0.2	
M58A	Price's Panora baz=304	128.51	41	P	SKPbc	14 09 45.1		
CLF	Chambon-Foret	128.53	330	PKPdf	PKPdf	14 06 36.3	+0.2	
L58A	Harry Jones Me baz=302	128.56	40	P	PKPdf	14 06 36.1	-0.3	
L58A	Harry Jones Me baz=304	128.56	40	P	SKPbc	14 09 45.2		
R57A	Stanardsville baz=296	128.57	45	P	PKPdf	14 06 36.4	-0.1	
R57A	Stanardsville baz=302	128.57	45	P	SKPbc	14 09 46.6		
T57A	Hurt baz=295	128.61	47	P	PKPdf	14 06 36.4	-0.2	
T57A	Hurt baz=301	128.61	47	P	SKPbc	14 09 46.8		
N58A	Sunbury baz=300	128.61	41	P	PKiKP	14 06 37.0	-0.1	
N58A	Sunbury baz=303	128.61	41	P	SKPbc	14 09 44.8		
J59A	Piesco baz=304	128.63	38	P	PKPdf	14 06 36.7	+0.2	
J59A	Piesco baz=306	128.63	38	P	SKPbc	14 09 45.2		
F60A	Warwick baz=308	128.64	34	P	PKiKP	14 06 36.9	-0.1	
F60A	Warwick baz=308	128.64	34	P	SKPbc	14 09 44.8		
V57A	Coltrane Farms baz=294	128.68	49	P	PKPdf	14 06 36.5	-0.3	
V57A	Coltrane Farms baz=300	128.68	49	P	SKPbc	14 09 47.1		
U57A	Blanch baz=294	128.78	48	P	PKPdf	14 06 37.3	+0.3	
U57A	Blanch baz=301	128.78	48	P	SKPbc	14 09 47.5		
K59A	Cooperstown baz=303	128.80	38	P	PKPdf	14 06 36.8	-0.1	
K59A	Cooperstown baz=305	128.80	38	P	SKPbc	14 09 45.6		
W57A	Gilead baz=293	128.81	49	P	PKPdf	14 06 36.8	-0.3	
W57A	Gilead baz=300,SNR=5.7	128.81	49	P	SKPbc	14 09 47.7		
I59A	Olmsteadville baz=305	128.82	37	P	PKPdf	14 06 36.9	+0.1	
I59A	Olmsteadville baz=306	128.82	37	P	SKPbc	14 09 45.7		
O58A	Lewisberry baz=299	128.83	42	P	PKPdf	14 06 36.9	-0.1	
O58A	Lewisberry baz=303	128.83	42	P	SKPbc	14 09 46.5		
Q58A	Fox Den Farm, baz=302	128.87	44	P	SKPbc	14 09 46.7		
P58A	Pank, Wackersv baz=298	128.88	43	P	PKPdf	14 06 37.0	-0.1	
R58A	Rapidan baz=302	128.94	45	P	SKPbc	14 09 47.3		
G60A	Masonville baz=308	128.96	35	P	SKPbc	14 09 47.0		
L59A	Walton baz=302	128.99	39	P	PKPdf	14 06 36.9	-0.3	
L59A	Walton baz=305	128.99	39	P	SKPbc	14 09 47.0		
SSB	Saint Sauveur	129.08	326	PKIKP	PKPdf	14 06 37.2	-0.1	
SSB	Saint Sauveur	129.08	326	PKPdf	PKPdf	14 06 37.2	-0.1	
M59A	Waymart baz=302	129.09	40	P	PKPdf	14 06 37.7	+0.3	
M59A	Waymart baz=304	129.09	40	P	SKPbc	14 09 47.2	-1.4	
E61A	Lac Etchemin baz=310	129.14	32	P	PKPdf	14 06 37.6	+0.2	
I60A	Shoreham baz=305	129.14	36	P	PKiKP	14 06 37.8	-0.3	
I60A	Shoreham baz=306	129.14	36	P	SKPbc	14 09 47.4	-1.3	
T58A	Grand View Acr baz=296	129.16	47	P	PKPdf	14 06 38.0	+0.3	
T58A	Grand View Acr baz=301	129.16	47	P	SKPbc	14 09 48.4	-0.5	
F61A	St Evariste baz=309	129.16	33	P	PKiKP	14 06 37.8	-0.3	
F61A	St Evariste baz=309,SNR=5.2	129.16	33	P	SKPbc	14 09 47.2	-1.4	
R58B	Mineral baz=297	129.18	45	P	PKPdf	14 06 37.5	-0.1	
R58B	Mineral baz=302	129.18	45	P	SKPbc	14 09 48.1	-0.9	
N59A	State Game Lan baz=301	129.19	41	P	PKPdf	14 06 37.8	+0.1	
N59A	State Game Lan baz=304	129.19	41	P	SKPbc	14 09 47.7	-1.3	
V58A	Windy Hill, Pi baz=294	129.21	48	P	PKPdf	14 06 37.7	0.0	
V58A	Windy Hill, Pi baz=301,SNR=6.2	129.21	48	P	SKPbc	14 09 49.2	0.0	
S58A	Poland Farm, P baz=296	129.21	46	P	PKPdf	14 06 37.7	0.0	
S58A	Poland Farm, P baz=302	129.21	46	P	SKPbc	14 09 48.1	-1.0	
O59A	Robesonia baz=300	129.23	42	P	PKPdf	14 06 37.5	-0.2	
O59A	Robesonia baz=304	129.23	42	P	SKPbc	14 09 47.2	-1.9	
G61A	St-Isidore-de- baz=308	129.29	34	P	PKPdf	14 06 37.7	0.0	
G61A	St-Isidore-de- baz=308	129.29	34	P	SKPbc	14 09 46.6	-2.6	
U58A	Oxford baz=295	129.38	47	P	PKPdf	14 06 37.9	-0.1	
P59A	Jarrettsville baz=303	129.41	43	P	SKPbc	14 09 48.2	-1.5	
J60A	Lant Hill Farm baz=305	129.41	37	P	PKPdf	14 06 38.3	+0.3	
J60A	Lant Hill Farm baz=306	129.41	37	P	SKPbc	14 09 47.9	-1.7	
W58A	Raeford baz=294	129.43	49	P	PKiKP	14 06 38.7	-0.2	
W58A	Raeford baz=300,SNR=11	129.43	49	P	SKPbc	14 09 50.4	+0.5	
H61A	Lyndonville baz=308,SNR=6.4	129.53	35	P	SKPbc	14 09 48.1	-1.9	
L60A	Shokan baz=305	129.62	39	P	SKPbc	14 09 48.6	-1.8	
N60A	Cedar Hill Far baz=304	129.65	41	P	SKPbc	14 09 48.4	-2.1	
LBNH	Lisbon baz=307	129.70	35	P	PKPdf	14 06 38.6	+0.1	
LBNH	Lisbon baz=308	129.70	35	P	SKPbc	14 09 48.2	-2.4	
M60A	Port Jervis baz=302	129.72	40	P	PKiKP	14 06 39.3	0.0	
M60A	Port Jervis baz=305	129.72	40	P	SKPbc	14 09 48.9	-1.8	
I61A	Oroboro, Fairl baz=307	129.72	36	P	PKPdf	14 06 38.8	+0.3	
I61A	Oroboro, Fairl baz=307,SNR=6.1	129.72	36	P	SKPbc	14 09 48.7	-2.0	
O60A	Telford baz=301	129.74	41	P	PKPdf	14 06 38.7	+0.1	
O60A	Telford baz=304	129.74	41	P	SKPbc	14 09 48.9	-1.9	
F62A	Pittston Farm, baz=310	129.76	33	P	PKPdf	14 06 38.8	+0.2	
F62A	Pittston Farm, baz=310	129.76	33	P	SKPbc	14 09 49.1	-1.6	
K61A	Williamstown baz=305	129.83	38	P	PKiKP	14 06 39.5	0.0	
K61A	Williamstown baz=306,SNR=6.8	129.83	38	P	SKPbc	14 09 48.9	-2.1	
P60A	Greenville baz=304	129.84	42	P	SKPbc	14 09 49.7	-1.5	
T59A	Double "B" Far baz=296	129.85	46	P	PKPdf	14 06 38.8	-0.1	
T59A	Double "B" Far baz=302,SNR=9.9	129.85	46	P	SKPbc	14 09 51.2	-0.1	
J61A	Chester baz=306	129.87	37	P	PKPdf	14 06 39.1	+0.3	
J61A	Chester baz=307	129.87	37	P	SKPbc	14 09 49.0	-2.2	
V59A	Middlesex baz=295	129.87	48	P	PKPdf	14 06 39.1	+0.1	
V59A	Middlesex baz=301,SNR=6.5	129.87	48	P	SKPbc	14 09 51.6	+0.2	
G62A	West of Eustis baz=309	129.88	34	P	SKPbc	14 09 49.4	-1.8	
L61A	Hillsdale 1, H baz=306	129.92	38	P	SKPbc	14 09 49.5	-1.8	
H62A	Milan baz=308,SNR=9.5	129.94	35	P	SKPbc	14 09 49.6	-1.8	
U59A	Littleton baz=302	129.95	47	P	SKPbc	14 09 52.1	+0.4	
D63A	Stockholm baz=311	129.97	30	P	SKPbc	14 09 49.5	-1.9	
Z59A	Georgetown, SC baz=300	130.08	51	P	SKPbc	14 09 53.9	+1.7	
E63A	Oxbow baz=311	130.22	31	P	SKPbc	14 09 50.5	-1.8	
I62A	Tamworth baz=308	130.26	35	P	SKPbc	14 09 51.3	-1.3	
M61A	Granite Spring baz=306	130.27	39	P	SKPbc	14 09 51.7	-0.9	
L61B	Northampton baz=307	130.31	38	P	SKPbc	14 09 51.8	-1.0	
F63A	Nahmakanta, Br baz=310,SNR=7.2	130.34	32	P	SKPbc	14 09 51.4	-1.4	
PAL	Palisades baz=306	130.35	40	P	SKPbc	14 09 51.5	-1.4	
J62A	Henniker baz=308	130.37	36	P	SKPbc	14 09 52.1	-0.9	
G63A	Kingsbury baz=310	130.45	33	P	PKiKP	14 06 40.8	0.0	
G63A	Kingsbury baz=310,SNR=6.6	130.45	33	P	SKPbc	14 09 52.3	-0.9	
K62A	Royalston baz=307	130.45	37	P	SKPbc	14 09 52.0	-1.3	
E64A	Bridgewater baz=313	130.53	31	P	PKPdf	14 06 39.6	-0.3	
E64A	Bridgewater baz=311,SNR=10	130.53	31	P	SKPbc	14 09 52.0	-1.4	
PKME	Peaks-Kenny Pk baz=311	130.53	33	P	PKPdf	14 06 39.0	-1.0	
PKME	Peaks-Kenny Pk baz=310,SNR=9.8	130.53	33	P	SKPbc	14 09 52.1	-1.3	
X60A	Albert Glenn T baz=301	130.55	49	P	SKPbc	14 09 54.1	+0.2	
I63A	Otisfield baz=309,SNR=6.7	130.59	35	P	SKPbc	14 09 52.5	-1.2	
V60A	Jim Taylor Roa baz=302	130.59	48	P	SKPbc	14 09 55.5	+1.6	
Y60A	Bolivia baz=294	130.60	50	P	PKPdf	14 06 40.7	+0.3	
Y60A	Bolivia baz=301	130.60	50	P	SKPbc	14 09 55.1	+1.0	
F64A	Sherman baz=312	130.63	32	P	PKPdf	14 06 40.3	+0.1	
F64A	Sherman baz=308,SNR=7.8	130.63	32	P	SKPbc	14 09 52.5	-1.3	
J63A	Strafford baz=308	130.77	36	P	SKPbc	14 09 53.5	-0.9	
G64A	Maxfield baz=310,SNR=12	130.82	32	P	SKPbc	14 09 53.9	-0.6	
K63A	Dunstable baz=308	130.86	37	P	SKPbc	14 09 53.9	-0.8	
HRV	Adam Dziewonsk baz=308	130.95	37	P	SKPbc	14 09 54.1	-1.0	
H64A	Troy baz=310	130.97	33	P	PKiKP	14 06 41.4	-0.4	
H64A	Troy baz=310,SNR=7.8	130.97	33	P	SKPbc	14 09 54.1	-1.0	
KEST	Kesra comp=Z,6.3nm,0.9s,baz=266,slow=1.8,SNR=6.1	131.00	313	PKP	PKiKP	14 06 41.9	-0.3	
KEST	comp=Z,10nm,0.9s,baz=319,slow=1.9,SNR=8.3			SKPbc	SKPbc	14 09 54.6	-1.0	
I64A	Boothbay baz=309	131.20	34	P	SKPbc	14 09 55.0	-0.9	
L63A	North Scituate baz=307	131.30	38	P	SKPbc	14 09 54.7	-1.7	
H65A	Eastbrook baz=311	131.46	33	P	PKPdf	14 06 41.7	0.0	
H65A	Eastbrook baz=311	131.46	33	P	SKPbc	14 09 56.2	-0.6	
G65A	Princeton baz=312	131.49	32	P	PKiKP	14 06 42.6	-0.2	
G65A	Princeton baz=311,SNR=7.0	131.49	32	P	SKPbc	14 09 55.3	-1.6	
L64A	Middleborough baz=308	131.72	37	P	SKPbc	14 09 56.9	-1.0	
M64A	Tiverton baz=308	131.72	38	P	SKPbc	14 09 56.6	-1.3	
H66A	Whiting baz=312	131.90	32	P	PKPdf	14 06 42.9	+0.3	
H66A	Whiting baz=312	131.90	32	P	SKPbc	14 09 58.2	-0.2	
LMN	Caledonia Moun	132.43	29	PKPdf	PKPdf	14 06 43.2	-0.3	
PB11	IPOC Station P	136.04	127	PKPdf	PKPdf	14 06 49.9	-1.4	
ESDC	Sonseca Array comp=Z,1.3nm,0.8s,baz=4.9,slow=3.1,SNR=8.5	137.49	326	PKP	PKPdf	14 06 53.6	+0.3	
ESDC				SKPbc	SKPbc	14 10 16.8	+0.1	

comp=Z,2.9nm,1.0s,baz=36,slow=4.2,SNR=9.1
ESDC Sonseca Array 137.49 326 PKPdf **PKPdf 14 06 52.3 -1.0**
LPAZ La Paz 139.10 124 PKhKP PKPpre 14 06 52.4
comp=Z,4.3nm,0.7s,baz=15,slow=0.6,SNR=8.2
LPAZ PKP **PKPdf 14 06 58.3 +0.7**
comp=Z,5.5nm,0.9s,baz=56,slow=6.8,SNR=14
LPAZ SKPbc **SKPbc 14 10 22.9 +0.2**
comp=Z,5.4nm,0.9s,baz=258,slow=1.6,SNR=5.5
ROSC El Rosal 139.54 90 PKP **PKPdf 14 06 59.0 +0.7**
comp=Z,10.0nm,0.6s,baz=138,slow=19,SNR=5.0
CPUP Villa Florida 140.14 146 PKP **PKPdf 14 06 59.0 +0.5**
comp=Z,5.6nm,0.8s,baz=300,slow=0.3,SNR=14
CPUP SKPbc **SKPbc 14 10 24.7 +0.3**
comp=Z,6.5nm,1.0s,baz=255,slow=1.6,SNR=5.0
MDT Midelt 142.34 318 SKPbc **SKPbc 14 10 29.1 -0.8**
comp=Z,5.5nm,1.1s,baz=57,slow=1.4,SNR=4.5
TZRR Tazzarine 144.22 316 P **PKPdf 14 07 06.0 +0.2**
SNR=6.5
SHEL Horse Pasture 144.48 231 PKIKP PKPbc 14 07 05.2 -0.1
SHEL Horse Pasture 144.48 231 PKPdf PKPbc 14 07 05.2 0.0
TOA0 Torodi Ar. Sit 144.54 284 PKPdf PKPbc 14 07 05.4 -0.1
TORD Torodi Ar. Bea 144.54 284 PKP PKPbc 14 07 06.0 +0.5
comp=Z,91nm,0.8s,baz=69,slow=3.3,SNR=390
TORD pPKP pPKPdf 14 07 37.5 0.0
comp=Z,25nm,0.8s,baz=76,slow=3.7,SNR=4.1
TORD SKPbc **SKPbc 14 10 35.8 +0.2**
comp=Z,3.8nm,0.8s,baz=73,slow=2.6,SNR=4.6
TORD Torodi Ar. Bea 144.54 284 PKPdf PKPbc 14 07 05.6 +0.2
ZGR Zagora 144.65 315 P **PKPdf 14 07 07.0 +0.5**
SNR=5.5
OUZM OUZ 144.96 317 P **PKiKP 14 07 09.0 -1.9**
SNR=7.0
MPR Mayaguez 145.37 67 PKPab 14 07 08.2 -0.1
CRPR Cabo Rojo, PR 145.45 68 PKPdf 14 07 07.4 -0.6
OUK Oukaimeden 145.50 319 P **PKPab 14 07 10.0 +1.1**
SNR=39
MLPR Magueyes Islan 145.52 68 PKPdf 14 07 07.6 -0.6
AOPR Arecibo Observ 145.69 67 PKPdf 14 07 08.1 -0.4
OBIP Obispado Ponce 145.91 67 PKPdf 14 07 08.5 -0.3
SJG San Juan 146.30 67 PKP2 **PKPdf 14 07 09.6 +0.1**
SJG San Juan 146.30 67 PKPdf 14 07 09.6 +0.1
TTIG Tnine Tigouga, 146.30 318 P **PKPab 14 07 12.0 +0.3**
SNR=21
GCPR Guaynabo City 146.31 67 PKPdf 14 07 09.6 +0.1
PDPR Patillas Dam, 146.45 67 PKPdf 14 07 10.2 +0.5
CBYP Canovanas 146.53 67 PKPbc 14 07 11.1 -0.5
HUMP Col San Antoni 146.57 67 PKPbc 14 07 11.2 -0.4
SAML Samuel 146.85 117 PKIKP **PKPdf 14 07 10.7 +0.2**
SAML Samuel 146.85 117 PKPdf 14 07 10.7 +0.2
MTP Monte Pirata 146.85 67 PKPbc 14 07 12.3 -0.1
STVI Saint Thomas 147.33 66 PKPdf 14 07 12.2 +1.1
KIC Kosan Boka 151.24 271 *e*PKP1 **PKiKP 14 07 24.1 0.0**
comp=Z,536nm,1.4s
DBIC Dimbokro 151.36 272 PKPbc **PKiKP 14 07 24.6 +0.2**
comp=Z,95nm,0.8s,baz=84,slow=2.5,SNR=93
DBIC Dimbokro 151.36 272 PKiKP 14 07 24.2 -0.2
LIC Lamto 151.52 271 *e*PKP1 **PKiKP 14 07 24.7 0.0**
comp=Z,423nm,0.9s
TIC Toumodi 151.52 272 *e*PKP1 **PKiKP 14 07 24.8 +0.1**
PTGA Pitinga 152.81 104 PKiKP 14 07 27.4 0.0
BDFB Brasilia 153.85 147 PKP **PKPdf 14 07 22.0 +0.5**
comp=Z,3.5nm,0.6s,baz=82,slow=8.3,SNR=4.2
BDFB PKPbc **PKiKP 14 07 30.0 +0.4**
comp=Z,20nm,0.8s,baz=196,slow=3.3,SNR=24
BDFB Brasilia 153.85 147 PKIKP **PKPdf 14 07 22.0 +0.5**
BDFB Brasilia 153.85 147 PKPbc 14 07 29.2 -0.3

NEIC ***23*** *13:52:28.7±1.2, 10°.75S±0°.07×120°.22E±0°.06, h44km±8km, mb4.6/11, Error ellipse: s-maj=11.4km s-min=5.2km az=143.0*
IDC ***23*** *13:52:30.2±3.2, 10°.67S×120°.34E, h50km±30km, mb4.1/9, mb1 4.3/14, mb1mx3.8/56, mbtmp4.4/14, ML4.1/5, Error ellipse: s-maj=27.2km s-min=22.3km az=36.0*
ISC 23 13:52:28.0±0.6, 10°.78S±0°.06×120°.26E±0°.07, h35km, n34, σ1°.94/36, mb4.7/12, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**2.89**	**43**	Pn	**Pn**	**13 53 11.1**	**-0.5**
BATI	**Baumata**	**3.40**	**81**	P	**Pn**	**13 53 19.9**	**+1.3**
	54nm,0.3s,baz=277,slow=5.5,SNR=14						
BATI				S	**Sn**	**13 53 58.6**	**+0.8**
	19nm,0.3s,baz=203,slow=23,SNR=1.2						
KAPI	**Kappang**	**5.75**	**355**	P	**Pn**	**13 53 51.5**	**+0.5**
	3.8nm,0.3s,baz=187,slow=3.4,SNR=8.0						
KAPI	**Kappang**	**5.75**	**355**	Pn	**Pn**	**13 53 51.1**	**+0.2**
FITZ	**Fitzroy Crossi**	**8.95**	**145**	P	**Pn**	**13 54 36.6**	**+1.7**
	0.9nm,0.3s,baz=311,slow=9.3,SNR=0.7						
FITZ				S	**Sn**	**13 56 11.0**	**-3.5**
	5.0nm,0.3s,baz=185,slow=22,SNR=7.7						
KNRA	**Kununurra**	**9.61**	**121**	Pn	**Pn**	**13 54 44.9**	**+1.0**
MTN	**Manton Dam**	**10.84**	**102**	Pn	**Pn**	**13 55 01.2**	**+0.3**
GIRL	**Giralia**	**13.13**	**205**	Pn	**Pn**	**13 55 32.8**	**+0.7**
FAKI	**Fak Fak**	**14.23**	**58**	Pn	**Pn**	**13 55 47.5**	**+0.3**
WRA	**Warramunga Arr**	**16.34**	**126**	P	**Pn**	**13 56 15.0**	**+0.1**
	0.7nm,0.3s,baz=310,slow=14,SNR=1.5						
WB2	**Warramunga Arr**	**16.35**	**126**	Pn	**Pn**	**13 56 14.7**	**-0.3**
KKM	**Kota Kinabalu**	**17.19**	**346**	Pn	**Pn**	**13 56 25.3**	**-0.4**
ASAR	**Alice Springs**	**18.26**	**136**	P	**Pn**	**13 56 40.9**	**+2.1**
	0.8nm,0.3s,baz=317,slow=12,SNR=3.5						
USA0B	**Ussuriysk Arra**	**55.75**	**10**	P	**P**	**14 02 00.8**	**-0.4**
USRK	**Ussuriysk Ar.**	**55.75**	**10**	P	**P**	**14 01 59.5**	**-1.7**
	1.1nm,0.5s,baz=225,slow=8.1,SNR=7.0						
CASY	**Casey**	**55.82**	**185**	P	**P**	**14 02 00.7**	**-0.8**
CASY				IAmb	IAmb	14 02 01.8	
	comp=Z,10nm,1.4s						
ASAJ	**Asahikawa**	**58.29**	**19**	P	**P**	**14 02 17.9**	**-1.3**
	comp=Z,5.2nm,0.8s,baz=213,slow=11,SNR=6.5						
JKA	**Kamikawa-asahi**	**58.29**	**19**	P	**P**	**14 02 17.9**	**-1.3**
SONM	**Songino Array**	**59.64**	**349**	P	**P**	**14 02 29.0**	**+0.2**
	comp=Z,5.0nm,0.6s,baz=166,slow=8.8,SNR=11						
SONM	**Songino Array**	**59.64**	**349**	P	**P**	**14 02 28.5**	**-0.3**
TLY	**Talaya**	**63.84**	**349**	P	**P**	**14 02 57.4**	**+0.6**
	comp=Z,2.5nm,0.4s,baz=110,slow=5.3,SNR=6.2						
TLY	**Talaya**	**63.84**	**349**		**P**	**14 02 56.5**	**-0.4**
TLY				IAmb	IAmb	14 04 59.3	
	comp=Z,4.9nm,0.7s						
MK31	**Makanchi Array**	**66.60**	**333**	P	**P**	**14 03 14.7**	**-0.2**
MKAR	**Makanchi Array**	**66.60**	**333**	P	**P**	**14 03 15.3**	**+0.5**
	comp=Z,2.6nm,0.6s,baz=163,slow=6.8,SNR=6.4						
MKAR	**Makanchi Array**	**66.60**	**333**	P	**P**	**14 03 14.8**	**0.0**
ZAA0	**Zalesovo Array**	**71.14**	**339**		**P**	**14 03 42.0**	**-0.8**
ZAA0				IAmb	IAmb	14 03 43.1	
	comp=Z,5.1nm,0.7s						
ZALV	**Zalesovo Beam**	**71.14**	**339**	P	**P**	**14 03 42.5**	**-0.3**
	comp=Z,5.5nm,0.5s,baz=141,slow=4.7,SNR=9.2						
ZALV	**Zalesovo Beam**	**71.14**	**339**		**P**	**14 03 42.0**	**-0.8**
PEA0B	**Petropavlovsk-**	**71.21**	**23**	P	**P**	**14 03 43.4**	**+0.1**
PEA0B				IAmb	IAmb	14 05 08.1	
	comp=Z,7.0nm,1.0s						
PETK	**Petropavlovsk-**	**71.21**	**23**	P	**P**	**14 03 43.7**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=227,slow=5.6,SNR=4.9						
PETK	**Petropavlovsk-**	**71.21**	**23**	P	**P**	**14 03 43.1**	**-0.2**
BVAR	**Borovoye Array**	**76.44**	**332**	P	**P**	**14 04 13.6**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=132,slow=8.6,SNR=3.5						
ABKAR	**Akbulak array**	**79.72**	**325**	P	**P**	**14 04 32.7**	**+0.5**
AKTO	**Aktyubinsk**	**81.38**	**325**	P	**P**	**14 04 42.4**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=88,slow=12,SNR=2.4						

WEL 23 13:54:37.0, 43°.6S±1°.0×172°.6E±0°.8, h5km±1km, M2.6/6, ML2.9/6, MLv2.6/6, Error ellipse: s-maj=0.0km s-min=0.0km az=153.2, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MQZ	**McQueen's Vall**	**0.13**	**165**	P	Pg	13 54 41.7	+2.0
MQZ				S	Sg	13 54 43.7	+2.2
OKCZ	**Okains Bay**	**0.36**	**114**	P	Pb	13 54 46.2	+0.3
OKCZ				S	Sb	13 54 52.1	+0.2
AKCZ	**Akaroa Harbour**	**0.37**	**143**	P	Pb	13 54 46.2	+0.2
AKCZ				S	Sb	13 54 51.8	-0.2
OXZ	**Oxford**	**0.48**	**301**	P	Pb	13 54 48.4	+0.4
LTZ	**Lake Taylor**	**0.83**	**343**	P	Pn	13 54 55.4	0.0
RPZ	**Rata Peaks**	**1.13**	**263**	P	Pn	13 55 00.1	+0.6
INZ	**Inchbonnie**	**1.20**	**315**	P	Pn	13 55 02.0	+1.6
KHZ	**Kahutara**	**1.35**	**31**	P	Pb	13 55 02.6	0.0
THZ	**Tophouse**	**1.83**	**7**	P	Pn	13 55 09.6	+0.5
DSZ	**Denniston Nort**	**1.92**	**342**	P	Pb	13 55 11.5	-1.0
LBZ	**Lake Benmore**	**1.93**	**244**	P	Pg	13 55 15.0	+1.2
FOZ	**Fox Glacier**	**2.03**	**270**	P	Pb	13 55 14.1	-0.1
ODZ	**Otahua Downs**	**2.03**	**223**	P	Pn	13 55 12.5	+0.7
BSWZ	**Blackbirch Sta**	**2.08**	**27**	P	Pn	13 55 13.8	+1.2
NNZ	**Nelson**	**2.43**	**14**	P	Pn	13 55 18.7	+1.4
HHSZ	**Highcliff Hill**	**2.71**	**211**	P	Pb	13 55 25.4	-0.6

NEIC ***23*** *14:07:27.4±1.3, 11°.5N±0°.2×143°.5E±0°.2, h39km±9km, mb4.5/5, Error ellipse: s-maj=25.1km s-min=19.4km az=129.0*
IDC ***23*** *14:07:27.7±3.6, 11°.53N×143°.60E, h41km±33km, mb3.5/5, mb1 3.8/6, mb1mx3.4/42, mbtmp3.7/6, ML4.0/1, Error ellipse: s-maj=36.6km s-min=22.5km az=127.0*
ISC 23 14:07:27.3±1.1, 11°.5N±0°.1×143°.5E±0°.2, h37km, n13, σ0°.69/14, mb3.9/7, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.44**	**32**	P	**Pn**	**14 08 05.1**	**+0.5**
	36nm,0.3s,baz=186,slow=6.8,SNR=36						
GUMO				S	**Sn**	**14 08 32.8**	**-0.3**
	60nm,0.3s,baz=158,slow=23,SNR=18						
YULB	**Yu-li**	**24.25**	**302**	P	**P**	**14 12 40.9**	**0.0**
ASAR	**Alice Springs**	**36.21**	**195**	P	**P**	**14 14 26.5**	**-0.2**
	0.4nm,0.8s,baz=12,slow=9.6,SNR=2.0						
CMAR	**Chiang Mai Arr**	**43.54**	**285**	P	**P**	**14 15 28.1**	**+0.3**
	0.9nm,0.6s,baz=78,slow=6.7,SNR=6.0						
MK31	**Makanchi Array**	**62.10**	**317**	P	**P**	**14 17 45.0**	**+0.6**
MKAR	**Makanchi Array**	**62.10**	**317**	P	**P**	**14 17 44.9**	**+0.4**
	0.5nm,0.6s,baz=93,slow=8.5,SNR=6.3						
MKAR	**Makanchi Array**	**62.10**	**317**	P	**P**	**14 17 44.7**	**+0.3**
MAKZ	**Makanchi**	**62.31**	**317**	P	**P**	**14 17 46.4**	**+0.5**
KURK	**Kurchatov**	**65.34**	**321**	P	**P**	**14 18 05.1**	**-0.6**
KURK				IAmb	IAmb	14 18 06.5	
	comp=Z,2.7nm,0.6s						
BRVK	**Borovoye**	**70.82**	**322**	P	**P**	**14 18 39.5**	**-0.6**
BRVK				IAmb	IAmb	14 18 44.3	
	comp=Z,3.2nm,0.6s						
ILAR	**Eielson Array**	**70.99**	**25**	P	**P**	**14 18 39.5**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=244,slow=6.3,SNR=4.9						
ABKAR	**Akbulak array**	**77.21**	**318**	P	**P**	**14 19 17.1**	**-0.4**
NVAR	**Mina Array Bea**	**89.23**	**51**	P	**P**	**14 20 21.0**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=259,slow=5.2,SNR=3.9						

IDC ***23*** *14:19:08.2±2.4, 16°.30N×118°.57E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/38, mbtmp3.5/4, ML4.3/1, Error ellipse: s-maj=67.9km s-min=26.4km az=81.0*
MAN ***23*** *14:19:13.0, 16°.78N×119°.72E, h23km, mb4.9, ML3.9, MS3.9*
ISC 23 14:19:11.1±2.0, 16°.84N±0°.04×119°.52E±0°.10, h31km±14km, n15, σ1°.79/23, mb3.2/3, 1C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOLP	**Bolinao**	**0.59**	**140**	*e*P	**Pn**	**14 19 23.3**	**-0.1**
BOLP				*e*S	**Sn**	**14 19 34.4**	**+2.5**
SCZP	**Santa Cruz**	**1.12**	**160**	*e*P	**Pn**	**14 19 31.6**	**+0.9**
SCZP				*e*S	**Sn**	**14 19 45.5**	**+0.6**
SMPP	**San Manuel, Pa**	**1.31**	**121**	*e*P	**Pn**	**14 19 31.8**	**-1.5**
SMPP				*e*S	**Sn**	**14 19 48.4**	**-1.3**
ABRA	**Dolores**	**1.40**	**54**	*e*P	**Pn**	**14 19 35.2**	**+0.7**
ABRA				*e*S	**Sb**	**14 19 57.4**	**+3.3**
SIPP	**Brgy, Tapao**	**1.41**	**40**	*i*P	**Pn**	**14 19 35.1**	**+0.6**
SIPP				*e*S	**Sn**	**14 19 49.4**	**-2.7**
APYP	**Conner**	**1.94**	**58**	*e*P	**Pb**	**14 19 44.2**	**-1.6**
APYP				*e*S	**Sb**	**14 20 10.0**	**+0.5**
PCPH	**Palayan**	**1.98**	**130**	*e*P	**Pb**	**14 19 44.6**	**-1.8**
CAUP	**Cauayan**	**2.21**	**87**	*e*P	**Pb**	**14 19 49.8**	**-0.6**
CAUP				*e*S	**Sb**	**14 20 20.6**	**+3.2**
BALP	**Baler**	**2.26**	**119**	*e*P	**Pb**	**14 19 49.1**	**-2.0**
BALP				*e*S	**Sn**	**14 20 12.5**	**-0.6**
TGY	**Tagaytay City**	**3.04**	**153**	Pn	**Pn**	**14 19 59.5**	**+2.3**
	37nm,0.3s,baz=299,slow=19,SNR=1.9						
TGY				Sn	**Sb**	**14 20 39.7**	**-1.7**
	41nm,0.3s,baz=69,slow=9.8,SNR=1.9						
POLP	**Polilio Island**	**3.13**	**132**	*e*P	**Pb**	**14 20 05.4**	**-0.7**
LUBP	**Lubang**	**3.16**	**167**	*e*P	**Pb**	**14 20 05.6**	**-1.0**
KSRS	**Korea Array**	**21.84**	**18**	P	P	14 24 10.7	+10
	0.3nm,0.4s,baz=205,slow=11,SNR=5.2						
WRA	**Warramunga Arr**	**39.34**	**158**	P	**P**	**14 26 37.4**	**-0.4**
	0.3nm,0.6s,baz=338,slow=8.9,SNR=1.3						
ASAR	**Alice Springs**	**42.64**	**160**	P	**P**	**14 27 05.4**	**+0.5**
	0.3nm,0.5s,baz=338,slow=6.9,SNR=12						

NEIC ***23*** *14:30:39.7±1.6, 30°.9N±0°.1×41°.5W±0°.1, h10km±1km, mb4.8/164, Error ellipse: s-maj=17.6km s-min=14.7km az=157.0*
IDC ***23*** *14:30:39.6±0.6, 31°.18N×41°.35W, h0km, mb4.1/22, mb1 4.3/22, mb1mx4.1/43, mbtmp4.1/22, MS4.0/20, Ms1 4.0/20, ms1mx3.9/33, Error ellipse: s-maj=17.7km s-min=13.5km az=161.0*
GCMT ***23*** *14:30:42.7±0.3, 31°.22N±0°.03×41°.42W±0°.02, h12km, MW5.0/98, Moment Tensor Solution. s23,c24; s98,c129; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.46±.09; Mθθ=0.58±.11; Mϕϕ=1.88±.07; Mrθ=3.08±.40; Mrϕ=0.83±.06; Mθϕ=0.39±.27; Best double couple: Mo=3.62900×10^16 NP1:ϕ=20.00000°, δ=28.00000°, λ=-140.00000°. NP2: ϕ=253.00000°, δ=72.00000°, λ=-68.00000°. Principal axes: T 2.7890, Plg24.0000°, Azm326.0000°; N 1.6780, Plg21.0000°, Azm66.0000°; P -4.4690, Plg57.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 23 14:30:40.7±0.4, 31°.03N±0°.08×41°.48W±0°.06, h13km, n258, σ1°.10/240, mb4.7/112, MS4.0/20, 6C-3D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSA	**Rosais**	**13.29**	**51**	Pn	**Pn**	**14 33 49.7**	**+0.6**
PMOZ	**Porto Moniz, M**	**20.68**	**79**	eLR	LR	14 39 44.0	
	364nm,20.0s						
GBN	**Guysborough**	**21.22**	**318**	P	**P**	**14 35 26.4**	**+0.3**
GBN				IAmb	IAmb	14 35 29.9	
	comp=Z,54nm,1.6s						
DRLN	**Deer Lake**	**21.86**	**331**	P	**P**	**14 35 33.4**	**+0.4**
DRLN				IAmb	IAmb	14 35 42.8	
	comp=Z,54nm,1.4s						
HAL	**Halifax**	**22.03**	**314**	P	**P**	**14 35 35.1**	**+0.3**
HAL				IAmb	IAmb	14 35 39.5	
	comp=Z,75nm,1.8s						
ANWB	**Willy Bob**	**22.73**	**239**	P	**P**	**14 35 41.6**	**-0.9**
LMN	**Caledonia Moun**	**23.39**	**316**	P	**P**	**14 35 47.6**	**-1.5**
LMN				IAmb	IAmb	14 36 07.7	
	comp=Z,34nm,1.4s						
GGN	**Saint George**	**24.29**	**313**	P	**P**	**14 35 58.1**	**+0.4**
GGN				IAmb	IAmb	14 36 02.5	
	comp=Z,54nm,2.0s						
G65A	**Princeton**	**24.79**	**312**	P	**P**	**14 36 03.2**	**+1.0**
G65A				IAmb	IAmb	14 36 05.5	
	comp=Z,40nm,1.5s						
BATG	**Bathurst New B**	**24.88**	**318**	P	**P**	**14 36 04.2**	**+1.2**
CBYP	**Canovanas**	**25.47**	**246**	P	**P**	**14 36 08.1**	**-0.6**
CBYP				IAmb	IAmb	14 36 11.4	
	comp=Z,28nm,1.2s						
F64A	**Sherman**	**25.57**	**313**	P	**P**	**14 36 10.4**	**+1.1**
F64A				IAmb	IAmb	14 36 13.2	
	comp=Z,43nm,1.7s						
E63A	**Oxbow**	**25.87**	**314**	P	**P**	**14 36 12.5**	**+0.5**
I63A	**Otisfield**	**26.33**	**308**	P	**P**	**14 36 17.2**	**+1.0**
I63A				IAmb	IAmb	14 36 19.3	
	comp=Z,40nm,1.8s						
D62A	**Allapoint, All**	**26.55**	**315**	P	**P**	**14 36 19.3**	**+1.1**
F62A	**Pittston Farm,**	**26.61**	**312**	P	**P**	**14 36 20.2**	**+1.4**
H62A	**Milan**	**26.89**	**309**	P	**P**	**14 36 22.9**	**+1.5**
H62A				IAmb	IAmb	14 36 24.5	
	comp=Z,30nm,1.9s						
K62A	**Royalston**	**27.06**	**304**	P	**P**	**14 36 24.8**	**+2.0**
LBNH	**Lisbon**	**27.31**	**307**	P	**P**	**14 36 26.6**	**+1.6**
LBNH				IAmb	IAmb	14 36 29.2	
	comp=Z,39nm,1.9s						
PSBE	**So Bento**	**27.88**	**63**	*e*P	**P**	**14 36 28.0**	**-2.2**
MBO	**M'Bour**	**27.94**	**121**	P	**P**	**14 36 29.7**	**-1.2**
MESJ	**Messejana**	**28.16**	**67**	*e*P	**P**	**14 36 30.2**	**-2.5**
PCAS	**Casmilo, Conde**	**28.18**	**62**	*e*P	**P**	**14 36 31.3**	**-1.6**
PMTG	**Montargil**	**28.26**	**64**	*e*P	**P**	**14 36 33.1**	**-0.5**
ACCN	**Adirondack Com**	**28.27**	**305**	P	**P**	**14 36 35.2**	**+1.6**
ACCN				IAmb	IAmb	14 36 38.5	
	comp=Z,36nm,1.9s						
PBDV	**Barranco-do-Ve**	**28.35**	**68**	*e*P	**P**	**14 36 37.2**	**+2.7**
EVO	**Evora**	**28.38**	**66**	*e*P	**P**	**14 36 35.1**	**+0.5**
PVAQ	**Vaqueiros**	**28.53**	**68**	*e*LR	LR	14 43 49.7	
	comp=Z,810nm,20.0s						
PGAV	**Gavieira, Arco**	**28.68**	**58**	*e*LR	LR	14 43 48.6	
	comp=Z,324nm,20.0s						
PCAB	**Cabril**	**28.80**	**59**	*e*P	**P**	**14 36 36.3**	**-2.2**
PMRV	**Marv??o**	**28.94**	**64**	*e*P	**P**	**14 36 40.7**	**+1.0**
PMRV				*e*LR	LR	14 43 51.3	
	comp=Z,216nm,22.0s						
MTE	**Manteigas**	**28.95**	**62**	*e*P	**P**	**14 36 38.5**	**-1.3**
MTE				*e*LR	LR	14 43 58.7	
	comp=Z,302nm,20.0s						
L59A	**Walton**	**28.98**	**302**	P	**P**	**14 36 41.8**	**+1.8**
L59A				IAmb	IAmb	14 36 44.5	
	comp=Z,38nm,1.9s						
N59A	**State Game Lan**	**29.29**	**299**	P	**P**	**14 36 42.7**	**0.0**
MVO	**Moncorvo**	**29.45**	**60**	*e*P	**P**	**14 36 43.3**	**-0.9**
MVO				*e*LR	LR	14 44 11.8	
	comp=Z,254nm,20.0s						
SCHQ	**Schefferville**	**29.86**	**330**	LR	LR	14 48 06.0	
	comp=Z,604nm,20.1s,baz=106,slow=35						
SSPA	**Standing Stone**	**30.85**	**298**	P	**P**	**14 36 55.9**	**-0.6**
SSPA				IAmb	IAmb	14 37 00.1	
	comp=Z,17nm,1.4s						
ESDC	**Sonseca Array**	**31.61**	**64**	P	**P**	**14 37 03.3**	**0.0**
	comp=Z,2.0nm,1.2s,baz=257,slow=8.0,SNR=7.0						
ESDC				LR	LR	14 48 01.8	
	comp=Z,92nm,18.2s,baz=205,slow=33						
ESDC	**Sonseca Array**	**31.61**	**64**	P	**P**	**14 37 03.0**	**-0.3**
ESBB	**Sonseca Array**	**31.61**	**64**	P	**P**	**14 37 03.0**	**-0.3**
VLDQ	**Val d'Or**	**32.19**	**312**	P	**P**	**14 37 09.2**	**+1.1**
M54A	**Oil Creek Stat**	**32.28**	**300**	P	**P**	**14 37 09.8**	**+0.7**
M54A				IAmb	IAmb	14 37 13.0	
	comp=Z,29nm,1.9s						
W57A	**Gilead**	**32.39**	**288**	P	**P**	**14 37 09.6**	**-0.5**
R55A	**Marlinton**	**32.42**	**294**	P	**P**	**14 37 09.5**	**-0.9**
R55A				IAmb	IAmb	14 38 12.7	
	comp=Z,13nm,1.4s						
O53A	**New Philadelph**	**33.34**	**297**	P	**P**	**14 37 18.6**	**+0.1**
BG3	**Lake Jocassee**	**34.80**	**288**	P	**P**	**14 37 31.6**	**+0.4**
BG3				IAmb	IAmb	14 37 34.8	
	comp=Z,25nm,1.9s						
TKL	**Tuckaleechee C**	**35.43**	**289**	P	**P**	**14 37 38.1**	**+1.5**
	comp=Z,2.7nm,0.6s,baz=138,slow=8.5,SNR=4.1						
TKL	**Tuckaleechee C**	**35.43**	**289**	P	**P**	**14 37 36.0**	**-0.6**
TKL				IAmb	IAmb	14 37 39.2	
	comp=Z,23nm,1.4s						
PTGA	**Pitinga**	**36.14**	**213**	P	**P**	**14 37 44.5**	**+1.7**
	comp=Z,6.6nm,1.1s,baz=58,slow=13,SNR=4.2						
PTGA	**Pitinga**	**36.14**	**213**	P	**P**	**14 37 42.6**	**-0.2**
T50A	**Nancy**	**36.19**	**291**	P	**P**	**14 37 44.8**	**+1.8**
T50A				IAmb	IAmb	14 37 46.1	
	comp=Z,17nm,1.4s						
E46A	**Sault Ste Mari**	**36.29**	**307**	P	**P**	**14 37 45.3**	**+1.5**
E46A				IAmb	IAmb	14 38 38.1	
	comp=Z,18nm,1.6s						
EKA	**Eskdalemuir Ar**	**36.31**	**37**	P	**P**	**14 37 43.6**	**-0.2**
	comp=Z,1.0nm,0.7s,baz=263,slow=6.4,SNR=5.5						
FPAL	**Fort Paine**	**37.05**	**287**	P	**P**	**14 37 51.6**	**+1.2**
CLF	**Chambon-Foret**	**37.20**	**50**	P	**P**	**14 37 52.4**	**+0.9**
CLTN	**Cedars of Leba**	**37.46**	**290**	P	**P**	**14 37 55.5**	**+1.6**
V48A	**Smith Brothers**	**37.89**	**290**	P	**P**	**14 37 57.8**	**+0.2**
V48A				IAmb	IAmb	14 38 01.2	
	comp=Z,39nm,1.6s						
E43A	**Lone Tree Farm**	**38.13**	**307**	P	**P**	**14 37 59.5**	**0.0**
H43A	**Windswept, Lux**	**38.48**	**304**	P	**P**	**14 38 03.2**	**+0.8**
H43A				IAmb	IAmb	14 38 05.2	
	comp=Z,33nm,1.7s						
K43A	**Burlington**	**38.80**	**301**	P	**P**	**14 38 06.0**	**+1.0**
K43A				IAmb	IAmb	14 38 08.3	
	comp=Z,23nm,1.3s						
O44A	**Mansfield**	**38.89**	**297**	P	**P**	**14 38 07.3**	**+1.4**
O44A				IAmb	IAmb	14 39 08.6	
	comp=Z,10nm,0.6s						
PLAL	**Pickwick Lake**	**39.00**	**289**	P	**P**	**14 38 08.4**	**+1.5**
D41A	**Chassel**	**39.29**	**308**	P	**P**	**14 38 10.0**	**+0.8**
D41A				IAmb	IAmb	14 38 13.4	
	comp=Z,51nm,1.9s						
COWI	**Conover**	**39.58**	**306**	P	**P**	**14 38 13.2**	**+1.6**
WLF	**Walferdange**	**40.02**	**48**	P	**P**	**14 38 15.2**	**0.0**
G40A	**Rib Lake**	**40.26**	**305**	P	**P**	**14 38 17.2**	**-0.1**
ROSC	**El Rosal**	**40.39**	**237**	LR	LR	14 54 01.5	
	comp=Z,189nm,20.8s,baz=72,slow=35						
ECH	**Echery**	**40.47**	**51**	P	**P**	**14 38 19.5**	**+0.5**
ECH				IAmb	IAmb	14 39 12.0	
	comp=Z,12nm,0.6s						
L40A	**Anamosa**	**40.93**	**300**	P	**P**	**14 38 24.1**	**+1.2**
**CC

comp=Z,18nm,1.2s
CIMO Cimolais 43.93 54 P **P** **14 38 46.9 -0.4**
ABTA Abfaltersbach 43.99 53 *ep*P **P** **14 38 48.8 +1.0**
comp=Z,15nm,1.2s
AGMN Agassiz Nation 44.30 309 P **P** **14 38 50.0 -0.1**
ZOU Zoufplan 44.30 54 P **P** **14 38 50.4 0.0**
ZOU IAmb IAmb 14 38 51.8
comp=Z,21nm,1.5s
ULM Lac du Bonnet 44.42 312 LR LR 14 56 58.4
comp=Z,154nm,18.6s,baz=86,slow=36
ACON Acoyapa 44.52 255 P **P** **14 38 50.5 -1.8**
KBA Koelnbreinsper 44.57 53 *ep*P **P** **14 38 53.4 +0.9**
comp=Z,9.4nm,1.5s
CLL Collm 44.57 47⇑*i*P **P** **14 38 53.4 +1.1**
comp=Z,11nm,1.1s
PRED Cave del Predi 44.71 54 P **P** **14 38 53.1 -0.4**
PRED IAmb IAmb 14 38 54.9
comp=Z,19nm,1.6s
MYKA Terra Mystica 44.77 53 pP **P** **14 38 55.8 +1.8**
comp=Z,7.0nm,1.0s
KHC Kasperske Hory 44.79 50 *e*P **P** **14 38 55.1 +1.0**
KHC Kasperske Hory 44.79 50 P **P** **14 38 54.0 -0.1**
ECSD EROS Data Cent 44.84 302 P **P** **14 38 54.6 +0.1**
ECSD IAmb IAmb 14 38 56.6
comp=Z,18nm,1.7s
GERES GERESS Array B 44.86 50 P **P** **14 38 53.9 -0.8**
comp=Z,0.6nm,0.6s,baz=280,slow=8.0,SNR=10
SAML Samuel 44.87 211 P **P** **14 38 54.8 -0.2**
X37A Stockholm 44.99 289 P **P** **14 38 53.0 -2.8**
TUL1 Leonard 45.08 291 P **P** **14 38 56.4 -0.2**
BRG Berggiesshubel 45.13 47 *e*P **P** **14 38 58.1 +1.4**
comp=Z,14nm,1.4s
CORL Corleone 45.14 66 P **P** **14 38 55.8 -1.3**
CORL IAmb IAmb 14 39 10.6
comp=Z,12nm,1.0s
CRNS Crni Vrh 45.20 54 *e*P **P** **14 38 57.2 -0.2**
MOA Molln 45.20 52 *e*P **P** **14 38 57.4 0.0**
comp=Z,9.1nm,1.2s
OBKA Obir 45.39 54 *ep*P **P** **14 38 59.6 +0.6**
comp=Z,21nm,1.6s
NOA NORSAR Array B 45.47 33 LR LR 14 54 40.0
comp=Z,58nm,21.3s,baz=60,slow=32
T35A Sooner Cattle 45.48 293 P **P** **14 38 59.3 -0.5**
SOKA Soboth 45.72 53 *e*P **P** **14 39 01.7 +0.1**
comp=Z,9.2nm,1.3s
DOBS Dobrina 46.04 54 *e*P **P** **14 39 04.1 +0.1**
ARSA Arzberg 46.05 53 *e*P **P** **14 39 04.4 +0.3**
comp=Z,15nm,1.6s
CONA Conrad Observa 46.28 52 *e*P **P** **14 39 06.4 +0.4**
comp=Z,6.0nm,1.4s
HKT Hockley 46.45 283 P **P** **14 39 06.9 -0.5**
HKT IAmb IAmb 14 39 10.3
comp=Z,11nm,1.3s
CHVC Chvalec 46.45 48 *e*P **P** **14 39 07.2 0.0**
H10N2 ASCENSION HYDR 46.49 142 T T 15 28 23.9
baz=327,slow=75,SNR=534
H10N3 ASCENSION HYDR 46.50 142 T T 15 28 24.1
baz=327,slow=75,SNR=617
H10N1 ASCENSION HYDR 46.51 142 T T 15 28 25.3
baz=327,slow=75,SNR=533
OSTC Ostas 46.55 48 *e*P **P** **14 39 08.9 +0.9**
DPC Dobruska-Polom 46.61 48 *e*P **P** **14 39 09.8 +1.3**
Z35A Perchaven, San 46.78 288 P **P** **14 39 09.9 -0.1**
WHTX Lake Whitney 47.27 287 P **P** **14 39 14.7 +0.9**
H10S3 ASCENSION HYDR 47.35 143 T T 15 29 27.0
baz=327,slow=74,SNR=429
H10S2 ASCENSION HYDR 47.36 143 T T 15 29 28.1
baz=253,slow=74,SNR=247
TIP Timpagrande 47.63 63 P **P** **14 39 15.5 -1.1**
TIP IAmb IAmb 14 39 18.2
comp=Z,14nm,1.5s
CBKS Cedar Bluff 47.70 296 P **P** **14 39 17.6 +0.5**
CBKS IAmb IAmb 14 39 18.9
comp=Z,10nm,0.9s
WMOK Wichita Mounta 47.71 290 P **P** **14 39 17.5 +0.3**
WMOK IAmb IAmb 14 39 31.8
comp=Z,6.2nm,0.9s
VYHS Vyhne 48.26 51 *e*P **P** **14 39 21.9 +0.6**
FFC Flin Flon 48.46 318 P **P** **14 39 23.8 +1.0**
OJC Ojcow 48.84 48 P **P** **14 39 26.3 +0.6**
OJC IAmb IAmb 14 39 28.6
comp=Z,20nm,1.6s
ABTX Abilene, Hawle 48.90 288 P **P** **14 39 25.3 -1.2**
ABTX IAmb IAmb 14 39 30.4
comp=Z,6.0nm,0.7s
PSZ Piszkesteto 48.99 51 P **P** **14 39 25.4 -1.6**
PSZ IAmb IAmb 14 39 28.8
comp=Z,19nm,1.5s
PDG Podgorica 49.04 59 P **P** **14 39 26.8 -0.6**
DIVS Divibare 49.38 57 P **P** **14 39 29.1 -0.9**
DIVS IAmb IAmb 14 39 31.8
comp=Z,10nm,1.2s
JCT Junction City 49.60 285 P **P** **14 39 31.9 0.0**
JCT IAmb IAmb 14 39 33.7
comp=Z,15nm,1.2s
833A Chaparral WMA, 49.90 282 P **P** **14 39 34.2 +0.1**
AMTX Amarillo 50.00 291 P **P** **14 39 34.0 -0.9**
BZS Buzias 50.36 54 ⇓P **P** **14 39 39.6 +2.2**
KWP Kalwaria Pacla 50.75 49 P **P** **14 39 40.6 +0.4**
LAO LASA Array 51.37 307 P **P** **14 39 45.8 +0.7**
LAO IAmb IAmb 14 40 04.3
comp=Z,9.3nm,0.6s
Q24A Divide 51.82 297 P **P** **14 39 48.0 -0.8**
Q24A IAmb IAmb 14 39 52.2
comp=Z,30nm,1.9s
VTS Vitosha 51.92 58 ⇑P **P** **14 39 49.6 +0.3**
VTS Vitosha 51.92 58 P **P** **14 39 48.1 -1.2**
N23A Red Feather La 52.04 300 P **P** **14 39 50.1 -0.3**
N23A IAmb IAmb 14 39 53.1
comp=Z,19nm,1.6s
BURAR Bucovina Array 52.59 51 ⇑P **P** **14 39 56.6 +2.4**
BURAR Bucovina Array 52.59 51 P **P** **14 39 54.3 +0.1**
FINES FINESS Array B 52.60 34 P **P** **14 39 53.6 -0.3**
comp=Z,1.8nm,0.7s,baz=252,slow=12,SNR=4.3
FINES FINESS Array B 52.60 34 P **P** **14 39 53.9 0.0**
VOIR 52.77 54 ⇑P **P** **14 39 57.3 +1.8**
RWWY Rawlins 52.83 301 P **P** **14 39 56.1 -0.2**
RWWY IAmb IAmb 14 39 57.6
comp=Z,19nm,1.6s
DOPR Dopca 52.93 54 ⇑P **P** **14 39 57.3 +0.7**
TXAR Lajitas Array 53.15 285 P **P** **14 39 59.5 +0.9**
comp=Z,0.4nm,0.7s,baz=82,slow=9.2,SNR=5.8
TXAR LR LR 15 01 24.7
comp=Z,104nm,20.1s,baz=0.0,slow=35
TXAR Lajitas Array 53.15 285 P **P** **14 39 57.5 -1.1**
ARCES ARCESS Array B 53.26 24 P **P** **14 39 57.8 -0.9**
comp=Z,3.6nm,1.0s,baz=269,slow=12,SNR=4.7
BIZ Bicaz 53.28 52 ⇓P **P** **14 40 00.9 +1.8**
MLR Muntele Rosu 53.39 54 ⇓P **P** **14 40 01.6 +1.4**
MLR Muntele Rosu 53.39 54 P **P** **14 40 00.3 +0.1**
LPAZ La Paz 53.57 212 P **P** **14 40 04.5 +2.2**
comp=Z,4.5nm,0.9s,baz=20,slow=7.9,SNR=13
LPAZ LR LR 15 01 33.8
comp=Z,140nm,19.5s,baz=31,slow=34
LPAZ La Paz 53.57 212 **P** **14 40 00.1 -2.1**
EGMT Eagleton 53.59 309 P **P** **14 40 01.2 -0.3**
RLMT Red Lodge 53.70 306 P **P** **14 40 01.5 -1.0**
RLMT IAmb IAmb 14 40 12.1
comp=Z,16nm,1.8s
ANMO Albuquerque 53.79 293 P **P** **14 40 03.2 -0.1**
PLOR Plostina 53.82 53 ⇑P **P** **14 40 04.7 +1.6**
YNE Yellowstone No 54.23 306 P **P** **14 40 05.6 -0.9**
ALN Alexandroupoli 54.32 60 P **P** **14 40 06.8 0.0**
ALN IAmb IAmb 14 40 24.0
comp=Z,8.9nm,1.1s
BW06 Boulder Array 54.33 303 P **P** **14 40 07.7 +0.5**
BW06 IAmb IAmb 14 40 21.1
comp=Z,7.6nm,1.1s
PD31 Pinedale Array 54.33 303 P **P** **14 40 07.6 +0.4**
PDAR Pinedale Array 54.33 303 P **P** **14 40 07.9 +0.7**
comp=Z,3.7nm,0.9s,baz=81,slow=9.2,SNR=18
PDAR LR LR 15 02 25.4
comp=Z,620nm,18.7s,baz=117,slow=35
PDAR Pinedale Array 54.33 303 P **P** **14 40 06.9 -0.4**
RDMU Red Mountain 54.80 300 P **P** **14 40 10.9 +0.2**
AKASG Malin Array Be 54.81 47 P **P** **14 40 08.9 -1.3**
comp=Z,1.0nm,0.5s,baz=271,slow=6.6,SNR=22
AKASG LR LR 15 01 48.1
comp=Z,131nm,18.2s,baz=270,slow=34
AKASG Malin Array Be 54.81 47 P **P** **14 40 09.1 -1.2**
AKBB Malin Array Si 54.81 47 P **P** **14 40 08.5 -1.7**
AKBB IAmb IAmb 14 40 11.3
comp=Z,15nm,1.3s
FLWY Flagg Ranch 54.89 305 P **P** **14 40 10.3 -0.9**
FLWY IAmb IAmb 14 40 22.2
comp=Z,18nm,1.6s
SANT Santorini 54.95 65 P **P** **14 40 10.4 -1.1**
YHL Hebgen Lake 55.08 306 P **P** **14 40 12.0 -0.7**
YHB Horse Butte 55.11 305 P **P** **14 40 11.8 -1.0**
REDW Red Top Meadow 55.14 304 P **P** **14 40 13.4 +0.3**
REDW IAmb IAmb 14 40 16.9
comp=Z,16nm,1.6s
TPAW Teton Pass 55.19 304 P **P** **14 40 13.8 +0.4**
YKA Yellowknife Ar 55.25 327 P **P** **14 40 14.2 +1.0**
comp=Z,1.1nm,0.8s,baz=86,slow=7.6,SNR=5.5
YKA LR LR 15 02 49.9
comp=Z,398nm,21.8s,baz=0.0,slow=35
SRU San Rafael Swe 55.86 299 P **P** **14 40 17.9 -0.4**
DLMT Dillon 55.97 306 P **P** **14 40 19.0 +0.1**
DLMT IAmb IAmb 14 40 22.7
comp=Z,19nm,1.9s
TMUT Trail Mountain 56.33 299 P **P** **14 40 20.7 -1.1**
Q16A Castle Valley 56.40 299 P **P** **14 40 21.8 -0.4**
MNMC Minye Minye 56.72 212 P **P** **14 40 22.3 -2.3**
NLU North Lily Min 56.81 300 P **P** **14 40 24.6 -0.5**
MSU Marysvale 57.27 298 P **P** **14 40 27.3 -1.0**
PB11 IPOC Station P 57.30 212 P **P** **14 40 27.1 -1.4**
DUG Dugway, Tooele 57.30 300 P **P** **14 40 28.4 -0.1**
DUG IAmb IAmb 14 40 31.8
comp=Z,22nm,1.7s
WUAZ Wupatki 57.49 295 P **P** **14 40 29.6 -0.3**
PKCU Pink Cliffs 57.66 297 P **P** **14 40 29.5 -1.8**
ELL Elmali 58.29 63 P **P** **14 40 33.4 -2.1**
PSUT Pine Spring 58.52 299 P **P** **14 40 36.8 -0.3**
ELK Elko 58.94 302 P **P** **14 40 39.9 -0.1**
CPUP Villa Florida 59.02 197 LR LR 15 04 37.2
comp=Z,46nm,19.2s,baz=218,slow=34
KLMR Klimovskoe 59.13 34 *e*P **P** **14 40 40.6 -0.1**
KLMR AMP 14 40 49.1
comp=Z,15nm,1.4s
PB06 IPOC Station P 59.84 210 P **P** **14 40 43.3 -2.9**
BRTR Keskin Array B 60.23 59 P **P** **14 40 48.4 -0.5**
comp=Z,3.4nm,0.9s,baz=261,slow=6.1,SNR=11
PB15 IPOC Station P 60.24 210 P **P** **14 40 47.1 -1.9**
HAWA Hanford 60.45 309 P **P** **14 40 50.1 +0.1**
HAWA IAmb IAmb 14 40 53.8
comp=Z,4.5nm,0.7s
J08A Circle Bar Ran 60.54 305 P **P** **14 40 50.5 -0.4**
J08A IAmb IAmb 14 41 06.3
comp=Z,12nm,1.2s
LLLB Lillooet 60.88 314 P **P** **14 40 52.9 -0.1**
LLLB IAmb IAmb 14 40 54.2
comp=Z,18nm,1.7s
SRIG Santa Rosalia 60.93 286 P **P** **14 40 52.5 -1.1**
LTY Liberty 60.97 310 P **P** **14 40 53.4 -0.3**
KVN Kaiserville 61.54 300 P **P** **14 40 56.7 -1.1**
NVAR Mina Array Bea 61.89 300 P **P** **14 41 00.8 +0.6**
comp=Z,0.5nm,0.6s,baz=76,slow=7.6,SNR=5.7
NVAR LR LR 15 07 03.7
comp=Z,665nm,19.3s,baz=42,slow=35
NVAR Mina Array Bea 61.89 300 P **P** **14 40 58.6 -1.6**
MOD Modoc Plateau 62.25 304 P **P** **14 41 01.3 -1.2**
MOD IAmb IAmb 14 41 20.9
comp=Z,11nm,1.4s
INK Inuvik 62.30 335 P **P** **14 41 02.2 +0.1**
comp=Z,1.4nm,0.8s,baz=17,slow=7.6,SNR=2.5
INK Inuvik 62.30 335 P **P** **14 41 02.4 +0.3**
INK IAmb IAmb 14 41 10.6
comp=Z,7.8nm,0.9s
H04A Detroit Lake 62.72 308 P **P** **14 41 05.3 -0.1**
H04A IAmb IAmb 14 41 37.4
comp=Z,14nm,1.5s
PAGB Antelope Grade 64.26 298 P **P** **14 41 14.8 -1.0**
KBZ Khabaz 65.52 52 LR LR 15 10 31.8
comp=Z,27nm,18.7s,baz=238,slow=37
BCAR Beaver Creek A 67.25 331 P **P** **14 41 34.9 +0.4**
IL31 68.55 334 P **P** **14 41 43.2 +0.6**
IL31 IAmb IAmb 14 41 51.8
comp=Z,11nm,1.2s
ILAR Eielson Array 68.55 334 P **P** **14 41 43.6 +0.9**
comp=Z,2.7nm,1.1s,baz=41,slow=4.9,SNR=4.7
ILAR LR LR 15 12 03.3
comp=Z,282nm,18.6s,baz=80,slow=36
ILAR Eielson Array 68.55 334 P **P** **14 41 42.2 -0.4**
CCB Clear Creek Bu 68.95 334 P **P** **14 41 46.1 +0.9**
CCB IAmb IAmb 14 41 54.2
comp=Z,10.0nm,1.0s
ARU Arti 69.92 36 P **P** **14 41 50.8 -0.5**
BPAW Bear Paw Mtn. 70.43 334 P **P** **14 41 54.2 -0.1**
H09N1 TRISTAN DA CUN 73.04 156 T T 16 01 48.1
SNR=7.4
H09W1 TRISTAN DA CUN 73.06 156 T T 16 01 39.3
SNR=7.6
NRIK Norilʹsk 73.28 17 P **P** **14 42 11.9 +0.6**
comp=Z,0.9nm,0.3s,baz=331,slow=1.6,SNR=4.0
ABKAR Akbulak array 73.97 42 P **P** **14 42 15.4 -0.3**
PLCA Paso Flores 76.31 202 P **P** **14 42 33.0 +3.8**
comp=Z,2.3nm,0.9s,baz=33,slow=4.7,SNR=3.7
PLCA LR LR 15 15 32.2
comp=Z,50nm,19.0s,baz=127,slow=35
LSZ Lusaka 81.17 114 P **P** **14 42 54.6 -2.0**
LSZ IAmb IAmb 14 43 00.5
comp=Z,12nm,1.2s
KURK Kurchatov 82.97 34 P **P** **14 43 05.0 -0.4**
KURK IAmb IAmb 14 43 07.5
comp=Z,12nm,1.4s
ZALV Zalesovo Beam 83.49 29 P **P** **14 43 07.9 -0.1**
comp=Z,0.3nm,0.3s,baz=260,slow=4.5,SNR=4.7
ZALV Zalesovo Beam 83.49 29 P **P** **14 43 07.2 -0.8**
CHGR Chuyangaron 85.28 47 P **P** **14 43 15.8 -1.7**
BOSA Boshof 86.92 126 LR LR 15 13 50.6
comp=Z,117nm,21.6s,baz=317,slow=30
MKAR Makanchi Array 87.43 35 P **P** **14 43 29.2 +1.4**
comp=Z,0.6nm,1.0s,baz=29,slow=2.8,SNR=4.2
MKAR LR LR 15 21 56.2
comp=Z,106nm,19.3s,baz=302,slow=35
WMQ Urumqi 92.21 34 *e*P **P** **14 43 51.8 +1.4**
ASAR Alice Springs 171.59 30 PKP **PKPdf** **14 50 49.5 -0.1**
comp=Z,1.0nm,1.0s,baz=333,slow=0.6,SNR=4.4
ASAR PKPab **PKPab** **14 52 11.7 +1.1**
comp=Z,2.1nm,1.2s,baz=347,slow=5.1,SNR=5.0

*SNET **23** 14:34:51.6±0.7, 14.07N×89.70W, h7km±5km, ML2.9*
*GCG **23** 14:34:53.1±0.6, 14.15N×89.78W, h13km±22km, MD3.4*
ISC 23 14:34:51.7±1.2, 14.09N±0.05×89.73W±0.04, h13km±17km, n13, σ0s32/18, 2D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTR	**El Retiro**	**0.21**	**157**	*e*P	**Pg**	**14 34 56.5**	**0.0**
SNJE	**San Jose**	**0.25**	**151**	⇓*i*P	**Pg**	**14 34 57.2**	**0.0**
SBLS	**San Blas**	**0.27**	**157**	*e*P	**Pg**	**14 34 57.4**	**-0.2**
CEVE	**Cerro Verde**	**0.28**	**158**	IAML		14 35 03.8	
	comp=Z,2μm,0.3s						
TACO	**Tacachico**	**0.39**	**108**	*i* P	**Pg**	**14 34 59.1**	**-0.4**
TACO				*e*S	**Sg**	**14 35 04.6**	**-0.1**
CEDA	**San Andres**	**0.43**	**131**	*e*P	**Pg**	**14 35 00.1**	**-0.3**
CEDA				*e*S	**Sg**	**14 35 06.8**	**+0.6**
CEDA				IAML		14 35 09.6	
	comp=Z,2μm,0.3s						
JAYA	**Jayaque - finc**	**0.51**	**148**	*e*P	**Pg**	**14 35 01.8**	**-0.1**
JAYA				*e*S	**Sg**	**14 35 08.7**	**-0.1**
JAYA				IAML		14 35 11.3	
	comp=Z,563nm,0.1s						
BOQS	**Boqueron**	**0.56**	**129**	*e*P	**Pg**	**14 35 02.8**	**-0.1**
IXG	**Ixpaco**	**0.69**	**277**	⇓*e*P	**Pg**	**14 35 05.3**	**0.0**
NBG	**Las Nubes**	**0.77**	**310**	*e*P	**Pg**	**14 35 07.2**	**+0.4**
NBG				*e*S	**Sb**	**14 35 17.7**	**-0.1**
PAVA	**Las Pavas**	**0.86**	**116**	*e*S	**Sg**	**14 35 19.8**	**+0.2**
MRL	**Marmol**	**0.98**	**3**	*e*P	**Pg**	**14 35 10.5**	**-0.3**
MRL				*e*S	**Sb**	**14 35 24.3**	**+0.5**
FUG	**Fuego 3**	**1.13**	**288**	*e*P	**Pg**	**14 35 13.0**	**-0.6**
FUG				*e*S	**Sg**	**14 35 28.3**	**-0.1**

*IDC **23** 14:51:45.1±1.9, 30.89N×41.30W, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/35, mbtmp3.7/6, MS3.6/9, Ms1 3.6/9, ms1mx3.2/34, Error ellipse: s-maj=62.1km s-min=26.4km az=12.0*
*NEIC **23** 14:51:47.0±0.9, 30.9N±0.3×41.3W±0.2, h10km±2km, mb4.6/4, Error ellipse: s-maj=44.0km s-min=24.3km az=191.0*
ISC 23 14:51:47.2±1.6, 30.9N±0.3×41.3W±0.2, h13km, n22, σ0s62/11, mb3.8/7, MS3.6/9, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SJG	**San Juan**	**25.85**	**246**	LR	LR	15 05 03.7	
	comp=Z,54nm,21.5s,baz=254,slow=31						
SCHQ	**Schefferville**	**30.06**	**330**	LR	LR	15 09 29.4	
	comp=Z,144nm,18.6s,baz=187,slow=35						
DBIC	**Dimbokro**	**41.78**	**118**	LR	LR	15 14 01.6	
	comp=Z,83nm,21.0s,baz=18,slow=32						
TORD	**Torodi Ar. Bea**	**43.31**	**104**	P	**P**	**14 59 48.8**	**-0.2**
	2.0nm,1.1s,baz=301,slow=6.4,SNR=4.2						
TORD				LR	LR	15 16 27.1	
	comp=Z,81nm,18.4s,baz=125,slow=34						
TORD	**Torodi Ar. Bea**	**43.31**	**104**	P	**P**	**14 59 49.3**	**+0.3**
CLL	**Collm**	**44.59**	**47**	*e*P	**P**	**14 59 59.0**	**+0.2**
ULM	**Lac du Bonnet**	**44.62**	**312**	LR	LR	15 17 53.7	
	comp=Z,49nm,19.6s,baz=159,slow=35						
H10N2	**ASCENSION HYDR**	**46.29**	**142**	T	T	15 49 44.7	
	baz=327,slow=75,SNR=62						
H10N3	**ASCENSION HYDR**	**46.30**	**142**	T	T	15 49 44.6	
	baz=327,slow=75,SNR=46						
H10N1	**ASCENSION HYDR**	**46.31**	**142**	T	T	15 49 45.8	
	baz=327,slow=75,SNR=70						
H10S3	**ASCENSION HYDR**	**47.15**	**143**	T	T	15 50 39.9	
	baz=327,slow=74,SNR=45						
H10S2	**ASCENSION HYDR**	**47.16**	**143**	T	T	15 50 41.0	
	baz=253,slow=74,SNR=30						
FINES	**FINESS Array B**	**52.66**	**34**	P	**P**	**15 01 01.2**	**+0.4**
	3.1nm,1.0s,baz=250,slow=12,SNR=2.0						
TXAR	**Lajitas Array**	**53.31**	**285**	LR	LR	15 21 08.9	
	comp=Z,30nm,21.7s,baz=0.0,slow=33						
PD31	**Pinedale Array**	**54.53**	**303**	P	**P**	**15 01 14.3**	**-0.8**
PD31				IAmb	IAmb	15 01 19.4	
	comp=Z,8.6nm,1.8s						
PDAR	**Pinedale Array**	**54.53**	**303**	P	**P**	**15 01 14.8**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=101,slow=6.2,SNR=5.4						
PDAR				LR	LR	15 23 57.4	
	comp=Z,109nm,18.4s,baz=114,slow=35						
PDAR	**Pinedale Array**	**54.53**	**303**	P	**P**	**15 01 14.3**	**-0.8**
AKASG	**Malin Array Be**	**54.82**	**47**	P	**P**	**15 01 15.9**	**-0.8**
	comp=Z,0.2nm,0.2s,baz=269,slow=6.3,SNR=4.2						
YKA	**Yellowknife Ar**	**55.45**	**327**	LR	LR	15 23 42.4	
	comp=Z,82nm,21.6s,baz=0.0,slow=35						
NVAR	**Mina Array Bea**	**62.08**	**300**	P	**P**	**15 02 08.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=95,slow=8.2,SNR=2.5						
NVAR				LR	LR	15 28 18.7	
	comp=Z,125nm,18.6s,baz=40,slow=35						
IL31		**68.74**	**334**	P	**P**	**15 02 50.9**	**+0.6**
IL31				IAmb	IAmb	15 02 53.2	
	comp=Z,11nm,1.9s						
ILAR	**Eielson Array**	**68.74**	**334**	P	**P**	**15 02 50.5**	**+0.2**
	comp=Z,0.5nm,1.0s,baz=81,slow=6.8,SNR=3.8						

IDC 23 15:11:11.8±2.9, 6.33S×130.18E, h88km±41km, mb3.1/1, mb1 3.2/5, mb1mx3.0/29, mbtmp3.4/5, Error ellipse: s-maj=73.5km s-min=22.7km az=90.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.53**	**11**	P	Pn	15 12 32.0	+0.3
	1.2nm,0.3s,baz=247,slow=22,SNR=12						
SIJI				S	Sn	15 13 29.0	-4.9
	1.5nm,0.3s,baz=203,slow=22,SNR=11						
FITZ	**Fitzroy Crossi**	**12.51**	**200**	P	Pn	15 14 07.7	+1.1
	0.1nm,0.3s,baz=16,slow=10,SNR=10						
FITZ				S	Sn	15 16 21.6	-2.4
	0.1nm,0.3s,baz=270,slow=20,SNR=6.1						
WRA	**Warramunga Arr**	**14.12**	**164**	P	Pn	15 14 26.1	-1.7
	0.1nm,0.3s,baz=346,slow=14,SNR=5.2						
ASAR	**Alice Springs**	**17.61**	**169**	P	Pn	15 15 11.8	+0.2
	0.1nm,0.3s,baz=344,slow=9.1,SNR=8.7						
MKAR	**Makanchi Array**	**67.77**	**327**	P	P	15 21 59.9	-0.2
	0.3nm,0.6s,baz=124,slow=6.5,SNR=2.9						

*BJI **23** 15:13:00.5±0.0, 3.37S×139.67E, h55km, mB5.0/49, mb5.1/65, Ms4.4/34, Ms7 4.2/34*
*MOS **23** 15:13:01.2±0.8, 3.09S×139.33E, h43km, mb5.2/51, Error ellipse: s-maj=9.5km s-min=4.9km az=114.1*
*NEIC **23** 15:13:03.4±1.4, 3.10S±0.07×139.26E±0.05, h47km±4km, mb5.1/116, Error ellipse: s-maj=9.8km s-min=8.0km az=183.0*
*DJA **23** 15:13:03.3±1.1, 3.7S±3.1×13.9E±., h28km±12km, M4.9/30, mb5.3/30, mB5.4/21, MLv5.1/7, Mw(mB)4.8/21, Mwp5.0/1*
*IDC **23** 15:13:03.3±0.5, 3.06S×139.38E, h41km±4km, mb4.6/17, mb1 4.7/20, mb1mx4.6/25, mbtmp4.8/20, ML5.1/4, MS4.0/15, Ms1 4.1/15, ms1mx3.9/20, Error ellipse: s-maj=10.9km s-min=6.7km az=166.0*
*GCMT **23** 15:13:04.4±0.3, 2.91S±0.02×139.46E±0.02, h47km±1km, MW5.0/78, Moment Tensor Solution. s41,c48; s78,c112; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.51±.19; Mθθ-2.03±.12; Mφφ-1.48±.13; Mrθ-1.29±.09; Mθφ1.61±.07; Mφr1.30±.10; Best double couple: M₀3.90500×10¹⁶ NP1:φs128.00000°, δ31.00000°, λ.86.00000°. NP2: φs312.00000°, δ59.00000°, λ92.00000°. Principal axes: T 3.9690, Plg76.0000°, Azm229.0000°; N -0.1270, Plg2.0000°, Azm131.0000°; P -3.8410, Plg14.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 23 15:13:03.3±0.3, 3.11S±0.03×139.35E±0.03, h47km±2km, h47km:pP-P, n394, σ1s32/435, mb5.0/110, MS4.1/26, 25C-1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.97**	**58**	P	**Pn**	**15 13 20.1**	**-0.4**
GENI				S	**Sn**	**15 13 33.2**	**0.0**
WAMI	**Wamena**	**1.00**	**220**	P	**Pn**	**15 13 23.7**	**+2.8**
SMPI	**Sarmi**	**1.28**	**330**	P	**Pn**	**15 13 25.4**	**+0.6**
SMPI				S	**Sn**	**15 13 43.6**	**+2.8**
JAY	**Jayapura**	**1.48**	**66**	P	**Pn**	**15 13 26.4**	**-1.1**
	188nm,0.3s,baz=236,slow=15,SNR=802						
JAY				S	**Sn**	**15 13 44.4**	**-1.3**
	491nm,0.3s,baz=70,slow=19,SNR=8.0						
JAY				LR	LR	15 14 13.9	
	comp=Z,4μm,20.4s,baz=246,slow=49						
JAY	**Jayapura**	**1.48**	**66**	P	**Pn**	**15 13 26.2**	**-1.3**
SRPI	**Serui, Papua**	**3.34**	**292**	P	**Pn**	**15 13 54.3**	**+1.3**
RKPI	**Ransiki, Papua**	**5.41**	**287**	P	**Pn**	**15 14 23.4**	**+2.0**
	2.3nm7μm684nm,0.6s						
MMPI	**Merauke**	**5.42**	**169**	P	**Pn**	**15 14 23.7**	**+2.1**
	8.2nm22μm2μm,0.7s						
KMPI	**Kaimana, Papua**	**5.66**	**264**	P	**Pn**	**15 14 28.2**	**+3.3**
	2.5nm6μm668nm,0.7s						
FAKI	**Fak Fak**	**7.09**	**271**	P	**Pn**	**15 14 45.9**	**+1.3**
	0.8nm3μm2μm216nm,0.6s						
FAKI	**Fak Fak**	**7.09**	**271**	Pn	**Pn**	**15 14 45.3**	**+0.7**
SIJI	**Sorong**	**8.38**	**285**	P	**Pn**	**15 15 03.9**	**+1.7**
	53nm,0.3s,baz=73,slow=11,SNR=57						
SIJI				S	**Sn**	**15 16 33.1**	**-2.4**
	3.5nm,0.3s,baz=285,slow=20,SNR=1.6						
PMG	**Port Moresby**	**9.97**	**129**	P	**Pn**	**15 15 26.6**	**+2.6**
	0.6nm,0.3s,baz=315,slow=14,SNR=2.7						
PMG	**Port Moresby**	**9.97**	**129**	*ce*P	**Pn**	**15 15 24.9**	**+0.9**
PMG				pmax	pmax		
	comp=Z,136nm,1.0s						
PMG	**Port Moresby**	**9.97**	**129**	P	Pn	**15 15 27.1**	**+3.1**
MSAI	**Masohi**	**10.40**	**268**	P	Pn	**15 15 30.6**	**+0.6**
	comp=Z,398nmcomp=Z,32nm,0.6s						
AAI	**Ambon**	**11.15**	**267**	P	**Pn**	**15 15 41.2**	**+1.0**
	comp=Z,124nm,0.7s						
COEN	**Coen**	**11.42**	**161**	P	**Pn**	**15 15 45.0**	**+1.1**
	baz=12,SNR=16						
COEN	**Coen**	**11.42**	**161**	Pn	**Pn**	**15 15 44.1**	**+0.2**
KDU	**Kakadu**	**11.70**	**215**	P	**Pn**	**15 15 47.4**	**-0.2**
	baz=12,SNR=263						
LBMI	**Labuha**	**12.09**	**281**	P	**Pn**	**15 15 54.1**	**+1.0**
	comp=Z,1μmcomp=Z,146nm,0.8s						
NLAI	**Namlea**	**12.23**	**269**	P	**Pn**	**15 15 57.2**	**+2.3**
	comp=Z,1μmcomp=Z,114nm,0.5s						
MTN	**Manton Dam**	**12.63**	**220**	P	**Pn**	**15 16 00.0**	**-0.4**
	baz=13,SNR=119						
MTN	**Manton Dam**	**12.63**	**220**	Pn	**Pn**	**15 15 59.4**	**-1.0**
KRVT	**Keravat (AS076**	**12.71**	**96**	P	**Pn**	**15 16 06.2**	**+4.7**
	comp=Z,0.4nm,0.3s,baz=283,slow=13,SNR=3.9						
KRVT				LR	LR	15 19 52.7	
	comp=Z,286nm,20.4s,baz=278,slow=32						
RABL	**Rabaul**	**12.84**	**95**	Pn	**Pn**	**15 16 06.6**	**+3.3**
SANI	**San

baz=16,SNR=71
KNRA Kununurra 16.26 219 Pn 15 16 48.4 -0.2
SOEI Soe 16.37 246 P **Pn 15 16 50.9 +0.8**
comp=Z,5µmcomp=Z,664nm,0.8s
SOEI Soe 16.37 246 Pn 15 16 50.2 +0.1
LUWI Luwuk 16.69 277 P **Pn 15 16 52.6 -1.4**
comp=Z,2µmcomp=Z,113nm,0.7s
LUWI Luwuk 16.69 277 Pn **Pn 15 16 51.6 -2.4**
LUWI IAmb IAmb 15 17 36.4
comp=Z,110nm,0.8s
BBSI Bau Bau 16.89 261 P **P 15 16 57.6 -0.5**
comp=Z,299nmcomp=Z,25nm,1.1s
BATI Baumata 17.09 245 P **P 15 17 00.8 +0.5**
comp=Z,15nm,0.3s,baz=71,slow=1.1,SNR=34
BATI S **Sn 15 20 11.0 +2.7**
comp=Z,1.2nm,0.3s,baz=59,slow=21,SNR=2.3
BATI Baumata 17.09 245 P **P 15 17 01.2 +0.9**
comp=Z,2µmcomp=Z,304nm,0.7s
WB0 Warramunga Arr 17.25 196 Pn **Pn 15 16 59.3 -1.6**
WB0 IAmb IAmb 15 17 20.1
comp=Z,106nm,1.0s
QIS Mount Isa 17.34 179 P **Pn 15 17 02.1 0.0**
baz=18,SNR=29
WR0 Warramunga Arr 17.39 195 Pn **Pn 15 17 01.1 -1.6**
WR0 IAmb IAmb 15 17 06.4
comp=Z,78nm,0.7s
WRAB Tennant Creek 17.42 196 P **Pn 15 17 00.5 -2.5**
WRAB pmax pmax
comp=Z,105nm,0.8s
WRAB Tennant Creek 17.42 196 P **Pn 15 17 00.5 -2.5**
WRAB IAmb IAmb 15 17 06.7
comp=Z,105nm,0.8s
WB2 Warramunga Arr 17.43 196 P **Pn 15 17 02.2 -1.0**
baz=18
WB2 Warramunga Arr 17.43 196 Pn **Pn 15 17 01.4 -1.7**
WB2 IAmb IAmb 15 17 06.9
comp=Z,111nm,0.7s
WRA Warramunga Arr 17.43 196 P **Pn 15 17 01.0 -2.2**
comp=Z,1.5nm,0.3s,baz=17,slow=13,SNR=25
WRA S **Sn 15 20 09.5 -6.9**
comp=Z,1.4nm,0.3s,baz=14,slow=21,SNR=4.6
WRA LR LR 15 24 21.6
comp=Z,2µm,18.7s,baz=20,slow=39
WRA Warramunga Arr 17.43 196 P **Pn 15 16 59.7 -3.5**
WRA 15 20 09.5
WRA pmax pmax
comp=Z,9.0nm,1.3s
WRA Warramunga Arr 17.43 196 Pn **Pn 15 16 59.7 -3.5**
GUMO Guam 17.47 18 P **P 15 17 06.4 +2.0**
comp=Z,1.0nm,0.3s,baz=173,slow=8.2,SNR=4.9
GUMO Guam 17.47 18 P **P 15 17 06.9 +2.5**
GUMO pmax pmax
comp=Z,252nm,1.3s
GUMO Guam 17.47 18 P 15 17 06.9 +2.5
GUMO IAmb IAmb 15 17 08.2
comp=Z,252nm,1.2s
MRSI Marisa 17.76 281 P **P 15 17 09.4 +1.8**
comp=Z,1µmcomp=Z,101nm,0.6s
MMRI Maumere 17.88 251 P P 15 17 17.8 +8.9
MMRI Maumere 17.88 251 P **Pn 15 17 06.8 -2.0**
MMRI IAmb IAmb 15 17 18.8
comp=Z,87nm,0.7s
CTA Charters Tower 18.17 159 P **Pn 15 17 13.5 +1.2**
comp=Z,2.0nm,0.3s,baz=341,slow=12,SNR=34
CTAO Charters Tower 18.17 159 P **P 15 17 12.0 -0.1**
CTAO pmax pmax
comp=Z,25nm,0.8s
CTAO Charters Tower 18.17 159 P 15 17 12.0 -0.1
EDFI Ende, Flores 18.43 252 P **Pn 15 17 18.7 +3.1**
comp=Z,373nmcomp=Z,45nm,0.8s
BNSI Bone 19.24 266 P **Pn 15 17 27.8 +2.6**
comp=Z,1µmcomp=Z,100nm,0.9s
TTSI Tana Toraja 19.50 270 P **Pn 15 17 30.4 +2.1**
comp=Z,1µmcomp=Z,85nm,0.8s
SPSI Sidrap Palu 19.56 267 P **Pn 15 17 30.2 +1.2**
comp=Z,753nmcomp=Z,43nm,1.0s
KAPI Kappang 19.64 264 P **Pn 15 17 30.7 +0.8**
comp=Z,3.8nm,0.3s,baz=93,slow=5.9,SNR=6.3
KAPI Kappang 19.64 264 P 15 17 27.8 -0.4
MPSI Mapaga 19.74 280 P **Pn 15 17 31.7 +0.5**
comp=Z,703nmcomp=Z,39nm,0.6s
WSI Waingapu 20.01 250 P Pn 15 17 41.7 +7.3
FITZ Fitzroy Crossi 20.06 221 P **P 15 17 33.1 +0.4**
baz=20,SNR=37
FITZ Fitzroy Crossi 20.06 221 P **P 15 17 32.5 -0.3**
comp=Z,71nm,0.9s,baz=46,slow=11,SNR=46
FITZ S **S 15 21 11.0 -4.8**
comp=Z,54nm,0.8s,baz=234,slow=19,SNR=8.2
FITZ Fitzroy Crossi 20.06 221 P 15 17 32.8 +0.1
FITZ IAmb IAmb 15 17 39.2
comp=Z,95nm,0.9s
WBSI Waikabubak, Su 20.86 251 P **P 15 17 40.0 -1.5**
comp=Z,126nm,0.8s
AS31 Alice Springs 21.10 194 P **P 15 17 44.2 +0.2**
ASAR Alice Springs 21.10 194 P **P 15 17 44.1 +0.1**
comp=Z,62nm,0.8s,baz=23,slow=9.9,SNR=152
ASAR S **S 15 21 33.8 -2.7**
comp=Z,7.9nm,0.8s,baz=18,slow=28,SNR=3.9
ASAR LR LR 15 26 36.0
comp=Z,1µm,18.9s,baz=12,slow=38
ASAR Alice Springs 21.10 194 P 15 17 43.8 -0.3
ASAR S **S 15 21 33.8 -2.7**
ASAR Alice Springs 21.10 194 P P 15 17 43.8 -0.3
PATS Pohnpei 21.36 62 P P 15 17 48.4 +1.6
PATS IAmb IAmb 15 18 26.3
comp=Z,69nm,1.1s
HNR Honiara 21.41 108 P P 15 17 48.2 +0.9
comp=Z,69nm,0.8s,baz=253,slow=6.8,SNR=5.3
HNR Honiara 21.41 108 P **P 15 17 48.7 +1.3**
HNR pmax pmax
comp=Z,82nm,0.8s
HNR Honiara 21.41 108 P P 15 17 48.7 +1.3
HNR IAmb IAmb 15 18 27.6
comp=Z,82nm,0.8s
PLAI Plampang 22.18 254 P P 15 17 55.5 -0.3
QLP Quilpie 23.80 169 P P 15 18 14.7 +2.8
baz=24,SNR=8.0
SPMM Sapulut 24.15 289 P P 15 18 17.0 +1.7
WRKA Warakurna 24.26 205 P P 15 18 15.9 -0.3
baz=24,SNR=11
KKM Kota Kinabalu 24.83 291 P P 15 18 21.1 -0.5
EIDS Eidsvold 24.84 154 P P 15 18 23.5 +2.0
baz=25,SNR=12
EIDS Eidsvold 24.84 154 P P 15 18 23.3 +1.9
RMQ Roma 24.93 160 P P 15 18 24.5 +2.2
baz=25,SNR=17
JAGI Jajag, Banyuwa 25.62 257 P P 15 18 25.1 -3.5
JAGI IAmb IAmb 15 18 30.7
comp=Z,55nm,0.9s
SBUM Sibu 27.67 281 P P 15 18 45.4 -1.8
SBUM Sibu 27.67 281 P P 15 18 49.0 +1.8
STKA Stephens Creek 28.69 176 P P 15 18 58.2 +2.2
baz=29,SNR=4.4
STKA Stephens Creek 28.69 176 P P 15 18 56.5 +0.5
comp=Z,3.2nm,0.7s,baz=46,slow=8.3,SNR=5.3
STKA LR LR 15 31 39.3
comp=Z,853nm,19.6s,baz=349,slow=39
STKA Stephens Creek 28.69 176 P **P 15 18 56.5 +0.5**
STKA pmax pmax
comp=Z,5.0nm,1.1s
CMSA Cobar Meteorol 28.90 169 P P 15 19 00.3 +2.4
baz=29,SNR=7.2
KSM Kuching 29.38 279 P P 15 19 03.1 +0.7
KSM IAmb IAmb 15 19 04.8
comp=Z,66nm,1.6s
KSM Kuching 29.38 279 P P 15 19 03.0 +0.6
SANVU Saraoutou 30.05 116 P P 15 19 08.9 +0.7
SANVU IAmb IAmb 15 19 10.9
comp=Z,36nm,0.9s
MEEK Meekatharra 30.69 218 P P 15 19 13.6 -0.2
baz=31,SNR=4.9
GIRL Giralia 31.14 229 P P 15 19 18.9 +1.2
baz=31,SNR=4.8
YULB Yu-li 31.68 327 P P 15 19 22.7 +0.2
YULB IAmb IAmb 15 19 41.9
comp=Z,41nm,1.4s
SSLB Suanglung 32.18 327 P P 15 19 26.4 -0.6
SSLB IAmb IAmb 15 19 30.9
comp=Z,18nm,0.8s
DZM Mont Dzumac 32.36 128 P P 15 19 29.5 +0.8
comp=Z,5.8nm,0.7s,baz=317,slow=19,SNR=6.7
KMBL Kambalda 32.57 208 P P 15 19 30.1 -0.2
baz=33,SNR=7.6
MORW Morawa 34.02 218 P P 15 19 43.6 +0.6
baz=34,SNR=8.8
MORW Morawa 34.02 218 P P 15 19 42.7 -0.2

H11S3 WAKE ISLAND Hy 34.44 50 T T 15 55 01.7
baz=225,SNR=7.5
H11S2 WAKE ISLAND Hy 34.45 50 T T 15 55 13.1
baz=225
H11S1 WAKE ISLAND Hy 34.45 50 T T 15 55 10.4
baz=225
BLDU Ballidu 34.73 216 P P 15 19 49.6 +0.5
baz=35,SNR=6.4
KLBR Kellerberrin 34.87 213 P P 15 19 50.2 -0.1
baz=35,SNR=6.9
H11N1 WAKE ISLAND Hy 35.31 49 T T 15 56 35.2
baz=236,slow=74,SNR=4.0
H11N2 WAKE ISLAND Hy 35.33 49 T T 15 56 34.2
baz=236,slow=74,SNR=4.6
H11N3 WAKE ISLAND Hy 35.33 49 T T 15 56 27.4
baz=236
MYKOM Kota Tinggi 35.82 277 P P 15 19 59.2 +0.6
MYKOM Kota Tinggi 35.82 277 P P 15 20 00.0 +1.4
QIZ Qiongzhong 36.42 308 P P 15 20 02.9 -0.8
QIZ pP **pP 15 20 16.8 +0.6**
QIZ S **S 15 25 43.3 +0.9**
QIZ sS **sS 15 26 04.6 +1.3**
QIZ LR LR
comp=Z,150nm,11.2s
QIZ LR LR
comp=Z,220nm,16.5s
JNU Nakatsue 36.92 348 P P 15 20 07.8 0.0
JNU IAmb IAmb 15 20 22.1
comp=Z,23nm,1.0s
IPM Ipoh 39.03 281 P P 15 20 24.8 -1.0
IPM IAmb IAmb 15 20 40.8
comp=Z,35nm,1.3s
IPM Ipoh 39.03 281 P P 15 20 27.0 +1.1
MJAR Matsushiro Arr 39.46 359 P P 15 20 28.6 -0.6
comp=Z,2.7nm,0.6s,baz=175,slow=9.9,SNR=13
MJAR PcP **PcP 15 22 36.9 +0.5**
comp=Z,3.7nm,0.7s,baz=178,slow=3.5,SNR=6.9
MJAR LR LR 15 34 51.7
comp=Z,268nm,21.4s,baz=170,slow=33
MJAR Matsushiro Arr 39.46 359 P **P 15 20 28.1 -1.1**
MJAR 15 22 36.5
MJAR pmax pmax
comp=Z,2.0nm,0.6s
MJAR Matsushiro Arr 39.46 359 P P 15 20 28.1 -1.1
MJAR **PcP 15 22 36.5 +0.1**
MAJO Matsushiro 39.46 359 *i* P **P 15 20 27.4 -1.8**
MAJO pmax pmax
comp=Z,4.0nm,0.9s
MAJO Matsushiro 39.46 359 P P 15 20 28.4 -0.7
MAJO **PcP 15 22 36.7 +0.3**
MAT Matsushiro 39.46 359 P P 15 20 28.0 -1.2
MAT S **S 15 26 25.0 -3.0**
MJB9 Matsu-Tunnel 39.47 359 P P 15 20 28.4 -0.7
KULM Kulim 39.55 282 P P 15 20 29.6 -0.5
KULM IAmb IAmb 15 20 44.1
comp=Z,38nm,1.2s
KULM Kulim 39.55 282 P P 15 20 31.0 +0.8
NJ2 Nanjing 40.02 332 *eP* **P 15 20 35.1 +1.3**
NJ2 pmax pmax
comp=Z,22nm,0.7s
RPSI Rantau Prapat 40.82 278 P P 15 20 40.4 -0.3
PSI Prapat 40.83 278 LR LR 15 40 12.1
comp=Z,154nm,19.8s,baz=276,slow=40
PSI Prapat 40.83 278 P P 15 20 40.4 -0.6
PSI pmax pmax
comp=Z,84nm,0.9s
TJN Taejon 40.85 345*ceP* **P 15 20 39.6 -1.0**
WHN Wuhan 41.10 326 P P 15 20 42.5 -0.3
KSAR Wonju Array Be 41.73 346 P P 15 20 48.0 +0.2
KSAR 15 22 44.3
KSAR Wonju Array Be 41.73 346 P P 15 20 48.0 +0.2
KSAR **PcP 15 22 44.3 +0.6**
KSRS Korea Array 41.73 346 P P 15 20 48.3 +0.5
comp=Z,6.9nm,0.6s,baz=158,slow=8.7,SNR=35
KSRS PcP **PcP 15 22 44.2 +0.6**
comp=Z,4.2nm,0.8s,baz=166,slow=3.4,SNR=13
KSRS LR LR 15 35 29.5
comp=Z,183nm,21.6s,baz=146,slow=32
KS19 Wonju Array Si 41.79 346 P P 15 20 48.3 0.0
GSI Gunungsitoli 41.99 275 P P 15 20 49.1 -1.3
INCN Inchon 42.08 345 P P 15 20 50.8 +0.1
INCN pmax pmax
comp=Z,17nm,0.7s
INCN Inchon 42.08 345 P P 15 20 50.8 +0.1
INCN IAmb IAmb 15 20 52.5
comp=Z,17nm,0.7s
SLVN Son La 42.36 307 P P 15 20 51.4 -1.9
GYA Guiyang 43.15 315 P P 15 21 03.5 +3.8
GYA pmax pmax
comp=Z,180nm,4.4s
ENH Enshi 43.77 321 P P 15 21 04.0 -0.5
DL2 Dalian 44.89 340 P P 15 21 14.8 +1.5
DL2 sP **sP 15 21 35.8 +4.2**
DL2 S **S 15 27 48.4 +0.4**
DL2 pmax pmax
comp=Z,30nm,0.6s
DL2 pmax pmax
comp=Z,100nm,4.8s
DL2 LR LR
comp=Z,180nm,18.0s
DL2 LR LR
comp=Z,130nm,14.6s
DL2 LR LR
comp=Z,170nm,23.9s
ERM Erimo 45.05 4 P P 15 21 15.1 +0.6
ERM pmax pmax
comp=Z,35nm,1.5s
ERM Erimo 45.05 4 P P 15 21 15.1 +0.6
ERM IAmb IAmb 15 22 25.0
comp=Z,35nm,1.4s
CM31 Chiang Mai Arr 45.19 300 P P 15 21 15.9 -0.2
CM31 **pP 15 21 28.4 -0.4**
CM31 IAmb IAmb 15 21 31.5
comp=Z,22nm,0.9s
CMAR Chiang Mai Arr 45.19 300 P P 15 21 16.0 -0.1
comp=Z,10nm,0.9s,baz=120,slow=6.3,SNR=37
CMAR pP **pP 15 21 28.7 -0.1**
comp=Z,7.9nm,0.8s,baz=118,slow=6.3,SNR=11
CMAR PcP **PcP 15 22 57.2 +1.4**
comp=Z,3.3nm,0.9s,baz=172,slow=2.4,SNR=5.2
CMAR LR LR 15 40 26.9
comp=Z,54nm,21.6s,baz=120,slow=36
CMAR Chiang Mai Arr 45.19 300 *i* P **P 15 21 16.2 +0.2**
CMAR pmax pmax
comp=Z,10.0nm,0.9s
CHTO Chiang Mai 45.33 300 P P 15 21 16.9 -0.3
CHTO pP **pP 15 21 29.8 -0.2**
CHTO IAmb IAmb 15 21 32.2
comp=Z,22nm,1.2s
MSHR Mys Shultsa 46.08 352*ceP* **P 15 21 22.3 -0.3**
MSHR pmax pmax
comp=Z,9.0nm,1.3s
VLA Vladivostok 46.51 352 *i* P **P 15 21 24.8 -1.2**
VLA pmax pmax
comp=Z,17nm,0.9s
XAN Xi'an 46.77 325 P P 15 21 28.3 0.0
XAN PcS **PcS 15 26 58.4 +2.3**
XAN pmax pmax
comp=Z,17nm,0.9s
XAN pmax pmax
comp=Z,110nm,3.6s
XAN Xi'an 46.77 325 P P 15 21 27.6 -0.7
XAN pmax pmax
comp=Z,11nm,0.8s
XAN Xi'an 46.77 325 P P 15 21 27.6 -0.7
YUK Yuzh-Kuril'sk 47.30 6 *eP* **P 15 21 32.7 +0.6**
YUK *i* S **S 15 28 23.2 +0.9**
USA0B Ussuriysk Arra 47.56 353 P P 15 21 34.8 +0.6
USA0B pP **pP 15 21 47.7 +0.7**
USA0B IAmb IAmb 15 21 48.7
comp=Z,27nm,1.1s
USRK Ussuriysk Ar. 47.56 353 P P 15 21 34.9 +0.7
comp=Z,11nm,0.7s,baz=179,slow=8.0,SNR=52
USRK pP **pP 15 21 47.5 +0.4**
comp=Z,11nm,0.9s,baz=168,slow=7.4,SNR=9.9
USRK LR LR 15 38 42.4
comp=Z,166nm,19.9s,baz=155,slow=32
BJT Baijiatuan 47.90 336 P P 15 21 37.0 +0.1
BJT pmax pmax
comp=Z,15nm,0.7s
BJT Baijiatuan 47.90 336 P P 15 21 37.0 +0.1
BJT IAmb IAmb 15 21 38.1
comp=Z,15nm,0.7s
CD2 Chengdu 47.90 318 P P 15 21 38.0 +0.8
CD2 S **S 15 28 31.5 0.0**
CD2 pmax pmax
comp=Z,40nm,0.9s
CD2 pmax pmax
comp=Z,70nm,4.5s
CD2 LR LR
comp=Z,180nm,7.5s
CD2 LR LR
comp=Z,220nm,18.2s
CD2 LR LR
comp=Z,210nm,16.6s
BJI Beijing 47.92 336 P P 15 21 37.0 0.0
BJI S **S 15 28 30.8 -0.4**
BJI pmax pmax
comp=Z,20nm,0.7s
BJI pmax pmax
comp=Z,100nm,3.5s
BJI LR LR
comp=Z,180nm,21.8s
BJI LR LR
comp=Z,140nm,16.1s
BJI LR LR
comp=Z,200nm,21.6s
MDJ Mudanjiang 48.31 351 P P 15 21 41.3 +1.3
MDJ pmax pmax
comp=Z,23nm,0.8s
MDJ pmax pmax
comp=Z,65nm,3.7s
MDJ Mudanjiang 48.31 351 P P 15 21 40.2 +0.3
MDJ IAmb IAmb 15 21 54.4
comp=Z,23nm,1.0s
CN2 Changchun 48.34 347 *eP* **P 15 21 39.1 -1.2**
CN2 *es*P sP 15 22 06.8 +8.2
CN2 *eS* **S 15 28 34.1 -3.1**
CN2 *eS*S **SS 15 32 00.3 -7.2**
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,80nm,7.0s
CN2 LR LR
comp=Z,190nm,20.0s
CN2 LR LR
comp=Z,170nm,20.0s
CN2 LR LR
comp=Z,360nm,20.0s
NNZ Nelson 48.73 146 P P 15 21 43.7 +0.4
WKZ Wanaka 49.06 152 P P 15 21 47.4 +1.6
MLZ Mavora Lakes 49.06 153 P P 15 21 48.5 +2.6
TUWZ Tuamarina 49.18 146 P P 15 21 47.8 +1.1
LTZ Lake Taylor 49.19 148 P P 15 21 47.9 +1.0
LTZ IAmb IAmb 15 21 51.2
comp=Z,22nm,0.9s
RPZ Rata Peaks 49.22 150 P P 15 21 48.5 +1.4
BKZ Black Stump Fm 49.26 142 P P 15 21 48.6 +1.2
LBZ Lake Benmore 49.28 151 P P 15 21 49.1 +1.5
BSWZ Blackbirch Sta 49.33 146 P P 15 21 48.8 +0.9
SNZO South Karori 49.54 145 P P 15 21 50.2 +0.7
CMWZ Cape Campbell 49.55 146 P P 15 21 50.5 +0.9
KHZ Kahutara 49.62 147 P P 15 21 51.2 +1.1
BHW Baring Head 49.70 145 P P 15 21 51.1 +0.4
MSWZ Moikau Station 49.92 145 P P 15 21 52.9 +0.5
YSS Yuzh-Sakhalins 49.94 3 *eP* **P 15 21 52.2 -0.2**
YSS *e* 15 22 04.8
YSS *e* 15 29 18.3
YSS pmax pmax
comp=Z,20nm,0.7s
YSS Yuzh-Sakhalins 49.94 3 P P 15 21 52.5 +0.1
PLWZ Palliser 50.02 145 P P 15 21 53.7 +0.5
MOZ McQueen's Vall 50.03 149 P P 15 21 54.0 +0.8
BFZ Birch Farm 50.04 143 P P 15 21 53.9 +0.6
HHC Hu-ho-hao-te 50.58 333 *eP* **P 15 21 58.0 +0.5**
HHC pmax pmax
comp=Z,8.0nm,0.9s
HHC pmax pmax
comp=Z,51nm,5.5s
HHC LR LR
comp=Z,120nm,16.5s
HHC LR LR
comp=Z,60nm,17.5s
HHC LR LR
comp=Z,110nm,16.9s
LZH Lanzhou 51.18 323 *eP* **P 15 22 01.1 -1.1**
LZH pP pP 15 22 15.8 +0.6
LZH sP sP 15 22 24.8 +4.2
LZH PP **PP 15 24 03.9 +4.4**
LZH pmax pmax
comp=Z,29nm,1.5s
LZH LR LR
comp=Z,120nm,14.9s
LZH LR LR
comp=Z,190nm,15.7s
LZH LR LR
comp=Z,190nm,16.5s
KLR Kul'dur 52.55 354 LR LR 15 41 44.4
comp=Z,138nm,20.6s,baz=170,slow=33
KLR Kul'dur 52.55 354*ceP* **P 15 22 12.6 +0.7**
KLR pmax pmax
comp=Z,12nm,0.8s
SHL Shillong 54.09 305 P P 15 22 23.2 -0.7
SHL pmax pmax
comp=Z,30nm,1.1s
SHL Shillong 54.09 305 P P 15 22 23.2 -0.7
SHL IAmb IAmb 15 22 24.8
comp=Z,30nm,1.1s
HIA Hailar 54.87 344 P P 15 22 28.9 -0.1
HIA pmax pmax
comp=Z,19nm,1.3s
HIA Hailar 54.87 344 P P 15 22 28.9 -0.1
HIA IAmb IAmb 15 22 44.0
comp=Z,19nm,1.3s
GTA Gaotai 55.77 323 *eP* **P 15 22 36.6 +0.8**
GTA pP pP 15 22 48.9 0.0
GTA sP sP 15 22 54.4 +0.1
GTA pmax pmax
comp=Z,14nm,0.9s
ZEA Zeya 57.54 352 *eP* **P 15 22 48.8 +0.9**
ZEA pmax pmax
comp=Z,26nm,0.8s
ULN Ulaanbaatar 58.10 335*ceP* **P 15 22 51.9 -0.2**
ULN pmax pmax
comp=Z,7.0nm,0.8s
ULN Ulaanbaatar 58.10 335 P P 15 22 52.5 +0.4
PEA0B Petropavlovsk- 58.10 13 P P 15 22 52.6 +0.7
PEA0B pmax pmax
comp=Z,95nm,1.8s
PEA0B Petropavlovsk- 58.10 13 P P 15 22 52.6 +0.7
PEA0B **pP 15 23 04.9 -0.2**
PETK Petropavlovsk- 58.10 13 P P 15 22 52.8 +0.9
comp=Z,4.5nm,0.7s,baz=176,slow=8.3,SNR=18
PETK pP **pP 15 23 05.0 -0.1**
comp=Z,8.2nm,0.8s,baz=179,slow=6.5,SNR=10
PETK Petropavlovsk- 58.10 13 P P 15 22 52.6 +0.7
TAPN Taplejung 58.22 305 *eP* **P 15 22 53.9 +0.3**
PET Petropavlovsk 58.24 14 *eP* **P 15 22 53.0 +0.2**
PET *eS* **S 15 30 51.4 +0.1**
ODAN Odare 58.30 304 *eP* **P 15 22 54.3 +0.3**
comp=Z,15nm,0.7s
SONM Songino Array 58.35 335 P P 15 22 54.3 +0.4
comp=Z,3.6nm,0.6s,baz=153,slow=8.0,SNR=15
SONM pP **pP 15 23 06.3 -0.8**
comp=Z,2.3nm,0.7s,baz=156,slow=7.4,SNR=4.3
SONM Songino Array 58.35 335 P **P 15 22 53.9 0.0**
SONM *PP **pP 15 23 06.3 -0.8**
SONM pmax pmax
comp=Z,3.0nm,0.6s
SONM Songino Array 58.35 335 P P 15 22 53.9 0.0
RAMN Ramite 58.99 304 *eP* **P 15 22 59.2 +0.4**
comp=Z,43nm,1.1s
JIRN Jiri 59.59 305 *eP* **P 15 23 03.3 +0.2**
GUN Gumba 59.94 305 *eP* **P 15 23 05.9 +0.4**
PKIN Phulchoki 60.21 304 *eP* **P 15 23 07.0 -0.3**
KKN Kakani 60.39 304 *eP* **P 15 23 08.5 +0.1**
comp=Z,44nm,1.0s
DMN Daman 60.46 304 *eP* **P 15 23 09.2 +0.2**
ZAK Zakamensk 61.62 335 *eP* **P 15 23 16.4 +0.2**
ZAK pmax pmax
comp=Z,15nm,1.0s
KOLN Koldanda 61.77 304 *eP* **P 15 23 18.1 +0.3**
comp=Z,24nm,0.9s
DANN Dangsing 61.84 304 *eP* **P 15 23 18.4 0.0**
comp=Z,27nm,0.8s
TLY Talaya 62.44 336 *eP* **P 15 23 22.6 +1.0**
TLY *eS* **S 15 31 47.8 +2.6**
TLY pmax pmax
comp=Z,19nm,0.6s
TLY MLR MLR

comp=Z,241nm,17.0s
TLY Talaya 62.44 336 P P 15 23 21.8 +0.2
TLY IAmb IAmb 15 23 23.6
comp=Z,9.5nm,0.8s
MA2 Magadan 63.15 6 *i* P **P 15 23 23.9 -2.2**
MA2 pmax pmax
comp=Z,8.0nm,1.0s
MOY Mondy 63.55 334 *eP* **P 15 23 30.3 +1.3**
MOY pmax pmax
comp=Z,27nm,2.2s
BOD Bodaibo 64.06 345 *eP* **P 15 23 32.5 +0.4**
BOD pmax pmax
comp=Z,16nm,1.3s
YAK Yakutsk 65.38 355 *eP* **P 15 23 41.3 +0.7**
YAK pmax pmax
comp=Z,29nm,1.1s
YAK pmax pmax
comp=N,8.0nm,1.4s
YAK pmax pmax
comp=E,2.0nm,1.1s
YAK Yakutsk 65.38 355 P **P 15 23 40.5 -0.2**
YAK **pP 15 23 54.0 0.0**
WMQ Urumqi 65.72 321 *eP* **P 15 23 44.5 +1.2**
WMQ pP pP 15 23 56.8 +0.1
WMQ pmax pmax
comp=E,36nm,0.9s
WMQ pmax pmax
comp=E,89nm,4.3s
WMQ LR LR
comp=E,200nm,21.7s
WMQ LR LR
comp=E,130nm,24.7s
CASY Casey 66.22 192 P **P 15 23 45.9 -0.1**
CASY IAmb IAmb 15 23 49.0
comp=Z,20nm,1.1s
ADK Adak 66.22 28 P **P 15 23 46.7 +0.4**
ADK pmax pmax
comp=Z,12nm,0.9s
ADK Adak 66.22 28 P **P 15 23 46.7 +0.4**
ADK IAmb IAmb 15 24 05.2
comp=Z,12nm,0.8s
ATKA Atka Island 67.61 29 P **P 15 23 55.6 +0.6**
ATKA IAmb IAmb 15 23 57.6
comp=Z,14nm,0.8s
OBL Observatory Le 67.98 68 P **P 15 23 58.0 -0.2**
DGZ Jazzator, Alta 68.97 327*c i*P **P 15 24 04.2 +0.3**
DGZ pmax pmax
comp=Z,17nm,0.9s
ZSN Zaisan 69.26 324⇑ *i*P **P 15 24 06.0 +0.5**
comp=Z,4.0nm,0.8s,baz=323
ZSN Zaisan 69.26 324*c i*P **P 15 24 06.0 +0.5**
ZSN pmax pmax
comp=Z,4.0nm,0.8s
MK31 Makanchi Array 70.49 322 P **P 15 24 13.3 +0.1**
MK31 pmax pmax
comp=Z,19nm,1.0s
MK31 Makanchi Array 70.49 322 P **P 15 24 13.3 +0.1**
MK31 IAmb IAmb 15 24 14.8
comp=Z,20nm,0.9s
MKAR Makanchi Array 70.49 322 P **P 15 24 13.8 +0.6**
comp=Z,24nm,0.8s,baz=114,slow=8.0,SNR=200
MKAR pP **pP 15 24 26.0 -0.7**
comp=Z,14nm,0.7s,baz=114,slow=7.8,SNR=12
MKAR Makanchi Array 70.49 322 *i* P **P 15 24 13.8 +0.6**
MKAR pmax pmax
comp=Z,23nm,0.8s
MKAR Makanchi Array 70.49 322 P **P 15 24 13.3 +0.1**
MAKZ Makanchi 70.69 322 P **P 15 24 14.7 +0.3**
MAKZ pmax pmax
comp=Z,32nm,0.8s
MAKZ Makanchi 70.69 322 P **P 15 24 14.7 +0.3**
SHLS Shalkode 70.74 318⇑ *i*P **P 15 24 13.9 -1.0**
comp=Z,10nm,0.9s,baz=318
SHLS *i* pP **pP 15 24 26.4 -2.0**
baz=318
SHLS *i* sP **sP 15 24 31.3 -2.4**
baz=318
SHLS Shalkode 70.74 318*c i*P **P 15 24 13.8 -1.0**
SHLS *i* *PP **pP 15 24 26.4 -2.0**
SHLS *i* *SP **sP 15 24 31.3 -2.4**
SHLS pmax pmax
comp=Z,10.0nm,0.9s
PDGK Podgornoye 70.79 318 P **P 15 24 14.8 -0.4**
PPT Papeete 71.03 107 LR LR 15 54 02.7
comp=Z,65nm,18.4s,baz=314,slow=35
PPT2 Papeete2 71.03 107 *e*LR LR 15 46 13.1
comp=Z,150nm,27.0s
UZB Uzynbulak 71.03 318⇑ *i*P **P 15 24 17.4 +0.7**
comp=Z,13nm,1.0s,baz=317
UZB *i* pP **pP 15 24 29.6 -0.6**
baz=317
UZB *i* sP **sP 15 24 34.2 -1.3**
baz=317
UZB Uzynbulak 71.03 318*c i*P **P 15 24 17.4 +0.7**
UZB *i* *PP **pP 15 24 29.6 -0.6**
UZB *i* *SP **sP 15 24 34.2 -1.3**
UZB pmax pmax
comp=Z,13nm,1.0s
TARG Taragay, Kyrgy 71.31 316 P **P 15 24 19.3 +0.6**
KPKS Kokpek 71.38 318 *eP* **P 15 24 19.3 +0.5**
comp=Z,8.0nm,1.0s,baz=318
KPKS Kokpek 71.38 318 *eP* **P 15 24 19.2 +0.5**
KPKS pmax pmax
comp=Z,8.0nm,1.0s
SATY Saty 71.41 317⇑ *i*P **P 15 24 19.8 +0.9**
comp=Z,15nm,1.0s,baz=317
SATY Saty 71.41 317*c i*P **P 15 24 19.8 +0.9**
SATY pmax pmax
comp=Z,15nm,1.0s
TBI Tubuai 71.51 113 *e*LR LR 15 46 26.2
comp=Z,192nm,31.0s
KSH Kashi 71.82 313 *eP* **P 15 24 23.6 +2.1**
KSH pmax pmax
comp=Z,42nm,0.9s
KSH pmax pmax
comp=Z,290nm,5.5s
KDJ Kajisay 71.89 316 P **P 15 24 22.5 +0.6**
KDJ pmax pmax
comp=Z,18nm,0.8s
KDJ Kajisay 71.89 316 P **P 15 24 22.5 +0.6**
KDJ IAmb IAmb 15 24 23.9
comp=Z,18nm,0.8s
NIL Nilore 72.08 307 P **P 15 24 23.1 +0.1**
NIL pmax pmax
comp=Z,36nm,1.0s
NIL Nilore 72.08 307 P **P 15 24 23.1 +0.1**
TDK Taldyqorghan 72.18 319 *eP* **P 15 24 24.0 +0.6**
comp=Z,24nm,1.1s,baz=319
TDK Taldyqorghan 72.18 319 *eP* **P 15 24 23.9 +0.6**
TDK pmax pmax
comp=Z,24nm,1.1s
UNV Unalaska Valle 72.36 30 P **P 15 24 25.2 +1.0**
UNV IAmb IAmb 15 24 39.9
comp=Z,17nm,1.0s
MDOK Medeo 72.37 317 *i* P **P 15 24 25.7 +1.0**
baz=317
MDOK *i* pP **pP 15 24 38.4 +0.1**
baz=317
MDOK *i* sP **PcP 15 24 42.1 -0.4**
baz=317
MDOK *e*S **S 15 33 46.7 +1.6**
baz=317
MDOK Medeo 72.37 317 *i* P **P 15 24 25.7 +1.0**
MDOK *i* *PP **pP 15 24 38.4 +0.1**
MDOK *i* *SP **PcP 15 24 42.9 +0.4**
MDOK *e*S **S 15 33 46.7 +1.6**
TNSS Tian-Shan 72.39 317 *eP* **P 15 24 26.4 +1.1**
baz=317
TNSS Tian-Shan 72.39 317 *eP* **P 15 24 26.3 +1.1**
AAA Alma-Ata 72.48 317 *eP* **P 15 24 26.1 +0.8**
comp=Z,16nm,0.9s,baz=317
AAA Alma-Ata 72.48 317 *eP* **P 15 24 26.1 +0.8**
AAA pmax pmax
comp=Z,15nm,0.9s
ZAA0 Zalesovo Array 72.60 330 P **P 15 24 24.5 -1.2**
ZALV Zalesovo Beam 72.60 330 P **P 15 24 25.0 -0.6**
comp=Z,8.6nm,0.7s,baz=113,slow=6.3,SNR=34
ZALV pP **pP 15 24 37.3 -1.9**
comp=Z,3.5nm,0.7s,baz=115,slow=4.8,SNR=5.4
ZALV LR LR 15 56 07.0
comp=Z,58nm,21.3s,baz=92,slow=36
ZALV Zalesovo Beam 72.60 330 P **P 15 24 24.7 -1.0**
CHKK Chushkaly 72.67 318 *eP* **P 15 24 26.7 +0.3**
baz=318
CHKK Chushkaly 72.67 318 *eP* **P 15 24 26.6 +0.3**
AKUT Akutan 72.88 30 P **P 15 24 28.5 +1.3**
AKUT IAmb IAmb 15 24 30.3
comp=Z,19nm,0.9s
BOOM Boomskoye usch 72.88 316 P **P 15 24 27.6 -0.2**
BOOM pmax pmax
comp=Z,20nm,0.7s
BOOM Boomskoye usch 72.88 316 P **P 15 24 27.6 -0.2**
BOOM IAmb IAmb 15 24 29.6
comp=Z,20nm,0.7s
KUU Kurty 73.12 318 *eP* **P 15 24 29.5 +0.5**
comp=Z,10nm,0.8s,baz=317
KUU Kurty 73.12 318 *eP* **P 15 24 29.5 +0.5**
KUU pmax pmax
comp=Z,10.0nm,0.8s
KZA Kyzart 73.22 316 P **P 15 24 31.6 +1.4**
SNR=41
TKM2 Tokmak 2 73.27 317 P **P 15 24 30.9 +0.8**
SNR=18
TKM2 Tokmak 2 73.27 317 P **P 15 24 30.5 +0.3**
SEM Semipalatinsk 73.34 325 *eP* **P 15 24 29.9 -0.6**
comp=Z,1.9nm,0.8s,baz=325
SEM Semipalatinsk 73.34 325 *eP* **P 15 24 29.8 -0.6**
SEM pmax pmax
comp=Z,2.0nm,0.8s
BILL Bilibino 73.44 10 *i* P **P 15 24 30.4 +0.1**
BILL *i* 15 24 42.0
BILL MLR MLR
comp=Z,62nm,18.0s
BILL Bilibino 73.44 10 P **P 15 24 30.5 +0.1**
UCH Uchtor 73.78 316 P **P 15 24 34.9 +1.4**
SNR=29
CHMS Chumysh 73.88 316 P **P 15 24 33.3 -0.2**
SNR=7.2
AAK Ala-Archa 73.94 316 P **P 15 24 34.4 +0.4**
SGDS Sogindy 74.12 317⇑ *i*P **P 15 24 35.2 +0.3**
comp=Z,6.2nm,0.7s,baz=316
SGDS *e*S **S 15 34 06.1 +1.3**
baz=316
SGDS Sogindy 74.12 317*c i*P **P 15 24 35.2 +0.3**
SGDS *e*S **S 15 34 06.1 +1.3**
SGDS pmax pmax
comp=Z,6.0nm,0.7s
USP Ospenovka 74.15 317 P **P 15 24 35.5 +0.5**
SNR=31
AML Almayashu 74.33 315 P **P 15 24 37.9 +1.3**
SNR=24
KURK Kurchatov 74.41 325*ce*P **P 15 24 36.3 0.0**
KURK pmax pmax
comp=Z,17nm,0.7s
KURK Kurchatov 74.41 325 P **P 15 24 35.5 -0.9**
KURK IAmb IAmb 15 24 37.5
comp=Z,18nm,0.8s
KURBB Kurchatov Arra 74.42 325 P **P 15 24 35.7 -0.7**
EKS2 Erkin-Say 74.44 316 P **P 15 24 38.0 +1.1**
SNR=14
TIXI Tiksi 74.94 357 *i* P **P 15 24 38.6 -0.4**
TIXI pmax pmax
comp=Z,6.0nm,1.2s
TIXI Tiksi 74.94 357 P **P 15 24 38.5 -0.5**
BTLS Baital 75.06 318⇑ *i*P **P 15 24 40.7 +0.4**
comp=Z,7.7nm,0.9s,baz=318
BTLS Baital 75.06 318*c i*P **P 15 24 40.6 +0.4**
BTLS pmax pmax
comp=Z,8.0nm,0.9s
VNDA Vanda 75.33 175 P **P 15 24 42.3 +1.1**
comp=Z,5.0nm,0.8s,baz=322,slow=6.5,SNR=40
VNDA LR LR 15 56 47.1
comp=Z,178nm,19.9s,baz=344,slow=35
VNDA Vanda 75.33 175 P **P 15 24 41.8 +0.6**
VNDA pmax pmax
comp=Z,6.0nm,0.8s
VNDA Vanda 75.33 175 P **P 15 24 41.8 +0.6**
KBL Kabul 75.68 307 P **P 15 24 43.1 -1.2**
KBL pmax pmax
comp=Z,12nm,1.0s
KBL Kabul 75.68 307 P **P 15 24 43.1 -1.2**
BTK Batken 75.76 313 P **P 15 24 44.3 -0.2**
BTK pmax pmax
comp=Z,12nm,1.0s
BTK Batken 75.76 313 P **P 15 24 44.3 -0.2**
GAR Garm 75.84 311 P **P 15 24 44.5 -0.5**
DZA Taraz 76.22 315 *eP* **P 15 24 47.2 +0.2**
comp=Z,6.9nm,0.9s,baz=315
DZA Taraz 76.22 315 *eP* **P 15 24 47.2 +0.2**
DZA pmax pmax
comp=Z,7.0nm,0.9s
CHGR Chuyangaron 76.62 311 P **P 15 24 49.6 +0.2**
KK31 Karatay Array 76.86 315 *i* P **P 15 24 50.8 +0.2**
KK31 Karatay Array 76.86 315 P **P 15 24 50.8 +0.2**
KKAR Karatay Array 76.86 315 P **P 15 24 50.5 -0.1**
KKAR pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 76.86 315 P **P 15 24 50.5 -0.1**
KKAR Karatay Array 76.86 315 P **P 15 24 50.6 0.0**
IUG luzhnay 76.92 314 *eP* **P 15 24 52.0 +0.9**
baz=314
IUG luzhnay 76.92 314 *eP* **P 15 24 52.0 +0.9**
OTUK Ortayu 77.26 321 P **P 15 24 52.8 +0.1**
BRZS Berezniki 77.64 323⇑ *i*P **P 15 24 55.0 +0.1**
comp=Z,10nm,0.7s,baz=322
BRZS Berezniki 77.64 323*c i*P **P 15 24 54.9 +0.1**
BRZS pmax pmax
comp=Z,10.0nm,0.7s
SII Sitkinak Islan 79.87 31 P **P 15 25 07.9 +1.0**
BRVK Borovoye 80.07 325*ce*P **P 15 25 08.4 +0.3**
BRVK pmax pmax
comp=Z,30nm,0.8s
BRVK Borovoye 80.07 325 P **P 15 25 08.1 0.0**
BRVK IAmb IAmb 15 25 09.4
comp=Z,30nm,0.9s
TAOE Nuku Hiva Isla 80.15 98 *e*LR LR 15 50 26.6
comp=Z,159nm,23.7s
NRIK Noril'sk 80.28 344 P **P 15 25 09.1 +0.3**
comp=Z,14nm,0.8s,baz=133,slow=5.1,SNR=26
NRIK LR LR 16 00 13.9
comp=Z,116nm,20.9s,baz=102,slow=35
OHAK Old Harbor 80.57 31 P **P 15 25 10.9 +0.3**
OHAK IAmb IAmb 15 25 25.8
comp=Z,25nm,0.8s
SVW2 Sparrevohn 80.95 26 P **P 15 25 13.7 +1.1**
KDAK Kodiak Island 81.13 30 P **P 15 25 13.9 +0.3**
KDAK pmax pmax
comp=Z,27nm,1.0s
KDAK Kodiak Island 81.13 30 P **P 15 25 13.9 +0.3**
KDAK IAmb IAmb 15 25 28.8
comp=Z,27nm,1.0s
RDOG Red Dog Mine 81.35 19 P **P 15 25 15.2 +0.5**
MAW Mawson 81.99 202 LR LR 15 59 37.4
comp=Z,140nm,18.6s,baz=50,slow=34
PMR Palmer 84.03 27 P **P 15 25 28.4 -0.2**
PMR pmax pmax
comp=Z,32nm,1.5s
PMR Palmer 84.03 27 P **P 15 25 28.4 -0.2**
PMR IAmb IAmb 15 25 43.4
comp=Z,32nm,1.5s
KNK Knik Glacier 84.28 27 P **P 15 25 29.7 -0.3**
KNK IAmb IAmb 15 25 44.8
comp=Z,14nm,0.8s
SML Sawmill 84.46 27 P **P 15 25 30.3 -0.5**
RND Reindeer 84.71 25 P **P 15 25 31.5 -0.7**
RND pmax pmax
comp=Z,16nm,0.8s
RND Reindeer 84.71 25 P **P 15 25 31.5 -0.7**
RND IAmb IAmb 15 25 34.8
comp=Z,16nm,0.8s
GEYT Alibeck 84.99 308 P **P 15 25 34.8 +0.7**
comp=Z,8.5nm,0.8s,baz=146,slow=2.9,SNR=15
GEYT pP **pP 15 25 45.9 -2.0**
comp=Z,5.7nm,0.8s,baz=54,slow=3.7,SNR=6.0
GEYT Alibeck 84.99 308 P **P 15 25 33.7 -0.3**
GYA0B ALIBECK ARRAY 84.99 308 P **P 15 25 33.7 -0.3**
GYA0B IAmb IAmb 15 25 36.2
comp=Z,15nm,0.9s
WRH Wood River Hil 85.35 25 P **P 15 25 34.6 -0.6**
WRH IAmb IAmb 15 25 49.8
comp=Z,16nm,1.1s
COLD Coldfoot 85.39 22 P **P 15 25 35.4 0.0**
ABKAR Akbulak array 85.44 320 P **P 15 25 35.2 -0.8**
CCB Clear Creek Bu 85.52 24 P **P 15 25 35.4 -0.7**
CCB IAmb IAmb 15 25 36.7
comp=Z,11nm,0.7s
HDA Harding Lake 85.81 25 P **P 15 25 36.4 -1.1**
IL31 85.93 24 P **P 15 25 36.7 -1.4**
IL31 IAmb IAmb 15 25 38.2
comp=Z,9.3nm,0.7s
ILAR Eielson Array 85.93 24 P **P 15 25 37.0 -1.2**
comp=Z,8.9nm,0.7s,baz=262,slow=4.6,SNR=112
ILAR pP **pP 15 25 50.0 -2.0**
comp=Z,5.8nm,0.9s,baz=263,slow=5.0,SNR=8.9
ILAR Eielson Array 85.93 24 P **P 15 25 36.7 -1.4**
SVE Sverdlovsk 86.42 327 *eP* **P 15 25 40.6 -0.1**
SVE pmax pmax
comp=Z,12nm,0.9s
GLB Gilahina Butte 86.45 28 P **P 15 25 40.9 +0.1**
GLB IAmb IAmb 15 25 55.6
comp=Z,9.3nm,0.9s
RIDG Independent Ri 86.52 26 P **P 15 25 40.7 -0.4**
RIDG IAmb IAmb 15 25 58.2
comp=Z,9.0nm,1.0s
DOT Dot Lake 86.84 26 P **P 15 25 42.5 -0.2**
SCRK Sand Creek 86.95 25 P **P 15 25 43.3 0.0**
BALM Baldy 87.05 29 P **P 15 25 44.3 +0.4**
BALM IAmb IAmb 15 25 45.6
comp=Z,9.3nm,0.8s
FYU Fort Yukon 87.07 23 P **P 15 25 44.5 +0.9**
ARU Arti 87.48 327*c i*P **P 15 25 44.1 -1.8**
ARU *PP **pP 15 25 57.8 -1.9**
ARU 15 29 10.8
ARU S **SKSac 15 36 07.3 -2.4**
ARU SS **SS 15 42 08.3 -1.0**
ARU pmax pmax
comp=Z,19nm,1.2s
ARU Arti 87.48 327 P **P 15 25 44.0 -1.8**
ARU IAmb IAmb 15 25 45.6
comp=Z,10nm,0.7s
BMAR Burnt Mountain 87.53 22 P **P 15 25 47.1 +1.2**
BCAR Beaver Creek A 87.72 27 P **P 15 25 47.1 +0.1**
EGAK Eagle 88.32 25 P **P 15 25 50.2 +0.6**
EGAK IAmb IAmb 15 26 05.5
comp=Z,18nm,1.2s
DAWY Dawson 88.95 26 P **P 15 25 53.5 +0.7**
DAWY IAmb IAmb 15 26 08.4
comp=Z,10nm,1.0s
HYT Haines Junctio 89.35 29 P **P 15 25 55.5 +0.7**
HYT IAmb IAmb 15 26 10.3
comp=Z,10nm,0.9s
SYO Syowa Base 90.61 201⇓ *e*P **P 15 26 00.4 +0.1**
SYO Syowa Base 90.61 201⇑ *e*PcP **PcP 15 26 02.0 +0.6**
ZEI Tsey 96.10 313 *eP* **P 15 26 24.6 -1.8**
KLMR Klimovskoe 97.50 331 *eP* P 15 26 21.2 -11
KLMR pmax pmax
comp=Z,11nm,1.4s
TMCR Tamitsa 97.72 334 *eP* **P 15 26 32.3 -0.6**
OBN Obninsk 99.85 325 *i* P **Pdif 15 26 40.7 -2.0**
OBN pmax pmax
comp=Z,7.0nm,1.2s
ARCES ARCESS Array B 101.09 341 P **Pdif 15 26 46.1 -1.9**
comp=Z,5.1nm,0.6s,baz=70,slow=7.6,SNR=20
NVAR Mina Array Bea 101.60 52 P **Pdif 15 26 51.6 +0.3**
comp=Z,0.2nm,0.5s,baz=284,slow=7.3,SNR=2.3
FINES FINESS Array B 103.70 333 Pdiff **Pdif 15 26 58.4 -1.3**
comp=Z,1.6nm,0.7s,baz=72,slow=4.5,SNR=4.9
AKASG Malin Array Be 105.07 322 Pdiff **Pdif 15 27 04.1 -1.9**
comp=Z,0.4nm,0.4s,baz=72,slow=3.0,SNR=1.9
TXAR Lajitas Array 114.96 59 PKKPbc PKKPbc 15 42 21.9 +5.1
comp=Z,0.8nm,0.8s,baz=126,slow=4.7,SNR=4.5
GERES GERESS Array B 115.14 324 PKP **PKiKP 15 31 39.4 -0.3**
comp=Z,0.7nm,0.5s,baz=61,slow=1.0,SNR=7.1
DAVOX Davos/Dischmat 118.38 323 PKP **PKPdf 15 31 45.9 -0.2**
comp=Z,2.2nm,0.6s,baz=354,slow=22,SNR=4.3
S39A Bolivar 120.88 47 PKPdf **PKPdf 15 31 50.0 -0.9**
PLCA Paso Flores 128.52 151 PKP **PKiKP 15 32 06.2 -0.1**
comp=Z,2.3nm,0.9s,baz=242,slow=5.1,SNR=5.1
ESDC Sonseca Array 130.71 323 PKP **PKiKP 15 32 11.8 +1.1**
comp=Z,0.4nm,0.5s,baz=43,slow=2.6,SNR=3.6
TOA0 Torodi Ar. Sit 136.98 286 PKPdf **PKPdf 15 32 20.6 -1.5**
TORD Torodi Ar. Bea 136.98 286 PKP **PKPdf 15 32 22.4 +0.3**
comp=Z,5.0nm,0.7s,baz=45,slow=2.1,SNR=17
TORD Torodi Ar. Bea 136.98 286 PKPdf **PKPdf 15 32 20.6 -1.5**
PB12 IPOC Station P 143.67 128 PKPdf PKPbc 15 32 32.5 +0.7
MNMC Minye Minye 143.96 129 **PKPdf 15 32 34.1 -0.9**
KIC Kosan Boka 144.07 277 *e*PKP1 PKPbc 15 32 33.5 +0.5
comp=Z,81nm,0.9s
DBIC Dimbokro 144.17 277 PKP PKPbc 15 32 33.8 +0.5
comp=Z,33nm,0.7s,baz=73,slow=3.8,SNR=42
TIC Toumodi 144.33 277 *e*PKP1 PKPbc 15 32 34.2 +0.3
LIC Lamto 144.37 276 *e*PKP1 PKPbc 15 32 34.3 +0.4
comp=Z,111nm,1.0s
ROSC El Rosal 146.37 86 PKPbc **PKPab 15 32 41.5 -0.1**
comp=Z,15nm,0.5s,baz=94,slow=6.3,SNR=5.9
CPUP Villa Florida 146.58 152 PKPbc **PKPbc 15 32 40.6 +0.2**
comp=Z,5.7nm,0.7s,baz=243,slow=3.8,SNR=13
LPAZ La Paz 146.69 126 PKPbc **PKPab 15 32 43.1 +0.1**
comp=Z,15nm,0.8s,baz=303,slow=1.3,SNR=52
LPAZ La Paz 146.69 126 PKPbc **PKPbc 15 32 41.1 -0.7**
RUSC La Rusia 147.56 84 **PKPbc 15 32 43.4 -0.8**
SJG San Juan 150.91 57 PKPbc **PKPbc 15 32 51.9 0.0**
comp=Z,16nm,0.5s,baz=58,slow=5.5,SNR=9.3
SJG San Juan 150.91 57 **PKPbc 15 32 50.4 -1.4**
PDPR Patillas Dam, 151.06 57 **PKPbc 15 32 51.2 -1.0**
MTP Monte Pirata 151.42 57 **PKPbc 15 32 52.6 -0.5**
PTGA Pitinga 160.32 101 PKPab **PKPab 15 33 40.1 +0.4**

IDC ***23*** *15:21:16.7±0.9, 30.89N×41.42W, h0km, mb4.1/22, mb1 4.3/22, mb1mx4.1/54, mbtmp4.1/22, MS3.6/15, Ms1 3.7/15, ms1mx3.4/36, Error ellipse: s-maj=26.7km s-min=13.9km az=178.0*

NEIC ***23*** *15:21:18.3±1.1, 30.97N±0.09×41.4W±0.1, h10km±1km, mb4.7/82, Error ellipse: s-maj=16.9km s-min=14.1km az=220.0*

ISC 23 15:21:19.0±0.6, 31.0N±0.1×41.39W±0.07, h13km, n161, σ0s85/144, mb4.5/71, MS3.6/15, 5C-5D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSA	**Rosais**	**13.26**	**51**	Pn	**Pn**	**15 24 25.0**	**-2.0**
GBN	**Guysborough**	**21.31**	**318**	P	**P**	**15 26 05.6**	**+0.2**
GBN				IAmb	IAmb	15 26 32.5	
	comp=Z,44nm,1.8s						
DRLN	**Deer Lake**	**21.94**	**331**	P	**P**	**15 26 12.6**	**+0.5**
DRLN				IAmb	IAmb	15 26 42.8	
	comp=Z,35nm,1.3s						
ABD	**La Joyeuse, An**	**23.33**	**236**	P	**P**	**15 26 26.5**	**-0.5**
LMN	**Caledonia Moun**	**23.48**	**316**	P	**P**	**15 26 27.4**	**-1.0**
GGN	**Saint George**	**24.39**	**313**	P	**P**	**15 26 36.0**	**-0.9**
EMMW	**East Machias**	**24.60**	**311**	P	**P**	**15 26 40.6**	**+1.8**
G65A	**Princeton**	**24.88**	**312**	P	**P**	**15 26 41.2**	**-0.1**
SVB	**Belmont**	**25.40**	**230**	P	**P**	**15 26 46.1**	**-0.2**
F64A	**Sherman**	**25.66**	**313**	P	**P**	**15 26 48.1**	**-0.3**
F64A				IAmb	IAmb	15 26 51.0	
	comp=Z,24nm,1.6s						
SJG	**San Juan**	**25.84**	**246**	LR	LR	15 34 40.2	
	comp=Z,38nm,19.6s,baz=88,slow=31						
E63A	**Oxbow**	**25.96**	**314**	P	**P**	**15 26 50.9**	**-0.2**
E63A				IAmb	IAmb	15 26 55.1	
	comp=Z,45nm,1.9s						
PKME	**Peaks-Kenny Pk**	**26.02**	**311**	P	**P**	**15 26 51.8**	**+0.2**
PKME				IAmb	IAmb	15 27 44.4	
	comp=Z,23nm,1.8s						
F63A	**Nahmakanta, Br**	**26.07**	**312**	P	**P**	**15 26 53.9**	**+1.7**
AOPR	**Arecibo Observ**	**26.19**	**247**	P	**P**	**15 26 54.8**	**+1.4**
I63A	**Otisfield**	**26.42**	**308**	P	**P**	**15 26 54.6**	**-0.7**
MDP	**Montagnes des**	**27.84**	**205**	LR	LR	15 35 16.2	
	comp=Z,85nm,20.6s,baz=142,slow=30						
PVAQ	**Vaqueiros**	**28.48**	**68**	*e*LR	LR	15 34 19.0	
	comp=Z,212nm,20.0s						
MTE	**Manteigas**	**28.90**	**62**	*e*LR	LR	15 34 31.2	
	comp=Z,88nm,20.0s						
SCHQ	**Schefferville**	**29.95**	**330**	LR	LR	15 39 02.9	
	comp=Z,186nm,18.3s,baz=125,slow=36						
PECO	**Prince Edward**	**30.84**	**305**	P	**P**	**15 27 35.4**	**+0.8**
PECO				IAmb	IAmb	15 27 36.9	
	comp=Z,15nm,1.5s						
ESDC	**Sonseca Array**	**31.56**	**64**	P	**P**	**15 27 41.6**	**+0.5**
	comp=Z,1.4nm,1.1s,baz=259,slow=9.0,SNR=7.7						
ESDC				LR	LR	15 37 04.8	
	comp=Z,100nm,21.7s,baz=190,slow=30						
ESDC	**Sonseca Array**	**31.56**	**64**	P	**P**	**15 27 40.7**	**-0.4**
DSB	**Dublin**	**33.68**	**38**	P	**P**	**15 27 58.7**	**-0.8**
DSB				IAmb	IAmb	15 28 05.9	
	comp=Z,24nm,1.4s						
TZTN	**Tazewell**	**35.28**	**291**	P	**P**	**15 28 11.9**	**-1.6**
TKL	**Tuckaleechee C**	**35.52**	**289**	P	**P**	**15 28 15.6**	**-0.1**
	comp=Z,3.2nm,0.9s,baz=163,slow=14,SNR=4.1						
TKL	**Tuckaleechee C**	**35.52**	**289**	IAmb	IAmb	15 28 18.5	
	comp=Z,6.4nm,0.9s						
ESK	**Eskdalemuir**	**36.27**	**37**		**P**	**15 28 21.6**	**-0.3**
T50A	**Nancy**	**36.28**	**292**	P	**P**	**15 28 22.1**	**0.0**

T50A IAmb IAmb 15 28 36.4
comp=Z,12nm,1.4s
CLF Chambon-Foret 37.17 50 P **P 15 28 30.2 +0.6**
CLF IAmb IAmb 15 28 31.8
comp=Z,25nm,1.1s
CLTN Cedars of Leba 37.55 290 P **P 15 28 32.7 -0.3**
CLTN IAmb IAmb 15 28 34.6
comp=Z,19nm,1.6s
PLAL Pickwick Lake 39.09 289 **P 15 28 46.1 +0.2**
ROSC El Rosal 40.43 237 LR LR 15 43 31.1
comp=Z,88nm,21.7s,baz=96,slow=33
BFO Black Forest 41.23 51 P **P 15 29 03.7 +0.1**
BFO IAmb IAmb 15 29 05.2
comp=Z,12nm,1.2s
CCM Cathedral Cave 41.27 294 P **P 15 29 04.1 +0.1**
LCAR Lake Charles 41.44 291 P **P 15 29 06.0 +0.6**
SUMG Summit 41.68 1 P **P 15 29 07.5 +0.1**
TUE Stuetta 41.77 53 P **P 15 29 08.7 +0.5**
DBIC Dimbokro 41.88 118 LR LR 15 44 05.4
comp=Z,129nm,20.0s,baz=292,slow=33
DAVA Damuels 42.18 52 *i* pP **P 15 29 12.9 +1.4**
comp=Z,9.9nm,1.1s
KEST Kesra 42.26 69 P **P 15 29 12.1 -0.2**
comp=Z,6.8nm,1.1s,baz=37,slow=10,SNR=2.5
KEST Kesra 42.26 69 IAmb IAmb 15 29 22.2
comp=Z,13nm,1.2s
TAM Tamanrasset 42.38 89 P **P 15 29 14.1 +0.7**
FETA Feichten 42.74 53 *e*pP **P 15 29 17.4 +1.3**
comp=Z,7.8nm,1.5s
RETA Reutte 42.79 52 *e*pP **P 15 29 17.3 +0.9**
comp=Z,5.7nm,1.0s
MOTA Moosalm 43.02 52 *e*pP **P 15 29 19.4 +1.1**
comp=Z,16nm,2.1s
SQTA Sankt Quirin 43.08 52 *e*pP **P 15 29 20.0 +1.2**
comp=Z,14nm,1.7s
GRA1 Grafenberg Arr 43.26 49 P **P 15 29 20.5 +0.4**
GRA1 IAmb IAmb 15 29 21.7
comp=Z,24nm,1.4s
WATA Walderalm 43.34 52 *e*pP **P 15 29 21.9 +1.0**
comp=Z,8.8nm,1.0s
CTI Castel Tesino 43.34 54 P **P 15 29 21.1 +0.2**
CTI IAmb IAmb 15 29 22.2
comp=Z,36nm,2.0s
WTTA Wattenberg 43.37 52 *e*pP **P 15 29 22.3 +1.0**
comp=Z,11nm,1.1s
TOA0 Torodi Ar. Sit 43.38 104 P **P 15 29 21.1 -0.3**
TOA0 IAmb IAmb 15 29 29.1
comp=Z,11nm,1.1s
TORD Torodi Ar. Bea 43.38 104 P **P 15 29 20.8 -0.6**
comp=Z,5.2nm,1.0s,baz=298,slow=6.6,SNR=16
TORD LR LR 15 46 22.9
comp=Z,53nm,19.0s,baz=95,slow=35
TORD Torodi Ar. Bea 43.38 104 P **P 15 29 20.8 -0.6**
ABTA Abfaltersbach 43.96 53 *e*pP **P 15 29 26.5 +0.7**
comp=Z,15nm,1.4s
ULM Lac du Bonnet 44.52 312 LR LR 15 46 40.8
comp=Z,54nm,19.8s,baz=57,slow=34
KBA Koelnbreinsper 44.53 53 *e*pP **P 15 29 31.1 +0.6**
comp=Z,2.2nm,0.5s
CLL Collm 44.55 47 ⇓ *i*P **P 15 29 30.8 +0.4**
comp=Z,10.0nm,1.1s
CLL *i* 15 29 37.6
CLL Collm 44.55 47 P **P 15 29 30.5 +0.1**
CLL IAmb IAmb 15 29 31.9
comp=Z,10nm,1.1s
PRED Cave del Predi 44.68 54 P **P 15 29 30.9 -0.7**
KHC Kasperske Hory 44.76 50 *e*P **P 15 29 32.8 +0.7**
KHC Kasperske Hory 44.76 50 **P 15 29 31.2 -0.9**
GEC2 GERESS Array S 44.83 50 P **P 15 29 32.6 -0.2**
GEC2 IAmb IAmb 15 29 34.1
comp=Z,14nm,1.6s
GERES GERESS Array B 44.83 50 P **P 15 29 32.4 -0.4**
comp=Z,1.2nm,0.6s,baz=265,slow=6.7,SNR=14
BRG Berggiesshubel 45.10 47 *e*P **P 15 29 35.5 +0.7**
comp=Z,7.5nm,1.2s
MOA Molln 45.17 52 *e*P **P 15 29 35.7 +0.3**
comp=Z,7.6nm,1.2s
OBKA Obir 45.36 54 *e*pP **P 15 29 37.5 +0.5**
comp=Z,12nm,0.8s
PRU Pruhonice 45.43 49 *e*P **P 15 29 38.8 +1.4**
NOA NORSAR Array B 45.47 33 P **P 15 29 38.3 +0.7**
comp=Z,2.6nm,1.0s,baz=255,slow=8.4,SNR=6.5
NOA LR LR 15 44 03.5
comp=Z,15nm,21.7s,baz=220,slow=30
SOKA Soboth 45.69 53 *i* P **P 15 29 39.4 -0.3**
comp=Z,7.2nm,1.5s
ARSA Arzberg 46.02 52 *e*P **P 15 29 42.0 -0.2**
comp=Z,16nm,1.8s
CONA Conrad Observa 46.25 52 *e*P **P 15 29 44.3 +0.3**
comp=Z,2.6nm,0.8s
UPC Upice 46.40 48 *e*P **P 15 29 45.7 +0.7**
H10N2 ASCENSION HYDR 46.41 142 T T 16 19 00.3
baz=327,slow=75,SNR=177
H10N3 ASCENSION HYDR 46.41 142 T T 16 19 00.6
baz=327,slow=75,SNR=191
H10N1 ASCENSION HYDR 46.42 142 T T 16 19 01.5
baz=327,slow=75,SNR=197
CHVC Chvalec 46.43 48 *e*P **P 15 29 46.3 +1.0**
OSTC Ostas 46.53 48 *e*P **P 15 29 46.2 +0.1**
MODS Modra-Piesok 47.19 51 *e*P **P 15 29 51.0 -0.3**
H10S3 ASCENSION HYDR 47.26 143 T T 16 20 03.9
baz=327,slow=74,SNR=116
H10S2 ASCENSION HYDR 47.27 143 T T 16 20 05.0
baz=253,slow=74,SNR=57
WHTX Lake Whitney, 47.36 287 P **P 15 29 52.8 0.0**
TIP Timpagrande 47.58 63 P **P 15 29 52.0 -2.5**
VYHS Vyhne 48.23 51 *e*P **P 15 29 59.2 -0.1**
OJC Ojcow 48.82 48 P **P 15 30 03.7 -0.2**
OJC IAmb IAmb 15 30 05.6
comp=Z,6.8nm,1.1s
DIVS Divibare 49.34 56 P **P 15 30 07.9 -0.1**
DIVS IAmb IAmb 15 30 09.4
comp=Z,9.1nm,1.1s
BZS Buzias 50.32 54 ⇑P **P 15 30 16.8 +1.4**
KWP Kalwaria Pacla 50.72 49 P **P 15 30 17.7 -0.7**
KWP IAmb IAmb 15 30 20.7
comp=Z,21nm,1.3s
DRGR 50.95 53 ⇑P **P 15 30 20.7 +0.5**
VTS Vitosha 51.88 58 ⇓P **P 15 30 28.8 +1.4**
VTS Vitosha 51.88 58 P **P 15 30 27.8 +0.5**
BUR08 Bucovina Ar. S 52.55 51 P **P 15 30 32.2 +0.1**
BUR08 IAmb IAmb 15 30 34.3
comp=Z,8.9nm,1.2s
BURAR Bucovina Array 52.56 51 ⇓P **P 15 30 33.7 +1.4**
BURAR Bucovina Array 52.56 51 P **P 15 30 32.5 +0.3**
FINES FINESS Array B 52.60 34 P **P 15 30 32.4 +0.2**
comp=Z,3.4nm,0.8s,baz=252,slow=5.4,SNR=8.5
FIA1 FINESS Array S 52.60 34 P **P 15 30 32.3 +0.1**
FIA1 IAmb IAmb 15 31 45.0
comp=Z,13nm,1.1s
VOIR 52.74 54 ⇓P **P 15 30 33.0 -0.6**
DOPR Dopca 52.90 53 ⇑P **P 15 30 35.0 +0.4**
RWWY Rawlins 52.92 301 P **P 15 30 34.4 -0.9**
RWWY IAmb IAmb 15 31 11.9
comp=Z,6.4nm,0.8s
TXAR Lajitas Array 53.24 285 P **P 15 30 36.6 -0.9**
comp=Z,0.5nm,0.5s,baz=72,slow=8.6,SNR=2.3
TXAR Lajitas Array 53.24 285 P **P 15 30 37.5 0.0**
BIZ Bicaz 53.25 52 ⇑P **P 15 30 39.3 +2.1**
ARCES ARCESS Array B 53.27 24 P **P 15 30 35.8 -1.3**
MLR Muntele Rosu 53.35 54 ⇑P **P 15 30 34.1 -4.1**
MLR Muntele Rosu 53.35 54 P **P 15 30 38.2 +0.1**
LPAZ La Paz 53.57 212 P **P 15 30 40.1 -0.4**
comp=Z,1.2nm,0.8s,baz=12,slow=4.7,SNR=3.3
LPAZ LR LR 15 52 13.7
comp=Z,64nm,18.9s,baz=24,slow=35
RLMT Red Lodge 53.79 306 P **P 15 30 41.0 -0.5**
RLMT IAmb IAmb 15 31 54.1
comp=Z,15nm,1.8s
VRI Vrincioaia 53.84 53 ⇓P **P 15 30 42.2 +0.6**
PD31 Pinedale Array 54.43 303 P **P 15 30 44.9 -1.4**
PD31 IAmb IAmb 15 30 52.2
comp=Z,21nm,1.9s
PDAR Pinedale Array 54.43 303 P **P 15 30 45.2 -0.9**
comp=Z,1.6nm,0.7s,baz=90,slow=10,SNR=13
PDAR LR LR 15 53 03.5
comp=Z,176nm,18.7s,baz=54,slow=35
PDAR Pinedale Array 54.43 303 P **P 15 30 45.0 -1.2**
IDI Anoyia 54.74 67 LR LR 15 52 51.0
comp=Z,17nm,19.5s,baz=84,slow=35
AKASG Malin Array Be 54.79 47 P **P 15 30 47.8 -0.6**
comp=Z,5.6nm,1.0s,baz=275,slow=6.3,SNR=14
AKASG Malin Array Be 54.79 47 P **P 15 30 47.8 -0.6**
AKBB Malin Array Si 54.79 47 P **P 15 30 47.8 -0.6**
AKBB IAmb IAmb 15 30 49.1
comp=Z,14nm,1.4s
RDMU Red Mountain 54.90 300 P **P 15 30 48.9 -0.7**
IMW Indian Meadow 55.19 304 P **P 15 30 51.3 -0.5**
IMW IAmb IAmb 15 30 59.5
comp=Z,27nm,2.0s
REDW Red Top Meadow 55.24 304 P **P 15 30 52.0 -0.1**
REDW IAmb IAmb 15 31 00.1
comp=Z,18nm,1.8s
TPAW Teton Pass 55.28 304 P **P 15 30 52.7 +0.3**
YKA Yellowknife Ar 55.33 327 P **P 15 30 53.1 +1.0**
comp=Z,0.9nm,0.8s,baz=85,slow=7.1,SNR=4.9
SRU San Rafael Swe 55.96 299 P **P 15 30 57.0 -0.3**
HWUT Hardware Ranch 56.13 302 P **P 15 30 58.0 -0.5**
HWUT IAmb IAmb 15 31 14.1
comp=Z,5.0nm,1.0s
JLU Jordanelle 56.28 301 P **P 15 30 58.7 -0.9**
MSU Marysvale 57.36 298 P **P 15 31 06.9 -0.4**
NEW Newport 58.50 311 P **P 15 31 14.7 -0.2**
OBN Obninsk 58.52 41 P **P 15 31 14.7 -0.1**
comp=Z,3.4nm,0.3s,baz=195,slow=20,SNR=5.2
CCUT Cedar City 58.53 299 P **P 15 31 14.3 -1.2**
PSUT Pine Spring 58.62 299 P **P 15 31 15.5 -0.6**
MFID Camas Ranch 58.76 305 P **P 15 31 16.0 -0.8**
KLMR Klimovskoe 59.13 34 *e*P **P 15 31 17.5 -1.5**
KLMR AMP 15 31 27.0
comp=Z,10.0nm,1.3s
BR131 Keskin Array S 60.19 59 P **P 15 31 27.4 +0.5**
BR131 IAmb IAmb 15 31 28.2
comp=Z,5.1nm,0.9s
BRTR Keskin Array B 60.19 59 P **P 15 31 27.4 +0.6**
comp=Z,2.9nm,0.8s,baz=287,slow=5.0,SNR=12
BRTR Keskin Array B 60.19 59 P **P 15 31 26.7 -0.1**
J08A Circle Bar Ran 60.63 305 P **P 15 31 29.1 -0.7**
J08A IAmb IAmb 15 31 41.7
comp=Z,7.9nm,1.2s
LLLB Lillooet 60.98 314 P **P 15 31 31.9 0.0**
LLLB IAmb IAmb 15 31 33.9
comp=Z,3.5nm,0.8s
KVN Kaiserville 61.63 301 P **P 15 31 35.9 -0.8**
KVN IAmb IAmb 15 31 38.2
comp=Z,17nm,2.0s
NVAR Mina Array Bea 61.98 300 P **P 15 31 38.9 -0.2**
comp=Z,0.8nm,0.6s,baz=80,slow=7.8,SNR=6.3
NVAR LR LR 15 58 00.8
comp=Z,191nm,19.1s,baz=54,slow=36
NVAR Mina Array Bea 61.98 300 P **P 15 31 38.4 -0.7**
RYN Ryan 62.08 300 P **P 15 31 39.4 -0.3**
RYN IAmb IAmb 15 31 50.3
comp=Z,5.5nm,1.3s
MOD Modoc Plateau 62.35 304 P **P 15 31 41.1 -0.3**
MOD IAmb IAmb 15 31 53.4
comp=Z,13nm,1.6s
INK Inuvik 62.38 335 P **P 15 31 41.3 +0.3**
comp=Z,4.7nm,1.0s,baz=63,slow=8.9,SNR=5.9
INK Inuvik 62.38 335 P **P 15 31 41.2 +0.3**
INK IAmb IAmb 15 31 47.8
comp=Z,6.4nm,1.0s
KBZ Khabaz 65.49 52 P **P 15 32 03.5 +1.6**
comp=Z,4.5nm,0.9s,baz=263,slow=11,SNR=6.1
ISLE Juniper Island 68.59 329 P **P 15 32 21.8 +0.3**
IL31 68.63 334 P **P 15 32 21.6 +0.2**
IL31 IAmb IAmb 15 32 29.5
comp=Z,7.5nm,1.1s
ILAR Eielson Array 68.63 334 P **P 15 32 22.2 +0.7**
comp=Z,2.1nm,0.9s,baz=58,slow=5.0,SNR=14
ILAR LR LR 16 02 32.5
comp=Z,104nm,19.2s,baz=255,slow=36
ILAR Eielson Array 68.63 334 P **P 15 32 21.2 -0.3**
HDA Harding Lake 68.82 333 P **P 15 32 23.3 +0.6**
HDA IAmb IAmb 15 32 30.9
comp=Z,8.7nm,1.1s
CCB Clear Creek Bu 69.03 334 P **P 15 32 23.8 -0.1**
WRH Wood River Hil 69.22 334 P **P 15 32 25.6 +0.4**
ARU Arti 69.91 36 P **P 15 32 30.1 +0.5**
comp=Z,0.4nm,0.3s,baz=282,slow=8.1,SNR=3.9
HIN Hinchinbrook I 70.52 330 P **P 15 32 33.0 -0.3**
GLI Glacier Island 70.55 330 P **P 15 32 32.1 -1.3**
TRF Thorofare Moun 70.57 333 P **P 15 32 33.2 -0.5**
AKTO Aktyubinsk 72.30 41 P **P 15 32 44.3 +0.2**
comp=Z,2.6nm,0.9s,baz=308,slow=8.7,SNR=7.1
NRIK Noril'sk 73.30 17 P **P 15 32 51.0 +1.2**
comp=Z,0.7nm,0.4s,baz=302,slow=2.0,SNR=3.8
BILL Bilibino 79.14 350 P **P 15 33 22.7 -0.2**
KMBO Kilima Mbogo 80.84 97 LR LR 16 08 26.4
comp=Z,125nm,20.2s,baz=90,slow=35
KURK Kurchatov 82.97 34 P **P 15 33 43.1 -0.6**
KURBB Kurchatov Arra 82.99 34 P **P 15 33 44.6 +0.8**
comp=Z,2.6nm,1.0s,baz=310,slow=6.1,SNR=11
WMQ Urumqi 92.21 34 *e*P **P 15 34 29.3 +0.7**
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,81nm,4.3s

IDC ***23*** *15:30:02.8± 1.1, 40.˚85N× 71.˚73E, h0km, mb3.8/10, mb1 3.8/17, mb1mx3.7/57, mbtmp3.7/17, ML3.2/7, Error ellipse: s-maj=22.9km s-min=10.7km az=156.0*
BJI ***23*** *15:30:03.7± 0.0, 41.˚02N× 71.˚08E, h30km, mB4.4/3, mb4.3/6, ML4.0/2, Ms4.1/2, Ms7 3.8/2*
ISU ***23*** *15:30:03.0, 40.˚10N× 72.˚80E, h5km*
SOME ***23*** *15:30:06.6, 41.˚08N× 71.˚73E, h5km*
KRNET ***23*** *15:30:06.8± 0.1, 40.˚95N× 71.˚77E, h30km, mb4.0*
MOS ***23*** *15:30:08.0± 1.8, 40.˚98N× 71.˚65E, h40km, mb4.1/3, Error ellipse: s-maj=8.6km s-min=5.5km az=82.5*
NEIC ***23*** *15:30:09.2± 2.6, 41.˚02N± 0.˚05× 71.˚64E± 0.˚05, h34km± 5km, mb4.6/6, Error ellipse: s-maj=7.8km s-min=4.5km az=145.0*
NNC ***23*** *15:30:09.1± 0.8, 41.˚22N× 71.˚76E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=8.3km s-min=3.2km az=5.0*
ISC 23 15:30:06.1± 1.0, 41.˚08N± 0.˚02× 71.˚70E± 0.˚02, h6km± 7km, n162, σ2s19/212, mb4.1/13, 37C-18D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRG	**Fergana**	**0.35**	**169**	*i* P	**Pn**	**15 30 19.0**	**+1.3**
FRG				*i* S	Sb	15 30 31.0	+10
ANR	**Andizhan**	**0.60**	**123**	*i* P	**Pg**	**15 30 18.0**	**+0.4**
ANR				*i* S	**Sb**	**15 30 27.2**	**-0.4**
CHMI	**Chimion**	**0.82**	**189**	*i* P	**Pg**	**15 30 21.4**	**-0.4**
CHMI				*i* S	**Sn**	**15 30 41.4**	**+4.8**
OHH	**Osh**	**1.00**	**124**	⇑ *i*P	**Pg**	**15 30 23.7**	**-1.5**
baz=18							
OHH				⇑ *i*S	**Sg**	**15 30 35.3**	**-2.8**
baz=18							
ARSB	**Arslanbob**	**1.00**	**75**	⇑ *i*P	**Pg**	**15 30 25.3**	**0.0**
baz=67							
ARSB				⇑ *i*S	**Sb**	**15 30 38.7**	**-0.6**
baz=67							
ARSB	**Arslanbob**	**1.00**	**75**	*i* P	**Pg**	**15 30 24.6**	**-0.7**
ARSB				*i* S	**Sn**	**15 30 43.0**	**+1.8**
BTK	**Batken**	**1.22**	**214**	⇑ *i*P	**Pg**	**15 30 27.8**	**-1.7**
baz=20							
BTK				⇑ *i*S	**Sg**	**15 30 43.5**	**-1.8**
baz=20							
BTK	**Batken**	**1.22**	**214**	P	**Pg**	**15 30 28.7**	**-0.8**
BTK	**Batken**	**1.22**	**214**		**Pg**	**15 30 28.7**	**-0.8**
IUG	**luzhnay**	**1.64**	**311**	*e*P	**Pb**	**15 30 37.8**	**+1.0**
161nm,0.2s							
IUG				*e*S	**Sg**	**15 31 00.1**	**+1.2**
8µm,0.3s							
IUG	**luzhnay**	**1.64**	**311**	*e*PN	**Pb**	**15 30 37.8**	**+1.0**
IUG				*e*S	**Sg**	**15 31 00.1**	**+1.2**
AML	**Almayashu**	**1.83**	**54**	⇑ *e*P	**Pn**	**15 30 39.3**	**+0.9**
baz=50							
AML				⇑ *i*S	**Sb**	**15 31 03.5**	**+0.1**
baz=50							
AML	**Almayashu**	**1.83**	**54**	P	**Pb**	**15 30 39.9**	**-0.2**
SNR=100							
TAS	**Tashkent**	**1.83**	**278**	⇑ *i*P	**Pn**	**15 30 39.4**	**+1.4**
baz=82							
TAS				⇑ *i*S	**Sn**	**15 31 03.5**	**+2.0**
baz=82							
TAS	**Tashkent**	**1.83**	**278**	PN	**Pn**	**15 30 37.7**	**-0.3**
TAS	**Tashkent**	**1.83**	**278**		**Pn**	**15 30 37.7**	**-0.3**
DZA	**Taraz**	**1.83**	**352**	*e*P	**Pb**	**15 30 40.9**	**+1.0**
738nm,0.3s							
DZA				*e*S	**Sg**	**15 31 05.2**	**+0.3**
3µm,0.3s							
DZA	**Taraz**	**1.83**	**352**	*e*PN	**Pb**	**15 30 40.9**	**+1.0**
DZA				*e*S	**Sg**	**15 31 05.2**	**+0.3**
MRKS	**Merke**	**2.02**	**34**	*e*P	**Pb**	**15 30 44.1**	**+1.0**
187nm,0.3s							
MRKS				*e*S	**Sg**	**15 31 11.1**	**+0.2**
482nm,0.4s							
MRKS	**Merke**	**2.02**	**34**	*e*PN	**Pb**	**15 30 44.2**	**+1.0**
MRKS				*e*S	**Sg**	**15 31 11.1**	**+0.2**
KK31	**Karatay Array**	**2.21**	**337**	⇑Pn	**Pb**	**15 30 46.0**	**-0.4**
118nm,0.3s,baz=139,slow=13,SNR=2315							
KK31				⇑Lg	Lg	15 31 15.2	
142nm,0.3s,baz=155,slow=25,SNR=16							
KK31	**Karatay Array**	**2.21**	**337**	PN	**Pb**	**15 30 45.7**	**-0.6**
KK31	**Karatay Array**	**2.21**	**337**		**Pb**	**15 30 45.7**	**-0.6**
KKAR	**Karatay Array**	**2.21**	**337**		**Pb**	**15 30 45.8**	**-0.5**
KKAR	**Karatay Array**	**2.21**	**337**	PN	**Pb**	**15 30 45.8**	**-0.5**
EKS2	**Erkin-Say**	**2.22**	**44**	⇑ *i*P	**Pb**	**15 30 45.4**	**-1.2**
baz=41							
EKS2				⇑ *e*S	**Sn**	**15 31 12.8**	**+1.6**
baz=41							
EKS2	**Erkin-Say**	**2.22**	**44**	P	**Pb**	**15 30 45.6**	**-1.0**
SNR=34							
GAR	**Garm**	**2.33**	**207**	Pn	**Pn**	**15 30 46.1**	**+1.1**
BRLS	**Boroldav**	**2.39**	**325**	*e*P	**Pb**	**15 30 48.7**	**-0.8**
94nm,0.3s							
BRLS				*e*S	**Sn**	**15 31 18.3**	**+3.0**
1µm,0.3s							
BRLS	**Boroldav**	**2.39**	**325**	*e*PN	**Pb**	**15 30 48.7**	**-0.8**
BRLS				*e*S	**Sn**	**15 31 18.3**	**+3.0**
UCH	**Uchtor**	**2.40**	**61**	⇑ *i*P	**Pn**	**15 30 47.6**	**+1.3**
baz=57							
UCH				⇑ *i*S	**Sn**	**15 31 17.0**	**+0.8**
baz=57							
UCH	**Uchtor**	**2.40**	**61**	P	**Pn**	**15 30 47.6**	**+1.3**
SNR=29							
AAK	**Ala-Archa**	**2.60**	**52**	Pn	**Pn**	**15 30 51.2**	**+2.5**
4.8nm,0.3s,baz=201,slow=5.9,SNR=24							
AAK				Lg	Lg	15 31 28.5	
22nm,0.3s,baz=80,slow=9.7,SNR=20							
AAK	**Ala-Archa**	**2.60**	**52**	⇑ *e*P	**Pn**	**15 30 50.2**	**+1.4**
baz=49							
AAK				⇑ *i*S	**Sn**	**15 31 21.2**	**+0.4**
baz=49							
AAK	**Ala-Archa**	**2.60**	**52**	P	**Pn**	**15 30 51.3**	**+2.5**
SNR=24							
AAK	**Ala-Archa**	**2.60**	**52**	⇓Pg	**Pb**	**15 30 53.2**	**0.0**
20nm,0.5s							
AAK				Lg	Lg	15 31 28.2	
239nm,1.3s							
AAK	**Ala-Archa**	**2.60**	**52**	PN	**Pb**	**15 30 53.2**	**0.0**
AAK	**Ala-Archa**	**2.60**	**52**	Pn	**Pn**	**15 30 51.0**	**+2.2**
FRU1	**Bishkek**	**2.79**	**51**	⇓ *i*P	**Pn**	**15 30 52.9**	**+1.7**
baz=48							
FRU1				⇓ *i*S	**Sn**	**15 31 26.1**	**+0.9**
baz=48							
FRU1	**Bishkek**	**2.79**	**51**	PN	**Pn**	**15 30 54.0**	**+2.8**
FRU1	**Bishkek**	**2.79**	**51**	Pn	**Pn**	**15 30 54.0**	**+2.8**
KZA	**Kyzart**	**2.84**	**68**	⇓ *i*P	**Pn**	**15 30 53.0**	**+0.7**
baz=65							
KZA				⇓ *i*S	**Sn**	**15 31 26.7**	**-0.4**
baz=65							
KZA	**Kyzart**	**2.84**	**68**	P	**Pn**	**15 30 54.4**	**+2.0**
SNR=14							
KBK	**Karagaybulak**	**2.89**	**56**	⇑ *i*P	**Pn**	**15 30 54.1**	**+1.3**
baz=53							
KBK				⇑ *i*S	**Sn**	**15 31 28.5**	**+0.5**
baz=53							
KBK	**Karagaybulak**	**2.89**	**56**	P	**Pb**	**15 30 59.5**	**+1.3**
SNR=11							
CHMS	**Chumysh**	**2.98**	**49**	⇑ *i*P	**Pn**	**15 30 55.6**	**+1.8**
baz=46							
CHMS				⇑ *i*S	**Sn**	**15 31 31.1**	**+1.3**
baz=46							
CHMS	**Chumysh**	**2.98**	**49**	P	**Pn**	**15 30 55.9**	**+2.1**
SNR=11							
USP	**Ospenovka**	**3.02**	**43**	⇓ *i*P	**Pn**	**15 30 56.1**	**+1.7**
baz=40							
USP				⇓ *i*S	**Sn**	**15 31 32.3**	**+1.4**
baz=40							
USP	**Ospenovka**	**3.02**	**43**	P	**Pn**	**15 30 56.1**	**+1.7**
SNR=10							
TKM2	**Tokmak 2**	**3.44**	**56**	⇑ *i*P	**Pn**	**15 31 02.0**	**+1.7**
baz=54							
TKM2				⇑ *i*S	**Sn**	**15 31 42.3**	**+0.8**
baz=54							
TKM2	**Tokmak 2**	**3.44**	**56**	P	**Pb**	**15 31 08.6**	**+1.1**
SNR=9.1							
TKM2	**Tokmak 2**	**3.44**	**56**	⇓Pg	**Pb**	**15 31 08.1**	**+0.7**
16nm,0.6s							
TKM2				⇓Lg	Lg	15 31 56.4	
82nm,0.7s							
TKM2	**Tokmak 2**	**3.44**	**56**	Pn	**Pb**	**15 31 07.0**	**-0.5**
BOOM	**Boomskoye usch**	**3.47**	**65**	⇑ *i*P	**Pn**	**15 31 02.0**	**+1.3**
baz=62							
BOOM				⇑ *e*S	**Sn**	**15 31 42.3**	**+0.1**
baz=62							
BOOM	**Boomskoye usch**	**3.47**	**65**	PN	**Pn**	**15 31 02.8**	**+2.1**
BOOM	**Boomskoye usch**	**3.47**	**65**	Pn	**Pn**	**15 31 02.8**	**+2.1**
ULHL	**Ulahol**	**3.60**	**70**	*i* P	**Pn**	**15 31 03.7**	**+1.2**
baz=67							
ULHL				*i* S	**Sn**	**15 31 44.7**	**-0.7**
baz=67							
KSH	**Kashi**	**3.62**	**114**	Pn	**Pn**	**15 31 02.6**	**-0.2**
KSH				Sn	**Sn**	**15 31 45.4**	**-0.5**
KSH				smax	smax		
comp=N,280nm,0.7s							
KSH				smax	smax		
comp=E,430nm,1.2s							
DGS	**Degeres**	**3.72**	**53**	*e*P	**Pg**	**15 31 15.3**	**-2.0**
22nm,0.4s							
DGS				*e*S	**Sg**	**15 32 04.3**	**-1.2**
129nm,0.6s							
DGS	**Degeres**	**3.72**	**53**	Pg	**Pg**	**15 31 15.3**	**-2.0**
22nm,0.4s							
DGS				Lg	Lg	15 32 04.3	
129nm,0.6s							
KST	**Kastek**	**3.73**	**57**	*e*P	**Pb**	**15 31 14.6**	**+2.2**
19nm,0.2s							
KST				*e*S	**Sg**	**15 32 03.5**	**-2.4**
92nm,0.8s							
KST	**Kastek**	**3.73**	**57**	Pg	**Pb**	**15 31 14.7**	**+2.3**
19nm,0.2s							
KST				Lg	Lg	15 32 03.6	
92nm,0.8s							
KRBS	**Karabastau**	**3.94**	**47**	*e*P	**Pb**	**15 31 18.4**	**+2.5**
10nm,0.5s							
KRBS				*e*S	**Sg**	**15 32 09.7**	**-2.8**
39nm,0.6s							
KRBS	**Karabastau**	**3.94**	**47**	Pg	**Pb**	**15 31 18.4**	**+2.5**
10nm,0.5s							
KRBS				Lg	Lg	15 32 09.7	
11nm,0.6s							
MTBS	**Maitube**	**4.07**	**58**	*e*P	**Pb**	**15 31 20.9**	**+2.8**
13nm,0.5s							
MTBS				*e*S	**Sg**	**15 32 13.8**	**-3.0**
52nm,0.4s							
MTBS	**Maitube**	**4.07**	**58**	Pg	**Pb**	**15 31 20.9**	**+2.8**
13nm,0.5s							
MTBS				Lg	Lg	15 32 13.8	
52nm,0.4s							
IZV	**Izvestkoviy**	**4.15**	**60**	*e*P	**Pg**	**15 31 24.1**	**-1.4**
26nm,0.7s							
IZV				*e*S	**Sg**	**15 32 19.9**	**+0.6**
69nm,0.7s							
IZV	**Izvestkoviy**	**4.15**	**60**	Pg	**Pg**	**15 31 24.1**	**-1.4**
26nm,0.7s							
IZV				Lg	Lg	15 32 19.9	
69nm,0.7s							
KDJ	**Kajisay**	**4.24**	**74**	PN	**Pn**	**15 31 13.4**	**+2.1**
KDJ	**Kajisay**	**4.24**	**74**	Pn	**Pn**	**15 31 13.4**	**+2.1**
BTLS	**Baital**	**4.32**	**23**	*e*P	**Pg**	**15 31 26.4**	**-2.4**
72nm,0.6s							
BTLS				*e*S	**Sg**	**15 32 23.3**	**-1.3**
247nm,0.8s							
TNSS	**Tian-Shan**	**4.37**	**62**	*e*P	**Pg**	**15 31 28.9**	**-0.9**
15nm,0.6s							
TNSS				*e*S	**Sg**	**15 32 27.4**	**+0.9**
55nm,0.7s							
KUU	**Kurty**	**4.44**	**49**	*e*P	**Pb**	**15 31 27.4**	**+3.1**
16nm,0.5s							
KUU				*e*S	**Sg**	**15 32 24.9**	**-3.6**
73nm,0.5s							
KUU	**Kurty**	**4.44**	**49**	Pg	**Pb**	**15 31 27.4**	**+3.1**
16nm,0.5s							
KUU				Lg	Lg	15 32 24.9	
73nm,0.5s							
KNDC	**Almaty**	**4.46**	**60**	⇑Pg	**Pb**	**15 31 28.1**	**+3.3**
26nm,0.6s							
KNDC				⇑Lg	Lg	15 32 25.7	
105nm,0.8s							
MDOK	**Medeo**	**4.49**	**61**	*e*P	**Pg**	**15 31 30.6**	**-1.5**

15nm,0.8s
MDOK eS Sg 15 32 30.2 -0.1
58nm,0.7s
MDOK Medeo 4.49 61 ⇑Pn **Pn 15 31 16.7 +2.0**
5.3nm,0.6s
MDOK ⇓Pg **Pg 15 31 30.4 -1.7**
14nm,0.4s
MDOK ⇓Lg Lg 15 32 29.2
83nm,0.7s
MDOK Medeo 4.49 61 Pg **Pg 15 31 30.6 -1.5**
15nm,0.8s
MDOK Lg Lg 15 32 30.2
58nm,0.7s
MDOK Medeo 4.49 61 PN **Pn 15 31 16.0 +1.3**
KTBS Karatobe 4.53 53 *e*P **Pb 15 31 29.3 +3.3**
10nm,0.5s
KTBS eS Sg 15 32 28.1 -3.5
59nm,0.6s
KTBS Karatobe 4.53 53 Pg **Pb 15 31 29.3 +3.3**
10nm,0.5s
KTBS Lg Lg 15 32 28.1
59nm,0.6s
KOTS Kotyrbulak 4.56 60 *e*P **Pg 15 31 31.4 -2.1**
26nm,0.4s
KOTS eS Sg 15 32 31.5 -1.1
48nm,0.5s
KOTS Kotyrbulak 4.56 60 Pg **Pg 15 31 31.4 -2.1**
26nm,0.4s
KOTS Lg Lg 15 32 31.5
48nm,0.5s
TARG Taragay, Kyrgy 4.64 80 ⇑*i*P **Pn 15 31 17.9 +0.9**
baz=78
TARG ⇑*i*S **Sn 15 32 09.2 -2.1**
baz=78
TARG Taragay, Kyrgy 4.64 80 Pn **Pn 15 31 18.4 +1.4**
CHKK Chushkaly 4.79 53 *e*P **Pg 15 31 35.8 -2.1**
7.3nm,0.5s
CHKK eS Sg 15 32 39.2 -0.8
59nm,0.5s
CHKK Chushkaly 4.79 53 Pg **Pg 15 31 35.8 -2.1**
7.3nm,0.5s
CHKK Lg Lg 15 32 39.2
59nm,0.5s
KURS Kuram 5.37 61 *e*P **Pb 15 31 44.5 +4.3**
5.4nm,0.8s
KURS eS Sg 15 32 54.5 -4.0
33nm,1.8s
KURS Kuram 5.37 61 Pg **Pb 15 31 44.5 +4.3**
5.4nm,0.8s
KURS Lg Lg 15 32 54.5
33nm,1.8s
SATY Saty 5.37 66 *e*P **Pg 15 31 45.2 -3.7**
7.4nm,0.5s
SATY eS Sg 15 32 55.1 -3.4
53nm,0.9s
SATY Saty 5.37 66 Pg **Pg 15 31 45.2 -3.7**
7.4nm,0.5s
SATY Lg Lg 15 32 55.1
53nm,0.9s
ARXS Arharly 5.50 53 *e*P **Pb 15 31 46.8 +4.3**
11nm,0.5s
ARXS eS Sg 15 32 58.2 -4.4
67nm,0.8s
ARXS Arharly 5.50 53 Pg **Pb 15 31 46.8 +4.3**
11nm,0.5s
ARXS Lg Lg 15 32 58.2
67nm,0.8s
KPKS Kokpek 5.71 63 *e*P **Pg 15 31 51.1 -4.2**
8.1nm,0.3s
KPKS eS Sg 15 33 05.3 -3.9
22nm,0.5s
UZB Uzynbulak 5.83 67 *e*P Pb 15 31 52.5 +4.5
6.6nm,0.6s
UZB eS Sg 15 33 07.8 -5.3
29nm,0.8s
UZB Uzynbulak 5.83 67 Pg Pb 15 31 52.6 +4.5
6.6nm,0.6s
UZB Lg Lg 15 33 08.3
29nm,0.8s
SHLS Shalkode 6.14 68 *e*P **Pg 15 32 06.6 +3.0**
7.4nm,0.7s
SHLS eS Sg 15 33 32.2 +9.2
37nm,0.9s
SHLS Shalkode 6.14 68 Pg **Pg 15 32 06.6 +3.0**
7.4nm,0.7s
SHLS Lg Lg 15 33 32.2
37nm,0.9s
PDGK Podgornoye 6.21 66 ⇑Pg **Pg 15 32 01.6 -3.3**
5.5nm,0.7s
PDGK ⇓Lg Lg 15 33 22.5
18nm,0.6s
TDK Taldyqorghan 6.29 49 *e*P **Pg 15 32 04.9 -1.5**
37nm,0.3s
TDK eS Sg 15 33 29.1 +1.3
149nm,0.5s
DJR Jarkent 6.79 59 *e*P **Pg 15 32 13.3 -2.7**
5.5nm,0.6s
DJR eS Sg 15 33 43.6 -0.3
17nm,1.0s
DJR Jarkent 6.79 59 Pg **Pg 15 32 13.3 -2.7**
5.5nm,0.6s
DJR Lg Lg 15 33 43.6
17nm,1.0s
KBL Kabul 6.86 199 PN **Pn 15 31 47.2 -0.1**
KBL Kabul 6.86 199 **Pn 15 31 47.2 -0.1**
KAPS Kapalarasan 7.00 51 *e*P Pg 15 32 14.8 -5.3
3.5nm,0.4s
KAPS eS Sg 15 33 46.5 -4.2
25nm,0.9s
KAPS Kapalarasan 7.00 51 Pg Pg 15 32 14.8 -5.3
3.5nm,0.4s
KAPS Lg Lg 15 33 46.5
25nm,0.9s
OTUK Ortayu 7.18 3 ⇓Pn **Pn 15 31 54.1 +2.6**
2.4nm,0.3s
OTUK ⇓Lg Lg 15 33 54.1
63nm,0.8s
OTUK Ortayu 7.18 3 P **Pn 15 31 54.1 +2.6**
NIL Nilore 7.52 170 P **Pn 15 31 56.7 +0.5**
NIL Nilore 7.52 170 Pn **Pn 15 31 56.6 +0.5**
MAKZ Makanchi 9.36 49 ⇑Lg Lg 15 35 01.7
7.6nm,0.8s
MK31 Makanchi Array 9.54 50 ⇑Pn **Pn 15 32 24.7 +0.9**
0.7nm,0.6s,baz=235,slow=14,SNR=7.6
MK31 ⇓Lg Lg 15 35 07.2
3.5nm,0.7s,baz=237,slow=27,SNR=4.0
MK31 Makanchi Array 9.54 50 P **Pn 15 32 24.8 +0.9**
MK31 Makanchi Array 9.54 50 Pn **Pn 15 32 24.8 +1.0**
MKAR Makanchi Array 9.54 50 Pn **Pn 15 32 25.1 +1.3**
0.1nm,0.3s,baz=235,slow=14,SNR=5.9
MKAR Lg Lg 15 35 13.8
0.4nm,0.3s,baz=239,slow=27,SNR=6.9
MKAR Makanchi Array 9.54 50 P **Pn 15 32 24.6 +0.8**
MKAR Makanchi Array 9.54 50 Pn **Pn 15 32 24.6 +0.8**
KURBB Kurchatov Arra 10.66 24 Pn **Pn 15 32 38.1 -1.1**
0.0nm,0.3s,baz=213,slow=13,SNR=4.1
KURBB Lg Lg 15 35 39.6
0.2nm,0.3s,baz=214,slow=30,SNR=7.7
KURBB Kurchatov Arra 10.66 24 ⇓Lg Lg 15 35 45.9
36nm,0.7s
KURK Kurchatov 10.77 24 ⇑Lg Lg 15 35 47.3
34nm,0.9s
KURK Kurchatov 10.77 24 *i* P **Pn 15 32 40.5 -0.1**
GEYT Alibeck 10.95 258 Pn **Pn 15 32 41.8 -1.5**
1.0nm,0.3s,baz=88,slow=10,SNR=8.4
GEYT Sn **Sn 15 34 39.6 -6.5**
1.3nm,0.3s,baz=223,slow=23,SNR=2.5
GEYT Alibeck 10.95 258 **Pn 15 32 41.7 -1.6**
GYA0 ALIBECK ARRAY 10.95 258 P **Pn 15 32 41.8 -1.5**
GYA0B ALIBECK ARRAY 10.95 258 **Pn 15 32 41.8 -1.5**
AB31 Akbulak array 11.63 319 ⇑Pn **Pn 15 32 53.8 +1.3**
2.7nm,0.3s,baz=127,slow=11,SNR=61
AB31 ⇑Sn **Sn 15 35 06.5 +3.9**
14nm,0.5s,baz=128,slow=24,SNR=5.5
AB31 Akbulak array 11.63 319 P **Pn 15 32 53.8 +1.3**
AB31 SN **Sn 15 35 06.5 +3.9**
ABKAR Akbulak array 11.63 319 **Pn 15 32 50.8 -1.7**
BVAR Borovoye Array 11.98 356 Pn **Pn 15 32 57.6 +0.3**
0.3nm,0.3s,baz=160,slow=9.0,SNR=3.2
BVAR Sn **Sn 15 35 05.5 -5.7**
0.5nm,0.3s,baz=147,slow=24,SNR=6.6
BRVK Borovoye 12.02 356 *i* P **Pn 15 32 55.8 -2.0**
WMQ Urumqi 12.13 72 *e*P **Pn 15 33 03.8 +4.4**
AKTO Aktyubinsk 13.35 319 Pn **Pn 15 33 13.3 -2.6**
0.2nm,0.3s,baz=114,slow=14,SNR=2.0
AKTO Sn **Sn 15 35 38.2 -6.3**
0.4nm,0.3s,baz=338,slow=19,SNR=4.1

AKTO Aktyubinsk 13.35 319 ⇓Pn **Pn 15 33 17.8 +1.9**
1.9nm,0.5s
AKTO ⇓Sn **Sn 15 35 48.7 +4.2**
3.2nm,0.6s
AKTO Aktyubinsk 13.35 319 P **Pn 15 33 17.8 +1.9**
AKTO SN **Sn 15 35 48.7 +4.2**
ZALV Zalesovo Beam 15.59 30 Pn **Pn 15 33 46.2 0.0**
0.2nm,0.3s,baz=217,slow=9.1,SNR=5.1
ZALV Sn **Sn 15 36 43.2 +4.1**
0.1nm,0.3s,baz=220,slow=17,SNR=2.2
ZALV Zalesovo Beam 15.59 30 P **Pn 15 33 46.0 -0.2**
ARU Arti 17.58 335 P **Pn 15 34 10.9 -0.6**
ARU S **Sn 15 37 23.4 -3.9**
KBZ Khabaz 21.39 287 P **P 15 34 52.0 -2.1**
0.6nm,0.4s,baz=101,slow=16,SNR=1.7
KBZ Khabaz 21.39 287 *i* P **P 15 34 57.1 +3.0**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
LZH Lanzhou 25.53 91 *e*P **P 15 35 35.6 +0.1**
LZH pP sP 15 35 46.5 +8.0
LZH sP pP 15 35 51.1 +13
LZH pmax pmax
comp=Z,12nm,1.1s
HHC Hu-ho-hao-te 29.93 77 *e*P **P 15 36 16.6 +1.8**
HHC pmax pmax
comp=Z,6.0nm,1.0s
HHC pmax pmax
comp=Z,30nm,5.3s
FINES FINESS Array B 34.09 322 P **P 15 36 50.4 -0.6**
comp=Z,1.2nm,0.4s,baz=114,slow=8.9,SNR=14
FINES FINESS Array B 34.09 322 *i* P **P 15 36 49.5 -1.4**
FINES pmax pmax
comp=Z,1.0nm,0.4s
HIA Hailar 34.34 60 P **P 15 36 54.2 +0.8**
HIA Hailar 34.34 60 P **P 15 36 54.2 +0.8**
NJ2 Nanjing 38.53 88 *e*P **P 15 37 30.5 +1.2**
GERES GERESS Array B 40.88 301 P **P 15 37 48.8 +0.1**
comp=Z,1.2nm,0.7s,baz=70,slow=7.8,SNR=11
NOA NORSAR Array B 41.14 320 P **P 15 37 49.5 -1.1**
comp=Z,0.4nm,0.7s,baz=87,slow=8.0,SNR=1.8
TIXI Tiksi 41.35 24 P **P 15 37 51.1 -1.1**
comp=Z,1.8nm,0.7s,baz=252,slow=6.4,SNR=2.1
KS19 Wonju Array Si 42.98 76 P **P 15 38 05.6 -0.4**
KS19 IAmb IAmb 15 38 13.1
comp=Z,8.8nm,0.8s
KSAR Wonju Array Be 43.02 76 P **P 15 38 06.4 +0.2**
KSAR Wonju Array Be 43.02 76 P **P 15 38 06.4 +0.2**
ESDC Sonseca Array 55.89 295 P **P 15 39 42.8 -1.8**
comp=Z,0.5nm,0.6s,baz=52,slow=8.3,SNR=4.3
TORD Torodi Ar. Bea 66.44 267 P **P 15 40 53.8 -2.5**
comp=Z,0.9nm,0.7s,baz=51,slow=6.1,SNR=5.1
TORD Torodi Ar. Bea 66.44 267 IAmb IAmb 15 40 54.3
comp=Z,0.8nm,0.8s
BMAR Burnt Mountain 68.37 14 P **P 15 41 07.8 -0.1**
INK Inuvik 69.30 10 P **P 15 41 12.8 -0.8**
comp=Z,0.5nm,0.5s,baz=332,slow=7.6,SNR=3.7
INK Inuvik 69.30 10 IAmb IAmb 15 42 35.2
comp=Z,8.1nm,1.6s
ILAR Eielson Array 70.23 16 P **P 15 41 17.9 -1.4**
comp=Z,0.5nm,0.8s,baz=316,slow=5.8,SNR=5.5
ILAR Eielson Array 70.23 16 *e*P **P 15 41 17.0 -2.4**
BCAR Beaver Creek A 72.80 15 P **P 15 41 34.0 -0.9**
ASAR Alice Springs 86.45 126 P **P 15 42 46.4 -3.2**
comp=Z,1.6nm,1.2s,baz=308,slow=5.1,SNR=4.2

*JMA **23** 15:33:04.9,23.93N×121.68E,h42km±1km,M2.8*
*TAP **23** 15:33:05.7,23.98N×121.68E,h44km,ML3.5,C*
ISC 23 15:33:06.1±1.0,23.95N±0.02×121.71E±0.02,h33km±2km,
n110,s087/196,20D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HWA	**Hwalien** baz=269	**0.10**	**283**	*e*P		**Pb**	**15 33 13.3**	**+1.4**
HWA				*e*S		**Sb**	**15 33 18.5**	**+2.6**
TWD	**Chiawan** baz=312	**0.16**	**320**	*i* P		**Pb**	**15 33 13.2**	**+0.8**
TWD				*e*S		**Sb**	**15 33 18.5**	**+1.8**
NACB	**Ninganchiao** baz=327	**0.24**	**334**	⇓*i*P		**Pn**	**15 33 13.5**	**+0.4**
NACB				S		**Sb**	**15 33 18.8**	**+0.8**
ESL	**Shilin** baz=242	**0.29**	**241**	⇓*i*P		**Pb**	**15 33 13.9**	**+0.1**
ESL				*e*S		**Sn**	**15 33 19.5**	**+0.9**
ETLH	**Xiulin Townshi** baz=313	**0.33**	**320**	⇓*i*P		**Pb**	**15 33 14.2**	**-0.1**
ETLH				*e*S		**Sn**	**15 33 20.1**	**+0.3**
EGFH	**Guangfu** baz=228	**0.39**	**223**	P		**Pb**	**15 33 15.0**	**0.0**
EGFH				*e*S		**Sb**	**15 33 21.9**	**+0.8**
WHF	**Hehuan Shan** baz=290	**0.45**	**295**	⇓*i*P		**Pb**	**15 33 15.9**	**-0.4**
WHF				*e*S		**Sb**	**15 33 23.1**	**-0.3**
ENA	**Nanau** baz=14	**0.47**	**3**	P		**Pb**	**15 33 16.0**	**-0.4**
ENA				*e*S		**Sb**	**15 33 23.6**	**+0.3**
OWD	**Renai** baz=271	**0.49**	**270**	P		**Pb**	**15 33 16.5**	**-0.2**
OWD				*e*S		**Sb**	**15 33 23.6**	**-0.3**
CHGB	**Renai** baz=277	**0.50**	**282**	⇓*i*P		**Pb**	**15 33 16.8**	**-0.2**
CHGB				*e*S		**Sb**	**15 33 24.1**	**-0.3**
NNSB	**Datong** baz=328	**0.56**	**328**	⇓*i*P		**Pn**	**15 33 17.2**	**-0.7**
NNSB				*e*S		**Sb**	**15 33 24.8**	**-1.0**
NNSH	**Datong** baz=333	**0.56**	**328**	⇓*i*P		**Pn**	**15 33 17.1**	**-0.7**
NNSH				*e*S		**Sb**	**15 33 24.9**	**-0.9**
VWDT	**VWDT** baz=241	**0.56**	**249**	⇓*i*P		**Pn**	**15 33 17.6**	**0.0**
VWDT				*e*S		**Sb**	**15 33 25.6**	**0.0**
EHY	**Hungye** baz=215	**0.57**	**219**	*e*P		**Pn**	**15 33 16.7**	**-1.2**
EHY				*e*S		**Sb**	**15 33 24.8**	**-1.2**
NNS	**Nan Shan** baz=329	**0.57**	**327**	⇓*i*P		**Pn**	**15 33 17.3**	**-0.7**
NNS				*e*S		**Sb**	**15 33 25.3**	**-0.9**
TDCB	**Techi** baz=300	**0.59**	**301**	⇓*i*P		**Pn**	**15 33 17.9**	**-0.4**
TDCB				*e*S		**Sb**	**15 33 25.7**	**-0.9**
TWC	**Suao** baz=20	**0.66**	**11**	*e*P		**Pn**	**15 33 19.2**	**+0.1**
TWC				*e*S		**Sb**	**15 33 29.6**	**+1.2**
NDT	**Datong Townshi** baz=338	**0.67**	**344**	⇓*i*P		**Pn**	**15 33 18.6**	**-0.7**
NDT				*e*S		**Sn**	**15 33 27.6**	**-1.1**
YULB	**Yu-li** baz=220	**0.68**	**214**	⇓*i*P		**Pn**	**15 33 18.1**	**-1.2**
YULB				*e*S		**Sn**	**15 33 27.4**	**-1.4**
ENTT	**Nioudou** baz=350	**0.69**	**349**	⇓*i*P		**Pn**	**15 33 18.9**	**-0.8**
ENTT				*e*S		**Sn**	**15 33 28.3**	**-1.0**
TWF1	**Yuli** baz=220	**0.71**	**212**	⇓*i*P		**Pn**	**15 33 18.6**	**-1.2**
TWF1				*e*S		**Sn**	**15 33 28.4**	**-1.2**
SSLB	**Suanglung** baz=259	**0.71**	**257**	⇓*i*P		**Pn**	**15 33 19.4**	**-0.5**
SSLB				*e*S		**Sn**	**15 33 28.9**	**-0.9**
DPDB	**Guoxing** baz=272	**0.72**	**276**	⇓*i*P		**Pn**	**15 33 19.8**	**-0.3**
DPDB				*e*S		**Sn**	**15 33 29.4**	**-0.6**
SMLT	**Sun Moon Lake** baz=263	**0.75**	**265**	⇓*i*P		**Pn**	**15 33 20.0**	**-0.5**
SMLT				*e*S		**Sn**	**15 33 30.1**	**-0.6**
TWE	**Neicheng** baz=351	**0.76**	**357**	⇓*i*P		**Pn**	**15 33 19.9**	**-0.7**
TWE				*e*S		**Sn**	**15 33 30.5**	**-0.5**
WHP	**Taichung City** baz=296	**0.77**	**295**	*e*P		**Pn**	**15 33 20.7**	**-0.1**
WHP				*e*S		**Sb**	**15 33 33.0**	**+1.5**
YHNB	**Yeheng** baz=336	**0.78**	**337**	⇓*i*P		**Pn**	**15 33 20.2**	**-0.6**
YHNB				*e*S		**Sn**	**15 33 29.9**	**-1.4**
TYC	**Yuchr** baz=265	**0.78**	**267**	*e*P		**Pn**	**15 33 20.4**	**-0.4**
TYC				*e*S		**Sn**	**15 33 30.5**	**-0.9**
NSK	**Sanguang** baz=336	**0.79**	**336**	⇓*i*P		**Pn**	**15 33 20.3**	**-0.7**
NSK				*e*S		**Sn**	**15 33 30.1**	**-1.6**
ILA	**Ilan** baz=355	**0.81**	**2**	*e*P		**Pb**	**15 33 22.3**	**+0.5**
ILA				*e*S		**Sb**	**15 33 34.2**	**+1.7**
WHYT	**Xinyi Township** baz=251	**0.83**	**252**	*e*P		**Pn**	**15 33 21.6**	**+0.1**
WHYT				*e*S		**Sb**	**15 33 34.1**	**+1.1**
NWLT	**Wulai** baz=347	**0.84**	**347**	P		**Pn**	**15 33 20.9**	**-0.7**
NWLT				*e*S		**Sn**	**15 33 31.4**	**-1.4**
FULB	**Fuli** baz=215	**0.84**	**207**	*e*P		**Pn**	**15 33 21.3**	**-0.4**
FULB				*e*S		**Sn**	**15 33 32.9**	**-0.1**
NTC	**Toucheng** baz=355	**0.90**	**7**	*e*P		**Pn**	**15 33 22.8**	**+0.3**
NTC				*e*S		**Sb**	**15 33 35.4**	**+0.3**
CHKT	**Chengkung** baz=190	**0.91**	**201**	*e*P		**Pn**	**15 33 22.2**	**-0.3**
CHKT				*e*S		**Sn**	**15 33 35.4**	**+0.9**
EGS	baz=20	**0.91**	**13**	*e*P		**Pn**	**15 33 23.3**	**+0.7**
EGS				*e*S		**Sb**	**15 33 37.2**	**+1.9**
WJS	**Zhushan** baz=261	**0.91**	**262**	*e*P		**Pn**	**15 33 23.2**	**+0.7**
WJS				*e*S		**Sb**	**15 33 36.7**	**+1.4**
NSTT	**Nanjuang** baz=303	**0.94**	**316**	P		**Pn**	**15 33 23.3**	**+0.4**
NSTT				*e*S		**Sn**	**15 33 35.2**	**0.0**
LIOB	**Emei** baz=304	**0.94**	**317**	P		**Pn**	**15 33 23.4**	**+0.4**
LIOB				*e*S		**Sn**	**15 33 35.6**	**+0.4**
ALS	**Alishan** baz=234	**0.94**	**242**	*e*P		**Pn**	**15 33 23.6**	**+0.3**
ALS				*e*S		**Sn**	**15 33 36.0**	**+0.3**
TWQ1	**Liyutan** baz=293	**0.94**	**295**	P		**Pn**	**15 33 23.3**	**+0.2**
TWQ1				*e*S		**Sn**	**15 33 35.9**	**+0.5**
WNT	**Mingjian** baz=264	**0.94**	**266**	P		**Pn**	**15 33 23.9**	**+0.8**
WNT				*e*S		**Sb**	**15 33 37.7**	**+1.4**
TCU	**Taichung** baz=280	**0.97**	**282**	*e*P		**Pn**	**15 33 23.7**	**+0.4**
TCU				*e*S		**Sb**	**15 33 37.5**	**+0.5**
NSY	**Sanyi** baz=297	**0.98**	**298**	*e*P		**Pn**	**15 33 23.8**	**+0.2**
NSY				*e*S		**Sn**	**15 33 37.3**	**+0.9**
WLTB	**Daxi** baz=340	**0.99**	**335**	*e*P		**Pn**	**15 33 22.4**	**-1.3**
WLTB				*e*S		**Sb**	**15 33 37.6**	**+0.1**
ELDTW	**Lidau** baz=215	**0.99**	**220**	P		**Pn**	**15 33 22.9**	**-0.9**
ELDTW				*e*S		**Sn**	**15 33 36.0**	**-0.7**
CHN5	**Tsauling** baz=241	**1.01**	**250**	*e*P		**Pn**	**15 33 24.6**	**+0.5**
CHN5				*e*S		**Sn**	**15 33 38.5**	**+1.3**
NHDH	**Xindian Distri** baz=350	**1.02**	**350**	*e*P		**Pn**	**15 33 23.7**	**-0.4**
NHDH				*e*S		**Sn**	**15 33 36.6**	**-0.7**
TIPB	**Shuangxi** baz=357	**1.02**	**6**	*e*P		**Pn**	**15 33 24.0**	**-0.2**
TIPB				*e*S		**Sn**	**15 33 37.0**	**-0.3**
NMLH	**Miaoli** baz=304	**1.02**	**305**	*e*P		**Pn**	**15 33 24.3**	**+0.2**
NMLH				*e*S		**Sn**	**15 33 38.1**	**+0.8**
TWA	**Mucha** baz=345	**1.03**	**354**	*e*P		**Pn**	**15 33 24.7**	**+0.5**
TWA				*e*S		**Sn**	**15 33 37.1**	**-0.4**
TATO	**Taipei** baz=348	**1.04**	**349**	*e*P		**Pn**	**15 33 23.8**	**-0.6**
TATO				*e*S		**Sn**	**15 33 37.4**	**-0.3**
PTSB	**Yuanli** baz=296	**1.04**	**298**	*e*P		**Pn**	**15 33 23.8**	**-0.6**
PTSB				*e*S		**Sn**	**15 33 38.2**	**+0.4**
WDJ	**Dajia District** baz=291	**1.05**	**292**	P		**Pn**	**15 33 24.3**	**-0.3**
WDJ				*e*S		**Sn**	**15 33 38.2**	**+0.1**
WCHH	**Zhanghua** baz=275	**1.06**	**277**	*e*P		**Pn**	**15 33 25.2**	**+0.6**
WCHH				*e*S		**Sb**	**15 33 39.8**	**+0.2**
SBCB	**Hsinchu** baz=320	**1.06**	**322**	*e*P		**Pn**	**15 33 24.7**	**0.0**
SBCB				*e*S		**Sn**	**15 33 39.3**	**+0.9**
TWB1	**Santiao Chiao** baz=23	**1.08**	**13**	*e*P		**Pn**	**15 33 26.0**	**+1.1**
TWB1				*e*S		**Sb**	**15 33 40.4**	**+0.2**
WGK	**Gukeng** baz=244	**1.09**	**256**	P		**Pn**	**15 33 25.7**	**+0.7**
WDLH	**Douliu** baz=246	**1.11**	**256**	P		**Pn**	**15 33 26.1**	**+0.8**
WDLH				*e*S		**Sb**	**15 33 42.1**	**+1.2**
NWF	**Wu-fen Shan** baz=351	**1.11**	**3**	*e*P		**Pn**	**15 33 25.2**	**-0.3**
NWF				*e*S		**Sn**	**15 33 40.5**	**+0.8**
WFSB	**Wu-fen Shan** baz=351	**1.11**	**3**	*e*P		**Pn**	**15 33 24.7**	**-0.7**
WFSB				*e*S		**Sn**	**15 33 40.1**	**+0.5**
NCUH	**Zhongli** baz=333	**1.12**	**335**	*e*P		**Pn**	**15 33 25.4**	**-0.1**
NCUH				*e*S		**Sn**	**15 33 40.4**	**+0.7**
TWS1	**Kuangyinshan** baz=345	**1.17**	**347**	*e*P		**Pn**	**15 33 26.1**	**-0.1**
TWS1				*e*S		**Sn**	**15 33 41.0**	**0.0**
STYT	**Tauyuan** baz=229	**1.18**	**228**	*e*P		**Pn**	**15 33 26.9**	**+0.6**
STYT				*e*S		**Sb**	**15 33 43.2**	**+0.1**
TPUB	**Ta-pu** baz=235	**1.19**	**237**	*e*P		**Pn**	**15 33 26.2**	**-0.2**
TPUB				*e*S		**Sn**	**15 33 43.1**	**+1.7**
CHN4	**Tsaushan** baz=231	**1.19**	**240**	*e*S		**Sb**	**15 33 44.0**	**+0.8**
YM10	**YM10** baz=353	**1.20**	**353**	P		**Pn**	**15 33 26.1**	**-0.6**

YM04	**YM04** baz=352	**1.21 352**	*e*P		**Pn**	**15 33 26.0**	**-0.7**
NTST	**Danshui** baz=348	**1.23 349**	*e*P		**Pn**	**15 33 26.4**	**-0.6**
YM03	**YM03** baz=353	**1.23 353**	*e*P		**Pn**	**15 33 26.2**	**-0.8**
JYNG	**Yonaguniijimaku**	**1.23 66**	P		**Pn**	**15 33 26.8**	**-0.2**
JYNG			*e*S		**Sn**	**15 33 42.2**	**-0.2**
YM08	**YM08** baz=343	**1.23 355**	*e*P		**Pn**	**15 33 25.9**	**-1.2**
ANP	**Anpu** baz=352	**1.24 352**	*e*P		**Pn**	**15 33 26.1**	**-1.1**
RLNB	**Erlin** baz=277	**1.24 267**	*e*P		**Pn**	**15 33 27.6**	**+0.5**
RLNB	baz=277		*e*S		**Sb**	**15 33 44.6**	**-0.1**
CHY	**Chiayi** baz=249	**1.27 249**	*e*P		**Pn**	**15 33 28.6**	**+1.1**
CHY	baz=249		*e*S		**Sb**	**15 33 45.9**	**+0.5**
TWG	**Pinlang** baz=199	**1.27 208**	*e*S		**Sn**	**15 33 41.7**	**-1.8**
TWGBT	**Beinan** baz=199	**1.27 207**	*e*P		**Pn**	**15 33 25.8**	**-1.7**
TWGBT	baz=199		*e*S		**Sn**	**15 33 41.4**	**-2.1**
YOJ	**Yonaguni jima** baz=69	**1.29 67**	P		**Pn**	**15 33 27.9**	**+0.1**
YOJ	baz=69		*e*S		**Sn**	**15 33 43.9**	**0.0**
YOJ	**Yonaguni jima**	**1.29 67**	P		**Pn**	**15 33 27.7**	**-0.1**
YOJ			*e*S		**Sn**	**15 33 43.7**	**-0.2**
WTCT	**Ta-ch'eng** baz=274	**1.31 266**	*e*P		**Pn**	**15 33 28.8**	**+0.7**
WTCT	baz=274		*e*S		**Sb**	**15 33 46.5**	**-0.2**
CHN1	**Nanshi** baz=236	**1.33 235**	*e*P		**Pn**	**15 33 29.6**	**+1.2**
CHN1	baz=236		*e*S		**Sb**	**15 33 47.0**	**-0.2**
SNST	**Tainan City** baz=238	**1.33 237**	*e*P		**Pn**	**15 33 29.1**	**+0.8**
SNST	baz=238		*e*S		**Sn**	**15 33 46.7**	**+1.7**
SGST	**Jiashian** baz=223	**1.35 230**	*e*P		**Pn**	**15 33 29.0**	**+0.3**
SGST	baz=223		*e*S		**Sn**	**15 33 46.5**	**+1.0**
SLGT	**Liugui** baz=227	**1.37 226**	*e*P		**Pn**	**15 33 30.2**	**+1.3**
SLGT	baz=227		*e*S		**Sb**	**15 33 48.1**	**-0.2**
WMLT	**Mailiao** baz=275	**1.37 264**	*e*S		**Sn**	**15 33 47.8**	**+1.9**
WLGB	**Puzi** baz=238	**1.38 250**	*e*P		**Pn**	**15 33 29.7**	**+0.7**
WLGB	baz=238		*e*S		**Sb**	**15 33 48.6**	**0.0**
WSF	**Szhu** baz=246	**1.40 257**	*e*P		**Pn**	**15 33 30.1**	**+0.8**
WSF	baz=246		*e*S		**Sn**	**15 33 48.6**	**+2.0**
CHN8	**Yiju** baz=247	**1.50 247**	*e*S		**Sb**	**15 33 51.8**	**-0.4**
ECL	**Taimali** baz=202	**1.52 207**	*e*S		**Sn**	**15 33 48.7**	**-0.9**
SSD	**Sandimen** baz=222	**1.56 220**	*e*S		**Sb**	**15 33 53.0**	**-0.8**
SCLT	**Jiali** baz=242	**1.59 241**	*e*S		**Sb**	**15 33 53.9**	**-0.9**
MASBT	**Mashibuluo** baz=220	**1.66 217**	*e*P		**Pn**	**15 33 33.1**	**+0.2**
MASBT	baz=220		*e*S		**Sn**	**15 33 55.1**	**+1.9**
EAST	**Anshuo** baz=201	**1.75 207**	*e*P		**Pn**	**15 33 34.9**	**+0.7**
SCZT	**Fangliau** baz=213	**1.87 213**	*e*P		**Pn**	**15 33 37.4**	**+1.6**
IRIF	**Iriomote-Funau**	**1.88 78**	P		**Pn**	**15 33 36.0**	**+0.1**
IRIF			*e*S		**Sn**	**15 33 58.6**	**+0.1**
HATJ	**Hateruma jima**	**1.92 87**	P		**Pn**	**15 33 36.6**	**+0.2**
WDGT	**Dungji** baz=251	**2.00 250**	*e*P		**Pn**	**15 33 37.6**	**0.0**
WDGT	baz=251		*e*S		**Sn**	**15 34 01.4**	**-0.2**
PHUB	**P'eng-hu** baz=270	**2.01 258**	*e*P		**Pn**	**15 33 37.3**	**-0.4**
PHUB	baz=270		*e*S		**Sn**	**15 34 00.5**	**-1.2**
PNG	**Penghu** baz=258	**2.01 259**	P		**Pn**	**15 33 37.1**	**-0.6**
PNG	baz=258		*e*S		**Sn**	**15 34 01.5**	**-0.3**
JKRS	**Kuro-shima**	**2.12 82**	P		**Pn**	**15 33 39.7**	**+0.5**
JKRS			*e*S		**Sn**	**15 34 05.0**	**+0.6**
VCHM	**Qimei** baz=242	**2.22 251**	P		**Pn**	**15 33 40.2**	**-0.4**
VCHM	baz=242		*e*S		**Sn**	**15 34 06.1**	**-0.8**
JIJ	**Ishigaki jima**	**2.26 79**	P		**Pn**	**15 33 41.0**	**-0.1**
JIJ			*e*S		**Sn**	**15 34 06.4**	**-1.4**
VWUC	**VWUC** baz=295	**2.31 297**	*e*P		**Pn**	**15 33 40.2**	**-1.6**
PTTC	**Pingtan** baz=309	**2.34 311**	*e*P		**Pn**	**15 33 40.6**	**-1.7**
JISG	**Ishigakijimahi**	**2.45 75**	P		**Pn**	**15 33 43.5**	**-0.3**
JISG			*e*S		**Sn**	**15 34 11.6**	**-1.1**
PTMZ	**Houxiangcun** baz=293	**2.60 295**	*e*P		**Pn**	**15 33 44.1**	**-1.7**
MATB	**Ma-tsu** baz=321	**2.71 324**	*e*P		**Pn**	**15 33 46.2**	**-1.2**
JTJ	**Tarama**	**2.81 75**	P		**Pn**	**15 33 48.5**	**-0.2**
KNM	**Kinmen** baz=277	**3.03 279**	*e*P		**Pn**	**15 33 51.8**	**+0.1**
AXDP	**Jialang** baz=284	**3.54 286**	*e*P		**Pn**	**15 33 57.3**	**-1.4**

IDC ***23*** *15:38:32.9±0.6,5°.38S×153°.06E,h0km,mb4.5/21, mb1 4.6/23,mb1mx4.6/32,mbtmp4.5/23,ML2.6/2,MS3.8/16, Ms1 3.9/16,ms1mx3.8/26,Error ellipse: s-maj=16.7km s-min=12.4km az=87.0*

BJI ***23*** *15:38:36.3±0.0,5°.05S×153°.19E,h31km,mB5.0/31, mb4.7/46,Ms4.3/5,Ms7 4.1/5*

NEIC ***23*** *15:38:38.1±1.2,5°.39S±0°.04×153°.01E±0°.06,h38km±5km, mb4.8/65,Error ellipse: s-maj=10.0km s-min=3.7km az=58.0*

DJA ***23*** *15:38:40.1±0.5,5°S±3°×15°3E±°,h49km±5km,M5.0/17, mb4.8/17,mB4.8/2,MLv5.1/2,Mw(mB)4.0/2*

ISC 23 15:38:38.1±0.3,**5°.40S**±0°.05×**153°.03E**±0°.05,**h37**km,**n156,** σ**0s97**/156,**mb4.7**/67,**MS3.8**/15,**New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076** 936nm,0.3s,baz=154,slow=1.3,SNR=1100	**1.48**	**317**	Pn		Sn	**Sn**	**15 39 02.5**	**+0.2**
KRVT	1μm,0.3s,baz=52,slow=18,SNR=13			LR		LR	LR	15 39 43.8	
KRVT	comp=Z,3μm,22.0s,baz=127,slow=48								
RABL	**Rabaul**	**1.48**	**324**				**Pn**	**15 39 02.3**	**0.0**
PMG	**Port Moresby** 2.9nm,0.3s,baz=43,slow=12,SNR=10	**7.05**	**235**	Pn		Sn	**Sn**	**15 40 19.9**	**+1.1**
PMG	3.9nm,0.3s,baz=3.5,slow=19,SNR=3.7							**15 41 36.4**	**-1.4**
PMG	**Port Moresby**	**7.05**	**235**	Pn			**Pn**	**15 40 19.2**	**+0.4**
HNR	**Honiara** comp=Z,333nm,20.7s,baz=298,slow=36	**7.94**	**121**	LR			LR	15 43 22.4	
HNR	**Honiara**	**7.94**	**121**	Pn			**Pn**	**15 40 31.6**	**+0.6**
JAY	**Jayapura** 0.1nm,0.3s,baz=117,slow=12,SNR=1.6	**12.63**	**283**	Pn			**Pn**	**15 41 35.5**	**+0.2**
JAY	**Jayapura** 8.2nm,1.8s	**12.63**	**283**	P			**Pn**	**15 41 36.0**	**+0.7**
GENI	**Genyem** 31nm,1.1s	**13.13**	**282**	P			**Pn**	**15 41 43.0**	**+0.8**
PATS	**Pohnpei**	**13.25**	**23**	Pn			**Pn**	**15 41 42.0**	**-1.8**
SMPI	**Sarmi** 24nm,1.5s	**14.69**	**283**	P			**Pn**	**15 42 04.7**	**+1.3**
CTA	**Charters Tower** 0.2nm,0.3s,baz=33,slow=17,SNR=3.2	**16.02**	**204**	Pn			**P**	**15 42 23.4**	**-0.4**
CTAO	**Charters Tower**	**16.02**	**204**	Pn			**Pn**	**15 42 20.4**	**-0.4**
SANVU	**Saraoutou**	**17.13**	**127**	Pn			**Pn**	**15 42 34.4**	**-0.4**
EIDS	**Eidsvold**	**19.94**	**185**	P			**P**	**15 43 07.8**	**+0.8**
KWAJ	**Kwajalein Atol**	**20.26**	**46**	P			**P**	**15 43 09.9**	**-0.6**
GUMO	**Guam**	**20.54**	**337**	P			Pn	15 43 14.6	-1.2
	115nm,1.0s,baz=168,slow=9.9,SNR=5.4								
GUMO	comp=Z,244nm,18.6s,baz=152,slow=39					LR	LR	15 51 52.0	
GUMO	**Guam**	**20.54**	**337**				Pn	15 43 13.9	-1.9
DZM	**Mont Dzumac** 14nm,1.1s,baz=0.0,slow=12,SNR=11	**21.05**	**143**	P			**P**	**15 43 20.6**	**+1.5**
DZM	comp=Z,242nm,19.6s,baz=344,slow=34					LR	LR	15 50 17.1	
DZM	**Mont Dzumac**	**21.05**	**143**	P			**P**	**15 43 19.4**	**+0.3**
SIJI	**Sorong** 9.0nm,0.7s,baz=90,slow=11,SNR=2.4	**22.19**	**281**	P			**P**	**15 43 30.9**	**-0.5**
MTN	**Manton Dam**	**22.84**	**250**	P			**P**	**15 43 37.6**	**-0.6**
MTN	comp=Z,33nm,1.0s					IAmb	IAmb	15 44 18.6	
WB0	**Warramunga Arr**	**23.09**	**230**	P			**P**	**15 43 40.2**	**-0.5**
WB0	comp=Z,22nm,0.9s					IAmb	IAmb	15 43 42.7	
WR0	**Warramunga Arr**	**23.09**	**230**	P			**P**	**15 43 40.1**	**-0.7**
WR0	comp=Z,41nm,1.4s					IAmb	IAmb	15 43 47.9	
WRAB	**Tennant Creek**	**23.21**	**230**	P			**P**	**15 43 42.5**	**+0.4**
WB2	**Warramunga Arr**	**23.22**	**230**	P			**P**	**15 43 42.0**	**-0.1**
WB2	comp=Z,28nm,1.1s					IAmb	IAmb	15 43 49.3	
WRA	**Warramunga Arr**	**23.23**	**230**	P			**P**	**15 43 41.1**	**-1.1**
WRA	comp=Z,17nm,0.9s,baz=54,slow=10,SNR=39 **Warramunga Arr**	**23.23**	**230**	P			**P**	**15 43 40.2**	**-2.0**
ARMA	**Armidale**	**24.92**	**183**	P			**P**	**15 43 58.8**	**+0.9**
ARMA	comp=Z,26nm,1.4s					IAmb	IAmb	15 44 13.5	
AS31	**Alice Springs**	**25.87**	**224**	P			**P**	**15 44 07.1**	**+0.6**
ASAR	**Alice Springs** comp=Z,6.4nm,0.9s,baz=56,slow=9.0,SNR=37	**25.87**	**224**	P			**P**	**15 44 06.5**	**-0.1**
ASAR	**Alice Springs**	**25.87**	**224**	P			**P**	**15 44 06.1**	**-0.5**
KNRA	**Kununurra**	**25.92**	**245**	P			**P**	**15 44 07.0**	**0.0**
KNRA	comp=Z,30nm,0.9s					IAmb	IAmb	15 44 52.7	
LBMI	**Labuha** comp=Z,40nm,0.9s	**25.93**	**280**	P			**P**	**15 44 06.5**	**-0.7**
H11S3	**WAKE ISLAND Hy** baz=214,SNR=5.1	**27.30**	**29**	T		T	T	16 12 51.4	
H11S2	**WAKE ISLAND Hy** baz=214	**27.30**	**29**	T		T	T	16 13 23.2	
H11S1	**WAKE ISLAND Hy** baz=214	**27.32**	**29**	T		T	T	16 12 56.6	
STKA	**Stephens Creek** comp=Z,5.5nm,0.8s,baz=41,slow=12,SNR=6.3	**28.43**	**201**	P			**P**	**15 44 29.1**	**-0.4**
STKA	comp=Z,380nm,18.1s,baz=23,slow=38					LR	LR	15 56 30.9	
STKA	**Stephens Creek**	**28.43**	**201**	P			**P**	**15 44 27.6**	**-1.8**
FITZ	**Fitzroy Crossi** comp=Z,7.1nm,0.9s,baz=64,slow=8.2,SNR=11	**29.58**	**242**	P			**P**	**15 44 39.8**	**0.0**
FITZ	comp=Z,218nm,18.7s,baz=56,slow=40					LR	LR	15 58 09.4	
FITZ	**Fitzroy Crossi**	**29.58**	**242**	P			**P**	**15 44 39.5**	**-0.3**
FITZ	comp=Z,11nm,0.9s					IAmb	IAmb	15 44 57.6	
FORT	**Forrest**	**34.47**	**220**	P			**P**	**15 45 22.5**	**-0.1**
NIUE	**Niue**	**38.56**	**114**	P			**P**	**15 45 58.2**	**+0.6**
TUWZ	**Tuamarina**	**40.45**	**156**	P			**P**	**15 46 12.6**	**-0.4**
PYZ	**Puysegur Point**	**42.30**	**166**	P			**P**	**15 46 28.4**	**+0.3**
JNU	**Nakatsue**	**43.70**	**333**	P			**P**	**15 46 39.1**	**-0.6**
MJAR	**Matsuiro Arr** comp=Z,3.5nm,0.8s,baz=165,slow=8.4,SNR=9.5	**43.97**	**343**	P			**P**	**15 46 39.8**	**-2.0**
MJAR	comp=Z,3.7nm,0.8s,baz=175,slow=3.1,SNR=7.6					PcP	**PcP**	**15 48 28.7**	**+1.5**
MJAR	comp=Z,99nm,21.4s,baz=195,slow=33					LR	LR	16 03 01.2	
MJAR	**Matsushiro Arr**	**43.97**	**343**	P			**P**	**15 46 41.5**	**-0.4**
MAJO	**Matsushiro**	**43.98**	**343**	P			**P**	**15 46 40.0**	**-1.8**
MJB9	**Matsu-Tunnel**	**43.98**	**343**	P			**P**	**15 46 40.0**	**-1.9**
DLV	**T Lat**	**47.53**	**291**	P			**P**	**15 47 09.3**	**-1.2**
KSRS	**Korea Array** comp=Z,2.9nm,1.0s,baz=148,slow=10.0,SNR=14	**48.64**	**333**	P			**P**	**15 47 18.4**	**-0.1**
KSRS	comp=Z,0.4nm,0.5s,baz=156,slow=3.4,SNR=4.0					PcP	**PcP**	**15 48 45.3**	**+1.8**
KSRS	comp=Z,48nm,18.9s,baz=195,slow=35					LR	LR	16 06 57.9	
KSAR	**Wonju Array Be**	**48.65**	**333**	P			**P**	**15 47 17.8**	**-0.7**
NJ2	**Nanjing**	**49.46**	**321**	*e*P			**P**	**15 47 26.0**	**+1.2**
NJ2	comp=Z,15nm,0.5s					pmax	pmax		
USA0B	**Ussuriysk Arra**	**52.89**	**341**	P			**P**	**15 47 49.6**	**-0.8**
USA0B	comp=Z,11nm,1.1s					IAmb	IAmb	15 47 51.4	
USRK	**Ussuriysk Ar.** comp=Z,3.8nm,0.9s,baz=170,slow=9.2,SNR=14	**52.89**	**341**	P			**P**	**15 47 50.4**	**0.0**
USRK	comp=Z,0.9nm,0.8s,baz=158,slow=4.7,SNR=4.3					PcP	**PcP**	**15 49 01.1**	**+2.0**
USRK	comp=Z,43nm,18.3s,baz=168,slow=35					LR	LR	16 09 32.7	
USRK	**Ussuriysk Ar.**	**52.89**	**341**	P			**P**	**15 47 49.4**	**-0.9**
YSS	**Yuzh-Sakhalins**	**52.92**	**351**	P			**P**	**15 47 50.4**	**-0.1**
YSS	comp=Z,25nm,1.3s					IAmb	IAmb	15 47 51.3	
ENH	**Enshi**	**54.73**	**313**	P			**P**	**15 48 03.5**	**-0.7**
ENH	comp=Z,12nm,0.9s					IAmb	IAmb	15 48 06.8	
OBL	**Observatory Le**	**56.52**	**63**	P			**P**	**15 48 16.4**	**-0.8**
BJI	**Beijing**	**56.52**	**326**	P			**P**	**15 48 16.6**	**-0.1**
BJI	comp=Z,4.0nm,0.8s					pmax	pmax		
XAN	**Xi'an**	**57.22**	**317**	P			**P**	**15 48 21.5**	**-0.4**
XAN	comp=Z,11nm,0.8s					pmax	pmax		
XAN	**Xi'an**	**57.22**	**317**	P			**P**	**15 48 21.2**	**-0.7**
XAN	comp=Z,7.0nm,0.6s					IAmb	IAmb	15 48 22.4	
CM31	**Chiang Mai Arr**	**58.34**	**295**	P			**P**	**15 48 30.4**	**+0.4**
CM31	comp=Z,10.0nm,0.9s					IAmb	IAmb	15 48 33.6	
CMAR	**Chiang Mai Arr** comp=Z,4.4nm,0.9s,baz=110,slow=5.1,SNR=25	**58.34**	**295**	P			**P**	**15 48 31.1**	**+1.0**
CMAR	comp=Z,57nm,20.0s,baz=166,slow=35					LR	LR	16 12 56.6	
CMAR	**Chiang Mai Arr**	**58.34**	**295**	P			**P**	**15 48 30.2**	**+0.2**
PET	**Petropavlovsk**	**58.40**	**4**	P			**P**	**15 48 29.7**	**0.0**
PEA0B	**Petropavlovsk-**	**58.42**	**3**	P			**P**	**15 48 30.1**	**+0.2**
PETK	**Petropavlovsk-** comp=Z,17nm,0.6s,baz=173,slow=7.8,SNR=75	**58.42**	**3**	P			**P**	**15 48 30.5**	**+0.6**
PETK	comp=Z,92nm,22.0s,baz=240,slow=32					LR	LR	16 09 46.1	
PETK	**Petropavlovsk-**	**58.42**	**3**	P			**P**	**15 48 30.0**	**0.0**
HHC	**Hu-ho-hao-te**	**59.67**	**324**	*e*P			**P**	**15 48 39.6**	**+0.6**
HHC	comp=Z,6.0nm,1.0s					pmax	pmax		
HHC	comp=Z,46nm,5.1s					pmax	pmax		
ADK	**Adak**	**62.65**	**21**	P			**P**	**15 48 58.9**	**+0.2**
MA2	**Magadan**	**64.80**	**359**	P			**P**	**15 49 12.6**	**-0.2**
GTA	**Gaotai**	**66.25**	**317**	*e*P			**P**	**15 49 23.8**	**+1.0**
GTA				pP			pP	15 49 28.0	-5.3
GTA	comp=Z,4.0nm,1.0s			pmax			pmax		
ULN	**Ulaanbaatar**	**66.63**	**328**	P			**P**	**15 49 25.4**	**+0.4**
ULN	comp=Z,7.0nm,1.1s					IAmb	IAmb	15 49 27.1	
SHL	**Shillong**	**66.81**	**301**	P			**P**	**15 49 26.3**	**-0.4**
SONM	**Songino Array** comp=Z,1.5nm,0.5s,baz=152,slow=7.4,SNR=14	**66.96**	**328**	P			**P**	**15 49 26.9**	**-0.2**
SONM	**Songino Array**	**66.96**	**328**	P			**P**	**15 49 26.4**	**-0.7**
YAK	**Yakutsk**	**69.61**	**348**	P			**P**	**15 49 43.2**	**0.0**
YAK	comp=Z,8.2nm,0.8s					IAmb	IAmb	15 49 44.7	
TLY	**Talaya**	**70.71**	**330**	P			**P**	**15 49 49.8**	**-0.5**
VNDA	**Vanda** comp=Z,1.1nm,1.0s,baz=327,slow=5.9,SNR=5.5	**72.22**	**178**	P			**P**	**15 49 59.5**	**+0.5**
VNDA	**Vanda**	**72.22**	**178**	P			**P**	**15 49 59.0**	**+0.1**
BILL	**Bilibino**	**73.87**	**5**	P			**P**	**15 50 08.9**	**+0.2**
BILL	comp=Z,35nm,1.4s					IAmb	IAmb	15 50 10.6	
WMQ	**Urumqi**	**76.34**	**317**	*e*P			**P**	**15 50 24.0**	**+0.4**
WMQ	comp=Z,15nm,0.7s					pmax	pmax		
WMQ	comp=Z,110nm,6.5s					pmax	pmax		
SVW2	**Sparrevohn**	**77.28**	**23**	P			**P**	**15 50 29.2**	**+0.7**
SVW2	comp=Z,6.8nm,0.6s					IAmb	IAmb	15 52 10.2	
CNPM	**China Poot**	**78.16**	**25**	P			**P**	**15 50 33.4**	**0.0**
ZSN	**Zaisan** comp=Z,3.2nm,1.6s,baz=320	**79.48**	**320**	*e*P			**P**	**15 50 40.9**	**0.0**
SML	**Sawmill**	**80.57**	**24**	P			**P**	**15 50 46.6**	**0.0**
SML	comp=Z,14nm,0.9s					IAmb	IAmb	15 50 47.4	
BPAW	**Bear Paw Mtn.**	**80.76**	**22**	P			**P**	**15 50 46.8**	**-0.7**
MK31	**Makanchi Array**	**80.93**	**319**	P			**P**	**15 50 48.7**	**0.0**
MKAR	**Makanchi Array** comp=Z,2.7nm,0.9s,baz=104,slow=6.1,SNR=18	**80.93**	**319**	P			**P**	**15 50 49.2**	**+0.5**
MKAR	**Makanchi Array**	**80.93**	**319**	P			**P**	**15 50 48.7**	**-0.1**
MAKZ	**Makanchi**	**81.14**	**319**	P			**P**	**15 50 49.8**	**-0.1**
RND	**Reindeer**	**81.19**	**23**	P			**P**	**15 50 48.8**	**-1.0**
RND	comp=Z,12nm,1.0s					IAmb	IAmb	15 50 50.8	
MCK	**McKinley** comp=Z,20nm,1.0s	**81.33**	**22**	P			**P**	**15 50 50.0**	**-0.5**
MCK						IAmb	IAmb	15 50 51.1	
ZAA0	**Zalesovo Array**	**81.78**	**326**	P			**P**	**15 50 52.4**	**-0.6**
ZAA0	comp=Z,10nm,0.8s					IAmb	IAmb	15 50 53.7	
ZALV	**Zalesovo Beam** comp=Z,10.0nm,0.8s,baz=106,slow=5.4,SNR=39	**81.78**	**326**	P			**P**	**15 50 53.0**	**-0.1**
ZALV	comp=Z,48nm,21.7s,baz=145,slow=34					LR	LR	16 25 31.1	
ZALV	**Zalesovo Beam**	**81.78**	**326**	P			**P**	**15 50 52.3**	**-0.7**
SHLS	**Shalkode** comp=Z,3.6nm,1.7s,baz=315	**81.82**	**315**	*e*P			**P**	**15 50 52.4**	**-1.3**
WRH	**Wood River Hil**	**82.03**	**22**	P			**P**	**15 50 53.1**	**-1.0**
UZB	**Uzynbulak** comp=Z,2.4nm,1.5s,baz=315	**82.13**	**315**	*e*P			**P**	**15 50 55.4**	**+0.1**
CCB	**Clear Creek Bu**	**82.22**	**22**	P			**P**	**15 50 54.0**	**-1.1**
SATY	**Saty** comp=Z,2.1nm,1.7s,baz=314	**82.54**	**315**	*e*P			**P**	**15 50 57.5**	**+0.1**
IL31		**82.63**	**22**	P			**P**	**15 50 55.8**	**-1.4**
IL31	comp=Z,6.1nm,1.1s					IAmb	IAmb	15 50 57.8	
ILAR	**Eielson Array** comp=Z,4.4nm,0.9s,baz=254,slow=5.1,SNR=30	**82.63**	**22**	P			**P**	**15 50 56.1**	**-1.1**
ILAR	comp=Z,76nm,19.2s,baz=256,slow=34					LR	LR	16 25 35.6	
ILAR	**Eielson Array**	**82.63**	**22**	P			**P**	**15 50 55.6**	**-1.7**
COLD	**Coldfoot** comp=Z,14nm,1.9s	**82.75**	**19**	P			**P**	**15 50 58.3**	**+0.4**
COLD						IAmb	IAmb	15 51 58.2	
RIDG	**Independent Ri**	**82.92**	**23**	P			**P**	**15 50 58.8**	**0.0**
RIDG	comp=Z,8.3nm,1.2s					IAmb	IAmb	15 50 59.2	
DOT	**Dot Lake**	**83.19**	**24**	P			**P**	**15 51 00.1**	**-0.2**
DOT	comp=Z,7.3nm,0.8s					IAmb	IAmb	15 51 01.6	
SEM	**Semipalatinsk** comp=Z,1.3nm,0.9s,baz=322	**83.30**	**322**	*e*P			**P**	**15 51 00.3**	**-1.1**
SEM	baz=322			*e*S			**S**	**16 01 21.3**	**+1.7**
SCRK	**Sand Creek**	**83.36**	**23**	P			**P**	**15 51 00.8**	**-0.4**
SCRK	comp=Z,6.0nm,1.1s					IAmb	IAmb	15 51 02.9	
KSH	**Kashi**	**83.50**	**311**	*e*P			**P**	**15 51 05.3**	**+2.8**
KSH	comp=Z,21nm,0.6s					pmax	pmax		
KSH	comp=Z,250nm,6.6s					pmax	pmax		
MDOK	**Medeo** baz=314	**83.53**	**314**	*e*P			**P**	**15 51 03.3**	**+0.6**
MDOK	comp=Z,37nm,15.0s,baz=314					LR	LR	16 32 38.0	
TOLK	**Toolik Lake Re**	**83.71**	**18**	P			**P**	**15 51 03.5**	**+0.7**
TOLK	comp=Z,5.7nm,0.9s					IAmb	IAmb	15 51 05.2	
BCAR	**Beaver Creek A**	**83.86**	**25**	P			**P**	**15 51 03.6**	**-0.1**
KUU	**Kurty** comp=Z,9.9nm,1.1s,baz=315	**84.20**	**315**	*e*P			**P**	**15 51 05.6**	**-0.2**
KURK	**Kurchatov**	**84.38**	**322**	P			**P**	**15 51 06.3**	**-0.2**
KURK	comp=Z,14nm,1.1s					IAmb	IAmb	15 51 08.0	
NIL	**Nilore**	**84.51**	**304**	P			**P**	**15 51 07.6**	**0.0**
TKM2	**Tokmak 2** SNR=5.5	**84.51**	**314**	P			**P**	**15 51 09.0**	**+1.3**
KZA	**Kyzart** SNR=12	**84.58**	**313**	P			**P**	**15 51 09.8**	**+1.5**
BMAR	**Burnt Mountain**	**84.73**	**20**	P			**P**	**15 51 08.4**	**+0.4**
EGAK	**Eagle**	**84.82**	**23**	P			**P**	**15 51 08.7**	**+0.3**
EGAK	comp=Z,11nm,1.2s					IAmb	IAmb	15 53 53.9	
HYT	**Haines Junctio**	**84.86**	**27**	P			**P**	**15 51 09.5**	**+0.6**
HYT	comp=Z,7.3nm,1.0s					IAmb	IAmb	15 51 11.6	
CHMS	**Chumysh** SNR=5.1	**85.14**	**314**	P			**P**	**15 51 11.4**	**+0.8**
UCH	**Uchtor** SNR=12	**85.15**	**313**	P			**P**	**15 51 12.8**	**+1.6**
DAWY	**Dawson**	**85.24**	**24**	P			**P**	**15 51 11.2**	**+0.6**
DAWY	comp=Z,5.1nm,1.2s					IAmb	IAmb	15 51 13.4	
SGDS	**Sogindy** comp=Z,3.6nm,0.9s,baz=314	**85.32**	**314**	*e*P			**P**	**15 51 11.3**	**-0.3**
SGDS	baz=314			*e*S			**S**	**16 01 35.3**	**-4.5**
USP	**Ospenovka** SNR=9.9	**85.37**	**314**	P			**P**	**15 51 12.8**	**+1.0**
AML	**Almayashu** SNR=19	**85.73**	**313**	P			**P**	**15 51 15.6**	**+1.6**
EKS2	**Erkin-Say** SNR=6.0	**85.77**	**313**	P			**P**	**15 51 15.6**	**+1.7**
BTLS	**Baital** comp=Z,4.0nm,1.0s,baz=316	**86.05**	**316**	*e*P			**P**	**15 51 14.9**	**-0.2**
NRIK	**Noril'sk** comp=Z,4.3nm,0.5s,baz=97,slow=4.2,SNR=10.0	**86.61**	**341**	P			**P**	**15 51 17.2**	**0.0**
NRIK	comp=Z,52nm,20.6s,baz=97,slow=35					LR	LR	16 29 29.4	
EPYK	**Eagle Plains**	**87.13**	**22**	P			**P**	**15 51 20.2**	**+0.3**
EPYK	comp=Z,11nm,0.8s					IAmb	IAmb	15 51 21.8	
BRZS	**Berezniki** comp=Z,3.8nm,1.3s,baz=320	**87.92**	**320**	*e*P			**P**	**15 51 24.1**	**0.0**
KKAR	**Karatay Array**	**88.21**	**313**	P			**P**	**15 51 25.1**	**-0.5**
BRVK	**Borovoye**	**89.93**	**323**	P			**P**	**15 51 32.2**	**-1.1**
BRVK	comp=Z,6.6nm,0.9s					IAmb	IAmb	15 51 33.9	
NVAR	**Mina Array Bea** comp=Z,1.2nm,0.8s,baz=248,slow=7.8,SNR=7.0	**92.27**	**52**	P			**P**	**15 51 45.2**	**+0.2**
NVAR	comp=Z,112nm,20.3s,baz=282,slow=31					LR	LR	16 26 40.5	
NVAR	**Mina Array Bea**	**92.27**	**52**	P			**P**	**15 51 44.6**	**-0.3**
YKA	**Yellowknife Ar** comp=Z,1.6nm,0.9s,baz=267,slow=4.9,SNR=4.8	**95.85**	**28**	P			**P**	**15 52 01.0**	**+0.6**
YKA	comp=Z,94nm,20.2s,baz=0.0,slow=33					LR	LR	16 30 47.5	
AKTO	**Aktyubinsk** comp=Z,0.9nm,0.6s,baz=56,slow=8.5,SNR=3.6	**97.33**	**320**	P			**P**	**15 52 06.1**	**-1.4**
PDAR	**Pinedale Array** comp=Z,126nm,18.0s,baz=292,slow=34	**99.08**	**48**	LR		LR	LR	16 34 31.5	
BRG	**Berggiesshubel** comp=Z,2.9nm,0.9s	**123.31**	**330**	*e*PKP			**PKiKP**	**

YOJ				S	Sn	15 39 51.0	+0.3
JYNG	**Yonagunijimaku**	**0.64**	**297**	P	Pn	15 39 42.6	+0.1
JYNG				*e*S	Sn	15 39 51.7	-0.1
JISG	**Ishigakijimahi**	**0.80**	**58**	P	Pn	15 39 44.6	0.0
JISG				*e*S	Sn	15 39 56.0	+0.5

TAP 23 15:39:40.2, 24°.20N × 121°.59E, h20km, ML1.9, 1C-1D, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao** baz=165	**0.02**	**166**	*i* P	Pg	15 39 44.2	+0.5
NACB	baz=165			*e*S	Sg	15 39 46.7	+0.7
ETLH	**Xiulin Townshi** baz=276	**0.10**	**277**	*i* P	Pg	15 39 44.7	+0.5
ETLH	baz=276			*i* S	Sg	15 39 47.6	+0.7
TWD	**Chiawan** baz=172	**0.12**	**177** ⇑	*i*P	Pg	15 39 44.7	+0.4
TWD	baz=172			*i* S	Sg	15 39 47.6	+0.6
HWA	**Hwalien** baz=174	**0.22**	**176**	*e*P	Pg	15 39 46.3	+0.7
HWA	baz=174			*e*S	Sg	15 39 50.4	+1.2
ENA	**Nanau** baz=32	**0.27**	**31**	P	Pg	15 39 46.9	+0.5
ENA	baz=32			*e*S	Sg	15 39 51.3	+0.6
NNSB	**Datong** baz=321	**0.30**	**321**	*e*P	Pg	15 39 47.6	+0.6
NNSB	baz=321			*e*S	Sg	15 39 52.5	+0.9
NNSH	**Datong** baz=321	**0.30**	**321**	P	Pg	15 39 47.6	+0.6
NNSH	baz=321			*e*S	Sg	15 39 52.3	+0.7
WHF	**Hehuan Shan** baz=259	**0.30**	**261** ⇓	*i*P	Pg	15 39 47.5	+0.3
WHF	baz=259			*e*S	Sg	15 39 52.5	+0.5
NNS	**Nan Shan** baz=321	**0.31**	**321**	P	Pb	15 39 47.8	+0.5
NNS	baz=321			*e*S	Sg	15 39 52.8	+0.8
TDCB	**Techi** baz=278	**0.40**	**278**	*e*P	Pb	15 39 49.3	+0.6
TDCB	baz=278			*e*S	Sb	15 39 55.0	+0.5
CHGB	**Renai** baz=250	**0.40**	**251**	P	Pb	15 39 49.3	+0.5
CHGB	baz=250			*e*S	Sb	15 39 55.2	+0.5
ESL	**Shilin** baz=199	**0.41**	**201**	*e*P	Pg	15 39 48.7	0.0
NDT	**Datong Townshi** baz=350	**0.41**	**350**	*e*P	Pb	15 39 49.6	+0.7
NDT	baz=350			*e*S	Sb	15 39 55.4	+0.7
ENTT	**Nioudou** baz=358	**0.44**	**357**	*e*P	Pb	15 39 50.1	+0.6
ENTT	baz=358			*e*S	Sb	15 39 56.7	+1.1
TWC	**Suao** baz=30	**0.48**	**30**	*e*P	Pg	15 39 50.5	+0.5
TWC	baz=30			*e*S	Sb	15 39 56.7	+0.2
YHNB	**Yeheng** baz=337	**0.51**	**338**	*e*P	Pg	15 39 51.2	+0.6
YHNB	baz=337			*e*S	Sg	15 39 58.1	+0.5
NSK	**Sanguang** baz=336	**0.52**	**336**	*e*P	Pg	15 39 51.7	+0.8
NSK	baz=336			*e*S	Sg	15 39 58.3	+0.3
TWE	**Neicheng** baz=9.0	**0.53**	**8**	*e*P	Pg	15 39 51.3	+0.4
EGFH	**Guangfu** baz=195	**0.54**	**196**	*e*P	Pb	15 39 51.0	0.0
NWLT	**Wulai** baz=352	**0.58**	**352**	*e*P	Pg	15 39 52.6	+0.6
VWDT	**VWDT** baz=222	**0.60**	**223**	*e*P	Pg	15 39 52.5	+0.3
VWDT	baz=222			*e*S	Sg	15 40 01.1	+0.7
LIOB	**Emei** baz=310	**0.69**	**311**	*e*P	Pn	15 39 55.0	+0.1
SSLB	**Suanglung** baz=255	**0.71**	**235**	*e*P	Pg	15 39 54.4	+0.2
EHY	**Hungye** baz=199	**0.73**	**200**	*e*P	Pb	15 39 54.1	-0.1
TYC	**Yuchr** baz=246	**0.73**	**247**	*e*P	Pg	15 39 54.8	+0.2
WHYT	**Xinyi Township** baz=233	**0.84**	**234**	*e*P	Pn	15 39 57.1	+0.2
YULB	**Yu-li** baz=198	**0.84**	**199**	*e*P	Pg	15 39 56.5	-0.2
YULB	baz=198			*e*S	Sn	15 40 08.7	-0.1

IDC 23 15:52:35.3±2.9, 6°.80S × 130°.37E, h78km±40km, mb3.0/1, mb1 3.3/5, mb1mx3.1/23, mbtmp3.4/5, ML3.3/4, MS3.5/1, Ms1 3.5/1, ms1mx3.0/7, Error ellipse: s-maj=72.4km s-min=24.2km az=91.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong** 0.5nm,0.3s,baz=180,slow=20,SNR=1.6	**5.96**	**9**	P	Pn	15 54 00.9	-0.1
SIJI	0.1nm,0.3s,baz=189,slow=23,SNR=0.7			S	Sn	15 54 59.0	-8.8
BATI	**Baumata** comp=Z,371nm,21.4s,baz=65,slow=40	**7.44**	**242**	LR	LR	15 57 34.7	
FITZ	**Fitzroy Crossi** 0.4nm,0.3s,baz=24,slow=11,SNR=32	**12.14**	**202**	P	Pn	15 55 26.1	+0.8
FITZ	0.5nm,0.3s,baz=146,slow=22,SNR=13			S	Sn	15 57 35.6	-3.3
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=345,slow=13,SNR=8.0	**13.62**	**164**	P	Pn	15 55 43.7	-1.6
WRA	0.1nm,0.3s,baz=326,slow=24,SNR=1.5			S	Sn	15 58 02.2	-13
ASAR	**Alice Springs** 0.1nm,0.3s,baz=350,slow=9.7,SNR=7.8	**17.11**	**169**	P	P	15 56 30.2	0.0
ASAR	0.1nm,0.3s,baz=358,slow=24,SNR=2.5			S	Sn	15 59 31.5	-8.1
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=110,slow=7.1,SNR=4.5	**68.26**	**327**	P	P	16 03 27.9	0.0

IDC 23 16:08:29.0±0.7, 26°.91S × 176°.57W, h0km, mb4.1/10, mb1 4.4/11, mb1mx4.2/22, mbtmp4.1/11, ML4.9/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/20, Error ellipse: s-maj=28.3km s-min=20.7km az=124.0
NEIC 23 16:08:36.9±1.1, 27°.22S±0°.08 × 176°.54W±0°.10, h66km±7km, mb4.7/19, Error ellipse: s-maj=15.0km s-min=7.7km az=48.0

ISC 23 16:08:33.8±0.5, 27°.15S±0°.08 × 176°.4W±0°.1, h35km, n55, σ1s12/52, mb4.2/16, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 234nm,0.3s,baz=80,slow=12,SNR=7.5	**2.49**	**212**	Pn	**Pn**	**16 09 13.3**	**+1.5**
RAO	176nm,0.3s,baz=78,slow=21,SNR=4.7			Sn	Sn	16 09 50.2	+9.2
MSVF	**Nonsavu**	**10.69**	**330**	Pn	**Pn**	**16 11 07.0**	**+2.5**
BFZ	**Birch Farm**	**14.81**	**202**	P	**P**	**16 12 05.7**	**-0.4**
MSWZ	**Moikau Station**	**15.81**	**204**	P	**P**	**16 12 15.8**	**-1.4**
LTZ	**Lake Taylor**	**18.13**	**208**	P	**Pn**	**16 12 42.1**	**-0.6**
LTZ	comp=Z,61nm,1.6s			IAmb	IAmb	16 12 43.4	
PPT	**Papeete** comp=Z,52nm,18.1s,baz=288,slow=36	**26.52**	**75**	LR	LR	16 24 39.5	
CTAO	**Charters Tower**	**34.84**	**273**	P	**P**	**16 15 22.3**	**+0.5**
CTAO	comp=Z,12nm,1.3s			IAmb	IAmb	16 16 14.3	
AS31	**Alice Springs**	**44.80**	**263**	P	**P**	**16 16 43.1**	**-1.4**
ASAR	**Alice Springs** comp=Z,1.0nm,0.6s,baz=94,slow=6.5,SNR=22	**44.80**	**263**	P	**P**	**16 16 43.0**	**-1.6**
WR0	**Warramunga Arr**	**45.32**	**268**	P	**P**	**16 16 47.5**	**-1.1**
WR0	comp=Z,23nm,1.6s			IAmb	IAmb	16 17 29.6	
WB2	**Warramunga Arr**	**45.49**	**268**	P	**P**	**16 16 48.8**	**-1.2**
WRAB	**Tennant Creek**	**45.50**	**268**	P	**P**	**16 16 48.9**	**-1.2**
WRAB	comp=Z,17nm,1.5s			IAmb	IAmb	16 17 21.2	
WRA	**Warramunga Arr** comp=Z,2.0nm,0.6s,baz=108,slow=7.9,SNR=4.1	**45.50**	**268**	P	**P**	**16 16 48.8**	**-1.3**
WB0	**Warramunga Arr**	**45.51**	**268**	P	**P**	**16 16 48.4**	**-1.8**
FORT	**Forrest**	**48.32**	**252**	P	**P**	**16 17 10.6**	**-1.4**
VNDA	**Vanda** comp=Z,0.9nm,0.8s,baz=352,slow=7.2,SNR=5.3	**51.46**	**186**	P	**P**	**16 17 38.6**	**+3.5**
CASY	**Casey**	**58.66**	**207**	P	**P**	**16 18 27.1**	**-0.2**
QSPA	**South Pole Qui**	**62.95**	**180**	P	**P**	**16 18 57.8**	**+1.2**
MJAR	**Matsushiro Arr** comp=Z,1.4nm,0.7s,baz=162,slow=6.6,SNR=4.2	**76.42**	**324**	P	**P**	**16 20 20.1**	**+0.4**
SYO	**Syowa Base**	**80.58**	**192** ⇑	*e*P	**P**	**16 20 39.8**	**-2.4**
H03S2	**Juan Fernandez** baz=242,slow=74,SNR=4.1	**81.07**	**123**	T	T	17 49 45.6	
H03S1	**Juan Fernandez** baz=242,slow=74,SNR=4.0	**81.08**	**123**	T	T	17 49 57.1	
H03S3	**Juan Fernandez** baz=242,slow=74,SNR=5.0	**81.09**	**123**	T	T	17 49 46.1	
SNAA	**Sanae**	**81.35**	**178**	P	**P**	**16 20 46.6**	**+0.2**
VNA3	**Neumayer Olymp**	**81.44**	**176**	P	**P**	**16 20 46.8**	**0.0**
VNA2	**Neumayer--Watz** baz=180,slow=4.5	**81.89**	**176**	P	**P**	**16 20 49.8**	**+0.6**
VNA1	**Neumayer--Stat**	**82.11**	**176**	P	**P**	**16 20 50.7**	**+0.4**
KSRS	**Korea Array** comp=Z,1.2nm,0.8s,baz=135,slow=5.4,SNR=5.9	**82.83**	**319**	P	**P**	**16 20 54.9**	**+0.4**
KSAR	**Wonju Array Be**	**82.84**	**318**	P	**P**	**16 20 54.2**	**-0.3**
PETK	**Petropavlovsk-** comp=Z,1.5nm,0.9s,baz=123,slow=11,SNR=4.1	**83.05**	**345**	P	**P**	**16 20 54.9**	**-0.3**
PETK	**Petropavlovsk-** baz=242,slow=74,SNR=4.1	**83.05**	**345**	P	**P**	**16 20 56.2**	**+1.0**
NVAR	**Mina Array Bea** comp=Z,2.0nm,0.9s,baz=222,slow=8.3,SNR=12	**84.89**	**42**	P	**P**	**16 21 06.1**	**+0.8**
NVAR	**Mina Array Bea**	**84.89**	**42**	P	**P**	**16 21 05.4**	**+0.1**
TPNV	**Topopah Spring**	**85.20**	**44**	P	**P**	**16 21 07.4**	**+0.6**
KVN	**Kaiserville**	**85.42**	**42**	P	**P**	**16 21 07.9**	**0.0**
PSUT	**Pine Spring**	**87.67**	**44**	P	**P**	**16 21 19.1**	**+0.2**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.8s,baz=222,slow=6.7,SNR=5.1	**89.44**	**56**	P	**P**	**16 21 27.8**	**+0.4**
TXAR	**Lajitas Array**	**89.44**	**56**	P	**P**	**16 21 27.5**	**+0.1**
D08A	**Wollman Farm,** comp=Z,6.1nm,0.9s	**90.21**	**35**	P	**P**	**16 21 31.0**	**+0.6**
D08A				IAmb	IAmb	16 21 32.5	
F10A	**Beach Ranch, E** comp=Z,0.6nm,0.8s,baz=226,slow=6.0,SNR=4.8	**90.39**	**37**	P	**P**	**16 21 31.0**	**-0.4**
F10A	comp=Z,4.8nm,0.8s			IAmb	IAmb	16 21 32.6	
ENH	**Enshi**	**90.96**	**304**	P	**P**	**16 21 34.8**	**+0.5**
PDAR	**Pinedale Array** comp=Z,0.8nm,0.8s,baz=222,slow=2.0,SNR=5.1	**92.81**	**43**	P	**P**	**16 21 42.9**	**0.0**
PDAR	**Pinedale Array**	**92.81**	**43**	P	**P**	**16 21 42.4**	**-0.5**
BOZ	**Bozeman (W)**	**93.24**	**40**		**P**	**16 21 45.0**	**+0.3**
BOZ	comp=Z,2.0nm,0.8s			IAmb	IAmb	16 21 46.1	
ILAR	**Eielson Array** comp=Z,0.6nm,0.8s,baz=226,slow=6.0,SNR=4.8	**94.46**	**12**	P	**P**	**16 21 49.2**	**-0.5**
ILAR	**Eielson Array**	**94.46**	**12**	P	**P**	**16 21 48.9**	**-0.8**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.8s,baz=82,slow=1.7,SNR=6.1	**116.74**	**311**	PKP	**PKPdf**	**16 27 12.6**	**-1.7**
ARCES	**ARCESS Array B** comp=Z,1.5nm,0.8s,baz=339,slow=2.2,SNR=3.9	**135.70**	**349**	PKP	**PKiKP**	**16 27 50.1**	**-1.2**
NB2	**NORSAR Subarra** comp=Z,1.3nm,0.8s,baz=11,slow=4.1	**145.73**	**353**	PKP	**PKPab**	**16 28 08.2**	**-0.7**
NOA	**NORSAR Array B** comp=Z,3.2nm,0.9s,baz=5.5,slow=2.6,SNR=7.7	**145.73**	**353**	PKPbc	**PKPab**	**16 28 08.1**	**-0.7**
AKASG	**Malin Array Be** comp=Z,1.3nm,0.5s,baz=38,slow=3.4,SNR=7.8	**149.46**	**327**	PKPbc	**PKPbc**	**16 28 17.9**	**-1.0**
AKASG	**Malin Array Be**	**149.46**	**327**		**PKPbc**	**16 28 18.0**	**-1.0**
BRTR	**Keskin Array B** comp=Z,0.9nm,0.7s,baz=197,slow=3.9,SNR=3.7	**152.12**	**304**	PKPbc	**PKPbc**	**16 28 25.1**	**-0.7**
BRTR	**Keskin Array B**	**152.12**	**304**		**PKPbc**	**16 28 24.5**	**-1.3**
TORD	**Torodi Ar. Bea** comp=Z,0.9nm,1.0s,baz=252,slow=2.9,SNR=3.5	**165.96**	**172**	PKP	**PKPdf**	**16 28 35.5**	**-0.3**
TORD	comp=Z,3.0nm,1.0s,baz=194,slow=4.0,SNR=6.4			PKPab	**PKPab**	**16 29 36.2**	**+0.7**

JMA 23 16:14:07.4±0.2, 24°.10N × 122°.65E, h9km±3km, M2.5
TAP 23 16:14:08.2, 24°.24N × 122°.65E, h23km, ML2.4, C

ISC 23 16:14:08.3±1.0, 24°.19N±0°.04 × 122°.65E±0°.02, h22km±7km, n58, σ0s71/76, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.38**	**45**	P	**Pb**	**16 14 16.0**	**-0.3**
YOJ	**Yonaguni jima** baz=62	**0.43**	**50**	*i*P	**Pb**	**16 14 16.9**	**-0.3**
YOJ	baz=62			*i* S	**Sb**	**16 14 23.3**	**+0.1**
YOJ	**Yonaguni jima**	**0.43**	**50**	P	**Pb**	16 14 16.9	-0.3
YOJ				S	**Sb**	**16 14 23.7**	**+0.5**
TWC	**Suao** baz=297	**0.84**	**300**	*e*P	**Pb**	**16 14 23.9**	**-0.4**
TWC	baz=297			*e*S	**Sn**	**16 14 35.2**	**-1.3**
ENA	**Nanau** baz=283	**0.86**	**286**	*i* P	**Pb**	**16 14 24.0**	**-0.6**
ENA	baz=283			*e*S	**Sb**	**16 14 35.6**	**-0.1**
EGS	baz=313	**0.93**	**315**	*e*P	**Pn**	**16 14 26.1**	**+0.1**
NACB	**Ninganchiao** baz=266	**0.96**	**270**	*e*P	**Pb**	**16 14 26.1**	**-0.2**
NACB	baz=266			*e*S	**Sn**	**16 14 39.7**	**+0.1**
TWD	**Chiawan** baz=261	**0.97**	**264**	*e*P	**Pb**	**16 14 26.3**	**-0.1**
HWA	**Hwalien** baz=254	**0.98**	**258**	*e*P	**Pb**	**16 14 26.6**	**+0.1**
IRIF	**Iriomote-Funau**	**1.00**	**81**	P	**Pb**	**16 14 26.7**	**-0.2**
IRIF				*e*S	**Sn**	**16 14 40.0**	**-0.3**
NTC	**Toucheng** baz=310	**1.00**	**312**	*e*P	**Pn**	**16 14 27.5**	**+0.5**
TWB1	**Santiao Chiao** baz=322	**1.02**	**324**	*e*P	**Pn**	**16 14 26.4**	**-0.8**
TWE	**Neicheng** baz=299	**1.04**	**301**	*e*P	**Pb**	**16 14 27.7**	**0.0**
TWE	baz=299			*e*S	**Sn**	**16 14 40.9**	**-0.6**
HATJ	**Hateruma jima** baz=314	**1.06**	**97**	P	**Pn**	**16 14 27.4**	**-0.5**
HATJ				*e*S	**Sb**	**16 14 41.4**	**0.0**
ETLH	**Xiulin Townshi** baz=269	**1.07**	**271**	*i* P	**Pb**	**16 14 28.1**	**-0.1**
ETLH	baz=269			*e*S	**Sn**	**16 14 42.7**	**+0.5**
TIPB	**Shuangxi** baz=314	**1.08**	**316**	*e*P	**Pb**	**16 14 28.6**	**+0.2**
ENTT	**Nioudou** baz=292	**1.09**	**295**	*e*P	**Pb**	**16 14 28.5**	**+0.1**
ENTT	baz=292			*e*S	**Sn**	**16 14 42.0**	**-0.6**
NDT	**Datong Townshi** baz=290	**1.12**	**292**	*e*P	**Pb**	**16 14 29.3**	**+0.3**
NDT	baz=290			S	**Sn**	**16 14 43.4**	**+0.1**
ESL	**Shilin** baz=249	**1.17**	**252**	*e*P	**Pn**	**16 14 28.3**	**-1.1**
NNSB	**Datong** baz=265	**1.18**	**282**	*e*P	**Pb**	**16 14 30.1**	**0.0**
NNSB	baz=265			*e*S	**Sn**	**16 14 45.3**	**+0.2**
NNSH	**Datong** baz=265	**1.18**	**282**	*e*P	**Pb**	**16 14 29.9**	**-0.2**
NNSH	baz=265			*e*S	**Sn**	**16 14 45.0**	**-0.1**
NNS	**Nan Shan** baz=290	**1.19**	**283**	*e*P	**Pb**	**16 14 30.4**	**+0.1**
NNS	baz=290			*e*S	**Sn**	**16 14 45.1**	**-0.3**
NWLT	**Wulai** baz=308	**1.20**	**300**	*e*P	**Pb**	**16 14 30.6**	**+0.2**
NWLT	baz=308			*e*S	**Sb**	**16 14 46.0**	**+0.5**
EGFH	**Guangfu** baz=243	**1.23**	**246**	*e*P	**Pn**	**16 14 29.2**	**-1.0**
JKRS	**Kuro-shima**	**1.24**	**87**	P	**Pb**	**16 14 31.0**	**0.0**
JKRS				S	**Sb**	**16 14 47.4**	**+0.8**
YHNB	**Yeheng** baz=276	**1.26**	**293**	*e*P	**Pb**	**16 14 31.5**	**+0.1**
WHF	**Hehuan Shan** baz=266	**1.27**	**268**	*i* P	**Pn**	**16 14 31.0**	**-0.1**
WHF	baz=266			*e*S	**Sn**	**16 14 47.3**	**-0.3**
NSK	**Sanguang** baz=276	**1.28**	**293**	*e*P	**Pb**	**16 14 31.7**	**0.0**
TATO	**Taipei** baz=305	**1.32**	**307**	*e*P	**Pb**	**16 14 32.4**	**0.0**
CHGB	**Renai** baz=262	**1.35**	**265**	*e*P	**Pn**	**16 14 32.2**	**+0.1**
JIJ	**Ishigaki jima**	**1.37**	**82**	P	**Pn**	**16 14 32.5**	**+0.4**
JIJ				S	**Sb**	**16 14 50.3**	**-0.1**
EHY	**Hungye** baz=238	**1.39**	**241**	*e*P	**Pn**	**16 14 31.6**	**-0.8**
YM04	**YM04** baz=312	**1.40**	**314**	*e*P	**Pb**	**16 14 33.2**	**-0.5**
VWDT	**VWDT** baz=251	**1.45**	**253**	*e*P	**Pn**	**16 14 33.0**	**-0.1**
YULB	**Yu-li** baz=235	**1.47**	**238**	*e*P	**Pn**	**16 14 32.6**	**-0.9**
TWF1	**Yuli** baz=234	**1.49**	**236**	*e*P	**Pn**	**16 14 33.1**	**-0.7**
WHP	**Taichung City** baz=259	**1.56**	**274**	*e*P	**Pb**	**16 14 36.5**	**0.0**
JISG	**Ishigakijimahi**	**1.56**	**75**	P	**Pn**	**16 14 35.0**	**+0.2**
DPDB	**Guoxing** baz=263	**1.58**	**265**	*e*P	**Pb**	**16 14 36.0**	**-0.9**
FULB	**Fuli** baz=230	**1.58**	**232**	*e*P	**Pn**	**16 14 33.8**	**-1.3**
SSLB	**Suanglung** baz=254	**1.60**	**256**	*e*P	**Pn**	**16 14 35.6**	**+0.3**
SMLT	**Sun Moon Lake** baz=257	**1.63**	**260**	*e*P	**Pn**	**16 14 36.2**	**+0.4**
TYC	**Yuchr** baz=258	**1.66**	**261**	*e*P	**Pn**	**16 14 36.7**	**+0.5**
WHYT	**Xinyi Township** baz=252	**1.71**	**254**	*e*P	**Pn**	**16 14 37.6**	**+0.7**
ELDTW	**Lidau** baz=234	**1.80**	**237**	*e*P	**Pn**	**16 14 37.0**	**-1.1**
ALS	**Alishan** baz=246	**1.82**	**249**	*e*P	**Pn**	**16 14 39.2**	**+0.6**
CHN5	**Tsauling** baz=239	**1.90**	**252**	*e*P	**Pn**	**16 14 40.9**	**+1.4**
TWG	**Pinlang** baz=238	**1.99**	**227**	*e*P	**Pn**	**16 14 41.9**	**+1.3**
STYT	**Tauyuan** baz=226	**2.01**	**240**	*e*P	**Pn**	**16 14 41.3**	**+0.3**
TPUB	**Ta-pu** baz=243	**2.05**	**245**	*e*P	**Pn**	**16 14 42.7**	**+1.2**
CHN4	**Tsaushan** baz=245	**2.06**	**247**	*e*P	**Pb**	**16 14 43.8**	**-1.2**
WTP	**Ta-pu** baz=242	**2.09**	**244**	*e*P	**Pn**	**16 14 43.1**	**+1.1**
CHN1	**Nanshi** baz=242	**2.19**	**243**	*e*P	**Pn**	**16 14 45.4**	**+2.0**
SLGT	**Liugui** baz=225	**2.19**	**238**	*e*P	**Pn**	**16 14 45.0**	**+1.6**
SGST	**Jiashian** baz=228	**2.19**	**240**	*e*P	**Pn**	**16 14 44.5**	**+1.1**
ECL	**Taimali** baz=235	**2.22**	**225**	*e*P	**Pn**	**16 14 44.8**	**+1.0**
SSD	**Sandimen** baz=222	**2.34**	**233**	*e*P	**Pn**	**16 14 46.9**	**+1.4**
MASBT	**Mashibuluo** baz=220	**2.43**	**230**	*e*P	**Pn**	**16 14 47.4**	**+0.7**

GCG 23 16:21:04.6±1.0, 13°.64N × 91°.29W, h54km±87km, MD3.5
SNET 23 16:21:05.1±0.9, 13°.70N × 91°.31W, h35km±16km, ML3.4

ISC 23 16:21:05.3±2.9, 13°.7N±0°.2 × 91°.31W±0°.09, h29km±18km, n17, σ0s56/21, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERG	**Entre ros, C**	**0.77**	**341**	*e*P	**Pb**	**16 21 20.8**	**+0.6**
FUG	**Fuego 3**	**0.86**	**31**	*e*P	**Pb**	**16 21 21.9**	**+0.1**
RTAL	**Retalhuleu**	**0.90**	**335**	*i* P	**Pn**	**16 21 21.1**	**-0.8**
RTAL				*e*S	**Sb**	**16 21 33.7**	**-0.2**
IXG	**Ixpaco**	**0.96**	**61**	*i* P	**Pn**	**16 21 22.6**	**-0.3**
PCG	**Pacaya**	**0.96**	**45**	*e*P	**Pb**	**16 21 23.2**	**-0.3**
STG3	**Santiaguito 3,**	**1.03**	**346**	*e*P	**Pn**	**16 21 23.9**	**0.0**
NBG	**Las Nubes**	**1.27**	**47**	*e*P	**Pb**	**16 21 28.6**	**-0.2**
RTR	**El Retiro**	**1.62**	**83**	*e*P	**Pn**	**16 21 32.1**	**0.0**
CEVE	**Cerro Verde** comp=Z,1µm,0.3s	**1.64**	**86**	IAML		16 21 51.4	
SBLS	**San Blas**	**1.64**	**85**	*e*P	**Pn**	**16 21 31.9**	**-0.4**
UNIC	**Universidad Ca**	**1.73**	**81**	*e*S	**Sn**	**16 21 54.5**	**-0.1**
JAYA	**Jayaque - finc**	**1.81**	**92**	*e*P	**Pn**	**16 21 33.8**	**-0.8**
JAYA				*e*S	**Sn**	**16 21 55.7**	**-0.8**
JAYA	comp=Z,771nm,0.2s			IAML		16 21 58.8	
TACO	**Tacachico**	**1.91**	**82**	*e*P	**Pn**	**16 21 35.9**	**-0.1**
TACO	comp=Z,66nm,0.2s			IAML		16 21 38.7	
TACO				*e*S	**Sn**	**16 21 59.7**	**+0.7**
BOQS	**Boqueron**	**1.97**	**89**	*e*P	**Pn**	**16 21 36.6**	**-0.3**
BOQS				*e*S	**Sn**	**16 22 01.9**	**+1.2**
MTO3	**Montecristo**	**2.01**	**70**	*e*P	**Pn**	**16 21 37.3**	**-0.1**
ESQI	**Esquipulas**	**2.08**	**66**	*e*P	**Pn**	**16 21 38.7**	**+0.3**
LFRS	**El Faro**	**2.18**	**92**	*e*P	**Pn**	**16 21 40.1**	**+0.4**
LFRS				*e*S	**Sn**	**16 22 06.2**	**+0.4**

IDC 23 16:25:17.8±0.6, 5°.31S × 153°.06E, h0km, mb4.3/19, mb1 4.4/21, mb1mx4.4/30, mbtmp4.3/21, ML2.3/2, MS3.7/17, Ms1 3.7/17, ms1mx3.7/24, Error ellipse: s-maj=17.6km s-min=13.5km az=95.0
DJA 23 16:25:20.0±1.6, 5°.5±3° × 15°.3E±°, h23km±11km, M5.0/13, mb4.6/13, mB5.9/2, MLv5.1/2, Mw(mB)5.5/2
NEIC 23 16:25:22.7±1.5, 5°.34S±0°.07 × 153°.13E±0°.02, h36km±6km, mb4.8/43, Error ellipse: s-maj=9.9km s-min=3.2km az=173.0

ISC 23 16:25:23.0±0.4, 5°.37S±0°.05 × 153°.12E±0°.06, h37km, n108, σ1s01/106, mb4.6/40, MS3.8/16, 1C, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.51**	**321**	Pn	**Pn**	**16 25 47.2**	**-0.3**
KRVT	**Keravat (AS076** 749nm,0.3s,baz=174,slow=0.6,SNR=1329	**1.52**	**314**	Pn	**Pn**	**16 25 47.2**	**-0.4**
KRVT	744nm,0.3s,baz=285,slow=22,SNR=16			Sn	**Sn**	**16 26 08.7**	**+2.6**
KRVT	comp=Z,3µm,21.5s,baz=129,slow=49			LR	LR	16 26 28.4	
PMG	**Port Moresby** 1.3nm,0.3s,baz=67,slow=6.4,SNR=6.9	**7.14**	**236**	Pn	**Pn**	**16 27 05.6**	**+0.7**
PMG	5.0nm,0.3s,baz=34,slow=17,SNR=13			Sn	**Sn**	**16 28 22.2**	**-2.6**
HNR	**Honiara** 2.4nm,0.3s,baz=262,slow=7.1,SNR=2.1	**7.88**	**121**	Pn	Pn	16 27 21.3	+6.2
HNR	comp=Z,157nm,18.2s,baz=322,slow=35			LR	LR	16 29 56.9	
HNR	**Honiara**	**7.88**	**121**	Pn	**Pn**	**16 27 14.2**	**-1.0**
JAY	**Jayapura** 0.1nm,0.3s,baz=74,slow=15,SNR=1.7	**12.70**	**282**	Pn	**Pn**	**16 28 18.7**	**-2.6**
JAY	**Jayapura** 6.5nm,1.2s	**12.70**	**282**	P	**Pn**	**16 28 22.3**	**+1.1**
PATS	**Pohnpei**	**13.19**	**23**	Pn	**Pn**	**16 28 26.1**	**-1.7**
GENI	**Genyem**	**13.21**	**282**	P	**Pn**	**16 28 27.8**	**-0.3**
SMPI	**Sarmi** 13nm,1.6s	**14.76**	**283**	P	**Pn**	**16 28 47.9**	**-1.4**
CTAO	**Charters Tower**	**16.08**	**204**	P	**P**	**16 29 09.2**	**-0.2**
EIDS	**Eidsvold**	**19.98**	**185**	P	**P**	**16 29 52.6**	**+0.4**
DZM	**Mont Dzumac** 3.7nm,0.6s,baz=189,slow=13,SNR=7.0	**21.02**	**143**	P	**P**	**16 30 06.2**	**+2.5**
DZM	**Mont Dzumac** comp=Z,44nm,0.8s	**21.02**	**143**	IAmb	IAmb	16 30 40.5	
SIJI	**Sorong** comp=Z,10nm,0.7s,baz=177,slow=3.1,SNR=3.9	**22.27**	**281**	P	**P**	**16 30 16.6**	**-0.5**
MTN	**Manton Dam**	**22.93**	**250**	P	**P**	**16 30 24.6**	**+0.6**
MTN	comp=Z,88nm,1.9s			IAmb	IAmb	16 30 27.6	
WB0	**Warramunga Arr**	**23.17**	**230**	P	**P**	**16 30 26.7**	**+0.2**
WB0	comp=Z,22nm,1.1s			IAmb	IAmb	16 30 32.6	
WR0	**Warramunga Arr**	**23.17**	**230**	P	**P**	**16 30 26.3**	**-0.2**
WB2	**Warramunga Arr**	**23.30**	**230**	P	**P**	**16 30 27.3**	**-0.5**
WRA	**Warramunga Arr** comp=Z,4.5nm,0.8s,baz=53,slow=9.4,SNR=15	**23.31**	**230**	P	**P**	**16 30 26.9**	**-1.1**
WRA	comp=Z,0.9nm,0.8s,baz=54,sl

KNRA Kununurra 26.01 245 P P 16 30 52.8 +0.1
STKA Stephens Creek 28.49 201 P P 16 31 13.8 -1.0
comp=Z,4.1nm,0.8s,baz=45,slow=12,SNR=2.9
STKA LR LR 16 43 08.0
comp=Z,243nm,18.2s,baz=19,slow=38
STKA Stephens Creek 28.49 201 P P 16 31 14.0 -0.9
FITZ Fitzroy Crossi 29.67 242 P P 16 31 24.7 -0.8
comp=Z,7.4nm,1.0s,baz=78,slow=5.2,SNR=10.0
FITZ Fitzroy Crossi 29.67 242 P P 16 31 24.9 -0.5
LUWI Luwuk 30.59 277 P P 16 31 34.4 +0.7
TUWZ Tuamarina 40.44 156 P P 16 32 57.2 -0.6
OXZ Oxford 41.33 159 P P 16 33 05.5 +0.4
JNU Nakatsue 43.71 333 P P 16 33 24.0 -0.7
MJAR Matsushiro Arr 43.97 343 P P 16 33 24.3 -2.4
comp=Z,2.4nm,1.0s,baz=171,slow=9.5,SNR=6.5
MJAR PcP PcP **16 35 12.7 +0.6**
comp=Z,2.5nm,0.9s,baz=168,slow=4.0,SNR=4.8
MJAR LR LR 16 49 55.7
comp=Z,79nm,21.4s,baz=170,slow=34
MJAR Matsushiro Arr 43.97 343 IAmb IAmb 16 33 25.8
MAT Matsushiro 43.97 343 P P 16 33 24.1 -2.6
KSRS Korea Array 48.65 333 P P 16 34 03.4 0.0
comp=Z,1.8nm,0.9s,baz=146,slow=9.5,SNR=11
KSRS LR LR 16 53 51.4
comp=Z,66nm,18.2s,baz=174,slow=35
KSAR Wonju Array Be 48.66 333 P P 16 34 03.2 -0.3
NJ2 Nanjing 49.49 321 *eP* **P 16 34 11.6 +1.7**
NJ2 pmax pmax
comp=Z,14nm,0.5s
USRK Ussuriysk Ar. 52.89 341 P P 16 34 34.4 -0.8
comp=Z,1.6nm,0.6s,baz=160,slow=9.0,SNR=5.8
YSS Yuzh-Sakhalins 52.90 351 P P 16 34 35.7 +0.4
ENH Enshi 54.77 313 P P 16 34 48.6 -0.7
ENH IAmb IAmb 16 34 51.2
comp=Z,10nm,1.0s
BYL Byron's Ledge 56.45 63 P P 16 34 60.0 -1.7
XAN Xi'an 57.25 317 P P 16 35 06.6 -0.4
XAN pP pP 16 35 18.8 +1.4
XAN pmax pmax
comp=Z,10.0nm,0.5s
XAN Xi'an 57.25 317 P P 16 35 06.4 -0.7
XAN IAmb IAmb 16 35 07.3
comp=Z,6.9nm,0.5s
PPT Papeete 57.25 107 LR LR 16 56 02.0
comp=Z,77nm,18.7s,baz=128,slow=32
PET Petropavlovsk 58.37 4 P P 16 35 14.7 +0.3
PEA0B Petropavlovsk- 58.39 3 P P 16 35 15.0 +0.4
PETK Petropavlovsk- 58.39 3 P P 16 35 15.4 +0.8
comp=Z,12nm,0.5s,baz=173,slow=7.9,SNR=95
PETK LR LR 16 56 52.5
comp=Z,64nm,22.0s,baz=239,slow=32
PETK Petropavlovsk- 58.39 3 P P 16 35 15.1 +0.5
CMAR Chiang Mai Arr 58.41 295 P P 16 35 16.0 +0.6
comp=Z,3.5nm,0.8s,baz=109,slow=5.1,SNR=20
CMAR LR LR 17 00 21.4
comp=Z,19nm,19.9s,baz=200,slow=36
CMAR Chiang Mai Arr 58.41 295 P P 16 35 15.6 +0.2
HHC Hu-ho-hao-te 59.69 324 *eP* **P 16 35 24.3 +0.3**
HHC pmax pmax
comp=Z,9.0nm,0.9s
HHC pmax pmax
comp=Z,36nm,4.8s
MA2 Magadan 64.77 359 P P 16 35 57.7 +0.2
GTA Gaotai 66.29 317 *eP* **P 16 36 08.8 +0.9**
GTA pP pP 16 36 12.8 -5.7
GTA sP pwP 16 36 16.0 -5.4
GTA pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 66.97 328 P P 16 36 12.8 +0.7
comp=Z,1.3nm,0.6s,baz=147,slow=5.8,SNR=10
SONM LR LR 17 03 22.9
comp=Z,51nm,21.7s,baz=127,slow=34
SONM Songino Array 66.97 328 P P 16 36 12.4 +0.3
TLY Talaya 70.73 330 LR LR 17 08 59.6
comp=Z,52nm,18.5s,baz=132,slow=37
TLY Talaya 70.73 330 P P 16 36 35.5 +0.3
TLY IAmb IAmb 16 36 36.3
comp=Z,7.7nm,0.8s
VNDA Vanda 72.25 178 P P 16 36 44.6 +0.7
comp=Z,0.4nm,0.8s,baz=324,slow=6.3,SNR=2.2
BILL Bilibino 73.83 5 P P 16 36 53.8 +0.4
WMQ Urumqi 76.38 317 *eP* **P 16 37 10.3 +1.6**
CNPM China Poot 78.09 25 P P 16 37 18.1 +0.2
TIXI Tiksi 78.50 352 P P 16 37 20.0 +0.1
TIXI IAmb IAmb 16 37 37.6
comp=Z,20nm,1.9s
SML Sawmill 80.51 24 P P 16 37 30.8 -0.3
SML IAmb IAmb 16 37 34.5
comp=Z,8.7nm,0.7s
MK31 Makanchi Array 80.96 319 P P 16 37 33.6 -0.2
MKAR Makanchi Array 80.96 319 P P 16 37 33.4 -0.4
comp=Z,1.1nm,0.6s,baz=103,slow=6.1,SNR=9.8
MKAR LR LR 17 13 35.1
comp=Z,48nm,19.7s,baz=124,slow=36
RND Reindeer 81.13 23 P P 16 37 33.6 -0.8
RND IAmb IAmb 16 37 34.9
comp=Z,6.8nm,0.9s
MAKZ Makanchi 81.17 319 P P 16 37 34.6 -0.3
MAKZ IAmb IAmb 16 37 37.8
comp=Z,18nm,1.8s
MCK McKinley 81.27 22 P P 16 37 34.4 -0.7
MCK IAmb IAmb 16 37 36.0
comp=Z,9.1nm,0.8s
DHY Denali Highway 81.54 23 P P 16 37 36.5 -0.1
DHY IAmb IAmb 16 40 13.3
comp=Z,16nm,1.7s
ZAA0 Zalesovo Array 81.80 326 P P 16 37 37.3 -0.7
ZAA0 IAmb IAmb 16 37 38.6
comp=Z,8.7nm,0.8s
ZALV Zalesovo Beam 81.80 326 P P 16 37 37.9 -0.1
comp=Z,8.8nm,0.8s,baz=112,slow=5.2,SNR=34
ZALV LR LR 17 12 04.2
comp=Z,33nm,22.0s,baz=124,slow=34
ZALV Zalesovo Beam 81.80 326 P P 16 37 37.2 -0.8
WRH Wood River Hil 81.97 22 P P 16 37 37.6 -1.0
WRH IAmb IAmb 16 37 39.9
comp=Z,5.6nm,1.1s
CCB Clear Creek Bu 82.17 22 P P 16 37 38.6 -1.1
ILAR Eielson Array 82.57 22 P P 16 37 40.5 -1.3
comp=Z,2.9nm,0.9s,baz=252,slow=4.9,SNR=19
ILAR LR LR 17 13 10.1
comp=Z,60nm,18.6s,baz=228,slow=35
SCRK Sand Creek 83.30 23 P P 16 37 45.4 -0.4
SCRK IAmb IAmb 16 38 29.2
comp=Z,13nm,1.6s
KSH Kashi 83.55 311 *eP* **P 16 37 50.3 +2.7**
KSH pmax pmax
comp=Z,17nm,0.8s
KSH pmax pmax
comp=Z,210nm,4.4s
BCAR Beaver Creek A 83.79 25 P P 16 37 47.9 -0.3
KURK Kurchatov 84.41 322 P P 16 37 51.4 -0.2
KURK IAmb IAmb 16 37 52.9
comp=Z,11nm,1.2s
NIL Nilore 84.56 304 P P 16 37 51.7 -1.1
KZA Kyzart 84.62 313 P P 16 37 54.8 +1.4
SNR=6.8
BMAR Burnt Mountain 84.67 20 P P 16 37 52.9 +0.3
CHMS Chumysh 85.18 314 P P 16 37 56.8 +1.1
SNR=5.3
UCH Uchtor 85.19 313 P P 16 37 57.6 +1.3
SNR=9.8
USP Ospenovka 85.41 314 P P 16 37 57.6 +0.8
SNR=7.8
AML Almayashu 85.77 313 P P 16 38 00.6 +1.4
SNR=14
EKS2 Erkin-Say 85.81 313 P P 16 38 00.5 +1.5
SNR=6.4
NRIK Noril'sk 86.61 341 P P 16 38 01.9 -0.2
comp=Z,4.2nm,0.5s,baz=121,slow=4.6,SNR=8.0
NRIK LR LR 17 17 05.2
comp=Z,37nm,19.8s,baz=118,slow=36
EPYK Eagle Plains 87.07 22 P P 16 38 05.2 +0.7
KKAR Karatay Array 88.25 313 P P 16 38 09.6 -1.1
BRVK Borovoye 89.95 323 P P 16 38 17.4 -1.0
BRVK IAmb IAmb 16 38 18.9
comp=Z,4.1nm,0.8s
NVAR Mina Array Bea 92.19 52 P P 16 38 30.0 +0.6
comp=Z,0.6nm,0.8s,baz=280,slow=4.4,SNR=4.4
NVAR LR LR 17 13 25.6
comp=Z,102nm,20.2s,baz=262,slow=31
SYO Syowa Base 93.23 199† *e*PcP **PcP 16 38 35.0 +1.1**
RPN Rapa Nui 94.27 118 LR LR 17 12 46.9
comp=Z,42nm,19.3s,baz=249,slow=30

YKA Yellowknife Ar 95.78 28 P P 16 38 45.2 +0.1
comp=Z,0.9nm,0.8s,baz=266,slow=5.0,SNR=4.8
PDAR Pinedale Array 99.00 48 LR LR 17 20 57.9
comp=Z,96nm,18.3s,baz=286,slow=34
CLL Collm 123.50 331 *e*PKPdf **PKiKP 16 44 17.0 +0.3**
GERES GERESS Array B 124.70 328 PKP **PKPdf 16 44 18.9 0.0**
comp=Z,1.1nm,0.7s,baz=80,slow=1.5,SNR=10.0
GERES GERESS Array B 124.70 328 PKPdf **PKPdf 16 44 18.6 -0.4**
LPAZ La Paz 133.97 111 PKP **PKiKP 16 44 40.2 +1.0**
comp=Z,1.0nm,0.7s,baz=248,slow=5.1,SNR=6.0
CPUP Villa Florida 136.83 138 PKP **PKiKP 16 44 44.6 +0.3**
comp=Z,2.9nm,0.9s,baz=102,slow=1.5,SNR=4.9
BDFB Brasilia 150.44 135 PKPbc **PKiKP 16 45 14.3 +1.8**
comp=Z,5.6nm,0.7s,baz=258,slow=1.3,SNR=7.3
TOA0 Torodi Ar. Sit 150.78 287 PKPbc 16 45 12.1 -0.4
TORD Torodi Ar. Bea 150.78 287 PKPbc **PKPbc 16 45 12.4 -0.1**
comp=Z,6.8nm,0.8s,baz=63,slow=2.2,SNR=34
TORD Torodi Ar. Bea 150.78 287 PKPbc **PKPbc 16 45 11.8 -0.8**

IDC 23 16:54:56.8±5.2, 19°12S×175°04W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/31, mbtmp4.1/4, Error ellipse: s-maj=156.0km s-min=101.6km az=166.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.42**	**262**	P	P	17 02 04.9	+1.4
	1.1nm,0.4s,baz=82,slow=7.1,SNR=2.1						
STKA	**Stephens Creek**	**40.30**	**243**	P	P	17 02 40.8	-0.1
	1.5nm,0.8s,baz=106,slow=15,SNR=4.2						
ASAR	**Alice Springs**	**47.56**	**255**	P	P	17 03 33.9	-0.6
	2.8nm,0.5s,baz=91,slow=7.5,SNR=94						
ASAR				PcP	PcP	17 05 04.5	-0.1
	0.3nm,0.9s,baz=115,slow=3.6,SNR=1.6						
WRA	**Warramunga Arr**	**47.57**	**260**	P	P	17 03 34.0	-0.6
	0.6nm,0.3s,baz=97,slow=7.6,SNR=23						

IDC 23 16:56:12.7±4.8, 23°64N×93°64E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.2/40, mbtmp3.5/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/33, Error ellipse: s-maj=391.5km s-min=27.5km az=60.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**24.84**	**341**	P	P	17 01 36.7	0.0
	0.6nm,0.5s,baz=146,slow=9.9,SNR=9.5						
WRA	**Warramunga Arr**	**58.74**	**134**	P	P	17 06 12.3	-0.4
	1.0nm,1.2s,baz=321,slow=7.5,SNR=4.7						
FINES	**FINESS Array B**	**58.81**	**329**	LR	LR	17 34 13.4	
	comp=Z,52nm,19.2s,baz=67,slow=39						
ASAR	**Alice Springs**	**61.15**	**137**	P	P	17 06 29.5	+0.3
	0.2nm,0.5s,baz=317,slow=6.5,SNR=5.8						

*NEIC **23** 17:13:25.1±3.0, 4°02S±0°09×142°00E±0°1, h106km±7km, mb4.2/11, Error ellipse: s-maj=15.5km s-min=11.3km az=57.0*
*IDC **23** 17:13:25.9±1.7, 4°08S×141°88E, h108km±14km, mb3.5/5, mb1 3.7/7, mb1mx3.4/29, mbtmp3.9/7, Error ellipse: s-maj=20.6km s-min=14.2km az=88.0*
ISC 23 17:13:25.2±0.7, 4°06S±0°07×142°00E±0°08, h109km, n28, σ1s39/31, mb3.6/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAY	**Jayapura**	**2.01**	**320**	P	**Pn**	**17 13 58.6**	**+0.2**
	6.2nm,0.3s,baz=164,slow=10,SNR=88						
JAY				S	**Sn**	**17 14 23.1**	**-0.6**
	17nm,0.3s,baz=279,slow=19,SNR=8.1						
PMG	**Port Moresby**	**7.38**	**136**	P	**Pn**	**17 15 12.1**	**+1.8**
	0.6nm,0.3s,baz=297,slow=11,SNR=1.7						
PMG				S	**Sn**	**17 16 29.2**	**-3.3**
	0.6nm,0.3s,baz=322,slow=19,SNR=1.2						
PMG	**Port Moresby**	**7.38**	**136**		**Pn**	**17 15 12.0**	**+1.7**
FAKI	**Fak Fak**	**9.80**	**276**	Pn	**Pn**	**17 15 43.0**	**-0.2**
COEN	**Coen**	**9.90**	**173**	Pn	**Pn**	**17 15 45.3**	**+0.7**
RABL	**Rabaul**	**10.14**	**91**	Pn	**Pn**	**17 15 47.9**	**0.0**
SAUI	**Saumlaki**	**11.33**	**249**	Pn	**Pn**	**17 16 01.1**	**-2.8**
MTN	**Manton Dam**	**13.84**	**230**	Pn	**Pn**	**17 16 36.3**	**-0.5**
WB0	**Warramunga Arr**	**17.28**	**205**	P	**P**	**17 17 19.0**	**-0.7**
WB0				IAmb	IAmb	17 17 45.1	
	comp=Z,8.6nm,0.9s						
WR0	**Warramunga Arr**	**17.39**	**204**	P	**P**	**17 17 18.9**	**-2.0**
WR0				IAmb	IAmb	17 17 24.9	
	comp=Z,9.2nm,0.8s						
KNRA	**Kununurra**	**17.40**	**228**		**Pn**	**17 17 22.9**	**+1.6**
KNRA				IAmb	IAmb	17 17 25.8	
	comp=Z,41nm,1.2s						
WRAB	**Tennant Creek**	**17.45**	**205**	P	**P**	**17 17 22.0**	**+0.5**
WRAB				IAmb	IAmb	17 17 26.1	
	comp=Z,9.6nm,0.7s						
WB2	**Warramunga Arr**	**17.46**	**205**		**Pn**	**17 17 22.3**	**+0.3**
WB2				IAmb	IAmb	17 17 26.1	
	comp=Z,11nm,0.6s						
WRA	**Warramunga Arr**	**17.46**	**205**	P	**P**	**17 17 20.8**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=15,slow=13,SNR=39						
WRA	**Warramunga Arr**	**17.46**	**205**		**P**	**17 17 20.2**	**-1.5**
GUMO	**Guam**	**17.77**	**9**	P	**P**	**17 17 22.2**	**-2.8**
AS31	**Alice Springs**	**21.00**	**201**	P	**P**	**17 18 00.7**	**+0.6**
ASAR	**Alice Springs**	**21.00**	**201**	P	**P**	**17 18 00.8**	**+0.6**
	comp=Z,4.0nm,0.6s,baz=26,slow=11,SNR=89						
FITZ	**Fitzroy Crossi**	**21.24**	**228**	P	**P**	**17 18 02.2**	**-0.4**
	comp=Z,4.2nm,0.7s,baz=49,slow=9.9,SNR=5.2						
FITZ				S	**S**	**17 21 52.2**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=322,slow=17,SNR=2.0						
FITZ	**Fitzroy Crossi**	**21.24**	**228**	P	**P**	**17 18 01.7**	**-1.0**
FITZ				IAmb	IAmb	17 18 29.6	
	comp=Z,34nm,1.7s						
MKAR	**Makanchi Array**	**72.87**	**322**	P	**P**	**17 24 43.9**	**+1.4**
	comp=Z,0.8nm,0.9s,baz=103,slow=8.8,SNR=4.6						
MAKZ	**Makanchi**	**73.07**	**322**	P	**P**	**17 24 45.2**	**+1.6**
ZALV	**Zalesovo Beam**	**74.76**	**329**	P	**P**	**17 24 53.6**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=133,slow=8.5,SNR=1.7						
ILAR	**Eielson Array**	**85.71**	**24**	P	**P**	**17 25 51.8**	**+0.1**
	comp=Z,0.5nm,0.7s,baz=263,slow=3.5,SNR=2.0						
ILAR	**Eielson Array**	**85.71**	**24**	P	**P**	**17 25 51.5**	**-0.3**
QSPA	**South Pole Qui**	**85.89**	**180**	P	**P**	**17 25 54.1**	**+1.3**
LPAZ	**La Paz**	**143.99**	**125**	PKP	**PKPdf**	**17 32 50.3**	**+0.5**
	comp=Z,2.4nm,0.5s,baz=223,slow=3.3,SNR=9.4						
LPAZ	**La Paz**	**143.99**	**125**		**PKPdf**	**17 32 50.1**	**+0.3**

IDC 23 17:38:46.3±3.3, 55°08N×34°99W, h0km, mb3.5/4, mb1 3.5/4, mb1mx3.2/46, mbtmp3.5/4, MS2.7/2, Ms1 2.7/2, ms1mx2.5/30, Error ellipse: s-maj=80.5km s-min=48.5km az=50.0, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOA	**NORSAR Array B**	**24.72**	**57**	LR	LR	17 52 12.6	
	comp=Z,7.6nm,21.9s,baz=290,slow=33						
ESDC	**Sonseca Array**	**25.77**	**114**	P	P	17 44 18.5	0.0
	0.5nm,0.9s,baz=318,slow=9.4,SNR=2.1						
HFS	**Hagfors**	**26.07**	**59**	LR	LR	17 52 54.7	
	comp=Z,38nm,18.4s,baz=324,slow=32						
AKASG	**Malin Array Be**	**37.77**	**69**	P	P	17 46 03.6	0.0
	1.0nm,0.5s,baz=305,slow=8.6,SNR=3.3						
KURBB	**Kurchatov Arra**	**61.02**	**42**	P	P	17 49 01.0	-0.1
	0.2nm,0.5s,baz=322,slow=7.1,SNR=4.4						
MKAR	**Makanchi Array**	**65.59**	**42**	P	P	17 49 31.5	0.0
	0.2nm,0.6s,baz=320,slow=6.4,SNR=3.6						
ASAR	**Alice Springs**	**147.56**	**19**	PKPbc	PKPbc	17 58 31.4	-0.7
	0.4nm,0.6s,baz=352,slow=2.7,SNR=8.4						

IDC 23 17:39:14.6±1.7, 14°34S×66°20E, h0km, mb3.6/7, mb1 3.8/7, mb1mx3.5/40, mbtmp3.6/7, MS3.6/3, Ms1 3.6/3, ms1mx2.9/37, Error ellipse: s-maj=63.2km s-min=27.4km az=48.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**9.06**	**43**	T	T	17 50 51.2	
	baz=222,slow=75,SNR=60						
H08S2	**Diego Garcia H**	**9.08**	**43**	T	T	17 50 52.1	
	baz=222,slow=75,SNR=76						
H08S3	**Diego Garcia H**	**9.08**	**43**	T	T	17 50 55.7	
	baz=222,slow=75,SNR=58						
MATP	**Matopo**	**36.43**	**255**	LR	LR	17 59 15.8	
	comp=Z,74nm,18.9s,baz=80,slow=33						
PSI	**Prapat**	**36.63**	**65**	LR	LR	17 59 20.0	
	comp=Z,150nm,18.0s,baz=267,slow=33						
LBTB	**Lobatse**	**39.55**	**248**	LR	LR	18 00 18.7	
	comp=Z,45nm,18.4s,baz=78,slow=32						

H01W3 Cape Leeuwin H 47.62 124 T T 18 38 50.5
baz=283,slow=75,SNR=11
H01W2 Cape Leeuwin H 47.62 124 T T 18 38 48.4
baz=283,slow=75,SNR=11
H01W1 Cape Leeuwin H 47.64 124 T T 18 38 46.9
baz=283,slow=75,SNR=9.4
MKAR Makanchi Array 62.55 12 P P 17 49 40.3 0.0
0.2nm,0.6s,baz=207,slow=6.1,SNR=2.5
ASAR Alice Springs 64.19 110 P P 17 49 51.5 -0.2
0.3nm,0.6s,baz=270,slow=5.6,SNR=7.1
WRA Warramunga Arr 64.97 106 P P 17 49 57.0 +0.1
1.2nm,0.8s,baz=268,slow=6.0,SNR=6.6
KURBB Kurchatov Arra 65.58 9 P P 17 49 59.4 -0.7
0.3nm,0.8s,baz=205,slow=7.8,SNR=2.9
BVAR Borovoye Array 67.19 3 P P 17 50 09.9 -0.4
0.3nm,0.5s,baz=168,slow=2.8,SNR=3.2
SONM Songino Array 71.52 27 P P 17 50 38.5 +1.0
0.3nm,0.4s,baz=238,slow=4.9,SNR=1.8
ESDC Sonseca Array 84.42 313 P P 17 51 49.5 +0.2
0.5nm,0.7s,baz=113,slow=3.0,SNR=4.9
PDAR Pinedale Array 151.44 353 PKPbc PKPbc 17 59 10.9 -0.2
0.6nm,0.6s,baz=64,slow=3.4,SNR=5.1

JMA 23 17:40:03.3±0.2, 24°10N×123°56E, h19km±1km, M1.2, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.23**	**101**	*e*S	Sb	17 40 12.0	+0.2
IRIF	**Iriomote-Funau**	**0.28**	**34**	P	Pg	17 40 09.5	-0.1
IRIF				S	Sg	17 40 14.0	+0.1
JKRS	**Kuro-shima**	**0.43**	**71**	P	Pg	17 40 12.1	-0.1
JKRS				S	Sg	17 40 18.2	0.0
JIJ	**Ishigaki jima**	**0.59**	**64**	P	Pb	17 40 14.5	-0.5
JIJ				S	Sb	17 40 22.6	-0.4
JISG	**Ishigakijimahi**	**0.84**	**55**	P	Pb	17 40 18.8	-0.5
JISG				S	Sb	17 40 29.8	-0.4

TAP 23 17:40:38.1, 23°09N×121°74E, h31km±1km, ML1.4, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FULB	**Fuli**	**0.42**	**285**	P	Pb	17 40 47.7	+0.4
	baz=284						
FULB				S	Sn	17 40 54.9	0.0
	baz=284						
TWF1	**Yuli**	**0.48**	**303**	P	Pn	17 40 48.8	-0.1
	baz=302						
TWF1				S	Sn	17 40 56.3	0.0
	baz=302						
YULB	**Yu-li**	**0.50**	**307**	P	Pn	17 40 49.2	0.0
	baz=306						
YULB				S	Sn	17 40 57.6	+0.7
	baz=306						
EHY	**Hungye**	**0.56**	**317**	*e*P	Pn	17 40 50.3	+0.3
	baz=317						
EHY				*e*S	Sn	17 40 59.0	+0.7
	baz=317						
EGFH	**Guangfu**	**0.64**	**334**	*e*P	Pb	17 40 50.8	0.0
	baz=333						
EGFH				*e*S	Sn	17 41 00.7	+0.4
	baz=333						
ELDTW	**Lidau**	**0.67**	**278**	*e*P	Pb	17 40 51.4	0.0
	baz=278						
ELDTW				*e*S	Sn	17 41 01.1	0.0
	baz=278						
TWG	**Pinlang**	**0.67**	**246**	*e*P	Pb	17 40 50.4	-0.9
	baz=245						
TWG				*e*S	Sn	17 41 01.8	+0.9
	baz=245						
ESL	**Shilin**	**0.77**	**339**	*e*P	Pn	17 40 52.6	-0.3
	baz=339						
ESL				*e*S	Sn	17 41 03.6	+0.1
	baz=339						
VWDT	**VWDT**	**0.86**	**320**	*e*P	Pb	17 40 54.6	+0.1
	baz=320						
VWDT				*e*S	Sb	17 41 06.2	+0.6
	baz=320						
WHYT	**Xinyi Township**	**1.01**	**307**	*e*P	Pb	17 40 57.7	+0.6
	baz=306						

*IDC **23** 17:49:59.9±1.6, 41°39N×113°20W, h0km, mb1 2.6/2, mb1mx2.6/36, mbtmp2.1/2, ML2.8/2, Error ellipse: s-maj=87.3km s-min=10.8km az=149.0*
*NEIC **23** 17:50:02.0±1.8, 41°06N±0°02×112°80W±0°05, h0km±2km, ML2.1/42, Error ellipse: s-maj=6.3km s-min=3.0km az=101.0*
ISC 23 17:50:01.9±0.9, 41°05N±0°03×112°80W±0°03, h0km, n27, σ1s00/28, Utah

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BGU	**Big Grassy Mou**	**0.22**	**235**	Pg	**Pg**	**17 50 06.0**	**0.0**
SPUT	**South Promonto**	**0.37**	**45**		**Pg**	**17 50 08.8**	**-0.1**
HVU	**Hansel Valley**	**0.73**	**1**	Pg	**Pg**	**17 50 14.2**	**-1.7**
DUG	**Dugway, Tooele**	**0.85**	**181**		**Pb**	**17 50 19.1**	**-0.6**
DUG				IAML		17 50 35.6	
	45nm,0.5s						
DUG				IAML		17 50 38.3	
	41nm,0.5s						
CTU	**Camp Tracy**	**0.87**	**114**		**Pb**	**17 50 20.0**	**+0.1**
TCUT	**Toone Canyon**	**1.05**	**86**		**Pb**	**17 50 23.2**	**+0.1**
HWUT	**Hardware Ranch**	**1.08**	**59**		**Pg**	**17 50 22.1**	**-0.5**
JLU	**Jordanelle**	**1.11**	**113**		**Pg**	**17 50 23.0**	**-0.2**
NLU	**North Lily Min**	**1.22**	**153**	Pg	**Pn**	**17 50 25.9**	**-0.5**
MPU	**Maple Canyon**	**1.36**	**139**	Pn	**Pg**	**17 50 27.3**	**-0.7**
ELK	**Elko**	**1.88**	**261**	Pn	**Pn**	**17 50 34.1**	**-1.3**
ELK				IAML		17 51 00.9	
	9.8nm,0.3s						
MSU	**Marysvale**	**2.58**	**169**	Pn	**Pn**	**17 50 45.2**	**+0.2**
PSUT	**Pine Spring**	**2.64**	**198**	Pn	**Pn**	**17 50 44.9**	**-1.0**
REDW	**Red Top Meadow**	**2.73**	**31**	Pn	**Pn**	**17 50 45.5**	**-1.6**
HLID	**Hailey**	**2.78**	**335**	Pn	**Pn**	**17 50 47.3**	**-0.5**
HLID				IAML		17 51 37.7	
	4.1nm,0.5s						
FXWY	**Fox Creek**	**2.90**	**26**	Pn	**Pn**	**17 50 49.9**	**+0.4**
FXWY				IAML		17 51 14.5	
	4.0nm,4.7s						
BW06	**Boulder Array**	**2.96**	**54**	Pn	**Pn**	**17 50 50.4**	**0.0**
PD31	**Pinedale Array**	**2.96**	**54**		**Pn**	**17 50 50.7**	**+0.3**
PDAR	**Pinedale Array**	**2.96**	**54**	Pn	**Pn**	**17 50 50.7**	**+0.3**
	0.2nm,0.3s,baz=233,slow=13,SNR=2.5						
PDAR				Pg	**Pb**	**17 50 56.0**	**+0.3**
	1.1nm,0.3s,baz=232,slow=14,SNR=17						
PDAR				Lg	Lg	17 51 36.0	
	1.2nm,0.3s,baz=222,slow=24,SNR=7.1						
PDAR	**Pinedale Array**	**2.96**	**54**		**Pn**	**17 50 50.5**	**+0.2**
IMW	**Indian Meadow**	**3.16**	**25**		**Pn**	**17 50 52.6**	**-0.5**
IMW				IAML		17 51 48.2	
	7.7nm,0.6s						
MFID	**Camas Ranch**	**3.26**	**317**	Pn	**Pn**	**17 50 54.9**	**+0.5**
MFID				IAML		17 51 47.4	
	6.5nm,0.4s						
MFID				IAML		17 51 49.7	
	6.0nm,0.9s						
R11A	**Troy Canyon, C**	**3.45**	**219**		**Pb**	**17 51 05.4**	**+1.4**
R11A				IAML		17 51 57.8	
	comp=E,3.0nm,0.6s						
R11A				IAML		17 51 58.4	
	comp=N,4.2nm,0.5s						
MCMT	**McKenzie Canyo**	**3.78**	**359**	Pn	**Pn**	**17 51 02.2**	**+0.6**
NVAR	**Mina Array Bea**	**4.99**	**240**	Pn	**Pn**	**17 51 15.6**	**-2.6**
	comp=N,0.1nm,0.3s,baz=68,slow=7.1,SNR=1.9						
NVAR				Pg	**Pb**	**17 51 31.0**	**+0.9**
	comp=N,0.2nm,0.3s,baz=52,slow=16,SNR=3.0						
NVAR				Sn	**Sn**	**17 52 18.8**	**+2.1**
	comp=N,0.3nm,0.3s,baz=48,slow=24,SNR=1.8						
I56US	**NEWPORT INFRAS**	**7.84**	**338**	*i*		18 34 00.0	
	baz=158,slow=316,SNR=9.1						
I57US	**PINON FLAT INF**	**7.98**	**203**	*i*		18 40 30.0	
	baz=18,slow=307,SNR=1.2						

IDC 23 17:53:52.2±1.6, 14°26S×66°26E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/39, mbtmp3.7/6, MS3.5/2, Ms1 3.5/2, ms1mx2.8/35, Error ellipse: s-maj=62.1km s-min=27.5km az=45.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**8.97**	**44**	T	T

H08S2	**Diego Garcia H**	**8.98**	**44**	T	T	18 05 27.6			
	baz=222,slow=75								
H08S3	**Diego Garcia H**	**8.99**	**43**	T	T	18 05 25.7			
	baz=222,slow=75								
BOSA	**Boshof**	**40.54**	**243**	LR	LR	18 16 21.5			
	comp=Z,84nm,18.6s,baz=108,slow=33								
CMAR	**Chiang Mai Arr**	**45.77**	**46**	LR	LR	18 19 30.4			
	comp=Z,39nm,19.9s,baz=219,slow=34								
H01W3	**Cape Leeuwin H**	**47.63**	**124**	T	T	18 53 26.5			
	baz=283,slow=75								
H01W2	**Cape Leeuwin H**	**47.63**	**124**	T	T	18 53 26.4			
	baz=283,slow=75								
H01W1	**Cape Leeuwin H**	**47.64**	**124**	T	T	18 53 27.2			
	baz=283,slow=75								
MKAR	**Makanchi Array**	**62.46**	**12**	P	P	18 04 16.8	-0.4		
	0.6nm,0.9s,baz=203,slow=8.9,SNR=3.8								
ASAR	**Alice Springs**	**64.15**	**110**	P	P	18 04 28.7	-0.5		
	0.5nm,0.6s,baz=267,slow=5.9,SNR=12								
WRA	**Warramunga Arr**	**64.95**	**106**	P	P	18 04 34.7	+0.4		
	0.8nm,0.7s,baz=269,slow=5.8,SNR=7.4								
ZALV	**Zalesovo Beam**	**69.76**	**12**	P	P	18 05 03.5	-0.5		
	0.6nm,0.6s,baz=165,slow=6.0,SNR=3.7								
SONM	**Songino Array**	**71.43**	**27**	P	P	18 05 15.4	+1.0		
	0.3nm,0.6s,baz=198,slow=8.7,SNR=2.2								
ESDC	**Sonseca Array**	**84.40**	**313**	P	P	18 06 26.7	-0.1		
	0.8nm,0.8s,baz=103,slow=4.1,SNR=6.2								
PDAR	**Pinedale Array**	**151.36**	**354**	PKPbc	PKPbc	18 13 48.6	+0.1		
	0.8nm,0.6s,baz=83,slow=3.4,SNR=7.3								

*JMA **23** 18:02:42.6±0.2,36.69N×141.72E,h54km±4km,M3.1*
*IDC **23** 18:02:44.8±2.5,37.22N×141.38E,h0km,mb3.3/3, mb1 3.5/4,mb1mx3.3/33,mbtmp3.3/4,ML2.4/1,Error ellipse: s-maj=50.7km s-min=32.9km az=32.0*
ISC 23 18:02:44.7±2.1,36.86N±0.06×141.48E±0.08,h2km±12km, n24,σ1§86/28,mb3.5/3,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.60**	**294**	P	**Pn**	**18 02 58.1**	**-2.2**
ONAJ				S	**Sb**	**18 03 10.0**	**+3.2**
JFK	**Kawauchi**	**0.70**	**316**	P	**Pn**	**18 02 59.8**	**-1.9**
JFK				*e*S	Sb	18 03 12.6	+2.8
JFFD	**Fukushimafurud**	**0.77**	**287**	P	**Pn**	**18 03 00.8**	**-1.8**
JHO	**Hitachi**	**0.78**	**251**	P	**Pg**	**18 02 59.4**	**-0.2**
JHO				S	**Sg**	**18 03 12.2**	**+2.6**
JHYU	**Hitachinakayam**	**0.89**	**234**	P	Pg	18 03 00.5	-1.3
JHYU				S	**Sg**	**18 03 13.6**	**+0.3**
JFT	**Otama**	**1.12**	**306**	P	**Pn**	**18 03 06.9**	**-0.6**
JFT				*e*S	**Sn**	**18 03 24.9**	**+1.4**
JMM	**Marumori**	**1.14**	**331**	P	**Pn**	**18 03 05.9**	**-1.8**
JMM				S	**Sn**	**18 03 23.3**	**-0.6**
JFY	**Yanaizu**	**1.52**	**291**	P	**Pb**	**18 03 13.2**	**-0.4**
JFY				S	**Sn**	**18 03 35.8**	**+2.5**
JIO	**Ouri**	**1.59**	**356**	P	**Pn**	**18 03 11.8**	**-2.1**
JOU	**Okura**	**1.64**	**337**	P	**Pn**	**18 03 13.8**	**-0.7**
JOU				S	**Sn**	**18 03 36.7**	**+0.6**
JAG	**Ashikaga**	**1.69**	**256**	P	**Pn**	**18 03 13.0**	**-2.2**
JAG				*e*S	**Sn**	**18 03 35.4**	**-2.0**
JYS	**Shirataka**	**1.76**	**321**	P	**Pb**	**18 03 16.9**	**-0.9**
JYS				*e*S	Sn	18 03 41.6	+2.3
JKT	**Katashina**	**1.79**	**268**	P	**Pb**	**18 03 17.8**	**-0.5**
JKT				*e*S	**Sn**	**18 03 40.0**	**-0.2**
MJAR	**Matsushiro Arr**	**2.65**	**264**	Pn	**Pn**	**18 03 27.6**	**-0.8**
	0.8nm,0.3s,baz=91,slow=8.8,SNR=42						
MJAR				Sn	**Sb**	**18 04 03.5**	**-2.4**
	0.7nm,0.3s,baz=35,slow=15,SNR=3.3						
MAT	**Matsushiro**	**2.65**	**264**	P	**Pn**	**18 03 28.2**	**-0.3**
MAT				S	**Sn**	**18 03 59.6**	**-1.6**
H11N2	**WAKE ISLAND Hy**	**28.01**	**121**	T	T	18 37 55.4	
	baz=313,slow=75,SNR=8.9						
H11N1	**WAKE ISLAND Hy**	**28.02**	**121**	T	T	18 37 43.1	
	baz=313,slow=75,SNR=9.5						
H11N3	**WAKE ISLAND Hy**	**28.03**	**121**	T	T	18 37 45.5	
	baz=313,slow=75,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**28.72**	**123**	T	T	18 39 11.8	
	baz=311,SNR=5.7						
H11S3	**WAKE ISLAND Hy**	**28.72**	**123**	T	T	18 38 39.4	
	baz=311,slow=74,SNR=4.9						
H11S2	**WAKE ISLAND Hy**	**28.74**	**123**	T	T	18 38 44.2	
	baz=311,slow=74,SNR=4.5						
MKAR	**Makanchi Array**	**44.26**	**302**	P	**P**	**18 10 53.8**	**-1.7**
	0.1nm,0.5s,baz=72,slow=11,SNR=2.0						
WRA	**Warramunga Arr**	**56.90**	**188**	P	**P**	**18 12 34.1**	**+2.9**
	0.2nm,0.4s,baz=0.0,slow=7.7,SNR=1.0						
ASAR	**Alice Springs**	**60.63**	**188**	P	**P**	**18 12 59.6**	**+2.6**
	0.4nm,0.9s,baz=7.8,slow=7.5,SNR=1.9						

*IDC **23** 18:06:04.2±1.0,25.13S×175.48W,h0km,mb4.0/7, mb1 4.2/7,mb1mx4.0/28,mbtmp4.0/7,MS3.5/6,Ms1 3.5/6, ms1mx3.1/27,Error ellipse: s-maj=36.5km s-min=27.0km az=149.0*
ISC 23 18:06:05.4±0.9,25.1S±0.2×175.4W±0.2,h10km,n16, σ1§50/12,mb4.1/9,MS3.5/4,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**14.85**	**78**	Pn	Pn	18 09 26.5	-9.1
	2.9nm,0.3s,baz=122,slow=1.7,SNR=4.6						
RAR				LR	LR	18 14 13.7	
	comp=Z,70nm,20.5s,baz=225,slow=33						
DZM	**Mont Dzumac**	**16.95**	**277**	Pn	**P**	**18 10 06.4**	**+1.5**
	0.2nm,0.3s,baz=84,slow=15,SNR=7.5						
DZM				LR	LR	18 15 29.1	
	comp=Z,219nm,19.1s,baz=104,slow=34						
PPT	**Papeete**	**25.13**	**78**	LR	LR	18 18 44.5	
	comp=Z,107nm,19.1s,baz=310,slow=30						
HNR	**Honiara**	**28.19**	**299**	LR	LR	18 21 41.1	
	comp=Z,55nm,21.1s,baz=215,slow=33						
STKA	**Stephens Creek**	**38.24**	**250**	LR	LR	18 27 44.1	
	comp=Z,118nm,18.6s,baz=36,slow=34						
ASAR	**Alice Springs**	**46.01**	**261**	P	**P**	**18 14 27.9**	**-1.5**
	4.8nm,1.1s,baz=103,slow=7.9,SNR=16						
ASAR				LR	LR	18 32 02.4	
	comp=Z,76nm,19.4s,baz=119,slow=34						
WRA	**Warramunga Arr**	**46.54**	**266**	P	**P**	**18 14 31.6**	**-2.0**
	1.6nm,0.9s,baz=102,slow=7.9,SNR=5.2						
VNDA	**Vanda**	**53.58**	**186**	P	**P**	**18 15 27.3**	**+1.2**
	0.8nm,0.8s,baz=25,slow=8.1,SNR=4.8						
LEM	**Lembang**	**75.41**	**269**	P	**P**	**18 17 49.4**	**-0.8**
	6.5nm,0.4s,baz=142,slow=18,SNR=3.7						
KSRS	**Korea Array**	**81.93**	**318**	P	**P**	**18 18 26.5**	**+1.2**
	1.4nm,0.9s,baz=116,slow=5.5,SNR=7.0						
NVAR	**Mina Array Bea**	**82.76**	**42**	P	**P**	**18 18 30.4**	**+0.5**
	0.3nm,0.5s,baz=216,slow=4.5,SNR=4.5						
USRK	**Ussuriysk Ar.**	**84.13**	**325**	P	**P**	**18 18 37.7**	**+1.2**
	4.9nm,1.1s,baz=184,slow=3.1,SNR=7.4						
TXAR	**Lajitas Array**	**87.54**	**56**	P	**P**	**18 18 53.2**	**-0.7**
	0.1nm,0.3s,baz=251,slow=2.8,SNR=1.5						
CMAR	**Chiang Mai Arr**	**93.92**	**288**	P	**P**	**18 19 25.1**	**+1.2**
	1.4nm,0.9s,baz=147,slow=3.2,SNR=8.2						
AKASG	**Malin Array Be**	**148.21**	**330**	PKPbc	**PKiKP**	**18 25 51.0**	**-2.1**
	0.7nm,0.6s,baz=35,slow=3.4,SNR=4.7						
BRTR	**Keskin Array B**	**151.66**	**308**	PKPbc	**PKiKP**	**18 26 00.3**	**-0.6**
	0.3nm,0.4s,baz=120,slow=2.1,SNR=1.5						

IDC 23 18:06:27.5±2.6,10.64S×120.43E,h0km,mb3.7/3, mb1 3.7/5,mb1mx3.5/27,mbtmp3.6/5,ML3.2/2,MS3.2/1, Ms1 3.2/1,ms1mx2.6/29,Error ellipse: s-maj=161.2km s-min=27.5km az=52.0,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.29**	**126**	Pn	Pn	18 10 16.6	-1.3
	0.1nm,0.3s,baz=296,slow=13,SNR=1.8						
WRA				Sn	Sn	18 13 07.9	-11
	0.1nm,0.3s,baz=293,slow=24,SNR=1.6						
ASAR	**Alice Springs**	**18.24**	**137**	P	P	18 10 44.3	+1.6
	0.1nm,0.3s,baz=314,slow=12,SNR=13						
ASAR				S	Sn	18 13 54.3	-13
	0.0nm,0.3s,baz=312,slow=23,SNR=4.3						
TGY	**Tagaytay City**	**24.58**	**1**	LR	LR	18 22 02.9	
	comp=Z,55nm,19.8s,baz=84,slow=38						
SONM	**Songino Array**	**59.53**	**349**	P	P	18 16 33.2	+0.3
	0.7nm,0.5s,baz=165,slow=8.7,SNR=5.3						
MKAR	**Makanchi Array**	**66.55**	**332**	P	P	18 17 19.4	0.0
	0.3nm,0.6s,baz=151,slow=5.9,SNR=3.9						
ZALV	**Zalesovo Beam**	**71.07**	**339**	P	P	18 17 46.5	-0.9
	0.7nm,0.4s,baz=157,slow=5.0,SNR=3.5						

*IDC **23** 18:17:21.3±1.6,10.72S×120.07E,h0km,mb3.6/3, mb1 3.8/8,mb1mx3.6/31,mbtmp3.7/8,ML3.5/5,MS3.3/1, Ms1 3.3/1,ms1mx2.5/31,Error ellipse: s-maj=53.2km s-min=20.9km az=52.0*
ISC 23 18:17:25.8±1.0,10.64S±0.09×120.66E±0.09,h30km,n9, σ3§86/12,mb3.9/3,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**2.99**	**82**	Pn	**Pb**	**18 18 18.1**	**-0.2**
	8.5nm,0.3s,baz=321,slow=1.5,SNR=13						
BATI				Sn	**Sb**	**18 18 56.4**	**+1.9**
	7.6nm,0.3s,baz=349,slow=16,SNR=4.5						
KAPI	**Kappang**	**5.66**	**351**	Pn	**Pn**	**18 18 47.1**	**-0.8**
	1.7nm,0.3s,baz=157,slow=17,SNR=2.0						
FITZ	**Fitzroy Crossi**	**8.84**	**148**	Pn	**Pn**	**18 19 34.1**	**+2.5**
	0.4nm,0.3s,baz=326,slow=7.2,SNR=20						
FITZ				Sn	**Sn**	**18 21 10.3**	**0.0**
	0.9nm,0.3s,baz=176,slow=17,SNR=10.0						
WRA	**Warramunga Arr**	**16.10**	**127**	Pn	**Pn**	**18 21 12.6**	**+2.5**
	0.1nm,0.3s,baz=296,slow=13,SNR=4.9						
WRA				Sn	**Sn**	**18 24 02.9**	**-5.0**
	0.1nm,0.3s,baz=331,slow=6.5,SNR=4.9						
ASAR	**Alice Springs**	**18.09**	**137**	P	**P**	**18 21 39.4**	**+4.2**
	0.1nm,0.3s,baz=314,slow=12,SNR=16						
ASAR				S	**Sn**	**18 24 47.6**	**-8.5**
	baz=307,slow=22,SNR=2.7						
JAY	**Jayapura**	**21.47**	**69**	LR	LR	18 31 31.1	
	comp=Z,79nm,20.0s,baz=240,slow=39						
SONM	**Songino Array**	**59.58**	**349**	P	**P**	**18 27 26.5**	**-0.3**
	0.7nm,0.6s,baz=163,slow=7.2,SNR=4.9						
MKAR	**Makanchi Array**	**66.66**	**332**	P	**P**	**18 28 13.0**	**-0.7**
	0.2nm,0.6s,baz=152,slow=6.5,SNR=1.9						
ZALV	**Zalesovo Beam**	**71.15**	**339**	P	**P**	**18 28 40.3**	**-1.1**
	0.6nm,0.6s,baz=125,slow=7.6,SNR=2.3						

*NEIC **23** 18:37:50.3±0.9,30.3S±0.1×177.4W±0.2,h10km±2km, mb4.2/7,Error ellipse: s-maj=37.5km s-min=17.5km az=65.0*
*IDC **23** 18:37:57.8±2.9,30.15S×177.71W,h56km±25km,mb3.8/4, mb1 4.0/4,mb1mx3.6/22,mbtmp4.1/4,MS4.4/1,Ms1 4.4/1, ms1mx3.2/26,Error ellipse: s-maj=33.7km s-min=29.1km az=146.0*
ISC 23 18:37:54.9±1.2,30.3S±0.1×177.5W±0.2,h35km,n22, σ1§28/18,mb4.2/6,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.07**	**339**	P	**Pn**	**18 38 14.5**	**+1.1**
	171nm,0.3s,baz=156,slow=19,SNR=7.9						
RAO				S	**Sn**	**18 38 27.7**	**+0.7**
	778nm,0.3s,baz=180,slow=20,SNR=12						
RAO				LR	LR	18 38 47.1	
	comp=Z,374nm,21.9s,baz=130,slow=54						
STKA	**Stephens Creek**	**34.95**	**257**	P	**P**	**18 44 44.4**	**+0.7**
	5.1nm,0.8s,baz=102,slow=12,SNR=9.9						
STKA	**Stephens Creek**	**34.95**	**257**	P	**P**	**18 44 45.3**	**+1.6**
ASAR	**Alice Springs**	**43.57**	**267**	P	**P**	**18 45 53.8**	**-1.9**
	0.6nm,0.5s,baz=105,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**43.57**	**267**	P	**P**	**18 45 55.4**	**-0.4**
WR0	**Warramunga Arr**	**44.36**	**272**	P	**P**	**18 46 01.7**	**-0.5**
WR0				IAmb	IAmb	18 46 04.1	
	comp=Z,4.1nm,1.1s						
WB2	**Warramunga Arr**	**44.53**	**272**	P	**P**	**18 46 01.9**	**-1.6**
WRA	**Warramunga Arr**	**44.54**	**272**	P	**P**	**18 46 01.7**	**-1.9**
	comp=Z,2.0nm,0.5s,baz=111,slow=8.1,SNR=18						
WRA	**Warramunga Arr**	**44.54**	**272**	P	**P**	**18 46 02.1**	**-1.5**
WB0	**Warramunga Arr**	**44.56**	**272**	P	**P**	**18 46 02.8**	**-1.0**
WB0				IAmb	IAmb	18 46 04.0	
	comp=Z,3.6nm,0.7s						
QSPA	**South Pole Qui**	**59.86**	**180**	P	**P**	**18 47 58.7**	**+1.9**
	comp=Z,1.1nm,0.9s,baz=66,slow=2.6,SNR=2.5						
QSPA	**South Pole Qui**	**59.86**	**180**	IAmb	IAmb	18 48 06.3	
	comp=Z,1.1nm,0.7s						
H03S2	**Juan Fernandez**	**80.17**	**123**	T	T	20 19 13.6	
	baz=238,slow=74,SNR=4.0						
H03S1	**Juan Fernandez**	**80.18**	**123**	T	T	20 19 30.4	
	baz=238,slow=74,SNR=4.9						
H03S3	**Juan Fernandez**	**80.19**	**123**	T	T	20 19 22.4	
	baz=238,slow=74,SNR=6.2						
KSAR	**Wonju Array Be**	**84.54**	**319**	P	**P**	**18 50 23.8**	**-0.5**
KS19	**Wonju Array Si**	**84.59**	**319**	P	**P**	**18 50 23.9**	**-0.7**
CMIG	**Matias Romero**	**92.28**	**72**	LR	LR	19 23 10.2	
	comp=Z,175nm,21.5s,baz=132,slow=29						
FINES	**FINESS Array B**	**145.16**	**340**	PKPbc	**PKPdf**	**18 57 27.1**	**-0.8**
	comp=Z,1.6nm,0.4s,baz=64,slow=3.4,SNR=9.4						
FINES	**FINESS Array B**	**145.16**	**340**		**PKPab**	**18 57 27.0**	**-0.7**
AKASG	**Malin Array Be**	**151.46**	**323**	PKPbc	**PKPbc**	**18 57 44.0**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=42,slow=3.3,SNR=1.9						
AKASG	**Malin Array Be**	**151.46**	**323**		**PKiKP**	**18 57 44.3**	**-0.9**

MAN 23 18:42:59.8,9.72N×123.87E,h20km,mb4.4,ML3.2,MS3.0, 1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.03**	**187**	*e*P	Pb	18 43 02.3	-1.0
TBP				*i* S	Sb	18 43 04.8	-0.9
SNPH	**Sibulan**	**0.73**	**239**	↓*i*P	Pn	18 43 15.0	0.0
SNPH				*i* S	Sn	18 43 26.4	+0.9
MSLP	**Maasin**	**1.06**	**67**	*e*P	Pb	18 43 18.9	-0.6
MSLP				*e*S	Sn	18 43 34.5	+0.8
CNOP	**Candoni, Negro**	**1.21**	**275**	*e*P	Pn	18 43 20.8	-0.8
CNOP				*e*S	Sn	18 43 37.9	+0.5
OCLP	**Ormoc**	**1.51**	**29**	*e*P	Pn	18 43 25.1	-0.6
OCLP				*e*S	Sn	18 43 45.0	+0.2

*NEIC **23** 19:12:03.0±1.8,6.4S±0.2×104.5E±0.1,h57km±10km, mb4.4/14,Error ellipse: s-maj=31.0km s-min=9.4km az=216.0*
*IDC **23** 19:12:05.7±3.0,6.23S×104.62E,h74km±26km,mb3.6/10, mb1 3.8/12,mb1mx3.5/38,mbtmp4.0/12,Error ellipse: s-maj=35.9km s-min=12.4km az=41.0*
ISC 23 19:12:01.1±1.0,6.5S±0.2×104.3E±0.1,h40km,n42, σ1§34/38,mb4.3/16,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**2.53**	**327**	Pn	**Pn**	**19 12 42.3**	**+2.6**
LEM	**Lembang**	**3.27**	**96**	P	**Pn**	**19 12 51.9**	**+1.9**
	13nm,0.3s,baz=177,slow=22,SNR=5.3						
LEM				S	**Sn**	**19 13 31.8**	**+4.0**
	4.5nm,0.3s,baz=359,slow=18,SNR=3.6						
CISI	**Cisompet, Garu**	**3.60**	**107**	Pn	**Pn**	**19 12 54.8**	**+0.2**
XMIS	**Christmas Isla**	**4.17**	**162**		Pn	19 12 57.0	-5.3
JAGI	**Jajag, Banyuwa**	**9.92**	**102**	Pn	**Pn**	**19 14 21.3**	**0.0**
BATI	**Baumata**	**19.46**	**102**	P	**P**	**19 16 24.8**	**0.0**
	7.3nm,0.3s,baz=273,slow=7.1,SNR=7.7						
BATI				S	**S**	**19 19 58.9**	**-3.9**
	1.1nm,0.3s,baz=255,slow=19,SNR=1.5						
SOEI	**Soe**	**19.99**	**101**	P	**P**	**19 16 29.6**	**-0.9**
SOEI				IAmb	IAmb	19 16 31.1	
	comp=Z,23nm,0.9s						
CMAR	**Chiang Mai Arr**	**25.36**	**348**	P	**P**	**19 17 23.9**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=181,slow=8.7,SNR=4.8						
KNRA	**Kununurra**	**25.62**	**113**	P	**P**	**19 17 25.8**	**-1.2**
MTN	**Manton Dam**	**27.14**	**105**	P	**P**	**19 17 41.1**	**+0.3**
H01W3	**Cape Leeuwin H**	**29.66**	**164**	T	T	19 49 24.1	
	baz=342,slow=76,SNR=4.6						
H01W1	**Cape Leeuwin H**	**29.68**	**164**	T	T	19 49 26.0	
	baz=342,slow=76,SNR=5.8						
H01W2	**Cape Leeuwin H**	**29.68**	**164**	T	T	19 49 30.4	
	baz=342,slow=76,SNR=4.7						
H08S2	**Diego Garcia H**	**31.62**	**266**	T	T	19 52 04.9	
	baz=89,slow=76,SNR=25						
H08S3	**Diego Garcia H**	**31.64**	**266**	T	T	19 52 01.7	
	baz=89,slow=76,SNR=48						
H08S1	**Diego Garcia H**	**31.64**	**266**	T	T	19 51 59.6	
	baz=89,slow=76,SNR=42						
WB0	**Warramunga Arr**	**32.03**	**117**	P	**P**	**19 18 24.6**	**+0.5**
WB0				IAmb	IAmb	19 18 43.8	
	comp=Z,10nm,1.5s						
WRA	**Warramunga Arr**	**32.04**	**118**	P	**P**	**19 18 23.2**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=304,slow=9.0,SNR=5.3						
WB2	**Warramunga Arr**	**32.05**	**118**	P	**P**	**19 18 23.8**	**-0.6**
WB2				IAmb	IAmb	19 18 26.0	
	comp=Z,7.4nm,1.4s						
WR0	**Warramunga Arr**	**32.22**	**117**	P	**P**	**19 18 25.6**	**-0.2**
WR0				IAmb	IAmb	19 18 43.3	
	comp=Z,4.7nm,1.2s						
ASAR	**Alice Springs**	**33.14**	**124**	P	**P**	**19 18 35.1**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=303,slow=8.2,SNR=4.3						
ASAR	**Alice Springs**	**33.14**	**124**	P	**P**	**19 18 35.0**	**+1.0**
YULB	**Yu-li**	**34.01**	**29**	P	**P**	**19 18 40.9**	**-0.5**
STKA	**Stephens Creek**	**42.95**	**131**	P	**P**	**19 19 57.5**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=316,slow=8.5,SNR=4.6						
STKA	**Stephens Creek**	**42.95**	**131**	P	**P**	**19 19 57.4**	**+1.0**
KSRS	**Korea Array**	**48.95**	**25**	P	**P**	**19 20 42.4**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=210,slow=7.3,SNR=4.5						
SONM	**Songino Array**	**54.12**	**2**	P	**P**	**19 21 21.6**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=183,slow=2.9,SNR=2.2						
SONM				PcP	**PcP**	**19 22 26.7**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=180,slow=4.5,SNR=5.9						
USA0B	**Ussuriysk Arra**	**56.28**	**24**	P	**P**	**19 21 36.9**	**-0.8**
USA0B				IAmb	IAmb	19 21 37.4	
	comp=Z,3.1nm,0.7s						
USRK	**Ussuriysk Ar.**	**56.28**	**24**	P	**P**	**19 21 36.8**	**-0.9**
	comp=Z,2.8nm,0.6s,baz=219,slow=7.0,SNR=6.1						
USRK	**Ussuriysk Ar.**	**56.28**	**24**	P	**P**	**19 21 36.9**	**-0.8**
MK31	**Makanchi Array**	**56.55**	**342**	P	**P**	**19 21 38.6**	**-1.0**
MKAR	**Makanchi Array**	**56.55**	**342**	P	**P**	**19 21 38.5**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=146,slow=8.1,SNR=20						
MKAR	**Makanchi Array**	**56.55**	**342**	P	**P**	**19 21 38.6**	**-1.0**
KURK	**Kurchatov**	**61.16**	**342**	P	**P**	**19 22 10.8**	**-0.6**
KURK				IAmb	IAmb	19 22 11.7	
	comp=Z,1.7nm,0.8s						
ZAA0	**Zalesovo Array**	**62.42**	**347**	P	**P**	**19 22 18.9**	**-1.0**
ZAA0				IAmb	IAmb	19 22 20.1	
	comp=Z,2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**62.42**	**347**	P	**P**	**19 22 19.1**	**-0.8**
	comp=Z,3.2nm,0.4s,baz=154,slow=5.7,SNR=16						
ZALV	**Zalesovo Beam**	**62.42**	**347**	P	**P**	**19 22 18.5**	**-1.4**
BRVK	**Borovoye**	**65.96**	**338**	P	**P**	**19 22 42.5**	**-0.7**
ABKAR	**Akbulak array**	**67.65**	**330**	P	**P**	**19 22 53.6**	**-0.3**
FINES	**FINESS Array B**	**90.08**	**332**	P	**P**	**19 24 57.2**	**+0.6**
	comp=Z,1.6nm,1.0s,baz=122,slow=10.0,SNR=4.1						
TXAR	**Lajitas Array**	**145.16**	**46**	PKP	**PKPdf**	**19 31 35.4**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=182,slow=3.8,SNR=5.9						
TXAR	**Lajitas Array**	**145.16**	**46**		**PKPab**	**19 31 34.8**	**-0.1**

*IDC **23** 19:13:13.7±0.9,8.70N×82.65W,h0km,mb3.8/9, mb1 4.2/11,mb1mx4.0/33,mbtmp3.9/11,ML4.2/2,MS3.3/4, Ms1 3.3/4,ms1mx3.1/53,Error ellipse: s-maj=37.0km s-min=14.7km az=45.0*
*UPA **23** 19:13:15.5±1.5,8.54N×82.83W,h8km±6km,MW4.9,Fault plane solution: NP1:φ=213.00000°,δ54.00000°, λ-90.00000°.*
*UCR **23** 19:13:15.3±2.2,8.48N×82.85W,h9km±5km,MD3.7, mb4.3(NEIC)*
*NEIC **23** 19:13:15.7±2.1,8.69N±0.10×82.78W±0.07,h15km±5km, mb4.3/18,Error ellipse: s-maj=15.5km s-min=7.4km az=208.0*
*INET **23** 19:13:19.3,8.65N×82.90W,h10km,ML4.9*
ISC 23 19:13:16.6±0.8,8.55N±0.03×82.82W±0.02,h22km±5km, n179,σ1§34/228,mb4.2/16,30C-41D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLIR3	**Monte Lirio, C**	**0.24**	**358**	↑*i*P	**Pb**	**19 13 22.4**	**-0.3**
MLIR3				*i* S	**Sb**	**19 13 26.6**	**-0.3**
BRU2	**Volcan**	**0.27**	**27**	↓*i*P	**Pb**	**19 13 22.6**	**-0.6**
	baz=255,slow=1.3						
BRU2				*i* S	**Sb**	**19 13 26.2**	**-1.5**
BRU2	**Volcan**	**0.27**	**27**	↓*i*P	**Pb**	**19 13 22.6**	**-0.6**
	baz=255,slow=1.3						
BRU2				*i* S	**Sb**	**19 13 26.2**	**-1.5**
BRU2	**Volcan**	**0.27**	**27**	↓*i*P	**Pb**	**19 13 22.5**	**-0.6**
BRU2				*e*S	**Sb**	**19 13 28.2**	**+0.5**
EDSV	**San Vito**	**0.31**	**330**	*i* P	**Pb**	**19 13 23.0**	**-0.7**
EDSV				*e*S	**Sb**	**19 13 29.3**	**+0.7**
BCO2	**Palmira**	**0.33**	**59**	↓*i*P	**Pb**	**19 13 23.6**	**-0.5**
BCO2				*i* S	**Sb**	**19 13 27.4**	**-1.7**
BCO2	**Palmira**	**0.33**	**59**	↓*i*P	**Pb**	**19 13 23.6**	**-0.5**
BCO2				*i* S	**Sb**	**19 13 27.4**	**-1.7**
BC3P	**Paso Ancho**	**0.34**	**37**	↓*i*P	**Pb**	**19 13 23.4**	**-0.8**
BC3P				*i* S	**Sb**	**19 13 29.7**	**+0.4**
BC3P	**Paso Ancho**	**0.34**	**37**	↓*i*P	**Pb**	**19 13 23.4**	**-0.8**
BC3P				*i* S	**Sb**	**19 13 29.7**	**+0.4**
DVD	**David**	**0.38**	**107**	↓*i*P	**Pb**	**19 13 23.9**	**-0.8**
DVD				*e*S	**Sb**	**19 13 30.4**	**+0.3**
DVD	**David**	**0.38**	**107**	↓*i*

SRA1	**San Ramn**	**2.24**	**313**	*e*P		**Pn**	**19 13 51.7**	**-0.8**
PESE3	**Pese, Herrera**	**2.27**	**106**	*e*P		**Pb**	**19 13 56.2**	**-0.8**
CACAO	**El Cacao, Vera**	**2.27**	**122**	‖*e*P		**Pn**	**19 13 53.6**	**+0.8**
CACAO				*e*S		**Sn**	**19 14 21.5**	**+1.3**
CACAO	**El Cacao, Vera**	**2.27**	**122**	‖*e*P		**Pn**	**19 13 53.6**	**+0.8**
CACAO				*i* S		**Sb**	**19 14 25.6**	**+0.9**
TOSI3	**Tonosi**	**2.61**	**116**	‖*e*P		**Pn**	**19 13 58.8**	**+1.3**
AZU	**Azuero**	**2.62**	**106**	‖*e*P		**Pn**	**19 13 58.0**	**+0.3**
AZU				*i* S		**Sn**	**19 14 30.6**	**+1.8**
AZU	**Azuero**	**2.62**	**106**	‖*e*P		**Pn**	**19 13 58.0**	**+0.3**
AZU				*e*S		**Sb**	**19 14 34.5**	**-0.3**
AZU	**Azuero**	**2.62**	**106**	*e*P		**Pn**	**19 13 57.0**	**-0.7**
CASO	**Castillo**	**2.66**	**315**	*e*P		**Pn**	**19 13 59.3**	**+1.1**
ARE1	**Arenal 1**	**2.67**	**316**	*e*P		**Pn**	**19 13 57.2**	**-1.1**
CEDE	**Laguna Cedeo**	**2.68**	**316**	*e*P		**Pn**	**19 13 58.8**	**+0.3**
JTS	**Las Juntas de**	**2.73**	**310**	Pn		**Pn**	**19 13 59.7**	**+0.6**
	86nm,0.3s,baz=183,slow=6.8,SNR=63							
JTS				Pg		**Pb**	**19 14 03.1**	**-1.7**
	156nm,0.3s,baz=211,slow=8.6,SNR=59							
JTS				Sn		**Sn**	**19 14 34.1**	**+2.7**
	60nm,0.3s,baz=24,slow=20,SNR=1.5							
JTS	**Las Juntas de**	**2.73**	**310**	‖*i*P		**Pn**	**19 13 59.2**	**+0.1**
JTS				*e*S		**Sn**	**19 14 33.5**	**+2.0**
JTS	**Las Juntas de**	**2.73**	**310**	*e*P		**Pn**	**19 13 59.5**	**+0.4**
JTS				*e*S		**Sn**	**19 14 33.5**	**+2.0**
JTS	**Las Juntas de**	**2.73**	**310**	‖*e*P		**Pn**	**19 13 58.9**	**-0.2**
JTS	**Las Juntas de**	**2.73**	**310**	Pn		**Pn**	**19 13 58.9**	**-0.2**
PCRI3	**Pocri, Los San**	**2.81**	**108**	‖*i*P		**Pn**	**19 14 02.0**	**+1.7**
ZANG	**Zanguenga, Cho**	**2.94**	**82**	‖*e*P		**Pn**	**19 14 01.8**	**-0.3**
ZANG	**Zanguenga, Cho**	**2.94**	**82**	*e*P		**Pn**	**19 14 02.2**	**+0.2**
BCIP	**Isla Barro Col**	**3.01**	**78**	*e*P		**Pn**	**19 14 03.2**	**+0.3**
BCIP	**Isla Barro Col**	**3.01**	**78**	‖*i*P		**Pn**	**19 14 03.2**	**+0.3**
BCIP				*i* S		**Sn**	**19 14 39.1**	**+0.8**
BCIP	**Isla Barro Col**	**3.01**	**78**	‖*i*P		**Pn**	**19 14 03.2**	**+0.3**
BCIP				*i* S		**Sn**	**19 14 39.1**	**+0.8**
BCIP	**Isla Barro Col**	**3.01**	**78**	*e*P		**Pn**	**19 14 03.3**	**+0.4**
BCIP	**Isla Barro Col**	**3.01**	**78**	Pn		**Pn**	**19 14 03.1**	**+0.3**
MLIR	**Monte Lirio**	**3.01**	**77**	‖*e*P		**Pn**	**19 14 04.2**	**+1.3**
ACAL	**Aguas Claras**	**3.02**	**314**	*e*P		**Pn**	**19 14 03.3**	**+0.2**
CHOR3	**La Chorrera**	**3.04**	**83**	‖*e*P		**Pn**	**19 14 04.5**	**+1.1**
CHOR3	**La Chorrera**	**3.04**	**83**	*e*P		**Pb**	**19 14 08.3**	**-1.7**
PTEN	**Parque Tenorio**	**3.04**	**315**	*e*P		**Pn**	**19 14 04.7**	**+1.3**
SABA3	**Sabanitas, Col**	**3.08**	**75**	*e*P		**Pn**	**19 13 59.7**	**-4.2**
CUI	**Cuipilapa**	**3.12**	**312**	*e*P		**Pn**	**19 14 05.1**	**+0.5**
FRIJ	**El Hiral**	**3.12**	**77**	*e*P		**Pn**	**19 14 05.1**	**+0.6**
COLC	**Colonia**	**3.16**	**312**	*e*P		**Pn**	**19 14 06.0**	**+0.9**
GUAI	**GUAI**	**3.16**	**303**	*e*P		**Pn**	**19 14 06.7**	**+1.7**
HORNC	**Hornillas**	**3.17**	**313**	*e*P		**Pn**	**19 14 05.8**	**+0.5**
PML3	**Paraiso**	**3.20**	**81**	‖*e*P		**Pn**	**19 14 07.2**	**+1.7**
MAD3	**Madden Dam**	**3.23**	**78**	*e*P		**Pn**	**19 14 05.8**	**-0.1**
TABO3	**Taboga, Panama**	**3.23**	**85**	‖*i*P		**Pn**	**19 14 07.9**	**+1.9**
FLAM	**Flamenco Islan**	**3.26**	**83**	*e*P		**Pn**	**19 14 07.7**	**+1.3**
UPA	**Univ. de Panam**	**3.27**	**82**	‖*e*P		**Pn**	**19 14 07.4**	**+0.8**
UPA				*e*S		**Sn**	**19 14 45.5**	**+0.6**
UPA	**Univ. de Panam**	**3.27**	**82**	*e*P		**Pn**	**19 14 07.1**	**+0.5**
UPA				*e*S		**Sn**	**19 14 45.5**	**+0.6**
GPS3	**Bodega del ICE**	**3.34**	**311**	*e*P		**Pn**	**19 14 09.2**	**+1.7**
BUAI	**Buenos Aires**	**3.39**	**313**	*e*P		**Pn**	**19 14 08.5**	**+0.3**
LAPC	**Finca la Perla**	**3.40**	**311**	*e*P		**Pn**	**19 14 08.9**	**+0.6**
BUEV	**Buena Vista**	**3.40**	**311**	*e*P		**Pn**	**19 14 11.0**	**+2.6**
GBS3	**Finca Las Img**	**3.42**	**311**	*e*P		**Pn**	**19 14 10.8**	**+2.1**
CHPO	**Chepo, Panama**	**3.71**	**80**	*e*P		**Pn**	**19 14 14.7**	**+2.1**
ESPN	**Las Esperanzas**	**3.91**	**338**	‖*i*P		**Pn**	**19 14 14.8**	**-0.5**
ESPN	**Las Esperanzas**	**3.91**	**338**			**Pn**	**19 14 14.8**	**-0.5**
CNTA3	**Canitas, Panam**	**3.94**	**80**	*e*P		**Pn**	**19 14 16.8**	**+1.1**
ACON	**Acoyapa**	**4.12**	**326**	*e*P		**Pn**	**19 14 17.6**	**-0.5**
ACON	**Acoyapa**	**4.12**	**326**			**Pn**	**19 14 16.9**	**-1.3**
UPD2	**Meteti**	**4.75**	**90**	‖*e*P		**Pn**	**19 14 28.8**	**+2.0**
UPD2	**Meteti**	**4.75**	**90**	*e*P		**Pn**	**19 14 30.6**	**+3.8**
BOAB	**BOACO BROADBAN**	**4.79**	**324**			**Pn**	**19 14 26.1**	**-1.3**
PRVC	**Isla de Provid**	**5.01**	**16**	*e*P		**Pn**	**19 14 29.1**	**-1.3**
MATN	**Matagalpa**	**5.32**	**325**	Pn		**Pn**	**19 14 34.1**	**-0.7**
CAP2	**Capurgana**	**5.40**	**89**	*e*P		**Pn**	**19 14 37.6**	**+1.8**
CAP2	**Capurgana**	**5.40**	**89**	*e*P		**Pn**	**19 14 37.6**	**+1.8**
CAPC	**Capurgana**	**5.40**	**89**	*e*P		**Pn**	**19 14 36.8**	**+0.9**
CRIN	**San Cristobal**	**5.86**	**315**	Pn		**Pn**	**19 14 40.5**	**-1.7**
TGUH	**Tegucigalpa,Un**	**7.01**	**322**	Pn		**Pn**	**19 14 56.5**	**-1.5**
UREC	**San Jos de Ur**	**7.25**	**96**	*e*P		**Pn**	**19 15 01.9**	**+0.6**
CBOC	**Ciudad Bolivar**	**7.26**	**111**	*e*P		**Pn**	**19 15 01.6**	**+0.1**
HELC	**Santa Helena**	**7.60**	**107**	*e*P		**Pn**	**19 15 02.7**	**+1.4**
SJCC	**San Jacinto, C**	**7.66**	**79**	*e*P		**Pn**	**19 15 08.5**	**+1.6**
SJCC	**San Jacinto, C**	**7.66**	**79**	‖*e*P		**Pn**	**19 15 07.6**	**+0.7**
YOTC	**Yotoco, Valle**	**7.87**	**125**	*e*P		**Pn**	**19 15 11.0**	**+1.1**
ZARC	**Zaragoza, Cauc**	**7.95**	**97**	*e*P		**Pn**	**19 15 12.4**	**+1.5**
GUY2C	**Guyana, Caldas**	**8.10**	**114**	*e*P		**Pn**	**19 15 15.3**	**+2.0**
SNET	**Serv Nac Est T**	**8.11**	**310**	Pn		**Pn**	**19 15 12.1**	**-1.0**
TOLC	**Tolima**	**8.42**	**117**	*e*P		**Pn**	**19 15 19.7**	**+2.1**
NORC	**Norcasia**	**8.42**	**110**	*e*P		**Pn**	**19 15 22.2**	**+4.7**
MTO3	**Montecristo**	**8.66**	**313**	Pn		**Pn**	**19 15 22.5**	**+1.7**
ORTC	**Ortega, Tolima**	**8.82**	**121**	*e*P		**Pn**	**19 15 25.3**	**+2.4**
SMRC	**Santa Marta, M**	**8.86**	**72**	*e*P		**Pn**	**19 15 23.4**	**+0.1**
ROSC	**El Rosal**	**9.21**	**113**	Pn		**Pn**	**19 15 31.8**	**+3.3**
	0.8nm,0.3s,baz=72,slow=20,SNR=1.6							
ROSC				LR		LR	19 18 30.9	
	comp=Z,202nm,20.3s,baz=265,slow=35							
ROSC	**El Rosal**	**9.21**	**113**			**Pn**	**19 15 29.3**	**+0.8**
RUSC	**La Rusia**	**10.01**	**105**	Pn		**Pn**	**19 15 39.3**	**-0.3**
PAMC	**Pamplona, Colo**	**10.09**	**96**	*e*P		**Pn**	**19 15 42.2**	**+1.5**
MTDJ	**Mount Denham**	**10.90**	**28**	Pn		**Pn**	**19 15 52.2**	**+0.7**
CCIG	**Comitan**	**11.91**	**311**	Pn		**Pn**	**19 16 03.6**	**-1.7**
TEIG	**Tepich**	**12.76**	**336**	LR		LR	19 21 29.0	
	comp=Z,213nm,19.8s,baz=50,slow=39							
CMIG	**Matias Romero**	**14.50**	**307**	Pn		**Pn**	**19 16 39.9**	**-0.7**
	0.5nm,0.3s,baz=134,slow=8.9,SNR=11							
SDDR	**Presa de Saban**	**15.25**	**46**	Pn		**Pn**	**19 16 48.5**	**-2.2**
ATAH	**Atahualpa**	**16.19**	**164**	LR		LR	19 22 15.1	
	comp=Z,87nm,19.1s,baz=349,slow=33							
ZAIG	**Zacatecas**	**23.65**	**309**	P		**P**	**19 18 28.6**	**+1.7**
PTGA	**Pitinga**	**24.57**	**111**	P		**P**	**19 18 35.2**	**+0.1**
	1.4nm,0.5s,baz=294,slow=15,SNR=4.2							
PTGA	**Pitinga**	**24.57**	**111**	P		**P**	**19 18 34.9**	**-0.2**
LRAL	**Lakeview Retre**	**24.67**	**352**			**P**	**19 18 32.9**	**-2.9**
LRAL				IAmb		IAmb	19 18 51.5	
	comp=Z,5.7nm,0.8s							
Y52A	**Lilburn**	**25.22**	**358**	P		**P**	**19 18 39.0**	**-1.9**
435B	**Jarrell**	**26.07**	**330**	P		**P**	**19 18 48.9**	**+0.3**
SAML	**Samuel**	**26.16**	**131**	P		**P**	**19 18 51.0**	**+1.4**
SAML				IAmb		IAmb	19 18 52.2	
	comp=Z,8.5nm,0.9s							
TKL	**Tuckaleechee C**	**27.00**	**358**	LR		LR	19 28 56.6	
	comp=Z,42nm,19.7s,baz=219,slow=35							
W41B	**Gary Mavity, V**	**27.88**	**343**	P		**P**	**19 19 04.1**	**-0.7**
W41B				IAmb		IAmb	19 19 12.8	
	comp=Z,9.7nm,1.3s							
W39A	**Magazine**	**28.36**	**341**	P		**P**	**19 19 07.0**	**-2.1**
W39A				IAmb		IAmb	19 19 09.9	
	comp=Z,7.8nm,1.3s							
TXAR	**Lajitas Array**	**28.48**	**319**	P		**P**	**19 19 11.8**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=124,slow=14,SNR=2.1							
TXAR	**Lajitas Array**	**28.48**	**319**	P		**P**	**19 19 11.1**	**+0.8**
LPAZ	**La Paz**	**28.64**	**149**	P		**P**	**19 19 13.2**	**+0.8**
	comp=Z,1.0nm,0.7s,baz=348,slow=8.1,SNR=4.3							
LPAZ	**La Paz**	**28.64**	**149**	P		**P**	**19 19 13.4**	**+0.9**
U40A	**Yellville**	**29.15**	**343**	P		**P**	**19 19 16.4**	**+0.3**
S39A	**Bolivar**	**30.53**	**343**	P		**P**	**19 19 27.6**	**-0.7**
S39A				IAmb		IAmb	19 19 31.4	
	comp=Z,5.8nm,1.1s							
PV05	**Paradox Valley**	**37.77**	**325**	P		**P**	**19 20 31.6**	**+0.3**
PV05				IAmb		IAmb	19 20 38.9	
	comp=Z,5.1nm,0.7s							
F33A	**5 Mile Ranch,**	**38.93**	**345**	P		**P**	**19 20 38.4**	**-2.4**
F33A				IAmb		IAmb	19 20 40.4	
	comp=Z,9.6nm,1.3s							
ULM	**Lac du Bonnet**	**42.97**	**348**	P		**P**	**19 21 11.6**	**-2.3**
	comp=Z,2.5nm,0.5s,baz=157,slow=14,SNR=2.4							
ULM	**Lac du Bonnet**	**42.97**	**348**	P		**P**	**19 21 11.8**	**-2.2**
ULM				IAmb		IAmb	19 21 30.1	
	comp=Z,3.7nm,0.6s							
NVAR	**Mina Array Bea**	**43.62**	**319**	P		**P**	**19 21 21.9**	**+2.1**
	comp=Z,1.0nm,0.7s,baz=131,slow=6.4,SNR=10							
NVAR	**Mina Array Bea**	**43.62**	**319**	P		**P**	**19 21 20.8**	**+1.1**
RCBR	**Riachuelo**	**48.91**	**105**	P		**P**	**19 22 03.8**	**+2.4**
PLCA	**Paso Flores**	**50.32**	**168**	P		**P**	**19 22 12.5**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=340,slow=11,SNR=4.4							
PLCA	**Paso Flores**	**50.32**	**168**	P		**P**	**19 22 12.7**	**+1.0**
PLCA				IAmb		IAmb	19 22 32.1	
	comp=Z,5.9nm,1.5s							
YKA	**Yellowknife Ar**	**58.59**	**343**	P		**P**	**19 23 10.5**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=139,slow=7.6,SNR=7.6							
BCAR	**Beaver Creek A**	**68.68**	**335**	P		**P**	**19 24 18.4**	**+0.2**
ILAR	**Eielson Array**	**71.41**	**336**	P		**P**	**19 24 35.7**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=114,slow=6.0,SNR=5.6							
ILAR	**Eielson Array**	**71.41**	**336**	P		**P**	**19 24 33.8**	**-1.0**
BMAR	**Burnt Mountain**	**71.53**	**339**	P		**P**	**19 24 35.0**	**-0.5**
ESDC	**Sonseca Array**	**76.03**	**51**	P		**P**	**19 25 02.4**	**-0.1**
	comp=Z,0.6nm,1.0s,baz=286,slow=4.7,SNR=2.1							
ESDC	**Sonseca Array**	**76.03**	**51**	P		**P**	**19 25 01.2**	**-1.3**

IDC ***23*** *19:19:13.7±0.3,29.°92S×177.°62W,h0km,mb5.5/30, mb1 5.5/31,mb1mx5.5/31,mbtmp5.5/31,ML4.9/1,MS6.9/33, Ms1 6.9/33,ms1mx6.9/37,Error ellipse: s-maj=12.0km s-min=9.1km az=64.0*

BJI ***23*** *19:19:15.9±0.0,30.°00S×177.°71W,h20km,mB7.1/75, mb5.9/58,Ms6.9/88,Ms7 6.9/80*

MOS ***23*** *19:19:15.2±1.2,29.°96S×177.°67W,h20km,mb6.5/31, MS7.0/87,Error ellipse: s-maj=8.7km s-min=6.5km az=104.2 Broadband fault plane solution: P waves. NP1:ϕ±143.00000°,δ24.00000°,λ50.00000°. NP2: ϕ±5.00000°,δ71.00000°,λ106.00000°. Principal axes: T Plg60.0000°, Azm299.0000°; N Plg15.0000°, Azm180.0000°; P Plg25.0000°, Azm83.0000°;*

NEIC ***23*** *19:19:15.9±2.0,29.°98S±0.°06×177.°7W±0.°1,h20km±1km, mb6.4/246,Ms_20 7.1/801,Mwb6.7/71,Mww6.9, Mwc6.9(GCMT) Error ellipse: s-maj=15.3km s-min=10.0km az=92.0*

UNK ***23*** *19:19:16.5,30.°12S×177.°67W,h20km*

NEIC ***23*** *19:19:17.9,30.°11S×177.°58W,h29km,Moment Tensor Solution. Moment tensor: Scale 10^19Nm; Mrr0.87; Mθθ-0.16; Mϕϕ-0.71; Mrθ0.32; Mϕθ-0.48; Mϕr0.78; Fault plane solution: M0 1.26000×10^19 NP1:ϕ±216.79000°, δ24.19000°,λ101.30000°. NP2:ϕ±24.44000°,δ66.31000°, λ84.97000°. Principal axes: T 1.2056, Plg68.0000°, Azm285.0000°; N 0.1036, Plg5.0000°, Azm26.0000°; P -1.3092, Plg21.0000°, Azm118.0000°;*

GCMT ***23*** *19:19:24.9±0.0,30.°03S×177.°13W,h26km,MW6.9/182, Moment Tensor Solution. s182,c490; s177,c851; Duration: 67 Moment tensor: Scale 10^19Nm; Mrr1.91±.01; Mθθ-0.09±.01; Mϕϕ-1.83±.01; Mrθ0.43±.02; Mθϕ-0.52±.01; Mϕr1.72±.02; Best double couple: M0 2.62900×10^19 NP1:ϕ±196.00000°,δ24.00000°, λ92.00000°. NP2:ϕ±15.00000°,δ66.00000°,λ89.00000°. Principal axes: T 2.5990, Plg69.0000°, Azm283.0000°; N 0.0560, Plg1.0000°, Azm15.0000°; P -2.6600, Plg21.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s. Triangular moment-rate function*

NEIC ***23*** *19:19:25,30.°06S×177.°13W,h23km,Moment Tensor Solution. Moment tensor: Scale 10^19Nm; Mrr1.83; Mθθ-0.05; Mϕϕ-1.78; Mrθ0.34; Mϕθ-0.53; Mϕr1.47; Fault plane solution: M0 2.41000×10^19 NP1:ϕ±197.00000°, δ26.00000°,λ93.00000°. NP2:ϕ±14.00000°,δ64.00000°, λ89.00000°. Principal axes: T 2.3608, Plg71.0000°, Azm281.0000°; N 0.0998, Plg1.0000°, Azm15.0000°; P -2.4606, Plg19.0000°, Azm105.0000°;*

NEIC ***23*** *19:19:32,29.°60S×177.°45W,h24km,Moment Tensor Solution. Moment tensor: Scale 10^19Nm; Mrr2.11; Mθθ-0.05; Mϕϕ-2.06; Mrθ0.61; Mϕθ-0.52; Mϕr1.07; Fault plane solution: M0 2.48000×10^19 NP1:ϕ±185.00000°, δ31.00000°,λ76.00000°. NP2:ϕ±21.00000°,δ60.00000°, λ98.00000°. Principal axes: T 2.4592, Plg74.0000°, Azm313.0000°; N 0.0326, Plg7.0000°, Azm197.0000°; P -2.4918, Plg15.0000°, Azm106.0000°;*

ISC 23 19:19:17.3±0.2,30.°00S±0.°03×177.°53W±0.°03,h21km±2km, h21km:pP-P,n2247,σ2.250/2161,mb6.3/242,MS7.1/534, 88C-25D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time h m s	Res ISC
				Op		ISC		
GLKZ	**Green Lake**	**0.81**	**335**	P		**Pb**	**19 19 33.0**	**+0.3**
GLKZ				S		**Sn**	**19 19 49.6**	**+4.7**
RAO	**Raoul Island**	**0.82**	**336**	Pn		**Pb**	**19 19 31.8**	**-1.0**
	18µm,0.3s,baz=307,slow=2.5,SNR=93							
RAO	**Raoul Island**	**0.82**	**336**	P		**Pb**	**19 19 31.6**	**-1.3**
RAO	**Raoul Island**	**0.82**	**336**			**Pb**	**19 19 31.6**	**-1.3**
RIZ	**Raoul Island**	**0.83**	**335**	P		**Pb**	**19 19 33.0**	**0.0**
RIZ				S		**Sn**	**19 19 52.8**	**+7.4**
MXZ	**Matakaoa Point**	**8.29**	**204**			**Pn**	19 21 10.7	-5.7
WMGZ	**Waiomatatini S**	**8.49**	**202**	P		**Pn**	**19 21 17.0**	**-2.0**
GRZ	**Great Barrier**	**8.56**	**222**	P		Pn	19 21 25.4	+5.3
HAZ	**Te Kaha**	**8.66**	**205**	P		**Pn**	**19 21 18.1**	**-3.2**
HAZ				S		**Sn**	**19 22 59.0**	**+0.7**
PKGZ	**Pakihiroa**	**8.67**	**204**	P		**Pn**	**19 21 17.0**	**-4.5**
PKGZ				S		**Sn**	**19 23 03.2**	**+4.5**
PUZ	**Puketiti**	**8.77**	**202**	P		**Pn**	**19 21 21.2**	**-1.7**
PUZ				S		**Sn**	**19 22 58.0**	**-3.2**
KUZ	**Kuaotunu**	**8.78**	**218**	P		**Pn**	**19 21 27.4**	**+4.5**
RUGZ	**Raukumara Rang**	**8.88**	**205**	P		**Pn**	**19 21 21.2**	**-3.3**
WCZ	**Waipu Caves**	**9.03**	**227**	P		Pn	19 21 32.6	+6.2
OUZ	**Omahuta**	**9.11**	**233**	P		Pn	19 21 33.7	+6.1
OUZ	**Omahuta**	**9.11**	**233**			Pn	19 21 32.3	+4.8
TKGZ	**Te Karaka**	**9.24**	**203**	P		**Pn**	**19 21 26.6**	**-2.7**
TKGZ				S		**Sn**	**19 23 11.5**	**-1.1**
MWZ	**Matawai**	**9.26**	**205**	P		**Pn**	**19 21 27.6**	**-2.0**
MWZ				S		**Sn**	**19 23 11.0**	**-2.2**
RAGZ	**Rawiri**	**9.45**	**205**	P		**Pn**	**19 21 30.4**	**-1.8**
RAGZ				S		**Sn**	**19 23 17.5**	**-0.2**
RIGZ	**Rimuhau**	**9.51**	**203**	P		**Pn**	**19 21 28.8**	**-4.2**
RIGZ				S		**Sn**	**19 23 18.4**	**-0.9**
RRRZ	**Republican Roa**	**9.66**	**209**	P		**Pn**	**19 21 36.3**	**+1.2**
RRRZ				S		**Sn**	**19 23 24.6**	**+1.5**
PRGZ	**Paritu Road**	**9.67**	**202**	P		**Pn**	**19 21 31.2**	**-4.0**
PRGZ				S		**Sn**	**19 23 20.3**	**-2.8**
MUGZ	**Murupara**	**9.68**	**208**	P		**Pn**	**19 21 30.9**	**-4.4**
MUGZ				S		**Sn**	**19 23 22.2**	**-1.2**
SNGZ	**Shannon Statio**	**9.72**	**204**	P		**Pn**	**19 21 34.5**	**-1.4**
SNGZ				S		**Sn**	**19 23 23.6**	**-1.0**
KNZ	**Kokohu**	**9.82**	**202**	P		**Pn**	**19 21 32.9**	**-4.4**
KNZ				S		**Sn**	**19 23 22.2**	**-4.8**
PRRZ	**Plateau Road**	**9.85**	**209**	P		**Pn**	**19 21 38.0**	**+0.3**
PRRZ				S		**Sn**	**19 23 29.2**	**+1.6**
MHGZ	**Mahia Peninsul**	**9.87**	**201**	P		**Pn**	**19 21 33.3**	**-4.6**
MHGZ				S		**Sn**	**19 23 25.5**	**-2.6**
RAHZ	**Arahi**	**9.94**	**205**	P		**Pn**	**19 21 37.6**	**-1.3**
RAHZ				S		**Sn**	**19 23 27.2**	**-2.6**
BKZ	**Black Stump Fm**	**10.38**	**207**	Pn		Pn	19 21 37.7	-7.3
HIZ	**Hauiti**	**10.56**	**215**			**Pn**	**19 21 45.9**	**-1.6**
BFZ	**Birch Farm**	**11.80**	**204**			Pn	19 21 56.4	-7.9
MSWZ	**Moikau Station**	**12.80**	**205**			Pn	19 22 11.1	-6.9
MSVF	**Nonsavu**	**12.86**	**341**	*i* P		**Pn**	**19 22 21.1**	**+2.0**
MSVF	**Nonsavu**	**12.86**	**341**	Pn		**Pn**	**19 22 20.7**	**+1.6**
NIUE	**Niue**	**12.89**	**304**			Pn	19 22 10.8	-8.6
SNZO	**South Karori**	**12.92**	**207**			Pn	19 22 14.3	-5.4
PLWZ	**Palliser**	**12.93**	**205**	Pn		Pn	19 22 13.7	-6.2
BHW	**Baring Head**	**12.94**	**206**	Pn		Pn	19 22 14.4	-5.5
TUWZ	**Tuamarina**	**13.33**	**209**			Pn	19 22 17.3	-8.0
NNZ	**Nelson**	**13.40**	**211**			Pn	19 22 20.1	-6.1
QRZ	**Quartz Range**	**13.49**	**214**	Pn		**Pn**	**19 22 23.7**	**-3.7**
BSWZ	**Blackbirch Sta**	**13.60**	**208**			Pn	19 22 22.0	-6.9
THZ	**Tophouse**	**14.05**	**211**	Pn		Pn	19 22 27.1	-8.0
KHZ	**Kahutara**	**14.32**	**208**	Pn		Pn	19 22 30.5	-8.2
LTZ	**Lake Taylor**	**15.15**	**210**			**Pn**	**19 22 43.7**	**-6.3**
OXZ	**Oxford**	**15.69**	**209**	P		Pn	19 22 49.4	-7.7
MQZ	**McQueen's Vall**	**15.75**	**207**			**Pn**	**19 22 51.6**	**-6.2**
DZM	**Mont Dzumac**	**16.41**	**295**	Pn		**P**	**19 23 14.1**	**+4.9**
	4.9nm,0.3s,baz=109,slow=15,SNR=50							
DZM				LR		LR	19 28 36.6	
	comp=Z,929µm,18.2s,baz=134,slow=34							
RPZ	**Rata Peaks**	**16.43**	**210**	Pn		**Pn**	**19 23 04.0**	**-2.5**
	4.7nm,0.3s,baz=123,slow=0.6,SNR=18							
RPZ	**Rata Peaks**	**16.43**	**210**	Pn		**Pn**	**19 23 01.8**	**-4.8**
FOZ	**Fox Glacier**	**16.86**	**213**	P		**Pn**	**19 23 06.8**	**-5.1**
LBZ	**Lake Benmore**	**17.34**	**211**	P		**Pn**	**19 23 13.5**	**-4.5**
ODZ	**Otahua Downs**	**17.67**	**209**	P		**Pn**	**19 23 17.0**	**-5.1**
WKZ	**Wanaka**	**18.21**	**212**	Pn		**Pn**	**19 23 22.0**	**-6.8**
RAR	**Rarotonga**	**18.23**	**65**	P		**Pn**	**19 23 22.2**	**-6.9**
	1.9nm,0.3s,baz=243,slow=10,SNR=6.2							
RAR				LR		LR	19 28 43.3	
	comp=Z,355µm,20.7s,baz=276,slow=31							
RAR	**Rarotonga**	**18.23**	**65**	P		Pn	19 23 21.7	-7.4
RAR				pmax		pmax		
	comp=Z,2µm,1.2s							
RAR	**Rarotonga**	**18.23**	**65**	P		Pn	19 23 21.7	-7.4
MLZ	**Mavora Lakes**	**19.04**	**212**	P		**P**	**19 23 33.0**	**-5.0**
WHZ	**Wether Hill Ro**	**19.51**	**212**	P		**P**	**19 23 37.5**	**-5.6**
DCZ	**Deep Cove**	**19.57**	**214**			**P**	**19 23 39.6**	**-4.1**
LHI	**Lord Howe Isla**	**20.17**	**260**			Pn	19 23 52.3	0.0
SANVU	**Saraoutou**	**20.17**	**313**	P		**P**	**19 23 47.6**	**-2.9**
SANVU				IAmb		IAmb	19 24 07.1	
	comp=Z,2µm,1.3s							
PYZ	**Puysegur Point**	**20.30**	**213**	P		**P**	**19 23 49.8**	**-1.9**
FUNA	**Funafuti**	**21.59**	**351**	P		**P**	**19 24 05.1**	**-0.7**
TBI	**Tubuai**	**25.90**	**82**	*e*P		**P**	**19 24 46.6**	**-1.3**
TBI				*e*S		**S**	**19 29 08.2**	**-8.8**
	comp=Z,147µm,30.2s							
TBI				*e*LQ		LQ	19 29 49.8	
	comp=Z,522µm,26.5s							
TBI				*e*LR		LR	19 31 15.0	
	comp=Z,837µm,27.8s,baz=246							
TBI	**Tubuai**	**25.90**	**82**	*e*T		T	19 51 05.0	
	comp=Z,294nm,0.4s							
ARMA	**Armidale**	**26.62**	**261**	P		**P**	**19 24 48.7**	**-5.8**
ARMA				IAmb		IAmb	19 25 06.9	
	comp=Z,600nm,1.0s							
KNTN	**Kanton**	**27.64**	**13**	P		**P**	**19 25 02.3**	**-1.3**
EIDS	**Eidsvold**	**28.13**	**272**	P		**P**	**19 25 06.0**	**-2.0**
EIDS				IAmb		IAmb	19 25 34.4	
	comp=Z,2µm,2.0s							
EIDS				IAMs_20		IAMs_20	19 34 31.9	
	comp=Z,506µm,20.0s							
PAE	**Paea**	**28.28**	**71**	*e*P		**P**	**19 25 08.6**	**-0.8**
	comp=Z,102nm,1.3s							
PAE	**Paea**	**28.28**	**71**	*e*T		T	19 54 02.9	
	comp=Z,85nm,0.3s							
PPT2	**Papeete2**	**28.32**	**70**	*e*P		**P**	**19 25 09.5**	**-0.3**
PPT2				*e*S		**S**	**19 29 48.4**	**-7.0**
	comp=Z,72µm,24.8s							
PPT2				*e*LQ		LQ	19 30 44.3	
	comp=Z,508µm,25.5s							
PPT2				*e*LR		LR	19 32 17.4	
	comp=Z,801µm,26.5s,baz=234							
PPT2	**Papeete2**	**28.32**	**

ASAR Alice Springs 43.54 266 P P 19 27 17.6 -2.2
WRAB Tennant Creek 44.48 272 *ce*P P 19 27 26.1 -1.3
WRAB pmax pmax
comp=Z,162nm,0.8s
WRAB MLR MLR
comp=Z,338µm,18.0s
WRAB Tennant Creek 44.48 272 P P 19 27 25.2 -2.2
WRAB IAmb IAmb 19 27 36.2
comp=Z,576nm,0.7s
WRA Warramunga Arr 44.49 271 P P 19 27 26.3 -1.1
comp=Z,107nm,0.6s,baz=111,slow=7.6,SNR=40
WRA S S 19 34 02.8 +1.0
comp=Z,40nm,1.1s,baz=108,slow=14,SNR=2.7
WRA LR LR 19 45 58.1
comp=Z,320µm,18.1s,baz=105,slow=36
WRA Warramunga Arr 44.49 271 P P 19 27 25.1 -2.4
WRA pmax pmax
comp=Z,49nm,0.8s
WRA Warramunga Arr 44.49 271 P P 19 27 25.1 -2.4
MMPI Merauke 44.80 290 P P 19 27 30.2 +0.3
comp=Z,130µmcomp=Z,21µmcomp=Z,847nm,0.9s
MMPI pP pP 19 27 35.9 +0.6
comp=Z,130µmcomp=Z,21µmcomp=Z,847nm,0.9s
FORT Forrest 46.54 255 P P 19 27 40.4 -3.1
FORT IAMs_20 IAMs_20 19 47 56.2
comp=Z,291µm,18.0s
JOHN Johnston Islan 47.10 10 P P 19 27 46.9 -1.0
JOHN IAmb IAmb 19 27 55.6
comp=Z,666nm,1.2s
JAY Jayapura 48.08 297 P P 19 27 54.0 -1.7
comp=Z,41nm,0.8s,baz=148,slow=11,SNR=13
JAY S S 19 34 55.7 +2.3
comp=Z,2.6nm,0.3s,baz=138,slow=21,SNR=15
JAY LR LR 19 46 01.3
comp=Z,103µm,20.9s,baz=118,slow=34
JAY Jayapura 48.08 297 P P 19 27 53.1 -2.6
comp=Z,70µmcomp=Z,10µmcomp=Z,142nm,1.5s
GENI Genyem 48.45 296 P P 19 27 55.9 -2.6
comp=Z,118µmcomp=Z,22µmcomp=Z,654nm,1.4s
VNDA Vanda 48.53 186 P P 19 27 59.1 +0.8
comp=Z,45nm,0.9s,baz=8.9,slow=7.4,SNR=38
VNDA LR LR 19 47 04.9
comp=Z,51µm,19.4s,baz=38,slow=34
VNDA Vanda 48.53 186 P P 19 27 59.0 +0.7
VNDA pmax pmax
comp=Z,858nm,1.8s
VNDA Vanda 48.53 186 P P 19 27 59.0 +0.7
VNDA IAmb IAmb 19 28 19.9
comp=Z,858nm,1.8s
SMPI Sarmi 49.96 295 P P 19 28 12.4 +2.3
comp=Z,71µmcomp=Z,11µmcomp=Z,251nm,1.4s
H11S2 WAKE ISLAND Hy 50.55 340 P P 19 28 18.0 +3.9
H11S3 WAKE ISLAND Hy 50.56 340 P P 19 28 18.1 +3.9
H11S1 WAKE ISLAND Hy 50.57 340 P P 19 28 18.1 +3.9
WAKE Wake Island 51.32 341 P P 19 28 16.4 -3.7
KMBL Kambalda 51.53 252 P P 19 28 22.1 +0.3
baz=52,SNR=15
H11N3 WAKE ISLAND Hy 51.66 341 P P 19 28 23.2 +0.8
H11N1 WAKE ISLAND Hy 51.66 341 P P 19 28 23.2 +0.8
H11N2 WAKE ISLAND Hy 51.67 341 P P 19 28 23.3 +0.8
SRPI Serui, Papua 51.98 294 P P 19 28 23.7 -1.6
comp=Z,11nm,0.9s
SAUI Saumlaki 52.60 284 P P 19 28 37.6 +7.7
SAUI Saumlaki 52.60 284 IAMs_20 IAMs_20 19 50 16.1
comp=Z,178µm,20.0s
FITZ Fitzroy Crossi 52.77 269 P P 19 28 31.4 +0.3
comp=Z,76nm,0.8s,baz=146,slow=8.0,SNR=7.3
FITZ S S 19 36 01.8 +3.3
comp=Z,40nm,1.1s,baz=273,slow=18,SNR=2.1
FITZ LR LR 19 49 55.2
comp=Z,156µm,20.1s,baz=117,slow=35
FITZ PKPPKP **P'P'df** 19 58 57.2 -4.0
comp=Z,4.2nm,1.1s,baz=276,slow=3.9,SNR=3.1
FITZ Fitzroy Crossi 52.77 269 P P 19 28 27.8 -3.3
FITZ IAMs_20 IAMs_20 19 49 53.2
comp=Z,156µm,20.0s
KMPI Kaimana, Papua 52.97 290 P P 19 28 33.1 +0.4
comp=Z,21µmcomp=Z,860nm,0.9s
KHLU Kahalu`u 53.53 26 P P 19 28 35.1 -1.6
KHLU IAmb IAmb 19 28 44.2
comp=Z,706nm,1.1s
PUH Pauahi 53.59 26 P P 19 28 35.6 -1.6
PUH IAmb IAmb 19 28 44.6
comp=Z,723nm,1.1s
MLOA Mauna Loa Obse 53.60 26 P P 19 28 37.4 -0.2
MLOA IAmb IAmb 19 28 45.0
comp=Z,425nm,1.2s
MLH Mauna Loa 53.64 26 P P 19 28 37.8 +0.2
MLH IAmb IAmb 19 28 45.1
comp=Z,383nm,1.0s
HUH Hualalai 53.64 26 P P 19 28 38.6 +1.0
HUH IAmb IAmb 19 28 45.4
comp=Z,666nm,1.2s
HMH Humu'ula Sheep 53.70 26 P P 19 28 37.4 -0.7
RKPI Ransiki, Papua 53.84 292 P P 19 28 35.3 -3.8
comp=Z,102µmcomp=Z,15µmcomp=Z,416nm,0.8s
HON Honolulu 54.38 23 P P 19 28 42.4 -0.3
HON pmax pmax
comp=Z,890nm,1.1s
HON MLR MLR
comp=Z,47µm,19.0s
HON Honolulu 54.38 23 P P 19 28 42.4 -0.3
KEKH Kekaha 54.46 20 P P 19 28 42.1 -1.1
KEKH IAmb IAmb 19 28 51.5
comp=Z,404nm,1.1s
HLK Haleakala 54.47 25 P P 19 28 46.7 +3.0
KIP Kipapa 54.47 22 *ce*P P 19 28 43.0 -0.4
KIP pmax pmax
comp=Z,572nm,1.7s
FAKI Fak Fak 54.59 290 P P 19 28 41.1 -3.4
comp=Z,108µmcomp=Z,18µmcomp=Z,626nm,2.0s
FAKI Fak Fak 54.59 290 P P 19 28 42.6 -1.9
OPA Opana 54.72 22 P P 19 28 45.9 +0.7
OPA pmax pmax
comp=Z,562nm,1.4s
OPA MLR MLR
comp=Z,51µm,20.0s
OPA Opana 54.72 22 P P 19 28 45.9 +0.7
OPA IAmb IAmb 19 29 00.5
comp=Z,562nm,1.4s
KLBR Kellerberrin 54.86 251 P P 19 28 43.7 -2.6
baz=55,SNR=29
NWAO Narrogin (SRO) 54.92 249 P P 19 28 45.9 -0.8
baz=55,SNR=10
NWAO Narrogin (SRO) 54.92 249 P S 19 28 46.8 +0.1
comp=Z,80nm,1.0s,baz=122,slow=7.0,SNR=14
NWAO S S 19 36 33.5 +6.2
comp=Z,14nm,0.9s,baz=133,slow=12,SNR=1.9
NWAO LR LR 19 51 09.8
comp=Z,121µm,19.6s,baz=104,slow=35
NWAO Narrogin (SRO) 54.92 249 P P 19 28 44.6 -2.1
NWAO pmax pmax
comp=Z,343nm,1.5s
NWAO MLR MLR
comp=Z,101µm,20.0s
NWAO Narrogin (SRO) 54.92 249 P P 19 28 44.6 -2.1
NWAO IAmb IAmb 19 28 52.1
comp=Z,343nm,1.4s
BNDI Bandanaira 55.62 286 P P 19 28 51.7 -0.3
comp=Z,103µmcomp=Z,26µmcomp=Z,1µm,1.5s
MEEK Meekatharra 55.67 257 P P 19 28 51.7 -0.5
baz=56,SNR=16
CASY Casey 55.68 208 P P 19 28 49.5 -2.2
BLDU Baliidu 56.00 251 P P 19 28 53.9 -0.6
baz=56,SNR=14
MUN Mundaring 56.01 250 P P 19 28 53.9 -0.7
baz=56,SNR=19
GUMO Guam 56.49 315 P P 19 28 57.2 -0.8
comp=Z,80nm,0.6s,baz=150,slow=7.6,SNR=12
GUMO Guam 56.49 315 P P 19 28 57.8 -0.2
GUMO pmax pmax
comp=Z,2µm,1.8s
GUMO MLR MLR
comp=Z,128µm,22.0s
GUMO Guam 56.49 315 P P 19 28 57.8 -0.2
GUMO Guam 56.49 315 IAMs_20 IAMs_20 19 50 15.2
comp=Z,128µm,22.0s
SIJI Sorong 56.57 291 P P 19 28 56.9 -1.8
comp=Z,95nm,0.9s,baz=76,slow=5.7,SNR=16
SIJI S S 19 37 09.3 +20
comp=Z,10nm,0.8s,baz=336,slow=16,SNR=5.9
H01W1 Cape Leeuwin H 56.85 246 P P 19 28 57.0 -3.2
baz=132,slow=6.6,SNR=4.3
H01W2 Cape Leeuwin H 56.87 246 P P 19 28 56.9 -3.4
baz=132,slow=6.6,SNR=4.7
H01W3 Cape Leeuwin H 56.87 246 P P 19 28 58.3 -2.1
baz=132,slow=6.6,SNR=3.4
MORW Morawa 57.03 253 P P 19 29 01.1 -0.8
baz=57,SNR=16
MORW Morawa 57.03 253 P P 19 28 59.4 -2.5
MORW IAmb IAmb 19 29 07.6
comp=Z,390nm,1.2s
MORW IAMs_20 IAMs_20 19 52 58.1
comp=Z,151µm,21.0s
MSAI Masohi 57.08 287 P P 19 29 01.0 -1.4
comp=Z,4µmcomp=Z,104nm,1.4s
AAI Ambon 57.50 286 P P 19 29 03.7 -1.7
comp=Z,102µmcomp=Z,13µmcomp=Z,331nm,1.4s
SOEI Soe 57.70 278 P P 19 29 07.4 +0.5
comp=Z,127µmcomp=Z,23µmcomp=Z,889nm,1.3s
SOEI Soe 57.70 278 P P 19 29 05.5 -1.4
MIDW Midway 57.89 0 P P 19 29 05.4 -2.3
BATI Baumata 58.01 277 P P 19 29 08.6 -0.3
comp=Z,66nm,0.8s,baz=120,slow=12,SNR=3.8
BATI S S 19 37 25.7 +17
comp=Z,15nm,0.8s,baz=111,slow=20,SNR=1.5
BATI Baumata 58.01 277 P P 19 29 09.2 +0.3
comp=Z,69µmcomp=Z,11µmcomp=Z,234nm,1.4s
NLAI Namlea 58.66 286 P P 19 29 11.1 -2.4
comp=Z,80µmcomp=Z,12µmcomp=Z,516nm,1.5s
RPN Rapa Nui 59.15 105 P P 19 29 19.3 +2.6
comp=Z,175nm,1.1s,baz=299,slow=4.0,SNR=6.5
RPN S S 19 37 24.8 +1.6
comp=Z,35nm,0.9s,baz=184,slow=19,SNR=1.3
RPN LR LR 19 48 04.7
comp=Z,85µm,21.4s,baz=242,slow=29
RPN Rapa Nui 59.15 105 P P 19 29 17.9 +1.1
RPN S S 19 37 24.8 +1.6
RPN pmax pmax
comp=Z,1µm,1.6s
RPN MLR MLR
comp=Z,80µm,21.0s
RPN Rapa Nui 59.15 105 P P 19 29 17.9 +1.1
MMRI Maumere 59.88 278 P P 19 29 23.1 +0.4
comp=Z,99µmcomp=Z,17µmcomp=Z,371nm,0.5s
QSPA South Pole Qui 60.10 180 P P 19 29 24.1 +1.2
comp=Z,104nm,0.9s,baz=38,slow=1.6,SNR=62
QSPA S S 19 37 38.0 +3.2
comp=Z,13nm,1.2s,baz=182,slow=15,SNR=1.1
QSPA LR LR 19 53 23.4
comp=Z,201µm,18.8s,baz=41,slow=34
TNTI Ternate 60.69 290 P P 19 29 27.3 -0.1
comp=Z,48µmcomp=Z,10µmcomp=Z,415nm,1.9s
TNTI Ternate 60.69 290 P P 19 29 25.0 -2.5
TNTI IAmb IAmb 19 29 33.6
comp=Z,658nm,1.3s
GIRL Giralia 60.82 259 P P 19 29 28.0 -0.2
baz=61,SNR=25
GIRL Giralia 60.82 259 P P 19 29 26.6 -1.7
BBSI Bau Bau 61.29 281 P P 19 29 31.8 +0.2
comp=Z,490nmcomp=Z,46nm,1.1s
KMSI Cibinong 63.36 287 P P 19 29 45.3 -0.1
comp=Z,806nmcomp=Z,4µmcomp=Z,549nm,1.1s
LUWI Luwuk 63.48 285 P P 19 29 43.6 -2.6
comp=Z,92µmcomp=Z,16µmcomp=Z,721nm,1.2s
LUWI Luwuk 63.48 285 P P 19 29 43.4 -2.8
KAPI Kappang 63.94 280 P P 19 29 43.9 -5.3
comp=Z,4.8nm,0.5s,baz=117,slow=6.8,SNR=2.4
KAPI Kappang 63.94 280 P P 19 29 46.6 -2.6
KAPI pmax pmax
comp=Z,464nm,1.3s
KAPI Kappang 63.94 280 P P 19 29 46.6 -2.6
KAPI IAmb IAmb 19 29 56.0
comp=Z,464nm,1.3s
BNSI Bone 63.95 281 P P 19 29 46.8 -2.5
comp=Z,81µmcomp=Z,11µmcomp=Z,503nm,1.5s
SPSI Sidrap Palu 64.46 281 P P 19 29 49.1 -3.6
comp=Z,79µmcomp=Z,8µmcomp=Z,203nm,1.2s
TTSI Tana Toraja 64.90 282 P P 19 29 52.6 -2.9
comp=Z,70µmcomp=Z,9µmcomp=Z,337nm,1.3s
MRSI Marisa 65.00 286 P P 19 29 52.2 -4.0
comp=Z,79µmcomp=Z,8µmcomp=Z,182nm,1.0s
DNP Denpasar 66.04 274 P P 19 30 05.3 +2.4
comp=Z,82µmcomp=Z,33µmcomp=Z,875nm,1.0s
MPSI Mapaga 66.63 285 P P 19 30 03.6 -3.1
comp=Z,85µmcomp=Z,9µmcomp=Z,328nm,1.4s
JAGI Jajag, Banyuwa 67.06 273 P P 19 30 06.0 -3.4
comp=Z,77µmcomp=Z,13µmcomp=Z,548nm,1.4s
JAGI Jajag, Banyuwa 67.06 273 P P 19 30 06.7 -2.7
JAGI IAMs_20 IAMs_20 19 59 23.9
comp=Z,127µm,20.0s
CGP Cagayan de Oro 67.36 295 ‖ *e*P P 19 30 12.1 +0.8
KBKI Kotabaru 67.88 279 P P 19 30 14.4 -0.2
comp=Z,9µmcomp=Z,4µmcomp=Z,229nm,1.1s
KMMI Kalianget 67.90 275 P P 19 30 13.5 -1.3
comp=Z,14µmcomp=Z,548nm,1.6s
BKB Balikpapan 68.31 282 P P 19 30 17.5 +0.2
comp=Z,120µmcomp=Z,19µmcomp=Z,384nm,0.8s
SMKI Samarinda 68.48 283 P P 19 30 15.3 -3.1
comp=Z,132µmcomp=Z,23µmcomp=Z,349nm,1.1s
GRJI Gresik 69.26 274 P P 19 30 20.8 -2.4
comp=Z,1µmcomp=Z,5µmcomp=Z,318nm,1.2s
NGJI Ngawi 69.92 273 P P 19 30 29.6 +2.3
comp=Z,130µmcomp=Z,23µmcomp=Z,432nm,2.5s
WOJI Wonogiri, Jawa 70.16 272 P P 19 30 26.4 -2.4
comp=Z,49µmcomp=Z,11µmcomp=Z,456nm,1.4s
MTKI Muara Teweh, K 70.18 281 P P 19 30 27.4 -1.6
comp=Z,50µmcomp=Z,7µmcomp=Z,172nm,1.5s
UGM Wanagama 70.47 272 P P 19 30 31.5 +0.8
comp=Z,82µmcomp=Z,18µmcomp=Z,437nm,1.4s
UGM Wanagama 70.47 272 IAMs_20 IAMs_20 20 01 32.3
comp=Z,101µm,21.0s
RCP Roxas 70.76 296 ‖ *e*P P 19 30 29.9 -2.5
SMRI Semarang 70.96 273 P P 19 30 33.5 -0.2
comp=Z,95µmcomp=Z,20µmcomp=Z,401nm,2.7s
SMRI Semarang 70.96 273 P P 19 30 33.1 -0.6
SMRI IAmb IAmb 19 30 40.6
comp=Z,596nm,1.4s
SPMM Sapulut 71.88 287 P P 19 30 45.0 +5.7
PMSA Palmer Station 72.46 156 P P 19 30 45.1 +3.2
comp=Z,51nm,0.8s,baz=241,slow=5.3,SNR=5.0
PMSA LR LR 19 55 09.6
comp=Z,68µm,21.9s,baz=241,slow=30
PMSA Palmer Station 72.46 156 P P 19 30 44.5 +2.7
PMSA Palmer Station 72.46 156 IAMs_20 IAMs_20 20 00 26.5
comp=Z,68µm,18.0s
MAW Mawson 72.82 200 P P 19 30 42.9 -1.0
baz=73,SNR=23
MAW Mawson 72.82 200 P P 19 30 43.3 -0.6
comp=Z,20nm,0.7s,baz=125,slow=8.5,SNR=24
MAW S S 19 40 12.1 +3.7
comp=Z,2.9nm,0.9s,baz=250,slow=17,SNR=1.3
MAW Mawson 72.82 200 P P 19 30 42.5 -1.4
KKM Kota Kinabalu 72.82 288 P P 19 30 42.1 -2.9
CISI Cisompet, Garu 72.99 271 P P 19 30 45.0 -0.9
comp=Z,78µmcomp=Z,12µmcomp=Z,380nm,1.1s
CISI Cisompet, Garu 72.99 271 IAMs_20 IAMs_20 20 03 55.0
comp=Z,142µm,20.0s
XMIS Christmas Isla 73.47 267 IAMs_20 IAMs_20 20 05 18.8
comp=Z,93µm,20.0s
LEM Lembang 73.51 272 P P 19 30 47.6 -1.5
comp=Z,46nm,0.8s,baz=126,slow=14,SNR=4.0
TGY Tagaytay City 73.70 297 P P 19 30 48.0 -2.0
comp=Z,55nm,0.3s,baz=300,slow=16,SNR=1.2
CNJI Cibinong 73.70 271 P P 19 30 46.5 -3.6
comp=Z,82µmcomp=Z,13µmcomp=Z,537nm,0.9s
SBUM Sibu 74.23 282 P P 19 30 50.3 -2.9
SBUM IAmb IAmb 19 31 00.2
comp=Z,521nm,1.6s
SBUM Sibu 74.23 282 P P 19 30 51.0 -2.1
SKJI Sukabumi 74.34 271 P P 19 30 51.1 -2.7
comp=Z,61µmcomp=Z,15µmcomp=Z,282nm,0.6s
DBJI Dramaga 74.39 271 P P 19 30 53.4 -0.8
comp=Z,9µmcomp=Z,219nm,1.1s
JHJ2 Mitsune 74.64 324 P P 19 30 53.9 -1.1
KSM Kuching 75.35 280 P P 19 30 57.0 -2.6
KSM IAmb IAmb 19 33 34.3
comp=Z,324nm,0.9s
KSM Kuching 75.35 280 P P 19 30 57.0 -2.6
TPI Tanjungpandan 75.48 275 P P 19 30 58.8 -1.6
comp=Z,75µmcomp=Z,11µmcomp=Z,216nm,1.5s
GO10 Punta Arenas 75.58 143 pP 19 31 05.8 -0.1
GO10 IAMs_20 IAMs_20 19 55 53.4
comp=Z,90µm,22.0s
USHA Ushuaia 76.02 146 P P 19 31 08.1 +5.3
comp=Z,17nm,0.7s,baz=289,slow=4.7,SNR=1.5
USHA S S 19 40 43.8 -0.9
comp=Z,12nm,0.5s,baz=20,slow=1.5,SNR=1.7
USHA LR LR 19 56 20.6
comp=Z,69µm,21.8s,baz=230,slow=29
BLSI Bandar Lampung 76.28 272 P P 19 31 02.4 -2.6
comp=Z,53µmcomp=Z,10µmcomp=Z,278nm,0.9s
JOW Kunigami 76.70 312 P P 19 31 06.8 -0.2
KASI Kota Agung 76.85 271 P P 19 31 05.6 -2.6
comp=Z,65µmcomp=Z,11µmcomp=Z,190nm,1.8s
PPBI Pangkal Pinang 77.09 275 P P 19 31 08.1 -1.4
LWLI Liwa 77.48 271 P P 19 31 09.6 -2.3
comp=Z,9µmcomp=Z,359nm,0.9s
SYO Syowa Base 77.59 193 ⇑ *i*P P 19 31 08.0 -3.4
SYO Syowa Base 77.59 193 ⇑ *i*pP pP 19 31 15.2 -1.8
SYO Syowa Base 77.59 193 *e*SH S 19 41 11.0 +10
INU Inuyama 77.83 323 P P 19 31 11.4 -1.7
INU IAmb IAmb 19 33 48.9
comp=Z,246nm,0.9s
INU IAMs_20 IAMs_20 20 02 30.6
comp=Z,73µm,22.0s
PMBI Palembang 77.89 274 IAMs_20 IAMs_20 20 06 13.0
comp=Z,128µm,20.0s
MJAR Matsushiro Arr 78.15 325 P P 19 31 13.3 -1.6
comp=Z,18nm,0.8s,baz=164,slow=5.2,SNR=23
MJAR Matsushiro Arr 78.15 325 P P 19 31 14.1 -0.8
MJAR pmax pmax
comp=Z,95nm,1.1s
MJAR Matsushiro Arr 78.15 325 P P 19 31 14.1 -0.8
MAJO Matsushiro 78.15 325 *c i*P P 19 31 11.8 -3.1
MAJO pmax pmax
comp=Z,351nm,1.1s
MAJO MLR MLR
comp=Z,44µm,19.0s
MAJO Matsushiro 78.15 325 P P 19 31 12.7 -2.2
MAJO IAmb IAmb 19 33 50.6
comp=Z,256nm,0.9s
MAT Matsushiro 78.15 325 P P 19 31 12.5 -2.4
MAT S S 19 41 08.0 -0.2
MJB9 Matsu-Tunnel 78.16 325 P P 19 31 12.7 -2.2
MJB9 IAmb IAmb 19 33 50.6
comp=Z,282nm,1.0s
LHSI Lahat 78.53 272 P P 19 31 14.5 -3.0
comp=Z,63µmcomp=Z,16µmcomp=Z,220nm,2.6s
SNAA Sanae 78.54 178 P P 19 31 14.3 -2.5
SNAA Sanae 78.54 178 P P 19 31 15.8 -0.9
comp=Z,34nm,0.8s,baz=206,slow=8.2,SNR=40
SNAA S S 19 41 17.6 +5.8
comp=Z,3.4nm,1.0s,baz=246,slow=20,SNR=1.5
SNAA PKKPbc **PKKPbc** 19 50 14.3 +0.7
comp=Z,3.0nm,1.0s,baz=7.0,slow=3.5,SNR=4.3
SNAA PKPPKP P'P'df 19 58 08.7 -13
comp=Z,2.4nm,1.0s,baz=346,slow=4.7,SNR=3.9
SNAA LR LR 20 03 30.5
comp=Z,89µm,19.8s,baz=200,slow=34
SNAA Sanae 78.54 178 P P 19 31 14.0 -2.8
SNAA IAmb IAmb 19 31 37.5
comp=Z,238nm,1.0s
SNAA IAMs_20 IAMs_20 20 04 35.1
comp=Z,92µm,18.0s
VNA3 Neumayer Olymp 78.67 176 P P 19 31 15.1 -2.3
MNAI Manna 78.75 271 IAMs_20 IAMs_20 20 09 37.9
comp=Z,84µm,19.0s
TWG Pinlang 78.97 304 P P 19 31 16.0 -3.7
TWG IAmb IAmb 19 33 55.2
comp=Z,304nm,0.7s
TWG IAMs_20 IAMs_20 20 05 55.4
comp=Z,121µm,19.0s
VNA2 Neumayer--Watz 79.11 177 P P 19 31 17.9 -1.9
baz=175,slow=5.4
YULB Yu-li 79.17 305 P P 19 31 19.8 -1.1
NVL N'lazarevskaya 79.29 183 *e*P P 19 31 22.9 +2.1
NVL *e*S S 19 41 16.2 -3.4
NVL *e*SS SS 19 46 25.4 +0.2
NVL *e*SSS SSS 19 49 51.0
NVL pmax pmax
comp=Z,338nm,1.4s
NVL MLR MLR
comp=Z,52µm,17.0s
VNA1 Neumayer--Stat 79.34 176 P P 19 31 18.3 -2.7
JNU Nakatsue 79.53 318 LR LR 20 02 14.7
comp=Z,33µm,21.6s,baz=103,slow=32
JNU Nakatsue 79.53 318 P P 19 31 19.7 -2.9
JNU IAmb IAmb 19 31 35.3
comp=Z,668nm,1.3s
SSLB Suanglung 79.66 305 P P 19 31 20.4 -3.1
YHNB Yeheng 79.92 306 IAMs_20 IAMs_20 20 04 03.8
comp=Z,63µm,20.0s
MASI Maura Aman, Be 79.98 272 P P 19 31 26.5 +1.0
comp=Z,61µmcomp=Z,22µmcomp=Z,837nm,1.2s
TPRI Tanjung Pinang 80.02 277 P P 19 31 23.7 -2.0
comp=Z,11µmcomp=Z,174nm,1.5s
ERM Erimo 80.31 331 *i* P P 19 31 27.8 +1.3
ERM pmax pmax
comp=Z,498nm,1.2s
ERM Erimo 80.31 331 IAMs_20 IAMs_20 20 02 50.8
comp=Z,125µm,20.0s
H06S1 SOCORRO T 80.33 62 T T 20 59 59.0
H03S2 Juan Fernandez 80.34 123 P P 19 31 31.6 +4.8
H03S2 T T 21 01 02.6
baz=238,slow=74,SNR=20
H03S1 Juan Fernandez 80.36 123 P P 19 31 31.7 +4.8
H03S1 T T 21 01 14.5
baz=238,slow=74,SNR=18
H03S3 Juan Fernandez 80.36 123 P P 19 31 31.6 +4.7
H03S3 T T 21 00 52.0
baz=238,slow=74,SNR=15
LL01 San Ignacio de 80.42 133 IAMs_20 IAMs_20 19 57 58.4
comp=Z,101µm,21.0s
H03N3 Juan Fernandez 80.53 123 P P 19 31 32.3 +4.4
H03N3 T T 21 01 13.6
baz=252,slow=71,SNR=16
H03N2 Juan Fernandez 80.53 123 P P 19 31 32.2 +4.4
H03N2 T T 21 01 04.5
baz=252,slow=71,SNR=26
H03N1 Juan Fernandez 80.55 123 P P 19 31 32.4 +4.4
H03N1 T T 21 01 11.2
baz=252,slow=71,SNR=21
PAF Port-aux-Franc 80.70 218 IAMs_20 IAMs_20 20 01 36.6
comp=Z,94µm,20.0s
YUK Yuzh-Kuril'sk 80.93 334 *e*P P 19 31 30.8 +1.0
YUK *i* 19 31 36.3
YUK *i* S **SKSac** 19 41 43.6 -3.5
YUK pmax pmax
comp=Z,970nm,1.9s
MYKOM Kota Tinggi 81.05 277 P P 19 31 28.3 -2.9
MYKOM IAmb IAmb 19 31 38.0
comp=Z,474nm,1.4s
MYKOM IAMs_20 IAMs_20 20 13 30.9
comp=Z,76µm,19.0s
MYKOM Kota Tinggi 81.05 277 P P 19 31 31.0 -0.2
KRJI Kerinci 81.17 273 P P 19 31 32.1 +0.1
comp=Z,64µmcomp=Z,18µmcomp=Z,746nm,1.9s
KUR Kuril'sk 81.23 336 *d i*P P 19 31 31.6 +0.2
KUR *i* 19 31 40.9
KUR *i* S **SKSac** 19 41 46.6 -2.5
KUR pmax pmax
comp=N,362nm,1.7s
KUR pmax pmax
comp=E,315nm,1.6s
KUR pmax pmax
comp=Z,15µm,12.4s
KUR MLR MLR
comp=N,44µm,18.0s
KUR MLR MLR
comp=E,23µm,18.0s
KUR MLR MLR
comp=Z,49µm,18.0s
ADK Adak 81.54 1 P P 19 31 30.4 -2.4
ADK pmax pmax
comp=Z,748nm,1.0s
ADK MLR MLR
comp=Z,38µm,20.0s
ADK Adak 81.54 1 P P 19 31 30.4 -2.4
GSTR Great Sitkin T 81.75 1 P P 19 31 31.8 -2.2
SDSI Sungai Dareh 81.77 274 P P 19 31 33.8 -1.3
comp=Z,57µmcomp=Z,7µmcomp=Z,77nm,1.6s
ATKA Atka Island 81.91 2 P P 19 31 32.4 -2.3
QZH Quanzhou 82.06 305 ⇑ *i*P P 19 31 35.9 -0.4
QZH S S 19 41 52.9 +3.1
QZH pmax pmax
comp=Z,200nm,1.8s
QZH pmax pmax
comp=Z,20µm,11.6s
QZH LR LR
comp=Z,6µm,17.5s
QZH LR LR
comp=Z,21µm,18.5s
QZH LR LR
comp=Z,27µm,18.0s
DLV T Lat 82.42 288 P P 19 31 37.6 -1.0
PLCA Paso Flores 82.48 133 P P 19 31 38.0 -0.5
comp=Z,39nm,1.1s,baz=238,slow=5.0,SNR=10
PLCA S S 19 41 58.5 +4.4

PLCA PKKP **PKKPdf** 19 49 51.9 -1.8
comp=Z,1.4nm,0.8s,baz=346,slow=4.2,SNR=2.9
PLCA PKPPKP P'P'df 19 58 00.9 -13
comp=Z,3.7nm,1.1s,baz=78,slow=8.1,SNR=3.5
PLCA LR LR 19 59 35.5
comp=Z,91µm,21.7s,baz=252,slow=29
PLCA Paso Flores 82.48 133 P **P** **19 31 38.2 -0.3**
PLCA IAmb IAmb 19 31 49.5
comp=Z,415nm,1.6s
LC01 Cunco 82.62 131 IAMs_20 IAMs_20 20 05 13.3
comp=Z,60µm,18.0s
SMY Shemya 82.71 355 P **P** **19 31 36.9 -2.0**
SMY pmax pmax
comp=Z,2µm,1.5s
SMY MLR MLR
comp=Z,100µm,20.0s
SMY Shemya 82.71 355 P **P** **19 31 36.9 -2.0**
SMY IAMs_20 IAMs_20 20 03 26.6
comp=Z,100µm,20.0s
EFI East Falkland 82.90 147 *e*P **P** **19 31 39.0 -1.3**
EFI pmax pmax
comp=Z,69nm,0.9s
EFI MLR MLR
comp=Z,34µm,16.0s
EFI East Falkland 82.90 147 P **P** **19 31 38.4 -2.0**
EFI IAmb IAmb 19 34 17.6
comp=Z,204nm,1.0s
BI03 Tigo 82.95 129 IAMs_20 IAMs_20 19 59 06.0
comp=Z,110µm,22.0s
NIKH Nikolski High 82.97 5 P **P** **19 31 40.1 -0.2**
SNCC San Nicolas Is 83.47 46 P **P** **19 31 45.3 +1.8**
baz=228
SNCC San Nicolas Is 83.47 46 IAMs_20 IAMs_20 20 03 49.0
comp=Z,70µm,19.0s
SKR Severo-Kuril's 83.65 343*c i*P **P** **19 31 44.0 +0.2**
SKR *e*S **SKSac** **19 42 09.2 +4.3**
SKR pmax pmax
comp=Z,7µm,5.4s
SKR pmax pmax
comp=Z,174nm,0.9s
SKR pmax pmax
comp=Z,5µm,6.7s
SKR MLR MLR
comp=Z,27µm,18.0s
SKR MLR MLR
comp=Z,25µm,18.0s
HKC Hong Kong Obse 83.72 300 ⇑P P 19 31 51.0 +6.1
TJN Taejon 83.88 318*ce*P **P** **19 31 43.6 -1.8**
SCI2 San Clemente I 83.91 46 P **P** **19 31 46.8 +1.1**
baz=228
SCZ2 Santa Cruz Isl 83.91 45 P **P** **19 31 46.3 +0.6**
baz=228,SNR=6.4
LPIG La Paz 83.98 58 LR LR 20 04 38.3
comp=Z,107µm,18.1s,baz=232,slow=32
SSE Sheshan 84.16 311 P **P** **19 31 47.0 +0.1**
SSE S **S** **19 42 11.8 +1.0**
SSE pmax pmax
comp=Z,56nm,1.1s
SSE pmax pmax
comp=Z,10µm,11.9s
SSE LR LR
comp=Z,8µm,23.0s
SSE LR LR
comp=Z,6µm,22.8s
SBC Santa Barbara 84.16 45 P **P** **19 31 48.0 +1.1**
baz=227
BI02 San Fabin de 84.23 129 P **P** **19 31 46.9 -0.7**
BI02 IAmb IAmb 19 32 12.7
comp=Z,177nm,1.2s
BI02 IAMs_20 IAMs_20 19 59 56.9
comp=Z,88µm,21.0s
MNSI Mandailing Nat 84.23 274 P **P** **19 31 46.2 -1.6**
comp=Z,55µmcomp=Z,8µmcomp=Z,170nm,1.7s
CIS Catalina Islan 84.27 46 P **P** **19 31 48.3 +0.7**
baz=228
KSRS Korea Array 84.31 319 P **P** **19 31 46.4 -1.2**
comp=Z,3.9nm,0.7s,baz=139,slow=5.8,SNR=18
KSAR Wonju Array Be 84.33 319 P **P** **19 31 46.5 -1.1**
KSAR Wonju Array Be 84.33 319 P **P** **19 31 46.5 -1.1**
KS19 Wonju Array Si 84.38 319 P **P** **19 31 46.3 -1.7**
KS19 IAmb IAmb 19 32 03.8
comp=Z,148nm,1.0s
PKM Mcpherson Peak 84.40 44 P **P** **19 31 49.4 +1.0**
baz=227,SNR=12
AKUT Akutan 84.41 7 P **P** **19 31 46.1 -1.5**
SRIG Santa Rosalia 84.52 54 IAMs_20 IAMs_20 20 05 54.7
comp=Z,102µm,18.0s
FMP Fort Macarthur 84.55 46 P **P** **19 31 49.6 +0.7**
baz=228
YSS Yuzh-Sakhalins 84.57 334 *e*P **P** **19 31 47.9 -0.7**
YSS *e**PP **pP** **19 31 54.9 +0.6**
YSS *e* 19 35 05.4
YSS *i*S **S** **19 42 14.6 +0.4**
YSS *e*SS **SS** **19 47 44.9 -1.4**
YSS pmax pmax
comp=Z,2µm,4.0s
YSS pmax pmax
comp=N,400nm,4.5s
YSS Yuzh-Sakhalins 84.57 334 IAMs_20 IAMs_20 20 08 01.7
comp=Z,114µm,20.0s
SMMC Simmler 84.58 44 P **P** **19 31 50.2 +1.1**
baz=227,SNR=7.9
GO05 Huala 84.68 127 IAMs_20 IAMs_20 20 00 46.0
comp=Z,68µm,22.0s
PAGB Antelope Grade 84.71 43 P **P** **19 31 49.9 +0.2**
PAGB IAMs_20 IAMs_20 20 06 25.5
comp=Z,84µm,19.0s
PMPB Monarch Peak 84.71 43 P **P** **19 31 50.8 +1.0**
PMPB IAMs_20 IAMs_20 20 04 45.9
comp=Z,114µm,19.0s
109C Camp Elliot, M 84.76 47 P **P** **19 31 50.5 +0.5**
baz=229
109C Camp Elliot, M 84.76 47 IAMs_20 IAMs_20 20 07 28.2
comp=Z,54µm,18.0s
GZH Guangzhou 84.80 300 P **P** **19 31 50.9 +0.5**
GZH PP **PP** **19 35 08.8 +1.7**
GZH S **S** **19 42 19.1 +1.5**
GZH pmax pmax
comp=Z,23µm,11.3s
GZH LR LR
comp=Z,15µm,19.1s
GZH LR LR
comp=Z,22µm,20.3s
IPM Ipoh 84.83 278 IAmb IAmb 19 31 58.3
IPM comp=Z,695nm,1.8s IAMs_20 IAMs_20 20 14 07.2
comp=Z,97µm,19.0s
IPM Ipoh 84.83 278 P **P** **19 31 50.0 -0.9**
DECC Green Verdugo 84.88 46 P **P** **19 31 51.3 +0.7**
baz=228
OSI Osito Audit: C 84.88 45 P **P** **19 31 51.2 +0.6**
baz=228
OSI Osito Audit: C 84.88 45 IAMs_20 IAMs_20 20 06 03.2
comp=Z,83µm,18.0s
BAR Barrett 84.90 48 IAMs_20 IAMs_20 20 05 30.9
comp=Z,56µm,18.0s
PASC Pasadena Art C 84.92 46 IAMs_20 IAMs_20 20 06 11.3
comp=Z,77µm,18.0s
MWC Mount Wilson 85.03 46 IAMs_20 IAMs_20 20 06 24.3
comp=Z,75µm,18.0s
ARVC Arvin 85.16 45 P **P** **19 31 52.4 +0.4**
baz=228
MURC Murrieta 85.17 47 P **P** **19 31 52.8 +0.7**
baz=229,SNR=25
QIZ Qiongzhong 85.19 295 P **P** **19 31 51.0 -1.5**
QIZ sP **sP** **19 31 59.5 -0.7**
QIZ PP **PP** **19 35 11.4 +1.0**
QIZ S **S** **19 42 16.6 -5.1**
QIZ sS **sS** **19 42 31.8 +0.1**
QIZ SS **SS** **19 47 53.4 -3.0**
QIZ pmax pmax
comp=Z,29nm,2.1s
QIZ pmax pmax
comp=Z,12µm,11.8s
QIZ LR LR
comp=Z,9µm,24.5s
QIZ LR LR
comp=Z,22µm,20.6s
QIZ LR LR
comp=Z,31µm,34.3s
MONP2 Monument Peak 85.20 48 P **P** **19 31 53.2 +0.7**
baz=230,SNR=37
IKP In-Ko-Pah, Jac 85.24 48 P **P** **19 31 53.4 +0.9**
baz=230,SNR=27
PET Petropavlovsk 85.25 346*c i*P **P** **19 31 50.4 -1.5**
PET *e*S **S** **19 42 18.7 -2.0**
PET *e*PS 19 43 17.4
PET *e*SS **SS** **19 47 56.6 +0.6**
PET pmax pmax
comp=Z,302nm,1.5s
PET pmax pmax
comp=Z,18µm,12.8s
PET pmax pmax
comp=Z,19µm,14.7s
PET MLR MLR
comp=Z,80µm,21.0s
PET Petropavlovsk 85.25 346 P **P** **19 31 50.3 -1.6**
PET IAMs_20 IAMs_20 20 05 52.2
comp=Z,71µm,20.0s
BFSC Mount Baldy Ra 85.29 46 P **P** **19 31 53.2 +0.4**
baz=229,SNR=37
HOPS Hopland Field 85.35 40 P **P** **19 31 53.6 +0.9**
HOPS IAmb IAmb 19 32 01.3
comp=Z,285nm,1.1s
GDXM Geysers 85.37 40 P **P** **19 31 54.3 +1.3**
GDXM IAmb IAmb 19 32 17.7
comp=Z,484nm,1.7s
VES Vestal, Richgr 85.48 44 P **P** **19 31 54.1 +0.6**
baz=228,SNR=32
EDW2 Edwards Air Fo 85.51 45 P **P** **19 31 54.3 +0.5**
baz=228,SNR=57
PEA0B Petropavlovsk- 85.53 345 P **P** **19 31 51.7 -1.7**
PEA0B pmax pmax
comp=Z,3µm,1.9s
PEA0B Petropavlovsk- 85.53 345 P **P** **19 31 51.7 -1.7**
PETK Petropavlovsk- 85.53 345 P **P** **19 31 52.1 -1.3**
comp=Z,41nm,0.7s,baz=134,slow=7.0,SNR=40
PETK Petropavlovsk- 85.53 345 P **P** **19 31 52.0 -1.4**
KCPM Cahto Peak 85.56 39 P **P** **19 31 54.1 +0.2**
TEY Ternei 85.56 329‖ *e*P P 19 31 58.8 +5.2
TEY *e* 19 42 21.1
TEY pmax pmax
comp=E,40nm,1.5s
TEY pmax pmax
comp=N,50nm,1.6s
TEY pmax pmax
comp=Z,170nm,1.4s
TEY pmax pmax
comp=Z,20µm,15.2s
TEY MLR MLR
comp=E,11µm,20.0s
KULM Kulim 85.56 279 P **P** **19 31 52.4 -2.1**
KULM IAMs_20 IAMs_20 20 11 41.6
comp=Z,89µm,21.0s
KULM Kulim 85.56 279 P **P** **19 31 55.0 +0.5**
BO02 Sierra Bellavi 85.59 128 P **P** **19 31 53.7 -0.7**
BO02 IAmb IAmb 19 32 14.9
comp=Z,398nm,1.3s
VOG Valley Oaks Go 85.62 43 P **P** **19 31 55.0 +0.8**
baz=228
SWSC Sam W. Stewart 85.63 48 P **P** **19 31 55.0 +0.7**
baz=230,SNR=21
PFO Pinyon Flats O 85.64 47 P **P** **19 31 55.4 +0.9**
baz=229,SNR=37
PFO Pinyon Flats O 85.64 47 P **P** **19 31 55.4 +0.9**
PFO pmax pmax
comp=Z,269nm,1.3s
PFO MLR MLR
comp=Z,68µm,18.0s
PFO Pinyon Flats O 85.64 47 P **P** **19 31 55.4 +0.9**
PFO IAmb IAmb 19 32 07.6
comp=Z,268nm,1.3s
PFO Pinyon Flats O 85.64 47 IAMs_20 IAMs_20 20 06 12.9
comp=Z,68µm,18.0s
XPFO Pion Flat 85.64 47 P **P** **19 31 54.3 -0.3**
XPFO IAmb IAmb 19 32 07.6
comp=Z,269nm,1.3s
XPFO Pion Flat 85.64 47 IAMs_20 IAMs_20 20 06 11.9
comp=Z,69µm,18.0s
ISA Isabella, Lake 85.73 44 P **P** **19 31 55.8 +0.9**
baz=228,SNR=57
ISA Isabella, Lake 85.73 44 IAMs_20 IAMs_20 20 06 41.7
comp=Z,78µm,19.0s
RPSI Rantau Prapat 85.75 276 P **P** **19 31 53.7 -1.7**
BBRC Big Bear Solar 85.77 46 P **P** **19 31 55.4 +0.1**
baz=229
WOSN Wonsan 85.79 320 P **P** **19 31 57.3 +2.3**
PSI Prapat 85.80 276 P **P** **19 31 53.8 -2.0**
comp=Z,24nm,1.1s,baz=179,slow=1.2,SNR=9.4
PSI Prapat 85.80 276 P **P** **19 31 53.7 -2.1**
PSI pmax pmax
comp=Z,1µm,2.0s
PSI MLR MLR
comp=Z,128µm,19.0s
KMRM Mail Ridge 85.87 38 IAMs_20 IAMs_20 20 06 08.8
comp=Z,107µm,19.0s
CNBA Chernabura Isl 85.88 10 pP 19 31 58.7 -2.0
HJU Haeju 85.97 319 P **P** **19 31 59.6 +3.7**
EDS3 Malargue 85.98 129 *i*P P 19 32 06.3 +10
LRMC Laurel Mtn Rad 86.09 45 P **P** **19 31 57.5 +0.7**
baz=229,SNR=72
JCC Jacoby Creek, 86.12 38 P **P** **19 31 55.1 -1.5**
JCC IAmb IAmb 19 32 04.1
comp=Z,253nm,1.2s
JCC IAMs_20 IAMs_20 20 06 33.8
comp=Z,74µm,19.0s
RRX Edison Barstow 86.12 46 P **P** **19 31 57.1 +0.3**
baz=229
BELC Belle Mtn. Jos 86.18 47 P **P** **19 31 58.4 +1.1**
baz=230,SNR=76
MT02 Curacav 86.19 126 IAMs_20 IAMs_20 20 01 10.1
comp=Z,84µm,21.0s
CMB Columbia Colle 86.20 42 P **P** **19 31 55.8 -1.3**
CMB pmax pmax
comp=Z,206nm,1.1s
CMB MLR MLR
comp=Z,95µm,19.0s
CMB Columbia Colle 86.20 42 P **P** **19 31 55.8 -1.3**
CMB IAmb IAmb 19 32 04.0
comp=Z,206nm,1.1s
CMB IAMs_20 IAMs_20 20 05 33.1
comp=Z,95µm,19.0s
GSI Gunungsitoli 86.22 274 P **P** **19 31 56.8 -1.0**
comp=Z,339µmcomp=Z,84µmcomp=Z,2µm,1.7s
GSI Gunungsitoli 86.22 274 P **P** **19 31 55.5 -2.3**
GSI IAmb IAmb 19 34 33.2
comp=Z,340nm,0.9s
GSI IAMs_20 IAMs_20 20 11 23.8
comp=Z,82µm,20.0s
SDPT Sand Point 86.26 10 P **P** **19 31 56.1 -0.8**
SDPT IAmb IAmb 19 32 21.8
comp=Z,345nm,0.9s
HHU Hamhung 86.27 321 P **P** **19 31 58.3 +1.0**
MSHR Mys Shultsa 86.27 325*ce*P **P** **19 31 57.6 +0.4**
MSHR pmax pmax
comp=Z,320nm,1.3s
NJ2 Nanjing 86.30 310 *e*P **P** **19 31 58.4 +0.8**
NJ2 pP **pP** **19 32 03.5 +0.2**
NJ2 sP **sP** **19 32 06.8 +1.4**
NJ2 S **S** **19 42 32.1 +0.1**
NJ2 sS **sS** **19 42 41.8 -0.1**
NJ2 pmax pmax
comp=Z,23nm,0.5s
NJ2 pmax pmax
comp=Z,24µm,10.9s
NJ2 LR LR
comp=Z,21µm,20.8s
NJ2 LR LR
comp=Z,51µm,21.8s
VLA Vladivostok 86.31 325*c i*P **P** **19 31 57.1 -0.3**
VLA pmax pmax
comp=Z,193nm,1.2s
VLA MLR MLR
comp=Z,46µm,19.0s
BC3 Big Chuckawall 86.31 48 P **P** **19 31 59.1 +1.2**
baz=230,SNR=140
KHMM Horse Mountain 86.32 38 P **P** **19 31 57.4 -0.4**
KHMM IAmb IAmb 19 32 06.4
comp=Z,322nm,1.2s
KHMM IAMs_20 IAMs_20 20 06 24.1
comp=Z,75µm,19.0s
GLA Glamis 86.33 48 P **P** **19 31 59.1 +1.2**
baz=230
GLA Glamis 86.33 48 P **P** **19 31 58.0 +0.1**
GLA pmax pmax
comp=Z,931nm,2.0s
GLA MLR MLR
comp=Z,61µm,18.0s
GLA Glamis 86.33 48 P **P** **19 31 58.0 +0.1**
GLA IAMs_20 IAMs_20 20 06 16.8
comp=Z,61µm,18.0s
O02D Mt. Diablo Mer 86.33 39 P **P** **19 31 58.2 +0.4**
baz=225,SNR=73
MT05 Renca 86.39 127 IAMs_20 IAMs_20 20 01 27.5
comp=Z,67µm,21.0s
CHJN Chongjin 86.40 323 P **P** **19 31 57.7 -0.2**
ROC1 El Roble 86.43 126 *i*P **P** **19 32 02.7 +3.8**
ROCH El Roble 86.44 126 *e*P **P** **19 32 00.4 +1.5**
ROCH *e*P **P** **19 32 00.6 +1.7**
HSIG 86.45 54 P **P** **19 31 58.6 +0.1**
HSIG IAMs_20 IAMs_20 20 06 33.9
comp=Z,56µm,19.0s
TSI Tuntungan 86.46 276 P **P** **19 32 01.0 +2.1**
comp=Z,63µmcomp=Z,11µmcomp=Z,293nm,1.3s
CWC Cottonwood Cre 86.49 44 P **P** **19 31 59.3 +0.6**
baz=228
AFDM Forest Hills D 86.49 41 P **P** **19 31 57.5 -1.0**
AFDM IAmb IAmb 19 32 05.3
comp=Z,194nm,1.2s
HEC Hector,Ludlow 86.51 46 P **P** **19 31 59.3 +0.6**
baz=230,SNR=59
GSC Goldstone, Bar 86.52 46 P **P** **19 31 59.3 +0.5**
baz=229,SNR=94
GSC Goldstone, Bar 86.52 46 P **P** **19 31 58.2 -0.6**
GSC Goldstone, Bar 86.52 46 P **P** **19 31 58.2 -0.6**
GSC IAmb IAmb 19 34 36.8
comp=Z,273nm,1.1s
GSC IAMs_20 IAMs_20 20 07 04.0
comp=Z,86µm,18.0s
CLCH Cerro Calan 86.53 127 *e*P **P** **19 32 00.5 +1.3**
PEL Peldehue 86.57 126 *e*P **P** **19 32 00.6 +1.3**
PEL Peldehue 86.57 126 P **P** **19 31 59.8 +0.5**
PEL pmax pmax
comp=Z,240nm,1.0s
PEL MLR MLR
comp=Z,76µm,21.0s
PEL Peldehue 86.57 126 P **P** **19 31 59.8 +0.5**
PEL IAmb IAmb 19 32 21.0
comp=Z,240nm,1.0s
PEL IAMs_20 IAMs_20 20 01 22.3
comp=Z,76µm,21.0s
PEL Peldehue 86.57 126 *i*P **P** **19 32 03.5 +4.2**
MPMC Manual Prospec 86.59 45 P **P** **19 32 00.0 +0.8**
baz=229,SNR=167
ORV Oroville 86.61 40 P **P** **19 31 59.5 +0.5**
ORV pmax pmax
comp=Z,215nm,1.4s
ORV MLR MLR
comp=Z,96µm,19.0s
ORV Oroville 86.61 40 P **P** **19 31 59.5 +0.5**
ORV IAmb IAmb 19 32 06.0
comp=Z,215nm,1.4s
ORV IAMs_20 IAMs_20 20 06 07.5
comp=Z,96µm,19.0s
PYAG Pyongyang 86.64 319 P **P** **19 32 00.0 +0.8**
PYAG sP **pwP** **19 32 13.0 +3.1**
PYAG S **S** **19 42 30.0 -5.0**
PYAG sS **pS** **19 42 42.0 -0.3**
MDPB Devils Postpil 86.69 43 P **P** **19 31 60.0 +0.2**
MDPB IAMs_20 IAMs_20 20 05 59.1
comp=Z,107µm,19.0s
KRMB Red Mountain 86.69 37 P **P** **19 31 59.3 -0.2**
KRMB IAMs_20 IAMs_20 20 06 15.8
comp=Z,65µm,19.0s
OMMB Old Mammoth Mi 86.72 43 P **P** **19 31 59.2 -0.8**
OMMB IAmb IAmb 19 32 21.9
comp=Z,728nm,2.0s
WDC Whiskeytown Da 86.75 39 P **P** **19 31 58.5 -1.2**
WDC pmax pmax
comp=Z,414nm,1.4s
WDC MLR MLR
comp=Z,100µm,19.0s
WDC Whiskeytown Da 86.75 39 P **P** **19 31 58.5 -1.2**
WDC IAmb IAmb 19 32 06.9
comp=Z,414nm,1.4s
WDC IAMs_20 IAMs_20 20 06 48.6
comp=Z,100µm,19.0s
TIN Tinemaha, Big 86.80 44 P **P** **19 32 00.9 +0.7**
baz=228,SNR=14
IRM Iron Mountain 86.83 47 P **P** **19 32 01.4 +1.1**
baz=230,SNR=121
113A Mohawk Valley, 86.84 49 P **P** **19 32 00.6 +0.3**
113A IAmb IAmb 19 32 13.5
comp=Z,378nm,1.6s
113A IAMs_20 IAMs_20 20 09 13.9
comp=Z,77µm,18.0s
VA03 San Esteban 86.87 126 *e*P **P** **19 32 04.0 +3.1**
VA03 San Esteban 86.87 126 IAMs_20 IAMs_20 20 01 30.2
comp=Z,88µm,21.0s
GMRC Granite Mounta 86.90 47 P **P** **19 32 01.6 +0.8**
baz=230,SNR=58
N02D Trinity Center 86.94 38 P **P** **19 32 01.8 +1.0**
baz=225,SNR=86
O03E Paynes Creek 86.96 39 P **P** **19 32 01.1 +0.3**
baz=230,SNR=82
214A Organ Pipe Nat 86.97 50 P **P** **19 32 01.7 +0.7**
baz=232,SNR=13
214A Organ Pipe Nat 86.97 50 P **P** **19 32 00.7 -0.3**
214A IAmb IAmb 19 32 24.4
comp=Z,416nm,1.6s
214A IAMs_20 IAMs_20 20 08 09.3
comp=Z,79µm,18.0s
SPIA Saint Paul Isl 87.06 4 P **P** **19 32 01.2 +0.5**
SPIA IAMs_20 IAMs_20 20 05 33.4
comp=Z,77µm,20.0s
USA0B Ussuriysk Arra 87.06 326 *i*P **P** **19 31 59.7 -1.4**
USA0B Ussuriysk Arra 87.06 326 P **P** **19 31 59.7 -1.4**
USRK Ussuriysk Ar. 87.06 326 P **P** **19 32 00.6 -0.5**
comp=Z,23nm,0.8s,baz=148,slow=3.8,SNR=26
USRK LR LR 20 06 16.6
comp=Z,40µm,21.1s,baz=125,slow=32
USRK Ussuriysk Ar. 87.06 326 P **P** **19 31 59.7 -1.4**
WAKR Walker 87.06 42 P **P** **19 32 00.6 -0.9**
WAKR IAMs_20 IAMs_20 20 05 44.7
comp=Z,94µm,19.0s
KCSI Kotacane, Aceh 87.15 276 P **P** **19 32 01.5 -0.9**
comp=Z,52µmcomp=Z,7µmcomp=Z,116nm,1.9s
TUQ Turquoise Moun 87.15 46 P **P** **19 32 02.8 +0.9**
baz=230,SNR=13
M02C Callahan 87.16 38 P **P** **19 32 02.6 +0.8**
baz=225,SNR=85
SHOC Shoshone, Teco 87.23 45 P **P** **19 32 03.0 +0.8**
baz=230,SNR=10
FURC Furnace Creek, 87.24 45 P **P** **19 32 02.6 +0.5**
baz=229,SNR=37
PAYG Puerto Ayora 87.28 89 IAMs_20 IAMs_20 20 01 44.7
comp=Z,76µm,21.0s
GRAC Grapevine Rang 87.28 44 P **P** **19 32 03.3 +0.9**
baz=229,SNR=15
PNTR Pine Nut 87.36 41 P **P** **19 32 02.0 -1.0**
PNTR IAmb IAmb 19 32 25.8
comp=Z,448nm,1.4s
CO02 Combarbal 87.42 125 *e*P **P** **19 32 03.6 +0.1**
CO02 Combarbal 87.42 125 P **P** **19 32 02.0 -1.5**
CO02 IAmb IAmb 19 32 25.1
comp=Z,212nm,1.0s
CO02 IAMs_20 IAMs_20 20 01 23.8
comp=Z,98µm,22.0s
YBH Yreka Blue Hor 87.47 38 P **P** **19 32 02.0 -1.3**
YBH pmax pmax
comp=Z,152nm,1.3s
YBH MLR MLR
comp=Z,58µm,21.0s
YBH Yreka Blue Hor 87.47 38 P **P** **19 32 02.0 -1.3**
YBH IAMs_20 IAMs_20 20 03 53.5
comp=Z,58µm,21.0s
KGE Kanggye 87.48 321 P **P** **19 32 04.1 +0.9**
YERR Yerington 87.50 42 P **P** **19 32 02.4 -1.2**
YERR IAmb IAmb 19 32 27.4
comp=Z,381nm,1.5s
YERR IAMs_20 IAMs_20 20 06 08.6
comp=Z,107µm,19.0s
CHIR Chirikof Islan 87.51 12 P **P** **19 32 04.0 +1.1**
CHIR IAMs_20 IAMs_20 20 06 41.1
comp=Z,86µm,20.0s
NEE2 Needles Airpor 87.55 47 P **P** **19 32 04.8 +1.1**
baz=230
PDMCI Parker Dam,Lak 87.56 48 P **P** **19 32 04.7 +0.9**
baz=231,SNR=45
K02D Willamette Mer 87.65 37 P **P** **19 32 04.8 +0.7**
baz=224,SNR=26
NVAR Mina Array Bea 87.67 42 P **P** **19 32 04.1 -0.4**
comp=Z,48nm,1.0s,baz=221,slow=7.3,SNR=46
NVAR S **SKSac** **19 42 39.5 +8.0**
comp=Z,0.3nm,0.6s,baz=288,slow=29,SNR=1.2
NVAR PKKPbc **PKKPbc** **19 49 52.2 -1.1**
comp=Z,1.0nm,0.7s,baz=72,slow=4.2,SNR=2.7

NVAR PKPPKP **P'P'df** **19 58 03.3 +6.8**
comp=Z,3.5nm,1.0s,baz=64,slow=2.1,SNR=4.8
NVAR Mina Array Bea 87.67 42 P **P** **19 32 02.7 -1.8**
RYN Ryan 87.68 42 IAMs_20 IAMs_20 20 06 32.4
comp=Z,93µm,19.0s
NV11 Mina Array Sit 87.76 43 P **P** **19 32 03.5 -1.3**
NV11 IAmb IAmb 19 32 28.7
comp=Z,316nm,1.4s
CO03 El Pedregal 87.84 125 P **P** **19 32 06.4 +0.8**
CO03 IAmb IAmb 19 32 26.9
comp=Z,209nm,1.2s
CO03 IAMs_20 IAMs_20 20 01 36.1
comp=Z,105µm,22.0s
J01E Myrtle Point 87.85 36 P **P** **19 32 05.4 +0.5**
baz=224,SNR=7.0
TYV Tymovskoe 87.86 336 *e*P P 19 32 09.5 +4.8
TYV pmax pmax
comp=Z,15µm,5.1s
TYV pmax pmax
comp=Z,738nm,2.0s
AAGR Agrelo 87.89 127 *e*P **P** **19 32 07.2 +1.4**
PAHR Pah Rah Range 87.91 41 P **P** **19 32 04.9 -0.6**
PAHR IAmb IAmb 19 32 29.3
comp=Z,344nm,1.5s
TPNV Topopah Spring 87.93 45 P **P** **19 32 06.2 +0.5**
baz=230,SNR=59
TPNV Topopah Spring 87.93 45 P **P** **19 32 05.2 -0.5**
TPNV pmax pmax
comp=Z,342nm,1.3s
TPNV MLR MLR
comp=Z,81µm,18.0s
TPNV Topopah Spring 87.93 45 P **P** **19 32 05.2 -0.5**
TPNV IAmb IAmb 19 32 30.0
comp=Z,342nm,1.3s
TPNV IAMs_20 IAMs_20 20 12 50.3
comp=Z,81µm,18.0s
ARCO CERRO ARCO 87.96 127 *e*P **P** **19 32 07.8 +1.6**
M04C Macdoel 87.97 38 P **P** **19 32 06.1 +0.4**
baz=226,SNR=34
AUSP Uspallata 87.99 126 *e*P **P** **19 32 06.7 +0.2**
L04D Klamath Falls 88.03 38 P **P** **19 32 06.0 0.0**
baz=225,SNR=40
Y14A Wickenburg 88.07 49 P **P** **19 32 05.7 -0.6**
Y14A IAmb IAmb 19 32 19.6
comp=Z,211nm,1.2s
Y14A IAMs_20 IAMs_20 20 07 19.3
comp=Z,82µm,18.0s
SUJ Sinuiju 88.08 319 P **P** **19 32 06.9 +0.9**
GO04 Tololo Observa 88.13 124 P **P** **19 32 05.9 -1.3**
GO04 IAmb IAmb 19 32 37.7
comp=Z,110nm,0.9s
GO04 IAMs_20 IAMs_20 20 01 42.8
comp=Z,99µm,21.0s
ASAL Salagasta 88.17 127 *e*P **P** **19 32 09.2 +2.1**
KVN Kaiserville 88.20 42 P **P** **19 32 05.5 -1.5**
KVN pmax pmax
comp=Z,119nm,1.0s
KVN MLR MLR
comp=Z,83µm,19.0s
KVN Kaiserville 88.20 42 P **P** **19 32 05.5 -1.5**
KVN IAmb IAmb 19 32 19.7
comp=Z,119nm,1.0s
KVN IAMs_20 IAMs_20 20 06 40.2
comp=Z,83µm,19.0s
W13A Hualapai Mount 88.23 47 P **P** **19 32 06.4 -0.8**
W13A IAmb IAmb 19 32 28.1
comp=Z,203nm,1.4s
W13A IAMs_20 IAMs_20 20 07 42.9
comp=Z,50µm,18.0s
RTLS Leoncito 88.29 126 *e*P **P** **19 32 10.8 +2.9**
SHPR Sheep Range 88.31 46 P **P** **19 32 08.5 +0.9**
SHPR IAmb IAmb 19 32 24.9
comp=Z,178nm,1.3s
SHPR IAMs_20 IAMs_20 20 08 10.6
comp=Z,65µm,18.0s
WHN Wuhan 88.44 307 P **P** **19 32 07.5 -0.5**
WHN PP **PP** **19 35 39.3 +2.9**
WHN S **SKSac** **19 42 39.8 +3.9**
WHN pmax pmax
comp=Z,12µm,4.8s
WHN LR LR
comp=Z,61µm,19.1s
WHN LR LR
comp=Z,52µm,18.1s
WHN LR LR
comp=Z,96µm,21.4s
SII Sitkinak Islan 88.47 13 P **P** **19 32 07.1 -0.5**
SII IAmb IAmb 19 32 14.0
comp=Z,399nm,1.3s
SII IAMs_20 IAMs_20 20 07 08.6
comp=Z,88µm,20.0s
I03D Drain, OR 88.53 36 P **P** **19 32 08.6 +0.5**
baz=225,SNR=28
MDJ Mudanjiang 88.53 325 P **P** **19 32 07.3 -0.8**
MDJ S **SKSac** **19 42 42.8 +7.0**
MDJ pmax pmax
comp=Z,4µm,7.4s
MDJ LR LR
comp=Z,24µm,22.1s
MDJ LR LR
comp=Z,79µm,22.4s
MDJ Mudanjiang 88.53 325 P **P** **19 32 06.7 -1.4**
MDJ IAMs_20 IAMs_20 20 06 23.2
comp=Z,64µm,22.0s
TUC Tucson 88.55 51 P **P** **19 32 08.3 -0.4**
baz=233
TUC Tucson 88.55 51 P **P** **19 32 09.4 +0.8**
TUC pmax pmax
comp=Z,371nm,1.5s
TUC MLR MLR
comp=Z,48µm,18.0s
TUC Tucson 88.55 51 P **P** **19 32 09.4 +0.8**
TUC IAmb IAmb 19 32 22.3
comp=Z,371nm,1.4s
TUC Tucson 88.55 51 IAMs_20 IAMs_20 20 08 33.2
comp=Z,48µm,18.0s
I02D Swisshome 88.57 35 P **P** **19 32 08.7 +0.5**
baz=224
K04D Chiloquin, OR 88.60 38 P **P** **19 32 08.9 +0.2**
baz=226,SNR=7.1
MLSI Meulaboh, Aceh 88.71 276 P **P** **19 32 11.4 +1.7**
comp=Z,50µmcomp=Z,8µmcomp=Z,358nm,0.9s
LHMI Lhok Sumawe 88.72 277 P **P** **19 32 09.7 -0.1**
comp=Z,62µmcomp=Z,12µmcomp=Z,311nm,1.1s
LHMI Lhok Sumawe 88.72 277 IAMs_20 IAMs_20 20 15 03.1
comp=Z,69µm,20.0s
CO01 Juntas del Tor 88.75 124 IAMs_20 IAMs_20 20 02 03.1
comp=Z,112µm,22.0s
RTCV Cerro Valdivia 88.79 126 *e*P **P** **19 32 10.9 +1.0**
J04D Umpqua Nationa 88.85 37 P **P** **19 32 10.4 +0.5**
baz=226,SNR=9.9
ZON Zonda 88.87 126 IAMs_20 IAMs_20 20 02 47.0
comp=Z,76µm,22.0s
ZON Zonda 88.87 126 *i* P P 19 32 15.8 +5.5
MOD Modoc Plateau 88.88 39 P **P** **19 32 08.1 -1.9**
MOD IAmb IAmb 19 32 34.0
comp=Z,433nm,1.7s
MOD IAMs_20 IAMs_20 20 08 11.0
comp=Z,94µm,19.0s
DL2 Dalian 88.94 317 P **P** **19 32 08.8 -1.4**
DL2 SKS **SKSac** **19 42 35.5 -3.0**
DL2 S **S** **19 42 54.9 -2.0**
DL2 pmax pmax
comp=Z,250nm,1.5s
DL2 pmax pmax
comp=Z,15µm,8.8s
DL2 LR LR
comp=Z,17µm,23.5s
DL2 LR LR
comp=Z,25µm,27.8s
DL2 LR LR
comp=Z,38µm,28.4s
AC04 Llanos de Chal 89.02 122 *e*P **P** **19 32 13.8 +2.7**
ZAIG Zacatecas 89.07 63 IAMs_20 IAMs_20 20 06 54.8
comp=Z,82µm,18.0s
I04A Tendick Farm, 89.08 36 P **P** **19 32 11.0 +0.2**
baz=225,SNR=48
AROD Rodeo 89.09 125 *e*P **P** **19 32 13.1 +1.3**
K05A Summer Lake 89.13 38 IAMs_20 IAMs_20 20 08 08.4
comp=Z,75µm,19.0s
RTLL Cerro Villicun 89.14 126 *e*P **P** **19 32 15.0 +3.4**
ACCO Cerro Coronel 89.14 125 *i* P **P** **19 32 12.5 +0.5**
CFA Coronel Fontan 89.14 126 P **P** **19 32 11.3 -0.4**
comp=Z,21nm,1.0s,baz=246,slow=4.0,SNR=17
CFA S **SKSac** **19 42 42.3 +1.6**
comp=Z,1.1nm,0.3s,baz=72,slow=19,SNR=1.5
CFA PKKPbc **PKKPbc** **19 49 47.6 -0.5**
comp=Z,0.9nm,0.3s,baz=243,slow=4.5,SNR=1.8
CFA LR LR 20 03 19.2
comp=Z,67µm,21.4s,baz=262,slow=30
CFA Coronel Fontan 89.14 126 *e*P **P** **19 32 15.6 +3.9**
COR Corvallis 89.18 35 IAMs_20 IAMs_20 20 06 29.6
comp=Z,80µm,20.0s
R11A Troy Canyon, C 89.23 44 P **P** **19 32 12.0 +0.1**
baz=230,SNR=48
R11A Troy Canyon, C 89.23 44 P **P** **19 32 11.7 -0.1**
R11A IAMs_20 IAMs_20 20 09 30.7
comp=Z,84µm,18.0s
AC05 El Transito 89.26 123 *e*P **P** **19 32 14.6 +2.3**
AC05 El Transito 89.26 123 IAMs_20 IAMs_20 20 02 15.7
comp=Z,82µm,20.0s
OHAK Old Harbor 89.27 13 P **P** **19 32 10.9 -0.3**
OHAK IAmb IAmb 19 32 17.5
comp=Z,322nm,1.4s
OHAK IAMs_20 IAMs_20 20 07 43.7
comp=Z,76µm,20.0s
J05D Fort Rock, OR 89.34 37 P **P** **19 32 12.6 +0.4**
baz=226,SNR=90
ACDV Cuesta del Vie 89.34 125 *e*P **P** **19 32 17.0 +4.2**
AMOG MOGNA 89.35 126 *e*P **P** **19 32 15.0 +2.4**
H04D Lebanon 89.42 36 P **P** **19 32 13.1 +0.8**
baz=225,SNR=23
TLIG Tlapa 89.47 69 IAMs_20 IAMs_20 20 02 20.2
comp=Z,69µm,22.0s
HOPE Hope Point 89.57 158 P **P** **19 32 12.1 -1.0**
HOPE pmax pmax
comp=Z,1µm,1.8s
HOPE MLR MLR
comp=Z,90µm,18.0s
HOPE Hope Point 89.57 158 P **P** **19 32 12.1 -1.0**
HOPE Hope Point 89.57 158 IAMs_20 IAMs_20 20 09 44.6
comp=Z,90µm,18.0s
G03D McMinnville, O 89.65 35 P **P** **19 32 13.9 +0.6**
baz=225,SNR=8.6
SNY Shenyang 89.75 320 ⇑P **P** **19 32 14.3 +0.4**
SNY pmax pmax
comp=Z,14µm,10.6s
SNY LR LR
comp=Z,28µm,22.6s
SNY LR LR
comp=Z,11µm,21.1s
SNY LR LR
comp=Z,48µm,23.5s
H04A Detroit Lake 89.82 36 P **P** **19 32 13.4 -0.8**
H04A IAMs_20 IAMs_20 20 09 00.4
comp=Z,70µm,19.0s
LCMT Little Creek M 89.83 46 P **P** **19 32 13.5 -1.1**
PINE Pine Mountain 89.84 37 P **P** **19 32 13.0 -1.5**
UNM Universidad Na 89.90 68 IAMs_20 IAMs_20 20 02 27.6
comp=Z,80µm,21.0s
KDAK Kodiak Island 89.93 13 P **P** **19 32 13.0 -1.3**
KDAK pmax pmax
comp=Z,272nm,1.4s
KDAK MLR MLR
comp=Z,68µm,20.0s
KDAK Kodiak Island 89.93 13 P **P** **19 32 13.0 -1.3**
KDAK IAmb IAmb 19 32 20.6
comp=Z,272nm,1.4s
KDAK Kodiak Island 89.93 13 IAMs_20 IAMs_20 20 07 53.2
comp=Z,68µm,20.0s
GO03 Copiap 89.98 122 IAMs_20 IAMs_20 20 02 54.9
comp=Z,66µm,22.0s
TIA Tai'an 90.00 313 P **P** **19 32 14.3 -0.9**
TIA pP **sP** **19 32 22.5 -0.6**
TIA PP **PP** **19 35 48.3 -0.5**
TIA SKS **SKSac** **19 42 40.3 -4.6**
TIA pmax pmax
comp=Z,9.0nm,0.9s
TIA pmax pmax
comp=Z,1µm,3.9s
TIA LR LR
comp=Z,19µm,24.9s
TIA LR LR
comp=Z,28µm,22.8s
TIA LR LR
comp=Z,61µm,24.2s
I05D Terrebonne, OR 90.01 37 P **P** **19 32 15.5 +0.4**
baz=225,SNR=40
F03A Seaside 90.01 34 P **P** **19 32 14.0 -1.1**
U15A North Rim 90.07 47 P **P** **19 32 15.1 -0.9**
U15A IAmb IAmb 19 32 39.4
comp=Z,239nm,1.1s
CN2 Changchun 90.07 323 *e*P **P** **19 32 12.8 -2.6**
CN2 *e*PP **PP** **19 35 49.3 +0.1**
CN2 SKS **SKSac** **19 42 40.6 -4.3**
CN2 *e*SS **SS** **19 49 06.3 -0.6**
CN2 pmax pmax
comp=Z,50nm,1.7s
CN2 pmax pmax
comp=Z,12µm,8.0s
CN2 LR LR
comp=Z,22µm,22.0s
CN2 LR LR
comp=Z,19µm,22.0s
CN2 LR LR
comp=Z,37µm,23.0s
KNB Kanab 90.09 46 P **P** **19 32 15.4 -0.5**
KNB pmax pmax
comp=Z,394nm,1.4s
KNB Kanab 90.09 46 P **P** **19 32 15.4 -0.5**
WUAZ Wupatki 90.10 48 P **P** **19 32 16.7 +0.8**
baz=232
WUAZ Wupatki 90.10 48 P **P** **19 32 14.9 -1.0**
WUAZ IAmb IAmb 19 32 33.3
comp=Z,219nm,1.1s
WUAZ IAMs_20 IAMs_20 20 08 34.5
comp=Z,50µm,18.0s
GRNR Gornyy 90.12 333 ⇑*i*P **P** **19 32 14.7 -0.7**
GRNR *e*S **S** **19 43 08.9 +1.4**
GRNR pmax pmax
comp=N,90nm,1.3s
GRNR pmax pmax
comp=E,50nm,1.3s
GRNR pmax pmax
comp=Z,350nm,1.2s
GRNR smax smax
comp=E,5.0nm,1.2s
AGUA GUANDACOL 90.18 124 *e*P **P** **19 32 18.5 +1.9**
F04D Rainier, OR 90.39 35 P **P** **19 32 17.5 +0.7**
baz=225,SNR=12
PSUT Pine Spring 90.40 45 P **P** **19 32 16.5 -0.9**
MRA San Martin 90.41 128 *e*P **P** **19 32 16.8 -0.8**
NKL Nikolayevsk 90.44 336 *e*P **P** **19 32 17.1 +0.3**
NKL *e* 19 35 48.2
NKL pmax pmax
comp=Z,867nm,1.4s
E03A Lebam 90.45 34 IAMs_20 IAMs_20 20 06 53.0
comp=Z,52µm,20.0s
AC01 Pan de Azucar 90.52 121 *e*P **P** **19 32 22.5 +4.4**
F04A Amboy 90.58 35 IAMs_20 IAMs_20 20 07 32.4
comp=Z,49µm,19.0s
G05D Wamic, OR 90.65 36 P **P** **19 32 19.0 +0.9**
baz=226
121A Cookes Peak, D 90.72 52 P **P** **19 32 19.6 +0.7**
baz=234
121A Cookes Peak, D 90.72 52 IAMs_20 IAMs_20 20 09 44.9
comp=Z,96µm,18.0s
I07A Izee 90.80 38 P **P** **19 32 17.6 -1.3**
I07A IAMs_20 IAMs_20 20 09 21.5
comp=Z,60µm,19.0s
VCA Vinchina 90.81 124 *i* P P 19 32 25.4 +5.7
J08A Circle Bar Ran 90.86 39 P **P** **19 32 18.6 -0.6**
J08A IAmb IAmb 19 32 26.2
comp=Z,227nm,1.3s
KLR Kul'dur 90.90 330 PKKPbc PKKPbc 19 49 46.3 +0.8
comp=Z,3.0nm,0.8s,baz=339,slow=5.7,SNR=3.8
KLR PKPPKP **P'P'df** **19 57 56.0 +7.0**
comp=Z,0.7nm,0.6s,baz=246,slow=3.6,SNR=1.9
KLR LR LR 20 08 30.3
comp=Z,33µm,21.5s,baz=141,slow=33
KLR Kul'dur 90.90 330 *e*P **P** **19 32 18.1 -1.0**
KLR pmax pmax
comp=Z,373nm,1.1s
KLR MLR MLR
comp=Z,42µm,18.0s
KLR Kul'dur 90.90 330 P **P'P'df** **19 57 56.0 +7.0**
NLWA Neilton Lookou 90.91 33 IAmb IAmb 19 32 48.8
comp=Z,384nm,1.5s
NLWA IAMs_20 IAMs_20 20 07 56.0
comp=Z,68µm,20.0s
W18A Petrified Fore 90.93 49 P **P** **19 32 20.6 +0.8**
baz=233
W18A Petrified Fore 90.93 49 P **P** **19 32 19.8 -0.1**
W18A IAmb IAmb 19 32 37.0
comp=Z,243nm,1.2s
W18A IAMs_20 IAMs_20 20 08 41.0
comp=Z,54µm,18.0s
E04D Cinebar 90.94 34 P **P** **19 32 20.2 +0.9**
baz=225,SNR=61
ELK Elko 90.98 42 PKKPbc PKKPbc 19 49 44.8 -0.4
comp=Z,1.4nm,0.6s,baz=295,slow=8.4,SNR=4.1
ELK PKPPKP P'P'df 19 57 59.0 +8.6
comp=Z,1.5nm,0.8s,baz=86,slow=2.8,SNR=3.2
ELK LR LR 20 08 41.3
comp=Z,106µm,18.4s,baz=234,slow=33
ELK Elko 90.98 42 P **P** **19 32 20.5 +0.5**
ELK pmax pmax
comp=Z,189nm,1.5s
ELK MLR MLR
comp=Z,107µm,19.0s
ELK Elko 90.98 42 P **P** **19 32 20.5 +0.5**
ELK IAmb IAmb 19 32 43.7
comp=Z,189nm,1.4s
G06A Carlson Farm, 90.99 36 P **P** **19 32 18.1 -1.6**
G06A IAMs_20 IAMs_20 20 09 39.5
comp=Z,50µm,19.0s
F05D White Salmon 91.02 35 P **P** **19 32 20.6 +0.9**
baz=226
APLL PUNTA DE LOS L 91.04 126 *e*P **P** **19 32 19.1 -1.5**
SLVN Son La 91.12 294 IAMs_20 IAMs_20 20 20 54.0
comp=Z,52µm,20.0s
MTPU Mount Pierson 91.12 46 P **P** **19 32 20.7 -0.2**
EPT El Paso 91.17 54 IAMs_20 IAMs_20 20 10 10.9
comp=Z,61µm,18.0s
AC02 Maricunga 91.22 122 *e*P P 19 32 27.4 +5.5
D04E Lakebay 91.28 34 P **P** **19 32 22.0 +1.1**
baz=225,SNR=9.2
ACLC CERRO LA CRUZ 91.31 125 *e*P **P** **19 32 23.6 +1.7**
D03D Eldon 91.38 33 P **P** **19 32 22.1 +0.8**
baz=225,SNR=36
MSU Marysvale 91.42 46 P **P** **19 32 22.0 -0.1**
MSU Marysvale 91.42 46 P **P** **19 32 22.0 -0.1**
LON Longmire 91.45 35 P **P** **19 32 20.8 -1.0**
LON pmax pmax
comp=Z,159nm,1.3s
LON MLR MLR
comp=Z,45µm,22.0s
LON Longmire 91.45 35 P **P** **19 32 20.8 -1.0**
LON IAmb IAmb 19 32 45.5
comp=Z,160nm,1.2s
H02S1 DAWSON INLET T 91.65 25 P **P** **19 32 22.7 +0.3**
H02N1 VAN INLET T-PH 91.67 25 P **P** **19 32 24.1 +1.4**
D05A Enumclaw 91.67 34 P **P** **19 32 21.4 -1.3**
GYA Guiyang 91.71 300 ⇑P **P** **19 32 24.4 +0.8**
GYA PP **PP** **19 36 08.4 +5.7**
GYA S **S** **19 43 26.5 +3.1**
GYA pmax pmax
comp=Z,110nm,1.6s
GYA pmax pmax
comp=Z,10µm,11.1s
GYA LR LR
comp=Z,10µm,19.8s
GYA LR LR
comp=Z,18µm,20.0s
GYA LR LR
comp=Z,29µm,20.0s
ENH Enshi 91.72 304 P **P** **19 32 20.6 -2.8**
F07A Phinny Hill Vi 91.81 36 P **P** **19 32 21.2 -2.2**
F07A IAmb IAmb 19 32 30.4
comp=Z,238nm,1.4s
F07A IAMs_20 IAMs_20 20 07 47.1
comp=Z,58µm,20.0s
CNPM China Poot 91.82 13 P **P** **19 32 23.0 -0.1**
CNPM IAmb IAmb 19 35 03.6
comp=Z,196nm,1.0s
CNPM IAMs_20 IAMs_20 20 09 45.0
comp=Z,73µm,20.0s
GO02 Mina Guanaco 91.82 120 P **P** **19 32 22.2 -2.3**
GO02 IAMs_20 IAMs_20 20 04 07.8
comp=Z,61µm,22.0s
TCA Tanti 91.82 128 *i* P **P** **19 32 26.2 +2.0**
TX31 Lajitas Ar. Si 91.83 57 P **P** **19 32 23.7 -0.4**
TX32 Lajitas Array 91.83 57 P **P** **19 32 23.5 -0.5**
TX32 IAmb IAmb 19 32 36.7
comp=Z,244nm,1.6s
TXAR Lajitas Array 91.83 57 P **P** **19 32 25.6 +1.6**
comp=Z,28nm,1.1s,baz=207,slow=4.4,SNR=15
TXAR PKKPbc **PKKPbc** **19 49 45.3 +3.1**
comp=Z,1.5nm,0.7s,baz=108,slow=4.1,SNR=6.0
TXAR PKPPKP **P'P'df** **19 57 50.6 +0.3**
comp=Z,0.6nm,0.8s,baz=62,slow=2.1,SNR=3.1
TXAR LR LR 20 09 06.6
comp=Z,66µm,18.0s,baz=0.0,slow=33
TXAR Lajitas Array 91.83 57 P **P** **19 32 24.1 0.0**
TXAR Lajitas Array 91.83 57 P **P** **19 32 24.1 0.0**
HOM Homer 91.86 13 P **P** **19 32 20.7 -2.5**
HOM IAMs_20 IAMs_20 20 14 44.1
comp=Z,61µm,19.0s
MNTX Cornudas Mount 91.92 54 P **P** **19 32 24.6 +0.3**
baz=236
MNTX Cornudas Mount 91.92 54 P **P** **19 32 23.5 -0.8**
MNTX IAmb IAmb 19 32 44.2
comp=Z,158nm,1.6s
PB10 IPOC Station P 92.01 119 *e*P **P** **19 32 29.0 +4.0**
DUG Dugway, Tooele 92.07 44 P **P** **19 32 25.1 +0.2**
baz=232
DUG Dugway, Tooele 92.07 44 IAMs_20 IAMs_20 20 09 52.7
comp=Z,84µm,19.0s
BRLK Bradley Lake 92.11 13 P **P** **19 32 22.9 -1.6**
BRLK IAmb IAmb 19 35 05.4
comp=Z,173nm,1.1s
BRLK IAMs_20 IAMs_20 20 08 52.2
comp=Z,71µm,21.0s
Y22D IRIS PASSCAL I 92.20 52 P **P** **19 32 26.7 +1.0**
baz=235
Y22D IRIS PASSCAL I 92.20 52 IAMs_20 IAMs_20 20 10 43.9
comp=Z,75µm,18.0s
E07A Sunnyside 92.30 36 P **P** **19 32 24.6 -1.1**
E07A IAMs_20 IAMs_20 20 08 10.9
comp=Z,78µm,20.0s
HAWA Hanford 92.35 36 P **P** **19 32 25.6 -0.3**
HAWA IAmb IAmb 19 32 33.0
comp=Z,221nm,1.2s
HAWA IAMs_20 IAMs_20 20 08 13.3
comp=Z,71µm,20.0s
MFID Camas Ranch 92.36 40 P **P** **19 32 24.0 -2.1**
MFID IAmb IAmb 19 32 48.9
comp=Z,403nm,1.7s
MFID IAMs_20 IAMs_20 20 09 42.0
comp=Z,65µm,19.0s
LTY Liberty 92.36 35 P **P** **19 32 25.6 -0.5**
LTY IAmb IAmb 19 32 47.7
comp=Z,446nm,1.9s
B05A Bryant 92.37 33 P **P** **19 32 26.4 +0.5**
baz=226,SNR=16
A04D Lummi Island 92.40 33 P **P** **19 32 27.7 +1.7**
baz=225
RSO Redoubt South 92.40 12 P **P** **19 32 24.2 -1.9**
BNM Barren Site 92.44 52 P **P** **19 32 25.8 -1.1**
BMO Blue Mountains 92.48 38 P **P** **19 32 24.7 -2.0**
BMO pmax pmax
comp=Z,600nm,2.0s
BMO MLR MLR
comp=Z,74µm,19.0s
BMO Blue Mountains 92.48 38 P **P** **19 32 24.7 -2.0**
BMO IAMs_20 IAMs_20 20 10 19.2
comp=Z,74µm,19.0s
TMUT Trail Mountain 92.50 45 P **P** **19 32 26.7 -0.4**
SVW2 Sparrevohn 92.52 10 P **P** **19 32 26.1 -0.2**
BBB Bella Bella 92.56 28 LR LR 20 10 12.4
comp=Z,54µm,18.3s,baz=231,slow=33
BBB Bella Bella 92.56 28 P **P** **19 32 28.0 +1.4**
BBB IAmb IAmb 19 32 49.2
comp=Z,328nm,1.4s
PB05 IPOC Station P 92.65 118 *e*P **P** **19 32 30.3 +2.2**
E08A Dider Farm, El 92.65 36 P **P** **19 32 26.9 -0.4**
E08A IAMs_20 IAMs_20 20 10 31.5
comp=Z,67µm,19.0s
MPU Maple Canyon 92.67 45 P **P** **19 32 26.0 -1.8**
CYA Choya 92.70 125 *e*P **P** **19 32 29.3 +1.1**
SEW Seward 92.71 14 IAMs_20 IAMs_20 20 13 48.6
comp=Z,53µm,19.0s
C06D Leavenworth 92.71 34 P **P** **19 32 28.2 +0.6**
baz=226
MID Middleton Isla 92.77 15 IAMs_20 IAMs_20 20 13 52.5
comp=Z,45µm,18.0s
SRU San Rafael Swe 92.81 46 P **P** **19 32 28.4 0.0**
SRU pmax pmax

comp=Z,104nm,1.1s
SRU San Rafael Swe 92.81 46 P **P** **19 32 28.4 0.0**
B06A Marblemount 92.84 34 IAMs_20 IAMs_20 20 08 50.1
comp=Z,56µm,20.0s
P17A Butcher Ranch, 92.89 45 P **P** **19 32 28.0 -0.8**
BJI Beijing 92.93 315 P **P** **19 32 27.6 -1.1**
BJI SKS **SKSac** **19 43 02.3 +1.0**
BJI pmax pmax
comp=Z,94nm,1.6s
BJI pmax pmax
comp=Z,11µm,11.6s
BJI LR LR
comp=Z,24µm,23.3s
BJI LR LR
comp=Z,53µm,22.6s
MVCO Mesa Verde 92.97 48 P **P** **19 32 29.4 +0.1**
baz=234
MVCO Mesa Verde 92.97 48 P **P** **19 32 27.0 -2.3**
MVCO IAmb IAmb 19 32 51.0
comp=Z,156nm,1.4s
MVCO IAMs_20 IAMs_20 20 10 26.0
comp=Z,60µm,18.0s
PB04 IPOC Station P 92.98 118 *eP* **P** **19 32 32.1 +2.3**
CAPN Captain Cook N 92.98 13 P **P** **19 32 30.5 +2.1**
baz=203
O22K Cooper Landing 93.00 13 P **P** **19 32 31.3 +2.8**
baz=204
PB15 IPOC Station P 93.01 119 *eP* **P** **19 32 34.5 +4.6**
ANMO Albuquerque 93.01 51 P **P** **19 32 30.1 +0.5**
baz=235
ANMO Albuquerque 93.01 51 PKKPbc PKKPbc 19 49 45.2 +5.7
comp=Z,0.9nm,0.4s,baz=139,slow=5.5,SNR=3.1
ANMO LR LR 20 09 10.9
comp=Z,50µm,18.0s,baz=234,slow=32
ANMO Albuquerque 93.01 51 *i* P **P** **19 32 29.6 +0.1**
ANMO pmax pmax
comp=Z,61nm,1.1s
ANMO MLR MLR
comp=Z,51µm,16.0s
ANMO Albuquerque 93.01 51 P **P** **19 32 28.6 -0.9**
ANMO IAmb IAmb 19 32 42.3
comp=Z,128nm,1.3s
ANMO Albuquerque 93.01 51 IAMs_20 IAMs_20 20 12 22.4
comp=Z,68µm,18.0s
MA2 Magadan 93.02 344 *i* P **P** **19 32 26.9 -1.7**
MA2 pmax pmax
comp=Z,70nm,1.1s
MA2 MLR MLR
comp=Z,48µm,19.0s
MA2 Magadan 93.02 344 P **P** **19 32 26.9 -1.7**
MA2 IAmb IAmb 19 32 36.9
comp=Z,336nm,1.5s
MA2 IAMs_20 IAMs_20 20 14 08.7
comp=Z,57µm,19.0s
PV05 Paradox Valley 93.09 47 P **P** **19 32 28.1 -1.7**
PV05 IAMs_20 IAMs_20 20 13 18.4
comp=Z,47µm,18.0s
D08A Wollman Farm, 93.11 36 P **P** **19 32 27.3 -2.0**
D08A IAMs_20 IAMs_20 20 08 35.4
comp=Z,70µm,20.0s
NNA Nana 93.14 106 PKKPbc PKKPbc 19 49 38.2 +0.3
comp=Z,4.8nm,0.4s,baz=119,slow=10,SNR=1.5
NNA LR LR 20 04 34.6
comp=Z,29µm,20.1s,baz=244,slow=29
NNA Nana 93.14 106 P **P** **19 32 28.1 -2.4**
NNA pmax pmax
comp=Z,346nm,1.9s
NNA Nana 93.14 106 P **P** **19 32 28.1 -2.4**
NNA IAmb IAmb 19 32 53.3
comp=Z,346nm,1.9s
E09A Wood Farm, Sta 93.14 37 P **P** **19 32 29.0 -0.5**
E09A IAmb IAmb 19 32 36.0
comp=Z,200nm,1.2s
PB06 IPOC Station P 93.21 118 *eP* **P** **19 32 34.7 +3.9**
HLID Hailey 93.24 40 P **P** **19 32 31.3 +0.9**
baz=231
HLID Hailey 93.24 40 P **P** **19 32 29.1 -1.3**
HLID IAMs_20 IAMs_20 20 13 23.5
comp=Z,73µm,18.0s
F10A Beach Ranch, E 93.26 37 P **P** **19 32 27.6 -2.6**
F10A IAmb IAmb 19 32 44.2
comp=Z,148nm,0.8s
F10A IAMs_20 IAMs_20 20 11 06.7
comp=Z,56µm,19.0s
PV17 East Wray Mesa 93.30 47 P **P** **19 32 30.9 +0.1**
PV17 IAmb IAmb 19 32 52.0
comp=Z,289nm,1.7s
PV17 IAMs_20 IAMs_20 20 09 09.6
comp=Z,47µm,19.0s
PV19 Morning Glory 93.30 47 P **P** **19 32 30.7 -0.1**
PV10 Paradox Valley 93.30 47 IAMs_20 IAMs_20 20 15 18.4
comp=Z,46µm,18.0s
PV18 Skein Mesa, Pa 93.31 47 P **P** **19 32 31.3 +0.5**
PV14 Lion Creek, Pa 93.31 47 IAMs_20 IAMs_20 20 15 12.0
comp=Z,57µm,18.0s
PV13 Radium Mtn., P 93.32 47 P **P** **19 32 30.8 -0.1**
PV13 IAmb IAmb 19 32 52.1
comp=Z,266nm,1.9s
PV20 West Nyswonger 93.33 47 P **P** **19 32 30.3 -0.6**
PV03 Paradox Valley 93.35 47 P **P** **19 32 28.4 -2.7**
PV03 IAmb IAmb 19 33 02.1
comp=Z,195nm,2.0s
PV11 David Mesa, Pa 93.36 47 P **P** **19 32 27.5 -3.6**
PV11 IAmb IAmb 19 32 52.4
comp=Z,322nm,1.8s
PV11 IAMs_20 IAMs_20 20 09 21.4
comp=Z,48µm,19.0s
PV23 Carpenter Ridg 93.37 47 IAMs_20 IAMs_20 20 15 21.4
comp=Z,52µm,18.0s
PV02 Paradox Valley 93.40 47 IAMs_20 IAMs_20 20 12 07.3
comp=Z,46µm,18.0s
PV04 Paradox Valley 93.40 47 IAMs_20 IAMs_20 20 15 31.3
comp=Z,55µm,18.0s
PV12 Saucer Basin, 93.42 47 IAMs_20 IAMs_20 20 09 13.8
comp=Z,49µm,20.0s
PB03 IPOC Station P 93.44 118 *eP* **P** **19 32 36.2 +4.3**
PV01 Paradox Valley 93.46 48 IAMs_20 IAMs_20 20 12 52.0
comp=Z,52µm,18.0s
PB07 IPOC Station P 93.52 117 *eP* P 19 32 37.3 +5.0
PB07 IPOC Station P 93.52 117 IAMs_20 IAMs_20 20 04 57.2
comp=Z,75µm,21.0s
GAMB Gambell 93.58 3 **P** **19 32 31.7 +0.6**
HIN Hinchinbrook I 93.60 15 IAMs_20 IAMs_20 20 08 23.4
comp=Z,61µm,20.0s
PV15 Paradox Valley 93.64 47 IAMs_20 IAMs_20 20 13 14.7
comp=Z,51µm,18.0s
CMAR Chiang Mai Arr 93.66 289 P **P** **19 32 34.1 +1.5**
comp=Z,8.9nm,0.9s,baz=139,slow=4.0,SNR=14
CMAR PP **PP** **19 36 22.9 +5.0**
comp=Z,25nm,1.2s,baz=127,slow=5.0,SNR=4.9
CMAR PKKPbc **PKKPbc** **19 49 37.7 +0.7**
comp=Z,1.8nm,0.6s,baz=276,slow=4.1,SNR=4.5
CMAR PKPPKP **P'P'df** **19 57 49.5 +0.9**
comp=Z,0.2nm,0.4s,baz=298,slow=1.9,SNR=1.9
CMAR Chiang Mai Arr 93.66 289 P **P** **19 32 31.2 -1.4**
CMAR Chiang Mai Arr 93.66 289 P **P** **19 32 31.2 -1.4**
HWUT Hardware Ranch 93.68 43 IAMs_20 IAMs_20 20 10 09.3
comp=Z,88µm,19.0s
PB02 IPOC Station P 93.74 117 *eP* P 19 32 38.2 +5.0
LVC Limon Verde 93.77 119 P **P** **19 32 35.1 +1.5**
comp=Z,15nm,0.9s,baz=223,slow=3.7,SNR=12
LVC PP **PP** **19 36 16.7 -2.0**
comp=Z,9.2nm,0.8s,baz=237,slow=9.5,SNR=1.8
LVC PKKPbc **PKKPbc** **19 49 35.8 -0.9**
comp=Z,3.1nm,0.6s,baz=284,slow=4.2,SNR=2.7
LVC Limon Verde 93.77 119 P **P** **19 32 32.0 -1.6**
LVC pmax pmax
comp=Z,165nm,1.4s
LVC MLR MLR
comp=Z,39µm,21.0s
LVC Limon Verde 93.77 119 P **P** **19 32 32.0 -1.6**
LVC IAmb IAmb 19 33 00.3
comp=Z,165nm,1.4s
LVC Limon Verde 93.77 119 *eP* **P** **19 32 35.1 +1.5**
LVC Limon Verde 93.77 119 *eP* **P** **19 32 35.1 +1.5**
CHTO Chiang Mai 93.83 289 P **P** **19 32 31.8 -1.6**
CHTO pmax pmax
comp=Z,54nm,1.0s
CHTO MLR MLR
comp=Z,36µm,20.0s
CHTO Chiang Mai 93.83 289 P **P** **19 32 31.8 -1.6**
GLI Glacier Island 93.91 14 P **P** **19 32 32.6 -0.1**
GLI IAmb IAmb 19 32 38.3
comp=Z,246nm,1.5s
GLI IAMs_20 IAMs_20 20 08 57.4
comp=Z,56µm,21.0s

EYAK Cordova Ski Ar 93.91 15 IAMs_20 IAMs_20 20 08 32.5
comp=Z,60µm,20.0s
TIY Taiyuan 93.91 312 *eP* **P** **19 32 32.1 -1.3**
TIY SKS **SKSac** **19 43 06.8 -0.2**
TIY S **ScS** **19 43 47.3 +3.6**
TIY pmax pmax
comp=Z,110nm,1.0s
TIY pmax pmax
comp=Z,7µm,9.3s
TIY LR LR
comp=Z,8µm,20.4s
TIY LR LR
comp=Z,9µm,16.5s
TIY LR LR
comp=Z,22µm,20.3s
FID Port Fidalgo 93.92 15 IAMs_20 IAMs_20 20 08 43.7
comp=Z,62µm,21.0s
C09A Chrisman Ranch 93.93 36 IAMs_20 IAMs_20 20 09 29.1
comp=Z,81µm,19.0s
TA01 Diego Aracena 93.94 116 *eP* **P** **19 32 35.7 +1.7**
LPA La Plata 93.94 134 *eP* P 19 32 28.4 -5.3
LPA PKIKP **PKiKP** **19 37 19.0 +0.7**
LPA PPP PPP 19 38 18.4
LPA SKIKP 19 40 50.3
LPA SKS **SKSac** **19 43 03.7 -3.9**
LPA S **ScS** **19 43 44.5 +0.2**
LPA SKIKS 19 44 26.5
LPA PS PS 19 45 00.1 +1.1
LPA SS **SS** **19 50 10.8 +10**
LPA SSS SSS 19 53 41.8
PB09 IPOC Station P 93.97 118 *eP* **P** **19 32 38.7 +4.4**
PB09 *eP* **pP** **19 32 40.0 +0.1**
PB09 IPOC Station P 93.97 118 IAMs_20 IAMs_20 20 04 53.2
comp=Z,69µm,22.0s
KMI Kunming 94.01 297 ⇑ *i*P P 19 32 40.5 +6.1
KMI pP sP 19 32 43.5 +1.3
KMI sP pwP 19 32 47.8 +2.7
KMI PP PP 19 36 29.1 +8.2
KMI Kunming 94.01 297 SKS **SKSac** **19 43 18.0 +10**
KMI Kunming 94.01 297 S S 19 43 54.9 +11
KMI Kunming 94.01 297 SS SS 19 50 42.1 +37
KMI pmax pmax
comp=Z,62nm,1.1s
KMI pmax pmax
comp=Z,5µm,5.7s
KMI LR LR
comp=N,15µm,18.3s
KMI LR LR
comp=E,21µm,21.6s
KMI LR LR
comp=Z,34µm,22.7s
RAGM Ragged Mountai 94.01 16 IAMs_20 IAMs_20 20 14 43.3
comp=Z,78µm,19.0s
KNK Knik Glacier 94.10 14 IAMs_20 IAMs_20 20 09 28.5
comp=Z,55µm,21.0s
LLLB Lillooet 94.11 32 P **P** **19 32 31.9 -2.0**
TA02 Huaiquique 94.14 116 *eP* P 19 32 40.0 +5.1
TTA Tatalina 94.20 10 P **P** **19 32 32.7 -1.4**
TTA pmax pmax
comp=Z,83nm,1.2s
TTA MLR MLR
comp=Z,33µm,21.0s
TTA Tatalina 94.20 10 P **P** **19 32 32.7 -1.4**
XAN Xi'an 94.20 307 P **P** **19 32 36.3 +1.5**
XAN SKS **SKSac** **19 43 10.8 +2.1**
XAN pmax pmax
comp=Z,75nm,1.5s
XAN pmax pmax
comp=Z,13µm,11.0s
XAN LR LR
comp=Z,5µm,16.3s
XAN LR LR
comp=Z,31µm,18.4s
XAN LR LR
comp=Z,49µm,19.1s
PB01 IPOC Station P 94.21 117 *eP* **P** **19 32 39.3 +4.0**
PB01 IPOC Station P 94.21 117 P **P** **19 32 32.7 -2.6**
PB01 IAMs_20 IAMs_20 20 05 37.5
comp=Z,91µm,21.0s
RDMU Red Mountain 94.27 45 P **P** **19 32 34.1 -1.1**
ATAH Atahualpa 94.32 101 P **P** **19 32 39.3 +3.0**
comp=Z,8.1nm,0.4s,baz=329,slow=5.9
ATAH PP **PP** **19 36 23.0 -0.4**
comp=Z,4.7nm,0.8s,baz=49,slow=19,SNR=1.1
ATAH PKKPbc **PKKPdf** **19 49 34.7 +0.3**
comp=Z,2.2nm,0.5s,baz=149,slow=5.9,SNR=1.2
ATAH LR LR 20 05 16.7
comp=Z,35µm,20.7s,baz=247,slow=29
GHO Glory Hole Cre 94.34 13 P **P** **19 32 33.2 -1.5**
GHO IAmb IAmb 19 35 15.3
comp=Z,77nm,0.8s
S22A 4UR Ranch, Cre 94.36 49 P **P** **19 32 36.2 +0.4**
baz=235
S22A 4UR Ranch, Cre 94.36 49 P **P** **19 32 33.3 -2.5**
S22A IAmb IAmb 19 32 57.6
comp=Z,213nm,1.6s
S22A IAMs_20 IAMs_20 20 11 12.9
comp=Z,58µm,18.0s
833A Chaparral WMA, 94.45 60 P **P** **19 32 36.3 +0.3**
baz=238
833A Chaparral WMA, 94.45 60 IAMs_20 IAMs_20 20 12 09.1
comp=Z,70µm,18.0s
MESA MESA 94.49 17 IAMs_20 IAMs_20 20 13 31.1
comp=Z,91µm,19.0s
WAX Waxell Ridge 94.50 16 IAMs_20 IAMs_20 20 12 58.3
comp=Z,87µm,19.0s
PSGCX Pisagua 94.52 116 *eP* **P** **19 32 37.5 +0.7**
AHID Auburn Hatcher 94.66 43 P **P** **19 32 36.2 -0.6**
AHID IAMs_20 IAMs_20 20 10 58.1
comp=Z,84µm,19.0s
YAH Yahtse 94.70 17 IAMs_20 IAMs_20 20 13 29.6
comp=Z,75µm,19.0s
SCM Sheep Creek Mo 94.72 14 P **P** **19 32 36.6 +0.1**
SCM pmax pmax
comp=Z,98nm,1.0s
SCM MLR MLR
comp=Z,47µm,20.0s
SCM Sheep Creek Mo 94.72 14 P **P** **19 32 36.6 +0.1**
SCM IAmb IAmb 19 33 03.8
comp=Z,98nm,1.0s
ANM Nome 94.73 5 IAMs_20 IAMs_20 20 10 55.5
comp=Z,64µm,20.0s
ISLE Juniper Island 94.76 17 IAMs_20 IAMs_20 20 12 56.2
comp=Z,80µm,19.0s
PPLA Purkeypile 94.77 11 IAMs_20 IAMs_20 20 11 15.0
comp=Z,72µm,20.0s
TGL Tana Glacier 94.78 16 IAMs_20 IAMs_20 20 13 06.5
comp=Z,86µm,19.0s
PB11 IPOC Station P 94.79 116 *eP* **P** **19 32 40.5 +2.4**
PB11 IPOC Station P 94.79 116 P **P** **19 32 37.9 -0.2**
PB11 IAmb IAmb 19 33 02.7
comp=Z,202nm,1.1s
NEW Newport 94.81 36 P **P** **19 32 36.1 -1.2**
baz=229
NEW Newport 94.81 36 PKKPbc PKKPbc 19 49 35.2 0.0
comp=Z,2.3nm,0.8s,baz=169,slow=5.2,SNR=2.0
NEW Newport 94.81 36 P **P** **19 32 37.4 +0.1**
NEW pmax pmax
comp=Z,90nm,1.8s
NEW MLR MLR
comp=Z,73µm,20.0s
NEW Newport 94.81 36 P **P** **19 32 37.4 +0.1**
NEW Newport 94.81 36 IAMs_20 IAMs_20 20 10 05.6
comp=Z,73µm,20.0s
O20A White River Ci 94.83 46 P **P** **19 32 38.5 +0.7**
baz=234
PB12 IPOC Station P 94.90 115 *eP* P 19 32 43.3 +4.7
PB12 IPOC Station P 94.90 115 IAMs_20 IAMs_20 20 05 14.6
comp=Z,76µm,21.0s
TABL Table Mountain 94.92 17 IAMs_20 IAMs_20 20 13 37.5
comp=Z,66µm,19.0s
PB08 IPOC Station P 94.97 116 *eP* **P** **19 32 42.0 +2.8**
MSTX Muleshoe 95.00 54 P **P** **19 32 39.3 +0.7**
baz=237
MSTX Muleshoe 95.00 54 IAMs_20 IAMs_20 20 12 16.3
comp=Z,58µm,19.0s
AP01 Chacalluta 95.02 114 IAMs_20 IAMs_20 20 05 39.4
comp=Z,81µm,22.0s
VRDI Verde Repeater 95.04 16 IAMs_20 IAMs_20 20 15 35.4
comp=Z,55µm,19.0s
BALM Baldy 95.14 16 IAMs_20 IAMs_20 20 12 31.1
comp=Z,64µm,20.0s
GLB Gilahina Butte 95.14 16 P **P** **19 32 37.4 -1.1**
REDW Red Top Meadow 95.16 42 IAMs_20 IAMs_20 20 11 03.4
comp=Z,84µm,19.0s
TPAW Teton Pass 95.18 42 IAMs_20 IAMs_20 20 10 55.9

comp=Z,81µm,19.0s
KVTX Kingsville 95.18 61 IAMs_20 IAMs_20 20 12 51.6
comp=Z,89µm,18.0s
MNMC Minye Minye 95.19 115 P **P** **19 32 40.2 +0.1**
MNMC IAmb IAmb 19 33 06.3
comp=Z,148nm,1.1s
MNMCX Minye Minye 95.19 115 *eP* **P** **19 32 42.4 +2.3**
GO01 Chusmiza 95.20 116 IAMs_20 IAMs_20 20 07 13.0
comp=Z,53µm,20.0s
FXWY Fox Creek 95.22 42 IAMs_20 IAMs_20 20 10 57.7
comp=Z,80µm,19.0s
JCT Junction City 95.28 58 P **P** **19 32 39.9 +0.1**
baz=238
MCARA McCarthy VSAT 95.28 16 IAMs_20 IAMs_20 20 14 11.8
comp=Z,57µm,19.0s
SNET Serv Nac Est T 95.28 77 IAMs_20 IAMs_20 20 05 00.7
comp=Z,80µm,22.0s
SNOW Snow King Moun 95.28 42 IAMs_20 IAMs_20 20 11 17.5
comp=Z,87µm,19.0s
BARN Barnard Glacie 95.33 17 IAMs_20 IAMs_20 20 12 27.1
comp=Z,56µm,20.0s
CTGM Chitina Glacie 95.33 17 IAMs_20 IAMs_20 20 12 08.1
comp=Z,51µm,20.0s
DLMT Dillon 95.38 40 P **P** **19 32 38.6 -1.5**
DLMT IAMs_20 IAMs_20 20 11 51.0
comp=Z,67µm,19.0s
IMW Indian Meadow 95.43 42 P **P** **19 32 38.0 -2.5**
IMW IAMs_20 IAMs_20 20 11 03.5
comp=Z,88µm,19.0s
PBA Port Blair 95.50 280 *eP* P 19 32 39.0 -2.1
MSO Missoula 95.56 38 P **P** **19 32 40.7 -0.1**
baz=231
MSO Missoula 95.56 38 IAMs_20 IAMs_20 20 12 42.5
comp=Z,93µm,19.0s
BW06 Boulder Array 95.57 43 P **P** **19 32 40.5 -0.6**
baz=234
BW06 Boulder Array 95.57 43 P **P** **19 32 38.9 -2.2**
BW06 IAMs_20 IAMs_20 20 13 44.3
comp=Z,87µm,18.0s
PD31 Pinedale Array 95.57 43 P **P** **19 32 38.1 -3.0**
PDAR Pinedale Array 95.57 43 P **P** **19 32 38.5 -2.6**
comp=Z,1.1nm,0.3s,baz=230,slow=14,SNR=16
PDAR PP **PP** **19 36 36.9 +4.1**
comp=Z,3.4nm,0.9s,baz=274,slow=4.4,SNR=1.5
PDAR PKKPbc **PKKPbc** **19 49 32.7 -0.5**
comp=Z,2.2nm,0.7s,baz=69,slow=4.9,SNR=9.0
PDAR PKPPKP 19 57 47.5
comp=Z,0.5nm,0.8s,baz=93,slow=4.5,SNR=2.5
PDAR Pinedale Array 95.57 43 P **P** **19 32 38.0 -3.1**
T25A Trinidad 95.61 50 P **P** **19 32 40.7 -0.8**
baz=236
T25A Trinidad 95.61 50 P **P** **19 32 41.3 -0.1**
T25A IAMs_20 IAMs_20 20 14 11.2
comp=Z,42µm,18.0s
TRF Thorofare Moun 95.62 12 P **P** **19 32 39.1 -1.6**
TRF IAMs_20 IAMs_20 20 11 42.4
comp=Z,96µm,20.0s
FLWY Flagg Ranch 95.68 42 P **P** **19 32 40.4 -1.2**
FLWY IAmb IAmb 19 33 03.4
comp=Z,255nm,1.4s
QLMT Earthquake Lak 95.71 41 P **P** **19 32 41.3 -0.3**
YPP Pitchstone Pla 95.73 42 P **P** **19 32 42.4 +0.5**
LRM Limekiln Ridge 95.74 40 P **P** **19 32 40.5 -1.3**
YHB Horse Butte 95.80 41 P **P** **19 32 41.3 -0.8**
RND Reindeer 95.84 13 P **P** **19 32 39.1 -2.5**
RND pmax pmax
comp=Z,89nm,1.0s
RND MLR MLR
comp=Z,74µm,21.0s
RND Reindeer 95.84 13 P **P** **19 32 39.1 -2.5**
RND IAmb IAmb 19 35 22.0
comp=Z,89nm,1.0s
RND IAMs_20 IAMs_20 20 11 34.3
comp=Z,74µm,21.0s
YHL Hebgen Lake 95.86 41 P **P** **19 32 42.2 -0.3**
H17A Grant Village 95.94 42 P **P** **19 32 43.7 +0.9**
baz=233
H17A Grant Village 95.94 42 P **P** **19 32 41.8 -0.9**
H17A IAMs_20 IAMs_20 20 11 58.9
comp=Z,91µm,19.0s
JTMT Jette 95.95 37 IAMs_20 IAMs_20 20 12 47.8
comp=Z,47µm,19.0s
YHH Holmes Hill 96.02 41 P **P** **19 32 40.8 -2.4**
BOZ Bozeman (W) 96.06 40 P **P** **19 32 44.0 +0.8**
baz=233
BOZ Bozeman (W) 96.06 40 P **P** **19 32 42.0 -1.2**
BOZ pmax pmax
comp=Z,118nm,1.3s
BOZ MLR MLR
comp=Z,56µm,19.0s
BOZ Bozeman (W) 96.06 40 P **P** **19 32 42.0 -1.2**
BOZ IAmb IAmb 19 32 50.1
comp=Z,118nm,1.3s
BOZ IAMs_20 IAMs_20 20 12 02.1
comp=Z,56µm,19.0s
DGPR DIGLIPUR 96.08 282 *eP* **P** **19 32 41.6 -2.2**
DGPR IAMs_20 IAMs_20 20 18 21.5
comp=Z,16µm,17.9s
BPAW Bear Paw Mtn. 96.09 11 P **P** **19 32 40.4 -2.3**
BPAW IAMs_20 IAMs_20 20 17 53.0
comp=Z,56µm,19.0s
ZEA Zeya 96.10 331 *eP* **P** **19 32 40.4 -2.5**
ZEA *e* 19 36 36.0
ZEA pmax pmax
comp=N,120nm,1.0s
ZEA pmax pmax
comp=E,59nm,1.0s
ZEA pmax pmax
comp=Z,330nm,1.4s
ZEA pmax pmax
comp=Z,8µm,11.0s
ZEA pmax pmax
comp=E,2µm,12.0s
ZEA pmax pmax
comp=N,2µm,10.0s
ZEA pmax pmax
comp=E,2µm,12.0s
ZEA pmax pmax
comp=Z,6µm,12.0s
ZEA pmax pmax
comp=N,2µm,11.0s
MCK McKinley 96.12 12 IAMs_20 IAMs_20 20 11 54.8
comp=Z,73µm,21.0s
PAX Paxson 96.12 14 P **P** **19 32 42.2 -0.7**
PAX pmax pmax
comp=Z,44nm,1.4s
PAX MLR MLR
comp=Z,53µm,21.0s
PAX Paxson 96.12 14 P **P** **19 32 42.2 -0.7**
PAX IAMs_20 IAMs_20 20 10 41.0
comp=Z,53µm,21.0s
Q24A Divide 96.14 48 P **P** **19 32 44.5 +0.6**
baz=236
Q24A Divide 96.14 48 IAMs_20 IAMs_20 20 12 22.9
comp=Z,69µm,19.0s
CD2 Chengdu 96.22 302 ⇑ *i*P **P** **19 32 43.5 -0.6**
CD2 pP pP 19 32 50.1 +0.3
CD2 sP sP 19 32 52.1 +0.2
CD2 PP **PP** **19 36 37.9 +0.1**
CD2 S **S** **19 44 03.6 +0.9**
CD2 SS **SS** **19 50 37.3 +1.7**
CD2 pmax pmax
comp=Z,90nm,1.5s
CD2 pmax pmax
comp=Z,13µm,11.8s
CD2 LR LR
comp=Z,25µm,19.4s
CD2 LR LR
comp=Z,29µm,24.9s
CD2 LR LR
comp=Z,36µm,23.3s
AMTX Amarillo 96.25 53 P **P** **19 32 42.0 -2.2**
baz=238
AMTX Amarillo 96.25 53 IAMs_20 IAMs_20 20 13 15.4
comp=Z,58µm,18.0s
HHC Hu-ho-hao-te 96.25 314 ⇑ *i*P **P** **19 32 44.1 0.0**
HHC SKS **SKSac** **19 43 15.0 -4.5**
HHC S **S** **19 43 57.4 -5.2**
HHC sS sS 19 44 15.5 +3.0
HHC pmax pmax
comp=Z,25nm,1.0s
HHC pmax pmax
comp=Z,3µm,6.8s
HHC LR LR
comp=Z,8µm,25.5s
HHC LR LR

HHC LR LR
comp=Z,14µm,25.5s
ISCO Idaho Springs 96.30 47 P **P** 19 32 44.2 -0.4
baz=236
RWWY **Rawlins 96.37 45** P **P** 19 32 43.4 -1.4
RWWY IAmb IAmb 19 33 05.5
comp=Z,313nm,1.9s
RWWY IAMs_20 IAMs_20 20 09 36.6
comp=Z,56µm,21.0s
MENT Mentasta 96.48 15 P **P** 19 32 43.5 -1.0
ABTX Abilene, Hawle 96.51 56 P **P** 19 32 44.2 -1.2
baz=238
DLBC Dease Lake 96.60 23 PKKPbc PKKPbc 19 49 27.8 -3.0
comp=Z,0.9nm,0.3s,baz=336,slow=4.2,SNR=3.0
DLBC PKPPKP **P'P'df** 19 57 44.8 +6.7
comp=Z,1.4nm,0.8s,baz=53,slow=5.1,SNR=2.0
DLBC LR LR 20 12 03.2
comp=Z,27µm,19.6s,baz=228,slow=33
DLBC Dease Lake 96.60 23 P **P** 19 32 44.6 -0.6
HRY Holter Researc 96.63 39 P **P** 19 32 42.6 -3.0
YNE Yellowstone No 96.63 41 P **P** 19 32 45.6 -0.2
N23A Red Feather La 96.70 46 P **P** 19 32 44.9 -1.4
baz=236
NEA2 Nenana 96.89 12 P **P** 19 32 46.7 +0.5
baz=205
RIDG Independent Ri 96.94 14 P **P** 19 32 46.6 0.0
RIDG IAmb IAmb 19 32 52.1
comp=Z,110nm,1.6s
RIDG IAMs_20 IAMs_20 20 11 05.6
comp=Z,63µm,21.0s
WRH Wood River Hil 96.95 12 P **P** 19 32 44.2 -2.3
WRH IAmb IAmb 19 35 26.8
comp=Z,95nm,1.2s
WRH IAMs_20 IAMs_20 20 15 36.8
comp=Z,47µm,20.0s
WALA Waterton Lakes 96.96 36 P **P** 19 32 45.4 -1.8
DOT Dot Lake 97.03 14 P **P** 19 32 45.4 -1.6
435B Jarrell 97.07 59 P **P** 19 32 46.8 -1.1
baz=239
BTO Baotou 97.09 313 *eP* Pdif 19 32 48.8 +0.8
HDA Harding Lake 97.11 13 P Pdif 19 32 48.2 +0.9
baz=206
HDA Harding Lake 97.11 13 P **P** 19 32 44.9 -2.4
TGUH Tegucigalpa,Un 97.11 78 IAMs_20 IAMs_20 20 05 59.5
comp=Z,72µm,22.0s
RLMT Red Lodge 97.12 42 P **P** 19 32 47.0 -1.1
baz=234
CCB Clear Creek Bu 97.17 12 P **P** 19 32 45.1 -2.3
CCB IAMs_20 IAMs_20 20 15 33.3
comp=Z,46µm,20.0s
JTS Las Juntas de 97.28 82 *i* P **P** 19 32 45.0 -4.3
JTS pmax pmax
comp=Z,25nm,1.4s
JTS MLR MLR
comp=Z,36µm,15.0s
JTS Las Juntas de 97.28 82 IAMs_20 IAMs_20 20 07 01.9
comp=Z,48µm,20.0s
K22A Casper 97.33 45 P Pdif 19 32 49.2 +0.1
baz=236
K22A Casper 97.33 45 IAMs_20 IAMs_20 20 10 29.1
comp=Z,90µm,20.0s
SCRK Sand Creek 97.33 14 IAMs_20 IAMs_20 20 11 06.9
comp=Z,50µm,21.0s
TCOL CIGO, UAF Yank 97.36 12 P **P** 19 32 48.2 -0.1
baz=206
COLA College 97.36 12 *i* P **P** 19 32 47.6 -0.7
COLA pmax pmax
comp=Z,31nm,1.0s
COLA MLR MLR
comp=Z,48µm,20.0s
COLA College 97.36 12 IAMs_20 IAMs_20 20 13 05.5
comp=Z,53µm,20.0s
ILAR Eielson Array 97.45 13 P **P** 19 32 46.7 -2.1
comp=Z,1.7nm,0.8s,baz=218,slow=6.0,SNR=15
ILAR PP **PP** 19 36 44.6 -1.9
comp=Z,18nm,1.2s,baz=222,slow=5.9,SNR=1.8
ILAR PKKPbc **PKKPbc** 19 49 29.1 +0.6
comp=Z,3.4nm,1.0s,baz=349,slow=3.0,SNR=5.1
ILAR PKPPKP P'P'df 19 57 46.6 +11
comp=Z,1.3nm,1.1s,baz=37,slow=1.8,SNR=3.3
ILAR LR LR 20 10 59.8
comp=Z,22µm,21.1s,baz=206,slow=32
ILAR Eielson Array 97.45 13 P **P** 19 32 46.3 -2.5
ILAR Eielson Array 97.45 13 P **P** 19 32 46.3 -2.5
POKR Poker Plat Res 97.66 12 P **P** 19 32 49.3 -0.4
baz=206
PAC1 Pacto, Paraso 97.71 94 *eP* Pdif 19 32 56.7 +5.2
WHTX Lake Whitney, 97.77 58 P **P** 19 32 48.9 -2.1
baz=239
KSCO Kaye Shedlock' 97.81 49 P **P** 19 32 51.1 -0.1
baz=238
HDC Heredia 97.86 83 IAMs_20 IAMs_20 20 06 23.3
comp=Z,49µm,22.0s
ACON Acoyapa 97.90 81 IAMs_20 IAMs_20 20 06 54.6
comp=Z,51µm,21.0s
LPAZ La Paz 97.93 114 P Pdif 19 32 54.8 +1.8
comp=Z,4.7nm,0.8s,baz=181,slow=2.3,SNR=12
LPAZ PP **PP** 19 36 55.4 +4.0
comp=Z,5.8nm,1.0s,baz=246,slow=3.4,SNR=2.3
LPAZ PKKPbc **PKKPbc** 19 49 25.4 -0.5
comp=Z,0.9nm,0.6s,baz=27,slow=6.8,SNR=1.7
LPAZ PKPPKP **P'P'df** 19 57 41.6 -3.3
comp=Z,1.3nm,0.9s,baz=22,slow=5.3,SNR=3.7
LPAZ LR LR 20 07 45.4
comp=Z,23µm,21.7s,baz=225,slow=30
LPAZ La Paz 97.93 114 P **P** 19 32 50.5 -2.5
LPAZ pmax pmax
comp=Z,107nm,1.7s
LPAZ La Paz 97.93 114 P **P** 19 32 50.5 -2.5
LPAZ IAmb IAmb 19 33 16.6
comp=Z,107nm,1.7s
LPAZ La Paz 97.93 114 *eP* Pdif 19 32 53.1 +0.1
LPAZ La Paz 97.93 114 *eP* Pdif 19 32 53.1 +0.1
HKT Hockley 97.96 60 *i* P **P** 19 32 48.7 -3.1
HKT Hockley 97.96 60 IAMs_20 IAMs_20 20 15 48.0
comp=Z,54µm,18.0s
WMOK Wichita Mounta 98.21 55 P **P** 19 32 51.8 -1.2
baz=239
WMOK Wichita Mounta 98.21 55 IAMs_20 IAMs_20 20 15 47.4
comp=Z,51µm,18.0s
RDOG Red Dog Mine 98.37 6 IAMs_20 IAMs_20 20 13 10.5
comp=Z,65µm,20.0s
BILL Bilibino 98.49 354*c i* P **P** 19 32 52.6 -0.8
BILL *i* 19 36 54.8
BILL *i* S **SKSac** 19 43 28.6 -0.9
BILL *i* PS PS 19 45 48.2 -0.1
BILL *i* SS **SS** 19 51 13.3 +7.2
BILL pmax pmax
comp=Z,77nm,1.3s
BILL pmax pmax
comp=Z,3µm,8.9s
BILL MLR MLR
comp=Z,100µm,20.0s
EGMT Eagleton 98.54 39 P Pdif 19 32 54.6 +0.3
baz=234
EGAK Eagle 98.64 15 IAMs_20 IAMs_20 20 18 02.7
comp=Z,61µm,19.0s
ESPN Las Esperanzas 98.76 81 IAMs_20 IAMs_20 20 07 31.0
comp=Z,48µm,21.0s
LZH Lanzhou 98.81 307 *eP* **P** 19 32 55.3 -0.5
LZH pmax pmax
comp=Z,68nm,1.5s
LZH pmax pmax
comp=Z,3µm,9.2s
LZH LR LR
comp=Z,13µm,16.8s
LZH LR LR
comp=Z,24µm,19.0s
LZH LR LR
comp=Z,24µm,19.5s
U32A Winter Ranch, 98.89 53 IAMs_20 IAMs_20 20 14 40.3
comp=Z,73µm,19.0s
COLD Coldfoot 99.11 10 P **Pdif** 19 32 56.9 +0.7
baz=204
COLD Coldfoot 99.11 10 IAMs_20 IAMs_20 20 16 23.5
comp=Z,57µm,20.0s
GCUF Volcan Galeras 99.44 94 *eP* **Pdif** 19 33 04.0 +4.4
OKCFA Oklahoma City 99.50 55 IAMs_20 IAMs_20 20 14 56.3
comp=Z,65µm,18.0s
CBKS Cedar Bluff 99.63 51 P **Pdif** 19 32 57.7 -1.5
baz=239
CBKS Cedar Bluff 99.63 51 IAMs_20 IAMs_20 20 15 47.5
comp=Z,70µm,18.0s
RSSD Black Hills 99.65 44 P **Pdif** 19 32 59.5 +0.1
baz=237
NATX Nacogdoches 99.72 59 P **Pdif** 19 32 58.4 -1.4
baz=241
NATX Nacogdoches 99.72 59 IAMs_20 IAMs_20 20 14 30.7
comp=Z,79µm,18.0s
LAO LASA Array 99.76 41 P **Pdif** 19 33 00.4 +0.7
baz=236
LAO LASA Array 99.76 41 IAMs_20 IAMs_20 20 16 06.0
comp=Z,65µm,19.0s
PUAC Puerto Asis, P 99.77 95 *eP* **Pdif** 19 33 10.4 +10
CPUP Villa Florida 99.91 128 P **Pdif** 19 33 06.0 +5.2
comp=Z,3.2nm,0.9s,baz=256,slow=6.9,SNR=5.6
CPUP PKKPbc **PKKPbc** 19 49 20.4 +0.7
comp=Z,6.0nm,0.8s,baz=46,slow=1.9,SNR=12
CPUP PKPPKP **P'P'df** 19 57 39.1 -1.8
comp=Z,1.8nm,0.9s,baz=72,slow=9.6,SNR=1.7
CPUP Villa Florida 99.91 128 P **Pdif** 19 33 04.3 +3.4
CPUP Villa Florida 99.91 128 Pdif **Pdif** 19 33 04.3 +3.4
BBAC Balboa, Cauca 99.92 93 *eP* **Pdif** 19 33 05.7 +4.3
R32A Long Quarter, 100.13 52 IAMs_20 IAMs_20 20 16 47.7
comp=Z,63µm,18.0s
441A DeRidder 100.34 61 IAMs_20 IAMs_20 20 19 03.1
comp=Z,55µm,18.0s
TOLK Toolik Lake Re 100.50 10 P **Pdif** 19 33 03.3 +0.9
baz=204
TOLK Toolik Lake Re 100.50 10 IAMs_20 IAMs_20 20 17 39.3
comp=Z,44µm,20.0s
SOTA Rioblanco 100.53 94 *eP* **Pdif** 19 33 06.8 +2.4
PCON Cinco Dias 100.80 94 *eP* **Pdif** 19 33 14.4 +8.6
TUL1 Leonard 100.92 55 P **Pdif** 19 33 04.1 -0.9
baz=241
TUL1 Leonard 100.92 55 IAMs_20 IAMs_20 20 15 56.9
comp=Z,78µm,18.0s
EPYK Eagle Plains 100.99 16 P **Pdif** 19 33 04.7 +0.1
baz=215
EPYK Eagle Plains 100.99 16 IAMs_20 IAMs_20 20 18 56.8
comp=Z,41µm,19.0s
YAK Yakutsk 101.04 338 *eP* **Pdif** 19 33 04.4 -0.4
YAK *e* 19 37 13.4
YAK *eSS* **SKSac** 19 43 41.0 -1.2
YAK *eSS* **SS** 19 51 45.6 +3.8
YAK pmax pmax
comp=Z,66nm,1.5s
YAK pmax pmax
comp=N,36nm,1.8s
YAK pmax pmax
comp=E,29nm,1.9s
YAK pmax pmax
comp=Z,4µm,9.2s
YAK pmax pmax
comp=N,2µm,8.9s
YAK pmax pmax
comp=E,898nm,6.2s
YAK smax smax
comp=E,3µm,10.6s
YAK smax smax
comp=N,7µm,9.3s
YAK MLR MLR
comp=Z,60µm,26.0s
YAK MLR MLR
comp=N,38µm,23.0s
YAK Yakutsk 101.04 338 IAMs_20 IAMs_20 20 21 53.4
comp=Z,45µm,19.0s
PIZC Pizarro, Choco 101.27 91 *eP* **Pdif** 19 33 15.6 +8.5
CIT Chita 101.44 324 *eP* **Pdif** 19 33 11.6 +4.6
CIT *e* 19 37 16.8
CIT pmax pmax
comp=Z,119nm,3.8s
MARP Paez Belalcaza 101.44 93 *eP* **Pdif** 19 33 13.6 +5.3
GARC Garzon, Huila 101.52 94 *eP* **Pdif** 19 33 11.8 +3.3
YOTC Yotoco, Valle 101.67 92 *eP* **Pdif** 19 33 10.2 +1.2
BETC Betania 101.81 94 *eP* **Pdif** 19 33 15.9 +6.4
Z41A Richland Creek 101.82 58 P **Pdif** 19 33 08.2 -0.8
baz=242
Z41A Richland Creek 101.82 58 IAMs_20 IAMs_20 20 16 06.1
comp=Z,70µm,19.0s
MIAR Mount Ida 101.86 57 P **Pdif** 19 33 08.7 -0.5
baz=242
MIAR Mount Ida 101.86 57 IAMs_20 IAMs_20 20 15 41.0
comp=Z,44µm,20.0s
DGMT Dagmar 101.88 41 P **Pdif** 19 33 09.0 0.0
baz=238
DGMT Dagmar 101.88 41 IAMs_20 IAMs_20 20 15 10.0
comp=Z,49µm,20.0s
KSU1 Kansas State U 101.89 52 P **Pdif** 19 33 08.0 -1.3
baz=241
KSU1 Kansas State U 101.89 52 IAMs_20 IAMs_20 20 12 08.4
comp=Z,42µm,20.0s
BGNE Belgrade 101.98 49 P **Pdif** 19 33 08.0 -1.7
baz=240
W39A Magazine 102.01 56 P **Pdif** 19 33 08.3 -1.5
baz=242
N33A J Bar K, Exete 102.12 50 IAMs_20 IAMs_20 20 15 24.2
comp=Z,51µm,19.0s
U38A Gravette 102.17 55 IAMs_20 IAMs_20 20 16 55.0
comp=Z,65µm,18.0s
PLMC San Jos del P 102.17 91 *eP* **Pdif** 19 33 16.6 +5.4
X40A Basin Creek Fa 102.37 57 P **Pdif** 19 33 10.4 -1.0
baz=242
X40A Basin Creek Fa 102.37 57 IAMs_20 IAMs_20 20 16 12.6
comp=Z,81µm,18.0s
HHAR Hobbs 102.41 55 IAMs_20 IAMs_20 20 16 43.5
comp=Z,71µm,19.0s
ORTC Ortega, Tolima 102.58 93 *eP* **Pdif** 19 33 16.9 +3.9
143A Socs Landing, 102.60 60 IAMs_20 IAMs_20 20 16 31.9
comp=Z,60µm,19.0s
ANIL Santa Ana 102.73 92 *eP* **Pdif** 19 33 21.8 +7.9
PRAC Prado 102.80 93 *eP* **Pdif** 19 33 18.6 +4.7
SHL Shillong 102.80 292 *eP* **Pdif** 19 33 12.5 -1.4
SHL *i* x x 19 37 26.2
SHL *ex* x x 19 52 14.9
SHL Shillong 102.80 292 IAMs_20 IAMs_20 20 25 17.1
comp=Z,66µm,22.0s
UALR University of 102.86 57 IAMs_20 IAMs_20 20 18 02.6
comp=Z,80µm,18.0s
CBOC Ciudad Bolivar 102.88 91 *eP* **Pdif** 19 33 19.6 +5.2
MACC Macarena, Meta 102.92 95 *eP* **Pdif** 19 33 20.5 +6.0
SUSD Miller 102.95 46 P **Pdif** 19 33 13.5 -0.4
baz=241
RREF El Recreo 102.98 92 *eP* **Pdif** 19 33 19.6 +4.1
VBMS Vicksburg 103.04 60 P **Pdif** 19 33 14.7 +0.2
baz=243
CAPC Capurgana 103.05 88 *eP* **Pdif** 19 33 22.9 +7.9
W41B Gary Mavity, V 103.11 57 P **Pdif** 19 33 13.5 -1.3
baz=242
W41B Gary Mavity, V 103.11 57 IAMs_20 IAMs_20 20 17 29.3
comp=Z,67µm,18.0s
SONM Songino Array 103.12 318 Pdiff **Pdif** 19 33 19.4 +4.7
comp=Z,4.0nm,1.0s,baz=146,slow=3.4,SNR=18
SONM PKiKP **PKiKP** 19 37 34.4 +0.1
comp=Z,6.0nm,0.9s,baz=136,slow=5.4,SNR=2.3
SONM PKKPbc **PKKPbc** 19 49 11.8 +0.1
comp=Z,5.4nm,1.0s,baz=269,slow=2.2,SNR=3.9
SONM Songino Array 103.12 318 P **Pdif** 19 33 13.6 -1.1
SONM Songino Array 103.12 318 Pdif **Pdif** 19 33 13.6 -1.1
GUY2C Guyana, Caldas 103.12 92 *eP* **Pdif** 19 33 17.7 +1.8
GTA Gaotai 103.22 308 *eP* **Pdif** 19 33 20.9 +5.6
GTA pP sPdif 19 33 27.8 +4.6
GTA sP pPdif 19 33 30.9 +10
GTA PP **PKiKP** 19 37 36.8 +2.0
GTA Gaotai 103.22 308 S **Sdif** 19 45 01.8 +0.3
GTA Gaotai 103.22 308 SS SS 19 52 20.8 +7.4
GTA pmax pmax
comp=Z,15nm,1.6s
GTA pmax pmax
comp=Z,2µm,6.3s
GTA LR LR
comp=N,13µm,20.6s
GTA LR LR
comp=E,17µm,21.6s
GTA LR LR
comp=Z,24µm,24.8s
U40A Yellville 103.22 56 P **Pdif** 19 33 15.1 -0.1
baz=242
INK Inuvik 103.29 15 PKKPbc PKKPbc 19 49 10.2 -1.4
comp=Z,4.5nm,0.8s,baz=23,slow=9.7,SNR=3.2
INK Inuvik 103.29 15 P **Pdif** 19 33 13.3 -1.4
INK Inuvik 103.29 15 Pdif **Pdif** 19 33 13.3 -1.4
INK IAMs_20 IAMs_20 20 18 38.6
comp=Z,65µm,20.0s
RODM Citronelle, R 103.29 238 IAMs_20 IAMs_20 20 18 12.0
comp=Z,55µm,18.0s
DGAR Diego Garcia 103.34 253 IAMs_20 IAMs_20 20 19 33.9
comp=Z,73µm,19.0s
N35A Tabor 103.38 51 IAMs_20 IAMs_20 20 19 22.8
comp=Z,69µm,18.0s
HELC Santa Helena 103.45 91 *eP* **Pdif** 19 33 23.5 +6.2
S39A Bolivar 103.50 54 IAMs_20 IAMs_20 20 17 45.3
comp=Z,70µm,18.0s
SIV San Ignacio 103.62 118 Pdiff **Pdif** 19 33 25.0 +7.4
comp=Z,1.4nm,0.8s,baz=311,slow=3.3,SNR=3.7
SIV PP **PP** 19 37 33.5 -0.2
comp=Z,2.7nm,0.9s,baz=239,slow=6.9,SNR=2.5
SIV PKKPbc **PKKPbc** 19 49 08.5 -0.4
comp=Z,1.5nm,0.6s,baz=61,slow=5.4,SNR=3.0
NORC Norcasia 103.72 91 *eP* **Pdif** 19 33 23.5 +5.4
X43A Marvell 103.81 58 P **Pdif** 19 33 18.2 +0.3
baz=243
ROSC El Rosal 103.84 92 Pdiff **Pdif** 19 33 22.9 +3.8
comp=Z,3.8nm,0.4s,baz=131,slow=20,SNR=1.9
ROSC PKiKP **PKiKP** 19 37 38.8 +1.8
comp=Z,3.0nm,0.3s,baz=223,slow=19,SNR=1.3
ROSC PKKPbc **PKKPbc** 19 49 10.1 +1.5
comp=Z,4.2nm,0.4s,baz=145,slow=19,SNR=1.6
ROSC El Rosal 103.84 92 *eP* **Pdif** 19 33 21.4 +2.4
ECSD EROS Data Cent 104.09 48 P **Pdif** 19 33 19.0 +0.1
baz=242
ECSD EROS Data Cent 104.09 48 IAMs_20 IAMs_20 20 19 33.3
comp=Z,45µm,18.0s
UREC San Jos de Ur 104.20 89 *eP* **Pdif** 19 33 13.5 -6.7
MDND Maddock 104.21 43 P **Pdif** 19 33 19.8 +0.4
baz=241
MDND Maddock 104.21 43 IAMs_20 IAMs_20 20 16 24.0
comp=Z,45µm,19.0s
P38A Dawn 104.24 52 IAMs_20 IAMs_20 20 18 33.7
comp=Z,55µm,18.0s
CHIC Chingaza 104.25 93 *eP* **Pdif** 19 33 22.1 +1.2
SPBC San Pablo de B 104.45 92 *eP* **Pdif** 19 33 21.1 -0.3
BOD Bodaibo 104.47 329 *eP* **Pdif** 19 33 24.3 +4.1
BOD pmax pmax
comp=Z,28nm,1.7s
R40A Maddies Statio 104.52 54 IAMs_20 IAMs_20 20 19 10.2
comp=Z,69µm,18.0s
PTBC PUERTO BERRIO 104.55 91 *eP* **Pdif** 19 33 26.0 +4.2
OXF Oxford 104.90 59 P **Pdif** 19 33 20.8 -2.0
baz=244
YKA Yellowknife Ar 104.91 25 Pdiff **Pdif** 19 33 26.4 +4.3
comp=Z,1.3nm,0.8s,baz=234,slow=4.5,SNR=8.7
YKA PP **PP** 19 37 41.8 -1.1
comp=Z,1.8nm,0.5s,baz=236,slow=1.7,SNR=10
YKA PKKPbc **PKKPbc** 19 49 05.6 -0.9
comp=Z,6.1nm,0.9s,baz=43,slow=2.8,SNR=9.3
YKA PKPPKP 19 57 41.5
comp=Z,0.7nm,0.7s,baz=58,slow=1.4,SNR=5.4
N38A Joes South For 104.97 51 IAMs_20 IAMs_20 20 19 40.0
comp=Z,73µm,18.0s
GNAR Gosnell 105.09 57 IAMs_20 IAMs_20 20 18 11.7
comp=Z,77µm,19.0s
CCM Cathedral Cave 105.13 55 P **Pdif** 19 33 23.6 -0.1
baz=244
CCM Cathedral Cave 105.13 55 IAMs_20 IAMs_20 20 18 37.6
comp=Z,70µm,18.0s
LSA Lhasa 105.23 296 P **Pdif** 19 33 29.6 +4.7
LSA Lhasa 105.23 296 P **Pdif** 19 33 28.5 +3.6
F33A 5 Mile Ranch, 105.27 46 IAMs_20 IAMs_20 20 19 37.3
comp=Z,57µm,18.0s
Z47A Carrollton 105.33 60 IAMs_20 IAMs_20 20 18 41.1
comp=Z,51µm,18.0s
PTGC Puerto Gaitan, 105.42 94 *eP* **Pdif** 19 33 21.4 -4.2
D32A Dogwood Acres, 105.42 44 IAMs_20 IAMs_20 20 17 31.2
comp=Z,69µm,19.0s
RUSC La Rusia 105.43 92 *eP* **Pdif** 19 33 28.4 +2.2
BWNR Bhubaneshwar 105.43 285 *eP* **Pdif** 19 33 22.8 -2.5
BWNR *i* x x 19 37 52.5
BWNR *ex* x 19 47 04.2
BRRC Barranca, Sant 105.47 91 *eP* **Pdif** 19 33 27.8 +2.0
SCIA State Center 105.48 50 P **Pdif** 19 33 25.1 0.0
baz=244
SCIA State Center 105.48 50 IAMs_20 IAMs_20 20 17 10.4
comp=Z,45µm,19.0s
SJCC San Jacinto, C 105.53 87 *eP* **Pdif** 19 33 28.4 +2.3
SMLC San Martn de 105.97 89 *eP* **Pdif** 19 33 32.7 +4.7
SAML Samuel 106.05 111 IAMs_20 IAMs_20 20 15 15.9
comp=Z,48µm,20.0s
LRAL Lakeview Retre 106.06 61 P **Pdif** 19 33 27.2 -0.7
baz=244
LRAL Lakeview Retre 106.06 61 IAMs_20 IAMs_20 20 19 09.8
comp=Z,45µm,19.0s
SLM Saint Louis 106.10 55 IAMs_20 IAMs_20 20 19 17.1
comp=Z,55µm,18.0s
K38A Parkersburg 106.11 50 IAMs_20 IAMs_20 20 20 24.8
comp=Z,55µm,18.0s
ZAK Zakamensk 106.14 319 *eP* **Pdif** 19 33 32.6 +4.6
ZAK pmax pmax
comp=Z,12nm,1.3s
FFC Flin Flon 106.24 36 IAMs_20 IAMs_20 20 17 02.9
comp=Z,51µm,20.0s
I37A Lemond, Waseca 106.29 48 IAMs_20 IAMs_20 20 24 08.6
comp=Z,49µm,18.0s
ARGC Ariguani, Magd 106.32 88 *eP* **Pdif** 19 33 34.4 +4.8
OCAC Ocana 106.36 90 *eP* **Pdif** 19 33 32.1 +2.2
IRK Irkutsk 106.46 321 *eP* **Pdif** 19 33 33.8 +4.6
TLY Talaya 106.54 320 Pdiff **Pdif** 19 33 34.3 +4.7
comp=Z,2.1nm,0.6s,baz=132,slow=3.2,SNR=6.9
TLY PKKPbc **PKKPbc** 19 49 03.9 +2.7
comp=Z,1.0nm,0.3s,baz=130,slow=1.4,SNR=4.0
TLY PKKP **PKKPdf** 19 49 16.3 +2.4
comp=Z,2.2nm,0.5s,baz=254,slow=1.9,SNR=4.2
TLY Talaya 106.54 320*c i* P **Pdif** 19 33 28.2 -1.4
TLY *e* PPS PPS 19 48 15.2
TLY MLR MLR
comp=Z,34µm,18.0s
TLY Talaya 106.54 320 Pdif **Pdif** 19 33 27.4 -2.2
N41A Harden Midland 106.56 52 IAMs_20 IAMs_20 20 19 10.1
comp=Z,51µm,19.0s
AGMN Agassiz Nation 106.64 44 P **Pdif** 19 33 30.4 +0.3
baz=244
AGMN Agassiz Nation 106.64 44 IAMs_20 IAMs_20 20 18 09.4
comp=Z,73µm,19.0s
WVT Waverly 106.76 58 P **Pdif** 19 33 27.4 -3.6
baz=245
WVT Waverly 106.76 58 IAMs_20 IAMs_20 20 19 54.0
comp=Z,37µm,18.0s
L40A Anamosa 106.89 51 IAMs_20 IAMs_20 20 21 22.6
comp=Z,47µm,18.0s
BOK Bokaro 106.90 288 *eP* **Pdif** 19 33 29.2 -2.7
BOK IAmb IAmb 19 33 42.1
comp=Z,9.7nm,1.1s
BOK *i* x x 19 38 01.6
BOK *ex* x 19 47 28.2
MDRS Chennai 106.90 276 *eP* **Pdif** 19 33 29.7 -2.4
MDRS *i* x x 19 38 03.1
MDRS *ex* x 19 47 24.9
SMRC Santa Marta, M 106.95 87 *eP* **Pdif** 19 33 33.4 +1.1
F36A Milaca 107.01 47 IAMs_20 IAMs_20 20 18 58.5
comp=Z,69µm,18.0s
P43A Skaggs, Pawnee 107.03 54 IAMs_20 IAMs_20 20 19 01.7
comp=Z,49µm,19.0s
Q44A Meyer Farm, Va 107.08 55 IAMs_20 IAMs_20 20 20 15.0
comp=Z,72µm,18.0s
SPMN Marine on St. 107.20 47 P **Pdif** 19 33 30.8 -1.9
baz=245
SPMN Marine on St. 107.20 47 IAMs_20 IAMs_20 20 21 27.5
comp=Z,47µm,19.0s
MTDJ Mount Denham 107.33 79 IAMs_20 IAMs_20 20 11 51.0
comp=Z,69µm,22.0s
ULM Lac du Bonnet 107.50 42 PKKP 19 49 10.0
comp=Z,28nm,0.9s,baz=37,slow=5.6,SNR=5.6
Z51A Franklin 107.57 61 IAMs_20 IAMs_20 20 19 38.6
comp=Z,43µm,20.0s
HDIL Hopedale 107.57 53 P **Pdif** 19 33 33.8 -0.6
baz=245
PVM Polavaram 107.61 280 *e*Pdif **Pdif** 19 33 32.8 -2.4
PVM *e*PP **PP** 19 38 00.6 -3.1
PVM IVMs_BB IVMs_BB 20 16 35.1
comp=Z,6µm,26.2s
SKHT Srikalahasti 107.67 276 *e*Pdif **Pdif** 19 33 33.8 -1.7
SKHT *e*PP **PP** 19 38 02.9 -1.2
SKHT IVMs_BB IVMs_BB 20 25 59.3
comp=Z,16µm,18.1s
RER Riviere de l'E 107.79 232 IAMs_20 IAMs_20 20 12 22.0
comp=Z,43µm,22.0s
JFWS Jewell Farm 107.90 50 P **Pdif** 19 33 35.7 -0.2
baz=246
JFWS Jewell Farm 107.90 50 IAMs_20 IAMs_20 20 23 28.4
comp=Z,70µm,18.0s
L42A Oliver, Polo 107.92 52 IAMs_20 IAMs_20 20 22 03.9
comp=Z,61µm,18.0s
A36M Sachs Harbour 107.92 15 P **Pdif** 19 33 36.3 +1.1
baz=226
B35A Bob, Littlefor 107.96 44 IAMs_20 IAMs_20 20 20 02.2
comp=Z,60µm,19.0s
O44A Mansfield 107.98 54 IAMs_20 IAMs_20 20 20 32.8
comp=Z,50µm,18.0s

TIXI Tiksi 107.99 344 PKKP PKKPdf 19 49 11.4 -0.2
comp=Z,4.4nm,0.9s,baz=322,slow=3.9,SNR=4.1
TIXI Tiksi 107.99 344 P Pdif 19 33 38.6 +3.0
TIXI MLR MLR
comp=Z,44µm,19.0s
TIXI Tiksi 107.99 344 Pdif Pdif 19 33 38.6 +3.0
TIXI IAMs_20 IAMs_20 20 25 52.2
comp=Z,44µm,19.0s
MOY Mondy 108.01 320 eP Pdif 19 33 40.9 +4.6
TIGA Tifton 108.01 64 P Pdif 19 33 35.1 -1.6
baz=245
I40A Norwalk 108.06 49 IAMs_20 IAMs_20 20 20 28.4
comp=Z,52µm,18.0s
SPB Sao Paulo 108.33 132 IAMs_20 IAMs_20 20 14 46.9
comp=Z,53µm,22.0s
DWPF Disney Wildern 108.34 68 P Pdif 19 33 36.8 -1.3
baz=245
ADKI Addanki 108.40 278 ePdif Pdif 19 33 37.3 -1.4
ADKI ePP PP 19 38 10.6 +1.1
ADKI e 19 40 24.4
ADKI IVMs_BB IVMs_BB 20 26 14.4
comp=Z,12µm,18.6s
U49A Red Boiling Sp 108.43 58 IAMs_20 IAMs_20 20 21 06.1
comp=Z,67µm,18.0s
P46A Rosedale 108.65 55 IAMs_20 IAMs_20 20 20 56.6
comp=Z,52µm,18.0s
WCI Wyandotte Cave 108.75 56 P Pdif 19 33 40.8 +1.1
baz=246
M44A Midewin, Midew 108.78 53 IAMs_20 IAMs_20 20 25 44.8
comp=Z,68µm,18.0s
G40A Rib Lake 108.89 48 IAMs_20 IAMs_20 20 22 22.3
comp=Z,41µm,18.0s
GOGA Godfrey 108.91 62 P Pdif 19 33 39.2 -1.4
baz=246
SDV Santo Domingo 109.00 91 PKKP PKKPab 19 49 05.8 +0.1
comp=Z,33nm,0.4s,baz=27,slow=6.9,SNR=1.6
SFIN Lafayette 109.03 54 P Pdif 19 33 39.0 -2.0
baz=246
SFIN Lafayette 109.03 54 IAMs_20 IAMs_20 20 22 07.7
comp=Z,53µm,18.0s
K43A Burlington 109.10 51 IAMs_20 IAMs_20 20 21 07.3
comp=Z,55µm,18.0s
URIC Uribia, Colomb 109.14 87 eP Pdif 19 33 36.4 -5.6
EYMN Ely 109.15 45 P Pdif 19 33 40.0 -1.4
baz=246
EYMN Ely 109.15 45 IAMs_20 IAMs_20 20 20 03.8
comp=Z,66µm,19.0s
L44A Lake County Fo 109.18 52 P Pdif 19 33 39.3 -2.3
baz=247
L44A Lake County Fo 109.18 52 IAMs_20 IAMs_20 20 20 50.4
comp=Z,57µm,18.0s
I42A Draeger Farm, 109.18 50 IAMs_20 IAMs_20 20 19 35.3
comp=Z,40µm,19.0s
W52A Murphy 109.24 60 IAMs_20 IAMs_20 20 20 52.6
comp=Z,67µm,18.0s
NJS Nagarjunasagar 109.29 278 ePdif Pdif 19 33 40.8 -1.9
NJS ePP PP 19 38 16.8 +0.9
NJS IVMs_BB IVMs_BB 20 27 10.3
comp=Z,9µm,18.6s
SRLM Srisailam 109.44 278 ePdif Pdif 19 33 41.1 -2.3
SRLM ePP PP 19 38 15.6 -1.5
SRLM IVMs_BB IVMs_BB 20 26 43.7
comp=Z,11µm,18.1s
TKL Tuckaleechee C 109.58 60 PKKPbc PKKPbc 19 48 51.1 +0.1
comp=Z,1.8nm,0.5s,baz=154,slow=7.8,SNR=2.9
COWI Conover 109.90 48 IAMs_20 IAMs_20 20 19 10.1
comp=Z,40µm,19.0s
TZTN Tazewell 110.09 59 P Pdif 19 33 42.7 -3.1
baz=247
H43A Windswept, Lux 110.17 50 IAMs_20 IAMs_20 20 21 51.3
comp=Z,54µm,18.0s
X54A Belton 110.19 61 P Pdif 19 33 43.5 -2.8
baz=247
N47A Urbana 110.21 54 IAMs_20 IAMs_20 20 21 50.8
comp=Z,58µm,19.0s
L46A Eue Claire 110.22 53 IAMs_20 IAMs_20 20 23 29.1
comp=Z,50µm,18.0s
RPR Rampur 110.31 281 ePdif Pdif 19 33 45.0 -2.1
RPR ePP PP 19 38 21.8 -1.5
RPR IVMs_BB IVMs_BB 20 27 51.4
comp=Z,5µm,18.9s
HYB Hyderabad 110.32 279 i Pdif Pdif 19 33 48.0 +0.7
HYB ePP PP 19 38 26.0 +2.6
HYB e 19 40 22.5
HYB ePPP PPP 19 40 36.0
HYB eSKS SKSac 19 44 28.0 +2.0
HYB e 19 48 00.0
HYB Hyderabad 110.32 279 ex Pdif 19 33 52.7 +5.4
HYB i x PP 19 38 21.5 -1.9
HYB ex x 19 47 57.4
HYB IAMs_20 IAMs_20 20 16 07.1
comp=Z,22µm,25.1s
HYBB Hyderabad (bro 110.32 279 ePdif Pdif 19 33 45.2 -2.0
HYBB ePP PP 19 38 21.8 -1.7
HYBB e 19 40 22.0
HYBB eSKSac SKSac 19 44 20.9 -5.1
HYBB IVMs_BB IVMs_BB 20 19 49.3
comp=Z,6µm,24.0s
URV Uravakonda 110.33 276 ePdif Pdif 19 33 45.4 -1.9
URV ePP PP 19 38 21.5 -2.1
URV IVMsBB 20 26 40.9
comp=Z,7µm,18.9s
Y55A Saluda 110.35 62 P Pdif 19 33 45.0 -2.0
baz=247
P49A Miami Univ. Ec 110.39 55 P Pdif 19 33 45.8 -1.2
baz=247
F42A Maple Grove Fa 110.42 48 IAMs_20 IAMs_20 20 23 10.8
comp=Z,53µm,18.0s
S51A Beattyville 110.48 58 IAMs_20 IAMs_20 20 21 46.3
comp=Z,45µm,18.0s
Z56A Williston 110.49 63 P Pdif 19 33 46.5 -1.1
baz=247
157A Early Branch 110.52 63 P Pdif 19 33 48.4 +0.6
baz=247
W54A Cherokee Point 110.55 61 P Pdif 19 33 48.4 +0.6
baz=247
FOMA Nahampoana Res1 110.64 223 IAMs_20 IAMs_20 20 18 12.2
comp=Z,52µm,19.0s
J45A Montague 110.70 51 P Pdif 19 33 48.3 0.0
baz=248
Y56A Pelion 110.72 62 P Pdif 19 33 46.9 -1.7
baz=247
PAULI Pauline 110.73 61 IAMs_20 IAMs_20 20 26 34.2
comp=Z,35µm,18.0s
X55A Gracelyn & Ava 110.73 61 P Pdif 19 33 46.3 -2.3
baz=247
V54A Nebo 110.99 60 P Pdif 19 33 48.7 -1.2
baz=248
Z57A Bowman 110.99 63 P Pdif 19 33 49.9 0.0
baz=247
T53A Wise 111.01 59 P Pdif 19 33 48.7 -1.2
baz=248
I45A Fountain 111.03 51 P Pdif 19 33 48.9 -0.8
baz=248
I45A Fountain 111.03 51 IAMs_20 IAMs_20 20 20 41.1
comp=Z,43µm,19.0s
X56A White Oak 111.20 62 P Pdif 19 33 49.6 -1.1
baz=247
KMSC Kings Mountain 111.21 61 P Pdif 19 33 49.7 -1.1
baz=248
KMSC Kings Mountain 111.21 61 IAMs_20 IAMs_20 20 22 01.1
comp=Z,55µm,19.0s
BAUV El Baul 111.27 92 eP PP 19 38 34.8 +4.6
U54A Nelsons Funny 111.37 59 P Pdif 19 33 51.2 -0.3
baz=248
H45A Beulah 111.37 50 P Pdif 19 33 50.8 -0.5
baz=248
E43A Lone Tree Farm 111.38 48 IAMs_20 IAMs_20 20 23 58.3
comp=Z,47µm,18.0s
L48A N Adams 111.49 53 IAMs_20 IAMs_20 20 22 41.6
comp=Z,40µm,19.0s
NGP Nagpur 111.49 283 ex Pdif 19 33 55.6 +3.2
NGP i x x 19 38 32.4
NGP ex x 19 48 29.9
Y57A Sumter 111.51 62 P Pdif 19 33 50.2 -1.9
baz=248
Y57A Sumter 111.51 62 IAMs_20 IAMs_20 20 22 37.9
comp=Z,34µm,18.0s
I46A Reed City 111.52 51 P Pdif 19 33 50.4 -1.5
baz=249
P51A Williamsport 111.56 56 P Pdif 19 33 48.6 -3.6
baz=248
V55A Taylorsville 111.57 60 P Pdif 19 33 52.2 -0.2
baz=248
S53A Williamson 111.57 58 P Pdif 19 33 51.0 -1.4
baz=248
BIRD Birdtown, Kers 111.69 62 IAMs_20 IAMs_20 20 24 09.7
comp=Z,32µm,18.0s
T54A Tazewell 111.75 59 P Pdif 19 33 53.2 -0.1
baz=248
G45A Suttons Bay 111.78 50 P Pdif 19 33 52.2 -0.9
baz=249
G45A Suttons Bay 111.78 50 IAMs_20 IAMs_20 20 18 04.9
comp=Z,41µm,22.0s
W56A Indian Trail 111.78 61 P Pdif 19 33 52.6 -0.7
baz=248
ACSO Alum Creek Sta 111.89 55 P Pdif 19 33 53.5 -0.2
baz=249
H46A Fife Lake 111.90 50 P Pdif 19 33 54.2 +0.6
baz=249
FCC Fort Churchill 111.90 34 IAMs_20 IAMs_20 20 18 42.3
comp=Z,42µm,21.0s
X57A Johnson Farm, 111.90 62 P Pdif 19 33 52.8 -1.1
baz=248
U55A TA2, Sparta 111.94 60 P Pdif 19 33 54.8 +0.7
baz=248
Q52A Bidwell 111.94 57 P Pdif 19 33 54.8 +0.9
baz=248
R53A Hurricane 111.94 58 P Pdif 19 33 52.3 -1.6
baz=248
R53A Hurricane 111.94 58 IAMs_20 IAMs_20 20 22 05.0
comp=Z,71µm,19.0s
V56A Mocksville 112.10 61 P Pdif 19 33 54.4 -0.3
baz=249
F45A CMU Biological 112.10 49 P Pdif 19 33 54.6 +0.2
baz=249
O51A Pataskala 112.12 56 P Pdif 19 33 55.8 +1.0
baz=249
AAM Ann Arbor 112.15 53 P Pdif 19 33 54.0 -0.7
baz=249
AAM Ann Arbor 112.15 53 IAMs_20 IAMs_20 20 23 19.2
comp=Z,36µm,18.0s
I47A Gladwin 112.18 51 P Pdif 19 33 55.3 +0.5
baz=249
S54A Dingess, Beckl 112.22 58 P Pdif 19 33 54.7 -0.6
baz=249
S54A Dingess, Beckl 112.22 58 IAMs_20 IAMs_20 20 24 38.4
comp=Z,36µm,18.0s
W57A Gilead 112.24 61 P Pdif 19 33 54.1 -1.3
baz=248
W57A Gilead 112.24 61 IAMs_20 IAMs_20 20 22 53.2
comp=Z,40µm,18.0s
M50A Fremont 112.26 54 IAMs_20 IAMs_20 20 23 16.2
comp=Z,43µm,18.0s
KLRI Killari 112.28 279 ePdif Pdif 19 33 53.7 -2.3
KLRI ePP PP 19 38 36.9 -0.7
KLRI IVMs_BB IVMs_BB 20 28 29.6
comp=Z,17µm,16.7s
P52A Corning 112.28 56 P Pdif 19 33 54.2 -1.2
baz=249
T55A Pulaski 112.36 59 P Pdif 19 33 54.3 -1.6
baz=248
U56A King 112.38 60 P Pdif 19 33 52.5 -3.5
baz=248
GLMI Grayling 112.39 50 IAMs_20 IAMs_20 20 24 19.2
comp=Z,45µm,18.0s
G46A Petoskey 112.40 50 P Pdif 19 33 56.4 +0.6
baz=250
J48A Bridge Port 112.42 52 P Pdif 19 33 56.4 +0.5
baz=249
J48A Bridge Port 112.42 52 IAMs_20 IAMs_20 20 18 11.1
comp=Z,39µm,20.0s
Q53A Leroy 112.44 57 P Pdif 19 33 53.3 -2.9
baz=249
K49A Clarkson 112.46 53 P Pdif 19 33 56.5 +0.3
baz=249
X58A Rowland 112.52 62 P Pdif 19 33 56.4 -0.2
baz=248
X58A Rowland 112.52 62 IAMs_20 IAMs_20 20 26 02.6
comp=Z,35µm,18.0s
N51A Ashland 112.56 55 P Pdif 19 33 55.4 -1.3
baz=249
H47A Mio 112.59 51 P Pdif 19 33 56.1 -0.6
baz=250
R54A Victor 112.59 58 P Pdif 19 33 55.4 -1.5
baz=249
L50A Kingsville 112.65 54 P Pdif 19 33 58.0 +1.0
baz=249
O52A Adamsville 112.66 56 P Pdif 19 33 57.4 +0.3
baz=249
Y59A Loris 112.67 63 P Pdif 19 33 57.9 +0.7
baz=248
Y59A Loris 112.67 63 IAMs_20 IAMs_20 20 23 16.7
comp=Z,38µm,18.0s
V57A Coltrane Farms 112.67 61 P Pdif 19 33 56.7 -0.5
baz=248
P53A Whipple 112.76 57 P Pdif 19 33 58.8 +1.2
baz=249
W58A Raeford 112.77 62 P Pdif 19 33 57.5 -0.2
baz=248
I48A Sherman Twp 112.78 51 P Pdif 19 34 00.8 +3.2
baz=250
S55A Lewisburg 112.81 59 P Pdif 19 33 59.5 +1.6
baz=249
M51A Elyria 112.84 54 P Pdif 19 34 01.4 +3.5
baz=250
J49A Marlette 112.88 52 P Pdif 19 33 58.5 +0.5
baz=250
T56A Rocky Mt 112.89 59 P Pdif 19 33 59.0 +0.8
baz=249
Q54A Coxs Mills 112.99 57 P Pdif 19 33 57.4 -1.2
baz=249
N52A McGinn's Farm, 113.01 55 P Pdif 19 33 58.1 -0.6
baz=250
G47A Hillman 113.02 50 P Pdif 19 33 58.8 +0.2
baz=250
K50A Casco 113.04 53 P Pdif 19 33 59.4 +0.7
baz=250
K50A Casco 113.04 53 IAMs_20 IAMs_20 20 23 55.5
comp=Z,48µm,18.0s
X59A McDuffie Farm, 113.09 62 P Pdif 19 33 59.3 +0.2
baz=248
E46A Sault Ste Mari 113.12 49 IAMs_20 IAMs_20 20 24 01.4
comp=Z,63µm,18.0s
V58A Windy Hill, Pi 113.14 61 P Pdif 19 34 00.1 +0.7
baz=249
O53A New Philadelph 113.16 56 P Pdif 19 33 59.0 -0.4
baz=250
Y60A Bolivia 113.18 63 P Pdif 19 33 59.5 0.0
baz=248
Y60A Bolivia 113.18 63 IAMs_20 IAMs_20 20 35 53.3
comp=Z,35µm,19.0s
U57A Blanch 113.20 60 P Pdif 19 34 00.8 +1.2
baz=249
R55A Marlinton 113.27 58 P Pdif 19 34 01.6 +1.6
baz=249
PTGA Pitinga 113.27 105 PKiKP PKiKP 19 37 55.0 +0.9
comp=Z,1.1nm,0.4s,baz=288,slow=20,SNR=2.3
PTGA PKKPbc PKKPbc 19 48 38.6 +0.3
comp=Z,2.6nm,0.8s,baz=270,slow=20,SNR=2.8
I49A Point Hope 113.29 52 P Pdif 19 34 01.7 +1.9
baz=250
I49A Point Hope 113.29 52 IAMs_20 IAMs_20 20 24 10.2
comp=Z,61µm,18.0s
WMQ Urumqi 113.30 308 ePKP PKiKP 19 37 53.0 -0.4
WMQ PP PP 19 38 48.0 +3.6
WMQ SKS SKSdf 19 44 56.4 -7.9
WMQ SS SS 19 54 29.0 -0.3
WMQ AMB AMB
comp=Z,4µm,11.5s
WMQ LR LR
comp=Z,10µm,25.3s
WMQ LR LR
comp=Z,14µm,24.5s
WMQ LR LR
comp=Z,38µm,24.3s
W59A Clinton 113.42 62 P Pdif 19 34 01.8 +1.2
baz=249
T57A Hurt 113.46 60 P Pdif 19 34 01.9 +1.2
baz=249
P54A Burton 113.46 57 P Pdif 19 34 02.0 +1.2
baz=250
S56A Natural Bridge 113.47 59 P Pdif 19 34 02.6 +1.8
baz=249
D46A Sault St. Mari 113.47 48 P Pdif 19 34 02.7 +2.2
baz=251
BDFB Brasilia 113.48 126 PKiKP PKiKP 19 37 55.6 +1.0
comp=Z,3.3nm,0.7s,baz=263,slow=26,SNR=3.2
BDFB PKKPbc PKKPbc 19 48 40.6 +2.7
comp=Z,3.5nm,0.6s,baz=315,slow=2.9,SNR=3.4
M52A Chesterland 113.50 54 P Pdif 19 34 02.1 +1.3
baz=250
GOA Goa 113.54 275 ex PP 19 38 44.4 -2.1
GOA IAmb IAmb 19 39 00.3
comp=Z,219nm,1.8s
GOA i x x 19 41 15.9
GOA ex x 19 48 25.4
Q55A Buckhannon 113.54 57 P Pdif 19 34 02.1 +1.0
baz=250
X60A Albert Glenn T 113.57 63 P Pdif 19 34 00.9 -0.4
baz=249
N53A Lisbon 113.62 55 P Pdif 19 34 03.5 +2.1
baz=250
SC01 Santiago de lo 113.65 81 IAMs_20 IAMs_20 20 15 55.7
comp=Z,46µm,21.0s
BHPL Bhopal 113.72 284 ex Pdif 19 34 05.0 +2.7
BHPL i x x 19 38 38.1
BHPL ex x 19 48 23.0
O54A Avella 113.73 56 P Pdif 19 34 02.5 +0.6
baz=250
U58A Oxford 113.78 61 P Pdif 19 34 02.5 +0.4
baz=249
K51A Iona Station 113.79 53 P Pdif 19 34 03.3 +1.2
baz=250
V59A Middlesex 113.79 61 P Pdif 19 34 02.5 +0.3
baz=249
R56A Bull Pasture M 113.84 58 P Pdif 19 34 03.3 +0.8
baz=250
CNNC Cliffs of the 113.87 62 P Pdif 19 34 02.7 +0.1
baz=249
CNNC Cliffs of the 113.87 62 IAMs_20 IAMs_20 20 23 46.6
comp=Z,34µm,18.0s
P55A Reedsville 113.91 57 P Pdif 19 34 02.2 -0.5
baz=250
MCWV Mont Chateau 113.94 57 P Pdif 19 34 05.9 +3.1
baz=250
MCWV Mont Chateau 113.94 57 IAMs_20 IAMs_20 20 23 34.9
comp=Z,53µm,18.0s
W60A Pink Hill 113.94 62 P Pdif 19 34 03.4 +0.5
baz=249
M53A WI Miller and 113.95 55 P Pdif 19 34 02.9 +0.1
baz=250
S57A Dark Hollow, R 113.95 59 P Pdif 19 34 02.3 -0.7
baz=250
T58A Grand View Acr 113.98 60 P Pdif 19 34 02.9 -0.1
baz=250
F48A Evansville 114.06 50 P Pdif 19 34 05.1 +1.9
baz=251
D47A Chapleau 114.13 48 P Pdif 19 34 05.2 +1.7
baz=251
Q56A Snyder Ridge, 114.21 58 P Pdif 19 34 05.2 +1.1
baz=250
Q56A Snyder Ridge, 114.21 58 IAMs_20 IAMs_20 20 23 44.2
comp=Z,54µm,18.0s
N54A Moraine State 114.28 55 P Pdif 19 34 05.4 +1.1
baz=250
U59A Littleton 114.34 61 P Pdif 19 34 05.4 +0.8
baz=250
K52A Tillsonburg 114.36 53 P Pdif 19 34 06.2 +1.6
baz=251
L53A Girard 114.41 54 P Pdif 19 34 06.3 +1.4
baz=251
F49A Sandfield 114.42 50 P Pdif 19 34 07.6 +2.8
baz=251
R57A Stanardsville 114.45 59 P Pdif 19 34 06.9 +1.8
baz=250
I51A Listowel 114.48 52 P Pdif 19 34 07.7 +2.5
baz=251
O55A Ligonier 114.52 56 P Pdif 19 34 05.8 +0.4
baz=251
V60A Jim Taylor Roa 114.53 62 P Pdif 19 34 07.0 +1.5
baz=250
V60A Jim Taylor Roa 114.53 62 IAMs_20 IAMs_20 20 23 54.1
comp=Z,67µm,18.0s
W61A Ground Anchor 114.54 62 P Pdif 19 34 08.2 +2.7
baz=250
E48A Lockeyer 114.56 49 P Pdif 19 34 06.6 +1.2
baz=252
S58A Poland Farm, P 114.57 59 P Pdif 19 34 06.5 +0.8
baz=250
P56A Dayton Farm, R 114.62 57 P Pdif 19 34 06.0 +0.2
baz=250
J52A Paris 114.68 53 P Pdif 19 34 06.2 +0.2
baz=251
M54A Oil Creek Stat 114.69 55 P Pdif 19 34 07.4 +1.3
baz=251
T59A Double "B" Far 114.73 60 P Pdif 19 34 06.8 +0.4
baz=250
Q57A Strasburg 114.78 58 P Pdif 19 34 08.1 +1.6
baz=250
PCRV Puerto La Cruz 114.81 92 PKKPbc PKKPbc 19 48 33.2 +0.1
comp=Z,16nm,0.9s,baz=326,slow=3.6,SNR=2.6
R58B Mineral 114.82 59 P Pdif 19 34 08.2 +1.5
baz=250
POO Poona 114.83 278 ex Pdif 19 34 14.1 +6.8
POO i x PP 19 38 52.0 -3.7
POO ex PKKPab 19 48 42.6 +3.4
R58A Rapidan 114.84 59 P Pdif 19 34 07.6 +0.8
baz=250
PLCV Puerto La Cruz 114.84 92 PKKPbc 19 48 33.2 +0.3
U60A Pendleton 114.86 61 P Pdif 19 34 09.5 +2.5
baz=250
ABPO Ambohimpanom 114.94 227 IAMs_20 IAMs_20 20 20 50.1
comp=Z,50µm,18.0s
N55A Marion Center 114.94 56 P Pdif 19 34 09.1 +1.8
baz=251
D48A Paudash Townsh 115.01 49 P Pdif 19 34 09.3 +1.9
baz=252
V61A Roper 115.07 62 P Pdif 19 34 08.0 +0.1
baz=250
V61A Roper 115.07 62 IAMs_20 IAMs_20 20 24 38.2
comp=Z,57µm,18.0s
O56A Blue Knob Stat 115.07 57 P Pdif 19 34 09.9 +2.0
baz=251
I52A Shelburne 115.14 52 P Pdif 19 34 10.8 +2.7
baz=252
L54A Sinclairville 115.17 54 P Pdif 19 34 09.5 +1.3
baz=252
S59A Mechanicsville 115.19 60 P Pdif 19 34 10.7 +2.4
baz=250
P57A Homestead Farm 115.22 58 P Pdif 19 34 09.0 +0.5
baz=251
P57A Homestead Farm 115.22 58 IAMs_20 IAMs_20 20 26 37.8
comp=Z,63µm,18.0s
CBN Corbin Frederi 115.27 59 P Pdif 19 34 09.7 +0.9
baz=251
CBN Corbin Frederi 115.27 59 IAMs_20 IAMs_20 20 25 28.4
comp=Z,67µm,18.0s
Q58A Fox Den Farm, 115.29 58 P Pdif 19 34 09.1 +0.3
baz=251
OPO Ambohidratompo 115.29 228 PKP PKiKP 19 37 56.9 -1.3
comp=Z,5.2nm,0.6s,baz=335,slow=3.2,SNR=4.0
M55A Ridgway 115.31 55 P PKiKP 19 38 00.2 +2.9
baz=251
DGZ Jazzator, Alta 115.33 314 i PKiKP PKPdf 19 37 54.1 -3.1
DGZ MLR MLR
comp=Z,27µm,18.0s
D49A Beulah Townshi 115.33 49 P PKiKP 19 37 59.1 +2.0
baz=252
ORIV Oritupano 115.34 94 eP PP 19 39 06.6 +7.4
T60A Surry 115.40 60 P PKiKP 19 38 00.9 +3.4
baz=250
R59A King George, V 115.46 59 P PKiKP 19 38 00.4 +2.8
baz=251
V62A Hyde County Ai 115.47 62 IAMs_20 IAMs_20 20 25 02.8
comp=Z,53µm,18.0s
I53A Kortright Cn E 115.47 53 P PKiKP 19 37 58.7 +1.2
baz=252
N56A West Decatur 115.47 56 P PKiKP 19 37 59.2 +1.6
baz=251
E50A Wahnapitae 115.48 50 P PKiKP 19 37 59.3 +2.0
baz=252
H52A Wyevale 115.52 52 P PKiKP 19 37 60.0 +2.5
baz=252
SUR Sutherland 115.56 197 PKP PKiKP 19 37 56.7 -1.7
comp=Z,9.0nm,0.9s,baz=162,slow=3.2,SNR=2.6
SUR PKKPbc PKKPab 19 48 35.7 -3.8
comp=Z,8.2nm,0.9s,baz=262,slow=1.7,SNR=4.2
SUR Sutherland 115.56 197 PKiKP 19 37 56.3 -2.1
SUR Sutherland 115.56 197 IAMs_20 IAMs_20 20 26 23.3
comp=Z,61µm,18.0s
S60A Water View 115.65 60 P PKiKP 19 38 00.7 +2.8
baz=251
SSPA Standing Stone 115.68 56 P PKiKP 19 38 00.2 +2.3
baz=252
K54A Basiliko Farm, 115.72 54 P PKiKP 19 38 00.3 +2.4
baz=252
O57A Amberson 115.73 57 P PKiKP 19 37 59.7 +1.6
baz=251
M56A Emporium 115.73 55 P PKiKP 19 38 00.3 +2.3
baz=252
P58A Pank, Wackersv 115.74 58 P PKiKP 19 38 01.5 +3.5
baz=251

L55A Hinsdale 115.77 55 P PKiKP 19 38 01.6 +3.5
baz=252
SJMB Sao Joao De Ma 115.87 133 *e*P PKPdf 19 38 00.5 +1.5
SJMB Sao Joao De Ma 115.87 133 *e*P PKPdf 19 38 00.5 +1.5
F51A Arnstein 115.88 50 P PKiKP 19 38 01.9 +3.8
baz=253
R60A Leonardtown, M 115.89 59 P PKiKP 19 38 00.6 +2.2
baz=251
DDI Dehra Dun 115.89 291 *ex* Pdif 19 34 15.0 +3.2
DDI *ex* x 19 48 47.8
RIB01 Linhares ES 115.91 134 *e*P PKPdf 19 38 01.5 +2.4
RIB01 Linhares ES 115.91 134 *e*P PKPdf 19 38 01.5 +2.4
J54A Appleton 115.96 53 P PKiKP 19 38 01.4 +3.1
baz=252
J54A Appleton 115.96 53 IAMs_20 IAMs_20 20 26 56.0
comp=Z,47µm,18.0s
N57A Milroy 115.96 56 P PKiKP 19 38 01.4 +2.9
baz=252
NDI New Delhi 115.98 289 *ex* PKPdf 19 38 02.0 +3.1
NDI *ex* x 19 40 34.0
Q59A Harwood 116.02 59 P PKiKP 19 38 00.2 +1.6
baz=251
SADO Sadowa 116.06 52 PKKPbc PKKPbc 19 48 30.1 +0.6
comp=Z,10nm,0.9s,baz=54,slow=3.6,SNR=6.0
SADO Sadowa 116.06 52 PKPdf PKPdf 19 37 57.8 -0.7
SADO IAMs_20 IAMs_20 20 26 20.5
comp=Z,34µm,18.0s
K55A Perry 116.19 54 P PKiKP 19 38 02.5 +3.6
baz=252
O58A Lewisberry 116.22 57 P PKiKP 19 38 02.5 +3.5
baz=252
F52A Sundridge 116.24 51 P PKiKP 19 38 02.0 +3.1
baz=253
D50A G1974 Best Tow 116.29 49 P PKiKP 19 38 01.5 +2.6
baz=253
ZSN Zaisan 116.31 311 *e*Pdif Pdif 19 34 19.7 +6.4
baz=311
ZSN *e*PKP PKPdf 19 37 57.6 -1.4
comp=Z,128nm,5.0s,baz=311
ZSN *e*PP PP 19 39 07.0 +1.5
baz=311
ZSN LR LR 20 31 58.7
comp=Z,3µm,16.5s,baz=311
ZSN Zaisan 116.31 311 *e*P Pdif 19 34 19.6 +6.4
ZSN *e* 19 37 57.5
ZSN *e* 19 39 07.0
E51A G1948 Merrick 116.34 50 P PKiKP 19 38 01.6 +2.6
baz=253
L56A Greenwood 116.38 55 P PKiKP 19 38 02.8 +3.5
baz=252
H53A Bobcaygeon 116.39 52 P PKiKP 19 38 02.2 +3.1
baz=253
P59A Jarrettsville 116.42 58 P PKiKP 19 38 01.0 +1.6
baz=252
M57A Sunshine Farm, 116.44 56 P PKiKP 19 38 02.3 +2.9
baz=252
G53A Haliburton 116.52 51 P PKiKP 19 38 03.7 +4.3
baz=253
J55A Hilton 116.53 54 P PKiKP 19 38 02.5 +3.0
baz=253
J55A Hilton 116.53 54 IAMs_20 IAMs_20 20 27 13.2
comp=Z,47µm,18.0s
D51A Lot 18 Range I 116.58 49 P PKiKP 19 38 03.9 +4.4
baz=254
N58A Sunbury 116.59 56 P PKiKP 19 38 01.3 +1.7
baz=252
MVL Millersville 116.60 57 IAMs_20 IAMs_20 20 24 58.3
comp=Z,63µm,18.0s
Q60A Greensboro 116.67 59 P PKiKP 19 38 01.5 +1.6
baz=252
K56A Middlesex 116.71 54 P PKiKP 19 38 03.4 +3.5
baz=253
RES Resolute Bay 116.75 17 IAMs_20 IAMs_20 20 26 16.4
comp=Z,39µm,19.0s
O59A Robesonia 116.81 57 P PKiKP 19 38 02.4 +2.2
baz=252
E52A Mattawa 116.82 50 P PKiKP 19 38 03.1 +3.2
baz=254
R61A Willards 116.83 59 IAMs_20 IAMs_20 20 25 44.7
comp=Z,62µm,18.0s
L57A Andrews Acres 116.84 55 P PKiKP 19 38 04.3 +4.1
baz=253
SMLA Simla 116.89 292 *ex* Pdif 19 34 17.6 +1.5
SMLA *i* x x 19 39 04.9
SMLA *ex* x 19 49 01.8
I55A Frankford 116.90 53 P PKiKP 19 38 03.8 +3.7
baz=253
M58A Price's Panora 116.93 56 P PKiKP 19 38 03.8 +3.5
baz=253
G54A Lake Saint Pet 116.96 51 P PKiKP 19 38 04.0 +3.7
baz=254
Q61A Milford 117.01 59 P PKiKP 19 38 02.7 +2.2
baz=252
DELO Deloro Mine 117.03 52 IAMs_20 IAMs_20 20 26 26.2
comp=Z,54µm,18.0s
P60A Greenville 117.07 58 P PKiKP 19 38 04.1 +3.5
baz=252
P60A Greenville 117.07 58 IAMs_20 IAMs_20 20 27 53.7
comp=Z,54µm,18.0s
ALGO Algonquin Park 117.14 51 P PKiKP 19 38 03.1 +2.5
baz=254
D52A ZEK Kipawa Sen 117.18 49 P PKiKP 19 38 03.2 +2.5
baz=254
J56A Wolcott 117.21 54 P PKiKP 19 38 03.2 +2.4
baz=253
J56A Wolcott 117.21 54 IAMs_20 IAMs_20 20 26 19.0
comp=Z,51µm,18.0s
K57A Scipio Center 117.29 54 P PKiKP 19 38 02.1 +1.1
baz=253
N59A State Game Lan 117.30 57 P PKiKP 19 38 03.9 +2.8
baz=253
PECO Prince Edward 117.30 53 IAMs_20 IAMs_20 20 27 37.3
comp=Z,59µm,18.0s
H55A Tweed 117.34 52 P PKiKP 19 38 04.1 +3.1
baz=254
O60A Telford 117.39 57 P PKiKP 19 38 02.9 +1.6
baz=253
E53A Dumoine, Ponti 117.51 50 P PKiKP 19 38 03.8 +2.5
baz=254
BINY Binghamton 117.51 55 P PKiKP 19 38 05.6 +4.1
baz=253
PLVO Plevna 117.55 52 IAMs_20 IAMs_20 20 27 41.8
comp=Z,45µm,18.0s
L58A Harry Jones Me 117.57 55 P PKiKP 19 38 05.1 +3.5
baz=253
BHK Bhakra 117.59 292 *e*P PKPdf 19 38 00.2 -1.7
BHK *ex* x 19 40 34.4
P61A Hammonton 117.64 58 P PKiKP 19 38 05.8 +4.0
baz=253
P61A Hammonton 117.64 58 IAMs_20 IAMs_20 20 28 11.1
comp=Z,46µm,18.0s
D53A Lac Vacive, Po 117.67 49 P PKiKP 19 38 04.1 +2.5
baz=255
M59A Waymart 117.72 56 P PKiKP 19 38 05.3 +3.5
baz=253
N60A Cedar Hill Far 117.77 57 P PKiKP 19 38 05.4 +3.5
baz=253
BOSA Boshof 117.78 203 PKP PKiKP 19 38 03.4 +0.7
comp=Z,7.3nm,0.8s,baz=207,slow=2.6,SNR=13
BOSA PP PP 19 39 18.1 +3.4
comp=Z,6.6nm,0.7s,baz=146,slow=3.6,SNR=1.4
BOSA PKKPbc PKKPbc 19 48 23.6 +0.2
comp=Z,3.3nm,0.9s,baz=45,slow=5.7,SNR=2.3
BOSA PKKPab PKKPab 19 48 35.2 +5.7
comp=Z,5.3nm,0.8s,baz=2.4,slow=4.4,SNR=5.3
MK31 Makanchi Array 117.83 310 PKIKP PKPdf 19 37 59.9 -2.0
MKAR Makanchi Array 117.83 310 Pdiff Pdif 19 34 25.5 +5.5
comp=Z,1.4nm,0.7s,baz=94,slow=6.4,SNR=7.9
MKAR PKP PKPdf 19 38 00.2 -1.7
comp=Z,4.7nm,0.6s,baz=226,slow=2.6,SNR=20
MKAR PP PP 19 39 14.5 -1.6
comp=Z,12nm,0.9s,baz=77,slow=9.6,SNR=1.5
MKAR PKKPbc PKKPbc 19 48 23.6 +0.3
comp=Z,3.4nm,0.7s,baz=267,slow=2.9,SNR=7.2
E54A Lac Daplat, Po 117.84 50 P PKiKP 19 38 04.4 +2.5
baz=255
J57A Williamstown 117.85 54 P PKiKP 19 38 05.0 +3.0
baz=254
J57A Williamstown 117.85 54 IAMs_20 IAMs_20 20 24 55.9
comp=Z,56µm,18.0s
G55A Calabogie 117.85 52 P PKiKP 19 38 04.4 +2.5
baz=254
K58A Earlville 117.91 55 P PKiKP 19 38 04.5 +2.3
baz=254
O61A Allentown 117.94 58 P PKiKP 19 38 03.9 +1.6
baz=253
H56A Elgin 117.98 53 P PKiKP 19 38 05.3 +3.0
baz=254
ZALV Zalesovo Beam 118.01 318 Pdiff Pdif 19 34 25.3 +4.8
comp=Z,0.7nm,0.3s,baz=76,slow=6.1,SNR=1.8
ZALV PKP PKiKP 19 38 02.1 +0.1
comp=Z,8.0nm,0.7s,baz=138,slow=2.2,SNR=16
ZALV PKKPbc PKKPbc 19 48 21.5 -1.3
comp=Z,2.8nm,0.8s,baz=297,slow=10,SNR=2.3
MAKZ Makanchi 118.04 310 PKIKP PKPdf 19 37 59.4 -2.9
MAKZ MLR MLR
comp=Z,25µm,20.0s
MAKZ Makanchi 118.04 310 PKPdf 19 37 59.4 -2.9
VLDQ Val d'Or 118.10 48 IAMs_20 IAMs_20 20 23 42.3
comp=Z,47µm,19.0s
L59A Walton 118.18 55 P PKiKP 19 38 05.6 +2.8
baz=254
I57A Carthage 118.22 53 P PKiKP 19 38 04.5 +1.7
baz=254
M60A Port Jervis 118.24 56 P PKiKP 19 38 05.7 +2.8
baz=254
F55A Otter Lake 118.25 51 P PKiKP 19 38 05.8 +3.1
baz=255
GRGR Grenville 118.30 92 *e*P PP 19 39 26.5 +6.6
GRGR Grenville 118.30 92 IAMs_20 IAMs_20 20 18 50.9
comp=Z,38µm,22.0s
SMTB Santa Maria do 118.31 121 *e*P PKiKP 19 38 06.5 +2.6
SMTB Santa Maria do 118.31 121 *e*P PKiKP 19 38 06.5 +2.6
N61A South Mountain 118.32 57 P PKiKP 19 38 05.9 +2.8
baz=254
PRPB Parauapebas 118.33 117 *e*P PKiKP 19 38 05.7 +1.8
PRPB Parauapebas 118.33 117 *e*P PKiKP 19 38 05.7 +1.8
J58A Remsen 118.33 54 P PKiKP 19 38 07.8 +4.7
baz=254
D54A Lac Fusel, La 118.38 50 P PKiKP 19 38 05.5 +2.5
baz=256
MATQ Matagami 118.38 47 P PKiKP 19 38 06.1 +3.3
baz=256
K59A Cooperstown 118.48 55 P PKiKP 19 38 05.0 +1.6
baz=254
THN Thein Dam 118.49 293 *e*P PKPdf 19 38 02.0 -1.6
THN *ex* x 19 40 37.5
H57A Richville 118.55 53 P PKiKP 19 38 05.8 +2.4
baz=255
E55A Montcerf-Lytto 118.61 51 P PKiKP 19 38 05.9 +2.5
baz=256
LSQQ Lebel-sur-Quev 118.64 47 P PKiKP 19 38 06.0 +2.6
baz=256
I58A Old Forge 118.64 54 P PKiKP 19 38 07.1 +3.5
baz=255
GCMP Grenada, Carri 118.66 92 *e*P PP 19 39 38.5 +16
PAL Palisades 118.67 57 P PKiKP 19 38 07.2 +3.5
baz=254
MSEY Mahe Island 118.68 245 IAMs_20 IAMs_20 20 23 24.2
comp=Z,50µm,19.0s
L60A Shokan 118.72 56 P PKiKP 19 38 07.9 +4.1
baz=254
ORIO Orleans, Innes 118.72 52 P PKiKP 19 38 07.3 +3.7
baz=255
SHLS Shalkode 118.81 306 *e*Pdif Pdif 19 34 30.0 +5.4
baz=305
SHLS ⇓*e*PKP PKPdf 19 38 01.2 -2.9
baz=305
SHLS LR LR 20 31 02.7
comp=Z,3µm,16.4s,baz=305
SHLS Shalkode 118.81 306 *de*P Pdif 19 34 29.9 +5.4
SHLS *e* 19 38 01.1
PDGK Podgornoye 118.84 306 PKIKP PKiKP 19 38 05.4 +1.2
M61A Granite Spring 118.86 57 P PKiKP 19 38 08.1 +4.1
baz=254
TOSP Speyside 118.89 93 *e*P PP 19 39 31.1 +7.1
J59A Piesco 118.91 54 P PKiKP 19 38 06.4 +2.3
baz=255
N62A Caumsett State 118.97 57 P PKiKP 19 38 06.5 +2.2
baz=254
G57A Newington 118.99 52 P PKiKP 19 38 06.6 +2.4
baz=255
K60A Five Rivers En 119.12 55 P PKiKP 19 38 05.6 +1.1
baz=255
UZB Uzynbulak 119.12 305 *e*Pdif Pdif 19 34 33.4 +7.3
baz=305
UZB *e*PKP PKPdf 19 38 03.1 -1.6
comp=Z,26nm,2.5s,baz=305
UZB *e*PP PP 19 39 24.7 -0.7
baz=305
UZB LR LR 20 32 00.7
comp=Z,2µm,17.6s,baz=305
UZB Uzynbulak 119.12 305 *e*P Pdif 19 34 33.3 +7.3
UZB *e* 19 38 03.1
UZB *e* 19 39 24.6
UZB pmax pmax
comp=Z,26nm,2.5s
D55A Sainte-Anne-du 119.13 50 P PKiKP 19 38 06.9 +2.5
baz=256
LONY Lake Ozonia 119.15 53 P PKiKP 19 38 05.7 +1.1
baz=255
LONY Lake Ozonia 119.15 53 IAMs_20 IAMs_20 20 28 26.3
comp=Z,44µm,18.0s
SVB Belmont 119.17 91 *e*P PP 19 39 28.4 +2.5
NCB Newcomb 119.23 54 IAMs_20 IAMs_20 20 26 06.7
comp=Z,36µm,18.0s
L61A Hillsdale 1, H 119.25 56 P PKiKP 19 38 08.9 +4.1
baz=255
E56A St. Veronique 119.31 51 P PKiKP 19 38 07.2 +2.4
baz=256
SABA Saba 119.34 86 *e*P PP 19 39 33.8 +6.7
SABA Saba 119.34 86 IAMs_20 IAMs_20 20 19 16.4
comp=Z,59µm,22.0s
H58A Gabriels 119.38 53 P PKiKP 19 38 07.9 +2.9
baz=256
I59A Olmsteadville 119.44 54 P PKiKP 19 38 06.8 +1.7
baz=255
KPKS Kokpek 119.44 306 *e*Pdif Pdif 19 34 33.4 +6.0
baz=306
KPKS *e*PKP PKPdf 19 38 03.8 -1.5
comp=Z,114nm,3.8s,baz=306
KPKS *e*PP PP 19 39 26.7 -0.8
baz=306
KPKS LR LR 20 30 16.8
comp=Z,8µm,18.5s,baz=306
KPKS Kokpek 119.44 306 *e*P Pdif 19 34 33.3 +6.0
KPKS *e* 19 38 03.7
KPKS *e* 19 39 26.6
KPKS pmax pmax
comp=Z,114nm,3.8s
KPKS MLR MLR
comp=Z,8µm,19.0s
ACCN Adirondack Com 119.48 54 IAMs_20 IAMs_20 20 28 20.2
comp=Z,55µm,18.0s
SEUS St. Eustatius 119.51 86 *e*P PP 19 39 35.4 +7.1
SEUS St. Eustatius 119.51 86 IAMs_20 IAMs_20 20 19 14.0
comp=Z,48µm,22.0s
M62A Hamden 119.53 57 P PKiKP 19 38 07.0 +1.6
baz=255
SATY Saty 119.54 305 *e*Pdif Pdif 19 34 31.7 +3.8
baz=305
SATY *e*PKP PKPdf 19 38 04.2 -1.3
comp=Z,51nm,3.4s,baz=305
SATY *e*PP PP 19 39 27.5 -0.7
baz=305
SATY Saty 119.54 305 *e*P Pdif 19 34 31.6 +3.8
SATY *e* 19 38 04.1
SATY *e* 19 39 27.5
SATY pmax pmax
comp=Z,51nm,3.4s
K61A Williamstown 119.58 55 P PKiKP 19 38 08.9 +3.4
baz=255
J60A Lant Hill Farm 119.61 55 P PKiKP 19 38 07.1 +1.7
baz=255
D56A ZEC Mazanza, M 119.62 50 P PKiKP 19 38 07.2 +1.8
baz=257
MCLT Moule a Chique 119.64 91 *e*P PP 19 39 34.5 +5.3
G58A Ormstown 119.64 52 P PKiKP 19 38 07.8 +2.4
baz=256
SKI Saint Kitts 119.65 86 *e*P PP 19 39 36.1 +6.9
N63A Mattituck 119.68 57 P PKiKP 19 38 07.8 +2.2
baz=255
SLAC Saint Lucia, A 119.76 91 *e*P PP 19 39 32.4 +2.4
H59A Cadyville 119.77 53 P PKiKP 19 38 08.7 +2.9
baz=256
I60A Shoreham 119.86 54 P PKiKP 19 38 08.8 +2.9
baz=256
MLYT Lee's Yard 119.87 87 *e*P PP 19 39 45.2 +14
E57A Chemin Saint G 119.88 51 P PKiKP 19 38 08.3 +2.4
baz=257
BIM Bigot 119.89 90 *e*P PP 19 39 40.0 +9.1
FRNY Flat Rock 119.89 53 IAMs_20 IAMs_20 20 29 22.9
comp=Z,41µm,18.0s
L61B Northampton 119.94 56 P PKiKP 19 38 07.8 +1.6
baz=255
TDBA Terre de Bas, 119.98 88 *e*P PP 19 39 34.6 +3.1
DSLB Salisbury 119.98 89 *e*P PP 19 39 46.5 +15
SEM Semipalatinsk 119.99 314 *e*Pdif Pdif 19 34 33.4 +3.6
baz=314
SEM *e*PKP PKPdf 19 38 05.1 -1.1
baz=314
SEM *e*PP PP 19 39 30.5 -0.7
baz=314
SEM LR LR 20 30 14.8
comp=Z,8µm,18.7s,baz=314
SEM Semipalatinsk 119.99 314 *e*P Pdif 19 34 33.3 +3.6
SEM *e* 19 38 05.1
SEM *e* 19 39 30.5
SEM MLR MLR
comp=Z,8µm,19.0s
TDK Taldyqorghan 120.01 307 *e*PKP PKPdf 19 38 05.1 -1.1
baz=307
TDK *i* PP PP 19 39 30.4 -0.9
baz=307
TDK LR LR 20 28 45.8
comp=Z,16µm,21.9s,baz=307
TDK Taldyqorghan 120.01 307 *e*PKIKP PKPdf 19 38 05.0 -1.1
TDK *i* 19 39 30.3
TDK MLR MLR
comp=Z,16µm,22.0s
MPOM Morne Pois Mar 120.04 90 *e*P PP 19 39 42.5 +11
DLPL La Plaine 120.09 89 *e*P PP 19 39 42.5 +10
CBE Ff, Capester 120.10 88 *e*P PP 19 39 40.9 +8.6
M63A Gales Ferry 120.13 57 P PKiKP 19 38 08.1 +1.6
baz=255
DWS Wesley 120.14 89 *e*P PP 19 39 46.5 +14
ILAM Ilet Lapin Mar 120.17 90 *e*P PP 19 39 34.5 +1.7
D57A Chemin Vers le 120.19 50 P PKiKP 19 38 07.7 +1.2
baz=257
G59A Clarenceville 120.23 53 P PKiKP 19 38 09.6 +3.0
baz=256
J61A Chester 120.25 55 P PKiKP 19 38 10.2 +3.5
baz=256
BHUJ Bhuj 120.31 281 *i* x PP 19 39 28.6 -5.1
K62A Royalston 120.31 56 P PKiKP 19 38 10.3 +3.4
baz=256
MAGL Barre de l'ile 120.33 88 *e*P PP 19 39 46.5 +13
ABD La Joyeuse, An 120.37 88 *e*P PP 19 39 36.2 +2.1
KSH Kashi 120.39 301 *e*PKP PKiKP 19 38 08.3 +1.0
KSH PP PP 19 39 39.3 +5.2
KSH AMB AMB
comp=Z,3µm,4.5s
KSH LR LR
comp=Z,20µm,16.7s
KSH LR LR
comp=Z,52µm,21.3s
H60A Morristown 120.44 53 P PKiKP 19 38 10.0 +2.9
baz=256
E58A La Victoria 120.45 51 P PKiKP 19 38 10.0 +3.0
baz=257
CHGQ Chibougamau 120.48 47 P PKiKP 19 38 07.7 +0.7
baz=258
MDOK Medeo 120.53 305 *e*Pdif Pdif 19 34 33.9 +1.7
baz=305
MDOK *e*PKP PKPdf 19 38 06.1 -1.3
baz=305
MDOK *e*PP PP 19 39 33.9 -1.1
baz=305
MDOK *e*SKS SKSdf 19 45 15.9 -2.4
baz=305
MDOK LR LR 20 29 16.8
comp=Z,6µm,20.2s,baz=305
MDOK Medeo 120.53 305 *e*P Pdif 19 34 33.9 +1.7
MDOK *e* 19 38 06.1
MDOK *e* 19 39 33.8
MDOK *e* 19 45 15.9
MDOK MLR MLR
comp=Z,6µm,20.0s
L63A North Scituate 120.57 57 P PKiKP 19 38 10.2 +2.8
baz=256
TNSS Tian-Shan 120.57 305 *e*PKP PKPdf 19 38 06.3 -1.5
baz=305
TNSS Tian-Shan 120.57 305 *e*PKIKP PKPdf 19 38 06.3 -1.5
BBGH Gun Hill 120.58 92 *e*P PP 19 39 42.5 +6.9
BBGH Gun Hill 120.58 92 IAMs_20 IAMs_20 20 20 30.3
comp=Z,44µm,22.0s
GDU01 Guandu, BA 120.58 131 *e*P PKiKP 19 38 09.4 +1.1
GDU01 Guandu, BA 120.58 131 *e*P PKiKP 19 38 09.4 +1.1
ANWB Willy Bob 120.62 86 *e*P PP 19 39 34.5 -1.4
AAA Alma-Ata 120.63 305 *e*PKP PKPdf 19 38 06.6 -0.9
baz=305
AAA *e*PP PP 19 39 35.1 -0.6
baz=305
AAA LR LR 20 29 39.8
comp=Z,7µm,21.2s,baz=305
AAA Alma-Ata 120.63 305 *e*PKIKP PKPdf 19 38 06.6 -0.9
AAA *e* 19 39 35.0
AAA MLR MLR
comp=Z,7µm,21.0s
I61A Oroboro, Fairl 120.64 54 P PKiKP 19 38 10.9 +3.5
baz=256
F59A Saint Guilaume 120.67 52 P PKiKP 19 38 09.8 +2.4
baz=257
CHKK Chushkaly 120.73 306 *e*PKP PKPdf 19 38 07.2 -0.4
baz=306
CHKK Chushkaly 120.73 306 *e*PKIKP PKPdf 19 38 07.2 -0.4
J62A Henniker 120.75 55 P PKiKP 19 38 09.9 +2.2
baz=256
HRV Adam Dziewonsk 120.76 56 P PKiKP 19 38 10.5 +2.8
baz=256
M64A Tiverton 120.78 57 P PKiKP 19 38 11.8 +4.0
baz=256
G60A Masonville 120.82 53 P PKiKP 19 38 08.9 +1.0
baz=257
K63A Dunstable 120.83 56 P PKiKP 19 38 10.1 +2.2
baz=256
NIL Nilore 120.84 293 IAMs_20 IAMs_20 20 37 29.8
comp=Z,32µm,20.0s
D58A Chemin du LacG 120.88 50 P PKiKP 19 38 10.8 +3.0
baz=258
ULHL Ulahol 120.88 304 P PKiKP 19 38 12.9 +4.6
SNR=13
LBNH Lisbon 120.91 54 P PKiKP 19 38 09.6 +1.6
baz=257
MTBS Maitube 120.96 305 *e*PKP PKPdf 19 38 07.3 -0.9
baz=305
MTBS Maitube 120.96 305 *e*PKIKP PKPdf 19 38 07.2 -0.9
LBTB Lobatse 120.97 205 PKP PKPdf 19 38 08.7 -0.2
comp=Z,2.2nm,0.6s,baz=144,slow=2.9,SNR=2.9
LBTB PP PP 19 39 34.1 -2.6
comp=Z,9.1nm,0.8s,baz=207,slow=6.8,SNR=2.1
LBTB PKKPbc PKKPbc 19 48 13.4 +1.7
comp=Z,5.6nm,0.9s,baz=348,slow=6.1,SNR=4.5
H61A Lyndonville 120.97 53 P PKiKP 19 38 10.4 +2.2
baz=257
E59A St. Maurice 121.00 51 P PKiKP 19 38 11.1 +3.0
baz=258
LATQ La Tuque 121.00 50 P PKiKP 19 38 10.5 +2.4
baz=258
KURK Kurchatov 121.07 314 *i* PKIKP PKPdf 19 38 07.0 -1.0
KURK MLR MLR
comp=Z,23µm,18.0s
KURK Kurchatov 121.07 314 PKPdf PKPdf 19 38 04.2 -3.8
KURBB Kurchatov Arra 121.11 314 Pdiff Pdif 19 34 41.0 +6.6
comp=Z,0.6nm,0.8s,baz=98,slow=4.7,SNR=3.2
KURBB PKP PKPdf 19 38 07.8 -0.2
comp=Z,14nm,0.6s,baz=114,slow=1.7,SNR=24
KURBB PP PP 19 39 40.5 +2.0
comp=Z,7.4nm,0.9s,baz=93,slow=7.9,SNR=4.2
KURBB PKKPbc PKKPbc 19 48 11.8 +0.5
comp=Z,1.7nm,0.8s,baz=280,slow=4.9,SNR=6.2
L64A Middleborough 121.14 57 P PKiKP 19 38 11.3 +2.8
baz=256
BOOM Boomskoye usch 121.16 304 PKIKP PKPdf 19 38 06.3 -2.4
BOOM MLR MLR
comp=Z,23µm,20.0s
BOOM Boomskoye usch 121.16 304 PKPdf 19 38 06.3 -2.4
M65A Busby, Falmout 121.19 57 P PKiKP 19 38 12.0 +3.4
baz=256
KUU Kurty 121.20 306 *e*Pdif Pdif 19 34 41.8 +6.8
baz=306
KUU *e*PKP PKPdf 19 38 06.8 -1.7
baz=306
KUU *e*PP PP 19 39 37.9 -1.5
baz=306
KUU *e*SKS SKSdf 19 45 16.2 -3.0
baz=306
KUU LR LR 20 29 36.8
comp=Z,15µm,20.8s,baz=306
KUU Kurty 121.20 306 *e*P Pdif 19 34 41.8 +6.8

KUU e 19 38 06.8
KUU e 19 39 37.9
KUU e 19 45 16.2
KUU MLR MLR
comp=Z,15µm,21.0s
I62A Tamworth 121.24 54 P **PKiKP** **19 38 10.2 +1.6**
baz=257
F60A Warwick 121.27 52 P **PKiKP** **19 38 11.6 +2.9**
baz=258
J63A Strafford 121.28 55 P **PKiKP** **19 38 09.7 +1.0**
baz=257
G61A St-Isidore-de- 121.41 53 P **PKiKP** **19 38 11.2 +2.2**
baz=258
M66A Nantucket 121.49 58 P **PKiKP** **19 38 11.9 +2.7**
baz=256
TKM2 Tokmak 2 121.50 304 P **PKiKP** **19 38 12.5 +3.0**
SNR=16
TKM2 Tokmak 2 121.50 304 PKiKP **PKPdf** **19 38 09.4 0.0**
H62A Milan 121.52 54 P **PKiKP** **19 38 10.8 +1.6**
baz=257
D59A Saint-Raymond 121.56 51 P **PKiKP** **19 38 11.5 +2.4**
baz=258
KZA Kyzart 121.56 303 P **PKiKP** **19 38 13.3 +3.4**
SNR=16
E60A Ste Agathe de 121.69 51 P **PKiKP** **19 38 11.8 +2.3**
baz=258
L65A Cape Cod Natio 121.73 57 P **PKiKP** **19 38 12.4 +2.7**
baz=256
I63A Otisfield 121.81 54 P **PKiKP** **19 38 10.7 +1.0**
baz=258
KBK Karagaybulak 121.91 304 P **PKiKP** **19 38 13.3 +3.0**
SNR=14
F61A St Evariste 121.92 52 P **PKPdf** **19 38 09.1 -0.6**
baz=258
G62A West of Eustis 122.09 53 P **PKiKP** **19 38 11.6 +1.3**
baz=258,SNR=6.8
G62A West of Eustis 122.09 53 IAMs_20 IAMs_20 20 30 00.1
comp=Z,50µm,18.0s
CHMS Chumnysh 122.12 304 P **PKiKP** **19 38 13.3 +2.8**
SNR=18
UCH Uchtor 122.12 303 P **PKiKP** **19 38 14.5 +3.4**
SNR=17
D60A Saint Jean D'O 122.15 51 P **PKiKP** **19 38 10.8 +0.5**
baz=259
AAK Ala-Archa 122.23 304 PKP **PKPdf** **19 38 09.5 -1.2**
comp=Z,5.9nm,0.6s,baz=118,slow=3.6,SNR=9.5
AAK PKKPbc **PKKPbc** **19 48 08.6 +1.7**
comp=Z,7.9nm,0.7s,baz=174,slow=2.7,SNR=9.1
AAK Ala-Archa 122.23 304 P **PKiKP** **19 38 15.7 +4.8**
SNR=12
AAK Ala-Archa 122.23 304 *i* P **PKiKP** **19 38 11.3 +0.4**
SNR=21
AAK Ala-Archa 122.23 304 *i* PKiKP **PKPdf** **19 38 08.3 -2.4**
AAK Ala-Archa 122.23 304 PKPdf **PKPdf** **19 38 09.3 -1.4**
SGDS Sogindy 122.31 305 *e*PKP **PKPdf** **19 38 09.1 -1.7**
baz=305
SGDS *e*SKS **SKSdf** **19 45 18.1 -3.4**
baz=305
SGDS LR LR 20 30 38.7
comp=Z,8µm,18.2s,baz=305
SGDS Sogindy 122.31 305 *e*PKiKP **PKPdf** **19 38 09.0 -1.7**
SGDS *e* 19 45 18.1
SGDS MLR MLR
comp=Z,8µm,18.0s
E61A Lac Etchemin 122.36 52 P **PKiKP** **19 38 11.5 +0.7**
baz=259,SNR=5.5
USP Ospenovka 122.36 305 P **PKiKP** **19 38 14.1 +3.1**
SNR=16
I64A Boothbay 122.45 55 P **PKiKP** **19 38 11.3 +0.3**
baz=258
F62A Pittston Farm, 122.61 52 P **PKiKP** **19 38 12.9 +1.6**
baz=259
AML Almayashu 122.70 303 P **PKiKP** **19 38 15.8 +3.6**
SNR=19
G63A Kingsbury 122.70 53 P **PKiKP** **19 38 12.7 +1.2**
baz=259,SNR=7.1
D61A St Aubert, Com 122.70 51 P **PKiKP** **19 38 12.5 +1.1**
baz=260
EKS2 Erkin-Say 122.75 304 P **PKiKP** **19 38 15.4 +3.5**
SNR=18
H64A Troy 122.89 54 P **PKiKP** **19 38 12.8 +0.9**
baz=259,SNR=7.2
PKME Peaks-Kenny Pk 122.96 53 P **PKiKP** **19 38 12.3 +0.4**
baz=259,SNR=6.8
BTLS Baital 123.04 307 *e*PKP **PKPdf** **19 38 10.9 -1.1**
baz=306
BTLS *e*PP **PP** **19 39 51.1 -0.8**
baz=306
BTLS *e*SKS **SKSdf** **19 45 20.2 -2.4**
baz=306
BTLS Baital 123.04 307 *e*PKiKP **PKPdf** **19 38 10.8 -1.1**
BTLS *e* 19 39 51.1
BTLS *e* 19 45 20.2
E62A Clayton Lake 123.05 51 P **PKiKP** **19 38 13.1 +1.0**
baz=260
E62A Clayton Lake 123.05 51 **PKPdf** **19 38 09.5 -2.5**
E62A IAMs_20 IAMs_20 20 26 26.3
comp=Z,51µm,20.0s
F63A Nahmakanta, Br 123.17 53 P **PKiKP** **19 38 13.4 +1.0**
baz=259,SNR=6.2
F63A Nahmakanta, Br 123.17 53 IAMs_20 IAMs_20 20 31 15.6
comp=Z,55µm,18.0s
TULEG Thule 123.29 15 **PKPdf** **19 38 09.2 -2.3**
TULEG IAMs_20 IAMs_20 20 30 15.0
comp=Z,44µm,20.0s
G64A Maxfield 123.33 53 P **PKiKP** **19 38 13.4 +0.7**
baz=259,SNR=8.2
D62A Allapoint, All 123.44 51 P **PKiKP** **19 38 13.3 +0.4**
baz=260,SNR=7.0
D62A Allapoint, All 123.44 51 IAMs_20 IAMs_20 20 28 11.8
comp=Z,56µm,19.0s
H65A Eastbrook 123.58 54 P **PKiKP** **19 38 15.3 +2.1**
baz=259
F64A Sherman 123.72 53 P **PKiKP** **19 38 14.1 +0.7**
baz=260,SNR=11
F64A Sherman 123.72 53 IAMs_20 IAMs_20 20 31 50.1
comp=Z,48µm,18.0s
E63A Oxbow 123.76 52 P **PKiKP** **19 38 13.4 -0.1**
baz=260,SNR=8.6
E63A Oxbow 123.76 52 IAMs_20 IAMs_20 20 29 33.2
comp=Z,52µm,19.0s
MATP Matopo 123.95 210 PKP **PKiKP** **19 38 15.2 +0.2**
comp=Z,25nm,0.6s,baz=136,slow=1.8,SNR=17
D63A Stockholm 124.07 51 P **PKiKP** **19 38 14.7 +0.6**
baz=261,SNR=8.4
PQI Presque Isle 124.08 52 PKPdf **PKPdf** **19 38 11.2 -2.7**
PQI IAMs_20 IAMs_20 20 27 07.5
comp=Z,49µm,20.0s
G65A Princeton 124.14 53 P **PKiKP** **19 38 16.4 +2.1**
baz=260
E64A Bridgewater 124.17 52 P **PKiKP** **19 38 14.6 +0.3**
baz=261,SNR=9.9
H66A Whiting 124.25 54 P **PKiKP** **19 38 15.2 +0.6**
baz=260
BTK Batken 124.37 300 PKiKP **PKPdf** **19 38 12.3 -2.5**
BTK MLR MLR
comp=Z,26µm,21.0s
BTK Batken 124.37 300 **PKPdf** **19 38 12.3 -2.5**
GAR Garm 124.52 299 IAMs_20 IAMs_20 20 38 11.6
comp=Z,53µm,20.0s
DZA Taraz 124.56 304 *e*PKP **PKPdf** **19 38 12.9 -2.1**
baz=303
DZA LR LR 20 33 24.6
comp=Z,7µm,20.4s,baz=303
DZA Taraz 124.56 304 *e*PKiKP **PKPdf** **19 38 12.9 -2.1**
BRZS Berezniki 124.72 312 *e*PKP **PKPdf** **19 38 13.6 -1.5**
baz=312
BRZS *e*PP **PP** **19 40 01.9 -1.1**
baz=312
BRZS LR LR 20 32 27.6
comp=Z,7µm,19.3s,baz=312
BRZS Berezniki 124.72 312 *e*PKiKP **PKPdf** **19 38 13.5 -1.5**
BRZS *e* 19 40 01.9
BRZS MLR MLR
comp=Z,7µm,19.0s
OTUK Ortayu 124.72 310 PKiKP **PKPdf** **19 38 13.5 -1.6**
ROSB Rosrio 124.77 118 *e*P **PKiKP** **19 38 18.4 +1.8**
ROSB Rosrio 124.77 118 *e*P **PKiKP** **19 38 18.4 +1.8**
FRB Frobisher Bay 124.83 31 PKKPbc PKKPbc 19 47 52.5 -4.4
comp=Z,3.1nm,0.4s,baz=177,slow=7.2,SNR=3.9
KK31 Karatay Array 125.19 304 PKiKP **PKPdf** **19 38 14.1 -2.1**
IUG luzhnay 125.37 303 *e*PKP **PKPdf** **19 38 15.0 -1.7**
baz=302
IUG LR LR 20 31 43.7
baz=302
IUG luzhnay 125.37 303 *e*PKiKP **PKPdf** **19 38 14.9 -1.7**
SCHQ Schefferville 125.67 42 PKP **PKPdf** **19 38 16.5 -0.2**
comp=Z,32nm,1.0s,baz=2.7,slow=1.8,SNR=19
BVAR Borovoye Array 126.41 316 PKP **PKPdf** **19 38 17.4 -0.8**
comp=Z,14nm,0.6s,baz=120,slow=1.6,SNR=3.4
BRVK Borovoye 126.47 316 *i* PKiKP **PKPdf** **19 38 15.5 -2.8**
BRVK Borovoye 126.47 316 PKPdf **PKPdf** **19 38 15.4 -2.9**
BRVK Borovoye 126.47 316 IAMs_20 IAMs_20 20 30 47.7
comp=Z,52µm,22.0s
NOR Nord 127.78 3 *i* P **PKiKP** **19 38 21.2 +0.6**
NOR Nord 127.78 3 *i* PKiKP **PKiKP** **19 38 21.2 +0.6**
LSZ Lusaka 128.61 212 PKP **PKPdf** **19 38 21.8 -1.9**
comp=Z,8.0nm,0.4s,baz=139,slow=5.9,SNR=9.6
LSZ PP **PP** **19 40 28.8 +0.7**
comp=Z,19nm,1.1s,baz=140,slow=7.1,SNR=3.2
LSZ Lusaka 128.61 212 PKiKP **PKPdf** **19 38 21.8 -1.9**
LSZ MLR MLR
comp=Z,43µm,18.0s
LSZ Lusaka 128.61 212 IAMs_20 IAMs_20 20 37 23.8
comp=Z,43µm,18.0s
RCBR Riachuelo 128.79 128 IAMs_20 IAMs_20 20 28 54.5
comp=Z,46µm,20.0s
TSUM Tsumeb 128.96 198 PKP **PKPdf** **19 38 24.1 -0.2**
comp=Z,2.8nm,0.7s,baz=166,slow=3.2,SNR=3.6
TSUM PP **PP** **19 40 31.0 +0.9**
comp=Z,9.4nm,0.8s,baz=176,slow=3.7,SNR=4.4
TSUM Tsumeb 128.96 198 PKPdf **PKPdf** **19 38 18.9 -5.5**
MHTO MHTO 129.52 273 Sdiff **PS** **19 50 51.2 +5.9**
WSAR Wadi Sarin 129.76 276 PKP **PKPdf** **19 38 24.1 -1.4**
comp=Z,5.7nm,0.7s,baz=122,slow=6.2,SNR=1.9
WSAR Wadi Sarin 129.76 276 Sdiff **PS** **19 50 58.5 +11**
JMDO Jabal Madar 129.91 275 pPdiff **PKPdf** **19 38 21.3 -4.5**
SNR=11
JMDO Sdiff **PS** **19 50 59.8 +11**
BIDO Bidbid 130.29 277 Sdiff **PS** **19 51 00.5 +8.4**
ILULI Ilulissat 130.44 22 *i* P **PKiKP** **19 38 29.7 +3.5**
ILULI Ilulissat 130.44 22 *i* PKiKP **PKiKP** **19 38 29.7 +3.5**
ILULI Ilulissat 130.44 22 IAMs_20 IAMs_20 20 32 31.7
comp=Z,46µm,20.0s
KBS Kingsbay 130.81 358 *i* PKiKP **PKPdf** **19 38 25.5 -0.4**
KBS Kingsbay 130.81 358 **PKPdf** **19 38 25.4 -0.5**
KBS Kingsbay 130.81 358 *e*PKPdf **PKPdf** **19 38 26.1 +0.2**
KBS *e*PP **PP** **19 40 44.8 +2.7**
SPA0 Spitsbergen Ar 131.34 356 *e*PKPdf **PKPdf** **19 38 25.6 -1.3**
SPA0 IVmB_BB 19 38 32.1
comp=Z,4µm,1.9s
SPA0 *e*PP **PP** **19 40 48.9 +3.4**
SPA0 IVMs_BB IVMs_BB 19 42 15.4
comp=Z,5µm,6.2s
SPITS Spitsbergen Ar 131.34 356 PKP **PKPdf** **19 38 25.0 -1.9**
comp=Z,14nm,0.7s,baz=105,slow=6.1,SNR=16
SPITS SKKPbc SKKPbc 19 51 31.0 +4.5
comp=Z,12nm,1.0s,baz=146,slow=10,SNR=2.3
SFJD Kangerlussuaq 131.47 25 *i* P **PKiKP** **19 38 30.0 +1.7**
comp=Z,3µm,22.0s
SFJD Kangerlussuaq 131.47 25 *i* PKiKP **PKiKP** **19 38 30.0 +1.7**
SFJD Kangerlussuaq 131.47 25 IAMs_20 IAMs_20 20 35 10.4
comp=Z,47µm,19.0s
SVE Sverdlovsk 131.85 321 *d* PKiKP **PKPdf** **19 38 28.1 -0.3**
SVE pmax pmax
comp=Z,149nm,1.5s
SOHO SOHO 131.87 277 *i* P **PKPdf** **19 38 27.7 -1.7**
SNR=18
DAG Danmarks Havn 132.11 6 *i* P **PKPdf** **19 38 28.0 -0.3**
comp=Z,28µm,21.0s
DAG Danmarks Havn 132.11 6 *i* PKiKP **PKPdf** **19 38 28.0 -0.3**
DAG MLR MLR
comp=Z,28µm,21.0s
HOPEN Hopen 132.20 353 *e*PKPdf **PKPdf** **19 38 27.8 -0.7**
SUMG Summit 132.21 15 *i* P **PKiKP** **19 38 33.0 +2.8**
SUMG Summit 132.21 15 PKiKP **PKPdf** **19 38 28.1 -1.1**
SUMG Summit 132.21 15 IAMs_20 IAMs_20 20 31 06.7
comp=Z,41µm,22.0s
UOSS Minazif 132.41 278 *i* P **PKPdf** **19 38 30.3 -0.2**
SNR=20
UOSS Minazif 132.41 278 PKPdf **PKPdf** **19 38 26.9 -3.5**
HATD Hata, Dubai 132.44 277 *i* P **PKPdf** **19 38 28.8 -1.7**
SNR=17
MDH Madha 132.44 278 *i* P **PKPdf** **19 38 28.7 -1.8**
SNR=21
ASHO Ashiyiah 132.46 277 *i* P **PKPdf** **19 38 29.3 -1.3**
SNR=20
ASHO Ashiyiah 132.46 277 pPdiff **PKPdf** **19 38 29.9 -0.6**
SNR=28
ALNE Al Ain 132.51 276 *i* P **PKPdf** **19 38 30.6 -0.1**
SNR=15
HSPB Hornsund (broa 132.52 356 *e*PKPdf **PKiKP** **19 38 31.0 +0.8**
HSPB *e*PKiKP **pPKPdf** **19 38 33.6 -1.3**
HSPB *e*PP **PP** **19 40 53.3 +0.2**
HSPB *e*SS SS 19 58 31.6 +0.6
HSPB *e*L L 20 32 16.2
comp=Z,43µm,21.5s
HSPB Hornsund (broa 132.52 356 *e*PKPdf **PKPdf** **19 38 29.2 +0.1**
MSFE Esma-Masafi 132.58 278 *i* P **PKPdf** **19 38 30.2 -0.6**
SNR=17
BANOM Banah 132.64 279 *i* P **PKPdf** **19 38 30.9 0.0**
SNR=7.4
SHME Shmm 132.81 279 *i* P **PKPdf** **19 38 30.1 -1.1**
SNR=8.5
FAQ Al Faqa, Dubai 132.88 277 *i* P **PKPdf** **19 38 28.1 -3.3**
SNR=9.3
NAZ Nazwa, Dubai 132.89 277 *i* P **PKPdf** **19 38 31.1 -0.3**
SNR=6.8
ARU Arti 133.04 321 PKhKP PKPpre 19 38 22.9
comp=Z,1.5nm,0.6s,baz=304,slow=1.4,SNR=6.2
ARU Arti 133.04 321 P **Pdif** **19 35 33.5 +6.2**
ARU PKP **PKPdf** **19 38 29.8 -0.8**
ARU PP **PP** **19 40 57.4 +0.3**
ARU PPP PPP 19 43 48.5
ARU SS SS 19 58 35.3 -3.3
ARU Arti 133.04 321 IAMs_20 IAMs_20 20 42 29.4
comp=Z,38µm,20.0s
UMQ Umm Al-Quwin 133.06 278 *i* P **PKiKP** **19 38 32.4 -0.4**
SNR=5.8
AJN Ajban 133.34 277 *i* P **PKPdf** **19 38 31.7 -0.4**
SNR=9.3
ASHT Ashkhabad 133.55 295 IAMs_20 IAMs_20 20 39 46.7
comp=Z,34µm,21.0s
SHEL Horse Pasture 133.62 169 IAMs_20 IAMs_20 20 37 13.6
comp=Z,37µm,19.0s
GEYT Alibeck 133.76 295 PKhKP PKPpre 19 38 22.6
comp=Z,8.4nm,0.8s,baz=207,slow=3.0,SNR=9.4
GEYT SKP **SKPdf** **19 42 07.7 +1.0**
comp=Z,87nm,1.1s,baz=36,slow=7.7,SNR=7.6
AKTO Aktyubinsk 134.13 313 PKhKP PKPpre 19 38 21.2
comp=Z,5.8nm,0.8s,baz=64,slow=7.0,SNR=11
AKTO SKP **SKPdf** **19 42 09.3 +2.5**
comp=Z,15nm,0.9s,baz=272,slow=5.5,SNR=11
IVI Ivigtut 134.56 32 IAMs_20 IAMs_20 20 40 43.1
comp=Z,45µm,18.0s
KMBO Kilima Mbogo 134.63 233 PKhKP PKPpre 19 38 31.4
comp=Z,5.3nm,0.9s,baz=40,slow=7.4,SNR=5.0
KMBO SKP **SKPdf** **19 42 10.8 +1.5**
comp=Z,43nm,1.1s,baz=71,slow=5.8,SNR=5.5
KMBO Kilima Mbogo 134.63 233 *e*P PKPpre 19 38 15.5
KMBO *e*S **PP** **19 41 08.2 +0.3**
KMBO Kilima Mbogo 134.63 233 P **PKPdf** **19 38 32.6 -2.7**
KMBO Kilima Mbogo 134.63 233 PKiKP **PKPdf** **19 38 31.0 -4.3**
KMBO MLR MLR
comp=Z,45µm,21.0s
KMBO Kilima Mbogo 134.63 233 *e*P PKPpre 19 38 15.5
KMBO *e*S **PP** **19 41 08.2 +0.3**
KMBO Kilima Mbogo 134.63 233 **PKPdf** **19 38 31.0 -4.3**
KMBO Kilima Mbogo 134.63 233 IAMs_20 IAMs_20 20 29 20.5
comp=Z,45µm,21.0s
BJO1 Bjornoya 134.65 354 *e*PKPdf **PKPdf** **19 38 33.4 +0.2**
BJO1 *e*PP **PP** **19 41 07.7 +1.0**
NRS Narsarsuaq 135.82 31 *i* P **PKiKP** **19 38 39.0 +1.7**
NRS Narsarsuaq 135.82 31 *i* PKiKP **PKiKP** **19 38 39.0 +1.7**
NRS Narsarsuaq 135.82 31 IAMs_20 IAMs_20 20 40 05.3
comp=Z,49µm,19.0s
ANGG Ammassalik, Gr 136.72 23 IAMs_20 IAMs_20 20 35 50.0
comp=Z,30µm,20.0s
KIRV Kirov 137.22 326 *i* PKiKP **PKPdf** **19 38 36.3 -2.0**
SCO Scoresbysund 137.23 12 *i* P **PKiKP** **19 38 41.0 +1.1**
SCO Scoresbysund 137.23 12 *i* PKiKP **PKiKP** **19 38 41.0 +1.1**
SCO Scoresbysund 137.23 12 IAMs_20 IAMs_20 20 41 03.8
comp=Z,27µm,20.0s
LVZ Lovozero 137.59 343 *i* PKiKP **PKPdf** **19 38 37.2 -1.7**
LVZ Lovozero 137.59 343 IAMs_20 IAMs_20 20 39 51.5
comp=Z,37µm,22.0s
HAMF Hammerfest 137.62 350 *e*PKPdf **PKPdf** **19 38 33.7 -5.1**
KEV Kevo 137.82 348 IAMs_20 IAMs_20 20 38 15.8
comp=Z,31µm,22.0s
H10S3 ASCENSION HYDR 137.91 154 T T 22 14 01.7
baz=204,slow=74,SNR=231
H10S2 ASCENSION HYDR 137.91 154 T T 22 14 08.1
baz=16,slow=74,SNR=135
APA Apatity 138.16 343 *i* PKiKP **PKPdf** **19 38 38.9 -0.9**
APA *i* 19 38 48.5
APA *i* 19 45 49.0
APA pmax pmax
comp=Z,19nm,1.0s
ATD Arta Tunnel 138.28 253 PKP **PKPdf** **19 38 39.8 -2.0**
comp=Z,19nm,1.1s,baz=7.0,slow=3.4,SNR=3.6
ATD Arta Tunnel 138.28 253 *e*P PKPpre 19 38 28.5
ATD *e*S PP 19 41 21.1 -10
ATD Arta Tunnel 138.28 253 *e*P PKPpre 19 38 28.5
ATD *e*S **PP** **19 41 31.1 0.0**
ATD Arta Tunnel 138.28 253 **PKPdf** **19 38 40.7 -1.1**
ARCES ARCESS Array B 138.29 348 PKhKP PKPpre 19 38 35.6
comp=Z,19nm,0.8s,baz=29,slow=2.1,SNR=13
ARE0 ARCESS Array S 138.29 348 *e*PKPdf **PKPdf** **19 38 37.6 -2.5**
JMIC Jan Mayen 138.52 5 *e*PKPdf **PKPdf** **19 38 40.4 0.0**
ASCN Ascension 138.96 154 IAMs_20 IAMs_20 20 41 07.9
comp=Z,26µm,20.0s
H10N3 ASCENSION HYDR 138.99 154 T T 22 15 28.6
baz=203,slow=76,SNR=518
H10N1 ASCENSION HYDR 138.99 154 T T 22 15 34.2
baz=203,slow=76,SNR=196
H10N2 ASCENSION HYDR 139.01 154 T T 22 15 30.0
baz=203,slow=76,SNR=494
KTK1 Kautokeino 139.14 349 *e*PKPdf **PKPdf** **19 38 38.2 -3.4**
KTK1 *e* 19 41 07.2
TMCR Tamitsa 139.15 337 *e*PKiKP **PKPdf** **19 38 39.2 -2.5**
TMCR pmax pmax
comp=Z,103nm,1.3s
TRO Tromso 139.23 351 IVmB_BB 19 38 50.5
comp=Z,4µm,3.7s
TRO IVMs_BB IVMs_BB 19 42 39.4
comp=Z,2µm,4.0s
MBAR Mbarara 139.35 227 PKhKP PKPpre 19 38 36.5
comp=Z,1.7nm,0.3s,baz=127,slow=20,SNR=2.2
MBAR Mbarara 139.35 227 PKHKP PKPpre 19 38 35.1
MBAR MLR MLR
comp=Z,55µm,18.0s
MBAR Mbarara 139.35 227 PKPpre 19 38 35.1
ANKE Ethiopia-Afar 139.75 248 *e*P PKPdf 19 38 37.1 -7.8
ANKE *e*S **PP** **19 41 39.1 -1.3**
TEND Ethiopian Broa 139.94 251 *e*P **PKPdf** **19 38 38.2 -6.6**
TEND *e*S **PP** **19 41 47.6 +6.4**
FURI Furi 140.18 246 *e*P PKPdf 19 38 34.6 -11
FURI *e*S **PP** **19 41 46.2 +3.3**
FURI Furi 140.18 246 *e*P PKPdf 19 38 34.6 -11
FURI *e*S **PP** **19 41 46.2 +3.3**
AAE Adis Abeba 140.19 246 *i* P PKPdf 19 38 35.3 -10
AAE *i* S **PP** **19 41 46.2 +3.3**
AAE Adis Abeba 140.19 246 *i* P PKPdf 19 38 35.3 -10
AAE *i* S **PP** **19 41 46.2 +3.3**
KLMR Klimovskoe 140.60 332 *d* PKiKP **PKPdf** **19 38 39.5 -4.9**
KLMR *e*SS SS 20 00 04.2 -3.7
KLMR *e*SSS SSS 20 05 23.6
KLMR Klimovskoe 140.60 332 *i* PKiPdf **PKPdf** **19 38 39.6 -4.9**
KLMR *i* PKPdf **PKPdf** **19 38 39.6 -4.9**
KLMR *i* PKPdf **PKPdf** **19 38 39.6 -4.9**
KLMR AMP 19 38 58.2
comp=Z,217nm,1.1s
KLMR *e*PKS **SKPdf** **19 42 17.3 -0.7**
KLMR *e*PKS **SKPdf** **19 42 17.3 -0.7**
KLMR *e*SKKSac **SKKSac** **19 48 31.8 -4.3**
KLMR *e*SKKSac **SKKSac** **19 48 31.8 -4.3**
KLMR *e*PKKS 19 51 40.4
KLMR *e*PKKS 19 51 40.4
KLMR *e*SKKS **SKKSdf** **19 55 13.0 -7.1**
KLMR *e*SKKS **SKKSdf** **19 55 13.0 -7.1**
KLMR *e*SS **SS** **20 00 04.3 -3.6**
KLMR *e*SS **SS** **20 00 04.3 -3.6**
KLMR *e*SSS SSS 20 05 23.7
KLMR *e*SSS SSS 20 05 23.7
KLMR LQ LQ 20 29 58.2
KLMR LQ LQ 20 29 58.2
KLMR LR LR 20 34 17.7
KLMR AMP 20 36 36.8
comp=Z,43µm,22.9s
DESE Dese 140.69 249 *e*P **PKPdf** **19 38 42.7 -3.8**
N2VI Vinje 141.03 353 *e*PKPdf **PKPdf** **19 38 41.3 -3.7**
N2IH Innhavet 141.18 352 *e*PKPdf **PKPdf** **19 38 42.8 -2.5**
N2IH *e*pPKPdf **sPKPdf** **19 38 54.3 +1.1**
RAYN Ar Rayn 141.21 271 PKiKP **PKPdf** **19 38 43.4 -3.5**
RAYN MLR MLR
comp=Z,40µm,20.0s
RAYN Ar Rayn 141.21 271 **PKPdf** **19 38 43.4 -3.5**
RAYN IAMs_20 IAMs_20 20 39 13.0
comp=Z,40µm,20.0s
LOF Lofoten 141.28 353 *e*PKPdf **PKPdf** **19 38 42.3 -3.2**
LOF IVmB_BB 19 38 50.2
comp=Z,4µm,4.9s
LOF *e*PKSdf **PKSdf** **19 42 22.0 +1.0**
STEI Steigen 141.29 352 *e*PKPdf **PKPdf** **19 38 42.5 -3.0**
STEI IVmB_BB 19 38 50.1
comp=Z,4µm,6.4s
STEI *e*PP **PP** **19 41 49.5 +1.6**
STEI *e*SKPdf **SKPdf** **19 42 19.6 +0.7**
N2TV TΥrnvik 141.65 352 *e*PKPdf **PKPdf** **19 38 43.9 -2.2**
N2ST Straumen 141.81 352 *e*PKPdf **PKPdf** **19 38 45.2 -1.2**
N2ST *e*pPKPdf **sPKPdf** **19 38 55.3 +1.0**
FAUS Fauske 141.81 352 *e*PKPdf **PKPdf** **19 38 45.0 -1.5**
FAUS IVmB_BB 19 39 00.2
comp=Z,5µm,8.3s
FAUS *e*SKPdf **SKPbc** **19 42 19.1 -3.5**
FAUS *e*SKSdf **SKSdf** **19 45 55.1 +0.3**
FAUS *e*SS **SS** **20 00 23.0 +1.7**
N2VA Vr_y 141.82 354 *e*PKPdf **PKPdf** **19 38 43.8 -2.7**
NBB08 Skaug oppvekst 141.88 352 *e*PKPdf **PKPdf** **19 38 44.4 -2.2**
AKT Akhty 141.91 300 *e*PKiKP **PKPdf** **19 38 46.5 -1.1**
AKT *e* 19 41 54.6
AKT pmax pmax
comp=Z,250nm,1.1s
MAK Makhachkala 141.99 303 *ce*P **Pdif** **19 36 06.6 -0.8**
MAK *i* 19 38 47.8
MAK *e* 19 41 51.8
MAK *e*PPP PPP 19 44 58.4
MAK *e* 19 45 58.2
MAK *e*SS SS 20 00 20.7 -4.9
MAK pmax pmax
comp=Z,505nm,1.5s
MAK pmax pmax
comp=Z,10µm,9.2s
N2RO R_st 142.01 354 *e*PKPdf **PKPdf** **19 38 45.2 -1.6**
BORG Borgarnes 142.18 16 IAMs_20 IAMs_20 20 38 48.2
comp=Z,34µm,20.0s
NBB05 Inndyr 142.29 353 *e*PKPdf **PKPdf** **19 38 45.6 -1.8**
NBB05 *e*pPKPdf **sPKPdf** **19 38 56.1 +0.9**
NBB30 Finnes 142.38 353 *e*PKPdf **PKPdf** **19 38 45.2 -2.2**
NBB17 Glomfjord BΥr 142.51 353 *e*PKPdf **PKPdf** **19 38 46.2 -1.5**
KONS Konsvik 142.91 353 *e*PKPdf **PKPdf** **19 38 46.2 -2.2**
KONS IVmB_BB 19 38 53.5
comp=Z,7µm,5.0s
MOR8 Moi Rana 143.07 352 *e*PKPdf PKPab 19 38 44.7 +0.5
MOR8 IVmB_BB 19 38 50.5
comp=Z,6µm,4.9s
MOR8 IVMs_BB IVMs_BB 19 43 08.4
comp=Z,3µm,8.5s
STOK Stokkvaagen 143.08 353 *e*PKPdf **PKPdf** **19 38 49.4 +0.6**
STOK *e*pPKPdf **sPKPdf** **19 38 57.9 +1.3**
GROC Groznyy 143.21 303 *e*PKiKP PKPbc 19 38 47.4 +0.7
GROC *e* 19 42 01.6
GROC pmax pmax
comp=Z,245nm,1.2s
VRH Novokhopyorsk 144.03 317 *e*PKiKP **PKPab** **19 38 47.5 -0.8**
VRH *e*SPP SPP 19 54 34.6
VRH pmax pmax
comp=Z,560nm,2.4s
VRH MLR MLR
comp=Z,36µm,20.0s
TBLG Delisi 144.13 301 PKiKP **PKPab** **19 38 47.0 -2.1**
TBLG Delisi 144.13 301 PKPdf **PKPab** **19 38 47.0 -2.1**
MOS Moscow 144.24 326 *e*PKiKP **PKPab** **19 38 48.2 -0.7**
MOS *i* 19 42 07.2
MOS *e* 20 00 56.2
MOS pmax pmax
comp=Z,1µm,1.8s
MOS pmax pmax
comp=Z,6µm,2.9s
ZEI Tsey 144.64 303 *e*PKiKP **PKPab** **19 38 49.2 -2.0**
ZEI *i* 19 38 54.2
TASB TASBURUN-IGDIR 144.64 298 P **PKPab** **19 38 49.7 -1.4**
PUL Pulkovo 144.81 336 *e*P **PKiKP** **19 38 54.5 -1.2**
PUL Pulkovo 144.81 336 *i* PKiKP **PKPab** **19 38 49.2 -1.7**
GOF Gofitskoye 144.88 307 *i* PKiKP **PKPab** **19 38 49.6 -2.1**
GOF pmax pmax

	comp=Z,966nm,0.9s							
FINES	**FINESS Array B**	**144.91**	**340**	PKP	**PKPab**	**19 38 49.2**	**-2.1**	
	comp=Z,67nm,0.4s,baz=59,slow=3.4,SNR=188							
CLDR	**Caldiran**	**144.93**	**296**	P	**PKPab**	**19 38 50.9**	**-1.5**	
NSS	**Namsos**	**144.94**	**353**	*e*PKPdf	**PKPdf**	**19 38 52.4**	**+0.3**	
LPSR	**Galich'ya Gora**	**145.07**	**321**	*e*PKIKP	**PKPbc**	**19 38 49.7**	**-2.4**	
LPSR				pmax	pmax			
	comp=Z,2μm,1.4s							
OBN	**Obninsk**	**145.08**	**326**	PKP	**PKPbc**	**19 38 50.2**	**-1.8**	
	comp=Z,34nm,0.5s,baz=73,slow=2.1							
OBN	**Obninsk**	**145.08**	**326***c*	*i*PKIKP	**PKPbc**	**19 38 48.6**	**-3.4**	
OBN				pmax	pmax			
	comp=Z,2μm,1.3s							
OBN				pmax	pmax			
	comp=Z,12μm,3.3s							
OBN				MLR	MLR			
	comp=Z,23μm,19.0s							
OBN	**Obninsk**	**145.08**	**326**		**PKPbc**	**19 38 49.4**	**-2.6**	
OBN				IAMs_20	IAMs_20	20 45 58.5		
	comp=Z,24μm,20.0s							
AKH	**Akhalkalaki**	**145.10**	**300**	⇑P	**PKPbc**	**19 38 52.2**	**-0.7**	
AKH	**Akhalkalaki**	**145.10**	**300**	PKIKP	**PKPbc**	**19 38 51.1**	**-1.7**	
AKH				MLR	MLR			
	comp=Z,34μm,20.0s							
AKH	**Akhalkalaki**	**145.10**	**300**		**PKPbc**	**19 38 51.1**	**-1.7**	
AKH				IAMs_20	IAMs_20	20 50 56.1		
	comp=Z,34μm,20.0s							
CUKT	**Cukurca**	**145.20**	**293**	P	**PKPbc**	**19 38 51.2**	**-2.0**	
KBZ	**Khabaz**	**145.22**	**304**	PKPbc	**PKPbc**	**19 38 50.6**	**-2.3**	
	comp=Z,24nm,0.6s,baz=31,slow=1.9,SNR=22							
VORR	**Voronezh**	**145.30**	**319**	*e*PKHKP	PKPpre	19 38 46.0		
VORR				pmax	pmax			
	comp=Z,4μm,1.5s							
KIV	**Kislovodsk**	**145.34**	**305**	*e*PKHKP	PKPpre	19 38 47.4		
KIV				*i*		19 38 51.4		
KIV				*e*		19 42 08.0		
KIV				*e*SSS	SSS	20 06 29.7		
KIV				pmax	pmax			
	comp=Z,839nm,1.1s							
KIV	**Kislovodsk**	**145.34**	**305**	IAMs_20	IAMs_20	20 49 17.3		
	comp=Z,30μm,20.0s							
VANB	**Van**	**145.36**	**295**	P	**PKPbc**	**19 38 53.3**	**-0.4**	
KARS	**Kars**	**145.48**	**299**	P	**PKPab**	**19 38 54.4**	**+0.1**	
VSR	**Storozhevoye**	**145.51**	**318**	*e*PKP2	**PKPdf**	**19 38 51.2**	**-2.3**	
VSR				*e*SPP	SPP	19 54 40.3		
VSR				pmax	pmax			
	comp=Z,3μm,1.9s							
VORD	**Divnogorie**	**145.54**	**318**	*e*PKP2	**PKPdf**	**19 38 50.6**	**-2.9**	
VORD				pmax	pmax			
	comp=Z,2μm,1.8s							
AGRB	**Hanur-Agry**	**145.62**	**297**	P	**PKPdf**	**19 38 53.2**	**-1.1**	
AKDM	**Akdamar-Van**	**145.69**	**295**	P	**PKPdf**	**19 38 53.3**	**-1.1**	
MLAZ	**Malazgirt-MUS**	**145.99**	**296**	P	**PKPab**	**19 38 56.2**	**-0.1**	
SENK	**Senkaya-Erzuru**	**146.04**	**299**	P	**PKiKP**	**19 39 00.0**	**+0.8**	
SIRT	**Sirnak**	**146.13**	**294**	P	**PKPdf**	**19 38 53.7**	**-1.4**	
TBLU	**Trondheim**	**146.36**	**354**	*e*PKPdf	**PKPdf**	**19 38 54.9**	**+0.3**	
BATM	**Batumi**	**146.42**	**301**	⇓P	**PKiKP**	**19 39 00.8**	**+1.1**	
BATM	**Batumi**	**146.42**	**301**	⇓PKP2	**PKiKP**	**19 39 00.8**	**+1.1**	
GURO	**Guroymak-BITLI**	**146.42**	**295**	P	**PKPdf**	**19 38 55.7**	**+0.1**	
KOPR	**Koprukoy-ERZUR**	**146.47**	**298**	P	**PKPab**	**19 38 58.4**	**+0.3**	
BCA	**Borcka**	**146.49**	**301**	⇑P	**PKPdf**	**19 38 55.7**	**+0.2**	
BCA	**Borcka**	**146.49**	**301**	P	**PKPdf**	**19 38 55.0**	**-0.5**	
VRTB	**Varto-Mus**	**146.84**	**297**	P	**PKPbc**	**19 38 57.6**	**-0.6**	
VSU	**Vasula**	**147.03**	**337**	*e*P	**PKiKP**	**19 39 01.1**	**+0.8**	
VSU	**Vasula**	**147.03**	**337**	*i* PKP2	**PKPdf**	**19 38 55.5**	**-0.3**	
SVAN	**Silvan-Diyarba**	**147.10**	**295**	P	**PKPdf**	**19 38 55.1**	**-1.6**	
KARO	**Karliova-Bingo**	**147.14**	**297**	P	**PKPdf**	**19 38 57.2**	**+0.3**	
CHOM	**Cayeli-Rize**	**147.18**	**300**	P	**PKPdf**	**19 38 57.2**	**+0.5**	
MOL	**Molde**	**147.26**	**356**	*e*PKPdf	**PKPdf**	**19 38 56.0**	**0.0**	
MOL				*e*SKPdf	**SKPdf**	**19 42 28.4**	**-0.4**	
MOL				*e*SKSdf	**SKSdf**	**19 46 02.4**	**-0.8**	
BNGB	**Bingl**	**147.45**	**296**	P	**PKPdf**	**19 38 56.2**	**-1.1**	
SOC	**Sochi**	**147.52**	**305***c*	*i*PKIKP	**PKPdf**	**19 38 56.2**	**-0.9**	
SOC				*i*		19 38 59.6		
SOC				*e*		19 42 28.0		
SOC				*e*PPP	PPP	19 45 48.8		
SOC				*e*SSS	SSS	20 07 03.0		
SOC				pmax	pmax			
	comp=Z,23nm,0.6s							
SOC				pmax	pmax			
	comp=Z,446nm,1.0s							
YEDI	**Yedisu-Bingol**	**147.52**	**297**	P	**PKPdf**	**19 38 58.5**	**+1.0**	
DOMB	**Dombas**	**147.66**	**354**	*e*PKPdf	**PKPdf**	**19 38 57.0**	**+0.2**	
AKN	**Aaknes**	**147.68**	**356**	*e*PKPdf	**PKPdf**	**19 38 57.6**	**+0.8**	
AKN				*e*pPKPdf	**pPKPbc**	**19 39 05.6**	**+0.2**	
AKN				*e*PKSdf	**PP**	**19 42 31.7**	**+5.6**	
AKN				*e*SS	SS	20 01 32.8	+4.3	
MAZI	**Mazidag**	**147.72**	**294**	P	**PKPdf**	**19 38 57.9**	**+0.1**	
KTUT	**Trabzon**	**147.94**	**300**	⇓P	**PKiKP**	**19 39 02.4**	**-0.4**	
KTUT	**Trabzon**	**147.94**	**300**	P	**PKPbc**	**19 39 01.8**	**+0.9**	
DYBB	**Diyarbakir**	**147.94**	**294**	P	**PKPdf**	**19 38 58.8**	**+0.7**	
ERZN	**Erzincan**	**148.14**	**298**	P	**PKPbc**	**19 39 02.2**	**+0.5**	
FOO	**Floro**	**148.35**	**358**	*e*PKPdf	**PKPdf**	**19 38 57.6**	**-0.3**	
FOO				IVMs_BB	IVMs_BB	19 42 53.9		
	comp=Z,5μm,10.6s							
FOO				*e*SS	SS	20 01 35.8	-0.1	
NB2	**NORSAR Subarra1**	**148.42**	**352**	PKP	**PKPdf**	**19 38 58.4**	**+0.3**	
	comp=Z,4μm,2.5s,baz=17,slow=2.6							
NB2	**NORSAR Subarra1**	**148.42**	**352**	PKP	**PKPdf**	**19 38 58.4**	**+0.3**	
	baz=17,slow=2.6							
NOA	**NORSAR Array B**	**148.42**	**352**	PKPbc	**PKPbc**	**19 39 00.3**	**-1.3**	
	comp=Z,13nm,0.6s,baz=228,slow=26,SNR=41							
PTK	**Pertek**	**148.46**	**296**	P	**PKPdf**	**19 38 59.8**	**+0.7**	
SVRC	**Sivrice-ELAZID**	**148.57**	**295**	P	**PKPbc**	**19 39 02.9**	**0.0**	
NC602	**NORSAR Array S**	**148.67**	**351**	*e*PKPdf	**PKPdf**	**19 38 58.2**	**-0.3**	
NC602				IVmB_BB		19 39 11.0		
	comp=Z,12μm,3.9s							
ESPY	**Espiye-Giresun**	**148.73**	**300**	P	**PKPbc**	**19 39 01.5**	**-1.5**	
HYA	**Hoyanger**	**148.74**	**357**	*e*PKPdf	**PKPdf**	**19 38 59.1**	**+0.6**	
HYA				*e*PKPab	**sPKPdf**	**19 39 06.7**	**+0.4**	
ANN	**Anapa**	**148.81**	**308**	*e*PKIKP	**PKPdf**	**19 38 58.9**	**-0.3**	
ANN				*e*		19 42 42.2		
ANN				*e*SSS	SSS	20 07 24.7		
ANN				pmax	pmax			
	comp=N,372nm,1.2s							
ANN				pmax	pmax			
	comp=Z,1μm,1.0s							
ANN				pmax	pmax			
	comp=E,271nm,1.2s							
ANN				pmax	pmax			
	comp=Z,27μm,10.4s							
ANN				MLR	MLR			
	comp=N,43μm,24.0s							
ANN				MLR	MLR			
	comp=Z,31μm,23.0s							
ANN				MLR	MLR			
	comp=E,18μm,21.0s							
SUE	**Sulen**	**148.91**	**358**	*e*SKPdf	**SKPdf**	**19 42 30.7**	**-0.6**	
SUE				IVMs_BB	IVMs_BB	19 42 38.6		
	comp=Z,5μm,5.3s							
SUE				*e*SS	**SS**	**20 01 39.4**	**-2.6**	
HFS	**Hagfors**	**148.94**	**349**	PKPbc	**PKPbc**	**19 39 01.7**	**-1.2**	
	comp=Z,52nm,0.8s,baz=64,slow=3.4,SNR=30							
SKAR	**Skarslia**	**149.07**	**354**	*e*PKPdf	**PKPdf**	**19 39 00.8**	**+1.6**	
SKAR				*e*SS	SS	20 01 46.9	+2.7	
SLIT	**Slitere, Latvi**	**149.14**	**339**	*e*P	**PKPbc**	**19 39 02.0**	**-1.4**	
IZAR	**Zarasai**	**149.23**	**334**	*e*P	**PKiKP**	**19 39 04.5**	**-0.4**	
MALT	**Malatya**	**149.26**	**295**	P	**PKPdf**	**19 39 00.6**	**+0.3**	
ISAL	**Salakas**	**149.40**	**333**	*e*P	**PKiKP**	**19 39 05.5**	**+0.2**	
MICGM	**Minsk**	**149.44**	**331**	⇑*i*PKP	**PKiKP**	**19 39 05.0**	**-0.4**	
MICGM				⇑*i*PKP	**PKiKP**	**19 39 05.0**	**-0.4**	
MICGM				PKPM		19 39 06.0		
	comp=Z,1.3nm,2.4s							
MICGM				PKPM		19 39 06.0		
	comp=Z,44nm,18.0s							
MICGM				PKPM		19 39 06.0		
	comp=Z,49nm,16.0s							
MICGM				PKPM		19 39 09.0		
	comp=N,0.6nm,1.8s							
MICGM				*e*PP	**PP**	**19 42 32.0**	**-4.8**	
MICGM				PPM		19 42 34.0		
MICGM				*e*PPP	PPP	19 45 56.0		
MICGM				*e*SKS	**SKSdf**	**19 46 02.0**	**-4.5**	
MICGM				*e*SKKS	SKKSac	19 49 00.0	-27	
MICGM				*e*SKSP		19 53 04.0		
MICGM				*e*SS	SS	20 02 00.0	+11	
MICGM				*e*SSS	SSS	20 07 36.0		
MICGM				*e*LQ	LQ	20 21 24.0		
MICGM				LQM		20 28 26.0		
	comp=N,9.2nm,26.0s							
MICGM				LQM		20 28 40.0		
	comp=E,12nm,30.0s							
MICGM				*e*LR	LR	20 35 30.0		
MICGM				LRM	MLR	20 42 00.0		
	comp=N,32nm,24.0s							
MICGM				LRM	MLR	20 42 07.0		
	comp=E,24nm,22.0s							
MICGM				LRM	MLR	20 42 12.0		
	comp=Z,71nm,22.0s							
MICGM				LRM	MLR	20 42 12.0		
	comp=E,41nm,24.0s							
MICGM				LRM	MLR	20 42 16.0		
	comp=Z,84nm,24.0s							
MICGM				LRM	MLR	20 42 18.0		
	comp=N,19nm,22.0s							
MNK	**Minsk**	**149.44**	**331**α	*i*PKP2	**PKiKP**	**19 39 05.0**	**-0.4**	
MNK				*e*		19 42 32.0		
MNK				*e*PPP	PPP	19 45 56.0		
MNK				pmax	pmax			
	comp=Z,1μm,2.4s							
MNK				pmax	pmax			
	comp=Z,44μm,18.0s							
MNK				pmax	pmax			
	comp=Z,49μm,16.0s							
MNK				pmax	pmax			
	comp=Z,20μm,16.0s							
ASK	**Askoy**	**149.47**	**357**	*e*PKPdf	**PKPdf**	**19 39 01.0**	**+1.3**	
ASK				*e*PKPab	**pPKPbc**	**19 39 09.7**	**-0.4**	
IIGN	**Ignalina**	**149.53**	**333**	*e*P	**PKiKP**	**19 39 05.8**	**+0.2**	
OSL	**Oslo**	**149.55**	**352**	*e*PKPdf	**PKPdf**	**19 39 00.5**	**+0.6**	
OSL				IVmB_BB		19 39 13.4		
	comp=Z,12μm,3.7s							
BER	**Bergen**	**149.56**	**357**	*e*PKPdf	**PKPdf**	**19 39 01.6**	**+1.7**	
BER				*e*PKSdf	**PP**	**19 42 35.0**	**-1.9**	
NACGM	**Naroch**	**149.62**	**332**	*e*PKP	**PKPbc**	**19 39 03.0**	**-1.8**	
NACGM				*e*PKP	**PKPbc**	**19 39 03.0**	**-1.8**	
NACGM				PKPM		19 39 25.0		
	comp=Z,3.1nm,1.0s							
NACGM				*e*PP	**PP**	**19 42 34.0**	**-3.8**	
NACGM				*e*PPP	PPP	19 46 00.0		
NACGM				*e*SKS	SKSdf	19 46 20.0	+13	
NACGM				*e*SKKS	**SKKSac**	**19 49 30.0**	**+2.4**	
NACGM				*e*PS		19 52 44.0		
NACGM				*e*SS	**SS**	**20 01 45.0**	**-5.9**	
NACGM				*e*SSS	SSS	20 05 32.0		
NACGM				*e*LQ	LQ	20 24 46.0		
NACGM				*e*LR	LR	20 33 12.0		
LRW	**Lerwick**	**149.77**	**4**	*e*P	**PKPdf**	**19 38 57.9**	**-2.3**	
LRW				IAMs_20	IAMs_20	20 47 16.2		
	comp=Z,39μm,19.6s							
RSDY	**Resadiye-TOKAT**	**149.86**	**300**	P	**PKPdf**	**19 38 59.0**	**-2.1**	
ODD1	**Odda**	**149.96**	**356**	*e*PKPbc	**PKPbc**	**19 39 05.6**	**+0.1**	
ODD1				*e*pPKPdf	**sPKPdf**	**19 39 08.6**	**+0.1**	
KONO	**Kongsberg**	**149.96**	**353**	PKPdf	**PKPdf**	**19 39 00.3**	**-0.2**	
KONO	**Kongsberg**	**149.96**	**353**	*e*PKPdf	**PKPdf**	**19 39 02.2**	**+1.7**	
DARE	**Darende-Malaty**	**149.98**	**296**	P	**PKPdf**	**19 39 01.9**	**+0.5**	
SVSK	**Karacayir**	**150.18**	**299**	P	**PKPdf**	**19 39 01.5**	**0.0**	
PABE	**Paberze**	**150.27**	**335**	*e*P	**PKPbc**	**19 39 04.5**	**-1.7**	
PABE				*e*PP	**PP**	**19 42 40.0**	**-1.3**	
GAZ	**Gaziantep**	**150.31**	**293**	P	**PKPdf**	**19 39 00.8**	**-1.1**	
GAZ	**Gaziantep**	**150.31**	**293**	IAMs_20	IAMs_20	20 51 21.5		
	comp=Z,37μm,20.0s							
BLS5	**Blasjo**	**150.46**	**356**	*e*PKPdf	**PKPdf**	**19 39 01.4**	**0.0**	
BLS5				*e*PKPbc	**pPKPdf**	**19 39 07.2**	**0.0**	
BLS5				IVmB_BB		19 39 12.5		
	comp=Z,7μm,3.8s							
BLS5				*e*SS	SS	20 01 57.2	-2.3	
TOKT	**Tokat**	**150.46**	**300**	P	**PKPbc**	**19 39 04.7**	**-2.7**	
ASF	**Jabal al Asfar**	**150.51**	**283**	PKPbc	**PKPbc**	**19 39 06.9**	**-0.9**	
	comp=Z,61nm,0.8s,baz=96,slow=3.7,SNR=0.8							
PBUR	**Paburge**	**150.56**	**338**	*e*P	**PKPbc**	**19 39 07.0**	**+0.1**	
PBUR				*e*PP	**PP**	**19 42 45.4**	**+2.3**	
KVT	**Kavak**	**150.70**	**301**	P	**PKPdf**	**19 39 02.6**	**+0.2**	
KMY	**Karmoy**	**150.73**	**357**	*e*PKPbc	**PKiKP**	**19 39 08.0**	**+0.1**	
KMY				IVmB_BB		19 39 12.9		
	comp=Z,7μm,1.2s							
SARI	**SarD1z-Kayseri**	**150.83**	**296**	P	**PKPdf**	**19 39 01.9**	**-0.9**	
H07S1	**FLORES T-PHASE**	**150.91**	**62**	*e*PKP	**PKPab**	**19 39 13.0**	**-2.8**	
H07S1	**FLORES T-PHASE**	**150.91**	**62**	PKPbc	**PKPbc**	**19 39 07.5**	**-0.9**	
SIM	**Simferopol'**	**151.01**	**310**	*e*PKIKP	**PKPbc**	**19 39 05.6**	**-2.8**	
SIM				*e*PP	**PP**	**19 42 51.0**	**+4.5**	
SIM				pmax	pmax			
	comp=Z,1μm,1.4s							
SNOP	**Sinop**	**151.10**	**303**	P	**PKPdf**	**19 39 00.8**	**-2.1**	
LEWI	**Lewis, Hebride**	**151.13**	**10**	*e*P	**PKPdf**	**19 39 00.8**	**-1.7**	
LEWI				IAMs_20	IAMs_20	20 44 31.3		
	comp=Z,40μm,21.2s							
DIKM	**Dikmen**	**151.16**	**303**	P	**PKPdf**	**19 39 02.2**	**-0.8**	
BIGH	**Upper Bighouse**	**151.18**	**7**	*e*P	**PKPdf**	**19 38 58.8**	**-3.6**	
BNN	**Bunyan**	**151.22**	**297**	P	**PKPdf**	**19 39 02.6**	**-0.8**	
AKASG	**Malin Array Be**	**151.23**	**324**	PKPbc	**PKPbc**	**19 39 07.3**	**-1.4**	
	comp=Z,8.4nm,0.6s,baz=47,slow=2.4,SNR=14							
KOZT	**Kozan**	**151.38**	**294**	P	**PKPdf**	**19 39 02.6**	**-0.9**	
HWQ	**Hawqa**	**151.41**	**287**	*e*P	**PKPdf**	**19 39 02.8**	**-1.0**	
HOMB	**Homborsund**	**151.43**	**353**	*e*PKPdf	**PKPdf**	**19 39 02.8**	**-0.1**	
HOMB				IVmB_BB		19 39 14.6		
	comp=Z,10μm,1.5s							
SNART	**Snartemo**	**151.48**	**355**	*e*PKPdf	**PKPbc**	**19 39 06.3**	**-2.8**	
CEYT	**Ceyhan**	**151.49**	**293**	P	**PKPdf**	**19 39 03.3**	**-0.3**	
SHBL	**Chebaa**	**151.55**	**285**	*e*P	**PKPdf**	**19 39 06.2**	**+2.1**	
BHL	**Bhannes**	**151.65**	**287**	*e*P	**PKPdf**	**19 39 04.2**	**+0.1**	
SUW	**Suwalki**	**151.71**	**334**	*e*PKPdf	**PKPdf**	**19 39 03.2**	**-0.2**	
SUW				*e*PP	**PP**	**19 42 51.6**	**+1.9**	
SUW				*e*SS	SS	20 02 11.6	-2.3	
SUW				*e*SSS	SSS	20 07 57.8		
SUW				*e*L	L	20 42 24.5		
	comp=Z,49μm,25.8s							
SUW	**Suwalki**	**151.71**	**334**	IAMs_20	IAMs_20	20 48 45.6		
	comp=Z,47μm,21.0s							
MMAI	**Mount Meron Ar**	**151.82**	**285**	PKPbc	**PKiKP**	**19 39 11.8**	**+0.6**	
CORM	**Corum**	**151.93**	**300**	P	**PKPdf**	**19 39 06.9**	**+2.5**	
KPL	**Plockton**	**152.09**	**9**	*e*P	**PKPdf**	**19 39 02.4**	**-1.4**	
KPL				IAMs_20	IAMs_20	20 45 12.2		
	comp=Z,28μm,19.8s							
MERS	**Mersin**	**152.48**	**293**	P	**PKPdf**	**19 39 04.8**	**-0.4**	
GOET	**G??ttrup**	**152.57**	**352**	*i* P	**PKiKP**	**19 39 11.8**	**0.0**	
	comp=Z,792nm,0.9s							
GOET				*i*		19 41 45.4		
CANT	**Cankiri**	**152.59**	**301**	P	**PKPdf**	**19 39 05.4**	**+0.1**	
BRTR	**Keskin Array B**	**152.76**	**299**	PKP	**PKPdf**	**19 39 05.0**	**-0.7**	
	comp=Z,2.0nm,0.9s,baz=134,slow=3.5,SNR=25							
BRTR				PKPbc	**pPKPdf**	**19 39 11.1**	**-0.5**	
	comp=Z,10.0nm,0.9s,baz=149,slow=2.6,SNR=12							
BRTR				PKPab	**PKPab**	**19 39 22.7**	**-1.0**	
	comp=Z,98nm,1.0s,baz=145,slow=3.6,SNR=17							
YAYX	**Yaylak**	**152.77**	**298**	P	**PKPdf**	**19 39 04.0**	**-1.7**	
EREN	**Erenkoy**	**152.85**	**290**	P	**PKPdf**	**19 39 05.4**	**-0.3**	
DRUM	**Mains of Drumt**	**152.88**	**6**	*e*P	**PKPdf**	**19 39 03.8**	**-1.3**	
DRUM				IAMs_20	IAMs_20	20 54 32.8		
	comp=Z,34μm,19.0s							
KURC	**Kurucasile-Bar**	**152.93**	**304**	P	**PKPdf**	**19 39 04.7**	**-0.9**	
PCED	**Cedros**	**152.96**	**63**	*e*PKP	**PKPbc**	**19 39 11.8**	**-1.3**	
CALA	**Caldeira**	**152.96**	**63**	*e*PKP	**PKPbc**	**19 39 11.3**	**-1.9**	
SERE	**Sereflikochisa**	**152.96**	**298**	P	**PKPdf**	**19 39 04.7**	**-1.3**	
YESY	**Yesilyurt**	**153.00**	**295**	P	**PKPdf**	**19 39 04.4**	**-1.6**	
HOR	**Horta**	**153.03**	**63**	*e*PKP	**PKiKP**	**19 39 14.3**	**+0.9**	
SULT	**Sultanhani-AKS**	**153.12**	**296**	P	**PKPdf**	**19 39 03.3**	**-2.9**	
MUD	**Monsted U'grnd**	**153.14**	**352**	*i* P	**PKPbc**	**19 39 09.5**	**-3.3**	
MUD	**Monsted U'grnd**	**153.14**	**352**	*e*PKIKP	**PKPbc**	**19 39 09.5**	**-3.3**	
PCAN	**Candelaria**	**153.15**	**63**	*e*PKP	**PKPbc**	**19 39 13.3**	**-0.2**	
SORM	**Soroca**	**153.15**	**320**	⇑P	**PKPbc**	**19 39 11.3**	**-1.9**	
SORM	**Soroca**	**153.15**	**320**	⇑PKIKP	**PKPbc**	**19 39 11.3**	**-1.9**	
KEBE	**Keben-Mersin**	**153.16**	**292**	P	**PKPdf**	**19 39 05.1**	**-1.1**	
LAWE	**Loch Awe, Argy**	**153.17**	**10**	*e*P	**PKPdf**	**19 39 03.7**	**-1.8**	
LAWE				IAMs_20	IAMs_20	20 46 02.9		
	comp=Z,28μm,21.9s							
INVG	**Invergeldie, C**	**153.19**	**8**	*e*P	**PKPdf**	**19 39 03.6**	**-1.9**	
INVG				IAMs_20	IAMs_20	20 45 58.2		
	comp=Z,36μm,20.7s							
IKL	**Isikli**	**153.20**	**292**	P	**PKPdf**	**19 39 05.6**	**-0.6**	
AFSR	**Afar-Bala (An**	**153.25**	**299**	P	**PKPdf**	**19 39 05.9**	**-0.4**	
ROSA	**Rosais**	**153.30**	**63**	*e*PKP	**PKPbc**	**19 39 11.5**	**-2.3**	
ROSA	**Rosais**	**153.30**	**63**	IAMs_20	IAMs_20	20 50 28.2		
	comp=Z,30μm,18.0s							
AKKU	**Akkuyu-Mersin**	**153.31**	**292**	P	**PKPdf**	**19 39 05.9**	**-0.5**	
BSD	**Bornholm Skovb**	**153.37**	**344**	*i* P	**PKPbc**	**19 39 10.0**	**-3.4**	
ANTO	**Ankara**	**153.37**	**300**	⇑P	**PKPbc**	**19 39 11.5**	**-2.6**	
ANTO	**Ankara**	**153.37**	**300**	PKIKP	**PKPdf**	**19 39 05.1**	**-1.4**	
ANTO				MLR	MLR			
	comp=Z,28μm,19.0s							
ANTO	**Ankara**	**153.37**	**300**	PKPdf	**PKPdf**	**19 39 05.1**	**-1.4**	
ANTO	**Ankara**	**153.37**	**300**	IAMs_20	IAMs_20	20 57 16.2		
	comp=Z,29μm,19.0s							
TEVE	**Tevekalti-Mers**	**153.38**	**292**	P	**PKPdf**	**19 39 05.1**	**-1.5**	
LFK	**Lefkose**	**153.38**	**290**	P	**PKPdf**	**19 39 05.1**	**-1.5**	
EAB	**Aberfoyle**	**153.39**	**9**	*e*P	**PKPdf**	**19 39 03.9**	**-1.9**	
LOD	**Lodumlu**	**153.39**	**300**	P	**PKPdf**	**19 39 05.4**	**-1.1**	
SRBC	**Serra Branca**	**153.40**	**62**	*e*PKP	**PKPbc**	**19 39 11.3**	**-2.7**	
PMAN	**Manadas**	**153.43**	**63**	*e*PKP	**PKPbc**	**19 39 11.7**	**-2.4**	
PGRA	**Graciosa**	**153.44**	**62**	*e*PKP	**PKPbc**	**19 39 11.3**	**-2.8**	
KIS	**Kishinev**	**153.48**	**317**	⇑*i*PKP	**PKPdf**	**19 39 03.5**	**-2.8**	
	comp=Z,4μm,10.4s							
KIS	**Kishinev**	**153.48**	**317**	*e*PP	PP	19 42 55.0	-5.3	
	comp=Z,3μm,16.5s							
KIS	**Kishinev**	**153.48**	**317***c*	*i*PKIKP	**PKPdf**	**19 39 03.5**	**-2.8**	
KIS				*i*		19 42 55.4		
KIS				pmax	pmax			
	comp=Z,4μm,10.4s							
KIS				pmax	pmax			
	comp=Z,3μm,16.5s							
MILM	**Milestii Mici**	**153.52**	**317**	⇑P	**PKPbc**	**19 39 13.7**	**-0.3**	
CHBY	**Cihanbeyli**	**153.54**	**297**	P	**PKPdf**	**19 39 05.4**	**-1.4**	
BERE	**Bereket-Mersin**	**153.56**	**292**	P	**PKPdf**	**19 39 05.4**	**-1.5**	
TEKE	**Tekeli-Mersin**	**153.67**	**292**	P	**PKPdf**	**19 39 05.8**	**-1.1**	
PGBU	**Glenifferbraes**	**153.74**	**9**	*e*P	**PKPdf**	**19 39 04.6**	**-1.8**	
PGBU				IAMs_20	IAMs_20	20 46 02.5		
	comp=Z,29μm,21.5s							
EDI	**Edinburgh**	**153.78**	**7**	*e*P	**PKPdf**	**19 39 03.6**	**-2.7**	
EDI				IAMs_20	IAMs_20	20 59 59.6		
	comp=Z,30μm,17.6s							
LEF	**Lefka**	**153.91**	**289**	⇑P	**PKPbc**	**19 39 12.1**	**-3.2**	
LEF	**Lefka**	**153.91**	**289**	P	**PKPdf**	**19 39 06.6**	**-0.7**	
LADK	**Ladik-KONYA**	**154.01**	**296**	P	**PKPdf**	**19 39 06.4**	**-1.1**	
KONT	**Konya--Tatoy**	**154.06**	**296**	P	**PKPdf**	**19 39 05.4**	**-2.0**	
ADH	**Angra Heroismo**	**154.08**	**63**	*e*PKP	**PKPbc**	**19 39 13.7**	**-1.8**	
LEOM	**Leova**	**154.09**	**317**	⇑P	**PKiKP**	**19 39 21.2**	**+6.0**	
PSCM	**Serra do Cume**	**154.16**	**62**	*e*PKP	**PKPbc**	**19 39 12.2**	**-3.5**	
CLGH	**Cloghs, Cushen**	**154.19**	**11**	*e*P	**PKPdf**	**19 39 06.1**	**-0.9**	
CLGH				IAMs_20	IAMs_20	20 54 32.8		
	comp=Z,32μm,18.0s							
RGN	**Rugen**	**154.25**	**345**	*e*P	**PKPbc**	**19 39 11.5**	**-3.8**	
RGN				*e*PP	**PP**	**19 43 02.6**	**-1.2**	
RGN	**Rugen**	**154.25**	**345**	IAMs_20	IAMs_20	20 55 25.1		
	comp=Z,38μm,21.0s							
KIZT	**Kizilcal**	**154.27**	**298**	P	**PKPdf**	**19 39 06.1**	**-1.7**	
VASR	**Vaslui**	**154.27**	**317**	⇑P	**PKiKP**	**19 39 21.7**	**+6.0**	
GAZI	**Gazipasa**	**154.30**	**292**	P	**PKPdf**	**19 39 05.8**	**-2.0**	
BEL	**Belsk**	**154.31**	**333**	*e*PKPdf	**PKPdf**	**19 39 07.0**	**-0.3**	
BEL				*e*PP	**PP**	**19 43 07.3**	**+2.9**	
BEL				*e*SS	SS	20 02 45.5	+3.0	
BEL				*e*SSS	SSS	20 08 48.3		
BEL				*e*L	L	20 47 52.8		
	comp=Z,53μm,23.0s							
TLCR		**154.36**	**314**	⇑P	**PKiKP**	**19 39 17.2**	**+1.4**	
EKA	**Eskdalemuir Ar**	**154.37**	**7**	PKP	**PKPdf**	**19 39 06.9**	**-0.4**	
	comp=Z,1.3nm,0.6s,baz=270,slow=0.6,SNR=4.3							
EKA				PKPbc	**PKiKP**	**19 39 15.7**	**+0.1**	
	comp=Z,11nm,0.7s,baz=314,slow=

comp=Z,45µm,20.0s
MLR Muntele Rosu 155.97 317 PKPdf **PKPdf** **19 39 08.9 -1.1**
BGKT Bogazkoy 155.97 305 P **PKPdf** **19 39 07.6 -2.3**
TVSB Tavsanli 155.97 300 P **PKPdf** **19 39 09.1 -1.0**
PSMA Santa Maria 156.00 66 *e*PKP **PKPdf** **19 39 15.1 +5.0**
UZH Uzhgorod 156.01 326 *i* PKIKP **PKPdf** **19 39 12.0 +2.3**
UZH *e* 19 39 21.0
UZH *e* 19 43 17.9
RUE Ruedersdorf 156.04 343 *e*P **PKPdf** **19 39 09.6 0.0**
RUE *e*PP **PP** **19 43 14.6 +0.7**
BMR Baia Mare 156.05 323 ⇑P PKPab 19 39 24.9 -12
PSMN Pico do Norte, 156.05 66 *e*PKP **PKPdf** **19 39 10.8 +0.6**
WPS Cemaes, Angles 156.07 10 *e*P **PKPdf** **19 39 08.9 -0.7**
WPS IAMs_20 IAMs_20 20 52 48.6
comp=Z,35µm,19.0s
ARMT Armutlu 156.10 303 P **PKPdf** **19 39 07.2 -2.9**
SECR 156.13 315 ⇑P **PKPdf** **19 39 15.8 +5.8**
CTKS Kestanelik-??a 156.14 305 P **PKPdf** **19 39 08.6 -1.5**
PRD Provadia 156.15 310 *e*P **PKPdf** **19 39 09.9 -0.1**
ELL Elmali 156.17 294 P **PKPdf** **19 39 09.3 -1.2**
SULR 156.20 315 ⇑P PKPab 19 39 30.1 -7.8
WLF1 Llynfaes 156.20 10 *e*P **PKPdf** **19 39 07.1 -2.7**
WLF1 IAMs_20 IAMs_20 20 52 51.2
comp=Z,71µm,19.0s
YRC Rhoscolyn 156.21 11 *e*P **PKPdf** **19 39 08.1 -1.6**
CTYL Yalikoy Yolu 156.21 306 P **PKPdf** **19 39 08.9 -1.3**
CRVS Cervenica-Dubn 156.22 328 *e*PKIKP **PKPdf** **19 39 10.2 +0.2**
CRVS *e* 19 43 16.2
CRVS *e*SS SS 20 03 06.0 +2.6
CRVS Cervenica-Dubn 156.22 328 *e*PKP **PKPdf** **19 39 10.2 +0.2**
CRVS *e* 19 39 37.3
CRVS *e* 19 39 43.9
CRVS *e*PP **PP** **19 43 16.2 +0.9**
CRVS *e*SS SS 20 03 06.0 +2.6
SLVT Silivri 156.35 305 P **PKPdf** **19 39 09.3 -1.1**
NIE Niedzica 156.36 330 *e*PKPdf **PKPdf** **19 39 10.7 +0.5**
NIE *e*PKPab **PKPab** **19 39 37.9 -0.6**
NIE *e*PP **PP** **19 43 23.2 +7.2**
NIE *e*SS SS 20 03 15.5 +11
NIE *e*SSS SSS 20 09 10.0
NIE *e*L L 20 51 37.6
comp=Z,33µm,21.1s
LBWR Ladybower, Pea 156.42 6 *e*P **PKPdf** **19 39 06.2 -3.9**
LBWR IAMs_20 IAMs_20 20 52 07.1
comp=Z,39µm,17.7s
LMK Market Rasen 156.48 4 *e*P **PKPdf** **19 39 08.1 -2.0**
LMK IAMs_20 IAMs_20 20 55 59.0
comp=Z,42µm,18.7s
AKAS Kas 156.48 292 P **PKPdf** **19 39 10.1 -0.8**
VOIR 156.53 317 ⇑P **PKPdf** **19 39 14.8 +4.2**
VOIR 156.53 317 ⇑PKIKP **PKPdf** **19 39 14.8 +4.2**
KCTX Karacabey (Bur 156.56 303 P **PKPdf** **19 39 08.6 -2.1**
RAZG Razgrad 156.57 312 ⇑P PKPab 19 39 26.3 -13
CJR Cluj-Napoca 156.60 321 ⇓P PKPab 19 39 25.9 -14
STNC Stoke 156.68 7 *e*P **PKPdf** **19 39 07.9 -2.5**
STNC IAMs_20 IAMs_20 20 49 05.3
comp=Z,43µm,19.4s
CRLT Corlu 156.72 305 P **PKPdf** **19 39 10.4 -0.5**
LLW Llanuwychllyn 156.73 9 *e*P **PKPdf** **19 39 08.2 -2.3**
LLW IAMs_20 IAMs_20 20 54 49.9
comp=Z,17µm,18.5s
KSP Ksiaz 156.75 337 *e*PKPdf **PKPdf** **19 39 10.4 -0.2**
KSP *e*PKPab **PKPab** **19 39 40.2 +0.2**
KSP *e*PP **PP** **19 43 20.2 +2.3**
KSP *e*SS SS 20 03 15.2 +6.5
KSP *e*SSS SSS 20 09 07.8
KSP *e*L L 20 50 48.0
comp=Z,40µm,21.5s
FOEL Foel Wylfa 156.76 9 *e*P **PKPdf** **19 39 07.5 -3.1**
FOEL IAMs_20 IAMs_20 20 54 25.2
comp=Z,36µm,18.7s
KULA Kula-Manisa 156.81 298 P **PKPdf** **19 39 09.7 -1.5**
ARR Arges 156.81 318 ⇑P **PKPdf** **19 39 16.2 +5.2**
EDC Edincik 156.89 303 P **PKPdf** **19 39 08.3 -2.8**
OKC Ostrava-Krasne 156.91 333 *e*PKPDF **PKPdf** **19 39 14.9 +4.1**
OKC *e*PKPAB **PKPab** **19 39 34.4 -6.4**
OKC *e*PP **PP** **19 43 16.4 -2.5**
OKC AMS AMS 20 47 00.0
comp=Z,41µm,22.8s
OKC Ostrava-Krasne 156.91 333 *e*PKIKP **PKPdf** **19 39 14.9 +4.1**
OKC *e* 19 39 34.4
OKC *e* 19 43 16.4
OKC MLR MLR
comp=Z,41µm,22.8s
LANS Liptovska Anna 156.92 331 *e*PKIKP **PKPdf** **19 39 13.1 +2.2**
LANS Liptovska Anna 156.92 331 *e*PKP **PKPdf** **19 39 13.1 +2.2**
KECS Kecovo 156.97 328 *e* **PKPab** **19 39 46.4 +5.3**
OSTC Ostas 157.02 337 *e*PKPDF **PKPdf** **19 39 14.4 +3.4**
OSTC *e*PKPAB **pPKPab** **19 39 46.0 -1.0**
OSTC *e*PP **PP** **19 43 14.5 -5.0**
OSTC AMS AMS 20 51 00.0
comp=Z,40µm,21.6s
DRGR 157.03 322 ⇑P **PKPdf** **19 39 14.3 +3.1**
DRGR 157.03 322 ⇑PKIKP **PKPdf** **19 39 14.3 +3.1**
CHVC Chvalec 157.05 337 *e*PKPDF **PKPdf** **19 39 14.7 +3.7**
CHVC *e*PKPAB **PKPab** **19 39 42.4 +1.0**
CHVC *e*PP **PP** **19 43 18.3 -1.3**
CHVC AMS AMS 20 51 00.0
comp=Z,37µm,21.8s
HUMR Humele 157.06 315 ⇑P PKPab 19 39 27.2 -14
SZH Strazhica 157.08 312 *e*P **PKPdf** **19 39 10.9 -0.4**
BALB Balikesir 157.10 302 P **PKPdf** **19 39 10.1 -1.3**
CWF Charnwood Fore 157.12 6 *e*P **PKPdf** **19 39 08.8 -2.2**
CWF IAMs_20 IAMs_20 20 55 16.9
comp=Z,44µm,18.3s
UPC Upice 157.13 337 *e*PKPDF **PKPdf** **19 39 15.3 +4.2**
UPC *e*PKPAB **PKPab** **19 39 39.9 -1.8**
UPC *e*PP **PP** **19 43 20.2 +0.2**
UPC AMS AMS 20 50 20.0
comp=Z,40µm,22.1s
UPC Upice 157.13 337 *e*PKIKP **PKPdf** **19 39 15.3 +4.2**
UPC *e* 19 43 20.2
UPC MLR MLR
comp=Z,40µm,22.1s
DALY Dalyan (Mula) 157.15 294 P **PKPdf** **19 39 09.3 -2.2**
DPC Dobruska-Polom 157.16 337 *e*PKPDF **PKPdf** **19 39 15.0 +3.8**
DPC *e*PKPAB **PKPab** **19 39 37.2 -4.7**
DPC *e*PP **PP** **19 43 20.2 -0.1**
DPC AMS AMS 20 50 20.0
comp=Z,39µm,22.1s
DPC Dobruska-Polom 157.16 337 *e*PKIKP **PKPdf** **19 39 15.0 +3.8**
DPC *e* 19 39 37.2
DPC *e* 19 43 20.2
DPC MLR MLR
comp=Z,39µm,22.1s
TURN Turunc 157.18 294 P **PKPdf** **19 39 10.8 -0.8**
MORC Moravsky Berou 157.19 334 ⇑P **PKPdf** **19 39 14.9 +3.6**
MORC Moravsky Berou 157.19 334 *e*PKP **PKPdf** **19 39 10.7 -0.6**
MORC *e* 19 39 46.3
MORC Moravsky Berou 157.19 334 ⇑PKIKP **PKPdf** **19 39 14.9 +3.6**
WACR West Acre 157.26 3 *e*P **PKPdf** **19 39 08.4 -2.8**
WACR IAMs_20 IAMs_20 20 58 15.4
comp=Z,39µm,19.9s
CLL Collm 157.31 343 *e*PKPdf **PKPdf** **19 39 10.2 -1.1**
CLL *es*PKPdf **sPKPdf** **19 39 21.0 +1.9**
CLL *e*Pdif **pPKPdf** **19 39 24.0 +6.8**
CLL *e* 19 39 38.0
CLL *e*PKPab **PKPab** **19 39 41.0 -1.5**
CLL *i* pPKPab **pPKPab** **19 39 46.9 -1.3**
comp=Z,635nm,1.4s
CLL *e* 19 39 54.0
CLL *e*PP **PP** **19 43 22.0 +1.1**
CLL *e*PPP PPP 19 47 00.0
CLL *e*PPPP 19 49 30.0
CLL *e*PSKS 19 53 37.0
CLL *e*PPS PPS 19 56 39.0
CLL *e*SS SS 20 03 16.0 +1.5
CLL *e*SSS SSS 20 09 18.0
CLL *e* 20 11 42.0
CLL *e*SSSS 20 13 30.0
CLL LmV 20 54 00.0
comp=Z,32µm,21.7s
CLL Lmax 20 55 00.0
CLL Collm 157.31 343 *e*PKIKP **PKPdf** **19 39 13.0 +1.7**
CLL *e* 19 39 21.0
CLL MLR MLR
comp=Z,32µm,21.7s
YER Yerkesik 157.39 295 P **PKPdf** **19 39 11.8 -0.2**
RSBS Rosebush, Pemb 157.43 12 *e*P **PKPdf** **19 39 09.3 -2.1**
RSBS IAMs_20 IAMs_20 20 55 53.9
comp=Z,36µm,17.8s
BRG Berggiesshubel 157.45 341 *e*PKP **PKPdf** **19 39 10.7 -0.8**
comp=Z,33nm,1.9s
BRG *i* 19 39 16.2
comp=Z,271nm,1.9s
BRG Berggiesshubel 157.45 341 *i* PKP **PKPab** **19 39 42.5 -0.6**
comp=Z,645nm,1.4s
BRG Berggiesshubel 157.45 341 *e*PKIKP **PKPdf** **19 39 10.7 -0.8**
BRG *i* 19 39 16.2
BRG pmax pmax
comp=Z,33nm,1.9s
AYDB Zeytinkoy-Aydi 157.53 297 P **PKPdf** **19 39 11.1 -1.1**
PVCC Panska Ves 157.57 339 *e*PKPDF **PKPdf** **19 39 16.3 +4.6**
PVCC *e*PKPAB **PKPab** **19 39 44.8 +1.2**
PVCC *e*PP **PP** **19 43 18.3 -4.1**
PVCC AMS AMS 20 48 20.0
comp=Z,51µm,23.1s
PVCC Panska Ves 157.57 339 *e*PKIKP **PKPdf** **19 39 16.3 +4.6**
PVCC *e* 19 43 18.3
PVCC MLR MLR
comp=Z,51µm,23.1s
MCH1 Michaelchurch 157.66 9 *e*P **PKPdf** **19 39 10.1 -1.6**
MCH1 IAMs_20 IAMs_20 20 49 11.4
comp=Z,34µm,19.5s
LPK Lapseki 157.68 304 P **PKPdf** **19 39 10.8 -1.3**
VYHS Vyhne 157.69 330 *e*PKIKP **PKPdf** **19 39 11.7 -0.2**
VYHS *e* 19 43 23.3
VYHS Vyhne 157.69 330 *e*PKP **PKPdf** **19 39 11.7 -0.2**
VYHS *e* 19 39 45.4
VYHS *e* 19 39 50.2
VYHS *e*PP **PP** **19 43 23.2 -0.1**
VYHS *e*SS SS 20 03 27.8 +8.7
ERIK Erikli-Kesan 157.75 305 P **PKPdf** **19 39 10.1 -2.1**
PLVB Pleven 157.86 313 ⇑P PKPab 19 39 29.0 -16
GELI Tayfur-Gelibol 157.88 304 P **PKPdf** **19 39 10.1 -2.2**
JAVC Velka Javorina 157.88 333 *e*PKP **PKPdf** **19 39 12.4 +0.2**
VRAC Vranov 157.93 335 PKP **PKPdf** **19 39 11.8 -0.3**
comp=Z,4.2nm,0.9s,baz=6.6,slow=0.8,SNR=9.8
VRAC PKPab **PKPab** **19 39 44.8 -0.5**
comp=Z,32nm,0.8s,baz=55,slow=3.1,SNR=15
VRAC Vranov 157.93 335 ⇓P **PKPdf** **19 39 15.9 +3.8**
VRAC Vranov 157.93 335 *e*PKP **PKPdf** **19 39 10.9 -1.3**
VRAC *e* 19 39 49.4
ENEZ Enez 157.98 305 P **PKPdf** **19 39 10.4 -2.1**
DKL Dikili 157.98 301 P **PKPdf** **19 39 11.5 -1.0**
PRA Prague 158.02 339 *e*PKPDF **PKPdf** **19 39 11.2 -1.0**
PRA *ep*PKP **pPKPab** **19 39 50.7 -0.5**
PRA *e*PP **PP** **19 43 23.9 -0.9**
PRA AMS AMS 20 49 10.0
comp=Z,23µm,23.8s
PRA Prague 158.02 339 *e*PKIKP **PKPdf** **19 39 11.2 -1.0**
PRA *e* 19 43 23.9
PRA MLR MLR
comp=Z,23µm,23.8s
DAT Datca 158.02 294 P **PKPdf** **19 39 10.8 -2.0**
GOPC GO Pecny, Ondr 158.04 338 *e*PKPDF **PKPdf** **19 39 16.1 +3.8**
GOPC *e*PKPAB **PKPab** **19 39 43.6 -2.1**
GOPC *e*PP **PP** **19 43 22.0 -3.1**
GOPC AMS AMS 20 49 40.0
comp=Z,34µm,22.1s
GOPC GO Pecny, Ondr 158.04 338 *e*PKIKP **PKPdf** **19 39 16.1 +3.8**
GOPC *e* 19 39 43.6
GOPC *e* 19 43 22.0
GOPC MLR MLR
comp=Z,34µm,22.1s
OLDB Oldbury-Upon-S 158.04 8 *e*P **PKPdf** **19 39 08.8 -3.3**
OLDB IAMs_20 IAMs_20 20 43 42.5
comp=Z,41µm,26.6s
PRU Pruhonice 158.06 339 *e*PKPDF **PKPdf** **19 39 16.3 +4.0**
PRU *e*PKPAB **PKPab** **19 39 38.2 -7.5**
PRU *e*PP **PP** **19 43 20.1 -5.0**
PRU AMS AMS 20 54 10.0
comp=Z,50µm,20.5s
PRU Pruhonice 158.06 339 *e*PKIKP **PKPdf** **19 39 16.3 +4.0**
PRU *e* 19 43 20.1
PRU MLR MLR
comp=Z,50µm,20.5s
EZN Ezine 158.18 303 P **PKPdf** **19 39 11.5 -1.2**
KRUC Moravsky 158.21 335 *e*PKP **PKPdf** **19 39 11.5 -1.0**
KRUC *e* 19 39 50.7
SMOL Smolenice 158.26 332 *e*PKIKP **PKPdf** **19 39 12.6 0.0**
SMOL *e* 19 39 46.5
SMOL *e* 19 43 26.6
SMOL Smolenice 158.26 332 *e*PKP **PKPdf** **19 39 12.6 0.0**
SMOL *e* 19 39 46.4
SMOL *e* 19 39 53.3
SMOL *e*PP **PP** **19 43 26.6 +0.2**
SWN1 Swindon 158.28 7 *e*P **PKPdf** **19 39 09.6 -2.9**
SWN1 IAMs_20 IAMs_20 20 55 34.9
comp=Z,41µm,19.0s
TREC Trest 158.34 336 *e*PKPDF **PKPdf** **19 39 17.0 +4.3**
TREC *e*PKPAB **PKPab** **19 39 47.7 +0.7**
TREC *e*PP **PP** **19 43 22.0 -4.7**
TREC AMS AMS 21 01 00.0
comp=Z,30µm,18.9s
TREC Trest 158.34 336 *e*PKIKP **PKPdf** **19 39 17.0 +4.3**
TREC *e* 19 43 22.0
TREC MLR MLR
comp=Z,30µm,18.9s
GADA Gvkgeada 158.36 304 P **PKPdf** **19 39 10.4 -2.5**
BZS Buzias 158.36 321 ⇑P **PKPdf** **19 39 12.9 +0.1**
BZS Buzias 158.36 321 ⇑PKIKP **PKPdf** **19 39 12.9 +0.1**
BOZC Bozcaada 158.37 303 P **PKPdf** **19 39 10.8 -2.2**
HERR Herculane 158.37 319 ⇑P PKPab 19 39 30.2 -17
HTL Hartland 158.40 12 *e*P **PKPdf** **19 39 10.5 -2.1**
HTL IAMs_20 IAMs_20 20 53 04.3
comp=Z,36µm,22.1s
URLA Izmir 158.41 299 P **PKPdf** **19 39 11.8 -1.3**
PLD Plovdiv 158.41 310 *e*P **PKPdf** **19 39 12.2 -0.8**
MODS Modra-Piesok 158.43 332 *e*PKIKP **PKPdf** **19 39 12.0 -0.8**
MODS *e* 19 43 29.3
MODS *e*SS SS 20 03 29.5 +2.6
MODS Modra-Piesok 158.43 332 *e*PKP **PKPdf** **19 39 12.0 -0.8**
MODS *e* 19 39 52.2
MODS *e*PP **PP** **19 43 29.2 +1.9**
MODS *e*SS SS 20 03 29.5 +2.6
NKC Novy Kostel 158.44 342 *e*PKPDF **PKPdf** **19 39 16.5 +3.7**
NKC *e*PKPAB **PKPab** **19 39 48.5 +1.1**
NKC *e*PP **PP** **19 43 23.9 -3.2**
NKC AMS AMS 20 47 40.0
comp=Z,31µm,22.3s
NKC Novy Kostel 158.44 342 *e*PKIKP **PKPdf** **19 39 16.5 +3.7**
NKC *e* 19 43 23.9
NKC MLR MLR
comp=Z,31µm,22.3s
PBCC Pribram 158.49 339 *e*PKPDF **PKPdf** **19 39 16.7 +3.9**
PBCC *e*PKPAB **PKPab** **19 39 48.3 +0.7**
PBCC *e*PP **PP** **19 43 25.8 -1.7**
WOL Wolverton 158.53 6 *e*P **PKPdf** **19 39 10.3 -2.5**
WOL IAMs_20 IAMs_20 20 56 47.2
comp=Z,39µm,18.1s
ZST Bratislava 158.64 332 *e*PKIKP **PKPdf** **19 39 12.9 -0.1**
ZST *e*SS SS 20 03 27.5 -1.6
ZST Bratislava 158.64 332 *e*PKP **PKPdf** **19 39 12.9 -0.1**
ZST *e* 19 39 53.2
ZST *e*SS SS 20 03 27.5 -1.6
BANR Banloc 158.77 321 ⇓P PKPab 19 39 32.3 -17
MDVR Moldovita 158.83 319 ⇑P **PKPdf** **19 39 15.5 +2.0**
ELSH Elham, Standar 158.85 2 *e*P **PKPdf** **19 39 10.8 -2.4**
ELSH IAMs_20 IAMs_20 20 50 51.6
comp=Z,44µm,20.2s
DYA Yadsworthy 159.03 11 *e*P **PKPdf** **19 39 11.1 -2.4**
DYA IAMs_20 IAMs_20 20 56 01.9
comp=Z,36µm,18.9s
BEBN Eben Emael 159.09 354 PKPdf **PKPdf** **19 39 12.9 -0.5**
BEBN pPKP **pPKPdf** **19 39 17.4 -1.9**
BEBN PKPab **PKPab** **19 39 49.5 -0.6**
BEBN pPKPab **pPKPab** **19 39 54.6 -1.2**
HMNX Herstmonceux 159.10 4 *e*P **PKPdf** **19 39 11.3 -2.1**
HMNX IAMs_20 IAMs_20 20 54 56.1
comp=Z,50µm,20.4s
KHC Kasperske Hory 159.11 339 *e*PKPDF **PKPdf** **19 39 17.1 +3.5**
KHC *e*PKPAB **PKPab** **19 39 49.2 -1.2**
KHC *ex* x 19 40 01.5
KHC *ex* x 19 40 20.5
KHC *e*PP **PP** **19 43 29.5 -1.4**
KHC AMS AMS 20 54 50.0
comp=Z,52µm,19.9s
KHC Kasperske Hory 159.11 339 PKIKP **PKPdf** **19 39 11.7 -1.9**
KHC MLR MLR
comp=Z,22µm,20.0s
KHC Kasperske Hory 159.11 339 PKPdf **PKPdf** **19 39 11.7 -1.9**
KHC IAMs_20 IAMs_20 20 55 38.4
comp=Z,22µm,20.0s
VTS Vitosha 159.13 313 *e*P **PKPdf** **19 39 14.0 0.0**
VTS Vitosha 159.13 313 PKIKP **PKPdf** **19 39 12.7 -1.3**
VTS MLR MLR
comp=Z,50µm,20.0s
VTS Vitosha 159.13 313 PKPdf **PKPdf** **19 39 12.7 -1.3**
UCC Uccle 159.18 357 PKPdf **PKPdf** **19 39 13.3 -0.3**
UCC pPKP **pPKPdf** **19 39 17.9 -1.5**
UCC pPKPab **pPKPab** **19 39 54.1 -2.1**
MEM Membach 159.25 354 PKPdf **PKPdf** **19 39 13.2 -0.4**
MEM pPKP **pPKPdf** **19 39 17.7 -1.8**
MEM pPKPab **pPKPab** **19 39 55.4 -1.2**
MMB Musomiste 159.30 310 *e*P **PKPdf** **19 39 12.2 -1.9**
BSTI Sart Tilman 159.31 354 PKPdf **PKPdf** **19 39 13.4 -0.3**
BSTI pPKP **pPKPdf** **19 39 17.9 -1.7**
BSTI pPKPab **pPKPab** **19 39 55.2 -1.6**
GERES GERESS Array B 159.32 339 PKP **PKPdf** **19 39 13.7 -0.3**
comp=Z,7.2nm,1.2s,baz=60,slow=3.2,SNR=6.1
GERES PKPab **PKPab** **19 39 51.9 +0.5**
comp=Z,12nm,0.7s,baz=51,slow=2.7,SNR=9.6
CONA Conrad Observa 159.35 334 *i* PKPdf **PKPdf** **19 39 13.3 -0.7**
comp=Z,26nm,1.6s,SNR=9.1
CONA *i* pPKPab **pPKPab** **19 39 57.9 +0.7**
comp=Z,504nm,1.6s
CONA PP **PP** **19 43 34.5 +2.1**
comp=Z,56nm,1.6s
SNF Seneffe 159.47 357 pPKP **pPKPdf** **19 39 18.2 -1.6**
SNF pPKPab pPKPab 19 39 55.6 -1.9
MORH Mrgy, Hungar 159.48 327 ⇑*i*P **PKPdf** **19 39 12.9 -1.2**
BCLA Clavier 159.50 355 pPKP **pPKPdf** **19 39 17.4 -2.4**
BCLA pPKPab pPKPab 19 39 56.1 -1.5
BHOU Houvegnez 159.50 354 PKPdf **PKPdf** **19 39 14.0 0.0**
BHOU pPKP **pPKPdf** **19 39 18.5 -1.4**
BHOU PKPab **PKPab** **19 39 51.8 -0.2**
BHOU pPKPab **pPKPab** **19 39 56.5 -1.2**
BGES Gesves 159.55 355 pPKP **pPKPdf** **19 39 17.6 -2.3**
BGES PKPab **PKPab** **19 39 51.0 -1.2**
BGES pPKPab pPKPab 19 39 55.0 -2.9
KKB Krupnik 159.59 311 *e*P **PKPdf** **19 39 13.7 -0.7**
FRGS Fruska Gora 159.63 323 ⇑*i*P **PKPdf** **19 39 13.1 -1.2**
BMRD Maredsous 159.65 356 PKPdf **PKPdf** **19 39 13.3 -0.9**
BMRD pPKP **pPKPdf** **19 39 17.7 -2.3**
BMRD pPKPab **pPKPab** **19 39 56.7 -1.6**
DOU Dourbes 159.87 356 PKPdf **PKPdf** **19 39 13.6 -0.8**
DOU pPKP **pPKPdf** **19 39 18.8 -1.5**
DOU pPKPab **pPKPab** **19 39 57.4 -1.9**
MOA Molln 160.00 336 *i* PKPdf **PKPdf** **19 39 13.7 -1.0**
comp=Z,21nm,1.8s,SNR=9.1
MOA *i* pPKPab **pPKPab** **19 40 00.6 +0.6**
comp=Z,476nm,1.6s
MOA *e*PP **PP** **19 43 37.0 +1.3**
comp=Z,50nm,1.2s
ARSA Arzberg 160.03 333 *i* PKPdf **PKPdf** **19 39 14.0 -0.7**
comp=Z,20nm,1.2s,SNR=5.0
ARSA *i* pPKPab **pPKPab** **19 40 00.4 +0.2**
comp=Z,262nm,1.9s,SNR=11
ARSA *e*PP **PP** **19 43 36.8 +0.7**
comp=Z,34nm,1.2s
WLF Walferdange 160.16 353 PKPdf **PKPdf** **19 39 14.4 -0.4**
WLF pPKP **pPKPdf** **19 39 18.7 -1.9**
WLF PKPab **PKPab** **19 39 51.2 -3.7**
WLF pPKPab **pPKPab** **19 39 59.2 -1.4**
TEKS Tekeris 160.18 322 *e*P **PKPdf** **19 39 18.6 +3.6**
VAV Velandovo 160.19 310 *i* P **PKPdf** **19 39 13.2 -1.9**
DIVS Divibare 160.22 320 PKPdf **PKPdf** **19 39 12.7 -2.4**
DIVS Divibare 160.22 320 ⇑*i*P **PKPdf** **19 39 14.1 -1.0**
STIP Stip 160.26 312 *i* P **PKPdf** **19 39 15.1 0.0**
KOGS Kog 160.38 331 *i* PKPdf **PKPdf** **19 39 14.1 -1.0**
KOGS *i* PKPab **pPKPab** **19 40 00.3 -1.3**
KOGS *e*PP **PP** **19 43 38.4 +0.5**
IDI Anoyia 160.41 291 PKP **PKPdf** **19 39 19.3 +3.7**
comp=Z,18nm,1.0s,baz=115,slow=1.9,SNR=7.3
IDI Anoyia 160.41 291 PKPdf **PKPdf** **19 39 19.1 +3.5**
JSA Saint Aubin 160.52 9 *e*P **PKPdf** **19 39 13.1 -2.0**
JSA IAMs_20 IAMs_20 20 58 15.1
comp=Z,54µm,19.1s
KALN Kalnik 160.54 330 P **PKPdf** **19 39 14.4 -0.9**
SKO Skopje 160.60 313 *i* P **PKPdf** **19 39 14.6 -0.9**
BBLS Lazići 160.69 320 ⇑*i*P **PKPdf** **19 39 14.8 -0.8**
SOKA Soboth 160.70 333 *i* PKPdf **PKPdf** **19 39 12.3 -3.2**
comp=Z,47nm,1.5s,SNR=13
SOKA *i* pPKPab **pPKPab** **19 40 02.9 -0.2**
comp=Z,374nm,1.4s,SNR=16
SOKA PP **PP** **19 43 40.1 +0.4**
comp=Z,70nm,1.4s
PERS Pernice 160.70 333 *i* PKPdf **PKPdf** **19 39 14.3 -1.2**
PERS *e*PKPab **pPKPab** **19 40 01.9 -1.2**
PERS *e* 19 57 25.8
HAPS Han Pijesak,BI 160.80 322 *e*P **PKPdf** **19 39 18.1 +2.3**
MOSL Moslavina 160.81 328 P **PKPdf** **19 39 14.4 -1.2**
PTJ Puntijarka 160.93 330 P **PKPdf** **19 39 12.8 -3.0**
KBA Koelnbreinsper 160.98 337 *i* PKPdf **PKPdf** **19 39 14.5 -1.5**
comp=Z,32nm,1.4s,SNR=9.6
KBA *i* pPKPab **pPKPab** **19 40 04.4 0.0**
comp=Z,105nm,0.8s,SNR=7.9
KBA PP **PP** **19 43 41.6 +0.4**
comp=Z,84nm,1.3s
ZAG Zagreb 160.98 330 P **PKPdf** **19 39 15.1 -0.7**
ZAG Zagreb 160.98 330 ⇑*i*P **PKPdf** **19 39 15.5 -0.3**
OBKA Obir 161.02 334 *i* PKPdf **PKPdf** **19 39 13.2 -2.8**
comp=Z,30nm,1.9s,SNR=6.7
OBKA *i* pPKPab **pPKPab** **19 40 04.2 -0.4**
comp=Z,108nm,1.5s,SNR=5.9
OBKA PP **PP** **19 43 41.6 +0.2**
comp=Z,32nm,1.4s
CRES Cresnjev 161.21 331 ⇑*i*P **PKPdf** **19 39 12.8 -3.2**
BLY Banja Luka 161.25 326 ⇑*i*P **PKPdf** **19 39 15.4 -0.7**
MYKA Terra Mystica 161.26 335 *i* PKPdf **PKPdf** **19 39 14.7 -1.5**
comp=Z,33nm,1.5s,SNR=11
MYKA *i* pPKPab **pPKPab** **19 40 04.9 -0.7**
comp=Z,335nm,1.4s,SNR=9.8
MYKA PP **PP** **19 43 43.4 +0.8**
comp=Z,61nm,1.5s
WATA Walderalm 161.31 340 *i* PKPdf **PKPdf** **19 39 15.5 -0.7**
comp=Z,45nm,1.7s,SNR=12
WATA pPKPab **pPKPab** **19 40 06.2 +0.3**
comp=Z,520nm,1.4s
WATA PP **PP** **19 43 44.1 +1.2**
comp=Z,95nm,1.6s
WTTA Wattenberg 161.36 340 *i* PKPdf **PKPdf** **19 39 15.5 -0.8**
comp=Z,61nm,1.7s,SNR=12
WTTA *e*pPKPab **pPKPab** **19 40 06.6 +0.5**
comp=Z,465nm,1.2s,SNR=9.8
WTTA PP **PP** **19 43 43.7 +0.5**
comp=Z,115nm,1.4s
OZLJ Ozalj 161.38 330 P **PKPdf** **19 39 13.2 -2.9**
RETA Reutte 161.40 342 *i* PKPdf **PKPdf** **19 39 15.5 -0.7**
comp=Z,27nm,1.6s,SNR=12
RETA pPKPab **pPKPab** **19 40 05.7 -0.5**
comp=Z,359nm,1.3s,SNR=13
RETA PP **PP** **19 43 44.7 +1.5**
comp=Z,62nm,1.3s
LJU Ljubljana 161.42 333 *e*PKPdf **PKPdf** **19 39 15.7 -0.6**
LJU *e*PKPab **pPKPab** **19 40 04.7 -1.5**
LJU *e*PP **PP** **19 43 44.4 +0.9**
LJU *e* 19 47 37.7
LJU *e*SKKSac SKKSac 19 50 33.4 +2.5
LJU *e*SS SS 20 04 12.3 +14
LJU Ljubljana 161.42 333 ⇑*i*P **PKPdf** **19 39 15.5 -0.7**
MOTA Moosalm 161.44 341 *i* PKPdf **PKPdf** **19 39 15.3 -1.1**
comp=Z,46nm,1.6s,SNR=17
MOTA pPKPab **pPKPab** **19 40 06.6 +0.2**
comp=Z,509nm,1.3s
MOTA PP **PP** **19 43 45.3 +1.7**
comp=Z,153nm,1.7s
SQTA Sankt Quirin 161.52 341 *i* PKPdf **PKPdf** **19 39 15.3 -1.1**
comp=Z,44nm,1.7s,SNR=13
SQTA *e*pPKPab **pPKPab** **19 40 07.0 +0.3**
comp=Z,572nm,1.7s
SQTA PP **PP** **19 43 44.3 +0.3**
comp=Z,87nm,1.4s
ABTA Abfaltersbach 161.55 338 *i* PKPdf **PKPdf** **19 39 15.3 -1.1**
comp=Z,47nm,1.5s,SNR=14
ABTA *e*pPKPab **pPKPab** **19 40 06.1 -0.7**
comp=Z,326nm,1.3s
ABTA PP **PP** **19 43 44.7 +0.5**
comp=Z,32nm,1.3s
BOJS Bojanci 161.56 331 *i* PKPdf **PKPdf** **19 39 15.8 -0.6**
PDG Podgorica 161.68 317 PKPdf **PKPdf** **19 39 15.1 -1.5**
PDG Podgorica 161.68 317 ⇑*i*P **PKPdf** **19 39 15.4 -1.2**
CEY Cerknica 161.71 332 ⇑*i*P **PKPdf** **19 39 15.6 -1.0**
BRY Bratogost 161.80 319 *e*P **PKPdf** **19 39 19.8 +2.9**
DAVA Damuels 161.81 344 *i* PKPdf **PKPdf** **19 39 16.0 -0.8**
comp=Z,35nm,1.6s,SNR=12
DAVA pPKPab **pPKPab** **19 40 07.4 -0.7**

	comp=Z,224nm,1.1s							
DAVA				PP	**PP**	**19 43 47.7**	**+2.2**
	comp=Z,44nm,1.2s							
FETA	**Feichten**	**161.84**	**342**	*i* PKPdf	**PKPdf**	**19 39 16.4**	**-0.5**
	comp=Z,52nm,1.5s,SNR=14							
FETA				*ep*PKPab	**pPKPab**	**19 40 08.7**	**+0.5**
	comp=Z,302nm,1.5s,SNR=12							
FETA				PP	**PP**	**19 43 47.1**	**+1.4**
	comp=Z,30nm,1.4s							
DRME	**Dracevica, Mon**	**161.87**	**317** ⇑ *iP*		**PKPdf**	**19 39 15.7**	**-1.1**
CLF	**Chambon-Foret**	**162.00**	**0**	PKPdf	**PKPdf**	**19 39 15.8**	**-0.9**
RIY	**Rijeka**	**162.02**	**332**	P	**PKPdf**	**19 39 14.4**	**-2.4**
RIY	**Rijeka**	**162.02**	**332** ⇑ *iP*		**PKPdf**	**19 39 16.0**	**-0.9**
HCY	**Herceg Novi**	**162.11**	**318**	*eP*	**PKPdf**	**19 39 20.1**	**+3.0**
RICI	**Ricice**	**162.17**	**323**	P	**PKPdf**	**19 39 15.4**	**-1.7**
DBRK	**Dubrovnik**	**162.17**	**319**	P	**PKPdf**	**19 39 15.3**	**-1.8**
KIJV	**Kijevo**	**162.17**	**325**	P	**PKPdf**	**19 39 16.1**	**-1.0**
DAVOX	**Davos/Dischmat**	**162.29**	**343**	PKP	**PKPdf**	**19 39 18.0**	**+0.7**
	comp=Z,9.7nm,1.0s,baz=6.3,slow=1.1,SNR=19							
DAVOX				PKPab	**PKPab**	**19 40 03.9**	**-0.5**
	comp=Z,25nm,0.8s,baz=15,slow=7.5,SNR=5.0							
STON	**Ston**	**162.29**	**321**	P	**PKPdf**	**19 39 15.3**	**-1.9**
STON	**Ston**	**162.29**	**321** ⇑ *iP*		**PKPdf**	**19 39 15.3**	**-1.9**
MAKA	**Makarska**	**162.37**	**323**	P	**PKPdf**	**19 39 13.6**	**-3.6**
CTI	**Castel Tesino**	**162.45**	**338**	PKIKP	**PKPdf**	**19 39 14.2**	**-3.2**
CTI	**Castel Tesino**	**162.45**	**338**		**PKPdf**	**19 39 14.2**	**-3.2**
NVLJ	**Novalja**	**162.47**	**329**	P	**PKPdf**	**19 39 15.7**	**-1.6**
MORI	**Morici**	**162.61**	**326**	P	**PKPdf**	**19 39 15.3**	**-2.2**
BRJN	**Brijuni**	**162.66**	**332**	P	**PKPdf**	**19 39 12.8**	**-4.7**
ZIRJ	**Zirje**	**162.80**	**326**	P	**PKPdf**	**19 39 15.3**	**-2.4**
DUGI	**Dugi Otok**	**162.82**	**328**	P	**PKPdf**	**19 39 16.1**	**-1.6**
PMOZ	**Porto Moniz, M**	**162.98**	**75**	*e*PKPdf	**PKPdf**	**19 39 20.7**	**+2.3**
PMOZ	**Porto Moniz, M**	**162.98**	**75**	*e*PP	PP	19 44 01.4	+8.1
SALO	**Salr**	**163.18**	**340**	PKPdf	**PKPdf**	**19 39 16.3**	**-1.8**
SALO				PKPab	**PKPab**	**19 40 05.7**	**-2.6**
TORD	**Torodi Ar. Bea**	**163.21**	**177**	PKP	**PKPdf**	**19 39 19.3**	**+0.4**
	comp=Z,26nm,1.2s,baz=340,slow=0.7,SNR=33							
TORD				PKPab	**PKPab**	**19 40 08.6**	**-0.4**
	comp=Z,21nm,0.8s,baz=159,slow=3.1,SNR=5.8							
TORD				PP	**PP**	**19 43 58.7**	**+6.2**
	comp=Z,20nm,1.1s,baz=184,slow=2.7,SNR=0.9							
TORD				SKKPbc		19 49 12.7		
	comp=Z,13nm,0.9s,baz=347,slow=1.8,SNR=4.0							
PMAR	**Madeira**	**163.22**	**76**	*e*PKPdf	**PKPdf**	**19 39 24.9**	**+6.2**
PMAR	**Madeira**	**163.22**	**76**	*e*PP	PP	19 44 07.6	+13
SENIN	**Lac Senin/Sane**	**163.24**	**348**		**PKPdf**	**19 39 17.3**	**-1.0**
FUL	**Funchal**	**163.25**	**76**	*e*PKPdf	PKPdf	19 39 06.3	-12
FUL	**Funchal**	**163.25**	**76**	*e*PP	PP	19 44 04.4	+10
PMPST	**Porto Santo, M**	**163.68**	**74**	*e*PKPdf	**PKPdf**	**19 39 23.5**	**+4.6**
PMPST	**Porto Santo, M**	**163.68**	**74**	*e*PP	PP	19 43 59.2	+2.3
PMPS	**Porto Santo**	**163.68**	**74**	*e*PKPdf	**PKPdf**	**19 39 24.0**	**+5.1**
BAI	**Bari**	**163.89**	**317**	*eP*	**PKPdf**	**19 39 23.0**	**+4.2**
TAR1	**Taranto**	**164.00**	**315**	*eP*	**PKPdf**	**19 39 22.4**	**+3.5**
SG1	**Sgolgore (BA)**	**164.18**	**317**	*eP*	**PKPdf**	**19 39 23.6**	**+4.5**
MATE	**Matera**	**164.28**	**316**	⇓P	**PKPdf**	**19 39 22.4**	**+3.3**
BNI	**Bardonecchia**	**164.62**	**349**	PKIKP	**PKPdf**	**19 39 18.8**	**-0.7**
BNI	**Bardonecchia**	**164.62**	**349**		**PKPdf**	**19 39 18.8**	**-0.7**
MSSA	**Maissana**	**164.66**	**341**		**PKPab**	**19 40 10.4**	**-4.4**
OSSC	**Osservatorio P**	**164.80**	**335**	PKPdf	**PKPdf**	**19 39 17.2**	**-2.4**
OSSC					**PKPab**	**19 40 14.1**	**-1.3**
AQU	**L'Aquila**	**164.86**	**327** ⇑ *iP*		**PKPdf**	**19 39 19.1**	**-0.6**
INTR	**Introdacqua**	**164.88**	**326**		**PKPdf**	**19 39 18.2**	**-1.6**
INTR				PKPab	**PKPab**	**19 40 14.2**	**-1.7**
TIP	**Timpagrande**	**165.11**	**312**	⇑P	**PKPdf**	**19 39 23.4**	**+3.3**
TIP	**Timpagrande**	**165.11**	**312**		**PKPdf**	**19 39 19.1**	**-0.9**
PGAV	**Gavieira, Arco**	**165.25**	**33**	*e*PKPdf	**PKPdf**	**19 39 21.0**	**+0.9**
PGAV	**Gavieira, Arco**	**165.25**	**33**	*e*PP	PP	19 44 10.5	+6.5
PCAB	**Cabril**	**165.56**	**33**	*e*PKPdf	**PKPdf**	**19 39 21.1**	**+0.8**
PCAB	**Cabril**	**165.56**	**33**	*e*PP	PP	19 44 11.7	+6.2
PVRL	**Vila Real**	**166.05**	**34**	*e*PKPdf	**PKPdf**	**19 39 21.4**	**+0.7**
PVRL	**Vila Real**	**166.05**	**34**	*e*PP	PP	19 44 13.9	+5.8
PBRG	**Braganca**	**166.07**	**30**	*e*PKPdf	**PKPdf**	**19 39 21.4**	**+0.7**
PBRG	**Braganca**	**166.07**	**30**	*e*PP	PP	19 44 15.7	+7.6
PVIS	**Viseu**	**166.38**	**36**	*e*PKPdf	**PKPdf**	**19 39 22.0**	**+1.0**
PVIS	**Viseu**	**166.38**	**36**	*e*PP	PP	19 44 15.6	+5.7
MVO	**Moncorvo**	**166.46**	**32**	*e*PKPdf	**PKPdf**	**19 39 22.4**	**+1.3**
MVO	**Moncorvo**	**166.46**	**32**	*e*PP	PP	19 44 16.0	+5.8
COI	**Coimbra**	**166.49**	**38**	*e*PKPdf	**PKPdf**	**19 39 21.5**	**+0.5**
COI	**Coimbra**	**166.49**	**38**	*e*PP	PP	19 44 11.3	+0.9
PCAS	**Casmilo, Conde**	**166.55**	**39**	*e*PKPdf	**PKPdf**	**19 39 18.3**	**-2.8**
PCAS	**Casmilo, Conde**	**166.55**	**39**	*e*PP	PP	19 44 10.8	0.0
PSBE	**So Bento**	**166.75**	**41**	*e*PKPdf	**PKPdf**	**19 39 22.4**	**+1.1**
PSBE	**So Bento**	**166.75**	**41**	*e*PP	PP	19 44 16.4	+4.4
PMAFR	**Mafra**	**166.83**	**44**	*e*PKPdf	**PKPdf**	**19 39 22.2**	**+0.8**
PMAFR	**Mafra**	**166.83**	**44**	*e*PP	PP	19 44 20.9	+8.5
LIS	**Lisbon**	**167.06**	**45**	*e*PKPdf	**PKPdf**	**19 39 20.5**	**-1.0**
LIS	**Lisbon**	**167.06**	**45**	*e*PKPdf	**PKPdf**	**19 39 26.1**	**+4.6**
LIS	**Lisbon**	**167.06**	**45**	*e*PP	PP	19 44 23.0	+9.4
PCBR	**Castelo Branco**	**167.25**	**37**	*e*PKPdf	**PKPdf**	**19 39 22.5**	**+0.9**
PMTG	**Montargil**	**167.38**	**41**	*e*PKPdf	**PKPdf**	**19 39 22.4**	**+0.7**
PMTG	**Montargil**	**167.38**	**41**	*e*PP	PP	19 44 22.2	+7.1
VAE	**Valguarnera**	**167.58**	**310**	PKP	**PKPdf**	**19 39 22.9**	**+0.8**
	comp=Z,9.4nm,0.4s,baz=204,slow=10,SNR=7.9							
VAE				PP	**PP**	**19 44 19.1**	**+2.5**
	comp=Z,43nm,1.0s,baz=222,slow=14,SNR=3.2							
PMRV	**Marv??o**	**167.59**	**38**	*e*PKPdf	**PKPdf**	**19 39 22.6**	**+0.7**
PMRV	**Marv??o**	**167.59**	**38**	*e*PP	PP	19 44 20.9	+4.8
PNCL	**Nicolau / Gran**	**167.82**	**45**	*e*PKPdf	**PKPdf**	**19 39 23.4**	**+1.3**
PNCL	**Nicolau / Gran**	**167.82**	**45**	*e*PP	PP	19 44 25.8	+8.3
EVO	**Evora**	**167.86**	**43**	PKP	**PKPdf**	**19 39 23.0**	**+0.9**
EVO	**Evora**	**167.86**	**43**	PP	PP	19 44 24.6	+6.9
EVO	**Evora**	**167.86**	**43**	*e*PKPdf	**PKPdf**	**19 39 23.3**	**+1.2**
EVO	**Evora**	**167.86**	**43**	*e*PP	PP	19 44 25.4	+7.8
PTEO	**Sao Teotonio**	**168.04**	**48**	*e*PKPdf	**PKPdf**	**19 39 23.8**	**+1.6**
PTEO	**Sao Teotonio**	**168.04**	**48**	*e*PP	PP	19 44 34.7	+16
MESJ	**Messejana**	**168.18**	**46**	*e*PKPdf	**PKPdf**	**19 39 21.2**	**-1.1**
MESJ	**Messejana**	**168.18**	**46**	*e*PKPdf	**PKPdf**	**19 39 23.9**	**+1.6**
MESJ	**Messejana**	**168.18**	**46**	*e*PP	PP	19 44 28.2	+8.8
PFVI	**Vila Bisbo**	**168.20**	**50**	P	**PKPdf**	**19 39 22.9**	**+0.5**
	SNR=25							
PFVI	**Vila Bisbo**	**168.20**	**50**	*e*PKPdf	**PKPdf**	**19 39 22.9**	**+0.5**
PFVI	**Vila Bisbo**	**168.20**	**50**	*e*PP	PP	19 44 29.3	+10
PBEJ	**Beja**	**168.28**	**44**	*e*PKPdf	**PKPdf**	**19 39 23.6**	**+1.2**
PBEJ	**Beja**	**168.28**	**44**	*e*PP	PP	19 44 28.2	+8.4
PCVE	**Castro Verde**	**168.42**	**46**	*e*PKPdf	**PKPdf**	**19 39 24.0**	**+1.5**
PCVE	**Castro Verde**	**168.42**	**46**	*e*PP	PP	19 44 29.5	+8.9
UCM	**Universidad Co**	**168.71**	**23**	PKP	**PKPdf**	**19 39 23.1**	**+0.4**
UCM	**Universidad Co**	**168.71**	**23**	PP	PP	19 44 21.6	+0.2
PBDV	**Barranco-do-Ve**	**168.72**	**47**	*e*PKPdf	**PKPdf**	**19 39 24.4**	**+1.6**
PBDV	**Barranco-do-Ve**	**168.72**	**47**	*e*PP	PP	19 44 31.6	+9.4
PVAQ	**Vaqueiros**	**168.76**	**46**	P	**PKPdf**	**19 39 24.9**	**+2.2**
	SNR=37							
PVAQ	**Vaqueiros**	**168.76**	**46**	*e*PKPdf	**PKPdf**	**19 39 24.4**	**+1.7**
PVAQ	**Vaqueiros**	**168.76**	**46**	*e*PP	PP	19 44 20.3	-2.0
PAB	**San Pablo**	**168.96**	**29**	PKIKP	**PKPdf**	**19 39 21.1**	**-1.9**
PAB	**San Pablo**	**168.96**	**29**		**PKPdf**	**19 39 21.1**	**-1.9**
ESDC	**Sonseca Array**	**169.00**	**27**	PKP	**PKPdf**	**19 39 22.6**	**-0.3**
	comp=Z,31nm,1.3s,baz=343,slow=1.8,SNR=27							
ESDC				PKPab	**PKPab**	**19 40 35.3**	**+1.1**
	comp=Z,40nm,1.1s,baz=318,slow=4.3,SNR=10							
ESDC				PP	**PP**	**19 44 25.4**	**+2.3**
	comp=Z,5.6nm,1.2s,baz=330,slow=2.7,SNR=1.1							
ESDC				SKKPbc		19 48 58.8		
	comp=Z,7.1nm,1.0s,baz=168,slow=2.3,SNR=4.7							
MAHO	**Mahon**	**170.02**	**352**	PKP	**PKPdf**	**19 39 23.8**	**+0.4**
MAHO	**Mahon**	**170.02**	**352**	PP	PP	19 44 27.1	-0.5
SFS	**San Fernando**	**170.29**	**46**	PKP	**PKPdf**	**19 39 25.9**	**+2.2**
SFS	**San Fernando**	**170.29**	**46**	PP	PP	19 44 35.2	+5.2
TTIG	**Tnine Tigouga,**	**170.55**	**84**	P	**PKPdf**	**19 39 27.1**	**+2.9**
	SNR=32							
SRHM	**Skhour des Reh**	**170.79**	**72**	P	**PKPdf**	**19 39 27.0**	**+2.9**
	SNR=32							
SESP	**Santiago Espad**	**170.90**	**26**	P	**PKPdf**	**19 39 29.4**	**+5.2**
	SNR=22							
AVE	**Averroes**	**170.96**	**66**	PKP	**PKPdf**	**19 39 24.9**	**+0.7**
AVE	**Averroes**	**170.96**	**66**	PP	PP	19 44 41.0	+7.0
OUK	**Oukaimeden**	**171.01**	**80**	P	**PKPdf**	**19 39 27.0**	**+2.3**
	SNR=55							
EMAL	**Malaga-Limoner**	**171.13**	**39**	PKP	**PKPdf**	**19 39 23.8**	**-0.3**
EMAL	**Malaga-Limoner**	**171.13**	**39**	PP	PP	19 44 31.0	-3.0
RTC	**Rabat Centre**	**171.14**	**61**	P	**PKPdf**	**19 39 27.4**	**+3.2**
	SNR=18							
CEU	**Ceuta**	**171.17**	**46**	PKP	**PKPdf**	**19 39 25.0**	**+0.9**
CEU	**Ceuta**	**171.17**	**46**	PP	PP	19 44 39.8	+5.4
SMIR	**Smir Dam**	**171.30**	**47**	P	**PKPdf**	**19 39 28.0**	**+3.7**
	SNR=37							
RSA	**Sarsar**	**171.47**	**53**	P	**PKPdf**	**19 39 29.0**	**+4.5**
	SNR=41							
ZHG	**ZHG**	**171.51**	**64**	P	**PKPdf**	**19 39 28.0**	**+3.4**
	SNR=34							
KEST	**Kesra**	**171.87**	**316**	PKP	**PKPdf**	**19 39 30.2**	**+5.6**
	comp=Z,16nm,1.0s,baz=129,slow=3.2,SNR=8.8							
KEST				PKPab	**pPKPab**	**19 40 53.2**	**+0.5**
	comp=Z,148nm,1.2s,baz=330,slow=1.8,SNR=9.4							
KEST				PP	**PP**	**19 44 43.2**	**+5.2**
	comp=Z,24nm,1.1s,baz=22,slow=12,SNR=1.6							
CART	**Cartagena**	**171.91**	**20**	PKP	**PKPdf**	**19 39 24.4**	**0.0**
CART	**Cartagena**	**171.91**	**20**	PP	PP	19 44 39.3	+2.1
SICH	**Sidi Chahed**	**172.23**	**56**	P	**PKPdf**	**19 39 29.0**	**+4.2**
	SNR=38							
PVLZ	**Peæn de**	**172.31**	**46**	PKP	**PKPdf**	**19 39 24.0**	**-0.8**
PVLZ	**Peæn de**	**172.31**	**46**	PP	PP	19 44 43.0	+3.0
TAM	**Tamanrasset**	**172.31**	**202**	PKIKP	**PKPdf**	**19 39 22.3**	**-3.0**
TAM	**Tamanrasset**	**172.31**	**202**		**PKPdf**	**19 39 22.2**	**-3.0**
PALE	**Palemas**	**172.50**	**44**	P	**PKPdf**	**19 39 30.0**	**+5.1**
	SNR=6.1							
IFR	**Ifrane**	**172.65**	**60**	PKP	**PKPdf**	**19 39 25.9**	**+0.7**
IFR	**Ifrane**	**172.65**	**60**	PP	PP	19 44 49.9	+7.4
CZD	**Col de Zad**	**172.91**	**63**	P	**PKPdf**	**19 39 30.0**	**+4.5**
	SNR=34							
ZGR	**Zagora**	**172.99**	**87**	P	**PKPdf**	**19 39 31.0**	**+5.6**
	SNR=13							
AKLM	**AKL**	**173.00**	**48**	P	**PKPdf**	**19 39 31.0**	**+5.8**
	SNR=7.3							
TZRR	**Tazzarine**	**173.01**	**82**	P	**PKPdf**	**19 39 31.0**	**+5.6**
	SNR=14							
MELI	**Melilla**	**173.03**	**39**	PKP	**PKPdf**	**19 39 24.9**	**-0.1**
MELI	**Melilla**	**173.03**	**39**	PP	PP	19 44 42.8	-0.6
GOG	**Mont Gurugu**	**173.05**	**40**	P	**PKPdf**	**19 39 31.0**	**+5.8**
	SNR=20							
MDT	**Midelt**	**173.33**	**63**	PKP	**PKPdf**	**19 39 26.9**	**+1.5**
	comp=Z,42nm,1.1s,baz=207,slow=0.2,SNR=20							
MDT				PP	**PP**	**19 44 47.8**	**+1.9**
	comp=Z,6.0nm,1.0s,baz=105,slow=2.2,SNR=1.6							
SET	**Setif**	**173.35**	**339**	P	**PKPdf**	**19 39 32.0**	**+6.7**
TAF	**Taforalt**	**173.67**	**39**	P	**PKPdf**	**19 39 32.0**	**+6.6**
	SNR=11							
EBNR	**Beni Rached**	**173.68**	**7**	P	**PKPdf**	**19 39 31.2**	**+5.9**
ECHA	**Ech Chlef**	**173.80**	**8**	P	**PKPdf**	**19 39 31.5**	**+6.2**
EANR	**'Ain N'Sour**	**173.96**	**11**	P	**PKPdf**	**19 39 31.8**	**+6.3**
ETRT	**Tiaret**	**174.54**	**10**	P	**PKPdf**	**19 39 33.1**	**+7.3**

IDC ***23*** *19:21:44.7±0.3,30.01S×177.39W,h0km,mb5.8/32, mb1 5.8/33,mb1mx5.8/35,mbtmp5.7/33,ML5.2/1,MS7.0/1, Ms1 7.0/1,ms1mx6.0/34,Error ellipse: s-maj=14.1km s-min=11.2km az=34.0*

NEIC ***23*** *19:21:46.0±2.0,29.94S±0.06×177.52W±0.10,h10km±1km, mb6.2/270,Mwc6.5(GCMT),Error ellipse: s-maj=14.7km s-min=10.6km az=92.0*

MOS ***23*** *19:21:46.9±0.9,29.97S×177.60W,h23km,mb6.2/26, Error ellipse: s-maj=8.5km s-min=7.3km az=99.7*

BJI ***23*** *19:21:47.9±0.0,30.00S×177.63W,h20km,mB6.6/15, mb5.7/41,Ms6.5/7,Ms7 6.4/14*

UNK ***23*** *19:21:48.8,30.03S×177.64W,h20km*

NEIC ***23*** *19:21:54,30.03S×177.76W,h12km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.67; Mθθ0.84; Mφφ-1.51; Mrθ2.63; Mrφ-0.64; Mθφ6.64; Fault plane solution: M₀7.29000×10¹⁸ NP1:φs170.00000°, δ5.00000°,λ59.00000°. NP2:φs22.00000°,δ85.00000°, λ93.00000°. Principal axes: T 6.7615, Plg49.0000°, Azm295.0000°; N 0.9603, Plg3.0000°, Azm202.0000°; P -7.7218, Plg40.0000°, Azm109.0000°;*

GCMT ***23*** *19:21:55.0±0.4,30.03S±0.03×177.70W±0.03,h12km, MW6.5/66,Moment Tensor Solution. s17,c20; s66,c82; Duration: 4ª2 Moment tensor: Scale 10¹⁸Nm; Mrr0.63±.14; Mθθ0.97±.10; Mφφ-1.60±.09; Mrθ3.91±.33; Mrφ-0.83±.09; Mθφ5.27±.33; Best double couple: M₀6.72100×10¹⁸ NP1:φs154.00000°,δ10.00000°, λ27.00000°. NP2:φs38.00000°,δ86.00000°,λ99.00000°. Principal axes: T 6.2970, Plg49.0000°, Azm317.0000°; N 0.8530, Plg9.0000°, Azm217.0000°; P -7.1450, Plg40.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 19:21:48.4±0.5,30.14S±0.04×177.46W±0.04,h26km±3km, h27km:pP-P,n905,σ1s79/951,mb6.2/186,**9C-6D, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**0.96**	**335**	P	**Pn**	**19 22 04.3**	**-1.8**
GLKZ				S	**Sb**	**19 22 18.1**	**-0.6**
RAO	**Raoul Island**	**0.97**	**336**	Pn	**Pn**	**19 22 05.0**	**-1.2**
	39µm,0.3s,baz=249,slow=11,SNR=5.9						
RAO	**Raoul Island**	**0.97**	**336**	P	**Pn**	**19 22 03.8**	**-2.5**
RAO	**Raoul Island**	**0.97**	**336**	Pn	**Pn**	**19 22 03.8**	**-2.5**
RIZ	**Raoul Island**	**0.98**	**335**	P	**Pn**	**19 22 05.7**	**-0.7**
RIZ				S	**Sb**	**19 22 18.1**	**-1.1**
MXZ	**Matakaoa Point**	**8.20**	**204**	S	**Sn**	**19 25 17.0**	**-0.3**
WMGZ	**Waiomatatini S**	**8.39**	**203**	S	**Sn**	**19 25 23.0**	**+0.9**
HAZ	**Te Kaha**	**8.56**	**206**	S	**Sn**	**19 25 26.1**	**-0.2**
PKGZ	**Pakihiroa**	**8.57**	**204**	P	**Pn**	**19 23 52.3**	**+1.6**
PKGZ				S	**Sn**	**19 25 26.2**	**-0.4**
PUZ	**Puketiti**	**8.67**	**203**	S	**Sn**	**19 25 29.2**	**+0.1**
KUZ	**Kuaotunu**	**8.71**	**219**	P	**Pn**	**19 23 56.2**	**+3.6**
RUGZ	**Raukumara Rang**	**8.79**	**206**	S	**Sn**	**19 25 33.2**	**+1.2**
WCZ	**Waipu Caves**	**8.98**	**228**	P	**Pn**	**19 24 04.2**	**+7.8**
CNGZ	**Carnagh Statio**	**9.06**	**202**	P	**Pn**	**19 23 59.0**	**+1.5**
CNGZ				S	**Sn**	**19 25 36.6**	**-2.0**
OUZ	**Omahuta**	**9.08**	**234**	P	Pn	19 24 04.7	+7.0
OUZ	**Omahuta**	**9.08**	**234**	Pn	**Pn**	**19 23 59.8**	**+2.1**
TKGZ	**Te Karaka**	**9.14**	**204**	S	**Sn**	**19 25 38.4**	**-2.1**
MWZ	**Matawai**	**9.16**	**206**	S	**Sn**	**19 25 41.2**	**0.0**
URZ	**Urewera**	**9.26**	**208**	S	**Sn**	**19 25 45.8**	**+2.3**
RAGZ	**Rawiri**	**9.35**	**206**	S	**Sn**	**19 25 43.8**	**-1.9**
RIGZ	**Rimuhau**	**9.41**	**203**	S	**Sn**	**19 25 48.0**	**+0.7**
PRGZ	**Paritu Road**	**9.56**	**202**	S	**Sn**	**19 25 47.0**	**-4.0**
SNGZ	**Shannon Statio**	**9.63**	**205**	S	**Sn**	**19 25 47.2**	**-5.3**
MSVF	**Nonsavu**	**13.01**	**341**	*i* P	**Pn**	**19 24 56.2**	**+4.6**
MSVF				pmax	pmax		
	comp=Z,616nm,1.0s						
THZ	**Tophouse**	**13.97**	**211**	Pn	**Pn**	**19 25 00.9**	**-3.7**
KHZ	**Kahutara**	**14.23**	**208**	Pn	**Pn**	**19 25 03.7**	**-4.4**
LTZ	**Lake Taylor**	**15.06**	**210**	Pn	**Pn**	**19 25 16.1**	**-3.4**
OXZ	**Oxford**	**15.60**	**210**	Pn	**Pn**	**19 25 28.2**	**+1.8**
OXZ				IAmb	IAmb	19 25 52.3	
	comp=Z,1µm,0.6s						
MQZ	**McQueen's Vall**	**15.66**	**207**	Pn	**Pn**	**19 25 25.4**	**-1.7**
MQZ				IAmb	IAmb	19 25 57.7	
	comp=Z,3µm,1.7s						
RPZ	**Rata Peaks**	**16.34**	**211**	Pn	**P**	**19 25 38.4**	**-0.3**
	comp=Z,8.1nm,0.3s,baz=253,slow=11,SNR=1.3						
RPZ				Sn	Sn	19 28 23.1	-13
	comp=Z,20nm,0.3s,baz=144,slow=23,SNR=8.3						
RPZ	**Rata Peaks**	**16.34**	**211**		**Pn**	**19 25 37.0**	**+1.1**
DZM	**Mont Dzumac**	**16.52**	**295**	Pn	**P**	**19 25 43.5**	**+2.6**
	comp=Z,1.8nm,0.3s,baz=94,slow=19,SNR=2.1						
FOZ	**Fox Glacier**	**16.78**	**214**	Pn	**Pn**	**19 25 37.6**	**-3.8**
AFI	**Afiamalu**	**16.98**	**19**	P	Pn	19 25 36.0	-8.2
AFI				pmax	pmax		
	comp=Z,970nm,1.1s						
AFI	**Afiamalu**	**16.98**	**19**	Pn	Pn	19 25 36.0	-8.2
LBZ	**Lake Benmore**	**17.26**	**211**	Pn	**Pn**	**19 25 44.0**	**-3.5**
ODZ	**Otahua Downs**	**17.58**	**209**	Pn	**Pn**	**19 25 47.5**	**-4.0**
WKZ	**Wanaka**	**18.13**	**212**	Pn	**Pn**	**19 25 56.0**	**-2.2**
RAR	**Rarotonga**	**18.24**	**65**	P	**Pn**	**19 25 55.1**	**-4.5**
	comp=Z,5.4nm,0.3s,baz=189,slow=5.6,SNR=1.8						
RAR	**Rarotonga**	**18.24**	**65**	P	**Pn**	**19 25 55.1**	**-4.5**
RAR				pmax	pmax		
	comp=Z,2µm,1.1s						
RAR	**Rarotonga**	**18.24**	**65**		**Pn**	**19 25 55.1**	**-4.5**
RAR				IAmb	IAmb	19 26 37.6	
	comp=Z,2µm,1.1s						
MLZ	**Mavora Lakes**	**18.96**	**213**		**P**	**19 26 05.8**	**-1.7**
WHZ	**Wether Hill Ro**	**19.43**	**212**		**P**	**19 26 11.0**	**-1.7**
LHI	**Lord Howe Isla**	**20.20**	**260**		Pn	19 26 25.0	+1.9
LHI				IAmb	IAmb	19 26 30.5	
	comp=Z,1µm,0.8s						
PYZ	**Puysegur Point**	**20.23**	**213**		**P**	**19 26 17.4**	**-3.9**
SANVU	**Saraoutou**	**20.30**	**313**	P	**P**	**19 26 22.4**	**0.0**
SANVU				IAmb	IAmb	19 26 41.2	
	comp=Z,2µm,1.6s						
ARMA	**Armidale**	**26.66**	**262**		**P**	**19 27 28.5**	**+3.3**
ARMA				IAmb	IAmb	19 27 33.2	
	comp=Z,403nm,0.9s						
RIV	**Riverview**	**26.82**	**254**	P	**P**	**19 27 30.9**	**+4.4**
RIV				pmax	pmax		
	comp=Z,1µm,1.0s						
KNTN	**Kanton**	**27.75**	**12**	P	**P**	**19 27 32.2**	**-2.8**
KNTN				IAmb	IAmb	19 27 52.1	
	comp=Z,439nm,1.1s						
EIDS	**Eidsvold**	**28.19**	**272**	P	**P**	**19 27 37.6**	**-1.3**
PPT	**Papeete**	**28.32**	**70**	P	**P**	**19 27 40.1**	**0.0**
	comp=Z,42nm,0.6s,baz=118,slow=15,SNR=1.7						
CAN	**Canberra**	**28.60**	**251**	P	**P**	**19 27 43.3**	**+0.8**
CAN				pmax	pmax		
	comp=Z,546nm,1.0s						
CAN	**Canberra**	**28.60**	**251**	P	**P**	**19 27 43.3**	**+0.8**
CAN				IAmb	IAmb	19 27 49.9	
	comp=Z,546nm,1.0s						
HNR	**Honiara**	**29.49**	**310**	P	**P**	**19 27 51.7**	**+1.2**
	comp=Z,334nm,0.9s,baz=186,slow=7.9,SNR=3.8						
HNR	**Honiara**	**29.49**	**310**	P	**P**	**19 27 47.6**	**-2.8**
HNR				pmax	pmax		
	comp=Z,565nm,1.0s						
HNR	**Honiara**	**29.49**	**310**	P	**P**	**19 27 47.6**	**-2.8**
HNR				IAmb	IAmb	19 28 10.1	
	comp=Z,565nm,1.0s						
TAU	**Tasmania Unive**	**30.81**	**236**	P	**P**	**19 28 02.8**	**+0.9**
TAU				pmax	pmax		
	comp=Z,373nm,1.1s						
TAU	**Tasmania Unive**	**30.81**	**236**	P	**P**	**19 28 02.8**	**+0.9**
TAU				IAmb	IAmb	19 28 08.0	
	comp=Z,373nm,1.1s						
TOO	**Toolangi**	**31.49**	**246**	P	**P**	**19 28 07.0**	**-1.1**
TOO				pmax	pmax		
	comp=Z,530nm,0.9s						
TOO	**Toolangi**	**31.49**	**246**	P	**P**	**19 28 07.0**	**-1.1**
TARA	**Tarawa**	**32.63**	**342**	P	**P**	**19 28 15.7**	**-2.5**
TARA				IAmb	IAmb	19 28 23.8	
	comp=Z,344nm,0.9s						
CTA	**Charters Tower**	**34.22**	**278**	P	**P**	**19 28 34.6**	**+2.6**
	comp=Z,1µm,0.8s,baz=104,slow=11,SNR=31						
CTA				ScP	**ScP**	**19 34 53.1**	**+1.3**
	comp=Z,14nm,0.8s,baz=70,slow=8.5,SNR=2.2						
CTAO	**

MIDW IAmb IAmb 19 31 43.3
comp=Z,223nm,0.9s
BATI Baumata 58.08 277 P **P** **19 31 39.2 -0.5**
comp=Z,68nm,0.5s,baz=197,slow=11,SNR=3.9
QSPA South Pole Qui 59.97 180 P **P** **19 31 54.3 +2.1**
comp=Z,80nm,0.9s,baz=100,slow=4.9,SNR=1.7
QSPA PKP2bc **P'P'bc** **20 01 27.8 -6.1**
comp=Z,25nm,1.0s,baz=203,slow=2.3,SNR=3.1
QSPA South Pole Qui 59.97 180 P **P** **19 31 53.9 +1.6**
TNTI Ternate 60.79 290 P **P** **19 31 57.6 -0.8**
GIRL Giralia 60.85 259 P **P** **19 31 59.3 +0.5**
LUWI Luwuk 63.57 285 P **P** **19 32 16.5 -0.5**
KAPI Kappang 64.02 280 P **P** **19 32 19.4 -0.7**
comp=Z,66nm,0.6s,baz=126,slow=7.1,SNR=4.2
KAPI Kappang 64.02 280 P **P** **19 32 18.3 -1.8**
KAPI pmax pmax
comp=Z,411nm,1.5s
KAPI Kappang 64.02 280 P **P** **19 32 18.2 -1.8**
KCP Kidapawan 66.29 294 μ *eP* P 19 32 28.5 -6.3
JAGI Jajag, Banyuwa 67.12 273 P **P** **19 32 37.1 -3.1**
BKB Balikpapan 68.40 282 P **P** **19 32 47.0 -1.1**
JCJ Chichijima 68.76 322 P **P** **19 32 47.0 -3.1**
NGJI Ngawi 69.98 273 P **P** **19 33 01.8 +3.8**
comp=Z,397nm,1.0s
UGM Wanagama 70.53 272 P **P** **19 33 01.0 -0.4**
SMRI Semarang 71.02 273 P **P** **19 33 02.3 -2.0**
SPMM Sapulut 71.97 287 P **P** **19 33 13.0 +2.9**
PMSA Palmer Station 72.31 156 P **P** **19 33 11.9 +0.7**
comp=Z,25nm,0.9s,baz=285,slow=0.7,SNR=4.1
MAW Mawson 72.72 200 P **P** **19 33 15.7 +2.1**
comp=Z,310nm,0.9s,baz=108,slow=8.9,SNR=8.6
MAW Mawson 72.72 200 P **P** **19 33 14.5 +0.9**
MAW pmax pmax
comp=Z,112nm,1.1s
MAW Mawson 72.72 200 P **P** **19 33 14.5 +0.9**
KKM Kota Kinabalu 72.92 288 P **P** **19 33 14.5 -1.3**
CISI Cisompet, Garu 73.05 271 P **P** **19 33 15.5 -1.1**
XMIS Christmas Isla 73.53 267 P **P** **19 33 17.5 -1.8**
XMIS IAmb IAmb 19 33 24.8
comp=Z,356nm,1.2s
LEM Lembang 73.57 272 P **P** **19 33 20.5 +0.7**
comp=Z,455nm,0.8s,baz=46,slow=4.9,SNR=15
SBUM Sibu 74.32 282 P **P** **19 33 23.2 -0.7**
SBUM Sibu 74.32 282 P **P** **19 33 24.0 +0.1**
JHJ2 Mitsune 74.78 324 P **P** **19 33 25.4 -0.7**
KSM Kuching 75.43 280 P **P** **19 33 28.7 -1.7**
KSM Kuching 75.43 280 P **P** **19 33 30.0 -0.4**
JOW Kunigami 76.83 312 P **P** **19 33 37.0 -1.0**
INU Inuyama 77.97 323 P **P** **19 33 43.5 -0.7**
MJAR Matsushiro Arr 78.29 325 P **P** **19 33 44.7 -1.3**
comp=Z,44nm,0.9s,baz=165,slow=5.6,SNR=7.4
MJAR Matsushiro Arr 78.29 325 P **P** **19 33 44.7 -1.3**
MJAR pmax pmax
comp=Z,82nm,1.1s
MJAR Matsushiro Arr 78.29 325 P **P** **19 33 44.7 -1.3**
MAJO Matsushiro 78.30 325 *i* P **P** **19 33 44.4 -1.6**
MAJO pmax pmax
comp=Z,251nm,1.0s
MAJO Matsushiro 78.30 325 P **P** **19 33 44.1 -1.9**
MAT Matsushiro 78.30 325 P **P** **19 33 45.7 -0.3**
MJB9 Matsu-Tunnel 78.30 325 P **P** **19 33 43.9 -2.1**
SNAA Sanae 78.40 178 P **P** **19 33 47.7 +1.4**
comp=Z,131nm,1.1s,baz=180,slow=11
SNAA PKKPbc **PKKPbc** **19 52 45.6 +1.4**
comp=Z,3.1nm,0.8s,baz=252,slow=3.2,SNR=1.9
SNAA Sanae 78.40 178 *i* P **P** **19 33 41.7 -4.6**
SNAA pmax pmax
comp=Z,223nm,1.0s
SNAA Sanae 78.40 178 P **P** **19 33 47.1 +0.8**
SNAA IAmb IAmb 19 34 00.5
comp=Z,204nm,0.9s
LHSI Lahat 78.59 272 P **P** **19 33 51.0 +2.8**
comp=Z,10μmcomp=Z,247nm,1.0s
COYC Coyhaique 78.80 136 P **P** **19 33 49.9 +1.0**
TWG Pinlang 79.10 304 P **P** **19 33 49.3 -1.4**
NVL N'lazarevskaya 79.16 183 *eP* P 19 33 56.6 +6.3
NVL pmax pmax
comp=Z,148nm,0.8s
NVL MLR MLR
comp=Z,43μm,16.0s
JNU Nakatsue 79.67 318 P **P** **19 33 53.2 -0.5**
JNU IAmb IAmb 19 34 03.6
comp=Z,211nm,1.0s
TPUB Ta-pu 79.71 304 P **P** **19 33 53.0 -1.1**
MASI Maura Aman, Be 80.04 272 P **P** **19 33 59.3 +3.2**
comp=Z,17μmcomp=Z,1μm,0.9s
TPRI Tanjung Pinang 80.10 277 P **P** **19 33 58.4 +2.0**
comp=Z,7μmcomp=Z,189nm,1.1s
H03S2 Juan Fernandez 80.22 123 T T 21 03 21.5
baz=238,slow=74,SNR=49
H03S1 Juan Fernandez 80.23 123 T T 21 03 19.8
baz=238,slow=74,SNR=55
H03S3 Juan Fernandez 80.24 123 T T 21 03 22.8
baz=238,slow=74,SNR=54
LL01 San Ignacio de 80.28 133 P **P** **19 33 58.5 +1.6**
COCO West Island 80.31 262 P **P** **19 33 56.6 -0.9**
COCO pmax pmax
comp=Z,459nm,1.2s
COCO West Island 80.31 262 P **P** **19 33 56.6 -0.9**
COCO IAmb IAmb 19 34 02.4
comp=Z,459nm,1.1s
H06S1 SOCORRO T 80.34 62 T T 21 02 24.8
H03N3 Juan Fernandez 80.41 123 T T 21 03 32.3
baz=252,slow=70,SNR=28
H03N2 Juan Fernandez 80.41 123 T T 21 03 31.5
baz=252,slow=70,SNR=36
H03N1 Juan Fernandez 80.43 123 T T 21 03 32.2
baz=252,slow=70,SNR=39
ERM Erimo 80.45 331 *ceP* **P** **19 33 58.3 +0.8**
ERM pmax pmax
comp=Z,172nm,1.7s
ERM Erimo 80.45 331 P **P** **19 33 58.8 +1.2**
PAF Port-aux-Franc 80.63 218 P **P** **19 33 59.4 +0.7**
PAF pmax pmax
comp=Z,883nm,1.4s
PAF Port-aux-Franc 80.63 218 P **P** **19 33 59.4 +0.7**
YUK Yuzh-Kuril'sk 81.08 334 *i* P **P** **19 34 00.6 -0.2**
MYKOM Kota Tinggi 81.12 277 P **P** **19 34 00.1 -1.8**
MYKOM IAmb IAmb 19 34 06.1
comp=Z,189nm,0.9s
MYKOM Kota Tinggi 81.12 277 P **P** **19 34 02.0 +0.1**
KRJI Kerinci 81.23 273 P **P** **19 34 05.5 +2.9**
comp=Z,9μmcomp=Z,774nm,0.8s
KUR Kuril'sk 81.38 336 *i* P **P** **19 34 02.4 0.0**
KIWB Kanaga Island 81.64 0 P **P** **19 34 04.2 +0.5**
ADK Adak 81.67 0 P **P** **19 34 03.0 -0.8**
ADK pmax pmax
comp=Z,748nm,1.0s
ADK Adak 81.67 0 P **P** **19 34 03.0 -0.8**
KGM Kluang 81.69 277 P **P** **19 34 05.0 +0.1**
SDSI Sungai Dareh 81.84 274 P **P** **19 34 07.3 +1.6**
comp=Z,5μmcomp=Z,79nm,1.1s
GSTR Great Sitkin T 81.89 1 P **P** **19 34 04.5 -0.5**
ATKA Atka Island 82.04 2 P **P** **19 34 04.9 -0.8**
QZH Quanzhou 82.19 305 P **P** **19 34 08.0 +0.8**
QZH pmax pmax
comp=Z,87nm,0.9s
PLCA Paso Flores 82.34 133 P **P** **19 34 08.8 +0.7**
comp=Z,11nm,0.8s,baz=222,slow=7.2,SNR=1.9
PLCA PKKPbc **PKKPbc** **19 52 34.5 -0.1**
comp=Z,5.8nm,0.9s,baz=90,slow=8.1,SNR=2.7
PLCA Paso Flores 82.34 133 P **P** **19 34 09.3 +1.3**
PLCA pmax pmax
comp=Z,102nm,1.2s
PLCA Paso Flores 82.34 133 P **P** **19 34 09.3 +1.3**
JKA Kamikawa-asahi 82.42 332 P **P** **19 34 07.3 -0.6**
JKA IAmb IAmb 19 34 30.9
comp=Z,147nm,0.8s
ASAJ Asahikawa 82.42 332 P **P** **19 34 07.3 -0.7**
ASAJ pmax pmax
comp=Z,147nm,0.8s
LC01 Cunco 82.48 131 P **P** **19 34 11.4 +2.7**
DLV T Lat 82.52 288 P **P** **19 34 09.0 -0.4**
DLV IAmb IAmb 19 34 18.0
comp=Z,281nm,1.1s
EFI East Falkland 82.76 147 *i* P P 19 34 04.6 -5.2
EFI pmax pmax
comp=Z,194nm,1.0s
EFI East Falkland 82.76 147 P **P** **19 34 10.5 +0.7**
BI03 Tigo 82.82 128 P **P** **19 34 12.2 +1.7**
SMY Shemya 82.84 355 P **P** **19 34 09.0 -0.9**
SMY pmax pmax
comp=Z,607nm,1.0s
SMY Shemya 82.84 355 P **P** **19 34 09.0 -0.9**

NIKH Nikolski High 83.10 5 P **P** **19 34 10.7 -0.5**
SNCC San Nicolas Is 83.53 46 P **P** **19 34 11.8 -2.1**
SKR Severo-Kuril's 83.80 343 *eP* **P** **19 34 13.7 -1.1**
SKR *eS* **S** **19 44 40.0 +4.0**
SKR pmax pmax
comp=Z,1μm,6.1s
SKR pmax pmax
comp=Z,113nm,0.8s
SKR pmax pmax
comp=Z,1μm,7.5s
SKR MLR MLR
comp=Z,14μm,18.0s
SKR MLR MLR
comp=Z,14μm,18.0s
HKPS Hong Kong Po S 83.85 300 P **P** **19 34 18.1 +2.2**
HKPS IAmb IAmb 19 34 48.7
comp=Z,255nm,1.6s
SCI2 San Clemente I 83.96 46 P **P** **19 34 18.3 +2.1**
baz=228
TJN Taejon 84.02 318 *ceP* **P** **19 34 15.7 -0.7**
SLBS Sierra La Lagu 84.02 58 P **P** **19 34 19.9 +3.1**
BI02 San Fabin de 84.10 129 P **P** **19 34 17.7 +0.5**
UNV Unalaska Valle 84.17 7 P **P** **19 34 16.1 -0.6**
UNV IAmb IAmb 19 34 25.4
comp=Z,129nm,1.0s
KSRS Korea Array 84.45 319 P **P** **19 34 19.8 +1.2**
comp=Z,58nm,0.9s,baz=143,slow=6.0,SNR=11
PKM Mcpherson Peak 84.45 44 P **P** **19 34 20.8 +1.8**
baz=227
KSAR Wonju Array Be 84.46 319 P **P** **19 34 17.1 -1.5**
KSAR Wonju Array Be 84.46 319 P **P** **19 34 17.1 -1.5**
KS19 Wonju Array Si 84.52 319 P **P** **19 34 16.1 -2.8**
AKUT Akutan 84.53 7 P **P** **19 34 18.2 -0.3**
GO05 Huala 84.56 127 P **P** **19 34 18.8 -0.7**
GO05 IAmb IAmb 19 34 26.9
comp=Z,138nm,1.2s
SMMC Simmler 84.63 44 P **P** **19 34 21.7 +2.0**
baz=227
YSS Yuzh-Sakhalins 84.72 334 *eP* **P** **19 34 20.0 +0.4**
YSS *e* 19 34 27.5
YSS pmax pmax
comp=Z,330nm,1.1s
YSS Yuzh-Sakhalins 84.72 334 P **P** **19 34 19.6 0.0**
PAGB Antelope Grade 84.77 43 P **P** **19 34 21.9 +1.7**
SAO San Andreas Ge 84.77 42 P **P** **19 34 21.2 +1.0**
SAO pmax pmax
comp=Z,240nm,1.4s
SAO San Andreas Ge 84.77 42 P **P** **19 34 21.1 +1.0**
SAO IAmb IAmb 19 34 26.9
comp=Z,240nm,1.4s
109C Camp Elliot, M 84.81 47 P **P** **19 34 22.9 +2.5**
baz=229
109C Camp Elliot, M 84.81 47 P **P** **19 34 20.3 -0.2**
109C IAmb IAmb 19 34 43.8
comp=Z,184nm,1.5s
IPM Ipoh 84.91 278 P **P** **19 34 20.3 -1.2**
IPM IAmb IAmb 19 34 24.9
comp=Z,348nm,1.5s
IPM Ipoh 84.91 278 P **P** **19 34 25.0 +3.5**
DECC Green Verdugo 84.94 46 P **P** **19 34 23.6 +2.4**
baz=228
OSI Osito Audit: C 84.94 45 P **P** **19 34 23.4 +2.2**
baz=228
OSI Osito Audit: C 84.94 45 P **P** **19 34 21.7 +0.5**
OSI IAmb IAmb 19 34 36.4
comp=Z,170nm,1.1s
BAR Barrett 84.95 48 P **P** **19 34 22.4 +1.1**
BAR IAmb IAmb 19 34 45.7
comp=Z,442nm,1.9s
PASC Pasadena Art C 84.97 46 P **P** **19 34 21.5 +0.2**
PASC IAmb IAmb 19 34 28.4
comp=Z,152nm,1.1s
MWC Mount Wilson 85.09 46 P **P** **19 34 22.2 +0.1**
MWC pmax pmax
comp=Z,168nm,1.2s
MWC Mount Wilson 85.09 46 P **P** **19 34 22.2 +0.1**
MWC IAmb IAmb 19 34 29.3
comp=Z,168nm,1.1s
INCN Inchon 85.20 319 P **P** **19 34 21.9 -0.5**
INCN pmax pmax
comp=Z,88nm,0.9s
INCN Inchon 85.20 319 P **P** **19 34 21.9 -0.5**
ARVC Arvin 85.21 45 P **P** **19 34 24.7 +2.2**
baz=228
MURC Murrieta 85.22 47 P **P** **19 34 24.5 +2.0**
baz=229
MONP2 Monument Peak 85.25 48 P **P** **19 34 24.9 +2.0**
baz=230
IKP In-Ko-Pah, Jac 85.29 48 P **P** **19 34 25.2 +2.1**
baz=230
QIZ Qiongzhong 85.30 295 P **P** **19 34 22.9 -0.4**
QIZ S **S** **19 44 57.0 +4.5**
QIZ pmax pmax
comp=Z,39nm,2.1s
BFSC Mount Baldy Ra 85.34 46 P **P** **19 34 25.1 +1.8**
baz=229
PET Petropavlovsk 85.39 346 *eP* **P** **19 34 21.2 -1.7**
PET pmax pmax
comp=Z,165nm,1.0s
PET Petropavlovsk 85.39 346 P **P** **19 34 22.3 -0.6**
PET IAmb IAmb 19 34 30.4
comp=Z,124nm,0.9s
HOPS Hopland Field 85.41 39 P **P** **19 34 24.6 +1.2**
HOPS IAmb IAmb 19 34 30.7
comp=Z,227nm,1.1s
GDXM Geysers 85.43 40 P **P** **19 34 24.7 +1.1**
GDXM IAmb IAmb 19 34 36.1
comp=Z,188nm,1.4s
BO02 Sierra Bellavi 85.46 128 P **P** **19 34 26.0 +1.9**
BO02 IAmb IAmb 19 34 50.4
comp=Z,239nm,1.3s
FALS False Pass 85.51 8 P **P** **19 34 22.1 -1.2**
FALS IAmb IAmb 19 34 33.5
comp=Z,125nm,0.8s
VES Vestal, Richgr 85.54 44 P **P** **19 34 26.2 +2.1**
baz=228
EDW2 Edwards Air Fo 85.56 45 P **P** **19 34 26.0 +1.7**
baz=228
KCPM Cahto Peak 85.62 39 P **P** **19 34 24.7 +0.1**
KULM Kulim 85.64 279 P **P** **19 34 23.7 -1.4**
KULM Kulim 85.64 279 P **P** **19 34 28.0 +2.9**
PEA0B Petropavlovsk- 85.68 345 P **P** **19 34 23.0 -1.3**
PEA0B Petropavlovsk- 85.68 345 P **P** **19 34 23.0 -1.3**
PETK Petropavlovsk- 85.68 345 P **P** **19 34 23.9 -0.4**
comp=Z,166nm,0.9s,baz=122,slow=7.0,SNR=9.5
PETK PKiKP **PKiKP** **19 39 34.5 +0.5**
comp=Z,2.8nm,0.9s,baz=108,slow=4.7,SNR=1.4
PETK Petropavlovsk- 85.68 345 P **P** **19 34 23.4 -0.9**
SWSC Sam W. Stewart 85.68 48 P **P** **19 34 26.8 +2.0**
baz=230
PFO Pinyon Flats O 85.69 47 P **P** **19 34 26.6 +1.6**
baz=230
PFO Pinyon Flats O 85.69 47 P **P** **19 34 26.2 +1.1**
PFO pmax pmax
comp=Z,405nm,1.7s
PFO Pinyon Flats O 85.69 47 P **P** **19 34 26.2 +1.1**
PFO IAmb IAmb 19 34 49.7
comp=Z,405nm,1.7s
XPFO Pion Flat 85.69 47 P **P** **19 34 25.8 +0.7**
XPFO IAmb IAmb 19 34 49.8
comp=Z,405nm,1.7s
ISA Isabella, Lake 85.79 44 P **P** **19 34 27.4 +2.0**
baz=228
ISA Isabella, Lake 85.79 44 P **P** **19 34 26.3 +0.9**
ISA pmax pmax
comp=Z,235nm,1.2s
ISA Isabella, Lake 85.79 44 P **P** **19 34 26.2 +0.9**
ISA IAmb IAmb 19 34 33.0
comp=Z,235nm,1.1s
RPSI Rantau Prapat 85.82 276 P **P** **19 34 23.1 -2.9**
RPSI IAmb IAmb 19 34 29.3
comp=Z,221nm,1.3s
PSI Prapat 85.87 276 P **P** **19 34 23.6 -2.9**
comp=Z,84nm,0.9s,baz=180,slow=8.1,SNR=7.0
PSI PP **PP** **19 37 46.9 +0.6**
comp=Z,21nm,0.9s,baz=180,slow=6.3,SNR=3.8
PSI Prapat 85.87 276 P **P** **19 34 23.1 -3.3**
PSI pmax pmax
comp=Z,221nm,1.3s
KMRM Mail Ridge 85.94 38 P **P** **19 34 26.5 +0.4**
KMRM IAmb IAmb 19 34 33.7
comp=Z,363nm,1.3s
CNBA Chernabura Isl 86.00 10 P **P** **19 34 25.9 0.0**
CNBA IAmb IAmb 19 34 31.1
comp=Z,285nm,1.4s

MT02 Curacav 86.06 126 P **P** **19 34 27.3 +0.3**
LRMC Laurel Mtn Rad 86.15 45 P **P** **19 34 29.2 +2.0**
baz=229
JCC Jacoby Creek, 86.19 38 P **P** **19 34 27.5 +0.4**
JCC IAmb IAmb 19 34 50.5
comp=Z,237nm,1.5s
BELC Belle Mtn. Jos 86.23 47 P **P** **19 34 29.7 +2.0**
baz=230
CMB Columbia Colle 86.26 42 P **P** **19 34 28.0 +0.3**
CMB pmax pmax
comp=Z,143nm,1.1s
CMB Columbia Colle 86.26 42 P **P** **19 34 28.0 +0.3**
CMB IAmb IAmb 19 34 34.6
comp=Z,143nm,1.1s
GSI Gunungsitoli 86.29 274 P **P** **19 34 27.6 -0.7**
ROC1 El Roble 86.30 126 P **P** **19 34 27.3 -1.2**
BC3 Big Chuckawall 86.36 48 P **P** **19 34 30.4 +2.1**
baz=230
GLA Glamis 86.37 48 P **P** **19 34 30.6 +2.2**
baz=230
GLA Glamis 86.37 48 P **P** **19 34 28.4 0.0**
GLA pmax pmax
comp=Z,242nm,1.2s
GLA Glamis 86.37 48 P **P** **19 34 28.4 0.0**
GLA IAmb IAmb 19 34 44.1
comp=Z,242nm,1.2s
SDPT Sand Point 86.38 10 P **P** **19 34 26.3 -1.4**
KHMM Horse Mountain 86.39 38 P **P** **19 34 29.3 +1.0**
KHMM IAmb IAmb 19 34 35.8
comp=Z,173nm,1.2s
O02D Mt. Diablo Mer 86.40 39 P **P** **19 34 30.8 +2.4**
baz=225
MSHR Mys Shultsa 86.41 325 *ceP* **P** **19 34 29.6 +1.4**
MSHR pmax pmax
comp=Z,98nm,1.3s
NJ2 Nanjing 86.43 310 *eP* **P** **19 34 28.9 +0.3**
NJ2 sP **pP** **19 34 36.3 +0.5**
NJ2 S **S** **19 45 04.3 +1.4**
NJ2 sS **sS** **19 45 19.0 +4.0**
NJ2 pmax pmax
comp=Z,37nm,0.5s
NJ2 pmax pmax
comp=Z,5μm,11.9s
PEL Peldehue 86.44 126 P **P** **19 34 29.1 +0.2**
PEL pmax pmax
comp=Z,139nm,0.8s
PEL Peldehue 86.44 126 P **P** **19 34 29.1 +0.2**
PEL IAmb IAmb 19 34 37.1
comp=Z,139nm,0.8s
VLA Vladivostok 86.45 325 *i* P **P** **19 34 28.1 -0.3**
VLA pmax pmax
comp=Z,75nm,1.1s
HSIG 86.49 54 P **P** **19 34 28.8 -0.1**
HSIG IAmb IAmb 19 34 53.5
comp=Z,298nm,1.7s
CWC Cottonwood Cre 86.54 44 P **P** **19 34 31.0 +1.8**
baz=228
AFDM Forest Hills D 86.55 41 P **P** **19 34 28.9 -0.1**
AFDM IAmb IAmb 19 34 35.9
comp=Z,149nm,1.2s
HEC Hector,Ludlow 86.56 46 P **P** **19 34 31.3 +2.1**
baz=230
GSC Goldstone, Bar 86.57 46 P **P** **19 34 31.0 +1.7**
baz=229
GSC Goldstone, Bar 86.57 46 P **P** **19 34 29.7 +0.4**
GSC Goldstone, Bar 86.57 46 P **P** **19 34 29.7 +0.4**
MPMC Manual Prospec 86.65 45 P **P** **19 34 31.6 +1.8**
baz=229
ORV Oroville 86.67 40 P **P** **19 34 29.5 -0.1**
ORV pmax pmax
comp=Z,94nm,1.2s
ORV Oroville 86.67 40 P **P** **19 34 29.5 -0.1**
MDPB Devils Postpil 86.74 43 P **P** **19 34 29.6 -0.7**
MDPB IAmb IAmb 19 34 36.8
comp=Z,278nm,1.6s
KRMB Red Mountain 86.76 37 P **P** **19 34 31.3 +1.1**
OMMB Old Mammoth Mi 86.78 43 P **P** **19 34 31.7 +1.1**
OMMB IAmb IAmb 19 34 54.8
comp=Z,265nm,1.6s
KPK Kanaka Peak 86.80 40 *eP* **P** **19 34 33.3 +3.0**
WDC Whiskeytown Da 86.82 39 P **P** **19 34 30.9 +0.6**
WDC pmax pmax
comp=Z,155nm,1.1s
WDC Whiskeytown Da 86.82 39 P **P** **19 34 30.9 +0.6**
WDC IAmb IAmb 19 34 37.5
comp=Z,155nm,1.1s
TIN Tinemaha, Big 86.86 44 P **P** **19 34 32.7 +2.0**
baz=228
IRM Iron Mountain 86.87 47 P **P** **19 34 33.0 +2.3**
baz=230
113A Mohawk Valley, 86.89 49 P **P** **19 34 31.6 +0.8**
113A IAmb IAmb 19 34 55.7
comp=Z,273nm,1.6s
GMRC Granite Mounta 86.95 47 P **P** **19 34 33.3 +2.1**
baz=230
N02D Trinity Center 87.01 38 P **P** **19 34 33.2 +1.9**
baz=225
214A Organ Pipe Nat 87.01 50 P **P** **19 34 33.4 +1.9**
baz=232
214A Organ Pipe Nat 87.01 50 P **P** **19 34 30.3 -1.2**
214A IAmb IAmb 19 34 38.7
comp=Z,217nm,1.5s
O03E Paynes Creek 87.02 39 P **P** **19 34 32.7 +1.3**
baz=226
WAKR Walker 87.12 42 P **P** **19 34 31.3 -0.8**
SPIA Saint Paul Isl 87.19 4 P **P** **19 34 32.5 +0.9**
USA0B Ussuriysk Arra 87.20 326 *i* P **P** **19 34 30.3 -1.7**
USA0B Ussuriysk Arra 87.20 326 P **P** **19 34 31.1 -1.0**
USRK Ussuriysk Ar. 87.20 326 P **P** **19 34 32.6 +0.5**
comp=Z,109nm,0.9s,baz=149,slow=3.7,SNR=7.8
USRK Ussuriysk Ar. 87.20 326 P **P** **19 34 31.6 -0.4**
USRK Ussuriysk Ar. 87.20 326 P **P** **19 34 31.6 -0.4**
TUQ Turquoise Moun 87.20 46 P **P** **19 34 34.2 +1.7**
baz=230
M02C Callahan 87.22 38 P **P** **19 34 34.0 +1.6**
baz=225
SHOC Shoshone, Teco 87.29 45 P **P** **19 34 34.5 +1.8**
baz=230
CO02 Combarbal 87.30 125 P **P** **19 34 33.4 +0.1**
CO02 IAmb IAmb 19 34 41.5
comp=Z,122nm,0.8s
FURC Furnace Creek, 87.30 45 P **P** **19 34 33.9 +1.3**
baz=229
GRAC Grapevine Rang 87.34 44 P **P** **19 34 34.9 +2.0**
baz=229
PNTR Pine Nut 87.43 41 P **P** **19 34 32.6 -0.9**
PNTR IAmb IAmb 19 34 49.0
comp=Z,116nm,0.9s
VCNR Virginia City 87.54 41 P **P** **19 34 33.3 -0.8**
VCNR IAmb IAmb 19 34 40.4
comp=Z,314nm,1.8s
YBH Yreka Blue Hor 87.54 38 P **P** **19 34 33.4 -0.5**
YBH pmax pmax
comp=Z,160nm,1.4s
YBH Yreka Blue Hor 87.54 38 P **P** **19 34 33.4 -0.5**
YBH IAmb IAmb 19 34 45.1
comp=Z,160nm,1.4s
YERR Yerington 87.56 42 P **P** **19 34 34.7 +0.5**
YERR IAmb IAmb 19 34 46.0
comp=Z,259nm,1.6s
NEE2 Needles Airpor 87.60 47 P **P** **19 34 36.6 +2.4**
baz=230
PDMCI Parker Dam,Lak 87.61 48 P **P** **19 34 36.5 +2.2**
baz=231
CO03 El Pedregal 87.72 124 P **P** **19 34 35.6 +0.3**
K02D Willamette Mer 87.72 37 P **P** **19 34 36.6 +1.9**
baz=224
NVAR Mina Array Bea 87.73 42 P **P** **19 34 35.6 +0.6**
comp=Z,41nm,0.9s,baz=222,slow=7.8,SNR=12
NVAR PKKPbc **PKKPbc** **19 52 24.1 +0.6**
comp=Z,4.8nm,0.8s,baz=70,slow=3.8,SNR=6.5
NVAR PKPPKP **P'P'df** **20 00 30.9 +4.1**
comp=Z,2.0nm,0.9s,baz=72,slow=2.9,SNR=2.6
NVAR Mina Array Bea 87.73 42 P **P** **19 34 35.0 -0.1**
RYN Ryan 87.74 42 P **P** **19 34 34.2 -0.8**
RYN IAmb IAmb 19 34 41.4
comp=Z,269nm,1.6s
NV11 Mina Array Sit 87.82 43 P **P** **19 34 34.2 -1.2**
J01E Myrtle Point 87.92 36 P **P** **19 34 37.4 +1.9**
baz=224
PAHR Pah Rah Range 87.97 41 P **P** **19 34 36.4 +0.3**
PAHR IAmb IAmb 19 34 42.1
comp=Z,152nm,1.4s
TPNV Topopah Spring 87.98 45 P **P** **19 34 38.1 +1.9**
baz=230
TPNV Topopah Spring 87.98 45 P **P** **19 34 37.0 +0.8**

TPNV pmax pmax
comp=Z,122nm,1.0s
TPNV Topopah Spring 87.98 45 P P 19 34 37.0 +0.8
TPNV lAmb lAmb 19 34 43.8
comp=Z,122nm,1.0s
M04C Macdoel 88.04 38 P P 19 34 37.9 +1.6
baz=226
L04D Klamath Falls 88.10 38 P P 19 34 38.0 +1.4
baz=225
Y14A Wickenburg 88.11 49 P P 19 34 36.2 -0.6
Y14A lAmb lAmb 19 34 44.6
comp=Z,162nm,1.1s
KVN Kaiserville 88.26 42 P P 19 34 38.2 +0.7
KVN pmax pmax
comp=Z,170nm,1.4s
KVN Kaiserville 88.26 42 P P 19 34 38.2 +0.7
KVN lAmb lAmb 19 34 43.6
comp=Z,170nm,1.4s
W13A Hualapai Mount 88.27 47 P P 19 34 38.5 +0.9
W13A lAmb lAmb 19 35 01.6
comp=Z,260nm,1.6s
SHPR Sheep Range 88.37 46 P P 19 34 38.9 +0.8
SHPR lAmb lAmb 19 34 50.8
comp=Z,355nm,1.8s
TUC Tucson 88.59 51 P P 19 34 41.2 +2.2
baz=233
TUC Tucson 88.59 51 P P 19 34 36.7 -2.4
TUC pmax pmax
comp=Z,326nm,1.4s
TUC Tucson 88.59 51 P P 19 34 36.6 -2.4
SII Sitkinak Islan 88.59 13 P P 19 34 38.4 0.0
I03D Drain, OR 88.60 36 P P 19 34 39.9 +1.2
baz=225
K04D Chiloquin, OR 88.67 38 P P 19 34 41.7 +2.4
baz=226
MDJ Mudanjiang 88.67 325 P P 19 34 39.1 +0.1
MDJ pmax pmax
comp=Z,78nm,1.4s
MDJ pmax pmax
comp=Z,3μm,12.5s
MDJ Mudanjiang 88.67 325 P P 19 34 38.5 -0.5
MDJ lAmb lAmb 19 34 47.0
comp=Z,135nm,1.1s
J04D Umpqua Nationa 88.92 37 P P 19 34 42.0 +1.4
baz=226
MOD Modoc Plateau 88.95 39 P P 19 34 40.7 +0.1
CFA Coronel Fontan 89.02 126 P P 19 34 44.2 +2.9
comp=Z,60nm,1.0s,baz=219,slow=6.6,SNR=6.6
CFA PKKPbc **PKKPbc** 19 52 18.5 -0.2
comp=Z,7.2nm,0.9s,baz=306,slow=0.6,SNR=4.1
DL2 Dalian 89.08 317 P P 19 34 39.5 -1.6
DL2 S **S** 19 45 26.6 -1.3
DL2 pmax pmax
comp=Z,98nm,1.0s
DL2 pmax pmax
comp=Z,3μm,6.7s
DL2 LR LR
comp=Z,10μm,20.6s
I04A Tendick Farm, 89.15 36 P P 19 34 42.5 +1.1
baz=225
R11A Troy Canyon, C 89.29 44 P P 19 34 43.2 +0.8
baz=230
OHAK Old Harbor 89.39 13 P P 19 34 42.1 +0.1
J05D Fort Rock, OR 89.41 37 P P 19 34 44.3 +1.6
baz=226
HOPE Hope Point 89.42 158 P P 19 34 43.8 +1.2
HOPE pmax pmax
comp=Z,130nm,1.1s
HOPE Hope Point 89.42 158 P P 19 34 43.8 +1.2
HOPE lAmb lAmb 19 34 49.9
comp=Z,130nm,1.1s
H04D Lebanon 89.50 36 P P 19 34 44.5 +1.6
baz=225
G03D McMinnville, O 89.72 35 P P 19 34 45.8 +1.9
baz=225
LCMT Little Creek M 89.88 46 P P 19 34 45.9 +0.9
H04A Detroit Lake 89.89 36 P P 19 34 45.0 +0.2
H04A lAmb lAmb 19 34 51.3
comp=Z,154nm,1.1s
PINE Pine Mountain 89.91 37 P P 19 34 45.6 +0.5
KDAK Kodiak Island 90.05 13 P P 19 34 44.8 -0.3
KDAK pmax pmax
comp=Z,135nm,1.2s
KDAK Kodiak Island 90.05 13 P P 19 34 44.8 -0.3
I05D Terrebonne, OR 90.08 37 P P 19 34 47.1 +1.4
baz=226
F03A Seaside 90.09 34 P P 19 34 45.8 +0.1
F03A lAmb lAmb 19 34 52.8
comp=Z,306nm,1.2s
U15A North Rim 90.11 47 P P 19 34 47.3 +0.9
U15A lAmb lAmb 19 34 54.4
comp=Z,223nm,1.1s
CCUT Cedar City 90.14 46 P P 19 34 47.6 +1.2
WUAZ Wupatki 90.14 48 P P 19 34 48.6 +2.2
baz=232
WUAZ Wupatki 90.14 48 P P 19 34 46.9 +0.5
WUAZ lAmb lAmb 19 34 54.3
comp=Z,230nm,1.2s
KNB Kanab 90.14 46 P P 19 34 47.3 +0.9
KNB pmax pmax
comp=Z,627nm,1.9s
KNB Kanab 90.14 46 P P 19 34 47.3 +0.9
CN2 Changchun 90.22 323 *eP* **P 19 34 44.9 -1.4**
CN2 ePP **PP 19 38 22.5 +1.8**
CN2 SKS **SKSac 19 45 13.5 -1.9**
CN2 pmax pmax
comp=Z,150nm,1.4s
CN2 pmax pmax
comp=Z,3μm,10.0s
WVOR Wild Horse Val 90.22 39 P P 19 34 47.2 +0.7
WVOR pmax pmax
comp=Z,219nm,1.4s
WVOR Wild Horse Val 90.22 39 P P 19 34 47.2 +0.7
WVOR lAmb lAmb 19 34 56.0
comp=Z,219nm,1.4s
GRNR Gornyy 90.26 333⇑ *iP* **P 19 34 46.8 +0.4**
GRNR *eS* **S 19 45 43.6 +5.1**
GRNR pmax pmax
comp=E,20nm,1.2s
GRNR pmax pmax
comp=N,20nm,0.6s
GRNR pmax pmax
comp=Z,80nm,1.0s
GRNR smax smax
comp=N,4.0nm,0.9s
GRNR MLR MLR
comp=E,19μm,18.0s
SZCU Shurtz Canyon 90.34 46 P P 19 34 48.0 +0.6
PSUT Pine Spring 90.45 45 P P 19 34 48.1 +0.2
F04D Rainier, OR 90.47 34 P P 19 34 49.7 +2.3
baz=225
E03A Lebam 90.53 34 P P 19 34 48.1 +0.4
F04A Amboy 90.65 35 P P 19 34 48.9 +0.7
F04A lAmb lAmb 19 34 54.9
comp=Z,235nm,1.2s
G05D Wamic, OR 90.72 36 P P 19 34 50.0 +1.3
baz=226
PKCU Pink Cliffs 90.73 46 P P 19 34 49.6 +0.4
121A Cookes Peak, D 90.76 52 P P 19 34 51.2 +1.8
baz=234
121A Cookes Peak, D 90.76 52 P P 19 34 50.4 +1.0
121A lAmb lAmb 19 35 14.5
comp=Z,278nm,1.8s
I07A Izee 90.87 38 P P 19 34 49.8 +0.3
J08A Circle Bar Ran 90.93 39 P P 19 34 49.6 -0.2
J08A lAmb lAmb 19 34 56.6
comp=Z,117nm,1.2s
W18A Petrified Fore 90.97 49 P P 19 34 52.3 +2.1
baz=233
W18A Petrified Fore 90.97 49 P P 19 34 51.3 +1.0
W18A lAmb lAmb 19 34 58.1
comp=Z,196nm,1.2s
NLWA Neilton Lookou 90.99 33 P P 19 34 50.2 +0.4
E04D Cinebar 91.02 34 P P 19 34 51.3 +1.3
baz=225
ELK Elko 91.03 42 PKKPbc PKKPbc 19 52 14.8 -0.5
comp=Z,2.4nm,0.9s,baz=61,slow=4.6,SNR=2.1
ELK Elko 91.03 42 P P 19 34 49.7 -0.8
ELK pmax pmax
comp=Z,118nm,1.6s
ELK Elko 91.03 42 P P 19 34 49.7 -0.8
KLR Kul'dur 91.05 329 PKKPbc PKKPbc 19 52 16.8 +1.4
comp=Z,2.7nm,0.9s,baz=355,slow=5.4,SNR=3.0
KLR Kul'dur 91.05 329 *ce*P **P 19 34 49.6 -0.4**
KLR pmax pmax
comp=Z,170nm,1.2s

G06A Carlson Farm, 91.06 36 P P 19 34 51.1 +0.8
G06A lAmb lAmb 19 34 57.0
comp=Z,217nm,1.2s
F05D White Salmon 91.10 35 P P 19 34 51.6 +1.3
baz=226
MTPU Mount Pierson 91.17 46 P P 19 34 50.9 -0.5
SLVN Son La 91.23 294 P P 19 34 50.7 -0.9
SLVN lAmb lAmb 19 35 06.6
comp=Z,146nm,1.3s
D04E Lakebay 91.36 34 P P 19 34 53.1 +1.6
baz=225
TCRU Three Creeks R 91.36 45 P P 19 34 53.0 +0.9
D03D Eldon 91.46 33 P P 19 34 53.4 +1.4
baz=225
MSU Marysvale 91.47 45 P P 19 34 53.6 +1.0
MSU Marysvale 91.47 45 P P 19 34 53.6 +1.0
LON Longmire 91.53 35 P P 19 34 52.5 +0.1
LON pmax pmax
comp=Z,277nm,2.0s
LON Longmire 91.53 35 P P 19 34 52.5 +0.1
LON lAmb lAmb 19 34 58.9
comp=Z,277nm,2.0s
GO02 Mina Guanaco 91.70 120 P P 19 34 54.1 -0.1
D05A Enumclaw 91.75 34 P P 19 34 54.7 +1.4
DIB Dawson Inlet, 91.75 25 P P 19 34 52.6 -0.5
H02S1 DAWSON INLET T 91.75 25 P P 19 34 53.5 +0.4
H02N1 VAN INLET T-PH 91.76 25 P P 19 34 53.4 0.0
ENH Enshi 91.84 304 P P 19 34 53.4 -0.9
ENH lAmb lAmb 19 35 19.1
comp=Z,218nm,1.3s
TX31 Lajitas Ar. Si 91.86 57 P P 19 34 54.4 0.0
TX32 Lajitas Array 91.86 57 P P 19 34 54.3 -0.2
TXAR Lajitas Array 91.86 57 P P 19 34 53.6 -0.8
comp=Z,5.0nm,1.0s,baz=210,slow=5.2,SNR=2.1
TXAR PKKPbc **PKKPbc 19 52 13.0 +0.6**
comp=Z,2.5nm,1.1s,baz=104,slow=3.8,SNR=2.5
TXAR PKPPKP **P'P'df 20 00 22.0 +1.3**
comp=Z,0.8nm,0.9s,baz=133,slow=3.8,SNR=2.9
TXAR Lajitas Array 91.86 57 P P 19 34 54.0 -0.4
F07A Phinny Hill Vi 91.88 36 P P 19 34 54.2 +0.3
F07A lAmb lAmb 19 35 00.8
comp=Z,108nm,1.2s
PB10 IPOC Station P 91.90 119 P P 19 34 53.0 -1.7
PB10 lAmb lAmb 19 36 11.0
comp=Z,198nm,2.0s
CNPM China Poot 91.93 13 P P 19 34 54.1 +0.2
MNTX Cornudas Mount 91.95 54 P P 19 34 52.8 -1.9
HOM Homer 91.98 13 P P 19 34 53.3 -0.7
DUG Dugway, Tooele 92.12 44 P P 19 34 56.8 +1.3
baz=232
DUG Dugway, Tooele 92.12 44 P P 19 34 55.8 +0.4
DUG pmax pmax
comp=Z,111nm,1.6s
DUG Dugway, Tooele 92.12 44 P P 19 34 55.8 +0.4
BRLK Bradley Lake 92.22 13 P P 19 34 55.1 -0.2
LENM Lemitar 92.25 51 P P 19 34 57.2 +0.9
E07A Sunnyside 92.37 36 P P 19 34 55.8 -0.5
E07A lAmb lAmb 19 35 03.2
comp=Z,177nm,1.3s
HAWA Hanford 92.42 36 P P 19 34 56.0 -0.4
HAWA lAmb lAmb 19 35 03.3
comp=Z,174nm,1.3s
MFID Camas Ranch 92.42 40 P P 19 34 56.2 -0.5
MFID lAmb lAmb 19 35 03.4
comp=Z,100nm,1.1s
NLU North Lily Min 92.42 44 P P 19 34 56.2 -0.7
B05A Bryant 92.45 33 P P 19 34 57.7 +1.2
baz=226
BGU Big Grassy Mou 92.45 43 P P 19 34 56.6 -0.3
A04D Lummi Island 92.48 33 P P 19 34 58.6 +2.0
baz=225
BNM Barren Site 92.48 52 P P 19 34 56.9 -0.5
RSO Redoubt South 92.52 12 P P 19 34 55.3 -1.5
TMUT Trail Mountain 92.55 45 P P 19 34 57.4 -0.3
BMO Blue Mountains 92.55 38 P P 19 34 57.6 +0.4
BMO pmax pmax
comp=Z,110nm,1.6s
BMO Blue Mountains 92.55 38 P P 19 34 57.6 +0.4
MPU Maple Canyon 92.72 45 P P 19 34 56.7 -1.6
SRU San Rafael Swe 92.86 46 P P 19 34 58.3 -0.7
SRU pmax pmax
comp=Z,114nm,1.2s
SRU San Rafael Swe 92.86 46 P P 19 34 58.3 -0.7
P17A Butcher Ranch, 92.94 45 P P 19 34 57.4 -1.9
GDL2 Guadalupe Moun 92.95 54 P P 19 34 58.9 -0.6
MVCO Mesa Verde 93.01 48 P P 19 35 01.8 +2.1
baz=234
SPUT South Promonto 93.03 43 P P 19 34 59.6 -0.1
NNA Nana 93.05 106 *i* P **P 19 34 58.3 -2.0**
NNA pmax pmax
comp=Z,26nm,1.0s
ANMO Albuquerque 93.05 51 P P 19 35 02.0 +2.1
baz=235
ANMO Albuquerque 93.05 51 PKKPbc PKKPbc 19 52 10.2 +0.5
comp=Z,3.2nm,0.9s,baz=264,slow=1.6,SNR=2.3
ANMO Albuquerque 93.05 51 *i* P **P 19 35 00.0 +0.1**
ANMO pmax pmax
comp=Z,34nm,1.0s
BJT Baijiatuau 93.06 315 P P 19 34 58.4 -1.2
BJT pmax pmax
comp=Z,65nm,0.9s
BJT Baijiatuau 93.06 315 P P 19 34 58.4 -1.2
BJT lAmb lAmb 19 35 08.7
comp=Z,65nm,0.9s
BJI Beijing 93.06 315 P P 19 35 00.1 +0.5
BJI pmax pmax
comp=Z,35nm,1.1s
BJI LR LR
comp=Z,16μm,17.7s
CTU Camp Tracy 93.07 44 P P 19 34 58.4 -1.4
HVU Hansel Valley 93.13 43 P P 19 34 59.9 -0.2
HVU pmax pmax
comp=Z,150nm,1.1s
HVU Hansel Valley 93.13 43 P P 19 34 59.9 -0.2
PV05 Paradox Valley 93.14 47 P P 19 34 59.2 -1.1
PV05 lAmb lAmb 19 35 11.8
comp=Z,115nm,1.3s
MA2 Magadan 93.16 344 *ce*P **P 19 34 58.8 -0.8**
MA2 pmax pmax
comp=Z,47nm,1.1s
MA2 Magadan 93.16 344 P P 19 34 58.4 -1.2
D08A Wollman Farm, 93.18 36 P P 19 35 00.2 +0.3
D08A lAmb lAmb 19 35 06.0
comp=Z,192nm,1.4s
JLU Jordanelle 93.19 44 P P 19 35 00.6 +0.1
E09A Wood Farm, Sta 93.21 37 P P 19 34 59.6 -0.5
E09A lAmb lAmb 19 35 06.4
comp=Z,108nm,1.2s
HLID Hailey 93.30 40 P P 19 35 02.3 +1.4
baz=231
HLID Hailey 93.30 40 P P 19 35 00.8 0.0
F10A Beach Ranch, E 93.33 37 P P 19 34 58.9 -1.9
F10A lAmb lAmb 19 35 06.0
comp=Z,84nm,1.1s
PV21 Cone Mtn., Par 93.50 47 P P 19 35 00.4 -1.6
TCUT Toone Canyon 93.53 44 P P 19 35 01.5 -0.6
LVC Limon Verde 93.65 119 P P 19 35 02.8 -0.6
comp=Z,8.1nm,0.9s,baz=316,slow=3.7,SNR=2.3
LVC PKKPbc **PKKPbc 19 52 07.4 +0.2**
comp=Z,6.2nm,0.9s,baz=162,slow=3.2,SNR=2.1
GAMB Gambell 93.70 3 P P 19 35 02.3 +0.3
GAMB lAmb lAmb 19 35 08.2
comp=Z,138nm,0.9s
CM31 Chiang Mai Arr 93.75 289 P P 19 35 02.4 -0.9
CMAR Chiang Mai Arr 93.75 289 P P 19 35 03.5 +0.2
comp=Z,24nm,0.9s,baz=141,slow=3.6,SNR=8.8
CMAR PP **PP 19 38 51.0 +1.9**
comp=Z,14nm,0.9s,baz=128,slow=5.4,SNR=6.7
CMAR PKiKP **PKiKP 19 39 51.5 +3.0**
comp=Z,3.2nm,0.7s,baz=215,slow=1.2,SNR=4.2
CMAR PKKPbc **PKKPbc 19 52 07.4 +0.5**
comp=Z,1.2nm,0.7s,baz=302,slow=4.6,SNR=2.7
CMAR Chiang Mai Arr 93.75 289 P P 19 35 02.1 -1.2
CMAR Chiang Mai Arr 93.75 289 P P 19 35 02.1 -1.2
CHTO Chiang Mai 93.93 289 P P 19 35 02.6 -1.5
CHTO pmax pmax
comp=Z,228nm,1.9s
CHTO Chiang Mai 93.93 289 P P 19 35 02.6 -1.5
CHTO lAmb lAmb 19 36 26.3
comp=Z,228nm,1.9s
GLI Glacier Island 94.02 14 P P 19 35 04.4 +0.9
GLI lAmb lAmb 19 35 16.4
comp=Z,71nm,0.9s
KMI Kunming 94.12 297⇑ *eP* **P 19 35 04.9 -0.2**

KMI pP pP 19 35 10.6 -1.9
KMI S **S** **19 46 08.1 -6.6**
KMI SS **SS** **19 52 37.9 +1.8**
KMI pmax pmax
comp=Z,23nm,1.4s
KMI pmax pmax
comp=Z,2μm,8.4s
KNK Knik Glacier 94.22 14 P P 19 35 03.7 -0.7
ATAH Atahualpa 94.23 101 P P 19 35 05.9 -0.3
comp=Z,2.6nm,0.5s,baz=229,slow=20,SNR=1.0
TTA Tatalina 94.32 10 P P 19 35 04.7 -0.2
TTA pmax pmax
comp=Z,62nm,1.2s
TTA Tatalina 94.32 10 P P 19 35 04.7 -0.2
S22A 4UR Ranch, Cre 94.41 49 P P 19 35 08.0 +1.8
baz=235
GHO Glory Hole Cre 94.45 13 P P 19 35 05.0 -0.5
833A Chaparral WMA, 94.47 60 P P 19 35 09.1 +2.8
baz=238
AHID Auburn Hatcher 94.71 43 P P 19 35 07.3 -0.1
AHID lAmb lAmb 19 35 14.2
comp=Z,110nm,1.1s
O20A White River Ci 94.88 46 P P 19 35 11.3 +3.0
baz=234
NEW Newport 94.89 36 P P 19 35 11.6 +3.8
baz=229
MCMT McKenzie Canyo 94.97 40 P P 19 35 09.3 +0.7
MSTX Muleshoe 95.03 54 P P 19 35 12.0 +3.0
baz=237
MSTX Muleshoe 95.03 54 P P 19 35 08.5 -0.5
REDW Red Top Meadow 95.22 42 P P 19 35 09.9 +0.2
REDW lAmb lAmb 19 35 16.4
comp=Z,82nm,1.1s
TPAW Teton Pass 95.24 42 P P 19 35 08.8 -1.1
TPAW lAmb lAmb 19 35 32.8
comp=Z,104nm,1.4s
BALM Baldy 95.25 16 P P 19 35 08.3 -1.0
SDCO Great Sand Dun 95.27 49 P P 19 35 09.1 -1.1
FXWY Fox Creek 95.28 42 P P 19 35 10.2 +0.2
JCT Junction City 95.30 58 P P 19 35 13.0 +2.8
baz=238
SNOW Snow King Moun 95.34 42 P P 19 35 10.4 +0.1
SNOW lAmb lAmb 19 35 33.2
comp=Z,163nm,1.4s
MSO Missoula 95.62 38 P P 19 35 13.4 +2.0
baz=231
BW06 Boulder Array 95.62 43 P P 19 35 13.0 +1.3
baz=234
PDAR Pinedale Array 95.62 43 P P 19 35 11.4 -0.2
comp=Z,5.4nm,0.8s,baz=251,slow=2.8,SNR=4.9
PDAR PKKPbc **PKKPbc 19 52 02.5 -0.8**
comp=Z,2.6nm,0.7s,baz=64,slow=4.2,SNR=5.3
PDAR PKPPKP **P'P'df 20 00 15.8 +3.4**
comp=Z,2.8nm,1.0s,baz=294,slow=1.5,SNR=3.4
PDAR Pinedale Array 95.62 43 P P 19 35 10.8 -0.8
T25A Trinidad 95.65 50 P P 19 35 13.0 +1.1
baz=236
T25A Trinidad 95.65 50 P P 19 35 11.7 -0.2
TRF Thorofare Moun 95.74 12 P P 19 35 10.2 -1.3
TRF lAmb lAmb 19 35 20.0
comp=Z,72nm,0.9s
FLWY Flagg Ranch 95.74 42 P P 19 35 12.3 +0.2
FLWY lAmb lAmb 19 35 19.2
comp=Z,96nm,1.1s
QLMT Earthquake Lak 95.77 41 P P 19 35 13.3 +1.0
YHL Hebgen Lake 95.93 41 P P 19 35 14.5 +1.5
H17A Grant Village 96.00 42 P P 19 35 15.3 +1.9
baz=233
YHH Holmes Hill 96.08 41 P P 19 35 14.4 +0.7
BOZ Bozeman (W) 96.13 40 P P 19 35 15.3 +1.6
baz=233
BOZ Bozeman (W) 96.13 40 P P 19 35 13.9 +0.2
BOZ pmax pmax
comp=Z,93nm,1.5s
BOZ Bozeman (W) 96.13 40 P P 19 35 13.9 +0.2
BOZ lAmb lAmb 19 35 20.5
comp=Z,93nm,1.4s
Q24A Divide 96.18 48 P P 19 35 15.7 +1.4
baz=236
MCK McKinley 96.24 12 P P 19 35 12.9 -0.7
MCK pmax pmax
comp=Z,65nm,1.1s
MCK McKinley 96.24 12 P P 19 35 12.9 -0.7
CD2 Chengdu 96.34 302 P P 19 35 15.0 +0.1
CD2 pmax pmax
comp=Z,40nm,1.6s
HHC Hu-ho-hao-te 96.39 314 *eP* P 19 35 24.4 +9.4
HHC pmax pmax
comp=Z,17nm,1.0s
HHC pmax pmax
comp=Z,490nm,6.3s
YNE Yellowstone No 96.69 41 P P 19 35 16.6 +0.2
HRY Holter Researc 96.69 39 P P 19 35 16.1 -0.2
DLBC Dease Lake 96.70 23 PKKPbc PKKPbc 19 52 00.9 +0.2
comp=Z,4.6nm,0.7s,baz=339,slow=12,SNR=3.8
DLBC Dease Lake 96.70 23 P P 19 35 13.6 -2.3
HIA Hailar 96.78 324 *i* P **P 19 35 15.5 -0.9**
HIA pmax pmax
comp=Z,18nm,1.0s
WRH Wood River Hil 97.07 12 P P 19 35 14.9 -2.4
RLMT Red Lodge 97.18 41 P Pdif 19 35 20.6 +1.9
baz=234
HDA Harding Lake 97.23 13 P Pdif 19 35 20.4 +2.2
baz=206
HDA Harding Lake 97.23 13 P P 19 35 17.3 -0.8
CCB Clear Creek Bu 97.28 12 P P 19 35 17.2 -1.0
K22A Casper 97.38 45 P Pdif 19 35 20.8 +1.2
baz=236
K22A Casper 97.38 45 P P 19 35 19.5 0.0
SCRK Sand Creek 97.45 14 P Pdif 19 35 20.7 +1.4
COLA College 97.48 12 *i* P Pdif 19 35 19.8 +0.6
COLA pmax pmax
comp=Z,33nm,0.9s
COLA College 97.48 12 P Pdif 19 35 20.7 +1.5
COLA lAmb lAmb 19 35 26.9
comp=Z,46nm,0.8s
MDM Murphy Dome 97.49 12 P P 19 35 17.4 -1.9
IL31 97.57 13 P P 19 35 18.0 -1.5
ILAR Eielson Array 97.57 13 P P 19 35 19.1 -0.5
comp=Z,6.4nm,1.1s,baz=214,slow=6.4,SNR=2.6
ILAR PP **PP 19 39 15.8 -1.9**
comp=Z,4.2nm,0.8s,baz=229,slow=6.1,SNR=2.7
ILAR PKiKP **PKiKP 19 39 55.5 +1.7**
comp=Z,2.5nm,0.9s,baz=277,slow=1.0,SNR=1.3
ILAR PKKPbc **PKKPbc 19 51 59.1 +0.6**
comp=Z,2.0nm,0.8s,baz=343,slow=2.8,SNR=3.6
ILAR Eielson Array 97.57 13 P P 19 35 18.7 -0.9
POKR Poker Plat Res 97.78 12 P Pdif 19 35 23.0 +2.4
baz=206
LPAZ La Paz 97.83 114 P Pdif 19 35 23.7 +0.9
comp=Z,3.5nm,1.0s,baz=12,slow=21,SNR=1.6
HKT Hockley 97.97 60 *i* P **P 19 35 19.8 -2.4**
HKT pmax pmax
comp=Z,9.0nm,1.2s
RDOG Red Dog Mine 98.50 5 P P 19 35 23.2 -0.5
PRP Porcupine Dome 98.50 13 P P 19 35 22.7 -1.2
PRP lAmb lAmb 19 37 00.9
comp=Z,100nm,1.6s
DAWY Dawson 98.56 16 P P 19 35 22.2 -1.9
DAWY lAmb lAmb 19 37 18.1
comp=Z,100nm,1.6s
BILL Bilibino 98.63 354 *i* P Pdif 19 35 24.9 +0.6
BILL pmax pmax
comp=Z,42nm,0.9s
BILL Bilibino 98.63 354 P P 19 35 23.2 -1.1
BILL lAmb lAmb 19 35 30.7
comp=Z,38nm,0.8s
LZH Lanzhou 98.94 306 *eP* Pdif 19 35 32.9 +6.2
LZH pP pwP 19 35 39.9 +0.8
LZH sP sP 19 35 43.8 +7.4
LZH pmax pmax
comp=Z,39nm,1.5s
LZH pmax pmax
comp=Z,660nm,7.6s
LZH LR LR
comp=Z,10μm,16.7s
COLD Coldfoot 99.23 10 P Pdif 19 35 22.6 -4.4
FNO Franklin 99.48 55 P Pdif 19 35 29.8 +0.9
CBKS Cedar Bluff 99.67 51 P Pdif 19 35 26.6 -3.1
CBKS pmax pmax
comp=Z,73nm,1.7s
CBKS Cedar Bluff 99.67 51 P Pdif 19 35 26.6 -3.1
RSSD Black Hills 99.71 44 P Pdif 19 35 27.9 -2.1
RSSD pmax pmax
comp=Z,251nm,1.3s

RSSD **Black Hills** 99.71 44 P **Pdif** 19 35 27.9 -2.1
CPUP **Villa Florida** 99.78 128 P **Pdif** 19 35 29.9 -0.7
comp=Z,3,4nm,1.0s,baz=250,slow=12,SNR=1.7
CPUP PKKPbc **PKKPbc** 19 51 50.2 -0.1
comp=Z,10.0nm,0.8s,baz=24,slow=1.6,SNR=9.8
SONM **Songino Array** 103.26 318 Pdiff **Pdif** 19 35 47.2 +1.7
comp=Z,3.0nm,0.9s,baz=130,slow=5.7,SNR=2.1
SONM PP **PP** 19 39 56.3 -5.1
comp=Z,6.3nm,1.0s,baz=150,slow=5.9,SNR=2.6
SONM PKiKP **PKiKP** 19 40 06.6 +1.9
comp=Z,5.8nm,1.1s,baz=138,slow=6.9,SNR=2.1
SONM PKKPbc **PKKPbc** 19 51 40.8 -0.7
comp=Z,3.3nm,1.2s,baz=271,slow=3.8,SNR=1.5
SONM PKPPKP 20 00 00.0
comp=Z,0.5nm,0.9s,baz=259,slow=1.4,SNR=2.3
SIV **San Ignacio** 103.51 118 PKKPbc PKKPbc 19 51 39.6 +0.2
comp=Z,5.7nm,1.0s,baz=98,slow=7.1,SNR=3.1
YKA **Yellowknife Ar** 105.01 25 Pdiff **Pdif** 19 35 56.1 +3.4
comp=Z,0.9nm,0.8s,baz=231,slow=5.4,SNR=2.2
YKA PKiKP **PKiKP** 19 40 08.8 +1.4
comp=Z,1.1nm,0.5s,baz=259,slow=1.7,SNR=4.1
YKA PKKPbc **PKKPbc** 19 51 35.8 -0.7
comp=Z,4.1nm,0.8s,baz=40,slow=3.1,SNR=5.5
YKA PKPPKP 19 59 56.7
comp=Z,0.7nm,0.8s,baz=50,slow=1.0,SNR=2.7
TLY **Talaya** 106.68 320 Pdiff **Pdif** 19 36 01.2 +0.7
comp=Z,1.2nm,0.5s,baz=217,slow=18,SNR=1.7
TLY PKiKP **PKiKP** 19 40 12.0 +1.2
comp=Z,2.4nm,0.5s,baz=218,slow=6.8,SNR=2.0
TLY PKKPbc **PKKPbc** 19 51 30.0 -1.0
comp=Z,0.7nm,0.3s,baz=232,slow=12,SNR=1.7
TLY **Talaya** 106.68 320 P **Pdif** 19 36 00.7 +0.2
TLY **Talaya** 106.68 320 **Pdif** 19 36 00.7 +0.2
ULM **Lac du Bonnet** 107.56 42 PKiKP **PKiKP** 19 40 11.0 -1.4
comp=Z,3.5nm,0.6s,baz=188,slow=6.8,SNR=1.7
ULM PKKPbc **PKKPbc** 19 51 27.9 -0.3
comp=Z,9.0nm,0.8s,baz=84,slow=3.2,SNR=3.2
ULM PKKP **PKKPdf** 19 51 44.2 +2.1
comp=Z,26nm,0.9s,baz=34,slow=3.2,SNR=5.7
PTGA **Pitinga** 113.18 105 PKiKP **PKiKP** 19 40 25.6 +1.3
comp=Z,1.0nm,0.3s,baz=282,slow=23,SNR=1.9
BDFB **Brasilia** 113.36 126 PKiKP **PKiKP** 19 40 25.2 +0.5
comp=Z,10nm,1.2s,baz=153,slow=2.3,SNR=1.7
BDFB PKKPbc **PKKPbc** 19 51 08.7 +0.2
comp=Z,5.6nm,0.8s,baz=63,slow=6.8,SNR=1.9
WMQ **Urumqi** 113.43 308 *e*PKP **PKiKP** 19 40 25.3 +1.5
WMQ LR LR
comp=Z,6μm,20.3s
WMQ LR LR
comp=Z,6μm,22.1s
WMQ LR LR
comp=Z,13μm,21.5s
PCRV **Puerto La Cruz** 114.74 92 PKKPbc PKKPbc 19 51 04.3 +0.7
comp=Z,24nm,1.1s,baz=162,slow=6.4,SNR=3.4
OPO **Ambohidratompo** 115.24 227 PKP **PKPdf** 19 40 28.6 +0.3
comp=Z,12nm,1.0s,baz=80,slow=3.5,SNR=2.3
SUR **Sutherland** 115.45 197 PKP **PKPdf** 19 40 29.3 +0.9
comp=Z,13nm,0.8s,baz=122,slow=6.2,SNR=1.2
SUR PKKPbc **PKKPbc** 19 51 03.4 +1.4
comp=Z,7.6nm,0.8s,baz=108,slow=3.2,SNR=5.4
DGZ **Jazzator, Alta** 115.47 314 *i* PKiKP **PKPdf** 19 40 25.6 -2.1
SADO **Sadowa** 116.10 52 PKKPbc PKKPbc 19 50 58.4 -1.2
comp=Z,7.5nm,0.9s,baz=70,slow=3.7,SNR=3.6
ZSN **Zaisan** 116.45 311 *e*PKP **PKiKP** 19 40 29.6 +0.2
baz=311
ZSN *e*PP **PP** 19 41 36.4 -0.4
baz=311
ZSN LR LR 20 31 40.6
comp=Z,3μm,16.0s,baz=311
ZSN **Zaisan** 116.45 311 *e*PKIKP **PKPdf** 19 40 29.4 -0.1
ZSN *e* 19 41 36.3
ZSN MLR MLR
comp=Z,3μm,16.0s
RES **Resolute Bay** 116.86 17 PKKPbc PKKPbc 19 50 55.7 -1.9
comp=Z,9.6nm,1.0s,baz=90,slow=6.6,SNR=3.4
BOSA **Boshof** 117.68 203 PKP **PKiKP** 19 40 33.5 +0.8
comp=Z,18nm,1.0s,baz=160,slow=5.4,SNR=2.0
BOSA PKKPbc **PKKPbc** 19 50 53.9 -0.2
comp=Z,2.7nm,0.7s,baz=26,slow=4.0,SNR=2.4
MK31 **Makanchi Array** 117.96 310 *i* PKIKP **PKPdf** 19 40 30.4 -2.0
MKAR **Makanchi Array** 117.96 310 Pdiff **Pdif** 19 37 01.0 +10
comp=Z,2.8nm,0.8s,baz=107,slow=5.3,SNR=4.9
MKAR PKP **PKPdf** 19 40 31.7 -0.7
comp=Z,31nm,0.9s,baz=95,slow=2.7,SNR=3.7
MKAR PKKPbc **PKKPab** 19 50 53.8 -0.2
comp=Z,0.7nm,0.7s,baz=238,slow=4.4,SNR=1.2
ZALV **Zalesovo Beam** 118.15 318 PKP **PKiKP** 19 40 33.0 +0.5
comp=Z,22nm,0.8s,baz=158,slow=1.4,SNR=6.3
ZALV PKKPbc **PKKPbc** 19 50 52.1 -0.4
comp=Z,2.1nm,0.8s,baz=286,slow=7.0,SNR=2.6
SHLS **Shalkode** 118.94 305 *e*PKP **PKPdf** 19 40 33.9 -0.6
baz=306
SHLS LR LR 20 34 54.5
comp=Z,8μm,21.5s,baz=306
SHLS **Shalkode** 118.94 305 *e*PKIKP **PKPdf** 19 40 33.9 -0.6
UZB **Uzunbulak** 119.25 305 *e*PKP **PKPdf** 19 40 34.4 -0.7
baz=305
UZB **Uzynbulak** 119.25 305 *e*PKIKP **PKPdf** 19 40 33.8 -1.4
KPKS **Kokpek** 119.57 306 *e*PKP **PKPdf** 19 40 35.4 -0.3
baz=306
KPKS LR LR 20 34 36.4
comp=Z,11μm,19.2s,baz=306
KPKS **Kokpek** 119.57 306 *e*PKIKP **PKPdf** 19 40 34.4 -1.3
SATY **Saty** 119.66 305 *e*PKP **PKPdf** 19 40 35.9 -0.1
baz=305
SATY **Saty** 119.66 305 *i* PKIKP **PKPdf** 19 40 34.9 -1.0
TARG **Taragay, Kyrgy** 119.75 304 PKPdf **PKPdf** 19 40 35.3 -1.2
SEM **Semipalatinsk** 120.12 314 *e*PKP **PKPdf** 19 40 36.6 -0.1
baz=314
SEM *e*PP **PP** 19 42 01.5 -0.9
baz=314
SEM **Semipalatinsk** 120.12 314 *i* PKIKP **PKPdf** 19 40 35.0 -1.7
SEM *e* 19 42 01.5
TDK **Taldyqorghan** 120.14 307 *i* PKP **PKPdf** 19 40 36.6 0.0
baz=307
TDK **Taldyqorghan** 120.14 307 *e*PKIKP **PKPdf** 19 40 35.5 -1.1
KSH **Kashi** 120.51 301 *e*PKP **PKiKP** 19 40 41.5 +3.7
MDOK **Medeo** 120.65 305 *e*PKP **PKPdf** 19 40 37.3 -0.6
baz=305
MDOK *e*PP **PP** 19 42 04.7 -1.5
baz=305
MDOK LR LR 20 35 20.0
comp=Z,10μm,21.0s,baz=305
MDOK **Medeo** 120.65 305 *e*PKIKP **PKPdf** 19 40 37.3 -0.6
MDOK *i* 19 42 04.6
TNSS **Tian-Shan** 120.69 305 *e*PKP **PKPdf** 19 40 37.5 -0.7
baz=305
TNSS **Tian-Shan** 120.69 305 *e*PKIKP **PKPdf** 19 40 37.0 -1.3
AAA **Alma-Ata** 120.75 305 *e*PKP **PKPdf** 19 40 37.1 -0.9
baz=305
AAA LR LR 20 34 46.0
comp=Z,11μm,18.9s,baz=305
AAA **Alma-Ata** 120.75 305 *e*PKIKP **PKPdf** 19 40 37.1 -0.9
AAA MLR MLR
comp=Z,11μm,19.0s
CHKK **Chushkaly** 120.86 306 *e*PKP **PKPdf** 19 40 37.7 -0.4
baz=306
CHKK **Chushkaly** 120.86 306 *e*PKIKP **PKPdf** 19 40 36.3 -1.8
LBTB **Lobatse** 120.87 204 PKP **PKiKP** 19 40 39.8 +0.7
comp=Z,6.3nm,0.8s,baz=144,slow=7.6,SNR=1.1
LBTB PKKPbc **PKKPbc** 19 50 41.9 -0.4
comp=Z,8.4nm,1.0s,baz=8.2,slow=6.2,SNR=3.5
ULHL **Ulahol** 121.00 304 P **PKiKP** 19 40 38.8 0.0
SNR=14
MTBS **Maitube** 121.08 305 *e*PKP **PKiKP** 19 40 38.7 0.0
baz=305
MTBS **Maitube** 121.08 305 *e*PKIKP **PKPdf** 19 40 38.3 -0.3
KURK **Kurchatov** 121.20 314 PKIKP **PKPdf** 19 40 36.7 -1.7
KURK **Kurchatov** 121.20 314 **PKPdf** 19 40 36.7 -1.7
KURK **Kurchatov** 121.20 314 PKKPab 19 50 40.5 +0.9
KURBB **Kurchatov Arra** 121.24 314 PKP **PKPdf** 19 40 37.5 -1.1
comp=Z,95nm,0.9s,baz=109,slow=1.8,SNR=10
KURBB PKKPbc **PKKPbc** 19 50 40.5 -0.4
comp=Z,4.6nm,1.2s,baz=252,slow=6.4,SNR=2.5
KUU **Kurty** 121.32 306 *e*PKP **PKPdf** 19 40 38.9 -0.1
baz=306
KUU **Kurty** 121.32 306 *e*PKIKP **PKPdf** 19 40 38.8 -0.1
TKM2 **Tokmak 2** 121.63 304 P **PKiKP** 19 40 43.5 +3.5
SNR=5.2
KBK **Karagaybulak** 122.03 304 P **PKiKP** 19 40 44.5 +3.7
SNR=6.2
UCH **Uchtor** 122.25 303 P **PKiKP** 19 40 41.7 +0.1
SNR=13
CHMS **Chumysh** 122.25 304 P **PKPdf** 19 40 40.5 -0.3
SNR=14
FRU1 **Bishkek** 122.29 304 PKIKP **PKPdf** 19 40 40.5 -0.4
FRU1 **Bishkek** 122.29 304 **PKPdf** 19 40 40.5 -0.4

AAK **Ala-Archa** 122.35 304 PKP **PKPdf** 19 40 40.9 -0.2
comp=Z,43nm,0.8s,baz=109,slow=3.0,SNR=3.6
AAK PKKPbc **PKKPbc** 19 50 37.4 +0.6
comp=Z,2.5nm,0.5s,baz=204,slow=8.1,SNR=1.9
AAK **Ala-Archa** 122.35 304 PKIKP **PKPdf** 19 40 40.3 -0.9
AAK **Ala-Archa** 122.35 304 **PKPdf** 19 40 40.3 -0.9
SGDS **Sogindy** 122.43 305 *e*PKP **PKiKP** 19 40 41.4 0.0
baz=305
SGDS **Sogindy** 122.43 305 *e*PKIKP **PKPdf** 19 40 39.8 -1.4
USP **Ospenovka** 122.49 305 P **PKiKP** 19 40 44.8 +3.4
SNR=7.1
AML **Almayashu** 122.82 303 P **PKiKP** 19 40 42.5 -0.1
SNR=7.4
EKS2 **Erkin-Say** 122.88 304 P **PKPdf** 19 40 42.2 0.0
SNR=6.0
BTLS **Baital** 123.17 307 *e*PKP **PKiKP** 19 40 42.6 -0.1
baz=306
BTLS **Baital** 123.17 307 *e*PKIKP **PKPdf** 19 40 40.9 -1.5
MATP **Matopo** 123.86 210 PKP **PKiKP** 19 40 46.6 +1.6
comp=Z,40nm,0.8s,baz=136,slow=1.5,SNR=6.2
DZA **Taraz** 124.69 304 *e*PKP **PKPdf** 19 40 45.2 -0.3
baz=303
DZA **Taraz** 124.69 304 *e*PKIKP **PKPdf** 19 40 44.4 -1.1
BRZS **Berezniki** 124.86 312 *e*PKP **PKPdf** 19 40 45.5 0.0
baz=312
BRZS *e*PP **PP** 19 42 33.9 -0.3
baz=312
BRZS LR LR 20 37 28.4
comp=Z,4μm,17.4s,baz=312
BRZS **Berezniki** 124.86 312 *e*PKIKP **PKPdf** 19 40 44.9 -0.6
BRZS *e* 19 42 33.8
FRB **Frobisher Bay** 124.91 31 PKKPbc PKKPbc 19 50 26.2 -0.7
comp=Z,9.0nm,0.9s,baz=220,slow=3.5,SNR=3.1
IUG **Iuzhnay** 125.49 302 *e*PKP **PKPdf** 19 40 46.5 -0.7
baz=302
IUG **Iuzhnay** 125.49 302 *e*PKIKP **PKPdf** 19 40 46.0 -1.1
SCHQ **Schefferville** 125.73 42 PKP **PKPdf** 19 40 46.7 -0.4
comp=Z,33nm,1.1s,baz=297,slow=1.8,SNR=5.4
SCHQ **Schefferville** 125.73 42 **PKPdf** 19 40 46.0 -1.1
BVAR **Borovoye Array** 126.54 316 PKP **PKPdf** 19 40 48.7 +0.1
comp=Z,124nm,0.9s,baz=108,slow=2.0,SNR=16
BRVK **Borovoye** 126.61 316 *i* PKIKP **PKPdf** 19 40 47.8 -1.0
GBN **Guysborough** 128.43 54 PKPdf **PKPdf** 19 40 52.0 -0.4
LSZ **Lusaka** 128.53 212 PKP **PKiKP** 19 40 55.0 +0.6
comp=Z,56nm,1.1s,baz=185,slow=2.6,SNR=4.5
LSZ SKPbc SKPbc 19 44 14.2
comp=Z,39nm,1.0s,baz=168,slow=3.9,SNR=5.7
RCBR **Riachuelo** 128.66 128 PKP **PKiKP** 19 40 55.4 +0.8
comp=Z,63nm,1.1s,baz=237,slow=6.6,SNR=2.2
TSUM **Tsumeb** 128.85 198 PKP **PKiKP** 19 40 55.0 0.0
comp=Z,38nm,1.1s,baz=180,slow=10,SNR=3.1
WSAR **Wadi Sarin** 129.83 276 PKP **PKiKP** 19 40 56.3 -0.3
comp=Z,25nm,1.0s,baz=178,slow=5.2,SNR=4.8
KBS **Kingsbay** 130.95 358 *i* PKIKP **PKPdf** 19 40 55.7 -0.6
KBS **Kingsbay** 130.95 358 *e*PKPdf **PKiKP** 19 40 59.7 +2.5
SPA0 **Spitsbergen Ar** 131.47 356 *e*PKPdf **PKiKP** 19 40 58.2 -0.2
SPITS **Spitsbergen Ar** 131.47 356 PKP **PKPdf** 19 40 57.2 -0.2
comp=Z,17nm,0.8s,baz=19,slow=11,SNR=3.3
SPITS SKPbc **SKPab** 19 44 23.2 +1.8
comp=Z,57nm,1.2s,baz=321,slow=7.5,SNR=4.1
SFJD **Kangerlussuaq** 131.57 25 PKP **PKPdf** 19 40 57.9 +0.2
comp=Z,7.3nm,0.6s,baz=310,slow=5.6,SNR=1.2
SVE **Sverdlovsk** 131.99 321 *e*PKIKP **PKiKP** 19 41 04.2 +4.3
HOPEN **Hopen** 132.34 353 *e*pPKPdf pPKPdf 19 41 10.8 +4.4
ASHO **Ashiyiah** 132.53 277 Sdiff **Sdif** 19 51 33.3 -2.8
HSPB **Hornsund (broa** 132.66 356 *e*pPKPdf pPKPdf 19 41 11.6 +4.6
ARU **Arti** 133.18 321 PKP **PKiKP** 19 41 02.1 -0.3
comp=Z,34nm,0.9s,baz=100,slow=2.2,SNR=7.9
ARU SKP 19 44 38.6
comp=Z,14nm,0.8s,baz=106,slow=3.5,SNR=4.4
ARU **Arti** 133.18 321 *i* PKIKP **PKPdf** 19 41 00.1 -1.0
ARU 19 43 26.7
ARU PPP PPP 19 46 24.7
ARU SS SS 20 01 06.7 -3.3
ARU **Arti** 133.18 321 **PKPdf** 19 41 01.0 -0.2
GEYT **Alibeck** 133.87 295 PKP **PKiKP** 19 41 04.2 -0.2
comp=Z,122nm,0.9s,baz=239,slow=0.9,SNR=16
GEYT SKPbc **SKPab** 19 44 32.8 -0.2
comp=Z,60nm,1.2s,baz=31,slow=6.1,SNR=6.0
GEYT SKP 19 44 40.9
comp=Z,159nm,1.2s,baz=225,slow=1.9,SNR=9.7
AKTO **Aktyubinsk** 134.27 313 PKP **PKPdf** 19 41 03.9 +0.5
comp=Z,84nm,0.9s,baz=93,slow=5.3,SNR=11
AKTO SKPbc **SKPab** 19 44 33.8 -0.4
comp=Z,23nm,1.0s,baz=225,slow=20,SNR=4.5
KMBO **Kilima Mbogo** 134.60 233 PKhKP **PKPdf** 19 41 01.4 -4.1
comp=Z,6.8nm,0.9s,baz=107,slow=1.7,SNR=3.3
KMBO SKPbc **SKPab** 19 44 37.5 +0.3
comp=Z,40nm,0.9s,baz=74,slow=2.6,SNR=13
KMBO **Kilima Mbogo** 134.60 233 PKIKP **PKPdf** 19 41 01.3 -4.2
KMBO **Kilima Mbogo** 134.60 233 PKPdf **PKPdf** 19 41 01.2 -4.2
BJO1 **Bjornoya** 134.79 354 *e*PKPdf **PKiKP** 19 41 07.0 +2.0
BJO1 *e*PP **PP** 19 43 38.7 +0.9
BJO1 *e*SKPdf **SKPdf** 19 44 37.6 +0.7
KIRV **Kirov** 137.37 326 PKhKP PKPpre 19 41 02.0
comp=Z,17nm,0.6s,baz=140,slow=0.7,SNR=2.7
LVZ **Lovozero** 137.74 343 *i* PKIKP **PKPdf** 19 41 07.6 -1.8
H10S2 **ASCENSION HYDR** 137.76 154 T T 22 16 37.7
baz=16,slow=74,SNR=11
H10S3 **ASCENSION HYDR** 137.76 154 T T 22 16 34.8
baz=204,slow=74,SNR=9.9
HAMF **Hammerfest** 137.76 350 *e*PKPdf **PKiKP** 19 41 14.7 +3.5
ATD **Arta Tunnel** 138.30 252 PKP **PKPdf** 19 41 12.1 +0.1
comp=Z,42nm,1.0s,baz=348,slow=1.6,SNR=5.7
ATD SKPbc **SKiKP** 19 44 47.7 -0.8
comp=Z,22nm,1.1s,baz=296,slow=19,SNR=3.8
ATD **Arta Tunnel** 138.30 252 PKPdf **PKPdf** 19 41 09.7 -2.3
APA **Apatity** 138.30 343 *i* PKIKP **PKPdf** 19 41 10.7 +0.4
APA *i* 19 41 19.2
APA pmax pmax
comp=Z,27nm,0.9s
ARCES **ARCESS Array B** 138.43 348 PKhKP PKPpre 19 41 05.0
comp=Z,54nm,0.8s,baz=48,slow=1.8,SNR=5.8
ARCES **ARCESS Array B** 138.43 348 PKIKP **PKPdf** 19 41 05.0 -5.6
ARE0 **ARCESS Array S** 138.43 348 *e*PKPdf **PKPdf** 19 41 09.5 -1.0
H10N3 **ASCENSION HYDR** 138.84 154 T T 22 17 07.3
baz=246,slow=74,SNR=13
H10N2 **ASCENSION HYDR** 138.86 154 T T 22 17 07.5
baz=208,slow=74,SNR=14
KTK1 **Kautokeino** 139.28 349 *e*PKPdf **PKPdf** 19 41 08.1 -4.0
TMCR **Tamitsa** 139.29 337 *e*PKIKP **PKPdf** 19 41 12.2 0.0
TMCR pmax pmax
comp=Z,84nm,1.5s
MBAR **Mbarara** 139.31 226 PKP **PKiKP** 19 41 17.4 +1.0
comp=Z,22nm,1.1s,baz=172,slow=1.4,SNR=5.8
MBAR SKPbc **SKiKP** 19 44 51.4 +0.6
comp=Z,20nm,0.9s,baz=103,slow=6.3,SNR=4.0
MBAR **Mbarara** 139.31 226 PKIKP **PKPdf** 19 41 10.5 -3.6
MBAR **Mbarara** 139.31 226 PKPdf **PKPdf** 19 41 10.5 -3.6
TRO **Tromso** 139.37 351 *e*PKPdf **PKPdf** 19 41 11.7 -0.5
TRO *e*SKSac **SKSac** 19 48 26.8 +1.6
KLMR **Klimovskoe** 140.75 332 *e*PKIKP **PKPdf** 19 41 10.3 -4.7
KLMR pmax pmax
comp=Z,211nm,1.4s
KLMR **Klimovskoe** 140.75 332 *e*PKPdf **PKPdf** 19 41 10.4 -4.6
KLMR AMP 19 41 25.3
comp=Z,211nm,1.4s
LOF **Lofoten** 141.42 353 *e*PKPdf **PKiKP** 19 41 18.1 -0.7
STEI **Steigen** 141.43 352 *e*PKPdf **PKPdf** 19 41 15.8 -0.2
AKT **Akhty** 142.03 300 *e*PKIKP **PKPdf** 19 41 17.0 -1.1
AKT pmax pmax
comp=Z,116nm,1.1s
BORG **Borgarnes** 142.29 16 PKP **PKPdf** 19 41 17.3 -0.3
comp=Z,17nm,1.0s,baz=11,slow=5.2,SNR=2.0
KONS **Konsvik** 143.05 353 *e*PKPdf **PKiKP** 19 41 20.6 -1.5
MOR8 **Moi Rana** 143.21 352 *e*PKPdf **PKPdf** 19 41 20.4 +1.1
STOK **Stokkvaagen** 143.22 353 *e*PKPdf **PKPdf** 19 41 20.0 +0.8
GROC **Groznyy** 143.33 303 *e*PKIKP **PKPdf** 19 41 20.2 0.0
GROC *e* 19 44 33.2
GROC pmax pmax
comp=Z,296nm,1.4s
VRH **Novokhopyorsk** 144.17 317 *e*PKIKP **PKPab** 19 41 17.7 -1.4
VRH pmax pmax
comp=Z,200nm,0.8s
ZEI **Tsey** 144.76 303 *i* PKIKP **PKPdf** 19 41 24.1 +1.1
ZEI pmax pmax
comp=Z,306nm,1.1s
PUL **Pulkovo** 144.95 336 *e*P **PKPab** 19 41 20.8 -0.9
PUL **Pulkovo** 144.95 336 *i* PKIKP **PKPab** 19 41 20.6 -1.1
GOF **Gofitskoye** 145.01 307 *e*PKIKP **PKPbc** 19 41 22.3 -0.1
GOF pmax pmax
comp=Z,281nm,0.8s
FINES **FINESS Array B** 145.06 340 PKP **PKPbc** 19 41 21.6 -0.4
comp=Z,1μm,0.9s,baz=46,slow=5.5,SNR=21
NSS **Namsos** 145.08 353 *e*PKPbc **PKPbc** 19 41 21.5 -0.5

LPSR **Galich'ya Gora** 145.21 321 *e*PKP2 **PKPbc** 19 41 21.3 -1.5
LPSR pmax pmax
comp=Z,490nm,0.9s
OBN **Obninsk** 145.22 326 PKPbc **PKPbc** 19 41 22.5 -0.2
comp=Z,81nm,0.5s,baz=281,slow=0.8,SNR=10
OBN **Obninsk** 145.22 326 *i* PKP2 **PKPbc** 19 41 21.2 -1.5
OBN pmax pmax
comp=Z,522nm,1.2s
OBN **Obninsk** 145.22 326 **PKPbc** 19 41 21.8 -0.9
KBZ **Khabaz** 145.35 304 PKPbc **PKPdf** 19 41 23.6 0.0
comp=Z,100nm,0.9s,baz=156,slow=1.7,SNR=4.0
KIV **Kislovodsk** 145.46 305 *e*PKIKP **PKPdf** 19 41 23.6 -0.4
KIV pmax pmax
comp=Z,573nm,1.0s
NEY **Neytrino** 145.55 304 *i* PKIKP **PKPab** 19 41 25.7 +1.0
VSR **Storozhevoye** 145.65 318 *e*PKP2 **PKPdf** 19 41 22.2 -1.7
VSR pmax pmax
comp=Z,630nm,1.2s
VORD **Divnogorie** 145.68 318 *e*PKP2 **PKPdf** 19 41 22.5 -1.5
VORD pmax pmax
comp=Z,320nm,0.7s
TBLU **Trondheim** 146.50 354 *e*PKPdf **PKPdf** 19 41 25.5 +0.5
VSU **Vasula** 147.17 337 *e*P **PKPbc** 19 41 28.1 -0.4
MOL **Molde** 147.40 356 *e*PKPdf **PKPbc** 19 41 27.9 -1.0
SOC **Sochi** 147.65 305 *e*PKIKP **PKPdf** 19 41 26.9 -0.6
SOC *i* 19 41 33.0
SOC *e*PPP PPP 19 48 11.7
SOC *e*SS SS 20 03 52.3 -7.7
SOC *e*SSS SSS 20 09 38.4
SOC MLR MLR
comp=Z,22μm,19.0s
DOMB **Dombas** 147.80 354 *e*PKPdf **PKPbc** 19 41 29.2 -1.0
DOMB *e*SKSdf **SKSdf** 19 48 33.0 -0.7
AKN **Aaknes** 147.82 356 *e*PKPdf **PKPbc** 19 41 29.3 -0.9
FOO **Floro** 148.49 358 *e*PKPdf **PKPbc** 19 41 30.2 -1.7
NB2 **NORSAR Subarra** 148.56 352 PKP **PKPbc** 19 41 31.9 -0.3
comp=Z,307nm,1.0s,baz=17,slow=2.6
NB2 **NORSAR Subarra** 148.56 352 PKPab **PKPbc** 19 41 31.9 -0.3
baz=17,slow=2.6
NOA **NORSAR Array B** 148.56 352 PKPbc **PKPbc** 19 41 32.3 +0.1
comp=Z,156nm,0.8s,baz=14,slow=4.2,SNR=15
NC602 **NORSAR Array S** 148.81 351 *e*PKPbc **PKiKP** 19 41 34.0 -0.1
HYA **Hoyanger** 148.87 357 *e*PKPdf **PKPbc** 19 41 31.0 -1.9
HYA *e*pPKPdf **pPKPbc** 19 41 40.7 +0.4
ANN **Anapa** 148.94 308 *e*PKP2 **PKPbc** 19 41 32.6 -1.0
ANN pmax pmax
comp=N,145nm,0.7s
ANN pmax pmax
comp=Z,720nm,0.9s
ANN pmax pmax
comp=E,102nm,0.7s
SUE **Sulen** 149.04 358 *e*PKPbc **PKPbc** 19 41 33.3 -0.1
HFS **Hagfors** 149.08 349 PKPbc **PKPbc** 19 41 33.0 -0.5
comp=E,258nm,0.8s,baz=77,slow=3.2,SNR=9.1
HFS **Hagfors** 149.08 349 PKP2 **PKPbc** 19 41 33.0 -0.5
SKAR **Skarslia** 149.21 354 *e*PKPdf **PKPdf** 19 41 31.6 +2.0
SLIT **Slitere, Latvi** 149.28 339 *e*P **PKPbc** 19 41 34.0 -0.1
IZAR **Zarasai** 149.37 333 *e*P **PKPbc** 19 41 34.0 -0.4
ISAL **Salakas** 149.55 333 *e*P **PKPbc** 19 41 34.5 -0.3
MICGM **Minsk** 149.59 330 ⇓ *e*PKP **PKPdf** 19 41 32.0 +1.7
MICGM ⇓ *e*PKP **PKPdf** 19 41 32.0 +1.7
MICGM PKPM 19 41 33.0
comp=Z,0.7nm,2.0s
MICGM PKPM 19 41 33.0
comp=N,1.6nm,2.0s
MICGM PKPM 19 41 34.0
comp=Z,8.5nm,14.0s
MICGM *e*PP **PP** 19 45 08.0 +0.1
MICGM *e*PPP PPP 19 47 52.0
MICGM *e*SKS SKSdf 19 48 06.0 -30
MICGM *e*LR LR 20 45 20.0
MICGM LRM MLR 20 49 12.0
comp=Z,108nm,20.0s
MICGM LRM MLR 20 49 16.0
comp=Z,81nm,20.0s
MICGM LRM MLR 20 49 20.0
comp=E,31nm,20.0s
MICGM LRM MLR 20 49 24.0
comp=E,42nm,20.0s
MICGM LRM MLR 20 49 36.0
comp=N,36nm,20.0s
MICGM LRM MLR 20 49 38.0
comp=N,23nm,20.0s
MNK **Minsk** 149.59 330 *e*PKHKP **PKPdf** 19 41 32.0 +1.7
MNK *e* 19 45 08.0
MNK pmax pmax
comp=N,2μm,2.0s
MNK pmax pmax
comp=Z,680nm,2.0s
MNK pmax pmax
comp=Z,8μm,14.0s
MNK MLR MLR
comp=N,36μm,20.0s
MNK MLR MLR
comp=E,42μm,20.0s
MNK MLR MLR
comp=Z,108μm,20.0s
ASK **Askoy** 149.60 357 *e*PKPbc **PKiKP** 19 41 35.3 -0.5
IGN **Ignalina** 149.67 333 *e*P **PKPbc** 19 41 34.2 -0.9
OSL **Oslo** 149.69 352 *e*PKPbc **PKiKP** 19 41 36.6 +0.6
BER **Bergen** 149.69 357 *e*PKPbc **PKiKP** 19 41 36.3 +0.3
NACGM **Naroch** 149.77 332 *e*P **PKPbc** 19 41 34.0 -1.4
NACGM PM 19 41 45.0
comp=Z,2.1nm,1.0s
LRW **Lerwick** 149.90 4 *e*P **PKPdf** 19 41 31.4 +0.7
LRW **Lerwick** 149.90 4 *e*PKPbc **PKPbc** 19 41 35.4 -0.1
ODD1 **Odda** 150.10 356 *e*PKPbc **PKiKP** 19 41 37.9 +1.0
ODD1 *e*pPKPdf **PKPab** 19 41 42.2 +0.2
KONO **Kongsberg** 150.10 353 *e*PKPdf **PKPdf** 19 41 32.8 +1.8
PABE **Paberze** 150.41 335 *e*P **PKPbc** 19 41 36.5 -0.4
ASF **Jabal al Asfar** 150.60 283 PKPbc **PKiKP** 19 41 38.8 -0.1
comp=Z,156nm,0.9s,baz=12,slow=3.8,SNR=3.8
BLS5 **Blasjo** 150.60 356 *e*PKPbc **PKiKP** 19 41 37.8 -0.2
PBUR **Paburge** 150.71 338 *e*P **PKPbc** 19 41 36.4 -0.8
H07S1 **FLORES T-PHASE** 150.92 62 PKPbc **PKPbc** 19 41 37.0 -1.7
SIM **Simferopol'** 151.14 310 *e*PKIKP **PKPbc** 19 41 37.8 -1.2
SIM pmax pmax
comp=Z,620nm,0.9s
LEWI **Lewis, Hebride** 151.25 10 *e*P **PKPdf** 19 41 33.3 +0.4
AKASG **Malin Array Be** 151.37 323 PKPbc **PKPbc** 19 41 39.2 0.0
comp=Z,332nm,0.8s,baz=47,slow=2.7,SNR=7.4
HWQ **Hawqa** 151.51 287 *e*P **PKPbc** 19 41 40.0 -0.3
HOMB **Homborsund** 151.57 353 *e*PKPbc **PKiKP** 19 41 40.0 +0.1
HOMB *e*pPKPdf **sPKPdf** 19 41 43.5 +0.3
SNART **Snartemo** 151.62 355 *e*PKPbc **PKiKP** 19 41 40.4 +0.4
QRWL **Qaraoun** 151.71 286 *e*P **PKiKP** 19 41 41.3 +0.1
BHL **Bhannes** 151.74 286 *e*P **PKPbc** 19 41 40.6 -0.2
DQRL **Deir Qamar** 151.81 286 *e*P **PKiKP** 19 41 41.4 0.0
SUW **Suwalki** 151.85 334 *e*PKiKP **PKiKP** 19 41 43.8 +3.1
SUW **Suwalki** 151.85 334 *e*PKiKP **PKiKP** 19 41 43.8 +3.1
SUW **Suwalki** 151.85 334 *e*PKiKP **PKiKP** 19 41 43.8 +3.1
MMAI **Mount Meron Ar** 151.91 284 PKPbc **PKiKP** 19 41 42.2 +0.6
comp=Z,498nm,0.9s,baz=78,slow=7.8,SNR=14
EIL **Elat** 151.95 277 PKPbc **PKiKP** 19 41 41.6 -0.1
comp=Z,301nm,1.0s,baz=96,slow=8.3,SNR=5.2
BRTR **Keskin Array B** 152.88 299 PKPbc **PKPbc** 19 41 43.0 -0.2
comp=Z,159nm,0.9s,baz=145,slow=4.5,SNR=8.1
LAWE **Loch Awe, Argy** 153.29 10 *e*P **PKPdf** 19 41 36.0 +0.1
PGBU **Glenifferbraes** 153.86 9 *e*P **PKPdf** 19 41 36.8 +0.1
BEL **Belsk** 154.45 333 *e*PKiKP **PKiKP** 19 41 50.2 +4.1
BEL **Belsk** 154.45 333 *e*PKiKP **PKiKP** 19 41 50.2 +4.1
BEL **Belsk** 154.45 333 *e*PKiKP **PKiKP** 19 41 50.2 +4.1
EKA **Eskdalemuir Ar** 154.49 8 PKPbc **PKiKP** 19 41 46.8 +0.7
comp=Z,4.8nm,0.6s,baz=341,slow=2.2,SNR=2.4
ESK **Eskdalemuir** 154.50 8 *e*P **PKPdf** 19 41 36.6 -1.0
GKP **Gorka Klasztor** 154.51 339 *e*PKiKP **PKiKP** 19 41 49.5 +3.3
GKP **Gorka Klasztor** 154.51 339 *e*PKiKP **PKiKP** 19 41 49.5 +3.3
GKP **Gorka Klasztor** 154.51 339 *e*PKiKP **PKiKP** 19 41 49.5 +3.3
NEWG **New Galloway** 154.57 9 *e*P **PKPdf** 19 41 38.0 +0.3
EDMD **Edmundbyers** 155.11 6 *e*P **PKPdf** 19 41 38.3 -0.2
KESW **Keswick, Cumbr** 155.23 8 *e*P **PKPdf** 19 41 38.7 0.0
KWP **Kalwaria Pacla** 155.27 328 *e*PKPab **PKPab** 19 42 04.0 -0.1
KWP **Kalwaria Pacla** 155.27 328 *e*PKPab **PKPab** 19 42 04.0 -0.1
KWP **Kalwaria Pacla** 155.27 328 *e*PKPab **PKPab** 19 42 04.0 -0.1
IOMK **Kirk Michael** 155.35 10 *e*P **PKPdf** 19 41 39.4 +0.5
DBIC **Dimbokro** 155.64 162 PKP **PKPdf** 19 41 38.5 -2.0
comp=Z,11nm,0.7s,baz=45,slow=2.9,SNR=1.6
DBIC PKPbc PKPbc 19 41 52.1
comp=Z,34nm,0.8s,baz=76,slow=2.1,SNR=3.7
DBIC PKPab **PKPab** 19 42 07.0 +0.6
comp=Z,

RUE	**Ruedersdorf**	**156.19 343**	*e*P	**PKPab**	**19 42 06.1**	**-1.7**
WLF1	**Llynfaes**	**156.32 10**	*e*P	**PKPdf**	**19 41 40.3**	**+0.2**
CRVS	**Cervenica-Dubn**	**156.36 328**	*e*PKP2	**PKPab**	**19 42 09.1**	**+0.3**
CRVS	**Cervenica-Dubn**	**156.36 328**	*e*PKP	**PKPab**	**19 42 09.1**	**+0.3**
CRVS			*e*		19 42 12.5	
NIE	**Niedzica**	**156.50 330**	*e*PKPab	**PKPab**	**19 42 10.7**	**+1.3**
NIE	**Niedzica**	**156.50 330**	*e*PKPab	**PKPab**	**19 42 10.7**	**+1.3**
NIE	**Niedzica**	**156.50 330**	*e*PKPab	**PKPab**	**19 42 10.7**	**+1.3**
KSP	**Ksiaz**	**156.90 337**	*e*PKPab	**PKPab**	**19 42 11.2**	**+0.2**
KSP	**Ksiaz**	**156.90 337**	*e*PKPab	**PKPab**	**19 42 11.2**	**+0.2**
KSP	**Ksiaz**	**156.90 337**	*e*PKPab	**PKPab**	**19 42 11.2**	**+0.2**
OKC	**Ostrava-Krasne**	**157.06 333**	*e*PKPAB	**PKPab**	**19 42 11.0**	**-0.7**
OKC	**Ostrava-Krasne**	**157.06 333**	*e*PKP2	**PKPab**	**19 42 11.0**	**-0.7**
KECS	**Kecovo**	**157.11 328**	*e*PKP2	**PKPab**	**19 42 12.5**	**+0.5**
KECS	**Kecovo**	**157.11 328**	*e*PKP	**PKPab**	**19 42 12.5**	**+0.5**
KECS			*e*		19 42 15.9	
OSTC	**Ostas**	**157.17 337**	*e*PKPAB	**PKPab**	**19 42 12.7**	**+0.5**
CHVC	**Chvalec**	**157.19 337**	*e*PKPAB	**PKPab**	**19 42 12.8**	**+0.5**
CWF	**Charnwood Fore**	**157.24 6**	*e*P	**PKPdf**	**19 41 40.9**	**-0.5**
UPC	**Upice**	**157.28 337**	*e*PKPAB	**PKPab**	**19 42 13.0**	**+0.4**
UPC	**Upice**	**157.28 337**	*e*PKP2	**PKPab**	**19 42 13.0**	**+0.4**
MORC	**Moravsky Berou**	**157.34 334**	*e*PKP	**PKPab**	**19 42 12.0**	**-1.0**
CLL	**Collm**	**157.46 343**	*e*PKPdiff	PKPdf	19 41 56.0	+14
CLL			*e*		19 42 06.0	
	comp=Z,93nm,1.0s					
CLL			*e*PKPab	**PKPab**	**19 42 13.0**	**-0.3**
CLL			*i* pPKPab	pPKPab	19 42 16.9	-3.7
	comp=Z,302nm,1.0s					
CLL	**Collm**	**157.46 343**	*e*PKIKP	**PKPdf**	**19 41 46.0**	**+4.3**
CLL			*e*		19 42 06.0	
CLL			pmax	pmax		
	comp=Z,93nm,1.0s					
BRG	**Berggiesshubel**	**157.60 341**	*i* PKP	**PKPdf**	**19 41 41.3**	**-0.6**
	comp=Z,64nm,1.3s					
PVCC	**Panska Ves**	**157.72 339**	*e*PKPAB	**PKPab**	**19 42 18.2**	**+3.7**
PVCC	**Panska Ves**	**157.72 339**	*e*PKP2	**PKPab**	**19 42 18.2**	**+3.7**
VYHS	**Vyhne**	**157.83 330**	*e*PKP2	**PKPab**	**19 42 15.4**	**+0.3**
VYHS	**Vyhne**	**157.83 330**	*e*PKP	**PKPab**	**19 42 15.4**	**+0.3**
VYHS			*e*		19 42 19.1	
JAVC	**Velka Javorina**	**158.03 333**	*e*PKP	**PKPab**	**19 42 15.5**	**-0.5**
VRAC	**Vranov**	**158.08 335**	PKPab	**PKPab**	**19 42 16.6**	**+0.5**
	comp=Z,56nm,0.8s,baz=27,slow=5,SNR=6.4					
VRAC	**Vranov**	**158.08 335**	*e*PKP	**PKPab**	**19 42 15.8**	**-0.3**
PRA	**Prague**	**158.16 339**	*e*PKPAB	**PKPab**	**19 42 16.2**	**-0.2**
PRA	**Prague**	**158.16 339**	*e*PKP2	**PKPab**	**19 42 16.2**	**-0.2**
GOPC	**GO Pecny, Ondr**	**158.19 338**	*e*PKPAB	**PKPab**	**19 42 16.7**	**+0.1**
GOPC	**GO Pecny, Ondr**	**158.19 338**	*e*PKP2	**PKPab**	**19 42 16.7**	**+0.1**
PRU	**Pruhonice**	**158.20 339**	*e*PKPAB	**PKPab**	**19 42 16.4**	**-0.2**
PRU	**Pruhonice**	**158.20 339**	*e*PKP2	**PKPab**	**19 42 16.4**	**-0.2**
KRUC	**Moravsky**	**158.36 335**	*e*PKP	**PKPab**	**19 42 17.4**	**+0.1**
SMOL	**Smolenice**	**158.40 332**	*e*PKP2	**PKPab**	**19 42 18.4**	**+0.8**
SMOL	**Smolenice**	**158.40 332**	*e*PKP	**PKPab**	**19 42 18.4**	**+0.8**
MODS	**Modra-Piesok**	**158.57 332**	*e*PKP2	**PKPab**	**19 42 18.0**	**-0.3**
MODS	**Modra-Piesok**	**158.57 332**	*e*PKP	**PKPab**	**19 42 18.0**	**-0.3**
NKC	**Novy Kostel**	**158.58 342**	*e*PKPAB	**PKPab**	**19 42 18.3**	**0.0**
NKC	**Novy Kostel**	**158.58 342**	*e*PKP2	**PKPab**	**19 42 18.3**	**0.0**
PBCC	**Pribram**	**158.64 339**	*e*PKPAB	**PKPab**	**19 42 15.4**	**-3.1**
ZST	**Bratislava**	**158.79 332**	*e*PKP2	**PKPab**	**19 42 19.6**	**+0.4**
ZST	**Bratislava**	**158.79 332**	*e*PKP	**PKPab**	**19 42 19.6**	**+0.4**
BEBN	**Eben Emael**	**159.23 354**	PKPdf	**PKPdf**	**19 41 44.6**	**+0.8**
BEBN			PKPab	**PKPab**	**19 42 20.5**	**-0.5**
BEBN			x	x	19 42 24.6	
KHC	**Kasperske Hory**	**159.25 339**	*e*PKPAB	**PKPab**	**19 42 21.3**	**0.0**
KHC			*ex*	x	19 43 38.5	
KHC	**Kasperske Hory**	**159.25 339**	*e*PKP2	**PKPab**	**19 42 21.3**	**0.0**
UCC	**Uccle**	**159.32 357**	PKPab	**PKPab**	**19 42 20.9**	**-0.4**
UCC			x	x	19 42 24.7	
UCC	**Uccle**	**159.32 357**	PKP2	**PKPab**	**19 42 19.2**	**-2.1**
UCC	**Uccle**	**159.32 357**		**PKPab**	**19 42 19.2**	**-2.1**
MEM	**Membach**	**159.38 354**	PKPab	**PKPab**	**19 42 20.5**	**-1.2**
MEM	**Membach**	**159.38 354**	x	x	19 42 24.7	
BSTI	**Sart Tilman**	**159.45 354**	PKPdf	**PKPdf**	**19 41 44.8**	**+0.7**
BSTI			PKPab	**PKPab**	**19 42 21.5**	**-0.5**
GERES	**GERESS Array B**	**159.47 339**	PKPab	**PKPab**	**19 42 22.3**	**0.0**
	comp=Z,30nm,0.8s,baz=49,slow=3.2,SNR=7.0					
CONA	**Conrad Observa**	**159.49 334**	PKPab	**PKPab**	**19 42 22.8**	**+0.4**
	comp=Z,163nm,1.6s					
SNF	**Seneffe**	**159.61 357**	PKPdf	**PKPdf**	**19 41 43.7**	**-0.6**
SNF			PKPab	**PKPab**	**19 42 22.2**	**-0.4**
SNF			x	x	19 42 26.6	
BCLA	**Clavier**	**159.63 355**	PKPdf	**PKPdf**	**19 41 41.7**	**-2.6**
BCLA			pPKP	**pPKPdf**	**19 41 50.9**	**-0.9**
BCLA			PKPab	**PKPab**	**19 42 21.8**	**-0.9**
BCLA			x	x	19 42 26.4	
BHOU	**Houvegnez**	**159.64 354**	PKPab	**PKPab**	**19 42 22.2**	**-0.6**
BGES	**Gesves**	**159.69 355**	pPKP	**pPKPdf**	**19 41 52.2**	**+0.4**
BGES			PKPab	**PKPab**	**19 42 22.4**	**-0.6**
BGES			x	x	19 42 26.5	
DOU	**Dourbes**	**160.00 356**	PKPdf	**PKPdf**	**19 41 44.7**	**0.0**
DOU			PKPab	**PKPab**	**19 42 23.5**	**-0.9**
DOU			x	x	19 42 27.8	
MOA	**Molln**	**160.14 336**	PKPab	**PKPab**	**19 42 25.6**	**+0.4**
	comp=Z,169nm,1.2s					
WLF	**Walferdange**	**160.31 353**	PKPdf	**PKPdf**	**19 41 45.7**	**+0.6**
WLF			PKPab	**PKPab**	**19 42 25.5**	**-0.2**
KOGS	**Kog**	**160.53 331**	*e*PKPdf	**PKPdf**	**19 41 48.0**	**+2.6**
JSA	**Saint Aubin**	**160.64 9**	*e*P	**PKPdf**	**19 41 45.5**	**+0.1**
SOKA	**Soboth**	**160.84 333**	PKPab	**PKPab**	**19 42 28.1**	**-0.2**
	comp=Z,122nm,1.1s					
KBA	**Koelnbreinsper**	**161.13 337**	PKPab	**PKPab**	**19 42 29.5**	**-0.1**
	comp=Z,87nm,0.8s					
MYKA	**Terra Mystica**	**161.41 335**	PKPab	**PKPab**	**19 42 30.0**	**-0.8**
	comp=Z,77nm,0.7s					
WATA	**Walderalm**	**161.46 340**	*e*PKPab	**PKPab**	**19 42 31.2**	**+0.2**
	comp=Z,218nm,1.2s,SNR=10					
WTTA	**Wattenberg**	**161.51 340**	*e*PKPab	**PKPab**	**19 42 31.7**	**+0.4**
	comp=Z,303nm,1.0s					
RETA	**Reutte**	**161.55 342**	PKPab	**PKPab**	**19 42 31.5**	**+0.2**
	comp=Z,261nm,1.0s,SNR=12					
LJU	**Ljubljana**	**161.56 333**	*e*PKPdf	**PKPdf**	**19 41 49.6**	**+3.0**
MOTA	**Moosalm**	**161.59 341**	*e*PKPab	**PKPab**	**19 42 31.7**	**+0.1**
	comp=Z,367nm,1.1s					
SQTA	**Sankt Quirin**	**161.67 341**	PKPab	**PKPab**	**19 42 32.2**	**+0.2**
	comp=Z,155nm,0.9s,SNR=11					
ABTA	**Abfaltersbach**	**161.69 338**	*e*PKPab	**PKPab**	**19 42 31.6**	**-0.4**
	comp=Z,124nm,0.8s					
DAVA	**Damuels**	**161.96 344**	PKPab	**PKPab**	**19 42 33.6**	**+0.3**
	comp=Z,220nm,0.8s					
DAVOX	**Davos/Dischmat**	**162.43 343**	PKPab	**PKPab**	**19 42 35.6**	**+0.2**
	comp=Z,197nm,0.8s,baz=23,slow=8.8,SNR=15					
TORD	**Torodi Ar. Bea**	**162.07 17**	PKP	**PKPdf**	**19 41 49.8**	**+0.8**
	comp=Z,36nm,1.2s,baz=131,slow=3.2,SNR=1.2					
TORD			PKPab	**PKPab**	**19 42 39.6**	**+1.0**
	comp=Z,26nm,0.8s,baz=162,slow=3.0,SNR=2.7					
TORD			PP	**PP**	**19 46 20.7**	**-1.4**
	comp=Z,16nm,1.0s,baz=132,slow=7.0,SNR=3.0					
TORD			SKKPbc		19 51 43.2	
	comp=Z,12nm,0.9s,baz=1.2,slow=4.2,SNR=4.7					
SALO	**Salr**	**163.32 340**	PKPab	**PKPab**	**19 42 37.5**	**-1.6**
MSSA	**Maissana**	**164.81 341**		**PKPab**	**19 42 44.3**	**-1.4**
PGAV	**Gavieira, Arco**	**165.33 34**	*e*PKPdf	**PKPdf**	**19 41 55.6**	**+5.2**
PCAB	**Cabril**	**165.64 34**	*e*PKPdf	**PKPdf**	**19 41 56.3**	**+5.7**
PVRL	**Vila Real**	**166.12 34**	*e*PKPdf	**PKPdf**	**19 41 51.6**	**+0.6**
PVIS	**Viseu**	**166.46 36**	*e*PKPdf	**PKPdf**	**19 41 56.9**	**+5.6**
MVO	**Moncorvo**	**166.54 33**	*e*PKPdf	**PKPdf**	**19 41 53.9**	**+2.5**
PMAFR	**Mafra**	**166.88 45**	*e*PKPdf	**PKPdf**	**19 41 57.6**	**+6.0**
PCBR	**Castelo Branco**	**167.32 38**	*e*PKPdf	**PKPdf**	**19 41 56.3**	**+4.4**
VAE	**Valguarnera**	**167.71 310**	PKPab	**PKPab**	**19 43 00.5**	**+1.6**
	comp=Z,9.7nm,0.4s,baz=201,slow=14,SNR=1.3					
PNCL	**Nicolau / Gran**	**167.87 46**	*e*PKPdf	**PKPdf**	**19 41 57.8**	**+5.5**
EVO	**Evora**	**167.92 43**	*e*PKPdf	**PKPdf**	**19 41 56.0**	**+3.6**
PTEO	**Sao Teotonio**	**168.08 49**	*e*PKPdf	**PKPdf**	**19 41 58.9**	**+6.4**
MESJ	**Messejana**	**168.23 46**	*e*PKPdf	**PKPdf**	**19 41 58.3**	**+5.7**
PFVI	**Vila Bisbo**	**168.24 51**	*e*PKPdf	**PKPdf**	**19 41 58.7**	**+6.1**
PBEJ	**Beja**	**168.33 45**	*e*PKPdf	**PKPdf**	**19 41 58.4**	**+5.7**
PCVE	**Castro Verde**	**168.47 47**	*e*PKPdf	**PKPdf**	**19 41 58.4**	**+5.6**
PBDV	**Barranco-do-Ve**	**168.77 48**	*e*PKPdf	**PKPdf**	**19 41 59.3**	**+6.3**
PVAQ	**Vaqueiros**	**168.81 47**	*e*PKPdf	**PKPdf**	**19 41 58.6**	**+5.6**
ESDC	**Sonseca Array**	**169.10 28**	PKP	**PKPdf**	**19 41 54.1**	**+0.9**
	comp=Z,15nm,1.1s,baz=344,slow=2.2,SNR=1.8					
ESDC			PKPab	**PKPab**	**19 43 04.1**	**-0.7**
	comp=Z,5.1nm,0.9s,baz=314,slow=2.0,SNR=1.7					
ESDC			SKKPbc		19 51 24.1	
	comp=Z,8.0nm,1.0s,baz=100,slow=1.5,SNR=4.7					
KEST	**Kesra**	**172.01 316**	PKPab	**PKPab**	**19 43 18.6**	**+0.7**
	comp=Z,46nm,1.1s,baz=56,slow=0.6,SNR=3.0					
MDT	**Midelt**	**173.34 65**	PKP	**PKPdf**	**19 41 55.0**	**-0.6**
	comp=Z,23nm,1.0s,baz=346,slow=1.1,SNR=4.4					
EBNR	**Beni Rached**	**173.81 8**	P	**PKPab**	**19 43 30.4**	**+4.7**
ECHA	**Ech Chlef**	**173.92 9**	P	**PKPab**	**19 43 32.4**	**+6.3**
EANR	**'Ain N'Sour**	**174.08 11**	P	**PKPab**	**19 43 32.7**	**+5.8**
ETRT	**Tiaret**	**174.66 11**	P	**PKPab**	**19 43 34.4**	**+4.8**

IDC ***23*** *19:22:48.9±2.0, 7°.53S×129°.14E, h139km±21km, mb3.7/7, mb1 3.9/12, mb1mx3.7/47, mbtmp4.3/12, Error ellipse: s-maj=23.2km s-min=18.3km az=118.0*
DJA ***23*** *19:22:49.4±0.4, 7°.5±3°×12°.9E±°, h179km±16km, M4.5/13, mB4.8/4, mb4.5/6, MLv4.7/13, Mw(mB)4.1/4*
NEIC ***23*** *19:22:50.3±0.8, 7°.42S±0°.09×129°.06E±0°.09, h150km±8km, mb4.2/8, Error ellipse: s-maj=13.2km s-min=12.3km az=131.0*

ISC 23 19:22:49.8±0.6,**7°.41S**±0°.06×**129°.10E**±0°.07,**h150**km,**n57,** σ1°**30**/58,**mb4.0**/11,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.25**	**105**	P		**Pn**		**19 23 29.7**	**+1.8**
SAUI	**Saumlaki**	**2.25**	**105**	Pn		**Pn**		**19 23 29.0**	**+1.1**
BNDI	**Bandanaira**	**2.98**	**16**	P		Pn		19 23 30.1	-6.8
AAI	**Ambon**	**3.81**	**346**	P		**Pn**		**19 23 47.9**	**+0.3**
MSAI	**Masohi**	**4.04**	**358**	P		**Pn**		**19 23 51.4**	**+0.7**
SOEI	**Soe**	**5.32**	**244**	P		**Pn**		**19 24 07.3**	**-0.3**
	1.5nm83nm,0.9s								
SOEI	**Soe**	**5.32**	**244**	Pn		**Pn**		**19 24 07.3**	**-0.3**
FAKI	**Fak Fak**	**5.45**	**35**	P		**Pn**		**19 24 08.1**	**-1.2**
	0.3nm952nm44nm,0.6s								
FAKI	**Fak Fak**	**5.45**	**35**	Pn		**Pn**		**19 24 07.6**	**-1.6**
MTN	**Manton Dam**	**5.75**	**160**			**Pn**		**19 24 13.4**	**+0.2**
KMPI	**Kaimana, Papua**	**5.90**	**51**	P		**Pn**		**19 24 14.7**	**-0.6**
BATI	**Baumata**	**6.05**	**242**	P		**Pn**		**19 24 17.1**	**-0.1**
	40nm,0.3s,baz=80,slow=4.7,SNR=57								
BATI				S		**Sn**		**19 25 24.3**	**-1.4**
	48nm,0.3s,baz=46,slow=7.9,SNR=18								
BATI	**Baumata**	**6.05**	**242**	P		**Pn**		**19 24 17.0**	**-0.2**
	0.6nm1µm80nm,0.5s								
SIJI	**Sorong**	**6.85**	**18**	P		**Pn**		**19 24 27.9**	**0.0**
	3.3nm,0.3s,baz=138,slow=4.3,SNR=38								
SIJI				S		**Sn**		**19 25 40.4**	**-4.4**
	2.9nm,0.3s,baz=120,slow=23,SNR=7.6								
MMRI	**Maumere**	**6.91**	**259**	P		**Pn**		**19 24 29.9**	**+1.2**
	0.7nm29nm,0.7s								
RKPI	**Ransiki, Papua**	**7.74**	**41**	P		**Pn**		**19 24 40.2**	**+0.4**
	2.2nm198nm,0.6s								
KNRA	**Kununurra**	**8.22**	**182**	Pn		**Pn**		**19 24 45.0**	**-1.2**
FITZ	**Fitzroy Crossi**	**11.14**	**197**	P		**Pn**		**19 25 22.0**	**-2.9**
	3.4nm,0.3s,baz=31,slow=11,SNR=96								
FITZ				S		Sn		19 27 17.7	-10
	3.3nm,0.3s,baz=90,slow=18,SNR=3.9								
FITZ	**Fitzroy Crossi**	**11.14**	**197**	Pn		**Pn**		**19 25 22.1**	**-2.8**
WB0	**Warramunga Arr**	**13.31**	**158**	Pn		**Pn**		**19 25 50.8**	**-2.2**
WRAB	**Tennant Creek**	**13.45**	**158**	Pn		**Pn**		**19 25 53.6**	**-1.2**
WRA	**Warramunga Arr**	**13.45**	**158**	P		**Pn**		**19 25 51.6**	**-3.2**
	2.0nm,0.3s,baz=332,slow=13,SNR=16								
WRA	**Warramunga Arr**	**13.45**	**158**	P		**Pn**		**19 25 53.6**	**-1.2**
WB2	**Warramunga Arr**	**13.45**	**158**	Pn		**Pn**		**19 25 53.6**	**-1.3**
WR0	**Warramunga Arr**	**13.54**	**158**	P		**Pn**		**19 25 53.6**	**-2.4**
AS31	**Alice Springs**	**16.80**	**165**	P		**P**		**19 26 36.6**	**+0.6**
ASAR	**Alice Springs**	**16.80**	**165**	P		**P**		**19 26 36.0**	**0.0**
	1.8nm,0.3s,baz=340,slow=9.3,SNR=184								
ASAR	**Alice Springs**	**16.80**	**165**	P		**P**		**19 26 36.3**	**+0.2**
KSM	**Kuching**	**20.73**	**294**	P		**P**		**19 27 18.9**	**+0.2**
KSM				IAmb		IAmb		19 27 23.2	
	comp=Z,12nm,0.8s								
CMAR	**Chiang Mai Arr**	**39.32**	**311**	P		**P**		**19 30 04.8**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=135,slow=6.6,SNR=8.0								
CMAR	**Chiang Mai Arr**	**39.32**	**311**	P		**P**		**19 30 05.0**	**+0.5**
KSRS	**Korea Array**	**44.65**	**359**	P		**P**		**19 30 48.8**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=174,slow=8.6,SNR=6.3								
LSA	**Lhasa**	**51.89**	**317**	P		**P**		**19 31 42.8**	**-0.9**
ODAN	**Odare**	**52.86**	**312**	*e*P		**P**		**19 31 50.7**	**+0.1**
	comp=Z,8.4nm,0.5s								
TAPN	**Taplejung**	**52.90**	**312**	*e*P		**P**		**19 31 51.2**	**+0.2**
	comp=Z,10nm,0.4s								
RAMN	**Ramite**	**53.50**	**311**	*e*P		**P**		**19 31 55.7**	**+0.4**
	comp=Z,16nm,0.6s								
GUN	**Gumba**	**54.56**	**312**	*e*P		**P**		**19 32 03.4**	**+0.3**
	comp=Z,14nm,0.6s								
PKI	**Pulchoki**	**54.72**	**311**	*e*P		**P**		**19 32 04.5**	**+0.2**
PKIN	**Phulchoki**	**54.74**	**311**	*e*P		**P**		**19 32 04.3**	**0.0**
DMN	**Daman**	**54.97**	**311**	*e*P		**P**		**19 32 06.4**	**+0.4**
GKN	**Gorkha**	**55.53**	**311**	*e*P		**P**		**19 32 10.2**	**+0.3**
KOLN	**Koldanda**	**56.19**	**310**	*e*P		**P**		**19 32 14.6**	**0.0**
SONM	**Songino Array**	**58.56**	**342**	P		**P**		**19 32 32.0**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=161,slow=6.4,SNR=4.5								
SONM	**Songino Array**	**58.56**	**342**	P		**P**		**19 32 31.9**	**+1.2**
KSH	**Kashi**	**67.73**	**318**	*e*P		**PKiKP**		**19 39 54.4**	**+0.4**
MK31	**Makanchi Array**	**68.09**	**327**	P		**P**		**19 33 33.8**	**+0.5**
MK31				IAmb		IAmb		19 33 35.6	
	comp=Z,2.1nm,0.6s								
MKAR	**Makanchi Array**	**68.09**	**327**	P		**P**		**19 33 34.2**	**+0.9**
	comp=Z,3.0nm,0.6s,baz=126,slow=7.8,SNR=47								
MKAR	**Makanchi Array**	**68.09**	**327**			**P**		**19 33 33.8**	**+0.5**
MAKZ	**Makanchi**	**68.27**	**327**			**P**		**19 33 35.0**	**+0.6**
MAKZ				IAmb		IAmb		19 33 36.5	
	comp=Z,2.0nm,0.6s								
AAK	**Ala-Archa**	**70.29**	**320**	P		**P**		**19 33 49.0**	**+1.9**
	comp=Z,0.9nm,0.3s,baz=180,slow=2.0,SNR=3.8								
ZALV	**Zalesovo Beam**	**71.56**	**334**	P		**P**		**19 33 55.3**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=116,slow=5.6,SNR=5.8								
ZALV	**Zalesovo Beam**	**71.56**	**334**	P		**P**		**19 33 53.1**	**-1.3**
KURBB	**Kurchatov Arra**	**72.40**	**329**	P		**P**		**19 34 00.1**	**+0.7**
	comp=Z,1.7nm,0.6s,baz=130,slow=5.0,SNR=26								
KURK	**Kurchatov**	**72.41**	**329**	P		**P**		**19 34 00.2**	**+0.7**
KURK				IAmb		IAmb		19 34 01.9	
	comp=Z,2.5nm,0.8s								
KKAR	**Karatay Array**	**73.07**	**319**	P		**P**		**19 34 04.3**	**+0.7**
TIXI	**Tiksi**	**78.90**	**360**	P		**P**		**19 34 36.5**	**+0.5**
TIXI				IAmb		IAmb		19 34 37.3	
	comp=Z,5.1nm,0.7s								
ABKAR	**Akbulak array**	**82.28**	**322**	P		**P**		**19 34 55.0**	**+0.5**

IDC ***23*** *19:24:17.4±3.5, 11°.05S×120°.15E, h0km, mb4.1/5, mb1 4.1/7, mb1mx3.9/50, mbtmp4.1/7, ML4.1/2, Error ellipse: s-maj=82.9km s-min=37.3km az=11.0*
NEIC ***23*** *19:24:23.4±1.3, 10°.8S±0°.1×120°.26E±0°.05, h53km±11km, mb4.0/5, Error ellipse: s-maj=21.1km s-min=4.5km az=196.0*

ISC 23 19:24:21.4±1.3,**11°.0S**±0°.1×**120°.31E**±0°.08,**h35**km,**n23,** σ1°**47**/21,**mb4.2**/7,**Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.78**	**20**	P		**Pn**		**19 24 33.7**	**-2.1**
WSI	**Waingapu**	**1.27**	**360**	P		**Pn**		**19 24 42.8**	**+0.1**
WBSI	**Waikabubak, Su**	**1.58**	**325**	P		**Pn**		**19 24 47.3**	**+0.3**
MMRI	**Maumere**	**2.99**	**40**	P		**Pn**		**19 25 06.0**	**-0.3**
BATI	**Baumata**	**3.38**	**78**	Pn		**Pn**		**19 25 14.5**	**+2.8**
	26nm,0.3s,baz=321,slow=5.0,SNR=5.7								
KAPI	**Kappang**	**5.92**	**355**	Pn		**Pn**		**19 25 47.2**	**+0.5**
	2.7nm,0.3s,baz=170,slow=6.1,SNR=2.9								
KAPI				S		**Sn**		**19 26 53.4**	**+0.1**
	1.7nm,0.3s,baz=78,slow=19,SNR=1.4								
KAPI	**Kappang**	**5.92**	**355**			**Pn**		**19 25 47.0**	**+0.4**
JAGI	**Jajag, Banyuwa**	**6.55**	**292**			**Pn**		**19 25 55.9**	**+0.7**
CISI	**Cisompet, Garu**	**12.78**	**284**	Pn		**Pn**		**19 27 19.0**	**-1.8**
CMAR	**Chiang Mai Arr**	**36.03**	**324**	P		**P**		**19 31 21.6**	**+2.0**
	0.6nm,0.6s,baz=163,slow=7.5,SNR=6.0								
XAN	**Xi'an**	**46.03**	**347**	P		**P**		**19 32 39.3**	**-2.4**
H08S2	**Diego Garcia H**	**47.26**	**270**	T		T		20 23 28.3	
	baz=93								
H08S3	**Diego Garcia H**	**47.27**	**270**	T		T		20 23 38.9	
	baz=93								
H08S1	**Diego Garcia H**	**47.28**	**270**	T		T		20 23 28.9	
	baz=93								
SONM	**Songino Array**	**59.82**	**349**	P		**P**		**19 34 24.8**	**+1.5**
	2.3nm,0.5s,baz=168,slow=8.8,SNR=4.6								
SONM	**Songino Array**	**59.82**	**349**	P		**P**		**19 34 23.1**	**-0.2**
MKAR	**Makanchi Array**	**66.77**	**333**	P		**P**		**19 35 11.1**	**+1.8**
	2.6nm,0.8s,baz=148,slow=7.1,SNR=4.7								
KKAR	**Karatay Array**	**70.38**	**324**	P		**P**		**19 35 30.6**	**-1.2**
KURBB	**Kurchatov Arra**	**71.28**	**333**	P		**P**		**19 35 38.8**	**+1.7**
	0.6nm,0.5s,baz=144,slow=5.6,SNR=6.7								
KURK	**Kurchatov**	**71.30**	**333**	P		**P**		**19 35 36.4**	**-0.8**
KURK				IAmb		IAmb		19 35 37.2	
	comp=Z,1.9nm,0.8s								
ZAA0	**Zalesovo Array**	**71.31**	**339**	P		**P**		**19 35 36.1**	**-1.2**
ZAA0				IAmb		IAmb		19 35 36.5	
	comp=Z,1.7nm,0.8s								
ZALV	**Zalesovo Beam**	**71.31**	**339**	P		**P**		**19 35 37.9**	**+0.7**
	comp=Z,3.0nm,0.5s,baz=131,slow=4.2,SNR=5.0								
ZALV	**Zalesovo Beam**	**71.31**	**339**	P		**P**		**19 35 37.1**	**-0.1**

IDC ***23*** *19:28:44.7±1.9, 10°.52S×120°.23E, h0km, mb4.7/5, mb1 4.8/7, mb1mx4.3/56, mbtmp4.8/7, ML4.3/2, Error ellipse: s-maj=50.9km s-min=25.9km az=30.0*

ISC 23 19:28:48.6±1.0,**10°.66S**±0°.08×**120°.62E**±0°.09,**h31**km,**n11,** σ1°**90**/11,**mb4.8**/5,**Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.03**	**82**	Pn		**Pb**		**19 29 40.7**	**-1.2**
	40nm,0.3s,baz=138,slow=12,SNR=4.1								
BATI				Sn		**Sb**		**19 30 19.9**	**+1.3**
	9.3nm,0.3s,baz=211,slow=23,SNR=8.9								
KAPI	**Kappang**	**5.68**	**351**	Pn		**Pn**		**19 30 12.1**	**+1.2**
	6.4nm,0.3s,baz=205,slow=2.9,SNR=8.6								
KAPI				Sn		**Sn**		**19 31 15.2**	**+0.2**
	baz=58,slow=21,SNR=0.7								
FITZ	**Fitzroy Crossi**	**8.85**	**147**	Pn		**Pn**		**19 30 57.7**	**+3.3**
	2.0nm,0.3s,baz=332,slow=11,SNR=2.0								
FITZ				Sn		**Sn**		**19 32 30.1**	**-3.1**
	2.6nm,0.3s,baz=345,slow=8.5,SNR=1.0								
H08S2	**Diego Garcia H**	**47.57**	**269**	T		T		20 27 54.3	
	baz=96,slow=76,SNR=8.3								
H08S3	**Diego Garcia H**	**47.58**	**269**	T		T		20 27 55.6	
	baz=96,slow=76,SNR=6.7								
H08S1	**Diego Carcia H**	**47.59**	**269**	T		T		20 27 55.5	
	baz=96,slow=76,SNR=6.3								
USRK	**Ussuriysk Ar.**	**55.57**	**10**	P		**P**		**19 38 20.1**	**-1.1**
	5.2nm,0.9s,baz=194,slow=7.4,SNR=4.4								
SONM	**

RAO	**Raoul Island**	**0.95 319**		**Pb**		**19 34 56.0**	**+0.6**
CTA	**Charters Tower**	**34.41 278**	P	**P**		**19 41 25.1**	**+0.5**
	3.2nm,0.5s,baz=105,slow=11,SNR=7.4						
STKA	**Stephens Creek**	**35.25 256**	P	**P**		**19 41 32.4**	**+0.7**
	2.1nm,0.4s,baz=202,slow=23,SNR=3.8						
STKA	**Stephens Creek**	**35.25 256**	P	**P**		**19 41 32.1**	**+0.4**
AS31	**Alice Springs**	**43.82 266**	P	**P**		**19 42 42.3**	**-1.0**
AS31			IAmb	IAmb		19 42 44.0	
	comp=Z,0.9nm,0.7s						
ASAR	**Alice Springs**	**43.82 266**	P	**P**		**19 42 42.7**	**-0.6**
	comp=Z,1.9nm,0.6s,baz=106,slow=6.7,SNR=6.8						
WR0	**Warramunga Arr**	**44.59 271**	P	**P**		**19 42 49.0**	**-0.5**
WR0			IAmb	IAmb		19 42 51.4	
	comp=Z,6.8nm,0.8s						
WB2	**Warramunga Arr**	**44.76 271**	P	**P**		**19 42 50.4**	**-0.4**
WB2			IAmb	IAmb		19 42 51.7	
	comp=Z,7.6nm,0.8s						
WRA	**Warramunga Arr**	**44.77 271**	P	**P**		**19 42 50.7**	**-0.3**
	comp=Z,4.0nm,0.4s,baz=110,slow=8.1,SNR=12						
WB0	**Warramunga Arr**	**44.80 272**	P	**P**		**19 42 50.6**	**-0.5**
FITZ	**Fitzroy Crossi**	**53.05 269**	P	**P**		**19 43 53.7**	**-0.8**
	comp=Z,2.3nm,0.9s,baz=135,slow=5.7,SNR=1.5						
CASY	**Casey**	**55.84 208**	P	**P**		**19 44 13.6**	**-0.5**
CASY			IAmb	IAmb		19 44 16.5	
	comp=Z,8.0nm,1.1s						
NVAR	**Mina Array Bea**	**87.45 42**	P	**P**		**19 47 26.1**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=213,slow=3.1,SNR=2.0						
ILAR	**Eielson Array**	**97.35 13**	P	**P**		**19 48 09.1**	**-0.6**
	comp=Z,1.1nm,0.8s,baz=225,slow=3.8,SNR=2.5						
KURK	**Kurchatov**	**121.25 314**		**PKPdf**		**19 53 29.2**	**-0.5**
KURBB	**Kurchatov Arra**	**121.29 314**	PKP	**PKPdf**		**19 53 29.2**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=118,slow=1.5,SNR=1.3						
FINES	**FINESS Array B**	**144.97 341**	PKPbc	**PKPab**		**19 54 10.4**	**-2.5**
	comp=Z,6.5nm,0.6s,baz=50,slow=4.1,SNR=16						
NOA	**NORSAR Array B**	**148.42 352**	PKPbc	**PKPdf**		**19 54 20.4**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=16,slow=4.2,SNR=3.6						
HFS	**Hagfors**	**148.95 349**	PKPbc	**PKPbc**		**19 54 23.0**	**-1.3**
	comp=Z,2.9nm,0.8s,baz=71,slow=9.3,SNR=3.2						
AKASG	**Malin Array Be**	**151.37 324**	PKPbc	**PKPbc**		**19 54 30.4**	**-0.1**
	comp=Z,0.8nm,0.4s,baz=38,slow=2.2,SNR=2.3						
MMAI	**Mount Meron Ar**	**152.09 285**	PKPbc	**PKiKP**		**19 54 33.8**	**+0.6**
	comp=Z,2.1nm,0.4s,baz=74,slow=8.8,SNR=6.5						
TORD	**Torodi Ar. Bea**	**163.23 176**	PKPab	**PKPab**		**19 55 32.1**	**+1.7**
	comp=Z,1.7nm,1.1s,baz=344,slow=4.7,SNR=1.7						

*GEN **23** 19:36:49.7, 44.°54N×9.°65E, h19km±5km, Ml1.2*
ROM 23 19:36:49.5±0.1, 44.°521N±0.°004×9.°663E±0.°003, h9km, ML1.3/2, Error ellipse: s-maj=0.4km s-min=0.2km az=204.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSSA	**Maissana**	**0.23**	**207**	P	Pg	19 36 54.8	+0.6
MSSA				S	Sg	19 36 59.0	+1.6
GORR	**Gorreto**	**0.28**	**288**	P	Pg	19 36 55.8	+0.7
GORR				S	Sg	19 36 59.9	+1.1
GORR	**Gorreto**	**0.28**	**288**	P	Pg	19 36 55.8	+0.7
GORR				S	Sb	19 37 00.5	-0.9
GORR				AML	AML		
	comp=E,95μm,0.7s						
GORR				AML	AML		
	comp=N,93μm,0.7s						
GORR				AML	AML		
	comp=N,93μm,0.7s						
BOB	**Bobbio (Coli)**	**0.29**	**328**	P	Pb	19 36 56.1	-0.8
BOB				S	Sb	19 37 00.9	-1.0
BOB				AML	AML		
	comp=N,85μm,0.3s						
BOB				AML	AML		
	comp=E,124μm,0.2s						
BOB				AML	AML		
	comp=N,85μm,0.3s						
GRAM	**Graiana**	**0.29**	**96**	P	Pg	19 36 56.1	+0.8
GRAM				S	Sb	19 37 00.6	-1.2
GRAM	**Graiana**	**0.29**	**96**	P	Pb	19 36 56.2	-0.7
GRAM				S	Sb	19 37 00.8	-1.0
GRAM				AML	AML		
	comp=E,142μm,1.6s						
GRAM				AML	AML		
	comp=N,93μm,0.3s						
EQUI	**Equi**	**0.50**	**135**	P	Pg	19 36 59.7	+0.5
EQUI				S	Sb	19 37 06.8	-1.0
EQUI	**Equi**	**0.50**	**135**	P	Pg	19 36 59.7	+0.5
SARO	**Sassorosso**	**0.63**	**122**	P	Pb	19 37 02.5	-0.2
SARO				S	Sb	19 37 11.2	-0.4
EUCT	**Pavia**	**0.78**	**331**	S	Sn	19 37 18.0	-0.4
LEOD	**Capriano del C**	**0.99**	**19**	S	Sb	19 37 22.0	0.0
MCIV	**Monte Civitell**	**2.27**	**139**	S	Sn	19 37 56.0	+0.6
MCIV				S	Sg	19 38 04.0	+1.5
PIEI	**Pieia**	**2.29**	**114**	P	Pb	19 37 31.3	+0.2
PIEI				AML	AML		
	comp=E,49μm,0.3s						
PIEI				AML	AML		
	comp=N,44μm,0.3s						
ARVD	**Arcevia**	**2.58**	**112**	S	Sg	19 38 16.0	+3.8
TOLF	**Tolfa**	**2.99**	**144**	P	Pb	19 37 43.8	+0.9
CERT	**Cerreto**	**3.53**	**136**	P	Pn	19 37 42.4	-2.1
CERT				AML	AML		
	comp=E,31μm,1.6s						
CERT				AML	AML		
	comp=N,20μm,1.4s						
ZAG	**Zagreb**	**4.66**	**72**	P	Pg	19 38 19.6	+1.0

*IDC **23** 19:37:08.4±0.9, 30.°09S×177.°12W, h0km, mb4.3/5, mb1 4.6/7, mb1mx4.1/47, mbtmp4.5/7, ML4.4/2, Error ellipse: s-maj=29.1km s-min=13.3km az=161.0*
*NEIC **23** 19:37:09.6±1.8, 30.°05S±0.°07×177.°2W±0.°1, h10km±1km, mb4.2/6, Error ellipse: s-maj=17.7km s-min=9.6km az=117.0*
ISC 23 19:37:12.1±0.7, 30.°07S±0.°09×177.°18W±0.°08, h24km, n25, σ1s13/27, mb4.3/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.04**	**322**	Pn	**Pn**	**19 37 30.3**	**-0.8**
	743nm,0.3s,baz=99,slow=8.6,SNR=5.6						
RAO				Sn	**Sb**	19 37 43.8	-0.8
	1μm,0.3s,baz=106,slow=20,SNR=4.5						
RAO	**Raoul Island**	**1.04**	**322**		**Pn**	**19 37 29.9**	**-1.2**
RPZ	**Rata Peaks**	**16.52**	**211**	Pn	**Pn**	**19 41 01.7**	**-0.5**
	0.9nm,0.3s,baz=78,slow=20,SNR=1.7						
RPZ	**Rata Peaks**	**16.52**	**211**	IAmb	IAmb	19 41 18.0	
	comp=Z,21nm,1.2s						
DZM	**Mont Dzumac**	**16.72**	**295**	Pn	**P**	**19 41 10.9**	**+3.9**
	comp=Z,0.3nm,0.3s,baz=122,slow=18,SNR=2.0						
DZM				Sn	**S**	**19 44 19.3**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=69,slow=19,SNR=1.6						
RAR	**Rarotonga**	**17.99**	**65**	P	**P**	**19 41 20.7**	**-0.3**
	comp=Z,16nm,0.3s,baz=94,slow=16,SNR=2.2						
RAR				S	**Sn**	**19 44 40.9**	**+0.2**
	comp=Z,20nm,0.3s,baz=223,slow=18,SNR=1.3						
CTA	**Charters Tower**	**34.45**	**278**	P	**P**	**19 43 59.0**	**+1.0**
	comp=Z,3.6nm,0.5s,baz=105,slow=14,SNR=2.5						
CTAO	**Charters Tower**	**34.45**	**278**	P	**P**	**19 43 58.2**	**+0.2**
STKA	**Stephens Creek**	**35.24**	**256**	P	**P**	**19 44 05.3**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=27,slow=24,SNR=6.5						
STKA	**Stephens Creek**	**35.24**	**256**	P	**P**	**19 44 05.4**	**+0.6**
ASAR	**Alice Springs**	**43.83**	**266**	P	**P**	**19 45 16.1**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=105,slow=7.0,SNR=10						
WR0	**Warramunga Arr**	**44.61**	**271**	P	**P**	**19 45 22.3**	**-0.5**
WR0				IAmb	IAmb	19 45 35.3	
	comp=Z,1.8nm,0.9s						
WB2	**Warramunga Arr**	**44.78**	**271**	P	**P**	**19 45 22.9**	**-1.3**
WB2				IAmb	IAmb	19 45 41.0	
	comp=Z,4.0nm,0.7s						
WRA	**Warramunga Arr**	**44.79**	**271**	P	**P**	**19 45 24.6**	**+0.4**
	comp=Z,2.7nm,0.4s,baz=109,slow=8.0,SNR=4.8						
WB0	**Warramunga Arr**	**44.81**	**272**	P	**P**	**19 45 23.4**	**-1.0**
CASY	**Casey**	**55.76**	**208**	P	**P**	**19 46 45.6**	**-0.9**
CASY				IAmb	IAmb	19 47 04.9	
	comp=Z,3.3nm,0.9s						
PETK	**Petropavlovsk-**	**85.68**	**345**	P	**P**	**19 49 49.6**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=127,slow=7.3,SNR=5.2						
KURBB	**Kurchatov Arra**	**121.37**	**314**	PKP	**PKPdf**	**19 56 02.6**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=130,slow=1.5,SNR=1.3						
FINES	**FINESS Array B**	**145.08**	**341**	PKPbc	**PKPbc**	**19 56 45.3**	**-0.8**
	comp=Z,5.4nm,0.5s,baz=49,slow=2.5,SNR=16						
NB2	**NORSAR Subarra**	**148.53**	**352**	PKP	**PKPbc**	**19 56 55.4**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=13,slow=3.4						
NOA	**NORSAR Array B**	**148.53**	**352**	PKPbc	**PKPbc**	**19 56 57.1**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=12,slow=4.1,SNR=2.1						
HFS	**Hagfors**	**149.06**	**349**	PKPbc	**PKPbc**	**19 56 57.9**	**+0.3**
	comp=Z,2.0nm,0.7s,baz=90,slow=8.6,SNR=2.6						
AKASG	**Malin Array Be**	**151.46**	**324**	PKPbc	**PKPbc**	**19 57 02.8**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=48,slow=2.4,SNR=2.2						
MMAI	**Mount Meron Ar**	**152.13**	**285**	PKPbc	**PKPbc**	**19 57 06.3**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=81,slow=5.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**163.12**	**176**	PKPab	**PKPab**	**19 58 02.3**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=169,slow=2.9,SNR=1.6						

*IDC **23** 19:39:06.2±1.0, 29.°95S×177.°15W, h0km, mb4.2/4, mb1 4.4/5, mb1mx3.9/45, mbtmp4.3/5, ML4.2/1, Error ellipse: s-maj=32.1km s-min=27.4km az=14.0*
*NEIC **23** 19:39:08.7±1.5, 29.°9S±0.°1×177.°1W±0.°1, h21km±4km, mb4.5/4, Error ellipse: s-maj=16.8km s-min=14.2km az=70.0*
ISC 23 19:39:09.1±0.8, 29.°9S±0.°1×177.°1W±0.°1, h24km, n26, σ0s75/26, mb4.4/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.96**	**310**	Pn	**Pn**	**19 39 27.0**	**-0.1**
	1μm,0.3s,baz=269,slow=23,SNR=2.7						
RAO				Sn	**Sn**	**19 39 39.6**	**-0.4**
	3μm,0.3s,baz=80,slow=12,SNR=11						
RAO	**Raoul Island**	**0.96**	**310**		**Pn**	**19 39 26.8**	**-0.3**
OXZ	**Oxford**	**15.99**	**210**	Pn	**Pn**	**19 42 52.2**	**-0.3**
OXZ				IAmb	IAmb	19 43 06.5	
	comp=Z,12nm,0.5s						
DZM	**Mont Dzumac**	**16.72**	**294**	Pn	P	19 43 13.8	+10
	comp=Z,0.7nm,0.3s,baz=170,slow=22,SNR=5.1						
RPZ	**Rata Peaks**	**16.74**	**211**	Pn	**Pn**	**19 43 00.7**	**-1.2**
	comp=Z,0.9nm,0.3s,baz=94,slow=14,SNR=1.0						
CTA	**Charters Tower**	**34.51**	**278**	P	**P**	**19 45 57.2**	**+1.5**
	comp=Z,2.3nm,0.4s,baz=96,slow=11,SNR=7.1						
STKA	**Stephens Creek**	**35.37**	**256**	P	**P**	**19 46 03.5**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=96,slow=9.6,SNR=3.6						
ASAR	**Alice Springs**	**43.94**	**266**	P	**P**	**19 47 13.1**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=104,slow=7.5,SNR=6.3						
WR0	**Warramunga Arr**	**44.70**	**271**	P	**P**	**19 47 19.7**	**-0.8**
WB2	**Warramunga Arr**	**44.87**	**271**	P	**P**	**19 47 21.4**	**-0.5**
WRA	**Warramunga Arr**	**44.88**	**271**	P	**P**	**19 47 21.4**	**-0.5**
	comp=Z,2.2nm,0.4s,baz=111,slow=7.8,SNR=6.9						
WB0	**Warramunga Arr**	**44.90**	**271**	P	**P**	**19 47 21.7**	**-0.4**
MTN	**Manton Dam**	**50.69**	**278**	P	**P**	**19 48 05.7**	**-1.4**
CASY	**Casey**	**55.97**	**208**	P	**P**	**19 48 45.1**	**0.0**
CASY				IAmb	IAmb	19 48 45.7	
	comp=Z,5.7nm,0.8s						
MNTX	**Cornudas Mount**	**91.53**	**54**		**P**	**19 52 13.0**	**-0.9**
KURBB	**Kurchatov Arra**	**121.30**	**314**	PKP	**PKiKP**	**19 57 60.0**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=136,slow=2.1,SNR=2.2						
SPITS	**Spitsbergen Ar**	**131.24**	**356**	PKP	**PKiKP**	**19 58 19.1**	**+0.1**
	comp=Z,3.2nm,0.9s,baz=8.9,slow=10,SNR=1.9						
ARCES	**ARCESS Array B**	**138.25**	**348**	PKP	**PKPdf**	**19 58 31.8**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=60,slow=5.3,SNR=1.7						
FINES	**FINESS Array B**	**144.92**	**341**	PKP	**PKPdf**	**19 58 43.5**	**0.0**
	comp=Z,3.0nm,0.5s,baz=58,slow=4.1,SNR=8.4						
KVAR	**Kislovodsk Arr**	**145.58**	**305**	PKPbc	**PKPbc**	**19 58 45.2**	**-0.3**
	comp=Z,3.8nm,0.9s,baz=95,slow=11,SNR=1.7						
NOA	**NORSAR Array B**	**148.35**	**352**	PKPbc	**PKiKP**	**19 58 54.0**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=15,slow=4.3,SNR=3.2						
HFS	**Hagfors**	**148.88**	**350**	PKPbc	**PKPbc**	**19 58 54.4**	**+0.2**
	comp=Z,2.9nm,0.8s,baz=132,slow=2.2,SNR=3.8						
ASF	**Jabal al Asfar**	**150.86**	**283**	PKPbc	**PKiKP**	**19 59 00.8**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=14,slow=4.2,SNR=2.5						
AKASG	**Malin Array Be**	**151.36**	**324**	PKPbc	**PKiKP**	**19 59 01.3**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=49,slow=3.2,SNR=2.6						
MMAI	**Mount Meron Ar**	**152.17**	**285**	PKPbc	**PKiKP**	**19 59 04.5**	**+1.2**
	comp=Z,1.4nm,0.5s,baz=66,slow=10,SNR=4.1						
TORD	**Torodi Ar. Bea**	**163.31**	**176**	PKPab	**PKPab**	**20 00 01.5**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=193,slow=2.6,SNR=5.0						

*IDC **23** 19:40:16.5±1.5, 29.°86S×177.°07W, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/44, mbtmp4.2/4, Error ellipse: s-maj=47.5km s-min=30.8km az=27.0*
*NEIC **23** 19:40:17.1±1.2, 29.°8S±0.°1×177.°0W±0.°1, h10km±1km, mb4.6/5, Error ellipse: s-maj=18.1km s-min=14.8km az=175.0*
ISC 23 19:40:19.7±0.9, 29.°8S±0.°2×177.°0W±0.°1, h24km, n21, σ0s95/22, mb4.4/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.93**	**303**	Pn	**Pn**	**19 40 36.9**	**-0.4**
	82nm,0.3s,baz=72,slow=19,SNR=1.1						
RAO				Sn	**Sb**	**19 40 49.0**	**-0.1**
	1μm,0.3s,baz=89,slow=20,SNR=2.1						
CTA	**Charters Tower**	**34.54**	**278**	P	**P**	**19 47 06.4**	**0.0**
	5.2nm,1.2s,baz=103,slow=14,SNR=1.6						
CTAO	**Charters Tower**	**34.54**	**278**	P	**P**	**19 47 06.1**	**-0.3**
CTAO				IAmb	IAmb	19 47 21.3	
	comp=Z,8.9nm,1.1s						
STKA	**Stephens Creek**	**35.45**	**256**	P	**P**	**19 47 15.2**	**+1.0**
	comp=Z,4.3nm,0.9s,baz=102,slow=9.6,SNR=3.3						
STKA	**Stephens Creek**	**35.45**	**256**	P	**P**	**19 47 14.6**	**+0.4**
PTCN	**Pitcairn Islan**	**41.70**	**95**	P	**P**	**19 48 06.2**	**-0.5**
AS31	**Alice Springs**	**43.99**	**266**	P	**P**	**19 48 24.6**	**-0.8**
ASAR	**Alice Springs**	**43.99**	**266**	P	**P**	**19 48 24.9**	**-0.5**
	comp=Z,2.0nm,0.6s,baz=105,slow=7.9,SNR=9.1						
WR0	**Warramunga Arr**	**44.74**	**271**	P	**P**	**19 48 30.7**	**-0.7**
WB2	**Warramunga Arr**	**44.91**	**271**	P	**P**	**19 48 31.9**	**-0.9**
WRAB	**Tennant Creek**	**44.92**	**271**	P	**P**	**19 48 31.5**	**-1.2**
WRAB				IAmb	IAmb	19 48 47.0	
	comp=Z,4.3nm,0.6s						
WRA	**Warramunga Arr**	**44.92**	**271**	P	**P**	**19 48 32.8**	**-0.1**
	comp=Z,1.5nm,0.4s,baz=112,slow=6.9,SNR=7.9						
WB0	**Warramunga Arr**	**44.94**	**271**	P	**P**	**19 48 32.5**	**-0.5**
VNDA	**Vanda**	**48.81**	**186**	P	**P**	**19 49 02.9**	**+0.5**
QSPA	**South Pole Qui**	**60.34**	**180**	P	**P**	**19 50 25.8**	**-0.6**
QSPA				IAmb	IAmb	19 50 42.9	
	comp=Z,7.0nm,0.9s						
KURK	**Kurchatov**	**121.22**	**314**		**PKiKP**	**19 59 11.2**	**+0.9**
KURBB	**Kurchatov Arra**	**121.26**	**314**	PKP	**PKiKP**	**19 59 11.2**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=115,slow=1.7,SNR=1.6						
FINES	**FINESS Array B**	**144.84**	**341**	PKP	**PKPdf**	**19 59 53.7**	**-0.1**
	comp=Z,2.8nm,0.8s,baz=54,slow=3.6,SNR=2.8						
AKASG	**Malin Array Be**	**151.30**	**324**	PKPbc	**PKiKP**	**20 00 11.1**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=48,slow=2.7,SNR=1.8						
EIL	**Elat**	**152.27**	**278**	PKPbc	**PKiKP**	**20 00 16.8**	**+2.7**
	comp=Z,4.0nm,0.8s,baz=74,slow=7.4,SNR=2.1						
TORD	**Torodi Ar. Bea**	**163.42**	**176**	PKPab	**PKPab**	**20 01 10.5**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=183,slow=2.6,SNR=1.5						

IDC 23 19:42:12.5±3.7, 30.°97S×177.°04W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.7/46, mbtmp4.0/2, Error ellipse: s-maj=77.1km s-min=45.3km az=110.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.88**	**336**	Pn	Pb	19 42 47.2	-0.5
	645nm,0.3s,baz=102,slow=20,SNR=2.7						
RAO				Sn	Sg	19 43 15.8	+3.0
	507nm,0.3s,baz=121,slow=22,SNR=1.6						
ASAR	**Alice Springs**	**43.90**	**267**	P	P	19 50 21.9	+0.8
	0.5nm,0.3s,baz=104,slow=7.4,SNR=4.2						
WRA	**Warramunga Arr**	**44.94**	**272**	P	P	19 50 28.2	-1.3
	1.4nm,0.3s,baz=109,slow=8.0,SNR=5.7						
FINES	**FINESS Array B**	**145.97**	**340**	PKPbc	PKPdf	20 01 52.2	-0.4
	0.9nm,0.5s,baz=52,slow=5.4,SNR=1.9						

*NEIC **23** 19:43:13.7±0.4, 30.°11S±0.°07×177.°2W±0.°3, h9km±9km, mb4.1/3, Error ellipse: s-maj=36.2km s-min=10.6km az=88.0*
*IDC **23** 19:43:13.4±2.7, 30.°13S×177.°41W, h0km, mb4.1/2, mb1 4.4/2, mb1mx3.7/46, mbtmp4.1/2, Error ellipse: s-maj=56.9km s-min=28.3km az=85.0*
ISC 23 19:43:17.5±2.3, 30.°1S±0.°1×177.°3W±0.°3, h35km, n11, σ0s78/12, mb4.1/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.03**	**327**	Pn	**Pn**	**19 43 35.2**	**-0.3**
	617nm,0.3s,baz=74,slow=20,SNR=1.9						
RAO				Sn	**Sn**	**19 43 48.9**	**+0.3**
	1μm,0.3s,baz=270,slow=20,SNR=2.3						
RAO	**Raoul Island**	**1.03**	**327**		**Pn**	**19 43 34.8**	**-0.7**
HIZ	**Hauiti**	**10.60**	**216**	Pn	**Pn**	**19 45 46.4**	**-0.5**
AS31	**Alice Springs**	**43.75**	**266**	P	**P**	**19 51 21.1**	**+1.3**
AS31				IAmb	IAmb	19 51 35.8	
	comp=Z,1.6nm,1.1s						
ASAR	**Alice Springs**	**43.75**	**266**	P	**P**	**19 51 19.4**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=104,slow=7.3,SNR=6.1						
WR0	**Warramunga Arr**	**44.53**	**272**	P	**P**	**19 51 27.5**	**+1.4**
WB2	**Warramunga Arr**	**44.70**	**271**	P	**P**	**19 51 28.1**	**+0.6**
WRA	**Warramunga Arr**	**44.72**	**271**	P	**P**	**19 51 27.9**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=110,slow=8.1,SNR=7.3						
WB0	**Warramunga Arr**	**44.74**	**272**	P	**P**	**19 51 27.2**	**-0.5**
WB0				IAmb	IAmb	19 51 30.2	
	comp=Z,1.9nm,0.6s						
CASY	**Casey**	**55.68**	**208**	P	**P**	**19 52 50.2**	**+0.3**
CASY				IAmb	IAmb	19 53 04.2	
	comp=Z,3.7nm,0.9s						
FINES	**FINESS Array B**	**145.09**	**341**	PKPbc	**PKPdf**	**20 02 50.4**	**-0.1**
	comp=Z,2.3nm,0.5s,baz=51,slow=4.4,SNR=9.4						

*IDC **23** 19:44:45.1±1.9, 29.°93S×177.°34W, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.9/46, mbtmp4.2/6, ML4.2/1, Error ellipse: s-maj=42.1km s-min=21.9km az=67.0*
*NEIC **23** 19:44:47.9±1.2, 30.°00S±0.°09×177.°7W±0.°2, h8km±6km, mb4.4/5, Error ellipse: s-maj=22.3km s-min=8.9km az=65.0*
ISC 23 19:44:49.9±1.6, 30.°01S±0.°10×177.°4W±0.°2, h35km, n20, σ1s59/18, mb4.3/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.87**	**330**	Pn	**Pn**	**19 45 04.7**	**-0.9**
	217nm,0.3s,baz=75,slow=21,SNR=1.3						
RAO				Sn	**Sn**	**19 45 17.6**	**+0.5**
	769nm,0.3s,baz=110,slow=23,SNR=3.0						
RAO	**Raoul Island**	**0.87**	**330**		**Pn**	**19 45 03.0**	**-2.6**
OUZ	**Omahuta**	**9.18**	**233**	Pn	**Pn**	**19 46 58.8**	**-0.9**
THZ	**Tophouse**	**14.09**	**211**	Pn	Pn	19 47 59.0	-8.0
KHZ	**Kahutara**	**14.35**	**208**	Pn	Pn	19 48 02.4	-8.0
OXZ	**Oxford**	**15.73**	**209**	Pn	**Pn**	**19 48 25.4**	**-3.3**
RPZ	**Rata Peaks**	**16.47**	**211**	Pn	**Pn**	**19 48 36.8**	**-1.3**
	0.8nm,0.3s,baz=8.7,slow=16,SNR=1.4						
RPZ	**Rata Peaks**	**16.47**	**211**	IAmb	IAmb	19 48 52.1	
	comp=Z,10nm,0.9s						
CTA	**Charters Tower**	**34.23**	**278**	P	**P**	**19 51 33.4**	**+0.9**
	comp=Z,2.3nm,0.5s,baz=82,slow=14,SNR=2.3						
STKA	**Stephens Creek**	**35.05**	**256**	P	**P**	**19 51 40.4**	**+0.9**
	comp=Z,5.0nm,0.9s,baz=112,slow=13,SNR=3.0						
STKA	**Stephens Creek**	**35.05**	**256**	P	**P**	**19 51 40.2**	**+0.8**
ASAR	**Alice Springs**	**43.63**	**266**	P	**P**	**19 52 51.0**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=104,slow=7.5,SNR=4.1						
WR0	**Warramunga Arr**	**44.40**	**272**	P	**P**	**19 52 57.9**	**+0.6**
WB2	**Warramunga Arr**	**44.57**	**271**	P	**P**	**19 52 59.0**	**+0.3**
WB2				IAmb	IAmb	19 53 11.7	
	comp=Z,4.7nm,0.6s						
WRA	**Warramunga Arr**	**44.58**	**271**	P	**P**	**19 52 59.7**	**+0.9**
	comp=Z,2.6nm,0.5s,baz=112,slow=7.8,SNR=8.2						
WB0	**Warramunga Arr**	**44.60**	**272**	P	**P**	**19 52 58.8**	**-0.2**
WB0				IAmb	IAmb	19 53 11.6	
	comp=Z,7.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**52.86**	**269**	P	**P**	**19 54 05.4**	**+3.0**
	comp=Z,1.3nm,0.8s,baz=105,slow=16,SNR=1.4						
KURBB	**Kurchatov Arra**	**121.18**	**314**	PKP	**PKiKP**	**20 03 38.7**	**0.0**
	comp=Z,0.3nm,0.6s,baz=101,slow=2.1,SNR=1.4						
FINES	**FINESS Array B**	**144.95**	**341**	PKP	**PKPab**	**20 04 21.3**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=66,slow=4.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**163.20**	**177**	PKPab	**PKPab**	**20 05 41.3**	**+2.0**
	comp=Z,0.5nm,0.8s,baz=236,slow=0.9,SNR=2.4						

*IDC **23** 19:45:17.8±1.4, 29.°60S×177.°14W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/45, mbtmp4.2/3, Error ellipse: s-maj=56.3km s-min=21.6km az=28.0*
ISC 23 19:45:20.7±1.2, 29.°4S±0.°4×176.°9W±0.°1, h31km, n8, σ1s87/9, mb4.3/3, Kermadec Islands region

| Code |

σ0.98/17, **mb4.3/8, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.08**	**317**	Pn	**Pb**	**19 49 20.0**	**+0.3**
	840nm,0.3s,baz=61,slow=22,SNR=2.0						
RAO				Sn	**Sb**	**19 49 32.7**	**-0.7**
	839nm,0.3s,baz=60,slow=22,SNR=2.1						
RAO	**Raoul Island**	**1.08**	**317**		**Pb**	**19 49 19.8**	**+0.1**
THZ	**Tophouse**	**14.21**	**212**	Pn	**Pn**	**19 52 19.2**	**-0.3**
CTA	**Charters Tower**	**34.53**	**278**	P	**P**	**19 55 48.6**	**+2.2**
	1.8nm,0.4s,baz=105,slow=12,SNR=2.0						
STKA	**Stephens Creek**	**35.33**	**256**	P	**P**	**19 55 53.1**	**0.0**
	13nm,1.3s,baz=103,slow=13,SNR=4.2						
STKA	**Stephens Creek**	**35.33**	**256**	P	**P**	**19 55 52.8**	**-0.3**
ASAR	**Alice Springs**	**43.92**	**266**	P	**P**	**19 57 04.7**	**-0.1**
	1.1nm,0.7s,baz=101,slow=7.0,SNR=3.4						
WR0	**Warramunga Arr**	**44.70**	**271**	P	**P**	**19 57 09.5**	**-1.6**
WR0				IAmb	IAmb	19 57 18.5	
	comp=Z,2.9nm,0.9s						
WB2	**Warramunga Arr**	**44.87**	**271**	P	**P**	**19 57 11.4**	**-1.0**
WB2				IAmb	IAmb	19 57 29.0	
	comp=Z,3.8nm,1.0s						
WRA	**Warramunga Arr**	**44.88**	**271**	P	**P**	**19 57 11.3**	**-1.3**
	comp=Z,2.1nm,0.4s,baz=110,slow=8.1,SNR=7.1						
WB0	**Warramunga Arr**	**44.90**	**272**	P	**P**	**19 57 11.2**	**-1.5**
FITZ	**Fitzroy Crossi**	**53.16**	**269**	P	**P**	**19 58 15.7**	**-0.2**
	comp=Z,3.5nm,1.0s,baz=95,slow=12,SNR=2.3						
CASY	**Casey**	**55.82**	**208**	P	**P**	**19 58 34.8**	**+0.3**
CASY				IAmb	IAmb	19 58 51.5	
	comp=Z,5.0nm,0.9s						
SRU	**San Rafael Swe**	**92.56**	**46**	P	**P**	**20 02 08.8**	**-0.4**
KURBB	**Kurchatov Arra**	**121.42**	**314**	PKP	**PKiKP**	**20 07 50.7**	**0.0**
	comp=Z,0.2nm,0.5s,baz=102,slow=2.2,SNR=2.0						
FINES	**FINESS Array B**	**145.09**	**341**	PKPbc	**PKPdf**	**20 08 34.8**	**+0.5**
	comp=Z,2.8nm,0.5s,baz=56,slow=3.0,SNR=6.8						

IDC 23 19:53:13.7±3.0, 30.15S×177.69W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/45, mbtmp3.7/2, Error ellipse: s-maj=64.4km s-min=23.7km az=101.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.92**	**347**	Pn	Pn	19 53 34.2	+0.4
	440nm,0.3s,baz=197,slow=21,SNR=6.1						
RAO				Sn	Sn	19 53 48.1	+0.4
	613nm,0.3s,baz=73,slow=23,SNR=6.9						
ASAR	**Alice Springs**	**43.40**	**267**	P	P	20 01 18.0	-0.3
	0.2nm,0.3s,baz=101,slow=7.9,SNR=1.8						
WRA	**Warramunga Arr**	**44.36**	**272**	P	P	20 01 26.1	0.0
	0.7nm,0.3s,baz=110,slow=8.1,SNR=14						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	20 12 50.5	-1.1
	1.3nm,0.5s,baz=56,slow=4.5,SNR=7.9						

IDC 23 19:54:15.6±1.1, 30.06S×177.28W, h0km, mb4.1/5, mb1 4.3/6, mb1mx3.9/45, mbtmp4.1/6, ML4.0/1, Error ellipse: s-maj=28.4km s-min=26.1km az=156.0
NEIC 23 19:54:16.9±1.3, 30.02S±0.08×177.5W±0.1, h10km±1km, mb4.3/9, Error ellipse: s-maj=20.1km s-min=13.0km az=107.0

ISC 23 19:54:20.7±1.0, 30.11S±0.08×177.5W±0.2, h35km, n25, σ1§40/26, mb4.2/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.94**	**337**	Pn	**Pn**	**19 54 36.7**	**-0.6**
	951nm,0.3s,baz=80,slow=14,SNR=6.1						
RAO				Sn	**Sn**	**19 54 48.9**	**-0.6**
	1μm,0.3s,baz=104,slow=21,SNR=8.9						
RAO	**Raoul Island**	**0.94**	**337**		**Pn**	**19 54 35.7**	**-1.7**
RPZ	**Rata Peaks**	**16.35**	**211**	Pn	**Pn**	**19 58 07.2**	**-0.3**
	0.5nm,0.3s,baz=48,slow=16,SNR=1.7						
RPZ	**Rata Peaks**	**16.35**	**211**		**Pn**	**19 58 05.6**	**-1.9**
RPZ				IAmb	IAmb	19 58 06.1	
	comp=Z,21nm,1.1s						
LBZ	**Lake Benmore**	**17.27**	**211**	Pn	**Pn**	**19 58 16.9**	**-2.0**
WKZ	**Wanaka**	**18.14**	**212**	P	**Pn**	**19 58 27.6**	**-2.1**
MLZ	**Mavora Lakes**	**18.96**	**213**	P	**P**	**19 58 36.0**	**-2.8**
MLZ				IAmb	IAmb	19 58 46.8	
	comp=Z,19nm,1.1s						
CTA	**Charters Tower**	**34.19**	**278**	P	**P**	**20 01 05.4**	**+2.5**
	comp=Z,1.7nm,0.4s,baz=117,slow=9.0,SNR=8.2						
CTAO	**Charters Tower**	**34.19**	**278**	P	**P**	**20 01 02.5**	**-0.4**
STKA	**Stephens Creek**	**34.97**	**256**	P	**P**	**20 01 12.3**	**+2.7**
	comp=Z,1.9nm,0.6s,baz=101,slow=7.7,SNR=5.1						
STKA	**Stephens Creek**	**34.97**	**256**	P	**P**	**20 01 10.3**	**+0.7**
ASAR	**Alice Springs**	**43.56**	**266**	P	**P**	**20 02 23.1**	**+1.7**
	comp=Z,0.9nm,0.5s,baz=104,slow=7.0,SNR=13						
WR0	**Warramunga Arr**	**44.34**	**272**	P	**P**	**20 02 27.6**	**-0.1**
WR0				IAmb	IAmb	20 02 43.0	
	comp=Z,5.5nm,1.1s						
WB2	**Warramunga Arr**	**44.51**	**272**	P	**P**	**20 02 29.0**	**0.0**
WB2				IAmb	IAmb	20 02 30.9	
	comp=Z,4.0nm,0.8s						
WRA	**Warramunga Arr**	**44.52**	**272**	P	**P**	**20 02 29.3**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=109,slow=8.1,SNR=19						
WB0	**Warramunga Arr**	**44.55**	**272**	P	**P**	**20 02 29.3**	**0.0**
WB0				IAmb	IAmb	20 02 35.0	
	comp=Z,2.6nm,0.7s						
CASY	**Casey**	**55.59**	**208**	P	**P**	**20 03 53.8**	**+1.3**
NVAR	**Mina Array Bea**	**87.73**	**42**	P	**P**	**20 07 06.6**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=207,slow=5.7,SNR=2.7						
MKAR	**Makanchi Array**	**117.92**	**310**	PKP	**PKPdf**	**20 13 02.6**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=108,slow=4.7,SNR=2.4						
FINES	**FINESS Array B**	**145.03**	**340**	PKPbc	**PKPbc**	**20 13 52.8**	**-0.1**
	comp=Z,4.8nm,0.7s,baz=65,slow=3.4,SNR=11						
KBZ	**Khabaz**	**145.31**	**304**	PKPbc	**PKPbc**	**20 13 53.5**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=252,slow=3.2,SNR=1.7						
NB2	**NORSAR Subarra**	**148.53**	**352**	PKP	**PKPbc**	**20 14 03.2**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=14,slow=2.9						
NOA	**NORSAR Array B**	**148.53**	**352**	PKPbc	**PKPbc**	**20 14 03.2**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=14,slow=4.3,SNR=4.3						
AKASG	**Malin Array Be**	**151.34**	**323**	PKPbc	**PKPbc**	**20 14 10.3**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=58,slow=2.6,SNR=2.2						
TORD	**Torodi Ar. Bea**	**163.10**	**177**	PKPab	**PKPab**	**20 15 10.8**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=178,slow=2.8,SNR=1.7						

SJA 23 19:55:58.3±0.9, 31.26S×68.34W, h10km±7km, ML3.5, MW3.6
IDC 23 19:55:58.5±0.9, 31.25S×68.09W, h0km, mb4.2/7, mb1 4.1/10, mb1mx3.9/41, mbtmp4.1/10, ML3.8/3, Error ellipse: s-maj=33.0km s-min=6.5km az=114.0
NEIC 23 19:55:59.8±1.9, 31.36S±0.05×68.24W±0.07, h10km±1km, mb4.1/4, Error ellipse: s-maj=11.9km s-min=6.3km az=302.0

ISC 23 19:55:59.2±1.0, 31.26S±0.02×68.33W±0.03, h9km±7km, n73, σ1§34/79, mb4.1/7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLL	**Cerro Villicun**	**0.14**	**241**	*i* P	**Pg**	**19 56 02.2**	**-0.2**
RTLL				*e*S	**Sg**	**19 56 04.7**	**+0.1**
RTLL				IAML		19 56 12.5	
	comp=Z,5μm,0.5s						
AMOG	**MOGNA**	**0.35**	**336**	*i* P	**Pg**	**19 56 05.8**	**-0.2**
AMOG				IAML		19 56 20.8	
	comp=Z,1μm,0.6s						
CFA	**Coronel Fontan**	**0.35**	**168**	Pg	**Pg**	**19 56 05.5**	**-0.7**
	comp=Z,220nm,0.3s,baz=352,slow=17,SNR=1380						
CFA				Lg	Lg	19 56 11.0	
	comp=Z,1μm,0.3s,baz=56,slow=7.2,SNR=92						
CFA	**Coronel Fontan**	**0.35**	**168**	*i* P	**Pg**	**19 56 05.6**	**-0.5**
CFA				*e*S	**Sg**	**19 56 11.1**	**+0.2**
CFA				IAML		19 56 11.6	
	comp=Z,4μm,0.3s						
ZON	**Zonda**	**0.42**	**226**	Pg	**Pg**	**19 56 06.9**	**-0.4**
ZON	**Zonda**	**0.42**	**226**	*i* P	**Pg**	**19 56 06.9**	**-0.4**
ZON				*e*S	**Sg**	**19 56 13.5**	**+0.7**
ZON				IAML		19 56 15.1	
	comp=Z,1μm,0.4s						
RTCV	**Cerro Valdivia**	**0.63**	**197**	*i* P	**Pg**	**19 56 10.9**	**-0.5**
RTCV				*e*S	**Sg**	**19 56 20.4**	**+0.8**
RTCV				IAML		19 56 33.0	
	comp=Z,457nm,1.2s						
ACCO	**Cerro Coronel**	**0.92**	**316**	*i* P	**Pg**	**19 56 16.5**	**-0.4**
ACCO				*e*S	**Sb**	**19 56 30.0**	**-0.1**
ACCO				IAML		19 56 35.1	
	comp=Z,1μm,0.5s						
RTLS	**Leoncito**	**0.99**	**237**	*i* P	**Pg**	**19 56 17.6**	**-0.6**
RTLS				*e*S	**Sg**	**19 56 32.0**	**+0.9**
RTLS				IAML		19 56 40.2	
	comp=Z,556nm,0.8s						
ACDV	**Cuesta del Vie**	**1.28**	**328**	*i* P	**Pn**	**19 56 23.0**	**-0.5**
ACDV				IAML		19 56 47.7	
	comp=Z,454nm,0.7s						
AUSP	**Uspallata**	**1.32**	**223**	*i* P	**Pn**	**19 56 23.7**	**-0.4**
ASAL	**Salagasta**	**1.40**	**198**	*i* P	**Pb**	**19 56 25.5**	**-0.1**
ASAL				IAML		19 56 51.9	
	comp=Z,589nm,0.6s						
ACAN	**Cantantal**	**1.40**	**137**	*i* P	**Pg**	**19 56 26.2**	**+0.1**
ACAN				IAML		19 56 49.7	
	comp=Z,592nm,0.7s						
AROD	**Rodeo**	**1.47**	**317**	*i* P	**Pn**	**19 56 26.4**	**+0.2**
ARCO	**CERRO ARCO**	**1.66**	**198**	*i* P	**Pb**	**19 56 30.6**	**+0.5**
ARCO				IAML		19 56 59.7	
	comp=Z,738nm,0.4s						
APLL	**PUNTA DE LOS L**	**1.77**	**61**	*i* P	**Pn**	**19 56 30.5**	**+0.4**
AGUA	**GUANDACOL**	**1.77**	**355**	*i* P	**Pb**	**19 56 31.6**	**-0.3**
AGUA				IAML		19 57 04.2	
	comp=Z,2μm,0.4s						
AAGR	**Agrelo**	**1.87**	**193**	*i* P	**Pb**	**19 56 34.2**	**+0.6**
AAGR				IAML		19 57 04.0	
	comp=Z,885nm,0.5s						
CO01	**Juntas del Tor**	**1.99**	**310**		**Pb**	**19 56 34.9**	**-0.8**
CO03	**El Pedregal**	**2.07**	**281**	Pn	**Pb**	**19 56 36.0**	**-1.0**
ACLC	**CERRO LA CRUZ**	**2.18**	**33**	*i* P	**Pb**	**19 56 39.2**	**+0.3**
CO02	**Combarbal**	**2.29**	**271**		**Pb**	**19 56 39.9**	**-0.8**
GO04	**Tololo Observa**	**2.39**	**296**		**Pb**	**19 56 42.2**	**-0.3**
GO04	**Tololo Observa**	**2.39**	**296**	*i* P	**Pb**	**19 56 42.2**	**-0.3**
VA03	**San Esteban**	**2.41**	**231**		**Pb**	**19 56 43.3**	**+0.4**
MRA	**San Martin**	**2.50**	**118**	*i* P	**Pb**	**19 56 42.3**	**-2.1**
MRA				IAML		19 57 19.6	
	comp=Z,2μm,0.8s						
VCA	**Vinchina**	**2.52**	**2**	*i* P	**Pb**	**19 56 44.0**	**-0.6**
VCA				IAML		19 57 22.3	
	comp=Z,1μm,0.3s						
PEL	**Peldehue**	**2.75**	**226**		**Pn**	**19 56 45.0**	**+1.5**
PEL	**Peldehue**	**2.75**	**226**	*i* P	**Pb**	**19 56 47.8**	**-0.7**
ROC1	**El Roble**	**2.85**	**232**		**Pb**	**19 56 48.8**	**-1.7**
ROC1	**El Roble**	**2.85**	**232**	*i* P	**Pb**	**19 56 48.9**	**-1.5**
AC05	**El Transito**	**2.94**	**325**	Pn	**Pb**	**19 56 51.3**	**-0.6**
MT05	**Renca**	**2.95**	**223**		**Pn**	**19 56 47.7**	**+1.4**
MT02	**Curacav**	**3.11**	**229**	Pn	**Pn**	**19 56 51.4**	**+3.0**
TCA	**Tanti**	**3.19**	**92**	*i* P	**Pn**	**19 56 51.5**	**+1.8**
TCA				IAML		19 57 46.1	
	comp=Z,595nm,1.1s						
CYA	**Choya**	**3.56**	**39**	*i* P	**Pn**	**19 56 56.6**	**+1.9**
CYA				IAML		19 57 58.1	
	comp=Z,284nm,0.4s						
LAMA	**Las Malvinas**	**3.74**	**191**	*i* P	**Pn**	**19 56 58.1**	**+1.0**
AC04	**Llanos de Chal**	**3.87**	**321**		**Pn**	**19 57 02.2**	**+3.3**
COIS	**El Sosneado**	**3.98**	**195**	*i* P	**Pn**	**19 57 01.0**	**+0.5**
GO03	**Copiap**	**4.01**	**335**		**Pn**	**19 57 04.2**	**+3.2**
BO02	**Sierra Bellavi**	**4.08**	**210**		**Pn**	**19 57 05.8**	**+3.9**
AC02	**Maricunga**	**4.46**	**351**		**Pn**	**19 57 11.6**	**+4.1**
GO05	**Huala**	**4.81**	**218**		**Pn**	**19 57 14.0**	**+2.1**
AC01	**Pan de Azucar**	**5.47**	**338**	Pn	**Pn**	**19 57 23.0**	**+2.1**
BI02	**San Fabin de**	**5.92**	**204**	Pn	**Pn**	**19 57 27.6**	**+0.4**
GO02	**Mina Guanaco**	**6.17**	**349**		**Pn**	**19 57 33.5**	**+2.6**
PB15	**IPOC Station P**	**8.08**	**352**		**Pn**	**19 57 58.6**	**+1.6**
LVC	**Limon Verde**	**8.63**	**356**	Pn	**Pn**	**19 58 05.8**	**+1.2**
	comp=Z,1.5nm,0.3s,baz=216,slow=4.5,SNR=4.0						
LVC				Sn	**Sn**	**19 59 39.9**	**-2.4**
	comp=Z,0.6nm,0.3s,baz=205,slow=16,SNR=1.4						
PB09	**IPOC Station P**	**9.46**	**355**	Pn	**Pn**	**19 58 16.6**	**+0.7**
PB07	**IPOC Station P**	**9.60**	**351**	Pn	**Pn**	**19 58 17.0**	**-0.7**
PLCA	**Paso Flores**	**9.62**	**190**	Lg	Lg	20 01 07.5	
	comp=Z,0.3nm,0.3s,baz=135,slow=22,SNR=3.7						
PB01	**IPOC Station P**	**10.23**	**354**	Pn	**Pn**	**19 58 25.1**	**-1.2**
CPUP	**Villa Florida**	**10.82**	**66**	Pn	**Pn**	**19 58 34.0**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=222,slow=12,SNR=4.6						
CPUP				Lg	Lg	20 01 44.1	
	comp=Z,1.0nm,0.3s,baz=341,slow=20,SNR=2.2						
CPUP	**Villa Florida**	**10.82**	**66**		**Pn**	**19 58 33.8**	**-0.5**
PB08	**IPOC Station P**	**11.10**	**356**	Pn	**Pn**	**19 58 38.8**	**+0.3**
MNMC	**Minye Minye**	**12.13**	**354**	Pn	**Pn**	**19 58 51.9**	**-0.6**
LPAZ	**La Paz**	**14.90**	**1**	Pn	**Pn**	**19 59 33.3**	**+2.6**
	comp=Z,0.1nm,0.3s,baz=201,slow=7.7,SNR=1.9						
LPAZ	**La Paz**	**14.90**	**1**	Pn	**Pn**	**19 59 31.3**	**+0.6**
SIV	**San Ignacio**	**16.58**	**25**	Pn	**Pn**	**19 59 53.1**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=264,slow=10,SNR=3.1						
SNAA	**Sanae**	**52.97**	**159**	P	**P**	**20 05 15.5**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=289,slow=11,SNR=12						
SNAA	**Sanae**	**52.97**	**159**	P	**P**	**20 05 15.6**	**-0.1**
QSPA	**South Pole Qui**	**58.97**	**180**	P	**P**	**20 05 59.7**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=342,slow=2.8,SNR=1.9						
QSPA	**South Pole Qui**	**58.97**	**180**	P	**P**	**20 05 59.6**	**+0.7**
DBIC	**Dimbokro**	**71.31**	**70**	P	**P**	**20 07 19.3**	**-0.3**
	comp=Z,4.6nm,0.8s,baz=202,slow=6.5,SNR=5.5						
DBIC	**Dimbokro**	**71.31**	**70**	P	**P**	**20 07 19.1**	**-0.5**
DBIC				IAmb	IAmb	20 07 21.2	
	comp=Z,7.4nm,1.1s						
MAW	**Mawson**	**74.88**	**163**	P	**P**	**20 07 39.8**	**-0.1**
	comp=Z,3.5nm,0.9s,baz=225,slow=11,SNR=2.3						
MAW	**Mawson**	**74.88**	**163**	P	**P**	**20 07 39.9**	**0.0**
MAW				IAmb	IAmb	20 07 40.3	
	comp=Z,0.4nm,0.7s						
BOSA	**Boshof**	**78.52**	**116**	P	**P**	**20 08 00.7**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=199,slow=8.6,SNR=4.2						
BOSA	**Boshof**	**78.52**	**116**	P	**P**	**20 08 00.8**	**-0.6**
BOSA				IAmb	IAmb	20 08 02.4	
	comp=Z,1.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**80.31**	**68**	P	**P**	**20 08 11.1**	**0.0**
	comp=Z,0.8nm,0.6s,baz=281,slow=7.1,SNR=6.9						
NVAR	**Mina Array Bea**	**83.52**	**323**	P	**P**	**20 08 28.8**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=123,slow=3.3,SNR=2.1						
ZALV	**Zalesovo Beam**	**150.24**	**33**	PKPbc	**PKPbc**	**20 15 50.2**	**0.0**
	comp=Z,0.9nm,0.3s,baz=316,slow=4.1,SNR=5.6						
MKAR	**Makanchi Array**	**152.61**	**47**	PKPbc	**PKPbc**	**20 15 55.9**	**0.0**
	comp=Z,0.7nm,0.6s,baz=293,slow=1.1,SNR=6.7						

IDC 23 19:56:46.7±0.9, 29.99S×177.30W, h0km, mb4.1/8, mb1 4.3/9, mb1mx4.0/41, mbtmp4.2/9, ML4.6/1, Error ellipse: s-maj=25.7km s-min=16.3km az=61.0
NEIC 23 19:56:48.1±1.4, 30.1S±0.1×177.3W±0.2, h10km±1km, mb4.5/8, Error ellipse: s-maj=29.3km s-min=11.0km az=56.0

ISC 23 19:56:51.8±0.8, 30.06S±0.08×177.4W±0.1, h35km, n28, σ1§42/26, mb4.3/10, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.92**	**331**	Pn	**Pn**	**19 57 06.6**	**-1.6**
	2μm,0.3s,baz=111,slow=3.0,SNR=13						
RAO				Sn	**Sn**	**19 57 19.7**	**-0.6**
	2μm,0.3s,baz=46,slow=22,SNR=7.8						
RAO	**Raoul Island**	**0.92**	**331**		**Pn**	**19 57 06.7**	**-1.5**
RPZ	**Rata Peaks**	**16.43**	**211**	Pn	**Pn**	**20 00 40.1**	**+0.5**
	2.2nm,0.3s,baz=268,slow=1.5,SNR=7.8						
WKZ	**Wanaka**	**18.22**	**212**	P	**P**	**20 00 57.4**	**-4.5**
WKZ				IAmb	IAmb	20 01 06.0	
	comp=Z,29nm,1.2s						
CTA	**Charters Tower**	**34.26**	**278**	P	**P**	**20 03 36.9**	**+2.2**
	comp=Z,5.1nm,1.0s,baz=131,slow=11,SNR=4.8						
STKA	**Stephens Creek**	**35.06**	**256**	P	**P**	**20 03 43.2**	**+1.7**
	comp=Z,3.7nm,0.6s,baz=107,slow=14,SNR=9.2						
STKA	**Stephens Creek**	**35.06**	**256**	P	**P**	**20 03 42.5**	**+1.1**
ASAR	**Alice Springs**	**43.64**	**266**	P	**P**	**20 04 52.9**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=105,slow=7.7,SNR=12						
WR0	**Warramunga Arr**	**44.42**	**272**	P	**P**	**20 05 00.1**	**+0.7**
WR0				IAmb	IAmb	20 05 11.7	
	comp=Z,4.5nm,0.8s						
WB2	**Warramunga Arr**	**44.59**	**271**	P	**P**	**20 05 01.5**	**+0.7**
WRA	**Warramunga Arr**	**44.60**	**271**	P	**P**	**20 05 01.7**	**+0.8**
	comp=Z,2.5nm,0.5s,baz=110,slow=8.0,SNR=16						
WB0	**Warramunga Arr**	**44.62**	**272**	P	**P**	**20 05 01.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**52.88**	**269**	P	**P**	**20 06 05.2**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=98,slow=7.1,SNR=1.4						
CASY	**Casey**	**55.68**	**208**	P	**P**	**20 06 23.0**	**-1.1**
CASY				IAmb	IAmb	20 06 25.3	
	comp=Z,5.6nm,0.9s						
QSPA	**South Pole Qui**	**60.05**	**180**	P	**P**	**20 06 56.3**	**+1.3**
	comp=Z,3.4nm,0.6s,baz=20,slow=0.6,SNR=7.6						
QSPA	**South Pole Qui**	**60.05**	**180**	P	**P**	**20 06 56.2**	**+1.3**
QSPA				IAmb	IAmb	20 07 08.2	
	comp=Z,4.8nm,0.8s						
SNAA	**Sanae**	**78.48**	**178**	P	**P**	**20 08 48.0**	**-0.8**
	comp=Z,1.0nm,0.9s,baz=176,slow=15,SNR=2.2						
SNAA	**Sanae**	**78.48**	**178**	P	**P**	**20 08 48.2**	**-0.6**
H03N3	**Juan Fernandez**	**80.41**	**123**	T	T	21 37 56.8	
	baz=240,slow=72,SNR=5.1						
H03N2	**Juan Fernandez**	**80.41**	**123**	T	T	21 37 53.5	
	baz=240,slow=72,SNR=5.0						
H03N1	**Juan Fernandez**	**80.43**	**123**	T	T	21 37 52.8	
	baz=240,slow=72,SNR=9.7						
NVAR	**Mina Array Bea**	**87.64**	**42**	P	**P**	**20 09 38.0**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=211,slow=6.9,SNR=2.3						
FINES	**FINESS Array B**	**145.00**	**340**	PKP	**PKPbc**	**20 16 23.2**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=63,slow=3.4,SNR=8.1						
NB2	**NORSAR Subarra**	**148.49**	**352**	PKP	**PKPbc**	**20 16 33.4**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.49**	**352**	PKPbc	**PKPbc**	**20 16 34.6**	**+0.4**
	comp=Z,0.8nm,0.8s,baz=29,slow=4.7,SNR=2.8						
AKASG	**Malin Array Be**	**151.34**	**324**	PKPbc	**PKiKP**	**20 16 41.7**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=57,slow=2.2,SNR=1.8						
GERES	**GERESS Array B**	**159.41**	**339**	PKPab	**PKPab**	**20 17 24.2**	**0.0**
	comp=Z,0.1nm,0.2s,baz=54,slow=9.9,SNR=1.7						
TORD	**Torodi Ar. Bea**	**163.15**	**177**	PKPab	**PKPab**	**20 17 40.7**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=195,slow=3.8,SNR=2.2						

GUC 23 20:01:42.4±0.6, 22.03S×68.46W, h115km±5km, ML3.2, 6C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**0.71**	**216**	*e*P	Pn	20 02 01.3	-0.5
LVC				*i* S	Sn	20 02 15.8	-0.4
PB09	**IPOC Station P**	**0.76**	**288**	*i* P	Pn	20 02 02.0	+0.1
PB09				*i* S	Sn	20 02 16.8	+0.1
PB03	**IPOC Station P**	**1.20**	**269**	*i* P	Pn	20 02 05.7	-0.5
PB03				*i* S	Sn	20 02 24.1	-0.2
PB03				*e*S	Sn	20 02 24.2	-0.2
PB03				IAML		20 02 25.6	
	comp=E,359nm,0.5s						
PB07	**IPOC Station P**	**1.36**	**283**	*i* P	Pn	20 02 07.8	-0.3
PB07				*i* S	Sn	20 02 27.2	-0.3
PB07				IAML		20 02 28.5	
	comp=N,388nm,0.3s						
PB15	**IPOC Station P**	**1.50**	**218**	*i* P	Pn	20 02 09.8	+0.1
PB15				*i* S	Sn	20 02 31.0	+0.6
PB15	**IPOC Station P**	**1.50**	**218**	P	Pn	20 02 09.6	-0.1
PB02	**IPOC Station P**	**1.51**	**298**	*i* P	Pn	20 02 09.6	-0.2
PB02				*i* S	Sn	20 02 30.3	-0.3
PB02				IAML		20 02 33.7	
	comp=E,457nm,0.4s						

BJI 23 20:06:17.6±0.0, 30.00S×177.52W, h20km, mB6.6/2, mb5.6/57, Ms6.5/16, Ms7 6.5/21
IDC 23 20:06:17.1±0.3, 29.94S×177.57W, h0km, mb5.6/35, mb1 5.7/36, mb1mx5.6/38, mbtmp5.6/36, ML4.5/2, MS6.7/13, Ms1 6.7/13, ms1mx6.1/40, Error ellipse: s-maj=11.6km s-min=11.2km az=45.0
UNK 23 20:06:19.7, 29.96S×177.52W, h20km
MOS 23 20:06:19.8±0.9, 29.93S×177.63W, h24km, mb6.2/49, Error ellipse: s-maj=8.0km s-min=6.3km az=99.0
NEIC 23 20:06:20.7±1.5, 29.94S±0.06×177.6W±0.1, h27km±3km, mb6.2/357, Mwc6.7(GCMT), Error ellipse: s-maj=13.5km s-min=8.3km az=88.0
NEIC 23 20:06:26, 29.97S×177.28W, h37km, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr1.04; Mθθ-0.04; Mφφ-0.99; Mrθ0.14; Mrφ-0.31; Mθφ0.82; Fault plane solution: M₀1.35000×10¹⁹ NP1:φs201.00000°, δ26.00000°, λ98.00000°. NP2:φs12.00000°, δ64.00000°, λ86.00000°. Principal axes: T 1.3305, Plg71.0000°, Azm273.0000°; N 0.0414, Plg4.0000°, Azm14.0000°; P -1.3719, Plg19.0000°, Azm105.0000°;
*GCMT 23 20:06:27.7±0.1, 29.94S±0.01×177.30W±0.01, h37km, MW6.7/178, Moment Tensor Solution. s178,c410; s145,c492; Duration: 5s4 Moment tensor: Scale 10¹⁹ Nm; Mrr1.13±.01; Mθθ-0.11±.01; Mφφ-1.01±.01; Mrθ0.14±.01; Mθφ-0.29±.01; Mφr0.79±.01;

KHEZ	**Kahui Hut**	**11.66**	**215**	P	Pn	20 09 11.2	+5.9			
POWZ	**Post Office Ro**	**11.78**	**206**	P	**Pn**	**20 09 05.1**	**-1.8**			
PRWZ	**Pori Road**	**11.85**	**205**	P	**Pn**	**20 09 07.4**	**-0.4**			
BFZ	**Birch Farm**	**11.86**	**204**		**Pn**	**20 09 03.9**	**-4.0**			
TIWZ	**Tintock**	**12.07**	**205**	P	Pn	20 09 05.9	-4.9			
CPWZ	**Castlepoint**	**12.08**	**204**	P	**Pn**	**20 09 08.7**	**-2.2**			
HOWZ	**Holdsworth Sta**	**12.32**	**206**	P	Pn	20 09 07.9	-6.3			
TMWZ	**Te Maipa**	**12.36**	**204**	P	Pn	20 09 07.5	-7.3			
CAW	**Cannon Point**	**12.67**	**207**	P	**Pn**	**20 09 15.9**	**-3.1**			
TRWZ	**Traveller**	**12.69**	**204**	P	Pn	20 09 14.3	-5.0			
NIUE	**Niue**	**12.81**	**34**		**Pn**	**20 09 16.7**	**-4.3**			
MSWZ	**Moikau Station**	**12.87**	**206**	P	**Pn**	**20 09 18.0**	**-3.7**			
MSWZ	**Moikau Station**	**12.87**	**206**		**Pn**	**20 09 17.3**	**-4.4**			
MSVF	**Nonsavu**	**12.88**	**340**	*i* P	**Pn**	**20 09 24.4**	**+2.3**			
MSVF	**Nonsavu**	**12.88**	**340**	Pn	**Pn**	**20 09 23.8**	**+1.7**			
WEL	**Wellington**	**12.94**	**207**	P	**Pn**	**20 09 20.3**	**-2.3**			
SNZO	**South Karori**	**12.99**	**207**		**Pn**	**20 09 21.0**	**-2.3**			
PLWZ	**Palliser**	**13.00**	**205**	P	Pn	20 09 17.3	-6.2			
PLWZ	**Palliser**	**13.00**	**205**	Pn	Pn	20 09 18.7	-4.8			
BHW	**Baring Head**	**13.01**	**207**	P	**Pn**	**20 09 20.0**	**-3.5**			
BHW	**Baring Head**	**13.01**	**207**	Pn	Pn	20 09 17.5	-6.0			
TUWZ	**Tuamarina**	**13.40**	**209**		Pn	20 09 23.3	-5.6			
NNZ	**Nelson**	**13.47**	**211**		**Pn**	**20 09 25.5**	**-4.4**			
CMWZ	**Cape Campbell**	**13.55**	**208**	Pn	**Pn**	**20 09 27.4**	**-3.6**			
QRZ	**Quartz Range**	**13.57**	**214**		**Pn**	**20 09 27.4**	**-3.8**			
BSWZ	**Blackbirch Sta**	**13.66**	**209**	P	**Pn**	**20 09 33.2**	**+0.7**			
BSWZ	**Blackbirch Sta**	**13.66**	**209**		**Pn**	**20 09 29.6**	**-2.9**			
THZ	**Tophouse**	**14.12**	**211**	Pn	**Pn**	**20 09 36.0**	**-2.9**			
KHZ	**Kahutara**	**14.39**	**208**	Pn	Pn	20 09 36.5	-5.9			
DSZ	**Denniston Nort**	**14.62**	**214**	P	**Pn**	**20 09 43.5**	**-2.2**			
LTZ	**Lake Taylor**	**15.22**	**210**	P	**Pn**	**20 09 47.8**	**-6.0**			
AMCZ	**Amberley**	**15.38**	**208**	P	**Pn**	**20 09 53.3**	**-2.5**			
OKCZ	**Okains Bay**	**15.68**	**206**	P	**Pn**	**20 09 54.3**	**-5.4**			
OXZ	**Oxford**	**15.76**	**209**	P	**Pn**	**20 09 58.7**	**-2.0**			
OXZ	**Oxford**	**15.76**	**209**	P	**Pn**	**20 09 55.0**	**-5.7**			
MQZ	**McQueen's Vall**	**15.82**	**207**	P	**Pn**	**20 09 54.8**	**-6.7**			
AKCZ	**Akaroa Harbour**	**15.86**	**206**	P	**Pn**	**20 09 56.5**	**-5.5**			
RPZ	**Rata Peaks**	**16.50**	**211**	Pn	**Pn**	**20 10 08.8**	**-1.5**			
	18nm,0.3s,baz=48,slow=3.0,SNR=30									
RPZ				Sn	Sn	20 12 55.5	-17			
	6.7nm,0.3s,baz=27,slow=11,SNR=2.1									
RPZ	**Rata Peaks**	**16.50**	**211**		**Pn**	**20 10 04.9**	**-5.3**			
DZM	**Mont Dzumac**	**16.51**	**295**	Pn	**Pn**	**20 10 08.8**	**-1.7**			
	0.2nm,0.3s,baz=151,slow=19,SNR=3.5									
DZM				LR	LR	20 15 22.6				
	comp=Z,572µm,18.9s,baz=129,slow=33									
AFI	**Afiamalu**	**16.82**	**19**	P	**Pn**	**20 10 10.9**	**-3.6**			
AFI				pmax	pmax					
	comp=Z,839nm,1.3s									
AFI	**Afiamalu**	**16.82**	**19**	P	**Pn**	**20 10 10.9**	**-3.6**			
FOZ	**Fox Glacier**	**16.93**	**214**	P	**Pn**	**20 10 12.6**	**-3.0**			
LBZ	**Lake Benmore**	**17.42**	**211**		**Pn**	**20 10 16.9**	**-4.8**			
ODZ	**Otahua Downs**	**17.74**	**209**	P	**Pn**	**20 10 21.6**	**-4.1**			
RAR	**Rarotonga**	**18.12**	**65**	P	**Pn**	**20 10 28.3**	**-2.2**			
	comp=Z,4.4nm,0.3s,baz=234,slow=5.3,SNR=18									
RAR				S	Sn	20 13 30.2	-22			
	comp=Z,3.6nm,0.3s,baz=245,slow=17,SNR=0.9									
RAR				LR	LR	20 15 50.0				
	comp=Z,151µm,21.5s,baz=255,slow=31									
RAR	**Rarotonga**	**18.12**	**65**	P	**Pn**	**20 10 28.1**	**-2.5**			
RAR				pmax	pmax					
	comp=Z,2µm,1.6s									
RAR	**Rarotonga**	**18.12**	**65**	Pn	**Pn**	**20 10 28.1**	**-2.5**			
RAR				lAmb	lAmb	20 10 37.9				
	comp=Z,2µm,1.6s									
WKZ	**Wanaka**	**18.29**	**212**	Pn	**Pn**	**20 10 27.1**	**-5.3**			
HHSZ	**Highcliff Hill**	**18.45**	**207**	P	**Pn**	**20 10 35.6**	**+1.3**			
EAZ	**Earnscleugh**	**18.47**	**211**	P	**P**	**20 10 33.5**	**-0.9**			
MLZ	**Mavora Lakes**	**19.11**	**213**	P	**P**	**20 10 38.6**	**-3.0**			
WHZ	**Wether Hill Ro**	**19.59**	**212**		**P**	**20 10 43.5**	**-3.2**			
DCZ	**Deep Cove**	**19.64**	**214**		**P**	**20 10 44.1**	**-3.2**			
SANVU	**Saraoutou**	**20.24**	**312**	P	**P**	**20 10 54.2**	**+0.2**			
SANVU				lAmb	lAmb	20 11 11.2				
	comp=Z,4µm,1.9s									
LHI	**Lord Howe Isla**	**20.28**	**260**	P	**P**	**20 10 52.7**	**-1.7**			
LHI				lAmb	lAmb	20 11 04.1				
	comp=Z,840nm,0.8s									
PYZ	**Puysegur Point**	**20.38**	**213**	P	**P**	**20 10 54.7**	**-0.6**			
TBI	**Tubuai**	**25.79**	**82**	*e*P	**P**	**20 11 47.2**	**-2.5**			
	comp=Z,485nm,1.2s									
TBI				*e*S	**S**	**20 16 12.6**	**-5.5**			
	comp=Z,90µm,29.8s									
TBI				*e*LQ	LQ	20 17 07.9				
	comp=Z,163µm,24.5s									
TBI				*e*LR	LR	20 18 10.6				
	comp=Z,430µm,27.2s									
TBI	**Tubuai**	**25.79**	**82**	*e*T	T	20 38 24.6				
	comp=Z,421nm,0.3s									
ARMA	**Armidale**	**26.73**	**261**	P	**P**	**20 12 00.5**	**+2.1**			
ARMA				lAmb	lAmb	20 12 07.0				
	comp=Z,334nm,0.8s									
KNTN	**Kanton**	**27.59**	**12**	P	**P**	**20 12 05.3**	**-0.7**			
PAE	**Paea**	**28.17**	**70**	*e*P	**P**	**20 12 09.7**	**-1.5**			
	comp=Z,39nm,1.3s									
PAE	**Paea**	**28.17**	**70**	*e*T	T	20 41 28.2				
	comp=Z,114nm,0.3s									
PPT2	**Papeete2**	**28.21**	**70**	*e*P	**P**	**20 12 10.5**	**-1.1**			
	comp=Z,291nm,1.4s									
PPT2				*e*S	**S**	**20 16 52.3**	**-4.2**			
	comp=Z,56µm,26.2s									
PPT2				*e*LQ	LQ	20 18 03.0				
	comp=Z,163µm,23.8s									
PPT2				*e*LR	LR	20 19 23.3				
	comp=Z,434µm,26.5s									
PPT2	**Papeete2**	**28.21**	**70**	*e*T	T	20 41 31.0				
	comp=Z,97nm,0.3s									
PPT	**Papeete**	**28.22**	**70**	P	**P**	**20 12 12.2**	**+0.6**			
	comp=Z,69nm,0.7s,baz=160,slow=14,SNR=6.7									
PPT				LR	LR	20 20 31.2				
	comp=Z,101µm,20.9s,baz=244,slow=30									
EIDS	**Eidsvold**	**28.24**	**272**	P	**P**	**20 12 11.6**	**-0.1**			
TVO	**Taravao**	**28.38**	**71**	*e*T	T	20 41 42.8				
	comp=Z,28nm,0.4s									
TIAR	**Tiarei**	**28.41**	**71**	*e*P	**P**	**20 12 11.9**	**-1.5**			
	comp=Z,52nm,0.8s									
TIAR	**Tiarei**	**28.41**	**71**	*e*T	T	20 41 45.5				
	comp=Z,20nm,0.4s									
CAN	**Canberra**	**28.70**	**250**	P	**P**	**20 12 15.1**	**-0.8**			
CAN				pmax	pmax					
	comp=Z,584nm,1.1s									
CAN	**Canberra**	**28.70**	**250**	P	**P**	**20 12 15.1**	**-0.8**			
CAN				lAmb	lAmb	20 12 23.2				
	comp=Z,584nm,1.1s									
MEH	**Mehetia**	**29.31**	**72**	*e*P	**P**	**20 12 20.2**	**-1.1**			
	comp=Z,63nm,1.2s									
MEH	**Mehetia**	**29.31**	**72**	*e*T	T	20 42 53.6				
	comp=Z,158nm,0.3s									
HNR	**Honiara**	**29.43**	**309**	P	**P**	**20 12 21.7**	**-0.7**			
	comp=Z,146nm,0.9s,baz=223,slow=2.8,SNR=8.2									
HNR				LR	LR	20 23 19.1				
	comp=Z,112µm,18.6s,baz=147,slow=35									
HNR	**Honiara**	**29.43**	**309**	P	**P**	**20 12 20.4**	**-2.0**			
HNR				pmax	pmax					
	comp=Z,538nm,0.9s									
HNR	**Honiara**	**29.43**	**309**	P	**P**	**20 12 20.4**	**-2.0**			
HNR				lAmb	lAmb	20 12 42.2				
	comp=Z,538nm,0.9s									
TAU	**Tasmania Unive**	**30.94**	**236**	P	**P**	**20 12 34.9**	**-0.6**			
TAU				pmax	pmax					
	comp=Z,467nm,1.3s									
TAU	**Tasmania Unive**	**30.94**	**236**	P	**P**	**20 12 34.9**	**-0.6**			
TAU				lAmb	lAmb	20 12 41.3				
	comp=Z,466nm,1.3s									
TOO	**Toolangi**	**31.60**	**246**	P	**P**	**20 12 41.2**	**-0.3**			
TOO				pmax	pmax					
	comp=Z,839nm,1.2s									
TOO	**Toolangi**	**31.60**	**246**	P	**P**	**20 12 41.2**	**-0.3**			
TARA	**Tarawa**	**32.51**	**342**	P	**P**	**20 12 47.5**	**-2.0**			
TARA				lAmb	lAmb	20 12 52.4				
	comp=Z,450nm,1.1s									
CTA	**Charters Tower**	**34.25**	**278**	P	**P**	**20 13 05.2**	**+0.5**			
	comp=Z,298nm,0.7s,baz=102,slow=10,SNR=120									
CTA				LR	LR	20 25 43.0				
	comp=Z,243µm,18.6s,baz=117,slow=34									
CTAO	**Charters Tower**	**34.25**	**278**	P	**P**	**20 13 04.8**	**+0.1**			
CTAO				pmax	pmax					
	comp=Z,1µm,1.1s									
CTAO	**Charters Tower**	**34.25**	**278**	P	**P**	**20 13 04.8**	**+0.1**			
STKA	**Stephens Creek**	**35.08**	**256**	P	**P**	**20 13 11.7**	**-0.1**			
	baz=35									
STKA	**Stephens Creek**	**35.08**	**256**	P	**P**	**20 13 12.4**	**+0.6**			
	comp=Z,147nm,0.8s,baz=100,slow=13,SNR=72									
STKA				PKiKP	**PKiKP**	**20 23 06.8**	**+1.6**			
	comp=Z,4.7nm,0.9s,baz=80,slow=11,SNR=2.1									
STKA				LR	LR	20 26 39.4				
	comp=Z,209µm,18.1s,baz=101,slow=35									
STKA	**Stephens Creek**	**35.08**	**256**	P	**P**	**20 13 12.0**	**+0.2**			
STKA				pmax	pmax					
	comp=Z,112nm,1.0s									
STKA	**Stephens Creek**	**35.08**	**256**	P	**P**	**20 13 11.9**	**+0.2**			
HTT	**Hallett**	**37.12**	**253**	P	**P**	**20 13 29.8**	**+0.5**			
	baz=37									
XMAS	**Kiritimati**	**37.12**	**34**	P	**P**	**20 13 28.8**	**-0.5**			
XMAS				lAmb	lAmb	20 13 50.3				
	comp=Z,343nm,1.1s									
RKT	**Rikitea**	**38.40**	**90**	*e*P	**P**	**20 13 37.8**	**-2.3**			
	comp=Z,69nm,0.9s									
RKT				*e*S	**S**	**20 19 30.3**	**-3.9**			
	comp=Z,21µm,31.2s									
RKT				*e*LQ	LQ	20 22 24.9				
	comp=Z,23µm,24.5s									
RKT				*e*LR	LR	20 24 04.2				
	comp=Z,63µm,30.8s									
RABL	**Rabaul**	**38.54**	**306**	P	**P**	**20 13 40.1**	**-1.3**			
PMG	**Port Moresby**	**38.90**	**294**	P	**P**	**20 13 43.6**	**-0.8**			
	comp=Z,137nm,1.1s,baz=95,slow=7.2,SNR=13									
PMG				ScP	**ScP**	**20 19 43.1**	**+0.7**			
	comp=Z,31nm,1.0s,baz=135,slow=1.4,SNR=2.5									
PMG	**Port Moresby**	**38.90**	**294**	*i* P	**P**	**20 13 43.3**	**-1.1**			
PMG				pmax	pmax					
	comp=Z,216nm,1.2s									
PMG	**Port Moresby**	**38.90**	**294**	P	**P**	**20 13 43.8**	**-0.7**			
BBOO	**Buckleboo**	**39.58**	**254**	P	**P**	**20 13 48.9**	**-1.1**			
BBOO				lAmb	lAmb	20 13 55.9				
	comp=Z,1µm,1.6s									
COEN	**Coen**	**39.66**	**285**	P	**P**	**20 13 50.5**	**-0.3**			
COEN				lAmb	lAmb	20 13 57.7				
	comp=Z,436nm,1.2s									
TAOE	**Nuku Hiva Isla**	**40.67**	**67**	*e*S	**S**	**20 20 05.4**	**-3.2**			
	comp=Z,47µm,25.5s									
TAOE				*e*LQ	LQ	20 23 24.7				
	comp=Z,69µm,24.1s									
TAOE				*e*LR	LR	20 25 09.9				
	comp=Z,240µm,26.4s									
TAOE	**Nuku Hiva Isla**	**40.67**	**67**	*e*T	T	20 57 05.0				
	comp=Z,22nm,0.2s									
PATS	**Pohnpei**	**43.41**	**324**	P	**P**	**20 14 20.1**	**-1.3**			
AS31	**Alice Springs**	**43.65**	**266**	P	**P**	**20 14 22.4**	**-1.1**			
ASAR	**Alice Springs**	**43.65**	**266**	P	**P**	**20 14 22.4**	**-1.0**			
	comp=Z,128nm,0.9s,baz=102,slow=7.5,SNR=86									
ASAR				ScP	**ScP**	**20 20 02.6**	**+1.4**			
	comp=Z,19nm,1.0s,baz=122,slow=3.9,SNR=5.2									
ASAR				PKiKP	**PKiKP**	**20 23 14.4**	**+1.6**			
	comp=Z,1.7nm,0.5s,baz=122,slow=1.0,SNR=4.8									
ASAR				LR	LR	20 32 20.5				
	comp=Z,307µm,18.2s,baz=109,slow=36									
WR0	**Warramunga Arr**	**44.42**	**271**	P	**P**	**20 14 28.6**	**-1.1**			
WR0				lAmb	lAmb	20 14 35.0				
	comp=Z,313nm,0.8s									
WB2	**Warramunga Arr**	**44.59**	**271**	P	**P**	**20 14 29.3**	**-1.8**			
WRAB	**Tennant Creek**	**44.60**	**271**	*ce*P	**P**	**20 14 29.7**	**-1.4**			
WRAB				pmax	pmax					
	comp=Z,777nm,1.7s									
WRAB	**Tennant Creek**	**44.60**	**271**	P	**P**	**20 14 29.2**	**-1.9**			
WRA	**Warramunga Arr**	**44.60**	**271**	P	**P**	**20 14 30.3**	**-0.8**			
	comp=Z,216nm,0.8s,baz=110,slow=8.1,SNR=386									
WRA				ScP	**ScP**	**20 20 06.6**	**+1.4**			
	comp=Z,5.3nm,0.6s,baz=113,slow=3.6,SNR=4.5									
WRA				S	S	20 20 57.4	-8.9			
	comp=Z,6.5nm,1.0s,baz=108,slow=11,SNR=1.3									
WRA				PKiKP	**PKiKP**	**20 23 15.8**	**+2.1**			
	comp=Z,2.3nm,0.5s,baz=106,slow=0.7,SNR=2.8									
WRA				LR	LR	20 32 10.5				
	comp=Z,104µm,18.5s,baz=105,slow=35									
WB0	**Warramunga Arr**	**44.62**	**272**	P	**P**	**20 14 29.5**	**-1.8**			
MMPI	**Merauke**	**44.90**	**290**	P	**P**	**20 14 34.1**	**+0.7**			
	comp=Z,435nm,0.8s									
FORT	**Forrest**	**46.66**	**255**	P	**P**	**20 14 45.3**	**-1.9**			
JOHN	**Johnston Islan**	**47.06**	**10**	P	**P**	**20 14 50.7**	**+0.4**			
WRKA	**Warakurna**	**48.05**	**262**	P	**P**	**20 14 56.1**	**-2.1**			
	baz=48									
JAY	**Jayapura**	**48.17**	**296**	P	**P**	**20 14 58.0**	**-1.2**			
	comp=Z,137nm,1.1s,baz=118,slow=6.9,SNR=27									
JAY	**Jayapura**	**48.17**	**296**	P	**P**	**20 14 58.2**	**-1.0**			
	comp=Z,116nm,1.3s									
GENI	**Genyem**	**48.54**	**296**	P	**P**	**20 15 01.1**	**-0.9**			
	comp=Z,383nm,1.3s									
VNDA	**Vanda**	**48.56**	**186**	P	**P**	**20 15 02.9**	**+1.5**			
	comp=Z,11nm,0.7s,baz=15,slow=6.8,SNR=60									
VNDA				LR	LR	20 36 15.6				
	comp=Z,11µm,18.1s,baz=38,slow=37									
VNDA	**Vanda**	**48.56**	**186**	P	**P**	**20 15 02.6**	**+1.3**			
VNDA				pmax	pmax					
	comp=Z,370nm,1.7s									
VNDA	**Vanda**	**48.56**	**186**	P	**P**	**20 15 02.6**	**+1.3**			
VNDA				lAmb	lAmb	20 15 28.9				
	comp=Z,370nm,1.6s									
SMPI	**Sarmi**	**50.06**	**295**	P	**P**	**20 15 12.0**	**-1.6**			
	comp=Z,157nm,1.5s									
MTN	**Manton Dam**	**50.43**	**278**	P	**P**	**20 15 15.0**	**-1.5**			
MTN				lAmb	lAmb	20 15 19.7				
	comp=Z,464nm,1.5s									
KNRA	**Kununurra**	**51.19**	**274**	P	**P**	**20 15 20.8**	**-1.4**			
KNRA				lAmb	lAmb	20 15 26.7				
	comp=Z,506nm,1.4s									
WAKE	**Wake Island**	**51.34**	**341**	P	**P**	**20 15 22.0**	**-1.0**			
SRPI	**Serui, Papua**	**52.08**	**294**	P	**P**	**20 15 31.3**	**+2.5**			
	comp=Z,18nmcomp=Z,0.7nm,0.7s									
SAUI	**Saumlaki**	**52.71**	**284**	P	**P**	**20 15 33.3**	**-0.2**			
	comp=Z,600nm,1.4s									
FITZ	**Fitzroy Crossi**	**52.88**	**269**	P	**P**	**20 15 32.7**	**-2.0**			
FITZ				lAmb	lAmb	20 15 40.9				
	comp=Z,636nm,1.4s									
KMPI	**Kaimana, Papua**	**53.07**	**290**	P	**P**	**20 15 39.3**	**+3.1**			
	comp=Z,701nm,1.2s									
KHU	**Kahuku**	**53.26**	**26**	P	**P**	**20 15 36.4**	**-1.2**			
KHU				pmax	pmax					
	comp=Z,395nm,1.4s									
KHU	**Kahuku**	**53.26**	**26**	P	**P**	**20 15 36.4**	**-1.2**			
KHU				lAmb	lAmb	20 15 56.7				
	comp=Z,395nm,1.4s									
AIN	**Ainahou**	**53.43**	**26**	P	**P**	**20 15 38.6**	**-0.2**			
AIN				lAmb	lAmb	20 16 00.4				
	comp=Z,610nm,1.5s									
KHLU	**Kahalu`u**	**53.47**	**25**	P	**P**	**20 15 38.9**	**-0.1**			
MLH	**Mauna Loa**	**53.57**	**26**	P	**P**	**20 15 38.8**	**-1.2**			
MLH				lAmb	lAmb	20 16 03.7				
	comp=Z,286nm,1.1s									
HUH	**Hualalai**	**53.57**	**25**	P	**P**	**20 15 40.5**	**+0.5**			
HUH				lAmb	lAmb	20 15 59.3				
	comp=Z,450nm,1.3s									
HMH	**Humu'ula Sheep**	**53.63**	**26**	P	**P**	**20 15 39.7**	**-0.8**			
HPAH	**Hawaii Prepara**	**53.94**	**25**	P	**P**	**20 15 41.5**	**-1.0**			
RKPI	**Ransiki, Papua**	**53.94**	**292**	P	**P**	**20 15 42.9**	**+0.3**			
	comp=Z,12µmcomp=Z,326nm,0.7s									
KEKH	**Kekaha**	**54.40**	**20**	P	**P**	**20 15 45.3**	**-0.3**			
KEKH				lAmb	lAmb	20 16 04.5				
	comp=Z,252nm,1.0s									
KIP	**Kipapa**	**54.41**	**22**	*ce*P	**P**	**20 15 47.3**	**+1.6**			
KIP				pmax	pmax					
	comp=Z,579nm,1.7s									
KIP	**Kipapa**	**54.41**	**22**	P	**P**	**20 15 45.3**	**-0.4**			
KHLH	**Kahului Airpor**	**54.47**	**24**	P	**P**	**20 15 44.3**	**-1.9**			
OPA	**Opana**	**54.66**	**22**	P	**P**	**20 15 47.5**	**0.0**			
OPA				pmax	pmax					
	comp=Z,373nm,1.2s									
OPA	**Opana**	**54.66**	**22**	P	**P**	**20 15 47.5**	**0.0**			
OPA				lAmb	lAmb	20 16 06.6				
	comp=Z,373nm,1.2s									
FAKI	**Fak Fak**	**54.69**	**290**	P	**P**	**20 15 47.1**	**-0.9**			
	comp=Z,291nm,1.4s									
FAKI	**Fak Fak**	**54.69**	**290**	P	**P**	**20 15 46.3**	**-1.7**			
NWAO	**Narrogin (SRO)**	**55.03**	**249**	P	**P**	**20 15 49.1**	**-1.1**			
	comp=Z,76nm,1.2s,baz=109,slow=7.9,SNR=8.7									
NWAO				LR	LR	20 37 11.9				
	comp=Z,84µm,20.0s,baz=78,slow=34									
NWAO	**Narrogin (SRO)**	**55.03**	**249**	P	**P**	**20 15 48.3**	**-2.0**			
NWAO				pmax	pmax					
	comp=Z,296nm,1.6s									
NWAO	**Narrogin (SRO)**	**55.03**	**249**	P	**P**	**20 15 48.3**	**-2.0**			
NWAO				lAmb	lAmb	20 15 53.7				
	comp=Z,296nm,1.6s									
BNDI	**Bandanaira**	**55.73**	**286**	P	**P**	**20 15 58.1**	**+2.6**			
	comp=Z,14µmcomp=Z,601nm,1.7s									
CASY	**Casey**	**55.75**	**208**	P	**P**	**20 15 53.3**	**-1.6**			
PSA00	**Pilbara Seismi**	**56.53**	**263**	P	**P**	**20 15 59.0**	**-2.2**			
PSA00				lAmb	lAmb	20 16 03.2				
	comp=Z,502nm,1.6s									
GUMO	**Guam**	**56.56**	**315**	P	**P**	**20 15 59.2**	**-2.1**			
GUMO				pmax	pmax					
	comp=Z,2µm,1.9s									
GUMO	**Guam**	**56.56**	**315**	P	**P**	**20 15 59.2**	**-2.1**			
MBWA	**Marble Bar**	**56.79**	**263**	P	**P**	**20 16 00.9**	**-2.1**			
MBWA				lAmb	lAmb	20 16 06.6				
	comp=Z,434nm,1.5s									
MORW	**Morawa**	**57.15**	**253**	P	**P**	**20 16 03.5**	**-2.0**			
MORW				lAmb	lAmb	20 16 08.3				
	comp=Z,252nm,1.2s									
MSAI	**Masohi**	**57.18**	**287**	P	**P**	**20 16 06.4**	**+0.5**			
	comp=Z,82nm,1.2s									
AAI	**Ambon**	**57.61**	**286**	P	**P**	**20 16 10.0**	**+1.1**			
	comp=Z,239nm,1.5s									
SOEI	**Soe**	**57.81**	**278**	P	**P**	**20 16 11.1**	**+0.6**			
	comp=Z,552nm,1.3s									
SOEI	**Soe**	**57.81**	**278**	P	**P**	**20 16 08.7**	**-1.7**			
MIDW	**Midway**	**57.88**	**0**	P	**P**	**20 16 10.3**	**0.0**			
MIDW				lAmb	lAmb	20 16 13.8				
	comp=Z,362nm,1.4s									
BATI	**Baumata**	**58.11**	**277**	P	**P**	**20 16 15.0**	**+2.5**			
	comp=Z,152nm,1.3s									
NLAI	**Namlea**	**58.76**	**286**	P	**P**	**20 16 15.9**	**-1.1**			
	comp=Z,9µmcomp=Z,300nm,1.4s									
RPN	**Rapa Nui**	**59.05**	**105**	LR	LR	20 35 13.2				
	comp=Z,41µm,21.9s,baz=244,slow=29									
QSPA	**South Pole Qui**	**60.12**	**180**	P	**P**	**20 16 26.8**	**+1.0**			
	comp=Z,49nm,0.9s,baz=43,slow=2.6,SNR=61									
QSPA				LR	LR	20 41 05.3				
	comp=Z,29µm,18.3s,baz=38,slow=35									
QSPA	**South Pole Qui**	**60.12**	**180**	P	**P**	**20 16 26.5**	**+0.7**			
BASI	**Baing, Sumba**	**60.77**	**275**	P	**P**	**20 16 34.0**	**+3.2**			
	comp=Z,13µmcomp=Z,698nm,1.5s									
TNTI	**Ternate**	**60.79**	**290**	P	**P**	**20 16 29.8**	**-1.1**			
	comp=Z,286nm,1.4s									
TNTI	**Ternate**	**60.79**	**290**	P	**P**	**20 16 29.1**	**-1.8**			
GIRL	**Giralia**	**60.93**	**259**	P	**P**	**20 16 30.0**	**-1.8**			
WSI	**Waingapu**	**61.28**	**275**	P	**P**	**20 16 36.0**	**+1.8**			
	comp=Z,19µmcomp=Z,960nm,0.6s									
BBSI	**Bau Bau**	**61.40**	**281**	P	**P**	**20 16 36.8**	**+1.7**			
	comp=Z,298nmcomp=Z,23nm,1.3s									
WBSI	**Waikabubak, Su**	**62.07**	**275**	P	**P**	**20 16 41.1**	**+1.4**			
	comp=Z,11µmcomp=Z,322nm,1.6s									
KMSI	**Cibinong**	**63.46**	**287**	P	**P**	**20 16 49.0**	**+0.2**			
	comp=Z,3µmcomp=Z,293nm,1.3s									
LUWI	**Luwuk**	**63.58**	**285**	P	**P**	**20 16 48.8**	**-0.8**			
	comp=Z,507nm,1.3s									
LUWI	**Luwuk**	**63.58**	**285**	P	**P**	**20 16 48.1**	**-1.6**			
PLAI	**Plampang**	**63.86**	**275**	P	**P**	**20 16 50.4**	**-1.1**			
	comp=Z,282nm,1.6s									
KAPI	**Kappang**	**64.05**	**280**	P

YULB **Yu-li** 79.25 305 P **P** 20 18 22.9 -1.1
NVL **N'lazarevskaya** 79.32 183 *e*P **P** 20 18 23.9 +0.2
NVL pmax pmax
comp=Z,127nm,0.8s
NVL MLR MLR
comp=Z,32µm,16.0s
VNA1 **Neumayer--Stat** 79.35 176 P **P** 20 18 23.8 -0.1
NACB **Ninganchiao** 79.54 306 P **P** 20 18 24.0 -1.6
JNU **Nakatsue** 79.59 318 P **P** 20 18 24.4 -1.3
TPUB **Ta-pu** 79.67 304 P **P** 20 18 25.4 -1.0
SSLB **Suanglung** 79.75 305 P **P** 20 18 25.3 -1.5
MASI **Maura Aman, Be** 80.09 272 P **P** 20 18 30.3 +1.4
comp=Z,1µm,1.2s
TPRI **Tanjung Pinang** 80.13 277 P **P** 20 18 30.4 +1.3
comp=Z,169nm,1.1s
H06S1 **SOCORRO T** 80.22 62 T T 21 46 55.8
SNR=4.7
H03S2 **Juan Fernandez** 80.26 123 T T 21 47 53.8
baz=239,slow=74,SNR=138
H03S1 **Juan Fernandez** 80.27 123 T T 21 47 58.5
baz=239,slow=74,SNR=142
H03S3 **Juan Fernandez** 80.28 123 T T 21 47 58.7
baz=239,slow=74,SNR=117
ERM **Erimo** 80.35 331 *ce*P **P** 20 18 32.1 +2.6
ERM pmax pmax
comp=Z,154nm,1.7s
ERM **Erimo** 80.35 331 P **P** 20 18 27.6 -1.9
ERM IAmb IAmb 20 18 52.9
comp=Z,534nm,1.6s
H03N3 **Juan Fernandez** 80.45 123 T T 21 48 10.6
baz=298,slow=74,SNR=47
H03N2 **Juan Fernandez** 80.45 123 T T 21 48 07.2
baz=298,slow=74,SNR=40
H03N1 **Juan Fernandez** 80.46 123 T T 21 48 06.7
baz=298,slow=74,SNR=41
YUK **Yuzh-Kuril'sk** 80.97 334 *i* P **P** 20 18 33.9 +1.1
MYKOM **Kota Tinggi** 81.16 277 P **P** 20 18 32.2 -2.4
MYKOM IAmb IAmb 20 18 41.8
comp=Z,226nm,1.2s
MYKOM **Kota Tinggi** 81.16 277 P **P** 20 18 34.0 -0.6
KUR **Kuril'sk** 81.26 336 *i* P **P** 20 18 34.1 -0.2
KRJI **Kerinci** 81.28 273 P **P** 20 18 36.0 +0.6
comp=Z,13µmcomp=Z,568nm,1.1s
KIWB **Kanaga Island** 81.49 0 P **P** 20 18 34.8 -0.6
ADK **Adak** 81.52 0 P **P** 20 18 35.4 -0.1
ADK pmax pmax
comp=Z,637nm,1.1s
ADK **Adak** 81.52 0 P **P** 20 18 35.4 -0.1
GSTR **Great Sitkin T** 81.73 1 P **P** 20 18 36.4 -0.3
SDSI **Sungai Dareh** 81.88 274 P **P** 20 18 37.6 -0.8
comp=Z,57nm,1.3s
ATKA **Atka Island** 81.88 2 P **P** 20 18 37.0 -0.4
KNMB **Chin-men Tao** 82.00 304 P **P** 20 18 37.5 -1.3
KNMB IAmb IAmb 20 18 57.9
comp=Z,575nm,2.0s
QZH **Quanzhou** 82.15 305 ‖ *i* P **P** 20 18 38.6 -0.9
QZH S **S** 20 28 48.8 -4.8
QZH LR LR
comp=Z,9µm,17.0s
QZH LR LR
comp=Z,10µm,17.5s
QZH LR LR
comp=Z,17µm,24.6s
JKA **Kamikawa-asahi** 82.31 332 P **P** 20 18 39.4 -0.5
JKA IAmb IAmb 20 18 48.0
comp=Z,209nm,1.0s
ASAJ **Asahikawa** 82.31 332 P **P** 20 18 39.6 -0.3
comp=Z,39nm,1.1s,baz=216,slow=6.6,SNR=1.9
ASAJ **Asahikawa** 82.31 332 P **P** 20 18 39.4 -0.5
ASAJ pmax pmax
comp=Z,209nm,1.0s
PLCA **Paso Flores** 82.41 133 P **P** 20 18 42.8 +1.9
comp=Z,28nm,1.2s,baz=240,slow=6.6,SNR=8.1
PLCA PKKPbc **PKKPbc** 20 37 10.0 +2.9
comp=Z,12nm,1.2s,baz=195,slow=0.7,SNR=3.9
PLCA PKP2ab 20 45 02.7
comp=Z,2.7nm,1.0s,baz=125,slow=2.3,SNR=2.9
PLCA **Paso Flores** 82.41 133 P **P** 20 18 41.7 +0.8
PLCA pmax pmax
comp=Z,95nm,1.2s
PLCA **Paso Flores** 82.41 133 P **P** 20 18 41.7 +0.8
DLV **T Lat** 82.52 288 P **P** 20 18 40.8 -1.2
LC01 **Cunco** 82.54 131 P **P** 20 18 44.8 +3.2
LC01 IAmb IAmb 20 19 03.2
comp=Z,107nm,0.9s
SMY **Shemya** 82.70 355 P **P** 20 18 41.3 -0.4
SMY pmax pmax
comp=Z,842nm,1.2s
SMY **Shemya** 82.70 355 P **P** 20 18 41.3 -0.4
PDSI **Padang** 82.73 273 P **P** 20 18 42.3 -0.6
comp=Z,94nm,0.5s
EFI **East Falkland** 82.85 147 *i* P **P** 20 18 43.9 +1.0
EFI pmax pmax
comp=Z,168nm,0.9s
EFI **East Falkland** 82.85 147 P **P** 20 18 42.4 -0.5
EFI IAmb IAmb 20 18 49.4
comp=Z,174nm,0.8s
BI03 **Tigo** 82.87 128 P **P** 20 18 42.2 -1.0
BI03 IAmb IAmb 20 19 12.2
comp=Z,190nm,1.3s
NIKH **Nikolski High** 82.94 5 P **P** 20 18 43.0 0.0
SKR **Severo-Kuril's** 83.67 343 *e*P **P** 20 18 45.2 -1.5
SKR *e*S **S** 20 29 05.8 -2.1
SKR pmax pmax
comp=Z,111nm,1.0s
SKR MLR MLR
comp=Z,7µm,19.0s
SCI2 **San Clemente I** 83.81 46 P **P** 20 18 48.7 +0.8
baz=228
SCZ2 **Santa Cruz Isl** 83.82 45 P **P** 20 18 49.8 +1.8
baz=228
LPIG **La Paz** 83.88 58 P **P** 20 18 50.9 +2.4
comp=Z,20nm,0.3s,baz=50,slow=3.1,SNR=8.1
SLBS **Sierra La Lagu** 83.90 58 P **P** 20 18 46.1 -2.6
TJN **Taejon** 83.94 318 *ce*P **P** 20 18 48.5 0.0
UNV **Unalaska Valle** 84.02 6 P **P** 20 18 47.8 -0.6
BI02 **San Fabin de** 84.15 129 P **P** 20 18 50.6 +0.6
BI02 IAmb IAmb 20 19 18.2
comp=Z,172nm,1.4s
CIS **Catalina Islan** 84.18 46 P **P** 20 18 51.0 +1.2
baz=228,SNR=7.3
SSE **Sheshan** 84.23 311 P **P** 20 18 50.8 +0.7
SSE S **S** 20 29 17.3 +2.9
SSE pmax pmax
comp=Z,37nm,1.3s
SSE LR LR
comp=Z,7µm,23.4s
SSE LR LR
comp=Z,7µm,23.5s
PKM **Mcpherson Peak** 84.31 44 P **P** 20 18 52.2 +1.5
baz=227
MNSI **Mandailing Nat** 84.34 274 P **P** 20 18 51.1 -0.1
comp=Z,73nm,1.0s
KSRS **Korea Array** 84.37 319 P **P** 20 18 51.6 +0.9
comp=Z,58nm,1.1s,baz=140,slow=5.3,SNR=48
AKUT **Akutan** 84.38 7 P **P** 20 18 50.7 +0.4
SMMC **Simmler** 84.49 44 P **P** 20 18 53.4 +2.0
baz=227
YSS **Yuzh-Sakhalins** 84.60 334 *e*P **P** 20 18 51.5 -0.1
YSS pmax pmax
comp=Z,390nm,1.2s
YSS **Yuzh-Sakhalins** 84.60 334 P **P** 20 18 50.8 -0.8
PAGB **Antelope Grade** 84.62 43 P **P** 20 18 52.6 +0.5
PMPB **Monarch Peak** 84.62 43 P **P** 20 18 52.2 +0.1
PMPB IAmb IAmb 20 18 59.0
comp=Z,268nm,1.2s
SAO **San Andreas Ge** 84.62 42 P **P** 20 18 51.8 -0.2
SAO pmax pmax
comp=Z,180nm,1.3s
SAO **San Andreas Ge** 84.62 42 P **P** 20 18 51.8 -0.2
SAO IAmb IAmb 20 18 58.6
comp=Z,180nm,1.2s
109C **Camp Elliot, M** 84.67 47 P **P** 20 18 53.7 +1.4
baz=229
OSI **Osito Audit: C** 84.79 45 P **P** 20 18 53.9 +0.9
baz=228,SNR=6.7
OSI **Osito Audit: C** 84.79 45 P **P** 20 18 52.9 -0.1
OSI IAmb IAmb 20 19 14.9
comp=Z,275nm,1.4s
DECC **Green Verdugo** 84.79 46 P **P** 20 18 54.6 +1.6
baz=228
BAR **Barrett** 84.81 48 P **P** 20 18 55.0 +1.9
BAR IAmb IAmb 20 19 14.8
comp=Z,230nm,1.4s
PASC **Pasadena Art C** 84.83 46 P **P** 20 18 54.0 +0.9
PASC IAmb IAmb 20 18 60.0
comp=Z,116nm,1.1s
IPM **Ipoh** 84.94 278 P **P** 20 18 52.4 -1.9
IPM IAmb IAmb 20 19 07.3
comp=Z,128nm,0.7s
IPM **Ipoh** 84.94 278 P **P** 20 18 54.0 -0.2
MWC **Mount Wilson** 84.94 46 P **P** 20 18 53.9 0.0
MWC pmax pmax
comp=Z,290nm,1.4s
MWC **Mount Wilson** 84.94 46 P **P** 20 18 53.9 0.0
MWC IAmb IAmb 20 19 15.5
comp=Z,290nm,1.4s
ARVC **Arvin** 85.07 45 P **P** 20 18 56.3 +2.0
baz=228,SNR=8.9
MURC **Murrieta** 85.07 47 P **P** 20 18 56.1 +1.7
baz=229,SNR=42
MONP2 **Monument Peak** 85.10 48 P **P** 20 18 56.2 +1.4
baz=230,SNR=52
INCN **Inchon** 85.13 319 P **P** 20 18 52.9 -1.6
INCN pmax pmax
comp=Z,370nm,1.7s
INCN **Inchon** 85.13 319 P **P** 20 18 52.9 -1.6
INCN IAmb IAmb 20 19 17.2
comp=Z,370nm,1.6s
IKP **In-Ko-Pah, Jac** 85.15 48 P **P** 20 18 56.3 +1.5
baz=230,SNR=32
BFSC **Mount Baldy Ra** 85.20 46 P **P** 20 18 56.9 +1.8
baz=229,SNR=69
PET **Petropavlovsk** 85.26 346 *e*P **P** 20 18 54.5 -0.2
PET *e*S **S** 20 29 24.9 +1.2
PET pmax pmax
comp=Z,100nm,1.6s
PET **Petropavlovsk** 85.26 346 P **P** 20 18 53.9 -0.8
PET IAmb IAmb 20 18 57.4
comp=Z,321nm,1.7s
HOPS **Hopland Field** 85.26 39 P **P** 20 18 56.2 +1.1
GDXM **Geysers** 85.28 40 P **P** 20 18 56.1 +0.7
GDXM IAmb IAmb 20 19 02.8
comp=Z,170nm,1.2s
QIZ **Qiongzhong** 85.29 295 P **P** 20 18 54.8 -0.9
QIZ pP **sP** 20 19 01.9 -0.8
QIZ sP **pP** 20 19 03.3 +2.3
QIZ pmax pmax
comp=Z,34nm,1.3s
FALS **False Pass** 85.35 8 P **P** 20 18 55.2 +0.1
FALS IAmb IAmb 20 19 05.5
comp=Z,138nm,1.0s
VES **Vestal, Richgr** 85.39 44 P **P** 20 18 57.5 +1.6
baz=228,SNR=62
EDW2 **Edwards Air Fo** 85.42 45 P **P** 20 18 57.8 +1.7
baz=228,SNR=107
KCPM **Cahto Peak** 85.47 39 P **P** 20 18 56.1 -0.3
KCPM IAmb IAmb 20 19 03.0
comp=Z,302nm,1.2s
BO02 **Sierra Bellavi** 85.51 128 P **P** 20 18 57.2 +0.3
VOG **Valley Oaks Go** 85.53 43 P **P** 20 18 58.4 +1.9
baz=228
SWSC **Sam W. Stewart** 85.54 48 P **P** 20 18 58.5 +1.8
baz=230,SNR=30
PEA0B **Petropavlovsk-** 85.54 345 *ce*P **P** 20 18 56.9 +0.7
PETK **Petropavlovsk-** 85.54 345 P **P** 20 18 56.3 +0.1
comp=Z,118nm,1.0s,baz=135,slow=7.4,SNR=58
PFO **Pinyon Flats O** 85.55 47 P **P** 20 18 58.9 +2.0
baz=230,SNR=51
PFO **Pinyon Flats O** 85.55 47 P **P** 20 18 58.2 +1.3
PFO pmax pmax
comp=Z,180nm,1.2s
PFO **Pinyon Flats O** 85.55 47 P **P** 20 18 58.2 +1.3
PFO IAmb IAmb 20 19 20.8
comp=Z,180nm,1.1s
XPFO **Pion Flat** 85.55 47 P **P** 20 18 57.8 +0.9
XPFO IAmb IAmb 20 19 20.8
comp=Z,198nm,1.2s
TEY **Ternei** 85.60 329 ‖ *i* P **P** 20 18 58.5 +1.9
ISA **Isabella, Lake** 85.64 44 P **P** 20 18 59.1 +1.9
baz=228,SNR=119
ISA **Isabella, Lake** 85.64 44 P **P** 20 18 58.1 +0.9
ISA pmax pmax
comp=Z,339nm,1.2s
ISA **Isabella, Lake** 85.64 44 P **P** 20 18 58.1 +0.9
KULM **Kulim** 85.67 279 P **P** 20 18 55.8 -2.0
KULM IAmb IAmb 20 19 11.4
comp=Z,359nm,1.6s
KULM **Kulim** 85.67 279 P **P** 20 18 57.0 -0.8
KMRM **Mail Ridge** 85.78 38 P **P** 20 18 59.6 +1.8
CNBA **Chernabura Isl** 85.84 10 P **P** 20 18 56.7 -0.9
CNBA IAmb IAmb 20 19 19.6
comp=Z,175nm,1.0s
WOSN **Wonsan** 85.85 320 P **P** 20 18 56.8 -1.2
RPSI **Rantau Prapat** 85.86 275 P **P** 20 18 55.8 -2.9
RPSI IAmb IAmb 20 19 19.9
comp=Z,170nm,1.2s
PSI **Prapat** 85.91 276 P **P** 20 18 55.8 -3.4
PSI pmax pmax
comp=Z,171nm,1.2s
LRMC **Laurel Mtn Rad** 86.00 45 P **P** 20 19 01.3 +2.1
baz=229,SNR=148
RRX **Edison Barstow** 86.03 46 P **P** 20 19 01.3 +2.2
baz=229,SNR=5.7
HJU **Haeju** 86.03 318 P **P** 20 19 59.7 +0.7
JCC **Jacoby Creek,** 86.04 38 P **P** 20 18 58.4 -0.5
JCC IAmb IAmb 20 19 05.6
comp=Z,261nm,1.2s
BELC **Belle Mtn. Jos** 86.09 47 P **P** 20 19 01.2 +1.6
baz=230,SNR=150
CMB **Columbia Colle** 86.11 42 P **P** 20 19 00.0 +0.5
CMB pmax pmax
comp=Z,193nm,1.1s
CMB **Columbia Colle** 86.11 42 P **P** 20 19 00.0 +0.5
CMB IAmb IAmb 20 19 06.2
comp=Z,192nm,1.1s
MT02 **Curacav** 86.11 126 P **P** 20 19 00.3 +0.5
BC3 **Big Chuckawall** 86.21 48 P **P** 20 19 02.4 +2.2
baz=230,SNR=116
SDPT **Sand Point** 86.22 10 P **P** 20 19 00.1 +0.7
SDPT IAmb IAmb 20 19 24.0
comp=Z,228nm,0.9s
KHMM **Horse Mountain** 86.24 38 P **P** 20 18 59.9 -0.2
KHMM IAmb IAmb 20 19 07.4
comp=Z,231nm,1.2s
O02D **Mt. Diablo Mer** 86.25 39 P **P** 20 19 02.7 +2.5
baz=225,SNR=187
MT05 **Renca** 86.31 127 P **P** 20 19 02.1 +1.2
MSHR **Mys Shultsa** 86.32 325 *ce*P **P** 20 19 01.3 +1.0
MSHR pmax pmax
comp=Z,97nm,1.3s
HHU **Hamhung** 86.32 321 P **P** 20 19 01.7 +1.3
HHU S S 20 29 24.2 -11
GSI **Gunungsitoli** 86.33 274 P **P** 20 19 01.7 +0.6
comp=Z,2µm,1.0s
GSI **Gunungsitoli** 86.33 274 P **P** 20 19 00.0 -1.1
HSIG **Hsinchu** 86.35 54 P **P** 20 19 01.5 +0.6
HSIG IAmb IAmb 20 19 23.0
comp=Z,122nm,1.0s
VLA **Vladivostok** 86.36 325 *i* P **P** 20 19 00.4 0.0
VLA pmax pmax
comp=Z,78nm,0.9s
NJ2 **Nanjing** 86.37 310 *e*P **P** 20 19 01.9 +1.1
NJ2 pP **sP** 20 19 06.8 -1.0
NJ2 sP **pwP** 20 19 12.3 +1.0
NJ2 S **S** 20 29 37.9 +2.3
NJ2 sS **ScS** 20 29 49.9 +5.8
NJ2 pmax pmax
comp=Z,50nm,0.7s
CWC **Cottonwood Cre** 86.39 44 P **P** 20 19 02.2 +1.1
baz=228
AFDM **Forest Hills D** 86.40 41 P **P** 20 19 01.3 +0.5
AFDM IAmb IAmb 20 19 06.9
comp=Z,207nm,1.3s
HEC **Hector,Ludlow** 86.41 46 P **P** 20 19 02.9 +1.8
baz=230,SNR=129
GSC **Goldstone, Bar** 86.43 46 P **P** 20 19 03.2 +2.1
baz=229,SNR=124
GSC **Goldstone, Bar** 86.43 46 P **P** 20 19 01.9 +0.8
GSC pmax pmax
comp=Z,339nm,1.2s
GSC **Goldstone, Bar** 86.43 46 P **P** 20 19 01.9 +0.8
CHJN **Chongjin** 86.45 323 P **P** 20 19 01.2 +0.3
PEL **Peldehue** 86.49 126 P **P** 20 19 02.2 +0.5
PEL pmax pmax
comp=Z,250nm,1.2s
PEL **Peldehue** 86.49 126 P **P** 20 19 02.2 +0.5
PEL IAmb IAmb 20 19 29.6
comp=Z,250nm,1.2s
MPMC **Manual Prospec** 86.50 45 P **P** 20 19 03.4 +1.7
baz=229,SNR=156
ORV **Oroville** 86.52 40 P **P** 20 19 02.2 +0.8
ORV pmax pmax
comp=Z,217nm,1.4s
ORV **Oroville** 86.52 40 P **P** 20 19 02.2 +0.8
ORV IAmb IAmb 20 19 07.5
comp=Z,217nm,1.4s
TSI **Tuntungan** 86.57 276 P **P** 20 19 05.6 +3.3
MDPB **Devils Postpil** 86.60 43 P **P** 20 19 03.1 +0.9
MDPB IAmb IAmb 20 19 08.5
comp=Z,200nm,1.3s
KRMB **Red Mountain** 86.61 37 P **P** 20 19 02.3 +0.4
KRMB IAmb IAmb 20 19 08.7
comp=Z,224nm,1.3s
OMMB **Old Mammoth Mi** 86.63 43 P **P** 20 19 03.2 +0.8
OMMB IAmb IAmb 20 19 08.8
comp=Z,187nm,1.3s
WDC **Whiskeytown Da** 86.67 39 P **P** 20 19 03.3 +1.2
WDC pmax pmax
comp=Z,340nm,1.4s
WDC **Whiskeytown Da** 86.67 39 P **P** 20 19 03.3 +1.2
PYAG **Pyongyang** 86.70 319 P **P** 20 19 03.8 +1.5
PYAG S S 20 29 27.8 -11
TIN **Tinemaha, Big** 86.71 43 P **P** 20 19 04.4 +1.9
baz=228,SNR=6.0
IRM **Iron Mountain** 86.73 47 P **P** 20 19 04.9 +2.3
baz=230,SNR=208
113A **Mohawk Valley,** 86.75 49 P **P** 20 19 04.0 +1.4
113A IAmb IAmb 20 19 24.8
comp=Z,249nm,1.4s
PYS **Pyongsong** 86.79 319 P **P** 20 19 04.0 +1.3
VA03 **San Esteban** 86.79 126 P **P** 20 19 02.9 -0.4
VA03 IAmb IAmb 20 19 40.9
comp=Z,114nm,1.1s
GMRC **Granite Mounta** 86.81 47 P **P** 20 19 04.7 +1.6
baz=230,SNR=80
N02D **Trinity Center** 86.86 38 P **P** 20 19 05.4 +2.3
baz=225,SNR=42
O03E **Paynes Creek** 86.87 39 P **P** 20 19 04.5 +1.4
baz=226,SNR=86
214A **Organ Pipe Nat** 86.87 50 P **P** 20 19 04.8 +1.4
baz=232
214A **Organ Pipe Nat** 86.87 50 P **P** 20 19 04.9 +1.5
WAKR **Walker** 86.97 42 P **P** 20 19 04.9 +1.0
SPIA **Saint Paul Isl** 87.03 4 P **P** 20 19 03.7 +0.3
TUQ **Turquoise Moun** 87.06 46 P **P** 20 19 06.1 +1.7
baz=230,SNR=44
M02C **Callahan** 87.07 38 P **P** 20 19 06.0 +1.8
baz=225,SNR=69
USA0B **Ussuriysk Arra** 87.10 326 *i* P **P** 20 19 03.8 -0.3
USRK **Ussuriysk Ar.** 87.10 326 P **P** 20 19 04.7 +0.6
comp=Z,67nm,1.0s,baz=125,slow=3.0,SNR=28
SHOC **Shoshone, Teco** 87.14 45 P **P** 20 19 06.3 +1.8
baz=230,SNR=75
FURC **Furnace Creek,** 87.15 45 P **P** 20 19 06.2 +1.7
baz=229
GRAC **Grapevine Rang** 87.19 44 P **P** 20 19 06.7 +1.9
baz=229,SNR=20
KCSI **Kotacane, Aceh** 87.26 276 P **P** 20 19 06.4 +0.7
comp=Z,59nm,0.8s
PNTR **Pine Nut** 87.28 41 P **P** 20 19 06.4 +1.0
PNTR IAmb IAmb 20 19 11.6
comp=Z,212nm,1.1s
CO02 **Combarbal** 87.34 125 P **P** 20 19 05.7 -0.2
CO02 IAmb IAmb 20 19 20.6
comp=Z,105nm,0.9s
VCNR **Virginia City** 87.39 41 P **P** 20 19 07.3 +1.4
VCNR IAmb IAmb 20 19 12.1
comp=Z,116nm,1.1s
YBH **Yreka Blue Hor** 87.39 38 P **P** 20 19 06.4 +0.7
comp=Z,46nm,1.0s,baz=154,slow=7.6,SNR=20
YBH **Yreka Blue Hor** 87.39 38 P **P** 20 19 06.1 +0.4
YBH pmax pmax
comp=Z,198nm,1.4s
YBH **Yreka Blue Hor** 87.39 38 P **P** 20 19 06.1 +0.4
YBH IAmb IAmb 20 19 26.7
comp=Z,198nm,1.4s
YERR **Yerington** 87.41 42 P **P** 20 19 06.1 +0.1
YERR IAmb IAmb 20 19 12.1
comp=Z,137nm,1.1s
NEE2 **Needles Airpor** 87.45 47 P **P** 20 19 08.6 +2.5
baz=230,SNR=5.7
PDMCI **Parker Dam,Lak** 87.47 48 P **P** 20 19 08.2 +2.1
baz=231,SNR=61
KGE **Kanggye** 87.53 321 P **P** 20 19 05.7 -0.6
K02D **Willamette Mer** 87.57 37 P **P** 20 19 08.0 +1.5
baz=224,SNR=24
NVAR **Mina Array Bea** 87.58 42 P **P** 20 19 07.9 +1.0
comp=Z,46nm,1.0s,baz=221,slow=8.4,SNR=80
NVAR PKPPKP **P'P'df** 20 45 00.8 +1.4
comp=Z,1.5nm,1.0s,baz=88,slow=4.4,SNR=4.8
RYN **Ryan** 87.59 42 P **P** 20 19 07.4 +0.6
CO03 **El Pedregal** 87.76 124 P **P** 20 19 08.1 +0.1
CO03 IAmb IAmb 20 19 31.3
comp=Z,368nm,1.8s
J01E **Myrtle Point** 87.77 36 P **P** 20 19 08.9 +1.5
baz=224,SNR=13
PAHR **Pah Rah Range** 87.82 41 P **P** 20 19 08.4 +0.5
PAHR IAmb IAmb 20 19 13.8
comp=Z,105nm,1.1s
TPNV **Topopah Spring** 87.84 45 P **P** 20 19 09.7 +1.6
baz=230,SNR=83
TPNV **Topopah Spring** 87.84 45 P **P** 20 19 09.5 +1.4
TPNV pmax pmax
comp=Z,210nm,1.1s
TPNV **Topopah Spring** 87.84 45 P **P** 20 19 09.5 +1.4
TPNV IAmb IAmb 20 19 31.3
comp=Z,210nm,1.1s
M04C **Macdoel** 87.89 38 P **P** 20 19 09.5 +1.4
baz=226,SNR=26
L04D **Klamath Falls** 87.94 38 P **P** 20 19 09.7 +1.3
baz=225,SNR=33
Y14A **Wickenburg** 87.97 49 P **P** 20 19 09.9 +1.3
Y14A IAmb IAmb 20 19 32.3
comp=Z,178nm,1.1s
GO04 **Tololo Observa** 88.05 124 P **P** 20 19 09.1 -0.4
GO04 IAmb IAmb 20 19 40.0
comp=Z,103nm,1.2s
KVN **Kaiserville** 88.12 42 P **P** 20 19 09.8 +0.4
KVN pmax pmax
comp=Z,164nm,1.2s
KVN **Kaiserville** 88.12 42 P **P** 20 19 09.8 +0.4
KVN IAmb IAmb 20 19 15.3
comp=Z,164nm,1.2s
W13A **Hualapai Mount** 88.13 47 P **P** 20 19 11.2 +1.6
W13A IAmb IAmb 20 19 16.5
comp=Z,188nm,1.3s
SUJ **Sinuiju** 88.14 319 P **P** 20 19 10.5 +1.4
SUJ S S 20 29 36.4 -16
SHPR **Sheep Range** 88.22 46 P **P** 20 19 11.4 +1.5
SII **Sitkinak Islan** 88.43 13 P **P** 20 19 09.5 -0.7
I03D **Drain, OR** 88.45 36 P **P** 20 19 11.9 +1.4
baz=225,SNR=24
TUC **Tucson** 88.45 51 P **P** 20 19 12.1 +1.1
baz=233
I02D **Swisshome** 88.49 35 P **P** 20 19 12.8 +2.1
baz=224
WHN **Wuhan** 88.51 307 ⇑ P **P** 20 19 11.3 +0.1
K04D **Chiloquin, OR** 88.52 38 P **P** 20 19 12.4 +1.3
baz=226
MDJ **Mudanjiang** 88.58 325 P **P** 20 19 12.3 +1.2
MDJ pmax pmax
comp=Z,54nm,1.4s
MDJ **Mudanjiang** 88.58 325 P **P** 20 19 11.0 -0.1
MDJ IAmb IAmb 20 19 32.3
comp=Z,255nm,1.3s
CO01 **Juntas del Tor** 88.67 124 P **P** 20 19 12.8 +0.4
CO01 IAmb IAmb 20 19 51.5
comp=Z,215nm,1.8s
J04D **Umpqua Nationa** 88.76 37 P **P** 20 19 13.8 +1.4
baz=226,SNR=8.6
MOD **Modoc Plateau** 88.80 39 P **P** 20 19 12.7 +0.3
MOD IAmb IAmb 20 19 18.4
comp=Z,135nm,1.1s
MLSI **Meulaboh, Aceh** 88.82 276 P **P** 20 19 14.0 +1.0
comp=Z,203nm,1.2s
I04A **Tendick Farm,** 89.00 36 P **P** 20 19 14.6 +1.4
baz=225,SNR=20
DL2 **Dalian** 89.00 317 P **P** 20 19 13.3 +0.1
DL2 S **S** 20 30 03.0 +2.6
DL2 pmax pmax
comp=Z,84nm,1.4s
DL2 LR LR
comp=Z,7µm,21.1s
DL2 LR LR
comp=Z,18µm,22.5s

DL2 LR LR
comp=Z,25µm,25.5s
K05A Summer Lake 89.05 38 P **P** **20 19 14.2 +0.6**
COR Corvallis 89.10 35 P **P** **20 19 14.5 +0.9**
COR pmax pmax
comp=Z,314nm,1.6s
COR Corvallis 89.10 35 P **P** **20 19 14.5 +0.9**
COR IAmb IAmb 20 19 32.9
comp=Z,314nm,1.6s
R11A Troy Canyon, C 89.14 44 P **P** **20 19 15.2 +1.0**
baz=230,SNR=48
R11A Troy Canyon, C 89.14 44 P **P** **20 19 14.9 +0.7**
AC05 El Transito 89.17 123 P **P** **20 19 15.0 +0.3**
AC05 IAmb IAmb 20 19 42.2
comp=Z,166nm,1.4s
OHAK Old Harbor 89.23 13 P **P** **20 19 13.8 0.0**
J05D Fort Rock, OR 89.25 37 P **P** **20 19 15.9 +1.4**
baz=226,SNR=69
H04D Lebanon 89.34 36 P **P** **20 19 16.2 +1.5**
baz=225,SNR=28
TLIG Tlapa 89.36 69 P **P** **20 19 18.3 +2.7**
TLIG IAmb IAmb 20 19 43.8
comp=Z,165nm,1.3s
HOPE Hope Point 89.55 158 P **P** **20 19 17.7 +2.0**
HOPE pmax pmax
comp=Z,211nm,1.1s
G03D McMinnville, O 89.57 35 P **P** **20 19 17.4 +1.7**
baz=225,SNR=12
LCMT Little Creek M 89.73 46 P **P** **20 19 17.9 +0.9**
H04A Detroit Lake 89.74 36 P **P** **20 19 16.8 +0.2**
H04A IAmb IAmb 20 19 22.4
comp=Z,244nm,1.2s
PINE Pine Mountain 89.76 37 P **P** **20 19 18.2 +1.2**
KDAK Kodiak Island 89.89 13 P **P** **20 19 17.6 +0.7**
comp=Z,114nm,1.3s,baz=216,slow=3.1,SNR=14
KDAK Kodiak Island 89.89 13 P **P** **20 19 17.0 +0.1**
KDAK pmax pmax
comp=Z,225nm,1.4s
KDAK Kodiak Island 89.89 13 P **P** **20 19 17.0 +0.1**
KDAK IAmb IAmb 20 19 39.3
comp=Z,225nm,1.4s
I05D Terrebonne, OR 89.93 37 P **P** **20 19 18.9 +1.3**
baz=226,SNR=39
F03A Seaside 89.93 34 P **P** **20 19 17.3 -0.2**
U15A North Rim 89.97 47 P **P** **20 19 15.5 +1.2**
CCUT Cedar City 90.00 46 P **P** **20 19 19.5 +1.2**
KNB Kanab 90.00 46 P **P** **20 19 18.9 +0.6**
KNB pmax pmax
comp=Z,475nm,1.4s
KNB Kanab 90.00 46 P **P** **20 19 18.9 +0.6**
WUAZ Wupatki 90.00 48 P **P** **20 19 20.1 +1.8**
baz=232
WUAZ Wupatki 90.00 48 P **P** **20 19 19.5 +1.2**
WVOR Wild Horse Val 90.07 39 P **P** **20 19 19.4 +1.0**
WVOR pmax pmax
comp=Z,435nm,1.7s
WVOR Wild Horse Val 90.07 39 P **P** **20 19 19.4 +1.0**
TIA Tai'an 90.07 313 P **P** **20 19 18.4 0.0**
TIA pmax pmax
comp=Z,25nm,1.2s
CN2 Changchun 90.13 323 *e*P **P** **20 19 16.9 -1.5**
CN2 pmax pmax
comp=Z,190nm,1.2s
CN2 LR LR
comp=Z,22µm,22.0s
GRNR Gornyy 90.15 333 ⇓*i*P **P** **20 19 19.6 +1.2**
GRNR *e*S **S** **20 30 15.7 +5.0**
GRNR pmax pmax
comp=E,20nm,0.9s
GRNR pmax pmax
comp=N,40nm,1.2s
GRNR pmax pmax
comp=Z,120nm,1.2s
GRNR smax smax
comp=N,6.0nm,1.0s
SZCU Shurtz Canyon 90.19 46 P **P** **20 19 21.2 +2.0**
PSUT Pine Spring 90.31 45 P **P** **20 19 20.5 +0.8**
F04D Rainier, OR 90.31 34 P **P** **20 19 20.9 +1.7**
baz=225,SNR=7.0
E03A Lebam 90.37 34 P **P** **20 19 20.2 +0.7**
F04A Amboy 90.50 35 P **P** **20 19 21.1 +1.0**
G05D Wamic, OR 90.57 36 P **P** **20 19 22.2 +1.7**
baz=226,SNR=25
PKCU Pink Cliffs 90.58 46 P **P** **20 19 22.8 +1.6**
121A Cookes Peak, D 90.62 52 P **P** **20 19 22.6 +1.3**
baz=234
121A Cookes Peak, D 90.62 52 P **P** **20 19 22.9 +1.6**
121A IAmb IAmb 20 19 43.7
comp=Z,156nm,1.2s
I07A Izee 90.71 38 P **P** **20 19 22.4 +1.1**
I07A IAmb IAmb 20 19 27.5
comp=Z,160nm,1.2s
J08A Circle Bar Ran 90.78 39 P **P** **20 19 22.7 +1.1**
J08A IAmb IAmb 20 19 27.7
comp=Z,204nm,1.3s
NLWA Neilton Lookou 90.83 33 P **P** **20 19 22.4 +0.7**
NLWA IAmb IAmb 20 19 28.1
comp=Z,124nm,1.2s
W18A Petrified Fore 90.83 49 P **P** **20 19 23.8 +1.6**
baz=233
W18A Petrified Fore 90.83 49 P **P** **20 19 23.7 +1.6**
E04D Cinebar 90.86 34 P **P** **20 19 23.2 +1.4**
baz=225
ELK Elko 90.89 42 P **P** **20 19 23.5 +1.1**
comp=Z,57nm,1.2s,baz=225,slow=3.3,SNR=19
ELK Elko 90.89 42 P **P** **20 19 22.7 +0.3**
ELK pmax pmax
comp=Z,97nm,1.3s
ELK Elko 90.89 42 P **P** **20 19 22.7 +0.3**
ELK IAmb IAmb 20 19 28.3
comp=Z,97nm,1.2s
G06A Carlson Farm, 90.91 36 P **P** **20 19 22.5 +0.4**
KLR Kul'dur 90.94 329 *ce*P **P** **20 19 22.7 +0.6**
KLR pmax pmax
comp=Z,198nm,1.4s
F05D White Salmon 90.94 35 P **P** **20 19 23.9 +1.7**
baz=226
MTPU Mount Pierson 91.03 46 P **P** **20 19 25.0 +1.8**
AC02 Maricunga 91.13 122 P **P** **20 19 22.9 -1.4**
D04E Lakebay 91.20 34 P **P** **20 19 25.2 +1.9**
baz=225
SLVN Son La 91.22 294 P **P** **20 19 23.6 -0.6**
SLVN IAmb IAmb 20 19 44.3
comp=Z,123nm,1.2s
TCRU Three Creeks R 91.22 45 **P** **20 19 22.7 -1.3**
D03D Eldon 91.30 33 P **P** **20 19 25.7 +1.9**
baz=225
MSU Marysvale 91.33 45 P **P** **20 19 25.9 +1.4**
MSU Marysvale 91.33 45 P **P** **20 19 25.9 +1.4**
LON Longmire 91.37 35 P **P** **20 19 24.2 -0.1**
LON pmax pmax
comp=Z,340nm,1.9s
LON Longmire 91.37 35 P **P** **20 19 24.1 -0.1**
DIB Dawson Inlet, 91.59 25 P **P** **20 19 25.5 +0.5**
DIB IAmb IAmb 20 19 38.2
comp=Z,107nm,1.3s
D05A Enumclaw 91.59 34 P **P** **20 19 26.9 +1.8**
F07A Phinny Hill Vi 91.73 36 P **P** **20 19 25.9 +0.1**
F07A IAmb IAmb 20 19 31.8
comp=Z,149nm,1.2s
TXAR Lajitas Array 91.73 57 P **P** **20 19 28.6 +2.2**
comp=Z,26nm,1.0s,baz=212,slow=4.4,SNR=33
TXAR PKPPKP **P'P'df** **20 44 54.5 +1.1**
comp=Z,0.5nm,0.8s,baz=70,slow=1.5,SNR=3.5
CNPM China Poot 91.77 13 P **P** **20 19 26.2 +0.4**
GYA Guiyang 91.80 300 ⇑P **P** **20 19 27.0 +0.2**
GYA pmax pmax
comp=Z,31nm,1.3s
ENH Enshi 91.80 304 P **P** **20 19 25.5 -1.1**
HOM Homer 91.82 13 P **P** **20 19 26.4 +0.5**
MNTX Cornudas Mount 91.82 54 P **P** **20 19 28.0 +1.3**
baz=236
MNTX Cornudas Mount 91.82 54 P **P** **20 19 26.7 +0.1**
MNTX IAmb IAmb 20 19 48.2
comp=Z,167nm,1.4s
PGC Sidney 91.93 32 P **P** **20 19 26.6 -0.1**
PGC IAmb IAmb 20 19 38.8
comp=Z,102nm,1.4s
DUG Dugway, Tooele 91.98 44 P **P** **20 19 28.5 +1.2**
baz=232
DUG Dugway, Tooele 91.98 44 P **P** **20 19 27.3 0.0**
DUG pmax pmax
comp=Z,54nm,1.2s
DUG Dugway, Tooele 91.98 44 P **P** **20 19 27.3 0.0**
BRLK Bradley Lake 92.06 13 P **P** **20 19 27.6 +0.5**

Y22D IRIS PASSCAL I 92.10 52 P **P** **20 19 29.7 +1.7**
LENM Lemitar 92.12 51 P **P** **20 19 29.2 +1.0**
Q16A Castle Valley 92.19 46 P **P** **20 19 29.3 +0.9**
E07A Sunnyside 92.22 36 P **P** **20 19 28.9 +0.8**
HAWA Hanford 92.27 36 P **P** **20 19 28.8 +0.5**
MFID Camas Ranch 92.27 40 P **P** **20 19 28.6 +0.1**
MFID IAmb IAmb 20 19 34.4
comp=Z,165nm,1.3s
NLU North Lily Min 92.27 44 P **P** **20 19 29.2 +0.4**
LTY Liberty 92.28 35 P **P** **20 19 29.2 +0.7**
LTY IAmb IAmb 20 19 49.7
comp=Z,220nm,1.6s
B05A Bryant 92.29 33 P **P** **20 19 30.2 +1.9**
baz=226
BGU Big Grassy Mou 92.30 43 P **P** **20 19 28.2 -0.6**
A04D Lummi Island 92.32 33 P **P** **20 19 30.4 +1.9**
baz=225
BNM Barren Site 92.34 52 P **P** **20 19 28.8 -0.5**
RSO Redoubt South 92.36 12 P **P** **20 19 28.5 -0.1**
BMO Blue Mountains 92.40 38 P **P** **20 19 29.1 0.0**
BMO pmax pmax
comp=Z,337nm,2.0s
BMO Blue Mountains 92.40 38 P **P** **20 19 29.1 0.0**
TMUT Trail Mountain 92.40 45 P **P** **20 19 29.8 +0.3**
SVW2 Sparrevohn 92.48 10 P **P** **20 19 29.2 +0.3**
SVW2 IAmb IAmb 20 19 39.1
comp=Z,118nm,1.8s
BBB Bella Bella 92.49 28 P **P** **20 19 30.6 +1.4**
comp=Z,64nm,1.1s,baz=217,slow=7.6,SNR=7.4
BBB Bella Bella 92.49 28 P **P** **20 19 29.9 +0.8**
BBB IAmb IAmb 20 19 34.6
comp=Z,157nm,1.4s
E08A Dider Farm, El 92.57 36 P **P** **20 19 30.3 +0.6**
E08A IAmb IAmb 20 19 35.5
comp=Z,77nm,1.2s
MPU Maple Canyon 92.58 45 P **P** **20 19 30.6 +0.5**
SRU San Rafael Swe 92.71 46 P **P** **20 19 31.5 +0.7**
SRU pmax pmax
comp=Z,194nm,1.3s
SRU San Rafael Swe 92.71 46 P **P** **20 19 31.5 +0.7**
P17A Butcher Ranch, 92.80 45 P **P** **20 19 31.2 +0.1**
GDL2 Guadalupe Moun 92.81 54 P **P** **20 19 31.5 +0.1**
MVCO Mesa Verde 92.87 48 P **P** **20 19 33.0 +1.3**
baz=234
MVCO Mesa Verde 92.87 48 P **P** **20 19 32.3 +0.7**
SPUT South Promonto 92.88 43 P **P** **20 19 31.7 +0.2**
ANMO Albuquerque 92.92 51 P **P** **20 19 33.3 +1.4**
baz=235
ANMO Albuquerque 92.92 51 P **P** **20 19 33.2 +1.3**
comp=Z,36nm,1.1s,baz=200,slow=4.7,SNR=12
ANMO Albuquerque 92.92 51 P **P** **20 19 32.6 +0.7**
ANMO pmax pmax
comp=Z,108nm,1.2s
ANMO Albuquerque 92.92 51 P **P** **20 19 32.6 +0.7**
ANMO IAmb IAmb 20 19 55.5
comp=Z,108nm,1.2s
CTU Camp Tracy 92.92 44 P **P** **20 19 32.6 +0.9**
O22K Cooper Landing 92.95 13 P **P** **20 19 33.4 +2.3**
baz=204
BJT Baijiatuao 92.99 315 P **P** **20 19 30.8 -1.0**
BJT pmax pmax
comp=Z,71nm,0.9s
BJT Baijiatuao 92.99 315 P **P** **20 19 30.8 -1.0**
BJT IAmb IAmb 20 19 53.4
comp=Z,71nm,0.9s
BJI Beijing 93.00 315 P **P** **20 19 30.8 -1.0**
BJI S **S** **20 30 40.3 +3.4**
BJI pmax pmax
comp=Z,29nm,1.3s
BJI LR LR
comp=Z,27µm,23.0s
PV05 Paradox Valley 93.00 47 IAmb IAmb 20 19 54.0
comp=Z,155nm,1.3s
D08A Wollman Farm, 93.02 36 P **P** **20 19 32.4 +0.6**
MA2 Magadan 93.03 344 P **P** **20 19 30.9 -0.6**
comp=Z,48nm,1.0s,baz=150,slow=6.0,SNR=11
MA2 Magadan 93.03 344 *ce*P **P** **20 19 33.1 +1.6**
MA2 pmax pmax
comp=Z,56nm,1.1s
MA2 Magadan 93.03 344 P **P** **20 19 30.4 -1.1**
MA2 IAmb IAmb 20 19 35.5
comp=Z,74nm,1.1s
JLU Jordanelle 93.05 44 P **P** **20 19 32.7 +0.3**
E09A Wood Farm, Sta 93.06 36 P **P** **20 19 32.3 +0.4**
E09A IAmb IAmb 20 19 38.1
comp=Z,169nm,1.2s
PB06 IPOC Station P 93.12 118 P **P** **20 19 32.7 -0.5**
HLID Hailey 93.16 40 P **P** **20 19 34.1 +1.4**
baz=231
HLID Hailey 93.16 40 P **P** **20 19 33.9 +1.1**
HLID IAmb IAmb 20 19 39.5
comp=Z,69nm,1.1s
F10A Beach Ranch, E 93.18 37 P **P** **20 19 32.9 +0.2**
F10A IAmb IAmb 20 19 50.5
comp=Z,82nm,0.9s
PV17 East Wray Mesa 93.20 47 P **P** **20 19 33.3 +0.1**
PV17 IAmb IAmb 20 19 54.3
comp=Z,113nm,1.2s
PV19 Morning Glory 93.21 47 P **P** **20 19 32.5 -0.7**
PV19 IAmb IAmb 20 19 54.4
comp=Z,82nm,1.2s
PV10 Paradox Valley 93.21 47 P **P** **20 19 33.9 +0.7**
PV10 IAmb IAmb 20 19 54.2
comp=Z,136nm,1.2s
PV18 Skein Mesa, Pa 93.22 47 P **P** **20 19 32.9 -0.2**
PV18 IAmb IAmb 20 19 56.9
comp=Z,96nm,1.3s
PV14 Lion Creek, Pa 93.22 47 P **P** **20 19 33.3 +0.1**
PV14 IAmb IAmb 20 19 54.5
comp=Z,135nm,1.3s
PV13 Radium Mtn., P 93.22 47 P **P** **20 19 33.2 -0.1**
PV13 IAmb IAmb 20 19 54.5
comp=Z,90nm,1.2s
PV09 Paradox Valley 93.22 47 P **P** **20 19 34.0 +0.7**
PV20 West Nyswonger 93.23 47 P **P** **20 19 33.4 +0.2**
PV20 IAmb IAmb 20 19 54.5
comp=Z,101nm,1.3s
PV03 Paradox Valley 93.26 47 P **P** **20 19 34.2 +0.8**
PV03 IAmb IAmb 20 19 57.8
comp=Z,150nm,1.6s
PV11 David Mesa, Pa 93.27 47 P **P** **20 19 33.5 +0.1**
PV11 IAmb IAmb 20 19 54.7
comp=Z,166nm,1.4s
PV23 Carpenter Ridg 93.27 47 P **P** **20 19 33.4 -0.1**
PV02 Paradox Valley 93.30 47 P **P** **20 19 33.6 0.0**
PV02 IAmb IAmb 20 19 54.8
comp=Z,85nm,1.1s
PV04 Paradox Valley 93.31 47 P **P** **20 19 34.6 +1.1**
PV04 IAmb IAmb 20 19 54.3
comp=Z,103nm,1.3s
PV12 Saucer Basin, 93.33 47 P **P** **20 19 33.5 -0.2**
PV12 IAmb IAmb 20 19 55.0
comp=Z,145nm,1.2s
PV21 Cone Mtn., Par 93.36 47 P **P** **20 19 33.7 -0.2**
PV21 IAmb IAmb 20 19 55.3
comp=Z,98nm,1.1s
PV01 Paradox Valley 93.37 47 P **P** **20 19 33.6 -0.3**
PV01 IAmb IAmb 20 19 55.0
comp=Z,106nm,1.4s
TCUT Toone Canyon 93.39 44 P **P** **20 19 34.3 +0.4**
PV22 Blue Mesa, Par 93.46 47 P **P** **20 19 34.8 +0.5**
PV22 IAmb IAmb 20 19 55.7
comp=Z,94nm,1.3s
PV07 Paradox Valley 93.50 47 P **P** **20 19 35.0 +0.5**
PV15 Paradox Valley 93.55 47 P **P** **20 19 34.4 -0.4**
GAMB Gambell 93.55 3 P **P** **20 19 33.5 -0.3**
GAMB IAmb IAmb 20 19 39.5
comp=Z,140nm,1.2s
HWUT Hardware Ranch 93.59 43 P **P** **20 19 35.1 +0.3**
LVC Limon Verde 93.68 119 PKKPbc PKKPbc 20 36 42.2 +2.4
comp=Z,4.6nm,0.7s,baz=11,slow=3.7,SNR=5.5
B08A Colville Reser 93.69 35 P **P** **20 19 34.4 -0.5**
CMAR Chiang Mai Arr 93.75 289 P **P** **20 19 35.9 0.0**
comp=Z,11nm,1.1s,baz=136,slow=3.3,SNR=23
CMAR PP **PP** **20 23 22.2 +0.7**
comp=Z,8.7nm,1.1s,baz=134,slow=5.3,SNR=5.4
CMAR PKiKP **PKiKP** **20 24 20.9 -0.2**
comp=Z,3.2nm,0.9s,baz=145,slow=2.4,SNR=1.7
CMAR PKKPbc **PKKPbc** **20 36 42.7 +3.2**
comp=Z,2.0nm,0.7s,baz=294,slow=4.2,SNR=7.8
C09A Chrisman Ranch 93.85 35 P **P** **20 19 35.7 +0.1**
EYAK Cordova Ski Ar 93.86 15 P **P** **20 19 35.6 +0.3**
EYAK IAmb IAmb 20 19 57.2
comp=Z,128nm,1.4s
GLI Glacier Island 93.86 14 P **P** **20 19 35.8 +0.5**

GLI IAmb IAmb 20 19 57.1
comp=Z,164nm,1.2s
FID Port Fidalgo 93.88 15 P **P** **20 19 35.5 +0.1**
FID IAmb IAmb 20 19 57.2
comp=Z,135nm,1.4s
PB09 IPOC Station P 93.88 118 P **P** **20 19 37.2 +0.5**
PB09 IAmb IAmb 20 20 05.4
comp=Z,78nm,1.2s
CHTO Chiang Mai 93.93 289 P **P** **20 19 35.6 -1.1**
CHTO pmax pmax
comp=Z,50nm,1.0s
CHTO Chiang Mai 93.93 289 P **P** **20 19 35.5 -1.1**
TIY Taiyuan 93.98 312 *e*P **P** **20 19 38.8 +2.3**
TIY pmax pmax
comp=Z,26nm,0.5s
LLLB Lillooet 94.03 32 P **P** **20 19 36.8 +0.4**
KNK Knik Glacier 94.06 13 P **P** **20 19 36.0 -0.2**
PMR Palmer 94.09 13 P **P** **20 19 36.4 +0.1**
PMR pmax pmax
comp=Z,311nm,2.0s
PMR Palmer 94.09 13 P **P** **20 19 36.4 +0.1**
PMR IAmb IAmb 20 19 45.8
comp=Z,311nm,2.0s
KMI Kunming 94.10 297 ⇑*i*P **P** **20 19 39.0 +1.4**
KMI pmax pmax
comp=Z,14nm,1.0s
KMI LR LR
comp=Z,9µm,22.1s
KMI LR LR
comp=Z,20µm,21.4s
KMI Kunming 94.10 297 P **P** **20 19 38.1 +0.5**
KMI pmax pmax
comp=Z,135nm,1.5s
KMI Kunming 94.10 297 P **P** **20 19 38.0 +0.5**
KMI IAmb IAmb 20 20 03.5
comp=Z,135nm,1.5s
TTA Tatalina 94.16 10 P **P** **20 19 37.5 +0.7**
TTA pmax pmax
comp=Z,64nm,1.2s
TTA Tatalina 94.16 10 P **P** **20 19 37.5 +0.7**
RDMU Red Mountain 94.17 45 P **P** **20 19 37.8 +0.2**
S22A 4UR Ranch, Cre 94.27 49 P **P** **20 19 39.5 +1.3**
baz=235
S22A 4UR Ranch, Cre 94.27 49 P **P** **20 19 38.6 +0.5**
XAN Xi'an 94.28 307 P **P** **20 19 37.8 -0.2**
XAN SKS **SKSac** **20 30 12.0 -0.1**
XAN S **SKKSac** **20 30 37.4 +4.2**
XAN pmax pmax
comp=Z,31nm,1.4s
XAN Xi'an 94.28 307 P **P** **20 19 37.2 -0.8**
XAN pmax pmax
comp=Z,51nm,1.0s
XAN Xi'an 94.28 307 P **P** **20 19 37.2 -0.8**
GHO Glory Hole Cre 94.29 13 P **P** **20 19 37.6 +0.2**
GHO IAmb IAmb 20 19 56.9
comp=Z,54nm,0.7s
833A Chaparral WMA, 94.34 60 P **P** **20 19 39.0 +0.7**
baz=238
833A Chaparral WMA, 94.34 60 P **P** **20 19 38.2 -0.2**
833A IAmb IAmb 20 19 59.3
comp=Z,126nm,1.4s
AHID Auburn Hatcher 94.57 43 P **P** **20 19 40.3 +1.0**
AHID IAmb IAmb 20 20 02.4
comp=Z,135nm,1.0s
SCM Sheep Creek Mo 94.67 14 P **P** **20 19 39.8 +0.7**
SCM pmax pmax
comp=Z,65nm,0.8s
SCM Sheep Creek Mo 94.67 14 P **P** **20 19 39.8 +0.7**
SCM IAmb IAmb 20 19 55.4
comp=Z,65nm,0.8s
PB11 IPOC Station P 94.70 116 P **P** **20 19 40.7 +0.2**
PB11 IAmb IAmb 20 20 13.1
comp=Z,71nm,1.0s
ISLE Juniper Island 94.71 17 P **P** **20 19 39.9 +0.5**
ISLE IAmb IAmb 20 20 11.6
comp=Z,142nm,1.5s
TGL Tana Glacier 94.73 16 P **P** **20 19 40.7 +1.3**
TGL IAmb IAmb 20 23 09.9
comp=Z,50nm,0.6s
PPLA Purkeypile 94.73 11 P **P** **20 19 38.9 -0.6**
NEW Newport 94.73 36 P **P** **20 19 40.8 +1.1**
baz=229
NEW Newport 94.73 36 P **P** **20 19 40.2 +0.5**
comp=Z,6.3nm,0.9s,baz=262,slow=3.0,SNR=5.6
NEW PP **PP** **20 23 29.4 +0.7**
comp=Z,3.4nm,0.7s,baz=334,slow=3.2,SNR=4.0
NEW Newport 94.73 36 P **P** **20 19 39.7 0.0**
NEW pmax pmax
comp=Z,32nm,1.5s
NEW Newport 94.73 36 P **P** **20 19 39.7 0.0**
O20A White River Ci 94.74 46 P **P** **20 19 41.4 +1.3**
baz=234
O20A White River Ci 94.74 46 P **P** **20 19 40.2 +0.1**
MCMT McKenzie Canyo 94.82 40 P **P** **20 19 41.1 +0.6**
MSTX Muleshoe 94.90 54 P **P** **20 19 41.8 +0.8**
baz=237
MSTX Muleshoe 94.90 54 P **P** **20 19 40.2 -0.7**
MSTX IAmb IAmb 20 20 03.8
comp=Z,93nm,1.1s
JIS Juneau Island 94.99 21 P **P** **20 19 41.1 +0.6**
REDW Red Top Meadow 95.07 42 P **P** **20 19 42.1 +0.5**
REDW IAmb IAmb 20 19 47.5
comp=Z,168nm,1.3s
BALM Baldy 95.09 16 P **P** **20 19 40.8 -0.3**
TPAW Teton Pass 95.09 42 P **P** **20 19 41.8 +0.1**
GLB Gilahina Butte 95.09 15 P **P** **20 19 41.0 0.0**
GO01 Chusmiza 95.11 116 P **P** **20 19 44.8 +2.0**
GO01 IAmb IAmb 20 20 13.2
comp=Z,139nm,2.0s
SDCO Great Sand Dun 95.13 49 P **P** **20 19 42.6 +0.5**
FXWY Fox Creek 95.14 42 P **P** **20 19 41.9 0.0**
JCT Junction City 95.17 58 P **P** **20 19 43.0 +0.9**
baz=238
JCT Junction City 95.17 58 P **P** **20 19 42.1 -0.1**
JCT pmax pmax
comp=Z,82nm,1.3s
JCT Junction City 95.17 58 P **P** **20 19 42.1 -0.1**
JCT IAmb IAmb 20 20 02.6
comp=Z,82nm,1.2s
SNOW Snow King Moun 95.19 42 P **P** **20 19 43.0 +0.9**
SNOW IAmb IAmb 20 20 05.8
comp=Z,78nm,0.9s
MCARA McCarthy VSAT 95.23 16 P **P** **20 19 41.8 +0.2**
MCARA IAmb IAmb 20 20 03.2
comp=Z,85nm,1.2s
CTGM Chitina Glacie 95.28 17 P **P** **20 19 44.6 +2.6**
DLMT Dillon 95.30 40 P **P** **20 19 42.8 +0.4**
DLMT IAmb IAmb 20 19 48.4
comp=Z,104nm,1.3s
IMW Indian Meadow 95.34 42 P **P** **20 19 43.6 +0.7**
IMW IAmb IAmb 20 20 04.3
comp=Z,99nm,1.2s
MSO Missoula 95.47 38 P **P** **20 19 44.5 +1.3**
baz=231
MSO Missoula 95.47 38 P **P** **20 19 42.5 -0.7**
BW06 Boulder Array 95.48 43 P **P** **20 19 44.8 +1.3**
baz=234
BW06 Boulder Array 95.48 43 P **P** **20 19 43.3 -0.2**
PDAR Pinedale Array 95.48 43 P **P** **20 19 43.9 +0.4**
comp=Z,19nm,1.1s,baz=207,slow=3.0,SNR=46
PDAR PP **PP** **20 23 36.6 +1.8**
comp=Z,4.9nm,1.0s,baz=235,slow=5.2,SNR=5.1
PDAR PKKPbc **PKKPbc** **20 36 36.5 +0.3**
comp=Z,4.2nm,0.9s,baz=91,slow=5.9,SNR=6.4
PDAR PKPPKP **P'P'df** **20 44 49.8 +4.8**
comp=Z,0.3nm,0.5s,baz=29,slow=3.4,SNR=3.7
T25A Trinidad 95.52 50 P **P** **20 19 44.3 +0.6**
baz=236
T25A Trinidad 95.52 50 P **P** **20 19 43.6 -0.2**
TRF Thorofare Moun 95.58 12 P **P** **20 19 42.9 -0.5**
TRF IAmb IAmb 20 19 58.9
comp=Z,65nm,0.9s
FLWY Flagg Ranch 95.59 42 P **P** **20 19 45.0 +1.1**
FLWY IAmb IAmb 20 20 05.6
comp=Z,133nm,1.1s
QLMT Earthquake Lak 95.62 41 P **P** **20 19 45.8 +1.7**
YPP Pitchstone Pla 95.64 41 P **P** **20 19 45.0 +0.7**
LRM Limekiln Ridge 95.66 40 P **P** **20 19 44.6 +0.4**
SKAG Skagway 95.66 20 P **P** **20 19 44.6 +1.0**
YHB Horse Butte 95.71 41 P **P** **20 19 45.9 +1.4**
YHL Hebgen Lake 95.78 41 P **P** **20 19 46.1 +1.3**
DHY Denali Highway 95.78 13 P **P** **20 19 45.0 +0.7**
YMR Madison River 95.79 41 P **P** **20 19 46.4 +1.6**
RND Reindeer 95.80 12 P **P** **20 19 44.5 +0.3**
RND pmax pmax

comp=Z,111nm,1.2s
RND Reindeer 95.80 12 P **P** **20 19 44.5 +0.3**
RND IAmb IAmb 20 19 53.4
comp=Z,111nm,1.2s
H17A Grant Village 95.85 41 P **P** **20 19 46.8 +1.6**
baz=233
H17A Grant Village 95.85 41 P **P** **20 19 46.7 +1.6**
YHH Holmes Hill 95.93 41 P **P** **20 19 46.2 +0.7**
YNM Yellowstone No 95.97 41 P **P** **20 19 45.3 -0.5**
BOZ Bozeman (W) 95.98 40 P **P** **20 19 47.2 +1.6**
baz=233
BOZ Bozeman (W) 95.98 40 P **P** **20 19 45.7 +0.1**
BOZ pmax pmax
comp=Z,99nm,1.3s
BOZ Bozeman (W) 95.98 40 P **P** **20 19 45.7 +0.1**
BOZ IAmb IAmb 20 19 52.2
comp=Z,99nm,1.2s
Q24A Divide 96.04 48 P **P** **20 19 47.6 +1.4**
baz=236
Q24A Divide 96.04 48 P **P** **20 19 47.1 +0.9**
Q24A IAmb IAmb 20 20 07.5
comp=Z,187nm,2.0s
LKWY Lake 96.05 41 P **P** **20 19 46.5 +0.4**
LKWY pmax pmax
comp=Z,98nm,1.5s
LKWY Lake 96.05 41 P **P** **20 19 46.5 +0.4**
LKWY IAmb IAmb 20 20 12.8
comp=Z,98nm,1.4s
BPAW Bear Paw Mtn. 96.06 11 P **P** **20 19 44.9 -0.4**
PAX Paxson 96.08 14 P **P** **20 19 45.8 +0.2**
PAX pmax pmax
comp=Z,25nm,1.0s
PAX Paxson 96.08 14 P **P** **20 19 45.8 +0.2**
MCK McKinley 96.08 12 P **P** **20 19 45.8 +0.3**
MCK pmax pmax
comp=Z,74nm,1.0s
MCK McKinley 96.08 12 P **P** **20 19 45.8 +0.3**
MCK IAmb IAmb 20 20 02.9
comp=Z,74nm,1.0s
ZEA Zeya 96.14 331 *e*P **P** **20 19 44.8 -1.1**
ZEA pmax pmax
comp=E,29nm,1.2s
ZEA pmax pmax
comp=N,74nm,1.4s
ZEA pmax pmax
comp=Z,140nm,1.4s
AMTX Amarillo 96.15 53 P **P** **20 19 48.0 +1.4**
baz=238
AMTX Amarillo 96.15 53 P **P** **20 19 46.6 0.0**
ISCO Idaho Springs 96.21 47 P **P** **20 19 48.3 +1.3**
baz=236
ISCO Idaho Springs 96.21 47 P **P** **20 19 46.7 -0.3**
ISCO pmax pmax
comp=Z,58nm,1.7s
ISCO Idaho Springs 96.21 47 P **P** **20 19 46.7 -0.3**
RWWY Rawlins 96.27 45 P **P** **20 19 47.3 +0.1**
RWWY IAmb IAmb 20 20 07.9
comp=Z,75nm,1.1s
YMP Mirror Lake Pl 96.30 41 P **P** **20 19 47.6 +0.4**
CD2 Chengdu 96.31 302 ||*i*P **P** **20 19 47.6 +0.3**
CD2 pmax pmax
comp=Z,40nm,1.6s
HHC Hu-ho-hao-te 96.32 314 *e*P **P** **20 19 46.1 -1.1**
HHC pmax pmax
comp=Z,11nm,0.9s
ABTX Abilene, Hawle 96.41 56 P **P** **20 19 49.4 +1.7**
baz=238
ABTX Abilene, Hawle 96.41 56 P **P** **20 19 47.8 +0.1**
ABTX IAmb IAmb 20 20 08.2
comp=Z,108nm,1.6s
MENT Mentasta 96.43 15 P **P** **20 19 47.6 +0.6**
DLBC Dease Lake 96.54 23 P **P** **20 19 48.3 +0.6**
comp=Z,1.9nm,0.9s,baz=260,slow=18,SNR=3.1
DLBC PP **PP** **20 23 43.0 +0.6**
comp=Z,2.2nm,0.9s,baz=262,slow=11,SNR=3.7
DLBC Dease Lake 96.54 23 P **P** **20 19 48.0 +0.3**
YNE Yellowstone No 96.54 41 P **P** **20 19 48.8 +0.6**
HRY Holter Researc 96.54 39 P **P** **20 19 48.5 +0.4**
N23A Red Feather La 96.61 46 P **P** **20 19 50.1 +1.4**
baz=236
N23A Red Feather La 96.61 46 P **P** **20 19 48.7 0.0**
N23A IAmb IAmb 20 20 01.3
comp=Z,100nm,1.6s
HIA Hailar 96.69 324 *i*P **P** **20 19 48.8 +0.3**
HIA pmax pmax
comp=Z,19nm,1.1s
NEA2 Nenana 96.84 12 P **P** **20 19 51.1 +2.2**
baz=205
WALA Waterton Lakes 96.88 36 P **P** **20 19 49.6 +0.1**
RIDG Independent Ri 96.89 14 P **P** **20 19 48.8 -0.4**
WRH Wood River Hil 96.91 12 P **P** **20 19 49.1 -0.1**
WRH IAmb IAmb 20 19 58.2
comp=Z,95nm,1.2s
DOT Dot Lake 96.98 14 P **P** **20 19 49.6 +0.1**
RLMT Red Lodge 97.03 41 P Pdif 20 19 51.9 +1.3
baz=234
RLMT Red Lodge 97.03 41 P **P** **20 19 50.2 -0.2**
HDA Harding Lake 97.07 13 P Pdif 20 19 51.1 +1.1
baz=206
HDA Harding Lake 97.07 13 P **P** **20 19 49.5 -0.4**
CCB Clear Creek Bu 97.12 12 P Pdif 20 19 50.1 -0.1
PHWY Pilot Hill 97.14 46 P Pdif 20 19 51.3 +0.1
GCMT Greycliff 97.20 41 P Pdif 20 19 51.2 0.0
K22A Casper 97.24 45 P Pdif 20 19 52.5 +1.0
baz=236
K22A Casper 97.24 45 P Pdif 20 19 51.4 -0.1
K22A IAmb IAmb 20 20 13.9
comp=Z,67nm,1.0s
TCOL CIGO, UAF Yank 97.32 12 P Pdif 20 19 52.7 +1.6
baz=206
COLA College 97.32 12 *i*P Pdif 20 19 51.0 0.0
COLA pmax pmax
comp=Z,43nm,1.2s
MDM Murphy Dome 97.33 12 P Pdif 20 19 51.1 0.0
ILAR Eielson Array 97.41 13 P **P** **20 19 50.9 -0.5**
comp=Z,6.5nm,0.9s,baz=220,slow=4.6,SNR=18
ILAR PP PP 20 23 40.8 -8.2
comp=Z,5.7nm,1.1s,baz=213,slow=7.0,SNR=5.2
ILAR PKiKP **PKiKP** **20 24 28.2 +2.0**
comp=Z,3.6nm,0.9s,baz=254,slow=2.7,SNR=4.5
ILAR PKKPbc **PKKPbc** **20 36 29.6 -1.9**
comp=Z,1.9nm,0.8s,baz=330,slow=2.9,SNR=5.0
POKR Poker Plat Res 97.62 12 P Pdif 20 19 54.4 +2.0
baz=206
WHTX Lake Whitney, 97.67 58 P Pdif 20 19 53.8 +0.4
baz=240
LPAZ La Paz 97.84 114 P Pdif 20 19 56.5 +1.1
comp=Z,1.8nm,1.0s,baz=259,slow=19,SNR=4.1
LPAZ PKKPbc **PKKPdf** **20 36 30.1 -0.9**
comp=Z,1.4nm,0.6s,baz=28,slow=6.2,SNR=3.9
LPAZ La Paz 97.84 114 P Pdif 20 19 56.6 +1.2
LPAZ pmax pmax
comp=Z,13nm,1.1s
HKT Hockley 97.85 60 *i*P **P** **20 19 53.6 -0.6**
HKT pmax pmax
comp=Z,5.0nm,1.2s
WMOK Wichita Mounta 98.11 55 P Pdif 20 19 56.5 +1.1
baz=239
PRP Porcupine Dome 98.34 13 P **P** **20 19 55.7 -0.1**
RDOG Red Dog Mine 98.34 5 P **P** **20 19 55.4 -0.2**
DAWY Dawson 98.40 16 P Pdif 20 19 55.9 -0.1
EGMT Eagleton 98.46 39 P Pdif 20 19 58.0 +1.4
baz=234
BILL Bilibino 98.49 354 *i*P Pdif 20 19 56.4 +0.2
BILL *i* 20 24 03.0
BILL pmax pmax
comp=Z,25nm,1.0s
BILL Bilibino 98.49 354 P **P** **20 19 55.7 -0.5**
EGAK Eagle 98.60 15 P Pdif 20 19 57.4 +0.6
EGAK IAmb IAmb 20 20 06.6
comp=Z,78nm,1.5s
PLTB Pedras Altas 98.66 134 *e*P Pdif 20 20 04.4 +6.3
PLTB Pedras Altas 98.66 134 *e*P Pdif 20 20 04.4 +6.3
LZH Lanzhou 98.89 306 *e*P Pdif 20 20 01.6 +2.6
LZH pP sP 20 20 07.4 +1.4
LZH sP pwP 20 20 11.3 +1.8
LZH pmax pmax
comp=Z,29nm,1.0s
LZH LR LR
comp=Z,13µm,15.6s
COLD Coldfoot 99.07 10 P **Pdif** **20 20 01.1 +2.3**
baz=204
CBKS Cedar Bluff 99.53 51 P **Pdif** **20 20 03.0 +1.4**
baz=239
RSSD Black Hills 99.56 44 P **Pdif** **20 20 03.3 +1.5**
baz=238
LAO LASA Array 99.67 41 P **Pdif** **20 20 04.2 +2.1**
baz=236
CPSB Cacapava Do Su 99.69 133 *e*P **Pdif** **20 20 07.1 +4.4**
CPSB Cacapava Do Su 99.69 133 *e*P **Pdif** **20 20 07.1 +4.4**
CPUP Villa Florida 99.83 128 P **Pdif** **20 20 05.6 +2.2**
comp=Z,1.1nm,0.4s,baz=38,slow=15,SNR=2.3
CPUP PKKPbc **PKKPbc** **20 36 23.1 +0.4**
comp=Z,3.6nm,0.8s,baz=32,slow=4.7,SNR=7.7
CPUP Villa Florida 99.83 128 P **Pdif** **20 20 05.6 +2.2**
CPUP pmax pmax
comp=Z,18nm,1.3s
EPYK Eagle Plains 100.94 16 P **Pdif** **20 20 08.8 +1.6**
baz=215
YAK Yakutsk 101.06 337 P **Pdif** **20 20 06.9 -0.8**
comp=Z,7.0nm,0.4s,baz=128,slow=1.5,SNR=8.0
YAK PP PP 20 24 25.5 +8.6
comp=Z,3.8nm,0.3s,baz=135,slow=10.0,SNR=4.4
YAK Yakutsk 101.06 337 *e*P **Pdif** **20 20 07.0 -0.7**
YAK *e*S **SKSac** **20 30 44.9 -0.4**
YAK pmax pmax
comp=Z,34nm,1.4s
YAK pmax pmax
comp=N,10.0nm,1.6s
YAK pmax pmax
comp=E,2.0nm,0.6s
YAK smax smax
comp=N,31nm,1.6s
YAK smax smax
comp=E,19nm,1.5s
SONM Songino Array 103.18 318 Pdiff **Pdif** **20 20 17.7 0.0**
comp=E,1.4nm,0.8s,baz=149,slow=3.3,SNR=8.0
SONM PP **PP** **20 24 33.6 +0.3**
comp=E,3.2nm,0.9s,baz=128,slow=7.0,SNR=2.3
SONM PKKPbc **PKKPbc** **20 36 15.1 +0.8**
comp=E,2.7nm,0.9s,baz=268,slow=2.7,SNR=7.5
INK Inuvik 103.24 15 Pdiff **Pdif** **20 20 19.9 +2.6**
comp=E,6.3nm,1.1s,baz=178,slow=7.2,SNR=5.7
INK PP **PP** **20 24 28.6 -4.5**
comp=E,7.4nm,0.9s,baz=202,slow=6.6,SNR=4.5
INK PKKPbc **PKKPbc** **20 36 13.4 -1.1**
comp=E,2.7nm,0.8s,baz=1.7,slow=7.8,SNR=3.9
SIV San Ignacio 103.53 118 PKKPbc PKKPbc 20 36 10.6 -1.4
comp=E,2.2nm,0.9s,baz=282,slow=4.7,SNR=5.3
ECSD EROS Data Cent 104.00 48 P **Pdif** **20 20 23.2 +1.9**
baz=242
BOD Bodaibo 104.51 329 *e*P **Pdif** **20 20 21.6 -1.6**
BOD pmax pmax
comp=Z,22nm,1.1s
YKA Yellowknife Ar 104.85 25 Pdiff **Pdif** **20 20 26.3 +1.7**
comp=Z,1.1nm,0.8s,baz=224,slow=5.9,SNR=5.3
YKA PKiKP **PKiKP** **20 24 41.7 +2.1**
comp=Z,1.7nm,0.7s,baz=224,slow=2.6,SNR=3.4
YKA PKKPbc **PKKPbc** **20 36 07.5 -2.0**
comp=Z,1.5nm,0.6s,baz=39,slow=3.3,SNR=4.7
ZAK Zakamensk 106.20 319 *e*P **Pdif** **20 20 33.3 +2.2**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
TLY Talaya 106.60 320 PKiKP **PKiKP** **20 24 42.7 -0.6**
comp=Z,2.3nm,0.5s,baz=124,slow=3.8,SNR=3.0
TLY Talaya 106.60 320 *e*P **Pdif** **20 20 40.6 +7.9**
TLY pmax pmax
comp=Z,12nm,0.8s
ULM Lac du Bonnet 107.41 42 PKKPbc PKKPbc 20 36 02.4 +1.2
comp=Z,6.8nm,0.7s,baz=94,slow=5.3,SNR=3.7
TIXI Tiksi 108.00 344 Pdiff **Pdif** **20 20 39.7 +1.3**
comp=Z,3.2nm,1.1s,baz=132,slow=4.2,SNR=3.4
TIXI PKiKP **PKiKP** **20 24 45.3 +0.1**
comp=Z,4.5nm,0.7s,baz=148,slow=3.8,SNR=3.4
TIXI PKKPbc **PKKPbc** **20 36 01.5 +1.6**
comp=Z,0.8nm,0.4s,baz=294,slow=13,SNR=1.6
EYMN Ely 109.06 45 P **PKiKP** **20 24 49.0 +1.1**
baz=246
U54A Nelsons Funny 111.26 59 P **PKiKP** **20 24 53.1 +0.6**
baz=248
Z58A St. Stephen 111.59 63 P **PKiKP** **20 24 54.0 +0.9**
baz=248
T54A Tazewell 111.64 59 P **PKiKP** **20 24 54.2 +1.0**
baz=248
ACSO Alum Creek Sta 111.78 55 P **PKiKP** **20 24 54.6 +1.3**
baz=249
V56A Mocksville 111.99 60 P **PKiKP** **20 24 55.4 +1.6**
baz=248
F45A CMU Biological 112.00 49 P **PKiKP** **20 24 54.8 +1.3**
baz=249
O51A Pataskala 112.02 55 P **PKiKP** **20 24 54.9 +1.2**
baz=249
P52A Corning 112.18 56 P **PKiKP** **20 24 55.7 +1.6**
baz=249
R54A Victor 112.48 58 P **PKiKP** **20 24 55.7 +1.0**
baz=249
V57A Coltrane Farms 112.56 61 P **PKiKP** **20 24 54.5 -0.4**
baz=249
W58A Raeford 112.66 62 P **PKiKP** **20 24 54.9 -0.2**
baz=248
S55A Lewisburg 112.70 59 P **PKiKP** **20 24 55.5 +0.4**
baz=249
T56A Rocky Mt 112.78 59 P **PKiKP** **20 24 55.1 -0.2**
baz=249
Q54A Coxs Mills 112.89 57 P **PKiKP** **20 24 55.5 0.0**
baz=249
G47A Hillman 112.92 50 P **PKiKP** **20 24 55.3 0.0**
baz=250
O53A New Philadelph 113.06 56 P **PKiKP** **20 24 55.0 -0.7**
baz=250
R55A Marlinton 113.16 58 P **PKiKP** **20 24 56.1 0.0**
baz=249
PTGA Pitinga 113.17 105 PKKPbc PKKPbc 20 35 42.8 +1.4
comp=Z,3.8nm,0.8s,baz=126,slow=3.7,SNR=4.3
I49A Point Hope 113.19 52 P **PKiKP** **20 24 56.2 +0.3**
baz=250
T57A Hurt 113.35 60 P **PKiKP** **20 24 56.0 -0.4**
baz=249
P54A Burton 113.36 57 P **PKiKP** **20 24 56.5 +0.1**
baz=250
WMQ Urumqi 113.38 308 *e*PKP **PKiKP** **20 24 56.4 +0.1**
D46A Sault St. Mari 113.38 48 P **PKiKP** **20 24 56.5 +0.4**
baz=251
M52A Chesterland 113.40 54 P **PKiKP** **20 24 55.9 -0.5**
baz=250
BDFB Brasilia 113.40 126 PKiKP **PKiKP** **20 24 57.4 +0.1**
comp=Z,3.8nm,0.8s,baz=252,slow=6.4,SNR=2.3
BDFB PKKPbc **PKKPbc** **20 35 43.5 +2.5**
comp=Z,4.8nm,1.0s,baz=44,slow=4.0,SNR=4.3
N53A Lisbon 113.52 55 P **PKiKP** **20 24 56.9 +0.3**
baz=250
O54A Avella 113.63 56 P **PKiKP** **20 24 56.7 -0.2**
baz=250
U58A Oxford 113.67 61 P **PKiKP** **20 24 56.8 -0.2**
baz=249
R56A Bull Pasture M 113.73 58 P **PKiKP** **20 24 57.4 +0.2**
baz=250
P55A Reedsville 113.80 57 P **PKiKP** **20 24 57.8 +0.5**
baz=250
S57A Dark Hollow, R 113.84 59 P **PKiKP** **20 24 58.0 +0.6**
baz=250
T58A Grand View Acr 113.88 60 P **PKiKP** **20 24 57.1 -0.3**
baz=250
F48A Evansville 113.96 50 P **PKiKP** **20 24 57.4 +0.2**
baz=251
D47A Chapleau 114.04 48 P PKPdf 20 24 57.2 -0.2
baz=251
Q56A Snyder Ridge, 114.11 58 P PKPdf 20 24 57.6 -0.2
baz=250
N54A Moraine State 114.17 55 P PKPdf 20 24 57.0 -0.8
baz=251
F49A Sandfield 114.32 50 P **PKiKP** **20 24 58.6 +0.7**
baz=252
R57A Stanardsville 114.35 59 P **PKiKP** **20 24 58.5 +0.2**
baz=250
I51A Listowel 114.38 52 P PKPdf 20 24 57.6 -0.5
baz=251
O55A Ligonier 114.42 56 P **PKiKP** **20 24 58.8 +0.5**
baz=251
E48A Lockeyer 114.47 49 P **PKiKP** **20 24 58.4 +0.1**
baz=252
S58A Poland Farm, P 114.47 59 P **PKiKP** **20 24 58.7 +0.2**
baz=250
J52A Paris 114.58 53 P **PKiKP** **20 24 59.0 +0.5**
baz=251
M54A Oil Creek Stat 114.58 55 P **PKiKP** **20 24 58.8 +0.2**
baz=251
Q57A Strasburg 114.68 58 P PKPdf 20 24 58.6 -0.2
baz=251
R58B Mineral 114.71 59 P PKPdf 20 24 58.6 -0.3
baz=250
N55A Marion Center 114.83 56 P PKPdf 20 24 58.9 -0.2
baz=251
D48A Paudash Townsh 114.92 48 P PKPdf 20 24 58.2 -0.9
baz=252,SNR=5.6
O56A Blue Knob Stat 114.97 57 P **PKiKP** **20 24 59.3 -0.1**
baz=251
L54A Sinclairville 115.06 54 P **PKiKP** **20 24 59.8 +0.3**
baz=252
P57A Homestead Farm 115.12 57 P **PKiKP** **20 24 59.9 +0.3**
baz=251
M55A Ridgway 115.21 55 P **PKiKP** **20 25 00.6 +0.7**
baz=252
D49A Beulah Townshi 115.24 48 P **PKiKP** **20 25 00.6 +0.9**
baz=253
N56A West Decatur 115.37 56 P **PKiKP** **20 25 00.5 +0.4**
baz=252
E50A Wahnapitae 115.39 50 P **PKiKP** **20 25 00.6 +0.6**
baz=253
DGZ Jazzator, Alta 115.40 314 *i* PKIKP **PKPdf** **20 25 00.0 -0.1**
SSPA Standing Stone 115.58 56 P **PKiKP** **20 25 00.5 -0.1**
baz=252
O57A Amberson 115.62 57 P **PKPdf** **20 25 00.3 -0.3**
baz=252
M56A Emporium 115.63 55 P **PKPdf** **20 25 00.4 -0.3**
baz=252
P58A Pank, Wackersv 115.64 58 P **PKPdf** **20 25 00.4 -0.3**
baz=251
L55A Hinsdale 115.67 55 P **PKPdf** **20 25 00.4 -0.3**
baz=252
F51A Arnstein 115.78 50 P **PKiKP** **20 25 00.8 0.0**
baz=253
N57A Milroy 115.86 56 P **PKiKP** **20 25 01.4 +0.3**
baz=252
K55A Perry 116.09 54 P **PKiKP** **20 25 01.6 +0.1**
baz=252
O58A Lewisberry 116.11 57 P **PKiKP** **20 25 02.1 +0.5**
baz=252
F52A Sundridge 116.14 50 P **PKPdf** **20 25 01.2 -0.2**
baz=253
D50A G1974 Best Tow 116.19 49 P **PKPdf** **20 25 00.3 -1.2**
baz=254,SNR=5.3
E51A G1948 Merrick 116.24 50 P **PKPdf** **20 25 00.5 -1.1**
baz=253,SNR=5.5
L56A Greenwood 116.28 55 P **PKPdf** **20 25 01.4 -0.5**
baz=252
H53A Bobcaygeon 116.29 52 P **PKPdf** **20 25 01.6 -0.2**
baz=253
M57A Sunshine Farm, 116.34 56 P **PKiKP** **20 25 02.1 +0.1**
baz=252
ZSN Zaisan 116.39 311 ||*e*PKP **PKPdf** **20 25 00.9 -1.1**
comp=Z,93nm,4.1s,baz=312
ZSN Zaisan 116.39 311 *de*PKIKP **PKPdf** **20 25 00.8 -1.1**
G53A Haliburton 116.42 51 P **PKiKP** **20 25 02.7 +0.6**
baz=253
J55A Hilton 116.43 54 P **PKiKP** **20 25 02.9 +0.8**
baz=253
D51A Lot 18 Range I 116.48 49 P **PKiKP** **20 25 02.5 +0.5**
baz=254
N58A Sunbury 116.49 56 P **PKPdf** **20 25 02.1 -0.2**
baz=252
K56A Middlesex 116.61 54 P **PKiKP** **20 25 02.9 +0.4**
baz=253
RES Resolute Bay 116.70 17 PKP **PKPdf** **20 25 01.5 -0.1**
comp=Z,25nm,1.1s,baz=242,slow=2.1,SNR=5.1
O59A Robesonia 116.71 57 P **PKiKP** **20 25 02.6 -0.1**
baz=252
E52A Mattawa 116.73 50 P **PKPdf** **20 25 01.8 -0.8**
baz=254,SNR=8.2
L57A Andrews Acres 116.74 55 P **PKiKP** **20 25 02.8 0.0**
baz=253
I55A Frankford 116.80 53 P **PKPdf** **20 25 02.6 -0.2**
baz=253
M58A Price's Panora 116.83 56 P **PKPdf** **20 25 02.7 -0.3**
baz=253
G54A Lake Saint Pet 116.86 51 P **PKPdf** **20 25 02.6 -0.3**
baz=254
ALGO Algonquin Park 117.04 51 P **PKPdf** **20 25 02.4 -0.8**
baz=254,SNR=7.6
D52A ZEK Kipawa Sen 117.08 49 P **PKPdf** **20 25 02.5 -0.8**
baz=254,SNR=9.8
J56A Wolcott 117.10 54 P **PKPdf** **20 25 02.7 -0.6**
baz=253
K57A Scipio Center 117.19 54 P **PKPdf** **20 25 03.2 -0.4**
baz=253
N59A State Game Lan 117.19 57 P **PKPdf** **20 25 03.3 -0.3**
baz=253
H55A Tweed 117.24 52 P **PKPdf** **20 25 03.3 -0.3**
baz=254
O60A Telford 117.28 57 P **PKiKP** **20 25 03.7 -0.1**
baz=253
BINY Binghamton 117.41 55 P **PKPdf** **20 25 03.9 -0.2**
baz=253
E53A Dumoine, Ponti 117.41 50 P **PKPdf** **20 25 03.3 -0.6**
baz=254,SNR=6.1
L58A Harry Jones Me 117.46 55 P **PKPdf** **20 25 04.0 -0.2**
baz=253
D53A Lac Vacive, Po 117.58 49 P **PKPdf** **20 25 03.3 -0.9**
baz=255,SNR=11
D53A Lac Vacive, Po 117.58 49 PKPdf **PKPdf** **20 25 02.8 -1.4**
M59A Waymart 117.62 56 P **PKiKP** **20 25 04.6 +0.1**
baz=253
N60A Cedar Hill Far 117.67 57 P **PKiKP** **20 25 04.7 +0.1**
baz=253
J57A Williamstown 117.75 54 P **PKiKP** **20 25 05.0 +0.3**
baz=254
E54A Lac Daplat, Po 117.75 50 P **PKPdf** **20 25 03.8 -0.7**
baz=255,SNR=8.0
G55A Calabogie 117.75 52 P **PKPdf** **20 25 04.4 -0.1**
baz=254
K58A Earlville 117.81 55 P **PKPdf** **20 25 04.5 -0.3**
baz=254
K58A Earlville 117.81 55 PKPdf **PKPdf** **20 25 04.2 -0.6**
BOSA Boshof 117.84 203 PKP **PKPdf** **20 25 04.8 -0.8**
comp=Z,15nm,1.2s,baz=166,slow=2.0,SNR=31
BOSA PKKPbc **PKKPab** **20 35 31.0 -1.0**
comp=Z,5.0nm,0.9s,baz=336,slow=2.6,SNR=3.7
H56A Elgin 117.89 52 P **PKiKP** **20 25 04.9 0.0**
baz=254
MK31 Makanchi Array 117.90 310 *e*PKIKP **PKPdf** **20 25 03.9 -1.0**
MKAR Makanchi Array 117.90 310 Pdiff **Pdif** **20 21 29.5 +6.4**
comp=Z,1.5nm,0.8s,baz=84,slow=6.2,SNR=7.6
MKAR PKP **PKPdf** **20 25 03.8 -1.1**
comp=Z,29nm,1.0s,baz=85,slow=1.3,SNR=42
MKAR PKKPbc **PKKPab** **20 35 30.8 +4.1**
comp=Z,1.5nm,0.8s,baz=279,slow=4.5,SNR=4.5
MKAR Makanchi Array 117.90 310 *c i* PKIKP **PKiKP** **20 25 05.9 +1.0**
MKAR pmax pmax
comp=Z,14nm,0.6s
VLDQ Val d'Or 118.00 48 PKPdf **PKPdf** **20 25 03.9 -1.1**
ZALV Zalesovo Beam 118.07 318 Pdiff **Pdif** **20 21 31.0 +7.4**
comp=Z,0.5nm,0.5s,baz=79,slow=3.1,SNR=2.8
ZALV PKP **PKPdf** **20 25 04.3 -0.6**
comp=Z,11nm,0.9s,baz=132,slow=2.2,SNR=16
L59A Walton 118.08 55 P **PKiKP** **20 25 05.5 +0.1**
baz=254
MAKZ Makanchi 118.11 310 PKIKP **PKPdf** **20 25 04.2 -1.1**
MAKZ Makanchi 118.11 310 **PKPdf** **20 25 04.2 -1.1**
I57A Carthage 118.12 53 P **PKPdf** **20 25 05.1 -0.2**
baz=254
M60A Port Jervis 118.14 56 P **PKiKP** **20 25 05.8 +0.3**
baz=254
J58A Remsen 118.23 54 P **PKPdf** **20 25 04.8 -0.8**
baz=254
D54A Lac Fusel, La 118.28 50 P **PKPdf** **20 25 04.3 -1.3**
baz=256,SNR=8.4
MATQ Matagami 118.29 47 P **PKiKP** **20 25 06.2 +0.7**
baz=256
K59A Cooperstown 118.38 55 P **PKiKP** **20 25 05.9 0.0**
baz=254
H57A Richville 118.45 53 P **PKiKP** **20 25 05.9 -0.1**
baz=255
E55A Montcerf-Lytto 118.51 50 P **PKiKP** **20 25 06.1 +0.1**
baz=256
LSQQ Lebel-sur-Quev 118.54 47 P **PKiKP** **20 25 06.5 +0.5**
baz=256
L60A Shokan 118.61 56 P **PKiKP** **20 25 06.6 +0.2**
baz=254
M61A Granite Spring 118.76 57 P **PKiKP** **20 25 06.6 -0.1**
baz=254
J59A Piesco 118.81 54 P **PKPdf** **20 25 06.0 -0.7**
baz=255
J59A Piesco 118.81 54 PKPdf **PKPdf** **20 25 05.3 -1.4**
G57A Newington 118.89 52 P **PKPdf** **20 25 06.4 -0.4**
baz=256
SHLS Shalkode 118.89 306 ||*e*PKP **PKPdf** **20 25 05.7 -1.4**
comp=Z,53nm,2.3s,baz=306
SHLS Shalkode 118.89 306 *de*PKIKP **PKPdf** **20 25 05.6 -1.4**
SHLS pmax pmax
comp=Z,53nm,2.3s
D55A Sainte-Anne-du 119.03 50 P **PKPdf** **20 25 06.5 -0.5**

baz=256,SNR=10
LONY Lake Ozonia 119.05 53 P PKPdf 20 25 06.4 -0.7
baz=255
LONY Lake Ozonia 119.05 53 PKPdf 20 25 06.2 -0.9
NCB Newcomb 119.13 54 PKPdf 20 25 06.0 -1.3
L61A Hillsdale 1, H 119.15 56 P PKPdf 20 25 07.0 -0.4
baz=255
UZB Uzynbulak 119.20 305⇓ePKP PKPdf 20 25 06.8 -0.9
comp=Z,61nm,1.4s,baz=306
UZB Uzynbulak 119.20 305dePKIKP PKPdf 20 25 06.7 -0.9
UZB pmax pmax
comp=Z,61nm,1.4s
E56A St. Veronique 119.21 51 P PKPdf 20 25 06.3 -1.0
baz=256,SNR=6.7
H58A Gabriels 119.28 53 P PKPdf 20 25 07.4 -0.1
baz=256
I59A Olmsteadville 119.33 54 P PKPdf 20 25 07.1 -0.6
baz=255
M62A Hamden 119.42 57 P PKPdf 20 25 07.3 -0.6
baz=255
K61A Williamstown 119.48 55 P PKPdf 20 25 07.6 -0.4
baz=255
J60A Lant Hill Farm 119.51 55 P PKPdf 20 25 07.5 -0.5
baz=255
D56A ZEC Mazanza, M 119.52 50 P PKPdf 20 25 06.8 -1.2
baz=257,SNR=7.3
KPKS Kokpek 119.52 306⇓ePKP PKPdf 20 25 07.4 -0.9
comp=Z,63nm,1.3s,baz=306
KPKS ePP PP 20 26 29.0 -1.8
baz=306
KPKS Kokpek 119.52 306dePKIKP PKPdf 20 25 07.3 -0.9
KPKS e 20 26 29.0
KPKS pmax pmax
comp=Z,63nm,1.3s
G58A Ormstown 119.54 52 P PKPdf 20 25 07.5 -0.5
baz=256
SATY Saty 119.62 305⇓ePKP PKPdf 20 25 07.8 -0.7
comp=Z,44nm,1.4s,baz=305
SATY Saty 119.62 305dePKIKP PKPdf 20 25 07.7 -0.7
SATY pmax pmax
comp=Z,43nm,1.4s
H59A Cadyville 119.67 53 P PKPdf 20 25 07.5 -0.8
baz=256
TARG Taragay, Kyrgy 119.71 304 PKPdf PKPdf 20 25 07.5 -1.5
I60A Shoreham 119.75 54 P PKPdf 20 25 07.9 -0.5
baz=256
E57A Chemin Saint G 119.78 51 P PKPdf 20 25 07.6 -0.9
baz=257,SNR=5.9
L61B Northampton 119.84 56 P PKPdf 20 25 08.2 -0.5
baz=255
QUA2 Belchertown 120.03 56 PKiKP 20 25 09.2 +0.1
SEM Semipalatinsk 120.06 314⇓ePKP PKPdf 20 25 07.9 -1.3
comp=Z,76nm,1.6s,baz=314
SEM Semipalatinsk 120.06 314dePKIKP PKPdf 20 25 07.8 -1.3
SEM pmax pmax
comp=Z,76nm,1.6s
D57A Chemin Vers le 120.09 50 P PKiKP 20 25 09.3 +0.2
baz=257
TDK Taldyqorghan 120.09 307 ePKP PKPdf 20 25 07.6 -1.5
baz=308
TDK ePP PP 20 26 31.9 -2.7
baz=308
TDK Taldyqorghan 120.09 307 ePKIKP PKPdf 20 25 07.6 -1.5
TDK e 20 26 31.8
G59A Clarenceville 120.13 53 P PKiKP 20 25 09.7 +0.5
baz=257
J61A Chester 120.15 55 P PKiKP 20 25 09.8 +0.4
baz=256
K62A Royalston 120.21 55 P PKiKP 20 25 09.6 +0.1
baz=256
H60A Morristown 120.34 53 P PKiKP 20 25 09.7 0.0
baz=257
E58A La Victoria 120.36 51 P PKPdf 20 25 09.3 -0.3
baz=257
CHGQ Chibougamau 120.38 47 P PKPdf 20 25 09.2 -0.3
baz=259
KSH Kashi 120.47 301 ePKP PKiKP 20 25 10.4 +0.1
GDU01 Guandu, BA 120.51 131 eP PKiKP 20 25 12.8 +1.8
GDU01 Guandu, BA 120.51 131 eP PKiKP 20 25 12.8 +1.8
I61A Oroboro, Fairl 120.53 54 P PKPdf 20 25 09.0 -0.9
baz=256
MDOK Medeo 120.61 305 ePKP PKPdf 20 25 08.7 -1.7
comp=Z,316nm,1.2s,baz=305
MDOK ePP PP 20 26 36.7 -1.6
baz=305
MDOK Medeo 120.61 305 ePKIKP PKPdf 20 25 08.6 -1.7
MDOK e 20 26 36.7
MDOK pmax pmax
comp=Z,316nm,1.2s
J62A Henniker 120.65 55 P PKPdf 20 25 10.0 -0.2
baz=256
TNSS Tian-Shan 120.65 305 ePKP PKPdf 20 25 09.9 -0.9
baz=305
TNSS Tian-Shan 120.65 305 ePKIKP PKPdf 20 25 09.9 -0.9
AAA Alma-Ata 120.71 305⇑ePKP PKPdf 20 25 09.8 -0.6
baz=305
AAA Alma-Ata 120.71 305cePKIKP PKPdf 20 25 09.8 -0.6
K63A Dunstable 120.72 56 P PKPdf 20 25 10.2 -0.2
baz=256
D58A Chemin du LacG 120.78 50 P PKPdf 20 25 09.5 -0.8
baz=258,SNR=7.1
LBNH Lisbon 120.81 54 P PKPdf 20 25 10.2 -0.3
baz=257
CHKK Chushkaly 120.81 306 ePKP PKPdf 20 25 09.5 -1.1
baz=306
CHKK Chushkaly 120.81 306 ePKIKP PKPdf 20 25 09.4 -1.1
H61A Lyndonville 120.87 53 P PKiKP 20 25 10.6 -0.2
baz=257
LATQ La Tuque 120.91 50 P PKiKP 20 25 10.9 +0.2
baz=258
NIL Nilore 120.93 293 PKIKP PKPdf 20 25 09.8 -1.3
NIL Nilore 120.93 293 PKPdf 20 25 09.8 -1.3
ULHL Ulahol 120.97 304 P PKiKP 20 25 11.3 0.0
SNR=28
MTBS Maitube 121.04 305 ePKP PKPdf 20 25 10.3 -0.9
baz=305
MTBS Maitube 121.04 305 ePKIKP PKPdf 20 25 10.2 -0.9
I62A Tamworth 121.14 54 P PKiKP 20 25 11.4 +0.2
baz=257
KURK Kurchatov 121.14 314c iPKIKP PKPdf 20 25 09.9 -1.0
KURK pmax pmax
comp=Z,154nm,1.7s
KURK Kurchatov 121.14 314 PKPdf 20 25 09.6 -1.3
F60A Warwick 121.17 52 P PKiKP 20 25 11.5 +0.2
baz=258
KURBB Kurchatov Arra 121.18 314 PKP PKPdf 20 25 08.8 -2.2
comp=Z,22nm,0.8s,baz=114,slow=1.9,SNR=39
KURBB PP PP 20 26 40.4 -1.4
comp=Z,15nm,1.2s,baz=99,slow=7.5,SNR=4.4
KURBB PKKPbc PKKPbc 20 35 17.6 +3.8
comp=Z,2.8nm,1.0s,baz=284,slow=4.4,SNR=7.5
J63A Strafford 121.18 55 P PKiKP 20 25 11.6 +0.3
baz=257
BOOM Boomskoye usch 121.24 304 PKIKP PKPdf 20 25 11.1 -0.5
BOOM Boomskoye usch 121.24 304 PKPdf 20 25 11.1 -0.5
KUU Kurty 121.28 306⇑ePKP PKPdf 20 25 10.1 -1.3
comp=Z,128nm,1.6s,baz=306
KUU ePP PP 20 26 40.3 -2.5
baz=306
KUU Kurty 121.28 306cePKIKP PKPdf 20 25 10.1 -1.3
KUU e 20 26 40.2
KUU pmax pmax
comp=Z,127nm,1.6s
G61A St-Isidore-de- 121.31 53 P PKPdf 20 25 10.9 -0.6
baz=258,SNR=5.9
H62A Milan 121.42 54 P PKiKP 20 25 11.6 -0.2
baz=258
TKM2 Tokmak 2 121.58 304 P PKPdf 20 25 11.5 -0.8
SNR=40
E60A Ste Agathe de 121.59 51 P PKPdf 20 25 11.7 -0.2
baz=256,SNR=7.8
KZA Kyzart 121.64 303 P PKPdf 20 25 12.6 -0.2
SNR=58
I63A Otisfield 121.71 54 P PKPdf 20 25 12.0 -0.3
baz=258
I63A Otisfield 121.71 54 PKPdf PKPdf 20 25 11.9 -0.3
F61A St Evariste 121.82 52 P PKiKP 20 25 12.4 -0.2
baz=258,SNR=5.2
G62A West of Eustis 121.99 53 P PKPdf 20 25 12.5 -0.3
baz=258,SNR=10
G62A West of Eustis 121.99 53 PKPdf PKPdf 20 25 12.0 -0.8
KBK Karagaybulak 121.99 304 P PKPdf 20 25 12.0 -1.1
SNR=33
D60A Saint Jean D'O 122.06 51 P PKiKP 20 25 12.9 0.0
baz=259
CHMS Chumysh 122.21 304 P PKPdf 20 25 12.4 -0.8
SNR=32
UCH Uchtor 122.21 303 P PKPdf 20 25 13.8 -0.1
SNR=75
FRU1 Bishkek 122.25 304 PKIKP PKPdf 20 25 12.8 -0.7
FRU1 Bishkek 122.25 304 PKPdf 20 25 12.8 -0.7
E61A Lac Etchemin 122.26 51 P PKPdf 20 25 13.0 -0.2
baz=259,SNR=7.0
AAK Ala-Archa 122.31 304 PKP PKPdf 20 25 13.0 -0.7
comp=Z,26nm,0.9s,baz=128,slow=2.7,SNR=18
AAK PKKPbc PKKPbc 20 35 13.3 +3.8
comp=Z,6.5nm,0.7s,baz=243,slow=3.7,SNR=9.6
AAK Ala-Archa 122.31 304 P PKPdf 20 25 12.8 -0.8
SNR=26
AAK Ala-Archa 122.31 304c iPKIKP PKPdf 20 25 13.3 -0.4
AAK pmax pmax
comp=Z,67nm,1.3s
AAK Ala-Archa 122.31 304 PKPdf 20 25 13.3 -0.4
I64A Boothbay 122.35 55 P PKPdf 20 25 13.2 -0.2
baz=258
SGDS Sogindy 122.39 305⇓ePKP PKPdf 20 25 12.8 -0.9
comp=Z,46nm,1.2s,baz=305
SGDS ePP PP 20 26 48.5 -1.9
baz=305
SGDS Sogindy 122.39 305dePKIKP PKPdf 20 25 12.7 -0.9
SGDS e 20 26 48.5
SGDS pmax pmax
comp=Z,46nm,1.2s
USP Ospenovka 122.44 305 P PKPdf 20 25 12.9 -0.8
SNR=38
F62A Pittston Farm, 122.51 52 P PKPdf 20 25 13.4 -0.3
baz=259
G63A Kingsbury 122.60 53 P PKPdf 20 25 13.2 -0.7
baz=259
D61A St Aubert, Com 122.60 51 P PKPdf 20 25 13.3 -0.5
baz=260
AML Almayashu 122.78 303 P PKPdf 20 25 14.6 -0.3
SNR=52
H64A Troy 122.78 54 P PKPdf 20 25 13.7 -0.6
baz=259,SNR=9.2
EKS2 Erkin-Say 122.83 304 P PKPdf 20 25 14.2 -0.4
SNR=53
PKME Peaks-Kenny Pk 122.86 53 P PKiKP 20 25 14.5 -0.1
baz=259,SNR=9.7
PKME Peaks-Kenny Pk 122.86 53 PKPdf 20 25 13.7 -0.6
E62A Clayton Lake 122.95 51 P PKiKP 20 25 14.5 -0.2
baz=260
E62A Clayton Lake 122.95 51 PKPdf 20 25 13.2 -1.3
F63A Nahmakanta, Br 123.07 53 P PKPdf 20 25 14.2 -0.6
baz=260,SNR=9.5
F63A Nahmakanta, Br 123.07 53 PKPdf PKPdf 20 25 14.2 -0.6
BTLS Baital 123.12 307⇓ePKP PKPdf 20 25 14.1 -0.9
comp=Z,47nm,1.7s,baz=307
BTLS ePP PP 20 26 53.0 -2.2
baz=307
BTLS Baital 123.12 307dePKIKP PKPdf 20 25 14.0 -0.9
BTLS e 20 26 52.9
BTLS pmax pmax
comp=Z,47nm,1.7s
G64A Maxfield 123.22 53 P PKPdf 20 25 14.6 -0.5
baz=259,SNR=11
D62A Allapoint, All 123.35 51 P PKPdf 20 25 14.8 -0.4
baz=260
D62A Allapoint, All 123.35 51 PKPdf PKPdf 20 25 14.6 -0.7
H65A Eastbrook 123.48 54 P PKPdf 20 25 15.1 -0.5
baz=259,SNR=5.9
F64A Sherman 123.61 52 P PKPdf 20 25 15.7 -0.2
baz=260,SNR=8.6
F64A Sherman 123.61 52 PKPdf PKPdf 20 25 15.6 -0.2
E63A Oxbow 123.66 52 P PKPdf 20 25 15.8 -0.1
baz=260,SNR=9.2
E63A Oxbow 123.66 52 PKPdf PKPdf 20 25 14.9 -1.0
D63A Stockholm 123.97 51 P PKPdf 20 25 16.1 -0.3
baz=261
PQI Presque Isle 123.98 52 PKPdf PKPdf 20 25 15.4 -1.0
EMMW East Machias 124.03 54 PKPdf PKPdf 20 25 16.5 -0.1
G65A Princeton 124.04 53 P PKPdf 20 25 16.4 -0.2
baz=260,SNR=20
G65A Princeton 124.04 53 PKPdf PKPdf 20 25 15.8 -0.9
E64A Bridgewater 124.06 52 P PKPdf 20 25 16.4 -0.2
baz=261
H66A Whiting 124.15 54 P PKPdf 20 25 16.6 -0.3
baz=260
BTK Batken 124.46 300 PKIKP PKPdf 20 25 16.7 -1.1
BTK Batken 124.46 300 PKPdf 20 25 16.7 -1.1
GGN Saint George 124.53 54 PKPdf 20 25 17.2 -0.3
GAR Garm 124.61 299 PKPdf 20 25 17.4 -0.8
DZA Taraz 124.65 304⇓ePKP PKPdf 20 25 17.0 -1.0
comp=Z,70nm,1.5s,baz=304
DZA ePP PP 20 27 03.5 -2.1
baz=304
DZA Taraz 124.65 304dePKIKP PKPdf 20 25 17.0 -1.0
DZA e 20 27 03.5
DZA pmax pmax
comp=Z,70nm,1.5s
ROSB Rosrio 124.68 118 eP PKiKP 20 25 22.8 +3.6
ROSB Rosrio 124.68 118 eP PKiKP 20 25 22.8 +3.6
BRZS Berezniki 124.79 312 ePKP PKPdf 20 25 16.6 -1.4
comp=Z,84nm,1.4s,baz=313
BRZS ePP PP 20 27 03.9 -2.4
baz=313
BRZS Berezniki 124.79 312 ePKIKP PKPdf 20 25 16.6 -1.4
BRZS e 20 27 03.9
BRZS pmax pmax
comp=Z,84nm,1.4s
KK31 Karatay Array 125.28 304 ePKIKP PKPdf 20 25 17.4 -1.7
KK31 pmax pmax
comp=Z,32nm,0.6s
KKAR Karatay Array 125.28 304 PKIKP PKPdf 20 25 17.7 -1.4
KKAR Karatay Array 125.28 304 PKPdf 20 25 17.7 -1.4
BATG Bathurst New B 125.39 51 PKPdf PKPdf 20 25 18.7 -0.5
CHGR Chuyangaron 125.42 298 PKPdf PKPdf 20 25 18.4 -1.3
IUG Iuzhnay 125.45 303 ePKP PKPdf 20 25 18.2 -1.4
comp=Z,23nm,1.5s,baz=303
IUG ePP PP 20 27 10.2 -0.9
baz=303
IUG Iuzhnay 125.45 303 ePKIKP PKPdf 20 25 18.1 -1.5
IUG e 20 27 10.2
IUG pmax pmax
comp=Z,23nm,1.5s
SCHQ Schefferville 125.59 42 PKP PKPdf 20 25 17.9 -1.4
comp=Z,39nm,0.9s,baz=356,slow=1.5,SNR=15
LMN Caledonia Moun 126.06 53 PKPdf PKPdf 20 25 19.6 -1.0
BVAR Borovoye Array 126.47 316 PKP PKPdf 20 25 19.0 -2.1
comp=Z,15nm,0.5s,baz=98,slow=3.0,SNR=31
BVAR Borovoye Array 126.47 316 PKIKP PKPdf 20 25 19.0 -2.1
BRVK Borovoye 126.53 316c iPKIKP PKPdf 20 25 20.7 -0.5
BRVK pmax pmax
comp=Z,217nm,1.7s
BRVK Borovoye 126.53 316 PKPdf PKPdf 20 25 20.2 -0.9
KULLO Kullorsuaq 126.57 17 iP PKPdf 20 25 20.4 -0.2
KULLO Kullorsuaq 126.57 17 i PKIKP PKPdf 20 25 20.4 -0.2
HAL Halifax 126.74 55 PKIKP PKPdf 20 25 21.3 -0.5
HAL Halifax 126.74 55 PKPdf 20 25 21.3 -0.5
NOR Nord 127.75 4 iP PKiKP 20 25 23.4 0.0
NOR Nord 127.75 4 i PKIKP PKiKP 20 25 23.4 0.0
LSZ Lusaka 128.68 212 SKPbc PKSab 20 28 47.1 -0.2
comp=Z,30nm,1.1s,baz=162,slow=4.0,SNR=4.4
LSZ Lusaka 128.68 212 PKIKP PKPdf 20 25 25.9 -0.8
LSZ Lusaka 128.68 212 PKPdf PKPdf 20 25 25.9 -0.8
TSUM Tsumeb 129.01 198 PP PP 20 27 33.1 -0.1
comp=Z,24nm,1.0s,baz=151,slow=5.3,SNR=7.3
TSUM Tsumeb 129.01 198 PKPdf PKPdf 20 25 26.2 -1.0
MHTO MHTO 129.63 273 PKiKP PKiKP 20 25 30.0 +1.2
SNR=12
JMDO Jabal Madar 130.01 275 PKiKP PKiKP 20 25 31.0 +1.4
SNR=8.5
SMDO Samad 130.30 276 PKiKP PKiKP 20 25 32.0 +1.7
SNR=7.4
ILULI Ilulissat 130.38 22 iP PKPdf 20 25 27.8 -0.2
ILULI Ilulissat 130.38 22 i PKIKP PKPdf 20 25 27.8 -0.2
BIDO Bidbid 130.40 276 PKiKP PKiKP 20 25 31.0 +0.7
SNR=7.2
KBS Kingsbay 130.80 358c iPKIKP PKiKP 20 25 31.7 +2.2
KBS pmax pmax
comp=Z,93nm,1.7s
KBS Kingsbay 130.80 358 ePKPdf PKiKP 20 25 30.3 +0.8
BSY Bisya 130.93 275 PKiKP PKiKP 20 25 33.0 +1.5
SNR=6.6
HOQ Hoqain 131.12 276 PKiKP PKiKP 20 25 32.0 +0.2
SNR=15
SPA0 Spitsbergen Ar 131.33 356 ePKPdf PKPdf 20 25 29.3 -0.4
SPA0 ePP PP 20 27 50.6 +2.3
SPA0 e 20 28 56.5
SPITS Spitsbergen Ar 131.33 356 PKP PKPdf 20 25 29.0 -0.7
comp=Z,25nm,0.8s,baz=115,slow=4.0,SNR=8.7
SPITS SKPbc SKPab 20 28 56.0 +2.0
comp=Z,46nm,1.0s,baz=54,slow=7.3,SNR=8.1
ARQ Araqi 131.72 276 PKiKP PKiKP 20 25 33.0 0.0
SNR=9.5
SVE Sverdlovsk 131.90 321d iPKIKP PKPdf 20 25 30.0 -1.3
SVE pmax pmax
comp=Z,78nm,1.3s
SOHO SOHO 131.98 277 i PKPdf PKPdf 20 25 31.1 -1.4
SNR=31
DAG Danmarks Havn 132.08 6 i P PKPdf 20 25 30.3 -0.8
DAG Danmarks Havn 132.08 6 i PKIKP PKPdf 20 25 30.3 -0.8
SUMG Summit 132.16 15⇑iP PKPdf 20 25 32.2 +0.3
SUMG Summit 132.16 15 PKIKP PKPdf 20 25 31.1 -0.8
SUMG Summit 132.16 15 PKPdf PKPdf 20 25 31.1 -0.8
HOPEN Hopen 132.20 353 ePKPdf PKPdf 20 25 31.7 +0.4
HSPB Hornsund (broa 132.51 356 ePKiKP PKiKP 20 25 34.8 +1.8
HSPB Hornsund (broa 132.51 356 ePKiKP PKiKP 20 25 33.4 +0.4
UOSS Minazif 132.52 277 i PKPdf PKPdf 20 25 31.0 -2.5
SNR=7.2
UOSS Minazif 132.52 277 PKPdf PKPdf 20 25 31.6 -1.9
HATD Hatta, Dubai 132.55 277 i PKPdf PKPdf 20 25 32.5 -1.0
SNR=13
HATD Hatta, Dubai 132.55 277 PKiKP PKPdf 20 25 34.0 +0.4
SNR=24
MDH Madha 132.55 278 i PKPdf PKPdf 20 25 32.9 -0.6
SNR=9.9
MDH Madha 132.55 278 PKiKP PKPdf 20 25 34.0 +0.5
SNR=12
ASHO Ashiyiah 132.56 277 i PKPdf PKPdf 20 25 32.9 -0.7
SNR=27
ASHO Ashiyiah 132.56 277 PKiKP PKPdf 20 25 34.0 +0.4
SNR=19
ALNE Al Ain 132.62 276 i PKPdf PKPdf 20 25 33.0 -0.7
SNR=7.3
MSFE Esma-Masafi 132.69 278 i PKPdf PKPdf 20 25 32.2 -1.6
SNR=16
NAZ Nazwa, Dubai 133.00 277 i PKiKP PKiKP 20 25 35.4 -0.2
SNR=7.2
NAZ Nazwa, Dubai 133.00 277 pPKPdf pPKPdf 20 25 38.0 -1.8
SNR=12
ARU Arti 133.10 321 PKhKP PKPpre 20 25 28.3
comp=Z,2.0nm,0.5s,baz=58,slow=1.1,SNR=9.9
ARU SKPbc SKPab 20 29 01.7 -0.4
comp=Z,5.6nm,0.8s,baz=53,slow=19,SNR=10.0
ARU Arti 133.10 321 i PKIKP PKPdf 20 25 32.6 -0.9
ARU 20 27 59.1
ARU Arti 133.10 321 PKPpre 20 25 23.5
AJN Ajban 133.45 277 pPKPdf pPKPdf 20 25 39.5 -1.1
SNR=5.9
GEYT Alibeck 133.85 295 PKhKP PKPpre 20 25 26.5
comp=Z,3.1nm,0.6s,baz=180,slow=3.0,SNR=6.3
GEYT PKP PKPdf 20 25 35.8 +0.1
comp=Z,17nm,0.8s,baz=116,slow=3.4,SNR=19
GEYT SKPbc SKPbc 20 29 04.6 +1.1
comp=Z,18nm,0.9s,baz=96,slow=1.5,SNR=5.1
AKTO Aktyubinsk 134.20 313 SKPbc SKPab 20 29 06.1 -1.1
comp=Z,5.9nm,0.6s,baz=63,slow=4.5,SNR=6.8
BJO1 Bjornoya 134.65 354 ePKPdf PKPdf 20 25 36.2 +0.2
KMBO Kilima Mbogo 134.74 233 PKhKP PKPpre 20 25 31.2
comp=Z,1.4nm,0.6s,baz=78,slow=14,SNR=1.7
KMBO PKP PKPdf 20 25 38.8 +0.5
comp=Z,4.1nm,0.9s,baz=58,slow=9.5,SNR=4.6
KMBO SKPbc SKPbc 20 29 08.2 +0.7
comp=Z,34nm,1.0s,baz=66,slow=2.3,SNR=17
KMBO Kilima Mbogo 134.74 233 SKPbc SKPbc 20 29 06.6 -0.9
SCO Scoresbysund 137.19 12 i P PKPdf 20 25 41.0 +0.2
SCO Scoresbysund 137.19 12 ePKIKP PKPdf 20 25 41.0 +0.2
KIRV Kirov 137.27 326 PKhKP PKPpre 20 25 34.9
comp=Z,12nm,0.7s,baz=62,slow=5.6,SNR=8.3
KIRV Kirov 137.27 326 i PKIKP PKiKP 20 25 44.0 +0.9
LVZ Lovozero 137.61 343 i PKIKP PKPdf 20 25 42.0 +0.3
HAMF Hammerfest 137.62 350 ePKPdf PKPdf 20 25 39.6 -2.0
HAMF ePP PP 20 28 26.9 -1.2
H10S2 ASCENSION HYDR 137.88 154 T T 23 00 19.3
baz=204,slow=74,SNR=606
H10S3 ASCENSION HYDR 137.88 154 T T 23 00 18.2
baz=16,slow=74,SNR=582
APA Apatity 138.17 343⇓iPKIKP PKiKP 20 25 46.2 +1.5
APA i 20 25 53.6
APA pmax pmax
comp=Z,28nm,1.2s
ARCES ARCESS Array B 138.29 348 PKhKP PKPpre 20 25 35.8
comp=Z,19nm,0.8s,baz=300,slow=2.7,SNR=17
ARE0 ARCESS Array S 138.29 348 ePKPdf PKPdf 20 25 39.1 -3.8
ARE0 ePP PP 20 28 34.1 +1.7
ATD Arta Tunnel 138.40 252 PKP PKPdf 20 25 43.2 -1.6
comp=Z,17nm,0.9s,baz=117,slow=4.1,SNR=1.6
ATD Arta Tunnel 138.40 252 pPKPdf PKiKP 20 25 47.8 +1.0
SNR=9.0
JMIC Jan Mayen 138.49 5 ePKPdf PKiKP 20 25 44.4 -0.9
JMIC ePP PP 20 28 33.5 +0.1
JMIC eSKSdf SKSdf 20 32 54.3 +2.0
DAMY Dhamar 138.65 258 pPKPdf pPKPdf 20 25 49.4 -1.5
SNR=10.0
H10N3 ASCENSION HYDR 138.96 154 T T 23 01 47.9
baz=203,slow=76,SNR=2723
H10N1 ASCENSION HYDR 138.96 154 T T 23 01 51.8
baz=203,slow=76,SNR=2363
H10N2 ASCENSION HYDR 138.97 154 T T 23 01 50.1
baz=203,slow=76,SNR=3111
KTK1 Kautokeino 139.15 349 ePKPdf PKPdf 20 25 40.1 -4.3
KTK1 ePP PP 20 28 36.5 -1.1
TMCR Tamitsa 139.18 337 ePKIKP PKiKP 20 25 46.2 -0.6
TMCR pmax pmax
comp=Z,110nm,1.5s
TRO Tromso 139.23 351 ePKPdf PKPdf 20 25 41.9 -2.6
TRO ePP PP 20 28 36.9 -1.1
MBAR Mbarara 139.45 226 PKhKP PKPpre 20 25 39.7
comp=Z,4.1nm,0.7s,baz=261,slow=4.6,SNR=6.0
MBAR SKPbc SKiKP 20 29 24.9 +0.4
comp=Z,24nm,1.0s,baz=106,slow=5.2,SNR=9.1
KLMR Klimovskoe 140.64 332 ePKIKP PKPdf 20 25 45.6 -1.7
KLMR e 20 28 46.5
KLMR pmax pmax
comp=Z,197nm,1.0s
KLMR Klimovskoe 140.64 332 ePKPdf PKPdf 20 25 45.7 -1.6
KLMR AMP 20 25 52.5
comp=Z,197nm,1.0s
KLMR ePP PP 20 28 46.6 -0.5
N2IH Innhavet 141.17 352 ePKPdf PKPdf 20 25 45.9 -2.2
LOF Lofoten 141.28 353 ePdif Pdif 20 23 02.2 -4.3
LOF ePKPdf PKPdf 20 25 43.1 -5.2
LOF IVmB_BB 20 25 49.1
comp=Z,2μm,6.4s
LOF ePP PP 20 28 50.4 -0.1
LOF eSS SS 20 47 08.0 -10
STEI Steigen 141.29 352 ePKPdf PKPdf 20 25 44.6 -3.7
STEI eSKSdf SKSdf 20 32 55.2 -1.7
RAYN Ar Rayn 141.32 271 PKIKP PKPdf 20 25 45.6 -4.2
RAYN Ar Rayn 141.32 271 PKPdf 20 25 45.6 -4.2
N2ST Straumen 141.80 352 ePKPdf PKPdf 20 25 45.9 -3.3
FAUS Fauske 141.81 352 ePKPdf PKPdf 20 25 45.4 -3.9
FAUS ePP PP 20 28 55.2 +1.4
FAUS eSS SS 20 47 25.7 +1.6
N2VA Vr_y 141.81 354 ePKPdf PKPdf 20 25 45.1 -4.2
NBB08 Skaug oppvekst 141.88 352 ePKPdf PKPdf 20 25 46.3 -3.1
AKT Akhty 142.00 300 ePKHKP PKPpre 20 25 45.6
AKT e 20 28 57.9
AKT pmax pmax
comp=Z,121nm,1.1s
N2RO R_st 142.01 354 ePKPdf PKPdf 20 25 45.6 -4.0
MAK Makhachkala 142.07 303 eP Pdif 20 23 02.6 -8.0
MAK i 20 25 47.8
MAK ePPP PPP 20 32 00.4
MAK e 20 32 50.9
MAK pmax pmax
comp=Z,249nm,1.1s
BORG Borgarnes 142.13 16 PKP PKPdf 20 25 49.1 -0.8
comp=Z,13nm,0.8s,baz=350,slow=6.1,SNR=2.5
BORG Borgarnes 142.13 16 PKIKP PKPdf 20 25 48.9 -1.0
BORG Borgarnes 142.13 16 PKPdf 20 25 48.9 -1.0
NBB05 Inndyr 142.28 353 ePKPdf PKPdf 20 25 46.6 -3.5
NBB30 Finnes 142.38 353 ePKPdf PKPdf 20 25 46.1 -4.2
NBB17 Glomfjord BYr 142.50 353 ePKPdf PKPdf 20 25 47.5 -3.1
NBB40 Tonnes 142.90 353 eP PKPdf 20 25 50.7 -0.5
KONS Konsvik 142.90 353 ePKPdf PKPdf 20 25 51.0 -0.3
MOR8 Moi Rana 143.07 352 ePKPdf PKPbc 20 25 48.6 +0.1
STOK Stokkvaagen 143.07 353 ePKPdf PKPdf 20 25 52.0 +0.5
GROC Groznyy 143.29 303 ePKIKP PKPbc 20 25 50.2 +0.4
GROC pmax pmax
comp=Z,211nm,1.3s
VRH Novokhopyorsk 144.09 317 ePKIKP PKPbc 20 25 51.6 -0.2
VRH pmax pmax
comp=Z,90nm,0.8s
TBLG Delisi 144.22 301 PKIKP PKPbc 20 25 52.6 0.0

TBLG Delisi 144.22 301 PKPdf PKPbc 20 25 52.6 0.0
MOS Moscow 144.28 326 *e*PKHKP **PKPab** **20 25 48.5 -3.4**
MOS *i* 20 32 56.9
MOS pmax pmax
comp=Z,325nm,1.3s
MOS pmax pmax
comp=Z,5µm,5.4s
ZEI Tsey 144.72 303 *e*PKHKP **PKPab** **20 25 51.6 -2.7**
ZEI pmax pmax
comp=Z,261nm,1.2s
PUL Pulkovo 144.84 336 *e*P **PKPab** **20 25 52.9 -1.0**
PUL *e*PP **PP** **20 29 10.8 -1.5**
PUL Pulkovo 144.84 336 *i* PKIKP PKPbc 20 25 53.9 0.0
FINES FINESS Array B 144.93 341 PKP **PKPab** **20 25 53.9 -0.2**
comp=Z,188nm,0.5s,baz=64,slow=4.4,SNR=160
NSS Namsos 144.94 353 *e*PKPbc **PKPab** **20 25 53.6 -0.5**
GOF Gofitskoye 144.96 307⇑ *i* PKIKP PKPbc 20 25 53.5 -1.3
GOF pmax pmax
comp=Z,541nm,1.8s
LPSR Galich'ya Gora 145.12 321 *e*PKIKP **PKPbc** **20 25 53.6 -1.5**
LPSR pmax pmax
comp=Z,590nm,1.3s
OBN Obninsk 145.12 326 PKPbc **PKPbc** **20 25 53.8 -1.2**
comp=Z,64nm,0.6s,baz=60,slow=2.8,SNR=87
OBN Obninsk 145.12 326⇑ *e*P **PKPab** **20 25 55.1 +0.1**
OBN Obninsk 145.12 326*c* *i* PKIKP **PKPbc** **20 25 53.4 -1.6**
OBN *i* 20 29 13.1
OBN pmax pmax
comp=Z,809nm,1.1s
OBN Obninsk 145.12 326 **PKPbc** **20 25 53.6 -1.3**
AKH Akhalkalaki 145.18 300 ⇑P **PKPdf** **20 25 56.6 +0.3**
AKH Akhalkalaki 145.18 300 PKIKP **PKPbc** **20 25 55.0 -0.9**
AKH Akhalkalaki 145.18 300 **PKPbc** **20 25 55.0 -0.9**
KBZ Khabaz 145.31 305 PKPbc **PKPbc** **20 25 54.9 -1.0**
comp=Z,106nm,1.1s,baz=91,slow=3.0,SNR=50
KIV Kislovodsk 145.42 305 ⇑P **PKPbc** **20 25 56.5 0.0**
KIV Kislovodsk 145.42 305 *i* PKPab **PKPdf** **20 25 55.5 -1.0**
SNR=77
KIV Kislovodsk 145.42 305 *e*PKP2 **PKPdf** **20 25 54.9 -1.6**
KIV pmax pmax
comp=Z,616nm,1.1s
KIV Kislovodsk 145.42 305 **PKPdf** **20 25 54.6 -1.9**
VSR Storozhevoye 145.57 318 *e*PKP2 **PKPdf** **20 25 55.3 -1.1**
VSR pmax pmax
comp=Z,910nm,1.4s
VORD Divnogorie 145.60 318 *e*PKP2 **PKPdf** **20 25 55.3 -1.1**
VORD pmax pmax
comp=Z,470nm,1.4s
TBLU Trondheim 146.36 354 *e*PKPdf **PKPdf** **20 25 57.6 +0.2**
TBLU IVmBBB 20 25 60.0
comp=Z,11µm,4.3s
TBLU *e*PP **PP** **20 29 20.2 -0.8**
BCA Borcka 146.58 301 ⇑P **PKPbc** **20 26 00.1 +0.1**
VSU Vasula 147.06 337 *e*P **PKPbc** **20 26 01.1 +0.3**
VSU *e*PP **PP** **20 29 23.3 -2.2**
MOL Molde 147.25 356 *e*PKPdf **PKPdf** **20 25 59.8 +0.9**
SOC Sochi 147.60 305 *e*PKIKP **PKPdf** **20 25 58.8 -1.2**
SOC *i* 20 26 03.8
DOMB Dombas 147.66 354 *e*PKPbc **PKPdf** **20 26 00.3 +0.7**
DOMB IVmB_BB 20 26 05.2
comp=Z,5µm,3.1s
AKN Aaknes 147.67 356 *e*PKPdf **PKPdf** **20 26 00.6 +1.0**
AKN *e*PP **PP** **20 29 29.5 +0.7**
KTUT Trabzon 148.03 300 ⇓P **PKiKP** **20 26 04.9 -0.9**
FOO Floro 148.34 358 *e*PKPdf **PKPdf** **20 26 01.4 +0.8**
FOO *e*SKSdf **SKSdf** **20 33 11.1 +3.5**
NB2 NORSAR Subarra1 148.42 352 PKP **PKPbc** **20 26 03.4 -1.0**
comp=Z,2µm,2.5s,baz=17,slow=2.6
NB2 NORSAR Subarra1 148.42 352 PKP **PKPbc** **20 26 03.4 -1.0**
baz=17,slow=2.6
NOA NORSAR Array B 148.42 352 PKPbc **PKPbc** **20 26 02.7 -1.8**
comp=Z,43nm,0.9s,baz=13,slow=4.5,SNR=46
NC602 NORSAR Array S 148.67 352 *e*PKPdf **PKPdf** **20 26 02.3 +1.0**
NC602 *ep*PKPbc **sPKPbc** **20 26 11.7 -0.4**
HYA Hoyanger 148.72 357 *e*PKPbc **PKPbc** **20 26 05.3 +0.3**
ANN Anapa 148.89 308 *e*PKIKP **PKPdf** **20 26 01.7 -0.4**
ANN *e* 20 29 43.0
ANN pmax pmax
comp=E,98nm,0.7s
ANN pmax pmax
comp=N,141nm,0.7s
ANN pmax pmax
comp=Z,378nm,0.8s
SUE Sulen 148.89 358 *e*PKPdf **PKPdf** **20 26 02.4 +0.9**
HFS Hagfors 148.94 349 PKPbc **PKPbc** **20 26 05.0 -0.7**
comp=Z,87nm,0.7s,baz=90,slow=1.5,SNR=41
SKAR Skarslia 149.07 355 *e*PKPdf **PKPdf** **20 26 03.5 +1.5**
SKAR IVmB_BB 20 26 09.5
comp=Z,4µm,1.8s
SKAR *e*SS SS 20 48 51.3 +4.3
SLIT Slitere, Latvi 149.16 339 *e*P **PKiKP** **20 26 07.0 -0.5**
IZAR Zarasai 149.26 334 *e*P **PKPbc** **20 26 07.0 +0.4**
ISAL Salakas 149.44 334 *e*P **PKPbc** **20 26 07.0 -0.1**
ASK Askoy 149.45 357 *e*PKPbc **PKPbc** **20 26 07.0 +0.1**
ASK *e*SKPdf SKPdf 20 29 34.8 -0.3
MICGM Minsk 149.48 331⇑ *e*PKP **PKPbc** **20 26 06.0 -1.2**
MICGM ⇑*e*PKP **PKPbc** **20 26 06.0 -1.2**
MICGM PKPM 20 26 07.0
comp=Z,0.8nm,1.8s
MICGM PKPM 20 26 08.0
comp=Z,25nm,20.0s
MICGM PKPM 20 26 08.0
comp=Z,39nm,24.0s
MICGM *e*PP **PP** **20 29 34.0 -5.8**
MICGM *e*SKS **SKSdf** **20 33 16.0 +6.5**
MICGM *e*SKKS SKKSac 20 35 40.0 -50
MNK Minsk 149.48 331*a* *e*PKP2 **PKPbc** **20 26 06.0 -1.2**
MNK pmax pmax
comp=Z,790nm,1.8s
MNK pmax pmax
comp=Z,39µm,24.0s
BER Bergen 149.55 357 *e*PKPdf **PKPdf** **20 26 03.3 +0.7**
OSL Oslo 149.55 352 *e*PKPdf **PKPdf** **20 26 04.2 +1.5**
IIGN Ignalina 149.56 333 *e*P **PKPbc** **20 26 07.3 -0.1**
NACGM Naroch 149.66 332 *e*P **PKPbc** **20 26 07.0 -0.7**
NACGM PM 20 26 24.0
comp=Z,1.7nm,1.0s
ODD1 Odda 149.95 356 *ep*PKPdf **PKiKP** **20 26 10.4 +1.2**
ODD1 *e*SKPdf **SKPdf** **20 29 35.9 -0.1**
KONO Kongsberg 149.96 353 PKPdf **PKPdf** **20 26 03.6 +0.3**
KONO Kongsberg 149.96 353 *e*PKPdf **PKPdf** **20 26 04.8 +1.4**
PABE Paberze 150.30 335 *e*P **PKPbc** **20 26 08.3 -0.9**
GAZ Gaziantep 150.40 293 PKPdf **PKPdf** **20 26 04.7 -0.2**
BLS5 Blasjo 150.45 356 *e*PKPdf **PKPdf** **20 26 04.6 +0.5**
PBUR Paburge 150.59 338 *e*P **PKPbc** **20 26 09.0 -0.8**
ASF Jabal al Asfar 150.61 283 PKP **PKPdf** **20 26 05.1 -0.3**
comp=Z,13nm,1.2s,baz=187,slow=1.7,SNR=14
ASF PKPbc **pPKPdf** **20 26 10.2 -0.5**
comp=Z,295nm,1.2s,baz=101,slow=0.7,SNR=42
KMY Karmoy 150.72 357 *e*PKPbc **PKPbc** **20 26 10.2 +0.2**
LEWI Lewis, Hebride 151.10 10 *e*P **PKPdf** **20 26 05.0 -0.2**
DIKM Dikmen 151.24 303 ⇑P **PKiKP** **20 26 12.1 -0.3**
AKASG Malin Array Be 151.28 324 PKP **PKPdf** **20 26 04.7 -0.9**
comp=Z,5.2nm,0.9s,baz=34,slow=1.6,SNR=11
AKASG PKPbc **pPKPdf** **20 26 11.0 +0.1**
comp=Z,58nm,0.5s,baz=49,slow=3.7,SNR=42
HOMB Homborsund 151.43 353 *e*PKPdf **PKPdf** **20 26 06.5 +0.9**
SNART Snartemo 151.47 355 *e*PKPbc **PKPbc** **20 26 11.0 -0.8**
SNART *e*SKPdf **SKPdf** **20 29 36.7 -1.4**
RCY Rachaya 151.59 286 *e*P **PKPdf** **20 26 06.5 -0.4**
SHBL Chebaa 151.66 285 *e*P **PKPdf** **20 26 07.1 0.0**
QRWL Qaraoun 151.72 286 *e*P **PKPdf** **20 26 06.6 -0.5**
SUW Suwalki 151.74 334 *e*PKPdf **PKPdf** **20 26 06.4 +0.2**
SUW *e*PKPbc **pPKPdf** **20 26 11.3 -0.2**
SUW *e*PP **PP** **20 29 51.1 -1.6**
BHL Bhannes 151.75 287 *e*P **PKPdf** **20 26 07.3 +0.3**
MMAI Mount Meron Ar 151.93 285 PKP **PKPdf** **20 26 07.0 -0.4**
comp=Z,5.4nm,1.1s,baz=293,slow=4.3,SNR=8.2
MMAI PKPbc **PKPbc** **20 26 13.6 -0.3**
comp=Z,110nm,0.5s,baz=89,slow=6.9,SNR=84
EIL Elat 151.98 278 PKP **PKPdf** **20 26 08.1 +0.6**
comp=Z,88nm,1.3s,baz=24,slow=9.2,SNR=9.1
EIL PKPbc **sPKPdf** **20 26 14.1 -0.5**
comp=Z,189nm,0.7s,baz=336,slow=1.5,SNR=24
GOET G??ttrup 152.56 352 *i* P **PKiKP** **20 26 18.7 +4.1**
GOET *i* 20 26 27.5
BRTR Keskin Array B 152.85 299 PKP **PKPdf** **20 26 09.4 +0.8**
comp=Z,3.2nm,1.0s,baz=70,slow=4.1,SNR=17
BRTR PKPbc **sPKPdf** **20 26 15.3 -0.4**
comp=Z,96nm,1.1s,baz=130,slow=1.7,SNR=35
MUD Monsted U'grnd 153.14 352 *i* P **PKPdf** **20 26 08.3 +0.1**
MUD Monsted U'grnd 153.14 352 *i* PKIKP **PKPdf** **20 26 08.3 +0.1**
ROSA Rosais 153.19 63 PKPdf **PKPdf** **20 26 09.1 +0.2**

SORM Soroca 153.21 320 ⇑P **PKPbc** **20 26 15.7 -0.4**
SORM Soroca 153.21 320 ⇑PKIKP **PKPbc** **20 26 15.7 -0.4**
BSD Bornholm Skovb 153.38 344 *i* P **PKPdf** **20 26 09.1 +0.5**
BSD Bornholm Skovb 153.38 344 *i* PKIKP **PKPdf** **20 26 09.1 +0.5**
ANTO Ankara 153.46 300 ⇑P **PKiKP** **20 26 17.2 0.0**
ANTO Ankara 153.46 300 PKIKP **PKPdf** **20 26 08.7 -0.7**
ANTO Ankara 153.46 300 PKPdf **PKPdf** **20 26 08.7 -0.7**
KIS Kishinev 153.54 317 *i* P **PKPdf** **20 26 11.5 +2.4**
KIS Kishinev 153.54 317 *i* PKIKP **PKPdf** **20 26 11.0 +1.9**
MILM Milestii Mici 153.59 317 ⇓P **PKiKP** **20 26 17.9 +0.9**
PGBU Glenifferbraes 153.70 9 *e*P **PKPdf** **20 26 08.4 -0.7**
LEF Lefka 154.01 289 ⇓P **PKiKP** **20 26 18.8 +0.5**
LEOM Leova 154.15 317 ⇓P **PKiKP** **20 26 19.1 +0.9**
LEOM Leova 154.15 317 ⇓PKIKP **PKiKP** **20 26 19.1 +0.9**
RGN Rugen 154.26 346 *e*P **PKPdf** **20 26 06.9 -3.0**
VASR Vaslui 154.33 317 ⇑P **PKiKP** **20 26 19.0 +0.4**
EKA Eskdalemuir Ar 154.33 8 PKP **PKPdf** **20 26 11.1 +1.1**
comp=Z,4.0nm,0.8s,baz=331,slow=1.4,SNR=7.2
BEL Belsk 154.34 333 *e*PKPdf **PKPdf** **20 26 10.9 +0.8**
BEL *e*PKiKP **PKiKP** **20 26 19.4 +0.9**
BEL *e*PKPab **PKPab** **20 26 34.2 +1.7**
BEL *e*PP **PP** **20 30 05.6 -1.8**
ESK Eskdalemuir 154.34 8 PKIKP **PKPdf** **20 26 10.3 +0.3**
ESK Eskdalemuir 154.34 8 PKPdf **PKPdf** **20 26 10.3 +0.3**
GKP Gorka Klasztor 154.39 339 *e*PKPdf **PKPdf** **20 26 08.7 -1.4**
GKP *e*PKiKP **PKiKP** **20 26 19.2 +0.7**
GKP *e*PKPab **PKPab** **20 26 34.0 +1.3**
NEWG New Galloway 154.41 9 *e*P **PKPdf** **20 26 10.3 +0.2**
LVV L'vov 154.42 327 *i* PKIKP **PKPdf** **20 26 09.1 -1.2**
LVV *e* 20 26 20.3
LVV MLR MLR
comp=Z,232µm,21.0s
TLCR 154.43 314 ⇑P **PKiKP** **20 26 18.9 +0.1**
TLCR 154.43 314 ⇑PKIKP **PKiKP** **20 26 18.9 +0.1**
MDUB Mudurnu 154.50 302 PKPdf **PKPdf** **20 26 10.1 -0.8**
JURR Jurilovca 154.58 313 ⇓P **PKPdf** **20 26 14.4 +3.7**
PRAR RASCA 154.83 320 ⇑P **PKPdf** **20 26 14.5 +3.5**
TOPG Topolog 154.84 313 ⇑P **PKPbc** **20 26 18.7 -1.0**
CFR Carcaliu 154.85 314 ⇑P **PKPbc** **20 26 19.4 -0.3**
CFR Carcaliu 154.85 314 ⇑PKIKP **PKPbc** **20 26 19.4 -0.3**
GHRR 154.86 317 ⇑P **PKiKP** **20 26 23.6 +3.9**
EDMD Edmundbyers 154.95 6 *e*P **PKPdf** **20 26 09.3 -1.6**
TESR Tescani 155.07 318 ⇓P **PKPdf** **20 26 11.7 +0.4**
BIZ Bicaz 155.14 319 ⇑P PKPdf 20 26 20.8 +9.3
KWP Kalwaria Pacla 155.17 328 *e*PKPdf **PKPdf** **20 26 09.3 -2.0**
KWP *e*PKPab **PKPab** **20 26 37.5 +1.3**
MANR Mangalia 155.18 311 ⇓P PKPab 20 26 24.9 -12
IOMK Kirk Michael 155.19 10 *e*P **PKPdf** **20 26 10.4 -0.8**
TLBR Topalu 155.21 313 ⇓P PKPdf 20 26 20.0 +8.4
HARR Harsova 155.21 313 ⇑P PKPdf 20 26 22.6 +11
BURAR Bucovina Array 155.23 322 ⇑P **PKPdf** **20 26 18.2 +6.5**
BURAR Bucovina Array 155.23 322 ⇑PKIKP **PKPdf** **20 26 18.2 +6.5**
LIC Lamto 155.30 162 *e*P **PKPdf** **20 26 15.4 +2.8**
comp=Z,280nm,1.9s
VRI Vrincioaia 155.37 317 ⇓P PKPdf 20 26 22.2 +10
PLOR Plostina 155.42 317 ⇑P **PKPdf** **20 26 19.1 +7.2**
PLOR Plostina 155.42 317 ⇑PKIKP **PKPdf** **20 26 19.1 +7.2**
GDLE Glaisdale, N Y 155.46 5 *e*P **PKPdf** **20 26 09.7 -1.9**
KIC Kosan Boka 155.50 162 *e*P **PKPdf** **20 26 12.3 -0.6**
comp=Z,467nm,2.0s
PGOR Pogoanele 155.70 315 ⇓P **PKPab** **20 26 40.0 +1.5**
TIC Toumodi 155.70 161 *e*P **PKPdf** **20 26 12.8 -0.4**
DBIC Dimbokro 155.77 162 PKP **PKPdf** **20 26 13.9 +0.7**
comp=Z,14nm,0.8s,baz=196,slow=4.8,SNR=7.0
DBIC Dimbokro 155.77 162 PKIKP **PKPdf** **20 26 12.1 -1.2**
DBIC Dimbokro 155.77 162 **PKPdf** **20 26 12.1 -1.2**
OZUR 155.79 318 ⇑P PKPdf 20 26 24.4 +12
DSB Dublin 155.85 13 PKPdf **PKPdf** **20 26 12.4 +0.2**
HPK Haverah Park 155.85 6 *e*P **PKPdf** **20 26 10.7 -1.4**
KOLS Kolonicke sedl 155.86 327 *e*PKIKP **PKPdf** **20 26 12.4 +0.1**
KOLS *e* 20 30 14.3
KOLS Kolonicke sedl 155.86 327 *e*PKP **PKPdf** **20 26 12.4 +0.1**
KOLS *e*PP **PP** **20 30 14.3 -1.8**
RASA Rasa 155.93 313 ⇓P PKPdf 20 26 22.1 +10
OJC Ojcow 155.99 332 *e*PKPdf PKPdf 20 26 02.3 -10
OJC *e*PP PP 20 30 03.5 -13
OJC Ojcow 155.99 332 PKIKP **PKPdf** **20 26 12.0 -0.5**
OJC Ojcow 155.99 332 PKPdf **PKPdf** **20 26 12.0 -0.5**
MLR Muntele Rosu 156.03 317 PKP **PKPdf** **20 26 12.2 -0.7**
comp=Z,13nm,1.2s,baz=348,slow=1.9,SNR=7.8
MLR PKPab **PKPab** **20 26 41.7 +1.5**
comp=Z,38nm,1.0s,baz=355,slow=12,SNR=8.1
MLR Muntele Rosu 156.03 317 ⇑P **PKPdf** **20 26 20.1 +7.3**
MLR Muntele Rosu 156.03 317 PKIKP **PKPdf** **20 26 12.0 -0.8**
MLR Muntele Rosu 156.03 317 PKPdf **PKPdf** **20 26 12.0 -0.8**
WPS Cemaes, Angles 156.03 10 *e*P **PKPdf** **20 26 10.3 -2.0**
RUE Ruedersdorf 156.06 343 *e*P **PKPdf** **20 26 13.8 +1.4**
RUE *e*PP **PP** **20 30 16.0 -0.7**
UZH Uzhgorod 156.06 327 *e*PKIKP **PKPdf** **20 26 17.8 +5.2**
UZH *e* 20 26 24.8
UZH *e* 20 26 30.5
UZH *i* 20 26 39.5
DOPR Dopca 156.10 318 ⇑P PKPdf 20 26 22.8 +10
WLF1 Llynfaes 156.16 10 *e*P **PKPdf** **20 26 12.6 +0.1**
CRVS Cervenica-Dubn 156.26 328 *e*PKIKP **PKPdf** **20 26 12.4 -0.5**
CRVS Cervenica-Dubn 156.26 328 *e*PKP **PKPdf** **20 26 12.4 -0.5**
CRVS *e* 20 26 41.2
SULR 156.26 315 ⇑P PKPdf 20 26 26.0 +13
ELL Elmali 156.26 294 PKIKP **PKPdf** **20 26 12.3 -1.1**
ELL Elmali 156.26 294 PKPdf **PKPdf** **20 26 12.3 -1.1**
NEF NEVSHA 156.28 311 *e*P **PKPdf** **20 26 11.9 -1.2**
LBWR Ladybower, Pea 156.39 6 *e*P **PKPdf** **20 26 12.6 -0.3**
NIE Niedzica 156.40 330 *e*PKPdf **PKPdf** **20 26 14.0 +0.9**
NIE *e*PP **PP** **20 30 18.6 -0.4**
LMK Market Rasen 156.45 4 *e*P **PKPdf** **20 26 13.2 +0.3**
VOIR 156.59 317 ⇑P **PKPdf** **20 26 13.0 -0.5**
VOIR 156.59 317 ⇑PKIKP **PKPdf** **20 26 13.0 -0.5**
STNC Stoke 156.65 7 *e*P **PKPdf** **20 26 11.8 -1.4**
FOEL Foel Wylfa 156.72 9 *e*P **PKPdf** **20 26 12.2 -1.2**
KSP Ksiaz 156.78 338 *e*PKPdf **PKPdf** **20 26 14.0 +0.5**
KSP *e*PKPab **PKPab** **20 26 43.6 +0.6**
KSP *e*PP **PP** **20 30 18.9 -2.0**
ARR Arges 156.87 318 ⇑P **PKPdf** **20 26 16.6 +2.8**
OKC Ostrava-Krasne 156.95 334 *e*PKPDF **PKPdf** **20 26 15.4 +1.7**
OKC *e*PKPAB **PKPab** **20 26 43.0 -0.8**
OKC Ostrava-Krasne 156.95 334 *e*PKIKP **PKPdf** **20 26 15.4 +1.7**
LANS Liptovska Anna 156.96 331 *e*PKIKP **PKPdf** **20 26 15.8 +2.0**
LANS *e* 20 26 36.7
LANS Liptovska Anna 156.96 331 *e*PKP **PKPdf** **20 26 15.8 +2.0**
LANS *e* 20 26 36.7
KECS Kecovo 157.01 328 *e*PKP2 **PKPab** **20 26 45.0 +0.9**
KECS Kecovo 157.01 328 *e*PKP **PKPab** **20 26 45.0 +0.9**
OSTC Ostas 157.05 337 *e*PKPDF **PKPdf** **20 26 13.3 -0.5**
OSTC *e*PKPAB **PKPab** **20 26 45.7 +1.5**
CHVC Chvalec 157.07 338 *e*PKPDF **PKPdf** **20 26 12.9 -1.0**
CHVC *e*PKPAB **PKPab** **20 26 44.7 +0.4**
DRGR 157.08 323 ⇑P **PKPdf** **20 26 14.8 +0.7**
DRGR 157.08 323 ⇑PKIKP **PKPdf** **20 26 14.8 +0.7**
CWF Charnwood Fore 157.09 6 *e*P **PKPdf** **20 26 13.6 -0.2**
SZH Strazhica 157.15 312 *e*P **PKPdf** **20 26 14.1 -0.1**
UPC Upice 157.16 338 *e*PKPDF **PKPdf** **20 26 15.6 +1.6**
UPC *e*PKPAB **PKPab** **20 26 46.6 +2.0**
UPC Upice 157.16 338 *e*PKIKP **PKPdf** **20 26 15.6 +1.6**
DPC Dobruska-Polom 157.19 337 *e*PKPDF **PKPdf** **20 26 15.6 +1.5**
DPC *e*PKPAB **PKPab** **20 26 45.2 +0.4**
DPC Dobruska-Polom 157.19 337 *e*PKIKP **PKPdf** **20 26 15.6 +1.5**
MORC Moravsky Berou 157.23 334 *e*PKP **PKPdf** **20 26 14.1 0.0**
MORC *e* 20 26 45.4
MORC Moravsky Berou 157.23 334 PKIKP **PKPdf** **20 26 13.5 -0.6**
MORC Moravsky Berou 157.23 334 PKPdf **PKPdf** **20 26 13.5 -0.6**
LOT Lotru 157.32 319 ⇑P PKPab 20 26 37.4 -8.4
CLL Collm 157.33 343 *e*PKPdf **PKPdf** **20 26 14.0 -0.1**
CLL *i* pPKPdf **sPKPdf** **20 26 22.2 +1.0**
CLL *e*PKPdiff **pPKPdf** **20 26 27.0 +7.6**
comp=Z,157nm,1.9s
CLL *i* 20 26 34.0
CLL *i* PKPab **PKPab** **20 26 44.9 -0.4**
comp=Z,203nm,1.0s
CLL *ep*PKPab **pPKPab** **20 26 51.0 +0.5**
CLL *e*PP **PP** **20 30 22.0 -1.8**
CLL *e* 20 30 43.0
CLL *e*SKKSac SKKSac 20 37 11.0 -1.2
CLL Collm 157.33 343 *e*PKIKP **PKPdf** **20 26 14.0 -0.1**
CLL *i* 20 26 22.2
CLL Collm 157.33 343 PKPdf **PKPdf** **20 26 13.7 -0.5**
RSBS Rosebush, Pemb 157.39 12 *e*P **PKPdf** **20 26 14.1 -0.1**
BRG Berggiesshubel 157.47 341 *i* PKP **PKPdf** **20 26 13.3 -1.0**
comp=Z,82nm,2.0s
BRG Berggiesshubel 157.47 341 *i* PKP **PKPab** **20 26 44.9 -1.1**
comp=Z,247nm,1.1s
BRG Berggiesshubel 157.47 341 *i* PKIKP **PKPdf** **20 26 13.3 -1.0**
BRG pmax pmax
comp=Z,83nm,2.0s
PVCC Panska Ves 157.59 340 *e*PKPDF **PKPdf** **20 26 15.9 +1.4**
PVCC *e*PKPAB **PKPab** **20 26 47.2 +0.7**
PVCC Panska Ves 157.59 340 *e*PKIKP **PKPdf** **20 26 15.9 +1.4**
PSZ Piszkesteto 157.69 328 PKIKP **PKPdf** **20 26 14.1 -0.7**
PSZ Piszkesteto 157.69 328 PKPdf **PKPdf** **20 26 14.1 -0.7**
VYHS Vyhne 157.73 331 *e*PKIKP **PKPdf** **20 26 14.3 -0.4**
VYHS *e* 20 30 23.4
VYHS Vyhne 157.73 331 *e*PKP **PKPdf** **20 26 14.3 -0.4**
VYHS *e* 20 26 47.2
VYHS *e*PP **PP** **20 30 23.4 -2.9**
JAVC Velka Javorina 157.92 333 *e*PKP **PKPdf** **20 26 14.5 -0.5**
JAVC *e* 20 26 48.8
STRD Stroud 157.94 8 *e*P **PKPdf** **20 26 15.3 +0.4**
DIM Dimitrovgrad 157.96 309 *e*P **PKPdf** **20 26 15.9 +0.7**
VRAC Vranov 157.97 335 PKP **PKPdf** **20 26 14.5 -0.6**
comp=Z,1.0nm,0.3s,baz=32,slow=0.3,SNR=10
VRAC PKPab **PKPab** **20 26 48.3 +0.1**
comp=Z,128nm,1.1s,baz=40,slow=4.3,SNR=22
VRAC Vranov 157.97 335 ⇓P PKPdf 20 26 24.6 +10
VRAC Vranov 157.97 335 *e*PKP **PKPdf** **20 26 14.4 -0.6**
VRAC *e* 20 26 46.5
SIRR Siria 157.97 323 ⇓P **PKPdf** **20 26 15.2 +0.1**
OLDB Oldbury-Upon-S 158.01 9 *e*P **PKPdf** **20 26 14.6 -0.3**
PRA Prague 158.04 339 *e*PKPAB **PKPab** **20 26 48.3 -0.1**
PRA Prague 158.04 339 *e*PKIKP **PKPdf** **20 26 09.4 -5.6**
PRA *e* 20 26 48.3
GOPC GO Pecny, Ondr 158.07 339 *e*PKPAB **PKPab** **20 26 48.3 -0.3**
GOPC GO Pecny, Ondr 158.07 339 *e*PKIKP **PKPdf** **20 26 22.8 +7.7**
GOPC *e* 20 26 48.3
ALN Alexandroupoli 158.08 306 PKIKP **PKPdf** **20 26 14.8 -0.6**
ALN Alexandroupoli 158.08 306 **PKPdf** **20 26 14.8 -0.6**
PRU Pruhonice 158.08 339 *e*PKPDF **PKPdf** **20 26 16.2 +1.1**
PRU *e*PKPAB **PKPab** **20 26 48.6 0.0**
PRU Pruhonice 158.08 339 *e*PKIKP **PKPdf** **20 26 16.2 +1.1**
PRU *e* 20 26 48.6
KRUC Moravsky 158.24 335 *e*PKP **PKPdf** **20 26 14.4 -0.9**
KRUC *e* 20 26 49.8
SWN1 Swindon 158.25 7 *e*P **PKPdf** **20 26 15.4 +0.1**
SMOL Smolenice 158.29 333 *e*PKP2 **PKPab** **20 26 50.5 +0.9**
SMOL *e* 20 30 27.7
SMOL Smolenice 158.29 333 *e*PKP **PKPab** **20 26 50.5 +0.9**
SMOL *e*PP **PP** **20 30 27.7 -1.7**
HTL Hartland 158.35 12 *e*P **PKPdf** **20 26 14.6 -0.7**
TREC Trest 158.37 337 *e*PKPDF **PKPdf** **20 26 15.9 +0.4**
TREC *e*PKPAB **PKPab** **20 26 51.4 +1.5**
TREC Trest 158.37 337 *e*PKIKP **PKPdf** **20 26 15.9 +0.4**
BZS Buzias 158.42 322 ⇑P **PKPdf** **20 26 14.9 -0.8**
BZS Buzias 158.42 322 ⇑PKIKP **PKPdf** **20 26 14.9 -0.8**
NKC Novy Kostel 158.46 343 *e*PKPDF PKPdf 20 26 30.9 +15
NKC *e*PKPAB **PKPab** **20 26 50.7 +0.4**
MODS Modra-Piesok 158.47 333 *e*PKIKP **PKPdf** **20 26 14.9 -0.8**
MODS *e* 20 30 28.2
MODS Modra-Piesok 158.47 333 *e*PKP **PKPdf** **20 26 14.9 -0.8**
MODS *e* 20 26 51.7
MODS *e*PP **PP** **20 30 28.2 -2.1**
PBCC Pribram 158.51 339 *e*PKPDF PKPdf 20 26 06.2 -9.5
PBCC *e*PKPAB **PKPab** **20 26 50.3 -0.2**
ZST Bratislava 158.68 333 *e*PKP2 **PKPab** **20 26 51.4 +0.1**
ZST Bratislava 158.68 333 *e*PKP **PKPab** **20 26 51.3 0.0**
DYA Yadsworthy 158.99 12 *e*P **PKPdf** **20 26 16.2 0.0**
HMNX Herstmonceux 159.07 4 *e*P **PKPdf** **20 26 15.3 -0.9**
BEBN Eben Emael 159.08 355 PKPdf **PKPdf** **20 26 18.4 +2.2**
BEBN PKPab **PKPab** **20 26 52.0 -0.9**
KHC Kasperske Hory 159.13 339 *e*PKPDF **PKPdf** **20 26 15.8 -0.7**
KHC *e*PKPAB **PKPab** **20 26 52.9 -0.4**
KHC *ex* x 20 27 11.0
KHC Kasperske Hory 159.13 339 PKIKP **PKPdf** **20 26 15.7 -0.7**
KHC Kasperske Hory 159.13 339 PKPdf **PKPdf** **20 26 15.7 -0.7**
UCC Uccle 159.17 357 PKPdf **PKPdf** **20 26 19.0 +2.7**
UCC PKPab **PKPab** **20 26 52.2 -1.1**
UCC Uccle 159.17 357 PKIKP **PKPdf** **20 26 16.0 -0.4**
UCC Uccle 159.17 357 PKPdf **PKPdf** **20 26 16.0 -0.4**
VTS Vitosha 159.20 313 *e*P **PKPdf** **20 26 16.1 -0.8**
VTS Vitosha 159.20 313 PKIKP **PKPdf** **20 26 15.3 -1.6**
VTS Vitosha 159.20 313 PKPdf **PKPdf** **20 26 15.3 -1.6**
MEM Membach 159.24 354 PKPdf **PKPdf** **20 26 15.6 -0.9**
MEM Membach 159.24 354 PKPab **PKPab** **20 26 53.5 0.0**
GRA1 Grafenberg Arr 159.26 344 PKPdf **PKPdf** **20 26 15.9 -0.6**
GRF Grafenberg Arr 159.26 344 PKIKP **PKPdf** **20 26 15.9 -0.6**
BSTI Sart Tilman 159.30 355 PKPdf **PKPdf** **20 26 16.7 +0.2**
BSTI PKPab **PKPab** **20 26 53.7 -0.2**
GERES GERESS Array B 159.35 339 PKP **PKPdf** **20 26 15.4 -1.4**
comp=Z,5.9nm,1.1s,baz=22,slow=1.4,SNR=16
GERES PKPab **PKPab** **20 26 54.4 +0.1**
comp=Z,70nm,1.0s,baz=36,slow=3.7,SNR=13
MMB Musomiste 159.37 310 *e*P **PKPdf** **20 26 15.6 -1.4**
CONA Conrad Observa 159.38 334 PKPdf **PKPdf** **20 26 15.2 -1.6**
comp=Z,15nm,1.4s
CONA PKPab **PKPab** **20 26 55.4 +0.9**
comp=Z,197nm,1.5s,SNR=6.4
CONA PP **PP** **20 30 35.6 +0.3**
comp=Z,25nm,1.8s
SNF Seneffe 159.46 357 PKPdf **PKPdf** **20 26 18.1 +1.4**
SNF PKPab **PKPab** **20 26 54.0 -0.5**
BCLA Clavier 159.49 355 PKPdf **PKPdf** **20 26 15.6 -1.1**
BCLA PKPab **PKPab** **20 26 54.2 -0.5**
BHOU Houvegnez 159.49 354 PKPdf **PKPdf** **20 26 16.4 -0.4**
BHOU PKPab **PKPab** **20 26 53.2 -1.5**
MORH Mrgy, Hungar 159.52 327⇑ *i* P **PKPdf** **20 26 16.2 -0.7**
BGES Gesves 159.54 355 PKPdf **PKPdf** **20 26 15.9 -0.9**
BGES PKPab **PKPab** **20 26 52.8 -2.1**
BMRD Maredsous 159.64 356 PKPdf **PKPdf** **20 26 15.7 -1.2**
BMRD PKPab **PKPab** **20 26 54.8 -0.5**
FRGS Fruska Gora 159.68 323 *e*P **PKPdf** **20 26 16.6 -0.6**
DOU Dourbes 159.86 356 PKPdf **PKPdf** **20 26 15.8 -1.4**
DOU PKPab **PKPab** **20 26 54.9 -1.3**
MOA Molln 160.03 336 PKPdf **PKPdf** **20 26 16.3 -1.2**
comp=Z,14nm,1.6s
MOA *e*PKPab **PKPab** **20 26 58.1 +1.0**
comp=Z,161nm,1.4s,SNR=11
MOA PP **PP** **20 30 38.2 -0.5**
comp=Z,4.4nm,0.7s
ARSA Arzberg 160.07 333 PKPdf **PKPdf** **20 26 14.8 -2.8**
comp=Z,14nm,1.2s
ARSA PKPab **PKPab** **20 26 58.1 +0.7**
comp=Z,98nm,1.7s
ARSA PP **PP** **20 30 39.5 +0.5**
comp=Z,20nm,1

LDF					pmax	pmax		
	comp=Z,71nm,1.5s							
WATA	**Walderalm**	**161.34**	**341**	PKPdf	**PKPdf**	**20 26 18.1**	**-1.0**
	comp=Z,19nm,1.5s							
WATA				PKPab	**PKPab**	**20 27 03.6**	**+0.6**
	comp=Z,221nm,1.2s,SNR=15							
WATA				PP	**PP**	**20 30 45.2**	**-0.6**
	comp=Z,35nm,1.5s							
WTTA	**Wattenberg**	**161.38**	**340**	PKPdf	**PKPdf**	**20 26 18.4**	**-0.8**
	comp=Z,29nm,1.5s,SNR=14							
WTTA				*e*PKPab	**PKPab**	**20 27 04.0**	**+0.7**
	comp=Z,310nm,1.4s							
WTTA				PP	**PP**	**20 30 45.7**	**-0.4**
	comp=Z,40nm,1.4s							
RETA	**Reutte**	**161.42**	**342**	PKPdf	**PKPdf**	**20 26 16.7**	**-2.3**
	comp=Z,12nm,1.6s							
RETA				*e*PKPab	**PKPab**	**20 27 04.0**	**+0.7**
	comp=Z,216nm,1.2s,SNR=14							
RETA				PP	**PP**	**20 30 45.5**	**-0.7**
	comp=Z,30nm,1.6s							
AGG	**Agios Georgios**	**161.44**	**304**	PKIKP	**PKPdf**	**20 26 17.3**	**-2.0**
AGG	**Agios Georgios**	**161.44**	**304**	PKPdf	**PKPdf**	**20 26 17.3**	**-2.0**
LJU	**Ljubljana**	**161.45**	**333**	*e*PKPdf	**PKPdf**	**20 26 17.6**	**-1.4**
LJU				*e*PP	**PP**	**20 30 45.8**	**-0.6**
LJU				*e*		20 34 28.2	
LJU	**Ljubljana**	**161.45**	**333**	⇑*i*P	**PKPdf**	**20 26 18.6**	**-0.5**
MOTA	**Moosalm**	**161.46**	**342**	PKPdf	**PKPdf**	**20 26 18.3**	**-1.0**
	comp=Z,26nm,1.4s,SNR=6.9							
MOTA				*e*PKPab	**PKPab**	**20 27 04.1**	**+0.5**
	comp=Z,301nm,1.1s,SNR=13							
MOTA				PP	**PP**	**20 30 46.1**	**-0.4**
	comp=Z,36nm,2.3s							
ECH	**Echery**	**161.46**	**350**	PKIKP	**PKPdf**	**20 26 17.9**	**-1.1**
ECH	**Echery**	**161.46**	**350**	PKPdf	**PKPdf**	**20 26 17.9**	**-1.1**
PRED	**Cave del Predi**	**161.48**	**336**	PKPdf	**PKPdf**	**20 26 18.0**	**-1.1**
SQTA	**Sankt Quirin**	**161.54**	**341**	*e*PKPdf	**PKPdf**	**20 26 18.7**	**-0.6**
	comp=Z,20nm,1.3s							
SQTA				*e*PKPab	**PKPab**	**20 27 04.6**	**+0.6**
	comp=Z,236nm,1.3s,SNR=10							
SQTA				*e*PP	**PP**	**20 30 46.4**	**-0.4**
	comp=Z,1.5nm,0.7s							
ABTA	**Abfaltersbach**	**161.57**	**338**	PKPdf	**PKPdf**	**20 26 17.9**	**-1.4**
	comp=Z,30nm,1.4s,SNR=9.6							
ABTA				*e*PKPab	**PKPab**	**20 27 03.6**	**-0.4**
	comp=Z,142nm,1.1s,SNR=7.8							
ABTA				PP	**PP**	**20 30 45.9**	**-1.2**
	comp=Z,14nm,1.2s							
MGRS	**Mrkonjic Grad**	**161.59**	**325**	*e*P	**PKPdf**	**20 26 21.2**	**+1.9**
ZOU	**Zoufplan**	**161.59**	**337**	PKPdf	**PKPdf**	**20 26 18.5**	**-1.0**
BOJS	**Bojanci**	**161.59**	**331**	*e*PKPdf	**PKPdf**	**20 26 17.6**	**-1.6**
BOJS				*e*PP	**PP**	**20 30 41.8**	**-5.4**
PDG	**Podgorica**	**161.74**	**317**	PKPdf	**PKPdf**	**20 26 17.6**	**-1.8**
PDG	**Podgorica**	**161.74**	**317**	*e*P	**PKPdf**	**20 26 18.8**	**-0.7**
CEY	**Cerknica**	**161.74**	**333**	⇑*i*P	**PKPdf**	**20 26 19.0**	**-0.4**
DAVA	**Damuels**	**161.83**	**344**	PKPdf	**PKPdf**	**20 26 18.9**	**-0.7**
	comp=Z,14nm,1.2s							
DAVA				PKPab	**PKPab**	**20 27 05.7**	**+0.5**
	comp=Z,182nm,1.6s,SNR=5.3							
DAVA				PP	**PP**	**20 30 47.3**	**-1.1**
	comp=Z,22nm,1.2s							
BRY	**Bratogost**	**161.86**	**320**	*e*P	**PKPdf**	**20 26 17.1**	**-2.7**
FETA	**Feichten**	**161.86**	**342**	PKPdf	**PKPdf**	**20 26 19.1**	**-0.6**
	comp=Z,28nm,1.4s,SNR=12							
FETA				*e*PKPab	**PKPab**	**20 27 04.3**	**-1.0**
	comp=Z,150nm,1.4s,SNR=7.2							
FETA				PP	**PP**	**20 30 48.3**	**-0.3**
	comp=Z,27nm,1.8s							
DRME	**Dracevica, Mon**	**161.93**	**317**	*e*P	**PKPdf**	**20 26 18.7**	**-1.0**
CIMO	**Cimolais**	**161.98**	**337**	PKPdf	**PKPdf**	**20 26 17.7**	**-1.9**
CLF	**Chambon-Foret**	**161.98**	**1**	PKPdf	**PKPdf**	**20 26 19.2**	**-0.3**
DAVOX	**Davos/Dischmat**	**162.30**	**343**	PKP	**PKPdf**	**20 26 19.4**	**-0.7**
	comp=Z,7.7nm,1.1s,baz=63,slow=3.9,SNR=12							
DAVOX				PKPab	**PKPab**	**20 27 07.4**	**+0.1**
	comp=Z,100nm,1.0s,baz=30,slow=6.2,SNR=15							
DAVOX				PP	**PP**	**20 30 49.6**	**-1.4**
	comp=Z,13nm,1.1s,baz=242,slow=3.1,SNR=3.3							
STON	**Ston**	**162.34**	**321**	*e*P	**PKPdf**	**20 26 18.4**	**-1.6**
FUORN	**Ofenpass-Fuorn**	**162.35**	**342**	PKPdf	**PKPdf**	**20 26 18.1**	**-2.2**
CTI	**Castel Tesino**	**162.47**	**339**	PKIKP	**PKPdf**	**20 26 18.7**	**-1.5**
CTI	**Castel Tesino**	**162.47**	**339**	PKPdf	**PKPdf**	**20 26 18.7**	**-1.5**
TUE	**Stuetta**	**162.72**	**344**		**PKPdf**	**20 26 19.0**	**-1.6**
PMOZ	**Porto Moniz, M**	**162.87**	**75**	*e*PKPdf	**PKPdf**	**20 26 23.5**	**+2.4**
PMAR	**Madeira**	**163.11**	**76**	*e*PKPdf	**PKPdf**	**20 26 27.0**	**+5.6**
FUL	**Funchal**	**163.13**	**76**	*e*PKPdf	PKPdf	20 26 30.0	+8.8
TORD	**Torodi Ar. Bea**	**163.22**	**177**	PKP	**PKPdf**	**20 26 21.4**	**-0.3**
	comp=Z,49nm,1.3s,baz=305,slow=0.3,SNR=21							
TORD				PKPab	**PKPab**	**20 27 14.0**	**+2.2**
	comp=Z,57nm,1.1s,baz=191,slow=1.7,SNR=11							
TORD				PP	**PP**	**20 30 59.8**	**+4.4**
	comp=Z,15nm,1.1s,baz=150,slow=2.9,SNR=4.2							
SENIN	**Lac Senin/Sane**	**163.24**	**349**		**PKPdf**	**20 26 20.1**	**-1.0**
PMPST	**Porto Santo, M**	**163.57**	**74**	*e*PKPdf	**PKPdf**	**20 26 26.0**	**+4.4**
PMPST	**Porto Santo, M**	**163.57**	**74**	*e*PP	PP	20 31 02.6	+3.5
PMPS	**Porto Santo**	**163.57**	**74**	*e*PKPdf	**PKPdf**	**20 26 24.3**	**+2.7**
BNI	**Bardonecchia**	**164.62**	**349**	PKIKP	**PKPdf**	**20 26 21.7**	**-0.7**
BNI	**Bardonecchia**	**164.62**	**349**		**PKPdf**	**20 26 21.7**	**-0.7**
NRCA	**Norcia**	**164.65**	**330**		**PKPdf**	**20 26 21.1**	**-1.3**
SSB	**Saint Sauveur**	**164.66**	**355**	PKIKP	**PKPdf**	**20 26 21.3**	**-1.0**
SSB	**Saint Sauveur**	**164.66**	**355**		**PKPdf**	**20 26 21.3**	**-1.0**
MSSA	**Maissana**	**164.68**	**341**		**PKPab**	**20 27 16.0**	**-1.7**
OSSC	**Osservatorio P**	**164.83**	**335**		**PKPab**	**20 27 17.3**	**-1.0**
AQU	**L'Aquila**	**164.90**	**328**	*e*P	**PKPdf**	**20 26 22.3**	**-0.3**
INTR	**Introdacqua**	**164.93**	**326**		**PKPdf**	**20 26 21.2**	**-1.5**
CAF	**Calviac**	**165.08**	**1**	*e*PKIKP	**PKPdf**	**20 26 23.7**	**+1.1**
CAF				pmax	pmax		
	comp=Z,55nm,1.4s							
PGAV	**Gavieira, Arco**	**165.17**	**33**	*e*PKPdf	**PKPdf**	**20 26 22.9**	**0.0**
PGAV	**Gavieira, Arco**	**165.17**	**33**	*e*PP	PP	20 31 08.2	+1.8
TIP	**Timpagrande**	**165.18**	**312**	⇑P	**PKPdf**	**20 26 23.2**	**+0.3**
TIP	**Timpagrande**	**165.18**	**312**		**PKPdf**	**20 26 22.2**	**-0.8**
PAOL	**Paolisi**	**165.31**	**322**	PKPdf	**PKPdf**	**20 26 21.4**	**-1.5**
PCAB	**Cabril**	**165.49**	**33**	*e*PKPdf	**PKPdf**	**20 26 24.7**	**+1.6**
PCAB	**Cabril**	**165.49**	**33**	*e*PP	PP	20 31 10.2	+2.3
PVRL	**Vila Real**	**165.97**	**34**	*e*PKPdf	**PKPdf**	**20 26 26.2**	**+2.7**
PVRL	**Vila Real**	**165.97**	**34**	*e*PKPab	**PKPab**	**20 27 26.9**	**+3.4**
PVRL	**Vila Real**	**165.97**	**34**	*e*PP	PP	20 31 10.6	+0.1
PBRG	**Braganca**	**166.00**	**30**	*e*PKPdf	**PKPdf**	**20 26 25.0**	**+1.5**
PBRG	**Braganca**	**166.00**	**30**	*e*PP	PP	20 31 10.4	-0.1
CEL	**Celeste**	**166.25**	**310**	PKPab	**PKPab**	**20 27 24.5**	**-0.4**
PVIS	**Viseu**	**166.30**	**36**	*e*PKPdf	**PKPdf**	**20 26 24.6**	**+0.8**
PVIS	**Viseu**	**166.30**	**36**	*e*PKPab	**PKPab**	**20 27 28.2**	**+3.2**
PVIS	**Viseu**	**166.30**	**36**	*e*PP	PP	20 31 15.5	+3.2
MVO	**Moncorvo**	**166.38**	**32**	*e*PKPdf	**PKPdf**	**20 26 24.0**	**+0.2**
MVO	**Moncorvo**	**166.38**	**32**	*e*PP	PP	20 31 12.8	+0.2
COI	**Coimbra**	**166.40**	**38**	*e*PKPdf	**PKPdf**	**20 26 24.7**	**+0.9**
COI	**Coimbra**	**166.40**	**38**	*e*PP	PP	20 31 14.6	+1.8
PCAS	**Casmilo, Conde**	**166.46**	**39**	*e*PKPdf	**PKPdf**	**20 26 20.0**	**-3.9**
PCAS	**Casmilo, Conde**	**166.46**	**39**	*e*PP	PP	20 31 10.1	-3.1
PSBE	**So Bento**	**166.67**	**42**	*e*PKPdf	**PKPdf**	**20 26 24.7**	**+0.6**
PSBE	**So Bento**	**166.67**	**42**	*e*PP	PP	20 31 16.3	+2.0
PMAFR	**Mafra**	**166.74**	**44**	*e*PKPdf	**PKPdf**	**20 26 26.0**	**+1.9**
LIS	**Lisbon**	**166.97**	**45**	*e*PKPdf	**PKPdf**	**20 26 23.4**	**-0.8**
LIS	**Lisbon**	**166.97**	**45**	*e*PKPdf	**PKPdf**	**20 26 26.0**	**+1.8**
LIS	**Lisbon**	**166.97**	**45**	*e*PKPab	**PKPab**	**20 27 31.7**	**+3.7**
LIS	**Lisbon**	**166.97**	**45**	*e*PP	PP	20 31 18.8	+2.9
PCBR	**Castelo Branco**	**167.16**	**37**	*e*PKPdf	**PKPdf**	**20 26 25.3**	**+0.9**
PCBR	**Castelo Branco**	**167.16**	**37**	*e*PP	PP	20 31 12.7	-4.0
PMTG	**Montargil**	**167.29**	**42**	*e*PKPdf	**PKPdf**	**20 26 24.8**	**+0.3**
PMRV	**Marv??o**	**167.51**	**38**	*e*PKPdf	**PKPdf**	**20 26 26.4**	**+1.7**
PMRV	**Marv??o**	**167.51**	**38**	*e*PP	PP	20 31 14.8	-3.7
VAE	**Valguarnera**	**167.66**	**310**	PKP	**PKPdf**	**20 26 25.2**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=178,slow=9.1,SNR=4.2							
PNCL	**Nicolau / Gran**	**167.73**	**46**	*e*PKPdf	**PKPdf**	**20 26 25.5**	**+0.7**
PNCL	**Nicolau / Gran**	**167.73**	**46**	*e*PP	PP	20 31 22.9	+3.1
EVO	**Evora**	**167.77**	**43**	PKP	**PKPdf**	**20 26 23.1**	**-1.7**
EVO	**Evora**	**167.77**	**43**	PP	PP	20 31 20.3	+0.3
EVO	**Evora**	**167.77**	**43**	*e*PKPdf	**PKPdf**	**20 26 24.9**	**0.0**
EVO	**Evora**	**167.77**	**43**	*e*PP	PP	20 31 21.7	+1.7
PTEO	**Sao Teotonio**	**167.94**	**48**	*e*PKPdf	**PKPdf**	**20 26 26.1**	**+1.1**
PTEO	**Sao Teotonio**	**167.94**	**48**	*e*PKPab	**PKPab**	**20 27 35.7**	**+3.4**
PTEO	**Sao Teotonio**	**167.94**	**48**	*e*PP	PP	20 31 26.5	+5.5
MESJ	**Messejana**	**168.09**	**46**	*e*PKPdf	**PKPdf**	**20 26 24.2**	**-0.8**
MESJ	**Messejana**	**168.09**	**46**	*e*PKPdf	**PKPdf**	**20 26 27.6**	**+2.5**
MESJ	**Messejana**	**168.09**	**46**	*e*PP	PP	20 31 24.9	+3.2
PFVI	**Vila Bisbo**	**168.11**	**50**	P	**PKPdf**	**20 26 29.7**	**+4.6**
	SNR=6.7							
PFVI	**Vila Bisbo**	**168.11**	**50**	*e*PKPdf	**PKPdf**	**20 26 27.3**	**+2.2**
PFVI	**Vila Bisbo**	**168.11**	**50**	*e*PP	PP	20 31 25.3	+3.4
CORL	**Corleone**	**168.12**	**314**		**PKPdf**	**20 26 24.6**	**-0.6**
PBEJ	**Beja**	**168.19**	**44**	*e*PKPdf	**PKPdf**	**20 26 26.6**	**+1.4**
PBEJ	**Beja**	**168.19**	**44**	*e*PP	PP	20 31 19.3	-2.9
PCVE	**Castro Verde**	**168.33**	**46**	*e*PKPdf	**PKPdf**	**20 26 27.5**	**+2.2**
PCVE	**Castro Verde**	**168.33**	**46**	*e*PP	PP	20 31 25.5	+2.6
CLTB	**Caltabellotta**	**168.37**	**313**		**PKPdf**	**20 26 25.0**	**-0.4**
PBDV	**Barranco-do-Ve**	**168.63**	**48**	*e*PKPdf	**PKPdf**	**20 26 26.6**	**+1.1**
PBDV	**Barranco-do-Ve**	**168.63**	**48**	*e*PP	PP	20 31 16.2	-8.4
UCM	**Universidad Co**	**168.65**	**23**	PKP	**PKPdf**	**20 26 24.8**	**-0.6**
UCM	**Universidad Co**	**168.65**	**23**	PP	PP	20 31 05.6	-18
PVAQ	**Vaqueiros**	**168.67**	**47**	P	**PKPdf**	**20 26 29.9**	**+4.4**
	SNR=6.8							
PVAQ	**Vaqueiros**	**168.67**	**47**	*e*PKPdf	**PKPdf**	**20 26 27.7**	**+2.2**
PVAQ	**Vaqueiros**	**168.67**	**47**	*e*PP	PP	20 31 26.6	+1.9
PAB	**San Pablo**	**168.89**	**29**	PKIKP	**PKPdf**	**20 26 25.6**	**-0.1**
PAB	**San Pablo**	**168.89**	**29**		**PKPdf**	**20 26 25.6**	**-0.1**
ESDC	**Sonseca Array**	**168.94**	**27**	PKP	**PKPdf**	**20 26 26.3**	**+0.6**
	comp=Z,36nm,1.3s,baz=331,slow=1.7,SNR=27							
ESDC				PKPab	**PKPab**	**20 27 38.1**	**+1.5**
	comp=Z,13nm,1.1s,baz=317,slow=4.8,SNR=4.8							
ESDC				PP	**PP**	**20 31 29.2**	**+3.7**
	comp=Z,8.2nm,1.1s,baz=339,slow=4.8,SNR=8.0							
HORN	**Hornachuelos**	**169.80**	**38**	P	**PKPdf**	**20 26 30.7**	**+4.5**
	SNR=9.8							
MAHO	**Mahon**	**170.02**	**353**	PKP	**PKPdf**	**20 26 26.3**	**+0.1**
MAHO	**Mahon**	**170.02**	**353**	PP	PP	20 31 27.8	-2.6
SFS	**San Fernando**	**170.20**	**46**	PKP	**PKPdf**	**20 26 30.0**	**+3.6**
SFS	**San Fernando**	**170.20**	**46**	PP	PP	20 31 36.4	+4.0
TTIG	**Trino Tigouga,**	**170.44**	**84**	P	**PKPdf**	**20 26 31.0**	**+4.0**
	SNR=6.5							
SRHM	**Skhour des Reh**	**170.68**	**72**	P	**PKPdf**	**20 26 31.0**	**+4.1**
	SNR=6.0							
AVE	**Averroes**	**170.85**	**66**	P	**PKPdf**	**20 26 31.8**	**+4.8**
	SNR=7.9							
AVE	**Averroes**	**170.85**	**66**	PKP	**PKPdf**	**20 26 27.2**	**+0.3**
AVE	**Averroes**	**170.85**	**66**	PP	PP	20 31 18.6	-18
OUK	**Oukaimeden**	**170.90**	**80**	P	**PKPdf**	**20 26 32.0**	**+4.5**
	SNR=13							
RTC	**Rabat Centre**	**171.03**	**61**	P	**PKPdf**	**20 26 31.4**	**+4.5**
	SNR=8.2							
EMAL	**Malaga-Limoner**	**171.05**	**39**	PKP	**PKPdf**	**20 26 27.5**	**+0.7**
EMAL	**Malaga-Limoner**	**171.05**	**39**	PP	PP	20 31 24.9	-11
CEU	**Ceuta**	**171.08**	**47**	PKP	**PKPdf**	**20 26 26.4**	**-0.5**
CEU	**Ceuta**	**171.08**	**47**	PP	PP	20 31 40.5	+3.7
RSA	**Sarsar**	**171.37**	**53**	P	**PKPdf**	**20 26 31.1**	**+3.9**
	SNR=19							
ZHG	**ZHG**	**171.41**	**64**	P	**PKPdf**	**20 26 32.0**	**+4.7**
	SNR=11							
CART	**Cartagena**	**171.85**	**21**	PKP	**PKPdf**	**20 26 28.1**	**+0.8**
CART	**Cartagena**	**171.85**	**21**	PP	PP	20 31 34.6	-5.1
OUZM	**OUZ**	**171.87**	**81**	P	**PKPdf**	**20 26 32.0**	**+4.3**
	SNR=8.2							
KEST	**Kesra**	**171.94**	**317**	PKP	**PKPdf**	**20 26 27.7**	**+0.2**
	comp=Z,8.1nm,0.8s,baz=354,slow=2.5,SNR=5.3							
KEST				PKPab	**PKPab**	**20 27 51.8**	**+1.6**
	comp=Z,33nm,1.1s,baz=2.1,slow=3.9,SNR=3.3							
KEST	**Kesra**	**171.94**	**317**		**PKPdf**	**20 26 26.8**	**-0.7**
SICH	**Sidi Chahed**	**172.13**	**57**	P	**PKPdf**	**20 26 33.0**	**+5.5**
	SNR=11							
PVLZ	**Peæn de**	**172.21**	**47**	PKP	**PKPdf**	**20 26 24.0**	**-3.5**
PVLZ	**Peæn de**	**172.21**	**47**	PP	PP	20 31 40.7	-1.7
CMAH	**Djebel Manchou**	**172.25**	**330**	P	**PKPab**	**20 27 50.7**	**-0.7**
CAEH	**'Ain El Ouahch**	**172.35**	**333**	P	**PKPab**	**20 27 54.4**	**+2.6**
TAM	**Tamanrasset**	**172.37**	**201**	PKIKP	**PKPdf**	**20 26 28.2**	**0.0**
TAM	**Tamanrasset**	**172.37**	**201**		**PKPdf**	**20 26 28.1**	**0.0**
PALE	**Palemas**	**172.41**	**45**	P	**PKPdf**	**20 26 31.1**	**+3.4**
	SNR=6.6							
IFR	**Ifrane**	**172.54**	**60**	PKP	**PKPdf**	**20 26 30.0**	**+2.0**
IFR	**Ifrane**	**172.54**	**60**	PP	PP	20 31 48.0	+3.2
CZD	**Col de Zad**	**172.81**	**63**	P	**PKPdf**	**20 26 33.1**	**+4.9**
	SNR=8.8							
ZGR	**Zagora**	**172.87**	**87**	P	**PKPdf**	**20 26 33.0**	**+4.9**
	SNR=9.4							
TZRR	**Tazarine**	**172.90**	**82**	P	**PKPdf**	**20 26 33.0**	**+4.9**
	SNR=15							
DFRA	**Djebel Bou Aff**	**172.91**	**338**	P	**PKPab**	**20 27 57.0**	**+2.7**
AKLM	**AKL**	**172.91**	**49**	P	**PKPdf**	**20 26 32.0**	**+4.1**
	SNR=10							
MELI	**Melilla**	**172.94**	**40**	PKP	**PKPdf**	**20 26 28.4**	**+0.6**
MELI	**Melilla**	**172.94**	**40**	PP	PP	20 31 39.8	-5.9
MDT	**Midelt**	**173.23**	**64**	PKP	**PKPdf**	**20 26 28.9**	**+0.7**
	comp=Z,43nm,1.1s,baz=100,slow=1.1,SNR=17							
MDT	**Midelt**	**173.23**	**64**	P	**PKPdf**	**20 26 33.3**	**+5.1**
	SNR=9.7							
GOLM	**Goulmima**	**173.28**	**73**	P	**PKPdf**	**20 26 34.0**	**+5.7**
	SNR=10							
CKHR	**Kef el Ahmar**	**173.51**	**339**	P	**PKPab**	**20 27 57.0**	**0.0**
TAF	**Taforalt**	**173.59**	**40**	P	**PKPdf**	**20 26 33.0**	**+4.8**
	SNR=12							
EBNR	**Beni Rached**	**173.65**	**8**	P	**PKPab**	**20 28 01.6**	**+4.1**
ECHA	**Ech Chlef**	**173.77**	**9**	P	**PKPab**	**20 28 02.1**	**+4.2**
EANR	**'Ain N'Sour**	**173.92**	**12**	P	**PKPab**	**20 28 03.2**	**+4.5**
ETRT	**Tiaret**	**174.50**	**11**	P	**PKPab**	**20 28 06.1**	**+4.7**
TDRA	**Tendrara**	**175.01**	**51**	P	**PKPdf**	**20 26 34.0**	**+5.1**
	SNR=11							

*IDC **23** 20:09:14.1±2.0,28°.60S×177°.86W,h0km,mb4.9/2, mb1 5.2/2,mb1mx4.4/40,mbtmp4.9/2, Error ellipse: s-maj=56.6km s-min=19.9km az=82.0*
*NEIC **23** 20:09:14.6±1.8,28°.65S±0°.1×177°.7W±0°.4,**h10**km,**n6**, σ0s**25**/**7**,**Kermadec Islands region***

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.72**	**194**	Pn		**Pn**		**20 09 31.1**	**+0.2**
	824nm,0.3s,baz=61,slow=19,SNR=1.3								
RAO				Sn		**Sn**		**20 09 41.8**	**-0.2**
	9µm,0.3s,baz=38,slow=19,SNR=3.5								
ASAR	**Alice Springs**	**43.48**	**265**	P		**P**		**20 17 18.4**	**0.0**
	11nm,0.6s,baz=96,slow=8.5,SNR=1.4								
WRA	**Warramunga Arr**	**44.30**	**270**	P		**P**		**20 17 24.9**	**-0.1**
	12nm,0.6s,baz=106,slow=8.0,SNR=0.9								
FINES	**FINESS Array B**	**143.49**	**341**	PKP		**PKPdf**		**20 28 48.5**	**-0.3**
	36nm,0.6s,baz=58,slow=3.4,SNR=5.6								
AKASG	**Malin Array Be**	**149.95**	**325**	PKPbc		**PKiKP**		**20 29 05.8**	**0.0**
	8.6nm,0.8s,baz=45,slow=2.8,SNR=1.8								
MMAI	**Mount Meron Ar**	**151.26**	**287**	PKPbc		**PKiKP**		**20 29 09.4**	**+0.2**
	12nm,0.6s,baz=82,slow=5.0,SNR=3.3								

*IDC **23** 20:11:13.4±1.2,28°.58S×177°.62W,h0km,mb4.8/5, mb1 4.9/5,mb1mx4.3/43,mbtmp4.8/5, Error ellipse: s-maj=33.9km s-min=18.7km az=98.0*
*NEIC **23** 20:11:16.6±1.4,28°.54S±0°.10×177°.6W±0°.2,h24km±8km, mb4.7/7,Error ellipse: s-maj=27.7km s-min=11.6km az=107.0*
ISC 23 20:11:16.9**±1.1,**28°.43S**±0°.08×**177°.6W**±0°.2,**h35**km,**n25**, σ1s**45**/**24**,**mb4.8**/**7**,**1C-1D**,**Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RIZ	**Raoul Island**	**0.88**	**202**	P		**Pn**		**20 11 32.0**	**-0.7**
RAO	**Raoul Island**	**0.88**	**202**	Pn		**Pn**		**20 11 31.6**	**-1.2**
	2µm,0.3s,baz=86,slow=18,SNR=3.5								
RAO				Sn		**Sn**		**20 11 43.2**	**-1.2**
	13µm,0.3s,baz=87,slow=22,SNR=9.4								
GLKZ	**Green Lake**	**0.89**	**202**	P		**Pn**		**20 11 33.8**	**+0.8**
GLKZ				S		**Sn**		**20 11 43.3**	**-1.3**
OUZ	**Omahuta**	**10.12**	**226**	P		Pn		20 13 29.3	-10
OUZ	**Omahuta**	**10.12**	**226**			Pn		20 13 33.0	-6.8
MSVF	**Nonsavu**	**11.39**	**338**	Pn		**Pn**		**20 13 53.8**	**-3.5**
CTA	**Charters Tower**	**33.93**	**276**	P		**P**		**20 17 59.6**	**+2.7**
	14nm,1.0s,baz=84,slow=19,SNR=1.6								
STKA	**Stephens Creek**	**35.35**	**254**	P		**P**		**20 18 08.8**	**-0.2**
	14nm,0.9s,baz=90,slow=9.1,SNR=2.2								
STKA	**Stephens Creek**	**35.35**	**254**	P		**P**		**20 18 08.9**	**-0.2**
AS31	**Alice Springs**	**43.65**	**265**	P		**P**		**20 19 18.3**	**-0.1**
AS31				IAmb		IAmb		20 19 19.9	
	comp=Z,4.5nm,0.5s								
ASAR	**Alice Springs**	**43.65**	**265**	P		**P**		**20 19 18.8**	**+0.4**
	comp=Z,5.5nm,0.7s,baz=109,slow=7.0,SNR=2.2								
WR0	**Warramunga Arr**	**44.27**	**270**	P		**P**		**20 19 24.0**	**+0.5**
WB2	**Warramunga Arr**	**44.45**	**270**	P		**P**		**20 19 25.7**	**+0.9**
WB2				IAmb		IAmb		20 19 32.9	
	comp=Z,11nm,0.7s								
WRAB	**Tennant Creek**	**44.45**	**270**	P		**P**		**20 19 25.5**	**+0.7**
WRA	**Warramunga Arr**	**44.46**	**270**	P		**P**		**20 19 25.7**	**+0.8**
	comp=Z,3.9nm,0.3s,baz=110,slow=8.1,SNR=6.1								
WB0	**Warramunga Arr**	**44.47**	**270**	P		**P**		**20 19 26.1**	**+1.1**
QSPA	**South Pole Qui**	**61.67**	**180**	P		**P**		**20 21 31.9**	**+0.7**
	comp=Z,22nm,1.0s,baz=64,slow=3.4,SNR=8.0								
QSPA	**South Pole Qui**	**61.67**	**180**	P		**P**		**20 21 31.8**	**+0.7**
QSPA				IAmb		IAmb		20 21 40.9	
	comp=Z,4.7nm,0.6s								
SYO	**Syowa Base**	**79.11**	**193**	⇓*i*P		**P**		**20 23 15.0**	**-2.4**
SYO	**Syowa Base**	**79.11**	**193**	⇓*es*P		sP		20 23 27.4	-4.2
FINES	**FINESS Array B**	**143.43**	**341**	PKP		**PKPdf**		**20 30 48.2**	**+1.2**
	comp=Z,7.1nm,0.4s,baz=47,slow=4.3,SNR=12								

HFS	**Hagfors**	**147.39**	**350**	PKPbc		**PKPab**	**20 30 58.4**	**+0.1**
	comp=Z,4.2nm,0.8s,baz=77,slow=3.1,SNR=1.3							
AKASG	**Malin Array Be**	**149.95**	**325**	PKPbc		**PKiKP**	**20 31 05.5**	**+1.4**
	comp=Z,0.9nm,0.3s,baz=49,slow=2.6,SNR=2.1							
MMAI	**Mount Meron Ar**	**151.38**	**287**	PKPbc		**PKiKP**	**20 31 09.3**	**+1.5**
	comp=Z,3.1nm,0.4s,baz=83,slow=6.8,SNR=5.1							
BRTR	**Keskin Array B**	**151.96**	**302**	PKPbc		**PKiKP**	**20 31 10.5**	**+1.6**
	comp=Z,1.2nm,0.7s,baz=132,slow=2.1,SNR=0.8							

*IDC **23** 20:13:24.1±0.8,29°.26S×177°.66W,h0km,mb4.7/6, mb1 4.8/6,mb1mx4.2/42,mbtmp4.7/6, Error ellipse: s-maj=33.4km s-min=13.0km az=179.0*
*NEIC **23** 20:13:26.1±1.0,29°.3S±0°.1×177°.79W±0°.09,h10km±3km, mb4.4/4, Error ellipse: s-maj=20.4km s-min=5.3km az=209.0*
ISC 23 20:13:28.9**±0.9,**29°.2S**±0°.2×**177°.8W**±0°.2,**h35**km,**n25**, σ2s**44**/**24**,**mb4.6**/**8**,**Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.10**	**259**	Pn		**Pn**		**20 13 33.8**	**-1.1**

*IDC **23** 20:17:34.8±1.2,29°.94S×177°.36W,h0km,mb4.5/4, mb1 4.6/5,mb1mx4.0/39,mbtmp4.5/5,ML4.3/1,Error ellipse: s-maj=31.2km s-min=22.7km az=66.0*
*NEIC **23** 20:17:38.1±1.3,29°.85S±0°.07×177°.2W±0°.1, h29km±7km, mb4.5/5,Error ellipse: s-maj=16.9km s-min=9.8km az=85.0*

ISC 23 20:17:39.5±1.2,**29°.93S**±0°.10×**177°.3W**±0°.2,**h35**km,**n21,** σ0.91/22,**mb4.5/7,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.87**	**321**	Pn		**Pn**		**20 17 54.8**	**-0.4**
	2µm,0.3s,baz=107,slow=19,SNR=1.5								
RAO				Sn		**Sn**		**20 18 06.3**	**-0.4**
	4µm,0.3s,baz=89,slow=19,SNR=6.1								
RAO	**Raoul Island**	**0.87**	**321**			**Pn**		**20 17 54.5**	**-0.8**
RAO						**Sn**		**20 18 06.2**	**-0.5**
OUZ	**Omahuta**	**9.32**	**233**	Pn		**Pn**		**20 19 52.6**	**+1.3**
RPZ	**Rata Peaks**	**16.59**	**211**	Pn		**Pn**		**20 21 27.3**	**-2.1**
	1.2nm,0.3s,baz=2.4,slow=20,SNR=2.1								
RPZ	**Rata Peaks**	**16.59**	**211**	IAmb		IAmb		20 21 30.9	
	comp=Z,7.3nm,0.7s								
CTA	**Charters Tower**	**34.33**	**278**	P		**P**		**20 24 23.3**	**+0.3**
	comp=Z,6.1nm,0.7s,baz=101,slow=12,SNR=4.3								
STKA	**Stephens Creek**	**35.18**	**256**	P		**P**		**20 24 30.8**	**+0.6**
	comp=Z,2.9nm,0.5s,baz=17,slow=20,SNR=7.9								
STKA	**Stephens Creek**	**35.18**	**256**	P		**P**		**20 24 30.5**	**+0.2**
ASAR	**Alice Springs**	**43.75**	**266**	P		**P**		**20 25 41.0**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=102,slow=7.5,SNR=5.6								
WR0	**Warramunga Arr**	**44.51**	**271**	P		**P**		**20 25 47.9**	**0.0**
WR0				IAmb		IAmb		20 25 56.4	
	comp=Z,2.8nm,0.6s								
WB2	**Warramunga Arr**	**44.68**	**271**	P		**P**		**20 25 49.2**	**-0.1**
WRA	**Warramunga Arr**	**44.70**	**271**	P		**P**		**20 25 49.0**	**-0.4**
	comp=Z,3.7nm,0.4s,baz=110,slow=8.1,SNR=9.2								
WB0	**Warramunga Arr**	**44.72**	**272**	P		**P**		**20 25 49.0**	**-0.5**
WB0				IAmb		IAmb		20 25 55.6	
	comp=Z,3.9nm,0.6s								
CASY	**Casey**	**55.84**	**208**	P		**P**		**20 27 11.9**	**-1.1**
CASY				IAmb		IAmb		20 27 12.9	
	comp=Z,5.1nm,0.8s								
KURBB	**Kurchatov Arra**	**121.21**	**314**	PKP		**PKiKP**		**20 36 29.5**	**+1.1**
	comp=Z,1.0nm,0.8s,baz=106,slow=2.0,SNR=1.3								
BVAR	**Borovoye Array**	**126.50**	**316**	PKP		**PKiKP**		**20 36 40.9**	**+2.1**
	comp=Z,0.5nm,0.4s,baz=141,slow=4.8,SNR=2.5								
FINES	**FINESS Array B**	**144.91**	**341**	PKP		**PKPab**		**20 37 11.3**	**0.0**
	comp=Z,2.8nm,0.3s,baz=54,slow=3.7,SNR=11								
NOA	**NORSAR Array B**	**148.38**	**352**	PKPbc		**PKPbc**		**20 37 21.7**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=14,slow=4.3,SNR=1.3								
AKASG	**Malin Array Be**	**151.29**	**324**	PKPbc		**PKPbc**		**20 37 29.0**	**0.0**
	comp=Z,0.3nm,0.3s,baz=42,slow=3.6,SNR=1.5								
MMAI	**Mount Meron Ar**	**152.01**	**285**	PKPbc		**PKiKP**		**20 37 32.2**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=58,slow=11,SNR=4.4								
BRTR	**Keskin Array B**	**152.91**	**299**	PKPbc		**PKiKP**		**20 37 33.3**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=119,slow=1.8,SNR=1.6								

*IDC **23** 20:18:36.5±0.8,29°.97S×177°.29W,h0km,mb4.5/6, mb1 4.6/7,mb1mx4.1/38,mbtmp4.4/7,ML3.2/1,Error ellipse: s-maj=25.9km s-min=20.8km az=36.0*
*NEIC **23** 20:18:39.4±1.9,29°.8S±0°.1×177°.4W±0°.1, h21km±6km, mb4.6/8,Error ellipse: s-maj=21.6km s-min=10.9km az=48.0*

ISC 23 20:18:42.1±0.8,**29°.91S**±0°.09×**177°.5W**±0°.1,**h35**km,**n32,** σ1.928/34,**mb4.5/9,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.77**	**329**	Pn		**Pn**		**20 18 56.2**	**-0.2**
	836nm,0.3s,baz=107,slow=21,SNR=1.3								
RAO				Sn		**Sn**		**20 19 09.3**	**+2.6**
	4µm,0.3s,baz=77,slow=20,SNR=7.3								
RAO	**Raoul Island**	**0.77**	**329**			**Pn**		**20 18 54.6**	**-1.8**
RAO				Sg		**Sn**		**20 19 03.2**	**-3.4**
OUZ	**Omahuta**	**9.22**	**233**	Pn		**Pn**		**20 20 51.6**	**-0.9**
DZM	**Mont Dzumac**	**16.43**	**295**	Pn		**P**		**20 22 32.2**	**-0.3**
	0.1nm,0.3s,baz=144,slow=18,SNR=1.5								
CTA	**Charters Tower**	**34.19**	**278**	P		**P**		**20 25 26.5**	**+2.1**
	6.4nm,0.6s,baz=107,slow=10,SNR=5.2								
CTAO	**Charters Tower**	**34.19**	**278**	P		**P**		**20 25 25.3**	**+1.0**
CTAO				IAmb		IAmb		20 25 33.6	
	comp=Z,4.2nm,0.7s								
STKA	**Stephens Creek**	**35.05**	**256**	P		**P**		**20 25 33.0**	**+1.4**
	comp=Z,2.6nm,0.4s,baz=24,slow=19,SNR=8.3								
STKA	**Stephens Creek**	**35.05**	**256**	P		**P**		**20 25 32.8**	**+1.1**
AS31	**Alice Springs**	**43.60**	**266**	P		**P**		**20 26 43.7**	**+0.5**
ASAR	**Alice Springs**	**43.60**	**266**	P		**P**		**20 26 44.1**	**+0.9**
	comp=Z,2.5nm,0.4s,baz=105,slow=7.2,SNR=11								
WR0	**Warramunga Arr**	**44.37**	**271**	P		**P**		**20 26 50.0**	**+0.7**
WR0				IAmb		IAmb		20 26 50.9	
	comp=Z,3.2nm,0.6s								
WB2	**Warramunga Arr**	**44.54**	**271**	P		**P**		**20 26 50.5**	**-0.2**
WRAB	**Tennant Creek**	**44.54**	**271**	P		**P**		**20 26 49.8**	**-0.9**
WRA	**Warramunga Arr**	**44.55**	**271**	P		**P**		**20 26 50.4**	**-0.4**
	comp=Z,5.8nm,0.4s,baz=111,slow=8.0,SNR=12								
WB0	**Warramunga Arr**	**44.57**	**272**	P		**P**		**20 26 50.5**	**-0.5**
WB0				IAmb		IAmb		20 26 55.2	
	comp=Z,5.0nm,0.6s								
CASY	**Casey**	**55.79**	**208**			**P**		**20 28 14.8**	**-0.5**
CASY				IAmb		IAmb		20 28 15.4	
	comp=Z,12nm,0.8s								
PETK	**Petropavlovsk-**	**85.45**	**345**	P		**P**		**20 31 17.0**	**+1.3**
	comp=Z,2.6nm,0.8s,baz=147,slow=8.8,SNR=3.7								
NVAR	**Mina Array Bea**	**87.56**	**42**	P		**P**		**20 31 27.9**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=214,slow=7.8,SNR=4.3								
KURK	**Kurchatov**	**121.05**	**314**			**PKPdf**		**20 37 28.9**	**-1.6**
KURBB	**Kurchatov Arra**	**121.08**	**314**	PKP		**PKPdf**		**20 37 28.9**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=114,slow=1.8,SNR=4.6								
BVAR	**Borovoye Array**	**126.38**	**316**	PKP		**PKPdf**		**20 37 40.0**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=144,slow=2.7,SNR=1.8								
FINES	**FINESS Array B**	**144.84**	**341**	PKP		**PKPdf**		**20 38 14.1**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=64,slow=4,SNR=7.6								
NB2	**NORSAR Subarra**	**148.33**	**352**	PKP		**PKPbc**		**20 38 24.1**	**0.0**
	comp=Z,0.7nm,0.8s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**148.33**	**352**	PKPbc		**PKPbc**		**20 38 24.2**	**+0.2**
	comp=Z,2.0nm,0.8s,baz=14,slow=4.3,SNR=4.4								
ASF	**Jabal al Asfar**	**150.55**	**283**	PKPbc		**PKPbc**		**20 38 29.6**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=72,slow=3.3,SNR=4.8								
AKASG	**Malin Array Be**	**151.19**	**324**	PKPbc		**PKPbc**		**20 38 31.0**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=46,slow=2.6,SNR=2.8								
MMAI	**Mount Meron Ar**	**151.86**	**285**	PKPbc		**PKiKP**		**20 38 35.0**	**+1.1**
	comp=Z,7.7nm,0.6s,baz=76,slow=7.0,SNR=11								
EIL	**Elat**	**151.92**	**278**	PKPbc		**PKiKP**		**20 38 34.3**	**+0.3**
	comp=Z,35nm,1.4s,baz=22,slow=5.2,SNR=4.8								
BRTR	**Keskin Array B**	**152.77**	**299**	PKPbc		**PKPbc**		**20 38 34.9**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=159,slow=4.5,SNR=3.1								
CLL	**Collm**	**157.24**	**343**	*e*PKPab		**PKPab**		**20 39 05.0**	**+0.2**
GERES	**GERESS Array B**	**159.25**	**339**	PKPab		**PKPab**		**20 39 14.0**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=59,slow=3.4,SNR=4.0								
TORD	**Torodi Ar. Bea**	**163.30**	**177**	PKPab		**PKPab**		**20 39 30.1**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=184,slow=4.8,SNR=1.2								

*IDC **23** 20:20:21.2±1.4,28°.64S×177°.62W,h0km,mb4.2/5, mb1 4.3/5,mb1mx3.9/39,mbtmp4.2/5,Error ellipse: s-maj=36.1km s-min=19.6km az=101.0*
*NEIC **23** 20:20:24.1±1.5,28°.46S±0°.06×177°.8W±0°.3, h14km±10km, mb4.3/3,Error ellipse: s-maj=42.6km s-min=7.6km az=97.0*

ISC 23 20:20:26.3±1.4,**28°.60S**±0°.10×**177°.7W**±0°.2,**h35**km,**n15,** σ1.903/16,**mb4.2/8,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.68**	**197**	Pn		**Pn**		**20 20 37.5**	**-2.0**
	baz=97,slow=20,SNR=0.8								
RAO				Sn		**Sn**		**20 20 50.7**	**+1.8**
	2µm,0.3s,baz=114,slow=22,SNR=3.3								
RAO	**Raoul Island**	**0.68**	**197**			**Pn**		**20 20 39.3**	**-0.2**
BFZ	**Birch Farm**	**13.04**	**201**	Pn		**Pn**		**20 23 28.8**	**-0.2**
CTA	**Charters Tower**	**33.83**	**276**	P		**P**		**20 27 05.5**	**+0.1**
	1.2nm,0.5s,baz=101,slow=11,SNR=1.1								
STKA	**Stephens Creek**	**35.19**	**254**	P		**P**		**20 27 17.3**	**+0.2**
	6.8nm,0.9s,baz=96,slow=13,SNR=2.3								
ASAR	**Alice Springs**	**43.51**	**265**	P		**P**		**20 28 27.2**	**+0.6**
	1.8nm,0.6s,baz=105,slow=7.7,SNR=5.3								
WR0	**Warramunga Arr**	**44.15**	**270**	P		**P**		**20 28 31.3**	**-0.5**
WR0				IAmb		IAmb		20 28 35.5	
	comp=Z,2.1nm,0.7s								
WB2	**Warramunga Arr**	**44.33**	**270**	P		**P**		**20 28 32.5**	**-0.7**
WB2				IAmb		IAmb		20 28 38.6	
	comp=Z,3.0nm,0.6s								
WRA	**Warramunga Arr**	**44.34**	**270**	P		**P**		**20 28 33.5**	**+0.2**
	comp=Z,2.4nm,0.5s,baz=111,slow=8.0,SNR=5.1								
WB0	**Warramunga Arr**	**44.35**	**270**	P		**P**		**20 28 31.9**	**-1.5**
WB0				IAmb		IAmb		20 28 38.8	
	comp=Z,2.8nm,0.6s								
QSPA	**South Pole Qui**	**61.51**	**180**	P		**P**		**20 30 39.1**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=99,slow=19,SNR=1.0								
FINES	**FINESS Array B**	**143.54**	**341**	PKP		**PKPdf**		**20 39 56.2**	**-0.4**
	comp=Z,4.1nm,0.6s,baz=48,slow=4.8,SNR=5.4								
NOA	**NORSAR Array B**	**147.01**	**352**	PKPbc		**PKPdf**		**20 40 04.1**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=14,slow=4.4,SNR=2.1								
AKASG	**Malin Array Be**	**150.01**	**325**	PKPbc		**PKiKP**		**20 40 14.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=46,slow=2.7,SNR=2.2								
MMAI	**Mount Meron Ar**	**151.31**	**287**	PKPbc		**PKiKP**		**20 40 17.4**	**+0.5**
	comp=Z,2.0nm,0.5s,baz=93,slow=5.8,SNR=4.7								

IDC 23 20:23:01.4±3.3,**29°.71S**×**177°.47W**,**h0**km,**mb3.8**/2, **mb1 4.0**/2,**mb1mx3.5**/36,**mbtmp3.8**/2,**Error ellipse: s-maj=70.9km s-min=26.5km az=66.0,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.60**	**320**	Pn		Pn		20 23 16.8	-0.4
	215nm,0.3s,baz=86,slow=22,SNR=2.3								
RAO				Sn		Sn		20 23 29.2	+1.5
	348nm,0.3s,baz=65,slow=22,SNR=2.7								
ASAR	**Alice Springs**	**43.61**	**266**	P		P		20 31 07.8	+0.1
	0.6nm,0.6s,baz=102,slow=7.6,SNR=5.1								
WRA	**Warramunga Arr**	**44.53**	**271**	P		P		20 31 14.8	-0.4
	0.8nm,0.6s,baz=112,slow=7.7,SNR=1.2								
FINES	**FINESS Array B**	**144.65**	**341**	PKP		PKPdf		20 42 39.1	-0.3
	2.4nm,0.6s,baz=58,slow=2.9,SNR=5.3								

*IDC **23** 20:23:31.6±0.4,30°.05S×177°.25W,h0km,mb5.1/17, mb1 5.2/18,mb1mx5.0/32,mbtmp5.1/18,ML4.4/1,MS6.4/1, Ms1 6.4/1,ms1mx5.1/47,Error ellipse: s-maj=16.9km s-min=14.1km az=69.0*
*NEIC **23** 20:23:32.6±1.5,30°.08S±0°.07×177°.4W±0°.1, h7km±3km, mb5.2/131,Error ellipse: s-maj=17.4km s-min=9.1km az=66.0*
*UNK **23** 20:23:33.0,30°.18S×177°.44W, h9km*
*BJI **23** 20:23:32.3±0.0,29°.62S×176°.66W, h19km,mb5.4/33*
*MOS **23** 20:23:33.8±1.1,30°.09S×177°.38W, h23km,mb5.4/7,Error ellipse: s-maj=10.3km s-min=9.3km az=77.0*

ISC 23 20:23:36.2±0.3,**30°.13S**±0°.04×**177°.29W**±0°.06,**h35**km, **n583,** σ1.951/580,**mb5.2**/109,**24C-19D,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.02**	**327**	P		**Pn**		**20 23 53.6**	**-0.5**
GLKZ				S		**Sn**		**20 24 08.2**	**+1.0**
RAO	**Raoul Island**	**1.03**	**328**	Pn		**Pn**		**20 23 52.4**	**-1.8**
	3µm,0.3s,baz=81,slow=22,SNR=11								
RAO				Sn		**Sn**		**20 24 05.1**	**-2.2**
	6µm,0.3s,baz=122,slow=22,SNR=15								
RAO				LR		LR		20 24 09.0	
	comp=Z,22µm,20.4s,baz=79,slow=38								
RAO	**Raoul Island**	**1.03**	**328**	P		**Pn**		**20 23 53.0**	**-1.2**
RAO								20 24 05.4	
RAO	**Raoul Island**	**1.03**	**328**	Pn		**Pn**		**20 23 53.0**	**-1.2**
RAO				Sn		**Sn**		**20 24 05.4**	**-2.0**
RIZ	**Raoul Island**	**1.04**	**328**	P		**Pn**		**20 23 53.8**	**-0.6**
RIZ				S		**Sn**		**20 24 06.5**	**-1.2**
MXZ	**Matakaoa Point**	**8.27**	**205**	P		**Pn**		**20 25 34.5**	**+0.8**
MXZ				S		**Sn**		**20 27 07.6**	**+1.9**
WMGZ	**Waiomatatini S**	**8.46**	**204**	P		**Pn**		**20 25 34.6**	**-1.7**
HAZ	**Te Kaha**	**8.64**	**207**	P		**Pn**		**20 25 36.4**	**-2.2**
HAZ				S		**Sn**		**20 27 18.1**	**+3.3**
PKGZ	**Pakihiroa**	**8.64**	**205**	P		**Pn**		**20 25 36.1**	**-2.7**
PUZ	**Puketiti**	**8.74**	**204**	P		**Pn**		**20 25 37.0**	**-3.2**
PUZ				S		**Sn**		**20 27 16.7**	**-0.7**
RUGZ	**Raukumara Rang**	**8.86**	**207**	P		**Pn**		**20 25 39.8**	**-2.0**
RUGZ				S		**Sn**		**20 27 21.5**	**+1.0**
WCZ	**Waipu Caves**	**9.10**	**228**	P		Pn		20 25 52.7	+7.6
CNGZ	**Carnagh Statio**	**9.13**	**203**	P		**Pn**		**20 25 42.1**	**-3.3**
CNGZ				S		**Sn**		**20 27 27.6**	**+0.7**
OUZ	**Omahuta**	**9.21**	**234**	P		Pn		20 25 54.6	+8.1
OUZ	**Omahuta**	**9.21**	**234**	Pn		**Pn**		**20 25 49.9**	**+3.4**
TKGZ	**Te Karaka**	**9.21**	**205**	P		Pn		20 25 41.3	-5.2
TKGZ				S		**Sn**		**20 27 26.7**	**-2.2**
MWZ	**Matawai**	**9.24**	**206**	P		**Pn**		**20 25 44.3**	**-2.7**
MWZ				S		**Sn**		**20 27 25.9**	**-3.8**
URZ	**Urewera**	**9.34**	**208**	P		**Pn**		**20 25 45.8**	**-2.5**
RAGZ	**Rawiri**	**9.42**	**206**	P		**Pn**		**20 25 46.6**	**-3.0**
RIGZ	**Rimuhau**	**9.48**	**204**	P		**Pn**		**20 25 47.7**	**-2.6**
RTZ	**Ruatahuna**	**9.70**	**208**	P		**Pn**		**20 25 51.1**	**-2.2**
RTZ				S		**Sn**		**20 27 39.4**	**-1.6**
SNGZ	**Shannon Statio**	**9.70**	**206**	P		**Pn**		**20 25 53.1**	**-0.2**
SNGZ				S		**Sn**		**20 27 39.5**	**-1.6**
MTHZ	**Maungataniwha**	**9.96**	**208**	P		**Pn**		**20 25 54.9**	**-1.9**
MTHZ				S		**Sn**		**20 27 45.0**	**-2.3**
TLZ	**Tolley Road**	**10.10**	**214**	P		Pn		20 26 03.5	+4.7
BKZ	**Black Stump Fm**	**10.37**	**208**	P		**Pn**		**20 26 01.6**	**-0.8**
BKZ				S		**Sn**		**20 27 55.5**	**-1.9**
BKZ	**Black Stump Fm**	**10.37**	**208**	Pn		**Pn**		**20 25 58.3**	**-4.1**
RATZ	**Rangitukua**	**10.43**	**211**	P		Pn		20 26 09.2	+6.0
HIZ	**Hauiti**	**10.59**	**216**	Pn		Pn		20 25 58.6	-6.8
KAHZ	**Kahuranaki**	**10.76**	**205**	P		Pn		20 26 02.8	-5.1
BHHZ	**Black Hill Sta**	**10.82**	**209**	P		**Pn**		**20 26 07.1**	**-1.5**
KRHZ	**Kereru**	**10.82**	**207**	P		**Pn**		**20 26 05.0**	**-3.7**
FWVZ	**Far West T-bar**	**10.84**	**211**	P		**Pn**		**20 26 08.3**	**-0.8**
TRVZ	**Turoa**	**10.88**	**211**	P		**Pn**		**20 26 11.6**	**+2.0**
VRZ	**Vera Road**	**11.11**	**214**	P		Pn		20 26 17.8	+5.3
TSZ	**Takapari Road**	**11.34**	**207**	P		**Pn**		**20 26 15.3**	**-0.5**
DVHZ	**Dannevirke**	**11.47**	**206**	P		**Pn**		**20 26 17.3**	**-0.2**
BFZ	**Birch Farm**	**11.77**	**205**	P		**Pn**		**20 26 17.5**	**-4.1**
BFZ	**Birch Farm**	**11.77**	**205**			Pn		20 26 15.5	-6.1
HOWZ	**Holdsworth Sta**	**12.23**	**207**	P		**Pn**		**20 26 24.2**	**-3.7**
TMWZ	**Te Maipa**	**12.27**	**205**	P		Pn		20 26 23.4	-5.0
OGWZ	**Otaki Gorge**	**12.30**	**208**	P		**Pn**		**20 26 26.7**	**-2.1**
MSWZ	**Moikau Station**	**12.78**	**206**	Pn		**Pn**		**20 26 31.7**	**-3.7**
DUWZ	**D'Urville Isla**	**12.83**	**212**	P		**Pn**		**20 26 33.3**	**-2.8**
BHW	**Baring Head**	**12.92**	**207**	P		**Pn**		**20 26 36.6**	**-0.7**
BHW	**Baring Head**	**12.92**	**207**	Pn		**Pn**		**20 26 34.9**	**-2.5**
MSVF	**Nonsavu**	**13.05**	**340**	P		**Pn**		**20 26 37.2**	**-2.1**
MSVF	**Nonsavu**	**13.05**	**340**	Pn		**Pn**		**20 26 37.2**	**-2.1**
TUWZ	**Tuamarina**	**13.32**	**210**	P		**Pn**		**20 26 40.5**	**-2.3**
TUWZ	**Tuamarina**	**13.32**	**210**			**Pn**		**20 26 38.4**	**-4.4**
NNZ	**Nelson**	**13.40**	**212**	P		**Pn**		**20 26 44.4**	**+0.5**
QRZ	**Quartz Range**	**13.51**	**215**	P		**Pn**		**20 26 47.5**	**+2.2**
THZ	**Tophouse**	**14.05**	**212**	P		**Pn**		**20 26 52.0**	**-0.8**
THZ	**Tophouse**	**14.05**	**212**	Pn		**Pn**		**20 26 51.7**	**-1.1**
KHZ	**Kahutara**	**14.31**	**209**	P		**Pn**		**20 26 53.6**	**-2.6**
KHZ	**Kahutara**	**14.31**	**209**	Pn		**Pn**		**20 26 53.7**	**-2.6**
GVZ	**Greta Valley S**	**14.97**	**209**	P		**Pn**		**20 27 03.4**	**-1.8**
LTZ	**Lake Taylor**	**15.15**	**211**	P		**Pn**		**20 27 05.6**	**-2.0**
LTZ	**Lake Taylor**	**15.15**	**211**	Pn		**Pn**		**20 27 05.4**	**-2.2**
LTZ				IAmb		IAmb		20 27 14.6	
	comp=Z,40nm,0.6s								
OKCZ	**Okains Bay**	**15.59**	**207**	P		**Pn**		**20 27 10.5**	**-2.8**
OXZ	**Oxford**	**15.69**	**210**	P		**P**		**20 27 16.7**	**-1.5**
OXZ	**Oxford**	**15.69**	**210**	P		**Pn**		**20 27 11.8**	**-2.7**
MOZ	**McQueen's Vall**	**15.74**	**208**	Pn		**Pn**		**20 27 10.0**	**-5.1**
RPZ	**Rata Peaks**	**16.43**	**211**	Pn		**Pn**		**20 27 21.5**	**-2.5**
	comp=Z,4.5nm,0.3s,baz=55,slow=0.2,SNR=15								
RPZ	**Rata Peaks**	**16.43**	**211**	P		**Pn**		**20 27 21.9**	**-2.2**
RPZ	**Rata Peaks**	**16.43**	**211**	Pn		**Pn**		**20 27 21.6**	**-2.5**
DZM	**Mont Dzumac**	**16.66**	**295**	Pn		**P**		**20 27 31.7**	**+2.5**
	comp=Z,3.1nm,0.3s,baz=130,slow=14,SNR=26								
FOZ	**Fox Glacier**	**16.87**	**214**	Pn		**Pn**		**20 27 24.5**	**-5.0**
LBZ	**Lake Benmore**	**17.35**	**211**	Pn		**Pn**		**20 27 31.4**	**-4.1**
ODZ	**Otahua Downs**	**17.66**	**209**	Pn		**Pn**		**20 27 35.5**	**-3.9**
RAR	**Rarotonga**	**18.10**	**65**	P		**Pn**		**20 27 44.2**	**-0.7**
	comp=Z,12nm,0.3s,baz=166,slow=1.7,SNR=4.5								
RAR	**Rarotonga**	**18.10**	**65**	P		**Pn**		**20 27 42.8**	**-2.1**
RAR				pmax		pmax			
	comp=Z,117nm,0.9s								
RAR	**Rarotonga**	**18.10**	**65**	P		**Pn**		**20 27 42.8**	**-2.1**
RAR				IAmb		IAmb		20 27 49.1	
	comp=Z,117nm,0.8s								
WKZ	**Wanaka**	**18.22**	**213**	Pn		**Pn**		**20 27 41.1**	**-5.2**
HHSZ	**Highcliff Hill**	**18.36**	**208**	P		**Pn**		**20 27 53.1**	**+5.1**
MLZ	**Mavora Lakes**	**19.05**	**213**	P		**P**		**20 27 53.5**	**-1.9**
WHZ	**Wether Hill Ro**	**19.52**	**212**	P		**P**		**20 27 58.6**	**-1.8**
DCZ	**Deep Cove**	**19.58**	**214**	P		**P**		**20 27 58.9**	**-2.2**
PYZ	**Puysegur Point**	**20.32**	**214**	P		**P**		**20 28 07.3**	**-1.9**
PYZ				IAmb		IAmb		20 28 24.3	
	comp=Z,112nm,1.0s								
SANVU	**Saraoutou**	**20.41**	**312**			**P**		**20 28 09.5**	**-0.8**
SANVU				IAmb		IAmb		20 28 19.3	
	comp=Z,82nm,1.0s								
ARMA	**Armidale**	**26.81**	**261**	P		**P**		**20 29 16.3**	**+3.0**
EIDS	**Eidsvold**	**28.34**	**272**	P		**P**		**20 29 27.6**	**+0.6**
EIDS				IAmb		IAmb		20 29 42.5	
	comp=Z,48nm,0.8s								
CAN	**Canberra**	**28.74**	**251**	P		**P**		**20 29 29.6**	**-0.9**
CAN				pmax		pmax			
	comp=Z,97nm,0.9s								
CAN	**Canberra**	**28.74**	**251**	P		**P**		**20 29 29.6**	**-0.9**
TOO	**Toolangi**	**31.64**	**246**	P		**P**		**20 29 54.9**	**-1.2**
TOO				pmax		pmax			
	comp=Z,99nm,0.9s								
TOO	**Toolangi**	**31.64**	**246**	P		**P**		**20 29 54.9**	**-1.2**
CTA	**Charters Tower**	**34.37**	**278**	P		**P**		**20 30 21.7**	**+1.7**
	baz=316,slow=14								
CTAO	**Charters Tower**	**34.37**	**278**	P		**P**		**20 30 20.9**	**+0.9**
CTAO				pmax		pmax			
	comp=Z,111nm,0.9s								
CTAO	**Charters Tower**	**34.37**	**278**	P		**P**		**20 30 20.9**	**+0.9**
STKA	**Stephens Creek**	**35.14**	**256**	P		**P**		**20 30 28.7**	**+2.1**
	comp=Z,37nm,0.8s,baz=95,slow=11,SNR=31								
STKA	**Stephens Creek**	**35.14**	**256**	P		**P**		**20 30 27.4**	**+0.8**
STKA				pmax		pmax			
	comp=Z,20nm,1.0s								
STKA	**Stephens Creek**	**35.14**	**256**	P		**P**		**20 30 27.4**	**+0.8**
BBOO	**Buckleboo**	**39.63**	**254**	P		**P**		**20 31 05.1**	**+0.4**
BBOO				IAmb		IAmb		20 31 06.7	
	comp=Z,56nm,0.8s								
COEN	**Coen**	**39.79**	**285**	P		**P**		**20 31 06.7**	**+0.6**
COEN				IAmb		IAmb		20 31 21.6	
	comp=Z,36nm,1.0s								
AS31	**Alice Springs**	**43.74**	**266**	P		**P**		**20 31 38.6**	**+0.2**
ASAR	**Alice Springs**	**43.74**	**266**	P		**P**		**20 31 38.6**	**+0.2**
	comp=Z,36nm,0.9s,baz=109,slow=7.7,SNR=82								
ASAR				PcP		**PcP**		**20 33 26.5**	**+1.6**
	comp=Z,4.8nm,0.7s,baz=117,slow=3.7,SNR=2.8								

PLCA **Paso Flores** 82.24 133 P P 20 35 55.2 +1.1
PLCA pmax pmax
comp=Z,8.0nm,1.1s
PLCA **Paso Flores** 82.24 133 P P 20 35 55.2 +1.1
LC01 **Cunco** 82.38 131 P P 20 35 56.0 +1.3
LC01 IAmb IAmb 20 36 10.0
comp=Z,25nm,1.1s
JKA **Kamikawa-asahi** 82.48 332 P P 20 35 56.0 +1.2
ASAJ **Asahikawa** 82.49 332 P P 20 35 57.2 +2.3
comp=Z,51nm,0.9s,baz=218,slow=8.9,SNR=48
ASAJ **Asahikawa** 82.49 332 P P 20 35 56.0 +1.1
ASAJ pmax pmax
comp=Z,72nm,1.0s
NIKH **Nikolski High** 83.08 5 P P 20 35 57.6 -0.1
SNCC **San Nicolas Is** 83.41 46 P P 20 36 01.1 +1.1
baz=227
LPIG **La Paz** 83.87 58 LR LR 21 06 19.6
comp=Z,21µm,21.9s,baz=54,slow=31
CIS **Catalina Islan** 84.20 46 P P 20 36 05.6 +1.6
baz=228
PKM **Mcpherson Peak** 84.34 44 P P 20 36 06.3 +1.3
baz=227
KSRS **Korea Array** 84.54 319 P P 20 36 07.0 +1.4
comp=Z,10.0nm,1.0s,baz=142,slow=5.7,SNR=19
YSS **Yuzh-Sakhalins** 84.77 334⇑ eP P 20 36 08.3 +1.8
YSS pmax pmax
comp=Z,130nm,0.9s
YSS **Yuzh-Sakhalins** 84.77 334 P P 20 36 07.9 +1.4
IPM **Ipoh** 85.06 278 P P 20 36 09.0 +0.2
MURC **Murrieta** 85.10 47 P P 20 36 10.6 +2.0
baz=229
ARVC **Arvin** 85.10 45 P P 20 36 10.0 +1.5
baz=228
MONP2 **Monument Peak** 85.13 48 P P 20 36 10.8 +1.9
baz=229
IKP **In-Ko-Pah, Jac** 85.17 48 P P 20 36 11.1 +2.0
baz=230
BFSC **Mount Baldy Ra** 85.23 46 P P 20 36 11.0 +1.6
baz=228
VES **Vestal, Richgr** 85.42 44 P P 20 36 11.7 +1.7
baz=228
EDW2 **Edwards Air Fo** 85.45 45 P P 20 36 11.1 +0.7
baz=228,SNR=9.0
SWSC **Sam W. Stewart** 85.56 48 P P 20 36 12.6 +1.8
baz=230
PFO **Pinyon Flats O** 85.57 47 P P 20 36 12.7 +1.6
baz=229
PFO **Pinyon Flats O** 85.57 47 P P 20 36 12.4 +1.3
PFO pmax pmax
comp=Z,11nm,1.1s
PFO **Pinyon Flats O** 85.57 47 P P 20 36 12.3 +1.3
XPFO **Pion Flat** 85.57 47 P P 20 36 12.3 +1.2
ISA **Isabella, Lake** 85.67 44 P P 20 36 12.4 +0.9
baz=228,SNR=7.2
ISA **Isabella, Lake** 85.67 44 P P 20 36 11.9 +0.4
ISA pmax pmax
comp=Z,20nm,1.2s
ISA **Isabella, Lake** 85.67 44 P P 20 36 11.9 +0.4
ISA IAmb IAmb 20 36 18.7
comp=Z,20nm,1.1s
PETK **Petropavlovsk-** 85.70 345 P P 20 36 12.1 +1.0
comp=Z,25nm,0.8s,baz=139,slow=7.4,SNR=43
TEY **Ternei** 85.77 329⇑ eP P 20 36 12.7 +1.1
TEY pmax pmax
comp=Z,20nm,1.2s
TEY pmax pmax
comp=N,10.0nm,0.9s
KULM **Kulim** 85.79 279 P P 20 36 12.1 -0.4
KULM IAmb IAmb 20 36 17.1
comp=Z,10nm,0.9s
KULM **Kulim** 85.79 279 P P 20 36 13.0 +0.5
LRMC **Laurel Mtn Rad** 86.03 45 P P 20 36 14.4 +1.1
baz=228,SNR=8.0
BELC **Belle Mtn. Jos** 86.11 47 P P 20 36 15.7 +1.9
baz=230,SNR=13
CMB **Columbia Colle** 86.15 42 P P 20 36 14.8 +1.1
CMB pmax pmax
comp=Z,17nm,1.1s
CMB **Columbia Colle** 86.15 42 P P 20 36 14.8 +1.1
CMB IAmb IAmb 20 36 15.9
comp=Z,16nm,1.1s
BC3 **Big Chuckawall** 86.24 47 P P 20 36 16.0 +1.7
baz=230,SNR=9.1
GLA **Glamis** 86.25 48 P P 20 36 16.8 +2.5
baz=230
GLA **Glamis** 86.25 48 P P 20 36 15.7 +1.3
GLA pmax pmax
comp=Z,11nm,0.8s
GLA **Glamis** 86.25 48 P P 20 36 15.7 +1.3
GLA IAmb IAmb 20 36 33.4
comp=Z,11nm,0.8s
KHMM **Horse Mountain** 86.29 38 P P 20 36 16.5 +2.0
KHMM IAmb IAmb 20 36 17.9
comp=Z,22nm,1.0s
O02D **Mt. Diablo Mer** 86.30 39 P P 20 36 16.6 +2.2
baz=225,SNR=24
CWC **Cottonwood Cre** 86.43 44 P P 20 36 16.3 +1.0
baz=228
HEC **Hector,Ludlow** 86.44 46 P P 20 36 17.2 +1.9
baz=229
AFDM **Forest Hills D** 86.44 41 P P 20 36 16.2 +1.1
GSC **Goldstone, Bar** 86.46 45 P P 20 36 16.5 +1.2
baz=229,SNR=12
GSC **Goldstone, Bar** 86.46 45 P P 20 36 16.9 +1.6
GSC pmax pmax
comp=Z,18nm,1.1s
GSC **Goldstone, Bar** 86.46 45 P P 20 36 16.9 +1.6
GSC IAmb IAmb 20 36 17.9
comp=Z,18nm,1.1s
MPMC **Manual Prospec** 86.53 45 P P 20 36 16.8 +0.9
baz=228,SNR=12
NJ2 **Nanjing** 86.54 310 eP P 20 36 18.6 +2.9
NJ2 pmax pmax
comp=Z,13nm,0.5s
ORV **Oroville** 86.57 40 P P 20 36 16.9 +1.2
ORV pmax pmax
comp=Z,10.0nm,1.1s
ORV **Oroville** 86.57 40 P P 20 36 16.9 +1.2
MDPB **Devils Postpil** 86.63 43 P P 20 36 17.1 +0.7
MDPB IAmb IAmb 20 36 18.8
comp=Z,12nm,1.2s
KRMB **Red Mountain** 86.66 37 P P 20 36 17.6 +1.4
KRMB IAmb IAmb 20 36 19.3
comp=Z,26nm,1.2s
OMMB **Old Mammoth Mi** 86.67 43 P P 20 36 17.1 +0.5
WDC **Whiskeytown Da** 86.72 39 P P 20 36 18.1 +1.7
WDC pmax pmax
comp=Z,28nm,1.2s
WDC **Whiskeytown Da** 86.72 39 P P 20 36 18.1 +1.7
WDC IAmb IAmb 20 36 19.6
comp=Z,28nm,1.1s
IRM **Iron Mountain** 86.76 47 P P 20 36 18.8 +2.0
baz=230,SNR=13
113A **Mohawk Valley,** 86.77 49 P P 20 36 18.4 +1.6
GMRC **Granite Mounta** 86.83 46 P P 20 36 18.6 +1.4
baz=230,SNR=6.0
214A **Organ Pipe Nat** 86.89 50 P P 20 36 19.7 +2.3
baz=231
214A **Organ Pipe Nat** 86.89 50 P P 20 36 18.8 +1.3
N02D **Trinity Center** 86.91 38 P P 20 36 19.0 +1.6
baz=225,SNR=14
O03E **Paynes Creek** 86.92 39 P P 20 36 18.2 +0.8
baz=226,SNR=7.7
WAKR **Walker** 87.02 42 P P 20 36 19.8 +1.7
WAKR IAmb IAmb 20 36 20.8
comp=Z,23nm,1.1s
TUQ **Turquoise Moun** 87.09 46 P P 20 36 20.2 +1.7
baz=230
M02C **Callahan** 87.12 38 P P 20 36 20.1 +1.7
baz=225,SNR=10
SHOC **Shoshone, Teco** 87.17 45 P P 20 36 21.0 +2.3
baz=229
FURC **Furnace Creek,** 87.18 45 P P 20 36 20.2 +1.5
baz=229
GRAC **Grapevine Rang** 87.23 44 P P 20 36 20.8 +1.8
baz=229
USRK **Ussuriysk Ar.** 87.28 326 P P 20 36 20.4 +1.5
comp=Z,35nm,0.9s,baz=134,slow=3.7,SNR=56
PNTR **Pine Nut** 87.32 41 P P 20 36 20.7 +1.1
YBH **Yreka Blue Hor** 87.44 38 P P 20 36 21.3 +1.3
YBH pmax pmax
comp=Z,13nm,1.1s
YBH **Yreka Blue Hor** 87.44 38 P P 20 36 21.3 +1.3
YBH IAmb IAmb 20 36 36.7
comp=Z,13nm,1.1s
YERR **Yerington** 87.45 41 P P 20 36 21.4 +1.1
YERR IAmb IAmb 20 36 22.5
comp=Z,12nm,0.9s
PDMCI **Parker Dam,Lak** 87.49 48 P P 20 36 22.4 +2.1
baz=231
NVAR **Mina Array Bea** 87.62 42 P P 20 36 22.5 +1.4
comp=Z,11nm,0.9s,baz=221,slow=8.2,SNR=44
K02D **Willamette Mer** 87.63 36 P P 20 36 22.8 +2.0
baz=224
RYN **Ryan** 87.63 42 P P 20 36 22.2 +1.2
RYN IAmb IAmb 20 36 23.3
comp=Z,12nm,1.1s
J01E **Myrtle Point** 87.83 36 P P 20 36 22.5 +0.8
baz=224
PAHR **Pah Rah Range** 87.86 41 P P 20 36 22.7 +0.6
PAHR IAmb IAmb 20 36 24.3
comp=Z,10nm,1.0s
TPNV **Topopah Spring** 87.87 45 P P 20 36 23.8 +1.6
baz=229,SNR=13
TPNV **Topopah Spring** 87.87 45 P P 20 36 23.4 +1.1
TPNV pmax pmax
comp=Z,15nm,1.0s
TPNV **Topopah Spring** 87.87 45 P P 20 36 23.4 +1.1
TPNV IAmb IAmb 20 36 28.8
comp=Z,15nm,0.9s
M04C **Macdoel** 87.94 38 P P 20 36 23.6 +1.2
baz=226
Y14A **Wickenburg** 87.99 49 P P 20 36 24.1 +1.3
Y14A IAmb IAmb 20 36 39.5
comp=Z,11nm,0.9s
L04D **Klamath Falls** 88.00 37 P P 20 36 23.6 +0.9
baz=225
KVN **Kaiserville** 88.16 42 P P 20 36 24.6 +1.0
KVN pmax pmax
comp=Z,14nm,1.0s
KVN **Kaiserville** 88.16 42 P P 20 36 24.6 +1.0
KVN IAmb IAmb 20 36 25.7
comp=Z,14nm,1.0s
W13A **Hualapai Mount** 88.16 47 P P 20 36 24.7 +1.0
W13A IAmb IAmb 20 36 40.0
comp=Z,10nm,1.1s
SHPR **Sheep Range** 88.25 45 P P 20 36 25.6 +1.5
SHPR IAmb IAmb 20 36 40.3
comp=Z,11nm,1.1s
TUC **Tucson** 88.46 51 P P 20 36 27.2 +2.2
baz=233
TUC **Tucson** 88.46 51 P P 20 36 26.8 +1.7
TUC pmax pmax
comp=Z,11nm,1.2s
TUC **Tucson** 88.46 51 P P 20 36 26.8 +1.7
TUC IAmb IAmb 20 36 42.2
comp=Z,11nm,1.1s
I03D **Drain, OR** 88.50 36 P P 20 36 26.5 +1.7
baz=224
WHN **Wuhan** 88.68 307 P P 20 36 28.8 +2.8
MDJ **Mudanjiang** 88.75 325 P P 20 36 27.8 +1.8
MDJ pmax pmax
comp=Z,29nm,1.3s
MDJ **Mudanjiang** 88.75 325 P P 20 36 26.8 +0.8
MOD **Modoc Plateau** 88.85 39 P P 20 36 27.5 +0.7
MOD IAmb IAmb 20 36 28.9
comp=Z,11nm,1.1s
I04A **Tendick Farm,** 89.05 36 P P 20 36 28.6 +1.1
baz=225,SNR=6.2
K05A **Summer Lake** 89.10 38 P P 20 36 28.9 +1.0
DL2 **Dalian** 89.17 317 P P 20 36 29.5 +1.4
DL2 pmax pmax
comp=Z,15nm,0.9s
R11A **Troy Canyon, C** 89.18 44 P P 20 36 30.1 +1.7
baz=230
R11A **Troy Canyon, C** 89.18 44 P P 20 36 29.1 +0.7
J05D **Fort Rock, OR** 89.31 37 P P 20 36 30.2 +1.4
baz=226
H04D **Lebanon** 89.40 36 P P 20 36 30.7 +1.6
baz=225
G03D **McMinnville, O** 89.63 35 P P 20 36 31.7 +1.7
baz=224
LCMT **Little Creek M** 89.76 46 P P 20 36 32.6 +1.5
H04A **Detroit Lake** 89.79 36 P P 20 36 31.7 +0.8
H04A IAmb IAmb 20 36 33.0
comp=Z,28nm,1.1s
PINE **Pine Mountain** 89.81 37 P P 20 36 32.5 +1.2
PINE IAmb IAmb 20 36 34.7
comp=Z,27nm,1.1s
I05D **Terrebonne, OR** 89.98 36 P P 20 36 32.9 +1.1
baz=226,SNR=6.9
U15A **North Rim** 90.00 47 P P 20 36 34.3 +1.9
U15A IAmb IAmb 20 36 49.5
comp=Z,26nm,1.1s
WUAZ **Wupatki** 90.02 48 P P 20 36 34.9 +2.4
baz=232
WUAZ **Wupatki** 90.02 48 P P 20 36 33.4 +1.0
WUAZ IAmb IAmb 20 36 35.5
comp=Z,21nm,1.1s
CCUT **Cedar City** 90.03 46 P P 20 36 34.0 +1.5
KNB **Kanab** 90.03 46 P P 20 36 34.2 +1.8
KNB pmax pmax
comp=Z,21nm,1.1s
KNB **Kanab** 90.03 46 P P 20 36 34.2 +1.8
WVOR **Wild Horse Val** 90.12 39 P P 20 36 33.6 +0.9
WVOR pmax pmax
comp=Z,8.0nm,0.5s
WVOR **Wild Horse Val** 90.12 39 P P 20 36 33.6 +0.9
WVOR IAmb IAmb 20 36 37.1
comp=Z,8.2nm,0.5s
SZCU **Shurtz Canyon** 90.22 46 P P 20 36 34.1 +0.7
TIA **Tai'an** 90.24 313 P P 20 36 34.3 +1.1
TIA pmax pmax
comp=Z,23nm,0.9s
CN2 **Changchun** 90.30 322 eP P 20 36 33.3 0.0
CN2 pmax pmax
comp=Z,60nm,0.9s
PSUT **Pine Spring** 90.34 45 P P 20 36 35.3 +1.4
E03A **Lebam** 90.44 34 P P 20 36 35.7 +1.9
F04A **Amboy** 90.56 35 P P 20 36 35.7 +1.3
G05D **Wamic, OR** 90.63 36 P P 20 36 36.4 +1.6
baz=226
121A **Cookes Peak, D** 90.63 52 P P 20 36 36.9 +1.5
baz=234
I07A **Izee** 90.77 38 P P 20 36 36.8 +1.2
I07A IAmb IAmb 20 36 38.1
comp=Z,14nm,1.1s
J08A **Circle Bar Ran** 90.83 39 P P 20 36 36.5 +0.6
J08A IAmb IAmb 20 36 38.3
comp=Z,19nm,1.1s
W18A **Petrified Fore** 90.85 49 P P 20 36 38.1 +1.8
baz=233
W18A **Petrified Fore** 90.85 49 P P 20 36 37.8 +1.5
W18A IAmb IAmb 20 36 39.8
comp=Z,22nm,1.1s
NLWA **Neilton Lookou** 90.90 33 P P 20 36 37.6 +1.6
NLWA IAmb IAmb 20 36 39.5
comp=Z,21nm,1.1s
E04D **Cinebar** 90.93 34 P P 20 36 38.0 +1.9
baz=225
ELK **Elko** 90.93 42 P P 20 36 37.5 +0.9
ELK pmax pmax
comp=Z,6.0nm,1.1s
ELK **Elko** 90.93 42 P P 20 36 37.5 +0.9
G06A **Carlson Farm,** 90.97 36 P P 20 36 37.8 +1.4
MTPU **Mount Pierson** 91.06 46 P P 20 36 39.1 +1.6
KLR **Kul'dur** 91.11 329 P P 20 36 38.4 +1.5
comp=Z,20nm,0.8s,baz=120,slow=3.3,SNR=52
MSU **Marysvale** 91.36 45 P P 20 36 39.3 +0.7
MSU **Marysvale** 91.36 45 P P 20 36 39.3 +0.7
D03D **Eldon** 91.37 33 P P 20 36 40.2 +2.0
baz=225
LON **Longmire** 91.43 35 P P 20 36 39.1 +0.5
LON pmax pmax
comp=Z,7.0nm,1.1s
LON **Longmire** 91.43 35 P P 20 36 39.0 +0.5
D05A **Enumclaw** 91.65 34 P P 20 36 40.2 +0.8
TXAR **Lajitas Array** 91.72 57 P P 20 36 41.5 +1.1
comp=Z,1.6nm,0.8s,baz=202,slow=5.3,SNR=7.1
MNTX **Cornudas Mount** 91.82 54 P P 20 36 43.1 +2.5
baz=235
MNTX **Cornudas Mount** 91.82 54 P 20 36 41.3 +0.6
MNTX IAmb IAmb 20 36 49.1
comp=Z,12nm,1.1s
GYA **Guiyang** 91.95 299 ⇑P P 20 36 41.8 +0.3
GYA pmax pmax
comp=Z,5.0nm,1.4s
ENH **Enshi** 91.96 304 P P 20 36 41.9 +0.5
DUG **Dugway, Tooele** 92.01 44 P P 20 36 43.4 +1.8
baz=231
DUG **Dugway, Tooele** 92.01 44 P P 20 36 42.1 +0.6
DUG pmax pmax
comp=Z,33nm,0.7s
DUG **Dugway, Tooele** 92.01 44 P P 20 36 42.1 +0.6
LENM **Lemitar** 92.13 51 P P 20 36 43.0 +0.7
Q16A **Castle Valley** 92.22 46 P P 20 36 43.4 +0.8
MFID **Camas Ranch** 92.31 40 P 20 36 44.1 +1.3
MFID IAmb IAmb 20 36 48.5
comp=Z,12nm,0.9s
HAWA **Hanford** 92.32 36 P 20 36 44.0 +1.3
HAWA IAmb IAmb 20 36 45.0
comp=Z,15nm,0.9s
LTY **Liberty** 92.35 35 P P 20 36 43.6 +0.8
LTY IAmb IAmb 20 36 51.3
comp=Z,7.7nm,1.1s
B05A **Bryant** 92.36 33 P P 20 36 45.0 +2.3
baz=225
BNM **Barren Site** 92.36 52 P 20 36 44.4 +1.0
TMUT **Trail Mountain** 92.43 45 P P 20 36 43.9 +0.2
BMO **Blue Mountains** 92.45 38 P P 20 36 43.7 +0.3
BMO pmax pmax
comp=Z,5.0nm,1.0s
BMO **Blue Mountains** 92.45 38 P P 20 36 43.7 +0.3
MPU **Maple Canyon** 92.61 44 P P 20 36 44.1 -0.3
MVCO **Mesa Verde** 92.89 48 P P 20 36 47.1 +1.3
baz=234
ANMO **Albuquerque** 92.93 51 P P 20 36 47.0 +1.1
baz=235
ANMO **Albuquerque** 92.93 51 P P 20 36 46.3 +0.3
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO **Albuquerque** 92.93 51 P 20 36 46.3 +0.3
JLU **Jordanelle** 93.08 44 P P 20 36 46.3 -0.3
D08A **Wollman Farm,** 93.08 36 P 20 36 46.5 +0.3
D08A IAmb IAmb 20 36 48.4
comp=Z,14nm,1.1s
E09A **Wood Farm, Sta** 93.11 36 P P 20 36 45.5 -0.7
E09A IAmb IAmb 20 36 48.1
comp=Z,18nm,1.1s
BJT **Baijiatuau** 93.16 315 P P 20 36 45.8 -0.8
BJT pmax pmax
comp=Z,11nm,0.9s
BJT **Baijiatuau** 93.16 315 P P 20 36 45.8 -0.8
BJT IAmb IAmb 20 36 56.9
comp=Z,11nm,0.9s
BJI **Beijing** 93.16 315 P P 20 36 47.8 +1.2
BJI pmax pmax
comp=Z,8.0nm,1.0s
HLID **Hailey** 93.20 40 P P 20 36 48.7 +1.7
baz=230
HLID **Hailey** 93.20 40 P 20 36 46.4 -0.6
HLID IAmb IAmb 20 36 49.3
comp=Z,9.0nm,0.9s
F10A **Beach Ranch, E** 93.23 37 P 20 36 47.6 +0.7
F10A IAmb IAmb 20 37 04.0
comp=Z,14nm,0.8s
B08A **Colville Reser** 93.76 35 P P 20 36 49.3 0.0
CMAR **Chiang Mai Arr** 93.89 289 P P 20 36 51.5 +0.9
comp=Z,3.2nm,1.0s,baz=137,slow=5.0,SNR=9.8
CMAR PP PP 20 40 35.4 -1.5
comp=Z,2.0nm,1.0s,baz=135,slow=5.8,SNR=5.0
KMI **Kunming** 94.25 296⇓ eP P 20 36 53.8 +1.5
KMI pP pP 20 36 56.9 -5.1
KMI pmax pmax
comp=Z,11nm,0.9s
S22A **4UR Ranch, Cre** 94.28 49 P P 20 36 53.6 +1.4
baz=235
XAN **Xi'an** 94.44 307 P P 20 36 58.4 +5.6
XAN pmax pmax
comp=Z,7.0nm,0.8s
MCMT **McKenzie Canyo** 94.87 40 P P 20 36 56.5 +1.7
PDAR **Pinedale Array** 95.52 43 PP PP 20 40 46.5 -2.9
comp=Z,2.8nm,0.7s,baz=230,slow=1.4,SNR=3.6
PDAR PKKPbc PKKPbc 20 53 49.3 -0.8
comp=Z,0.5nm,0.7s,baz=72,slow=4.8,SNR=5.0
BOZ **Bozeman (W)** 96.02 40 P P 20 37 01.3 +1.5
baz=232
BOZ **Bozeman (W)** 96.02 40 P P 20 37 01.7 +1.9
BOZ pmax pmax
comp=Z,6.0nm,1.0s
BOZ **Bozeman (W)** 96.02 40 P P 20 37 01.7 +1.9
BOZ IAmb IAmb 20 37 04.3
comp=Z,6.0nm,1.0s
ZEA **Zeya** 96.31 331 eP P 20 37 00.5 -0.2
ZEA pmax pmax
comp=Z,23nm,1.0s
HHC **Hu-ho-hao-te** 96.49 314 eP P 20 37 01.8 -0.2
HHC pmax pmax
comp=Z,4.0nm,1.0s
YNE **Yellowstone No** 96.58 41 P P 20 37 02.8 +0.3
NEA2 **Nenana** 96.96 12 P P 20 37 06.0 +2.6
baz=204
RLMT **Red Lodge** 97.07 41 P Pdif 20 37 05.6 +0.8
baz=234
HDA **Harding Lake** 97.19 13 P Pdif 20 37 05.7 +1.2
baz=206
ILAR **Eielson Array** 97.53 13 PP PP 20 41 00.8 -3.2
comp=Z,0.6nm,0.8s,baz=214,slow=7.0,SNR=4.1
EGMT **Eagleton** 98.51 39 P Pdif 20 37 12.3 +1.4
baz=234
LZH **Lanzhou** 99.06 306 eP Pdif 20 37 14.4 +0.6
LZH pP pP 20 37 19.9 -3.6
LZH sP sP 20 37 23.1 -3.9
LZH pmax pmax
comp=Z,20nm,1.0s
SONM **Songino Array** 103.35 318 PKKPbc PKKPbc 20 53 31.8 +4.0
comp=Z,0.5nm,0.8s,baz=268,slow=2.8,SNR=3.8
WMQ **Urumqi** 113.54 308 ePKP PKiKP 20 42 11.6 +1.0
P60A **Greenville** 116.95 58 P PKiKP 20 42 18.1 +0.9
baz=252
E53A **Dumoine, Ponti** 117.43 50 P PKiKP 20 42 19.6 +1.7
baz=254
L58A **Harry Jones Me** 117.46 55 P PKiKP 20 42 19.4 +1.3
baz=253
N60A **Cedar Hill Far** 117.66 57 P PKiKP 20 42 19.8 +1.3
baz=253
E54A **Lac Daplat, Po** 117.76 50 P PKiKP 20 42 19.8 +1.2
baz=255
MKAR **Makanchi Array** 118.07 310 PKP PKPdf 20 42 18.8 -0.4
comp=Z,1.7nm,0.7s,baz=172,slow=0.7,SNR=11
MKAR PKKPbc PKKPab 20 52 42.1 +2.1
comp=Z,0.7nm,0.8s,baz=250,slow=2.5,SNR=3.8
ZALV **Zalesovo Beam** 118.24 318 PKP PKiKP 20 42 19.1 -0.2
comp=Z,1.5nm,0.6s,baz=31,slow=0.9,SNR=5.8
MAKZ **Makanchi** 118.28 310 PKiKP PKPdf 20 42 18.7 -0.9
MAKZ **Makanchi** 118.28 310 PKPdf PKPdf 20 42 18.7 -0.9
L60A **Shokan** 118.61 56 P PKiKP 20 42 21.5 +1.1
baz=254
J59A **Piesco** 118.81 54 P PKiKP 20 42 22.1 +1.4
baz=255
KURK **Kurchatov** 121.31 314 PKiKP PKPdf 20 42 24.4 -0.8
KURK **Kurchatov** 121.31 314 PKPdf PKPdf 20 42 24.4 -0.8
BOOM **Boomskoye usch** 121.40 304 PKiKP PKPdf 20 42 25.6 -0.3
BOOM **Boomskoye usch** 121.40 304 PKPdf 20 42 25.6 -0.3
H62A **Milan** 121.42 54 P PKiKP 20 42 26.7 +1.0
baz=257
E60A **Ste Agathe de** 121.61 51 P PKiKP 20 42 27.1 +1.0
baz=258
F61A **St Evariste** 121.83 52 P PKiKP 20 42 27.9 +1.3
baz=258
E61A **Lac Etchemin** 122.27 52 P PKiKP 20 42 29.0 +1.6
baz=259
H64A **Troy** 122.79 54 P PKiKP 20 42 29.3 +0.9
baz=258
PKME **Peaks-Kenny Pk** 122.86 53 P PKiKP 20 42 29.5 +0.9
baz=259
E62A **Clayton Lake** 122.96 51 P PKiKP 20 42 29.9 +1.2
baz=260
F63A **Nahmakanta, Br** 123.08 53 P PKiKP 20 42 30.2 +1.2
baz=259
G64A **Maxfield** 123.23 53 P PKiKP 20 42 30.1 +0.8
baz=259
ARSB **Arslanbob** 123.28 302 PKiKP PKiKP 20 42 29.8 +0.1
ARSB **Arslanbob** 123.28 302 PKiKP 20 42 29.8 +0.1
D62A **Allapoint, All** 123.36 51 P PKiKP 20 42 30.9 +1.4
baz=260
H65A **Eastbrook** 123.48 54 P PKiKP 20 42 30.5 +0.8
baz=259
F64A **Sherman** 123.62 53 P PKiKP 20 42 30.5 +0.4
baz=260
E63A **Oxbow** 123.67 52 P PKiKP 20 42 31.4 +1.2
baz=260
D63A **Stockholm** 123.99 51 P PKiKP 20 42 31.7 +1.0
baz=261
G65A **Princeton** 124.05 53 P PKiKP 20 42 32.1 +1.2
baz=260
E64A **Bridgewater** 124.08 52 P PKiKP 20 42 32.1 +1.2

baz=260
BTK Batken 124.62 300 PKIKP PKiKP 20 42 32.0 -0.3
BTK Batken 124.62 300 PKiKP 20 42 32.0 -0.3
GAR Garm 124.77 299 PKiKP 20 42 33.1 +0.4
KKAR Karatay Array 125.44 304 PKIKP PKiKP 20 42 33.3 -0.5
KKAR Karatay Array 125.44 304 PKiKP 20 42 33.3 -0.5
SCHQ Schefferville 125.63 42 PKP PKPdf 20 42 33.1 -0.3
comp=Z,3.1nm,0.9s,baz=232,slow=17,SNR=3.2
SCHQ Schefferville 125.63 42 PKPdf 20 42 32.6 -0.8
LMN Caledonia Moun 126.07 52 PKPdf PKPdf 20 42 34.3 -0.2
BVAR Borovoye Array 126.64 316 PKP PKiKP 20 42 35.7 -0.2
comp=E,6.1nm,0.8s,baz=96,slow=3.0,SNR=22
BRVK Borovoye 126.70 316 PKIKP PKiKP 20 42 35.5 -0.5
BRVK Borovoye 126.70 316 PKPdf PKiKP 20 42 35.5 -0.5
ARU Arti 133.27 321 PKIKP PKiKP 20 42 48.1 -0.9
GEYT Alibeck 134.00 295 PKP PKiKP 20 42 50.5 -0.8
comp=Z,3.0nm,0.8s,baz=208,slow=2.9,SNR=5.1
AKTO Aktyubinsk 134.37 313 PKP PKPdf 20 42 50.1 0.0
comp=Z,3.8nm,0.7s,baz=152,slow=1.7,SNR=9.5
KMBO Kilima Mbogo 134.73 233 PKP PKPdf 20 42 51.9 -0.4
comp=Z,1.1nm,0.4s,baz=49,slow=20,SNR=1.6
ARCES ARCESS Array B 138.45 348 PKhKP PKPpre 20 42 47.4
comp=Z,6.6nm,1.0s,baz=56,slow=13,SNR=6.3
ARCES PKP PKPdf 20 42 57.1 -0.1
comp=Z,9.4nm,0.9s,baz=303,slow=6.8,SNR=6.5
RAYN Ar Rayn 141.42 271 PKIKP PKPdf 20 43 02.3 -1.7
RAYN Ar Rayn 141.42 271 PKPdf 20 43 02.2 -1.7
GROC Groznyy 143.45 303 *e*PKIKP PKPdf 20 43 06.0 -0.9
GROC *e* 20 46 19.1
GROC pmax pmax
comp=Z,24nm,1.0s
VRH Novokhopyorsk 144.26 317 *e*PKIKP PKPab 20 43 05.6 -0.4
VRH pmax pmax
comp=Z,10.0nm,0.8s
TBLG Delisi 144.38 301 PKIKP PKPdf 20 43 07.6 -1.0
TBLG Delisi 144.38 301 PKPdf PKPdf 20 43 07.6 -1.0
MOS Moscow 144.46 326 *e*PKIKP PKPab 20 43 05.8 -0.8
MOS pmax pmax
comp=Z,43nm,0.9s
ZEI Tsey 144.88 303 *i* PKIKP PKPdf 20 43 09.2 -0.5
ZEI pmax pmax
comp=Z,42nm,1.0s
FINES FINESS Array B 145.10 341 PKPbc PKPdf 20 43 08.7 -0.5
comp=Z,115nm,0.9s,baz=64,slow=4.4,SNR=128
GOF Gofitskoye 145.12 307 ↑/PKIKP PKIKP 20 43 10.0 +0.2
GOF pmax pmax
comp=Z,53nm,0.8s
LPSR Galich'ya Gora 145.29 321 *e*PKIKP PKPdf 20 43 10.0 +0.2
LPSR pmax pmax
comp=Z,130nm,1.0s
OBN Obninsk 145.30 326 PKIKP PKPdf 20 43 10.1 +0.4
OBN Obninsk 145.30 326 PKPdf 20 43 09.6 -0.1
AKH Akhalkalaki 145.34 300 ↓P PKPab 20 43 12.0 +1.5
AKH Akhalkalaki 145.34 300 PKIKP PKPab 20 43 11.3 +0.7
AKH Akhalkalaki 145.34 300 PKPab 20 43 11.3 +0.7
KBZ Khabaz 145.47 304 PKPbc PKPab 20 43 11.0 +0.3
comp=Z,19nm,0.9s,baz=42,slow=1.9,SNR=21
KVAR Kislovodsk Arr 145.57 305 PKPbc PKPab 20 43 12.4 +1.1
comp=Z,16nm,1.1s,baz=73,slow=19,SNR=7.6
KIV Kislovodsk 145.58 305 ↓P PKPab 20 43 12.1 +0.9
KIV Kislovodsk 145.58 305 *e*PKIKP PKPab 20 43 11.1 -0.2
KIV pmax pmax
comp=Z,84nm,1.1s
KIV Kislovodsk 145.58 305 PKPab 20 43 11.4 +0.1
VSR Storozhevoye 145.75 318 *e*PKP2 PKPbc 20 43 10.7 -0.4
VSR pmax pmax
comp=Z,110nm,0.9s
VORD Divnogorie 145.77 318 *e*PKP2 PKPab 20 43 11.1 -0.5
VORD pmax pmax
comp=Z,70nm,0.9s
VSU Vasula 147.22 337 *e*P PKPab 20 43 15.8 -1.1
NB2 NORSAR Subarra 148.57 352 PKP PKPbc 20 43 18.5 -0.3
comp=Z,7.8nm,0.7s,baz=8.2,slow=2.7
NOA NORSAR Array B 148.57 352 PKPbc PKPbc 20 43 18.8 -0.1
comp=Z,18nm,0.9s,baz=15,slow=4.3,SNR=38
ANN Anapa 149.06 308 *e*PKIKP PKPdf 20 43 17.6 +1.3
ANN pmax pmax
comp=Z,118nm,0.9s
IZAR Zarasai 149.43 334 *e*P PKiKP 20 43 21.6 -0.5
ISAL Salakas 149.61 334 *e*P PKiKP 20 43 22.0 -0.5
MICGM Minsk 149.66 331 *e* PKiKP 20 43 22.0 -0.7
MNK Minsk 149.66 331 *e*PKP2 PKiKP 20 43 22.0 -0.7
IIGN Ignalina 149.73 333 *e*P PKiKP 20 43 22.3 -0.5
NACGM Naroch 149.83 332 *e* PKPdf 20 43 12.0 -5.2
KONO Kongsberg 150.11 353 PKIKP PKiKP 20 43 23.2 -0.3
KONO Kongsberg 150.11 353 PKiKP 20 43 23.2 -0.3
PABE Paberze 150.47 335 *e*P PKiKP 20 43 24.4 +0.1
GAZ Gaziantep 150.55 293 PKiKP 20 43 25.5 +0.3
ASF Jabal al Asfar 150.74 283 PKPbc PKiKP 20 43 26.6 +0.8
comp=Z,22nm,0.9s,baz=124,slow=1.4,SNR=36
PBUR Paburge 150.76 338 *e*P PKiKP 20 43 24.7 -0.2
DIKM Dikmen 151.40 303 ↓P PKiKP 20 43 27.5 +0.8
AKASG Malin Array Be 151.48 324 PKPbc PKiKP 20 43 26.1 -0.3
comp=Z,26nm,0.8s,baz=48,slow=2.9,SNR=58
HWQ Hawqa 151.65 287 *e*P PKiKP 20 43 27.6 0.0
QRWL Qaraoun 151.85 286 *e*P PKiKP 20 43 29.0 +1.0
BHL Bhannes 151.88 286 *e*P PKiKP 20 43 29.1 +1.0
SUW Suwalki 151.91 334 PKIKP PKiKP 20 43 27.2 -0.1
SUW Suwalki 151.91 334 PKiKP 20 43 27.2 -0.1
DQRL Deir Qamar 151.95 286 *e*P PKiKP 20 43 29.7 +1.5
MMAI Mount Meron Ar 152.06 284 PKPbc PKiKP 20 43 28.2 -0.3
baz=59,slow=3.7
ILGA Ilgaz 152.67 302 PKiKP 20 43 30.3 +0.7
BRTR Keskin Array B 153.01 299 PKPbc PKiKP 20 43 30.5 +0.2
comp=Z,6.1nm,0.9s,baz=128,slow=3.8,SNR=13
SORM Soroca 153.38 320 ↑P PKiKP 20 43 30.6 +0.1
SORM Soroca 153.38 320 ↑PKIKP PKiKP 20 43 30.6 +0.1
BSD Bornholm Skovb 153.54 344 *i* P PKPbc 20 43 30.1 -0.4
BSD Bornholm Skovb 153.54 344 *i* PKIKP PKPbc 20 43 30.1 -0.4
ANTO Ankara 153.62 300 PKIKP PKPbc 20 43 30.9 -0.4
ANTO Ankara 153.62 300 PKPbc 20 43 30.9 -0.4
MILM Milestii Mici 153.76 317 ↓P PKiKP 20 43 31.4 +0.1
CSS Mathiatis 153.80 289 PKiKP 20 43 32.0 +0.1
LEF Lefka 154.15 289 ↓P PKiKP 20 43 33.5 +1.0
TLCR 154.59 314 ↑P PKiKP 20 43 35.1 +2.0
TOPG Topolog 155.01 313 ↑P PKPab 20 43 50.4 +0.7
CFR Carcaliu 155.02 314 ↓P PKPdf 20 43 35.0 +10
TESR Tescani 155.24 318 ↑P PKPab 20 43 49.8 -0.8
BIZ Bicaz 155.31 319 ↓P PKPdf 20 43 35.9 +10
HARR Harsova 155.38 313 ↑P PKPab 20 43 44.6 -6.6
BURAR Bucovina Array 155.41 322 ↓P PKPab 20 43 46.1 -5.3
BURAR Bucovina Array 155.41 322 ↓PKP2 PKPab 20 43 46.1 -5.3
VRI Vrincioaia 155.54 317 ↓P PKPab 20 43 53.1 +1.2
VRI Vrincioaia 155.54 317 ↓PKP2 PKPab 20 43 53.1 +1.2
OZUR 155.97 318 ↑P PKPab 20 43 54.5 +0.7
ISR Istrita 156.03 315 ↑P PKPab 20 43 53.9 -0.2
ISR Istrita 156.03 315 ↑PKP2 PKPab 20 43 53.9 -0.2
MLR Muntele Rosu 156.20 317 PKPbc PKPdf 20 43 37.1 +10
comp=Z,0.7nm,0.5s,baz=26,slow=18,SNR=1.6
UZH Uzhgorod 156.23 327 *e*PKP2 PKPab 20 43 52.8 -2.0
SECR 156.37 315 ↑P PKPab 20 43 57.2 +1.6
CRVS Cervenica-Dubn 156.43 328 *e*PKP2 PKPab 20 43 57.0 +1.4
CRVS Cervenica-Dubn 156.43 328 *e*PKP PKPab 20 43 57.0 +1.4
RAZG Razgrad 156.81 312 ↑P PKPab 20 43 59.2 +1.7
SGRR Singureni 156.83 314 ↓P PKPab 20 43 46.8 -11
OKC Ostrava-Krasne 157.12 334 *e*PKPAB PKPab 20 43 58.6 +0.1
OKC Ostrava-Krasne 157.12 334 *e*PKP2 PKPab 20 43 58.6 +0.1
KECS Kecovo 157.18 328 *e*PKP2 PKPab 20 44 00.4 +1.5
KECS Kecovo 157.18 328 *e*PKP PKPab 20 44 00.4 +1.5
OSTC Ostas 157.22 337 *e*PKPAB PKPab 20 44 00.6 +1.7
CHVC Chvalec 157.24 338 *e*PKPAB PKPab 20 43 59.8 +0.7
DRGR 157.25 323 ↑P PKPab 20 43 47.4 -12
UPC Upice 157.32 338 *e*PKPAB PKPab 20 44 00.4 +1.0
UPC Upice 157.32 338 *e*PKP2 PKPab 20 44 00.4 +1.0
DPC Dobruska-Polom 157.35 337 *e*PKPAB PKPab 20 44 01.0 +1.4
DPC Dobruska-Polom 157.35 337 *e*PKP2 PKPab 20 44 01.0 +1.4
MORC Moravsky Berou 157.40 334 *e*PKP PKPab 20 43 59.5 -0.3
CLL Collm 157.49 343 *e*PKPdiff PKPdf 20 43 40.0 +12
comp=Z,9.0nm,1.1s
CLL *i* PKPab PKPab 20 44 01.3 +1.2
comp=Z,18nm,1.1s
CLL *i* 20 44 08.8
comp=Z,22nm,0.9s
CLL *e*PP PP 20 47 36.0 -2.8
BRG Berggiesshubel 157.64 341 *i* PKP PKPab 20 44 01.2 +0.5
comp=Z,55nm,1.8s
BRG *i* 20 44 09.0
comp=Z,19nm,0.9s
BRG Berggiesshubel 157.64 341 *i* PKP2 PKPab 20 44 01.2 +0.5
BRG pmax pmax
comp=Z,55nm,1.8s
PVCC Panska Ves 157.76 340 *e*PKPAB PKPab 20 44 01.7 +0.4
PVCC Panska Ves 157.76 340 *e*PKP2 PKPab 20 44 01.7 +0.4
PSZ Piszkesteto 157.87 328 ↑P PKPab 20 44 02.5 +0.6
PSZ Piszkesteto 157.87 328 ↑PKP2 PKPab 20 44 02.5 +0.6
PSZ Piszkesteto 157.87 328 PKPab 20 44 02.0 +0.1
VYHS Vyhne 157.90 331 *e*PKP2 PKPab 20 44 03.3 +1.3
VYHS Vyhne 157.90 331 *e*PKP PKPab 20 44 03.3 +1.3
VLAD Vladila 157.92 315 ↑P PKPab 20 44 03.4 +1.2
JAVC Velka Javorina 158.09 333 *e*PKP PKPab 20 44 04.4 +1.6
PLVB Pleven 158.10 313 ↓P PKPab 20 44 04.3 +1.3
VRAC Vranov 158.13 335 PKPab PKPab 20 44 02.8 -0.1
comp=Z,14nm,1.0s,baz=39,slow=4.4,SNR=17
VRAC Vranov 158.13 335 ↑P PKPab 20 44 03.8 +0.8
VRAC Vranov 158.13 335 *e*PKP PKPab 20 44 03.5 +0.5
VRAC Vranov 158.13 335 ↑PKP2 PKPab 20 44 03.8 +0.8
GOPC GO Pecny, Ondr 158.23 339 *e*PKPAB PKPab 20 44 04.2 +0.8
GOPC GO Pecny, Ondr 158.23 339 *e*PKP2 PKPab 20 44 04.2 +0.8
ALN Alexandroupoli 158.24 306 PKP2 PKPab 20 44 02.5 -1.2
ALN Alexandroupoli 158.24 306 PKPab 20 44 02.5 -1.2
PRU Pruhonice 158.25 339 *e*PKPAB PKPab 20 44 04.0 +0.6
PRU Pruhonice 158.25 339 *e*PKP2 PKPab 20 44 04.0 +0.6
SRE Strehaia 158.28 318 ↓P PKPab 20 44 05.6 +1.9
SRE Strehaia 158.28 318 ↓PKP2 PKPab 20 44 05.6 +1.9
KRUC Moravsky 158.41 335 *e*PKP PKPab 20 44 04.5 +0.4
SMOL Smolenice 158.46 333 *e*PKP2 PKPab 20 44 06.1 +1.7
SMOL Smolenice 158.46 333 *e*PKP PKPab 20 44 06.0 +1.7
TREC Trest 158.54 337 *e*PKPAB PKPab 20 44 06.0 +1.3
TREC Trest 158.54 337 *e*PKP2 PKPab 20 44 06.0 +1.3
NKC Novy Kostel 158.62 343 *e*PKP2 PKPab 20 44 13.3 +8.3
ZST Bratislava 158.85 333 *e*PKP2 PKPab 20 44 06.1 +0.1
ZST Bratislava 158.85 333 *e*PKP PKPab 20 44 06.1 +0.1
MDVR Moldovita 159.06 320 ↓P PKPab 20 44 07.8 +0.5
KHC Kasperske Hory 159.30 339 *e*PKPAB PKPab 20 44 08.6 +0.6
KHC *ex* x 20 44 17.5
KHC Kasperske Hory 159.30 339 *e*PKP2 PKPab 20 44 08.6 +0.6
KHC Kasperske Hory 159.30 339 PKPab PKPab 20 44 08.9 +0.9
VTS Vitosha 159.36 313 ↓P PKPab 20 44 10.2 +1.4
VTS Vitosha 159.36 313 ↓PKP2 PKPab 20 44 10.2 +1.4
VTS Vitosha 159.36 313 PKPab PKPab 20 44 09.1 +0.3
GRA1 Grafenberg Arr 159.42 344 PKPab PKPab 20 44 09.2 +0.7
GRF Grafenberg Arr 159.42 344 PKP2 PKPab 20 44 09.2 +0.7
GERES GERESS Array B 159.51 339 PKP PKPdf 20 43 30.7 -0.2
comp=Z,0.8nm,0.9s,baz=114,slow=1.6,SNR=5.5
GERES PKPab PKPab 20 44 09.4 +0.3
comp=Z,7.0nm,1.0s,baz=36,slow=5.0,SNR=16
CONA Conrad Observa 159.55 334 *e*pPKPab PKPab 20 44 10.5 +1.3
comp=Z,20nm,1.0s,SNR=9.2
BCLA Clavier 159.64 355 PKPab PKPab 20 44 09.2 -0.1
BGES Gesves 159.69 356 PKPab PKPab 20 44 09.6 0.0
BMRD Maredsous 159.79 356 PKPab PKPab 20 44 09.5 -0.5
DOU Dourbes 160.00 356 PKPab PKPab 20 44 11.1 +0.1
MOA Molln 160.19 337 *e*PKPab PKPab 20 44 13.0 +1.1
comp=Z,18nm,1.2s,SNR=8.2
WLF Walferdange 160.31 353 PKPab PKPab 20 44 13.0 +0.7
DIVS Divibare 160.45 320 PKPab PKPab 20 44 13.2 -0.2
SOKA Soboth 160.90 333 *e*PKPab PKPab 20 44 15.6 +0.5
comp=Z,19nm,1.1s,SNR=8.3
KBA Koelnbreinsper 161.18 337 *e*PKPab PKPab 20 44 17.3 +0.8
comp=Z,6.3nm,0.6s
OBKA Obir 161.23 334 *e*PKPab PKPab 20 44 17.0 +0.4
comp=Z,8.7nm,1.1s
BFO Black Forest 161.32 348 PKP2 PKPab 20 44 16.8 0.0
BFO Black Forest 161.32 348 PKPab PKPab 20 44 16.8 0.0
MYKA Terra Mystica 161.46 336 *e*PKPab PKPab 20 44 17.7 +0.1
comp=Z,12nm,0.9s,SNR=5.3
WATA Walderalm 161.50 341 *e*PKPab PKPab 20 44 18.8 +1.0
comp=Z,23nm,1.1s,SNR=8.8
WTTA Wattenberg 161.55 340 *e*pPKPab PKPab 20 44 19.2 +1.1
comp=Z,20nm,0.8s,SNR=7.0
RETA Reutte 161.59 343 PKPab PKPab 20 44 18.8 +0.8
comp=Z,23nm,0.9s,SNR=6.0
AGG Agios Georgios 161.60 304 PKP2 PKPab 20 44 17.6 -0.9
AGG Agios Georgios 161.60 304 PKPab PKPab 20 44 17.6 -0.9
MOTA Moosalm 161.62 342 *e*pPKPab PKPab 20 44 19.5 +1.2
comp=Z,26nm,1.3s,SNR=9.2
PRED Cave del Predi 161.65 336 PKPab PKPab 20 44 17.8 -0.6
SQTA Sankt Quirin 161.71 341 *e*PKPab PKPab 20 44 19.6 +0.9
comp=Z,22nm,0.9s,SNR=6.0
ABTA Abfaltersbach 161.74 338 *e*PKPab PKPab 20 44 19.0 +0.2
comp=Z,17nm,1.0s,SNR=8.0
ZOU Zoufplan 161.76 337 PKPab PKPab 20 44 18.5 -0.6
PDG Podgorica 161.91 317 PKPab PKPab 20 44 18.2 -1.5
DAVA Damuels 161.99 344 *e*pPKPab PKPab 20 44 20.9 +0.9
comp=Z,9.7nm,0.9s
FETA Feichten 162.02 342 *e*pPKPab PKPab 20 44 21.3 +1.2
comp=Z,21nm,1.1s
CIMO Cimolais 162.15 338 PKPab PKPab 20 44 19.9 -0.6
FUORN Ofenpass-Fuorn 162.52 342 PKPab PKPab 20 44 23.2 +0.8
CTI Castel Tesino 162.64 339 PKP2 PKPab 20 44 22.1 -0.7
CTI Castel Tesino 162.64 339 PKPab PKPab 20 44 22.1 -0.7
TUE Stuetta 162.88 344 PKPab PKPab 20 44 24.7 +0.7
TORD Torodi Ar. Bea 163.07 177 PKP PKPdf 20 43 35.7 +0.1
comp=Z,3.9nm,1.1s,baz=248,slow=1.3,SNR=8.5
TORD PKPab PKPab 20 44 24.4 -0.8
comp=Z,3.2nm,0.7s,baz=177,slow=3.1,SNR=4.0
OSSC Osservatorio P 165.00 335 PKPab 20 44 33.5 +0.4
AQU L'Aquila 165.08 328 PKP2 PKPab 20 44 34.0 +0.4
AQU L'Aquila 165.08 328 PKPab PKPab 20 44 34.0 +0.4
INTR Introdacqua 165.10 326 PKPab PKPab 20 44 33.3 -0.5
TIP Timpagrande 165.35 312 PKPab PKPab 20 44 35.7 +0.8
ESDC Sonseca Array 169.02 28 PKP PKPdf 20 43 40.9 +1.2
comp=Z,1.2nm,0.9s,baz=342,slow=2.4,SNR=7.7
ESDC PKPab PKPab 20 44 50.5 -0.5
comp=Z,3.7nm,0.9s,baz=310,slow=4.3,SNR=8.7

*NEIC **23** 20:26:08.5±0.5, 29.6°S×0.3×177.4°W±0.2, h11km±3km, mb4.6/8, Error ellipse: s-maj=47.8km s-min=8.2km az=215.0*
*IDC **23** 20:26:08.6±1.4, 29.7°S×177.6°W, h0km, mb4.5/5, mb1 4.7/5, mb1mx4. 1/35, mbtmp4.5/5, Error ellipse: s-maj=17.9km s-min=9.2km az=70.0*

ISC 23 20:26:10.5±1.4, 29°61'S±0.1'0×177°8'W±0.2', h10km, n18, σ1°90/17, mb4.6/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.38	339	Pn	Pg	20 26 18.5	+0.5
	2µm,0.3s,baz=70,slow=20,SNR=1.8						
RAO				Sn	Sg	20 26 26.9	+4.0
	2µm,0.3s,baz=71,slow=20,SNR=1.8						
RAO	Raoul Island	0.38	339		Pg	20 26 17.8	-0.2
LTZ	Lake Taylor	15.40	209	P	Pn	20 29 46.1	-1.7
OXZ	Oxford	15.94	208	Pn	Pn	20 29 52.3	-2.6
MQZ	McQueen's Vall	16.02	206	Pn	Pn	20 29 53.7	-2.1
CTA	Charters Tower	33.88	278	P	P	20 32 55.5	+1.8
	4.5nm,0.5s,baz=99,slow=11						
CTAO	Charters Tower	33.88	278	P	P	20 32 53.7	+0.1
CTAO				IAmb	IAmb	20 33 02.5	
	comp=Z,5.8nm,0.8s						
STKA	Stephens Creek	34.86	256	P	P	20 33 02.9	+0.8
	comp=Z,4.5nm,0.6s,baz=102,slow=12,SNR=1.6						
STKA	Stephens Creek	34.86	256	P	P	20 33 02.5	+0.5
ASAR	Alice Springs	43.36	266	P	P	20 34 13.2	-0.1
	comp=Z,2.4nm,0.7s,baz=107,slow=7.0,SNR=1.0						
WR0	Warramunga Arr	44.10	271	P	P	20 34 19.4	+0.2
WR0				IAmb	IAmb	20 34 19.5	
	comp=Z,8.3nm,0.8s						
WB2	Warramunga Arr	44.27	271	P	P	20 34 20.6	+0.1
WRAB	Tennant Creek	44.27	271	P	P	20 34 21.3	+0.7
WRAB				IAmb	IAmb	20 34 29.0	
	comp=Z,9.3nm,0.9s						
WRA	Warramunga Arr	44.28	271	P	P	20 34 20.9	+0.2
	comp=Z,6.0nm,0.3s,baz=111,slow=8.1,SNR=6.3						
QSPA	South Pole Qui	60.50	180	P	P	20 36 24.0	+3.4
	comp=Z,3.5nm,0.5s,baz=40,slow=14,SNR=1.4						
FINES	FINESS Array B	144.47	340	PKP	PKPdf	20 45 42.9	-3.5
	comp=Z,2.6nm,0.5s,baz=50,slow=4.1,SNR=2.0						
AKASG	Malin Array Be	150.79	324	PKPbc	PKiKP	20 46 01.0	-2.4
	comp=Z,1.2nm,0.5s,baz=48,slow=2.6,SNR=1.9						
CLL	Collm	156.87	343	*e*(PKPab)	PKPab	20 46 37.0	+1.4

*IDC **23** 20:27:58.5±0.4, 29.98°S×177.52°W, h0km, mb5.0/22, mb1 5.2/23, mb1mx5.0/38, mbtmp5.0/23, ML4.8/1, Error ellipse: s-maj=15.8km s-min=11.5km az=69.0*
*NEIC **23** 20:27:60.0±1.3, 30.00°S±0.05°×177.7°W±0.1', h10km±1km, mb5.4/120, Error ellipse: s-maj=18.8km s-min=8.5km az=83.0*
*MOS **23** 20:28:00.4±1.0, 30.03°S×177.61W, h21km, mb5.5/8, Error ellipse: s-maj=11.0km s-min=9.8km az=76.9*
*BJI **23** 20:28:00.3±0.0, 29.45°S×176.97W, h21km, mb5.3/29*
*UNK **23** 20:28:02.2, 30.05°S×177.64W, h26km*

ISC 23 20:28:00.4±0.6, 30.03°S±0.05°×177.63W±0.08, h13km±3km, h12km:pP-P, n561, σ0.96/559, mb5.3/111, 20C-20D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.81	342	Pn	Pn	20 28 18.6	+0.9
	3µm,0.3s,baz=222,slow=5.7,SNR=10						
RAO				Sn	Sn	20 28 29.1	-0.5
	22µm,0.3s,baz=136,slow=18,SNR=20						
RAO	Raoul Island	0.81	342	Pn	Pn	20 28 18.2	+0.5
RAO				Sn	Sn	20 28 28.6	-1.0
BKZ	Black Stump Fm	10.32	206	Pn	Pn	20 30 26.6	-1.7
BFZ	Birch Farm	11.74	203	Pn	Pn	20 30 46.3	-1.3
LTZ	Lake Taylor	15.09	210	Pn	Pn	20 31 32.3	-1.1
DZM	Mont Dzumac	16.35	295	Pn	P	20 31 54.6	+1.8
	0.2nm,0.3s,baz=66,slow=14,SNR=6.4						
DZM	Mont Dzumac	16.35	295	P	P	20 31 52.5	-0.3
RPZ	Rata Peaks	16.36	210	Pn	Pn	20 31 49.7	-0.2
	3.5nm,0.3s,baz=304,slow=13,SNR=3.2						
RPZ				Sn	Sn	20 34 35.8	-16
	1.0nm,0.3s,baz=25,slow=13,SNR=2.3						
RPZ	Rata Peaks	16.36	210	IAmb	IAmb	20 31 52.3	
	comp=Z,35nm,0.6s						
ODZ	Otahua Downs	17.61	208		P	20 32 06.5	0.0
SANVU	Saraoutou	20.12	313	P	P	20 32 34.2	0.0
ARMA	Armidale	26.53	261	P	P	20 33 38.5	+0.4
ARMA				IAmb	IAmb	20 33 44.5	
	comp=Z,51nm,0.8s						
EIDS	Eidsvold	28.04	272	P	P	20 33 51.3	-0.3
EIDS				IAmb	IAmb	20 33 56.0	
	comp=Z,55nm,0.8s						
CAN	Canberra	28.50	251	P	P	20 33 57.3	+1.7
CAN				pmax	pmax		
	comp=Z,78nm,0.9s						
CAN	Canberra	28.50	251	P	P	20 33 57.3	+1.7
CAN				IAmb	IAmb	20 34 00.7	
	comp=Z,78nm,0.9s						
TOO	Toolangi	31.40	246	P	P	20 34 22.5	+1.2
TOO				pmax	pmax		
	comp=Z,106nm,1.1s						
TOO	Toolangi	31.40	246	P	P	20 34 22.5	+1.2
CTA	Charters Tower	34.06	278	P	P	20 34 46.9	+2.2
	comp=Z,77nm,0.7s,baz=104,slow=11,SNR=40						
CTAO	Charters Tower	34.06	278	P	P	20 34 46.5	+1.8
CTAO				pmax	pmax		
	comp=Z,173nm,1.2s						
CTAO	Charters Tower	34.06	278	P	P	20 34 46.5	+1.8
STKA	Stephens Creek	34.88	256	P	P	20 34 53.5	+1.9
	comp=Z,48nm,0.8s,baz=102,slow=12,SNR=28						
STKA	Stephens Creek	34.88	256	P	P	20 34 52.4	+0.7
STKA				pmax	pmax		
	comp=Z,12nm,0.8s						
STKA	Stephens Creek	34.88	256	P	P	20 34 52.4	+0.7
COEN	Coen	39.48	285	P	P	20 35 31.1	+0.2
AS31	Alice Springs	43.45	266	P	P	20 36 03.0	-0.5
ASAR	Alice Springs	43.45	266	P	P	20 36 03.5	0.0
	comp=Z,18nm,0.5s,baz=104,slow=7.4,SNR=36						
ASAR				PcP	PcP	20 37 51.3	-0.5
	comp=Z,7.0nm,0.9s,baz=112,slow=5.1,SNR=3.2						
WR0	Warramunga Arr	44.22	272	P	P	20 36 08.6	-1.1
WR0				IAmb	IAmb	20 36 12.7	
	comp=Z,83nm,1.1s						
WB2	Warramunga Arr	44.40	272	P	P	20 36 10.6	-0.5
WRAB	Tennant Creek	44.40	272	P	P	20 36 11.1	0.0
WRAB				pmax	pmax		
	comp=Z,94nm,1.1s						
WRAB	Tennant Creek	44.40	272	P	P	20 36 11.1	0.0
WRA	Warramunga Arr	44.41	272	P	P	20 36 11.7	+0.5
	comp=Z,41nm,0.5s,baz=111,slow=8.0,SNR=35						
WB0	Warramunga Arr	44.43	272	P	P	20 36 11.0	-0.4
FORT	Forrest	46.45	255	P	P	20 36 27.2	-0.1
FORT				IAmb	IAmb	20 36 39.8	
	comp=Z,42nm,0.8s						
JAY	Jayapura	48.02	297	P	P	20 36 38.5	-1.2
	comp=Z,20nm,1.1s,baz=138,slow=4.5,SNR=6.8						
VNDA	Vanda	48.49	186	P	P	20 36 42.4	-0.1
	comp=Z,4.7nm,0.8s,baz=40,slow=4.0,SNR=5.6						
VNDA	Vanda	48.49	186	P	P	20 36 42.8	+0.3
VNDA				pmax	pmax		
	comp=Z,21nm,1.3s						
VNDA	Vanda	48.49	186	P	P	20 36 42.8	+0.3
MTN	Manton Dam	50.24	278	P	P	20 36 55.2	-1.5
MTN				IAmb	IAmb	20 36 57.6	
	comp=Z,31nm,0.9s						
KNRA	Kununurra	51.00	274	P	P	20 37 02.3	-0.1
KNRA				IAmb	IAmb	20 37 04.1	
	comp=Z,50nm,1.1s						
FITZ	Fitzroy Crossi	52.68	269	P	P	20 37 14.6	-0.3
	comp=Z,34nm,0.9s,baz=140,slow=8.2,SNR=13						
FITZ	Fitzroy Crossi	52.68	269	P	P	20 37 14.8	-0.1
FITZ				IAmb	IAmb	20 37 18.5	
	comp=Z,39nm,0.9s						
CASY	Casey	55.62	208	P	P	20 37 35.8	+0.2
PSAC2	Pilbara Seismi	56.28	263	P	P	20 37 40.1	-1.0
PSAC2				IAmb	IAmb	20 39 19.8	
	comp=Z,81nm,1.6s						
PSAB3	Pilbara Seismi	56.31	263	P	P	20 37 40.5	-0.9
PSAB3				IAmb	IAmb	20 38 15.9	
	comp=Z,44nm,1.3s						
PSAD3	Pilbara Seismi	56.36	263	P	P	20 37 40.3	-1.3
QSPA	South Pole Qui	60.08	180	P	P	20 38 09.1	+1.9
	comp=Z,35nm,1.0s,baz=32,slow=2.6,SNR=13						
QSPA	South Pole Qui	60.08	180	P	P	20 38 09.1	+1.9
TNTI	Ternate	60.62	290	P	P	20 38 10.0	-1.4
TNTI				IAmb	IAmb	20 38 11.9	
	comp=Z,48nm,1.2s						
LUWI	Luwuk	63.40	285	P	P	20 38 30.7	+0.6
	comp=Z,88nm,1.1s						
LUWI	Luwuk	63.40	285	P	P	20 38 29.2	-0.9
PLAI	Plampang	63.66	275	P	P	20 38 30.2	-1.7
	comp=Z,90nm,1.0s						
BNSI	Bone	63.87	281	P	P	20 38 32.2	-1.1
	comp=Z,36nm,1.2s						
BNSI				pP	pwP	20 38 39.6	-1.1
	comp=Z,36nm,1.2s						
SPSI	Sidrap Palu	64.38	281	P	P	20 38 35.5	-1.1
	comp=Z,19nm,1.1s						
TTSI	Tana Toraja	64.82	282	P	P	20 38 40.1	+0.6
	comp=Z,34nm,1.0s						
MRSI	Marisa	64.92	286	P	P	20 38 38.5	-1.6
	comp=Z,17nm,0.8s						
MPSI	Mapaga	66.55	285	P	P	20 38 48.2	-2.5
	comp=Z,404µmcomp=Z,27nm,1.0s						
KBKI	Kotabaru	67.80	279	P	P	20 38 59.6	+1.0
	comp=Z,391nmcomp=Z,29nm,1.4s						
WOJI	Wonogiri, Jawa	70.07	272	P	P	20 39 13.9	+1.2
	comp=Z,182µmcom

comp=Z,25nm,1.0s
SNAA Sanae 78.52 178 P P 20 40 01.1 0.0
VNA3 Neumayer Olymp 78.65 176 P P 20 40 02.0 +0.2
VNA2 Neumayer--Watz 79.09 177 P P 20 40 04.8 +0.6
baz=186,slow=6.6
NVL N'lazarevskaya 79.26 183 eP P 20 40 12.6 +7.5
NVL pmax pmax
comp=Z,26nm,0.7s
VNA1 Neumayer--Stat 79.32 176 P P 20 40 06.0 +0.6
H03S2 Juan Fernandez 80.40 123 T T 22 09 34.1
baz=238,slow=74,SNR=22
H03S1 Juan Fernandez 80.41 123 T T 22 09 35.8
baz=238,slow=74,SNR=20
H03S3 Juan Fernandez 80.42 123 T T 22 09 35.5
baz=238,slow=74,SNR=20
MYKOM Kota Tinggi 80.96 277 P P 20 40 15.3 +0.1
MYKOM Kota Tinggi 80.96 277 P P 20 40 16.0 +0.7
ADK Adak 81.56 1 P P 20 40 17.0 -0.5
ADK pmax pmax
comp=Z,81nm,1.0s
ADK Adak 81.56 1 P P 20 40 17.0 -0.5
GSTR Great Sitkin T 81.78 1 P P 20 40 18.7 +0.1
ATKA Atka Island 81.93 2 P P 20 40 18.7 -0.7
JKA Kamikawa-asahi 82.26 332 P P 20 40 20.0 -1.4
JKA IAmb IAmb 20 40 26.0
comp=Z,25nm,1.0s
ASAJ Asahikawa 82.26 332 P P 20 40 22.5 +1.2
comp=Z,22nm,0.9s,baz=206,slow=7.4,SNR=14
ASAJ Asahikawa 82.26 332 P P 20 40 20.0 -1.3
ASAJ pmax pmax
comp=Z,25nm,1.0s
PLCA Paso Flores 82.52 133 P P 20 40 24.2 +0.9
comp=Z,3.0nm,0.8s,baz=204,slow=3.8,SNR=6.3
PLCA Paso Flores 82.52 133 P P 20 40 23.9 +0.7
PLCA pmax pmax
comp=Z,18nm,1.2s
PLCA Paso Flores 82.52 133 P P 20 40 23.9 +0.7
LC01 Cunco 82.67 131 P P 20 40 24.0 0.0
LC01 IAmb IAmb 20 40 39.5
comp=Z,29nm,1.3s
SMY Shemya 82.72 355 P P 20 40 22.9 -0.6
SMY pmax pmax
comp=Z,99nm,1.0s
SMY Shemya 82.72 355 P P 20 40 22.9 -0.6
EFI East Falkland 82.93 147 P P 20 40 24.3 -0.6
EFI pmax pmax
comp=Z,176nm,1.9s
EFI East Falkland 82.93 147 P P 20 40 24.3 -0.6
KSRS Korea Array 84.27 319 P P 20 40 32.7 +0.8
comp=Z,4.5nm,0.8s,baz=140,slow=5.7,SNR=16
CIS Catalina Islan 84.35 46 P P 20 40 33.0 +0.6
baz=228
PKM Mcpherson Peak 84.48 44 P P 20 40 34.4 +1.2
baz=227
YSS Yuzh-Sakhalins 84.55 334 eP P 20 40 34.1 +1.0
YSS pmax pmax
comp=Z,50nm,0.9s
YSS Yuzh-Sakhalins 84.55 334 P P 20 40 33.3 +0.2
IPM Ipoh 84.75 278 P P 20 40 33.3 -1.6
IPM IAmb IAmb 20 40 53.9
comp=Z,28nm,1.3s
IPM Ipoh 84.75 278 P P 20 40 35.0 0.0
PAGB Antelope Grade 84.79 43 P P 20 40 35.4 +0.8
OSI Osito Audit: C 84.96 45 P P 20 40 36.7 +1.1
baz=228
MWC Mount Wilson 85.11 46 P P 20 40 37.1 +0.6
MWC pmax pmax
comp=Z,28nm,1.2s
MWC Mount Wilson 85.11 46 P P 20 40 37.1 +0.6
MWC IAmb IAmb 20 40 38.6
comp=Z,28nm,1.2s
MURC Murrieta 85.25 47 P P 20 40 38.0 +1.0
baz=229
MONP2 Monument Peak 85.28 48 P P 20 40 38.8 +1.4
baz=230,SNR=6.5
IKP In-Ko-Pah, Jac 85.33 48 P P 20 40 38.8 +1.4
baz=230
BFSC Mount Baldy Ra 85.37 46 P P 20 40 38.4 +0.7
baz=229,SNR=8.5
GDXM Geysers 85.44 40 P P 20 40 39.4 +1.6
GDXM IAmb IAmb 20 40 40.5
comp=Z,24nm,1.1s
KULM Kulim 85.48 279 P P 20 40 39.0 +0.4
PETK Petropavlovsk- 85.53 345 P P 20 40 38.4 +0.5
comp=Z,27nm,0.8s,baz=136,slow=7.6,SNR=35
VES Vestal, Richgr 85.56 44 P P 20 40 39.2 +0.8
baz=228
EDW2 Edwards Air Fo 85.59 45 P P 20 40 39.7 +1.0
baz=228,SNR=13
SWSC Sam W. Stewart 85.71 48 P P 20 40 40.6 +1.3
baz=230
PFO Pinyon Flats O 85.72 47 P P 20 40 41.0 +1.5
baz=230,SNR=7.5
PFO Pinyon Flats O 85.72 47 P P 20 40 40.0 +0.6
PFO pmax pmax
comp=Z,20nm,1.2s
PFO Pinyon Flats O 85.72 47 P P 20 40 40.0 +0.6
XPFO Pion Flat 85.72 47 P P 20 40 40.0 +0.5
ISA Isabella, Lake 85.81 45 P P 20 40 41.0 +1.2
baz=228,SNR=13
ISA Isabella, Lake 85.81 45 P P 20 40 40.0 +0.2
ISA pmax pmax
comp=Z,44nm,1.2s
ISA Isabella, Lake 85.81 45 P P 20 40 40.0 +0.2
ISA IAmb IAmb 20 40 42.3
comp=Z,44nm,1.2s
KMRM Mail Ridge 85.94 38 P P 20 40 41.3 +1.0
LRMC Laurel Mtn Rad 86.17 45 P P 20 40 43.0 +1.3
baz=229,SNR=17
NJ2 Nanjing 86.25 310 eP P 20 40 44.8 +2.9
NJ2 pmax pmax
comp=Z,13nm,0.5s
BELC Belle Mtn. Jos 86.26 47 P P 20 40 43.7 +1.5
baz=230,SNR=12
CMB Columbia Colle 86.27 42 P P 20 40 42.4 +0.4
CMB pmax pmax
comp=Z,26nm,1.1s
CMB Columbia Colle 86.27 42 P P 20 40 42.4 +0.4
CMB IAmb IAmb 20 40 43.9
comp=Z,26nm,1.1s
BC3 Big Chuckawall 86.39 48 P P 20 40 44.1 +1.4
baz=230,SNR=12
KHMM Horse Mountain 86.39 38 P P 20 40 42.5 -0.1
KHMM IAmb IAmb 20 40 45.2
comp=Z,35nm,1.1s
O02D Mt. Diablo Mer 86.41 39 P P 20 40 44.0 +1.4
baz=225,SNR=28
GLA Glamis 86.41 48 P P 20 40 44.1 +1.3
baz=230
AFDM Forest Hills D 86.56 41 P P 20 40 42.9 -0.4
AFDM IAmb IAmb 20 40 45.3
comp=Z,25nm,1.2s
CWC Cottonwood Cre 86.56 44 P P 20 40 44.7 +1.1
baz=228
HEC Hector,Ludlow 86.58 46 P P 20 40 44.7 +1.0
baz=230,SNR=12
GSC Goldstone, Bar 86.60 46 P P 20 40 44.9 +1.2
baz=229,SNR=13
GSC Goldstone, Bar 86.60 46 P P 20 40 43.3 -0.4
GSC pmax pmax
comp=Z,46nm,1.3s
GSC Goldstone, Bar 86.60 46 P P 20 40 43.3 -0.4
MPMC Manual Prospec 86.67 45 P P 20 40 45.1 +0.9
baz=229,SNR=18
ORV Oroville 86.68 40 P P 20 40 43.9 0.0
ORV pmax pmax
comp=Z,24nm,1.3s
ORV Oroville 86.68 40 P P 20 40 43.9 0.0
ORV IAmb IAmb 20 40 45.8
comp=Z,24nm,1.3s
MDPB Devils Postpil 86.76 43 P P 20 40 45.0 +0.3
OMMB Old Mammoth Mi 86.80 43 P P 20 40 44.1 -0.8
OMMB IAmb IAmb 20 41 01.0
comp=Z,53nm,1.9s
WDC Whiskeytown Da 86.83 39 P P 20 40 45.3 +0.7
WDC pmax pmax
comp=Z,38nm,1.2s
WDC Whiskeytown Da 86.83 39 P P 20 40 45.3 +0.7
WDC IAmb IAmb 20 40 46.8
comp=Z,38nm,1.2s
TIN Tinemaha, Big 86.88 44 P P 20 40 46.3 +1.2
baz=228
IRM Iron Mountain 86.91 47 P P 20 40 46.5 +1.3
baz=230,SNR=19
113A Mohawk Valley, 86.92 49 P P 20 40 43.9 -1.3
113A IAmb IAmb 20 41 01.6

comp=Z,25nm,1.4s
GMRC Granite Mounta 86.98 47 P P 20 40 46.0 +0.4
baz=230,SNR=6.9
N02D Trinity Center 87.01 38 P P 20 40 46.8 +1.2
baz=225,SNR=14
O03E Paynes Creek 87.03 39 P P 20 40 45.9 +0.2
baz=226,SNR=9.9
USRK Ussuriysk Ar. 87.03 326 P P 20 40 46.2 +0.8
comp=Z,18nm,1.1s,baz=116,slow=4.4,SNR=17
214A Organ Pipe Nat 87.05 50 P P 20 40 46.9 +1.0
baz=232
SPIA Saint Paul Isl 87.09 4 P P 20 40 45.9 +0.5
WAKR Walker 87.14 42 P P 20 40 47.2 +0.8
M02C Callahan 87.23 38 P P 20 40 48.0 +1.4
baz=225,SNR=12
TUQ Turquoise Moun 87.23 46 P P 20 40 48.1 +1.2
baz=230
SHOC Shoshone, Teco 87.31 46 P P 20 40 48.4 +1.3
baz=230
FURC Furnace Creek, 87.32 45 P P 20 40 48.2 +1.2
baz=229
GRAC Grapevine Rang 87.36 44 P P 20 40 48.8 +1.5
baz=229
PNTR Pine Nut 87.44 41 P P 20 40 48.1 +0.3
PNTR IAmb IAmb 20 40 49.9
comp=Z,29nm,1.0s
YBH Yreka Blue Hor 87.54 38 P P 20 40 47.7 -0.5
YBH pmax pmax
comp=Z,22nm,1.4s
YBH Yreka Blue Hor 87.54 38 P P 20 40 47.7 -0.5
YBH IAmb IAmb 20 41 04.3
comp=Z,22nm,1.4s
YERR Yerington 87.58 42 P P 20 40 48.8 +0.3
YERR IAmb IAmb 20 40 50.3
comp=Z,18nm,1.1s
NEE2 Needles Airpor 87.63 47 P P 20 40 50.8 +2.2
baz=230
PDMCI Parker Dam,Lak 87.64 48 P P 20 40 50.7 +2.0
baz=231
K02D Willamette Mer 87.72 37 P P 20 40 51.0 +2.0
baz=224
NVAR Mina Array Bea 87.75 43 P P 20 40 50.1 +0.7
comp=Z,14nm,0.9s,baz=222,slow=8.1,SNR=34
RYN Ryan 87.75 42 P P 20 40 49.3 0.0
RYN IAmb IAmb 20 41 05.0
comp=Z,39nm,1.6s
J01E Myrtle Point 87.92 36 P P 20 40 50.9 +1.2
baz=224
PAHR Pah Rah Range 87.98 41 P P 20 40 50.6 +0.2
PAHR IAmb IAmb 20 40 52.1
comp=Z,15nm,1.1s
TPNV Topopah Spring 88.01 45 P P 20 40 51.8 +1.2
baz=230,SNR=11
TPNV Topopah Spring 88.01 45 P P 20 40 51.4 +0.8
TPNV pmax pmax
comp=Z,20nm,1.0s
TPNV Topopah Spring 88.01 45 P P 20 40 51.4 +0.8
TPNV IAmb IAmb 20 40 53.0
comp=Z,20nm,1.0s
M04C Macdoel 88.04 38 P P 20 40 51.2 +0.6
baz=226
L04D Klamath Falls 88.10 38 P P 20 40 52.0 +1.2
baz=225
Y14A Wickenburg 88.15 49 P P 20 40 52.4 +1.2
Y14A IAmb IAmb 20 40 53.8
comp=Z,42nm,1.6s
KVN Kaiserville 88.28 42 P P 20 40 52.4 +0.6
KVN pmax pmax
comp=Z,15nm,0.9s
KVN Kaiserville 88.28 42 P P 20 40 52.4 +0.6
KVN IAmb IAmb 20 41 07.4
comp=Z,16nm,0.9s
W13A Hualapai Mount 88.31 47 P P 20 40 53.2 +1.1
W13A IAmb IAmb 20 40 54.8
comp=Z,24nm,1.4s
SHPR Sheep Range 88.39 46 P P 20 40 53.4 +1.0
SHPR IAmb IAmb 20 40 55.2
comp=Z,32nm,1.4s
MDJ Mudanjiang 88.50 325 P P 20 40 53.6 +1.1
MDJ pmax pmax
comp=Z,10.0nm,1.2s
MDJ Mudanjiang 88.50 325 P P 20 40 53.0 +0.5
I03D Drain, OR 88.60 36 P P 20 40 54.6 +1.6
baz=225
TUC Tucson 88.63 51 P P 20 40 54.9 +1.4
baz=233
TUC Tucson 88.63 51 P P 20 40 53.4 -0.1
TUC pmax pmax
comp=Z,72nm,1.9s
TUC Tucson 88.63 51 P P 20 40 53.4 -0.1
I02D Swisshome 88.64 36 P P 20 40 55.0 +1.8
baz=224
MOD Modoc Plateau 88.96 39 P P 20 40 55.5 +0.6
MOD IAmb IAmb 20 40 56.7
comp=Z,18nm,1.1s
I04A Tendick Farm, 89.15 37 P P 20 40 56.4 +0.8
baz=225
CFA Coronel Fontan 89.20 126 P P 20 40 56.4 0.0
comp=Z,5.9nm,0.9s,baz=293,slow=4.7,SNR=4.6
K05A Summer Lake 89.20 38 P P 20 40 56.5 +0.4
R11A Troy Canyon, C 89.31 44 P P 20 40 57.5 +0.8
baz=230
R11A Troy Canyon, C 89.31 44 P P 20 40 57.1 +0.4
J05D Fort Rock, OR 89.41 37 P P 20 40 58.0 +1.0
baz=226
H04D Lebanon 89.50 36 P P 20 40 58.6 +1.4
baz=225
G03D McMinnville, O 89.72 35 P P 20 40 59.8 +1.6
baz=225
H04A Detroit Lake 89.89 36 P P 20 40 59.2 +0.2
H04A IAmb IAmb 20 41 01.3
comp=Z,29nm,1.1s
LCMT Little Creek M 89.91 46 P P 20 41 00.1 +0.6
PINE Pine Mountain 89.91 37 P P 20 40 59.8 +0.4
TIA Tai'an 89.95 313 P P 20 40 59.9 +0.4
TIA pmax pmax
comp=Z,12nm,1.0s
CN2 Changchun 90.04 323 eP P 20 40 59.6 -0.1
CN2 pmax pmax
comp=Z,30nm,1.3s
I05D Terrebonne, OR 90.08 37 P P 20 41 01.6 +1.6
baz=226
U15A North Rim 90.15 47 P P 20 41 01.6 +0.8
U15A IAmb IAmb 20 41 03.7
comp=Z,31nm,1.1s
CCUT Cedar City 90.17 46 P P 20 41 01.4 +0.6
WUAZ Wupatki 90.18 48 P P 20 41 02.1 +1.3
baz=232
WUAZ Wupatki 90.18 48 P P 20 41 01.4 +0.5
WUAZ IAmb IAmb 20 41 03.5
comp=Z,30nm,1.1s
WVOR Wild Horse Val 90.23 39 P P 20 41 01.5 +0.7
WVOR pmax pmax
comp=Z,17nm,1.2s
WVOR Wild Horse Val 90.23 39 P P 20 41 01.5 +0.7
SZCU Shurtz Canyon 90.37 46 P P 20 41 02.0 +0.3
PSUT Pine Spring 90.48 45 P P 20 41 02.8 +0.6
E03A Lebam 90.52 34 P P 20 41 02.2 +0.4
F04A Amboy 90.65 35 P P 20 41 03.4 +0.9
G05D Wamic, OR 90.72 36 P P 20 41 03.7 +0.8
baz=226
121A Cookes Peak, D 90.81 52 P P 20 41 05.4 +1.5
baz=234
I07A Izee 90.87 38 P P 20 41 04.5 +0.8
I07A IAmb IAmb 20 41 05.8
comp=Z,25nm,1.1s
J08A Circle Bar Ran 90.94 39 P P 20 41 04.5 +0.5
J08A IAmb IAmb 20 41 06.0
comp=Z,25nm,1.2s
NLWA Neilton Lookou 90.97 33 P P 20 41 04.8 +0.7
NLWA IAmb IAmb 20 41 06.5
comp=Z,27nm,1.1s
W18A Petrified Fore 91.01 49 P P 20 41 05.8 +1.1
baz=233
E04D Cinebar 91.01 34 P P 20 41 05.4 +1.3
baz=225
ELK Elko 91.05 42 P P 20 41 04.2 -0.7
ELK pmax pmax
comp=Z,12nm,1.2s
ELK Elko 91.05 42 P P 20 41 04.2 -0.7
G06A Carlson Farm, 91.06 36 P P 20 41 04.4 -0.1
F05D White Salmon 91.09 35 P P 20 41 06.2 +1.6
baz=226
MTPU Mount Pierson 91.20 46 P P 20 41 05.2 -0.5
D03D Eldon 91.45 34 P P 20 41 07.5 +1.3
baz=225

MSU Marysvale 91.50 46 P P 20 41 07.0 0.0
MSU Marysvale 91.50 46 P P 20 41 07.0 0.0
LON Longmire 91.52 35 P P 20 41 05.9 -0.8
LON pmax pmax
comp=Z,9.0nm,1.1s
LON Longmire 91.52 35 P P 20 41 05.9 -0.8
GYA Guiyang 91.64 300 eP P 20 41 08.5 +0.7
GYA pmax pmax
comp=Z,8.0nm,1.0s
ENH Enshi 91.66 304 P P 20 41 07.2 -0.4
D05A Enumclaw 91.74 34 P P 20 41 07.9 +0.4
TXAR Lajitas Array 91.92 57 P P 20 41 07.6 -1.3
comp=Z,0.9nm,0.4s,baz=198,slow=10,SNR=9.4
MNTX Cornudas Mount 92.00 54 P P 20 41 09.8 +0.6
baz=236
MNTX Cornudas Mount 92.00 54 P P 20 41 09.5 +0.3
MNTX IAmb IAmb 20 41 11.0
comp=Z,30nm,1.9s
DUG Dugway, Tooele 92.14 44 P P 20 41 10.8 +0.9
baz=232
HAWA Hanford 92.42 36 P P 20 41 11.4 +0.7
HAWA IAmb IAmb 20 41 12.7
comp=Z,18nm,0.9s
MFID Camas Ranch 92.43 40 P P 20 41 11.1 +0.1
MFID IAmb IAmb 20 41 12.8
comp=Z,17nm,1.0s
LTY Liberty 92.43 35 P P 20 41 10.0 -0.8
LTY IAmb IAmb 20 41 12.4
comp=Z,27nm,1.8s
B05A Bryant 92.44 33 P P 20 41 11.6 +0.9
baz=226
BMO Blue Mountains 92.56 38 P P 20 41 11.0 -0.5
BMO pmax pmax
comp=Z,10.0nm,1.3s
BMO Blue Mountains 92.56 38 P P 20 41 11.0 -0.5
TMUT Trail Mountain 92.57 45 P P 20 41 12.0 0.0
BJI Beijing 92.89 315 P P 20 41 13.8 +0.8
BJI pmax pmax
comp=Z,7.0nm,0.9s
SPUT South Promonto 93.05 43 P P 20 41 14.7 +0.7
ANMO Albuquerque 93.10 51 P P 20 41 15.3 +0.9
baz=235
ANMO Albuquerque 93.10 51 P P 20 41 15.0 +0.6
ANMO pmax pmax
comp=Z,5.0nm,0.9s
ANMO Albuquerque 93.10 51 P P 20 41 15.0 +0.6
HVU Hansel Valley 93.15 43 P P 20 41 14.8 +0.4
HVU pmax pmax
comp=Z,26nm,1.1s
HVU Hansel Valley 93.15 43 P P 20 41 14.8 +0.4
D08A Wollman Farm, 93.17 36 P P 20 41 14.1 -0.1
D08A IAmb IAmb 20 41 16.0
comp=Z,12nm,1.0s
E09A Wood Farm, Sta 93.21 37 P P 20 41 14.3 -0.1
E09A IAmb IAmb 20 41 15.8
comp=Z,24nm,1.2s
HLID Hailey 93.32 41 P P 20 41 16.2 +1.0
baz=231
HLID Hailey 93.32 41 P P 20 41 15.6 +0.4
F10A Beach Ranch, E 93.33 37 P P 20 41 14.7 -0.3
F10A IAmb IAmb 20 41 16.0
comp=Z,20nm,1.0s
TCUT Toone Canyon 93.56 44 P P 20 41 15.9 -0.6
CMAR Chiang Mai Arr 93.58 289 P P 20 41 18.4 +1.6
comp=Z,2.5nm,0.9s,baz=138,slow=4.0,SNR=6.2
B08A Colville Reser 93.84 35 P P 20 41 17.1 -0.2
KMI Kunming 93.94 297 eP P 20 41 19.8 +1.2
KMI pP pwP 20 41 27.3 +0.9
KMI pmax pmax
comp=Z,6.0nm,0.6s
KMI pmax pmax
comp=Z,5μm,14.7s
S22A 4UR Ranch, Cre 94.44 49 P P 20 41 21.2 +0.5
baz=235
MCMT McKenzie Canyo 94.98 40 P P 20 41 23.1 +0.1
MSTX Muleshoe 95.09 54 P P 20 41 23.5 +0.1
baz=237
JIS Juneau Island 95.10 21 P P 20 41 23.1 +0.4
JIS IAmb IAmb 20 44 41.9
comp=Z,10nm,0.7s
FXWY Fox Creek 95.30 42 P P 20 41 24.6 +0.2
DLMT Dillon 95.45 40 P P 20 41 25.7 +0.7
PDAR Pinedale Array 95.65 43 P P 20 41 26.1 +0.1
comp=Z,1.6nm,0.8s,baz=218,slow=6.6,SNR=4.3
PDAR PKKPbc PKKPbc 20 58 15.6 -1.9
comp=Z,1.0nm,0.9s,baz=88,slow=4.9,SNR=6.2
QLMT Earthquake Lak 95.79 41 P P 20 41 28.0 +1.5
YHL Hebgen Lake 95.94 41 P P 20 41 27.1 -0.3
H17A Grant Village 96.01 42 P P 20 41 29.2 +1.5
baz=233
ZEA Zeya 96.08 331 eP P 20 41 27.2 -0.1
ZEA pmax pmax
comp=Z,17nm,1.0s
BOZ Bozeman (W) 96.14 40 P P 20 41 29.1 +1.1
baz=233
BOZ Bozeman (W) 96.14 40 P P 20 41 28.1 +0.1
BOZ pmax pmax
comp=Z,12nm,1.2s
BOZ Bozeman (W) 96.14 40 P P 20 41 28.1 +0.1
BOZ IAmb IAmb 20 41 29.9
comp=Z,12nm,1.2s
CD2 Chengdu 96.16 302 P P 20 41 28.3 -0.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ISCO Idaho Springs 96.38 48 P P 20 41 32.2 +2.7
baz=236
435B Jarrell 97.15 59 P Pdif 20 41 33.3 +0.4
baz=239
ILAR Eielson Array 97.50 13 P P 20 41 32.5 -1.0
comp=Z,1.4nm,0.8s,baz=224,slow=5.9,SNR=4.1
BILL Bilibino 98.51 354 i P P 20 41 36.2 -1.8
BILL i 20 41 47.2
BILL pmax pmax
comp=Z,4.0nm,0.9s
EGMT Eagleton 98.61 39 P Pdif 20 41 41.4 +2.3
baz=234
LZH Lanzhou 98.76 307 eP Pdif 20 41 45.9 +5.8
LZH pP pwP 20 41 53.3 +5.3
LZH sP sP 20 41 57.0 +13
LZH pmax pmax
comp=Z,21nm,1.2s
WMQ Urumqi 113.25 308 ePKP PKiKP 20 46 37.5 -0.3
M57A Sunshine Farm, 116.53 56 P PKPdf 20 46 44.1 -0.1
baz=252
N58A Sunbury 116.68 56 P PKPdf 20 46 44.2 -0.2
baz=252
I55A Frankford 116.98 53 P PKiKP 20 46 45.2 +0.3
baz=253
M58A Price's Panora 117.02 56 P PKiKP 20 46 45.2 +0.1
baz=253
BOSA Boshof 117.72 203 PKP PKPdf 20 46 47.1 -0.1
comp=Z,5.0nm,1.0s,baz=132,slow=3.2,SNR=4.2
MKAR Makanchi Array 117.78 310 PKP PKPdf 20 46 45.0 -1.4
comp=Z,2.6nm,0.8s,baz=79,slow=2.6,SNR=12
M59A Waymart 117.81 56 P PKPdf 20 46 46.2 -0.4
baz=253
E54A Lac Daplat, Po 117.93 50 P PKPdf 20 46 46.4 -0.2
baz=255
ZALV Zalesowo Beam 117.97 318 PKP PKPdf 20 46 44.9 -1.6
comp=Z,0.6nm,0.4s,baz=198,slow=0.9,SNR=5.0
MAKZ Makanchi 117.99 310 PKiKP PKPdf 20 46 45.1 -1.7
MAKZ Makanchi 117.99 310 PKPdf PKPdf 20 46 45.1 -1.7
H56A Elgin 118.07 53 P PKPdf 20 46 46.2 -0.7
baz=254
L59A Walton 118.27 55 P PKPdf 20 46 46.9 -0.6
baz=254
I57A Carthage 118.31 53 P PKPdf 20 46 46.8 -0.7
baz=254
N61A South Mountain 118.41 57 P PKPdf 20 46 47.3 -0.4
baz=254
D54A Lac Fusel, La 118.46 50 P PKPdf 20 46 47.2 -0.5
baz=256
D55A Sainte-Anne-du 119.22 50 P PKPdf 20 46 48.2 -0.9
baz=256
TARG Taragay, Kyrgy 119.57 304 PKPdf PKPdf 20 46 50.0 -0.5
D56A ZEC Mazanza, M 119.70 50 P PKPdf 20 46 49.7 -0.4
baz=257
I60A Shoreham 119.94 54 P PKPdf 20 46 50.3 -0.2
baz=256
E57A Chemin Saint G 119.96 51 P PKPdf 20 46 50.3 -0.3
baz=257
L61B Northampton 120.03 56 P PKPdf 20 46 50.3 -0.5
baz=255
D57A Chemin Vers le 120.27 50 P PKPdf 20 46 50.2 -0.9
baz=257
KSH Kashi 120.33 301 PKP PKiKP 20 46 52.3 +0.6

NIL	**Nilore**	**120.77**	**293**	PKIKP	**PKPdf**	**20 46 51.6**	**-1.0**
NIL	**Nilore**	**120.77**	**293**	PKPdf	**PKPdf**	**20 46 51.6**	**-1.0**
D58A	**Chemin du LacG**	**120.96**	**50**	P	**PKPdf**	**20 46 51.6**	**-0.8**
	baz=258						
KURK	**Kurchatov**	**121.02**	**314**	PKIKP	**PKPdf**	**20 46 51.1**	**-1.3**
KURK	**Kurchatov**	**121.02**	**314**	PKPdf	**PKPdf**	**20 46 51.0**	**-1.3**
H61A	**Lyndonville**	**121.06**	**53**	P	**PKPdf**	**20 46 52.2**	**-0.5**
	baz=257						
BOOM	**Boomskoye usch**	**121.10**	**304**	PKIKP	**PKPdf**	**20 46 52.8**	**-0.3**
BOOM	**Boomskoye usch**	**121.10**	**304**		**PKPdf**	**20 46 52.8**	**-0.3**
F60A	**Warwick**	**121.35**	**52**	P	**PKPdf**	**20 46 52.7**	**-0.5**
	baz=256						
TKM2	**Tokmak 2**	**121.45**	**304**	P	**PKPdf**	**20 46 52.2**	**-1.6**
	SNR=8.3						
G61A	**St-Isidore-de-**	**121.50**	**53**	P	**PKPdf**	**20 46 52.7**	**-0.8**
	baz=258						
KZA	**Kyzart**	**121.50**	**303**	P	**PKiKP**	**20 46 54.5**	**+0.1**
	SNR=14						
H62A	**Milan**	**121.60**	**54**	P	**PKPdf**	**20 46 53.3**	**-0.5**
	baz=258						
E60A	**Ste Agathe de**	**121.78**	**51**	P	**PKPdf**	**20 46 53.0**	**-1.0**
	baz=258						
KBK	**Karagaybulak**	**121.85**	**304**	P	**PKPdf**	**20 46 54.0**	**-0.6**
	SNR=9.1						
F61A	**St Evariste**	**122.01**	**52**	P	**PKPdf**	**20 46 53.5**	**-1.0**
	baz=258						
UCH	**Uchtor**	**122.07**	**303**	P	**PKPdf**	**20 46 55.3**	**-0.1**
	SNR=22						
CHMS	**Chumysh**	**122.07**	**304**	P	**PKPdf**	**20 46 54.0**	**-0.7**
	SNR=10.0						
AAK	**Ala-Archa**	**122.17**	**304**	PKIKP	**PKPdf**	**20 46 54.7**	**-0.5**
AAK	**Ala-Archa**	**122.17**	**304**	PKPdf	**PKPdf**	**20 46 54.7**	**-0.5**
USP	**Ospenovka**	**122.31**	**305**	P	**PKPdf**	**20 46 54.6**	**-0.7**
	SNR=7.9						
E61A	**Lac Etchemin**	**122.44**	**52**	P	**PKPdf**	**20 46 54.1**	**-1.3**
	baz=259						
I64A	**Boothbay**	**122.53**	**55**	P	**PKPdf**	**20 46 54.3**	**-1.3**
	baz=258						
AML	**Almayashu**	**122.64**	**303**	P	**PKPdf**	**20 46 56.1**	**-0.3**
	SNR=17						
EKS2	**Erkin-Say**	**122.69**	**304**	P	**PKPdf**	**20 46 55.8**	**-0.3**
	SNR=9.1						
H64A	**Troy**	**122.97**	**54**	P	**PKPdf**	**20 46 54.7**	**-1.6**
	baz=259						
PKME	**Peaks-Kenny Pk**	**123.04**	**53**	P	**PKPdf**	**20 46 55.7**	**-0.8**
	baz=259						
E62A	**Clayton Lake**	**123.13**	**51**	P	**PKPdf**	**20 46 55.3**	**-1.3**
	baz=260						
F63A	**Nahmakanta, Br**	**123.25**	**53**	P	**PKPdf**	**20 46 56.1**	**-0.8**
	baz=259						
G64A	**Maxfield**	**123.41**	**53**	P	**PKPdf**	**20 46 56.4**	**-0.8**
	baz=259						
D62A	**Allapoint, All**	**123.53**	**51**	P	**PKPdf**	**20 46 56.5**	**-0.8**
	baz=260						
E63A	**Oxbow**	**123.84**	**52**	P	**PKPdf**	**20 46 57.2**	**-0.8**
	baz=260						
D63A	**Stockholm**	**124.16**	**51**	P	**PKPdf**	**20 46 57.3**	**-1.2**
	baz=261						
PQI	**Presque Isle**	**124.16**	**52**	PKPdf	**PKPdf**	**20 46 58.0**	**-0.5**
G65A	**Princeton**	**124.23**	**53**	P	**PKPdf**	**20 46 58.2**	**-0.6**
	baz=260						
E64A	**Bridgewater**	**124.25**	**52**	P	**PKPdf**	**20 46 57.6**	**-1.1**
	baz=261						
BTK	**Batken**	**124.31**	**300**	PKIKP	**PKPdf**	**20 46 58.8**	**-0.5**
BTK	**Batken**	**124.31**	**300**		**PKPdf**	**20 46 58.8**	**-0.5**
GAR	**Garm**	**124.46**	**299**		**PKPdf**	**20 46 59.0**	**-0.6**
KKAR	**Karatay Array**	**125.13**	**304**	PKIKP	**PKPdf**	**20 46 59.7**	**-0.9**
KKAR	**Karatay Array**	**125.13**	**304**		**PKPdf**	**20 46 59.7**	**-0.9**
CHGR	**Chuyangaron**	**125.27**	**298**	PKPdf	**PKPdf**	**20 47 00.5**	**-0.6**
SCHQ	**Schefferville**	**125.75**	**42**	PKP	**PKPdf**	**20 47 00.1**	**-1.3**
	comp=Z,6.5nm,0.9s,baz=324,slow=1.5,SNR=6.9						
LMN	**Caledonia Moun**	**126.24**	**53**	PKPdf	**PKPdf**	**20 47 01.5**	**-1.1**
HAL	**Halifax**	**126.93**	**55**	PKIKP	**PKPdf**	**20 47 03.4**	**-0.6**
HAL	**Halifax**	**126.93**	**55**		**PKPdf**	**20 47 03.4**	**-0.6**
LSZ	**Lusaka**	**128.54**	**213**	PKIKP	**PKPdf**	**20 47 08.1**	**0.0**
LSZ	**Lusaka**	**128.54**	**213**	PKPdf	**PKPdf**	**20 47 08.1**	**0.0**
SOHO	**SOHO**	**131.78**	**277**	*i* PKPdf	**PKPdf**	**20 47 12.6**	**-1.2**
	SNR=8.3						
UOSS	**Minazif**	**132.33**	**278**	PKiKP	**PKPdf**	**20 47 14.5**	**-0.4**
HATD	**Hatta, Dubai**	**132.35**	**277**	*i* PKPdf	**PKPdf**	**20 47 14.4**	**-0.6**
	SNR=6.4						
MDH	**Madha**	**132.36**	**278**	PKiKP	**PKPdf**	**20 47 14.6**	**-0.3**
ASHO	**Ashiyiah**	**132.37**	**277**	*i* PKPdf	**PKPdf**	**20 47 14.3**	**-0.7**
	SNR=6.3						
GEYT	**Alibeck**	**133.69**	**295**	PKP	**PKPdf**	**20 47 17.1**	**0.0**
	comp=Z,11nm,0.9s,baz=321,slow=1.9,SNR=9.0						
KMBO	**Kilima Mbogo**	**134.55**	**233**	SKPbc	**SKPbc**	**20 50 49.7**	**+0.2**
	comp=Z,3.4nm,1.0s,baz=48,slow=9.5,SNR=4.2						
ARCES	**ARCESS Array B**	**138.29**	**348**	PKhKP	PKPpre	20 47 15.8	
	comp=Z,3.1nm,0.8s,baz=90,slow=2.1,SNR=5.9						
H10N3	**ASCENSION HYDR**	**139.00**	**154**	T	T	23 23 18.3	
	baz=203,slow=76,SNR=0.4						
H10N1	**ASCENSION HYDR**	**139.01**	**154**	T	T	23 23 17.5	
	baz=203,slow=76,SNR=0.8						
H10N2	**ASCENSION HYDR**	**139.02**	**154**	T	T	23 23 25.4	
	baz=203,slow=76,SNR=0.7						
GROC	**Groznyy**	**143.15**	**303**	*e*PKIKP	PKPbc	20 47 31.7	+0.6
GROC				*e*		20 50 44.8	
GROC				pmax	pmax		
	comp=Z,33nm,1.1s						
VRH	**Novokhopyorsk**	**143.99**	**317**	*e*PKIKP	PKPab	20 47 32.7	0.0
VRH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TBLG	**Delisi**	**144.07**	**301**	PKIKP	PKPbc	20 47 34.1	+0.2
TBLG	**Delisi**	**144.07**	**301**	PKPdf	PKPbc	20 47 34.1	+0.2
MOS	**Moscow**	**144.21**	**326**	*e*PKIKP	**PKPab**	**20 47 32.2**	**-1.2**
MOS				pmax	pmax		
	comp=Z,53nm,1.2s						
ZEI	**Tsey**	**144.58**	**303**	*i* PKIKP	**PKPab**	**20 47 35.2**	**-0.3**
ZEI				pmax	pmax		
	comp=Z,41nm,1.0s						
PUL	**Pulkovo**	**144.79**	**336**	*e*P	**PKPab**	**20 47 35.4**	**0.0**
GOF	**Gofitskoye**	**144.83**	**307**	⇑*i*PKIKP	PKPbc	20 47 36.1	0.0
GOF				pmax	pmax		
	comp=Z,52nm,0.8s						
FINES	**FINESS Array B**	**144.91**	**340**	PKP	**PKPab**	**20 47 35.1**	**-0.6**
	comp=Z,137nm,0.8s,baz=64,slow=4.4,SNR=82						
LPSR	**Galich'ya Gora**	**145.03**	**321**	*e*PKIKP	**PKPbc**	**20 47 35.9**	**-0.6**
LPSR				pmax	pmax		
	comp=Z,80nm,0.9s						
AKH	**Akhalkalaki**	**145.03**	**300**	⇑P	**PKPdf**	**20 47 37.6**	**-0.1**
AKH	**Akhalkalaki**	**145.03**	**300**	PKIKP	**PKPab**	**20 47 37.4**	**+0.2**
AKH	**Akhalkalaki**	**145.03**	**300**		**PKPab**	**20 47 37.4**	**+0.2**
OBN	**Obninsk**	**145.05**	**326**	⇓P	**PKPbc**	**20 47 36.4**	**-0.1**
OBN	**Obninsk**	**145.05**	**326**	⇓PKIKP	**PKPbc**	**20 47 36.4**	**-0.1**
OBN	**Obninsk**	**145.05**	**326**		**PKPbc**	**20 47 35.9**	**-0.6**
KBZ	**Khabaz**	**145.17**	**304**	PKPbc	**PKPbc**	**20 47 37.0**	**-0.2**
	comp=Z,28nm,1.1s,baz=56,slow=1.9,SNR=15						
KIV	**Kislovodsk**	**145.28**	**305**	⇓P	**PKPbc**	**20 47 37.8**	**0.0**
KIV	**Kislovodsk**	**145.28**	**305**	*i* PKPdf	**PKPbc**	**20 47 37.7**	**-0.1**
	SNR=11						
KIV	**Kislovodsk**	**145.28**	**305**	*e*PKIKP	**PKPbc**	**20 47 37.5**	**-0.2**
KIV				pmax	pmax		
	comp=Z,99nm,1.1s						
KIV	**Kislovodsk**	**145.28**	**305**		**PKPbc**	**20 47 37.5**	**-0.2**
VSR	**Storozhevoye**	**145.47**	**318**	*e*PKP2	**PKPdf**	**20 47 36.6**	**-1.3**
VSR				pmax	pmax		
	comp=Z,120nm,1.0s						
VORD	**Divnogorie**	**145.50**	**318**	*e*PKIKP	**PKPdf**	**20 47 37.1**	**-0.9**
VORD				pmax	pmax		
	comp=Z,50nm,0.9s						
BCA	**Borcka**	**146.43**	**301**	⇑P	**PKPbc**	**20 47 40.8**	**-0.5**
VSU	**Vasula**	**147.02**	**337**	*e*P	**PKPbc**	**20 47 42.0**	**-0.3**
MOL	**Molde**	**147.28**	**356**	*e*PKPdf	**PKPdf**	**20 47 40.0**	**-0.7**
MOL				*e*PKPbc	**PKPbc**	**20 47 42.7**	**-0.2**
MOL				*ep*PKPdf	**sPKPab**	**20 47 49.8**	**+1.0**
DOMB	**Dombas**	**147.68**	**354**	*e*PKPbc	**PKPbc**	**20 47 43.6**	**-0.6**
DOMB				*ep*PKPdf	**sPKPab**	**20 47 49.7**	**-0.8**
AKN	**Aaknes**	**147.70**	**356**	*e*PKPbc	**PKPbc**	**20 47 43.8**	**-0.4**
KTUT	**Trabzon**	**147.88**	**300**	⇓P	**PKPbc**	**20 47 45.8**	**+0.5**
FOO	**Floro**	**148.38**	**358**	*e*PKPbc	**PKPbc**	**20 47 45.4**	**-0.5**
NB2	**NORSAR Subarra**	**148.43**	**352**	PKP	**PKPbc**	**20 47 45.4**	**-0.8**
	comp=Z,48nm,1.1s,baz=14,slow=3.2						
NB2	**NORSAR Subarra**	**148.43**	**352**	PKP	**PKPbc**	**20 47 45.4**	**-0.8**
	baz=14,slow=3.2						
NOA	**NORSAR Array B**	**148.43**	**352**	PKPbc	**PKPbc**	**20 47 45.6**	**-0.6**
	comp=Z,15nm,0.8s,baz=14,slow=4.4,SNR=26						
NC602	**NORSAR Array S**	**148.69**	**351**	*e*PKPbc	**PKPbc**	**20 47 46.1**	**-0.6**
NC602				*e*PKPab	**PKPab**	**20 47 50.4**	**-0.1**
NC602				*ep*PKPbc	**sPKPab**	**20 47 55.3**	**+0.8**
HYA	**Hoyanger**	**148.76**	**356**	*e*PKPdf	**PKPdf**	**20 47 43.4**	**+0.3**
HYA				*e*PKPbc	**pPKPdf**	**20 47 46.1**	**0.0**
HYA				*ep*PKPdf	**sPKPbc**	**20 47 51.3**	**+0.3**
ANN	**Anapa**	**148.76**	**308**	*e*PKP2	**PKPbc**	**20 47 46.2**	**-1.3**
ANN				pmax	pmax		
	comp=Z,62nm,0.8s						
SKAR	**Skarslia**	**149.09**	**354**	*e*PKPbc	**PKPbc**	**20 47 47.9**	**0.0**
IZAR	**Zarasai**	**149.21**	**333**	*e*P	**PKiKP**	**20 47 48.9**	**-0.6**
ISAL	**Salakas**	**149.39**	**333**	*e*P	**PKPbc**	**20 47 48.5**	**-0.2**
MICGM	**Minsk**	**149.42**	**330**	*e*	**PKPbc**	**20 47 47.0**	**-1.8**
MNK	**Minsk**	**149.42**	**330**	*e*PKHKP	**PKPbc**	**20 47 47.0**	**-1.8**
ASK	**Askoy**	**149.49**	**357**	*e*PKPbc	**PKPbc**	**20 47 47.1**	**-1.7**
IIGN	**Ignalina**	**149.51**	**333**	*e*P	**PKPbc**	**20 47 48.5**	**-0.6**
OSL	**Oslo**	**149.56**	**352**	*e*PKPbc	**PKPbc**	**20 47 48.9**	**-0.1**
BER	**Bergen**	**149.58**	**357**	*e*PKPbc	**PKPbc**	**20 47 48.7**	**-0.3**
NACGM	**Naroch**	**149.60**	**332**	*e*	**PKPbc**	**20 47 48.0**	**-1.3**
KONO	**Kongsberg**	**149.98**	**353**	PKP2	**PKPbc**	**20 47 49.7**	**-0.3**
KONO	**Kongsberg**	**149.98**	**353**		**PKPbc**	**20 47 49.7**	**-0.4**
KONO	**Kongsberg**	**149.98**	**353**	*e*PKPbc	**PKPbc**	**20 47 49.6**	**-0.4**
ODD1	**Odda**	**149.98**	**356**	*e*PKPdf	**PKPdf**	**20 47 44.3**	**-0.9**
ODD1				*e*PKPbc	**PKPbc**	**20 47 49.6**	**-0.5**
GAZ	**Gaziantep**	**150.24**	**293**		**PKPbc**	**20 47 51.7**	**+0.2**
PABE	**Paberze**	**150.25**	**335**	*e*P	**PKPbc**	**20 47 50.5**	**-0.3**
BLS5	**Blasjo**	**150.48**	**356**	*e*PKPdf	**PKPdf**	**20 47 46.8**	**+0.8**
PBUR	**Paburge**	**150.56**	**338**	*e*P	**PKPbc**	**20 47 50.2**	**-1.3**
DIKM	**Dikmen**	**151.10**	**303**	⇑P	**PKPbc**	**20 47 53.3**	**0.0**
AKASG	**Malin Array Be**	**151.20**	**323**	PKPbc	**PKPbc**	**20 47 52.6**	**-0.6**
	comp=Z,45nm,1.0s,baz=46,slow=2.7,SNR=41						
HOMB	**Homborsund**	**151.45**	**353**	*e*PKPbc	**PKPbc**	**20 47 53.3**	**-0.2**
SHBL	**Chebaa**	**151.48**	**285**	*e*P	**PKiKP**	**20 47 55.3**	**+0.2**
SNART	**Snartemo**	**151.50**	**355**	*e*PKPbc	**PKPbc**	**20 47 53.4**	**-0.2**
SNART				*e*PKPab	**PKPab**	**20 48 02.0**	**-0.1**
QRWL	**Qaraoun**	**151.54**	**286**	*e*P	**PKiKP**	**20 47 55.3**	**+0.2**
DQRL	**Deir Qamar**	**151.64**	**286**	*e*P	**PKiKP**	**20 47 55.6**	**+0.3**
SUW	**Suwalki**	**151.69**	**334**	PKIKP	**PKPbc**	**20 47 53.8**	**-0.4**
SUW	**Suwalki**	**151.69**	**334**		**PKPbc**	**20 47 53.8**	**-0.4**
ILGA	**Ilgaz**	**152.36**	**302**		**PKPbc**	**20 47 56.1**	**-0.5**
BRTR	**Keskin Array B**	**152.70**	**299**	PKPbc	**PKPbc**	**20 47 56.5**	**-0.7**
	comp=Z,18nm,0.9s,baz=116,slow=2.9,SNR=31						
SORM	**Soroca**	**153.11**	**320**	⇓P	**PKPbc**	**20 47 57.1**	**-0.5**
SORM	**Soroca**	**153.11**	**320**	⇓PKIKP	**PKPbc**	**20 47 57.1**	**-0.5**
ANTO	**Ankara**	**153.31**	**300**	⇓P	**PKiKP**	**20 47 58.7**	**+0.1**
ANTO	**Ankara**	**153.31**	**300**	PKIKP	**PKPbc**	**20 47 57.6**	**-0.9**
ANTO	**Ankara**	**153.31**	**300**		**PKPbc**	**20 47 57.6**	**-0.9**
MILM	**Milestii Mici**	**153.48**	**317**	⇑P	**PKPbc**	**20 47 58.2**	**-0.2**
CSS	**Mathiatis**	**153.49**	**289**		**PKPbc**	**20 47 58.6**	**-0.4**
LEF	**Lefka**	**153.84**	**289**	⇓P	**PKPbc**	**20 47 59.6**	**0.0**
RGN	**Rugen**	**154.25**	**345**	*e*P	**PKiKP**	**20 48 06.0**	**+6.1**
MDUB	**Mudurnu**	**154.36**	**302**		**PKPbc**	**20 48 00.1**	**-0.7**
TOPG	**Topolog**	**154.73**	**313**	⇑P	**PKiKP**	**20 48 02.1**	**+0.9**
CFR	**Carcaliu**	**154.74**	**314**	⇑P	**PKiKP**	**20 48 01.6**	**+0.4**
CFR	**Carcaliu**	**154.74**	**314**	⇑PKIKP	**PKiKP**	**20 48 01.6**	**+0.4**
TESR	**Tescani**	**154.97**	**318**	⇓P	**PKPab**	**20 48 11.9**	**-5.3**
PETR	**Petresti**	**155.03**	**316**	⇑P	**PKPab**	**20 48 16.5**	**-0.9**
VRI	**Vrincioaia**	**155.26**	**316**	⇓P	**PKPab**	**20 48 22.2**	**+3.7**
VRI	**Vrincioaia**	**155.26**	**316**	⇓PKP2	**PKPab**	**20 48 22.2**	**+3.7**
PLOR	**Plostina**	**155.32**	**317**	⇑P	**PKPab**	**20 48 15.5**	**-3.2**
PLOR	**Plostina**	**155.32**	**317**	⇑PKP2	**PKPab**	**20 48 15.5**	**-3.2**
DBIC	**Dimbokro**	**155.79**	**162**	PKPbc	PKPdf	20 48 03.1	+8.0
	comp=Z,7.4nm,0.9s,baz=100,slow=3.9,SNR=4.0						
DBIC				PKPab	**PKPab**	**20 48 20.1**	**-1.2**
	comp=Z,5.7nm,0.8s,baz=184,slow=6.0,SNR=3.8						
KOLS	**Kolonicke sedl**	**155.79**	**327**	*e*PKP2	**PKPab**	**20 48 20.4**	**-0.2**
KOLS	**Kolonicke sedl**	**155.79**	**327**	*e*PKP	**PKPab**	**20 48 20.4**	**-0.2**
UZH	**Uzhgorod**	**155.99**	**326**	*e*PKP2	**PKPab**	**20 48 20.7**	**-0.7**
CRVS	**Cervenica-Dubn**	**156.19**	**328**	*e*PKP2	**PKPab**	**20 48 22.6**	**+0.3**
CRVS	**Cervenica-Dubn**	**156.19**	**328**	*e*PKP	**PKPab**	**20 48 22.6**	**+0.3**
OKC	**Ostrava-Krasne**	**156.90**	**333**	*e*PKPAB	**PKPab**	**20 48 24.5**	**-0.8**
OKC	**Ostrava-Krasne**	**156.90**	**333**	*e*PKP2	**PKPab**	**20 48 24.5**	**-0.8**
DRGR		**157.00**	**322**	⇓P	PKPab	20 48 14.0	-12
OSTC	**Ostas**	**157.01**	**337**	*e*PKPAB	**PKPab**	**20 48 25.6**	**-0.2**
HUMR	**Humele**	**157.01**	**315**	⇓P	**PKPab**	**20 48 26.5**	**+0.5**
CHVC	**Chvalec**	**157.04**	**337**	*e*PKPAB	**PKPab**	**20 48 25.8**	**-0.1**
UPC	**Upice**	**157.12**	**337**	*e*PKPAB	**PKPab**	**20 48 26.5**	**+0.3**
UPC	**Upice**	**157.12**	**337**	*e*PKP2	**PKPab**	**20 48 26.5**	**+0.3**
DPC	**Dobruska-Polom**	**157.15**	**337**	*e*PKPAB	**PKPab**	**20 48 26.6**	**+0.2**
DPC	**Dobruska-Polom**	**157.15**	**337**	*e*PKP2	**PKPab**	**20 48 26.6**	**+0.2**
MORC	**Moravsky Berou**	**157.18**	**334**	*e*PKP	**PKPab**	**20 48 25.4**	**-1.2**
CLL	**Collm**	**157.31**	**343**	*e*(PKPdf)	**PKPdf**	**20 47 59.0**	**+3.2**
CLL				*e*PKPdiff	sPKPdf	20 48 13.0	+13
CLL				⇓*i*PKPab	**PKPab**	**20 48 26.8**	**-0.2**
	comp=Z,45nm,1.0s						
CLL	**Collm**	**157.31**	**343**	⇓*i*PKP2	**PKPab**	**20 48 26.8**	**-0.2**
CLL				pmax	pmax		
	comp=Z,45nm,1.0s						
BRG	**Berggiesshubel**	**157.45**	**341**	⇓*i*PKP	**PKPab**	**20 48 27.8**	**+0.2**
	comp=Z,46nm,1.0s						
BRG				*e*		20 52 36.0	
	comp=Z,3.9nm,1.1s						
BRG	**Berggiesshubel**	**157.45**	**341**	⇓*i*PKP2	**PKPab**	**20 48 27.8**	**+0.2**
BRG				pmax	pmax		
	comp=Z,46nm,1.0s						
PVCC	**Panska Ves**	**157.56**	**339**	*e*PKPAB	**PKPab**	**20 48 28.4**	**+0.3**
PVCC	**Panska Ves**	**157.56**	**339**	*e*PKP2	**PKPab**	**20 48 28.4**	**+0.3**
PSZ	**Piszkesteto**	**157.62**	**328**	⇑P	**PKPab**	**20 48 29.0**	**+0.4**
PSZ	**Piszkesteto**	**157.62**	**328**	⇑PKP2	**PKPab**	**20 48 29.0**	**+0.4**
PSZ	**Piszkesteto**	**157.62**	**328**	PKPab	**PKPab**	**20 48 28.1**	**-0.4**
VYHS	**Vyhne**	**157.67**	**330**	*e*PKP2	**PKPab**	**20 48 28.9**	**+0.2**
VYHS	**Vyhne**	**157.67**	**330**	*e*PKP	**PKPab**	**20 48 28.9**	**+0.2**
PLVB	**Pleven**	**157.81**	**313**	⇑P	**PKPab**	**20 48 30.3**	**+0.8**
JAVC	**Velka Javorina**	**157.87**	**332**	*e*PKP	**PKPab**	**20 48 30.4**	**+0.8**
VRAC	**Vranov**	**157.92**	**335**	⇑P	**PKPab**	**20 48 30.5**	**+0.8**
VRAC	**Vranov**	**157.92**	**335**	*e*PKP	**PKPab**	**20 48 29.7**	**0.0**
VRAC	**Vranov**	**157.92**	**335**	⇑PKP2	**PKPab**	**20 48 30.5**	**+0.8**
PRA	**Prague**	**158.01**	**339**	*e*PKPAB	**PKPab**	**20 48 30.7**	**+0.7**
PRA	**Prague**	**158.01**	**339**	*e*PKP2	**PKPab**	**20 48 30.7**	**+0.7**
GOPC	**GO Pecny, Ondr**	**158.03**	**338**	*e*PKPAB	**PKPab**	**20 48 30.5**	**+0.3**
GOPC	**GO Pecny, Ondr**	**158.03**	**338**	*e*PKP2	**PKPab**	**20 48 30.5**	**+0.3**
PRU	**Pruhonice**	**158.05**	**339**	*e*PKPAB	**PKPab**	**20 48 30.5**	**+0.3**
PRU	**Pruhonice**	**158.05**	**339**	*e*PKP2	**PKPab**	**20 48 30.5**	**+0.3**
KRUC	**Moravsky**	**158.20**	**335**	*e*PKP	**PKPab**	**20 48 30.6**	**-0.3**
SMOL	**Smolenice**	**158.24**	**332**	*e*PKP2	**PKPab**	**20 48 31.8**	**+0.7**
SMOL	**Smolenice**	**158.24**	**332**	*e*PKP	**PKPab**	**20 48 31.8**	**+0.7**
TREC	**Trest**	**158.33**	**336**	*e*PKPAB	**PKPab**	**20 48 31.2**	**-0.3**
TREC	**Trest**	**158.33**	**336**	*e*PKP2	**PKPab**	**20 48 31.2**	**-0.3**
MODS	**Modra-Piesok**	**158.41**	**332**	*e*PKP2	**PKPab**	**20 48 31.6**	**-0.3**
MODS	**Modra-Piesok**	**158.41**	**332**	*e*PKP	**PKPab**	**20 48 31.6**	**-0.3**
NKC	**Novy Kostel**	**158.44**	**342**	*e*PKPAB	**PKPab**	**20 48 32.1**	**+0.2**
NKC	**Novy Kostel**	**158.44**	**342**	*e*PKP2	**PKPab**	**20 48 32.1**	**+0.2**
MDVR	**Moldovita**	**158.79**	**319**	⇑P	**PKPab**	**20 48 33.8**	**0.0**
VTS	**Vitosha**	**159.08**	**313**	⇑P	**PKPab**	**20 48 36.2**	**+1.0**
VTS	**Vitosha**	**159.08**	**313**	⇑PKP2	**PKPab**	**20 48 36.2**	**+1.0**
VTS	**Vitosha**	**159.08**	**313**	PKPab	**PKPab**	**20 48 34.8**	**-0.4**
KHC	**Kasperske Hory**	**159.10**	**339**	*e*PKPAB	**PKPab**	**20 48 34.7**	**-0.2**
KHC	**Kasperske Hory**	**159.10**	**339**	PKP2	**PKPab**	**20 48 35.3**	**+0.4**
KHC	**Kasperske Hory**	**159.10**	**339**	PKPab	**PKPab**	**20 48 35.3**	**+0.4**
BEBN	**Eben Emael**	**159.11**	**354**	PKPab	**PKPab**	**20 48 34.6**	**-0.1**
MEM	**Membach**	**159.26**	**353**	PKPab	**PKPab**	**20 48 34.7**	**-0.7**
GERES	**GERESS Array B**	**159.31**	**338**	PKPab	**PKPab**	**20 48 35.8**	**0.0**
	comp=Z,9.4nm,0.9s,baz=38,slow=5.0,SNR=22						
BSTI	**Sart Tilman**	**159.33**	**354**	PKPab	**PKPab**	**20 48 35.5**	**-0.1**
CONA	**Conrad Observa**	**159.33**	**334**	*e*PKPab	**PKPab**	**20 48 36.6**	**+0.6**
	comp=Z,19nm,1.0s,SNR=8.1						
SNF	**Seneffe**	**159.49**	**357**	PKPab	**PKPab**	**20 48 36.1**	**-0.3**
BCLA	**Clavier**	**159.51**	**355**	PKPab	**PKPab**	**20 48 36.3**	**-0.2**
BHOU	**Houvegnez**	**159.51**	**353**	PKPab	**PKPab**	**20 48 36.7**	**+0.1**
BGES	**Gesves**	**159.56**	**355**	PKPab	**PKPab**	**20 48 36.3**	**-0.4**
BMRD	**Maredsous**	**159.67**	**356**	PKPab	**PKPab**	**20 48 36.6**	**-0.6**
DOU	**Dourbes**	**159.89**	**356**	PKPab	**PKPab**	**20 48 37.9**	**-0.2**
MOA	**Molln**	**159.99**	**336**	*e*PKPab	**PKPab**	**20 48 39.2**	**+0.5**
	comp=Z,20nm,1.1s,SNR=9.5						
VAY	**Valandovo**	**160.14**	**310**	*i* P	**PKPab**	**20 48 39.2**	**-0.5**
WLF	**Walferdange**	**160.18**	**353**	PKPab	**PKPab**	**20 48 39.7**	**+0.3**
STIP	**Stip**	**160.22**	**311**	*i* P	**PKPab**	**20 48 38.8**	**-1.1**
SKO	**Skopje**	**160.55**	**313**	*i* P	**PKPab**	**20 48 42.0**	**+0.6**
SOKA	**Soboth**	**160.68**	**333**	*e*PKPab	**PKPab**	**20 48 41.8**	**-0.1**
	comp=Z,16nm,1.0s,SNR=8.9						
KBA	**Koelnbreinsper**	**160.97**	**336**	*e*PKPab	**PKPab**	**20 48 43.1**	**-0.1**
	comp=Z,11nm,0.9s						
OBKA	**Obir**	**161.01**	**333**	*e*PKPab	**PKPab**	**20 48 42.1**	**-1.2**
	comp=Z,7.6nm,1.0s						
BFO	**Black Forest**	**161.16**	**348**	PKP2	**PKPab**	**20 48 43.5**	**-0.3**
BFO	**Black Forest**	**161.16**	**348**	PKPab	**PKPab**	**20 48 43.5**	**-0.3**
MYKA	**Terra Mystica**	**161.25**	**335**	*e*PKPab	**PKPab**	**20 48 42.8**	**-1.5**
	comp=Z,17nm,1.1s,SNR=7.8						
WATA	**Walderalm**	**161.31**	**340**	*e*PKPab	**PKPab**	**20 48 45.1**	**+0.4**
	comp=Z,40nm,1.3s,SNR=10						
WTTA	**Wattenberg**	**161.36**	**340**	*e*PKPab	**PKPab**	**20 48 45.5**	**+0.6**
	comp=Z,52nm,1.1s,SNR=9.1						
RETA	**Reutte**	**161.40**	**342**	*e*PKPab	**PKPab**	**20 48 45.4**	**+0.4**
	comp=Z,37nm,1.0s,SNR=16						
PRED	**Cave del Predi**	**161.44**	**335**	PKPab	**PKPab**	**20 48 43.7**	**-1.5**
MOTA	**Moosalm**	**161.44**	**341**	*e*PKPab	**PKPab**	**20 48 45.6**	**+0.3**
	comp=Z,53nm,1.1s,SNR=15						
SQTA	**Sankt Quirin**	**161.52**	**341**	*e*PKPab	**PKPab**	**20 48 46.0**	**+0.4**
	comp=Z,39nm,1.0s,SNR=13						
ABTA	**Abfaltersbach**	**161.54**	**338**	*e*PKPab	**PKPab**	**20 48 44.9**	**-0.7**
	comp=Z,20nm,0.9s,SNR=8.5						
ZOU	**Zoufplan**	**161.55**	**336**	PKPab	**PKPab**	**20 48 44.2**	**-1.6**
PDG	**Podgorica**	**161.64**	**317**	PKPab	**PKPab**	**20 48 45.6**	**-0.5**
DAVA	**Damuels**	**161.81**	**343**	*i* PKPab	**PKPab**	**20 48

*NEIC **23** 20:35:11.8±1.7,29.°90S±0.°07×177.°5W±0.°2, h29km±5km, mb4.5/20, Error ellipse: s-maj=23.3km s-min=8.8km az=73.0*

ISC 23 20:35:13.1±0.7, 30.°00S±0.°06×177.°6W±0.°1, h35km, n49, σ1°85/49, mb4.6/14, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.79**	**341**	Pn	**Pn**	**20 35 27.3**	**-0.4**
	2μm,0.3s,baz=98,slow=16,SNR=2.3						
RAO				Sn	**Sn**	**20 35 37.9**	**-0.3**
	8μm,0.3s,baz=52,slow=21,SNR=15						
RAO	**Raoul Island**	**0.79**	**341**		**Sn**	**20 35 36.8**	**-1.4**
RAO	**Raoul Island**	**0.79**	**341**		**Pn**	**20 35 26.1**	**-1.6**
MSWZ	**Moikau Station**	**12.77**	**205**	Pn	Pn	20 38 07.1	-5.1
SNZO	**South Karori**	**12.89**	**207**	Pn	**Pn**	**20 38 10.5**	**-3.1**
THZ	**Tophouse**	**14.01**	**211**	Pn	**Pn**	**20 38 25.3**	**-3.8**
KHZ	**Kahutara**	**14.28**	**207**	Pn	**Pn**	**20 38 30.3**	**-2.4**
LTZ	**Lake Taylor**	**15.11**	**210**	Pn	**Pn**	**20 38 40.5**	**-3.5**
DZM	**Mont Dzumac**	**16.34**	**295**	Pn	**P**	**20 39 01.6**	**-0.9**
	0.3nm,0.3s,baz=73,slow=17,SNR=3.1						
RPZ	**Rata Peaks**	**16.39**	**210**	Pn	**Pn**	**20 38 58.5**	**-1.9**
	2.3nm,0.3s,baz=7.1,slow=8.1,SNR=7.2						
RPZ				Sn	Sn	20 41 47.1	-14
	0.4nm,0.3s,baz=15,slow=18,SNR=1.4						
RPZ	**Rata Peaks**	**16.39**	**210**		**Pn**	**20 38 58.2**	**-2.2**
RPZ				IAmb	IAmb	20 39 07.0	
	comp=Z,17nm,0.8s						
FOZ	**Fox Glacier**	**16.81**	**213**	Pn	**Pn**	**20 39 02.6**	**-3.0**
FOZ				IAmb	IAmb	20 39 07.0	
	comp=Z,20nm,0.9s						
ODZ	**Otahua Downs**	**17.64**	**208**	Pn	**Pn**	**20 39 12.5**	**-3.4**
WKZ	**Wanaka**	**18.17**	**212**		**Pn**	**20 39 18.9**	**-3.6**
WKZ				IAmb	IAmb	20 39 33.3	
	comp=Z,23nm,1.1s						
WHZ	**Wether Hill Ro**	**19.47**	**211**	P	**P**	**20 39 34.4**	**-2.4**
WHZ				IAmb	IAmb	20 39 34.8	
	comp=Z,42nm,1.2s						
DCZ	**Deep Cove**	**19.52**	**214**	P	**P**	**20 39 35.0**	**-2.3**
DCZ				IAmb	IAmb	20 39 49.9	
	comp=Z,22nm,1.1s						
CTA	**Charters Tower**	**34.05**	**278**	P	**P**	**20 41 57.3**	**+3.1**
	comp=Z,9.5nm,0.8s,baz=107,slow=10,SNR=7.8						
CTAO	**Charters Tower**	**34.05**	**278**	P	**P**	**20 41 57.0**	**+2.8**
STKA	**Stephens Creek**	**34.88**	**256**	P	**P**	**20 42 04.2**	**+3.0**
	comp=Z,9.6nm,0.8s,baz=118,slow=8.5,SNR=8.8						
STKA	**Stephens Creek**	**34.88**	**256**	P	**P**	**20 42 03.9**	**+2.7**
BBOO	**Buckleboo**	**39.39**	**254**	P	**P**	**20 42 40.3**	**+0.8**
AS31	**Alice Springs**	**43.45**	**266**	P	**P**	**20 43 12.7**	**-0.3**
ASAR	**Alice Springs**	**43.45**	**266**	P	**P**	**20 43 13.4**	**+0.4**
	comp=Z,5.6nm,0.6s,baz=105,slow=7.3,SNR=14						
WR0	**Warramunga Arr**	**44.23**	**272**	P	**P**	**20 43 19.7**	**+0.5**
WR0				IAmb	IAmb	20 43 22.3	
	comp=Z,14nm,1.1s						
WB2	**Warramunga Arr**	**44.40**	**272**	P	**P**	**20 43 21.1**	**+0.6**
WB2				IAmb	IAmb	20 43 23.1	
	comp=Z,11nm,0.9s						
WRAB	**Tennant Creek**	**44.40**	**272**	P	**P**	**20 43 22.4**	**+1.8**
WRA	**Warramunga Arr**	**44.41**	**272**	P	**P**	**20 43 21.2**	**+0.6**
	comp=Z,7.3nm,0.5s,baz=110,slow=8.0,SNR=14						
WB0	**Warramunga Arr**	**44.43**	**272**	P	**P**	**20 43 21.4**	**+0.6**
WB0				IAmb	IAmb	20 43 22.8	
	comp=Z,11nm,0.9s						
VNDA	**Vanda**	**48.52**	**186**	P	**P**	**20 43 54.5**	**+2.3**
	comp=Z,1.0nm,0.6s,baz=31,slow=7.2,SNR=3.2						
FITZ	**Fitzroy Crossi**	**52.68**	**269**	P	**P**	**20 44 24.2**	**-0.1**
	comp=Z,4.4nm,1.1s,baz=143,slow=5.1,SNR=2.4						
FITZ	**Fitzroy Crossi**	**52.68**	**269**	P	**P**	**20 44 23.9**	**-0.5**
CASY	**Casey**	**55.64**	**208**	P	**P**	**20 44 45.5**	**+0.4**
QSPA	**South Pole Qui**	**60.11**	**180**	P	**P**	**20 45 18.7**	**+2.0**
	comp=Z,6.4nm,1.0s,baz=8.3,slow=4.9,SNR=4.0						
QSPA	**South Pole Qui**	**60.11**	**180**	P	**P**	**20 45 17.6**	**+0.9**
MAW	**Mawson**	**72.80**	**200**	P	**P**	**20 46 38.7**	**+1.1**
	comp=Z,9.3nm,0.9s,baz=112,slow=7.2,SNR=8.0						
MAW	**Mawson**	**72.80**	**200**	P	**P**	**20 46 38.5**	**+1.0**
MAW				IAmb	IAmb	20 46 39.7	
	comp=Z,2.2nm,0.9s						
SNAA	**Sanae**	**78.55**	**178**	P	**P**	**20 47 10.6**	**+0.1**
	comp=Z,3.8nm,1.0s,baz=193,slow=4.6,SNR=4.0						
SNAA	**Sanae**	**78.55**	**178**	P	**P**	**20 47 10.7**	**+0.2**
SNAA				IAmb	IAmb	20 47 11.9	
	comp=Z,4.8nm,1.0s						
PETK	**Petropavlovsk-**	**85.51**	**345**	P	**P**	**20 47 46.9**	**0.0**
	comp=Z,2.1nm,0.8s,baz=159,slow=12,SNR=3.2						
NVAR	**Mina Array Bea**	**87.73**	**43**	P	**P**	**20 47 58.5**	**0.0**
	comp=Z,2.9nm,1.0s,baz=228,slow=8.8,SNR=5.1						
FINES	**FINESS Array B**	**144.88**	**340**	PKP	**PKPab**	**20 54 44.1**	**-0.7**
	comp=Z,18nm,0.9s,baz=46,slow=5.5,SNR=13						
AKH	**Akhalkalaki**	**145.02**	**300**		**PKPab**	**20 54 46.3**	**0.0**
NB2	**NORSAR Subarra1**	**148.40**	**352**	PKP	**PKPbc**	**20 54 54.8**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=13,slow=2.9						
NOA	**NORSAR Array B**	**148.40**	**352**	PKPbc	**PKPbc**	**20 54 54.4**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=16,slow=4.3,SNR=4.3						
AKASG	**Malin Array Be**	**151.17**	**323**	PKPbc	**PKPbc**	**20 55 01.6**	**-0.7**
	comp=Z,0.8nm,0.4s,baz=48,slow=2.7,SNR=7.7						
BRTR	**Keskin Array B**	**152.69**	**299**	PKPbc	**PKPbc**	**20 55 05.9**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=104,slow=4.2,SNR=5.7						
CLL	**Collm**	**157.28**	**343**	*e*PKPab	**PKPab**	**20 55 36.0**	**0.0**
	comp=Z,5.0nm,1.0s						
GERES	**GERESS Array B**	**159.29**	**338**	PKPab	**PKPab**	**20 55 43.3**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=35,slow=3.3,SNR=5.4						
TORD	**Torodi Ar. Bea**	**163.22**	**178**	PKPab	**PKPab**	**20 56 01.8**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=179,slow=2.6,SNR=3.5						

*IDC **23** 20:36:45.2±1.7,29.°65S×177.°18W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.8/34, mbtmp4.0/2, Error ellipse: s-maj=61.8km s-min=25.8km az=26.0*

*NEIC **23** 20:36:48.8±1.7,29.°7S±0.°2×177.°2W±0.°2, h25km±10km, mb4.4/4, Error ellipse: s-maj=43.3km s-min=12.8km az=218.0*

ISC 23 20:36:49.3±1.5, 29.°7S±0.°2×177.°2W±0.°2, h31km, n10, σ0°82/11, mb4.3/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.78**	**304**	Pn	**Pb**	**20 37 03.7**	**-0.8**
	571nm,0.3s,baz=98,slow=22,SNR=1.1						
RAO				Sn	**Sn**	**20 37 15.3**	**+0.4**
	2μm,0.3s,baz=74,slow=20,SNR=3.4						
ASAR	**Alice Springs**	**43.87**	**266**	P	**P**	**20 44 52.9**	**-0.2**
	1.4nm,0.9s,baz=111,slow=7.0,SNR=2.2						
WR0	**Warramunga Arr**	**44.61**	**271**	P	**P**	**20 45 00.2**	**+1.2**
WB2	**Warramunga Arr**	**44.78**	**271**	P	**P**	**20 45 01.5**	**+1.1**
WB2				IAmb	IAmb	20 45 02.2	
	comp=Z,5.2nm,0.9s						
WRA	**Warramunga Arr**	**44.79**	**271**	P	**P**	**20 45 01.3**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=110,slow=8.1,SNR=5.2						
WB0	**Warramunga Arr**	**44.81**	**271**		**P**	**20 45 01.6**	**+1.0**
WB0				IAmb	IAmb	20 45 18.0	
	comp=Z,4.5nm,0.8s						
CASY	**Casey**	**56.09**	**208**	P	**P**	**20 46 24.6**	**-0.5**
FINES	**FINESS Array B**	**144.72**	**341**	PKP	**PKPdf**	**20 56 22.3**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=58,slow=3.4,SNR=3.8						
NOA	**NORSAR Array B**	**148.16**	**352**	PKPbc	**PKPbc**	**20 56 31.3**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=23,slow=3.4,SNR=1.6						
AKASG	**Malin Array Be**	**151.16**	**324**	PKPbc	**PKiKP**	**20 56 39.7**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=48,slow=3.0,SNR=2.5						

*IDC **23** 20:39:32.9±3.1,29.°85S×177.°30W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/38, mbtmp4.1/3, Error ellipse: s-maj=60.7km s-min=26.5km az=68.0*

*NEIC **23** 20:39:33.9±1.2,29.°8S±0.°2×177.°2W±0.°3, h15km±12km, mb4.0/5, Error ellipse: s-maj=47.6km s-min=10.2km az=48.0*

ISC 23 20:39:35.7±2.2, 29.°8S±0.°2×177.°2W±0.°3, h24km, n11, σ0°74/13, mb4.1/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.81**	**311**	Pn	**Pn**	**20 39 52.8**	**+1.1**
	249nm,0.3s,baz=101,slow=17,SNR=2.5						
RAO				Sn	**Sn**	**20 40 03.5**	**+0.6**
	999nm,0.3s,baz=223,slow=21,SNR=6.1						
RAO	**Raoul Island**	**0.81**	**311**		**Pb**	**20 39 50.0**	**-1.1**
RAO					**Sb**	**20 40 01.4**	**-0.2**
STKA	**Stephens Creek**	**35.28**	**256**	P	**P**	**20 46 29.4**	**+0.5**
	2.6nm,0.8s,baz=97,slow=12,SNR=4.6						
STKA	**Stephens Creek**	**35.28**	**256**	P	**P**	**20 46 29.2**	**+0.4**
ASAR	**Alice Springs**	**43.83**	**266**	P	**P**	**20 47 40.3**	**+0.2**
	0.6nm,0.5s,baz=103,slow=7.6,SNR=6.7						
WR0	**Warramunga Arr**	**44.58**	**271**	P	**P**	**20 47 45.2**	**-0.9**
WR0				IAmb	IAmb	20 48 04.7	
	comp=Z,1.6nm,1.0s						
WB2	**Warramunga Arr**	**44.75**	**271**	P	**P**	**20 47 46.7**	**-0.8**
WB2				IAmb	IAmb	20 48 00.4	
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**44.76**	**271**	P	**P**	**20 47 47.2**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=110,slow=8.1,SNR=22						
WB0	**Warramunga Arr**	**44.78**	**271**	P	**P**	**20 47 47.2**	**-0.6**
WB0				IAmb	IAmb	20 47 51.4	
	comp=Z,2.0nm,0.7s						
CASY	**Casey**	**56.00**	**208**	P	**P**	**20 49 11.8**	**-0.2**
FINES	**FINESS Array B**	**144.80**	**341**	PKP	**PKPdf**	**20 59 09.9**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=29,slow=3.2,SNR=7.8						

*IDC **23** 20:42:01.5±1.1,29.°86S×177.°32W, h0km, mb4.1/5, mb1 4.3/7, mb1mx4.0/41, mbtmp4.2/7, ML4.0/2, Error ellipse: s-maj=29.6km s-min=18.7km az=56.0*

*NEIC **23** 20:42:03.5±0.6,29.°8S±0.°1×177.°1W±0.°2, h24km±6km, mb4.2/5, Error ellipse: s-maj=22.5km s-min=8.8km az=52.0*

ISC 23 20:42:02.8±1.0, 29.°89S±0.°10×177.°2W±0.°1, h10km, n20, σ0°95/21, mb4.3/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.88**	**316**	Pn	**Pn**	**20 42 21.1**	**-0.1**
	445nm,0.3s,baz=87,slow=15,SNR=4.3						
RAO				Sn	**Sb**	**20 42 32.0**	**+0.1**
	2μm,0.3s,baz=93,slow=20,SNR=16						
RAO	**Raoul Island**	**0.88**	**316**		**Pg**	**20 42 20.0**	**+0.2**
OUZ	**Omahuta**	**9.39**	**233**	Pn	**Pn**	**20 44 19.7**	**+1.5**
DZM	**Mont Dzumac**	**16.61**	**294**	Pn	**Pn**	**20 45 56.6**	**+0.7**
	0.2nm,0.3s,baz=90,slow=9.1,SNR=1.2						
RPZ	**Rata Peaks**	**16.66**	**211**	Pn	**Pn**	**20 45 56.1**	**-0.3**
	2.1nm,0.3s,baz=3.2,slow=18,SNR=10.0						
CTA	**Charters Tower**	**34.39**	**278**	P	**P**	**20 48 50.0**	**-0.3**
	1.8nm,0.3s,baz=117,slow=14,SNR=3.7						
STKA	**Stephens Creek**	**35.25**	**256**	P	**P**	**20 48 57.8**	**+0.2**
	1.5nm,0.6s,baz=114,slow=8.2,SNR=4.1						
STKA	**Stephens Creek**	**35.25**	**256**	P	**P**	**20 48 57.3**	**-0.4**
AS31	**Alice Springs**	**43.81**	**266**	P	**P**	**20 50 08.5**	**-0.7**
WR0	**Warramunga Arr**	**44.58**	**271**	P	**P**	**20 50 14.3**	**-1.0**
WR0				IAmb	IAmb	20 50 17.5	
	comp=Z,1.0nm,0.5s						
WB2	**Warramunga Arr**	**44.75**	**271**	P	**P**	**20 50 15.6**	**-1.0**
WRA	**Warramunga Arr**	**44.76**	**271**	P	**P**	**20 50 15.3**	**-1.4**
	comp=Z,2.3nm,0.5s,baz=111,slow=8.0,SNR=9.9						
WB0	**Warramunga Arr**	**44.78**	**271**	P	**P**	**20 50 15.6**	**-1.3**
WB0				IAmb	IAmb	20 50 24.4	
	comp=Z,4.8nm,0.9s						
QSPA	**South Pole Qui**	**60.22**	**180**	P	**P**	**20 52 11.8**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=75,slow=1.4,SNR=3.6						
QSPA	**South Pole Qui**	**60.22**	**180**	P	**P**	**20 52 10.3**	**-0.6**
QSPA				IAmb	IAmb	20 52 12.4	
	comp=Z,2.8nm,0.9s						
NVAR	**Mina Array Bea**	**87.41**	**42**	P	**P**	**20 54 52.3**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=243,slow=4.0,SNR=1.9						
FINES	**FINESS Array B**	**144.89**	**341**	PKP	**PKPab**	**21 01 37.8**	**-0.7**
	comp=Z,3.0nm,0.6s,baz=55,slow=3.3,SNR=12						
NB2	**NORSAR Subarra1**	**148.34**	**352**	PKP	**PKPbc**	**21 01 48.4**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.34**	**352**	PKPbc	**PKPbc**	**21 01 47.8**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=15,slow=4.3,SNR=3.4						
AKASG	**Malin Array Be**	**151.30**	**324**	PKPbc	**PKPbc**	**21 01 55.1**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=46,slow=2.9,SNR=1.5						

*NEIC **23** 20:44:26.2±0.4,29.°7S±0.°7×177.°3W±0.°6, h7km±34km, mb4.2/7, Error ellipse: s-maj=127.0km s-min=4.9km az=214.0*

*IDC **23** 20:44:27.5±5.3,29.°44S×177.°59W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/38, mbtmp4.1/3, Error ellipse: s-maj=113.4km s-min=21.8km az=51.0*

ISC 23 20:44:28.2±3.2, 29.°8S±0.°1×177.°5W±0.°4, h10km, n11, σ0°65/12, mb4.1/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.61**	**327**	Pn	**Pg**	**20 44 39.5**	**-0.6**
	baz=78,slow=20,SNR=0.8						
RAO				Sn	**Sg**	**20 44 48.4**	**+0.3**
	408nm,0.3s,baz=215,slow=23,SNR=6.7						
OUZ	**Omahuta**	**9.25**	**232**	Pn	**Pn**	**20 46 41.1**	**-0.5**
STKA	**Stephens Creek**	**35.02**	**256**	P	**P**	**20 51 21.3**	**+0.2**
	1.9nm,0.8s,baz=86,slow=13,SNR=4.4						
AS31	**Alice Springs**	**43.55**	**266**	P	**P**	**20 52 32.8**	**+0.4**
ASAR	**Alice Springs**	**43.55**	**266**	P	**P**	**20 52 33.4**	**+0.9**
	0.8nm,0.6s,baz=101,slow=7.7,SNR=7.9						
WR0	**Warramunga Arr**	**44.30**	**271**	P	**P**	**20 52 39.5**	**+1.1**
WR0				IAmb	IAmb	20 52 52.9	
	comp=Z,0.9nm,0.3s						
WB2	**Warramunga Arr**	**44.47**	**271**	P	**P**	**20 52 40.0**	**+0.1**
WB2				IAmb	IAmb	20 52 46.3	
	comp=Z,2.4nm,0.5s						
WRAB	**Tennant Creek**	**44.48**	**271**	P	**P**	**20 52 40.0**	**+0.1**
WRA	**Warramunga Arr**	**44.48**	**271**	P	**P**	**20 52 40.8**	**+0.8**
	comp=Z,2.2nm,0.3s,baz=110,slow=8.1,SNR=18						
WB0	**Warramunga Arr**	**44.50**	**272**	P	**P**	**20 52 40.4**	**+0.3**
WB0				IAmb	IAmb	20 52 59.2	
	comp=Z,1.3nm,0.8s						
CASY	**Casey**	**55.88**	**208**	P	**P**	**20 54 05.5**	**-0.2**
CASY				IAmb	IAmb	20 54 06.1	
	comp=Z,3.9nm,0.8s						

IDC 23 20:46:40.7±7.3, 29.°93S×177.°03W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/37, mbtmp4.0/5, Error ellipse: s-maj=188.0km s-min=39.4km az=41.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**34.56**	**278**	P	P	20 53 32.2	+1.0
	1.8nm,0.6s,baz=90,slow=7.4,SNR=3.6						
STKA	**Stephens Creek**	**35.40**	**256**	P	P	20 53 38.7	+0.3
	1.6nm,0.6s,baz=93,slow=14,SNR=4.0						
ASAR	**Alice Springs**	**43.98**	**266**	P	P	20 54 49.1	-0.9
	1.0nm,0.6s,baz=104,slow=7.6,SNR=6.2						
WRA	**Warramunga Arr**	**44.92**	**271**	P	P	20 54 56.9	-0.6
	2.0nm,0.6s,baz=110,slow=8.1,SNR=5.4						
QSPA	**South Pole Qui**	**60.18**	**180**	P	P	20 56 50.2	0.0
	0.7nm,0.5s,baz=21,slow=0.7,SNR=1.7						

*IDC **23** 20:47:33.4±1.2,29.°62S×178.°32W, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.0/39, mbtmp4.4/5, Error ellipse: s-maj=37.0km s-min=13.5km az=144.0*

*NEIC **23** 20:47:35.2±1.4,29.°7S±0.°1×178.°4W±0.°2, h10km±5km, mb4.4/8, Error ellipse: s-maj=29.3km s-min=6.5km az=130.0*

ISC 23 20:47:35.5±1.0, 29.°7S±0.°2×178.°4W±0.°1, h10km, n16, σ0°93/18, mb4.4/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.59**	**41**	Pn	**Pg**	**20 47 47.5**	**+0.5**
	226nm,0.3s,baz=263,slow=24,SNR=1.3						
RAO				Sn	**Sn**	**20 47 58.8**	**-0.9**
	992nm,0.3s,baz=174,slow=24,SNR=5.9						
RAO	**Raoul Island**	**0.59**	**41**		**Pg**	**20 47 47.5**	**+0.5**
RAO				Sg	**Sg**	**20 47 54.8**	**0.0**
CTA	**Charters Tower**	**33.38**	**278**	P	**P**	**20 54 15.7**	**+1.5**
	5.0nm,0.5s,baz=103,slow=11,SNR=7.1						
CTAO	**Charters Tower**	**33.38**	**278**	P	**P**	**20 54 13.5**	**-0.8**
STKA	**Stephens Creek**	**34.33**	**256**	P	**P**	**20 54 23.6**	**+1.2**
	3.5nm,1.0s,baz=90,slow=11,SNR=6.2						
STKA	**Stephens Creek**	**34.33**	**256**	P	**P**	**20 54 21.8**	**-0.6**
AS31	**Alice Springs**	**42.83**	**266**	P	**P**	**20 55 33.5**	**-0.4**
ASAR	**Alice Springs**	**42.84**	**266**	P	**P**	**20 55 32.2**	**-1.8**
	1.9nm,0.6s,baz=103,slow=7.7,SNR=10						
WR0	**Warramunga Arr**	**43.58**	**272**	P	**P**	**20 55 39.9**	**-0.1**
WR0				IAmb	IAmb	20 55 42.2	
	comp=Z,3.7nm,0.9s						
WB2	**Warramunga Arr**	**43.75**	**272**	P	**P**	**20 55 40.4**	**-1.0**
WB2				IAmb	IAmb	20 55 44.0	
	comp=Z,4.2nm,0.6s						
WRAB	**Tennant Creek**	**43.75**	**272**	P	**P**	**20 55 41.6**	**+0.2**
WRA	**Warramunga Arr**	**43.76**	**272**	P	**P**	**20 55 40.1**	**-1.3**
	comp=Z,3.1nm,0.4s,baz=111,slow=8.0,SNR=12						
WB0	**Warramunga Arr**	**43.78**	**272**	P	**P**	**20 55 40.9**	**-0.8**
WB0				IAmb	IAmb	20 55 44.2	
	comp=Z,4.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**52.05**	**270**	P	**P**	**20 56 46.5**	**+0.8**
QSPA	**South Pole Qui**	**60.40**	**180**	P	**P**	**20 57 44.9**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=17,slow=6.1,SNR=4.0						
QSPA	**South Pole Qui**	**60.40**	**180**	P	**P**	**20 57 44.7**	**-0.2**
QSPA				IAmb	IAmb	20 57 46.2	
	comp=Z,3.4nm,0.8s						

IDC 23 20:52:44.1±2.1, 29.°24S×177.°82W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.9/41, mbtmp3.9/3, Error ellipse: s-maj=16.5km s-min=3.4km az=80.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.08**	**260**	Pn	Pg	20 52 51.8	+6.0
	140nm,0.3s,baz=80,slow=23,SNR=2.4						
RAO				Sn	Sg	20 52 58.7	+12
	383nm,0.3s,baz=90,slow=20,SNR=7.5						
STKA	**Stephens Creek**	**34.90**	**255**	P	P	20 59 38.1	+0.6
	2.6nm,0.9s,baz=82,slow=15,SNR=2.0						
ASAR	**Alice Springs**	**43.34**	**266**	P	P	21 00 48.4	+0.1
	0.5nm,0.8s,baz=104,slow=7.4,SNR=6.5						
WRA	**Warramunga Arr**	**44.22**	**271**	P	P	21 00 55.7	+0.3
	1.5nm,0.4s,baz=111,slow=8.0,SNR=8.7						

*BJI **23** 20:53:06.5±0.0,51.°79N×178.°76E, h115km, mB7.4/76, mb6.4/90*

*AEIC **23** 20:53:06±2.0,51.°64N±0.°08×178.°65E±0.°10, h118km±3km, Error ellipse: s-maj=12.1km s-min=8.5km az=182.0*

*IDC **23** 20:53:07.6±0.8,51.°83N×178.°74E, h84km±6km, mb6.0/61, mb1 6.1/64, mb1mx6.1/67, mbtmp6.4/64, MS7.0/45, Ms1 7.0/45, ms1mx6.9/54, Error ellipse: s-maj=8.3km s-min=6.2km az=168.0*

*MOS **23** 20:53:08.2±0.9,51.°85N×178.°81E, h107km, mb7.0/63, Error ellipse: s-maj=4.6km s-min=3.3km az=131.6 Broadband fault plane solution: P waves. $M_0$6.00000×10^{20} NP1:ϕ_s220.00000°, δ30.00000°, λ-11.00000°. NP2: ϕ_s320.00000°, δ84.00000°, λ-119.00000°. Principal axes: T Plg33.0000°, Azm74.0000°; N Plg29.0000°, Azm323.0000°; P Plg43.0000°, Azm202.0000°;*

MOS Fault plane solution: P-wave C115, D77 . Felt (II) at Severo-Kuril'sk.

*NEIC **23** 20:53:09.7±1.4,51.°85N±0.°08×178.°74E±0.°09, h109km±1km, mb7.2/906, Mwc7.9/118, Mww7.9, Mwc8.0(GCMT) Error ellipse: s-maj=14.0km s-min=9.7km az=181.0*

*UNK **23** 20:53:10.0,51.°80N×178.°76E, h108km*

*BGR **23** 20:53:11.5±0.0,52.°18N×177.°20E, h100km, mb7.1, mB_BB7.9*

*NEIC **23** 20:53:30,52.°30N×178.°12E, h100km, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}-1.71; $M_{\theta\theta}$-2.92; $M_{\phi\phi}$4.64; $M_{r\theta}$7.45; $M_{r\phi}$-1.66; $M_{\theta\phi}$-4.93; Fault plane solution: $M_0$9.95000×10^{20} NP1:ϕ_s206.00000°, δ25.00000°, λ-12.00000°. NP2:ϕ_s307.00000°, δ85.00000°, λ-114.00000°. Principal axes: T 9.7634, Plg35.0000°, Azm58.0000°; N 0.3681, Plg24.0000°, Azm310.0000°; P -10.1315, Plg45.0000°, Azm193.0000°;*

*NEIC **23** 20:53:32,51.°98N×178.°49E, h101km, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}-1.85; $M_{\theta\theta}$-3.05; $M_{\phi\phi}$4.91; $M_{r\theta}$7.33; $M_{r\phi}$-1.57; $M_{\theta\phi}$-4.96; Fault plane solution: $M_0$9.96000×10^{20} NP1:ϕ_s207.00000°, δ26.00000°, λ-13.00000°. NP2:ϕ_s308.00000°, δ84.00000°, λ-115.00000°. Principal axes: T 9.7416, Plg34.0000°, Azm60.0000°; N 0.4243, Plg25.0000°, Azm311.0000°; P -10.1659, Plg45.0000°, Azm193.0000°;*

*GCMT **23** 20:53:33.7±0.1,52.°00N×178.°43E, h104km, MW7.9/184, Moment Tensor Solution. s183,c523; s184,c1026; Duration: 22s4 Moment tensor: Scale 10^{21}Nm; M_{rr}-0.18±.00; $M_{\theta\theta}$-0.31±.00; $M_{\phi\phi}$0.49±.00; $M_{r\theta}$0.70±.00; $M_{r\phi}$-0.16±.00; $M_{\theta\phi}$-0.48±.00; Best double couple: $M_0$0.97100×10^{21} NP1:ϕ_s207.00000°, δ27.00000°, λ-13.00000°. NP2:ϕ_s309.00000°, δ84.00000°, λ-117.00000°. Principal axes: T 0.9560, Plg34.0000°, Azm61.0000°; N 0.0310, Plg26.0000°, Azm311.0000°; P -0.9860, Plg44.0000°, Azm192.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

*NEIC **23** 20:53:46.1,51.°71N×178.°13E, h106km, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}-1.21; $M_{\theta\theta}$-3.44; $M_{\phi\phi}$4.66; $M_{r\theta}$6.62; $M_{r\phi}$-1.67; $M_{\theta\phi}$-4.59; Fault plane solution: $M_0$9.23000×10^{20} NP1:ϕ_s307.40000°, δ85.77000°, λ-118.22000°. NP2:ϕ_s209.56000°, δ28.51000°, λ-8.90000°. Principal axes: T 9.1842, Plg

SPN	**Mys Shipunski**	**11.46**	**284**	P		**Pn**	**20 55 48.6**	**-1.6**
SPN				S		**Sn**	**20 57 52.4**	**-3.6**
KZV	**Kizimen**	**11.47**	**295**	P		**Pn**	**20 55 50.1**	**-0.3**
BZMR	**Bezymyannaya**	**11.53**	**299**	P		**Pn**	**20 55 53.0**	**+1.8**
BZWR	**Bezymyannyi-We**	**11.53**	**299**	P		**Pn**	**20 55 51.3**	**+0.1**
KLY	**Klyuchi**	**11.54**	**301**	P		**Pn**	**20 55 50.2**	**-0.9**
KRSR	**Krestovskiy**	**11.56**	**300**	P		**Pn**	**20 55 51.3**	**-0.2**
TUMR	**Tumrok**	**11.58**	**295**	P		**Pn**	**20 55 49.7**	**-2.2**
TUMR				S		**Sn**	**20 57 51.3**	**-7.8**
OSSR	**Ossora**	**11.61**	**317**	P		**Pn**	**20 55 54.4**	**+2.3**
KIRR	**Kirishev**	**11.61**	**299**	P		**Pn**	**20 55 51.8**	**-0.5**
KMNR	**Kamenistaya**	**11.62**	**298**	P		**Pn**	**20 55 51.9**	**-0.5**
KPT	**Kopyto**	**11.68**	**299**	P		**Pn**	**20 55 53.2**	**0.0**
KII	**Karymskiy**	**11.83**	**289**	P		**Pn**	**20 55 55.6**	**+0.4**
NLC	**Nalytchevo**	**11.87**	**285**	P		**Pn**	**20 55 57.2**	**+1.6**
KOZ	**Kozyrevsk**	**11.89**	**299**	P		**Pn**	**20 55 56.1**	**+0.2**
SRDR	**Sredinnyy**	**12.04**	**300**	P		**Pn**	**20 55 56.8**	**-1.1**
SDLR	**Sedlovina**	**12.14**	**285**	P		**Pn**	**20 55 58.8**	**-0.6**
UGLR	**Uglovaya**	**12.18**	**285**	P		**Pn**	**20 55 59.8**	**-0.1**
SMAR	**Somma**	**12.20**	**285**	P		**Pn**	**20 55 59.5**	**-0.6**
KRER	**Koryakskii**	**12.23**	**285**	P		**Pn**	**20 56 01.4**	**+0.9**
DALK	**Dalny**	**12.23**	**284**	P		**Pn**	**20 55 59.7**	**-0.6**
DALK				S		**Sn**	**20 58 12.4**	**-2.2**
AVH	**Avacha**	**12.23**	**285**	P		**Pn**	**20 56 00.6**	**+0.1**
KRX	**Arik**	**12.29**	**286**	P		**Pn**	**20 56 01.1**	**-0.2**
PET	**Petropavlovsk**	**12.29**	**284**	*e*P		**Pn**	**20 56 00.8**	**-0.4**
PET				*e*S		**Sn**	**20 58 12.6**	**-3.5**
PET				pmax	pmax			
	comp=Z,21µm,1.0s							
PET				pmax	pmax			
	comp=Z,333µm,4.8s							
PET				pmax	pmax			
	comp=Z,177µm,6.0s							
PET				MLR	MLR			
	comp=Z,426µm,22.0s							
PET	**Petropavlovsk**	**12.29**	**284**			**Pn**	**20 56 00.6**	**-0.6**
KOK	**Koryaka**	**12.29**	**285**	P		**Pn**	**20 56 01.8**	**+0.5**
RUS	**Russkaya**	**12.41**	**281**	P		**Pn**	**20 56 02.5**	**-0.2**
ESO	**Esso**	**12.51**	**298**	P		**Pn**	**20 56 06.8**	**+2.7**
MTVR	**Mutnovka**	**12.61**	**282**	P		**Pn**	**20 56 06.5**	**+1.0**
KRMR	**Karymshinskiy**	**12.61**	**283**	P		**Pn**	**20 56 06.1**	**+0.7**
GRL	**Gorelyy**	**12.67**	**282**	P		**Pn**	**20 56 06.8**	**+0.5**
KMSK	**Kamenskaya**	**12.70**	**333**	P		**Pn**	**20 56 06.9**	**+0.4**
KDTR	**Khodutka, Kamc**	**12.74**	**279**	P		**Pn**	**20 56 07.4**	**+0.3**
KDTR				S		**Sn**	**20 58 22.4**	**-4.7**
ASAK	**Asacha**	**12.79**	**281**	P		**Pn**	**20 56 08.3**	**+0.5**
I44RU	**PETROPAVLOVSK**	**12.85**	**284**	P		**Pn**	**20 56 10.0**	**+1.4**
	baz=86,slow=16,SNR=8.4							
I44RU				*i*			21 47 30.0	
	baz=88,slow=315,SNR=12							
PEA0B	**Petropavlovsk-**	**12.86**	**285**	*ce*P		**Pn**	**20 56 09.0**	**+0.3**
PEA0B	**Petropavlovsk-**	**12.86**	**285**			**Pn**	**20 56 09.5**	**+0.8**
PETK	**Petropavlovsk-**	**12.86**	**285**	P		**Pn**	**20 56 08.9**	**+0.1**
	comp=Z,32nm,0.3s,baz=91,slow=16,SNR=439							
PETK				S		**Sn**	**20 58 26.8**	**-3.2**
	comp=Z,669nm,0.3s,baz=76,slow=25,SNR=5.8							
PETK				LR	LR		21 01 29.0	
	comp=Z,320µm,19.3s,baz=153,slow=39							
PETK				ScP		**ScP**	**21 05 01.0**	**+2.6**
	comp=Z,7.0nm,0.3s,baz=132,slow=2.1,SNR=2.3							
PETK				ScS		**ScS**	**21 08 34.4**	**-0.3**
	baz=92,slow=22,SNR=1.2							
PETK				P3KPbc			21 32 06.4	
	comp=Z,0.4nm,0.3s,baz=178,slow=4.3,SNR=2.5							
PALN	**Palana**	**12.90**	**312**	P		**Pn**	**20 56 11.4**	**+2.2**
SDPT	**Sand Point**	**12.94**	**65**	Pn		**Pn**	**20 56 05.7**	**-3.9**
GAMB	**Gambell**	**13.13**	**19**	Pn		**Pn**	**20 56 11.9**	**-0.3**
APC	**Apacha**	**13.20**	**284**	P		**Pn**	**20 56 14.6**	**+1.5**
APC				S		**Sn**	**20 58 33.8**	**-4.3**
CNBA	**Chernabura Isl**	**13.39**	**68**			**Pn**	**20 56 10.9**	**-4.6**
MIPR	**Malaya Ipel'ka**	**13.49**	**281**	P		**Pn**	**20 56 18.4**	**+1.4**
PAU	**Pauzhetka**	**13.57**	**278**	P		**Pn**	**20 56 18.4**	**+0.4**
PAU				S		**Sn**	**20 58 43.5**	**-3.7**
SKR	**Severo-Kuril's**	**14.15**	**275**	*e*P		**Pn**	**20 56 27.3**	**+1.8**
SKR				*e*S		**Sn**	**20 58 55.1**	**-6.2**
SKR				pmax	pmax			
	comp=Z,74µm,6.4s							
SKR				pmax	pmax			
	comp=Z,50µm,5.7s							
SKR				pmax	pmax			
	comp=Z,9µm,1.0s							
SKR				smax	smax			
	comp=N,249µm,2.6s							
SKR				smax	smax			
	comp=E,182µm,2.7s							
SKR				smax	smax			
	comp=N,38µm,0.6s							
SKR				smax	smax			
	comp=E,64µm,0.9s							
SKR				MLR	MLR			
	comp=Z,358µm,19.0s							
SKR				MLR	MLR			
	comp=Z,302µm,18.0s							
ALID	**Alaid**	**14.47**	**276**	P		**Pn**	**20 56 31.2**	**+1.5**
ANM	**Nome**	**15.34**	**27**	P		**Pn**	**20 56 40.5**	**0.0**
ANM				pmax	pmax			
	comp=Z,8µm,1.1s							
ANM	**Nome**	**15.34**	**27**	P		**Pn**	**20 56 40.5**	**0.0**
CHIR	**Chirikof Islan**	**15.72**	**65**	Pn		**Pn**	**20 56 40.5**	**-4.9**
CHIR				IAmb	IAmb		20 57 15.3	
	comp=Z,17µm,0.8s							
SII	**Sitkinak Islan**	**16.59**	**62**			**Pn**	**20 56 51.4**	**-4.7**
SII				IAmb	IAmb		20 57 33.3	
	comp=Z,15µm,1.0s							
SVW2	**Sparrevohn**	**16.97**	**46**	P		**Pn**	**20 57 00.5**	**-0.3**
SVW2				IAmb	IAmb		20 57 36.5	
	comp=Z,22µm,1.0s							
OHAK	**Old Harbor**	**17.15**	**60**			**Pn**	**20 56 57.9**	**-5.1**
OHAK				IAmb	IAmb		20 57 27.8	
	comp=Z,13µm,1.0s							
BILL	**Bilibino**	**17.46**	**344**	*c i*P		**Pn**	**20 57 06.8**	**+0.2**
BILL				pmax	pmax			
	comp=Z,4µm,1.0s							
BILL				pmax	pmax			
	comp=Z,127µm,3.6s							
BILL	**Bilibino**	**17.46**	**344**			**Pn**	**20 57 06.6**	**+0.1**
MA2	**Magadan**	**17.49**	**308**	P		**P**	**20 57 06.8**	**+0.1**
	comp=Z,15nm,0.3s,baz=98,slow=11,SNR=103							
MA2				S		**Sn**	**21 00 20.2**	**-1.3**
	baz=193,slow=8.0,SNR=1.0							
MA2				LR	LR		21 03 54.8	
	comp=Z,218µm,18.2s,baz=122,slow=37							
MA2				ScP		**ScP**	**21 05 09.2**	**+2.4**
	comp=Z,6.9nm,0.3s,baz=100,slow=4.6,SNR=7.1							
MA2				ScS		**ScS**	**21 08 45.4**	**-1.2**
	comp=Z,0.6nm,0.3s,baz=337,slow=20,SNR=1.3							
MA2	**Magadan**	**17.49**	**308**	*ce*P		**P**	**20 57 06.4**	**-0.3**
MA2				pmax	pmax			
	comp=Z,5µm,1.0s							
MA2				MLR	MLR			
	comp=Z,240µm,16.0s							
MA2	**Magadan**	**17.49**	**308**			**P**	**20 57 06.6**	**-0.1**
TTA	**Tatalina**	**17.57**	**40**	P		**P**	**20 57 07.3**	**-0.3**
TTA				pmax	pmax			
	comp=Z,30µm,1.1s							
TTA	**Tatalina**	**17.57**	**40**			**P**	**20 57 07.3**	**-0.3**
KDAK	**Kodiak Island**	**17.60**	**59**	P		**P**	**20 57 04.6**	**-3.4**
	comp=Z,94nm,0.3s,baz=252,slow=3.5,SNR=213							
KDAK				S		**Sn**	**21 00 20.9**	**-3.3**
	comp=Z,36nm,0.3s,baz=91,slow=22,SNR=0.9							
KDAK				ScP		**ScP**	**21 05 07.3**	**+0.3**
	baz=326,slow=7.3,SNR=4.3							
KDAK				ScS		**ScS**	**21 08 44.9**	**-2.0**
	comp=Z,0.4nm,0.3s,baz=126,slow=21,SNR=1.4							
KDAK				P3KPbc			21 31 56.1	
	comp=Z,0.2nm,0.3s,baz=119,slow=5.8,SNR=7.3							
KDAK	**Kodiak Island**	**17.60**	**59**	*c i*P		**P**	**20 57 03.2**	**-4.7**
KDAK	**Kodiak Island**	**17.60**	**59**	P		**P**	**20 57 03.0**	**-4.9**
RSO	**Redoubt South**	**18.08**	**50**	P		**P**	**20 57 12.0**	**-1.4**
HOM	**Homer**	**18.42**	**53**	P		**P**	**20 57 14.5**	**-2.4**
CNPM	**China Poot**	**18.59**	**53**	P		**P**	**20 57 15.1**	**-3.7**
RDOG	**Red Dog Mine**	**18.69**	**22**	P		**P**	**20 57 20.0**	**+0.2**
BRLK	**Bradley Lake**	**18.81**	**53**	P		**P**	**20 57 17.6**	**-3.6**
CAPN	**Captain Cook N**	**18.92**	**50**	P		**P**	**20 57 22.1**	**-0.2**
	baz=255							
PPLA	**Purkeypile**	**19.14**	**43**			**P**	**20 57 24.8**	**-0.1**
O22K	**Cooper Landing**	**19.54**	**51**	P		**P**	**20 57 26.3**	**-2.8**
	baz=258,SNR=236							
SEW	**Seward**	**19.59**	**52**	P		**P**	**20 57 25.8**	**-3.8**
PMR	**Palmer**	**20.08**	**48**	P		**P**	**20 57 30.9**	**-4.0**
PMR				pmax	pmax			
	comp=Z,11µm,1.0s							
PMR	**Palmer**	**20.08**	**48**	P		**P**	**20 57 30.9**	**-4.0**
PMR				IAmb	IAmb		20 58 05.0	
	comp=Z,11µm,1.0s							
BPAW	**Bear Paw Mtn.**	**20.11**	**40**			**P**	**20 57 34.6**	**-0.6**
TRF	**Thorofare Moun**	**20.14**	**42**			**P**	**20 57 34.8**	**-1.1**
GHO	**Glory Hole Cre**	**20.22**	**48**	P		**P**	**20 57 34.0**	**-2.6**
GHO				IAmb	IAmb		20 58 17.0	
	comp=Z,17µm,1.0s							
KNK	**Knik Glacier**	**20.35**	**49**	P		**P**	**20 57 35.6**	**-2.2**
MLY	**Manley**	**20.60**	**38**	P		**P**	**20 57 40.0**	**-0.5**
RND	**Reindeer**	**20.74**	**43**	P		**P**	**20 57 39.7**	**-2.3**
RND				pmax	pmax			
	comp=Z,57µm,1.5s							
RND	**Reindeer**	**20.74**	**43**	P		**P**	**20 57 39.7**	**-2.3**
MCK	**McKinley**	**20.81**	**42**	P		**P**	**20 57 40.1**	**-2.7**
MCK	**McKinley**	**20.81**	**42**	P		**P**	**20 57 40.1**	**-2.7**
GLI	**Glacier Island**	**20.88**	**51**	P		**P**	**20 57 40.8**	**-2.7**
MID	**Middleton Isla**	**21.05**	**55**	P		**P**	**20 57 42.6**	**-2.7**
MID	**Middleton Isla**	**21.05**	**55**	P		**P**	**20 57 42.6**	**-2.7**
NEA2	**Nenana**	**21.07**	**40**	P		**P**	**20 57 44.7**	**-0.8**
	baz=248,SNR=1000							
HIN	**Hinchinbrook I**	**21.09**	**52**	P		**P**	**20 57 43.3**	**-2.5**
FID	**Port Fidalgo**	**21.16**	**51**	P		**P**	**20 57 43.1**	**-3.4**
DHY	**Denali Highway**	**21.27**	**45**	P		**P**	**20 57 45.8**	**-2.1**
KUR	**Kuril'sk**	**21.30**	**264**	*d i*P		**P**	**20 57 48.9**	**+0.8**
KUR				*i* S		**S**	**21 01 43.2**	**+4.5**
KUR				pmax	pmax			
	comp=N,6µm,1.2s							
KUR				pmax	pmax			
	comp=Z,645µm,5.8s							
KUR				pmax	pmax			
	comp=E,714µm,5.0s							
KUR				pmax	pmax			
	comp=N,308µm,5.5s							
KUR				MLR	MLR			
	comp=Z,107µm,13.0s							
KUR				MLR	MLR			
	comp=E,86µm,11.0s							
KUR				MLR	MLR			
	comp=N,137µm,12.0s							
WRH	**Wood River Hil**	**21.42**	**41**	P		**P**	**20 57 46.5**	**-2.8**
WRH				IAmb	IAmb		20 58 15.5	
	comp=Z,8µm,0.7s							
EYAK	**Cordova Ski Ar**	**21.48**	**52**	P		**P**	**20 57 47.5**	**-2.4**
MDM	**Murphy Dome**	**21.54**	**39**	P		**P**	**20 57 49.2**	**-1.4**
MDM				IAmb	IAmb		20 58 15.0	
	comp=Z,22µm,1.3s							
CCB	**Clear Creek Bu**	**21.60**	**40**	P		**P**	**20 57 48.5**	**-2.6**
CCB				IAmb	IAmb		20 58 26.4	
	comp=Z,14µm,1.1s							
TCOL	**CIGO, UAF Yank**	**21.66**	**40**	P		**P**	**20 57 49.9**	**-1.9**
	baz=248,SNR=467							
I53US	**FAIRBANKS INFR**	**21.66**	**40**	P		**P**	**20 57 51.6**	**-0.1**
	baz=259,slow=7.9,SNR=12							
COLA	**College**	**21.66**	**40**	*c i*P		**P**	**20 57 49.6**	**-2.2**
COLA	**College**	**21.66**	**40**	P		**P**	**20 57 49.7**	**-2.1**
COLD	**Coldfoot**	**21.82**	**33**	P		**P**	**20 57 52.6**	**-0.9**
	baz=240,SNR=1000							
HDA	**Harding Lake**	**21.86**	**41**	P		**P**	**20 57 50.7**	**-3.2**
	baz=251,SNR=1000							
HDA	**Harding Lake**	**21.86**	**41**	P		**P**	**20 57 50.0**	**-4.0**
HDA				IAmb	IAmb		20 58 31.5	
	comp=Z,11µm,1.0s							
POKR	**Poker Plat Res**	**21.91**	**39**	P		**P**	**20 57 52.9**	**-1.6**
	baz=248,SNR=686							
ILAR	**Eielson Array**	**22.01**	**40**	P		**P**	**20 57 53.1**	**-2.4**
	comp=Z,295nm,1.0s,baz=239,slow=8.2,SNR=339							
ILAR				S		**S**	**21 01 50.5**	**-1.2**
	comp=Z,194nm,1.0s,baz=324,slow=25,SNR=1.4							
ILAR				ScP		**ScP**	**21 05 18.2**	**+1.0**
	comp=Z,160nm,0.8s,baz=284,slow=3.2,SNR=7.3							
ILAR				LR	LR		21 07 37.4	
	comp=Z,219µm,20.3s,baz=259,slow=40							
ILAR				ScS		**ScS**	**21 08 57.6**	**-4.0**
	comp=Z,37nm,0.9s,baz=154,slow=2.5,SNR=2.2							
ILAR				P3KPbc			21 31 39.0	
	comp=Z,19nm,0.9s,baz=59,slow=3.9,SNR=26							
PAX	**Paxson**	**22.08**	**45**	P		**P**	**20 57 54.1**	**-2.3**
PAX				pmax	pmax			
	comp=Z,30µm,1.1s							
PAX	**Paxson**	**22.08**	**45**	P		**P**	**20 57 54.1**	**-2.3**
TYV	**Tymovskoe**	**22.39**	**282**	*e*P		**P**	**20 58 01.1**	**+1.5**
TYV				pmax	pmax			
	comp=Z,620nm,1.3s							
GLB	**Gilahina Butte**	**22.55**	**50**	P		**P**	**20 57 58.9**	**-2.3**
RIDG	**Independent Ri**	**22.55**	**44**	P		**P**	**20 57 57.9**	**-3.3**
RIDG				IAmb	IAmb		20 58 31.4	
	comp=Z,15µm,1.0s							
VRDI	**Verde Repeater**	**22.69**	**50**	P		**P**	**20 58 00.7**	**-2.1**
TOLK	**Toolik Lake Re**	**22.76**	**30**	P		**P**	**20 58 02.7**	**-0.6**
	baz=238,SNR=1000							
TOLK	**Toolik Lake Re**	**22.76**	**30**	P		**P**	**20 58 01.9**	**-1.4**
PRP	**Porcupine Dome**	**22.81**	**39**	P		**P**	**20 58 00.3**	**-3.5**
PRP				IAmb	IAmb		20 58 25.2	
	comp=Z,10µm,1.0s							
MENT	**Mentasta**	**22.85**	**46**	P		**P**	**20 58 02.4**	**-1.9**
DOT	**Dot Lake**	**22.86**	**44**	P		**P**	**20 58 01.2**	**-3.1**
WAX	**Waxell Ridge**	**22.89**	**52**	P		**P**	**20 58 02.8**	**-1.9**
MCARA	**McCarthy VSAT**	**22.91**	**50**	P		**P**	**20 58 02.5**	**-2.2**
TGL	**Tana Glacier**	**22.93**	**52**	P		**P**	**20 58 02.9**	**-2.2**
SCRK	**Sand Creek**	**22.98**	**43**	IAmb	IAmb		20 58 31.0	
	comp=Z,10µm,0.8s							
NKL	**Nikolayevsk**	**23.02**	**289**	*e*P		**P**	**20 58 13.0**	**+7.2**
NKL				pmax	pmax			
	comp=Z,4µm,1.9s							
NKL				pmax	pmax			
	comp=E,2µm,1.4s							
YUK	**Yuzh-Kuril'sk**	**23.14**	**264**	*e*P		**P**	**20 58 07.0**	**-0.1**
YUK				*i* *SP		**sP**	**20 58 38.8**	**-0.8**
YUK				*i* S		**S**	**21 02 12.2**	**+1.9**
YUK				*i* *SS		**sS**	**21 02 46.8**	**-0.6**
YUK				pmax	pmax			
	comp=Z,73µm,1.7s							
ISLE	**Juniper Island**	**23.16**	**52**	P		**P**	**20 58 05.1**	**-2.2**
BALM	**Baldy**	**23.20**	**51**	P		**P**	**20 58 05.3**	**-2.3**
FYU	**Fort Yukon**	**23.30**	**37**	P		**P**	**20 58 07.1**	**-1.3**
MESA	**MESA**	**23.32**	**53**	P		**P**	**20 58 07.0**	**-1.9**
YAH	**Yahtse**	**23.43**	**53**	P		**P**	**20 58 07.9**	**-2.1**
BARN	**Barnard Glacie**	**23.53**	**51**	P		**P**	**20 58 09.2**	**-1.6**
MIDW	**Midway**	**23.65**	**171**	P		**P**	**20 58 11.6**	**-0.3**
CTGM	**Chitina Glacie**	**23.68**	**51**	P		**P**	**20 58 10.2**	**-1.8**
YSS	**Yuzh-Sakhalins**	**23.70**	**273**	κ *i*P		**P**	**20 58 13.3**	**+1.1**
YSS				*e**SP		**sP**	**20 58 49.6**	**+4.0**
YSS				*e*S		**S**	**21 02 19.7**	**+0.3**
YSS				*e*SS		**SnSn**	**21 03 14.9**	**+6.2**
YSS				pmax	pmax			
	comp=Z,7µm,1.7s							
YSS				pmax	pmax			
	comp=N,3µm,1.6s							
YSS				pmax	pmax			
	comp=E,4µm,1.5s							
YSS				pmax	pmax			
	comp=Z,134µm,4.0s							
YSS				pmax	pmax			
	comp=N,31µm,3.9s							
YSS				pmax	pmax			
	comp=E,60µm,3.2s							
YSS				smax	smax			
	comp=E,521µm,9.3s							
YSS				MLR	MLR			
	comp=E,242µm,17.0s							
YSS				MLR	MLR			
	comp=Z,384µm,17.0s							
YSS				MLR	MLR			
	comp=N,134µm,11.0s							
YSS	**Yuzh-Sakhalins**	**23.70**	**273**	P		**P**	**20 58 12.7**	**+0.4**
YSS				IAmb	IAmb		20 58 23.3	
	comp=Z,27µm,1.7s							
TABL	**Table Mountain**	**23.74**	**53**	P		**P**	**20 58 10.4**	**-2.3**
PCA	**Pinnacle**	**24.16**	**54**	P		**P**	**20 58 14.3**	**-2.0**
EGAK	**Eagle**	**24.36**	**42**	P		**P**	**20 58 16.4**	**-1.6**
YKU2	**Yakutat**	**24.45**	**55**	P		**P**	**20 58 16.9**	**-1.9**
DAWY	**Dawson**	**24.97**	**44**	P		**P**	**20 58 21.9**	**-1.8**
JKA	**Kamikawa-asahi**	**25.12**	**267**	P		**P**	**20 58 25.3**	**+0.2**
JKA				IAmb	IAmb		20 58 52.8	
	comp=Z,7µm,1.0s							
ASAJ	**Asahikawa**	**25.12**	**267**	P		**P**	**20 58 25.4**	**+0.4**
	comp=Z,2µm,0.9s,baz=57,slow=7.1,SNR=399							
ASAJ				S		**S**	**21 02 46.9**	**+4.7**
	comp=Z,275nm,0.9s,baz=29,slow=17,SNR=1.6							
ASAJ				ScP		**ScP**	**21 05 27.2**	**+1.3**
	comp=Z,138nm,0.9s,baz=73,slow=18,SNR=2.1							
ASAJ				ScS		**ScS**	**21 09 14.4**	**0.0**
	comp=Z,21nm,0.9s,baz=7.3,slow=33,SNR=1.0							
ASAJ				P3KPbc			21 31 21.6	
	comp=Z,5.6nm,0.7s,baz=257,slow=13,SNR=2.5							
ASAJ	**Asahikawa**	**25.12**	**267**	P		**P**	**20 58 25.3**	**+0.2**
ASAJ				pmax	pmax			
	comp=Z,7µm,1.0s							
HYT	**Haines Junctio**	**25.54**	**52**	P		**P**	**20 58 27.1**	**-1.8**
ERM	**Erimo**	**25.89**	**262**	*ce*P		**P**	**20 58 32.9**	**+0.8**
ERM				MLR	MLR			
	comp=Z,423µm,15.0s							
ERM	**Erimo**	**25.89**	**262**	P		**P**	**20 58 32.4**	**+0.3**
ERM				IAmb	IAmb		20 58 52.7	
	comp=Z,10µm,1.2s							
GRNR	**Gornyy**	**26.19**	**285**	⇓ *i*P		**P**	**20 58 35.0**	**+0.3**
GRNR				*e*S		**S**	**21 03 02.8**	**+3.8**
GRNR				smax	smax			
	comp=N,100nm,1.0s							
GRNR				MLR	MLR			
	comp=E,111µm,15.0s							
GRNR				MLR	MLR			
	comp=N,78µm,13.0s							
GRNR				MLR	MLR			
	comp=Z,154µm,13.0s							
EPYK	**Eagle Plains**	**26.51**	**39**	P		**P**	**20 58 35.6**	**-1.8**
	baz=258,SNR=1000							
EPYK	**Eagle Plains**	**26.51**	**39**	P		**P**	**20 58 35.2**	**-2.3**
SKAG	**Skagway**	**26.66**	**55**	P		**P**	**20 58 37.2**	**-1.6**
SKAG				IAmb	IAmb		20 59 36.1	
	comp=Z,7µm,1.0s							
WHY	**Whitehorse**	**26.83**	**52**	P		**P**	**20 58 38.7**	**-1.8**
WHY				IAmb	IAmb		20 59 36.4	
	comp=Z,9µm,1.4s							
SIT	**Sitka**	**26.92**	**60**	P		**P**	**20 58 39.5**	**-1.6**
SIT				pmax	pmax			
	comp=Z,6µm,1.0s							
SIT	**Sitka**	**26.92**	**60**	P		**P**	**20 58 39.5**	**-1.6**
SIT				IAmb	IAmb		20 59 01.0	
	comp=Z,6µm,1.0s							
BESE	**Bessie Mountai**	**26.98**	**57**	P		**P**	**20 58 39.2**	**-2.5**
BESE				IAmb	IAmb		20 59 11.8	
	comp=Z,9µm,1.2s							
JIS	**Juneau Island**	**27.26**	**57**	P		**P**	**20 58 42.8**	**-1.3**
JIS				IAmb	IAmb		20 59 13.2	
	comp=Z,6µm,1.0s							
YAK	**Yakutsk**	**28.00**	**311**	P		**P**	**20 58 49.6**	**-1.1**
	comp=Z,708nm,0.7s,baz=84,slow=2.9,SNR=56							
YAK				S		**S**	**21 03 26.8**	**-0.4**
	comp=Z,203nm,0.8s,baz=251,slow=12,SNR=1.4							
YAK				ScP		**ScP**	**21 05 33.6**	**-0.5**
	comp=Z,294nm,0.8s,baz=158,slow=4.4,SNR=4.2							
YAK				P3KPbc			21 31 12.5	
	comp=Z,9.7nm,0.5s,baz=262,slow=0.6,SNR=6.2							
YAK	**Yakutsk**	**28.00**	**311**	*e*P		**P**	**20 58 50.3**	**-0.4**
YAK				*e**PP		**pP**	**20 59 11.5**	**-1.8**
YAK				*e*S		**S**	**21 03 28.3**	**+1.1**
YAK				*e*SS		**SnSn**	**21 04 59.7**	**+6.9**
YAK				*e*			21 09 21.6	
YAK				pmax	pmax			
	comp=Z,5µm,1.6s							
YAK				pmax	pmax			
	comp=E,3µm,1.7s							
YAK				pmax	pmax			
	comp=N,963nm,1.6s							
YAK				smax	smax			
	comp=E,66µm,5.1s							
YAK				smax	smax			
	comp=N,34µm,2.8s							
YAK	**Yakutsk**	**28.00**	**311**	P		**P**	**20 58 49.3**	**-1.4**
YAK				IAmb	IAmb		20 59 49.8	
	comp=Z,5µm,0.9s							
INK	**Inuvik**	**28.12**	**36**	P		**P**	**20 58 50.7**	**-1.0**
	comp=Z,459nm,0.5s,baz=249,slow=9.4,SNR=532							
INK				S		**S**	**21 03 29.9**	**+1.0**
	comp=Z,248nm,1.0s,baz=246,slow=22,SNR=0.9							
INK				ScP		**ScP**	**21 05 34.5**	**+0.1**
	comp=Z,315nm,0.9s,baz=182,slow=6.1,SNR=2.4							
INK				ScS		**ScS**	**21 09 23.1**	**-3.6**
	comp=Z,74nm,1.0s,baz=352,slow=31,SNR=1.8							
INK				P3KPbc			21 31 11.5	
	comp=Z,24nm,0.9s,baz=65,slow=7.1,SNR=13							
INK	**Inuvik**	**28.12**	**36**	P		**P**	**20 58 50.4**	**-1.3**
INK				pmax	pmax			
	comp=Z,21µm,1.8s							
INK	**Inuvik**	**28.12**	**36**	P		**P**	**20 58 50.4**	**-1.3**
TEY	**Ternei**	**28.39**	**273**	⇓ *e*P		**P**	**20 58 54.2**	**-0.2**
TEY				*e*			20 59 31.3	
TEY				*e*S		**S**	**21 03 31.3**	**-2.4**
TEY				pmax	pmax			
	comp=E,250nm,1.1s							
TEY				pmax	pmax			
	comp=Z,420nm,1.1s							
TEY				pmax	pmax			
	comp=N,110nm,1.1s							
TEY				smax	smax			
	comp=E,133µm,8.6s							
TEY				smax	smax			
	comp=N,300µm,16.5s							
CRAG	**Craig**	**28.42**	**63**	P		**P**	**20 58 52.9**	**-1.5**
WRAK	**Wrangell Islan**	**28.64**	**61**	P		**P**	**20 58 55.3**	**-1.2**
H02N1	**V

USRK Ussuriysk Ar. 31.67 275 P **P** **20 59 22.9 -0.4**
comp=N,281nm,0.9s,baz=57,slow=8.2,SNR=237
USRK PcP **PcP** **21 02 12.7 0.0**
comp=N,57nm,0.6s,baz=90,slow=2.9,SNR=1.2
USRK ScP **ScP** **21 05 49.2 +2.9**
comp=N,72nm,1.0s,baz=93,slow=2.9,SNR=2.8
USRK P3KPbc 21 30 54.8
comp=N,4.9nm,0.9s,baz=241,slow=3.5,SNR=4.1
BBB Bella Bella 32.21 68 P **P** **20 59 26.8 -1.1**
comp=N,134nm,0.6s,baz=292,slow=8.5,SNR=44
BBB S **S** **21 04 35.1 +1.9**
comp=N,62nm,0.8s,baz=32,slow=9.9,SNR=1.1
BBB ScS **ScS** **21 09 45.7 -1.2**
comp=N,53nm,1.2s,baz=213,slow=23,SNR=1.9
BBB Bella Bella 32.21 68 P **P** **20 59 25.9 -2.1**
BBB IAmb IAmb 20 59 58.5
comp=Z,4µm,1.2s
MJAR Matsushiro Arr 32.27 258 P **P** **20 59 29.0 +0.3**
comp=Z,206nm,0.6s,baz=54,slow=8.7,SNR=604
MJAR S **S** **21 04 35.8 +1.2**
comp=Z,25nm,0.9s,baz=70,slow=0.7,SNR=0.9
MJAR ScP **ScP** **21 05 51.8 +3.2**
comp=Z,71nm,1.1s,baz=49,slow=0.7,SNR=2.9
MJAR ScS **ScS** **21 09 45.2 -2.6**
comp=Z,6.1nm,0.6s,baz=342,slow=28,SNR=0.7
MJAR LR LR 21 10 50.9
comp=Z,307µm,21.2s,baz=65,slow=33
MJAR P3KPbc 21 30 53.6
comp=Z,9.9nm,0.8s,baz=236,slow=5.6,SNR=6.8
MAJO Matsushiro 32.27 258*d iP* **P** **20 59 28.6 -0.1**
MAJO pmax pmax
comp=Z,5µm,1.1s
MAJO Matsushiro 32.27 258 P **P** **20 59 29.0 +0.3**
MAJO IAmb IAmb 20 59 50.1
comp=Z,4µm,1.1s
MAT Matsushiro 32.27 258 P **P** **20 59 29.2 +0.5**
MAT S **S** **21 04 39.2 +4.6**
VLA Vladivostok 32.30 273*d iP* **P** **20 59 29.3 +0.5**
VLA pmax pmax
comp=Z,3µm,1.1s
MDJ Mudanjiang 32.95 277 P **P** **20 59 33.8 -0.7**
MDJ pP pP 20 59 57.3 +0.1
MDJ sP sP 21 00 10.5 +1.5
MDJ S **S** **21 04 43.6 -1.2**
MDJ sS sS 21 05 26.8 +2.4
MDJ PcS **PcS** **21 06 02.3 +0.8**
MDJ pmax pmax
comp=Z,210nm,1.1s
MDJ pmax pmax
comp=Z,10µm,6.5s
MDJ LR LR
comp=Z,540µm,22.3s
MDJ LR LR
comp=Z,483µm,22.7s
MDJ LR LR
comp=Z,1784µm,47.9s
MDJ Mudanjiang 32.95 277 P **P** **20 59 33.0 -1.5**
MSHR Mys Shultsa 33.04 273*ce*P **P** **20 59 35.9 +0.6**
MSHR pmax pmax
comp=Z,4µm,1.7s
MSHR MLR MLR
comp=Z,80µm,14.0s
H11N2 WAKE ISLAND Hy 33.21 200 P **P** **20 59 37.4 +0.7**
baz=308,slow=4.1,SNR=610
H11N2 T T 21 35 19.0
baz=11,slow=76,SNR=67
H11N3 WAKE ISLAND Hy 33.22 200 P **P** **20 59 37.6 +0.8**
baz=308,slow=4.1,SNR=739
H11N3 T T 21 35 20.4
baz=11,slow=76,SNR=46
H11N1 WAKE ISLAND Hy 33.23 200 P **P** **20 59 37.5 +0.6**
baz=308,slow=4.1,SNR=748
H11N1 T T 21 35 17.3
baz=11,slow=76,SNR=43
JHJ2 Mitsune 33.65 252 P **P** **20 59 40.9 +0.3**
WAKE Wake Island 33.70 201 P **P** **20 59 41.2 0.0**
INU Inuyama 33.79 258 P **P** **20 59 41.4 -0.4**
KEKH Kekaha 34.09 142 P **P** **20 59 44.3 -0.2**
CHJN Chongjin 34.31 273 P **P** **20 59 45.6 -0.7**
H11S1 WAKE ISLAND Hy 34.44 200 P **P** **20 59 49.0 +1.6**
baz=324,slow=76,SNR=4175
H11S1 T T 21 36 59.2
baz=10,slow=76,SNR=74
H11S2 WAKE ISLAND Hy 34.46 200 P **P** **20 59 48.0 +0.5**
baz=324,slow=76,SNR=4185
H11S2 T T 21 37 00.8
baz=10,slow=76,SNR=50
H11S3 WAKE ISLAND Hy 34.46 200 P **P** **20 59 49.2 +1.6**
baz=324,slow=76,SNR=2331
H11S3 T T 21 36 53.5
baz=10,slow=76,SNR=71
J45C J45C 34.71 77 P P 21 00 21.4 +32
J45C PP PP 21 01 35.6 +26
J45C S S 21 05 46.6 +35
J45C SS SS 21 08 18.8 +33
OPA Opana 35.02 140 P **P** **20 59 53.9 +1.3**
OPA pmax pmax
comp=Z,6µm,1.1s
OPA Opana 35.02 140 P **P** **20 59 53.9 +1.3**
OPA IAmb IAmb 21 00 25.2
comp=Z,6µm,1.1s
KIP Kipapa 35.25 140*d iP* **P** **20 59 56.1 +1.5**
KIP pmax pmax
comp=Z,5µm,0.9s
KIP MLR MLR
comp=Z,238µm,17.0s
KIP Kipapa 35.25 140 P **P** **20 59 55.4 +0.9**
KIP IAmb IAmb 21 00 05.0
comp=Z,4µm,0.8s
J29C J29C 35.31 79 P P 21 00 24.1 +30
J29C PP PP 21 01 42.0 +26
J29C S S 21 05 57.5 +37
J29C SS SS 21 08 36.9 +39
HON Honolulu 35.35 140 P **P** **20 59 56.8 +1.4**
HON pmax pmax
comp=Z,7µm,0.9s
HON Honolulu 35.35 140 P **P** **20 59 56.8 +1.4**
CN2 Changchun 35.92 279*eP* **P** **20 59 58.9 -1.2**
CN2 *e*PP **PP** **21 01 22.8 -0.7**
CN2 *e*S **S** **21 05 28.4 -2.2**
CN2 *e*SS **SnSn** **21 07 54.8 -10**
CN2 pmax pmax
comp=Z,330nm,1.0s
CN2 pmax pmax
comp=Z,22µm,5.0s
CN2 LR LR
comp=Z,821µm,24.0s
CN2 LR LR
comp=Z,380µm,20.0s
CN2 LR LR
comp=Z,1128µm,24.0s
JOHN Johnston Islan 36.14 161 P **P** **21 00 02.5 +0.4**
YKA Yellowknife Ar 36.16 46 P **P** **21 00 00.7 -1.3**
comp=Z,933nm,0.9s,baz=283,slow=8.7,SNR=1153
YKA S **S** **21 05 35.8 +1.9**
comp=Z,32nm,0.6s,baz=313,slow=29,SNR=2.2
YKA ScP **ScP** **21 06 02.5 +0.6**
comp=Z,147nm,0.9s,baz=288,slow=3.2,SNR=4.1
YKA P3KPbc 21 30 37.4
comp=Z,6.6nm,0.7s,baz=100,slow=4.9,SNR=18
YKA P3KP 21 32 05.4
comp=Z,4.8nm,0.8s,baz=151,slow=1.7,SNR=4.4
KHLH Kahului Airpor 36.37 138 P **P** **21 00 04.9 +0.8**
KHLH IAmb IAmb 21 00 14.5
comp=Z,2µm,0.8s
PGC Sidney 36.38 71 P **P** **21 00 02.6 -1.3**
PGC IAmb IAmb 21 00 32.6
comp=Z,4µm,1.4s
LLLB Lillooet 36.42 68 P **P** **21 00 02.9 -1.5**
LLLB IAmb IAmb 21 00 27.3
comp=Z,6µm,1.2s
BOD Bodaibo 36.50 306 *i* P **P** **21 00 04.1 -0.7**
BOD *e* 21 05 41.2
BOD pmax pmax
comp=Z,4µm,2.1s
HLK Haleakala 36.57 138 P **P** **21 00 07.0 +0.9**
HLK IAmb IAmb 21 00 38.9
comp=Z,4µm,1.0s
HIA Hailar 36.68 290*d iP* **P** **21 00 05.9 -0.7**
HIA pmax pmax
comp=Z,1µm,1.0s
HIA Hailar 36.68 290 P **P** **21 00 05.7 -0.9**
NLWA Neilton Lookou 36.72 73 P **P** **21 00 06.0 -0.9**
NLWA IAmb IAmb 21 00 25.8
comp=Z,3µm,1.1s
KGE Kanggye 36.77 274 P **P** **21 00 08.4 +1.0**

A04D Lummi Island 36.78 71 P **P** **21 00 06.4 -0.9**
baz=298,SNR=80
A04D S **S** **21 05 46.6 +3.0**
baz=298
JCJ Chichijima 36.79 242 P **P** **21 00 07.2 -0.5**
HHU Hamhung 36.79 272 P **P** **21 00 08.4 +0.9**
D03D Eldon 37.11 73 P **P** **21 00 09.8 -0.4**
baz=299,SNR=535
D03D S **S** **21 05 53.3 +4.7**
baz=299
WOSN Wonsan 37.31 271 P **P** **21 00 12.7 +0.8**
E03A Lebam 37.31 74 P **P** **21 00 11.1 -0.8**
E03A IAmb IAmb 21 00 43.3
comp=Z,6µm,1.0s
B05A Bryant 37.35 71 P **P** **21 00 11.2 -1.0**
baz=298,SNR=178
B05A S **S** **21 05 55.3 +3.1**
baz=298
HPAH Hawaii Prepara 37.44 138 P **P** **21 00 13.6 +0.2**
D04E Lakebay 37.47 73 P **P** **21 00 13.2 0.0**
baz=299,SNR=30
B06A Marblemount 37.59 71 P **P** **21 00 12.2 -2.0**
B06A IAmb IAmb 21 00 43.5
comp=Z,9µm,1.7s
F03A Seaside 37.62 75 P **P** **21 00 13.9 -0.7**
F03A IAmb IAmb 21 00 47.5
comp=Z,4µm,0.9s
KKH Kailua Kona 37.65 139 P **P** **21 00 15.7 +0.8**
KKH Kailua Kona 37.65 139 P **P** **21 00 15.7 +0.8**
HUH Hualalai 37.70 138 P **P** **21 00 16.4 +0.7**
HUH IAmb IAmb 21 01 26.3
comp=Z,7µm,1.2s
KHLU Kahalu`u 37.76 139 P **P** **21 00 16.4 +0.4**
KHLU IAmb IAmb 21 01 19.1
comp=Z,5µm,1.3s
POHA Pohakuloa 37.76 138 P **P** **21 00 16.2 +0.1**
POHA IAmb IAmb 21 00 52.3
comp=Z,4µm,0.8s
F04D Rainier, OR 37.88 75 P **P** **21 00 16.1 -0.5**
baz=301,SNR=100
F04D S **S** **21 06 01.6 +1.3**
baz=301
E04D Cinebar 37.90 74 P **P** **21 00 16.6 -0.3**
baz=300,SNR=499
E04D S **S** **21 06 06.3 +5.7**
baz=300
HMH Humu'ula Sheep 37.91 138 P **P** **21 00 18.1 +0.5**
HMH IAmb IAmb 21 01 21.2
comp=Z,5µm,1.2s
D05A Enumclaw 37.94 73 P **P** **21 00 16.6 -0.5**
D05A IAmb IAmb 21 00 36.0
comp=Z,4µm,1.0s
MLOA Mauna Loa Obse 37.94 138 P **P** **21 00 18.7 +0.8**
MWH Moku'aweowe 37.97 138 P **P** **21 00 19.0 +0.7**
MWH IAmb IAmb 21 01 23.3
comp=Z,4µm,1.1s
KSRS Korea Array 38.04 268 P **P** **21 00 19.4 +1.3**
comp=Z,406nm,0.9s,baz=60,slow=8.2,SNR=891
KSRS ScP **ScP** **21 06 11.0 +1.6**
comp=Z,36nm,1.1s,baz=66,slow=4.0,SNR=1.8
KSRS P3KPbc 21 30 29.3
comp=Z,1.2nm,0.7s,baz=188,slow=3.7,SNR=4.1
MLH Mauna Loa 38.05 138 P **P** **21 00 19.6 +1.0**
MLH IAmb IAmb 21 00 36.4
comp=Z,5µm,1.1s
AIN Ainahou 38.13 138 P **P** **21 00 19.9 +0.7**
AIN IAmb IAmb 21 01 22.8
comp=Z,8µm,1.4s
SNY Shenyang 38.15 277 ⇓P **P** **21 00 19.3 +0.3**
SNY pP **pP** **21 00 41.5 -0.7**
SNY S **S** **21 06 06.1 +1.7**
SNY pmax pmax
comp=Z,350nm,1.1s
SNY pmax pmax
comp=Z,36µm,5.3s
SNY LR LR
comp=Z,473µm,20.1s
SNY LR LR
comp=Z,299µm,19.6s
UWE Uwekahuna 38.16 138 P **P** **21 00 20.1 +0.7**
UWE IAmb IAmb 21 01 20.0
comp=Z,7µm,1.2s
UWB Uwekahuna B 38.16 138 P **P** **21 00 19.7 +0.3**
UWB IAmb IAmb 21 00 51.4
comp=Z,4µm,1.2s
SBLHI Steaming Bluff 38.16 138 P **P** **21 00 20.0 +0.6**
SBLHI IAmb IAmb 21 00 52.1
comp=Z,3µm,1.0s
OBL Observatory Le 38.16 138 P **P** **21 00 19.5 0.0**
OBL IAmb IAmb 21 00 51.5
comp=Z,6µm,1.3s
WRMHI West Rim 38.17 138 P **P** **21 00 19.8 +0.3**
WRMHI IAmb IAmb 21 01 21.5
comp=Z,4µm,1.3s
HATHI Halema'uma'u T 38.17 138 P **P** **21 00 19.4 -0.1**
HATHI IAmb IAmb 21 00 38.2
comp=Z,3µm,1.0s
G03D McMinnville, O 38.17 76 P **P** **21 00 18.7 -0.4**
baz=302,SNR=47
G03D S **S** **21 06 12.1 +7.4**
baz=302
NPH North Pit 38.17 138 P **P** **21 00 20.5 +1.0**
NPH IAmb IAmb 21 01 31.4
comp=Z,11µm,1.9s
BYL Byron's Ledge 38.18 138 P **P** **21 00 18.8 -0.8**
KHU Kahuku 38.18 138 P **P** **21 00 19.6 -0.1**
KHU pmax pmax
comp=Z,4µm,1.1s
KHU Kahuku 38.18 138 P **P** **21 00 19.6 -0.1**
KHU IAmb IAmb 21 01 31.2
comp=Z,4µm,1.1s
SDHHI Sand Hill 38.18 138 P **P** **21 00 19.8 +0.2**
SDHHI IAmb IAmb 21 01 21.6
comp=Z,9µm,1.5s
RIM Rim 38.19 138 P **P** **21 00 20.0 +0.3**
RIM IAmb IAmb 21 00 51.8
comp=Z,4µm,1.0s
KKO Keanakako`i 38.19 138 P **P** **21 00 20.5 +0.9**
KKO IAmb IAmb 21 00 51.8
comp=Z,4µm,1.0s
C06D Leavenworth 38.22 71 P **P** **21 00 18.4 -1.2**
baz=299
C06D S **S** **21 06 09.3 +3.8**
baz=299
PUH Pauahi 38.23 138 P **P** **21 00 20.3 +0.3**
PUH IAmb IAmb 21 00 52.6
comp=Z,5µm,1.2s
LON Longmire 38.26 73 P **P** **21 00 18.4 -1.6**
LON pmax pmax
comp=Z,1µm,0.8s
LON Longmire 38.26 73 P **P** **21 00 18.4 -1.6**
NPOC North of Pu'u 38.26 138 P **P** **21 00 19.5 -0.7**
NPOC IAmb IAmb 21 00 54.7
comp=Z,3µm,1.0s
STCH Steam Cracks 38.26 138 P **P** **21 00 20.3 +0.1**
STCH IAmb IAmb 21 01 13.6
comp=Z,3µm,1.0s
HLP Hilina Pali 38.26 138 P **P** **21 00 20.6 +0.4**
HLP IAmb IAmb 21 01 01.1
comp=Z,5µm,1.1s
JCUZ Jacuzzi 38.27 138 P **P** **21 00 19.6 -0.7**
F04A Amboy 38.31 75 P **P** **21 00 19.1 -1.2**
F04A IAmb IAmb 21 00 49.8
comp=Z,3µm,0.7s
I02D Swisshome 38.40 78 P **P** **21 00 21.2 +0.2**
baz=302,SNR=90
I02D S **S** **21 06 15.3 +7.1**
baz=302
PYAG Pyongyang 38.41 272 P **P** **21 00 23.0 +1.8**
PYAG sP **sP** **21 01 01.0 +5.1**
PYAG PP **PnPn** **21 02 00.0 +6.2**
PYAG S **S** **21 06 12.0 +3.5**
COR Corvallis 38.47 77 P **P** **21 00 21.5 -0.2**
COR Corvallis 38.47 77 P **P** **21 00 21.4 -0.2**
SUJ Sinuiju 38.57 274 P **P** **21 00 23.3 +0.8**
LTY Liberty 38.68 72 P **P** **21 00 21.8 -1.7**
INCN Inchon 38.83 269 P **P** **21 00 26.2 +1.5**
INCN P **P** **21 00 26.2 +1.5**
INCN Inchon 38.83 269 P **P** **21 00 25.5 +0.7**
INCN pmax pmax
comp=Z,4µm,1.0s
INCN Inchon 38.83 269 P **P** **21 00 25.5 +0.7**
INCN IAmb IAmb 21 00 53.8
comp=Z,4µm,0.9s
H04D Lebanon 38.85 77 P **P** **21 00 24.7 -0.1**
baz=302,SNR=101
J01E Myrtle Point 38.86 79 P **P** **21 00 25.2 +0.3**
baz=304,SNR=171
J01E S **S** **21 06 21.5 +6.4**
baz=304
F05D White Salmon 38.91 74 P **P** **21 00 24.4 -0.9**
baz=301,SNR=48
F05D S **S** **21 06 22.2 +6.3**
baz=301
I03D Drain, OR 38.92 78 P **P** **21 00 25.5 +0.1**
baz=303,SNR=407
I03D S **S** **21 06 22.8 +6.8**
baz=303
B08A Colville Reser 38.93 70 P **P** **21 00 23.5 -2.0**
B08A IAmb IAmb 21 00 56.1
comp=Z,2µm,0.8s
CIT Chita 38.98 297 *eP* **P** **21 00 26.1 +0.2**
CIT *e* 21 00 52.5
CIT *e* 21 02 33.3
CIT *eS* **S** **21 06 21.7 +4.9**
JNU Nakatsue 39.04 261 P **P** **21 00 27.3 +0.7**
JNU IAmb IAmb 21 00 48.3
comp=Z,5µm,1.1s
HJU Haeju 39.05 271 P **P** **21 00 27.9 +1.4**
TJN Taejon 39.07 267*ce*P **P** **21 00 27.4 +0.7**
H04A Detroit Lake 39.10 76 P **P** **21 00 26.0 -1.0**
H04A IAmb IAmb 21 00 58.1
comp=Z,4µm,0.8s
K02D Willamette Mer 39.28 80 P **P** **21 00 28.6 +0.1**
baz=304,SNR=436
K02D S **S** **21 06 29.7 +8.1**
baz=304
G05D Wamic, OR 39.33 75 P **P** **21 00 28.4 -0.5**
baz=302,SNR=180
G05D S **S** **21 06 26.5 +4.3**
baz=302
I04A Tendick Farm, 39.44 78 P **P** **21 00 29.4 -0.5**
baz=303,SNR=463
I04A S **S** **21 06 28.6 +4.7**
baz=303
E07A Sunnyside 39.52 72 P **P** **21 00 29.0 -1.4**
E07A IAmb IAmb 21 00 59.9
comp=Z,5µm,1.5s
G06A Carlson Farm, 39.74 75 P **P** **21 00 30.6 -1.7**
KRMB Red Mountain 39.79 81 P **P** **21 00 32.4 -0.5**
KRMB IAmb IAmb 21 00 43.0
comp=Z,5µm,1.2s
HAWA Hanford 39.79 72 P **P** **21 00 31.0 -1.6**
HAWA IAmb IAmb 21 00 50.6
comp=Z,4µm,0.8s
I05D Terrebonne, OR 39.79 76 P **P** **21 00 32.1 -0.6**
baz=303,SNR=154
I05D S **S** **21 06 32.3 +3.1**
baz=303
D08A Wollman Farm, 39.81 71 P **P** **21 00 30.6 -2.2**
D08A IAmb IAmb 21 00 59.7
comp=Z,6µm,1.5s
F07A Phinny Hill Vi 39.82 73 P **P** **21 00 31.8 -1.0**
F07A IAmb IAmb 21 01 03.7
comp=Z,3µm,0.8s
C09A Chrisman Ranch 39.82 70 P **P** **21 00 30.7 -2.2**
C09A IAmb IAmb 21 00 50.2
comp=Z,2µm,0.8s
J04D Umpqua Nationa 39.93 78 P **P** **21 00 34.1 0.0**
baz=304,SNR=242
E08A Dider Farm, El 40.02 72 P **P** **21 00 33.0 -1.6**
E08A IAmb IAmb 21 01 03.0
comp=Z,2µm,0.8s
RES Resolute Bay 40.11 24 P **P** **21 00 34.2 -0.7**
comp=Z,1µm,1.0s,baz=277,slow=8.9,SNR=162
RES ScP **ScP** **21 06 16.4 -0.3**
comp=Z,196nm,0.9s,baz=252,slow=6.4,SNR=2.1
RES Resolute Bay 40.11 24 P **P** **21 00 33.7 -1.2**
RES pmax pmax
comp=Z,8µm,1.3s
RES Resolute Bay 40.11 24 P **P** **21 00 33.7 -1.2**
RES IAmb IAmb 21 00 43.0
comp=Z,8µm,1.2s
JCC Jacoby Creek, 40.12 82 P **P** **21 00 35.8 +0.4**
I56US NEWPORT INFRAS 40.26 69 P **P** **21 00 40.8 +4.3**
baz=289,slow=10,SNR=1.8
NEW Newport 40.26 69 P **P** **21 00 34.6 -1.9**
baz=300,SNR=376
NEW Newport 40.26 69 P **P** **21 00 34.7 -1.9**
comp=Z,519nm,0.7s,baz=298,slow=7.4,SNR=332
NEW ScP **ScP** **21 06 19.4 +1.6**
comp=Z,240nm,1.0s,baz=339,slow=3.1,SNR=4.4
NEW ScS **ScS** **21 10 32.0 +0.2**
comp=Z,40nm,1.0s,baz=318,slow=21,SNR=1.8
NEW LR LR 21 15 07.7
comp=Z,199µm,19.4s,baz=295,slow=33
NEW Newport 40.26 69 P **P** **21 00 34.4 -2.1**
NEW 21 10 32.0
NEW pmax pmax
comp=Z,3µm,0.7s
NEW Newport 40.26 69 P **P** **21 00 34.4 -2.1**
NEW IAmb IAmb 21 01 06.8
comp=Z,3µm,0.7s
KHMM Horse Mountain 40.27 82 P **P** **21 00 37.5 +0.6**
PINE Pine Mountain 40.33 77 P **P** **21 00 36.9 -0.5**
PINE IAmb IAmb 21 01 04.8
comp=Z,4µm,1.2s
L04D Klamath Falls 40.38 80 P **P** **21 00 37.9 +0.1**
baz=305,SNR=816
L04D S **S** **21 06 44.7 +6.5**
baz=305
YBH Yreka Blue Hor 40.41 80 P **P** **21 00 38.3 +0.3**
comp=Z,2µm,0.9s,baz=322,slow=5.0,SNR=1066
YBH ScP **ScP** **21 06 20.2 +1.6**
comp=Z,154nm,1.0s,baz=330,slow=2.9,SNR=4.6
YBH ScS **ScS** **21 10 34.4 +1.4**
comp=Z,16nm,1.0s,baz=13,slow=22,SNR=1.3
YBH LR LR 21 15 53.0
comp=Z,113µm,19.3s,baz=310,slow=34
YBH P3KP 21 31 55.0
comp=Z,4.1nm,1.0s,baz=121,slow=18,SNR=3.2
YBH Yreka Blue Hor 40.41 80 P **P** **21 00 38.2 +0.3**
YBH IAmb IAmb 21 01 10.0
comp=Z,5µm,0.9s
J05D Fort Rock, OR 40.43 77 P **P** **21 00 38.2 +0.1**
baz=304,SNR=1000
J05D S S 21 06 48.2 +9.2
baz=304
K04D Chiloquin, OR 40.49 79 P **P** **21 00 38.7 +0.1**
baz=304,SNR=108
K04D S S 21 06 50.3 +11
baz=304
M02C Callahan 40.52 81 P **P** **21 00 39.5 +0.8**
baz=306,SNR=994
M02C S S 21 06 49.4 +9.3
baz=306
E09A Wood Farm, Sta 40.55 71 P **P** **21 00 37.2 -1.7**
E09A IAmb IAmb 21 00 57.0
comp=Z,5µm,1.2s
KMRM Mail Ridge 40.67 83 P **P** **21 00 40.8 +0.7**
N02D Trinity Center 40.85 81 P **P** **21 00 42.2 +0.6**
baz=306,SNR=874
N02D S **S** **21 06 52.9 +7.9**
baz=306
M04C Macdoel 40.91 80 P **P** **21 00 42.5 +0.4**
baz=305,SNR=1000
M04C S **S** **21 06 53.8 +7.7**
baz=305
K05A Summer Lake 40.95 78 P **P** **21 00 42.4 -0.1**
K05A IAmb IAmb 21 01 07.1
comp=Z,7µm,1.2s
I07A Izee 41.04 75 P **P** **21 00 42.0 -1.1**
I07A IAmb IAmb 21 01 01.4
comp=Z,3µm,0.9s
DL2 Dalian 41.07 275 P **P** **21 00 43.1 -0.1**
DL2 pP **pP** **21 01 09.3 +2.6**
DL2 sP **sP** **21 01 23.0 +4.8**
DL2 S **S** **21 06 50.8 +2.7**
DL2 pmax pmax
comp=Z,1µm,1.3s
DL2 pmax pmax
comp=Z,26µm,3.9s
KCPM Cahto Peak 41.07 84 P **P** **21 00 43.6 +0.2**
KCPM IAmb IAmb 21 01 14.8
comp=Z,7µm,1.0s
WDC Whiskeytown Da 41.18 82 P **P** **21 00 43.9 -0.2**
WDC pmax pmax
comp=Z,7µm,1.2s
WDC Whiskeytown Da 41.18 82 P **P** **21 00 43.9 -0.2**
WDC IAmb IAmb 21 00 54.5
comp=Z,7µm,1.2s

O02D Mt. Diablo Mer 41.27 82 P **P** **21 00 45.6 +0.7**
baz=307,SNR=833
O02D S S 21 07 01.1 +10
baz=307
F10A Beach Ranch, E 41.38 72 P **P** **21 00 43.8 -2.1**
WALA Waterton Lakes 41.70 66 P **P** **21 00 46.4 -2.0**
WALA IAmb IAmb 21 01 10.6
comp=Z,7μm,0.9s
MOD Modoc Plateau 41.78 79 P **P** **21 00 48.7 -0.5**
MOD IAmb IAmb 21 01 19.1
comp=Z,4μm,0.8s
HOPS Hopland Field 41.80 84 P **P** **21 00 49.1 -0.2**
O03E Paynes Creek 41.80 82 P **P** **21 00 49.0 -0.3**
baz=307,SNR=1000
O03E S **S** **21 07 05.4 +6.3**
baz=307
BMO Blue Mountains 41.94 73 P **P** **21 00 48.8 -1.6**
BMO pmax pmax
comp=Z,2μm,0.9s
BMO Blue Mountains 41.94 73 P **P** **21 00 48.8 -1.6**
J08A Circle Bar Ran 42.06 76 P **P** **21 00 50.2 -1.2**
GDXM Geysers 42.08 84 P **P** **21 00 51.9 +0.3**
JTMT Jette 42.16 68 P **P** **21 00 50.2 -2.0**
ORV Oroville 42.43 82 P **P** **21 00 53.3 -1.0**
ORV pmax pmax
comp=Z,4μm,1.0s
ORV Oroville 42.43 82 P **P** **21 00 53.3 -1.0**
ORV IAmb IAmb 21 01 24.3
comp=Z,4μm,1.0s
MCCM Marconi Confer 42.44 85 P **P** **21 00 53.8 -0.6**
MCCM IAmb IAmb 21 01 24.9
comp=Z,7μm,1.1s
WVOR Wild Horse Val 42.49 77 P **P** **21 00 53.8 -1.1**
WVOR pmax pmax
comp=Z,2μm,0.8s
WVOR Wild Horse Val 42.49 77 P **P** **21 00 53.8 -1.1**
WVOR IAmb IAmb 21 01 13.3
comp=Z,2μm,0.8s
MSO Missoula 42.85 69 P **P** **21 00 55.5 -2.2**
baz=302,SNR=417
MSO Missoula 42.85 69 P **P** **21 00 55.5 -2.2**
MSO IAmb IAmb 21 01 15.4
comp=Z,11μm,1.6s
AFDM Forest Hills D 43.12 83 P **P** **21 00 59.4 -0.6**
AFDM IAmb IAmb 21 01 23.0
comp=Z,5μm,1.3s
RUBR Rubicon Trail 43.57 82 P **P** **21 01 03.8 0.0**
MFID Camas Ranch 43.62 74 P **P** **21 01 02.2 -1.8**
PAHR Pah Rah Range 43.64 81 P **P** **21 01 03.6 -0.7**
KWAJ Kwajalein Atol 43.72 196 P **P** **21 01 06.2 +1.3**
KWAJ pmax pmax
comp=Z,13μm,1.5s
KWAJ Kwajalein Atol 43.72 196 P **P** **21 01 06.2 +1.3**
VCNR Virginia City 43.73 81 P **P** **21 01 04.8 -0.2**
BJI Beijing 43.74 280 P **P** **21 01 05.5 +0.6**
BJI pP **pP** **21 01 33.0 +4.5**
BJI sP **sP** **21 01 45.1 +5.1**
BJI S **S** **21 07 31.8 +4.4**
BJI sS **sS** **21 08 12.5 +4.3**
BJI pmax pmax
comp=Z,480nm,1.0s
BJI pmax pmax
comp=Z,39μm,3.7s
BJT Baijiatuao 43.76 280 P **P** **21 01 05.5 +0.4**
BJT pmax pmax
comp=Z,4μm,1.5s
BJT Baijiatuao 43.76 280 P **P** **21 01 05.5 +0.4**
PNTR Pine Nut 43.88 81 P **P** **21 01 06.1 -0.2**
IRK Irkutsk 43.91 301 ⇓*iP* **P** **21 01 05.2 -0.9**
IRK *e* 21 10 54.0
IRK pmax pmax
comp=Z,5μm,2.4s
CMB Columbia Colle 44.05 83 P **P** **21 01 06.9 -0.5**
CMB pmax pmax
comp=Z,7μm,1.2s
CMB Columbia Colle 44.05 83 P **P** **21 01 06.9 -0.5**
CMB IAmb IAmb 21 01 17.6
comp=Z,7μm,1.2s
HRY Holter Researc 44.13 68 P **P** **21 01 05.8 -2.3**
YERR Yerington 44.17 81 P **P** **21 01 08.0 -0.6**
YERR IAmb IAmb 21 01 32.4
comp=Z,6μm,1.0s
SAO San Andreas Ge 44.19 85 P **P** **21 01 07.8 -0.7**
SAO pmax pmax
comp=Z,5μm,1.1s
SAO San Andreas Ge 44.19 85 P **P** **21 01 07.8 -0.7**
SAO IAmb IAmb 21 01 37.2
comp=Z,5μm,1.1s
LRM Limekiln Ridge 44.26 69 P **P** **21 01 06.9 -2.4**
WAKR Walker 44.34 82 P **P** **21 01 10.0 0.0**
WAKR IAmb IAmb 21 01 38.9
comp=Z,8μm,1.2s
HLID Hailey 44.38 73 P **P** **21 01 08.9 -1.3**
baz=305,SNR=1000
HLID Hailey 44.38 73 P **P** **21 01 08.7 -1.5**
HLID IAmb IAmb 21 01 28.4
comp=Z,4μm,1.1s
DLMT Dillon 44.43 70 P **P** **21 01 07.9 -2.6**
I18DK QAANAAQ INFRAS 44.53 17 P P 21 01 16.1 +5.4
baz=233,slow=7.8,SNR=1.3
TLY Talaya 44.53 301 *dP* **P** **21 01 07.7 -3.4**
TLY Talaya 44.53 301 *dP* **P** **21 01 11.2 +0.1**
TLY *e* 21 01 53.3
TLY *e* 21 03 04.0
TLY eS **S** **21 07 37.9 -0.8**
TLY eSSS SSS 21 11 48.6
TLY pmax pmax
comp=Z,3μm,1.1s
TLY MLR MLR
comp=Z,407μm,19.0s
TLY Talaya 44.53 301 P **P** **21 01 11.1 0.0**
TLY IAmb IAmb 21 01 30.8
comp=Z,6μm,1.8s
MCMT McKenzie Canyo 44.59 71 P **P** **21 01 09.5 -2.3**
EGMT Eagleton 44.60 65 P **P** **21 01 09.3 -2.4**
baz=303,SNR=646
EGMT Eagleton 44.60 65 P **P** **21 01 09.0 -2.7**
EGMT IAmb IAmb 21 01 39.7
comp=Z,3μm,0.9s
ULN Ulaanbaatar 44.68 295 P P 21 01 06.7 -5.8
ULN Ulaanbaatar 44.68 295 *ceP* **P** **21 01 12.4 -0.1**
ULN pmax pmax
comp=Z,1μm,0.8s
ULN MLR MLR
comp=Z,345μm,22.0s
ULN Ulaanbaatar 44.68 295 P **P** **21 01 12.5 +0.1**
KVN Kaiserville 44.83 81 P **P** **21 01 13.1 -0.7**
KVN pmax pmax
comp=Z,10μm,1.3s
KVN Kaiserville 44.83 81 P **P** **21 01 13.1 -0.7**
KVN IAmb IAmb 21 01 23.6
comp=Z,10μm,1.3s
RYN Ryan 44.83 81 P **P** **21 01 13.3 -0.5**
RYN IAmb IAmb 21 01 23.0
comp=Z,4μm,0.9s
BOZ Bozeman (W) 44.86 69 P **P** **21 01 11.9 -2.0**
baz=304,SNR=1000
BOZ Bozeman (W) 44.86 69 P **P** **21 01 11.7 -2.2**
BOZ pmax pmax
comp=Z,4μm,0.9s
BOZ Bozeman (W) 44.86 69 P **P** **21 01 11.7 -2.2**
BOZ IAmb IAmb 21 01 30.9
comp=Z,4μm,0.9s
PMPB Monarch Peak 44.94 86 P **P** **21 01 14.2 -0.3**
SONM Songino Array 45.07 295 P **P** **21 01 15.8 +0.3**
comp=Z,439nm,0.9s,baz=58,slow=8.9,SNR=707
SONM PcP **PcP** **21 02 55.0 +0.6**
comp=Z,561nm,1.2s,baz=91,slow=3.3,SNR=1.1
SONM ScP **ScP** **21 06 37.4 +0.1**
comp=Z,111nm,0.9s,baz=73,slow=2.3,SNR=3.2
SONM S **S** **21 07 49.0 +2.3**
comp=Z,99nm,1.0s,baz=60,slow=3.3,SNR=1.1
SONM ScS **ScS** **21 11 01.9 +0.1**
comp=Z,24nm,1.0s,baz=26,slow=7.1,SNR=1.5
SONM LR LR 21 20 59.0
comp=Z,357μm,20.3s,baz=58,slow=37
SONM P3KP 21 32 03.0
comp=Z,3.6nm,0.9s,baz=250,slow=0.9,SNR=2.6
SONM Songino Array 45.07 295 P **P** **21 01 15.6 +0.1**
I34MN SONGINO INFRAS 45.08 295 P **P** **21 01 14.9 -0.7**
baz=66,slow=8.9,SNR=2.2
JOW Kunigami 45.08 256 P **P** **21 01 15.4 -0.3**
NVAR Mina Array Bea 45.09 81 P **P** **21 01 15.7 -0.2**
comp=Z,2μm,1.0s,baz=294,slow=7.3,SNR=1997
NVAR ScP **ScP** **21 06 38.5 +0.7**
comp=Z,250nm,1.0s,baz=289,slow=2.8,SNR=6.0
NVAR S **S** **21 07 47.9 +0.6**
comp=Z,18nm,0.7s,baz=282,slow=41,SNR=0.5
NVAR ScS **ScS** **21 11 02.9 +0.5**
comp=Z,14nm,0.9s,baz=66,slow=12,SNR=1.1
NVAR LR LR 21 18 57.5
comp=Z,76μm,19.8s,baz=308,slow=34
NVAR P3KP 21 31 55.3
comp=Z,6.0nm,1.0s,baz=164,slow=2.4,SNR=4.2
MDPB Devils Postpil 45.11 83 P **P** **21 01 15.9 -0.2**
TULEG Thule 45.16 18 P **P** **21 01 14.5 -1.2**
OMMB Old Mammoth Mi 45.17 83 P **P** **21 01 16.4 -0.2**
OMMB IAmb IAmb 21 01 47.6
comp=Z,7μm,1.1s
FFC Flin Flon 45.24 53 P **P** **21 01 14.1 -2.5**
FFC pmax pmax
comp=Z,2μm,1.1s
FFC Flin Flon 45.24 53 P **P** **21 01 14.1 -2.5**
ZAK Zakamensk 45.41 300 *eP* **P** **21 01 18.3 +0.2**
ZAK *e* 21 11 07.2
ZAK pmax pmax
comp=Z,1μm,1.4s
QLMT Earthquake Lak 45.41 70 P **P** **21 01 16.1 -2.3**
TIA Tai'an 45.54 275 P **P** **21 01 19.5 +0.3**
TIA S **S** **21 07 54.5 +1.0**
TIA pmax pmax
comp=Z,680nm,0.9s
TIA pmax pmax
comp=Z,12μm,6.7s
TIA LR LR
comp=Z,99μm,12.8s
TIA LR LR
comp=Z,266μm,15.7s
TIA LR LR
comp=Z,235μm,14.2s
ELK Elko 45.54 77 P **P** **21 01 18.4 -1.0**
comp=Z,414nm,0.9s,baz=309,slow=7.5,SNR=672
ELK ScP **ScP** **21 06 40.9 +1.3**
comp=Z,150nm,1.1s,baz=300,slow=2.8,SNR=3.6
ELK Elko 45.54 77 P **P** **21 01 18.5 -1.0**
ELK pmax pmax
comp=Z,2μm,0.7s
ELK Elko 45.54 77 P **P** **21 01 18.5 -1.0**
YHL Hebgen Lake 45.55 70 P **P** **21 01 17.4 -2.1**
PAGB Antelope Grade 45.59 86 P **P** **21 01 19.4 -0.3**
PAGB IAmb IAmb 21 01 52.7
comp=Z,4μm,0.7s
YHB Horse Butte 45.60 70 P **P** **21 01 17.8 -2.0**
VOG Valley Oaks Go 45.75 84 P **P** **21 01 20.4 -0.5**
baz=310,SNR=30
VOG S **S** **21 08 02.3 +5.8**
baz=310
YHH Holmes Hill 45.78 70 P **P** **21 01 19.2 -2.1**
YMR Madison River 45.78 70 P **P** **21 01 19.5 -1.8**
GCMT Greycliff 45.89 68 P **P** **21 01 20.0 -2.1**
YNM Yellowstone No 45.90 69 P **P** **21 01 20.8 -1.4**
MOY Mondy 45.95 302 *eP* **P** **21 01 22.3 -0.1**
MOY pmax pmax
comp=Z,5μm,2.8s
TIN Tinemaha, Big 46.00 83 P **P** **21 01 23.2 +0.2**
baz=310,SNR=346
TIN S **S** **21 08 06.1 +5.9**
baz=310
YUF Upper Falls 46.02 69 P **P** **21 01 22.2 -1.0**
SMMC Simmler 46.02 86 P **P** **21 01 23.2 +0.1**
baz=311,SNR=102
HHC Hu-ho-hao-te 46.06 284 ⇓*iP* **P** **21 01 24.3 +0.9**
HHC pP pP 21 01 51.0 +3.7
HHC sP sP 21 02 02.6 +3.8
HHC S **S** **21 08 00.6 -0.5**
HHC sS sS 21 08 46.4 +4.2
HHC pmax pmax
comp=Z,230nm,1.3s
HHC pmax pmax
comp=Z,18μm,6.6s
HHC LR LR
comp=Z,229μm,19.8s
HHC LR LR
comp=Z,176μm,21.2s
HHC LR LR
comp=Z,176μm,24.5s
YPP Pitchstone Pla 46.10 70 P **P** **21 01 22.5 -1.4**
YNE Yellowstone No 46.14 69 P **P** **21 01 21.9 -2.2**
H17A Grant Village 46.16 70 P **P** **21 01 24.0 -0.3**
baz=306,SNR=510
H17A Grant Village 46.16 70 P **P** **21 01 23.7 -0.6**
H17A IAmb IAmb 21 01 48.3
comp=Z,7μm,1.2s
LKWY Lake 46.17 70 P **P** **21 01 23.5 -0.9**
LKWY pmax pmax
comp=Z,3μm,1.2s
LKWY Lake 46.17 70 P **P** **21 01 23.5 -0.9**
YMP Mirror Lake Pl 46.21 69 P **P** **21 01 22.9 -1.9**
IMW Indian Meadow 46.24 71 P **P** **21 01 23.3 -1.7**
IMW IAmb IAmb 21 01 52.1
comp=Z,4μm,1.2s
VES Vestal, Richgr 46.24 85 P **P** **21 01 24.1 -0.7**
baz=311,SNR=377
VES S **S** **21 08 10.1 +6.5**
baz=311
FLWY Flagg Ranch 46.27 70 P **P** **21 01 23.7 -1.5**
FLWY IAmb IAmb 21 01 54.0
comp=Z,3μm,0.8s
FXWY Fox Creek 46.34 71 P **P** **21 01 23.3 -2.4**
HVU Hansel Valley 46.41 74 P **P** **21 01 24.9 -1.2**
HVU pmax pmax
comp=Z,3μm,0.8s
HVU Hansel Valley 46.41 74 P **P** **21 01 24.9 -1.2**
PKM Mcpherson Peak 46.41 86 P **P** **21 01 26.4 +0.1**
baz=311,SNR=320
PKM S **S** **21 08 12.2 +5.9**
baz=311
SSE Sheshan 46.41 267 P **P** **21 01 26.9 +0.9**
SSE S **S** **21 08 04.5 -1.5**
SSE pmax pmax
comp=Z,520nm,1.0s
SSE pmax pmax
comp=Z,5μm,8.6s
SSE LR LR
comp=Z,8μm,20.8s
SSE Sheshan 46.41 267 P **P** **21 01 27.0 +0.9**
SSE IAmb IAmb 21 01 54.7
comp=Z,11μm,1.6s
TPAW Teton Pass 46.47 71 P **P** **21 01 24.9 -1.9**
TPAW IAmb IAmb 21 01 54.3
comp=Z,7μm,1.8s
CWC Cottonwood Cre 46.48 83 P **P** **21 01 26.8 0.0**
baz=310
CWC S **S** **21 08 14.2 +7.0**
baz=310
RLMT Red Lodge 46.50 68 P **P** **21 01 25.2 -1.7**
baz=306,SNR=803
RLMT Red Lodge 46.50 68 P **P** **21 01 25.1 -1.9**
RLMT IAmb IAmb 21 01 49.7
comp=Z,4μm,1.0s
GRAC Grapevine Rang 46.57 82 P **P** **21 01 27.1 -0.2**
baz=310,SNR=94
GRAC S **S** **21 08 14.5 +6.2**
baz=310
SNOW Snow King Moun 46.60 71 P **P** **21 01 26.2 -1.6**
SNOW IAmb IAmb 21 01 48.0
comp=Z,6μm,1.8s
REDW Red Top Meadow 46.61 71 P **P** **21 01 25.9 -1.9**
NOR Nord 46.69 3 ⇑*iP* **P** **21 01 26.8 -0.8**
comp=Z,385μm,18.0s
NOR Nord 46.69 3 ⇑*iP* **P** **21 01 26.8 -0.8**
NOR MLR MLR
comp=Z,390μm,18.0s
GUMO Guam 46.71 228 P **P** **21 01 27.0 -1.5**
comp=Z,2μm,0.6s,baz=108,slow=1.6,SNR=2.5
GUMO Guam 46.71 228 P **P** **21 01 26.8 -1.7**
GUMO pmax pmax
comp=Z,11μm,1.4s
GUMO Guam 46.71 228 P **P** **21 01 26.8 -1.7**
ISA Isabella, Lake 46.74 84 P **P** **21 01 27.4 -1.3**
baz=311,SNR=524
ISA S **S** **21 08 13.9 +3.2**
baz=311
ISA Isabella, Lake 46.74 84 P **P** **21 01 27.4 -1.3**
ISA pmax pmax
comp=Z,4μm,1.1s
ISA Isabella, Lake 46.74 84 P **P** **21 01 27.4 -1.3**
ISA IAmb IAmb 21 01 58.5
comp=Z,4μm,1.1s
SBC Santa Barbara 46.77 87 P **P** **21 01 28.8 0.0**
baz=312,SNR=45
SBC S **S** **21 08 18.6 +7.5**
baz=312
BGU Big Grassy Mou 46.77 75 P **P** **21 01 27.7 -1.3**
R11A Troy Canyon, C 46.81 80 P **P** **21 01 28.1 -1.2**
baz=309,SNR=1000
R11A S **S** **21 08 16.7 +4.7**
baz=309
R11A Troy Canyon, C 46.81 80 P **P** **21 01 28.0 -1.3**
R11A IAmb IAmb 21 01 57.2
comp=Z,4μm,1.1s
AHID Auburn Hatcher 46.81 72 P **P** **21 01 27.5 -1.8**
ARVC Arvin 46.87 85 P **P** **21 01 28.4 -1.2**
baz=311,SNR=97
ARVC S **S** **21 08 15.8 +3.3**
baz=311
FCC Fort Churchill 46.88 45 P **P** **21 01 27.6 -1.7**
FCC pmax pmax
comp=Z,3μm,1.0s
FCC Fort Churchill 46.88 45 P **P** **21 01 27.6 -1.7**
FCC IAmb IAmb 21 01 48.7
comp=Z,3μm,0.9s
SPUT South Promonto 46.88 74 P **P** **21 01 28.5 -1.4**
MPMC Manual Prospec 47.09 83 P **P** **21 01 31.1 -0.6**
baz=310,SNR=1000
MPMC S **S** **21 08 21.0 +4.9**
baz=310
SCZ2 Santa Cruz Isl 47.11 87 P **P** **21 01 30.8 -0.8**
baz=312,SNR=98
SCZ2 S **S** **21 08 22.8 +6.8**
baz=312
BTO Baotou 47.14 285 *eP* **P** **21 01 32.9 +1.1**
NJ2 Nanjing 47.21 270 ⇓*iP* **P** **21 01 32.3 0.0**
NJ2 pP **pP** **21 01 58.6 +2.4**
NJ2 sP **sP** **21 02 12.1 +4.5**
NJ2 S **S** **21 08 18.5 +1.1**
NJ2 pmax pmax
comp=Z,480nm,1.0s
NJ2 pmax pmax
comp=Z,134μm,6.5s
NJ2 LR LR
comp=Z,238μm,24.5s
NJ2 LR LR
comp=Z,199μm,24.6s
NJ2 LR LR
comp=Z,1015μm,23.6s
FURC Furnace Creek, 47.22 82 P **P** **21 01 32.2 -0.1**
baz=310,SNR=1000
FURC S **S** **21 08 24.6 +7.3**
baz=310
HWUT Hardware Ranch 47.23 73 P **P** **21 01 31.0 -1.6**
OSI Osito Audit: C 47.27 86 P **P** **21 01 32.3 -0.5**
baz=311,SNR=74
OSI S **S** **21 08 22.8 +4.5**
baz=311
OSI Osito Audit: C 47.27 86 P **P** **21 01 32.3 -0.5**
OSI IAmb IAmb 21 02 03.4
comp=Z,8μm,1.2s
TPNV Topopah Spring 47.28 82 P **P** **21 01 32.7 -0.4**
baz=310,SNR=1000
TPNV Topopah Spring 47.28 82 P **P** **21 01 32.7 -0.4**
TPNV pmax pmax
comp=Z,8μm,1.0s
TPNV Topopah Spring 47.28 82 P **P** **21 01 32.7 -0.4**
LAO LASA Array 47.34 65 P **P** **21 01 31.4 -1.8**
baz=305,SNR=150
LAO LASA Array 47.34 65 P **P** **21 01 31.2 -2.0**
LAO IAmb IAmb 21 02 00.1
comp=Z,4μm,1.0s
DUG Dugway, Tooele 47.34 76 P **P** **21 01 32.6 -0.9**
baz=308,SNR=620
DUG Dugway, Tooele 47.34 76 P **P** **21 01 32.3 -1.2**
DUG pmax pmax
comp=Z,4μm,0.9s
DUG Dugway, Tooele 47.34 76 P **P** **21 01 32.3 -1.2**
DUG IAmb IAmb 21 02 05.1
comp=Z,4μm,0.8s
LRMC Laurel Mtn Rad 47.35 84 P **P** **21 01 32.7 -0.8**
baz=311,SNR=347
LRMC S **S** **21 08 25.3 +5.8**
baz=311
DGMT Dagmar 47.45 62 P **P** **21 01 31.6 -2.3**
baz=305,SNR=48
DGMT Dagmar 47.45 62 P **P** **21 01 31.5 -2.5**
DGMT IAmb IAmb 21 02 00.1
comp=Z,8μm,1.5s
TIY Taiyuan 47.48 280 *eP* **P** **21 01 35.6 +1.2**
TIY SS SS 21 11 44.6 -5.2
TIY pmax pmax
comp=Z,680nm,1.1s
TIY pmax pmax
comp=Z,106μm,9.0s
TIY LR LR
comp=Z,196μm,14.3s
TIY LR LR
comp=Z,55μm,13.9s
TIY LR LR
comp=Z,169μm,18.5s
EDW2 Edwards Air Fo 47.55 85 P **P** **21 01 34.2 -0.7**
baz=311,SNR=624
EDW2 S **S** **21 08 28.5 +6.2**
baz=311
TCUT Toone Canyon 47.62 74 P **P** **21 01 34.3 -1.4**
KRAR Krasnoyarsk 47.67 311 *dP* **P** **21 01 34.9 -0.6**
SNCC San Nicolas Is 47.68 88 P **P** **21 01 35.6 -0.4**
baz=312,SNR=38
SNCC S **S** **21 08 29.2 +5.2**
baz=312
SNCC San Nicolas Is 47.68 88 P **P** **21 01 35.5 -0.4**
SNCC IAmb IAmb 21 01 59.8
comp=Z,6μm,0.9s
CTU Camp Tracy 47.68 75 P **P** **21 01 34.6 -1.5**
BW06 Boulder Array 47.72 71 P **P** **21 01 34.6 -1.9**
baz=307,SNR=1000
BW06 Boulder Array 47.72 71 P **P** **21 01 34.2 -2.2**
BW06 IAmb IAmb 21 01 56.1
comp=Z,3μm,1.0s
PDAR Pinedale Array 47.72 71 P **P** **21 01 34.7 -1.7**
comp=Z,1μm,1.0s,baz=305,slow=3.9,SNR=1769
PDAR ScP **ScP** **21 06 50.4 +1.7**
comp=Z,204nm,1.1s,baz=296,slow=2.7,SNR=4.5
PDAR LR LR 21 19 59.2
comp=Z,138μm,21.2s,baz=306,slow=34
PDAR P3KP 21 31 54.9
comp=Z,4.2nm,0.9s,baz=72,slow=5.8,SNR=2.7
DECC Green Verdugo 47.75 86 P **P** **21 01 36.0 -0.5**
baz=312,SNR=65
DECC S **S** **21 08 30.9 +5.8**
baz=312
PSUT Pine Spring 47.75 78 P **P** **21 01 35.5 -1.2**
PATS Pohnpei 47.78 208 P **P** **21 01 37.2 +0.4**
PASC Pasadena Art C 47.89 86 P **P** **21 01 36.6 -1.0**
PASC IAmb IAmb 21 01 56.4
comp=Z,4μm,1.0s
JLU Jordanelle 47.91 74 P **P** **21 01 36.5 -1.5**
MWC Mount Wilson 47.94 86 P **P** **21 01 37.4 -0.7**
MWC pmax pmax
comp=Z,9μm,1.0s
MWC Mount Wilson 47.94 86 P **P** **21 01 37.4 -0.7**
NLU North Lily Min 47.94 76 P **P** **21 01 36.9 -1.2**
SHOC Shoshone, Teco 47.95 83 P **P** **21 01 37.3 -0.7**
baz=311,SNR=328
SHOC S **S** **21 08 33.4 +5.7**
baz=311
GSC Goldstone, Bar 48.01 84 P **P** **21 01 38.3 -0.2**
baz=311,SNR=1000
GSC S **S** **21 08 34.0 +5.2**
baz=311
GSC Goldstone, Bar 48.01 84 P **P** **21 01 37.9 -0.7**
GSC pmax pmax
comp=Z,7μm,0.9s
GSC Goldstone, Bar 48.01 84 P **P** **21 01 37.9 -0.7**
FMP Fort Macarthur 48.13 86 P **P** **21 01 38.6 -0.7**
baz=312,SNR=14
FMP S **S** **21 08 36.6 +6.2**
baz=312
MPU Maple Canyon 48.17 75 P **P** **21 01 38.7 -1.2**
RRX Edison Barstow 48.17 84 P **P** **21 01 39.6 -0.1**
baz=311,SNR=68
RRX S **S** **21 08 37.2 +6.2**
baz=311
BFSC Mount Baldy Ra 48.18 85 P **P** **21 01 39.1 -0.8**
baz=312,SNR=593
BFSC S **S** **21 08 37.3 +6.0**
baz=312
SHPR Sheep Range 48.24 81 P **P** **21 01 39.5 -1.0**
SHPR IAmb IAmb 21 02 10.0

comp=Z,9µm,1.8s
CIS Catalina Islan 48.26 87 P P 21 01 39.5 -1.0
baz=312,SNR=90
CIS S S 21 08 38.4 +6.1
baz=312
SCI2 San Clemente I 48.46 87 P P 21 01 41.2 -0.7
baz=313,SNR=74
SCI2 S S 21 08 43.5 +8.4
baz=313
TUQ Turquoise Moun 48.46 83 P P 21 01 41.3 -0.9
baz=311,SNR=441
TUQ S S 21 08 41.4 +6.0
baz=311
TCRU Three Creeks R 48.56 77 P P 21 01 42.3 -0.6
HEC Hector,Ludlow 48.61 84 P P 21 01 42.6 -0.6
baz=312,SNR=732
HEC S S 21 08 44.1 +6.8
baz=312
BBRC Big Bear Solar 48.62 85 P P 21 01 42.9 -0.5
baz=312,SNR=47
BBRC S S 21 08 43.8 +6.1
baz=312
KULLO Kullorsuaq 48.64 17⇑ *i*P P 21 01 42.1 -0.6
KULLO Kullorsuaq 48.64 17⇑ *i*P P 21 01 42.1 -0.6
CCUT Cedar City 48.67 79 P P 21 01 42.8 -1.0
MSU Marysvale 48.78 77 P P 21 01 43.7 -0.9
MSU Marysvale 48.78 77 P P 21 01 43.7 -0.9
SZCU Shurtz Canyon 48.81 79 P P 21 01 43.8 -1.1
TMUT Trail Mountain 48.87 76 P P 21 01 44.1 -1.3
MURC Murrieta 48.89 86 P P 21 01 44.4 -0.8
baz=312,SNR=333
MURC S S 21 08 45.5 +4.4
baz=312
P17A Butcher Ranch, 49.04 75 P P 21 01 45.3 -1.3
GMRC Granite Mounta 49.05 83 P P 21 01 46.0 -0.7
baz=312,SNR=1000
GMRC S S 21 08 48.3 +4.6
baz=312
RDMU Red Mountain 49.06 73 P P 21 01 45.3 -1.4
MTPU Mount Pierson 49.08 78 P P 21 01 46.3 -0.7
LCMT Little Creek M 49.09 79 P P 21 01 46.1 -0.7
Q16A Castle Valley 49.13 76 P P 21 01 46.2 -1.1
PFO Pinyon Flats O 49.34 85 P P 21 01 47.8 -1.0
baz=312,SNR=406
PFO S S 21 08 52.8 +5.3
baz=312
PFO Pinyon Flats O 49.34 85 P P 21 01 47.8 -1.0
comp=Z,864nm,1.0s,baz=29,slow=0.1,SNR=153
PFO S S 21 08 50.2 +2.7
comp=Z,370nm,0.9s,baz=296,slow=0.7,SNR=4.0
PFO Pinyon Flats O 49.34 85 P P 21 01 47.6 -1.2
PFO pmax pmax
comp=Z,3µm,1.1s
PFO Pinyon Flats O 49.34 85 P P 21 01 47.6 -1.2
PFO IAmb IAmb 21 02 18.9
comp=Z,3µm,1.1s
XPFO Pion Flat 49.34 85 P P 21 01 47.7 -1.1
XPFO IAmb IAmb 21 02 18.9
comp=Z,3µm,1.0s
KNB Kanab 49.34 79 P P 21 01 48.3 -0.6
KNB pmax pmax
comp=Z,12µm,1.5s
KNB Kanab 49.34 79 P P 21 01 48.2 -0.6
TPFO Pinon Flats 49.34 85 S S 21 08 52.9 +5.2
baz=312
BELC Belle Mtn. Jos 49.36 84 P P 21 01 47.6 -1.4
baz=312,SNR=617
BELC S S 21 08 52.6 +4.6
baz=312
PKCU Pink Cliffs 49.38 78 P P 21 01 48.8 -0.5
KBS Kingsbay 49.39 357⇑ *i*P P 21 01 47.7 -0.7
KBS pmax pmax
comp=Z,2µm,0.8s
KBS MLR MLR
comp=Z,167µm,18.0s
KBS Kingsbay 49.39 357⇑ *i*P P 21 01 48.0 -0.4
KBS *e*S S 21 08 47.3 +0.4
KBS IVMs_BB IVMs_BB 21 17 51.7
comp=Z,229µm,44.4s
SRU San Rafael Swe 49.40 75 P P 21 01 47.9 -1.4
SRU pmax pmax
comp=Z,3µm,0.8s
SRU San Rafael Swe 49.40 75 P P 21 01 47.9 -1.4
109C Camp Elliot, M 49.42 86 P P 21 01 48.7 -0.6
baz=313,SNR=97
109C S S 21 08 53.9 +5.4
baz=313
109C Camp Elliot, M 49.42 86 P P 21 01 48.6 -0.6
109C IAmb IAmb 21 02 08.3
comp=Z,5µm,1.0s
K22A Casper 49.57 69 P P 21 01 48.1 -2.4
baz=308,SNR=249
K22A Casper 49.57 69 P P 21 01 47.8 -2.7
NEE2 Needles Airpor 49.71 83 P P 21 01 50.6 -0.9
baz=312,SNR=128
NEE2 S S 21 08 58.3 +5.8
baz=312
RWWY Rawlins 49.76 71 P P 21 01 49.4 -2.7
RWWY IAmb IAmb 21 02 14.0
comp=Z,2µm,1.0s
IRM Iron Mountain 49.79 84 P P 21 01 51.2 -0.9
baz=312,SNR=1000
IRM S S 21 08 59.0 +5.3
baz=312
BAR Barrett 49.83 86 P P 21 01 51.6 -0.9
MONP2 Monument Peak 49.84 86 P P 21 01 51.9 -0.8
baz=313,SNR=725
MONP2 S S 21 08 59.1 +4.3
baz=313
SPA0 Spitsbergen Ar 49.93 355 P P 21 01 51.4 -1.2
SPA0 Spitsbergen Ar 49.93 355⇑ *i*P P 21 01 51.3 -1.2
SPA0 *e*S S 21 08 53.6 -0.9
SPITS Spitsbergen Ar 49.93 355 P P 21 01 51.2 -1.4
comp=Z,304nm,0.6s,baz=31,slow=6.8,SNR=796
SPITS S S 21 08 56.2 +1.6
comp=Z,119nm,1.1s,baz=66,slow=8.3,SNR=1.1
BC3 Big Chuckawall 49.93 84 P P 21 01 52.1 -1.2
baz=312,SNR=522
BC3 S S 21 09 02.4 +6.6
baz=312
W13A Hualapai Mount 49.94 82 P P 21 01 52.3 -1.1
W13A IAmb IAmb 21 02 02.2
comp=Z,4µm,1.1s
YOJ Yonaguni jima 50.02 259 P P 21 01 52.7 -1.2
YOJ pmax pmax
comp=Z,3µm,1.0s
YOJ Yonaguni jima 50.02 259 P P 21 01 52.7 -1.2
YOJ IAmb IAmb 21 02 20.9
comp=Z,3µm,1.0s
U15A North Rim 50.05 79 P P 21 01 53.6 -0.8
RSSD Black Hills 50.10 66 P P 21 01 52.1 -2.4
baz=308
RSSD Black Hills 50.10 66 P P 21 01 51.7 -2.9
RSSD pmax pmax
comp=Z,3µm,1.5s
RSSD Black Hills 50.10 66 P P 21 01 51.7 -2.9
O20A White River Ci 50.12 73 P P 21 01 53.0 -1.8
baz=309,SNR=332
O20A White River Ci 50.12 73 P P 21 01 52.6 -2.2
O20A IAmb IAmb 21 02 14.4
comp=Z,4µm,0.8s
SWSC Sam W. Stewart 50.19 85 P P 21 01 54.0 -1.1
baz=313,SNR=184
SWSC S S 21 09 06.4 +7.2
baz=313
IKP In-Ko-Pah, Jac 50.20 86 P P 21 01 54.8 -0.5
baz=313,SNR=296
IKP S S 21 09 05.3 +5.8
baz=313
MDND Maddock 50.31 60 P P 21 01 53.6 -2.2
baz=307,SNR=61
MDND Maddock 50.31 60 P P 21 01 53.8 -2.0
PDMCI Parker Dam,Lak 50.31 83 P P 21 01 55.3 -0.7
baz=312,SNR=566
PDMCI S S 21 09 06.0 +5.2
baz=312
TARA Tarawa 50.40 187 P P 21 01 57.2 +0.4
E28A Huff 50.48 62 P P 21 01 54.7 -2.5
TATO Taipei 50.58 261 P P 21 01 58.0 -0.1
TATO P P 21 01 58.0 -0.1
TATO Taipei 50.58 261 P P 21 01 57.9 -0.2
PV09 Paradox Valley 50.63 75 P P 21 01 57.0 -1.8
PV21 Cone Mtn., Par 50.68 75 P P 21 01 57.2 -1.8
PV21 IAmb IAmb 21 02 30.0
comp=Z,3µm,0.8s
GLA Glamis 50.72 84 P P 21 01 58.6 -0.6
baz=313
GLA S S 21 09 12.0 +5.3
baz=313
GLA Glamis 50.72 84 P P 21 01 58.2 -1.0
GLA pmax pmax
comp=Z,4µm,0.8s
GLA Glamis 50.72 84 P P 21 01 58.2 -1.0
PV23 Carpenter Ridg 50.73 75 P P 21 01 57.5 -2.0
PV23 IAmb IAmb 21 02 22.2
comp=Z,3µm,0.8s
PV10 Paradox Valley 50.76 75 P P 21 01 58.3 -1.3
PV14 Lion Creek, Pa 50.78 75 P P 21 01 57.8 -1.9
PV14 IAmb IAmb 21 02 30.1
comp=Z,3µm,0.8s
I10CA LAC DU BONNET 50.78 56 P P 21 01 57.9 -1.4
baz=302,slow=6.8,SNR=5.7
PV22 Blue Mesa, Par 50.81 75 P P 21 01 58.1 -1.9
PV22 IAmb IAmb 21 02 31.0
comp=Z,3µm,0.8s
PV20 West Nyswonger 50.83 75 P P 21 01 58.3 -1.8
ULM Lac du Bonnet 50.83 56 P P 21 01 57.2 -2.4
comp=Z,252nm,0.5s,baz=305,slow=7.9,SNR=243
ULM S S 21 09 07.0 -0.7
comp=Z,84nm,0.8s,baz=123,slow=22,SNR=1.6
ULM LR LR 21 24 13.6
comp=Z,42µm,19.4s,baz=304,slow=37
ULM P3KP 21 31 49.1
comp=Z,6.0nm,0.7s,baz=212,slow=7.4,SNR=2.6
ULM Lac du Bonnet 50.83 56 *i*P P 21 01 57.4 -2.3
ULM Lac du Bonnet 50.83 56 P P 21 01 59.7 +0.1
PV04 Paradox Valley 50.83 75 P P 21 01 58.4 -1.7
PV04 IAmb IAmb 21 02 27.3
comp=Z,3µm,0.8s
PV19 Morning Glory 50.84 75 P P 21 01 58.3 -1.9
PV19 IAmb IAmb 21 02 27.3
comp=Z,3µm,0.9s
YHNB Yeheng 50.87 261 P P 21 01 59.1 -1.3
PV17 East Wray Mesa 50.87 75 P P 21 01 58.6 -1.8
PV11 David Mesa, Pa 50.91 75 P P 21 01 59.0 -1.8
PV05 Paradox Valley 50.92 76 P P 21 01 59.3 -1.5
PV05 IAmb IAmb 21 02 18.5
comp=Z,4µm,1.2s
PV18 Skein Mesa, Pa 50.93 75 P P 21 01 59.0 -1.9
PV12 Saucer Basin, 50.94 75 P P 21 01 59.3 -1.7
HOPEN Hopen 50.95 352⇑ *i*P P 21 01 58.9 -1.3
HOPEN IVmB_BB 21 02 10.5
comp=Z,31µm,1.7s
HOPEN *e*S S 21 09 11.8 +3.2
HOPEN IVMs_BB IVMs_BB 21 18 33.2
comp=Z,223µm,43.4s
PV03 Paradox Valley 50.96 75 P P 21 01 59.3 -1.8
PV07 Paradox Valley 50.96 75 P P 21 01 59.2 -1.9
PV07 IAmb IAmb 21 02 31.5
comp=Z,2µm,0.7s
N23A Red Feather La 51.00 71 P P 21 01 59.9 -1.5
baz=309,SNR=236
N23A Red Feather La 51.00 71 P P 21 01 59.6 -1.8
N23A IAmb IAmb 21 02 23.6
comp=Z,2µm,1.1s
PHWY Pilot Hill 51.03 70 P P 21 01 59.2 -2.5
PV13 Radium Mtn., P 51.03 75 P P 21 01 59.9 -1.8
WHN Wuhan 51.05 272⇓ *i*P P 21 02 01.4 -0.1
WHN pP pP 21 02 27.0 +1.3
WHN sP sP 21 02 36.1 -0.9
WHN S S 21 09 15.0 +4.0
WHN pmax pmax
comp=Z,1µm,0.9s
WHN LR LR
comp=Z,352µm,16.3s
WHN LR LR
comp=Z,130µm,14.5s
WHN LR LR
comp=Z,3867µm,44.5s
PV02 Paradox Valley 51.05 75 P P 21 02 00.1 -1.7
NACB Ninganchiao 51.10 260 P P 21 02 01.4 -0.7
NACB IAmb IAmb 21 02 29.6
comp=Z,3µm,1.3s
HSPB Hornsund (broa 51.12 355 *e*P P 21 02 00.5 -1.0
HSPB *ep*P pP 21 02 23.7 -1.9
HSPB *e*S S 21 09 14.2 +3.3
HSPB *e*L L 21 22 57.6
comp=Z,221µm,22.9s
HSPB Hornsund (broa 51.12 355⇑ *i*P P 21 02 00.4 -1.0
HSPB *e*S S 21 09 12.1 +1.2
HSPB IVMs_BB IVMs_BB 21 18 38.6
comp=Z,161µm,39.5s
PV15 Paradox Valley 51.12 75 P P 21 02 00.5 -1.8
PV15 IAmb IAmb 21 02 35.9
comp=Z,3µm,0.9s
PV01 Paradox Valley 51.20 75 P P 21 02 01.1 -1.8
PV01 IAmb IAmb 21 02 25.2
comp=Z,3µm,0.9s
WUAZ Wupatki 51.21 80 P P 21 02 02.3 -0.6
baz=312,SNR=774
WUAZ Wupatki 51.21 80 P P 21 02 02.1 -0.8
Y14A Wickenburg 51.26 82 P P 21 02 02.0 -1.2
Y14A IAmb IAmb 21 02 12.5
comp=Z,4µm,1.2s
DAG Danmarks Havn 51.33 5 *i*P P 21 02 01.4 -1.6
DAG Danmarks Havn 51.33 5 *i*P P 21 02 01.4 -1.6
113A Mohawk Valley, 51.57 84 P P 21 02 04.2 -1.2
113A IAmb IAmb 21 02 37.4
comp=Z,3µm,1.2s
SSLB Suanglung 51.78 260 P P 21 02 06.5 -0.6
SSLB IAmb IAmb 21 02 37.9
comp=Z,4µm,1.0s
MVCO Mesa Verde 51.84 76 P P 21 02 06.4 -1.4
baz=311,SNR=173
MVCO Mesa Verde 51.84 76 P P 21 02 06.1 -1.6
MVCO IAmb IAmb 21 02 38.6
comp=Z,2µm,0.8s
YULB Yu-li 51.86 260 P P 21 02 06.6 -1.2
YULB IAmb IAmb 21 02 42.1
comp=Z,5µm,1.3s
ISCO Idaho Springs 51.89 72 P P 21 02 06.6 -1.6
baz=310,SNR=300
ISCO Idaho Springs 51.89 72 P P 21 02 06.5 -1.6
ISCO pmax pmax
comp=Z,6µm,1.8s
ISCO Idaho Springs 51.89 72 P P 21 02 06.5 -1.7
ISCO IAmb IAmb 21 02 35.5
comp=Z,6µm,1.8s
AGMN Agassiz Nation 52.02 58 P P 21 02 05.7 -2.9
baz=308,SNR=509
AGMN Agassiz Nation 52.02 58 P P 21 02 06.0 -2.7
AGMN IAmb IAmb 21 02 35.1
comp=Z,5µm,1.1s
XAN Xi'an 52.03 279 P P 21 02 08.3 -0.6
XAN PP PP 21 04 03.3 -4.4
XAN SS SS 21 12 56.5 -6.0
XAN pmax pmax
comp=Z,1µm,1.5s
XAN pmax pmax
comp=Z,114µm,11.9s
XAN LR LR
comp=Z,258µm,22.8s
XAN LR LR
comp=Z,248µm,17.4s
XAN LR LR
comp=Z,259µm,24.9s
XAN Xi'an 52.03 279 P P 21 02 08.5 -0.4
XAN pmax pmax
comp=Z,3µm,1.4s
XAN Xi'an 52.03 279 P P 21 02 08.5 -0.4
XAN IAmb IAmb 21 02 52.5
comp=Z,3µm,1.4s
D32A Dogwood Acres, 52.13 59 P P 21 02 06.7 -2.7
D32A IAmb IAmb 21 02 35.6
comp=Z,5µm,1.2s
TPUB Ta-pu 52.34 260 P P 21 02 10.7 -0.6
TPUB IAmb IAmb 21 02 42.5
comp=Z,4µm,1.1s
QZH Quanzhou 52.39 263⇓ *i*P P 21 02 12.0 +0.4
QZH pP pP 21 02 39.9 +4.2
QZH sP sP 21 02 52.1 +5.2
QZH S S 21 09 32.9 +3.4
QZH sS sS 21 10 14.8 +3.6
QZH pmax pmax
comp=Z,3µm,2.1s
QZH pmax pmax
comp=Z,141µm,6.9s
QZH LR LR
comp=Z,150µm,18.9s
QZH LR LR
comp=Z,76µm,18.5s
QZH LR LR
comp=Z,164µm,19.9s
TWG Pinlang 52.43 259 P P 21 02 10.7 -1.2
W18A Petrified Fore 52.47 79 P P 21 02 11.5 -0.8
baz=312,SNR=319
W18A Petrified Fore 52.47 79 P P 21 02 11.7 -0.7
W18A IAmb IAmb 21 02 44.0
comp=Z,4µm,1.0s
S22A 4UR Ranch, Cre 52.50 74 P P 21 02 11.4 -1.3
baz=311,SNR=462
S22A 4UR Ranch, Cre 52.50 74 P P 21 02 11.6 -1.0
ZAA0 Zalesovo Array 52.64 312 P P 21 02 11.8 -1.2
ZALV Zalesovo Beam 52.64 312 P P 21 02 12.0 -1.0
comp=Z,264nm,0.7s,baz=49,slow=6.9,SNR=230
ZALV ScP ScP 21 07 10.8 +1.6
comp=Z,69nm,0.7s,baz=46,slow=4.2,SNR=1.9
ZALV S S 21 09 31.4 -0.9
comp=Z,82nm,1.1s,baz=35,slow=5.4,SNR=2.3
ZALV LR LR 21 26 59.9
comp=Z,97µm,20.7s,baz=54,slow=39
ZALV P3KP 21 31 48.8
comp=Z,3.6nm,0.8s,baz=266,slow=1.7,SNR=3.4
ZALV Zalesovo Beam 52.64 312 *i*P P 21 02 12.0 -1.0
ZALV pmax pmax
comp=Z,268nm,0.7s
Q24A Divide 52.71 72 P P 21 02 12.6 -1.6
baz=311,SNR=99
Q24A Divide 52.71 72 P P 21 02 12.6 -1.6
214A Organ Pipe Nat 52.72 84 P P 21 02 13.3 -0.7
baz=314,SNR=463
214A Organ Pipe Nat 52.72 84 P P 21 02 13.0 -1.0
214A IAmb IAmb 21 02 32.5
comp=Z,3µm,1.1s
SUSD Miller 52.76 63 P P 21 02 11.6 -2.5
baz=309,SNR=58
SUSD Miller 52.76 63 P P 21 02 11.6 -2.5
KNMB Chin-men Tao 52.86 263 P P 21 02 15.1 +0.1
KNMB IAmb IAmb 21 02 43.3
comp=Z,4µm,1.4s
B35A Bob, Littlefor 53.10 56 P P 21 02 13.9 -2.6
B35A IAmb IAmb 21 02 38.2
comp=Z,3µm,1.1s
SDCO Great Sand Dun 53.29 73 P P 21 02 17.4 -1.0
SDCO IAmb IAmb 21 02 36.4
comp=Z,2µm,1.1s
F33A 5 Mile Ranch, 53.33 60 P P 21 02 15.3 -3.0
BJO1 Bjornoya 53.34 353⇑ *i*P P 21 02 16.8 -1.0
BJO1 IVmB_BB 21 02 22.5
comp=Z,15µm,1.3s
BJO1 *e*S S 21 09 41.7 +0.5
BJO1 IVMs_BB IVMs_BB 21 19 38.0
comp=Z,200µm,46.6s
SUMG Summit 53.35 13⇑ *i*P P 21 02 18.1 -0.4
SUMG Summit 53.35 13 P P 21 02 17.6 -0.9
SUMG pmax pmax
comp=Z,6µm,1.1s
SUMG Summit 53.35 13 P P 21 02 17.6 -0.9
XMAS Kiritimati 53.40 150 P P 21 02 19.2 +0.2
XMAS IAmb IAmb 21 02 52.9
comp=Z,3µm,1.1s
FRB Frobisher Bay 53.57 31 P P 21 02 18.3 -1.4
comp=Z,4µm,0.9s,baz=318,slow=7.9,SNR=756
TUC Tucson 53.73 82 P P 21 02 20.7 -0.7
baz=314
TUC Tucson 53.73 82 P P 21 02 20.5 -0.9
TUC pmax pmax
comp=Z,11µm,1.7s
TUC Tucson 53.73 82 P P 21 02 20.5 -0.9
LZH Lanzhou 53.76 284⇓ *i*P P 21 02 22.6 +0.9
LZH pP pP 21 02 48.3 +2.1
LZH sP sP 21 03 02.8 +5.3
LZH S S 21 09 50.3 +2.0
LZH pmax pmax
comp=Z,550nm,1.5s
LZH pmax pmax
comp=Z,21µm,7.1s
LZH LR LR
comp=Z,493µm,15.2s
LZH LR LR
comp=Z,434µm,16.3s
LZH LR LR
comp=Z,558µm,18.4s
GTA Gaotai 53.96 290⇓ *i*P P 21 02 23.4 +0.3
GTA pP pP 21 02 50.1 +2.4
GTA sP sP 21 03 03.3 +4.3
GTA S S 21 09 51.3 +0.5
GTA pmax pmax
comp=Z,360nm,1.2s
GTA pmax pmax
comp=Z,20µm,10.2s
GTA LR LR
comp=Z,228µm,17.8s
GTA LR LR
comp=Z,225µm,18.1s
GTA LR LR
comp=Z,225µm,19.4s
ILULI Ilulissat 54.01 20⇑ *i*P P 21 02 21.4 -1.4
ILULI Ilulissat 54.01 20 P P 21 02 21.2 -1.6
ILULI pmax pmax
comp=Z,15µm,1.9s
ILULI Ilulissat 54.01 20 P P 21 02 21.2 -1.6
K31A O'Neill 54.04 65 P P 21 02 21.3 -2.2
K31A IAmb IAmb 21 02 46.8
comp=Z,3µm,0.9s
DGZ Jazzator, Alta 54.07 307 *d*P P 21 02 23.3 -0.5
DGZ pmax pmax
comp=Z,2µm,1.1s
DGZ MLR MLR
comp=Z,156µm,16.0s
KSCO Kaye Shedlock' 54.16 70 P P 21 02 23.2 -1.4
baz=311,SNR=182
KSCO Kaye Shedlock' 54.16 70 P P 21 02 23.2 -1.4
ENH Enshi 54.25 275 P P 21 02 24.3 -0.9
ENH IAmb IAmb 21 02 51.8
comp=Z,2µm,1.0s
T25A Trinidad 54.34 73 P P 21 02 24.9 -1.2
baz=312,SNR=520
T25A Trinidad 54.34 73 P P 21 02 24.6 -1.5
ECSD EROS Data Cent 54.51 62 P P 21 02 23.8 -3.0
baz=311,SNR=240
ECSD EROS Data Cent 54.51 62 P P 21 02 23.9 -3.0
EYMN Ely 54.52 56 P P 21 02 24.7 -2.2
baz=310,SNR=1000
EYMN Ely 54.52 56 P P 21 02 24.4 -2.4
EYMN IAmb IAmb 21 02 48.8
comp=Z,4µm,1.1s
ANMO Albuquerque 54.58 77 P P 21 02 26.7 -1.1
baz=313
ANMO Albuquerque 54.58 77 P P 21 02 26.6 -1.1
comp=Z,197nm,1.0s,baz=312,slow=7.8,SNR=332
ANMO ScP ScP 21 07 18.7 +0.3
comp=Z,102nm,1.0s,baz=350,slow=6.5,SNR=2.7
ANMO S S 21 10 04.0 +4.5
comp=Z,38nm,1.1s,baz=156,slow=4.8,SNR=1.5
ANMO Albuquerque 54.58 77 P P 21 02 26.5 -1.3
ANMO S S 21 10 04.0 +4.5
ANMO pmax pmax
comp=Z,1µm,1.0s
ANMO Albuquerque 54.58 77 P P 21 02 26.5 -1.3
LENM Lemitar 54.80 78 P P 21 02 29.2 -0.1
F36A Milaca 54.80 59 P P 21 02 26.1 -2.8
F36A IAmb IAmb 21 02 54.8
comp=Z,3µm,1.4s
KNTN Kanton 54.89 168 P P 21 02 30.5 +0.6
Y22D IRIS PASSCAL I 54.89 78 P P 21 02 29.7 -0.2
baz=313,SNR=35
Y22D IRIS PASSCAL I 54.89 78 P P 21 02 29.8 -0.2
BNM Barren Site 55.02 78 P P 21 02 30.1 -0.8
BGNE Belgrade 55.17 66 P P 21 02 29.6 -2.1
baz=311,SNR=33
BGNE Belgrade 55.17 66 P P 21 02 29.6 -2.1
E38A The Farm, Brul 55.36 57 P P 21 02 30.3 -2.7
121A Cookes Peak, D 55.42 80 P P 21 02 33.4 -0.4
baz=314,SNR=540
121A Cookes Peak, D 55.42 80 P P 21 02 33.1 -0.6
SPMN Marine on St. 55.60 59 P P 21 02 32.6 -2.1
baz=311,SNR=109
SPMN Marine on St. 55.60 59 P P 21 02 32.4 -2.3
L34A Svendsen Farm, 55.80 64 P P 21 02 33.5 -2.6
HSIG 55.91 85 P P 21 02 35.9 -1.2
HSIG IAmb IAmb 21 03 00.3
comp=Z,5µm,1.3s
SFJD Kangerlussuaq 55.93 21 P P 21 02 35.2 -1.5
comp=Z,844nm,0.9s,baz=332,slow=7.6,SNR=106
SFJD S S 21 10 15.4 -0.7

comp=Z,67nm,1.2s,baz=336,slow=22,SNR=0.9
SFJD Kangerlussuaq 55.93 21⇑ *i*P P **21 02 35.2 -1.5**
SFJD Kangerlussuaq 55.93 21 P P **21 02 35.0 -1.7**
CBKS Cedar Bluff 55.98 69 P P **21 02 35.7 -1.8**
baz=312,SNR=229
CBKS Cedar Bluff 55.98 69 P P **21 02 35.8 -1.8**
CBKS pmax pmax
comp=Z,6μm,1.0s
CBKS Cedar Bluff 55.98 69 P P **21 02 35.8 -1.7**
N33A J Bar K, Exete 56.01 66 P P **21 02 35.6 -2.1**
N33A IAmb IAmb 21 02 57.3
comp=Z,4μm,1.0s
I37A Lemond, Waseca 56.08 60 P P **21 02 36.3 -1.8**
SRIG Santa Rosalia 56.31 88 P P **21 02 38.9 -1.1**
SIPP Brgy, Tapao 56.51 256⇑ *e*P P **21 02 41.7 +0.2**
D41A Chassel 56.60 55 P P **21 02 40.0 -1.7**
HAMF Hammerfest 56.63 350 *e*P P **21 02 39.5 -2.1**
HAMF *e*S S **21 10 25.9 +0.6**
HAMF IVMs_BB IVMs_BB 21 21 09.1
comp=Z,218μm,49.3s
ZSN Zaisan 56.83 306⇓ *i*P P **21 02 43.3 -0.1**
comp=Z,2μm,2.2s,baz=306
ZSN *e*tx tx 21 02 60.0
comp=Z,11μm,3.3s,baz=306
ZSN *e*sP **sP 21 03 19.1 -0.4**
baz=306
ZSN *i* S S **21 10 29.8 +1.1**
baz=306
ZSN Zaisan 56.83 306 *d i*P P **21 02 43.3 -0.1**
ZSN *e**SP **sP 21 03 19.1 -0.4**
ZSN *i* S S **21 10 29.7 +1.1**
ZSN pmax pmax
comp=Z,2μm,2.2s
ZSN pmax pmax
comp=Z,11μm,3.3s
R32A Long Quarter, 56.84 69 P P **21 02 41.5 -2.2**
R32A IAmb IAmb 21 03 12.0
comp=Z,4μm,1.1s
COWI Conover 56.95 56 P P **21 02 41.9 -2.4**
COWI IAmb IAmb 21 03 06.1
comp=Z,2μm,1.0s
N35A Tabor 56.95 64 P P **21 02 42.3 -2.0**
G40A Rib Lake 56.95 57 P P **21 02 42.0 -2.3**
I39PW PALAU INFRASON 56.97 235 P P **21 02 41.3 -3.4**
baz=40,slow=12,SNR=2.8
GZH Guangzhou 57.00 266 P P **21 02 42.6 -2.3**
GZH pP pP **21 03 07.0 -2.2**
GZH PcP PcP **21 03 37.8 -1.1**
GZH PP PP **21 04 50.3 -2.0**
GZH S S **21 10 26.8 -4.5**
GZH LR LR
comp=Z,152μm,18.5s
GZH LR LR
comp=Z,86μm,16.9s
HKC Hong Kong Obse 57.06 265 ⇓P P **21 02 46.0 +0.7**
SEM Semipalatinsk 57.08 311 *i* P P **21 02 44.2 -1.2**
comp=Z,2μm,2.5s,baz=311
SEM *e*tx tx 21 03 00.6
comp=Z,9μm,3.8s,baz=311
SEM *i* S S **21 10 31.8 -0.5**
baz=311
SEM LR LR 21 29 25.2
comp=Z,33μm,16.8s,baz=311
SEM Semipalatinsk 57.08 311 *i* P P **21 02 44.2 -1.2**
SEM *i* S S **21 10 31.7 -0.5**
SEM pmax pmax
comp=Z,2μm,2.5s
SEM pmax pmax
comp=Z,9μm,3.8s
SEM MLR MLR
comp=Z,33μm,17.0s
KEV Kevo 57.10 349 P P **21 02 42.9 -2.0**
KEV pmax pmax
comp=Z,3μm,1.4s
KEV Kevo 57.10 349 P P **21 02 42.9 -2.0**
KEV IAmb IAmb 21 03 13.0
comp=Z,3μm,1.4s
HKPS Hong Kong Po S 57.10 265 P P **21 02 46.2 +0.6**
HKPS IAmb IAmb 21 03 14.2
comp=Z,2μm,1.2s
SCO Scoresbysund 57.22 8⇑ *i*P P **21 02 45.3 -0.4**
SCO Scoresbysund 57.22 8 P P **21 02 44.9 -0.8**
SCO pmax pmax
comp=Z,4μm,1.3s
SCO Scoresbysund 57.22 8 P P **21 02 44.9 -0.8**
SCO IAmb IAmb 21 03 16.6
comp=Z,4μm,1.3s
K38A Parkersburg 57.34 61 P P **21 02 44.6 -2.4**
K38A IAmb IAmb 21 03 13.8
comp=Z,4μm,1.2s
CD2 Chengdu 57.34 280⇓ *i*P P **21 02 47.0 -0.3**
CD2 sP sP 21 03 26.4 +3.0
CD2 PcS **PcS 21 07 39.8 -1.8**
CD2 S S **21 10 33.3 -2.6**
CD2 sS sS 21 11 18.3 +1.6
CD2 SS **SS 21 14 26.1 -0.2**
CD2 pmax pmax
comp=Z,1μm,0.7s
CD2 pmax pmax
comp=Z,37μm,8.0s
CD2 LR LR
comp=Z,665μm,29.2s
CD2 LR LR
comp=Z,675μm,33.1s
CD2 LR LR
comp=Z,724μm,47.5s
CPRX Cap Rock 57.46 77 P P **21 02 47.7 -0.5**
MNTX Cornudas Mount 57.46 79 P P **21 02 47.2 -0.9**
baz=314,SNR=1000
MNTX Cornudas Mount 57.46 79 P P **21 02 47.2 -0.9**
MSTX Muleshoe 57.47 75 P P **21 02 46.7 -1.5**
baz=314,SNR=167
MSTX Muleshoe 57.47 75 P P **21 02 46.5 -1.8**
MSTX IAmb IAmb 21 03 11.4
comp=Z,2μm,0.8s
ARCES ARCESS Array B 57.48 349 P P **21 02 45.8 -1.9**
comp=Z,36nm,0.5s,baz=32,slow=7.9,SNR=248
ARCES S S **21 10 38.4 +1.8**
comp=Z,11nm,0.6s,baz=166,slow=26,SNR=1.7
ARCES PKPPKP 21 32 28.9
comp=Z,9.6nm,0.7s,baz=202,slow=2.2,SNR=4.8
ARCES LR LR 21 32 30.2
comp=Z,139μm,18.2s,baz=20,slow=41
ARE0 ARCESS Array S 57.48 349⇑ *i*P P **21 02 46.0 -1.7**
ARE0 *e*S S **21 10 37.4 +0.8**
ARE0 IVMs_BB IVMs_BB 21 21 56.5
comp=Z,223μm,44.3s
AMTX Amarillo 57.50 74 P P **21 02 47.2 -1.2**
baz=314
AMTX Amarillo 57.50 74 P P **21 02 46.8 -1.6**
AMTX IAmb IAmb 21 03 15.7
comp=Z,2μm,0.8s
JMIC Jan Mayen 57.51 3⇑ *i*P P **21 02 47.1 -0.7**
JMIC IVmBBB 21 03 09.7
comp=Z,70μm,5.5s
JMIC *e*S S **21 10 39.6 +2.8**
JMIC IVMs_BB IVMs_BB 21 21 35.1
comp=Z,213μm,46.7s
MCO Taipa Grande 57.58 265 P P 21 02 56.0 +7.1
KSU1 Kansas State U 57.59 67 P P **21 02 46.1 -2.7**
baz=313,SNR=118
KSU1 Kansas State U 57.59 67 P P **21 02 46.2 -2.7**
SCIA State Center 57.59 62 P P **21 02 46.8 -2.1**
baz=313,SNR=100
SCIA State Center 57.59 62 P P **21 02 46.7 -2.1**
KURK Kurchatov 57.63 312 P P 21 02 43.8 -5.2
KURK P P 21 02 43.8 -5.2
KURK Kurchatov 57.63 312 *ce*P P **21 02 48.4 -0.5**
KURK pmax pmax
comp=Z,9μm,1.1s
KURK MLR MLR
comp=Z,184μm,17.0s
KURK Kurchatov 57.63 312 P P **21 02 48.6 -0.3**
I40A Norwalk 57.66 59 P P **21 02 46.8 -2.5**
I40A IAmb IAmb 21 03 15.6
comp=Z,3μm,0.7s
F42A Maple Grove Fa 57.69 56 P P **21 02 47.8 -1.7**
LVZ Lovozero 57.72 345 *ce*P P **21 02 47.8 -1.6**
LVZ pmax pmax
comp=Z,7μm,0.9s
LVZ Lovozero 57.72 345 P P **21 02 47.3 -2.0**
GDL2 Guadalupe Moun 57.73 78 P P **21 02 48.8 -1.3**
KURBB Kurchatov Arra 57.73 312 PKPPKP **P'P'df 21 32 27.7 -7.8**
comp=Z,12nm,0.8s,baz=256,slow=3.2,SNR=8.0
WMQ Urumqi 57.81 301 P P **21 02 51.1 +0.6**
WMQ pP pP 21 03 16.0 +0.7
WMQ sP sP 21 03 30.3 +3.8
WMQ PP **PP 21 05 04.0 +4.8**
WMQ S S **21 10 41.3 -0.4**
WMQ pmax pmax
comp=Z,1μm,0.9s
WMQ pmax pmax
comp=Z,50μm,8.3s
WMQ LR LR
comp=Z,420μm,21.5s
WMQ LR LR
comp=Z,234μm,27.3s
WMQ LR LR
comp=Z,301μm,23.9s
WMQ Urumqi 57.81 301 P P **21 02 50.7 +0.2**
WMQ pmax pmax
comp=Z,7μm,1.7s
WMQ Urumqi 57.81 301 P P **21 02 50.7 +0.2**
WMQ IAmb IAmb 21 03 55.0
comp=Z,7μm,1.7s
E43A Lone Tree Farm 57.86 55 P P **21 02 48.9 -1.7**
PCPH Palayan 57.96 254⇓ *e*P P **21 02 49.4 -2.2**
CLNB Carlsbad 57.98 77 P P **21 02 50.7 -1.2**
U32A Winter Ranch, 58.06 70 P P **21 02 50.1 -2.2**
U32A IAmb IAmb 21 03 22.8
comp=Z,3μm,0.8s
TRO Tromso 58.07 352⇑ *i*P P **21 02 50.1 -1.6**
TRO *e*S S **21 10 45.3 +1.2**
TRO IVMs_BB IVMs_BB 21 22 13.2
comp=Z,191μm,41.9s
APA Apatity 58.22 345⇓ *i*P P **21 02 56.1 +3.3**
APA *i* 21 03 36.3
APA *i* 21 03 46.0
APA *i* S S **21 10 48.0 +1.8**
APA *i* SS SS **21 14 45.0 +6.7**
KTK1 Kautokeino 58.24 350 *e*P P **21 02 51.1 -1.9**
KTK1 *e*S S **21 10 46.9 +0.5**
N38A Joes South For 58.34 63 P P **21 02 51.6 -2.5**
GQP Guinayangan 58.46 251⇓ *e*P P **21 02 54.8 -0.4**
JFWS Jewell Farm 58.52 59 P P **21 02 52.4 -2.8**
baz=313,SNR=301
JFWS Jewell Farm 58.52 59 P P **21 02 52.5 -2.8**
JFWS pmax pmax
comp=Z,3μm,0.7s
JFWS Jewell Farm 58.52 59 P P **21 02 52.5 -2.8**
I42A Draeger Farm, 58.56 58 P P **21 02 53.3 -2.2**
MK31 Makanchi Array 58.57 307 P P **21 02 54.9 -0.8**
MK31 Makanchi Array 58.57 307 P P **21 02 54.9 -0.8**
MKAR Makanchi Array 58.57 307 P P **21 02 54.7 -0.9**
comp=Z,401nm,0.8s,baz=49,slow=6.8,SNR=1722
MKAR S S **21 10 51.3 -0.1**
comp=Z,26nm,1.0s,baz=253,slow=28,SNR=1.0
MKAR LR LR 21 30 36.8
comp=Z,121μm,18.1s,baz=42,slow=38
MKAR PKPPKP 21 32 30.3
comp=Z,30nm,1.0s,baz=222,slow=1.6,SNR=8.1
MKAR Makanchi Array 58.57 307 *i* P P **21 02 54.5 -1.1**
MKAR pmax pmax
comp=Z,403nm,0.8s
L40A Anamosa 58.58 61 P P **21 02 52.9 -2.7**
GYA Guiyang 58.70 274 ⇓P P **21 02 56.3 -0.6**
GYA S S **21 10 52.8 -1.0**
GYA pmax pmax
comp=Z,200nm,1.0s
GYA LR LR
comp=Z,91μm,19.8s
GYA LR LR
comp=Z,112μm,18.3s
GYA LR LR
comp=Z,415μm,35.1s
MAKZ Makanchi 58.72 307 P P **21 02 55.4 -1.3**
MAKZ pmax pmax
comp=Z,1μm,0.7s
MAKZ Makanchi 58.72 307 P P **21 02 55.4 -1.3**
MAKZ IAmb IAmb 21 03 16.0
comp=Z,1μm,0.7s
H43A Windswept, Lux 58.76 57 P P **21 02 54.9 -2.1**
P38A Dawn 58.97 64 P P **21 02 55.7 -2.8**
D46A Sault St. Mari 58.98 53 P P **21 02 56.6 -1.8**
baz=314,SNR=650
F45A CMU Biological 59.08 54 P P **21 02 56.9 -2.2**
baz=314,SNR=233
T35A Sooner Cattle 59.14 68 P P **21 02 57.0 -2.7**
T35A IAmb IAmb 21 03 20.8
comp=Z,3μm,1.1s
TGY Tagaytay City 59.20 253 LR LR 21 26 36.5
comp=Z,116μm,21.4s,baz=20,slow=34
TGY PKP2bc **P'P'bc 21 32 45.5 +3.0**
comp=Z,118nm,0.3s,baz=192,slow=4.3,SNR=5.2
TGY Tagaytay City 59.20 253⇑ *i*P P **21 03 03.7 +3.4**
E46A Sault Ste Mari 59.21 53 P P **21 02 58.3 -1.7**
WMOK Wichita Mounta 59.32 72 P P **21 02 59.1 -1.9**
baz=314,SNR=672
WMOK Wichita Mounta 59.32 72 P P **21 02 59.4 -1.6**
WMOK pmax pmax
comp=Z,2μm,0.9s
WMOK Wichita Mounta 59.32 72 P P **21 02 59.4 -1.6**
WMOK IAmb IAmb 21 03 32.1
comp=Z,2μm,0.8s
D47A Chapleau 59.33 52 P P **21 02 58.8 -2.1**
baz=314,SNR=849
G45A Suttons Bay 59.45 55 P P **21 02 59.3 -2.4**
baz=314,SNR=186
L42A Oliver, Polo 59.46 60 P P **21 02 58.7 -3.0**
ADOK Arcadia Dam 59.51 70 P P **21 03 00.1 -2.2**
H45A Beulah 59.55 56 P P **21 03 00.2 -2.2**
baz=314,SNR=46
BRVK Borovoye 59.62 318 P P **21 03 00.0 -2.6**
BRVK Borovoye 59.62 318 *i* P P **21 03 02.6 -0.1**
BRVK pmax pmax
comp=Z,3μm,0.7s
BRVK MLR MLR
comp=Z,260μm,19.0s
BRVK Borovoye 59.62 318 P P **21 03 02.5 -0.2**
OKCFA Oklahoma City 59.63 70 P P **21 03 01.6 -1.5**
OKCSW OKLAHOMA CITY 59.65 70 P P **21 03 01.6 -1.6**
G46A Petoskey 59.66 54 P P **21 03 01.2 -2.0**
baz=314,SNR=169
K43A Burlington 59.69 59 P P **21 03 00.7 -2.6**
N41A Harden Midland 59.71 62 P P **21 03 01.1 -2.4**
N2VI Vinje 59.74 353 *e*P P **21 03 01.5 -1.7**
ANGG Ammassalik, Gr 59.74 17 P P **21 03 00.9 -2.4**
FNO Franklin 59.77 70 P P **21 03 03.0 -1.1**
LPIG La Paz 59.83 299 P P **21 03 04.0 -0.6**
comp=Z,1μm,1.0s,baz=21,slow=0.4,SNR=114
LPIG S S **21 11 10.8 +2.7**
comp=Z,18nm,0.3s,baz=326,slow=5.5,SNR=1.3
I45A Fountain 59.86 56 P P **21 03 02.5 -2.0**
baz=314,SNR=61
I45A Fountain 59.86 56 P P **21 03 02.8 -1.7**
P40A Paris 59.87 63 P P **21 03 02.1 -2.5**
D48A Paudash Townsh 59.88 51 P P **21 03 02.1 -2.4**
baz=315,SNR=240
D48A S S **21 11 10.3 +2.1**
baz=315
N2IH Innhavet 59.95 353 *e*P P **21 03 02.9 -1.8**
LOF Lofoten 59.97 354⇑ *i*P P **21 03 02.9 -1.9**
LOF *e*S S **21 11 10.9 +2.3**
LOF IVMs_BB IVMs_BB 21 22 46.6
comp=Z,153μm,47.0s
X34A Smith Ranch, M 59.98 71 P P **21 03 04.3 -1.2**
FUNA Funafuti 59.99 179 P P **21 03 05.8 +0.2**
MATQ Matagami 59.99 47 P P **21 03 02.1 -3.2**
baz=316,SNR=221
D49A Beulah Townshi 60.02 51 P P **21 03 03.3 -2.2**
baz=315,SNR=88
H46A Fife Lake 60.04 55 P P **21 03 03.7 -2.0**
baz=315,SNR=286
H46A S S **21 11 14.6 +4.3**
baz=315
STEI Steigen 60.04 353⇑ *i*P P **21 03 03.6 -1.8**
STEI *e*S S **21 11 10.5 +0.9**
STEI IVMs_BB IVMs_BB 21 22 45.3
comp=Z,159μm,47.7s
RABL Rabaul 60.08 211 P P **21 03 05.8 -0.5**
GLMI Grayling 60.13 55 P P **21 03 05.0 -1.4**
RCP Roxas 60.15 249⇓ *e*P P **21 03 05.8 0.0**
W35A Tecumseh 60.15 70 P P **21 03 05.0 -1.7**
TXAR Lajitas Array 60.17 80 P P **21 03 06.0 -0.9**
comp=Z,746nm,1.0s,baz=306,slow=4.3,SNR=1443
TXAR S S **21 11 16.2 +3.6**
comp=Z,16nm,0.9s,baz=137,slow=1.6,SNR=1.5
TXAR PKP2bc **P'P'bc 21 32 38.8 -2.5**
comp=Z,10nm,0.9s,baz=148,slow=5.6,SNR=4.7
E48A Lockeyer 60.19 52 P P **21 03 04.5 -2.2**
baz=315,SNR=425
E48A S S **21 11 13.2 +1.0**
baz=315
J45A Montague 60.20 57 P P **21 03 04.7 -2.1**
baz=315,SNR=11
J45A S S **21 11 10.3 -2.0**
baz=315
KRVT Keravat (AS076 60.24 211 P P **21 03 06.8 -0.5**
comp=Z,264nm,0.8s,baz=27,slow=2.3,SNR=3.4
KRVT S S **21 11 19.2 +5.9**
comp=Z,24nm,0.4s,baz=55,slow=24,SNR=1.1
KRVT LR LR 21 26 23.3
comp=Z,241μm,20.0s,baz=14,slow=33
KRVT PKP2bc **P'P'bc 21 32 35.1 -2.8**
comp=Z,28nm,0.6s,baz=137,slow=9.3,SNR=5.8
TUL1 Leonard 60.25 69 P P **21 03 05.2 -2.1**
baz=315,SNR=163
TUL1 S S **21 11 13.4 +0.1**
baz=315
TUL1 Leonard 60.25 69 P P **21 03 05.2 -2.1**
G47A Hillman 60.27 54 P P **21 03 05.5 -1.8**
baz=315,SNR=92
G47A S S **21 11 15.4 +2.1**
baz=315
L44A Lake County Fo 60.27 59 P P **21 03 05.1 -2.3**
baz=314,SNR=141
L44A S S **21 11 13.6 +0.2**
baz=314
L44A Lake County Fo 60.27 59 P P **21 03 05.0 -2.3**
ABTX Abilene, Hawle 60.28 74 P P **21 03 06.2 -1.4**
baz=315,SNR=142
ABTX S S **21 11 18.0 +4.2**
baz=315
ABTX Abilene, Hawle 60.28 74 P P **21 03 06.4 -1.2**
I46A Reed City 60.33 56 P P **21 03 06.1 -1.6**
baz=315,SNR=144
I46A S S **21 11 18.2 +4.1**
baz=315
SLBS Sierra La Lagu 60.36 89 P P **21 03 07.8 -0.5**
N2TV TΥrnvik 60.41 353 *e*P P **21 03 06.2 -1.6**
F48A Evansville 60.43 53 P P **21 03 06.2 -2.2**
baz=315,SNR=383
F48A S S **21 11 15.3 +0.1**
baz=315
S39A Bolivar 60.43 66 P P **21 03 04.5 -4.0**
S39A IAmb IAmb 21 03 33.2
comp=Z,2μm,1.4s
SVE Sverdlovsk 60.45 326 *d i*P P **21 03 08.9 +0.6**
SVE *e*S S **21 11 17.8 +2.7**
SVE pmax pmax
comp=Z,5μm,1.5s
SVE MLR MLR
comp=Z,177μm,22.0s
TMCR Tamitsa 60.47 341 *e*P P **21 03 06.8 -1.5**
TMCR *e*S S **21 11 15.0 -0.1**
TMCR pmax pmax
comp=Z,4μm,0.7s
N2VA Vr y 60.49 354 *e*P P **21 03 06.2 -2.1**
H47A Mio 60.50 55 P P **21 03 07.1 -1.8**
baz=315,SNR=26
H47A S S **21 11 17.0 +0.8**
baz=315
FAUS Fauske 60.58 353⇑ *i*P P **21 03 07.6 -1.4**
FAUS *e*S S **21 11 16.8 +0.3**
FAUS IVMs_BB IVMs_BB 21 23 24.1
comp=Z,159μm,42.8s
N2ST Straumen 60.59 353 *e*P P **21 03 07.1 -1.9**
R40A Maddies Statio 60.60 65 P P **21 03 06.3 -3.3**
R40A IAmb IAmb 21 03 34.9
comp=Z,2μm,0.9s
NBB08 Skaug oppvekst 60.62 353 *e*P P **21 03 07.4 -1.9**
HPIG 60.66 83 P P **21 03 09.4 -1.0**
HDIL Hopedale 60.66 61 P P **21 03 07.4 -2.6**
baz=315,SNR=204
HDIL Hopedale 60.66 61 P P **21 03 07.6 -2.4**
N2RO R_st 60.67 354 *e*P P **21 03 07.8 -1.8**
U38A Gravette 60.70 67 P P **21 03 07.5 -2.9**
U38A IAmb IAmb 21 03 28.9
comp=Z,2μm,0.8s
SCHQ Schefferville 60.72 37 P P **21 03 08.6 -1.7**
comp=Z,2μm,0.9s,baz=325,slow=6.5,SNR=631
SCHQ S S **21 11 21.2 +2.4**
comp=Z,155nm,1.0s,baz=18,slow=10,SNR=1.9
SCHQ PKPPKP P'P'df 21 32 20.1 -11
comp=Z,14nm,0.7s,baz=200,slow=2.8,SNR=4.3
I47A Gladwin 60.76 55 P P **21 03 08.6 -2.0**
baz=315,SNR=55
I47A S S **21 11 20.3 +0.8**
baz=315
I47A Gladwin 60.76 55 P P **21 03 08.9 -1.7**
I47A IAmb IAmb 21 03 38.1
comp=Z,3μm,0.9s
M44A Midewin, Midew 60.76 59 P P **21 03 08.5 -2.1**
F49A Sandfield 60.76 52 P P **21 03 08.8 -1.8**
baz=315,SNR=562
F49A S S **21 11 19.8 +0.4**
baz=315
LSQQ Lebel-sur-Quev 60.80 47 P P **21 03 08.1 -2.7**
baz=316
D50A G1974 Best Tow 60.83 50 P P **21 03 08.2 -2.8**
baz=316,SNR=426
D50A S S **21 11 22.2 +1.9**
baz=316
BRZS Berezniki 60.84 315⇓ *i*P P **21 03 10.5 -0.6**
comp=Z,5μm,2.6s,baz=315
BRZS *i* S S **21 11 20.6 +0.2**
baz=315
BRZS Berezniki 60.84 315 *d i*P P **21 03 10.4 -0.6**
BRZS *i* S S **21 11 20.5 +0.2**
BRZS pmax pmax
comp=Z,5μm,2.6s
E50A Wahnapitae 60.93 51 P P **21 03 09.7 -2.0**
baz=316,SNR=217
E50A S S **21 11 21.3 -0.2**
baz=316
TBP Tagbilaran 61.00 247 *e*P P **21 03 13.4 +0.8**
NBB05 Inndyr 61.02 353 *e*P P **21 03 10.0 -2.0**
HHAR Hobbs 61.06 67 P P **21 03 09.9 -3.0**
HHAR IAmb IAmb 21 03 33.5
comp=Z,1μm,0.7s
NBB30 Finnes 61.10 353 *e*P P **21 03 10.4 -2.1**
D51A Lot 18 Range I 61.10 50 P P **21 03 10.3 -2.6**
baz=316,SNR=750
D51A S S **21 11 24.1 +0.3**
baz=316
P43A Skaggs, Pawnee 61.18 62 P P **21 03 11.2 -2.4**
Z35A Perchaven, San 61.21 72 P P **21 03 11.6 -2.2**
Z35A IAmb IAmb 21 03 36.3
comp=Z,3μm,0.8s
NBB17 Glomfjord BΨr 61.24 353 *e*P P **21 03 11.9 -1.5**
L46A Eue Claire 61.25 58 P P **21 03 11.8 -2.2**
JAP San Jose, Anti 61.26 250⇑ *e*P P **21 03 14.9 +0.5**
VLDQ Val d'Or 61.26 48 P P **21 03 09.9 -4.0**
VLDQ IAmb IAmb 21 03 38.4
comp=Z,3μm,0.9s
CHGQ Chibougamau 61.34 45 P P **21 03 11.6 -2.8**
baz=317,SNR=542
CCM Cathedral Cave 61.34 64 P P **21 03 11.6 -3.1**
baz=315
CCM Cathedral Cave 61.34 64 P P **21 03 11.6 -3.1**
CCM pmax pmax
comp=Z,6μm,1.7s
CCM Cathedral Cave 61.34 64 P P **21 03 11.6 -3.1**
CCM IAmb IAmb 21 03 41.1
comp=Z,6μm,1.7s
IVI Ivigtut 61.40 24 P P **21 03 12.9 -1.7**
IVI IAmb IAmb 21 03 41.5
comp=Z,3μm,0.8s
O44A Mansfield 61.40 61 P P **21 03 12.6 -2.4**
X37A Clayton 61.43 70 P P **21 03 13.4 -1.8**
X37A IAmb IAmb 21 03 42.2
comp=Z,3μm,1.0s
E51A G1948 Merrick 61.45 50 P P **21 03 12.7 -2.5**
baz=316,SNR=417
E51A S S **21 11 28.3 +0.2**
baz=316
ARU Arti 61.47 327 P P **21 03 15.0 -0.3**
comp=Z,228nm,0.6s,baz=26,slow=4.1,SNR=683
ARU Arti 61.47 327 *c i*P P **21 03 15.0 -0.3**
ARU *PP **pP 21 03 40.2 +0.1**
ARU 21 03 57.8
ARU 21 05 30.5
ARU *e*S S **21 11 30.5 +2.4**
ARU SS **SS 21 15 25.5 -4.2**
ARU pmax pmax
comp=Z,922nm,0.9s

ARU pmax pmax
comp=Z,33µm,8.5s
ARU MLR MLR
comp=Z,179µm,18.0s
ARU Arti 61.47 327 P **P** **21 03 14.9 -0.3**
SLM Saint Louis 61.50 63 P **P** **21 03 13.2 -2.5**
SLM pmax pmax
comp=Z,5µm,1.5s
SLM Saint Louis 61.50 63 P **P** **21 03 13.2 -2.5**
SLM IAmb IAmb 21 03 41.7
comp=Z,5µm,1.4s
CGP Cagayan de Oro 61.53 245⇓ *e*P **P** **21 03 16.5 +0.4**
NBB40 Tonnes 61.61 354 *e*P **P** **21 03 13.9 -2.0**
KONS Konsvik 61.61 353 *e*P **P** **21 03 14.8 -1.1**
KONS *e*S **S** **21 11 28.4 -1.2**
U40A Yellville 61.63 67 P **P** **21 03 13.9 -2.8**
baz=315,SNR=1000
U40A S **S** **21 11 26.9 -3.9**
baz=315
U40A Yellville 61.63 67 P **P** **21 03 13.7 -2.9**
U40A IAmb IAmb 21 03 44.3
comp=Z,3µm,0.9s
J48A Bridge Port 61.64 55 P **P** **21 03 14.7 -1.8**
baz=316,SNR=58
J48A S **S** **21 11 30.5 -0.1**
baz=316
J48A Bridge Port 61.64 55 P **P** **21 03 14.6 -2.0**
J48A IAmb IAmb 21 03 43.0
comp=Z,2µm,0.8s
D52A ZEK Kipawa Sen 61.64 49 P **P** **21 03 14.0 -2.5**
baz=317,SNR=376
D52A S **S** **21 11 30.4 -0.2**
baz=317
SNPH Sibulan 61.65 247⇑ *e*P **P** **21 03 18.4 +1.4**
I49A Point Hope 61.67 54 P **P** **21 03 15.1 -1.6**
baz=316,SNR=174
I49A S **S** **21 11 31.1 +0.1**
baz=316
F51A Arnstein 61.68 51 P **P** **21 03 14.4 -2.4**
baz=316,SNR=222
F51A S **S** **21 11 31.1 0.0**
baz=316
JCT Junction City 61.71 76 P **P** **21 03 15.7 -1.6**
baz=316,SNR=198
JCT Junction City 61.71 76 P **P** **21 03 15.4 -1.9**
JCT pmax pmax
comp=Z,7µm,1.5s
JCT Junction City 61.71 76 P **P** **21 03 15.4 -1.9**
TDK Taldyqorghan 61.76 308 *i* P **P** **21 03 17.2 -0.2**
comp=Z,2µm,1.0s,baz=308
TDK *i* S **S** **21 11 32.7 +0.6**
baz=308
TDK Taldyqorghan 61.76 308 *i* P **P** **21 03 17.1 -0.2**
TDK *i* S **S** **21 11 32.7 +0.6**
TDK pmax pmax
comp=Z,2µm,1.0s
STOK Stokkvaagen 61.78 353 *e*P **P** **21 03 15.7 -1.5**
STOK *e*S **S** **21 11 33.2 +1.5**
MOR8 Moi Rana 61.84 353⇑ *i*P **P** **21 03 14.7 -2.8**
MOR8 *e*ScP **ScP** **21 07 48.6 -1.1**
MOR8 *e*S **S** **21 11 28.6 -3.9**
MOR8 IVMs_BB IVMs_BB 21 23 54.9
comp=Z,170µm,42.1s
D53A Lac Vacive, Po 61.90 49 P **P** **21 03 15.8 -2.5**
baz=317,SNR=561
D53A S **S** **21 11 34.9 +1.0**
baz=317
D53A Lac Vacive, Po 61.90 49 P **P** **21 03 15.5 -2.8**
D53A IAmb IAmb 21 03 37.0
comp=Z,4µm,1.1s
W39A Magazine 61.92 68 P **P** **21 03 16.7 -1.9**
baz=315,SNR=495
W39A S **S** **21 11 34.0 -0.4**
baz=315
W39A Magazine 61.92 68 P **P** **21 03 16.6 -2.0**
J49A Marlette 61.92 55 P **P** **21 03 16.7 -1.7**
baz=316,SNR=115
J49A S **S** **21 11 35.2 +0.9**
baz=316
SFIN Lafayette 61.98 60 P **P** **21 03 17.0 -1.8**
baz=316,SNR=532
SFIN S **S** **21 11 34.1 -0.9**
baz=316
SFIN Lafayette 61.98 60 P **P** **21 03 16.6 -2.3**
Q44A Meyer Farm, Va 61.98 62 P **P** **21 03 16.4 -2.5**
Q44A IAmb IAmb 21 03 45.6
comp=Z,3µm,1.1s
E52A Mattawa 62.02 50 P **P** **21 03 16.5 -2.6**
baz=317,SNR=385
WHTX Lake Whitney, 62.04 73 P **P** **21 03 18.3 -1.1**
baz=316,SNR=190
WHTX S **S** **21 11 39.6 +3.6**
baz=316
WHTX Lake Whitney, 62.04 73 P **P** **21 03 18.1 -1.3**
WHTX IAmb IAmb 21 03 39.5
comp=Z,3µm,0.8s
F52A Sundridge 62.06 51 P **P** **21 03 17.3 -2.1**
baz=317,SNR=288
F52A S **S** **21 11 38.7 +2.8**
baz=317
KMI Kunming 62.10 276⇓ *i*P **P** **21 03 19.9 -0.3**
KMI S **S** **21 11 37.8 +0.4**
KMI pmax pmax
comp=Z,180nm,1.3s
KMI pmax pmax
comp=Z,25µm,5.8s
KMI LR LR
comp=Z,202µm,38.5s
KMI LR LR
comp=Z,186µm,31.1s
KMI Kunming 62.10 276 P **P** **21 03 19.6 -0.6**
KMI pmax pmax
comp=Z,1µm,1.1s
KMI Kunming 62.10 276 P **P** **21 03 19.6 -0.6**
NRS Narsarsuaq 62.11 22⇑ *i*P **P** **21 03 17.5 -1.8**
NRS Narsarsuaq 62.11 22 P **P** **21 03 17.6 -1.8**
NRS pmax pmax
comp=Z,2µm,1.0s
NRS Narsarsuaq 62.11 22 P **P** **21 03 17.6 -1.8**
NRS IAmb IAmb 21 03 45.1
comp=Z,2µm,1.0s
K49A Clarkson 62.17 56 P **P** **21 03 18.8 -1.4**
baz=316,SNR=152
K49A S **S** **21 11 41.2 +3.7**
baz=316
QIZ Qiongzhong 62.19 266 P **P** **21 03 21.5 +0.9**
QIZ pP **pP** **21 03 48.6 +3.3**
QIZ sP **PcP** **21 04 05.8 +6.1**
QIZ S **S** **21 11 39.0 +0.9**
QIZ ScS **SKSac** **21 13 03.9 +0.9**
QIZ pmax pmax
comp=Z,320nm,1.1s
QIZ Qiongzhong 62.19 266 P **P** **21 03 21.4 +0.9**
QIZ pP **pP** **21 03 46.8 +1.5**
QIZ PP **PP** **21 05 39.3 +1.0**
QIZ S **S** **21 11 40.9 +2.8**
QIZ sS **sS** **21 12 21.8 +1.2**
QIZ pmax pmax
comp=Z,320nm,1.2s
QIZ pmax pmax
comp=Z,28µm,8.8s
QIZ Qiongzhong 62.19 266 P **P** **21 03 21.6 +0.9**
QIZ IAmb IAmb 21 03 49.5
comp=Z,2µm,1.2s
DCPH Dipolog City 62.19 247⇑ *e*P **P** **21 03 20.1 -0.5**
DMPH Davao City--Mi 62.20 244⇑ *e*P **P** **21 03 23.0 +2.4**
DMPH *i* S **pP** **21 03 43.6 -1.7**
OTUK Ortayu 62.26 314 *i* P **P** **21 03 20.3 -0.4**
OTUK pmax pmax
comp=Z,2µm,0.8s
L48A N Adams 62.27 57 P **P** **21 03 18.5 -2.3**
L48A IAmb IAmb 21 03 47.2
comp=Z,3µm,0.8s
D54A Lac Fusel, La 62.33 48 P **P** **21 03 18.3 -2.9**
baz=317,SNR=216
N47A Urbana 62.37 58 P **P** **21 03 18.6 -2.9**
N47A IAmb IAmb 21 03 39.7
comp=Z,2µm,1.0s
FCAR Ozark Folk Cen 62.38 66 P **P** **21 03 18.8 -2.8**
AAM Ann Arbor 62.42 56 P **P** **21 03 20.0 -1.8**
baz=316,SNR=40
AAM Ann Arbor 62.42 56 P **P** **21 03 19.7 -2.1**
AAM pmax pmax
comp=Z,2µm,0.7s
AAM Ann Arbor 62.42 56 P **P** **21 03 19.7 -2.1**

AAM IAmb IAmb 21 03 48.3
comp=Z,2µm,0.7s
PDGK Podgornoye 62.42 306 *i* P **P** **21 03 20.8 -1.2**
PDGK pmax pmax
comp=Z,2µm,1.3s
E53A Dumoine, Ponti 62.43 49 P **P** **21 03 19.2 -2.6**
baz=317,SNR=305
E53A S **S** **21 11 41.9 +1.4**
baz=317
P46A Rosedale 62.46 60 P **P** **21 03 19.9 -2.2**
P46A IAmb IAmb 21 03 48.5
comp=Z,3µm,0.8s
KCP Kidapawan 62.49 244⇓ *e*P **P** **21 03 23.3 +0.7**
KCP *i* S **sP** **21 03 57.2 -1.2**
MIAR Mount Ida 62.50 68 P **P** **21 03 21.0 -1.5**
baz=316,SNR=755
MIAR Mount Ida 62.50 68 P **P** **21 03 20.6 -1.8**
MIAR pmax pmax
comp=Z,6µm,1.1s
MIAR Mount Ida 62.50 68 P **P** **21 03 20.6 -1.8**
ALGO Algonquin Park 62.55 50 P **P** **21 03 20.0 -2.7**
baz=317,SNR=308
SHLS Shalkode 62.56 306⇓ *i*P **P** **21 03 21.3 -1.6**
comp=Z,2µm,1.3s,baz=305
SHLS *i* S **S** **21 11 40.7 -1.9**
baz=305
SHLS Shalkode 62.56 306 *d* *i*P **P** **21 03 21.3 -1.6**
SHLS *i* S **S** **21 11 40.6 -1.9**
SHLS pmax pmax
comp=Z,2µm,1.3s
KIRV Kirov 62.57 333 *i* P **P** **21 03 21.9 -0.6**
Z38A Mt. Pleasant 62.59 70 P **P** **21 03 21.5 -1.5**
OLIL Olney 62.60 62 P **P** **21 03 20.8 -2.3**
K50A Casco 62.61 55 P **P** **21 03 21.1 -1.9**
baz=316,SNR=56
K50A S **S** **21 11 46.4 +3.6**
baz=316
E54A Lac Daplat, Po 62.61 49 P **P** **21 03 20.1 -2.9**
baz=317,SNR=770
H52A Wyevale 62.62 52 P **P** **21 03 21.2 -2.0**
baz=317,SNR=31
H52A S **S** **21 11 46.4 +3.5**
baz=317
I51A Listowel 62.67 53 P **P** **21 03 22.3 -1.2**
baz=317,SNR=454
I51A S **S** **21 11 48.3 +4.7**
baz=317
PBMO Poplar Bluff 62.71 65 P **P** **21 03 21.0 -2.8**
PBMO IAmb IAmb 21 03 50.1
comp=Z,5µm,1.1s
S44A Carbondale 62.71 63 P **P** **21 03 21.2 -2.5**
WHAR Wooly Hollow 62.71 67 P **P** **21 03 21.1 -2.8**
WHAR IAmb IAmb 21 03 50.5
comp=Z,5µm,1.1s
KPKS Kokpek 62.73 306⇓ *i*P **P** **21 03 23.9 -0.1**
comp=Z,1µm,0.9s,baz=306
KPKS *i* S **S** **21 11 45.5 +1.0**
baz=306
KPKS LR LR 21 29 05.4
comp=Z,45µm,16.1s,baz=306
KPKS Kokpek 62.73 306 *d* *i*P **P** **21 03 23.8 -0.1**
KPKS *i* S **S** **21 11 45.5 +1.0**
KPKS pmax pmax
comp=Z,1µm,0.9s
UZB Uzynbulak 62.79 306 *i* P **P** **21 03 24.0 -0.4**
comp=Z,786nm,1.5s,baz=306
UZB *e*tx tx 21 03 42.6
comp=Z,5µm,3.4s,baz=306
UZB *i* S **S** **21 11 46.1 +0.6**
baz=306
UZB Uzynbulak 62.79 306 *i* P **P** **21 03 24.0 -0.4**
UZB *i* S **S** **21 11 46.0 +0.6**
UZB pmax pmax
comp=Z,787nm,1.5s
UZB pmax pmax
comp=Z,5µm,3.4s
W41B Gary Mavity, V 62.82 67 P **P** **21 03 22.2 -2.3**
baz=316,SNR=793
W41B Gary Mavity, V 62.82 67 P **P** **21 03 21.9 -2.7**
W41B IAmb IAmb 21 03 52.6
comp=Z,5µm,1.1s
435B Jarrell 62.82 74 P **P** **21 03 23.7 -0.9**
baz=316,SNR=114
435B S **S** **21 11 50.0 +4.1**
baz=316
435B Jarrell 62.82 74 P **P** **21 03 23.6 -1.1**
BORG Borgarnes 62.86 9 P **P** **21 03 24.4 +0.1**
BORG pmax pmax
comp=Z,2µm,1.2s
BORG Borgarnes 62.86 9 P **P** **21 03 24.4 +0.1**
JAY Jayapura 62.86 224 PKPPKP **P'P'df** **21 32 27.9 +3.3**
comp=Z,81nm,1.2s,baz=181,slow=8.5,SNR=7.9
JOF Joensuu 62.86 344 P **P** **21 03 22.9 -1.4**
JOF pmax pmax
comp=Z,3µm,1.0s
G53A Haliburton 62.89 51 P **P** **21 03 23.0 -1.9**
baz=317,SNR=432
G53A S **S** **21 11 48.9 +2.6**
baz=317
SADO Sadowa 62.90 51 P **P** **21 03 22.6 -2.4**
comp=Z,377nm,0.9s,baz=329,slow=7.4,SNR=213
SADO S **S** **21 11 48.7 +2.3**
comp=Z,60nm,0.8s,baz=92,slow=20,SNR=1.6
SADO Sadowa 62.90 51 P **P** **21 03 22.3 -2.6**
SADO IAmb IAmb 21 03 50.9
comp=Z,3µm,1.1s
I52A Shelburne 62.90 53 P **P** **21 03 23.4 -1.6**
baz=317,SNR=18
I52A S **S** **21 11 49.4 +2.9**
baz=317
G54A Lake Saint Pet 62.94 50 P **P** **21 03 22.8 -2.4**
baz=317,SNR=250
X40A Basin Creek Fa 62.97 68 P **P** **21 03 23.6 -2.0**
baz=316,SNR=328
X40A S **S** **21 11 50.0 +2.4**
baz=316
X40A Basin Creek Fa 62.97 68 P **P** **21 03 23.1 -2.4**
D55A Sainte-Anne-du 62.98 48 P **P** **21 03 22.8 -2.6**
baz=318,SNR=640
HNR Honiara 62.99 201 P **P** **21 03 25.6 -0.2**
comp=Z,746nm,0.8s,baz=203,slow=3.3,SNR=40
HNR LR LR 21 27 30.8
comp=Z,136µm,19.4s,baz=16,slow=33
HNR PKPPKP **P'P'df** **21 32 25.4 +2.0**
comp=Z,36nm,0.4s,baz=212,slow=9.8,SNR=3.6
HNR Honiara 62.99 201 P **P** **21 03 25.6 -0.2**
HNR pmax pmax
comp=Z,6µm,0.9s
HNR Honiara 62.99 201 P **P** **21 03 25.6 -0.2**
237A Washetta, Mont 63.01 72 P **P** **21 03 24.3 -1.5**
237A IAmb IAmb 21 03 52.8
comp=Z,7µm,1.5s
L50A Kingsville 63.04 56 P **P** **21 03 23.9 -2.0**
baz=316,SNR=62
L50A S **S** **21 11 50.4 +2.2**
baz=316
UALR University of 63.05 67 P **P** **21 03 23.7 -2.3**
UALR IAmb IAmb 21 03 52.5
comp=Z,9µm,1.9s
KLMR Klimovskoe 63.11 339 *c* *i*P **P** **21 03 24.7 -1.4**
KLMR *e*S **S** **21 11 48.9 +0.3**
KLMR pmax pmax
comp=Z,4µm,1.1s
KLMR MLR MLR
comp=Z,111µm,17.0s
KLMR Klimovskoe 63.11 339⇑ *i*P **P** **21 03 24.7 -1.4**
KLMR *i* P **P** **21 03 24.7 -1.4**
KLMR *i* P **P** **21 03 24.7 -1.4**
KLMR AMP 21 03 42.7
comp=Z,4µm,1.1s
KLMR *e*S **S** **21 11 48.9 +0.3**
KLMR *e*S **S** **21 11 48.9 +0.3**
KLMR LQ LQ 21 26 07.6
KLMR LQ LQ 21 26 07.6
KLMR LR LR 21 31 17.5
KLMR AMP 21 35 38.8
comp=Z,111µm,16.9s
E55A Montcerf-Lytto 63.13 48 P **P** **21 03 23.6 -2.8**
baz=318,SNR=94
N49A Columbus Grove 63.14 57 P **P** **21 03 24.1 -2.5**
N49A IAmb IAmb 21 03 53.4
comp=Z,4µm,1.2s
BLO Bloomington 63.15 60 P **P** **21 03 24.2 -2.5**
BLO pmax pmax
comp=Z,2µm,0.7s
BLO Bloomington 63.15 60 P **P** **21 03 24.2 -2.5**

BLO IAmb IAmb 21 03 52.8
comp=Z,2µm,0.7s
SATY Saty 63.16 306⇓ *i*P **P** **21 03 26.9 -0.1**
comp=Z,2µm,2.6s,baz=306
SATY *e*tx tx 21 03 45.3
comp=Z,5µm,3.3s,baz=306
SATY *i* S **S** **21 11 50.6 +0.6**
baz=306
SATY Saty 63.16 306 *d* *i*P **P** **21 03 26.8 -0.1**
SATY *i* S **S** **21 11 50.6 +0.6**
SATY pmax pmax
comp=Z,2µm,2.6s
SATY pmax pmax
comp=Z,5µm,3.3s
PARMO Parma 63.17 64 P **P** **21 03 24.6 -2.3**
K51A Iona Station 63.21 54 P **P** **21 03 25.6 -1.4**
baz=317,SNR=18
K51A S **S** **21 11 53.5 +3.1**
baz=317
D56A ZEC Mazanza, M 63.28 47 P **P** **21 03 24.6 -2.9**
baz=318,SNR=531
D56A S **S** **21 11 51.9 +0.7**
baz=318
HENM Henderson Moun 63.29 64 P **P** **21 03 25.7 -1.9**
HENM IAmb IAmb 21 03 54.5
comp=Z,4µm,0.9s
CHKK Chushkaly 63.29 308⇓ *i*P **P** **21 03 26.7 -0.9**
comp=Z,1µm,0.9s,baz=308
CHKK *i* S **S** **21 11 51.5 0.0**
baz=308
CHKK Chushkaly 63.29 308 *d* *i*P **P** **21 03 26.7 -0.9**
CHKK *i* S **S** **21 11 51.4 0.0**
CHKK pmax pmax
comp=Z,1µm,0.9s
H53A Bobcaygeon 63.31 51 P **P** **21 03 25.5 -2.2**
baz=317,SNR=267
H53A S **S** **21 11 54.9 +3.3**
baz=317
GSPH General Santos 63.33 244⇓ *e*P **P** **21 03 28.4 +0.1**
J52A Paris 63.35 53 P **P** **21 03 26.4 -1.6**
baz=317,SNR=162
J52A S **S** **21 11 56.4 +4.2**
baz=317
I53A Kortright Cn E 63.37 52 P **P** **21 03 26.3 -1.7**
baz=317,SNR=18
I53A S **S** **21 11 57.2 +5.0**
baz=317
PVMO Portageville 63.38 64 P **P** **21 03 26.2 -2.0**
PVMO IAmb IAmb 21 03 54.4
comp=Z,5µm,1.1s
M50A Fremont 63.38 56 P **P** **21 03 25.9 -2.2**
WLAR White Oak Lake 63.38 69 P **P** **21 03 26.7 -1.6**
PENMO Penman 63.39 64 P **P** **21 03 26.2 -2.1**
USIN University of 63.39 62 P **P** **21 03 26.0 -2.3**
H06S1 SOCORRO T 63.40 93 P **P** **21 03 28.4 -0.2**
F55A Otter Lake 63.45 49 P **P** **21 03 25.7 -2.9**
baz=318,SNR=120
HBAR Harrisburg 63.45 66 P **P** **21 03 26.6 -2.1**
HBAR IAmb IAmb 21 03 52.3
comp=Z,7µm,1.3s
833A Chaparral WMA, 63.50 77 P **P** **21 03 28.5 -0.7**
baz=317,SNR=117
833A S **S** **21 11 58.9 +4.5**
baz=317
833A Chaparral WMA, 63.50 77 P **P** **21 03 28.1 -1.0**
GNAR Gosnell 63.52 65 P **P** **21 03 27.1 -2.1**
GNAR IAmb IAmb 21 03 56.2
comp=Z,7µm,1.6s
P48A Milroy 63.53 59 P **P** **21 03 26.5 -2.7**
P48A IAmb IAmb 21 03 55.0
comp=Z,4µm,0.7s
T45A Paducah 63.53 63 P **P** **21 03 27.1 -2.2**
E56A St. Veronique 63.53 48 P **P** **21 03 26.3 -2.8**
baz=318,SNR=254
HICK Hickman 63.55 64 P **P** **21 03 27.6 -1.7**
HICK IAmb IAmb 21 03 46.3
comp=Z,6µm,1.3s
K52A Tillsonburg 63.57 54 P **P** **21 03 27.8 -1.6**
baz=317,SNR=17
K52A S **S** **21 11 59.4 +4.5**
baz=317
KUU Kurty 63.58 308⇓ *i*P **P** **21 03 28.4 -1.1**
comp=Z,3µm,2.4s,baz=308
KUU *e*tx tx 21 03 46.9
comp=Z,13µm,4.0s,baz=308
KUU *i* S **S** **21 11 54.9 -0.2**
baz=308
KUU Kurty 63.58 308 *d* *i*P **P** **21 03 28.4 -1.1**
KUU *i* S **S** **21 11 54.8 -0.2**
KUU pmax pmax
comp=Z,3µm,2.4s
KUU pmax pmax
comp=Z,13µm,4.0s
PRZ Przheval'sk 63.58 306 P **P** **21 03 30.5 +0.7**
PRZ Przheval'sk 63.58 306 P **P** **21 03 30.5 +0.7**
O49A Covington 63.59 58 P **P** **21 03 27.0 -2.6**
O49A IAmb IAmb 21 03 55.6
comp=Z,4µm,1.1s
LPAR Lepanto 63.62 65 P **P** **21 03 28.1 -1.7**
NSS Namsos 63.64 354 *e*P **P** **21 03 27.7 -1.8**
NSS IVmB_BB 21 03 50.7
comp=Z,52µm,2.7s
NSS *e*S **S** **21 11 54.9 -0.1**
NSS *e*SKSac **SKKSac** **21 13 06.7 -6.0**
NSS IVMs_BB IVMs_BB 21 24 49.4
comp=Z,142µm,46.1s
PLVO Plevna 63.69 50 P **P** **21 03 27.7 -2.5**
D57A Chemin Vers le 63.70 47 P **P** **21 03 27.4 -2.9**
baz=319,SNR=438
G55A Calabogie 63.70 50 P **P** **21 03 27.6 -2.6**
baz=318,SNR=338
GLAT Glass 63.71 64 P **P** **21 03 28.5 -1.9**
GLAT IAmb IAmb 21 03 57.8
comp=Z,5µm,1.0s
LNXT Lenox 63.72 65 P **P** **21 03 28.8 -1.6**
MDOK Medeo 63.77 307 *i* P **P** **21 03 30.8 -0.2**
baz=307
MDOK *e*sP **sP** **21 04 07.0 -0.4**
baz=307
MDOK *i* S **S** **21 11 58.5 +0.9**
baz=307
MDOK LR LR 21 30 11.5
comp=Z,56µm,16.5s,baz=307
MDOK Medeo 63.77 307 *i* P **P** **21 03 30.7 -0.2**
MDOK *e**SP **sP** **21 04 06.9 -0.4**
MDOK *i* S **S** **21 11 58.5 +0.9**
MDOK MLR MLR
comp=Z,56µm,17.0s
AAA Alma-Ata 63.80 307 *i* P **P** **21 03 31.3 +0.3**
comp=Z,2µm,1.3s,baz=307
AAA *e*S **S** **21 11 59.2 +1.3**
baz=307
AAA LR LR 21 30 54.9
comp=Z,56µm,18.5s,baz=307
AAA Alma-Ata 63.80 307 *e*P **P** **21 03 31.6 +0.6**
AAA *e*S **S** **21 12 01.5 +3.7**
AAA pmax pmax
comp=Z,18µm,5.7s
AAA smax smax
comp=E,70µm,12.0s
AAA MLR MLR
comp=Z,52µm,17.0s
DELO Deloro Mine 63.82 51 P **P** **21 03 28.6 -2.4**
DELO IAmb IAmb 21 03 57.1
comp=Z,2µm,1.0s
BTLS Baital 63.84 310⇓ *i*P **P** **21 03 30.9 -0.2**
comp=Z,662nm,1.1s,baz=310
BTLS *i* S **S** **21 11 58.8 +0.7**
baz=310
BTLS Baital 63.84 310 *d* *i*P **P** **21 03 30.9 -0.2**
BTLS *i* S **S** **21 11 58.8 +0.7**
BTLS pmax pmax
comp=Z,662nm,1.1s
P49A Miami Univ. Ec 63.86 59 P **P** **21 03 28.8 -2.5**
baz=317,SNR=120
P49A Miami Univ. Ec 63.86 59 P **P** **21 03 28.7 -2.7**
P49A IAmb IAmb 21 03 57.1
comp=Z,3µm,0.9s
NATX Nacogdoches 63.86 71 P **P** **21 03 30.4 -1.1**
baz=316,SNR=92
NATX Nacogdoches 63.86 71 P **P** **21 03 30.3 -1.1**
NATX IAmb IAmb 21 03 59.4
comp=Z,3µm,0.8s
Z41A Richland Creek 63.87 69 P **P** **21 03 30.0 -1.5**
baz=316,SNR=66
Z41A Richland Creek 63.87 69 P **P** **21 03 29.9 -1.6**

Z41A IAmb IAmb 21 03 59.0
comp=Z,2μm,0.9s
M51A Elyria 63.88 56 P **P 21 03 29.1 -2.4**
baz=317,SNR=29
UTMT University of 63.90 64 P **P 21 03 30.0 -1.7**
TNSS Tian-Shan 63.91 307 *d i* P **P 21 03 32.1 0.0**
baz=307
TNSS Tian-Shan 63.91 307 *d i* P **P 21 03 32.1 0.0**
LATQ La Tuque 63.92 46 P **P 21 03 29.1 -2.5**
baz=319,SNR=48
LATQ La Tuque 63.92 46 P **P 21 03 29.1 -2.5**
HALT Halls 63.94 65 P **P 21 03 29.8 -2.1**
WCI Wyandotte Cave 63.95 61 P **P 21 03 30.0 -2.0**
baz=316
WCI Wyandotte Cave 63.95 61 P **P 21 03 29.6 -2.4**
WCI pmax pmax
comp=Z,2μm,0.7s
WCI Wyandotte Cave 63.95 61 P **P 21 03 29.6 -2.4**
WCI IAmb IAmb 21 03 59.6
comp=Z,2μm,0.7s
CCAR Cane Creek 63.99 68 P **P 21 03 31.1 -1.1**
TRQ Mont Tremblant 63.99 48 P **P 21 03 29.2 -3.0**
H55A Tweed 64.00 50 P **P 21 03 30.1 -2.1**
baz=318,SNR=336
I55A Frankford 64.01 51 P **P 21 03 30.2 -2.0**
baz=318,SNR=197
E57A Chemin Saint G 64.04 47 P **P 21 03 29.6 -2.9**
baz=319,SNR=1000
X43A Marvell 64.07 67 P **P 21 03 30.8 -2.0**
baz=316,SNR=17
X43A Marvell 64.07 67 P **P 21 03 30.9 -1.9**
735A Kenedy 64.08 76 P **P 21 03 32.9 0.0**
LCCO2 Lakeland CC 2, 64.08 55 P **P 21 03 31.0 -1.8**
HDBT Hernando Brdge 64.08 66 P **P 21 03 31.1 -1.8**
HDBT IAmb IAmb 21 03 59.4
comp=Z,4μm,0.9s
N51A Ashland 64.08 56 P **P 21 03 30.5 -2.3**
baz=317,SNR=154
N51A Ashland 64.08 56 P **P 21 03 30.4 -2.3**
N51A IAmb IAmb 21 03 58.9
comp=Z,3μm,0.8s
D58A Chemin du LacG 64.10 46 P **P 21 03 30.0 -2.8**
baz=319,SNR=369
MTBS Maitube 64.10 307 *j i* P **P 21 03 33.1 +0.1**
baz=307
MTBS Maitube 64.10 307 *d i* P **P 21 03 33.1 +0.1**
ORIO Orleans, Innes 64.13 49 P **P 21 03 29.9 -3.1**
baz=318,SNR=53
ORIO Orleans, Innes 64.13 49 P **P 21 03 29.8 -3.1**
M52A Chesterland 64.15 55 P **P 21 03 31.3 -2.0**
baz=317,SNR=79
M52A Chesterland 64.15 55 P **P 21 03 31.1 -2.2**
SLVN Son La 64.16 272 P **P 21 03 33.6 0.0**
MET Memphis--Engin 64.17 66 P **P 21 03 31.7 -1.7**
J54A Appleton 64.24 52 P **P 21 03 32.0 -1.8**
baz=318,SNR=131
J54A Appleton 64.24 52 P **P 21 03 32.0 -1.8**
ACSO Alum Creek Sta 64.27 57 P **P 21 03 31.9 -2.1**
baz=317,SNR=163
ACSO Alum Creek Sta 64.27 57 P **P 21 03 31.8 -2.2**
L53A Girard 64.40 54 P **P 21 03 33.1 -1.8**
baz=318,SNR=85
T47A Sharon Grove 64.41 62 P **P 21 03 33.0 -1.9**
T47A IAmb IAmb 21 04 02.1
comp=Z,5μm,0.9s
H56A Elgin 64.41 50 P **P 21 03 32.5 -2.4**
baz=318,SNR=176
ERPA Erie 64.42 54 P **P 21 03 33.3 -1.7**
baz=318,SNR=107
ERPA Erie 64.42 54 P **P 21 03 33.1 -1.9**
ERPA IAmb IAmb 21 04 01.6
comp=Z,4μm,0.8s
TARG Taragay, Kyrgy 64.44 305 P **P 21 03 35.6 0.0**
KDJ Kajisay 64.46 306 P **P 21 03 35.5 0.0**
KDJ pmax pmax
comp=Z,2μm,1.1s
KDJ Kajisay 64.46 306 P **P 21 03 35.5 0.0**
KDJ IAmb IAmb 21 04 28.9
comp=Z,2μm,1.1s
E58A La Victoria 64.47 47 P **P 21 03 32.3 -2.9**
baz=319,SNR=263
HKT Hockley 64.47 74 P **P 21 03 34.4 -1.0**
HKT pmax pmax
comp=Z,9μm,2.0s
HKT Hockley 64.47 74 P **P 21 03 34.4 -1.0**
HKT IAmb IAmb 21 04 04.2
comp=Z,9μm,1.9s
N52A McGinn's Farm, 64.51 56 P **P 21 03 33.2 -2.4**
baz=317,SNR=17
R49A Shelbyville 64.51 60 P **P 21 03 33.4 -2.3**
O51A Pataskala 64.52 57 P **P 21 03 33.6 -2.2**
baz=317,SNR=298
PECO Prince Edward 64.55 51 P **P 21 03 33.4 -2.4**
PECO IAmb IAmb 21 03 55.0
comp=Z,5μm,1.2s
W45A Hickory Valley 64.57 65 P **P 21 03 34.2 -1.8**
M53A WI Miller and 64.57 55 P **P 21 03 34.2 -1.8**
baz=318,SNR=207
M53A WI Miller and 64.57 55 P **P 21 03 34.0 -2.0**
M53A IAmb IAmb 21 03 55.0
comp=Z,3μm,1.0s
F58A St-Lin Laurent 64.60 48 P **P 21 03 33.1 -3.0**
baz=319
WVT Waverly 64.63 63 P **P 21 03 34.3 -2.1**
baz=317
WVT Waverly 64.63 63 P **P 21 03 34.1 -2.3**
WVT pmax pmax
comp=Z,2μm,0.8s
WVT Waverly 64.63 63 P **P 21 03 34.1 -2.3**
WVT IAmb IAmb 21 04 02.9
comp=Z,2μm,0.8s
D59A Saint-Raymond 64.63 46 P **P 21 03 33.7 -2.6**
baz=320,SNR=60
G57A Newington 64.63 49 P **P 21 03 33.4 -2.9**
baz=319,SNR=152
J55A Hilton 64.65 52 P **P 21 03 34.6 -1.9**
baz=318,SNR=135
J55A Hilton 64.65 52 P **P 21 03 34.3 -2.1**
J55A IAmb IAmb 21 03 55.3
comp=Z,3μm,0.8s
TKM2 Tokmak 2 64.66 308 P **P 21 03 36.5 -0.3**
SNR=206
TKM2 Tokmak 2 64.66 308 *i* P **P 21 03 36.9 +0.1**
TKM2 pmax pmax
comp=Z,3μm,1.4s
L54A Sinclairville 64.67 53 P **P 21 03 35.0 -1.7**
baz=318,SNR=352
ALLY Alegheny Colle 64.69 54 P **P 21 03 34.8 -1.9**
K54A Basiliko Farm, 64.70 53 P **P 21 03 35.2 -1.7**
baz=318,SNR=315
E59A St. Maurice 64.73 46 P **P 21 03 34.3 -2.6**
baz=320,SNR=7.7
SGDS Sogindy 64.74 309 *j i* P **P 21 03 37.2 0.0**
comp=Z,3μm,2.5s,baz=309
SGDS *etx* tx 21 03 56.0
comp=Z,9μm,3.5s,baz=309
SGDS *eS* **S 21 12 10.5 +1.0**
baz=309
SGDS LR LR 21 30 39.8
comp=Z,20μm,12.6s,baz=309
SGDS Sogindy 64.74 309 *d i* P **P 21 03 37.1 0.0**
SGDS *eS* **S 21 12 10.4 +1.0**
SGDS pmax pmax
comp=Z,3μm,2.5s
SGDS pmax pmax
comp=Z,9μm,3.5s
SGDS MLR MLR
comp=Z,20μm,13.0s
P51A Williamsport 64.77 58 P **P 21 03 35.0 -2.3**
baz=317,SNR=67
P51A Williamsport 64.77 58 P **P 21 03 34.7 -2.6**
P51A IAmb IAmb 21 04 05.8
comp=Z,1μm,0.6s
BOOM Boomskoye usch 64.81 307 P **P 21 03 38.0 +0.2**
BOOM pmax pmax
comp=Z,2μm,1.0s
BOOM Boomskoye usch 64.81 307 P **P 21 03 38.0 +0.2**
ULHL Ulahol 64.84 307 P **P 21 03 38.2 +0.2**
SNR=86
WVNY West Valley, N 64.90 53 P **P 21 03 36.1 -2.0**
OXF Oxford 64.91 66 P **P 21 03 36.4 -1.9**
baz=317,SNR=307
OXF Oxford 64.91 66 P **P 21 03 36.2 -2.1**
OXF pmax pmax
comp=Z,15μm,1.2s
OXF Oxford 64.91 66 P **P 21 03 36.2 -2.1**

H57A Richville 64.92 49 P **P 21 03 35.5 -2.7**
baz=319,SNR=154
K55A Perry 64.92 52 P **P 21 03 36.4 -1.9**
baz=318,SNR=248
USP Ospenovka 64.94 309 P **P 21 03 38.5 0.0**
SNR=385
O52A Adamsville 64.95 57 P **P 21 03 36.5 -2.0**
N53A Lisbon 64.95 55 P **P 21 03 36.3 -2.2**
baz=318,SNR=50
N53A Lisbon 64.95 55 P **P 21 03 35.9 -2.6**
N53A IAmb IAmb 21 03 58.0
comp=Z,3μm,1.4s
Q51A Peebles 64.95 58 P **P 21 03 36.5 -2.0**
Q51A IAmb IAmb 21 04 05.0
comp=Z,3μm,0.7s
R50A Paris 64.98 60 P **P 21 03 36.7 -1.9**
R50A IAmb IAmb 21 04 05.3
comp=Z,3μm,1.1s
KVTX Kingsville 64.98 77 P **P 21 03 38.6 -0.2**
MMNY Mt. Morris Dam 65.00 52 P **P 21 03 36.8 -2.0**
MMNY IAmb IAmb 21 04 05.0
comp=Z,6μm,1.1s
CHMS Chumysh 65.02 308 P **P 21 03 39.0 0.0**
SNR=118
TBLU Trondheim 65.02 354 ⇑ *i* P **P 21 03 36.3 -2.3**
TBLU *eS* **S 21 12 10.4 -1.7**
TBLU *e*SKSac **SKSac 21 13 20.4 -2.8**
TBLU *e*SS **SS 21 16 24.1 -0.5**
TBLU IVMs_BB IVMs_BB 21 25 26.8
comp=Z,164μm,45.1s
G58A Ormstown 65.03 48 P **P 21 03 35.9 -3.0**
baz=319,SNR=185
M54A Oil Creek Stat 65.03 54 P **P 21 03 36.9 -2.1**
baz=318,SNR=172
M54A Oil Creek Stat 65.03 54 P **P 21 03 36.8 -2.2**
143A Socs Landing, 65.08 68 P **P 21 03 38.0 -1.4**
143A IAmb IAmb 21 04 07.2
comp=Z,2μm,0.9s
F59A Saint Guilaume 65.08 47 P **P 21 03 36.6 -2.6**
baz=320,SNR=64
FINES FINESS Array B 65.10 346 P **P 21 03 37.0 -2.0**
comp=Z,58nm,0.6s,baz=8.2,slow=6.7,SNR=137
FINES PKPPKP **P'P'df 21 32 22.6 -0.9**
comp=Z,24nm,0.8s,baz=141,slow=3.7,SNR=5.5
FINES LR LR 21 36 18.5
comp=Z,105μm,19.0s,baz=30,slow=40
FINES P4KPbc 21 40 29.9
comp=Z,4.7nm,0.9s,baz=27,slow=6.5,SNR=3.4
D60A Saint Jean D'O 65.11 45 P **P 21 03 36.7 -2.6**
baz=320,SNR=306
J56A Wolcott 65.11 51 P **P 21 03 37.2 -2.2**
baz=318,SNR=196
J56A Wolcott 65.11 51 P **P 21 03 37.0 -2.4**
J56A IAmb IAmb 21 03 58.5
comp=Z,4μm,1.0s
P52A Corning 65.15 57 P **P 21 03 37.3 -2.5**
baz=318,SNR=67
P52A Corning 65.15 57 P **P 21 03 37.1 -2.6**
P52A IAmb IAmb 21 04 05.6
comp=Z,2μm,0.8s
L55A Hinsdale 65.15 53 P **P 21 03 37.9 -1.8**
baz=318,SNR=262
O53A New Philadelph 65.17 56 P **P 21 03 37.3 -2.6**
baz=318
O53A New Philadelph 65.17 56 P **P 21 03 37.0 -2.9**
O53A IAmb IAmb 21 04 05.9
comp=Z,2μm,0.8s
KBK Karagaybulak 65.18 308 P **P 21 03 40.3 +0.1**
SNR=229
LONY Lake Ozonia 65.19 49 P **P 21 03 36.8 -3.1**
baz=319,SNR=217
LONY Lake Ozonia 65.19 49 P **P 21 03 36.6 -3.3**
I57A Carthage 65.19 50 P **P 21 03 37.3 -2.6**
baz=319,SNR=162
D61A St Aubert, Com 65.21 44 P **P 21 03 37.7 -2.3**
baz=320,SNR=228
FRU1 Bishkek 65.22 308 P **P 21 03 40.8 +0.5**
FRU1 pmax pmax
comp=Z,4μm,1.1s
FRU1 Bishkek 65.22 308 P **P 21 03 40.8 +0.5**
FRU1 IAmb IAmb 21 04 02.3
comp=Z,4μm,1.1s
N54A Moraine State 65.27 55 P **P 21 03 38.5 -2.1**
baz=318,SNR=149
N54A Moraine State 65.27 55 P **P 21 03 38.1 -2.5**
N54A IAmb IAmb 21 04 00.1
comp=Z,7μm,1.7s
E60A Ste Agathe de 65.29 46 P **P 21 03 37.9 -2.6**
baz=320,SNR=333
Y45A Yeager Farm, C 65.31 66 P **P 21 03 38.7 -2.1**
K56A Middlesex 65.31 52 P **P 21 03 39.0 -1.8**
baz=318,SNR=700
PLAL Pickwick Lake 65.32 64 P **P 21 03 38.3 -2.7**
PLAL IAmb IAmb 21 04 07.0
comp=Z,2μm,0.8s
F60A Warwick 65.37 46 P **P 21 03 38.1 -3.0**
baz=320,SNR=221
AAK Ala-Archa 65.42 308 PKPPKP **P'P'df 21 32 18.0 -5.4**
comp=Z,26nm,0.9s,baz=258,slow=4.4,SNR=4.6
AAK Ala-Archa 65.42 308 P **P 21 03 41.9 +0.2**
SNR=152
AAK Ala-Archa 65.42 308 *i* P **P 21 03 41.9 +0.2**
SNR=518
AAK Ala-Archa 65.42 308 *i* P **P 21 03 41.9 +0.2**
SNR=518
AAK Ala-Archa 65.42 308 P **P 21 03 40.6 -1.1**
AAK Ala-Archa 65.42 308 *i* P **P 21 03 41.4 -0.2**
AAK pmax pmax
comp=Z,2μm,0.9s
AAK MLR MLR
comp=Z,152μm,16.0s
AAK Ala-Archa 65.42 308 P **P 21 03 41.6 0.0**
J57A Williamstown 65.42 51 P **P 21 03 39.1 -2.3**
baz=319,SNR=234
J57A Williamstown 65.42 51 P **P 21 03 38.9 -2.6**
J57A IAmb IAmb 21 04 00.6
comp=Z,4μm,1.3s
441A DeRidder 65.46 71 P **P 21 03 41.2 -0.6**
441A IAmb IAmb 21 04 13.7
comp=Z,4μm,1.1s
KZA Kyzart 65.46 307 P **P 21 03 42.6 +0.4**
SNR=128
V48A Smith Brothers 65.47 63 P **P 21 03 39.5 -2.4**
U49A Red Boiling Sp 65.48 62 P **P 21 03 39.6 -2.3**
U49A IAmb IAmb 21 04 08.3
comp=Z,2μm,0.8s
CLTN Cedars of Leba 65.48 62 P **P 21 03 40.0 -1.9**
FRNY Flat Rock 65.49 48 P **P 21 03 38.3 -3.5**
G59A Clarenceville 65.49 48 P **P 21 03 38.9 -2.9**
baz=320,SNR=149
342A Flagon Creek P 65.51 70 P **P 21 03 41.2 -1.0**
342A IAmb IAmb 21 04 09.6
comp=Z,5μm,1.4s
M55A Ridgway 65.52 54 P **P 21 03 40.3 -1.8**
baz=318,SNR=356
M55A Ridgway 65.52 54 P **P 21 03 40.0 -2.1**
M55A IAmb IAmb 21 04 08.6
comp=Z,4μm,1.0s
H58A Gabriels 65.53 49 P **P 21 03 39.2 -3.0**
baz=319,SNR=144
Q52A Bidwell 65.57 58 P **P 21 03 40.2 -2.3**
baz=318,SNR=132
H59A Cadyville 65.58 48 P **P 21 03 39.5 -2.9**
baz=320,SNR=235
ZAIG Zacatecas 65.61 84 P **P 21 03 42.6 -0.8**
ZAIG IAmb IAmb 21 04 12.5
comp=Z,4μm,1.0s
L56A Greenwood 65.62 52 P **P 21 03 41.1 -1.7**
baz=319,SNR=1000
L56A Greenwood 65.62 52 P **P 21 03 41.0 -1.8**
T50A Nancy 65.62 61 P **P 21 03 40.6 -2.2**
T50A IAmb IAmb 21 04 09.3
comp=Z,2μm,0.8s
P53A Whipple 65.64 57 P **P 21 03 40.8 -2.2**
baz=318,SNR=98
P53A Whipple 65.64 57 P **P 21 03 40.6 -2.4**
O54A Avella 65.65 56 P **P 21 03 40.9 -2.1**
baz=318,SNR=91
O54A Avella 65.65 56 P **P 21 03 40.6 -2.4**
O54A IAmb IAmb 21 04 09.1
comp=Z,3μm,1.2s
E61A Lac Etchemin 65.67 45 P **P 21 03 40.5 -2.5**
baz=320,SNR=235
K57A Scipio Center 65.68 51 P **P 21 03 41.1 -2.1**
baz=319,SNR=419
I58A Old Forge 65.70 50 P **P 21 03 40.7 -2.6**
baz=319,SNR=319
UCH Uchtor 65.71 308 P **P 21 03 44.2 +0.3**
SNR=98
MOQ Mont Orford 65.73 47 P **P 21 03 41.0 -2.5**
EKS2 Erkin-Say 65.75 309 P **P 21 03 44.1 +0.4**
SNR=333
D62A Allapoint, All 65.79 44 P **P 21 03 41.7 -2.1**
baz=321,SNR=703
D62A Allapoint, All 65.79 44 P **P 21 03 41.6 -2.1**
D62A IAmb IAmb 21 04 10.6
comp=Z,5μm,1.1s
F61A St Evariste 65.80 46 P **P 21 03 41.7 -2.1**
baz=320,SNR=509
M56A Emporium 65.80 53 P **P 21 03 42.0 -1.9**
baz=318,SNR=370
M56A Emporium 65.80 53 P **P 21 03 41.8 -2.1**
J58A Remsen 65.80 50 P **P 21 03 41.6 -2.3**
baz=319,SNR=530
J58A Remsen 65.80 50 P **P 21 03 41.4 -2.5**
J58A IAmb IAmb 21 04 02.9
comp=Z,4μm,1.1s
SIJI Sorong 65.82 234 LR LR 21 31 30.7
comp=Z,103μm,18.5s,baz=33,slow=35
SIJI PKPPKP **P'P'df 21 32 19.0 -1.2**
comp=Z,17nm,0.9s,baz=256,slow=3.1,SNR=4.1
LSA Lhasa 65.82 288 P **P 21 03 45.8 +1.0**
LSA LR LR
comp=Z,703μm,28.5s
LSA Lhasa 65.82 288 P **P 21 03 45.3 +0.5**
LSA Lhasa 65.82 288 P **P 21 03 45.3 +0.5**
LSA Lhasa 65.82 288 P **P 21 03 45.6 +0.8**
LSA pmax pmax
comp=Z,1μm,1.0s
LSA Lhasa 65.82 288 P **P 21 03 45.6 +0.8**
S51A Beattyville 65.84 60 P **P 21 03 42.0 -2.2**
NCB Newcomb 65.84 49 P **P 21 03 41.3 -2.9**
MOL Molde 65.85 355 ⇑ *i* P **P 21 03 42.5 -1.4**
MOL *eS* **S 21 12 23.3 +1.1**
MOL *e*SKSac **SKSac 21 13 27.9 -1.6**
MOL IVMs_BB IVMs_BB 21 25 32.8
comp=Z,188μm,45.8s
G60A Masonville 65.86 47 P **P 21 03 41.4 -2.8**
baz=320,SNR=149
AFI Afiamalu 65.87 170 P **P 21 03 44.3 -0.3**
AFI pmax pmax
comp=Z,3μm,1.5s
AFI Afiamalu 65.87 170 P **P 21 03 44.3 -0.3**
N55A Marion Center 65.92 54 P **P 21 03 42.5 -2.3**
baz=318,SNR=139
E62A Clayton Lake 65.95 44 P **P 21 03 42.4 -2.3**
baz=321,SNR=523
E62A Clayton Lake 65.95 44 P **P 21 03 42.1 -2.7**
E62A IAmb IAmb 21 04 03.6
comp=Z,5μm,1.2s
VBMS Vicksburg 65.95 68 P **P 21 03 43.6 -1.4**
baz=317,SNR=52
VBMS Vicksburg 65.95 68 P **P 21 03 43.4 -1.5**
VBMS IAmb IAmb 21 04 12.7
comp=Z,8μm,1.5s
PUL Pulkovo 65.97 343 *eP* **P 21 03 45.1 +0.4**
PUL Pulkovo 65.97 343 *ceP* **P 21 03 43.3 -1.3**
PUL pmax pmax
comp=Z,2μm,0.7s
PUL MLR MLR
comp=Z,218μm,21.0s
P54A Burton 66.03 56 P **P 21 03 43.3 -2.2**
baz=318,SNR=103
Q53A Leroy 66.04 57 P **P 21 03 43.6 -1.9**
baz=318,SNR=220
L57A Andrews Acres 66.07 52 P **P 21 03 43.7 -2.0**
baz=319,SNR=505
K58A Earlville 66.08 51 P **P 21 03 43.7 -2.0**
baz=319,SNR=267
K58A Earlville 66.08 51 P **P 21 03 43.5 -2.2**
K58A IAmb IAmb 21 04 05.0
comp=Z,4μm,1.1s
G61A St-Isidore-de- 66.09 47 P **P 21 03 43.3 -2.4**
baz=320,SNR=424
J59A Piesco 66.10 50 P **P 21 03 43.1 -2.7**
baz=320,SNR=339
J59A Piesco 66.10 50 P **P 21 03 43.0 -2.7**
J59A IAmb IAmb 21 04 04.2
comp=Z,4μm,1.3s
H60A Morristown 66.11 48 P **P 21 03 43.1 -2.8**
baz=320,SNR=183
I59A Olmsteadville 66.14 49 P **P 21 03 43.4 -2.7**
baz=320,SNR=287
N56A West Decatur 66.16 54 P **P 21 03 44.3 -2.0**
baz=319,SNR=157
O55A Ligonier 66.18 55 P **P 21 03 44.0 -2.4**
baz=318,SNR=90
AML Almayshu 66.19 308 P **P 21 03 47.6 +0.7**
SNR=153
R53A Hurricane 66.20 58 P **P 21 03 44.9 -1.7**
baz=318,SNR=21
R53A Hurricane 66.20 58 P **P 21 03 44.6 -1.9**
R53A IAmb IAmb 21 04 13.2
comp=Z,4μm,0.9s
D63A Stockholm 66.23 43 P **P 21 03 44.4 -2.2**
baz=321,SNR=351
VT1 Waterbury 66.26 48 P **P 21 03 44.0 -2.8**
AKN Aaknes 66.27 356 *eP* **P 21 03 45.8 -0.8**
AKN *eS* **S 21 12 27.7 +0.3**
AKN IVMs_BB IVMs_BB 21 25 45.9
comp=Z,205μm,49.4s
X48A Hartselle 66.29 64 P **P 21 03 44.3 -2.8**
X48A IAmb IAmb 21 04 12.8
comp=Z,4μm,1.5s
DOMB Dombas 66.30 355 ⇑ *i* P **P 21 03 45.4 -1.4**
DOMB *eS* **S 21 12 28.3 +0.6**
DOMB *e*SKSac **SKSac 21 13 31.4 -1.6**
DOMB IVMs_BB IVMs_BB 21 26 07.9
comp=Z,184μm,40.3s
Q54A Coxs Mills 66.31 57 P **P 21 03 45.1 -2.1**
baz=318,SNR=85
Q54A Coxs Mills 66.31 57 P **P 21 03 44.9 -2.3**
F62A Pittston Farm, 66.31 45 P **P 21 03 44.8 -2.3**
baz=321,SNR=412
F62A Pittston Farm, 66.31 45 P **P 21 03 44.6 -2.5**
F62A IAmb IAmb 21 04 02.8
comp=Z,2μm,0.9s
MCWV Mont Chateau 66.31 56 P **P 21 03 45.3 -1.9**
baz=318,SNR=57
MCWV Mont Chateau 66.31 56 P **P 21 03 45.3 -1.9**
BINY Binghamton 66.34 51 P **P 21 03 45.6 -1.8**
baz=319,SNR=349
BINY Binghamton 66.34 51 P **P 21 03 45.3 -2.1**
BINY IAmb IAmb 21 04 14.5
comp=Z,4μm,1.1s
I60A Shoreham 66.38 49 P **P 21 03 44.8 -2.7**
baz=320,SNR=124
344A Westbrook Farm 66.38 69 P **P 21 03 46.7 -1.1**
344A IAmb IAmb 21 04 15.3
comp=Z,3μm,0.9s
M57A Sunshine Farm, 66.43 53 P **P 21 03 46.2 -1.8**
baz=319,SNR=521
M57A Sunshine Farm, 66.43 53 P **P 21 03 46.2 -1.8**
P55A Reedsville 66.44 56 P **P 21 03 46.0 -2.0**
baz=318,SNR=99
TNTI Ternate 66.44 238 P **P 21 03 47.7 -0.6**
TNTI IAmb IAmb 21 04 06.1
comp=Z,9μm,1.7s
K59A Cooperstown 66.45 50 P **P 21 03 45.8 -2.3**
baz=320,SNR=256
146A Union 66.48 67 P **P 21 03 47.0 -1.3**
H61A Lyndonville 66.48 47 P **P 21 03 45.9 -2.4**
baz=320,SNR=349
I31KZ AKTYUBINSK INF 66.50 323 P **P 21 03 51.8 +3.5**
baz=32,slow=7.4,SNR=3.3
O56A Blue Knob Stat 66.51 54 P **P 21 03 46.3 -2.3**
baz=319,SNR=168
O56A Blue Knob Stat 66.51 54 P **P 21 03 46.0 -2.5**
L58A Harry Jones Me 66.52 51 P **P 21 03 46.8 -1.8**
baz=319,SNR=368
ACCN Adirondack Com 66.55 49 P **P 21 03 46.0 -2.6**
ACCN IAmb IAmb 21 04 14.4
comp=Z,4μm,1.1s
PQI Presque Isle 66.56 44 P **P 21 03 45.9 -2.8**
PQI IAmb IAmb 21 04 14.1
comp=Z,2μm,1.1s
E63A Oxbow 66.58 44 P **P 21 03 46.2 -2.6**
baz=321,SNR=452
E63A Oxbow 66.58 44 P **P 21 03 46.0 -2.8**
E63A IAmb IAmb 21 04 14.9
comp=Z,5μm,1.1s
SSPA Standing Stone 66.58 54 P **P 21 03 47.0 -1.9**

baz=319
SSPA Standing Stone 66.58 54 P P 21 03 46.6 -2.3
SSPA IAmb IAmb 21 04 15.2
comp=Z,3μm,0.8s
G62A West of Eustis 66.58 46 P P 21 03 46.8 -2.1
baz=321,SNR=501
G62A West of Eustis 66.58 46 P P 21 03 46.6 -2.3
G62A IAmb IAmb 21 04 07.3
comp=Z,3μm,0.8s
S53A Williamson 66.59 59 P P 21 03 47.3 -1.8
baz=318,SNR=15
Z47A Carrollton 66.63 66 P P 21 03 47.0 -2.3
Z47A IAmb IAmb 21 04 15.5
comp=Z,4μm,0.8s
PMG Port Moresby 66.64 214 S S 21 12 35.7 +3.0
comp=Z,23nm,0.9s,baz=73,slow=12,SNR=1.8
PMG LR LR 21 31 24.9
comp=Z,380μm,19.3s,baz=52,slow=34
PMG PKPPKP 21 32 22.7
comp=Z,56nm,1.1s,baz=214,slow=7.3,SNR=10.0
PMG Port Moresby 66.64 214 *d* **iP P 21 03 49.1 -0.3**
PMG pmax pmax
comp=Z,4μm,1.8s
PMG MLR MLR
comp=Z,273μm,17.0s
PMG Port Moresby 66.64 214 P P 21 03 49.2 -0.2
PMG IAmb IAmb 21 04 37.2
comp=Z,3μm,1.3s
N57A Milroy 66.66 53 P P 21 03 47.5 -1.9
baz=319,SNR=243
TZTN Tazewell 66.67 60 P P 21 03 47.9 -1.7
baz=318,SNR=177
TZTN Tazewell 66.67 60 P P 21 03 47.7 -1.9
TZTN IAmb IAmb 21 04 16.3
comp=Z,2μm,1.0s
Q55A Buckhannon 66.69 56 P P 21 03 47.8 -1.9
baz=318,SNR=70
ABKAR Akbulak array 66.70 321 P P 21 03 49.9 +0.4
ABKAR IAmb IAmb 21 03 56.6
comp=Z,3μm,1.1s
W50A Signal Mountai 66.70 62 P P 21 03 47.7 -2.1
W50A IAmb IAmb 21 04 16.1
comp=Z,3μm,0.9s
LBNH Lisbon 66.71 48 P P 21 03 47.3 -2.4
baz=320,SNR=424
LBNH Lisbon 66.71 48 P P 21 03 47.1 -2.6
LBNH pmax pmax
comp=Z,3μm,1.0s
LBNH Lisbon 66.71 48 P P 21 03 47.1 -2.6
LBNH IAmb IAmb 21 04 08.0
comp=Z,3μm,1.0s
M58A Price's Panora 66.73 52 P P 21 03 48.1 -1.8
baz=319,SNR=428
DZA Taraz 66.75 310 ⇓ *i* **P P 21 03 50.0 -0.1**
comp=Z,2μm,2.7s,baz=310
DZA *e*tx tx 21 04 08.6
comp=Z,6μm,3.7s,baz=310
DZA *e*S **S 21 12 34.9 +1.0**
baz=310
DZA Taraz 66.75 310 *d* **iP P 21 03 49.9 -0.1**
DZA *e*S **S 21 12 34.8 +1.0**
DZA pmax pmax
comp=Z,2μm,2.7s
DZA pmax pmax
comp=Z,6μm,3.7s
J60A Lant Hill Farm 66.78 49 P P 21 03 47.8 -2.3
baz=320,SNR=549
V51A Loudon 66.78 61 P P 21 03 48.0 -2.2
V51A IAmb IAmb 21 04 17.2
comp=Z,4μm,1.2s
H62A Milan 66.80 47 P P 21 03 48.0 -2.2
baz=321,SNR=765
H62A Milan 66.80 47 P P 21 03 47.9 -2.4
H62A IAmb IAmb 21 04 16.7
comp=Z,5μm,1.0s
L59A Walton 66.81 51 P P 21 03 48.3 -2.1
baz=320,SNR=348
L59A Walton 66.81 51 P P 21 03 48.0 -2.4
L59A IAmb IAmb 21 04 16.5
comp=Z,4μm,1.1s
I61A Oroboro, Fairl 66.81 48 P P 21 03 48.1 -2.3
baz=320,SNR=344
R54A Victor 66.82 57 P P 21 03 48.6 -1.9
baz=318,SNR=23
E64A Bridgewater 66.84 44 P P 21 03 47.9 -2.5
baz=322,SNR=621
F63A Nahmakanta, Br 66.84 45 P P 21 03 48.2 -2.3
baz=321,SNR=491
F63A Nahmakanta, Br 66.84 45 P P 21 03 48.0 -2.5
F63A IAmb IAmb 21 04 09.3
comp=Z,2μm,0.9s
T53A Wise 66.89 59 P P 21 03 49.5 -1.6
baz=318,SNR=42
BATG Bathurst New B 66.91 42 P P 21 03 48.8 -2.1
BATG IAmb IAmb 21 04 17.7
comp=Z,5μm,1.3s
FOO Floro 66.93 357 ⇑ *i* **P P 21 03 49.4 -1.4**
FOO *e*S **S 21 12 35.1 -0.1**
FOO *e*SKSac **SKSac 21 13 36.4 -1.3**
FOO *e*SS **SS 21 16 55.7 +1.6**
FOO IVMs_BB IVMs_BB 21 26 06.1
comp=Z,218μm,44.3s
KSPA Keystone Colle 66.93 52 P P 21 03 48.9 -2.2
KSPA IAmb IAmb 21 04 17.4
comp=Z,3μm,1.1s
S54A Dingess, Beckl 66.94 58 P P 21 03 49.4 -1.9
baz=318,SNR=12
S54A Dingess, Beckl 66.94 58 P P 21 03 49.3 -1.9
S54A IAmb IAmb 21 04 17.7
comp=Z,2μm,1.0s
P56A Dayton Farm, R 66.95 55 P P 21 03 49.4 -1.9
baz=319,SNR=254
CPCT Cooper Cave 66.95 62 P P 21 03 48.9 -2.4
HNH Hanover 66.95 48 P P 21 03 48.8 -2.4
HNH IAmb IAmb 21 04 17.1
comp=Z,4μm,1.3s
KK31 Karatay Array 66.97 311 *i* **P P 21 03 51.2 -0.2**
KK31 pmax pmax
comp=Z,1μm,0.7s
KKAR Karatay Array 66.97 311 P P 21 03 51.2 -0.2
KKAR pmax pmax
comp=Z,2μm,0.9s
KKAR Karatay Array 66.97 311 P P 21 03 51.2 -0.2
KKAR IAmb IAmb 21 04 12.9
comp=Z,2μm,0.8s
N58A Sunbury 67.01 53 P P 21 03 49.8 -1.8
baz=319,SNR=448
N58A Sunbury 67.01 53 P P 21 03 49.5 -2.1
N58A IAmb IAmb 21 04 11.2
comp=Z,5μm,1.1s
KSH Kashi 67.01 305 P P 21 03 55.5 +3.6
KSH S **S 21 12 40.3 +3.0**
KSH SS **SS 21 17 03.1 +6.2**
KSH pmax pmax
comp=Z,380nm,0.7s
KSH LR LR
comp=Z,372μm,16.9s
KSH LR LR
comp=Z,327μm,13.9s
KSH LR LR
comp=Z,325μm,21.4s
FPAL Fort Paine 67.02 63 P P 21 03 49.3 -2.5
FPAL IAmb IAmb 21 04 17.9
comp=Z,3μm,0.8s
O57A Amberson 67.03 54 P P 21 03 49.8 -1.9
baz=319,SNR=316
K60A Five Rivers En 67.03 50 P P 21 03 49.3 -2.4
baz=320,SNR=40
F64A Sherman 67.05 44 P P 21 03 49.5 -2.3
baz=322,SNR=717
F64A Sherman 67.05 44 P P 21 03 49.2 -2.6
F64A IAmb IAmb 21 04 18.2
comp=Z,4μm,0.9s
TRY Troy 67.05 50 P P 21 03 49.3 -2.6
G63A Kingsbury 67.07 46 P P 21 03 49.8 -2.2
baz=321,SNR=702
Y49A Blount Mountai 67.08 64 P P 21 03 49.6 -2.6
PKME Peaks-Kenny Pk 67.10 45 P P 21 03 49.9 -2.2
baz=321,SNR=238
PKME Peaks-Kenny Pk 67.10 45 P P 21 03 49.6 -2.5
PKME IAmb IAmb 21 04 11.1
comp=Z,3μm,1.1s
J61A Chester 67.10 49 P P 21 03 50.0 -2.2
baz=320,SNR=316
FAKI Fak Fak 67.11 232 P P 21 03 52.0 -0.5
M59A Waymart 67.11 52 P P 21 03 50.1 -2.1
baz=320,SNR=380
Q56A Snyder Ridge, 67.11 56 P P 21 03 50.3 -2.0
baz=319,SNR=74
Q56A Snyder Ridge, 67.11 56 P P 21 03 49.9 -2.4
NB2 NORSAR Subarra 67.16 353 P P 21 03 50.8 -1.5
comp=Z,3μm,0.9s,baz=9.2,slow=6.5
NB2 NORSAR Subarra 67.16 353 P P 21 03 50.8 -1.5
baz=9.2,slow=6.5
NOA NORSAR Array B 67.16 353 P P 21 03 50.6 -1.7
comp=Z,102nm,0.7s,baz=8.5,slow=6.3,SNR=484
NOA S **S 21 12 39.6 +1.5**
comp=Z,7.0nm,0.8s,baz=175,slow=12,SNR=2.5
NOA PKPPKP **P'P'df 21 32 19.9 -0.4**
comp=Z,85nm,1.1s,baz=161,slow=3.0,SNR=8.2
NOA LR LR 21 35 20.3
comp=Z,62μm,19.1s,baz=15,slow=38
NOA P4KPbc 21 40 46.3
comp=Z,2.0nm,0.8s,baz=6.8,slow=5.1,SNR=4.8
346A Big Creek Wild 67.16 68 P P 21 03 51.2 -1.5
346A IAmb IAmb 21 04 19.7
comp=Z,7μm,1.6s
V52A Sevierville 67.17 61 P P 21 03 50.5 -2.2
V52A IAmb IAmb 21 04 15.8
comp=Z,3μm,1.2s
R55A Marlinton 67.20 57 P P 21 03 51.1 -1.9
baz=319,SNR=101
R55A Marlinton 67.20 57 P P 21 03 51.1 -1.9
TKL Tuckaleechee C 67.21 61 P P 21 03 50.8 -2.2
TKL Tuckaleechee C 67.21 61 P P 21 03 50.8 -2.2
H63A New Sharon 67.24 46 P P 21 03 50.6 -2.4
baz=321,SNR=89
I62A Tamworth 67.26 47 P P 21 03 50.6 -2.6
baz=321,SNR=238
I62A Tamworth 67.26 47 P P 21 03 50.5 -2.7
K61A Williamstown 67.29 49 P P 21 03 51.2 -2.2
baz=320,SNR=346
HYA Hoyanger 67.32 356 ⇑ *i* **P P 21 03 52.0 -1.2**
HYA *e*S **S 21 12 38.8 -1.1**
HYA *e*SKSac **SKSac 21 13 35.5 -5.2**
T54A Tazewell 67.35 59 P P 21 03 52.3 -1.6
baz=318,SNR=45
G64A Maxfield 67.35 45 P P 21 03 51.5 -2.2
baz=322,SNR=435
BRLS Boroldav 67.35 311 *e***P P 21 03 54.9 +1.1**
comp=Z,2μm,3.8s,baz=311
BRLS *e*S **S 21 12 44.8 +3.8**
baz=311
BRLS Boroldav 67.35 311 *e***P P 21 03 54.8 +1.1**
BRLS *e*S **S 21 12 44.7 +3.8**
BRLS pmax pmax
comp=Z,2μm,3.8s
L60A Shokan 67.35 51 P P 21 03 51.6 -2.2
baz=320,SNR=203
LRAL Lakeview Retre 67.36 65 P P 21 03 51.2 -2.7
baz=318,SNR=232
LRAL Lakeview Retre 67.36 65 P P 21 03 50.9 -3.0
I43RU DUBNA INFRASON 67.36 338 P P 21 03 58.0 +4.4
baz=21,slow=8.4,SNR=1.8
P57A Homestead Farm 67.38 55 P P 21 03 51.9 -2.1
baz=319,SNR=130
P57A Homestead Farm 67.38 55 P P 21 03 51.6 -2.3
S55A Lewisburg 67.38 57 P P 21 03 52.2 -1.9
baz=319,SNR=29
N59A State Game Lan 67.42 52 P P 21 03 52.4 -1.9
baz=320,SNR=636
N59A State Game Lan 67.42 52 P P 21 03 52.0 -2.2
X51A Calhoun 67.42 63 P P 21 03 51.9 -2.5
X51A IAmb IAmb 21 04 20.5
comp=Z,3μm,1.1s
NC602 NORSAR Array S 67.44 353 ⇑ *i* **P P 21 03 52.4 -1.6**
NC602 *e*S **S 21 12 41.0 -0.4**
NC602 *e*SKSac **SKSac 21 13 37.2 -4.4**
NC602 IVMs_BB IVMs_BB 21 26 35.9
comp=Z,122μm,43.0s
O58A Lewisberry 67.45 54 P P 21 03 52.3 -2.1
baz=319,SNR=175
I63A Otisfield 67.47 47 P P 21 03 52.5 -2.0
baz=321,SNR=260
I63A Otisfield 67.47 47 P P 21 03 52.2 -2.2
I63A IAmb IAmb 21 04 13.6
comp=Z,4μm,1.1s
R56A Bull Pasture M 67.48 56 P P 21 03 52.6 -2.1
baz=319,SNR=116
SUE Sulen 67.48 357 ⇑ *i* **P P 21 03 53.1 -1.2**
SUE *e*S **S 21 12 41.3 -0.5**
SUE *e*SKSac **SKSac 21 13 38.4 -3.5**
SUE IVMs_BB IVMs_BB 21 26 21.5
comp=Z,206μm,43.2s
WVL Waterville 67.48 46 P P 21 03 51.8 -2.7
WVL IAmb IAmb 21 04 20.1
comp=Z,3μm,1.3s
L61A Hillsdale 1, H 67.52 50 P P 21 03 52.8 -2.1
baz=320,SNR=265
Q57A Strasburg 67.52 55 P P 21 03 52.7 -2.2
baz=319,SNR=106
J62A Henniker 67.54 48 P P 21 03 52.8 -2.1
baz=321,SNR=254
W52A Murphy 67.54 62 P P 21 03 52.9 -2.3
W52A IAmb IAmb 21 04 21.4
comp=Z,2μm,0.8s
545A Edgard 67.56 70 P P 21 03 53.5 -1.7
SANVU Saraoutou 67.61 192 P P 21 03 55.6 +0.2
SANVU IAmb IAmb 21 04 24.6
comp=Z,5μm,1.1s
U54A Nelsons Funny 67.62 59 P P 21 03 54.0 -1.7
baz=319,SNR=31
U54A Nelsons Funny 67.62 59 P P 21 03 53.9 -1.7
U54A IAmb IAmb 21 04 22.4
comp=Z,3μm,1.2s
H64A Troy 67.62 46 P P 21 03 53.1 -2.3
baz=322,SNR=232
M60A Port Jervis 67.67 51 P P 21 03 53.6 -2.1
baz=320,SNR=171
O59A Robesonia 67.67 53 P P 21 03 53.9 -1.9
baz=320,SNR=268
SKAR Skarslia 67.70 355 *e***P P 21 03 54.4 -1.3**
SKAR *e*S **S 21 12 44.4 -0.3**
SKAR *e*SKSac **SKSac 21 13 41.8 -2.0**
SKAR IVMs_BB IVMs_BB 21 26 47.5
comp=Z,159μm,41.7s
V53A Saluda 67.72 60 P P 21 03 54.4 -1.9
V53A IAmb IAmb 21 04 27.5
comp=Z,6μm,1.8s
T55A Pulaski 67.72 58 P P 21 03 54.5 -1.8
baz=319,SNR=47
L61B Northampton 67.73 49 P P 21 03 53.8 -2.4
baz=321,SNR=149
P58A Pank, Wackersv 67.74 54 P P 21 03 54.0 -2.2
baz=319,SNR=94
K62A Royalston 67.78 49 P P 21 03 54.2 -2.2
baz=321,SNR=200
K62A Royalston 67.78 49 P P 21 03 54.0 -2.5
K62A IAmb IAmb 21 04 22.4
comp=Z,3μm,1.1s
N60A Cedar Hill Far 67.78 52 P P 21 03 54.5 -2.0
baz=320,SNR=318
MVL Millersville 67.83 53 P P 21 03 54.5 -2.2
MVL IAmb IAmb 21 04 23.0
comp=Z,2μm,1.0s
VSU Vasula 67.83 344 *e***P P 21 03 55.5 -0.9**
VSU IAmb IAmb 21 04 19.2
comp=Z,4μm,0.6s
VSU Vasula 67.83 344 *c i***P P 21 03 55.0 -1.5**
VSU pmax pmax
comp=Z,5μm,0.9s
VSU MLR MLR
comp=Z,628μm,24.0s
J63A Strafford 67.84 48 P P 21 03 54.5 -2.3
baz=321,SNR=94
BLA Blacksburg 67.84 58 P P 21 03 55.1 -1.9
BLA pmax pmax
comp=Z,2μm,0.9s
BLA Blacksburg 67.84 58 P P 21 03 55.1 -1.9
BLA IAmb IAmb 21 04 23.4
comp=Z,2μm,0.9s
LUPA Lehigh Univers 67.86 52 P P 21 03 55.4 -1.6
HFS Hagfors 67.86 352 PKPPKP 21 32 21.4
comp=Z,39nm,0.8s,baz=204,slow=3.3,SNR=5.1
ODNJ Ogdensburg 67.86 51 P P 21 03 54.5 -2.5
ODNJ IAmb IAmb 21 04 22.9
comp=Z,3μm,1.1s
G65A Princeton 67.91 44 P P 21 03 55.1 -2.1
baz=322,SNR=400
G65A Princeton 67.91 44 P P 21 03 54.9 -2.3
G65A IAmb IAmb 21 04 16.2
comp=Z,5μm,1.2s
KSCT Kent School, K 67.91 50 P P 21 03 54.9 -2.3
IUG luzhnay 67.94 310 ⇓ *i* **P P 21 03 58.1 +0.5**
comp=Z,1μm,3.7s,baz=311
IUG *e*S **S 21 12 49.4 +1.2**
baz=311
IUG luzhnay 67.94 310 *d i* **P P 21 03 58.1 +0.5**
IUG *e*S **S 21 12 49.3 +1.2**
IUG pmax pmax
comp=Z,1μm,3.7s
S56A Natural Bridge 67.94 57 P P 21 03 55.8 -1.8
baz=319,SNR=143
Q58A Fox Den Farm, 67.96 55 P P 21 03 55.6 -2.1
baz=319,SNR=235
I64A Boothbay 68.00 46 P P 21 03 55.4 -2.4
baz=322,SNR=105
H65A Eastbrook 68.01 45 P P 21 03 55.6 -2.2
baz=322,SNR=278
R57A Stanardsville 68.02 56 P P 21 03 56.1 -1.9
baz=319,SNR=251
QUA2 Belchertown 68.02 49 P P 21 03 55.2 -2.7
SDMD Soldier's Deli 68.03 54 P P 21 03 55.7 -2.4
ASK Askoy 68.04 357 ⇑ *i* **P P 21 03 56.5 -1.2**
ASK *e*S **S 21 12 49.2 +0.6**
ASK IVMs_BB IVMs_BB 21 26 37.6
comp=Z,171μm,40.5s
U55A TA2, Sparta 68.05 59 P P 21 03 56.4 -1.9
baz=319,SNR=105
VWCC Virginia Weste 68.05 58 P P 21 03 55.5 -2.8
O60A Telford 68.05 52 P P 21 03 56.3 -1.9
baz=320,SNR=234
L62A Suffield 68.06 50 P P 21 03 56.0 -2.2
baz=321,SNR=15
P59A Jarrettsville 68.08 54 P P 21 03 56.4 -2.0
baz=320,SNR=150
K63A Dunstable 68.09 48 P P 21 03 56.3 -2.1
baz=321,SNR=186
M61A Granite Spring 68.09 51 P P 21 03 56.2 -2.3
baz=320,SNR=77
YEL1 Yell 68.10 360 *eP* **P 21 03 57.5 -0.6**
V54A Nebo 68.11 60 P P 21 03 57.1 -1.6
baz=319,SNR=153
BER Bergen 68.14 356 ⇑ *i* **P P 21 03 56.8 -1.5**
BER IVmB_BB 21 04 08.4
comp=Z,16μm,4.1s
BER *e*PP **PP 21 06 28.5 -0.6**
BER *e*S **S 21 12 50.8 +1.1**
BER *e*SKSac **SKSac 21 13 45.4 -1.5**
BER IVMs_BB IVMs_BB 21 26 38.6
comp=Z,199μm,43.4s
BG3 Lake Jocassee 68.16 61 P P 21 03 57.1 -1.9
BG3 IAmb IAmb 21 04 26.2
comp=Z,3μm,1.3s
MOS Moscow 68.16 337 *eP* **P 21 03 55.9 -2.7**
MOS *e**PP **PcP 21 04 20.4 -3.4**
MOS *e*S **S 21 12 48.7 -1.4**
MOS *e**SS **SKiKP 21 13 38.8 -4.0**
MOS pmax pmax
comp=Z,2μm,0.9s
MOS pmax pmax
comp=Z,15μm,2.9s
MOS MLR MLR
comp=Z,264μm,22.0s
Z51A Franklin 68.17 64 P P 21 03 56.1 -2.9
T56A Rocky Mt 68.19 58 P P 21 03 56.9 -2.2
baz=319,SNR=44
S57A Dark Hollow, R 68.20 56 P P 21 03 57.4 -1.7
baz=319,SNR=83
S57A Dark Hollow, R 68.20 56 P P 21 03 57.1 -2.1
HRV Adam Dziewonsk 68.22 49 P P 21 03 57.0 -2.2
baz=321
HRV Adam Dziewonsk 68.22 49 P P 21 03 56.7 -2.5
HRV pmax pmax
comp=Z,3μm,1.2s
HRV Adam Dziewonsk 68.22 49 P P 21 03 56.7 -2.5
HRV IAmb IAmb 21 04 25.1
comp=Z,3μm,1.1s
PAL Palisades 68.26 51 P P 21 03 57.3 -2.2
baz=320,SNR=90
PAL Palisades 68.26 51 P P 21 03 57.2 -2.2
PAL pmax pmax
comp=Z,4μm,1.1s
PAL Palisades 68.26 51 P P 21 03 57.2 -2.3
PAL IAmb IAmb 21 04 26.2
comp=Z,4μm,1.1s
N61A South Mountain 68.27 51 P P 21 03 57.7 -1.8
baz=320,SNR=53
R58A Rapidan 68.28 55 P P 21 03 57.6 -2.0
baz=320,SNR=146
GGN Saint George 68.29 44 P P 21 03 57.1 -2.4
GGN IAmb IAmb 21 04 26.0
comp=Z,4μm,1.1s
OSL Oslo 68.29 353 *eP* **P 21 03 57.7 -1.6**
OSL *e*S **S 21 12 53.6 +2.1**
OSL IVMs_BB IVMs_BB 21 27 02.0
comp=Z,136μm,43.8s
P60A Greenville 68.33 53 P P 21 03 57.8 -2.1
baz=320,SNR=57
P60A Greenville 68.33 53 P P 21 03 57.5 -2.4
P60A IAmb IAmb 21 04 26.1
comp=Z,7μm,1.5s
EMMW East Machias 68.34 45 P P 21 03 57.5 -2.4
EMMW IAmb IAmb 21 04 26.4
comp=Z,4μm,0.8s
H66A Whiting 68.35 44 P P 21 03 57.7 -2.2
baz=322,SNR=352
Y52A Lilburn 68.38 63 P P 21 03 58.0 -2.4
Y52A IAmb IAmb 21 04 26.6
comp=Z,2μm,0.8s
KKM Kota Kinabalu 68.39 251 P P 21 04 00.8 +0.1
WAL1 Walls 68.39 0 ⇑ *i* **P P 21 03 58.6 -1.4**
CPNY Central Park 68.40 51 P P 21 03 58.3 -2.0
CPNY IAmb IAmb 21 04 26.5
comp=Z,4μm,1.1s
M62A Hamden 68.41 50 P P 21 03 57.8 -2.6
baz=321,SNR=52
WSPT Westport, CT 68.41 51 P P 21 03 57.9 -2.5
WSPT IAmb IAmb 21 04 26.8
comp=Z,3μm,1.1s
WES Weston 68.42 48 P P 21 03 58.0 -2.4
WES pmax pmax
comp=Z,3μm,1.0s
WES Weston 68.42 48 P P 21 03 58.0 -2.4
WES IAmb IAmb 21 04 26.9
comp=Z,3μm,1.0s
SHL Shillong 68.42 284 *eP* **P 21 04 00.4 -0.6**
SHL IAmb IAmb 21 04 05.6
comp=Z,1μm,1.0s
SHL *i* pP **pP 21 04 31.1 +4.7**
SHL Shillong 68.42 284 P P **21 04 00.4 -0.6**
SNR=448
SHL Shillong 68.42 284 P P **21 04 00.2 -0.7**
SHL pmax pmax
comp=Z,7μm,1.3s
SHL Shillong 68.42 284 P P **21 04 00.2 -0.7**
SHL IAmb IAmb 21 04 52.8
comp=Z,7μm,1.3s
DLV T Lat 68.43 262 P P 21 04 00.9 -0.2
V55A Taylorsville 68.44 59 P P 21 03 58.9 -1.8
baz=319,SNR=109
V55A Taylorsville 68.44 59 P P 21 03 59.0 -1.8
YLE Yale 68.49 50 P P 21 03 58.4 -2.5
W54A Cherokee Point 68.50 60 P P 21 03 59.2 -1.8
baz=319,SNR=217
U56A King 68.51 58 P P 21 03 59.2 -2.0
baz=319,SNR=76
U56A King 68.51 58 P P 21 03 59.1 -2.0
LRW Lerwick 68.52 360 ⇑ *eP* **P 21 03 59.5 -1.2**
LRW IAMs_20 IAMs_20 21 26 41.4
comp=Z,1532μm,60.6s
N62A Caumsett State 68.53 51 P P 21 03 58.9 -2.2
baz=321,SNR=7.3
BCX Boston College 68.53 48 P P 21 03 58.7 -2.4
Q59A Harwood 68.54 54 P P 21 03 59.3 -1.9
baz=320,SNR=22
250A Grady 68.55 65 P P 21 03 59.2 -2.3
250A IAmb IAmb 21 04 27.7
comp=Z,4μm,0.8s
ODD1 Odda 68.55 356 ⇑ *i* **P P 21 04 01.6 +0.5**
LMN Caledonia Moun 68.57 42 P P 21 03 58.8 -2.6
LMN IAmb IAmb 21 04 27.9
comp=Z,6μm,1.1s
R58B Mineral 68.60 56 P P 21 03 59.8 -1.8
baz=320,SNR=127
R58B Mineral 68.60 56 P P 21 03 59.6 -2.1
T57A Hurt 68.62 57 P P 21 03 59.7 -2.1
baz=319,SNR=117

T57A	**Hurt**	**68.62**	**57**	P	**P**	**21 03 59.7**	**-2.1**
DRLN	**Deer Lake**	**68.64**	**36**	P	**P**	**21 03 60.0**	**-1.7**
DRLN				IAmb	IAmb	21 04 08.5	
	comp=Z,6µm,1.1s						
O61A	**Allentown**	**68.64**	**52**	P	**P**	**21 03 59.9**	**-2.0**
	baz=320,SNR=65						
KONO	**Kongsberg**	**68.65**	**354**	*ce*P	**P**	**21 04 00.4**	**-1.2**
KONO				pmax	pmax		
	comp=Z,4µm,0.9s						
KONO				MLR	MLR		
	comp=Z,112µm,22.0s						
KONO	**Kongsberg**	**68.65**	**354**	P	**P**	**21 04 00.2**	**-1.4**
KONO				IAmb	IAmb	21 04 25.7	
	comp=Z,4µm,0.9s						
KONO	**Kongsberg**	**68.65**	**354**	⇑*i*P	**P**	**21 04 00.6**	**-1.0**
KONO				*e*S	**S**	**21 12 57.4**	**+1.6**
KONO				*e*SKSac	**SKSac**	**21 13 49.4**	**-1.4**
KONO				IVMs_BB	IVMs_BB	21 27 12.3	
	comp=Z,158µm,46.8s						
CBN	**Corbin Frederi**	**68.68**	**55**	P	**P**	**21 03 60.0**	**-2.1**
	baz=320,SNR=25						
CBN	**Corbin Frederi**	**68.68**	**55**		**P**	**21 04 00.0**	**-2.1**
BRYW	**Bryant College**	**68.68**	**49**	P	**P**	**21 03 59.6**	**-2.6**
BRYW				IAmb	IAmb	21 04 28.5	
	comp=Z,4µm,1.1s						
L63A	**North Scituate**	**68.69**	**49**	P	**P**	**21 03 59.7**	**-2.4**
	baz=321,SNR=112						
MOIG	**Morelia**	**68.77**	**85**	P	**P**	**21 04 03.0**	**-0.2**
S58A	**Poland Farm, P**	**68.78**	**56**	P	**P**	**21 04 00.6**	**-2.1**
	baz=320,SNR=138						
S58A	**Poland Farm, P**	**68.78**	**56**	P	**P**	**21 04 00.6**	**-2.1**
X54A	**Belton**	**68.80**	**61**	P	**P**	**21 04 01.3**	**-1.7**
	baz=319,SNR=334						
R59A	**King George, V**	**68.81**	**55**	P	**P**	**21 04 00.9**	**-2.0**
	baz=320,SNR=15						
Q60A	**Greensboro**	**68.84**	**54**	P	**P**	**21 04 01.1**	**-2.0**
	baz=320,SNR=12						
Q60A	**Greensboro**	**68.84**	**54**	P	**P**	**21 04 01.0**	**-2.1**
M63A	**Gales Ferry**	**68.84**	**50**	P	**P**	**21 04 00.7**	**-2.4**
	baz=321,SNR=330						
P61A	**Hammonton**	**68.85**	**52**	P	**P**	**21 04 01.1**	**-2.0**
	baz=320,SNR=14						
P61A	**Hammonton**	**68.85**	**52**	P	**P**	**21 04 01.1**	**-2.0**
V56A	**Mocksville**	**68.86**	**59**	P	**P**	**21 04 01.4**	**-1.9**
	baz=319,SNR=135						
PAULI	**Pauline**	**68.89**	**60**	P	**P**	**21 04 01.6**	**-2.0**
PAULI				IAmb	IAmb	21 04 30.6	
	comp=Z,4µm,1.4s						
152A	**Waverly Hall**	**68.91**	**64**	P	**P**	**21 04 00.8**	**-2.9**
KMSC	**Kings Mountain**	**68.91**	**60**	P	**P**	**21 04 01.7**	**-2.0**
	baz=319,SNR=424						
KMSC	**Kings Mountain**	**68.91**	**60**	P	**P**	**21 04 01.6**	**-2.0**
KMSC				IAmb	IAmb	21 04 30.6	
	comp=Z,5µm,1.2s						
TAS	**Tashkent**	**68.92**	**310**	P	**P**	**21 04 04.2**	**+0.6**
TAS				pmax	pmax		
	comp=Z,3µm,1.0s						
TAS	**Tashkent**	**68.92**	**310**	P	**P**	**21 04 04.2**	**+0.6**
TAS				IAmb	IAmb	21 04 29.9	
	comp=Z,3µm,1.0s						
N63A	**Mattituck**	**68.94**	**50**	P	**P**	**21 04 01.3**	**-2.4**
	baz=321						
OBN	**Obninsk**	**68.98**	**338**	*c* iP	**P**	**21 04 02.3**	**-1.4**
OBN				*i*		21 04 23.5	
OBN				*i*		21 06 34.2	
OBN				*i* S	**S**	**21 12 53.1**	**-6.7**
OBN				pmax	pmax		
	comp=Z,437nm,0.8s						
OBN				pmax	pmax		
	comp=Z,42µm,6.1s						
OBN				MLR	MLR		
	comp=Z,192µm,21.0s						
OBN	**Obninsk**	**68.98**	**338**	P	**P**	**21 04 02.5**	**-1.1**
L64A	**Middleborough**	**69.00**	**48**	P	**P**	**21 04 01.6**	**-2.4**
	baz=322,SNR=150						
U57A	**Blanch**	**69.00**	**58**	P	**P**	**21 04 02.2**	**-2.0**
	baz=320,SNR=241						
R60A	**Leonardtown, M**	**69.03**	**55**	P	**P**	**21 04 02.5**	**-1.8**
	baz=320,SNR=12						
T58A	**Grand View Acr**	**69.03**	**57**	P	**P**	**21 04 02.1**	**-2.3**
	baz=320,SNR=157						
BLS5	**Blasjo**	**69.05**	**356**	*e*P	**P**	**21 04 02.5**	**-1.6**
BLS5				*e*S	**S**	**21 13 01.0**	**+0.4**
BLS5				IVMs_BB	IVMs_BB	21 27 28.3	
	comp=Z,184µm,38.6s						
GOGA	**Godfrey**	**69.05**	**63**	P	**P**	**21 04 02.0**	**-2.4**
	baz=319,SNR=307						
GOGA	**Godfrey**	**69.05**	**63**	P	**P**	**21 04 01.9**	**-2.6**
GOGA				pmax	pmax		
	comp=Z,2µm,1.0s						
GOGA	**Godfrey**	**69.05**	**63**	P	**P**	**21 04 01.9**	**-2.6**
S59A	**Mechanicsville**	**69.05**	**55**	P	**P**	**21 04 02.5**	**-1.9**
	baz=320,SNR=24						
GTK	**Tadong**	**69.09**	**288**	*ex*	**P**	**21 04 05.6**	**+0.6**
GTK				IAmb	IAmb	21 04 28.0	
	comp=Z,1µm,0.6s						
HODGE	**Hodges**	**69.10**	**61**	P	**P**	**21 04 02.9**	**-1.8**
HODGE				IAmb	IAmb	21 04 31.2	
	comp=Z,3µm,0.7s						
M64A	**Tiverton**	**69.12**	**49**	P	**P**	**21 04 02.4**	**-2.4**
	baz=321,SNR=78						
CHTO	**Chiang Mai**	**69.12**	**274**	P	**P**	**21 04 04.7**	**-0.5**
CHTO	**Chiang Mai**	**69.12**	**274**	P	**P**	**21 04 04.7**	**-0.5**
CHTO				pmax	pmax		
	comp=Z,2µm,1.3s						
CHTO	**Chiang Mai**	**69.12**	**274**	P	**P**	**21 04 04.7**	**-0.5**
MSVF	**Nonsavu**	**69.14**	**181**	*d* iP	**P**	**21 04 06.3**	**+1.2**
MSVF				pmax	pmax		
	comp=Z,5µm,2.0s						
MSVF				MLR	MLR		
	comp=Z,123µm,18.0s						
MSVF	**Nonsavu**	**69.14**	**181**	P	**P**	**21 04 05.5**	**+0.3**
BTK	**Batken**	**69.17**	**309**	P	**P**	**21 04 05.5**	**+0.2**
BTK				pmax	pmax		
	comp=Z,4µm,0.9s						
BTK	**Batken**	**69.17**	**309**	P	**P**	**21 04 05.5**	**+0.2**
BTK				IAmb	IAmb	21 04 27.2	
	comp=Z,4µm,0.9s						
V57A	**Coltrane Farms**	**69.18**	**58**	P	**P**	**21 04 03.1**	**-2.2**
	baz=320,SNR=88						
Q61A	**Milford**	**69.19**	**53**	P	**P**	**21 04 03.8**	**-1.5**
	baz=320,SNR=11						
X55A	**Gracelyn & Ava**	**69.26**	**61**	P	**P**	**21 04 04.0**	**-1.8**
	baz=319,SNR=428						
L65A	**Cape Cod Natio**	**69.29**	**48**	P	**P**	**21 04 03.2**	**-2.6**
	baz=322						
SPMM	**Sapulut**	**69.31**	**250**	P	**P**	**21 04 06.0**	**-0.4**
KMY	**Karmoy**	**69.31**	**356**	⇑*i*P	**P**	**21 04 04.7**	**-1.0**
KMY				*e*S	**S**	**21 13 02.7**	**-0.9**
SLIT	**Slitere, Latvi**	**69.32**	**347**	*e*P	**P**	**21 04 05.3**	**-0.4**
SLIT				IAmb	IAmb	21 04 22.2	
	comp=Z,12µm,0.4s						
W56A	**Indian Trail**	**69.32**	**59**	P	**P**	**21 04 04.0**	**-2.2**
	baz=319,SNR=108						
M65A	**Busby, Falmout**	**69.38**	**49**	P	**P**	**21 04 04.0**	**-2.3**
	baz=322						
M65A	**Busby, Falmout**	**69.38**	**49**	P	**P**	**21 04 04.1**	**-2.3**
CM31	**Chiang Mai Arr**	**69.39**	**274**	P	**P**	**21 04 07.0**	**+0.1**
	SNR=220						
CMAR	**Chiang Mai Arr**	**69.39**	**274**	P	**P**	**21 04 06.7**	**-0.1**
	comp=Z,211nm,1.0s,baz=26,slow=6.8,SNR=572						
				S	**S**	**21 13 07.8**	**+2.0**
	comp=Z,8.9nm,1.0s,baz=351,slow=3.8,SNR=0.8						
CMAR				PKPPKP	**P'P'df**	**21 32 16.4**	**+0.4**
	comp=Z,73nm,1.0s,baz=243,slow=4.6,SNR=10						
CMAR				P4KPbc		21 40 53.7	
	comp=Z,2.4nm,1.0s,baz=17,slow=3.8,SNR=4.4						
CMAR	**Chiang Mai Arr**	**69.39**	**274**	*i* P	**P**	**21 04 06.5**	**-0.3**
CMAR				pmax	pmax		
	comp=Z,214nm,0.9s						
S60A	**Water View**	**69.42**	**55**	P	**P**	**21 04 04.8**	**-1.9**
	baz=320,SNR=34						
U58A	**Oxford**	**69.44**	**57**	P	**P**	**21 04 04.8**	**-2.1**
	baz=320,SNR=59						
T59A	**Double "B" Far**	**69.52**	**56**	P	**P**	**21 04 05.5**	**-1.9**
	baz=320,SNR=128						
T59A	**Double "B" Far**	**69.52**	**56**	P	**P**	**21 04 05.5**	**-1.9**
Y55A	**Saluda**	**69.54**	**61**	P	**P**	**21 04 05.8**	**-1.7**
	baz=319,SNR=298						
X56A	**White Oak**	**69.57**	**60**	P	**P**	**21 04 05.8**	**-1.8**
	baz=319,SNR=307						
TAPN	**Taplejung**	**69.59**	**288**	*e*P	**P**	**21 04 08.7**	**+0.4**
	comp=Z,5µm,0.9s						
JSC	**Jenkinsville**	**69.60**	**60**	P	**P**	**21 04 06.0**	**-1.9**
JSC				pmax	pmax		
	comp=Z,1µm,0.8s						
JSC	**Jenkinsville**	**69.60**	**60**	P	**P**	**21 04 06.0**	**-1.9**
V58A	**Windy Hill, Pi**	**69.60**	**58**	P	**P**	**21 04 06.0**	**-1.9**
	baz=320,SNR=212						
V58A	**Windy Hill, Pi**	**69.60**	**58**	P	**P**	**21 04 05.5**	**-2.3**
V58A				IAmb	IAmb	21 04 34.2	
	comp=Z,3µm,1.0s						
R61A	**Willards**	**69.61**	**54**	P	**P**	**21 04 06.4**	**-1.5**
	baz=320,SNR=14						
R61A	**Willards**	**69.61**	**54**	P	**P**	**21 04 06.3**	**-1.5**
R61A				IAmb	IAmb	21 04 34.7	
	comp=Z,4µm,1.0s						
W57A	**Gilead**	**69.62**	**59**	P	**P**	**21 04 05.8**	**-2.1**
	baz=320,SNR=111						
W57A	**Gilead**	**69.62**	**59**	P	**P**	**21 04 05.9**	**-2.1**
352A	**Blakely**	**69.68**	**65**	P	**P**	**21 04 06.4**	**-2.1**
BIRD	**Birdtown, Kers**	**69.76**	**60**	P	**P**	**21 04 06.6**	**-2.2**
T60A	**Surry**	**69.81**	**55**	P	**P**	**21 04 07.2**	**-2.0**
	baz=320,SNR=17						
T60A	**Surry**	**69.81**	**55**	P	**P**	**21 04 07.0**	**-2.1**
T60A				IAmb	IAmb	21 04 35.4	
	comp=Z,3µm,0.9s						
154A	**Montrose**	**69.85**	**63**	P	**P**	**21 04 07.0**	**-2.4**
154A				IAmb	IAmb	21 04 35.9	
	comp=Z,4µm,0.9s						
M66A	**Nantucket**	**69.85**	**48**	P	**P**	**21 04 06.9**	**-2.4**
	baz=322						
451A	**Vernon**	**69.87**	**66**	P	**P**	**21 04 08.0**	**-1.6**
451A				IAmb	IAmb	21 04 37.3	
	comp=Z,7µm,1.4s						
U59A	**Littleton**	**69.87**	**57**	P	**P**	**21 04 07.8**	**-1.7**
	baz=320,SNR=96						
U59A	**Littleton**	**69.87**	**57**	P	**P**	**21 04 07.4**	**-2.1**
S61A	**Accomac**	**69.94**	**54**	P	**P**	**21 04 08.5**	**-1.4**
	baz=320,SNR=10.0						
S61A	**Accomac**	**69.94**	**54**	P	**P**	**21 04 08.4**	**-1.5**
S61A				IAmb	IAmb	21 04 36.8	
	comp=Z,8µm,1.4s						
TAOE	**Nuku Hiva Isla**	**69.94**	**136**	*e*P	**P**	**21 04 09.8**	**-0.4**
	comp=Z,4µm,1.4s						
TAOE	**Nuku Hiva Isla**	**69.94**	**136**	*e*P'P'df	P'P'df	21 32 13.6	+0.8
	comp=Z,714nm,1.5s						
TAOE	**Nuku Hiva Isla**	**69.94**	**136**	*e*T	T	22 19 23.3	
	comp=Z,1µm,0.3s						
TAOE	**Nuku Hiva Isla**	**69.94**	**136**	P	**P**	**21 04 09.5**	**-0.7**
Y56A	**Pelion**	**69.95**	**61**	P	**P**	**21 04 08.3**	**-1.7**
	baz=320,SNR=12						
HAL	**Halifax**	**70.05**	**42**	P	**P**	**21 04 08.5**	**-2.0**
HAL				pmax	pmax		
	comp=Z,3µm,1.1s						
HAL	**Halifax**	**70.05**	**42**	P	**P**	**21 04 08.5**	**-2.0**
V59A	**Middlesex**	**70.09**	**57**	P	**P**	**21 04 09.0**	**-1.8**
	baz=320,SNR=305						
HOMB	**Homborsund**	**70.09**	**354**	⇑*i*P	**P**	**21 04 09.4**	**-1.1**
HOMB				*e*S	**S**	**21 13 12.7**	**-0.1**
HOMB				IVMs_BB	IVMs_BB	21 27 52.1	
	comp=Z,172µm,46.1s						
X57A	**Johnson Farm,**	**70.09**	**60**	P	**P**	**21 04 09.0**	**-1.9**
	baz=320,SNR=65						
SNART	**Snartemo**	**70.09**	**355**	⇑*i*P	**P**	**21 04 09.1**	**-1.4**
SNART				*e*S	**S**	**21 13 15.0**	**+2.2**
U60A	**Pendleton**	**70.11**	**56**	P	**P**	**21 04 09.2**	**-1.8**
	baz=320,SNR=79						
W58A	**Raeford**	**70.13**	**59**	P	**P**	**21 04 09.2**	**-1.9**
	baz=320,SNR=187						
BIGH	**Upper Bighouse**	**70.14**	**1⇑**	*e*P	**P**	**21 04 09.8**	**-1.0**
BIGH				IAMs_20	IAMs_20	21 27 24.2	
	comp=Z,1517µm,53.5s						
ODAN	**Odare**	**70.15**	**288**	*e*P	**P**	**21 04 12.3**	**+0.7**
	comp=Z,4µm,1.2s						
GAR	**Garm**	**70.24**	**308**	P	**P**	**21 04 11.9**	**0.0**
GUN	**Gumba**	**70.25**	**290**	*e*P	**P**	**21 04 12.9**	**+0.5**
JIRN	**Jiri**	**70.25**	**290**	*e*P	**P**	**21 04 13.6**	**+1.1**
Z56A	**Williston**	**70.27**	**61**	P	**P**	**21 04 10.3**	**-1.7**
	baz=320,SNR=39						
Z56A	**Williston**	**70.27**	**61**	P	**P**	**21 04 10.4**	**-1.6**
Z56A				IAmb	IAmb	21 04 39.1	
	comp=Z,4µm,0.7s						
Y57A	**Sumter**	**70.27**	**60**	P	**P**	**21 04 10.1**	**-1.9**
	baz=320,SNR=42						
Y57A	**Sumter**	**70.27**	**60**	P	**P**	**21 04 10.1**	**-1.9**
Y57A				IAmb	IAmb	21 04 39.1	
	comp=Z,5µm,1.4s						
UNM	**Universidad Na**	**70.28**	**84**	P	**P**	**21 04 12.1**	**-0.4**
UNM				pmax	pmax		
	comp=Z,8µm,1.2s						
UNM	**Universidad Na**	**70.28**	**84**	P	**P**	**21 04 12.1**	**-0.4**
GBN	**Guysborough**	**70.28**	**40**	P	**P**	**21 04 10.2**	**-1.6**
GBN				IAmb	IAmb	21 04 39.0	
	comp=Z,6µm,1.2s						
MLA1	**Latheron**	**70.34**	**1⇑**	*e*P	**P**	**21 04 10.6**	**-1.4**
LEWI	**Lewis, Hebride**	**70.42**	**3⇑**	*e*P	**P**	**21 04 11.7**	**-0.8**
LEWI				IAMs_20	IAMs_20	21 27 35.9	
	comp=Z,1528µm,49.3s						
X58A	**Rowland**	**70.43**	**59**	P	**P**	**21 04 11.1**	**-1.9**
	baz=320,SNR=24						
X58A	**Rowland**	**70.43**	**59**	P	**P**	**21 04 11.0**	**-1.9**
LUWI	**Luwuk**	**70.43**	**241**	P	**P**	**21 04 11.9**	**-1.2**
W59A	**Clinton**	**70.44**	**58**	P	**P**	**21 04 11.2**	**-1.8**
	baz=320,SNR=12						
TIGA	**Tifton**	**70.46**	**64**	P	**P**	**21 04 11.1**	**-2.2**
	baz=319,SNR=36						
TIGA	**Tifton**	**70.46**	**64**	P	**P**	**21 04 11.0**	**-2.2**
IZAR	**Zarasai**	**70.50**	**344**	*e*P	**P**	**21 04 12.5**	**-0.5**
IZAR				IAmb	IAmb	21 04 30.3	
	comp=Z,766nm,0.4s						
U61A	**Possum Corner**	**70.58**	**56**	P	**P**	**21 04 12.0**	**-1.8**
	baz=321,SNR=21						
U61A	**Possum Corner**	**70.58**	**56**	P	**P**	**21 04 12.2**	**-1.7**
U61A				IAmb	IAmb	21 04 41.0	
	comp=Z,7µm,1.2s						
V60A	**Jim Taylor Roa**	**70.60**	**57**	P	**P**	**21 04 12.2**	**-1.7**
	baz=320,SNR=27						
V60A	**Jim Taylor Roa**	**70.60**	**57**	P	**P**	**21 04 12.1**	**-1.8**
Z57A	**Bowman**	**70.65**	**61**	P	**P**	**21 04 12.8**	**-1.5**
	baz=320,SNR=206						
CNNC	**Cliffs of the**	**70.67**	**58**	P	**P**	**21 04 12.7**	**-1.7**
	baz=320,SNR=26						
CNNC	**Cliffs of the**	**70.67**	**58**	P	**P**	**21 04 12.6**	**-1.7**
CNNC				IAmb	IAmb	21 04 40.9	
	comp=Z,3µm,1.1s						
LPSR	**Galich'ya Gora**	**70.68**	**335**	*e*P	**P**	**21 04 12.6**	**-1.6**
LPSR				*e*S	**S**	**21 13 16.3**	**-3.5**
LPSR				pmax	pmax		
	comp=Z,780nm,0.8s						
LPSR				smax	smax		
	comp=E,57µm,15.7s						
ISAL	**Salakas**	**70.69**	**344**	*e*P	**P**	**21 04 13.4**	**-0.7**
KKN	**Kakani**	**70.69**	**290**	*e*P	**P**	**21 04 15.4**	**+0.5**
	comp=E,3µm,0.8s						
255A	**Hazlehurst**	**70.72**	**63**	P	**P**	**21 04 12.7**	**-2.0**
255A				IAmb	IAmb	21 04 41.2	
	comp=Z,3µm,0.8s						
Y58A	**Scranton**	**70.75**	**60**	P	**P**	**21 04 13.2**	**-1.7**
	baz=320,SNR=17						
Y58A	**Scranton**	**70.75**	**60**	P	**P**	**21 04 13.4**	**-1.5**
PKI	**Pulchoki**	**70.78**	**290**	*e*P	**P**	**21 04 16.3**	**+0.7**
X59A	**McDuffie Farm,**	**70.81**	**58**	P	**P**	**21 04 13.2**	**-2.0**
	baz=320,SNR=14						
IIGN	**Ignalina**	**70.88**	**344**	*e*P	**P**	**21 04 15.4**	**0.0**
GKN	**Gorkha**	**70.90**	**291**	*e*P	**P**	**21 04 16.5**	**+0.4**
	comp=Z,3µm,0.7s						
W60A	**Pink Hill**	**70.91**	**58**	P	**P**	**21 04 14.1**	**-1.7**
	baz=320,SNR=37						
PBUR	**Paburge**	**70.92**	**346**	*e*P	**P**	**21 04 15.2**	**-0.3**
DMN	**Daman**	**70.93**	**290**	*e*P	**P**	**21 04 17.0**	**+0.6**
	comp=Z,5µm,0.9s						
V61A	**Roper**	**70.93**	**56**	P	**P**	**21 04 14.2**	**-1.7**
	baz=321,SNR=31						
V61A	**Roper**	**70.93**	**56**	P	**P**	**21 04 14.1**	**-1.9**
V61A				IAmb	IAmb	21 04 43.2	
	comp=Z,9µm,1.4s						
553A	**Crawfordville**	**70.93**	**65**	P	**P**	**21 04 14.6**	**-1.5**
553A				IAmb	IAmb	21 04 43.6	
	comp=Z,3µm,1.1s						
157A	**Early Branch**	**70.96**	**61**	P	**P**	**21 04 15.0**	**-1.2**
	baz=320,SNR=79						
MCD	**Coleburn Disti**	**71.06**	**1⇑**	*i*P	**P**	**21 04 15.4**	**-1.0**
CHGR	**Chuyangaron**	**71.07**	**309**	P	**P**	**21 04 17.1**	**+0.2**
NHSC	**New Hope**	**71.08**	**61**	P	**P**	**21 04 15.5**	**-1.4**
	baz=320,SNR=80						
NHSC	**New Hope**	**71.08**	**61**	P	**P**	**21 04 15.5**	**-1.4**
Z58A	**St. Stephen**	**71.10**	**60**	P	**P**	**21 04 15.2**	**-1.8**
	baz=320,SNR=75						
Y59A	**Loris**	**71.11**	**59**	P	**P**	**21 04 15.2**	**-1.8**
	baz=320,SNR=9.1						
Y59A	**Loris**	**71.11**	**59**	P	**P**	**21 04 15.2**	**-1.8**
Y59A				IAmb	IAmb	21 04 43.4	
	comp=Z,3µm,0.9s						
KAC	**Achnashellach**	**71.11**	**2⇑**	*i*P	**P**	**21 04 15.5**	**-1.2**
PABE	**Paberze**	**71.11**	**345**	*e*P	**P**	**21 04 16.3**	**-0.4**
PABE				IAmb	IAmb	21 04 33.1	
	comp=Z,2µm,0.6s						
X60A	**Albert Glenn T**	**71.13**	**58**	P	**P**	**21 04 15.3**	**-1.9**
	baz=320,SNR=53						
DANN	**Dangsing**	**71.15**	**292**	*e*P	**P**	**21 04 18.3**	**+0.5**
	comp=Z,6µm,0.7s						
NIUE	**Niue**	**71.18**	**169**	P	**P**	**21 04 17.4**	**0.0**
VRH	**Novokhopyorsk**	**71.19**	**333**	*e*P	**P**	**21 04 15.4**	**-1.8**
VRH				*e*S	**S**	**21 13 25.8**	**+0.1**
VRH				pmax	pmax		
	comp=Z,2µm,0.7s						
VRH				smax	smax		
	comp=E,83µm,16.4s						
MDO	**Dochfour**	**71.19**	**2⇑**	*i*P	**P**	**21 04 16.1**	**-1.1**
NACGM	**Naroch**	**71.21**	**343**	*e*P	**P**	**21 04 15.0**	**-2.3**
NACGM				PM		21 04 33.0	
	comp=Z,3.6nm,1.0s						
NACGM				*e*PP	PP	21 06 40.0	-16
NACGM				*e*PPP	PPP	21 08 20.0	
NACGM				*e*S	S	21 13 15.0	-11
NACGM				*e*SS	SS	21 18 26.0	+26
NACGM				*e*SSS	SSS	21 21 26.0	
NACGM				*e*LR	LR	21 26 20.0	
RGRS	**Roger Stewart**	**71.22**	**61**	P	**P**	**21 04 16.3**	**-1.4**
CSU	**Charleston Sou**	**71.23**	**61**	P	**P**	**21 04 16.5**	**-1.3**
KPL	**Plockton**	**71.26**	**2⇑**	*e*P	**P**	**21 04 16.6**	**-1.0**
KPL				IAMs_20	IAMs_20	21 27 58.1	
	comp=Z,1692µm,54.3s						
GOET	**G??ttrup**	**71.28**	**354**	*i* P	**P**	**21 04 17.2**	**-0.4**
	comp=Z,1µm,0.9s						
158A	**Hollywood**	**71.35**	**61**	P	**P**	**21 04 17.0**	**-1.5**
	baz=320,SNR=15						
MICGM	**Minsk**	**71.39**	**343**	⇑*i*P	**P**	**21 04 17.0**	**-1.4**
MICGM				⇑*i*P	**P**	**21 04 18.0**	**-0.4**
MICGM				PM		21 04 18.0	
	comp=Z,0.8nm,1.4s						
MICGM				PM		21 04 18.0	
	comp=N,0.3nm,1.8s						
MICGM				PM		21 04 20.0	
	comp=Z,24nm,6.0s						
MICGM				*e*pP	**pP**	**21 04 44.0**	**+0.1**
MICGM				*e*PP	**PP**	**21 06 52.0**	**-5.2**
MICGM				PPM		21 06 54.0	
	comp=Z,34nm,12.0s						
MICGM				*e*PPP	PPP	21 08 40.0	
MICGM				*e*S	**S**	**21 13 25.0**	**-2.9**
MICGM				SM		21 13 26.0	
	comp=N,104nm,24.0s						
MICGM				SM		21 13 26.0	
	comp=E,80nm,24.0s						
MICGM				*es*S	**SKiKP**	**21 13 52.0**	**+4.5**
MICGM				*e*PS	**PnS**	**21 14 16.0**	**+5.8**
MICGM				*e*SS	**SS**	**21 18 00.0**	**-3.0**
MICGM				*e*SSS	SSS	21 21 20.0	
MICGM				*e*LQ	LQ	21 27 40.0	
MICGM				LQM		21 28 50.0	
	comp=N,186nm,40.0s						
MICGM				LQM		21 29 20.0	
	comp=E,82nm,34.0s						
MICGM				*e*LR	LR	21 31 20.0	
MICGM				LRM	MLR	21 36 52.0	
	comp=N,84nm,22.0s						
MICGM				LRM	MLR	21 36 58.0	
	comp=Z,226nm,22.0s						
MNK	**Minsk**	**71.39**	**343**	*a* iP	**P**	**21 04 17.0**	**-1.4**
MNK				*e**PP	**pP**	**21 04 44.0**	**+0.1**
MNK				*e*PPP	PPP	21 08 40.0	
MNK				*e*S	**S**	**21 13 25.0**	**-2.9**
MNK				*e*SS	**SS**	**21 18 00.0**	**-3.0**
MNK				pmax	pmax		
	comp=Z,780nm,1.4s						
MNK				pmax	pmax		
	comp=N,290nm,1.8s						
MNK				pmax	pmax		
	comp=Z,24µm,6.0s						
V62A	**Hyde County Ai**	**71.43**	**56**	P	**P**	**21 04 17.4**	**-1.5**
	baz=321,SNR=6.8						
V62A	**Hyde County Ai**	**71.43**	**56**	P	**P**	**21 04 18.0**	**-0.9**
V62A				IAmb	IAmb	21 04 45.9	
	comp=Z,6µm,1.2s						
Y60A	**Bolivia**	**71.44**	**59**	P	**P**	**21 04 17.1**	**-2.0**
	baz=320,SNR=31						
Y60A	**Bolivia**	**71.44**	**59**	P	**P**	**21 04 16.8**	**-2.3**
Y60A				IAmb	IAmb	21 04 45.2	
	comp=Z,3µm,0.9s						
VORR	**Voronezh**	**71.45**	**335**	*e*P	**P**	**21 04 16.0**	**-2.8**
VORR				*e*S	**S**	**21 13 22.0**	**-6.7**
VORR				pmax	pmax		
	comp=Z,2µm,1.6s						
Z59A	**Georgetown, SC**	**71.46**	**60**	P	**P**	**21 04 17.8**	**-1.4**
	baz=320,SNR=17						
257A	**Skidaway Islan**	**71.48**	**62**	P	**P**	**21 04 17.9**	**-1.4**
257A				IAmb	IAmb	21 04 46.2	
	comp=Z,3µm,1.0s						
KOLN	**Koldanda**	**71.68**	**292**	*e*P	**P**	**21 04 21.1**	**+0.2**
	comp=Z,2µm,0.9s						
DRUM	**Mains of Drumt**	**71.74**	**1⇑**	*e*P	**P**	**21 04 18.8**	**-1.7**
DRUM				IAMs_20	IAMs_20	21 28 09.9	
	comp=Z,1432µm,57.2s						
PYUN	**Piuthan**	**71.78**	**292**	*e*P	**P**	**21 04 21.9**	**+0.4**
	comp=Z,3µm,0.8s						
MUD	**Monsted U'grnd**	**71.86**	**354**	*i* P	**P**	**21 04 20.3**	**-0.8**
MUD	**Monsted U'grnd**	**71.86**	**354**	*e*P	**P**	**21 04 20.3**	**-0.8**
VSR	**Storozhevoye**	**71.88**	**335**	*e*P	**P**	**21 04 19.8**	**-1.6**
VSR				*e*S	**S**	**21 13 28.7**	**

EDI Edinburgh 72.73 1⇑ *e*P P 21 04 24.9 -1.4
EDI IAMs_20 IAMs_20 21 28 38.8
comp=Z,1295µm,54.5s
ESY Stoneypath 72.74 1⇑ *i*P P 21 04 25.0 -1.4
SMLA Simla 72.75 298 *e*P P 21 04 26.8 -0.1
SMLA IAmb IAmb 21 04 32.0
comp=Z,1µm,0.8s
JMU Jammu 72.76 301 *e*x P 21 04 21.0 -5.9
JMU *e*x x 21 04 34.0
PGBU Glenifferbraes 72.82 2⇑ *e*P P 21 04 25.7 -1.2
PGBU IAMs_20 IAMs_20 21 28 42.6
comp=Z,1250µm,49.1s
DDI Dehra Dun 72.88 297 *e*P P 21 04 29.4 +1.7
DDI IAmb IAmb 21 04 42.8
comp=Z,2µm,1.0s
EBL Broad Law 72.88 1⇑ *i*P P 21 04 26.0 -1.3
NIL Nilore 72.91 303 P P 21 04 28.1 +0.2
NIL pmax pmax
comp=Z,4µm,1.0s
NIL Nilore 72.91 303 P P 21 04 28.1 +0.2
NIL IAmb IAmb 21 04 56.2
comp=Z,4µm,1.0s
BHK Bhakra 72.94 299 *e*x P 21 04 32.0 +3.9
BHK *e*x x 21 05 18.2
EKB Eskdalemuir 73.32 1 P P 21 04 28.8 -1.0
ESK Eskdalemuir 73.34 1⇑ *e*P P 21 04 29.0 -1.0
ESK IAMs_20 IAMs_20 21 28 54.9
comp=Z,1521µm,61.1s
ESK Eskdalemuir 73.34 1 P P 21 04 28.9 -1.1
ESK pmax pmax
comp=Z,2µm,1.1s
ESK Eskdalemuir 73.34 1 P P 21 04 28.9 -1.1
BOK Bokaro 73.34 287 *e*P P 21 04 30.9 +0.3
BOK IAmb IAmb 21 04 41.8
comp=Z,2µm,1.3s
BOK *i* pP **pP 21 05 00.7 +4.4**
BOK *i* x x 21 07 47.0
BOK *i* x x 21 08 07.0
RGN Rugen 73.41 351 *e*P P 21 04 30.7 +0.3
RGN Rugen 73.41 351 P P 21 04 29.6 -0.7
RGN IAmb IAmb 21 04 53.1
comp=Z,3µm,0.8s
RGN Rugen 73.41 351 *e*P P 21 04 29.3 -1.1
comp=Z,4µm,0.8s,baz=8.9,slow=5.6
RGN *e*S **SKiKP 21 13 45.2 -5.3**
baz=9.8,slow=11
CLGH Cloghs, Cushen 73.51 3⇑ *e*P P 21 04 29.8 -1.1
CLGH IAMs_20 IAMs_20 21 29 02.4
comp=Z,1369µm,46.7s
NEWG New Galloway 73.52 2⇑ *e*P P 21 04 29.7 -1.3
NEWG IAMs_20 IAMs_20 21 29 03.4
comp=Z,1200µm,50.7s
SKMB Sankelmark Bun 73.57 353 *e*P P 21 04 31.0 -0.3
comp=Z,4µm,0.9s,baz=8.9,slow=5.6
SKMB *e*S **SKiKP 21 13 48.1 -2.7**
baz=9.8,slow=11
SBUM Sibu 73.62 253 P P 21 04 32.2 0.0
SBUM Sibu 73.62 253 P P 21 04 33.0 +0.8
EDMD Edmundbyers 73.83 0⇑ *e*P P 21 04 31.6 -1.2
EDMD IAMs_20 IAMs_20 21 29 11.9
comp=Z,1474µm,59.0s
BKB Balikpapan 73.89 246 P P 21 04 33.8 +0.1
KESW Keswick, Cumbr 74.07 1⇑ *e*P P 21 04 33.1 -1.1
KESW IAMs_20 IAMs_20 21 29 16.6
comp=Z,1449µm,58.3s
HLG Helgoland 74.20 354 *e*P P 21 04 34.4 -0.6
comp=Z,4µm,1.0s,baz=8.9,slow=5.6
HLG *e*S **SKiKP 21 13 54.5 +2.8**
baz=9.8,slow=11
DWPF Disney Wildern 74.21 65 P P 21 04 34.2 -1.3
baz=321
DWPF Disney Wildern 74.21 65 P P 21 04 34.1 -1.3
DWPF IAmb IAmb 21 05 02.6
comp=Z,3µm,0.9s
DZM Mont Dzumac 74.23 192 P P 21 04 37.0 +1.4
comp=Z,592nm,1.0s,baz=57,slow=10,SNR=17
DZM S **S 21 14 05.4 +4.6**
comp=Z,47nm,1.0s,baz=263,slow=21,SNR=1.0
DZM PKPPKP **P'P'df 21 32 06.1 +2.0**
comp=Z,8.4nm,1.0s,baz=160,slow=5.0,SNR=3.4
DZM LR LR 21 32 35.7
comp=Z,160µm,20.5s,baz=16,slow=32
GKP Gorka Klasztor 74.24 349 *e*P P 21 04 33.7 -1.5
GKP *e*S **S 21 14 03.8 +3.5**
GKP *e*L L 21 38 06.8
comp=Z,245µm,22.0s
GDLE Glaisdale, N Y 74.24 360⇑ *e*P P 21 04 33.6 -1.6
GDLE IAMs_20 IAMs_20 21 29 24.1
comp=Z,1424µm,54.1s
BSEG Bad Segeberg 74.28 353 *e*P P 21 04 34.5 -0.9
comp=Z,3µm,0.9s,baz=8.9,slow=5.6
BSEG *e*S **SKiKP 21 13 55.0 +3.1**
baz=9.8,slow=11
PPT Papeete 74.35 149 P P 21 04 36.5 +0.2
comp=Z,151nm,0.9s,baz=343,slow=4.1,SNR=12
PPT PKPPKP **P'P'df 21 32 06.7 +2.3**
comp=Z,32nm,0.9s,baz=135,slow=8.6,SNR=1.6
PPT LR LR 21 35 16.9
comp=Z,92µm,18.1s,baz=338,slow=34
KBL Kabul 74.37 306 P P 21 04 34.4 -2.2
KBL Kabul 74.37 306 P P 21 04 35.9 -0.7
KBL pmax pmax
comp=Z,3µm,0.9s
KBL Kabul 74.37 306 P P 21 04 35.9 -0.7
KBL IAmb IAmb 21 04 57.5
comp=Z,3µm,0.8s
PPT2 Papeete2 74.37 149 *e*P P 21 04 36.8 +0.4
comp=Z,1µm,1.3s
PPT2 *e*S **S 21 14 00.4 -2.1**
comp=Z,940µm,29.0s
PPT2 *e*SS **SS 21 18 48.9 -2.3**
comp=Z,454µm,26.2s
PPT2 *e*LR LR 21 27 25.7
comp=Z,2239µm,33.8s,baz=337
PPT2 Papeete2 74.37 149 *e*P'P'df P'P'df 21 32 05.6 +1.2
comp=Z,184nm,1.5s
PPT2 Papeete2 74.37 149 *e*T T 22 25 22.5
comp=Z,480nm,0.3s
PPTF Pamatai, Papee 74.37 149 P P 21 04 36.7 +0.2
IOMK Kirk Michael 74.37 2⇑ *e*P P 21 04 34.8 -1.2
IOMK IAMs_20 IAMs_20 21 29 25.2
comp=Z,2736µm,51.7s
TIAR Tiarei 74.41 148 *e*P P 21 04 37.0 +0.4
comp=Z,512nm,1.0s
TIAR Tiarei 74.41 148 *e*P'P'df P'P'df 21 32 05.2 +0.9
comp=Z,56nm,1.3s
TIAR Tiarei 74.41 148 *e*T T 22 25 32.5
comp=Z,112nm,0.3s
PAE Paea 74.43 149 *e*P P 21 04 37.0 +0.3
comp=Z,194nm,1.0s
PAE Paea 74.43 149 *e*P'P'df P'P'df 21 32 05.4 +1.2
comp=Z,22nm,1.3s
PAE Paea 74.43 149 *e*T T 22 25 25.3
comp=Z,109nm,0.3s
WIM Isle of Man 74.48 2⇑ *e*P P 21 04 35.2 -1.4
NDI New Delhi 74.61 297 *ex* P 21 04 37.0 -0.8
TVO Taravao 74.65 148 *e*P P 21 04 38.5 +0.4
comp=Z,371nm,0.9s
TVO Taravao 74.65 148 *e*P'P'df P'P'df 21 32 04.5 +0.6
comp=Z,71nm,1.5s
TVO Taravao 74.65 148 *e*T T 22 25 44.2
comp=Z,40nm,0.3s
HPK Haverah Park 74.71 0⇑ *e*P P 21 04 36.9 -1.1
HPK IAMs_20 IAMs_20 21 29 37.0
comp=Z,1597µm,56.5s
AKASG Malin Array Be 74.73 340 P P 21 04 36.8 -1.3
comp=Z,264nm,0.7s,baz=24,slow=6.1,SNR=353
AKASG S **S 21 14 08.6 +2.8**
comp=Z,13nm,0.9s,baz=29,slow=32,SNR=4.1
AKASG PKPPKP **P'P'df 21 32 07.5 +0.5**
comp=Z,43nm,1.1s,baz=220,slow=1.7,SNR=6.3
AKASG LR LR 21 43 24.1
comp=Z,149µm,18.2s,baz=10.0,slow=40
AKBB Malin Array Si 74.73 340 *c i*P P 21 04 36.4 -1.7
AKBB pmax pmax
comp=Z,5µm,0.9s
AKBB Malin Array Si 74.73 340 P P 21 04 36.9 -1.2
AKBB IAmb IAmb 21 05 01.0
comp=Z,4µm,0.9s
RAR Rarotonga 75.03 159 P P 21 04 40.4 +0.4
comp=Z,159nm,0.9s,baz=222,slow=4.2,SNR=7.7
RAR LR LR 21 30 20.4
comp=Z,143µm,21.1s,baz=340,slow=30
RAR Rarotonga 75.03 159 P P 21 04 40.4 +0.4
IGLA Glengowla, Co 75.03 5⇑ *e*P P 21 04 38.5 -1.3
IGLA IAMs_20 IAMs_20 21 29 32.0
comp=Z,1946µm,53.7s
MEH Mehetia 75.13 147 *e*P P 21 04 40.9 +0.1
comp=Z,373nm,1.2s
MEH Mehetia 75.13 147 *e*P'P'df P'P'df 21 32 03.7 +0.6
comp=Z,47nm,1.5s
MEH Mehetia 75.13 147 *e*T T 22 26 47.3
comp=Z,636nm,0.3s
BEL Belsk 75.15 346 *e*P P 21 04 39.8 -0.7
BEL *e*PcP **PcP 21 04 51.1 -2.6**
BEL *e*S **S 21 14 14.4 +3.9**
BEL *e*L L 21 36 23.7
comp=Z,125µm,28.4s
LMK Market Rasen 75.21 359⇑ *e*P P 21 04 39.4 -1.4
LMK IAMs_20 IAMs_20 21 29 48.0
comp=Z,1994µm,61.5s
WPS Cemaes, Angles 75.23 2⇑ *e*P P 21 04 39.4 -1.6
WPS IAMs_20 IAMs_20 21 29 48.4
comp=Z,1261µm,51.3s
WME Myndd Eilian 75.24 2⇑ *e*P P 21 04 39.6 -1.5
LBWR Ladybower, Pea 75.27 0⇑ *e*P P 21 04 40.0 -1.2
LBWR IAMs_20 IAMs_20 21 29 50.8
comp=Z,1798µm,61.8s
DSB Dublin 75.34 3 P P 21 04 40.6 -1.0
WLF1 Llynfaes 75.35 2⇑ *e*P P 21 04 39.8 -1.9
WLF1 IAMs_20 IAMs_20 21 29 51.4
comp=Z,2467µm,51.8s
KAPI Kappang 75.38 242 PKPPKP **P'P'df 21 32 05.1 +1.1**
comp=Z,12nm,0.7s,baz=217,slow=5.0,SNR=4.1
KAPI Kappang 75.38 242 P P 21 04 42.4 +0.1
KAPI pmax pmax
comp=Z,6µm,1.5s
KAPI Kappang 75.38 242 P P 21 04 42.4 +0.1
KAPI IAmb IAmb 21 05 54.4
comp=Z,6µm,1.5s
YRC Rhoscolyn 75.38 2⇑ *e*P P 21 04 40.0 -1.8
RUE Ruedersdorf 75.41 351 *e*P P 21 04 40.8 -1.2
RUE Ruedersdorf 75.41 351 *e*P P 21 04 40.5 -1.5
comp=Z,1µm,0.9s,baz=8.9,slow=5.6
RUE *e*S **S 21 14 06.1 -7.2**
baz=9.8,slow=11
YLL Llanberis 75.50 2⇑ *e*P P 21 04 40.9 -1.6
KSM Kuching 75.54 254 P P 21 04 42.9 -0.4
STNC Stoke 75.58 1⇑ *e*P P 21 04 41.7 -1.2
STNC IAMs_20 IAMs_20 21 29 58.9
comp=Z,1567µm,58.7s
060A Indiantown 75.64 65 P P 21 04 42.5 -1.3
NRDL Niedersach Rie 75.73 353 *e*P P 21 04 42.5 -1.2
comp=Z,2µm,1.0s,baz=8.9,slow=5.6
NRDL *e*S **S 21 14 10.4 -6.2**
baz=9.8,slow=11
FOEL Foel Wylfa 75.77 1⇑ *e*P P 21 04 43.1 -0.9
FOEL IAMs_20 IAMs_20 21 30 04.4
comp=Z,1221µm,52.4s
LLW Llanuwychllyn 75.80 1⇑ *e*P P 21 04 43.2 -1.1
LLW IAMs_20 IAMs_20 21 30 04.0
comp=Z,615µm,53.5s
CWF Charnwood Fore 75.93 360⇑ *e*P P 21 04 43.6 -1.4
CWF IAMs_20 IAMs_20 21 30 07.3
comp=Z,1642µm,56.6s
WACR West Acre 75.93 359⇑ *e*P P 21 04 43.7 -1.2
WACR IAMs_20 IAMs_20 21 30 08.2
comp=Z,1782µm,53.8s
ASSE Asse, Remlinge 76.04 352 *e*P P 21 04 44.4 -1.2
comp=Z,2µm,1.5s,baz=8.9,slow=5.6
ASSE *e*S **S 21 14 13.4 -6.8**
baz=9.8,slow=11
BWNR Bhubaneshwar 76.05 285 *e*P P 21 04 45.8 -0.3
BWNR IAmb IAmb 21 05 37.6
comp=Z,1µm,1.0s
IBBN Ibbenburen 76.08 354 *e*P P 21 04 45.0 -0.8
comp=Z,6µm,1.0s,baz=8.9,slow=5.6
IBBN *e*S **S 21 14 14.1 -6.6**
baz=9.8,slow=11
IWEX Carrickbyrne, 76.20 3⇑ *e*P P 21 04 45.6 -0.9
IWEX IAMs_20 IAMs_20 21 30 02.6
comp=Z,2029µm,58.5s
061Z Ochoppi 76.23 66 P P 21 04 46.3 -0.8
061Z IAmb IAmb 21 05 14.5
comp=Z,4µm,1.2s
TEIG Tepich 76.25 75 P P 21 04 46.3 -1.0
comp=Z,268nm,1.0s,baz=319,slow=5.6,SNR=52
TEIG S **S 21 14 28.3 +4.7**
comp=Z,55nm,1.1s,baz=319,slow=22,SNR=3.1
TEIG Tepich 76.25 75 *e*P P 21 04 46.8 -0.5
TEIG Tepich 76.25 75 P P 21 04 45.9 -1.4
TEIG IAmb IAmb 21 05 14.8
comp=Z,7µm,1.9s
GOF Gofitskoye 76.29 329 *i*P P 21 04 46.9 -0.2
GOF pmax pmax
comp=Z,6µm,1.0s
MTN Manton Dam 76.29 228 P P 21 04 47.0 -0.4
MTN IAmb IAmb 21 05 15.5
comp=Z,6µm,1.0s
CLZ Clausthal 76.36 353 *e*P P 21 04 46.5 -1.0
comp=Z,3µm,0.9s,baz=8.9,slow=5.6
CLZ *e*S **S 21 14 17.4 -6.5**
baz=9.8,slow=11
LVV L'vov 76.57 343 *e*P P 21 04 47.4 -1.3
LVV *e* 21 05 11.4
LVV *e*S **S 21 14 24.3 -1.9**
LVV MLR MLR
comp=Z,199µm,21.0s
ASHT Ashkhabad 76.62 315 P P 21 04 50.3 +1.1
ASHT pmax pmax
comp=Z,9µm,1.7s
ASHT Ashkhabad 76.62 315 P P 21 04 50.3 +1.1
ASHT IAmb IAmb 21 05 18.1
comp=Z,9µm,1.7s
MAK Makhachkala 76.64 325 *d i*P P 21 04 49.2 0.0
MAK *e* 21 07 38.1
MAK *e*S **S 21 14 29.3 +2.2**
MAK *e**SS **sS 21 15 09.5 -0.5**
MAK *e*SS **SS 21 19 21.7 -1.6**
MAK *e*SSS SSS 21 22 44.6
MAK pmax pmax
comp=Z,9µm,1.4s
MAK pmax pmax
comp=Z,18µm,1.6s
CLL Collm 76.65 351 *e*P P 21 04 47.0 -2.1
CLL *e* 21 04 53.0
CLL *e*PcP **PcP 21 04 58.0 -2.1**
CLL *e* 21 05 08.0
CLL *i* pP **pP 21 05 13.3 -1.8**
CLL *i* 21 05 17.5
comp=Z,2µm,1.6s
CLL *e*Pmax 21 05 34.0
CLL *e*Pmax 21 05 42.0
comp=Z,124µm,29.9s
CLL *e*PP **PP 21 07 41.0 -0.8**
CLL *e*PPP 21 08 01.0
CLL *e*PPmax 21 08 36.0
CLL *e*PPPPmax 21 10 24.0
CLL *e*S **S 21 14 31.0 +4.1**
CLL *e*(sS) 21 15 07.0
CLL *e*Smax 21 15 30.0
comp=N,149µm,28.9s
CLL *e*Smax 21 15 30.0
comp=E,293µm,34.7s
CLL *e*SS SS 21 19 12.0 -11
CLL *e*SSmax 21 20 12.0
CLL *e*SSS SSS 21 22 48.0
CLL *e*SSSS 21 25 06.0
CLL Lmax 21 30 00.0
CLL *e*PKPPKPdP'P'df 21 31 54.0 -10
CLL *i* pPKPPKPd 21 32 22.3
comp=Z,2µm,4.1s
CLL *e*SKPPKPdf 21 35 10.0
CLL *e*SKPPKPab 21 35 30.0
CLL *e*SKPPKPab 21 36 29.0
CLL *e*3PKP 21 51 57.0
comp=Z,8µm,6.2s
CLL *e* 21 55 38.0
CLL Collm 76.65 351 *e*P P 21 04 47.0 -2.1
CLL *e*S **S 21 14 31.0 +4.1**
CLL Collm 76.65 351 P P 21 04 47.1 -1.9
CLL Collm 76.65 351 *e*P P 21 04 47.2 -1.9
comp=Z,2µm,1.6s,baz=8.9,slow=5.6
CLL *e*S **S 21 14 19.0 -7.9**
baz=9.8,slow=11
MCH1 Michaelchurch 76.67 1 *e*P P 21 04 48.1 -1.1
MCH1 IAMs_20 IAMs_20 21 30 29.0
comp=Z,1468µm,58.1s
RSBS Rosebush, Pemb 76.68 2⇑ *e*P P 21 04 48.0 -1.3
RSBS IAMs_20 IAMs_20 21 30 27.9
comp=Z,1415µm,55.2s
GTTG Gottingen 76.68 353 *e*P P 21 04 48.2 -1.0
comp=Z,2µm,1.0s,baz=8.9,slow=5.6
GTTG *e*S **S 21 14 20.6 -6.7**
baz=9.8,slow=11
KSP Ksiaz 76.74 349 *e*P P 21 04 48.1 -1.5
KSP *e*PcP **PcP 21 04 59.8 -0.7**
KSP *e*S **S 21 14 31.6 +3.6**
KSP *e*SS **SS 21 19 29.1 +4.8**
KSP *e*L L 21 39 40.7
comp=Z,185µm,22.9s
GEYT Alibeck 76.75 316 P P 21 04 50.1 +0.2
comp=Z,262nm,0.8s,baz=354,slow=4.5,SNR=434
GEYT PP **PP 21 07 43.8 +0.7**
comp=Z,94nm,0.7s,baz=354,slow=5.8,SNR=1.1
GEYT S **S 21 14 31.4 +2.8**
comp=Z,15nm,1.0s,baz=57,slow=16,SNR=1.4
GEYT PKP2ab 21 31 41.0
comp=Z,10nm,1.0s,baz=0.0,slow=0.3,SNR=5.1
GEYT LR LR 21 41 13.4
comp=Z,125µm,20.6s,baz=355,slow=38
NEUB Neuenburg 76.86 352 *e*P P 21 04 48.8 -1.4
comp=Z,3µm,1.4s,baz=8.9,slow=5.6
NEUB *e*S **S 21 14 21.8 -7.4**
baz=9.8,slow=11
OJC Ojcow 76.87 346 *e*P P 21 04 49.5 -0.9
OJC *e*PcP **PcP 21 05 01.1 0.0**
OJC *e*S **S 21 14 33.0 +3.5**
OJC *e*SS **SS 21 19 31.8 +5.4**
OJC *e*L L 21 39 10.2
comp=Z,214µm,24.5s
OJC Ojcow 76.87 346 P P 21 04 49.1 -1.3
OJC pmax pmax
comp=Z,2µm,1.0s
OJC Ojcow 76.87 346 P P 21 04 49.1 -1.3
CTA Charters Tower 76.90 211 P P 21 04 50.7 -0.1
comp=Z,561nm,0.9s,baz=16,slow=7.2,SNR=319
CTA S **S 21 14 31.8 +1.6**
comp=Z,30nm,1.1s,baz=277,slow=19,SNR=1.9
CTA PKPPKP 21 32 04.1
comp=Z,12nm,0.9s,baz=233,slow=3.4,SNR=4.7
CTA LR LR 21 36 52.9
comp=Z,135µm,19.4s,baz=18,slow=34
CTAO Charters Tower 76.90 211 P P 21 04 50.4 -0.4
CTAO pmax pmax
comp=Z,4µm,1.1s
CTAO Charters Tower 76.90 211 P P 21 04 50.4 -0.4
CTAO IAmb IAmb 21 05 19.5
comp=Z,4µm,1.1s
CCIG Comitan 76.92 80 P P 21 04 50.7 -0.7
SOEI Soe 76.97 235 P P 21 04 50.5 -0.9
SOEI IAmb IAmb 21 05 21.9
comp=Z,5µm,1.2s
BUG Bochum--Univer 76.97 354 *e*P P 21 04 49.6 -1.3
comp=Z,2µm,1.1s,baz=8.9,slow=5.6
BUG *e*S **S 21 14 23.6 -6.8**
baz=9.8,slow=11
BRG Berggiesshubel 76.98 350⇑ *i*P P 21 04 49.2 -1.7
comp=Z,76nm,1.0s
BRG *i* 21 04 55.0
comp=Z,269nm,1.1s
BRG S **S 21 14 36.0 +5.4**
BRG SS **SS 21 19 28.0 +0.1**
BRG PKPPKP P'P'df 21 32 14.8 +12
comp=Z,142nm,1.6s
BRG *e* 21 51 59.3
comp=Z,462nm,2.8s
BRG Berggiesshubel 76.98 350⇑ *i*P P 21 04 49.2 -1.7
BRG *i* 21 04 55.0
BRG S **S 21 14 36.0 +5.4**
BRG SS **SS 21 19 28.0 +0.1**
BRG Berggiesshubel 76.98 350 *e*P P 21 04 49.1 -1.8
comp=Z,2µm,1.7s,baz=8.9,slow=5.6
BRG *e*S **S 21 14 22.5 -8.0**
baz=9.8,slow=11
KWP Kalwaria Pacla 76.98 344 *e*P P 21 04 50.5 -0.5
KWP *e*PcP **PcP 21 05 00.9 -0.7**
KWP *e*S **S 21 14 32.3 +1.6**
KWP *e*L L 21 39 01.2
comp=Z,330µm,24.9s
KWP Kalwaria Pacla 76.98 344 P P 21 04 50.2 -0.8
KWP pmax pmax
comp=Z,4µm,0.7s
KWP Kalwaria Pacla 76.98 344 P P 21 04 50.2 -0.8
KWP IAmb IAmb 21 05 09.4
comp=Z,4µm,0.7s
FBE Freiberg 76.99 351 *e*P P 21 04 49.8 -1.2
comp=Z,4µm,1.7s,baz=8.9,slow=5.6
CHVC Chvalec 77.02 349 *e*P P 21 04 49.8 -1.4
CHVC *e*x x 21 05 11.5
CHVC *e*S S 21 14 21.7 -9.4
GROC Groznyy 77.03 327 *e*P P 21 04 50.8 -0.5
GROC *e* 21 05 03.1
GROC *e**PP **pP 21 05 13.2 -4.2**
GROC *e**SP **sP 21 05 25.1 -3.2**
GROC *e*S **S 21 14 35.1 +3.8**
GROC *e* 21 14 59.3
GROC *e**SS **sS 21 15 13.5 -0.8**
GROC pmax pmax
comp=Z,2µm,1.1s
OSTC Ostas 77.03 349 *e*P P 21 04 49.8 -1.5
OSTC *e*x x 21 05 11.6
OSTC *e*S **S 21 14 35.7 +4.5**
UPC Upice 77.10 349 *e*P P 21 04 50.3 -1.4
UPC *e*x x 21 05 11.8
UPC *e*S **S 21 14 27.3 -4.7**
UPC Upice 77.10 349 *e*P P 21 04 50.3 -1.4
UPC *e*S **S 21 14 27.3 -4.7**
DGPR DIGLIPUR 77.14 275 *e*P P 21 04 52.1 -0.2
DGPR IAmb IAmb 21 05 19.9
comp=Z,5µm,1.0s
SWN1 Swindon 77.16 0⇑ *e*P P 21 04 51.0 -1.0
SWN1 IAMs_20 IAMs_20 21 30 42.8
comp=Z,1417µm,53.4s
DPC Dobruska-Polom 77.22 348 *e*P P 21 04 51.4 -1.0
DPC *e*x x 21 05 11.6
DPC *e*S S 21 14 21.7 -12
DPC Dobruska-Polom 77.22 348 *e*P P 21 04 51.4 -1.0
DPC *e*S S 21 14 21.7 -12
PVCC Panska Ves 77.25 350 *e*P P 21 04 50.6 -1.9
PVCC *e*x x 21 05 12.8
PVCC *e*S **S 21 14 30.1 -3.4**
PVCC Panska Ves 77.25 350 *e*P P 21 04 50.6 -1.9
PVCC *e*S **S 21 14 30.1 -3.4**
JBP Jabalpur 77.29 291 *e*P P 21 04 52.8 -0.3
JBP *e*S **S 21 14 34.2 -0.5**
SORM Soroca 77.34 340 ⇓P P 21 04 52.2 -0.8
SORM Soroca 77.34 340 ⇓P P 21 04 52.2 -0.8
WOL Wolverton 77.36 360⇑ *e*P P 21 04 51.8 -1.3
WOL IAMs_20 IAMs_20 21 30 48.8
comp=Z,1295µm,50.4s
KVAR Kislovodsk Arr 77.38 329 LR LR 21 43 30.4
comp=Z,150µm,20.3s,baz=268,slow=39
KIV Kislovodsk 77.39 329 ⇑P P 21 04 54.2 +0.7
KIV Kislovodsk 77.39 329 *i* P P 21 04 53.0 -0.5
SNR=199
KIV Kislovodsk 77.39 329 *i* P P 21 04 53.0 -0.5
SNR=199
KIV Kislovodsk 77.39 329 P P 21 04 51.4 -2.1
KIV Kislovodsk 77.39 329 *e*P P 21 04 53.0 -0.5
KIV *e* 21 07 49.0
KIV *e*S **S 21 14 35.9 +0.5**
KIV *e*SS **SS 21 19 37.7 +3.1**
KIV pmax pmax
comp=Z,3µm,1.1s
KIV pmax pmax
comp=Z,8µm,4.8s
KIV MLR MLR
comp=Z,307µm,19.0s
KIV Kislovodsk 77.39 329 P P 21 04 52.9 -0.5
UBBA Unterbreizbach 77.40 353 *e*P P 21 04 52.1 -1.0
comp=Z,1µm,1.3s,baz=8.9,slow=5.6
UBBA *e*S **S 21 14 27.7 -7.2**
baz=9.8,slow=11
MOX Moxa 77.44 352 *e*P P 21 04 52.0 -1.5
comp=Z,1µm,0.9s,baz=8.9,slow=5.6
MOX *e*S **S 21 14 27.8 -7.8**
baz=9.8,slow=11
OKC Ostrava-Krasne 77.48 347 *e*P P 21 04 52.6 -1.2
OKC *e*x x 21 05 07.9
OKC *e*S **S 21 14 35.7 -0.4**
OKC Ostrava-Krasne 77.48 347 *e*P P 21 04 52.6 -1.2
OKC *e* 21 05 07.9
OKC *e*S **S 21 14 35.7 -0.4**
ELSH Elham, Standar 77.50 358⇑ *e*P P 21 04 52.9 -1.0

ELSH IAMs_20 IAMs_20 21 30 48.4
comp=Z,1955µm,58.5s
KBZ Khabaz 77.52 329 P **P** **21 04 54.1 0.0**
comp=Z,169nm,0.8s,baz=43,slow=2.4,SNR=276
KBZ S **S** **21 14 40.1 +3.5**
comp=Z,20nm,0.9s,baz=24,slow=12,SNR=1.5
KBZ LR LR 21 42 46.8
comp=Z,130µm,21.0s,baz=9.0,slow=38
KBZ Khabaz 77.52 329*c*eP **P** **21 04 53.9 -0.2**
KBZ pmax pmax
comp=Z,3µm,1.1s
PLN Plauen 77.54 351 *e*P **P** **21 04 52.6 -1.5**
comp=Z,1µm,1.5s,baz=8.9,slow=5.6
NIE Niedzica 77.58 346 *e*P **P** **21 04 53.9 -0.5**
NIE *e*PcP **PcP** **21 05 03.5 -0.7**
NIE *e*S **S** **21 14 33.5 -3.7**
NIE *e*L L 21 40 41.8
comp=Z,94µm,22.6s
TANN Tannenbergstha 77.58 351 *e*P **P** **21 04 53.0 -1.4**
comp=Z,2µm,1.1s,baz=8.9,slow=5.6
TANN *e*S **S** **21 14 30.0 -7.3**
baz=9.8,slow=11
MORC Moravsky Berou 77.62 348 ⇓P **P** **21 04 54.2 -0.4**
MORC Moravsky Berou 77.62 348 *e*P **P** **21 04 53.3 -1.4**
MORC *e*S **S** **21 14 32.3 -5.4**
MORC Moravsky Berou 77.62 348 P **P** **21 04 53.2 -1.4**
MORC pmax pmax
comp=Z,926nm,1.1s
MORC Moravsky Berou 77.62 348 P **P** **21 04 53.2 -1.5**
HTL Hartland 77.64 2⇑ *e*P **P** **21 04 53.6 -1.0**
HTL IAMs_20 IAMs_20 21 30 57.7
comp=Z,1410µm,53.9s
GUNZ Gunzen 77.65 351 *e*P **P** **21 04 53.4 -1.4**
comp=Z,1µm,1.0s,baz=8.9,slow=5.6
BATI Baumata 77.66 236 LR LR 21 36 32.1
comp=Z,78µm,19.2s,baz=70,slow=34
BEBN Eben Emael 77.70 355 ⇑P **P** **21 04 53.6 -1.3**
BEBN S **S** **21 14 43.1 +4.8**
PRA Prague 77.72 350 *e*P **P** **21 04 53.5 -1.6**
PRA *e*x x 21 04 59.1
PRA *e*x x 21 05 14.6
PRA *e*S **S** **21 14 30.1 -8.5**
PRA Prague 77.72 350 *e*P **P** **21 04 53.5 -1.6**
PRA *e* 21 04 59.1
PRA *e*S **S** **21 14 30.1 -8.5**
WERN Wernitzgruen 77.72 351 *e*P **P** **21 04 53.8 -1.3**
comp=Z,2µm,0.9s,baz=8.9,slow=5.6
KOLS Kolonicke sedl 77.73 344 *e*P **P** **21 04 54.5 -0.7**
KOLS pmax pmax
comp=Z,1µm,1.0s
KOLS Kolonicke sedl 77.73 344 *e*P **P** **21 04 54.5 -0.7**
KOLS *e*S **S** **21 14 34.8 -4.0**
KOLS *e*L L 21 31 37.8
AJM Ajmer 77.75 297 ⇓ *i*P **P** **21 04 55.0 -0.7**
UCC Uccle 77.76 356 ⇑P **P** **21 04 53.8 -1.4**
UCC S **S** **21 14 42.5 +3.5**
UCC Uccle 77.76 356 P **P** **21 04 53.9 -1.4**
UCC pmax pmax
comp=Z,732nm,0.9s
UCC Uccle 77.76 356 P **P** **21 04 53.9 -1.3**
NKC Novy Kostel 77.77 351 *e*P **P** **21 04 54.5 -0.9**
NKC *e*x x 21 05 13.4
NKC *e*S S 21 14 27.3 -12
NKC Novy Kostel 77.77 351 *e*P **P** **21 04 54.5 -0.9**
NKC *e*S S 21 14 27.3 -12
PRU Pruhonice 77.79 350 *e*P **P** **21 04 53.5 -2.0**
PRU *e*x x 21 05 15.7
PRU *e*S **S** **21 14 38.5 -0.8**
PRU Pruhonice 77.79 350 *e*P **P** **21 04 53.5 -2.0**
PRU *e*S **S** **21 14 38.5 -0.8**
HMNX Herstmonceux 77.80 359⇑ *e*P **P** **21 04 54.6 -0.9**
HMNX IAMs_20 IAMs_20 21 30 57.6
comp=Z,1697µm,56.6s
HRA Herat 77.80 311 P **P** **21 04 56.6 +0.5**
HRA IAmb IAmb 21 05 24.0
comp=Z,12µm,1.9s
GOPC GO Pecny, Ondr 77.83 349 *e*P **P** **21 04 54.2 -1.6**
GOPC *e*x x 21 05 16.5
GOPC *e*S **S** **21 14 38.5 -1.4**
GOPC GO Pecny, Ondr 77.83 349 *e*P **P** **21 04 54.2 -1.6**
GOPC *e*S **S** **21 14 38.5 -1.4**
AKT Akhty 77.86 324⇑ *i*P **P** **21 04 55.9 -0.3**
AKT *e* 21 05 05.4
AKT *e**PP **pP** **21 05 19.8 -2.4**
AKT *e**SP **sP** **21 05 35.1 +1.9**
AKT *e* 21 07 59.9
AKT *e*S **S** **21 14 42.3 +1.6**
AKT *e* 21 15 03.8
AKT *e**SS sS 21 15 32.1 +8.6
AKT pmax pmax
comp=Z,4µm,1.2s
MEM Membach 77.87 355 ⇑P **P** **21 04 54.7 -1.2**
comp=Z,2µm,1.1s
MEM S **S** **21 14 42.5 +2.3**
AHRW Bad Neuenahr-A 77.88 355 *e*P **P** **21 04 55.1 -0.9**
comp=Z,2µm,0.9s,baz=8.9,slow=5.6
AHRW *e*S **S** **21 14 34.2 -6.1**
baz=9.8,slow=11
CRVS Cervenica-Dubn 77.90 345 *e*P **P** **21 04 55.5 -0.6**
CRVS pmax pmax
comp=Z,2µm,1.0s
CRVS Cervenica-Dubn 77.90 345 *e*P **P** **21 04 55.5 -0.6**
CRVS *e*S **S** **21 14 38.2 -2.4**
CRVS *e*L L 21 31 56.4
BSTI Sart Tilman 77.92 355 ⇑P **P** **21 04 55.1 -1.1**
LANS Liptovska Anna 77.97 346 *e*P **P** **21 04 56.5 0.0**
LANS pmax pmax
comp=Z,995nm,1.0s
LANS Liptovska Anna 77.97 346 *e*P **P** **21 04 56.5 0.0**
UZH Uzhgorod 78.02 344⇑ *i*P **P** **21 04 56.0 -0.8**
UZH *e* 21 05 06.0
UZH *e**PP **pP** **21 05 21.5 -1.4**
UZH *e*S **S** **21 14 38.0 -3.9**
UZH *e*PS **PnS** **21 15 44.9 +10**
ZEI Tsey 78.03 328 *e*P **P** **21 04 53.4 -3.8**
ZEI pmax pmax
comp=Z,10µm,1.8s
MANZ Manzenberg 78.04 351 *e*P **P** **21 04 55.4 -1.6**
comp=Z,442nm,1.0s,baz=8.9,slow=5.6
MANZ *e*S **S** **21 14 36.0 -6.2**
baz=9.8,slow=11
SNF Seneffe 78.05 356 ⇑P **P** **21 04 55.6 -1.2**
comp=Z,1µm,0.7s
BCLA Clavier 78.10 356 ⇑P **P** **21 04 55.8 -1.4**
comp=Z,1µm,0.9s
BCLA S **S** **21 14 47.3 +4.7**
TNS Taunus Mts 78.11 354 *e*P **P** **21 04 56.0 -1.3**
comp=Z,2µm,0.8s,baz=8.9,slow=5.6
TNS *e*S **S** **21 14 36.3 -6.6**
baz=9.8,slow=11
BHOU Houvegnez 78.13 355 ⇑P **P** **21 04 56.2 -1.1**
BHOU S **S** **21 14 49.4 +6.3**
BGES Gesves 78.14 356 ⇑P **P** **21 04 56.0 -1.5**
comp=Z,973nm,1.4s
BGES S **S** **21 14 48.0 +4.8**
PBCC Pribram 78.15 350 *e*P **P** **21 04 55.9 -1.6**
PBCC *e*x x 21 05 18.2
PBCC *e*S **S** **21 14 35.7 -7.5**
ANN Anapa 78.21 333 *i*P **P** **21 04 56.0 -1.8**
ANN *e**PP **pP** **21 05 22.1 -1.8**
ANN *e* 21 07 57.6
ANN *e*S **S** **21 14 43.9 0.0**
ANN *e* 21 15 00.9
ANN *e* 21 15 41.0
ANN pmax pmax
comp=N,153nm,0.5s
ANN pmax pmax
comp=Z,3µm,1.3s
ANN pmax pmax
comp=E,744nm,1.5s
ANN pmax pmax
comp=Z,35µm,4.8s
VRAC Vranov 78.21 348 ⇓P **P** **21 04 57.5 -0.3**
VRAC Vranov 78.21 348 *e*P **P** **21 04 56.8 -1.0**
VRAC *e*S S 21 14 33.7 -10
VRAC Vranov 78.21 348 ⇓P **P** **21 04 57.5 -0.3**
DYA Yadsworthy 78.22 2⇑ *e*P **P** **21 04 56.5 -1.3**
DYA IAMs_20 IAMs_20 21 31 11.3
comp=Z,1489µm,58.2s
BMRD Maredsous 78.24 356 ⇑P **P** **21 04 56.8 -1.2**
comp=Z,2µm,0.9s
BMRD S **S** **21 14 49.5 +5.4**
ROTZ Rotzenmuhle 78.25 351 *e*P **P** **21 04 56.8 -1.2**
comp=Z,3µm,2.0s,baz=8.9,slow=5.6
ROTZ *e*S **S** **21 14 37.3 -7.0**
baz=9.8,slow=11
KIS Kishinev 78.32 339 *i*P **P** **21 05 00.0 +1.6**
comp=Z,67µm,9.1s
KIS Kishinev 78.32 339 ⇓ *i*PP PP 21 08 30.0 +34
KIS *i*S **S** **21 14 46.0 +0.9**
comp=Z,26µm,14.0s
KIS Kishinev 78.32 339 *e*PS 21 15 38.0
KIS *e*L L 21 30 21.0
comp=Z,160µm,50.0s
KIS LRM MLR 21 43 25.0
comp=Z,120µm,18.5s
KIS Kishinev 78.32 339 ⇓P **P** **21 04 57.6 -0.8**
KIS Kishinev 78.32 339*c* *i*P **P** **21 04 59.1 +0.7**
KIS *i*S **S** **21 14 46.0 +0.9**
KIS *e*PS **PnS** **21 15 38.0 -1.1**
KIS *i* 21 15 42.3
KIS pmax pmax
comp=Z,67µm,9.1s
KIS smax smax
comp=E,26µm,14.0s
KIS smax smax
comp=N,18µm,17.5s
ONI Oni 78.36 328 P **P** **21 04 58.9 +0.1**
TREC Trest 78.36 349 *e*P **P** **21 04 57.2 -1.5**
TREC *e*x x 21 05 17.5
TREC *e*S **S** **21 14 46.8 +1.2**
TREC Trest 78.36 349 *e*P **P** **21 04 57.2 -1.5**
TREC *e*S **S** **21 14 46.8 +1.2**
MILM Milestii Mici 78.40 339 ⇑P **P** **21 04 58.3 -0.5**
GRA1 Grafenberg Arr 78.42 352 P **P** **21 04 58.2 -0.8**
GRF Grafenberg Arr 78.42 352 P **P** **21 04 58.2 -0.8**
GRF pmax pmax
comp=Z,2µm,0.9s
GRF Grafenberg Arr 78.42 352 *e*P **P** **21 04 58.0 -1.0**
comp=Z,3µm,1.2s,baz=8.9,slow=5.6
GRF *e*S **S** **21 14 39.2 -6.9**
baz=9.8,slow=11
PBA Port Blair 78.42 274 *e*P P 21 04 58.3 -1.2
PBA IAmb IAmb 21 05 07.6
comp=Z,3µm,1.4s
PBA Port Blair 78.42 274 P P 21 05 02.7 +3.2
SNR=26
PBA Port Blair 78.42 274 P P 21 04 58.7 -0.7
PBA IAmb IAmb 21 05 41.0
comp=Z,11µm,1.6s
KULM Kulim 78.43 264 P **P** **21 04 58.7 -0.8**
BUR08 Bucovina Ar. S 78.45 342 P **P** **21 04 58.6 -0.7**
DOU Dourbes 78.45 356 ⇑P **P** **21 04 57.8 -1.3**
comp=Z,928nm,1.5s
DOU S **S** **21 14 49.8 +3.4**
KECS Kecovo 78.46 345 *e*P **P** **21 04 58.6 -0.6**
KECS pmax pmax
comp=Z,670nm,0.8s
KECS Kecovo 78.46 345 *e*P **P** **21 04 58.6 -0.6**
DDFL Dedoflistskaro 78.47 326 P **P** **21 05 00.7 +1.2**
BURAR Bucovina Array 78.47 342 ⇑P **P** **21 04 59.7 +0.3**
BURAR Bucovina Array 78.47 342 ⇓P **ScS** **21 15 17.8 +6.9**
BURAR Bucovina Array 78.47 342 ⇑P **P** **21 04 59.7 +0.3**
KRUC Moravsky 78.48 348 *e*P **P** **21 04 58.0 -1.3**
KRUC *e*S **S** **21 14 38.8 -8.0**
JAVC Velka Javorina 78.51 347 *e*P **P** **21 04 59.5 0.0**
JAVC *e*S **S** **21 14 43.5 -3.7**
PRAR RASCA 78.52 341 ⇓P **P** **21 04 59.4 -0.2**
PRAR RASCA 78.52 341 ⇑P **SKSac** **21 15 07.1 +2.2**
SOC Sochi 78.65 331 *e*P **P** **21 04 59.5 -0.8**
SOC *e**PP **pP** **21 05 23.3 -3.1**
SOC *e**SP **sP** **21 05 34.6 -2.8**
SOC *e* 21 07 57.7
SOC *e*PPP PPP 21 09 47.6
SOC *e*S **S** **21 14 48.5 -0.2**
SOC *e**SS sS 21 15 40.7 +8.5
SOC *e*SS **SS** **21 19 52.9 -0.4**
SOC *e*SSS SSS 21 23 20.1
SOC pmax pmax
comp=Z,1µm,0.8s
SOC pmax pmax
comp=Z,24µm,3.7s
SOC MLR MLR
comp=Z,214µm,22.0s
TBLG Delisi 78.69 327 P **P** **21 05 00.7 0.0**
TBLG pmax pmax
comp=Z,17µm,1.8s
TBLG Delisi 78.69 327 P **P** **21 05 00.7 0.0**
VYHS Vyhne 78.70 346 *e*P **P** **21 04 59.6 -0.9**
VYHS pmax pmax
comp=Z,2µm,1.3s
VYHS Vyhne 78.70 346 *e*P **P** **21 04 59.6 -0.9**
VYHS *e*S **S** **21 14 46.3 -2.9**
VYHS *e*L L 21 32 03.5
BHPL Bhopal 78.71 293 *e*P **P** **21 05 00.1 -0.9**
BHPL *i*pP **pP** **21 05 27.1 -0.1**
KHC Kasperske Hory 78.74 350 *e*P **P** **21 04 59.3 -1.5**
KHC *e*x x 21 05 19.4
KHC *e*x x 21 05 56.0
KHC *e*S **S** **21 14 43.1 -6.5**
KHC Kasperske Hory 78.74 350*c* *e*P **P** **21 04 59.5 -1.3**
KHC pmax pmax
comp=Z,2µm,0.9s
KHC MLR MLR
comp=Z,365µm,22.0s
KHC Kasperske Hory 78.74 350 P **P** **21 04 59.9 -0.9**
WET Wettzell 78.80 351 *e*P **P** **21 04 60.0 -1.1**
comp=Z,1µm,1.4s,baz=8.9,slow=5.6
WET *e*S **S** **21 14 43.7 -6.6**
baz=9.8,slow=11
WLF Walferdange 78.81 355 P **P** **21 05 00.2 -0.8**
comp=Z,1µm,1.9s
WLF S **S** **21 14 57.1 +6.9**
WLF Walferdange 78.81 355 P **P** **21 05 00.3 -0.8**
WLF pmax pmax
comp=Z,1µm,0.9s
WLF Walferdange 78.81 355 P **P** **21 05 00.3 -0.8**
WLF Walferdange 78.81 355 *e*P **P** **21 05 00.4 -0.7**
comp=Z,2µm,1.0s,baz=8.9,slow=5.6
WLF *e*S **S** **21 14 44.8 -5.5**
baz=9.8,slow=11
IPM Ipoh 78.83 263 P **P** **21 05 00.7 -1.0**
IPM Ipoh 78.83 263 P **P** **21 05 01.0 -0.7**
SMOL Smolenice 78.88 347 *e*P **P** **21 05 01.3 -0.3**
SMOL pmax pmax
comp=Z,827nm,1.2s
SMOL Smolenice 78.88 347 *e*P **P** **21 05 01.2 -0.3**
VASR Vaslui 78.88 340 ⇑P **P** **21 05 01.1 -0.4**
LEOM Leova 78.94 340 ⇑P **P** **21 05 02.0 +0.1**
LEOM Leova 78.94 340 ⇑P **P** **21 05 02.0 +0.1**
BIZ Bicaz 78.94 341 ⇓P **P** **21 05 02.1 +0.2**
SIM Simferopol' 78.97 335*c* *i*P **P** **21 05 00.1 -2.0**
SIM *e* 21 07 59.0
SIM *i*S **S** **21 14 57.0 +4.8**
SIM *e*PS **PnS** **21 15 57.0 +10**
SIM pmax pmax
comp=Z,2µm,1.2s
GEC2 GERESS Array S 79.01 350 *e*P **P** **21 05 00.9 -1.5**
comp=Z,711nm,1.0s,baz=8.9,slow=5.6
GEC2 *e*S **S** **21 14 45.0 -7.6**
baz=9.8,slow=11
GERES GERESS Array B 79.01 350 P **P** **21 05 00.8 -1.5**
comp=Z,39nm,0.8s,baz=23,slow=4.8,SNR=243
GERES S **S** **21 14 55.1 +2.5**
comp=Z,6.7nm,0.9s,baz=58,slow=3.3,SNR=2.0
GERES PKPPKP **P'P'df** **21 32 00.4 +0.9**
comp=Z,5.7nm,0.9s,baz=129,slow=1.9,SNR=3.5
GERES LR LR 21 42 28.1
comp=Z,139µm,21.5s,baz=18,slow=38
MODS Modra-Piesok 79.03 347 *e*P **P** **21 05 01.1 -1.3**
MODS pmax pmax
comp=Z,2µm,1.1s
MODS Modra-Piesok 79.03 347 *e*P **P** **21 05 01.1 -1.3**
MODS *e*S **S** **21 14 46.0 -6.8**
MODS *e*L L 21 32 16.2
PSZ Piszkesteto 79.10 346 ⇓P **P** **21 05 03.1 +0.2**
PSZ Piszkesteto 79.10 346 P **P** **21 05 02.0 -0.8**
PSZ pmax pmax
comp=Z,4µm,1.5s
PSZ Piszkesteto 79.10 346 P **P** **21 05 02.0 -0.8**
KZRT Kazreti 79.11 327 P **P** **21 05 02.6 -0.4**
FUG Fuego 3 79.13 81 *e*P **P** **21 05 04.4 +0.9**
ARCR ARCALIA 79.14 342 ⇓P **P** **21 05 03.8 +0.9**
MYKOM Kota Tinggi 79.20 259 P **P** **21 05 03.4 -0.3**
MYKOM Kota Tinggi 79.20 259 P **P** **21 05 04.0 +0.3**
ZST Bratislava 79.23 348 *e*P **P** **21 05 02.1 -1.3**
ZST pmax pmax
comp=Z,3µm,1.0s
ZST Bratislava 79.23 348 *e*P **P** **21 05 02.1 -1.3**
ZST *e*S **S** **21 15 01.9 +7.1**
ZST *e* 21 29 34.7
TESR Tescani 79.24 341 ⇑P **P** **21 05 03.4 -0.1**
BIR Birlad 79.27 340 ⇓P **P** **21 05 04.6 +0.9**
BIR Birlad 79.27 340 ⇑P **ScS** **21 15 20.7 +3.5**
BIR Birlad 79.27 340 ⇓P **P** **21 05 04.6 +0.9**
NBG Las Nubes 79.32 80 *e*P **P** **21 05 05.3 +0.5**
MRL Marmol 79.35 79 *e*P **P** **21 05 04.8 0.0**
AKH Akhalkalaki 79.40 327 P **P** **21 05 04.8 +0.1**
AKH pmax pmax
comp=Z,7µm,1.6s
AKH Akhalkalaki 79.40 327 P **P** **21 05 04.8 +0.1**
AKH IAmb IAmb 21 05 21.8
comp=Z,7µm,1.6s
JSA Saint Aubin 79.48 1⇑ *e*P **P** **21 05 03.5 -1.2**
JSA IAMs_20 IAMs_20 21 31 49.3
comp=Z,1508µm,57.4s
STU Stuttgart 79.50 353 *e*S **S** **21 14 51.2 -6.4**
baz=9.8,slow=11
GHRR 79.52 340 ⇑P **P** **21 05 06.0 +1.0**
VARL Varlezi 79.57 340 ⇓P **P** **21 05 05.9 +0.6**
BBSR BB Station 79.58 50 P **P** **21 05 03.5 -2.1**
IXG Ixpaco 79.58 80 *e*P **P** **21 05 05.6 -0.4**
CJR Cluj-Napoca 79.64 343 ⇓P **P** **21 05 06.0 +0.3**
CJR Cluj-Napoca 79.64 343 ⇓P **P** **21 05 06.1 +0.3**
CONA Conrad Observa 79.66 348 *i*P **P** **21 05 05.2 -0.7**
comp=Z,2µm,1.5s,SNR=102
CONA *e*PKKPdf **PKKPdf** **21 23 36.5 -0.9**
comp=Z,79nm,1.3s
CONA *i*P'P'df **P'P'df** **21 31 55.8 -2.6**
comp=Z,31nm,1.7s
DRGR 79.73 343 ⇓P **P** **21 05 06.1 -0.1**
DRGR 79.73 343 ⇑P sS 21 15 46.0 +2.6
DRGR 79.73 343 ⇓P **P** **21 05 06.1 -0.1**
TBI Tubuai 79.80 150 *e*P **P** **21 05 07.7 +1.1**
comp=Z,7µm,1.6s
TBI *e*S **S** **21 14 58.0 -3.0**
comp=Z,611µm,30.2s
TBI *e*SS **SS** **21 20 14.5 +1.6**
comp=Z,386µm,29.0s
TBI *e*LQ LQ 21 26 13.0
comp=Z,927µm,31.0s
TBI *e*LR LR 21 29 59.3
comp=Z,1481µm,35.0s,baz=334
TBI Tubuai 79.80 150 *e*T T 22 32 43.8
comp=Z,128nm,0.3s
BATM Batumi 79.82 329 ⇑P **P** **21 05 06.8 +0.1**
BATM Batumi 79.82 329 ⇑P **P** **21 05 06.8 +0.1**
VRI Vrincioaia 79.84 340 ⇑P **P** **21 05 07.0 +0.2**
VRI Vrincioaia 79.84 340 ⇑P **ScS** **21 15 23.8 +1.9**
VRI Vrincioaia 79.84 340 ⇑P **P** **21 05 07.0 +0.2**
KNRA Kununurra 79.86 228 P **P** **21 05 06.6 -0.5**
KNRA IAmb IAmb 21 05 35.2
comp=Z,4µm,1.0s
ODBI Odobesti 79.87 340 ⇑P **P** **21 05 08.1 +1.2**
PLOR Plostina 79.87 341 ⇓P **P** **21 05 06.9 -0.1**
PLOR Plostina 79.87 341 ⇓P **P** **21 05 06.9 -0.1**
GIUM Giurgiulesti 79.89 339 ⇓P **P** **21 05 07.4 +0.4**
TUDR 79.90 340 ⇓P **P** **21 05 07.7 +0.6**
FUR Furstenfeldbru 79.92 351 *e*P **P** **21 05 05.9 -1.3**
comp=Z,2µm,1.0s,baz=8.9,slow=5.6
FUR *e*S **S** **21 14 56.8 -5.3**
baz=9.8,slow=11
MOA Molln 79.93 349 *i*P **P** **21 05 05.9 -1.3**
comp=Z,304nm,0.8s,SNR=44
MOA *e*PKKPdf **PKKPdf** **21 23 39.6 +2.7**
comp=Z,35nm,1.4s
MOA *i*P'P'df **P'P'df** **21 31 52.3 -5.5**
comp=Z,26nm,1.6s
MOA Molln 79.93 349 *e*P **P** **21 05 05.7 -1.5**
baz=8.9,slow=5.6
SCHL Schela 79.96 340 ⇑P **P** **21 05 06.9 -0.5**
SCHL Schela 79.96 340 ⇓P **SKSac** **21 15 14.6 -0.4**
BCA Borcka 79.99 329 *e*P **P** **21 05 06.5 -1.2**
BFO Black Forest 80.00 353 P **P** **21 05 06.3 -1.3**
BFO pmax pmax
comp=Z,809nm,0.8s
BFO Black Forest 80.00 353 P **P** **21 05 06.3 -1.3**
BFO Black Forest 80.00 353 *e*P **P** **21 05 06.3 -1.3**
comp=Z,2µm,1.6s,baz=8.9,slow=5.6
BFO *e*S **S** **21 14 56.8 -6.2**
baz=9.8,slow=11
DOPR Dopca 80.02 341 ⇓P **P** **21 05 08.3 +0.6**
TLCR 80.04 339 ⇓P **P** **21 05 07.5 -0.3**
TLCR 80.04 339 ⇓P **P** **21 05 07.5 -0.3**
MDB Medias 80.05 342 ⇑P **P** **21 05 08.3 +0.4**
MDB Medias 80.05 342 ⇑P **P** **21 05 08.3 +0.4**
MTO3 Montecristo 80.07 79 P **P** **21 05 07.5 -1.2**
ECH Echery 80.19 354 P **P** **21 05 07.0 -1.7**
ECH pmax pmax
comp=Z,668nm,0.8s
ECH Echery 80.19 354 P **P** **21 05 07.0 -1.7**
CFR Carcaliu 80.20 339 ⇓P **P** **21 05 08.3 -0.4**
CFR Carcaliu 80.20 339 ⇑P **ScS** **21 15 30.0 +5.3**
CFR Carcaliu 80.20 339 ⇓P **P** **21 05 08.3 -0.4**
RJOB Jochberg 80.20 350 *e*P **P** **21 05 06.5 -2.3**
comp=Z,918nm,1.2s,baz=8.9,slow=5.6
KARS Kars 80.24 327 *e*P **P** **21 05 08.9 -0.3**
GRER 80.25 340 ⇓P **P** **21 05 09.9 +0.9**
NEHR Nehoiu 80.35 341 ⇑P **ScS** **21 15 23.5 -2.6**
MLR Muntele Rosu 80.36 341 ⇑P **P** **21 05 10.5 +0.8**
MLR Muntele Rosu 80.36 341 P **P** **21 05 08.5 -1.3**
MLR pmax pmax
comp=Z,3µm,0.9s
MLR Muntele Rosu 80.36 341 P **P** **21 05 08.5 -1.3**
MLR IAmb IAmb 21 05 34.5
comp=Z,3µm,0.9s
ARSA Arzberg 80.37 348 *i*P **P** **21 05 09.1 -0.5**
comp=Z,531nm,0.6s,SNR=34
ARSA *e*PKKPdf **PKKPdf** **21 23 38.0 +1.7**
comp=Z,68nm,1.4s
ARSA *i*P'P'df **P'P'df** **21 31 53.2 -3.7**
comp=Z,75nm,2.0s
ARSA Arzberg 80.37 348 *e*P **P** **21 05 08.9 -0.8**
baz=8.9,slow=5.6
SIRR Siria 80.42 344 ⇑P **P** **21 05 10.5 +0.6**
SIRR Siria 80.42 344 ⇑P pS 21 15 38.2 -0.3
TASB TASBURUN-IGDIR 80.42 326 *e*P **P** **21 05 09.8 -0.3**
JURR Jurilovca 80.42 339 ⇑P **P** **21 05 06.7 -3.1**
TOPG Topolog 80.43 339 ⇑P **P** **21 05 09.5 -0.5**
UBR Ueberruh 80.51 352 *e*P **P** **21 05 09.2 -1.2**
comp=Z,3µm,1.7s,baz=8.9,slow=5.6
UBR *e*S **S** **21 15 03.4 -5.0**
baz=9.8,slow=11
SENK Senkaya-Erzuru 80.54 328 *e*P **P** **21 05 10.7 -0.2**
CHOM Cayeli-Rize 80.58 329 *e*P **P** **21 05 09.8 -1.0**
VOIR 80.59 341 ⇑P **P** **21 05 11.6 +0.7**
VOIR 80.59 341 ⇑P **SKSac** **21 15 20.5 +0.8**
VOIR 80.59 341 ⇑P **P** **21 05 11.6 +0.7**
ISR Istrita 80.59 340 ⇑P **ScS** **21 15 30.6 +2.4**
CLF Chambon-Foret 80.60 358 P **P** **21 05 09.9 -0.9**
CLF IAmb IAmb 21 05 35.8
comp=Z,4µm,0.9s
RETA Reutte 80.64 352 *e*P **P** **21 05 10.0 -1.2**
comp=Z,560nm,0.9s,SNR=39
RETA *e*PKKPdf **PKKPdf** **21 23 41.0 +5.2**
comp=Z,43nm,1.2s
RETA *i*P'P'df **P'P'df** **21 31 54.1 -2.5**
comp=Z,62nm,1.2s
SNET Serv Nac Est T 80.70 80 P **P** **21 05 10.0 -1.9**
PGOR Pogoanele 80.70 340 ⇑P **P** **21 05 11.8 +0.4**
HARR Harsova 80.71 339 ⇑P **P** **21 05 11.5 +0.1**
HARR Harsova 80.71 339 ⇑P **P** **21 05 11.5 +0.1**
WATA Walderalm 80.72 351 *e*P **P** **21 05 10.6 -1.1**
comp=Z,968nm,0.6s,SNR=118
WATA *e*PKKPdf **PKKPdf** **21 23 41.4 +5.6**
comp=Z,104nm,1.3s,SNR=6.3
WATA *i*P'P'df **P'P'df** **21 31 53.3 -3.2**
comp=Z,58nm,1.7s
ARR Arges 80.74 342 ⇑P **P** **21 05 12.6 +0.9**
ARR Arges 80.74 342 ⇓P **ScS** **21 15 29.5 +0.1**
MOTA Moosalm 80.75 351 *e*P **P** **21 05 10.7 -1.2**
comp=Z,2µm,1.4s,SNR=113
MOTA *e*PKKPdf **PKKPdf** **21 23 41.6 +5.8**
comp=Z,116nm,1.3s
MOTA *i*P'P'df **P'P'df** **21 31 52.3 -4.1**
comp=Z,68nm,1.3s
LHMI Lhok Sumawe 80.77 267 P **P** **21 05 12.1 -0.1**
SECR 80.77 341 ⇑P **P** **21 05 11.9 +0.1**
WTTA Wattenberg 80.78 351 *e*P **P** **21 05 11.1 -0.9**
comp=Z,2µm,0.7s,SNR=136
WTTA *e*PKKPdf **PKKPdf** **21 23 41.0 +5.2**

comp=Z,90nm,0.8s
WTTA *i* P'P'df **P'P'df** **21 31 52.6 -3.9**
comp=Z,118nm,1.6s
WTTA Wattenberg 80.78 351 *e*P **P** **21 05 11.2 -0.8**
baz=8.9,slow=5.6
KBA Koelnbreinsper 80.79 350 *e*P **P** **21 05 11.7 -0.3**
comp=Z,5μm,0.8s,SNR=413
KBA *e*PKKPdf **PKKPbc** **21 23 41.8 -6.0**
comp=Z,134nm,0.8s,SNR=15
KBA *i* P'P'df **P'P'df** **21 31 50.7 -5.7**
comp=Z,50nm,2.1s
KBA Koelnbreinsper 80.79 350 *e*P **P** **21 05 11.4 -0.7**
baz=8.9,slow=5.6
MTUR Matau 80.79 341 ⇓P **P** **21 05 13.1 +1.1**
TLBR Topalu 80.82 339 ⇑P **P** **21 05 12.1 +0.1**
TIRR Tirgusor 80.82 339 P **P** **21 05 11.0 -1.0**
TIRR pmax pmax
comp=Z,6μm,1.0s
TIRR Tirgusor 80.82 339 P **P** **21 05 11.0 -1.0**
TIRR IAmb IAmb 21 05 35.5
comp=Z,6μm,1.0s
SQTA Sankt Quirin 80.87 351 *e*P **P** **21 05 11.5 -1.0**
comp=Z,2μm,0.8s,SNR=111
SQTA *e*PKKPdf **PKKPbc** **21 23 42.2 -5.4**
comp=Z,107nm,1.3s
SQTA *i* P'P'df **P'P'df** **21 31 53.8 -2.4**
comp=Z,76nm,1.2s
PLAR PLOIESTI 80.90 341 ⇑P **P** **21 05 13.1 +0.7**
PVM Polavaram 80.91 286 *e*P **P** **21 05 12.7 -0.2**
PVM *ep*P **pP** **21 05 40.0 +0.9**
PVM *es*P **sP** **21 05 50.1 +0.1**
PVM IVmB_BB 21 05 59.6
comp=Z,29μm,7.1s
PVM *e*S **S** **21 15 12.8 -0.4**
AMRR Amara 80.91 340 ⇓P **P** **21 05 12.5 0.0**
AMRR Amara 80.91 340 ⇓P **P** **21 05 12.5 0.0**
DAVA Damuels 80.92 352 *e*P **P** **21 05 11.4 -1.3**
comp=Z,697nm,1.0s,SNR=34
DAVA *i* PKKPdf **PKKPbc** **21 23 43.3 -4.2**
comp=Z,39nm,1.2s
DAVA *i* P'P'df **P'P'df** **21 31 52.7 -3.4**
comp=Z,81nm,1.2s
DAVA Damuels 80.92 352 *e*P **P** **21 05 11.4 -1.3**
baz=8.9,slow=5.6
MORH Mrgy, Hungar 80.95 346 *e*P **P** **21 05 11.2 -1.5**
WB0 Warramunga Arr 80.99 222 P **P** **21 05 12.4 -0.7**
SOKA Soboth 80.99 349 *e*P **P** **21 05 12.3 -0.8**
comp=Z,3μm,1.2s,SNR=240
SOKA *e*PKKPdf **PKKPbc** **21 23 42.9 -4.3**
comp=Z,202nm,1.2s,SNR=14
SOKA *i* P'P'df P'P'df 21 31 53.4 -2.5
comp=Z,39nm,1.2s
KTUT Trabzon 80.99 330 ⇑P **P** **21 05 13.2 +0.2**
KTUT Trabzon 80.99 330 *e*P **P** **21 05 11.3 -1.7**
TIM Timisoara 81.01 344 ⇑P **P** **21 05 13.8 +0.8**
TIM Timisoara 81.01 344 ⇑P **P** **21 05 13.8 +0.8**
RPR Rampur 81.04 289 *e*P **P** **21 05 13.1 -0.5**
RPR *ep*P **pP** **21 05 40.4 +0.5**
RPR *es*P **sP** **21 05 50.9 +0.1**
RPR IVmBBB 21 06 00.2
comp=Z,29μm,6.7s
RPR *e*S **S** **21 15 14.1 -0.5**
BZS Buzias 81.06 344 ⇑P **P** **21 05 12.7 -0.6**
BZS Buzias 81.06 344 ⇑P **P** **21 05 12.7 -0.6**
KOGS Kog 81.06 348 *e*P **P** **21 05 12.3 -1.0**
KOGS *e*S **S** **21 15 05.1 -8.9**
KOGS *e* 21 16 14.7
KOGS *e*SS **SS** **21 20 22.9 -6.2**
KOGS *e* 21 21 36.2
KOGS *e* 21 24 57.0
KOGS *e* 21 26 34.3
KOGS *e* 21 27 02.5
KOGS *e* 21 31 59.0
SULR 81.08 340 ⇑P **P** **21 05 13.5 +0.1**
WR0 Warramunga Arr 81.10 222 P **P** **21 05 12.9 -0.7**
FETA Feichten 81.11 352 *e*P **P** **21 05 12.8 -0.9**
comp=Z,2μm,0.9s,SNR=147
FETA *e*PKKPdf **PKKPbc** **21 23 42.7 -4.4**
comp=Z,56nm,1.1s
FETA *i* P'P'df **P'P'df** **21 31 53.3 -2.5**
comp=Z,52nm,1.4s
EFOR EFORIE 81.13 339 ⇓P **P** **21 05 14.4 +0.8**
WRAB Tennant Creek 81.15 222 *ce*P **P** **21 05 13.1 -0.9**
WRAB pmax pmax
comp=Z,3μm,1.2s
WRAB MLR MLR
comp=Z,115μm,19.0s
WRAB Tennant Creek 81.15 222 P **P** **21 05 13.2 -0.8**
WB2 Warramunga Arr 81.16 222 P **P** **21 05 13.4 -0.6**
WRA Warramunga Arr 81.17 222 P **P** **21 05 13.5 -0.6**
comp=Z,398nm,0.9s,baz=35,slow=6.1,SNR=258
WRA PP **PP** **21 08 24.0 +3.0**
comp=Z,188nm,1.1s,baz=29,slow=9.7,SNR=2.2
WRA S **S** **21 15 19.5 +3.9**
comp=Z,6.0nm,0.9s,baz=358,slow=2.5,SNR=2.2
WRA PKPPKP **P'P'df** **21 31 54.8 +2.2**
comp=Z,24nm,1.0s,baz=197,slow=2.0,SNR=4.9
WRA LR LR 21 39 40.3
comp=Z,103μm,20.0s,baz=25,slow=34
WRA Warramunga Arr 81.17 222 *i* P **P** **21 05 11.8 -2.3**
comp=Z,398nm,0.9s
WRA pmax pmax
FSCY Frank Sound, G 81.17 70 P **P** **21 05 12.9 -1.3**
MYKA Terra Mystica 81.20 350 *e*P **P** **21 05 12.7 -1.4**
comp=Z,2μm,1.5s,SNR=70
MYKA *e*PKKPbc **PKKPbc** **21 23 44.8 -1.9**
comp=Z,44nm,1.0s
MYKA *i* P'P'df **P'P'df** **21 31 50.3 -5.2**
comp=Z,96nm,1.8s
ABTA Abfaltersbach 81.21 350 *e*P **P** **21 05 13.0 -1.2**
comp=Z,2μm,1.2s,SNR=92
ABTA *e*PKKPbc **PKKPbc** **21 23 44.0 -2.7**
comp=Z,56nm,1.0s
ABTA *i* P'P'df **P'P'df** **21 31 53.8 -1.8**
comp=Z,46nm,1.2s
AGRB Hanur-Agry 81.21 327 *e*P **P** **21 05 15.1 +0.6**
OBKA Obir 81.22 349 *e*P **P** **21 05 13.3 -1.0**
comp=Z,2μm,1.1s,SNR=81
OBKA *e*PKKPdf **PKKPbc** **21 23 43.3 -3.4**
comp=Z,61nm,0.7s,SNR=5.8
OBKA *i* P'P'df **P'P'df** **21 31 56.6 +1.1**
comp=Z,68nm,1.5s
OBKA Obir 81.22 349 *e*P **P** **21 05 13.2 -1.0**
baz=8.9,slow=5.6
KOPR Koprukoy-ERZUR 81.22 328 *e*P **P** **21 05 13.8 -0.7**
ICOR Ion Corvin 81.28 339 ⇑P **P** **21 05 15.1 +0.6**
CLDR Caldiran 81.28 326 *e*P **P** **21 05 14.9 0.0**
KALN Kalnik 81.34 348 P **P** **21 05 14.7 -0.1**
ZOU Zoufplan 81.35 350 P **P** **21 05 13.2 -1.9**
BANL Banloc 81.37 344 ⇑P **P** **21 05 15.6 +0.7**
ESPY Espiye-Giresun 81.38 330 *e*P **P** **21 05 13.5 -1.6**
MANR Mangalia 81.39 339 ⇑P **P** **21 05 15.5 +0.5**
PRED Cave del Predi 81.39 350 P **P** **21 05 13.5 -1.6**
SNOP Sinop 81.40 333 *e*P **P** **21 05 14.4 -0.7**
BAYT Aydıntepe-Bayb 81.41 329 *e*P **P** **21 05 15.7 +0.2**
PSI Prapat 81.44 264 LR LR 21 45 09.5
comp=Z,18μm,18.9s,baz=89,slow=38
PSI Prapat 81.44 264 P **P** **21 05 14.9 -1.0**
PSI pmax pmax
comp=Z,3μm,1.1s
BUC1 Bucharest 81.44 341 ⇑P **P** **21 05 14.9 -0.4**
BUC1 Bucharest 81.44 341 ⇑P **P** **21 05 14.9 -0.4**
RPSI Rantau Prapat 81.52 264 P **P** **21 05 14.9 -1.2**
RPSI IAmb IAmb 21 05 43.2
comp=Z,3μm,1.1s
SRSP Sriramsagar 81.54 290 *e*P **P** **21 05 15.3 -1.0**
SRSP *ep*P **pP** **21 05 42.6 0.0**
SRSP *es*P **sP** **21 05 53.5 0.0**
SRSP IVmB_BB 21 06 02.8
comp=Z,26μm,6.6s
SRSP *e*S **S** **21 15 18.3 -1.5**
FUORN Ofenpass-Fuorn 81.55 352 P **P** **21 05 15.4 -0.8**
SGRR Singureni 81.57 341 ⇓P **P** **21 05 12.8 -3.2**
TGUH Tegucigalpa,Un 81.61 78 *e*P **P** **21 05 17.2 +0.4**
TGUH Tegucigalpa,Un 81.61 78 P **P** **21 05 16.9 +0.1**
HERR Herculane 81.63 343 ⇓P **P** **21 05 15.8 -0.5**
HERR Herculane 81.63 343 ⇓P **SKSac** **21 15 30.9 +4.4**
PTJ Puntijarka 81.63 348 P **P** **21 05 15.5 -1.0**
CIMO Cimolais 81.65 350 P **P** **21 05 14.4 -2.0**
CBCY The Bluff, Cay 81.67 69 P **P** **21 05 15.3 -1.5**
STAL STALIGIAL 81.67 350 P **P** **21 05 14.7 -1.9**
LJU Ljubljana 81.68 349 *i* P **P** **21 05 15.2 -1.4**
LJU *e* 21 09 17.6
LJU *e* 21 11 09.9
LJU *e*S **S** 21 15 08.8 -12
LJU *e* 21 16 21.0
LJU *e* 21 27 17.4
LJU Ljubljana 81.68 349 *e*P **P** **21 05 15.0 -1.6**
SRE Strehaia 81.69 343 ⇓P **P** **21 05 16.6 -0.1**
SRE Strehaia 81.69 343 ⇓P **P** **21 05 16.6 -0.1**
ZAG Zagreb 81.71 348 P **P** **21 05 16.0 -0.7**
ZAG Zagreb 81.71 348 ⇑*i*P **P** **21 05 16.1 -0.6**
DIKM Dikmen 81.72 333 ⇑P **P** **21 05 17.7 +0.8**
DIKM Dikmen 81.72 333 *e*P **P** **21 05 16.9 0.0**
MLAZ Malazgirt-MUS 81.75 327 *e*P **P** **21 05 17.9 +0.6**
TUE Stuetta 81.77 353 P **P** **21 05 16.3 -1.0**
CRES Cresnjev 81.78 348 *e*P **P** **21 05 15.7 -1.4**
FRGS Fruska Gora 81.80 345 ⇑*i*P **P** **21 05 16.3 -1.0**
COPA Copaceanca 81.81 341 ⇓P **P** **21 05 16.3 -1.0**
MOSL Moslavina 81.81 347 P **P** **21 05 16.2 -1.1**
MDVR Moldovita 81.85 344 ⇑P **P** **21 05 16.8 -0.7**
VANB Van 81.95 326 *e*P **P** **21 05 18.9 +0.6**
OZLJ Ozalj 81.98 348 P **P** **21 05 17.2 -0.9**
CTI Castel Tesino 81.99 351 P **P** **21 05 16.5 -1.8**
CTI pmax pmax
comp=Z,2μm,1.4s
CTI Castel Tesino 81.99 351 P **P** **21 05 16.5 -1.8**
CEY Cerknica 81.99 349 ⇑*i*P **P** **21 05 16.7 -1.5**
KVT Kavak 82.03 332 *e*P **P** **21 05 17.7 -0.8**
SENIN Lac Senin/Sane 82.03 354 P **P** **21 05 17.4 -1.3**
RAZG Razgrad 82.09 340 ⇓P **P** **21 05 18.0 -0.7**
TRI Trieste 82.10 349 P **P** **21 05 16.9 -1.8**
TRI pmax pmax
comp=Z,696nm,0.8s
TRI Trieste 82.10 349 P **P** **21 05 16.9 -1.8**
KARO Karliova-Bingo 82.10 328 *e*P **P** **21 05 19.6 +0.4**
VRTB Varto-Mus 82.10 328 *e*P **P** **21 05 19.4 +0.3**
VLAD Vladila 82.10 342 ⇑P **P** **21 05 18.9 +0.1**
PUNG Punghina 82.12 343 ⇓P **P** **21 05 18.3 -0.5**
BOJS Bojanci 82.12 348 *i* P **P** **21 05 17.7 -1.1**
YEDI Yedisu-Bingol 82.15 329 *e*P **P** **21 05 19.5 +0.1**
NEF NEVSHA 82.21 339 *e*P **P** **21 05 18.7 -0.7**
PRD Provadia 82.24 339 *e*P **P** **21 05 20.5 +1.0**
RSDY Resadiye-TOKAT 82.28 331 *e*P **P** **21 05 20.1 +0.2**
SMRI Semarang 82.30 248 P **P** **21 05 19.4 -0.8**
SMRI IAmb IAmb 21 05 47.8
comp=Z,10μm,1.7s
AKDM Akdamar-Van 82.33 326 *e*P **P** **21 05 20.5 +0.1**
PMBI Palembang 82.36 255 P **P** **21 05 20.2 -0.3**
PMBI IAmb IAmb 21 05 49.1
comp=Z,5μm,1.2s
RIY Rijeka 82.39 349 P **P** **21 05 18.1 -2.2**
RIY Rijeka 82.39 349 ⇑*i*P **P** **21 05 18.8 -1.5**
TEKS Tekeris 82.44 345 ⇑*i*P **P** **21 05 20.0 -0.6**
SZH Strazhica 82.49 340 *e*P **P** **21 05 19.7 -1.2**
BNGB Bingl 82.51 328 *e*P **P** **21 05 20.4 -0.8**
SALO Salr 82.52 352 P **P** **21 05 19.6 -1.4**
SALO IAmb IAmb 21 05 44.8
comp=Z,2μm,0.8s
TOKT Tokat 82.58 332 *e*P **P** **21 05 21.5 0.0**
BLY Banja Luka 82.60 347 ⇑*i*P **P** **21 05 20.2 -1.2**
HYB Hyderabad 82.60 289 *i* P **P** **21 05 21.0 -0.8**
comp=Z,5μm,2.0s
HYB *ep*P **pP** **21 05 45.0 -3.2**
HYB *es*P **sP** **21 05 59.0 -0.1**
HYB *e*PP **PP** **21 08 28.0 -4.3**
HYB *e*SKS **SKSac** **21 15 30.0 -3.8**
HYB *e* 21 35 05.0
HYB Hyderabad 82.60 289 *e*P **P** **21 05 21.4 -0.4**
HYB IAmb IAmb 21 05 36.6
comp=Z,2μm,1.0s
HYBB Hyderabad (bro 82.60 289 *e*P **P** **21 05 21.2 -0.7**
HYBB *ep*P **pP** **21 05 48.3 +0.1**
HYBB *es*P **sP** **21 05 59.0 -0.1**
HYBB IVmB_BB 21 06 08.2
comp=Z,35μm,7.5s
HYBB *e*SKSac **S** **21 15 30.2 -0.5**
PLVB Pleven 82.65 341 ⇓P **P** **21 05 21.5 -0.2**
PVL Pavlikeni 82.67 341 *e*P **P** **21 05 25.4 +3.7**
ILGA Ilgaz 82.71 334 P **P** **21 05 22.4 +0.1**
CRIN San Cristobal 82.80 79 P **P** **21 05 21.2 -1.7**
DIVS Divibare 82.81 345 P **P** **21 05 21.4 -1.2**
DIVS Divibare 82.81 345 ⇑*i*P **P** **21 05 21.6 -1.0**
SVSK Karacayir 82.82 331 *e*P **P** **21 05 22.9 +0.3**
NJS Nagarjunasagar 82.83 287 *e*P **P** **21 05 22.3 -0.7**
NJS *ep*P **pP** **21 05 49.7 +0.3**
NJS *es*P **sP** **21 06 00.2 -0.1**
NJS IVmB_BB 21 06 09.4
comp=Z,30μm,7.5s
NJS *e*SKSac **S** **21 15 32.5 -0.5**
CFF Clermont-Ferra 82.84 357 P **P** **21 05 22.2 -0.4**
CFF pmax pmax
comp=Z,2μm,1.0s
BRJN Brijuni 82.89 349 P **P** **21 05 21.8 -1.1**
MGRS Mrkonjic Grad 82.94 347 ⇑*i*P **P** **21 05 23.4 +0.2**
UGM Wanagama 82.95 248 P **P** **21 05 21.4 -2.1**
UGM IAmb IAmb 21 05 49.4
comp=Z,5μm,1.2s
HAPS Han Pijesak,BI 82.98 345 ⇓*i*P **P** **21 05 21.8 -1.7**
ADKI Addanki 82.99 287 *e*P **P** **21 05 23.6 -0.1**
ADKI *ep*P **pP** **21 05 51.0 +0.9**
ADKI *es*P **sP** **21 06 01.8 +0.7**
ADKI IVmB_BB 21 06 10.8
comp=Z,28μm,8.3s
ADKI *e*S **S** **21 15 34.5 0.0**
PTK Pertek 83.02 329 *e*P **P** **21 05 24.1 +0.2**
BHUJ Bhuj 83.05 299 *e*P **P** **21 05 24.0 0.0**
BHUJ IAmb IAmb 21 05 29.2
comp=Z,528nm,0.8s
CUKT Cukurca 83.08 325 *e*P **P** **21 05 23.8 -0.4**
NVLJ Novalja 83.09 348 P **P** **21 05 22.2 -1.7**
SVAN Silvan-Diyarba 83.10 328 *e*P **P** **21 05 23.5 -0.7**
BBLS Lazići 83.13 345 ⇑*i*P **P** **21 05 23.8 -0.4**
CANT Cankiri 83.15 334 *e*P **P** **21 05 24.7 +0.3**
KLRI Killari 83.24 290 *e*P **P** **21 05 24.3 -0.9**
KLRI *ep*P **pP** **21 05 51.4 -0.2**
KLRI *es*P **sP** **21 06 02.2 -0.2**
KLRI IVmB_BB 21 06 11.2
comp=Z,44μm,7.7s
KLRI *e*PP **PP** **21 08 39.2 +1.7**
KLRI *e*SKSac **S** **21 15 35.2 -2.0**
SSB Saint Sauveur 83.26 356 P **P** **21 05 23.8 -1.1**
SSB pmax pmax
comp=Z,616nm,0.8s
SSB Saint Sauveur 83.26 356 P **P** **21 05 23.8 -1.1**
SIRT Sirnak 83.27 326 *e*P **P** **21 05 25.0 -0.1**
CORM Corum 83.27 333 *e*P **P** **21 05 25.4 +0.3**
MATN Matagalpa 83.30 78 P **P** **21 05 24.5 -1.1**
MATN IAmb IAmb 21 05 52.9
comp=Z,3μm,1.2s
RUDO Rudo 83.37 345 ⇑*i*P **P** **21 05 23.9 -1.5**
BNI Bardonecchia 83.38 354 P **P** **21 05 25.3 -0.3**
BNI pmax pmax
comp=Z,2μm,1.0s
BNI Bardonecchia 83.38 354 P **P** **21 05 25.3 -0.3**
PRMA PARMA 83.39 352 P **P** **21 05 25.2 -0.2**
PRMA IAmb IAmb 21 05 55.5
comp=Z,6μm,1.4s
FITZ Fitzroy Crossi 83.43 230 P **P** **21 05 25.7 -0.1**
FITZ IAmb IAmb 21 05 54.4
comp=Z,3μm,0.9s
SRLM Srisailam 83.43 288 *e*P **P** **21 05 25.2 -0.9**
SRLM *ep*P **pP** **21 05 52.5 -0.1**
SRLM *es*P **sP** **21 06 03.2 -0.3**
SRLM IVmBBB 21 06 12.5
comp=Z,29μm,7.2s
SRLM *e*SKSac **SKSac** **21 15 36.5 -2.8**
GSI Gunungsitoli 83.44 264 P **P** **21 05 25.1 -1.0**
GSI IAmb IAmb 21 05 53.1
comp=Z,2μm,0.9s
KIJV Kijevo 83.44 347 P **P** **21 05 24.9 -0.8**
SVRC Sivrice-ELAZID 83.51 329 *e*P **P** **21 05 27.2 +0.8**
PGB Panagyurishte 83.54 341 *e*P **P** **21 05 29.3 +2.9**
DUGI Dugi Otok 83.63 348 P **P** **21 05 25.3 -1.4**
PLE Pljevlja 83.65 345 ⇑*i*P **P** **21 05 26.3 -0.7**
VTS Vitosha 83.66 342 ⇓P **P** **21 05 26.6 -0.5**
VTS Vitosha 83.66 342 *e*P **P** **21 05 28.2 +1.1**
VTS Vitosha 83.66 342 P **P** **21 05 25.0 -2.1**
VTS pmax pmax
comp=Z,1μm,0.8s
VTS Vitosha 83.66 342 P **P** **21 05 25.0 -2.1**
SILT Sile 83.66 337 *e*P **P** **21 05 25.6 -1.3**
MORI Morici 83.67 348 P **P** **21 05 25.2 -1.7**
EDRB Edirne 83.68 339 *e*P **P** **21 05 26.5 -0.5**
KLYT Kilyos 83.71 337 *e*P **P** **21 05 26.1 -1.0**
ZCCA Zocca 83.73 351 **P** **21 05 27.7 +0.4**
ZCCA IAmb IAmb 21 05 52.7
comp=Z,3μm,0.8s
MBJ Montego Bay 83.81 68 ⇑*i*P **P** **21 05 27.0 -1.1**
BOAB BOACO BROADBAN 83.83 78 P **P** **21 05 26.5 -1.7**
BOAB IAmb IAmb 21 05 55.4
comp=Z,6μm,1.4s
ORH Orhaniye 83.84 337 P **P** 21 05 19.7 -8.1
RICI Ricice 83.84 347 P **P** **21 05 26.3 -1.5**
BGKT Bogazkoy 83.85 338 *e*P **P** **21 05 26.5 -1.3**
MALT Malatya 83.85 330 *e*P **P** **21 05 28.3 +0.2**
UPM Unac-Piva 83.85 345 ⇑*i*P **P** **21 05 26.4 -1.7**
UPM Unac-Piva 83.85 345 ⇑*i*P **P** **21 05 26.4 -1.7**
CTKS Kestanelik-??a 83.86 338 *e*P **P** **21 05 26.5 -1.4**
ZIRJ Zirje 83.89 348 P **P** **21 05 26.3 -1.7**
MSSA Maissana 83.90 352 P **P** **21 05 26.3 -1.9**
MSSA IAmb IAmb 21 05 51.2
comp=Z,1μm,0.6s
DARE Darende-Malaty 83.91 330 *e*P **P** **21 05 28.9 +0.5**
MDUB Mudurnu 83.92 336 *e*P **P** **21 05 27.4 -0.9**
MDUB Mudurnu 83.92 336 P **P** **21 05 27.5 -0.9**
SLVT Silivri 83.93 338 *e*P **P** **21 05 27.7 -0.6**
SPNC Sapanca-Adapaz 83.94 336 *e*P **P** **21 05 30.8 +2.5**
BR131 Keskin Array S 83.97 334 P **P** **21 05 27.9 -0.8**
SNR=358
BR131 Keskin Array S 83.97 334 *c i*P **P** **21 05 27.5 -1.2**
BRTR Keskin Array B 83.97 334 P **P** **21 05 27.6 -1.0**
comp=Z,91nm,0.7s,baz=50,slow=2.6,SNR=374
BRTR PP **PP** **21 08 44.6 +1.9**
comp=Z,75nm,0.8s,baz=20,slow=9.5,SNR=2.4
BRTR S **S** **21 15 41.9 -2.2**
comp=Z,3.3nm,0.9s,baz=204,slow=33,SNR=1.3
BRTR PKKPbc **PKKPbc** **21 23 43.1 +2.7**
comp=Z,7.4nm,0.7s,baz=180,slow=3.2,SNR=6.0
BRTR PKPPKP **P'P'df** **21 31 45.5 -5.1**
comp=Z,12nm,0.8s,baz=186,slow=3.7,SNR=4.1
BRTR LR LR 21 47 40.7
comp=Z,26μm,20.7s,baz=336,slow=39
BRTR Keskin Array B 83.97 334 *i* P **P** **21 05 27.7 -1.0**
BRTR pmax pmax
comp=Z,94nm,0.7s
HRT Hereke 83.97 337 *e*P **P** **21 05 27.1 -1.5**
MAZI Mazidag 83.98 328 *e*P **P** **21 05 28.9 +0.1**
VLC Villacollemand 83.98 352 P **P** **21 05 27.4 -1.1**
IVA Berane 84.02 344 ⇑*i*P **P** **21 05 27.4 -1.4**
LOD Lodumlu 84.05 334 *e*P **P** **21 05 29.0 0.0**
MAKA Makarska 84.06 347 P **P** **21 05 27.0 -1.9**
ANTO Ankara 84.06 334 P **P** **21 05 28.5 -0.6**
ANTO pmax pmax
comp=Z,3μm,1.1s
ANTO Ankara 84.06 334 P **P** **21 05 28.5 -0.6**
ANTO IAmb IAmb 21 05 53.1
comp=Z,3μm,1.1s
KOME Kolasin 84.10 345 ⇑*i*P **P** **21 05 27.8 -1.4**
GULT Gulveren 84.13 336 *e*P **P** **21 05 31.1 +1.7**
CRLT Corlu 84.14 338 *e*P **P** **21 05 28.9 -0.4**
CVJ Coleyville 84.14 68 ⇑*i*P **P** **21 05 28.7 -1.1**
MTDJ Mount Denham 84.14 68 *e*P **P** **21 05 26.3 -3.5**
MTDJ Mount Denham 84.14 68 P **P** **21 05 27.9 -1.9**
MTDJ IAmb IAmb 21 05 56.9
comp=Z,4μm,1.1s
BNN Bunyan 84.14 332 *e*P **P** **21 05 29.3 -0.3**
BBJ Bamboo Saint A 84.17 68 ⇑*i*P **P** **21 05 28.8 -1.1**
GTBY Guantanamo Bay 84.18 65 *e*P **P** **21 05 25.5 -4.4**
GTBY Guantanamo Bay 84.18 65 P **P** **21 05 28.2 -1.6**
BRY Bratogost 84.20 345 ⇑*i*P **P** **21 05 28.0 -1.8**
BRY Bratogost 84.20 345 ⇑*i*P **P** **21 05 28.1 -1.8**
NKY Niksic 84.22 345 ⇑*i*P **P** **21 05 28.2 -1.7**
NKME Niksic 84.27 345 ⇑*i*P **P** **21 05 28.3 -1.8**
PVY Plav 84.27 344 ⇑*i*P **P** **21 05 28.7 -1.5**
MCJ Malvern 84.29 68 ⇑*i*P **P** **21 05 29.2 -1.3**
STON Ston 84.36 346 P **P** **21 05 28.2 -2.2**
STON Ston 84.36 346 ⇑*i*P **P** **21 05 28.4 -2.0**
AFSR Afar-Bala (An 84.38 334 *e*P **P** **21 05 30.8 +0.1**
SARI SarD1z-Kayseri 84.39 331 *e*P **P** **21 05 30.1 -0.8**
KKB Krupnik 84.42 342 *e*P **P** **21 05 31.8 +1.0**
TREB Trebinje 84.42 346 *e*P **P** **21 05 29.0 -1.7**
GEMT Gemlik 84.45 337 *e*P **P** **21 05 30.3 -0.6**
POO Poona 84.46 293 *i* P **P** **21 05 27.0 -4.4**
comp=Z,270nm,0.2s
POO *e*P **PcP** **21 05 30.9 -4.0**
POO IAmb IAmb 21 05 47.2
comp=Z,1μm,1.0s
POO *i* x x 21 15 46.0
CEME Cevo 84.49 345 ⇑*i*P **P** **21 05 29.4 -1.8**
DBRK Dubrovnik 84.49 346 P **P** **21 05 28.7 -2.4**
ACON Acoyapa 84.51 78 P **P** **21 05 30.2 -1.4**
ACON IAmb IAmb 21 05 58.9
comp=Z,5μm,1.8s
OSSC Osservatorio P 84.53 351 P **P** **21 05 29.8 -1.5**
OSSC IAmb IAmb 21 05 55.2
comp=Z,3μm,1.1s
PDG Podgorica 84.55 345 ⇓P **P** **21 05 30.4 -1.0**
PDG Podgorica 84.55 345 ⇑P **ScS** **21 16 03.3 +2.8**
PDG Podgorica 84.55 345 P **P** **21 05 29.5 -1.9**
PDG Podgorica 84.55 345 ⇑*i*P **P** **21 05 29.9 -1.5**
TTG Podgorica 84.55 345 ⇑*i*P **P** **21 05 29.9 -1.5**
SKO Skopje 84.62 343 *i* P **P** **21 05 31.1 -0.7**
LHI Lord Howe Isla 84.64 197 P **P** **21 05 32.9 +1.3**
LHI IAmb IAmb 21 06 01.3
comp=Z,3μm,0.9s
MURB Monte Urbino 84.65 350 P **P** **21 05 31.0 -1.0**
HCY Herceg Novi 84.66 345 ⇑*i*P **P** **21 05 29.8 -2.2**
HCY Herceg Novi 84.66 345 ⇑*i*P **P** **21 05 29.7 -2.2**
AS31 Alice Springs 84.67 220 P **P** **21 05 32.1 0.0**
MRMT Marmara Adasi 84.67 338 *e*P **P** **21 05 30.6 -1.5**
ASAR Alice Springs 84.67 220 P **P** **21 05 31.9 -0.1**
comp=Z,294nm,0.9s,baz=25,slow=5.3,SNR=830
ASAR S **S** **21 15 45.8 -5.2**
comp=Z,6.0nm,1.0s,baz=199,slow=3.5,SNR=1.6
ASAR PKKPbc **PKKPbc** **21 23 40.0 -0.2**
comp=Z,5.9nm,0.5s,baz=157,slow=0.8,SNR=4.1
ASAR PKPPKP 21 31 42.8
comp=Z,14nm,0.9s,baz=187,slow=2.9,SNR=5.9
ASAR LR LR 21 44 11.0
comp=Z,100μm,18.3s,baz=24,slow=36
ASAR Alice Springs 84.67 220 P **P** **21 05 32.0 -0.1**
STH Stony Hill 84.68 68 ⇑*i*P **P** **21 05 31.1 -1.3**
RKY Sarkoy-Tekirda 84.69 339 *e*P **P** **21 05 34.1 +1.9**
SERE Sereflikochisa 84.71 333 *e*P **P** **21 05 32.1 -0.3**
GWJ Greenwich 84.73 68 ⇑*i*P **P** **21 05 32.3 -0.6**
BUM Brajici-Budva 84.73 345 ⇑*i*P **P** **21 05 30.4 -2.0**
ALN Alexandroupoli 84.74 339 P **P** **21 05 30.9 -1.5**
ALN pmax pmax
comp=Z,2μm,1.0s
ALN Alexandroupoli 84.74 339 P **P** **21 05 30.9 -1.5**
PCJ Portland Cotta 84.75 68 ⇑*i*P P 21 05 39.8 +7.1
STIP Stip 84.75 343 *i* P **P** **21 05 30.4 -2.0**
BOM Bombay 84.76 294 *ex* **P** **21 05 33.6 +0.8**
BOM IAmb IAmb 21 05 52.7
comp=Z,2μm,0.9s
BOM AMb AMB 21 06 47.1
comp=Z,10μm,19.5s
HOJ Hope 84.77 68 ⇑*i*P **P** **21 05 32.1 -0.8**
KULU Kulu 84.78 334 *e*P **P** **21 05 32.5 -0.2**
SKHT Srikalahasti 84.79 285 *e*P **P** **21 05 32.5 -0.4**
SKHT *ep*P **pP** **21 05 59.9 +0.5**
SKHT *es*P **sP** **21 06 09.9 -0.4**
SKHT IVmB_BB 21 06 19.9
comp=Z,22μm,7.4s
SKHT *e*SKSac **SKSac** **21 15 46.5 -1.5**
SVRH Sivrihisar-ESK 84.80 335 *e*P **P** **21 05 32.0 -0.8**
DRME Dracevica, Mon 84.80 345 ⇑*i*P **P** **21 05 31.2 -1.5**
DRME Dracevica, Mon 84.80 345 ⇑*i*P **P** **21 05 31.2 -1.5**
KCTX Karacabey (Bur 84.81 338 *e*P **P** **21 05 34.7 +1.9**
EDC Edincik 84.85 338 *e*P **P** **21 05 34.7 +1.7**
RKT Rikitea 84.86 138 *e*P **P** **21 05 32.9 -0.1**
comp=Z,900nm,1.1s
RKT Rikitea 84.86 138 *e*S **S** **21 15 47.5 -5.2**
comp=Z,290μm,33.2s
RKT *e*SS **SS** **21 21 27.9 -0.1**
comp=Z,300μm,28.8s
RKT *e*LQ LQ 21 28 49.5
comp=Z,1058μm,36.0s
RKT *e*LR LR 21 32 23.5
comp=Z,592μm,36.2s
ESPN Las Esperanzas 84.86 77 P **P** **21 05 32.5 -0.9**
ESPN IAmb IAmb 21 05 43.7
comp=Z,4μm,1.1s
ENEZ Enez 84.87 339 *e*P **P** **21 05 34.9 +1.9**
CMJ Castle Mountai 84.88 67 ⇓*i*P **P** **21 05 32.9 -0.6**
MDRS Chennai 84.99 285 *e*P **P** **21 05 33.7 -0.2**
CIFT Ciftеler, Eski 85.00 335 *e*P **P** **21 05 32.3 -1.5**
ULC Ulcinj 85.01 345 ⇑*i*P **P** **21 05 31.8 -1.9**

NRCA	**Norcia**	**85.01**	**349**		P		**P**	**21 05 33.0**	**-0.8**
NRCA					IAmb		IAmb	21 05 57.8	
	comp=Z,5µm,1.0s								
VAY	**Valandovo**	**85.04**	**342**	*i*	P		**P**	**21 05 33.0**	**-0.9**
LPK	**Lapseki**	**85.08**	**339**		*e*P		**P**	**21 05 36.2**	**+2.1**
GULA	**Gulagac**	**85.08**	**333**		*e*P		**P**	**21 05 35.7**	**+1.4**
GELI	**Tayfur-Gelibol**	**85.12**	**339**		*e*P		**P**	**21 05 35.1**	**+0.8**
GRTK	**Grand Turk**	**85.12**	**61**		P		**P**	**21 05 33.0**	**-1.5**
ARMA	**Armidale**	**85.15**	**203**		P		**P**	**21 05 35.3**	**+0.9**
ARMA					IAmb		IAmb	21 06 04.6	
	comp=Z,3µm,1.0s								
KIZT	**Kizilcal**	**85.23**	**335**		*e*P		**P**	**21 05 34.1**	**-0.9**
KAD	**Karad**	**85.24**	**292**	‖	*i*x		**P**	**21 05 34.0**	**-1.3**
CHBY	**Cihanbeyli**	**85.24**	**334**		*e*P		**P**	**21 05 33.8**	**-1.3**
GAZ	**Gaziantep**	**85.28**	**330**		*e*P		**P**	**21 05 35.4**	**+0.2**
GAZ	**Gaziantep**	**85.28**	**330**		P		**P**	**21 05 35.1**	**-0.2**
CASP	**Castiglione de**	**85.29**	**351**		P		**P**	**21 05 33.4**	**-1.7**
CASP					IAmb		IAmb	21 06 04.1	
	comp=Z,5µm,1.7s								
URV	**Uravakonda**	**85.30**	**288**		*e*P		**P**	**21 05 34.5**	**-1.1**
URV					*e*pP		**pP**	**21 06 01.8**	**-0.3**
URV					*e*sP		**sP**	**21 06 12.7**	**-0.3**
URV					IVmB_BB			21 06 21.6	
	comp=Z,21µm,8.0s								
URV					*e*S		**SKSac**	**21 15 47.3**	**-4.0**
KOZT	**Kozan**	**85.42**	**331**		*e*P		**P**	**21 05 36.5**	**+0.7**
SULT	**Sultanhani-AKS**	**85.42**	**333**		*e*P		**P**	**21 05 35.4**	**-0.6**
GADA	**Gvkgeada**	**85.45**	**339**		*e*P		**P**	**21 05 37.4**	**+1.5**
AQU	**L'Aquila**	**85.45**	**349**		P		**P**	**21 05 34.8**	**-1.1**
AQU					pmax		pmax		
	comp=Z,2µm,0.9s								
AQU	**L'Aquila**	**85.45**	**349**		P		**P**	**21 05 34.8**	**-1.1**
AQU					IAmb		IAmb	21 06 12.8	
	comp=Z,2µm,0.9s								
AQU	**L'Aquila**	**85.45**	**349**	⇑	*i*P		**P**	**21 05 35.2**	**-0.8**
TIR	**Tirane**	**85.50**	**344**		P		**P**	**21 05 35.2**	**-1.0**
TIR					pmax		pmax		
	comp=Z,5µm,1.7s								
TIR	**Tirane**	**85.50**	**344**		P		**P**	**21 05 35.2**	**-1.0**
TIR					IAmb		IAmb	21 06 03.8	
	comp=Z,5µm,1.7s								
BALB	**Balikesir**	**85.52**	**338**		*e*P		**P**	**21 05 38.3**	**+2.0**
H07S1	**FLORES T-PHASE**	**85.62**	**23**		*e*P		**P**	**21 05 35.9**	**-1.0**
H07S1	**FLORES T-PHASE**	**85.62**	**23**		P		**P**	**21 05 35.9**	**-1.0**
	SNR=351								
EZN	**Ezine**	**85.70**	**339**		*e*P		**P**	**21 05 38.3**	**+1.1**
PRVC	**Isla de Provid**	**85.71**	**74**		*e*P		**P**	**21 05 36.2**	**-1.4**
PRVC	**Isla de Provid**	**85.71**	**74**		*e*P		**P**	**21 05 36.8**	**-0.8**
GEDZ	**Gediz**	**85.72**	**336**		*e*P		**P**	**21 05 39.2**	**+1.8**
INTR	**Introdacqua**	**85.72**	**349**		P		**P**	**21 05 35.6**	**-1.8**
INTR					IAmb		IAmb	21 06 46.6	
	comp=Z,3µm,1.2s								
SGRT	**San Giovanni R**	**85.74**	**347**		P		**P**	**21 05 35.7**	**-1.7**
LADK	**Ladik-KONYA**	**85.74**	**334**		*e*P		**P**	**21 05 39.2**	**+1.6**
BOZC	**Bozcaada**	**85.75**	**339**		*e*P		**P**	**21 05 39.2**	**+1.8**
YESY	**Yesilyurt**	**85.75**	**333**		*e*P		**P**	**21 05 36.6**	**-1.0**
SIMA	**Simav-Kutahya**	**85.78**	**337**		*e*P		**P**	**21 05 39.5**	**+1.8**
CEYT	**Ceyhan**	**85.88**	**331**		*e*P		**P**	**21 05 38.0**	**-0.1**
SHUT	**Suhut-Afyon**	**85.89**	**335**		*e*P		**P**	**21 05 37.9**	**-0.4**
JTS	**Las Juntas de**	**85.95**	**79**		P		**P**	**21 05 37.9**	**-0.9**
	comp=Z,39nm,0.5s,baz=332,slow=2.4,SNR=25								
JTS					S		**SKSac**	**21 15 57.4**	**+2.0**
	comp=Z,23nm,0.9s,baz=213,slow=21,SNR=7.3								
JTS	**Las Juntas de**	**85.95**	**79**		*e*P		**P**	**21 05 36.6**	**-2.3**
JTS	**Las Juntas de**	**85.95**	**79**		P		**P**	**21 05 36.5**	**-2.3**
JTS					pmax		pmax		
	comp=Z,854nm,1.0s								
JTS	**Las Juntas de**	**85.95**	**79**		P		**P**	**21 05 36.5**	**-2.3**
KONT	**Konya--Tatoy**	**85.98**	**334**		*e*P		**P**	**21 05 37.9**	**-0.8**
BAI	**Bari**	**86.21**	**346**	⇑	*i*P		P	21 05 44.6	+5.0
DKL	**Dikili**	**86.29**	**338**		*e*P		**P**	**21 05 41.4**	**+1.3**
TAHT	**Tahtakopru-Hat**	**86.33**	**330**		*e*P		**P**	**21 05 39.8**	**-0.6**
MERS	**Mersin**	**86.37**	**332**		*e*P		**P**	**21 05 41.3**	**+0.7**
KULA	**Kula-Manisa**	**86.40**	**337**		*e*P		**P**	**21 05 41.9**	**+1.1**
MANT	**Manisa**	**86.45**	**337**		P		**P**	**21 05 39.7**	**-1.5**
MANT					IAmb		IAmb	21 06 14.0	
	comp=Z,4µm,1.3s								
SG1	**Sgolgore (BA)**	**86.50**	**346**	⇑	*i*P		**P**	**21 05 39.6**	**-1.6**
PGAV	**Gavieira, Arco**	**86.52**	**5**		*e*P		**P**	**21 05 39.9**	**-1.4**
	comp=Z,741nm,1.4s								
PGAV	**Gavieira, Arco**	**86.52**	**5**		*e*S		**S**	**21 16 07.8**	**-1.3**
PGAV					*e*SS		**SS**	**21 21 56.5**	**+6.7**
PGAV					*e*LQ		LQ	21 29 00.4	
PGAV					*e*LR		LR	21 34 28.1	
	comp=Z,83µm,20.0s								
ISP	**Isparta**	**86.59**	**335**		P		**P**	**21 05 40.2**	**-1.5**
ISP					pmax		pmax		
	comp=Z,2µm,0.9s								
ISP	**Isparta**	**86.59**	**335**		P		**P**	**21 05 40.1**	**-1.5**
ISP					IAmb		IAmb	21 06 04.5	
	comp=Z,2µm,0.9s								
PAOL	**Paolisi**	**86.61**	**348**		P		**P**	**21 05 39.7**	**-2.0**
PAOL					IAmb		IAmb	21 06 08.1	
	comp=Z,4µm,2.0s								
OUZ	**Omahuta**	**86.67**	**184**		P		**P**	**21 05 42.1**	**+0.5**
OUZ					IAmb		IAmb	21 06 11.9	
	comp=Z,2µm,1.1s								
HDC	**Heredia**	**86.69**	**78**		P		**P**	**21 05 40.7**	**-1.9**
HDC					IAmb		IAmb	21 06 11.1	
	comp=Z,6µm,2.0s								
PGRA	**Graciosa**	**86.70**	**20**		*e*P		**P**	**21 05 42.0**	**-0.1**
	comp=Z,3µm,1.8s								
LGNH	**Logne**	**86.72**	**64**		P		**P**	**21 05 41.1**	**-1.4**
LGNH					IAmb		IAmb	21 06 09.8	
	comp=Z,3µm,1.4s								
TAR1	**Taranto**	**86.72**	**346**	⇑	*i*P		**P**	**21 05 44.0**	**+1.8**
PBRG	**Braganca**	**86.75**	**4**		*e*P		**P**	**21 05 41.0**	**-1.4**
	comp=Z,584nm,1.4s								
PBRG	**Braganca**	**86.75**	**4**		*e*S		**S**	**21 16 12.7**	**+1.4**
PBRG					*e*SS		**SS**	**21 22 00.6**	**+7.4**
PCAB	**Cabril**	**86.78**	**5**		*e*P		**P**	**21 05 41.3**	**-1.2**
	comp=Z,612nm,1.4s								
KIZK	**Mersin**	**86.84**	**332**		*e*P		**P**	**21 05 41.2**	**-1.6**
PAPH	**Port-au-Prince**	**86.88**	**64**		P		**P**	**21 05 42.7**	**-0.6**
PAPH					IAmb		IAmb	21 06 11.8	
	comp=Z,2µm,0.9s								
GOA	**Goa**	**86.89**	**291**		*e*P		**P**	**21 05 42.4**	**-0.9**
GOA					IAmb		IAmb	21 05 57.8	
	comp=Z,577nm,0.7s								
BCK	**Bucak**	**86.91**	**335**		*e*P		**P**	**21 05 45.0**	**+1.7**
PCED	**Cedros**	**86.92**	**21**		*e*P		**P**	**21 05 42.6**	**-0.6**
	comp=Z,1µm,1.1s								
ROSA	**Rosais**	**86.94**	**21**		*e*P		**P**	**21 05 43.0**	**-0.3**
	comp=Z,1µm,2.1s								
ROSA	**Rosais**	**86.94**	**21**		P		**P**	**21 05 42.1**	**-1.1**
SCTE	**Santa Cesarea**	**86.98**	**345**		P		**P**	**21 05 41.9**	**-1.5**
SCTE					IAmb		IAmb	21 06 06.7	
	comp=Z,2µm,0.8s								
JAKH	**Jacmel**	**86.99**	**64**		P		**P**	**21 05 42.3**	**-1.5**
KEBE	**Keben-Mersin**	**87.00**	**332**		*e*P		**P**	**21 05 45.0**	**+1.3**
SILI	**Silifke-Mersin**	**87.01**	**332**		*e*P		**P**	**21 05 44.7**	**+1.0**
SC01	**Santiago de lo**	**87.03**	**62**		P		**P**	**21 05 42.7**	**-1.2**
SC01					IAmb		IAmb	21 06 11.8	
	comp=Z,2µm,1.2s								
HOR	**Horta**	**87.03**	**21**		*e*P		**P**	**21 05 43.4**	**-0.3**
	comp=Z,446nm,1.7s								
URLA	**Izmir**	**87.04**	**338**		*e*P		**P**	**21 05 41.7**	**-2.1**
PMAN	**Manadas**	**87.05**	**21**		*e*P		**P**	**21 05 43.2**	**-0.6**
	comp=Z,2µm,1.7s								
SDDR	**Presa de Saban**	**87.08**	**63**		P		**P**	**21 05 42.7**	**-1.6**
TEVE	**Tevekalti-Mers**	**87.09**	**333**		*e*P		**P**	**21 05 42.3**	**-1.8**
PCAN	**Candelaria**	**87.13**	**21**		*e*P		**P**	**21 05 44.2**	**0.0**
	comp=Z,1µm,2.0s								
AYDB	**Zeytinkoy-Aydi**	**87.13**	**337**		*e*P		**P**	**21 05 46.2**	**+1.8**
PSCM	**Serra do Cume**	**87.20**	**20**		*e*P		**P**	**21 05 44.5**	**0.0**
	comp=Z,1µm,1.9s								
IKL	**Isikli**	**87.20**	**332**		*e*P		**P**	**21 05 45.9**	**+1.3**
ADH	**Angra Heroismo**	**87.22**	**20**		*e*P		**P**	**21 05 44.3**	**-0.3**
	comp=Z,2µm,1.6s								
BERE	**Bereket-Mersin**	**87.23**	**333**		*e*P		**P**	**21 05 46.2**	**+1.3**
PVRL	**Vila Real**	**87.23**	**5**		*e*P		**P**	**21 05 43.2**	**-1.5**
	comp=Z,1µm,1.3s								
PVRL	**Vila Real**	**87.23**	**5**		*e*PP		PP	21 09 17.6	+8.7
AGG	**Agios Georgios**	**87.31**	**342**		P		**P**	**21 05 42.4**	**-2.7**
AGG					pmax		pmax		
	comp=Z,502nm,1.1s								
AGG	**Agios Georgios**	**87.31**	**342**		P		**P**	**21 05 42.4**	**-2.7**
AKKU	**Akkuyu-Mersin**	**87.31**	**332**		*e*P		**P**	**21 05 45.5**	**+0.4**
PTO	**Porto**	**87.32**	**5**		*e*P		**P**	**21 05 43.6**	**-1.4**
	comp=Z,710nm,1.2s								
MVO	**Moncorvo**	**87.38**	**4**		*e*P		**P**	**21 05 44.0**	**-1.4**
	comp=Z,888nm,1.1s								
MVO	**Moncorvo**	**87.38**	**4**		*e*S		**S**	**21 16 12.5**	**-4.9**
MVO					*e*SS		**SS**	**21 22 11.1**	**+8.7**
MVO					*e*LQ		LQ	21 28 43.9	
MVO					*e*LR		LR	21 34 23.1	
	comp=Z,61µm,20.0s								
ANTB	**Antalya**	**87.42**	**335**		*e*P		**P**	**21 05 45.3**	**-0.3**
TEKE	**Tekeli-Mersin**	**87.46**	**333**		*e*P		**P**	**21 05 43.6**	**-2.2**
GCAM	**G?zelcaml?**	**87.52**	**338**		*e*P		**P**	**21 05 47.7**	**+1.6**
GAZI	**Gazipasa**	**87.59**	**333**		*e*P		**P**	**21 05 46.8**	**+0.3**
SHME	**Shamm**	**87.64**	**311**		*i*P		**P**	**21 05 45.6**	**-1.3**
	SNR=52								
SHME	**Shamm**	**87.64**	**311**		*i*P		**P**	**21 05 45.6**	**-1.3**
	SNR=52								
BANOM	**Banah**	**87.68**	**310**		*i*P		**P**	**21 05 46.1**	**-0.9**
	SNR=75								
BANOM	**Banah**	**87.68**	**310**		*i*P		**P**	**21 05 46.1**	**-0.9**
	SNR=75								
BANOM	**Banah**	**87.68**	**310**		P		**P**	**21 05 47.0**	**-0.1**
	SNR=122								
EREN	**Erenkoy**	**87.72**	**332**		*e*P		**P**	**21 05 45.8**	**-1.3**
ELL	**Elmali**	**87.76**	**335**		*e*P		**P**	**21 05 48.6**	**+1.2**
ELL	**Elmali**	**87.76**	**335**		P		**P**	**21 05 45.7**	**-1.7**
ELL					pmax		pmax		
	comp=Z,5µm,1.3s								
ELL	**Elmali**	**87.76**	**335**		P		**P**	**21 05 45.7**	**-1.7**
ELL					IAmb		IAmb	21 06 50.5	
	comp=Z,5µm,1.3s								
PVIS	**Viseu**	**87.78**	**5**		*e*P		**P**	**21 05 45.6**	**-1.8**
	comp=Z,1µm,1.4s								
YER	**Yerkesik**	**87.81**	**337**		*e*P		**P**	**21 05 49.2**	**+1.7**
XMIS	**Christmas Isla**	**87.85**	**250**		P		**P**	**21 05 47.5**	**-0.3**
TURN	**Turunc**	**87.97**	**336**		*e*P		**P**	**21 05 47.6**	**-0.6**
BANI	**BANI**	**88.07**	**62**		P		**P**	**21 05 46.9**	**-2.2**
FETY	**Fethiye**	**88.08**	**336**		*e*P		**P**	**21 05 50.2**	**+1.4**
BODT	**Bodrum**	**88.11**	**337**		*e*P		**P**	**21 05 49.6**	**+0.7**
TIP	**Timpagrande**	**88.12**	**346**		P		**P**	**21 05 47.2**	**-1.8**
LFK	**Lefkose**	**88.14**	**332**		*e*P		**P**	**21 05 50.5**	**+1.4**
MDH	**Madha**	**88.21**	**310**		*i*P		**P**	**21 05 47.0**	**-2.6**
	SNR=33								
MDH	**Madha**	**88.21**	**310**		*i*P		**P**	**21 05 47.0**	**-2.6**
	SNR=33								
MDH	**Madha**	**88.21**	**310**		P		**P**	**21 05 48.1**	**-1.4**
	SNR=114								
MSFE	**Esma-Masafi**	**88.22**	**310**		*i*P		**P**	**21 05 48.1**	**-1.5**
	SNR=37								
MSFE	**Esma-Masafi**	**88.22**	**310**		*i*P		**P**	**21 05 48.1**	**-1.5**
	SNR=37								
COI	**Coimbra**	**88.26**	**5**		P		**P**	**21 05 47.6**	**-1.9**
COI					pmax		pmax		
	comp=Z,1µm,1.1s								
COI	**Coimbra**	**88.26**	**5**		*e*P		**P**	**21 05 48.1**	**-1.4**
	comp=Z,2µm,1.7s								
COI	**Coimbra**	**88.26**	**5**		*e*S		**S**	**21 16 18.7**	**-6.9**
COI					*e*SS		**SS**	**21 22 18.5**	**+3.5**
COI	**Coimbra**	**88.26**	**5**		P		**P**	**21 05 47.6**	**-1.9**
DR12	**Loma Pena Alta**	**88.28**	**62**		P		**P**	**21 05 49.1**	**-1.0**
UMQ	**Umm Al-Quwin**	**88.32**	**311**		*i*P		**P**	**21 05 49.9**	**-0.2**
	SNR=24								
UMQ	**Umm Al-Quwin**	**88.32**	**311**		*i*P		**P**	**21 05 49.9**	**-0.2**
	SNR=24								
UMQ	**Umm Al-Quwin**	**88.32**	**311**		P		**P**	**21 05 51.7**	**+1.7**
	SNR=19								
AKAS	**Kas**	**88.33**	**335**		*e*P		**P**	**21 05 51.4**	**+1.3**
PSET	**Sete Cidades**	**88.33**	**19**		*e*P		**P**	**21 05 49.4**	**-0.6**
	comp=Z,2µm,1.8s								
UCM	**Universidad Co**	**88.35**	**1**		*e*P		P	21 05 56.1	+6.1
UCM					SKS		**SKSac**	**21 16 08.8**	**-0.6**
DAT	**Datca**	**88.36**	**337**		*e*P		**P**	**21 05 50.5**	**+0.3**
PCAS	**Casmilo, Conde**	**88.41**	**5**		*e*P		P	21 05 44.5	-5.8
	comp=Z,1µm,1.4s								
PCAS	**Casmilo, Conde**	**88.41**	**5**		*e*S		**S**	**21 16 25.7**	**-1.3**
PCAS					*e*SS		**SS**	**21 22 20.1**	**+2.8**
PDA	**Ponta Delgada**	**88.42**	**19**		*e*P		**P**	**21 05 50.5**	**+0.2**
	comp=Z,1µm,1.4s								
GRON	**Grota Negra**	**88.42**	**19**		*e*P		**P**	**21 05 50.2**	**-0.2**
	comp=Z,218nm,1.3s								
CMLA	**Cha da Macela**	**88.43**	**19**		*e*P		**P**	**21 05 50.1**	**-0.3**
	comp=Z,873nm,1.2s								
CMLA	**Cha da Macela**	**88.43**	**19**		P		**P**	**21 05 49.5**	**-0.9**
CMLA					pmax		pmax		
	comp=Z,752nm,1.2s								
CMLA	**Cha da Macela**	**88.43**	**19**		P		**P**	**21 05 49.5**	**-0.9**
LEF	**Lefka**	**88.48**	**333**		*e*P		**P**	**21 05 49.6**	**-1.0**
BART	**Pico Bartolome**	**88.49**	**19**		*e*P		**P**	**21 05 50.5**	**-0.3**
	comp=Z,695nm,1.5s								
CSS	**Mathiatis**	**88.50**	**332**		P		**P**	**21 05 48.8**	**-1.9**
CSS					IAmb		IAmb	21 06 14.9	
	comp=Z,1µm,0.8s								
UOSS	**Minazif**	**88.55**	**310**		*i*P		**P**	**21 05 49.3**	**-1.9**
	SNR=109								
UOSS	**Minazif**	**88.55**	**310**		*i*P		**P**	**21 05 49.3**	**-1.9**
	SNR=109								
UOSS	**Minazif**	**88.55**	**310**		P		**P**	**21 05 49.2**	**-1.9**
UOSS					IAmb		IAmb	21 06 17.8	
	comp=Z,3µm,1.7s								
MAHO	**Mahon**	**88.65**	**356**		*e*P		**P**	**21 05 52.2**	**+0.8**
MAHO					SKS		**SKSac**	**21 16 14.0**	**+2.9**
PTCN	**Pitcairn Islan**	**88.67**	**135**		P		**P**	**21 05 50.9**	**-0.5**
PCBR	**Castelo Branco**	**88.68**	**5**		*e*P		**P**	**21 05 49.4**	**-2.1**
	comp=Z,915nm,1.8s								
HATD	**Hatta, Dubai**	**88.69**	**310**		*i*P		**P**	**21 05 49.6**	**-2.2**
	SNR=85								
HATD	**Hatta, Dubai**	**88.69**	**310**		*i*P		**P**	**21 05 49.6**	**-2.2**
	SNR=85								
HATD	**Hatta, Dubai**	**88.69**	**310**		P		**P**	**21 05 50.7**	**-1.1**
	SNR=117								
VSL	**Villasalto**	**88.69**	**352**		P		**P**	**21 05 50.0**	**-1.6**
NAZ	**Nazwa, Dubai**	**88.77**	**310**		*i*P		**P**	**21 05 50.4**	**-1.9**
	SNR=53								
NAZ	**Nazwa, Dubai**	**88.77**	**310**		*i*P		**P**	**21 05 50.4**	**-1.9**
	SNR=53								
NAZ	**Nazwa, Dubai**	**88.77**	**310**		P		**P**	**21 05 51.0**	**-1.2**
	SNR=76								
BHL	**Bhannes**	**88.78**	**330**		*e*P		**P**	**21 05 50.9**	**-1.3**
WSAR	**Wadi Sarin**	**88.81**	**307**		S		**SKSac**	**21 16 14.3**	**+1.7**
	comp=Z,18nm,1.0s,baz=26,slow=23,SNR=1.2								
WSAR					LR		LR	21 47 05.0	
	comp=Z,53µm,20.0s,baz=94,slow=36								
WSAR	**Wadi Sarin**	**88.81**	**307**		P		**P**	**21 05 52.6**	**+0.2**
	SNR=47								
BIDO	**Bidbid**	**88.82**	**308**		P		**P**	**21 05 53.0**	**+0.5**
	SNR=38								
ASHO	**Ashiyiah**	**88.84**	**310**		*i*P		**P**	**21 05 52.0**	**-0.6**
	SNR=84								
ASHO	**Ashiyiah**	**88.84**	**310**		*i*P		**P**	**21 05 52.0**	**-0.6**
	SNR=84								
ASHO	**Ashiyiah**	**88.84**	**310**		P		**P**	**21 05 52.0**	**-0.6**
	SNR=100								
MBWA	**Marble Bar**	**88.91**	**233**		P		**P**	**21 05 51.6**	**-1.0**
MBWA					IAmb		IAmb	21 06 20.1	
	comp=Z,2µm,1.1s								
PSBE	**So Bento**	**88.93**	**6**		*e*P		**P**	**21 05 51.0**	**-1.7**
	comp=Z,1µm,2.0s								
PSBE	**So Bento**	**88.93**	**6**		*e*S		**S**	**21 16 34.7**	**+2.7**
PSBE					*e*SS		**SS**	**21 22 28.3**	**+3.5**
ESBB	**Sonseca Array**	**88.97**	**2**		P		**P**	**21 05 50.8**	**-2.2**
ESDC	**Sonseca Array**	**88.97**	**2**		P		**P**	**21 05 51.2**	**-1.8**
	comp=Z,28nm,0.8s,baz=352,slow=4.1,SNR=212								
ESDC					PP		**PP**	**21 09 21.6**	**-1.2**
	comp=Z,66nm,1.1s,baz=356,slow=6.8,SNR=2.8								
ESDC					S		**SKSac**	**21 16 15.4**	**+2.2**
	comp=Z,4.3nm,1.1s,baz=184,slow=4.6,SNR=1.2								
ESDC					PKPPKP		**P'P'df**	**21 31 37.2**	**-3.9**
	comp=Z,5.7nm,0.9s,baz=209,slow=0.9,SNR=5.8								
ESDC					LR		LR	21 48 42.3	
	comp=Z,51µm,18.5s,baz=345,slow=38								
DQRL	**Deir Qamar**	**88.99**	**330**		*e*P		**P**	**21 05 51.6**	**-1.6**
FAQ	**Al Faqa, Dubai**	**89.01**	**310**		*i*P		**P**	**21 05 52.1**	**-1.3**
	SNR=11								
FAQ	**Al Faqa, Dubai**	**89.01**	**310**		*i*P		**P**	**21 05 52.1**	**-1.3**
	SNR=11								
FAQ	**Al Faqa, Dubai**	**89.01**	**310**		P		**P**	**21 05 52.3**	**-1.1**
	SNR=25								
PCDR	**Punta Cana, DR**	**89.05**	**61**		P		**P**	**21 05 52.3**	**-1.3**
PCDR					IAmb		IAmb	21 06 08.9	
	comp=Z,4µm,1.2s								
SOHO	**SOHO**	**89.08**	**309**		*i*P		**P**	**21 05 52.5**	**-1.2**
	SNR=84								
SOHO	**SOHO**	**89.08**	**309**		*i*P		**P**	**21 05 52.5**	**-1.2**
	SNR=84								
PAB	**San Pablo**	**89.09**	**2**		P		**P**	**21 05 51.3**	**-2.3**
PAB					pmax		pmax		
	comp=Z,307nm,1.2s								
PAB	**San Pablo**	**89.09**	**2**		P		**P**	**21 05 51.3**	**-2.3**
PMRV	**Marv??o**	**89.09**	**5**		*e*P		**P**	**21 05 51.6**	**-1.9**
	comp=Z,1µm,1.6s								
PMRV	**Marv??o**	**89.09**	**5**		*e*PP		PP	21 09 47.4	+24
PMRV					*e*S		**S**	**21 16 34.6**	**+1.1**
PMRV					*e*SS		**SS**	**21 22 27.9**	**+0.7**
PMRV					*e*LQ		LQ	21 29 45.5	
PMRV					*e*LR		LR	21 35 01.7	
	comp=Z,85µm,20.0s								
RCY	**Rachaya**	**89.10**	**330**		*e*P		**P**	**21 05 52.5**	**-1.3**
QRWL	**Qaraoun**	**89.10**	**330**		*e*P		**P**	**21 05 52.0**	**-1.7**
PSAD1	**Pilbara Seismi**	**89.11**	**233**		P		**P**	**21 05 52.8**	**-0.8**
PSAD1					IAmb		IAmb	21 06 21.0	
	comp=Z,1µm,0.9s								
CEL	**Celeste**	**89.15**	**346**		P		**P**	**21 05 51.0**	**-2.9**
PSAC2	**Pilbara Seismi**	**89.17**	**233**		P		**P**	**21 05 52.9**	**-1.0**
PSAC2					IAmb		IAmb	21 06 21.3	
	comp=Z,2µm,0.9s								
WBK	**Wadi Bani Khal**	**89.17**	**307**		P		**P**	**21 05 54.0**	**-0.1**
	SNR=9.8								
HOQ	**Hoqain**	**89.17**	**308**		P		**P**	**21 05 53.2**	**-0.9**
	SNR=51								
ITM	**Ithomi**	**89.17**	**342**		P		**P**	**21 05 51.3**	**-2.6**
PSAB2	**Pilbara Seismi**	**89.18**	**233**		P		**P**	**21 05 52.9**	**-1.0**
PSAB2					IAmb		IAmb	21 06 20.8	
	comp=Z,1µm,0.9s								
PSAD2	**Pilbara Seismi**	**89.18**	**233**		P		**P**	**21 05 53.0**	**-0.9**
PSAD2					IAmb		IAmb	21 06 21.3	
	comp=Z,1µm,0.9s								
PSAC1	**Pilbara Seismi**	**89.19**	**233**		P		**P**	**21 05 53.0**	**-1.0**
PSAC1					IAmb		IAmb	21 06 21.4	
	comp=Z,1µm,0.9s								
PSAA2	**Pilbara Seismi**	**89.19**	**233**		P		**P**	**21 05 53.0**	**-1.0**
PSAA2					IAmb		IAmb	21 06 21.4	
	comp=Z,1µm,0.9s								
PSA00	**Pilbara Seismi**	**89.20**	**233**		P		**P**	**21 05 53.1**	**-1.0**
PSA00					IAmb		IAmb	21 06 21.4	
	comp=Z,1µm,0.9s								
PSA00	**Pilbara Seismi**	**89.20**	**233**		P		**P**	**21 05 53.1**	**-1.0**
PSAA3	**Pilbara Seismi**	**89.20**	**233**		P		**P**	**21 05 53.1**	**-0.9**
PSAA3					IAmb		IAmb	21 06 20.9	
	comp=Z,1µm,0.9s								
SANT	**Santorini**	**89.20**	**339**		P		**P**	**21 05 51.2**	**-2.9**
PSAA1	**Pilbara Seismi**	**89.21**	**233**		P		**P**	**21 05 53.1**	**-1.0**
PSAB1	**Pilbara Seismi**	**89.21**	**233**		P		**P**	**21 05 53.1**	**-1.0**
PSAB3	**Pilbara Seismi**	**89.21**	**233**		P		**P**	**21 05 53.2**	**-0.9**
PSAB3					IAmb		IAmb	21 06 21.5	
	comp=Z,1µm,0.9s								
SMDO	**Samad**	**89.25**	**308**		P		**P**	**21 05 55.0**	**+0.4**
	SNR=43								
PSAC3	**Pilbara Seismi**	**89.25**	**233**		P		**P**	**21 05 53.3**	**-1.0**
PSAC3					IAmb		IAmb	21 06 21.1	
	comp=Z,1µm,1.0s								
PSMA	**Santa Maria**	**89.25

SJG San Juan 90.58 59 *e*P **P 21 06 00.2 -0.5**
SJG San Juan 90.58 59 P **P 21 05 59.0 -1.7**
SJG pmax pmax
comp=Z,4µm,1.9s
SJG San Juan 90.58 59 P **P 21 05 59.0 -1.7**
SJG IAmb IAmb 21 06 28.3
comp=Z,4µm,1.9s
CBYP Canovanas 90.61 59 P **P 21 05 59.0 -1.9**
MESJ Messejana 90.63 5 *e*P **P 21 05 58.5 -2.1**
MESJ AMb AMB 21 06 31.5
comp=Z,412nm,1.9s
MESJ *e*SKSac **SKSac 21 16 20.1 -2.6**
MESJ Messejana 90.63 5 *e*P **P 21 05 58.5 -2.1**
MESJ *e* 21 16 20.1
MESJ Messejana 90.63 5 *e*P **P 21 05 58.7 -2.0**
comp=Z,412nm,1.8s
MESJ Messejana 90.63 5 *e*PP PP 21 09 50.6 +15
HUMP Col San Antoni 90.72 59 P **P 21 05 59.6 -1.7**
IGPR InterUniversit 90.73 59 P **P 21 05 59.5 -1.9**
PDPR Patillas Dam, 90.73 59 P **P 21 05 59.8 -1.6**
AZU Azuero 90.75 77 *e*P **P 21 06 00.3 -1.2**
HORN Hornachuelos 90.76 3 P **P 21 05 59.4 -1.9**
SNR=35
PCVE Castro Verde 90.85 5 *e*P **P 21 06 00.0 -1.7**
comp=Z,919nm,1.6s
PCVE Castro Verde 90.85 5 *e*PP PP 21 09 52.6 +15
PCVE *e*S **S 21 16 52.4 +2.7**
PCVE *e*SS **SS 21 22 58.7 +6.1**
CUPR Culebra, Puert 90.89 59 P **P 21 06 00.4 -1.7**
PTEO Sao Teotonio 90.89 6 *e*P **P 21 05 59.7 -2.2**
comp=Z,1µm,1.7s
PTEO Sao Teotonio 90.89 6 *e*PP PP 21 09 37.5 -0.5
MTP Monte Pirata 90.92 59 P **P 21 06 00.8 -1.5**
MTP IAmb IAmb 21 06 29.8
comp=Z,2µm,0.9s
STVI Saint Thomas 91.02 58 P **P 21 06 01.2 -1.6**
STVI IAmb IAmb 21 06 30.2
comp=Z,5µm,1.8s
MHTO MHTO 91.03 307 P **P 21 06 03.0 +0.2**
SNR=44
CART Cartagena 91.08 360 *e*P P 21 06 08.0 +5.2
CART SKS **SKSac 21 16 21.6 -3.7**
CART Cartagena 91.08 360 P **P 21 06 00.4 -2.4**
PVAQ Vaqueiros 91.09 5 P **P 21 06 01.0 -1.8**
SNR=18
PVAQ Vaqueiros 91.09 5 *e*P **P 21 06 01.2 -1.6**
comp=Z,968nm,1.8s
PVAQ Vaqueiros 91.09 5 *e*PP PP 21 09 55.3 +16
PVAQ *e*S **S 21 16 45.4 -6.5**
PVAQ *e*SS **SS 21 23 04.5 +8.4**
PVAQ *e*LQ LQ 21 29 45.7
PVAQ *e*LR LR 21 36 11.9
comp=Z,83µm,20.0s
PVAQ Vaqueiros 91.09 5 P **P 21 06 00.8 -2.1**
PAYG Puerto Ayora 91.19 90 *e*P **P 21 06 03.4 -0.2**
PAYG Puerto Ayora 91.19 90 P **P 21 06 03.8 +0.2**
PAYG IAmb IAmb 21 06 32.8
comp=Z,2µm,1.1s
PBDV Barranco-do-Ve 91.24 5 *e*P **P 21 06 02.2 -1.4**
comp=Z,1µm,1.6s
PFVI Vila Bisbo 91.30 6 P **P 21 06 02.3 -1.4**
SNR=10
PFVI Vila Bisbo 91.30 6 *e*P **P 21 06 01.8 -2.0**
comp=Z,1µm,2.1s
PFVI Vila Bisbo 91.30 6 *e*PP PP 21 09 55.6 +14
PFVI *e*S **S 21 16 55.2 +1.4**
PFVI *e*SS **SS 21 23 02.0 +3.0**
PFVI Vila Bisbo 91.30 6 P **P 21 06 02.0 -1.8**
UPD2 Meteti 91.52 74 *e*P **P 21 06 07.0 +1.9**
CAEH 'Ain El Ouahch 91.60 353 P **P 21 06 08.2 +3.0**
CDVI St. Croix 91.62 58 P **P 21 06 03.7 -1.8**
CDVI IAmb IAmb 21 06 14.9
comp=Z,2µm,0.9s
CMAH Djebel Manchou 91.71 353 P **P 21 06 03.3 -2.5**
WDD Wied Dalam 91.72 347 P **P 21 06 03.9 -1.9**
GIBL Gibalbin 91.75 4 *e*P **P 21 06 04.4 -1.5**
CAPC Capurgana 91.84 74 *e*P **P 21 06 05.6 -1.0**
EMAL Malaga-Limoner 91.87 2 i/P P 21 06 13.9 +7.5
EMAL SKS **SKSac 21 16 29.9 +0.1**
DFRA Djebel Bou Aff 91.89 354 P **P 21 06 06.0 -0.7**
CKFL Kef-Lekhel 91.98 353 P **P 21 06 10.8 +3.7**
BFZ Birch Farm 92.03 182 P **P 21 06 07.1 +0.4**
ALJ Aljibe 92.06 3 *e*P **P 21 06 06.2 -1.1**
BBOO Buckleboo 92.08 215 P **P 21 06 06.9 -0.2**
SFS San Fernando 92.10 4 P **P 21 06 05.9 -1.6**
SFS pmax pmax
comp=Z,526nm,1.2s
SFS San Fernando 92.10 4 *e*P P 21 06 22.9 +15
SFS SKS **SKKSac 21 16 46.9 -1.4**
SFS San Fernando 92.10 4 P **P 21 06 05.9 -1.6**
REAL Reales 92.12 3 *e*P **P 21 06 06.7 -1.1**
SJCC San Jacinto, C 92.13 71 *e*P P 21 05 58.4 -10
CASM Ain Smara 92.14 354 P **P 21 06 09.0 +1.2**
CNIL Conil 92.20 4 *e*P **P 21 06 07.2 -0.7**
LCBC Los crdobas, 92.25 73 *e*P **P 21 06 08.1 -0.4**
SMRT St. Maarten 92.26 57 P **P 21 06 06.8 -1.8**
SET Setif 92.27 355 P **P 21 06 08.0 -0.4**
QRZ Quartz Range 92.31 185 P **P 21 06 07.4 -0.5**
CTEI Djebel Teioual 92.34 354 P **P 21 06 07.2 -1.6**
EBNR Beni Rached 92.34 358 P **P 21 06 12.5 +3.8**
KEST Kesra 92.43 351 P **P 21 06 07.5 -1.6**
comp=Z,106nm,0.9s,baz=288,slow=2.0,SNR=46
KEST PP **PP 21 09 56.0 +5.7**
comp=Z,98nm,1.1s,baz=339,slow=8.6,SNR=3.6
KEST S **SKSac 21 16 34.5 +1.3**
comp=Z,24nm,1.0s,baz=223,slow=5.5,SNR=1.4
KEST PKKPbc **PKKPbc 21 23 23.6 +3.6**
comp=Z,16nm,0.9s,baz=174,slow=9.2,SNR=2.7
KEST LR LR 21 50 33.6
comp=Z,63µm,20.2s,baz=334,slow=37
KEST Kesra 92.43 351 P **P 21 06 07.5 -1.6**
CKHR Kef el Ahmar 92.44 354 P **P 21 06 08.6 -0.7**
ECHA Ech Chlef 92.48 358 P P 21 06 15.2 +6.0
SABA Saba 92.53 57 P **P 21 06 08.1 -1.6**
SABA IAmb IAmb 21 07 03.3
comp=Z,1µm,1.2s
URIC Uribia, Colomb 92.54 68 *e*P **P 21 06 09.0 -0.8**
URIC Uribia, Colomb 92.54 68 P **P 21 06 08.8 -1.0**
OKGL Djebel Kef Gue 92.61 358 P **P 21 06 10.0 +0.1**
EANR 'Ain N'Sour 92.69 358 P **P 21 06 08.5 -1.8**
CEU Ceuta 92.70 3 *e*P **P 21 06 10.1 -0.1**
CEU SKS **SKSac 21 16 37.5 +3.0**
SNZO South Karori 92.70 183 P **P 21 06 09.5 -0.2**
ARGC Ariguani, Magd 92.71 71 *e*P **P 21 06 07.5 -3.2**
PTAC Punta Ardita, 92.75 75 *e*P **P 21 06 08.6 -2.2**
MSWZ Moikau Station 92.79 183 P **P 21 06 09.0 -1.2**
BHW Baring Head 92.79 183 P **P 21 06 09.1 -1.1**
TUWZ Tuamarina 92.84 184 P **P 21 06 08.9 -1.5**
EIL Elat 92.92 329 S **SKSac 21 16 37.5 +1.6**
comp=Z,20nm,1.0s,baz=264,slow=6.3,SNR=1.5
EIL PKKPbc PKKPbc 21 23 22.2 +3.6
comp=Z,14nm,0.7s,baz=266,slow=4.0,SNR=4.7
EIL LR LR 21 51 16.4
comp=Z,64µm,21.8s,baz=20,slow=38
GIRL Giralia 92.94 237 P **P 21 06 11.0 -0.3**
PLWZ Palliser 92.94 183 P **P 21 06 10.1 -0.8**
SKI Saint Kitts 93.03 57 P **P 21 06 09.7 -2.4**
SKI pmax pmax
comp=Z,563nm,0.9s
SKI Saint Kitts 93.03 57 P **P 21 06 09.7 -2.4**
OJBR Djebel Berber 93.07 359 P **P 21 06 11.0 -1.1**
BSWZ Blackbirch Sta 93.13 184 P **P 21 06 11.1 -0.6**
OJGS Djebel Guires 93.14 358 P **P 21 06 12.0 -0.4**
CMWZ Cape Campbell 93.15 183 P **P 21 06 11.5 -0.3**
THZ Tophouse 93.22 184 P **P 21 06 12.3 0.0**
ETRT Tiaret 93.25 358 P **P 21 06 11.7 -1.3**
ODJA Bouhanifia 93.33 359 P **P 21 06 13.0 -0.3**
FORT Forrest 93.36 222 P **P 21 06 12.9 -0.2**
MELI Melilla 93.36 1 *e*P **P 21 06 17.2 +4.0**
MELI SHS 21 16 33.0
PVLZ Peæn de 93.45 2 *e*P **P 21 06 12.1 -1.6**
PVLZ SKS **SKSac 21 16 38.3 -0.4**
TOO Toolangi 93.52 206 P **P 21 06 13.8 +0.1**
UREC San Jos de Ur 93.63 73 *e*P **P 21 06 17.2 +2.3**
RSA Sarsar 93.69 4 P **P 21 06 14.0 -1.0**
SNR=65
DBBC Dabeiba 93.81 74 *e*P **P 21 06 15.6 -0.2**
TAF Taforalt 93.84 1 P **P 21 06 15.0 -0.7**
SNR=17
DABV Dabajuro 93.95 67 *e*P **P 21 06 15.7 -0.7**
AKLM AKL 94.13 2 P **P 21 06 14.0 -3.0**
SNR=7.8
ZARC Zaragoza, Cauc 94.23 72 *e*P **P 21 06 15.5 -2.2**

ABD La Joyeuse, An 94.40 57 P **P 21 06 16.7 -1.6**
ABD IAmb IAmb 21 06 49.9
comp=Z,1µm,1.4s
OCAC Ocana 94.55 71 *e*P **P 21 06 16.8 -2.5**
PMPST Porto Santo, M 94.56 13 *e*P **P 21 06 19.6 +0.7**
comp=Z,637nm,1.7s
PMPST Porto Santo, M 94.56 13 *e*PP **PP 21 10 07.2 +0.3**
PMPST *e*S **S 21 17 28.7 +5.9**
PMPST *e*SS **SS 21 23 54.2 +8.3**
PMPS Porto Santo 94.58 13 *e*P **P 21 06 21.7 +2.7**
comp=Z,734nm,1.6s
PMPS Porto Santo 94.58 13 *e*PP **PP 21 10 07.5 +0.5**
RAYN Ar Rayn 94.58 318 P **P 21 06 18.7 -0.5**
RAYN pmax pmax
comp=Z,2µm,1.6s
RAYN Ar Rayn 94.58 318 P **P 21 06 18.7 -0.5**
RAYN IAmb IAmb 21 06 35.8
comp=Z,2µm,1.6s
PMOZ Porto Moniz, M 94.69 13 *e*P **P 21 06 19.3 -0.3**
comp=Z,702nm,1.6s
PMOZ Porto Moniz, M 94.69 13 *e*PP **PP 21 10 05.8 -2.2**
PMOZ *e*S SKSac 21 17 04.6 +19
PMOZ *e*SS **SS 21 23 57.5 +10**
PMOZ *e*LQ LQ 21 31 27.8
PMOZ *e*LR LR 21 37 58.1
comp=Z,54µm,18.0s
H05N1 Guadeloupe/Mar 94.76 56 P **P 21 06 23.1 +3.1**
SNR=19
PMAR Madeira 94.83 13 *e*P **P 21 06 23.8 +3.4**
comp=Z,817nm,1.4s
PMAR Madeira 94.83 13 *e*PP PP 21 10 17.1 +7.9
CBOC Ciudad Bolivar 94.84 74 *e*P **P 21 06 19.2 -1.4**
HELC Santa Helena 94.87 74 *e*P **P 21 06 19.8 -1.2**
FUL Funchal 94.91 13 *e*P **P 21 06 20.9 +0.5**
comp=Z,822nm,1.7s
FUL Funchal 94.91 13 *e*PP **PP 21 10 13.5 +4.0**
MAGL Barre de l'ile 94.95 57 P **P 21 06 18.9 -1.9**
IFR Ifrane 95.08 3 *e*P P 21 06 26.7 +5.2
IFR SKS **SKSac 21 16 46.6 -1.3**
ZHG ZHG 95.09 4 P **P 21 06 20.0 -1.4**
SNR=18
AVE Averroes 95.19 5 P **P 21 06 20.1 -1.7**
SNR=8.8
AVE Averroes 95.19 5 *e*P **P 21 06 25.0 +3.2**
AVE SKS **SKSac 21 16 46.5 -1.7**
BRRC Barranca, Sant 95.22 72 *e*P **P 21 06 20.2 -2.0**
PTBC PUERTO BERRIO, 95.23 73 *e*P **P 21 06 19.8 -2.5**
RPZ Rata Peaks 95.27 186 P **P 21 06 20.6 -0.9**
comp=Z,56nm,0.7s,baz=344,slow=13,SNR=4.4
RPZ S **SKSac 21 16 48.4 +1.1**
comp=Z,40nm,0.9s,baz=108,slow=12,SNR=1.1
RPZ LR LR 21 43 55.2
comp=Z,187µm,20.9s,baz=26,slow=32
RPZ Rata Peaks 95.27 186 P **P 21 06 21.6 +0.1**
PLMC San Jos del P 95.44 75 *e*P **P 21 06 22.3 -0.9**
MALC Bahia Malaga 95.51 76 *e*P **P 21 06 23.9 +0.4**
CZD Col de Zad 95.57 3 P **P 21 06 23.1 -0.8**
SNR=18
SDV Santo Domingo 95.59 68 P **P 21 06 23.0 -1.1**
comp=Z,34nm,0.3s,baz=330,slow=4.4,SNR=7.8
SDV PP **PP 21 10 22.6 +6.5**
comp=Z,75nm,0.5s,baz=330,slow=7.2,SNR=2.8
SDV Santo Domingo 95.59 68 P **P 21 06 21.7 -2.4**
SDV Santo Domingo 95.59 68 *e*P **P 21 06 23.3 -0.8**
SDV Santo Domingo 95.59 68 *e*P **P 21 06 23.3 -0.8**
TDRA Tendrara 95.62 1 P **P 21 06 23.0 -1.0**
SNR=19
PAMC Pamplona, Colo 95.63 71 *e*P **P 21 06 21.5 -3.1**
GUY2C Guyana, Caldas 95.74 74 *e*P **P 21 06 23.3 -1.8**
CNOCA NORCASIA, CALD 95.76 74 *e*P **P 21 06 24.1 -0.5**
NORC Norcasia 95.76 74 *e*P **P 21 06 23.9 -0.8**
MDT Midelt 95.80 3 P **P 21 06 23.0 -1.7**
comp=Z,18nm,0.8s,baz=22,slow=5.0,SNR=29
MDT PP **PP 21 10 21.9 +5.3**
comp=Z,76nm,1.1s,baz=354,slow=10,SNR=3.3
MDT S **SKSac 21 16 54.5 +3.0**
comp=Z,18nm,1.0s,baz=110,slow=5.7,SNR=2.3
MDT LR LR 21 53 51.2
comp=Z,30µm,18.4s,baz=8.0,slow=38
MDT Midelt 95.80 3 P **P 21 06 23.3 -1.4**
SNR=9.9
GR1C Gorgona, Isla 95.80 78 *e*P **P 21 06 26.1 +1.3**
BARC Barichara 95.94 72 *e*P **P 21 06 24.0 -1.7**
SOCV Socops 95.95 69 *e*P **P 21 06 23.7 -1.8**
LBZ Lake Benmore 95.99 186 P **P 21 06 24.0 -0.8**
SRHM Skhour des Reh 95.99 6 P **P 21 06 24.0 -1.5**
SNR=10
YOTC Yotoco, Valle 96.13 76 *e*P **P 21 06 25.1 -1.4**
SPBC San Pablo de B 96.17 73 *e*P **P 21 06 23.7 -2.9**
TOLC Tolima 96.27 75 *e*P **P 21 06 27.0 -0.4**
ANIL Santa Ana 96.30 75 *e*P **P 21 06 26.9 -0.5**
H05S1 Guadeloupe/Mar 96.45 57 P **P 21 06 28.8 +1.0**
SNR=20
RUSC La Rusia 96.56 72 *e*P **P 21 06 27.9 -0.9**
RUSC La Rusia 96.56 72 P **P 21 06 26.3 -2.6**
CROSA EL ROSAL, CUND 96.66 74 *e*P P 21 06 48.2 +19
ROSC El Rosal 96.67 74 P **P 21 06 28.6 -0.6**
comp=Z,40nm,0.9s,baz=120,slow=9.2,SNR=13
ROSC PP PP 21 10 39.4 +15
comp=Z,181nm,1.1s,baz=3.2,slow=6.4,SNR=3.6
ROSC S **SKSac 21 16 58.6 +1.5**
comp=Z,39nm,0.9s,baz=126,slow=19,SNR=1.7
ROSC El Rosal 96.67 74 *e*P **P 21 06 27.9 -1.3**
ROSC El Rosal 96.67 74 P **P 21 06 27.8 -1.4**
ORTC Ortega, Tolima 96.85 75 *e*P **P 21 06 27.8 -1.8**
TAMC Tame, Arauca 96.89 71 *e*P **P 21 06 25.3 -4.5**
GOLM Goulmima 96.89 3 P **P 21 06 29.0 -0.7**
SNR=14
CVER Cruz Verde, Cu 97.07 74 *e*P **P 21 06 30.7 -0.4**
BBAC Balboa, Cauca 97.13 78 *e*P **P 21 06 26.4 -4.8**
CHIC Chingaza 97.18 73 *e*P **P 21 06 29.8 -1.8**
SVB Belmont 97.20 58 P **P 21 06 28.6 -2.5**
SVB IAmb IAmb 21 06 56.9
comp=Z,464nm,0.8s
PRAC Prado 97.22 75 *e*P **P 21 06 29.6 -1.7**
OUK Oukameden 97.25 6 P **P 21 06 30.0 -1.6**
SNR=30
MORW Morawa 97.33 232 P **P 21 06 30.5 -0.8**
PCON Cinco Dias 97.41 77 *e*P **P 21 06 32.3 -0.5**
SOTA Rioblanco 97.43 77 *e*P **P 21 06 32.1 -0.7**
OUZM OUZ 97.61 5 P **P 21 06 31.0 -1.9**
SNR=15
VILC Villavicencio, 97.62 74 *e*P **P 21 06 31.7 -1.5**
CRUC La Cruz 97.67 78 *e*P Pdif 21 06 43.7 +10
CCUFI Cufio, Nario 97.70 78 *e*P Pdif 21 06 38.3 +4.3
GCUF Volcan Galeras 97.70 78 *e*P **P 21 06 33.4 -0.6**
BETC Betania 97.71 76 *e*P **P 21 06 32.7 -0.8**
ELOV Elorza 97.78 68 *e*P P 21 06 24.3 -9.4
CUSE Caicocha Este 97.78 80 *e*P **P 21 06 33.2 -1.1**
TZRR Tazzarine 97.78 4 P **P 21 06 32.0 -1.7**
SNR=14
TTIG Tnine Tigouga, 97.87 6 P **P 21 06 31.1 -3.0**
SNR=9.3
GARC Garzon, Huila 98.07 76 *e*P **P 21 06 34.5 -0.8**
ZGR Zagora 98.45 4 P **P 21 06 35.0 -1.7**
SNR=26
PTGC Puerto Gaitan, 98.48 72 *e*P Pdif 21 06 39.1 +2.2
CASC Dorado de Casc 98.56 79 *e*P **P 21 06 35.0 -2.4**
PUAC Puerto Asis, P 98.71 78 *e*P **P 21 06 36.3 -1.6**
MACC Macarena, Meta 99.09 75 *e*P **Pdif 21 06 35.7 -3.9**
TOSP Speyside 99.23 59 Pdif 21 06 38.6 -1.6
MACI Morro de la Ar 99.28 14 Pdif 21 06 38.0 -2.5
NWAO Narrogin (SRO) 99.96 229 PKKPbc PKKPbc 21 23 01.7 +1.1
comp=Z,18nm,0.6s,baz=187,slow=2.4,SNR=7.9
NWAO Narrogin (SRO) 99.96 229 P **Pdif 21 06 42.3 -0.6**
NWAO Narrogin (SRO) 99.96 229 Pdif **Pdif 21 06 42.3 -0.6**
ATAH Atahualpa 103.60 84 Pdiff **Pdif 21 07 00.7 +0.6**
comp=Z,10nm,0.9s,baz=327,slow=3.8,SNR=6.7
ATAH PP PP 21 11 29.9 +12
comp=Z,78nm,0.9s,baz=325,slow=12,SNR=3.8
ATD Arta Tunnel 106.36 315 *e*P **PKiKP 21 11 16.9 -5.9**
ATD *e*S SKSac 21 17 58.7 +16
ATD Arta Tunnel 106.36 315 *e*P **PKiKP 21 11 16.9 -5.9**
TEND Ethiopian Broa 106.94 316 *e*P **Pdif 21 07 16.4 +1.8**
NNA Nana 108.31 86 Pdiff **Pdif 21 07 22.5 +1.9**
comp=Z,4.0nm,0.3s,baz=231,slow=17,SNR=1.7
NNA PP **PP 21 11 58.5 +6.8**
comp=Z,37nm,0.6s,baz=308,slow=13,SNR=3.9
MDP Montagnes des 108.58 55 Pdiff **Pdif 21 07 20.7 -1.1**
comp=Z,18nm,1.0s,baz=28,slow=6.6,SNR=2.9
MDP PKiKP **PKiKP 21 11 26.1 -0.8**
comp=Z,24nm,1.0s,baz=308,slow=3.0,SNR=2.0
MDP PP **PP 21 11 57.7 +4.6**
comp=Z,90nm,1.0s,baz=330,slow=7.2,SNR=6.8

PTGA Pitinga 109.51 65 Pdiff **Pdif 21 07 25.1 -0.8**
comp=Z,3.8nm,0.7s,baz=2.5,slow=4.9,SNR=5.9
PTGA PP **PP 21 12 04.6 +4.5**
comp=Z,94nm,0.9s,baz=339,slow=10.0,SNR=5.7
PTGA Pitinga 109.51 65 Pdif **Pdif 21 07 24.2 -1.8**
AAE Adis Abeba 110.36 317 *e*P **PKiKP 21 11 34.0 +3.4**
AAE *e*S **SKSdf 21 18 24.9 -8.8**
AAE Adis Abeba 110.36 317 *e*P **PKiKP 21 11 34.0 +3.4**
AAE *e*S **SKSdf 21 18 24.9 -8.8**
FURI Furi 110.52 317 *e*P **PP 21 12 04.0 -3.4**
FURI *e*S SKKSac 21 19 14.8 +13
FURI Furi 110.52 317 *e*P **PP 21 12 04.0 -3.4**
FURI *e*S **Sdif 21 19 44.8 +6.6**
MALB Monte Alegre 113.59 60 *e*P **PKiKP 21 11 28.9 -7.4**
MALB Monte Alegre 113.59 60 *e*P **PKiKP 21 11 28.9 -7.4**
SAML Samuel 114.28 73 *e*P **Pdif 21 07 45.7 -1.4**
SAML Samuel 114.28 73 *e*P **PKiKP 21 11 39.9 +2.3**
SAML Samuel 114.28 73 *e*P **Pdif 21 07 45.7 -1.4**
SAML Samuel 114.28 73 *e*P **PKiKP 21 11 39.9 +2.3**
TORD Torodi Ar. Bea 115.37 357 Pdiff **Pdif 21 07 50.5 -1.6**
comp=Z,1.7nm,0.9s,baz=350,slow=3.6,SNR=5.0
TORD PKP **PKiKP 21 11 38.0 -1.7**
comp=Z,37nm,0.7s,baz=42,slow=1.9,SNR=27
TORD PP **PP 21 12 45.8 +4.9**
comp=Z,48nm,0.8s,baz=350,slow=5.9,SNR=3.6
TORD PKKPbc **PKKPbc 21 22 13.2 +1.5**
comp=Z,56nm,0.8s,baz=174,slow=2.1,SNR=10
TORD SKKP **SKKPdf 21 26 02.0 +2.1**
comp=Z,18nm,0.9s,baz=184,slow=2.3,SNR=2.1
TORD Torodi Ar. Bea 115.37 357 Pdif 21 07 49.8 -2.2
LODK Lodwar 116.84 318 *i* P **PKPdf 21 11 41.6 -1.1**
LPAZ La Paz 116.99 82 Pdiff **Pdif 21 07 58.9 -0.9**
comp=Z,0.7nm,0.5s,baz=223,slow=2.1,SNR=3.9
LPAZ PKP **PKPdf 21 11 42.5 -0.9**
comp=Z,13nm,0.9s,baz=354,slow=1.3,SNR=2.6
LPAZ PP **PP 21 12 59.9 +5.6**
comp=Z,138nm,1.0s,baz=289,slow=6.8,SNR=5.6
LPAZ PKKPbc **PKKPbc 21 22 07.8 +1.0**
comp=Z,11nm,1.0s,baz=83,slow=4.8,SNR=1.1
LPAZ La Paz 116.99 82 P **Pdif 21 07 58.7 -1.1**
LPAZ 21 11 41.8
LPAZ La Paz 116.99 82 Pdif 21 07 58.7 -1.1
LPAZ **PKPdf 21 11 41.8 -1.7**
LPAZ La Paz 116.99 82 *e*P **PKPdf 21 11 43.0 -0.5**
LPAZ La Paz 116.99 82 *e*P **PKPdf 21 11 43.0 -0.5**
AP01 Chacalluta 117.20 85 *e*P **PKiKP 21 11 48.9 +5.9**
AP01 Chacalluta 117.20 85 *e*P **PKiKP 21 11 46.1 +3.1**
NPGB Novo Progresso 117.29 65 *e*P **PKPdf 21 11 42.2 -1.2**
NPGB Novo Progresso 117.29 65 *e*P PKPpre 21 11 32.6
NPGB Novo Progresso 117.29 65 *e*P **PKPdf 21 11 42.2 -1.2**
NPGB Novo Progresso 117.29 65 *e*P PKPpre 21 11 32.6
PB12 IPOC Station P 117.39 86 *e*P **PKiKP 21 11 49.2 +5.7**
PB12 IPOC Station P 117.39 86 *e*P **PKPdf 21 11 42.8 -0.7**
PB12 IPOC Station P 117.39 86 PKPdf **PKPdf 21 11 42.3 -1.2**
MNMCX Minye Minye 118.24 85 *e*P **PKiKP 21 11 48.3 +2.9**
MNMCX Minye Minye 118.24 85 *e*P **PKPdf 21 11 44.5 -0.8**
PSGCX Pisagua 118.26 86 *e*P **PKiKP 21 11 47.4 +2.1**
PSGCX Pisagua 118.26 86 *e*P **PKPdf 21 11 44.9 -0.2**
PB11 IPOC Station P 118.67 86 *e*P **PKiKP 21 11 51.4 +5.3**
PB11 IPOC Station P 118.67 86 *e*P **PKPdf 21 11 46.0 -0.1**
TA02 Huaiquique 118.76 87 *e*P PKiKP 21 11 58.9 +13
TA02 Huaiquique 118.76 87 *e*P **PKiKP 21 11 50.8 +4.8**
TA01 Diego Aracena 118.95 87 *e*P **PKiKP 21 11 52.5 +6.2**
TA01 Diego Aracena 118.95 87 *e*P **PKiKP 21 11 52.5 +6.2**
VILB Vilhena 119.22 73 *e*P **PKPdf 21 11 46.5 -0.6**
VILB Vilhena 119.22 73 *e*P **PKPdf 21 11 46.9 -0.2**
VILB Vilhena 119.22 73 *e*P **PKPdf 21 11 46.5 -0.6**
VILB Vilhena 119.22 73 *e*P **PKPdf 21 11 46.9 -0.2**
PB08 IPOC Station P 119.27 86 *e*P **PKiKP 21 11 50.0 +2.4**
PB08 IPOC Station P 119.27 86 *e*P **PKPdf 21 11 47.2 -0.3**
PB08 IPOC Station P 119.27 86 PKPdf 21 11 45.9 -1.6
PRPB Parauapebas 119.60 59 *e*P **PKPdf 21 11 46.2 -1.7**
PRPB Parauapebas 119.60 59 *e*P **PKPdf 21 11 46.2 -1.7**
PB02 IPOC Station P 119.69 87 *e*P **PKiKP 21 11 51.3 +3.4**
PB02 IPOC Station P 119.69 87 *e*P **PKiKP 21 11 54.2 +6.3**
ROSB Rosrio 119.71 51 *e*P **PKPdf 21 11 46.8 -1.3**
ROSB Rosrio 119.71 51 *e*P **PKPdf 21 11 46.8 -1.3**
PB01 IPOC Station P 119.73 87 *e*P PKiKP 21 11 59.0 +11
PB01 IPOC Station P 119.73 87 *e*P **PKiKP 21 11 54.2 +6.2**
PB07 IPOC Station P 119.99 88 *e*P **PKiKP 21 11 52.6 +4.0**
PB07 IPOC Station P 119.99 88 *e*P **PKiKP 21 11 54.9 +6.2**
PB07 IPOC Station P 119.99 88 PKPdf **PKiKP 21 11 48.4 -0.1**
KMBO Kilima Mbogo 120.10 314 PKP **PKiKP 21 11 49.8 +0.6**
comp=Z,39nm,0.9s,baz=2.9,slow=2.8,SNR=2.3
KMBO PP **PP 21 13 19.1 +4.5**
comp=Z,162nm,1.1s,baz=20,slow=7.0,SNR=1.8
KMBO Kilima Mbogo 120.10 314 PKIKP **PKPdf 21 11 49.1 -0.1**
KMBO 21 13 19.1
KMBO Kilima Mbogo 120.10 314 PKPdf **PKPdf 21 11 49.1 -0.1**
CLDB Colider 120.15 68 *e*P **PKPdf 21 11 47.1 -1.8**
CLDB Colider 120.15 68 *e*P **PKPdf 21 11 46.7 -2.1**
CLDB Colider 120.15 68 *e*P **PKPdf 21 11 47.1 -1.8**
CLDB Colider 120.15 68 *e*P **PKPdf 21 11 46.7 -2.1**
PB04 IPOC Station P 120.28 88 *e*P **PKPdf 21 11 48.8 -0.3**
PB04 IPOC Station P 120.28 88 *e*P **PKiKP 21 11 55.6 +6.4**
PB03 IPOC Station P 120.31 88 *e*P **PKiKP 21 11 53.2 +4.0**
PB03 IPOC Station P 120.31 88 *e*P **PKiKP 21 11 55.5 +6.3**
PB09 IPOC Station P 120.44 87 *e*P **PKiKP 21 11 55.1 +5.6**
PB09 IPOC Station P 120.44 87 *e*P **PKiKP 21 11 52.2 +2.6**
PB05 IPOC Station P 120.63 89 *e*P **PKiKP 21 11 56.1 +6.4**
PB06 IPOC Station P 120.91 88 *e*P **PKiKP 21 11 56.7 +6.3**
PB06 IPOC Station P 120.91 88 PKPdf 21 11 49.2 -1.1
SIV San Ignacio 121.07 76 PKP **PKPdf 21 11 49.2 -1.4**
comp=Z,64nm,0.9s,baz=16,slow=1.0,SNR=15
SIV PP **PP 21 13 22.3 +0.6**
comp=Z,149nm,1.1s,baz=337,slow=6.1,SNR=3.6
LVC Limon Verde 121.25 87 PKP **PKPdf 21 11 49.2 -2.0**
comp=Z,7.0nm,0.6s,baz=264,slow=10,SNR=2.5
LVC PP **PP 21 13 26.8 +3.4**
comp=Z,40nm,0.8s,baz=339,slow=11,SNR=1.4
LVC PKKPbc **PKKPbc 21 21 52.0 +0.9**
comp=Z,12nm,1.1s,baz=176,slow=14,SNR=1.5
PB15 IPOC Station P 121.34 88 *e*P **PKiKP 21 11 57.5 +6.2**
PB15 IPOC Station P 121.34 88 PKPdf 21 11 50.1 -1.0
DBIC Dimbokro 121.78 4 PKP **PKPdf 21 11 51.0 -1.1**
comp=Z,109nm,0.9s,baz=3.4,slow=2.0,SNR=21
DBIC PP **PP 21 13 28.3 +3.1**
comp=Z,50nm,0.6s,baz=344,slow=9.8,SNR=0.8
DBIC PKKPbc **PKKPbc 21 21 50.6 +1.9**
comp=Z,24nm,0.8s,baz=170,slow=4.3,SNR=10
DBIC SKKP **SKKPdf 21 25 46.3 -1.7**
comp=Z,52nm,1.0s,baz=165,slow=6.6,SNR=3.5
DBIC Dimbokro 121.78 4 PKIKP **PKPdf 21 11 50.7 -1.4**
DBIC 21 13 28.3
DBIC Dimbokro 121.78 4 PKPdf **PKPdf 21 11 50.7 -1.4**
TIC Toumodi 121.80 4 *e*PKIKP **PKPdf 21 11 50.4 -1.8**
TIC Toumodi 121.80 4 *e*P **PKPbc 21 21 49.4 +0.7**
PTLB Pontes e Lacer 121.81 74 *e*P **PKPdf 21 11 50.7 -1.3**
PTLB Pontes e Lacer 121.81 74 *e*P **PKPdf 21 11 50.7 -1.3**
KIC Kosan Boka 122.09 4 *e*PKIKP **PKPdf 21 11 50.9 -1.8**
comp=Z,2µm,1.3s
KIC Kosan Boka 122.09 4 *e*P **PKKPbc 21 21 49.4 +1.9**
comp=Z,224nm,1.2s
LIC Lamto 122.22 4 *e*PKIKP **PKPdf 21 11 51.1 -1.8**
comp=Z,2µm,1.1s
LIC Lamto 122.22 4 *e*P **PKKPbc 21 21 48.0 +0.9**
comp=Z,473nm,1.2s
MBAR Mbarara 122.37 321 PKP **PKPdf 21 11 53.1 -0.3**
comp=Z,24nm,0.7s,baz=250,slow=1.9,SNR=17
MBAR PP PP 21 13 44.5 +15
comp=Z,49nm,1.0s,baz=32,slow=9.5,SNR=3.7
MBAR Mbarara 122.37 321 PKPdf 21 11 52.5 -0.9
GO02 Mina Guanaco 122.69 90 PKPdf 21 11 53.0 -0.8
H03N2 Juan Fernandez 122.77 104 PKP **PKPdf 21 11 52.4 -0.6**
baz=155,slow=16,SNR=16
H03N2 T T 23 26 57.3
baz=316,slow=77,SNR=91
AC01 Pan de Azucar 122.78 92 *e*P **PKPdf 21 11 47.9 -5.7**
AC01 Pan de Azucar 122.78 92 *e*P **PKPdf 21 11 52.8 -0.8**
H03N1 Juan Fernandez 122.78 104 PKP **PKPdf 21 11 51.9 -1.1**
baz=155,slow=16,SNR=17
H03N1 T T 23 27 04.7
baz=316,slow=77,SNR=60
H03N3 Juan Fernandez 122.79 104 PKP **PKPdf 21 11 51.9 -1.2**
baz=155,slow=16,SNR=12
H03N3 T T 23 26 56.8
baz=316,slow=77,SNR=103
VA04 Juan Fernndez 122.97 104 *e*P **PKiKP 21 11 59.3 +5.4**
SMTB Santa Maria do 123.04 58 *e*P **PKPdf 21 11 53.8 -0.6**

SMTB	Santa Maria do	123.04	58	*e*P		PKPdf	21 11 53.8	-0.6
AC04	Llanos de Chal	123.95	94	*e*P		PKPdf	21 11 53.0	-2.7
AC04	Llanos de Chal	123.95	94	*e*P		PKPdf	21 11 54.6	-1.1
GO03	Copiap	124.03	93			PKPdf	21 11 55.0	-1.0
AC02	Maricunga	124.18	91	*e*P		PKPdf	21 11 56.8	-0.2
AC02	Maricunga	124.18	91	*e*P		PKPdf	21 11 55.8	-1.1
AC02	Maricunga	124.18	91		PKPdf	PKPdf	21 11 56.7	-0.2
SALV	Santo Antonio	124.21	71	*e*P		PKPdf	21 11 55.5	-1.1
SALV	Santo Antonio	124.21	71	*e*P		PKPdf	21 11 55.5	-1.1
AC05	El Transito	124.89	94	*e*P		PKPdf	21 11 54.7	-3.0
AC05	El Transito	124.89	94	*e*P		PKPdf	21 11 57.4	-0.3
AC05	El Transito	124.89	94		PKPdf	PKPdf	21 11 56.4	-1.3
PEXB	Peixe	125.36	61	*e*P		PKPdf	21 11 57.9	-1.0
PEXB	Peixe	125.36	61	*e*P		PKPdf	21 11 57.9	-1.0
GO04	Tololo Observa	125.50	95			PKPdf	21 11 57.8	-1.2
GO04	Tololo Observa	125.50	95	*e*P		PKiKP	21 11 60.0	+0.6
CO01	Juntas del Tor	125.80	94			PKPdf	21 11 59.3	-0.3
RCBR	Riachuelo	126.08	44		PKiKP	PKPdf	21 11 59.4	-0.9
RCBR	Riachuelo	126.08	44		PKPdf	PKPdf	21 11 59.4	-0.9
CO02	Combarbal	126.09	96			PKPdf	21 11 59.2	-0.7
ARAG	Araguaiana, MT	126.31	67	*e*P		PKPdf	21 11 59.8	-0.8
ARAG	Araguaiana, MT	126.31	67	*e*P		PKPdf	21 11 59.8	-0.8
AROD	Rodeo	126.32	94	*e*P		PKiKP	21 12 02.5	+1.3
AGUA	GUANDACOL	126.45	93	*e*P		PKPdf	21 12 00.6	-0.1
ACDV	Cuesta del Vie	126.54	94	*e*P		PKPdf	21 12 00.8	-0.1
ACCO	Cerro Coronel	126.86	94	*e*P		PKPdf	21 12 01.3	-0.4
ROC1	El Roble	127.29	98			PKPdf	21 11 60.0	-2.4
ROC1	El Roble	127.29	98	*e*P		PKiKP	21 12 05.4	+2.5
ROCH	El Roble	127.29	98	*e*P		PKiKP	21 12 02.5	-0.4
ROCH				*e*P		PKiKP	21 12 01.5	-0.9
CYA	Choya	127.39	90	*e*P		PKPdf	21 12 01.8	-0.6
MT02	Curacav	127.41	98		PKPdf	PKPdf	21 12 01.7	-0.6
VA03	San Esteban	127.44	97	*e*P		PKiKP	21 12 04.6	+1.7
VA03	San Esteban	127.44	97			PKPdf	21 12 00.5	-1.9
RTLS	Leoncito	127.55	96	*e*P		PKPdf	21 11 59.5	-3.4
PEL	Peldehue	127.61	98	*e*P		PKPdf	21 12 01.6	-1.1
PEL	Peldehue	127.61	98		PKiKP	PKPdf	21 12 01.6	-1.1
PEL	Peldehue	127.61	98		PKPdf	PKPdf	21 12 01.6	-1.1
RTLL	Cerro Villicun	127.74	94	*e*P		PKiKP	21 12 04.8	+1.2
MT05	Renca	127.74	98		PKPdf	PKPdf	21 12 02.5	-0.4
AQDB	Aquidauana	127.76	74	*e*P		PKPdf	21 12 02.3	-1.0
AQDB	Aquidauana	127.76	74	*e*P		PKPdf	21 12 02.3	-1.0
ZON	Zonda	127.76	95		PKiKP	PKPdf	21 12 02.8	-0.2
ZON	Zonda	127.76	95		PKPdf	PKPdf	21 12 02.8	-0.2
AUSP	Uspallata	127.79	96	*e*P		PKPdf	21 12 02.8	-0.6
CLCH	Cerro Calan	127.87	98	*e*P		PKPdf	21 12 02.1	-1.1
CLCH	Cerro Calan	127.87	98	*e*P		PKPdf	21 12 03.2	0.0
RTCV	Cerro Valdivia	128.06	95	*e*P		PKPdf	21 12 02.6	-1.0
CFA	Coronel Fontan	128.08	95		SKKPbc	SKKPbc	21 25 10.3	+4.0
	comp=Z,44nm,0.9s,baz=89,slow=4.0,SNR=3.9							
CFA	Coronel Fontan	128.08	95	*e*P		PKPdf	21 12 03.4	-0.2
GO05	Huala	128.10	100			PKPdf	21 12 01.9	-1.6
C2SB	Chapadao do Su	128.14	70	*e*P		PKPdf	21 12 03.5	-0.5
C2SB	Chapadao do Su	128.14	70	*e*P		PKPdf	21 12 03.5	-0.5
APLL	PUNTA DE LOS L	128.31	92	*e*P		PKPdf	21 12 02.4	-1.8
BDFB	Brasilia	128.41	63	PKP		PKPdf	21 12 04.1	-0.7
	comp=Z,152nm,0.8s,baz=271,slow=1.2,SNR=55							
BDFB	Brasilia	128.41	63		PKPdf	PKPdf	21 12 03.7	-1.1
BI03	Tigo	128.64	103	*e*P		PKPdf	21 12 03.9	-0.6
BI03	Tigo	128.64	103			PKPdf	21 12 04.3	-0.2
BI04	Isla Mocha	129.13	105	*e*P		PKiKP	21 12 15.7	+10
VNDA	Vanda	129.38	185	PKP		PKiKP	21 12 05.0	-0.3
	comp=Z,38nm,1.0s,baz=338,slow=4.0,SNR=12							
VNDA				PP		PP	21 14 29.1	+13
	comp=Z,20nm,0.8s,baz=348,slow=8.8,SNR=1.1							
VNDA					SKKPbc	SKKPbc	21 25 10.1	+4.9
	comp=Z,85nm,1.3s,baz=232,slow=7.1,SNR=4.2							
BI02	San Fabin de	129.58	102	*e*P		PKPdf	21 12 05.3	-1.1
BI02	San Fabin de	129.58	102		PKPdf	PKPdf	21 12 06.0	-0.4
JANB	Januaria	129.95	59	*e*P		PKPdf	21 12 06.3	-1.4
JANB	Januaria	129.95	59	*e*P		PKPdf	21 12 06.3	-1.4
ABPO	Ambohimpanom	130.02	292		PKiKP	PKiKP	21 12 08.3	-0.3
ABPO	Ambohimpanom	130.02	292		PKPdf	PKiKP	21 12 08.3	-0.3
EDS3	Malargue	130.15	99	*e*P		PKPdf	21 12 05.8	-1.8
TCA	Tanti	130.16	92	*e*P		PKPdf	21 12 02.8	-4.8
IPMB	Ipameri, GO	130.18	65	*e*P		PKPdf	21 12 06.9	-1.1
IPMB	Ipameri, GO	130.18	65	*e*P		PKPdf	21 12 06.9	-1.1
MRA	San Martin	130.19	93	*e*P		PKPdf	21 12 03.4	-4.4
ITRB	Iturama	130.31	69	*e*P		PKPdf	21 12 07.3	-0.9
ITRB	Iturama	130.31	69	*e*P		PKPdf	21 12 07.3	-0.9
CPUP	Villa Florida	131.14	81	PKP		PKPdf	21 12 08.1	-1.3
	comp=Z,96nm,1.0s,baz=331,slow=2.4,SNR=20							
CPUP				PP		PP	21 14 38.9	+11
	comp=Z,77nm,1.1s,baz=336,slow=11,SNR=1.7							
CPUP					SKPbc	SKPab	21 15 25.7	+0.5
	comp=Z,845nm,1.1s,baz=341,slow=6.0,SNR=9.1							
CPUP	Villa Florida	131.14	81			PKPpre	21 11 57.0	
CPUP						PKPdf	21 12 08.2	-1.3
CPUP						SKPbc	21 15 24.8	+0.1
GDU01	Guandu, BA	131.27	53	*e*P		PKPdf	21 12 08.9	-1.2
GDU01	Guandu, BA	131.27	53	*e*P		PKPdf	21 12 08.9	-1.2
TRCB	Terra Rica	131.36	74	*e*P		PKPdf	21 12 05.9	-4.2
TRCB	Terra Rica	131.36	74	*e*P		PKPdf	21 12 05.9	-4.2
PLCA	Paso Flores	132.59	105	PKP		PKPdf	21 12 11.8	-0.1
	comp=Z,126nm,0.9s,baz=261,slow=2.1,SNR=24							
PLCA					SKPbc	SKPab	21 15 30.7	-0.4
	comp=Z,290nm,1.0s,baz=327,slow=5.1,SNR=5.3							
PLCA	Paso Flores	132.59	105	PKiKP		PKPdf	21 12 12.3	+0.3
PLCA	Paso Flores	132.59	105	PKPdf		PKPdf	21 12 12.3	+0.3
ZOMB	Zomba	133.44	307	*i* P		PKiKP	21 12 20.3	+4.8
ZOMB				S		SKiKP	21 15 39.3	-2.7
ZOMB	Zomba	133.44	307	*i* P		PKiKP	21 12 20.3	+4.8
ZOMB				S		SKiKP	21 15 39.3	-2.7
BSCB	Bom Sucesso	134.53	64	*e*P		PKPpre	21 11 57.7	
BSCB	Bom Sucesso	134.53	64	*e*P		PKPpre	21 11 57.7	
FOMA	Nahampoana Res	134.76	287			PKPdf	21 12 15.1	-1.3
VAO	Valinhos	134.85	68	*e*P		PKPpre	21 12 01.1	
VAO	Valinhos	134.85	68	*e*P		PKPpre	21 12 01.1	
H10N2	ASCENSION HYDR	134.94	19	PKP		PKPdf	21 12 12.6	-4.1
	baz=40,slow=2.2,SNR=27							
H10N3	ASCENSION HYDR	134.95	19	PKP		PKPdf	21 12 15.5	-1.2
	baz=40,slow=2.2,SNR=28							
H10N1	ASCENSION HYDR	134.96	19	PKP		PKPdf	21 12 16.3	-0.4
	baz=40,slow=2.2,SNR=45							
SPB	Sao Paulo	135.04	69	*e*P		PKPpre	21 12 09.7	
SPB	Sao Paulo	135.04	69	*e*P		PKPpre	21 12 09.7	
TIJ01	Guaruva-PR	135.43	72	*e*P		PKPpre	21 12 09.5	
TIJ01	Guaruva-PR	135.43	72	*e*P		PKPpre	21 12 07.0	
TIJ01	Guaruva-PR	135.43	72	*e*P		PKPpre	21 12 09.5	
TIJ01	Guaruva-PR	135.43	72	*e*P		PKPpre	21 12 07.0	
RIB01	Linhares ES	135.55	58	*e*P		PKPpre	21 12 03.1	
RIB01	Linhares ES	135.55	58	*e*P		PKPpre	21 12 03.1	
PET01	Itanhaem-SP	135.66	70	*e*P		PKPpre	21 12 10.5	
PET01	Itanhaem-SP	135.66	70	*e*P		PKPpre	21 11 57.2	
PET01	Itanhaem-SP	135.66	70	*e*P		PKPpre	21 12 10.5	
PET01	Itanhaem-SP	135.66	70	*e*P		PKPpre	21 11 57.2	
PARB	Paraibuna	135.89	67	*e*P		PKPpre	21 12 09.7	
PARB	Paraibuna	135.89	67	*e*P		PKPpre	21 12 04.8	
PARB	Paraibuna	135.89	67	*e*P		PKPpre	21 12 09.7	
PARB	Paraibuna	135.89	67	*e*P		PKPpre	21 12 04.8	
ESAR	Angra dos Reis	136.31	66	*e*P		PKPpre	21 12 11.2	
ESAR	Angra dos Reis	136.31	66	*e*P		PKPpre	21 12 11.2	
MAN01	Angra dos Reis	136.46	65	*e*P		PKPpre	21 12 05.8	
MAN01	Angra dos Reis	136.46	65	*e*P		PKPpre	21 12 05.8	
LSZ	Lusaka	136.67	316	PKhKP		PKPpre	21 12 11.7	
	comp=Z,12nm,0.7s,baz=47,slow=2.0,SNR=13							
LSZ				PKP		PKPdf	21 12 20.7	+0.3
	comp=Z,23nm,0.5s,baz=22,slow=3.3,SNR=10							
LSZ				PP		PP	21 15 08.0	+4.9
	comp=Z,120nm,1.0s,baz=9.8,slow=7.8,SNR=3.5							
LSZ					SKPbc	SKPbc	21 15 43.7	+0.2
	comp=Z,310nm,1.0s,baz=63,slow=3.5,SNR=6.0							
LSZ	Lusaka	136.67	316	*i* P		PKPpre	21 12 15.0	
LSZ	Lusaka	136.67	316	*i* P		PKPpre	21 12 15.0	
LSZ	Lusaka	136.67	316	*i* P		PKPpre	21 12 15.0	
LSZ	Lusaka	136.67	316			PKPpre	21 12 09.2	
CAM01	Campos-RJ	136.91	62	*e*P		PKPpre	21 12 11.0	
CAM01	Campos-RJ	136.91	62	*e*P		PKPpre	21 12 03.8	
CAM01	Campos-RJ	136.91	62	*e*P		PKPpre	21 12 11.0	
CAM01	Campos-RJ	136.91	62	*e*P		PKPpre	21 12 03.8	
KRI	Karoi	137.41	313	*i* P		PKPdf	21 12 17.9	-3.8
KRI	Karoi	137.41	313	*i* P		PKPdf	21 12 17.9	-3.8
KRI	Karoi	137.41	313	*i* P		PKPdf	21 12 17.9	-3.8
GO10	Punta Arenas	139.02	121			PKPpre	21 12 16.0	
BLWY	Bulawayo	140.76	312	*i* P		PKPpre	21 12 20.4	
BLWY	Bulawayo	140.76	312	*i* P		PKPpre	21 12 20.4	
BLWY	Bulawayo	140.76	312	*i* P		PKPpre	21 12 20.4	
MATP	Matopo	141.06	312	PKhKP		PKPpre	21 12 21.6	
	comp=Z,32nm,0.6s,baz=7.0,slow=3.3,SNR=38							
MATP				PP		PP	21 15 38.6	+8.4
	comp=Z,341nm,1.2s,baz=27,slow=8.0,SNR=4.2							
MATP	Matopo	141.06	312	*i* P		PKPpre	21 12 20.7	
MATP	Matopo	141.06	312	*i* P		PKPpre	21 12 20.7	
MATP	Matopo	141.06	312	*i* P		PKPpre	21 12 20.7	
USHA	Ushuaia	141.14	122	PKhKP		PKPpre	21 12 21.5	
	comp=Z,78nm,0.6s,baz=240,slow=20,SNR=13							
QSPA	South Pole Qui	141.46	180	PKhKP		PKPpre	21 12 22.3	
	comp=Z,88nm,0.8s,baz=186,slow=0.0,SNR=21							
QSPA					SKPbc	SKPbc	21 15 54.7	-0.2
	comp=Z,249nm,1.1s,baz=342,slow=3.2,SNR=1.5							
QSPA					SKKPbc	SKKPbc	21 24 23.6	+3.7
	comp=Z,144nm,1.0s,baz=235,slow=11,SNR=3.3							
TSUM	Tsumeb	144.31	328	PKP		PKPbc	21 12 32.8	+0.2
	comp=Z,230nm,0.9s,baz=359,slow=5.5,SNR=206							
TSUM	Tsumeb	144.31	328	*i* P		PKPab	21 12 32.4	+0.1
TSUM	Tsumeb	144.31	328	*i* P		PKPab	21 12 32.4	+0.1
TSUM	Tsumeb	144.31	328	*i* P		PKPab	21 12 32.4	+0.1
TSUM	Tsumeb	144.31	328	PKPdf		PKPab	21 12 31.5	-0.7
EFI	East Falkland	145.61	113	PKP2		PKPdf	21 12 33.8	-1.3
EFI	East Falkland	145.61	113	PKPdf		PKPdf	21 12 33.8	-1.3
MAW	Mawson	145.76	218	PKPbc		PKPbc	21 12 35.8	+0.3
	comp=Z,485nm,0.8s,baz=73,slow=4.1,SNR=60							
MAW	Mawson	145.76	218	PKP2		PKPdf	21 12 34.8	0.0
MAW	Mawson	145.76	218	PKPdf		PKPdf	21 12 34.8	0.0
PMSA	Palmer Station	146.06	137	PKPbc		PKPab	21 12 37.9	+0.6
	comp=Z,330nm,0.7s,baz=284,slow=3.1,SNR=26							
LBTB	Lobatse	146.35	312	*i* P		PKPdf	21 12 37.2	-0.1
LBTB	Lobatse	146.35	312	*i* P		PKPdf	21 12 37.2	-0.1
LBTB	Lobatse	146.35	312	*i* P		PKPdf	21 12 37.2	-0.1
LBTB	Lobatse	146.35	312	PKP2		PKPdf	21 12 37.0	-0.4
LBTB	Lobatse	146.35	312	PKPdf		PKPdf	21 12 37.0	-0.4
BOSA	Boshof	149.55	309	PKP		PKPdf	21 12 42.5	-0.1
	comp=Z,154nm,0.8s,baz=53,slow=1.7,SNR=28							
BOSA					PKPbc	PKPbc	21 12 47.4	+0.2
	comp=Z,255nm,0.6s,baz=41,slow=5.5,SNR=80							
BOSA	Boshof	149.55	309	*i* P		PKPdf	21 12 44.5	+1.9
BOSA	Boshof	149.55	309	*i* P		PKPdf	21 12 44.5	+1.9
BOSA	Boshof	149.55	309	*i* P		PKPdf	21 12 44.5	+1.9
BOSA	Boshof	149.55	309	PKPdf		PKPdf	21 12 41.7	-0.9
BOSA						PKPbc	21 12 46.9	-0.3
SUR	Sutherland	154.80	311	PKPdf		PKPdf	21 12 50.4	+0.1
NVL	N'lazarevskaya	159.94	193	*e*PKIKP		PKPdf	21 13 00.1	+4.8
NVL				*e*			21 17 21.5	
NVL				*e*PPP		PPP	21 21 08.7	
NVL				pmax		pmax		
	comp=Z,822nm,1.2s							
SNAA	Sanae	159.95	179	PKPdf		PKPdf	21 12 54.3	-1.1
SNAA	Sanae	159.95	179	PKP		PKPdf	21 12 55.0	-0.4
	comp=Z,48nm,0.9s,baz=298,slow=1.0,SNR=8.7							
VNA3	Neumayer Olymp	160.03	172	PKPdf		PKPdf	21 12 54.0	-1.5
VNA2	Neumayer--Watz	160.51	174	PKPdf		PKPdf	21 12 54.7	-1.2
VNA1	Neumayer--Stat	160.72	173	PKPdf		PKPdf	21 12 56.8	+0.7

BJI **23** *20:59:05.1±0.0,30.°14S×176.°38W,h7km,mb5.2/4*
IDC **23** *20:59:11.6±0.7,29.°95S×177.°07W,h0km,mb5.4/7,*
mb1 5.3/9,mb1mx5.1/45,mbtmp5.3/9,ML4.0/2,MS6.7/1,
Ms1 6.6/1,ms1mx5.4/46,Error ellipse: s-maj=27.4km
s-min=14.6km az=63.0
NEIC **23** *20:59:13.4±1.8,29.°99S±0.°07×177.°2W±0.°1,h10km±1km,*
mb5.1/27,Error ellipse: s-maj=19.0km s-min=9.8km
az=68.0

ISC 23 20:59:14.4±0.4,**30.°24S**±0.°04×**177.°23W**±0.°08,**h24km**,
n188,σ**2**^{s}**51**/169,**mb5.4**/14,**1C-2D,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.15	328	P		P	Pb	20 59 35.3	-0.2
GLKZ				S		S	Sn	20 59 47.1	-2.8
RAO	Raoul Island	1.16	329	Pn		Pn	Pn	20 59 34.0	-1.1
	5μm,0.3s,baz=173,slow=3.0,SNR=54								
RAO				S		Sn	Sn	20 59 47.7	-2.4
	12μm,0.3s,baz=45,slow=19,SNR=12								
RAO				LR		LR		20 59 59.5	
	comp=Z,54μm,18.4s,baz=66,slow=47								
RAO	Raoul Island	1.16	329				Pn	20 59 33.5	-1.6
RIZ	Raoul Island	1.17	328	P			Pn	20 59 34.8	-0.4
RIZ				S			Sn	20 59 49.5	-0.9
MXZ	Matakaoa Point	8.19	206	P			Pn	21 01 09.2	-2.4
MXZ				S			Sn	21 02 43.1	-0.3
MXZ	Matakaoa Point	8.19	206				Pn	21 01 07.4	-4.3
WMGZ	Waiomatatini S	8.38	204	P			Pn	21 01 11.9	-2.3
WMGZ				S			Sn	21 02 46.8	-1.3
HAZ	Te Kaha	8.56	208	P			Pn	21 01 13.8	-2.9
HAZ				S			Sn	21 02 54.4	+1.9
PKGZ	Pakihiroa	8.56	206	P			Pn	21 01 13.7	-3.2
PKGZ				S			Sn	21 02 48.5	-4.2
PUZ	Puketiti	8.66	204	P			Pn	21 01 14.7	-3.5
PUZ				S			Sn	21 02 52.4	-2.6
KUZ	Kuaotunu	8.76	220	P			Pn	21 01 25.5	+6.0
RUGZ	Raukumara Rang	8.78	207	P			Pn	21 01 16.8	-3.1
RUGZ				S			Sn	21 02 54.5	-3.7
CNGZ	Carnagh Statio	9.04	203	P			Pn	21 01 20.4	-3.0
WCZ	Waipu Caves	9.07	229	P			Pn	21 01 34.1	+10
TKGZ	Te Karaka	9.13	205	P			Pn	21 01 23.2	-1.4
TKGZ				S			Sn	21 03 02.8	-3.8
MWZ	Matawai	9.16	207	P			Pn	21 01 21.1	-3.9
MWZ				S			Sn	21 03 04.6	-2.8
OUZ	Omahuta	9.18	235	P			Pn	21 01 32.4	+7.0
OUZ	Omahuta	9.18	235	P			Pn	21 01 32.2	+6.9
OUZ	Omahuta	9.18	235	Pn			Pn	21 01 29.0	+3.7
URZ	Urewera	9.27	209	P			Pn	21 01 24.6	-1.8
URZ				S			Sn	21 03 08.1	-1.8
RIGZ	Rimuhau	9.40	205	P			Pn	21 01 25.7	-2.6
TARZ	Mount Tarawera	9.51	211	P			Pn	21 01 34.8	+4.9
PRGZ	Paritu Road	9.55	204	P			Pn	21 01 26.3	-4.1
MUGZ	Murupara	9.59	210	P			Pn	21 01 26.5	-4.4
RTZ	Ruatahuna	9.62	208	P			Pn	21 01 27.9	-3.5
SNGZ	Shannon Statio	9.62	206	P			Pn	21 01 29.2	-2.2
MHGZ	Mahia Peninsul	9.75	203	P			Pn	21 01 30.4	-2.7
RAHZ	Arahi	9.84	207	P			Pn	21 01 33.0	-1.3
WHHZ	Waihua	9.92	206	P			Pn	21 01 35.8	+0.4
TLZ	Tolley Road	10.04	215	P			Pn	21 01 41.2	+4.1
MRHZ	Matea Rd	10.04	210	P			Pn	21 01 35.4	-1.7
BKZ	Black Stump Fm	10.29	208	P			Pn	21 01 37.9	-2.7
BKZ	Black Stump Fm	10.29	208				Pn	21 01 36.4	-4.1
KAHZ	Kahuranaki	10.68	205	P			Pn	21 01 40.7	-5.2
TUVZ	Tuhua	10.73	211	P			Pn	21 01 47.6	+0.9
BHHZ	Black Hill Sta	10.74	209	P			Pn	21 01 44.3	-2.4
FWVZ	Far West T-bar	10.77	211	P			Pn	21 01 46.3	-0.9
MOVZ	Moawhango	10.80	210	P			Pn	21 01 48.4	+0.8
PXZ	Pawanui	10.89	205	P			Pn	21 01 47.6	-1.1
VRZ	Vera Road	11.04	214	P			Pn	21 01 54.7	+3.9
PNHZ	Pukenui	11.04	207	P			Pn	21 01 47.8	-3.1
TSZ	Takapari Road	11.26	208	P			Pn	21 01 51.6	-2.2
DVHZ	Dannevirke	11.39	206	P			Pn	21 01 56.5	+1.0
BFZ	Birch Farm	11.69	205	P			Pn	21 01 54.6	-5.1
BFZ	Birch Farm	11.69	205				Pn	21 01 53.4	-6.3
TIWZ	Tintock	11.91	206	P			Pn	21 01 59.3	-3.4
MRZ	Mangatainoka R	11.93	207	P			Pn	21 01 56.8	-6.1
HOWZ	Holdsworth Sta	12.16	207	P			Pn	21 02 00.8	-5.2
TMWZ	Te Maipa	12.19	205	P			Pn	21 02 01.5	-5.1
OGWZ	Otaki Gorge	12.23	208	P			Pn	21 02 02.6	-4.4
KIW	Kapiti Island	12.37	209	P			Pn	21 02 03.7	-5.3
CAW	Cannon Point	12.51	208	P			Pn	21 02 11.6	+0.7
MSWZ	Moikau Station	12.70	207	P			Pn	21 02 10.8	-2.7
MSWZ	Moikau Station	12.70	207				Pn	21 02 07.6	-5.9
DUWZ	D'Urville Isla	12.76	212	P			Pn	21 02 11.0	-3.3
SNZO	South Karori	12.83	208				Pn	21 02 10.4	-4.8
PLWZ	Palliser	12.83	206				Pn	21 02 09.6	-5.7
BHW	Baring Head	12.85	208	P			Pn	21 02 15.3	-0.1
BHW	Baring Head	12.85	208				Pn	21 02 08.3	-7.2
BHW							Sn	21 04 33.5	-4.1
TCW	Tory Channel	12.93	210	P			Pn	21 02 14.9	-1.7
NIUE	Niue	12.94	32	Pn			Pn	21 02 10.5	-6.4
MSVF	Nonsavu	13.18	340	Pn			Pn	21 02 20.4	+0.2
TUWZ	Tuamarina	13.25	210	P			Pn	21 02 25.4	+4.5
TUWZ	Tuamarina	13.25	210				Pn	21 02 16.7	-4.3
NNZ	Nelson	13.34	212	P			P	21 02 27.1	-4.4
NNZ	Nelson	13.34	212				Pn	21 02 17.1	-5.0
CMWZ	Cape Campbell	13.40	209	Pn			Pn	21 02 19.7	-3.3
QRZ	Quartz Range	13.44	215	P			Pn	21 02 24.8	+1.2
QRZ	Quartz Range	13.44	215	Pn			Pn	21 02 19.9	-3.7
BSWZ	Blackbirch Sta	13.52	210	P			P	21 02 34.1	+0.6
THZ	Tophouse	13.98	212	P			Pn	21 02 27.8	-3.2
THZ	Tophouse	13.98	212				Pn	21 02 28.6	-2.5
KHZ	Kahutara	14.23	209				Pn	21 02 28.3	-6.0
DSZ	Denniston Nort	14.49	215	P			Pn	21 02 36.9	-1.1
GVZ	Greta Valley S	14.90	209	P			Pn	21 02 38.0	-5.5
LTZ	Lake Taylor	15.08	211	P			Pn	21 02 41.3	-4.6
LTZ	Lake Taylor	15.08	211	Pn			Pn	21 02 41.7	-4.2
LTZ						IAmb	IAmb	21 02 53.8	
	comp=Z,48nm,0.6s								
AMCZ	Amberley	15.23	209			P	P	21 02 51.8	-0.8
INZ	Inchbonnie	15.41	213			P	Pn	21 02 51.2	+0.9
OKCZ	Okains Bay	15.52	207			P	Pn	21 02 47.8	-3.8
OXZ	Oxford	15.62	210			P	Pn	21 02 48.1	-4.8
OXZ	Oxford	15.62	210			P	Pn	21 02 47.4	-5.5
OXZ						IAmb	IAmb	21 02 59.4	
	comp=Z,210nm,1.2s								
MQZ	McQueen's Vall	15.66	208				Pn	21 02 46.4	-7.1
RPZ	Rata Peaks	16.36	212	Pn			Pn	21 03 02.0	-0.5
	comp=Z,8.0nm,0.3s,baz=31,slow=1.9,SNR=18								
RPZ						Sn	Sn	21 05 47.9	-15
	comp=Z,2.8nm,0.3s,baz=335,slow=17,SNR=3.2								
RPZ	Rata Peaks	16.36	212	P			Pn	21 03 02.6	+0.2
RPZ	Rata Peaks	16.36	212	Pn			Pn	21 02 57.0	-5.4
RPZ						IAmb	IAmb	21 03 06.6	
	comp=Z,77nm,0.7s								
DZM	Mont Dzumac	16.75	295	Pn			P	21 03 08.8	-0.9
	comp=Z,0.9nm,0.3s,baz=119,slow=13,SNR=50								
FOZ	Fox Glacier	16.80	214				Pn	21 03 03.5	-4.5
FOZ							S	21 06 22.1	-2.1
AFI	Afiamalu	17.02	18				Pn	21 03 05.3	-5.7
AFI						IAmb	IAmb	21 03 24.4	
	comp=Z,102nm,1.0s	

SMOL	Smolenice	158.59	333	*e*PKP		PKPab	21 19 46.6 +1.9
TREC	Trest	158.66	337	*e*PKPAB		PKPab	21 19 45.6 +0.6
MODS	Modra-Piesok	158.76	333	*e*PKP		PKPab	21 19 46.3 +0.8
PBCC	Pribram	158.81	340	*e*PKPAB		PKPab	21 19 47.1 +1.5
KHC	Kasperske Hory	159.42	339	*e*PKPAB		PKPab	21 19 49.4 +1.0
GERES	GERESS Array B	159.64	339	PKPab		PKPab	21 19 49.9 +0.5
	comp=Z,7.0nm,0.9s,baz=44,slow=7.9,SNR=4.1						
CONA	Conrad Observa	159.68	334	*e*pPKPab		PKPab	21 19 51.5 +2.0
	comp=Z,53nm,1.6s						
MOA	Molln	160.32	337	pPKPab		PKPab	21 19 54.1 +1.8
	comp=Z,52nm,1.2s						
SOKA	Soboth	161.03	333	*e*PKPab		PKPab	21 19 56.7 +1.2
	comp=Z,50nm,1.3s,SNR=5.5						
OBKA	Obir	161.35	334	*e*PKPab		PKPab	21 19 54.1 -2.9
	comp=Z,36nm,1.4s						
MYKA	Terra Mystica	161.59	336	*e*PKPab		PKPab	21 19 58.4 +0.5
	comp=Z,78nm,1.6s,SNR=4.3						
WATA	Walderalm	161.63	341	*e*pPKPab		PKPab	21 19 60.0 +1.8
	comp=Z,116nm,1.6s,SNR=6.8						
WTTA	Wattenberg	161.68	341	*e*pPKPab		PKPab	21 20 00.2 +1.8
	comp=Z,72nm,1.5s,SNR=5.9						
RETA	Reutte	161.71	343	*e*pPKPab		PKPab	21 20 00.0 +1.6
	comp=Z,54nm,1.3s						
MOTA	Moosalm	161.75	342	*e*pPKPab		PKPab	21 20 00.5 +1.8
	comp=Z,60nm,1.5s						
SQTA	Sankt Quirin	161.84	341	*e*pPKPab		PKPab	21 20 00.8 +1.8
	comp=Z,72nm,1.4s						
ABTA	Abfaltersbach	161.87	338	*e*PKPab		PKPab	21 19 59.9 +0.7
	comp=Z,46nm,1.1s,SNR=6.2						
DAVOX	Davos/Dischmat	162.59	343	PKPab		PKPab	21 20 01.8 -0.6
	comp=Z,11nm,0.8s,baz=27,slow=2.3,SNR=3.3						
FUORN	Ofenpass-Fuorn	162.64	342			PKPab	21 20 03.3 +0.5
TORD	Torodi Ar. Bea	162.96	176	PKPab		PKPab	21 20 06.6 +2.1
	comp=Z,7.8nm,0.8s,baz=194,slow=2.2,SNR=1.2						

*AEIC **23** 21:00:00.0±1.6, 51.˙75N±0.˙07×178.˙54E±0.˙09, h114km±4km, Error ellipse: s-maj=10.9km s-min=7.5km az=158.0*
*IDC **23** 21:00:01.0±3.0, 51.˙94N×178.˙53E, h105km±25km, mb5.1/23, mb1 5.2/25, mb1mx5.0/65, mbtmp5.4/25, Error ellipse: s-maj=18.1km s-min=12.7km az=162.0*
*NEIC **23** 21:00:01.3±1.1, 51.˙83N±0.˙09×178.˙48E±0.˙09, h106km±5km, mb5.7/75, ML5.2(AEIC), Error ellipse: s-maj=12.5km s-min=8.5km az=183.0*

ISC 23 21:00:01.0±0.7, **51.˙88N**±0.˙07×**178.˙44E**±0.˙05, **h104**km±6km, **n153**, σ**1**°**01**/158, **mb5.7**/52, **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSPA	Little Sitkin	0.12	48		Pn	21 00 15.8	+0.3
AMKA	Amchitka	0.74	133		Pn	21 00 18.9	-0.2
AMKA					Sn	21 00 32.6	-0.1
CERB	Semis' Cerberu	0.74	85		Pn	21 00 19.9	+0.7
GALAA	Gareloi Lava P	1.74	93		Pn	21 00 30.6	+0.3
GAEA	Gareloi East	1.75	92		Pn	21 00 30.3	-0.3
TANO	Tanaga North	2.13	88		Pn	21 00 35.3	-0.1
TANO					Sn	21 01 03.2	+1.5
TAFP	Tanaga Falls P	2.22	88		Pn	21 00 36.4	-0.2
TAFP					Sn	21 01 03.6	-0.1
KICM	Kanaga Island	2.71	87		Pn	21 00 42.9	0.0
KIWB	Kanaga Island	2.74	89		Pn	21 00 49.5	+6.2
KINC	Kanaga Island	2.75	87		Pn	21 00 43.1	-0.3
SMY	Shemya	2.79	289		Pn	21 00 44.2	+0.2
ADK	Adak	3.02	88		Pn	21 00 46.7	-0.4
GSTR	Great Sitkin T	3.41	84		Pn	21 00 52.1	-0.2
KOWE	Korovin West	4.53	81		Pn	21 01 07.9	+0.5
ATKA	Atka Island	4.56	83		Pn	21 01 08.0	+0.3
KONW	Korovin Northw	4.56	81		Pn	21 01 08.2	+0.4
KOKL	Mount Kliuchef	4.56	82		Pn	21 01 08.5	+0.7
NIKH	Nikolski High	7.85	77		Pn	21 01 53.3	+1.0
OKWR	Okmok West Rim	8.27	74		Pn	21 02 00.9	+2.7
SPIA	Saint Paul Isl	8.45	47		Pn	21 02 02.8	+2.4
MREP	Makushin Rep't	9.18	72		Pn	21 02 12.1	+1.7
UNV	Unalaska Valle	9.32	72	Pn	Pn	21 02 13.4	+1.1
AKBBA	Akutan Broad B	9.69	71		Pn	21 02 18.8	+1.6
AKUT	Akutan	9.79	70	Pn	Pn	21 02 21.0	+2.4
FALS	False Pass	11.24	67	Pn	Pn	21 02 41.4	+3.1
PETK	Petropavlovsk-	12.69	284	P	Pn	21 03 00.0	+2.4
	7.7nm,0.3s,baz=85,slow=18,SNR=1.5						
PETK				S	Sn	21 05 13.6	-3.4
	14nm,0.3s,baz=85,slow=23,SNR=6.8						
SDPT	Sand Point	12.98	66	Pn	Pn	21 02 59.6	-1.7
CNBA	Chernabura Isl	13.44	69	Pn	Pn	21 03 04.0	-3.3
OHAK	Old Harbor	17.18	61	P	Pn	21 03 52.0	-2.2
BILL	Bilibino	17.25	345	Pn	Pn	21 03 57.5	+2.4
BILL				IAmb	IAmb	21 03 58.5	
	comp=Z,301nm,0.8s						
KDAK	Kodiak Island	17.62	59	P	P	21 03 56.5	-2.5
	comp=Z,17nm,0.3s,baz=228,slow=11,SNR=7.5						
KDAK	Kodiak Island	17.62	59	P	P	21 03 57.7	-1.4
HOM	Homer	18.41	53	P	P	21 04 07.9	+0.1
CNPM	China Poot	18.59	54	P	P	21 04 09.6	-0.2
CNPM				IAmb	IAmb	21 04 10.7	
	comp=Z,227nm,0.6s						
BRLK	Bradley Lake	18.81	53	P	P	21 04 11.7	-0.5
SEW	Seward	19.58	53	P	P	21 04 20.4	-0.1
SEW				IAmb	IAmb	21 04 29.5	
	comp=Z,288nm,0.9s						
GHO	Glory Hole Cre	20.20	48	P	P	21 04 28.1	+0.9
GHO				IAmb	IAmb	21 04 28.6	
	comp=Z,562nm,1.1s						
GLI	Glacier Island	20.87	51	P	P	21 04 33.9	-0.5
GLI				IAmb	IAmb	21 04 34.9	
	comp=Z,440nm,1.0s						
SCM	Sheep Creek Mo	20.95	48	P	P	21 04 35.5	+0.2
SCM				IAmb	IAmb	21 04 48.4	
	comp=Z,461nm,1.1s						
MID	Middleton Isla	21.05	55	P	P	21 04 36.5	+0.3
FID	Port Fidalgo	21.15	51	P	P	21 04 36.0	-1.3
FID				IAmb	IAmb	21 04 39.3	
	comp=Z,355nm,0.9s						
ILAR	Eielson Array	21.96	41	P	P	21 04 45.6	-0.3
	comp=Z,38nm,0.8s,baz=256,slow=11,SNR=1.8						
RAGM	Ragged Mountai	21.98	53	P	P	21 04 46.2	0.0
PAX	Paxson	22.05	46	P	P	21 04 47.0	0.0
PAX				IAmb	IAmb	21 04 48.4	
	comp=Z,313nm,1.0s						
GLB	Gilahina Butte	22.53	50	P	P	21 04 52.7	+0.8
WAX	Waxell Ridge	22.89	53	P	P	21 04 56.4	+0.8
WAX				IAmb	IAmb	21 05 02.0	
	comp=Z,379nm,1.0s						
TGL	Tana Glacier	22.93	52	P	P	21 04 56.2	+0.2
TGL				IAmb	IAmb	21 04 57.4	
	comp=Z,496nm,1.0s						
ISLE	Juniper Island	23.15	53	P	P	21 04 57.2	-1.0
ISLE				IAmb	IAmb	21 05 16.3	
	comp=Z,343nm,1.1s						
MESA	MESA	23.32	54	P	P	21 04 59.8	0.0
YAH	Yahtse	23.43	53	P	P	21 05 01.1	+0.3
BARN	Barnard Glacie	23.52	51	P	P	21 05 02.2	+0.6
CTGM	Chitina Glacie	23.67	52	P	P	21 05 03.2	+0.2
CTGM				IAmb	IAmb	21 05 04.7	
	comp=Z,351nm,1.1s						
EGAK	Eagle	24.32	42	P	P	21 05 08.4	-0.1
EGAK				IAmb	IAmb	21 05 09.6	
	comp=Z,329nm,1.0s						
DAWY	Dawson	24.94	44	P	P	21 05 14.8	+0.6
TIXI	Tiksi	29.35	331	ScP	ScP	21 12 27.6	-1.3
	comp=Z,31nm,0.7s,baz=97,slow=3.4,SNR=5.4						
KLR	Kul'dur	29.39	284	P	P	21 05 54.4	+0.3
	comp=Z,197nm,1.0s,baz=92,slow=7.0,SNR=5.0						
USRK	Ussuriysk Ar.	31.53	275	PcP	PcP	21 09 03.6	+0.5
	comp=Z,8.2nm,0.5s,baz=20,slow=1.2,SNR=1.5						
C09A	Chrisman Ranch	39.88	70	P	P	21 07 22.9	-1.4
C09A				IAmb	IAmb	21 07 27.4	
	comp=Z,136nm,0.9s						
NEW	Newport	40.31	69	P	P	21 07 27.0	-1.0
	comp=Z,91nm,1.0s,baz=301,slow=10,SNR=0.9						
NEW	Newport	40.31	69	P	P	21 07 27.1	-0.8
NEW				IAmb	IAmb	21 07 36.5	
	comp=Z,165nm,1.1s						
WDC	Whiskeytown Da	41.28	82	P	P	21 07 36.3	+0.4
WDC				IAmb	IAmb	21 07 37.5	
	comp=Z,152nm,1.1s						
HOPS	Hopland Field	41.91	84	P	P	21 07 41.1	+0.1
ORV	Oroville	42.54	82	P	P	21 07 45.9	-0.2
WAKR	Walker	44.45	82	P	P	21 08 02.0	+0.3
SONM	Songino Array	44.88	295	P	P	21 08 05.9	+1.0
	comp=Z,84nm,1.1s,baz=80,slow=3.1,SNR=0.8						
SONM				PcP	PcP	21 09 44.4	-0.3
	comp=Z,20nm,0.8s,baz=48,slow=1.7,SNR=1.4						
RYN	Ryan	44.93	81	P	P	21 08 05.6	+0.2
RYN				IAmb	IAmb	21 08 05.7	
	comp=Z,165nm,1.1s						
NVAR	Mina Array Bea	45.19	81	P	P	21 08 08.0	+0.3
	comp=Z,21nm,0.7s,baz=297,slow=6.0,SNR=0.6						
NVAR				ScP	ScP	21 13 27.8	-1.1
	comp=Z,8.8nm,0.8s,baz=329,slow=4.1,SNR=2.1						
GUMO	Guam	46.73	228	P	P	21 08 18.7	-0.9
	comp=Z,156nm,1.1s,baz=29,slow=19,SNR=4.9						
GUMO	Guam	46.73	228	P	P	21 08 18.4	-1.2
ISA	Isabella, Lake	46.85	84	P	P	21 08 20.1	-0.4
ISA				IAmb	IAmb	21 08 29.4	
	comp=Z,122nm,1.1s						
PDAR	Pinedale Array	47.79	71	P	P	21 08 26.7	-1.2
	comp=Z,61nm,1.0s,baz=36,slow=2.8,SNR=1.5						
PSUT	Pine Spring	47.84	78	P	P	21 08 27.8	-0.4
GSC	Goldstone, Bar	48.12	84	P	P	21 08 30.3	0.0
GSC				IAmb	IAmb	21 08 43.2	
	comp=Z,139nm,1.1s						
KBS	Kingsbay	49.20	357	P	P	21 08 38.7	+0.8
SPITS	Spitsbergen Ar	49.74	355	P	P	21 08 41.5	-0.5
	comp=Z,66nm,0.6s,baz=30,slow=6.8,SNR=16						
TARA	Tarawa	50.56	187	P	P	21 08 48.8	0.0
GLA	Glamis	50.84	84	P	P	21 08 50.3	-0.6
GLA				IAmb	IAmb	21 08 55.8	
	comp=Z,119nm,1.1s						
SSLB	Suanglung	51.69	260	P	P	21 08 57.8	+0.5
SSLB				IAmb	IAmb	21 09 10.3	
	comp=Z,85nm,1.1s						
YULB	Yu-li	51.77	259	P	P	21 08 58.2	+0.3
YULB				IAmb	IAmb	21 09 08.4	
	comp=Z,103nm,1.1s						
TPUB	Ta-pu	52.24	260	P	P	21 09 01.8	+0.3
ZALV	Zalesovo Beam	52.42	312	P	P	21 09 01.8	-0.5
	comp=Z,37nm,0.9s,baz=76,slow=6.3,SNR=1.1						
FRB	Frobisher Bay	53.49	31	P	P	21 09 08.9	-1.1
	comp=Z,221nm,0.9s,baz=237,slow=16,SNR=1.8						
ILULI	Ilulissat	53.89	20	P	P	21 09 12.8	-0.1
ILULI				IAmb	IAmb	21 09 13.2	
	comp=Z,89nm,0.8s						
SFJD	Kangerlussuaq	55.81	21	P	P	21 09 25.1	-1.6
	comp=Z,65nm,0.9s,baz=139,slow=8.3,SNR=1.4						
ARCES	ARCES Array B	57.29	349	P	P	21 09 36.9	-0.3
	comp=Z,22nm,0.8s,baz=15,slow=5.0,SNR=1.0						
KURK	Kurchatov	57.41	312	P	P	21 09 38.4	0.0
MK31	Makanchi Array	58.36	307	P	P	21 09 44.1	-1.0
MK31				IAmb	IAmb	21 10 00.1	
	comp=Z,89nm,1.1s						
MKAR	Makanchi Array	58.36	307	P	P	21 09 44.4	-0.6
	comp=Z,14nm,0.5s,baz=50,slow=7.1,SNR=6.6						
MKAR	Makanchi Array	58.36	307	P	P	21 09 44.3	-0.8
MAKZ	Makanchi	58.51	307	P	P	21 09 46.2	+0.1
BRVK	Borovoye	59.40	318	P	P	21 09 52.5	+0.5
ANGG	Ammassalik, Gr	59.61	16	P	P	21 09 51.9	-1.4
TXAR	Lajitas Array	60.27	79	P	P	21 09 58.3	-0.2
	comp=Z,18nm,0.8s,baz=313,slow=4.6,SNR=1.3						
ARU	Arti	61.25	327	P	P	21 10 05.4	+0.8
QIZ	Qiongzhong	62.07	265	P	P	21 10 11.5	+0.8
QIZ				IAmb	IAmb	21 10 13.1	
	comp=Z,75nm,1.1s						
KDJ	Kajisay	64.25	306	P	P	21 10 25.4	+0.3
BOOM	Boomskoye usch	64.60	307	P	P	21 10 28.4	+1.1
BOOM				IAmb	IAmb	21 10 41.0	
	comp=Z,120nm,1.1s						
FINES	FINESS Array B	64.89	346	P	P	21 10 28.5	-0.1
	comp=Z,7.2nm,0.8s,baz=11,slow=8.5,SNR=2.0						
FRU1	Bishkek	65.01	308	P	P	21 10 30.7	+0.9
AAK	Ala-Archa	65.20	308	P	P	21 10 30.7	-0.5
AAK				IAmb	IAmb	21 10 34.8	
	comp=Z,75nm,0.7s						
LSA	Lhasa	65.65	287	P	P	21 10 35.8	+1.2
LSA				IAmb	IAmb	21 10 37.2	
	comp=Z,82nm,1.0s						
ABKAR	Akbulak array	66.48	321	P	P	21 10 39.8	+0.8
KK31	Karatay Array	66.76	311	P	P	21 10 41.2	+0.3
KK31				IAmb	IAmb	21 10 45.5	
	comp=Z,79nm,1.0s						
KKAR	Karatay Array	66.76	311		P	21 10 41.3	+0.4
KKAR	Karatay Array	66.76	311	P	P	21 10 41.1	+0.2
KKAR				IAmb	IAmb	21 10 45.4	
	comp=Z,79nm,1.0s						
NOA	NORSAR Array B	66.97	353	P	P	21 10 41.4	-0.6
	comp=Z,14nm,0.8s,baz=44,slow=26,SNR=2.3						
FAKI	Fak Fak	67.11	231	P	P	21 10 43.4	0.0
SHL	Shillong	68.25	284	P	P	21 10 51.2	+0.4
SHL				IAmb	IAmb	21 11 07.9	
	comp=Z,113nm,1.1s						
BTK	Batken	68.96	308	P	P	21 10 55.2	+0.3
CHTO	Chiang Mai	68.98	274	P	P	21 10 55.5	+0.3
CMAR	Chiang Mai Arr	69.25	274	P	P	21 10 56.6	-0.2
	comp=Z,18nm,0.8s,baz=29,slow=6.6,SNR=6.1						
GAR	Garm	70.03	308	P	P	21 11 01.8	+0.3
LUWI	Luwuk	70.40	241	P	P	21 11 03.0	-0.8
CHGR	Chuyangaron	70.86	309	P	P	21 11 07.0	+0.5
NIL	Nilore	72.70	303	P	P	21 11 18.4	+0.9
SBUM	Sibu	73.56	252	P	P	21 11 23.3	+0.6
KBL	Kabul	74.16	306	P	P	21 11 26.6	+0.3
KBL				IAmb	IAmb	21 11 27.8	
	comp=Z,170nm,1.0s						
AKASG	Malin Array Be	74.52	340	P	P	21 11 26.7	-1.1
	comp=Z,7.2nm,0.3s,baz=21,slow=6.3,SNR=4.1						
KSM	Kushing	75.47	253	P	P	21 11 33.9	+0.1
MTN	Manton Dam	76.31	228	P	P	21 11 38.5	+0.1
MTN				IAmb	IAmb	21 11 39.6	
	comp=Z,156nm,1.1s						
GEYT	Alibeck	76.53	315	P	P	21 11 40.4	+0.8
	comp=Z,50nm,0.9s,baz=15,slow=6.2,SNR=2.5						
HRA	Herat	77.59	311	P	P	21 11 46.4	+0.6
BURAR	Bucovina Array	78.26	342	P	P	21 11 49.9	+0.8
TBLG	Delisi	78.47	326	P	P	21 11 51.0	+0.7
TBLG				IAmb	IAmb	21 11 53.0	
	comp=Z,140nm,1.0s						
LHMI	Lhok Sumawe	80.65	267	P	P	21 12 03.1	+0.7
LHMI				IAmb	IAmb	21 12 03.7	
	comp=Z,72nm,0.7s						
PVM	Polavaram	80.73	286	*e*P	P	21 12 02.7	-0.2
RPR	Rampur	80.86	289	*e*P	P	21 12 03.8	+0.3
WR0	Warramunga Arr	81.15	221	P	P	21 12 04.2	-0.6
WRA	Warramunga Arr	81.21	221	P	P	21 12 04.9	-0.3
	comp=Z,24nm,0.7s,baz=31,slow=5.7,SNR=4.7						
SRSP	Sriramsagar	81.36	290	*e*P	P	21 12 05.2	-1.0
HYBB	Hyderabad (bro	82.42	288	*e*P	P	21 12 11.0	-0.8
HYB	Hyderabad	82.42	288	*i* P	P	21 12 11.0	-0.8
NJS	Nagarjunasagar	82.65	287	*e*P	P	21 12 10.9	-2.1
ADKI	Addanki	82.81	286	*e*P	P	21 12 13.3	-0.5
KLRI	Killari	83.05	290	*e*P	P	21 12 14.4	-0.7
FITZ	Fitzy Crossi	83.44	230	P	P	21 12 17.0	+0.2
BRTR	Keskin Array B	83.75	333	P	P	21 12 19.1	+0.6
	comp=Z,23nm,1.0s,baz=48,slow=1.7,SNR=1.6						
SKHT	Srikalahasti	84.62	285	*e*P	P	21 12 23.3	+0.3
ASAR	Alice Springs	84.72	220	P	P	21 12 23.6	+0.3
	comp=Z,11nm,0.7s,baz=47,slow=1.9,SNR=1.4						
URV	Uravakonda	85.12	288	*e*P	P	21 12 25.2	-0.3
ARMA	Armidale	85.26	203	P	P	21 12 27.2	+1.4
PSAD3	Pilbara Seismi	89.30	233	P	P	21 12 44.7	-0.7
PSAD3				IAmb	IAmb	21 13 04.4	
	comp=Z,50nm,0.9s						
STKA	Stephens Creek	89.44	211	P	P	21 12 46.5	+0.8
	comp=Z,18nm,0.6s,baz=31,slow=5.9,SNR=2.9						
STKA	Stephens Creek	89.44	211	P	P	21 12 46.6	+0.8
PAYG	Puerto Ayora	91.32	89	P	P	21 12 53.8	-1.3
PAYG				IAmb	IAmb	21 13 12.6	
	comp=Z,60nm,0.9s						
TUWZ	Tuamarina	93.01	183	P	P	21 13 03.5	+1.5
TORD	Torodi Ar. Bea	115.18	356	PKP	PKiKP	21 18 29.1	-1.1
	comp=Z,33nm,1.2s,baz=328,slow=2.9,SNR=2.2						
SIV	San Ignacio	121.16	76	PKP	PKPdf	21 18 40.6	-1.0
	comp=Z,22nm,1.1s,baz=338,slow=5.4,SNR=1.7						
DBIC	Dimbokro	121.61	4	PKP	PKPdf	21 18 40.6	-2.0
	comp=Z,7.2nm,0.5s,baz=946,slow=2.0,SNR=1.0						
MAW	Mawson	145.82	218	PKPbc	PKPdf	21 19 26.7	+0.9
	comp=Z,57nm,1.0s,baz=95,slow=4.9,SNR=1.7						
LBTB	Lobatse	146.14	312	PKPbc	PKPdf	21 19 29.1	+1.3
	comp=Z,90nm,0.8s,baz=322,slow=2.3,SNR=7.5						
PMSA	Palmer Station	146.28	137	PKPbc	PKPbc	21 19 28.4	+0.4
	comp=Z,41nm,1.0s,baz=345,slow=3.4,SNR=1.7						
BOSA	Boshof	149.34	309	PKPbc	PKPbc	21 19 37.6	0.0
	comp=Z,89nm,1.0s,baz=63,slow=2.4,SNR=6.8						

WEL 23 21:00:15.5, 40.˚S±2.˚×176.˚2E±0.˚8, h25km±2km, M2.1/14, **ML2.1**/14, **MLv2.1**/14, **Error ellipse: s-maj=0.0km s-min=0.0km az=8.0, North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRHZ	Kereru	0.13	78	P	Pb	21 00 20.9	+0.4
BHHZ	Black Hill Sta	0.21	329	P	Pb	21 00 21.5	+0.1
PNHZ	Pukenui	0.24	181	P	Pb	21 00 22.3	+0.5
KWHZ	Kaweka Forest	0.30	34	P	Pb	21 00 22.4	-0.2
TSZ	Takapari Road	0.43	206	P	Pb	21 00 24.7	0.0
WPHZ	Waipukurau	0.43	155	P	Pb	21 00 25.0	+0.4
MOVZ	Moawhango	0.44	307	P	Pb	21 00 24.7	-0.1
MCHZ	McNeill Hill	0.44	59	P	Pb	21 00 25.4	+0.6
KAHZ	Kahuranaki	0.53	104	P	Pb	21 00 26.6	+0.3
BKZ	Black Stump Fm	0.55	24	P	Pb	21 00 26.0	-0.7
TUVZ	Tukino	0.59	313	P	Pb	21 00 27.2	-0.1
WHVZ	Whangaehu Hut	0.61	309	P	Pb	21 00 27.7	-0.1
DVHZ	Dannevirke	0.63	183	P	Pb	21 00 27.6	-0.4
TRVZ	Turoa	0.63	306	P	Pb	21 00 27.9	-0.2
MTVZ	Mangateitei	0.64	296	P	Pb	21 00 28.1	0.0
FWVZ	Far West T-bar	0.65	309	P	Pb	21 00 28.2	-0.3
PRHZ	Porangahau	0.68	151	P	Pb	21 00 28.6	-0.2
KRVZ	Karewarewa	0.72	323	P	Pb	21 00 29.2	-0.4
WTVZ	West Tongariro	0.73	319	P	Pb	21 00 29.3	-0.4
MRHZ	Matea Rd	0.85	11	P	Pb	21 00 30.6	-1.1
MTHZ	Maungataniwha	0.95	31	P	Pn	21 00 33.0	-0.4
PKGZ	Pakihiroa	2.30	40	P	Pn	21 00 49.5	-2.5
RIZ	Raoul Island	11.47	27	P	Pn	21 02 54.0	-3.7

*NEIC **23** 21:04:17.8±0.9, 51.˚9N±0.˚1×178.˚43E±0.˚09, h120km±5km, Error ellipse: s-maj=17.5km s-min=5.9km az=161.0*

AEIC 23 21:04:18±1.8, **51.˚9N**±0.˚1×**178.˚6E**±0.˚1, **h118**km±4km, **ML4.2, Error ellipse: s-maj=19.8km s-min=9.0km az=188.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSE	Little Sitkin	0.05	10		Pn	21 04 34.0	0.0
LSSA	Little Sitkin	0.07	338		Pn	21 04 33.9	-0.2
LSPA	Little Sitkin	0.07	9		Pn	21 04 34.2	+0.2
LSPA					Sn	21 04 46.1	-0.1
CEAP	Semis' Anvil P	0.64	79		Pn	21 04 37.0	+0.4
CEAP					Sn	21 04 52.2	+1.5
CERB	Semis' Cerberu	0.67	86		Pn	21 04 38.1	+1.2
AMKA	Amchitka	0.69	137		Pn	21 04 37.0	0.0
GAEA	Gareloi East	1.68	92		Pn	21 04 48.3	+1.0
TANO	Tanaga North	2.06	88		Pn	21 04 53.3	+1.3
TAFP	Tanaga Falls P	2.15	88		Pn	21 04 54.1	+1.0
TAFP					Sn	21 05 21.2	+1.1
TAPA	Tanaga Point A	2.25	90		Pn	21 04 55.4	+0.9
TAPA					Sn	21 05 25.1	+2.6
KIMD	Kanaga Island	2.62	91		Pn	21 05 00.1	+1.0
KIKV	Kanaga Island	2.65	88		Pn	21 05 00.6	+1.1
KIWB	Kanaga Island	2.66	89	Pn	Pn	21 04 58.7	-1.0
KINC	Kanaga Island	2.67	87		Pn	21 05 01.0	+1.2
SMY	Shemya	2.86	289		Pn	21 05 01.5	-0.8
ADK	Adak	2.95	88		Pn	21 05 04.2	+0.7
GSMY	Great Sitkin M	3.34	85		Pn	21 05 09.4	+0.8
CNBA	Chernabura Isl	13.37	69	Pn	Pn	21 07 22.5	-0.3
KDAK	Kodiak Island	17.55	59	P	P	21 08 13.7	-0.6
CNPM	China Poot	18.53	54		Pn	21 08 26.1	-0.5
SEW	Seward	19.52	53	P	Pn	21 08 37.1	-1.1

*NEIC **23** 21:05:26.1±1.4, 51.˚89N±0.˚04×178.˚53E±0.˚09, h100km±5km, Error ellipse: s-maj=8.1km s-min=5.7km az=113.0*

AEIC 23 21:05:26±1.9, **51.˚84N**±0.˚08×**178.˚69E**±0.˚08, **h96**km±4km, **mb4.9**/11(NEIC), **Error ellipse: s-maj=10.9km s-min=7.3km az=176.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSPA	Little Sitkin	0.14	329		Pn	21 05 40.9	+1.4
LSSA	Little Sitkin	0.16	316		Pn	21 05 40.9	+1.3
CEAP	Semis' Anvil P	0.57	73		Pn	21 05 43.5	+1.6
CEAP					Sn	21 05 55.3	+1.5
AMKA	Amchitka	0.60	140		Pn	21 05 43.5	+1.5
AMKA					Sn	21 05 55.7	+1.6
CERAA	Semis' Rag'd T	0.62	83		Pn	21 05 43.7	+1.4
GALAA	Gareloi Lava P	1.58	92		Pn	21 05 54.7	+1.7
TASE	Tanaga Southea	2.03	89		Pn	21

GSTR	Great Sitkin T	3.42	84	Pn		Pn	21 06 48.0	+0.2
ATKA	Atka Island	4.58	83			Pn	21 07 03.1	0.0
KOFP	Korovin Flat P	4.64	82			Pn	21 07 03.9	-0.1
NIKH	Nikolski High	7.87	77			Pn	21 07 48.6	+1.0
SPIA	Saint Paul Isl	8.48	47			Pn	21 07 58.2	+2.4
FALS	False Pass	11.26	67	Pn		Pn	21 08 34.8	+1.4
CNBA	Chernabura Isl	13.46	69	Pn		Pn	21 09 00.5	-1.6
SVW2	Sparrevohn	16.98	47	P		P	21 09 45.9	-0.3
KDAK	Kodiak Island	17.65	59			P	21 09 53.4	-0.2
CNPM	China Poot	18.62	54	P		P	21 10 04.3	+0.1
BRLK	Bradley Lake	18.84	53	P		P	21 10 06.6	0.0
SEW	Seward	19.61	53	P		Pn	21 10 16.0	-1.4
SEW				IAmb	IAmb		21 10 29.2	
	comp=Z,124nm,1.0s							
GLI	Glacier Island	20.90	51	P		P	21 10 28.6	-0.3
GLI				IAmb	IAmb		21 10 41.2	
	comp=Z,52nm,0.8s							
SCM	Sheep Creek Mo	20.98	48	P		P	21 10 30.8	+1.0
FID	Port Fidalgo	21.18	51	P		P	21 10 31.7	-0.1
FID				IAmb	IAmb		21 10 33.8	
	comp=Z,136nm,1.0s							
RAGM	Ragged Mountai	22.01	53	P		P	21 10 42.1	+1.4
RAGM				IAmb	IAmb		21 10 45.4	
	comp=Z,138nm,1.0s							
PAX	Paxson	22.08	46	P		P	21 10 41.6	+0.2
RIDG	Independent Ri	22.54	44	P		P	21 10 46.4	+0.3
GLB	Gilahina Butte	22.56	50	P		P	21 10 46.9	+0.6
MESA	MESA	23.35	54	P		P	21 10 54.5	+0.5
YAH	Yahtse	23.46	53	P		P	21 10 55.3	+0.3
YAH				IAmb	IAmb		21 11 03.6	
	comp=Z,56nm,1.0s							
BARN	Barnard Glacie	23.55	51	P		P	21 10 57.6	+1.8
CTGM	Chitina Glacie	23.70	52	P		P	21 10 58.2	+1.1
TABL	Table Mountain	23.76	53	P		P	21 10 57.8	+0.1
TABL				IAmb	IAmb		21 11 10.9	
	comp=Z,46nm,1.0s							
HYT	Haines Junctio	25.57	52	P		P	21 11 15.7	+1.7
HYT				IAmb	IAmb		21 11 18.1	
	comp=Z,28nm,0.7s							
KLR	Kul'dur	29.39	284	P		P	21 11 48.4	+0.4
	comp=Z,19nm,0.7s,baz=56,slow=9.1,SNR=9.0							
YKA	Yellowknife Ar	36.17	46	P		P	21 12 44.8	-2.0
	comp=Z,9.1nm,0.9s,baz=281,slow=9.4,SNR=1.3							
LTY	Liberty	38.77	72	P		P	21 13 09.1	+0.1
LTY				IAmb	IAmb		21 13 20.2	
	comp=Z,16nm,0.9s							
HAWA	Hanford	39.88	72	P		P	21 13 18.0	-0.2
D08A	Wollman Farm,	39.90	71	P		P	21 13 17.9	-0.4
D08A				IAmb	IAmb		21 13 36.9	
	comp=Z,22nm,1.1s							
KRMB	Red Mountain	39.91	82	P		P	21 13 20.2	+1.6
NEW	Newport	40.34	69	P		P	21 13 21.4	-0.5
KHMM	Horse Mountain	40.39	82	P		P	21 13 24.5	+1.9
YBH	Yreka Blue Hor	40.52	80	P		P	21 13 25.4	+1.8
	comp=Z,12nm,0.9s,baz=280,slow=20,SNR=2.4							
YBH	Yreka Blue Hor	40.52	80	P		P	21 13 24.8	+1.2
K05A	Summer Lake	41.06	78	P		P	21 13 29.0	+0.9
MOD	Modoc Plateau	41.89	79	P		P	21 13 36.1	+1.3
PAHR	Pah Rah Range	43.76	81	P		P	21 13 50.7	+0.7
PNTR	Pine Nut	44.00	81	P		P	21 13 53.2	+1.2
PNTR				IAmb	IAmb		21 13 53.9	
	comp=Z,29nm,0.8s							
WAKR	Walker	44.46	82	P		P	21 13 57.1	+1.5
ULN	Ulaanbaatar	44.50	294	P		P	21 13 56.4	+0.7
MCMT	McKenzie Canyo	44.67	71	P		P	21 13 56.7	-0.6
SONM	Songino Array	44.88	295	P		P	21 13 60.0	+1.2
	comp=Z,7.2nm,0.5s,baz=62,slow=8.1,SNR=8.5							
SONM	Songino Array	44.88	295	P		P	21 13 59.3	+0.5
BOZ	Bozeman (W)	44.94	69	P		P	21 13 58.7	-0.6
RYN	Ryan	44.95	81	P		P	21 14 00.4	+1.0
NVAR	Mina Array Bea	45.20	81	P		P	21 14 02.7	+1.1
	comp=Z,4.3nm,0.5s,baz=295,slow=8.2,SNR=7.3							
ELK	Elko	45.65	77	P		P	21 14 05.7	+0.6
GUMO	Guam	46.70	228	P		P	21 14 12.8	-0.4
GUMO				IAmb	IAmb		21 14 14.0	
	comp=Z,55nm,1.0s							
R11A	Troy Canyon, C	46.92	80	P		P	21 14 15.4	+0.5
TPNV	Topopah Spring	47.40	81	P		P	21 14 19.7	+1.0
PDAR	Pinedale Array	47.81	71	P		P	21 14 21.3	-0.5
	comp=Z,6.1nm,0.7s,baz=354,slow=3.9,SNR=2.2							
PSUT	Pine Spring	47.85	78	P		P	21 14 22.8	+0.6
GSC	Goldstone, Bar	48.13	84	P		P	21 14 25.1	+0.8
GSC				IAmb	IAmb		21 14 26.4	
	comp=Z,28nm,1.0s							
BAR	Barrett	49.96	86	P		P	21 14 39.0	+0.9
ZALV	Zalesovo Beam	52.44	312	P		P	21 14 56.1	-0.2
	comp=Z,10.0nm,0.8s,baz=28,slow=3.5,SNR=1.4							
KURK	Kurchatov	57.44	312	P		P	21 15 32.8	+0.5
MSTX	Muleshoe	57.57	75	P		P	21 15 33.1	-0.5
MSTX				IAmb	IAmb		21 15 43.0	
	comp=Z,22nm,1.1s							
MK31	Makanchi Array	58.38	307	P		P	21 15 38.6	-0.3
MKAR	Makanchi Array	58.38	307	P		P	21 15 38.8	-0.1
	comp=Z,5.3nm,0.5s,baz=43,slow=6.5,SNR=7.4							
MKAR	Makanchi Array	58.38	307	P		P	21 15 38.7	-0.3
MAKZ	Makanchi	58.52	307	P		P	21 15 39.9	0.0
BRVK	Borovoye	59.42	318	P		P	21 15 46.7	+0.7
BRVK				IAmb	IAmb		21 15 58.1	
	comp=Z,8.9nm,0.8s							
W35A	Tecumseh	60.23	70	P		P	21 15 52.0	+0.1
TX31	Lajitas Ar. Si	60.28	79	P		P	21 15 52.3	-0.1
TXAR	Lajitas Array	60.28	79	P		P	21 15 53.2	+0.8
	comp=Z,6.3nm,0.8s,baz=302,slow=4.1,SNR=5.7							
TXAR	Lajitas Array	60.28	79	P		P	21 15 52.7	+0.3
ARU	Arti	61.28	327	P		P	21 15 59.7	+1.1
ARU				IAmb	IAmb		21 16 00.9	
	comp=Z,9.1nm,0.7s							
SFIN	Lafayette	62.03	60	P		P	21 16 03.3	-0.6
FCAR	Ozark Folk Cen	62.45	66	P		P	21 16 05.6	-1.2
KDJ	Kajisay	64.27	306	P		P	21 16 19.3	+0.5
KDJ				IAmb	IAmb		21 16 26.7	
	comp=Z,36nm,1.1s							
GAR	Garm	70.04	308	P		P	21 16 56.3	+1.0
GAR				IAmb	IAmb		21 16 58.5	
	comp=Z,32nm,0.9s							
MTN	Manton Dam	76.28	228	P		P	21 17 32.4	+0.5
MTN				IAmb	IAmb		21 17 35.2	
	comp=Z,35nm,1.1s							
CLL	Collm	76.49	351	*e*P		P	21 17 31.0	-1.7

NEIC ***23*** *21:07:14.5±1.2,51˚.76N±0˚.07×178˚.45E±0˚.09, h101km±5km, Error ellipse: s-maj=10.9km s-min=7.6km az=206.0*

AEIC 23 21:07:13±1.3,**51˚.79N**±0˚.07×**178˚.48E**±0˚.10,**h103**km±4km, **mb4.7**/5(NEIC),**Error ellipse: s-maj=11.4km s-min=7.6km az=207.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	Little Sitkin	0.15	21		Pn	21 07 29.1	+1.6
LSPA	Little Sitkin	0.18	19		Pn	21 07 28.8	+1.3
LSPA					Sn	21 07 40.0	+1.6
LSNW	Little Sitkin	0.18	7		Pn	21 07 29.0	+1.4
AMKA	Amchitka	0.66	128		Pn	21 07 30.8	+0.5
AMKA					Sn	21 07 45.5	+2.2
CEAP	Semis' Anvil P	0.71	72		Pn	21 07 31.5	+0.7
CERB	Semis' Cerberu	0.73	78		Sn	21 07 46.2	+1.8
CERAA	Semis' Rag'd T	0.76	81		Pn	21 07 31.9	+0.7
TASE	Tanaga Southea	2.16	87		Pn	21 07 49.8	+2.0
TAFP	Tanaga Falls P	2.20	86		Pn	21 07 49.5	+1.2
KIMD	Kanaga Island	2.66	89		Pn	21 07 55.9	+1.6
KIKV	Kanaga Island	2.70	86		Pn	21 07 56.5	+1.6
SMY	Shemya	2.85	291	Pn	Pn	21 07 57.8	+1.1
KDAK	Kodiak Island	17.64	59	P	Pn	21 11 11.8	0.0
KDAK				IAmb	IAmb	21 11 16.6	
	comp=Z,51nm,1.1s						
CNPM	China Poot	18.62	54	P	Pn	21 11 23.0	-0.6
VRDI	Verde Repeater	22.71	51	P	Pn	21 12 08.2	+2.2
TOLK	Toolik Lake Re	22.73	30	P	P	21 12 09.1	+3.1
DOT	Dot Lake	22.87	44	P	P	21 12 09.0	+1.6
WAX	Waxell Ridge	22.92	53	P	P	21 12 10.1	+2.2
WAX				IAmb	IAmb	21 12 16.1	
	comp=Z,14nm,0.7s						
MCARA	McCarthy VSAT	22.94	50	P	P	21 12 10.0	+2.0
MCARA				IAmb	IAmb	21 12 12.3	
	comp=Z,62nm,1.0s						
BARN	Barnard Glacie	23.56	51	P	P	21 12 12.8	-1.2

BJI ***23*** *21:08:51.5±0.0,30˚.03S×176˚.48W, h8km, mb5.6/9*
IDC ***23*** *21:08:53.7±0.6,30˚.05S×177˚.33W, h0km, mb5.3/18,*
mb1 5.3/19,mb1mx5.2/36,mbtmp5.3/19,ML4.2/1,Error ellipse: s-maj=18.5km s-min=17.7km az=43.0
NEIC ***23*** *21:08:53.9±2.9,30˚.17S±0˚.06×177˚.19W±0˚.08, h10km±1km, mb5.6/51,Error ellipse: s-maj=12.1km s-min=9.9km az=75.0*
MOS ***23*** *21:08:55.1±1.7,30˚.02S×177˚.17W, h22km, mb5.8/12, Error ellipse: s-maj=11.5km s-min=10.8km az=55.4*

ISC 23 21:08:56.1±0.3,**30˚.18S**±0˚.04×**177˚.18W**±0˚.06,**h24**km, **n364,σ1ꝉ90/348,mb5.6**/60,**14C,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	1.12	325	P	Pn	21 09 14.7	-1.6
GLKZ				S	Sb	21 09 27.9	-3.1
RAO	Raoul Island	1.13	325	Pn	Pn	21 09 14.5	-1.9
RAO	9μm,0.3s,baz=155,slow=6.4,SNR=54			Sn	Sb	21 09 26.6	-4.6
RAO	26μm,0.3s,baz=173,slow=22,SNR=11						
RAO	Raoul Island	1.13	325	Pn	Pn	21 09 14.2	-2.3
RAO				Sn	Sb	21 09 28.2	-3.0
RIZ	Raoul Island	1.14	325	P	Pn	21 09 15.4	-1.2
RIZ				S	Sn	21 09 28.8	-2.6
MXZ	Matakaoa Point	8.26	206	P	Pn	21 10 51.6	-2.7
MXZ				S	Sn	21 12 24.3	-2.6
MXZ	Matakaoa Point	8.26	206	Pn	Pn	21 10 51.4	-3.0
WMGZ	Waiomatatini S	8.45	204	P	Pn	21 10 53.9	-3.0
HAZ	Te Kaha	8.63	208	P	Pn	21 10 57.0	-2.4
HAZ				S	Sn	21 12 35.0	-1.1
PKGZ	Pakihiroa	8.63	206	P	Pn	21 10 56.0	-3.6
PUZ	Puketiti	8.73	204	P	Pn	21 10 56.7	-4.1
PUZ				S	Sn	21 12 37.0	-1.5
KUZ	Kuaotunu	8.83	220	P	Pn	21 11 05.1	+2.9
RUGZ	Raukumara Rang	8.86	207	P	Pn	21 10 59.4	-3.2
RUGZ				S	Sn	21 12 39.2	-2.5
WHRZ	Whale Island	9.06	211	P	Pn	21 11 06.5	+1.2
CNGZ	Carnagh Statio	9.12	203	P	Pn	21 11 02.0	-4.1
WCZ	Waipu Caves	9.14	229	P	Pn	21 11 12.4	+5.9
TKGZ	Te Karaka	9.20	205	P	Pn	21 11 03.5	-3.8
MWZ	Matawai	9.23	207	P	Pn	21 11 04.3	-3.5
OUZ	Omahuta	9.25	235	P	Pn	21 11 14.0	+6.0
MARZ	Manawahe	9.30	212	P	Pn	21 11 09.3	+0.6
URZ	Urewera	9.34	209	P	Pn	21 11 05.4	-3.7
RAGZ	Rawiri	9.42	207	P	Pn	21 11 07.7	-2.6
RIGZ	Rimuhau	9.47	205	P	Pn	21 11 06.1	-4.9
KARZ	Kaharoa	9.53	213	P	Pn	21 11 12.5	+0.7
PRGZ	Paritu Road	9.62	204	P	Pn	21 11 08.2	-4.9
MUGZ	Murupara	9.67	210	P	Pn	21 11 10.2	-3.5
RTZ	Ruatahuna	9.70	208	P	Pn	21 11 09.3	-4.8
SNGZ	Shannon Statio	9.70	206	P	Pn	21 11 10.0	-4.1
HSRZ	Hossack Road	9.76	212	P	Pn	21 11 15.8	+0.8
KNZ	Kokohu	9.78	204	P	Pn	21 11 09.9	-5.3
MHGZ	Mahia Peninsul	9.82	203	P	Pn	21 11 10.6	-5.2
RAHZ	Arahi	9.91	207	P	Pn	21 11 12.9	-4.1
MTHZ	Maungataniwha	9.95	208	P	Pn	21 11 14.1	-3.5
WHHZ	Waihua	9.99	206	P	Pn	21 11 15.0	-3.1
TLZ	Tolley Road	10.11	215	P	Pn	21 11 29.1	+9.3
MRHZ	Matea Rd	10.12	210	P	Pn	21 11 15.6	-4.3
ARHZ	Aropaoanui	10.25	206	P	Pn	21 11 17.8	-3.8
BKZ	Black Stump Fm	10.36	208	P	Pn	21 11 19.5	-3.8
BKZ	Black Stump Fm	10.36	208	Pn	Pn	21 11 19.9	-3.4
MCHZ	McNeill Hill	10.52	207	P	Pn	21 11 22.3	-3.0
KATZ	Kakaramea	10.55	212	P	Pn	21 11 26.6	+0.7
HIZ	Hauiti	10.60	216	P	Pn	21 11 29.7	+3.3
HIZ	Hauiti	10.60	216	Pn	Pn	21 11 25.6	-0.9
KWHZ	Kaweka Forest	10.61	208	P	Pn	21 11 22.3	-4.3
KRVZ	Karewarewa	10.67	212	P	Pn	21 11 27.4	-0.2
WTVZ	West Tongariro	10.71	212	P	Pn	21 11 32.6	+4.5
KAHZ	Kahuranaki	10.75	205	P	Pn	21 11 22.5	-6.1
BHHZ	Black Hill Sta	10.81	209	P	Pn	21 11 26.4	-3.1
KRHZ	Kereru	10.82	208	P	Pn	21 11 24.2	-5.3
FWVZ	Far West T-bar	10.84	211	P	Pn	21 11 27.6	-2.4
WHVZ	Whangaehu Hut	10.85	211	P	Pn	21 11 29.1	-1.0
MOVZ	Moawhango	10.88	210	P	Pn	21 11 27.4	-2.9
TRVZ	Turoa	10.88	211	P	Pn	21 11 29.5	-1.0
PXZ	Pawanui	10.97	205	P	Pn	21 11 26.5	-4.9
VRZ	Vera Road	11.11	214	P	Pn	21 11 38.4	+4.9
PNHZ	Pukenui	11.12	207	P	Pn	21 11 30.5	-3.0
PRHZ	Porangahau	11.26	205	P	Pn	21 11 29.8	-5.7
TSZ	Takapari Road	11.34	208	P	Pn	21 11 32.0	-4.5
POWZ	Post Office Ro	11.70	208	P	Pn	21 11 40.7	-0.7
BFZ	Birch Farm	11.76	205	P	Pn	21 11 38.2	-4.1
BFZ	Birch Farm	11.76	205	Pn	Pn	21 11 39.7	-2.6
TIWZ	Tintock	11.98	206	P	Pn	21 11 39.9	-5.4
HOWZ	Holdsworth Sta	12.23	207	P	Pn	21 11 42.2	-6.5
TMWZ	Te Maipa	12.27	205	P	Pn	21 11 42.2	-7.0
OGWZ	Otaki Gorge	12.30	208	P	Pn	21 11 43.8	-5.9
MSWZ	Moikau Station	12.78	207	Pn	Pn	21 11 52.6	-3.6
DUWZ	D'Urville Isla	12.83	212	P	Pn	21 11 54.2	-2.8
NIUE	Niue	12.87	32	Pn	Pn	21 11 54.2	-3.4
SNZO	South Karori	12.90	208	Pn	Pn	21 11 54.1	-3.8
BHW	Baring Head	12.92	208	P	Pn	21 11 55.5	-2.6
TCW	Tory Channel	13.00	210	P	Pn	21 11 53.4	-5.8
MSVF	Nonsavu	13.14	340	*i* P	Pn	21 12 02.1	+0.8
MSVF	Nonsavu	13.14	340	Pn	Pn	21 12 02.5	+1.2
TUWZ	Tuamarina	13.33	210	P	Pn	21 11 59.1	-4.6
NNZ	Nelson	13.41	212	P	Pn	21 12 03.8	-1.0
NNZ	Nelson	13.41	212	Pn	Pn	21 12 01.9	-2.9
QRZ	Quartz Range	13.52	215	P	Pn	21 12 04.8	-1.5
THZ	Tophouse	14.06	212	P	Pn	21 12 11.1	-2.7
KHZ	Kahutara	14.31	209	P	Pn	21 12 12.7	-4.3
KHZ	Kahutara	14.31	209	Pn	Pn	21 12 12.8	-4.3
DSZ	Dennistion Nort	14.57	215	P	Pn	21 12 19.8	-0.9
GVZ	Greta Valley S	14.97	209	P	Pn	21 12 19.9	-6.2
LTZ	Lake Taylor	15.15	211	P	Pn	21 12 25.1	-3.5
AMCZ	Amberley	15.30	209	P	Pn	21 12 27.4	-3.1
INZ	Inchbonnie	15.49	213	P	Pn	21 12 29.6	-3.3
OXZ	Oxford	15.69	210	P	Pn	21 12 30.7	-4.8
MQZ	McQueen's Vall	15.74	208	P	Pn	21 12 30.4	-5.7
AKCZ	Akaroa Harbour	15.77	207	P	Pn	21 12 33.9	-2.7
RPZ	Rata Peaks	16.43	212	Pn	Pn	21 12 42.2	-2.8
RPZ	11nm,0.3s,baz=73,slow=1.7,SNR=13 Rata Peaks	16.43	212	P	Pn	21 12 42.0	-3.1
RPZ	Rata Peaks	16.43	212	Pn	Pn	21 12 42.0	-3.1
DZM	Mont Dzumac	16.77	295	Pn	P	21 12 53.0	+1.4
	0.9nm,0.3s,baz=119,slow=13,SNR=5.4						
FOZ	Fox Glacier	16.88	214	P	Pn	21 12 47.6	-3.0
FOZ	Fox Glacier	16.88	214	Pn	Pn	21 12 46.9	-3.8
AFI	Afiamalu	16.95	18	P	Pn	21 12 49.2	-2.6
AFI				pmax	pmax		
	comp=Z,188nm,1.1s						
AFI	Afiamalu	16.95	18		Pn	21 12 49.1	-2.6
LBZ	Lake Benmore	17.35	212	P	Pn	21 12 53.8	-2.8
LBZ	Lake Benmore	17.35	212	Pn	Pn	21 12 53.9	-2.7
ODZ	Otahua Downs	17.66	210	P	Pn	21 12 57.5	-2.9
RAR	Rarotonga	18.03	64	P	Pn	21 13 05.0	-0.1
	comp=Z,7.0nm,0.3s,baz=274,slow=7.3,SNR=8.5						
RAR	Rarotonga	18.03	64	P	Pn	21 13 02.1	-3.0
RAR				pmax	pmax		
	comp=Z,249nm,1.3s						
RAR	Rarotonga	18.03	64		Pn	21 13 02.1	-3.0
TUZ	Tuapeka	18.82	210	P	Pn	21 13 16.1	+1.5
SYZ	Scrubby Hill	19.49	209	P	P	21 13 21.3	+0.1
WHZ	Wether Hill Ro	19.52	212	P	P	21 13 18.7	-3.0
LHI	Lord Howe Isla	20.44	260	Pn	Pn	21 13 34.4	+0.5
LHI				IAmb	IAmb	21 13 47.8	
	comp=Z,255nm,0.9s						
SANVU	Saraoutou	20.52	312	P	Pn	21 13 34.2	-0.7
SANVU				IAmb	IAmb	21 13 52.1	
	comp=Z,186nm,1.0s						
ARMA	Armidale	26.89	262		P	21 14 36.5	+1.1
KNTN	Kanton	27.75	12	P	P	21 14 43.6	+0.7
KNTN				IAmb	IAmb	21 15 03.4	
	comp=Z,111nm,0.9s						
EIDS	Eidsvold	28.44	272	P	P	21 14 50.2	+1.1
EIDS				IAmb	IAmb	21 14 53.4	
	comp=Z,120nm,1.5s						
CAN	Canberra	28.82	251	P	P	21 14 53.6	+1.1
CAN				pmax	pmax		
	comp=Z,71nm,0.9s						
CAN	Canberra	28.82	251	P	P	21 14 53.6	+1.1
CAN				IAmb	IAmb	21 15 08.5	
	comp=Z,71nm,0.9s						
TAU	Tasmania Unive	30.99	236	P	P	21 15 12.4	+0.9
TAU				pmax	pmax		
	comp=Z,84nm,1.5s						
TAU	Tasmania Unive	30.99	236	P	P	21 15 12.4	+0.9
TAU				IAmb	IAmb	21 15 30.7	
	comp=Z,84nm,1.4s						
TOO	Toolangi	31.70	246	P	P	21 15 18.6	+0.6
TOO				pmax	pmax		
	comp=Z,134nm,1.3s						
TOO	Toolangi	31.70	246	P	P	21 15 18.6	+0.6
TOO				IAmb	IAmb	21 15 24.5	
	comp=Z,134nm,1.3s						
CTA	Charters Tower	34.47	278	P	P	21 15 42.9	+0.7
	comp=Z,48nm,0.7s,baz=101,slow=11,SNR=22						
CTA	Charters Tower	34.47	278	P	P	21 15 43.2	+1.0
CTA				pmax	pmax		
	comp=Z,256nm,0.9s						
CTAO	Charters Tower	34.47	278	P	P	21 15 42.9	+0.7
CTAO				pmax	pmax		
	comp=Z,169nm,0.8s						
CTAO	Charters Tower	34.47	278	P	P	21 15 42.9	+0.7
STKA	Stephens Creek	35.22	256	P	P	21 15 49.9	+1.2
	comp=Z,60nm,0.5s,baz=97,slow=10.0,SNR=28						
STKA	Stephens Creek	35.22	256	P	P	21 15 49.8	+1.2
STKA				pmax	pmax		
	comp=Z,31nm,1.0s						
STKA	Stephens Creek	35.22	256	P	P	21 15 49.8	+1.2
KRVT	Keravat (AS076	38.83	305	P	P	21 16 20.7	+1.3
	comp=Z,40nm,0.6s,baz=24,slow=20,SNR=1.9						
PMG	Port Moresby	39.16	294	P	P	21 16 20.3	-1.9
	comp=Z,33nm,1.0s,baz=44,slow=0.6,SNR=2.9						
BBOO	Buckleboo	39.71	254	P	P	21 16 26.3	-0.4
BBOO				IAmb	IAmb	21 16 41.5	
	comp=Z,313nm,1.5s						
COEN	Coen	39.90	285	P	P	21 16 28.2	-0.2
AS31	Alice Springs	43.83	266	P	P	21 16 59.6	-1.0
ASAR	Alice Springs	43.83	266	P	P	21 16 59.0	-1.5
	comp=Z,17nm,0.6s,baz=105,slow=7.5,SNR=25						
ASAR	Alice Springs	43.83	266	P	P	21 16 59.7	-0.8
ASAR	Alice Springs	43.83	266	P	P	21 16 59.7	-0.8
WR0	Warramunga Arr	44.62	272	P	P	21 17 06.1	-0.7
WB2	Warramunga Arr	44.79	271	P	P	21 17 07.0	-1.2
WB2				IAmb	IAmb	21 17 22.3	
	comp=Z,142nm,0.8s						
WRAB	Tennant Creek	44.80	272	*i* P	P	21 17 07.8	-0.4
WRAB				pmax	pmax		
	comp=Z,97nm,0.9s						
WRAB	Tennant Creek	44.80	272	P	P	21 17 08.1	-0.1
WRAB				IAmb	IAmb	21 17 22.2	
	comp=Z,120nm,0.8s						
WRA	Warramunga Arr	44.80	271	P	P	21 17 08.1	-0.2
	comp=Z,80nm,0.6s,baz=110,slow=8.1,SNR=79						
JAY	Jayapura	48.44	296	P	P	21 17 35.5	-1.3
	comp=Z,14nm,0.7s,baz=77,slow=2.4,SNR=6.8						
JAY	Jayapura	48.44	296	P	P	21 17 36.1	-0.7
JAY	Jayapura	48.44	296	P	P	21 17 35.8	-1.0
SMPI	Sarmi	50.32	295	P	P	21 17 50.9	-0.2
MTN	Manton Dam	50.65	278	P	P	21 17 52.3	-1.4
MTN				IAmb	IAmb	21 18 06.8	
	comp=Z,41nm,0.8s						
KNRA	Kununurra	51.40	274	P	P	21 17 58.7	-0.6
KNRA				IAmb	IAmb	21 18 12.6	
	comp=Z,66nm,1.1s						
FITZ	Fitzroy Crossi	53.07	269	P	P	21 18 10.4	-1.3
FITZ				IAmb	IAmb	21 18 17.3	
	comp=Z,63nm,0.9s						
HMH	Humu'ula Sheep	53.73	26	P	P	21 18 18.8	+2.1
KIP	Kipapa	54.52	22	*i* P	P	21 18 23.1	+1.0
KIP				pmax	pmax		
	comp=Z,117nm,1.0s						
FAKI	Fak Fak	54.94	290	P	P	21 18 23.7	-1.7
FAKI				IAmb	IAmb	21 18 36.4	
	comp=Z,50nm,1.0s						
NWAO	Narrogin (SRO)	55.14	249	P	P	21 18 26.1	-0.5
	comp=Z,53nm,1.3s,baz=171,slow=22,SNR=1.3						
CASY	Casey	55.66	208	P	P	21 18 29.7	-0.1
CASY				IAmb	IAmb	21 18 32.4	
	comp=Z,113nm,0.9s						
PSA00	Pilbara Seismi	56.70	263	P	P	21 18 35.7	-2.3
PSA00				IAmb	IAmb	21 18 52.0	
	comp=Z,89nm,1.4s						
MORW	Morawa	57.27	253	P	P	21 18 39.7	-2.3
MORW				IAmb	IAmb	21 18 56.5	
	comp=Z,90nm,1.4s						
MSAI	Masohi	57.43	287	P	P	21 18 42.5	-0.7
	comp=Z,34nm,0.8s						
SOEI	Soe	58.03	278	P	P	21 18 49.2	+1.6
QSPA	South Pole Qui	59.93	180	P	P	21 19 02.8	+2.8
	comp=Z,58nm,0.7s,baz=341,slow=18,SNR=2.3						
SANI	Sanana	60.58	286	P	P	21

comp=Z,35nm,1.2s
OMMB Old Mammoth Mi 86.64 43 P **P** 21 21 37.7 -0.3
NJ2 Nanjing 86.65 310 *e*P **P** 21 21 40.0 +2.3
NJ2 pmax pmax
comp=Z,24nm,0.5s
USA0B Ussuriysk Arra 87.38 326 P **P** 21 21 41.9 +1.0
USA0B pmax pmax
comp=Z,42nm,1.0s
USA0B Ussuriysk Arra 87.38 326 P **P** 21 21 41.9 +1.0
USA0B IAmb IAmb 21 21 58.1
comp=Z,42nm,1.0s
USRK Ussuriysk Ar. 87.38 326 P **P** 21 21 42.3 +1.4
comp=Z,25nm,1.0s,baz=139,slow=4.0,SNR=3.3
USRK Ussuriysk Ar. 87.38 326 P **P** 21 21 42.0 +1.1
USRK Ussuriysk Ar. 87.38 326 P **P** 21 21 42.0 +1.1
CN2 Changchun 90.40 322 *e*P **P** 21 21 56.3 +1.1
CN2 pmax pmax
comp=Z,50nm,1.3s
GRNR Gornyy 90.42 333 ⇑ *i*P **P** 21 21 56.6 +1.5
GRNR pmax pmax
comp=Z,40nm,0.9s
GRNR MLR MLR
comp=E,12μm,13.0s
GRNR MLR MLR
comp=Z,18μm,13.0s
KLR Kul'dur 91.21 329 P **P** 21 22 00.7 +1.9
comp=Z,20nm,0.8s,baz=147,slow=4.6,SNR=5.3
KLR Kul'dur 91.21 329 *i* P **P** 21 21 58.3 -0.5
KLR pmax pmax
comp=Z,40nm,1.0s
BNM Barren Site 92.31 52 P **P** 21 22 04.7 0.0
CMAR Chiang Mai Arr 94.00 289 P **P** 21 22 13.6 +1.0
comp=Z,3.2nm,0.8s,baz=89,slow=2.5,SNR=5.4
CMAR Chiang Mai Arr 94.00 289 P **P** 21 22 14.3 +1.8
KMI Kunming 94.36 296 ⇑ *e*P **P** 21 22 15.9 +1.6
KMI pP pP 21 22 18.6 -1.9
KMI sP sP 21 22 22.3 -0.5
KMI pmax pmax
comp=Z,28nm,1.0s
CD2 Chengdu 96.58 302 P **P** 21 22 24.9 +0.8
HHC Hu-ho-hao-te 96.60 314 *e*P **P** 21 22 25.0 +1.0
ILAR Eielson Array 97.56 13 P **P** 21 22 26.5 -1.1
comp=Z,4.2nm,0.9s,baz=240,slow=7.2,SNR=2.0
LZH Lanzhou 99.17 306 *e*P **Pdif** 21 22 38.5 +2.8
LZH pP pP 21 22 42.1 +0.1
LZH sP sP 21 22 46.0 +1.8
LZH pmax pmax
comp=Z,20nm,1.0s
WMQ Urumqi 113.65 308 *e*PKP **PKiKP** 21 27 32.5 +0.2
MKAR Makanchi Array 118.18 310 PKP **PKiKP** 21 27 41.6 +0.6
comp=Z,6.3nm,1.0s,baz=163,slow=1.1,SNR=2.2
ZALV Zalesovo Beam 118.34 318 PKP **PKPdf** 21 27 40.4 -0.5
comp=Z,2.5nm,0.7s,baz=118,slow=3.7,SNR=2.3
KURK Kurchatov 121.41 314 *e*PKiKP **PKPdf** 21 27 46.3 -0.6
AAK Ala-Archa 122.58 304 *i* PKiKP **PKiKP** 21 27 50.0 +0.1
MATP Matopo 123.94 209 PKP **PKiKP** 21 27 53.6 +0.3
comp=Z,16nm,1.0s,baz=221,slow=10,SNR=2.6
KBL Kabul 124.79 293 PKiKP **PKiKP** 21 27 54.6 +0.1
KBL Kabul 124.79 293 **PKiKP** 21 27 54.6 +0.1
KK31 Karatay Array 125.55 304 PKiKP **PKiKP** 21 27 55.9 +0.3
KK31 Karatay Array 125.55 304 PKPdf **PKiKP** 21 27 55.9 +0.3
KKAR Karatay Array 125.55 304 PKiKP **PKiKP** 21 27 55.9 +0.4
KKAR Karatay Array 125.55 304 **PKiKP** 21 27 55.9 +0.4
KKAR Karatay Array 125.55 304 PKPdf **PKiKP** 21 27 55.9 +0.4
SCHQ Schefferville 125.60 42 PKP **PKiKP** 21 27 56.1 +0.9
comp=Z,12nm,0.9s,baz=351,slow=0.7,SNR=3.5
BRVK Borovoye 126.81 316 *i* PKiKP **PKiKP** 21 27 59.8 +2.1
LSZ Lusaka 128.62 212 SP **PKiKP** 21 28 04.1 +1.4
comp=Z,3.8nm,0.3s,baz=236,slow=16,SNR=2.0
TSUM Tsumeb 128.88 198 PKP **PKiKP** 21 28 05.5 +2.3
comp=Z,10nm,1.0s,baz=193,slow=5.3,SNR=1.6
SPITS Spitsbergen Ar 131.53 356 PKP **PKiKP** 21 28 07.0 +0.4
comp=Z,8.0nm,0.7s,baz=83,slow=4.5,SNR=3.4
ARU Arti 133.37 321 PKiKP **PKiKP** 21 28 10.6 -0.2
ARU PP PP 21 30 39.2 +1.6
GEYT Alibeck 134.11 295 PKP **PKiKP** 21 28 13.2 +0.3
comp=Z,11nm,0.9s,baz=31,slow=6.1,SNR=3.4
KIRV Kirov 137.54 326 *i* PKiKP **PKiKP** 21 28 19.1 -0.1
ARCES ARCESS Array B 138.53 348 PKP **PKPdf** 21 28 18.4 -0.4
comp=Z,14nm,0.8s,baz=66,slow=1.1,SNR=6.9
ARCES ARCESS Array B 138.53 348 PKiKP **PKPdf** 21 28 18.6 -0.2
AKT Akhty 142.27 300 PKiKP **PKPdf** 21 28 24.4 -2.2
AKT *e*PP **PP** 21 31 32.2 -1.5
AKT pmax pmax
comp=Z,45nm,1.0s
GROC Groznyy 143.56 303 *e*PKiKP **PKPdf** 21 28 27.9 -0.7
GROC *e*PP **PP** 21 31 44.0 +2.7
GROC pmax pmax
comp=Z,53nm,1.2s
TBLG Delisi 144.49 301 PKiKP **PKPdf** 21 28 30.3 -0.1
TBLG Delisi 144.49 301 PKPdf **PKPdf** 21 28 30.3 -0.1
ZEI Tsey 144.99 303 PKiKP **PKPdf** 21 28 31.1 -0.3
ZEI pmax pmax
comp=Z,61nm,0.9s
FIA1 FINESS Array S 145.18 341 **PKPdf** 21 28 30.7 -0.2
FINES FINESS Array B 145.18 341 PKPbc **PKPdf** 21 28 31.0 +0.1
comp=Z,116nm,0.7s,baz=62,slow=4.5,SNR=65
FINES FINESS Array B 145.18 341 PKiKP **PKPdf** 21 28 30.7 -0.2
FINES FINESS Array B 145.18 341 **PKPdf** 21 28 30.7 -0.2
GOF Gofitskoye 145.24 307 ⇑ *e*PKiKP **PKPdf** 21 28 32.4 +0.9
GOF pmax pmax
comp=Z,76nm,0.6s
OBN Obninsk 145.40 326 ⇑ P **PKPab** 21 28 32.9 +1.4
OBN Obninsk 145.40 326 *i* PKP2 **PKPbc** 21 28 30.1 -1.2
OBN pmax pmax
comp=Z,130nm,1.0s
OBN Obninsk 145.40 326 **PKPab** 21 28 31.5 -0.1
AKH Akhalkalaki 145.45 300 ⇑ P **PKPab** 21 28 33.2 +0.6
AKH Akhalkalaki 145.45 300 PKiKP **PKPab** 21 28 33.1 +0.6
AKH Akhalkalaki 145.45 300 **PKPab** 21 28 33.1 +0.6
KBZ Khabaz 145.58 304 PKPbc **PKPab** 21 28 32.9 +0.3
comp=Z,17nm,0.9s,baz=181,slow=5.6,SNR=8.6
KIV Kislovodsk 145.69 305 ⇑ P **PKPab** 21 28 33.4 +0.2
KIV Kislovodsk 145.69 305 *e*PKP2 **PKPbc** 21 28 32.7 -0.1
KIV pmax pmax
comp=Z,159nm,1.0s
BCA Borcka 146.84 301 ⇑ P **PKPbc** 21 28 35.9 -0.3
SOC Sochi 147.87 305 *e*PKP2 **PKPbc** 21 28 37.8 -1.2
SOC *e*PP **PP** 21 32 03.9 -2.9
SOC *e*PPP PPP 21 35 39.1
SOC *e*SS SS 21 51 13.1 +2.2
SOC pmax pmax
comp=Z,53nm,0.7s
NB2 NORSAR Subarra148.64 352 PKP **PKiKP** 21 28 41.9 -0.1
comp=Z,12nm,0.7s,baz=12,slow=2.8
NOA NORSAR Array B148.64 352 PKPbc **PKPbc** 21 28 41.1 +0.6
comp=Z,36nm,0.9s,baz=15,slow=4.3,SNR=40
ANN Anapa 149.17 308 *e*PKiKP **PKPbc** 21 28 40.7 -1.6
ANN *e*SKP 21 32 14.7
ANN pmax pmax
comp=Z,122nm,0.8s
HFS Hagfors 149.17 349 PKPbc **PKPbc** 21 28 42.3 +0.5
comp=Z,57nm,0.8s,baz=17,slow=1.5,SNR=29
KONO Kongsberg 150.18 353 PKiKP **PKiKP** 21 28 45.8 +0.7
KONO Kongsberg 150.18 353 **PKiKP** 21 28 45.3 +0.2
GAZ Gaziantep 150.66 293 **PKiKP** 21 28 47.5 +0.5
DIKM Dikmen 151.51 303 ⇑ P **PKiKP** 21 28 49.2 +0.8
AKASG Malin Array Be 151.55 324 PKPbc **PKiKP** 21 28 48.3 +0.1
comp=Z,17nm,0.6s,baz=47,slow=2.9,SNR=28
AKBB Malin Array Si 151.55 324 PKiKP **PKiKP** 21 28 48.5 +0.3
AKBB Malin Array Si 151.55 324 **PKiKP** 21 28 48.5 +0.3
RCY Rachaya 151.83 285 *e*P **PKiKP** 21 28 50.4 +0.8
QRWL Qaraoun 151.96 285 *e*P **PKiKP** 21 28 50.4 +0.6
BHL Bhannes 151.99 286 *e*P **PKiKP** 21 28 50.7 +0.9
SUW Suwalki 152.00 334 PKiKP **PKiKP** 21 28 49.1 +0.1
SUW PKP **PKPab** 21 28 57.8 -0.3
SUW Suwalki 152.00 334 **PKiKP** 21 28 49.1 +0.1
SUW PKPab **PKPab** 21 28 57.8 -0.3
DQRL Deir Qamar 152.06 286 *e*P **PKiKP** 21 28 51.0 +1.0
ILGA Ilgaz 152.78 302 **PKiKP** 21 28 51.6 +0.2
BR131 Keskin Array S 153.12 299 PKiKP **PKiKP** 21 28 52.1 +0.1
BR131 Keskin Array S 153.12 299 **PKiKP** 21 28 52.1 +0.1
BRTR Keskin Array B 153.12 299 PKPbc **PKiKP** 21 28 52.1 +0.1
comp=Z,17nm,0.8s,baz=145,slow=4.9,SNR=9.3
BRTR Keskin Array B 153.12 299 PKiKP **PKiKP** 21 28 52.0 -0.1
BRTR Keskin Array B 153.12 299 **PKiKP** 21 28 52.0 -0.1
SORM Soroca 153.49 320 ⇑ P **PKiKP** 21 28 52.5 +0.3
ANTO Ankara 153.73 300 ⇑ P **PKiKP** 21 28 54.2 +1.0
ANTO Ankara 153.73 300 PKiKP **PKiKP** 21 28 53.4 +0.2
ANTO Ankara 153.73 300 **PKiKP** 21 28 53.4 +0.2
BR231 Keskin MP Arra 153.75 300 **PKiKP** 21 28 54.0 +0.7
MILM Milestii Mici 153.86 317 ⇑ P **PKiKP** 21 28 55.3 +2.2
CSS Mathiatis 153.91 289 **PKiKP** 21 28 53.7 0.0
LEF Lefka 154.26 289 ⇑ P **PKiKP** 21 28 56.1 +1.7
ESK Eskdalemuir 154.51 8 PKP2 **PKPab** 21 29 09.2 +0.5
ESK Eskdalemuir 154.51 8 PKPab **PKPab** 21 29 09.2 +0.5
MDUB Mudurnu 154.77 302 **PKiKP** 21 28 56.1 +0.7
TOPG Topolog 155.12 313 P **PKPab** 21 29 13.1 +1.5
TESR Tescani 155.34 318 P **PKPab** 21 29 13.5 +1.0
BURAR Bucovina Array 155.51 322 ⇑ P **PKPab** 21 29 03.4 -10
DBIC Dimbokro 155.52 161 PKPbc **PKPdf** 21 28 59.4 +11
comp=Z,15nm,0.9s,baz=122,slow=2.7,SNR=4.4
VRI Vrincioaia 155.64 317 P **PKPab** 21 29 10.1 -3.8
ICOR Ion Corvin 155.83 312 P **PKPab** 21 29 10.2 -4.5
MLR Muntele Rosu 156.31 317 P **PKPab** 21 29 10.4 -6.5
CRVS Cervenica-Dubn 156.53 328 *e*PKP2 **PKPab** 21 29 19.1 +1.5
CRVS Cervenica-Dubn 156.53 328 *e*PKP **PKPab** 21 29 19.1 +1.5
CRVS *e* 21 29 25.0
MTUR Matau 156.97 317 ⇑ P PKPab 21 29 09.3 -10
OKC Ostrava-Krasne 157.21 334 *e*PKPAB **PKPab** 21 29 20.2 -0.2
OKC Ostrava-Krasne 157.21 334 *e*PKP2 **PKPab** 21 29 20.2 -0.2
KECS Kecovo 157.28 328 *e*PKP2 **PKPab** 21 29 22.6 +1.8
KECS Kecovo 157.28 328 *e*PKP **PKPab** 21 29 22.6 +1.8
KECS *e* 21 29 28.3
CHVC Chvalec 157.33 338 *e*PKPAB **PKPab** 21 29 21.3 +0.4
DRGR 157.36 323 P PKPab 21 29 10.1 -11
UPC Upice 157.41 338 *e*PKPAB **PKPab** 21 29 22.7 +1.4
UPC Upice 157.41 338 *e*PKP2 **PKPab** 21 29 22.7 +1.4
DPC Dobruska-Polom 157.44 337 *e*PKPAB **PKPab** 21 29 22.2 +0.7
DPC Dobruska-Polom 157.44 337 *e*PKP2 **PKPab** 21 29 22.2 +0.7
MORC Moravsky Berou 157.49 335 *e*PKP **PKPab** 21 29 22.1 +0.4
CLL Collm 157.57 343 *e*PKPdiff PKPab 21 29 08.0 -14
CLL *e*PKPab pPKPab 21 29 23.0 -5.2
comp=Z,48nm,1.1s
CLL *i* 21 29 28.9
CLL Collm 157.57 343 *e*PKP2 **PKPab** 21 29 23.0 +1.1
CLL pmax pmax
comp=Z,48nm,1.1s
LOT Lotru 157.60 319 P PKPab 21 29 10.3 -12
BRG Berggiesshubel 157.72 341 *i* PKP **PKPab** 21 29 23.5 +0.9
comp=Z,34nm,0.9s
BRG *i* 21 31 23.7
comp=Z,35nm,1.2s
BRG Berggiesshubel 157.72 341 *i* PKP2 **PKPab** 21 29 23.5 +0.9
BRG pmax pmax
comp=Z,34nm,0.9s
PVCC Panska Ves 157.85 340 *e*PKPAB **PKPab** 21 29 24.1 +1.0
PVCC Panska Ves 157.85 340 *e*PKP2 **PKPab** 21 29 24.1 +1.0
PSZ Piszkesteto 157.96 328 P PKPab 21 29 10.1 -14
VYHS Vyhne 158.00 331 *e*PKP2 **PKPab** 21 29 25.4 +1.5
VYHS Vyhne 158.00 331 *e*PKP **PKPab** 21 29 25.3 +1.4
VYHS *e* 21 29 31.4
JAVC Velka Javorina 158.19 333 *e*PKP **PKPab** 21 29 27.1 +2.4
JAVC *e* 21 29 33.4
VRAC Vranov 158.23 335 *e*PKP **PKPab** 21 29 26.1 +1.3
VRAC *e* 21 29 32.4
PRA Prague 158.29 339 *e*PKPAB **PKPab** 21 29 26.5 +1.5
PRA Prague 158.29 339 *e*PKP2 **PKPab** 21 29 26.5 +1.5
GOPC GO Pecny, Ondr 158.32 339 *e*PKPAB **PKPab** 21 29 26.8 +1.6
GOPC GO Pecny, Ondr 158.32 339 *e*PKP2 **PKPab** 21 29 26.8 +1.6
PRU Pruhonice 158.33 339 *e*PKPAB **PKPab** 21 29 26.5 +1.3
PRU Pruhonice 158.33 339 *e*PKP2 **PKPab** 21 29 26.5 +1.3
KRUC Moravsky 158.50 335 *e*PKP **PKPab** 21 29 26.9 +0.9
KRUC *e* 21 29 33.4
SMOL Smolenice 158.56 333 *e*PKP2 **PKPab** 21 29 28.5 +2.2
SMOL Smolenice 158.56 333 *e*PKP **PKPab** 21 29 28.5 +2.2
SMOL *e* 21 29 34.3
NKC Novy Kostel 158.70 343 *e*PKPAB **PKPab** 21 29 27.3 +0.4
NKC Novy Kostel 158.70 343 *e*PKP2 **PKPab** 21 29 27.3 +0.4
MODS Modra-Piesok 158.73 333 *e*PKP2 **PKPab** 21 29 28.1 +1.0
MODS Modra-Piesok 158.73 333 *e*PKP **PKPab** 21 29 28.1 +1.0
MODS *e* 21 29 34.1
PBCC Pribram 158.76 340 *e*PKPAB **PKPab** 21 29 28.2 +1.1
KHC Kasperske Hory 159.38 340 *e*PKPAB **PKPab** 21 29 30.6 +0.7
KHC *ex* x 21 29 37.4
KHC *ex* x 21 31 30.5
KHC Kasperske Hory 159.38 340 *e*PKP2 **PKPab** 21 29 30.6 +0.7
GEC2 GERESS Array S 159.60 339 PKPab **PKPab** 21 29 31.9 +1.0
GERES GERESS Array B 159.60 339 PKPab **PKPab** 21 29 32.4 +1.5
comp=Z,8.9nm,0.9s,baz=38,slow=6.8,SNR=7.2
GERES GERESS Array B 159.60 339 PKP2 **PKPab** 21 29 31.6 +0.7
GERES GERESS Array B 159.60 339 PKPab **PKPab** 21 29 31.6 +0.7
CONA Conrad Observa 159.64 334 *e*PKPab **PKPab** 21 29 32.0 +0.9
comp=Z,29nm,1.0s,SNR=4.2
BCLA Clavier 159.70 355 PKPab **PKPab** 21 29 32.5 +1.4
BGES Gesves 159.75 356 PKPab **PKPab** 21 29 32.3 +1.0
BMRD Maredsous 159.85 356 PKPab **PKPab** 21 29 33.1 +1.3
MOA Molln 160.28 337 *e*PKPab **PKPab** 21 29 35.9 +2.1
comp=Z,24nm,1.2s
WLF Walferdange 160.38 354 PKPab **PKPab** 21 29 34.4 +0.3
KBA Koelnbreinsper 161.26 337 *e*PKPab **PKPab** 21 29 40.6 +2.2
comp=Z,11nm,0.7s
OBKA Obir 161.32 334 *e*PKPab **PKPab** 21 29 39.5 +1.0
comp=Z,16nm,1.0s
MYKA Terra Mystica 161.55 336 *e*PKPab **PKPab** 21 29 40.4 +0.9
comp=Z,15nm,0.7s,SNR=4.8
WATA Walderalm 161.59 341 *e*PKPab **PKPab** 21 29 41.6 +2.0
comp=Z,52nm,1.1s,SNR=6.7
WTTA Wattenberg 161.63 341 *e*PKPab **PKPab** 21 29 41.9 +2.0
comp=Z,41nm,0.8s,SNR=9.3
RETA Reutte 161.67 343 *e*PKPab **PKPab** 21 29 42.0 +2.1
comp=Z,40nm,1.0s,SNR=10
MOTA Moosalm 161.71 342 *e*PKPab **PKPab** 21 29 42.2 +2.0
comp=Z,45nm,1.0s,SNR=7.1
PRED Cave del Predi 161.74 336 PKPab **PKPab** 21 29 40.0 -0.3
SQTA Sankt Quirin 161.79 341 *e*PKPab **PKPab** 21 29 42.7 +2.1
comp=Z,38nm,0.9s,SNR=7.0
ABTA Abfaltersbach 161.83 338 *e*PKPab **PKPab** 21 29 40.8 +0.2
comp=Z,21nm,0.7s,SNR=8.8
CIMO Cimolais 162.24 338 PKPab **PKPab** 21 29 42.6 +0.2
FUORN Ofenpass-Fuorn 162.60 343 PKPab **PKPab** 21 29 45.4 +1.2
TUE Stuetta 162.96 344 PKPab **PKPab** 21 29 47.0 +1.2
TORD Torodi Ar. Bea 163.01 176 PKPab **PKPab** 21 29 49.5 +3.0
comp=Z,4.2nm,0.6s,baz=173,slow=2.6,SNR=1.5
OSSC Osservatorio P 165.09 336 **PKPab** 21 29 54.6 -0.4
KEST Kesra 172.21 317 PKPab **PKPab** 21 30 27.6 +0.7
comp=Z,17nm,1.1s,baz=28,slow=16,SNR=2.3

NEIC ***23*** *21:09:55.7±1.6,51.84N±0.05×178.5E±0.1,h123km±4km, Error ellipse: s-maj=10.4km s-min=6.1km az=60.0*
AEIC 23 21:09:56±2.8,**51.84N**±0.06×**178.57E**±0.09,**h110**km±4km, **mb4.3**/5(NEIC),**Error ellipse: s-maj=9.9km s-min=7.6km az=212.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.09**	**359**		Pn	21 10 12.4	+1.2
LSSA	**Little Sitkin**	**0.11**	**341**		Pn	21 10 12.8	+1.6
LSSA					Sn	21 10 24.8	+2.2
LSPA	**Little Sitkin**	**0.11**	**1**		Pn	21 10 12.5	+1.3
LSPA					Sn	21 10 25.3	+2.7
LSNW	**Little Sitkin**	**0.13**	**345**		Pn	21 10 12.6	+1.4
CESW	**Semis' Southwe**	**0.62**	**84**		Pn	21 10 15.1	+1.4
CEAP	**Semis' Anvil P**	**0.64**	**75**		Pn	21 10 15.5	+1.7
AMKA	**Amchitka**	**0.65**	**135**		Pn	21 10 15.5	+1.6
AMKA					Sn	21 10 29.4	+2.0
CERAA	**Semis' Rag'd T**	**0.69**	**84**		Pn	21 10 15.8	+1.6
TASE	**Tanaga Southea**	**2.10**	**89**		Pn	21 10 32.6	+2.3
SMY	**Shemya**	**2.89**	**290**	Pn	Pn	21 10 37.7	-2.6
ATKA	**Atka Island**	**4.48**	**83**	Pn	Pn	21 11 00.5	-1.2
SPIA	**Saint Paul Isl**	**8.41**	**46**	Pn	Pn	21 11 57.3	+2.5
PET	**Petropavlovsk**	**12.21**	**283**		Pn	21 12 46.5	+0.5
GAMB	**Gambell**	**13.02**	**19**	Pn	Pn	21 12 57.8	+1.4
CNBA	**Chernabura Isl**	**13.38**	**69**	Pn	Pn	21 12 59.4	-1.8
CHIR	**Chirikof Islan**	**15.71**	**65**	Pn	Pn	21 13 29.5	-1.4
CHIR				IAmb	IAmb	21 13 35.1	
comp=Z,12nm,0.8s							
OHAK	**Old Harbor**	**17.12**	**61**	P	P	21 13 46.3	-1.8
KDAK	**Kodiak Island**	**17.57**	**59**	P	P	21 13 51.7	-1.3
CNPM	**China Poot**	**18.54**	**54**	P	P	21 14 02.1	-1.7
SEW	**Seward**	**19.54**	**52**	P	P	21 14 14.4	-0.1
SEW				IAmb	IAmb	21 14 16.1	
comp=Z,20nm,1.0s							
KNK	**Knik Glacier**	**20.29**	**49**	P	P	21 14 21.1	-1.6
FID	**Port Fidalgo**	**21.10**	**51**	P	P	21 14 29.8	-1.6
FID				IAmb	IAmb	21 14 29.9	
comp=Z,6.2nm,0.6s							

IDC ***23*** *21:10:43.5±0.6,30.11S×177.02W,h0km,mb5.1/14, mb1 5.2/16,mb1mx5.1/35,mbtmp5.1/16,ML4.4/2,Error ellipse: s-maj=21.6km s-min=16.7km az=21.0*
NEIC ***23*** *21:10:46.0±1.5,30.14S±0.08×177.0W±0.1,h15km±4km,*

mb5.4/28,Error ellipse: s-maj=13.9km s-min=9.5km az=54.0
ISC 23 21:10:47.0±0.5,**30.24S**±0.05×**177.06W**±0.07,**h24**km,**n91,** σ1**49**/94,**mb5.3**/24,**2C-1D,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.23**	**322**	P	**Pn**	21 11 06.5	-2.2
GLKZ				S	**Sn**	21 11 21.3	-3.2
RAO	**Raoul Island**	**1.24**	**323**	Pn	**Pn**	21 11 07.2	-1.5
RAO	5μm,0.3s,baz=99,slow=21,SNR=1.5			Sn	**Sn**	21 11 23.5	-1.2
RAO	12μm,0.3s,baz=52,slow=22,SNR=3.8						
RAO	**Raoul Island**	**1.24**	**323**		**Pn**	21 11 07.7	-1.0
RAO				Sn	**Sn**	21 11 23.9	-0.8
RIZ	**Raoul Island**	**1.25**	**322**	P	**Pn**	21 11 07.9	-1.0
WMGZ	**Waiomatatini S**	**8.44**	**205**	S	**Sn**	21 14 19.7	-2.5
PKGZ	**Pakihiroa**	**8.63**	**207**	S	**Sn**	21 14 24.2	-2.7
HAZ	**Te Kaha**	**8.63**	**208**	S	**Sn**	21 14 24.3	-2.6
PUZ	**Puketiti**	**8.72**	**205**	S	**Sn**	21 14 24.9	-4.3
RUGZ	**Raukumara Rang**	**8.85**	**208**	S	**Sn**	21 14 28.1	-4.4
TWGZ	**Tauwhareparae**	**8.92**	**206**	S	**Sn**	21 14 31.8	-2.2
TKGZ	**Te Karaka**	**9.20**	**206**	S	**Sn**	21 14 38.9	-1.9
MWZ	**Matawai**	**9.23**	**208**	S	**Sn**	21 14 39.7	-2.0
URZ	**Urewera**	**9.34**	**210**	S	**Sn**	21 14 40.8	-3.5
RIGZ	**Rimuhau**	**9.46**	**205**	S	**Sn**	21 14 43.9	-3.6
PRGZ	**Paritu Road**	**9.61**	**204**	S	**Sn**	21 14 46.9	-4.2
BHW	**Baring Head**	**12.92**	**208**	Pn	**Pn**	21 13 50.1	+1.1
RPZ	**Rata Peaks**	**16.44**	**212**	Pn	**Pn**	21 14 36.8	+0.7
	5.6nm,0.3s,baz=264,slow=4.2,SNR=3.0						
RPZ	**Rata Peaks**	**16.44**	**212**		**Pn**	21 14 37.3	+1.3
DZM	**Mont Dzumac**	**16.89**	**295**	Pn	**P**	21 14 45.1	+1.4
	3.1nm,0.3s,baz=111,slow=14,SNR=6.5						
ODZ	**Otahua Downs**	**17.67**	**210**	P	**P**	21 14 52.1	0.0
RAR	**Rarotonga**	**17.96**	**64**	P	**Pn**	21 14 53.0	-2.2
	3.3nm,0.3s,baz=212,slow=11,SNR=3.1						
RAR	**Rarotonga**	**17.96**	**64**		**Pn**	21 14 52.5	-2.7
KNTN	**Kanton**	**27.78**	**12**	P	**P**	21 16 33.4	-0.8
EIDS	**Eidsvold**	**28.54**	**272**	P	**P**	21 16 42.0	+1.1
EIDS				IAmb	IAmb	21 16 44.2	
	comp=Z,74nm,1.4s						
CAN	**Canberra**	**28.90**	**251**	P	**P**	21 16 45.3	+1.2
TOO	**Toolangi**	**31.77**	**247**	P	**P**	21 17 10.8	+1.3
TOO				IAmb	IAmb	21 17 15.5	
	comp=Z,108nm,1.3s						
CTA	**Charters Tower**	**34.58**	**278**	P	**P**	21 17 34.7	+0.6
	comp=Z,34nm,0.7s,baz=104,slow=12,SNR=3.2						
CTAO	**Charters Tower**	**34.58**	**278**	P	**P**	21 17 35.0	+0.9
CTAO				IAmb	IAmb	21 17 43.1	
	comp=Z,78nm,0.9s						
STKA	**Stephens Creek**	**35.31**	**257**	P	**P**	21 17 42.1	+1.9
	comp=Z,26nm,0.5s,baz=109,slow=11,SNR=5.5						
STKA	**Stephens Creek**	**35.31**	**257**	P	**P**	21 17 42.0	+1.7
BBOO	**Buckleboo**	**39.80**	**254**	P	**P**	21 18 18.9	+0.6
BBOO				IAmb	IAmb	21 18 23.6	
	comp=Z,88nm,1.1s						
AS31	**Alice Springs**	**43.93**	**266**	P	**P**	21 18 52.6	+0.4
ASAR	**Alice Springs**	**43.93**	**266**	P	**P**	21 18 51.8	-0.5
	comp=Z,17nm,0.6s,baz=110,slow=7.6,SNR=4.8						
ASAR	**Alice Springs**	**43.93**	**266**		**P**	21 18 51.9	-0.3
WR0	**Warramunga Arr**	**44.73**	**272**	P	**P**	21 18 58.7	+0.1
WR0				IAmb	IAmb	21 19 03.2	
	comp=Z,58nm,1.0s						
WB2	**Warramunga Ar**	**44.90**	**271**	P	**P**	21 18 59.8	-0.1
WB2				IAmb	IAmb	21 19 07.0	
	comp=Z,40nm,0.6s						
WRA	**Warramunga Arr**	**44.91**	**271**	P	**P**	21 18 59.3	-0.7
	comp=Z,26nm,0.5s,baz=110,slow=8.1,SNR=14						
JAY	**Jayapura**	**48.55**	**296**	P	**P**	21 19 28.0	-0.6
	comp=Z,20nm,1.0s,baz=138,slow=1.4,SNR=2.9						
FITZ	**Fitzroy Crossi**	**53.17**	**269**	P	**P**	21 20 03.8	+0.4
FITZ				IAmb	IAmb	21 20 09.1	
	comp=Z,40nm,1.1s						
FAKI	**Fak Fak**	**55.05**	**289**	P	**P**	21 20 17.3	+0.2
FAKI				IAmb	IAmb	21 20 25.4	
	comp=Z,34nm,1.1s						
NWAO	**Narrogin (SRO)**	**55.21**	**249**	P	**P**	21 20 19.4	+1.3
	comp=Z,17nm,1.0s,baz=73,slow=22,SNR=1.7						
NWAO	**Narrogin (SRO)**	**55.21**	**249**	P	**P**	21 20 19.2	+1.1
NWAO				IAmb	IAmb	21 20 27.9	
	comp=Z,70nm,1.5s						
CASY	**Casey**	**55.66**	**208**	P	**P**	21 20 21.1	+0.4
CASY				IAmb	IAmb	21 20 28.2	
	comp=Z,24nm,0.7s						
GIRL	**Giralia**	**61.18**	**259**	P	**P**	21 21 00.0	+0.1
KAPI	**Kappang**	**64.38**	**280**	P	**P**	21 21 22.0	+0.6
KAPI				IAmb	IAmb	21 21 30.6	
	comp=Z,30nm,1.4s						
DCPH	**Dipolog City**	**68.97**	**294**	⇑ *e*P	**P**	21 21 50.9	+0.3
USHA	**Ushuaia**	**75.59**	**146**	P	**P**	21 22 30.9	+1.3
	comp=Z,38nm,0.7s,baz=237,slow=1.6,SNR=4.5						
KSM	**Kuching**	**75.79**	**280**	P	**P**	21 22 32.0	+0.6
MJAR	**Matsushiro Arr**	**78.58**	**325**	P	**P**	21 22 45.9	-0.6
	comp=Z,9.8nm,0.9s,baz=157,slow=6.2,SNR=4.4						
MAJO	**Matsushiro**	**78.58**	**325**	P	**P**	21 22 46.1	-0.4
MAJO				IAmb	IAmb	21 22 47.1	
	comp=Z,31nm,1.1s						
MAT	**Matsushiro**	**78.58**	**325**	P	**P**	21 22 45.5	-1.0
JNU	**Nakatsue**	**79.98**	**318**	P	**P**	21 22 54.2	-0.1
PLCA	**Paso Flores**	**82.02**	**133**	P	**P**	21 23 06.6	+1.3
	comp=Z,17nm,0.9s,baz=143,slow=4.4,SNR=3.2						
PLCA	**Paso Flores**	**82.02**	**133**	P	**P**	21 23 06.4	+1.1
PLCA				IAmb	IAmb	21 23 13.3	
	comp=Z,76nm,1.3s						
EFI	**East Falkland**	**82.48**	**147**	P	**P**	21 23 07.9	+0.6
KSRS	**Korea Array**	**84.76**	**319**	P	**P**	21 23 19.9	+0.9
	comp=Z,5.8nm,0.9s,baz=138,slow=6.8,SNR=3.2						
YSS	**Yuzh-Sakhalins**	**84.96**	**334**	P	**P**	21 23 20.8	+1.0
IPM	**Ipoh**	**85.27**	**278**	P	**P**	21 23 21.9	-0.4
PEA0B	**Petropavlovsk-**	**85.86**	**345**	P	**P**	21 23 24.8	+0.6
PETK	**Petropavlovsk-**	**85.86**	**345**	P	**P**	21 23 25.4	+1.2
	comp=Z,18nm,0.8s

AEIC ***23*** *21:11:38.2±2.1,51.78N±0.07×178.40E±0.08,h117km±3km, Error ellipse: s-maj=9.8km s-min=6.8km az=199.0*
MOS ***23*** *21:11:40.0±0.9,51.98N×178.45E,h112km,mb6.0/61, Error ellipse: s-maj=5.5km s-min=4.0km az=99.5*
NEIC ***23*** *21:11:40.5±1.3,51.96N±0.07×178.46E±0.08, h103km±3km,mb6.0/417,ML5.7(AEIC),Error ellipse: s-maj=10.4km s-min=6.7km az=199.0*
UNK ***23*** *21:11:40.5,51.96N×178.46E,h103km*
IDC ***23*** *21:11:41.4±0.6,51.99N×178.47E,h110km±4km,mb5.5/47, mb1 5.6/49,mb1mx5.6/53,mbtmp5.9/49,Error ellipse: s-maj=8.2km s-min=6.3km az=152.0*
ISC 23 21:11:40.8±0.3,51.96N±0.03×178.44E±0.03,h106km±2km, h108km±pP-P,n1635,σ1s00/1754,mb6.0/404,60C-49D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.04**	**100**		**Pn**	**21 11 55.0**	**-0.5**
LSNW	**Little Sitkin**	**0.05**	**73**		**Pn**	**21 11 55.3**	**-0.1**
LSPA	**Little Sitkin**	**0.08**	**90**		**Pn**	**21 11 55.0**	**-0.4**
CEAP	**Semis' Anvil P**	**0.70**	**86**		**Pn**	**21 11 58.7**	**-0.1**
CERAA	**Semis' Rag'd T**	**0.77**	**93**		**Pn**	**21 11 59.2**	**-0.2**
AMKA	**Amchitka**	**0.79**	**137**	Pn	**Pn**	**21 11 58.2**	**-1.4**
AMKA				Sn	**Sn**	**21 12 12.3**	**-1.4**
GALAA	**Gareloi Lava P**	**1.74**	**95**		**Pn**	**21 12 09.8**	**-0.4**
TASE	**Tanaga Southea**	**2.18**	**92**		**Pn**	**21 12 15.9**	**-0.1**
TAFP	**Tanaga Falls P**	**2.21**	**90**		**Pn**	**21 12 16.0**	**-0.3**
TAPA	**Tanaga Point A**	**2.33**	**92**		**Pn**	**21 12 17.4**	**-0.4**
KIMD	**Kanaga Island**	**2.69**	**92**		**Pn**	**21 12 21.8**	**-0.7**
KICM	**Kanaga Island**	**2.70**	**89**		**Pn**	**21 12 22.9**	**+0.3**
KIKV	**Kanaga Island**	**2.72**	**90**		**Pn**	**21 12 22.7**	**-0.2**
KIWB	**Kanaga Island**	**2.73**	**90**		Pn	21 12 29.0	+6.0
KINC	**Kanaga Island**	**2.74**	**89**		**Pn**	**21 12 23.0**	**-0.2**
SMY	**Shemya**	**2.77**	**288**	P	**Pn**	**21 12 22.7**	**-0.9**
SMY						21 12 56.1	
SMY	**Shemya**	**2.77**	**288**	Pn	**Pn**	**21 12 22.7**	**-0.9**
SMY					**Sn**	**21 12 56.1**	**-0.5**
ADK	**Adak**	**3.02**	**89**	P	**Pn**	**21 12 25.9**	**-0.9**
ADK	**Adak**	**3.02**	**89**	Pn	**Pn**	**21 12 25.9**	**-0.9**
GSSP	**Great Sitkin S**	**3.33**	**86**		**Pn**	**21 12 31.5**	**+0.6**
GSTD	**Great Sitkin T**	**3.35**	**86**		**Pn**	**21 12 30.7**	**-0.5**
GSTR	**Great Sitkin T**	**3.40**	**86**	Pn	**Pn**	**21 12 31.4**	**-0.5**
GSMY	**Great Sitkin M**	**3.40**	**86**		**Pn**	**21 12 31.4**	**-0.6**
KOWE	**Korovin West**	**4.52**	**82**		**Pn**	**21 12 47.0**	**+0.1**
ATKA	**Atka Island**	**4.55**	**84**		**Pn**	**21 12 46.8**	**-0.5**
KOFP	**Korovin Flat P**	**4.61**	**83**		**Pn**	**21 12 48.4**	**+0.2**
KOSE	**Korovin Southe**	**4.64**	**82**		**Pn**	**21 12 49.0**	**+0.4**
NIKH	**Nikolski High**	**7.83**	**78**		**Pn**	**21 13 31.9**	**+0.2**
OKSP	**Okmok Steeple**	**8.18**	**76**		**Pn**	**21 13 38.1**	**+1.5**
OKCE	**Okmok Cone E**	**8.27**	**74**		**Pn**	**21 13 39.1**	**+1.3**
OKNC	**Okmok New Cone**	**8.30**	**74**		**Pn**	**21 13 39.7**	**+1.5**
SPIA	**Saint Paul Isl**	**8.39**	**47**	Pn	**Pn**	**21 13 41.3**	**+1.9**
OKFG	**Magazine Ridge**	**8.42**	**75**		**Pn**	**21 13 42.0**	**+2.2**
MSW	**Makushin Switc**	**9.14**	**72**		**Pn**	**21 13 51.5**	**+1.9**
MREP	**Makushin Rep't**	**9.15**	**72**		**Pn**	**21 13 50.9**	**+1.2**
MNAT	**Makushin Natee**	**9.19**	**72**		**Pn**	**21 13 51.8**	**+1.5**
UNV	**Unalaska Valle**	**9.29**	**72**	Pn	**Pn**	**21 13 51.5**	**-0.1**
AKUT	**Akutan**	**9.76**	**71**	Pn	**Pn**	**21 13 58.5**	**+0.6**
FALS	**False Pass**	**11.21**	**63**	Pn	**Pn**	**21 14 18.3**	**+0.8**
PET	**Petropavlovsk**	**12.11**	**283**	*e*P	**Pn**	**21 14 29.4**	**-0.1**
PET				*e*S	**Sn**	**21 16 35.7**	**-6.8**
PET	comp=Z,410nm,1.3s			pmax	pmax		
PET	**Petropavlovsk**	**12.11**	**283**	Pn	**Pn**	**21 14 29.3**	**-0.1**
PEA0B	**Petropavlovsk-**	**12.68**	**283**	*i* P	**Pn**	**21 14 38.3**	**+1.2**
PETK	**Petropavlovsk-**	**12.68**	**283**	P	**Pn**	**21 14 38.0**	**+1.0**
PETK	comp=Z,11nm,0.3s,baz=89,slow=20,SNR=31			S	**Sn**	**21 16 49.9**	**-6.5**
PETK	comp=Z,16nm,0.3s,baz=313,slow=28,SNR=6.4			PcP	**PcP**	**21 20 05.5**	**+0.6**
GAMB	comp=Z,2.1nm,0.3s,baz=121,slow=4.3,SNR=8.5 **Gambell**	**12.94**	**20**	Pn	**Pn**	**21 14 41.1**	**+0.8**
GAMB					**ScP**	**21 23 28.6**	**+0.4**
SDPT	**Sand Point**	**12.95**	**67**	Pn	**Pn**	**21 14 39.2**	**-1.2**
CNBA	**Chernabura Isl**	**13.41**	**69**	Pn	**Pn**	**21 14 44.7**	**-1.8**
SKR	**Severo-Kuril's**	**14.01**	**274**	*e*P	**Pn**	**21 14 56.5**	**+2.1**
SKR				*e*S	**Sn**	**21 17 20.4**	**-8.2**
SKR	comp=Z,570nm,0.9s			pmax	pmax		
SKR	comp=Z,37μm,15.0s			MLR	MLR		
SKR	comp=Z,41μm,14.0s			MLR	MLR		
ANM	**Nome**	**15.17**	**27**	P	**Pn**	**21 15 09.0**	**0.0**
ANM	comp=Z,137nm,1.0s			pmax	pmax		
ANM	**Nome**	**15.17**	**27**		**Pn**	**21 15 09.0**	**0.0**
CHIR	**Chirikof Islan**	**15.73**	**66**	Pn	**Pn**	**21 15 14.5**	**-1.5**
SII	**Sitkinak Islan**	**16.58**	**63**	Pn	**Pn**	**21 15 24.3**	**-2.4**
SII	comp=Z,1μm,1.0s			IAmb	IAmb	21 15 50.0	
SVW2	**Sparrevohn**	**16.89**	**47**	P	**P**	**21 15 31.6**	**+0.9**
SVW2	comp=Z,853nm,1.2s			IAmb	IAmb	21 15 34.7	
OHAK	**Old Harbor**	**17.14**	**61**	P	**Pn**	**21 15 30.8**	**-2.5**
BILL	**Bilibino**	**17.18**	**344**	*i* P	**Pn**	**21 15 35.6**	**+1.8**
BILL	comp=Z,1μm,1.0s			pmax	pmax		
BILL	**Bilibino**	**17.18**	**344**		**Pn**	**21 15 35.5**	**+1.6**
BILL	comp=Z,1μm,0.9s			IAmb	IAmb	21 15 38.6	
MA2	**Magadan**	**17.23**	**307**	*c i* P	**Pn**	**21 15 34.8**	**+0.3**
MA2	comp=Z,105nm,0.9s			pmax	pmax		
MA2	**Magadan**	**17.23**	**307**		**Pn**	**21 15 35.6**	**+1.1**
TTA	**Tatalina**	**17.46**	**41**	P	**Pn**	**21 15 38.8**	**+1.5**
TTA	**Tatalina**	**17.46**	**41**	P	**Pn**	**21 15 38.8**	**+1.5**
KDAK	**Kodiak Island**	**17.57**	**59**	P	**P**	**21 15 36.4**	**-1.8**
KDAK	comp=Z,34nm,0.3s,baz=236,slow=1.8,SNR=73			S	**Sn**	**21 18 45.6**	**-8.7**
KDAK	comp=Z,1.1nm,0.3s,baz=2.5,slow=17,SNR=1.1 **Kodiak Island**	**17.57**	**59**	P	**P**	**21 15 35.9**	**-2.3**
KDAK	comp=Z,2μm,1.6s			IAmb	IAmb	21 15 57.5	
RSO	**Redoubt South**	**18.01**	**51**	P	**P**	**21 15 43.3**	**+0.1**
HOM	**Homer**	**18.36**	**53**	P	**Pn**	**21 15 47.5**	**-0.6**
RDOG	**Red Dog Mine**	**18.50**	**22**	P	**Pn**	**21 15 49.9**	**+0.3**
CNPM	**China Poot**	**18.54**	**54**	P	**P**	**21 15 49.3**	**+0.6**
CNPM	comp=Z,1μm,1.1s			IAmb	IAmb	21 15 50.7	
BRLK	**Bradley Lake**	**18.76**	**53**	P	**P**	**21 15 50.3**	**-0.9**
BRLK	comp=Z,862nm,0.9s			IAmb	IAmb	21 15 55.7	
CAPN	**Captain Cook N** baz=256,SNR=25	**18.85**	**50**	P	**Pn**	**21 15 54.2**	**+0.4**
PPLA	**Purkeypile**	**19.04**	**44**	P	**Pn**	**21 15 56.5**	**+0.3**
O22K	**Cooper Landing** baz=258,SNR=55	**19.47**	**52**	P	**P**	**21 15 59.3**	**+0.5**
SEW	**Seward**	**19.53**	**53**	P	**P**	**21 15 59.2**	**-0.3**
SEW	comp=Z,1μm,0.9s			IAmb	IAmb	21 16 06.2	
BPAW	**Bear Paw Mtn.**	**20.00**	**41**	P	**Pn**	**21 16 06.0**	**-1.2**
BPAW	comp=Z,722nm,1.1s			IAmb	IAmb	21 16 08.4	
PMR	**Palmer**	**20.00**	**49**	P	**P**	**21 16 04.8**	**+0.2**
PMR	comp=Z,435nm,1.2s			pmax	pmax		
PMR	**Palmer**	**20.00**	**49**	P	**P**	**21 16 04.8**	**+0.2**
TRF	**Thorofare Moun**	**20.04**	**43**	P	Pn	21 16 06.7	-1.3
TRF	comp=Z,1μm,1.1s			IAmb	IAmb	21 16 13.2	
GHO	**Glory Hole Cre**	**20.14**	**48**	P	**P**	**21 16 06.6**	**+0.4**
GHO	comp=Z,662nm,1.0s			IAmb	IAmb	21 16 09.6	
KNK	**Knik Glacier**	**20.27**	**49**	P	**P**	**21 16 07.9**	**+0.3**
MLY	**Manley**	**20.47**	**38**	P	**P**	**21 16 10.9**	**+1.2**
RND	**Reindeer**	**20.64**	**44**	P	**P**	**21 16 13.1**	**+1.6**
RND	comp=Z,497nm,1.0s			pmax	pmax		
RND	**Reindeer**	**20.64**	**44**	P	**P**	**21 16 13.1**	**+1.6**
RND	comp=Z,497nm,1.0s			IAmb	IAmb	21 16 39.9	
MCK	**McKinley**	**20.71**	**43**	P	**P**	**21 16 13.1**	**+0.9**
MCK	comp=Z,661nm,1.1s			pmax	pmax		
MCK	**McKinley**	**20.71**	**43**	P	**P**	**21 16 13.1**	**+0.9**
MCK	comp=Z,661nm,1.1s			IAmb	IAmb	21 16 40.4	
GLI	**Glacier Island**	**20.82**	**51**	P	**P**	**21 16 12.7**	**-0.7**
GLI				ScP	**ScP**	**21 23 42.8**	**-1.3**
SCM	**Sheep Creek Mo**	**20.89**	**48**	P	**P**	**21 16 14.1**	**-0.2**
SCM	comp=Z,1μm,1.0s			pmax	pmax		
SCM	**Sheep Creek Mo**	**20.89**	**48**	P	**P**	**21 16 14.1**	**-0.2**
SCM	comp=Z,1μm,1.0s			IAmb	IAmb	21 16 18.2	
NEA2	**Nenana** baz=248,SNR=28	**20.95**	**40**	P	**P**	**21 16 15.7**	**+0.9**
MID	**Middleton Isla**	**21.00**	**55**	P	**P**	**21 16 15.5**	**+0.2**
MID	comp=Z,2μm,0.9s			pmax	pmax		
MID	**Middleton Isla**	**21.00**	**55**	P	**P**	**21 16 15.5**	**+0.2**
HIN	**Hinchinbrook I**	**21.03**	**53**	P	**P**	**21 16 15.4**	**-0.3**
FID	**Port Fidalgo**	**21.09**	**52**	P	**P**	**21 16 15.7**	**-0.7**
FID	comp=Z,1μm,1.0s			IAmb	IAmb	21 16 19.7	
DHY	**Denali Highway**	**21.18**	**45**	P	**P**	**21 16 17.9**	**+0.5**
DHY	comp=Z,978nm,0.9s			IAmb	IAmb	21 16 45.4	
KUR	**Kuril'sk**	**21.20**	**264**	*i* P	**P**	**21 16 18.5**	**+0.9**
KUR				*i* S	**S**	**21 20 10.4**	**+3.3**
KUR	comp=Z,2μm,1.2s			pmax	pmax		
KUR	comp=E,590nm,1.1s			pmax	pmax		
KUR	comp=N,313nm,0.9s			pmax	pmax		
WRH	**Wood River Hil**	**21.31**	**41**	P	**P**	**21 16 19.3**	**+0.8**
WRH				ScP	**ScP**	**21 23 45.3**	**0.0**
EYAK	**Cordova Ski Ar**	**21.42**	**52**	P	**P**	**21 16 19.7**	**-0.1**
EYAK	comp=Z,1μm,0.9s			IAmb	IAmb	21 16 23.8	
EYAK					**ScP**	**21 23 44.9**	**-0.8**
MDM	**Murphy Dome**	**21.43**	**40**	P	**P**	**21 16 20.3**	**+0.4**
CCB	**Clear Creek Bu**	**21.48**	**41**	P	**P**	**21 16 20.7**	**+0.3**
CCB				ScP	**ScP**	**21 23 45.0**	**-0.7**
TCOL	**CIGO, UAF Yank** baz=249,SNR=18	**21.54**	**40**	P	**P**	**21 16 22.0**	**+1.0**
COLA	**College**	**21.55**	**40**	*i* P	**P**	**21 16 21.3**	**+0.2**
COLA	comp=Z,363nm,1.0s			pmax	pmax		
COLA	**College**	**21.55**	**40**	P	**P**	**21 16 21.8**	**+0.8**
COLA	comp=Z,574nm,1.1s			IAmb	IAmb	21 16 25.9	
COLD	**Coldfoot** baz=241	**21.68**	**33**	P	**P**	**21 16 23.6**	**+1.1**
COLD	**Coldfoot**	**21.68**	**33**	P	**P**	**21 16 22.8**	**+0.4**
HDA	**Harding Lake** baz=252	**21.75**	**42**	P	**P**	**21 16 23.8**	**+0.5**
HDA	**Harding Lake**	**21.75**	**42**	P	**P**	**21 16 23.8**	**+0.5**
POKR	**Poker Plat Res** baz=249,SNR=22	**21.80**	**40**	P	**P**	**21 16 24.8**	**+1.0**
IL31		**21.90**	**41**	P	**P**	**21 16 25.0**	**+0.2**
ILAR	**Eielson Array**	**21.90**	**41**	P	**P**	**21 16 23.9**	**-1.0**
ILAR	comp=Z,135nm,1.0s,baz=247,slow=9.0,SNR=45			PcP	**PcP**	**21 20 19.2**	**-0.4**
ILAR	comp=Z,18nm,0.8s,baz=286,slow=3.6,SNR=8.2			ScP	**ScP**	**21 23 43.9**	**-2.9**
ILAR	comp=Z,15nm,0.7s,baz=282,slow=3.2,SNR=12			ScS	**ScS**	**21 27 31.4**	**+0.3**
ILAR	comp=Z,3.4nm,0.8s,baz=278,slow=5.2,SNR=5.6			P3KPbc		21 50 10.8	
PAX	comp=Z,10nm,1.0s,baz=60,slow=3.7,SNR=16 **Paxson**	**21.99**	**46**	P	**P**	**21 16 26.2**	**+0.2**
PAX	comp=Z,1μm,1.2s			pmax	pmax		
PAX	**Paxson**	**21.99**	**46**	P	**P**	**21 16 26.2**	**+0.2**
PAX	comp=Z,1μm,1.2s			IAmb	IAmb	21 16 29.4	
RIDG	**Independent Ri**	**22.45**	**44**	P	**P**	**21 16 30.7**	**0.0**
GLB	**Gilahina Butte**	**22.48**	**50**	P	**P**	**21 16 31.0**	**+0.1**
GLB	comp=Z,946nm,1.0s			IAmb	IAmb	21 16 35.3	
TOLK	**Toolik Lake Re** baz=238,SNR=25	**22.60**	**30**	P	**P**	**21 16 33.1**	**+1.0**
TOLK	**Toolik Lake Re**	**22.60**	**30**	P	**P**	**21 16 32.9**	**+0.8**
TOLK	comp=Z,591nm,1.1s			IAmb	IAmb	21 16 36.0	
VRDI	**Verde Repeater**	**22.62**	**51**	P	**P**	**21 16 32.7**	**+0.1**
VRDI	comp=Z,1μm,1.1s			IAmb	IAmb	21 16 36.0	
PRP	**Porcupine Dome**	**22.69**	**39**	P	**P**	**21 16 33.2**	**+0.1**
DOT	**Dot Lake**	**22.77**	**45**	P	**P**	**21 16 33.2**	**-0.7**
DOT	comp=Z,562nm,1.0s			IAmb	IAmb	21 16 36.7	
MENT	**Mentasta**	**22.77**	**46**	P	**P**	**21 16 34.3**	**+0.4**
WAX	**Waxell Ridge**	**22.84**	**53**	P	**P**	**21 16 34.9**	**+0.3**
WAX	comp=Z,1μm,1.0s			IAmb	IAmb	21 16 37.9	
MCARA	**McCarthy VSAT**	**22.85**	**51**	P	**P**	**21 16 35.1**	**+0.5**
TGL	**Tana Glacier**	**22.87**	**52**	P	**P**	**21 16 35.2**	**+0.2**
TGL	comp=Z,1μm,0.9s			IAmb	IAmb	21 16 38.2	
SCRK	**Sand Creek**	**22.88**	**44**	P	**P**	**21 16 34.0**	**-1.1**
YUK	**Yuzh-Kuril'sk**	**23.04**	**263**	*i* P	**P**	**21 16 36.6**	**0.0**
ISLE	**Juniper Island**	**23.10**	**53**	P	**P**	**21 16 37.0**	**-0.3**
ISLE	comp=Z,897nm,1.0s			IAmb	IAmb	21 16 40.2	
BALM	**Baldy**	**23.14**	**52**	P	**P**	**21 16 37.6**	**+0.1**
BALM	comp=Z,585nm,1.0s			IAmb	IAmb	21 16 40.6	
FYU	**Fort Yukon**	**23.17**	**37**	P	**P**	**21 16 38.4**	**+0.8**
FYU	comp=Z,804nm,1.2s			IAmb	IAmb	21 16 43.2	
MESA	**MESA**	**23.27**	**54**	P	**P**	**21 16 39.0**	**+0.2**
MESA	comp=Z,738nm,1.0s			IAmb	IAmb	21 16 43.0	
YAH	**Yahtse**	**23.38**	**53**	P	**P**	**21 16 40.1**	**+0.2**
YAH	comp=Z,1μm,1.0s			IAmb	IAmb	21 16 43.3	
BARN	**Barnard Glacie**	**23.47**	**52**	P	**P**	**21 16 40.9**	**+0.2**
YSS	**Yuzh-Sakhalins**	**23.57**	**272**	*e*P	**P**	**21 16 42.5**	**+1.1**
YSS	comp=Z,930nm,1.2s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**23.57**	**272**	P	**P**	**21 16 42.4**	**+0.9**
YSS	comp=Z,1μm,1.2s			IAmb	IAmb	21 16 45.5	
CTGM	**Chitina Glacie**	**23.62**	**52**	P	**P**	**21 16 42.3**	**+0.3**
BCAR	**Beaver Creek A**	**23.66**	**47**	P	**P**	**21 16 42.5**	**+0.3**
TABL	**Table Mountain**	**23.68**	**53**	P	**P**	**21 16 42.7**	**+0.1**
BMAR	**Burnt Mountain**	**23.73**	**35**	P	**P**	**21 16 43.9**	**+1.2**
MIDW	**Midway**	**23.92**	**171**	P	**P**	**21 16 45.1**	**+0.4**
MIDW	comp=Z,993nm,1.4s			IAmb	IAmb	21 16 47.9	
PCA	**Pinnacle**	**24.11**	**54**	P	**P**	**21 16 46.5**	**+0.2**
EGAK	**Eagle**	**24.26**	**43**	P	**P**	**21 16 47.9**	**+0.4**
EGAK	comp=Z,1μm,1.0s			IAmb	IAmb	21 16 50.1	
YKU2	**Yakutat**	**24.41**	**55**	P	**P**	**21 16 49.5**	**+0.7**
JMP	**Maruseppu**	**24.60**	**265**	P	**PcP**	**21 20 26.0**	**+0.4**
DAWY	**Dawson**	**24.88**	**45**	P	**P**	**21 16 53.8**	**+0.6**
DAWY	comp=Z,509nm,0.9s			IAmb	IAmb	21 16 56.3	
JKA	**Kamikawa-asahi**	**25.01**	**266**	P	**P**	**21 16 55.4**	**+0.9**
JKA	comp=Z,844nm,0.9s			IAmb	IAmb	21 16 57.4	
ASAJ	**Asahikawa**	**25.01**	**266**	P	**P**	**21 16 55.5**	**+0.9**
ASAJ	comp=Z,680nm,0.8s,baz=42,slow=5.0,SNR=111			PcP	**PcP**	**21 20 27.0**	**+0.5**
ASAJ	comp=Z,95nm,0.9s,baz=243,slow=5.5,SNR=4.9			PKKP	**PKKPdf**	**21 43 03.5**	**-6.3**
ASAJ	comp=Z,41nm,1.0s,baz=284,slow=8.2,SNR=7.6 **Asahikawa**	**25.01**	**266**	P	**PcP**	**21 20 27.9**	**+1.4**
ASAJ	**Asahikawa**	**25.01**	**266**	P	**P**	**21 16 55.4**	**+0.9**
ASAJ	comp=Z,844nm,0.9s			pmax	pmax		
HYT	**Haines Junctio**	**25.49**	**52**	P	**P**	**21 16 59.5**	**+0.7**
HYT				ScP	**ScP**	**21 23 57.8**	**+1.1**
ERM	**Erimo**	**25.81**	**261**	*i* P	**P**	**21 17 01.1**	**-0.6**
ERM	comp=Z,510nm,0.9s			pmax	pmax		
ERM	**Erimo**	**25.81**	**261**	P	**P**	**21 17 02.0**	**+0.2**
ERM	comp=Z,501nm,0.8s			IAmb	IAmb	21 17 04.5	
GRNR	**Gornyy**	**26.00**	**284**	*i* P	**P**	**21 17 03.9**	**+0.4**
GRNR				*e*S	**S**	**21 21 30.8**	**+4.6**
GRNR	comp=E,130nm,1.2s			pmax	pmax		
GRNR	comp=N,50nm,0.9s			pmax	pmax		
GRNR	comp=Z,340nm,1.1s			pmax	pmax		
GRNR	comp=E,10.0nm,1.0s			smax	smax		
GRNR	comp=E,46μm,14.0s			MLR	MLR		
GRNR	comp=N,31μm,15.0s			MLR	MLR		
EPYK	**Eagle Plains** baz=259,SNR=18	**26.39**	**40**	P	**P**	**21 17 06.9**	**+0.1**
EPYK	**Eagle Plains**	**26.39**	**40**	P	**P**	**21 17 07.0**	**+0.2**
EPYK	comp=Z,416nm,1.0s			IAmb	IAmb	21 17 09.2	
SKAG	**Skagway**	**26.62**	**55**	P	**P**	**21 17 09.4**	**+0.6**
WHY	**Whitehorse**	**26.78**	**53**	P	**P**	**21 17 11.2**	**+0.8**
SIT	**Sitka**	**26.90**	**61**	P	**P**	**21 17 11.5**	**+0.1**
SIT	comp=Z,390nm,1.1s			pmax	pmax		
SIT	**Sitka**	**26.90**	**61**	P	**P**	**21 17 11.5**	**+0.1**
SIT	comp=Z,390nm,1.1s			IAmb	IAmb	21 17 14.1	
BESE	**Bessie Mountai**	**26.95**	**57**	P	**P**	**21 17 11.9**	**0.0**
BESE	comp=Z,418nm,1.1s			IAmb	IAmb	21 17 13.9	
JIS	**Juneau Island**	**27.23**	**58**	P	**P**	**21 17 14.8**	**+0.5**
JIS	comp=Z,518nm,1.0s			IAmb	IAmb	21 17 17.1	
JSH	**Shimam**	**27.37**	**265**	P	**PcP**	**21 20 33.0**	**+1.0**
YAK	**Yakutsk**	**27.74**	**310**	P	**P**	**21 17 17.8**	**-1.0**
YAK	comp=Z,104nm,0.9s,baz=215,slow=21,SNR=12			PcP	**PcP**	**21 20 33.0**	**+0.5**
YAK	comp=Z,70nm,0.7s,baz=252,slow=0.6,SNR=9.9						
YAK	**Yakutsk**	**27.74**	**310**	*e*P	**P**	**21 17 17.8**	**-1.0**
YAK				*e*S	**S**	**21 21 51.7**	**-1.5**
YAK	comp=Z,319nm,1.3s			pmax	pmax		
YAK	comp=N,42nm,1.0s			pmax	pmax		
YAK	comp=E,70nm,0.9s			pmax	pmax		
YAK	comp=E,63nm,1.2s			smax	smax		
YAK	comp=N,106nm,1.5s			smax	smax		
YAK	**Yakutsk**	**27.74**	**310**	P	**P**	**21 17 17.8**	**-1.0**
INK	**Inuvik**	**27.98**	**36**	P	**P**	**21 17 21.2**	**+0.2**
INK	comp=N,22nm,0.4s,baz=243,slow=10.0,SNR=38			S	**S**	**21 21 58.5**	**+1.5**
INK	comp=N,40nm,1.2s,baz=122,slow=29,SNR=3.1			PKiKP	**PKiKP**	**21 28 07.8**	**-0.5**
CRAG	comp=N,5.7nm,0.8s,baz=90,slow=2.0,SNR=4.1 **Craig**	**28.41**	**64**	P	**P**	**21 17 25.0**	**+0.1**
WRAK	**Wrangell Islan**	**28.63**	**61**	P	**P**	**21 17 27.1**	**+0.3**
TIXI	**Tiksi**	**29.29**	**330**	P	**P**	**21 17 32.4**	**-0.1**
TIXI	comp=N,50nm,0.9s,baz=103,slow=16,SNR=11			PcP	**PcP**	**21 20 36.2**	**0.0**
TIXI	comp=N,138nm,1.1s,baz=96,slow=2.0,SNR=11			pmax	pmax		
TIXI	**Tiksi**	**29.29**	**330**	*i* P	**P**	**21 17 31.4**	**-1.0**
TIXI	comp=Z,63nm,1.0s			pmax	pmax		
TIXI	**Tiksi**	**29.29**	**330**	P	**P**	**21 17 32.4**	**-0.1**
TIXI				PcP	**PcP**	**21 20 36.8**	**+0.5**
KLR	**Kul'dur**	**29.37**	**283**	P	**P**	**21 17 33.6**	**+0.1**
KLR	comp=Z,425nm,0.8s,baz=67,slow=8.7,SNR=113			PcP	**PcP**	**21 20 37.2**	**+0.4**
KLR	comp=Z,34nm,0.9s,baz=65,slow=4.1,SNR=3.7						
KLR	**Kul'dur**	**29.37**	**283**	*i* P	**P**	**21 17 33.7**	**+0.2**
KLR	comp=Z,555nm,1.0s			pmax	pmax		
DIB	**Dawson Inlet,**	**29.39**	**68**	P	**P**	**21 17 33.7**	**+0.2**
DLBC	**Dease Lake**	**29.47**	**57**	P	**P**	**21 17 35.0**	**+0.7**
DLBC	comp=Z,138nm,0.9s,baz=283,slow=9.3,SNR=27 **Dease Lake**	**29.47**	**57**	P	**P**	**21 17 35.5**	**+1.1**
MOBC	**Moresby Island**	**29.70**	**68**	P	**P**	**21 17 36.5**	**+0.2**
JYA	**Atsumi**	**29.97**	**259**	P	**PcP**	**21 20 40.0**	**+1.4**
A36M	**Sachs Harbour** baz=261,SNR=30	**31.42**	**30**	P	**P**	**21 17 53.0**	**+1.8**
USA0B	**Ussuriysk Arra**	**31.53**	**274**	P	**P**	**21 17 52.4**	**-0.1**
USA0B	comp=Z,191nm,0.8s			IAmb	IAmb	21 17 54.1	
USA0B				PcP	**PcP**	**21 20 43.3**	**+0.7**
USRK	**Ussuriysk Ar.**	**31.53**	**274**	P	**P**	**21 17 52.2**	**-0.3**
USRK	comp=Z,195nm,0.8s,baz=57,slow=8.1,SNR=74			PcP	**PcP**	**21 20 43.3**	**+0.7**
USRK	comp=Z,123nm,0.7s,baz=54,slow=1.4,SNR=38						
VLA	**Vladivostok**	**32.16**	**273**	*i* P	**P**	**21 17 58.3**	**+0.3**
VLA	comp=Z,367nm,1.1s			pmax	pmax		
MJAR	**Matsushiro Arr**	**32.21**	**257**	P	**P**	**21 17 59.2**	**+0.7**
MJAR	comp=Z,141nm,1.0s,baz=50,slow=7.7,SNR=92			PcP	**PcP**	**21 20 45.1**	**+0.5**
MJAR	comp=Z,24nm,0.6s,baz=105,slow=1.4,SNR=16						
MJAR	**Matsushiro Arr**	**32.21**	**257**	P	**P**	**21 17 59.3**	**+0.7**
MJAR						21 20 45.2	
MJAR	comp=Z,100nm,1.0s			pmax	pmax		
MJAR	**Matsushiro Arr**	**32.21**	**257**	P	**P**	**21 17 59.3**	**+0.8**
MJAR				PcP	**PcP**	**21 20 45.2**	**+0.6**
MAJO	**Matsushiro**	**32.21**	**257**	*i* P	**P**	**21 17 59.1**	**+0.6**
MAJO	comp=Z,477nm,1.0s			pmax	pmax		
MAJO	**Matsushiro**	**32.21**	**257**	P	**P**	**21 17 59.1**	**+0.6**
MAJO	comp=Z,472nm,0.9s			IAmb	IAmb	21 18 01.3	
MAT	**Matsushiro**	**32.21**	**257**	P	**P**	**21 17 59.2**	**+0.6**
MJB9	**Matsu-Tunnel**	**32.21**	**257**	P	**P**	**21 17 59.0**	**+0.4**
MJB9	comp=Z,526nm,1.0s			IAmb	IAmb	21 18 01.3	
MJB9					**PcP**	**21 20 45.3**	**+0.7**
BBB	**Bella Bella**	**32.23**	**68**	P	**P**	**21 17 58.5**	**0.0**
MDJ	**Mudanjiang**	**32.79**	**277**	P	**P**	**21 18 03.9**	**+0.3**
MDJ	comp=Z,210nm,1.1s			pmax	pmax		
MDJ	**Mudanjiang**	**32.79**	**277**	P	**P**	**21 18 02.8**	**-0.8**
MDJ	comp=Z,189nm,1.0s			IAmb	IAmb	21 18 04.7	
MDJ				PcP	**PcP**	**21 20 46.9**	**+0.8**
MSHR	**Mys Shultsa**	**32.90**	**272**	*i* P	**P**	**21 18 05.4**	**+0.9**
MSHR	comp=Z,235nm,1.2s			pmax	pmax		
JHJ2	**Mitsune**	**33.61**	**251**	P	**P**	**21 18 11.3**	**+0.5**
INU	**Inuyama**	**33.72**	**257**	P	**P**	**21 18 11.9**	**+0.2**
WAKE	**Wake Island**	**33.90**	**200**	P	**P**	**21 18 13.8**	**+0.5**
KIP	**Kipapa**	**35.53**	**140**	P	**P**	**21 18 28.9**	**+1.5**
KIP	comp=Z,250nm,1.5s

F03A IAmb IAmb 21 18 48.1
comp=Z,257nm,1.3s
F03A PcP **21 21 01.6 +1.2**
KSRS Korea Array 37.93 268 P **P**
21 18 48.8 +1.2
comp=Z,195nm,1.0s,baz=59,slow=8.2,SNR=190
KSRS PcP **PcP 21 21 02.1 +0.9**
comp=Z,71nm,0.8s,baz=60,slow=3.1,SNR=31
KSRS PKiKP **PKiKP 21 28 15.2 -1.1**
comp=Z,0.5nm,0.4s,baz=81,slow=23,SNR=3.8
F04D Rainier, OR 37.93 75 P **P**
21 18 47.8 +0.3
baz=301,SNR=7.3
KS19 Wonju Array Si 37.93 268 P **P**
21 18 48.7 +1.0
KS19 IAmb IAmb 21 18 50.9
comp=Z,294nm,1.1s
KS19 **PcP 21 21 02.5 +1.1**
E04D Cinebar 37.95 74 P **P**
21 18 48.3 +0.6
baz=300,SNR=19
KSAR Wonju Array Be 37.96 268 P **P**
21 18 48.2 +0.3
KSAR 21 21 02.0
KSAR Wonju Array Be 37.96 268 P **P**
21 18 48.2 +0.3
KSAR PcP **PcP 21 21 02.0 +0.6**
D05A Enumclaw 37.98 73 P **P**
21 18 48.7 +0.8
D05A IAmb IAmb 21 18 50.5
comp=Z,365nm,1.2s
G03D McMinnville, O 38.23 76 P **P**
21 18 50.3 +0.2
baz=302,SNR=7.4
C06D Leavenworth 38.26 71 P **P**
21 18 50.2 -0.1
baz=300
LON Longmire 38.30 73 P **P**
21 18 50.8 +0.1
LON pmax pmax
comp=Z,78nm,1.1s
LON Longmire 38.30 73 P **P**
21 18 50.8 +0.1
F04A Amboy 38.36 75 P **P**
21 18 51.2 +0.1
F04A IAmb IAmb 21 18 53.1
comp=Z,502nm,1.6s
I02D Swisshome 38.47 78 P **P**
21 18 52.6 +0.6
baz=303,SNR=11
COR Corvallis 38.54 77 P **P**
21 18 53.5 +0.9
COR pmax pmax
comp=Z,392nm,1.4s
COR Corvallis 38.54 77 P **P**
21 18 53.5 +0.9
COR IAmb IAmb 21 18 55.6
comp=Z,392nm,1.4s
INCN Inchon 38.71 269 P **P**
21 18 52.7 -1.4
INCN Inchon 38.71 269 P **P**
21 18 54.9 +0.8
INCN PcP **21 21 04.0 +0.3**
LTY Liberty 38.72 72 P **P**
21 18 53.7 -0.5
LTY IAmb IAmb 21 18 55.6
comp=Z,189nm,1.2s
H04D Lebanon 38.91 77 P **P**
21 18 56.3 +0.5
baz=303,SNR=9.9
JTU Tsushima 38.91 263 P **PcP**
21 21 04.7 +0.3
J01E Myrtle Point 38.93 80 P **P**
21 18 56.5 +0.6
baz=304,SNR=16
B08A Colville Reser 38.95 70 P **P**
21 18 55.8 -0.4
B08A IAmb IAmb 21 18 57.7
comp=Z,338nm,1.2s
F05D White Salmon 38.96 74 P **P**
21 18 56.0 -0.2
baz=302
TJN Taejon 38.96 267 *i* P **P**
21 18 56.2 0.0
JNU Nakatsue 38.96 260 P **P**
21 18 57.4 +1.0
JNU PcP **PcP 21 21 04.7 0.0**
I03D Drain, OR 38.99 78 P **P**
21 18 57.1 +0.6
baz=303,SNR=15
H04A Detroit Lake 39.16 76 P **P**
21 18 58.1 +0.3
H04A IAmb IAmb 21 19 00.1
comp=Z,261nm,1.2s
K02D Willamette Mer 39.36 80 P **P**
21 19 00.4 +0.8
baz=304,SNR=23
G05D Wamic, OR 39.38 75 P **P**
21 18 59.7 0.0
baz=302,SNR=6.6
I04A Tendick Farm, 39.51 78 P **P**
21 19 01.0 +0.2
baz=304,SNR=38
E07A Sunnyside 39.56 73 P **P**
21 19 01.1 0.0
HAWA Hanford 39.84 73 P **P**
21 19 03.3 -0.1
HAWA IAmb IAmb 21 19 05.2
comp=Z,318nm,1.1s
C09A Chrisman Ranch 39.85 70 P **P**
21 19 02.9 -0.6
C09A IAmb IAmb 21 19 04.8
comp=Z,209nm,1.1s
D08A Wollman Farm, 39.85 71 P **P**
21 19 02.7 -0.8
D08A IAmb IAmb 21 19 04.8
comp=Z,250nm,1.2s
I05D Terrebonne, OR 39.85 76 P **P**
21 19 03.6 -0.1
baz=303,SNR=8.5
F07A Phinny Hill Vi 39.86 73 P **P**
21 19 03.6 0.0
F07A IAmb IAmb 21 19 05.5
comp=Z,176nm,0.9s
KRMB Red Mountain 39.88 82 P **P**
21 19 05.1 +1.1
KRMB IAmb IAmb 21 19 07.2
comp=Z,335nm,1.5s
RES Resolute Bay 39.93 24 P **P**
21 19 05.3 +1.5
RES pmax pmax
comp=Z,286nm,1.1s
RES Resolute Bay 39.93 24 P **P**
21 19 05.3 +1.5
RES IAmb IAmb 21 19 07.6
comp=Z,286nm,1.1s
J04D Umpqua Nationa 40.00 78 P **P**
21 19 05.7 +0.7
baz=304,SNR=22
E08A Dider Farm, El 40.06 72 P **P**
21 19 05.2 -0.1
JCC Jacoby Creek, 40.21 83 P **P**
21 19 07.8 +1.2
JCC IAmb IAmb 21 19 10.1
comp=Z,358nm,1.1s
NEW Newport 40.28 69 P **P**
21 19 06.1 -1.0
baz=300,SNR=25
NEW Newport 40.28 69 P **P**
21 19 06.3 -0.9
comp=Z,74nm,0.4s,baz=298,slow=8.8,SNR=61
NEW Newport 40.28 69 P **P**
21 19 06.6 -0.6
NEW pmax pmax
comp=Z,239nm,1.1s
NEW Newport 40.28 69 P **P**
21 19 06.6 -0.6
NEW IAmb IAmb 21 19 08.3
comp=Z,239nm,1.1s
JSU Suzuyama 40.34 259 P **PcP**
21 21 09.2 +0.1
KHMM Horse Mountain 40.36 82 P **P**
21 19 09.1 +1.1
KHMM IAmb IAmb 21 19 11.5
comp=Z,260nm,0.9s
PINE Pine Mountain 40.40 77 P **P**
21 19 08.9 +0.6
L04D Klamath Falls 40.45 80 P **P**
21 19 09.5 +0.7
baz=305,SNR=33
YBH Yreka Blue Hor 40.49 81 P **P**
21 19 10.2 +1.3
comp=Z,285nm,1.0s,baz=325,slow=5.5,SNR=86
YBH Yreka Blue Hor 40.49 81 P **P**
21 19 10.1 +1.1
YBH pmax pmax
comp=Z,273nm,1.0s
YBH Yreka Blue Hor 40.49 81 P **P**
21 19 10.1 +1.1
YBH IAmb IAmb 21 19 12.2
comp=Z,273nm,0.9s
J05D Fort Rock, OR 40.50 78 P **P**
21 19 09.7 +0.6
baz=304,SNR=24
K04D Chiloquin, OR 40.56 79 P **P**
21 19 10.3 +0.7
baz=305,SNR=18
E09A Wood Farm, Sta 40.59 72 P **P**
21 19 09.1 -0.5
E09A IAmb IAmb 21 19 11.6
comp=Z,254nm,1.1s
M02C Callahan 40.60 81 P **P**
21 19 11.2 +1.3
baz=306,SNR=27
KMRM Mail Ridge 40.76 83 P **P**
21 19 13.1 +1.8
KMRM IAmb IAmb 21 19 15.0
comp=Z,304nm,1.0s
DL2 Dalian 40.92 275 P **PcP**
21 21 10.8 0.0
DL2 pmax pmax
comp=Z,180nm,0.9s
DL2 Dalian 40.92 275 P **P**
21 19 12.4 0.0
DL2 pmax pmax
comp=Z,370nm,1.0s
N02D Trinity Center 40.93 82 P **P**
21 19 13.9 +1.3
baz=306,SNR=39
M04C Macdoel 40.99 80 P **P**
21 19 13.9 +0.8
baz=306,SNR=55
K05A Summer Lake 41.02 78 P **P**
21 19 14.5 +1.0
K05A IAmb IAmb 21 19 16.4
comp=Z,335nm,1.1s
K05A **PcP 21 21 12.8 +1.4**
K05A ScP **ScP 21 24 51.3 +0.2**
I07A Izee 41.10 76 P **P**
21 19 14.1 +0.1
KCPM Cahto Peak 41.16 84 P **P**
21 19 15.7 +1.1
KCPM IAmb IAmb 21 19 17.8
comp=Z,351nm,1.1s
WDC Whiskeytown Da 41.27 82 P **P**
21 19 16.0 +0.8
WDC pmax pmax
comp=Z,216nm,1.0s
WDC Whiskeytown Da 41.27 82 P **P**
21 19 16.0 +0.8
WDC IAmb IAmb 21 19 18.2
comp=Z,216nm,1.0s

O02D Mt. Diablo Mer 41.35 83 P **P**
21 19 17.3 +1.2
baz=307,SNR=44
F10A Beach Ranch, E 41.42 72 P **P**
21 19 16.0 -0.5
WALA Waterton Lakes 41.71 66 P **P**
21 19 18.6 -0.4
WALA IAmb IAmb 21 19 20.3
comp=Z,421nm,1.1s
MOD Modoc Plateau 41.85 79 P **P**
21 19 20.6 +0.4
MOD IAmb IAmb 21 19 22.8
comp=Z,296nm,1.2s
O03E Paynes Creek 41.89 82 P **P**
21 19 20.6 +0.2
baz=307,SNR=88
HOPS Hopland Field 41.90 84 P **P**
21 19 21.6 +1.2
BMO Blue Mountains 41.98 73 P **P**
21 19 20.6 -0.5
BMO pmax pmax
comp=Z,115nm,1.1s
BMO Blue Mountains 41.98 73 P **P**
21 19 20.6 -0.5
J08A Circle Bar Ran 42.12 76 P **P**
21 19 22.5 +0.1
GDXM Geysers 42.18 84 P **P**
21 19 24.0 +1.2
GDXM IAmb IAmb 21 19 26.3
comp=Z,454nm,1.2s
JTMT Jette 42.18 68 P **P**
21 19 22.4 -0.4
JTMT IAmb IAmb 21 19 24.9
comp=Z,370nm,1.7s
ORV Oroville 42.52 82 P **P**
21 19 25.2 -0.3
ORV pmax pmax
comp=Z,194nm,1.0s
ORV Oroville 42.52 82 P **P**
21 19 25.2 -0.3
ORV IAmb IAmb 21 19 27.4
comp=Z,194nm,1.0s
MCCM Marconi Confer 42.54 85 P **P**
21 19 26.0 +0.4
MCCM IAmb IAmb 21 19 28.0
comp=Z,404nm,1.2s
WVOR Wild Horse Val 42.55 77 P **P**
21 19 25.8 -0.1
WVOR pmax pmax
comp=Z,224nm,1.3s
WVOR Wild Horse Val 42.55 77 P **P**
21 19 25.8 -0.1
WVOR IAmb IAmb 21 19 28.0
comp=Z,224nm,1.3s
MSO Missoula 42.87 69 P **P**
21 19 27.2 -1.1
baz=303,SNR=10
MSO Missoula 42.87 69 P **P**
21 19 27.8 -0.6
MSO IAmb IAmb 21 19 29.3
comp=Z,271nm,1.2s
AFDM Forest Hills D 43.22 83 P **P**
21 19 31.4 +0.2
AFDM IAmb IAmb 21 19 33.5
comp=Z,197nm,1.1s
BJI Beijing 43.58 280 P **P**
21 19 35.1 +1.2
BJI PcP **PcP 21 21 19.9 +0.3**
BJI pmax pmax
comp=Z,410nm,0.9s
BJT Baijiatuan 43.60 280 P **P**
21 19 34.8 +0.7
BJT pmax pmax
comp=Z,354nm,0.9s
BJT Baijiatuan 43.60 280 P **P**
21 19 34.8 +0.7
BJT IAmb IAmb 21 19 36.8
comp=Z,354nm,0.9s
RUBR Rubicon Trail 43.65 82 P **P**
21 19 35.6 +0.7
RUBR IAmb IAmb 21 19 43.5
comp=Z,181nm,0.8s
MFID Camas Ranch 43.67 74 P **P**
21 19 34.3 -0.5
MFID ScP **ScP 21 25 01.4 -0.2**
PAHR Pah Rah Range 43.72 81 P **P**
21 19 35.8 +0.4
PAHR IAmb IAmb 21 19 37.7
comp=Z,381nm,1.1s
VCNR Virginia City 43.81 81 P **P**
21 19 36.8 +0.7
VCNR IAmb IAmb 21 19 38.8
comp=Z,389nm,1.1s
KWAJ Kwajalein Atol 43.93 196 P **P**
21 19 38.5 +1.5
KWAJ pmax pmax
comp=Z,720nm,1.3s
KWAJ Kwajalein Atol 43.93 196 P **P**
21 19 38.5 +1.5
PNTR Pine Nut 43.97 82 P **P**
21 19 38.1 +0.7
CMB Columbia Colle 44.14 83 P **P**
21 19 39.1 +0.5
CMB pmax pmax
comp=Z,230nm,1.2s
CMB Columbia Colle 44.14 83 P **P**
21 19 39.1 +0.5
CMB IAmb IAmb 21 19 41.3
comp=Z,230nm,1.2s
CMB ScP **ScP 21 25 02.2 -1.3**
HRY Holter Researc 44.15 68 P **P**
21 19 38.0 -0.6
YERR Yerington 44.25 81 P **P**
21 19 39.9 +0.3
YERR IAmb IAmb 21 19 42.2
comp=Z,269nm,1.0s
SAO San Andreas Ge 44.29 86 P **P**
21 19 40.4 +0.7
SAO pmax pmax
comp=Z,245nm,1.3s
SAO San Andreas Ge 44.29 86 P **P**
21 19 40.4 +0.7
SAO IAmb IAmb 21 19 42.2
comp=Z,245nm,1.2s
TLY Talaya 44.30 301 P **P**
21 19 39.1 -0.5
TLY Talaya 44.30 301 *i* P **P**
21 19 39.9 +0.3
TLY pmax pmax
comp=Z,153nm,1.2s
TLY Talaya 44.30 301 P **P**
21 19 40.3 +0.7
TLY IAmb IAmb 21 19 42.0
comp=Z,271nm,1.3s
HLID Hailey 44.42 73 P **P**
21 19 40.3 -0.7
baz=306,SNR=21
HLID Hailey 44.42 73 P **P**
21 19 40.5 -0.5
HLID ScP **ScP 21 25 04.2 -0.6**
WAKR Walker 44.43 82 P **P**
21 19 41.8 +0.8
WAKR IAmb IAmb 21 19 43.9
comp=Z,233nm,0.9s
ULN Ulaanbaatar 44.46 294 P **P**
21 19 39.8 -1.3
ULN Ulaanbaatar 44.46 294 *i* P **P**
21 19 41.6 +0.5
ULN pmax pmax
comp=Z,336nm,1.0s
ULN Ulaanbaatar 44.46 294 P **P**
21 19 41.5 +0.3
ULN IAmb IAmb 21 19 43.5
comp=Z,330nm,0.9s
EGMT Eagleton 44.60 65 P **P**
21 19 41.4 -0.8
baz=303
MCMT McKenzie Canyo 44.62 71 P **P**
21 19 41.6 -0.9
SONM Songino Array 44.85 295 P **P**
21 19 44.9 +0.7
comp=Z,179nm,0.8s,baz=64,slow=7.9,SNR=133
SONM PcP **PcP 21 21 24.4 +0.3**
comp=Z,127nm,0.9s,baz=73,slow=2.1,SNR=16
SONM ScP **ScP 21 25 06.1 -0.2**
comp=Z,32nm,0.9s,baz=45,slow=3.4,SNR=11
SONM Songino Array 44.85 295 P **P**
21 19 44.5 +0.3
SONM ScP **ScP 21 25 08.0 +1.6**
BOZ Bozeman (W) 44.89 69 P **P**
21 19 43.4 -1.1
baz=305,SNR=14
BOZ Bozeman (W) 44.89 69 P **P**
21 19 43.6 -0.9
BOZ pmax pmax
comp=Z,167nm,1.0s
BOZ Bozeman (W) 44.89 69 P **P**
21 19 43.6 -0.9
BOZ IAmb IAmb 21 19 45.5
comp=Z,167nm,0.9s
KVN Kaiserville 44.91 81 P **P**
21 19 45.0 +0.2
KVN IAmb IAmb 21 19 47.2
comp=Z,253nm,1.2s
KVN ScP **ScP 21 25 05.7 -1.1**
RYN Ryan 44.91 81 P **P**
21 19 45.3 +0.4
RYN IAmb IAmb 21 19 47.2
comp=Z,237nm,1.0s
TULEG Thule 44.96 18 P **P**
21 19 44.8 +0.4
TULEG IAmb IAmb 21 19 47.7
comp=Z,454nm,1.3s
JOW Kunigami 45.02 256 P **P**
21 19 46.4 +0.8
JOW IAmb IAmb 21 19 48.0
comp=Z,175nm,0.9s
PMPB Monarch Peak 45.04 86 P **P**
21 19 46.0 +0.2
PMPB IAmb IAmb 21 19 56.6
comp=Z,276nm,1.0s
NVAR Mina Array Bea 45.17 81 P **P**
21 19 47.4 +0.4
comp=Z,177nm,0.9s,baz=296,slow=7.0,SNR=164
NVAR pP **pP 21 20 12.3 +0.6**
comp=Z,93nm,0.9s,baz=284,slow=7.3,SNR=5.3
NVAR PcP **PcP 21 21 26.4 +1.0**
comp=Z,51nm,0.9s,baz=286,slow=3.1,SNR=5.5
NVAR ScP **ScP 21 25 07.3 -0.6**
comp=Z,13nm,0.7s,baz=297,slow=3.6,SNR=9.5
NVAR Mina Array Bea 45.17 81 P **P**
21 19 47.1 +0.2
ZAK Zakamensk 45.18 299 *e*P **P**
21 19 47.0 +0.3
ZAK *e* 21 21 25.2
ZAK pmax pmax
comp=Z,175nm,1.3s
MDPB Devils Postpil 45.20 83 P **P**
21 19 47.8 +0.6
MDPB IAmb IAmb 21 19 50.0
comp=Z,292nm,1.0s
OMMB Old Mammoth Mi 45.26 83 P **P**
21 19 48.2 +0.5
OMMB IAmb IAmb 21 19 50.6
comp=Z,205nm,1.0s
NV11 Mina Array Sit 45.26 81 P **P**
21 19 47.9 +0.4

TIA Tai'an 45.39 275 P **P**
21 19 48.9 +0.4
TIA pmax pmax
comp=Z,150nm,0.6s
YHL Hebgen Lake 45.58 70 P **P**
21 19 49.5 -0.6
ELK Elko 45.61 77 P **P**
21 19 50.3 -0.1
ELK Elko 45.61 77 P **P**
21 19 50.3 -0.1
YHB Horse Butte 45.62 70 P **P**
21 19 49.8 -0.7
PAGB Antelope Grade 45.70 86 P **P**
21 19 51.6 +0.7
PAGB IAmb IAmb 21 19 53.7
comp=Z,396nm,1.3s
MOY Mondy 45.71 302 *e*P **P**
21 19 52.0 +1.1
MOY pmax pmax
comp=Z,575nm,1.4s
YHH Holmes Hill 45.80 70 P **P**
21 19 51.2 -0.8
YMR Madison River 45.81 70 P **P**
21 19 51.6 -0.3
VOG Valley Oaks Go 45.85 84 P **P**
21 19 52.3 +0.3
baz=310
HHC Hu-ho-hao-te 45.88 284 ⇑ *i* P **P**
21 19 54.8 +2.4
HHC pmax pmax
comp=Z,230nm,1.1s
TIN Tinemaha, Big 46.09 83 P **P**
21 19 54.6 +0.6
baz=310,SNR=30
SMMC Simmler 46.13 86 P **P**
21 19 55.0 +0.7
baz=311,SNR=11
H17A Grant Village 46.19 70 P **P**
21 19 55.2 +0.2
baz=306,SNR=22
H17A Grant Village 46.19 70 P **P**
21 19 55.6 +0.7
H17A IAmb IAmb 21 19 58.0
comp=Z,248nm,1.1s
IMW Indian Meadow 46.27 71 P **P**
21 19 55.3 -0.3
FLWY Flagg Ranch 46.30 70 P **P**
21 19 55.8 0.0
FLWY IAmb IAmb 21 19 58.0
comp=Z,230nm,1.1s
SSE Sheshan 46.30 266 P **P**
21 19 56.3 +0.7
SSE pmax pmax
comp=Z,280nm,1.2s
SSE Sheshan 46.30 266 P **P**
21 19 56.6 +1.0
VES Vestal, Richgr 46.34 85 P **P**
21 19 55.8 -0.1
baz=311,SNR=50
NOR Nord 46.44 3 *i* P **P**
21 19 56.2 +0.1
comp=Z,53nm,0.9s
NOR Nord 46.44 3 *i* P **P**
21 19 56.2 +0.1
NOR pmax pmax
comp=Z,53nm,0.9s
HVU Hansel Valley 46.45 74 P **P**
21 19 56.9 0.0
HVU pmax pmax
comp=Z,175nm,1.1s
HVU Hansel Valley 46.45 74 P **P**
21 19 56.9 0.0
TPAW Teton Pass 46.51 71 P **P**
21 19 57.0 -0.4
PKM Mcpherson Peak 46.52 86 P **P**
21 19 58.0 +0.5
baz=311,SNR=28
RLMT Red Lodge 46.52 68 P **P**
21 19 57.3 -0.2
baz=306,SNR=9.4
RLMT Red Lodge 46.52 68 P **P**
21 19 57.3 -0.2
RLMT IAmb IAmb 21 19 59.5
comp=Z,299nm,1.1s
CWC Cottonwood Cre 46.58 83 P **P**
21 19 58.1 +0.2
baz=310
GRAC Grapevine Rang 46.66 82 P **P**
21 19 58.9 +0.5
baz=310,SNR=14
GUMO Guam 46.79 228 P **P**
21 19 57.8 -1.7
GUMO pmax pmax
comp=Z,698nm,0.8s
GUMO Guam 46.79 228 P **P**
21 19 57.8 -1.7
BGU Big Grassy Mou 46.82 75 P **P**
21 19 59.4 -0.4
ISA Isabella, Lake 46.84 85 P **P**
21 19 59.3 -0.5
baz=311,SNR=22
ISA Isabella, Lake 46.84 85 P **P**
21 19 59.5 -0.4
ISA pmax pmax
comp=Z,258nm,1.5s
ISA Isabella, Lake 46.84 85 P **P**
21 19 59.5 -0.4
ISA IAmb IAmb 21 20 01.6
comp=Z,258nm,1.5s
SBC Santa Barbara 46.88 87 P **P**
21 20 00.7 +0.6
baz=312,SNR=9.2
R11A Troy Canyon, C 46.88 80 P **P**
21 19 60.0 -0.3
baz=309,SNR=41
R11A Troy Canyon, C 46.88 80 P **P**
21 20 00.0 -0.3
SPUT South Promonto 46.94 74 P **P**
21 20 00.6 -0.1
ARVC Arvin 46.97 85 P **P**
21 20 01.1 +0.3
baz=311,SNR=12
NJ2 Nanjing 47.09 269 *e*P **P**
21 20 02.1 +0.4
NJ2 pmax pmax
comp=Z,360nm,0.9s
NJ2 LR LR
comp=Z,48μm,14.2s
NJ2 LR LR
comp=Z,60μm,12.8s
NJ2 LR LR
comp=Z,59μm,14.7s
MPMC Manual Prospec 47.19 83 P **P**
21 20 02.9 +0.1
baz=311,SNR=36
SCZ2 Santa Cruz Isl 47.22 87 P **P**
21 20 03.1 +0.2
baz=312,SNR=21
FURC Furnace Creek, 47.30 83 P **P**
21 20 03.7 +0.4
baz=311,SNR=48
TIY Taiyuan 47.31 280 *e*P **P**
21 20 04.9 +1.4
TIY pP **pP 21 20 30.1 +1.7**
TIY pmax pmax
comp=Z,490nm,0.8s
LAO LASA Array 47.34 65 P **P**
21 20 02.9 -0.7
baz=306,SNR=6.2
TPNV Topopah Spring 47.37 82 P **P**
21 20 04.1 0.0
baz=310,SNR=80
TPNV Topopah Spring 47.37 82 P **P**
21 20 04.1 0.0
TPNV pmax pmax
comp=Z,340nm,1.0s
TPNV Topopah Spring 47.37 82 P **P**
21 20 04.1 0.0
TPNV IAmb IAmb 21 20 31.9
comp=Z,340nm,1.0s
OSI Osito Audit: C 47.37 86 P **P**
21 20 04.1 +0.1
baz=312,SNR=16
OSI Osito Audit: C 47.37 86 P **P**
21 20 04.3 +0.3
OSI IAmb IAmb 21 20 06.6
comp=Z,373nm,1.2s
DUG Dugway, Tooele 47.40 76 P **P**
21 20 04.1 -0.2
baz=306,SNR=25
DUG Dugway, Tooele 47.40 76 P **P**
21 20 04.3 0.0
DUG pmax pmax
comp=Z,126nm,1.0s
DUG Dugway, Tooele 47.40 76 P **P**
21 20 04.2 0.0
DGMT Dagmar 47.44 62 P **P**
21 20 03.6 -0.7
baz=305
LRMC Laurel Mtn Rad 47.45 84 P **P**
21 20 04.3 -0.3
baz=311,SNR=19
EDW2 Edwards Air Fo 47.65 85 P **P**
21 20 06.0 -0.2
baz=312,SNR=25
TCUT Toone Canyon 47.67 74 P **P**
21 20 06.3 -0.1
CTU Camp Tracy 47.73 75 P **P**
21 20 06.7 -0.2
BW06 Boulder Array 47.76 71 P **P**
21 20 06.2 -0.9
baz=307,SNR=24
BW06 Boulder Array 47.76 71 P **P**
21 20 06.3 -0.9
BW06 IAmb IAmb 21 20 08.7
comp=Z,207nm,1.1s
PD31 Pinedale Array 47.76 71 P **P**
21 20 06.4 -0.8
PD31 IAmb IAmb 21 20 08.7
comp=Z,177nm,1.0s
PDAR Pinedale Array 47.76 71 P **P**
21 20 06.0 -1.1
comp=Z,131nm,1.0s,baz=316,slow=2.7,SNR=93
PDAR ScP **ScP 21 25 16.9 -1.8**
comp=Z,7.9nm,0.8s,baz=45,slow=1.5,SNR=5.8
SNCC San Nicolas Is 47.79 88 P **P**
21 20 07.3 +0.1
baz=313,SNR=8.6
SNCC San Nicolas Is 47.79 88 P **P**
21 20 07.5 +0.3
SNCC IAmb IAmb 21 20 09.6
comp=Z,360nm,1.1s
PSUT Pine Spring 47.82 78 P **P**
21 20 07.4 -0.2
DECC Green Verdugo 47.85 86 P **P**
21 20 07.8 +0.1
baz=312,SNR=15
PATS Pohnpei 47.95 207 P **P**
21 20 08.7 +0.3
JLU Jordanelle 47.97 75 P **P**
21 20 08.4 -0.4
NLU North Lily Min 48.00 76 P **P**
21 20 08.1 -0.8
PASC Pasadena Art C 48.00 86 P **P**
21 20 08.7 -0.1
PASC IAmb IAmb 21 20 10.9
comp=Z,277nm,1.1s
SHOC Shoshone, Teco 48.03 83 P **P**
21 20 09.1 +0.1
baz=311,SNR=57
MWC Mount Wilson 48.04 86 P **P**
21 20 09.5 +0.1
MWC pmax pmax
comp=Z,665nm,1.3s
MWC Mount Wilson 48.04 86 P **P**
21 20 09.5 +0.1
GSC Goldstone, Bar 48.10 84 P **P**
21 20 09.8 0.0
baz=311,SNR=87
GSC Goldstone, Bar 48.10 84 P **P**
21 20 09.7 0.0
GSC pmax pmax
comp=Z,326nm,1.0s

GSC	Goldstone, Bar	48.10	84	P	P	21 20 09.7	0.0		
GSC				IAmb	IAmb	21 20 11.8			
	comp=Z,326nm,1.0s								
FMP	Fort Macarthur	48.24	86	P	P	21 20 10.4	-0.2		
	baz=312								
RRX	Edison Barstow	48.27	84	P	P	21 20 11.0	+0.2		
	baz=312,SNR=6.0								
BFSC	Mount Baldy Ra	48.28	85	P	P	21 20 11.1	0.0		
	baz=312,SNR=53								
SHPR	Sheep Range	48.32	81	P	P	21 20 11.6	+0.1		
CIS	Catalina Islan	48.37	87	P	P	21 20 11.2	-0.5		
	baz=312,SNR=22								
KULLO	Kullorsuaq	48.43	17	*i* P	P	21 20 12.2	+0.7		
	comp=Z,728nm,0.9s								
KULLO	Kullorsuaq	48.43	17	*i* P	P	21 20 12.2	+0.7		
KULLO				pmax	pmax				
	comp=Z,730nm,0.9s								
TUQ	Turquoise Moun	48.55	83	P	P	21 20 13.0	-0.2		
	baz=311,SNR=21								
SCI2	San Clemente I	48.58	87	P	P	21 20 13.1	-0.1		
	baz=313,SNR=11								
HEC	Hector,Ludlow	48.70	84	P	P	21 20 14.2	0.0		
	baz=312,SNR=42								
BBRC	Big Bear Solar	48.72	85	P	P	21 20 13.7	-0.9		
	baz=312								
MSU	Marysvale	48.84	77	P	P	21 20 15.8	+0.3		
MSU	Marysvale	48.84	77	P	P	21 20 15.8	+0.3		
TMUT	Trail Mountain	48.93	76	P	P	21 20 16.1	-0.1		
MURC	Murrieta	48.99	86	P	P	21 20 16.3	-0.1		
	baz=312,SNR=40								
P17A	Butcher Ranch,	49.10	75	P	P	21 20 17.4	0.0		
RDMU	Red Mountain	49.10	73	P	P	21 20 17.2	-0.3		
KBS	Kingsbay	49.13	357	*i* P	P	21 20 17.0	+0.2		
KBS				pmax	pmax				
	comp=Z,231nm,0.9s								
KBS	Kingsbay	49.13	357	P	P	21 20 17.3	+0.4		
KBS				IAmb	IAmb	21 20 19.3			
	comp=Z,231nm,0.8s								
MTPU	Mount Pierson	49.14	78	P	P	21 20 18.2	+0.3		
GMRC	Granite Mounta	49.15	83	P	P	21 20 17.7	-0.1		
	baz=312,SNR=48								
LCMT	Little Creek M	49.16	79	P	P	21 20 18.2	+0.3		
Q16A	Castle Valley	49.19	76	P	P	21 20 17.9	-0.2		
KNB	Kanab	49.42	79	P	P	21 20 20.1	+0.2		
KNB				pmax	pmax				
	comp=Z,203nm,1.1s								
KNB	Kanab	49.42	79	P	P	21 20 20.1	+0.2		
PFO	Pinyon Flats O	49.44	85	P	P	21 20 19.7	-0.2		
	baz=312,SNR=16								
PFO	Pinyon Flats O	49.44	85	P	P	21 20 19.6	-0.4		
PFO				pmax	pmax				
	comp=Z,101nm,1.0s								
PFO	Pinyon Flats O	49.44	85	P	P	21 20 19.6	-0.4		
XPFO	Pion Flat	49.44	85	P	P	21 20 19.5	-0.5		
PKCU	Pink Cliffs	49.45	78	P	P	21 20 20.6	+0.3		
SRU	San Rafael Swe	49.46	76	P	P	21 20 20.3	+0.2		
SRU				pmax	pmax				
	comp=Z,210nm,1.2s								
SRU	San Rafael Swe	49.46	76	P	P	21 20 20.3	+0.2		
BELC	Belle Mtn. Jos	49.46	84	P	P	21 20 19.8	-0.4		
	baz=312,SNR=24								
109C	Camp Elliot, M	49.53	86	P	P	21 20 20.5	0.0		
	baz=313,SNR=23								
109C	Camp Elliot, M	49.53	86	P	P	21 20 20.7	+0.2		
K22A	Casper	49.59	69	P	P	21 20 19.6	-1.5		
	baz=308,SNR=6.8								
SPA0	Spitsbergen Ar	49.67	355	P	P	21 20 20.6	-0.3		
NEE2	Needles Airpor	49.80	83	P	P	21 20 22.1	-0.5		
	baz=312,SNR=6.1								
IRM	Iron Mountain	49.88	84	P	P	21 20 23.1	-0.1		
	baz=312,SNR=44								
BAR	Barrett	49.94	86	P	P	21 20 23.3	-0.4		
BAR				IAmb	IAmb	21 20 25.8			
	comp=Z,362nm,1.2s								
MONP2	Monument Peak	49.95	86	P	P	21 20 23.6	-0.3		
	baz=313,SNR=57								
YOJ	Yonaguni jima	49.95	259	P	P	21 20 23.0	-0.8		
YOJ				pmax	pmax				
	comp=Z,633nm,1.1s								
YOJ	Yonaguni jima	49.95	259	P	P	21 20 22.9	-0.8		
BC3	Big Chuckawall	50.03	84	P	P	21 20 23.9	-0.5		
	baz=313,SNR=18								
RSSD	Black Hills	50.11	66	P	P	21 20 23.4	-1.7		
	baz=308								
O20A	White River Ci	50.17	73	P	P	21 20 24.4	-1.1		
	baz=310,SNR=13								
MDND	Maddock	50.29	60	P	P	21 20 25.2	-0.8		
	baz=307,SNR=10								
SWSC	Sam W. Stewart	50.30	85	P	P	21 20 26.0	-0.3		
	baz=313,SNR=16								
IKP	In-Ko-Pah, Jac	50.30	86	P	P	21 20 26.4	0.0		
	baz=313,SNR=26								
PDMCI	Parker Dam,Lak	50.40	83	P	P	21 20 26.8	-0.3		
	baz=312,SNR=37								
TATO	Taipei	50.50	260	P	P	21 20 28.6	+0.8		
TATO				IAmb	IAmb	21 20 53.3			
	comp=Z,376nm,1.4s								
TARA	Tarawa	50.64	187	P	P	21 20 29.4	+0.5		
ULM	Lac du Bonnet	50.79	56	P	P	21 20 28.6	-1.1		
	comp=Z,94nm,0.9s,baz=306,slow=7.2,SNR=12								
ULM	Lac du Bonnet	50.79	56	P	P	21 20 28.9	-0.9		
ULM				pmax	pmax				
	comp=Z,128nm,1.0s								
ULM	Lac du Bonnet	50.79	56	P	P	21 20 28.9	-0.9		
ULM				IAmb	IAmb	21 20 30.8			
	comp=Z,128nm,1.0s								
YHNB	Yeheng	50.79	260	P	P	21 20 30.4	+0.2		
YHNB				IAmb	IAmb	21 20 32.3			
	comp=Z,154nm,0.8s								
GLA	Glamis	50.82	84	P	P	21 20 30.1	-0.2		
	baz=313								
GLA	Glamis	50.82	84	P	P	21 20 30.4	+0.1		
GLA				pmax	pmax				
	comp=Z,406nm,1.4s								
GLA	Glamis	50.82	84	P	P	21 20 30.4	+0.1		
GLA				IAmb	IAmb	21 20 32.3			
	comp=Z,406nm,1.4s								
HSPB	Hornsund (broa	50.86	355	*eP*	P	21 20 30.7	+0.8		
WHN	Wuhan	50.91	271	⇓P	P	21 20 31.0	+0.1		
WHN				PcP	PcP	21 21 47.3	+1.4		
WHN				pmax	pmax				
	comp=Z,1μm,0.9s								
PV07	Paradox Valley	51.01	75	P	P	21 20 31.2	-0.6		
NACB	Ninganchiao	51.03	260	P	P	21 20 31.4	-0.5		
N23A	Red Feather La	51.03	71	P	P	21 20 31.4	-0.7		
	baz=310								
DAG	Danmarks Havn	51.08	5	*i* P	P	21 20 31.4	-0.2		
	comp=Z,62nm,0.9s								
DAG	Danmarks Havn	51.08	5	*i* P	P	21 20 31.4	-0.2		
DAG				pmax	pmax				
	comp=Z,62nm,0.9s								
WUAZ	Wupatki	51.28	80	P	P	21 20 33.9	0.0		
	baz=312,SNR=22								
WUAZ	Wupatki	51.28	80	P	P	21 20 33.9	0.0		
WUAZ				IAmb	IAmb	21 21 02.5			
	comp=Z,181nm,1.1s								
Y14A	Wickenburg	51.34	82	P	P	21 20 33.8	-0.4		
113A	Mohawk Valley,	51.67	84	P	P	21 20 36.3	-0.3		
SSLB	Suanglung	51.70	260	P	P	21 20 36.9	-0.1		
YULB	Yu-li	51.79	259	P	P	21 20 37.3	-0.2		
XAN	Xi'an	51.87	279	P	P	21 20 37.8	-0.3		
XAN				pmax	pmax				
	comp=Z,420nm,1.1s								
XAN				LR	LR				
	comp=Z,84μm,20.6s								
XAN				LR	LR				
	comp=Z,80μm,18.4s								
XAN	Xi'an	51.87	279	P	P	21 20 37.9	-0.2		
XAN				pmax	pmax				
	comp=Z,397nm,1.1s								
XAN	Xi'an	51.87	279	P	P	21 20 37.9	-0.2		
MVCO	Mesa Verde	51.90	76	P	P	21 20 37.7	-0.8		
	baz=311,SNR=5.1								
ISCO	Idaho Springs	51.93	72	P	P	21 20 38.0	-0.9		
	baz=310,SNR=8.5								
AGMN	Agassiz Nation	51.99	58	P	P	21 20 37.4	-1.4		
	baz=308,SNR=13								
AGMN	Agassiz Nation	51.99	58	P	P	21 20 37.9	-0.9		
AGMN				IAmb	IAmb	21 20 39.6			
	comp=Z,181nm,1.1s								
TPUB	Ta-pu	52.26	260	P	P	21 20 40.9	-0.2		
QZH	Quanzhou	52.30	263	⇓*i* P	P	21 20 41.8	+0.5		
QZH				pmax	pmax				
	comp=Z,530nm,1.2s								
TWG	Pinlang	52.35	259	P	P	21 20 41.2	-0.6		
ZAA0	Zalesovo Array	52.38	312	P	P	21 20 41.2	-0.3		
ZAA0				IAmb	IAmb	21 21 53.3			
	comp=Z,283nm,0.9s								
ZALV	Zalesovo Beam	52.38	312	P	P	21 20 40.7	-0.8		
	comp=Z,60nm,0.9s,baz=48,slow=6.3,SNR=60								
ZALV				PcP	PcP	21 21 51.5	+0.6		
	comp=Z,210nm,0.8s,baz=34,slow=3.7,SNR=26								
ZALV				ScP	ScP	21 25 37.8	-0.2		
	comp=Z,16nm,0.8s,baz=54,slow=5.9,SNR=4.9								
ZALV				P4KPbc		21 58 07.3			
	comp=Z,4.0nm,0.9s,baz=35,slow=5.4,SNR=12								
W18A	Petrified Fore	52.55	79	P	P	21 20 43.3	0.0		
	baz=312,SNR=20								
W18A	Petrified Fore	52.55	79	P	P	21 20 43.3	0.0		
W18A				IAmb	IAmb	21 21 12.0			
	comp=Z,171nm,1.1s								
S22A	4UR Ranch, Cre	52.55	74	P	P	21 20 43.3	-0.1		
	baz=311,SNR=17								
S22A	4UR Ranch, Cre	52.55	74	P	P	21 20 43.2	-0.2		
Q24A	Divide	52.75	72	P	P	21 20 43.4	-1.5		
	baz=311								
SUSD	Miller	52.76	63	P	P	21 20 43.7	-0.8		
	baz=310,SNR=5.5								
KNMB	Chin-men Tao	52.77	263	P	P	21 20 45.1	+0.3		
214A	Organ Pipe Nat	52.81	84	P	P	21 20 44.9	-0.1		
	baz=314,SNR=31								
214A	Organ Pipe Nat	52.81	84	P	P	21 20 45.0	-0.1		
214A				IAmb	IAmb	21 20 47.1			
	comp=Z,176nm,1.1s								
SUMG	Summit	53.13	13	*i* P	P	21 20 48.1	+0.8		
	comp=Z,1μm,0.9s								
SUMG	Summit	53.13	13	P	P	21 20 47.7	+0.4		
SUMG				pmax	pmax				
	comp=Z,694nm,1.0s								
SUMG	Summit	53.13	13	P	P	21 20 47.7	+0.4		
LZH	Lanzhou	53.58	284	*eP*	P	21 20 51.6	+0.8		
LZH				pP	pP	21 21 18.3	+2.3		
LZH				sP	sP	21 21 30.6	+2.8		
LZH				PcP	PcP	21 21 56.9	+0.9		
LZH				pmax	pmax				
	comp=Z,630nm,1.4s								
LZH				LR	LR				
	comp=Z,71μm,14.6s								
LZH				LR	LR				
	comp=Z,82μm,15.0s								
LZH				LR	LR				
	comp=Z,86μm,15.7s								
XMAS	Kiritimati	53.68	150	P	P	21 20 52.3	+0.8		
XMAS				IAmb	IAmb	21 20 54.1			
	comp=Z,262nm,1.1s								
ILULI	Ilulissat	53.81	20	*i* P	P	21 20 51.9	+0.1		
	comp=Z,316nm,0.8s								
ILULI	Ilulissat	53.81	20	*i* P	P	21 20 51.9	+0.1		
ILULI				pmax	pmax				
	comp=Z,320nm,0.8s								
ILULI	Ilulissat	53.81	20	P	P	21 20 51.9	+0.1		
TUC	Tucson	53.81	82	P	P	21 20 52.4	-0.1		
	baz=314								
TUC	Tucson	53.81	82	P	P	21 20 52.6	+0.2		
TUC				pmax	pmax				
	comp=Z,96nm,1.1s								
TUC	Tucson	53.81	82	P	P	21 20 52.6	+0.2		
DGZ	Jazzator, Alta	53.82	306	*i* P	P	21 20 52.3	-0.1		
DGZ				pmax	pmax				
	comp=Z,294nm,1.1s								
ENH	Enshi	54.11	275	P	P	21 20 54.0	-0.6		
KSCO	Kaye Shedlock'	54.19	71	P	P	21 20 54.7	-0.5		
	baz=312,SNR=9.7								
T25A	Trinidad	54.39	73	P	P	21 20 56.2	-0.6		
	baz=312,SNR=12								
EYMN	Ely	54.48	56	P	P	21 20 56.2	-0.8		
	baz=311,SNR=18								
EYMN	Ely	54.48	56	P	P	21 20 56.4	-0.6		
ECSD	EROS Data Cent	54.50	62	P	P	21 20 55.7	-1.5		
	baz=311								
ANMO	Albuquerque	54.65	77	P	P	21 20 58.4	-0.2		
	baz=313								
ANMO	Albuquerque	54.65	77	*i* P	P	21 20 57.5	-1.1		
ANMO				pmax	pmax				
	comp=Z,37nm,1.2s								
ANMO	Albuquerque	54.65	77	P	P	21 20 58.7	+0.1		
BNM	Barren Site	55.08	78	P	P	21 21 01.9	0.0		
KNTN	Kanton	55.16	168	P	P	21 21 03.3	+1.1		
BGNE	Belgrade	55.18	66	P	P	21 21 00.9	-1.2		
	baz=312								
121A	Cookes Peak, D	55.49	80	P	P	21 21 04.7	0.0		
	baz=314,SNR=6.4								
121A	Cookes Peak, D	55.49	80	P	P	21 21 05.0	+0.3		
SPMN	Marine on St.	55.58	59	P	P	21 21 04.2	-0.7		
	baz=312,SNR=6.4								
SFJD	Kangerlussuaq	55.74	21	*i* P	P	21 21 05.7	0.0		
	comp=Z,7.0nm,0.7s								
SFJD	Kangerlussuaq	55.74	21	P	P	21 21 05.4	-0.3		
SFJD				pmax	pmax				
	comp=Z,274nm,1.2s								
SFJD	Kangerlussuaq	55.74	21	P	P	21 21 05.4	-0.3		
SFJD				IAmb	IAmb	21 21 07.5			
	comp=Z,274nm,1.1s								
L34A	Svendsen Farm,	55.80	64	P	P	21 21 05.5	-1.1		
L34A				IAmb	IAmb	21 22 14.6			
	comp=Z,108nm,0.6s								
CBKS	Cedar Bluff	56.00	69	P	P	21 21 07.3	-0.8		
	baz=312,SNR=11								
CBKS	Cedar Bluff	56.00	69	P	P	21 21 07.6	-0.5		
CBKS				pmax	pmax				
	comp=Z,423nm,1.3s								
CBKS	Cedar Bluff	56.00	69	P	P	21 21 07.6	-0.5		
HSIG		56.01	85	P	P	21 21 08.2	-0.1		
HSIG				IAmb	IAmb	21 21 10.2			
	comp=Z,172nm,1.1s								
ZSN	Zaisan	56.58	306	⇓*i* P	P	21 21 12.2	+0.1		
	comp=Z,120nm,1.0s,baz=306								
ZSN				*eS*	S	21 28 57.8	+2.3		
	baz=306								
ZSN	Zaisan	56.58	306	⇓*i* P	P	21 21 12.2	+0.1		
ZSN				*eS*	S	21 28 57.7	+2.3		
ZSN				pmax	pmax				
	comp=Z,120nm,1.0s								
SEM	Semipalatinsk	56.82	311	*i* P	P	21 21 13.0	-0.9		
	comp=Z,59nm,1.2s,baz=311								
SEM	Semipalatinsk	56.82	311	*i* P	P	21 21 13.0	-0.9		
SEM				pmax	pmax				
	comp=Z,59nm,1.2s								
KEV	Kevo	56.82	349	P	P	21 21 13.5	+0.1		
KEV				pmax	pmax				
	comp=Z,106nm,1.2s								
KEV	Kevo	56.82	349	P	P	21 21 13.5	+0.1		
N35A	Tabor	56.95	64	P	P	21 21 14.1	-0.6		
SCO	Scoresbysund	56.98	8	*i* P	P	21 21 14.6	+0.1		
	comp=Z,120nm,1.1s								
SCO	Scoresbysund	56.98	8	P	P	21 21 15.4	+0.9		
SCO				pmax	pmax				
	comp=Z,290nm,1.1s								
SCO	Scoresbysund	56.98	8	P	P	21 21 15.4	+0.9		
SCO				IAmb	IAmb	21 21 16.9			
	comp=Z,290nm,1.1s								
HKPS	Hong Kong Po S	57.00	264	P	P	21 21 15.8	+0.5		
CD2	Chengdu	57.18	279	⇓*i* P	P	21 21 16.5	0.0		
CD2				pmax	pmax				
	comp=Z,720nm,0.9s								
ARCES	ARCESS Array B	57.21	349	P	P	21 21 15.2	-0.9		
	comp=Z,89nm,0.8s,baz=29,slow=4.9,SNR=51								
ARCES				pP	pwP	21 21 43.2	-0.5		
	comp=Z,22nm,0.9s,baz=23,slow=6.6,SNR=2.0								
ARCES				PcP	PcP	21 22 09.6	+0.2		
	comp=Z,53nm,0.9s,baz=15,slow=5.5,SNR=5.6								
ARCES				ScP	ScP	21 25 58.4	-0.6		
	comp=Z,30nm,1.2s,baz=18,slow=4.3,SNR=6.0								
ARCES				PKPPKP	P'P'df	21 51 00.8	-5.7		
	comp=Z,4.2nm,0.7s,baz=328,slow=4.4,SNR=4.7								
ARCES				PKP2bc	P'P'bc	21 51 12.5	-6.2		
	comp=Z,16nm,0.9s,baz=210,slow=1.1,SNR=11								
ARCES	ARCESS Array B	57.21	349	P	P	21 21 15.7	-0.4		
ARE0	ARCESS Array S	57.21	349	P	P	21 21 16.1	0.0		
KURK	Kurchatov	57.37	312	*i* P	P	21 21 17.7	+0.2		
KURK				pmax	pmax				
	comp=Z,681nm,1.1s								
KURK	Kurchatov	57.37	312	P	P	21 21 17.6	+0.2		
LVZ	Lovozero	57.44	345	P	P	21 21 17.7	-0.1		
LVZ	Lovozero	57.44	345	P	P	21 21 17.3	-0.5		
MSTX	Muleshoe	57.53	75	P	P	21 21 18.3	-0.7		
	baz=314,SNR=8.5								
MNTX	Cornudas Mount	57.53	79	P	P	21 21 18.9	-0.1		
	baz=315,SNR=16								
MNTX	Cornudas Mount	57.53	79	P	P	21 21 19.3	+0.3		
AMTX	Amarillo	57.54	74	P	P	21 21 17.5	-1.6		
	baz=314								
WMQ	Urumqi	57.58	301	P	P	21 21 20.1	+0.9		
WMQ				pP	pP	21 21 48.0	+3.4		
WMQ				pmax	pmax				
	comp=Z,270nm,0.9s								
WMQ				LR	LR				
	comp=Z,55μm,19.1s								
WMQ				LR	LR				
	comp=Z,56μm,16.5s								
WMQ	Urumqi	57.58	301	P	P	21 21 19.5	+0.3		
WMQ				pmax	pmax				
	comp=Z,233nm,0.8s								
WMQ	Urumqi	57.58	301	P	P	21 21 19.5	+0.3		
SCIA	State Center	57.58	62	P	P	21 21 18.3	-0.8		
	baz=313,SNR=11								
KSU1	Kansas State U	57.60	67	P	P	21 21 17.9	-1.4		
	baz=313,SNR=6.5								
APA	Apatity	57.94	345	⇓*i* P	P	21 21 20.5	-0.8		
APA				*i* *PP	pP	21 21 45.8	-0.6		
APA				pmax	pmax				
	comp=Z,59nm,0.9s								
MK31	Makanchi Array	58.32	307	P	P	21 21 23.8	-0.5		
MK31	Makanchi Array	58.32	307	P	P	21 21 23.8	-0.5		
MKAR	Makanchi Array	58.32	307	P	P	21 21 23.7	-0.6		
	comp=Z,171nm,0.8s,baz=49,slow=6.1,SNR=207								
MKAR				PcP	PcP	21 22 14.9	+0.8		
	comp=Z,54nm,0.9s,baz=54,slow=6.8,SNR=4.3								
MKAR				ScP	ScP	21 26 04.4	+0.1		
	comp=Z,12nm,0.9s,baz=7.6,slow=3.7,SNR=3.8								
MKAR	Makanchi Array	58.32	307	P	P	21 21 23.5	-0.7		
N38A	Joes South For	58.33	63	P	P	21 21 23.2	-1.2		
N38A				IAmb	IAmb	21 21 25.1			
	comp=Z,208nm,0.9s								
MAKZ	Makanchi	58.46	307	P	P	21 21 24.7	-0.6		
MAKZ				pmax	pmax				
	comp=Z,230nm,0.9s								
MAKZ	Makanchi	58.46	307	P	P	21 21 24.7	-0.6		
MAKZ				IAmb	IAmb	21 21 26.5			
	comp=Z,230nm,0.9s								
JFWS	Jewell Farm	58.50	59	P	P	21 21 23.8	-1.7		
	baz=314,SNR=13								
GYA	Guiyang	58.56	274	⇓P	P	21 21 26.3	0.0		
GYA				pmax	pmax				
	comp=Z,300nm,1.1s								
D46A	Sault St. Mari	58.93	53	P	P	21 21 26.5	-1.9		
	baz=314								
P38A	Dawn	58.97	64	P	P	21 21 27.7	-1.2		
P38A				IAmb	IAmb	21 21 29.7			
	comp=Z,117nm,0.9s								
F45A	CMU Biological	59.03	54	P	P	21 21 27.9	-1.3		
	baz=314								
TGY	Tagaytay City	59.15	252	P	P	21 21 31.9	+1.4		
	comp=Z,3μm,0.9s,baz=285,slow=0.7,SNR=27								
D47A	Chapleau	59.27	52	P	P	21 21 29.2	-1.6		
	baz=315								
BVAR	Borovoye Array	59.32	318	PKPPKP	P'P'df	21 50 59.9	-3.5		
	comp=Z,3.3nm,0.9s,baz=144,slow=2.8,SNR=3.6								
BRVK	Borovoye	59.34	318	P	P	21 21 31.7	+0.5		
BRVK	Borovoye	59.34	318	P	P	21 21 31.6	+0.5		
BRVK						21 22 18.5			
BRVK				pmax	pmax				
	comp=Z,525nm,1.2s								
BRVK	Borovoye	59.34	318	P	P	21 21 31.6	+0.5		
BRVK				PcP	PcP	21 22 18.5	+0.5		
WMOK	Wichita Mounta	59.36	72	P	P	21 21 30.8	-0.8		
	baz=315								
WMOK	Wichita Mounta	59.36	72	P	P	21 21 31.3	-0.3		
WMOK	Wichita Mounta	59.36	72	P	P	21 21 31.3	-0.3		
G45A	Suttons Bay	59.41	55	P	P	21 21 30.6	-1.2		
	baz=314								
ANGG	Ammassalik, Gr	59.53	16	P	P	21 21 31.5	-0.8		
G46A	Petoskey	59.62	54	P	P	21 21 32.1	-1.1		
	baz=315								
N41A	Harden Midland	59.70	62	P	P	21 21 32.9	-0.9		
N41A				IAmb	IAmb	21 21 35.1			
	comp=Z,233nm,1.1s								
D48A	Paudash Townsh	59.81	51	P	P	21 21 33.4	-1.1		
	baz=315								
I45A	Fountain	59.82	56	P	P	21 21 33.9	-0.7		
	baz=315								
MATQ	Matagami	59.91	47	P	P	21 21 34.2	-0.9		
	baz=316								
D49A	Beulah Townshi	59.96	51	P	P	21 21 34.6	-0.9		
	baz=315								
H46A	Fife Lake	59.99	55	P	P	21 21 35.2	-0.6		
	baz=315,SNR=5.8								
RCP	Roxas	60.12	249	⇓*eP*	P	21 21 38.3	+1.3		
E48A	Lockeyer	60.13	52	P	P	21 21 35.7	-1.0		
	baz=315								
J45A	Montague	60.16	57	P	P	21 21 36.0	-0.9		
	baz=315								
SVE	Sverdlovsk	60.17	326	*eP*	P	21 21 38.2	+1.4		
SVE				pmax	pmax				
	comp=Z,813nm,1.2s								
TMCR	Tamitsa	60.19	341	*eP*	P	21 21 36.3	-0.4		
TMCR				*eS*	S	21 29 45.4	+3.8		
TMCR				pmax	pmax				
	comp=Z,240nm,0.9s								
RABL	Rabaul	60.24	211	P	P	21 21 37.7	-0.1		
FUNA	Funafuti	60.24	179	P	P	21 21 37.7	0.0		
L44A	Lake County Fo	60.25	59	P	P	21 21 37.1	-0.4		
	baz=315,SNR=8.8								
TX31	Lajitas Ar. Si	60.25	80	P	P	21 21 37.7	-0.1		
TXAR	Lajitas Array	60.25	80	P	P	21 21 37.6	-0.2		
	comp=Z,20nm,0.5s,baz=305,slow=5.1,SNR=106								
TXAR				ScP	ScP	21 26 11.9	-1.3		
	comp=Z,11nm,0.9s,baz=286,slow=2.2,SNR=5.2								
TXAR				PKPPKP	P'P'df	21 50 59.2	-2.5		
	comp=Z,1.7nm,0.7s,baz=160,slow=4.0,SNR=4.3								
TXAR	Lajitas Array	60.25	80	P	P	21 21 37.8	-0.1		
TUL1	Leonard	60.28	69	P	P	21 21 36.5	-1.3		
	baz=315,SNR=5.4								
TUL1	Leonard	60.28	69	P

ARU SS **SS** 21 33 55.5 +0.1
ARU pmax pmax
comp=Z,1µm,1.1s
ARU Arti 61.19 327 P **P** 21 21 44.5 +0.8
IVI Ivigtut 61.22 24 P **P** 21 21 43.7 0.0
CHGQ Chibougamau 61.24 45 P **P** 21 21 43.6 -0.6
baz=318,SNR=6.3
CCM Cathedral Cave 61.34 64 P **P** 21 21 43.8 -1.3
baz=315
E51A G1948 Merrick 61.38 50 P **P** 21 21 43.8 -1.4
baz=316
TDK Taldyqorghan 61.50 307 *i* P **P** 21 21 46.1 +0.1
comp=Z,335nm,0.9s,baz=308
TDK Taldyqorghan 61.50 307 *i* P **P** 21 21 46.1 +0.1
TDK pmax pmax
comp=Z,335nm,0.9s
D52A ZEK Kipawa Sen 61.57 49 P **P** 21 21 45.3 -1.1
baz=317
J48A Bridge Port 61.59 55 P **P** 21 21 45.4 -1.3
baz=316
F51A Arnstein 61.62 51 P **P** 21 21 45.4 -1.3
baz=316
I49A Point Hope 61.62 54 P **P** 21 21 45.3 -1.5
baz=316
U40A Yellville 61.64 67 P **P** 21 21 45.2 -1.9
baz=315,SNR=8.4
JCT Junction City 61.77 76 P **P** 21 21 47.0 -1.0
baz=316,SNR=5.2
JCT Junction City 61.77 76 P **P** 21 21 47.3 -0.7
JCT pmax pmax
comp=Z,93nm,1.1s
JCT Junction City 61.77 76 P **P** 21 21 47.3 -0.7
D53A Lac Vacive, Po 61.83 49 P **P** 21 21 46.5 -1.6
baz=317
J49A Marlette 61.88 55 P **P** 21 21 47.3 -1.3
baz=316
NRS Narsarsuaq 61.92 22 *i* P **P** 21 21 48.1 -0.4
comp=Z,160nm,0.9s
NRS Narsarsuaq 61.92 22 *i* P **P** 21 21 48.1 -0.4
NRS pmax pmax
comp=Z,160nm,0.9s
NRS Narsarsuaq 61.92 22 P **P** 21 21 48.1 -0.4
NRS IAmb IAmb 21 21 49.8
comp=Z,142nm,0.9s
W39A Magazine 61.94 68 P **P** 21 21 48.1 -0.9
baz=316
KMI Kunming 61.95 276 ⇑ *i* P **P** 21 21 49.9 +0.3
KMI pP pP 21 22 15.3 -0.4
KMI PP **PP** 21 24 10.0 +3.2
KMI pmax pmax
comp=Z,170nm,0.9s
KMI LR LR
comp=Z,54µm,16.0s
KMI LR LR
comp=Z,62µm,18.8s
KMI LR LR
comp=Z,60µm,17.8s
KMI Kunming 61.95 276 P **P** 21 21 49.6 0.0
KMI pmax pmax
comp=Z,1µm,2.0s
KMI Kunming 61.95 276 P **P** 21 21 49.6 0.0
SFIN Lafayette 61.96 60 P **P** 21 21 48.3 -0.8
baz=316,SNR=8.0
SFIN Lafayette 61.96 60 P **P** 21 21 48.5 -0.6
SFIN IAmb IAmb 21 21 50.3
comp=Z,203nm,1.2s
E52A Mattawa 61.96 50 P **P** 21 21 47.4 -1.6
baz=317
F52A Sundridge 62.00 51 P **P** 21 21 47.8 -1.5
baz=317
WHTX Lake Whitney, 62.08 73 P **P** 21 21 49.6 -0.5
baz=316,SNR=10
WHTX Lake Whitney, 62.08 73 P **P** 21 21 49.9 -0.2
WHTX IAmb IAmb 21 21 51.3
comp=Z,285nm,1.6s
QIZ Qiongzhong 62.08 265 P **P** 21 21 50.7 +0.5
K49A Clarkson 62.13 56 P **P** 21 21 50.0 -0.2
baz=316,SNR=6.2
D54A Lac Fusel, La 62.26 48 P **P** 21 21 50.0 -1.0
baz=318
KIRV Kirov 62.29 333 *e*P **P** 21 21 51.5 +0.5
SHLS Shalkode 62.31 305 *e*P **P** 21 21 50.9 -0.7
comp=Z,311nm,0.9s,baz=305
SHLS *e*S **S** 21 30 09.7 +0.2
baz=305
SHLS Shalkode 62.31 305 *e*P **P** 21 21 50.9 -0.7
SHLS *e*S **S** 21 30 09.6 +0.2
SHLS pmax pmax
comp=Z,311nm,0.9s
E53A Dumoine, Ponti 62.36 49 P **P** 21 21 50.8 -0.9
baz=317
AAM Ann Arbor 62.38 56 P **P** 21 21 51.3 -0.6
baz=316
KPKS Kokpek 62.48 306 *i* P **P** 21 21 53.0 +0.3
comp=Z,286nm,0.9s,baz=306
KPKS Kokpek 62.48 306 *i* P **P** 21 21 52.9 +0.3
KPKS pmax pmax
comp=Z,286nm,0.9s
KCP Kidapawan 62.49 244 ⇓ *e*P **P** 21 21 53.9 +0.8
MIAR Mount Ida 62.52 68 P **P** 21 21 52.4 -0.5
baz=316,SNR=10
MIAR Mount Ida 62.52 68 P **P** 21 21 52.5 -0.5
MIAR pmax pmax
comp=Z,177nm,1.1s
MIAR Mount Ida 62.52 68 P **P** 21 21 52.5 -0.5
MIAR IAmb IAmb 21 21 54.4
comp=Z,176nm,1.1s
E54A Lac Daplat, Po 62.54 49 P **P** 21 21 52.5 -0.4
baz=318
UZB Uzynbulak 62.54 306 ⇓ *i* P **P** 21 21 53.2 0.0
comp=Z,85nm,0.9s,baz=306
UZB Uzynbulak 62.54 306 ⇓ *i* P **P** 21 21 53.2 0.0
UZB pmax pmax
comp=Z,85nm,0.9s
K50A Casco 62.56 55 P **P** 21 21 52.6 -0.5
baz=317
H52A Wyevale 62.56 52 P **P** 21 21 52.7 -0.4
baz=317
I51A Listowel 62.62 53 P **P** 21 21 53.3 -0.2
baz=317,SNR=5.2
BORG Borgarnes 62.63 9 P **P** 21 21 53.7 +0.5
BORG pmax pmax
comp=Z,112nm,0.9s
BORG Borgarnes 62.63 9 P **P** 21 21 53.7 +0.5
BORG IAmb IAmb 21 21 56.2
comp=Z,112nm,0.9s
G53A Haliburton 62.82 51 P **P** 21 21 54.3 -0.5
baz=317
KLMR Klimovskoe 62.83 339 *e*P **P** 21 21 53.9 -0.6
KLMR pmax pmax
comp=Z,243nm,1.2s
KLMR Klimovskoe 62.83 339 *e*P **P** 21 21 54.0 -0.6
KLMR AMP 21 21 57.6
comp=Z,243nm,1.2s
W41B Gary Mavity, V 62.83 67 P **P** 21 21 54.1 -0.9
baz=316
I52A Shelburne 62.84 53 P **P** 21 21 54.8 -0.2
baz=317
435B Jarrell 62.87 74 P **P** 21 21 55.0 -0.4
baz=316,SNR=5.9
G54A Lake Saint Pet 62.88 50 P **P** 21 21 54.4 -0.8
baz=316
D55A Sainte-Anne-du 62.90 48 P **P** 21 21 54.1 -1.2
baz=318,SNR=7.1
SATY Saty 62.91 306 ⇓ *i* P **P** 21 21 56.0 +0.4
comp=Z,124nm,1.1s,baz=306
SATY Saty 62.91 306 ⇓ *i* P **P** 21 21 56.0 +0.4
SATY pmax pmax
comp=Z,124nm,1.1s
JAY Jayapura 62.96 223 P **P** 21 21 55.9 -0.2
comp=Z,267nm,0.9s,baz=346,slow=4.2,SNR=45
JAY PKPPKP **P'P'df** 21 50 56.1 +1.4
comp=Z,6.2nm,0.9s,baz=20,slow=3.3,SNR=2.6
X40A Basin Creek Fa 62.99 68 P **P** 21 21 55.5 -0.6
baz=316
L50A Kingsville 63.00 56 P **P** 21 21 55.4 -0.6
baz=317
CHKK Chushkaly 63.04 307 ⇓ *i* P **P** 21 21 55.6 -0.7
baz=308
CHKK Chushkaly 63.04 307 ⇓ *i* P **P** 21 21 55.5 -0.7
E55A Montcerf-Lytto 63.05 48 P **P** 21 21 55.4 -0.9
baz=318
N49A Columbus Grove 63.10 57 P **P** 21 21 55.8 -0.9
HNR Honiara 63.18 201 P **P** 21 21 57.7 +0.3
comp=Z,273nm,0.8s,baz=201,slow=3.0,SNR=18
D56A ZEC Mazanza, M 63.20 47 P **P** 21 21 55.7 -1.6
baz=318

H53A Bobcaygeon 63.25 51 P **P** 21 21 56.2 -1.4
baz=318
J52A Paris 63.30 53 P **P** 21 21 56.8 -1.2
baz=317
I53A Kortright Cn E 63.31 52 P **P** 21 21 57.0 -1.1
baz=317
KUU Kurty 63.33 308 ⇓ *i* P **P** 21 21 57.5 -0.7
comp=Z,165nm,1.0s,baz=308
KUU Kurty 63.33 308 ⇓ *i* P **P** 21 21 57.5 -0.7
KUU pmax pmax
comp=Z,165nm,1.0s
F55A Otter Lake 63.37 49 P **P** 21 21 57.3 -1.1
baz=318
E56A St. Veronique 63.45 48 P **P** 21 21 58.0 -0.9
baz=318
MDOK Medeo 63.51 307 *i* P **P** 21 21 59.8 +0.1
baz=307
MDOK Medeo 63.51 307 *i* P **P** 21 21 59.7 +0.1
K52A Tillsonburg 63.52 54 P **P** 21 21 58.6 -0.8
baz=317
AAA Alma-Ata 63.55 307 ⇓ *i* P **P** 21 22 00.2 +0.4
comp=Z,306nm,0.9s,baz=307
AAA Alma-Ata 63.55 307 ⇓ *i* P **P** 21 22 00.1 +0.4
AAA pmax pmax
comp=Z,306nm,0.9s
833A Chaparral WMA, 63.57 77 P **P** 21 21 59.1 -0.8
baz=317
BTLS Baital 63.58 310 *e*P **P** 21 21 59.8 0.0
comp=Z,107nm,1.0s,baz=310
BTLS Baital 63.58 310 *e*P **P** 21 21 59.8 0.0
BTLS pmax pmax
comp=Z,107nm,1.0s
D57A Chemin Vers le 63.62 47 P **P** 21 21 58.8 -1.3
baz=319
G55A Calabogie 63.63 50 P **P** 21 21 58.8 -1.3
baz=318
TNSS Tian-Shan 63.66 307 *i* P **P** 21 22 01.0 +0.1
baz=307
TNSS Tian-Shan 63.66 307 *i* P **P** 21 22 00.9 +0.1
P49A Miami Univ. Ec 63.83 59 P **P** 21 22 00.2 -1.3
baz=317
LATQ La Tuque 63.84 46 P **P** 21 22 00.3 -1.1
baz=319
M51A Elyria 63.84 56 P **P** 21 22 00.2 -1.4
baz=317
MTBS Maitube 63.84 307 ⇓ *i* P **P** 21 22 02.0 +0.2
baz=307
MTBS Maitube 63.84 307 ⇓ *i* P **P** 21 22 01.9 +0.2
Z41A Richland Creek 63.89 69 P **P** 21 22 01.5 -0.5
baz=317
NATX Nacogdoches 63.90 71 P **P** 21 22 01.7 -0.4
baz=317,SNR=5.5
WCI Wyandotte Cave 63.94 61 P **P** 21 22 01.6 -0.6
baz=317
WCI Wyandotte Cave 63.94 61 P **P** 21 22 01.7 -0.6
WCI pmax pmax
comp=Z,138nm,1.3s
WCI Wyandotte Cave 63.94 61 P **P** 21 22 01.7 -0.6
H55A Tweed 63.94 50 P **P** 21 22 00.8 -1.3
baz=318
I55A Frankford 63.95 51 P **P** 21 22 01.1 -1.1
baz=318
E57A Chemin Saint G 63.96 47 P **P** 21 22 01.2 -1.1
baz=319,SNR=5.8
D58A Chemin du LacG 64.01 46 P **P** 21 22 01.8 -0.8
baz=319
SLVN Son La 64.03 272 P **P** 21 22 03.5 +0.3
SLVN IAmb IAmb 21 22 05.9
comp=Z,305nm,1.1s
N51A Ashland 64.04 56 P **P** 21 22 01.8 -1.1
baz=317
ORIO Orleans, Innes 64.05 49 P **P** 21 22 01.7 -1.2
baz=319
M52A Chesterland 64.11 55 P **P** 21 22 02.1 -1.3
baz=318
J54A Appleton 64.18 52 P **P** 21 22 02.6 -1.2
baz=318
TARG Taragay, Kyrgy 64.19 305 P **P** 21 22 05.2 +0.8
KDJ Kajisay 64.21 306 P **P** 21 22 04.2 0.0
KDJ pmax pmax
comp=Z,325nm,0.9s
KDJ Kajisay 64.21 306 P **P** 21 22 04.2 0.0
KDJ IAmb IAmb 21 22 06.6
comp=Z,325nm,0.9s
ACSO Alum Creek Sta 64.23 57 P **P** 21 22 02.9 -1.2
baz=317
H56A Elgin 64.34 50 P **P** 21 22 03.4 -1.4
baz=319
L53A Girard 64.36 54 P **P** 21 22 04.5 -0.5
baz=318
ERPA Erie 64.37 54 P **P** 21 22 04.5 -0.5
baz=318
E58A La Victoria 64.38 47 P **P** 21 22 04.4 -0.6
baz=319,SNR=6.8
TKM2 Tokmak 2 64.41 307 P **P** 21 22 06.0 +0.5
SNR=33
N52A McGinn's Farm, 64.47 56 P **P** 21 22 05.3 -0.5
baz=318
SGDS Sogindy 64.49 308 ⇓ *i* P **P** 21 22 06.4 +0.6
comp=Z,143nm,1.1s,baz=309
SGDS Sogindy 64.49 308 ⇓ *i* P **P** 21 22 06.4 +0.6
SGDS pmax pmax
comp=Z,143nm,1.1s
O51A Pataskala 64.49 57 P **P** 21 22 04.6 -1.3
baz=318
HKT Hockley 64.52 73 P **P** 21 22 07.6 +1.5
F58A St- In Laurent 64.52 47 P **P** 21 22 04.9 -1.0
baz=319
M53A WI Miller and 64.53 55 P **P** 21 22 05.5 -0.6
baz=318
G57A Newington 64.56 49 P **P** 21 22 05.3 -0.9
baz=319
BOOM Boomskoye usch 64.56 307 P **P** 21 22 07.1 +0.6
BOOM pmax pmax
comp=Z,344nm,1.1s
BOOM Boomskoye usch 64.56 307 P **P** 21 22 07.1 +0.6
BOOM IAmb IAmb 21 22 09.2
comp=Z,344nm,1.1s
J55A Hilton 64.59 52 P **P** 21 22 05.8 -0.6
baz=318
ULHL Ulahol 64.59 307 P **P** 21 22 07.5 +0.7
SNR=16
L54A Sinclairville 64.62 53 P **P** 21 22 06.0 -0.6
baz=318
WVT Waverly 64.62 63 P **P** 21 22 06.1 -0.7
baz=317
K54A Basiliko Farm, 64.65 53 P **P** 21 22 06.3 -0.6
baz=318,SNR=6.0
USP Ospenovka 64.69 308 P **P** 21 22 07.9 +0.7
SNR=22
P51A Williamsport 64.74 58 P **P** 21 22 06.5 -1.0
baz=318
CHMS Chumysh 64.77 308 P **P** 21 22 08.4 +0.8
SNR=32
FIA1 FINESS Array S 64.82 346 P **P** 21 22 07.2 -0.4
FINES FINESS Array B 64.82 346 P **P** 21 22 07.3 -0.2
comp=Z,27nm,0.4s,baz=9.6,slow=5.8,SNR=36
FINES PKPPKP **P'P'df** 21 50 51.4 -3.0
comp=Z,24nm,0.9s,baz=85,slow=4.0,SNR=9.9
FINES P4KP 22 00 39.6
comp=Z,2.5nm,0.9s,baz=40,slow=5.2,SNR=4.1
FINES FINESS Array B 64.82 346 P **P** 21 22 07.2 -0.4
H57A Richville 64.85 49 P **P** 21 22 07.5 -0.6
baz=319
K55A Perry 64.87 52 P **P** 21 22 07.2 -1.1
baz=318
O52A Adamsville 64.91 57 P **P** 21 22 07.6 -1.0
baz=318
N53A Lisbon 64.91 55 P **P** 21 22 07.9 -0.7
baz=318
OXF Oxford 64.92 66 P **P** 21 22 07.8 -0.9
baz=317,SNR=5.2
KBK Karagaybulak 64.92 308 P **P** 21 22 09.5 +0.7
SNR=16
G58A Ormstown 64.95 48 P **P** 21 22 07.7 -1.1
baz=319
FRU1 Bishkek 64.97 308 P **P** 21 22 09.5 +0.5
FRU1 pmax pmax
comp=Z,571nm,1.0s
FRU1 Bishkek 64.97 308 P **P** 21 22 09.5 +0.5
M54A Oil Creek Stat 64.98 54 P **P** 21 22 08.8 -0.3
baz=318
F59A Saint Guilaume 65.00 47 P **P** 21 22 08.0 -1.0
baz=320
D60A Saint Jean D'O 65.01 45 P **P** 21 22 08.1 -1.0
baz=320
J56A Wolcott 65.05 51 P **P** 21 22 08.8 -0.6
baz=319
L55A Hinsdale 65.09 53 P **P** 21 22 08.8 -1.0
baz=318
LONY Lake Ozonia 65.11 49 P **P** 21 22 09.0 -0.8
baz=319
D61A St Aubert, Com 65.11 44 P **P** 21 22 09.0 -0.7
baz=321,SNR=6.0
P52A Corning 65.11 57 P **P** 21 22 09.3 -0.5
baz=318
I57A Carthage 65.12 50 P **P** 21 22 09.1 -0.8
baz=319
AAK Ala-Archa 65.16 308 P **P** 21 22 11.1 +0.8
SNR=25
AAK Ala-Archa 65.16 308 *i* P **P** 21 22 11.1 +0.8
SNR=9.9
AAK Ala-Archa 65.16 308 *i* P **P** 21 22 11.1 +0.8
SNR=9.9
AAK Ala-Archa 65.16 308 *i* P **P** 21 22 10.1 -0.3
AAK pmax pmax
comp=Z,250nm,1.0s
AAK Ala-Archa 65.16 308 P **P** 21 22 10.7 +0.4
AAK IAmb IAmb 21 22 12.4
comp=Z,206nm,0.8s
E60A Ste Agathe de 65.20 46 P **P** 21 22 09.8 -0.6
baz=320
KZA Kyzart 65.21 307 P **P** 21 22 12.0 +1.0
SNR=7.5
N54A Moraine State 65.23 55 P **P** 21 22 09.7 -0.9
baz=318
K56A Middlesex 65.25 52 P **P** 21 22 10.0 -0.8
baz=319,SNR=7.5
J57A Williamstown 65.36 51 P **P** 21 22 10.4 -1.0
baz=319
G59A Clarenceville 65.41 48 P **P** 21 22 10.6 -1.1
baz=320
H58A Gabriels 65.45 49 P **P** 21 22 10.8 -1.3
baz=320
UCH Uchtor 65.46 308 P **P** 21 22 13.8 +1.2
SNR=14
M55A Ridgway 65.47 54 P **P** 21 22 11.3 -0.9
baz=318
CLTN Cedars of Leba 65.48 62 P **P** 21 22 11.9 -0.4
EKS2 Erkin-Say 65.49 308 P **P** 21 22 13.4 +0.9
SNR=30
H59A Cadyville 65.50 48 P **P** 21 22 11.4 -0.9
baz=320
Q52A Bidwell 65.54 58 P **P** 21 22 12.0 -0.6
baz=318
L56A Greenwood 65.56 52 P **P** 21 22 12.2 -0.6
baz=319,SNR=7.4
L56A Greenwood 65.56 52 P **P** 21 22 12.6 -0.2
L56A IAmb IAmb 21 22 15.8
comp=Z,220nm,0.8s
E61A Lac Etchemin 65.58 45 P **P** 21 22 12.1 -0.7
baz=321
P53A Whipple 65.61 57 P **P** 21 22 12.5 -0.5
baz=318
O54A Avella 65.61 56 P **P** 21 22 12.5 -0.6
baz=318
K57A Scipio Center 65.62 51 P **P** 21 22 12.5 -0.6
baz=319
LSA Lhasa 65.63 287 P **P** 21 22 15.0 +1.1
LSA Lhasa 65.63 287 P **P** 21 22 15.0 +1.1
LSA Lhasa 65.63 287 P **P** 21 22 14.8 +0.9
LSA pmax pmax
comp=Z,424nm,0.9s
LSA Lhasa 65.63 287 P **P** 21 22 14.8 +0.9
I58A Old Forge 65.63 50 P **P** 21 22 12.4 -0.8
baz=320
PUL Pulkovo 65.69 343 *i* P **P** 21 22 11.3 -1.9
PUL pmax pmax
comp=Z,150nm,1.0s
D62A Allapoint, All 65.69 44 P **P** 21 22 12.7 -0.8
baz=321
F61A St Evariste 65.71 46 P **P** 21 22 12.8 -0.8
baz=321
ZAIG Zacatecas 65.71 84 P **P** 21 22 14.4 +0.1
J58A Remsen 65.73 50 P **P** 21 22 12.9 -1.0
baz=319
M56A Emporium 65.74 53 P **P** 21 22 13.4 -0.5
baz=319
G60A Masonville 65.78 47 P **P** 21 22 13.5 -0.6
baz=320
E62A Clayton Lake 65.85 44 P **P** 21 22 13.8 -0.7
baz=321
N55A Marion Center 65.87 54 P **P** 21 22 14.0 -0.7
baz=319
AML Almayashu 65.93 308 P **P** 21 22 16.6 +1.0
SNR=15
VBMS Vicksburg 65.97 68 P **P** 21 22 14.6 -0.9
baz=318
G61A St-Isidore-de- 66.00 47 P **P** 21 22 15.1 -0.5
baz=321
Q53A Leroy 66.00 57 P **P** 21 22 14.5 -1.1
baz=318
L57A Andrews Acres 66.01 52 P **P** 21 22 14.3 -1.3
baz=319
J59A Piesco 66.03 50 P **P** 21 22 14.4 -1.4
baz=320
H60A Morristown 66.03 48 P **P** 21 22 14.3 -1.4
baz=320
I59A Olmsteadville 66.07 49 P **P** 21 22 14.6 -1.3
baz=320,SNR=6.6
D63A Stockholm 66.13 43 P **P** 21 22 15.0 -1.3
baz=322
AFI Afiamalu 66.14 170 P **P** 21 22 16.8 +0.1
AFI pmax pmax
comp=Z,156nm,1.0s
AFI Afiamalu 66.14 170 P **P** 21 22 16.8 +0.1
AFI IAmb IAmb 21 22 24.2
comp=Z,156nm,1.0s
R53A Hurricane 66.17 58 P **P** 21 22 16.1 -0.7
baz=318
R53A Hurricane 66.17 58 P **P** 21 22 16.0 -0.7
R53A IAmb IAmb 21 22 44.8
comp=Z,151nm,1.1s
AKTO Aktyubinsk 66.20 323 PKPPKP **P'P'df** 21 50 49.5 -2.6
comp=Z,2.8nm,0.6s,baz=207,slow=4.5,SNR=4.1
F62A Pittston Farm, 66.22 45 P **P** 21 22 16.2 -0.7
baz=321
Q54A Coxs Mills 66.27 57 P **P** 21 22 16.6 -0.8
baz=318
BINY Binghamton 66.28 51 P **P** 21 22 16.5 -0.9
baz=320
I60A Shoreham 66.30 49 P **P** 21 22 16.8 -0.6
baz=320
M57A Sunshine Farm, 66.38 53 P **P** 21 22 17.5 -0.5
baz=319
K59A Cooperstown 66.39 50 P **P** 21 22 17.5 -0.6
baz=320
H61A Lyndonville 66.40 47 P **P** 21 22 17.4 -0.7
baz=321
ABKAR Akbulak array 66.42 321 P **P** 21 22 18.8 +0.7
ABKAR Akbulak array 66.42 321 P **P** 21 22 18.8 +0.7
ABKAR IAmb IAmb 21 22 21.0
comp=Z,729nm,1.3s
L58A Harry Jones Me 66.46 51 P **P** 21 22 18.2 -0.3
baz=320
TNTI Ternate 66.47 238 P **P** 21 22 19.3 +0.5
comp=Z,329nm,1.4s
TNTI Ternate 66.47 238 P **P** 21 22 18.6 -0.2
TNTI IAmb IAmb 21 22 22.2
comp=Z,202nm,0.8s
E63A Oxbow 66.48 44 P **P** 21 22 18.2 -0.4
baz=322
DZA Taraz 66.49 310 ⇓ *e*P **P** 21 22 19.1 +0.4
comp=Z,72nm,1.0s,baz=310
DZA Taraz 66.49 310 ⇓ *e*P **P** 21 22 19.1 +0.4
DZA pmax pmax
comp=Z,72nm,1.0s
G62A West of Eustis 66.50 46 P **P** 21 22 18.3 -0.4
baz=321
SSPA Standing Stone 66.53 54 P **P** 21 22 18.4 -0.6
baz=319
S53A Williamson 66.56 59 P **P** 21 22 18.8 -0.4
baz=318
N57A Milroy 66.61 53 P **P** 21 22 19.0 -0.5
baz=319
LBNH Lisbon 66.63 48 P **P** 21 22 19.0 -0.6
baz=321
Z47A Carrollton 66.64 66 P **P** 21 22 18.8 -0.9
Z47A IAmb IAmb 21 22 21.0
comp=Z,94nm,0.6s
Q55A Buckhannon 66.65 56 P **P** 21 22 19.2 -0.6
baz=319
M58A Price's Panora 66.68 52 P **P** 21 22 19.7 -0.2
baz=320

NC204 NORSAR Array S 66.69 354 P **P** 21 22 19.3 -0.4
NC303 NORSAR Array S 66.69 353 P **P** 21 22 19.4 -0.3
J60A Lant Hill Farm 66.70 49 P **P** 21 22 19.8 -0.2
baz=320
KK31 Karatay Array 66.72 311 P **P** 21 22 20.4 +0.2
KK31 pmax pmax
comp=Z,213nm,0.9s
KK31 Karatay Array 66.72 311 P **P** 21 22 20.4 +0.2
KK31 IAmb IAmb 21 22 23.6
comp=Z,213nm,0.8s
KKAR Karatay Array 66.72 311 P **P** 21 22 20.3 +0.1
KKAR pmax pmax
comp=Z,213nm,0.9s
KKAR Karatay Array 66.72 311 P **P** 21 22 20.3 +0.1
KKAR IAmb IAmb 21 22 23.6
comp=Z,213nm,0.8s
KKAR Karatay Array 66.72 311 P **P** 21 22 20.2 0.0
H62A Milan 66.72 47 P **P** 21 22 19.4 -0.8
baz=321,SNR=12
H62A Milan 66.72 47 P **P** 21 22 19.3 -0.8
H62A IAmb IAmb 21 22 21.4
comp=Z,133nm,0.9s
I61A Oroboro, Fairl 66.73 48 P **P** 21 22 19.8 -0.4
baz=321
E64A Bridgewater 66.74 44 P **P** 21 22 18.8 -1.3
baz=322,SNR=5.6
L59A Walton 66.74 51 P **P** 21 22 20.4 +0.1
baz=320
F63A Nahmakanta, Br 66.75 45 P **P** 21 22 20.0 -0.3
baz=322
KSH Kashi 66.77 305 P **P** 21 22 24.8 +4.1
KSH pmax pmax
comp=Z,470nm,1.0s
PMG Port Moresby 66.78 214 P **P** 21 22 20.6 -0.1
comp=Z,226nm,1.1s,baz=21,slow=4.7,SNR=17
PMG Port Moresby 66.78 214 *i* P **P** 21 22 19.5 -1.2
PMG pmax pmax
comp=Z,238nm,1.3s
PMG Port Moresby 66.78 214 P **P** 21 22 20.8 0.0
NC405 NORSAR Array S 66.78 353 P **P** 21 22 19.9 -0.3
R54A Victor 66.79 57 P **P** 21 22 20.4 -0.3
baz=319
T53A Wise 66.87 59 P **P** 21 22 21.0 -0.2
baz=318
NB201 NORSAR Array S 66.88 353 P **P** 21 22 20.6 -0.2
NB201 IAmb IAmb 21 22 23.8
comp=Z,325nm,0.9s
NB2 NORSAR Subarra 66.89 353 P **P** 21 22 20.2 -0.8
comp=Z,96nm,1.1s,baz=8.7,slow=6.5
NB2 NORSAR Subarra 66.89 353 P **P** 21 22 20.2 -0.8
baz=8.7,slow=6.5
NOA NORSAR Array B 66.89 353 P **P** 21 22 20.1 -0.8
comp=Z,62nm,0.9s,baz=2.5,slow=5.8,SNR=48
NOA pP **PcP** 21 22 48.5 -0.3
comp=Z,15nm,0.6s,baz=7.9,slow=6.3,SNR=3.6
NOA PKP2bc 21 50 41.2
comp=Z,15nm,1.1s,baz=174,slow=3.7,SNR=7.2
P56A Dayton Farm, R 66.90 55 P **P** 21 22 21.1 -0.2
baz=319
S54A Dingess, Beckl 66.91 58 P **P** 21 22 20.6 -0.8
baz=319
F64A Sherman 66.95 44 P **P** 21 22 20.5 -1.0
baz=322,SNR=7.8
N58A Sunbury 66.95 53 P **P** 21 22 20.9 -0.7
baz=320
O57A Amberson 66.97 54 P **P** 21 22 21.2 -0.6
baz=319
G63A Kingsbury 66.98 46 P **P** 21 22 21.2 -0.6
baz=322
PKME Peaks-Kenny Pk 67.01 45 P **P** 21 22 21.5 -0.4
baz=322
FPAL Fort Paine 67.02 63 P **P** 21 22 21.3 -0.9
J61A Chester 67.03 49 P **P** 21 22 21.4 -0.6
baz=321
M59A Waymart 67.05 52 P **P** 21 22 21.5 -0.8
baz=320
BRLS Boroldav 67.09 311 *e*P **P** 21 22 25.2 +2.6
baz=311
BRLS Boroldav 67.09 311 *e*P **P** 21 22 25.1 +2.6
KMPI Kaimana, Papua 67.12 230 P **P** 21 22 21.1 -1.8
comp=Z,653nm,1.2s
H63A New Sharon 67.15 46 P **P** 21 22 22.2 -0.6
baz=321
FAKI Fak Fak 67.17 231 P **P** 21 22 23.3 +0.1
comp=Z,737nm,0.8s
FAKI Fak Fak 67.17 231 P **P** 21 22 22.8 -0.4
I62A Tamworth 67.18 47 P **P** 21 22 22.4 -0.7
baz=321
K61A Williamstown 67.22 49 P **P** 21 22 22.5 -0.8
baz=320
G64A Maxfield 67.25 45 P **P** 21 22 22.8 -0.7
baz=322
T54A Tazewell 67.32 59 P **P** 21 22 23.1 -1.0
baz=319
S55A Lewisburg 67.35 57 P **P** 21 22 23.3 -0.9
baz=319
N59A State Game Lan 67.36 52 P **P** 21 22 23.7 -0.6
baz=320,SNR=7.5
LRAL Lakeview Retre 67.36 65 P **P** 21 22 23.2 -1.2
baz=318
I63A Otisfield 67.38 47 P **P** 21 22 23.3 -1.0
baz=321
O58A Lewisberry 67.40 53 P **P** 21 22 23.3 -1.2
baz=320
L61A Hillsdale 1, H 67.45 50 P **P** 21 22 23.8 -1.0
baz=320
J62A Henniker 67.46 48 P **P** 21 22 23.8 -1.0
baz=321
Q57A Strasburg 67.47 55 P **P** 21 22 24.2 -0.8
baz=319
H64A Troy 67.53 46 P **P** 21 22 24.4 -0.8
baz=322
VSU Vasula 67.55 344 *e*P **P** 21 22 24.6 -0.4
VSU Vasula 67.55 344 *i* P **P** 21 22 23.6 -1.5
VSU pmax pmax
comp=Z,352nm,1.1s
U54A Nelsons Funny 67.59 59 P **P** 21 22 25.2 -0.7
baz=319
M60A Port Jervis 67.60 51 P **P** 21 22 25.0 -0.7
baz=320
L61B Northampton 67.66 49 P **P** 21 22 25.8 -0.3
baz=321
IUG luzhnay 67.68 310 ⇓ *i* P **P** 21 22 27.3 +0.9
comp=Z,43nm,1.1s,baz=311
IUG luzhnay 67.68 310 ⇓ *i* P **P** 21 22 27.2 +0.9
IUG pmax pmax
comp=Z,43nm,1.1s
P58A Pank, Wackersv 67.69 54 P **P** 21 22 26.2 -0.1
baz=320
T55A Pulaski 67.69 58 P **P** 21 22 26.1 -0.3
baz=319
K62A Royalston 67.70 49 P **P** 21 22 25.9 -0.4
baz=321
N60A Cedar Hill Far 67.72 52 P **P** 21 22 25.6 -0.8
baz=320,SNR=7.4
J63A Strafford 67.76 48 P **P** 21 22 26.3 -0.4
baz=321
G65A Princeton 67.81 44 P **P** 21 22 26.1 -0.8
baz=322,SNR=5.1
SANVU Saraoutou 67.83 192 P **P** 21 22 27.0 -0.2
MOS Moscow 67.88 337 *e*P **P** 21 22 26.3 -0.9
MOS *e*S **S** 21 31 15.2 -1.6
MOS pmax pmax
comp=Z,372nm,0.9s
S56A Natural Bridge 67.91 57 P **P** 21 22 27.3 -0.4
baz=319
I64A Boothbay 67.91 46 P **P** 21 22 27.0 -0.6
baz=322
Q58A Fox Den Farm, 67.91 55 P **P** 21 22 27.3 -0.4
baz=320
H65A Eastbrook 67.92 45 P **P** 21 22 26.7 -0.9
baz=322,SNR=6.7
R57A Stanardsville 67.98 56 P **P** 21 22 27.7 -0.4
baz=320
O60A Telford 68.00 52 P **P** 21 22 28.0 -0.2
baz=320
K63A Dunstable 68.01 48 P **P** 21 22 28.0 -0.3
baz=321
U55A TA2, Sparta 68.02 59 P **P** 21 22 28.0 -0.5
baz=319
M61A Granite Spring 68.03 51 P **P** 21 22 28.0 -0.4
baz=321
P59A Jarrettsville 68.03 54 P **P** 21 22 28.1 -0.3
baz=320
V54A Nebo 68.09 60 P **P** 21 22 28.7 -0.2
baz=319
HRV Adam Dziewonsk 68.14 48 P **P** 21 22 28.7 -0.4
baz=321
S57A Dark Hollow, R 68.16 56 P **P** 21 22 29.0 -0.3
baz=320
GGN Saint George 68.19 44 P **P** 21 22 28.6 -0.7
PAL Palisades 68.19 51 P **P** 21 22 29.1 -0.3
baz=321
N61A South Mountain 68.20 51 P **P** 21 22 28.9 -0.6
baz=321
SHL Shillong 68.24 284 *e*P **P** 21 22 29.9 -0.3
SHL IAmb IAmb 21 22 32.2
comp=Z,401nm,0.7s
SHL Shillong 68.24 284 P **P** 21 22 30.3 +0.1
SNR=31
SHL Shillong 68.24 284 P **P** 21 22 29.9 -0.3
SHL pmax pmax
comp=Z,1μm,1.0s
SHL Shillong 68.24 284 P **P** 21 22 29.9 -0.3
EMMW East Machias 68.25 44 P **P** 21 22 28.9 -0.8
EMMW IAmb IAmb 21 22 30.5
comp=Z,142nm,0.8s
H66A Whiting 68.25 44 P **P** 21 22 28.8 -0.9
baz=323,SNR=12
DLV T Lat 68.34 262 P **P** 21 22 30.5 -0.4
DLV IAmb IAmb 21 22 33.2
comp=Z,625nm,1.7s
M62A Hamden 68.34 50 P **P** 21 22 29.7 -0.6
baz=321
KKM Kota Kinabalu 68.35 251 P **P** 21 22 31.4 +0.5
KKM IAmb IAmb 21 22 33.3
comp=Z,312nm,1.1s
KONO Kongsberg 68.38 354 *i* P **P** 21 22 29.4 -0.9
KONO pmax pmax
comp=Z,124nm,1.0s
KONO Kongsberg 68.38 354 P **P** 21 22 30.7 +0.4
V55A Taylorsville 68.42 59 P **P** 21 22 30.5 -0.5
baz=319
KMSI Cibinong 68.44 241 P **P** 21 22 32.1 +0.9
comp=Z,4μmcomp=Z,426nm,0.9s
MMPI Merauke 68.46 221 P **P** 21 22 32.9 +1.6
comp=Z,783nm,0.9s
W54A Cherokee Point 68.48 60 P **P** 21 22 31.1 -0.2
baz=319
U56A King 68.49 58 P **P** 21 22 31.3 -0.1
baz=319
R58B Mineral 68.56 56 P **P** 21 22 31.7 -0.1
baz=320
T57A Hurt 68.58 57 P **P** 21 22 31.4 -0.5
baz=320
O61A Allentown 68.59 52 P **P** 21 22 31.4 -0.4
baz=321
L63A North Scituate 68.62 49 P **P** 21 22 31.6 -0.5
baz=321
TAS Tashkent 68.66 310 P **P** 21 22 32.9 +0.5
TAS pmax pmax
comp=Z,916nm,1.2s
TAS Tashkent 68.66 310 P **P** 21 22 32.9 +0.5
OBN Obninsk 68.70 338 *d* P **P** 21 22 32.0 -0.3
OBN *i* 21 22 58.6
OBN pmax pmax
comp=Z,250nm,0.9s
OBN Obninsk 68.70 338 P **P** 21 22 32.4 +0.1
OBN IAmb IAmb 21 22 35.2
comp=Z,320nm,1.0s
M63A Gales Ferry 68.77 50 P **P** 21 22 32.1 -0.9
baz=321,SNR=7.8
X54A Belton 68.78 61 P **P** 21 22 32.9 -0.3
baz=319
V56A Mocksville 68.83 59 P **P** 21 22 33.1 -0.4
baz=320
GTK Tadong 68.89 288 *e*P **P** 21 22 35.2 +1.0
GTK IAmb IAmb 21 22 37.4
comp=Z,830nm,1.3s
KMSC Kings Mountain 68.89 60 P **P** 21 22 32.9 -1.0
baz=319
BTK Batken 68.92 308 P **P** 21 22 34.6 +0.6
BTK pmax pmax
comp=Z,520nm,1.0s
BTK Batken 68.92 308 P **P** 21 22 34.6 +0.6
L64A Middleborough 68.92 48 P **P** 21 22 32.7 -1.2
baz=322
CHTO Chiang Mai 68.98 274 P **P** 21 22 34.5 -0.1
CHTO pmax pmax
comp=Z,273nm,1.0s
CHTO Chiang Mai 68.98 274 P **P** 21 22 34.5 -0.1
CHTO IAmb IAmb 21 22 36.6
comp=Z,273nm,0.9s
T58A Grand View Acr 69.00 57 P **P** 21 22 33.6 -0.8
baz=320
GOGA Godfrey 69.04 62 P **P** 21 22 33.7 -1.1
baz=319
SLIT Slītere, Latvi 69.04 347 *e*P **P** 21 22 33.8 -0.6
M64A Tiverton 69.05 49 P **P** 21 22 33.4 -1.3
baz=322
HODGE Hodges 69.08 61 P **P** 21 22 34.4 -0.6
HODGE IAmb IAmb 21 23 23.7
comp=Z,369nm,2.0s
MSAI Masohi 69.17 234 P **P** 21 22 37.3 +1.5
comp=Z,158nm,0.8s
X55A Gracelyn & Ava 69.24 60 P **P** 21 22 35.1 -0.9
baz=319
CM31 Chiang Mai Arr 69.25 274 P **P** 21 22 36.8 +0.5
SNR=18
CM31 Chiang Mai Arr 69.25 274 P **P** 21 22 36.1 -0.2
CM31 IAmb IAmb 21 22 38.6
comp=Z,283nm,1.1s
CMAR Chiang Mai Arr 69.25 274 P **P** 21 22 36.4 +0.1
comp=Z,160nm,0.8s,baz=26,slow=6.8,SNR=153
CMAR PKPPKP **P'P'df** 21 50 40.9 -5.6
comp=Z,6.9nm,0.9s,baz=237,slow=4.4,SNR=14
CMAR P4KPbc 21 59 23.6
comp=Z,3.0nm,0.9s,baz=12,slow=4.4,SNR=12
SPMM Sapulut 69.28 250 P **P** 21 22 37.0 +0.5
MSVF Nonsavu 69.39 180 *i* P **P** 21 22 37.1 +0.1
MSVF pmax pmax
comp=Z,309nm,1.1s
MSVF Nonsavu 69.39 180 P **P** 21 22 38.2 +1.2
MSVF IAmb IAmb 21 22 40.7
comp=Z,417nm,1.1s
TAPN Taplejung 69.39 288 *e*P **P** 21 22 38.2 +0.7
comp=Z,2μm,1.0s
Y55A Saluda 69.52 61 P **P** 21 22 36.4 -1.3
baz=320
X56A White Oak 69.55 60 P **P** 21 22 36.9 -1.0
baz=320
V58A Windy Hill, Pi 69.57 58 P **P** 21 22 37.0 -1.0
baz=320
W57A Gilead 69.60 59 P **P** 21 22 37.0 -1.2
baz=320
MRSI Marisa 69.63 243 P **P** 21 22 38.0 -0.6
comp=Z,1μm,1.0s
BNDI Bandanaira 69.70 233 P **P** 21 22 40.2 +1.2
comp=Z,1μm,0.9s
U59A Littleton 69.83 57 P **P** 21 22 38.9 -0.7
baz=320
AAI Ambon 69.83 235 P **P** 21 22 40.5 +0.7
comp=Z,907nm,1.1s
S61A Accomac 69.89 54 P **P** 21 22 39.0 -1.0
baz=321
HAL Halifax 69.95 42 P **P** 21 22 39.6 -0.6
HAL pmax pmax
comp=Z,68nm,0.6s
HAL Halifax 69.95 42 P **P** 21 22 39.6 -0.6
ODAN Odare 69.95 288 *e*P **P** 21 22 41.2 +0.4
comp=Z,1μm,1.1s
GAR Garm 69.98 308 P **P** 21 22 41.3 +0.6
NLAI Namlea 70.01 236 P **P** 21 22 42.4 +1.5
comp=Z,176nm,1.0s
GUN Gumba 70.05 290 *e*P **P** 21 22 42.3 +0.8
JIRN Jiri 70.05 289 *e*P **P** 21 22 42.4 +0.8
V59A Middlesex 70.05 57 P **P** 21 22 40.2 -0.8
baz=320
U60A Pendleton 70.07 56 P **P** 21 22 40.1 -0.9
baz=320
X57A Johnson Farm, 70.07 59 P **P** 21 22 40.1 -1.0
baz=320
W58A Raeford 70.10 59 P **P** 21 22 41.0 -0.3
baz=320
TAOE Nuku Hiva Isla 70.21 136 *e*T T 22 39 04.3
comp=Z,73nm,0.3s
TAOE Nuku Hiva Isla 70.21 136 P **P** 21 22 42.9 +0.6
IZAR Zarasai 70.22 344 *e*P **P** 21 22 41.9 +0.3
Y57A Sumter 70.25 60 P **P** 21 22 42.1 -0.1
baz=320
Z56A Williston 70.25 61 P **P** 21 22 42.4 +0.2
baz=320
RAMN Ramite 70.34 289 *e*P **P** 21 22 43.9 +0.7
LPSR Galich'ya Gora 70.40 335 *e*P **P** 21 22 43.0 +0.2
LPSR pmax pmax
comp=Z,230nm,0.9s
X58A Rowland 70.40 59 P **P** 21 22 43.0 -0.1
baz=320
W59A Clinton 70.40 58 P **P** 21 22 43.3 +0.1
baz=320
ISAL Salakas 70.41 344 *e*P **P** 21 22 43.1 +0.3
LUWI Luwuk 70.44 241 P **P** 21 22 42.6 -1.0
comp=Z,1μm,1.0s
LUWI Luwuk 70.44 241 P **P** 21 22 42.6 -1.0
TIGA Tifton 70.46 64 P **P** 21 22 43.6 0.0
baz=320
KKN Kakani 70.48 290 *e*P **P** 21 22 44.7 +0.7
comp=Z,1μm,0.8s
U61A Possum Corner 70.54 56 P **P** 21 22 43.9 0.0
baz=321
V60A Jim Taylor Roa 70.56 57 P **P** 21 22 43.8 -0.2
baz=321
PKI Pulchoki 70.57 290 *e*P **P** 21 22 45.1 +0.4
PKIN Phulchoki 70.58 290 *e*P **P** 21 22 45.1 +0.5
comp=Z,1μm,0.7s
IIGN Ignalina 70.60 344 *e*P **P** 21 22 44.3 +0.3
Z57A Bowman 70.63 61 P **P** 21 22 44.5 -0.1
baz=320
CNNC Cliffs of the 70.64 57 P **P** 21 22 44.2 -0.3
baz=320
PBUR Paburge 70.65 346 *e*P **P** 21 22 44.2 -0.1
GKN Gorkha 70.70 291 *e*P **P** 21 22 45.8 +0.6
DMN Daman 70.72 290 *e*P **P** 21 22 46.2 +0.7
comp=Z,1μm,1.0s
Y58A Scranton 70.72 60 P **P** 21 22 45.0 -0.1
baz=320
X59A McDuffie Farm, 70.78 58 P **P** 21 22 45.4 0.0
baz=320
CHGR Chuyangaron 70.81 309 P **P** 21 22 46.1 +0.4
PABE Paberze 70.83 345 *e*P **P** 21 22 45.2 -0.1
W60A Pink Hill 70.87 57 P **P** 21 22 45.9 -0.1
baz=321
MPSI Mapaga 70.88 245 P **P** 21 22 45.7 -0.5
comp=Z,696nm,1.0s
VRH Novokhopyorsk 70.90 333 *e*P **P** 21 22 45.5 -0.4
VRH pmax pmax
comp=Z,360nm,0.8s
NACGM Naroch 70.93 343 *e* **P** 21 22 43.0 -3.0
DANN Dangsing 70.94 292 *e*P **P** 21 22 47.6 +0.7
NHSC New Hope 71.06 60 P **P** 21 22 47.1 0.0
baz=320
Y59A Loris 71.08 59 P **P** 21 22 47.2 -0.1
baz=320
Z58A St. Stephen 71.08 60 P **P** 21 22 47.1 -0.2
baz=320
X60A Albert Glenn T 71.10 58 P **P** 21 22 47.2 -0.2
baz=321
MICGM Minsk 71.11 342 *e* **P** 21 22 47.0 -0.1
MNK Minsk 71.11 342 *e*P **P** 21 22 47.0 -0.1
VORR Voronezh 71.17 335 *e*P **P** 21 22 45.0 -2.5
VORR pmax pmax
comp=Z,400nm,1.6s
Y60A Bolivia 71.42 59 P **P** 21 22 49.0 -0.3
baz=321
KOLN Koldanda 71.47 291 *e*P **P** 21 22 50.4 +0.4
comp=Z,1μm,0.9s
PYUN Piuthan 71.57 292 *e*P **P** 21 22 51.1 +0.5
comp=Z,2μm,0.9s
VSR Storozhevoye 71.59 334 *e*P **P** 21 22 50.2 +0.2
VSR pmax pmax
comp=Z,220nm,0.9s
VORD Divnogorie 71.79 334 *e*P **P** 21 22 50.9 -0.3
VORD pmax pmax
comp=Z,200nm,0.8s
SAUI Saumlaki 72.03 230 P **P** 21 22 55.1 +2.0
comp=Z,3μm,1.1s
SAUI Saumlaki 72.03 230 P **P** 21 22 53.8 +0.8
PTH Pithoragarh 72.04 295 *e*P **P** 21 22 51.4 -1.9
SUW Suwalki 72.40 345 P **P** 21 22 54.2 -0.6
SUW pmax pmax
comp=Z,158nm,1.0s
SUW Suwalki 72.40 345 P **P** 21 22 54.1 -0.6
COEN Coen 72.41 216 P **P** 21 22 55.1 -0.2
COEN IAmb IAmb 21 22 57.2
comp=Z,212nm,1.1s
SMLA Simla 72.52 298 *e*P **P** 21 22 56.1 +0.2
NIL Nilore 72.66 303 P **P** 21 22 57.5 +0.7
NIL pmax pmax
comp=Z,956nm,1.1s
NIL Nilore 72.66 303 P **P** 21 22 57.5 +0.7
BHK Bhakra 72.71 299 *e*P **P** 21 23 01.0 +3.9
ESK Eskdalemuir 73.08 1 P **P** 21 22 58.8 0.0
ESK pmax pmax
comp=Z,116nm,1.1s
ESK Eskdalemuir 73.08 1 P **P** 21 22 58.8 0.0
RGN Rugen 73.14 351 *e*P **P** 21 23 00.0 +0.9
RGN Rugen 73.14 351 P **P** 21 22 59.2 +0.1
BOK Bokaro 73.15 287 *e*P **P** 21 23 00.8 +1.0
BOK IAmb IAmb 21 23 02.6
comp=Z,375nm,0.7s
SBUM Sibu 73.58 252 P **P** 21 23 02.6 +0.3
SBUM Sibu 73.58 252 P **P** 21 23 03.0 +0.7
TTSI Tana Toraja 73.72 243 P **P** 21 23 03.1 0.0
comp=Z,564nm,1.1s
BKB Balikpapan 73.88 246 P **P** 21 23 05.1 +1.0
comp=Z,936nm,1.1s
BKB Balikpapan 73.88 246 P **P** 21 23 04.2 +0.1
KBL Kabul 74.12 306 P **P** 21 23 05.1 -0.4
KBL pmax pmax
comp=Z,1μm,1.1s
KBL Kabul 74.12 306 P **P** 21 23 05.1 -0.4
DWPF Disney Wildern 74.21 65 P **P** 21 23 06.1 +0.2
baz=321
BBSI Bau Bau 74.28 239 P **P** 21 23 07.8 +1.5
comp=Z,60nm,0.9s
NDI New Delhi 74.38 297 *e*P **P** 21 23 05.0 -1.9
AKASG Malin Array Be 74.44 340 P **P** 21 23 06.4 -0.4
comp=Z,92nm,0.6s,baz=22,slow=6.4,SNR=60
AKASG pP **pP** 21 23 34.2 +1.0
comp=Z,17nm,0.5s,baz=19,slow=6.0,SNR=2.3
AKASG PP **PP** 21 25 53.5 -0.2
comp=Z,23nm,1.0s,baz=22,slow=8.8,SNR=5.3
AKASG PKP2ab 21 50 25.6
comp=Z,0.6nm,0.4s,baz=197,slow=1.1,SNR=5.3
AKASG Malin Array Be 74.44 340 P **P** 21 23 06.4 -0.4
AKASG pmax pmax
comp=Z,74nm,1.2s
AKASG Malin Array Be 74.44 340 P **P** 21 23 06.4 -0.4
AKBB Malin Array Si 74.44 340 P **P** 21 23 06.1 -0.7
AKBB pmax pmax
comp=Z,171nm,0.9s
AKBB Malin Array Si 74.44 340 P **P** 21 23 06.1 -0.7
AKBB IAmb IAmb 21 23 09.2
comp=Z,171nm,0.8s
DZM Mont Dzumac 74.45 192 P **P** 21 23 08.7 +1.5
comp=Z,272nm,1.1s,baz=47,slow=8.9,SNR=45
SPSI Sidrap Palu 74.51 242 P **P** 21 23 07.4 -0.3
comp=Z,296nm,1.0s
PPT Papeete 74.63 148 P **P** 21 23 08.6 +0.3
comp=Z,71nm,0.8s,baz=32,slow=4.9,SNR=6.3
PPT2 Papeete2 74.65 148 *e*P **P** 21 23 09.6 +1.2
comp=Z,107nm,1.1s
PPT2 Papeete2 74.65 148 *e*T T 22 44 28.0
comp=Z,26nm,0.3s
PPTF Pamatai, Papee 74.65 148 P **P** 21 23 09.7 +1.3
BNSI Bone 74.69 242 P **P** 21 23 09.3 +0.6
comp=Z,482nm,1.1s
TIAR Tiarei 74.69 148 *e*P **P** 21 23 09.8 +1.2
comp=Z,66nm,1.0s
TIAR Tiarei 74.69 148 *e*T T 22 44 33.0
comp=Z,6.0nm,0.3s
PAE Paea 74.72 148 *e*P **P** 21 23 09.6 +0.9
comp=Z,34nm,1.3s
MTKI Muara Teweh, K 74.76 248 P **P** 21 23 09.0 -0.2
comp=Z,273nm,1.3s
TVO Taravao 74.94 148 *e*P **P** 21 23 11.2 +1.2
comp=Z,35nm,0.9s
TVO Taravao 74.94 148 *e*T T 22 44 48.9
comp=Z,3.0nm,0.4s
DSB Dublin 75.09 3 P **P** 21 23 10.5 0.0
RUE Ruedersdorf 75.14 350 *e*P **P** 21 23 11.0 +0.2
RAR Rarotonga 75.31 159 P **P** 21 23 12.1 +0.1
comp=Z,66nm,0.9s,baz=119,slow=8.2,SNR=4.3
KAPI Kappang 75.39 242 P **P** 21 23 12.9 +0.1
KAPI pmax pmax
comp=Z,301nm,1.2s
KAPI Kappang 75.39 242 P **P** 21 23 12.9 +0.1
KAPI IAmb IAmb 21 23 15.1
comp=Z,301nm,1.1s
MEH Mehetia 75.42 147 *e*P **P** 21 23 13.6 +0.9

comp=Z,57nm,1.3s
MEH Mehetia 75.42 147 *e*T T 22 45 28.4

KSM Kuching 75.50 253 P **P** **21 23 13.4 0.0**
KSM IAmb IAmb 21 23 15.4
comp=Z,302nm,0.8s
KSM Kuching 75.50 253 P **P** **21 23 14.0 +0.6**
BWNR Bhubaneshwar 75.87 285 IAmb IAmb 21 42 23.6
comp=Z,258nm,0.8s
KBKI Kotabaru 75.97 246 P **P** **21 23 15.3 -0.7**
comp=Z,183nm,0.8s
GOF Gofitskoye 76.00 329⇑ *i*P **P** **21 23 16.9 +1.0**
GOF pmax pmax
comp=Z,2µm,0.9s
LVV L'vov 76.29 343 *e*P **P** **21 23 19.1 +1.6**
ASHT Ashkhabad 76.35 315 P **P** **21 23 19.2 +1.2**
ASHT pmax pmax
comp=Z,575nm,1.1s
ASHT Ashkhabad 76.35 315 P **P** **21 23 19.2 +1.2**
MTN Manton Dam 76.37 228 P **P** **21 23 18.1 -0.1**
CLL Collm 76.38 351 *e*P **P** **21 23 18.0 +0.1**
CLL *e*PcP **PcP** **21 23 28.0 -1.3**
CLL *e* 21 23 49.0
CLL *e*PP **PP** **21 26 09.0 -0.9**
CLL Collm 76.38 351 *e*P **P** **21 23 18.0 +0.1**
CLL *e* 21 23 28.0
CLL *e* 21 23 49.0
GEYT Alibeck 76.48 315 P **P** **21 23 19.6 +0.8**
comp=Z,238nm,1.0s,baz=339,slow=3.3,SNR=47
GEYT PP **PP** **21 26 10.2 -1.2**
comp=Z,27nm,0.9s,baz=10,slow=9.0,SNR=3.9
GEYT Allbeck 76.48 315 P **P** **21 23 19.6 +0.8**
GYA0B ALIBECK ARRAY 76.48 315 P **P** **21 23 19.8 +1.0**
GYA0B IAmb IAmb 21 23 21.8
comp=Z,530nm,1.2s
OJC Ojcow 76.60 346 *e*P **P** **21 23 19.0 -0.2**
OJC Ojcow 76.60 346 P **P** **21 23 19.3 +0.1**
OJC pmax pmax
comp=Z,100nm,0.9s
OJC Ojcow 76.60 346 P **P** **21 23 19.3 +0.1**
KWP Kalwaria Pacla 76.70 344 *e*P **P** **21 23 20.7 +0.9**
KWP Kalwaria Pacla 76.70 344 P **P** **21 23 20.1 +0.3**
KWP pmax pmax
comp=Z,326nm,0.9s
KWP Kalwaria Pacla 76.70 344 P **P** **21 23 20.1 +0.3**
KWP IAmb IAmb 21 23 22.1
comp=Z,326nm,0.9s
BRG Berggiesshubel 76.71 350 *e*P pP 21 23 50.5 +4.2
comp=Z,49nm,1.4s
GROC Groznyy 76.75 326 *e*P **P** **21 23 21.0 +0.9**
GROC *e* 21 23 31.2
GROC *e**PP **pP** **21 23 47.0 +0.2**
GROC *e**SP **sP** **21 23 57.3 -0.8**
GROC pmax pmax
comp=Z,330nm,1.1s
OSTC Ostas 76.76 348 *e*P **P** **21 23 19.5 -0.6**
KTGM Kuala Trenggan 76.78 262 P **P** **21 23 21.0 +0.3**
UPC Upice 76.83 349 *e*P **P** **21 23 20.9 +0.4**
UPC Upice 76.83 349 *e*P **P** **21 23 20.9 +0.4**
DPC Dobruska-Polom 76.94 348 *e*P **P** **21 23 20.7 -0.5**
DPC Dobruska-Polom 76.94 348 *e*P **P** **21 23 20.7 -0.5**
DGPR DIGLIPUR 76.99 275 *e*P **P** **21 23 21.7 -0.2**
SOEI Soe 77.01 235 P **P** **21 23 22.6 +0.6**
comp=Z,476nm,0.9s
SOEI Soe 77.01 235 P **P** **21 23 22.1 +0.1**
SOEI IAmb IAmb 21 23 30.9
comp=Z,330nm,0.8s
CTA Charters Tower 77.06 211 P **P** **21 23 22.3 +0.3**
comp=Z,324nm,1.1s,baz=17,slow=7.0,SNR=62
CTAO Charters Tower 77.06 211 P **P** **21 23 21.9 -0.1**
CTAO pmax pmax
comp=Z,348nm,1.0s
CTAO Charters Tower 77.06 211 P **P** **21 23 21.9 -0.1**
CTAO IAmb IAmb 21 23 24.1
comp=Z,348nm,0.9s
SORM Soroca 77.06 340⇑P **P** **21 23 21.6 -0.2**
KIV Kislovodsk 77.11 329⇓P **P** **21 23 23.3 +1.1**
KIV Kislovodsk 77.11 329 *i*P **P** **21 23 23.5 +1.2**
SNR=32
KIV Kislovodsk 77.11 329 *i*P **P** **21 23 23.5 +1.2**
SNR=32
KIV Kislovodsk 77.11 329 *e*P **P** **21 23 23.1 +0.9**
KIV pmax pmax
comp=Z,894nm,1.0s
KIV Kislovodsk 77.11 329 P **P** **21 23 22.9 +0.7**
KIV IAmb IAmb 21 23 25.8
comp=Z,267nm,0.9s
OKC Ostrava-Krasne 77.21 347 *e*P **P** **21 23 22.7 +0.1**
OKC Ostrava-Krasne 77.21 347 *e*P **P** **21 23 22.7 +0.1**
KBZ Khabaz 77.24 329 P **P** **21 23 23.9 +1.1**
comp=Z,184nm,0.8s,baz=40,slow=1.8,SNR=45
KBZ Khabaz 77.24 329 *i*P **P** **21 23 23.9 +1.1**
KBZ pmax pmax
comp=Z,231nm,0.9s
NIE Niedzica 77.30 346 *e*P **P** **21 23 25.1 +1.9**
MORC Moravsky Berou 77.35 347⇑P **P** **21 23 23.5 +0.1**
MORC Moravsky Berou 77.35 347 *e*P **P** **21 23 24.1 +0.6**
MORC *e* 21 52 00.7
BEBN Eben Emael 77.44 355⇑P **P** **21 23 23.4 -0.4**
BEBN pP **pwP** **21 23 53.5 +0.9**
KOLS Kolonicke sedl 77.45 344 *e*P **P** **21 23 24.3 +0.3**
KOLS pmax pmax
comp=Z,198nm,1.4s
KOLS Kolonicke sedl 77.45 344 *e*P **P** **21 23 24.3 +0.3**
NKC Novy Kostel 77.49 351 *e*P **P** **21 23 24.0 -0.2**
NKC Novy Kostel 77.49 351 *e*P **P** **21 23 24.0 -0.2**
UCC Uccle 77.50 356 P **P** **21 23 24.3 +0.1**
UCC pmax pmax
comp=Z,65nm,1.4s
UCC Uccle 77.50 356 P **P** **21 23 24.3 +0.1**
PRU Pruhonice 77.51 349 *e*P **P** **21 23 24.1 -0.2**
PRU Pruhonice 77.51 349 *e*P **P** **21 23 24.1 -0.2**
AJM Ajmer 77.52 297⇓ *i*P **P** **21 23 24.0 -0.8**
HRA Herat 77.55 311 P **P** **21 23 25.6 +0.6**
GOPC GO Pecny, Ondr 77.56 349 *e*P **P** **21 23 23.3 -1.3**
GOPC GO Pecny, Ondr 77.56 349 *e*P **P** **21 23 23.3 -1.3**
AKT Akhty 77.58 324 *e*P **P** **21 23 26.0 +1.0**
AKT *e* 21 23 34.4
AKT *e**PP **pP** **21 23 50.4 -1.3**
AKT pmax pmax
comp=Z,760nm,1.1s
MEM Membach 77.61 355⇑P **P** **21 23 24.6 -0.2**
CRVS Cervenica-Dubn 77.62 345 *e*P **P** **21 23 25.8 +0.9**
CRVS pmax pmax
comp=Z,99nm,0.9s
CRVS Cervenica-Dubn 77.62 345 *e*P **P** **21 23 25.8 +0.9**
BSTI Sart Tilman 77.66 355 P **P** **21 23 25.0 -0.1**
BSTI pP **pP** **21 23 52.7 +1.1**
LANS Liptovska Anna 77.69 346 *e*P **P** **21 23 26.1 +0.8**
LANS pmax pmax
comp=Z,84nm,1.0s
LANS Liptovska Anna 77.69 346 *e*P **P** **21 23 26.1 +0.8**
BATI Baumata 77.70 235 P **P** **21 23 25.9 +0.1**
comp=Z,718nm,0.9s
NEY Neytrino 77.73 329 *i*P **P** **21 23 25.4 -0.4**
NEY pmax pmax
comp=Z,25nm,0.9s
UZH Uzhgorod 77.74 344 *e*P **P** **21 23 26.0 +0.4**
UZH *e* 21 23 39.0
ZEI Tsey 77.75 328 *e*P **P** **21 23 25.5 -0.5**
ZEI pmax pmax
comp=Z,423nm,0.9s
SNF Seneffe 77.79 356 P **P** **21 23 25.6 -0.2**
SNF pP **pwP** **21 23 54.2 -0.3**
BCLA Clavier 77.83 356⇑P **P** **21 23 25.6 -0.4**
comp=Z,37nm,0.8s
BCLA pP **pwP** **21 23 54.7 -0.2**
BCLA sP **sP** **21 24 04.5 +0.7**
PBCC Pribram 77.87 350 *e*P **P** **21 23 25.8 -0.5**
BGES Gesves 77.88 356 P **P** **21 23 26.4 0.0**
BGES pP **pwP** **21 23 55.6 +0.5**
ANN Anapa 77.92 333 *e*P **P** **21 23 25.6 -1.0**
ANN pmax pmax
comp=Z,144nm,0.9s
VRAC Vranov 77.93 348⇑P **P** **21 23 26.8 +0.2**
VRAC Vranov 77.93 348 *e*P **P** **21 23 26.5 -0.2**
VRAC *e* 21 52 02.8
BMRD Maredsous 77.97 356⇑P **P** **21 23 26.6 -0.3**
BMRD pP **pP** **21 23 54.2 +0.9**
TREC Trest 78.09 349 *e*P **P** **21 23 27.1 -0.4**
TREC Trest 78.09 349 *e*P **P** **21 23 27.1 -0.4**
MILM Milestii Mici 78.11 339⇑P **P** **21 23 27.7 0.0**
IAS Iasi 78.12 340⇑P **P** **21 23 28.4 +0.7**

GRA1 Grafenberg Arr 78.15 352 P **P** **21 23 28.1 +0.3**
GRF Grafenberg Arr 78.15 352 P **P** **21 23 28.1 +0.3**
GRF pmax pmax
comp=Z,171nm,1.5s
BUR08 Bucovina Ar. S 78.17 342 P **P** **21 23 28.4 +0.3**
KECS Kecovo 78.18 345 *e*P **P** **21 23 28.4 +0.4**
KECS pmax pmax
comp=Z,59nm,1.0s
KECS Kecovo 78.18 345 *e*P **P** **21 23 28.4 +0.4**
DOU Dourbes 78.19 356⇑P **P** **21 23 27.9 -0.1**
DOU pP **pP** **21 23 55.6 +1.0**
DOU sP **sP** **21 24 08.7 +2.9**
BURAR Bucovina Array 78.19 342⇑P **P** **21 23 28.8 +0.5**
BURAR Bucovina Array 78.19 342 P **P** **21 23 28.4 +0.1**
KRUC Moravsky 78.20 348 *e*P **P** **21 23 28.3 +0.2**
KRUC *e* 21 52 01.2
JAVC Velka Javorina 78.23 347 *e*P **P** **21 23 29.5 +1.1**
JAVC *e* 21 52 00.3
PRAR RASCA 78.23 341⇑P **P** **21 23 28.8 +0.4**
PBA Port Blair 78.28 274 *e*P P 21 23 27.3 -1.7
PBA IAmb IAmb 21 23 30.7
comp=Z,235nm,0.6s
PBA Port Blair 78.28 274 P P 21 23 27.5 -1.5
PBA Port Blair 78.28 274 P P 21 23 28.7 -0.3
KULM Kulim 78.33 264 P **P** **21 23 28.4 -0.9**
KULM IAmb IAmb 21 23 31.0
comp=Z,202nm,1.0s
KULM Kulim 78.33 264 P **P** **21 23 30.0 +0.7**
SOC Sochi 78.36 331 *e*P **P** **21 23 28.7 -0.4**
SOC *e* 21 26 33.4
SOC *e*PPP PPP 21 28 18.6
SOC *e*S **S** **21 33 16.5 +0.8**
SOC pmax pmax
comp=Z,198nm,0.9s
SOC MLR MLR
comp=Z,43µm,14.0s
TBLG Delisi 78.41 326 P **P** **21 23 30.1 +0.7**
TBLG pmax pmax
comp=Z,663nm,0.9s
TBLG Delisi 78.41 326 P **P** **21 23 30.1 +0.7**
VYHS Vyhne 78.42 346 *e*P **P** **21 23 29.5 +0.1**
VYHS pmax pmax
comp=Z,64nm,1.1s
VYHS Vyhne 78.42 346 *e*P **P** **21 23 29.5 +0.1**
BMR Baia Mare 78.46 343⇓P **P** **21 23 30.9 +1.4**
KHC Kasperske Hory 78.47 350 *e*P **P** **21 23 29.0 -0.6**
KHC Kasperske Hory 78.47 350 P **P** **21 23 29.4 -0.2**
KHC pmax pmax
comp=Z,20nm,1.0s
KHC Kasperske Hory 78.47 350 P **P** **21 23 29.4 -0.2**
BHPL Bhopal 78.50 293 *e*P **P** **21 23 29.8 -0.4**
BHPL IAmb IAmb 21 23 31.9
comp=Z,461nm,0.7s
WLF Walferdange 78.54 355 P **P** **21 23 28.9 -1.1**
WLF pP **pP** **21 23 56.7 +0.2**
VASR Vaslui 78.60 340⇑P **P** **21 23 30.8 +0.4**
SMOL Smolenice 78.60 347 *e*P **P** **21 23 31.5 +1.2**
SMOL pmax pmax
comp=Z,50nm,1.2s
SMOL Smolenice 78.60 347 *e*P **P** **21 23 31.5 +1.2**
LEOM Leova 78.66 339⇑P **P** **21 23 31.0 +0.3**
BIZ Bicaz 78.66 341⇑P **P** **21 23 31.7 +1.0**
SIM Simferopol' 78.69 335 *e*P **P** **21 23 29.0 -1.9**
SIM *e*S S 21 33 07.0 -12
SIM pmax pmax
comp=Z,92nm,0.9s
SIM MLR MLR
comp=Z,13µm,16.0s
GERES GERESS Array B 78.73 350 P **P** **21 23 30.9 -0.3**
comp=Z,31nm,1.1s,baz=25,slow=6.7,SNR=11
GERES PKKPbc **PKKPbc** **21 42 21.7 -0.8**
comp=Z,2.4nm,0.8s,baz=177,slow=2.4,SNR=8.9
GERES PKPPKP P'P'df 21 50 22.4 -7.9
comp=Z,3.1nm,0.9s,baz=180,slow=2.7,SNR=5.3
IPM Ipoh 78.73 263 P **P** **21 23 30.6 -1.0**
IPM IAmb IAmb 21 23 32.6
comp=Z,206nm,0.8s
IPM Ipoh 78.73 263 P **P** **21 23 31.0 -0.6**
MODS Modra-Piesok 78.76 347 *e*P **P** **21 23 31.5 +0.3**
MODS pmax pmax
comp=Z,105nm,1.3s
MODS Modra-Piesok 78.76 347 *e*P **P** **21 23 31.5 +0.3**
PSZ Piszkesteto 78.82 345⇑P **P** **21 23 33.0 +1.4**
PSZ Piszkesteto 78.82 345 P **P** **21 23 32.2 +0.5**
PSZ pmax pmax
comp=Z,95nm,1.0s
PSZ Piszkesteto 78.82 345 P **P** **21 23 32.2 +0.5**
ARCR ARCALIA 78.86 342⇑P **P** **21 23 33.1 +1.3**
ZST Bratislava 78.96 347 *e*P **P** **21 23 32.6 +0.3**
ZST pmax pmax
comp=Z,398nm,2.0s
ZST Bratislava 78.96 347 *e*P **P** **21 23 32.6 +0.3**
TESR Tescani 78.96 341⇑P **P** **21 23 33.0 +0.7**
BIR Birlad 78.99 340⇑P **P** **21 23 33.9 +1.4**
WSI Waingapu 78.99 239 P **P** **21 23 32.0 -0.8**
comp=Z,1µm,0.9s
AKH Akhalkalaki 79.12 327⇓P **P** **21 23 34.9 +1.4**
AKH Akhalkalaki 79.12 327 P **P** **21 23 34.5 +1.0**
AKH pmax pmax
comp=Z,229nm,1.0s
AKH Akhalkalaki 79.12 327 P **P** **21 23 34.5 +1.0**
AKH IAmb IAmb 21 23 37.0
comp=Z,229nm,1.0s
MYKOM Kota Tinggi 79.12 259 P **P** **21 23 33.5 -0.1**
MYKOM IAmb IAmb 21 23 35.6
comp=Z,198nm,0.9s
MYKOM Kota Tinggi 79.12 259 P **P** **21 23 34.0 +0.4**
NGP Nagpur 79.19 290 *e*P **P** **21 23 33.6 -0.4**
NGP IAmb IAmb 21 23 35.9
comp=Z,371nm,1.0s
STU Stuttgart 79.23 353 P **P** **21 23 33.8 0.0**
STU Stuttgart 79.23 353 P **P** **21 23 33.8 0.0**
GHRR 79.23 340⇓P **P** **21 23 35.0 +1.2**
VARL Varlezi 79.29 340⇑P **P** **21 23 34.6 +0.5**
BASI Baing, Sumba 79.31 238 P **P** **21 23 34.5 0.0**
comp=Z,662nm,1.0s
CJR Cluj-Napoca 79.36 343⇓P **P** **21 23 35.8 +1.2**
CONA Conrad Observa 79.38 348 *e*PcP **PKKPbc** **21 42 16.7 -4.4**
comp=Z,8.7nm,1.5s
TPRI Tanjung Pinang 79.40 258 P **P** **21 23 35.9 +0.7**
comp=Z,296nm,1.0s
DRGR 79.45 343⇑P **P** **21 23 36.1 +1.0**
WBSI Waikabubak, Su 79.45 239 P **P** **21 23 33.1 -2.3**
comp=Z,546nm,1.1s
OZUR 79.53 341⇑P **P** **21 23 36.9 +1.4**
BATM Batumi 79.54 328⇑P **P** **21 23 36.4 +0.9**
VRI Vrincioaia 79.56 340⇑P **P** **21 23 35.6 0.0**
ODBI Odobesti 79.59 340⇓P **P** **21 23 37.7 +1.9**
PETR Petresti 79.59 340⇑P **P** **21 23 36.5 +0.8**
PLOR Plostina 79.59 340⇑P **P** **21 23 37.1 +1.2**
PLAI Plampang 79.64 241 P **P** **21 23 35.0 -1.4**
comp=Z,643nm,1.4s
MOA Molln 79.65 349 *e*PcP **PKKPbc** **21 42 16.8 -3.6**
comp=Z,7.2nm,1.1s,SNR=4.3
SCHL Schela 79.67 339⇑P **P** **21 23 37.4 +1.2**
BCA Borcka 79.70 328⇑P **P** **21 23 36.7 +0.2**
DOPR Dopca 79.74 341⇑P **P** **21 23 37.9 +1.3**
TLCR 79.76 339⇓P **P** **21 23 37.2 +0.6**
MDB Medias 79.77 342⇓P **P** **21 23 38.6 +1.8**
KNRA Kununurra 79.94 228 P **P** **21 23 37.8 0.0**
GRER 79.97 340⇑P **P** **21 23 39.5 +1.7**
MLR Muntele Rosu 80.08 341⇑P **P** **21 23 39.5 +0.9**
TBI Tubuai 80.08 150 *e*P **P** **21 23 39.6 +1.1**
comp=Z,484nm,1.2s
ARSA Arzberg 80.09 348 *e*PcP **PKKPbc** **21 42 19.2 -0.2**
comp=Z,7.2nm,0.8s
SIRR Siria 80.14 344⇑P **P** **21 23 40.2 +1.4**
TOPG Topolog 80.15 339⇑P **P** **21 23 39.8 +1.0**
DEV Deva 80.29 343⇓P **P** **21 23 40.6 +1.0**
VOIR 80.31 341⇓P **P** **21 23 40.2 +0.4**
CLF Chambon-Foret 80.34 357 P **P** **21 23 40.0 +0.2**
CLF IAmb IAmb 21 23 41.9
comp=Z,210nm,1.0s
RETA Reutte 80.37 352 *e*PcP **PKKPbc** **21 42 19.5 +0.6**
comp=Z,7.7nm,0.7s,SNR=6.9
PGOR Pogoanele 80.42 340⇑P **P** **21 23 40.0 -0.2**
HARR Harsova 80.42 339⇓P **P** **21 23 40.7 +0.4**
WATA Walderalm 80.45 351 *i* PcP **PKKPbc** **21 42 18.7 -0.1**
comp=Z,8.8nm,0.7s,SNR=5.1
ARR Arges 80.46 342⇑P **P** **21 23 41.6 +1.0**
MOTA Moosalm 80.48 351 *e*PcP **PKKPbc** **21 42 19.2 +0.5**
comp=Z,10nm,0.8s,SNR=5.4
SECR 80.49 341⇓P **P** **21 23 41.4 +0.7**

WTTA Wattenberg 80.51 351 *e*PcP **PKKPbc** **21 42 19.5 +0.8**
comp=Z,20nm,0.7s,SNR=12
MTUR Matau 80.51 341⇑P **P** **21 23 42.6 +1.7**
TLBR Topalu 80.54 339⇓P **P** **21 23 42.1 +1.2**
TIRR Tirgusor 80.54 339⇑P **P** **21 23 40.9 +0.1**
TIRR Tirgusor 80.54 339 P **P** **21 23 41.0 +0.1**
TIRR pmax pmax
comp=Z,178nm,0.9s
TIRR Tirgusor 80.54 339 P **P** **21 23 41.0 +0.1**
TIRR IAmb IAmb 21 23 43.8
comp=Z,178nm,0.9s
SQTA Sankt Quirin 80.60 351 *e*P **PKKPbc** **21 42 19.1 +0.7**
comp=Z,16nm,0.7s,SNR=8.1
EIDS Eidsvold 80.65 205 P **P** **21 23 42.1 +0.6**
EIDS IAmb IAmb 21 23 44.2
comp=Z,250nm,1.2s
DAVA Damuels 80.65 352 *i* PcP **PKKPbc** **21 42 19.3 +0.9**
comp=Z,18nm,0.8s
LHMI Lhok Sumawe 80.66 267 P **P** **21 23 42.8 +0.9**
MORH Mrgy, Hungar 80.68 346 *e*P **P** **21 23 41.3 -0.3**
KTUT Trabzon 80.71 330⇑P **P** **21 23 42.2 +0.4**
SOKA Soboth 80.72 349 *e*P **PKKPbc** **21 42 20.1 +2.0**
comp=Z,4.5nm,0.7s
PVM Polavaram 80.72 286 *e*P **P** **21 23 41.6 -0.6**
CVDA Cernavoda 80.74 339⇓P **P** **21 23 43.3 +1.3**
BZS Buzias 80.78 344⇑P **P** **21 23 42.3 +0.1**
SULR 80.80 340⇑P **P** **21 23 43.3 +1.1**
FETA Feichten 80.84 352 *i* P **PKKPbc** **21 42 19.5 +1.6**
comp=Z,9.5nm,0.8s
RPR Rampur 80.84 289 *e*P **P** **21 23 41.8 -1.1**
LEHL Lehliu 80.87 340⇑P **P** **21 23 43.5 +0.9**
MYKA Terra Mystica 80.93 349 *e*P **PKKPbc** **21 42 19.4 +1.8**
comp=Z,7.3nm,0.7s
ABTA Abfaltersbach 80.94 350 *e*P **PKKPbc** **21 42 18.8 +1.2**
comp=Z,6.3nm,1.1s
OBKA Obir 80.94 349 *e*P **PKKPbc** **21 42 19.9 +2.2**
comp=Z,6.7nm,0.8s
ICOR Ion Corvin 81.00 339⇑P **P** **21 23 43.8 +0.5**
BANR Banloc 81.09 344⇑P **P** **21 23 45.0 +1.2**
WB0 Warramunga Arr 81.09 222 P **P** **21 23 43.4 -0.6**
WB0 IAmb IAmb 21 23 45.4
comp=Z,322nm,0.8s
MANR Mangalia 81.11 338⇑P **P** **21 23 44.9 +1.0**
PRED Cave del Predi 81.12 349 P **P** **21 23 43.7 -0.3**
DAVOX Davos/Dischmat 81.15 352 P **P** **21 23 44.2 -0.1**
comp=Z,27nm,0.8s,baz=326,slow=6.6,SNR=8.0
WR0 Warramunga Arr 81.21 221 P **P** **21 23 44.1 -0.5**
WR0 IAmb IAmb 21 23 45.9
comp=Z,275nm,0.8s
WRAB Tennant Creek 81.26 221 *i* P **P** **21 23 43.5 -1.4**
WRAB pmax pmax
comp=Z,373nm,1.0s
WRAB Tennant Creek 81.26 221 P **P** **21 23 44.4 -0.5**
WRAB IAmb IAmb 21 23 46.4
comp=Z,415nm,0.9s
WB2 Warramunga Arr 81.27 221 P **P** **21 23 44.4 -0.5**
WRA Warramunga Arr 81.28 221 P **P** **21 23 44.4 -0.6**
comp=Z,250nm,0.8s,baz=34,slow=6.1,SNR=79
WRA PP **PP** **21 26 46.9 -5.4**
comp=Z,21nm,1.0s,baz=28,slow=9.0,SNR=4.9
WRA PKKPbc **PKKPbc** **21 42 19.0 +0.8**
comp=Z,5.1nm,0.7s,baz=228,slow=2.2,SNR=14
WRA Warramunga Arr 81.28 221 P **P** **21 23 44.4 -0.6**
WRA pmax pmax
comp=Z,23nm,1.0s
WRA Warramunga Arr 81.28 221 P **P** **21 23 44.4 -0.6**
FUORN Ofenpass-Fuorn 81.28 352 P **P** **21 23 45.3 +0.2**
SGRR Singureni 81.29 340⇓P **P** **21 23 44.9 +0.1**
JAGI Jajag, Banyuwa 81.34 244 P **P** **21 23 42.4 -3.1**
PSI Prapat 81.34 263 P **P** **21 23 45.5 -0.2**
comp=Z,394nm,0.9s,baz=360,slow=3.2,SNR=57
PSI Prapat 81.34 263 P **P** **21 23 45.1 -0.6**
PSI pmax pmax
comp=Z,478nm,0.9s
SRSP Sriramsagar 81.34 289 *e*P **P** **21 23 43.9 -1.6**
HERR Herculane 81.35 343⇑P **P** **21 23 45.8 +0.7**
CIMO Cimolais 81.38 350 P **P** **21 23 44.5 -0.9**
LJU Ljubljana 81.40 349 *e*P **P** **21 23 45.6 +0.1**
SRE Strehaia 81.41 342⇑P **P** **21 23 45.9 +0.4**
RPSI Rantau Prapat 81.42 263 P **P** **21 23 45.1 -0.9**
ZAG Zagreb 81.43 348 *e*P **P** **21 23 46.7 +1.1**
DIKM Dikmen 81.44 333⇑P **P** **21 23 46.2 +0.5**
CRES Cresnjev 81.50 348 *e*P **P** **21 23 45.6 -0.4**
TUE Stuetta 81.50 352 P **P** **21 23 46.1 -0.1**
TUE IAmb IAmb 21 23 49.1
comp=Z,436nm,2.0s
FRGS Fruska Gora 81.53 345 *e*P **P** **21 23 46.3 +0.2**
COPA Copaceanca 81.53 341⇑P **P** **21 23 46.7 +0.6**
MDVR Moldovita 81.57 343⇑P **P** **21 23 46.6 +0.2**
CEY Cerknica 81.72 349 *e*P **P** **21 23 47.3 +0.2**
CTI Castel Tesino 81.72 351 P **P** **21 23 46.9 -0.4**
CTI pmax pmax
comp=Z,58nm,0.9s
CTI Castel Tesino 81.72 351 P **P** **21 23 46.9 -0.4**
SENIN Lac Senin/Sane 81.76 354 P **P** **21 23 46.8 -0.8**
RAZG Razgrad 81.81 340⇑P **P** **21 23 48.0 +0.3**
VLAD Vladila 81.82 341⇑P **P** **21 23 47.5 -0.2**
PUNG Punghina 81.84 342⇓P **P** **21 23 47.9 +0.1**
NGJI Ngawi 81.96 247 P **P** **21 23 48.3 -0.4**
ZIMR 81.96 341⇑P **P** **21 23 48.1 -0.2**
RIY Rijeka 82.11 349 *e*P **P** **21 23 49.4 +0.2**
TEKS Tekeris 82.16 345 *e*P **P** **21 23 49.8 +0.3**
SALO Salr 82.25 351 P **P** **21 23 48.7 -1.2**
SMRI Semarang 82.28 248 P **P** **21 23 50.6 +0.2**
comp=Z,450nm,1.3s
SMRI Semarang 82.28 248 P **P** **21 23 49.9 -0.6**
PMBI Palembang 82.30 255 P **P** **21 23 52.3 +1.7**
comp=Z,26µmcomp=Z,484nm,1.1s
PMBI Palembang 82.30 255 P **P** **21 23 50.8 +0.2**
BLY Banja Luka 82.32 347 *e*P **P** **21 23 51.7 +1.4**
PLVB Pleven 82.37 341⇑P **P** **21 23 50.7 +0.2**
HYBB Hyderabad (bro 82.40 288 *e*P **P** **21 23 50.0 -1.1**
HYB Hyderabad 82.40 288 *i* P **P** **21 23 51.0 -0.2**
comp=Z,940nm,1.0s
HYB Hyderabad 82.40 288 *e*P **P** **21 23 50.8 -0.4**
HYB IAmb IAmb 21 23 53.0
comp=Z,366nm,0.7s
ILGA Ilgaz 82.42 334 P **P** **21 23 51.4 +0.2**
MNSI Mandailing Nat 82.51 262 P **P** **21 23 49.5 -2.2**
comp=Z,259nm,0.7s
DIVS Divibare 82.53 345 P **P** **21 23 51.2 -0.2**
DIVS Divibare 82.53 345 *e*P **P** **21 23 51.4 -0.1**
NJS Nagarjunasagar 82.64 287 *e*P **P** **21 23 50.9 -1.4**
WOJI Wonogiri, Jawa 82.64 247 P **P** **21 23 52.4 +0.1**
comp=Z,223nm,1.3s
MGRS Mrkonjic Grad 82.66 347 *e*P **P** **21 23 53.7 +1.6**
HAPS Han Pijesak,Bl 82.71 345 *e*P **P** **21 23 53.1 +0.7**
SDSI Sungai Dareh 82.74 259 P **P** **21 23 52.7 -0.2**
comp=Z,191nm,1.3s
ADKI Addanki 82.80 286 *e*P **P** **21 23 51.8 -1.3**
BHUJ Bhuj 82.81 299 *e*P **P** **21 23 54.0 +0.8**
BHUJ IAmb IAmb 21 23 55.4
comp=Z,213nm,0.4s
BBLS Lazići 82.85 345 *e*P **P** **21 23 53.7 +0.6**
UGM Wanagama 82.94 248 P **P** **21 23 53.7 -0.1**
comp=Z,580nm,1.3s
UGM Wanagama 82.94 248 P **P** **21 23 52.9 -1.0**
KLRI Killari 83.03 290 *e*P **P** **21 23 53.0 -1.4**
RUDO Rudo 83.10 345 *e*P **P** **21 23 53.7 -0.6**
BNI Bardonecchia 83.11 354 P **P** **21 23 54.6 +0.1**
BNI pmax pmax
comp=Z,80nm,0.9s
BNI Bardonecchia 83.11 354 P **P** **21 23 54.6 +0.1**
SRLM Srisailam 83.24 287 *e*P **P** **21 23 54.6 -0.9**
PDSI Padang 83.31 260 P **P** **21 23 54.2 -1.6**
comp=Z,99nm,0.9s
GSI Gunungsitoli 83.34 264 P **P** **21 23 56.2 +0.2**
comp=Z,2µm,0.8s
GSI Gunungsitoli 83.34 264 P **P** **21 23 55.5 -0.5**
FITZ Fitzroy Crossi 83.50 230 P **P** **21 23 56.5 0.0**
MSSA Maissana 83.63 352 P **P** **21 23 56.2 -0.9**
KRJI Kerinci 83.64 258 P **P** **21 23 54.5 -3.1**
comp=Z,954nm,1.0s
BR131 Keskin Array S 83.68 333 P **P** **21 23 60.0 +2.4**
SNR=5.2
BR131 Keskin Array S 83.68 333 P **P** **21 23 56.9 -0.7**
BR131 pmax pmax
comp=Z,124nm,1.3s
BR131 Keskin Array S 83.68 333 P **P** **21 23 56.9 -0.7**
BRTR Keskin Array B 83.68 333 P **P** **21 23 57.5 -0.1**
comp=Z,39nm,0.8s,baz=40,slow=1.4,SNR=24
BRTR PKKPbc **PKKPbc** **21 42 12.2 +0.8**
comp=Z,7.2nm,0.8s,baz=181,slow=5.3,SNR=13
BRTR PKPPKP P'P'df 21 50 04.5 -17

comp=Z,2.3nm,0.8s,baz=201,slow=6.6,SNR=3.8
BRTR Keskin Array B 83.68 333 P **P** **21 23 56.9 -0.7**
BRTR Keskin Array B 83.68 333 P **P** **21 23 56.9 -0.7**
VLC Villacollemand 83.71 351 P **P** **21 23 57.3 -0.2**
ANTO Ankara 83.78 334 P **P** **21 23 58.5 +0.5**
ANTO pmax pmax
comp=Z,151nm,1.4s
ANTO Ankara 83.78 334 P **P** **21 23 58.5 +0.5**
BRY Bratogost 83.93 345 *eP* **P** **21 23 58.2 -0.6**
BLSI Bandar Lampung 83.97 253 P **P** **21 23 57.4 -1.7**
comp=Z,459nm,1.2s
MASI Maura Aman, Be 84.00 257 P **P** **21 23 59.6 +0.3**
comp=Z,565nm,1.0s
DBJI Dramaga 84.03 252 P **P** **21 23 58.1 -1.3**
comp=Z,209nm,1.1s
STON Ston 84.09 346 *eP* **P** **21 23 58.4 -0.9**
TREB Trebinje 84.14 345 *eP* **P** **21 23 58.5 -1.2**
POO Poona 84.25 293 *eP* **P** **21 24 00.2 -0.5**
POO IAmb IAmb 21 24 02.7
comp=Z,378nm,0.8s
OSSC Osservatorio P 84.25 351 P **P** **21 24 00.3 0.0**
OSSC IAmb IAmb 21 24 01.6
comp=Z,160nm,1.1s
PDG Podgorica 84.27 345 *eP* **P** **21 23 59.9 -0.4**
MURB Monte Urbino 84.38 350 P **P** **21 24 01.6 +0.7**
MURB IAmb IAmb 21 24 04.1
comp=Z,339nm,1.1s
HCY Herceg Novi 84.38 345 *eP* **P** **21 24 00.5 -0.4**
LWLI Liwa 84.39 255 P **P** **21 23 59.0 -2.4**
comp=Z,539nm,1.0s
SISI Saibi 84.48 261 P **P** **21 24 02.0 +0.3**
comp=Z,295nm,1.1s
DRME Dracevica, Mon 84.52 345 *eP* **P** **21 24 01.9 +0.3**
SKHT Srikalahasti 84.60 285 *eP* **P** **21 24 01.5 -0.8**
NRCA Norcia 84.73 349 P **P** **21 24 02.9 +0.1**
NRCA IAmb IAmb 21 24 05.0
comp=Z,263nm,1.0s
AS31 Alice Springs 84.78 220 P **P** **21 24 03.2 +0.2**
ASAR Alice Springs 84.79 220 P **P** **21 24 03.3 +0.3**
comp=Z,151nm,0.7s,baz=26,slow=4.9,SNR=65
ASAR PKIKP **PKiKP** **21 29 13.7 -1.4**
comp=Z,6.9nm,0.8s,baz=8.6,slow=1.5,SNR=4.5
ASAR PKKPbc **PKKPbc** **21 42 10.2 -0.1**
comp=Z,1.9nm,0.8s,baz=202,slow=1.5,SNR=6.4
ASAR Alice Springs 84.79 220 P **P** **21 24 02.9 -0.1**
MDRS Chennai 84.81 284 *eP* **P** **21 24 04.0 +0.6**
MDRS IAmb IAmb 21 24 05.7
comp=Z,300nm,1.1s
LHI Lord Howe Isla 84.84 197 P **P** **21 24 03.8 +0.7**
LHI IAmb IAmb 21 24 05.9
comp=Z,257nm,0.9s
URV Uravakonda 85.11 288 *eP* **P** **21 24 03.4 -1.5**
RKT Rikitea 85.13 138 *eP* **P** **21 24 05.6 +0.9**
comp=Z,135nm,1.1s
AQU L'Aquila 85.17 349 *eP* **P** **21 24 03.6 -1.3**
ARMA Armidale 85.33 203 P **P** **21 24 06.4 +0.8**
ARMA IAmb IAmb 21 24 09.1
comp=Z,257nm,0.9s
SGRT San Giovanni R 85.46 347 P **P** **21 24 06.0 -0.5**
PGAV Gavieira, Arco 86.27 5 *eP* **P** **21 24 11.0 +0.6**
ISP Isparta 86.30 335 P **P** **21 24 10.6 -0.1**
ISP pmax pmax
comp=Z,70nm,1.1s
ISP Isparta 86.30 335 P **P** **21 24 10.6 -0.1**
PCAB Cabril 86.54 5 *eP* **P** **21 24 11.4 -0.3**
GOA Goa 86.68 291 *eP* **P** **21 24 11.6 -1.1**
GOA IAmb IAmb 21 24 14.0
comp=Z,331nm,0.6s
SCTE Santa Cesarea 86.70 345 P **P** **21 24 12.2 -0.2**
SCTE IAmb IAmb 21 24 14.1
comp=Z,125nm,0.9s
OUZ Omahuta 86.91 184 P **P** **21 24 14.2 +1.1**
OUZ IAmb IAmb 21 24 16.6
comp=Z,259nm,1.1s
PVRL Vila Real 86.99 5 *eP* **P** **21 24 14.1 +0.2**
comp=Z,66nm,1.3s
PTO Porto 87.08 5 *eP* **P** **21 24 14.7 +0.5**
MVO Moncorvo 87.13 4 *eP* **P** **21 24 14.6 0.0**
SHME Shamm 87.39 310 P **P** **21 24 15.5 -0.5**
SHME Shamm 87.39 310 P **P** **21 24 15.5 -0.5**
BANOM Banah 87.42 310 *i* P **P** **21 24 16.4 +0.2**
SNR=16
BANOM Banah 87.42 310 *i* P **P** **21 24 16.4 +0.2**
SNR=16
BANOM Banah 87.42 310 P **P** **21 24 17.0 +0.8**
SNR=12
PVIS Viseu 87.54 5 *eP* **P** **21 24 16.1 -0.4**
XMIS Christmas Isla 87.82 250 P **P** **21 24 17.4 -0.7**
XMIS IAmb IAmb 21 24 19.4
comp=Z,273nm,1.1s
MDH Madha 87.95 310 *i* P **P** **21 24 17.4 -1.2**
SNR=6.8
MDH Madha 87.95 310 *i* P **P** **21 24 17.4 -1.2**
SNR=6.8
MDH Madha 87.95 310 P **P** **21 24 19.0 +0.3**
SNR=5.5
MSFE Esma-Masafi 87.96 310 *i* P **P** **21 24 18.4 -0.4**
SNR=6.6
MSFE Esma-Masafi 87.96 310 *i* P **P** **21 24 18.4 -0.4**
SNR=6.6
COI Coimbra 88.02 5 *eP* **P** **21 24 18.4 -0.3**
comp=Z,190nm,1.1s
PCAS Casmilo, Conde 88.17 5 *eP* **P** **21 24 14.8 -4.7**
comp=Z,116nm,1.6s
DR12 Loma Pena Alta 88.27 61 P **P** **21 24 20.6 +0.3**
UOSS Minazif 88.29 310 *i* P **P** **21 24 19.3 -0.9**
SNR=7.6
UOSS Minazif 88.29 310 *i* P **P** **21 24 19.3 -0.9**
SNR=7.6
UOSS Minazif 88.29 310 P **P** **21 24 19.6 -0.6**
UOSS IAmb IAmb 21 24 21.1
comp=Z,139nm,1.0s
HATD Hatta, Dubai 88.43 310 *i* P **P** **21 24 19.7 -1.2**
SNR=6.8
HATD Hatta, Dubai 88.43 310 *i* P **P** **21 24 19.7 -1.2**
SNR=6.8
HATD Hatta, Dubai 88.43 310 P **P** **21 24 23.0 +2.0**
SNR=5.7
PCBR Castelo Branco 88.43 5 *eP* **P** **21 24 19.1 -1.6**
comp=Z,89nm,2.1s
WSAR Wadi Sarin 88.56 307 P **P** **21 24 22.0 +0.5**
comp=Z,186nm,1.2s,baz=35,slow=3.3,SNR=13
WSAR Wadi Sarin 88.56 307 P **P** **21 24 22.8 +1.2**
SNR=6.0
ASHO Ashiyiah 88.58 310 *i* P **P** **21 24 22.1 +0.4**
SNR=7.1
ASHO Ashiyiah 88.58 310 *i* P **P** **21 24 22.1 +0.4**
SNR=7.1
ASHO Ashiyiah 88.58 310 P **P** **21 24 24.0 +2.3**
SNR=5.1
PSBE So Bento 88.69 6 *eP* **P** **21 24 21.6 -0.3**
comp=Z,293nm,1.9s
ESDC Sonseca Array 88.72 2 P **P** **21 24 20.8 -1.4**
comp=Z,13nm,0.9s,baz=356,slow=1.5,SNR=7.4
SOHO SOHO 88.82 309 P **P** **21 24 22.3 -0.4**
SOHO SOHO 88.82 309 P **P** **21 24 22.3 -0.4**
SOHO SOHO 88.82 309 P **P** **21 24 20.6 -2.2**
PMRV Marv??o 88.85 5 *eP* **P** **21 24 23.1 +0.4**
HOQ Hoqain 88.91 308 P **P** **21 24 21.0 -2.2**
WBK Wadi Bani Khal 88.92 306 P **P** **21 24 22.5 -0.8**
MBWA Marble Bar 88.96 233 P **P** **21 24 22.2 -1.0**
SMDO Samad 88.99 307 P **P** **21 24 21.8 -2.0**
PMTG Montargil 89.16 5 *eP* **P** **21 24 23.3 -0.8**
comp=Z,92nm,1.5s
PMAFR Mafra 89.21 6 *eP* **P** **21 24 24.1 -0.3**
comp=Z,888nm,1.6s
ALNE Al Ain 89.26 310 P **P** **21 24 23.8 -1.1**
ALNE Al Ain 89.26 310 P **P** **21 24 23.8 -1.1**
MMAI Mount Meron Ar 89.40 330 PKKP **PKKPdf** **21 41 51.2 -0.6**
comp=Z,1.2nm,0.5s,baz=258,slow=41,SNR=2.6
MMAI PKKPbc **PKKPbc** **21 42 00.0 +2.2**
comp=Z,0.3nm,0.3s,baz=220,slow=3.3,SNR=4.9
ARQ Araqi 89.50 309 P **P** **21 24 24.6 -1.5**
STKA Stephens Creek 89.52 211 P **P** **21 24 26.3 +0.7**
comp=Z,307nm,0.7s,baz=4.9,slow=6.1,SNR=54
STKA Stephens Creek 89.52 211 P **P** **21 24 26.0 +0.4**
STKA pmax pmax
comp=Z,100nm,0.9s
STKA Stephens Creek 89.52 211 P **P** **21 24 26.0 +0.4**
STKA IAmb IAmb 21 24 28.4
comp=Z,100nm,0.9s
JMDO Jabal Madar 89.55 307 P **P** **21 24 25.1 -1.1**
BSY Bisya 89.67 308 P **P** **21 24 24.6 -2.2**
ASF Jabal al Asfar 89.70 328 P **P** **21 24 27.1 +0.2**
comp=Z,27nm,0.9s,baz=290,slow=1.8,SNR=3.5
EVO Evora 89.71 5 *eP* **P** **21 24 25.8 -0.9**
comp=Z,99nm,1.9s
PNCL Nicolau / Gran 90.10 5 *eP* **P** **21 24 28.9 +0.4**
HIZ Hauiti 90.15 183 P **P** **21 24 29.1 +0.7**
CAN Canberra 90.66 204 P **P** **21 24 31.9 +1.0**
CAN pmax pmax
comp=Z,318nm,1.4s
CAN Canberra 90.66 204 P **P** **21 24 31.9 +1.0**
BKZ Black Stump Fm 90.76 182 P **P** **21 24 30.2 -1.1**
MHTO MHT 90.78 306 P **P** **21 24 29.5 -2.5**
PVAQ Vaqueiros 90.85 5 *eP* **P** **21 24 32.0 0.0**
PFVI Vila Bisbo 91.05 6 *eP* **P** **21 24 33.2 +0.2**
KEST Kesra 92.16 351 P **P** **21 24 38.6 +0.4**
comp=Z,36nm,0.9s,baz=348,slow=5.9,SNR=3.6
KEST PP **PP** **21 28 18.4 -0.2**
comp=Z,33nm,1.0s,baz=299,slow=3.9,SNR=4.8
QRZ Quartz Range 92.55 184 P **P** **21 24 39.1 -0.3**
QRZ IAmb IAmb 21 24 40.8
comp=Z,71nm,0.8s
GIRL Giralia 92.98 236 P **P** **21 24 41.7 -0.2**
MSWZ Moikau Station 93.04 182 P **P** **21 24 41.1 -0.6**
TUWZ Tuamarina 93.09 183 P **P** **21 24 41.3 -0.6**
FORT Forrest 93.46 222 P **P** **21 24 44.2 +0.3**
TOO Toolangi 93.69 206 P **P** **21 24 45.8 +1.0**
TOO pmax pmax
comp=Z,154nm,1.3s
TOO Toolangi 93.69 206 P **P** **21 24 45.8 +1.0**
TOO IAmb IAmb 21 24 47.5
comp=Z,154nm,1.3s
RAYN Ar Rayn 94.31 318 P **P** **21 24 48.1 -0.2**
RAYN pmax pmax
comp=Z,158nm,1.0s
RAYN Ar Rayn 94.31 318 P **P** **21 24 48.1 -0.2**
SDV Santo Domingo 95.61 68 *eP* **P** **21 24 56.4 +1.9**
SDV Santo Domingo 95.61 68 *eP* **P** **21 24 56.4 +1.9**
NWAO Narrogin (SRO) 100.04 228 P **Pdif** **21 25 13.7 +0.1**
baz=15,slow=5.1
TORD Torodi Ar. Bea 115.11 357 PKP **PKiKP** **21 30 18.5 -1.1**
comp=Z,19nm,0.6s,baz=353,slow=2.1,SNR=43
TORD PKKPbc **PKKPbc** **21 40 44.5 +1.5**
comp=Z,8.8nm,0.7s,baz=185,slow=2.7,SNR=16
LPAZ La Paz 117.08 82 PKP **PKPdf** **21 30 13.4 -0.5**
comp=Z,12nm,0.8s,baz=29,slow=2.6,SNR=7.9
LPAZ PKKPbc **PKKPbc** **21 40 39.1 +2.3**
comp=Z,5.8nm,0.8s,baz=122,slow=5.7,SNR=12
KMBO Kilima Mbogo 119.83 314 PKP **PKiKP** **21 30 19.8 +0.7**
comp=Z,67nm,0.9s,baz=24,slow=3.7,SNR=35
KMBO PP **PP** **21 31 44.5 +1.3**
comp=Z,12nm,0.9s,baz=36,slow=8.2,SNR=3.8
CLDB Colider 120.16 67 *eP* **PKPdf** **21 30 17.2 -2.0**
CLDB Colider 120.16 67 *eP* **PKPdf** **21 30 17.2 -2.0**
LVC Limon Verde 121.36 87 *eP* **PKiKP** **21 30 22.1 +0.3**
LVC Limon Verde 121.36 87 *eP* **PKiKP** **21 30 22.1 +0.3**
DBIC Dimbokro 121.54 4 PKP **PKPdf** **21 30 20.8 -1.2**
comp=Z,52nm,0.8s,baz=12,slow=2.2,SNR=31
DBIC PKKPbc **PKKPbc** **21 40 22.1 +2.1**
comp=Z,21nm,1.1s,baz=165,slow=6.1,SNR=8.3
TIC Toumodi 121.55 4 *e*PKiKP **PKPdf** **21 30 20.7 -1.3**
KIC Kosan Boka 121.85 4 *e*PKiKP **PKPdf** **21 30 21.3 -1.3**
comp=Z,230nm,1.1s
PTLB Pontes e Lacer 121.86 73 *eP* **PKPdf** **21 30 21.5 -0.8**
PTLB Pontes e Lacer 121.86 73 *eP* **PKPdf** **21 30 21.5 -0.8**
LIC Lamto 121.97 4 *e*PKiKP **PKPdf** **21 30 21.4 -1.4**
comp=Z,201nm,0.9s
MBAR Mbarara 122.09 321 PKiKP **PKiKP** **21 30 23.6 +0.2**
MBAR Mbarara 122.09 321 **PKiKP** **21 30 23.6 +0.2**
SMTB Santa Maria do 123.01 58 *eP* **PKPdf** **21 30 24.8 +0.1**
SMTB Santa Maria do 123.01 58 *eP* **PKPdf** **21 30 24.8 +0.1**
SALV Santo Antonio 124.25 71 *eP* **PKPdf** **21 30 26.5 -0.5**
SALV Santo Antonio 124.25 71 *eP* **PKPdf** **21 30 26.5 -0.5**
PEXB Peixe 125.34 61 *eP* **PKPdf** **21 30 29.1 0.0**
PEXB Peixe 125.34 61 *eP* **PKPdf** **21 30 29.1 0.0**
RCBR Riachuelo 125.98 44 *eP* **PKiKP** **21 30 30.9 0.0**
RCBR Riachuelo 125.98 44 *eP* **PKiKP** **21 30 30.9 0.0**
ARAG Araguaiana, MT 126.33 67 *eP* **PKPdf** **21 30 30.9 0.0**
ARAG Araguaiana, MT 126.33 67 *eP* **PKPdf** **21 30 30.9 0.0**
ROC1 El Roble 127.45 97 **PKPdf** **21 30 33.2 +0.2**
MT02 Curacav 127.57 98 PKPdf **PKiKP** **21 30 33.2 -0.2**
AQDB Aquidauana 127.81 74 *eP* **PKPdf** **21 30 33.1 -0.6**
AQDB Aquidauana 127.81 74 *eP* **PKPdf** **21 30 33.1 -0.6**
ZON Zonda 127.91 94 PKIKP **PKPdf** **21 30 33.7 +0.1**
ZON Zonda 127.91 94 PKPdf **PKPdf** **21 30 33.7 +0.1**
C2SB Chapadao do Su 128.17 70 *eP* **PKiKP** **21 30 35.7 +0.7**
C2SB Chapadao do Su 128.17 70 *eP* **PKiKP** **21 30 35.7 +0.7**
CFA Coronel Fontan 128.22 94 PKP **PKPdf** **21 30 33.8 -0.4**
comp=Z,61nm,0.9s,baz=281,slow=1.7,SNR=23
CFA SKPbc SKPbc 21 33 42.4
comp=Z,32nm,0.8s,baz=279,slow=3.2,SNR=12
BDFB Brasilia 128.40 63 PKIKP **PKPdf** **21 30 35.0 -0.1**
comp=Z,58nm,1.0s,baz=310,slow=0.6,SNR=14
BDFB SKPbc SKPbc 21 33 44.0
comp=Z,9.4nm,0.8s,baz=344,slow=5.3,SNR=4.8
BDFB PKP2ab 21 46 32.1
comp=Z,1.0nm,0.5s,baz=98,slow=4.0,SNR=3.1
BDFB Brasilia 128.40 63 PKIKP **PKPdf** **21 30 35.0 -0.1**
BI03 Tigo 128.81 103 **PKPdf** **21 30 35.2 +0.2**
BO02 Sierra Bellavi 128.82 99 **PKPdf** **21 30 35.4 +0.1**
VNDA Vanda 129.62 185 PKP **PKPdf** **21 30 35.1 -0.3**
comp=Z,14nm,0.8s,baz=4.0,slow=2.9,SNR=14
VNDA SKPbc SKPbc 21 33 47.4 -0.2
comp=Z,26nm,1.1s,baz=323,slow=4.0,SNR=5.5
VNDA PKKPbc PKKPbc 21 39 47.7
comp=Z,1.5nm,1.0s,baz=238,slow=8.8,SNR=3.0
JANB Januaria 129.93 59 *eP* **PKPdf** **21 30 38.3 +0.4**
JANB Januaria 129.93 59 *eP* **PKPdf** **21 30 38.3 +0.4**
IPMB Ipameri, GO 130.19 65 *eP* **PKPdf** **21 30 38.1 -0.2**
IPMB Ipameri, GO 130.19 65 *eP* **PKPdf** **21 30 38.1 -0.2**
ITRB Iturama 130.34 68 *eP* **PKPdf** **21 30 38.5 0.0**
ITRB Iturama 130.34 68 *eP* **PKPdf** **21 30 38.5 0.0**
LC01 Cunco 130.83 104 PKPdf **PKPdf** **21 30 38.8 0.0**
CPUP Villa Florida 131.22 81 PKP **PKPdf** **21 30 39.0 -1.0**
comp=Z,65nm,1.0s,baz=335,slow=2.4,SNR=25
CPUP SKPbc **SKPbc** **21 33 53.5 -1.5**
comp=Z,40nm,0.7s,baz=312,slow=3.4,SNR=30
CPUP Villa Florida 131.22 81 *eP* **PKPdf** **21 30 40.1 +0.1**
CPUP Villa Florida 131.22 81 *eP* **PKPdf** **21 30 40.1 +0.1**
GDU01 Guandu, BA 131.22 53 *eP* **PKiKP** **21 30 40.8 -0.5**
GDU01 Guandu, BA 131.22 53 *eP* **PKiKP** **21 30 40.8 -0.5**
PCMB Pacaembu 131.30 71 *eP* **PKPdf** **21 30 40.1 -0.2**
PCMB Pacaembu 131.30 71 *eP* **PKPdf** **21 30 40.1 -0.2**
TRCB Terra Rica 131.41 73 *eP* **PKPdf** **21 30 40.7 +0.2**
TRCB Terra Rica 131.41 73 *eP* **PKPdf** **21 30 40.7 +0.2**
MC01 Montes Claros 131.49 60 *eP* **PKPdf** **21 30 40.7 -0.2**
MC01 Montes Claros 131.49 60 *eP* **PKPdf** **21 30 40.7 -0.2**
BB19B Bebedouro 132.46 68 *eP* **PKPdf** **21 30 42.6 +0.1**
BB19B Bebedouro 132.46 68 *eP* **PKPdf** **21 30 42.6 +0.1**
LL01 San Ignacio de 132.68 108 PKPdf **PKiKP** **21 30 42.9 -0.4**
PLCA Paso Flores 132.78 105 PKP **PKPdf** **21 30 43.0 +0.4**
comp=Z,74nm,1.1s,baz=280,slow=2.7,SNR=20
PLCA SKPbc **SKPbc** **21 33 59.4 -0.7**
comp=Z,70nm,1.1s,baz=314,slow=4.2,SNR=22
PLCA Paso Flores 132.78 105 PKPdf **PKiKP** **21 30 43.7 0.0**
PLCA Paso Flores 132.78 105 *eP* **PKiKP** **21 30 43.8 0.0**
PLCA Paso Flores 132.78 105 *eP* **PKiKP** **21 30 43.8 0.0**
PTGB Pitanga 133.20 74 *eP* **PKPdf** **21 30 43.9 0.0**
PTGB Pitanga 133.20 74 *eP* **PKPdf** **21 30 43.9 0.0**
FRTB Fartura 133.63 71 *eP* **PKPdf** **21 30 44.9 +0.2**
FRTB Fartura 133.63 71 *eP* **PKPdf** **21 30 44.9 +0.2**
RCLB Rio Claro- Sao 134.09 68 *eP* **PKiKP** **21 30 46.6 -0.4**
RCLB Rio Claro- Sao 134.09 68 *eP* **PKiKP** **21 30 46.6 -0.4**
NAN01 Guarapari, ES 134.43 56 *eP* **PKPdf** **21 30 46.1 -0.2**
NAN01 Guarapari, ES 134.43 56 *eP* **PKPdf** **21 30 46.1 -0.2**
BSCB Bom Sucesso 134.53 64 *eP* **PKPdf** **21 30 45.7 -0.7**
BSCB Bom Sucesso 134.53 64 *eP* **PKPdf** **21 30 45.7 -0.7**
SJMB Sao Joao De Ma 134.60 58 *eP* **PKPdf** **21 30 46.6 0.0**
SJMB Sao Joao De Ma 134.60 58 *eP* **PKPdf** **21 30 46.6 0.0**
VAO Valinhos 134.87 68 *eP* **PKPdf** **21 30 46.9 -0.1**
VAO Valinhos 134.87 68 *eP* **PKPdf** **21 30 46.9 -0.1**
BSFB Barra de Sao F 134.88 58 *eP* **PKPdf** **21 30 47.2 +0.1**
BSFB Barra de Sao F 134.88 58 *eP* **PKPdf** **21 30 47.2 +0.1**
SPB Sao Paulo 135.06 69 *eP* **PKiKP** **21 30 48.1 -0.6**
SPB Sao Paulo 135.06 69 *eP* **PKiKP** **21 30 48.1 -0.6**
TIJ01 Guaruva-PR 135.47 72 *eP* **PKiKP** **21 30 49.0 -0.7**
TIJ01 Guaruva-PR 135.47 72 *eP* **PKiKP** **21 30 49.0 -0.7**
RIB01 Linhares ES 135.52 58 *eP* **PKPdf** **21 30 48.1 -0.1**
RIB01 Linhares ES 135.52 58 *eP* **PKPdf** **21 30 48.1 -0.1**
PET01 Itanhaem-SP 135.69 69 *eP* **PKPdf** **21 30 48.9 +0.4**
PET01 Itanhaem-SP 135.69 69 *eP* **PKPdf** **21 30 48.9 +0.4**
PARB Paraibuna 135.90 67 *eP* **PKPdf** **21 30 49.4 +0.4**
PARB Paraibuna 135.90 67 *eP* **PKPdf** **21 30 49.4 +0.4**
ESAR Angra dos Reis 136.32 65 *eP* **PKiKP** **21 30 50.6 -0.8**
ESAR Angra dos Reis 136.32 65 *eP* **PKiKP** **21 30 50.6 -0.8**
LSZ Lusaka 136.40 316 PKP **PKPdf** **21 30 50.1 0.0**
comp=Z,33nm,0.8s,baz=38,slow=2.4,SNR=13
LSZ SKPbc **SKPbc** **21 34 11.8 -0.8**
comp=Z,16nm,1.0s,baz=18,slow=9.0,SNR=3.4
LSZ Lusaka 136.40 316 **PKPdf** **21 30 50.8 +0.6**
MAN01 Angra dos Reis 136.46 65 *eP* **PKPdf** **21 30 50.4 +0.4**
MAN01 Angra dos Reis 136.46 65 *eP* **PKPdf** **21 30 50.4 +0.4**
CPSB Cacapava Do Su 136.52 81 *eP* **PKPdf** **21 30 49.8 0.0**
CPSB Cacapava Do Su 136.52 81 *eP* **PKPdf** **21 30 49.8 0.0**
CAM01 Campos-RJ 136.90 61 *eP* **PKPdf** **21 30 50.7 -0.1**
CAM01 Campos-RJ 136.90 61 *eP* **PKPdf** **21 30 50.7 -0.1**
CNLB Canela 137.31 78 *eP* **PKPdf** **21 30 51.5 +0.1**
CNLB Canela 137.31 78 *eP* **PKPdf** **21 30 51.5 +0.1**
PLTB Pedras Altas 137.37 83 *eP* **PKPdf** **21 30 51.5 +0.2**
PLTB Pedras Altas 137.37 83 *eP* **PKPdf** **21 30 51.5 +0.2**
QSPA South Pole Qui 141.71 180 PKhKP PKPpre 21 30 53.3
comp=Z,199nm,1.0s,baz=24,slow=0.1,SNR=26
TSUM Tsumeb 144.03 328 PKPdf PKPbc 21 31 02.8 +0.8
CRZF Crozet Islands 145.33 258 **PKPbc** **21 31 05.2 0.0**
EFI East Falkland 145.82 112 PKP2 **PKPbc** **21 31 06.3 -0.2**
EFI East Falkland 145.82 112 PKPdf **PKPbc** **21 31 06.3 -0.2**
MAW Mawson 145.89 218 PKPbc **PKPdf** **21 31 05.2 -0.1**
comp=Z,354nm,0.9s,baz=81,slow=3.4,SNR=90
MAW Mawson 145.89 218 PKPdf **PKPbc** **21 31 06.2 0.0**
LBTB Lobatse 146.09 312 PKP2 **PKPbc** **21 31 07.8 -0.5**
LBTB Lobatse 146.09 312 PKPdf **PKPbc** **21 31 07.8 -0.5**
PMSA Palmer Station 146.33 137 PKPbc **PKPbc** **21 31 07.6 0.0**
comp=Z,511nm,1.2s,baz=185,slow=2.0,SNR=20
PMSA Palmer Station 146.33 137 **PKPbc** **21 31 07.8 +0.2**
PMSA Palmer Station 146.33 137 *eP* **PKPdf** **21 31 06.1 -0.1**
PMSA Palmer Station 146.33 137 *eP* **PKPdf** **21 31 06.1 -0.1**
BOSA Boshof 149.30 309 PKP **PKPdf** **21 31 12.3 -0.2**
comp=Z,66nm,1.0s,baz=76,slow=1.7,SNR=8.1
BOSA PKPbc **PKiKP** **21 31 17.5 -0.5**
comp=Z,319nm,0.9s,baz=45,slow=2.3,SNR=75
BOSA Boshof 149.30 309 PKPdf **PKPdf** **21 31 12.4 -0.1**
BOSA PKPbc **PKPbc** **21 31 17.3 +0.4**
SYO Syowa Base 154.25 213 *ti*PKPdf **PKPdf** **21 31 16.4 -2.0**
SYO Syowa Base 154.25 213 *ti*PKiKP **PKiKP** **21 31 29.6 +2.9**
SUR Sutherland 154.54 311 PKP **PKPdf** **21 31 20.5 +0.2**
comp=Z,20nm,0.9s,baz=230,slow=1.5,SNR=6.0
SUR PKPbc **PKiKP** **21 31 29.4 +0.6**
comp=Z,86nm,0.9s,baz=340,slow=0.4,SNR=19
SUR PKPab **PKPab** **21 31 45.1 +1.4**
comp=Z,62nm,0.9s,baz=36,slow=7.4,SNR=8.0
SUR Sutherland 154.54 311 PKPdf **PKPdf** **21 31 20.8 +0.6**
SUR PKPbc **PKiKP** **21 31 29.3 +0.5**
SUR PKPab **PKPab** **21 31 44.8 +1.0**
SNAA Sanae 160.21 179 PKPdf **PKPdf** **21 31 25.1 -0.9**
SNAA Sanae 160.21 179 PKP **PKPdf** **21 31 25.4 -0.6**
comp=Z,21nm,1.0s,baz=107,slow=1.4,SNR=9.7
SNAA PKPab **PKPab** **21 32 06.9 -0.1**
comp=Z,56nm,1.0s,baz=212,slow=9.1,SNR=16
SNAA PP **PP** **21 35 54.1 +4.2**
comp=Z,20nm,1.1s,baz=231,slow=6.5,SNR=3.6
SNAA Sanae 160.21 179 PKPdf **PKPdf** **21 31 25.1 -0.9**
SNAA **sPKPdf** **21 32 06.5 +0.6**
VNA3 Neumayer Olymp 160.30 172 PKPdf **PKPdf** **21 31 25.3 -0.7**
VNA2 Neumayer--Watz 160.78 174 PKPdf **PKPdf** **21 31 25.8 -0.7**
VNA1 Neumayer--Stat 160.99 173 PKPdf **PKPdf** **21 31 26.2 -0.6**

NEIC ***23*** *21:13:46.7±1.6,51°.8N±0°.1×178°.6E±0°.2, h95km±5km, Error ellipse: s-maj=24.6km s-min=7.1km az=225.0*
AEIC 23 21:13:46±1.4, 51°.78N±0°.09×178°.7E±0°.1, h90km±4km, ML3.9, Error ellipse: s-maj=17.7km s-min=6.4km az=225.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.17**	**333**		Pn	21 13 60.0	+1.1
LSPA	**Little Sitkin**	**0.19**	**337**		Pn	21 14 00.4	+1.4
LSPA					Sn	21 14 10.9	+2.4
LSSA	**Little Sitkin**	**0.20**	**326**		Sn	21 14 10.3	+1.6
AMKA	**Amchitka**	**0.55**	**137**		Pn	21 14 02.3	+1.2
AMKA					Sn	21 14 14.8	+2.4
CEAP	**Semis' Anvil P**	**0.59**	**68**		Pn	21 14 02.7	+1.2
TASE	**Tanaga Southea**	**2.03**	**87**		Sn	21 14 46.1	+2.7
OHAK	**Old Harbor**	**17.08**	**60**		Pn	21 17 38.0	-0.8
KDAK	**Kodiak Island**	**17.53**	**59**	P	P	21 17 44.0	-0.1
SEW	**Seward**	**19.51**	**52**	P	P	21 18 06.2	+0.4
FID	**Port Fidalgo**	**21.08**	**51**	P	P	21 18 23.4	+0.7
EYAK	**Cordova Ski Ar**	**21.41**	**52**	P	P	21 18 27.9	+1.8
MDM	**Murphy Dome**	**21.46**	**39**	P	P	21 18 28.6	+1.9

NEIC ***23*** *21:17:39.9±1.1,51°.7N±0°.1×178°.20E±0°.09, h117km±5km, Error ellipse: s-maj=18.8km s-min=8.0km az=181.0*
AEIC ***23*** *21:17:40±2.6,51°.7N±0°.1×178°.35E±0°.09, h110km±4km, ML3.7, mb4.2/16(NEIC), Error ellipse: s-maj=17.2km s-min=7.6km az=181.0*
ISC 23 21:17:39.5±1.1, 51°.7N±0°.1×178°.17E±0°.05, h120km±7km, n41, σ0893/47, mb4.2/6, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.31**	**43**		**Pn**	**21 17 56.6**	**+0.2**
LSSA					**Sn**	**21 18 08.8**	**-0.4**
LSNW	**Little Sitkin**	**0.33**	**41**		**Pn**	**21 17 56.9**	**+0.4**
LSPA	**Little Sitkin**	**0.34**	**47**		**Pn**	**21 17 56.7**	**+0.2**
LSPA					**Sn**	**21 18 09.6**	**+0.2**
AMKA	**Amchitka**	**0.79**	**116**		**Pn**	**21 17 59.2**	**-0.2**
AMKA					**Sn**	**21 18 13.9**	**-0.7**
CEAP	**Semis' Anvil P**	**0.91**	**72**		**Pn**	**21 18 01.0**	**+0.4**
CEAP					**Sn**	**21 18 16.3**	**-0.3**
CERB	**Semis' Cerberu**	**0.93**	**77**		**Sn**	**21 18 16.9**	**+0.1**
CERAA	**Semis' Rag'd T**	**0.96**	**78**		**Pn**	**21 18 01.0**	**0.0**
GALAA	**Gareloi Lava P**	**1.90**	**88**		**Pn**	**21 18 11.8**	**+0.2**
GALAA					**Sn**	**21 18 36.7**	**+0.5**
GAEA	**Gareloi East**	**1.92**	**87**		**Pn**	**21 18 11.8**	**0.0**
TAFP	**Tanaga Falls P**	**2.39**	**84**		**Pn**	**21 18 17.9**	**+0.1**
TAFP					**Sn**	**21 18 46.6**	**-0.6**
TAPA	**Tanaga Point A**	**2.50**	**86**		**Pn**	**21 18 19.4**	**+0.2**
SMY	**Shemya**	**2.70**	**293**		**Pn**	**21 18 22.4**	**+0.6**
SMY				Sn	**Sn**	**21 18 53.2**	**-1.1**
KIMD	**Kanaga Island**	**2.85**	**87**		**Pn**	**21 18 23.8**	**0.0**
NIKH	**Nikolski High**	**8.04**	**76**	Pn	**Pn**	**21 19 34.5**	**+1.1**
SPIA	**Saint Paul Isl**	**8.67**	**46**	Pn	**Pn**	**21 19 42.6**	**+0.7**
PET	**Petropavlovsk**	**12.00**	**284**	Pn	**Pn**	**21 20 27.6**	**+1.1**
CNBA	**Chernabura Isl**	**13.65**	**68**	Pn	**Pn**	**21 20 45.8**	**-2.1**
CHIR	**Chirikof Islan**	**15.98**	**65**	Pn	**Pn**	**21 21 16.2**	**-1.0**
CHIR				IAmb	IAmb	21 21 25.3	
comp=Z,17nm,0.9s							
SII	**Sitkinak Islan**	**16.84**	**62**		**Pn**	**21 21 27.1**	**-0.7**
OHAK	**Old Harbor**	**17.39**	**60**	P	**P**	**21 21 32.9**	**-1.1**
OHAK				IAmb	IAmb	21 21 38.9	
comp=Z,19nm,1.2s							
KDAK	**Kodiak Island**	**17.84**	**59**	P	**P**	**21 21 37.8**	**-1.1**
CNPM	**China Poot**	**18.81**	**54**	P	**P**	**21 21 49.9**

*IDC **23** 21:18:00.9±3.0,29.°94S×177.°14W,h0km,mb4.4/2, mb1 4.6/2,mb1mx4.0/47,mbtmp4.4/2,Error ellipse: s-maj=70.6km s-min=30.1km az=58.0*
*NEIC **23** 21:18:05.0±0.6,29.°95S±0.°08×177.°29W±0.°09,h26km±4km, mb4.8/6,Error ellipse: s-maj=13.3km s-min=9.0km az=219.0*
ISC 23 21:18:06.3±1.0,29.°98S±0.°09×177.°3W±0.°1,h35km,n13, σ0s80/15,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.91**	**322**	Pn	**Pn**	**21 18 22.1**	**-0.5**
	521nm,0.3s,baz=94,slow=11,SNR=6.7						
RAO				Sn	**Sn**	**21 18 35.7**	**+1.2**
	1μm,0.3s,baz=241,slow=23,SNR=8.0						
RAO	**Raoul Island**	**0.91**	**322**		**Pn**	**21 18 21.9**	**-0.7**
RAO				Sn	**Sn**	**21 18 34.2**	**-0.3**
THZ	**Tophouse**	**14.18**	**211**	Pn	**Pn**	**21 21 24.5**	**-0.1**
KHZ	**Kahutara**	**14.44**	**208**	Pn	**Pn**	**21 21 26.3**	**-1.7**
OXZ	**Oxford**	**15.82**	**210**	Pn	**Pn**	**21 21 46.6**	**+0.4**
RPZ	**Rata Peaks**	**16.56**	**211**	Pn	**Pn**	**21 21 55.5**	**-0.2**
RPZ				IAmb	IAmb	21 22 00.4	
	comp=Z,38nm,1.2s						
RAR	**Rarotonga**	**18.03**	**65**	P	**P**	**21 22 13.9**	**-0.3**
RAR				IAmb	IAmb	21 22 19.6	
	comp=Z,23nm,0.6s						
ARMA	**Armidale**	**26.83**	**261**	P	**P**	**21 23 42.8**	**-0.8**
ARMA				IAmb	IAmb	21 23 50.5	
	comp=Z,62nm,1.4s						
ASAR	**Alice Springs**	**43.75**	**266**	P	**P**	**21 26 09.1**	**+0.6**
	comp=Z,4.8nm,0.8s,baz=109,slow=7.0,SNR=1.5						
WRA	**Warramunga Arr**	**44.71**	**271**	P	**P**	**21 26 16.7**	**+0.5**
	comp=Z,4.2nm,0.7s,baz=113,slow=6.4,SNR=1.4						
CASY	**Casey**	**55.80**	**208**	P	**P**	**21 27 40.3**	**+0.8**
CASY				IAmb	IAmb	21 27 46.4	
	comp=Z,30nm,1.4s						
QSPA	**South Pole Qui**	**60.13**	**180**	P	**P**	**21 28 10.6**	**+0.6**
FINES	**FINESS Array B**	**144.96**	**341**	PKP	**PKPdf**	**21 37 38.8**	**-0.1**
	comp=Z,5.3nm,0.8s,baz=60,slow=2.8,SNR=5.9						

*IDC **23** 21:18:41.6±3.1,29.°80S×177.°14W,h0km,mb4.3/2, mb1 4.6/2,mb1mx4.0/47,mbtmp4.3/2,Error ellipse: s-maj=76.5km s-min=30.9km az=49.0*
*NEIC **23** 21:18:45.2±1.8,29.°89S±0.°09×177.°1W±0.°1,h32km±4km, mb5.0/8,Error ellipse: s-maj=17.1km s-min=10.6km az=59.0*
ISC 23 21:18:44.0±1.3,29.°9S±0.°1×177.°1W±0.°2,h24km,n18, σ0s86/20,mb4.9/6,1D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.97**	**310**	Pn	**Pb**	**21 19 02.3**	**+0.1**
	1μm,0.3s,baz=95,slow=20,SNR=3.7						
RAO				Sn	**Sb**	**21 19 14.5**	**-0.2**
	2μm,0.3s,baz=74,slow=23,SNR=5.2						
RAO	**Raoul Island**	**0.97**	**310**		**Pb**	**21 19 02.6**	**+0.4**
RAO				Sn	**Sn**	**21 19 15.3**	**+0.1**
OUZ	**Omahuta**	**9.52**	**234**	Pn	**Pn**	**21 20 59.8**	**+0.3**
NNZ	**Nelson**	**13.72**	**212**	Pn	**Pn**	**21 21 58.0**	**+1.0**
THZ	**Tophouse**	**14.37**	**212**	Pn	**Pn**	**21 22 05.4**	**-0.6**
OXZ	**Oxford**	**16.00**	**210**		**Pn**	**21 22 29.3**	**+1.8**
RPZ	**Rata Peaks**	**16.75**	**211**	Pn	**Pn**	**21 22 36.4**	**-0.6**
RPZ				IAmb	IAmb	21 22 37.9	
	comp=Z,35nm,1.1s						
CTAO	**Charters Tower**	**34.53**	**278**	P	**P**	**21 25 29.4**	**-1.2**
CTAO				IAmb	IAmb	21 25 38.6	
	comp=Z,17nm,1.0s						
ASAR	**Alice Springs**	**43.95**	**266**	P	**P**	**21 26 49.6**	**+0.2**
	comp=Z,4.9nm,1.0s,baz=104,slow=6.8,SNR=1.1						
WR0	**Warramunga Arr**	**44.72**	**271**	P	**P**	**21 26 56.1**	**+0.6**
WR0				IAmb	IAmb	21 26 58.2	
	comp=Z,80nm,1.2s						
WB2	**Warramunga Arr**	**44.89**	**271**	P	**P**	**21 26 57.3**	**+0.4**
WB2				IAmb	IAmb	21 27 03.8	
	comp=Z,45nm,1.1s						
WRA	**Warramunga Arr**	**44.90**	**271**	P	**P**	**21 26 57.4**	**+0.4**
	comp=Z,3.8nm,0.6s,baz=109,slow=8.0,SNR=1.8						
CASY	**Casey**	**55.98**	**208**	P	**P**	**21 28 20.1**	**0.0**
CASY				IAmb	IAmb	21 28 26.6	
	comp=Z,13nm,1.2s						
QSPA	**South Pole Qui**	**60.23**	**180**	P	**P**	**21 28 49.8**	**-0.3**
SYO	**Syowa Base**	**77.80**	**193**	*i* PcP	**PcP**	**21 30 48.0**	**-0.7**
MJAR	**Matsushiro Arr**	**78.28**	**325**	P	**P**	**21 30 41.2**	**-0.7**
FINES	**FINESS Array B**	**144.93**	**341**	PKP	**PKPab**	**21 38 19.1**	**+1.5**
	comp=Z,2.7nm,0.5s,baz=50,slow=4.2,SNR=5.2						
FINES	**FINESS Array B**	**144.93**	**341**		**PKPab**	**21 38 18.9**	**+1.3**

*IDC **23** 21:23:54.0±3.3,30.°02S×177.°29W,h0km,mb4.6/3, mb1 4.8/3,mb1mx4.2/46,mbtmp4.6/3,Error ellipse: s-maj=62.5km s-min=43.4km az=94.0*
*NEIC **23** 21:23:58.6±0.9,29.°81S±0.°06×177.°4W±0.°3,h34km±13km, mb4.7/8,Error ellipse: s-maj=33.5km s-min=5.7km az=77.0*
ISC 23 21:23:56.0±1.5,29.°8S±0.°1×177.°1W±0.°2,h24km,n20, σ1s65/22,mb4.7/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.90**	**308**	Pn	**Pb**	**21 24 12.7**	**-0.1**
	535nm,0.3s,baz=287,slow=20,SNR=1.7						
RAO				Sn	**Sb**	**21 24 23.8**	**-0.6**
	1μm,0.3s,baz=118,slow=16,SNR=5.6						
RAO	**Raoul Island**	**0.90**	**308**		**Pb**	**21 24 12.8**	**-0.1**
RAO				Sn	**Sb**	**21 24 21.1**	**-3.3**
BKZ	**Black Stump Fm**	**10.72**	**208**	Pn	**Pn**	**21 26 28.2**	**+0.1**
KHZ	**Kahutara**	**14.67**	**208**	Pn	**Pn**	**21 27 22.0**	**+0.1**
DZM	**Mont Dzumac**	**16.67**	**294**	Pn	**P**	**21 27 55.2**	**+4.8**
	0.3nm,0.3s,baz=80,slow=19,SNR=2.2						
RPZ	**Rata Peaks**	**16.79**	**211**	Pn	**Pn**	**21 27 48.1**	**-1.3**
WKZ	**Wanaka**	**18.58**	**212**	P	**P**	**21 28 10.4**	**-0.8**
WKZ				IAmb	IAmb	21 28 11.5	
	comp=Z,73nm,1.3s						
EIDS	**Eidsvold**	**28.49**	**271**	P	**P**	**21 29 48.6**	**-0.9**
EIDS				IAmb	IAmb	21 29 57.8	
	comp=Z,8.6nm,1.0s						
CTA	**Charters Tower**	**34.48**	**278**	P	**P**	**21 30 42.9**	**+0.6**
	comp=Z,6.2nm,0.6s,baz=101,slow=10,SNR=6.8						
CTAO	**Charters Tower**	**34.48**	**278**	P	**P**	**21 30 42.7**	**+0.5**
CTAO				IAmb	IAmb	21 30 44.3	
	comp=Z,7.9nm,0.8s						
STKA	**Stephens Creek**	**35.37**	**256**	P	**P**	**21 30 51.0**	**+1.2**
ASAR	**Alice Springs**	**43.92**	**266**	P	**P**	**21 32 01.1**	**-0.1**
	comp=Z,7.7nm,0.9s,baz=108,slow=7.3,SNR=3.6						
WB2	**Warramunga Arr**	**44.84**	**271**	P	**P**	**21 32 08.0**	**-0.6**
WRA	**Warramunga Arr**	**44.85**	**271**	P	**P**	**21 32 08.4**	**-0.2**
	comp=Z,6.0nm,0.6s,baz=111,slow=7.9,SNR=3.4						
KNRA	**Kununurra**	**51.44**	**273**	P	**P**	**21 32 59.2**	**-0.3**
CASY	**Casey**	**56.02**	**208**	P	**P**	**21 33 32.5**	**+0.1**
CASY				IAmb	IAmb	21 33 46.6	
	comp=Z,19nm,1.4s						
FINES	**FINESS Array B**	**144.85**	**341**	PKPbc	**PKPdf**	**21 43 30.7**	**+0.5**
	comp=Z,10nm,0.6s,baz=50,slow=3.8,SNR=3.9						
LIC	**Lamto**	**155.38**	**161**	*e*P	**PKPab**	**21 44 10.5**	**-2.9**
	comp=Z,53nm,1.3s						
KIC	**Kosan Boka**	**155.59**	**161**	*e*P	**PKPab**	**21 44 13.7**	**-0.6**
	comp=Z,74nm,1.5s						
TIC	**Toumodi**	**155.79**	**161**	*e*P	**PKPab**	**21 44 13.5**	**-1.6**

*NEIC **23** 21:24:44.0±1.6,51.°79N±0.°07×178.°6E±0.°1,h108km±7km, Error ellipse: s-maj=10.6km s-min=9.7km az=203.0*
AEIC 23 21:24:42.9±1.4,51.°73N±0.°09×178.°6E±0.°1,h112km±6km, ML3.3/15,mb3.8/4(NEIC),Error ellipse: s-maj=13.6km s-min=9.1km az=162.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSPA	**Little Sitkin**	**0.23**	**351**		Sn	21 25 10.4	-0.1
LSSA	**Little Sitkin**	**0.24**	**342**		Pn	21 24 59.8	+1.1
AMKA	**Amchitka**	**0.54**	**130**		Sn	21 25 13.8	+0.5
CEAP	**Semis' Anvil P**	**0.65**	**64**		Pn	21 25 01.7	+0.7
CEAP					Sn	21 25 14.7	0.0
CERB	**Semis' Cerberu**	**0.65**	**71**		Pn	21 25 02.3	+1.3
CERAA	**Semis' Rag'd T**	**0.68**	**74**		Pn	21 25 02.2	+1.0
GAEA	**Gareloi East**	**1.63**	**87**		Pn	21 25 11.9	+0.6
TAFP	**Tanaga Falls P**	**2.11**	**84**		Pn	21 25 18.1	+0.8
KIMD	**Kanaga Island**	**2.57**	**88**		Pn	21 25 24.8	+1.6
KIKV	**Kanaga Island**	**2.61**	**85**		Pn	21 25 25.4	+1.7
ADK	**Adak**	**2.91**	**85**		Pn	21 25 28.1	+0.4
SMY	**Shemya**	**2.96**	**292**		Pn	21 25 28.4	+0.1
GSMY	**Great Sitkin M**	**3.31**	**82**		Pn	21 25 34.6	+1.7
GSTR	**Great Sitkin T**	**3.31**	**82**	Pn	Pn	21 25 34.1	+1.1
ATKA	**Atka Island**	**4.46**	**81**		Pn	21 25 49.6	+1.3
NIKH	**Nikolski High**	**7.76**	**76**	Pn	Pn	21 26 35.8	+2.8
SPIA	**Saint Paul Isl**	**8.47**	**45**	Pn	Pn	21 26 45.4	+2.9
SDPT	**Sand Point**	**12.93**	**66**	Pn	Pn	21 27 42.5	+0.4
CNBA	**Chernabura Isl**	**13.38**	**68**	Pn	Pn	21 27 47.9	-0.2
OHAK	**Old Harbor**	**17.14**	**60**	P	P	21 28 34.9	-0.2
OHAK				IAmb	IAmb	21 28 47.1	
	comp=Z,3.8nm,0.5s						
KDAK	**Kodiak Island**	**17.59**	**59**	P	Pn	21 28 40.5	-0.1
CNPM	**China Poot**	**18.58**	**53**	P	Pn	21 28 52.2	-0.2
CNPM				IAmb	IAmb	21 29 04.1	
	comp=Z,5.2nm,1.0s						
BRLK	**Bradley Lake**	**18.80**	**53**	P	Pn	21 28 54.8	-0.3

*IDC **23** 21:25:23.6±3.3,29.°81S×177.°18W,h0km,mb4.2/2, mb1 4.5/2,mb1mx4.0/46,mbtmp4.2/2,Error ellipse: s-maj=75.4km s-min=30.9km az=54.0*
*NEIC **23** 21:25:27.7±0.9,30.°05S±0.°1×177.°5W±0.°4,h19km±18km, mb4.4/7,Error ellipse: s-maj=54.4km s-min=5.1km az=73.0*
ISC 23 21:25:29.0±2.3,30.°0S±0.°1×177.°4W±0.°3,h35km,n14, σ1s08/16,mb4.3/6,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.85**	**325**	Pn	**Pn**	**21 25 43.0**	**-1.5**
	886nm,0.3s,baz=83,slow=19,SNR=2.0						
RAO				Sn	**Sn**	**21 25 56.8**	**+1.0**
	914nm,0.3s,baz=344,slow=23,SNR=2.5						
RAO	**Raoul Island**	**0.85**	**325**		**Pn**	**21 25 43.4**	**-1.2**
RAO					**Sn**	**21 25 55.3**	**-0.5**
BKZ	**Black Stump Fm**	**10.49**	**207**	Pn	**Pn**	**21 27 55.7**	**-1.3**
RPZ	**Rata Peaks**	**16.55**	**211**	Pn	**Pn**	**21 29 16.4**	**-1.9**
CTAO	**Charters Tower**	**34.28**	**278**	P	**P**	**21 32 12.1**	**+0.1**
STKA	**Stephens Creek**	**35.12**	**256**	P	**P**	**21 32 20.5**	**+1.2**
STKA				IAmb	IAmb	21 32 28.4	
	comp=Z,4.0nm,1.1s						
AS31	**Alice Springs**	**43.69**	**266**	P	**P**	**21 33 32.0**	**+1.2**
AS31				IAmb	IAmb	21 33 33.9	
	comp=Z,6.1nm,1.4s						
ASAR	**Alice Springs**	**43.69**	**266**	P	**P**	**21 33 31.6**	**+0.7**
	comp=Z,2.8nm,0.9s,baz=109,slow=7.5,SNR=4.7						
WR0	**Warramunga Arr**	**44.46**	**271**	P	**P**	**21 33 37.5**	**+0.5**
WB2	**Warramunga Arr**	**44.63**	**271**	P	**P**	**21 33 38.3**	**0.0**
WB2				IAmb	IAmb	21 33 38.5	
	comp=Z,19nm,1.4s						
WRA	**Warramunga Arr**	**44.64**	**271**	P	**P**	**21 33 39.2**	**+0.7**
	comp=Z,1.9nm,0.4s,baz=110,slow=7.9,SNR=7.1						
WB0	**Warramunga Arr**	**44.66**	**272**	P	**P**	**21 33 39.0**	**+0.4**
CASY	**Casey**	**55.79**	**208**	P	**P**	**21 35 02.9**	**+0.7**
CASY				IAmb	IAmb	21 35 10.3	
	comp=Z,6.9nm,1.4s						
FINES	**FINESS Array B**	**144.91**	**341**	PKP	**PKPab**	**21 45 01.3**	**+0.4**
	comp=Z,7.9nm,0.9s,baz=46,slow=4.0,SNR=1.4						

*NEIC **23** 21:29:56.6±1.1,51.°61N±0.°07×178.°7E±0.°1,h107km±2km, Error ellipse: s-maj=11.8km s-min=8.1km az=47.0*
*AEIC **23** 21:29:57.1±1.6,51.°64N±0.°07×178.°84E±0.°09,h101km±4km, mb4.3/6(NEIC),Error ellipse: s-maj=12.0km s-min=3.2km az=217.0*
*IDC **23** 21:30:02.7±3.4,51.°44N×178.°67E,h0km,mb4.5/5, mb1 4.6/5,mb1mx3.9/64,mbtmp4.5/5,Error ellipse: s-maj=115.5km s-min=28.9km az=19.0*
ISC 23 21:29:56.0±1.4,51.°6N±0.°1×178.°69E±0.°08,h108km±7km, n38,σ0s93/40,mb4.6/6,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSPA	**Little Sitkin**	**0.36**	**349**		**Pn**	**21 30 12.9**	**+1.0**
LSPA					Sn	**21 30 24.1**	**+0.3**
LSSA	**Little Sitkin**	**0.37**	**343**		**Pn**	**21 30 13.0**	**+1.1**
AMKA	**Amchitka**	**0.44**	**120**		**Pn**	**21 30 12.9**	**+0.6**
AMKA					**Sn**	**21 30 24.6**	**+0.1**
CESW	**Semis' Southwe**	**0.62**	**61**		**Pn**	**21 30 13.5**	**0.0**
CERB	**Semis' Cerberu**	**0.67**	**60**		**Pn**	**21 30 14.4**	**+0.4**
CERB					**Sn**	**21 30 27.7**	**+0.2**
CEAP	**Semis' Anvil P**	**0.68**	**53**		**Pn**	**21 30 14.3**	**+0.3**
CEAP					**Sn**	**21 30 27.0**	**-0.6**
CERAA	**Semis' Rag'd T**	**0.69**	**63**		**Pn**	**21 30 14.3**	**+0.2**
GALAA	**Gareloi Lava P**	**1.59**	**83**		**Pn**	**21 30 24.7**	**+1.0**
GALAA					**Sn**	**21 30 45.1**	**+0.3**
TASE	**Tanaga Southea**	**2.05**	**82**		**Pn**	**21 30 30.2**	**+0.6**
TAFP	**Tanaga Falls P**	**2.09**	**80**		**Pn**	**21 30 30.4**	**+0.4**
TAFP					**Sn**	**21 30 55.3**	**-0.7**
TAPA	**Tanaga Point A**	**2.19**	**83**		**Pn**	**21 30 32.3**	**+1.0**
KIMD	**Kanaga Island**	**2.54**	**85**		**Pn**	**21 30 36.6**	**+0.8**
KIMD					**Sn**	**21 31 06.2**	**-0.2**
KIKV	**Kanaga Island**	**2.59**	**82**		**Pn**	**21 30 37.1**	**+0.6**
KINC	**Kanaga Island**	**2.62**	**81**		**Pn**	**21 30 37.7**	**+0.8**
KIRH	**Kanaga Island**	**2.64**	**82**		**Pn**	**21 30 37.9**	**+0.7**
ADK	**Adak**	**2.89**	**83**		**Pn**	**21 30 40.7**	**+0.2**
ADAG	**Mount Adagdak**	**2.95**	**81**		**Pn**	**21 30 41.7**	**+0.5**
GSTD	**Great Sitkin T**	**3.24**	**80**		**Pn**	**21 30 45.6**	**+0.4**
GSTR	**Great Sitkin T**	**3.29**	**79**		**Pn**	**21 30 45.1**	**-0.7**
ATKA	**Atka Island**	**4.45**	**79**	Pn	**Pn**	**21 31 02.7**	**+1.5**
NIKH	**Nikolski High**	**7.76**	**75**		**Pn**	**21 31 47.7**	**+1.6**
OKRE	**Okmok R'deer P**	**8.24**	**71**		**Pn**	**21 31 55.2**	**+2.6**
SPIA	**Saint Paul Isl**	**8.53**	**45**	Pn	**Pn**	**21 31 58.0**	**+1.5**
MREP	**Makushin Rep't**	**9.12**	**70**		**Pn**	**21 32 06.7**	**+2.2**
UNV	**Unalaska Valle**	**9.26**	**70**	Pn	**Pn**	**21 32 06.4**	**-0.1**
OHAK	**Old Harbor**	**17.18**	**60**		**P**	**21 33 48.3**	**-0.6**
MA2	**Magadan**	**17.57**	**308**	P	**P**	**21 33 53.2**	**0.0**
KDAK	**Kodiak Island**	**17.63**	**58**	P	**P**	**21 33 53.8**	**-0.1**
KDAK				IAmb	IAmb	21 34 02.9	
	comp=Z,19nm,0.9s						
TTA	**Tatalina**	**17.63**	**40**	P	**P**	**21 33 54.0**	**+0.1**
TTA				IAmb	IAmb	21 34 03.3	
	comp=Z,16nm,1.1s						
CNPM	**China Poot**	**18.63**	**53**	P	**P**	**21 34 05.6**	**+0.8**
CNPM				IAmb	IAmb	21 34 09.9	
	comp=Z,16nm,0.9s						
COLD	**Coldfoot**	**21.89**	**33**	P	**P**	**21 34 38.4**	**-1.5**
ISLE	**Juniper Island**	**23.20**	**52**	P	**P**	**21 34 53.6**	**+0.4**
ISLE				IAmb	IAmb	21 34 53.9	
	comp=Z,18nm,1.2s						
DLBC	**Dease Lake**	**29.54**	**56**	P	**P**	**21 35 49.6**	**-0.4**
KURBB	**Kurchatov Arra**	**57.83**	**312**	P	P	21 39 57.0	+21
	comp=Z,7.2nm,0.9s,baz=46,slow=4.3,SNR=12						
BVAR	**Borovoye Array**	**59.69**	**318**	P	P	21 40 08.0	+19
	comp=Z,3.9nm,0.8s,baz=36,slow=5.3,SNR=5.1						
TXAR	**Lajitas Array**	**60.16**	**80**	P	P	21 40 12.4	+20
	comp=Z,6.1nm,0.9s,baz=291,slow=3.2,SNR=14						
FINES	**FINESS Array B**	**65.20**	**346**	P	P	21 40 46.5	+21
	comp=Z,14nm,0.8s,baz=35,slow=5.1,SNR=5.4						
NOA	**NORSAR Array B**	**67.26**	**353**	P	P	21 40 59.4	+21
	comp=Z,2.3nm,1.0s,baz=6.9,slow=5.1,SNR=5.3						

*BJI **23** 21:30:43.3±0.0,52.°09N×178.°44E,h98km,mb6.1/71*
*AEIC **23** 21:30:44±2.1,51.°82N±0.°07×178.°35E±0.°08,h113km±3km, Error ellipse: s-maj=10.3km s-min=6.4km az=194.0*
*MOS **23** 21:30:45.8±0.9,51.°97N×178.°42E,h110km,mb6.0/57, Error ellipse: s-maj=5.4km s-min=3.8km az=99.0*
*NEIC **23** 21:30:46.2±1.5,51.°94N±0.°06×178.°43E±0.°07, h102km±3km,mb6.0/621,ML5.6(AEIC),Error ellipse: s-maj=8.6km s-min=6.6km az=191.0*
*UNK **23** 21:30:46.2,51.°94N×178.°43E,h102km*
*IDC **23** 21:30:47.3±0.3,51.°99N×178.°43E,h107km±2km,mb5.5/54, mb1 5.6/57,mb1mx5.5/60,mbtmp5.8/57,MS6.3/1, Ms1 6.3/1,ms1mx4.8/65,Error ellipse: s-maj=7.0km s-min=5.1km az=171.0*
ISC 23 21:30:47.1±0.2,51.°94N±0.°03×178.°41E±0.°02,h109km±1km, h109km:pP-P,n1981,σ1s03/2280,mb5.9/578,68C-45D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.07**	**81**		**Pn**	**21 31 00.7**	**-1.4**
LSPA	**Little Sitkin**	**0.10**	**80**		**Pn**	**21 31 00.7**	**-1.5**
CESW	**Semis' Southwe**	**0.72**	**93**		**Pn**	**21 31 04.1**	**-1.4**
CEAP	**Semis' Anvil P**	**0.73**	**85**		**Pn**	**21 31 04.5**	**-1.1**
CERB	**Semis' Cerberu**	**0.76**	**90**		**Pn**	**21 31 04.8**	**-1.0**
AMKA	**Amchitka**	**0.79**	**135**	Pn	**Pn**	**21 31 04.1**	**-2.0**
AMKA				Sn	**Sn**	**21 31 17.2**	**-3.3**
CERAA	**Semis' Rag'd T**	**0.79**	**92**		**Pn**	**21 31 04.9**	**-1.2**
GAEA	**Gareloi East**	**1.77**	**94**		**Pn**	**21 31 16.4**	**-0.7**
TASE	**Tanaga Southea**	**2.21**	**91**		**Pn**	**21 31 21.7**	**-0.9**
TAFP	**Tanaga Falls P**	**2.23**	**90**		**Pn**	**21 31 21.9**	**-1.0**
TAPA	**Tanaga Point A**	**2.35**	**92**		**Pn**	**21 31 23.4**	**-1.0**
KIMD	**Kanaga Island**	**2.71**	**92**		**Pn**	**21 31 28.0**	**-1.1**
KICM	**Kanaga Island**	**2.72**	**89**		**Pn**	**21 31 28.5**	**-0.8**
KIKV	**Kanaga Island**	**2.74**	**90**		**Pn**	**21 31 28.8**	**-0.7**
SMY	**Shemya**	**2.76**	**288**	P	**Pn**	**21 31 28.1**	**-1.7**
SMY						21 32 02.3	
SMY	**Shemya**	**2.76**	**288**		**Pn**	**21 31 28.1**	**-1.7**
SMY					**Sn**	**21 32 02.3**	**-0.3**
ADK	**Adak**	**3.04**	**89**	P	**Pn**	**21 31 32.3**	**-1.2**
ADK	**Adak**	**3.04**	**89**		**Pn**	**21 31 32.3**	**-1.2**
GSTD	**Great Sitkin T**	**3.37**	**86**		**Pn**	**21 31 36.7**	**-1.2**
GSTR	**Great Sitkin T**	**3.42**	**85**		**Pn**	**21 31 37.6**	**-1.0**
GSMY	**Great Sitkin M**	**3.42**	**86**		**Pn**	**21 31 37.5**	**-1.1**
KOKL	**Mount Kliuchef**	**4.57**	**82**		**Pn**	**21 31 53.8**	**-0.3**
ATKA	**Atka Island**	**4.57**	**84**	Pn	**Pn**	**21 31 53.5**	**-0.4**
ATKA	**Atka Island**	**4.57**	**84**		**Sn**	**21 32 48.3**	**+2.3**
KOFP	**Korovin Flat P**	**4.63**	**83**		**Pn**	**21 31 54.9**	**+0.1**
KOSE	**Korovin Southe**	**4.66**	**82**		**Pn**	**21 31 55.4**	**+0.2**
NIKH	**Nikolski High**	**7.85**	**77**		**Pn**	**21 32 37.8**	**-0.6**
OKSP	**Okmok Steeple**	**8.21**	**76**		**Pn**	**21 32 43.9**	**+0.7**
OKCE	**Okmok Cone E**	**8.30**	**74**		**Pn**	**21 32 45.3**	**+0.9**
OKNC	**Okmok New Cone**	**8.32**	**74**		**Pn**	**21 32 46.8**	**+2.0**
SPIA	**Saint Paul Isl**	**8.42**	**47**		**Pn**	**21 32 47.4**	**+1.4**
OKFG	**Magazine Ridge**	**8.45**	**75**		**Pn**	**21 32 48.4**	**+2.0**
MSW	**Makushin Switc**	**9.16**	**72**		**Pn**	**21 32 57.6**	**+1.4**
MREP	**Makushin Rep't**	**9.17**	**72**		**Pn**	**21 32 57.3**	**+1.0**
MNAT	**Makushin Natee**	**9.22**	**72**		**Pn**	**21 32 58.5**	**+1.6**
UNV	**Unalaska Valle**	**9.32**	**72**	Pn	**Pn**	**21 32 58.6**	**+0.4**
AKRB	**Akutan Reef Bi**	**9.61**	**71**		**Pn**	**21 33 03.6**	**+1.5**
AKMO	**Akutan Morgan**	**9.64**	**71**		**Pn**	**21 33 03.7**	**+1.2**
AKGG	**Akutan Green G**	**9.66**	**70**		**Pn**	**21 33 04.3**	**+1.4**
AKLV	**Akutan Long Va**	**9.68**	**71**		**Pn**	**21 33 04.7**	**+1.6**
AKUT	**Akutan**	**9.78**	**71**		**Pn**	**21 33 05.7**	**+1.2**
AKSA	**Akutan Strait**	**9.82**	**71**		**Pn**	**21 33 07.0**	**+1.9**
FALS	**False Pass**	**11.23**	**68**	Pn	**Pn**	**21 33 25.2**	**+1.1**
PET	**Petropavlovsk**	**12.09**	**283**	*e*P	**Pn**	**21 33 35.6**	**+0.1**
PET				*e*S	**Sn**	**21 35 42.5**	**-5.8**
PET				pmax	pmax		
	comp=Z,850nm,1.4s						
PET	**Petropavlovsk**	**12.09**	**283**		**Pn**	**21 33 35.7**	**+0.2**
PEA0B	**Petropavlovsk-**	**12.66**	**283**	*c i* P	**Pn**	**21 33 43.4**	**+0.4**
PEA0B	**Petropavlovsk-**	**12.66**	**283**	Pn	**Pn**	**21 33 43.1**	**0.0**
PETK	**Petropavlovsk-**	**12.66**	**283**	P	**Pn**	**21 33 42.7**	**-0.3**
	comp=Z,13nm,0.3s,baz=91,slow=17,SNR=141						
PETK				S	**Sn**	**21 35 56.7**	**-5.5**
	comp=Z,9.9nm,0.3s,baz=106,slow=19,SNR=2.2						
PETK				PcP	**PcP**	**21 39 11.3**	**+0.4**
	comp=Z,2.1nm,0.3s,baz=122,slow=5.1,SNR=6.1						
PETK				ScP	**ScP**	**21 42 35.3**	**+1.7**
	comp=Z,1.2nm,0.3s,baz=107,slow=4.9,SNR=15						
PETK	**Petropavlovsk-**	**12.66**	**283**	Pn	**Pn**	**21 33 42.5**	**-0.5**
GAMB	**Gambell**	**12.96**	**20**		**Pn**	**21 33 47.7**	**+1.0**
SDPT	**Sand Point**	**12.97**	**66**		**Pn**	**21 33 45.2**	**-1.8**
CNBA	**Chernabura Isl**	**13.43**	**69**		**Pn**	**21 33 49.9**	**-3.1**
SKR	**Severo-Kuril's**	**13.99**	**274**	*e*P	**Pn**	**21 33 59.8**	**-0.5**
SKR				*e*S	Sn	21 36 24.1	-10
SKR				pmax	pmax		
	comp=Z,1μm,1.0s						
SKR				MLR	MLR		
	comp=Z,38μm,13.0s						
SKR				MLR	MLR		
	comp=Z,38μm,13.0s						
ANM	**Nome**	**15.20**	**27**	P	**Pn**	**21 34 15.5**	**0.0**
ANM				pmax	pmax		
	comp=Z,222nm,1.0s						
ANM	**Nome**	**15.20**	**27**		**Pn**	**21 34 15.5**	**0.0**
CHIR	**Chirikof Islan**	**15.76**	**66**	Pn	**Pn**	**21 34 19.1**	**-3.5**
SII	**Sitkinak

KUR pmax pmax
comp=E,1µm,1.3s
KUR pmax pmax
comp=N,392nm,1.1s
DHY Denali Highway 21.20 45 P **P 21 35 24.0 +0.3**
WRH Wood River Hil 21.34 41 P **P 21 35 24.5 -0.4**
WRH IAmb IAmb 21 35 53.4
comp=Z,851nm,1.2s
EYAK Cordova Ski Ar 21.45 52 P **P 21 35 25.7 -0.4**
EYAK IAmb IAmb 21 35 30.1
comp=Z,787nm,0.9s
MDM Murphy Dome 21.45 40 P **P 21 35 26.7 +0.5**
MDM IAmb IAmb 21 35 30.2
comp=Z,1µm,1.8s
CCB Clear Creek Bu 21.51 41 P **P 21 35 26.8 0.0**
CCB IAmb IAmb 21 35 54.4
comp=Z,892nm,1.2s
TCOL CIGO, UAF Yank 21.57 40 P **P 21 35 28.2 +0.8**
baz=249,SNR=32
COLA College 21.57 40 *i* P **P 21 35 27.3 -0.1**
COLA pmax pmax
comp=Z,315nm,1.0s
COLA College 21.57 40 P **P 21 35 27.9 +0.5**
COLA IAmb IAmb 21 35 54.3
comp=Z,1µm,1.2s
COLD Coldfoot 21.70 33 P **P 21 35 29.7 +0.9**
baz=241,SNR=14
COLD Coldfoot 21.70 33 P **P 21 35 29.5 +0.7**
HDA Harding Lake 21.78 42 P **P 21 35 29.5 -0.2**
baz=252,SNR=39
HDA Harding Lake 21.78 42 P **P 21 35 29.5 -0.2**
POKR Poker Plat Res 21.82 40 P **P 21 35 30.4 +0.3**
baz=249,SNR=61
IL31 21.93 41 P **P 21 35 30.4 -0.7**
ILAR Eielson Array 21.93 41 P **P 21 35 30.2 -1.0**
comp=Z,66nm,0.6s,baz=239,slow=9.0,SNR=91
ILAR pP **pwP 21 35 54.0 +0.3**
comp=Z,84nm,1.1s,baz=341,slow=8.8,SNR=5.3
ILAR PcP **PcP 21 39 25.1 -0.4**
comp=Z,21nm,0.6s,baz=285,slow=3.5,SNR=9.5
ILAR ScP **ScP 21 42 50.2 -2.2**
comp=Z,65nm,0.7s,baz=282,slow=2.9,SNR=25
ILAR Eielson Array 21.93 41 P **P 21 35 31.0 -0.2**
RAGM Ragged Mountai 21.96 53 P **P 21 35 31.6 0.0**
PAX Paxson 22.02 46 P **P 21 35 32.3 0.0**
PAX pmax pmax
comp=Z,815nm,1.0s
PAX Paxson 22.02 46 P **P 21 35 32.3 0.0**
PAX IAmb IAmb 21 35 35.5
comp=Z,815nm,1.0s
RIDG Independent Ri 22.48 44 P **P 21 35 36.1 -0.8**
RIDG IAmb IAmb 21 36 24.7
comp=Z,564nm,1.1s
GLB Gilahina Butte 22.51 50 P **P 21 35 37.1 -0.2**
TOLK Toolik Lake Re 22.63 30 P **P 21 35 39.1 +0.7**
baz=238,SNR=40
TOLK Toolik Lake Re 22.63 30 P **P 21 35 38.7 +0.2**
TOLK IAmb IAmb 21 36 04.8
comp=Z,824nm,1.1s
VRDI Verde Repeater 22.65 51 P **P 21 35 38.7 -0.2**
VRDI IAmb IAmb 21 35 42.9
comp=Z,762nm,0.8s
PRP Porcupine Dome 22.71 39 P **P 21 35 38.9 -0.5**
PRP IAmb IAmb 21 35 42.3
comp=Z,313nm,0.7s
CRQM Cirque 22.75 52 P **P 21 35 40.1 +0.2**
DOT Dot Lake 22.80 45 P **P 21 35 39.3 -0.8**
DOT IAmb IAmb 21 35 43.0
comp=Z,504nm,0.8s
MENT Mentasta 22.80 46 P **P 21 35 40.3 +0.2**
MENT IAmb IAmb 21 35 43.6
comp=Z,540nm,0.7s
WAX Waxell Ridge 22.86 53 P **P 21 35 41.3 +0.4**
MCARA McCarthy VSAT 22.87 51 P **P 21 35 40.9 0.0**
MCARA IAmb IAmb 21 35 43.9
comp=Z,893nm,0.9s
TGL Tana Glacier 22.90 52 P **P 21 35 41.3 0.0**
SCRK Sand Creek 22.91 44 P **P 21 35 40.5 -0.8**
SCRK IAmb IAmb 21 36 07.7
comp=Z,538nm,1.0s
YUK Yuzh-Kuril'sk 23.02 263 *e* P **P 21 35 42.2 -0.2**
YUK S **S 21 39 45.3 +0.9**
YUK pmax pmax
comp=Z,2µm,1.5s
YUK pmax pmax
comp=N,540nm,0.7s
YUK pmax pmax
comp=E,2µm,1.1s
YUK pmax pmax
comp=Z,2µm,1.7s
YUK MLR MLR
comp=Z,40µm,13.0s
YUK MLR MLR
comp=N,23µm,10.0s
YUK MLR MLR
comp=E,8µm,10.0s
ISLE Juniper Island 23.13 53 P **P 21 35 43.2 -0.3**
BALM Baldy 23.16 52 P **P 21 35 43.9 +0.1**
BALM IAmb IAmb 21 35 46.4
comp=Z,617nm,0.8s
FYU Fort Yukon 23.19 37 P **P 21 35 44.8 +1.0**
MESA MESA 23.30 54 P **P 21 35 45.4 +0.3**
YAH Yahtse 23.41 53 P **P 21 35 46.2 +0.1**
BARN Barnard Glacie 23.50 52 P **P 21 35 47.0 +0.1**
YSS Yuzh-Sakhalins 23.55 272 *e* P **P 21 35 48.4 +1.2**
YSS *e* 21 36 14.2
YSS pmax pmax
comp=Z,500nm,1.3s
YSS Yuzh-Sakhalins 23.55 272 P **P 21 35 47.9 +0.6**
YSS IAmb IAmb 21 35 51.7
comp=Z,702nm,1.1s
CTGM Chitina Glacie 23.65 52 P **P 21 35 48.5 +0.2**
BCAR Beaver Creek A 23.69 47 P **P 21 35 48.8 +0.3**
BCAR PcP **PcP 21 39 30.6 +1.3**
BCAR ScP **ScP 21 42 58.4 +1.2**
TABL Table Mountain 23.71 53 P **P 21 35 48.9 0.0**
TABL ScP **ScP 21 42 58.0 +0.5**
BMAR Burnt Mountain 23.75 35 P **P 21 35 48.9 -0.1**
BMAR ScP **ScP 21 42 56.3 -1.0**
MIDW Midway 23.91 171 P **P 21 35 51.5 +0.9**
MIDW IAmb IAmb 21 35 53.5
comp=Z,946nm,1.5s
PCA Pinnacle 24.14 54 P **P 21 35 52.6 +0.1**
PCA ScP **ScP 21 42 58.6 +0.1**
EGAK Eagle 24.29 43 P **P 21 35 53.9 +0.2**
EGAK ScP **ScP 21 42 59.1 +0.4**
YKU2 Yakutat 24.43 55 P **P 21 35 55.4 +0.3**
DAWY Dawson 24.91 45 P **P 21 36 00.1 +0.7**
DAWY IAmb IAmb 21 36 03.9
comp=Z,541nm,0.7s
DAWY ScP **ScP 21 43 00.3 -0.2**
JKA Kamikawa-asahi 24.99 266 P **P 21 36 01.3 +1.0**
JKA PcP **PcP 21 39 33.5 +1.2**
ASAJ Asahikawa 24.99 266 P **P 21 36 01.0 +0.7**
comp=Z,488nm,0.9s,baz=68,slow=6.2,SNR=110
ASAJ pP **pP 21 36 24.3 +0.4**
comp=Z,247nm,1.0s,baz=47,slow=6.1,SNR=3.3
ASAJ PcP **PcP 21 39 33.6 +1.3**
comp=Z,61nm,0.9s,baz=235,slow=4.5,SNR=5.4
ASAJ S **S 21 40 19.8 +3.8**
comp=Z,9.7nm,0.7s,baz=148,slow=26,SNR=1.2
HYT Haines Junctio 25.51 52 P **P 21 36 06.0 +0.9**
HYT ScP **ScP 21 43 03.4 +1.0**
ERM Erimo 25.79 261 *i* P **P 21 36 07.5 0.0**
ERM pmax pmax
comp=Z,328nm,0.9s
ERM Erimo 25.79 261 P **P 21 36 08.8 +1.2**
ERM IAmb IAmb 21 36 10.7
comp=Z,448nm,1.1s
ERM PcP **PcP 21 39 35.4 +1.3**
ERM ScP **ScP 21 43 06.0 +2.7**
GRNR Gornyy 25.99 284 *i* P **P 21 36 09.5 +0.2**
GRNR pmax pmax
comp=E,90nm,1.1s
GRNR pmax pmax
comp=Z,200nm,1.1s
GRNR smax smax
comp=N,10.0nm,1.1s
GRNR MLR MLR
comp=E,17µm,12.0s
GRNR MLR MLR
comp=Z,22µm,14.0s
EPYK Eagle Plains 26.42 40 P **P 21 36 13.2 +0.1**
baz=259,SNR=26
EPYK Eagle Plains 26.42 40 P **P 21 36 13.3 +0.3**

EPYK IAmb IAmb 21 36 41.0
comp=Z,501nm,1.1s
EPYK ScP **ScP 21 43 04.1 -0.8**
SKAG Skagway 26.65 55 P **P 21 36 15.5 +0.4**
SKAG ScP **ScP 21 43 05.8 +0.2**
WHY Whitehorse 26.80 53 P **P 21 36 17.4 +0.7**
SIT Sitka 26.93 61 P **P 21 36 17.7 +0.1**
SIT pmax pmax
comp=Z,249nm,1.0s
SIT Sitka 26.93 61 P **P 21 36 17.7 +0.1**
BESE Bessie Mountai 26.97 57 P **P 21 36 18.6 +0.4**
JIS Juneau Island 27.26 58 P **P 21 36 20.9 +0.4**
JIS IAmb IAmb 21 36 23.4
comp=Z,291nm,0.8s
YAK Yakutsk 27.73 310 P **P 21 36 24.3 -0.4**
comp=Z,17nm,0.3s,baz=249,slow=2.0,SNR=13
YAK pP **pP 21 36 49.0 +1.2**
comp=Z,50nm,0.7s,baz=252,slow=5.7,SNR=4.1
YAK PcP **PcP 21 39 38.7 +0.4**
comp=Z,84nm,0.7s,baz=138,slow=1.2,SNR=7.8
YAK S **S 21 40 56.4 -2.5**
comp=Z,7.1nm,0.5s,baz=92,slow=19,SNR=1.5
YAK ScP **ScP 21 43 09.9 +1.1**
comp=Z,130nm,0.8s,baz=129,slow=0.3,SNR=18
YAK ScS **ScS 21 47 00.9 +0.3**
comp=Z,5.5nm,0.3s,baz=263,slow=23,SNR=27
YAK Yakutsk 27.73 310 *eP* **P 21 36 23.7 -1.1**
YAK *e**PP **pP 21 36 46.5 -1.3**
YAK *e* 21 39 37.5
YAK *e*S **S 21 40 59.6 +0.7**
YAK *e**SS **sS 21 41 46.3 +5.6**
YAK *e* 21 46 59.1
YAK pmax pmax
comp=Z,219nm,1.4s
YAK pmax pmax
comp=E,95nm,1.9s
YAK smax smax
comp=N,40µm,15.7s
YAK Yakutsk 27.73 310 P **P 21 36 24.4 -0.4**
YAK IAmb IAmb 21 37 00.9
comp=Z,444nm,1.1s
YAK PcP **PcP 21 39 38.8 +0.4**
INK Inuvik 28.01 36 P **P 21 36 27.8 +0.7**
comp=Z,54nm,0.6s,baz=240,slow=9.6,SNR=93
INK pP **pwP 21 36 52.2 -0.9**
comp=Z,87nm,0.9s,baz=245,slow=12,SNR=4.1
INK PcP **PcP 21 39 39.0 0.0**
comp=Z,17nm,0.6s,baz=180,slow=3.0,SNR=2.2
INK ScS ScS 21 47 00.0 -1.6
comp=Z,16nm,1.0s,baz=179,slow=32,SNR=17
INK Inuvik 28.01 36 P **P 21 36 28.3 +1.1**
INK pmax pmax
comp=Z,646nm,1.6s
INK Inuvik 28.01 36 P **P 21 36 28.3 +1.1**
INK IAmb IAmb 21 36 58.0
comp=Z,646nm,1.6s
CRAG Craig 28.44 64 P **P 21 36 31.9 +0.8**
CRAG IAmb IAmb 21 36 34.3
comp=Z,466nm,1.6s
WRAK Wrangell Islan 28.66 61 P **P 21 36 33.9 +0.9**
TIXI Tiksi 29.29 330 P **P 21 36 39.3 +0.9**
comp=Z,32nm,0.8s,baz=112,slow=13,SNR=29
TIXI PcP **PcP 21 39 41.9 -0.2**
comp=Z,50nm,0.9s,baz=107,slow=5.4,SNR=6.5
TIXI ScP **ScP 21 43 13.5 0.0**
comp=Z,169nm,0.7s,baz=111,slow=3.7,SNR=45
TIXI ScS **ScS 21 47 07.9 +0.4**
comp=Z,25nm,1.3s,baz=286,slow=21,SNR=11
TIXI Tiksi 29.29 330 *i* P **P 21 36 37.9 -0.6**
TIXI pmax pmax
comp=Z,32nm,0.9s
TIXI Tiksi 29.29 330 P **P 21 36 38.4 -0.1**
TIXI PcP **PcP 21 39 42.5 +0.3**
TIXI ScP **ScP 21 43 13.7 +0.1**
KLR Kul'dur 29.36 283 P **P 21 36 39.2 -0.1**
comp=Z,302nm,0.9s,baz=69,slow=8.7,SNR=179
KLR PcP **PcP 21 39 42.6 -0.1**
comp=Z,20nm,0.7s,baz=135,slow=3.2,SNR=4.8
KLR S **S 21 41 25.0 +0.3**
KLR ScP **ScP 21 43 15.4 +1.2**
DIB Dawson Inlet, 29.41 68 P **P 21 36 39.9 +0.1**
DLBC Dease Lake 29.50 57 P **P 21 36 41.1 +0.5**
comp=Z,143nm,0.7s,baz=285,slow=9.2,SNR=98
DLBC ScP **ScP 21 43 15.3 +0.8**
DLBC Dease Lake 29.50 57 P **P 21 36 41.8 +1.2**
DLBC IAmb IAmb 21 36 43.9
comp=Z,177nm,0.8s
DLBC **ScP 21 43 15.4 +0.8**
MOBC Moresby Island 29.72 68 P **P 21 36 42.8 +0.2**
ZEA Zeya 30.41 294 *eP* **P 21 36 47.2 -1.4**
ZEA *e* 21 41 39.8
ZEA pmax pmax
comp=N,62nm,0.8s
ZEA pmax pmax
comp=E,160nm,0.8s
ZEA pmax pmax
comp=Z,340nm,1.0s
A36M Sachs Harbour 31.45 30 P **P 21 36 59.2 +1.8**
baz=261,SNR=60
USA0B Ussuriysk Arra 31.51 274 P **P 21 36 58.3 0.0**
USA0B 21 39 49.2
USA0B pmax pmax
comp=Z,140nm,0.9s
USA0B Ussuriysk Arra 31.51 274 P **P 21 36 58.2 0.0**
USA0B PcP **PcP 21 39 49.2 +0.7**
USRK Ussuriysk Ar. 31.51 274 P **P 21 36 58.0 -0.3**
comp=Z,156nm,0.9s,baz=58,slow=7.9,SNR=110
USRK PcP **PcP 21 39 49.1 +0.6**
comp=Z,102nm,0.7s,baz=64,slow=1.4,SNR=40
USRK S **S 21 41 58.9 +0.6**
comp=Z,1.9nm,0.8s,baz=248,slow=40,SNR=1.8
USRK ScP **ScP 21 43 23.0 +1.7**
comp=Z,36nm,1.1s,baz=62,slow=4.5,SNR=13
USRK PKP2ab **P'P'ab 22 12 29.7 -2.1**
comp=Z,5.9nm,0.8s,baz=182,slow=1.5,SNR=13
USRK Ussuriysk Ar. 31.51 274 P **P 21 36 57.7 -0.6**
USRK PcP **PcP 21 39 49.2 +0.8**
VLA Vladivostok 32.14 273 *i* P **P 21 37 04.4 +0.6**
VLA pmax pmax
comp=Z,168nm,0.9s
MAJO Matsushiro 32.18 257 *i* P **P 21 37 04.8 +0.5**
MAJO pmax pmax
comp=Z,295nm,0.9s
MAJO Matsushiro 32.18 257 P **P 21 37 04.9 +0.6**
MAJO IAmb IAmb 21 37 07.5
comp=Z,289nm,0.9s
MAT Matsushiro 32.18 257 P **P 21 37 04.7 +0.4**
MJAR Matsushiro Arr 32.18 257 P **P 21 37 04.7 +0.4**
comp=Z,83nm,0.8s,baz=50,slow=7.8,SNR=54
MJAR PcP **PcP 21 39 50.5 0.0**
comp=Z,28nm,0.8s,baz=98,slow=1.3,SNR=11
MJAR S **S 21 42 08.0 -1.0**
comp=Z,2.5nm,0.8s,baz=14,slow=17,SNR=2.4
MJAR ScP **ScP 21 43 26.1 +2.4**
comp=Z,24nm,1.1s,baz=360,slow=1.5,SNR=9.3
MJAR PKP2ab **P'P'ab 22 12 32.3 +4.1**
comp=Z,4.4nm,0.9s,baz=46,slow=0.8,SNR=4.5
MJAR Matsushiro Arr 32.18 257 P **P 21 37 04.7 +0.4**
MJAR PcP **PcP 21 39 50.6 +0.2**
MJAR ScP **ScP 21 43 25.6 +1.8**
MJB9 Matsu-Tunnel 32.18 257 P **P 21 37 04.9 +0.6**
MJB9 IAmb IAmb 21 37 07.5
comp=Z,296nm,0.9s
MJB9 PcP **PcP 21 39 51.1 +0.6**
BBB Bella Bella 32.26 68 ScP **ScP 21 43 22.6 -1.1**
BBB Bella Bella 32.26 68 P **P 21 37 05.2 +0.5**
BBB **ScP 21 43 23.6 0.0**
MDJ Mudanjiang 32.77 277 P **P 21 37 08.6 -0.8**
MDJ PcP **PcP 21 39 52.7 +0.8**
MSHR Mys Shultsa 32.88 272 *i* P **P 21 37 11.0 +0.7**
MSHR pmax pmax
comp=Z,121nm,1.1s
H11N2 WAKE ISLAND Hy 33.38 200 T T 22 12 42.2
baz=11,slow=76,SNR=22
H11N3 WAKE ISLAND Hy 33.40 200 T T 22 12 48.7
baz=11,slow=76,SNR=11
H11N1 WAKE ISLAND Hy 33.40 200 T T 22 12 49.2
baz=11,slow=76,SNR=23
JHJ2 Mitsune 33.58 251 P **P 21 37 16.6 +0.1**
JHJ Hachijo jima 2 33.60 251 P **P 21 37 17.5 +0.8**
comp=Z,539nm,0.9s,baz=247,slow=4.7,SNR=3.9
INU Inuyama 33.70 257 P **P 21 37 17.7 +0.2**
CN2 Changchun 35.74 278 *eP* **P 21 37 33.6 -1.4**
CN2 pmax pmax
comp=Z,120nm,0.9s

YKA Yellowknife Ar 36.10 46 P **P 21 37 38.2 +0.3**
comp=Z,114nm,0.7s,baz=280,slow=8.3,SNR=234
YKA pP **pwP 21 38 03.0 -1.0**
comp=Z,103nm,1.0s,baz=280,slow=7.9,SNR=5.1
YKA PcP **PcP 21 40 02.4 +1.1**
comp=Z,18nm,0.8s,baz=275,slow=7.5,SNR=4.9
YKA ScP **ScP 21 43 36.0 -1.2**
comp=Z,82nm,1.0s,baz=278,slow=3.3,SNR=28
YKA PKiKP **PKiKP 21 47 19.0 -1.1**
comp=Z,2.7nm,0.7s,baz=244,slow=1.0,SNR=5.2
BOD Bodaibo 36.24 305 *eP* **P 21 37 38.4 -0.7**
BOD pmax pmax
comp=Z,237nm,1.5s
JOHN Johnston Islan 36.41 160 **P 21 37 41.0 +0.2**
PGC Sidney 36.44 72 P **P 21 37 41.0 +0.2**
PGC IAmb IAmb 21 37 42.8
comp=Z,470nm,1.8s
HIA Hailar 36.46 290 P **P 21 37 40.5 -0.6**
HIA 21 40 03.3
HIA pmax pmax
comp=Z,236nm,1.2s
HIA Hailar 36.46 290 P **P 21 37 40.5 -0.6**
HIA IAmb IAmb 21 37 42.7
comp=Z,236nm,1.2s
HIA PcP **PcP 21 40 03.3 +0.7**
LLLB Lillooet 36.46 68 P **P 21 37 41.5 +0.4**
NLWA Neilton Lookou 36.79 74 P **P 21 37 44.6 +0.7**
NLWA IAmb IAmb 21 37 47.2
comp=Z,149nm,0.9s
A04D Lummi Island 36.84 71 P **P 21 37 45.8 +1.5**
baz=298,SNR=11
D03D Eldon 37.18 73 P **P 21 37 47.4 +0.2**
baz=299,SNR=90
E03A Lebam 37.39 75 P **P 21 37 49.7 +0.8**
E03A IAmb IAmb 21 37 52.1
comp=Z,159nm,0.9s
B05A Bryant 37.41 71 P **P 21 37 48.8 -0.3**
baz=299,SNR=42
D04E Lakebay 37.55 73 P **P 21 37 51.2 +1.0**
baz=300
B06A Marblemount 37.65 71 P **P 21 37 51.2 +0.1**
B06A IAmb IAmb 21 37 52.6
comp=Z,380nm,1.8s
F03A Seaside 37.70 75 P **P 21 37 52.1 +0.5**
F03A IAmb IAmb 21 37 54.2
comp=Z,375nm,1.4s
KSRS Korea Array 37.91 268 P **P 21 37 54.4 +1.0**
comp=Z,146nm,0.9s,baz=59,slow=8.1,SNR=167
KSRS pP **pP 21 38 18.8 +0.7**
comp=Z,30nm,1.0s,baz=56,slow=12,SNR=2.2
KSRS PcP **PcP 21 40 08.2 +1.1**
comp=Z,59nm,0.8s,baz=23,slow=2.6,SNR=33
KSRS ScP **ScP 21 43 45.1 +0.8**
comp=Z,15nm,1.1s,baz=51,slow=4.5,SNR=7.6
KS19 Wonju Array Si 37.91 268 P **P 21 37 54.5 +1.0**
KS19 IAmb IAmb 21 37 57.0
comp=Z,205nm,1.0s
KS19 **PcP 21 40 08.3 +1.2**
KSAR Wonju Array Be 37.94 268 P **P 21 37 54.0 +0.4**
KSAR 21 40 08.2
KSAR Wonju Array Be 37.94 268 P **P 21 37 54.0 +0.4**
KSAR PcP **PcP 21 40 08.2 +1.0**
F04D Rainier, OR 37.95 75 P **P 21 37 54.0 +0.3**
baz=301,SNR=8.4
E04D Cinebar 37.98 74 P **P 21 37 54.3 +0.4**
baz=300,SNR=22
D05A Enumclaw 38.00 73 P **P 21 37 54.9 +0.7**
D05A IAmb IAmb 21 37 57.4
comp=Z,271nm,1.0s
POHA Pohakuloa 38.03 138 P **P 21 37 56.4 +1.5**
HMH Humu'ula Sheep 38.19 138 P **P 21 37 57.0 +0.7**
HMH IAmb IAmb 21 38 33.7
comp=Z,181nm,1.0s
MLOA Mauna Loa Obse 38.21 138 P **P 21 37 58.5 +1.9**
MLOA IAmb IAmb 21 38 23.1
comp=Z,265nm,1.2s
MWH Moku'aweowe 38.25 138 P **P 21 37 58.2 +1.2**
MWH IAmb IAmb 21 38 01.2
comp=Z,196nm,1.0s
G03D McMinnville, O 38.25 76 P **P 21 37 56.3 +0.1**
baz=302,SNR=7.1
C06D Leavenworth 38.28 71 P **P 21 37 56.3 -0.2**
baz=299
LON Longmire 38.33 73 P **P 21 37 56.9 0.0**
LON pmax pmax
comp=Z,305nm,2.0s
LON Longmire 38.33 73 P **P 21 37 56.9 0.0**
LON IAmb IAmb 21 37 58.9
comp=Z,305nm,1.9s
F04A Amboy 38.38 75 P **P 21 37 57.2 -0.1**
F04A IAmb IAmb 21 38 00.0
comp=Z,110nm,0.5s
I02D Swisshome 38.49 78 P **P 21 37 59.0 +0.8**
baz=303,SNR=14
PUH Pauahi 38.50 138 P **P 21 38 00.6 +1.9**
PUH IAmb IAmb 21 38 29.1
comp=Z,346nm,1.2s
COR Corvallis 38.56 77 P **P 21 37 59.6 +0.8**
COR pmax pmax
comp=Z,187nm,0.9s
COR Corvallis 38.56 77 P **P 21 37 59.6 +0.8**
COR IAmb IAmb 21 39 06.2
comp=Z,187nm,0.8s
INCN Inchon 38.69 269 P **P 21 37 59.8 -0.2**
INCN Inchon 38.69 269 P **P 21 38 00.5 +0.5**
INCN 21 40 10.0
INCN pmax pmax
comp=Z,356nm,1.0s
INCN Inchon 38.69 269 P **P 21 38 00.5 +0.5**
INCN **PcP 21 40 10.0 +0.4**
LTY Liberty 38.75 72 P **P 21 37 59.6 -0.8**
LTY IAmb IAmb 21 38 01.9
comp=Z,441nm,1.8s
JNU Nakatsue 38.93 260 P **P 21 38 02.9 +0.7**
comp=Z,218nm,0.9s,baz=48,slow=6.0,SNR=69
JNU PcP **PcP 21 40 09.9 -0.6**
comp=Z,43nm,0.8s,baz=60,slow=4.7,SNR=4.0
JNU S **S 21 43 53.5 +1.2**
comp=Z,4.9nm,0.8s,baz=124,slow=22,SNR=6.0
JNU Nakatsue 38.93 260 P **P 21 38 02.8 +0.7**
JNU IAmb IAmb 21 38 05.6
comp=Z,289nm,1.0s
H04D Lebanon 38.94 77 P **P 21 38 02.5 +0.5**
baz=303,SNR=13
J01E Myrtle Point 38.96 80 P **P 21 38 02.9 +0.8**
baz=304,SNR=15
B08A Colville Reser 38.98 70 P **P 21 38 02.0 -0.3**
F05D White Salmon 38.98 74 P **P 21 38 02.4 +0.1**
baz=302,SNR=6.5
I03D Drain, OR 39.02 78 P **P 21 38 03.3 +0.7**
baz=303,SNR=33
H04A Detroit Lake 39.18 76 P **P 21 38 04.2 +0.2**
H04A IAmb IAmb 21 38 06.3
comp=Z,195nm,1.0s
K02D Willamette Mer 39.38 80 P **P 21 38 06.6 +0.8**
baz=304,SNR=24
G05D Wamic, OR 39.41 75 P **P 21 38 06.1 +0.2**
baz=302,SNR=18
I04A Tendick Farm, 39.53 78 P **P 21 38 07.2 +0.2**
baz=303,SNR=41
E07A Sunnyside 39.59 73 P **P 21 38 07.6 +0.3**
E07A IAmb IAmb 21 38 09.2
comp=Z,406nm,1.6s
G06A Carlson Farm, 39.82 75 P **P 21 38 09.0 -0.3**
HAWA Hanford 39.86 73 P **P 21 38 09.3 -0.4**
HAWA IAmb IAmb 21 38 12.0
comp=Z,244nm,1.1s
C09A Chrisman Ranch 39.88 70 P **P 21 38 08.7 -1.0**
C09A IAmb IAmb 21 38 11.0
comp=Z,161nm,1.0s
D08A Wollman Farm, 39.88 71 P **P 21 38 08.9 -0.8**
I05D Terrebonne, OR 39.88 76 P **P 21 38 09.6 -0.3**
baz=303,SNR=19
F07A Phinny Hill Vi 39.89 73 P **P 21 38 09.6 -0.2**
F07A IAmb IAmb 21 38 12.4
comp=Z,115nm,0.8s
KRMB Red Mountain 39.90 82 P **P 21 38 11.2 +1.0**
KRMB IAmb IAmb 21 38 13.5
comp=Z,509nm,1.6s
RES Resolute Bay 39.95 24 P **P 21 38 11.3 +1.3**
RES pmax pmax
comp=Z,504nm,1.4s
RES Resolute Bay 39.95 24 P **P 21 38 11.2 +1.3**
RES IAmb IAmb 21 38 40.5
comp=Z,504nm,1.4s
J04D Umpqua Nationa 40.02 78 P **P 21 38 11.9 +0.7**

baz=304,SNR=30
E08A Dider Farm, El 40.09 72 P P 21 38 11.1 -0.3
JCC Jacoby Creek, 40.24 83 P P 21 38 13.7 +1.0
JCC IAmb IAmb 21 38 17.1
comp=Z,271nm,1.0s
NEW Newport 40.31 69 P P 21 38 12.5 -0.8
baz=300,SNR=51
NEW Newport 40.31 69 P P 21 38 12.5 -0.8
comp=Z,142nm,0.7s,baz=297,slow=7.9,SNR=55
NEW PcP **PcP 21 40 15.2 +0.6**
comp=Z,28nm,0.7s,baz=289,slow=5.4,SNR=2.7
NEW ScS ScS 21 48 08.2 +0.6
comp=Z,3.6nm,0.7s,baz=129,slow=21,SNR=11
NEW Newport 40.31 69 P P 21 38 12.7 -0.7
NEW pmax pmax
comp=Z,163nm,0.8s
NEW Newport 40.31 69 P P 21 38 12.7 -0.7
NEW IAmb IAmb 21 38 15.1
comp=Z,163nm,0.8s
KHMM Horse Mountain 40.39 82 P P 21 38 15.5 +1.3
KHMM IAmb IAmb 21 38 17.8
comp=Z,283nm,0.8s
PINE Pine Mountain 40.42 77 P P 21 38 15.3 +0.8
PINE IAmb IAmb 21 39 21.2
comp=Z,184nm,1.2s
L04D Klamath Falls 40.48 80 P P 21 38 15.4 +0.5
baz=305,SNR=39
YBH Yreka Blue Hor 40.51 81 P P 21 38 16.4 +1.3
comp=Z,103nm,0.7s,baz=331,slow=5.4,SNR=161
YBH pP **pP 21 38 41.4 +1.3**
comp=Z,85nm,1.0s,baz=126,slow=4.2,SNR=3.5
YBH PcP **PcP 21 40 16.6 +1.1**
comp=Z,9.3nm,0.7s,baz=15,slow=1.2,SNR=0.9
YBH ScS ScS 21 48 10.0 +0.9
comp=Z,4.3nm,1.0s,baz=99,slow=23,SNR=6.3
YBH Yreka Blue Hor 40.51 81 P P 21 38 16.3 +1.1
YBH pmax pmax
comp=Z,162nm,0.9s
YBH Yreka Blue Hor 40.51 81 P P 21 38 16.2 +1.1
YBH IAmb IAmb 21 38 18.6
comp=Z,162nm,0.9s
J05D Fort Rock, OR 40.52 78 P P 21 38 15.9 +0.6
baz=304,SNR=40
K04D Chiloquin, OR 40.58 79 P P 21 38 16.2 +0.5
baz=305,SNR=18
E09A Wood Farm, Sta 40.62 72 P P 21 38 15.5 -0.3
E09A IAmb IAmb 21 38 17.8
comp=Z,227nm,1.2s
M02C Callahan 40.62 81 P P 21 38 17.3 +1.2
baz=306,SNR=26
KMRM Mail Ridge 40.79 83 P P 21 38 18.9 +1.5
DL2 Dalian 40.90 275 P P 21 38 18.1 -0.1
DL2 pmax pmax
comp=Z,170nm,0.8s
N02D Trinity Center 40.96 81 P P 21 38 20.3 +1.5
baz=306,SNR=36
M04C Macdoel 41.01 80 P P 21 38 20.1 +0.8
baz=306,SNR=57
K05A Summer Lake 41.05 78 P P 21 38 20.1 +0.4
I07A Izee 41.12 76 P P 21 38 20.0 -0.1
KCPM Cahto Peak 41.19 84 P P 21 38 22.1 +1.4
KCPM IAmb IAmb 21 38 24.1
comp=Z,260nm,0.8s
WDC Whiskeytown Da 41.29 82 P P 21 38 22.3 +0.9
WDC pmax pmax
comp=Z,202nm,1.1s
WDC Whiskeytown Da 41.29 82 P P 21 38 22.3 +0.9
WDC IAmb IAmb 21 38 50.3
comp=Z,202nm,1.1s
O02D Mt. Diablo Mer 41.38 83 P P 21 38 23.5 +1.3
baz=307,SNR=50
F10A Beach Ranch, E 41.44 72 P P 21 38 22.1 -0.6
WALA Waterton Lakes 41.74 66 P P 21 38 24.5 -0.7
WALA IAmb IAmb 21 38 27.1
comp=Z,311nm,0.9s
MOD Modoc Plateau 41.88 79 P P 21 38 26.6 +0.2
MOD IAmb IAmb 21 38 29.6
comp=Z,182nm,0.7s
O03E Paynes Creek 41.91 82 P P 21 38 26.7 +0.1
baz=307,SNR=76
HOPS Hopland Field 41.92 84 P P 21 38 27.6 +1.0
BMO Blue Mountains 42.01 73 P P 21 38 26.8 -0.5
BMO pmax pmax
comp=Z,102nm,0.9s
BMO Blue Mountains 42.01 73 P P 21 38 26.8 -0.5
J08A Circle Bar Ran 42.15 76 P P 21 38 28.3 -0.3
GDXM Geysers 42.20 84 P P 21 38 30.1 +1.1
JTMT Jette 42.21 68 P P 21 38 28.1 -0.9
JTMT IAmb IAmb 21 38 30.3
comp=Z,566nm,1.7s
ORV Oroville 42.54 82 P P 21 38 31.6 0.0
ORV pmax pmax
comp=Z,150nm,0.8s
ORV Oroville 42.54 82 P P 21 38 31.6 0.0
ORV IAmb IAmb 21 38 33.8
comp=Z,150nm,0.8s
MCCM Marconi Confer 42.56 85 P P 21 38 32.2 +0.5
WVOR Wild Horse Val 42.58 77 P P 21 38 31.9 -0.1
WVOR pmax pmax
comp=Z,490nm,1.7s
WVOR Wild Horse Val 42.58 77 P P 21 38 31.9 -0.1
WVOR IAmb IAmb 21 38 34.2
comp=Z,490nm,1.7s
MSO Missoula 42.90 69 P P 21 38 33.5 -1.0
baz=303,SNR=39
MSO Missoula 42.90 69 P P 21 38 33.8 -0.7
MSO IAmb IAmb 21 38 36.1
comp=Z,154nm,0.8s
AFDM Forest Hills D 43.24 83 P P 21 38 37.8 +0.5
BJI Beijing 43.56 280 P P 21 38 41.3 +1.5
BJI PcP **PcP 21 40 25.9 +0.4**
BJI ScP **ScP 21 44 07.8 +1.2**
BJI ScS **ScS 21 48 27.8 +0.1**
BJI pmax pmax
comp=Z,340nm,0.9s
BJT Baijiatuan 43.58 280 P P 21 38 41.1 +1.2
BJT pmax pmax
comp=Z,276nm,0.9s
BJT Baijiatuan 43.58 280 P P 21 38 41.1 +1.2
BJT IAmb IAmb 21 38 42.9
comp=Z,276nm,0.9s
IRK Irkutsk 43.67 301 *e*P **P 21 38 40.5 0.0**
IRK *e* 21 39 08.4
IRK *e* 21 40 26.6
IRK pmax pmax
comp=Z,251nm,3.7s
RUBR Rubicon Trail 43.68 82 P P 21 38 41.2 +0.2
RUBR IAmb IAmb 21 38 43.7
comp=Z,239nm,0.8s
MFID Camas Ranch 43.70 74 P P 21 38 40.5 -0.5
PAHR Pah Rah Range 43.75 81 P P 21 38 41.6 +0.1
PAHR IAmb IAmb 21 39 10.0
comp=Z,378nm,1.1s
VCNR Virginia City 43.84 81 P P 21 38 42.7 +0.4
VCNR IAmb IAmb 21 39 11.1
comp=Z,398nm,1.1s
KWAJ Kwajalein Atol 43.91 195 P P 21 38 44.1 +1.3
KWAJ pmax pmax
comp=Z,403nm,1.3s
KWAJ Kwajalein Atol 43.91 195 P P 21 38 44.1 +1.3
KWAJ IAmb IAmb 21 38 46.9
comp=Z,403nm,1.2s
PNTR Pine Nut 43.99 82 P P 21 38 44.1 +0.5
CMB Columbia Colle 44.17 83 P P 21 38 45.4 +0.7
CMB pmax pmax
comp=Z,218nm,1.2s
CMB Columbia Colle 44.17 83 P P 21 38 45.4 +0.7
CMB IAmb IAmb 21 39 12.9
comp=Z,218nm,1.2s
HRY Holter Researc 44.17 68 P P 21 38 43.8 -1.0
YERR Yerington 44.28 81 P P 21 38 46.1 +0.3
YERR IAmb IAmb 21 39 13.9
comp=Z,352nm,1.2s
TLY Talaya 44.29 301 P P 21 38 45.9 +0.4
comp=Z,38nm,0.7s,baz=44,slow=4.9,SNR=31
TLY PcP **PP 21 40 29.4 -1.1**
comp=Z,65nm,0.7s,baz=215,slow=2.9,SNR=15
TLY ScP **ScP 21 44 11.1 +1.7**
comp=Z,72nm,1.0s,baz=114,slow=1.4,SNR=13
TLY Talaya 44.29 301 P P 21 38 45.5 0.0
TLY Talaya 44.29 301 *eP* **P 21 38 46.0 +0.5**
TLY pmax pmax
comp=Z,186nm,0.9s
TLY Talaya 44.29 301 P P 21 38 45.5 0.0
TLY ScP **ScP 21 44 11.1 +1.7**

LRM Limekiln Ridge 44.31 69 P P 21 38 45.0 -1.1
SAO San Andreas Ge 44.32 85 P P 21 38 46.4 +0.5
SAO San Andreas Ge 44.32 85 P P 21 38 46.4 +0.5
ULN Ulaanbaatar 44.45 294 P P 21 38 46.9 -0.1
ULN Ulaanbaatar 44.45 294 *i* P **P 21 38 46.9 -0.1**
ULN pmax pmax
comp=Z,232nm,1.0s
ULN Ulaanbaatar 44.45 294 P P 21 38 47.4 +0.4
ULN IAmb IAmb 21 38 49.6
comp=Z,191nm,0.9s
HLID Hailey 44.45 73 P P 21 38 46.4 -0.7
baz=306,SNR=32
HLID Hailey 44.45 73 P P 21 38 46.5 -0.6
WAKR Walker 44.46 82 P P 21 38 47.8 +0.6
WAKR IAmb IAmb 21 39 15.5
comp=Z,361nm,1.3s
DLMT Dillon 44.49 70 P P 21 38 46.3 -1.0
EGMT Eagleton 44.63 65 P P 21 38 47.4 -0.9
baz=303,SNR=24
EGMT Eagleton 44.63 65 P P 21 38 47.6 -0.8
EGMT IAmb IAmb 21 38 49.8
comp=Z,140nm,0.8s
MCMT McKenzie Canyo 44.64 71 P P 21 38 47.8 -0.9
SONM Songino Array 44.84 295 P P 21 38 50.4 +0.4
comp=Z,115nm,0.8s,baz=63,slow=6.6,SNR=121
SONM pP **pP 21 39 17.7 +2.8**
comp=Z,35nm,0.8s,baz=76,slow=8.1,SNR=2.8
SONM PcP **PcP 21 40 30.4 +0.5**
comp=Z,71nm,0.7s,baz=68,slow=2.6,SNR=12
SONM ScP **ScP 21 44 13.5 +1.6**
comp=Z,85nm,0.9s,baz=82,slow=1.2,SNR=28
SONM S **S 21 45 19.7 +0.6**
comp=Z,5.0nm,1.1s,baz=53,slow=4.6,SNR=1.3
SONM PKPPKP **P'P'df 22 10 26.6 -3.2**
comp=Z,0.6nm,0.8s,baz=245,slow=2.7,SNR=5.3
SONM Songino Array 44.84 295 P P 21 38 50.4 +0.4
SONM ScP **ScP 21 44 13.1 +1.2**
BOZ Bozeman (W) 44.91 69 P P 21 38 49.9 -0.8
baz=305,SNR=61
BOZ Bozeman (W) 44.91 69 P P 21 38 49.7 -1.0
BOZ pmax pmax
comp=Z,200nm,0.9s
BOZ Bozeman (W) 44.91 69 P P 21 38 49.7 -1.0
BOZ IAmb IAmb 21 38 52.3
comp=Z,200nm,0.8s
KVN Kaiserville 44.93 81 P P 21 38 51.2 +0.2
KVN IAmb IAmb 21 39 18.9
comp=Z,328nm,1.3s
RYN Ryan 44.94 81 P P 21 38 51.3 +0.3
RYN IAmb IAmb 21 39 18.9
comp=Z,220nm,1.1s
TULEG Thule 44.98 18 P P 21 38 51.2 +0.6
TULEG IAmb IAmb 21 38 52.8
comp=Z,200nm,0.7s
JOW Kunigami 44.99 256 P P 21 38 52.8 +1.4
comp=Z,27nm,0.9s,baz=108,slow=11,SNR=38
JOW PcP **PcP 21 40 32.0 +1.4**
comp=Z,6.5nm,0.7s,baz=82,slow=21,SNR=5.7
JOW Kunigami 44.99 256 P P 21 38 52.0 +0.7
PMPB Monarch Peak 45.07 86 P P 21 38 52.6 +0.7
PMPB IAmb IAmb 21 38 54.9
comp=Z,161nm,0.9s
ZAK Zakamensk 45.17 299 *eP* **P 21 38 53.2 +0.6**
ZAK pmax pmax
comp=Z,101nm,1.4s
ZAK pmax pmax
comp=Z,75nm,1.3s
NVAR Mina Array Bea 45.20 81 P P 21 38 53.5 +0.4
comp=Z,92nm,0.7s,baz=297,slow=7.4,SNR=215
NVAR pP **pP 21 39 18.9 +0.5**
comp=Z,144nm,1.0s,baz=295,slow=7.7,SNR=6.8
NVAR PcP **PcP 21 40 32.8 +1.4**
comp=Z,33nm,0.8s,baz=294,slow=3.5,SNR=5.1
NVAR ScP **ScP 21 44 13.7 0.0**
comp=Z,42nm,0.8s,baz=293,slow=4.5,SNR=19
NVAR S **S 21 45 27.9 +3.2**
comp=Z,2.0nm,0.8s,baz=315,slow=3.2,SNR=1.2
NVAR PKiKP **PKiKP 21 47 30.4 +1.3**
comp=Z,3.7nm,0.8s,baz=325,slow=2.4,SNR=4.0
NVAR ScS **ScS 21 48 40.7 +2.0**
comp=Z,1.5nm,0.7s,baz=309,slow=3.7,SNR=2.5
NVAR Mina Array Bea 45.20 81 P P 21 38 53.2 +0.1
NVAR ScP **ScP 21 44 13.9 +0.2**
FFC Flin Flon 45.22 54 P P 21 38 52.3 -0.5
FFC pmax pmax
comp=Z,346nm,1.9s
FFC Flin Flon 45.22 54 P P 21 38 52.3 -0.5
FFC IAmb IAmb 21 38 54.0
comp=Z,346nm,1.9s
MDPB Devils Postpil 45.22 83 P P 21 38 54.0 +0.6
MDPB IAmb IAmb 21 38 56.4
comp=Z,227nm,0.8s
OMMB Old Mammoth Mi 45.28 83 P P 21 38 55.0 +1.0
OMMB IAmb IAmb 21 39 22.9
comp=Z,279nm,1.1s
NV11 Mina Array Sit 45.29 81 P P 21 38 53.9 +0.2
NV11 IAmb IAmb 21 39 21.7
comp=Z,302nm,1.3s
TIA Tai'an 45.37 275 P P 21 38 54.8 +0.5
TIA pmax pmax
comp=Z,59nm,0.5s
QLMT Earthquake Lak 45.47 70 P P 21 38 54.5 -0.7
YHL Hebgen Lake 45.60 70 P P 21 38 55.6 -0.7
ELK Elko 45.63 77 P P 21 38 56.4 -0.1
ELK pmax pmax
comp=Z,88nm,0.9s
ELK Elko 45.63 77 P P 21 38 56.4 -0.1
YHB Horse Butte 45.65 70 P P 21 38 55.8 -0.9
MOY Mondy 45.70 302 *eP* **P 21 38 57.6 +0.8**
MOY pmax pmax
comp=Z,542nm,3.1s
PAGB Antelope Grade 45.72 86 P P 21 38 57.4 +0.4
YHH Holmes Hill 45.83 70 P P 21 38 57.2 -1.0
YMR Madison River 45.83 70 P P 21 38 57.7 -0.3
HHC Hu-ho-hao-te 45.86 284 *eP* **P 21 39 00.0 +1.8**
HHC pP pP 21 39 25.8 +2.3
HHC pmax pmax
comp=Z,150nm,1.3s
VOG Valley Oaks Go 45.87 84 P P 21 38 58.6 +0.4
baz=310,SNR=5.1
GCMT Greycliff 45.93 68 P P 21 38 58.2 -0.5
TIN Tinemaha, Big 46.11 83 P P 21 39 01.1 +0.9
baz=310,SNR=10
SMMC Simmler 46.15 86 P P 21 39 01.2 +0.8
baz=311,SNR=11
YPP Pitchstone Pla 46.16 70 P P 21 39 01.0 +0.3
H17A Grant Village 46.22 70 P P 21 39 01.4 +0.3
baz=306,SNR=33
YMP Mirror Lake Pl 46.26 69 P P 21 39 01.1 -0.5
SSE Sheshan 46.28 266 P P 21 39 00.5 -0.9
SSE pmax pmax
comp=Z,210nm,1.1s
SSE Sheshan 46.28 266 P P 21 39 02.4 +0.9
FLWY Flagg Ranch 46.33 70 P P 21 39 02.0 0.0
VES Vestal, Richgr 46.37 85 P P 21 39 02.0 -0.1
baz=311,SNR=43
NOR Nord 46.46 3 *i* P **P 21 39 02.0 -0.2**
comp=Z,49nm,0.8s
NOR Nord 46.46 3 *i* P **P 21 39 02.0 -0.2**
NOR pmax pmax
comp=Z,49nm,0.8s
HVU Hansel Valley 46.48 74 P P 21 39 02.9 -0.2
HVU pmax pmax
comp=Z,115nm,0.9s
HVU Hansel Valley 46.48 74 P P 21 39 02.9 -0.2
TPAW Teton Pass 46.53 71 P P 21 39 03.5 -0.1
PKM Mcpherson Peak 46.54 86 P P 21 39 04.7 +1.0
baz=311,SNR=30
RLMT Red Lodge 46.55 68 P P 21 39 03.6 0.0
baz=306,SNR=32
RLMT Red Lodge 46.55 68 P P 21 39 03.1 -0.6
RLMT IAmb IAmb 21 39 05.8
comp=Z,192nm,1.0s
CWC Cottonwood Cre 46.60 83 P P 21 39 04.4 +0.4
baz=310
REDW Red Top Meadow 46.67 71 P P 21 39 04.2 -0.5
GRAC Grapevine Rang 46.68 82 P P 21 39 05.4 +0.8
baz=310,SNR=9.7
GUMO Guam 46.76 228 P P 21 39 03.1 -2.1
comp=Z,357nm,0.5s,baz=162,slow=9.0,SNR=25
GUMO Guam 46.76 228 P P 21 39 03.9 -1.4
GUMO Guam 46.76 228 P P 21 39 03.0 -2.3
FCC Fort Churchill 46.82 46 P P 21 39 04.9 -0.3
FCC pmax pmax
comp=Z,324nm,1.4s

FCC Fort Churchill 46.82 46 P P 21 39 04.9 -0.3
FCC IAmb IAmb 21 39 32.5
comp=Z,324nm,1.4s
BGU Big Grassy Mou 46.85 75 P P 21 39 05.8 -0.2
ISA Isabella, Lake 46.86 84 P P 21 39 05.6 -0.4
baz=311,SNR=21
ISA Isabella, Lake 46.86 84 P P 21 39 05.6 -0.4
ISA pmax pmax
comp=Z,149nm,1.2s
ISA Isabella, Lake 46.86 84 P P 21 39 05.6 -0.4
SBC Santa Barbara 46.90 87 P P 21 39 05.6 -0.6
baz=312,SNR=6.6
R11A Troy Canyon, C 46.91 80 P P 21 39 06.4 -0.1
baz=309,SNR=26
R11A Troy Canyon, C 46.91 80 P P 21 39 06.3 -0.1
R11A IAmb IAmb 21 39 34.7
comp=Z,272nm,1.2s
BTO Baotou 46.94 284 *eP* **P 21 39 07.8 +1.2**
SPUT South Promonto 46.96 74 P P 21 39 06.3 -0.6
ARVC Arvin 46.99 85 P P 21 39 07.1 +0.2
baz=311,SNR=7.1
NJ2 Nanjing 47.07 269 *eP* **P 21 39 08.0 +0.5**
NJ2 S **S 21 45 49.8 -1.3**
NJ2 pmax pmax
comp=Z,260nm,0.9s
NJ2 LR LR
comp=Z,43μm,13.7s
NJ2 LR LR
comp=Z,21μm,18.5s
NJ2 LR LR
comp=Z,26μm,22.7s
MPMC Manual Prospec 47.21 83 P P 21 39 09.1 +0.2
baz=311,SNR=47
SCZ2 Santa Cruz Isl 47.24 87 P P 21 39 09.7 +0.8
baz=312,SNR=8.1
TIY Taiyuan 47.29 280 *eP* **P 21 39 10.6 +1.3**
TIY pP **pP 21 39 36.5 +1.7**
TIY sP **sP 21 39 46.8 -0.3**
TIY pmax pmax
comp=Z,250nm,0.8s
HWUT Hardware Ranch 47.30 74 P P 21 39 09.0 -0.5
FURC Furnace Creek, 47.33 82 P P 21 39 10.1 +0.6
baz=310,SNR=50
LAO LASA Array 47.37 65 P P 21 39 09.2 -0.6
baz=306,SNR=16
LAO LASA Array 47.37 65 P P 21 39 09.3 -0.6
TPNV Topopah Spring 47.39 82 P P 21 39 10.5 +0.2
baz=310,SNR=94
TPNV Topopah Spring 47.39 82 P P 21 39 10.4 +0.2
TPNV pmax pmax
comp=Z,493nm,1.2s
TPNV Topopah Spring 47.39 82 P P 21 39 10.4 +0.2
OSI Osito Audit: C 47.40 86 P P 21 39 10.7 +0.6
baz=312,SNR=13
OSI Osito Audit: C 47.40 86 P P 21 39 10.7 +0.6
KRAR Krasnoyarsk 47.40 310 *i* P **P 21 39 07.8 -2.0**
DUG Dugway, Tooele 47.43 76 P P 21 39 10.3 -0.2
baz=308,SNR=31
DUG Dugway, Tooele 47.43 76 P P 21 39 10.3 -0.2
DUG pmax pmax
comp=Z,184nm,1.1s
DUG Dugway, Tooele 47.43 76 P P 21 39 10.3 -0.2
DUG IAmb IAmb 21 39 40.0
comp=Z,184nm,1.1s
DGMT Dagmar 47.46 62 P P 21 39 08.6 -1.9
baz=305,SNR=8.8
DGMT Dagmar 47.46 62 P P 21 39 09.7 -0.8
LRMC Laurel Mtn Rad 47.47 84 P P 21 39 10.4 -0.4
baz=311,SNR=40
EDW2 Edwards Air Fo 47.67 85 P P 21 39 12.1 -0.1
baz=312,SNR=27
TCUT Toone Canyon 47.70 74 P P 21 39 12.5 -0.1
CTU Camp Tracy 47.76 75 P P 21 39 12.3 -0.7
BW06 Boulder Array 47.78 71 P P 21 39 12.2 -1.0
baz=307,SNR=34
BW06 Boulder Array 47.78 71 P P 21 39 12.1 -1.2
BW06 IAmb IAmb 21 39 14.9
comp=Z,384nm,1.6s
PD31 Pinedale Array 47.78 71 P P 21 39 12.3 -1.0
PD31 IAmb IAmb 21 39 14.9
comp=Z,355nm,1.6s
PDAR Pinedale Array 47.78 71 P P 21 39 12.2 -1.0
comp=Z,63nm,0.6s,baz=302,slow=3.7,SNR=95
PDAR pP **pP 21 39 39.6 +0.8**
comp=Z,79nm,1.0s,baz=286,slow=5.5,SNR=4.6
PDAR ScP **ScP 21 44 22.5 -2.0**
comp=Z,12nm,0.8s,baz=42,slow=0.7,SNR=6.6
PDAR S **S 21 45 59.5 -2.1**
comp=Z,0.6nm,0.7s,baz=77,slow=38,SNR=2.1
SNCC San Nicolas Is 47.81 88 P P 21 39 13.8 +0.5
baz=313,SNR=7.7
SNCC San Nicolas Is 47.81 88 P P 21 39 13.9 +0.6
SNCC IAmb IAmb 21 39 16.6
comp=Z,216nm,0.9s
PSUT Pine Spring 47.84 78 P P 21 39 13.5 -0.2
DECC Green Verdugo 47.88 86 P P 21 39 14.1 +0.3
baz=312
PATS Pohnpei 47.92 207 P P 21 39 14.9 +0.6
PATS IAmb IAmb 21 39 17.7
comp=Z,158nm,0.9s
JLU Jordanelle 47.99 75 P P 21 39 14.9 -0.1
NLU North Lily Min 48.02 76 P P 21 39 14.9 -0.2
PASC Pasadena Art C 48.02 86 P P 21 39 15.4 +0.4
SHOC Shoshone, Teco 48.06 83 P P 21 39 15.4 +0.2
baz=311,SNR=82
MWC Mount Wilson 48.07 86 P P 21 39 15.9 +0.4
MWC pmax pmax
comp=Z,1μm,1.8s
MWC Mount Wilson 48.07 86 P P 21 39 15.9 +0.4
GSC Goldstone, Bar 48.12 84 P P 21 39 15.8 0.0
baz=311,SNR=95
GSC Goldstone, Bar 48.12 84 P P 21 39 16.0 +0.2
GSC pmax pmax
comp=Z,329nm,0.9s
GSC Goldstone, Bar 48.12 84 P P 21 39 16.0 +0.2
MPU Maple Canyon 48.25 75 P P 21 39 16.8 0.0
FMP Fort Macarthur 48.26 86 P P 21 39 16.7 0.0
baz=312
RRX Edison Barstow 48.29 84 P P 21 39 17.3 +0.3
baz=312
BFSC Mount Baldy Ra 48.30 85 P P 21 39 17.4 +0.1
baz=312,SNR=45
SHPR Sheep Range 48.35 81 P P 21 39 17.8 +0.2
SHPR IAmb IAmb 21 39 19.8
comp=Z,406nm,1.9s
CIS Catalina Islan 48.40 87 P P 21 39 17.0 -0.8
baz=312,SNR=5.6
KULLO Kullorsuaq 48.45 17 *i* P **P 21 39 18.2 +0.5**
comp=Z,328nm,0.8s
KULLO Kullorsuaq 48.45 17 *i* P **P 21 39 18.2 +0.5**
KULLO pmax pmax
comp=Z,330nm,0.8s
TUQ Turquoise Moun 48.58 83 P P 21 39 19.3 -0.1
baz=311,SNR=27
SCI2 San Clemente I 48.60 87 P P 21 39 19.7 +0.4
baz=313,SNR=9.3
HEC Hector,Ludlow 48.73 84 P P 21 39 20.6 +0.1
baz=312,SNR=79
BBRC Big Bear Solar 48.74 85 P P 21 39 21.3 +0.6
baz=312,SNR=8.2
MURC Murrieta 49.02 86 P P 21 39 22.7 +0.1
baz=312,SNR=28
P17A Butcher Ranch, 49.12 75 P P 21 39 23.7 +0.2
RDMU Red Mountain 49.13 73 P P 21 39 23.3 -0.3
KBS Kingsbay 49.14 357 P P 21 39 23.4 +0.5
KBS pmax pmax
comp=Z,205nm,0.8s
KBS Kingsbay 49.14 357 P P 21 39 23.4 +0.5
KBS IAmb IAmb 21 39 25.5
comp=Z,205nm,0.8s
KBS Kingsbay 49.14 357 *eP* **P 21 39 23.7 +0.8**
GMRC Granite Mounta 49.17 83 P P 21 39 23.7 -0.2
baz=312,SNR=60
KNB Kanab 49.44 79 P P 21 39 25.8 -0.2
KNB pmax pmax
comp=Z,831nm,1.8s
KNB Kanab 49.44 79 P P 21 39 25.8 -0.2
PFO Pinyon Flats O 49.46 85 P P 21 39 26.0 -0.1
baz=312,SNR=20
PFO Pinyon Flats O 49.46 85 P P 21 39 25.8 -0.3
PFO pmax pmax
comp=Z,192nm,1.3s
PFO Pinyon Flats O 49.46 85 P P 21 39 25.8 -0.3
PFO IAmb IAmb 21 39 28.1
comp=Z,192nm,1.3s
XPFO Pion Flat 49.46 85 P P 21 39 25.7 -0.4

XPFO IAmb IAmb 21 39 28.2
comp=Z,192nm,1.3s
BELC Belle Mtn. Jos 49.48 84 P **P** **21 39 25.6 -0.7**
baz=312,SNR=67
109C Camp Elliot, M 49.55 86 P **P** **21 39 26.7 +0.1**
baz=313,SNR=12
109C Camp Elliot, M 49.55 86 P **P** **21 39 26.9 +0.3**
K22A Casper 49.62 69 P **P** **21 39 26.0 -1.2**
baz=308,SNR=8.5
K22A Casper 49.62 69 P **P** **21 39 26.3 -1.0**
SPA0 Spitsbergen Ar 49.68 355 P **P** **21 39 27.0 0.0**
SPA0 Spitsbergen Ar 49.68 355 *eP* **P** **21 39 26.8 -0.3**
RWWY Rawlins 49.82 71 P **P** **21 39 27.1 -1.8**
RWWY IAmb IAmb 21 39 30.2
comp=Z,212nm,1.6s
NEE2 Needles Airpor 49.82 83 P **P** **21 39 28.5 -0.1**
baz=312,SNR=7.6
IRM Iron Mountain 49.91 84 P **P** **21 39 29.5 +0.2**
baz=312,SNR=30
YOJ Yonaguni jima 49.93 259 P **P** **21 39 29.1 -0.4**
YOJ pmax pmax
comp=Z,417nm,1.0s
YOJ Yonaguni jima 49.93 259 P **P** **21 39 27.5 -2.0**
BAR Barrett 49.96 86 P **P** **21 39 29.8 0.0**
BAR IAmb IAmb 21 39 32.1
comp=Z,131nm,0.8s
MONP2 Monument Peak 49.97 86 P **P** **21 39 30.0 -0.1**
baz=313,SNR=25
W13A Hualapai Mount 50.05 82 P **P** **21 39 30.0 -0.7**
W13A IAmb IAmb 21 39 32.7
comp=Z,100nm,0.8s
BC3 Big Chuckawall 50.05 84 P **P** **21 39 29.9 -0.7**
baz=312,SNR=29
RSSD Black Hills 50.14 66 P **P** **21 39 29.8 -1.5**
baz=308
RSSD Black Hills 50.14 66 P **P** **21 39 29.7 -1.5**
RSSD pmax pmax
comp=Z,213nm,1.7s
RSSD Black Hills 50.14 66 P **P** **21 39 29.7 -1.5**
RSSD IAmb IAmb 21 39 32.6
comp=Z,213nm,1.6s
U15A North Rim 50.15 79 P **P** **21 39 31.2 -0.3**
O20A White River Ci 50.19 73 P **P** **21 39 30.9 -0.7**
baz=310,SNR=32
MDND Maddock 50.31 60 P **P** **21 39 31.5 -0.8**
baz=307,SNR=18
MDND Maddock 50.31 60 P **P** **21 39 31.4 -0.8**
SWSC Sam W. Stewart 50.32 85 P **P** **21 39 32.2 -0.3**
baz=313,SNR=9.7
IKP In-Ko-Pah, Jac 50.33 86 P **P** **21 39 32.2 -0.4**
baz=313,SNR=20
PDMCI Parker Dam,Lak 50.42 83 P **P** **21 39 33.0 -0.2**
baz=312,SNR=30
TARA Tarawa 50.62 187 P **P** **21 39 35.2 +0.5**
HOPEN Hopen 50.70 352 *eP* **P** **21 39 35.1 +0.5**
YHNB Yeheng 50.77 260 P **P** **21 39 36.1 +0.1**
YHNB IAmb IAmb 21 39 37.6
comp=Z,153nm,0.9s
ULM Lac du Bonnet 50.81 56 P **P** **21 39 34.9 -1.0**
comp=Z,62nm,0.6s,baz=308,slow=7.2,SNR=29
ULM ScP **ScP** **21 44 35.8 -1.2**
comp=Z,28nm,1.0s,baz=311,slow=5.2,SNR=4.9
ULM S **S** **21 46 40.6 -2.6**
comp=Z,3.7nm,0.7s,baz=148,slow=15,SNR=1.5
ULM Lac du Bonnet 50.81 56 P **P** **21 39 35.1 -0.8**
ULM pmax pmax
comp=Z,109nm,1.0s
ULM Lac du Bonnet 50.81 56 P **P** **21 39 35.1 -0.8**
ULM IAmb IAmb 21 39 37.5
comp=Z,108nm,0.9s
GLA Glamis 50.85 84 P **P** **21 39 36.5 +0.1**
baz=313
GLA Glamis 50.85 84 P **P** **21 39 36.5 +0.1**
GLA pmax pmax
comp=Z,261nm,0.8s
GLA Glamis 50.85 84 P **P** **21 39 36.5 +0.1**
HSPB Hornsund (broa 50.87 355 *eP* **P** **21 39 36.4 +0.5**
HSPB Hornsund (broa 50.87 355 *eP* **P** **21 39 36.3 +0.3**
WHN Wuhan 50.89 271 ⇓P **P** **21 39 36.8 +0.1**
WHN PcP **PcP** **21 40 52.4 +0.7**
WHN pmax pmax
comp=Z,480nm,0.8s
NACB Ninganchiao 51.00 260 P **P** **21 39 36.6 -1.0**
N23A Red Feather La 51.06 71 P **P** **21 39 37.6 -0.6**
baz=310,SNR=12
N23A Red Feather La 51.06 71 P **P** **21 39 37.6 -0.6**
N23A IAmb IAmb 21 39 40.4
comp=Z,202nm,1.6s
PHWY Pilot Hill 51.09 70 P **P** **21 39 37.2 -1.2**
DAG Danmarks Havn 51.10 5 *i* P **P** **21 39 37.8 +0.1**
comp=Z,39nm,0.7s
DAG Danmarks Havn 51.10 5 *i* P **P** **21 39 37.8 +0.1**
DAG pmax pmax
comp=Z,39nm,0.7s
WUAZ Wupatki 51.31 80 P **P** **21 39 40.2 +0.1**
baz=312,SNR=23
WUAZ Wupatki 51.31 80 P **P** **21 39 40.1 +0.1**
Y14A Wickenburg 51.37 82 P **P** **21 39 40.1 -0.2**
Y14A IAmb IAmb 21 40 08.1
comp=Z,206nm,1.3s
SSLB Suanglung 51.68 260 P **P** **21 39 42.1 -0.6**
113A Mohawk Valley, 51.69 84 P **P** **21 39 42.7 0.0**
113A IAmb IAmb 21 39 44.5
comp=Z,105nm,1.1s
YULB Yu-li 51.77 259 P **P** **21 39 43.4 0.0**
YULB IAmb IAmb 21 39 55.3
comp=Z,184nm,0.8s
XAN Xi'an 51.85 279 P **P** **21 39 43.8 -0.1**
XAN pP pP 21 40 09.4 -0.5
XAN sP sP 21 40 23.0 +1.0
XAN S **S** **21 46 58.1 +0.2**
XAN pmax pmax
comp=Z,240nm,1.1s
XAN LR LR
comp=Z,34µm,14.1s
XAN LR LR
comp=Z,43µm,17.4s
XAN Xi'an 51.85 279 P **P** **21 39 43.6 -0.3**
XAN pmax pmax
comp=Z,198nm,1.0s
XAN Xi'an 51.85 279 P **P** **21 39 43.6 -0.3**
XAN IAmb IAmb 21 39 46.0
comp=Z,198nm,1.0s
MVCO Mesa Verde 51.93 76 P **P** **21 39 44.5 -0.2**
baz=311,SNR=13
MVCO Mesa Verde 51.93 76 P **P** **21 39 44.3 -0.4**
ISCO Idaho Springs 51.96 72 P **P** **21 39 44.4 -0.6**
baz=310,SNR=16
ISCO Idaho Springs 51.96 72 P **P** **21 39 44.9 -0.1**
ISCO pmax pmax
comp=Z,55nm,0.9s
ISCO Idaho Springs 51.96 72 P **P** **21 39 44.9 -0.1**
AGMN Agassiz Nation 52.02 58 P **P** **21 39 43.9 -1.0**
baz=308,SNR=25
AGMN Agassiz Nation 52.02 58 P **P** **21 39 44.1 -0.8**
AGMN IAmb IAmb 21 39 46.3
comp=Z,161nm,1.0s
D32A Dogwood Acres, 52.14 59 P **P** **21 39 44.7 -1.1**
D32A IAmb IAmb 21 39 46.9
comp=Z,124nm,0.9s
TPUB Ta-pu 52.24 260 P **P** **21 39 47.1 +0.3**
QZH Quanzhou 52.27 263 ⇓*i*P **P** **21 39 47.6 +0.6**
QZH *e*S **S** **21 47 05.1 +1.4**
QZH pmax pmax
comp=Z,310nm,1.0s
TWG Pinlang 52.33 259 P **P** **21 39 46.9 -0.7**
ZAA0 Zalesovo Array 52.37 312 P **P** **21 39 48.3 +0.9**
ZAA0 PcP **PcP** **21 40 57.9 +1.1**
ZAA0 IAmb IAmb 21 40 59.4
comp=Z,173nm,0.8s
ZALV Zalesovo Beam 52.37 312 P **P** **21 39 46.9 -0.5**
comp=Z,26nm,0.7s,baz=51,slow=6.2,SNR=18
ZALV PcP **PcP** **21 40 58.0 +1.1**
comp=Z,166nm,0.7s,baz=33,slow=3.7,SNR=22
ZALV ScP **ScP** **21 44 44.1 +0.5**
comp=Z,45nm,0.8s,baz=37,slow=4.8,SNR=16
ZALV PKiKP **PKiKP** **21 47 35.9 +0.2**
comp=Z,2.9nm,0.7s,baz=5.7,slow=3.0,SNR=3.1
ZALV LR LR 22 01 18.3
comp=Z,32µm,21.9s,baz=256,slow=35
ZALV P4KPbc 22 17 13.2
comp=Z,2.9nm,0.7s,baz=37,slow=5.5,SNR=9.4
ZALV Zalesovo Beam 52.37 312 P **P** **21 39 48.4 +1.0**
ZALV 21 40 57.8
ZALV Zalesovo Beam 52.37 312 P **P** **21 39 48.4 +1.0**

ZALV PcP **PcP** **21 40 57.8 +0.9**
ZALV ScP **ScP** **21 44 44.8 +1.2**
W18A Petrified Fore 52.57 79 P **P** **21 39 49.7 +0.2**
baz=312,SNR=23
W18A Petrified Fore 52.57 79 P **P** **21 39 49.5 +0.1**
W18A IAmb IAmb 21 40 18.3
comp=Z,270nm,1.2s
S22A 4UR Ranch, Cre 52.58 74 P **P** **21 39 49.5 0.0**
baz=311,SNR=20
S22A 4UR Ranch, Cre 52.58 74 P **P** **21 39 49.9 +0.4**
KNMB Chin-men Tao 52.75 263 P **P** **21 39 51.0 +0.4**
Q24A Divide 52.77 72 P **P** **21 39 50.6 -0.4**
baz=311,SNR=5.6
SUSD Miller 52.78 63 P **P** **21 39 49.6 -1.1**
baz=310,SNR=7.1
214A Organ Pipe Nat 52.84 84 P **P** **21 39 50.9 -0.3**
baz=314,SNR=14
BJO1 Bjornoya 53.09 353 *eP* **P** **21 39 52.8 +0.4**
SUMG Summit 53.16 13 *i* P **P** **21 39 54.3 +0.9**
comp=Z,439nm,0.9s
SUMG *i* 21 40 24.7
SUMG Summit 53.16 13 *i* P **P** **21 39 54.3 +0.9**
SUMG *i* 21 40 24.7
SUMG pmax pmax
comp=Z,440nm,0.9s
SUMG Summit 53.16 13 P **P** **21 39 53.8 +0.3**
F33A 5 Mile Ranch, 53.34 60 P **P** **21 39 53.4 -1.3**
LZH Lanzhou 53.56 284 *eP* **P** **21 39 57.9 +1.3**
LZH pP pP 21 40 23.3 +0.6
LZH sP sP 21 40 34.1 -0.8
LZH pmax pmax
comp=Z,390nm,1.1s
LZH LR LR
comp=Z,66µm,13.7s
LZH LR LR
comp=Z,58µm,15.0s
LZH LR LR
comp=Z,76µm,15.4s
XMAS Kiritimati 53.67 150 P **P** **21 39 58.0 +0.7**
XMAS IAmb IAmb 21 40 01.1
comp=Z,242nm,1.2s
DGZ Jazzator, Alta 53.81 306 *i* P **P** **21 39 58.4 +0.1**
DGZ pmax pmax
comp=Z,223nm,1.0s
ILULI Ilulissat 53.84 20 *i* P **P** **21 39 58.1 +0.2**
comp=Z,241nm,0.6s
ILULI Ilulissat 53.84 20 *i* P **P** **21 39 58.1 +0.2**
ILULI pmax pmax
comp=Z,240nm,0.6s
ILULI Ilulissat 53.84 20 P **P** **21 39 57.8 -0.2**
TUC Tucson 53.84 82 P **P** **21 39 58.7 +0.1**
baz=314
TUC Tucson 53.84 82 P **P** **21 39 58.3 -0.3**
TUC pmax pmax
comp=Z,163nm,1.2s
TUC Tucson 53.84 82 P **P** **21 39 58.3 -0.3**
TUC IAmb IAmb 21 40 26.8
comp=Z,163nm,1.1s
K31A O'Neill 54.07 65 P **P** **21 39 59.2 -0.8**
K31A IAmb IAmb 21 40 01.7
comp=Z,138nm,0.8s
ENH Enshi 54.09 275 P **P** **21 39 60.0 -0.4**
KSCO Kaye Shedlock' 54.22 70 P **P** **21 40 01.3 0.0**
baz=312,SNR=9.7
KSCO Kaye Shedlock' 54.22 70 P **P** **21 40 01.2 -0.2**
KSCO IAmb IAmb 21 41 05.7
comp=Z,271nm,1.2s
T25A Trinidad 54.42 73 P **P** **21 40 03.0 +0.1**
baz=312,SNR=23
T25A Trinidad 54.42 73 P **P** **21 40 03.0 +0.1**
T25A IAmb IAmb 21 40 05.5
comp=Z,179nm,1.1s
EYMN Ely 54.50 56 P **P** **21 40 02.2 -0.9**
baz=311,SNR=26
EYMN Ely 54.50 56 P **P** **21 40 02.4 -0.7**
EYMN IAmb IAmb 21 40 04.9
comp=Z,135nm,0.9s
ECSD EROS Data Cent 54.53 62 P **P** **21 40 01.6 -1.7**
baz=311,SNR=9.5
ANMO Albuquerque 54.67 77 P **P** **21 40 04.5 -0.2**
baz=313
ANMO Albuquerque 54.67 77 P **P** **21 40 04.6 -0.2**
ANMO pmax pmax
comp=Z,44nm,1.1s
ANMO Albuquerque 54.67 77 P **P** **21 40 04.6 -0.2**
F36A Milaca 54.80 59 P **P** **21 40 04.3 -1.0**
Y22D IRIS PASSCAL I 54.98 78 P **P** **21 40 07.7 +0.7**
Y22D IAmb IAmb 21 40 37.9
comp=Z,243nm,1.1s
KNTN Kanton 55.15 168 P **P** **21 40 08.8 +0.8**
BGNE Belgrade 55.20 66 P **P** **21 40 07.0 -1.2**
baz=312,SNR=6.0
E38A The Farm, Brul 55.35 57 P **P** **21 40 07.9 -1.3**
121A Cookes Peak, D 55.52 80 P **P** **21 40 11.1 +0.3**
baz=314,SNR=11
121A Cookes Peak, D 55.52 80 P **P** **21 40 11.1 +0.3**
121A IAmb IAmb 21 40 13.2
comp=Z,284nm,1.7s
SPMN Marine on St. 55.60 59 P **P** **21 40 10.2 -0.9**
baz=312,SNR=12
SPMN Marine on St. 55.60 59 P **P** **21 40 09.8 -1.2**
SPMN IAmb IAmb 21 40 12.9
comp=Z,94nm,0.9s
SFJD Kangerlussuaq 55.76 21 ScP **ScP** **21 44 57.6 -0.5**
comp=Z,64nm,1.0s,baz=350,slow=1.1,SNR=7.3
SFJD Kangerlussuaq 55.76 21 *i* P **P** **21 40 12.0 +0.2**
comp=Z,8.8nm,0.5s
SFJD Kangerlussuaq 55.76 21 *i* P **P** **21 40 12.0 +0.2**
SFJD Kangerlussuaq 55.76 21 P **P** **21 40 11.9 +0.2**
SFJD IAmb IAmb 21 40 13.6
comp=Z,185nm,1.2s
SFJD ScP **ScP** **21 44 57.8 -0.4**
L34A Svendsen Farm, 55.83 64 P **P** **21 40 11.5 -1.2**
CBKS Cedar Bluff 56.03 69 P **P** **21 40 13.4 -0.8**
baz=312,SNR=16
CBKS Cedar Bluff 56.03 69 P **P** **21 40 13.7 -0.5**
CBKS pmax pmax
comp=Z,487nm,1.5s
CBKS Cedar Bluff 56.03 69 P **P** **21 40 13.7 -0.5**
HSIG 56.03 85 P **P** **21 40 14.3 0.0**
I37A Lemond, Waseca 56.09 60 P **P** **21 40 14.0 -0.5**
I37A IAmb IAmb 21 40 16.5
comp=Z,182nm,1.0s
HAMF Hammerfest 56.38 350 *eP* **P** **21 40 15.8 -0.4**
ZSN Zaisan 56.58 306 *eP* **P** **21 40 18.1 +0.1**
comp=Z,61nm,0.9s,baz=306
ZSN *e*S **S** **21 48 01.5 +0.4**
ZSN Zaisan 56.58 306 *eP* **P** **21 40 18.0 +0.1**
ZSN *e*S **S** **21 48 01.4 +0.4**
ZSN pmax pmax
comp=Z,61nm,0.9s
D41A Chassel 56.58 55 P **P** **21 40 17.6 -0.3**
D41A IAmb IAmb 21 40 20.3
comp=Z,267nm,1.4s
SEM Semipalatinsk 56.82 311 *eP* **P** **21 40 18.5 -1.4**
comp=Z,27nm,0.7s,baz=311
SEM *e*S **S** **21 48 03.5 -1.1**
baz=311
SEM Semipalatinsk 56.82 311 *eP* **P** **21 40 18.5 -1.4**
SEM *e*S **S** **21 48 03.4 -1.1**
SEM pmax pmax
comp=Z,27nm,0.7s
KEV Kevo 56.84 349 P **P** **21 40 20.2 +0.8**
KEV pmax pmax
comp=Z,61nm,1.0s
KEV Kevo 56.84 349 P **P** **21 40 20.2 +0.8**
R32A Long Quarter, 56.89 69 P **P** **21 40 19.2 -1.1**
R32A IAmb IAmb 21 40 21.8
comp=Z,113nm,1.1s
COWI Conover 56.93 56 P **P** **21 40 19.4 -1.1**
COWI IAmb IAmb 21 40 21.7
comp=Z,375nm,1.8s
G40A Rib Lake 56.95 57 P **P** **21 40 19.7 -0.9**
G40A IAmb IAmb 21 40 22.3
comp=Z,104nm,1.0s
N35A Tabor 56.98 64 P **P** **21 40 20.1 -0.7**
HKPS Hong Kong Po S 56.98 264 P **P** **21 40 21.7 +0.6**
SCO Scoresbysund 57.00 8 *i* P **P** **21 40 21.5 +0.9**
comp=Z,62nm,0.9s
SCO Scoresbysund 57.00 8 *i* P **P** **21 40 21.5 +0.9**
SCO pmax pmax
comp=Z,62nm,0.9s
SCO Scoresbysund 57.00 8 P **P** **21 40 21.1 +0.5**
SCO IAmb IAmb 21 40 23.7
comp=Z,166nm,1.1s

CD2 Chengdu 57.16 279 ⇓*i*P **P** **21 40 22.3 -0.1**
CD2 pmax pmax
comp=Z,720nm,0.9s
ARCES ARCESS Array B 57.23 349 P **P** **21 40 21.6 -0.6**
comp=Z,56nm,0.6s,baz=1.2,slow=1.7,SNR=81
ARCES pP **pP** **21 40 49.0 +1.0**
comp=Z,67nm,1.0s,baz=10,slow=7.4,SNR=4.4
ARCES PcP **PcP** **21 41 15.5 +0.2**
comp=Z,30nm,0.8s,baz=20,slow=3.9,SNR=4.4
ARCES ScP **ScP** **21 45 05.7 +1.0**
comp=Z,48nm,1.1s,baz=14,slow=5.4,SNR=12
ARCES PKPPKP **P'P'df** **22 10 09.7 -2.7**
comp=Z,8.4nm,0.8s,baz=253,slow=1.3,SNR=9.2
ARCES ARCESS Array B 57.23 349 P **P** **21 40 22.8 +0.6**
ARCES ScP **ScP** **21 45 04.8 +0.2**
ARE0 ARCESS Array S 57.23 349 P **P** **21 40 21.8 -0.4**
ARE0 ARCESS Array S 57.23 349 *eP* **P** **21 40 21.7 -0.4**
K38A Parkersburg 57.35 61 P **P** **21 40 22.4 -1.1**
K38A IAmb IAmb 21 40 24.9
comp=Z,149nm,1.1s
KURK Kurchatov 57.36 312 P **P** **21 40 23.6 +0.2**
KURK Kurchatov 57.36 312 *i* P **P** **21 40 23.4 0.0**
KURK pmax pmax
comp=Z,467nm,1.3s
KURK Kurchatov 57.36 312 P **P** **21 40 23.2 -0.2**
LVZ Lovozero 57.45 345 P **P** **21 40 23.5 -0.4**
LVZ pmax pmax
comp=Z,331nm,0.7s
LVZ Lovozero 57.45 345 P **P** **21 40 23.5 -0.4**
KURBB Kurchatov Arra 57.47 312 P **P** **21 40 24.0 -0.1**
comp=Z,193nm,0.6s,baz=42,slow=6.7,SNR=178
KURBB pP **pP** **21 40 50.0 -0.1**
comp=Z,99nm,1.0s,baz=48,slow=6.8,SNR=2.9
KURBB PcP **PcP** **21 41 17.4 +0.9**
comp=Z,103nm,0.7s,baz=46,slow=3.5,SNR=13
KURBB ScP **ScP** **21 45 06.4 +0.4**
comp=Z,40nm,0.9s,baz=45,slow=4.3,SNR=12
KURBB S **S** **21 48 11.0 -1.6**
comp=Z,36nm,1.2s,baz=50,slow=14,SNR=19
KURBB PKPPKP **P'P'df** **22 10 10.0 -2.1**
comp=Z,3.0nm,0.9s,baz=228,slow=3.1,SNR=6.4
MSTX Muleshoe 57.55 75 P **P** **21 40 24.3 -0.9**
baz=314,SNR=16
MSTX Muleshoe 57.55 75 P **P** **21 40 24.6 -0.6**
MNTX Cornudas Mount 57.56 79 P **P** **21 40 25.6 +0.5**
baz=315,SNR=23
MNTX Cornudas Mount 57.56 79 P **P** **21 40 25.1 0.0**
WMQ Urumqi 57.57 301 *eP* **P** **21 40 25.8 +0.7**
WMQ pP pP 21 40 53.6 +2.5
WMQ PcP **PcP** **21 41 19.1 +1.9**
WMQ S **S** **21 48 14.0 -0.2**
WMQ pmax pmax
comp=Z,180nm,1.1s
WMQ Urumqi 57.57 301 P **P** **21 40 25.7 +0.7**
WMQ pmax pmax
comp=Z,171nm,0.9s
WMQ Urumqi 57.57 301 P **P** **21 40 25.7 +0.7**
WMQ IAmb IAmb 21 40 27.8
comp=Z,171nm,0.9s
AMTX Amarillo 57.57 74 P **P** **21 40 24.8 -0.4**
baz=314
AMTX Amarillo 57.57 74 P **P** **21 40 24.6 -0.6**
SCIA State Center 57.61 62 P **P** **21 40 24.4 -0.9**
baz=313,SNR=7.7
SCIA State Center 57.61 62 P **P** **21 40 24.8 -0.5**
KSU1 Kansas State U 57.63 67 P **P** **21 40 24.0 -1.5**
baz=313,SNR=7.8
KSU1 Kansas State U 57.63 67 P **P** **21 40 24.3 -1.2**
KSU1 IAmb IAmb 21 40 26.6
comp=Z,152nm,1.1s
I40A Norwalk 57.66 59 P **P** **21 40 24.7 -0.9**
I40A IAmb IAmb 21 40 27.4
comp=Z,147nm,1.0s
F42A Maple Grove Fa 57.68 56 P **P** **21 40 25.3 -0.4**
F42A IAmb IAmb 21 40 27.9
comp=Z,93nm,0.7s
TRO Tromso 57.81 352 *eP* **P** **21 40 25.0 -1.3**
GDL2 Guadalupe Moun 57.83 78 P **P** **21 40 27.1 0.0**
E43A Lone Tree Farm 57.84 55 P **P** **21 40 26.2 -0.6**
E43A IAmb IAmb 21 40 28.9
comp=Z,100nm,0.7s
APA Apatity 57.95 345 ⇓*i*P **P** **21 40 26.3 -1.0**
APA *i* *PP **pwP** **21 40 54.9 -0.7**
APA pmax pmax
comp=Z,42nm,0.7s
APA MLR MLR
comp=Z,42µm,17.0s
KTK1 Kautokeino 57.98 350 *eP* **P** **21 40 27.3 -0.2**
U32A Winter Ranch, 58.12 70 P **P** **21 40 28.2 -0.7**
U32A IAmb IAmb 21 40 30.6
comp=Z,123nm,1.0s
MK31 Makanchi Array 58.31 307 P **P** **21 40 29.5 -0.7**
MK31 pmax pmax
comp=Z,140nm,1.1s
MK31 Makanchi Array 58.31 307 P **P** **21 40 29.5 -0.7**
MK31 IAmb IAmb 21 40 31.7
comp=Z,140nm,1.1s
MKAR Makanchi Array 58.31 307 P **P** **21 40 29.4 -0.7**
comp=Z,134nm,0.8s,baz=40,slow=6.4,SNR=135
MKAR pP **pP** **21 40 55.7 -0.4**
comp=Z,48nm,0.7s,baz=52,slow=12,SNR=3.7
MKAR PcP **PcP** **21 41 20.8 +0.8**
comp=Z,33nm,0.8s,baz=254,slow=3.0,SNR=2.2
MKAR ScP **ScP** **21 45 11.6 +1.7**
comp=Z,20nm,0.9s,baz=47,slow=4.1,SNR=6.1
MKAR S **S** **21 48 22.5 -1.2**
comp=Z,4.9nm,1.0s,baz=111,slow=0.8,SNR=2.8
MKAR ScS **ScS** **21 50 10.0 +1.0**
comp=Z,11nm,1.1s,baz=46,slow=7.6,SNR=5.6
MKAR PKKP **PKKPdf** **22 01 47.2 +2.9**
comp=Z,0.4nm,0.7s,baz=354,slow=1.2,SNR=5.4
MKAR PKPPKP P'P'df 22 10 01.8 -9.1
comp=Z,2.5nm,0.8s,baz=213,slow=4.2,SNR=9.1
MKAR Makanchi Array 58.31 307 P **P** **21 40 29.5 -0.7**
MKAR ScP **ScP** **21 45 11.1 +1.2**
MKAR **ScS** **21 50 09.6 +0.6**
MAKZ Makanchi 58.46 307 P **P** **21 40 30.7 -0.5**
MAKZ pmax pmax
comp=Z,184nm,0.8s
MAKZ Makanchi 58.46 307 P **P** **21 40 30.7 -0.5**
JFWS Jewell Farm 58.52 59 P **P** **21 40 30.5 -1.2**
baz=314,SNR=21
JFWS Jewell Farm 58.52 59 P **P** **21 40 30.2 -1.4**
JFWS pmax pmax
comp=Z,117nm,0.8s
JFWS Jewell Farm 58.52 59 P **P** **21 40 30.2 -1.4**
JFWS IAmb IAmb 21 40 32.8
comp=Z,117nm,0.8s
GYA Guiyang 58.54 274 ⇓P **P** **21 40 32.5 +0.4**
GYA pmax pmax
comp=Z,310nm,0.9s
I42A Draeger Farm, 58.56 58 P **P** **21 40 30.6 -1.3**
I42A IAmb IAmb 21 40 33.7
comp=Z,132nm,0.7s
L40A Anamosa 58.59 61 P **P** **21 40 31.1 -1.0**
L40A IAmb IAmb 21 40 33.3
comp=Z,106nm,0.8s
H43A Windswept, Lux 58.75 57 P **P** **21 40 32.1 -1.1**
H43A IAmb IAmb 21 40 35.0
comp=Z,120nm,0.7s
D46A Sault St. Mari 58.95 53 P **P** **21 40 32.7 -1.9**
baz=314,SNR=9.3
F45A CMU Biological 59.06 54 P **P** **21 40 33.7 -1.6**
baz=314,SNR=9.3
TGY Tagaytay City 59.13 252 P **P** **21 40 37.1 +0.9**
comp=Z,2µm,0.8s,baz=315,slow=2.8,SNR=35
T35A Sooner Cattle 59.19 68 P **P** **21 40 35.2 -1.2**
T35A IAmb IAmb 21 41 07.1
comp=Z,197nm,1.5s
D47A Chapleau 59.30 52 P **P** **21 40 36.0 -0.9**
baz=315,SNR=19
BVAR Borovoye Array 59.32 318 P **P** **21 40 37.3 +0.3**
comp=Z,198nm,0.6s,baz=50,slow=7.5,SNR=162
BVAR pP **pwP** **21 41 05.0 +1.9**
comp=Z,64nm,0.7s,baz=62,slow=7.4,SNR=2.7
BVAR PcP **PcP** **21 41 24.5 +0.6**
comp=Z,173nm,0.6s,baz=54,slow=2.8,SNR=16
BVAR ScP **ScP** **21 45 15.9 +1.7**
comp=Z,46nm,0.8s,baz=70,slow=4.9,SNR=12
BVAR PKiKP **PKiKP** **21 47 45.9 +2.0**
comp=Z,2.7nm,0.7s,baz=27,slow=3.1,SNR=2.9
BVAR S **S** **21 48 38.3 +1.7**
comp=Z,19nm,1.0s,baz=40,slow=12,SNR=9.8
BVAR ScS **ScS** **21 50 15.9 -0.3**
comp=Z,7.1nm,1.2s,baz=243,slow=6.5,SNR=3.8
BVAR PKPPKP **P'P'df** **22 10 01.9 -7.4**

comp=Z,3.2nm,0.9s,baz=180,slow=7.0,SNR=6.4
BVAR P4KPbc 22 17 43.8
comp=Z,3.5nm,0.8s,baz=63,slow=4.0,SNR=7.9
BRVK Borovoye 59.34 318 P **P** **21 40 37.6 +0.5**
BRVK Borovoye 59.34 318 *i* P **P** **21 40 37.2 +0.1**
BRVK pmax pmax
comp=Z,187nm,0.8s
BRVK Borovoye 59.34 318 P **P** **21 40 37.5 +0.4**
WMOK Wichita Mounta 59.38 72 P **P** **21 40 37.4 -0.4**
baz=315,SNR=9.9
WMOK Wichita Mounta 59.38 72 P **P** **21 40 37.0 -0.7**
WMOK pmax pmax
comp=Z,53nm,1.0s
WMOK Wichita Mounta 59.38 72 P **P** **21 40 37.0 -0.7**
G45A Suttons Bay 59.44 55 P **P** **21 40 37.0 -0.9**
baz=314,SNR=11
G45A Suttons Bay 59.44 55 P **P** **21 40 37.4 -0.5**
G45A IAmb IAmb 21 40 39.8
comp=Z,113nm,0.8s
L42A Oliver, Polo 59.46 60 P **P** **21 40 36.9 -1.3**
L42A IAmb IAmb 21 41 04.5
comp=Z,216nm,1.4s
H45A Beulah 59.53 56 P **P** **21 40 38.6 0.0**
baz=314
ANGG Ammassalik, Gr 59.56 16 P **P** **21 40 37.5 -0.9**
G46A Petoskey 59.65 54 P **P** **21 40 38.8 -0.6**
baz=315,SNR=16
LOF Lofoten 59.72 353 *eP* **P** **21 40 38.3 -1.1**
N41A Harden Midland 59.72 62 P **P** **21 40 38.9 -1.0**
STEI Steigen 59.79 353 *eP* **P** **21 40 39.2 -0.7**
D48A Paudash Townsh 59.84 51 P **P** **21 40 40.5 -0.2**
baz=315
I45A Fountain 59.85 56 P **P** **21 40 40.0 -0.8**
baz=315,SNR=6.1
P40A Paris 59.89 63 P **P** **21 40 39.8 -1.3**
MATQ Matagami 59.94 47 P **P** **21 40 40.0 -1.3**
baz=316,SNR=6.9
D49A Beulah Townshi 59.99 51 P **P** **21 40 40.8 -0.9**
baz=315
H46A Fife Lake 60.02 55 P **P** **21 40 41.1 -0.8**
baz=315,SNR=15
RCP Roxas 60.09 249 *ll eP* **P** **21 40 43.7 +0.9**
E48A Lockeyer 60.16 52 P **P** **21 40 42.1 -0.8**
baz=315,SNR=10
SVE Sverdlovsk 60.17 326 *eP* **P** **21 40 44.8 +2.1**
SVE pmax pmax
comp=Z,647nm,1.5s
J45A Montague 60.19 57 P **P** **21 40 43.0 -0.1**
baz=315
TMCR Tamitsa 60.20 341 *eP* **P** **21 40 42.4 -0.4**
TMCR pmax pmax
comp=Z,287nm,0.8s
W35A Tecumseh 60.21 70 P **P** **21 40 42.8 -0.5**
RABL Rabaul 60.21 211 P **P** **21 40 43.5 0.0**
FUNA Funafuti 60.23 179 P **P** **21 40 43.6 +0.1**
G47A Hillman 60.25 54 P **P** **21 40 42.7 -0.8**
baz=315
TX32 Lajitas Array 60.27 79 P **P** **21 40 43.7 -0.3**
TX32 IAmb IAmb 21 41 46.4
comp=Z,65nm,0.8s
TXAR Lajitas Array 60.27 79 P **P** **21 40 43.8 -0.2**
comp=Z,38nm,0.6s,baz=305,slow=4.5,SNR=75
TXAR PcP **PcP** **21 41 29.4 +1.2**
comp=Z,14nm,0.6s,baz=285,slow=3.0,SNR=3.6
TXAR ScP **ScP** **21 45 18.7 -0.3**
comp=Z,26nm,0.8s,baz=289,slow=3.6,SNR=11
TXAR S **S** **21 48 47.8 -1.9**
comp=Z,0.3nm,0.4s,baz=307,slow=30,SNR=1.8
TXAR PKPPKP **P'P'df** **22 10 01.7 -5.8**
comp=Z,2.0nm,0.9s,baz=132,slow=5.6,SNR=4.8
L44A Lake County Fo 60.27 59 P **P** **21 40 42.7 -0.9**
baz=315,SNR=9.3
L44A Lake County Fo 60.27 59 P **P** **21 40 42.8 -0.9**
TUL1 Leonard 60.30 69 P **P** **21 40 43.1 -0.8**
baz=315,SNR=10
TUL1 Leonard 60.30 69 P **P** **21 40 43.0 -1.0**
TUL1 IAmb IAmb 21 40 45.6
comp=Z,104nm,0.9s
I46A Reed City 60.32 56 P **P** **21 40 43.1 -0.9**
baz=315,SNR=10
FAUS Fauske 60.32 353 *eP* **P** **21 40 43.8 +0.2**
ABTX Abilene, Hawle 60.36 74 P **P** **21 40 43.8 -0.6**
baz=315,SNR=13
ABTX Abilene, Hawle 60.36 74 P **P** **21 40 44.2 -0.3**
ABTX IAmb IAmb 21 41 45.6
comp=Z,132nm,0.9s
F48A Evansville 60.40 53 P **P** **21 40 44.1 -0.4**
baz=315,SNR=19
H47A Mio 60.48 55 P **P** **21 40 43.7 -1.4**
baz=315
SLBS Sierra La Lagu 60.50 89 P **P** **21 40 45.7 +0.1**
SLBS IAmb IAmb 21 40 49.0
comp=Z,137nm,0.9s
BRZS Berezniki 60.56 314 *eP* **P** **21 40 45.1 -0.4**
comp=Z,75nm,0.8s,baz=314
BRZS Berezniki 60.56 314 *eP* **P** **21 40 45.1 -0.4**
BRZS pmax pmax
comp=Z,75nm,0.8s
SCHQ Schefferville 60.62 37 P **P** **21 40 45.8 -0.1**
comp=Z,105nm,0.8s,baz=323,slow=6.3,SNR=54
SCHQ pP **pP** **21 41 12.0 +0.1**
comp=Z,396nm,1.2s,baz=338,slow=6.7,SNR=12
SCHQ S **S** **21 48 53.6 +0.4**
comp=Z,6.4nm,1.1s,baz=180,slow=17,SNR=1.6
SCHQ Schefferville 60.62 37 P **P** **21 40 45.7 -0.2**
HDIL Hopedale 60.68 61 P **P** **21 40 45.1 -1.4**
baz=315,SNR=18
HDIL Hopedale 60.68 61 P **P** **21 40 45.4 -1.1**
F49A Sandfield 60.73 52 P **P** **21 40 45.9 -0.8**
baz=316,SNR=20
LSQQ Lebel-sur-Quev 60.74 47 P **P** **21 40 44.8 -2.0**
baz=317
I47A Gladwin 60.74 55 P **P** **21 40 47.2 +0.4**
I47A IAmb IAmb 21 41 17.2
comp=Z,132nm,1.1s
M44A Midewin, Midew 60.76 59 P **P** **21 40 46.1 -0.9**
HPIG 60.77 83 P **P** **21 40 47.8 +0.3**
HPIG IAmb IAmb 21 41 15.6
comp=Z,111nm,1.1s
D50A G1974 Best Tow 60.78 50 P **P** **21 40 45.8 -1.2**
baz=316,SNR=9.4
E50A Wahnapitae 60.89 51 P **P** **21 40 46.4 -1.4**
baz=316
D51A Lot 18 Range I 61.06 50 P **P** **21 40 47.8 -1.1**
baz=316,SNR=8.5
ARU Arti 61.19 327 *c iP* **P** **21 40 51.1 +1.4**
ARU 21 41 31.6
ARU S **S** **21 49 04.1 +3.8**
ARU SS **SS** **21 53 01.5 +0.3**
ARU pmax pmax
comp=Z,578nm,0.8s
ARU Arti 61.19 327 P **P** **21 40 50.1 +0.4**
P43A Skaggs, Pawnee 61.20 62 P **P** **21 40 48.5 -1.4**
P43A IAmb IAmb 21 41 16.8
comp=Z,132nm,1.1s
VLDQ Val d'Or 61.21 48 P **P** **21 40 47.2 -2.7**
VLDQ IAmb IAmb 21 41 16.9
comp=Z,190nm,1.1s
IVI Ivigtut 61.24 24 P **P** **21 40 49.8 -0.1**
CHGQ Chibougamau 61.27 45 P **P** **21 40 48.9 -1.4**
baz=318,SNR=26
KONS Konsvik 61.36 353 *eP* **P** **21 40 49.9 -0.7**
CCM Cathedral Cave 61.37 64 P **P** **21 40 49.4 -1.7**
baz=315
E51A G1948 Merrick 61.41 50 P **P** **21 40 50.1 -1.2**
baz=316,SNR=11
O44A Mansfield 61.41 61 P **P** **21 40 50.1 -1.3**
X37A Clayton 61.48 70 P **P** **21 40 51.1 -0.8**
TDK Taldyqorghan 61.50 307 *eP* **P** **21 40 52.0 +0.1**
comp=Z,224nm,0.8s,baz=307
TDK Taldyqorghan 61.50 307 *eP* **P** **21 40 52.0 +0.1**
TDK pmax pmax
comp=Z,224nm,0.8s
MOR8 Moi Rana 61.58 353 *eP* **P** **21 40 50.3 -1.9**
D52A ZEK Kipawa Sen 61.60 49 P **P** **21 40 51.3 -1.2**
baz=317,SNR=5.9
SNPH Sibulan 61.60 247 *eP* **P** **21 40 53.9 +0.9**
J48A Bridge Port 61.62 55 P **P** **21 40 52.1 -0.7**
baz=316
I49A Point Hope 61.65 54 P **P** **21 40 52.3 -0.7**
baz=316
U40A Yellville 61.67 66 P **P** **21 40 51.7 -1.6**
baz=315,SNR=12
JCT Junction City 61.79 76 P **P** **21 40 53.5 -0.7**
baz=316
D53A Lac Vacive, Po 61.85 49 P **P** **21 40 53.0 -1.2**
baz=317,SNR=11
D53A Lac Vacive, Po 61.85 49 P **P** **21 40 53.4 -0.9**
D53A IAmb IAmb 21 41 22.6
comp=Z,124nm,1.1s
J49A Marlette 61.91 55 P **P** **21 40 54.0 -0.7**
baz=316
KMI Kunming 61.93 276 *ll iP* **P** **21 40 55.9 +0.5**
KMI sP sP 21 41 32.8 -1.3
KMI S **S** **21 49 06.8 -4.2**
KMI SS **SS** **21 53 14.0 -0.6**
KMI pmax pmax
comp=Z,160nm,0.8s
KMI LR LR
comp=Z,31μm,15.6s
KMI LR LR
comp=Z,26μm,22.5s
KMI LR LR
comp=Z,32μm,26.3s
KMI Kunming 61.93 276 P **P** **21 40 55.3 -0.1**
KMI pmax pmax
comp=Z,123nm,0.8s
KMI Kunming 61.93 276 P **P** **21 40 55.3 -0.1**
KMI IAmb IAmb 21 40 57.5
comp=Z,123nm,0.8s
NRS Narsarsuaq 61.95 22 *i* P **P** **21 40 53.9 -0.7**
comp=Z,83nm,0.7s
NRS Narsarsuaq 61.95 22 *i* P **P** **21 40 53.9 -0.7**
NRS pmax pmax
comp=Z,83nm,0.7s
NRS Narsarsuaq 61.95 22 P **P** **21 40 54.2 -0.4**
NRS IAmb IAmb 21 40 55.9
comp=Z,112nm,0.8s
W39A Magazine 61.97 68 P **P** **21 40 54.2 -0.9**
baz=316,SNR=12
W39A Magazine 61.97 68 P **P** **21 40 54.5 -0.7**
SFIN Lafayette 61.98 60 P **P** **21 40 54.3 -0.9**
baz=316,SNR=37
SFIN Lafayette 61.98 60 P **P** **21 40 54.5 -0.8**
SFIN IAmb IAmb 21 41 22.5
comp=Z,251nm,1.1s
E52A Mattawa 61.98 50 P **P** **21 40 53.7 -1.4**
baz=317,SNR=15
Q44A Meyer Farm, Va 62.00 62 P **P** **21 40 54.2 -1.1**
Q44A IAmb IAmb 21 41 22.8
comp=Z,320nm,1.6s
F52A Sundridge 62.02 51 P **P** **21 40 54.2 -1.2**
baz=317,SNR=13
QIZ Qiongzhong 62.06 265 P **P** **21 40 57.6 +1.6**
QIZ S **S** **21 49 13.6 +1.4**
QIZ pmax pmax
comp=Z,160nm,1.0s
QIZ Qiongzhong 62.06 265 P **P** **21 40 56.9 +0.9**
QIZ IAmb IAmb 21 40 59.5
comp=Z,196nm,1.1s
WHTX Lake Whitney, 62.11 73 P **P** **21 40 55.8 -0.4**
baz=316,SNR=21
WHTX Lake Whitney, 62.11 73 P **P** **21 40 55.8 -0.4**
WHTX IAmb IAmb 21 40 57.9
comp=Z,114nm,0.7s
DCPH Dipolog City 62.15 246 *ll eP* **P** **21 40 56.5 -0.2**
K49A Clarkson 62.16 56 P **P** **21 40 56.0 -0.4**
baz=316,SNR=14
L48A N Adams 62.26 57 P **P** **21 40 56.1 -1.0**
L48A IAmb IAmb 21 41 24.9
comp=Z,160nm,1.1s
D54A Lac Fusel, La 62.28 48 P **P** **21 40 55.8 -1.4**
baz=318,SNR=8.8
KIRV Kirov 62.29 333 P **P** **21 40 57.8 +0.8**
comp=Z,201nm,0.8s,baz=29,slow=1.3,SNR=46
KIRV pP **pP** **21 41 23.9 +0.6**
comp=Z,45nm,0.7s,baz=11,slow=5.3,SNR=2.3
SHLS Shalkode 62.30 305 *eP* **P** **21 40 56.1 -1.5**
comp=Z,246nm,0.8s,baz=305
SHLS *eS* **S** **21 49 12.6 -2.4**
baz=305
SHLS Shalkode 62.30 305 *eP* **P** **21 40 56.0 -1.5**
SHLS *eS* **S** **21 49 12.6 -2.4**
SHLS pmax pmax
comp=Z,246nm,0.8s
E53A Dumoine, Ponti 62.38 49 P **P** **21 40 56.5 -1.3**
baz=317,SNR=14
AAM Ann Arbor 62.41 56 P **P** **21 40 57.6 -0.4**
baz=316
KCP Kidapawan 62.47 244 *ll iP* **P** **21 41 00.5 +1.6**
P46A Rosedale 62.47 60 P **P** **21 40 57.5 -1.0**
P46A IAmb IAmb 21 41 25.7
comp=Z,206nm,1.2s
KPKS Kokpek 62.47 306 *eP* **P** **21 40 58.7 +0.1**
comp=Z,723nm,2.3s,baz=306
KPKS *eS* **S** **21 49 17.7 +0.7**
baz=306
KPKS Kokpek 62.47 306 *eP* **P** **21 40 58.6 +0.1**
KPKS *eS* **S** **21 49 17.6 +0.6**
KPKS pmax pmax
comp=Z,723nm,2.3s
ALGO Algonquin Park 62.51 50 P **P** **21 40 57.6 -1.1**
baz=317,SNR=5.3
UZB Uzynbulak 62.53 306 *eP* **P** **21 40 58.9 -0.2**
comp=Z,102nm,1.0s,baz=305
UZB Uzynbulak 62.53 306 *eP* **P** **21 40 58.8 -0.2**
UZB pmax pmax
comp=Z,102nm,1.0s
MIAR Mount Ida 62.55 68 P **P** **21 40 58.3 -0.8**
baz=316,SNR=13
MIAR Mount Ida 62.55 68 P **P** **21 40 58.7 -0.4**
MIAR pmax pmax
comp=Z,182nm,1.3s
MIAR Mount Ida 62.55 68 P **P** **21 40 58.7 -0.4**
MIAR IAmb IAmb 21 41 26.6
comp=Z,182nm,1.2s
E54A Lac Daplat, Po 62.57 49 P **P** **21 40 57.8 -1.2**
baz=318,SNR=21
JOF Joensuu 62.59 344 P **P** **21 40 59.2 +0.3**
JOF pmax pmax
comp=Z,103nm,0.9s
H52A Wyevale 62.59 52 P **P** **21 40 58.7 -0.5**
baz=317
OLIL Olney 62.62 62 P **P** **21 40 58.5 -1.0**
I51A Listowel 62.65 53 P **P** **21 40 59.5 -0.1**
baz=317,SNR=20
BORG Borgarnes 62.65 9 P **P** **21 41 00.3 +1.1**
BORG pmax pmax
comp=Z,94nm,0.9s
BORG Borgarnes 62.65 9 P **P** **21 41 00.3 +1.1**
Z38A Mt. Pleasant 62.65 70 P **P** **21 40 59.2 -0.5**
Z38A IAmb IAmb 21 41 01.9
comp=Z,137nm,0.6s
S44A Carbondale 62.73 63 P **P** **21 40 58.9 -1.4**
PBMO Poplar Bluff 62.73 65 P **P** **21 40 58.8 -1.5**
PBMO IAmb IAmb 21 41 28.2
comp=Z,339nm,1.7s
WHAR Wooly Hollow 62.75 67 P **P** **21 40 58.8 -1.6**
WHAR IAmb IAmb 21 41 27.1
comp=Z,142nm,1.2s
KLMR Klimovskoe 62.84 339 *eP* **P** **21 40 59.3 -1.3**
KLMR pmax pmax
comp=Z,163nm,0.9s
KLMR Klimovskoe 62.84 339 *eP* **P** **21 40 59.4 -1.2**
KLMR AMP 21 41 02.3
comp=Z,163nm,0.9s
G53A Haliburton 62.85 51 P **P** **21 41 00.3 -0.6**
baz=317,SNR=32
W41B Gary Mavity, V 62.86 67 P **P** **21 40 59.8 -1.3**
baz=316,SNR=7.3
SADO Sadowa 62.86 51 P **P** **21 41 00.1 -0.9**
435B Jarrell 62.90 74 P **P** **21 41 01.0 -0.4**
baz=316,SNR=9.5
435B Jarrell 62.90 74 P **P** **21 41 01.4 -0.1**
435B IAmb IAmb 21 41 04.1
comp=Z,326nm,1.6s
G54A Lake Saint Pet 62.90 50 P **P** **21 40 60.0 -1.3**
baz=318,SNR=8.3
SATY Saty 62.91 306 *eP* **P** **21 41 01.7 +0.2**
comp=Z,154nm,2.2s,baz=306
SATY Saty 62.91 306 *eP* **P** **21 41 01.6 +0.1**
SATY pmax pmax
comp=Z,154nm,2.2s
D55A Sainte-Anne-du 62.92 48 P **P** **21 41 00.4 -1.0**
baz=318,SNR=58
JAY Jayapura 62.93 223 P **P** **21 41 02.7 +0.9**
comp=Z,176nm,1.0s,baz=356,slow=4.3,SNR=61
JAY pP **pwP** **21 41 29.1 -1.1**
comp=Z,70nm,1.0s,baz=288,slow=6.3,SNR=2.8
JAY Jayapura 62.93 223 P **P** **21 41 01.7 -0.1**
X40A Basin Creek Fa 63.02 68 P **P** **21 41 01.1 -1.0**
baz=316,SNR=8.4
X40A Basin Creek Fa 63.02 68 P **P** **21 41 01.6 -0.6**
L50A Kingsville 63.03 56 P **P** **21 41 01.3 -0.9**
baz=317
CHKK Chushkaly 63.03 307 *eP* **P** **21 41 01.1 -1.1**
comp=Z,647nm,0.5s,baz=307
CHKK Chushkaly 63.03 307 *eP* **P** **21 41 01.1 -1.1**
E55A Montcerf-Lytto 63.08 48 P **P** **21 41 01.1 -1.3**
baz=318,SNR=5.6
UALR University of 63.09 67 P **P** **21 41 01.9 -0.8**
N49A Columbus Grove 63.13 57 P **P** **21 41 01.5 -1.3**
N49A IAmb IAmb 21 41 30.4
comp=Z,179nm,1.1s
HNR Honiara 63.16 200 P **P** **21 41 03.5 +0.3**
HNR pmax pmax
comp=Z,276nm,0.8s
HNR Honiara 63.16 200 P **P** **21 41 03.5 +0.3**
GENI Genyem 63.23 224 P **P** **21 41 03.2 -0.5**
comp=Z,555nm,1.1s
D56A ZEC Mazanza, M 63.23 47 P **P** **21 41 02.2 -1.3**
baz=318,SNR=10
H53A Bobcaygeon 63.27 51 P **P** **21 41 02.7 -1.1**
baz=316,SNR=5.9
KUU Kurty 63.32 308 *eP* **P** **21 41 03.2 -0.9**
comp=Z,154nm,0.8s,baz=308
KUU Kurty 63.32 308 *eP* **P** **21 41 03.2 -0.9**
KUU pmax pmax
comp=Z,154nm,0.8s
SMPI Sarmi 63.32 226 P **P** **21 41 04.6 +0.2**
comp=Z,150nm,1.0s
J52A Paris 63.33 53 P **P** **21 41 03.0 -1.1**
baz=317,SNR=8.7
PRZ Przheval'sk 63.33 305 P **P** **21 41 05.3 +0.9**
PRZ Przheval'sk 63.33 305 P **P** **21 41 05.3 +0.9**
I53A Kortright Cn E 63.34 52 P **P** **21 41 03.8 -0.3**
baz=317
NSS Namsos 63.39 353 *eP* **P** **21 41 03.4 -0.7**
F55A Otter Lake 63.40 49 P **P** **21 41 03.7 -0.9**
baz=318
WLAR White Oak Lake 63.43 69 P **P** **21 41 04.6 -0.3**
WLAR IAmb IAmb 21 41 32.4
comp=Z,230nm,1.2s
E56A St. Veronique 63.48 48 P **P** **21 41 03.5 -1.6**
baz=318,SNR=20
MDOK Medeo 63.51 307 *eP* **P** **21 41 05.5 -0.1**
baz=307
MDOK Medeo 63.51 307 *eP* **P** **21 41 05.4 -0.1**
P48A Milroy 63.53 59 P **P** **21 41 04.1 -1.5**
P48A IAmb IAmb 21 41 32.7
comp=Z,181nm,1.1s
AAA Alma-Ata 63.54 307 *eP* **P** **21 41 05.9 +0.2**
comp=Z,377nm,0.9s,baz=307
AAA Alma-Ata 63.54 307 *eP* **P** **21 41 05.8 +0.2**
AAA pmax pmax
comp=Z,377nm,0.9s
K52A Tillsonburg 63.55 54 P **P** **21 41 04.6 -1.0**
baz=317
GNAR Gosnell 63.55 65 P **P** **21 41 05.2 -0.5**
GNAR IAmb IAmb 21 42 31.4
comp=Z,329nm,1.6s
T45A Paducah 63.55 63 P **P** **21 41 04.6 -1.1**
T45A IAmb IAmb 21 41 12.7
comp=Z,97nm,0.6s
BTLS Baital 63.58 310 *eP* **P** **21 41 05.6 -0.2**
comp=Z,57nm,0.7s,baz=310
BTLS Baital 63.58 310 *eP* **P** **21 41 05.5 -0.2**
BTLS pmax pmax
comp=Z,57nm,0.7s
O49A Covington 63.58 58 P **P** **21 41 05.8 0.0**
O49A IAmb IAmb 21 41 33.4
comp=Z,170nm,1.3s
833A Chaparral WMA, 63.59 77 P **P** **21 41 06.1 0.0**
baz=317,SNR=6.0
833A Chaparral WMA, 63.59 77 P **P** **21 41 06.3 +0.2**
833A IAmb IAmb 21 41 08.1
comp=Z,302nm,1.8s
D57A Chemin Vers le 63.65 47 P **P** **21 41 04.9 -1.3**
baz=319,SNR=15
TNSS Tian-Shan 63.65 307 *eP* **P** **21 41 06.7 -0.1**
baz=307
TNSS Tian-Shan 63.65 307 *eP* **P** **21 41 06.6 -0.1**
PLVO Plevna 63.65 50 P **P** **21 41 05.3 -0.9**
G55A Calabogie 63.66 50 P **P** **21 41 05.1 -1.2**
baz=318,SNR=13
GLAT Glass 63.74 64 P **P** **21 41 07.3 +0.4**
GLAT IAmb IAmb 21 41 37.8
comp=Z,330nm,1.2s
LNXT Lenox 63.75 64 P **P** **21 41 06.5 -0.5**
LNXT IAmb IAmb 21 41 08.8
comp=Z,150nm,0.7s
DELO Deloro Mine 63.78 51 P **P** **21 41 06.4 -0.7**
MTBS Maitube 63.84 307 *eP* **P** **21 41 07.7 0.0**
baz=307
MTBS Maitube 63.84 307 *eP* **P** **21 41 07.6 0.0**
P49A Miami Univ. Ec 63.86 59 P **P** **21 41 06.2 -1.5**
baz=317,SNR=11
LATQ La Tuque 63.86 46 P **P** **21 41 06.5 -1.0**
baz=319,SNR=5.6
M51A Elyria 63.87 56 P **P** **21 41 06.1 -1.5**
baz=317
Z41A Richland Creek 63.92 69 P **P** **21 41 08.1 0.0**
NATX Nacogdoches 63.92 71 P **P** **21 41 07.7 -0.5**
baz=317,SNR=6.9
NATX Nacogdoches 63.92 71 P **P** **21 41 08.0 -0.2**
NATX IAmb IAmb 21 41 10.7
comp=Z,243nm,1.5s
WCI Wyandotte Cave 63.96 61 P **P** **21 41 07.4 -0.9**
baz=317
WCI Wyandotte Cave 63.96 61 P **P** **21 41 07.5 -0.9**
WCI pmax pmax
comp=Z,132nm,1.3s
WCI Wyandotte Cave 63.96 61 P **P** **21 41 07.5 -0.9**
H55A Tweed 63.97 50 P **P** **21 41 07.2 -1.1**
baz=318,SNR=9.0
I55A Frankford 63.97 51 P **P** **21 41 07.5 -0.8**
baz=318,SNR=14
E57A Chemin Saint G 63.98 47 P **P** **21 41 07.3 -1.2**
baz=319,SNR=21
SLVN Son La 64.01 272 P **P** **21 41 09.2 +0.3**
SLVN IAmb IAmb 21 41 11.9
comp=Z,144nm,0.9s
CCAR Cane Creek 64.04 68 P **P** **21 41 08.7 -0.2**
D58A Chemin du LacG 64.04 46 P **P** **21 41 07.5 -1.3**
baz=319,SNR=25
N51A Ashland 64.07 56 P **P** **21 41 08.0 -1.1**
baz=317
N51A Ashland 64.07 56 P **P** **21 41 08.0 -1.1**
N51A IAmb IAmb 21 41 36.6
comp=Z,170nm,1.0s
ORIO Orleans, Innes 64.08 49 P **P** **21 41 07.5 -1.5**
baz=319,SNR=9.0
X43A Marvell 64.11 67 P **P** **21 41 09.1 -0.3**
X43A IAmb IAmb 21 41 11.1
comp=Z,219nm,1.3s
M52A Chesterland 64.13 55 P **P** **21 41 08.3 -1.1**
baz=318
M52A Chesterland 64.13 55 P **P** **21 41 08.4 -1.1**
735A Kenedy 64.16 76 P **P** **21 41 09.9 +0.2**
735A IAmb IAmb 21 42 11.0
comp=Z,185nm,1.1s
TARG Taragay, Kyrgy 64.18 305 P **P** **21 41 10.8 +0.5**
TARG IAmb IAmb 21 41 47.7
comp=Z,88nm,0.7s
F57A Harrington 64.19 48 P **P** **21 41 08.7 -1.0**
baz=319
KDJ Kajisay 64.20 306 P **P** **21 41 10.3 +0.2**
KDJ pmax pmax
comp=Z,252nm,0.9s
KDJ Kajisay 64.20 306 P **P** **21 41 10.3 +0.2**
MET Memphis--Engin 64.21 66 P **P** **21 41 09.7 -0.3**
J54A Appleton 64.21 52 P **P** **21 41 09.2 -0.7**
baz=318,SNR=5.5
J54A Appleton 64.21 52 P **P** **21 41 09.9 0.0**
ACSO Alum Creek Sta 64.26 57 P **P** **21 41 09.3 -0.9**
baz=317,SNR=5.8
ACSO Alum Creek Sta 64.26 57 P **P** **21 41 09.9 -0.3**
ACSO IAmb IAmb 21 41 38.0
comp=Z,148nm,1.1s
SRPI Serui, Papua 64.33 228 P **P** **21 41 10.3 -0.7**
comp=Z,49nmcomp=Z,0.5nm,0.9s
H56A Elgin 64.37 50 P **P** **21 41 09.6 -1.3**
baz=319,SNR=9.0
TKM2 Tokmak 2 64.40 307 P **P** **21 41 11.9 +0.4**
SNR=41
E58A La Victoria 64.41 47 P **P** **21 41 09.7 -1.5**
baz=319,SNR=13
SGDS Sogindy 64.48 308 *eP* **P** **21 41 12.2 +0.4**

comp=Z,89nm,1.1s,baz=308
SGDS Sogindy 64.48 308 *e*P P 21 41 12.1 +0.4
SGDS pmax pmax
comp=Z,89nm,1.1s
N52A McGinn's Farm, 64.50 56 P P 21 41 11.2 -0.6
baz=318
PECO Prince Edward 64.52 51 P P 21 41 11.4 -0.4
PECO lAmb lAmb 21 41 40.7
comp=Z,156nm,1.1s
O51A Pataskala 64.52 57 P P 21 41 10.9 -1.1
baz=318,SNR=13
HKT Hockley 64.54 73 P P 21 41 12.1 -0.1
HKT pmax pmax
comp=Z,190nm,1.6s
HKT Hockley 64.54 73 P P 21 41 12.1 -0.1
HKT lAmb lAmb 21 41 14.4
comp=Z,190nm,1.6s
BOOM Boomskoye usch 64.55 307 P P 21 41 12.5 +0.1
BOOM pmax pmax
comp=Z,180nm,0.7s
BOOM Boomskoye usch 64.55 307 P P 21 41 12.5 +0.1
BOOM lAmb lAmb 21 41 17.2
comp=Z,180nm,0.7s
M53A WI Miller and 64.56 55 P P 21 41 11.3 -0.9
baz=318,SNR=8.2
M53A WI Miller and 64.56 55 P P 21 41 11.3 -0.9
M53A lAmb lAmb 21 41 40.2
comp=Z,248nm,1.1s
D59A Saint-Raymond 64.57 45 P P 21 41 11.3 -0.9
baz=320
G57A Newington 64.58 49 P P 21 41 10.7 -1.6
baz=319,SNR=11
ULHL Ulahol 64.58 307 P P 21 41 13.5 +0.8
SNR=23
W45A Hickory Valley 64.60 65 P P 21 41 12.1 -0.5
W45A lAmb lAmb 21 41 39.9
comp=Z,226nm,1.2s
J55A Hilton 64.62 52 P P 21 41 11.9 -0.7
baz=318,SNR=8.8
J55A Hilton 64.62 52 P P 21 41 11.7 -0.8
L54A Sinclairville 64.65 53 P P 21 41 12.0 -0.8
baz=318,SNR=15
WVT Waverly 64.65 63 P P 21 41 12.1 -0.8
baz=317
WVT Waverly 64.65 63 P P 21 41 11.7 -1.2
WVT pmax pmax
comp=Z,50nm,0.9s
WVT Waverly 64.65 63 P P 21 41 11.7 -1.2
ALLY Alegheny Colle 64.67 54 P P 21 41 13.7 +0.8
ALLY lAmb lAmb 21 41 41.1
comp=Z,282nm,1.1s
K54A Basiliko Farm, 64.68 53 P P 21 41 12.2 -0.8
baz=318,SNR=13
USP Ospenovka 64.68 308 P P 21 41 13.4 +0.3
SNR=91
CHMS Chumysh 64.76 308 P P 21 41 13.7 +0.1
SNR=40
P51A Williamsport 64.77 58 P P 21 41 12.1 -1.5
baz=318
P51A Williamsport 64.77 58 P P 21 41 12.4 -1.2
TBLU Trondheim 64.77 354 *e*P P 21 41 12.2 -1.0
FIA1 FINESS Array S 64.83 346 P P 21 41 13.2 -0.4
FINES FINESS Array B 64.83 346 P P 21 41 12.8 -0.8
comp=Z,23nm,0.4s,baz=22,slow=5.2,SNR=74
FINES ScP 21 45 39.1
comp=Z,12nm,0.8s,baz=35,slow=7.0,SNR=4.6
FINES PKPPKP **P'P'df** 22 09 57.6 -2.6
comp=Z,19nm,0.8s,baz=143,slow=4.8,SNR=14
WVNY West Valley, N 64.87 53 P P 21 41 13.7 -0.6
WVNY lAmb lAmb 21 41 44.7
comp=Z,156nm,0.9s
H57A Richville 64.88 49 P P 21 41 13.2 -1.1
baz=319,SNR=8.2
K55A Perry 64.89 52 P P 21 41 13.6 -0.8
baz=318,SNR=8.2
KBK Karagaybulak 64.92 308 P P 21 41 15.4 +0.6
SNR=43
O52A Adamsville 64.94 57 P P 21 41 13.5 -1.2
baz=318,SNR=9.1
O52A Adamsville 64.94 57 P P 21 41 14.0 -0.7
N53A Lisbon 64.94 55 P P 21 41 13.6 -1.1
baz=318
N53A Lisbon 64.94 55 P P 21 41 14.8 +0.1
OXF Oxford 64.95 66 P P 21 41 13.8 -1.0
baz=317,SNR=12
OXF Oxford 64.95 66 P P 21 41 13.8 -1.0
OXF pmax pmax
comp=Z,536nm,1.2s
OXF Oxford 64.95 66 P P 21 41 13.8 -1.0
Q51A Peebles 64.95 58 P P 21 41 13.9 -0.9
Q51A lAmb lAmb 21 41 42.8
comp=Z,300nm,1.1s
FRU1 Bishkek 64.96 308 P P 21 41 15.6 +0.7
FRU1 pmax pmax
comp=Z,406nm,1.1s
FRU1 Bishkek 64.96 308 P P 21 41 15.6 +0.7
G58A Ormstown 64.98 48 P P 21 41 13.6 -1.3
baz=319
M54A Oil Creek Stat 65.01 54 P P 21 41 14.2 -1.1
baz=318,SNR=5.9
M54A Oil Creek Stat 65.01 54 P P 21 41 14.1 -1.1
M54A lAmb lAmb 21 41 43.1
comp=Z,134nm,1.1s
WAMI Wamena 65.01 225 P P 21 41 19.1 +3.7
F59A Saint Guilaume 65.03 47 P P 21 41 13.7 -1.4
baz=320,SNR=20
D60A Saint Jean D'O 65.04 45 P P 21 41 13.9 -1.3
baz=320,SNR=42
J56A Wolcott 65.07 51 P P 21 41 14.5 -1.0
baz=319,SNR=16
J56A Wolcott 65.07 51 P P 21 41 14.7 -0.8
J56A lAmb lAmb 21 41 44.3
comp=Z,137nm,1.1s
L55A Hinsdale 65.12 53 P P 21 41 14.8 -1.1
baz=318,SNR=6.7
LONY Lake Ozonia 65.14 49 P P 21 41 14.0 -1.9
baz=319,SNR=8.0
D61A St Aubert, Com 65.14 44 P P 21 41 14.8 -1.0
baz=321,SNR=15
P52A Corning 65.14 57 P P 21 41 14.8 -1.2
baz=318
P52A Corning 65.14 57 P P 21 41 14.9 -1.2
I57A Carthage 65.15 50 P P 21 41 14.7 -1.3
baz=319,SNR=12
AAK Ala-Archa 65.15 308 P P 21 41 16.8 +0.5
comp=Z,168nm,0.8s,baz=97,slow=3.4,SNR=106
AAK ScP 21 45 41.4
comp=Z,14nm,0.9s,baz=25,slow=5.1,SNR=3.3
AAK Ala-Archa 65.15 308 P P 21 41 16.8 +0.5
SNR=7.8
AAK Ala-Archa 65.15 308 *i* P P 21 41 17.0 +0.7
SNR=9.8
AAK Ala-Archa 65.15 308 P P 21 41 16.7 +0.5
AAK Ala-Archa 65.15 308 *c i* P P 21 41 16.6 +0.3
AAK pmax pmax
comp=Z,130nm,0.8s
AAK Ala-Archa 65.15 308 P P 21 41 16.7 +0.5
AAK lAmb lAmb 21 41 19.0
comp=Z,189nm,0.8s
O53A New Philadelph 65.16 56 P P 21 41 14.8 -1.3
baz=318
KZA Kyzart 65.20 307 P P 21 41 17.7 +0.8
SNR=7.8
E60A Ste Agathe de 65.23 46 P P 21 41 15.1 -1.4
baz=320,SNR=17
N54A Moraine State 65.26 55 P P 21 41 15.6 -1.1
baz=318,SNR=9.5
K56A Middlesex 65.28 52 P P 21 41 16.2 -0.7
baz=319,SNR=36
F60A Warwick 65.31 46 P P 21 41 15.4 -1.6
baz=320,SNR=12
Y45A Yeager Farm, C 65.34 66 P P 21 41 17.2 -0.2
Y45A lAmb lAmb 21 41 44.7
comp=Z,294nm,1.1s
PLAL Pickwick Lake 65.35 64 P P 21 41 16.1 -1.4
J57A Williamstown 65.39 51 P P 21 41 16.8 -0.7
baz=319
J57A Williamstown 65.39 51 P P 21 41 16.7 -0.8
J57A lAmb lAmb 21 41 46.3
comp=Z,142nm,1.2s
G59A Clarenceville 65.44 48 P P 21 41 16.1 -1.6
baz=320,SNR=27
UCH Uchtor 65.45 308 P P 21 41 19.8 +1.2
SNR=21
H58A Gabriels 65.48 49 P P 21 41 16.7 -1.5
baz=320,SNR=8.7
EKS2 Erkin-Say 65.49 308 P P 21 41 19.0 +0.6
SNR=40
M55A Ridgway 65.49 54 P P 21 41 17.4 -0.9
baz=318,SNR=14
M55A Ridgway 65.49 54 P P 21 41 17.5 -0.8
M55A lAmb lAmb 21 41 46.5
comp=Z,131nm,1.0s
CLTN Cedars of Leba 65.50 62 P P 21 41 17.8 -0.6
CLTN lAmb lAmb 21 41 46.5
comp=Z,195nm,1.0s
H59A Cadyville 65.53 48 P P 21 41 17.1 -1.3
baz=320,SNR=15
Q52A Bidwell 65.57 58 P P 21 41 17.6 -1.1
baz=318
L56A Greenwood 65.59 52 P P 21 41 18.4 -0.5
baz=319,SNR=31
L56A Greenwood 65.59 52 P P 21 41 18.5 -0.5
E61A Lac Etchemin 65.60 45 P P 21 41 17.7 -1.2
baz=321,SNR=11
MOL Molde 65.61 355 *e*P P 21 41 18.4 -0.2
LSA Lhasa 65.61 287 P P 21 41 20.1 +0.3
LSA Lhasa 65.61 287 P P 21 41 20.7 +0.9
LSA pmax pmax
comp=Z,308nm,0.8s
LSA Lhasa 65.61 287 P P 21 41 20.7 +0.9
T50A Nancy 65.63 61 P P 21 41 18.4 -0.8
T50A lAmb lAmb 21 41 47.3
comp=Z,176nm,1.3s
P53A Whipple 65.64 57 P P 21 41 18.1 -1.1
baz=318,SNR=7.5
P53A Whipple 65.64 57 P P 21 41 18.8 -0.5
P53A lAmb lAmb 21 41 48.6
comp=Z,401nm,1.9s
O54A Avella 65.64 56 P P 21 41 17.3 -1.9
baz=318
K57A Scipio Center 65.65 51 P P 21 41 18.2 -1.1
baz=319,SNR=19
I58A Old Forge 65.66 50 P P 21 41 18.3 -1.0
baz=320,SNR=11
MOQ Mont Orford 65.68 47 P P 21 41 18.4 -1.0
PUL Pulkovo 65.70 343 *i* P P 21 41 18.9 -0.3
PUL pmax pmax
comp=Z,76nm,0.8s
D62A Allapoint, All 65.72 44 P P 21 41 18.6 -1.0
baz=321,SNR=18
D62A Allapoint, All 65.72 44 P P 21 41 19.1 -0.5
D62A lAmb lAmb 21 41 48.7
comp=Z,152nm,1.1s
ZAIG Zacatecas 65.73 84 P P 21 41 20.8 +0.4
ZAIG lAmb lAmb 21 41 49.6
comp=Z,172nm,1.1s
F61A St Evariste 65.73 46 P P 21 41 18.9 -0.8
baz=321,SNR=8.8
J58A Remsen 65.76 50 P P 21 41 18.9 -1.1
baz=319,SNR=11
J58A Remsen 65.76 50 P P 21 41 19.2 -0.8
J58A lAmb lAmb 21 41 48.7
comp=Z,136nm,1.1s
M56A Emporium 65.77 53 P P 21 41 19.1 -0.9
baz=319,SNR=8.7
M56A Emporium 65.77 53 P P 21 41 19.4 -0.7
M56A lAmb lAmb 21 41 52.2
comp=Z,163nm,1.1s
G60A Masonville 65.81 47 P P 21 41 19.1 -1.1
baz=320,SNR=7.0
E62A Clayton Lake 65.88 44 P P 21 41 19.6 -1.1
baz=321,SNR=26
E62A Clayton Lake 65.88 44 P P 21 41 19.9 -0.8
E62A lAmb lAmb 21 41 49.4
comp=Z,196nm,1.1s
N55A Marion Center 65.90 54 P P 21 41 19.4 -1.5
baz=319
AML Almayashu 65.93 308 P P 21 41 22.6 +1.0
SNR=49
P54A Burton 66.02 56 P P 21 41 20.4 -1.3
baz=318
AKN Aaknes 66.02 356 *e*P P 21 41 21.9 +0.5
G61A St-Isidore-de- 66.03 47 P P 21 41 20.5 -1.1
baz=321,SNR=24
Q53A Leroy 66.03 57 P P 21 41 20.8 -0.9
baz=318,SNR=19
L57A Andrews Acres 66.04 52 P P 21 41 21.1 -0.7
baz=319,SNR=14
K58A Earlville 66.04 51 P P 21 41 20.8 -1.0
baz=319
K58A Earlville 66.04 51 P P 21 41 21.0 -0.8
DOMB Dombas 66.05 355 *e*P P 21 41 20.3 -1.3
J59A Piesco 66.05 50 P P 21 41 20.6 -1.2
baz=320,SNR=28
J59A Piesco 66.05 50 P P 21 41 20.4 -1.4
H60A Morristown 66.05 48 P P 21 41 20.6 -1.2
baz=320,SNR=7.2
I59A Olmsteadville 66.10 49 P P 21 41 20.7 -1.4
baz=320,SNR=37
AFI Afiamalu 66.12 170 P P 21 41 22.7 +0.2
AFI pmax pmax
comp=Z,77nm,0.9s
AFI Afiamalu 66.12 170 P P 21 41 22.7 +0.2
N56A West Decatur 66.14 54 P P 21 41 21.6 -0.8
baz=319,SNR=5.5
D63A Stockholm 66.16 43 P P 21 41 21.6 -0.8
baz=322,SNR=9.8
O55A Ligonier 66.17 55 P P 21 41 21.4 -1.2
baz=319
R53A Hurricane 66.20 58 P P 21 41 21.9 -0.9
baz=318,SNR=15
R53A Hurricane 66.20 58 P P 21 41 22.2 -0.7
R53A lAmb lAmb 21 41 51.1
comp=Z,296nm,1.2s
AKTO Aktyubinsk 66.20 323 P P 21 41 23.2 +0.6
comp=Z,419nm,0.7s,baz=56,slow=7.4,SNR=142
AKTO S S 21 50 05.2 +2.6
comp=Z,8.8nm,1.1s,baz=214,slow=20,SNR=13
F62A Pittston Farm, 66.25 45 P P 21 41 21.9 -1.2
baz=321,SNR=5.7
Q54A Coxs Mills 66.30 57 P P 21 41 22.5 -0.9
baz=318
MCWV Mont Chateau 66.30 56 P P 21 41 22.7 -0.7
baz=319
BINY Binghamton 66.31 51 P P 21 41 22.5 -1.0
baz=320,SNR=13
BINY Binghamton 66.31 51 P P 21 41 22.9 -0.6
BINY lAmb lAmb 21 41 53.5
comp=Z,141nm,1.2s
I60A Shoreham 66.33 49 P P 21 41 22.7 -0.8
baz=320,SNR=6.5
M57A Sunshine Farm, 66.40 53 P P 21 41 23.5 -0.5
baz=319,SNR=11
M57A Sunshine Farm, 66.40 53 P P 21 41 23.6 -0.5
M57A lAmb lAmb 21 41 52.3
comp=Z,132nm,1.1s
K59A Cooperstown 66.41 50 P P 21 41 23.3 -0.9
baz=320
P55A Reedsville 66.42 56 P P 21 41 23.4 -0.9
baz=319
H61A Lyndonville 66.43 47 P P 21 41 23.2 -1.0
baz=321,SNR=9.3
TNTI Ternate 66.44 238 P P 21 41 24.9 +0.3
comp=Z,317nm,0.9s
TNTI Ternate 66.44 238 P P 21 41 24.1 -0.5
TNTI lAmb lAmb 21 41 27.3
comp=Z,161nm,0.8s
DZA Taraz 66.48 310 *e*P P 21 41 25.0 +0.4
comp=Z,84nm,0.9s,baz=310
DZA Taraz 66.48 310 *e*P P 21 41 25.0 +0.4
DZA pmax pmax
comp=Z,84nm,0.9s
L58A Harry Jones Me 66.49 51 P P 21 41 23.8 -0.8
baz=320,SNR=12
O56A Blue Knob Stat 66.49 54 P P 21 41 23.7 -1.0
baz=319
O56A Blue Knob Stat 66.49 54 P P 21 41 24.5 -0.3
ACCN Adirondack Com 66.51 49 P P 21 41 23.3 -1.4
ACCN lAmb lAmb 21 41 53.3
comp=Z,158nm,1.1s
E63A Oxbow 66.51 44 P P 21 41 23.3 -1.4
baz=322,SNR=12
E63A Oxbow 66.51 44 P P 21 41 23.8 -0.8
E63A lAmb lAmb 21 41 53.8
comp=Z,232nm,1.2s
146A Union 66.52 67 P P 21 41 24.1 -0.8
G62A West of Eustis 66.53 46 P P 21 41 24.1 -0.7
baz=321,SNR=22
G62A West of Eustis 66.53 46 P P 21 41 24.1 -0.7
G62A lAmb lAmb 21 41 53.7
comp=Z,161nm,1.1s
SSPA Standing Stone 66.56 54 P P 21 41 24.2 -0.8
baz=319
SSPA Standing Stone 66.56 54 P P 21 41 24.3 -0.8
SSPA lAmb lAmb 21 41 53.1
comp=Z,148nm,1.1s
S53A Williamson 66.59 59 P P 21 41 24.9 -0.5
baz=318,SNR=7.0
N57A Milroy 66.63 53 P P 21 41 24.9 -0.7
baz=319,SNR=10
LBNH Lisbon 66.65 47 P P 21 41 24.9 -0.8
baz=321,SNR=12
LBNH Lisbon 66.65 47 P P 21 41 24.7 -0.9
LBNH pmax pmax
comp=Z,107nm,1.1s
LBNH Lisbon 66.65 47 P P 21 41 24.7 -0.9
Q55A Buckhannon 66.68 56 P P 21 41 24.7 -1.2
baz=319
TZTN Tazewell 66.68 60 P P 21 41 25.3 -0.6
baz=318,SNR=5.2
FOO Floro 66.69 357 *e*P P 21 41 26.2 +0.7
NC204 NORSAR Array S 66.70 354 P P 21 41 25.2 -0.6
M58A Price's Panora 66.70 52 P P 21 41 25.4 -0.6
baz=320,SNR=16
KK31 Karatay Array 66.71 311 P P 21 41 25.9 -0.2
KK31 pmax pmax
comp=Z,214nm,0.8s
KK31 Karatay Array 66.71 311 P P 21 41 25.9 -0.2
KK31 lAmb lAmb 21 41 28.4
comp=Z,214nm,0.8s
KKAR Karatay Array 66.71 311 P P 21 41 26.1 0.0
KKAR Karatay Array 66.71 311 P P 21 41 26.1 0.0
KKAR lAmb lAmb 21 41 28.4
comp=Z,214nm,0.8s
KKAR Karatay Array 66.71 311 P P 21 41 26.1 0.0
NC303 NORSAR Array S 66.71 353 P P 21 41 25.6 -0.1
W50A Signal Mountai 66.72 62 P P 21 41 24.9 -1.4
W50A lAmb lAmb 21 41 54.0
comp=Z,155nm,1.2s
J60A Lant Hill Farm 66.73 49 P P 21 41 25.4 -0.7
baz=320,SNR=24
H62A Milan 66.75 47 P P 21 41 25.4 -0.8
baz=321,SNR=51
H62A Milan 66.75 47 P P 21 41 25.4 -0.8
H62A lAmb lAmb 21 41 55.6
comp=Z,214nm,0.9s
PMG Port Moresby 66.75 214 P P 21 41 26.6 +0.1
PMG pmax pmax
comp=Z,142nm,1.1s
PMG Port Moresby 66.75 214 P P 21 41 26.6 +0.1
PMG lAmb lAmb 21 41 55.3
comp=Z,142nm,1.1s
KSH Kashi 66.76 305 P P 21 41 30.4 +3.9
KSH pmax pmax
comp=Z,140nm,0.6s
I61A Oroboro, Fairl 66.76 48 P P 21 41 25.5 -0.9
baz=321,SNR=10.0
E64A Bridgewater 66.77 44 P P 21 41 25.2 -1.0
baz=322,SNR=34
L59A Walton 66.77 51 P P 21 41 25.7 -0.8
baz=320,SNR=12
L59A Walton 66.77 51 P P 21 41 25.7 -0.8
L59A lAmb lAmb 21 41 57.5
comp=Z,143nm,1.1s
F63A Nahmakanta, Br 66.78 45 P P 21 41 25.6 -0.9
baz=322,SNR=14
F63A Nahmakanta, Br 66.78 45 P P 21 41 25.5 -0.9
F63A lAmb lAmb 21 41 55.2
comp=Z,173nm,1.1s
NC405 NORSAR Array S 66.80 353 P P 21 41 25.9 -0.3
R54A Victor 66.82 57 P P 21 41 26.0 -0.8
baz=319,SNR=6.0
T53A Wise 66.90 59 P P 21 41 26.9 -0.5
baz=318,SNR=9.8
NB2 NORSAR Subarra 66.91 353 P P 21 41 26.6 -0.4
comp=Z,43nm,0.7s,baz=8.1,slow=6.2
NB2 NORSAR Subarra 66.91 353 P P 21 41 26.6 -0.4
baz=8.1,slow=6.2
NOA NORSAR Array B 66.91 353 P P 21 41 26.3 -0.7
comp=Z,37nm,0.8s,baz=2.7,slow=5.4,SNR=76
NOA pP **pP** 21 41 53.6 0.0
comp=Z,144nm,1.0s,baz=7.6,slow=6.4,SNR=17
NOA PKPPKP P'P'df 22 09 48.5 -8.3
comp=Z,2.0nm,0.8s,baz=195,slow=1.2,SNR=8.5
P56A Dayton Farm, R 66.93 55 P P 21 41 26.7 -0.7
baz=319,SNR=5.8
S54A Dingess, Beckl 66.93 58 P P 21 41 26.8 -0.7
baz=319,SNR=5.6
F64A Sherman 66.98 44 P P 21 41 26.5 -1.1
baz=322,SNR=36
N58A Sunbury 66.98 53 P P 21 41 27.6 -0.2
baz=320,SNR=13
K60A Five Rivers En 66.99 50 P P 21 41 27.0 -0.8
baz=320
O57A Amberson 67.00 54 P P 21 41 27.3 -0.7
baz=319,SNR=25
TRY Troy 67.01 50 P P 21 41 27.6 -0.3
G63A Kingsbury 67.01 46 P P 21 41 26.9 -1.0
baz=322,SNR=15
PKME Peaks-Kenny Pk 67.04 45 P P 21 41 27.6 -0.4
baz=322,SNR=11
J61A Chester 67.06 48 P P 21 41 27.5 -0.7
baz=321,SNR=17
HYA Hoyanger 67.07 356 *e*P P 21 41 28.1 +0.1
M59A Waymart 67.08 52 P P 21 41 27.5 -0.8
baz=320,SNR=16
Q56A Snyder Ridge, 67.10 56 P P 21 41 27.5 -1.1
baz=319
NAO01 NORSAR Array S 67.12 353 P P 21 41 28.6 +0.3
NAO01 lAmb lAmb 21 42 01.4
comp=Z,203nm,1.1s
FAKI Fak Fak 67.14 231 P P 21 41 29.3 +0.3
FAKI Fak Fak 67.14 231 P P 21 41 28.8 -0.2
V52A Sevierville 67.18 61 P P 21 41 28.3 -0.8
H63A New Sharon 67.18 46 P P 21 41 28.1 -0.9
baz=321,SNR=13
NC602 NORSAR Array S 67.18 353 P P 21 41 28.6 -0.1
NC602 NORSAR Array S 67.18 353 *e*P P 21 41 29.1 +0.4
R55A Marlinton 67.19 57 P P 21 41 28.8 -0.4
baz=319
I62A Tamworth 67.21 47 P P 21 41 28.1 -1.0
baz=321,SNR=12
K61A Williamstown 67.24 49 P P 21 41 28.8 -0.6
baz=320,SNR=6.6
G64A Maxfield 67.28 45 P P 21 41 28.6 -1.0
baz=322,SNR=15
L60A Shokan 67.31 50 P P 21 41 29.4 -0.5
baz=320,SNR=6.3
T54A Tazewell 67.35 59 P P 21 41 29.6 -0.6
baz=319,SNR=14
P57A Homestead Farm 67.36 55 P P 21 41 29.1 -1.1
baz=319,SNR=8.7
S55A Lewisburg 67.38 57 P P 21 41 29.4 -1.0
baz=319
N59A State Game Lan 67.39 52 P P 21 41 29.9 -0.5
baz=320,SNR=26
N59A State Game Lan 67.39 52 P P 21 41 29.8 -0.5
N59A lAmb lAmb 21 41 59.5
comp=Z,353nm,1.7s
LRAL Lakeview Retre 67.39 65 P P 21 41 28.8 -1.6
baz=318,SNR=11
I63A Otisfield 67.41 47 P P 21 41 29.7 -0.8
baz=321,SNR=23
I63A Otisfield 67.41 47 P P 21 41 29.8 -0.6
I63A lAmb lAmb 21 41 59.5
comp=Z,182nm,1.1s
O58A Lewisberry 67.42 53 P P 21 41 29.7 -0.9
baz=320,SNR=13
SKAR Skarslia 67.45 355 *e*P P 21 41 30.5 +0.1
R56A Bull Pasture M 67.47 56 P P 21 41 29.9 -1.0
baz=319,SNR=5.7
L61A Hillsdale 1, H 67.48 50 P P 21 41 30.0 -0.8
baz=320,SNR=7.9
J62A Henniker 67.49 48 P P 21 41 30.2 -0.7
baz=321,SNR=21
Q57A Strasburg 67.50 55 P P 21 41 30.6 -0.5
baz=319
W52A Murphy 67.56 62 P P 21 41 30.5 -1.0
H64A Troy 67.56 46 P P 21 41 30.3 -1.0
baz=322,SNR=14
VSU Vasula 67.56 344 *e*P P 21 41 31.3 +0.2
VSU Vasula 67.56 344 *i* P P 21 41 30.4 -0.7
VSU pmax pmax
comp=Z,161nm,1.0s
U54A Nelsons Funny 67.62 59 P P 21 41 31.5 -0.5
baz=319,SNR=8.8
U54A Nelsons Funny 67.62 59 P P 21 41 31.5 -0.5
U54A lAmb lAmb 21 41 59.8
comp=Z,132nm,1.0s

M60A Port Jervis 67.63 51 P P 21 41 30.9 -0.9
baz=320,SNR=18
O59A Robesonia 67.65 53 P P 21 41 30.9 -1.1
baz=320
IUG luzhnay 67.67 310 *eP* P 21 41 33.0 +0.7
comp=Z,28nm,0.9s,baz=310
IUG luzhnay 67.67 310 *eP* P 21 41 32.9 +0.7
IUG pmax pmax
comp=Z,28nm,0.9s
L61B Northampton 67.69 49 P P 21 41 31.0 -1.2
baz=321,SNR=18
P58A Pank, Wackersv 67.72 54 P P 21 41 31.6 -0.8
baz=320
T55A Pulaski 67.72 58 P P 21 41 31.9 -0.6
baz=319,SNR=6.3
K62A Royalston 67.73 49 P P 21 41 31.5 -1.0
baz=321,SNR=17
K62A Royalston 67.73 49 P P 21 41 31.3 -1.2
N60A Cedar Hill Far 67.75 52 P P 21 41 31.8 -0.8
baz=320,SNR=20
J63A Strafford 67.79 48 P P 21 41 31.8 -1.0
baz=321,SNR=17
ASK Askoy 67.80 356 *eP* P 21 41 32.4 -0.1
MVL Millersville 67.80 53 P P 21 41 32.1 -0.8
SANVU Saraoutou 67.81 192 P P 21 41 32.7 -0.4
LUPA Lehigh Univers 67.83 52 P P 21 41 32.6 -0.4
ODNJ Ogdensburg 67.83 51 P P 21 41 32.7 -0.4
G65A Princeton 67.84 44 P P 21 41 32.4 -0.7
baz=322,SNR=20
MOS Moscow 67.89 337 *eP* P 21 41 31.4 -1.8
MOS *e**PP **pP** 21 41 59.3 -0.6
MOS *eS* **S** 21 50 20.3 -2.2
MOS *e* 21 51 21.3
MOS pmax pmax
comp=Z,400nm,0.8s
S56A Natural Bridge 67.94 57 P P 21 41 33.0 -0.8
baz=319,SNR=11
I64A Boothbay 67.94 46 P P 21 41 32.6 -1.1
baz=322,SNR=9.1
Q58A Fox Den Farm, 67.94 55 P P 21 41 32.9 -0.9
baz=320,SNR=7.3
H65A Eastbrook 67.94 45 P P 21 41 32.7 -1.0
baz=322,SNR=30
R57A Stanardsville 68.00 56 P P 21 41 33.3 -0.9
baz=320,SNR=14
L62A Suffield 68.02 49 P P 21 41 33.6 -0.7
baz=321
O60A Telford 68.03 52 P P 21 41 33.6 -0.7
baz=320,SNR=14
OSL Oslo 68.03 353 *eP* P 21 41 33.6 -0.4
K63A Dunstable 68.04 48 P P 21 41 33.2 -1.2
baz=321,SNR=18
U55A TA2, Sparta 68.05 59 P P 21 41 33.7 -1.0
baz=319,SNR=9.6
M61A Granite Spring 68.06 51 P P 21 41 33.1 -1.4
baz=321
P59A Jarrettsville 68.06 53 P P 21 41 33.6 -1.0
baz=320,SNR=21
V54A Nebo 68.11 60 P P 21 41 34.2 -0.8
baz=319,SNR=19
HRV Adam Dziewonsk 68.17 48 P P 21 41 34.0 -1.2
baz=321
HRV Adam Dziewonsk 68.17 48 P P 21 41 34.3 -0.9
HRV pmax pmax
comp=Z,100nm,1.1s
HRV Adam Dziewonsk 68.17 48 P P 21 41 34.3 -0.9
BG3 Lake Jocassee 68.17 61 P P 21 41 34.7 -0.7
BG3 IAmb IAmb 21 42 03.6
comp=Z,194nm,1.3s
T56A Rocky Mt 68.18 58 P P 21 41 33.9 -1.5
baz=319
S57A Dark Hollow, R 68.19 56 P P 21 41 34.6 -0.8
baz=320,SNR=6.6
S57A Dark Hollow, R 68.19 56 P P 21 41 35.0 -0.4
PAL Palisades 68.22 51 P P 21 41 34.4 -1.1
baz=321,SNR=6.4
PAL Palisades 68.22 51 P P 21 41 34.9 -0.6
PAL pmax pmax
comp=Z,207nm,1.6s
PAL Palisades 68.22 51 P P 21 41 34.9 -0.6
PAL IAmb IAmb 21 42 03.7
comp=Z,207nm,1.6s
SHL Shillong 68.22 284 *eP* P 21 41 35.4 -0.6
SHL IAmb IAmb 21 41 38.3
comp=Z,401nm,1.0s
SHL Shillong 68.22 284 P P 21 41 36.8 +0.8
SNR=23
SHL Shillong 68.22 284 P P 21 41 35.6 -0.4
SHL pmax pmax
comp=Z,551nm,0.9s
SHL Shillong 68.22 284 P P 21 41 35.6 -0.4
N61A South Mountain 68.23 51 P P 21 41 34.6 -1.0
baz=321
R58A Rapidan 68.27 55 P P 21 41 35.1 -0.8
baz=320,SNR=5.8
EMMW East Machias 68.28 44 P P 21 41 35.0 -0.8
EMMW IAmb IAmb 21 42 05.2
comp=Z,203nm,1.1s
H66A Whiting 68.28 44 P P 21 41 34.8 -1.0
baz=323,SNR=32
P60A Greenville 68.30 53 P P 21 41 34.8 -1.2
baz=320
ODD1 Odda 68.31 356 *eP* P 21 41 37.7 +1.9
DLV T Lat 68.32 262 P P 21 41 36.7 0.0
DLV IAmb IAmb 21 41 39.2
comp=Z,172nm,1.1s
KKM Kota Kinabalu 68.33 251 P P 21 41 37.0 +0.4
KKM IAmb IAmb 21 41 39.4
comp=Z,147nm,0.9s
M62A Hamden 68.37 50 P P 21 41 35.3 -1.1
baz=321
WSPT Westport, CT 68.37 50 P P 21 41 36.1 -0.4
KONO Kongsberg 68.40 354 P P 21 41 36.2 -0.1
KONO pmax pmax
comp=Z,256nm,1.1s
KONO Kongsberg 68.40 354 P P 21 41 36.2 -0.1
KONO IAmb IAmb 21 42 06.4
comp=Z,256nm,1.1s
KONO Kongsberg 68.40 354 *eP* P 21 41 36.6 +0.3
KMSI Cibinong 68.41 241 P P 21 41 37.3 +0.3
comp=Z,4µmcomp=Z,282nm,0.7s
V55A Taylorsville 68.45 59 P P 21 41 36.3 -0.7
baz=319,SNR=8.5
V55A Taylorsville 68.45 59 P P 21 41 36.3 -0.7
LMN Caledonia Moun 68.49 42 P P 21 41 36.3 -0.8
LMN IAmb IAmb 21 42 04.8
comp=Z,168nm,1.0s
W54A Cherokee Point 68.50 60 P P 21 41 36.6 -0.8
baz=319,SNR=7.5
U56A King 68.51 58 P P 21 41 35.9 -1.6
baz=319
DRLN Deer Lake 68.53 36 P P 21 41 37.1 -0.3
R58B Mineral 68.59 56 P P 21 41 36.8 -1.0
baz=320
R58B Mineral 68.59 56 P P 21 41 37.3 -0.6
250A Grady 68.59 65 P P 21 41 37.0 -1.0
250A IAmb IAmb 21 42 05.0
comp=Z,175nm,1.1s
T57A Hurt 68.61 57 P P 21 41 36.9 -1.1
baz=320,SNR=13
O61A Allentown 68.61 52 P P 21 41 37.0 -1.0
baz=321,SNR=9.6
BRYW Bryant College 68.64 49 P P 21 41 37.1 -1.0
L63A North Scituate 68.65 49 P P 21 41 37.2 -0.9
baz=321
TAS Tashkent 68.66 310 P P 21 41 38.9 +0.6
TAS pmax pmax
comp=Z,248nm,0.7s
TAS Tashkent 68.66 310 P P 21 41 38.9 +0.6
OBN Obninsk 68.71 338 *i* P P 21 41 37.1 -1.2
OBN *i* 21 42 03.3
OBN *i* 21 44 11.5
OBN pmax pmax
comp=Z,170nm,0.8s
OBN Obninsk 68.71 338 P P 21 41 38.1 -0.1
OBN IAmb IAmb 21 41 40.0
comp=Z,250nm,0.9s
S58A Poland Farm, P 68.77 56 P P 21 41 38.1 -0.9
baz=320,SNR=5.4
S58A Poland Farm, P 68.77 56 P P 21 41 37.9 -1.1
M63A Gales Ferry 68.80 49 P P 21 41 38.4 -0.7
baz=321,SNR=17
BLS5 Blasjo 68.80 356 *eP* P 21 41 39.0 +0.1
X54A Belton 68.81 61 P P 21 41 38.8 -0.5
baz=319,SNR=8.8
Q60A Greensboro 68.82 54 P P 21 41 38.0 -1.3
baz=320
Q60A Greensboro 68.82 54 P P 21 41 39.1 -0.1
V56A Mocksville 68.86 59 P P 21 41 39.3 -0.3
baz=320,SNR=6.1
GTK Tadong 68.88 287 *eP* P 21 41 41.0 +1.0
GTK IAmb IAmb 21 41 44.5
comp=Z,129nm,0.8s
MOIG Morelia 68.89 85 P P 21 41 40.8 +0.5
N63A Mattituck 68.90 50 P P 21 41 38.8 -0.9
baz=321
BTK Batken 68.91 308 P P 21 41 40.3 +0.3
BTK pmax pmax
comp=Z,372nm,0.9s
BTK Batken 68.91 308 P P 21 41 40.3 +0.3
KMSC Kings Mountain 68.92 60 P P 21 41 39.2 -0.8
baz=319,SNR=13
KMSC Kings Mountain 68.92 60 P P 21 41 39.2 -0.8
KMSC IAmb IAmb 21 42 08.1
comp=Z,232nm,1.1s
L64A Middleborough 68.95 48 P P 21 41 39.4 -0.6
baz=322,SNR=13
CHTO Chiang Mai 68.96 274 P P 21 41 40.2 -0.3
CHTO pmax pmax
comp=Z,188nm,1.0s
CHTO Chiang Mai 68.96 274 P P 21 41 40.2 -0.3
CHTO IAmb IAmb 21 41 42.7
comp=Z,188nm,0.9s
U57A Blanch 69.00 58 P P 21 41 39.9 -0.5
baz=320,SNR=6.1
T58A Grand View Acr 69.03 57 P P 21 41 39.5 -1.1
baz=320,SNR=7.7
SLIT Slitere, Latvi 69.05 347 *eP* P 21 41 39.8 -0.5
GOGA Godfrey 69.07 62 P P 21 41 39.9 -1.0
baz=319,SNR=7.9
M64A Tiverton 69.08 49 P P 21 41 40.0 -0.8
baz=322,SNR=6.3
MSAI Masohi 69.14 234 P P 21 41 43.4 +1.9
comp=Z,122nm,0.8s
V57A Coltrane Farms 69.18 58 P P 21 41 40.4 -1.2
baz=320
CM31 Chiang Mai Arr 69.23 274 P P 21 41 42.6 +0.5
SNR=12
CM31 Chiang Mai Arr 69.23 274 P P 21 41 42.1 -0.1
CM31 IAmb IAmb 21 41 44.6
comp=Z,188nm,0.9s
CMAR Chiang Mai Arr 69.23 274 P P 21 41 42.2 +0.1
comp=Z,124nm,0.8s,baz=26,slow=5.6,SNR=46
CMAR pP **PcP** 21 42 06.0 +0.8
comp=Z,44nm,0.7s,baz=12,slow=4.2,SNR=4.5
CMAR PKiKP **PKiKP** 21 47 58.4 +0.6
comp=Z,2.0nm,0.8s,baz=313,slow=1.1,SNR=6.0
CMAR PKPPKP **P'P'df** 22 09 46.1 -6.3
comp=Z,4.0nm,0.8s,baz=236,slow=4.7,SNR=13
CMAR P4KPbc 22 18 28.6
comp=Z,1.5nm,0.8s,baz=11,slow=3.9,SNR=8.0
SPMM Sapulut 69.25 250 P P 21 41 43.0 +0.7
X55A Gracelyn & Ava 69.27 60 P P 21 41 41.3 -0.8
baz=319,SNR=20
W56A Indian Trail 69.33 59 P P 21 41 41.8 -0.7
baz=320,SNR=5.5
MSVF Nonsavu 69.38 180 *i* P P 21 41 44.2 +1.3
MSVF pmax pmax
comp=Z,141nm,1.1s
MSVF Nonsavu 69.38 180 P P 21 41 44.0 +1.1
MSVF IAmb IAmb 21 41 47.7
comp=Z,164nm,1.0s
TAPN Taplejung 69.38 288 *eP* P 21 41 43.9 +0.6
comp=Z,1µm,0.9s
U58A Oxford 69.44 57 P P 21 41 42.3 -0.9
baz=320
T59A Double "B" Far 69.51 56 P P 21 41 42.9 -0.7
baz=320,SNR=8.4
Y55A Saluda 69.55 61 P P 21 41 43.0 -0.9
baz=320,SNR=9.5
X56A White Oak 69.57 60 P P 21 41 43.3 -0.7
baz=320,SNR=12
V58A Windy Hill, Pi 69.60 58 P P 21 41 43.4 -0.7
baz=320,SNR=6.0
V58A Windy Hill, Pi 69.60 58 P P 21 41 43.8 -0.4
V58A IAmb IAmb 21 42 12.4
comp=Z,214nm,1.2s
MRSI Marisa 69.61 243 P P 21 41 43.9 -0.5
W57A Gilead 69.63 59 P P 21 41 43.3 -1.0
baz=320,SNR=8.2
W57A Gilead 69.63 59 P P 21 41 43.3 -1.0
BIRD Birdtown, Kers 69.76 60 P P 21 41 44.0 -1.2
AAI Ambon 69.81 235 P P 21 41 46.3 +0.7
comp=Z,679nm,1.0s
HOMB Homborsund 69.84 354 *eP* P 21 41 45.4 +0.2
SNART Snarterno 69.85 355 *eP* P 21 41 45.4 +0.1
U59A Littleton 69.86 57 P P 21 41 44.9 -0.9
baz=320
BIGH Upper Bighouse 69.91 1 *eP* P 21 41 45.2 -0.5
BIGH IAmb IAmb 21 41 48.5
comp=Z,62nm,1.0s
ODAN Odare 69.93 288 *eP* P 21 41 47.6 +1.0
comp=Z,619nm,0.9s
GAR Garm 69.97 308 P P 21 41 47.0 +0.4
NLAI Namlea 69.98 236 P P 21 41 47.9 +1.2
comp=Z,157nm,0.8s
GUN Gumba 70.03 290 *eP* P 21 41 48.0 +0.6
comp=Z,1µm,0.6s
JIRN Jiri 70.04 289 *eP* P 21 41 48.1 +0.7
comp=Z,3µm,1.1s
V59A Middlesex 70.08 57 P P 21 41 46.6 -0.5
baz=320,SNR=9.7
U60A Pendleton 70.10 56 P P 21 41 46.4 -0.7
baz=320,SNR=5.4
X57A Johnson Farm, 70.10 59 P P 21 41 46.5 -0.7
baz=320,SNR=6.5
W58A Raeford 70.13 58 P P 21 41 46.7 -0.7
baz=320,SNR=6.8
LEWI Lewis, Hebride 70.19 3 *eP* P 21 41 47.3 -0.1
LEWI IAmb IAmb 21 41 50.3
comp=Z,67nm,0.9s
TAOE Nuku Hiva Isla 70.22 136 *eP* P 21 41 49.2 +1.0
comp=Z,439nm,1.1s
TAOE Nuku Hiva Isla 70.22 136 *eT* T 22 57 58.8
comp=Z,64nm,0.3s
TAOE Nuku Hiva Isla 70.22 136 P P 21 41 48.1 0.0
TAOE IAmb IAmb 21 41 50.4
comp=Z,161nm,0.9s
IZAR Zarasai 70.23 344 *eP* P 21 41 48.5 +0.8
Y57A Sumter 70.28 60 P P 21 41 47.1 -1.2
baz=320
RAMN Ramite 70.33 289 *eP* P 21 41 49.5 +0.4
comp=Z,2µm,0.9s
LPSR Galich'ya Gora 70.41 335 *eP* P 21 41 48.6 -0.2
LPSR *e**SP **pP** 21 42 15.8 +0.2
LPSR pmax pmax
comp=Z,160nm,0.7s
LUWI Luwuk 70.42 241 P P 21 41 48.2 -1.1
comp=Z,671nm,0.8s
LUWI Luwuk 70.42 241 P P 21 41 47.9 -1.5
ISAL Salakas 70.42 344 *eP* P 21 41 49.3 +0.4
ISAL *eS* S 21 50 35.9 -16
KKN Kakani 70.47 290 *eP* P 21 41 50.5 +0.6
comp=Z,1µm,0.8s
TIGA Tifton 70.49 64 P P 21 41 49.2 -0.5
baz=320
TIGA Tifton 70.49 64 P P 21 41 49.5 -0.1
PKI Pulchoki 70.56 290 *eP* P 21 41 50.8 +0.2
comp=Z,958nm,0.8s
PKIN Phulchoki 70.56 290 *eP* P 21 41 50.8 +0.3
comp=Z,807nm,0.7s
U61A Possum Corner 70.57 56 P P 21 41 51.0 +1.0
U61A IAmb IAmb 21 42 18.5
comp=Z,289nm,1.1s
V60A Jim Taylor Roa 70.59 57 P P 21 41 49.5 -0.6
baz=321
V60A Jim Taylor Roa 70.59 57 P P 21 41 51.0 +0.8
IIGN Ignalina 70.61 344 *eP* P 21 41 50.2 +0.2
IIGN *ePP* **PP** 21 44 29.0 +2.1
IIGN *eS* S 21 50 35.5 -19
PBUR Paburge 70.66 346 *eP* P 21 41 50.5 +0.3
PBUR *eS* S 21 50 36.5 -19
Z57A Bowman 70.66 61 P P 21 41 49.8 -0.9
baz=320
CNNC Cliffs of the 70.67 57 P P 21 41 49.7 -0.9
baz=320
GKN Gorkha 70.68 291 *eP* P 21 41 51.5 +0.4
comp=Z,2µm,0.9s
DMN Daman 70.71 290 *eP* P 21 41 51.9 +0.5
comp=Z,1µm,0.8s
Y58A Scranton 70.75 60 P P 21 41 50.2 -1.0
baz=320
Y58A Scranton 70.75 60 P P 21 41 50.9 -0.3
CHGR Chuyangaron 70.81 308 P P 21 41 51.7 +0.1
MCD Coleburn Disti 70.83 1 *eP* P 21 41 51.2 -0.1
PABE Paberze 70.84 345 *eP* P 21 41 51.5 +0.1
PABE *eS* S 21 50 35.9 -21
MPSI Mapaga 70.86 245 P P 21 41 51.5 -0.5
comp=Z,502nm,0.9s
W60A Pink Hill 70.90 57 P P 21 41 51.4 -0.7
baz=321
VRH Novokhopyorsk 70.91 333 *eP* P 21 41 51.4 -0.4
VRH *e**SP **pP** 21 42 18.4 -0.3
VRH pmax pmax
comp=Z,400nm,0.7s
DANN Dangsing 70.93 292 *eP* P 21 41 53.4 +0.7
comp=Z,2µm,0.8s
MDO Dochfour 70.96 2 *eP* P 21 41 51.9 -0.2
553A Crawfordville 70.97 65 P P 21 41 51.0 -1.5
GOET G??ttrup 71.02 354 *i* P pP 21 42 21.9 +2.6
comp=Z,290nm,1.0s
KPL Plockton 71.03 2 *eP* P 21 41 52.1 -0.3
NHSC New Hope 71.09 60 P P 21 41 52.6 -0.6
baz=320
NHSC New Hope 71.09 60 P P 21 41 53.1 -0.1
NHSC IAmb IAmb 21 42 22.0
comp=Z,390nm,1.1s
Z58A St. Stephen 71.11 60 P P 21 41 52.7 -0.6
baz=320
MICGM Minsk 71.12 342 *e* P 21 41 53.0 -0.1
MNK Minsk 71.12 342 *eP* P 21 41 53.0 -0.1
X60A Albert Glenn T 71.13 58 P P 21 41 52.5 -0.9
baz=321,SNR=5.2
VORR Voronezh 71.18 335 *eP* P 21 41 52.0 -1.5
VORR pmax pmax
comp=Z,350nm,1.6s
Y60A Bolivia 71.44 58 P P 21 41 55.2 -0.2
Y60A IAmb IAmb 21 42 24.0
comp=Z,282nm,1.4s
KOLN Koldanda 71.46 291 *eP* P 21 41 56.3 +0.5
comp=Z,1µm,1.0s
DRUM Mains of Drumt 71.51 1 *eP* P 21 41 54.8 -0.6
DRUM IAmb IAmb 21 41 57.2
comp=Z,84nm,1.2s
PYUN Piuthan 71.56 292 *eP* P 21 41 56.8 +0.4
comp=Z,2µm,0.9s
VSR Storozhevoye 71.60 334 *eP* P 21 41 56.1 +0.1
VSR *e**SP **pP** 21 42 23.1 +0.2
VSR pmax pmax
comp=Z,130nm,0.6s
MUD Monsted U'grnd 71.61 354 *i* P P 21 41 56.3 +0.4
comp=Z,26nm,0.9s
MUD *i* 21 42 24.3
MUD Monsted U'grnd 71.61 354 *i* P P 21 41 56.3 +0.4
MUD *i* 21 42 24.3
MUD pmax pmax
comp=Z,27nm,0.9s
VORD Divnogorie 71.79 334 *eP* P 21 41 57.8 +0.6
VORD pmax pmax
comp=Z,730nm,1.8s
INVG Invergeldie, C 71.98 1 *eP* P 21 41 57.4 -0.8
SAUI Saumlaki 72.00 230 P P 21 42 01.1 +2.2
SAUI Saumlaki 72.00 230 P P 21 41 59.3 +0.4
PTH Pithoragarh 72.03 295 *eP* P 21 41 57.1 -2.1
TLIG Tlapa 72.11 84 P P 21 42 00.2 +0.5
TLIG IAmb IAmb 21 42 29.4
comp=Z,232nm,1.2s
LAWE Loch Awe, Argy 72.12 2 *eP* P 21 41 58.5 -0.5
EAB Aberfoyle 72.21 2 *eP* P 21 41 59.4 -0.2
THIN Thein Dam 72.29 300 *ex* P 21 42 03.0 +2.5
COEN Coen 72.38 216 P P 21 42 01.1 +0.1
SUW Suwalki 72.41 345 *eP* P 21 42 00.4 -0.4
SUW Suwalki 72.41 345 P P 21 42 00.9 +0.1
SUW pmax pmax
comp=Z,102nm,0.9s
SUW Suwalki 72.41 345 P P 21 42 00.9 +0.1
BSD Bornholm Skovb 72.44 350 *i* P P 21 42 00.1 -0.8
BSD Bornholm Skovb 72.44 350 *i* P P 21 42 00.1 -0.8
ESY Stoneypath 72.50 1 *eP* P 21 42 01.0 -0.3
SMLA Simla 72.51 298 *eP* P 21 42 01.8 0.0
SMLA IAmb IAmb 21 42 04.0
comp=Z,337nm,0.8s
PGBU Glenifferbraes 72.59 2 *eP* P 21 42 00.8 -1.0
DDI Dehra Dun 72.64 297 IAmb IAmb 21 42 04.9
comp=Z,514nm,1.1s
EBL Broad Law 72.65 1 *eP* P 21 42 01.7 -0.5
656A Willston 72.65 65 P P 21 42 02.0 -0.7
656A IAmb IAmb 21 42 30.9
comp=Z,209nm,1.1s
NIL Nilore 72.65 302 P P 21 42 03.2 +0.5
NIL pmax pmax
comp=Z,466nm,0.8s
NIL Nilore 72.65 302 P P 21 42 03.2 +0.5
BHK Bhakra 72.70 299 *eP* P 21 42 06.5 +3.6
BHK epP **pP** 21 42 34.2 +3.9
EKA Eskdalemuir Ar 73.09 1 PKiKP **PKiKP** 21 48 01.9 -0.4
comp=Z,1.3nm,0.6s,baz=13,slow=2.1,SNR=4.8
ESK Eskdalemuir 73.10 1 *eP* P 21 42 04.4 -0.5
ESK IAmb IAmb 21 42 07.0
comp=Z,65nm,1.2s
ESK Eskdalemuir 73.10 1 P P 21 42 05.3 +0.4
ESK pmax pmax
comp=Z,108nm,1.1s
ESK Eskdalemuir 73.10 1 P P 21 42 05.3 +0.4
BOK Bokaro 73.14 287 *eP* P 21 42 06.4 +0.8
BOK IAmb IAmb 21 42 08.7
comp=Z,398nm,1.0s
RGN Rugen 73.16 351 *eP* P 21 42 04.6 -0.5
RGN Rugen 73.16 351 P P 21 42 05.0 -0.1
RGN IAmb IAmb 21 42 39.2
comp=Z,265nm,1.1s
CLGH Cloghs, Cushen 73.28 3 *eP* P 21 42 05.7 -0.2
CLGH IAmb IAmb 21 42 08.2
comp=Z,123nm,1.4s
SBUM Sibu 73.56 252 P P 21 42 08.1 -0.1
SBUM Sibu 73.56 252 P P 21 42 09.0 +0.9
EDMD Edmundbyers 73.60 0 *eP* P 21 42 07.4 -0.4
TTSI Tana Toraja 73.69 243 P P 21 42 08.9 0.0
comp=Z,407nm,1.4s
KESW Keswick, Cumbr 73.83 1 *eP* P 21 42 09.1 -0.1
BKB Balikpapan 73.86 246 P P 21 42 10.7 +0.9
comp=Z,490nm,1.0s
BKB Balikpapan 73.86 246 P P 21 42 09.7 -0.2
GKP Gorka Klasztor 73.98 348 *eP* P 21 42 09.7 -0.3
KBL Kabul 74.11 306 P P 21 42 10.5 -0.9
KBL Kabul 74.11 306 P P 21 42 10.9 -0.5
KBL pmax pmax
comp=Z,455nm,0.8s
KBL Kabul 74.11 306 P P 21 42 10.9 -0.5
DWPF Disney Wildern 74.24 65 P P 21 42 11.6 -0.4
baz=321
DWPF Disney Wildern 74.24 65 P P 21 42 11.6 -0.4
BBSI Bau Bau 74.25 239 P P 21 42 14.0 +1.9
comp=Z,451nmcomp=Z,52nm,0.9s
WIM Isle of Man 74.25 2 *eP* P 21 42 10.5 -1.1
NDI New Delhi 74.37 296 *eP* P 21 42 11.0 -1.7
AKASG Malin Array Be 74.45 340 P P 21 42 12.7 -0.2
comp=Z,62nm,0.4s,baz=22,slow=6.5,SNR=90
AKASG pP **pP** 21 42 39.4 -0.5
comp=Z,23nm,0.5s,baz=22,slow=5.9,SNR=2.9
AKASG PKiKP **PKiKP** 21 48 03.5 -0.9
comp=Z,3.7nm,0.7s,baz=17,slow=1.9,SNR=4.8
AKASG S **S** 21 51 37.9 -0.6
comp=Z,9.6nm,0.8s,baz=21,slow=12,SNR=11
AKASG PKPPKP **P'P'df** 22 09 43.8 +0.1
comp=Z,1.0nm,0.5s,baz=169,slow=0.3,SNR=6.0
AKASG Malin Array Be 74.45 340 P P 21 42 12.3 -0.6
AKBB Malin Array Si 74.45 340 P P 21 42 12.6 -0.2
AKBB pmax pmax
comp=Z,115nm,0.7s
AKBB Malin Array Si 74.45 340 P P 21 42 12.6 -0.2
AKBB IAmb IAmb 21 42 14.9
comp=Z,115nm,0.7s
HPK Haverah Park 74.47 0 *eP* P 21 42 12.6 -0.3
SPSI Sidrap Palu 74.49 242 P P 21 42 13.1 -0.4
comp=Z,220nm,0.9s
PPT Papeete 74.63 148 P P 21 42 15.5 +1.4
comp=Z,73nm,0.8s,baz=183,slow=0.7,SNR=8.8
PPT2 Papeete2 74.65 148 *eP* P 21 42 15.3 +1.0
comp=Z,125nm,1.4s
PPT2 Papeete2 74.65 148 *eT* T 23 03 25.0
comp=Z,21nm,0.3s
PPTF Pamatai, Papee 74.65 148 P P 21 42 15.0 +0.7
BNSI Bone 74.66 242 P P 21 42 14.9 +0.4
comp=Z,273nm,1.1s
TIAR Tiarei 74.69 148 *eP* P 21 42 15.3 +0.8

comp=Z,53nm,1.0s
TIAR Tiarei 74.69 148 *e*T T 23 03 30.7
comp=Z,6.3nm,0.3s
PAE Paea 74.71 148 *e*P **P** **21 42 15.5 +0.9**
comp=Z,17nm,0.9s
MTKI Muara Teweh, K 74.74 248 P **P** **21 42 14.8 -0.2**
comp=Z,166nm,0.8s
BEL Belsk 74.89 346 *e*P **P** **21 42 17.3 +2.0**
TVO Taravao 74.93 148 *e*P **P** **21 42 17.0 +1.0**
comp=Z,23nm,0.8s
LBWR Ladybower, Pea 75.03 0 *e*P **P** **21 42 15.5 -0.7**
DSB Dublin 75.11 3 P **P** **21 42 16.6 0.0**
RUE Ruedersdorf 75.15 350 *e*P **P** **21 42 16.6 -0.2**
RAR Rarotonga 75.30 159 P **P** **21 42 18.2 +0.3**
RAR pmax pmax
comp=Z,340nm,1.9s
RAR Rarotonga 75.30 159 P **P** **21 42 18.2 +0.3**
RAR IAmb IAmb 21 42 56.4
comp=Z,340nm,1.9s
KAPI Kappang 75.37 242 P **P** **21 42 18.8 +0.3**
comp=Z,113nm,0.8s,baz=46,slow=2.6,SNR=35
KAPI Kappang 75.37 242 P **P** **21 42 19.1 +0.6**
KAPI pmax pmax
comp=Z,960nm,2.0s
KAPI Kappang 75.37 242 P **P** **21 42 19.1 +0.6**
MEH Mehetia 75.41 147 *e*P **P** **21 42 19.5 +0.9**
comp=Z,46nm,1.2s
KSM Kuching 75.47 253 P **P** **21 42 19.1 -0.1**
KSM IAmb IAmb 21 42 21.6
comp=Z,215nm,0.9s
KSM Kuching 75.47 253 P **P** **21 42 20.0 +0.8**
FOEL Foel Wylfa 75.53 1 *e*P **P** **21 42 19.2 +0.2**
FOEL IAmb IAmb 21 42 21.1
comp=Z,76nm,1.0s
LLW Llanuwychllyn 75.57 1 *e*P **P** **21 42 17.9 -1.3**
WACR West Acre 75.69 359 *e*P **P** **21 42 19.5 -0.4**
CWF Charnwood Fore 75.69 360 *e*P **P** **21 42 19.8 -0.1**
CWF IAmb IAmb 21 42 22.0
comp=Z,132nm,1.5s
BWNR Bhubaneshwar 75.85 285 *e*P **P** **21 42 21.3 0.0**
BWNR IAmb IAmb 21 42 24.5
comp=Z,110nm,0.8s
KBKI Kotabaru 75.94 246 P **P** **21 42 21.0 -0.8**
comp=Z,2µmcomp=Z,132nm,1.0s
GOF Gofitskoye 76.01 329⇑ *i*P **P** **21 42 22.8 +0.9**
GOF pmax pmax
comp=Z,846nm,0.7s
LVV L'vov 76.30 343 *e*P **P** **21 42 22.8 -0.6**
TEIG Tepich 76.33 75 P **P** **21 42 24.5 +0.5**
MTN Manton Dam 76.34 228 P **P** **21 42 23.7 -0.3**
ASHT Ashkhabad 76.35 315 P **P** **21 42 25.0 +1.1**
ASHT pmax pmax
comp=Z,423nm,1.1s
ASHT Ashkhabad 76.35 315 P **P** **21 42 25.0 +1.1**
CLL Collm 76.39 351 *e*P **P** **21 42 24.0 +0.1**
CLL *e*PcP **PcP** **21 42 34.0 -1.2**
CLL *e*pP **pP** **21 42 50.0 -1.0**
CLL *e*PP **PP** **21 45 12.0 -4.0**
CLL Collm 76.39 351 *e*P P 21 42 29.0 +5.1
comp=Z,14nm,0.7s
CLL *i* 21 42 55.5
CLL Collm 76.39 351 P **P** **21 42 23.6 -0.3**
CLL pmax pmax
comp=Z,58nm,1.1s
CLL Collm 76.39 351 P **P** **21 42 23.6 -0.3**
MCH1 Michaelchurch 76.43 1 *e*P **P** **21 42 23.5 -0.6**
KSP Ksiaz 76.48 348 *e*P **P** **21 42 21.9 -2.5**
GEYT Alibeck 76.48 315 P **P** **21 42 25.4 +0.7**
comp=Z,102nm,1.0s,baz=29,slow=3.4,SNR=61
GEYT PP **PP** **21 45 16.0 -1.3**
comp=Z,16nm,0.8s,baz=347,slow=6.1,SNR=3.5
GEYT S **S** **21 52 02.8 +1.5**
comp=Z,2.1nm,1.0s,baz=243,slow=0.7,SNR=5.0
GEYT Alibeck 76.48 315 P **P** **21 42 25.2 +0.5**
GYA0B ALIBECK ARRAY 76.48 315 P **P** **21 42 25.2 +0.5**
GYA0B IAmb IAmb 21 42 28.5
comp=Z,274nm,1.1s
OJC Ojcow 76.61 346 *e*P **P** **21 42 25.7 +0.6**
OJC Ojcow 76.61 346 P **P** **21 42 25.5 +0.3**
OJC pmax pmax
comp=Z,92nm,1.1s
OJC Ojcow 76.61 346 P **P** **21 42 25.5 +0.3**
STRD Stroud 76.66 0 *e*P **P** **21 42 24.4 -1.0**
KWP Kalwaria Pacla 76.72 344 *e*P **P** **21 42 26.3 +0.5**
KWP Kalwaria Pacla 76.72 344 P **P** **21 42 26.6 +0.8**
KWP pmax pmax
comp=Z,294nm,0.6s
KWP Kalwaria Pacla 76.72 344 P **P** **21 42 26.6 +0.8**
BRG Berggiesshubel 76.72 350 *i*P **P** **21 42 26.2 +0.4**
comp=Z,80nm,1.9s
BRG *i* pP **pP** **21 42 52.0 -0.9**
comp=Z,90nm,1.4s
BRG Berggiesshubel 76.72 350 *i*P **P** **21 42 26.2 +0.4**
BRG *i* *PP **pP** **21 42 52.0 -0.9**
BRG pmax pmax
comp=Z,80nm,1.9s
GROC Groznyy 76.75 326 *e*P **P** **21 42 26.7 +0.6**
GROC *e* 21 42 35.9
GROC *e**PP **pP** **21 42 50.3 -3.1**
GROC *e*S **S** **21 52 09.1 +5.1**
GROC *e* 21 52 33.9
GROC pmax pmax
comp=Z,290nm,1.6s
UPC Upice 76.84 349 *e*P **P** **21 42 28.1 +1.6**
UPC Upice 76.84 349 *e*P **P** **21 42 28.1 +1.6**
DPC Dobruska-Polom 76.96 348 *e*P **P** **21 42 27.3 +0.1**
DPC Dobruska-Polom 76.96 348 *e*P **P** **21 42 27.3 +0.1**
DGPR DIGLIPUR 76.97 275 *e*P **P** **21 42 27.6 0.0**
SOEI Soe 76.98 235 P **P** **21 42 28.0 +0.2**
comp=Z,337nm,0.8s
SOEI Soe 76.98 235 P **P** **21 42 27.5 -0.3**
SOEI IAmb IAmb 21 42 36.3
comp=Z,250nm,0.8s
PVCC Panska Ves 76.99 349 *e*P **P** **21 42 29.5 +2.2**
PVCC Panska Ves 76.99 349 *e*P **P** **21 42 29.5 +2.2**
CTA Charters Tower 77.03 211 S **S** **21 52 10.1 +2.8**
comp=Z,1.5nm,0.4s,baz=7.6,slow=4.3,SNR=3.9
CTA PKKPbc PKKPbc 22 01 34.9 +1.0
comp=Z,4.0nm,1.0s,baz=34,slow=15,SNR=2.0
CTAO Charters Tower 77.03 211 P **P** **21 42 27.8 0.0**
CTAO pmax pmax
comp=Z,239nm,1.2s
CTAO Charters Tower 77.03 211 P **P** **21 42 27.8 0.0**
CTAO IAmb IAmb 21 42 30.3
comp=Z,239nm,1.2s
SORM Soroca 77.07 340⇑P **P** **21 42 27.8 +0.1**
KVAR Kislovodsk Arr 77.11 329 P **P** **21 42 29.1 +0.9**
comp=Z,50nm,0.7s,baz=87,slow=22,SNR=20
KVAR S **S** **21 52 09.6 +1.5**
comp=Z,22nm,1.2s,baz=199,slow=5.5,SNR=6.2
KIV Kislovodsk 77.11 329⇓P **P** **21 42 29.5 +1.2**
KIV Kislovodsk 77.11 329 *i*P **P** **21 42 29.3 +1.1**
SNR=94
KIV Kislovodsk 77.11 329 *e*P **P** **21 42 28.2 0.0**
KIV pmax pmax
comp=Z,793nm,1.0s
KIV Kislovodsk 77.11 329 P **P** **21 42 28.8 +0.6**
KIV IAmb IAmb 21 42 32.8
comp=Z,218nm,0.7s
WOL Wolverton 77.12 360 *e*P **P** **21 42 27.1 -0.9**
OKC Ostrava-Krasne 77.22 347 *e*P **P** **21 42 30.3 +1.7**
OKC *ex* x 21 43 00.8
OKC Ostrava-Krasne 77.22 347 *e*P **P** **21 42 30.3 +1.7**
OKC *e* 21 43 00.8
KBZ Khabaz 77.24 329 P **P** **21 42 30.0 +1.2**
comp=Z,124nm,0.8s,baz=102,slow=2.2,SNR=115
KBZ S **S** **21 52 09.2 -0.1**
comp=Z,3.5nm,1.0s,baz=226,slow=5.5,SNR=4.5
KBZ PKKPbc **PKKPbc** **22 01 32.5 +1.1**
comp=Z,2.3nm,0.8s,baz=192,slow=5.5,SNR=4.0
KBZ PKPPKP **P'P'df** **22 09 35.2 -3.6**
comp=Z,1.7nm,0.7s,baz=137,slow=2.1,SNR=3.6
NIE Niedzica 77.31 346 *e*P **P** **21 42 31.4 +2.2**
MORC Moravsky Berou 77.36 347⇓P **P** **21 42 30.1 +0.6**
MORC Moravsky Berou 77.36 347 *e*P **P** **21 42 29.9 +0.4**
MORC *e* 21 42 54.9
MORC Moravsky Berou 77.36 347 P **P** **21 42 30.3 +0.8**
MORC pmax pmax
comp=Z,53nm,1.2s
MORC Moravsky Berou 77.36 347 P **P** **21 42 30.3 +0.8**
BEBN Eben Emael 77.45 355 P **P** **21 42 31.0 +1.1**
BEBN pP **pP** **21 42 56.8 -0.3**
KOLS Kolonicke sedl 77.46 344 *e*P **P** **21 42 30.4 +0.4**
KOLS pmax pmax
comp=Z,62nm,0.6s
KOLS Kolonicke sedl 77.46 344 *e*P **P** **21 42 30.4 +0.4**
NKC Novy Kostel 77.51 351 *e*P **P** **21 42 30.2 0.0**
NKC *e*pP **pP** **21 42 57.4 0.0**
NKC Novy Kostel 77.51 351 *e*P **P** **21 42 30.2 0.0**
NKC *e* 21 42 57.4
AJM Ajmer 77.51 297⇓ *i*P **P** **21 42 30.0 -0.7**
UCC Uccle 77.51 356 P **P** **21 42 30.5 +0.3**
UCC pmax pmax
comp=Z,88nm,1.3s
UCC Uccle 77.51 356 P **P** **21 42 30.5 +0.3**
PRU Pruhonice 77.53 349 *e*P **P** **21 42 31.4 +1.1**
PRU *e*pP **pP** **21 42 57.6 +0.1**
PRU Pruhonice 77.53 349 *e*P **P** **21 42 31.4 +1.1**
PRU *e* 21 42 57.6
HRA Herat 77.54 311 P **P** **21 42 31.6 +0.6**
GOPC GO Pecny, Ondr 77.57 349 *e*P **P** **21 42 30.6 0.0**
GOPC *e*pP **pP** **21 42 57.4 -0.4**
GOPC GO Pecny, Ondr 77.57 349 *e*P **P** **21 42 30.6 0.0**
GOPC *e* 21 42 57.4
AKT Akhty 77.58 324 *e*P **P** **21 42 31.7 +0.8**
AKT *e* 21 42 40.6
AKT *e**PP **pP** **21 42 57.1 -1.2**
AKT *e**SP **sP** **21 43 08.4 -1.5**
AKT *e*S **S** **21 52 14.4 +1.1**
AKT *e* 21 52 37.5
AKT *e**SS sS 21 53 07.1 +8.1
AKT pmax pmax
comp=Z,386nm,0.9s
MEM Membach 77.62 355 P **P** **21 42 30.9 +0.1**
comp=Z,102nm,1.3s
MEM pP **pP** **21 42 57.4 -0.6**
CRVS Cervenica-Dubn 77.63 345 *e*P **P** **21 42 32.0 +1.1**
CRVS pmax pmax
comp=Z,100nm,0.7s
CRVS Cervenica-Dubn 77.63 345 *e*P **P** **21 42 32.0 +1.1**
BSTI Sart Tilman 77.67 355 P **P** **21 42 31.3 +0.2**
BSTI pP **pP** **21 42 58.1 -0.3**
BATI Baumata 77.67 235 P **P** **21 42 31.6 +0.1**
comp=Z,705nm,0.9s,baz=316,slow=0.5,SNR=62
BATI Baumata 77.67 235 P **P** **21 42 31.6 +0.1**
comp=Z,413nm,0.8s
LANS Liptovska Anna 77.70 346 *e*P **P** **21 42 32.3 +1.0**
LANS pmax pmax
comp=Z,54nm,0.8s
LANS Liptovska Anna 77.70 346 *e*P **P** **21 42 32.3 +1.0**
NEY Neytrino 77.73 329 *i*P **P** **21 42 32.3 +0.5**
UZH Uzhgorod 77.75 344 *e*P **P** **21 42 30.3 -1.3**
UZH *e* 21 42 40.5
UZH *e* 21 42 58.9
ZEI Tsey 77.75 328 *e*P **P** **21 42 31.1 -0.9**
ZEI pmax pmax
comp=Z,313nm,0.6s
SNF Seneffe 77.81 356 P **P** **21 42 32.1 +0.3**
comp=Z,76nm,1.4s
SNF pP **pP** **21 42 58.9 -0.1**
BCLA Clavier 77.85 355 P **P** **21 42 31.9 -0.2**
BCLA pP **pwP** **21 43 00.3 -1.2**
BHOU Houvegnez 77.88 355 P **P** **21 42 32.6 +0.3**
BHOU pP **pP** **21 42 59.5 -0.1**
PBCC Pribram 77.89 350 *e*P **P** **21 42 33.4 +1.1**
BGES Gesves 77.89 356 P **P** **21 42 32.0 -0.3**
BGES PcP **PcP** **21 42 39.8 -2.0**
BGES pP **pP** **21 42 59.1 -0.5**
BGES sP **sP** **21 43 11.2 0.0**
ANN Anapa 77.93 333 *e*P **P** **21 42 32.3 -0.3**
ANN pmax pmax
comp=Z,123nm,0.7s
VRAC Vranov 77.95 348⇑P **P** **21 42 32.7 0.0**
VRAC Vranov 77.95 348 *e*P **P** **21 42 33.3 +0.6**
VRAC *e* 21 42 58.9
DYA Yadsworthy 77.98 2 *e*P **P** **21 42 32.3 -0.5**
DYA IAmb IAmb 21 42 34.1
comp=Z,96nm,1.0s
BMRD Maredsous 77.99 356 P **P** **21 42 32.8 -0.1**
comp=Z,105nm,1.4s
BMRD pP **pP** **21 42 59.4 -0.7**
KIS Kishinev 78.05 339⇑P **P** **21 42 33.4 +0.2**
TREC Trest 78.10 349 *e*P **P** **21 42 34.2 +0.7**
TREC Trest 78.10 349 *e*P **P** **21 42 34.2 +0.7**
MILM Milestii Mici 78.12 339⇓P **P** **21 42 33.5 -0.1**
IAS Iasi 78.13 340⇓P **P** **21 42 34.0 +0.3**
GRA1 Grafenberg Arr 78.16 352 P **P** **21 42 34.0 +0.2**
GRF Grafenberg Arr 78.16 352 P **P** **21 42 34.0 +0.2**
GRF pmax pmax
comp=Z,190nm,1.3s
BUR08 Bucovina Ar. S 78.18 342 P **P** **21 42 34.7 +0.6**
BUR08 IAmb IAmb 21 42 39.1
comp=Z,124nm,0.7s
KECS Kecovo 78.19 345 *e*P **P** **21 42 34.9 +0.9**
KECS pmax pmax
comp=Z,32nm,0.8s
KECS Kecovo 78.19 345 *e*P **P** **21 42 34.9 +0.9**
BURAR Bucovina Array 78.20 342⇑P **P** **21 42 35.2 +1.0**
BURAR Bucovina Array 78.20 342⇓P **PKKPbc** **22 01 31.1 +1.6**
BURAR Bucovina Array 78.20 342 P **P** **21 42 34.7 +0.5**
DOU Dourbes 78.20 356 P **P** **21 42 34.0 -0.1**
comp=Z,62nm,1.4s
DOU pP **pP** **21 43 00.6 -0.7**
KRUC Moravsky 78.21 348 *e*P **P** **21 42 34.5 +0.4**
KRUC *e* 21 42 59.4
JAVC Velka Javorina 78.24 347 *e*P **P** **21 42 35.6 +1.2**
JAVC *e* 21 42 59.0
PRAR RASCA 78.24 341⇑P **P** **21 42 35.1 +0.7**
PBA Port Blair 78.26 274 *e*P P 21 42 33.6 -1.2
PBA IAmb IAmb 21 42 36.8
comp=Z,152nm,0.8s
PBA Port Blair 78.26 274 P P 21 42 36.5 +1.6
SNR=6.5
PBA Port Blair 78.26 274 P P 21 42 34.2 -0.6
KULM Kulim 78.31 264 P **P** **21 42 34.9 -0.2**
KULM IAmb IAmb 21 42 37.1
comp=Z,152nm,1.0s
KULM Kulim 78.31 264 P **P** **21 42 36.0 +0.9**
SOC Sochi 78.37 331 *e*P **P** **21 42 34.8 -0.3**
SOC *e*PPP PPP 21 47 21.5
SOC *e*S **S** **21 52 23.0 +1.6**
SOC *e*SS **SS** **21 57 25.7 +0.7**
SOC *e*SSS SSS 22 00 44.1
SOC pmax pmax
comp=Z,166nm,1.0s
SOC MLR MLR
comp=Z,17µm,19.0s
TBLG Delisi 78.41 326 P **P** **21 42 36.2 +0.8**
TBLG pmax pmax
comp=Z,396nm,0.8s
TBLG Delisi 78.41 326 P **P** **21 42 36.2 +0.8**
VYHS Vyhne 78.43 346 *e*P **P** **21 42 36.2 +0.8**
VYHS Vyhne 78.43 346 *e*P **P** **21 42 36.2 +0.8**
BMR Baia Mare 78.47 343⇑P **P** **21 42 36.8 +1.3**
KHC Kasperske Hory 78.48 350 *e*P **P** **21 42 35.7 +0.1**
KHC *e*pP **pP** **21 43 02.0 -0.9**
KHC *ex* x 21 43 08.0
KHC Kasperske Hory 78.48 350 P **P** **21 42 36.1 +0.4**
KHC pmax pmax
comp=Z,58nm,1.5s
KHC Kasperske Hory 78.48 350 P **P** **21 42 36.1 +0.4**
BHPL Bhopal 78.48 293 *e*P **P** **21 42 36.0 -0.1**
BHPL IAmb IAmb 21 42 37.9
comp=Z,153nm,0.7s
BHPL *i* pP **pP** **21 43 03.9 +0.2**
WLF Walferdange 78.56 355 P **P** **21 42 36.1 +0.1**
comp=Z,69nm,1.4s
WLF pP **pP** **21 43 02.9 -0.4**
WLF Walferdange 78.56 355 P **P** **21 42 35.9 -0.1**
WLF Walferdange 78.56 355 P **P** **21 42 35.9 -0.1**
VASR Vaslui 78.61 340⇓P **P** **21 42 36.9 +0.6**
LEOM Leova 78.67 339⇑P **P** **21 42 36.6 0.0**
BIZ Bicaz 78.67 341⇑P **P** **21 42 37.9 +1.2**
BIZ Bicaz 78.67 341⇑P **PKKPbc** **22 01 30.1 +1.7**
GEC2 GERESS Array S 78.75 350 P **P** **21 42 37.1 -0.1**
GERES GERESS Array B 78.75 350 P **P** **21 42 37.0 -0.2**
comp=Z,6.4nm,0.6s,baz=26,slow=5.1,SNR=25
GERES pP **pP** **21 43 03.5 -1.2**
comp=Z,3.7nm,0.7s,baz=15,slow=5.7,SNR=2.3
GERES PKKPbc **PKKPbc** **22 01 28.2 -0.1**
comp=Z,1.8nm,0.7s,baz=191,slow=2.7,SNR=12
GERES PKPPKP **P'P'df** **22 09 29.4 -6.8**
comp=Z,1.7nm,0.8s,baz=191,slow=2.2,SNR=7.8
GERES GERESS Array B 78.75 350 P **P** **21 42 37.0 -0.2**
MODS Modra-Piesok 78.77 347 *e*P **P** **21 42 38.7 +1.5**
MODS Modra-Piesok 78.77 347 *e*P **P** **21 42 38.7 +1.5**
PSZ Piszkesteto 78.83 345⇑P **P** **21 42 39.0 +1.3**
KZRT Kazreti 78.84 327 P **P** **21 42 39.0 +1.2**
ARCR ARCALIA 78.87 342⇓P **P** **21 42 39.5 +1.7**
ZST Bratislava 78.97 347 *e*P **P** **21 42 39.7 +1.4**
ZST pmax pmax
comp=Z,56nm,0.9s
ZST Bratislava 78.97 347 *e*P **P** **21 42 39.7 +1.4**
TESR Tescani 78.97 341⇓P **P** **21 42 38.5 +0.2**
BIR Birlad 79.00 340⇓P **P** **21 42 39.4 +0.9**
MYKOM Kota Tinggi 79.10 259 P **P** **21 42 39.6 +0.1**
MYKOM IAmb IAmb 21 42 41.7
comp=Z,147nm,0.9s
MYKOM Kota Tinggi 79.10 259 P **P** **21 42 40.0 +0.6**
AKH Akhalkalaki 79.12 327⇓P **P** **21 42 41.3 +1.8**
NGP Nagpur 79.18 290 *e*P **P** **21 42 39.6 -0.2**
NGP IAmb IAmb 21 42 41.9
comp=Z,262nm,1.0s
GHRR 79.24 340⇓P **P** **21 42 41.1 +1.3**
JSA Saint Aubin 79.25 0 *e*P **P** **21 42 39.1 -0.6**
BASI Baing, Sumba 79.28 238 P **P** **21 42 40.8 +0.5**
comp=Z,758nm,1.0s
VARL Varlezi 79.30 340⇓P **P** **21 42 41.4 +1.3**
TPRI Tanjung Pinang 79.38 258 P **P** **21 42 41.7 +0.7**
CONA Conrad Observa 79.39 348 *e*P **P** **21 42 40.8 +0.1**
comp=Z,39nm,1.1s,SNR=11
CONA *e*pP **pP** **21 43 06.4 -1.7**
comp=Z,111nm,1.3s
WBSI Waikabubak, Su 79.42 239 P **P** **21 42 39.5 -1.7**
comp=Z,375nm,1.1s
DRGR 79.46 343⇑P **P** **21 42 41.9 +0.8**
DRGR 79.46 343 P **P** **21 42 41.7 +0.6**
DRGR pmax pmax
comp=Z,322nm,0.8s
BATM Batumi 79.54 328⇑P **P** **21 42 42.0 +0.5**
OZUR 79.54 341⇑P **P** **21 42 42.8 +1.3**
VRI Vrincioaia 79.57 340⇑P **P** **21 42 42.7 +1.1**
VRI Vrincioaia 79.57 340⇓P **PKKPbc** **22 01 26.9 +0.4**
ODBI Odobesti 79.60 340⇑P **P** **21 42 43.7 +2.0**
PETR Petresti 79.60 340⇑P **P** **21 42 43.0 +1.2**
PLOR Plostina 79.60 340⇓P **P** **21 42 42.5 +0.7**
PLOR Plostina 79.60 340⇑P **PKKPbc** **22 01 26.1 -0.3**
PLAI Plampang 79.61 241 P **P** **21 42 40.6 -1.6**
comp=Z,428nm,0.9s
TUDR 79.63 340⇑P **P** **21 42 42.9 +1.1**
MOA Molln 79.67 349 *e*P **P** **21 42 43.1 +1.0**
comp=Z,21nm,1.8s
MOA *e*pP **pP** **21 43 09.3 -0.3**
comp=Z,52nm,1.6s
MOA *e*PKKPbc **PKKPbc** **22 01 26.9 +0.6**
comp=Z,3.6nm,0.8s
BCA Borcka 79.71 328⇓P **P** **21 42 42.6 +0.1**
DOPR Dopca 79.75 341⇑P **P** **21 42 44.2 +1.6**
DOPR Dopca 79.75 341⇑P **PKKPbc** **22 01 27.5 +1.5**
BFO Black Forest 79.75 353 P **P** **21 42 41.9 -0.6**
BFO pmax pmax
comp=Z,112nm,1.3s
BFO Black Forest 79.75 353 P **P** **21 42 41.9 -0.6**
TLCR 79.77 339⇓P **P** **21 42 43.1 +0.5**
MDB Medias 79.78 342⇑P **P** **21 42 44.8 +2.0**
LDF La Druitiere 79.84 359 *e*P **P** **21 42 42.5 -0.5**
LDF pmax pmax
comp=Z,59nm,0.8s
KNRA Kununurra 79.91 228 P **P** **21 42 43.5 -0.2**
KNRA IAmb IAmb 21 42 46.4
comp=Z,356nm,1.1s
CFR Carcaliu 79.92 339⇓P **P** **21 42 44.1 +0.6**
CFR Carcaliu 79.92 339⇑P **PKKPbc** **22 01 26.2 +0.6**
ECH Echery 79.94 354 P **P** **21 42 43.5 -0.1**
ECH pmax pmax
comp=Z,102nm,1.4s
ECH Echery 79.94 354 P **P** **21 42 43.5 -0.1**
GRER 79.98 340⇑P **P** **21 42 45.8 +2.0**
TBI Tubuai 80.08 150 *e*P **P** **21 42 45.2 +0.8**
comp=Z,339nm,1.0s
NEHR Nehoiu 80.08 340⇑P **P** **21 42 45.4 +1.0**
MLR Muntele Rosu 80.09 341⇑P **P** **21 42 46.4 +1.8**
MLR Muntele Rosu 80.09 341⇑P **PKKPbc** **22 01 26.3 +0.8**
MLR Muntele Rosu 80.09 341 P **P** **21 42 45.6 +1.0**
MLR pmax pmax
comp=Z,72nm,0.7s
MLR Muntele Rosu 80.09 341 P **P** **21 42 45.5 +1.0**
ARSA Arzberg 80.10 348 *e*P **P** **21 42 45.5 +1.1**
comp=Z,35nm,1.1s
ARSA *e*pP **pP** **21 43 12.1 +0.1**
comp=Z,75nm,1.4s
SIRR Siria 80.15 344⇑P **P** **21 42 46.5 +1.7**
SIRR Siria 80.15 344⇑P **PKKPbc** **22 01 26.7 +1.5**
TOPG Topolog 80.16 339⇓P **P** **21 42 45.7 +0.9**
KMMI Kalianget 80.25 245 P **P** **21 42 47.0 +1.4**
comp=Z,332nm,1.1s
DEV Deva 80.30 343⇓P **P** **21 42 47.6 +2.1**
VOIR 80.32 341⇑P **P** **21 42 47.2 +1.5**
CLF Chambon-Foret 80.36 357 P **P** **21 42 45.8 0.0**
CLF IAmb IAmb 21 43 16.5
comp=Z,323nm,1.2s
RETA Reutte 80.39 352 *e*P **P** **21 42 46.4 +0.3**
comp=Z,14nm,0.9s
RETA *e*PKKPbc **PKKPbc** **22 01 25.3 +0.5**
comp=Z,4.4nm,0.7s,SNR=7.4
TPI Tanjungpandan 80.43 253 P **P** **21 42 46.2 -0.4**
comp=Z,207nm,0.9s
PGOR Pogoanele 80.43 340⇑P **P** **21 42 46.9 +0.7**
HARR Harsova 80.43 339⇑P **P** **21 42 47.0 +0.8**
WATA Walderalm 80.46 351 *e*P **P** **21 42 46.5 0.0**
comp=Z,39nm,0.7s,SNR=9.5
WATA *e*pP **pP** **21 43 13.7 -0.4**
comp=Z,128nm,1.4s
WATA *e*PKKPbc **PKKPbc** **22 01 24.6 -0.1**
comp=Z,7.4nm,0.9s
ARR Arges 80.47 342⇓P **P** **21 42 47.9 +1.4**
ARR Arges 80.47 342⇑P **PKKPbc** **22 01 25.4 +0.8**
MOTA Moosalm 80.50 351 *e*P **P** **21 42 47.1 +0.3**
comp=Z,45nm,1.5s,SNR=7.6
MOTA *e*pP **pP** **21 43 12.3 -2.0**
comp=Z,167nm,1.4s
MOTA *e*PKKPbc **PKKPbc** **22 01 25.4 +0.8**
comp=Z,5.2nm,0.7s,SNR=6.3
SECR 80.50 341⇑P **P** **21 42 47.3 +0.7**
MTUR Matau 80.52 341⇑P **P** **21 42 48.2 +1.3**
WTTA Wattenberg 80.53 351 *e*P **P** **21 42 47.1 +0.1**
comp=Z,51nm,0.6s,SNR=13
WTTA *e*pP **pP** **21 43 12.7 -1.8**
comp=Z,121nm,1.0s
WTTA *e*PKKPbc **PKKPbc** **22 01 25.3 +0.7**
comp=Z,10nm,0.7s
KBA Koelnbreinsper 80.53 350 *e*P **P** **21 42 47.4 +0.4**
comp=Z,75nm,0.6s,SNR=38
KBA *e*PKKPbc **PKKPbc** **22 01 26.1 +1.5**
comp=Z,3.4nm,0.7s
TIRR Tirgusor 80.55 339⇓P **P** **21 42 47.4 +0.6**
TIRR Tirgusor 80.55 339⇓P **PKKPbc** **22 01 25.2 +1.0**
TIRR Tirgusor 80.55 339⇓P **PKKPbc** **22 01 25.2 +1.0**
TIRR Tirgusor 80.55 339 P **P** **21 42 47.1 +0.3**
TIRR pmax pmax
comp=Z,175nm,0.7s
TIRR Tirgusor 80.55 339 P **P** **21 42 47.1 +0.3**
TIRR IAmb IAmb 21 42 49.9
comp=Z,175nm,0.7s
TLBR Topalu 80.55 339⇓P **P** **21 42 47.8 +0.9**
LOT Lotru 80.56 342⇑P **P** **21 42 47.2 +0.1**
SQTA Sankt Quirin 80.61 351 *e*P **P** **21 42 48.0 +0.7**
comp=Z,35nm,0.8s,SNR=8.1
SQTA *e*pP **pP** **21 43 13.0 -1.8**
comp=Z,154nm,1.3s
SQTA *e*PKKPbc **PKKPbc** **22 01 25.0 +0.7**
comp=Z,12nm,0.7s,SNR=9.3
EIDS Eidsvold 80.62 205 P **P** **21 42 47.4 +0.1**
PLAR PLOIESTI 80.63 340⇓P **P** **21 42 48.1 +0.8**
LHMI Lhok Sumawe 80.64 267 P **P** **21 42 49.0 +1.2**
comp=Z,1µm,0.8s
LHMI Lhok Sumawe 80.64 267 P **P** **21 42 48.4 +0.7**
DAVA Damuels 80.66 352 *e*P **P** **21 42 47.9 +0.2**
comp=Z,26nm,1.6s
DAVA *e*pP **pP** **21 43 12.4 -2.7**
comp=Z,69nm,1.2s
DAVA *e*PKKPbc **PKKPbc** **22 01 24.9 +0.6**
comp=Z,12nm,1.1s
MORH Mrgy, Hungar 80.69 346 *e*P **P** **21 42 47.2 -0.4**
PVM Polavaram 80.70 286 *e*P **P** **21 42 48.4 +0.4**
KTUT Trabzon 80.71 330⇓P **P** **21 42 48.4 +0.6**
SOKA Soboth 80.73 348 *e*P **P** **21 42 48.4 +0.5**
comp=Z,76nm,1.0s,SNR=26
SOKA *e*pP **pP** **21 43 14.0 -1.5**
comp=Z,273nm,1.3s

SOKA *e*PKKPbc **PKKPbc** 22 01 25.8 +1.8
comp=Z,4.8nm,0.7s
CVDA **Cernavoda** 80.75 339 ⇓P **P** 21 42 49.3 +1.4
TSCT **Constanta Port** 80.77 338 ⇑P **P** 21 42 49.7 +1.7
BZS **Buzias** 80.79 344 ⇑P **P** 21 42 48.4 +0.3
SULR 80.80 340 ⇑P **P** 21 42 48.5 +0.3
RPR **Rampur** 80.83 289 *e*P **P** 21 42 48.9 +0.1
FETA **Feichten** 80.85 351 *e*P **P** 21 42 48.6 0.0
comp=Z,23nm,0.8s,SNR=6.2
FETA *e*pP **pP** 21 43 15.7 -0.5
comp=Z,76nm,1.2s
FETA *e*PKKPbc **PKKPbc** 22 01 24.5 +0.7
comp=Z,9.2nm,0.8s
PPBI **Pangkal Pinang** 80.85 255 P **P** 21 42 48.6 -0.3
EFOR **EFORIE** 80.86 338 ⇓P **P** 21 42 48.8 +0.4
MYKA **Terra Mystica** 80.94 349 *e*P **P** 21 42 49.8 +0.7
comp=Z,24nm,0.7s,SNR=6.1
MYKA *e*pP **pP** 21 43 15.8 -0.8
comp=Z,76nm,1.5s
MYKA *i* PKKPbc **PKKPbc** 22 01 25.2 +1.7
comp=Z,6.1nm,0.8s
ABTA **Abfaltersbach** 80.95 350 *e*P **P** 21 42 48.9 -0.2
comp=Z,34nm,0.8s,SNR=7.8
ABTA *e*pP **pP** 21 43 16.1 -0.5
comp=Z,150nm,1.3s
ABTA *i* PKKPbc **PKKPbc** 22 01 24.8 +1.2
comp=Z,4.1nm,0.8s
OBKA **Obir** 80.95 349 *e*P **P** 21 42 49.6 +0.5
comp=Z,60nm,0.7s,SNR=15
OBKA *e*pP **pP** 21 43 16.1 -0.6
comp=Z,148nm,1.3s
OBKA *e*PKKPbc **PKKPbc** 22 01 25.4 +1.9
comp=Z,4.9nm,0.8s
TSI **Tuntungan** 80.99 264 P **P** 21 42 49.1 -0.5
comp=Z,569nm,0.8s
RASA **Rasa** 81.06 340 ⇓P **P** 21 42 50.1 +0.6
WB0 **Warramunga Arr** 81.07 221 P **P** 21 42 49.1 -0.7
WB0 IAmb IAmb 21 42 50.3
comp=Z,172nm,0.8s
BANR **Banloc** 81.10 344 ⇑P **P** 21 42 51.2 +1.4
MANR **Mangalia** 81.11 338 ⇑P **P** 21 42 50.6 +0.7
PRED **Cave del Predi** 81.13 349 P **P** 21 42 49.6 -0.4
DAVOX **Davos/Dischmat** 81.17 352 PKiKP **PKiKP** 21 48 14.8 -0.2
comp=Z,3.5nm,0.7s,baz=103,slow=8.0,SNR=2.7
WR0 **Warramunga Arr** 81.18 221 P **P** 21 42 49.8 -0.6
WR0 IAmb IAmb 21 42 51.2
comp=Z,168nm,0.7s
WRAB **Tennant Creek** 81.23 221 *i* P **P** 21 42 50.4 -0.3
WRAB pmax pmax
comp=Z,179nm,0.9s
WRAB **Tennant Creek** 81.23 221 P **P** 21 42 50.2 -0.4
WRAB IAmb IAmb 21 42 52.5
comp=Z,220nm,0.9s
WB2 **Warramunga Arr** 81.24 221 P **P** 21 42 50.1 -0.6
WB2 IAmb IAmb 21 42 52.6
comp=Z,260nm,0.9s
WRA **Warramunga Arr** 81.25 221 P **P** 21 42 50.2 -0.6
comp=Z,174nm,0.7s,baz=31,slow=6.0,SNR=168
WRA pP **pP** 21 43 19.7 +1.3
comp=Z,48nm,1.2s,baz=31,slow=5.8,SNR=1.5
WRA PKKPbc **PKKPbc** 22 01 25.3 +1.1
comp=Z,5.8nm,0.6s,baz=229,slow=2.2,SNR=17
WRA **Warramunga Arr** 81.25 221 P **P** 21 42 50.0 -0.8
WRA **Warramunga Arr** 81.25 221 P **P** 21 42 50.0 -0.8
FUORN **Ofenpass-Fuorn** 81.29 352 P **P** 21 42 51.2 +0.1
SGRR **Singureni** 81.30 340 ⇑P **P** 21 42 50.9 +0.1
JAGI **Jajag, Banyuwa** 81.31 244 P **P** 21 42 48.9 -2.4
comp=Z,98nm,1.7s
JAGI **Jajag, Banyuwa** 81.31 244 P **P** 21 42 48.4 -2.9
PSI **Prapat** 81.32 263 P **P** 21 42 51.6 +0.1
comp=Z,190nm,0.8s,baz=0.2,slow=2.8,SNR=82
PSI PKKPbc **PKKPbc** 22 01 23.6 +0.7
comp=Z,6.7nm,0.7s,baz=360,slow=5.4,SNR=5.3
PSI **Prapat** 81.32 263 P **P** 21 42 51.2 -0.3
PSI pmax pmax
comp=Z,422nm,1.2s
SRSP **Sriramsagar** 81.33 289 *e*P **P** 21 42 50.6 -0.8
HERR **Herculane** 81.36 343 ⇓P **P** 21 42 51.4 +0.2
HERR **Herculane** 81.36 343 ⇑P **PKKPbc** 22 01 24.0 +1.6
CIMO **Cimolais** 81.39 350 P **P** 21 42 51.6 +0.3
RPSI **Rantau Prapat** 81.40 263 P **P** 21 42 51.2 -0.6
RPSI IAmb IAmb 21 42 53.9
comp=Z,422nm,1.2s
LJU **Ljubljana** 81.42 349 *e*P **P** 21 42 52.2 +0.7
SRE **Strehaia** 81.42 342 ⇓P **P** 21 42 51.5 0.0
ZAG **Zagreb** 81.44 348 *e*P pP 21 43 19.6 +0.4
KCSI **Kotacane, Aceh** 81.46 265 P **P** 21 42 50.9 -1.3
comp=Z,38nm,0.8s
CRES **Cresnjev** 81.51 348 *e*P **P** 21 42 52.7 +0.7
TUE **Stuetta** 81.52 352 P **P** 21 42 52.0 -0.2
FRGS **Fruska Gora** 81.54 345 *e*P **P** 21 42 52.1 0.0
COPA **Copaceanca** 81.54 341 ⇑P **P** 21 42 51.8 -0.3
MDVR **Moldovita** 81.58 343 ⇓P **P** 21 42 52.6 +0.2
TGUH **Tegucigalpa,Un** 81.70 78 P **P** 21 42 54.0 +0.4
TGUH IAmb IAmb 21 43 24.0
comp=Z,298nm,1.1s
MLSI **Meulaboh, Aceh** 81.73 266 P **P** 21 42 52.4 -1.1
comp=Z,221nm,0.8s
CEY **Cerknica** 81.73 349 *e*P **P** 21 42 53.4 +0.3
CTI **Castel Tesino** 81.73 351 P **P** 21 42 53.1 -0.1
CTI pmax pmax
comp=Z,143nm,1.7s
CTI **Castel Tesino** 81.73 351 P **P** 21 42 53.1 -0.1
SENIN **Lac Senin/Sane** 81.78 354 P **P** 21 42 53.5 -0.1
RAZG **Razgrad** 81.81 340 ⇑P **P** 21 42 54.0 +0.4
VLAD **Vladila** 81.83 341 ⇑P **P** 21 42 54.4 +0.7
TRI **Trieste** 81.84 349 P **P** 21 42 53.9 +0.2
TRI pmax pmax
comp=Z,27nm,0.8s
TRI **Trieste** 81.84 349 P **P** 21 42 53.9 +0.2
PUNG **Punghina** 81.85 342 ⇑P **P** 21 42 53.9 +0.1
NEF **NEVSHA** 81.94 339 *e*P **P** 21 42 54.8 +0.6
ZIMR 81.97 341 ⇑P **P** 21 42 54.6 +0.3
RIY **Rijeka** 82.13 349 *e*P **P** 21 42 55.0 -0.2
TEKS **Tekeris** 82.17 345 *e*P **P** 21 42 57.7 +2.2
SMRI **Semarang** 82.26 248 P **P** 21 42 56.5 +0.3
comp=Z,276nm,1.6s
SMRI **Semarang** 82.26 248 P **P** 21 42 56.0 -0.2
SMRI IAmb IAmb 21 42 58.8
comp=Z,332nm,1.2s
SALO **Salr** 82.26 351 P **P** 21 42 56.0 +0.1
PMBI **Palembang** 82.28 255 P **P** 21 42 56.7 +0.3
SBSI **Sibolga** 82.32 263 P **P** 21 42 55.0 -1.6
comp=Z,52nm,1.0s
BLY **Banja Luka** 82.34 347 ⇑*i*P **P** 21 42 56.2 -0.1
PLVB **Pleven** 82.38 341 ⇑P **P** 21 42 57.4 +0.9
PLVB **Pleven** 82.38 341 ⇑P **PKKPbc** 22 01 21.1 +1.0
HYBB **Hyderabad (bro** 82.39 288 *e*P **P** 21 42 56.9 -0.1
HYB **Hyderabad** 82.39 288 *i* P **P** 21 42 57.0 0.0
comp=Z,700nm,1.0s
HYB **Hyderabad** 82.39 288 *e*P **P** 21 42 56.1 -0.9
HYB IAmb IAmb 21 42 59.1
comp=Z,335nm,0.9s
MNSI **Mandailing Nat** 82.49 262 P **P** 21 42 55.4 -2.1
comp=Z,195nm,0.8s
DIVS **Divibare** 82.54 344 P **P** 21 42 57.6 +0.1
DIVS **Divibare** 82.54 344 ⇑*i*P **P** 21 42 57.2 -0.3
WOJI **Wonogiri, Jawa** 82.62 247 P **P** 21 42 57.5 -0.6
comp=Z,101nm,1.9s
NJS **Nagarjunasagar** 82.62 287 *e*P **P** 21 42 58.0 -0.2
MGRS **Mrkonjic Grad** 82.67 347 ⇑*i*P **P** 21 43 00.3 +2.2
HAPS **Han Pijesak,BI** 82.72 345 *e*P **P** 21 42 58.0 -0.4
SDSI **Sungai Dareh** 82.72 259 P **P** 21 42 58.4 -0.3
comp=Z,137nm,1.9s
ADKI **Addanki** 82.78 286 *e*P **P** 21 42 59.4 +0.4
BHUJ **Bhuj** 82.81 299 *e*P **P** 21 42 59.0 0.0
BHUJ *i* pP PcP 21 43 11.9 +8.3
BBLS **Lazići** 82.86 345 *e*P **P** 21 42 59.4 +0.3
UGM **Wanagama** 82.91 248 P **P** 21 43 00.5 +0.9
comp=Z,396nm,1.8s
UGM **Wanagama** 82.91 248 P **P** 21 42 58.5 -1.1
SSB **Saint Sauveur** 83.02 356 P **P** 21 42 59.9 0.0
SSB pmax pmax
comp=Z,79nm,1.4s
SSB **Saint Sauveur** 83.02 356 P **P** 21 42 59.9 0.0
KLRI **Killari** 83.02 290 *e*P **P** 21 42 60.0 -0.3
RUDO **Rudo** 83.11 345 *e*P **P** 21 42 59.7 -0.6
BNI **Bardonecchia** 83.12 354 P **P** 21 43 01.5 +0.9
BNI pmax pmax
comp=Z,125nm,1.4s
BNI **Bardonecchia** 83.12 354 P **P** 21 43 01.4 +0.9
SRLM **Srisailam** 83.22 287 *e*P **P** 21 43 00.3 -1.0
PDSI **Padang** 83.29 260 P **P** 21 43 00.4 -1.3
comp=Z,57nm,1.1s

GSI **Gunungsitoli** 83.32 264 P **P** 21 43 01.7 -0.1
comp=Z,2µm,1.4s
GSI **Gunungsitoli** 83.32 264 P **P** 21 43 01.4 -0.4
VTS **Vitosha** 83.39 342 ⇑P **P** 21 43 02.5 +0.5
VTS **Vitosha** 83.39 342 ⇑P **PKKPbc** 22 01 18.9 +0.8
VTS **Vitosha** 83.39 342 P **P** 21 43 01.8 -0.2
VTS pmax pmax
comp=Z,44nm,0.7s
VTS **Vitosha** 83.39 342 P **P** 21 43 01.8 -0.2
FITZ **Fitzroy Crossi** 83.47 230 P **P** 21 43 02.5 +0.2
comp=Z,294nm,0.8s,baz=20,slow=5.4,SNR=287
FITZ pP **pP** 21 43 30.8 +0.4
comp=Z,33nm,0.8s,baz=44,slow=13,SNR=1.9
FITZ **Fitzroy Crossi** 83.47 230 P **P** 21 43 02.5 +0.2
DIM **Dimitrovgrad** 83.47 340 *e*P **P** 21 43 02.9 +0.7
ORH **Orhaniye** 83.56 336 *e*P P 21 42 56.2 -6.5
UPM **Unac-Piva** 83.59 345 ⇑*i*P **P** 21 43 02.8 -0.2
KRJI **Kerinci** 83.61 258 P **P** 21 43 03.4 0.0
comp=Z,593nm,0.9s
MDUB **Mudurnu** 83.64 335 P **P** 21 43 03.2 -0.1
MSSA **Maissana** 83.64 352 P **P** 21 43 02.5 -0.6
BR131 **Keskin Array S** 83.69 333 P **P** 21 43 04.5 +1.0
SNR=11
BR131 **Keskin Array S** 83.69 333 P **P** 21 43 03.9 +0.4
BR131 pmax pmax
comp=Z,51nm,0.7s
BR131 **Keskin Array S** 83.69 333 P **P** 21 43 03.9 +0.4
BRTR **Keskin Array B** 83.69 333 P **P** 21 43 04.1 +0.6
VTS comp=Z,34nm,0.6s,baz=39,slow=2.3,SNR=64
BRTR pP **pP** 21 43 31.7 +0.4
comp=Z,9.3nm,0.9s,baz=40,slow=6.4,SNR=2.0
BRTR PKKPbc **PKKPbc** 22 01 18.6 +1.3
comp=Z,4.0nm,0.7s,baz=176,slow=5.6,SNR=14
BRTR PKPPKP **P'P'df** 22 09 22.4 -5.0
comp=Z,4.3nm,0.9s,baz=176,slow=4.5,SNR=7.8
BRTR **Keskin Array B** 83.69 333 P **P** 21 43 03.5 -0.1
LEM **Lembang** 83.71 251 P **P** 21 43 03.0 -0.9
comp=Z,124nm,0.9s,baz=1.1,slow=3.3,SNR=19
VLC **Villacollemand** 83.72 351 P **P** 21 43 03.1 -0.4
LHSI **Lahat** 83.74 256 P **P** 21 43 02.8 -1.1
comp=Z,200nm,1.0s
ANTO **Ankara** 83.79 334 P **P** 21 43 04.1 +0.1
ANTO pmax pmax
comp=Z,198nm,1.7s
ANTO **Ankara** 83.79 334 P **P** 21 43 04.1 +0.1
ANTO IAmb IAmb 21 43 07.8
comp=Z,198nm,1.6s
BR231 **Keskin MP Arra** 83.82 334 P **P** 21 43 04.2 +0.1
BR231 IAmb IAmb 21 43 08.0
comp=Z,202nm,1.7s
BRY **Bratogost** 83.94 345 ⇑*i*P **P** 21 43 04.5 -0.3
BLSI **Bandar Lampung** 83.94 253 P **P** 21 43 03.4 -1.5
comp=Z,245nm,0.9s
MASI **Maura Aman, Be** 83.97 257 P **P** 21 43 06.3 +1.2
comp=Z,375nm,1.1s
DBJI **Dramaga** 84.00 251 P **P** 21 43 03.9 -1.3
comp=Z,132nm,1.2s
STON **Ston** 84.10 346 *e*P **P** 21 43 04.4 -0.9
TREB **Trebinje** 84.15 345 ⇑*i*P **P** 21 43 05.0 -0.6
CISI **Cisompet, Garu** 84.18 250 P **P** 21 43 05.1 -1.1
comp=Z,230nm,1.0s
CISI **Cisompet, Garu** 84.18 250 P **P** 21 43 04.4 -1.8
CISI IAmb IAmb 21 43 05.9
comp=Z,134nm,0.7s
MTDJ **Mount Denham** 84.19 68 P **P** 21 43 06.5 +0.2
MTDJ IAmb IAmb 21 43 34.9
comp=Z,236nm,1.1s
POO **Poona** 84.24 293 *e*P **P** 21 43 06.5 0.0
POO IAmb IAmb 21 43 09.6
comp=Z,215nm,0.8s
OSSC **Osservatorio P** 84.27 351 P **P** 21 43 06.1 -0.2
PDG **Podgorica** 84.28 345 P **P** 21 43 06.2 -0.1
PDG IAmb IAmb 21 43 41.9
comp=Z,192nm,1.0s
PDG **Podgorica** 84.28 345 ⇑*i*P **P** 21 43 06.4 +0.1
SKO **Skopje** 84.35 343 *i* P **P** 21 43 07.7 +1.0
LWLI **Liwa** 84.37 255 P **P** 21 43 05.3 -1.9
comp=Z,374nm,0.8s
CNJI **Cibinong** 84.39 251 P **P** 21 43 05.2 -1.9
comp=Z,216nm,0.9s
HCY **Herceg Novi** 84.39 345 ⇑*i*P **P** 21 43 06.1 -0.8
SISI **Saibi** 84.45 261 P **P** 21 43 08.1 +0.6
comp=Z,172nm,1.5s
ALN **Alexandroupoli** 84.47 339 P **P** 21 43 06.9 -0.3
ALN pmax pmax
comp=Z,35nm,0.8s
ALN **Alexandroupoli** 84.47 339 P **P** 21 43 06.9 -0.3
STIP **Stip** 84.48 342 *i* P **P** 21 43 07.1 -0.3
KASI **Kota Agung** 84.51 254 P **P** 21 43 07.2 -0.6
DRME **Dracevica, Mon** 84.53 345 ⇑*i*P **P** 21 43 08.0 +0.4
SKHT **Srikalahasti** 84.58 285 *e*P **P** 21 43 08.3 +0.1
NRCA **Norcia** 84.75 349 P **P** 21 43 09.2 +0.5
NRCA IAmb IAmb 21 43 11.7
comp=Z,135nm,1.0s
AS31 **Alice Springs** 84.76 220 P **P** 21 43 08.7 -0.1
ASAR **Alice Springs** 84.76 220 P **P** 21 43 08.8 -0.1
comp=Z,126nm,0.8s,baz=20,slow=5.7,SNR=304
ASAR pP **pP** 21 43 37.6 +0.8
comp=Z,8.7nm,0.7s,baz=20,slow=4.2,SNR=1.1
ASAR sP **sP** 21 43 47.5 -0.8
comp=Z,14nm,0.9s,baz=19,slow=5.9,SNR=1.6
ASAR PKKPbc **PKKPbc** 22 01 14.6 -1.7
comp=Z,2.0nm,0.7s,baz=209,slow=1.7,SNR=6.3
VAY **Valandovo** 84.77 342 *i* P **P** 21 43 09.2 +0.4
MDRS **Chennai** 84.79 284 *e*P **P** 21 43 09.6 +0.4
MDRS IAmb IAmb 21 43 11.9
comp=Z,148nm,1.3s
LHI **Lord Howe Isla** 84.82 197 P **P** 21 43 09.9 +1.1
LHI IAmb IAmb 21 43 12.7
comp=Z,166nm,1.0s
GAZ **Gaziantep** 85.00 330 P **P** 21 43 10.9 +0.7
GAZ IAmb IAmb 21 43 12.9
comp=Z,134nm,1.0s
CASP **Castiglione de** 85.03 351 P **P** 21 43 09.6 -0.5
URV **Uravakonda** 85.09 288 *e*P **P** 21 43 09.7 -1.1
RKT **Rikitea** 85.13 138 *e*P **P** 21 43 10.7 +0.1
comp=Z,75nm,0.9s
AQU **L'Aquila** 85.19 349 P **P** 21 43 11.4 +0.4
AQU pmax pmax
comp=Z,82nm,0.7s
AQU **L'Aquila** 85.19 349 P **P** 21 43 11.4 +0.4
AQU IAmb IAmb 21 43 13.0
comp=Z,82nm,0.7s
AQU **L'Aquila** 85.19 349 *e*P **P** 21 43 11.6 +0.7
TIR **Tirane** 85.23 344 ⇓P **PKKPbc** 22 01 16.9 +3.3
ARMA **Armidale** 85.31 203 P **P** 21 43 12.8 +1.3
ARMA IAmb IAmb 21 43 15.3
comp=Z,240nm,1.1s
H07S1 **FLORES T-PHASE** 85.46 23 *e*P **P** 21 43 12.3 0.0
H07S1 *e*P **pP** 21 43 39.2 -1.0
INTR **Introdacqua** 85.46 348 P **P** 21 43 12.3 0.0
INTR IAmb IAmb 21 43 48.5
comp=Z,110nm,1.0s
SGRT **San Giovanni R** 85.48 347 P **P** 21 43 12.5 +0.1
SGRT IAmb IAmb 21 43 47.4
comp=Z,194nm,1.1s
PGAV **Gavieira, Arco** 86.29 5 *e*P **P** 21 43 16.4 -0.1
comp=Z,94nm,1.6s
PGAV *e*pP **pP** 21 43 47.0 +2.6
ISP **Isparta** 86.31 335 P **P** 21 43 16.5 -0.1
ISP pmax pmax
comp=Z,39nm,0.7s
ISP **Isparta** 86.31 335 P **P** 21 43 16.5 -0.1
PAOL **Paolisi** 86.34 348 P **P** 21 43 16.6 -0.1
SRBC **Serra Branca** 86.50 20 *e*P **P** 21 43 17.4 0.0
comp=Z,363nm,1.4s
SRBC *e*P **pP** 21 43 45.8 +0.5
PBRG **Braganca** 86.53 4 *e*P **P** 21 43 17.1 -0.4
comp=Z,59nm,1.5s
PBRG *e*pP **pP** 21 43 45.8 +0.3
PCAB **Cabril** 86.56 5 *e*P **P** 21 43 17.4 -0.3
comp=Z,66nm,1.8s
GOA **Goa** 86.67 291 *e*P **P** 21 43 17.8 -0.7
GOA IAmb IAmb 21 43 20.2
comp=Z,164nm,0.6s
SCTE **Santa Cesarea** 86.71 345 P **P** 21 43 17.9 -0.5
SCTE IAmb IAmb 21 43 20.8
comp=Z,92nm,0.9s
PCED **Cedros** 86.75 21 *e*P **P** 21 43 16.9 -1.7
comp=Z,106nm,1.3s
PCED *e*P **pP** 21 43 45.8 -0.7
ROSA **Rosais** 86.77 21 P **P** 21 43 19.1 +0.4
ROSA IAmb IAmb 21 43 54.7
comp=Z,200nm,1.3s
PMAN **Manadas** 86.88 20 *e*P **P** 21 43 19.4 +0.1
comp=Z,140nm,1.7s
PMAN *e*P **pP** 21 43 45.7 -1.4
OUZ **Omahuta** 86.89 184 P **P** 21 43 20.2 +1.2
OUZ IAmb IAmb 21 43 21.6
comp=Z,94nm,1.0s
PVRL **Vila Real** 87.01 5 *e*P **P** 21 43 19.7 -0.2
comp=Z,66nm,1.4s
PVRL *e*pP **pP** 21 43 48.4 +0.6
PTO **Porto** 87.10 5 *e*P **P** 21 43 20.4 +0.2
comp=Z,59nm,1.2s
MVO **Moncorvo** 87.15 4 *e*P **P** 21 43 20.2 -0.4
comp=Z,54nm,1.0s
MVO *e*pP **pP** 21 43 49.1 +0.5
SHME **Shamm** 87.38 310 *i* P **P** 21 43 21.5 -0.4
SNR=22
BANOM **Banah** 87.41 310 *i* P **P** 21 43 21.7 -0.3
SNR=20
BANOM **Banah** 87.41 310 P **P** 21 43 24.0 +1.9
SNR=14
ELL **Elmali** 87.48 335 P **P** 21 43 22.4 0.0
ELL pmax pmax
comp=Z,94nm,0.6s
ELL **Elmali** 87.48 335 P **P** 21 43 22.4 0.0
ELL IAmb IAmb 21 43 24.6
comp=Z,94nm,0.6s
PVIS **Viseu** 87.56 5 *e*P **P** 21 43 22.3 -0.3
comp=Z,68nm,1.1s
PVIS *e*pP **pP** 21 43 51.1 +0.6
TIP **Timpagrande** 87.86 346 ⇑P **PKKPbc** 22 01 09.8 +2.3
TIP **Timpagrande** 87.86 346 P **P** 21 43 23.5 -0.5
MDH **Madha** 87.94 310 *i* P **P** 21 43 24.0 -0.5
SNR=14
MDH **Madha** 87.94 310 P **P** 21 43 25.0 +0.5
SNR=17
MSFE **Esma-Masafi** 87.96 310 *i* P **P** 21 43 23.9 -0.8
SNR=12
COI **Coimbra** 88.04 5 P **P** 21 43 24.3 -0.4
COI pmax pmax
comp=Z,71nm,1.0s
COI **Coimbra** 88.04 5 *e*P **P** 21 43 24.6 -0.1
comp=Z,101nm,1.4s
COI *e*pP **pP** 21 43 53.1 +0.3
COI **Coimbra** 88.04 5 P **P** 21 43 24.3 -0.4
UMQ **Umm Al-Quwin** 88.05 311 *i* P **P** 21 43 25.7 +0.7
SNR=5.6
PCAS **Casmilo, Conde** 88.19 5 *e*P **P** 21 43 20.9 -4.6
comp=Z,83nm,1.4s
CSS **Mathiatis** 88.22 332 P **P** 21 43 25.1 -0.7
CSS IAmb IAmb 21 43 27.1
comp=Z,269nm,1.9s
UOSS **Minazif** 88.29 310 *i* P **P** 21 43 24.9 -1.3
SNR=29
UOSS **Minazif** 88.29 310 P **P** 21 43 25.1 -1.1
UOSS IAmb IAmb 21 43 27.1
comp=Z,116nm,0.8s
HATD **Hatta, Dubai** 88.42 310 *i* P **P** 21 43 25.9 -1.0
SNR=28
HATD **Hatta, Dubai** 88.42 310 P **P** 21 43 28.1 +1.3
SNR=16
PCBR **Castelo Branco** 88.45 5 *e*P **P** 21 43 25.6 -1.1
comp=Z,56nm,1.5s
PCBR *e*pP **pP** 21 43 55.4 +0.6
NAZ **Nazwa, Dubai** 88.51 310 *i* P **P** 21 43 26.6 -0.6
SNR=22
NAZ **Nazwa, Dubai** 88.51 310 P **P** 21 43 28.0 +0.7
SNR=16
WSAR **Wadi Sarin** 88.55 307 P **P** 21 43 28.3 +0.9
comp=Z,46nm,0.6s,baz=22,slow=0.4,SNR=34
WSAR pP **pP** 21 43 57.6 +1.9
comp=Z,62nm,1.2s,baz=340,slow=11,SNR=3.8
WSAR **Wadi Sarin** 88.55 307 P **P** 21 43 28.6 +1.1
SNR=10
BIDO **Bidbid** 88.56 308 P **P** 21 43 29.2 +1.7
SNR=9.6
ASHO **Ashiyiah** 88.58 310 *i* P **P** 21 43 27.0 -0.6
SNR=8.5
ASHO **Ashiyiah** 88.58 310 P **P** 21 43 29.0 +1.4
SNR=18
PSBE **So Bento** 88.70 6 *e*P **P** 21 43 28.1 +0.1
comp=Z,73nm,1.3s
PSBE *e*pP **pP** 21 43 56.2 +0.2
ESBB **Sonseca Array** 88.74 2 P **P** 21 43 27.4 -0.7
ESDC **Sonseca Array** 88.74 2 P **P** 21 43 27.6 -0.6
comp=Z,11nm,0.8s,baz=352,slow=4.3,SNR=42
ESDC **Sonseca Array** 88.74 2 P **P** 21 43 26.9 -1.2
FAQ **Al Faqa, Dubai** 88.75 310 *i* P **P** 21 43 27.2 -1.2
SNR=6.3
SOHO **SOHO** 88.82 309 *i* P **P** 21 43 27.6 -1.1
SNR=20
PAB **San Pablo** 88.86 2 P **P** 21 43 27.9 -0.9
PAB pmax pmax
comp=Z,23nm,1.3s
PAB **San Pablo** 88.86 2 P **P** 21 43 27.9 -0.9
PMRV **Marv??o** 88.87 4 *e*P **P** 21 43 28.1 -0.6
comp=Z,53nm,1.4s
PMRV *e*pP **pP** 21 43 57.5 +0.7
ITM **Ithomi** 88.90 341 P **P** 21 43 28.2 -0.7
HOQ **Hoqain** 88.91 308 P **P** 21 43 30.0 +0.8
SNR=13
WBK **Wadi Bani Khal** 88.91 306 P **P** 21 43 31.0 +1.8
SNR=7.7
MBWA **Marble Bar** 88.94 233 P **P** 21 43 27.9 -1.1
SMDO **Samad** 88.99 307 P **P** 21 43 31.0 +1.3
SNR=9.4
PMTG **Montargil** 89.18 5 *e*P **P** 21 43 28.9 -1.2
comp=Z,160nm,1.7s
AJN **Ajban** 89.19 311 *i* P **P** 21 43 29.3 -1.1
SNR=6.3
AJN **Ajban** 89.19 311 P **P** 21 43 31.0 +0.6
SNR=12
PSA00 **Pilbara Seismi** 89.23 233 P **P** 21 43 29.8 -0.6
PMAFR **Mafra** 89.23 6 *e*P **P** 21 43 30.6 +0.2
comp=Z,106nm,1.3s
PMAFR *e*pP **pP** 21 43 59.0 +0.5
ALNE **Al Ain** 89.26 310 *i* P **P** 21 43 30.3 -0.5
SNR=33
MMAI **Mount Meron Ar** 89.40 330 P **P** 21 43 31.1 -0.3
comp=Z,4.5nm,0.5s,baz=347,slow=3.4,SNR=14
MMAI pP **pP** 21 43 58.3 -1.2
comp=Z,2.2nm,0.4s,baz=47,slow=12,SNR=2.7
MMAI PP **PP** 21 47 00.0 -2.9
comp=Z,8.5nm,1.0s,baz=34,slow=10,SNR=3.6
MMAI **Mount Meron Ar** 89.40 330 pP 21 43 58.3 -1.2
STKA **Stephens Creek** 89.49 211 P **P** 21 43 32.0 +0.7
comp=Z,187nm,0.7s,baz=356,slow=6.2,SNR=192
STKA PKiKP **PKiKP** 21 48 29.3 +0.9
comp=Z,4.5nm,0.8s,baz=164,slow=24,SNR=2.3
STKA **Stephens Creek** 89.49 211 P **P** 21 43 31.9 +0.5
STKA pmax pmax
comp=Z,84nm,1.2s
STKA **Stephens Creek** 89.49 211 P **P** 21 43 31.9 +0.5
ARQ **Araqi** 89.50 309 P **P** 21 43 33.0 +1.1
SNR=15
JMDO **Jabal Madar** 89.54 307 P **P** 21 43 33.2 +1.1
SNR=9.7
CORL **Corleone** 89.60 348 P **P** 21 43 32.0 -0.2
BSY **Bisya** 89.67 308 P **P** 21 43 34.0 +1.2
SNR=14
EVO **Evora** 89.73 5 *e*P **P** 21 43 31.9 -0.8
comp=Z,45nm,1.6s
EVO *e*pP **pP** 21 44 00.9 +0.1
CLTB **Caltabellotta** 89.92 348 P **P** 21 43 33.0 -0.7
IDI **Anoyia** 90.09 339 P **P** 21 43 32.7 -1.9
comp=Z,13nm,0.6s,baz=33,slow=11,SNR=11
IDI **Anoyia** 90.09 339 P **P** 21 43 32.6 -1.9
PNCL **Nicolau / Gran** 90.12 5 *e*P **P** 21 43 34.8 +0.3
comp=Z,47nm,1.3s
PNCL *e*pP **pP** 21 44 02.8 +0.2
HIZ **Hauiti** 90.13 183 P **P** 21 43 34.9 +0.8
PBEJ **Beja** 90.24 5 *e*P **P** 21 43 34.5 -0.6
comp=Z,54nm,1.5s
PBEJ *e*pP **pP** 21 44 03.8 +0.6
OBIP **Obispado Ponce** 90.40 60 P **P** 21 43 36.0 -0.1
MESJ **Messejana** 90.41 5 *e*P **P** 21 43 35.8 0.0
MESJ **Messejana** 90.41 5 *e*P **P** 21 43 35.9 0.0
comp=Z,33nm,2.2s
PCVE **Castro Verde** 90.62 5 *e*P **P** 21 43 36.4 -0.5
comp=Z,70nm,1.6s
PCVE *e*pP **pP** 21 44 05.3 +0.3
CAN **Canberra** 90.63 204 P **P** 21 43 37.2 +0.5
CAN pmax pmax
comp=Z,48nm,0.8s
CAN **Canberra** 90.63 204 P **P** 21 43 37.2 +0.5
PTEO **Sao Teotonio** 90.67 6 *e*P **P** 21 43 36.8 -0.3
comp=Z,56nm,1.3s
BKZ **Black Stump Fm** 90.75 181 P **P** 21 43 36.0 -1.1

BKZ					IAmb	IAmb	21 43 37.8	
	comp=Z,122nm,1.3s							
MHTO	**MHTO**	**90.77**	**306**		P	**P**	**21 43 39.0**	**+1.2**
	SNR=9.8							
PVAQ	**Vaqueiros**	**90.87**	**5**	*eP*	**P**	**P**	**21 43 37.5**	**-0.5**
	comp=Z,84nm,1.5s							
PVAQ				*ep*	**P**	**pP**	**21 44 06.8**	**+0.7**
PVAQ	**Vaqueiros**	**90.87**	**5**	P	**P**	**P**	**21 43 37.7**	**-0.3**
PFVI	**Vila Bisbo**	**91.07**	**6**	*eP*	**P**	**P**	**21 43 38.5**	**-0.5**
	comp=Z,85nm,1.5s							
PFVI				*ep*	**P**	**pP**	**21 44 07.6**	**+0.5**
KEST	**Kesra**	**92.17**	**351**		P	**P**	**21 43 43.7**	**-0.5**
	comp=Z,16nm,0.7s,baz=324,slow=0.8,SNR=11							
KEST					PP	**PP**	**21 47 23.6**	**-1.0**
	comp=Z,19nm,1.1s,baz=324,slow=2.5,SNR=5.4							
BBOO	**Buckleboo**	**92.19**	**215**		P	**P**	**21 43 43.6**	**-0.3**
SJCC	**San Jacinto, C**	**92.19**	**71**	*eP*	**P**	**P**	**21 43 43.6**	**-1.0**
QRZ	**Quartz Range**	**92.53**	**184**		P	**P**	**21 43 44.5**	**-0.7**
QRZ					IAmb	IAmb	21 44 13.0	
	comp=Z,194nm,1.7s							
EIL	**Elat**	**92.64**	**329**		P	**P**	**21 43 45.9**	**-0.5**
	comp=Z,3.8nm,0.6s,baz=34,slow=7.3,SNR=5.4							
PTAC	**Punta Ardita,**	**92.83**	**75**	*eP*	P		21 43 56.3	+8.9
NNZ	**Nelson**	**92.88**	**184**		P	**P**	**21 43 46.9**	**+0.1**
NNZ					IAmb	IAmb	21 47 23.0	
	comp=Z,131nm,1.5s							
GIRL	**Giralia**	**92.95**	**236**		P	**P**	**21 43 48.4**	**+0.7**
FORT	**Forrest**	**93.44**	**222**		P	**P**	**21 43 50.1**	**+0.5**
TOO	**Toolangi**	**93.67**	**206**		P	**P**	**21 43 51.3**	**+0.7**
TOO					pmax	pmax		
	comp=Z,98nm,1.5s							
TOO	**Toolangi**	**93.67**	**206**		P	**P**	**21 43 51.3**	**+0.7**
TOO					IAmb	IAmb	21 43 54.4	
	comp=Z,98nm,1.4s							
RAYN	**Ar Rayn**	**94.31**	**318**		P	**P**	**21 43 54.0**	**-0.2**
RAYN					pmax	pmax		
	comp=Z,103nm,0.9s							
RAYN	**Ar Rayn**	**94.31**	**318**		P	**P**	**21 43 54.0**	**-0.2**
MDT	**Midelt**	**95.57**	**3**		P	**P**	**21 43 58.9**	**-1.0**
	comp=Z,4.8nm,0.7s,baz=16,slow=4.5,SNR=8.0							
MDT					pP	**pP**	**21 44 26.9**	**-1.1**
	comp=Z,14nm,1.3s,baz=40,slow=4.7,SNR=3.7							
SDV	**Santo Domingo**	**95.64**	**68**		S	**SKSac**	**21 54 22.3**	**-4.5**
	comp=Z,34nm,0.5s,baz=30,slow=12,SNR=1.6							
GUY2C	**Guyana, Caldas**	**95.81**	**74**	*eP*	**P**	**P**	**21 44 01.0**	**-0.7**
NORC	**Norcasia**	**95.83**	**73**	*eP*	**P**	**P**	**21 44 01.3**	**0.0**
YOTC	**Yotoco, Valle**	**96.21**	**76**	*eP*	**P**	**P**	**21 44 03.2**	**+0.1**
ROSC	**El Rosal**	**96.74**	**73**		S	**SKSac**	**21 54 33.6**	**+0.7**
	comp=Z,4.0nm,0.4s,baz=199,slow=19,SNR=2.0							
ORTC	**Ortega, Tolima**	**96.93**	**75**	*eP*	**P**	**P**	**21 44 05.0**	**-1.2**
NWAO	**Narrogin (SRO)**	**100.01**	**228**		P	**Pdif**	**21 44 19.7**	**+0.3**
	comp=Z,34nm,0.8s,baz=56,slow=5.2,SNR=12							
NWAO					pP	**pPdif**	**21 44 48.1**	**+0.2**
	comp=Z,14nm,1.0s,baz=338,slow=9.5,SNR=2.0							
PTGA	**Pitinga**	**109.54**	**65**		PKiKP	**PKiKP**	**21 49 04.0**	**-0.8**
	comp=Z,3.3nm,0.7s,baz=79,slow=1.6,SNR=7.3							
PTGA					PKKPab	**PKKPab**	**22 00 20.3**	**-2.0**
	comp=Z,7.0nm,1.0s,baz=124,slow=8.1,SNR=6.9							
SAML	**Samuel**	**114.35**	**73**	*eP*	PKPdf		21 49 13.2	-0.7
SAML	**Samuel**	**114.35**	**73**	*eP*	PKPdf		21 49 13.2	-0.7
TORD	**Torodi Ar. Bea**	**115.12**	**356**		PKP	**PKiKP**	**21 49 14.2**	**-1.3**
	comp=Z,28nm,0.6s,baz=354,slow=2.4,SNR=151							
TORD					SKP	**SKPdf**	**21 52 39.5**	**-1.2**
	comp=Z,1.6nm,0.5s,baz=345,slow=2.4,SNR=5.9							
TORD					PKKPbc	**PKKPbc**	**21 59 49.7**	**+0.9**
	comp=Z,8.2nm,0.9s,baz=176,slow=1.9,SNR=15							
TORD					PKKPab	**PKKPab**	**21 59 56.5**	**-3.1**
	comp=Z,12nm,0.7s,baz=186,slow=3.7,SNR=20							
TORD					SKKP	**SKKPdf**	**22 03 36.0**	**+0.3**
	comp=Z,3.3nm,0.9s,baz=213,slow=3.9,SNR=5.0							
LPAZ	**La Paz**	**117.10**	**82**		PKP	**PKPdf**	**21 49 19.6**	**-0.3**
	comp=Z,9.6nm,0.7s,baz=3.5,slow=5.1,SNR=28							
LPAZ					PKKPbc	**PKKPbc**	**21 59 42.8**	**+0.2**
	comp=Z,4.5nm,0.7s,baz=152,slow=3.5,SNR=12							
LPAZ	**La Paz**	**117.10**	**82**	*eP*		**PKPdf**	**21 49 19.4**	**-0.4**
LPAZ	**La Paz**	**117.10**	**82**	*eP*		**PKPdf**	**21 49 19.4**	**-0.4**
KMBO	**Kilima Mbogo**	**119.83**	**314**		PKP	**PKiKP**	**21 49 27.1**	**+2.1**
	comp=Z,36nm,0.8s,baz=15,slow=2.2,SNR=58							
KMBO					PP	**PP**	**21 50 47.7**	**-1.4**
	comp=Z,7.3nm,1.1s,baz=15,slow=9.4,SNR=4.4							
KMBO					SKP	**SKPdf**	**21 52 51.2**	**+1.2**
	comp=Z,17nm,0.9s,baz=10,slow=4.2,SNR=12							
KMBO					PKKPab	**PKKPab**	**21 59 38.8**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=13,slow=7.0,SNR=5.0							
KMBO	**Kilima Mbogo**	**119.83**	**314**	*i P*		**PKPdf**	**21 49 24.4**	**-0.4**
	SNR=25							
KMBO	**Kilima Mbogo**	**119.83**	**314**		PKIKP	**PKiKP**	**21 49 25.5**	**+0.6**
KMBO	**Kilima Mbogo**	**119.83**	**314**		PKPdf	**PKiKP**	**21 49 25.5**	**+0.6**
SIV	**San Ignacio**	**121.16**	**76**		PKKPbc	PKKPbc	21 59 28.6	+1.4
	comp=Z,5.2nm,0.8s,baz=131,slow=7.4,SNR=12							
LVC	**Limon Verde**	**121.39**	**87**		PKKPbc	PKKPbc	21 59 25.6	-1.1
	comp=Z,4.1nm,0.8s,baz=8.0,slow=14,SNR=1.9							
DBIC	**Dimbokro**	**121.55**	**4**		PKPdf	**PKPdf**	**21 49 27.1**	**-0.8**
	comp=Z,35nm,0.5s,baz=352,slow=2.5,SNR=71							
DBIC					pPKP	**pPKPdf**	**21 49 56.7**	**-0.9**
	comp=Z,11nm,0.7s,baz=176,slow=5.4,SNR=2.3							
DBIC					SKP	**SKPdf**	**21 52 51.8**	**-1.3**
	comp=Z,15nm,1.1s,baz=307,slow=4.2,SNR=4.7							
DBIC					PKKPbc	**PKKPbc**	**21 59 23.3**	**-2.4**
	comp=Z,2.8nm,0.8s,baz=57,slow=19,SNR=1.5							
DBIC	**Dimbokro**	**121.55**	**4**		PKPdf	**PKPdf**	**21 49 27.0**	**-0.8**
TIC	**Toumodi**	**121.57**	**4**	*e*	PKP1	**PKPdf**	**21 49 26.6**	**-1.3**
TIC	**Toumodi**	**121.57**	**4**	*eP*		**SKPdf**	**21 52 51.5**	**-1.6**
KIC	**Kosan Boka**	**121.87**	**4**	*e*	PKP1	**PKPdf**	**21 49 27.3**	**-1.2**
	comp=Z,149nm,0.9s							
KIC	**Kosan Boka**	**121.87**	**4**	*eP*		**SKPdf**	**21 52 50.5**	**-3.2**
	comp=Z,32nm,1.0s							
LIC	**Lamto**	**121.99**	**4**	*e*	PKP1	**PKPdf**	**21 49 27.5**	**-1.2**
	comp=Z,206nm,0.9s							
LIC	**Lamto**	**121.99**	**4**	*eP*		**SKPdf**	**21 52 52.4**	**-1.5**
	comp=Z,78nm,1.3s							
MBAR	**Mbarara**	**122.09**	**321**		PKP	**PKiKP**	**21 49 29.8**	**+0.5**
	comp=Z,22nm,0.7s,baz=229,slow=0.6,SNR=36							
MBAR	**Mbarara**	**122.09**	**321**		PKIKP	**PKiKP**	**21 49 29.5**	**+0.2**
MBAR	**Mbarara**	**122.09**	**321**			**PKiKP**	**21 49 29.4**	**+0.2**
GO02	**Mina Guanaco**	**122.84**	**90**			**PKPdf**	**21 49 30.0**	**-0.4**
GO03	**Copiap**	**124.19**	**92**			**PKPdf**	**21 49 32.3**	**-0.3**
AC02	**Maricunga**	**124.33**	**91**		PKPdf	**PKiKP**	**21 49 33.8**	**+0.1**
AC05	**El Transito**	**125.05**	**93**		PKPdf	**PKiKP**	**21 49 34.6**	**+0.1**
CO01	**Juntas del Tor**	**125.96**	**94**			**PKiKP**	**21 49 36.8**	**+0.3**
RCBR	**Riachuelo**	**126.01**	**44**		PKP	**PKPdf**	**21 49 35.9**	**-0.6**
	comp=Z,25nm,0.6s,baz=320,slow=3.7,SNR=24							
CO03	**El Pedregal**	**126.20**	**95**		PKPdf	**PKPdf**	**21 49 36.3**	**-0.1**
ARAG	**Araguaiana, MT**	**126.35**	**67**	*eP*		**PKPdf**	**21 49 36.8**	**-0.1**
ARAG	**Araguaiana, MT**	**126.35**	**67**	*eP*		**PKPdf**	**21 49 36.8**	**-0.1**
ROC1	**El Roble**	**127.47**	**97**			**PKPdf**	**21 49 39.1**	**+0.2**
MT02	**Curacav**	**127.58**	**98**		PKPdf	**PKPdf**	**21 49 39.0**	**+0.2**
VA03	**San Esteban**	**127.61**	**97**			**PKiKP**	**21 49 39.3**	**-0.2**
PEL	**Peldehue**	**127.78**	**97**		PKIKP	**PKPdf**	**21 49 39.5**	**+0.3**
PEL	**Peldehue**	**127.78**	**97**			**PKPdf**	**21 49 39.5**	**+0.3**
ZON	**Zonda**	**127.93**	**94**		PKIKP	**PKiKP**	**21 49 39.9**	**-0.2**
ZON	**Zonda**	**127.93**	**94**		PKPdf	**PKiKP**	**21 49 39.9**	**-0.2**
BDFB	**Brasilia**	**128.43**	**63**		PKP	**PKiKP**	**21 49 41.4**	**-0.3**
	comp=Z,27nm,0.7s,baz=229,slow=1.9,SNR=34							
BDFB					pPKP	**pPKPdf**	**21 50 11.6**	**+1.1**
	comp=Z,9.6nm,0.8s,baz=191,slow=19,SNR=2.4							
BDFB					SKPbc	SKPbc	21 52 49.3	
	comp=Z,16nm,0.8s,baz=337,slow=6.7,SNR=6.8							
BDFB	**Brasilia**	**128.43**	**63**		PKPdf	**PKPdf**	**21 49 41.0**	**0.0**
CASY	**Casey**	**128.60**	**209**			**PKiKP**	**21 49 40.3**	**0.0**
BQ02	**Sierra Bellavi**	**128.84**	**99**			**PKiKP**	**21 49 41.8**	**-0.1**
OPO	**Ambohidratompo**	**129.46**	**292**		PKP	**PKPdf**	**21 49 43.1**	**+0.2**
	comp=Z,21nm,0.8s,baz=359,slow=0.4,SNR=14							
OPO					SKPbc	SKPbc	21 52 56.1	+1.3
	comp=Z,28nm,1.0s,baz=46,slow=3.8,SNR=9.5							
VNDA	**Vanda**	**129.60**	**185**		PKP	**PKiKP**	**21 49 41.8**	**-0.2**
	comp=Z,18nm,0.8s,baz=311,slow=4.2,SNR=26							
VNDA					SKPbc	SKPbc	21 52 55.1	+1.9
	comp=Z,35nm,1.1s,baz=339,slow=4.2,SNR=14							
VNDA	**Vanda**	**129.60**	**185**		PKPdf	**PKiKP**	**21 49 42.2**	**+0.1**
BI02	**San Fabin de**	**129.77**	**101**		PKPdf	**PKPdf**	**21 49 42.8**	**-0.2**
ABPO	**Ambohimpanom**	**129.79**	**292**		PKIKP	**PKPdf**	**21 49 42.5**	**-1.1**
ABPO	**Ambohimpanom**	**129.79**	**292**		PKPdf	**PKPdf**	**21 49 42.5**	**-1.1**
ITRB	**Iturama**	**130.37**	**68**	*eP*		**PKPdf**	**21 49 44.7**	**+0.2**
ITRB	**Iturama**	**130.37**	**68**	*eP*		**PKPdf**	**21 49 44.7**	**+0.2**
LC01	**Cunco**	**130.85**	**104**		PKPdf	**PKPdf**	**21 49 45.2**	**+0.4**
CPUP	**Villa Florida**	**131.24**	**81**		PKhKP	PKPpre	21 49 33.4	
	comp=Z,3.3nm,0.6s,baz=319,slow=1.2,SNR=8.4							
CPUP					PKP	**PKPdf**	**21 49 45.9**	**0.0**
	comp=Z,39nm,0.8s,baz=306,slow=2.8,SNR=41							
CPUP					SKPbc	**SKPbc**	**21 52 59.3**	**-1.3**
	comp=Z,92nm,0.7s,baz=315,slow=3.5,SNR=85							
CPUP					SKKPbc	**SKKPbc**	**22 02 20.4**	**-10**
	comp=Z,2.5nm,0.9s,baz=157,slow=7.0,SNR=3.0							
CPUP	**Villa Florida**	**131.24**	**81**		PKPdf	**PKPdf**	**21 49 46.0**	**+0.1**
PCMB	**Pacaembu**	**131.33**	**71**	*eP*		**PKPdf**	**21 49 46.5**	**+0.2**
PCMB	**Pacaembu**	**131.33**	**71**	*eP*		**PKPdf**	**21 49 46.5**	**+0.2**
LL01	**San Ignacio de**	**132.69**	**108**		PKPdf	**PKiKP**	**21 49 48.7**	**-0.5**
PLCA	**Paso Flores**	**132.80**	**105**		PKhKP	PKPpre	21 49 40.8	
	comp=Z,2.8nm,0.7s,baz=306,slow=9.3,SNR=4.0							
PLCA					PKP	**PKPdf**	**21 49 48.6**	**+0.1**
	comp=Z,37nm,1.0s,baz=263,slow=1.9,SNR=14							
PLCA					pPKP	pPKPdf	21 50 16.9	-1.2
	comp=Z,9.7nm,0.7s,baz=259,slow=2.1,SNR=2.9							
PLCA					SKPbc	**SKPbc**	**21 53 06.0**	**+0.3**
	comp=Z,172nm,1.0s,baz=312,slow=4.0,SNR=68							
PLCA					SKKPbc	**SKKPbc**	**22 02 22.2**	**-3.5**
	comp=Z,2.9nm,1.0s,baz=103,slow=2.0,SNR=3.1							
PLCA	**Paso Flores**	**132.80**	**105**		PKPdf	**PKiKP**	**21 49 49.4**	**-0.3**
COYC	**Coyhaique**	**134.77**	**111**		PKPdf	**PKiKP**	**21 49 53.3**	**-0.1**
BSFB	**Barra de Sao F**	**134.91**	**58**	*eP*		**PKPdf**	**21 49 52.8**	**-0.3**
BSFB	**Barra de Sao F**	**134.91**	**58**	*eP*		**PKPdf**	**21 49 52.8**	**-0.3**
SPB	**Sao Paulo**	**135.09**	**69**			**PKPdf**	**21 49 53.5**	**+0.3**
TIJ01	**Guaruva-PR**	**135.50**	**72**	*eP*		**PKPdf**	**21 49 54.6**	**+0.5**
TIJ01	**Guaruva-PR**	**135.50**	**72**	*eP*		**PKPdf**	**21 49 54.6**	**+0.5**
RIB01	**Linhares ES**	**135.55**	**58**	*eP*		**PKPdf**	**21 49 54.3**	**+0.1**
RIB01	**Linhares ES**	**135.55**	**58**	*eP*		**PKPdf**	**21 49 54.3**	**+0.1**
PET01	**Itanhaem-SP**	**135.72**	**69**	*eP*		**PKPdf**	**21 49 54.1**	**-0.3**
PET01	**Itanhaem-SP**	**135.72**	**69**	*eP*		**PKPdf**	**21 49 54.1**	**-0.3**
PARB	**Paraibuna**	**135.93**	**67**	*eP*		**PKPdf**	**21 49 55.1**	**+0.2**
PARB	**Paraibuna**	**135.93**	**67**	*eP*		**PKPdf**	**21 49 55.1**	**+0.2**
LSZ	**Lusaka**	**136.40**	**316**		PKhKP	PKPpre	21 49 45.0	
	comp=Z,6.1nm,0.8s,baz=27,slow=2.4,SNR=9.2							
LSZ					PKP	**PKiKP**	**21 49 57.9**	**+0.1**
	comp=Z,38nm,0.7s,baz=29,slow=3.0,SNR=9.0							
LSZ					pPKP	pPKPdf	21 50 25.6	-0.1
	comp=Z,12nm,0.7s,baz=326,slow=4.1,SNR=2.7							
LSZ					SKPbc	**SKPbc**	**21 53 18.6**	**+0.4**
	comp=Z,31nm,0.8s,baz=26,slow=3.9,SNR=10							
LSZ	**Lusaka**	**136.40**	**316**			**PKPdf**	**21 49 56.8**	**+0.7**
MAN01	**Angra dos Reis**	**136.49**	**65**	*eP*		**PKPdf**	**21 49 56.5**	**+0.6**
MAN01	**Angra dos Reis**	**136.49**	**65**	*eP*		**PKPdf**	**21 49 56.5**	**+0.6**
CNLB	**Canela**	**137.34**	**78**	*eP*		**PKPdf**	**21 49 57.0**	**-0.3**
CNLB	**Canela**	**137.34**	**78**	*eP*		**PKPdf**	**21 49 57.0**	**-0.3**
PLTB	**Pedras Altas**	**137.39**	**83**	*eP*		**PKPdf**	**21 49 57.5**	**+0.2**
PLTB	**Pedras Altas**	**137.39**	**83**	*eP*		**PKPdf**	**21 49 57.5**	**+0.2**
MATP	**Matopo**	**140.79**	**312**		PKhKP	PKPpre	21 49 56.6	
	comp=Z,47nm,0.7s,baz=22,slow=2.8,SNR=44							
MATP					PP	**PP**	**21 53 04.5**	**-0.4**
	comp=Z,20nm,0.9s,baz=13,slow=11,SNR=3.7							
MATP					SKPbc	**SKPbc**	**21 53 29.8**	**-0.5**
	comp=Z,126nm,1.0s,baz=21,slow=3.3,SNR=13							
MATP					SKPab	**SKPab**	**21 53 43.9**	**+0.4**
	comp=Z,24nm,0.8s,baz=169,slow=6.5,SNR=2.6							
USHA	**Ushuaia**	**141.39**	**122**		PKhKP	PKPpre	21 49 58.0	
	baz=278,slow=1.2,SNR=4.2							
QSPA	**South Pole Qui**	**141.69**	**180**		PKhKP	PKPpre	21 49 59.4	
	comp=Z,65nm,0.9s,baz=35,slow=0.5,SNR=35							
QSPA					pPKP	pPKPdf	21 50 31.9	-1.9
	comp=Z,57nm,0.8s,baz=329,slow=4.7,SNR=2.6							
QSPA					SKPbc	**SKPbc**	**21 53 31.9**	**+0.9**
	comp=Z,21nm,0.9s,baz=62,slow=1.0,SNR=7.3							
QSPA					SKKPbc	**SKKPab**	**22 01 53.1**	**+0.2**
	comp=Z,29nm,1.0s,baz=242,slow=2.3,SNR=6.8							
TSUM	**Tsumeb**	**144.03**	**328**		PKhKP	PKPpre	21 50 08.2	
	comp=Z,65nm,0.9s,baz=352,slow=6.2,SNR=59							
TSUM					pPKP	pPKPdf	21 50 38.8	-0.7
	comp=Z,22nm,0.9s,baz=103,slow=4.0,SNR=3.0							
TSUM					SKPbc	**SKPbc**	**21 53 37.9**	**-0.5**
	comp=Z,25nm,0.9s,baz=280,slow=1.2,SNR=6.7							
TSUM	**Tsumeb**	**144.03**	**328**		PKPdf	PKPbc	21 50 08.9	+0.9
EFI	**East Falkland**	**145.84**	**112**		PKPdf	**PKPdf**	**21 50 12.0**	**+0.4**
MAW	**Mawson**	**145.86**	**218**		PKPbc	**PKPbc**	**21 50 12.1**	**0.0**
	comp=Z,248nm,0.9s,baz=79,slow=3.6,SNR=122							
MAW					SKP	**SKPdf**	**21 53 34.7**	**-0.4**
	comp=Z,17nm,1.0s,baz=97,slow=5.8,SNR=2.9							
MAW					SKKPbc	**SKKPbc**	**22 01 35.6**	**-0.5**
	comp=Z,9.2nm,1.2s,baz=307,slow=2.3,SNR=4.0							
MAW	**Mawson**	**145.86**	**218**		PKPdf	**PKPbc**	**21 50 11.9**	**-0.1**
LBTB	**Lobatse**	**146.08**	**312**		PKPbc	**PKPab**	**21 50 15.2**	**+0.2**
	comp=Z,562nm,0.7s,baz=27,slow=1.8,SNR=278							
LBTB					SKPbc	**SKiKP**	**21 53 43.3**	**0.0**
	comp=Z,106nm,0.8s,baz=43,slow=1.8,SNR=9.4							
LBTB	**Lobatse**	**146.08**	**312**		PKPdf	**PKPbc**	**21 50 14.2**	**0.0**
PMSA	**Palmer Station**	**146.33**	**137**		PKPbc	**PKPbc**	**21 50 14.0**	**+0.5**
	comp=Z,155nm,0.7s,baz=141,slow=3.8,SNR=15							
BOSA	**Boshof**	**149.29**	**309**		PKP	**PKPdf**	**21 50 18.7**	**+0.3**
	comp=Z,46nm,0.6s,baz=25,slow=1.3,SNR=22							
BOSA					PKPbc	**PKiKP**	**21 50 23.6**	**-0.3**
	comp=Z,234nm,0.7s,baz=33,slow=1.8,SNR=94							
BOSA	**Boshof**	**149.29**	**309**			**PKPdf**	**21 50 18.8**	**+0.4**
BOSA					PKPbc	**PKiKP**	**21 50 23.7**	**-0.2**
SYO	**Syowa Base**	**154.22**	**213**	*i*	PKPab	**PKPab**	**21 50 50.4**	**+3.4**
SYO	**Syowa Base**	**154.22**	**213**	*i*	pPKPdf	pPKPdf	21 50 52.2	-1.9
SUR	**Sutherland**	**154.53**	**311**		PKP	**PKPdf**	**21 50 27.5**	**+1.3**
	comp=Z,12nm,0.8s,baz=76,slow=1.4,SNR=14							
SUR					PKPbc	**PKiKP**	**21 50 35.9**	**+1.2**
	comp=Z,66nm,0.7s,baz=282,slow=1.1,SNR=31							
SUR					PKPab	**PKPab**	**21 50 51.0**	**+1.3**
	comp=Z,53nm,0.7s,baz=333,slow=7.5,SNR=5.4							
SUR	**Sutherland**	**154.53**	**311**		PKPdf	**PKPdf**	**21 50 27.0**	**+0.8**
SUR						**PKiKP**	**21 50 35.6**	**+0.9**
SUR						**PKPab**	**21 50 50.2**	**+0.6**
SNAA	**Sanae**	**160.19**	**179**		PKPdf	**PKPdf**	**21 50 30.6**	**-1.3**
SNAA	**Sanae**	**160.19**	**179**		PKP	**PKPdf**	**21 50 31.3**	**-0.6**
	comp=Z,15nm,0.8s,baz=160,slow=2.0,SNR=44							
SNAA					PKPab	**sPKPdf**	**21 51 11.6**	**-1.3**
	comp=Z,17nm,0.7s,baz=193,slow=8.9,SNR=20							
SNAA	**Sanae**	**160.19**	**179**		PKPdf	**PKPdf**	**21 50 31.4**	**-0.4**
SNAA						**sPKPdf**	**21 51 12.5**	**-0.5**
VNA3	**Neumayer Olymp**	**160.29**	**172**		PKPdf	**PKPdf**	**21 50 30.6**	**-1.3**
VNA2	**Neumayer--Watz**	**160.76**	**174**		PKPdf	**PKPdf**	**21 50 31.8**	**-0.6**
VNA1	**Neumayer--Stat**	**160.98**	**173**		PKPdf	**PKPdf**	**21 50 32.0**	**-0.6**

*IDC **23** 21:30:56.3±3.4,30°.04S×177°.35W,h0km,mb3.8/2, mb1 4.1/2,mb1mx3.7/41,mbtmp3.8/2, Error ellipse: s-maj=69.7km s-min=28.5km az=76.0*
*NEIC **23** 21:30:58.4±0.8,30°.0S±0°.1×177°.3W±0°.3,h18km±12km, mb4.3/10, Error ellipse: s-maj=42.2km s-min=10.2km az=74.0*
ISC 23 21:31:01.2±1.7,**30°.1S**±0°.1×**177°.4W**±0°.3,**h35**km,**n15, σ0s78/17, mb4.1/6, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.93**	**330**		Pn	**Pn**	**21 31 17.1**	**-0.6**
	107nm,0.3s,baz=84,slow=20,SNR=2.7							
RAO					Sn	**Sn**	**21 31 30.9**	**+1.2**
	370nm,0.3s,baz=74,slow=20,SNR=6.8							
RAO	**Raoul Island**	**0.93**	**330**			**Pn**	**21 31 17.1**	**-0.6**
RAO						**Sn**	**21 31 29.0**	**-0.7**
RPZ	**Rata Peaks**	**16.45**	**211**		Pn	**Pn**	**21 34 48.6**	**-0.6**
RPZ					IAmb	IAmb	21 35 02.7	
	comp=Z,58nm,1.5s							
ODZ	**Otahua Downs**	**17.69**	**209**			**Pn**	**21 35 03.7**	**-0.9**
ODZ					IAmb	IAmb	21 35 09.8	
	comp=Z,58nm,1.4s							
ARMA	**Armidale**	**26.73**	**261**		P	**P**	**21 36 37.8**	**+0.1**
ARMA					IAmb	IAmb	21 36 38.0	
	comp=Z,15nm,1.4s							
AS31	**Alice Springs**	**43.66**	**266**		P	**P**	**21 39 03.7**	**+1.0**
ASAR	**Alice Springs**	**43.66**	**266**		P	**P**	**21 39 03.1**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=111,slow=7.1,SNR=1.7							
WB2	**Warramunga Arr**	**44.61**	**271**		P	**P**	**21 39 10.4**	**+0.1**
WRA	**Warramunga Arr**	**44.62**	**271**		P	**P**	**21 39 10.8**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=110,slow=8.1,SNR=5.8							
WB0	**Warramunga Arr**	**44.64**	**272**		P	**P**	**21 39 10.6**	**0.0**
WB0					IAmb	IAmb	21 39 23.9	
	comp=Z,4.7nm,1.1s							
VNDA	**Vanda**	**48.49**	**186**		P	**P**	**21 39 40.8**	**+0.8**
KNRA	**Kununurra**	**51.21**	**274**		P	**P**	**21 40 03.1**	**+1.6**
CASY	**Casey**	**55.69**	**208**		P	**P**	**21 40 33.5**	**-0.1**
CASY					IAmb	IAmb	21 40 51.6	
	comp=Z,2.2nm,0.9s							
MAW	**Mawson**	**72.81**	**200**		P	**P**	**21 42 25.4**	**-0.4**
MAW					IAmb	IAmb	21 42 31.0	
	comp=Z,2.1nm,1.2s							
FINES	**FINESS Array B**	**145.00**	**341**		PKP	**PKPdf**	**21 50 33.9**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=57,slow=5.1,SNR=1.5							

*IDC **23** 21:32:19.8±6.9,51°.82N×178°.56E,h75km±60km, mb4.8/8, mb1 5.0/9,mb1mx4.4/65,mbtmp5.1/9,ML4.0/1, Error ellipse: s-maj=40.8km s-min=28.0km az=137.0*
*AEIC **23** 21:32:22±1.6,51°.86N±0°.07×178°.42E±0°.09,h112km±3km, ML4.7,mb5.2/14(NEIC), Error ellipse: s-maj=10.9km s-min=7.7km az=203.0*

*NEIC **23** 21:32:23.2±1.6,51°.84N±0°.07×178°.42E±0°.05, h110km±3km, Error ellipse: s-maj=10.5km s-min=4.0km az=187.0*
ISC 23 21:32:23.2±0.7,**51°.9N**±0°.1×**178°.43E**±0°.05,**h108**km±6km, **n40, σ0s90/43, mb5.0/14, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.07**	**49**			**Pn**	**21 32 38.5**	**+0.4**
LSPA	**Little Sitkin**	**0.11**	**59**			**Pn**	**21 32 38.2**	**0.0**
LSPA						**Sn**	**21 32 50.0**	**+0.6**
CEAP	**Semis' Anvil P**	**0.72**	**81**			**Pn**	**21 32 41.6**	**+0.1**
AMKA	**Amchitka**	**0.76**	**133**			**Pn**	**21 32 41.5**	**-0.4**
AMKA						**Sn**	**21 32 55.1**	**-0.7**
CERAA	**Semis' Rag'd T**	**0.78**	**89**			**Pn**	**21 32 42.3**	**+0.3**
GALAA	**Gareloi Lava P**	**1.75**	**94**			**Sn**	**21 33 17.1**	**+1.7**
TASE	**Tanaga Southea**	**2.19**	**90**			**Pn**	**21 32 59.6**	**+1.0**
TAFP	**Tanaga Falls P**	**2.23**	**89

GEYT	**Alibeck**	**10.27**	**283**	P		**Pn**	21 37 16.2	-0.3
	0.7nm,0.3s,baz=141,slow=10.0,SNR=6.4							
GEYT				S		**Sn**	21 39 07.8	-1.9
	1.1nm,0.3s,baz=112,slow=16,SNR=6.3							
GEYT	**Alibeck**	**10.27**	**283**			**Pn**	21 37 16.8	+0.2
GYA0B	**ALIBECK ARRAY**	**10.27**	**283**	Pn		**Pn**	21 37 16.9	+0.3
MAKZ	**Makanchi**	**13.43**	**35**	Pn		**Pn**	21 37 58.2	-0.4
MK31	**Makanchi Array**	**13.57**	**36**	Pn		**Pn**	21 38 01.1	+0.6
MKAR	**Makanchi Array**	**13.57**	**36**	P		**Pn**	21 38 01.0	+0.5
	0.2nm,0.3s,baz=220,slow=14,SNR=5.8							
MKAR	**Makanchi Array**	**13.57**	**36**	P		**Pn**	21 37 59.8	-0.6
ABKAR	**Akbulak array**	**15.21**	**332**	Pn		**Pn**	21 38 21.7	+0.3
KURBB	**Kurchatov Arra**	**15.39**	**19**	P		**Pn**	21 38 25.1	+1.4
	0.0nm,0.3s,baz=204,slow=12,SNR=1.3							
BVAR	**Borovoye Array**	**16.75**	**359**	P		**Pn**	21 38 40.8	+0.2
	0.2nm,0.3s,baz=178,slow=11,SNR=1.5							
AKTO	**Aktyubinsk**	**16.90**	**331**	P		**Pn**	21 38 43.9	+1.5
	0.7nm,0.3s,baz=148,slow=12,SNR=8.6							
LSA	**Lhasa**	**18.27**	**105**	P		**P**	21 38 57.0	-1.6
LSA				IAmb	IAmb	21 39 15.7		
	comp=Z,71nm,1.2s							
ZAA0	**Zalesovo Array**	**20.19**	**25**	P		**P**	21 39 20.5	+1.8
ZAA0				IAmb	IAmb	21 39 38.1		
	comp=Z,20nm,1.1s							
ZALV	**Zalesovo Beam**	**20.19**	**25**	P		**P**	21 39 20.2	+1.5
	comp=Z,3.7nm,0.4s,baz=220,slow=10,SNR=19							
ARU	**Arti**	**21.80**	**342**	P		**P**	21 39 37.4	+1.5
ULN	**Ulaanbaatar**	**29.04**	**55**	P		**P**	21 40 41.3	-1.7
MBAR	**Mbarara**	**52.25**	**234**	P		**P**	21 43 51.8	-1.8
	comp=Z,2.6nm,0.2s,baz=45,slow=8.6							
TORD	**Torodi Ar. Bea**	**65.55**	**269**	P		**P**	21 45 24.7	-0.8
	comp=Z,1.0nm,0.8s,baz=51,slow=5.6,SNR=4.1							

NEIC ***23*** *21:37:07.6±1.3,51°.80N±0°.05×178°.59E±0°.08, h112km±5km, Error ellipse: s-maj=11.8km s-min=7.1km az=195.0*

AEIC 23 21:37:07±1.1**,51°.79N**±0°.05×**178°.62E**±0°.08**,h108**km±4km**, mb4.7**(NEIC)**,Error ellipse: s-maj=8.1km s-min=7.2km az=202.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSPA	**Little Sitkin**	**0.17**	**351**		**Pn**	21 37 23.0	+0.9
LSSA	**Little Sitkin**	**0.17**	**339**		**Pn**	21 37 22.8	+0.7
LSSA					Sn	21 37 34.8	+1.4
LSNW	**Little Sitkin**	**0.19**	**342**		**Pn**	21 37 23.1	+1.0
CETU	**Semis' Tuman**	**0.57**	**72**		**Pn**	21 37 25.2	+1.1
AMKA	**Amchitka**	**0.59**	**134**		**Pn**	21 37 25.3	+1.0
AMKA					Sn	21 37 38.5	+1.3
CESW	**Semis' Southwe**	**0.60**	**79**		**Pn**	21 37 25.3	+1.0
CEAP	**Semis' Anvil P**	**0.63**	**70**		**Pn**	21 37 25.9	+1.3
CERAA	**Semis' Rag'd T**	**0.67**	**79**		**Pn**	21 37 26.0	+1.1
CERAA					Sn	21 37 40.1	+1.8
GALAA	**Gareloi Lava P**	**1.62**	**90**		**Pn**	21 37 36.6	+1.4
GALAA					Sn	21 37 59.2	+2.7
GAEA	**Gareloi East**	**1.64**	**89**		**Pn**	21 37 36.7	+1.4
TASE	**Tanaga Southea**	**2.08**	**87**		**Pn**	21 37 42.4	+1.5
TAFP	**Tanaga Falls P**	**2.11**	**86**		**Pn**	21 37 42.2	+0.9
TAFP					Sn	21 38 08.8	+1.2
KIMD	**Kanaga Island**	**2.58**	**89**		**Pn**	21 37 48.7	+1.4
KIKV	**Kanaga Island**	**2.62**	**86**		**Pn**	21 37 49.2	+1.4
KINC	**Kanaga Island**	**2.64**	**85**		**Pn**	21 37 49.2	+1.0
ADK	**Adak**	**2.92**	**86**	Pn	**Pn**	21 37 51.9	+0.1
ADK				Sn	Sn	21 38 28.1	+1.8
SMY	**Shemya**	**2.93**	**291**		**Pn**	21 37 52.2	+0.2
SMY				Sn	Sn	21 38 26.4	-0.1
GSTR	**Great Sitkin T**	**3.31**	**83**	Pn	**Pn**	21 37 57.8	+0.8
ATKA	**Atka Island**	**4.46**	**82**	Pn	**Pn**	21 38 13.8	+1.4
NIKH	**Nikolski High**	**7.76**	**76**	Pn	**Pn**	21 38 59.0	+1.9
OKSP	**Okmok Steeple**	**8.12**	**74**		**Pn**	21 39 04.0	+2.0
SPIA	**Saint Paul Isl**	**8.43**	**46**	Pn	**Pn**	21 39 08.2	+2.1
UNV	**Unalaska Valle**	**9.24**	**71**	Pn	**Pn**	21 39 19.7	+2.5
SDPT	**Sand Point**	**12.91**	**66**	Pn	**Pn**	21 40 05.6	-0.7
CNBA	**Chernabura Isl**	**13.37**	**68**	Pn	**Pn**	21 40 10.5	-1.7
CHIR	**Chirikof Islan**	**15.70**	**65**	Pn	**Pn**	21 40 40.8	-1.1
OHAK	**Old Harbor**	**17.12**	**60**	P	**P**	21 40 58.7	-0.7
OHAK				IAmb	IAmb	21 40 59.2	
	comp=Z,45nm,1.2s						
MA2	**Magadan**	**17.42**	**307**		**Pn**	21 41 03.6	+0.7
KDAK	**Kodiak Island**	**17.57**	**59**	P	**Pn**	21 41 04.5	-0.2
KDAK				IAmb	IAmb	21 41 04.9	
	comp=Z,41nm,1.1s						
CNPM	**China Poot**	**18.55**	**54**	P	**Pn**	21 41 16.3	-0.2
CNPM				IAmb	IAmb	21 41 18.1	
	comp=Z,63nm,1.2s						
RDOG	**Red Dog Mine**	**18.62**	**22**	P	**P**	21 41 16.4	+0.8

AEIC ***23*** *21:42:56±1.7,52°.18N±0°.09×178°.44E±0°.08,h128km±4km, Error ellipse: s-maj=13.8km s-min=7.0km az=184.0*

NEIC ***23*** *21:42:58.2±1.4,52°.1N±0°.1×178°.43E±0°.08,h124km±4km, mb4.7/127,ML4.3(AEIC), Error ellipse: s-maj=15.6km s-min=7.0km az=181.0*

IDC ***23*** *21:42:59.2±0.7,52°.13N×178°.45E,h131km±5km,mb4.2/33, mb1 4.3/35,mb1mx4.2/66,mbtmp4.6/35,Error ellipse: s-maj=13.1km s-min=7.2km az=163.0*

ISC 23 21:42:58.2±0.5**,52°.07N**±0°.08×**178°.44E**±0°.04**,h125**km±4km**, n246,σ0.97/263,mb4.7/90,1D,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.11**	**155**		**Pn**	**21 43 14.3**	**-1.0**
LSSA	**Little Sitkin**	**0.13**	**160**		**Pn**	**21 43 14.7**	**-0.7**
LSPA	**Little Sitkin**	**0.14**	**145**		**Pn**	**21 43 14.8**	**-0.6**
CEAP	**Semis' Anvil P**	**0.71**	**95**		**Pn**	**21 43 17.9**	**-0.3**
CEAP					**Sn**	**21 43 33.3**	**+0.1**
CESW	**Semis' Southwe**	**0.72**	**104**		**Pn**	**21 43 17.0**	**-1.2**
CERB	**Semis' Cerberu**	**0.75**	**101**		**Pn**	**21 43 18.3**	**-0.2**
CERAA	**Semis' Rag'd T**	**0.79**	**102**		**Pn**	**21 43 18.1**	**-0.6**
AMKA	**Amchitka**	**0.88**	**142**		**Pn**	**21 43 18.2**	**-1.4**
GAEA	**Gareloi East**	**1.77**	**98**		**Pn**	**21 43 28.6**	**-0.5**
TASE	**Tanaga Southea**	**2.19**	**95**		**Pn**	**21 43 33.8**	**-0.5**
TAFP	**Tanaga Falls P**	**2.22**	**93**		**Pn**	**21 43 34.3**	**-0.4**
TAFP					**Sn**	**21 44 02.6**	**+0.1**
TAPA	**Tanaga Point A**	**2.33**	**95**		**Pn**	**21 43 35.5**	**-0.6**
KIMD	**Kanaga Island**	**2.70**	**95**		**Pn**	**21 43 39.9**	**-0.8**
KICM	**Kanaga Island**	**2.70**	**92**		**Pn**	**21 43 40.4**	**-0.4**
KIKV	**Kanaga Island**	**2.72**	**92**		**Pn**	**21 43 40.4**	**-0.7**
SMY	**Shemya**	**2.74**	**286**		**Pn**	**21 43 39.6**	**-1.6**
SMY					**Sn**	**21 44 13.6**	**-0.7**
ADK	**Adak**	**3.02**	**92**		**Pn**	**21 43 43.9**	**-0.9**
GSTD	**Great Sitkin T**	**3.34**	**88**		**Pn**	**21 43 48.3**	**-0.9**
GSTD					**Sn**	**21 44 28.1**	**-0.5**
GSTR	**Great Sitkin T**	**3.39**	**87**		**Pn**	**21 43 49.2**	**-0.6**
GSMY	**Great Sitkin M**	**3.40**	**88**		**Pn**	**21 43 49.1**	**-0.8**
ATKA	**Atka Island**	**4.54**	**85**		**Pn**	**21 44 04.7**	**-0.3**
ATKA	**Atka Island**	**4.54**	**85**		**Sn**	**21 44 56.8**	**0.0**
KOFP	**Korovin Flat P**	**4.60**	**85**		**Pn**	**21 44 06.3**	**+0.5**
KOSE	**Korovin Southe**	**4.63**	**84**		**Pn**	**21 44 06.4**	**+0.2**
NIKH	**Nikolski High**	**7.80**	**78**		**Pn**	**21 44 49.7**	**+0.8**
OKSP	**Okmok Steeple**	**8.16**	**76**		**Pn**	**21 44 54.7**	**+1.0**
SPIA	**Saint Paul Isl**	**8.31**	**48**		**Pn**	**21 44 57.6**	**+1.9**
MSW	**Makushin Switc**	**9.10**	**73**		**Pn**	**21 45 08.0**	**+1.6**
MREP	**Makushin Rep't**	**9.12**	**73**		**Pn**	**21 45 08.1**	**+1.5**
MNAT	**Makushin Natee**	**9.16**	**73**		**Pn**	**21 45 08.6**	**+1.4**
UNV	**Unalaska Valle**	**9.26**	**73**		**Pn**	**21 45 09.4**	**+0.9**
AKRB	**Akutan Reef Bi**	**9.54**	**71**		**Pn**	**21 45 14.7**	**+2.3**
AKMO	**Akutan Morgan**	**9.57**	**72**		**Pn**	**21 45 15.0**	**+2.3**
AKGG	**Akutan Green G**	**9.60**	**71**		**Pn**	**21 45 15.7**	**+2.7**
AKLV	**Akutan Long Va**	**9.62**	**71**		**Pn**	**21 45 15.6**	**+2.3**
AKUT	**Akutan**	**9.72**	**72**	Pn	**Pn**	**21 45 15.7**	**+1.1**
FALS	**False Pass**	**11.16**	**68**	Pn	**Pn**	**21 45 34.2**	**+0.2**
PEA0B	**Petropavlovsk-**	**12.65**	**283**	Pn	**Pn**	**21 45 54.2**	**+0.7**
PETK	**Petropavlovsk-**	**12.65**	**283**	P	**Pn**	**21 45 53.5**	**0.0**
	1.4nm,0.3s,baz=93,slow=18,SNR=14						
PETK	**Petropavlovsk-**	**12.65**	**283**	Pn	**Pn**	**21 45 54.1**	**+0.6**
SDPT	**Sand Point**	**12.90**	**67**	Pn	**Pn**	**21 45 55.3**	**-1.4**
CNBA	**Chernabura Isl**	**13.37**	**69**	Pn	**Pn**	**21 45 59.8**	**-3.0**
CHIR	**Chirikof Islan**	**15.69**	**66**	Pn	**Pn**	**21 46 29.6**	**-2.4**
SII	**Sitkinak Islan**	**16.53**	**63**	Pn	**Pn**	**21 46 38.8**	**-3.7**
SII				IAmb	IAmb	21 46 42.1	
	comp=Z,44nm,0.9s						
SVW2	**Sparrevohn**	**16.81**	**47**	P	**P**	**21 46 47.5**	**+1.6**
SVW2				IAmb	IAmb	21 46 54.3	
	comp=Z,40nm,1.0s						
BILL	**Bilibino**	**17.07**	**344**		**Pn**	**21 46 50.3**	**+1.4**
BILL				IAmb	IAmb	21 46 51.5	
	comp=Z,45nm,1.3s						
OHAK	**Old Harbor**	**17.08**	**61**	P	**P**	**21 46 46.9**	**-2.0**
TTA	**Tatalina**	**17.37**	**41**	P	**Pn**	**21 46 53.7**	**+1.1**
KDAK	**Kodiak Island**	**17.52**	**60**	P	**P**	**21 46 52.0**	**-1.5**
	comp=Z,13nm,0.3s,baz=275,slow=5.7,SNR=53						
KDAK	**Kodiak Island**	**17.52**	**60**	P	**P**	**21 46 52.1**	**-1.5**
CNPM	**China Poot**	**18.47**	**54**	P	**Pn**	**21 47 04.5**	**-1.2**
BRLK	**Bradley Lake**	**18.69**	**54**	P	**P**	**21 47 06.2**	**-0.3**
PPLA	**Purkeypile**	**18.95**	**44**		**Pn**	**21 47 11.5**	**0.0**
PPLA				IAmb	IAmb	21 47 16.7	
	comp=Z,62nm,1.1s						
SEW	**Seward**	**19.46**	**53**	P	**P**	**21 47 14.9**	**+0.1**
BPAW	**Bear Paw Mtn.**	**19.91**	**41**	P	**Pn**	**21 47 21.4**	**-1.1**
BPAW				IAmb	IAmb	21 47 24.2	
	comp=Z,17nm,0.6s						
TRF	**Thorofare Moun**	**19.96**	**43**	P	**Pn**	**21 47 21.3**	**-2.0**
TRF				IAmb	IAmb	21 47 27.9	
	comp=Z,38nm,0.8s						
GHO	**Glory Hole Cre**	**20.07**	**48**	P	Pn	21 47 23.4	-1.0
GHO				IAmb	IAmb	21 47 29.0	
	comp=Z,42nm,1.1s						
KNK	**Knik Glacier**	**20.20**	**50**	P	**P**	**21 47 23.6**	**+0.8**
MCK	**McKinley**	**20.62**	**43**	P	**P**	**21 47 28.2**	**+0.9**
MCK				IAmb	IAmb	21 47 30.6	
	comp=Z,41nm,1.1s						
GLI	**Glacier Island**	**20.75**	**51**	P	**P**	**21 47 28.2**	**-0.4**
SCM	**Sheep Creek Mo**	**20.82**	**49**	P	**P**	**21 47 30.0**	**+0.5**
FID	**Port Fidalgo**	**21.02**	**52**	P	**P**	**21 47 30.7**	**-0.9**
FID				IAmb	IAmb	21 47 37.3	
	comp=Z,35nm,0.6s						
DHY	**Denali Highway**	**21.10**	**45**	P	**P**	**21 47 32.7**	**+0.1**
DHY				IAmb	IAmb	21 47 35.8	
	comp=Z,36nm,0.6s						
WRH	**Wood River Hil**	**21.22**	**41**	P	**P**	**21 47 33.4**	**-0.3**
MDM	**Murphy Dome**	**21.34**	**40**	P	**P**	**21 47 35.5**	**+0.5**
EYAK	**Cordova Ski Ar**	**21.35**	**53**	P	**P**	**21 47 34.6**	**-0.5**
EYAK				IAmb	IAmb	21 47 35.4	
	comp=Z,28nm,1.0s						
CCB	**Clear Creek Bu**	**21.40**	**41**	P	**P**	**21 47 35.2**	**-0.3**
HDA	**Harding Lake**	**21.67**	**42**	P	**P**	**21 47 38.5**	**+0.1**
IL31		**21.81**	**41**	P	**P**	**21 47 39.4**	**-0.5**
ILAR	**Eielson Array**	**21.81**	**41**	P	**P**	**21 47 39.2**	**-0.7**
	comp=Z,2.2nm,0.4s,baz=246,slow=8.2,SNR=14						
ILAR				ScP	**ScP**	**21 54 57.2**	**-2.7**
	comp=Z,1.3nm,0.6s,baz=288,slow=3.7,SNR=6.0						
ILAR	**Eielson Array**	**21.81**	**41**	P	**P**	**21 47 40.0**	**0.0**
RAGM	**Ragged Mountai**	**21.86**	**53**	P	**P**	**21 47 41.4**	**+0.8**
PAX	**Paxson**	**21.91**	**46**	P	**P**	**21 47 41.5**	**+0.3**
PAX				IAmb	IAmb	21 47 43.4	
	comp=Z,24nm,0.8s						
RIDG	**Independent Ri**	**22.37**	**44**	P	**P**	**21 47 45.5**	**-0.2**
RIDG				IAmb	IAmb	21 47 45.7	
	comp=Z,45nm,1.2s						
GLB	**Gilahina Butte**	**22.41**	**51**	P	**P**	**21 47 46.6**	**+0.5**
GLB				IAmb	IAmb	21 47 50.2	
	comp=Z,22nm,0.8s						
VRDI	**Verde Repeater**	**22.55**	**51**	P	**P**	**21 47 47.8**	**+0.1**
VRDI				IAmb	IAmb	21 47 50.9	
	comp=Z,16nm,0.6s						
PRP	**Porcupine Dome**	**22.60**	**40**	P	**P**	**21 47 48.3**	**+0.2**
PRP				IAmb	IAmb	21 47 50.3	
	comp=Z,17nm,0.6s						
CRQM	**Cirque**	**22.65**	**52**	P	**P**	**21 47 49.1**	**+0.4**
MENT	**Mentasta**	**22.69**	**47**	P	**P**	**21 47 50.3**	**+1.4**
MENT				IAmb	IAmb	21 47 52.4	
	comp=Z,23nm,0.6s						
WAX	**Waxell Ridge**	**22.77**	**53**	P	**P**	**21 47 50.6**	**+0.8**
SCRK	**Sand Creek**	**22.80**	**44**	P	**P**	**21 47 49.2**	**-0.8**
ISLE	**Juniper Island**	**23.03**	**53**	P	**P**	**21 47 52.8**	**+0.5**
ISLE				IAmb	IAmb	21 47 54.5	
	comp=Z,22nm,0.6s						
BALM	**Baldy**	**23.07**	**52**	P	**P**	**21 47 52.5**	**-0.1**
BALM				IAmb	IAmb	21 47 55.0	
	comp=Z,21nm,0.8s						
FYU	**Fort Yukon**	**23.07**	**37**	P	**P**	**21 47 52.4**	**0.0**
YAH	**Yahtse**	**23.31**	**54**	P	**P**	**21 47 55.4**	**+0.4**
BARN	**Barnard Glacie**	**23.40**	**52**	P	**P**	**21 47 56.5**	**+0.7**
BARN				IAmb	IAmb	21 47 58.0	
	comp=Z,42nm,1.0s						
CTGM	**Chitina Glacie**	**23.55**	**52**	P	**P**	**21 47 57.6**	**+0.5**
CTGM				IAmb	IAmb	21 47 59.3	
	comp=Z,33nm,0.8s						
BCAR	**Beaver Creek A**	**23.58**	**47**	P	**P**	**21 47 57.1**	**-0.1**
PCA	**Pinnacle**	**24.05**	**54**	P	**P**	**21 48 01.8**	**+0.3**
EGAK	**Eagle**	**24.17**	**43**	P	**P**	**21 48 02.5**	**+0.1**
DAWY	**Dawson**	**24.80**	**45**	P	**P**	**21 48 08.9**	**+0.7**
DAWY				IAmb	IAmb	21 48 11.8	
	comp=Z,25nm,0.8s						
JKA	**Kamikawa-asahi**	**25.02**	**266**	P	**P**	**21 48 11.0**	**+0.7**
ASAJ	**Asahikawa**	**25.02**	**266**	P	**P**	**21 48 10.8**	**+0.4**
	comp=Z,8.5nm,0.7s,baz=115,slow=25,SNR=8.9						
HYT	**Haines Junctio**	**25.42**	**53**	P	**P**	**21 48 15.3**	**+1.4**
ERM	**Erimo**	**25.82**	**261**	P	**P**	**21 48 18.4**	**+0.7**
ERM				IAmb	IAmb	21 48 26.1	
	comp=Z,27nm,1.2s						
EPYK	**Eagle Plains**	**26.30**	**40**	P	**P**	**21 48 22.1**	**+0.4**
EPYK				IAmb	IAmb	21 48 23.1	
	comp=Z,20nm,0.9s						
INK	**Inuvik**	**27.89**	**36**	P	**P**	**21 48 36.3**	**+0.5**
	comp=Z,3.6nm,0.4s,baz=242,slow=6.2,SNR=12						
INK				PP	**PP**	**21 49 38.3**	**-2.6**
	comp=Z,15nm,0.9s,baz=72,slow=9.2,SNR=5.8						
INK	**Inuvik**	**27.89**	**36**	P	**P**	**21 48 36.5**	**+0.7**
TIXI	**Tiksi**	**29.18**	**330**	ScP	**ScP**	**21 55 20.5**	**-0.4**
	comp=Z,1.8nm,0.7s,baz=149,slow=7.0,SNR=10						
KLR	**Kul'dur**	**29.34**	**283**	P	**P**	**21 48 48.9**	**-0.1**
	comp=Z,7.4nm,0.5s,baz=67,slow=8.4,SNR=22						
DLBC	**Dease Lake**	**29.41**	**57**	P	**P**	**21 48 50.4**	**+0.9**
	comp=Z,4.7nm,0.6s,baz=284,slow=9.7,SNR=5.1						
DLBC	**Dease Lake**	**29.41**	**57**	P	**P**	**21 48 50.4**	**+0.9**
USA0B	**Ussuriysk Arra**	**31.52**	**274**	P	**P**	**21 49 07.6**	**-0.5**
USA0B				IAmb	IAmb	21 49 08.9	
	comp=Z,15nm,1.1s						
USRK	**Ussuriysk Ar.**	**31.52**	**274**	P	**P**	**21 49 07.8**	**-0.3**
	comp=Z,8.7nm,0.6s,baz=56,slow=9.6,SNR=31						
USRK				PcP	**PcP**	**21 51 58.4**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=37,slow=1.7,SNR=8.9						
MAT	**Matsushiro**	**32.23**	**257**	P	**P**	**21 49 14.8**	**+0.3**
MJAR	**Matsushiro Arr**	**32.23**	**257**	P	**P**	**21 49 15.5**	**+1.0**
	comp=Z,3.5nm,0.9s,baz=45,slow=7.1,SNR=8.9						
MJAR	**Matsushiro Arr**	**32.23**	**257**	P	**P**	**21 49 15.1**	**+0.6**
YKA	**Yellowknife Ar**	**36.00**	**47**	P	**P**	**21 49 47.5**	**+0.9**
	comp=Z,4.6nm,0.6s,baz=278,slow=8.1,SNR=19						
YKA				pP	**pP**	**21 50 15.9**	**+2.2**
	comp=Z,2.1nm,0.7s,baz=280,slow=8.2,SNR=3.3						
KSRS	**Korea Array**	**37.93**	**268**	P	**P**	**21 50 04.2**	**+1.0**
	comp=Z,6.5nm,0.8s,baz=56,slow=8.4,SNR=25						
KSRS				PcP	**PcP**	**21 52 17.4**	**+1.0**
	comp=Z,1.8nm,0.7s,baz=35,slow=3.1,SNR=6.8						
KS19	**Wonju Array Si**	**37.93**	**268**	P	**P**	**21 50 04.2**	**+0.9**
KS19				IAmb	IAmb	21 50 05.5	
	comp=Z,14nm,1.1s						
KSAR	**Wonju Array Be**	**37.96**	**268**	P	**P**	**21 50 03.9**	**+0.4**
B08A	**Colville Reser**	**38.92**	**70**	P	**P**	**21 50 11.3**	**-0.1**
JNU	**Nakatsue**	**38.98**	**260**	P	**P**	**21 50 12.4**	**+0.3**
	comp=Z,11nm,0.8s,baz=51,slow=6.0,SNR=7.0						
JNU	**Nakatsue**	**38.98**	**260**	P	**P**	**21 50 11.9**	**-0.2**
JNU				IAmb	IAmb	21 50 14.0	
	comp=Z,17nm,0.9s						
KRMB	**Red Mountain**	**39.86**	**82**	P	**P**	**21 50 20.4**	**+1.0**
NEW	**Newport**	**40.24**	**69**	P	**P**	**21 50 21.7**	**-0.8**
	comp=Z,12nm,0.8s,baz=297,slow=6.4,SNR=10						
NEW				PcP	**PcP**	**21 52 25.9**	**+2.2**
	comp=Z,2.3nm,0.4s,baz=284,slow=8.3,SNR=2.2						
NEW	**Newport**	**40.24**	**69**	P	**P**	**21 50 21.6**	**-0.9**
KHMM	**Horse Mountain**	**40.35**	**82**	P	**P**	**21 50 24.3**	**+0.8**
KHMM				IAmb	IAmb	21 50 25.9	
	comp=Z,16nm,0.7s						
YBH	**Yreka Blue Hor**	**40.47**	**81**	P	**P**	**21 50 24.5**	**+0.1**
	comp=Z,6.6nm,0.7s,baz=319,slow=5.7,SNR=11						
YBH	**Yreka Blue Hor**	**40.47**	**81**	P	**P**	**21 50 25.5**	**+1.0**
K05A	**Summer Lake**	**41.00**	**78**	P	**P**	**21 50 29.6**	**+0.6**
K05A				IAmb	IAmb	21 50 47.6	
	comp=Z,16nm,1.1s						
I07A	**Izee**	**41.07**	**76**	P	**P**	**21 50 29.4**	**0.0**
I07A				IAmb	IAmb	21 50 30.2	
	comp=Z,9.4nm,0.8s						
WDC	**Whiskeytown Da**	**41.25**	**82**	P	**P**	**21 50 31.2**	**+0.5**
MOD	**Modoc Plateau**	**41.83**	**79**	P	**P**	**21 50 35.8**	**+0.1**
MOD				IAmb	IAmb	21 50 37.0	
	comp=Z,33nm,1.5s						
HOPS	**Hopland Field**	**41.89**	**84**	P	**P**	**21 50 36.9**	**+0.9**
HOPS				IAmb	IAmb	21 50 37.9	
	comp=Z,16nm,0.9s						
BJI	**Beijing**	**43.56**	**280**	P	**P**	**21 50 50.6**	**+1.2**
BJI				pmax	pmax		
	comp=Z,11nm,0.8s						
BJT	**Baijiatuau**	**43.57**	**280**	P	**P**	**21 50 50.2**	**+0.7**
PNTR	**Pine Nut**	**43.95**	**82**	P	**P**	**21 50 53.8**	**+0.9**
PNTR				IAmb	IAmb	21 50 54.6	
	comp=Z,27nm,1.0s						
YERR	**Yerington**	**44.24**	**82**	P	**P**	**21 50 55.6**	**+0.5**
YERR				IAmb	IAmb	21 50 56.7	
	comp=Z,29nm,1.2s						
WAKR	**Walker**	**44.42**	**82**	P	**P**	**21 50 57.3**	**+0.8**
WAKR				IAmb	IAmb	21 50 57.8	
	comp=Z,11nm,0.5s						
MCMT	**McKenzie Canyo**	**44.58**	**71**	P	**P**	**21 50 57.1**	**-0.7**
SONM	**Songino Array**	**44.80**	**295**	P	**P**	**21 51 00.0**	**+0.7**
	comp=Z,4.5nm,0.5s,baz=64,slow=7.6,SNR=13						
SONM				PcP	**PcP**	**21 52 39.3**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=52,slow=24,SNR=4.0						
SONM				ScP	**ScP**	**21 56 20.8**	**+1.3**
	comp=Z,2.6nm,0.9s,baz=20,slow=2.9,SNR=6.9						
SONM	**Songino Array**	**44.80**	**295**	P	**P**	**21 50 59.7**	**+0.4**
NVAR	**Mina Array Bea**	**45.16**	**82**	P	**P**	**21 51 02.9**	**+0.5**
	comp=Z,5.2nm,0.5s,baz=293,slow=7.6,SNR=24						
NVAR				ScP	**ScP**	**21 56 19.9**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=304,slow=2.6,SNR=3.2						
ELK	**Elko**	**45.58**	**77**	P	**P**	**21 51 05.7**	**-0.1**
PAGB	**Antelope Grade**	**45.69**	**86**	P	**P**	**21 51 07.1**	**+0.7**
PAGB				IAmb	IAmb	21 51 07.8	
	comp=Z,16nm,0.5s						
HHC	**Hu-ho-hao-te**	**45.85**	**284**	*e*P	**P**	**21 51 11.5**	**+3.8**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,3μm,5.8s						
NJ2	**Nanjing**	**47.09**	**269**	*e*P	**P**	**21 51 15.9**	**-1.4**
NJ2				pmax	pmax		
	comp=Z,11nm,0.7s						
TPNV	**Topopah Spring**	**47.36**	**82**	P	**P**	**21 51 19.8**	**+0.2**
TPNV				IAmb	IAmb	21 51 21.2	
	comp=Z,16nm,0.9s						
DUG	**Dugway, Tooele**	**47.38**	**76**	P	**P**	**21 51 19.6**	**0.0**
DUG				IAmb	IAmb	21 51 20.5	
	comp=Z,10nm,0.9s						
PD31	**Pinedale Array**	**47.72**	**71**	P	**P**	**21 51 22.0**	**-0.4**
PDAR	**Pinedale Array**	**47.72**	**71**	P	**P**	**21 51 21.8**	**-0.6**
	comp=Z,5.9nm,0.7s,baz=323,slow=4.4,SNR=16						
PDAR				ScP	**ScP**	**21 56 30.2**	**-1.8**
	comp=Z,0.4nm,0.5s,baz=134,slow=1.3,SNR=3.5						
PDAR	**Pinedale Array**	**47.72**	**71**	P	**P**	**21 51 21.6**	**-0.8**
PSUT	**Pine Spring**	**47.80**	**78**	P	**P**	**21 51 23.0**	**0.0**
GSC	**Goldstone, Bar**	**48.09**	**84**	P	**P**	**21 51 25.7**	**+0.5**
KBS	**Kingsbay**	**49.01**	**357**	P	**P**	**21 51 32.4**	**+0.9**
KBS				IAmb	IAmb	21 51 34.5	
	comp=Z,9.7nm,0.9s						
PFO	**Pinyon Flats O**	**49.43**	**85**	P	**P**	**21 51 35.4**	**-0.1**
SPA0	**Spitsbergen Ar**	**49.55**

	comp=Z,60nm,0.8s						
GAR	**Garm**	**69.91**	**308**	P	**P**	**21 53 56.2**	**+0.5**
ODAN	**Odare**	**69.91**	**288**	*eP*	**P**	**21 53 56.3**	**+0.3**
GUN	**Gumba**	**70.00**	**290**	*eP*	**P**	**21 53 57.4**	**+0.8**
	comp=Z,77nm,0.4s						
JIRN	**Jiri**	**70.01**	**289**	*eP*	**P**	**21 53 57.5**	**+0.8**
	comp=Z,110nm,0.7s						
RAMN	**Ramite**	**70.31**	**289**	*eP*	**P**	**21 53 58.7**	**+0.3**
	comp=Z,69nm,0.7s						
KKN	**Kakani**	**70.44**	**290**	*eP*	**P**	**21 53 59.9**	**+0.7**
	comp=Z,47nm,0.6s						
PKI	**Pulchoki**	**70.53**	**290**	*eP*	**P**	**21 54 00.3**	**+0.5**
	comp=Z,53nm,0.6s						
PKIN	**Phulchoki**	**70.53**	**290**	*eP*	**P**	**21 54 00.2**	**+0.4**
	comp=Z,49nm,0.5s						
GKN	**Gorkha**	**70.65**	**291**	*eP*	**P**	**21 54 00.8**	**+0.4**
	comp=Z,47nm,0.6s						
DMN	**Daman**	**70.68**	**290**	*eP*	**P**	**21 54 01.3**	**+0.7**
	comp=Z,33nm,0.8s						
CHGR	**Chuyangaron**	**70.74**	**308**	P	**P**	**21 54 00.6**	**-0.1**
DANN	**Dangsing**	**70.89**	**292**	*eP*	**P**	**21 54 02.6**	**+0.6**
	comp=Z,88nm,0.8s						
KOLN	**Koldanda**	**71.43**	**291**	*eP*	**P**	**21 54 05.5**	**+0.4**
	comp=Z,48nm,0.9s						
SBUM	**Sibu**	**73.62**	**252**	P	**P**	**21 54 18.1**	**+0.2**
KBL	**Kabul**	**74.05**	**306**	P	**P**	**21 54 19.9**	**-0.6**
KBL				IAmb	IAmb	21 54 22.3	
	comp=Z,14nm,0.7s						
AKASG	**Malin Array Be**	**74.33**	**340**	P	**P**	**21 54 21.1**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=22,slow=6.4,SNR=5.9						
AKASG				pP	**pwP**	**21 54 54.3**	**-1.3**
	comp=Z,4.7nm,0.5s,baz=22,slow=6.3,SNR=6.0						
KSM	**Kuching**	**75.53**	**253**	P	**P**	**21 54 29.0**	**+0.1**
KSM				IAmb	IAmb	21 54 29.4	
	comp=Z,9.1nm,0.7s						
GEYT	**Alibeck**	**76.40**	**315**	P	**P**	**21 54 34.2**	**+0.6**
	comp=Z,4.0nm,0.8s,baz=354,slow=1.5,SNR=4.3						
MTN	**Manton Dam**	**76.44**	**228**	P	**P**	**21 54 33.9**	**-0.1**
MTN				IAmb	IAmb	21 54 34.6	
	comp=Z,20nm,0.8s						
KBZ	**Khabaz**	**77.14**	**329**	P	**P**	**21 54 38.5**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=73,slow=4.7,SNR=5.5						
CTA	**Charters Tower**	**77.15**	**211**	P	**P**	**21 54 38.0**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=15,slow=4.6,SNR=2.7						
CTAO	**Charters Tower**	**77.15**	**211**	P	**P**	**21 54 38.0**	**+0.1**
HRA	**Herat**	**77.47**	**311**	P	**P**	**21 54 40.5**	**+0.6**
HRA				IAmb	IAmb	21 54 41.2	
	comp=Z,7.0nm,0.6s						
BUR08	**Bucovina Ar. S**	**78.05**	**342**	P	**P**	**21 54 42.9**	**+0.1**
BURAR	**Bucovina Array**	**78.08**	**342**	P	**P**	**21 54 43.2**	**+0.3**
WB0	**Warramunga Arr**	**81.18**	**221**	P	**P**	**21 54 59.5**	**-0.4**
WB0				IAmb	IAmb	21 55 00.1	
	comp=Z,9.2nm,0.7s						
WRA	**Warramunga Arr**	**81.36**	**221**	P	**P**	**21 55 00.1**	**-0.7**
	comp=Z,5.6nm,0.6s,baz=34,slow=6.1,SNR=5.6						
GSI	**Gunungsitoli**	**83.35**	**264**	P	**P**	**21 55 11.1**	**-0.3**
BRTR	**Keskin Array B**	**83.58**	**333**	P	**P**	**21 55 11.3**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=76,slow=1.9,SNR=4.4						
AS31	**Alice Springs**	**84.87**	**220**	P	**P**	**21 55 17.9**	**-0.9**
ASAR	**Alice Springs**	**84.87**	**220**	P	**P**	**21 55 18.4**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=23,slow=5.1,SNR=8.6						
ASAR				pP	**pP**	**21 55 52.2**	**+1.6**
	comp=Z,1.5nm,0.7s,baz=113,slow=3.7,SNR=3.2						
ASAR	**Alice Springs**	**84.87**	**220**	P	**P**	**21 55 18.7**	**0.0**
STKA	**Stephens Creek**	**89.61**	**211**	P	**P**	**21 55 42.1**	**+0.8**
	comp=Z,7.0nm,0.6s,baz=358,slow=6.4,SNR=12						
STKA	**Stephens Creek**	**89.61**	**211**	P	**P**	**21 55 41.9**	**+0.6**
TORD	**Torodi Ar. Bea**	**114.99**	**357**	PKP	**PKiKP**	**22 01 23.3**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=338,slow=1.6,SNR=6.6						
DBIC	**Dimbokro**	**121.42**	**4**	PKP	**PKiKP**	**22 01 36.5**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=322,slow=3.2,SNR=4.1						
CPUP	**Villa Florida**	**131.20**	**80**	SKPbc	**SKPbc**	**22 05 06.9**	**-1.3**
	comp=Z,2.5nm,0.8s,baz=272,slow=4.8,SNR=5.5						
PLCA	**Paso Flores**	**132.81**	**105**	SKPbc	**SKPab**	**22 05 14.2**	**-1.1**
	comp=Z,2.9nm,0.9s,baz=290,slow=6.1,SNR=4.4						
MAW	**Mawson**	**145.98**	**218**	PKPbc	**PKPbc**	**22 02 21.7**	**0.0**
	comp=Z,12nm,0.7s,baz=88,slow=4.1,SNR=12						
LBTB	**Lobatse**	**146.01**	**312**	PKPbc	**PKPab**	**22 02 24.0**	**0.0**
	comp=Z,20nm,0.7s,baz=4.7,slow=2.3,SNR=28						
PMSA	**Palmer Station**	**146.42**	**137**	SKP		22 05 40.6	
	comp=Z,166nm,1.4s,baz=330,slow=6.8,SNR=5.7						
BOSA	**Boshof**	**149.22**	**309**	PKPbc	**PKiKP**	**22 02 32.2**	**-0.8**
	comp=Z,12nm,0.5s,baz=32,slow=2.8,SNR=44						

*NEIC **23** 21:44:12.1±2.5, 10.71S±0.07×120.30E±0.06, h35km±2km, mb4.3/14, Error ellipse: s-maj=12.7km s-min=10.0km az=208.0*

*IDC **23** 21:44:13.4±2.8, 10.73S×120.30E, h51km±24km, mb4.2/8, mb1 4.3/13, mb1mx3.9/53, mbtmp4.4/13, ML4.1/5, Error ellipse: s-maj=22.3km s-min=12.7km az=56.0*

ISC 23 21:44:11.2±0.5, 10.77S±0.05×120.33E±0.06, h30km, n47, σ1s53/50, mb4.6/14, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.32**	**81**	P	**Pn**	**21 45 03.6**	**+2.4**
	56nm,0.3s,baz=297,slow=2.7,SNR=28						
BATI				S	**Sn**	**21 45 42.7**	**+2.9**
	45nm,0.3s,baz=16,slow=22,SNR=9.9						
SOEI	**Soe**	**4.00**	**76**	Pn	**Pn**	**21 45 12.6**	**+2.0**
SOEI				Sn	**Sn**	**21 45 58.8**	**+2.2**
KAPI	**Kappang**	**5.74**	**354**	P	**Pn**	**21 45 35.1**	**+0.6**
	3.1nm,0.3s,baz=170,slow=3.5,SNR=4.5						
KAPI				S	**Sn**	**21 46 40.5**	**+1.1**
	baz=279,slow=23,SNR=1.3						
KAPI	**Kappang**	**5.74**	**354**		**Pn**	**21 45 34.5**	**0.0**
KAPI				Sn	**Sn**	**21 46 40.6**	**+1.1**
JAGI	**Jajag, Banyuwa**	**6.51**	**290**	Pn	**Pn**	**21 45 45.5**	**+0.5**
FITZ	**Fitzroy Crossi**	**8.92**	**145**	P	**Pn**	**21 46 20.0**	**+1.9**
	1.6nm,0.3s,baz=345,slow=11,SNR=32						
FITZ				S	**Sn**	**21 47 54.8**	**-2.8**
	6.9nm,0.3s,baz=172,slow=21,SNR=13						
KNRA	**Kununurra**	**9.55**	**122**	Pn	**Pn**	**21 46 28.4**	**+1.6**
UGM	**Wanagama**	**10.09**	**285**	Pn	**Pn**	**21 46 35.6**	**+1.5**
PSA00	**Pilbara Seismi**	**10.76**	**182**	Pn	**Pn**	**21 46 46.4**	**+3.1**
MTN	**Manton Dam**	**10.77**	**102**		**Pn**	**21 46 44.3**	**+0.8**
GIRL	**Giralia**	**13.17**	**206**	Pn	**Pn**	**21 47 18.4**	**+2.1**
FAKI	**Fak Fak**	**14.16**	**57**	Pn	**Pn**	**21 47 29.2**	**-0.7**
SIJI	**Sorong**	**14.65**	**49**	P	**Pn**	**21 47 34.9**	**-1.7**
	0.4nm,0.3s,baz=170,slow=7.8,SNR=6.5						
WB0	**Warramunga Arr**	**16.24**	**125**	Pn	**Pn**	**21 47 57.3**	**0.0**
WB0				IAmb	IAmb	21 48 07.7	
	comp=Z,17nm,1.1s						
WRA	**Warramunga Arr**	**16.29**	**126**	P	**Pn**	**21 47 58.2**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=309,slow=15,SNR=7.0						
WRA				S	Sn	21 50 48.1	-10
	comp=Z,0.5nm,0.3s,baz=291,slow=22,SNR=4.7						
WB2	**Warramunga Arr**	**16.30**	**126**	Pn	**Pn**	**21 47 58.1**	**+0.1**
WR0	**Warramunga Arr**	**16.46**	**125**	Pn	**Pn**	**21 47 59.3**	**-0.8**
AS31	**Alice Springs**	**18.22**	**137**		**P**	**21 48 23.0**	**+1.0**
ASAR	**Alice Springs**	**18.22**	**137**	P	**P**	**21 48 22.4**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=314,slow=12,SNR=18						
ASAR				S	**Sn**	**21 51 38.9**	**-5.8**
	comp=Z,0.4nm,0.3s,baz=311,slow=24,SNR=9.2						
ASAR	**Alice Springs**	**18.22**	**137**	P	**P**	**21 48 21.7**	**-0.3**
MORW	**Morawa**	**18.65**	**192**		**Pn**	**21 48 28.8**	**+1.6**
MORW				IAmb	IAmb	21 48 47.2	
	comp=Z,18nm,1.0s						
JAY	**Jayapura**	**21.82**	**69**	P	**P**	**21 49 01.2**	**-0.1**
	comp=Z,11nm,1.0s,baz=212,slow=9.5,SNR=4.5						
COEN	**Coen**	**22.53**	**100**	P	**P**	**21 49 09.6**	**+0.6**
COEN				IAmb	IAmb	21 49 13.7	
	comp=Z,8.7nm,0.9s						
KULM	**Kulim**	**25.27**	**308**	P	**P**	**21 49 33.3**	**-1.8**
KULM				IAmb	IAmb	21 49 49.9	
	comp=Z,15nm,1.2s						
ENH	**Enshi**	**42.12**	**346**	P	**P**	**21 52 00.4**	**-0.4**
H08S2	**Diego Garcia H**	**47.29**	**270**	T	T	22 43 22.5	
	baz=96,slow=75,SNR=10						
H08S3	**Diego Garcia H**	**47.30**	**270**	T	T	22 43 23.3	
	baz=96,slow=75,SNR=8.7						
H08S1	**Diego Carcia H**	**47.31**	**269**	T	T	22 43 23.9	
	baz=96,slow=75,SNR=9.4						
KSRS	**Korea Array**	**48.49**	**8**	P	**P**	**21 52 50.6**	**-0.6**
	comp=Z,1.4nm,1.0s,baz=218,slow=8.1,SNR=2.4						
BJT	**Baijiatuan**	**50.67**	**356**	P	**P**	**21 53 07.5**	**-0.4**
USA0B	**Ussuriysk Arra**	**55.72**	**10**	P	**P**	**21 53 43.8**	**-1.2**
USA0B				IAmb	IAmb	21 53 44.7	
	comp=Z,8.0nm,1.5s						
USRK	**Ussuriysk Ar.**	**55.72**	**10**	P	**P**	**21 53 43.7**	**-1.2**
	comp=Z,1.8nm,0.6s,baz=182,slow=6.1,SNR=9.4						
USRK	**Ussuriysk Ar.**	**55.72**	**10**	P	**P**	**21 53 43.9**	**-1.0**
ASAJ	**Asahikawa**	**58.25**	**19**	P	**P**	**21 54 01.7**	**-1.1**
	comp=Z,4.4nm,0.6s,baz=218,slow=6.7,SNR=5.5						
SONM	**Songino Array**	**59.64**	**349**	P	**P**	**21 54 12.4**	**-0.2**
	comp=Z,4.7nm,0.6s,baz=168,slow=8.0,SNR=17						
SONM	**Songino Array**	**59.64**	**349**	P	**P**	**21 54 12.5**	**-0.2**
RAO	**Raoul Island**	**60.22**	**118**	P	**P**	**21 54 17.2**	**+0.3**
	comp=Z,898nm,0.3s,baz=73,slow=20,SNR=3.1						
MK31	**Makanchi Array**	**66.62**	**333**	P	**P**	**21 54 58.8**	**0.0**
MK31				IAmb	IAmb	21 55 01.5	
	comp=Z,2.2nm,0.9s						
MKAR	**Makanchi Array**	**66.62**	**333**	P	**P**	**21 54 58.8**	**-0.1**
	comp=Z,3.0nm,0.6s,baz=162,slow=6.6,SNR=12						
MKAR	**Makanchi Array**	**66.62**	**333**	P	**P**	**21 54 58.5**	**-0.3**
MAKZ	**Makanchi**	**66.77**	**332**	P	**P**	**21 54 59.8**	**0.0**
ZAA0	**Zalesovo Array**	**71.15**	**339**		**P**	**21 55 26.5**	**-0.4**
ZALV	**Zalesovo Beam**	**71.15**	**339**	P	**P**	**21 55 26.1**	**-0.8**
	comp=Z,6.7nm,0.6s,baz=143,slow=4.8,SNR=19						
ZALV	**Zalesovo Beam**	**71.15**	**339**		**P**	**21 55 26.4**	**-0.5**
KURK	**Kurchatov**	**71.15**	**333**	P	**P**	**21 55 26.8**	**-0.1**
KURK				IAmb	IAmb	21 55 30.3	
	comp=Z,8.4nm,1.2s						
QSPA	**South Pole Qui**	**79.24**	**180**	P	**P**	**21 56 13.5**	**0.0**
	comp=Z,18nm,0.9s,baz=324,slow=18,SNR=4.8						
ABKAR	**Akbulak array**	**79.75**	**325**	P	**P**	**21 56 16.8**	**+0.5**

*AEIC **23** 21:44:59.2±2.2, 51.19N±0.12×178.23E±0.09, h139km±5km, Error ellipse: s-maj=26.4km s-min=8.0km az=186.0*

*NEIC **23** 21:45:01.1±2.1, 52.10N±0.11×178.15E±0.10, h134km±3km, mb4.2/35, ML3.8(AEIC), Error ellipse: s-maj=19.4km s-min=8.1km az=187.0*

*IDC **23** 21:45:02.2±5.4, 51.96N×178.34E, h130km±51km, mb3.6/12, mb1 3.9/14, mb1mx3.5/66, mbtmp4.1/14, Error ellipse: s-maj=31.3km s-min=15.2km az=167.0*

ISC 23 21:45:01.1±0.7, 52.0N±0.1×178.18E±0.05, h127km±6km, n92, σ1s102/97, mb4.0/24, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.21**	**95**		**Pn**	**21 45 18.7**	**0.0**
LSSA	**Little Sitkin**	**0.21**	**101**		**Pn**	**21 45 19.0**	**+0.4**
LSSA					**Sn**	**21 45 32.8**	**+0.8**
LSPA	**Little Sitkin**	**0.24**	**98**		**Pn**	**21 45 19.4**	**+0.7**
LSPA					**Sn**	**21 45 33.9**	**+1.9**
CETU	**Semis' Tuman**	**0.81**	**91**		**Pn**	**21 45 22.1**	**0.0**
CESW	**Semis' Southwe**	**0.86**	**95**		**Pn**	**21 45 22.2**	**-0.3**
CEAP	**Semis' Anvil P**	**0.86**	**89**		**Pn**	**21 45 22.7**	**+0.2**
AMKA	**Amchitka**	**0.93**	**131**		**Pn**	**21 45 22.3**	**-0.8**
CERAA	**Semis' Rag'd T**	**0.93**	**94**		**Pn**	**21 45 23.0**	**-0.2**
GALAA	**Gareloi Lava P**	**1.90**	**96**		**Pn**	**21 45 33.7**	**0.0**
GAEA	**Gareloi East**	**1.92**	**95**		**Sn**	**21 45 59.4**	**+0.5**
TASE	**Tanaga Southea**	**2.35**	**92**		**Pn**	**21 45 39.1**	**-0.2**
TAFP	**Tanaga Falls P**	**2.38**	**91**		**Pn**	**21 45 39.4**	**-0.2**
TAFP					**Sn**	**21 46 08.5**	**-0.6**
TAPA	**Tanaga Point A**	**2.49**	**92**		**Pn**	**21 45 40.8**	**-0.2**
SMY	**Shemya**	**2.61**	**288**	Pn	**Pn**	**21 45 41.8**	**-0.7**
SMY				Sn	**Sn**	**21 46 13.0**	**-1.4**
KIMD	**Kanaga Island**	**2.85**	**93**		**Pn**	**21 45 45.1**	**-0.5**
KIMD					**Sn**	**21 46 19.4**	**-0.5**
KICM	**Kanaga Island**	**2.86**	**90**		**Pn**	**21 45 45.7**	**-0.1**
KIRH	**Kanaga Island**	**2.93**	**90**		**Pn**	**21 45 46.2**	**-0.4**
ADK	**Adak**	**3.18**	**90**		**Pn**	**21 45 49.7**	**-0.2**
GSTD	**Great Sitkin T**	**3.51**	**87**		**Pn**	**21 45 53.5**	**-0.8**
GSTR	**Great Sitkin T**	**3.56**	**86**	Pn	**Pn**	**21 45 54.5**	**-0.4**
GSMY	**Great Sitkin M**	**3.56**	**87**		**Pn**	**21 45 54.1**	**-0.8**
NIKH	**Nikolski High**	**7.98**	**78**		**Pn**	**21 46 54.7**	**+0.6**
SPIA	**Saint Paul Isl**	**8.49**	**48**		**Pn**	**21 47 03.4**	**+2.4**
MNAT	**Makushin Natee**	**9.34**	**72**		**Pn**	**21 47 13.6**	**+1.2**
UNV	**Unalaska Valle**	**9.44**	**73**	Pn	**Pn**	**21 47 14.7**	**+0.9**
AHB	**Akutan Harbor**	**9.87**	**71**		**Pn**	**21 47 21.2**	**+1.6**
FALS	**False Pass**	**11.35**	**68**	Pn	**Pn**	**21 47 39.2**	**0.0**
PEA0B	**Petropavlovsk-**	**12.52**	**283**	Pn	**Pn**	**21 47 56.7**	**+2.1**
PETK	**Petropavlovsk-**	**12.52**	**283**	P	**P**	**21 47 58.0**	**-3.0**
	1.5nm,0.3s,baz=97,slow=18,SNR=13						
PETK	**Petropavlovsk-**	**12.52**	**283**		**Pn**	**21 47 56.9**	**+2.3**
SDPT	**Sand Point**	**13.08**	**67**	Pn	**Pn**	**21 48 01.0**	**-0.8**
CNBA	**Chernabura Isl**	**13.55**	**69**	Pn	**Pn**	**21 48 05.3**	**-2.6**
CHIR	**Chirikof Islan**	**15.87**	**66**	Pn	**Pn**	**21 48 35.2**	**-1.8**
SII	**Sitkinak Islan**	**16.71**	**63**		**Pn**	**21 48 45.8**	**-1.7**
OHAK	**Old Harbor**	**17.26**	**61**		**P**	**21 48 52.1**	**-1.4**
KDAK	**Kodiak Island**	**17.70**	**59**	P	**P**	**21 48 57.4**	**-1.0**
	2.9nm,0.3s,baz=198,slow=3.1,SNR=8.8						
KDAK	**Kodiak Island**	**17.70**	**59**	P	**P**	**21 48 56.4**	**-1.9**
KDAK				IAmb	IAmb	21 48 59.2	
	comp=Z,12nm,0.5s						
CNPM	**China Poot**	**18.65**	**54**		**P**	**21 49 08.1**	**-0.7**
BRLK	**Bradley Lake**	**18.87**	**54**	P	**P**	**21 49 10.0**	**-1.2**
SEW	**Seward**	**19.64**	**53**	P	**P**	**21 49 18.6**	**-0.9**
SEW				IAmb	IAmb	21 49 22.9	
	comp=Z,18nm,0.8s						
BPAW	**Bear Paw Mtn.**	**20.08**	**41**	P	**P**	**21 49 23.9**	**-0.3**
BPAW				IAmb	IAmb	21 49 31.7	
	comp=Z,6.6nm,0.9s						
TRF	**Thorofare Moun**	**20.13**	**43**	P	**P**	**21 49 26.2**	**+1.3**
GHO	**Glory Hole Cre**	**20.24**	**48**	P	**P**	**21 49 25.6**	**-0.4**
GHO				IAmb	IAmb	21 49 26.4	
	comp=Z,5.0nm,0.7s						
GLI	**Glacier Island**	**20.92**	**51**	P	**P**	**21 49 32.7**	**-0.6**
GLI				IAmb	IAmb	21 49 35.8	
	comp=Z,22nm,1.2s						
SCM	**Sheep Creek Mo**	**20.99**	**49**	P	**P**	**21 49 34.3**	**+0.2**
SCM				IAmb	IAmb	21 49 36.5	
	comp=Z,17nm,1.1s						
FID	**Port Fidalgo**	**21.20**	**52**	P	**P**	**21 49 35.0**	**-1.2**
FID				IAmb	IAmb	21 49 40.7	
	comp=Z,14nm,1.1s						
DHY	**Denali Highway**	**21.27**	**45**	P	**P**	**21 49 36.9**	**-0.2**
CCB	**Clear Creek Bu**	**21.57**	**41**	P	**P**	**21 49 39.2**	**-0.9**
HDA	**Harding Lake**	**21.84**	**42**	P	**P**	**21 49 41.8**	**-1.1**
HDA				IAmb	IAmb	21 49 45.3	
	comp=Z,8.0nm,0.8s						
IL31		**21.98**	**41**	P	**P**	**21 49 43.3**	**-1.0**
ILAR	**Eielson Array**	**21.98**	**41**	P	**P**	**21 49 43.5**	**-1.0**
	comp=Z,2.0nm,0.5s,baz=247,slow=9.3,SNR=5.5						
RIDG	**Independent Ri**	**22.54**	**44**	P	**P**	**21 49 49.7**	**-0.5**
RIDG				IAmb	IAmb	21 49 54.8	
	comp=Z,6.2nm,0.9s						
GLB	**Gilahina Butte**	**22.58**	**50**	P	**P**	**21 49 50.6**	**0.0**
GLB				IAmb	IAmb	21 49 53.7	
	comp=Z,6.6nm,0.8s						
VRDI	**Verde Repeater**	**22.73**	**51**	P	**P**	**21 49 52.2**	**+0.1**
VRDI				IAmb	IAmb	21 49 56.8	
	comp=Z,5.5nm,0.8s						
PRP	**Porcupine Dome**	**22.77**	**40**	P	**P**	**21 49 51.7**	**-0.7**
SCRK	**Sand Creek**	**22.97**	**44**	P	**P**	**21 49 53.9**	**-0.4**
SCRK				IAmb	IAmb	21 49 55.3	
	comp=Z,13nm,1.0s						
BARN	**Barnard Glacie**	**23.58**	**52**	P	**P**	**21 50 00.4**	**+0.4**
BCAR	**Beaver Creek A**	**23.75**	**47**		**P**	**21 50 02.1**	**+0.7**
BMAR	**Burnt Mountain**	**23.79**	**35**		**P**	**21 50 01.6**	**-0.1**
EGAK	**Eagle**	**24.34**	**43**	P	**P**	**21 50 07.0**	**+0.3**
DAWY	**Dawson**	**24.97**	**45**	P	**P**	**21 50 12.5**	**+0.1**
DAWY				IAmb	IAmb	21 50 16.3	
	comp=Z,14nm,0.9s						
EPYK	**Eagle Plains**	**26.47**	**40**	P	**P**	**21 50 25.7**	**-0.2**
INK	**Inuvik**	**28.05**	**36**	P	**P**	**21 50 41.0**	**+1.1**
	comp=Z,2.4nm,0.4s,baz=232,slow=10,SNR=9.9						
INK	**Inuvik**	**28.05**	**36**	P	**P**	**21 50 40.0**	**+0.1**
YKA	**Yellowknife Ar**	**36.17**	**46**	P	**P**	**21 51 51.2**	**+0.4**
	comp=Z,2.6nm,0.6s,baz=281,slow=8.5,SNR=8.5						
LTY	**Liberty**	**38.87**	**72**	P	**P**	**21 52 13.1**	**-0.7**
LTY				IAmb	IAmb	21 52 13.8	
	comp=Z,2.2nm,0.4s						
YBH	**Yreka Blue Hor**	**40.64**	**80**	P	**P**	**21 52 29.6**	**+1.1**
	comp=Z,1.7nm,0.5s,baz=280,slow=13,SNR=3.3						
YBH	**Yreka Blue Hor**	**40.64**	**80**	P	**P**	**21 52 28.7**	**+0.2**
K05A	**Summer Lake**	**41.17**	**78**	P	**P**	**21 52 33.3**	**+0.3**
K05A				IAmb	IAmb	21 52 34.5	
	comp=Z,3.5nm,0.4s						
I07A	**Izee**	**41.25**	**75**	P	**P**	**21 52 33.4**	**-0.1**
WALA	**Waterton Lakes**	**41.85**	**66**	P	**P**	**21 52 37.4**	**-0.9**
WALA				IAmb	IAmb	21 52 43.5	
	comp=Z,3.4nm,1.1s						
MOD	**Modoc Plateau**	**42.01**	**79**	P	**P**	**21 52 40.2**	**+0.5**
MOD				IAmb	IAmb	21 52 41.1	
	comp=Z,1.9nm,0.5s						
BMO	**Blue Mountains**	**42.13**	**73**	P	**P**	**21 52 40.2**	**-0.4**
LRM	**Limekiln Ridge**	**44.43**	**69**	P	**P**	**21 52 58.4**	**-0.8**
MCMT	**McKenzie Canyo**	**44.76**	**71**	P	**P**	**21 53 00.9**	**-1.0**
BOZ	**Bozeman (W)**	**45.03**	**69**	P	**P**	**21 53 03.0**	**-0.9**
NVAR	**Mina Array Bea**	**45.33**	**81**	P	**P**	**21 53 07.3**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=301,slow=7.0,SNR=5.2						
NVAR	**Mina Array Bea**	**45.33**	**81**	P	**P**	**21 53 07.1**	**+0.7**
NV11	**Mina Array Sit**	**45.42**	**81**	P	**P**	**21 53 07.2**	**+0.2**
ELK	**Elko**	**45.76**	**77**	P	**P**	**21 53 09.9**	**+0.2**
R11A	**Troy Canyon, C**	**47.04**	**80**	P	**P**	**21 53 19.7**	**-0.1**
TPNV	**Topopah Spring**	**47.53**	**81**	P	**P**	**21 53 24.3**	**+0.8**
TPNV				IAmb	IAmb	21 53 25.4	
	comp=Z,5.2nm,0.8s						
PD31	**Pinedale Array**	**47.90**	**71**	P	**P**	**21 53 26.1**	**-0.3**
PD31				IAmb	IAmb	21 53 31.1	
	comp=Z,2.6nm,1.1s						
PDAR	**Pinedale Array**	**47.90**	**71**	P	**P**	**21 53 25.9**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=304,slow=3.5,SNR=4.3						
SPITS	**Spitsbergen Ar**	**49.62**	**355**	P	**P**	**21 53 38.9**	**+0.2**
	comp=Z,4.1nm,0.9s,baz=7.8,slow=6.7,SNR=2.5						
F36A	**Milaca**	**54.90**	**59**	P	**P**	**21 54 16.4**	**-1.7**
MKAR	**Makanchi Array**	**58.17**	**306**	P	**P**	**21 54 44.5**	**+3.2**
	comp=Z,0.8nm,0.9s,baz=38,slow=7.3,SNR=1.8						
TXAR	**Lajitas Array**	**60.40**	**79**	P	**P**	**21 54 57.3**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=298,slow=2.7,SNR=3.5						
TXAR	**Lajitas Array**	**60.40**	**79**	P	**P**	**21 54 57.0**	**0.0**
CMAR	**Chiang Mai Arr**	**69.09**	**273**	P	**P**	**21 55 54.0**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=32,slow=7.2,SNR=1.6						
WRA	**Warramunga Arr**	**81.19**	**221**	P	**P**	**21 57 02.9**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=31,slow=5.8,SNR=1.4						
ASAR	**Alice Springs**	**84.71**	**220**	P	**P**	**21 57 21.4**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=15,slow=4.2,SNR=2.1						

*IDC **23** 21:45:44.8±0.8, 30.05S×177.23W, h0km, mb4.5/11, mb1 4.6/12, mb1mx4.3/47, mbtmp4.5/12, ML4.6/1, Error ellipse: s-maj=22.4km s-min=19.9km az=65.0*

*NEIC **23** 21:45:49.2±1.4, 30.13S±0.06×177.4W±0.1, h29km±4km, mb4.8/19, Error ellipse: s-maj=18.2km s-min=8.7km az=80.0*

ISC 23 21:45:50.0±0.6, 30.14S±0.05×177.4W±0.1, h35km, n75, σ1s24/82, mb4.7/20, 1C-1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.99**	**331**	P	**Pn**	**21 46 06.5**	**-1.0**
GLKZ				S	**Sn**	**21 46 20.0**	**-0.3**
RAO	**Raoul Island**	**1.00**	**332**	Pn	**Pn**	**21 46 06.3**	**-1.2**
	4μm,0.3s,baz=125,slow=1.3,SNR=36						
RAO				Sn	**Sn**	**21 46 20.8**	**+0.3**
	4μm,0.3s,baz=272,slow=23,SNR=8.7						
RAO	**Raoul Island**	**1.00**	**332**	Pn	**Pn**	**21 46 06.3**	**-1.2**
RAO				Sn	**Sn**	**21 46 20.4**	**0.0**
RIZ	**Raoul Island**	**1.01**	**331**	P	**Pn**	**21 46 05.5**	**-2.2**
RIZ				S	**Sn**	**21 46 18.5**	**-2.2**
MXZ	**Matakaoa Point**	**8.23**	**205**	P	**Pn**	**21 47 45.2**	**-1.6**
MXZ				S	**Sn**	**21 49 19.1**	**+0.5**
WMGZ	**Waiomatatini S**	**8.42**	**203**	P

AKASG PKPab **sPKPdf** **22 05 47.5 +0.5**
comp=Z,2.4nm,0.5s,baz=46,slow=3.3,SNR=9.8
AKASG Malin Array Be 151.42 323 PKPbc 22 05 38.9 -0.8
AKASG **sPKPdf** **22 05 47.6 +0.6**
BRTR Keskin Array B 152.95 299 PKPbc **PKiKP** **22 05 44.8 +0.8**
comp=Z,0.4nm,0.5s,baz=304,slow=37,SNR=2.2
BRTR Keskin Array B 152.95 299 PKiKP 22 05 44.2 +0.3
GERES GERESS Array B 159.50 339 PKPab **PKPab** **22 06 23.4 +0.7**
comp=Z,0.7nm,0.7s,baz=57,slow=4.9,SNR=5.9
GERES GERESS Array B 159.50 339 PKPab 22 06 23.1 +0.4
TORD Torodi Ar. Bea 163.07 177 PKPab **PKPab** **22 06 39.6 +0.7**
comp=Z,0.6nm,0.6s,baz=210,slow=3.6,SNR=5.3

GUC 23 21:48:40.6±0.8, 20.°55S×70.°86W, h45km±1km, ML3.4, 7C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.63**	**92**	⇑*iP*	Pn	21 48 53.5	+0.2
TA01				*i* S	Sn	21 49 02.6	+0.2
TA01				IAML		21 49 03.4	
	comp=N,9μm,0.5s						
TA02	**Huaiquique**	**0.73**	**68**	⇑*iP*	Pn	21 48 55.1	+0.5
TA02				*i* S	Sn	21 49 05.4	+0.6
PSGC	**Pisagua**	**1.17**	**36**	*eP*	Pn	21 49 01.5	+0.8
PSGC				*i* S	Sn	21 49 17.2	+1.7
PSGC				IAML		21 49 18.3	
	comp=E,762nm,0.5s						
PB02	**IPOC Station P**	**1.18**	**131**	⇑*iP*	Pn	21 49 02.2	+1.4
PB02				*i* S	Sn	21 49 17.4	+1.6
PB02				IAML		21 49 22.1	
	comp=E,5μm,0.4s						
PB01	**IPOC Station P**	**1.37**	**111**	⇑*iP*	Pn	21 49 04.8	+1.4
PB01				*eS*	Sn	21 49 22.6	+2.2
PB11	**IPOC Station P**	**1.37**	**55**	⇑*iP*	Pn	21 49 04.5	+1.0
PB11				*eS*	Sn	21 49 22.6	+2.0
PB11				IAML		21 49 24.0	
	comp=N,2μm,0.2s						
PB07	**IPOC Station P**	**1.48**	**142**	*eP*	Pn	21 49 06.1	+1.1
PB07				IAML		21 49 35.9	
	comp=N,573nm,0.5s						
PB08	**IPOC Station P**	**1.65**	**76**	*eP*	Pn	21 49 09.1	+1.6
PB08				*i* S	Sn	21 49 30.8	+3.1
PB08				IAML		21 49 37.9	
	comp=N,651nm,0.3s						
PB03	**IPOC Station P**	**1.81**	**146**	⇑*iP*	Pn	21 49 10.8	+1.3
PB03				IAML		21 49 48.8	
	comp=E,309nm,0.3s						
MNMC	**Minye Minye**	**1.84**	**40**	*eP*	Pn	21 49 11.6	+1.5
MNMC				*eS*	Sn	21 49 34.8	+2.5
PB04	**IPOC Station P**	**1.90**	**160**	⇓*iP*	Pn	21 49 11.6	+1.0
PB04				*i* S	Sn	21 49 35.9	+2.4
PB09	**IPOC Station P**	**1.95**	**130**	⇑*iP*	Pn	21 49 14.3	+2.8
PB09				IAML		21 49 48.1	
	comp=E,540nm,0.2s						
PB12	**IPOC Station P**	**1.99**	**15**	*eP*	Pn	21 49 14.8	+3.0
PB12				*i* S	Sn	21 49 39.9	+4.3
PB12				IAML		21 49 48.5	
	comp=N,275nm,0.4s						
PB05	**IPOC Station P**	**2.37**	**165**	*eP*	Pn	21 49 17.7	+0.5
LVC	**Limon Verde**	**2.74**	**139**	*eP*	Pn	21 49 25.5	+3.1
LVC				*i* S	Sn	21 49 58.6	+4.2
LVC	**Limon Verde**	**2.74**	**139**	*eP*	Pn	21 49 25.6	+3.2
LVC	**Limon Verde**	**2.74**	**139**	*eP*	Pn	21 49 25.6	+3.2
PB15	**IPOC Station P**	**2.94**	**154**	*eP*	Pn	21 49 26.3	+1.2
PB10	**IPOC Station P**	**2.96**	**175**	*eP*	Pn	21 49 25.2	0.0

*IDC **23** 21:49:41.9±1.4, 30.°12S×177.°31W, h0km, mb4.3/4, mb1 4.5/4, mb1mx3.9/44, mbtmp4.3/4, Error ellipse: s-maj=36.3km s-min=29.6km az=170.0*
*NEIC **23** 21:49:41.3±1.4, 29.°97S±0.°09×176.°7W±0.°1, h35km±1km, mb4.5/7, Error ellipse: s-maj=21.6km s-min=7.5km az=228.0*
ISC 23 21:49:47.2±1.1, 30.°06S±0.°09×177.°5W±0.°2, h35km, n20, σ1§07/20, mb4.4/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.89**	**335**	Pn	**Pn**	**21 50 03.2**	**+0.1**
	638nm,0.3s,baz=54,slow=11,SNR=9.7						
RAO				Sn	**Sn**	**21 50 14.0**	**-0.8**
	2μm,0.3s,baz=137,slow=21,SNR=9.1						
RAO	**Raoul Island**	**0.89**	**335**	Pn	**Pn**	**21 50 03.3**	**+0.1**
RAO				Sn	**Sn**	**21 50 13.6**	**-1.2**
KHZ	**Kahutara**	**14.28**	**208**	Pn	**Pn**	**21 53 05.7**	**-1.2**
RPZ	**Rata Peaks**	**16.40**	**211**	Pn	**Pn**	**21 53 34.3**	**-0.3**
RPZ				IAmb	IAmb	21 53 46.2	
	comp=Z,43nm,1.4s						
DZM	**Mont Dzumac**	**16.46**	**295**	Pn	P	21 53 48.7	+11
	comp=Z,0.5nm,0.3s,baz=117,slow=14,SNR=6.4						
AFI	**Afiamalu**	**16.92**	**19**	Pn	Pn	21 53 31.7	-10
AFI				IAmb	IAmb	21 53 43.0	
	comp=Z,53nm,1.2s						
CTA	**Charters Tower**	**34.18**	**278**	P	**P**	**21 56 31.9**	**+2.5**
	comp=Z,4.2nm,0.5s,baz=103,slow=11,SNR=6.4						
CTAO	**Charters Tower**	**34.18**	**278**	P	**P**	**21 56 30.9**	**+1.5**
CTAO				IAmb	IAmb	21 56 32.5	
	comp=Z,14nm,1.2s						
AS31	**Alice Springs**	**43.56**	**266**	P	**P**	**21 57 46.6**	**-1.4**
ASAR	**Alice Springs**	**43.56**	**266**	P	**P**	**21 57 48.8**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=104,slow=7.2,SNR=7.4						
ASAR	**Alice Springs**	**43.56**	**266**	P	**P**	**21 57 47.3**	**-0.7**
WR0	**Warramunga Arr**	**44.34**	**272**	P	**P**	**21 57 53.5**	**-0.8**
WR0				IAmb	IAmb	21 58 10.0	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**44.51**	**272**	P	**P**	**21 57 55.5**	**-0.1**
WB2				IAmb	IAmb	21 58 04.7	
	comp=Z,3.1nm,0.7s						
WRA	**Warramunga Arr**	**44.52**	**272**	P	**P**	**21 57 56.4**	**+0.7**
	comp=Z,2.6nm,0.3s,baz=110,slow=8.1,SNR=13						
WB0	**Warramunga Arr**	**44.54**	**272**	P	**P**	**21 57 55.5**	**-0.4**
NVAR	**Mina Array Bea**	**87.69**	**42**	P	**P**	**22 02 33.1**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=226,slow=6.1,SNR=3.7						
MKAR	**Makanchi Array**	**117.89**	**310**	PKP	**PKiKP**	**22 08 30.6**	**+0.8**
	comp=Z,0.5nm,0.8s,baz=129,slow=2.0,SNR=2.0						
KURBB	**Kurchatov Arra**	**121.17**	**314**	PKP	**PKiKP**	**22 08 35.5**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=72,slow=3.0,SNR=2.2						
FINES	**FINESS Array B**	**144.97**	**340**	PKPbc	**PKPdf**	**22 09 19.7**	**-0.2**
	comp=Z,5.9nm,0.5s,baz=63,slow=3.6,SNR=23						
NOA	**NORSAR Array B**	**148.48**	**352**	PKPbc	**PKPbc**	**22 09 28.4**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=26,slow=3.4,SNR=2.5						

IDC 23 21:54:26.4±2.6, 10.°52S×120.°29E, h0km, mb3.7/4, mb1 3.7/5, mb1mx3.5/47, mbtmp3.7/5, ML3.0/1, Error ellipse: s-maj=201.2km s-min=34.9km az=55.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**18.42**	**137**	P	Pn	21 58 43.3	-0.1
	0.1nm,0.3s,baz=317,slow=12,SNR=5.5						
SONM	**Songino Array**	**59.40**	**349**	P	P	22 04 31.2	+0.5
	0.6nm,0.6s,baz=167,slow=8.9,SNR=3.7						
MKAR	**Makanchi Array**	**66.39**	**333**	P	P	22 05 17.1	-0.2
	0.5nm,0.7s,baz=136,slow=7.6,SNR=4.1						
ZALV	**Zalesovo Beam**	**70.91**	**339**	P	P	22 05 44.4	-0.9
	0.8nm,0.7s,baz=147,slow=4.5,SNR=2.5						
BVAR	**Borovoye Array**	**76.23**	**332**	P	P	22 06 17.3	+0.7
	0.4nm,0.6s,baz=134,slow=4.2,SNR=1.6						

*AEIC **23** 21:54:32.1±1.8, 51.°81N±0.°09×178.°65E±0.°08, h97km±4km, mb3.9/12(NEIC), Error ellipse: s-maj=12.4km s-min=7.3km az=177.0*
*NEIC **23** 21:54:32.5±1.4, 51.°74N±0.°10×178.°55E±0.°08, h101km±3km, Error ellipse: s-maj=14.2km s-min=7.0km az=182.0*
*IDC **23** 21:54:35.8±13.0, 51.°87N×178.°65E, h126km±122km, mb3.2/8, mb1 3.4/9, mb1mx3.1/64, mbtmp3.6/9, ML4.2/1, Error ellipse: s-maj=68.6km s-min=21.8km az=13.0*
ISC 23 21:54:32.5±0.9, 51.°8N±0.°1×178.°54E±0.°06, h99km±6km, n55, σ0§90/59, mb3.6/12, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.18**	**5**		**Pn**	**21 54 46.8**	**+0.3**
LSSA	**Little Sitkin**	**0.20**	**355**		**Pn**	**21 54 46.7**	**+0.1**
LSPA	**Little Sitkin**	**0.20**	**6**		**Pn**	**21 54 46.7**	**+0.1**
LSPA					**Sn**	**21 54 58.1**	**+1.0**
LSNW	**Little Sitkin**	**0.22**	**356**		**Pn**	**21 54 47.0**	**+0.3**
AMKA	**Amchitka**	**0.60**	**128**		**Pn**	**21 54 49.1**	**+0.1**
AMKA					**Sn**	**21 55 01.4**	**+0.1**
CESW	**Semis' Southwe**	**0.65**	**76**		**Pn**	**21 54 49.3**	**0.0**
CEAP	**Semis' Anvil P**	**0.69**	**68**		**Pn**	**21 54 49.9**	**+0.2**
CEAP					**Sn**	**21 55 02.2**	**-0.4**
CERAA	**Semis' Rag'd T**	**0.73**	**77**		**Pn**	**21 54 50.1**	**+0.1**
CERAA					**Sn**	**21 55 03.5**	**+0.3**
GAEA	**Gareloi East**	**1.69**	**88**		**Pn**	**21 55 01.3**	**+0.4**
TASE	**Tanaga Southea**	**2.13**	**86**		**Pn**	**21 55 06.9**	**+0.2**
TAFP	**Tanaga Falls P**	**2.16**	**85**		**Pn**	**21 55 07.2**	**+0.1**
TAFP					**Sn**	**21 55 33.4**	**-0.1**
TAPA	**Tanaga Point A**	**2.27**	**87**		**Pn**	**21 55 08.6**	**+0.1**
KIMD	**Kanaga Island**	**2.62**	**88**		**Pn**	**21 55 13.3**	**+0.2**
KICM	**Kanaga Island**	**2.65**	**85**		**Pn**	**21 55 14.3**	**+0.8**
KIKV	**Kanaga Island**	**2.67**	**86**		**Pn**	**21 55 14.3**	**+0.7**
KINC	**Kanaga Island**	**2.69**	**85**		**Pn**	**21 55 14.3**	**+0.3**
SMY	**Shemya**	**2.90**	**291**		**Pn**	**21 55 16.0**	**-0.8**
ADK	**Adak**	**2.97**	**86**		**Pn**	**21 55 17.2**	**-0.4**
GSMY	**Great Sitkin M**	**3.36**	**83**		**Pn**	**21 55 23.0**	**0.0**
NIKH	**Nikolski High**	**7.81**	**76**		**Pn**	**21 56 24.8**	**+1.6**
SPIA	**Saint Paul Isl**	**8.49**	**46**	Pn	**Pn**	**21 56 34.3**	**+1.9**
SDPT	**Sand Point**	**12.97**	**66**	Pn	**Pn**	**21 57 31.5**	**-1.2**
CNBA	**Chernabura Isl**	**13.43**	**68**	Pn	**Pn**	**21 57 35.8**	**-2.9**
SII	**Sitkinak Islan**	**16.62**	**62**		**Pn**	**21 58 17.7**	**-1.5**
SVW2	**Sparrevohn**	**16.98**	**47**		**P**	**21 58 25.1**	**+1.2**
KDAK	**Kodiak Island**	**17.63**	**59**	P	**P**	**21 58 30.0**	**-0.9**
	0.8nm,0.3s,baz=294,slow=10.0,SNR=8.7						
KDAK	**Kodiak Island**	**17.63**	**59**	P	**P**	**21 58 30.0**	**-0.9**
CNPM	**China Poot**	**18.61**	**54**	P	**Pn**	**21 58 41.7**	**-1.5**
CNPM				IAmb	IAmb	21 58 54.7	
	comp=Z,15nm,1.2s						
BRLK	**Bradley Lake**	**18.83**	**53**	P	**P**	**21 58 43.3**	**-0.9**
BRLK				IAmb	IAmb	21 58 49.1	
	comp=Z,14nm,1.2s						
SEW	**Seward**	**19.61**	**52**	P	**P**	**21 58 52.1**	**-0.4**
TRF	**Thorofare Moun**	**20.15**	**42**	P	Pn	21 59 00.6	-0.7
GLI	**Glacier Island**	**20.90**	**51**	P	**P**	**21 59 06.2**	**-0.2**
GLI				IAmb	IAmb	21 59 24.6	
	comp=Z,8.6nm,1.0s						
DHY	**Denali Highway**	**21.28**	**45**	P	**P**	**21 59 11.1**	**+0.4**
DHY				IAmb	IAmb	21 59 28.2	
	comp=Z,2.2nm,1.2s						
ILAR	**Eielson Array**	**22.01**	**40**	P	**P**	**21 59 18.7**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=229,slow=8.2,SNR=2.5						
ILAR	**Eielson Array**	**22.01**	**40**	P	**P**	**21 59 18.8**	**+0.5**
RIDG	**Independent Ri**	**22.55**	**44**	P	**P**	**21 59 23.0**	**-1.0**
VRDI	**Verde Repeater**	**22.70**	**51**	P	**P**	**21 59 25.4**	**-0.4**
VRDI				IAmb	IAmb	21 59 36.4	
	comp=Z,15nm,1.4s						
DOT	**Dot Lake**	**22.87**	**44**	P	**P**	**21 59 27.2**	**0.0**
SCRK	**Sand Creek**	**22.98**	**43**	P	**P**	**21 59 27.2**	**-1.2**
BCAR	**Beaver Creek A**	**23.76**	**46**	P	**P**	**21 59 36.1**	**+0.7**
BMAR	**Burnt Mountain**	**23.86**	**35**	P	**P**	**21 59 36.7**	**+0.5**
HYT	**Haines Junctio**	**25.56**	**52**	P	**P**	**21 59 53.0**	**+1.1**
HYT				IAmb	IAmb	21 59 58.9	
	comp=Z,4.1nm,1.3s						
SONM	**Songino Array**	**44.99**	**295**	P	**P**	**22 02 38.3**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=46,slow=6.9,SNR=2.6						
SONM	**Songino Array**	**44.99**	**295**	P	**P**	**22 02 38.5**	**+0.8**
NVAR	**Mina Array Bea**	**45.14**	**81**	P	**P**	**22 02 39.5**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=293,slow=6.8,SNR=4.7						
NVAR	**Mina Array Bea**	**45.14**	**81**	P	**P**	**22 02 40.0**	**+0.9**
PDAR	**Pinedale Array**	**47.77**	**71**	P	**P**	**22 02 58.6**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=294,slow=4.2,SNR=3.8						
PDAR	**Pinedale Array**	**47.77**	**71**	P	**P**	**22 02 58.8**	**-0.8**
SPITS	**Spitsbergen Ar**	**49.87**	**355**	P	**P**	**22 03 14.2**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=3.3,slow=5.8,SNR=4.1						
KURK	**Kurchatov**	**57.55**	**312**	P	**P**	**22 04 11.3**	**+0.2**
KURK				IAmb	IAmb	22 04 19.2	
	comp=Z,0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**57.65**	**312**	P	**P**	**22 04 12.2**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=42,slow=6.5,SNR=9.5						
MK31	**Makanchi Array**	**58.49**	**307**	P	**P**	**22 04 17.4**	**-0.5**
MKAR	**Makanchi Array**	**58.49**	**307**	P	**P**	**22 04 17.6**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=55,slow=5.2,SNR=6.8						
BVAR	**Borovoye Array**	**59.52**	**318**	P	**P**	**22 04 25.2**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=61,slow=6.7,SNR=5.7						
CLL	**Collm**	**76.59**	**351**	*e*PKPab	**P**	**22 06 14.0**	**+2.4**

*IDC **23** 21:55:37.1±0.5, 30.°15S×177.°43W, h0km, mb4.7/18, mb1 4.8/19, mb1mx4.6/44, mbtmp4.6/19, ML4.3/1, Error ellipse: s-maj=19.0km s-min=13.8km az=81.0*
*NEIC **23** 21:55:42.2±1.9, 30.°15S±0.°04×177.°6W±0.°1, h35km±1km, mb4.7/28, Error ellipse: s-maj=18.7km s-min=2.9km az=71.0*
ISC 23 21:55:42.2±0.4, 30.°15S±0.°05×177.°5W±0.°1, h35km, n108, σ1§35/115, mb4.7/29, 2C-3D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.95**	**340**	Pn	**Pn**	**21 55 57.9**	**-1.2**
	985nm,0.3s,baz=188,slow=10,SNR=19						
RAO				Sn	**Sn**	**21 56 11.0**	**-0.5**
	10μm,0.3s,baz=117,slow=22,SNR=22						
RAO	**Raoul Island**	**0.95**	**340**	Pn	**Pn**	**21 55 58.4**	**-0.7**
RAO				Sn	**Sn**	**21 56 11.1**	**-0.4**
BKZ	**Black Stump Fm**	**10.25**	**207**	Pn	**Pn**	**21 58 04.9**	**-1.9**
BFZ	**Birch Farm**	**11.66**	**204**	Pn	**Pn**	**21 58 23.9**	**-2.3**
PLWZ	**Palliser**	**12.80**	**205**	Pn	**Pn**	**21 58 40.4**	**-1.3**
MSVF	**Nonsavu**	**13.00**	**341**		**Pn**	**21 58 43.4**	**-1.1**
NNZ	**Nelson**	**13.28**	**211**	Pn	**Pn**	**21 58 48.8**	**+0.6**
KHZ	**Kahutara**	**14.19**	**208**	Pn	**Pn**	**21 58 56.6**	**-4.0**
MQZ	**McQueen's Vall**	**15.62**	**207**	Pn	**Pn**	**21 59 18.4**	**-1.2**
RPZ	**Rata Peaks**	**16.30**	**211**	Pn	**Pn**	**21 59 27.8**	**-0.6**
	1.2nm,0.3s,baz=7.6,slow=4.4,SNR=5.5						
RPZ	**Rata Peaks**	**16.30**	**211**	Pn	**Pn**	**21 59 25.6**	**-2.8**
RPZ				IAmb	IAmb	21 59 44.9	
	comp=Z,49nm,1.5s						
DZM	**Mont Dzumac**	**16.47**	**295**	Pn	**P**	**21 59 34.5**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=102,slow=9.4,SNR=2.1						
AFI	**Afiamalu**	**17.01**	**19**	Pn	**Pn**	**21 59 37.3**	**-0.3**
AFI				IAmb	IAmb	21 59 50.8	
	comp=Z,104nm,1.3s						
WKZ	**Wanaka**	**18.09**	**212**	Pn	**Pn**	**21 59 48.5**	**-2.1**
WKZ				IAmb	IAmb	21 59 54.2	
	comp=Z,49nm,1.3s						
MLZ	**Mavora Lakes**	**18.91**	**213**	P	**P**	**21 59 59.4**	**-0.4**
ARMA	**Armidale**	**26.59**	**262**	P	**P**	**22 01 15.7**	**-1.6**
ARMA				IAmb	IAmb	22 01 23.2	
	comp=Z,8.5nm,0.8s						
TOO	**Toolangi**	**31.43**	**246**	P	**P**	**22 02 02.2**	**+2.0**
TOO				IAmb	IAmb	22 02 17.1	
	comp=Z,16nm,1.1s						
CTA	**Charters Tower**	**34.16**	**279**	P	**P**	**22 02 25.8**	**+1.6**
	comp=Z,11nm,0.6s,baz=105,slow=10,SNR=27						
CTAO	**Charters Tower**	**34.16**	**279**	P	**P**	**22 02 26.0**	**+1.8**
STKA	**Stephens Creek**	**34.93**	**256**	P	**P**	**22 02 32.9**	**+2.2**
	comp=Z,9.4nm,0.7s,baz=101,slow=12,SNR=18						
STKA	**Stephens Creek**	**34.93**	**256**	P	**P**	**22 02 32.8**	**+2.0**
BBOO	**Buckleboo**	**39.42**	**254**	P	**P**	**22 03 09.3**	**+0.4**
COEN	**Coen**	**39.59**	**285**	P	**P**	**22 03 10.6**	**+0.2**
COEN				IAmb	IAmb	22 03 27.8	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**43.52**	**266**	P	**P**	**22 03 42.0**	**-0.7**
ASAR	**Alice Springs**	**43.52**	**266**	P	**P**	**22 03 42.9**	**+0.2**
	comp=Z,5.6nm,0.7s,baz=109,slow=7.8,SNR=23						
ASAR				PcP	**PcP**	**22 05 30.4**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=124,slow=4.0,SNR=6.4						
ASAR	**Alice Springs**	**43.52**	**266**	P	**P**	**22 03 42.1**	**-0.6**
WR0	**Warramunga Arr**	**44.31**	**272**	P	**P**	**22 03 48.2**	**-0.8**
WR0				IAmb	IAmb	22 03 55.5	
	comp=Z,11nm,0.9s						
WB2	**Warramunga Arr**	**44.48**	**272**	P	**P**	**22 03 49.9**	**-0.5**
WB2				IAmb	IAmb	22 03 55.5	
	comp=Z,16nm,0.7s						
WRA	**Warramunga Arr**	**44.49**	**272**	P	**P**	**22 03 50.0**	**-0.4**
	comp=Z,13nm,0.7s,baz=111,slow=8.1,SNR=18						
WRA				PcP	**PcP**	**22 05 33.2**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=103,slow=3.3,SNR=2.8						
WRA	**Warramunga Arr**	**44.49**	**272**	P	**P**	**22 03 50.1**	**-0.4**
WB0	**Warramunga Arr**	**44.51**	**272**	P	**P**	**22 03 50.1**	**-0.5**
WB0				IAmb	IAmb	22 03 53.0	
	comp=Z,21nm,1.0s						
VNDA	**Vanda**	**48.38**	**186**	P	**P**	**22 04 20.9**	**+0.7**
	comp=Z,3.2nm,0.8s,baz=20,slow=6.0,SNR=9.8						
VNDA	**Vanda**	**48.38**	**186**	P	**P**	**22 04 21.1**	**+0.9**
KNRA	**Kununurra**	**51.09**	**274**	P	**P**	**22 04 38.9**	**-2.7**
KNRA				IAmb	IAmb	22 04 45.3	
	comp=Z,14nm,0.9s						
CASY	**Casey**	**55.55**	**208**	P	**P**	**22 05 13.3**	**-0.4**
MORW	**Morawa**	**56.99**	**253**	P	**P**	**22 05 23.2**	**-1.3**
MORW				IAmb	IAmb	22 05 24.1	
	comp=Z,10nm,1.1s						
QSPA	**South Pole Qui**	**59.96**	**180**	P	**P**	**22 05 46.0**	**+1.1**
	comp=Z,20nm,0.9s,baz=37,slow=1.6,SNR=14						
QSPA	**South Pole Qui**	**59.96**	**180**	P	**P**	**22 05 46.2**	**+1.3**
MAW	**Mawson**	**72.68**	**200**	P	**P**	**22 07 06.7**	**+0.7**
	comp=Z,6.9nm,0.7s,baz=150,slow=8.3,SNR=8.1						
MAW	**Mawson**	**72.68**	**200**	P	**P**	**22 07 06.1**	**+0.1**
SYO	**Syowa Base**	**77.45**	**193**	⇓*eP*	**P**	**22 07 32.6**	**-0.8**
SYO	**Syowa Base**	**77.45**	**193**	⇓*eX*	P	22 07 39.4	+6.0
MJAR	**Matsushiro Arr**	**78.27**	**325**	P	**P**	**22 07 37.8**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=200,slow=23,SNR=1.3						
MJAR	**Matsushiro Arr**	**78.27**	**325**	P	**P**	**22 07 38.2**	**-0.2**
MAJO	**Matsushiro**	**78.27**	**325**	P	**P**	**22 07 37.4**	**-1.0**
MAJO				IAmb	IAmb	22 07 43.8	
	comp=Z,8.1nm,1.1s						
SNAA	**Sanae**	**78.39**	**178**	P	**P**	**22 07 39.0**	**+0.2**
SNAA	**Sanae**	**78.39**	**178**	P	**P**	**22 07 38.3**	**-0.5**
	baz=180,slow=8.2						
SNAA	**Sanae**	**78.39**	**178**	P	**P**	**22 07 38.7**	**-0.1**
SNAA				IAmb	IAmb	22 07 40.2	
	comp=Z,10nm,1.2s						
VNA3	**Neumayer Olymp**	**78.53**	**176**	P	**P**	**22 07 39.5**	**0.0**
VNA2	**Neumayer--Watz**	**78.97**	**177**	P	**P**	**22 07 42.1**	**+0.2**
	baz=168,slow=4.6						
VNA1	**Neumayer--Stat**	**79.19**	**176**	P	**P**	**22 07 43.8**	**+0.7**
PLCA	**Paso Flores**	**82.38**	**133**	P	**P**	**22 08 00.3**	**-0.5**
	comp=Z,2.5nm,0.9s,baz=192,slow=5.5,SNR=3.3						
ASAJ	**Asahikawa**	**82.40**	**332**	P	**P**	**22 08 02.6**	**+2.2**
	comp=Z,5.0nm,0.8s,baz=124,slow=7.3,SNR=5.5						
KSRS	**Korea Array**	**84.42**	**319**	P	**P**	**22 08 11.9**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=122,slow=6.1,SNR=4.6						
YSS	**Yuzh-Sakhalins**	**84.70**	**334**	P	**P**	**22 08 13.2**	**+1.1**
PETK	**Petropavlovsk-**	**85.67**	**345**	P	**P**	**22 08 17.8**	**+1.0**
	comp=Z,10nm,0.8s,baz=108,slow=9.5,SNR=3.6						
PETK	**Petropavlovsk-**	**85.67**	**345**	P	**P**	**22 08 16.9**	**+0.1**
NJ2	**Nanjing**	**86.39**	**310**	*eP*	**P**	**22 08 23.9**	**+3.0**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
USA0B	**Ussuriysk Arra**	**87.17**	**326**	P	**P**	**22 08 25.0**	**+0.5**
USA0B				IAmb	IAmb	22 08 27.1	
	comp=Z,9.5nm,1.2s						
USRK	**Ussuriysk Ar.**	**87.17**	**326**	P	**P**	**22 08 25.7**	**+1.2**
	comp=Z,3.7nm,0.9s,baz=152,slow=4.0,SNR=8.9						
USRK	**Ussuriysk Ar.**	**87.17**	**326**	P	**P**	**22 08 24.9**	**+0.4**
YBH	**Yreka Blue Hor**	**87.59**	**38**	P	**P**	**22 08 27.7**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=264,slow=2.5,SNR=3.8						
NVAR	**Mina Array Bea**	**87.78**	**42**	P	**P**	**22 08 28.4**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=225,slow=8.1,SNR=8.3						
NVAR	**Mina Array Bea**	**87.78**	**42**	P	**P**	**22 08 27.9**	**0.0**
NV11	**Mina Array Sit**	**87.87**	**43**	P	**P**	**22 08 28.3**	**+0.1**
KVN	**Kaiserville**	**88.31**	**42**	P	**P**	**22 08 30.2**	**-0.2**
F04A	**Amboy**	**90.70**	**35**	P	**P**	**22 08 41.8**	**+0.8**
KLR	**Kul'dur**	**91.02**	**330**	P	**P**	**22 08 44.0**	**+1.6**
	comp=Z,4.6nm,0.9s,baz=148,slow=2.1,SNR=11						
CMAR	**Chiang Mai Arr**	**93.70**	**289**	P	**P**	**22 08 57.2**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=131,slow=1.8,SNR=4.6						
CMAR	**Chiang Mai Arr**	**93.70**	**289**	P	**P**	**22 08 55.8**	**+0.2**
ILAR	**Eielson Array**	**97.59**	**13**	P	Pdif	22 09 13.8	+1.5
	comp=Z,5.5nm,1.0s,baz=245,slow=8.8,SNR=2.7						
WMQ	**Urumqi**	**113.39**	**308**	*eP*	**PKiKP**	**22 14 17.0**	**+0.7**
KURBB	**Kurchatov Arra**	**121.20**	**314**	PKP	**PKPdf**	**22 14 30.2**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=95,slow=2.0,SNR=3.0						
BVAR	**Borovoye Array**	**126.50**	**316**	PKP	**PKPdf**	**22 14 41.1**	**

ATKA	**Atka Island**	**4.49**	**83**			**Pn**	**21 57 33.0**	**-0.1**
KOKL	**Mount Kliuchef**	**4.50**	**81**			**Pn**	**21 57 33.9**	**+0.6**
KOFP	**Korovin Flat P**	**4.56**	**82**			**Pn**	**21 57 35.3**	**+1.2**
KOSE	**Korovin Southe**	**4.59**	**81**			**Pn**	**21 57 36.0**	**+1.5**
NIKH	**Nikolski High**	**7.79**	**77**			**Pn**	**21 58 19.1**	**+1.3**
OKSP	**Okmok Steeple**	**8.14**	**75**			**Pn**	**21 58 24.9**	**+2.2**
SPIA	**Saint Paul Isl**	**8.41**	**46**	Pn		**Pn**	**21 58 29.2**	**+2.9**
MREP	**Makushin Rep't**	**9.12**	**72**			**Pn**	**21 58 37.9**	**+2.0**
UNV	**Unalaska Valle**	**9.26**	**72**			**Pn**	**21 58 38.7**	**+0.9**
AKGG	**Akutan Green G**	**9.61**	**70**			**Pn**	**21 58 45.1**	**+2.6**
AKUT	**Akutan**	**9.73**	**70**	Pn		**Pn**	**21 58 45.8**	**+1.7**
PEA0B	**Petropavlovsk-**	**12.77**	**284**	Pn		**Pn**	**21 59 26.9**	**+2.0**
PETK	**Petropavlovsk-**	**12.77**	**284**	P		**Pn**	**21 59 24.8**	**-0.1**
	0.7nm,0.3s,baz=102,slow=18,SNR=3.8							
PETK	**Petropavlovsk-**	**12.77**	**284**			**Pn**	**21 59 26.6**	**+1.7**
SDPT	**Sand Point**	**12.93**	**66**	Pn		**Pn**	**21 59 25.3**	**-1.6**
CNBA	**Chernabura Isl**	**13.38**	**69**	Pn		**Pn**	**21 59 30.2**	**-2.6**
CHIR	**Chirikof Islan**	**15.71**	**65**	Pn		**Pn**	**22 00 00.6**	**-1.9**
SVW2	**Sparrevohn**	**16.91**	**47**			**Pn**	**22 00 16.7**	**-0.5**
OHAK	**Old Harbor**	**17.13**	**61**	P		**P**	**22 00 18.6**	**-1.3**
OHAK				IAmb		IAmb	22 00 32.6	
	comp=Z,23nm,1.5s							
KDAK	**Kodiak Island**	**17.57**	**59**	P		**P**	**22 00 22.8**	**-2.0**
	comp=Z,1.6nm,0.3s,baz=191,slow=2.7,SNR=20							
KDAK	**Kodiak Island**	**17.57**	**59**	P		**P**	**22 00 22.6**	**-2.2**
KDAK				IAmb		IAmb	22 00 33.7	
	comp=Z,12nm,1.1s							
RSO	**Redoubt South**	**18.02**	**50**	P		**Pn**	**22 00 31.5**	**+0.6**
CNPM	**China Poot**	**18.55**	**54**	P		**P**	**22 00 35.6**	**0.0**
CNPM				IAmb		IAmb	22 00 38.0	
	comp=Z,13nm,1.0s							
BRLK	**Bradley Lake**	**18.77**	**53**	P		**P**	**22 00 37.8**	**-0.1**
BRLK				IAmb		IAmb	22 00 46.7	
	comp=Z,30nm,1.5s							
PPLA	**Purkeypile**	**19.07**	**43**	P		**Pn**	**22 00 43.2**	**0.0**
PPLA				IAmb		IAmb	22 00 59.0	
	comp=Z,23nm,1.4s							
SEW	**Seward**	**19.54**	**53**	P		**P**	**22 00 46.2**	**0.0**
TRF	**Thorofare Moun**	**20.07**	**43**	P		**P**	**22 00 53.4**	**+1.2**
TRF				IAmb		IAmb	22 00 56.2	
	comp=Z,4.5nm,0.6s							
GLI	**Glacier Island**	**20.83**	**51**	P		**P**	**22 00 59.7**	**-0.5**
FID	**Port Fidalgo**	**21.11**	**51**	P		**P**	**22 01 02.2**	**-1.0**
CCB	**Clear Creek Bu**	**21.52**	**41**	P		**P**	**22 01 08.0**	**+0.5**
ILAR	**Eielson Array**	**21.93**	**41**	P		**P**	**22 01 10.2**	**-1.7**
	comp=Z,0.9nm,0.5s,baz=250,slow=10,SNR=7.5							
RIDG	**Independent Ri**	**22.48**	**44**	P		**P**	**22 01 17.4**	**-0.2**
RIDG				IAmb		IAmb	22 01 22.3	
	comp=Z,11nm,1.4s							
VRDI	**Verde Repeater**	**22.64**	**51**	P		**P**	**22 01 19.1**	**-0.3**
VRDI				IAmb		IAmb	22 01 37.4	
	comp=Z,7.4nm,1.2s							
PRP	**Porcupine Dome**	**22.73**	**39**	P		**P**	**22 01 21.1**	**+0.8**
DOT	**Dot Lake**	**22.80**	**44**	P		**P**	**22 01 20.9**	**+0.1**
DOT				IAmb		IAmb	22 01 22.5	
	comp=Z,4.0nm,0.7s							
SCRK	**Sand Creek**	**22.91**	**44**	P		**P**	**22 01 21.0**	**-1.0**
BARN	**Barnard Glacie**	**23.48**	**51**	P		**P**	**22 01 27.5**	**0.0**
BARN				IAmb		IAmb	22 01 29.9	
	comp=Z,14nm,0.8s							
CTGM	**Chitina Glacie**	**23.63**	**52**	P		**P**	**22 01 29.5**	**+0.7**
CTGM				IAmb		IAmb	22 01 31.3	
	comp=Z,14nm,0.9s							
BCAR	**Beaver Creek A**	**23.68**	**46**	P		**P**	**22 01 30.1**	**+1.0**
BMAR	**Burnt Mountain**	**23.77**	**35**	P		**P**	**22 01 30.8**	**+0.9**
PCA	**Pinnacle**	**24.12**	**54**	P		**P**	**22 01 33.5**	**+0.5**
DAWY	**Dawson**	**24.91**	**44**	P		**P**	**22 01 41.1**	**+1.0**
HYT	**Haines Junctio**	**25.50**	**52**	P		**P**	**22 01 46.8**	**+1.2**
HYT				IAmb		IAmb	22 01 50.1	
	comp=Z,16nm,1.2s							
KLR	**Kul'dur**	**29.46**	**284**	P		**P**	**22 02 20.9**	**-0.1**
	comp=Z,2.1nm,0.7s,baz=52,slow=7.8,SNR=7.1							
YKA	**Yellowknife Ar**	**36.10**	**46**	P		**P**	**22 03 18.1**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=280,slow=8.4,SNR=4.9							
KRMB	**Red Mountain**	**39.83**	**82**	P		**P**	**22 03 51.6**	**+1.4**
YBH	**Yreka Blue Hor**	**40.44**	**81**	P		**P**	**22 03 56.4**	**+1.1**
	comp=Z,2.3nm,0.6s,baz=273,slow=6.8,SNR=7.1							
YBH	**Yreka Blue Hor**	**40.44**	**81**	P		**P**	**22 03 56.4**	**+1.1**
YBH				IAmb		IAmb	22 03 57.6	
	comp=Z,2.3nm,0.6s							
I07A	**Izee**	**41.06**	**76**	P		**P**	**22 04 00.6**	**+0.2**
BMO	**Blue Mountains**	**41.95**	**73**	P		**P**	**22 04 07.7**	**+0.1**
WAKR	**Walker**	**44.38**	**82**	P		**P**	**22 04 28.6**	**+1.3**
MCMT	**McKenzie Canyo**	**44.59**	**71**	P		**P**	**22 04 28.4**	**-0.6**
KVN	**Kaiserville**	**44.86**	**81**	P		**P**	**22 04 31.9**	**+0.8**
BOZ	**Bozeman (W)**	**44.86**	**69**	P		**P**	**22 04 30.2**	**-0.9**
BOZ				IAmb		IAmb	22 04 31.0	
	comp=Z,2.3nm,0.6s							
RYN	**Ryan**	**44.86**	**81**	P		**P**	**22 04 32.1**	**+0.9**
NVAR	**Mina Array Bea**	**45.12**	**81**	P		**P**	**22 04 34.3**	**+1.0**
	comp=Z,2.2nm,0.6s,baz=297,slow=7.4,SNR=16							
NVAR	**Mina Array Bea**	**45.12**	**81**	P		**P**	**22 04 33.6**	**+0.3**
NV11	**Mina Array Sit**	**45.21**	**81**	P		**P**	**22 04 34.1**	**+0.3**
YMP	**Mirror Lake Pl**	**46.21**	**69**	P		**P**	**22 04 41.4**	**-0.4**
NOR	**Nord**	**46.54**	**3**	*i* P		**P**	**22 04 42.0**	**-1.6**
NOR				*i* S		**pP**	**22 05 04.9**	**-2.7**
R11A	**Troy Canyon, C**	**46.84**	**80**			**P**	**22 04 46.7**	**0.0**
TPNV	**Topopah Spring**	**47.32**	**82**			**P**	**22 04 51.1**	**+0.7**
TPNV				IAmb		IAmb	22 04 52.0	
	comp=Z,4.4nm,0.8s							
DUG	**Dugway, Tooele**	**47.36**	**76**	P		**P**	**22 04 51.2**	**+0.5**
PDAR	**Pinedale Array**	**47.73**	**71**	P		**P**	**22 04 52.9**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=222,slow=2.0,SNR=6.3							
PSUT	**Pine Spring**	**47.77**	**78**	P		**P**	**22 04 54.4**	**+0.5**
SPITS	**Spitsbergen Ar**	**49.77**	**355**	P		**P**	**22 05 08.7**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=156,slow=27,SNR=6.0							
KURK	**Kurchatov**	**57.49**	**312**	P		**P**	**22 06 05.6**	**+0.6**
KURBB	**Kurchatov Arra**	**57.59**	**312**	P		**P**	**22 06 06.7**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=42,slow=6.9,SNR=2.4							
MKAR	**Makanchi Array**	**58.44**	**307**	P		**P**	**22 06 11.7**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=30,slow=7.3,SNR=1.7							
TXAR	**Lajitas Array**	**60.20**	**80**	P		**P**	**22 06 24.4**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=285,slow=4.9,SNR=4.7							
WRA	**Warramunga Arr**	**81.24**	**222**	P		**P**	**22 08 31.9**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=32,slow=5.5,SNR=1.8							

NEIC ***23*** *22:00:32.8±0.6,51.72N±0.08×178.23E±0.06, h123km±5km, Error ellipse: s-maj=11.6km s-min=4.5km az=161.0*

AEIC 23 22:00:33±1.7,**51.8N**±0.1×**178.43E**±0.08,**h116**km±5km, **mb4.0**/5(NEIC),**Error ellipse: s-maj=15.4km s-min=7.5km az=182.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.17**	**30**		**Pn**	22 00 50.2	**+1.1**
LSSA	**Little Sitkin**	**0.17**	**17**		**Pn**	22 00 50.1	**+0.9**
LSNW	**Little Sitkin**	**0.19**	**16**		**Pn**	22 00 50.5	**+1.4**
LSPA	**Little Sitkin**	**0.19**	**27**		**Pn**	22 00 50.5	**+1.4**
LSPA					Sn	22 01 03.3	**+2.0**
AMKA	**Amchitka**	**0.68**	**127**		**Pn**	22 00 52.9	**+1.2**
AMKA					Sn	22 01 08.0	**+2.1**
CETU	**Semis' Tuman**	**0.68**	**74**		**Pn**	22 00 53.3	**+1.5**
CEAP	**Semis' Anvil P**	**0.74**	**72**		**Pn**	22 00 53.7	**+1.4**
CERB	**Semis' Cerberu**	**0.76**	**78**		**Sn**	22 01 10.6	**+3.5**
CERAA	**Semis' Rag'd T**	**0.79**	**81**		**Pn**	22 00 54.1	**+1.4**
CERAA					Sn	22 01 10.8	**+3.3**
TASE	**Tanaga Southea**	**2.19**	**87**		**Pn**	22 01 10.6	**+2.0**
TAFP	**Tanaga Falls P**	**2.23**	**86**		**Pn**	22 01 10.7	**+1.7**
TAFP					Sn	22 01 39.3	**+2.6**
TAPA	**Tanaga Point A**	**2.33**	**88**		**Pn**	22 01 12.4	**+1.9**
KIMD	**Kanaga Island**	**2.69**	**89**		**Pn**	22 01 16.9	**+1.8**
KIKV	**Kanaga Island**	**2.73**	**86**		**Pn**	22 01 17.3	**+1.8**
SMY	**Shemya**	**2.83**	**291**		**Pn**	22 01 15.6	**-1.2**
SMY				Sn	Sn	22 01 48.0	**-2.6**
FALS	**False Pass**	**11.28**	**67**	Pn	Pn	22 03 12.2	**+1.7**
KDAK	**Kodiak Island**	**17.67**	**59**	P	P	22 04 30.5	**-0.2**
RSO	**Redoubt South**	**18.12**	**50**	Pn	Pn	22 04 37.8	**+0.7**
CNPM	**China Poot**	**18.65**	**54**	P	P	22 04 41.8	**+0.4**
CNPM				IAmb	IAmb	22 04 43.9	
	comp=Z,13nm,1.2s						
RDOG	**Red Dog Mine**	**18.66**	**22**	P	P	22 04 41.2	**-0.3**
GLI	**Glacier Island**	**20.93**	**51**	P	P	22 05 06.8	**+0.7**
GLI				IAmb	IAmb	22 05 10.4	
	comp=Z,10nm,1.0s						
DHY	**Denali Highway**	**21.30**	**45**	P	P	22 05 11.7	**+1.5**
DHY				IAmb	IAmb	22 05 12.3	
	comp=Z,1.5nm,0.4s						
GLB	**Gilahina Butte**	**22.59**	**50**	P	P	22 05 25.2	**+1.7**
DOT	**Dot Lake**	**22.89**	**44**	P	P	22 05 26.8	**+0.4**
SCRK	**Sand Creek**	**23.01**	**43**	P	P	22 05 28.0	**+0.4**

IDC ***23*** *22:00:33.9±1.1,30.02S×177.38W,h0km,mb4.4/6, mb1 4.5/7,mb1mx4.1/44,mbtmp4.4/7,ML4.4/1, Error ellipse: s-maj=29.9km s-min=24.4km az=96.0*

NEIC ***23*** *22:00:36.2±0.7,30.00S±0.06×177.4W±0.1,h14km±5km, mb4.6/15, Error ellipse: s-maj=19.9km s-min=4.0km az=63.0*

ISC 23 22:00:38.3±0.7,**29.96S**±0.08×**177.29W**±0.10,**h35**km,**n36,** σ1§**41**/38,**mb4.6**/13,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.89**	**322**		**Pn**	**22 00 53.4**	**-0.9**
	3μm,0.3s,baz=98,slow=6.5,SNR=28						
RAO					Sn	**22 01 05.7**	**-0.3**
	4μm,0.3s,baz=63,slow=23,SNR=16						
RAO	**Raoul Island**	**0.89**	**322**		**Pn**	**22 00 53.2**	**-1.1**
RAO					Sn	**22 01 04.8**	**-1.2**
THZ	**Tophouse**	**14.20**	**211**	Pn	**Pn**	**22 03 55.8**	**-1.1**
KHZ	**Kahutara**	**14.46**	**208**	Pn	**Pn**	**22 03 57.1**	**-3.3**
RPZ	**Rata Peaks**	**16.58**	**211**	Pn	**Pn**	**22 04 25.3**	**-2.7**
	1.5nm,0.3s,baz=90,slow=4.0,SNR=2.6						
RPZ	**Rata Peaks**	**16.58**	**211**		**Pn**	**22 04 25.4**	**-2.5**
RPZ				IAmb	IAmb	22 04 34.4	
	comp=Z,17nm,0.9s						
AFI	**Afiamalu**	**16.76**	**19**	Pn	**Pn**	**22 04 28.8**	**-1.7**
AFI				IAmb	IAmb	22 04 38.9	
	comp=Z,48nm,1.1s						
RAR	**Rarotonga**	**18.02**	**65**	P	**Pn**	**22 04 43.8**	**-2.2**
	comp=Z,1.8nm,0.3s,baz=335,slow=21,SNR=3.1						
ARMA	**Armidale**	**26.84**	**261**	P	**P**	**22 06 14.2**	**-1.5**
ARMA				IAmb	IAmb	22 06 16.9	
	comp=Z,24nm,1.4s						
EIDS	**Eidsvold**	**28.34**	**272**	P	**P**	**22 06 29.2**	**+0.2**
EIDS				IAmb	IAmb	22 06 48.5	
	comp=Z,9.9nm,1.1s						
CTA	**Charters Tower**	**34.34**	**278**	P	**P**	**22 07 22.9**	**+1.0**
	comp=Z,1.6nm,0.4s,baz=102,slow=12,SNR=2.5						
CTAO	**Charters Tower**	**34.34**	**278**	P	**P**	**22 07 22.1**	**+0.2**
STKA	**Stephens Creek**	**35.18**	**256**	P	**P**	**22 07 30.2**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=100,slow=4.9,SNR=4.8						
STKA	**Stephens Creek**	**35.18**	**256**	P	**P**	**22 07 29.1**	**+0.1**
BBOO	**Buckleboo**	**39.69**	**254**	P	**P**	**22 08 07.3**	**+0.2**
AS31	**Alice Springs**	**43.75**	**266**	P	**P**	**22 08 40.9**	**+0.3**
ASAR	**Alice Springs**	**43.75**	**266**	P	**P**	**22 08 39.9**	**-0.7**
	comp=Z,1.8nm,0.7s,baz=102,slow=7.8,SNR=10.0						
WR0	**Warramunga Arr**	**44.52**	**271**	P	**P**	**22 08 47.1**	**+0.3**
WR0				IAmb	IAmb	22 09 01.1	
	comp=Z,14nm,1.2s						
WB2	**Warramunga Arr**	**44.69**	**271**	P	**P**	**22 08 48.1**	**0.0**
WB2				IAmb	IAmb	22 09 05.5	
	comp=Z,23nm,1.4s						
WRA	**Warramunga Arr**	**44.70**	**271**	P	**P**	**22 08 47.8**	**-0.4**
	comp=Z,4.9nm,0.7s,baz=111,slow=8.0,SNR=7.6						
WB0	**Warramunga Arr**	**44.72**	**272**	P	**P**	**22 08 47.9**	**-0.4**
WB0				IAmb	IAmb	22 09 05.0	
	comp=Z,6.8nm,0.8s						
KNRA	**Kununurra**	**51.29**	**274**	P	**P**	**22 09 39.4**	**+0.2**
FITZ	**Fitzroy Crossi**	**52.98**	**269**	P	**P**	**22 09 51.9**	**+0.2**
FITZ				IAmb	IAmb	22 10 00.0	
	comp=Z,13nm,1.4s						
CASY	**Casey**	**55.82**	**208**	P	**P**	**22 10 12.0**	**+0.4**
CASY				IAmb	IAmb	22 10 27.1	
	comp=Z,5.9nm,0.8s						
SNAA	**Sanae**	**78.58**	**178**	P	**P**	**22 12 37.1**	**+1.2**
PETK	**Petropavlovsk-**	**85.54**	**345**	P	**P**	**22 13 15.2**	**+2.9**
	comp=Z,4.1nm,0.7s,baz=134,slow=8.3,SNR=5.0						
PETK	**Petropavlovsk-**	**85.54**	**345**	P	**P**	**22 13 13.5**	**+1.2**
KLR	**Kul'dur**	**90.97**	**329**	P	**P**	**22 13 40.1**	**+1.8**
	comp=Z,2.9nm,0.7s,baz=108,slow=2.4,SNR=6.4						
FINES	**FINESS Array B**	**144.94**	**341**	PKP	PKPbc	22 20 10.5	+0.3
	comp=Z,4.2nm,0.7s,baz=66,slow=3.4,SNR=17						
KBZ	**Khabaz**	**145.37**	**305**	PKPbc	**PKPab**	**22 20 12.8**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=42,slow=12,SNR=2.1						
NB2	**NORSAR Subarra**	**148.40**	**352**	PKP	**PKiKP**	**22 20 22.1**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=23,slow=3.0						
NOA	**NORSAR Array B**	**148.40**	**352**	PKPbc	**PKPbc**	**22 20 21.2**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=16,slow=4.2,SNR=6.6						
AKASG	**Malin Array Be**	**151.32**	**324**	PKPbc	**PKiKP**	**22 20 28.2**	**-0.1**
	comp=Z,4.3nm,0.6s,baz=47,slow=2.7,SNR=7.8						
CLL	**Collm**	**157.33**	**343**	*e*PKPab	**PKPab**	**22 21 02.0**	**+0.6**
CLL				*ep*PKPab	**pPKPab**	**22 21 08.0**	**-3.2**
GERES	**GERESS Array B**	**159.35**	**339**	PKPab	**PKPab**	**22 21 11.1**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=64,slow=3.1,SNR=5.2						
TORD	**Torodi Ar. Bea**	**163.25**	**177**	PKPab	**PKPab**	**22 21 29.0**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=193,slow=4.5,SNR=2.1						

NEIC ***23*** *22:02:46.8±0.9,51.8N±0.1×178.63E±0.09,h105km±5km, Error ellipse: s-maj=16.9km s-min=7.3km az=193.0*

AEIC 23 22:02:46±0.8,**51.7N**±0.1×**178.54E**±0.09,**h98**km±3km, **ML3.0,Error ellipse: s-maj=16.5km s-min=7.5km az=190.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.22**	**4**		Pn	22 03 01.1	+1.1
LSSA	**Little Sitkin**	**0.23**	**355**		Pn	22 03 01.2	+1.1
LSSA					Sn	22 03 12.4	+1.7
LSPA	**Little Sitkin**	**0.24**	**4**		Pn	22 03 01.1	+0.9
LSPA					Sn	22 03 13.0	+2.3
AMKA	**Amchitka**	**0.58**	**125**		Pn	22 03 03.9	+1.7
CESW	**Semis' Southwe**	**0.66**	**73**		Pn	22 03 04.0	+1.1
CESW					Sn	22 03 16.4	+0.9
CEAP	**Semis' Anvil P**	**0.70**	**66**		Pn	22 03 04.3	+1.0
CERAA	**Semis' Rag'd T**	**0.73**	**75**		Pn	22 03 04.4	+0.8
TASE	**Tanaga Southea**	**2.13**	**86**		Pn	22 03 22.0	+1.8
GSTR	**Great Sitkin T**	**3.36**	**81**	Pn	Pn	22 03 36.2	-0.4
PETK	**Petropavlovsk-**	**12.80**	**284**	Pn	Pn	22 05 44.4	+0.3

IDC ***23*** *22:03:08.5±2.9,30.11S×177.17W,h0km,mb3.9/2, mb1 4.1/2,mb1mx3.7/46,mbtmp3.9/2,Error ellipse: s-maj=59.3km s-min=46.5km az=89.0*

NEIC ***23*** *22:03:13.4±1.4,29.9S±0.1×177.2W±0.1,h35km±2km, mb4.4/9,Error ellipse: s-maj=26.9km s-min=12.2km az=38.0*

ISC 23 22:03:12.3±1.0,**30.0S**±0.1×**177.2W**±0.1,**h24**km,**n15,** σ0§**83**/17,**mb4.4**/7,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.96**	**317**	Pn	**Pb**	**22 03 30.7**	**+0.5**
	403nm,0.3s,baz=114,slow=17,SNR=2.2						
RAO				Sn	**Sb**	**22 03 43.1**	**+0.7**
	527nm,0.3s,baz=68,slow=20,SNR=2.9						
RAO	**Raoul Island**	**0.96**	**317**		**Pb**	**22 03 30.7**	**+0.5**
RAO				Sn	**Sb**	**22 03 42.4**	**0.0**
PPTF	**Pamatai, Papee**	**28.02**	**70**	P	**P**	**22 09 01.5**	**-0.2**
MCQ	**Macquarie Isla**	**29.95**	**208**	P	**P**	**22 09 18.8**	**+0.4**
CTAO	**Charters Tower**	**34.44**	**278**	P	**P**	**22 09 57.8**	**-0.4**
CTAO				IAmb	IAmb	22 10 00.5	
	comp=Z,7.4nm,1.2s						
STKA	**Stephens Creek**	**35.28**	**256**	P	**P**	**22 10 05.0**	**-0.4**
STKA				IAmb	IAmb	22 10 07.0	
	comp=Z,3.0nm,1.3s						
AS31	**Alice Springs**	**43.85**	**266**	P	**P**	**22 11 15.4**	**-1.5**
ASAR	**Alice Springs**	**43.85**	**266**	P	**P**	**22 11 16.9**	**0.0**
	comp=Z,0.7nm,0.8s,baz=104,slow=7.5,SNR=2.1						
WR0	**Warramunga Arr**	**44.62**	**271**	P	**P**	**22 11 21.9**	**-1.1**
WR0				IAmb	IAmb	22 11 29.4	
	comp=Z,7.3nm,1.4s						
WB2	**Warramunga Arr**	**44.79**	**271**	P	**P**	**22 11 23.3**	**-1.1**
WB2				IAmb	IAmb	22 11 37.0	
	comp=Z,5.5nm,0.9s						
WRA	**Warramunga Arr**	**44.80**	**271**	P	**P**	**22 11 23.9**	**-0.6**
	comp=Z,1.7nm,0.6s,baz=113,slow=6.3,SNR=6.4						
WB0	**Warramunga Arr**	**44.83**	**272**	P	**P**	**22 11 24.4**	**-0.3**
QSPA	**South Pole Qui**	**60.16**	**180**	P	**P**	**22 13 19.2**	**+1.4**
QSPA				IAmb	IAmb	22 13 21.9	
	comp=Z,6.3nm,1.4s						
FINES	**FINESS Array B**	**144.97**	**341**	PKPbc	**PKPdf**	**22 22 46.0**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=68,slow=4.1,SNR=9.3						
FINES	**FINESS Array B**	**144.97**	**341**		**PKPdf**	**22 22 46.0**	**-0.7**

BJI ***23*** *22:03:26.1±0.0,52.32N×178.43E,h116km,mB5.1/3, mb4.9/51*

AEIC ***23*** *22:03:27.1±1.5,51.94N±0.08×178.47E±0.08,h127km±3km, Error ellipse: s-maj=12.3km s-min=6.8km az=185.0*

UNK ***23*** *22:03:28.6,52.05N×178.49E,h117km*

MOS ***23*** *22:03:28.6±0.9,52.13N×178.44E,h133km,mb4.6/29, Error ellipse: s-maj=6.4km s-min=5.6km az=112.5*

NEIC ***23*** *22:03:28.7±1.2,52.04N±0.08×178.48E±0.08, h121km±4km,mb5.1/294,ML4.6(AEIC),Error ellipse: s-maj=11.8km s-min=6.8km az=186.0*

IDC ***23*** *22:03:29.4±0.7,52.10N×178.49E,h125km±5km,mb4.4/35, mb1 4.5/37,mb1mx4.4/58,mbtmp4.8/37,MS5.8/1, Ms1 5.8/1,ms1mx4.8/64,Error ellipse: s-maj=11.7km s-min=7.2km az=163.0*

ISC 23 22:03:28.4±0.5,**51.97N**±0.06×**178.41E**±0.03,**h120**km±3km, **h121**km:**pP-P,n944,**σ1§**03**/**987,mb5.0**/223,**13C-8D,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.06**	**89**		**Pn**	**22 03 45.5**	**+0.8**
LSSA	**Little Sitkin**	**0.07**	**108**		**Pn**	**22 03 45.2**	**+0.5**
LSPA	**Little Sitkin**	**0.10**	**97**		**Pn**	**22 03 45.8**	**+1.0**
CEAP	**Semis' Anvil P**	**0.72**	**87**		**Pn**	**22 03 48.4**	**+0.5**
CERB	**Semis' Cerberu**	**0.75**	**92**		**Pn**	**22 03 48.5**	**+0.4**
CERAA	**Semis' Rag'd T**	**0.79**	**94**		**Pn**	**22 03 48.7**	**+0.3**
AMKA	**Amchitka**	**0.81**	**137**		**Pn**	**22 03 48.9**	**+0.3**
AMKA					**Sn**	**22 04 03.4**	**-0.4**
GALAA	**Gareloi Lava P**	**1.76**	**96**		**Pn**	**22 03 59.2**	**+0.4**
TASE	**Tanaga Southea**	**2.20**	**92**		**Pn**	**22 04 04.5**	**+0.2**
TAFP	**Tanaga Falls P**	**2.23**	**90**		**Pn**	**22 04 04.7**	**0.0**
TAFP					**Sn**	**22 04 32.6**	**+0.1**
KIMD	**Kanaga Island**	**2.71**	**93**		**Pn**	**22 04 10.6**	**-0.1**
KICM	**Kanaga Island**	**2.72**	**89**		**Pn**	**22 04 11.1**	**+0.2**
KIKV	**Kanaga Island**	**2.74**	**90**		**Pn**	**22 04 11.3**	**+0.2**
SMY	**Shemya**	**2.75**	**288**	P	**Pn**	**22 04 10.8**	**-0.6**
SMY						22 04 44.6	
SMY	**Shemya**	**2.75**	**288**		**Pn**	**22 04 10.8**	**-0.6**
SMY				Sn	**Sn**	**22 04 44.6**	**+0.2**
KINC	**Kanaga Island**	**2.76**	**89**		**Pn**	**22 04 11.6**	**+0.1**
KIRH	**Kanaga Island**	**2.78**	**90**		**Pn**	**22 04 12.2**	**+0.4**
ADK	**Adak**	**3.04**	**90**		**Pn**	**22 04 14.3**	**-0.8**
ADK				Sn	**Sn**	**22 04 50.6**	**-0.4**
GSTD	**Great Sitkin T**	**3.36**	**86**		**Pn**	**22 04 20.0**	**+0.6**
GSTR	**Great Sitkin T**	**3.42**	**86**		**Pn**	**22 04 19.7**	**-0.4**
ATKA	**Atka Island**	**4.56**	**84**		**Pn**	**22 04 34.9**	**-0.5**
ATKA	**Atka Island**	**4.56**	**84**		**Sn**	**22 05 29.7**	**+2.3**
KOFP	**Korovin Flat P**	**4.63**	**83**		**Pn**	**22 04 36.9**	**+0.6**
KOSE	**Korovin Southe**	**4.66**	**82**		**Pn**	**22 04 37.0**	**+0.3**
NIKH	**Nikolski High**	**7.84**	**78**		**Pn**	**22 05 19.6**	**0.0**
OKSP	**Okmok Steeple**	**8.20**	**76**		**Pn**	**22 05 26.4**	**+1.9**
OKCE	**Okmok Cone E**	**8.29**	**75**		**Pn**	**22 05 27.0**	**+1.5**
SPIA	**Saint Paul Isl**	**8.40**	**47**		**Pn**	**22 05 27.9**	**+0.9**
OKFG	**Magazine Ridge**	**8.44**	**75**		**Pn**	**22 05 29.6**	**+2.0**
MSW	**Makushin Switc**	**9.15**	**72**		**Pn**	**22 05 38.4**	**+1.2**
MREP	**Makushin Rep't**	**9.16**	**73**		**Pn**	**22 05 38.7**	**+1.2**
MNAT	**Makushin Natee**	**9.21**	**72**		**Pn**	**22 05 39.4**	**+1.4**
UNV	**Unalaska Valle**	**9.31**	**72**		**Pn**	**22 05 39.8**	**+0.4**
AKRB	**Akutan Reef Bi**	**9.59**	**71**		**Pn**	**22 05 45.4**	**+2.2**
**

KUR Kuril'sk 21.18 264 *i* P **P** 22 08 05.7 +1.7
WRH Wood River Hil 21.31 41 P **P** 22 08 04.0 -1.3
MDM Murphy Dome 21.43 40 P **P** 22 08 05.0 -1.5
EYAK Cordova Ski Ar 21.43 52 P **P** 22 08 05.6 -0.9
EYAK IAmb IAmb 22 08 08.7
comp=Z,94nm,1.0s
CCB Clear Creek Bu 21.49 41 P **P** 22 08 06.1 -1.0
TCOL CIGO, UAF Yank 21.54 40 P **P** 22 08 07.8 +0.1
baz=249
COLA College 21.55 40 *i* P **P** 22 08 08.2 +0.5
COLA pmax pmax
comp=Z,49nm,0.9s
COLA College 21.55 40 P **P** 22 08 07.6 -0.1
COLA IAmb IAmb 22 08 11.1
comp=Z,65nm,0.9s
COLD Coldfoot 21.68 33 P **P** 22 08 08.6 -0.6
baz=241,SNR=15
COLD Coldfoot 21.68 33 P **P** 22 08 08.2 -0.9
HDA Harding Lake 21.76 42 P **P** 22 08 09.4 -0.6
baz=252,SNR=18
HDA Harding Lake 21.76 42 P **P** 22 08 08.7 -1.3
POKR Poker Flat Res 21.80 40 P **P** 22 08 10.5 +0.1
baz=249,SNR=12
IL31 21.90 41 P **P** 22 08 09.3 -2.1
ILAR Eielson Array 21.90 41 P **P** 22 08 09.6 -1.9
comp=Z,7.1nm,0.8s,baz=241,slow=9.4,SNR=42
ILAR PcP **PcP** 22 12 04.6 -0.9
comp=Z,1.1nm,0.6s,baz=261,slow=3.4,SNR=4.2
ILAR ScP **ScP** 22 15 28.2 -3.3
comp=Z,3.2nm,0.6s,baz=280,slow=3.5,SNR=14
ILAR Eielson Array 21.90 41 P **P** 22 08 09.7 -1.8
RAGM Ragged Mountai 21.94 53 P **P** 22 08 11.6 -0.4
PAX Paxson 22.00 46 P **P** 22 08 11.4 -1.2
PAX pmax pmax
comp=Z,88nm,1.0s
PAX Paxson 22.00 46 P **P** 22 08 11.4 -1.2
PAX IAmb IAmb 22 08 14.6
comp=Z,88nm,1.0s
RIDG Independent Ri 22.45 44 **P** 22 08 15.6 -1.6
GLB Gilahina Butte 22.48 50 P **P** 22 08 16.3 -1.3
GLB IAmb IAmb 22 08 20.9
comp=Z,75nm,0.8s
TOLK Toolik Lake Re 22.60 30 P **P** 22 08 19.1 +0.4
baz=239,SNR=12
TOLK Toolik Lake Re 22.60 30 P **P** 22 08 18.8 +0.2
TOLK IAmb IAmb 22 08 21.5
comp=Z,45nm,0.8s
VRDI Verde Repeater 22.63 51 P **P** 22 08 17.8 -1.3
VRDI IAmb IAmb 22 08 22.1
comp=Z,70nm,0.9s
PRP Porcupine Dome 22.69 39 P **P** 22 08 18.0 -1.6
CRQM Cirque 22.73 52 P **P** 22 08 19.6 -0.6
DOT Dot Lake 22.77 45 **P** 22 08 18.8 -1.5
DOT IAmb IAmb 22 08 22.0
comp=Z,64nm,0.8s
WAX Waxell Ridge 22.84 53 P **P** 22 08 20.8 -0.3
MCARA McCarthy VSAT 22.85 51 P **P** 22 08 20.8 -0.2
MCARA IAmb IAmb 22 08 23.0
comp=Z,70nm,0.8s
TGL Tana Glacier 22.88 52 P **P** 22 08 21.0 -0.5
TGL IAmb IAmb 22 08 23.7
comp=Z,113nm,0.9s
SCRK Sand Creek 22.88 44 P **P** 22 08 20.0 -1.5
ISLE Juniper Island 23.11 53 P **P** 22 08 23.5 -0.2
ISLE IAmb IAmb 22 08 25.7
comp=Z,149nm,1.2s
BALM Baldy 23.14 52 P **P** 22 08 23.9 0.0
BALM IAmb IAmb 22 08 26.2
comp=Z,62nm,0.8s
FYU Fort Yukon 23.17 37 **P** 22 08 24.1 +0.1
FYU IAmb IAmb 22 08 26.8
comp=Z,104nm,1.1s
MESA MESA 23.27 54 P **P** 22 08 23.9 -1.4
MESA IAmb IAmb 22 08 28.4
comp=Z,122nm,1.0s
YAH Yahtse 23.39 53 P **P** 22 08 26.2 -0.2
BARN Barnard Glacie 23.48 52 P **P** 22 08 27.3 +0.1
YSS Yuzh-Sakhalins 23.55 272 *eP* **P** 22 08 30.3 +2.6
CTGM Chitina Glacie 23.63 52 P **P** 22 08 28.3 -0.1
CTGM IAmb IAmb 22 08 30.5
comp=Z,113nm,1.0s
BCAR Beaver Creek A 23.66 47 P **P** 22 08 28.5 -0.1
TABL Table Mountain 23.69 53 P **P** 22 08 28.2 -0.9
BMAR Burnt Mountain 23.73 35 **P** 22 08 29.0 -0.1
PCA Pinnacle 24.12 54 P **P** 22 08 32.3 -0.5
PCA IAmb IAmb 22 08 35.3
comp=Z,81nm,0.8s
EGAK Eagle 24.26 43 P **P** 22 08 33.4 -0.6
DAWY Dawson 24.88 45 P **P** 22 08 39.6 0.0
DAWY IAmb IAmb 22 08 43.0
comp=Z,62nm,0.8s
JKA Kamikawa-asahi 24.99 266 P **P** 22 08 41.9 +1.1
ASAJ Asahikawa 25.00 266 P **P** 22 08 42.2 +1.4
comp=Z,9.3nm,0.7s,baz=61,slow=10.0,SNR=7.0
ASAJ Asahikawa 25.00 266 P **P** 22 08 41.9 +1.1
ASAJ pmax pmax
comp=Z,28nm,1.1s
HYT Haines Junctio 25.49 52 P **P** 22 08 45.0 -0.3
ERM Erimo 25.79 261 P **P** 22 08 48.7 +0.7
ERM pmax pmax
comp=Z,51nm,1.4s
ERM Erimo 25.79 261 P **P** 22 08 48.7 +0.7
ERM IAmb IAmb 22 09 17.2
comp=Z,51nm,1.4s
EPYK Eagle Plains 26.39 40 P **P** 22 08 53.2 -0.1
baz=259,SNR=31
EPYK Eagle Plains 26.39 40 P **P** 22 08 52.6 -0.6
EPYK IAmb IAmb 22 08 54.4
comp=Z,49nm,0.8s
SKAG Skagway 26.63 55 P **P** 22 08 55.3 0.0
INK Inuvik 27.98 36 P **P** 22 09 07.8 +0.4
comp=Z,7.4nm,0.6s,baz=272,slow=8.7,SNR=18
INK Inuvik 27.98 36 P **P** 22 09 07.6 +0.3
INK pmax pmax
comp=Z,14nm,1.0s
INK Inuvik 27.98 36 P **P** 22 09 07.6 +0.3
TIXI Tiksi 29.27 330 P **P** 22 09 18.6 0.0
comp=Z,0.8nm,0.3s,baz=131,slow=14,SNR=1.8
TIXI PcP **PcP** 22 12 21.8 -0.4
comp=Z,3.1nm,0.8s,baz=116,slow=1.7,SNR=5.1
TIXI ScP **ScP** 22 15 51.6 -1.0
comp=Z,12nm,0.7s,baz=107,slow=3.4,SNR=16
TIXI LR LR 22 21 39.1
comp=Z,18μm,21.3s,baz=264,slow=37
TIXI Tiksi 29.27 330 P **P** 22 09 18.4 -0.3
TIXI **ScP** 22 15 51.4 -1.2
KLR Kul'dur 29.35 283 P **P** 22 09 20.1 +0.4
comp=Z,8.1nm,0.4s,baz=74,slow=8.9,SNR=25
KLR Kul'dur 29.35 283 *i* P **P** 22 09 18.8 -0.9
KLR pmax pmax
comp=Z,8.0nm,0.8s
DLBC Dease Lake 29.48 57 P **P** 22 09 21.5 +0.7
comp=Z,15nm,0.8s,baz=285,slow=11,SNR=24
DLBC Dease Lake 29.48 57 P **P** 22 09 21.7 +0.9
A36M Sachs Harbour 31.42 30 P **P** 22 09 39.1 +1.5
baz=261,SNR=20
USA0B Ussuriysk Arra 31.51 274 P **P** 22 09 38.8 +0.1
USA0B pmax pmax
comp=Z,7.0nm,0.8s
USA0B Ussuriysk Arra 31.51 274 P **P** 22 09 38.8 +0.1
USRK Ussuriysk Ar. 31.51 274 P **P** 22 09 39.1 +0.4
comp=Z,7.5nm,0.6s,baz=54,slow=9.3,SNR=23
USRK ScP **ScP** 22 16 01.7 +1.3
comp=Z,0.4nm,0.3s,baz=57,slow=7.0,SNR=8.2
USRK Ussuriysk Ar. 31.51 274 ScP **ScP** 22 16 01.6 +1.2
MJAR Matsushiro Arr 32.19 257 P **P** 22 09 45.8 +1.0
comp=Z,2.5nm,0.6s,baz=45,slow=7.2,SNR=9.7
MAJO Matsushiro 32.19 257 P **P** 22 09 46.2 +1.4
MAJO pmax pmax
comp=Z,16nm,1.1s
MAJO Matsushiro 32.19 257 P **P** 22 09 46.2 +1.4
MAT Matsushiro 32.19 257 P **P** 22 09 46.0 +1.2
MJB9 Matsu-Tunnel 32.19 257 P **P** 22 09 46.2 +1.4
MSHR Mys Shultsa 32.88 272 *i* P **P** 22 09 51.8 +1.1
MSHR pmax pmax
comp=Z,11nm,1.1s
H11N2 WAKE ISLAND Hy 33.41 200 T T 22 45 27.7
baz=11,slow=76,SNR=3.3
H11N3 WAKE ISLAND Hy 33.42 200 T T 22 45 28.4
baz=11,slow=76,SNR=2.5
H11N1 WAKE ISLAND Hy 33.43 200 T T 22 45 25.4
baz=11,slow=76,SNR=4.1
YKA Yellowknife Ar 36.08 47 P **P** 22 10 18.4 +0.3
comp=Z,20nm,0.8s,baz=282,slow=8.5,SNR=61
YKA ScP **ScP** 22 16 13.4 -2.9
comp=Z,3.0nm,0.9s,baz=272,slow=3.1,SNR=7.9
LLLB Lillooet 36.45 68 P **P** 22 10 21.3 0.0
LLLB IAmb IAmb 22 10 22.6
comp=Z,26nm,1.1s
HIA Hailar 36.45 290 P **P** 22 10 21.1 -0.3
HIA pmax pmax
comp=Z,13nm,0.5s
HIA Hailar 36.45 290 P **P** 22 10 21.1 -0.3
HIA IAmb IAmb 22 10 21.5
comp=Z,13nm,0.5s
NLWA Neilton Lookou 36.78 74 P **P** 22 10 24.2 0.0
NLWA IAmb IAmb 22 10 25.9
comp=Z,32nm,1.0s
A04D Lummi Island 36.83 71 P **P** 22 10 24.9 +0.4
baz=298
D03D Eldon 37.17 73 P **P** 22 10 27.9 +0.5
baz=299,SNR=15
E03A Lebam 37.38 75 P **P** 22 10 29.6 +0.5
B05A Bryant 37.40 71 P **P** 22 10 29.0 -0.4
baz=299,SNR=6.8
KSRS Korea Array 37.91 268 P **P** 22 10 35.5 +1.7
comp=Z,6.9nm,0.9s,baz=58,slow=8.1,SNR=32
KSRS PcP **PcP** 22 12 48.5 +1.2
comp=Z,4.2nm,0.8s,baz=52,slow=3.3,SNR=13
KS19 Wonju Array Si 37.91 268 P **P** 22 10 34.8 +1.0
KSAR Wonju Array Be 37.94 268 P **P** 22 10 34.7 +0.7
KSAR 22 12 48.2
KSAR Wonju Array Be 37.94 268 P **P** 22 10 34.7 +0.7
KSAR PcP **PcP** 22 12 48.2 +0.8
F04D Rainier, OR 37.94 75 P **P** 22 10 33.8 -0.2
baz=301
E04D Cinebar 37.97 74 P **P** 22 10 34.5 +0.3
baz=301,SNR=14
D05A Enumclaw 37.99 73 P **P** 22 10 34.6 +0.3
D05A IAmb IAmb 22 10 36.6
comp=Z,36nm,1.0s
LON Longmire 38.32 73 P **P** 22 10 36.8 -0.4
LON pmax pmax
comp=Z,10.0nm,0.8s
LON Longmire 38.32 73 P **P** 22 10 36.8 -0.4
F04A Amboy 38.37 75 P **P** 22 10 37.5 -0.1
F04A IAmb IAmb 22 10 38.5
comp=Z,27nm,0.7s
I02D Swisshome 38.48 78 P **P** 22 10 38.6 +0.1
baz=303
INCN Inchon 38.69 269 P **P** 22 10 41.7 +1.4
INCN pmax pmax
comp=Z,26nm,1.0s
INCN Inchon 38.69 269 P **P** 22 10 41.7 +1.4
INCN IAmb IAmb 22 10 42.8
comp=Z,26nm,1.0s
LTY Liberty 38.73 72 P **P** 22 10 40.0 -0.7
LTY IAmb IAmb 22 10 41.1
comp=Z,22nm,1.1s
H04D Lebanon 38.93 77 P **P** 22 10 42.5 +0.3
baz=303,SNR=5.7
JNU Nakatsue 38.94 260 P **P** 22 10 43.9 +1.4
comp=Z,15nm,0.9s,baz=30,slow=7.2,SNR=8.3
JNU Nakatsue 38.94 260 P **P** 22 10 43.3 +0.8
JNU IAmb IAmb 22 10 45.4
comp=Z,22nm,1.0s
J01E Myrtle Point 38.95 80 P **P** 22 10 43.0 +0.6
baz=304
B08A Colville Reser 38.97 70 P **P** 22 10 41.9 -0.7
B08A IAmb IAmb 22 10 43.1
comp=Z,27nm,0.9s
I03D Drain, OR 39.01 78 P **P** 22 10 43.3 +0.4
baz=304,SNR=6.6
H04A Detroit Lake 39.17 76 P **P** 22 10 44.5 +0.2
H04A IAmb IAmb 22 10 45.6
comp=Z,29nm,0.8s
K02D Willamette Mer 39.37 80 P **P** 22 10 45.9 -0.1
baz=304,SNR=7.0
G05D Wamic, OR 39.40 75 P **P** 22 10 45.9 -0.3
baz=302,SNR=5.9
I04A Tendick Farm, 39.52 78 P **P** 22 10 47.6 +0.3
baz=304,SNR=11
HAWA Hanford 39.85 73 P **P** 22 10 49.6 -0.3
HAWA IAmb IAmb 22 10 50.7
comp=Z,40nm,0.8s
C09A Chrisman Ranch 39.86 70 P **P** 22 10 49.2 -0.7
C09A IAmb IAmb 22 10 50.2
comp=Z,28nm,0.9s
D08A Wollman Farm, 39.86 71 P **P** 22 10 49.4 -0.6
D08A IAmb IAmb 22 10 50.2
comp=Z,20nm,0.9s
I05D Terrebonne, OR 39.87 76 P **P** 22 10 50.1 -0.1
baz=303,SNR=5.0
F07A Phinny Hill Vi 39.88 73 P **P** 22 10 50.1 +0.1
F07A IAmb IAmb 22 10 51.0
comp=Z,28nm,0.7s
KRMB Red Mountain 39.89 82 P **P** 22 10 51.4 +1.0
KRMB IAmb IAmb 22 10 52.8
comp=Z,17nm,0.8s
J04D Umpqua Nationa 40.01 78 P **P** 22 10 52.0 +0.5
baz=304,SNR=5.1
NEW Newport 40.30 69 P **P** 22 10 52.8 -0.8
baz=300,SNR=18
NEW Newport 40.30 69 P **P** 22 10 52.7 -0.9
NEW pmax pmax
comp=Z,30nm,0.8s
NEW Newport 40.30 69 P **P** 22 10 52.7 -0.9
NEW IAmb IAmb 22 10 53.8
comp=Z,30nm,0.8s
KHMM Horse Mountain 40.38 82 P **P** 22 10 55.6 +1.1
PINE Pine Mountain 40.41 77 P **P** 22 10 55.0 +0.2
L04D Klamath Falls 40.47 80 P **P** 22 10 55.6 +0.3
baz=305,SNR=13
YBH Yreka Blue Hor 40.50 81 P **P** 22 10 56.3 +0.8
YBH pmax pmax
comp=Z,33nm,0.8s
YBH Yreka Blue Hor 40.50 81 P **P** 22 10 56.2 +0.8
YBH IAmb IAmb 22 10 57.8
comp=Z,33nm,0.8s
J05D Fort Rock, OR 40.52 78 P **P** 22 10 56.0 +0.4
baz=304,SNR=16
K04D Chiloquin, OR 40.57 79 P **P** 22 10 55.9 -0.1
baz=305
E09A Wood Farm, Sta 40.60 72 P **P** 22 10 55.6 -0.5
E09A IAmb IAmb 22 10 57.1
comp=Z,38nm,1.1s
M02C Callahan 40.61 81 P **P** 22 10 57.7 +1.4
baz=306,SNR=14
N02D Trinity Center 40.95 82 P **P** 22 11 00.3 +1.3
baz=306,SNR=15
M04C Macdoel 41.01 80 P **P** 22 11 00.3 +0.7
baz=306,SNR=19
I07A Izee 41.11 76 P **P** 22 11 00.5 +0.1
I07A IAmb IAmb 22 11 01.4
comp=Z,27nm,0.8s
O02D Mt. Diablo Mer 41.37 83 P **P** 22 11 03.8 +1.3
baz=307,SNR=16
WALA Waterton Lakes 41.73 66 P **P** 22 11 05.0 -0.4
MOD Modoc Plateau 41.87 79 P **P** 22 11 06.7 0.0
MOD IAmb IAmb 22 11 08.2
comp=Z,72nm,1.4s
O03E Paynes Creek 41.91 82 P **P** 22 11 07.0 +0.1
baz=307,SNR=31
BMO Blue Mountains 41.99 73 P **P** 22 11 07.2 -0.4
BMO pmax pmax
comp=Z,20nm,0.9s
BMO Blue Mountains 41.99 73 P **P** 22 11 07.2 -0.4
BMO IAmb IAmb 22 11 08.1
comp=Z,20nm,0.8s
J08A Circle Bar Ran 42.14 76 P **P** 22 11 08.7 -0.1
JTMT Jette 42.20 68 P **P** 22 11 08.8 -0.4
GDXM Geysers 42.20 84 P **P** 22 11 10.6 +1.3
MSO Missoula 42.88 69 P **P** 22 11 13.7 -1.1
baz=303,SNR=16
MSO Missoula 42.88 69 P **P** 22 11 13.6 -1.1
MSO IAmb IAmb 22 11 14.7
comp=Z,26nm,0.8s
AFDM Forest Hills D 43.23 83 P **P** 22 11 17.8 +0.2
AFDM IAmb IAmb 22 11 19.1
comp=Z,28nm,1.1s
BJI Beijing 43.56 280 P **P** 22 11 20.9 +0.8
BJI pmax pmax
comp=Z,7.0nm,0.8s
BJT Baijiatuan 43.58 280 P **P** 22 11 21.2 +0.9
BJT pmax pmax
comp=Z,8.0nm,0.7s
BJT Baijiatuan 43.58 280 P **P** 22 11 21.2 +0.9
MFID Camas Ranch 43.69 74 P **P** 22 11 20.7 -0.5
PAHR Pah Rah Range 43.74 81 P **P** 22 11 21.8 0.0
PAHR IAmb IAmb 22 11 23.2
comp=Z,44nm,1.1s
VCNR Virginia City 43.83 81 P **P** 22 11 23.1 +0.6
VCNR IAmb IAmb 22 11 24.4
comp=Z,51nm,1.0s
PNTR Pine Nut 43.99 82 P **P** 22 11 24.4 +0.6
CMB Columbia Colle 44.16 83 P **P** 22 11 25.5 +0.5
CMB pmax pmax
comp=Z,39nm,1.2s
CMB Columbia Colle 44.16 83 P **P** 22 11 25.5 +0.5
CMB IAmb IAmb 22 11 26.9
comp=Z,39nm,1.2s
HRY Holter Researc 44.16 68 P **P** 22 11 24.2 -0.8
YERR Yerington 44.27 81 P **P** 22 11 26.1 0.0
YERR IAmb IAmb 22 11 27.7
comp=Z,39nm,1.0s
TLY Talaya 44.27 301 P **P** 22 11 26.4 +0.6
comp=Z,1.5nm,0.3s,baz=66,slow=4.8,SNR=3.9
TLY Talaya 44.27 301 *i* P **P** 22 11 25.4 -0.3
TLY pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 44.27 301 P **P** 22 11 26.2 +0.5
LRM Limekiln Ridge 44.30 69 P **P** 22 11 25.2 -1.0
HLID Hailey 44.44 73 P **P** 22 11 26.6 -0.8
baz=306,SNR=25
HLID Hailey 44.44 73 P **P** 22 11 26.8 -0.5
HLID IAmb IAmb 22 11 27.9
comp=Z,29nm,1.1s
ULN Ulaanbaatar 44.44 294 *i* P **P** 22 11 27.2 0.0
ULN pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 44.44 294 P **P** 22 11 27.8 +0.6
WAKR Walker 44.45 82 P **P** 22 11 28.2 +0.7
WAKR IAmb IAmb 22 11 29.4
comp=Z,31nm,0.8s
EGMT Eagleton 44.62 65 P **P** 22 11 27.1 -1.5
baz=303,SNR=7.3
EGMT Eagleton 44.62 65 P **P** 22 11 27.6 -1.0
EGMT IAmb IAmb 22 11 29.6
comp=Z,25nm,0.8s
MCMT McKenzie Canyo 44.63 71 P **P** 22 11 27.9 -1.1
SONM Songino Array 44.83 295 P **P** 22 11 31.1 +0.8
comp=Z,4.5nm,0.5s,baz=62,slow=7.9,SNR=22
SONM pP **pwP** 22 11 59.6 -0.4
comp=Z,1.6nm,0.8s,baz=76,slow=6.3,SNR=2.4
SONM PcP **PcP** 22 13 10.3 +0.3
comp=Z,2.5nm,0.6s,baz=64,slow=3.0,SNR=6.8
SONM ScP **ScP** 22 16 52.1 +1.1
comp=Z,4.6nm,0.8s,baz=52,slow=3.0,SNR=17
SONM Songino Array 44.83 295 P **P** 22 11 30.2 -0.1
SONM pmax pmax
comp=Z,4.0nm,0.6s
SONM Songino Array 44.83 295 P **P** 22 11 30.2 -0.1
SONM ScP **ScP** 22 16 51.4 +0.4
BOZ Bozeman (W) 44.90 69 P **P** 22 11 29.8 -1.2
baz=305,SNR=47
BOZ Bozeman (W) 44.90 69 P **P** 22 11 29.9 -1.0
BOZ pmax pmax
comp=Z,33nm,0.8s
BOZ Bozeman (W) 44.90 69 P **P** 22 11 29.9 -1.0
BOZ IAmb IAmb 22 11 30.9
comp=Z,33nm,0.8s
KVN Kaiserville 44.93 81 P **P** 22 11 31.4 +0.1
KVN pmax pmax
comp=Z,43nm,1.3s
KVN Kaiserville 44.93 81 P **P** 22 11 31.4 +0.1
KVN IAmb IAmb 22 11 32.7
comp=Z,43nm,1.3s
RYN Ryan 44.93 81 P **P** 22 11 31.7 +0.4
RYN IAmb IAmb 22 11 32.7
comp=Z,26nm,0.6s
NVAR Mina Array Bea 45.19 81 P **P** 22 11 33.9 +0.5
comp=Z,17nm,0.6s,baz=292,slow=7.8,SNR=84
NVAR ScP **ScP** 22 16 50.0 -2.7
comp=Z,1.0nm,0.7s,baz=305,slow=4.3,SNR=5.2
NVAR Mina Array Bea 45.19 81 P **P** 22 11 33.3 -0.1
FFC Flin Flon 45.20 54 P **P** 22 11 32.1 -0.8
FFC pmax pmax
comp=Z,11nm,1.0s
FFC Flin Flon 45.20 54 P **P** 22 11 32.1 -0.8
MDPB Devils Postpil 45.22 83 P **P** 22 11 34.4 +0.8
MDPB IAmb IAmb 22 11 35.6
comp=Z,43nm,0.8s
OMMB Old Mammoth Mi 45.28 83 P **P** 22 11 34.8 +0.6
OMMB IAmb IAmb 22 11 36.1
comp=Z,35nm,1.1s
NV11 Mina Array Sit 45.28 81 P **P** 22 11 34.0 0.0
TIA Tai'an 45.38 275 P **P** 22 11 35.5 +0.9
TIA pmax pmax
comp=Z,23nm,0.5s
YHL Hebgen Lake 45.59 70 P **P** 22 11 35.9 -0.6
ELK Elko 45.62 77 P **P** 22 11 36.7 -0.1
ELK pmax pmax
comp=Z,17nm,0.8s
ELK Elko 45.62 77 P **P** 22 11 36.7 -0.1
ELK IAmb IAmb 22 11 37.7
comp=Z,16nm,0.8s
YHB Horse Butte 45.64 70 P **P** 22 11 36.3 -0.6
YHH Holmes Hill 45.82 70 P **P** 22 11 37.5 -0.9
YMR Madison River 45.82 70 P **P** 22 11 37.6 -0.6
HHC Hu-ho-hao-te 45.86 284 *eP* **P** 22 11 42.5 +4.0
HHC pmax pmax
comp=Z,6.0nm,1.0s
GCMT Greycliff 45.92 68 P **P** 22 11 38.2 -0.7
TIN Tinemaha, Big 46.10 83 P **P** 22 11 41.3 +0.8
baz=310
SMMC Simmler 46.14 86 P **P** 22 11 41.5 +0.8
baz=311
H17A Grant Village 46.20 70 P **P** 22 11 41.7 +0.3
baz=306
H17A Grant Village 46.20 70 P **P** 22 11 41.5 +0.2
H17A IAmb IAmb 22 11 42.9
comp=Z,29nm,0.8s
IMW Indian Meadow 46.29 71 P **P** 22 11 41.7 -0.3
VES Vestal, Richgr 46.36 85 P **P** 22 11 42.4 +0.1
baz=311,SNR=5.4
HVU Hansel Valley 46.47 74 P **P** 22 11 43.3 0.0
HVU pmax pmax
comp=Z,31nm,0.8s
HVU Hansel Valley 46.47 74 P **P** 22 11 43.3 0.0
PKM Mcpherson Peak 46.54 86 P **P** 22 11 45.1 +1.2
baz=312,SNR=6.6
RLMT Red Lodge 46.54 68 P **P** 22 11 43.4 -0.4
baz=306,SNR=20
RLMT Red Lodge 46.54 68 P **P** 22 11 43.4 -0.4
RLMT IAmb IAmb 22 11 45.0
comp=Z,37nm,0.9s
CWC Cottonwood Cre 46.59 83 P **P** 22 11 44.2 -0.2
baz=311
FCC Fort Churchill 46.80 46 P **P** 22 11 45.1 -0.3
FCC pmax pmax
comp=Z,15nm,1.0s
FCC Fort Churchill 46.80 46 P **P** 22 11 45.1 -0.3
ISA Isabella, Lake 46.85 85 P **P** 22 11 45.4 -0.9
baz=311,SNR=8.2
R11A Troy Canyon, C 46.90 80 P **P** 22 11 46.5 -0.2
baz=310,SNR=25
R11A Troy Canyon, C 46.90 80 P **P** 22 11 46.5 -0.2
R11A IAmb IAmb 22 11 47.6
comp=Z,16nm,0.6s
SPUT South Promonto 46.95 74 P **P** 22 11 46.9 -0.2
NJ2 Nanjing 47.07 269 *eP* **P** 22 11 47.8 -0.1
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
MPMC Manual Prospec 47.20 83 P **P** 22 11 49.3 +0.1
baz=311,SNR=19
SCZ2 Santa Cruz Isl 47.24 87 P **P** 22 11 48.9 -0.3
baz=312
HWUT Hardware Ranch 47.29 74 P **P** 22 11 49.6 -0.2
FURC Furnace Creek, 47.32 83 P **P** 22 11 50.1 +0.3
baz=311,SNR=23
LAO LASA Array 47.35 65 P **P** 22 11 49.1 -0.9
baz=306,SNR=8.1
LAO LASA Array 47.35 65 P **P** 22 11 49.3 -0.7
LAO IAmb IAmb 22 11 50.5
comp=Z,25nm,0.8s
TPNV Topopah Spring 47.39 82 P **P** 22 11 50.5 0.0
baz=310,SNR=47
TPNV Topopah Spring 47.39 82 P **P** 22 11 50.8 +0.3
TPNV pmax pmax
comp=Z,53nm,0.9s
TPNV Topopah Spring 47.39 82 P **P** 22 11 50.8 +0.3
DUG Dugway, Tooele 47.42 76 P **P** 22 11 50.4 -0.3
baz=309,SNR=6.2
DUG Dugway, Tooele 47.42 76 P **P** 22 11 50.7 0.0
DUG pmax pmax
comp=Z,31nm,0.8s

DUG **Dugway, Tooele** 47.42 76 P P 22 11 50.7 0.0
DUG IAmb IAmb 22 11 51.7
comp=Z,31nm,0.8s
DGMT **Dagmar** 47.45 62 P P 22 11 49.9 -0.8
baz=305
LRMC **Laurel Mtn Rad** 47.46 84 P P 22 11 50.6 -0.4
baz=311,SNR=10.0
EDW2 **Edwards Air Fo** 47.66 85 P P 22 11 52.7 +0.1
baz=312,SNR=6.6
TCUT **Toone Canyon** 47.69 74 P P 22 11 52.6 -0.3
BW06 **Boulder Array** 47.77 71 P P 22 11 52.5 -1.0
baz=308,SNR=24
BW06 **Boulder Array** 47.77 71 P P 22 11 52.7 -0.8
BW06 IAmb IAmb 22 11 53.6
comp=Z,25nm,0.8s
PD31 **Pinedale Array** 47.77 71 P P 22 11 52.8 -0.7
PD31 IAmb IAmb 22 11 53.6
comp=Z,23nm,0.8s
PDAR **Pinedale Array** 47.77 71 P P 22 11 52.5 -0.9
comp=Z,19nm,0.8s,baz=306,slow=3.8,SNR=91
PDAR ScP ScP 22 17 00.8 -2.7
comp=Z,2.2nm,1.0s,baz=270,slow=1.5,SNR=7.9
PSUT **Pine Spring** 47.83 78 P P 22 11 53.8 -0.2
SHOC **Shoshone, Teco** 48.05 83 P P 22 11 55.6 +0.1
baz=311
GSC **Goldstone, Bar** 48.12 84 P P 22 11 56.3 +0.2
baz=312,SNR=44
GSC **Goldstone, Bar** 48.12 84 P P 22 11 56.4 +0.3
GSC pmax pmax
comp=Z,53nm,0.7s
GSC **Goldstone, Bar** 48.12 84 P P 22 11 56.4 +0.3
RRX **Edison Barstow** 48.28 84 P P 22 11 57.4 +0.2
baz=312
BFSC **Mount Baldy Ra** 48.30 85 P P 22 11 57.4 -0.2
baz=312,SNR=11
SHPR **Sheep Range** 48.34 81 P P 22 11 57.7 -0.1
CIS **Catalina Islan** 48.39 87 P P 22 11 58.0 -0.1
baz=313
TUQ **Turquoise Moun** 48.57 83 P P 22 11 59.8 +0.2
baz=312
HEC **Hector,Ludlow** 48.72 84 P P 22 12 00.9 +0.2
baz=312,SNR=14
BBRC **Big Bear Solar** 48.74 85 P P 22 11 59.6 -1.4
baz=312
MSU **Marysvale** 48.86 77 P P 22 12 02.1 +0.2
MSU **Marysvale** 48.86 77 P P 22 12 02.1 +0.2
TMUT **Trail Mountain** 48.95 76 P P 22 12 02.6 0.0
MURC **Murrieta** 49.01 86 P P 22 12 02.8 0.0
baz=313,SNR=7.1
P17A **Butcher Ranch,** 49.11 75 P P 22 12 03.8 0.0
KBS **Kingsbay** 49.11 357 P P 22 12 03.2 +0.2
KBS **Kingsbay** 49.11 357 P P 22 12 03.2 +0.2
GMRC **Granite Mounta** 49.16 83 P P 22 12 04.2 0.0
baz=312,SNR=33
LCMT **Little Creek M** 49.18 79 P P 22 12 04.6 +0.4
KNB **Kanab** 49.43 79 P P 22 12 06.6 +0.4
KNB pmax pmax
comp=Z,97nm,1.8s
KNB **Kanab** 49.43 79 P P 22 12 06.6 +0.4
PFO **Pinyon Flats O** 49.46 85 P P 22 12 06.0 -0.4
baz=313,SNR=6.6
PFO **Pinyon Flats O** 49.46 85 P P 22 12 06.4 +0.1
PFO pmax pmax
comp=Z,9.0nm,0.8s
PFO **Pinyon Flats O** 49.46 85 P P 22 12 06.4 +0.1
XPFO **Pion Flat** 49.46 85 P P 22 12 06.3 -0.1
TPFO **Pinon Flats** 49.46 85 P P 22 12 06.2 -0.3
baz=313
SRU **San Rafael Swe** 49.47 76 P P 22 12 06.5 0.0
SRU pmax pmax
comp=Z,24nm,0.8s
SRU **San Rafael Swe** 49.47 76 P P 22 12 06.5 0.0
BELC **Belle Mtn. Jos** 49.48 84 P P 22 12 06.0 -0.5
baz=312,SNR=19
109C **Camp Elliot, M** 49.55 86 P P 22 12 07.2 +0.3
baz=313
K22A **Casper** 49.61 69 P P 22 12 06.4 -1.1
baz=308,SNR=7.7
SPA0 **Spitsbergen Ar** 49.65 355 P P 22 12 06.7 -0.4
SPA0 IAmb IAmb 22 12 43.1
comp=Z,29nm,1.3s
NEE2 **Needles Airpor** 49.81 83 P P 22 12 08.8 -0.1
baz=312
IRM **Iron Mountain** 49.90 84 P P 22 12 09.5 -0.1
baz=312,SNR=18
MONP2 **Monument Peak** 49.96 86 P P 22 12 10.3 0.0
baz=313,SNR=12
W13A **Hualapai Mount** 50.04 82 P P 22 12 10.4 -0.5
W13A IAmb IAmb 22 12 11.9
comp=Z,15nm,0.8s
BC3 **Big Chuckawall** 50.05 84 P P 22 12 10.4 -0.4
baz=313,SNR=9.1
RSSD **Black Hills** 50.12 66 P P 22 12 10.0 -1.4
baz=308
RSSD **Black Hills** 50.12 66 P P 22 12 09.9 -1.5
RSSD pmax pmax
comp=Z,10.0nm,1.0s
RSSD **Black Hills** 50.12 66 P P 22 12 09.9 -1.5
U15A **North Rim** 50.14 79 P P 22 12 11.9 +0.2
O20A **White River Ci** 50.18 73 P P 22 12 10.8 -1.0
baz=310,SNR=14
O20A **White River Ci** 50.18 73 P P 22 12 11.2 -0.7
O20A IAmb IAmb 22 12 11.9
comp=Z,26nm,0.8s
MDND **Maddock** 50.30 60 P P 22 12 11.7 -0.7
baz=307,SNR=5.3
SWSC **Sam W. Stewart** 50.31 85 P P 22 12 12.4 -0.3
baz=313
IKP **In-Ko-Pah, Jac** 50.32 86 P P 22 12 12.9 +0.1
baz=313,SNR=5.7
PDMCI **Parker Dam,Lak** 50.42 83 P P 22 12 13.5 +0.1
baz=312,SNR=11
ULM **Lac du Bonnet** 50.80 56 P P 22 12 15.3 -0.8
comp=Z,14nm,0.7s,baz=307,slow=8.6,SNR=9.1
ULM **Lac du Bonnet** 50.80 56 P P 22 12 15.3 -0.8
ULM pmax pmax
comp=Z,18nm,0.8s
ULM **Lac du Bonnet** 50.80 56 P P 22 12 15.3 -0.8
ULM IAmb IAmb 22 12 16.1
comp=Z,18nm,0.8s
GLA **Glamis** 50.84 84 P P 22 12 16.9 +0.1
baz=313
GLA **Glamis** 50.84 84 P P 22 12 16.8 +0.1
GLA pmax pmax
comp=Z,42nm,0.7s
GLA **Glamis** 50.84 84 P P 22 12 16.8 +0.1
PV14 **Lion Creek, Pa** 50.84 75 P P 22 12 16.4 -0.5
PV14 IAmb IAmb 22 12 17.1
comp=Z,19nm,0.8s
WHN **Wuhan** 50.90 271 ⇓P P 22 12 17.6 +0.5
WHN pmax pmax
comp=Z,66nm,1.0s
N23A **Red Feather La** 51.05 71 P P 22 12 17.8 -0.7
baz=310,SNR=5.7
WUAZ **Wupatki** 51.30 80 P P 22 12 20.4 +0.1
baz=312,SNR=9.7
WUAZ **Wupatki** 51.30 80 P P 22 12 20.4 +0.1
WUAZ IAmb IAmb 22 12 21.6
comp=Z,27nm,1.1s
Y14A **Wickenburg** 51.36 82 P P 22 12 20.7 +0.1
Y14A IAmb IAmb 22 12 21.6
comp=Z,23nm,1.2s
SSLB **Suanglung** 51.69 260 P P 22 12 22.4 -0.7
XAN **Xi'an** 51.85 278 P P 22 12 24.3 +0.1
XAN S S 22 19 38.0 +0.6
XAN pmax pmax
comp=Z,11nm,1.1s
XAN LR LR
comp=Z,13μm,17.4s
XAN LR LR
comp=Z,14μm,20.6s
XAN LR LR
comp=Z,20μm,18.4s
XAN **Xi'an** 51.85 278 P P 22 12 23.9 -0.3
XAN pmax pmax
comp=Z,7.0nm,0.9s
XAN **Xi'an** 51.85 278 P P 22 12 23.9 -0.3
MVCO **Mesa Verde** 51.92 76 P P 22 12 23.8 -1.1
baz=311,SNR=5.2
ISCO **Idaho Springs** 51.94 72 P P 22 12 24.8 -0.4
baz=310,SNR=9.1
AGMN **Agassiz Nation** 52.00 58 P P 22 12 23.8 -1.2
baz=309,SNR=15
AGMN **Agassiz Nation** 52.00 58 P P 22 12 24.3 -0.8
AGMN IAmb IAmb 22 12 24.8
comp=Z,27nm,0.9s

TPUB **Ta-pu** 52.25 260 P P 22 12 27.4 +0.2
ZAA0 **Zalesovo Array** 52.35 312 P P 22 12 27.2 -0.4
ZALV **Zalesovo Beam** 52.35 312 P P 22 12 26.9 -0.7
comp=Z,0.6nm,0.3s,baz=53,slow=6.6,SNR=5.3
ZALV PcP PcP 22 13 37.7 +0.8
comp=Z,8.0nm,0.7s,baz=31,slow=4.0,SNR=15
ZALV ScP ScP 22 17 23.4 +0.8
comp=Z,1.9nm,0.8s,baz=51,slow=5.7,SNR=4.9
ZALV **Zalesovo Beam** 52.35 312 P P 22 12 26.9 -0.7
ZALV PcP PcP 22 13 37.5 +0.6
ZALV ScP ScP 22 17 22.9 +0.3
W18A **Petrified Fore** 52.56 79 P P 22 12 29.6 0.0
baz=312,SNR=10
W18A **Petrified Fore** 52.56 79 P P 22 12 29.9 +0.3
W18A IAmb IAmb 22 12 30.9
comp=Z,19nm,0.8s
S22A **4UR Ranch, Cre** 52.56 74 P P 22 12 29.6 -0.2
baz=312,SNR=17
S22A **4UR Ranch, Cre** 52.56 74 P P 22 12 29.9 +0.1
S22A IAmb IAmb 22 12 31.0
comp=Z,15nm,0.9s
214A **Organ Pipe Nat** 52.83 84 P P 22 12 31.3 -0.1
baz=314,SNR=10
214A **Organ Pipe Nat** 52.83 84 P P 22 12 31.6 +0.1
214A IAmb IAmb 22 12 32.6
comp=Z,25nm,0.9s
B35A **Bob, Littlefor** 53.07 56 P P 22 12 32.0 -0.9
B35A IAmb IAmb 22 12 32.8
comp=Z,24nm,0.8s
SUMG **Summit** 53.13 13 *i* P P 22 12 33.0 -0.5
SUMG **Summit** 53.13 13 P P 22 12 33.2 -0.3
SUMG pmax pmax
comp=Z,9.0nm,0.7s
SUMG **Summit** 53.13 13 P P 22 12 33.2 -0.3
F33A **5 Mile Ranch,** 53.33 60 P P 22 12 33.5 -1.4
F33A IAmb IAmb 22 12 34.2
comp=Z,14nm,0.9s
GTA **Gaotai** 53.73 290 *eP* P 22 12 39.0 +0.9
GTA pmax pmax
comp=Z,23nm,0.9s
DGZ **Jazzator, Alta** 53.80 306 *i* P P 22 12 36.7 -1.7
DGZ pmax pmax
comp=Z,6.0nm,1.0s
ILULI **Ilulissat** 53.81 20 P P 22 12 37.5 -0.5
ILULI pmax pmax
comp=Z,17nm,0.6s
ILULI **Ilulissat** 53.81 20 P P 22 12 37.5 -0.5
ILULI IAmb IAmb 22 12 38.6
comp=Z,17nm,0.6s
TUC **Tucson** 53.83 82 P P 22 12 38.9 +0.1
baz=314
TUC **Tucson** 53.83 82 P P 22 12 38.7 -0.1
TUC pmax pmax
comp=Z,27nm,1.1s
TUC **Tucson** 53.83 82 P P 22 12 38.7 -0.1
TUC IAmb IAmb 22 12 40.3
comp=Z,27nm,1.1s
ENH **Enshi** 54.09 275 P P 22 12 40.8 +0.1
ENH IAmb IAmb 22 12 41.6
comp=Z,17nm,0.9s
KSCO **Kaye Shedlock'** 54.21 71 P P 22 12 41.3 -0.3
baz=312,SNR=5.6
T25A **Trinidad** 54.41 73 P P 22 12 42.9 -0.2
baz=312,SNR=24
T25A **Trinidad** 54.41 73 P P 22 12 42.9 -0.2
T25A IAmb IAmb 22 12 44.1
comp=Z,39nm,1.1s
EYMN **Ely** 54.48 56 P P 22 12 42.4 -0.8
baz=311,SNR=22
EYMN **Ely** 54.48 56 P P 22 12 42.7 -0.6
EYMN IAmb IAmb 22 12 43.4
comp=Z,28nm,0.8s
ECSD **EROS Data Cent** 54.51 62 P P 22 12 41.9 -1.6
baz=311,SNR=7.0
ANMO **Albuquerque** 54.66 77 P P 22 12 44.0 -1.0
baz=313
ANMO **Albuquerque** 54.66 77 *i* P P 22 12 43.2 -1.7
ANMO pmax pmax
comp=Z,8.0nm,1.0s
ANMO **Albuquerque** 54.66 77 P P 22 12 44.5 -0.4
BNM **Barren Site** 55.10 78 P P 22 12 48.5 +0.3
BGNE **Belgrade** 55.19 66 P P 22 12 47.7 -0.8
baz=312
121A **Cookes Peak, D** 55.51 80 P P 22 12 51.1 +0.1
baz=314,SNR=8.4
121A **Cookes Peak, D** 55.51 80 P P 22 12 51.1 +0.1
121A IAmb IAmb 22 12 52.4
comp=Z,10nm,0.7s
SPMN **Marine on St.** 55.59 59 P P 22 12 50.7 -0.5
baz=312
CBKS **Cedar Bluff** 56.02 69 P P 22 12 53.9 -0.5
baz=313,SNR=8.9
CBKS **Cedar Bluff** 56.02 69 P P 22 12 53.9 -0.5
CBKS pmax pmax
comp=Z,47nm,0.8s
CBKS **Cedar Bluff** 56.02 69 P P 22 12 53.9 -0.5
I37A **Lemond, Waseca** 56.07 60 P P 22 12 54.0 -0.7
D41A **Chassel** 56.56 55 P P 22 12 58.0 -0.1
ZSN **Zaisan** 56.56 306 *i* P P 22 12 57.3 -0.8
comp=Z,3.6nm,1.2s,baz=306
ZSN **Zaisan** 56.56 306 *i* P P 22 12 57.3 -0.8
ZSN pmax pmax
comp=Z,4.0nm,1.2s
SEM **Semipalatinsk** 56.80 311 *i* P P 22 12 58.7 -1.4
comp=Z,1.2nm,0.6s,baz=311
SEM *eS* S 22 20 45.1 +1.4
baz=311
SEM **Semipalatinsk** 56.80 311 *i* P P 22 12 58.6 -1.4
SEM *eS* S 22 20 45.1 +1.4
SEM pmax pmax
comp=Z,1.0nm,0.6s
R32A **Long Quarter,** 56.87 69 P P 22 12 59.4 -1.0
COWI **Conover** 56.91 56 P P 22 12 59.6 -1.1
COWI IAmb IAmb 22 13 00.7
comp=Z,18nm,0.9s
G40A **Rib Lake** 56.93 57 P P 22 12 59.8 -0.9
G40A IAmb IAmb 22 13 00.9
comp=Z,12nm,0.8s
CD2 **Chengdu** 57.16 279 P P 22 13 01.6 -1.0
CD2 pmax pmax
comp=Z,20nm,1.0s
ARCES **ARCESS Array B** 57.20 349 P P 22 13 01.9 -0.4
comp=Z,2.1nm,0.6s,baz=20,slow=8.7,SNR=12
ARCES **ARCESS Array B** 57.20 349 P P 22 13 01.5 -0.8
KURK **Kurchatov** 57.34 312 *i* P P 22 13 03.2 -0.3
KURK pmax pmax
comp=Z,16nm,0.8s
KURK **Kurchatov** 57.34 312 P P 22 13 03.5 0.0
KURK IAmb IAmb 22 13 05.8
comp=Z,18nm,0.7s
LVZ **Lovozero** 57.42 345 P P 22 13 04.1 +0.2
LVZ pmax pmax
comp=Z,44nm,1.2s
LVZ **Lovozero** 57.42 345 P P 22 13 04.1 +0.2
KURBB **Kurchatov Arra** 57.45 312 P P 22 13 04.5 +0.2
comp=Z,16nm,0.7s,baz=42,slow=6.6,SNR=68
KURBB pP pP 22 13 32.6 +0.4
comp=Z,11nm,1.0s,baz=45,slow=7.2,SNR=5.7
KURBB PcP PcP 22 13 57.0 +0.4
comp=Z,4.7nm,0.6s,baz=42,slow=3.4,SNR=9.9
MSTX **Muleshoe** 57.54 75 P P 22 13 04.5 -0.9
baz=314,SNR=7.1
MNTX **Cornudas Mount** 57.55 79 P P 22 13 05.4 0.0
baz=315,SNR=25
MNTX **Cornudas Mount** 57.55 79 P P 22 13 05.6 +0.3
MNTX IAmb IAmb 22 13 06.5
comp=Z,20nm,0.8s
WMQ **Urumqi** 57.55 301 *eP* P 22 13 06.3 +1.1
WMQ pmax pmax
comp=Z,24nm,0.9s
WMQ **Urumqi** 57.55 301 P P 22 13 05.7 +0.5
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ **Urumqi** 57.55 301 P P 22 13 05.7 +0.5
WMQ IAmb IAmb 22 13 06.5
comp=Z,14nm,0.7s
AMTX **Amarillo** 57.56 74 P P 22 13 04.8 -0.7
baz=314
AMTX **Amarillo** 57.56 74 P P 22 13 05.1 -0.3
AMTX IAmb IAmb 22 13 06.0
comp=Z,13nm,0.8s
SCIA **State Center** 57.59 62 P P 22 13 04.7 -0.8
baz=313
KSU1 **Kansas State U** 57.61 67 P P 22 13 04.4 -1.3
baz=313
KSU1 **Kansas State U** 57.61 67 P P 22 13 04.5 -1.1

E43A **Lone Tree Farm** 57.82 55 P P 22 13 06.7 -0.2
MK31 **Makanchi Array** 58.30 307 P P 22 13 09.9 -0.4
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MK31 **Makanchi Array** 58.30 307 P P 22 13 09.9 -0.4
MKAR **Makanchi Array** 58.30 307 P P 22 13 09.6 -0.7
comp=Z,6.7nm,0.7s,baz=50,slow=5.9,SNR=53
MKAR PcP PcP 22 14 00.9 +0.8
comp=Z,1.7nm,0.7s,baz=44,slow=4.3,SNR=4.1
MKAR **Makanchi Array** 58.30 307 P P 22 13 09.9 -0.4
MAKZ **Makanchi** 58.44 307 P P 22 13 11.2 -0.1
MAKZ pmax pmax
comp=Z,7.0nm,0.7s
MAKZ **Makanchi** 58.44 307 P P 22 13 11.2 -0.1
JFWS **Jewell Farm** 58.51 59 P P 22 13 10.5 -1.3
baz=314,SNR=9.0
JFWS **Jewell Farm** 58.51 59 P P 22 13 10.7 -1.1
JFWS pmax pmax
comp=Z,23nm,0.8s
JFWS **Jewell Farm** 58.51 59 P P 22 13 10.7 -1.1
JFWS IAmb IAmb 22 13 11.2
comp=Z,22nm,0.8s
GYA **Guiyang** 58.54 274 *eP* P 22 13 13.0 +0.6
GYA pmax pmax
comp=Z,9.0nm,0.7s
L40A **Anamosa** 58.57 61 P P 22 13 10.9 -1.3
D46A **Sault St. Mari** 58.93 53 P P 22 13 13.8 -0.9
baz=314,SNR=11
P38A **Dawn** 58.98 64 P P 22 13 13.7 -1.4
F45A **CMU Biological** 59.04 54 P P 22 13 14.9 -0.5
baz=314,SNR=9.6
E46A **Sault Ste Mari** 59.17 53 P P 22 13 15.8 -0.5
D47A **Chapleau** 59.27 52 P P 22 13 16.2 -0.8
baz=315,SNR=29
BVAR **Borovoye Array** 59.30 318 P P 22 13 17.6 +0.5
comp=Z,11nm,0.4s,baz=51,slow=7.3,SNR=52
BVAR pP pP 22 13 46.4 +1.0
comp=Z,2.6nm,0.6s,baz=59,slow=5.7,SNR=2.1
BVAR PcP PcP 22 14 04.2 +0.3
comp=Z,2.5nm,0.3s,baz=20,slow=3.6,SNR=12
BVAR ScP ScP 22 17 53.2 0.0
comp=Z,2.5nm,0.7s,baz=46,slow=6.2,SNR=6.1
BRVK **Borovoye** 59.32 318 P P 22 13 17.4 +0.1
BRVK pmax pmax
comp=Z,12nm,0.7s
BRVK **Borovoye** 59.32 318 P P 22 13 17.4 +0.1
BRVK IAmb IAmb 22 13 18.5
comp=Z,12nm,0.7s
WMOK **Wichita Mounta** 59.37 72 P P 22 13 17.2 -0.7
baz=315,SNR=15
WMOK **Wichita Mounta** 59.37 72 P P 22 13 17.4 -0.5
WMOK pmax pmax
comp=Z,13nm,0.8s
WMOK **Wichita Mounta** 59.37 72 P P 22 13 17.4 -0.5
WMOK IAmb IAmb 22 13 18.5
comp=Z,13nm,0.8s
G45A **Suttons Bay** 59.42 55 P P 22 13 17.4 -0.7
baz=314
ANGG **Ammassalik, Gr** 59.53 16 P P 22 13 17.1 -1.3
G46A **Petoskey** 59.62 54 P P 22 13 18.9 -0.5
baz=315
K43A **Burlington** 59.67 59 P P 22 13 18.7 -1.0
D48A **Pauldash Townsh** 59.82 51 P P 22 13 19.6 -1.2
baz=315,SNR=7.4
I45A **Fountain** 59.83 56 P P 22 13 19.8 -1.1
baz=315
P40A **Paris** 59.87 63 P P 22 13 19.8 -1.5
MATQ **Matagami** 59.91 47 P P 22 13 19.7 -1.7
baz=316,SNR=5.8
D49A **Beulah Townshi** 59.97 51 P P 22 13 20.9 -0.8
baz=315,SNR=7.6
H46A **Fife Lake** 60.00 55 P P 22 13 21.2 -0.9
baz=315,SNR=7.6
E48A **Lockeyer** 60.14 52 P P 22 13 22.1 -0.8
baz=315,SNR=18
SVE **Sverdlovsk** 60.15 326 *eP* P 22 13 24.1 +1.3
SVE pmax pmax
comp=Z,31nm,1.2s
TMCR **Tamitsa** 60.17 341 *eP* P 22 13 19.2 -3.6
TMCR pmax pmax
comp=Z,17nm,0.8s
W35A **Tecumseh** 60.20 70 P P 22 13 22.9 -0.6
G47A **Hillman** 60.23 54 P P 22 13 22.5 -1.1
baz=315
L44A **Lake County Fo** 60.26 59 P P 22 13 22.7 -1.1
baz=315
TX31 **Lajitas Ar. Si** 60.26 80 P P 22 13 23.9 -0.3
TXAR **Lajitas Array** 60.27 80 P P 22 13 24.1 -0.1
comp=Z,13nm,0.7s,baz=298,slow=4.8,SNR=70
TXAR ScP ScP 22 17 55.6 -2.4
comp=Z,0.7nm,0.6s,baz=285,slow=3.7,SNR=4.3
TXAR **Lajitas Array** 60.27 80 P P 22 13 23.9 -0.3
TXAR **Lajitas Array** 60.27 80 P P 22 13 23.9 -0.3
I46A **Reed City** 60.30 56 P P 22 13 23.6 -0.5
baz=315
ABTX **Abilene, Hawle** 60.35 74 P P 22 13 24.5 -0.2
baz=315,SNR=9.9
F48A **Evansville** 60.38 53 P P 22 13 24.2 -0.4
baz=316,SNR=14
H47A **Mio** 60.46 55 P P 22 13 24.3 -0.9
baz=315
SLBS **Sierra La Lagu** 60.50 89 P P 22 13 25.9 +0.1
BRZS **Berezniki** 60.55 314 *i* P P 22 13 25.1 -0.6
comp=Z,5.8nm,1.1s,baz=315
BRZS **Berezniki** 60.55 314 *i* P P 22 13 25.1 -0.6
BRZS pmax pmax
comp=Z,6.0nm,1.1s
SCHQ **Schefferville** 60.60 37 P P 22 13 26.1 +0.1
comp=Z,21nm,0.9s,baz=314,slow=6.3,SNR=20
SCHQ **Schefferville** 60.60 37 P P 22 13 25.8 -0.2
SCHQ IAmb IAmb 22 13 27.2
comp=Z,20nm,0.8s
HDIL **Hopedale** 60.66 61 P P 22 13 25.6 -1.0
baz=315,SNR=6.2
HDIL **Hopedale** 60.66 61 P P 22 13 25.1 -1.5
F49A **Sandfield** 60.71 52 P P 22 13 26.2 -0.7
baz=316,SNR=18
D50A **G1974 Best Tow** 60.76 50 P P 22 13 25.9 -1.3
baz=316,SNR=12
E50A **Wahnapitae** 60.87 51 P P 22 13 27.0 -0.9
baz=316
D51A **Lot 18 Range I** 61.04 50 P P 22 13 27.5 -1.5
baz=316,SNR=9.9
ARU **Arti** 61.17 327 *c* *i* P P 22 13 30.8 +1.0
ARU S S 22 21 46.3 +6.8
ARU SS SS 22 25 44.9 +4.5
ARU pmax pmax
comp=Z,30nm,0.8s
ARU **Arti** 61.17 327 P P 22 13 30.2 +0.4
VLDQ **Val d'Or** 61.19 48 P P 22 13 27.6 -2.5
IVI **Ivigtut** 61.21 24 P P 22 13 29.6 -0.4
CHGQ **Chibougamau** 61.25 45 P P 22 13 28.9 -1.6
baz=318,SNR=15
CCM **Cathedral Cave** 61.35 64 P P 22 13 29.6 -1.7
baz=315
E51A **G1948 Merrick** 61.38 50 P P 22 13 30.1 -1.3
baz=317,SNR=12
X37A **Clayton** 61.47 70 P P 22 13 31.6 -0.6
X37A IAmb IAmb 22 13 32.6
comp=Z,19nm,0.9s
TDK **Taldyqorghan** 61.48 307 *i* P P 22 13 31.9 -0.2
comp=Z,6.9nm,0.7s,baz=308
TDK **Taldyqorghan** 61.48 307 *i* P P 22 13 31.9 -0.2
TDK pmax pmax
comp=Z,7.0nm,0.7s
D52A **ZEK Kipawa Sen** 61.57 49 P P 22 13 31.4 -1.3
baz=317,SNR=12
J48A **Bridge Port** 61.60 55 P P 22 13 31.8 -1.1
baz=316
F51A **Arnstein** 61.62 51 P P 22 13 31.6 -1.4
baz=317
I49A **Point Hope** 61.63 54 P P 22 13 32.2 -0.8
baz=316
U40A **Yellville** 61.66 66 P P 22 13 31.6 -1.8
baz=316,SNR=16
JCT **Junction City** 61.78 76 P P 22 13 33.6 -0.8
baz=316
D53A **Lac Vacive, Po** 61.83 49 P P 22 13 33.1 -1.3
baz=317,SNR=16
J49A **Marlette** 61.89 55 P P 22 13 33.6 -1.2
baz=316
KMI **Kunming** 61.93 276 ⇓*eP* P 22 13 36.0 +0.4
KMI pmax pmax
comp=Z,12nm,1.1s
KMI LR LR
comp=Z,9μm,33.1s

KMI LR LR
comp=Z,10µm,25.1s
KMI LR LR
comp=Z,20µm,31.3s
W39A Magazine 61.95 68 P P 22 13 34.2 -1.1
baz=316,SNR=11
W39A Magazine 61.95 68 P P 22 13 34.6 -0.7
E52A Mattawa 61.96 50 P P 22 13 33.9 -1.4
baz=317,SNR=13
SFIN Lafayette 61.97 60 P P 22 13 34.3 -1.1
baz=316,SNR=18
SFIN Lafayette 61.97 60 P P 22 13 34.7 -0.6
F52A Sundridge 62.00 51 P P 22 13 34.1 -1.5
baz=317,SNR=17
WHTX Lake Whitney, 62.10 73 P P 22 13 35.7 -0.7
baz=316,SNR=9.6
WHTX Lake Whitney, 62.10 73 P P 22 13 36.1 -0.3
K49A Clarkson 62.14 56 P P 22 13 35.9 -0.6
baz=316,SNR=6.0
D54A Lac Fusel, La 62.26 48 P P 22 13 35.7 -1.5
baz=318,SNR=7.2
KIRV Kirov 62.27 333 *i* P P 22 13 36.8 -0.2
SHLS Shalkode 62.29 305 *e*P P 22 13 36.5 -1.1
comp=Z,6.9nm,0.6s,baz=305
SHLS Shalkode 62.29 305 *e*P P 22 13 36.5 -1.1
SHLS pmax pmax
comp=Z,7.0nm,0.6s
E53A Dumoine, Ponti 62.36 49 P P 22 13 36.4 -1.5
baz=317,SNR=9.9
KPKS Kokpek 62.45 306 *i* P P 22 13 38.7 -0.1
comp=Z,8.0nm,0.8s,baz=306
KPKS Kokpek 62.45 306 *i* P P 22 13 38.6 -0.1
KPKS pmax pmax
comp=Z,8.0nm,0.8s
ALGO Algonquin Park 62.49 50 P P 22 13 37.2 -1.6
baz=317,SNR=7.5
UZB Uzynbulak 62.52 306 *i* P P 22 13 39.0 -0.3
comp=Z,1.6nm,0.8s,baz=306
UZB Uzynbulak 62.52 306 *i* P P 22 13 38.9 -0.3
UZB pmax pmax
comp=Z,2.0nm,0.8s
MIAR Mount Ida 62.53 68 P P 22 13 38.7 -0.6
baz=316,SNR=17
MIAR Mount Ida 62.53 68 P P 22 13 38.9 -0.3
MIAR pmax pmax
comp=Z,48nm,1.2s
MIAR Mount Ida 62.53 68 P P 22 13 38.9 -0.3
E54A Lac Daplat, Po 62.55 49 P P 22 13 37.5 -1.6
baz=318,SNR=18
I51A Listowel 62.62 53 P P 22 13 40.0 +0.3
baz=317,SNR=15
G53A Haliburton 62.83 51 P P 22 13 40.2 -0.9
baz=318,SNR=26
W41B Gary Mavity, V 62.84 67 P P 22 13 39.9 -1.4
baz=316,SNR=7.5
G54A Lake Saint Pet 62.88 50 P P 22 13 40.4 -1.0
baz=318
435B Jarrell 62.89 74 P P 22 13 41.4 -0.3
baz=316
435B Jarrell 62.89 74 P P 22 13 41.6 0.0
SATY Saty 62.89 306 *i* P P 22 13 41.7 +0.1
comp=Z,4.6nm,0.6s,baz=306
SATY Saty 62.89 306 *i* P P 22 13 41.7 +0.1
SATY pmax pmax
comp=Z,5.0nm,0.6s
D55A Sainte-Anne-du 62.90 48 P P 22 13 40.3 -1.2
baz=318,SNR=26
X40A Basin Creek Fa 63.00 68 P P 22 13 41.6 -0.8
baz=316
CHKK Chushkaly 63.01 307 *i* P P 22 13 41.2 -1.1
comp=Z,24nm,0.5s,baz=307
CHKK Chushkaly 63.01 307 *i* P P 22 13 41.2 -1.1
CHKK pmax pmax
comp=Z,24nm,0.5s
E55A Montcerf-Lytto 63.05 48 P P 22 13 40.9 -1.6
baz=318
D56A ZEC Mazanza, M 63.21 47 P P 22 13 42.1 -1.4
baz=319,SNR=13
H53A Bobcaygeon 63.25 51 P P 22 13 42.9 -1.0
baz=316,SNR=6.7
KUU Kurty 63.30 308 *i* P P 22 13 43.2 -1.1
comp=Z,4.9nm,0.9s,baz=308
KUU Kurty 63.30 308 *i* P P 22 13 43.1 -1.1
KUU pmax pmax
comp=Z,5.0nm,0.9s
J52A Paris 63.31 53 P P 22 13 43.7 -0.5
baz=317
I53A Kortright Cn E 63.32 52 P P 22 13 43.5 -0.7
baz=318
F55A Otter Lake 63.38 49 P P 22 13 43.4 -1.2
baz=318
USIN University of 63.39 62 P P 22 13 44.2 -0.7
E56A St. Veronique 63.46 48 P P 22 13 43.7 -1.5
baz=319,SNR=8.4
MDOK Medeo 63.49 307 *i* P P 22 13 45.6 -0.1
baz=307
MDOK Medeo 63.49 307 *i* P P 22 13 45.5 -0.1
AAA Alma-Ata 63.52 307 *e*P P 22 13 46.1 +0.3
comp=Z,8.0nm,0.4s,baz=307
AAA Alma-Ata 63.52 307 *e*P P 22 13 46.0 +0.3
AAA pmax pmax
comp=Z,8.0nm,0.4s
BTLS Baital 63.56 310 *i* P P 22 13 45.6 -0.3
comp=Z,3.3nm,1.0s,baz=310
BTLS Baital 63.56 310 *i* P P 22 13 45.6 -0.3
BTLS pmax pmax
comp=Z,3.0nm,1.0s
833A Chaparral WMA, 63.58 77 P P 22 13 46.0 -0.3
baz=317
D57A Chemin Vers le 63.62 47 P P 22 13 44.5 -1.7
baz=319,SNR=13
TNSS Tian-Shan 63.63 307 *e*P P 22 13 46.8 -0.2
comp=Z,39nm,0.7s,baz=307
TNSS Tian-Shan 63.63 307 *e*P P 22 13 46.7 -0.2
TNSS pmax pmax
comp=Z,39nm,0.7s
G55A Calabogie 63.64 50 P P 22 13 45.2 -1.2
baz=318,SNR=8.0
MTBS Maitube 63.82 307 *e*P P 22 13 47.7 0.0
baz=307
MTBS Maitube 63.82 307 *e*P P 22 13 47.7 0.0
LATQ La Tuque 63.84 46 P P 22 13 46.3 -1.4
baz=319,SNR=12
P49A Miami Univ. Ec 63.84 59 P P 22 13 46.7 -1.1
baz=317
H55A Tweed 63.94 50 P P 22 13 47.3 -1.1
baz=318,SNR=6.1
WCI Wyandotte Cave 63.95 61 P P 22 13 47.7 -0.8
baz=317
I55A Frankford 63.95 51 P P 22 13 47.4 -1.1
baz=318
E57A Chemin Saint G 63.96 47 P P 22 13 46.9 -1.6
baz=319,SNR=16
SLVN Son La 64.01 272 P P 22 13 50.2 +1.0
D58A Chemin du LacG 64.01 46 P P 22 13 47.5 -1.3
baz=319,SNR=14
N51A Ashland 64.05 56 P P 22 13 48.0 -1.1
baz=317
ORIO Orleans, Innes 64.06 49 P P 22 13 47.4 -1.7
baz=319
TARG Taragay, Kyrgy 64.17 305 P P 22 13 51.2 +0.7
KDJ Kajisay 64.19 306 P P 22 13 50.9 +0.6
KDJ pmax pmax
comp=Z,13nm,0.9s
KDJ Kajisay 64.19 306 P P 22 13 50.9 +0.6
KDJ IAmb IAmb 22 13 51.8
comp=Z,13nm,0.8s
J54A Appleton 64.19 52 P P 22 13 48.9 -1.1
baz=318
ACSO Alum Creek Sta 64.24 57 P P 22 13 49.4 -1.0
baz=317
H56A Elgin 64.35 50 P P 22 13 49.7 -1.3
baz=319,SNR=8.4
E58A La Victoria 64.39 47 P P 22 13 49.8 -1.5
baz=320,SNR=9.0
TKM2 Tokmak 2 64.39 307 P P 22 13 52.5 +1.0
SNR=7.1
SGDS Sogindy 64.46 308 *e*P P 22 13 52.2 +0.2
comp=Z,3.1nm,0.8s,baz=308
SGDS Sogindy 64.46 308 *e*P P 22 13 52.1 +0.2
SGDS pmax pmax
comp=Z,3.0nm,0.8s
O51A Pataskala 64.50 57 P P 22 13 51.2 -0.9
baz=318,SNR=11
HKT Hockley 64.53 73 *i* P P 22 13 51.6 -0.7
HKT pmax pmax
comp=Z,8.0nm,1.0s
M53A WI Miller and 64.53 55 P P 22 13 51.8 -0.5
baz=318
BOOM Boomskoye usch 64.54 307 P P 22 13 53.0 +0.4
BOOM pmax pmax
comp=Z,8.0nm,0.8s
BOOM Boomskoye usch 64.54 307 P P 22 13 53.0 +0.4
D59A Saint-Raymond 64.55 46 P P 22 13 51.3 -0.9
baz=320
G57A Newington 64.56 49 P P 22 13 51.1 -1.3
baz=319
J55A Hilton 64.60 52 P P 22 13 52.0 -0.6
baz=318,SNR=5.3
L54A Sinclairville 64.63 53 P P 22 13 52.3 -0.6
baz=318,SNR=11
WVT Waverly 64.63 63 P P 22 13 52.4 -0.6
baz=317
K54A Basiliko Farm, 64.66 53 P P 22 13 52.6 -0.5
baz=318,SNR=9.5
USP Ospenovka 64.67 308 P P 22 13 54.1 +1.0
SNR=13
P51A Williamsport 64.75 58 P P 22 13 52.6 -1.1
baz=318
FIA1 FINESS Array S 64.80 346 P P 22 13 52.8 -0.8
FIA1 IAmb IAmb 22 15 15.1
comp=Z,28nm,0.9s
FINES FINESS Array B 64.80 346 P P 22 13 52.4 -1.3
comp=Z,1.1nm,0.5s,baz=25,slow=5.3,SNR=13
FINES FINESS Array B 64.80 346 P P 22 13 52.6 -1.1
FINES FINESS Array B 64.80 346 P P 22 13 52.6 -1.1
H57A Richville 64.86 49 P P 22 13 53.1 -1.2
baz=319,SNR=6.3
K55A Perry 64.87 52 P P 22 13 53.6 -0.9
baz=318,SNR=5.8
KBK Karagaybulak 64.90 308 P P 22 13 55.8 +0.9
SNR=6.8
O52A Adamsville 64.92 57 P P 22 13 53.8 -1.0
baz=318,SNR=7.0
N53A Lisbon 64.92 55 P P 22 13 53.3 -1.5
baz=318
OXF Oxford 64.93 66 P P 22 13 54.1 -0.9
baz=317,SNR=6.6
OXF Oxford 64.93 66 P P 22 13 54.1 -0.9
OXF pmax pmax
comp=Z,93nm,1.3s
OXF Oxford 64.93 66 P P 22 13 54.1 -0.9
G58A Ormstown 64.96 48 P P 22 13 53.0 -2.0
baz=320
M54A Oil Creek Stat 64.99 54 P P 22 13 54.3 -1.0
baz=318
D60A Saint Jean D'O 65.02 45 P P 22 13 54.3 -1.0
baz=320,SNR=11
J56A Wolcott 65.05 51 P P 22 13 54.7 -0.9
baz=319,SNR=6.4
L55A Hinsdale 65.10 53 P P 22 13 55.6 -0.4
baz=318,SNR=6.3
D61A St Aubert, Com 65.12 44 P P 22 13 54.8 -1.1
baz=321,SNR=5.2
LONY Lake Ozonia 65.12 49 P P 22 13 54.0 -2.0
baz=319
LONY Lake Ozonia 65.12 49 P P 22 13 54.3 -1.7
P52A Corning 65.12 57 P P 22 13 54.5 -1.7
baz=318
I57A Carthage 65.13 50 P P 22 13 54.7 -1.4
baz=319,SNR=6.9
AAK Ala-Archa 65.14 308 P P 22 13 56.2 -0.2
comp=Z,7.3nm,0.6s,baz=92,slow=3.4,SNR=14
AAK Ala-Archa 65.14 308 P P 22 13 57.3 +0.9
SNR=6.7
AAK Ala-Archa 65.14 308 P P 22 13 56.4 0.0
AAK pmax pmax
comp=Z,7.0nm,0.7s
AAK Ala-Archa 65.14 308 P P 22 13 56.4 0.0
O53A New Philadelph 65.14 56 P P 22 13 54.8 -1.5
baz=318
E60A Ste Agathe de 65.21 46 P P 22 13 55.3 -1.2
baz=320,SNR=7.9
N54A Moraine State 65.24 55 P P 22 13 55.8 -1.0
baz=318
N54A Moraine State 65.24 55 P P 22 13 56.1 -0.8
K56A Middlesex 65.26 52 P P 22 13 56.6 -0.4
baz=319,SNR=22
F60A Warwick 65.29 46 P P 22 13 55.4 -1.7
baz=320,SNR=6.2
J57A Williamstown 65.36 51 P P 22 13 56.4 -1.2
baz=319,SNR=7.8
G59A Clarenceville 65.41 48 P P 22 13 56.2 -1.6
baz=320,SNR=7.2
H58A Gabriels 65.46 49 P P 22 13 56.2 -2.1
baz=320,SNR=5.3
EKS2 Erkin-Say 65.47 308 P P 22 13 59.5 +1.0
SNR=14
M55A Ridgway 65.47 54 P P 22 13 57.8 -0.6
baz=319,SNR=7.7
U49A Red Boiling Sp 65.48 62 P P 22 13 57.5 -1.0
U49A IAmb IAmb 22 13 58.5
comp=Z,11nm,0.5s
CLTN Cedars of Leba 65.49 62 P P 22 13 58.0 -0.6
CLTN IAmb IAmb 22 13 58.9
comp=Z,27nm,0.9s
H59A Cadyville 65.51 48 P P 22 13 57.1 -1.5
baz=320
Q52A Bidwell 65.55 58 P P 22 13 57.8 -1.1
baz=318
L56A Greenwood 65.57 52 P P 22 13 58.5 -0.6
baz=319,SNR=38
L56A Greenwood 65.57 52 P P 22 13 58.9 -0.2
E61A Lac Etchemin 65.58 45 P P 22 13 57.6 -1.4
baz=321
LSA Lhasa 65.61 287 P P 22 14 01.3 +1.3
LSA pmax pmax
comp=Z,14nm,0.8s
LSA Lhasa 65.61 287 P P 22 14 01.3 +1.3
LSA IAmb IAmb 22 14 02.7
comp=Z,14nm,0.8s
P53A Whipple 65.62 57 P P 22 13 58.2 -1.1
baz=318
T50A Nancy 65.62 61 P P 22 13 58.8 -0.6
T50A IAmb IAmb 22 14 10.4
comp=Z,32nm,1.2s
O54A Avella 65.62 56 P P 22 13 58.3 -1.0
baz=318
K57A Scipio Center 65.63 51 P P 22 13 58.3 -1.1
baz=319,SNR=10
I58A Old Forge 65.64 50 P P 22 13 58.3 -1.1
baz=320,SNR=6.6
D62A Allapoint, All 65.70 44 P P 22 13 59.1 -0.6
baz=321,SNR=13
F61A St Evariste 65.71 46 P P 22 13 59.0 -0.8
baz=321,SNR=7.0
ZAIG Zacatecas 65.73 84 P P 22 14 00.8 +0.2
ZAIG IAmb IAmb 22 14 02.2
comp=Z,24nm,1.0s
J58A Remsen 65.74 50 P P 22 13 59.1 -1.0
baz=320,SNR=6.8
M56A Emporium 65.75 53 P P 22 13 59.3 -0.8
baz=319,SNR=10
G60A Masonville 65.79 47 P P 22 13 58.8 -1.5
baz=320
E62A Clayton Lake 65.86 44 P P 22 13 59.7 -1.1
baz=321,SNR=13
E62A Clayton Lake 65.86 44 P P 22 13 59.9 -0.8
E62A IAmb IAmb 22 14 00.6
comp=Z,15nm,0.7s
SIJI Sorong 65.87 233 P P 22 14 01.8 +0.6
comp=Z,63nm,0.7s,baz=20,slow=7.1,SNR=34
N55A Manton Center 65.88 54 P P 22 13 59.6 -1.4
baz=319
AML Almayashu 65.91 308 P P 22 14 02.9 +1.2
SNR=7.5
P54A Burton 66.00 56 P P 22 14 00.6 -1.2
baz=318
G61A St-Isidore-de- 66.01 47 P P 22 14 00.7 -1.0
baz=321,SNR=11
Q53A Leroy 66.01 57 P P 22 14 01.2 -0.6
baz=318,SNR=7.5
L57A Andrews Acres 66.02 52 P P 22 14 00.8 -1.1
baz=319,SNR=14
K58A Earlville 66.02 51 P P 22 14 00.9 -1.0
baz=320,SNR=5.7
K58A Earlville 66.02 51 P P 22 14 01.3 -0.6
K58A IAmb IAmb 22 14 02.1
comp=Z,21nm,1.1s
J59A Piesco 66.03 50 P P 22 14 00.4 -1.6
baz=320,SNR=14
J59A Piesco 66.03 50 P P 22 14 00.7 -1.3
J59A IAmb IAmb 22 14 01.3
comp=Z,17nm,0.7s
H60A Morristown 66.03 48 P P 22 14 00.2 -1.7
baz=320,SNR=7.5
I59A Olmsteadville 66.07 49 P P 22 14 00.9 -1.3
baz=320,SNR=17
N56A West Decatur 66.12 54 P P 22 14 01.4 -1.2
baz=319
D63A Stockholm 66.14 43 P P 22 14 01.2 -1.3
baz=322,SNR=7.0
R53A Hurricane 66.18 58 P P 22 14 02.2 -0.7
baz=318,SNR=5.9
R53A Hurricane 66.18 58 P P 22 14 02.4 -0.5
R53A IAmb IAmb 22 14 03.3
comp=Z,28nm,1.0s
F62A Pittston Farm, 66.22 45 P P 22 14 02.0 -1.1
baz=321,SNR=13
Q54A Coxs Mills 66.28 57 P P 22 14 02.9 -0.6
baz=319
MCWV Mont Chateau 66.28 56 P P 22 14 02.6 -1.0
baz=319
BINY Binghamton 66.29 51 P P 22 14 03.0 -0.6
baz=320,SNR=8.7
BINY Binghamton 66.29 51 P P 22 14 03.1 -0.5
BINY IAmb IAmb 22 14 03.9
comp=Z,39nm,1.2s
I60A Shoreham 66.31 49 P P 22 14 02.2 -1.4
baz=320
M57A Sunshine Farm, 66.38 53 P P 22 14 03.6 -0.6
baz=319,SNR=16
M57A Sunshine Farm, 66.38 53 P P 22 14 03.9 -0.3
K59A Cooperstown 66.39 50 P P 22 14 03.3 -1.0
baz=320,SNR=7.5
ABKAR Akbulak array 66.40 321 P P 22 14 03.4 -0.8
P55A Reedsville 66.40 56 P P 22 14 03.4 -1.0
baz=319
H61A Lyndonville 66.41 47 P P 22 14 02.9 -1.4
baz=321,SNR=9.1
DZA Taraz 66.47 310 *e*P P 22 14 05.0 +0.2
comp=Z,3.7nm,0.6s,baz=310
DZA Taraz 66.47 310 *e*P P 22 14 05.0 +0.2
DZA pmax pmax
comp=Z,4.0nm,0.6s
L58A Harry Jones Me 66.47 51 P P 22 14 04.2 -0.5
baz=320,SNR=11
O56A Blue Knob Stat 66.47 54 P P 22 14 03.5 -1.3
baz=319
E63A Oxbow 66.48 44 P P 22 14 03.5 -1.3
baz=322,SNR=12
G62A West of Eustis 66.50 46 P P 22 14 04.0 -0.9
baz=321,SNR=14
SSPA Standing Stone 66.53 54 P P 22 14 04.5 -0.7
baz=319
S53A Williamson 66.57 59 P P 22 14 04.8 -0.8
baz=318
N57A Milroy 66.61 53 P P 22 14 05.1 -0.6
baz=319,SNR=8.5
LBNH Lisbon 66.63 48 P P 22 14 04.8 -0.9
baz=321,SNR=8.6
Q55A Buckhannon 66.66 56 P P 22 14 05.0 -1.0
baz=319
NC204 NORSAR Array S 66.67 354 P P 22 14 05.0 -0.8
NC204 IAmb IAmb 22 14 37.7
comp=Z,46nm,1.2s
M58A Price's Panora 66.68 52 P P 22 14 05.5 -0.6
baz=320,SNR=11
KK31 Karatay Array 66.69 311 P P 22 14 06.4 +0.2
KK31 pmax pmax
comp=Z,9.0nm,0.8s
KK31 Karatay Array 66.69 311 P P 22 14 06.4 +0.2
KKAR Karatay Array 66.69 311 P P 22 14 06.3 +0.1
KKAR Karatay Array 66.69 311 P P 22 14 06.3 +0.1
J60A Lant Hill Farm 66.71 49 P P 22 14 05.4 -0.9
baz=320,SNR=14
H62A Milan 66.72 47 P P 22 14 05.5 -0.8
baz=321,SNR=28
I61A Oroboro, Fairl 66.74 48 P P 22 14 05.4 -1.0
baz=321,SNR=6.9
E64A Bridgewater 66.74 44 P P 22 14 05.2 -1.1
baz=322,SNR=18
KSH Kashi 66.74 305 *e*P P 22 14 10.9 +4.2
KSH pP pwP 22 14 39.1 +1.5
KSH pmax pmax
comp=Z,18nm,0.7s
L59A Walton 66.75 51 P P 22 14 05.7 -0.9
baz=320,SNR=9.0
F63A Nahmakanta, Br 66.75 45 P P 22 14 05.7 -0.8
baz=322,SNR=12
R54A Victor 66.80 57 P P 22 14 06.1 -0.8
baz=319
BATG Bathurst New B 66.81 42 P P 22 14 06.2 -0.5
NOA NORSAR Array B 66.88 353 P P 22 14 06.3 -0.8
comp=Z,1.0nm,0.6s,baz=8.9,slow=6.3,SNR=8.9
NOA pP **pwP** 22 14 37.7 -0.4
comp=Z,4.1nm,0.9s,baz=8.3,slow=6.4,SNR=6.8
T53A Wise 66.88 59 P P 22 14 07.0 -0.5
baz=318
KSPA Keystone Colle 66.88 52 P P 22 14 06.7 -0.6
KSPA IAmb IAmb 22 14 07.5
comp=Z,19nm,0.8s
P56A Dayton Farm, R 66.91 55 P P 22 14 06.7 -0.9
baz=319,SNR=5.1
S54A Dingess, Beckl 66.92 58 P P 22 14 06.7 -1.0
baz=319
F64A Sherman 66.95 44 P P 22 14 06.8 -0.9
baz=322,SNR=16
F64A Sherman 66.95 44 P P 22 14 06.9 -0.9
F64A IAmb IAmb 22 14 07.6
comp=Z,29nm,0.8s
N58A Sunbury 66.96 53 P P 22 14 07.3 -0.5
baz=320,SNR=14
N58A Sunbury 66.96 53 P P 22 14 07.4 -0.5
O57A Amberson 66.98 54 P P 22 14 07.2 -0.8
baz=319,SNR=13
G63A Kingsbury 66.99 46 P P 22 14 07.1 -0.9
baz=322,SNR=9.8
PKME Peaks-Kenny Pk 67.01 45 P P 22 14 07.1 -0.9
baz=322,SNR=6.1
PKME Peaks-Kenny Pk 67.01 45 P P 22 14 07.2 -0.9
PKME IAmb IAmb 22 14 08.1
comp=Z,38nm,1.4s
FPAL Fort Paine 67.03 63 P P 22 14 07.4 -1.0
FPAL IAmb IAmb 22 14 08.0
comp=Z,11nm,0.6s
J61A Chester 67.03 49 P P 22 14 07.3 -1.0
baz=321,SNR=9.1
M59A Waymart 67.06 52 P P 22 14 07.5 -1.0
baz=320,SNR=13
Q56A Snyder Ridge, 67.08 56 P P 22 14 07.6 -1.1
baz=319
FAKI Fak Fak 67.16 231 P P 22 14 10.1 +0.7
FAKI IAmb IAmb 22 14 11.0
comp=Z,25nm,0.8s
R55A Marlinton 67.17 57 P P 22 14 08.3 -1.0
baz=319
I62A Tamworth 67.18 47 P P 22 14 08.4 -0.9
baz=321,SNR=5.6
I62A Tamworth 67.18 47 P P 22 14 08.6 -0.7
K61A Williamstown 67.22 49 P P 22 14 08.2 -1.3
baz=321,SNR=5.8
G64A Maxfield 67.26 45 P P 22 14 08.3 -1.3
baz=322,SNR=6.0
L60A Shokan 67.29 50 P P 22 14 09.0 -1.0
baz=320
T54A Tazewell 67.33 59 P P 22 14 10.0 -0.3
baz=319,SNR=6.0
P57A Homestead Farm 67.34 55 P P 22 14 09.3 -1.0
baz=320
S55A Lewisburg 67.36 57 P P 22 14 09.7 -0.8
baz=319
N59A State Game Lan 67.37 52 P P 22 14 09.9 -0.6
baz=320,SNR=20
N59A State Game Lan 67.37 52 P P 22 14 10.1 -0.4
LRAL Lakeview Retre 67.37 65 P P 22 14 09.0 -1.5
baz=318
I63A Otisfield 67.39 47 P P 22 14 09.6 -0.8
baz=321,SNR=12
I63A Otisfield 67.39 47 P P 22 14 09.7 -0.8
I63A IAmb IAmb 22 14 10.7
comp=Z,24nm,0.8s
O58A Lewisberry 67.40 53 P P 22 14 09.7 -1.0
baz=320
R56A Bull Pasture M 67.45 56 P P 22 14 10.1 -0.9
baz=319
L61A Hillsdale 1, H 67.45 50 P P 22 14 10.2 -0.7
baz=321
J62A Henniker 67.47 48 P P 22 14 10.1 -1.0
baz=321,SNR=9.0
Q57A Strasburg 67.48 55 P P 22 14 10.4 -0.8

	baz=320								
H64A	**Troy**	**67.53**	**46**	P		**P**	**22 14 10.2**	**-1.2**	
	baz=322,SNR=5.8								
U54A	**Nelsons Funny**	**67.60**	**59**	P		**P**	**22 14 11.3**	**-0.8**	
	baz=319								
M60A	**Port Jervis**	**67.61**	**51**	P		**P**	**22 14 10.9**	**-1.0**	
	baz=320,SNR=6.8								
O59A	**Robesonia**	**67.62**	**53**	P		**P**	**22 14 11.3**	**-0.8**	
	baz=320								
IUG	**luzhnay**	**67.66**	**310**	*e*P		**P**	**22 14 12.3**	**-0.1**	
	comp=Z,1.0nm,0.8s,baz=310								
IUG	**luzhnay**	**67.66**	**310**	*e*P		**P**	**22 14 12.2**	**-0.1**	
IUG					pmax	pmax			
	comp=Z,1.0nm,0.8s								
L61B	**Northampton**	**67.67**	**49**	P		**P**	**22 14 11.0**	**-1.3**	
	baz=321,SNR=7.4								
P58A	**Pank, Wackersv**	**67.70**	**54**	P		**P**	**22 14 11.8**	**-0.7**	
	baz=320								
T55A	**Pulaski**	**67.70**	**58**	P		**P**	**22 14 11.8**	**-0.9**	
	baz=319								
K62A	**Royalston**	**67.71**	**49**	P		**P**	**22 14 11.5**	**-1.1**	
	baz=321,SNR=5.8								
K62A	**Royalston**	**67.71**	**49**	P		**P**	**22 14 11.8**	**-0.7**	
K62A					IAmb	IAmb	22 14 12.4		
	comp=Z,14nm,0.8s								
N60A	**Cedar Hill Far**	**67.73**	**52**	P		**P**	**22 14 11.8**	**-0.9**	
	baz=320,SNR=9.3								
J63A	**Strafford**	**67.77**	**48**	P		**P**	**22 14 11.7**	**-1.2**	
	baz=321								
G65A	**Princeton**	**67.82**	**44**	P		**P**	**22 14 12.2**	**-1.0**	
	baz=322,SNR=9.9								
G65A	**Princeton**	**67.82**	**44**	P		**P**	**22 14 12.5**	**-0.7**	
G65A					IAmb	IAmb	22 14 13.2		
	comp=Z,21nm,0.8s								
S56A	**Natural Bridge**	**67.92**	**57**	P		**P**	**22 14 13.2**	**-0.7**	
	baz=319								
I64A	**Boothbay**	**67.92**	**46**	P		**P**	**22 14 12.6**	**-1.2**	
	baz=322								
H65A	**Eastbrook**	**67.92**	**45**	P		**P**	**22 14 12.7**	**-1.1**	
	baz=322,SNR=11								
Q58A	**Fox Den Farm,**	**67.92**	**55**	P		**P**	**22 14 13.1**	**-0.8**	
	baz=320,SNR=5.4								
R57A	**Stanardsville**	**67.98**	**56**	P		**P**	**22 14 13.7**	**-0.6**	
	baz=320								
O60A	**Telford**	**68.00**	**52**	P		**P**	**22 14 13.6**	**-0.8**	
	baz=320,SNR=5.8								
K63A	**Dunstable**	**68.02**	**48**	P		**P**	**22 14 13.4**	**-1.0**	
	baz=321,SNR=6.4								
U55A	**TA2, Sparta**	**68.03**	**59**	P		**P**	**22 14 13.7**	**-1.0**	
	baz=319								
M61A	**Granite Spring**	**68.03**	**51**	P		**P**	**22 14 13.4**	**-1.1**	
	baz=321								
P59A	**Jarrettsville**	**68.04**	**54**	P		**P**	**22 14 13.7**	**-1.0**	
	baz=320								
V54A	**Nebo**	**68.09**	**60**	P		**P**	**22 14 14.1**	**-1.0**	
	baz=319,SNR=6.5								
HRV	**Adam Dziewonsk**	**68.15**	**48**	P		**P**	**22 14 14.2**	**-1.1**	
	baz=321								
GGN	**Saint George**	**68.19**	**44**	P		**P**	**22 14 14.9**	**-0.6**	
GGN					IAmb	IAmb	22 14 15.5		
	comp=Z,31nm,0.8s								
PAL	**Palisades**	**68.20**	**51**	P		**P**	**22 14 14.7**	**-0.9**	
	baz=321								
SHL	**Shillong**	**68.22**	**284**	P		**P**	**22 14 15.8**	**-0.4**	
SHL					pmax	pmax			
	comp=Z,28nm,1.0s								
SHL	**Shillong**	**68.22**	**284**	P		**P**	**22 14 15.8**	**-0.4**	
SHL					IAmb	IAmb	22 14 17.2		
	comp=Z,28nm,1.0s								
R58A	**Rapidan**	**68.25**	**55**	P		**P**	**22 14 15.1**	**-0.8**	
	baz=320								
H66A	**Whiting**	**68.25**	**44**	P		**P**	**22 14 15.3**	**-0.6**	
	baz=323,SNR=12								
P60A	**Greenville**	**68.28**	**53**	P		**P**	**22 14 15.2**	**-1.0**	
	baz=320								
M62A	**Hamden**	**68.35**	**50**	P		**P**	**22 14 15.7**	**-0.8**	
	baz=321								
V55A	**Taylorsville**	**68.43**	**59**	P		**P**	**22 14 16.6**	**-0.6**	
	baz=319								
W54A	**Cherokee Point**	**68.49**	**60**	P		**P**	**22 14 16.8**	**-0.7**	
	baz=319								
R58B	**Mineral**	**68.57**	**56**	P		**P**	**22 14 17.3**	**-0.7**	
	baz=320								
O61A	**Allentown**	**68.59**	**52**	P		**P**	**22 14 17.4**	**-0.6**	
	baz=321								
T57A	**Hurt**	**68.59**	**57**	P		**P**	**22 14 17.6**	**-0.6**	
	baz=320								
BRYW	**Bryant College**	**68.61**	**49**	P		**P**	**22 14 17.5**	**-0.7**	
BRYW					IAmb	IAmb	22 14 17.9		
	comp=Z,22nm,0.7s								
L63A	**North Scituate**	**68.62**	**49**	P		**P**	**22 14 17.4**	**-0.8**	
	baz=322								
OBN	**Obninsk**	**68.68**	**338**	*i* P		**P**	**22 14 16.1**	**-2.2**	
OBN					pmax	pmax			
	comp=Z,6.0nm,0.6s								
S58A	**Poland Farm, P**	**68.75**	**56**	P		**P**	**22 14 18.3**	**-0.8**	
	baz=320								
M63A	**Gales Ferry**	**68.78**	**50**	P		**P**	**22 14 18.3**	**-0.9**	
	baz=321,SNR=5.1								
X54A	**Belton**	**68.79**	**61**	P		**P**	**22 14 18.9**	**-0.5**	
	baz=319,SNR=5.5								
V56A	**Mocksville**	**68.84**	**59**	P		**P**	**22 14 18.8**	**-0.9**	
	baz=320								
BTK	**Batken**	**68.89**	**308**	P		**P**	**22 14 20.6**	**+0.5**	
BTK					pmax	pmax			
	comp=Z,16nm,1.0s								
BTK	**Batken**	**68.89**	**308**	P		**P**	**22 14 20.6**	**+0.5**	
KMSC	**Kings Mountain**	**68.90**	**60**	P		**P**	**22 14 19.5**	**-0.6**	
	baz=319,SNR=7.7								
KMSC	**Kings Mountain**	**68.90**	**60**	P		**P**	**22 14 19.2**	**-0.9**	
L64A	**Middleborough**	**68.92**	**48**	P		**P**	**22 14 19.1**	**-1.0**	
	baz=322								
U57A	**Blanch**	**68.98**	**58**	P		**P**	**22 14 19.8**	**-0.8**	
	baz=320,SNR=5.8								
T58A	**Grand View Acr**	**69.01**	**57**	P		**P**	**22 14 19.5**	**-1.2**	
	baz=320								
GOGA	**Godfrey**	**69.05**	**62**	P		**P**	**22 14 20.0**	**-1.0**	
	baz=319								
M64A	**Tiverton**	**69.05**	**49**	P		**P**	**22 14 19.5**	**-1.4**	
	baz=322								
HODGE	**Hodges**	**69.09**	**61**	P		**P**	**22 14 20.6**	**-0.7**	
HODGE					IAmb	IAmb	22 14 21.3		
	comp=Z,14nm,0.6s								
CM31	**Chiang Mai Arr**	**69.23**	**274**	P		**P**	**22 14 22.9**	**+0.5**	
CMAR	**Chiang Mai Arr**	**69.23**	**274**	P		**P**	**22 14 22.9**	**+0.6**	
	comp=Z,5.8nm,0.8s,baz=27,slow=7.3,SNR=21								
CMAR	**Chiang Mai Arr**	**69.23**	**274**	*i* P		**P**	**22 14 23.0**	**+0.6**	
CMAR					pmax	pmax			
	comp=Z,6.0nm,0.8s								
X55A	**Gracelyn & Ava**	**69.25**	**60**	P		**P**	**22 14 21.5**	**-0.7**	
	baz=320,SNR=9.0								
W56A	**Indian Trail**	**69.31**	**59**	P		**P**	**22 14 21.7**	**-0.9**	
	baz=320								
T59A	**Double "B" Far**	**69.49**	**56**	P		**P**	**22 14 23.2**	**-0.4**	
	baz=320								
T59A	**Double "B" Far**	**69.49**	**56**	P		**P**	**22 14 23.4**	**-0.3**	
Y55A	**Saluda**	**69.53**	**61**	P		**P**	**22 14 23.2**	**-0.8**	
	baz=320,SNR=5.7								
X56A	**White Oak**	**69.56**	**60**	P		**P**	**22 14 23.3**	**-0.8**	
	baz=320,SNR=5.0								
V58A	**Windy Hill, Pi**	**69.58**	**58**	P		**P**	**22 14 23.3**	**-1.0**	
	baz=320								
W57A	**Gilead**	**69.61**	**59**	P		**P**	**22 14 23.5**	**-1.0**	
	baz=320								
U59A	**Littleton**	**69.84**	**57**	P		**P**	**22 14 25.1**	**-0.8**	
	baz=320								
V59A	**Middlesex**	**70.06**	**57**	P		**P**	**22 14 26.4**	**-0.7**	
	baz=320,SNR=6.0								
U60A	**Pendleton**	**70.08**	**56**	P		**P**	**22 14 26.3**	**-1.0**	
	baz=321								
Z56A	**Williston**	**70.26**	**61**	P		**P**	**22 14 26.8**	**-1.7**	
	baz=320								
X58A	**Rowland**	**70.41**	**59**	P		**P**	**22 14 28.5**	**-0.8**	
	baz=320								
LUWI	**Luwuk**	**70.43**	**241**	P		**P**	**22 14 29.1**	**-0.6**	
Z57A	**Bowman**	**70.64**	**61**	P		**P**	**22 14 30.3**	**-0.4**	
	baz=320								
CHGR	**Chuyangaron**	**70.79**	**308**	P		**P**	**22 14 31.9**	**+0.2**	
Z58A	**St. Stephen**	**71.09**	**60**	P		**P**	**22 14 32.6**	**-0.9**	
	baz=320								
NIL	**Nilore**	**72.64**	**302**	P		**P**	**22 14 43.2**	**+0.4**	
NIL					pmax	pmax			
	comp=Z,36nm,1.2s								
NIL	**Nilore**	**72.64**	**302**	P		**P**	**22 14 43.2**	**+0.4**	
NIL					IAmb	IAmb	22 14 44.8		
	comp=Z,36nm,1.2s								
SBUM	**Sibu**	**73.57**	**252**	P		**P**	**22 14 48.6**	**+0.2**	

KBL	**Kabul**	**74.09**	**306**	P		**P**	**22 14 51.2**	**-0.3**	
KBL					pmax	pmax			
	comp=Z,25nm,0.7s								
KBL	**Kabul**	**74.09**	**306**	P		**P**	**22 14 51.2**	**-0.3**	
KBL					IAmb	IAmb	22 14 53.5		
	comp=Z,25nm,0.7s								
AKASG	**Malin Array Be**	**74.43**	**340**	P		**P**	**22 14 52.1**	**-0.7**	
	comp=Z,1.4nm,0.3s,baz=22,slow=6.6,SNR=6.9								
AKASG	**Malin Array Be**	**74.43**	**340**	*i* P		**P**	**22 14 52.2**	**-0.7**	
AKASG					pmax	pmax			
	comp=Z,2.0nm,0.3s								
DZM	**Mont Dzumac**	**74.46**	**192**	P		**P**	**22 14 55.3**	**+1.9**	
	comp=Z,9.0nm,0.9s,baz=90,slow=14,SNR=3.9								
DSB	**Dublin**	**75.08**	**3**	P		**P**	**22 14 56.3**	**-0.3**	
KSM	**Kuching**	**75.48**	**253**	P		**P**	**22 14 60.0**	**+0.5**	
GOF	**Gofitskoye**	**75.98**	**329**	⇑*i* P		**P**	**22 15 02.7**	**+0.8**	
GOF					pmax	pmax			
	comp=Z,44nm,0.8s								
CLL	**Collm**	**76.36**	**351**	*e*P		**P**	**22 15 06.0**	**+2.1**	
CLL				*e*(pP)		**pwP**	**22 15 38.0**	**+2.0**	
CLL				*e*PP		**PP**	**22 18 00.0**	**+3.9**	
CLL	**Collm**	**76.36**	**351**	*e*P		**P**	**22 15 06.0**	**+2.1**	
CLL				*e*			22 15 38.0		
MTN	**Manton Dam**	**76.36**	**228**	P		**P**	**22 15 04.5**	**+0.2**	
MTN					IAmb	IAmb	22 15 05.9		
	comp=Z,48nm,0.9s								
GEYT	**Alibeck**	**76.46**	**315**	P		**P**	**22 15 03.4**	**-1.4**	
	comp=Z,7.3nm,0.8s,baz=20,slow=4.7,SNR=9.7								
GEYT	**Alibeck**	**76.46**	**315**	P		**P**	**22 15 03.8**	**-1.0**	
GYA0B	**ALIBECK ARRAY**	**76.46**	**315**	P		**P**	**22 15 05.2**	**+0.4**	
KWP	**Kalwaria Pacla**	**76.69**	**344**	P		**P**	**22 15 06.0**	**+0.2**	
KWP					pmax	pmax			
	comp=Z,27nm,1.0s								
KWP	**Kalwaria Pacla**	**76.69**	**344**	P		**P**	**22 15 06.0**	**+0.2**	
KWP					IAmb	IAmb	22 15 58.6		
	comp=Z,27nm,1.0s								
SORM	**Soroca**	**77.04**	**340**	⇑P		**P**	**22 15 07.4**	**-0.4**	
SORM	**Soroca**	**77.04**	**340**	⇑P		**P**	**22 15 07.4**	**-0.4**	
KIV	**Kislovodsk**	**77.08**	**329**	*e*P		**P**	**22 15 08.7**	**+0.4**	
KIV					pmax	pmax			
	comp=Z,31nm,1.0s								
KIV	**Kislovodsk**	**77.08**	**329**	P		**P**	**22 15 08.8**	**+0.5**	
KBZ	**Khabaz**	**77.22**	**329**	P		**P**	**22 15 09.5**	**+0.6**	
	comp=Z,5.7nm,0.8s,baz=108,slow=3.0,SNR=14								
KOLS	**Kolonicke sedl**	**77.44**	**344**	*e*P		**P**	**22 15 11.0**	**+1.0**	
KOLS	**Kolonicke sedl**	**77.44**	**344**	*e*P		**P**	**22 15 11.0**	**+1.0**	
HRA	**Herat**	**77.52**	**311**	P		**P**	**22 15 11.1**	**+0.1**	
HRA					IAmb	IAmb	22 15 13.2		
	comp=Z,37nm,1.5s								
BATI	**Baumata**	**77.69**	**235**	P		**P**	**22 15 12.3**	**+0.4**	
	comp=Z,30nm,0.6s,baz=30,slow=2.0,SNR=4.0								
ZEI	**Tsey**	**77.73**	**328**	*e*P		**P**	**22 15 11.9**	**-0.1**	
ZEI					pmax	pmax			
	comp=Z,10.0nm,0.4s								
VRAC	**Vranov**	**77.92**	**348**	*e*P		**P**	**22 15 14.2**	**+1.5**	
BUR08	**Bucovina Ar. S**	**78.15**	**342**	P		**P**	**22 15 13.8**	**-0.3**	
BURAR	**Bucovina Array**	**78.17**	**342**	⇑P		**P**	**22 15 14.5**	**+0.3**	
BURAR	**Bucovina Array**	**78.17**	**342**	⇑P		**P**	**22 15 14.5**	**+0.3**	
BURAR	**Bucovina Array**	**78.17**	**342**	P		**P**	**22 15 14.1**	**-0.2**	
TBLG	**Delisi**	**78.39**	**326**	P		**P**	**22 15 15.5**	**0.0**	
TBLG					pmax	pmax			
	comp=Z,19nm,0.8s								
TBLG	**Delisi**	**78.39**	**326**	P		**P**	**22 15 15.5**	**0.0**	
TBLG					IAmb	IAmb	22 15 17.7		
	comp=Z,19nm,0.8s								
GERES	**GERESS Array B**	**78.72**	**350**	P		**P**	**22 15 17.6**	**+0.4**	
	comp=Z,0.3nm,0.5s,baz=27,slow=6.3,SNR=3.9								
GERES	**GERESS Array B**	**78.72**	**350**	P		**P**	**22 15 17.3**	**0.0**	
AKH	**Akhalkalaki**	**79.10**	**327**	⇑P		**P**	**22 15 17.7**	**-3.8**	
KNRA	**Kununurra**	**79.93**	**228**	P		**P**	**22 15 24.5**	**+0.5**	
KNRA					IAmb	IAmb	22 15 25.5		
	comp=Z,31nm,1.1s								
MLR	**Muntele Rosu**	**80.06**	**341**	⇑P		**P**	**22 15 26.1**	**+1.5**	
MLR	**Muntele Rosu**	**80.06**	**341**	P		**P**	**22 15 25.3**	**+0.7**	
MLR					pmax	pmax			
	comp=Z,7.0nm,0.9s								
MLR	**Muntele Rosu**	**80.06**	**341**	P		**P**	**22 15 25.3**	**+0.7**	
VOIR		**80.30**	**341**	⇓P		**P**	**22 15 25.2**	**-0.6**	
VOIR		**80.30**	**341**	⇓P		**P**	**22 15 25.2**	**-0.6**	
ARR	**Arges**	**80.44**	**342**	⇓P		**P**	**22 15 30.5**	**+3.9**	
PVM	**Polavaram**	**80.70**	**286**	*e*P		**P**	**22 15 28.5**	**+0.3**	
BZS	**Buzias**	**80.76**	**344**	⇑P		**P**	**22 15 27.4**	**-0.8**	
BZS	**Buzias**	**80.76**	**344**	⇑P		**P**	**22 15 27.4**	**-0.8**	
RPR	**Rampur**	**80.82**	**289**	*e*P		**P**	**22 15 28.6**	**-0.3**	
WB0	**Warramunga Arr**	**81.09**	**221**	P		**P**	**22 15 30.2**	**+0.1**	
WB0					IAmb	IAmb	22 15 31.2		
	comp=Z,17nm,0.8s								
WRAB	**Tennant Creek**	**81.26**	**221**	*i* P		**P**	**22 15 30.7**	**-0.3**	
WRAB					pmax	pmax			
	comp=Z,16nm,0.9s								
FUORN	**Ofenpass-Fuorn**	**81.26**	**352**	P		**P**	**22 15 30.6**	**-0.5**	
WB2	**Warramunga Arr**	**81.27**	**221**	P		**P**	**22 15 31.5**	**+0.4**	
WB2					IAmb	IAmb	22 15 32.3		
	comp=Z,21nm,0.9s								
WRA	**Warramunga Arr**	**81.27**	**221**	P		**P**	**22 15 31.2**	**+0.1**	
	comp=Z,11nm,0.7s,baz=34,slow=5.9,SNR=11								
SRSP	**Sriramsagar**	**81.32**	**289**	*e*P		**P**	**22 15 30.9**	**-0.6**	
PSI	**Prapat**	**81.32**	**263**	P		**P**	**22 15 31.9**	**+0.2**	
PSI					pmax	pmax			
	comp=Z,15nm,0.9s								
HERR	**Herculane**	**81.33**	**343**	⇑P		**P**	**22 15 32.1**	**+0.9**	
RPSI	**Rantau Prapat**	**81.41**	**263**	P		**P**	**22 15 31.9**	**-0.2**	
DIKM	**Dikmen**	**81.42**	**333**	⇓P		**P**	**22 15 32.9**	**+1.2**	
HYBB	**Hyderabad (bro**	**82.38**	**288**	*e*P		**P**	**22 15 37.0**	**-0.2**	
HYB	**Hyderabad**	**82.38**	**288**	*i* P		**P**	**22 15 37.0**	**-0.2**	
ILGA	**Ilgaz**	**82.41**	**334**	P		**P**	**22 15 36.2**	**-1.0**	
ILGA					IAmb	IAmb	22 15 37.0		
	comp=Z,20nm,1.0s								
ADKI	**Addanki**	**82.78**	**286**	*e*P		**P**	**22 15 39.0**	**-0.1**	
KLRI	**Killari**	**83.01**	**290**	*e*P		**P**	**22 15 39.9**	**-0.5**	
SKHT	**Srikalahasti**	**84.58**	**285**	*e*P		**P**	**22 15 48.1**	**-0.2**	
NRCA	**Norcia**	**84.72**	**349**	P		**P**	**22 15 49.1**	**+0.3**	
ASAR	**Alice Springs**	**84.78**	**220**	P		**P**	**22 15 49.9**	**+0.8**	
	comp=Z,7.2nm,0.8s,baz=28,slow=4.9,SNR=37								
ASAR	**Alice Springs**	**84.78**	**220**	P		**P**	**22 15 49.7**	**+0.6**	
ASAR	**Alice Springs**	**84.78**	**220**	P		**P**	**22 15 49.7**	**+0.6**	
URV	**Uravakonda**	**85.08**	**288**	*e*P		**P**	**22 15 51.0**	**0.0**	
ARMA	**Armidale**	**85.34**	**203**	P		**P**	**22 15 53.5**	**+1.7**	
STKA	**Stephens Creek**	**89.52**	**211**	P		**P**	**22 16 13.2**	**+1.5**	
	comp=Z,12nm,0.6s,baz=26,slow=24,SNR=10								
STKA	**Stephens Creek**	**89.52**	**211**	P		**P**	**22 16 13.2**	**+1.5**	
STKA					pmax	pmax			
	comp=Z,17nm,1.6s								
STKA	**Stephens Creek**	**89.52**	**211**	P		**P**	**22 16 13.2**	**+1.5**	
STKA					IAmb	IAmb	22 16 14.2		
	comp=Z,17nm,1.6s								
BKZ	**Black Stump Fm**	**90.78**	**181**	P		**P**	**22 16 17.1**	**-0.3**	
RAYN	**Ar Rayn**	**94.29**	**318**	P		**P**	**22 16 33.9**	**-0.4**	
RAYN					pmax	pmax			
	comp=Z,4.0nm,0.9s								
RAYN	**Ar Rayn**	**94.29**	**318**	P		**P**	**22 16 33.9**	**-0.4**	
TORD	**Torodi Ar. Bea**	**115.09**	**356**	PKP		**PKiKP**	**22 21 54.4**	**-1.1**	
	comp=Z,1.5nm,0.5s,baz=343,slow=1.9,SNR=20								
TORD				PKKPbc		**PKKPbc**	**22 32 30.0**	**+0.9**	
	comp=Z,1.1nm,0.7s,baz=194,slow=2.4,SNR=4.4								
SIV	**San Ignacio**	**121.15**	**75**	PKP		**PKPdf**	**22 22 06.3**	**-0.7**	
	comp=Z,0.9nm,0.4s,baz=237,slow=6.2,SNR=4.6								
DBIC	**Dimbokro**	**121.52**	**4**	PKP		**PKPdf**	**22 22 07.0**	**-0.9**	
	comp=Z,4.9nm,0.8s,baz=312,slow=1.6,SNR=7.5								
DBIC	**Dimbokro**	**121.52**	**4**			**PKPdf**	**22 22 07.0**	**-0.9**	
CFA	**Coronel Fontan**	**128.24**	**94**	PKP		**PKPdf**	**22 22 20.2**	**0.0**	
	comp=Z,6.4nm,0.6s,baz=254,slow=2.7,SNR=5.4								
VNDA	**Vanda**	**129.63**	**185**	PKP		**PKiKP**	**22 22 22.3**	**+0.1**	
	comp=Z,0.9nm,0.8s,baz=346,slow=4.5,SNR=4.0								
BI02	**San Fabin de**	**129.78**	**101**	PKPdf		**PKPdf**	**22 22 23.4**	**+0.4**	
CPUP	**Villa Florida**	**131.23**	**81**	PKP		**PKPdf**	**22 22 25.8**	**-0.2**	
	comp=Z,2.4nm,0.9s,baz=0.0,slow=7.1,SNR=3.8								
CPUP					SKPbc	**SKPbc**	**22 25 37.3**	**-2.4**	
	comp=Z,4.6nm,0.7s,baz=296,slow=3.1,SNR=11								
PLCA	**Paso Flores**	**132.80**	**105**	PKP		**PKPdf**	**22 22 29.2**	**+0.6**	
	comp=Z,3.2nm,0.6s,baz=293,slow=3.6,SNR=7.9								
PLCA					SKPbc	**SKPbc**	**22 25 44.1**	**-0.8**	
	comp=Z,7.1nm,0.9s,baz=309,slow=4.8,SNR=10								
PLCA	**Paso Flores**	**132.80**	**105**			**PKiKP**	**22 22 29.5**	**-0.3**	
MAW	**Mawson**	**145.88**	**218**	PKPbc		**PKPab**	**22 22 52.6**	**-0.3**	
	comp=Z,22nm,0.7s,baz=67,slow=3.9,SNR=23								
MAW	**Mawson**	**145.88**	**218**	PKPdf		**PKPbc**	**22 22 52.4**	**+0.2**	
LBTB	**Lobatse**	**146.07**	**312**	PKP2		**PKPdf**	**22 22 53.3**	**+0.1**	
LBTB	**Lobatse**	**146.07**	**312**			**PKPdf**	**22 22 53.3**	**+0.1**	
BOSA	**Boshof**	**149.28**	**309**	PKPbc		**PKPbc**	**22 23 03.4**	**+0.5**	
	comp=Z,18nm,0.6s,baz=32,slow=2.3,SNR=78								
SYO	**Syowa Base**	**154.25**	**213**	⇑*e*PKPdf		**PKPdf**	**22 23 04.1**	**-0.3**	
SYO	**Syowa Base**	**154.25**	**213**	⇑*i*PKPbc		**PKiKP**	**22 23 13.6**	**+0.9**	
SYO	**Syowa Base**	**154.25**	**213**	⇓*eX*		**PKPab**	**22 23 24.0**	**-3.3**	

*IDC **23** 22:05:20.2±2.2,29°.88S×177°.24W,h0km,mb4.2/4, mb1 4.3/4,mb1mx3.8/50,mbtmp4.2/4,Error ellipse: s-maj=43.0km s-min=38.5km az=72.0*
*NEIC **23** 22:05:23.3±1.5,29°.78S±0°.09×177°.3W±0°.2,h24km±9km, mb4.4/11,Error ellipse: s-maj=26.7km s-min=6.2km az=64.0*

ISC 23 22:05:25.1±1.2,**29°.83S**±0°.09×**177°.3W**±0°.2,**h35**km,**n25,** σ0**99**/27,**mb4.3/8,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.78**	**317**	Pn		**Pn**	**Pn**	**22 05 39.8**	**+0.2**
	534nm,0.3s,baz=90,slow=15,SNR=5.1								
RAO				Sn		**Sn**	**Sn**	**22 05 50.7**	**+0.6**
	4μm,0.3s,baz=160,slow=22,SNR=20								
RAO	**Raoul Island**	**0.78**	**317**			**Pn**	**Pn**	**22 05 39.4**	**-0.3**
RAO				Sn		**Sn**	**Sn**	**22 05 50.4**	**+0.3**
BKZ	**Black Stump Fm**	**10.62**	**207**	Pn		**Pn**	**Pn**	**22 07 54.9**	**+0.1**
THZ	**Tophouse**	**14.30**	**211**	Pn		**Pn**	**Pn**	**22 08 43.0**	**-2.0**
RPZ	**Rata Peaks**	**16.68**	**211**	Pn		**Pn**	**Pn**	**22 09 15.7**	**-0.3**
RPZ					IAmb	IAmb	22 09 17.4		
	comp=Z,43nm,1.3s								
ODZ	**Otahua Downs**	**17.91**	**209**			**P**	**P**	**22 09 31.4**	**-0.3**
ODZ					IAmb	IAmb	22 09 42.4		
	comp=Z,33nm,1.5s								
SANVU	**Saraoutou**	**20.19**	**312**	P		**P**	**P**	**22 09 54.8**	**-2.1**
SANVU					IAmb	IAmb	22 10 09.7		
	comp=Z,34nm,1.4s								
EIDS	**Eidsvold**	**28.31**	**271**	P		**P**	**P**	**22 11 16.1**	**+0.5**
EIDS					IAmb	IAmb	22 11 33.1		
	comp=Z,6.1nm,1.2s								
CTA	**Charters Tower**	**34.30**	**278**	P		**P**	**P**	**22 12 09.8**	**+1.4**
	comp=Z,2.7nm,0.5s,baz=89,slow=12,SNR=2.7								
CTAO	**Charters Tower**	**34.30**	**278**	P		**P**	**P**	**22 12 09.1**	**+0.7**
STKA	**Stephens Creek**	**35.19**	**256**	P		**P**	**P**	**22 12 17.7**	**+1.8**
	comp=Z,1.9nm,0.6s,baz=107,slow=11,SNR=2.1								
STKA	**Stephens Creek**	**35.19**	**256**	P		**P**	**P**	**22 12 17.1**	**+1.1**
AS31	**Alice Springs**	**43.74**	**266**	P		**P**	**P**	**22 13 27.4**	**+0.1**
ASAR	**Alice Springs**	**43.74**	**266**	P		**P**	**P**	**22 13 27.1**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=103,slow=7.3,SNR=15								
ASAR	**Alice Springs**	**43.74**	**266**	P		**P**	**P**	**22 13 26.5**	**-0.8**
WR0	**Warramunga Arr**	**44.49**	**271**	P		**P**	**P**	**22 13 33.4**	**0.0**
WR0					IAmb	IAmb	22 13 35.7		
	comp=Z,4.7nm,0.8s								
WB2	**Warramunga Arr**	**44.66**	**271**	P		**P**	**P**	**22 13 34.4**	**-0.4**
WRA	**Warramunga Arr**	**44.68**	**271**	P		**P**	**P**	**22 13 34.3**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=110,slow=7.4,SNR=2.6								
WB0	**Warramunga Arr**	**44.70**	**271**	P		**P**	**P**	**22 13 34.8**	**-0.2**
WB0					IAmb	IAmb	22 13 44.3		
	comp=Z,8.4nm,1.2s								
CASY	**Casey**	**55.92**	**208**	P		**P**	**P**	**22 14 58.5**	**-0.8**
CASY					IAmb	IAmb	22 15 00.6		
	comp=Z,7.2nm,1.2s								
SNAA	**Sanae**	**78.71**	**

QSPA	**South Pole Qui**	**60.18**	**180**	P		**P**	**22 18 12.9**	**+0.5**	
SNAA	**Sanae**	**78.61**	**178**	P		**P**	**22 20 07.3**	**+1.2**	
SNAA				IAmb		IAmb	22 20 20.3		
	comp=Z,8.5nm,1.5s								
PLCA	**Paso Flores**	**82.45**	**133**	P		**P**	**22 20 26.6**	**-0.7**	
	comp=Z,3.4nm,1.0s,baz=272,slow=5.8,SNR=4.2								
KSRS	**Korea Array**	**84.32**	**319**	P		**P**	**22 20 38.1**	**+1.6**	
	comp=Z,0.6nm,0.4s,baz=142,slow=4.2,SNR=2.3								
PETK	**Petropavlovsk-**	**85.49**	**345**	P		**P**	**22 20 42.2**	**+0.1**	
	comp=Z,2.5nm,0.6s,baz=126,slow=7.3,SNR=3.7								
PETK	**Petropavlovsk-**	**85.49**	**345**	P		**P**	**22 20 42.6**	**+0.5**	
USRK	**Ussuriysk Ar.**	**87.05**	**326**	P		**P**	**22 20 51.7**	**+1.8**	
	comp=Z,1.4nm,0.8s,baz=119,slow=5.1,SNR=3.4								
USRK	**Ussuriysk Ar.**	**87.05**	**326**	P		**P**	**22 20 50.7**	**+0.7**	
NVAR	**Mina Array Bea**	**87.55**	**42**	P		**P**	**22 20 53.3**	**+0.5**	
	comp=Z,4.0nm,0.9s,baz=219,slow=8.6,SNR=14								
NVAR	**Mina Array Bea**	**87.55**	**42**	P		**P**	**22 20 52.6**	**-0.2**	
WUAZ	**Wupatki**	**89.97**	**48**	P		**P**	**22 21 05.0**	**+0.8**	
WUAZ				IAmb		IAmb	22 21 06.4		
	comp=Z,7.7nm,1.1s								
I07A	**Izee**	**90.68**	**38**	P		**P**	**22 21 07.3**	**0.0**	
KLR	**Kul'dur**	**90.89**	**329**	P		**P**	**22 21 08.6**	**+0.7**	
	comp=Z,1.2nm,0.6s,baz=193,slow=6.8,SNR=2.8								
TX32	**Lajitas Array**	**91.71**	**57**	P		**P**	**22 21 11.1**	**-1.3**	
TX32				IAmb		IAmb	22 21 13.8		
	comp=Z,5.1nm,1.5s								
TXAR	**Lajitas Array**	**91.71**	**57**	P		**P**	**22 21 13.3**	**+0.9**	
	comp=Z,0.3nm,0.6s,baz=235,slow=3.2,SNR=4.2								
TXAR	**Lajitas Array**	**91.71**	**57**	P		**P**	**22 21 12.6**	**+0.2**	
ARCES	**ARCESS Array B**	**138.24**	**348**	PKP		**PKPdf**	**22 27 28.1**	**-0.7**	
	comp=Z,1.5nm,0.8s,baz=46,slow=2.6,SNR=3.8								
FINES	**FINESS Array B**	**144.88**	**341**	PKP		**PKPab**	**22 27 39.2**	**-0.8**	
	comp=Z,4.9nm,0.5s,baz=65,slow=2.6,SNR=12								
AKH	**Akhalkalaki**	**145.15**	**300**			**PKPbc**	**22 27 41.8**	**-0.1**	
NC303	**NORSAR Array S**	**148.16**	**352**			**PKPbc**	**22 27 48.8**	**-0.9**	
NB2	**NORSAR Subarra**	**148.36**	**352**	PKP		**PKPbc**	**22 27 49.5**	**-0.8**	
	comp=Z,1.2nm,0.7s,baz=18,slow=3.0								
NOA	**NORSAR Array B**	**148.36**	**352**	PKPbc		**PKPbc**	**22 27 49.5**	**-0.8**	
	comp=Z,2.9nm,0.8s,baz=14,slow=4.4,SNR=6.4								
AKASG	**Malin Array Be**	**151.23**	**324**	PKPbc		**PKPbc**	**22 27 56.6**	**-0.9**	
	comp=Z,0.8nm,0.4s,baz=39,slow=2.5,SNR=5.4								
BRTR	**Keskin Array B**	**152.82**	**299**	PKPbc		**PKiKP**	**22 28 03.8**	**+1.9**	
	comp=Z,2.2nm,0.9s,baz=157,slow=4.0,SNR=6.0								
BRTR	**Keskin Array B**	**152.82**	**299**			**PKPbc**	**22 28 00.1**	**-1.6**	
CLL	**Collm**	**157.27**	**343**	*e*PKPdiff		PKPdf	22 28 14.0	+14	
CLL				*e*PKPab		**PKPab**	**22 28 30.0**	**-1.2**	
GERES	**GERESS Array B**	**159.29**	**339**	PKPab		**PKPab**	**22 28 40.0**	**-0.2**	
	comp=Z,0.3nm,0.4s,baz=20,slow=4.3,SNR=4.5								
GERES	**GERESS Array B**	**159.29**	**339**			**PKPab**	**22 28 38.9**	**-1.2**	
TORD	**Torodi Ar. Bea**	**163.28**	**177**	PKPab		**PKPab**	**22 28 57.2**	**-1.0**	
	comp=Z,0.7nm,0.7s,baz=264,slow=4.2,SNR=5.0								

NEIC ***23*** *22:10:35.5±1.6,51°.69N±0°.06×178°.53E±0°.07, h98km±4km, Error ellipse: s-maj=9.3km s-min=5.7km az=199.0*

AEIC 23 22:10:35±1.8,51°.69N±0°.06×178°.56E±0°.07, h92km±4km, mb3.8/3(NEIC), Error ellipse: s-maj=8.8km s-min=5.5km az=199.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.24**	**2**		Pn	22 10 48.8	+0.4
LSPA	**Little Sitkin**	**0.27**	**2**		Pn	22 10 48.8	+0.3
LSPA					Sn	22 11 00.6	+2.0
LSNW	**Little Sitkin**	**0.28**	**355**		Pn	22 10 50.0	+1.4
AMKA	**Amchitka**	**0.56**	**124**		Pn	22 10 51.9	+1.5
AMKA					Sn	22 11 03.6	+1.7
CETU	**Semis' Tuman**	**0.65**	**64**		Pn	22 10 52.8	+1.6
CEAP	**Semis' Anvil P**	**0.71**	**63**		Pn	22 10 53.0	+1.2
CERB	**Semis' Cerberu**	**0.71**	**70**		Sn	22 11 06.5	+2.1
CERAA	**Semis' Rag'd T**	**0.73**	**72**		Pn	22 10 53.1	+1.1
CERAA					Sn	22 11 05.4	+0.6
GALAA	**Gareloi Lava P**	**1.66**	**86**		Pn	22 11 04.6	+1.7
GAEA	**Gareloi East**	**1.68**	**86**		Pn	22 11 04.7	+1.6
TASE	**Tanaga Southea**	**2.12**	**85**		Pn	22 11 10.3	+1.4
TAFP	**Tanaga Falls P**	**2.16**	**83**		Pn	22 11 10.5	+1.1
TAFP					Sn	22 11 36.4	+0.8
KIKV	**Kanaga Island**	**2.66**	**84**		Pn	22 11 17.4	+1.4
SMY	**Shemya**	**2.93**	**293**	Pn	Pn	22 11 19.5	-0.1
SMY				Sn	Sn	22 11 55.0	+1.2
ADK	**Adak**	**2.96**	**84**	Pn	Pn	22 11 18.9	-1.0
GSTR	**Great Sitkin T**	**3.36**	**81**	Pn	Pn	22 11 25.9	+0.5
ATKA	**Atka Island**	**4.51**	**81**	Pn	Pn	22 11 40.7	-0.3
PRP	**Porcupine Dome**	**22.85**	**39**	P	P	22 15 30.4	+0.1
PRP				IAmb	IAmb	22 15 35.9	
	comp=Z,2.9nm,0.8s						
SCRK	**Sand Creek**	**23.02**	**43**	P	P	22 15 31.8	-0.1
BMAR	**Burnt Mountain**	**23.90**	**35**	P	P	22 15 35.5	-4.3
CRAG	**Craig**	**28.47**	**63**	P	P	22 16 20.2	-0.7
CRAG				IAmb	IAmb	22 16 26.9	
	comp=Z,2.6nm,0.9s						

IDC 23 22:11:47.6±2.2,10°.68S×120°.12E, h0km, mb4.1/3, mb1 4.0/5, mb1mx3.7/43, mbtmp4.0/5, ML3.8/2, Error ellipse: s-maj=185.2km s-min=24.9km az=57.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.52**	**83**	Sn	Sn	22 13 22.4	-3.6
	baz=24,slow=20						
FITZ	**Fitzroy Crossi**	**9.11**	**145**	Pn	Pn	22 14 00.3	0.0
	0.7nm,0.3s,baz=323,slow=12,SNR=11						
FITZ				Sn	Sn	22 15 35.2	-8.5
	1.2nm,0.3s,baz=183,slow=17,SNR=9.8						
WRA	**Warramunga Arr**	**16.51**	**126**	Sn	Sn	22 18 30.0	-15
	0.1nm,0.3s,baz=300,slow=23,SNR=1.6						
ASAR	**Alice Springs**	**18.42**	**136**	P	Pn	22 16 04.5	0.0
	0.3nm,0.3s,baz=314,slow=12,SNR=12						
ASAR				S	Sn	22 19 15.7	-15
	0.0nm,0.3s,baz=310,slow=20,SNR=3.5						
SONM	**Songino Array**	**59.52**	**349**	P	P	22 21 53.0	+0.2
	0.9nm,0.5s,baz=173,slow=5.8,SNR=7.3						
MKAR	**Makanchi Array**	**66.45**	**333**	P	P	22 22 39.2	+0.4
	0.9nm,0.6s,baz=146,slow=7.6,SNR=9.8						
ZALV	**Zalesovo Beam**	**71.00**	**339**	P	P	22 23 06.2	-0.8
	1.8nm,0.6s,baz=149,slow=5.1,SNR=5.5						

NEIC ***23*** *22:12:26.2±0.8,51°.8N±0°.2×178°.46E±0°.06, h107km±5km, mb4.2/6, Error ellipse: s-maj=25.0km s-min=5.2km az=183.0*

AEIC 23 22:12:25±1.3,51°.75N±0°.07×178°.50E±0°.07, h105km±4km, Error ellipse: s-maj=10.9km s-min=5.7km az=160.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.19**	**13**		Pn	22 12 41.2	+1.4
LSSA	**Little Sitkin**	**0.20**	**2**		Pn	22 12 41.2	+1.3
LSPA	**Little Sitkin**	**0.21**	**12**		Pn	22 12 41.3	+1.4
LSPA					Sn	22 12 53.4	+2.3
LSNW	**Little Sitkin**	**0.22**	**3**		Pn	22 12 41.0	+1.1
AMKA	**Amchitka**	**0.62**	**126**		Pn	22 12 44.2	+1.9
AMKA					Sn	22 12 56.7	+1.5
CESW	**Semis' Southwe**	**0.68**	**77**		Pn	22 12 44.0	+1.4
CEAP	**Semis' Anvil P**	**0.71**	**69**		Pn	22 12 44.6	+1.6
CERAA	**Semis' Rag'd T**	**0.75**	**77**		Pn	22 12 44.8	+1.5
TASE	**Tanaga Southea**	**2.15**	**86**		Pn	22 13 01.6	+1.8
TAFP	**Tanaga Falls P**	**2.19**	**85**		Pn	22 13 01.6	+1.5
TAFP					Sn	22 13 29.1	+2.1
TAPA	**Tanaga Point A**	**2.29**	**87**		Pn	22 13 03.3	+1.8
KIMD	**Kanaga Island**	**2.65**	**88**		Pn	22 13 08.3	+2.1
KICM	**Kanaga Island**	**2.68**	**85**		Pn	22 13 08.3	+1.8
KICM					Sn	22 13 41.3	+2.9
KIKV	**Kanaga Island**	**2.69**	**86**		Pn	22 13 08.8	+2.1
KIRH	**Kanaga Island**	**2.74**	**85**		Pn	22 13 08.8	+1.5
SMY	**Shemya**	**2.88**	**292**		Pn	22 13 10.0	+0.9
SMY				Sn	Sn	22 13 43.5	+0.3
ADK	**Adak**	**2.99**	**86**		Pn	22 13 12.2	+1.5
ADK	**Adak**	**2.99**	**86**	Sn	Sn	22 13 47.0	+1.1
GSMY	**Great Sitkin M**	**3.38**	**83**		Pn	22 13 17.6	+1.7
GSTR	**Great Sitkin T**	**3.39**	**82**		Pn	22 13 17.7	+1.7
ATKA	**Atka Island**	**4.54**	**81**		Pn	22 13 33.4	+2.0
NIKH	**Nikolski High**	**7.84**	**76**		Pn	22 14 19.0	+2.8
MREP	**Makushin Rep't**	**9.18**	**71**		Pn	22 14 37.1	+2.8
SDPT	**Sand Point**	**13.00**	**66**	Pn	Pn	22 15 25.6	+0.3
CNBA	**Chernabura Isl**	**13.45**	**68**	Pn	Pn	22 15 30.9	-0.4
KDAK	**Kodiak Island**	**17.65**	**59**	P	Pn	22 16 23.7	-0.2
KDAK				IAmb	IAmb	22 16 39.9	
	comp=Z,2.8nm,1.0s						
CNPM	**China Poot**	**18.63**	**54**	P	Pn	22 16 35.3	-0.4
CNPM				IAmb	IAmb	22 16 49.9	
	comp=Z,32nm,1.3s						
BRLK	**Bradley Lake**	**18.86**	**53**	P	Pn	22 16 37.6	-0.7
BRLK				IAmb	IAmb	22 16 45.2	
	comp=Z,18nm,1.2s						
BPAW	**Bear Paw Mtn.**	**20.13**	**40**	P	Pn	22 16 53.4	+0.3
SCM	**Sheep Creek Mo**	**21.00**	**48**	P	P	22 17 01.5	+1.7
SCM				IAmb	IAmb	22 17 01.9	
	comp=Z,30nm,1.5s						
RAGM	**Ragged Mountai**	**22.03**	**53**	P	P	22 17 13.7	+3.1
PRP	**Porcupine Dome**	**22.83**	**39**	P	P	22 17 21.1	+2.3
BCAR	**Beaver Creek A**	**23.78**	**46**	P	P	22 17 27.3	-0.3

BJI ***23*** *22:15:47.0±0.0,30°.30S×177°.60W, h5km, mB5.5/2, mb5.3/36*

IDC ***23*** *22:15:47.8±0.4,30°.04S×177°.23W, h0km, mb5.0/28, mb1 5.0/29, mb1mx4.9/48, mbtmp5.0/29, ML4.9/1, Error ellipse: s-maj=16.0km s-min=13.5km az=70.0*

NEIC ***23*** *22:15:49.0±1.8,30°.15S±0°.04×177°.6W±0°.1, h10km±1km, mb5.6/116, Error ellipse: s-maj=14.9km s-min=7.2km az=80.0*

MOS ***23*** *22:15:49.8±0.9,30°.16S×177°.59W, h20km, mb5.6/21, Error ellipse: s-maj=9.9km s-min=7.5km az=107.5*

UNK ***23*** *22:15:53.6,30°.12S×177°.87W, h35km*

ISC 23 22:15:53.4±0.7,30°.18S±0°.04×177°.51W±0°.06, h35km±3km, h35km:pP-P,n565,σ1§89/569, mb5.5/118, 15C-8D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.98**	**339**	P	**Pn**	**22 16 09.8**	**-0.9**
GLKZ				S	**Sn**	**22 16 29.1**	**+5.8**
RAO	**Raoul Island**	**0.99**	**339**	Pn	**Pn**	**22 16 08.5**	**-2.3**
	4μm,0.3s,baz=82,slow=14,SNR=76						
RAO				Sn	**Sn**	**22 16 24.2**	**+0.6**
	12μm,0.3s,baz=79,slow=22,SNR=9.6						
RAO				LR	LR	22 16 39.2	
	comp=Z,204μm,19.3s,baz=97,slow=52						
RAO	**Raoul Island**	**0.99**	**339**	P	**Pn**	**22 16 08.5**	**-2.3**
RAO						22 16 19.7	
RAO	**Raoul Island**	**0.99**	**339**	Pn	**Pn**	**22 16 08.5**	**-2.3**
RAO					**Sn**	**22 16 19.7**	**-3.8**
RIZ	**Raoul Island**	**1.00**	**339**	P	**Pn**	**22 16 08.5**	**-2.5**
RIZ				S	**Sn**	**22 16 27.8**	**+4.0**
MXZ	**Matakaoa Point**	**8.14**	**204**	P	**Pn**	**22 17 47.0**	**-2.2**
MXZ				S	**Sn**	**22 19 20.6**	**+0.7**
MXZ	**Matakaoa Point**	**8.14**	**204**		**Pn**	**22 17 47.3**	**-1.8**
MXZ				Sn	**Sn**	**22 19 22.2**	**+2.3**
WMGZ	**Waiomatatini S**	**8.34**	**203**	P	**Pn**	**22 17 51.8**	**0.0**
HAZ	**Te Kaha**	**8.51**	**206**	P	**Pn**	**22 17 51.9**	**-2.2**
PKZZ	**Pakihiroa**	**8.52**	**204**	P	**Pn**	**22 17 51.1**	**-3.1**
PUZ	**Puketiti**	**8.62**	**203**	P	**Pn**	**22 17 53.7**	**-1.9**
KUZ	**Kuaotunu**	**8.65**	**219**	P	Pn	22 18 01.9	+5.8
RUGZ	**Raukumara Rang**	**8.73**	**206**	P	**Pn**	**22 17 56.3**	**-1.0**
WCZ	**Waipu Caves**	**8.93**	**228**	P	Pn	22 18 09.6	+10
CNGZ	**Carnagh Statio**	**9.01**	**202**	P	**Pn**	**22 17 58.4**	**-2.6**
OUZ	**Omahuta**	**9.02**	**234**	P	Pn	22 18 11.5	+10
TKGZ	**Te Karaka**	**9.09**	**204**	P	**Pn**	**22 18 01.9**	**-0.2**
OPRZ	**Ohinepanea**	**9.09**	**211**	P	**Pn**	**22 18 05.5**	**+3.4**
MWZ	**Matawai**	**9.11**	**205**	P	**Pn**	**22 17 59.8**	**-2.7**
URZ	**Urewera**	**9.21**	**207**	P	**Pn**	**22 18 02.1**	**-1.6**
RIGZ	**Rimuhau**	**9.36**	**203**	P	**Pn**	**22 18 02.2**	**-3.6**
PRGZ	**Paritu Road**	**9.51**	**202**	P	**Pn**	**22 18 05.1**	**-2.8**
MUGZ	**Murupara**	**9.53**	**208**	P	**Pn**	**22 18 05.9**	**-2.2**
RTZ	**Ruatahuna**	**9.57**	**207**	P	**Pn**	**22 18 05.9**	**-2.8**
SNGZ	**Shannon Statio**	**9.57**	**205**	P	**Pn**	**22 18 07.5**	**-1.3**
MHGZ	**Mahia Peninsul**	**9.71**	**202**	P	**Pn**	**22 18 07.6**	**-3.1**
RAHZ	**Arahi**	**9.79**	**206**	P	**Pn**	**22 18 12.1**	**+0.5**
MTHZ	**Maungataniwha**	**9.82**	**207**	P	**Pn**	**22 18 13.9**	**+1.7**
TLZ	**Tolley Road**	**9.96**	**213**	P	Pn	22 18 22.8	+8.8
NMHZ	**Naumai**	**10.05**	**206**	P	**Pn**	**22 18 16.7**	**+1.4**
BKZ	**Black Stump Fm**	**10.23**	**207**	P	**Pn**	**22 18 16.2**	**-1.6**
BKZ	**Black Stump Fm**	**10.23**	**207**	Pn	**Pn**	**22 18 15.0**	**-2.8**
MCHZ	**McNeill Hill**	**10.39**	**206**	P	**Pn**	**22 18 19.5**	**-0.5**
HIZ	**Hauiti**	**10.43**	**215**	P	Pn	22 18 28.3	+7.8
KWHZ	**Kaweka Forest**	**10.48**	**207**	P	**Pn**	**22 18 20.7**	**-0.5**
WTVZ	**West Tongariro**	**10.57**	**211**	P	**Pn**	**22 18 25.5**	**+3.0**
BHHZ	**Black Hill Sta**	**10.68**	**208**	P	**Pn**	**22 18 28.0**	**+4.1**
KRHZ	**Kereru**	**10.69**	**206**	P	**Pn**	**22 18 22.7**	**-1.4**
FWVZ	**Far West T-bar**	**10.70**	**210**	P	**Pn**	**22 18 23.4**	**-0.9**
TRVZ	**Turoa**	**10.74**	**210**	P	**Pn**	**22 18 29.2**	**+4.3**
MOVZ	**Moawhango**	**10.74**	**209**	P	**Pn**	**22 18 27.9**	**+3.2**
PXZ	**Pawanui**	**10.85**	**204**	P	**Pn**	**22 18 28.8**	**+2.6**
PNHZ	**Pukenui**	**10.99**	**206**	P	**Pn**	**22 18 25.9**	**-2.3**
TSZ	**Takapari Road**	**11.21**	**207**	P	**Pn**	**22 18 30.3**	**-0.8**
DREZ	**Durham Road**	**11.28**	**215**	P	**Pn**	**22 18 35.1**	**+3.0**
POWZ	**Post Office Ro**	**11.57**	**206**	P	**Pn**	**22 18 35.0**	**-1.1**
PRWZ	**Pori Road**	**11.63**	**205**	P	**Pn**	**22 18 38.5**	**+1.6**
BFZ	**Birch Farm**	**11.65**	**204**	Pn	**Pn**	**22 18 34.1**	**-3.0**
TIWZ	**Tintock**	**11.86**	**205**	P	**Pn**	**22 18 40.7**	**+0.6**
HOWZ	**Holdsworth Sta**	**12.10**	**206**	P	**Pn**	**22 18 41.5**	**-1.9**
TMWZ	**Te Maipa**	**12.15**	**204**	P	**Pn**	**22 18 42.5**	**-1.5**
OGWZ	**Otaki Gorge**	**12.17**	**207**	P	**Pn**	**22 18 40.0**	**-4.2**
KIW	**Kapiti Island**	**12.31**	**208**	P	**Pn**	**22 18 44.7**	**-1.5**
MSWZ	**Moikau Station**	**12.65**	**206**		**Pn**	**22 18 47.4**	**-3.4**
SNZO	**South Karori**	**12.77**	**207**	Pn	**Pn**	**22 18 50.5**	**-2.0**
BHW	**Baring Head**	**12.79**	**207**	P	**Pn**	**22 18 55.9**	**+3.2**
BHW	**Baring Head**	**12.79**	**207**	Pn	**Pn**	**22 18 49.3**	**-3.4**
MSVF	**Nonsavu**	**13.03**	**341**	*i* P	**Pn**	**22 18 54.6**	**-1.6**
MSVF	**Nonsavu**	**13.03**	**341**	Pn	**Pn**	**22 18 53.4**	**-2.8**
TUWZ	**Tuamarina**	**13.19**	**209**		**Pn**	**22 18 54.5**	**-3.7**
NNZ	**Nelson**	**13.26**	**211**		**Pn**	**22 18 55.6**	**-3.5**
QRZ	**Quartz Range**	**13.36**	**215**	Pn	**Pn**	**22 18 56.6**	**-3.9**
BSWZ	**Blackbirch Sta**	**13.45**	**209**		**Pn**	**22 19 00.3**	**-1.5**
THZ	**Tophouse**	**13.91**	**211**		**Pn**	**22 19 04.4**	**-3.7**
KHZ	**Kahutara**	**14.17**	**208**		**Pn**	**22 19 07.3**	**-4.3**
LTZ	**Lake Taylor**	**15.01**	**210**		**Pn**	**22 19 20.1**	**-2.8**
RPZ	**Rata Peaks**	**16.29**	**211**	Pn	**P**	**22 19 41.7**	**-0.4**
	4.6nm,0.3s,baz=16,slow=2.3,SNR=8.3						
DZM	**Mont Dzumac**	**16.50**	**296**	Pn	**P**	**22 19 48.9**	**+4.2**
	2.3nm,0.3s,baz=137,slow=14,SNR=16						
FOZ	**Fox Glacier**	**16.72**	**214**	Pn	**Pn**	**22 19 41.6**	**-3.3**
AFI	**Afiamalu**	**17.03**	**19**	P	**Pn**	**22 19 49.2**	**+0.1**
AFI				pmax	pmax		
	comp=Z,157nm,1.0s						
LBZ	**Lake Benmore**	**17.20**	**211**		**Pn**	**22 19 48.2**	**-2.7**
WKZ	**Wanaka**	**18.07**	**212**	Pn	**Pn**	**22 19 58.1**	**-3.6**
RAR	**Rarotonga**	**18.29**	**65**	P	P	22 19 55.6	-8.7
	comp=Z,2.0nm,0.3s,baz=228,slow=7.6,SNR=6.5						
RAR	**Rarotonga**	**18.29**	**65**	P	**P**	**22 20 01.6**	**-2.8**
RAR				pmax	pmax		
	comp=Z,233nm,1.2s						
RAR	**Rarotonga**	**18.29**	**65**		**P**	**22 20 01.6**	**-2.8**
WHZ	**Wether Hill Ro**	**19.38**	**212**	P	**P**	**22 20 14.4**	**-1.7**
PYZ	**Puysegur Point**	**20.17**	**213**	P	**P**	**22 20 23.1**	**-1.6**
PYZ				IAmb	IAmb	22 20 49.5	
	comp=Z,358nm,1.6s						
TBI	**Tubuai**	**25.91**	**82**	*e*P	P	22 21 14.9	-7.4
	comp=Z,288nm,1.4s						
TBI	**Tubuai**	**25.91**	**82**	*e*T	T	22 47 23.1	
	comp=Z,59nm,0.4s						
ARMA	**Armidale**	**26.61**	**262**	P	**P**	**22 21 28.7**	**-0.1**
EIDS	**Eidsvold**	**28.15**	**272**	P	**P**	**22 21 41.7**	**-0.7**
EIDS				IAmb	IAmb	22 22 03.0	
	comp=Z,54nm,0.8s						
PAE	**Paea**	**28.32**	**70**	*e*T	T	22 50 22.9	
	comp=Z,17nm,0.3s						
PPT2	**Papeete2**	**28.36**	**70**	*e*P	P	22 21 37.2	-7.3
	comp=Z,122nm,1.5s						
PPT2	**Papeete2**	**28.36**	**70**	*e*T	T	22 50 26.7	
	comp=Z,14nm,0.3s						
PPTF	**Pamatai, Papee**	**28.37**	**70**	P	**P**	**22 21 45.6**	**+1.0**
PPTF				IAmb	IAmb	22 22 01.2	
	comp=Z,142nm,1.3s						
CAN	**Canberra**	**28.55**	**251**	P	**P**	**22 21 44.1**	**-1.9**
CAN				pmax	pmax		
	comp=Z,111nm,1.3s						
CAN	**Canberra**	**28.55**	**251**		**P**	**22 21 44.1**	**-1.9**
CAN				IAmb	IAmb	22 22 15.2	
	comp=Z,111nm,1.3s						
TIAR	**Tiarei**	**28.57**	**70**	*e*P	P	22 21 38.9	-7.4
	comp=Z,20nm,0.8s						
HNR	**Honiara**	**29.48**	**310**	P	**P**	**22 21 55.8**	**+1.4**
	comp=Z,54nm,0.4s,baz=213,slow=17,SNR=1.7						
HNR	**Honiara**	**29.48**	**310**	P	**P**	**22 21 52.9**	**-1.4**
HNR				pmax	pmax		
	comp=Z,145nm,1.1s						
HNR	**Honiara**	**29.48**	**310**	P	**P**	**22 21 52.9**	**-1.4**
HNR				IAmb	IAmb	22 22 15.8	
	comp=Z,145nm,1.1s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAU	**Tasmania Unive**	**30.75**	**236**	P	**P**	**22 22 03.9**	**-1.4**
TAU				pmax	pmax		
	comp=Z,75nm,1.2s						
TAU	**Tasmania Unive**	**30.75**	**236**	P	**P**	**22 22 03.9**	**-1.4**
TAU				IAmb	IAmb	22 22 22.4	
	comp=Z,75nm,1.1s						
TOO	**Toolangi**	**31.44**	**246**	P	**P**	**22 22 11.4**	**-0.2**
TOO				pmax	pmax		
	comp=Z,103nm,1.2s						
TOO	**Toolangi**	**31.44**	**246**	P	**P**	**22 22 11.4**	**-0.2**
TOO				IAmb	IAmb	22 22 25.6	
	comp=Z,103nm,1.2s						
CTA	**Charters Tower**	**34.18**	**279**	P	**P**	**22 22 37.1**	**+1.5**
	comp=Z,15nm,0.7s,baz=105,slow=11,SNR=24						
CTAO	**Charters Tower**	**34.18**	**279**	P	**P**	**22 22 34.6**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,72nm,0.8s						
CTAO	**Charters Tower**	**34.18**	**279**	P	**P**	**22 22 34.6**	**-1.0**
CTAO				IAmb	IAmb	22 22 59.3	
	comp=Z,72nm,0.8s						
STKA	**Stephens Creek**	**34.94**	**257**	P	**P**	**22 22 44.6**	**+2.5**
	comp=Z,14nm,0.5s,baz=101,slow=9.7,SNR=18						
STKA	**Stephens Creek**	**34.94**	**257**	P	**P**	**22 22 41.6**	**-0.5**
STKA				pmax	pmax		
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**34.94**	**257**	P	**P**	**22 22 41.6**	**-0.5**
AS31	**Alice Springs**	**43.54**	**266**	P	**P**	**22 23 54.5**	**+0.4**
ASAR	**Alice Springs**	**43.54**	**266**	P	**P**	**22 23 54.6**	**+0.6**
	comp=Z,9.0nm,0.7s,baz=102,slow=7.5,SNR=53						
ASAR	**Alice Springs**	**43.54**	**266**	P	**P**	**22 23 53.4**	**-0.7**
ASAR	**Alice Springs**	**43.54**	**266**	P	**P**	**22 23 53.4**	**-0.7**
WR0	**Warramunga Arr**	**44.33**	**272**	P	**P**	**22 23 59.2**	**-1.2**
WB2	**Warramunga Arr**	**44.50**	**272**	P	**P**	**22 24 00.8**	**-0.9**
WB2				IAmb	IAmb	22 24 21.0	
	comp=Z,99nm,1.1s						
WRAB	**Tennant Creek**	**44.51**	**272**	*i* P	**P**	**22 24 02.5**	**+0.7**
WRAB				pmax	pmax		
	comp=Z,96nm,1.3s						
WRA	**Warramunga Arr**	**44.51**	**272**	P	**P**	**22 24 01.9**	**+0.1**
	comp=Z,14nm,0.5s,baz=111,slow=7.6,SNR=38						
WRA	**Warramunga Arr**	**44.51**	**272**	P	**P**	**22 24 01.2**	**-0.6**
WRA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WRA	**Warramunga Arr**	**44.51**	**272**	P	**P**	**22 24 01.2**	**-0.6**
FORT	**Forrest**	**46.51**	**255**	P	**P**	**22 24 16.3**	**-1.3**
JAY	**Jayapura**	**48.17**	**297**	P	**P**	**22 24 32.7**	**+2.1**
	comp=Z,9.4nm,0.7s,baz=109,slow=12,SNR=7.8						
VNDA	**Vanda**	**48.36**	**186**	P	**P**	**22 24 33.0**	**+1.7**
	comp=Z,2.8nm,0.8s,baz=13,slow=7.7,SNR=11						
VNDA	**Vanda**	**48.36**	**186**	P	**P**	**22 24 31.7**	**+0.5**
VNDA				pmax	pmax		
	comp=Z,42nm,1.4s						
VNDA	**Vanda**	**48.36**	**186**	P	**P**	**22 24 31.7**	**+0.5**
VNDA				IAmb

comp=Z,50nm,1.4s
ATKA Atka Island 82.08 2 P P 22 28 09.6 -0.1
PLCA Paso Flores 82.35 133 P P 22 28 14.1 +2.2
comp=Z,13nm,1.1s,baz=232,slow=5.1,SNR=7.9
PLCA Paso Flores 82.35 133 P P 22 28 12.5 +0.6
PLCA pmax pmax
comp=Z,47nm,1.1s
PLCA Paso Flores 82.35 133 P P 22 28 12.5 +0.6
PLCA IAmb IAmb 22 28 24.1
comp=Z,48nm,1.1s
JKA Kamikawa-asahi 82.44 332 P P 22 28 11.5 -0.3
ASAJ Asahikawa 82.44 332 P P 22 28 12.0 +0.1
comp=Z,64nm,1.0s,baz=214,slow=11,SNR=20
ASAJ Asahikawa 82.44 332 P P 22 28 11.5 -0.4
ASAJ pmax pmax
comp=Z,94nm,1.1s
DLV T Lat 82.49 288 P P 22 28 12.7 -0.3
DLV IAmb IAmb 22 28 24.0
comp=Z,62nm,1.2s
LC01 Cunco 82.49 131 P P 22 28 14.2 +1.6
NIKH Nikolski High 83.14 5 P P 22 28 14.5 -0.7
SKR Severo-Kuril's 83.82 343 *i* P P **22 28 19.0 +0.2**
TJN Taejon 84.02 318 *i* P P **22 28 18.6 -1.6**
BI02 San Fabin de 84.11 129 P P 22 28 20.7 -0.3
BI02 IAmb IAmb 22 28 32.6
comp=Z,28nm,0.9s
KSRS Korea Array 84.45 319 P P 22 28 23.1 +0.7
comp=Z,11nm,1.2s,baz=141,slow=5.6,SNR=8.1
KSAR Wonju Array Be 84.47 319 P P 22 28 22.6 +0.2
KSAR Wonju Array Be 84.47 319 P P 22 28 22.6 +0.2
YSS Yuzh-Sakhalins 84.73 334 ⇑ *i*P P **22 28 23.3 -0.2**
YSS pmax pmax
comp=Z,130nm,1.2s
YSS Yuzh-Sakhalins 84.73 334 P P 22 28 23.4 -0.2
PAGB Antelope Grade 84.82 43 P P 22 28 25.1 +0.8
PAGB IAmb IAmb 22 28 37.9
comp=Z,24nm,1.0s
PASC Pasadena Art C 85.03 46 P P 22 28 25.4 0.0
PASC IAmb IAmb 22 28 35.6
comp=Z,44nm,1.4s
MWC Mount Wilson 85.14 46 P P 22 28 26.0 -0.2
MWC pmax pmax
comp=Z,21nm,1.1s
MWC Mount Wilson 85.14 46 P P 22 28 26.0 -0.2
MURC Murrieta 85.27 47 P P 22 28 28.9 +2.3
baz=229
MONP2 Monument Peak 85.30 48 P P 22 28 29.1 +2.0
baz=230
PET Petropavlovsk 85.42 346 *e*P P **22 28 27.1 +0.3**
PET pmax pmax
comp=Z,22nm,1.6s
PET Petropavlovsk 85.42 346 P P 22 28 26.4 -0.4
PET IAmb IAmb 22 28 30.8
comp=Z,19nm,0.8s
BO02 Sierra Bellavi 85.47 128 P P 22 28 28.0 +0.1
BO02 IAmb IAmb 22 28 50.3
comp=Z,72nm,1.1s
GDXM Geysers 85.49 40 P P 22 28 27.4 -0.2
GDXM IAmb IAmb 22 29 12.6
comp=Z,81nm,1.8s
VES Vestal, Richgr 85.59 44 P P 22 28 30.2 +2.0
baz=228
KULM Kulim 85.61 279 P P 22 28 33.0 +4.2
EDW2 Edwards Air Fo 85.62 45 P P 22 28 30.0 +1.6
baz=229
PEA0B Petropavlovsk- 85.70 345 P P 22 28 27.7 -0.6
PEA0B pmax pmax
comp=Z,159nm,1.5s
PEA0B Petropavlovsk- 85.70 345 P P 22 28 27.7 -0.6
PETK Petropavlovsk- 85.70 345 P P 22 28 27.1 -1.2
comp=Z,7.1nm,0.7s,baz=132,slow=6.5,SNR=17
PETK Petropavlovsk- 85.70 345 P P 22 28 26.9 -1.3
SWSC Sam W. Stewart 85.74 48 P P 22 28 30.6 +1.6
baz=230
PFO Pinyon Flats O 85.75 47 P P 22 28 27.9 -1.2
comp=Z,5.7nm,0.9s,baz=262,slow=9.5,SNR=2.6
PFO Pinyon Flats O 85.75 47 P P 22 28 29.1 0.0
PFO pmax pmax
comp=Z,27nm,1.3s
PFO Pinyon Flats O 85.75 47 P P 22 28 29.1 0.0
TPFO Pinon Flats 85.75 47 P P 22 28 30.9 +1.8
baz=230
XPFO Pion Flat 85.75 47 P P 22 28 28.9 -0.3
RPSI Rantau Prapat 85.78 276 P P 22 28 28.6 -1.1
RPSI IAmb IAmb 22 28 49.2
comp=Z,61nm,1.4s
PSI Prapat 85.83 276 P P 22 28 30.9 +0.9
comp=Z,2.6nm,0.4s,baz=181,slow=2.8,SNR=4.4
PSI Prapat 85.83 276 P P 22 28 28.6 -1.5
PSI pmax pmax
comp=Z,61nm,1.4s
ISA Isabella, Lake 85.84 44 P P 22 28 32.2 +2.7
baz=228
ISA Isabella, Lake 85.84 44 P P 22 28 30.4 +0.9
ISA pmax pmax
comp=Z,25nm,1.1s
ISA Isabella, Lake 85.84 44 P P 22 28 30.4 +0.9
GSI Gunungsitoli 86.25 274 P P 22 28 31.2 -0.8
MT05 Renca 86.28 127 P P 22 28 32.2 +0.2
BELC Belle Mtn. Jos 86.29 47 P P 22 28 33.7 +1.9
baz=230
CMB Columbia Colle 86.31 42 P P 22 28 30.5 -1.2
CMB pmax pmax
comp=Z,83nm,1.5s
CMB Columbia Colle 86.31 42 P P 22 28 30.5 -1.2
CMB IAmb IAmb 22 28 44.5
comp=Z,83nm,1.5s
MSHR Mys Shultsa 86.42 325 *i* P P **22 28 31.6 -0.4**
MSHR pmax pmax
comp=Z,47nm,1.1s
NJ2 Nanjing 86.42 310 *e*P P **22 28 32.8 +0.5**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
PEL Peldehue 86.45 126 P P 22 28 33.1 +0.3
PEL pmax pmax
comp=Z,59nm,0.9s
PEL Peldehue 86.45 126 P P 22 28 33.1 +0.3
O02D Mt. Diablo Mer 86.46 39 P P 22 28 34.6 +2.2
baz=225
VLA Vladivostok 86.46 325 *i* P P **22 28 32.3 +0.1**
VLA pmax pmax
comp=Z,34nm,1.1s
CWC Cottonwood Cre 86.60 44 P P 22 28 35.4 +2.1
baz=228
HEC Hector,Ludlow 86.61 46 P P 22 28 34.9 +1.6
baz=230
GSC Goldstone, Bar 86.63 46 P P 22 28 35.1 +1.7
baz=229
MPMC Manual Prospec 86.70 45 P P 22 28 35.6 +1.7
baz=229
ORV Oroville 86.73 40 P P 22 28 33.9 +0.2
ORV pmax pmax
comp=Z,32nm,1.4s
ORV Oroville 86.73 40 P P 22 28 33.9 +0.2
ORV IAmb IAmb 22 28 59.4
comp=Z,32nm,1.4s
OMMB Old Mammoth Mi 86.83 43 P P 22 28 34.6 0.0
WDC Whiskeytown Da 86.88 39 P P 22 28 33.1 -1.3
WDC pmax pmax
comp=Z,64nm,1.3s
WDC Whiskeytown Da 86.88 39 P P 22 28 33.1 -1.3
WDC IAmb IAmb 22 28 47.6
comp=Z,64nm,1.2s
IRM Iron Mountain 86.93 47 P P 22 28 36.9 +2.1
baz=230
GMRC Granite Mounta 87.01 47 P P 22 28 37.4 +2.1
baz=230
214A Organ Pipe Nat 87.07 50 P P 22 28 37.7 +2.1
baz=232
WAKR Walker 87.18 42 P P 22 28 35.6 -0.6
WAKR IAmb IAmb 22 28 47.8
comp=Z,79nm,1.5s
USA0B Ussuriysk Arra 87.21 326 P P 22 28 35.6 -0.3
USA0B pmax pmax
comp=Z,72nm,1.1s
USA0B Ussuriysk Arra 87.21 326 P P 22 28 35.6 -0.3
USRK Ussuriysk Ar. 87.21 326 P P 22 28 35.9 0.0
comp=Z,7.9nm,0.8s,baz=147,slow=3.9,SNR=25
USRK Ussuriysk Ar. 87.21 326 P P 22 28 35.4 -0.5
USRK Ussuriysk Ar. 87.21 326 P P 22 28 35.4 -0.5
SHOC Shoshone, Teco 87.34 45 P P 22 28 38.5 +1.8
baz=230
FURC Furnace Creek, 87.35 45 P P 22 28 38.1 +1.4
baz=229
GRAC Grapevine Rang 87.40 44 P P 22 28 39.1 +2.1

baz=229
YBH Yreka Blue Hor 87.60 38 P P 22 28 37.3 -0.7
comp=Z,7.0nm,1.0s,baz=214,slow=3.6,SNR=5.2
YBH Yreka Blue Hor 87.60 38 P P 22 28 37.2 -0.7
YBH pmax pmax
comp=Z,23nm,1.1s
YBH Yreka Blue Hor 87.60 38 P P 22 28 37.2 -0.7
YBH IAmb IAmb 22 28 51.1
comp=Z,23nm,1.1s
NVAR Mina Array Bea 87.79 42 P P 22 28 38.2 -0.9
comp=Z,15nm,1.1s,baz=214,slow=7.4,SNR=12
NVAR Mina Array Bea 87.79 42 P P 22 28 37.2 -1.9
NV11 Mina Array Sit 87.88 43 P P 22 28 38.0 -1.5
NV11 IAmb IAmb 22 28 52.2
comp=Z,62nm,1.5s
M04C Macdoel 88.10 38 P P 22 28 42.7 +2.3
baz=226
L04D Klamath Falls 88.16 38 P P 22 28 43.2 +2.5
baz=226
Y14A Wickenburg 88.17 49 P P 22 28 39.9 -0.9
KVN Kaiserville 88.32 42 P P 22 28 39.8 -1.8
KVN pmax pmax
comp=Z,77nm,1.7s
KVN Kaiserville 88.32 42 P P 22 28 39.8 -1.8
KVN IAmb IAmb 22 28 54.3
comp=Z,77nm,1.7s
TUC Tucson 88.64 51 P P 22 28 44.9 +1.8
baz=233
I03D Drain, OR 88.66 36 P P 22 28 45.0 +2.3
baz=225
MDJ Mudanjiang 88.68 325 P P 22 28 43.8 +0.9
MDJ pmax pmax
comp=Z,16nm,1.1s
MDJ Mudanjiang 88.68 325 P P 22 28 43.0 +0.1
ZON Zonda 88.75 126 P P 22 28 43.1 -0.8
ZON pmax pmax
comp=Z,99nm,1.8s
ZON Zonda 88.75 126 P P 22 28 43.1 -0.8
MOD Modoc Plateau 89.01 39 P P 22 28 45.3 +0.6
DL2 Dalian 89.08 317 P P 22 28 48.0 +3.1
DL2 pmax pmax
comp=Z,25nm,1.0s
ZAIG Zacatecas 89.13 63 P P 22 28 45.0 -0.9
K05A Summer Lake 89.26 38 P P 22 28 45.2 -0.7
K05A IAmb IAmb 22 28 59.2
comp=Z,65nm,1.4s
R11A Troy Canyon, C 89.35 44 P P 22 28 46.5 +0.1
H04A Detroit Lake 89.95 36 P P 22 28 48.2 -0.7
PINE Pine Mountain 89.97 37 P P 22 28 48.3 -0.9
KDAK Kodiak Island 90.10 13 P P 22 28 49.1 -0.1
comp=Z,12nm,1.1s,baz=282,slow=6.5,SNR=4.2
TIA Tai'an 90.13 313 P P 22 28 50.1 +0.2
TIA pmax pmax
comp=Z,11nm,1.0s
U15A North Rim 90.17 47 P P 22 28 50.3 -0.2
U15A IAmb IAmb 22 29 02.5
comp=Z,40nm,1.1s
WUAZ Wupatki 90.20 48 P P 22 28 51.8 +1.4
baz=232
KNB Kanab 90.20 46 P P 22 28 49.9 -0.6
KNB pmax pmax
comp=Z,41nm,1.2s
KNB Kanab 90.20 46 P P 22 28 49.9 -0.6
CN2 Changchun 90.22 323 *e*P P **22 28 48.8 -1.3**
CN2 pmax pmax
comp=Z,70nm,1.4s
WVOR Wild Horse Val 90.28 39 P P 22 28 53.9 +3.3
WVOR pmax pmax
comp=Z,32nm,1.6s
GRNR Gornyy 90.28 333 ⇓ *i*P P **22 28 50.8 +0.6**
GRNR *e*S S **22 39 38.0 -3.6**
GRNR pmax pmax
comp=N,6.0nm,0.8s
GRNR pmax pmax
comp=Z,10.0nm,1.2s
GRNR smax smax
comp=N,20nm,1.2s
GRNR MLR MLR
comp=N,4μm,16.0s
E03A Lebam 90.58 34 P P 22 28 51.6 -0.1
F04A Amboy 90.71 35 P P 22 28 51.0 -1.4
F04A IAmb IAmb 22 29 15.1
comp=Z,52nm,1.1s
G05D Wamic, OR 90.78 36 P P 22 28 55.4 +2.6
baz=225
121A Cookes Peak, D 90.81 52 P P 22 28 54.5 +1.1
baz=234
121A Cookes Peak, D 90.81 52 P P 22 28 53.0 -0.4
121A IAmb IAmb 22 29 28.3
comp=Z,27nm,1.5s
W18A Petrified Fore 91.03 49 P P 22 28 56.0 +1.6
baz=233
NLWA Neilton Lookou 91.04 33 P P 22 28 53.7 -0.2
NLWA IAmb IAmb 22 29 10.5
comp=Z,37nm,1.2s
KLR Kul'dur 91.06 329 P P 22 28 54.2 +0.4
comp=Z,25nm,1.0s,baz=118,slow=3.7,SNR=17
KLR Kul'dur 91.06 329 *i* P P **22 28 53.2 -0.7**
KLR pmax pmax
comp=Z,40nm,1.1s
E04D Cinebar 91.08 34 P P 22 28 56.1 +2.1
baz=225
G06A Carlson Farm, 91.12 36 P P 22 28 53.3 -1.0
MTPU Mount Pierson 91.23 46 P P 22 28 55.0 -0.5
ENH Enshi 91.83 304 P P 22 28 57.2 -0.7
TX32 Lajitas Array 91.91 57 P P 22 28 58.3 -0.2
TXAR Lajitas Array 91.91 57 P P 22 28 59.3 +0.8
comp=Z,3.5nm,0.9s,baz=242,slow=2.7,SNR=10.0
TXAR Lajitas Array 91.91 57 P P 22 28 57.8 -0.7
TXAR Lajitas Array 91.91 57 P P 22 28 57.8 -0.7
MNTX Cornudas Mount 92.01 54 P P 22 29 01.1 +2.3
baz=236
DUG Dugway, Tooele 92.18 44 P P 22 29 01.8 +2.2
baz=232
CMIG Matias Romero 92.28 72 P P 22 28 59.9 -0.4
comp=Z,2.0nm,0.7s,baz=146,slow=3.6,SNR=2.7
HAWA Hanford 92.48 36 P P 22 28 59.4 -1.1
HAWA IAmb IAmb 22 29 16.6
comp=Z,36nm,1.1s
MFID Camas Ranch 92.48 40 P P 22 28 59.6 -1.2
MFID IAmb IAmb 22 29 26.2
comp=Z,28nm,1.2s
B05A Bryant 92.50 33 P P 22 29 03.9 +3.3
baz=226
BMO Blue Mountains 92.61 38 P P 22 29 00.5 -0.8
BMO pmax pmax
comp=Z,42nm,1.8s
BMO Blue Mountains 92.61 38 P P 22 29 00.5 -0.8
BMO IAmb IAmb 22 29 16.3
comp=Z,42nm,1.8s
BJT Baijiatuan 93.05 315 P P 22 29 02.9 -0.4
BJT pmax pmax
comp=Z,13nm,0.6s
BJT Baijiatuan 93.05 315 P P 22 29 02.9 -0.4
BJT IAmb IAmb 22 29 32.1
comp=Z,13nm,0.6s
BJI Beijing 93.06 315 P P 22 29 06.4 +3.0
BJI pmax pmax
comp=Z,12nm,1.1s
SPUT South Promonto 93.09 43 P P 22 29 04.4 +0.7
ANMO Albuquerque 93.11 51 P P 22 29 06.3 +2.3
baz=235
ANMO Albuquerque 93.11 51 P P 22 29 04.4 +0.4
ANMO pmax pmax
comp=Z,47nm,1.9s
ANMO Albuquerque 93.11 51 P P 22 29 04.4 +0.4
ANMO IAmb IAmb 22 29 16.7
comp=Z,47nm,1.9s
HVU Hansel Valley 93.19 43 P P 22 29 04.0 -0.1
HVU pmax pmax
comp=Z,53nm,1.5s
HVU Hansel Valley 93.19 43 P P 22 29 04.0 -0.1
MA2 Magadan 93.19 344 *i* P P **22 28 59.9 -3.6**
MA2 pmax pmax
comp=Z,13nm,1.5s
D08A Wollman Farm, 93.24 36 P P 22 29 03.4 -0.7
D08A IAmb IAmb 22 29 19.4
comp=Z,37nm,1.1s
E09A Wood Farm, Sta 93.27 37 P P 22 29 04.5 +0.4
E09A IAmb IAmb 22 29 19.7
comp=Z,38nm,1.2s
HLID Hailey 93.36 40 P P 22 29 03.4 -1.6
HLID IAmb IAmb 22 29 18.1
comp=Z,18nm,1.1s
F10A Beach Ranch, E 93.39 37 P P 22 29 03.0 -1.8

F10A IAmb IAmb 22 29 20.0
comp=Z,30nm,1.1s
LVC Limon Verde 93.67 119 P P 22 29 07.4 +0.2
LVC pmax pmax
comp=Z,33nm,1.3s
LVC Limon Verde 93.67 119 P P 22 29 07.4 +0.2
LVC IAmb IAmb 22 29 24.9
comp=Z,33nm,1.3s
CMAR Chiang Mai Arr 93.73 289 P P 22 29 08.4 +1.4
comp=Z,3.6nm,1.1s,baz=139,slow=2.8,SNR=11
CHTO Chiang Mai 93.91 289 P P 22 29 06.2 -1.6
CHTO pmax pmax
comp=Z,16nm,1.2s
CHTO Chiang Mai 93.91 289 P P 22 29 06.2 -1.6
C09A Chrisman Ranch 94.06 36 P P 22 29 07.5 -0.3
KMI Kunming 94.10 297 ⇑ *e*P P **22 29 10.5 +1.7**
KMI pP PcP 22 29 13.1 +3.8
KMI sP pP 22 29 14.5 -4.2
KMI pmax pmax
comp=Z,4.0nm,0.7s
KMI Kunming 94.10 297 P P 22 29 08.8 0.0
KMI pmax pmax
comp=Z,14nm,1.1s
KMI Kunming 94.10 297 P P 22 29 08.8 0.0
XAN Xi'an 94.32 307 P P 22 29 12.4 +3.0
XAN pmax pmax
comp=Z,8.0nm,0.9s
XAN Xi'an 94.32 307 P P 22 29 09.6 +0.2
XAN pmax pmax
comp=Z,12nm,0.8s
XAN Xi'an 94.32 307 P P 22 29 09.6 +0.2
TTA Tatalina 94.37 10 P P 22 29 10.4 +1.4
TTA Tatalina 94.37 10 P P 22 29 10.4 +1.4
S22A 4UR Ranch, Cre 94.46 49 P P 22 29 12.2 +1.9
baz=235
MCMT McKenzie Canyo 95.03 40 P P 22 29 12.2 -0.4
IMW Indian Meadow 95.55 42 P P 22 29 14.0 -1.1
PDAR Pinedale Array 95.68 43 P P 22 29 14.4 -1.2
comp=Z,1.7nm,0.9s,baz=232,slow=4.4,SNR=2.8
PDAR Pinedale Array 95.68 43 P P 22 29 14.2 -1.5
FLWY Flagg Ranch 95.80 42 P P 22 29 16.0 -0.1
FLWY IAmb IAmb 22 29 43.3
comp=Z,22nm,1.1s
ZEA Zeya 96.26 331 *e*P P **22 29 16.6 -1.1**
ZEA pmax pmax
comp=Z,43nm,1.2s
CD2 Chengdu 96.33 302 P P 22 29 20.1 +1.4
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 96.39 314 *e*P P **22 29 18.8 +0.1**
HHC pmax pmax
comp=Z,7.0nm,1.0s
WRH Wood River Hil 97.12 12 P P 22 29 21.4 +0.1
WRH IAmb IAmb 22 29 34.7
comp=Z,13nm,1.1s
RLMT Red Lodge 97.24 42 P Pdif 22 29 24.6 +1.8
baz=234
HDA Harding Lake 97.28 13 P Pdif 22 29 24.3 +2.2
baz=207
K22A Casper 97.44 45 P Pdif 22 29 25.8 +2.2
baz=236
COLA College 97.53 12 *i* P Pdif 22 29 24.5 +1.3
COLA pmax pmax
comp=Z,12nm,1.1s
ILAR Eielson Array 97.62 13 P P 22 29 22.3 -1.3
comp=Z,1.0nm,0.8s,baz=209,slow=5.1,SNR=3.4
ILAR PP **PP 22 33 24.9 +2.9**
comp=Z,2.3nm,1.0s,baz=223,slow=6.8,SNR=4.6
ILAR Eielson Array 97.62 13 P Pdif 22 29 24.1 +0.5
ILAR Eielson Array 97.62 13 P Pdif 22 29 24.1 +0.5
BILL Bilibino 98.67 354 *i* P Pdif 22 29 29.6 +1.4
BILL pmax pmax
comp=Z,7.0nm,1.0s
LZH Lanzhou 98.93 306 *e*P Pdif 22 29 32.9 +2.5
LZH pP pP 22 29 37.8 -2.5
LZH sP sP 22 29 40.8 -3.0
LZH pmax pmax
comp=Z,19nm,1.0s
SONM Songino Array 103.26 318 Pdiff Pdif 22 29 53.4 +4.1
comp=Z,0.4nm,0.5s,baz=100,slow=3.4,SNR=1.4
SONM Songino Array 103.26 318 P Pdif 22 29 49.8 +0.5
SONM Songino Array 103.26 318 Pdif 22 29 49.8 +0.5
WMQ Urumqi 113.42 308 *e*PKP **PKiKP 22 34 27.9 +0.3**
SUR Sutherland 115.40 197 PKP PKPdf 22 34 32.4 +0.3
comp=Z,6.4nm,1.0s,baz=207,slow=4.5,SNR=2.3
DGZ Jazzator, Alta 115.47 314 *i* PKiKP **PKPdf 22 34 30.4 -1.0**
ZALV Zalesovo Beam 118.15 318 PKP PKPdf 22 34 34.5 -1.7
comp=Z,2.0nm,0.6s,baz=113,slow=3.7,SNR=2.2
ZALV Zalesovo Beam 118.15 318 PKiKP 22 34 37.0 +0.8
LBTB Lobatse 120.82 204 PKhKP PKPpre 22 34 39.2
comp=Z,1.0nm,0.7s,baz=241,slow=16,SNR=1.5
KURK Kurchatov 121.20 314 *i* PKiKP **PKPdf 22 34 40.0 -2.2**
KURK Kurchatov 121.20 314 PKPdf **PKPdf 22 34 40.8 -1.4**
MATP Matopo 123.80 210 PKP PKPdf 22 34 48.6 +0.2
comp=Z,3.0nm,0.7s,baz=93,slow=4.4,SNR=6.9
KBL Kabul 124.52 293 PKiKP **PKPdf 22 34 48.7 -0.7**
KBL Kabul 124.52 293 PKPdf **PKPdf 22 34 48.7 -0.7**
GAR Garm 124.62 299 PKPdf 22 34 48.9 -0.4
KK31 Karatay Array 125.30 304 PKiKP **PKPdf 22 34 49.0 -1.4**
KK31 Karatay Array 125.30 304 PKPdf **PKPdf 22 34 49.0 -1.4**
KKAR Karatay Array 125.30 304 PKiKP **PKPdf 22 34 48.9 -1.5**
KKAR Karatay Array 125.30 304 PKPdf 22 34 48.9 -1.5
KKAR Karatay Array 125.30 304 PKPdf **PKPdf 22 34 48.9 -1.5**
SCHQ Schefferville 125.79 42 PKP PKPdf 22 34 49.9 -1.0
comp=Z,1.8nm,0.8s,baz=256,slow=8.3,SNR=2.1
BRVK Borovoye 126.61 316 PKiKP **PKPdf 22 34 50.8 -1.7**
BRVK Borovoye 126.61 316 PKPdf **PKPdf 22 34 50.8 -1.7**
LSZ Lusaka 128.47 212 PKP **PKiKP 22 34 59.4 +1.4**
comp=Z,1.0nm,0.2s,baz=47,slow=7.3,SNR=3.4
LSZ Lusaka 128.47 212 PKiKP PKPdf 22 34 57.1 -0.3
LSZ Lusaka 128.47 212 PKPdf 22 34 57.1 -0.3
TSUM Tsumeb 128.80 198 PKP PKPdf 22 34 57.9 -0.1
comp=Z,1.4nm,0.6s,baz=172,slow=8.5,SNR=3.5
TSUM Tsumeb 128.80 198 PKPdf 22 34 57.4 -0.6
ABKAR Akbulak array 133.08 311 PKPdf PKPdf 22 35 05.0 +0.1
ARU Arti 133.19 321 *i* PKiKP **PKPdf 22 35 04.4 -0.5**
ARU 22 37 31.5
ARU Arti 133.19 321 PKPdf PKPdf 22 35 04.8 -0.1
GEYT Alibeck 133.85 295 PKP PKPdf 22 35 07.3 +0.5
comp=Z,1.7nm,0.6s,baz=193,slow=5.9,SNR=3.2
GEYT Alibeck 133.85 295 PKPdf 22 35 05.8 -1.0
KMBO Kilima Mbogo 134.54 233 PKP PKPdf 22 35 09.9 +0.7
comp=Z,0.8nm,0.4s,baz=153,slow=4.5,SNR=1.9
ARCES ARCESS Array B 138.46 348 PKhKP PKPpre 22 35 06.2
comp=Z,3.2nm,0.7s,baz=121,slow=0.7,SNR=6.0
ARCES PKP **PKPdf 22 35 13.3 -1.0**
comp=Z,4.0nm,0.9s,baz=40,slow=4.9,SNR=6.5
KLMR Klimovskoe 140.76 332 *e*PKPdf **PKPdf 22 35 17.9 -0.8**
KLMR AMP 22 35 30.4
comp=Z,35nm,1.1s
RAYN Ar Rayn 141.23 271 PKiKP **PKPdf 22 35 18.8 -2.0**
RAYN Ar Rayn 141.23 271 PKPdf 22 35 18.8 -2.0
AKT Akhty 142.02 300 *e*PKiKP **PKPdf 22 35 20.1 -1.7**
AKT *e* 22 38 25.0
AKT pmax pmax
comp=Z,39nm,1.1s
GROC Groznyy 143.32 303 *e*PKiKP **PKPdf 22 35 24.7 +0.8**
GROC *e* 22 38 33.0
GROC pmax pmax
comp=Z,33nm,1.3s
TBLG Delisi 144.24 301 PKiKP **PKPab 22 35 23.9 +0.4**
TBLG Delisi 144.24 301 PKPdf **PKPab 22 35 23.9 +0.4**
MOS Moscow 144.39 326 *e*PKHKP **PKPab 22 35 20.7 -2.8**
MOS pmax pmax
comp=Z,76nm,1.3s
GOF Gofitskoye 145.00 307 ⇑ *e*PKiKP **PKPbc 22 35 25.8 -0.4**
GOF pmax pmax
comp=Z,94nm,1.6s
FIA1 FINESS Array S 145.08 340 PKPbc 22 35 23.9 -2.0
FINES FINESS Array B 145.08 340 PKPbc **PKPbc 22 35 23.6 -2.2**
comp=Z,28nm,0.5s,baz=50,slow=3.5,SNR=105
FINES FINESS Array B 145.08 340 PKPbc 22 35 23.8 -2.1
AKH Akhalkalaki 145.20 300 ⇑ P **PKPdf 22 35 28.1 +0.6**
AKH Akhalkalaki 145.20 300 PKiKP **PKPbc 22 35 27.1 -0.1**
AKH Akhalkalaki 145.20 300 PKPbc 22 35 27.1 -0.1
LPSR Galich'ya Gora 145.21 321 *e*PKP2 **PKPbc 22 35 25.0 -1.6**
LPSR pmax pmax
comp=Z,150nm,1.0s
OBN Obninsk 145.23 326 *i* PKiKP **PKPbc 22 35 25.5 -1.0**
OBN *i* 22 35 35.0
OBN pmax pmax
comp=Z,110nm,0.9s
OBN Obninsk 145.23 326 PKPbc 22 35 24.7 -1.8
KBZ Khabaz 145.34 304 PKPbc **PKPbc 22 35 26.9 -0.3**

comp=Z,14nm,0.9s,baz=16,slow=2.0,SNR=13
VORR Voronezh 145.45 319 *e*PKP2 **PKPdf** **22 35 24.0 -3.3**
VORR pmax pmax
comp=Z,350nm,1.6s
KIV Kislovodsk 145.45 305 ⇓P **PKPdf** **22 35 27.3 -0.5**
KIV Kislovodsk 145.45 305 *e*PKIKP **PKPab** **22 35 29.3 +1.3**
KIV pmax pmax
comp=Z,126nm,1.0s
KIV Kislovodsk 145.45 305 **PKPdf** **22 35 27.0 -0.7**
VSR Storozhevoye 145.65 318 *e*PKIKP **PKPdf** **22 35 26.7 -1.0**
VSR pmax pmax
comp=Z,130nm,0.9s
VORD Divnogorie 145.68 318 *e*PKIKP **PKPdf** **22 35 26.3 -1.4**
VORD pmax pmax
comp=Z,80nm,0.9s
VSU Vasula 147.19 337 *e*P **PKPbc** **22 35 31.5 -0.8**
MOL Molde 147.43 356 *e*PKPdf **PKPdf** **22 35 31.7 +1.4**
MOL *e*PKPbc **PKPab** **22 35 34.2 -0.6**
MOL *e*PKPab **PKiKP** **22 35 36.7 +1.6**
SOC Sochi 147.63 305 *i* PKP2 **PKPbc** **22 35 34.6 +0.6**
SOC *e* 22 38 58.8
SOC *e*SSS SSS 23 03 29.1
SOC pmax pmax
comp=Z,35nm,1.0s
DOMB Dombas 147.84 354 *e*PKPdf **PKPdf** **22 35 32.2 +1.2**
DOMB *e*PKPbc **PKiKP** **22 35 35.4 -0.6**
DOMB *e*PKPab **PKPab** **22 35 38.3 +1.7**
AKN Aaknes 147.86 356 *e*PKPdf **PKPdf** **22 35 32.6 +1.6**
AKN *e*PKPbc **PKiKP** **22 35 35.7 -0.3**
KTUT Trabzon 148.04 300 ⇑P **PKPbc** **22 35 35.5 +0.3**
NC303 NORSAR Array S 148.40 352 PKPdf **PKPbc** **22 35 34.1 -1.4**
NC405 NORSAR Array S 148.46 351 PKPdf **PKPdf** **22 35 33.0 +0.9**
FOO Floro 148.53 358 *e*PKPbc **PKiKP** **22 35 37.1 -0.2**
NB201 NORSAR Array S 148.57 352 **PKPdf** **22 35 33.6 +1.3**
NB2 NORSAR Subarra 148.59 352 PKP **PKPdf** **22 35 33.8 +1.4**
comp=Z,97nm,1.7s,baz=21,slow=2.9
NB2 NORSAR Subarra 148.59 352 PKPab **PKPdf** **22 35 33.8 +1.4**
baz=21,slow=2.9
NOA NORSAR Array B 148.59 352 PKPbc **PKPbc** **22 35 34.5 -1.5**
comp=Z,9.9nm,0.9s,baz=15,slow=4.3,SNR=16
NBO00 NORSAR Array S 148.66 352 **PKPdf** **22 35 33.9 +1.4**
NC602 NORSAR Array S 148.85 351 **PKPdf** **22 35 34.2 +1.5**
NC602 NORSAR Array S 148.85 351 *e*PKPdf **PKPdf** **22 35 34.2 +1.5**
NC602 *e*PKPbc **PKiKP** **22 35 37.7 -0.3**
NC602 *e*PKPab **pPKPdf** **22 35 42.4 -0.4**
HYA Hoyanger 148.91 357 *e*PKPdf **PKPdf** **22 35 34.3 +1.5**
HYA *e*PKPbc **PKiKP** **22 35 38.1 0.0**
HYA *e*PKPab **pPKPdf** **22 35 42.6 -0.3**
ANN Anapa 148.94 308 *e*PKP2 **PKiKP** **22 35 39.2 +0.5**
ANN pmax pmax
comp=Z,136nm,0.9s
SUE Sulen 149.08 358 *e*PKPdf **PKPdf** **22 35 34.6 +1.6**
SKAR Skarslia 149.25 354 *e*PKPdf **PKPdf** **22 35 32.9 -0.6**
IZAR Zarasai 149.39 333 *e*P **PKiKP** **22 35 39.5 +0.2**
ISAL Salakas 149.57 333 *e*P **PKPbc** **22 35 39.0 +0.4**
MICGM Minsk 149.60 330 *e* **PKPdf** **22 35 30.0 -4.1**
MNK Minsk 149.60 330 *e*PKIKP **PKPdf** **22 35 30.0 -4.1**
ASK Askoy 149.64 357 *e*PKPdf **PKPdf** **22 35 35.4 +1.5**
ASK *e*PKPbc **PKiKP** **22 35 40.5 +0.9**
IIGN Ignalina 149.69 333 *e*P **PKPbc** **22 35 38.5 -0.4**
OSL Oslo 149.73 352 *e*PKPab **PKPab** **22 35 45.8 +1.6**
BER Bergen 149.73 357 *e*PKPbc **PKiKP** **22 35 40.3 +0.5**
BER *e*PKPab **pPKPdf** **22 35 45.6 +1.3**
NACGM Naroch 149.78 332 *e* **PKPdf** **22 35 36.0 +1.6**
ODD1 Odda 150.13 356 *e*PKPbc **PKiKP** **22 35 40.9 +0.2**
KONO Kongsberg 150.14 355 PKiKP **PKPdf** **22 35 35.8 +1.0**
KONO Kongsberg 150.14 353 PKPdf **PKPdf** **22 35 35.8 +1.0**
KONO Kongsberg 150.14 353 *e*PKPdf **PKPdf** **22 35 36.2 +1.4**
KONO *e*PKPbc **PKiKP** **22 35 41.5 +0.8**
KONO *e*PKPab **PKPab** **22 35 47.2 +1.3**
GAZ Gaziantep 150.39 293 **PKPbc** **22 35 41.3 0.0**
PABE Paberze 150.43 335 *e*P **PKPbc** **22 35 40.2 -0.4**
ASF Jabal al Asfar 150.56 283 PKPbc **PKPbc** **22 35 41.8 -0.1**
comp=Z,18nm,0.8s,baz=42,slow=1.9,SNR=13
BLS5 Blasjo 150.63 356 *e*PKPbc **PKiKP** **22 35 42.5 +0.7**
BLS5 *e*PKPab **sPKPdf** **22 35 49.4 +0.2**
PBUR Paburge 150.73 338 *e*P **PKPbc** **22 35 40.5 -0.9**
SIM Simferopol' 151.13 310 *e*PKIKP **PKiKP** **22 35 43.7 +0.5**
DIKM Dikmen 151.26 302 ⇑P **PKiKP** **22 35 43.8 +0.2**
AKASG Malin Array Be 151.38 323 PKPbc **PKPbc** **22 35 41.9 -1.2**
comp=Z,20nm,0.6s,baz=48,slow=2.9,SNR=26
AKASG Malin Array Be 151.38 323 **PKPbc** **22 35 41.4 -1.7**
AKBB Malin Array Si 151.38 323 **PKPbc** **22 35 41.1 -2.0**
HOMB Homborsund 151.61 353 *e*PKPdf **PKPdf** **22 35 38.4 +1.4**
HOMB *e*PKPab **pPKPbc** **22 35 54.0 +0.6**
SNART Snartemo 151.66 355 *e*PKPdf **PKPdf** **22 35 38.7 +1.6**
QRWL Qaraoun 151.68 285 *e*P **PKPbc** **22 35 44.2 -0.2**
BHL Bhannes 151.71 286 *e*P **PKPbc** **22 35 43.8 -0.8**
DQRL Deir Qamar 151.78 286 *e*P **PKPbc** **22 35 44.9 +0.2**
SUW Suwalki 151.87 334 **PKPbc** **22 35 42.8 -1.2**
EIL Elat 151.91 277 PKPbc **PKPbc** **22 35 45.3 +0.3**
comp=Z,30nm,0.9s,baz=64,slow=1.4,SNR=9.7
BR131 Keskin Array S 152.86 299 PKIKP **PKPbc** **22 35 46.1 -0.9**
BR131 Keskin Array S 152.86 299 **PKPbc** **22 35 46.1 -0.9**
BRTR Keskin Array B 152.86 299 PKPbc **PKPbc** **22 35 45.8 -1.3**
comp=Z,17nm,0.4s,baz=138,slow=4.6,SNR=8.5
BRTR Keskin Array B 152.86 299 **PKPbc** **22 35 45.5 -1.5**
SORM Soroca 153.29 319 ⇑P **PKPbc** **22 35 46.5 -0.9**
ANTO Ankara 153.47 300 ⇓P **PKiKP** **22 35 52.0 +3.6**
BSD Bornholm Skovb 153.54 344 *i* P **PKiKP** **22 35 48.2 +0.4**
TLCR 154.49 313 ⇑P **PKPab** **22 36 02.5 -2.1**
MDUB Mudurnu 154.53 302 PKPbc **PKPbc** **22 35 48.4 -2.1**
MDUB PKPab **sPKPbc** **22 36 03.3 -0.7**
BUR08 Bucovina Ar. S 155.32 321 PKPdf 22 35 51.6 +8.6
BURAR Bucovina Array 155.32 321 PKPdf 22 35 51.4 +8.4
VRI Vrincioaia 155.44 316 ⇑P **PKPab** **22 36 08.6 -0.2**
KOLS Kolonicke sedl 155.97 327 *e*PKP2 **PKPab** **22 36 14.6 +3.7**
KOLS Kolonicke sedl 155.97 327 *e*PKP **PKPab** **22 36 14.6 +3.7**
ARCR ARCALIA 156.11 321 ⇓P **PKPab** **22 36 16.6 +5.1**
NEF NEVSHA 156.33 310 *e*P **PKPab** **22 36 09.9 -2.7**
CRVS Cervenica-Dubn 156.37 328 *e*PKP2 **PKPab** **22 36 16.9 +4.3**
CRVS Cervenica-Dubn 156.37 328 *e*PKP **PKPab** **22 36 16.9 +4.3**
ARR Arges 156.95 317 ⇓P **PKPdf** **22 35 48.2 +3.1**
OKC Ostrava-Krasne 157.08 333 *e*PKPab **PKPab** **22 36 18.6 +3.0**
OKC Ostrava-Krasne 157.08 333 *e*PKP2 **PKPab** **22 36 18.6 +3.0**
OSTC Ostas 157.19 337 *e*PKPab **PKPab** **22 36 19.8 +3.8**
CHVC Chvalec 157.21 337 *e*PKPab **PKPab** **22 36 19.8 +3.6**
UPC Upice 157.30 337 *e*PKPab **PKPab** **22 36 20.4 +3.9**
UPC Upice 157.30 337 *e*PKP2 **PKPab** **22 36 20.4 +3.9**
DPC Dobruska-Polom 157.32 337 *e*PKPab **PKPab** **22 36 20.2 +3.5**
DPC Dobruska-Polom 157.32 337 *e*PKP2 **PKPab** **22 36 20.2 +3.5**
MORC Moravsky Berou 157.36 334 ⇓P **PKPab** **22 36 12.9 -3.9**
MORC Moravsky Berou 157.36 334 *e*PKP **PKPdf** **22 35 47.5 +2.0**
CLL Collm 157.48 343 *e*PKPdiff PKPdf 22 35 59.0 +14
CLL *e*PKPab **PKPab** **22 36 17.0 -0.2**
comp=Z,19nm,1.0s
CLL *e* 22 36 30.0
CLL *e* 22 36 37.0
CLL Collm 157.48 343 *e*PKP2 **PKPab** **22 36 17.0 -0.2**
CLL pmax pmax
comp=Z,19nm,1.0s
BRG Berggiesshubel 157.62 341 *e*PKP **PKPdf** **22 35 52.0 +6.3**
comp=Z,32nm,1.9s
BRG Berggiesshubel 157.62 341 *i* PKP **PKPab** **22 36 21.1 +3.3**
comp=Z,28nm,1.2s
BRG Berggiesshubel 157.62 341 *e*PKIKP **PKPdf** **22 35 52.0 +6.3**
BRG pmax pmax
comp=Z,32nm,1.9s
PVCC Panska Ves 157.74 339 *e*PKPab **PKPab** **22 36 21.8 +3.4**
PVCC Panska Ves 157.74 339 *e*PKP2 **PKPab** **22 36 21.8 +3.4**
PSZ Piszkesteto 157.81 328 ⇑P **PKPab** **22 36 22.7 +3.8**
VYHS Vyhne 157.85 330 *e*PKP2 **PKPab** **22 36 21.8 +2.8**
VYHS Vyhne 157.85 330 *e*PKP **PKPab** **22 36 21.8 +2.8**
JAVC Velka Javorina 158.05 332 *e* **PKPab** **22 36 18.9 -1.0**
SIRR Siria 158.07 322 ⇑P **PKPab** **22 36 19.7 -0.3**
VRAC Vranov 158.10 335 ⇑P **PKPab** **22 36 19.8 -0.2**
VRAC Vranov 158.10 335 *e*PKP **PKPdf** **22 35 47.8 +1.5**
VRAC *e* 22 36 19.0
PRA Prague 158.19 339 *e*PKPab **PKPab** **22 36 24.0 +3.7**
PRA Prague 158.19 339 *e*PKP2 **PKPab** **22 36 24.0 +3.7**
GOPC GO Pecny, Ondr 158.21 338 *e*PKPab **PKPab** **22 36 23.1 +2.6**
GOPC GO Pecny, Ondr 158.21 338 *e*PKP2 **PKPab** **22 36 23.1 +2.6**
PRU Pruhonice 158.22 339 *e*PKPab **PKPab** **22 36 23.8 +3.3**
PRU Pruhonice 158.22 339 *e*PKP2 **PKPab** **22 36 23.8 +3.3**
KRUC Moravsky 158.38 335 *e*PKP **PKPdf** **22 35 48.0 +1.3**
KRUC *e* 22 36 19.2
TREC Trest 158.51 336 *e*PKPab **PKPab** **22 36 25.1 +3.3**
TREC Trest 158.51 336 *e*PKP2 **PKPab** **22 36 25.1 +3.3**
BZS Buzias 158.51 321 ⇑P **PKPdf** **22 35 49.8 +2.9**
MODS Modra-Piesok 158.59 332 *e*PKP2 **PKPab** **22 36 25.5 +3.3**
MODS Modra-Piesok 158.59 332 *e*PKP **PKPab** **22 36 25.5 +3.3**
NKC Novy Kostel 158.61 342 *e*PKPAB **PKPab** **22 36 27.7 +5.5**
NKC Novy Kostel 158.61 342 *e*PKP2 **PKPab** **22 36 27.7 +5.5**
MDVR Moldovita 158.97 319 ⇑P **PKPdf** **22 35 50.3 +2.7**
VTS Vitosha 159.26 312 PKP2 **PKPab** **22 36 25.3 -0.2**
VTS Vitosha 159.26 312 PKPab **PKPab** **22 36 25.3 -0.2**
KHC Kasperske Hory 159.28 339 *e*PKPAB **PKPab** **22 36 24.5 -0.6**
KHC Kasperske Hory 159.28 339 *e*PKP2 **PKPab** **22 36 24.5 -0.6**
KHC Kasperske Hory 159.28 339 **PKPab** **22 36 24.5 -0.6**
MEM Membach 159.42 354 PKPab **PKPab** **22 36 26.5 +0.9**
BSTI Sart Tilman 159.49 354 PKPab **PKPab** **22 36 26.3 +0.4**
GERES GERESS Array B 159.49 338 PKP **PKPdf** **22 35 47.0 -1.1**
comp=Z,0.2nm,0.3s,baz=69,slow=2.7,SNR=2.7
GERES PKPab **PKPab** **22 36 26.2 +0.1**
comp=Z,4.3nm,0.9s,baz=48,slow=2.2,SNR=6.3
GERES GERESS Array B 159.49 338 **PKPdf** **22 35 46.7 -1.4**
GERES **PKPab** **22 36 25.2 -1.0**
CONA Conrad Observa 159.51 334 *e*PKPab **PKPab** **22 36 26.5 +0.2**
comp=Z,38nm,1.2s
SNF Seneffe 159.65 357 PKPab **PKPab** **22 36 25.2 -1.3**
BCLA Clavier 159.67 355 PKPab **PKPab** **22 36 28.8 +2.1**
BGES Gesves 159.72 355 PKPab **PKPab** **22 36 24.6 -2.3**
BMRD Maredsous 159.82 356 PKPdf **PKPdf** **22 35 48.4 +0.1**
BMRD PKPab **PKPab** **22 36 25.5 -1.8**
DOU Dourbes 160.04 356 PKPdf **PKPdf** **22 35 53.5 +5.0**
DOU PKPab **PKPab** **22 36 29.2 +0.9**
MOA Molln 160.16 336 *e*PKPab **PKPab** **22 36 29.0 0.0**
comp=Z,36nm,1.3s
WLF Walferdange 160.34 353 PKPab **PKPab** **22 36 29.1 -0.5**
DIVS Divibare 160.37 320 PKPdf **PKPdf** **22 35 47.6 -1.7**
SOKA Soboth 160.86 333 *e*PKPab **PKPab** **22 36 31.2 -1.0**
comp=Z,39nm,1.3s
OBKA Obir 161.19 333 *e*PKPab **PKPab** **22 36 31.4 -2.2**
comp=Z,19nm,1.8s
MYKA Terra Mystica 161.43 335 *e*PKPab **PKPab** **22 36 33.0 -1.6**
comp=Z,16nm,0.8s
WATA Walderalm 161.48 340 *e*PKPab **PKPab** **22 36 34.5 -0.5**
comp=Z,44nm,1.4s
WTTA Wattenberg 161.53 340 *e*PKPab **PKPab** **22 36 34.7 -0.5**
comp=Z,48nm,1.4s
RETA Reutte 161.57 342 *e*PKPab **PKPab** **22 36 34.4 -0.8**
comp=Z,36nm,1.5s
MOTA Moosalm 161.61 341 *e*PKPab **PKPab** **22 36 34.8 -0.7**
comp=Z,37nm,1.3s
PRED Cave del Predi 161.61 335 PKPab **PKPab** **22 36 33.8 -1.7**
SQTA Sankt Quirin 161.69 341 PKPab **PKPab** **22 36 35.4 -0.4**
comp=Z,31nm,1.3s
ABTA Abfaltersbach 161.72 338 *e*PKPab **PKPab** **22 36 34.3 -1.6**
comp=Z,30nm,1.0s
ZOU Zoufplan 161.73 336 PKPab **PKPab** **22 36 35.2 -0.9**
FETA Feichten 162.01 341 *e*PKPab **PKPab** **22 36 36.7 -0.6**
comp=Z,23nm,1.4s
FUORN Ofenpass-Fuorn 162.50 342 **PKPab** **22 36 37.8 -1.8**
TORD Torodi Ar. Bea 163.04 177 PKP **PKPdf** **22 35 51.5 -1.2**
comp=Z,3.6nm,1.1s,baz=272,slow=0.2,SNR=7.6
TORD PKPab **PKPab** **22 36 41.2 -1.1**
comp=Z,3.4nm,0.6s,baz=179,slow=3.3,SNR=10.0
TORD Torodi Ar. Bea 163.04 177 **PKPdf** **22 35 51.6 -1.2**
TORD **PKPab** **22 36 40.3 -1.9**
MVO Moncorvo 166.59 33 *e*PKPdf **PKPdf** **22 36 02.5 +7.3**
PCBR Castelo Branco 167.37 38 *e*PKPdf **PKPdf** **22 35 59.7 +4.0**
PMTG Montargil 167.50 42 *e*PKPab **PKPab** **22 37 03.5 +2.0**
PMRV Marv??o 167.72 39 *e*PKPab **PKPab** **22 37 05.2 +2.7**
MESJ Messejana 168.29 46 *e*PKPdf PKPdf 22 36 04.7 +8.3
ESDC Sonseca Array 169.15 27 **PKPdf** **22 35 55.3 -1.6**
ESDC PKPab **PKPab** **22 37 08.3 -0.5**
KEST Kesra 172.01 316 PKPab **PKPab** **22 37 22.3 +0.5**
comp=Z,13nm,1.1s,baz=32,slow=11,SNR=4.3

AEIC ***23*** *22:16:04.2±2.6, 52.1°N±0.2°×178.3°E±0.0°, 109, h145km±6km, Error ellipse: s-maj=23.2km s-min=7.4km az=186.0*
NEIC ***23*** *22:16:07.0±1.6, 52.1°N±0.2°×178.3°E±0.0°, 109, h129km±7km, mb4.2/48, ML3.6(AEIC), Error ellipse: s-maj=23.5km s-min=7.4km az=186.0*
IDC ***23*** *22:16:08.0±4.2, 52.2°N×178.6°E, h135km±39km, mb3.6/14, mb1 3.8/16, mb1mx3.6/65, mbtmp4.1/16, Error ellipse: s-maj=31.0km s-min=10.6km az=173.0*

ISC 23 22:16:07.1±0.7, 52.1°N±0.1°×178.6°E±0.0°, h04, h129km±6km, n112, σ0.9s86/118, mb4.1/30, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.13**	**131**			**Pn**	**22 16 24.4**	**-0.3**
LSSA	**Little Sitkin**	**0.14**	**138**			**Pn**	**22 16 24.6**	**-0.2**
LSPA	**Little Sitkin**	**0.17**	**127**			**Pn**	**22 16 24.8**	**0.0**
LSPA						**Sn**	**22 16 40.1**	**+1.9**
CEAP	**Semis' Anvil P**	**0.76**	**94**			**Pn**	**22 16 27.8**	**0.0**
CERAA	**Semis' Rag'd T**	**0.83**	**100**			**Pn**	**22 16 27.9**	**-0.5**
AMKA	**Amchitka**	**0.90**	**139**			**Pn**	**22 16 27.9**	**-1.1**
GALAA	**Gareloi Lava P**	**1.80**	**98**			**Pn**	**22 16 38.5**	**-0.2**
GALAA						**Sn**	**22 17 03.6**	**+0.9**
GAEA	**Gareloi East**	**1.81**	**98**			**Pn**	**22 16 38.5**	**-0.2**
TASE	**Tanaga Southea**	**2.24**	**94**			**Pn**	**22 16 43.7**	**-0.4**
TAFP	**Tanaga Falls P**	**2.27**	**93**			**Pn**	**22 16 43.7**	**-0.6**
TAFP						**Sn**	**22 17 12.7**	**-0.1**
TAPA	**Tanaga Point A**	**2.38**	**94**			**Pn**	**22 16 45.3**	**-0.5**
SMY	**Shemya**	**2.69**	**286**			**Pn**	**22 16 48.2**	**-1.4**
SMY						**Sn**	**22 17 21.7**	**-0.8**
KIMD	**Kanaga Island**	**2.75**	**94**			**Pn**	**22 16 49.7**	**-0.7**
KICM	**Kanaga Island**	**2.75**	**91**			**Pn**	**22 16 50.0**	**-0.4**
KIKV	**Kanaga Island**	**2.77**	**92**			**Pn**	**22 16 50.4**	**-0.3**
KINC	**Kanaga Island**	**2.79**	**91**			**Pn**	**22 16 50.6**	**-0.3**
ADK	**Adak**	**3.07**	**91**	Pn		**Pn**	**22 16 53.8**	**-0.7**
ADK						**Sn**	**22 17 30.4**	**-0.7**
GSTD	**Great Sitkin T**	**3.39**	**88**			**Pn**	**22 16 57.6**	**-1.2**
GSTD						**Sn**	**22 17 39.2**	**+0.4**
GSTR	**Great Sitkin T**	**3.44**	**87**			**Pn**	**22 16 58.9**	**-0.6**
GSMY	**Great Sitkin M**	**3.45**	**88**			**Pn**	**22 16 58.9**	**-0.6**
KOKL	**Mount Kliuchef**	**4.59**	**84**			**Pn**	**22 17 14.6**	**0.0**
ATKA	**Atka Island**	**4.59**	**85**			**Pn**	**22 17 14.4**	**-0.2**
NIKH	**Nikolski High**	**7.86**	**78**			**Pn**	**22 17 58.9**	**+0.4**
SPIA	**Saint Paul Isl**	**8.36**	**48**	Pn		**Pn**	**22 18 07.1**	**+1.9**
MSW	**Makushin Switc**	**9.16**	**72**			**Pn**	**22 18 17.7**	**+1.7**
UNV	**Unalaska Valle**	**9.31**	**73**	Pn		**Pn**	**22 18 18.9**	**+0.8**
AKUT	**Akutan**	**9.77**	**71**	Pn		**Pn**	**22 18 25.6**	**+1.5**
FALS	**False Pass**	**11.22**	**68**	Pn		**Pn**	**22 18 43.2**	**-0.3**
PEA0B	**Petropavlovsk-**	**12.61**	**283**	Pn		**Pn**	**22 19 03.4**	**+1.7**
PETK	**Petropavlovsk-**	**12.61**	**283**	P		**Pn**	**22 19 03.0**	**+1.3**
	0.6nm,0.3s,baz=34,slow=13,SNR=6.4							
PETK	**Petropavlovsk-**	**12.61**	**283**			**Pn**	**22 19 03.0**	**+1.3**
SDPT	**Sand Point**	**12.95**	**67**	Pn		**Pn**	**22 19 04.6**	**-1.5**
CHIR	**Chirikof Islan**	**15.74**	**66**	Pn		**Pn**	**22 19 40.4**	**-1.0**
SII	**Sitkinak Islan**	**16.59**	**63**			**Pn**	**22 19 50.3**	**-1.4**
BILL	**Bilibino**	**17.07**	**344**	P		**P**	**22 19 56.1**	**-1.1**
OHAK	**Old Harbor**	**17.13**	**61**	P		**P**	**22 19 56.6**	**-1.3**
TTA	**Tatalina**	**17.42**	**41**			**P**	**22 20 01.0**	**-0.2**
TTA					IAmb	IAmb	22 20 04.2	
	comp=Z,7.1nm,0.8s							
KDAK	**Kodiak Island**	**17.57**	**60**	P		**P**	**22 20 01.7**	**-1.1**
	comp=Z,4.6nm,0.3s,baz=277,slow=5.2,SNR=34							
KDAK	**Kodiak Island**	**17.57**	**60**	P		**P**	**22 20 01.6**	**-1.1**
CNPM	**China Poot**	**18.52**	**54**	P		**P**	**22 20 13.2**	**0.0**
BRLK	**Bradley Lake**	**18.74**	**54**			**P**	**22 20 15.3**	**-0.4**
PPLA	**Purkeypile**	**19.00**	**44**	P		**P**	**22 20 18.2**	**-0.4**
PPLA					IAmb	IAmb	22 20 25.5	
	comp=Z,13nm,0.9s							
SEW	**Seward**	**19.51**	**53**	P		**P**	**22 20 23.4**	**-0.5**
BPAW	**Bear Paw Mtn.**	**19.95**	**41**	P		**P**	**22 20 29.8**	**+1.1**
BPAW					IAmb	IAmb	22 20 33.1	
	comp=Z,5.6nm,0.6s							
TRF	**Thorofare Moun**	**20.00**	**43**	P		**P**	**22 20 30.7**	**+1.3**
TRF					IAmb	IAmb	22 20 33.1	
	comp=Z,8.4nm,0.6s							
SML	**Sawmill**	**20.40**	**48**	P		**P**	**22 20 35.2**	**+1.7**
SML					IAmb	IAmb	22 20 48.4	
	comp=Z,15nm,0.7s							
GLI	**Glacier Island**	**20.80**	**51**	P		**P**	**22 20 37.4**	**-0.4**
GLI					IAmb	IAmb	22 20 38.0	
	comp=Z,12nm,0.7s							
SCM	**Sheep Creek Mo**	**20.87**	**49**	P		**P**	**22 20 39.2**	**+0.7**
SCM					IAmb	IAmb	22 20 40.4	
	comp=Z,21nm,1.1s							
WRH	**Wood River Hil**	**21.27**	**41**	P		**P**	**22 20 41.8**	**-0.9**
CCB	**Clear Creek Bu**	**21.44**	**41**	P		**P**	**22 20 45.5**	**+0.9**
HDA	**Harding Lake**	**21.71**	**42**	P		**P**	**22 20 47.5**	**-0.1**
IL31		**21.86**	**41**	P		**P**	**22 20 47.8**	**-1.1**
ILAR	**Eielson Array**	**21.86**	**41**	P		**P**	**22 20 48.8**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=247,slow=8.4,SNR=8.4							
RIDG	**Independent Ri**	**22.41**	**44**	P		**P**	**22 20 54.2**	**-0.5**
PRP	**Porcupine Dome**	**22.64**	**40**	P		**P**	**22 20 57.0**	**0.0**
DOT	**Dot Lake**	**22.73**	**45**	P		**P**	**22 20 56.8**	**-1.0**
DOT					IAmb	IAmb	22 20 59.6	
	comp=Z,5.6nm,0.8s							
BARN	**Barnard Glacie**	**23.45**	**52**	P		**P**	**22 21 05.8**	**+1.1**
BARN					IAmb	IAmb	22 21 06.9	
	comp=Z,12nm,0.8s							
BCAR	**Beaver Creek A**	**23.63**	**47**	P		**P**	**22 21 06.8**	**+0.7**
BMAR	**Burnt Mountain**	**23.67**	**35**	P		**P**	**22 21 07.0**	**+0.6**
EGAK	**Eagle**	**24.22**	**43**	P		**P**	**22 21 11.5**	**+0.2**
DAWY	**Dawson**	**24.84**	**45**	P		**P**	**22 21 17.7**	**+0.6**
DAWY					IAmb	IAmb	22 21 20.6	
	comp=Z,8.4nm,0.7s							
HYT	**Haines Junctio**	**25.47**	**53**	P		**P**	**22 21 25.8**	**+2.9**
HYT					IAmb	IAmb	22 21 27.1	
	comp=Z,8.8nm,0.6s							
EPYK	**Eagle Plains**	**26.35**	**40**	P		**P**	**22 21 29.7**	**-0.9**
EPYK					IAmb	IAmb	22 21 48.2	
	comp=Z,9.3nm,1.5s							
INK	**Inuvik**	**27.93**	**36**	P		**P**	**22 21 45.2**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=276,slow=9.2,SNR=2.4							
KLR	**Kul'dur**	**29.30**	**283**	P		**P**	**22 21 56.9**	**-0.1**
	comp=Z,3.1nm,0.6s,baz=86,slow=8.4,SNR=6.6							
USA0B	**Ussuriysk Arra**	**31.47**	**274**	P		**P**	**22 22 16.0**	**-0.1**
USA0B					IAmb	IAmb	22 22 16.6	
	comp=Z,2.1nm,0.6s							
USRK	**Ussuriysk Ar.**	**31.47**	**274**	P		**P**	**22 22 15.9**	**-0.2**
	comp=Z,2.6nm,0.6s,baz=62,slow=11,SNR=6.6							
YKA	**Yellowknife Ar**	**36.05**	**47**	P		**P**	**22 22 56.1**	**+0.7**
	comp=Z,1.6nm,0.6s,baz=281,slow=8.1,SNR=10							
KSRS	**Korea Array**	**37.88**	**268**	P		**P**	**22 23 12.2**	**+0.9**
	comp=Z,0.9nm,0.4s,baz=66,slow=7.4,SNR=6.7							
K05A	**Summer Lake**	**41.05**	**78**	P		**P**	**22 23 37.6**	**-0.2**
I07A	**Izee**	**41.12**	**76**	P		**P**	**22 23 38.3**	**+0.1**
MOD	**Modoc Plateau**	**41.89**	**79**	P		**P**	**22 23 45.1**	**+0.6**
MOD					IAmb	IAmb	22 23 46.2	
	comp=Z,2.9nm,0.5s							
PNTR	**Pine Nut**	**44.01**	**82**	P		**P**	**22 24 02.5**	**+0.8**
PNTR					IAmb	IAmb	22 24 03.4	
	comp=Z,8.6nm,1.0s							
WAKR	**Walker**	**44.47**	**82**	P		**P**	**22 24 06.1**	**+0.7**
SONM	**Songino Array**	**44.76**	**295**	P		**P**	**22 24 07.9**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=70,slow=7.7,SNR=6.9							
SONM	**Songino Array**	**44.76**	**295**	P		**P**	**22 24 07.9**	**+0.4**
BOZ	**Bozeman (W)**	**44.90**	**69**	P		**P**	**22 24 07.8**	**-0.9**
NVAR	**Mina Array Bea**	**45.21**	**81**	P		**P**	**22 24 11.8**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=292,slow=7.9,SNR=13							
NVAR	**Mina Array Bea**	**45.21**	**81**	P		**P**	**22 24 11.6**	**+0.3**
ELK	**Elko**	**45.63**	**77**	P		**P**	**22 24 14.5**	**-0.1**
R11A	**Troy Canyon, C**	**46.92**	**80**	P		**P**	**22 24 24.6**	**0.0**
TPNV	**Topopah Spring**	**47.41**	**82**	P		**P**	**22 24 29.1**	**+0.7**
PDAR	**Pinedale Array**	**47.77**	**71**	P		**P**	**22 24 30.6**	**-0.6**
	comp=Z,0.9nm,0.5s,baz=313,slow=3.2,SNR=10							
PDAR	**Pinedale Array**	**47.77**	**71**	P		**P**	**22 24 30.5**	**-0.7**
PSUT	**Pine Spring**	**47.85**	**78**			**P**	**22 24 31.2**	**-0.6**
KNB	**Kanab**	**49.45**	**79**	P		**P**	**22 24 44.3**	**+0.2**
SPA0	**Spitsbergen Ar**	**49.56**	**355**	P		**P**	**22 24 44.4**	**+0.3**
SPITS	**Spitsbergen Ar**	**49.56**	**355**	P		**P**	**22 24 43.3**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=44,slow=7.5,SNR=7.0							
RSSD	**Black Hills**	**50.12**	**66**	P		**P**	**22 24 48.4**	**-0.7**
RSSD					IAmb	IAmb	22 25 03.2	
	comp=Z,2.9nm,1.2s							
PV11	**David Mesa, Pa**	**50.99**	**75**	P		**P**	**22 24 55.5**	**-0.2**
KURK	**Kurchatov**	**57.26**	**312**	P		**P**	**22 25 41.0**	**+0.4**
KURK					IAmb	IAmb	22 25 43.1	
	comp=Z,1.9nm,0.8s							
WMQ	**Urumqi**	**57.48**	**301**	*e*P		**P**	**22 25 44.0**	**+1.6**
WMQ					pmax	pmax		
	comp=Z,7.0nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,7μm,11.5s							
WMQ					LR	LR		
	comp=N,12μm,17.9s							
WMQ					LR	LR		
	comp=E,5μm,16.9s							
WMQ					LR	LR		
	comp=Z,15μm,24.1s							
MNTX	**Cornudas Mount**	**57.57**	**79**	P		**P**	**22 25 43.0**	**-0.1**
MK31	**Makanchi Array**	**58.22**	**307**	P		**P**	**22 25 46.7**	**-0.8**
MK31					IAmb	IAmb	22 25

USRK Ussuriysk Ar. 87.22 326 P **P** **22 30 29.6 +0.7**
comp=Z,9.4nm,1.0s,baz=122,slow=5.2,SNR=2.6
USRK Ussuriysk Ar. 87.22 326 P **P** **22 30 30.0 +1.1**
ARCES ARCESS Array B 138.35 348 PKP **PKiKP** **22 37 08.4 -0.9**
comp=Z,3.2nm,0.9s,baz=90,slow=1.8,SNR=1.7
FINES FINESS Array B 145.01 341 PKPbc **PKPbc** **22 37 17.9 -0.7**
comp=Z,13nm,0.8s,baz=46,slow=4.0,SNR=2.4
FINES FINESS Array B 145.01 341 **PKPbc** **22 37 18.1 -0.7**
AKASG Malin Array Be 151.41 324 PKPbc **PKPbc** **22 37 35.4 -0.7**
comp=Z,4.4nm,0.6s,baz=49,slow=3.0,SNR=1.8
AKASG PKPab **PKPab** **22 37 44.4 -0.1**
comp=Z,19nm,0.8s,baz=44,slow=2.7,SNR=5.2
AKASG Malin Array Be 151.41 324 **PKPbc** **22 37 35.9 -0.3**

AEIC ***23*** *22:18:35.5±2.1,52.°0N±0.°1×178.°24E±0.°09,h142km±4km, Error ellipse: s-maj=16.3km s-min=8.1km az=182.0*
MOS ***23*** *22:18:36.8±0.9,52.°15N×178.°30E,h126km,mb4.8/6, Error ellipse: s-maj=7.1km s-min=5.8km az=100.6*
UNK ***23*** *22:18:37.3,52.°06N×178.°33E,h118km*
IDC ***23*** *22:18:39.0±0.8,52.°16N×178.°35E,h132km±6km,mb4.3/34, mb1 4.4/37,mb1mx4.2/69,mbtmp4.7/37, Error ellipse: s-maj=13.5km s-min=6.9km az=170.0*
NEIC ***23*** *22:18:38.1±1.1,52.°1N±0.°1×178.°33E±0.°09,h126km±4km, mb4.8/181,ML4.3(AEIC), Error ellipse: s-maj=14.7km s-min=8.0km az=181.0*

ISC 23 22:18:37.8±0.5,52.°13N±0.°07×178.°23E±0.°03,h123km±4km, n649,σ1⁄3 07/674,mb4.8/138,15C-13D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
LSNW	**Little Sitkin**	**0.24**	**132**			**Pn**	**22**	**18**	**54.9**	**+0.1**
LSSA	**Little Sitkin**	**0.25**	**136**			**Pn**	**22**	**18**	**55.1**	**+0.2**
LSPA	**Little Sitkin**	**0.28**	**129**			**Pn**	**22**	**18**	**55.1**	**+0.1**
LSPA						**Sn**	**22**	**19**	**10.9**	**+3.1**
CESW	**Semis' Southwe**	**0.86**	**105**			**Pn**	**22**	**18**	**58.3**	**-0.3**
CERB	**Semis' Cerberu**	**0.89**	**103**			**Pn**	**22**	**18**	**58.9**	**0.0**
CERAA	**Semis' Rag'd T**	**0.93**	**104**			**Pn**	**22**	**18**	**59.1**	**-0.2**
AMKA	**Amchitka**	**1.01**	**138**			**Pn**	**22**	**18**	**59.0**	**-1.1**
GAEA	**Gareloi East**	**1.90**	**99**			**Pn**	**22**	**19**	**09.9**	**-0.2**
TASE	**Tanaga Southea**	**2.33**	**96**			**Pn**	**22**	**19**	**14.8**	**-0.6**
TAFP	**Tanaga Falls P**	**2.35**	**94**			**Pn**	**22**	**19**	**14.9**	**-0.8**
TAFP						**Sn**	**22**	**19**	**44.8**	**-0.1**
TAPA	**Tanaga Point A**	**2.47**	**96**			**Pn**	**22**	**19**	**16.4**	**-0.8**
SMY	**Shemya**	**2.60**	**285**	P		**Pn**	**22**	**19**	**18.9**	**+0.1**
SMY	**Shemya**	**2.60**	**285**			**Pn**	**22**	**19**	**18.9**	**+0.1**
KIMD	**Kanaga Island**	**2.83**	**96**			**Pn**	**22**	**19**	**20.9**	**-1.0**
KIMD						**Sn**	**22**	**19**	**55.0**	**-0.9**
KICM	**Kanaga Island**	**2.83**	**93**			**Pn**	**22**	**19**	**21.3**	**-0.6**
KIKV	**Kanaga Island**	**2.85**	**93**			**Pn**	**22**	**19**	**21.4**	**-0.8**
KIRH	**Kanaga Island**	**2.90**	**93**			**Pn**	**22**	**19**	**22.0**	**-0.8**
ADK	**Adak**	**3.15**	**93**	P		**Pn**	**22**	**19**	**24.9**	**-1.2**
ADK	**Adak**	**3.15**	**93**			**Pn**	**22**	**19**	**24.9**	**-1.2**
GSTD	**Great Sitkin T**	**3.47**	**89**			**Pn**	**22**	**19**	**29.2**	**-1.1**
GSTD						**Sn**	**22**	**20**	**10.8**	**-0.2**
GSTR	**Great Sitkin T**	**3.52**	**88**			**Pn**	**22**	**19**	**30.2**	**-0.7**
GSMY	**Great Sitkin M**	**3.53**	**89**			**Pn**	**22**	**19**	**30.4**	**-0.6**
KOKL	**Mount Kliuchef**	**4.66**	**85**			**Pn**	**22**	**19**	**45.5**	**-0.6**
ATKA	**Atka Island**	**4.66**	**86**			**Pn**	**22**	**19**	**45.4**	**-0.7**
KOFP	**Korovin Flat P**	**4.72**	**85**			**Pn**	**22**	**19**	**47.1**	**+0.1**
KOSE	**Korovin Southe**	**4.75**	**84**			**Pn**	**22**	**19**	**47.1**	**-0.3**
NIKH	**Nikolski High**	**7.92**	**79**			**Pn**	**22**	**20**	**29.7**	**-0.3**
OKSP	**Okmok Steeple**	**8.27**	**77**			**Pn**	**22**	**20**	**36.4**	**+1.7**
OKCE	**Okmok Cone E**	**8.35**	**76**			**Pn**	**22**	**20**	**37.2**	**+1.4**
SPIA	**Saint Paul Isl**	**8.37**	**48**	Pn		**Pn**	**22**	**20**	**37.4**	**+1.4**
OKNC	**Okmok New Cone**	**8.38**	**76**			**Pn**	**22**	**20**	**37.5**	**+1.3**
MSW	**Makushin Switc**	**9.21**	**73**			**Pn**	**22**	**20**	**48.5**	**+1.1**
MREP	**Makushin Rep't**	**9.22**	**74**			**Pn**	**22**	**20**	**48.4**	**+0.8**
MNAT	**Makushin Natee**	**9.27**	**73**			**Pn**	**22**	**20**	**49.2**	**+1.1**
UNV	**Unalaska Valle**	**9.37**	**73**	Pn		**Pn**	**22**	**20**	**49.4**	**-0.1**
AKRB	**Akutan Reef Bi**	**9.65**	**72**			**Pn**	**22**	**20**	**54.8**	**+1.5**
AKMO	**Akutan Morgan**	**9.68**	**72**			**Pn**	**22**	**20**	**54.8**	**+1.1**
AKGG	**Akutan Green G**	**9.70**	**71**			**Pn**	**22**	**20**	**55.3**	**+1.3**
AKLV	**Akutan Long Va**	**9.72**	**72**			**Pn**	**22**	**20**	**56.3**	**+2.0**
FALS	**False Pass**	**11.27**	**69**	Pn		**Pn**	**22**	**21**	**15.4**	**+0.5**
PET	**Petropavlovsk**	**11.94**	**282**	*e*P		**Pn**	**22**	**21**	**23.2**	**-0.7**
PET				*e*S		**Sn**	**22**	**23**	**27.6**	**-7.6**
PET				pmax		pmax				
	comp=Z,20nm,1.6s									
PET	**Petropavlovsk**	**11.94**	**282**	Pn		**Pn**	**22**	**21**	**24.1**	**+0.3**
PEA0B	**Petropavlovsk-**	**12.51**	**283**	P		**Pn**	**22**	**21**	**32.1**	**+0.8**
PEA0B	**Petropavlovsk-**	**12.51**	**283**	Pn		**Pn**	**22**	**21**	**32.1**	**+0.8**
PETK	**Petropavlovsk-**	**12.51**	**283**	P		**Pn**	**22**	**21**	**33.5**	**+2.2**
	comp=Z,1.6nm,0.3s,baz=94,slow=20,SNR=16									
PETK				S		**Sn**	**22**	**23**	**45.5**	**-3.5**
	comp=Z,2.2nm,0.3s,baz=91,slow=20,SNR=6.4									
PETK	**Petropavlovsk-**	**12.51**	**283**	P		**Pn**	**22**	**21**	**32.1**	**+0.8**
PETK	**Petropavlovsk-**	**12.51**	**283**	Pn		**Pn**	**22**	**21**	**32.1**	**+0.8**
SDPT	**Sand Point**	**13.00**	**67**	Pn		**Pn**	**22**	**21**	**36.2**	**-1.4**
CNBA	**Chernabura Isl**	**13.47**	**70**	Pn		**Pn**	**22**	**21**	**40.6**	**-3.1**
SKR	**Severo-Kuril's**	**13.87**	**273**	*e*P		**P**	**22**	**21**	**53.1**	**0.0**
SKR				*e*S		**Sn**	**22**	**24**	**14.3**	**-7.5**
SKR				pmax		pmax				
	comp=Z,47nm,0.9s									
SKR				smax		smax				
	comp=N,20nm,1.0s									
SKR				smax		smax				
	comp=E,50nm,0.9s									
CHIR	**Chirikof Islan**	**15.78**	**66**	Pn		**Pn**	**22**	**22**	**10.5**	**-2.3**
SII	**Sitkinak Islan**	**16.62**	**64**	Pn		**Pn**	**22**	**22**	**20.8**	**-2.4**
SII				IAmb		IAmb	22	22	30.9	
	comp=Z,88nm,1.4s									
SVW2	**Sparrevohn**	**16.87**	**48**	P		**P**	**22**	**22**	**27.0**	**+0.8**
SVW2				IAmb		IAmb	22	22	35.0	
	comp=Z,32nm,0.8s									
BILL	**Bilibino**	**16.98**	**345**	*i* P		**Pn**	**22**	**22**	**28.6**	**+1.2**
BILL				pmax		pmax				
	comp=Z,32nm,0.9s									
BILL	**Bilibino**	**16.98**	**345**			**Pn**	**22**	**22**	**29.0**	**+1.6**
BILL				IAmb		IAmb	22	22	31.4	
	comp=Z,35nm,0.9s									
MA2	**Magadan**	**17.02**	**307**	P		**Pn**	**22**	**22**	**29.1**	**+1.0**
	comp=Z,1.3nm,0.3s,baz=105,slow=12,SNR=5.5									
MA2	**Magadan**	**17.02**	**307**	P		**Pn**	**22**	**22**	**28.8**	**+0.7**
OHAK	**Old Harbor**	**17.17**	**62**	P		**P**	**22**	**22**	**27.3**	**-2.1**
TTA	**Tatalina**	**17.41**	**42**	P		**Pn**	**22**	**22**	**33.5**	**+0.7**
TTA				pmax		pmax				
	comp=Z,41nm,0.8s									
TTA	**Tatalina**	**17.41**	**42**			**Pn**	**22**	**22**	**33.5**	**+0.7**
TTA				IAmb		IAmb	22	22	35.8	
	comp=Z,41nm,0.8s									
KDAK	**Kodiak Island**	**17.60**	**60**	P		**P**	**22**	**22**	**32.1**	**-2.1**
	comp=Z,20nm,0.3s,baz=278,slow=5.9,SNR=110									
KDAK	**Kodiak Island**	**17.60**	**60**	P		**P**	**22**	**22**	**32.5**	**-1.7**
KDAK				pmax		pmax				
	comp=Z,58nm,0.6s									
KDAK	**Kodiak Island**	**17.60**	**60**	P		**P**	**22**	**22**	**32.5**	**-1.7**
RSO	**Redoubt South**	**18.00**	**51**	P		**Pn**	**22**	**22**	**40.6**	**+0.6**
RDOG	**Red Dog Mine**	**18.39**	**23**			**Pn**	**22**	**22**	**44.7**	**+0.4**
CNPM	**China Poot**	**18.55**	**55**	P		**P**	**22**	**22**	**44.7**	**+0.1**
BRLK	**Bradley Lake**	**18.76**	**54**	P		**P**	**22**	**22**	**46.5**	**-0.5**
PPLA	**Purkeypile**	**19.00**	**44**	P		**Pn**	**22**	**22**	**51.8**	**0.0**
SEW	**Seward**	**19.53**	**53**	P		**P**	**22**	**22**	**55.0**	**-0.3**
BPAW	**Bear Paw Mtn.**	**19.95**	**41**	P		**Pn**	**22**	**23**	**01.1**	**-1.5**
BPAW				IAmb		IAmb	22	23	04.6	
	comp=Z,56nm,1.2s									
PMR	**Palmer**	**19.99**	**49**	P		**P**	**22**	**22**	**59.7**	**-0.4**
PMR				pmax		pmax				
	comp=Z,13nm,0.7s									
PMR	**Palmer**	**19.99**	**49**	P		**P**	**22**	**22**	**59.7**	**-0.4**
TRF	**Thorofare Moun**	**20.00**	**43**	P		**P**	**22**	**23**	**00.7**	**+0.2**
GHO	**Glory Hole Cre**	**20.12**	**49**	P		**P**	**22**	**23**	**01.2**	**-0.5**
GHO				IAmb		IAmb	22	23	04.5	
	comp=Z,39nm,0.6s									
KNK	**Knik Glacier**	**20.26**	**50**	P		**P**	**22**	**23**	**03.0**	**-0.2**
KNK				IAmb		IAmb	22	23	06.2	
	comp=Z,36nm,0.6s									
SML	**Sawmill**	**20.41**	**49**	P		**P**	**22**	**23**	**04.6**	**-0.2**
RND	**Reindeer**	**20.60**	**44**	P		**P**	**22**	**23**	**06.8**	**-0.1**
RND				pmax		pmax				
	comp=Z,16nm,0.7s									
RND	**Reindeer**	**20.60**	**44**	P		**P**	**22**	**23**	**06.8**	**-0.1**
MCK	**McKinley**	**20.67**	**43**	P		**P**	**22**	**23**	**07.8**	**+0.3**
MCK				pmax		pmax				
	comp=Z,52nm,1.1s									
MCK	**McKinley**	**20.67**	**43**	P		**P**	**22**	**23**	**07.8**	**+0.3**
MCK				IAmb		IAmb	22	23	10.6	
	comp=Z,52nm,1.1s									
GLI	**Glacier Island**	**20.81**	**52**	P		**P**	**22**	**23**	**08.5**	**-0.5**
SCM	**Sheep Creek Mo**	**20.88**	**49**	P		**P**	**22**	**23**	**09.5**	**-0.3**
SCM				pmax		pmax				
	comp=Z,68nm,1.0s									
SCM	**Sheep Creek Mo**	**20.88**	**49**	P		**P**	**22**	**23**	**09.5**	**-0.3**
NEA2	**Nenana**	**20.91**	**41**	P		**P**	**22**	**23**	**10.8**	**+0.7**
	baz=249,SNR=46									
FID	**Port Fidalgo**	**21.09**	**52**	P		**P**	**22**	**23**	**10.9**	**-1.1**
FID				IAmb		IAmb	22	23	17.1	
	comp=Z,34nm,0.6s									
DHY	**Denali Highway**	**21.15**	**45**	P		**P**	**22**	**23**	**12.7**	**-0.1**
WRH	**Wood River Hil**	**21.26**	**42**	P		**P**	**22**	**23**	**13.3**	**-0.6**
WRH				IAmb		IAmb	22	23	17.3	
	comp=Z,34nm,1.3s									
MDM	**Murphy Dome**	**21.38**	**40**	P		**P**	**22**	**23**	**15.6**	**+0.5**
MDM				IAmb		IAmb	22	23	17.7	
	comp=Z,20nm,0.6s									
CCB	**Clear Creek Bu**	**21.44**	**41**	P		**P**	**22**	**23**	**15.0**	**-0.7**
CCB				IAmb		IAmb	22	23	18.2	
	comp=Z,41nm,1.4s									
TCOL	**CIGO, UAF Yank**	**21.49**	**41**	P		**P**	**22**	**23**	**16.8**	**+0.5**
	baz=250									
COLA	**College**	**21.50**	**41**	P		**P**	**22**	**23**	**16.4**	**+0.1**
COLA				pmax		pmax				
	comp=Z,30nm,0.9s									
COLA	**College**	**21.50**	**41**	P		**P**	**22**	**23**	**16.4**	**+0.1**
COLA				IAmb		IAmb	22	23	20.3	
	comp=Z,30nm,0.8s									
COLD	**Coldfoot**	**21.60**	**34**	P		**P**	**22**	**23**	**17.1**	**-0.3**
	baz=241									
COLD	**Coldfoot**	**21.60**	**34**	P		**P**	**22**	**23**	**17.2**	**-0.3**
HDA	**Harding Lake**	**21.71**	**42**	P		**P**	**22**	**23**	**18.4**	**-0.3**
	baz=252,SNR=20									
HDA	**Harding Lake**	**21.71**	**42**	P		**P**	**22**	**23**	**17.7**	**-1.0**
HDA				IAmb		IAmb	22	23	20.1	
	comp=Z,24nm,0.6s									
POKR	**Poker Plat Res**	**21.75**	**40**	P		**P**	**22**	**23**	**18.5**	**-0.5**
	baz=250,SNR=5.3									
IL31		**21.85**	**41**	P		**P**	**22**	**23**	**19.2**	**-0.8**
ILAR	**Eielson Array**	**21.85**	**41**	P		**P**	**22**	**23**	**18.4**	**-1.7**
	comp=Z,5.0nm,0.4s,baz=248,slow=8.9,SNR=33									
ILAR				ScP		**ScP**	**22**	**30**	**37.1**	**-2.9**
	comp=Z,1.8nm,0.6s,baz=285,slow=3.8,SNR=7.6									
ILAR	**Eielson Array**	**21.85**	**41**	P		**P**	**22**	**23**	**19.1**	**-1.0**
RAGM	**Ragged Mountai**	**21.93**	**53**	P		**P**	**22**	**23**	**20.7**	**-0.4**
PAX	**Paxson**	**21.97**	**46**	P		**P**	**22**	**23**	**21.1**	**-0.3**
PAX				pmax		pmax				
	comp=Z,29nm,0.7s									
PAX	**Paxson**	**21.97**	**46**	P		**P**	**22**	**23**	**21.1**	**-0.3**
PAX				IAmb		IAmb	22	23	23.0	
	comp=Z,29nm,0.7s									
RIDG	**Independent Ri**	**22.42**	**44**	P		**P**	**22**	**23**	**24.6**	**-1.3**
RIDG				IAmb		IAmb	22	23	27.1	
	comp=Z,20nm,0.4s									
GLB	**Gilahina Butte**	**22.47**	**51**	P		**P**	**22**	**23**	**26.1**	**-0.3**
GLB				IAmb		IAmb	22	23	30.4	
	comp=Z,22nm,0.6s									
TOLK	**Toolik Lake Re**	**22.52**	**31**	P		**P**	**22**	**23**	**26.5**	**-0.4**
	baz=239									
VRDI	**Verde Repeater**	**22.61**	**51**	P		**P**	**22**	**23**	**27.9**	**-0.2**
PRP	**Porcupine Dome**	**22.64**	**40**	P		**P**	**22**	**23**	**27.0**	**-1.2**
CRQM	**Cirque**	**22.72**	**53**	P		**P**	**22**	**23**	**29.4**	**+0.3**
DOT	**Dot Lake**	**22.74**	**45**	P		**P**	**22**	**23**	**28.3**	**-0.8**
DOT				IAmb		IAmb	22	23	30.8	
	comp=Z,27nm,0.8s									
MENT	**Mentasta**	**22.74**	**47**	P		**P**	**22**	**23**	**29.5**	**+0.4**
MENT				IAmb		IAmb	22	23	31.0	
	comp=Z,26nm,0.8s									
MCARA	**McCarthy VSAT**	**22.84**	**51**	P		**P**	**22**	**23**	**30.1**	**+0.1**
MCARA				IAmb		IAmb	22	23	33.1	
	comp=Z,48nm,0.8s									
SCRK	**Sand Creek**	**22.84**	**44**	P		**P**	**22**	**23**	**29.2**	**-1.0**
FYU	**Fort Yukon**	**23.11**	**37**	P		**P**	**22**	**23**	**32.9**	**+0.4**
FYU				IAmb		IAmb	22	23	35.5	
	comp=Z,35nm,0.9s									
BALM	**Baldy**	**23.13**	**52**	P		**P**	**22**	**23**	**32.9**	**0.0**
BALM				IAmb		IAmb	22	23	34.2	
	comp=Z,18nm,0.6s									
YSS	**Yuzh-Sakhalins**	**23.43**	**271**	*e*P		**P**	**22**	**23**	**37.4**	**+1.7**
YSS				pmax		pmax				
	comp=Z,50nm,0.9s									
YSS	**Yuzh-Sakhalins**	**23.43**	**271**	P		**P**	**22**	**23**	**36.5**	**+0.9**
BARN	**Barnard Glacie**	**23.46**	**52**	P		**P**	**22**	**23**	**36.4**	**+0.3**
CTGM	**Chitina Glacie**	**23.62**	**52**	P		**P**	**22**	**23**	**37.6**	**+0.2**
BCAR	**Beaver Creek A**	**23.64**	**47**	P		**P**	**22**	**23**	**37.4**	**-0.1**
BMAR	**Burnt Mountain**	**23.66**	**36**	P		**P**	**22**	**23**	**38.0**	**+0.5**
TABL	**Table Mountain**	**23.68**	**53**	P		**P**	**22**	**23**	**38.1**	**0.0**
PCA	**Pinnacle**	**24.12**	**54**	P		**P**	**22**	**23**	**41.7**	**-0.2**
EGAK	**Eagle**	**24.22**	**43**	P		**P**	**22**	**23**	**42.7**	**+0.1**
DAWY	**Dawson**	**24.85**	**45**	P		**P**	**22**	**23**	**48.9**	**+0.5**
JKA	**Kamikawa-asahi**	**24.89**	**265**	P		**P**	**22**	**23**	**49.9**	**+1.0**
JKA				IAmb		IAmb	22	23	51.1	
	comp=Z,22nm,0.8s									
ASAJ	**Asahikawa**	**24.89**	**265**	P		**P**	**22**	**23**	**50.3**	**+1.3**
	comp=Z,18nm,0.7s,baz=63,slow=8.9,SNR=18									
ASAJ	**Asahikawa**	**24.89**	**265**	P		**P**	**22**	**23**	**49.9**	**+1.0**
ASAJ				pmax		pmax				
	comp=Z,22nm,0.8s									
HYT	**Haines Junctio**	**25.48**	**53**	P		**P**	**22**	**23**	**55.4**	**+1.1**
ERM	**Erimo**	**25.71**	**261**	P		**P**	**22**	**23**	**56.2**	**-0.1**
ERM				pmax		pmax				
	comp=Z,21nm,0.8s									
ERM	**Erimo**	**25.71**	**261**	P		**P**	**22**	**23**	**56.2**	**-0.1**
ERM				IAmb		IAmb	22	23	58.4	
	comp=Z,22nm,0.8s									
EPYK	**Eagle Plains**	**26.34**	**40**	P		**P**	**22**	**24**	**01.8**	**-0.1**
	baz=259,SNR=18									
EPYK	**Eagle Plains**	**26.34**	**40**	P		**P**	**22**	**24**	**01.9**	**+0.1**
EPYK				IAmb		IAmb	22	24	03.1	
	comp=Z,26nm,0.9s									
YAK	**Yakutsk**	**27.52**	**310**	P		**P**	**22**	**24**	**12.6**	**+0.2**
YAK				pmax		pmax				
	comp=Z,21nm,1.1s									
YAK	**Yakutsk**	**27.52**	**310**	P		**P**	**22**	**24**	**12.6**	**+0.2**
YAK				IAmb		IAmb	22	24	13.4	
	comp=Z,21nm,1.1s									
INK	**Inuvik**	**27.92**	**36**	P		**P**	**22**	**24**	**16.6**	**+0.8**
	comp=Z,5.3nm,0.5s,baz=242,slow=10,SNR=17									
INK	**Inuvik**	**27.92**	**36**	P		**P**	**22**	**24**	**16.1**	**+0.3**
INK				pmax		pmax				
	comp=Z,5.0nm,0.9s									
INK	**Inuvik**	**27.92**	**36**	P		**P**	**22**	**24**	**16.1**	**+0.3**
TIXI	**Tiksi**	**29.07**	**330**	P		**P**	**22**	**24**	**27.0**	**+1.1**
	comp=Z,1.5nm,0.3s,baz=123,slow=3.0,SNR=1.4									
TIXI				ScP		**ScP**	**22**	**30**	**59.0**	**-1.6**
	comp=Z,6.0nm,0.7s,baz=114,slow=3.2,SNR=10									
KLR	**Kul'dur**	**29.20**	**283**	P		**P**	**22**	**24**	**27.9**	**+0.4**
	comp=Z,11nm,0.4s,baz=64,slow=8.4,SNR=64									
DLBC	**Dease Lake**	**29.49**	**57**	P		**P**	**22**	**24**	**31.0**	**+1.1**
	comp=Z,3.9nm,0.6s,baz=291,slow=10,SNR=7.4									
A36M	**Sachs Harbour**	**31.34**	**30**	P		**P**	**22**	**24**	**47.3**	**+1.4**
	baz=261,SNR=7.3									
USA0B	**Ussuriysk Arra**	**31.38**	**274**	P		**P**	**22**	**24**	**46.8**	**+0.1**
USA0B				pmax		pmax				
	comp=Z,14nm,0.7s									
USA0B	**Ussuriysk Arra**	**31.38**	**274**	P		**P**	**22**	**24**	**46.8**	**+0.1**
USA0B				IAmb		IAmb	22	24	47.5	
	comp=Z,14nm,0.7s									
USRK	**Ussuriysk Ar.**	**31.38**	**274**	P		**P**	**22**	**24**	**46.8**	**+0.1**
	comp=Z,14nm,0.6s,baz=55,slow=9.8,SNR=37									
USRK				PcP		**PcP**	**22**	**27**	**37.7**	**+0.5**
	comp=Z,5.2nm,0.6s,baz=231,slow=0.2,SNR=9.7									
USRK	**Ussuriysk Ar.**	**31.38**	**274**	P		**P**	**22**	**24**	**46.5**	**-0.1**
USRK						**PcP**	**22**	**27**	**37.5**	**+0.3**
MJAR	**Matsushiro Arr**	**32.12**	**257**	P		**P**	**22**	**24**	**54.3**	**+1.1**
	comp=Z,3.6nm,0.6s,baz=49,slow=6.6,SNR=16									
MJAR				PcP		**PcP**	**22**	**27**	**40.0**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=111,slow=1.1,SNR=5.4									
MJAR	**Matsushiro Arr**	**32.12**	**257**	P		**P**	**22**	**24**	**54.3**	**+1.1**
MJAR				PcP		**PcP**	**22**	**27**	**39.4**	**+0.1**
MAJO	**Matsushiro**	**32.12**	**257**	P		**P**	**22**	**24**	**53.9**	**+0.7**
MAJO				pmax		pmax				
	comp=Z,16nm,1.0s									
MAJO	**Matsushiro**	**32.12**	**257**	P		**P**	**22**	**24**	**53.9**	**+0.7**
MAJO				IAmb		IAmb	22	24	55.2	
	comp=Z,16nm,0.9s									
MAT	**Matsushiro**	**32.12**	**257**	P		**P**	**22**	**24**	**54.0**	**+0.8**
MJB9	**Matsu-Tunnel**	**32.12**	**257**	P		**P**	**22**	**24**	**54.2**	**+1.0**
MJB9				IAmb		IAmb	22	24	55.2	
	comp=Z,16nm,0.9s									
MDJ	**Mudanjiang**	**32.64**	**276**	P		**P**	**22**	**24**	**57.2**	**-0.5**
MDJ				IAmb		IAmb	22	24	57.6	
	comp=Z,7.8nm,0.6s									
BOD	**Bodaibo**	**36.04**	**305**	*e*P		**P**	**22**	**25**	**25.4**	**-1.4**
BOD				pmax		pmax				
	comp=Z,11nm,1.1s									
YKA	**Yellowknife Ar**	**36.05**	**47**	P		**P**	**22**	**25**	**27.3**	**+0.5**
	comp=Z,7.9nm,0.6s,baz=279,slow=8.3,SNR=54									
YKA				ScP		**ScP**	**22**	**31**	**22.2**	**-2.6**
	comp=Z,1.9nm,0.9s,baz=271,slow=3.3,SNR=7.1									
HIA	**Hailar**	**36.29**	**289**	P		**P**	**22**	**25**	**28.7**	**-0.4**
HIA				pmax		pmax				
	comp=Z,11nm,0.6s									
HIA	**Hailar**	**36.29**	**289**	P		**P**	**22**	**25**	**28.7**	**-0.4**
HIA				IAmb		IAmb	22	25	29.2	
	comp=Z,11nm,0.6s									
LLLB	**Lillooet**	**36.49**	**68**	P		**P**	**22**	**25**	**30.5**	**-0.3**
LLLB				IAmb		IAmb	22	25	33.5	
	comp=Z,16nm,1.4s									
D03D	**Eldon**	**37.23**	**73**	P		**P**	**22**	**25**	**36.7**	**-0.3**
	baz=299,SNR=8.9									
B05A	**Bryant**	**37.46**	**72**	P		**P**	**22**	**25**	**38.0**	**-0.9**
	baz=299									
KSRS	**Korea Array**	**37.80**	**267**	P		**P**	**22**	**25**	**43.5**	**+1.5**
	comp=Z,9.1nm,0.8s,baz=58,slow=8.2,SNR=44									
KSRS				PcP		**PcP**	**22**	**27**	**56.9**	**+1.0**
	comp=Z,3.3nm,0.8s,baz=44,slow=2.8,SNR=14									
KS19	**Wonju Array Si**	**37.81**	**268**	P		**P**	**22**	**25**	**43.0**	**+1.1**
KS19				IAmb		IAmb	22	25	44.5	
	comp=Z,15nm,1.1s									
KSAR	**Wonju Array Be**	**37.83**	**267**	P		**P**	**22**	**25**	**43.0**	**+0.8**
KSAR							22	27	56.3	
KSAR	**Wonju Array Be**	**37.83**	**267**	P		**P**	**22**	**25**	**43.0**	**+0.8**
KSAR				PcP		**PcP**	**22**	**27**	**56.3**	**+0.3**
E04D	**Cinebar**	**38.03**	**74**	P		**P**	**22**	**25**	**43.4**	**-0.4**
	baz=301									
LON	**Longmire**	**38.38**	**73**	P		**P**	**22**	**25**	**46.7**	**-0.1**
LON				pmax		pmax				
	comp=Z,2.0nm,0.7s									
LON	**Longmire**	**38.38**	**73**	P		**P**	**22**	**25**	**46.7**	**-0.1**
F04A	**Amboy**	**38.44**	**75**	P		**P**	**22**	**25**	**47.1**	**-0.1**
F04A				IAmb		IAmb	22	25	47.5	
	comp=Z,12nm,0.6s									
I02D	**Swisshome**	**38.56**	**78**	P		**P**	**22**	**25**	**48.0**	**-0.2**
	baz=303									
INCN	**Inchon**	**38.58**	**269**	P		**P**	**22**	**25**	**49.4**	**+0.9**
INCN				pmax		pmax				
	comp=Z,29nm,0.7s									
INCN	**Inchon**	**38.58**	**269**

BOZ pmax pmax
comp=Z,11nm,1.0s
BOZ Bozeman (W) 44.95 69 P P 22 26 39.1 -1.3
ZAK Zakamensk 44.98 299 eP P 22 26 40.1 -0.4
ZAK e 22 28 19.8
ZAK pmax pmax
comp=Z,5.0nm,1.4s
RYN Ryan 45.02 81 P P 22 26 40.8 -0.2
RYN IAmb IAmb 22 26 41.2
comp=Z,10nm,0.5s
TIA Tai'an 45.25 274 P P 22 26 43.3 +0.7
TIA pmax pmax
comp=Z,32nm,0.6s
NVAR Mina Array Bea 45.28 81 P P 22 26 43.0 -0.2
comp=Z,5.0nm,0.5s,baz=293,slow=7.9,SNR=48
NVAR pP pP 22 27 12.1 +0.9
comp=Z,2.4nm,0.6s,baz=293,slow=7.1,SNR=4.9
NVAR Mina Array Bea 45.28 81 P P 22 26 42.6 -0.5
NV11 Mina Array Sit 45.37 81 P P 22 26 43.4 -0.3
QLMT Earthquake Lak 45.51 70 P P 22 26 44.0 -0.8
ELK Elko 45.70 77 P P 22 26 45.9 -0.5
ELK pmax pmax
comp=Z,5.0nm,0.7s
ELK Elko 45.70 77 P P 22 26 45.9 -0.5
HHC Hu-ho-hao-te 45.71 283 eP P 22 26 50.8 +4.4
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,2µm,6.0s
PAGB Antelope Grade 45.82 86 P P 22 26 47.5 +0.3
H17A Grant Village 46.26 70 P P 22 26 50.8 0.0
baz=306
RLMT Red Lodge 46.58 68 P P 22 26 52.2 -1.0
baz=306,SNR=6.1
RLMT Red Lodge 46.58 68 P P 22 26 52.5 -0.8
PKM Mcpherson Peak 46.64 86 P P 22 26 53.3 -0.5
baz=312
CWC Cottonwood Cre 46.69 83 P P 22 26 53.4 -0.7
baz=311
FCC Fort Churchill 46.76 46 P P 22 26 53.8 -0.4
FCC pmax pmax
comp=Z,6.0nm,1.0s
FCC Fort Churchill 46.76 46 P P 22 26 53.8 -0.4
BGU Big Grassy Mou 46.91 75 P P 22 26 55.6 -0.2
ISA Isabella, Lake 46.95 85 P P 22 26 55.0 -1.0
baz=311
NJ2 Nanjing 46.96 269 eP P 22 26 56.4 +0.3
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
R11A Troy Canyon, C 46.98 80 P P 22 26 55.7 -0.7
baz=310,SNR=14
R11A Troy Canyon, C 46.98 80 P P 22 26 55.7 -0.7
MPMC Manual Prospec 47.30 83 P P 22 26 58.2 -0.7
baz=311,SNR=6.6
FURC Furnace Creek, 47.41 83 P P 22 26 59.1 -0.5
baz=311,SNR=6.6
TPNV Topopah Spring 47.48 82 P P 22 26 59.4 -0.8
baz=310,SNR=11
TPNV Topopah Spring 47.48 82 P P 22 26 59.8 -0.5
TPNV pmax pmax
comp=Z,13nm,0.9s
TPNV Topopah Spring 47.48 82 P P 22 26 59.8 -0.5
TPNV IAmb IAmb 22 27 00.8
comp=Z,13nm,0.9s
DUG Dugway, Tooele 47.49 76 P P 22 26 59.4 -0.8
baz=309,SNR=9.2
DUG Dugway, Tooele 47.49 76 P P 22 26 59.7 -0.6
DUG pmax pmax
comp=Z,15nm,1.2s
DUG Dugway, Tooele 47.49 76 P P 22 26 59.7 -0.6
DUG IAmb IAmb 22 27 00.6
comp=Z,15nm,1.2s
LRMC Laurel Mtn Rad 47.56 84 P P 22 26 59.9 -1.0
baz=311
EDW2 Edwards Air Fo 47.76 85 P P 22 27 01.1 -1.2
baz=312
BW06 Boulder Array 47.83 71 P P 22 27 01.3 -1.6
baz=308,SNR=8.9
PD31 Pinedale Array 47.83 71 P P 22 27 01.6 -1.3
PDAR Pinedale Array 47.83 71 P P 22 27 01.5 -1.4
comp=Z,3.2nm,0.5s,baz=315,slow=3.5,SNR=34
PSUT Pine Spring 47.91 78 P P 22 27 03.1 -0.6
SHOC Shoshone, Teco 48.14 83 P P 22 27 04.1 -1.1
baz=311
KULLO Kullorsuaq 48.30 17 i P P 22 27 06.4 +0.5
comp=Z,7.4nm,0.8s
KULLO Kullorsuaq 48.30 17 i P P 22 27 06.4 +0.5
KULLO pmax pmax
comp=Z,7.0nm,0.8s
BFSC Mount Baldy Ra 48.40 85 P P 22 27 06.6 -0.7
baz=312,SNR=5.5
TUQ Turquoise Moun 48.66 83 P P 22 27 08.5 -0.9
baz=312
CCUT Cedar City 48.84 79 P P 22 27 10.2 -0.6
MSU Marysvale 48.94 77 P P 22 27 11.1 -0.4
MSU Marysvale 48.94 77 P P 22 27 11.1 -0.4
KBS Kingsbay 48.94 357 P P 22 27 11.7 +1.0
KBS pmax pmax
comp=Z,9.0nm,0.9s
KBS Kingsbay 48.94 357 P P 22 27 11.7 +1.0
KBS IAmb IAmb 22 27 14.8
comp=Z,8.6nm,0.8s
MURC Murrieta 49.11 86 P P 22 27 11.9 -0.7
baz=313
GMRC Granite Mounta 49.26 83 P P 22 27 13.0 -0.9
baz=312,SNR=11
SPA0 Spitsbergen Ar 49.48 355 P P 22 27 15.1 +0.3
SPA0 IAmb IAmb 22 27 15.6
comp=Z,20nm,1.2s
SPITS Spitsbergen Ar 49.48 355 P P 22 27 15.0 +0.1
comp=Z,8.1nm,0.4s,baz=52,slow=6.7,SNR=66
SPITS Spitsbergen Ar 49.48 355 P P 22 27 15.0 +0.1
SRU San Rafael Swe 49.54 76 P P 22 27 15.6 -0.4
SRU pmax pmax
comp=Z,12nm,1.1s
SRU San Rafael Swe 49.54 76 P P 22 27 15.6 -0.4
PFO Pinyon Flats O 49.55 85 P P 22 27 14.8 -1.3
baz=313
PFO Pinyon Flats O 49.55 85 P P 22 27 15.4 -0.8
comp=Z,1.8nm,0.5s,baz=305,slow=5.2,SNR=6.1
PFO Pinyon Flats O 49.55 85 P P 22 27 15.5 -0.7
PFO pmax pmax
comp=Z,5.0nm,1.3s
PFO Pinyon Flats O 49.55 85 P P 22 27 15.5 -0.7
BELC Belle Mtn. Jos 49.58 84 P P 22 27 15.0 -1.3
baz=312,SNR=8.2
IRM Iron Mountain 49.99 84 P P 22 27 17.8 -1.5
baz=312,SNR=5.8
BC3 Big Chuckawall 50.14 84 P P 22 27 19.3 -1.3
baz=313
O20A White River Ci 50.24 73 P P 22 27 20.0 -1.4
baz=310
O20A White River Ci 50.24 73 P P 22 27 20.2 -1.2
O20A IAmb IAmb 22 27 20.4
comp=Z,6.7nm,0.5s
PDMCI Parker Dam,Lak 50.51 83 P P 22 27 22.4 -0.8
baz=312
YHNB Yeheng 50.69 260 P P 22 27 24.6 -0.2
YHNB IAmb IAmb 22 27 25.8
comp=Z,21nm,1.1s
WHN Wuhan 50.78 271 ⇓P P 22 27 25.6 +0.4
WHN pmax pmax
comp=Z,60nm,0.7s
ULM Lac du Bonnet 50.80 56 P P 22 27 24.4 -0.8
comp=Z,2.7nm,0.3s,baz=316,slow=8.3,SNR=4.1
DAG Danmarks Havn 50.92 5 i P P 22 27 24.8 -0.8
comp=Z,21nm,0.6s
DAG Danmarks Havn 50.92 5 i P P 22 27 24.8 -0.8
DAG pmax pmax
comp=Z,2.0nm,0.6s
GLA Glamis 50.94 84 P P 22 27 25.8 -0.6
baz=313
PV07 Paradox Valley 51.09 75 P P 22 27 26.6 -1.2
WUAZ Wupatki 51.38 80 P P 22 27 29.1 -0.8
baz=312
WUAZ Wupatki 51.38 80 P P 22 27 29.7 -0.2
SSLB Suanglung 51.60 260 P P 22 27 31.5 0.0
YULB Yu-li 51.69 259 P P 22 27 32.5 +0.4
XAN Xi'an 51.71 278 P P 22 27 32.0 -0.2
XAN pmax pmax
comp=Z,12nm,1.0s
XAN Xi'an 51.71 278 P P 22 27 32.1 -0.2
XAN pmax pmax
comp=Z,16nm,1.3s
XAN Xi'an 51.71 278 P P 22 27 32.1 -0.1
XAN IAmb IAmb 22 27 33.3
comp=Z,16nm,1.3s
ISCO Idaho Springs 52.00 72 P P 22 27 33.6 -1.0
baz=311
AGMN Agassiz Nation 52.01 58 P P 22 27 32.6 -1.5
baz=309,SNR=6.3
ZAA0 Zalesovo Array 52.16 312 P P 22 27 34.8 -0.4
ZAA0 PcP PcP 22 28 45.6 +0.5
ZALV Zalesovo Beam 52.16 312 P P 22 27 34.7 -0.5
comp=Z,1.6nm,0.4s,baz=49,slow=5.8,SNR=7.2
ZALV PcP PcP 22 28 45.4 +0.2
comp=Z,6.7nm,0.7s,baz=26,slow=4.3,SNR=18
ZALV ScP ScP 22 32 30.4 -0.1
comp=Z,1.0nm,0.6s,baz=22,slow=5.9,SNR=4.2
TPUB Ta-pu 52.17 259 P P 22 27 36.5 +0.8
S22A 4UR Ranch, Cre 52.63 74 P P 22 27 38.3 -1.0
baz=312
W18A Petrified Fore 52.64 79 P P 22 27 38.3 -0.9
baz=312
214A Organ Pipe Nat 52.92 84 P P 22 27 40.4 -0.8
baz=314
SUMG Summit 52.99 13 i P P 22 27 41.6 +0.1
comp=Z,16nm,0.7s
SUMG Summit 52.99 13 i P P 22 27 41.6 +0.1
SUMG pmax pmax
comp=Z,16nm,0.7s
SUMG Summit 52.99 13 P P 22 27 41.8 +0.3
SUMG IAmb IAmb 22 27 42.9
comp=Z,7.7nm,0.9s
B35A Bob, Littlefor 53.08 56 P P 22 27 41.2 -0.8
B35A IAmb IAmb 22 27 41.6
comp=Z,6.8nm,0.7s
GTA Gaotai 53.57 289 eP P 22 27 46.6 +0.7
GTA pmax pmax
comp=Z,28nm,0.6s
ENH Enshi 53.96 274 P P 22 27 48.7 0.0
T25A Trinidad 54.47 73 P P 22 27 52.0 -0.5
baz=312
EYMN Ely 54.48 56 P P 22 27 51.3 -1.0
baz=311,SNR=8.5
EYMN Ely 54.48 56 P P 22 27 51.7 -0.6
EYMN IAmb IAmb 22 27 52.7
comp=Z,11nm,1.0s
ECSD EROS Data Cent 54.54 62 P P 22 27 51.0 -1.8
baz=311
ANMO Albuquerque 54.73 77 P P 22 27 53.2 -1.3
baz=313
121A Cookes Peak, D 55.59 80 P P 22 28 00.3 -0.4
baz=314
121A Cookes Peak, D 55.59 80 P P 22 28 00.3 -0.4
CBKS Cedar Bluff 56.06 69 P P 22 28 02.8 -1.0
baz=313
KEV Kevo 56.62 348 P P 22 28 08.5 +1.3
KEV pmax pmax
comp=Z,30nm,1.5s
KEV Kevo 56.62 348 P P 22 28 08.5 +1.3
ARCES ARCESS Array B 57.01 349 P P 22 28 09.8 -0.1
comp=Z,3.0nm,0.6s,baz=26,slow=8.4,SNR=14
ARCES pP pwP 22 28 41.6 -1.3
comp=Z,3.3nm,0.7s,baz=44,slow=8.8,SNR=3.1
ARCES ARCESS Array B 57.01 349 P P 22 28 10.3 +0.3
ARE0 ARCESS Array S 57.01 349 P P 22 28 10.3 +0.3
KURK Kurchatov 57.15 312 P P 22 28 11.6 +0.4
KURK pmax pmax
comp=Z,38nm,1.4s
KURK Kurchatov 57.15 312 P P 22 28 11.6 +0.4
LVZ Lovozero 57.24 345 P P 22 28 11.6 0.0
LVZ pmax pmax
comp=Z,48nm,1.2s
LVZ Lovozero 57.24 345 P P 22 28 11.6 0.0
WMQ Urumqi 57.37 301 eP P 22 28 16.1 +3.1
MSTX Muleshoe 57.61 75 P P 22 28 14.0 -0.8
baz=314
SCIA State Center 57.62 62 P P 22 28 13.7 -0.9
baz=313
AMTX Amarillo 57.62 74 P P 22 28 14.2 -0.7
baz=314
MNTX Cornudas Mount 57.63 79 P P 22 28 14.0 -0.9
baz=315,SNR=9.3
MNTX Cornudas Mount 57.63 79 P P 22 28 14.5 -0.4
E43A Lone Tree Farm 57.81 55 P P 22 28 15.5 -0.4
E43A IAmb IAmb 22 28 16.2
comp=Z,12nm,0.8s
MK31 Makanchi Array 58.11 306 P P 22 28 17.8 -0.2
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MK31 Makanchi Array 58.11 306 P P 22 28 17.8 -0.2
MK31 IAmb IAmb 22 28 18.1
comp=Z,5.4nm,0.6s
MKAR Makanchi Array 58.11 306 P P 22 28 17.7 -0.3
comp=Z,8.5nm,0.6s,baz=48,slow=6.1,SNR=60
MAKZ Makanchi 58.25 307 P P 22 28 18.7 -0.3
MAKZ pmax pmax
comp=Z,10.0nm,0.7s
MAKZ Makanchi 58.25 307 P P 22 28 18.7 -0.3
MAKZ IAmb IAmb 22 28 19.5
comp=Z,10nm,0.7s
GYA Guiyang 58.42 273 P P 22 28 20.6 0.0
GYA pmax pmax
comp=Z,10.0nm,1.5s
JFWS Jewell Farm 58.52 59 P P 22 28 19.6 -1.3
baz=314
D46A Sault St. Mari 58.92 53 P P 22 28 23.3 -0.4
baz=314
F45A CMU Biological 59.04 54 P P 22 28 23.7 -0.7
baz=314
BRVK Borovoye 59.12 318 P P 22 28 25.4 +0.5
BRVK pmax pmax
comp=Z,18nm,0.5s
BRVK Borovoye 59.12 318 P P 22 28 25.4 +0.5
E46A Sault Ste Mari 59.16 53 P P 22 28 25.1 -0.2
D47A Chapleau 59.26 52 P P 22 28 24.7 -1.3
baz=315,SNR=8.9
WMOK Wichita Mounta 59.43 72 P P 22 28 25.9 -1.5
baz=315,SNR=6.5
WMOK Wichita Mounta 59.43 72 P P 22 28 26.5 -0.8
WMOK pmax pmax
comp=Z,4.0nm,1.0s
WMOK Wichita Mounta 59.43 72 P P 22 28 26.5 -0.8
D48A Paudash Townsh 59.80 51 P P 22 28 28.5 -1.2
baz=315
D49A Beulah Townshi 59.95 51 P P 22 28 29.6 -1.0
baz=316
H46A Fife Lake 60.00 55 P P 22 28 30.5 -0.6
baz=315
E48A Lockeyer 60.13 52 P P 22 28 31.0 -0.9
baz=316,SNR=5.6
W35A Tecumseh 60.25 70 P P 22 28 31.9 -1.0
TX32 Lajitas Array 60.35 79 P P 22 28 33.1 -0.6
TX32 IAmb IAmb 22 28 34.2
comp=Z,12nm,1.4s
TXAR Lajitas Array 60.35 79 P P 22 28 33.1 -0.7
comp=Z,3.6nm,0.6s,baz=306,slow=5.6,SNR=31
TXAR Lajitas Array 60.35 79 P P 22 28 33.0 -0.7
F48A Evansville 60.37 53 P P 22 28 32.4 -1.1
baz=316,SNR=5.3
ABTX Abilene, Hawle 60.41 74 P P 22 28 33.3 -0.8
baz=315
F49A Sandfield 60.70 52 P P 22 28 34.2 -1.6
baz=316,SNR=5.3
D50A G1974 Best Tow 60.74 50 P P 22 28 34.9 -1.1
baz=316
E50A Wahnapitae 60.85 51 P P 22 28 35.8 -1.0
baz=316
ARU Arti 60.97 326 P P 22 28 38.5 +1.1
ARU Arti 60.97 326 P P 22 28 38.1 +0.6
D51A Lot 18 Range I 61.02 50 P P 22 28 36.9 -1.0
baz=316
CHGQ Chibougamau 61.21 45 P P 22 28 37.5 -1.7
baz=318,SNR=5.2
E51A G1948 Merrick 61.37 50 P P 22 28 38.5 -1.8
baz=317,SNR=6.3
CCM Cathedral Cave 61.39 64 P P 22 28 38.8 -1.8
baz=315
D52A ZEK Kipawa Sen 61.55 49 P P 22 28 39.6 -1.9
baz=317
F51A Arnstein 61.61 51 P P 22 28 40.2 -1.7
baz=317
U40A Yellville 61.70 66 P P 22 28 40.6 -2.0
baz=316
KMI Kunming 61.80 275⇑ eP P 22 28 42.8 -1.0
KMI pmax pmax
comp=Z,8.0nm,0.6s
KMI pmax pmax
comp=Z,6µm,11.7s
KMI LR LR
comp=N,4µm,24.5s
KMI LR LR
comp=E,7µm,24.5s
KMI LR LR
comp=Z,16µm,29.6s
D53A Lac Vacive, Po 61.81 49 P P 22 28 41.9 -1.4
baz=317
JCT Junction City 61.85 76 P P 22 28 42.8 -1.1
baz=316
E52A Mattawa 61.95 50 P P 22 28 43.0 -1.1
baz=317
SFIN Lafayette 61.98 60 P P 22 28 43.3 -1.2
baz=316,SNR=5.6
F52A Sundridge 61.99 51 P P 22 28 43.4 -1.0
baz=317,SNR=7.0
W39A Magazine 61.99 68 P P 22 28 43.7 -0.9
baz=316
WHTX Lake Witney, 62.16 73 P P 22 28 44.9 -0.9
baz=316
D54A Lac Fusel, La 62.24 48 P P 22 28 44.5 -1.6
baz=318
E53A Dumoine, Ponti 62.34 49 P P 22 28 45.4 -1.5
baz=318
ALGO Algonquin Park 62.47 50 P P 22 28 46.2 -1.4
baz=318
E54A Lac Daplat, Po 62.52 49 P P 22 28 46.4 -1.6
baz=318
MIAR Mount Ida 62.58 68 P P 22 28 47.3 -1.3
baz=316,SNR=6.7
MIAR Mount Ida 62.58 68 P P 22 28 47.9 -0.7
MIAR pmax pmax
comp=Z,5.0nm,0.6s
MIAR Mount Ida 62.58 68 P P 22 28 47.9 -0.7
MIAR IAmb IAmb 22 28 48.6
comp=Z,5.1nm,0.6s
I51A Listowel 62.62 53 P P 22 28 48.3 -0.5
baz=317
G53A Haliburton 62.82 51 P P 22 28 49.0 -1.0
baz=318,SNR=15
G54A Lake Saint Pet 62.87 50 P P 22 28 48.8 -1.5
baz=318
D55A Sainte-Anne-du 62.88 48 P P 22 28 48.6 -1.8
baz=318,SNR=9.8
W41B Gary Mavity, V 62.89 67 P P 22 28 49.0 -1.6
baz=316,SNR=5.3
X40A Basin Creek Fa 63.05 68 P P 22 28 50.9 -0.7
baz=316
D56A ZEC Mazanza, M 63.18 47 P P 22 28 51.0 -1.4
baz=319
H53A Bobcaygeon 63.24 51 P P 22 28 51.9 -0.9
baz=318
J52A Paris 63.30 53 P P 22 28 52.7 -0.5
baz=317
E56A St. Veronique 63.43 48 P P 22 28 52.1 -1.9
baz=319
D57A Chemin Vers le 63.59 47 P P 22 28 53.2 -1.9
baz=319
G55A Calabogie 63.62 50 P P 22 28 53.4 -1.9
baz=318
DELO Deloro Mine 63.74 51 P P 22 28 55.1 -1.0
DELO IAmb IAmb 22 28 56.5
comp=Z,17nm,1.3s
LATQ La Tuque 63.81 46 P P 22 28 55.3 -1.2
baz=320
P49A Miami Univ. Ec 63.85 59 P P 22 28 55.2 -1.7
baz=317
H55A Tweed 63.93 50 P P 22 28 56.3 -1.0
baz=318,SNR=5.5
E57A Chemin Saint G 63.94 47 P P 22 28 55.5 -1.8
baz=319,SNR=6.6
I55A Frankford 63.94 51 P P 22 28 55.9 -1.4
baz=318
TARG Taragay, Kyrgy 63.98 305 P P 22 28 59.1 +0.9
TARG IAmb IAmb 22 29 00.0
comp=Z,4.9nm,0.5s
D58A Chemin du LacG 63.98 46 P P 22 28 56.1 -1.6
baz=320,SNR=6.6
KDJ Kajisay 64.00 306 P P 22 28 58.6 +0.5
KDJ pmax pmax
comp=Z,17nm,0.9s
KDJ Kajisay 64.00 306 P P 22 28 58.6 +0.5
TKM2 Tokmak 2 64.20 307 P P 22 29 00.1 +0.7
SNR=8.8
H56A Elgin 64.33 50 P P 22 28 58.6 -1.3
baz=319
BOOM Boomskoye usch 64.35 307 P P 22 29 00.9 +0.6
BOOM pmax pmax
comp=Z,10.0nm,0.7s
BOOM Boomskoye usch 64.35 307 P P 22 29 00.9 +0.6
BOOM IAmb IAmb 22 29 01.7
comp=Z,9.7nm,0.7s
E58A La Victoria 64.36 47 P P 22 28 58.0 -2.1
baz=320
ERPA Erie 64.37 54 P P 22 28 59.6 -0.6
baz=318,SNR=7.6
USP Ospenovka 64.47 308 P P 22 29 01.9 +1.0
SNR=19
O51A Pataskala 64.50 57 P P 22 29 00.0 -1.1
baz=318
J55A Hilton 64.58 52 P P 22 29 00.5 -1.1
baz=318
FIA1 FINESS Array S 64.61 346 P P 22 29 01.7 +0.2
FIA1 IAmb IAmb 22 29 13.3
comp=Z,12nm,1.2s
FINES FINESS Array B 64.62 346 P P 22 29 01.4 -0.1
comp=Z,1.4nm,0.3s,baz=19,slow=5.7,SNR=7.4
FINES FINESS Array B 64.62 346 P P 22 29 01.6 +0.1
FINES FINESS Array B 64.62 346 P P 22 29 01.6 +0.1
L54A Sinclairville 64.62 53 P P 22 29 00.9 -1.0
baz=318
K54A Basiliko Farm, 64.65 53 P P 22 29 01.3 -0.8
baz=318
WVT Waverly 64.66 63 P P 22 29 00.9 -1.3
baz=317
KBK Karagaybulak 64.71 307 P P 22 29 03.5 +0.8
SNR=8.8
FRU1 Bishkek 64.75 308 P P 22 29 03.4 +0.6
FRU1 pmax pmax
comp=Z,18nm,0.5s
FRU1 Bishkek 64.75 308 P P 22 29 03.4 +0.6
H57A Richville 64.84 49 P P 22 29 02.2 -1.0
baz=319
K55A Perry 64.86 52 P P 22 29 02.6 -0.9
baz=319
O52A Adamsville 64.92 57 P P 22 29 03.0 -0.9
baz=318
AAK Ala-Archa 64.95 308 P P 22 29 05.2 +1.0
SNR=8.9
AAK Ala-Archa 64.95 308 P P 22 29 04.9 +0.7
AAK pmax pmax
comp=Z,10.0nm,0.6s
AAK Ala-Archa 64.95 308 P P 22 29 04.9 +0.7
AAK IAmb IAmb 22 29 05.5
comp=Z,9.6nm,0.6s
OXF Oxford 64.97 66 P P 22 29 03.2 -1.0
baz=317
D60A Saint Jean D'O 64.98 45 P P 22 29 02.8 -1.3
baz=320
KZA Kyzart 65.00 307 P P 22 29 06.0 +1.1
SNR=7.0
D61A St Aubert, Com 65.08 44 P P 22 29 03.9 -0.8
baz=321
L55A Hinsdale 65.09 53 P P 22 29 04.2 -0.8
baz=319
LONY Lake Ozonia 65.09 49 P P 22 29 03.2 -1.7
baz=320
I57A Carthage 65.11 50 P P 22 29 03.7 -1.3
baz=319
E60A Ste Agathe de 65.17 46 P P 22 29 04.1 -1.3
baz=320
N54A Moraine State 65.23 55 P P 22 29 04.4 -1.4
baz=318
K56A Middlesex 65.25 52 P P 22 29 04.9 -1.0
baz=319,SNR=7.1
F60A Warwick 65.26 46 P P 22 29 04.5 -1.4
baz=320
EKS2 Erkin-Say 65.28 308 P P 22 29 07.4 +1.1
SNR=17
G59A Clarenceville 65.39 48 P P 22 29 05.1 -1.6
baz=320
LSA Lhasa 65.45 287 P P 22 29 09.2 +1.2
LSA pmax pmax
comp=Z,15nm,0.8s
LSA Lhasa 65.45 287 P P 22 29 09.2 +1.2
M55A Ridgway 65.47 54 P P 22 29 06.8 -0.6
baz=319
L56A Greenwood 65.56 52 P P 22 29 07.2 -0.8
baz=319,SNR=11

L56A	Greenwood	65.56	52	P		P		22 29 07.3	-0.7
Q52A	Bidwell	65.56	58	P		P		22 29 06.7	-1.3
	baz=318								
K57A	Scipio Center	65.61	51	P		P		22 29 07.3	-1.0
	baz=319								
MOQ	Mont Orford	65.63	47	P		P		22 29 07.2	-1.2
D62A	Allapoint, All	65.66	44	P		P		22 29 07.9	-0.6
	baz=321								
AML	Almayashu	65.72	308	P		P		22 29 10.8	+1.3
	SNR=12								
J58A	Remsen	65.72	50	P		P		22 29 07.8	-1.2
	baz=320								
M56A	Emporium	65.74	53	P		P		22 29 08.0	-1.1
	baz=319,SNR=5.7								
M56A	Emporium	65.74	53	P		P		22 29 08.2	-0.9
M56A				IAmb		IAmb		22 29 09.6	
	comp=Z,17nm,1.2s								
E62A	Clayton Lake	65.82	44	P		P		22 29 08.5	-1.0
	baz=321								
SIJI	Sorong	65.87	233	P		P		22 29 10.7	+0.4
	comp=Z,54nm,0.7s,baz=28,slow=7.0,SNR=8.5								
G61A	St-Isidore-de-	65.98	46	P		P		22 29 09.5	-1.1
	baz=321								
H60A	Morristown	66.01	48	P		P		22 29 09.4	-1.3
	baz=320								
K58A	Earlville	66.01	51	P		P		22 29 09.1	-1.7
	baz=320								
L57A	Andrews Acres	66.01	52	P		P		22 29 09.9	-0.9
	baz=319,SNR=5.4								
J59A	Piesco	66.01	50	P		P		22 29 08.9	-1.9
	baz=320,SNR=5.7								
Q53A	Leroy	66.02	57	P		P		22 29 09.9	-1.1
	baz=318,SNR=5.3								
I59A	Olmsteadville	66.05	49	P		P		22 29 09.4	-1.7
	baz=320								
F62A	Pittston Farm,	66.19	45	P		P		22 29 10.8	-1.1
	baz=321								
R53A	Hurricane	66.19	58	P		P		22 29 10.9	-1.2
	baz=318								
ABKAR	Akbulak array	66.20	321	P		P		22 29 12.7	+0.8
BINY	Binghamton	66.27	51	P		P		22 29 11.6	-0.9
	baz=320								
BINY	Binghamton	66.27	51	P		P		22 29 12.0	-0.5
BINY				IAmb		IAmb		22 29 12.9	
	comp=Z,23nm,1.4s								
M57A	Sunshine Farm,	66.37	53	P		P		22 29 12.1	-1.1
	baz=319,SNR=7.9								
K59A	Cooperstown	66.38	50	P		P		22 29 11.9	-1.2
	baz=320								
H61A	Lyndonville	66.38	47	P		P		22 29 12.0	-1.1
	baz=321								
P55A	Reedsville	66.41	56	P		P		22 29 12.4	-1.0
	baz=319								
E63A	Oxbow	66.45	44	P		P		22 29 12.1	-1.4
	baz=322								
L58A	Harry Jones Me	66.46	51	P		P		22 29 12.7	-1.0
	baz=320								
G62A	West of Eustis	66.47	46	P		P		22 29 12.5	-1.2
	baz=321								
KK31	Karatay Array	66.50	310	P		P		22 29 14.3	+0.3
KK31				pmax		pmax			
	comp=Z,11nm,0.8s								
KK31	Karatay Array	66.50	310	P		P		22 29 14.3	+0.3
KK31				IAmb		IAmb		22 29 15.2	
	comp=Z,11nm,0.8s								
KKAR	Karatay Array	66.50	310	P		P		22 29 14.4	+0.5
KKAR	Karatay Array	66.50	310	P		P		22 29 14.4	+0.5
SSPA	Standing Stone	66.53	54	P		P		22 29 13.1	-1.1
	baz=319								
SSPA	Standing Stone	66.53	54	P		P		22 29 13.3	-0.9
SSPA				IAmb		IAmb		22 29 14.0	
	comp=Z,17nm,1.2s								
KSH	Kashi	66.56	305	*e*P		P		22 29 18.8	+4.3
KSH				pmax		pmax			
	comp=Z,28nm,0.6s								
NC405	NORSAR Array S	66.59	353	P		P		22 29 14.1	-0.1
NC405				IAmb		IAmb		22 29 26.0	
	comp=Z,26nm,1.3s								
LBNH	Lisbon	66.61	47	P		P		22 29 13.4	-1.2
	baz=321								
N57A	Milroy	66.61	53	P		P		22 29 13.6	-1.1
	baz=319								
Q55A	Buckhannon	66.66	56	P		P		22 29 13.9	-1.1
	baz=319								
M58A	Price's Panora	66.67	52	P		P		22 29 13.7	-1.3
	baz=320								
J60A	Lant Hill Farm	66.69	49	P		P		22 29 13.7	-1.4
	baz=320								
H62A	Milan	66.69	47	P		P		22 29 13.9	-1.2
	baz=321,SNR=6.2								
NB2	NORSAR Subarra	66.70	353	P		P		22 29 14.0	-0.9
	comp=Z,3.2nm,1.0s,baz=9.2,slow=6.5								
NOA	NORSAR Array B	66.70	353	P		P		22 29 14.6	-0.3
	comp=Z,1.9nm,0.8s,baz=9.2,slow=6.4,SNR=7.8								
E64A	Bridgewater	66.70	44	P		P		22 29 13.6	-1.5
	baz=322								
I61A	Oroboro, Fairl	66.72	48	P		P		22 29 13.4	-1.9
	baz=321								
F63A	Nahmakanta, Br	66.72	45	P		P		22 29 13.8	-1.4
	baz=322								
L59A	Walton	66.73	51	P		P		22 29 14.6	-0.9
	baz=320								
R54A	Victor	66.81	57	P		P		22 29 15.1	-0.9
	baz=319								
F64A	Sherman	66.92	44	P		P		22 29 15.7	-0.8
	baz=322								
G63A	Kingsbury	66.95	45	P		P		22 29 15.7	-1.1
	baz=322								
N58A	Sunbury	66.95	53	P		P		22 29 16.1	-0.7
	baz=320								
O57A	Amberson	66.98	54	P		P		22 29 16.2	-0.9
	baz=320								
M59A	Waymart	67.04	51	P		P		22 29 16.3	-1.1
	baz=320								
K61A	Williamstown	67.20	49	P		P		22 29 17.4	-1.0
	baz=321								
G64A	Maxfield	67.22	45	P		P		22 29 17.4	-1.0
	baz=322								
L60A	Shokan	67.28	50	P		P		22 29 17.8	-1.1
	baz=320								
T54A	Tazewell	67.34	59	P		P		22 29 18.4	-1.0
	baz=319								
N59A	State Game Lan	67.36	52	P		P		22 29 18.4	-1.0
	baz=320,SNR=7.1								
N59A	State Game Lan	67.36	52	P		P		22 29 18.9	-0.6
N59A				IAmb		IAmb		22 29 19.7	
	comp=Z,19nm,1.2s								
I63A	Otisfield	67.36	47	P		P		22 29 18.6	-0.7
	baz=322								
O58A	Lewisberry	67.40	53	P		P		22 29 19.0	-0.6
	baz=320								
LRAL	Lakeview Retre	67.41	65	P		P		22 29 18.9	-0.9
	baz=318								
L61A	Hillsdale 1, H	67.44	50	P		P		22 29 19.1	-0.7
	baz=321								
R56A	Bull Pasture M	67.45	56	P		P		22 29 19.1	-1.0
	baz=319								
O59A	Robesonia	67.62	53	P		P		22 29 20.2	-0.8
	baz=320								
U54A	Nelsons Funny	67.62	59	P		P		22 29 20.1	-1.1
	baz=319								
K62A	Royalston	67.69	49	P		P		22 29 20.4	-1.1
	baz=321								
P58A	Pank, Wackersv	67.69	54	P		P		22 29 20.7	-0.8
	baz=320								
N60A	Cedar Hill Far	67.72	52	P		P		22 29 20.9	-0.7
	baz=320								
G65A	Princeton	67.78	44	P		P		22 29 20.9	-1.0
	baz=323								
H65A	Eastbrook	67.88	45	P		P		22 29 21.2	-1.4
	baz=322								
Q58A	Fox Den Farm,	67.92	55	P		P		22 29 21.6	-1.4
	baz=320								
S56A	Natural Bridge	67.92	57	P		P		22 29 21.9	-1.1
	baz=320								
R57A	Stanardsville	67.99	56	P		P		22 29 22.3	-1.0
	baz=320								
K63A	Dunstable	67.99	48	P		P		22 29 22.5	-0.8
	baz=321								
O60A	Telford	68.00	52	P		P		22 29 22.7	-0.7
	baz=320								
P59A	Jarrettsville	68.03	53	P		P		22 29 22.7	-0.9
	baz=320								
U55A	TA2, Sparta	68.04	59	P		P		22 29 22.6	-1.2
	baz=319								
SHL	Shillong	68.07	284	P		P		22 29 24.2	-0.1
SHL				pmax		pmax			
	comp=Z,39nm,1.2s								
SHL	Shillong	68.07	284	P		P		22 29 24.1	-0.1
V54A	Nebo	68.11	60	P		P		22 29 23.4	-0.8
	baz=319								
H66A	Whiting	68.22	44	P		P		22 29 23.8	-0.9
	baz=323								
V55A	Taylorsville	68.44	59	P		P		22 29 25.1	-1.1
	baz=319								
T57A	Hurt	68.60	57	P		P		22 29 26.3	-0.9
	baz=320								
BTK	Batken	68.70	308	P		P		22 29 28.6	+0.7
BTK				pmax		pmax			
	comp=Z,14nm,0.8s								
BTK	Batken	68.70	308	P		P		22 29 28.6	+0.7
BTK				IAmb		IAmb		22 29 29.7	
	comp=Z,14nm,0.8s								
X54A	Belton	68.81	61	P		P		22 29 27.6	-1.0
	baz=319								
KMSC	Kings Mountain	68.92	60	P		P		22 29 28.1	-1.1
	baz=320								
U57A	Blanch	68.99	58	P		P		22 29 28.7	-0.9
	baz=320								
CMAR	Chiang Mai Arr	69.11	273	P		P		22 29 30.9	+0.3
	comp=Z,5.3nm,0.8s,baz=24,slow=7.9,SNR=21								
HODGE	Hodges	69.11	61	P		P		22 29 29.4	-1.0
HODGE				IAmb		IAmb		22 29 30.3	
	comp=Z,6.6nm,0.6s								
TAPN	Taplejung	69.21	288	*e*P		P		22 29 32.4	+0.9
	comp=Z,63nm,0.7s								
X55A	Gracelyn & Ava	69.27	60	P		P		22 29 30.3	-1.1
	baz=320,SNR=5.5								
T59A	Double "B" Far	69.49	56	P		P		22 29 32.0	-0.7
	baz=320								
Y55A	Saluda	69.55	61	P		P		22 29 32.3	-0.9
	baz=320								
X56A	White Oak	69.57	60	P		P		22 29 32.4	-0.9
	baz=320								
GAR	Garm	69.77	308	P		P		22 29 35.1	+0.5
ODAN	Odarr	69.77	288	*e*P		P		22 29 35.4	+0.5
	comp=Z,33nm,0.8s								
GUN	Gumba	69.86	290	*e*P		P		22 29 36.5	+0.9
	comp=Z,105nm,0.4s								
JIRN	Jiri	69.87	289	*e*P		P		22 29 36.6	+1.0
V59A	Middlesex	70.07	57	P		P		22 29 35.4	-0.9
	baz=320								
RAMN	Ramite	70.16	288	*e*P		P		22 29 38.0	+0.7
	comp=Z,77nm,0.6s								
KKN	Kakani	70.30	290	*e*P		P		22 29 38.9	+0.8
	comp=Z,70nm,0.7s								
PKI	Pulchoki	70.39	290	*e*P		P		22 29 39.3	+0.5
	comp=Z,69nm,0.6s								
PKIN	Phulchoki	70.39	290	*e*P		P		22 29 39.3	+0.6
	comp=Z,67nm,0.5s								
GKN	Gorkha	70.51	291	*e*P		P		22 29 40.0	+0.7
	comp=Z,44nm,0.4s								
DMN	Daman	70.54	290	*e*P		P		22 29 40.4	+0.8
	comp=Z,54nm,0.8s								
CHGR	Chuyangaron	70.60	308	P		P		22 29 40.0	+0.4
DANN	Dangsing	70.75	291	*e*P		P		22 29 41.7	+0.8
	comp=Z,126nm,0.8s								
KOLN	Koldanda	71.28	291	*e*P		P		22 29 44.7	+0.7
	comp=Z,55nm,0.8s								
NIL	Nilore	72.46	302	P		P		22 29 51.3	+0.6
NIL				pmax		pmax			
	comp=Z,38nm,1.2s								
NIL	Nilore	72.46	302	P		P		22 29 51.3	+0.6
SBUM	Sibu	73.51	252	P		P		22 29 57.5	+0.4
KBL	Kabul	73.91	306	P		P		22 29 59.4	0.0
KBL				pmax		pmax			
	comp=Z,17nm,0.8s								
KBL	Kabul	73.91	306	P		P		22 29 59.4	0.0
KBL				IAmb		IAmb		22 29 60.0	
	comp=Z,17nm,0.8s								
AKASG	Malin Array Be	74.23	340	P		P		22 30 00.4	-0.4
	comp=Z,9.6nm,0.5s,baz=22,slow=6.4,SNR=19								
AKASG				pP		pwP		22 30 33.9	-1.2
	comp=Z,1.3nm,0.4s,baz=23,slow=6.0,SNR=2.8								
AKASG	Malin Array Be	74.23	340	P		P		22 30 01.4	+0.6
AKASG				pmax		pmax			
	comp=Z,2.0nm,0.5s								
AKASG	Malin Array Be	74.23	340	P		P		22 30 01.4	+0.6
AKBB	Malin Array Si	74.23	340	P		P		22 30 00.8	0.0
AKBB				pmax		pmax			
	comp=Z,12nm,0.6s								
AKBB	Malin Array Si	74.23	340	P		P		22 30 00.8	0.0
AKBB				IAmb		IAmb		22 30 02.2	
	comp=Z,12nm,0.6s								
CLL	Collm	76.18	351	*e*pP		pP		22 30 43.0	+1.6
GEYT	Alibeck	76.26	315	P		P		22 30 13.7	+1.0
	comp=Z,2.7nm,0.7s,baz=112,slow=0.8,SNR=9.5								
GEYT	Alibeck	76.26	315	P		P		22 30 13.2	+0.5
GYA0B	ALIBECK ARRAY	76.26	315	P		P		22 30 13.2	+0.6
GYA0B				IAmb		IAmb		22 30 15.4	
	comp=Z,13nm,1.2s								
KWP	Kalwaria Pacla	76.50	344	P		P		22 30 14.4	+0.6
KWP				IAmb		IAmb		22 30 16.7	
	comp=Z,14nm,0.6s								
SORM	Soroca	76.85	340	⇑P		P		22 30 15.7	0.0
SORM	Soroca	76.85	340	⇑P		P		22 30 15.7	0.0
KIV	Kislovodsk	76.89	329	⇑P		P		22 30 18.2	+2.0
KIV	Kislovodsk	76.89	329	⇑P		P		22 30 18.2	+2.0
KIV	Kislovodsk	76.89	329	P		P		22 30 16.7	+0.6
KIV				IAmb		IAmb		22 30 20.1	
	comp=Z,9.0nm,0.8s								
KBZ	Khabaz	77.02	328	P		P		22 30 17.9	+1.2
	comp=Z,3.6nm,0.5s,baz=66,slow=2.8,SNR=8.1								
HRA	Herat	77.33	310	P		P		22 30 20.2	+1.2
HRA				IAmb		IAmb		22 30 20.5	
	comp=Z,12nm,0.6s								
AKT	Akhty	77.36	324	*e*P		P		22 30 19.9	+1.0
AKT				*e*				22 30 28.6	
AKT				pmax		pmax			
	comp=Z,19nm,0.8s								
ZEI	Tsey	77.53	327	*e*P		P		22 30 20.1	+0.2
ZEI				pmax		pmax			
	comp=Z,14nm,0.5s								
VRAC	Vranov	77.73	348	⇓P		P		22 30 21.3	+0.6
VRAC	Vranov	77.73	348	⇓P		P		22 30 21.3	+0.6
BUR08	Bucovina Ar. S	77.96	342	P		P		22 30 22.5	+0.5
BUR08				IAmb		IAmb		22 30 24.6	
	comp=Z,6.8nm,0.6s								
BURAR	Bucovina Array	77.98	342	⇑P		P		22 30 22.8	+0.6
BURAR	Bucovina Array	77.98	342	⇑P		P		22 30 22.8	+0.6
BURAR	Bucovina Array	77.98	342	P		P		22 30 22.4	+0.2
TBLG	Delisi	78.19	326	P		P		22 30 24.5	+1.1
TBLG				pmax		pmax			
	comp=Z,24nm,1.0s								
TBLG	Delisi	78.19	326	P		P		22 30 24.5	+1.1
TBLG				IAmb		IAmb		22 30 25.7	
	comp=Z,24nm,1.0s								
BIZ	Bicaz	78.45	341	⇓P		P		22 30 25.8	+1.1
ARCR	ARCALIA	78.66	342	⇓P		P		22 30 26.9	+1.1
TESR	Tescani	78.75	340	⇑P		P		22 30 27.7	+1.4
AKH	Akhalkalaki	78.90	327	⇑P		P		22 30 29.4	+2.0
DRGR		79.24	343	⇓P		P		22 30 29.9	+0.8
DRGR		79.24	343	⇓P		P		22 30 29.9	+0.8
PLOR	Plostina	79.38	340	⇑P		P		22 30 30.3	+0.5
PLOR	Plostina	79.38	340	⇑P		P		22 30 30.3	+0.5
DOPR	Dopca	79.53	341	⇓P		P		22 30 32.6	+2.0
MLR	Muntele Rosu	79.87	341	⇓P		P		22 30 34.2	+1.6
MLR	Muntele Rosu	79.87	341	P		P		22 30 34.0	+1.4
MLR				pmax		pmax			
	comp=Z,4.0nm,0.7s								
MLR	Muntele Rosu	79.87	341	P		P		22 30 34.0	+1.4
SIRR	Siria	79.93	344	⇑P		P		22 30 34.9	+2.2
VOIR		80.10	341	⇑P		P		22 30 34.7	+0.9
VOIR		80.10	341	⇑P		P		22 30 34.7	+0.9
HARR	Harsova	80.21	339	⇓P		P		22 30 35.9	+1.7
HARR	Harsova	80.21	339	⇓P		P		22 30 35.9	+1.7
BZS	Buzias	80.57	344	⇓P		P		22 30 36.3	+0.1
BZS	Buzias	80.57	344	⇓P		P		22 30 36.3	+0.1
HYB	Hyderabad	82.22	288	*i* P		P		22 30 45.0	-0.3
BR131	Keskin Array S	83.47	333	P		P		22 30 52.7	+1.1
BR131				pmax		pmax			
	comp=Z,4.0nm,1.3s								
BR131	Keskin Array S	83.47	333	P		P		22 30 52.7	+1.1
BRTR	Keskin Array B	83.47	333	P		P		22 30 51.5	0.0
	comp=Z,0.9nm,0.5s,baz=54,slow=2.1,SNR=5.2								
STKA	Stephens Creek	89.60	211	P		P		22 31 21.3	+0.3
	comp=Z,14nm,0.7s,baz=358,slow=7.9,SNR=2.9								
STKA	Stephens Creek	89.60	211	P		P		22 31 21.5	+0.4
STKA				pmax		pmax			
	comp=Z,4.0nm,0.9s								
STKA	Stephens Creek	89.60	211	P		P		22 31 21.5	+0.4
STKA				IAmb		IAmb		22 31 22.2	
	comp=Z,4.5nm,0.8s								
MWZ	Matawai	90.09	181	P		P		22 31 24.2	+0.9
CNGZ	Carnagh Statio	90.24	180	P		P		22 31 23.7	-0.1
RAYN	Ar Rayn	94.09	317	P		P		22 31 42.3	-0.1
RAYN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
RAYN	Ar Rayn	94.09	317	P		P		22 31 42.3	-0.1
RAYN				IAmb		IAmb		22 31 43.0	
	comp=Z,4.6nm,0.9s								
DBIC	Dimbokro	121.37	4	PKP		PKPdf		22 37 15.7	-0.9
	comp=Z,2.8nm,0.5s,baz=349,slow=5.2,SNR=1.2								
CFA	Coronel Fontan	128.36	94	PKP		PKPdf		22 37 28.5	-1.0
	comp=Z,3.7nm,0.5s,baz=236,slow=6.2,SNR=5.1								
PLCA	Paso Flores	132.95	105	PKP		PKPdf		22 37 38.1	+0.2
	comp=Z,3.0nm,0.8s,baz=340,slow=4.3,SNR=3.9								
PLCA	Paso Flores	132.95	105			PKPdf		22 37 38.2	+0.3
LBTB	Lobatse	145.87	312	PKPbc		PKPab		22 38 03.4	+0.1
	comp=Z,23nm,0.6s,baz=22,slow=1.8,SNR=31								
LBTB	Lobatse	145.87	312			PKPab		22 38 03.2	0.0
MAW	Mawson	145.94	218	PKPbc		PKPbc		22 38 01.0	-0.4
	comp=Z,15nm,0.7s,baz=66,slow=2.9,SNR=10								
MAW	Mawson	145.94	218			PKPbc		22 38 01.0	-0.4
MAW				PKPbc		PKPab		22 38 02.5	+0.4
BOSA	Boshof	149.08	309	PKPbc		PKPbc		22 38 11.6	+0.3
	comp=Z,13nm,0.6s,baz=29,slow=2.4,SNR=36								
SUR	Sutherland	154.32	311	PKPbc		PKiKP		22 38 23.8	+0.5
	comp=Z,6.6nm,1.1s,baz=126,slow=8.8,SNR=1.8								

IDC ***23*** *22:20:03.2±0.4, 29.°90S×177.°30W, h0km, mb5.4/41, mb1 5.4/42, mb1mx5.4/50, mbtmp5.4/42, ML5.5/1, MS6.4/12, Ms1 6.4/12, ms1mx6.0/42, Error ellipse: s-maj=12.7km s-min=11.2km az=20.0*

NEIC ***23*** *22:20:04.2±1.1, 29.°97S±0.°06×177.°25W±0.°03, h11km±3km, mb5.9/229, Error ellipse: s-maj=9.1km s-min=1.2km az=204.0*

MOS ***23*** *22:20:05.2±1.0, 29.°83S×177.°34W, h21km, mb6.0/20, Error ellipse: s-maj=8.1km s-min=6.6km az=103.6*

UNK ***23*** *22:20:08.4, 29.°88S×177.°39W, h35km*

BJI ***23*** *22:20:09.0±0.0, 30.°00S×177.°20W, h50km, mB6.2/2, mb5.5/46, Ms6.4/6, Ms7 6.3/6*

ISC 23 22:20:04.6±0.5, 29.°97S±0.°04×177.°18W±0.°05, h12km±2km, h12km:pP-P, n925, σ1§50/960, mb5.9/211, MS6.3/18, 32C-12D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	Green Lake	0.96	318	P		P	Pg	22 20 22.1	-0.9
GLKZ				S		S	Sn	22 20 41.0	+3.7
RAO	Raoul Island	0.96	318	Pn		Pg	Pg	22 20 22.5	-0.7
RAO	9μm,0.3s,baz=114,slow=7.7,SNR=22			Sn		Sn	Sn	22 20 37.8	+0.2
	37μm,0.3s,baz=72,slow=22,SNR=12								
RAO	Raoul Island	0.96	318	P		Pg	Pg	22 20 22.4	-0.8
RIZ	Raoul Island	0.98	318	P		Pg	Pg	22 20 23.0	-0.4
RIZ				S		Sn	Sn	22 20 39.3	+1.5
MXZ	Matakaoa Point	8.45	205	P		Pn	Pn	22 22 05.2	-1.6
MXZ				S		Sn	Sn	22 23 39.2	-2.8
MXZ	Matakaoa Point	8.45	205	Pn		Pn	Pn	22 22 08.0	+1.3
WMGZ	Waiomatatini S	8.64	204	P		Pn	Pn	22 22 09.4	+0.1
WMGZ				S		Sn	Sn	22 23 44.7	-1.9
HAZ	Te Kaha	8.82	207	P		Pn	Pn	22 22 10.5	-1.3
HAZ				S		Sn	Sn	22 23 47.6	-3.5
PUZ	Puketiti	8.92	204	P		Pn	Pn	22 22 10.4	-2.9
PUZ				S		Sn	Sn	22 23 50.4	-3.2
KUZ	Kuaotunu	8.99	219	P		Pn	Pn	22 22 19.4	+5.2
RUGZ	Raukumara Rang	9.04	207	P		Pn	Pn	22 22 14.0	-1.0
RUGZ				S		Sn	Sn	22 23 56.6	-0.1
WCZ	Waipu Caves	9.27	228	P		Pn	Pn	22 22 25.4	+7.3
CNGZ	Carnagh Statio	9.30	203	P		Pn	Pn	22 22 15.5	-3.0
OUZ	Omahuta	9.37	234	P		Pn	Pn	22 22 25.4	+6.0
OPRZ	Ohinepanea	9.42	212	P		Pn	Pn	22 22 21.8	+1.8
MWZ	Matawai	9.42	206	P		Pn	Pn	22 22 19.3	-0.8
MWZ				S		Sn	Sn	22 24 02.3	-3.6
MARZ	Manawahe	9.48	211	P		Pn	Pn	22 22 23.5	+2.6
OMRZ	Omania	9.71	212	P		Pn	Pn	22 22 33.0	+8.9
MUGZ	Murupara	9.85	209	P		Pn	Pn	22 22 23.5	-2.4
SNGZ	Shannon Statio	9.88	206	P		Pn	Pn	22 22 26.7	+0.3
MRHZ	Matea Rd	10.29	209	P		Pn	Pn	22 22 29.9	-2.2
WHTZ	Whakaora	10.36	211	P		Pn	Pn	22 22 41.6	+8.7
BKZ	Black Stump Fm	10.54	208	Pn		Pn	Pn	22 22 36.5	+0.9
KATZ	Kakaramea	10.73	211	P		Pn	Pn	22 22 41.3	+3.2
KRVZ	Karewarewa	10.85	211	P		Pn	Pn	22 22 47.5	+7.8
WTVZ	West Tongariro	10.89	211	P		Pn	Pn	22 22 47.0	+6.7
KAHZ	Kahuranaki	10.94	205	P		Pn	Pn	22 22 38.5	-2.4
BHHZ	Black Hill Sta	10.99	209	P		Pn	Pn	22 22 46.0	+4.3
FWVZ	Far West T-bar	11.02	211	P		Pn	Pn	22 22 41.4	-0.8
MOVZ	Moawhango	11.06	210	P		Pn	Pn	22 22 42.1	-0.5
VRZ	Vera Road	11.29	214	P		Pn	Pn	22 22 53.8	+8.2
BFZ	Birch Farm	11.95	205	P		Pn	Pn	22 22 54.7	-0.1
BFZ	Birch Farm	11.95	205	Pn		Pn	Pn	22 22 54.6	-0.1
MSVF	Nonsavu	12.94	339	*i* P		Pn	Pn	22 23 07.9	-0.5
MSVF	Nonsavu	12.94	339	Pn		Pn	Pn	22 23 08.7	+0.3
BHW	Baring Head	13.10	207	Pn		Pn	Pn	22 23 06.7	-3.7
THZ	Tophouse	14.23	212	Pn		Pn	Pn	22 23 24.3	-1.6
KHZ	Kahutara	14.49	209	Pn		Pn	Pn	22 23 27.5	-1.9
RPZ	Rata Peaks	16.61	211	Pn		Pn	Pn	22 23 56.5	-0.7
	18nm,0.

CAN	Canberra	28.88	250	P	P	22 26 04.8	+1.6			
CAN				pmax	pmax					
comp=Z,312nm,1.1s										
CAN	Canberra	28.88	250	P	P	22 26 04.8	+1.6			
CAN				IAmb	IAmb	22 26 22.7				
comp=Z,312nm,1.1s										
HNR	Honiara	29.57	309	P	P	22 26 09.3	-0.1			
comp=Z,50nm,0.4s,baz=161,slow=7.9,SNR=1.4										
HNR	Honiara	29.57	309	P	P	22 26 08.5	-0.9			
HNR				pmax	pmax					
comp=Z,359nm,1.0s										
HNR	Honiara	29.57	309	P	P	22 26 08.5	-0.9			
HNR				IAmb	IAmb	22 26 43.8				
comp=Z,359nm,1.0s										
TAU	Tasmania Unive	31.11	236	P	P	22 26 23.7	+0.9			
TAU				pmax	pmax					
comp=Z,389nm,1.5s										
TAU	Tasmania Unive	31.11	236	P	P	22 26 23.7	+0.9			
TAU				IAmb	IAmb	22 26 39.9				
comp=Z,389nm,1.5s										
TOO	Toolangi	31.78	246	P	P	22 26 29.0	+0.1			
TOO				pmax	pmax					
comp=Z,329nm,1.2s										
TOO	Toolangi	31.78	246	P	P	22 26 29.0	+0.1			
TOO				IAmb	IAmb	22 26 47.7				
comp=Z,329nm,1.2s										
TARA	Tarawa	32.55	341	P	P	22 26 35.0	-0.7			
TARA				IAmb	IAmb	22 26 44.1				
comp=Z,289nm,1.1s										
CTA	Charters Tower	34.44	278	P	P	22 26 52.4	+0.3			
comp=Z,164nm,0.8s,baz=104,slow=11,SNR=27										
CTA				LR	LR	22 39 37.3				
comp=Z,118µm,18.6s,baz=116,slow=34										
CTAO	Charters Tower	34.44	278	P	P	22 26 52.1	-0.1			
CTAO				pmax	pmax					
comp=Z,362nm,1.2s										
CTAO	Charters Tower	34.44	278	P	P	22 26 52.1	-0.1			
CTAO				IAmb	IAmb	22 27 04.0				
comp=Z,362nm,1.2s										
STKA	Stephens Creek	35.27	256	P	P	22 26 59.0	-0.2			
comp=Z,44nm,0.7s,baz=104,slow=9.6,SNR=12										
STKA				LR	LR	22 40 14.4				
comp=Z,84µm,18.9s,baz=98,slow=34										
STKA	Stephens Creek	35.27	256	P	P	22 26 58.7	-0.5			
STKA				pmax	pmax					
comp=Z,47nm,1.1s										
STKA	Stephens Creek	35.27	256	P	P	22 26 58.7	-0.5			
XMAS	Kiritimati	37.00	34	P	P	22 27 13.6	-0.5			
RKT	Rikitea	38.21	90	*e*LR	LR	22 37 41.6				
comp=Z,84µm,26.0s										
RABL	Rabaul	38.69	306	P	P	22 27 28.0	-0.5			
RABL				IAmb	IAmb	22 27 49.2				
comp=Z,93nm,0.5s										
KRVT	Keravat (AS076	38.70	305	P	P	22 27 28.5	-0.1			
comp=Z,39nm,0.5s,baz=149,slow=3.1,SNR=2.6										
PMG	Port Moresby	39.07	294	P	P	22 27 31.7	0.0			
comp=Z,38nm,1.1s,baz=134,slow=6.9,SNR=4.6										
PMG				LR	LR	22 40 58.0				
comp=Z,61µm,20.7s,baz=110,slow=32										
PMG	Port Moresby	39.07	294	P	P	22 27 31.1	-0.6			
PMG				pmax	pmax					
comp=Z,188nm,1.5s										
PMG	Port Moresby	39.07	294	P	P	22 27 31.1	-0.6			
BBOO	Buckleboo	39.77	254	P	P	22 27 35.1	-2.2			
COEN	Coen	39.84	285	P	P	22 27 37.4	-0.7			
TAOE	Nuku Hiva Isla	40.49	66	*e*LR	LR	22 38 45.9				
comp=Z,50µm,23.9s										
PATS	Pohnpei	43.51	323	P	P	22 28 07.5	-0.6			
AS31	Alice Springs	43.84	266	P	P	22 28 11.1	+0.3			
ASAR	Alice Springs	43.84	266	P	P	22 28 10.2	-0.7			
comp=Z,18nm,0.8s,baz=103,slow=7.5,SNR=13										
ASAR				LR	LR	22 46 14.5				
comp=Z,128µm,18.2s,baz=120,slow=36										
ASAR	Alice Springs	43.84	266	P	P	22 28 09.7	-1.2			
ASAR	Alice Springs	43.84	266	P	P	22 28 09.7	-1.2			
WR0	Warramunga Arr	44.61	271	P	P	22 28 16.2	-0.8			
WR0				IAmb	IAmb	22 28 37.0				
comp=Z,150nm,0.9s										
WRAB	Tennant Creek	44.79	271	P	P	22 28 17.3	-1.1			
WRAB				pmax	pmax					
comp=Z,324nm,1.3s										
WRAB	Tennant Creek	44.79	271	P	P	22 28 17.3	-1.1			
WRAB				IAmb	IAmb	22 28 37.9				
comp=Z,324nm,1.2s										
WRA	Warramunga Arr	44.79	271	P	P	22 28 16.5	-2.0			
comp=Z,114nm,0.7s,baz=110,slow=8.1,SNR=32										
WRA				LR	LR	22 46 13.7				
comp=Z,56µm,18.1s,baz=100,slow=35										
FORT	Forrest	46.84	254	P	P	22 28 34.0	-0.5			
JAY	Jayapura	48.34	296	P	P	22 28 46.1	-0.3			
comp=Z,49nm,1.0s,baz=139,slow=10.0,SNR=9.1										
JAY				LR	LR	22 46 28.5				
comp=Z,24µm,20.1s,baz=110,slow=33										
VNDA	Vanda	48.59	186	P	P	22 28 49.5	+2.0			
comp=Z,17nm,0.9s,baz=8.2,slow=9.0,SNR=11										
VNDA	Vanda	48.59	186	P	P	22 28 48.7	+1.3			
VNDA				pmax	pmax					
comp=Z,97nm,1.3s										
VNDA	Vanda	48.59	186	P	P	22 28 48.7	+1.3			
GENI	Genyem	48.71	296	P	P	22 28 50.6	+1.5			
comp=Z,185nm,1.2s										
SMPI	Sarmi	50.22	295	P	P	22 29 02.3	+1.6			
comp=Z,66nm,1.5s										
MTN	Manton Dam	50.62	278	P	P	22 29 02.9	-0.8			
MTN				IAmb	IAmb	22 29 20.5				
comp=Z,211nm,1.4s										
KNRA	Kununurra	51.38	274	P	P	22 29 08.5	-0.9			
KNRA				IAmb	IAmb	22 29 27.2				
comp=Z,130nm,0.8s										
WAKE	Wake Island	51.39	340	P	P	22 29 08.9	-0.3			
FITZ	Fitzroy Crossi	53.07	269	P	P	22 29 23.4	+1.5			
comp=Z,35nm,0.7s,baz=107,slow=9.6,SNR=5.7										
FITZ	Fitzroy Crossi	53.07	269	P	P	22 29 21.6	-0.4			
KHLU	Kahalu`u	53.38	25	P	P	22 29 21.7	-2.5			
KHLU				IAmb	IAmb	22 29 40.2				
comp=Z,303nm,1.3s										
HMH	Humu'ula Sheep	53.54	26	P	P	22 29 25.6	0.0			
POHA	Pohakuloa	53.66	26	P	P	22 29 26.3	-0.2			
POHA				IAmb	IAmb	22 29 50.0				
comp=Z,191nm,1.1s										
HPAH	Hawaii Prepara	53.85	25	P	P	22 29 28.0	+0.4			
KIP	Kipapa	54.33	22	P	P	22 29 30.5	-0.4			
KIP				pmax	pmax					
comp=Z,268nm,1.2s										
KIP	Kipapa	54.33	22	P	P	22 29 30.5	-0.4			
KIP				IAmb	IAmb	22 30 02.5				
comp=Z,268nm,1.2s										
KHLH	Kahului Airpor	54.38	24	P	P	22 29 31.1	-0.3			
FAKI	Fak Fak	54.86	289	P	P	22 29 36.6	+1.5			
comp=Z,107nm,0.9s										
FAKI	Fak Fak	54.86	289	P	P	22 29 34.6	-0.6			
NWAO	Narrogin (SRO)	55.21	249	P	P	22 29 37.0	-0.5			
comp=Z,31nm,1.0s,baz=106,slow=9.9,SNR=4.1										
NWAO	Narrogin (SRO)	55.21	249	P	P	22 29 37.4	-0.1			
NWAO				pmax	pmax					
comp=Z,235nm,2.0s										
NWAO	Narrogin (SRO)	55.21	249	P	P	22 29 37.4	-0.1			
NWAO				IAmb	IAmb	22 29 51.4				
comp=Z,235nm,2.0s										
CASY	Casey	55.85	208	P	P	22 29 40.7	-0.8			
GUMO	Guam	56.69	314	P	P	22 29 47.7	-0.3			
comp=Z,52nm,0.5s,baz=331,slow=17,SNR=4.1										
GUMO				LR	LR	22 51 13.3				
comp=Z,15µm,19.9s,baz=140,slow=33										
GUMO	Guam	56.69	314	P	P	22 29 46.6	-1.5			
GUMO				pmax	pmax					
comp=Z,375nm,1.6s										
GUMO	Guam	56.69	314	P	P	22 29 46.6	-1.5			
GUMO				IAmb	IAmb	22 29 59.1				
comp=Z,375nm,1.6s										
PSA00	Pilbara Seismi	56.72	263	P	P	22 29 47.3	-1.1			
PSA00				IAmb	IAmb	22 29 55.9				
comp=Z,364nm,1.9s										
SIJI	Sorong	56.84	291	P	P	22 29 47.7	-1.6			
comp=Z,116nm,1.0s,baz=81,slow=5.7,SNR=14										
MBWA	Marble Bar	56.98	263	P	P	22 29 49.5	-0.8			
MBWA				IAmb	IAmb	22 29 51.6				
comp=Z,110nm,1.1s										
MORW	Morawa	57.33	253	P	P	22 29 52.4	-0.3			
MORW				IAmb	IAmb	22 29 56.5				
comp=Z,354nm,1.9s										
MSAI	Masohi	57.36	287	P	P	22 29 52.1	-0.9			
comp=Z,54nm,1.2s,comp=Z,54nm,1.2s										
AAI	Ambon	57.79	286	P	P	22 29 54.1	-1.9			
comp=Z,91nm,1.0s										
MIDW	Midway	57.86	360	P	P	22 29 55.4	-0.7			
SOEI	Soe	58.00	277	P	P	22 29 56.8	-0.8			
BATI	Baumata	58.30	277	P	P	22 30 00.8	+1.2			
comp=Z,57nm,0.6s,baz=266,slow=12,SNR=3.7										
RPN	Rapa Nui	58.87	105	LR	LR	22 48 58.8				
comp=Z,14µm,20.8s,baz=182,slow=29										
NLAI	Namlea	58.95	286	P	P	22 30 04.9	+0.8			
comp=Z,129nm,1.3s										
QSPA	South Pole Qui	60.13	180	P	P	22 30 12.8	+1.1			
comp=Z,39nm,0.8s,baz=40,slow=4.2,SNR=14										
QSPA	South Pole Qui	60.13	180	P	P	22 30 12.1	+0.3			
TNTI	Ternate	60.96	290	P	P	22 30 18.8	+0.8			
comp=Z,118nm,1.7s										
TNTI	Ternate	60.96	290	P	P	22 30 16.2	-1.7			
TNTI				IAmb	IAmb	22 30 36.9				
comp=Z,160nm,1.2s										
BBSI	Bau Bau	61.59	281	P	P	22 30 21.2	-1.0			
comp=Z,149nmcomp=Z,15nm,1.2s										
KMSI	Cibinong	63.64	287	P	P	22 30 34.8	-1.1			
comp=Z,142nm,1.1s										
LUWI	Luwuk	63.76	285	P	P	22 30 38.0	+1.3			
comp=Z,9µmcomp=Z,244nm,1.2s										
LUWI	Luwuk	63.76	285	P	P	22 30 35.7	-1.0			
PLAI	Plampang	64.05	275	P	P	22 30 40.7	+2.1			
comp=Z,225nm,1.0s										
KAPI	Kappang	64.23	280	P	P	22 30 39.8	0.0			
comp=Z,15nm,0.6s,baz=126,slow=3.6,SNR=4.4										
KAPI	Kappang	64.23	280	P	P	22 30 38.7	-1.1			
KAPI				pmax	pmax					
comp=Z,221nm,1.6s										
KAPI	Kappang	64.23	280	P	P	22 30 38.7	-1.1			
KAPI				IAmb	IAmb	22 30 54.6				
comp=Z,221nm,1.6s										
BNSI	Bone	64.25	280	P	P	22 30 41.5	+1.6			
SPSI	Sidrap Palu	64.76	281	P	P	22 30 43.8	+0.6			
comp=Z,52nm,1.0s										
TTSI	Tana Toraja	65.19	281	P	P	22 30 47.7	+1.6			
comp=Z,78nm,1.0s										
MRSI	Marisa	65.28	286	P	P	22 30 47.6	+0.9			
comp=Z,71nm,1.1s										
MPSI	Mapaga	66.92	285	P	P	22 30 53.8	-3.4			
comp=Z,69nm,1.7s										
JAGI	Jajag, Banyuwa	67.36	273	P	P	22 31 01.3	+1.3			
comp=Z,186nm,1.3s										
JAGI	Jajag, Banyuwa	67.36	273	P	P	22 30 58.5	-1.5			
KBKI	Kotabaru	68.18	279	P	P	22 31 07.4	+2.2			
comp=Z,1µmcomp=Z,59nm,1.0s										
KMMI	Kalianget	68.20	274	P	P	22 31 06.5	+1.2			
comp=Z,184nm,1.4s										
BKB	Balikpapan	68.61	281	P	P	22 31 07.4	-0.5			
BKB				IAmb	IAmb	22 32 29.8				
comp=Z,232nm,1.5s										
JCJ	Chichijima	68.79	321	P	P	22 31 08.1	-0.5			
WOJI	Wonogiri, Jawa	70.46	272	P	P	22 31 21.5	+2.2			
comp=Z,8µmcomp=Z,187nm,1.3s										
UGM	Wanagama	70.77	272	P	P	22 31 23.6	+2.4			
comp=Z,235nm,1.3s										
RCP	Roxas	71.02	296⇑	*e*P	P	22 31 27.9	+5.3			
SMRI	Semarang	71.26	273	P	P	22 31 23.6	-0.6			
SPMM	Sapulut	72.16	286	P	P	22 31 31.0	+1.4			
MAW	Mawson	72.95	200	P	P	22 31 34.8	+1.4			
comp=Z,43nm,1.0s,baz=107,slow=7.0,SNR=16										
MAW	Mawson	72.95	200	P	P	22 31 33.9	+0.5			
MAW				pmax	pmax					
comp=Z,45nm,1.3s										
MAW	Mawson	72.95	200	P	P	22 31 33.9	+0.5			
KKM	Kota Kinabalu	73.10	287	P	P	22 31 34.3	-1.0			
CISI	Cisompet, Garu	73.29	271	P	P	22 31 46.7	+10			
CISI	Cisompet, Garu	73.29	271	P	P	22 31 35.0	-1.4			
CISI				IAmb	IAmb	22 31 51.9				
comp=Z,92nm,0.7s										
LEM	Lembang	73.81	271	P	P	22 31 39.3	-0.3			
comp=Z,56nm,0.7s,baz=102,slow=14,SNR=6.0										
TGY	Tagaytay City	73.95	297	P	P	22 31 40.9	+0.7			
comp=Z,191nm,0.3s,baz=113,slow=9.1,SNR=4.7										
SBUM	Sibu	74.52	282	P	P	22 31 42.4	-1.1			
SBUM	Sibu	74.52	282	P	P	22 31 44.0	+0.5			
DBJI	Dramaga	74.70	271	P	P	22 31 44.4	-0.2			
comp=Z,111nm,1.4s										
JHJ2	Mitsune	74.79	324	P	P	22 31 44.9	+0.3			
KSM	Kuching	75.64	280	P	P	22 31 48.9	-1.0			
KSM				IAmb	IAmb	22 32 07.2				
comp=Z,177nm,1.2s										
KSM	Kuching	75.64	280	P	P	22 31 49.0	-1.0			
TPI	Tanjungpandan	75.78	275	P	P	22 31 53.0	+2.2			
comp=Z,83nm,1.3s										
MG01	Puerto William	76.21	146	P	P	22 31 52.4	-0.2			
KASI	Kota Agung	77.15	271	P	P	22 31 59.6	+1.0			
comp=Z,129nm,1.3s										
PPBI	Pangkal Pinang	77.39	275	P	P	22 32 02.2	+2.3			
comp=Z,85nm,1.7s										
SYO	Syowa Base	77.69	193⇑	*i*P	P	22 32 00.0	-0.6			
SYO	Syowa Base	77.69	193⇑	rpP	pP	22 32 03.0	-0.1			
SYO	Syowa Base	77.69	193⇑	rPcP	PcP	22 32 09.7	-1.0			
LWLI	Liwa	77.78	271	P	P	22 32 00.6	-1.6			
comp=Z,199nm,0.8s										
INU	Inuyama	77.98	323	P	P	22 32 01.9	-0.7			
INU				IAmb	IAmb	22 32 32.3				
comp=Z,95nm,1.0s										
MJAR	Matsushiro Arr	78.30	325	P	P	22 32 04.6	+0.2			
comp=Z,19nm,0.7s,baz=160,slow=4.7,SNR=26										
MJAR	Matsushiro Arr	78.30	325	P	P	22 32 03.6	-0.8			
MJAR				pmax	pmax					
comp=Z,55nm,1.3s										
MJAR	Matsushiro Arr	78.30	325	P	P	22 32 03.6	-0.8			
MAJO	Matsushiro	78.30	325	*i* P	P	22 32 03.4	-1.0			
MAJO				pmax	pmax					
comp=Z,107nm,1.2s										
MAJO	Matsushiro	78.30	325	P	P	22 32 03.6	-0.8			
MAJO				IAmb	IAmb	22 32 12.6				
comp=Z,166nm,1.3s										
MAT	Matsushiro	78.30	325	P	P	22 32 03.0	-1.4			
MJB9	Matsu-Tunnel	78.31	325	P	P	22 32 04.5	0.0			
MJB9				IAmb	IAmb	22 32 12.5				
comp=Z,169nm,1.3s										
SNAA	Sanae	78.56	178	P	P	22 32 06.0	+0.4			
SNAA	Sanae	78.56	178	P	P	22 32 05.3	-0.3			
SNAA				pmax	pmax					
comp=Z,118nm,1.0s										
SNAA	Sanae	78.56	178	P	P	22 32 05.2	-0.3			
SNAA				IAmb	IAmb	22 32 33.8				
comp=Z,118nm,1.0s										
VNA3	Neumayer Olymp	78.68	176	P	P	22 32 06.2	0.0			
COYC	Coyhaique	78.75	136	P	P	22 32 07.9	+1.0			
COYC				IAmb	IAmb	22 32 24.5				
comp=Z,104nm,1.0s										
LHSI	Lahat	78.83	272	P	P	22 32 08.1	+0.2			
comp=Z,121nm,2.1s										
VNA2	Neumayer--Watz	79.12	177	P	P	22 32 09.0	+0.5			
baz=170,slow=4.3										
NVL	N'lazarevskaya	79.34	183	*e*P	P	22 32 12.0	+2.3			
NVL				*e*PPP	PPP	22 37 03.8				
NVL				pmax	pmax					
comp=Z,138nm,1.7s										
VNA1	Neumayer--Stat	79.35	176	P	P	22 32 10.4	+0.7			
YULB	Yu-li	79.40	305	P	P	22 32 09.4	-1.4			
JNU	Nakatsue	79.72	318	P	P	22 32 13.3	+1.0			
comp=Z,151nm,1.3s,baz=94,slow=5.2,SNR=10										
JNU	Nakatsue	79.72	318	P	P	22 32 11.8	-0.5			
JNU				IAmb	IAmb	22 32 20.4				
comp=Z,192nm,1.3s										
TPUB	Ta-pu	79.82	304	P	P	22 32 12.3	-0.8			
SSLB	Suanglung	79.90	305	P	P	22 32 11.8	-1.7			
H03S2	Juan Fernandez	80.11	123	T	T	00 01 52.5				
baz=239,slow=74,SNR=9.9										
H03S1	Juan Fernandez	80.12	123	T	T	00 01 53.4				
baz=239,slow=74,SNR=9.4										
H03S3	Juan Fernandez	80.12	123	T	T	00 02 00.3				
baz=239,slow=74,SNR=23										
LL01	San Ignacio de	80.22	133	P	P	22 32 15.8	+0.8			
MASI	Maun Aman, Be	80.28	272	P	P	22 32 16.5	+0.7			
comp=Z,379nm,1.1s										
TPRI	Tanjung Pinang	80.32	277	P	P	22 32 19.6	+3.6			
comp=Z,55nm,0.9s										
ERM	Erimo	80.43	331	*i* P	P	22 32 17.2	+1.4			
ERM				pmax	pmax					
comp=Z,197nm,1.4s										
ERM	Erimo	80.43	331	P	P	22 32 16.6	+0.7			
PAF	Port-aux-Franc	80.91	218	P	P	22 32 18.7	+0.1			
PAF				pmax	pmax					
comp=Z,623nm,1.1s										
PAF	Port-aux-Franc	80.91	218	P	P	22 32 18.7	+0.1			
YUK	Yuzh-Kuril'sk	81.04	334	*i* P	P	22 32 19.5	+0.5			
KUR	Kuril'sk	81.33	336	*i* P	P	22 32 21.2	+0.6			
KRJI	Kerinci	81.47	273	P	P	22 32 22.2	-0.1			
comp=Z,9µmcomp=Z,293nm,0.9s										
SDSI	Sungai Dareh	82.07	273	P	P	22 32 26.9	+1.6			
comp=Z,24nm,1.1s										
PLCA	Paso Flores	82.28	133	P	P	22 32 27.6	+1.5			
comp=Z,28nm,1.1s,baz=253,slow=6.6,SNR=12										
PLCA	Paso Flores	82.28	133	P	P	22 32 27.4	+1.3			
PLCA				pmax	pmax					
comp=Z,99nm,1.3s										
PLCA	Paso Flores	82.28	133	P	P	22 32 27.4	+1.3			
PLCA				IAmb	IAmb	22 32 44.8				
comp=Z,99nm,1.3s										
JKA	Kamikawa-asahi	82.39	332	P	P	22 32 26.4	+0.2			
ASAJ	Asahikawa	82.39	332	P	P	22 32 26.3	+0.1			
comp=Z,108nm,1.0s,baz=216,slow=10,SNR=27										
ASAJ				LR	LR	23 03 06.2				
comp=Z,21µm,21.8s,baz=183,slow=31										
ASAJ	Asahikawa	82.39	332	P	P	22 32 26.4	+0.1			
ASAJ				pmax	pmax					
comp=Z,686nm,1.0s										
LC01	Cunco	82.41	131	P	P	22 32 28.2	+1.4			
LC01				IAmb	IAmb	22 32 40.4				
comp=Z,91nm,1.1s										
DLV	T Lat	82.70	288	P	P	22 32 28.6	-0.1			
DLV				IAmb	IAmb	22 32 50.2				
comp=Z,150nm,1.2s										
BI03	Tigo	82.73	128	P	P	22 32 30.1	+1.7			
EFI	East Falkland	82.76	147	P	P	22 32 30.0	+1.7			
EFI				pmax	pmax					
comp=Z,263nm,1.7s										
EFI	East Falkland	82.76	147	P	P	22 32 30.0	+1.7			
EFI				IAmb	IAmb	22 33 04.8				
comp=Z,263nm,1.6s										
PDSI	Padang	82.92	273	P	P	22 32 32.0	+2.2			
comp=Z,38nm,1.5s										
BI02	San Fabin de	84.01	129	P	P	22 32 35.6	+0.5			
BI02				IAmb	IAmb	22 32 48.1				
comp=Z,83nm,1.3s										
GO05	Huala	84.46	127	P	P	22 32 37.8	+0.4			
GO05				IAmb	IAmb	22 33 06.8				
comp=Z,181nm,1.4s										
PAGB	Antelope Grade	84.48	43	P	P	22 32 38.5	+1.2			
PAGB				IAmb	IAmb	22 32 47.3				
comp=Z,144nm,1.4s										
PMPB	Monarch Peak	84.48	43	P	P	22 32 38.1	+0.8			
PMPB				IAmb	IAmb	22 33 05.4				
comp=Z,149nm,1.4s										
SAO	San Andreas Ge	84.49	42	P	P	22 32 37.6	+0.4			
SAO				pmax	pmax					
comp=Z,60nm,1.2s										
SAO	San Andreas Ge	84.49	42	P	P	22 32 37.6	+0.4			
KSRS	Korea Array	84.49	319	P	P	22 32 38.1	+1.0			
comp=Z,14nm,0.8s,baz=142,slow=5.5,SNR=17										
KSAR	Wonju Array Be	84.50	319	P	P	22 32 36.6	-0.6			
KSAR	Wonju Array Be	84.50	319	P	P	22 32 36.6	-0.6			
MNSI	Mandailing Nat	84.53	274	P	P	22 32 40.0	+2.0			
comp=Z,56nm,1.1s										
KS19	Wonju Array Si	84.55	319	P	P	22 32 37.9	+0.4			
KS19				IAmb	IAmb	22 32 58.5				
comp=Z,53nm,0.9s										
BAR	Barrett	84.66	47	P	P	22 32 39.4	+1.2			
YSS	Yuzh-Sakhalins	84.68	334	*e*P	P	22 32 37.8	-0.1			
YSS				pmax	pmax					
comp=Z,270nm,1.1s										
YSS	Yuzh-Sakhalins	84.68	334	P	P	22 32 37.4	-0.4			
MWC	Mount Wilson	84.80	46	P	P	22 32 40.1	+1.0			
MWC				pmax	pmax					
comp=Z,167nm,1.7s										
MWC	Mount Wilson	84.80	46	P	P	22 32 40.1	+1.0			
MWC				IAmb	IAmb	22 33 16.5				
comp=Z,167nm,1.7s										
MURC	Murrieta	84.92	47	P	P	22 32 40.2	+0.6			
baz=229,SNR=7.0										
MONP2	Monument Peak	84.95	47	P	P	22 32 40.2	+0.2			
baz=230,SNR=8.9										
BFSC	Mount Baldy Ra	85.06	46	P	P	22 32 40.6	+0.3			
baz=229,SNR=8.1										
HOPS	Hopland Field	85.13	39	P	P	22 32 40.8	+0.4			
HOPS				IAmb	IAmb	22 32 50.3				
comp=Z,97nm,1.2s										
INCN	Inchon	85.24	318	P	P	22 32 41.1	+0.1			
INCN				pmax	pmax					
comp=Z,47nm,1.0s										
INCN	Inchon	85.24	318	P	P	22 32 41.1	+0.1			
VES	Vestal, Richgr	85.25	44	P	P	22 32 41.6	+0.5			
baz=228,SNR=13										
EDW2	Edwards Air

GSC Goldstone, Bar 86.28 45 P **P** **22 32 46.5 +0.1**
GSC IAmb IAmb 22 33 04.3
comp=Z,63nm,1.1s

PEL Peldehue 86.34 126 P **P** **22 32 47.4 +0.5**
PEL pmax pmax
comp=Z,123nm,1.1s

PEL Peldehue 86.34 126 P **P** **22 32 47.4 +0.5**
PEL IAmb IAmb 22 33 16.3
comp=Z,123nm,1.1s

MPMC Manual Prospec 86.36 45 P **P** **22 32 47.5 +0.6**
baz=229,SNR=30

ORV Oroville 86.39 40 P **P** **22 32 46.8 +0.1**
ORV pmax pmax
comp=Z,106nm,1.5s

ORV Oroville 86.39 40 P **P** **22 32 46.8 +0.1**
ORV IAmb IAmb 22 32 53.0
comp=Z,106nm,1.4s

MSHR Mys Shultsa 86.42 325 *i* P **P** **22 32 46.6 -0.1**
MSHR pmax pmax
comp=Z,121nm,1.2s

VLA Vladivostok 86.45 325 *i* P **P** **22 32 46.8 0.0**
VLA pmax pmax
comp=Z,77nm,1.1s

MDPB Devils Postpil 86.46 42 P **P** **22 32 47.5 +0.1**
MDPB IAmb IAmb 22 33 07.0
comp=Z,80nm,1.3s

NJ2 Nanjing 86.51 310 *e*P **P** **22 32 48.4 +1.0**
NJ2 pmax pmax
comp=Z,19nm,0.5s

GSI Gunungsitoli 86.52 273 P **P** **22 32 47.8 -0.1**
comp=Z,49µmcomp=Z,955nm,1.2s

GSI Gunungsitoli 86.52 273 P **P** **22 32 46.9 -1.0**

WDC Whiskeytown Da 86.54 38 P **P** **22 32 48.0 +0.6**
WDC pmax pmax
comp=Z,89nm,1.2s

WDC Whiskeytown Da 86.54 38 P **P** **22 32 48.0 +0.6**
WDC IAmb IAmb 22 32 57.2
comp=Z,89nm,1.1s

IRM Iron Mountain 86.58 47 P **P** **22 32 48.6 +0.8**
baz=230,SNR=23

113A Mohawk Valley, 86.59 49 P **P** **22 32 48.0 +0.2**
113A IAmb IAmb 22 33 07.7
comp=Z,152nm,1.9s

GMRC Granite Mounta 86.66 46 P **P** **22 32 48.8 +0.6**
baz=230,SNR=24

214A Organ Pipe Nat 86.72 50 P **P** **22 32 48.1 -0.4**
214A IAmb IAmb 22 33 13.8
comp=Z,83nm,1.4s

N02D Trinity Center 86.73 38 P **P** **22 32 49.3 +0.9**
baz=225,SNR=42

O03E Paynes Creek 86.74 39 P **P** **22 32 49.6 +1.1**
baz=226,SNR=29

WAKR Walker 86.84 42 P **P** **22 32 49.0 -0.1**
WAKR IAmb IAmb 22 33 07.0
comp=Z,162nm,1.4s

M02C Callahan 86.95 38 P **P** **22 32 50.4 +0.9**
baz=225,SNR=32

PNTR Pine Nut 87.14 41 P **P** **22 32 50.0 -0.6**
PNTR IAmb IAmb 22 33 15.8
comp=Z,93nm,1.1s

CO02 Combarbal 87.19 125 P **P** **22 32 50.6 -0.6**
CO02 IAmb IAmb 22 33 03.8
comp=Z,117nm,1.1s

USA0B Ussuriysk Arra 87.20 326 P **P** **22 32 49.6 -0.9**
USA0B pmax pmax
comp=Z,148nm,0.9s

USA0B Ussuriysk Arra 87.20 326 P **P** **22 32 49.6 -0.9**

USRK Ussuriysk Ar. 87.20 326 P **P** **22 32 50.1 -0.3**
comp=Z,84nm,0.9s,baz=130,slow=3.1,SNR=34

USRK Ussuriysk Ar. 87.20 326 P **P** **22 32 49.7 -0.8**

USRK Ussuriysk Ar. 87.20 326 P **P** **22 32 49.7 -0.8**

YBH Yreka Blue Hor 87.26 38 P **P** **22 32 51.5 +0.5**
comp=Z,18nm,1.0s,baz=189,slow=1.7,SNR=5.8

YERR Yerington 87.28 41 P **P** **22 32 51.0 -0.2**
YERR IAmb IAmb 22 33 00.7
comp=Z,85nm,1.2s

PDMCI Parker Dam,Lak 87.32 48 P **P** **22 32 52.0 +0.7**
baz=231,SNR=8.9

NVAR Mina Array Bea 87.45 42 P **P** **22 32 52.3 +0.2**
comp=Z,11nm,0.9s,baz=222,slow=6.7,SNR=21

NVAR Mina Array Bea 87.45 42 P **P** **22 32 51.8 -0.3**

K02D Willamette Mer 87.45 36 P **P** **22 32 53.0 +1.2**
baz=224,SNR=12

RYN Ryan 87.45 42 P **P** **22 32 51.7 -0.4**
RYN IAmb IAmb 22 33 09.7
comp=Z,61nm,1.2s

KCSI Kotacane, Aceh 87.45 276 P **P** **22 32 53.5 +1.0**
comp=Z,46nm,1.6s

NV11 Mina Array Sit 87.53 42 P **P** **22 32 52.4 -0.1**
NV11 IAmb IAmb 22 33 01.9
comp=Z,143nm,1.5s

CO03 El Pedregal 87.61 124 P **P** **22 32 53.2 0.0**
CO03 IAmb IAmb 22 33 10.9
comp=Z,104nm,1.2s

AAGR Agrelo 87.67 127 *i* P **P** **22 32 57.0 +3.6**

TPNV Topopah Spring 87.70 44 P **P** **22 32 53.9 +0.6**
baz=229,SNR=21

TPNV Topopah Spring 87.70 44 P **P** **22 32 53.2 -0.1**
TPNV pmax pmax
comp=Z,81nm,1.3s

TPNV Topopah Spring 87.70 44 P **P** **22 32 53.1 -0.1**
TPNV IAmb IAmb 22 33 03.2
comp=Z,81nm,1.2s

ARCO CERRO ARCO 87.73 127 *i* P **P** **22 32 57.1 +3.3**

M04C Macdoel 87.76 38 P **P** **22 32 54.3 +0.8**
baz=226,SNR=12

AUSP Uspallata 87.76 126 *i* P **P** **22 32 58.0 +3.9**

L04D Klamath Falls 87.82 37 P **P** **22 32 54.5 +0.8**
baz=225,SNR=12

ASAL Salagasta 87.94 127 *i* P **P** **22 32 57.8 +3.1**

KVN Kaiserville 87.98 42 P **P** **22 32 54.2 -0.4**
KVN pmax pmax
comp=Z,87nm,1.4s

KVN Kaiserville 87.98 42 P **P** **22 32 54.2 -0.4**
KVN IAmb IAmb 22 33 03.9
comp=Z,87nm,1.4s

W13A Hualapai Mount 87.98 47 P **P** **22 32 54.7 -0.1**

RTLS Leoncito 88.06 126 *i* P **P** **22 32 57.8 +2.3**

TUC Tucson 88.29 51 P **P** **22 32 56.5 +0.4**
TUC pmax pmax
comp=Z,50nm,1.1s

TUC Tucson 88.29 51 P **P** **22 32 56.5 +0.4**
TUC IAmb IAmb 22 33 17.2
comp=Z,50nm,1.1s

I03D Drain, OR 88.33 36 P **P** **22 32 56.8 +1.0**
baz=225,SNR=13

SII Sitkinak Islan 88.38 12 P **P** **22 32 56.5 +0.6**

CO01 Juntas del Tor 88.52 124 P **P** **22 32 56.7 -0.9**
CO01 IAmb IAmb 22 33 27.3
comp=Z,97nm,1.6s

RTCV Cerro Valdivia 88.56 126 *i* P **P** **22 32 59.8 +2.2**

J04D Umpqua Nationa 88.64 37 P **P** **22 32 58.6 +1.0**
baz=226,SNR=8.0

WHN Wuhan 88.66 307 ⇓P **P** **22 32 58.8 +1.0**
WHN sP pwP 22 33 18.3 +12

MOD Modoc Plateau 88.67 39 P **P** **22 32 57.6 -0.2**

MDJ Mudanjiang 88.68 325 P **P** **22 32 59.9 +2.4**
MDJ pmax pmax
comp=Z,130nm,1.3s

MDJ Mudanjiang 88.68 325 P **P** **22 32 57.3 -0.2**

I04A Tendick Farm, 88.87 36 P **P** **22 32 59.4 +0.9**
baz=225,SNR=9.2

ACCO Cerro Coronel 88.91 125 *i* P **P** **22 33 03.3 +3.7**

K05A Summer Lake 88.92 38 P **P** **22 32 59.0 +0.1**
K05A IAmb IAmb 22 33 18.8
comp=Z,163nm,1.4s

COR Corvallis 88.98 35 P **P** **22 32 59.6 +0.7**
COR pmax pmax
comp=Z,187nm,1.6s

COR Corvallis 88.98 35 P **P** **22 32 59.6 +0.7**
COR IAmb IAmb 22 33 31.0
comp=Z,187nm,1.6s

R11A Troy Canyon, C 89.00 44 P **P** **22 33 00.7 +1.2**
baz=230,SNR=16

R11A Troy Canyon, C 89.00 44 P **P** **22 32 59.5 0.0**

AC05 El Transito 89.02 123 P **P** **22 32 59.1 -0.8**

DL2 Dalian 89.12 317 P **P** **22 32 59.8 +0.1**
DL2 pmax pmax
comp=Z,71nm,1.4s

J05D Fort Rock, OR 89.13 37 P **P** **22 33 00.8 +0.9**
baz=226,SNR=35

OHAK Old Harbor 89.17 13 P **P** **22 32 60.0 +0.5**

TLIG Tlapa 89.18 69 P **P** **22 33 00.8 +0.1**
TLIG IAmb IAmb 22 33 17.1
comp=Z,130nm,1.6s

H04D Lebanon 89.22 36 P **P** **22 33 01.0 +0.9**
baz=225,SNR=13

HOPE Hope Point 89.48 158 P **P** **22 33 02.4 +1.1**
HOPE pmax pmax
comp=Z,124nm,1.1s

HOPE Hope Point 89.48 158 P **P** **22 33 02.4 +1.1**
HOPE IAmb IAmb 22 33 14.1
comp=Z,124nm,1.1s

PINE Pine Mountain 89.63 37 P **P** **22 33 02.7 +0.4**
PINE IAmb IAmb 22 33 09.0
comp=Z,209nm,1.4s

KDAK Kodiak Island 89.83 13 P **P** **22 33 03.0 +0.4**
comp=Z,42nm,1.2s,baz=244,slow=2.9,SNR=8.2

KDAK Kodiak Island 89.83 13 P **P** **22 33 03.6 +1.0**

KDAK Kodiak Island 89.83 13 P **P** **22 33 03.6 +1.0**

WUAZ Wupatki 89.85 48 P **P** **22 33 03.9 +0.4**
WUAZ IAmb IAmb 22 33 22.9
comp=Z,82nm,1.1s

WVOR Wild Horse Val 89.94 39 P **P** **22 33 04.1 +0.4**
WVOR pmax pmax
comp=Z,103nm,1.4s

WVOR Wild Horse Val 89.94 39 P **P** **22 33 04.1 +0.4**
WVOR IAmb IAmb 22 33 28.1
comp=Z,103nm,1.4s

AGUA GUANDACOL 89.94 124 *i* P **P** **22 33 07.6 +3.4**

MRA San Martin 90.19 128 *i* P **P** **22 33 08.4 +3.1**

TIA Tai'an 90.20 313 P **P** **22 33 04.9 0.0**
TIA pmax pmax
comp=Z,15nm,0.9s

GRNR Gornyy 90.23 333 ⇑*i*P **P** **22 33 04.5 -0.2**
GRNR *e*S **S** **22 44 02.2 +4.1**
GRNR pmax pmax
comp=Z,50nm,1.2s
GRNR smax smax
comp=E,8.0nm,0.9s
GRNR MLR MLR
comp=E,2µm,17.0s

CN2 Changchun 90.23 322 *e*P **P** **22 33 03.3 -1.5**
CN2 pmax pmax
comp=E,260nm,1.1s

E03A Lebam 90.25 34 P **P** **22 33 04.4 -0.4**

121A Cookes Peak, D 90.47 52 P **P** **22 33 06.8 +0.4**
121A IAmb IAmb 22 34 00.5
comp=Z,70nm,1.5s

VCA Vinchina 90.57 124 *i* P **P** **22 33 11.1 +3.8**

NLWA Neilton Lookou 90.72 33 P **P** **22 33 07.1 +0.1**
NLWA IAmb IAmb 22 33 17.2
comp=Z,83nm,1.1s

ELK Elko 90.75 42 P **P** **22 33 07.3 -0.3**
ELK pmax pmax
comp=Z,37nm,1.3s

ELK Elko 90.75 42 P **P** **22 33 07.3 -0.3**

G06A Carlson Farm, 90.79 36 P **P** **22 33 07.2 -0.3**
G06A IAmb IAmb 22 33 13.1
comp=Z,138nm,1.2s

APLL PUNTA DE LOS L 90.81 126 *i* P **P** **22 33 08.8 +0.6**

AC02 Maricunga 90.98 122 P **P** **22 33 09.7 +0.2**
AC02 IAmb IAmb 22 33 23.9
comp=Z,105nm,1.8s

KLR Kul'dur 91.03 329 P **P** **22 33 08.2 -0.2**
comp=Z,41nm,0.8s,baz=119,slow=2.6,SNR=27

KLR Kul'dur 91.03 329 *i* P **P** **22 33 06.5 -1.9**
KLR pmax pmax
comp=Z,198nm,1.3s

TCRU Three Creeks R 91.08 45 P **P** **22 33 09.3 +0.1**

LON Longmire 91.25 34 P **P** **22 33 10.0 +0.4**
LON pmax pmax
comp=Z,122nm,1.8s

LON Longmire 91.25 34 P **P** **22 33 10.0 +0.4**
LON IAmb IAmb 22 33 16.7
comp=Z,122nm,1.8s

SLVN Son La 91.39 294 P **P** **22 33 10.6 -0.2**
SLVN IAmb IAmb 22 33 44.7
comp=Z,54nm,1.2s

DIB Dawson Inlet, 91.50 25 P **P** **22 33 10.4 0.0**
DIB IAmb IAmb 22 36 41.9
comp=Z,79nm,1.0s

TX31 Lajitas Ar. Si 91.56 57 P **P** **22 33 11.6 +0.1**
TX31 IAmb IAmb 22 33 45.4
comp=Z,153nm,1.4s

TXAR Lajitas Array 91.56 57 P **P** **22 33 12.9 +1.3**
comp=Z,5.0nm,1.1s,baz=216,slow=6.2,SNR=11

TXAR Lajitas Array 91.56 57 P **P** **22 33 11.8 +0.3**

TXAR Lajitas Array 91.56 57 P **P** **22 33 11.8 +0.3**

GO02 Mina Guanaco 91.57 120 P **P** **22 33 12.0 -0.1**

TCA Tanti 91.60 128 *i* P **P** **22 33 14.5 +2.6**

F07A Phinny Hill Vi 91.60 36 P **P** **22 33 11.8 +0.7**
F07A IAmb IAmb 22 33 20.8
comp=Z,71nm,1.1s

MNTX Cornudas Mount 91.66 54 P **P** **22 33 11.0 -0.8**

CNPM China Poot 91.72 13 P **P** **22 33 11.2 -0.2**

PGC Sidney 91.81 32 P **P** **22 33 12.7 +0.7**

DUG Dugway, Tooele 91.84 44 P **P** **22 33 12.4 -0.2**
DUG pmax pmax
comp=Z,31nm,1.4s

DUG Dugway, Tooele 91.84 44 P **P** **22 33 12.4 -0.2**

CMIG Matias Romero 91.95 71 P **P** **22 33 15.0 +1.6**
comp=Z,3.7nm,0.6s,baz=214,slow=5.0,SNR=9.2

ENH Enshi 91.95 304 P **P** **22 33 12.8 -0.4**

GYA Guiyang 91.96 299 ⇑P **P** **22 33 15.0 +1.6**
GYA pmax pmax
comp=Z,23nm,1.4s

BRLK Bradley Lake 92.01 13 P **P** **22 33 12.4 -0.3**

MFID Camas Ranch 92.14 40 P **P** **22 33 12.9 -1.0**
MFID IAmb IAmb 22 33 23.9
comp=Z,50nm,1.1s

HAWA Hanford 92.14 36 P **P** **22 33 13.3 -0.3**
HAWA IAmb IAmb 22 33 19.4
comp=Z,99nm,1.2s

BNM Barren Site 92.19 51 P **P** **22 33 14.8 +0.3**

BMO Blue Mountains 92.27 38 P **P** **22 33 14.5 +0.1**
BMO pmax pmax
comp=Z,67nm,1.6s

BMO Blue Mountains 92.27 38 P **P** **22 33 14.5 +0.1**
BMO IAmb IAmb 22 33 31.5
comp=Z,67nm,1.6s

RSO Redoubt South 92.31 12 P **P** **22 33 14.6 +0.3**

BBB Bella Bella 92.39 28 P **P** **22 33 16.2 +1.7**
comp=Z,20nm,0.8s,baz=271,slow=2.5,SNR=5.5

BBB Bella Bella 92.39 28 P **P** **22 33 15.0 +0.4**

SVW2 Sparrevohn 92.44 10 P **P** **22 33 15.4 +0.8**

CYA Choya 92.47 125 *i* P **P** **22 33 18.3 +2.5**

SRU San Rafael Swe 92.57 46 P **P** **22 33 15.9 -0.1**
SRU pmax pmax
comp=Z,69nm,1.3s

SRU San Rafael Swe 92.57 46 P **P** **22 33 15.9 -0.1**

GDL2 Guadalupe Moun 92.65 54 P **P** **22 33 17.2 +0.6**

MVCO Mesa Verde 92.72 48 P **P** **22 33 17.1 +0.2**

SPUT South Promonto 92.74 43 P **P** **22 33 16.7 0.0**

PB15 IPOC Station P 92.75 119 P **P** **22 33 17.6 +0.1**
PB15 IAmb IAmb 22 33 30.9
comp=Z,57nm,1.4s

ANMO Albuquerque 92.76 51 P **P** **22 33 18.0 +1.0**
comp=Z,3.6nm,0.8s,baz=195,slow=4.3,SNR=12

ANMO Albuquerque 92.76 51 *i* P **P** **22 33 15.6 -1.4**
ANMO pmax pmax
comp=Z,17nm,1.1s

ANMO Albuquerque 92.76 51 P **P** **22 33 16.5 -0.5**

HVU Hansel Valley 92.84 42 P **P** **22 33 17.5 +0.3**
HVU pmax pmax
comp=Z,65nm,1.1s

HVU Hansel Valley 92.84 42 P **P** **22 33 17.5 +0.3**

D08A Wollman Farm, 92.90 36 P **P** **22 33 17.2 0.0**
D08A IAmb IAmb 22 33 22.7
comp=Z,75nm,1.2s

HLID Hailey 93.02 40 P **P** **22 33 17.7 -0.3**
HLID IAmb IAmb 22 33 27.7
comp=Z,56nm,1.2s

F10A Beach Ranch, E 93.05 37 P **P** **22 33 17.1 -0.9**
F10A IAmb IAmb 22 33 25.1
comp=Z,51nm,0.9s

PV17 East Wray Mesa 93.06 47 P **P** **22 33 17.4 -0.9**

MA2 Magadan 93.07 344 P **P** **22 33 17.8 +0.2**
comp=Z,3.3nm,0.3s,baz=4.8,slow=8.3,SNR=2.2

MA2 Magadan 93.07 344 *i* P **P** **22 33 17.3 -0.3**
MA2 pmax pmax
comp=Z,25nm,1.3s

MA2 Magadan 93.07 344 P **P** **22 33 17.7 +0.1**

BJI Beijing 93.12 315 P **P** **22 33 19.5 +1.2**
BJI pmax pmax
comp=Z,24nm,1.1s

PB07 IPOC Station P 93.26 117 P **P** **22 33 19.7 0.0**
PB07 IAmb IAmb 22 33 45.6
comp=Z,78nm,1.6s

HWUT Hardware Ranch 93.45 43 P **P** **22 33 20.1 +0.1**
HWUT IAmb IAmb 22 33 36.1
comp=Z,67nm,1.6s

LVC Limon Verde 93.52 118 P **P** **22 33 20.8 -0.4**
LVC pmax pmax
comp=Z,61nm,1.3s

LVC Limon Verde 93.52 118 P **P** **22 33 20.8 -0.4**
LVC IAmb IAmb 22 33 35.8
comp=Z,61nm,1.3s

EYAK Cordova Ski Ar 93.80 15 P **P** **22 33 20.9 +0.1**

GLI Glacier Island 93.80 14 P **P** **22 33 20.5 -0.4**

CM31 Chiang Mai Arr 93.93 289 P **P** **22 33 21.8 -0.8**

CMAR Chiang Mai Arr 93.93 289 P **P** **22 33 23.0 +0.4**
comp=Z,5.5nm,0.9s,baz=147,slow=2.7,SNR=10.0

CMAR PP **PP** **22 37 10.5 +1.8**
comp=Z,12nm,1.3s,baz=133,slow=5.3,SNR=4.9

CMAR Chiang Mai Arr 93.93 289 P **P** **22 33 21.1 -1.5**

CMAR Chiang Mai Arr 93.93 289 P **P** **22 33 21.1 -1.5**

PB01 IPOC Station P 93.95 117 P **P** **22 33 22.2 -0.7**

PMR Palmer 94.03 13 P **P** **22 33 22.2 +0.2**

PMR Palmer 94.03 13 P **P** **22 33 22.2 +0.2**

CHTO Chiang Mai 94.11 289 P **P** **22 33 22.3 -1.1**
CHTO pmax pmax
comp=Z,66nm,1.7s

CHTO Chiang Mai 94.11 289 P **P** **22 33 22.3 -1.1**
CHTO IAmb IAmb 22 33 46.3
comp=Z,66nm,1.6s

S22A 4UR Ranch, Cre 94.11 48 P **P** **22 33 23.2 -0.1**

TIY Taiyuan 94.12 311 *e*P **P** **22 33 25.3 +2.2**
TIY pmax pmax
comp=Z,32nm,0.6s

TTA Tatalina 94.12 10 P **P** **22 33 22.7 +0.2**

TTA Tatalina 94.12 10 P **P** **22 33 22.7 +0.2**

GHO Glory Hole Cre 94.24 13 P **P** **22 33 23.1 +0.1**

KMI Kunming 94.27 296 ⇓*e*P **P** **22 33 26.1 +1.9**
KMI pP pwP 22 33 39.8 +6.9
KMI pmax pmax
comp=Z,14nm,1.4s
KMI pmax pmax
comp=Z,6µm,14.3s
KMI LR LR
comp=Z,6µm,23.5s
KMI LR LR
comp=Z,7µm,23.2s
KMI LR LR
comp=Z,10µm,24.1s

KMI Kunming 94.27 296 P **P** **22 33 23.3 -0.9**
KMI pmax pmax
comp=Z,35nm,1.3s

KMI Kunming 94.27 296 P **P** **22 33 23.3 -0.9**

XAN Xi'an 94.42 307 P **P** **22 33 25.6 +1.1**
XAN pmax pmax
comp=Z,21nm,1.4s

XAN Xi'an 94.42 307 P **P** **22 33 25.1 +0.6**
XAN pmax pmax
comp=Z,35nm,1.2s

XAN Xi'an 94.42 307 P **P** **22 33 25.1 +0.6**

AHID Auburn Hatcher 94.43 42 P **P** **22 33 24.5 -0.1**
AHID IAmb IAmb 22 33 41.9
comp=Z,48nm,1.1s

PB11 IPOC Station P 94.53 116 P **P** **22 33 25.0 -0.6**
PB11 IAmb IAmb 22 33 39.4
comp=Z,67nm,1.1s

O20A White River Ci 94.59 46 P **P** **22 33 25.6 +0.2**

NEW Newport 94.61 36 P **P** **22 33 25.6 +0.6**
comp=Z,3.5nm,0.8s,baz=210,slow=8.3,SNR=2.1

NEW Newport 94.61 36 P **P** **22 33 25.2 +0.1**
NEW pmax pmax
comp=Z,10.0nm,1.1s

NEW Newport 94.61 36 P **P** **22 33 25.2 +0.1**

SCM Sheep Creek Mo 94.62 14 P **P** **22 33 24.7 -0.1**

SCM Sheep Creek Mo 94.62 14 P **P** **22 33 24.7 -0.1**

MSTX Muleshoe 94.74 53 P **P** **22 33 24.5 -1.6**

JCT Junction City 95.00 58 P **P** **22 33 27.8 +0.5**
JCT pmax pmax
comp=Z,56nm,1.8s

JCT Junction City 95.00 58 P **P** **22 33 27.8 +0.5**

BALM Baldy 95.02 16 P **P** **22 33 26.9 +0.2**

SNOW Snow King Moun 95.05 42 P **P** **22 33 26.9 -0.6**
SNOW IAmb IAmb 22 33 36.9
comp=Z,73nm,1.2s

DLMT Dillon 95.16 40 P **P** **22 33 27.9 +0.1**
DLMT IAmb IAmb 22 33 47.1
comp=Z,54nm,1.2s

BW06 Boulder Array 95.34 43 P **P** **22 33 29.2 +0.4**

PD31 Pinedale Array 95.34 43 P **P** **22 33 29.3 +0.5**

PDAR Pinedale Array 95.34 43 P **P** **22 33 28.6 -0.1**
comp=Z,2.2nm,1.0s,baz=217,slow=2.3,SNR=6.8

T25A Trinidad 95.36 50 P **P** **22 33 28.9 -0.1**

QLMT Earthquake Lak 95.49 41 P **P** **22 33 29.1 -0.2**

TRF Thorofare Moun 95.53 12 P **P** **22 33 28.5 -0.5**

RND Reindeer 95.75 12 P **P** **22 33 29.0 -0.9**

RND Reindeer 95.75 12 P **P** **22 33 29.0 -0.9**

YHH Holmes Hill 95.79 41 P **P** **22 33 29.8 -1.1**

BOZ Bozeman (W) 95.84 40 P **P** **22 33 30.3 -0.6**
BOZ pmax pmax
comp=Z,56nm,1.3s

BOZ Bozeman (W) 95.84 40 P **P** **22 33 30.3 -0.6**
BOZ IAmb IAmb 22 33 50.2
comp=Z,56nm,1.3s

AMTX Amarillo 95.99 53 P **P** **22 33 31.5 -0.3**

BPAW Bear Paw Mtn. 96.01 11 P **P** **22 33 30.7 -0.3**

MCK McKinley 96.03 12 P **P** **22 33 30.7 -0.4**

MCK McKinley 96.03 12 P **P** **22 33 30.7 -0.4**

RWWY Rawlins 96.13 45 P **P** **22 33 32.3 -0.1**
RWWY IAmb IAmb 22 33 49.8
comp=Z,39nm,1.3s

ZEA Zeya 96.22 330 *e*P **P** **22 33 31.4 -0.8**
ZEA pmax pmax
comp=E,43nm,1.2s
ZEA pmax pmax
comp=N,74nm,1.4s
ZEA pmax pmax
comp=Z,160nm,1.4s

MENT Mentasta 96.37 15 P **P** **22 33 32.8 +0.1**

HRY Holter Researc 96.41 39 P **P** **22 33 33.3 -0.1**

HHC Hu-ho-hao-te 96.45 314 *e*P **P** **22 33 33.3 -0.4**
HHC pmax pmax
comp=Z,10.0nm,1.0s

DLBC Dease Lake 96.45 23 P **P** **22 33 36.5 +3.3**
comp=Z,1.2nm,0.5s,baz=223,slow=11,SNR=5.6

DLBC Dease Lake 96.45 23 P **P** **22 33 34.5 +1.3**

CD2 Chengdu 96.46 302 P **P** **22 33 33.9 0.0**
CD2 pmax pmax
comp=Z,20nm,1.3s

N23A Red Feather La 96.47 46 P **P** **22 33 34.5 +0.5**

WALA Waterton Lakes 96.76 36 P **P** **22 33 35.3 +0.3**

HIA Hailar 96.79 324 *i* P **P** **22 33 34.9 0.0**
HIA pmax pmax
comp=Z,20nm,1.0s

WRH Wood River Hil 96.86 12 P **P** **22 33 35.3 +0.5**

RLMT Red Lodge 96.90 41 P **P** **22 33 35.6 -0.1**

BCAR Beaver Creek A 96.92 15 P **P** **22 33 34.7 -0.5**

DOT Dot Lake 96.92 14 P **P** **22 33 35.1 -0.1**

HDA Harding Lake 97.02 13 P **P** **22 33 35.3 -0.2**
baz=206

HDA Harding Lake 97.02 13 P **P** **22 33 34.5 -1.0**

GCMT Greycliff 97.06 41 P Pdif 22 33 37.1 +0.6

CCB Clear Creek Bu 97.07 12 P **P** **22 33 34.3 -1.5**

K22A Casper 97.10 45 P **P** **22 33 36.6 -0.1**
K22A IAmb IAmb 22 33 54.2
comp=Z,25nm,1.1s

COLA College 97.27 12 *i* P **P** **22 33 36.2 -0.4**
COLA pmax pmax
comp=Z,17nm,1.1s

IL31 97.36 13 P **P** **22 33 36.9 -0.1**

ILAR Eielson Array 97.36 13 P Pdif 22 33 37.5 +0.4
comp=Z,2.8nm,0.8s,baz=212,slow=4.3,SNR=8.8

ILAR Eielson Array 97.36 13 P **P** **22 33 37.1 0.0**

ILAR Eielson Array 97.36 13 P **P** **22 33 37.1 0.0**

LPAZ La Paz 97.67 114 P Pdif 22 33 44.4 +3.8
comp=Z,1.6nm,0.8s,baz=216,slow=2.8,SNR=2.8

LPAZ La Paz 97.67 114 P Pdif 22 33 41.0 +0.4
LPAZ pmax pmax
comp=Z,19nm,1.3s

LPAZ La Paz 97.67 114 P Pdif 22 33 41.0 +0.4

LZH Lanzhou 99.04 306 *e*P **Pdif** **22 33 46.8 +1.2**
LZH pmax pmax
comp=Z,23nm,1.0s

RSSD Black Hills 99.42 44 P **Pdif** **22 33 46.7 -0.4**
RSSD pmax pmax
comp=Z,42nm,1.2s

RSSD Black Hills 99.42 44 **Pdif** **22 33 46.7 -0.4**
RSSD IAmb IAmb 22 34 05.2

comp=Z,42nm,1.2s
CPUP Villa Florida 99.69 128 P **Pdif 22 33 51.3 +2.7**
comp=Z,5.0nm,1.1s,baz=256,slow=4.5,SNR=4.4
SONM Songino Array 103.30 318 PKKP **PKKPdf 22 50 06.6 -2.1**
comp=Z,1.7nm,0.8s,baz=234,slow=2.7,SNR=3.7
BOD Bodaibo 104.60 329 *e*P **Pdif 22 34 11.7 +2.2**
BOD pmax pmax
comp=Z,15nm,1.7s
YKA Yellowknife Ar 104.76 25 Pdiff **Pdif 22 34 12.7 +2.6**
comp=Z,1.3nm,0.9s,baz=216,slow=5.1,SNR=3.6
YKA PKKPbc **PKKPbc 22 49 55.9 +0.2**
comp=Z,1.0nm,0.7s,baz=54,slow=2.6,SNR=3.8
ZAK Zakamensk 106.32 319 *e*P **Pdif 22 34 06.8 -11**
ZAK pmax pmax
comp=Z,4.0nm,1.3s
WMQ Urumqi 113.52 308 *e*PKP **PKiKP 22 38 43.1 +0.6**
WMQ LR LR
comp=Z,5μm,19.9s
WMQ LR LR
comp=Z,11μm,27.1s
DGZ Jazzator, Alta 115.53 314 *i* PKIKP **PKPdf 22 38 45.9 -0.4**
E54A Lac Daplat, Po 117.59 50 P **PKPdf 22 38 49.3 -0.9**
baz=255
I57A Carthage 117.96 53 P **PKPdf 22 38 50.5 -0.4**
baz=254
MK31 Makanchi Array 118.04 310 PKIKP **PKPdf 22 38 49.9 -1.2**
MK31 Makanchi Array 118.04 310 **PKPdf 22 38 49.9 -1.2**
MKAR Makanchi Array 118.04 310 PKP **PKPdf 22 38 50.2 -0.8**
comp=Z,5.7nm,0.8s,baz=200,slow=1.0,SNR=17
MKAR Makanchi Array 118.04 310 PKPdf **PKPdf 22 38 49.3 -1.8**
D54A Lac Fusel, La 118.13 50 P **PKPdf 22 38 49.8 -1.4**
baz=256
ZAA0 Zalesovo Array 118.19 318 **PKiKP 22 38 51.5 +0.4**
ZALV Zalesovo Beam 118.19 318 **PKiKP 22 38 51.2 +0.2**
MAKZ Makanchi 118.25 310 PKPdf **PKPdf 22 38 51.0 -0.5**
D55A Sainte-Anne-du 118.88 50 P **PKPdf 22 38 52.2 -0.5**
baz=256
TARG Taragay, Kyrgy 119.86 304 PKPdf **PKiKP 22 38 55.4 +0.1**
KSH Kashi 120.63 301 *e*PKP **PKiKP 22 38 58.8 +2.3**
KURK Kurchatov 121.27 314 *i* PKIKP **PKPdf 22 38 55.3 -1.8**
KURK Kurchatov 121.27 314 PKPdf **PKPdf 22 38 56.8 -0.3**
BOOM Boomskoye usch 121.39 304 PKIKP **PKiKP 22 38 58.0 0.0**
BOOM Boomskoye usch 121.39 304 **PKiKP 22 38 58.0 0.0**
E60A Ste Agathe de 121.44 51 P **PKPdf 22 38 56.9 -0.6**
baz=258
F61A St Evariste 121.67 52 P **PKPdf 22 38 57.1 -0.9**
baz=258
G62A West of Eustis 121.83 53 P **PKPdf 22 38 57.4 -0.9**
baz=258
G63A Kingsbury 122.44 53 P **PKPdf 22 38 59.0 -0.6**
baz=259
AAK Ala-Archa 122.47 304 PKIKP **PKPdf 22 38 59.8 -0.1**
AAK Ala-Archa 122.47 304 PKPdf **PKPdf 22 38 59.8 -0.1**
H64A Troy 122.62 54 P **PKPdf 22 38 59.6 -0.2**
baz=259
PKME Peaks-Kenny Pk 122.69 53 P **PKPdf 22 38 59.7 -0.3**
baz=259
E62A Clayton Lake 122.79 51 P **PKPdf 22 38 59.7 -0.4**
baz=260
E62A Clayton Lake 122.79 51 **PKiKP 22 39 00.4 0.0**
F63A Nahmakanta, Br 122.91 53 P **PKPdf 22 39 00.1 -0.4**
baz=260
F63A Nahmakanta, Br 122.91 53 PKPdf **PKPdf 22 38 59.6 -0.8**
G64A Maxfield 123.06 53 P **PKPdf 22 39 00.3 -0.5**
baz=259
D62A Allapoint, All 123.19 51 P **PKPdf 22 39 00.4 -0.5**
baz=260
H65A Eastbrook 123.31 54 P **PKPdf 22 39 00.6 -0.6**
baz=259
F64A Sherman 123.46 52 P **PKPdf 22 39 01.2 -0.2**
baz=260
E63A Oxbow 123.50 52 P **PKPdf 22 39 01.3 -0.2**
baz=260
D63A Stockholm 123.82 51 P **PKPdf 22 39 01.9 -0.2**
baz=261
PQI Presque Isle 123.82 52 **PKPdf 22 39 01.5 -0.6**
G65A Princeton 123.88 53 P **PKPdf 22 39 01.7 -0.6**
baz=260
E64A Bridgewater 123.91 52 P **PKPdf 22 39 01.7 -0.6**
baz=261
H66A Whiting 123.99 54 P **PKPdf 22 39 01.6 -0.9**
baz=260
MATP Matopo 124.12 209 PKP **PKPdf 22 39 03.6 -0.2**
comp=Z,8.8nm,0.8s,baz=172,slow=3.1,SNR=13
BTK Batken 124.62 300 PKIKP **PKiKP 22 39 04.6 +0.3**
BTK Batken 124.62 300 **PKiKP 22 39 04.6 +0.3**
KBL Kabul 124.70 293 PKIKP **PKPdf 22 39 03.7 -0.8**
KBL Kabul 124.70 293 PKPdf **PKPdf 22 39 03.7 -0.8**
BATG Bathurst New B 125.24 51 PKPdf **PKPdf 22 39 04.4 -0.4**
KK31 Karatay Array 125.43 304 PKIKP **PKPdf 22 39 04.4 -1.0**
KK31 Karatay Array 125.43 304 PKPdf **PKPdf 22 39 04.4 -1.0**
KKAR Karatay Array 125.43 304 PKIKP **PKPdf 22 39 04.2 -1.2**
KKAR Karatay Array 125.43 304 PKPdf **PKPdf 22 39 04.2 -1.2**
KKAR Karatay Array 125.43 304 **PKPdf 22 39 04.5 -0.9**
SCHQ Schefferville 125.45 42 PKP **PKPdf 22 39 04.6 -0.4**
comp=Z,5.2nm,0.9s,baz=36,slow=2.6,SNR=5.2
SCHQ Schefferville 125.45 42 PKPdf **PKiKP 22 39 05.2 -0.1**
CHGR Chuyangaron 125.58 298 PKPdf **PKiKP 22 39 06.3 0.0**
LMN Caledonia Moun 125.90 53 PKPdf **PKPdf 22 39 05.7 -0.4**
BRVK Borovoye 126.66 316 *i* PKIKP **PKPdf 22 39 04.9 -2.5**
BRVK Borovoye 126.66 316 PKPdf **PKPdf 22 39 06.6 -0.8**
GBN Guysborough 128.14 54 PKPdf **PKPdf 22 39 10.2 -0.2**
LSZ Lusaka 128.79 212 PKP **PKiKP 22 39 13.9 +0.5**
comp=Z,8.1nm,0.9s,baz=66,slow=1.1,SNR=3.6
TSUM Tsumeb 129.08 198 PKP **PKiKP 22 39 14.0 0.0**
comp=Z,3.4nm,0.9s,baz=187,slow=2.8,SNR=4.0
TSUM PP **PP 22 41 24.0 +4.5**
comp=Z,7.0nm,0.8s,baz=138,slow=6.8,SNR=5.1
HOPEN Hopen 132.21 353 *ep*PKPdf pPKPdf 22 39 36.7 +17
HSPB Hornsund (broa 132.51 356 *e*PKPdf **PKiKP 22 39 20.4 +1.4**
UOSS Minazif 132.71 277 PKPdf **PKiKP 22 39 20.0 +0.2**
ARU Arti 133.21 321 *i* PKIKP **PKPdf 22 39 18.8 -0.9**
ARU 22 41 44.1
ARU SS SS 22 59 21.8 -8.4
GEYT Alibeck 134.02 295 PKP **PKiKP 22 39 22.8 -0.4**
comp=Z,10nm,0.8s,baz=166,slow=1.2,SNR=6.1
GEYT Alibeck 134.02 295 **PKPdf 22 39 22.3 +0.4**
BJO1 Bjornoya 134.66 354 *e*PKPdf **PKiKP 22 39 23.9 +0.6**
HAMF Hammerfest 137.65 350 *e*PKPdf **PKiKP 22 39 30.1 +0.6**
APA Apatity 138.22 343 ⇓ *i* PKHKP PKPpre 22 39 15.5
APA pmax pmax
comp=Z,9.0nm,1.0s
ARCES ARCESS Array B 138.32 348 PKhKP PKPpre 22 39 17.9
comp=Z,2.8nm,0.8s,baz=100,slow=21,SNR=1.2
JMIC Jan Mayen 138.46 6 *e*PKPdf **PKPdf 22 39 29.5 +0.4**
KTK1 Kautokeino 139.17 349 *e*PKPdf **PKiKP 22 39 32.2 -0.5**
TMCR Tamitsa 139.24 337 *e*PKIKP **PKPdf 22 39 28.2 -2.4**
TMCR pmax pmax
comp=Z,38nm,0.4s
TRO Tromso 139.24 351 *e*PKPdf **PKPdf 22 39 31.1 +0.6**
HEF Hetta 139.64 348 *e*PKPdf **PKPdf 22 39 31.8 +0.5**
KLMR Klimovskoe 140.72 332 *e*PKIKP **PKPdf 22 39 33.4 0.0**
KLMR pmax pmax
comp=Z,117nm,1.3s
KLMR Klimovskoe 140.72 332 *e*PKPdf **PKPdf 22 39 33.4 0.0**
KLMR AMP 22 39 40.4
comp=Z,117nm,1.3s
N2VI Vinje 141.04 353 *e*PKPdf **PKiKP 22 39 38.4 +1.9**
N2IH Innhavet 141.19 352 *e*PKPdf **PKPdf 22 39 34.9 +0.9**
LOF Lofoten 141.29 354 *e*PKPdf **PKiKP 22 39 38.5 +1.5**
STEI Steigen 141.30 353 *e*PKPdf **PKiKP 22 39 36.4 -0.6**
N2TV Tvrnvik 141.66 352 *e*PKPdf **PKiKP 22 39 38.0 +0.3**
N2VA Vr_y 141.82 354 *e*PKPdf **PKiKP 22 39 38.4 +0.3**
MOR8 Moi Rana 143.08 352 *e*PKPdf **PKiKP 22 39 40.5 -0.3**
GROC Groznyy 143.45 303 *e*PKIKP **PKPdf 22 39 39.7 +0.8**
GROC *e* 22 42 54.4
GROC pmax pmax
comp=Z,96nm,1.5s
VRH Novokhopyorsk 144.22 317 *e*PKIKP **PKPab 22 39 37.5 -0.2**
VRH pmax pmax
comp=Z,70nm,0.9s
MOS Moscow 144.38 326 *e*PKHKP **PKPab 22 39 35.4 -2.8**
MOS *e* 22 42 54.7
MOS pmax pmax
comp=Z,363nm,1.6s
MOS pmax pmax
comp=Z,600nm,1.7s
TBLG Delisi 144.38 301 PKIKP **PKPdf 22 39 40.3 -0.3**
TBLG Delisi 144.38 301 PKPdf **PKPdf 22 39 40.3 -0.3**
ZEI Tsey 144.88 303 *i* PKIKP **PKPab 22 39 39.1 -1.7**
ZEI pmax pmax
comp=Z,186nm,1.2s
PUL Pulkovo 144.90 336 *e*P **PKPdf 22 39 41.2 +0.4**
NSS Namsos 144.95 353 *e*PKPbc **PKPdf 22 39 40.7 -0.1**

FINES FINESS Array B 144.99 341 PKP **PKPab 22 39 38.4 -1.9**
comp=Z,193nm,0.8s,baz=65,slow=3.7,SNR=35
GOF Gofitskoye 145.11 307 ⇑ *e*PKIKP **PKPbc 22 39 40.6 -0.6**
GOF pmax pmax
comp=Z,418nm,1.5s
OBN Obninsk 145.22 326 ⇑P **PKPbc 22 39 40.1 -1.1**
OBN Obninsk 145.22 326 *i* PKP2 **PKPbc 22 39 39.2 -2.0**
OBN pmax pmax
comp=Z,559nm,1.3s
LPSR Galich'ya Gora 145.24 321 *e*PKIKP **PKPbc 22 39 40.4 -0.9**
LPSR pmax pmax
comp=Z,440nm,1.0s
AKH Akhalkalaki 145.34 300 ⇑P **PKPbc 22 39 42.1 -0.2**
KBZ Khabaz 145.46 305 PKPbc **PKPdf 22 39 41.8 -0.5**
comp=Z,68nm,1.1s,baz=84,slow=1.6,SNR=27
VORR Voronezh 145.48 319 *e*PKP2 **PKPdf 22 39 39.0 -3.1**
VORR pmax pmax
comp=Z,750nm,1.6s
KIV Kislovodsk 145.57 305 ⇑P **PKiKP 22 39 45.2 -1.5**
KIV Kislovodsk 145.57 305 *e*PKP2 **PKPdf 22 39 41.1 -1.6**
KIV pmax pmax
comp=Z,449nm,1.1s
KIV Kislovodsk 145.57 305 PKPdf **PKPdf 22 39 42.3 -0.4**
NEY Neytrino 145.66 304 *i* PKIKP **PKPdf 22 39 43.1 +0.1**
VSR Storozhevoye 145.69 319 *e*PKP2 **PKPdf 22 39 41.0 -1.5**
VSR pmax pmax
comp=Z,400nm,1.0s
VORD Divnogorie 145.72 318 *e*PKP2 **PKPdf 22 39 41.2 -1.3**
VORD pmax pmax
comp=Z,240nm,1.1s
TBLU Trondheim 146.37 354 *e*PKPdf **PKPbc 22 39 44.8 +0.3**
VSU Vasula 147.12 337 *e*P **PKPbc 22 39 46.0 -0.8**
MOL Molde 147.25 356 *e*PKPdf **PKPbc 22 39 46.8 -0.3**
MOL *e*PKPab **sPKPbc 22 39 50.6 0.0**
DOMB Dombas 147.66 354 *e*PKPdf **PKPbc 22 39 47.4 -0.9**
DOMB *e*PKPab **pPKPab 22 39 52.6 -0.6**
AKN Aaknes 147.67 356 *e*PKPdf **PKPbc 22 39 47.7 -0.6**
AKN *e*PKPab **pPKPab 22 39 52.7 -0.5**
SOC Sochi 147.75 305 *i* PKP2 **PKPbc 22 39 47.9 -1.2**
SOC *e* 22 43 12.1
SOC pmax pmax
comp=Z,163nm,1.1s
KTUT Trabzon 148.19 300 ⇑P **PKPbc 22 39 50.9 +0.6**
NC303 NORSAR Array S 148.23 352 PKPdf **PKPdf 22 39 46.9 +0.5**
FOO Floro 148.34 358 *e*PKPdf **PKPbc 22 39 48.9 -1.1**
FOO *e*PKPab **sPKPab 22 39 56.3 -0.4**
NB2 NORSAR Subarra 148.43 352 PKP **PKPbc 22 39 48.8 -1.6**
comp=Z,301nm,1.4s,baz=17,slow=2.6
NB2 NORSAR Subarra 148.43 352 PKPab **PKPbc 22 39 48.8 -1.6**
baz=17,slow=2.6
NOA NORSAR Array B 148.43 352 PKPbc **PKPdf 22 39 48.2 +1.3**
comp=Z,62nm,0.9s,baz=16,slow=4.3,SNR=25
NC602 NORSAR Array S 148.69 352 *e*PKPdf **PKPdf 22 39 48.2 +1.0**
HYA Hoyanger 148.72 357 *e*PKPdf **PKPbc 22 39 49.3 -1.7**
HYA *e*PKPbc **PKiKP 22 39 52.8 +0.4**
SUE Sulen 148.89 358 *e*PKPdf **PKPdf 22 39 49.1 +1.6**
SUE *e*PKPab **pPKPab 22 39 57.5 -0.5**
ANN Anapa 149.03 308 *e*PKP2 **PKPbc 22 39 51.1 -1.3**
ANN pmax pmax
comp=N,25nm,0.6s
ANN pmax pmax
comp=Z,180nm,0.7s
ANN pmax pmax
comp=E,44nm,0.5s
SKAR Skarslia 149.07 355 *e*PKPdf **PKPdf 22 39 49.6 +1.7**
SKAR *e*PKPbc **PKiKP 22 39 53.8 +0.5**
SLIT Slitere, Latvi 149.22 339 *e*P **PKiKP 22 39 53.3 -0.3**
IZAR Zarasai 149.34 334 *e*P **PKPbc 22 39 52.9 +0.2**
ASK Askoy 149.45 358 *e*PKPdf **PKPdf 22 39 49.9 +1.5**
ASK *e*PKPbc **pPKPbc 22 39 54.8 -0.8**
ASK *e*PKPab **pPKPab 22 39 59.8 -0.5**
ISAL Salakas 149.51 334 *e*P **PKPbc 22 39 53.3 +0.1**
BER Bergen 149.54 358 *e*PKPdf **PKPdf 22 39 50.3 +1.7**
BER *e*PKPab **pPKPab 22 40 00.3 -0.4**
OSL Oslo 149.56 352 *e*PKPdf **PKPdf 22 39 49.9 +1.3**
MICGM Minsk 149.57 331 ⇑ *e*P **PKiKP 22 39 54.0 -0.4**
MICGM PM 22 39 55.0
comp=Z,0.6nm,1.4s
MNK Minsk 149.57 331 ⇑ *e*PKP2 **PKiKP 22 39 54.0 -0.4**
MNK pmax pmax
comp=Z,640nm,1.4s
IIGN Ignalina 149.64 333 *e*P **PKPbc 22 39 53.1 -0.4**
NACGM Naroch 149.74 332 *e*PKP **PKPdf 22 39 51.0 +1.9**
NACGM *e*PPP PPP 22 46 26.0
NACGM *e*SKSP 22 53 24.0
NACGM *e*SS SS 23 03 22.0 +40
NACGM *e*SSS SSS 23 07 42.0
NACGM *e*LR LR 23 36 02.0
NACGM LRM MLR 23 41 20.0
comp=Z,38nm,21.0s
ODD1 Odda 149.95 356 *e*PKPbc **PKiKP 22 39 55.8 +0.6**
KONO Kongsberg 149.97 353 PKPdf **PKPdf 22 39 50.5 +1.2**
KONO Kongsberg 149.97 353 *e*PKPdf **PKPbc 22 39 52.2 -2.0**
PABE Paberze 150.37 335 *e*P **PKiKP 22 39 56.0 -0.1**
BLS5 Blasjo 150.45 356 *e*PKPdf **PKPdf 22 39 50.2 +0.1**
BLS5 *e*PKPbc **pPKPbc 22 39 57.2 -0.9**
BLS5 *e*PKPab **pPKPab 22 40 03.9 -0.6**
GAZ Gaziantep 150.57 293 PKPdf **PKPdf 22 39 50.9 -0.2**
PBUR Paburge 150.65 338 *e*P **PKPbc 22 39 56.1 +0.2**
ASF Jabal al Asfar 150.80 283 PKPbc **PKPbc 22 39 56.3 -0.9**
comp=Z,44nm,0.8s,baz=60,slow=1.9,SNR=25
SIM Simferopol' 151.22 310 *e*PKIKP **PKPdf 22 39 50.4 -1.3**
SIM *e*PKP **PKiKP 22 39 58.4 +0.2**
SIM pmax pmax
comp=Z,222nm,1.4s
AKASG Malin Array Be 151.38 324 PKPbc **PKPbc 22 39 55.8 -2.0**
comp=Z,58nm,0.6s,baz=46,slow=2.6,SNR=28
AKASG Malin Array Be 151.38 324 PKIKP **PKPdf 22 39 51.8 0.0**
AKASG Malin Array Be 151.38 324 PKPdf **PKPdf 22 39 51.8 0.0**
DIKM Dikmen 151.39 303 ⇑P **PKiKP 22 40 00.7 +2.0**
HOMB Homborsund 151.44 354 *e*PKPbc **PKiKP 22 39 59.1 +0.9**
SNART Snartemo 151.48 355 *e*PKPbc **PKiKP 22 39 59.4 +1.1**
RCY Rachaya 151.77 286 *e*P **PKPbc 22 39 58.9 -0.6**
RCY Rachaya 151.77 286 *e*P **PKPbc 22 39 58.9 -0.6**
SUW Suwalki 151.81 334 *e*PKPdf **PKPbc 22 39 55.4 +3.1**
SHBL Chebaa 151.84 285 *e*P **PKPbc 22 39 58.1 -1.6**
SHBL Chebaa 151.84 285 *e*P **PKPbc 22 39 58.1 -1.6**
QRWL Qaraoun 151.90 286 *e*P **PKPbc 22 39 58.9 -0.8**
QRWL Qaraoun 151.90 286 *e*P **PKPbc 22 39 58.9 -0.8**
BHL Bhannes 151.93 287 *e*P **PKPbc 22 39 59.6 -0.1**
BHL Bhannes 151.93 287 *e*P **PKPbc 22 39 59.6 -0.1**
DQRL Deir Qamar 152.00 286 *e*P **PKPbc 22 39 60.0 0.0**
DQRL Deir Qamar 152.00 286 *e*P **PKPbc 22 39 60.0 0.0**
EIL Elat 152.17 278 PKPbc **PKiKP 22 40 00.9 +0.2**
comp=Z,32nm,1.0s,baz=146,slow=3.3,SNR=5.2
ILGA Ilgaz 152.66 302 PKPdf **PKPdf 22 39 53.8 -0.5**
ILGA **PKiKP 22 40 01.7 +0.1**
BR131 Keskin Array S 153.01 299 PKIKP **PKPdf 22 39 54.3 -0.5**
BR131 Keskin Array S 153.01 299 PKPdf **PKPdf 22 39 54.3 -0.5**
BRTR Keskin Array B 153.01 299 PKPbc **PKiKP 22 40 02.3 0.0**
comp=Z,21nm,1.2s,baz=177,slow=2.5,SNR=5.3
BRTR Keskin Array B 153.01 299 PKIKP **PKPdf 22 39 53.7 -1.1**
BRTR Keskin Array B 153.01 299 PKPdf **PKPdf 22 39 53.7 -1.1**
SORM Soroca 153.32 320 ⇑P **PKiKP 22 40 04.0 +1.7**
ANTO Ankara 153.62 300 ⇓P **PKPdf 22 39 59.2 +3.7**
MILM Milestii Mici 153.71 317 ⇑P **PKiKP 22 40 04.7 +1.5**
LEOM Leova 154.27 317 ⇑P **PKPab 22 40 12.7 -5.6**
IAS Iasi 154.29 319 ⇑P **PKPab 22 40 18.0 -0.4**
BEL Belsk 154.42 334 *e*PKIKP **PKiKP 22 40 06.5 +2.0**
GKP Gorka Klasztor 154.45 340 *e*PKPdf **PKPdf 22 39 57.2 +1.1**
TLCR 154.56 314 ⇓P **PKiKP 22 40 07.4 +2.4**
MDUB Mudurnu 154.66 302 PKPdf **PKPdf 22 39 56.5 -0.5**
MDUB **pPKPbc 22 40 07.3 -0.9**
PRAR RASCA 154.94 320 ⇑P **PKPdf 22 40 00.2 +3.1**
TOPG Topolog 154.97 314 ⇑P **PKiKP 22 40 06.5 +0.6**
CFR Carcaliu 154.98 314 P **PKiKP 22 40 10.4 +4.5**
GHRR 154.98 317 ⇑P **PKiKP 22 40 09.1 +3.1**
TESR Tescani 155.19 318 ⇓P **PKPab 22 40 18.8 -3.5**
LIC Lamto 155.25 161 *e*P **PKPdf 22 40 01.3 +2.8**
comp=Z,111nm,1.6s
BIZ Bicaz 155.26 320 ⇓P PKPab 22 40 10.9 -12
KWP Kalwaria Pacla 155.26 328 *e*PKPab **PKPab 22 40 22.3 -0.2**
BUR08 Bucovina Ar. S 155.33 322 **PKPdf 22 39 58.3 +0.6**
HARR Harsova 155.34 313 ⇑P **PKPdf 22 40 04.0 +6.3**
ODBI Odobesti 155.35 316 ⇑P **PKPab 22 40 20.7 -2.3**
KIC Kosan Boka 155.46 162 *e*P **PKPdf 22 40 01.6 +2.8**
comp=Z,170nm,1.8s
VRI Vrincioaia 155.49 317 ⇑P **PKPab 22 40 25.9 +2.3**
TIC Toumodi 155.65 161 *e*P **PKPdf 22 39 59.0 -0.1**
DBIC Dimbokro 155.72 161 PKP **PKPdf 22 39 59.4 +0.3**
comp=Z,111nm,0.9s,baz=130,slow=0.3,SNR=4.3
DBIC Dimbokro 155.72 161 PKIKP **PKPdf 22 39 58.9 -0.2**

DBIC Dimbokro 155.72 161 PKPdf **PKPdf 22 39 58.9 -0.2**
ISP Isparta 155.77 296 PKIKP **PKPdf 22 39 58.3 -0.3**
ISP 22 40 25.1
ISP Isparta 155.77 296 PKPdf **PKPdf 22 39 58.3 -0.3**
ISP PKPab **PKPab 22 40 25.1 -0.1**
PGOR Pogoanele 155.83 315 ⇓P **PKPab 22 40 18.4 -6.6**
OZUR 155.91 318 ⇑P PKPdf 22 40 07.4 +8.9
KOLS Kolonicke sedl 155.96 327 *e*PKIKP **PKPdf 22 39 59.9 +1.5**
KOLS Kolonicke sedl 155.96 327 *e*PKP **PKPdf 22 39 59.9 +1.5**
KOLS *e* 22 40 26.5
OJC Ojcow 156.07 332 *e*PKPdf **PKPdf 22 39 59.5 +1.0**
OJC *e*PKPab **PKPab 22 40 27.0 +1.1**
OJC Ojcow 156.07 332 PKIKP **PKPdf 22 39 59.5 +1.0**
OJC Ojcow 156.07 332 PKPdf **PKPdf 22 39 59.5 +1.0**
RUE Ruedersdorf 156.10 343 *e*P **PKPdf 22 40 01.3 +2.9**
MLR Muntele Rosu 156.15 317 ⇓P PKPab 22 40 16.8 -10
MLR Muntele Rosu 156.15 317 PKIKP **PKPdf 22 39 59.1 +0.2**
MLR Muntele Rosu 156.15 317 PKPdf **PKPdf 22 39 59.1 +0.2**
MLR PKPab **PKPab 22 40 26.8 +0.2**
UZH Uzhgorod 156.16 327 *e*PKIKP **PKPdf 22 40 03.5 +4.9**
UZH *e* 22 40 23.0
BMR Baia Mare 156.21 324 ⇑P **PKPab 22 40 28.2 +1.6**
CRVS Cervenica-Dubn 156.35 328 *e*PKP2 **PKPab 22 40 29.1 +1.9**
CRVS Cervenica-Dubn 156.35 328 *e*PKP **PKPab 22 40 29.0 +1.9**
NEF NEVSHA 156.41 311 *e*P **PKPdf 22 39 59.4 +0.2**
NIE Niedzica 156.48 331 *e*PKPdf **PKPdf 22 40 00.9 +1.8**
NIE *e*PKPab **pPKPab 22 40 30.0 -0.3**
CJR Cluj-Napoca 156.77 322 P PKPdf 22 40 10.3 +11
KSP Ksiaz 156.84 338 *e*PKPab **PKPab 22 40 31.1 +1.9**
ARR Arges 156.99 318 ⇓P **PKPdf 22 40 01.2 +1.3**
OKC Ostrava-Krasne 157.02 334 *e*PKPDF **PKPdf 22 40 03.7 +4.0**
OKC *e*PKPAB **PKPab 22 40 30.0 0.0**
OKC Ostrava-Krasne 157.02 334 *e*PKIKP **PKPdf 22 40 03.7 +4.0**
KECS Kecovo 157.10 329 *e*PKP2 **PKPab 22 40 32.5 +2.1**
KECS Kecovo 157.10 329 *e*PKP **PKPab 22 40 32.5 +2.1**
OSTC Ostas 157.11 338 *e*PKPDF **PKPdf 22 40 02.9 +3.0**
OSTC *e*PKPAB **PKPab 22 40 29.8 -0.6**
CHVC Chvalec 157.13 338 *e*PKPDF **PKPdf 22 40 02.8 +2.9**
CHVC *e*PKPAB **pPKPab 22 40 32.6 -0.5**
DRGR 157.19 323 ⇑P **PKPab 22 40 33.1 +2.2**
UPC Upice 157.22 338 *e*PKPAB **PKPab 22 40 30.6 -0.2**
DPC Dobruska-Polom 157.25 337 *e*PKPDF **PKPdf 22 40 00.3 +0.2**
DPC *e*PKPAB **PKPab 22 40 30.5 -0.5**
DPC Dobruska-Polom 157.25 337 *e*PKIKP **PKPdf 22 40 00.3 +0.2**
SZH Strazhica 157.28 312 *e*P **PKPab 22 40 30.4 -1.0**
MORC Moravsky Berou 157.30 335 ⇑P **PKPdf 22 40 01.0 +0.8**
MORC Moravsky Berou 157.30 335 *e*PKP **PKPdf 22 40 00.8 +0.6**
MORC Moravsky Berou 157.30 335 *e*P **PKPab 22 40 32.6 +1.3**
MORC Moravsky Berou 157.30 335 PKIKP **PKPdf 22 40 00.0 -0.1**
MORC Moravsky Berou 157.30 335 PKPdf **PKPdf 22 40 00.0 -0.1**
CLL Collm 157.37 343 *e*PKPdf **PKPdf 22 40 02.0 +1.9**
CLL *e*PKPdiff **sPKPdf 22 40 13.0 +9.3**
comp=Z,91nm,1.6s
CLL *i* PKPab **pPKPab 22 40 32.8 -1.2**
comp=Z,217nm,1.6s
CLL *i* 22 40 52.2
CLL Collm 157.37 343 *e*PKIKP **PKPdf 22 40 02.0 +1.9**
CLL *e* 22 40 13.0
BRG Berggiesshubel 157.52 341 *i* PKP **PKPdf 22 40 01.0 +0.7**
comp=Z,42nm,1.5s
BRG Berggiesshubel 157.52 341 *i* PKP **PKPab 22 40 33.3 +1.2**
comp=Z,181nm,1.5s
BRG *i* pPKP sPKPab 22 40 55.2 +20
comp=Z,44nm,0.8s
BRG Berggiesshubel 157.52 341 *i* PKIKP **PKPdf 22 40 01.0 +0.7**
PVCC Panska Ves 157.65 340 *e*PKPDF **PKPdf 22 40 03.4 +2.9**
PVCC *e*PKPAB **sPKPab 22 40 35.7 -0.5**
PVCC Panska Ves 157.65 340 *e*PKIKP **PKPdf 22 40 03.4 +2.9**
DEV Deva 157.66 321 P PKPdf 22 40 10.1 +9.5
PSZ Piszkesteto 157.78 329 ⇑P **PKPab 22 40 35.9 +2.5**
PSZ Piszkesteto 157.78 329 PKIKP **PKPdf 22 40 01.3 +0.4**
PSZ Piszkesteto 157.78 329 PKPdf **PKPdf 22 40 01.3 +0.4**
PSZ PKPab **PKPab 22 40 33.6 +0.1**
VYHS Vyhne 157.81 331 *e*PKIKP **PKPdf 22 40 03.8 +3.0**
VYHS Vyhne 157.81 331 *e*PKP **PKPdf 22 40 03.8 +3.0**
VYHS *e* 22 40 34.8
JAVC Velka Javorina 158.00 333 *e*PKP **PKPdf 22 40 01.8 +0.7**
JAVC Velka Javorina 158.00 333 *e*P **PKPab 22 40 34.7 +0.4**
VRAC Vranov 158.03 335 ⇑P **PKPab 22 40 36.1 +1.7**
VRAC Vranov 158.03 335 *e*PKP **PKPdf 22 40 01.2 +0.2**
VRAC Vranov 158.03 335 *e*P **PKPab 22 40 35.0 +0.6**
PLVB Pleven 158.06 314 ⇓P PKPab 22 40 23.1 -12
PRA Prague 158.10 340 *e*PKPAB **PKPab 22 40 35.6 +1.0**
PRA Prague 158.10 340 *e*PKP2 **PKPab 22 40 35.6 +1.0**
DIM Dimitrovgrad 158.10 310 *e*P **PKPdf 22 40 05.1 +3.8**
GOPC GO Pecny, Ondr 158.12 339 *e*PKPDF **PKPdf 22 40 04.1 +3.0**
GOPC *e*PKPAB **PKPab 22 40 33.5 -1.3**
GOPC GO Pecny, Ondr 158.12 339 *e*PKIKP **PKPdf 22 40 04.1 +3.0**
GOPC *e* 22 40 33.5
PRU Pruhonice 158.13 339 *e*PKPDF **PKPdf 22 40 03.3 +2.2**
PRU *e*PKPAB **PKPab 22 40 33.1 -1.7**
PRU Pruhonice 158.13 339 *e*PKIKP **PKPdf 22 40 03.3 +2.2**
PRU *e* 22 40 33.1
ALN Alexandroupoli 158.23 306 PKIKP **PKPdf 22 40 01.0 -0.5**
ALN 22 40 35.4
ALN Alexandroupoli 158.23 306 PKPdf **PKPdf 22 40 01.0 -0.5**
ALN PKPab **PKPab 22 40 35.4 -0.1**
KRUC Moravsky 158.31 335 *e*PKP **PKPdf 22 40 01.8 +0.4**
KRUC Moravsky 158.31 335 *e*P **PKPab 22 40 36.2 +0.6**
SMOL Smolenice 158.37 333 *e*PKP **PKPab 22 40 36.4 +0.5**
TREC Trest 158.43 337 *e*PKPAB **PKPab 22 40 37.0 +0.9**
NKC Novy Kostel 158.50 343 *e*PKPAB **PKPab 22 40 36.5 +0.1**
BAIL Bailesti 158.51 316 ⇑P **PKPab 22 40 37.1 +0.4**
BZS Buzias 158.53 322 ⇓P **PKPdf 22 40 02.7 +1.0**
MODS Modra-Piesok 158.54 333 *e*PKIKP **PKPdf 22 40 02.1 +0.4**
MODS *e* 22 40 37.2
MODS Modra-Piesok 158.54 333 *e*PKP **PKPdf 22 40 02.1 +0.4**
MODS *e* 22 40 37.1
HERR Herculane 158.55 319 P PKPdf 22 40 10.1 +8.3
PBCC Pribram 158.57 340 *e*PKPAB **PKPab 22 40 38.1 +1.4**
ZST Bratislava 158.76 333 *e*PKP2 **PKPab 22 40 38.5 +1.0**
ZST Bratislava 158.76 333 *e*PKP **PKPab 22 40 38.5 +1.0**
MDVR Moldovita 159.00 320 ⇓P **PKPab 22 40 42.4 +3.6**
BEBN Eben Emael 159.09 355 PKPdf **PKPdf 22 40 05.5 +3.3**
BEBN PKPab **PKPab 22 40 39.7 +0.9**
BLKB Belogradchik 159.13 316 P **PKPdf 22 40 10.0 +7.4**
UCC Uccle 159.17 357 PKPdf **PKPdf 22 40 03.2 +0.9**
UCC PKPab **PKPab 22 40 39.9 +0.7**
KHC Kasperske Hory 159.19 340 *e*PKPDF **PKPdf 22 40 01.9 -0.6**
KHC *e*PKPAB **PKPab 22 40 38.9 -0.5**
KHC *ex* x 22 41 45.0
KHC Kasperske Hory 159.19 340 *e*PKIKP **PKPdf 22 40 01.9 -0.6**
KHC *e* 22 40 38.9
MEM Membach 159.25 354 PKPdf **PKPdf 22 40 03.3 +0.9**
MEM PKPab **pPKPab 22 40 41.2 -0.9**
GRA1 Grafenberg Arr 159.30 344 PKPdf **PKPdf 22 40 02.6 +0.1**
GRA1 **PKPab 22 40 40.5 +0.7**
GRF Grafenberg Arr 159.30 344 PKIKP **PKPdf 22 40 02.5 +0.1**
BSTI Sart Tilman 159.31 355 PKPdf **PKPdf 22 40 05.8 +3.3**
BSTI PKPab **PKPab 22 40 39.5 -0.3**
VTS Vitosha 159.33 313 PKIKP **PKPdf 22 40 02.8 -0.2**
VTS Vitosha 159.33 313 PKPdf **PKPdf 22 40 02.8 -0.2**
VTS PKPab **PKPab 22 40 41.3 +0.8**
GEC2 GERESS Array S 159.40 339 PKPdf **PKPdf 22 40 03.2 +0.4**
GEC2 PKPab **PKPab 22 40 41.1 +0.7**
GERES GERESS Array B 159.40 339 PKP **PKPdf 22 40 02.9 +0.1**
comp=Z,4.1

WLF	**Walferdange**	**160.17**	**354**	PKPdf	**PKPdf**	**22 40 04.6**	**+1.1**
WLF				PKPab	**pPKPab**	**22 40 45.0**	**-1.2**
WLF	**Walferdange**	**160.17**	**354**	PKIKP	**PKPdf**	**22 40 04.2**	**+0.7**
WLF	**Walferdange**	**160.17**	**354**	PKPdf	**PKPdf**	**22 40 04.2**	**+0.7**
DIVS	**Divibare**	**160.39**	**321**	PKPdf	**PKPdf**	**22 40 03.7**	**-0.4**
DIVS				PKPab	**PKPab**	**22 40 45.4**	**+0.5**
IDI	**Anoyia**	**160.68**	**292**	P	**PKPdf**	**22 40 09.2**	**+4.6**
SKO	**Skopje**	**160.80**	**314**	*i* P	**PKPdf**	**22 40 04.8**	**+0.4**
SOKA	**Soboth**	**160.81**	**334**	*e*PKPab	**PKPab**	**22 40 46.7**	**+0.1**
	comp=Z,139nm,1.5s,SNR=12						
KBA	**Koelnbreinsper**	**161.07**	**337**	*e*PKPab	**PKPab**	**22 40 47.0**	**-0.9**
	comp=Z,56nm,1.1s						
OBKA	**Obir**	**161.13**	**334**	*e*PKPab	**PKPab**	**22 40 47.6**	**-0.4**
	comp=Z,45nm,1.8s						
BFO	**Black Forest**	**161.19**	**349**	PKIKP	**PKPdf**	**22 40 04.4**	**-0.3**
BFO	**Black Forest**	**161.19**	**349**	PKPdf	**PKPdf**	**22 40 04.4**	**-0.3**
BFO				PKPab	**PKPab**	**22 40 48.6**	**+0.5**
MYKA	**Terra Mystica**	**161.36**	**336**	*e*PKPab	**PKPab**	**22 40 49.5**	**+0.5**
	comp=Z,112nm,1.4s,SNR=8.2						
WATA	**Walderalm**	**161.39**	**341**	PKPab	**PKPab**	**22 40 49.7**	**+0.5**
	comp=Z,208nm,1.6s,SNR=15						
WTTA	**Wattenberg**	**161.44**	**341**	*e*pPKPab	**PKPab**	**22 40 51.0**	**+1.6**
	comp=Z,168nm,1.3s,SNR=13						
RETA	**Reutte**	**161.47**	**343**	*e*pPKPab	**PKPab**	**22 40 51.1**	**+1.6**
	comp=Z,94nm,1.3s,SNR=10						
ECH	**Echery**	**161.48**	**351**	PKIKP	**PKPdf**	**22 40 05.5**	**+0.5**
ECH	**Echery**	**161.48**	**351**	PKPdf	**PKPdf**	**22 40 05.5**	**+0.5**
ECH					**PKPab**	**22 40 49.8**	**+0.4**
MOTA	**Moosalm**	**161.51**	**342**	*e*pPKPab	**PKPab**	**22 40 52.2**	**+2.5**
	comp=Z,163nm,1.5s,SNR=10						
PRED	**Cave del Predi**	**161.55**	**336**	PKPdf	**PKPdf**	**22 40 04.8**	**-0.4**
AGG	**Agios Georgios**	**161.59**	**305**	PKPdf	**PKPdf**	**22 40 05.2**	**-0.2**
AGG				PKPab	**PKPab**	**22 40 49.3**	**-1.0**
SQTA	**Sankt Quirin**	**161.59**	**342**	*e*pPKPab	**PKPab**	**22 40 52.6**	**+2.5**
	comp=Z,132nm,1.6s,SNR=7.1						
ABTA	**Abfaltersbach**	**161.63**	**338**	*e*PKPab	**PKPab**	**22 40 48.8**	**-1.4**
	comp=Z,57nm,1.4s,SNR=6.8						
ZOU	**Zoufplan**	**161.65**	**337**	PKPab	**PKPab**	**22 40 50.9**	**+0.4**
PDG	**Podgorica**	**161.86**	**318**	PKPdf	**PKPdf**	**22 40 05.1**	**-0.4**
PDG				PKPab	**PKPab**	**22 40 51.8**	**+0.6**
DAVA	**Damuels**	**161.87**	**344**	*e*PKPab	**PKPab**	**22 40 51.3**	**0.0**
	comp=Z,110nm,1.6s						
FETA	**Feichten**	**161.91**	**342**	*e*pPKPab	**PKPab**	**22 40 53.2**	**+1.7**
	comp=Z,96nm,1.4s,SNR=11						
CLF	**Chambon-Foret**	**161.97**	**1**	PKPdf	**PKPdf**	**22 40 05.7**	**+0.2**
CIMO	**Cimolais**	**162.04**	**338**	PKPdf	**PKPdf**	**22 40 05.7**	**+0.1**
CIMO				PKPab	**PKPab**	**22 40 51.6**	**-0.4**
CTI	**Castel Tesino**	**162.53**	**339**	PKIKP	**PKPdf**	**22 40 06.2**	**0.0**
CTI	**Castel Tesino**	**162.53**	**339**	PKPdf	**PKPdf**	**22 40 06.2**	**0.0**
CTI				PKPab	**PKPab**	**22 40 55.1**	**+1.0**
ITM	**Ithomi**	**162.55**	**299**	PKPdf	**PKPdf**	**22 40 06.4**	**-0.1**
TUE	**Stuetta**	**162.76**	**345**		**PKPdf**	**22 40 06.3**	**-0.3**
TOA0	**Torodi Ar. Sit**	**163.22**	**176**		**PKPdf**	**22 40 07.9**	**+0.2**
TORD	**Torodi Ar. Bea**	**163.22**	**176**	PKP	**PKPdf**	**22 40 08.1**	**+0.4**
	comp=Z,14nm,1.1s,baz=340,slow=0.8,SNR=12						
TORD				PKPab	**PKPab**	**22 40 57.4**	**-0.4**
	comp=Z,13nm,0.7s,baz=182,slow=3.1,SNR=11						
TORD	**Torodi Ar. Bea**	**163.22**	**176**		**PKPdf**	**22 40 07.8**	**+0.1**
SALO	**Salr**	**163.25**	**341**	PKPab	**PKPab**	**22 40 57.9**	**+0.7**
SENIN	**Lac Senin/Sane**	**163.27**	**349**		**PKPdf**	**22 40 07.2**	**+0.1**
SENIN				PKPab	**PKPab**	**22 40 58.6**	**+1.1**
SCTE	**Santa Cesarea**	**163.72**	**312**		**PKPdf**	**22 40 06.9**	**-0.5**
SGRT	**San Giovanni R**	**164.28**	**322**	PKPab	**PKPab**	**22 41 02.8**	**+0.8**
BNI	**Bardonecchia**	**164.64**	**350**		**PKPdf**	**22 40 08.8**	**+0.5**
SSB	**Saint Sauveur**	**164.66**	**355**		**PKPdf**	**22 40 08.4**	**+0.2**
NRCA	**Norcia**	**164.74**	**330**		**PKPdf**	**22 40 08.0**	**-0.4**
NRCA					**PKPab**	**22 41 03.6**	**-0.3**
OSSC	**Osservatorio P**	**164.90**	**336**		**PKPab**	**22 41 03.3**	**-1.2**
AQU	**L'Aquila**	**165.00**	**328**	PKP2	**PKPab**	**22 41 05.3**	**+0.2**
AQU	**L'Aquila**	**165.00**	**328**	PKPab	**PKPab**	**22 41 05.3**	**+0.2**
INTR	**Introdacqua**	**165.03**	**326**		**PKPdf**	**22 40 07.8**	**-0.9**
TIP	**Timpagrande**	**165.31**	**312**		**PKPdf**	**22 40 08.9**	**-0.1**
PCAB	**Cabril**	**165.37**	**34**	*e*PKPdf	**PKPdf**	**22 40 10.9**	**+2.0**
PAOL	**Paolisi**	**165.41**	**322**		**PKPab**	**22 41 06.5**	**-0.4**
PBRG	**Braganca**	**165.89**	**31**	*e*PKPdf	**PKPdf**	**22 40 16.5**	**+7.2**
PBRG	**Braganca**	**165.89**	**31**	*e*PKPab	**PKPab**	**22 41 09.1**	**+0.1**
PVIS	**Viseu**	**166.18**	**36**	*e*PKPdf	**PKPdf**	**22 40 10.9**	**+1.3**
MVO	**Moncorvo**	**166.27**	**33**	*e*PKPdf	**PKPdf**	**22 40 11.7**	**+2.0**
MVO	**Moncorvo**	**166.27**	**33**	*e*PKPab	**PKPab**	**22 41 11.6**	**+0.8**
PCAS	**Casmilo, Conde**	**166.33**	**40**	*e*PKPdf	**PKPdf**	**22 40 09.9**	**+0.2**
PCAS	**Casmilo, Conde**	**166.33**	**40**	*e*PKPab	**PKPab**	**22 41 10.9**	**-0.1**
CEL	**Celeste**	**166.39**	**311**	PKPab	**PKPab**	**22 41 11.7**	**+0.3**
PSBE	**So Bento**	**166.53**	**42**	*e*PKPab	**PKPab**	**22 41 12.0**	**+0.1**
PCBR	**Castelo Branco**	**167.04**	**38**	*e*PKPdf	**PKPdf**	**22 40 11.2**	**+1.0**
PMTG	**Montargil**	**167.16**	**42**	*e*PKPdf	**PKPdf**	**22 40 10.2**	**-0.1**
PMTG	**Montargil**	**167.16**	**42**	*e*PKPab	**PKPab**	**22 41 14.9**	**+0.2**
PMRV	**Marv??o**	**167.38**	**39**	*e*PKPdf	**PKPdf**	**22 40 12.3**	**+1.8**
PMRV	**Marv??o**	**167.38**	**39**	*e*PKPab	**PKPab**	**22 41 15.5**	**-0.2**
PNCL	**Nicolau / Gran**	**167.58**	**46**	*e*PKPdf	**PKPdf**	**22 40 13.8**	**+3.1**
EVO	**Evora**	**167.63**	**43**	*e*PKPdf	**PKPdf**	**22 40 12.0**	**+1.3**
EVO	**Evora**	**167.63**	**43**	*e*PKPab	**PKPab**	**22 41 16.8**	**0.0**
MESJ	**Messejana**	**167.94**	**47**	*e*PKPdf	**PKPdf**	**22 40 16.1**	**+5.2**
PFVI	**Vila Bisbo**	**167.95**	**51**	*e*PKPdf	**PKPdf**	**22 40 17.0**	**+6.0**
PBEJ	**Beja**	**168.04**	**45**	*e*PKPdf	**PKPdf**	**22 40 12.3**	**+1.3**
PCVE	**Castro Verde**	**168.18**	**47**	*e*PKPdf	**PKPdf**	**22 40 13.5**	**+2.4**
PCVE	**Castro Verde**	**168.18**	**47**	*e*PKPab	**PKPab**	**22 41 21.1**	**+1.8**
PBDV	**Barranco-do-Ve**	**168.48**	**48**	*e*PKPdf	**PKPdf**	**22 40 16.6**	**+5.2**
PVAQ	**Vaqueiros**	**168.52**	**47**	*e*PKPdf	**PKPdf**	**22 40 06.3**	**-5.0**
PAB	**San Pablo**	**168.78**	**30**		**PKPdf**	**22 40 12.4**	**+0.8**
PAB				PKPab	**PKPab**	**22 41 22.4**	**+0.5**
ESBB	**Sonseca Array**	**168.84**	**28**		**PKPdf**	**22 40 12.3**	**+0.7**
ESDC	**Sonseca Array**	**168.84**	**28**	PKP	**PKPdf**	**22 40 12.4**	**+0.9**
	comp=Z,10nm,1.2s,baz=346,slow=2.3,SNR=13						
ESDC				PKPab	**PKPab**	**22 41 22.3**	**+0.2**
	comp=Z,14nm,1.1s,baz=316,slow=3.9,SNR=7.2						
ESDC	**Sonseca Array**	**168.84**	**28**		**PKPdf**	**22 40 11.7**	**+0.1**
ESDC					**PKPab**	**22 41 22.4**	**+0.3**
SESP	**Santiago Espad**	**170.74**	**27**	P	**PKPdf**	**22 40 14.9**	**+2.1**
	SNR=18						
RSA	**Sarsar**	**171.21**	**54**	P	**PKPdf**	**22 40 18.0**	**+4.9**
	SNR=12						
OUZM	**OUZ**	**171.68**	**81**	P	**PKPdf**	**22 40 19.0**	**+5.5**
	SNR=6.4						
KEST	**Kesra**	**172.06**	**318**	PKP	**PKPdf**	**22 40 14.9**	**+1.4**
	comp=Z,9.5nm,1.1s,baz=334,slow=0.7,SNR=4.5						
KEST				PKPab	**PKPab**	**22 41 36.0**	**-0.6**
	comp=Z,74nm,1.3s,baz=228,slow=1.8,SNR=5.9						
KEST	**Kesra**	**172.06**	**318**		**PKPdf**	**22 40 13.7**	**+0.2**
KEST				PKPab	**PKPab**	**22 41 37.7**	**+1.1**
TAM	**Tamanrasset**	**172.45**	**199**	PKIKP	**PKPdf**	**22 40 13.3**	**-0.8**
TAM	**Tamanrasset**	**172.45**	**199**		**PKPdf**	**22 40 13.3**	**-0.8**
ZGR	**Zagora**	**172.68**	**87**	P	**PKPdf**	**22 40 17.0**	**+3.0**
	SNR=12						
TZRR	**Tazzarine**	**172.71**	**82**	P	**PKPdf**	**22 40 17.0**	**+3.0**
	SNR=12						
MDT	**Midelt**	**173.05**	**64**	P	**PKPdf**	**22 40 16.7**	**+2.7**
	SNR=17						
SET	**Setif**	**173.43**	**341**	P	**PKPdf**	**22 40 20.0**	**+5.9**

GULF	**Gulfidan-Ladik**	**0.97**	**334**	PG	**Pn**	**22 20 24.1**	**-0.6**
YARM	**Yarimca-Ladik(**	**1.00**	**332**	PG	**Pn**	**22 20 24.5**	**-0.5**
CUZAR	**Zara_SIVAS**	**1.04**	**98**	*i* P	**Pg**	**22 20 24.6**	**0.0**
CUZAR				*i* S	**Sg**	**22 20 35.8**	**-2.4**
CUZAR				IAML		22 20 41.0	
	comp=N,1μm,0.4s						
CUZAR				IAML		22 20 42.0	
	comp=E,1μm,0.4s						
KAYA	**Kayacik-Havza(**	**1.04**	**330**	PG	**Pn**	**22 20 25.4**	**-0.3**
CUKAN	**kangal_SIVAS**	**1.08**	**132**	*i* P	**Pn**	**22 20 26.4**	**+0.2**
CUKAN				*i* S	**Sn**	**22 20 41.0**	**-0.3**
CUKAN				IAML		22 20 44.0	
	comp=E,1μm,0.5s						
CUKAN				IAML		22 20 44.0	
	comp=N,1μm,0.3s						
KVT	**Kavak**	**1.08**	**344**	PN	**Pn**	**22 20 26.2**	**+0.1**
KVT				SN	**Sn**	**22 20 41.3**	**0.0**
COAL	**Corum-Alaca**	**1.13**	**281**	*i* P	**Pb**	**22 20 25.7**	**-0.8**
HAVZ	**Havza**	**1.17**	**332**	*i* P	**Pn**	**22 20 27.8**	**+0.5**
BNN	**Bunyan**	**1.27**	**201**	PN	**Pn**	**22 20 28.3**	**-0.5**
GUNE	**Kayseri**	**1.30**	**209**	*i* P	**Pn**	**22 20 29.2**	**0.0**
GUNE				*i* S	**Sg**	**22 20 49.5**	**+3.1**
GUNE				IAML		22 20 52.0	
	comp=N,2μm,0.7s						
GUNE				IAML		22 20 52.0	
	comp=E,1μm,0.3s						
SAMS	**Samsun-Alacam**	**1.33**	**352**	*i* P	**Pg**	**22 20 30.8**	**+0.5**
SUSE	**Susehri**	**1.37**	**82**	*i* P	**Pn**	**22 20 29.9**	**-0.3**
SUSE				*i* S	**Sg**	**22 20 48.9**	**+0.2**
SUSE				IAML		22 20 53.0	
	comp=N,779nm,0.5s						
SUSE				IAML		22 20 53.0	
	comp=E,920nm,0.5s						
CORM	**Corum**	**1.39**	**276**	PN	**Pg**	**22 20 31.3**	**-0.1**
CTAK	**Corum_Osmancik**	**1.39**	**296**	*i* P	**Pg**	**22 20 31.7**	**+0.2**
ORDU	**Ordu-Boztepe**	**1.44**	**48**	*i* P	**Pn**	**22 20 31.1**	**0.0**
ORDU				*i* S	**Sb**	**22 20 50.0**	**-0.3**
CUGUR	**Gurin_SVAS**	**1.47**	**153**	*i* P	**Pg**	**22 20 33.7**	**+0.9**
CUGUR				*i* S	**Sg**	**22 20 54.8**	**+2.9**
CUGUR				IAML		22 20 58.0	
	comp=E,1μm,0.6s						
CUGUR				IAML		22 21 00.0	
	comp=N,1μm,0.4s						
SARI	**SarD1z-Kayseri**	**1.63**	**180**	PN	**Pb**	**22 20 35.2**	**+0.1**
CDAG	**Cicekdag**	**1.64**	**256**	*i* P	**Pb**	**22 20 34.8**	**-0.5**
CDAG				*i* S	**Sb**	**22 20 56.3**	**+0.2**
HEKM	**Malatya_Hekimh**	**1.66**	**134**	*i* P	**Pb**	**22 20 35.6**	**+0.1**
HEKM				*i* S	**Sg**	**22 20 59.5**	**+1.6**
HEKM				IAML		22 21 01.0	
	comp=N,590nm,0.5s						
HEKM				IAML		22 21 04.0	
	comp=E,804nm,0.5s						
DARE	**Darende-Malaty**	**1.68**	**151**	PN	**Pb**	**22 20 36.1**	**+0.2**
AVNS	**Nevsehir-Avano**	**1.74**	**225**	*i* P	**Pb**	**22 20 36.4**	**-0.5**
AVNS				*i* S	**Sg**	**22 21 00.9**	**+0.2**
AVNS				IAML		22 21 06.0	
	comp=N,1μm,0.5s						
AVNS				IAML		22 21 08.0	
	comp=E,1μm,0.5s						
ARPR	**Arapgir-MALATY**	**1.75**	**122**	PN	**Pb**	**22 20 36.7**	**-0.4**
KEMA	**Kemaliye**	**1.77**	**115**	*i* P	**Pb**	**22 20 37.3**	**0.0**
KEMA				*i* S	**Sg**	**22 21 00.6**	**-0.9**
ELBS	**KAHRAMANMARAS**	**1.80**	**162**	*i* P	**Pg**	**22 20 39.0**	**-0.2**
ELBS				*i* S	**Sg**	**22 21 02.0**	**-0.4**
ELBS				IAML		22 21 07.0	
	comp=N,414nm,0.5s						
DIKM	**Dikmen**	**1.84**	**331**	PN	**Pb**	**22 20 38.3**	**-0.2**
KAGI	**orum-Kargı**	**1.85**	**307**	*i* P	**Pb**	**22 20 37.8**	**-0.9**
REFA	**Refahiye_ERZN**	**1.91**	**109**	*i* P	**Pn**	**22 20 37.2**	**-0.4**
REFA				*i* S	**Sn**	**22 21 01.1**	**-0.9**
DELI	**KIRIKKALE**	**1.93**	**270**	*i* P	**Pb**	**22 20 39.1**	**-1.1**
ESPY	**Espiye-Giresun**	**1.96**	**63**	PN	**Pn**	**22 20 38.9**	**+0.7**
SAIM	**ADANA**	**2.08**	**188**	*i* P	**Pb**	**22 20 41.9**	**-0.8**
YAHY	**KAYSERI_Yahyal**	**2.12**	**204**	*i* P	**Pn**	**22 20 41.7**	**+1.3**
KIRS	**Kırehir-Merke**	**2.15**	**246**	*i* P	**Pn**	**22 20 41.8**	**+0.9**
KIRS				*i* S	**Sb**	**22 21 11.7**	**+1.1**
KELT	**Kelkit**	**2.17**	**86**	*i* P	**Pb**	**22 20 42.9**	**-1.4**
KELT				*i* S	**Sb**	**22 21 11.9**	**+0.5**
KELT				IAML		22 21 15.0	
	comp=N,377nm,0.3s						
SINO	**SINOP_Merkez**	**2.18**	**335**	*i* P	**Pn**	**22 20 41.4**	**+0.1**
SNOP	**Sinop**	**2.18**	**335**	PN	**Pb**	**22 20 42.7**	**-1.7**
CANT	**Cankiri**	**2.22**	**286**	PN	**Pn**	**22 20 43.2**	**+1.3**
ILGA	**Ilgaz**	**2.30**	**297**	*i* P	**Pb**	**22 20 47.1**	**+0.5**
YAYX	**Yaylak**	**2.31**	**242**	PN	**Pn**	**22 20 44.2**	**+1.1**
MALT	**Malatya**	**2.32**	**137**	PN	**Pn**	**22 20 44.4**	**+1.2**
KAST	**KASTAMONU**	**2.39**	**308**	*i* P	**Pg**	**22 20 50.9**	**+0.4**
GULA	**Gulagac**	**2.41**	**226**	PN	**Pn**	**22 20 45.4**	**+1.0**
ANDN	**Andirin**	**2.46**	**182**	*i* P	**Pb**	**22 20 47.7**	**-1.5**
SERE	**Serefiikochisa**	**2.48**	**245**	PN	**Pn**	**22 20 46.7**	**+1.3**
AKSY	**AKSARAY - Alti**	**2.50**	**237**	*i* P	**Pn**	**22 20 46.6**	**+1.0**
ELZG	**Elazig**	**2.51**	**127**	*i* P	**Pn**	**22 20 47.8**	**+1.9**
EUZM	**Uzumlu**	**2.53**	**97**	*i* P	**Pb**	**22 20 50.2**	**-0.3**
EUZM				*i* S	**Sg**	**22 21 27.4**	**+1.3**
KMRS	**Kahramanmaras**	**2.56**	**172**	PN	**Pn**	**22 20 47.9**	**+1.5**
PTK	**Pertek**	**2.56**	**116**	PN	**Pn**	**22 20 48.0**	**+1.4**
ERZN	**Erzincan**	**2.57**	**99**	PN	**Pn**	**22 20 48.0**	**+1.3**
TNCL	**Tunceli-Merkez**	**2.57**	**110**	*i* P	**Pb**	**22 20 48.9**	**-2.3**
TNCL				*i* S	**Sg**	**22 21 25.3**	**-2.1**
BBAL	**Bala**	**2.60**	**260**	*i* P	**Pn**	**22 20 48.7**	**+1.6**
KOZT	**Kozan**	**2.60**	**191**	PN	**Pn**	**22 20 48.9**	**+1.9**
CMRD	**Camardi-Nigde**	**2.63**	**206**	PN	**Pn**	**22 20 48.8**	**+1.3**
AFSR	**Afar-Bala (An**	**2.66**	**258**	PN	**Pn**	**22 20 49.6**	**+1.7**
PELI	**Kastamonı-Ara**	**2.69**	**299**	*i* P	**Pg**	**22 20 54.6**	**-1.5**
AKO	**Adana**	**2.69**	**197**	*i* P	**Pb**	**22 20 50.8**	**-2.2**
MACK	**Trabzon**	**2.70**	**69**	*i* P	**Pn**	**22 20 50.5**	**+2.1**
MACK				*i* S	**Sg**	**22 21 30.0**	**-1.4**
KTUT	**Trabzon**	**2.71**	**69**	PN	**Pn**	**22 20 50.5**	**+2.0**
HCB	**Kahramanmara**	**2.72**	**172**	*i* P	**Pn**	**22 20 50.0**	**+1.4**
SVRC	**Sivrice-ELAZID**	**2.78**	**126**	PN	**Pn**	**22 20 51.3**	**+1.7**
ANTO	**Ankara**	**2.80**	**268**	PN	**Pn**	**22 20 51.5**	**+1.6**
LOD	**Lodumlu**	**2.82**	**268**	PN	**Pn**	**22 20 51.8**	**+1.6**
KKUL	**Konya-Kulu**	**2.85**	**253**	*i* P	**Pn**	**22 20 52.5**	**+2.0**
KAMA	**Osmaniye**	**2.86**	**176**	*i* P	**Pn**	**22 20 51.4**	**+0.8**
BAYT	**Aydıntepe-Bayb**	**2.86**	**82**	PN	**Pn**	**22 20 52.3**	**+1.6**
SULT	**Sultanhani-AKS**	**2.92**	**232**	PN	**Pn**	**22 20 53.3**	**+1.8**
GAZ	**Gaziantep**	**2.93**	**168**	PN	**Pn**	**22 20 52.8**	**+1.2**
BAYB	**BAYBURT**	**2.94**	**85**	*i* P	**Pb**	**22 20 58.1**	**+0.7**
CMDR	**Camlidere-ANKA**	**3.06**	**280**	*i* P	**Pn**	**22 20 55.7**	**+2.2**
CEYT	**Ceyhan**	**3.07**	**190**	PN	**Pn**	**22 20 55.3**	**+1.8**
YESY	**Yesilyurt**	**3.08**	**224**	PN	**Pn**	**22 20 55.6**	**+1.9**
CHBY	**Cihanbeyli**	**3.11**	**243**	PN	**Pn**	**22 20 55.8**	**+1.7**
KOPT	**Kop Dagi**	**3.12**	**89**	*i* P	**Pg**	**22 21 02.9**	**-1.6**
KBUK	**KARABÜK-Merkez**	**3.13**	**294**	*i* P	**Pb**	**22 20 57.6**	**-3.0**
YEDI	**Yedisu-Bingol**	**3.23**	**99**	PN	**Pn**	**22 20 57.5**	**+1.8**
YURE	**YUREGIR**	**3.27**	**191**	PN	**Pn**	**22 20 57.8**	**+1.6**
KURC	**Kurucasile-Bar**	**3.33**	**304**	PN	**Pn**	**22 20 59.2**	**+2.2**
BCAM	**Yenicaga**	**3.42**	**284**	*i* P	**Pn**	**22 20 59.6**	**+1.2**
BNGB	**Bingl**	**3.45**	**106**	PN	**Pn**	**22 21 00.7**	**+2.0**
KRIK	**Erzurum-spir**	**3.45**	**84**	*i* P	**Pb**	**22 21 06.8**	**+0.6**
CHOM	**Cayeli-Rize**	**3.46**	**71**	PN	**Pn**	**22 21 00.7**	**+1.9**

KAPI	**Kappang**	**5.71**	**352**	Pn	**Pn**	**22 23 27.2**	**+1.1**
	3.3nm,0.3s,baz=179,slow=7.5,SNR=7.2						
KAPI				Sn	**Sn**	**22 24 29.9**	**-0.7**
	0.9nm,0.3s,baz=52,slow=23,SNR=0.9						
KAPI	**Kappang**	**5.71**	**352**		**Pn**	**22 23 26.9**	**+0.9**
KAPI				Sn	**Sn**	**22 24 32.1**	**+1.5**
JAGI	**Jajag, Banyuwa**	**6.67**	**289**	Pn	**Pn**	**22 23 35.6**	**-3.6**
SPSI	**Sidrap Palu**	**6.75**	**354**	P	Pb	22 23 50.3	-10
FITZ	**Fitzroy Crossi**	**8.86**	**147**	Pn	**Pn**	**22 24 12.4**	**+3.2**
	0.9nm,0.3s,baz=327,slow=9.2,SNR=17						
FITZ				Sn	**Sn**	**22 25 45.3**	**-2.7**
	0.7nm,0.3s,baz=143,slow=3.2,SNR=3.3						
FITZ	**Fitzroy Crossi**	**8.86**	**147**		**Pn**	**22 24 11.8**	**+2.6**
KNRA	**Kununurra**	**9.41**	**122**	Pn	**Pn**	**22 24 20.3**	**+3.4**
UGM	**Wanagama**	**10.26**	**285**	Pn	**Pn**	**22 24 27.8**	**-0.8**
MTN	**Manton Dam**	**10.60**	**103**	Pn	**Pn**	**22 24 35.7**	**+2.6**
MTKI	**Muara Teweh, K**	**11.20**	**330**	P	**Pn**	**22 24 43.2**	**+1.8**
GIRL	**Giralia**	**13.30**	**206**	Pn	**Pn**	**22 25 10.1**	**-0.1**
FAKI	**Fak Fak**	**13.97**	**57**	Pn	**Pn**	**22 25 19.5**	**+0.2**
SIJI	**Sorong**	**14.47**	**48**	Pn	**Pn**	**22 25 27.4**	**+1.3**
	0.6nm,0.3s,baz=247,slow=5.2,SNR=6.3						
SIJI				LR	LR	22 32 27.9	
	comp=Z,7μm,20.2s,baz=359,slow=43						
ASAR	**Alice Springs**	**18.12**	**137**	P	**P**	**22 26 15.5**	**+2.6**
	0.5nm,0.3s,baz=108,slow=6.2,SNR=4.3						
CMAR	**Chiang Mai Arr**	**35.97**	**324**	P	**P**	**22 29 01.2**	**-0.3**
	1.0nm,0.8s,baz=159,slow=6.4,SNR=5.6						
H08S2	**Diego Garcia H**	**47.48**	**269**	T	T	23 21 10.8	
	baz=96,slow=76,SNR=7.6						
H08S3	**Diego Garcia H**	**47.49**	**269**	T	T	23 21 10.5	
	baz=96,slow=76,SNR=5.8						
H08S1	**Diego Garcia H**	**47.50**	**269**	T	T	23 21 12.2	
	baz=96,slow=76,SNR=8.3						
WCZ	**Waipu Caves**	**54.64**	**127**	P	P	22 31 38.0	+8.6
USRK	**Ussuriysk Ar.**	**55.63**	**10**	P	**P**	**22 31 35.2**	**-1.1**
	1.7nm,0.6s,baz=186,slow=6.6,SNR=2.2						
ULN	**Ulaanbaatar**	**59.53**	**350**	P	**P**	**22 32 03.8**	**-0.1**
ULN				IAmb	IAmb	22 32 04.6	
	comp=Z,2.7nm,0.6s						
SONM	**Songino Array**	**59.62**	**349**	P	**P**	**22 32 04.5**	**0.0**
	comp=Z,4.4nm,0.6s,baz=167,slow=8.2,SNR=17						
SONM	**Songino Array**	**59.62**	**349**	P	**P**	**22 32 04.5**	**0.0**
MK31	**Makanchi Array**	**66.66**	**332**	P	**P**	**22 32 50.6**	**-0.5**
MK31				IAmb	IAmb	22 32 51.6	
	comp=Z,1.7nm,0.7s						
MKAR	**Makanchi Array**	**66.66**	**332**	P	**P**	**22 32 50.8**	**-0.2**
	comp=Z,2.4nm,0.6s,baz=140,slow=7.7,SNR=17						
ZAA0	**Zalesovo Array**	**71.17**	**339**	P	**P**	**22 33 18.1**	**-0.8**
ZALV	**Zalesovo Array**	**71.17**	**339**	P	**P**	**22 33 17.9**	**-0.9**
	comp=Z,6.2nm,0.6s,baz=139,slow=4.9,SNR=23						
ZALV	**Zalesovo Beam**	**71.17**	**339**	P	**P**	**22 33 18.1**	**-0.8**
KURK	**Kurchatov**	**71.19**	**333**	P	**P**	**22 33 19.2**	**+0.2**
KURK				IAmb	IAmb	22 33 19.3	
	comp=Z,2.5nm,0.8s						
BRVK	**Borovoye**	**76.58**	**332**	P	**P**	**22 33 49.9**	**-0.7**
KBZ	**Khabaz**	**88.54**	**315**	LR	LR	23 22 30.0	
	comp=Z,5μm,18.9s,baz=211,slow=41						

*ISK **23** 22:20:04.6,40°.03N×36°.44E,h4km,ML3.6/40*
*DDA **23** 22:20:04.8,40°.05N×36°.43E,h15km±2km,ML3.6*

ISC 23 22:20:04.7±1.0,**40°.04N**±0°.02×**36°.43E**±0°.02,**h8**km±9km,
n93,σ1°**29**/120,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TOKA	**Tokat**	**0.28**	**7**	*i* P		**Pg**	**22 20 11.0**	**+0.6**
TOKT	**Tokat**	**0.29**	**17**	PG		**Pg**	**22 20 11.1**	**+0.6**
TOKT				SG		**Sg**	**22 20 15.4**	**+0.9**
SVSK	**Karacayir**	**0.45**	**106**	PG		**Pg**	**22 20 13.7**	**+0.2**
SVSK				SG		**Sb**	**22 20 20.6**	**-1.1**
SCER	**sogukcermik**	**0.56**	**108**	*i* P		**Pg**	**22 20 15.9**	**+0.2**
SCER				*i* S		**Sb**	**22 20 24.2**	**-0.9**
SCER				IAML			22 20 25.0	
	comp=E,4μm,0.2s							
SCER				IAML			22 20 25.0	
	comp=N,6μm,0.3s							
CUSAR	**Sarkisla-SIVAS**	**0.64**	**193**	*i* P		**Pg**	**22 20 14.0**	**-3.0**
CUSAR				*i* S		**Sg**	**22 20 23.1**	**-2.3**
ERBA	**Erbaa**	**0.69**	**21**	*i* P		**Pb**	**22 20 18.5**	**-0.4**
ERBA				*i* S		**Sg**	**22 20 27.4**	**+0.5**
AMSY	**Amasya-Merkez**	**0.75**	**323**	*i* P		**Pg**	**22 20 18.7**	**-0.5**
AMSY				*i* S		**Sg

PSA00	**Pilbara Seismi**	**10.84**	**182**	Pn	**Pn**	**22 26 19.4**	**-0.3**
MRSI	**Marisa**	**11.20**	**8**	P	**Pn**	**22 26 25.6**	**+1.1**
	34nm,1.2s						
CISI	**Cisompet, Garu**	**12.73**	**283**	Pn	**Pn**	**22 26 46.6**	**+1.1**
GIRL	**Giralia**	**13.25**	**205**	Pn	**Pn**	**22 26 52.7**	**+0.2**
WRA	**Warramunga Arr**	**16.35**	**126**	Pn	**Pn**	**22 27 31.9**	**-1.9**
	0.8nm,0.3s,baz=296,slow=13,SNR=4.6						
WRA	**Warramunga Arr**	**16.35**	**126**		**Pn**	**22 27 32.0**	**-1.8**
WB2	**Warramunga Arr**	**16.36**	**126**	Pn	**Pn**	**22 27 32.0**	**-1.9**
WR0	**Warramunga Arr**	**16.52**	**126**	Pn	**Pn**	**22 27 35.5**	**-0.4**
WR0				IAmb	IAmb	22 27 44.3	
	comp=Z,18nm,0.8s						
AS31	**Alice Springs**	**18.29**	**137**		**P**	**22 27 59.3**	**+1.4**
ASAR	**Alice Springs**	**18.29**	**137**	P	**P**	**22 27 59.5**	**+1.6**
	comp=Z,1.1nm,0.3s,baz=314,slow=12,SNR=9.5						
ASAR				S	Sn	22 31 11.5	-10
	baz=309,slow=22,SNR=2.8						
MORW	**Morawa**	**18.73**	**192**	P	**P**	**22 28 04.1**	**+1.4**
MORW				IAmb	IAmb	22 28 07.9	
	comp=Z,9.9nm,0.7s						
JAY	**Jayapura**	**21.80**	**70**	P	**P**	**22 28 34.7**	**-1.5**
CMAR	**Chiang Mai Arr**	**35.82**	**324**	P	**P**	**22 30 43.9**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=146,slow=6.6,SNR=3.4						
CMAR	**Chiang Mai Arr**	**35.82**	**324**	P	**P**	**22 30 43.5**	**+0.1**
ENH	**Enshi**	**42.02**	**346**	P	**P**	**22 31 34.8**	**-0.5**
ENH				IAmb	IAmb	22 31 35.5	
	comp=Z,14nm,0.8s						
XAN	**Xi'an**	**45.77**	**347**	P	**P**	**22 32 03.9**	**-1.4**
XAN				IAmb	IAmb	22 32 05.0	
	comp=Z,12nm,0.8s						
H08S2	**Diego Garcia H**	**47.28**	**269**	T	T	23 23 01.8	
	baz=96,slow=75,SNR=13						
H08S3	**Diego Garcia H**	**47.29**	**269**	T	T	23 23 02.3	
	baz=96,slow=75,SNR=11						
H08S1	**Diego Carcia H**	**47.30**	**269**	T	T	23 23 03.2	
	baz=96,slow=75,SNR=11						
KSRS	**Korea Array**	**48.40**	**8**	P	**P**	**22 32 24.9**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=192,slow=8.9,SNR=4.1						
BJT	**Baijiatuau**	**50.58**	**356**	P	**P**	**22 32 41.6**	**-0.7**
NMHZ	**Naumai**	**57.46**	**130**	S	**S**	**22 41 23.2**	**-5.1**
ULN	**Ulaanbaatar**	**59.46**	**350**	P	**P**	**22 33 46.3**	**-0.3**
ULN				IAmb	IAmb	22 33 48.2	
	comp=Z,17nm,1.5s						
SONM	**Songino Array**	**59.55**	**349**	P	**P**	**22 33 47.1**	**-0.1**
	comp=Z,7.0nm,0.6s,baz=167,slow=8.3,SNR=27						
SONM	**Songino Array**	**59.55**	**349**	P	**P**	**22 33 46.8**	**-0.3**
TLY	**Talaya**	**63.76**	**349**	P	**P**	**22 34 16.0**	**+0.7**
TLY				IAmb	IAmb	22 34 16.6	
	comp=Z,6.2nm,0.7s						
MKAR	**Makanchi Array**	**66.53**	**333**	P	**P**	**22 34 33.3**	**-0.1**
	comp=Z,4.6nm,0.7s,baz=139,slow=7.9,SNR=22						
ZAA0	**Zalesovo Array**	**71.06**	**339**	P	**P**	**22 35 00.4**	**-1.0**
ZALV	**Zalesovo Beam**	**71.06**	**339**	P	**P**	**22 35 00.7**	**-0.8**
	comp=Z,9.0nm,0.6s,baz=137,slow=5.1,SNR=14						

NEIC ***23*** *22:24:11.9±1.0, 51.87N±0.08×178.35E±0.08, h112km±4km, Error ellipse: s-maj=11.0km s-min=7.4km az=190.0*

AEIC 23 22:24:11±1.0**, 51.84N**±0.08**×178.36E**±0.04**, h113**km±4km**, mb3.9**/2(NEIC)**, Error ellipse: s-maj=12.5km s-min=2.4km az=193.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.14**	**41**		Pn	22 24 27.6	+0.9
LSSE	**Little Sitkin**	**0.16**	**55**		Pn	22 24 27.6	+0.9
LSNW	**Little Sitkin**	**0.16**	**37**		Pn	22 24 27.1	+0.4
LSPA	**Little Sitkin**	**0.18**	**49**		Pn	22 24 27.4	+0.7
LSPA					Sn	22 24 41.2	+2.6
CETU	**Semis' Tuman**	**0.71**	**79**		Pn	22 24 30.8	+1.1
CETU					Sn	22 24 45.0	+1.0
AMKA	**Amchitka**	**0.75**	**128**		Pn	22 24 31.0	+1.0
AMKA					Sn	22 24 44.4	0.0
CESW	**Semis' Southwe**	**0.75**	**85**		Pn	22 24 30.8	+0.7
CEAP	**Semis' Anvil P**	**0.77**	**77**		Pn	22 24 31.3	+1.1
CEAP					Sn	22 24 45.1	+0.3
CERAA	**Semis' Rag'd T**	**0.82**	**85**		Pn	22 24 31.6	+0.8
GAEA	**Gareloi East**	**1.80**	**91**		Pn	22 24 43.0	+1.5
TASE	**Tanaga Southea**	**2.24**	**89**		Pn	22 24 48.5	+1.4
TAFP	**Tanaga Falls P**	**2.27**	**87**		Pn	22 24 48.6	+1.1
TAFP					Sn	22 25 16.4	+0.9
TAPA	**Tanaga Point A**	**2.38**	**89**		Pn	22 24 50.4	+1.5
KIMD	**Kanaga Island**	**2.74**	**90**		Pn	22 24 54.8	+1.3
KICM	**Kanaga Island**	**2.76**	**87**		Pn	22 24 55.4	+1.6
SMY	**Shemya**	**2.76**	**290**		Pn	22 24 54.5	+0.6
SMY				Sn	Sn	22 25 28.0	+1.1
KIKV	**Kanaga Island**	**2.77**	**87**		Pn	22 24 55.4	+1.4
ADK	**Adak**	**3.07**	**87**		Pn	22 24 58.8	+0.9
ADK				Sn	Sn	22 25 35.2	+1.0
GSTD	**Great Sitkin T**	**3.41**	**84**		Pn	22 25 03.4	+0.9
GSTR	**Great Sitkin T**	**3.46**	**84**		Pn	22 25 04.3	+1.2
GSMY	**Great Sitkin M**	**3.46**	**84**		Pn	22 25 04.2	+1.1
ATKA	**Atka Island**	**4.61**	**83**		Pn	22 25 19.9	+1.4
KOFP	**Korovin Flat P**	**4.68**	**82**		Pn	22 25 21.2	+1.8
NIKH	**Nikolski High**	**7.90**	**77**		Pn	22 26 04.4	+1.4
SDPT	**Sand Point**	**13.04**	**66**	Pn	Pn	22 27 12.1	+0.4
CNBA	**Chernabura Isl**	**13.50**	**69**	Pn	Pn	22 27 17.5	-0.2
KDAK	**Kodiak Island**	**17.68**	**59**	P	Pn	22 28 09.5	-0.3
CNPM	**China Poot**	**18.65**	**54**	P	P	22 28 20.2	+0.5
CNPM				IAmb	IAmb	22 28 21.4	
	comp=Z,16nm,1.1s						
PAX	**Paxson**	**22.11**	**46**	P	P	22 28 56.5	-0.4
PAX				IAmb	IAmb	22 28 58.1	
	comp=Z,1.9nm,0.9s						
RIDG	**Independent Ri**	**22.57**	**44**	P	P	22 29 01.1	-0.5

IDC ***23*** *22:25:38.2±1.9, 29.94S×177.20W, h0km, mb4.6/4, mb1 4.8/4, mb1mx4.2/56, mbtmp4.6/4, Error ellipse: s-maj=39.4km s-min=36.7km az=34.0*

NEIC ***23*** *22:25:43.0±0.9, 29.94S±0.08×177.5W±0.2, h27km±4km, mb4.8/16, Error ellipse: s-maj=23.8km s-min=6.4km az=64.0*

ISC 23 22:25:44.1±1.1**, 29.95S**±0.08**×177.4W**±0.2**, h35**km**, n30, σ0.77/32, mb4.7/10, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.82**	**328**	Pn	**Pn**	**22 25 58.6**	**-0.6**
	baz=58,slow=17						
RAO				Sn	**Sn**	**22 26 11.6**	**+1.5**
	baz=198,slow=20						
RAO	**Raoul Island**	**0.82**	**328**		**Pn**	**22 25 58.7**	**-0.5**
RAO				Sn	**Sn**	**22 26 09.3**	**-0.8**
BKZ	**Black Stump Fm**	**10.47**	**207**	Pn	**Pn**	**22 28 10.9**	**-0.8**
NNZ	**Nelson**	**13.50**	**211**	Pn	**Pn**	**22 28 51.8**	**-1.2**
THZ	**Tophouse**	**14.15**	**211**	Pn	**Pn**	**22 29 02.7**	**+0.8**
OXZ	**Oxford**	**15.79**	**209**	Pn	**Pn**	**22 29 23.2**	**-0.5**
OXZ				IAmb	IAmb	22 29 30.7	
	comp=Z,109nm,1.5s						
RPZ	**Rata Peaks**	**16.53**	**211**	Pn	**Pn**	**22 29 31.6**	**-1.5**
RPZ				IAmb	IAmb	22 29 36.7	
	comp=Z,53nm,1.2s						
ARMA	**Armidale**	**26.73**	**261**	P	**P**	**22 31 20.4**	**0.0**
EIDS	**Eidsvold**	**28.23**	**272**	P	**P**	**22 31 34.3**	**+0.5**
EIDS				IAmb	IAmb	22 31 48.2	
	comp=Z,19nm,1.3s						
CAN	**Canberra**	**28.70**	**250**	P	**P**	**22 31 38.6**	**+0.6**
CAN				IAmb	IAmb	22 31 40.1	
	comp=Z,24nm,1.1s						
CTA	**Charters Tower**	**34.23**	**278**	P	**P**	**22 32 27.9**	**+1.1**
	comp=Z,6.3nm,0.5s,baz=96,slow=11,SNR=5.5						
CTAO	**Charters Tower**	**34.23**	**278**	P	**P**	**22 32 26.2**	**-0.5**
CTAO				IAmb	IAmb	22 32 37.9	
	comp=Z,9.7nm,0.7s						
STKA	**Stephens Creek**	**35.08**	**256**	P	**P**	**22 32 35.2**	**+1.3**
	comp=Z,4.7nm,0.6s,baz=105,slow=11,SNR=2.9						
STKA	**Stephens Creek**	**35.08**	**256**	P	**P**	**22 32 34.6**	**+0.7**
BBOO	**Buckleboo**	**39.58**	**254**	P	**P**	**22 33 11.6**	**-0.5**
AS31	**Alice Springs**	**43.64**	**266**	P	**P**	**22 33 45.4**	**-0.1**
ASAR	**Alice Springs**	**43.64**	**266**	P	**P**	**22 33 46.2**	**+0.7**
	comp=Z,3.9nm,0.7s,baz=104,slow=8.1,SNR=3.4						
ASAR	**Alice Springs**	**43.64**	**266**	P	**P**	**22 33 45.2**	**-0.3**
WR0	**Warramunga Arr**	**44.41**	**271**	P	**P**	**22 33 51.5**	**-0.1**
WR0				IAmb	IAmb	22 33 57.0	
	comp=Z,21nm,0.9s						
WB2	**Warramunga Arr**	**44.58**	**271**	P	**P**	**22 33 52.8**	**-0.2**
WRA	**Warramunga Arr**	**44.59**	**271**	P	**P**	**22 33 53.1**	**0.0**
	comp=Z,5.3nm,0.3s,baz=112,slow=6.4,SNR=13						
WRA	**Warramunga Arr**	**44.59**	**271**	P	**P**	**22 33 52.8**	**-0.3**
VNDA	**Vanda**	**48.59**	**186**	P	**P**	**22 34 23.6**	**0.0**
VNDA				IAmb	IAmb	22 34 37.3	
	comp=Z,5.7nm,0.8s						
CASY	**Casey**	**55.77**	**208**	P	**P**	**22 35 16.1**	**-1.0**
QSPA	**South Pole Qui**	**60.16**	**180**	P	**P**	**22 35 49.2**	**+1.2**
QSPA				IAmb	IAmb	22 36 01.0	
	comp=Z,14nm,1.1s						
SNAA	**Sanae**	**78.59**	**178**	P	**P**	**22 37 42.2**	**+0.5**
SNAA				IAmb	IAmb	22 37 53.0	
	comp=Z,8.7nm,1.3s						
FINES	**FINESS Array B**	**144.90**	**341**	PKP	**PKPab**	**22 45 15.5**	**-0.4**
	comp=Z,9.0nm,0.8s,baz=52,slow=4.0,SNR=11						
NB2	**NORSAR Subarra**	**148.38**	**352**	PKP	**PKPbc**	**22 45 25.9**	**-0.3**
	comp=Z,3.4nm,1.2s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.38**	**352**	PKPbc	**PKPbc**	**22 45 26.0**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=18,slow=2.9,SNR=1.6						
AKASG	**Malin Array Be**	**151.25**	**324**	PKPbc	**PKPbc**	**22 45 33.1**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=48,slow=3.0,SNR=2.4						

NEIC ***23*** *22:26:42.4±0.6, 51.9N±0.1×178.34E±0.06, h130km±3km, mb4.2/5, Error ellipse: s-maj=14.7km s-min=5.2km az=184.0*

AEIC 23 22:26:43±1.4**, 51.9N**±0.1**×178.46E**±0.09**, h120**km±4km**, Error ellipse: s-maj=15.2km s-min=7.6km az=187.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.06**	**32**		Pn	22 27 00.0	+0.6
LSSE	**Little Sitkin**	**0.08**	**62**		Pn	22 27 00.3	+0.9
LSNW	**Little Sitkin**	**0.08**	**26**		Pn	22 26 59.9	+0.5
LSNW					Sn	22 27 13.5	+1.6
LSPA	**Little Sitkin**	**0.09**	**50**		Pn	22 27 00.0	+0.6
LSPA					Sn	22 27 13.7	+1.9
CESW	**Semis' Southwe**	**0.68**	**89**		Pn	22 27 03.0	+0.8
CESW					Sn	22 27 18.0	+1.3
CEAP	**Semis' Anvil P**	**0.70**	**81**		Pn	22 27 03.4	+1.1
AMKA	**Amchitka**	**0.74**	**134**		Pn	22 27 03.5	+0.8
AMKA					Sn	22 27 18.9	+1.5
CERAA	**Semis' Rag'd T**	**0.76**	**89**		Pn	22 27 03.8	+1.0
TASE	**Tanaga Southea**	**2.17**	**90**		Pn	22 27 19.8	+1.2
TAFP	**Tanaga Falls P**	**2.20**	**89**		Pn	22 27 19.9	+0.9
TAFP					Sn	22 27 48.6	+2.0
KIMD	**Kanaga Island**	**2.67**	**91**		Pn	22 27 25.7	+0.8
KICM	**Kanaga Island**	**2.69**	**88**		Pn	22 27 26.6	+1.4
KIKV	**Kanaga Island**	**2.71**	**89**		Pn	22 27 26.7	+1.3
SMY	**Shemya**	**2.80**	**289**		Pn	22 27 25.6	-1.0
SMY				Sn	Sn	22 27 58.5	-1.7
ADK	**Adak**	**3.01**	**88**		Pn	22 27 29.5	+0.2
ADK				Sn	Sn	22 28 06.3	+1.3
GSTR	**Great Sitkin T**	**3.39**	**85**	Pn	Pn	22 27 34.9	+0.5
GSMY	**Great Sitkin M**	**3.39**	**85**		Pn	22 27 34.9	+0.5
ATKA	**Atka Island**	**4.54**	**83**		Pn	22 27 50.3	+0.6
KDAK	**Kodiak Island**	**17.60**	**59**	P	P	22 30 38.5	-1.1
KDAK				IAmb	IAmb	22 30 39.9	
	comp=Z,21nm,1.5s						
RDOG	**Red Dog Mine**	**18.55**	**22**	P	P	22 30 49.8	-0.2
CNPM	**China Poot**	**18.57**	**54**	P	P	22 30 50.5	+0.3
CNPM				IAmb	IAmb	22 30 51.7	
	comp=Z,7.0nm,0.6s						
BRLK	**Bradley Lake**	**18.79**	**53**	P	P	22 30 52.8	+0.1
BRLK				IAmb	IAmb	22 30 56.0	
	comp=Z,16nm,1.3s						
FID	**Port Fidalgo**	**21.12**	**52**	P	P	22 31 16.2	-1.6

IDC ***23*** *22:27:00.3±2.0, 10.59S×120.20E, h0km, mb4.2/3, mb1 4.3/5, mb1mx4.0/52, mbtmp4.3/5, ML4.2/1, Error ellipse: s-maj=54.6km s-min=26.4km az=29.0*

NEIC ***23*** *22:27:04.1±2.1, 10.83S±0.09×120.22E±0.07, h35km±2km, mb4.3/5, Error ellipse: s-maj=15.4km s-min=10.3km az=196.0*

ISC 23 22:27:04.3±0.8**, 10.88S**±0.07×**120.22E**±0.06**, h35**km**, n16, σ1.9/30/21, mb4.4/5, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.45**	**79**	Pn	**Pn**	**22 27 56.0**	**+0.4**
	25nm,0.3s,baz=294,slow=1.7,SNR=5.9						
BATI				Sn	**Sn**	**22 28 35.6**	**+0.4**
	17nm,0.3s,baz=30,slow=20,SNR=6.2						
SOEI	**Soe**	**4.14**	**75**		**Pn**	**22 28 05.6**	**+0.5**
SOEI				Sn	**Sn**	**22 28 54.9**	**+2.6**
JAGI	**Jajag, Banyuwa**	**6.45**	**291**	Pn	**Pn**	**22 28 37.6**	**+0.9**
JAGI				Sn	**Sn**	**22 29 49.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**8.89**	**144**	Pn	**Pn**	**22 29 13.4**	**+3.2**
	baz=323,slow=10,SNR=0.9						
FITZ				Sn	**Sn**	**22 30 47.2**	**-2.0**
	1.4nm,0.3s,baz=190,slow=14,SNR=0.9						
FITZ	**Fitzroy Crossi**	**8.89**	**144**		**Pn**	**22 29 11.5**	**+1.2**
FITZ				Sn	**Sn**	**22 30 48.4**	**-0.8**
MTN	**Manton Dam**	**10.86**	**101**	Pn	**Pn**	**22 29 36.2**	**-1.1**
AS31	**Alice Springs**	**18.21**	**136**	P	**P**	**22 31 13.8**	**-0.6**
MORW	**Morawa**	**18.51**	**192**	P	**Pn**	**22 31 18.2**	**+0.2**
SONM	**Songino Array**	**59.73**	**349**	P	**P**	**22 37 05.3**	**-0.3**
	2.1nm,0.7s,baz=161,slow=8.1,SNR=5.4						
SONM	**Songino Array**	**59.73**	**349**	P	**P**	**22 37 04.9**	**-0.7**
MK31	**Makanchi Array**	**66.67**	**333**	P	**P**	**22 37 50.8**	**-0.7**
MK31				IAmb	IAmb	22 37 53.2	
	comp=Z,1.3nm,0.7s						
MKAR	**Makanchi Array**	**66.67**	**333**	P	**P**	**22 37 51.5**	**0.0**
	comp=Z,1.3nm,0.7s,baz=144,slow=7.4,SNR=3.7						
MKAR	**Makanchi Array**	**66.67**	**333**	P	**P**	**22 37 50.7**	**-0.8**
ZAA0	**Zalesovo Array**	**71.22**	**339**	P	**P**	**22 38 18.7**	**-0.8**
ZAA0				IAmb	IAmb	22 38 23.0	
	comp=Z,6.4nm,1.4s						
ZALV	**Zalesovo Beam**	**71.22**	**339**	P	**P**	**22 38 18.7**	**-0.9**
	comp=Z,2.5nm,0.6s,baz=140,slow=4.4,SNR=5.7						
ZALV	**Zalesovo Beam**	**71.22**	**339**	P	**P**	**22 38 18.3**	**-1.2**

NEIC ***23*** *22:29:14.2±0.5, 51.80N±0.05×178.48E±0.08, h102km±4km, Error ellipse: s-maj=7.9km s-min=7.6km az=190.0*

AEIC 23 22:29:13±0.7**, 51.85N**±0.06**×178.53E**±0.09**, h103**km±3km**, ML2.9, Error ellipse: s-maj=9.5km s-min=7.6km az=202.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.09**	**15**		Pn	22 29 28.7	+1.4
LSSA	**Little Sitkin**	**0.10**	**353**		Pn	22 29 28.6	+1.2
LSPA	**Little Sitkin**	**0.11**	**13**		Pn	22 29 28.7	+1.4
LSPA					Sn	22 29 39.7	+1.7
LSNW	**Little Sitkin**	**0.12**	**355**		Pn	22 29 28.5	+1.1
CESW	**Semis' Southwe**	**0.64**	**85**		Pn	22 29 31.4	+1.3
CESW					Sn	22 29 44.1	+1.1
CEAP	**Semis' Anvil P**	**0.66**	**76**		Pn	22 29 32.0	+1.7
CEAP					Sn	22 29 45.6	+2.3
AMKA	**Amchitka**	**0.67**	**134**		Pn	22 29 31.7	+1.3
AMKA					Sn	22 29 44.3	+0.9
CERAA	**Semis' Rag'd T**	**0.72**	**85**		Pn	22 29 32.3	+1.5
CERAA					Sn	22 29 45.6	+1.5
GAEA	**Gareloi East**	**1.69**	**91**		Pn	22 29 43.4	+1.7
TASE	**Tanaga Southea**	**2.13**	**89**		Pn	22 29 48.9	+1.6
TAFP	**Tanaga Falls P**	**2.16**	**87**		Pn	22 29 49.1	+1.4
TAPA	**Tanaga Point A**	**2.27**	**89**		Pn	22 29 50.6	+1.5
KIMD	**Kanaga Island**	**2.63**	**90**		Pn	22 29 55.4	+1.6
KICM	**Kanaga Island**	**2.65**	**87**		Pn	22 29 56.1	+2.0
KIKV	**Kanaga Island**	**2.66**	**88**		Pn	22 29 55.9	+1.6
KINC	**Kanaga Island**	**2.69**	**87**		Pn	22 29 56.3	+1.7
SMY	**Shemya**	**2.86**	**290**		Pn	22 29 57.4	+0.5
ADK	**Adak**	**2.96**	**87**	Pn	Pn	22 29 59.7	+1.4
GSMY	**Great Sitkin M**	**3.35**	**85**		Pn	22 30 05.4	+1.9
GSTR	**Great Sitkin T**	**3.35**	**84**		Pn	22 30 05.2	+1.7
NIKH	**Nikolski High**	**7.80**	**77**		Pn	22 31 06.5	+2.9

IDC ***23*** *22:29:12.5±1.1, 29.85S×177.06W, h0km, mb4.8/5, mb1 4.9/6, mb1mx4.3/54, mbtmp4.8/6, ML4.9/1, Error ellipse: s-maj=29.7km s-min=24.3km az=35.0*

NEIC ***23*** *22:29:16.4±2.0, 29.95S±0.08×177.3W±0.2, h22km±7km, mb4.9/22, Error ellipse: s-maj=23.8km s-min=9.4km az=70.0*

ISC 23 22:29:18.1±0.8**, 30.07S**±0.05×**177.3W**±0.1**, h35**km**, n66, σ1.5/75/71, mb4.9/14, 3C, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.96**	**327**	P	**Pn**	**22 29 34.1**	**-0.9**
GLKZ				S	**Sn**	**22 29 43.6**	**-3.9**
RAO	**Raoul Island**	**0.96**	**328**	Pn	**Pn**	**22 29 33.1**	**-2.1**
	3µm,0.3s,baz=120,slow=3.7,SNR=15						
RAO				Sn	**Sn**	**22 29 45.8**	**-1.8**
	7µm,0.3s,baz=295,slow=23,SNR=9.0						
RAO	**Raoul Island**	**0.96**	**328**	Pn	**Pn**	**22 29 33.2**	**-1.9**
RAO				Sn	**Sn**	**22 29 45.5**	**-2.1**
RIZ	**Raoul Island**	**0.97**	**327**	P	**Pn**	**22 29 34.1**	**-1.2**
HAZ	**Te Kaha**	**8.67**	**207**	P	**Pn**	**22 31 18.2**	**-2.8**
RUGZ	**Raukumara Rang**	**8.90**	**206**	P	**Pn**	**22 31 22.2**	**-2.0**
OUZ	**Omahuta**	**9.21**	**234**	P	Pn	22 31 36.4	+8.0
URZ	**Urewera**	**9.38**	**208**	P	**Pn**	**22 31 26.6**	**-4.1**
URZ				S	**Sn**	**22 33 13.7**	**-1.2**
RIGZ	**Rimuhau**	**9.52**	**204**	S	**Sn**	**22 33 17.9**	**-0.5**
PRGZ	**Paritu Road**	**9.67**	**203**	S	**Sn**	**22 33 19.4**	**-2.7**
MUGZ	**Murupara**	**9.70**	**209**	P	**Pn**	**22 31 31.6**	**-3.6**
RTZ	**Ruatahuna**	**9.73**	**207**	P	**Pn**	**22 31 33.8**	**-1.8**
RTZ				S	**Sn**	**22 33 22.4**	**-1.4**
SNGZ	**Shannon Statio**	**9.74**	**205**	P	**Pn**	**22 31 32.3**	**-3.4**
SNGZ				S	**Sn**	**22 33 24.6**	**+0.8**
MHGZ	**Mahia Peninsul**	**9.87**	**202**	P	**Pn**	**22 31 33.5**	**-4.0**
RAHZ	**Arahi**	**9.95**	**206**	P	**Pn**	**22 31 37.1**	**-1.5**
MTHZ	**Maungataniwha**	**9.99**	**207**	P	**Pn**	**22 31 37.1**	**-2.1**
MTHZ				S	**Sn**	**22 33 28.4**	**-1.6**
BKZ	**Black Stump Fm**	**10.40**	**208**	Pn	**Pn**	**22 31 44.8**	**+0.1**
BFZ	**Birch Farm**	**11.81**	**205**	Pn	**Pn**	**22 32 03.6**	**-0.4**
MSWZ	**Moikau Station**	**12.82**	**206**	Pn	**Pn**	**22 32 18.4**	**+0.6**
BHW	**Baring Head**	**12.96**	**207**	Pn	**Pn**	**22 32 18.4**	**-1.3**
KHZ	**Kahutara**	**14.34**	**208**	Pn	**Pn**	**22 32 38.8**	**+0.2**
RPZ	**Rata Peaks**	**16.46**	**211**	Pn	**P**	**22 33 07.6**	**-1.1**
	4.3nm,0.3s,baz=214,slow=2.1,SNR=8.3						
RPZ	**Rata Peaks**	**16.46**	**211**		**P**	**22 33 07.5**	**-1.2**
DZM	**Mont Dzumac**	**16.60**	**295**	Pn	**P**	**22 33 15.1**	**+4.6**
	1.3nm,0.3s,baz=178,slow=16,SNR=9.2						
ODZ	**Otahua Downs**	**17.70**	**209**	P	**P**	**22 33 22.5**	**+0.2**
ARMA	**Armidale**	**26.78**	**261**	P	**P**	**22 34 58.3**	**+3.4**
ARMA				IAmb	IAmb	22 35 13.0	
	comp=Z,36nm,1.4s						
EIDS	**Eidsvold**	**28.30**	**272**	P	**P**	**22 35 09.9**	**+1.4**
CAN	**Canberra**	**28.73**	**251**	P	**P**	**22 35 14.0**	**+1.7**
CAN				IAmb	IAmb	22 35 31.3	
	comp=Z,37nm,1.3s						
TOO	**Toolangi**	**31.63**	**246**	P	**P**	**22 35 39.1**	**+1.3**
TOO				IAmb	IAmb	22 35 43.3	
	comp=Z,23nm,1.2s						
CTA	**Charters Tower**	**34.32**	**278**	P	**P**	**22 36 03.7**	**+2.2**
	comp=Z,8.4nm,0.5s,baz=99,slow=11,SNR=12						
CTAO	**Charters Tower**	**34.32**	**278**	P	**P**	**22 36 03.2**	**+1.7**
STKA	**Stephens Creek**	**35.12**	**256**	P	**P**	**22 36 11.1**	**+2.8**
	comp=Z,5.0nm,0.4s,baz=96,slow=11,SNR=13						
STKA	**Stephens Creek**	**35.12**	**256**	P	**P**	**22 36 10.7**	**+2.4**
BBOO	**Buckleboo**	**39.62**	**254**	P	**P**	**22 36 47.0**	**+0.6**
BBOO				IAmb	IAmb	22 36 48.4	
	comp=Z,38nm,1.2s						
PATS	**Pohnpei**	**43.52**	**324**	P	**P**	**22 37 17.4**	**-1.0**
AS31	**Alice Springs**	**43.71**	**266**	P	**P**	**22 37 21.1**	**+1.1**
ASAR	**Alice Springs**	**43.71**	**266**	P	**P**	**22 37 20.9**	**+0.9**
	comp=Z,6.3nm,0.5s,baz=104,slow=7.3,SNR=21						
WR0	**Warramunga Arr**	**44.49**	**272**	P	**P**	**22 37 26.9**	**+0.6**
WR0				IAmb	IAmb	22 37 36.4	
	comp=Z,33nm,1.4s						
WB2	**Warramunga Arr**	**44.66**	**271**	P	**P**	**22 37 28.4**	**+0.8**
WRA	**Warramunga Arr**	**44.67**	**271**	P	**P**	**22 37 28.0**	**+0.3**
	comp=Z,6.1nm,0.3s,baz=110,slow=8.0,SNR=27						
WRA	**Warramunga Arr**	**44.67**	**271**	P	**P**	**22 37 28.3**	**+0.6**
WB0	**Warramunga Arr**	**44.69**	**272**	P	**P**	**22 37 28.8**	**+0.9**
WB0				IAmb	IAmb	22 37 29.4	
	comp=Z,28nm,1.2s						
MTN	**Manton Dam**	**50.51**	**278**	P	**P**	**22 38 13.6**	**+0.5**
KNRA	**Kununurra**	**51.26**	**274**	P	**P**	**22 38 19.0**	**+0.2**
KNRA				IAmb	IAmb	22 38 20.1	
	comp=Z,23nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.94**	**269**	P	**P**	**22 38 32.6**	**+1.4**
FITZ				IAmb	IAmb	22 38

MSW	**Makushin Switc**	9.06	72			Pn		22 32 00.7	+1.1	
MREP	**Makushin Rep't**	9.07	72			Pn		22 32 01.3	+1.6	
MNAT	**Makushin Natee**	9.12	72			Pn		22 32 01.8	+1.5	
UNV	**Unalaska Valle**	9.22	72			Pn		22 32 02.0	+0.4	
AKRB	**Akutan Reef Bi**	9.51	71			Pn		22 32 07.7	+2.2	
AKMO	**Akutan Morgan**	9.53	71			Pn		22 32 07.9	+1.9	
AKGG	**Akutan Green G**	9.56	70			Pn		22 32 08.4	+2.1	
AKLV	**Akutan Long Va**	9.57	71			Pn		22 32 08.3	+1.8	
AKUT	**Akutan**	9.68	71			Pn		22 32 08.8	+0.9	
AKSA	**Akutan Strait**	9.72	71			Pn		22 32 10.3	+1.8	
FALS	**False Pass**	11.13	68		Pn	Pn		22 32 27.8	+0.2	
PET	**Petropavlovsk**	12.19	283		P	Pn		22 32 41.6	0.0	
PET	**Petropavlovsk**	12.19	283	*i*	P	Pn		22 32 41.0	-0.6	
PET					*eS*	**Sn**		22 34 47.8	-7.7	
PET					pmax	pmax				
	comp=Z,717nm,1.2s									
PET	**Petropavlovsk**	12.19	283		Pn	Pn		22 32 41.5	0.0	
PEA0B	**Petropavlovsk-**	12.76	283	*c*	*i* P	Pn		22 32 49.8	+0.6	
PEA0B	**Petropavlovsk-**	12.76	283		Pn	Pn		22 32 49.4	+0.2	
PETK	**Petropavlovsk-**	12.76	283		P	Pn		22 32 50.0	+0.9	
	comp=Z,15nm,0.3s,baz=91,slow=17,SNR=100									
PETK					S	**Sn**		22 35 01.9	-7.4	
	comp=Z,5.1nm,0.3s,baz=94,slow=20,SNR=1.6									
PETK					PcP	**PcP**		22 38 17.0	+0.8	
	comp=Z,1.8nm,0.3s,baz=134,slow=5.5,SNR=7.3									
SDPT	**Sand Point**	12.87	66		Pn	Pn		22 32 49.5	-1.1	
GAMB	**Gambell**	12.91	20		Pn	Pn		22 32 50.7	-0.3	
CNBA	**Chernabura Isl**	13.33	69		Pn	Pn		22 32 54.2	-2.4	
ANM	**Nome**	15.13	27		P	Pn		22 33 20.2	+0.6	
ANM					pmax	pmax				
	comp=Z,332nm,1.4s									
ANM	**Nome**	15.13	27			Pn		22 33 20.2	+0.6	
SII	**Sitkinak Islan**	16.51	63			Pn		22 33 34.5	-2.3	
SVW2	**Sparrevohn**	16.83	47		P	P		22 33 42.5	+1.4	
SVW2					IAmb	IAmb		22 33 44.7		
	comp=Z,1μm,1.4s									
OHAK	**Old Harbor**	17.07	61		Pn	Pn		22 33 41.3	-2.3	
OHAK					IAmb	IAmb		22 34 09.0		
	comp=Z,996nm,1.2s									
BILL	**Bilibino**	17.20	344	*i*	P	P		22 33 43.5	-1.6	
BILL	**Bilibino**	17.20	344	*d*	*i* P	Pn		22 33 45.8	+0.6	
BILL					pmax	pmax				
	comp=Z,1μm,1.1s									
BILL	**Bilibino**	17.20	344		P	P		22 33 43.9	-1.3	
BILL					IAmb	IAmb		22 33 49.6		
	comp=Z,1μm,1.1s									
MA2	**Magadan**	17.30	307		P	Pn		22 33 47.4	+1.0	
	comp=Z,2.7nm,0.3s,baz=97,slow=10,SNR=18									
MA2					ScP	**ScP**		22 41 45.8	-1.7	
	comp=Z,4.1nm,0.3s,baz=117,slow=4.8,SNR=15									
MA2	**Magadan**	17.30	307	*c*	*i* P	Pn		22 33 47.1	+0.7	
MA2					pmax	pmax				
	comp=Z,71nm,0.9s									
MA2	**Magadan**	17.30	307			Pn		22 33 46.6	+0.2	
MA2					IAmb	IAmb		22 34 10.4		
	comp=Z,959nm,1.5s									
MA2						**ScP**		22 41 46.1	-1.3	
TTA	**Tatalina**	17.41	41		P	Pn		22 33 49.0	+1.2	
TTA					pmax	pmax				
	comp=Z,4μm,1.9s									
TTA	**Tatalina**	17.41	41		P	Pn		22 33 49.0	+1.2	
KDAK	**Kodiak Island**	17.51	59		P	P		22 33 47.0	-1.5	
	comp=Z,79nm,0.3s,baz=273,slow=5.6,SNR=164									
KDAK					ScP	**ScP**		22 41 46.8	-1.1	
	comp=Z,1.7nm,0.3s,baz=275,slow=3.0,SNR=15									
KDAK	**Kodiak Island**	17.51	59		P	P		22 33 46.8	-1.7	
KDAK					pmax	pmax				
	comp=Z,2μm,1.3s									
KDAK	**Kodiak Island**	17.51	59		P	P		22 33 46.8	-1.7	
KDAK					IAmb	IAmb		22 34 07.5		
	comp=Z,2μm,1.2s									
KDAK						**ScP**		22 41 46.1	-1.8	
RSO	**Redoubt South**	17.95	50		P	Pn		22 33 54.7	+0.3	
HOM	**Homer**	18.30	53		P	Pn		22 33 57.9	-0.5	
RDOG	**Red Dog Mine**	18.47	22		P	Pn		22 34 00.9	+0.5	
CNPM	**China Poot**	18.48	54		P	P		22 33 59.0	-0.2	
CNPM					IAmb	IAmb		22 34 01.2		
	comp=Z,1μm,0.6s									
BRLK	**Bradley Lake**	18.70	53		P	P		22 34 00.8	-0.8	
BRLK					IAmb	IAmb		22 34 03.1		
	comp=Z,791nm,0.6s									
CAPN	**Captain Cook N**	18.79	50		P	Pn		22 34 03.6	-0.5	
	baz=256,SNR=39									
PPLA	**Purkeypile**	18.98	43		P	Pn		22 34 06.4	-0.2	
O22K	**Cooper Landing**	19.41	52		P	P		22 34 09.1	-0.1	
	baz=258,SNR=63									
SEW	**Seward**	19.47	53		P	P		22 34 09.3	-0.6	
SEW					IAmb	IAmb		22 34 13.5		
	comp=Z,1μm,0.8s									
BPAW	**Bear Paw Mtn.**	19.94	41		P	P		22 34 16.3	+1.2	
BPAW					IAmb	IAmb		22 34 20.6		
	comp=Z,561nm,0.9s									
PMR	**Palmer**	19.94	49		P	P		22 34 14.8	-0.2	
PMR					pmax	pmax				
	comp=Z,2μm,1.8s									
PMR	**Palmer**	19.94	49		P	P		22 34 14.8	-0.2	
PMR					IAmb	IAmb		22 34 40.9		
	comp=Z,2μm,1.8s									
GHO	**Glory Hole Cre**	20.08	48		P	P		22 34 16.6	-0.1	
GHO					IAmb	IAmb		22 34 46.3		
	comp=Z,885nm,1.1s									
KNK	**Knik Glacier**	20.21	49		P	P		22 34 17.6	-0.4	
SML	**Sawmill**	20.36	48		P	P		22 34 19.2	-0.5	
SML					IAmb	IAmb		22 34 23.5		
	comp=Z,1μm,0.8s									
MLY	**Manley**	20.42	38		P	P		22 34 21.4	+1.1	
MCK	**McKinley**	20.65	43		P	P		22 34 22.5	-0.2	
MCK					pmax	pmax				
	comp=Z,605nm,1.0s									
MCK	**McKinley**	20.65	43		P	P		22 34 22.5	-0.2	
MCK					IAmb	IAmb		22 34 26.5		
	comp=Z,605nm,1.0s									
GLI	**Glacier Island**	20.76	51		P	P		22 34 23.4	-0.4	
SCM	**Sheep Creek Mo**	20.84	48		P	P		22 34 24.7	-0.1	
SCM	**Sheep Creek Mo**	20.84	48		P	P		22 34 24.6	-0.1	
NEA2	**Nenana**	20.90	40		P	P		22 34 26.1	+0.7	
	baz=248,SNR=180									
MID	**Middleton Isla**	20.94	55		P	P		22 34 25.8	+0.1	
MID					pmax	pmax				
	comp=Z,2μm,0.8s									
MID	**Middleton Isla**	20.94	55		P	P		22 34 25.8	+0.1	
HIN	**Hinchinbrook I**	20.97	53		P	P		22 34 26.1	-0.1	
HIN					IAmb	IAmb		22 34 29.0		
	comp=Z,1μm,0.8s									
FID	**Port Fidalgo**	21.03	52		P	P		22 34 26.1	-0.7	
DHY	**Denali Highway**	21.12	45		P	P		22 34 27.6	-0.2	
DHY					IAmb	IAmb		22 34 31.9		
	comp=Z,893nm,0.8s									
WRH	**Wood River Hil**	21.26	41		P	P		22 34 28.4	-0.7	
KUR	**Kuril'sk**	21.28	264	*d*	*i* P	P		22 34 30.1	+0.6	
KUR					*i* S	**S**		22 38 21.6	+1.8	
KUR					pmax	pmax				
	comp=Z,2μm,1.3s									
KUR					pmax	pmax				
	comp=E,759nm,1.8s									
KUR					pmax	pmax				
	comp=N,125nm,1.1s									
EYAK	**Cordova Ski Ar**	21.36	52		P	P		22 34 30.2	0.0	
EYAK					IAmb	IAmb		22 34 33.7		
	comp=Z,1μm,0.9s									
MDM	**Murphy Dome**	21.37	40		P	P		22 34 30.8	+0.4	
TCOL	**CIGO, UAF Yank**	21.49	40		P	P		22 34 31.5	-0.1	
	baz=249,SNR=18									
COLA	**College**	21.49	40	*d*	*i* P	P		22 34 32.9	+1.3	
COLA					pmax	pmax				
	comp=Z,631nm,1.2s									
COLA	**College**	21.49	40		P	P		22 34 32.1	+0.5	
COLA					IAmb	IAmb		22 34 35.8		
	comp=Z,605nm,1.1s									
COLD	**Coldfoot**	21.63	33		P	P		22 34 33.6	+0.5	
	baz=240,SNR=30									
COLD	**Coldfoot**	21.63	33		P	P		22 34 33.8	+0.7	
HDA	**Harding Lake**	21.70	42		P	P		22 34 32.3	-1.6	
	baz=251,SNR=23									
POKR	**Poker Plat Res**	21.75	40		P	P		22 34 33.9	-0.5	
	baz=249,SNR=63									
IL31		21.85	41		P	P		22 34 34.3	-1.0	
ILAR	**Eielson Array**	21.85	41		P	P		22 34 34.9	-0.5	
	comp=Z,78nm,0.7s,baz=242,slow=8.8,SNR=88									
ILAR					PcP	**PcP**		22 38 29.7	-0.9	
	comp=Z,15nm,0.7s,baz=270,slow=3.2,SNR=6.9									
ILAR					ScP	**ScP**		22 41 54.3	-3.5	
	comp=Z,17nm,0.6s,baz=284,slow=3.6,SNR=16									
ILAR					P3KPbc			23 08 21.4		
	comp=Z,6.8nm,0.9s,baz=58,slow=3.8,SNR=32									
RAGM	**Ragged Mountai**	21.87	53		P	P		22 34 35.9	+0.2	
PAX	**Paxson**	21.94	46		P	P		22 34 36.6	+0.1	
PAX					pmax	pmax				
	comp=Z,2μm,1.5s									
PAX	**Paxson**	21.94	46		P	P		22 34 36.6	+0.1	
RIDG	**Independent Ri**	22.39	44		P	P		22 34 40.2	-1.0	
GLB	**Gilahina Butte**	22.42	50		P	P		22 34 41.3	-0.1	
VRDI	**Verde Repeater**	22.56	51		P	P		22 34 42.6	-0.4	
VRDI					IAmb	IAmb		22 34 45.9		
	comp=Z,1μm,1.0s									
TOLK	**Toolik Lake Re**	22.56	30		P	P		22 34 43.8	+1.0	
	baz=238,SNR=154									
TOLK	**Toolik Lake Re**	22.56	30		P	P		22 34 43.7	+0.9	
TOLK					IAmb	IAmb		22 34 46.9		
	comp=Z,468nm,0.7s									
PRP	**Porcupine Dome**	22.64	39		P	P		22 34 42.5	-1.3	
CRQM	**Cirque**	22.66	52		P	P		22 34 44.6	+0.6	
MENT	**Mentasta**	22.71	46		P	P		22 34 44.7	+0.3	
WAX	**Waxell Ridge**	22.77	53		P	P		22 34 45.4	+0.3	
MCARA	**McCarthy VSAT**	22.78	51		P	P		22 34 45.4	+0.3	
TGL	**Tana Glacier**	22.81	52		P	P		22 34 45.7	+0.3	
SCRK	**Sand Creek**	22.82	44		P	P		22 34 44.7	-0.9	
ISLE	**Juniper Island**	23.04	53		P	P		22 34 47.6	-0.1	
ISLE					IAmb	IAmb		22 34 50.1		
	comp=Z,919nm,1.0s									
BALM	**Baldy**	23.07	52		P	P		22 34 47.7	-0.3	
BALM					IAmb	IAmb		22 34 50.4		
	comp=Z,719nm,0.8s									
FYU	**Fort Yukon**	23.12	37		P	P		22 34 48.7	+0.5	
FYU					IAmb	IAmb		22 34 51.6		
	comp=Z,1μm,1.2s									
YUK	**Yuzh-Kuril'sk**	23.12	263		*e*P	P		22 34 48.6	+0.1	
YUK					*i* *SP	**sP**		22 35 21.8	-0.2	
YUK					*i* S	**S**		22 38 51.7	+0.3	
YUK					*i* *SS	**sS**		22 39 29.8	+0.2	
YUK					pmax	pmax				
	comp=Z,2μm,1.4s									
YAH	**Yahtse**	23.32	53		P	P		22 34 50.6	+0.2	
YAH					IAmb	IAmb		22 34 52.6		
	comp=Z,834nm,0.8s									
BARN	**Barnard Glacie**	23.41	52		P	P		22 34 51.7	+0.5	
CTGM	**Chitina Glacie**	23.56	52		P	P		22 34 52.8	+0.3	
BCAR	**Beaver Creek A**	23.60	47		P	P		22 34 52.5	-0.2	
TABL	**Table Mountain**	23.62	53		P	P		22 34 53.2	+0.1	
YSS	**Yuzh-Sakhalins**	23.65	272		*i* P	P		22 34 54.4	+1.1	
YSS					*e*			22 35 18.8		
YSS					pmax	pmax				
	comp=Z,680nm,0.9s									
YSS	**Yuzh-Sakhalins**	23.65	272		P	P		22 34 54.3	+1.0	
BMAR	**Burnt Mountain**	23.68	35		P	P		22 34 54.0	+0.6	
MIDW	**Midway**	23.91	171		P	P		22 34 56.3	+0.6	
MIDW					IAmb	IAmb		22 34 59.2		
	comp=Z,695nm,1.4s									
PCA	**Pinnacle**	24.05	54		P	P		22 34 56.9	+0.1	
EGAK	**Eagle**	24.21	42		P	P		22 34 58.2	+0.1	
EGAK					IAmb	IAmb		22 35 00.1		
	comp=Z,911nm,0.9s									
YKU2	**Yakutat**	24.34	55		P	P		22 34 59.6	+0.3	
DAWY	**Dawson**	24.82	45		P	P		22 35 04.4	+0.6	
DAWY					IAmb	IAmb		22 35 07.5		
	comp=Z,443nm,0.7s									
JKA	**Kamikawa-asahi**	25.09	266		P	P		22 35 07.2	+0.9	
JKA					IAmb	IAmb		22 35 08.8		
	comp=Z,686nm,1.0s									
JKA						**PcP**		22 38 37.9	+0.1	
ASAJ	**Asahikawa**	25.09	266		P	P		22 35 07.3	+1.0	
	comp=Z,420nm,0.9s,baz=61,slow=5.1,SNR=52									
ASAJ					PcP	**PcP**		22 38 38.5	+0.8	
	comp=Z,73nm,0.9s,baz=225,slow=0.6,SNR=5.5									
HYT	**Haines Junctio**	25.42	52		P	P		22 35 09.9	+0.5	
ERM	**Erimo**	25.89	262	*d*	*i* P	P		22 35 14.4	+0.8	
ERM					pmax	pmax				
	comp=Z,455nm,0.9s									
ERM	**Erimo**	25.89	262		P	P		22 35 14.8	+1.2	
ERM					IAmb	IAmb		22 35 15.9		
	comp=Z,364nm,0.8s									
GRNR	**Gornyy**	26.08	284		*i* P	P		22 35 15.9	+0.6	
GRNR					*e*S	**S**		22 39 42.5	+4.0	
GRNR					pmax	pmax				
	comp=N,40nm,0.9s									
GRNR					pmax	pmax				
	comp=E,80nm,0.9s									
GRNR					pmax	pmax				
	comp=Z,190nm,0.7s									
GRNR					smax	smax				
	comp=N,10.0nm,0.9s									
GRNR					MLR	MLR				
	comp=E,7μm,17.0s									
GRNR					MLR	MLR				
	comp=N,2μm,12.0s									
GRNR					MLR	MLR				
	comp=Z,8μm,14.0s									
EPYK	**Eagle Plains**	26.34	40		P	P		22 35 17.3	-0.2	
	baz=259,SNR=132									
EPYK	**Eagle Plains**	26.34	40		P	P		22 35 17.4	-0.1	
EPYK					IAmb	IAmb		22 35 19.1		
	comp=Z,338nm,0.8s									
SKAG	**Skagway**	26.55	55		P	P		22 35 19.8	+0.5	
SKAG					IAmb	IAmb		22 36 10.2		
	comp=Z,367nm,1.1s									
WHY	**Whitehorse**	26.71	53		P	P		22 35 21.2	+0.2	
WHY					IAmb	IAmb		22 36 16.4		
	comp=Z,1μm,2.0s									
SIT	**Sitka**	26.83	61		P	P		22 35 22.4	+0.5	
SIT					pmax	pmax				
	comp=Z,1μm,1.8s									
SIT	**Sitka**	26.83	61		P	P		22 35 22.4	+0.5	
SIT					IAmb	IAmb		22 36 13.9		
	comp=Z,1μm,1.8s									
BESE	**Bessie Mountai**	26.88	57		P	P		22 35 22.6	+0.2	
BESE					IAmb	IAmb		22 36 15.1		
	comp=Z,1μm,1.6s									
JIS	**Juneau Island**	27.16	58		P	P		22 35 25.1	+0.3	
JIS					IAmb	IAmb		22 35 26.4		
	comp=Z,440nm,0.8s									
YAK	**Yakutsk**	27.80	310		P	P		22 35 29.9	-0.6	
	comp=Z,68nm,0.8s,baz=78,slow=2.0,SNR=22									
YAK					PcP	**PcP**		22 38 44.1	+0.3	
	comp=Z,86nm,0.7s,baz=106,slow=1.8,SNR=13									
YAK					ScP	**ScP**		22 42 13.3	-1.3	
	comp=Z,39nm,0.7s,baz=134,slow=21,SNR=12									
YAK	**Yakutsk**	27.80	310		eP	P		22 35 29.5	-0.9	
YAK					*e*PP	**pP**		22 35 51.9	-1.0	
YAK					*e*			22 36 18.9		
YAK					*e*			22 38 42.9		
YAK					*e*S	**S**		22 40 04.8	-0.5	
YAK					*e*			22 46 03.6		
YAK					pmax	pmax				
	comp=Z,191nm,1.1s									
YAK					pmax	pmax				
	comp=E,145nm,1.5s									
YAK					pmax	pmax				
	comp=Z,4μm,8.3s									
YAK					pmax	pmax				
	comp=N,4μm,9.1s									
YAK					pmax	pmax				
	comp=E,3μm,7.3s									
YAK					smax	smax				
	comp=N,886nm,2.2s									
YAK					smax	smax				
	comp=E,1μm,2.9s									
YAK	**Yakutsk**	27.80	310		P	P		22 35 29.6	-0.9	
YAK					PcP	**PcP**		22 38 43.9	+0.1	
INK	**Inuvik**	27.94	36		P	P		22 35 32.5	+0.9	
	comp=E,41nm,0.6s,baz=248,slow=8.0,SNR=46									
INK					PcP	**PcP**		22 38 43.9	-0.1	
	comp=E,25nm,0.8s,baz=298,slow=5.4,SNR=4.1									
INK					ScP	**ScP**		22 42 11.6	-3.3	
	comp=E,84nm,1.0s,baz=192,slow=3.9,SNR=14									
INK					P3KPbc			23 07 54.0		
	comp=E,11nm,0.8s,baz=52,slow=5.0,SNR=11									
INK	**Inuvik**	27.94	36		P	P		22 35 32.3	+0.7	
INK					pmax	pmax				
	comp=Z,278nm,1.3s									
INK	**Inuvik**	27.94	36		P	P		22 35 32.3	+0.7	
TEY	**Ternei**	28.34	273		*i* P	P		22 35 34.7	-0.7	
TEY					pmax	pmax				
	comp=N,40nm,1.3s									
TEY					pmax	pmax				
	comp=E,100nm,1.3s									
TEY					pmax	pmax				
	comp=Z,160nm,1.2s									
CRAG	**Craig**	28.34	64		P	P		22 35 36.0	+0.6	
DIB	**Dawson Inlet,**	29.31	68		P	P		22 35 44.0	0.0	
TIXI	**Tiksi**	29.33	330		P	P		22 35 43.8	-0.1	
	comp=Z,33nm,0.7s,baz=116,slow=11,SNR=25									
TIXI					PcP	**PcP**		22 38 45.9	-1.5	
	comp=Z,26nm,0.5s,baz=117,slow=4.4,SNR=9.1									
TIXI					ScP	**ScP**		22 42 16.7	-2.4	
	comp=Z,129nm,0.7s,baz=112,slow=3.7,SNR=55									
TIXI	**Tiksi**	29.33	330	*d*	*i* P	P		22 35 43.5	-0.4	
TIXI					pmax	pmax				
	comp=Z,81nm,1.1s									
TIXI	**Tiksi**	29.33	330		P	P		22 35 43.6	-0.4	
TIXI					IAmb	IAmb		22 36 28.1		
	comp=Z,530nm,1.8s									
TIXI						**PcP**		22 38 47.3	-0.2	
TIXI					ScP	**ScP**		22 42 16.4	-2.8	
DLBC	**Dease Lake**	29.41	57		P	P		22 35 46.4	+1.6	
	comp=Z,156nm,0.7s,baz=286,slow=8.5,SNR=58									
KLR	**Kul'dur**	29.45	284		P	P		22 35 45.5	+0.2	
	comp=Z,326nm,0.8s,baz=65,slow=7.9,SNR=125									
KLR					PcP	**PcP**		22 38 48.5	+0.4	
	comp=Z,21nm,0.7s,baz=24,slow=3.3,SNR=4.1									
KLR					ScP	**ScP**		22 42 20.1	0.0	
	comp=Z,20nm,1.1s,baz=60,slow=4.4,SNR=5.9									
KLR	**Kul'dur**	29.45	284	*d*	*i* P	P		22 35 45.3	0.0	
KLR					pmax	pmax				
	comp=Z,607nm,1.0s									
MOBC	**Moresby Island**	29.62	68		P	P		22 35 46.6	-0.2	
ZEA	**Zeya**	30.50	294	*e*	P	P		22 35 53.4	-1.1	
ZEA					pmax	pmax				
	comp=E,170nm,1.0s									
ZEA					pmax	pmax				
	comp=Z,53nm,1.2s									
A36M	**Sachs Harbour**	31.38	30		P	P		22 36 03.6	+1.5	
	baz=261,SNR=104									
USA0B	**Ussuriysk Arra**	31.61	275		P	P		22 36 04.1	-0.2	
USA0B					pmax	pmax				
	comp=Z,148nm,0.9s									
USA0B	**Ussuriysk Arra**	31.61	275		P	P		22 36 04.1	-0.2	
USRK	**Ussuriysk Ar.**	31.61	275		P	P		22 36 04.6	+0.3	
	comp=Z,134nm,0.8s,baz=56,slow=8.6,SNR=81									
USRK					PcP	**PcP**		22 38 54.7	+0.8	
	comp=Z,108nm,0.7s,baz=60,slow=1.6,SNR=42									
USRK					ScP	**ScP**		22 42 28.4	+1.2	
	comp=Z,19nm,0.9s,baz=62,slow=4.5,SNR=16									
USRK	**Ussuriysk Ar.**	31.61	275		P	P		22 36 04.1	-0.3	
USRK					PcP	**PcP**		22 38 54.7	+0.8	
USRK					ScP	**ScP**		22 42 26.8	-0.4	
BBB	**Bella Bella**	32.16	68		P	P		22 36 08.8	-0.2	
VLA	**Vladivostok**	32.24	273	*d*	*i* P	P		22 36 10.8	+1.0	
VLA					pmax	pmax				
	comp=Z,652nm,1.3s									
MAJO	**Matsushiro**	32.28	258	*d*	*i* P	P		22 36 11.0	+0.6	
MAJO					pmax	pmax				
	comp=Z,494nm,1.1s									
MAJO	**Matsushiro**	32.28	258		P	P		22 36 11.0	+0.6	
MAJO					IAmb	IAmb		22 36 12.7		
	comp=Z,426nm,1.1s									
MAT	**Matsushiro**	32.28	258		P	P		22 36 10.7	+0.3	
MAT					S	**S**		22 41 17.1	+1.1	
MJAR	**Matsushiro Arr**	32.28	258		P	P		22 36 10.9	+0.6	
	comp=Z,79nm,0.8s,baz=47,slow=7.0,SNR=135									
MJAR					PcP	**PcP**		22 38 56.2	+0.3	
	comp=Z,22nm,0.6s,baz=97,slow=1.3,SNR=24									
MJAR					ScP	**ScP**		22 42 30.8	+1.1	
	comp=Z,8.8nm,1.0s,baz=11,slow=0.9,SNR=11									
MJAR	**Matsushiro Arr**	32.28	258		P	P		22 36 11.0	+0.6	
MJAR					PcP	**PcP**		22 38 56.2	+0.3	
MJAR					ScP	**ScP**		22 42 30.1	+0.4	
MJB9	**Matsu-Tunnel**	32.28	258		P	P		22 36 11.1	+0.8	
MJB9					IAmb	IAmb		22 36 12.7		
	comp=Z,418nm,1.0s									
MDJ	**Mudanjiang**	32.87	277		P	P		22 36 15.3	-0.1	
MDJ					pmax	pmax				
	comp=Z,150nm,1.1s									
MDJ					pmax	pmax				
	comp=Z,7μm,12.8s									
MDJ	**Mudanjiang**	32.87	277		P	P		22 36 14.9	-0.4	
MSHR	**Mys Shultsa**	32.98	273	*d*	*i* P	P		22 36 16.9	+0.6	
MSHR					pmax	pmax				
	comp=Z,417nm,1.3s									
H11N2	**WAKE ISLAND Hy**	33.44	200		T	T		23 11 52.2		
	baz=11,slow=76,SNR=33									
H11N3	**WAKE ISLAND Hy**	33.45	200		T	T		23 11 49.5		
	baz=11,slow=76,SNR=37									
H11N1	**WAKE ISLAND Hy**	33.45	200		T	T		23 11 46.2		
	baz=11,slow=76,SNR=26									
JHJ2	**Mitsune**	33.69	251		P	P		22 36 23.0	+0.5	
JHJ	**H

KS19	**Wonju Array Si**	**38.01**	**268**	P	**P**	**22 37 00.8**	**+1.3**
KS19				IAmb	IAmb	22 37 02.2	
	comp=Z,279nm,1.1s						
KS19				**PcP**	**PcP**	**22 39 13.3**	**+0.6**
KSAR	**Wonju Array Be**	**38.04**	**268**	P	**P**	**22 37 00.2**	**+0.5**
KSAR						22 39 13.5	
KSAR	**Wonju Array Be**	**38.04**	**268**	P	**P**	**22 37 00.1**	**+0.5**
KSAR				PcP	**PcP**	**22 39 13.5**	**+0.8**
G03D	**McMinnville, O**	**38.15**	**76**	P	**P**	**22 37 00.5**	**0.0**
	baz=302,SNR=12						
C06D	**Leavenworth**	**38.18**	**71**	P	**P**	**22 37 00.6**	**-0.2**
	baz=299						
LON	**Longmire**	**38.23**	**73**	P	**P**	**22 37 01.1**	**-0.1**
LON				pmax	pmax		
	comp=Z,57nm,0.8s						
LON	**Longmire**	**38.23**	**73**	P	**P**	**22 37 01.1**	**-0.1**
F04A	**Amboy**	**38.28**	**75**	P	**P**	**22 37 01.8**	**+0.2**
F04A				IAmb	IAmb	22 37 02.9	
	comp=Z,155nm,0.5s						
I02D	**Swisshome**	**38.39**	**78**	P	**P**	**22 37 03.5**	**+1.1**
	baz=303,SNR=28						
COR	**Corvallis**	**38.46**	**77**	P	**P**	**22 37 04.2**	**+1.1**
COR				pmax	pmax		
	comp=Z,1µm,1.7s						
COR	**Corvallis**	**38.46**	**77**	P	**P**	**22 37 04.2**	**+1.1**
LTY	**Liberty**	**38.65**	**72**	P	**P**	**22 37 04.0**	**-0.7**
LTY				IAmb	IAmb	22 37 05.7	
	comp=Z,292nm,1.4s						
INCN	**Inchon**	**38.79**	**269**	P	**P**	**22 37 04.1**	**-1.8**
INCN	**Inchon**	**38.79**	**269**	P	**P**	**22 37 06.7**	**+0.8**
INCN						22 39 15.0	
INCN				pmax	pmax		
	comp=Z,536nm,0.9s						
INCN	**Inchon**	**38.79**	**269**	P	**P**	**22 37 06.7**	**+0.8**
INCN					**PcP**	**22 39 15.0**	**-0.1**
CIT	**Chita**	**38.82**	**297**	*e*P	**P**	**22 37 06.4**	**+0.3**
CIT				*e*		22 37 33.1	
CIT				*e*		22 37 43.4	
CIT				*e*		22 39 13.4	
CIT				pmax	pmax		
	comp=Z,690nm,1.4s						
H04D	**Lebanon**	**38.83**	**77**	P	**P**	**22 37 06.8**	**+0.6**
	baz=303,SNR=33						
J01E	**Myrtle Point**	**38.85**	**80**	P	**P**	**22 37 07.0**	**+0.6**
	baz=304,SNR=22						
F05D	**White Salmon**	**38.88**	**74**	P	**P**	**22 37 06.1**	**-0.5**
	baz=302,SNR=6.8						
B08A	**Colville Reser**	**38.88**	**70**	P	**P**	**22 37 05.4**	**-1.2**
B08A				IAmb	IAmb	22 37 07.6	
	comp=Z,389nm,1.4s						
I03D	**Drain, OR**	**38.91**	**79**	P	**P**	**22 37 07.8**	**+0.9**
	baz=303,SNR=47						
JNU	**Nakatsue**	**39.04**	**260**	P	**P**	**22 37 09.4**	**+1.3**
	comp=Z,343nm,1.0s,baz=45,slow=5.6,SNR=113						
JNU				PcP	**PcP**	**22 39 15.7**	**-0.3**
	comp=Z,77nm,0.9s,baz=309,slow=1.6,SNR=7.9						
JNU	**Nakatsue**	**39.04**	**260**	P	**P**	**22 37 08.7**	**+0.6**
TJN	**Taejon**	**39.04**	**267**	*d* iP	**P**	**22 37 08.8**	**+0.8**
H04A	**Detroit Lake**	**39.08**	**77**	P	**P**	**22 37 08.1**	**-0.2**
K02D	**Willamette Mer**	**39.28**	**80**	P	**P**	**22 37 10.7**	**+0.7**
	baz=304,SNR=58						
G05D	**Wamic, OR**	**39.30**	**75**	P	**P**	**22 37 10.3**	**+0.1**
	baz=302,SNR=18						
I04A	**Tendick Farm,**	**39.43**	**78**	P	**P**	**22 37 11.8**	**+0.6**
	baz=303,SNR=100						
E07A	**Sunnyside**	**39.48**	**73**	P	**P**	**22 37 11.2**	**-0.5**
E07A				IAmb	IAmb	22 37 13.0	
	comp=Z,300nm,1.4s						
G06A	**Carlson Farm,**	**39.71**	**75**	P	**P**	**22 37 13.2**	**-0.4**
HAWA	**Hanford**	**39.76**	**73**	P	**P**	**22 37 13.7**	**-0.2**
HAWA				IAmb	IAmb	22 37 15.1	
	comp=Z,580nm,1.4s						
C09A	**Chrisman Ranch**	**39.77**	**70**	P	**P**	**22 37 13.5**	**-0.5**
C09A				IAmb	IAmb	22 37 14.7	
	comp=Z,451nm,1.4s						
D08A	**Wollman Farm,**	**39.77**	**71**	P	**P**	**22 37 13.4**	**-0.6**
D08A				IAmb	IAmb	22 37 14.7	
	comp=Z,375nm,1.5s						
I05D	**Terrebonne, OR**	**39.78**	**76**	P	**P**	**22 37 14.2**	**+0.1**
	baz=303,SNR=16						
F07A	**Phinny Hill Vi**	**39.79**	**74**	P	**P**	**22 37 14.3**	**+0.2**
F07A				IAmb	IAmb	22 37 15.4	
	comp=Z,373nm,1.4s						
KRMB	**Red Mountain**	**39.80**	**82**	P	**P**	**22 37 15.6**	**+1.2**
KRMB				IAmb	IAmb	22 37 16.6	
	comp=Z,154nm,0.7s						
RES	**Resolute Bay**	**39.89**	**24**	P	**P**	**22 37 16.1**	**+1.5**
RES				pmax	pmax		
	comp=Z,239nm,1.3s						
RES	**Resolute Bay**	**39.89**	**24**	P	**P**	**22 37 16.1**	**+1.5**
RES				IAmb	IAmb	22 37 44.6	
	comp=Z,239nm,1.2s						
J04D	**Umpqua Nationa**	**39.92**	**78**	P	**P**	**22 37 16.2**	**+0.8**
	baz=304,SNR=34						
JCC	**Jacoby Creek,**	**40.13**	**83**	P	**P**	**22 37 17.4**	**+0.4**
NEW	**Newport**	**40.21**	**69**	P	**P**	**22 37 17.0**	**-0.6**
	baz=300,SNR=105						
NEW	**Newport**	**40.21**	**69**	P	**P**	**22 37 17.2**	**-0.5**
	comp=Z,104nm,0.6s,baz=298,slow=6.9,SNR=154						
NEW				ScP	**ScP**	**22 42 56.6**	**-2.1**
	comp=Z,30nm,0.8s,baz=277,slow=2.8,SNR=21						
NEW	**Newport**	**40.21**	**69**	P	**P**	**22 37 16.3**	**-1.3**
NEW				pmax	pmax		
	comp=Z,343nm,1.2s						
NEW	**Newport**	**40.21**	**69**	P	**P**	**22 37 16.3**	**-1.3**
NEW				IAmb	IAmb	22 37 18.1	
	comp=Z,343nm,1.2s						
KHMM	**Horse Mountain**	**40.28**	**82**	P	**P**	**22 37 19.7**	**+1.2**
PINE	**Pine Mountain**	**40.32**	**77**	P	**P**	**22 37 18.8**	**0.0**
PINE				IAmb	IAmb	22 37 21.0	
	comp=Z,499nm,1.7s						
L04D	**Klamath Falls**	**40.38**	**80**	P	**P**	**22 37 20.3**	**+1.1**
	baz=305,SNR=99						
YBH	**Yreka Blue Hor**	**40.41**	**81**	P	**P**	**22 37 21.0**	**+1.6**
	comp=Z,258nm,0.7s,baz=323,slow=4.3,SNR=233						
YBH				ScP	**ScP**	**22 42 57.7**	**-1.9**
	comp=Z,9.4nm,0.7s,baz=35,slow=6.5,SNR=10						
YBH	**Yreka Blue Hor**	**40.41**	**81**	P	**P**	**22 37 19.9**	**+0.5**
YBH				pmax	pmax		
	comp=Z,296nm,0.8s						
YBH	**Yreka Blue Hor**	**40.41**	**81**	P	**P**	**22 37 19.9**	**+0.5**
YBH				IAmb	IAmb	22 37 22.1	
	comp=Z,296nm,0.8s						
J05D	**Fort Rock, OR**	**40.42**	**78**	P	**P**	**22 37 20.3**	**+0.7**
	baz=304,SNR=74						
K04D	**Chiloquin, OR**	**40.48**	**79**	P	**P**	**22 37 20.8**	**+0.7**
	baz=305,SNR=20						
E09A	**Wood Farm, Sta**	**40.51**	**72**	P	**P**	**22 37 19.5**	**-0.6**
E09A				IAmb	IAmb	22 37 20.9	
	comp=Z,379nm,1.3s						
M02C	**Callahan**	**40.52**	**81**	P	**P**	**22 37 21.8**	**+1.5**
	baz=306,SNR=54						
N02D	**Trinity Center**	**40.85**	**82**	P	**P**	**22 37 24.5**	**+1.4**
	baz=306,SNR=70						
M04C	**Macdoel**	**40.91**	**80**	P	**P**	**22 37 24.7**	**+1.1**
	baz=306,SNR=160						
DL2	**Dalian**	**41.00**	**275**	P	**P**	**22 37 24.0**	**-0.2**
DL2				pmax	pmax		
	comp=Z,410nm,0.9s						
KCPM	**Cahto Peak**	**41.08**	**84**	P	**P**	**22 37 25.5**	**+0.5**
WDC	**Whiskeytown Da**	**41.19**	**82**	P	**P**	**22 37 26.1**	**+0.4**
WDC				pmax	pmax		
	comp=Z,213nm,0.8s						
WDC	**Whiskeytown Da**	**41.19**	**82**	P	**P**	**22 37 26.1**	**+0.4**
WDC				IAmb	IAmb	22 37 28.1	
	comp=Z,213nm,0.8s						
O02D	**Mt. Diablo Mer**	**41.27**	**83**	P	**P**	**22 37 27.8**	**+1.3**
	baz=307,SNR=34						
WALA	**Waterton Lakes**	**41.64**	**66**	P	**P**	**22 37 28.7**	**-0.7**
WALA				IAmb	IAmb	22 37 30.2	
	comp=Z,364nm,0.9s						
MOD	**Modoc Plateau**	**41.78**	**79**	P	**P**	**22 37 30.8**	**+0.1**
MOD				IAmb	IAmb	22 37 32.6	
	comp=Z,453nm,1.3s						
O03E	**Paynes Creek**	**41.81**	**82**	P	**P**	**22 37 31.4**	**+0.5**
	baz=307,SNR=88						
HOPS	**Hopland Field**	**41.82**	**84**	P	**P**	**22 37 31.2**	**+0.4**
BMO	**Blue Mountains**	**41.90**	**73**	P	**P**	**22 37 30.9**	**-0.7**
BMO				pmax	pmax		
	comp=Z,96nm,0.8s						
BMO	**Blue Mountains**	**41.90**	**73**	P	**P**	**22 37 30.9**	**-0.7**
JTMT	**Jette**	**42.11**	**68**	P	**P**	**22 37 32.8**	**-0.5**
JTMT				IAmb	IAmb	22 37 34.9	
	comp=Z,245nm,1.4s						
ORV	**Oroville**	**42.44**	**82**	P	**P**	**22 37 35.9**	**0.0**
ORV				pmax	pmax		
	comp=Z,240nm,0.8s						
ORV	**Oroville**	**42.44**	**82**	P	**P**	**22 37 35.9**	**0.0**
ORV				IAmb	IAmb	22 37 37.3	
	comp=Z,240nm,0.8s						
MCCM	**Marconi Confer**	**42.46**	**85**	P	**P**	**22 37 36.6**	**+0.5**
MCCM				IAmb	IAmb	22 37 37.9	
	comp=Z,270nm,0.9s						
WVOR	**Wild Horse Val**	**42.48**	**77**	P	**P**	**22 37 36.5**	**+0.1**
WVOR				pmax	pmax		
	comp=Z,446nm,1.5s						
WVOR	**Wild Horse Val**	**42.48**	**77**	P	**P**	**22 37 36.5**	**+0.1**
WVOR				IAmb	IAmb	22 37 38.0	
	comp=Z,446nm,1.5s						
MSO	**Missoula**	**42.80**	**69**	P	**P**	**22 37 37.7**	**-1.1**
	baz=303,SNR=52						
MSO	**Missoula**	**42.80**	**69**	P	**P**	**22 37 38.1**	**-0.8**
MSO				IAmb	IAmb	22 37 39.1	
	comp=Z,271nm,1.1s						
AFDM	**Forest Hills D**	**43.14**	**83**	P	**P**	**22 37 42.0**	**+0.5**
AFDM				IAmb	IAmb	22 37 43.4	
	comp=Z,190nm,1.1s						
RUBR	**Rubicon Trail**	**43.57**	**82**	P	**P**	**22 37 45.8**	**+0.4**
RUBR				IAmb	IAmb	22 37 48.3	
	comp=Z,308nm,0.8s						
MFID	**Camas Ranch**	**43.59**	**74**	P	**P**	**22 37 44.6**	**-0.7**
PAHR	**Pah Rah Range**	**43.64**	**81**	P	**P**	**22 37 46.1**	**+0.3**
PAHR				IAmb	IAmb	22 37 47.6	
	comp=Z,294nm,0.8s						
BJI	**Beijing**	**43.66**	**280**	P	**P**	**22 37 46.3**	**+0.6**
BJI				PcP	**PcP**	**22 39 31.8**	**+0.8**
BJI				ScP	**ScP**	**22 43 13.1**	**+0.6**
BJI				S	**S**	**22 44 10.6**	**+3.3**
BJI				ScS	**ScS**	**22 47 32.6**	**-1.2**
BJI				pmax	pmax		
	comp=Z,240nm,1.0s						
BJT	**Baijiatuau**	**43.68**	**280**	P	**P**	**22 37 46.1**	**+0.3**
BJT				pmax	pmax		
	comp=Z,195nm,0.8s						
BJT	**Baijiatuau**	**43.68**	**280**	P	**P**	**22 37 46.1**	**+0.3**
BJT				IAmb	IAmb	22 37 49.4	
	comp=Z,195nm,0.8s						
VCNR	**Virginia City**	**43.73**	**82**	P	**P**	**22 37 47.3**	**+0.7**
VCNR				IAmb	IAmb	22 37 48.7	
	comp=Z,334nm,0.8s						
IRK	**Irkutsk**	**43.74**	**301**	*e*P	**P**	**22 37 45.9**	**-0.4**
IRK				pmax	pmax		
	comp=Z,405nm,2.2s						
KWAJ	**Kwajalein Atol**	**43.95**	**196**	P	**P**	**22 37 49.7**	**+1.5**
KWAJ				pmax	pmax		
	comp=Z,899nm,1.4s						
KWAJ	**Kwajalein Atol**	**43.95**	**196**	P	**P**	**22 37 49.7**	**+1.5**
CMB	**Columbia Colle**	**44.06**	**83**	P	**P**	**22 37 49.5**	**+0.5**
CMB				pmax	pmax		
	comp=Z,353nm,1.3s						
CMB	**Columbia Colle**	**44.06**	**83**	P	**P**	**22 37 49.5**	**+0.5**
CMB				IAmb	IAmb	22 37 51.2	
	comp=Z,353nm,1.3s						
HRY	**Holter Researc**	**44.07**	**68**	P	**P**	**22 37 48.4**	**-0.7**
LRM	**Limekiln Ridge**	**44.21**	**69**	P	**P**	**22 37 49.4**	**-1.0**
SAO	**San Andreas Ge**	**44.21**	**86**	P	**P**	**22 37 50.5**	**+0.3**
SAO				pmax	pmax		
	comp=Z,182nm,1.1s						
SAO	**San Andreas Ge**	**44.21**	**86**	P	**P**	**22 37 50.5**	**+0.3**
SAO				IAmb	IAmb	22 37 52.1	
	comp=Z,182nm,1.1s						
HLID	**Hailey**	**44.35**	**73**	P	**P**	**22 37 50.9**	**-0.5**
	baz=306,SNR=83						
HLID	**Hailey**	**44.35**	**73**	P	**P**	**22 37 51.1**	**-0.3**
HLID				IAmb	IAmb	22 37 52.4	
	comp=Z,183nm,1.1s						
WAKR	**Walker**	**44.35**	**82**	P	**P**	**22 37 51.9**	**+0.4**
WAKR				IAmb	IAmb	22 37 53.7	
	comp=Z,300nm,0.7s						
TLY	**Talaya**	**44.37**	**301**	PcP	**PcP**	**22 39 34.4**	**+1.2**
TLY				ScP	**ScP**	**22 43 15.7**	**+0.4**
	comp=Z,13nm,0.6s,baz=92,slow=3.1,SNR=6.6						
TLY	**Talaya**	**44.37**	**301**	P	**P**	**22 37 48.3**	**-3.0**
TLY	**Talaya**	**44.37**	**301**	*e*P	**P**	**22 37 51.6**	**+0.3**
TLY				*e*		22 39 35.0	
TLY				pmax	pmax		
	comp=Z,445nm,1.0s						
TLY	**Talaya**	**44.37**	**301**	P	**P**	**22 37 51.2**	**-0.1**
TLY				IAmb	IAmb	22 37 53.3	
	comp=Z,343nm,1.4s						
TLY					**ScP**	**22 43 15.5**	**+0.2**
EGMT	**Eagleton**	**44.53**	**65**	P	**P**	**22 37 51.5**	**-1.2**
	baz=303,SNR=58						
EGMT	**Eagleton**	**44.53**	**65**	P	**P**	**22 37 51.6**	**-1.1**
EGMT				IAmb	IAmb	22 37 54.0	
	comp=Z,181nm,0.9s						
ULN	**Ulaanbaatar**	**44.53**	**294**	P	**P**	**22 37 49.8**	**-3.0**
ULN	**Ulaanbaatar**	**44.53**	**294**	*d* iP	**P**	**22 37 53.8**	**+1.0**
ULN				pmax	pmax		
	comp=Z,300nm,1.1s						
ULN	**Ulaanbaatar**	**44.53**	**294**	P	**P**	**22 37 53.2**	**+0.4**
ULN				IAmb	IAmb	22 37 54.7	
	comp=Z,289nm,1.1s						
MCMT	**McKenzie Canyo**	**44.54**	**71**	P	**P**	**22 37 52.3**	**-0.8**
BOZ	**Bozeman (W)**	**44.81**	**69**	P	**P**	**22 37 54.3**	**-0.7**
	baz=305,SNR=121						
BOZ	**Bozeman (W)**	**44.81**	**69**	P	**P**	**22 37 54.0**	**-1.0**
BOZ				pmax	pmax		
	comp=Z,188nm,0.8s						
BOZ	**Bozeman (W)**	**44.81**	**69**	P	**P**	**22 37 54.0**	**-1.0**
BOZ				IAmb	IAmb	22 37 55.3	
	comp=Z,188nm,0.8s						
KVN	**Kaiserville**	**44.83**	**81**	P	**P**	**22 37 55.6**	**+0.3**
KVN				pmax	pmax		
	comp=Z,575nm,1.5s						
KVN	**Kaiserville**	**44.83**	**81**	P	**P**	**22 37 55.6**	**+0.3**
KVN				IAmb	IAmb	22 37 57.0	
	comp=Z,575nm,1.5s						
SONM	**Songino Array**	**44.92**	**295**	P	**P**	**22 37 56.6**	**+0.7**
	comp=Z,117nm,0.7s,baz=61,slow=8.5,SNR=273						
SONM				PcP	**PcP**	**22 39 35.9**	**+0.5**
	comp=Z,67nm,0.7s,baz=61,slow=2.2,SNR=16						
SONM				ScP	**ScP**	**22 43 17.8**	**0.0**
	comp=Z,58nm,1.0s,baz=55,slow=1.6,SNR=24						
SONM	**Songino Array**	**44.92**	**295**	P	**P**	**22 37 56.1**	**+0.3**
SONM				ScP	**ScP**	**22 43 16.6**	**-1.3**
TULEG	**Thule**	**44.93**	**18**	P	**P**	**22 37 55.3**	**-0.1**
TULEG				IAmb	IAmb	22 37 57.3	
	comp=Z,310nm,1.4s						
PMPB	**Monarch Peak**	**44.96**	**86**	P	**P**	**22 37 56.7**	**+0.4**
PMPB				IAmb	IAmb	22 37 58.4	
	comp=Z,190nm,0.8s						
NVAR	**Mina Array Bea**	**45.09**	**82**	P	**P**	**22 37 58.2**	**+0.7**
	comp=Z,197nm,0.6s,baz=297,slow=7.4,SNR=441						
NVAR				ScP	**ScP**	**22 43 17.1**	**-1.7**
	comp=Z,19nm,0.7s,baz=301,slow=4.2,SNR=14						
NVAR				PKiKP	**PKiKP**	**22 46 32.7**	**-1.5**
	comp=Z,5.7nm,1.0s,baz=325,slow=1.4,SNR=4.6						
NVAR	**Mina Array Bea**	**45.09**	**82**	P	**P**	**22 37 58.1**	**+0.6**
NVAR				ScP	**ScP**	**22 43 16.9**	**-1.9**
JOW	**Kunigami**	**45.10**	**256**	P	**P**	**22 37 58.3**	**+1.0**
	comp=Z,40nm,0.9s,baz=101,slow=13,SNR=46						
JOW				PcP	**PcP**	**22 39 37.0**	**+0.8**
	comp=Z,10nm,0.9s,baz=96,slow=7.6,SNR=5.6						
JOW	**Kunigami**	**45.10**	**256**	P	**P**	**22 37 57.8**	**+0.4**
JOW				IAmb	IAmb	22 37 59.8	
	comp=Z,176nm,0.9s						
MDPB	**Devils Postpil**	**45.12**	**83**	P	**P**	**22 37 58.6**	**+0.9**
MDPB				IAmb	IAmb	22 37 59.9	
	comp=Z,377nm,0.8s						
FFC	**Flin Flon**	**45.12**	**54**	P	**P**	**22 37 56.5**	**-0.7**
FFC				pmax	pmax		
	comp=Z,75nm,0.9s						
FFC	**Flin Flon**	**45.12**	**54**	P	**P**	**22 37 56.5**	**-0.7**
OMMB	**Old Mammoth Mi**	**45.18**	**83**	P	**P**	**22 37 58.4**	**+0.1**
OMMB				IAmb	IAmb	22 38 00.5	
	comp=Z,206nm,0.9s						
NV11	**Mina Array Sit**	**45.18**	**81**	P	**P**	**22 37 58.3**	**+0.2**
NV11				IAmb	IAmb	22 37 59.8	
	comp=Z,162nm,0.8s						
ZAK	**Zakamensk**	**45.25**	**299**	*e*P	**P**	**22 37 58.0**	**-0.4**
ZAK				*e*		22 39 37.5	
ZAK				pmax	pmax		
	comp=Z,194nm,1.3s						
TIA	**Tai'an**	**45.48**	**275**	P	**P**	**22 38 00.5**	**+0.3**
TIA				pmax	pmax		
	comp=Z,500nm,1.2s						
YHL	**Hebgen Lake**	**45.50**	**70**	P	**P**	**22 37 59.9**	**-0.8**
ELK	**Elko**	**45.53**	**77**	ScP	**ScP**	**22 43 18.6**	**-2.0**
	comp=Z,19nm,0.9s,baz=288,slow=3.8,SNR=11						
ELK	**Elko**	**45.53**	**77**	P	**P**	**22 38 00.8**	**0.0**
ELK				pmax	pmax		
	comp=Z,98nm,0.6s						
ELK	**Elko**	**45.53**	**77**	P	**P**	**22 38 00.8**	**0.0**
ELK				IAmb	IAmb	22 38 02.1	
	comp=Z,98nm,0.6s						
VOG	**Valley Oaks Go**	**45.77**	**85**	P	**P**	**22 38 02.7**	**+0.2**
	baz=310,SNR=9.8						
MOY	**Mondy**	**45.78**	**302**	*e*P	**P**	**22 38 02.5**	**0.0**
MOY				pmax	pmax		
	comp=Z,449nm,2.4s						
HHC	**Hu-ho-hao-te**	**45.96**	**284**	‖ *i*P	**P**	**22 38 05.3**	**+1.2**
HHC				pmax	pmax		
	comp=Z,200nm,1.3s						
HHC				pmax	pmax		
	comp=Z,3µm,5.4s						
TIN	**Tinemaha, Big**	**46.01**	**83**	P	**P**	**22 38 05.4**	**+0.9**
	baz=310,SNR=43						
SMMC	**Simmler**	**46.05**	**86**	P	**P**	**22 38 05.9**	**+1.2**
	baz=311,SNR=7.0						
YPP	**Pitchstone Pla**	**46.06**	**70**	P	**P**	**22 38 04.9**	**-0.2**
H17A	**Grant Village**	**46.12**	**70**	P	**P**	**22 38 06.3**	**+0.9**
	baz=306						
H17A	**Grant Village**	**46.12**	**70**	P	**P**	**22 38 06.0**	**+0.6**
H17A				IAmb	IAmb	22 38 07.3	
	comp=Z,179nm,0.9s						
LKWY	**Lake**	**46.12**	**70**	P	**P**	**22 38 05.7**	**+0.2**
LKWY				pmax	pmax		
	comp=Z,122nm,1.0s						
LKWY	**Lake**	**46.12**	**70**	P	**P**	**22 38 05.7**	**+0.2**
IMW	**Indian Meadow**	**46.20**	**71**	P	**P**	**22 38 05.9**	**-0.2**
VES	**Vestal, Richgr**	**46.27**	**85**	P	**P**	**22 38 06.3**	**0.0**
	baz=311,SNR=97						
SSE	**Sheshan**	**46.38**	**266**	P	**P**	**22 38 08.6**	**+1.2**
TPAW	**Teton Pass**	**46.43**	**71**	P	**P**	**22 38 07.8**	**-0.1**
NOR	**Nord**	**46.43**	**3** ‖ *i*P		**P**	**22 38 07.2**	**+0.1**
	comp=Z,58nm,0.9s						
NOR	**Nord**	**46.43**	**3** ‖ *i*P		**P**	**22 38 07.2**	**+0.1**
NOR				pmax	pmax		
	comp=Z,58nm,0.9s						
PKM	**Mcpherson Peak**	**46.44**	**86**	P	**P**	**22 38 09.1**	**+1.1**
	baz=311,SNR=49						
RLMT	**Red Lodge**	**46.45**	**68**	P	**P**	**22 38 07.3**	**-0.7**
	baz=306,SNR=105						
RLMT	**Red Lodge**	**46.45**	**68**	P	**P**	**22 38 07.5**	**-0.5**
RLMT				IAmb	IAmb	22 38 08.8	
	comp=Z,249nm,1.1s						
CWC	**Cottonwood Cre**	**46.50**	**84**	P	**P**	**22 38 08.8**	**+0.4**
	baz=310						
GRAC	**Grapevine Rang**	**46.58**	**82**	P	**P**	**22 38 09.5**	**+0.6**
	baz=310,SNR=7.4						
FCC	**Fort Churchill**	**46.73**	**46**	P	**P**	**22 38 09.6**	**-0.1**
FCC	**Fort Churchill**	**46.73**	**46**	P	**P**	**22 38 09.6**	**-0.1**
FCC				IAmb	IAmb	22 38 37.6	
	comp=Z,711nm,1.9s						
BGU	**Big Grassy Mou**	**46.74**	**75**	P	**P**	**22 38 10.0**	**-0.3**
ISA	**Isabella, Lake**	**46.76**	**85**	P	**P**	**22 38 10.2**	**-0.2**
	baz=311,SNR=42						
ISA	**Isabella, Lake**	**46.76**	**85**	P	**P**	**22 38 10.2**	**-0.2**
ISA				pmax	pmax		
	comp=Z,422nm,1.6s						
ISA	**Isabella, Lake**	**46.76**	**85**	P	**P**	**22 38 10.2**	**-0.2**
ISA				IAmb	IAmb	22 38 11.4	
	comp=Z,422nm,1.6s						
AHID	**Auburn Hatcher**	**46.78**	**72**	P	**P**	**22 38 10.3**	**-0.3**
SBC	**Santa Barbara**	**46.80**	**87**	P	**P**	**22 38 11.3**	**+0.8**
	baz=312,SNR=10.0						
R11A	**Troy Canyon, C**	**46.80**	**80**	P	**P**	**22 38 10.7**	**-0.1**
	baz=309,SNR=157						
R11A	**Troy Canyon, C**	**46.80**	**80**	P	**P**	**22 38 10.7**	**-0.1**
R11A				IAmb	IAmb	22 38 38.7	
	comp=Z,182nm,0.9s						
GUMO	**Guam**	**46.84**	**228**	P	**P**	**22 38 09.5**	**-1.6**
	comp=Z,430nm,0.7s,baz=156,slow=5.6,SNR=33						
GUMO	**Guam**	**46.84**	**228**	P	**P**	**22 38 09.2**	**-1.9**
GUMO				pmax	pmax		
	comp=Z,568nm,0.8s						
GUMO	**Guam**	**46.84**	**228**	P	**P**	**22 38 09.2**	**-1.9**
ARVC	**Arvin**	**46.89**	**85**	P	**P**	**22 38 11.2**	**0.0**
	baz=311,SNR=7.1						
BTO	**Baotou**	**47.03**	**284**	*e*P	**P**	**22 38 13.1**	**+0.6**
MPMC	**Manual Prospec**	**47.11**	**83**	P	**P**	**22 38 13.6**	**+0.3**
	baz=312,SNR=102						
SCZ2	**Santa Cruz Isl**	**47.14**	**87**	P	**P**	**22 38 13.2**	**0.0**
	baz=312,SNR=20						
NJ2	**Nanjing**	**47.17**	**269**	‖ *i*P	**P**	**22 38 13.4**	**-0.1**
NJ2				pP	**pP**	**22 38 39.8**	**+1.5**
NJ2				sP	**sP**	**22 38 49.3**	**-0.9**
NJ2				PcP	**PcP**	**22 39 43.3**	**0.0**
NJ2				ScP	**ScP**	**22 43 27.3**	**+0.1**
NJ2				PcS	**PcS**	**22 43 39.1**	**+0.4**
NJ2				S	**S**	**22 44 57.9**	**-0.1**
NJ2				sS	**sS**	**22 45 41.6**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,340nm,0.9s						
NJ2				LR	LR		
	comp=Z,7µm,16.1s						
NJ2				LR	LR		
	comp=Z,9µm,18.9s						
NJ2				LR	LR		
	comp=Z,10µm,18.8s						
HWUT	**Hardware Ranch**	**47.20**	**74**	P	**P**	**22 38 13.4**	**-0.5**
FURC	**Furnace Creek,**	**47.23**	**83**	P	**P**	**22 38 14.1**	**+0.3**
	baz=311,SNR=148						
LAO	**LASA Array**	**47.27**	**65**	P	**P**	**22 38 13.4**	**-0.8**
	baz=306,SNR=26						
LAO	**LASA Array**	**47.27**	**65**	P	**P**	**22 38 13.7**	**-0.5**
LAO				IAmb	IAmb	22 38 14.9	
	comp=Z,275nm,1.1s						
TPNV	**Topopah Spring**	**47.29**	**82**	P	**P**	**22 38 14.6**	**0.0**
	baz=310,SNR=284						
TPNV	**Top

PATS	Pohnpei	47.98	208	P		P		22 38 20.5	+0.7	
GSC	Goldstone, Bar	48.02	84	P		P		22 38 20.4	+0.3	
	baz=311,SNR=352									
GSC	Goldstone, Bar	48.02	84	P		P		22 38 20.3	+0.1	
GSC				pmax		pmax				
	comp=Z,475nm,0.8s									
GSC	Goldstone, Bar	48.02	84	P		P		22 38 20.3	+0.1	
MPU	Maple Canyon	48.15	75	P		P		22 38 21.1	-0.1	
FMP	Fort Macarthur	48.16	86	P		P		22 38 21.2	+0.1	
	baz=312									
RRX	Edison Barstow	48.19	84	P		P		22 38 21.7	+0.4	
	baz=312									
BFSC	Mount Baldy Ra	48.20	85	P		P		22 38 21.7	+0.1	
	baz=312,SNR=88									
CIS	Catalina Islan	48.29	87	P		P		22 38 22.3	+0.1	
	baz=312,SNR=13									
KULLO	Kullorsuaq	48.41	17	⇓*i*	P	P		22 38 23.3	+0.8	
	comp=Z,381nm,1.0s									
KULLO	Kullorsuaq	48.41	17	⇓*i*	P	P		22 38 23.3	+0.8	
KULLO				pmax		pmax				
	comp=Z,380nm,1.0s									
TUQ	Turquoise Moun	48.48	83	P		P		22 38 24.1	+0.4	
	baz=311,SNR=19									
SCI2	San Clemente I	48.49	87	P		P		22 38 23.8	+0.1	
	baz=313,SNR=8.9									
HEC	Hector,Ludlow	48.62	84	P		P		22 38 24.9	+0.2	
	baz=312,SNR=139									
BBRC	Big Bear Solar	48.64	85	P		P		22 38 25.3	+0.2	
	baz=312,SNR=7.3									
MURC	Murrieta	48.91	86	P		P		22 38 27.0	0.0	
	baz=312,SNR=56									
GMRC	Granite Mounta	49.07	83	P		P		22 38 28.2	0.0	
	baz=312,SNR=240									
KBS	Kingsbay	49.13	357	*d*	*i*P	P		22 38 28.6	+0.6	
KBS				pmax		pmax				
	comp=Z,137nm,0.8s									
KBS	Kingsbay	49.13	357	P		P		22 38 28.6	+0.6	
KBS				IAmb		IAmb		22 38 29.9		
	comp=Z,136nm,0.8s									
PFO	Pinyon Flats O	49.36	85	P		P		22 38 30.3	-0.2	
	baz=312,SNR=56									
PFO	Pinyon Flats O	49.36	85	P		P		22 38 30.4	0.0	
	comp=Z,70nm,0.8s,baz=321,slow=7.3,SNR=86									
PFO				PcP		PcP		22 39 52.4	+1.0	
	comp=Z,49nm,1.0s,baz=275,slow=1.4,SNR=3.8									
PFO				ScP		ScP		22 43 34.6	-2.0	
	comp=Z,30nm,0.9s,baz=294,slow=3.8,SNR=12									
PFO	Pinyon Flats O	49.36	85	P		P		22 38 30.4	0.0	
PFO				pmax		pmax				
	comp=Z,89nm,0.8s									
PFO	Pinyon Flats O	49.36	85	P		P		22 38 30.4	0.0	
PFO						ScP		22 43 34.3	-2.4	
XPFO	Pion Flat	49.36	85	P		P		22 38 29.7	-0.8	
BELC	Belle Mtn. Jos	49.38	84	P		P		22 38 30.3	-0.3	
	baz=312,SNR=127									
109C	Camp Elliot, M	49.45	86	P		P		22 38 31.5	+0.6	
	baz=313,SNR=27									
109C	Camp Elliot, M	49.45	86	P		P		22 38 31.4	+0.4	
109C				IAmb		IAmb		22 38 32.8		
	comp=Z,352nm,0.9s									
K22A	Casper	49.52	69	P		P		22 38 30.2	-1.4	
	baz=308,SNR=22									
K22A	Casper	49.52	69	P		P		22 38 30.6	-1.0	
SPA0	Spitsbergen Ar	49.67	355	P		P		22 38 31.9	-0.2	
SPA0				IAmb		IAmb		22 38 33.2		
	comp=Z,230nm,0.9s									
NEE2	Needles Airpor	49.72	83	P		P		22 38 32.8	-0.2	
	baz=312,SNR=21									
IRM	Iron Mountain	49.80	84	P		P		22 38 33.9	+0.2	
	baz=312,SNR=116									
BAR	Barrett	49.86	86	P		P		22 38 34.2	+0.1	
BAR				IAmb		IAmb		22 38 35.7		
	comp=Z,307nm,1.0s									
MONP2	Monument Peak	49.87	86	P		P		22 38 34.7	+0.3	
	baz=313,SNR=64									
W13A	Hualapai Mount	49.95	82	P		P		22 38 34.8	-0.2	
W13A				IAmb		IAmb		22 38 36.3		
	comp=Z,114nm,0.7s									
BC3	Big Chuckawall	49.95	84	P		P		22 38 34.4	-0.5	
	baz=312,SNR=65									
YOJ	Yonaguni jima	50.03	259	P		P		22 38 34.4	-1.1	
YOJ				pmax		pmax				
	comp=Z,460nm,0.9s									
YOJ	Yonaguni jima	50.03	259	P		P		22 38 34.4	-1.1	
RSSD	Black Hills	50.04	66	P		P		22 38 34.3	-1.4	
	baz=308									
RSSD	Black Hills	50.04	66	P		P		22 38 34.2	-1.4	
RSSD				pmax		pmax				
	comp=Z,134nm,1.4s									
RSSD	Black Hills	50.04	66	P		P		22 38 34.2	-1.4	
U15A	North Rim	50.05	79	P		P		22 38 35.9	+0.1	
U15A				IAmb		IAmb		22 39 04.3		
	comp=Z,238nm,0.8s									
O20A	White River Ci	50.09	73	P		P		22 38 34.9	-1.1	
	baz=310,SNR=50									
O20A	White River Ci	50.09	73	P		P		22 38 35.2	-0.8	
O20A				IAmb		IAmb		22 38 36.4		
	comp=Z,158nm,0.8s									
SWSC	Sam W. Stewart	50.22	85	P		P		22 38 36.5	-0.2	
	baz=313,SNR=26									
MDND	Maddock	50.22	60	P		P		22 38 36.0	-0.7	
	baz=307,SNR=26									
MDND	Maddock	50.22	60	P		P		22 38 36.2	-0.4	
IKP	In-Ko-Pah, Jac	50.22	86	P		P		22 38 37.1	+0.1	
	baz=313,SNR=43									
PDMCI	Parker Dam,Lak	50.32	83	P		P		22 38 37.6	+0.1	
	baz=312,SNR=64									
E28A	Huff	50.40	62	P		P		22 38 37.4	-0.7	
E28A				IAmb		IAmb		22 38 38.5		
	comp=Z,162nm,1.1s									
PV09	Paradox Valley	50.61	75	P		P		22 38 39.8	-0.2	
TARA	Tarawa	50.65	187	P		P		22 38 40.9	+0.8	
ULM	Lac du Bonnet	50.72	56	P		P		22 38 39.3	-1.0	
	comp=Z,93nm,0.7s,baz=304,slow=8.1,SNR=62									
ULM				ScP		ScP		22 43 38.6	-3.4	
	comp=Z,5.5nm,0.6s,baz=286,slow=4.7,SNR=3.9									
ULM	Lac du Bonnet	50.72	56	P		P		22 38 39.3	-1.0	
ULM				pmax		pmax				
	comp=Z,127nm,0.9s									
ULM	Lac du Bonnet	50.72	56	P		P		22 38 39.3	-1.0	
ULM				IAmb		IAmb		22 38 40.6		
	comp=Z,127nm,0.8s									
GLA	Glamis	50.74	85	P		P		22 38 41.3	+0.5	
	baz=313									
GLA	Glamis	50.74	85	P		P		22 38 40.8	0.0	
GLA				pmax		pmax				
	comp=Z,350nm,0.7s									
GLA	Glamis	50.74	85	P		P		22 38 40.8	0.0	
HSPB	Hornsund (broa	50.87	355	*e*P		P		22 38 40.9	-0.1	
HSPB				*e*pP		pwP		22 39 07.5	-1.4	
YHNB	Yeheng	50.87	260	P		P		22 38 41.8	-0.1	
YHNB				IAmb		IAmb		22 38 43.5		
	comp=Z,168nm,0.8s									
N23A	Red Feather La	50.96	71	P		P		22 38 41.9	-0.7	
	baz=310,SNR=28									
N23A	Red Feather La	50.96	71	P		P		22 38 42.0	-0.6	
N23A				IAmb		IAmb		22 38 43.5		
	comp=Z,164nm,1.4s									
WHN	Wuhan	51.00	271	⇓P		P		22 38 42.5	-0.1	
WHN				pP		pP		22 39 07.9	+0.1	
WHN				PcP		PcP		22 39 57.9	+0.6	
WHN				S		S		22 45 51.3	-0.2	
DAG	Danmarks Havn	51.08	5	⇓*i*P		P		22 38 42.6	0.0	
DAG	Danmarks Havn	51.08	5	⇓*i*P		P		22 38 42.6	0.0	
NACB	Ninganchiao	51.11	260	P		P		22 38 42.3	-1.3	
PV01	Paradox Valley	51.18	75	P		P		22 38 43.4	-0.9	
PV01				IAmb		IAmb		22 38 44.9		
	comp=Z,109nm,0.9s									
WUAZ	Wupatki	51.20	80	P		P		22 38 45.0	+0.6	
	baz=312,SNR=68									
WUAZ	Wupatki	51.20	80	P		P		22 38 44.6	+0.2	
WUAZ				IAmb		IAmb		22 39 12.8		
	comp=Z,177nm,0.9s									
Y14A	Wickenburg	51.26	82	P		P		22 38 44.0	-0.7	
Y14A				IAmb		IAmb		22 38 46.2		
	comp=Z,299nm,1.4s									
113A	Mohawk Valley,	51.59	84	P		P		22 38 46.7	-0.3	
113A				IAmb		IAmb		22 38 48.2		
	comp=Z,498nm,1.9s									
SSLB	Suanglung	51.78	260	P		P		22 38 48.8	+0.1	
MVCO	Mesa Verde	51.83	76	P		P		22 38 48.5	-0.6	
	baz=311,SNR=26									
MVCO	Mesa Verde	51.83	76	P		P		22 38 48.3	-0.8	
ISCO	Idaho Springs	51.85	72	P		P		22 38 48.8	-0.5	
	baz=310,SNR=41									
ISCO	Idaho Springs	51.85	72	P		P		22 38 49.0	-0.3	
ISCO				pmax		pmax				
	comp=Z,63nm,0.9s									
ISCO	Idaho Springs	51.85	72	P		P		22 38 49.0	-0.3	
YULB	Yu-li	51.87	259	P		P		22 38 49.2	0.0	
AGMN	Agassiz Nation	51.92	58	P		P		22 38 48.1	-1.2	
	baz=308,SNR=104									
XAN	Xi'an	51.95	279	P		P		22 38 49.4	-0.4	
XAN				PcP		PcP		22 39 59.6	-1.3	
XAN				ScP		ScP		22 43 46.8	-0.9	
XAN				PcS		PcS		22 43 57.6	-1.7	
XAN				S		S		22 46 04.3	-0.4	
XAN				pmax		pmax				
	comp=Z,390nm,1.3s									
XAN				LR		LR				
	comp=Z,10μm,19.5s									
XAN				LR		LR				
	comp=Z,5μm,19.5s									
XAN				LR		LR				
	comp=Z,12μm,26.0s									
XAN	Xi'an	51.95	279	P		P		22 38 49.7	-0.1	
XAN				pmax		pmax				
	comp=Z,537nm,1.3s									
XAN	Xi'an	51.95	279	P		P		22 38 49.7	-0.1	
TPUB	Ta-pu	52.34	260	P		P		22 38 52.7	-0.1	
QZH	Quanzhou	52.38	263	⇓*i*P		P		22 38 53.6	+0.6	
QZH				pP		pP		22 39 18.8	+0.6	
QZH				*e*S		S		22 46 12.8	+2.2	
QZH				pmax		pmax				
	comp=Z,480nm,1.2s									
ZAA0	Zalesovo Array	52.44	312	P		P		22 38 53.0	-0.1	
ZAA0				IAmb		IAmb		22 40 04.0		
	comp=Z,177nm,0.8s									
ZALV	Zalesovo Beam	52.44	312	P		P		22 38 52.8	-0.3	
	comp=Z,25nm,0.6s,baz=48,slow=6.4,SNR=79									
ZALV				PcP		PcP		22 40 03.2	+0.9	
	comp=Z,147nm,0.7s,baz=32,slow=3.9,SNR=26									
ZALV				ScP		ScP		22 43 48.4	-1.0	
	comp=Z,18nm,0.8s,baz=36,slow=4.3,SNR=10.0									
ZALV				P4KPbc				23 16 18.2		
	comp=Z,3.4nm,0.8s,baz=35,slow=4.6,SNR=12									
ZALV	Zalesovo Beam	52.44	312	PKIKP		P		22 38 52.8	-0.3	
ZALV								22 40 03.2		
ZALV	Zalesovo Beam	52.44	312	P		P		22 38 52.9	-0.2	
ZALV						PcP		22 40 03.2	+0.9	
ZALV						ScP		22 43 48.8	-0.7	
W18A	Petrified Fore	52.47	79	P		P		22 38 53.8	0.0	
	baz=312,SNR=19									
W18A	Petrified Fore	52.47	79	P		P		22 38 54.4	+0.6	
W18A				IAmb		IAmb		22 39 22.2		
	comp=Z,213nm,1.0s									
S22A	4UR Ranch, Cre	52.47	75	P		P		22 38 53.9	0.0	
	baz=311,SNR=54									
S22A	4UR Ranch, Cre	52.47	75	P		P		22 38 54.2	+0.3	
Q24A	Divide	52.67	72	P		P		22 38 54.9	-0.5	
	baz=311,SNR=16									
Q24A	Divide	52.67	72	P		P		22 38 55.3	-0.1	
SUSD	Miller	52.68	63	P		P		22 38 53.6	-1.4	
	baz=310,SNR=7.0									
214A	Organ Pipe Nat	52.73	84	P		P		22 38 55.6	0.0	
	baz=314,SNR=58									
214A	Organ Pipe Nat	52.73	84	P		P		22 38 55.8	+0.2	
214A				IAmb		IAmb		22 38 57.0		
	comp=Z,195nm,1.1s									
KNMB	Chin-men Tao	52.85	263	P		P		22 38 57.1	+0.6	
B35A	Bob, Littlefor	53.00	57	P		P		22 38 56.2	-1.1	
B35A				IAmb		IAmb		22 38 57.4		
	comp=Z,142nm,0.8s									
SUMG	Summit	53.12	13	⇓*i*P		P		22 38 58.6	+0.3	
	comp=Z,1μm,1.2s									
SUMG	Summit	53.12	13	⇓*i*P		P		22 38 58.6	+0.3	
SUMG				pmax		pmax				
	comp=Z,1μm,1.2s									
SUMG	Summit	53.12	13	P		P		22 38 58.7	+0.4	
LZH	Lanzhou	53.65	284	*e*P		P		22 39 03.4	+0.9	
LZH				pP		pP		22 39 28.6	+1.0	
LZH				sP		sP		22 39 41.3	+2.0	
LZH				PcP		PcP		22 40 08.5	+1.0	
LZH				ScP		ScP		22 43 56.1	+0.8	
LZH				ScS		ScS		22 48 42.3	+0.9	
LZH				LR		LR				
	comp=Z,8μm,12.1s									
LZH				LR		LR				
	comp=Z,9μm,13.0s									
LZH				LR		LR				
	comp=Z,9μm,13.9s									
TUC	Tucson	53.73	82	P		P		22 39 03.1	+0.1	
TUC				pmax		pmax				
	comp=Z,146nm,1.0s									
TUC	Tucson	53.73	82	P		P		22 39 03.1	+0.1	
TUC				IAmb		IAmb		22 39 04.6		
	comp=Z,146nm,0.9s									
ILULI	Ilulissat	53.79	20	⇓*i*P		P		22 39 02.7	0.0	
	comp=Z,197nm,1.0s									
ILULI	Ilulissat	53.79	20	⇓*i*P		P		22 39 02.7	0.0	
ILULI				pmax		pmax				
	comp=Z,200nm,1.0s									
ILULI	Ilulissat	53.79	20	P		P		22 39 02.7	0.0	
ILULI				IAmb		IAmb		22 39 03.8		
	comp=Z,180nm,0.9s									
GTA	Gaotai	53.83	290	⇓P		P		22 39 04.1	+0.4	
GTA				pP		pP		22 39 30.1	+1.1	
GTA				ScP		ScP		22 43 56.3	+0.3	
GTA				S		S		22 46 30.9	+0.6	
GTA				ScS		ScS		22 48 41.6	-0.9	
GTA				pmax		pmax				
	comp=Z,5μm,8.9s									
GTA				LR		LR				
	comp=Z,6μm,18.4s									
GTA				LR		LR				
	comp=Z,6μm,18.4s									
GTA				LR		LR				
	comp=Z,6μm,19.7s									
KSCO	Kaye Shedlock'	54.12	71	P		P		22 39 05.4	-0.3	
	baz=312,SNR=21									
KSCO	Kaye Shedlock'	54.12	71	P		P		22 39 05.7	-0.1	
KSCO				IAmb		IAmb		22 39 06.9		
	comp=Z,166nm,0.8s									
ENH	Enshi	54.19	275	P		P		22 39 05.7	-0.6	
T25A	Trinidad	54.31	73	P		P		22 39 07.4	+0.1	
	baz=312,SNR=92									
T25A	Trinidad	54.31	73	P		P		22 39 07.2	-0.1	
T25A				IAmb		IAmb		22 39 08.6		
	comp=Z,315nm,1.2s									
EYMN	Ely	54.41	56	P		P		22 39 06.7	-1.0	
	baz=310,SNR=91									
EYMN	Ely	54.41	56	P		P		22 39 06.6	-1.0	
EYMN				IAmb		IAmb		22 39 08.0		
	comp=Z,197nm,0.9s									
ECSD	EROS Data Cent	54.43	63	P		P		22 39 05.9	-1.9	
	baz=311,SNR=20									
ECSD	EROS Data Cent	54.43	63	P		P		22 39 06.3	-1.5	
ANMO	Albuquerque	54.57	77	P		P		22 39 09.4	+0.3	
	baz=313									
ANMO	Albuquerque	54.57	77	P		P		22 39 09.0	-0.1	
	comp=Z,34nm,0.8s,baz=316,slow=7.8,SNR=46									
ANMO				ScP		ScP		22 43 57.7	-1.6	
	comp=Z,9.9nm,0.8s,baz=257,slow=2.0,SNR=9.9									
ANMO	Albuquerque	54.57	77	*c*/*i*P		P		22 39 09.0	-0.1	
ANMO				pmax		pmax				
	comp=Z,46nm,1.0s									
ANMO	Albuquerque	54.57	77	P		P		22 39 08.8	-0.3	
F36A	Milaca	54.71	59	P		P		22 39 08.4	-1.3	
Y22D	IRIS PASSCAL I	54.88	78	P		P		22 39 12.2	+0.8	
	baz=313									
BGNE	Belgrade	55.10	66	P		P		22 39 11.7	-1.1	
	baz=312,SNR=6.3									
BGNE	Belgrade	55.10	66	P		P		22 39 12.0	-0.8	
BGNE				IAmb		IAmb		22 39 12.9		
	comp=Z,196nm,0.8s									
KNTN	Kanton	55.15	168	P		P		22 39 13.9	+0.7	
E38A	The Farm, Brul	55.26	57	P		P		22 39 12.7	-1.0	
E38A				IAmb		IAmb		22 39 13.7		
	comp=Z,280nm,0.9s									
121A	Cookes Peak, D	55.41	80	P		P		22 39 15.4	+0.1	
	baz=314,SNR=45									
121A	Cookes Peak, D	55.41	80	P		P		22 39 15.5	+0.3	
SPMN	Marine on St.	55.51	59	P		P		22 39 14.5	-1.0	
	baz=312,SNR=26									
SPMN	Marine on St.	55.51	59	P		P		22 39 14.8	-0.7	
SPMN				IAmb		IAmb		22 39 16.0		
	comp=Z,223nm,1.2s									
SFJD	Kangerlussuaq	55.71	21	P		P		22 39 16.7	+0.1	
SFJD				pmax		pmax				
	comp=Z,95nm,1.0s									
SFJD	Kangerlussuaq	55.71	21	P		P		22 39 16.6	+0.1	
L34A	Svendsen Farm,	55.73	64	P		P		22 39 16.0	-1.2	
L34A				IAmb		IAmb		22 39 17.0		
	comp=Z,202nm,0.8s									
CBKS	Cedar Bluff	55.93	69	P		P		22 39 18.0	-0.7	
	baz=312,SNR=25									
CBKS	Cedar Bluff	55.93	69	P		P		22 39 18.5	-0.2	
CBKS				pmax		pmax				
	comp=Z,267nm,0.9s									
CBKS	Cedar Bluff	55.93	69	P		P		22 39 18.5	-0.2	
CBKS				IAmb		IAmb		22 39 19.3		
	comp=Z,267nm,0.8s									
HSIG		55.93	85	P		P		22 39 18.9	+0.1	
HSIG				IAmb		IAmb		22 39 20.1		
	comp=Z,168nm,0.9s									
SRIG	Santa Rosalia	56.34	88	P		P		22 39 22.0	+0.3	
SRIG				IAmb		IAmb		22 39 22.8		
	comp=Z,207nm,0.9s									
D41A	Chassel	56.49	55	P		P		22 39 22.0	-0.4	
D41A				IAmb		IAmb		22 39 23.5		
	comp=Z,284nm,1.2s									
ZSN	Zaisan	56.65	306	⇓*i*P		P		22 39 23.1	-0.5	
	comp=Z,499nm,2.7s,baz=306									
ZSN				*e*S		S		22 47 06.5	-0.9	
	baz=306									
ZSN	Zaisan	56.65	306	*d*	*i*P	P		22 39 23.9	+0.3	
ZSN				*e*S		S		22 47 06.5	-0.9	
ZSN				pmax		pmax				
	comp=Z,499nm,2.7s									
R32A	Long Quarter,	56.78	69	P		P		22 39 23.7	-1.1	
R32A				IAmb		IAmb		22 39 24.8		
	comp=Z,149nm,0.7s									
COWI	Conover	56.84	56	P		P		22 39 24.2	-0.8	
COWI				IAmb		IAmb		22 39 25.3		
	comp=Z,99nm,0.8s									
KEV	Kevo	56.84	349	P		P		22 39 23.9	-0.7	
KEV				pmax		pmax				
	comp=Z,113nm,1.3s									
KEV	Kevo	56.84	349	P		P		22 39 23.9	-0.7	
N35A	Tabor	56.88	65	P		P		22 39 24.9	-0.4	
SEM	Semipalatinsk	56.88	311	*i*P		P		22 39 24.7	-0.9	
	comp=Z,468nm,2.9s,baz=311									
SEM				*e*S		S		22 47 08.8	-2.1	
	baz=311									
SEM	Semipalatinsk	56.88	311	*i*P		P		22 39 24.6	-0.9	
SEM				*e*S		S		22 47 08.7	-2.1	
SEM				pmax		pmax				
	comp=Z,468nm,2.9s									
SCO	Scoresbysund	56.97	8	⇓*i*P		P		22 39 26.1	+0.6	
	comp=Z,208nm,1.1s									
SCO	Scoresbysund	56.97	8	⇓*i*P		P		22 39 26.1	+0.6	
SCO				pmax		pmax				
	comp=Z,210nm,1.1s									
SCO	Scoresbysund	56.97	8	P		P		22 39 25.8	+0.3	
SCO				IAmb		IAmb		22 39 27.4		
	comp=Z,262nm,1.2s									
HKPS	Hong Kong Po S	57.08	264	P		P		22 39 28.0	+1.0	
ARCES	ARCESS Array B	57.23	349	P		P		22 39 26.9	-0.5	
	comp=Z,32nm,0.8s,baz=23,slow=6.6,SNR=36									
ARCES				ScP		ScP		22 44 09.9	-0.3	
	comp=Z,23nm,1.1s,baz=15,slow=5.0,SNR=6.7									
ARCES				PKPPKP		P'P'df		23 09 14.9	-2.7	
	comp=Z,8.9nm,1.0s,baz=188,slow=3.6,SNR=7.0									
ARCES				PKP2bc		P'P'bc		23 09 23.3	-6.4	
	comp=Z,5.3nm,0.6s,baz=222,slow=1.6,SNR=9.6									
ARE0	ARCESS Array S	57.23	349	P		P		22 39 26.6	-0.8	
ARE0	ARCESS Array S	57.23	349	*e*PKPdf		P		22 39 26.5	-0.8	
CD2	Chengdu	57.26	280	⇓*i*P		P		22 39 28.3	+0.1	
KURK	Kurchatov	57.43	312	P		P		22 39 27.0	-2.0	
KURK	Kurchatov	57.43	312	*d*	*i*P	P		22 39 29.1	+0.1	
KURK				pmax		pmax				
	comp=Z,816nm,1.3s									
KURK	Kurchatov	57.43	312	P		P		22 39 29.1	+0.1	
MSTX	Muleshoe	57.45	75	P		P		22 39 28.9	-0.7	
	baz=314,SNR=56									
MSTX	Muleshoe	57.45	75	P		P		22 39 28.9	-0.7	
MSTX				IAmb		IAmb		22 39 30.6		
	comp=Z,111nm,0.7s									
MNTX	Cornudas Mount	57.45	79	P		P		22 39 29.5	0.0	
	baz=315,SNR=134									
MNTX	Cornudas Mount	57.45	79	P		P		22 39 29.4	0.0	
MNTX				IAmb		IAmb		22 39 31.0		
	comp=Z,114nm,0.8s									
LVZ	Lovozero	57.47	345	*d*	*i*P	P		22 39 28.2	-0.9	
LVZ				pmax		pmax				
	comp=Z,188nm,0.8s									
LVZ	Lovozero	57.47	345	P		P		22 39 28.6	-0.5	
LVZ				IAmb		IAmb		22 39 30.6		
	comp=Z,180nm,0.8s									
AMTX	Amarillo	57.47	74	P		P		22 39 29.4	-0.3	
	baz=314									
AMTX	Amarillo	57.47	74	P		P		22 39 29.2	-0.5	
AMTX				IAmb		IAmb		22 39 30.4		
	comp=Z,96nm,0.6s									
SCIA	State Center	57.51	62	P		P		22 39 28.8	-0.9	
	baz=313,SNR=34									
SCIA	State Center	57.51	62	P		P		22 39 29.0	-0.8	
KSU1	Kansas State U	57.53	67	P		P		22 39 28.7	-1.2	
	baz=313,SNR=22									
KSU1	Kansas State U	57.53	67	P		P		22 39 28.5	-1.4	
KSU1				IAmb		IAmb		22 39 29.6		
	comp=Z,176nm,0.8s									
KURBB	Kurchatov Arra	57.53	312	ScP		ScP		22 44 11.3	-0.6	
	comp=Z,20nm,0.9s,baz=48,slow=4.9,SNR=8.3	

F45A **CMU Biological** 58.97 54 P P 22 39 39.4 -0.4
baz=314,SNR=36
T35A **Sooner Cattle** 59.09 69 P P 22 39 39.4 -1.4
T35A IAmb IAmb 22 39 40.6
comp=Z,96nm,0.9s
D47A **Chapleau** 59.20 52 P P 22 39 41.0 -0.5
baz=315,SNR=45
TGY **Tagaytay City** 59.23 253 P P 22 39 43.5 +1.5
comp=Z,2µm,0.7s,baz=352,slow=1.5,SNR=35
WMOK **Wichita Mounta** 59.28 72 P P 22 39 41.6 -0.6
baz=315,SNR=62
WMOK **Wichita Mounta** 59.28 72 P P 22 39 41.8 -0.4
WMOK pmax pmax
comp=Z,73nm,0.8s
WMOK **Wichita Mounta** 59.28 72 P P 22 39 41.8 -0.4
WMOK IAmb IAmb 22 39 43.0
comp=Z,73nm,0.8s
G45A **Suttons Bay** 59.34 55 P P 22 39 41.5 -0.9
baz=314,SNR=18
G45A **Suttons Bay** 59.34 55 IAmb IAmb 22 39 43.0
comp=Z,154nm,0.9s
BVAR **Borovoye Array** 59.38 318 ScP ScP 22 44 19.4 -0.6
comp=Z,15nm,0.7s,baz=56,slow=3.0,SNR=8.2
BVAR S S 22 47 43.1 +0.4
comp=Z,8.8nm,1.0s,baz=46,slow=6.4,SNR=5.7
BVAR PKPPKP P'P'df 23 09 13.6 -0.8
comp=Z,5.8nm,0.8s,baz=204,slow=3.3,SNR=7.3
BVAR P4KPbc 23 16 49.0
comp=Z,2.4nm,0.9s,baz=64,slow=3.4,SNR=9.3
BRVK **Borovoye** 59.40 318 P P 22 39 40.7 -2.0
BRVK **Borovoye** 59.40 318 *d* iP P 22 39 43.4 +0.7
BRVK pmax pmax
comp=Z,794nm,1.6s
BRVK **Borovoye** 59.40 318 P P 22 39 43.3 +0.7
H45A **Beulah** 59.44 56 P P 22 39 42.2 -0.9
baz=314,SNR=9.8
ANGG **Ammassalik, Gr** 59.51 17 P P 22 39 42.5 -0.7
G46A **Petoskey** 59.55 54 P P 22 39 43.2 -0.7
baz=315,SNR=11
N41A **Harden Midland** 59.63 62 P P 22 39 43.4 -1.0
D48A **Paudash Townsh** 59.75 51 P P 22 39 43.9 -1.3
baz=315,SNR=24
I45A **Fountain** 59.75 56 P P 22 39 44.4 -0.9
baz=315,SNR=8.5
I45A **Fountain** 59.75 56 IAmb IAmb 22 39 45.8
comp=Z,192nm,0.9s
LPIG **La Paz** 59.87 89 P P 22 39 47.0 +0.8
comp=Z,286nm,0.9s,baz=12,slow=1.0,SNR=24
D49A **Beulah Townshi** 59.90 51 P P 22 39 45.1 -1.1
baz=315,SNR=17
H46A **Fife Lake** 59.93 55 P P 22 39 45.7 -0.8
baz=315,SNR=26
E48A **Lockeyer** 60.07 52 P P 22 39 46.8 -0.6
baz=315,SNR=34
J45A **Montague** 60.09 57 P P 22 39 46.6 -1.0
baz=315
G47A **Hillman** 60.16 54 P P 22 39 47.5 -0.6
baz=315,SNR=9.2
TX31 **Lajitas Ar. Si** 60.17 80 P P 22 39 48.3 -0.1
TXAR **Lajitas Array** 60.17 80 P P 22 39 48.8 +0.3
comp=Z,70nm,0.6s,baz=302,slow=4.8,SNR=436
TXAR ScP ScP 22 44 21.8 -2.2
comp=Z,11nm,0.7s,baz=278,slow=2.4,SNR=7.2
TXAR PKPPKP P'P'df 23 09 10.3 -2.6
comp=Z,2.1nm,0.8s,baz=159,slow=4.6,SNR=6.7
TXAR **Lajitas Array** 60.17 80 P P 22 39 48.1 -0.4
L44A **Lake County Fo** 60.18 59 P P 22 39 47.1 -1.1
baz=315,SNR=19
L44A **Lake County Fo** 60.18 59 P P 22 39 47.4 -0.8
RCP **Roxas** 60.20 249 ⇓ *e*P P 22 39 50.4 +1.7
TUL1 **Leonard** 60.20 69 P P 22 39 47.5 -0.9
baz=315,SNR=40
TUL1 **Leonard** 60.20 69 P P 22 39 47.4 -1.1
TUL1 IAmb IAmb 22 39 48.7
comp=Z,150nm,0.8s
SVE **Sverdlovsk** 60.21 326 *c* iP P 22 39 49.7 +1.5
SVE pmax pmax
comp=Z,908nm,1.4s
TMCR **Tamitsa** 60.22 341 *e*P P 22 39 47.3 -0.7
TMCR pmax pmax
comp=Z,150nm,1.0s
I46A **Reed City** 60.22 56 P P 22 39 47.7 -0.8
baz=315,SNR=18
FUNA **Funafuti** 60.24 179 P P 22 39 48.9 +0.1
FUNA IAmb IAmb 22 39 52.1
comp=Z,196nm,1.1s
ABTX **Abilene, Hawle** 60.26 74 P P 22 39 48.7 -0.2
baz=315,SNR=44
ABTX **Abilene, Hawle** 60.26 74 P P 22 39 48.1 -0.8
ABTX IAmb IAmb 22 39 50.0
comp=Z,353nm,1.3s
RABL **Rabaul** 60.28 211 P P 22 39 49.2 +0.1
F48A **Evansville** 60.31 53 P P 22 39 48.6 -0.4
baz=315,SNR=34
H47A **Mio** 60.39 55 P P 22 39 49.1 -0.5
baz=315,SNR=10
SLBS **Sierra La Lagu** 60.40 89 P P 22 39 50.1 +0.1
KRVT **Keravat (AS076** 60.43 211 P P 22 39 50.5 +0.3
comp=Z,151nm,0.8s,baz=174,slow=1.5,SNR=22
SCHQ **Schefferville** 60.55 37 P P 22 39 50.3 -0.3
comp=Z,78nm,0.9s,baz=318,slow=6.5,SNR=46
SCHQ PKPPKP P'P'df 23 09 10.1 -2.5
comp=Z,12nm,0.9s,baz=136,slow=2.5,SNR=6.1
SCHQ **Schefferville** 60.55 37 P P 22 39 50.4 -0.1
SCHQ IAmb IAmb 22 40 18.8
comp=Z,184nm,1.2s
HDIL **Hopedale** 60.58 61 P P 22 39 49.6 -1.4
baz=315,SNR=26
HDIL **Hopedale** 60.58 61 P P 22 39 49.8 -1.1
BRZS **Berezniki** 60.63 315 ⇓ *i*P P 22 39 51.0 -0.2
comp=Z,653nm,2.0s,baz=314
BRZS *e*S S 22 47 57.6 -1.3
baz=314
BRZS **Berezniki** 60.63 315 *d* iP P 22 39 50.9 -0.2
BRZS *e*S S 22 47 57.5 -1.3
BRZS pmax pmax
comp=Z,653nm,2.0s
F49A **Sandfield** 60.64 52 P P 22 39 50.7 -0.6
baz=316,SNR=47
I47A **Gladwin** 60.65 55 P P 22 39 51.0 -0.3
baz=315
LSQQ **Lebel-sur-Quev** 60.65 47 P P 22 39 49.7 -1.6
baz=317
M44A **Midewin, Midew** 60.67 59 P P 22 39 50.6 -0.9
HPIG 60.67 83 P P 22 39 51.7 -0.3
HPIG IAmb IAmb 22 39 53.4
comp=Z,126nm,1.0s
D50A **G1974 Best Tow** 60.70 50 P P 22 39 50.3 -1.3
baz=316,SNR=28
E50A **Wahnapitae** 60.80 51 P P 22 39 51.2 -1.1
baz=316,SNR=14
D51A **Lot 18 Range I** 60.97 50 P P 22 39 52.1 -1.4
baz=316,SNR=27
P43A **Skaggs, Pawnee** 61.10 62 P P 22 39 53.2 -1.3
P43A IAmb IAmb 22 39 55.3
comp=Z,162nm,1.1s
VLDQ **Val d'Or** 61.13 48 P P 22 39 51.9 -2.6
Z35A **Perchaven, San** 61.17 72 P P 22 39 54.1 -0.9
Z35A IAmb IAmb 22 39 55.5
comp=Z,178nm,1.0s
IVI **Ivigtut** 61.18 24 P P 22 39 54.1 -0.6
IVI IAmb IAmb 22 40 24.6
comp=Z,116nm,0.8s
CHGQ **Chibougamau** 61.19 45 P P 22 39 53.4 -1.6
baz=318,SNR=46
ARU **Arti** 61.24 327 *d* iP P 22 39 56.1 +1.0
ARU *PP pP 22 40 19.5 -1.1
ARU 22 40 32.1
ARU 22 42 10.6
ARU S S 22 48 10.5 +4.2
ARU SS SS 22 52 12.3 +5.1
ARU pmax pmax
comp=Z,1µm,1.4s
ARU **Arti** 61.24 327 P P 22 39 55.8 +0.7
CCM **Cathedral Cave** 61.27 64 P P 22 39 54.0 -1.7
baz=315
O44A **Mansfield** 61.31 61 P P 22 39 54.7 -1.2
E51A **G1948 Merrick** 61.32 50 P P 22 39 54.3 -1.5
baz=316,SNR=28
X37A **Clayton** 61.38 70 P P 22 39 55.7 -0.8
X37A IAmb IAmb 22 39 57.1
comp=Z,115nm,0.8s
D52A **ZEK Kipawa Sen** 61.51 49 P P 22 39 55.7 -1.4
baz=317,SNR=24
STOK **Stokkvaagen** 61.53 353 *e*pPKPdf P 22 39 56.4 -0.5
J48A **Bridge Port** 61.53 55 P P 22 39 56.2 -1.1
baz=316,SNR=14
J48A **Bridge Port** 61.53 55 P P 22 39 56.7 -0.6
F51A **Arnstein** 61.55 51 P P 22 39 55.8 -1.6
baz=316,SNR=14
I49A **Point Hope** 61.55 54 P P 22 39 56.9 -0.5
baz=316,SNR=16
I49A **Point Hope** 61.55 54 IAmb IAmb 22 39 59.4
comp=Z,508nm,2.0s
TDK **Taldyqorghan** 61.57 307 *i* P P 22 39 58.0 +0.4
comp=Z,251nm,0.8s,baz=307
TDK *e*S S 22 48 10.0 -1.0
baz=307
TDK **Taldyqorghan** 61.57 307 *i* P P 22 39 58.0 +0.4
TDK *e*S S 22 48 10.0 -1.0
TDK pmax pmax
comp=Z,251nm,0.8s
U40A **Yellville** 61.57 67 P P 22 39 55.7 -2.0
baz=315,SNR=64
JCT **Junction City** 61.69 76 P P 22 39 57.5 -1.1
baz=316,SNR=22
JCT **Junction City** 61.69 76 P P 22 39 57.7 -1.0
JCT pmax pmax
comp=Z,204nm,1.4s
JCT **Junction City** 61.69 76 P P 22 39 57.6 -1.0
JCT IAmb IAmb 22 39 59.1
comp=Z,204nm,1.4s
D53A **Lac Vacive, Po** 61.77 49 P P 22 39 57.2 -1.6
baz=317,SNR=22
D53A **Vacive, Po** 61.77 49 P P 22 39 57.5 -1.4
J49A **Marlette** 61.81 55 P P 22 39 58.6 -0.6
baz=316,SNR=13
W39A **Magazine** 61.86 68 P P 22 39 58.7 -1.0
baz=316,SNR=51
W39A **Magazine** 61.86 68 P P 22 39 58.7 -1.0
SFIN **Lafayette** 61.89 60 P P 22 39 58.9 -0.8
baz=316,SNR=22
SFIN **Lafayette** 61.89 60 P P 22 39 59.0 -0.8
SFIN IAmb IAmb 22 40 01.2
comp=Z,141nm,0.6s
NRS **Narsarsuaq** 61.89 22 *i* P P 22 39 59.0 -0.4
NRS **Narsarsuaq** 61.89 22 *i* P P 22 39 59.0 -0.4
E52A **Mattawa** 61.90 50 P P 22 39 57.7 -2.1
baz=317,SNR=22
Q44A **Meyer Farm, Va** 61.90 62 P P 22 39 58.6 -1.3
Q44A IAmb IAmb 22 40 27.4
comp=Z,144nm,1.1s
F52A **Sundridge** 61.94 51 P P 22 39 59.1 -0.9
baz=317,SNR=32
WHTX **Lake Whitney,** 62.01 73 P P 22 40 00.2 -0.5
baz=316,SNR=51
WHTX **Lake Whitney,** 62.01 73 P P 22 40 00.3 -0.3
WHTX IAmb IAmb 22 40 01.6
comp=Z,191nm,0.7s
KMI **Kunming** 62.03 276 ⇑ *i*P P 22 40 01.9 +0.7
KMI sP PcP 22 40 41.0 +0.3
KMI S S 22 48 06.6 -11
KMI pmax pmax
comp=Z,150nm,0.9s
KMI LR LR
comp=Z,5µm,22.5s
KMI LR LR
comp=Z,6µm,24.5s
KMI LR LR
comp=Z,14µm,41.7s
KMI **Kunming** 62.03 276 P P 22 40 01.0 -0.2
KMI pmax pmax
comp=Z,819nm,1.9s
KMI **Kunming** 62.03 276 P P 22 40 01.0 -0.2
K49A **Clarkson** 62.07 56 P P 22 40 00.6 -0.3
baz=316,SNR=23
QIZ **Qiongzhong** 62.16 266 P P 22 40 02.8 +0.9
QIZ S S 22 48 17.8 -1.2
QIZ pmax pmax
comp=Z,270nm,1.4s
QIZ **Qiongzhong** 62.16 266 P P 22 40 02.7 +0.8
D54A **Lac Fusel, La** 62.20 48 P P 22 39 60.0 -1.8
baz=318,SNR=13
DCPH **Dipolog City** 62.25 247 ⇑ *e*P P 22 40 01.8 -0.7
E53A **Dumoine, Ponti** 62.30 49 P P 22 40 00.8 -1.6
baz=317,SNR=30
AAM **Ann Arbor** 62.31 56 P P 22 40 01.6 -1.0
baz=316
AAM **Ann Arbor** 62.31 56 P P 22 40 02.1 -0.4
AAM pmax pmax
comp=Z,110nm,1.3s
AAM **Ann Arbor** 62.31 56 P P 22 40 02.1 -0.4
KIRV **Kirov** 62.33 333 *i* P P 22 40 02.9 +0.6
P46A **Rosedale** 62.37 60 P P 22 40 02.1 -0.9
P46A IAmb IAmb 22 40 03.2
comp=Z,126nm,1.0s
SHLS **Shalkode** 62.38 305 ⇓ *i*P P 22 40 02.2 -1.0
comp=Z,604nm,1.6s,baz=305
SHLS *e*S S 22 48 18.0 -3.4
baz=305
SHLS **Shalkode** 62.38 305 *d* iP P 22 40 02.2 -1.0
SHLS *e*S S 22 48 18.0 -3.4
SHLS pmax pmax
comp=Z,604nm,1.6s
ALGO **Algonquin Park** 62.42 50 P P 22 40 01.7 -1.6
baz=317,SNR=14
MIAR **Mount Ida** 62.45 68 P P 22 40 03.1 -0.4
baz=316,SNR=87
E54A **Lac Daplat, Po** 62.48 49 P P 22 40 01.7 -2.0
baz=318,SNR=39
K50A **Casco** 62.50 55 P P 22 40 03.3 -0.5
baz=316
K50A **Casco** 62.50 55 P P 22 40 03.5 -0.3
H52A **Wyevale** 62.50 52 P P 22 40 02.9 -0.9
baz=317
KPKS **Kokpek** 62.54 306 ⇓ *i*P P 22 40 04.6 +0.4
comp=Z,275nm,0.8s,baz=306
KPKS *e*S S 22 48 22.7 -0.7
baz=306
KPKS **Kokpek** 62.54 306 *d* iP P 22 40 04.6 +0.4
KPKS *e*S S 22 48 22.7 -0.7
KPKS pmax pmax
comp=Z,275nm,0.8s
I51A **Listowel** 62.55 53 P P 22 40 03.9 -0.2
baz=317,SNR=34
KCP **Kidapawan** 62.56 244 ⇑ *i*P P 22 40 06.6 +2.0
UZB **Uzunbulak** 62.61 306 ⇓ *i*P P 22 40 04.8 0.0
comp=Z,187nm,1.6s,baz=305
UZB *e*S S 22 48 23.4 -0.9
baz=305
UZB **Uzunbulak** 62.61 306 *d* iP P 22 40 04.7 0.0
UZB *e*S S 22 48 23.4 -0.9
UZB pmax pmax
comp=Z,187nm,1.6s
BORG **Borgarnes** 62.62 9 P P 22 40 05.3 +1.1
BORG pmax pmax
comp=Z,98nm,0.9s
BORG **Borgarnes** 62.62 9 P P 22 40 05.3 +1.1
BORG IAmb IAmb 22 40 06.7
comp=Z,98nm,0.8s
WHAR **Wooly Hollow** 62.65 67 P P 22 40 03.5 -1.4
WHAR IAmb IAmb 22 40 04.7
comp=Z,166nm,1.1s
W41B **Gary Mavity, V** 62.76 67 P P 22 40 04.2 -1.5
baz=316,SNR=53
W41B **Gary Mavity, V** 62.76 67 P P 22 40 04.5 -1.1
W41B IAmb IAmb 22 40 05.5
comp=Z,118nm,0.8s
G53A **Haliburton** 62.76 51 P P 22 40 04.4 -1.1
baz=317,SNR=70
SADO **Sasawa** 62.77 52 P P 22 40 04.5 -1.0
I52A **Shelburne** 62.78 53 P P 22 40 05.2 -0.5
baz=317
435B **Jarrell** 62.80 74 P P 22 40 05.5 -0.4
baz=316,SNR=18
435B **Jarrell** 62.80 74 P P 22 40 06.0 0.0
435B IAmb IAmb 22 40 07.2
comp=Z,157nm,0.8s
G54A **Lake Saint Pet** 62.82 50 P P 22 40 04.6 -1.3
baz=318,SNR=11
D55A **Sainte-Anne-du** 62.84 48 P P 22 40 04.6 -1.4
baz=318,SNR=46
KLMR **Klimovskoe** 62.86 339 *e*P P 22 40 04.5 -1.4
KLMR pmax pmax
comp=Z,195nm,1.2s
KLMR **Klimovskoe** 62.86 339 *e*P P 22 40 04.5 -1.4
KLMR AMP 22 40 08.6
comp=Z,195nm,1.2s
X40A **Basin Creek Fa** 62.91 68 P P 22 40 05.5 -1.2
baz=316,SNR=29
L50A **Kingsville** 62.93 56 P P 22 40 05.7 -1.0
baz=317
237A **Washetta, Mont** 62.97 72 P P 22 40 06.5 -0.6
237A IAmb IAmb 22 40 07.8
comp=Z,167nm,0.7s
SATY **Saty** 62.98 306 ⇓ iP P 22 40 07.8 +0.7
comp=Z,227nm,1.4s,baz=306
SATY *e*S S 22 48 28.4 -0.6
baz=306
SATY **Saty** 62.98 306 *d* iP P 22 40 07.8 +0.7
SATY *e*S S 22 48 28.3 -0.6
SATY pmax pmax
comp=Z,227nm,1.4s
E55A **Montcerf-Lytto** 62.99 48 P P 22 40 05.3 -1.7
baz=318,SNR=8.4
UALR **University of** 62.99 67 P P 22 40 06.2 -0.9
JAY **Jayapura** 63.01 223 P P 22 40 08.2 +0.7
comp=Z,216nm,0.9s,baz=359,slow=3.0,SNR=84
JAY **Jayapura** 63.01 223 P P 22 40 08.1 +0.6
comp=Z,194nm,1.3s
N49A **Columbus Grove** 63.04 58 P P 22 40 06.3 -1.1
N49A IAmb IAmb 22 40 07.6
comp=Z,180nm,1.2s
BLO **Bloomington** 63.06 60 P P 22 40 06.7 -0.9
BLO pmax pmax
comp=Z,242nm,1.6s
BLO **Bloomington** 63.06 60 P P 22 40 06.7 -0.9
BLO IAmb IAmb 22 40 07.7
comp=Z,242nm,1.6s
K51A **Iona Station** 63.10 54 P P 22 40 07.5 -0.3
baz=317
CHKK **Chushkaly** 63.10 307 ⇓ *i*P P 22 40 07.4 -0.4
baz=307
CHKK **Chushkaly** 63.10 307 *d* iP P 22 40 07.4 -0.4
D56A **ZEC Mazanza, M** 63.14 47 P P 22 40 06.3 -1.8
baz=318,SNR=23
H53A **Bobcaygeon** 63.19 51 P P 22 40 07.2 -1.1
baz=318,SNR=21
HNR **Honiara** 63.21 201 P P 22 40 09.4 +0.7
comp=Z,197nm,0.5s,baz=205,slow=3.3,SNR=18
HNR **Honiara** 63.21 201 P P 22 40 09.0 +0.3
HNR pmax pmax
comp=Z,507nm,1.0s
HNR **Honiara** 63.21 201 P P 22 40 09.0 +0.3
J52A **Paris** 63.24 53 P P 22 40 08.0 -0.7
baz=317,SNR=13
I53A **Kortright Cn E** 63.25 52 P P 22 40 08.2 -0.5
baz=317
M50A **Fremont** 63.28 56 P P 22 40 08.3 -0.7
GENI **Genyem** 63.31 224 P P 22 40 10.1 +0.7
comp=Z,1µm,0.8s
F55A **Otter Lake** 63.31 49 P P 22 40 07.1 -2.1
baz=318,SNR=7.8
KUU **Kurty** 63.39 308 ⇓ iP P 22 40 09.3 -0.5
comp=Z,295nm,1.3s,baz=308
KUU *e*S S 22 48 34.2 +0.4
baz=308
KUU **Kurty** 63.39 308 *d* iP P 22 40 09.2 -0.5
KUU *e*S S 22 48 34.2 +0.4
KUU pmax pmax
comp=Z,295nm,1.3s
E56A **St. Veronique** 63.40 48 P P 22 40 07.9 -1.7
baz=318,SNR=29
PRZ **Przheval'sk** 63.40 305 P P 22 40 10.6 +0.6
PRZ **Przheval'sk** 63.40 305 P P 22 40 10.6 +0.6
SMPI **Sarmi** 63.41 226 P P 22 40 10.8 +0.7
comp=Z,256nm,1.4s
K52A **Tillsonburg** 63.45 54 P P 22 40 09.7 -0.4
baz=317
T45A **Paducah** 63.46 63 P P 22 40 09.5 -0.7
833A **Chaparral WMA,** 63.49 77 P P 22 40 10.3 -0.2
baz=317,SNR=9.5
833A **Chaparral WMA,** 63.49 77 P P 22 40 10.6 0.0
D57A **Chemin Vers le** 63.56 47 P P 22 40 09.2 -1.5
baz=319,SNR=20
PLVO **Plevna** 63.56 50 P P 22 40 09.6 -1.2
G55A **Calabogie** 63.57 50 P P 22 40 09.2 -1.7
baz=318,SNR=31
MDOK **Medeo** 63.58 307 *i* P P 22 40 11.5 +0.4
baz=307
MDOK *e*S S 22 48 35.4 -1.0
baz=307
MDOK **Medeo** 63.58 307 *i* P P 22 40 11.5 +0.4
MDOK *e*S S 22 48 35.4 -1.0
AAA **Alma-Ata** 63.61 307 ⇓ *i*P P 22 40 12.1 +0.8
comp=Z,220nm,0.9s,baz=307
AAA *e*S S 22 48 36.3 -0.3
baz=307
AAA **Alma-Ata** 63.61 307 *d* iP P 22 40 12.0 +0.8
AAA *e*S S 22 48 36.3 -0.3
AAA pmax pmax
comp=Z,220nm,0.9s
BTLS **Baital** 63.65 310 ⇓ *i*P P 22 40 11.3 -0.1
comp=Z,152nm,1.2s,baz=310
BTLS *e*S S 22 48 35.6 -1.3
baz=310
BTLS **Baital** 63.65 310 *d* iP P 22 40 11.2 -0.1
BTLS *e*S S 22 48 35.6 -1.3
BTLS pmax pmax
comp=Z,152nm,1.2s
DELO **Deloro Mine** 63.69 51 P P 22 40 10.9 -0.7
TNSS **Tian-Shan** 63.72 307 ⇓ *i*P P 22 40 12.8 +0.4
baz=307
TNSS **Tian-Shan** 63.72 307 *d* iP P 22 40 12.8 +0.4
P49A **Miami Univ. Ec** 63.76 59 P P 22 40 10.6 -1.6
baz=317,SNR=18
M51A **Elyria** 63.77 56 P P 22 40 11.0 -1.2
baz=317
LATQ **La Tuque** 63.78 46 P P 22 40 10.8 -1.4
baz=319,SNR=27
NATX **Nacogdoches** 63.82 71 P P 22 40 12.4 -0.3
baz=317,SNR=18
NATX **Nacogdoches** 63.82 71 P P 22 40 12.4 -0.3
NATX IAmb IAmb 22 40 13.6
comp=Z,160nm,0.7s
Z41A **Richland Creek** 63.82 69 P P 22 40 11.9 -0.7
baz=317,SNR=6.8
Z41A **Richland Creek** 63.82 69 P P 22 40 11.9 -0.7
WCI **Wyandotte Cave** 63.87 61 P P 22 40 12.1 -0.8
baz=317
H55A **Tweed** 63.88 51 P P 22 40 11.6 -1.2
baz=318,SNR=20
I55A **Frankford** 63.88 51 P P 22 40 11.8 -1.1
baz=318,SNR=13
E57A **Chemin Saint G** 63.90 47 P P 22 40 11.4 -1.7
baz=319,SNR=50
MTBS **Maitube** 63.91 307 ⇓ *i*P P 22 40 13.9 +0.7
baz=307
MTBS **Maitube** 63.91 307 *d* iP P 22 40 13.9 +0.7
CCAR **Cane Creek** 63.94 68 P P 22 40 12.9 -0.5
CCAR IAmb IAmb 22 40 41.3
comp=Z,374nm,1.5s
D58A **Chemin du LacG** 63.95 46 P P 22 40 11.6 -1.8
baz=319,SNR=16
N51A **Ashland** 63.98 56 P P 22 40 12.2 -1.4
baz=317,SNR=9.4
N51A **Ashland** 63.98 56 P P 22 40 12.5 -1.1
N51A IAmb IAmb 22 40 13.6
comp=Z,195nm,1.4s
ORIO **Orleans, Innes** 63.99 49 P P 22 40 11.4 -2.1
baz=319,SNR=6.5
M52A **Chesterland** 64.04 55 P P 22 40 12.8 -1.2
baz=317,SNR=6.6
M52A **Chesterland** 64.04 55 P P 22 40 13.0 -1.1
SLVN **Son La** 64.11 272 P P 22 40 14.8 0.0
SLVN IAmb IAmb 22 40 17.0
comp=Z,280nm,1.1s
J54A **Appleton** 64.12 52 P P 22 40 13.9 -0.5
baz=318,SNR=9.2
J54A **Appleton** 64.12 52 P P 22 40 14.3 -0.2
ACSO **Alum Creek Sta** 64.16 57 P P 22 40 13.5 -1.3
baz=317,SNR=11
TARG **Taragay, Kyrgy** 64.26 305 P P 22 40 16.4 +0.4
TARG IAmb IAmb 22 40 18.6
comp=Z,197nm,1.4s
KDJ **Kajisay** 64.28 306 P P 22 40 15.9 +0.1
KDJ pmax pmax
comp=Z,353nm,1.1s
KDJ **Kajisay** 64.28 306 P P 22 40 15.9 +0.1
KDJ IAmb IAmb 22 40 17.6
comp=Z,353nm,1.1s
H56A **Elgin** 64.28 50 P P 22 40 14.0 -1.5
baz=319,SNR=19
L53A **Girard** 64.29 54 P P 22 40 15.2 -0.4
baz=318
ERPA **Erie** 64.31 54 P P 22 40 15.0 -0.7
baz=318,SNR=8.1
ERPA **Erie** 64.31 54 P P 22 40 15.1 -0.7

E58A **La Victoria** 64.32 47 P P 22 40 13.9 -1.8
baz=319,SNR=25
N52A **McGinn's Farm,** 64.41 56 P P 22 40 15.3 -1.1
baz=318
SRPI **Serui, Papua** 64.42 228 P P 22 40 16.8 +0.1
O51A **Pataskala** 64.42 57 P P 22 40 15.3 -1.2
baz=317,SNR=36
HKT **Hockley** 64.44 74 P P 22 40 16.6 -0.1
HKT pmax pmax
comp=Z,472nm,1.9s
HKT **Hockley** 64.44 74 P P 22 40 16.6 -0.1
HKT IAmb IAmb 22 40 18.1
comp=Z,472nm,1.9s
M53A **WI Miller and** 64.46 55 P P 22 40 16.1 -0.6
baz=318,SNR=13
M53A **WI Miller and** 64.46 55 P P 22 40 16.4 -0.4
M53A IAmb IAmb 22 40 17.3
comp=Z,255nm,1.4s
TKM2 **Tokmak 2** 64.47 308 P P 22 40 17.8 +0.7
SNR=42
D59A **Saint-Raymond** 64.48 46 P P 22 40 15.6 -1.2
baz=320,SNR=8.7
G57A **Newington** 64.50 49 P P 22 40 14.9 -2.0
baz=319,SNR=6.9
J55A **Hilton** 64.53 52 P P 22 40 16.0 -1.1
baz=318,SNR=14
J55A **Hilton** 64.53 52 P P 22 40 16.2 -0.9
SGDS **Sogindy** 64.55 308⇓*i*P P 22 40 18.0 +0.6
comp=Z,155nm,1.3s,baz=308
SGDS *e*S S 22 48 47.6 -0.6
baz=308
SGDS **Sogindy** 64.55 308*d i*P P 22 40 18.0 +0.6
SGDS *e*S S 22 48 47.6 -0.6
SGDS pmax pmax
comp=Z,155nm,1.3s
WVT **Waverly** 64.55 63 P P 22 40 16.7 -0.8
baz=317
WVT **Waverly** 64.55 63 P P 22 40 16.6 -0.8
WVT pmax pmax
comp=Z,68nm,1.1s
WVT **Waverly** 64.55 63 P P 22 40 16.6 -0.8
L54A **Sinclairville** 64.56 54 P P 22 40 16.5 -0.9
baz=318,SNR=19
K54A **Basiliko Farm,** 64.59 53 P P 22 40 16.8 -0.8
baz=318,SNR=21
BOOM **Boomskoye usch** 64.63 307 P P 22 40 18.6 +0.6
BOOM pmax pmax
comp=Z,663nm,1.5s
BOOM **Boomskoye usch** 64.63 307 P P 22 40 18.6 +0.6
ULHL **Ulahol** 64.66 307 P P 22 40 19.1 +0.8
SNR=32
P51A **Williamsport** 64.67 58 P P 22 40 16.4 -1.7
baz=318,SNR=8.7
USP **Ospenovka** 64.75 308 P P 22 40 19.4 +0.8
SNR=81
WVNY **West Valley, N** 64.78 53 P P 22 40 18.3 -0.6
WVNY IAmb IAmb 22 40 19.4
comp=Z,136nm,1.0s
H57A **Richville** 64.79 50 P P 22 40 17.1 -1.7
baz=319,SNR=20
K55A **Perry** 64.80 52 P P 22 40 18.1 -0.9
baz=318,SNR=15
CHMS **Chumysh** 64.83 308 P P 22 40 19.8 +0.7
SNR=33
O52A **Adamsville** 64.84 57 P P 22 40 17.9 -1.4
baz=318,SNR=28
N53A **Lisbon** 64.85 56 P P 22 40 18.0 -1.3
baz=318,SNR=11
OXF **Oxford** 64.85 66 P P 22 40 18.2 -1.1
baz=317,SNR=26
OXF **Oxford** 64.85 66 P P 22 40 18.6 -0.8
OXF pmax pmax
comp=Z,659nm,1.3s
OXF **Oxford** 64.85 66 P P 22 40 18.6 -0.8
MMNY **Mt. Morris Dam** 64.88 52 P P 22 40 18.6 -0.8
G58A **Ormstown** 64.90 48 P P 22 40 17.4 -2.0
baz=319,SNR=8.7
M54A **Oil Creek Stat** 64.92 54 P P 22 40 19.0 -0.8
baz=318,SNR=10
M54A **Oil Creek Stat** 64.92 54 P P 22 40 18.9 -0.8
F59A **Saint Guilaume** 64.94 47 P P 22 40 18.3 -1.5
baz=320,SNR=27
D60A **Saint Jean D'O** 64.96 45 P P 22 40 18.1 -1.7
baz=320,SNR=14
J56A **Wolcott** 64.98 51 P P 22 40 19.1 -1.0
baz=319,SNR=21
J56A **Wolcott** 64.98 51 P P 22 40 19.1 -1.0
KBK **Karagaybulak** 64.99 308 P P 22 40 21.6 +1.2
SNR=18
FRU1 **Bishkek** 65.03 308 P P 22 40 21.1 +0.6
FRU1 pmax pmax
comp=Z,864nm,1.3s
FRU1 **Bishkek** 65.03 308 P P 22 40 21.1 +0.6
L55A **Hinsdale** 65.03 53 P P 22 40 19.7 -0.8
baz=318,SNR=18
P52A **Corning** 65.05 57 P P 22 40 19.5 -1.0
baz=318,SNR=6.2
LONY **Lake Ozonia** 65.05 49 P P 22 40 18.3 -2.2
baz=319,SNR=13
D61A **St Aubert, Com** 65.06 45 P P 22 40 19.4 -1.1
baz=321,SNR=11
I57A **Carthage** 65.06 50 P P 22 40 19.1 -1.5
baz=319,SNR=14
O53A **New Philadelph** 65.07 56 P P 22 40 19.4 -1.3
baz=318,SNR=8.2
RKPI **Ransiki, Papua** 65.07 230 P P 22 40 25.1 +4.1
WAMI **Wamena** 65.10 225 P P 22 40 22.0 +0.9
comp=Z,386nm,0.7s
E60A **Ste Agathe de** 65.14 46 P P 22 40 19.3 -1.7
baz=320,SNR=18
N54A **Moraine State** 65.16 55 P P 22 40 20.0 -1.3
baz=318,SNR=13
K56A **Middlesex** 65.19 52 P P 22 40 20.8 -0.7
baz=319,SNR=38
AAK **Ala-Archa** 65.22 308 P P 22 40 22.9 +1.0
SNR=52
AAK **Ala-Archa** 65.22 308 *i* P P 22 40 22.6 +0.7
SNR=53
AAK **Ala-Archa** 65.22 308 P P 22 40 20.9 -1.0
AAK **Ala-Archa** 65.22 308*d i*P P 22 40 22.7 +0.8
AAK pmax pmax
comp=Z,417nm,1.4s
AAK **Ala-Archa** 65.22 308 P P 22 40 22.1 +0.2
AAK IAmb IAmb 22 40 23.9
comp=Z,456nm,1.3s
F60A **Warwick** 65.23 46 P P 22 40 19.8 -1.8
baz=320,SNR=13
KZA **Kyzart** 65.27 307 P P 22 40 23.7 +1.2
SNR=20
J57A **Williamstown** 65.30 51 P P 22 40 20.9 -1.2
baz=319,SNR=10
G59A **Clarenceville** 65.35 48 P P 22 40 20.7 -1.7
baz=320,SNR=18
H58A **Gabriels** 65.39 49 P P 22 40 21.1 -1.6
baz=320,SNR=11
M55A **Ridgway** 65.40 54 P P 22 40 21.9 -1.0
baz=318,SNR=18
H59A **Cadyville** 65.45 48 P P 22 40 21.3 -1.7
baz=320,SNR=13
342A **Flagon Creek P** 65.46 70 P P 22 40 23.0 -0.3
Q52A **Bidwell** 65.47 58 P P 22 40 21.8 -1.5
baz=318,SNR=16
L56A **Greenwood** 65.50 53 P P 22 40 22.9 -0.6
baz=319,SNR=72
E61A **Lac Etchemin** 65.52 45 P P 22 40 22.3 -1.2
baz=321
UCH **Uchtor** 65.52 308 P P 22 40 25.2 +1.0
SNR=15
T50A **Nancy** 65.54 61 P P 22 40 22.9 -0.8
T50A IAmb IAmb 22 40 24.3
comp=Z,240nm,1.5s
P53A **Whipple** 65.54 57 P P 22 40 22.4 -1.4
baz=318,SNR=13
O54A **Avella** 65.55 56 P P 22 40 22.5 -1.3
baz=318,SNR=7.6
EKS2 **Erkin-Say** 65.56 308 P P 22 40 25.4 +1.4
SNR=40
K57A **Scipio Center** 65.56 51 P P 22 40 22.6 -1.2
baz=319,SNR=14
I58A **Old Forge** 65.57 50 P P 22 40 22.2 -1.8
baz=319,SNR=14
ZAIG **Zacatecas** 65.63 84 P P 22 40 25.0 +0.1
ZAIG IAmb IAmb 22 40 26.7
comp=Z,149nm,0.9s
D62A **Allapoint, All** 65.64 44 P P 22 40 23.4 -0.8
baz=321,SNR=16
F61A **St Evariste** 65.65 46 P P 22 40 23.2 -1.2
baz=321,SNR=17
J58A **Remsen** 65.67 50 P P 22 40 23.2 -1.3
baz=319,SNR=16
J58A **Remsen** 65.67 50 P P 22 40 23.3 -1.3
M56A **Emporium** 65.68 53 P P 22 40 23.8 -0.9
baz=319,SNR=24
M56A **Emporium** 65.68 53 P P 22 40 23.8 -0.9
M56A IAmb IAmb 22 40 25.1
comp=Z,167nm,1.4s
LSA **Lhasa** 65.71 288 P P 22 40 26.9 +1.4
LSA **Lhasa** 65.71 288 P P 22 40 24.5 -1.0
LSA **Lhasa** 65.71 288 P P 22 40 26.4 +0.9
LSA pmax pmax
comp=Z,299nm,0.8s
LSA **Lhasa** 65.71 288 P P 22 40 26.4 +0.9
LSA IAmb IAmb 22 40 28.4
comp=Z,299nm,0.8s
PUL **Pulkovo** 65.71 343 *e*P P 22 40 23.0 -1.5
PUL pmax pmax
comp=Z,87nm,0.5s
G60A **Masonville** 65.72 47 P P 22 40 23.2 -1.6
baz=320,SNR=8.1
E62A **Clayton Lake** 65.80 45 P P 22 40 24.1 -1.2
baz=321,SNR=14
E62A **Clayton Lake** 65.80 45 P P 22 40 24.0 -1.3
N55A **Marion Center** 65.80 54 P P 22 40 24.4 -1.1
baz=319,SNR=8.4
VBMS **Vicksburg** 65.89 68 P P 22 40 25.3 -0.8
baz=318
VBMS **Vicksburg** 65.89 68 P P 22 40 25.4 -0.8
VBMS IAmb IAmb 22 40 54.5
comp=Z,140nm,1.1s
P54A **Burton** 65.92 56 P P 22 40 25.2 -1.1
baz=318,SNR=11
Q53A **Leroy** 65.94 57 P P 22 40 25.5 -0.8
baz=318,SNR=35
SIJI **Sorong** 65.94 234 P P 22 40 27.1 +0.5
comp=Z,1µm,0.7s,baz=21,slow=6.1,SNR=331
G61A **St-Isidore-de-** 65.94 47 P P 22 40 24.8 -1.5
baz=320,SNR=23
L57A **Andrews Acres** 65.95 52 P P 22 40 25.6 -0.8
baz=319,SNR=24
K58A **Earlville** 65.95 51 P P 22 40 25.3 -1.0
baz=319,SNR=13
J59A **Piesco** 65.97 50 P P 22 40 24.8 -1.6
baz=320,SNR=21
H60A **Morristown** 65.97 48 P P 22 40 24.4 -2.1
baz=320,SNR=12
AML **Almayashu** 66.00 308 P P 22 40 28.6 +1.5
SNR=23
I59A **Olmsteadville** 66.01 49 P P 22 40 25.1 -1.6
baz=320,SNR=29
N56A **West Decatur** 66.05 54 P P 22 40 25.9 -1.1
baz=319,SNR=15
O55A **Ligonier** 66.07 55 P P 22 40 25.8 -1.4
baz=319,SNR=6.2
D63A **Stockholm** 66.08 43 P P 22 40 25.8 -1.3
baz=322,SNR=7.8
R53A **Hurricane** 66.11 58 P P 22 40 26.7 -0.7
baz=318,SNR=22
R53A **Hurricane** 66.11 58 P P 22 40 26.1 -1.3
R53A IAmb IAmb 22 40 27.9
comp=Z,313nm,1.5s
AFI **Afiamalu** 66.12 170 P P 22 40 27.3 -0.4
AFI pmax pmax
comp=Z,164nm,0.7s
AFI **Afiamalu** 66.12 170 P P 22 40 27.2 -0.4
AFI IAmb IAmb 22 41 20.6
comp=Z,164nm,0.7s
F62A **Pittston Farm,** 66.16 45 P P 22 40 26.2 -1.4
baz=321,SNR=23
Q54A **Coxs Mills** 66.20 57 P P 22 40 26.9 -1.1
baz=318,SNR=7.5
Q54A **Coxs Mills** 66.20 57 P P 22 40 26.9 -1.1
MCWV **Mont Chateau** 66.21 56 P P 22 40 27.1 -0.9
baz=319
BINY **Binghamton** 66.22 52 P P 22 40 27.1 -1.0
baz=319,SNR=16
BINY **Binghamton** 66.22 52 P P 22 40 27.2 -0.9
BINY IAmb IAmb 22 40 56.3
comp=Z,245nm,1.6s
I60A **Shoreham** 66.24 49 P P 22 40 26.1 -2.0
baz=320,SNR=8.3
M57A **Sunshine Farm,** 66.31 53 P P 22 40 28.0 -0.6
baz=319,SNR=30
K59A **Cooperstown** 66.33 50 P P 22 40 27.3 -1.5
baz=320,SNR=14
P55A **Reedsville** 66.33 56 P P 22 40 27.7 -1.2
baz=319,SNR=9.4
H61A **Lyndonville** 66.34 47 P P 22 40 27.5 -1.3
baz=320,SNR=15
L58A **Harry Jones Me** 66.40 52 P P 22 40 28.2 -1.0
baz=320,SNR=19
O56A **Blue Knob Stat** 66.40 54 P P 22 40 27.9 -1.4
baz=319,SNR=8.6
E63A **Oxbow** 66.43 44 P P 22 40 27.9 -1.4
baz=322,SNR=13
G62A **West of Eustis** 66.44 46 P P 22 40 28.3 -1.2
baz=321,SNR=26
SSPA **Standing Stone** 66.46 54 P P 22 40 28.8 -0.8
baz=319
SSPA **Standing Stone** 66.46 54 P P 22 40 28.7 -1.0
ABKAR **Akbulak array** 66.48 321 P P 22 40 29.8 +0.2
ABKAR **Akbulak array** 66.48 321 P P 22 40 30.1 +0.5
ABKAR IAmb IAmb 22 40 31.8
comp=Z,686nm,1.2s
S53A **Williamson** 66.50 59 P P 22 40 29.1 -0.8
baz=318,SNR=5.8
TNTI **Ternate** 66.53 238 P P 22 40 30.3 -0.1
comp=Z,7µmcomp=Z,276nm,1.4s
TNTI **Ternate** 66.53 238 P P 22 40 30.2 -0.2
N57A **Milroy** 66.54 54 P P 22 40 29.3 -0.9
baz=319,SNR=15
DZA **Taraz** 66.55 310⇓*i*P P 22 40 30.6 +0.3
comp=Z,64nm,1.0s,baz=310
DZA *e*S S 22 49 11.6 -1.0
baz=310
DZA **Taraz** 66.55 310*d i*P P 22 40 30.5 +0.3
DZA *e*S S 22 49 11.6 -1.0
DZA pmax pmax
comp=Z,64nm,1.0s
Z47A **Carrollton** 66.56 66 P P 22 40 29.2 -1.1
Z47A IAmb IAmb 22 40 30.3
comp=Z,308nm,1.4s
LBNH **Lisbon** 66.57 48 P P 22 40 29.2 -1.0
baz=321,SNR=17
LBNH **Lisbon** 66.57 48 P P 22 40 29.3 -1.0
LBNH pmax pmax
comp=Z,44nm,1.0s
LBNH **Lisbon** 66.57 48 P P 22 40 29.3 -1.0
Q55A **Buckhannon** 66.58 56 P P 22 40 29.5 -1.0
baz=319,SNR=9.3
TZTN **Tazewell** 66.58 60 P P 22 40 29.6 -0.9
baz=318,SNR=13
TZTN **Tazewell** 66.58 60 P P 22 40 29.9 -0.6
M58A **Price's Panora** 66.61 52 P P 22 40 29.9 -0.7
baz=320,SNR=21
W50A **Signal Mountai** 66.62 63 P P 22 40 29.6 -1.2
W50A IAmb IAmb 22 40 31.1
comp=Z,205nm,1.5s
J60A **Lant Hill Farm** 66.64 49 P P 22 40 29.4 -1.4
baz=320,SNR=22
H62A **Milan** 66.66 47 P P 22 40 29.7 -1.2
baz=321,SNR=39
H62A **Milan** 66.66 47 P P 22 40 29.8 -1.0
I61A **Oroboro, Fairl** 66.68 48 P P 22 40 29.8 -1.1
baz=321,SNR=15
L59A **Walton** 66.68 51 P P 22 40 30.1 -0.9
baz=320,SNR=19
L59A **Walton** 66.68 51 P P 22 40 30.1 -0.9
E64A **Bridgewater** 66.68 44 P P 22 40 29.5 -1.4
baz=322,SNR=21
F63A **Nahmakanta, Br** 66.69 45 P P 22 40 29.8 -1.2
baz=322,SNR=15
F63A **Nahmakanta, Br** 66.69 45 P P 22 40 30.0 -1.1
R54A **Victor** 66.72 58 P P 22 40 30.5 -0.9
baz=319,SNR=13
BATG **Bathurst New B** 66.75 42 P P 22 40 30.9 -0.4
KK31 **Karatay Array** 66.78 311 P P 22 40 31.6 0.0
KK31 pmax pmax
comp=Z,1µm,1.9s
KK31 **Karatay Array** 66.78 311 P P 22 40 31.6 0.0
KKAR **Karatay Array** 66.78 311 P P 22 40 31.7 +0.1
KKAR pmax pmax
comp=Z,1µm,1.9s
KKAR **Karatay Array** 66.78 311 P P 22 40 31.7 +0.1
KKAR **Karatay Array** 66.78 311 P P 22 40 31.8 +0.1
T53A **Wise** 66.80 59 P P 22 40 31.4 -0.5
baz=318,SNR=16
KSPA **Keystone Colle** 66.81 52 P P 22 40 30.9 -1.0
PMG **Port Moresby** 66.82 214 P P 22 40 32.5 +0.4
comp=Z,175nm,1.1s,baz=25,slow=6.9,SNR=28
PMG **Port Moresby** 66.82 214⇑*i*P P 22 40 32.1 0.0
PMG pmax pmax
comp=Z,434nm,1.5s
PMG **Port Moresby** 66.82 214 P P 22 40 32.3 +0.2
KSH **Kashi** 66.83 305 P P 22 40 36.6 +4.4
KSH LR LR
comp=Z,10µm,15.2s
KSH LR LR
comp=Z,10µm,13.6s
KSH LR LR
comp=Z,11µm,14.4s
P56A **Dayton Farm, R** 66.84 55 P P 22 40 30.9 -1.2
baz=319,SNR=13
S54A **Dingess, Becki** 66.84 58 P P 22 40 31.1 -1.1
baz=319,SNR=6.6
CPCT **Cooper Cave** 66.87 62 P P 22 40 31.1 -1.2
N58A **Sunbury** 66.89 53 P P 22 40 31.5 -0.8
baz=320,SNR=21
F64A **Sherman** 66.89 44 P P 22 40 31.2 -1.0
baz=322,SNR=19
NB2 **NORSAR Subarra** 66.90 353 P P 22 40 31.8 -0.3
comp=Z,18nm,0.6s,baz=8.2,slow=6.5
NB2 **NORSAR Subarra** 66.90 353 P P 22 40 31.8 -0.3
baz=8.2,slow=6.5
NOA **NORSAR Array B** 66.90 353 P P 22 40 32.1 -0.1
comp=Z,16nm,0.6s,baz=2.6,slow=5.6,SNR=15
K60A **Five Rivers En** 66.90 50 P P 22 40 31.3 -1.1
baz=320
O57A **Amberson** 66.91 54 P P 22 40 31.4 -1.1
baz=319,SNR=13
G63A **Kingsbury** 66.93 46 P P 22 40 31.3 -1.2
baz=322,SNR=13
FPAL **Fort Paine** 66.95 63 P P 22 40 31.4 -1.4
FPAL IAmb IAmb 22 40 33.8
comp=Z,405nm,2.0s
PKME **Peaks-Kenny Pk** 66.95 45 P P 22 40 31.7 -0.9
baz=322,SNR=9.8
PKME **Peaks-Kenny Pk** 66.95 45 P P 22 40 31.6 -1.0
J61A **Chester** 66.97 49 P P 22 40 31.7 -1.1
baz=321,SNR=19
M59A **Waymart** 66.99 52 P P 22 40 31.7 -1.2
baz=320,SNR=15
Q56A **Snyder Ridge,** 67.01 56 P P 22 40 32.0 -1.2
baz=319,SNR=5.9
Q56A **Snyder Ridge,** 67.01 56 P P 22 40 32.0 -1.2
H63A **New Sharon** 67.09 46 P P 22 40 32.5 -1.0
baz=321
R55A **Marlinton** 67.10 57 P P 22 40 33.1 -0.7
baz=319,SNR=8.7
I62A **Tamworth** 67.12 47 P P 22 40 32.5 -1.3
baz=321,SNR=7.8
TKL **Tuckaleechee C** 67.12 61 P P 22 40 33.0 -0.9
TKL pmax pmax
comp=Z,126nm,1.4s
TKL **Tuckaleechee C** 67.12 61 P P 22 40 33.0 -0.9
BRLS **Borolday** 67.15 311 *e*P P 22 40 36.3 +2.2
baz=311
BRLS *e*S S 22 49 22.2 +2.4
baz=311
BRLS **Borolday** 67.15 311 *e*P P 22 40 36.2 +2.2
BRLS *e*S S 22 49 22.1 +2.4
K61A **Williamstown** 67.16 50 P P 22 40 32.8 -1.3
baz=320,SNR=14
KMPI **Kaimana, Papua** 67.18 230 P P 22 40 35.7 +1.3
comp=Z,796nm,1.0s
G64A **Maxfield** 67.20 45 P P 22 40 33.1 -1.1
baz=322,SNR=6.5
L60A **Shokan** 67.23 51 P P 22 40 33.3 -1.1
baz=320,SNR=11
FAKI **Fak Fak** 67.23 232 P P 22 40 34.9 +0.2
comp=Z,827nm,1.3s
FAKI **Fak Fak** 67.23 232 P P 22 40 34.6 -0.1
T54A **Tazewell** 67.25 59 P P 22 40 34.0 -0.7
baz=319,SNR=22
P57A **Homestead Farm** 67.27 55 P P 22 40 33.6 -1.2
baz=319,SNR=9.4
S55A **Lewisburg** 67.28 58 P P 22 40 34.1 -0.8
baz=319,SNR=6.7
LRAL **Lakeview Retre** 67.29 65 P P 22 40 33.3 -1.7
baz=318,SNR=15
N59A **State Game Lan** 67.30 52 P P 22 40 34.1 -0.9
baz=320,SNR=27
I63A **Otisfield** 67.33 47 P P 22 40 34.0 -1.0
baz=321,SNR=14
O58A **Lewisberry** 67.33 54 P P 22 40 34.1 -1.1
baz=320,SNR=10
WVL **Waterville** 67.34 46 P P 22 40 33.9 -1.2
X51A **Calhoun** 67.34 63 P P 22 40 33.9 -1.4
R56A **Bull Pasture M** 67.38 56 P P 22 40 34.3 -1.2
baz=319,SNR=7.1
L61A **Hillsdale 1, H** 67.39 50 P P 22 40 34.6 -0.9
baz=320,SNR=8.2
J62A **Henniker** 67.41 48 P P 22 40 34.5 -1.0
baz=321,SNR=16
Q57A **Strasburg** 67.41 55 P P 22 40 34.4 -1.3
baz=319,SNR=6.7
H64A **Troy** 67.47 46 P P 22 40 34.6 -1.4
baz=322,SNR=7.2
U54A **Nelsons Funny** 67.53 59 P P 22 40 35.5 -1.1
baz=319,SNR=15
U54A **Nelsons Funny** 67.53 59 P P 22 40 36.0 -0.6
M60A **Port Jervis** 67.54 51 P P 22 40 35.4 -1.1
baz=320,SNR=13
O59A **Robesonia** 67.56 53 P P 22 40 35.9 -0.6
baz=320
VSU **Vasula** 67.57 344 *i* P P 22 40 36.1 -0.2
VSU pmax pmax
comp=Z,399nm,0.9s
L61B **Northampton** 67.60 49 P P 22 40 35.5 -1.3
baz=321,SNR=9.8
P58A **Pank, Wackersv** 67.62 54 P P 22 40 36.2 -0.8
baz=320
T55A **Pulaski** 67.63 58 P P 22 40 36.3 -0.8
baz=319,SNR=11
K62A **Royalston** 67.64 49 P P 22 40 35.7 -1.4
baz=321,SNR=12
N60A **Cedar Hill Far** 67.66 52 P P 22 40 36.2 -1.0
baz=320,SNR=22
J63A **Strafford** 67.70 48 P P 22 40 35.9 -1.5
baz=321,SNR=6.8
IUG **Iuzhnay** 67.74 310⇓*i*P P 22 40 39.0 +1.2
comp=Z,76nm,1.5s,baz=310
IUG *e*S S 22 49 26.9 -0.1
baz=310
IUG **Iuzhnay** 67.74 310*d i*P P 22 40 39.0 +1.2
IUG *e*S S 22 49 26.8 -0.1
IUG pmax pmax
comp=Z,76nm,1.5s
G65A **Princeton** 67.76 44 P P 22 40 36.6 -1.1
baz=322,SNR=15
S56A **Natural Bridge** 67.84 57 P P 22 40 37.4 -1.0
baz=319,SNR=13
SANVU **Saraoutou** 67.84 192 P P 22 40 38.7 +0.2
Q58A **Fox Den Farm,** 67.85 55 P P 22 40 37.3 -1.1
baz=320,SNR=14
I64A **Boothbay** 67.86 46 P P 22 40 37.0 -1.3
baz=322,SNR=6.3
H65A **Eastbrook** 67.86 45 P P 22 40 37.2 -1.1
baz=322,SNR=15
R57A **Stanardsville** 67.91 56 P P 22 40 37.7 -1.1
baz=320,SNR=12
MOS **Moscow** 67.91 337 *e*P P 22 40 37.2 -1.3
MOS *e**PP pwP 22 41 08.9 +2.5
MOS *e*S S 22 49 27.2 -1.1
MOS pmax pmax
comp=Z,269nm,1.2s
O60A **Telford** 67.93 52 P P 22 40 38.0 -0.9
baz=320,SNR=13
U55A **TA2, Sparta** 67.95 59 P P 22 40 38.0 -1.2
baz=319,SNR=15
K63A **Dunstable** 67.95 48 P P 22 40 37.3 -1.7
baz=321,SNR=14
M61A **Granite Spring** 67.97 51 P P 22 40 37.8 -1.3
baz=321,SNR=5.7
P59A **Jarrettsville** 67.97 54 P P 22 40 38.1 -1.0
baz=320,SNR=10.0
V54A **Nebo** 68.02 60 P P 22 40 38.9 -0.7
baz=319,SNR=19
BG3 **Lake Jocassee** 68.08 61 P P 22 40 39.2 -0.7
HRV **Adam Dziewonsk** 68.08 49 P P 22 40 38.6 -1.2
baz=321
T56A **Rocky Mt** 68.09 58 P P 22 40 39.1 -0.9

baz=319
S57A Dark Hollow, R 68.09 57 P P 22 40 39.2 -0.8
baz=320
PAL Palisades 68.13 51 P P 22 40 39.3 -0.8
baz=321
N61A South Mountain 68.14 51 P P 22 40 39.5 -0.7
baz=320
R58A Rapidan 68.17 56 P P 22 40 39.2 -1.2
baz=320,SNR=9.6
EMMW East Machias 68.19 45 P P 22 40 39.6 -0.9
H66A Whiting 68.20 44 P P 22 40 39.2 -1.2
baz=323,SNR=21
P60A Greenville 68.21 53 P P 22 40 39.5 -1.2
baz=320
CPNY Central Park 68.27 51 P P 22 40 40.1 -0.9
SHL Shillong 68.32 284 *e*P P 22 40 41.9 +0.1
SHL IAmb IAmb 22 40 43.2
comp=Z,359nm,1.0s
SHL Shillong 68.32 284 P P 22 40 41.1 -0.7
SNR=89
SHL Shillong 68.32 284 P P 22 40 41.3 -0.5
SHL pmax pmax
comp=Z,1µm,1.2s
SHL Shillong 68.32 284 P P 22 40 41.3 -0.5
V55A Taylorsville 68.35 59 P P 22 40 40.6 -1.0
baz=319,SNR=12
V55A Taylorsville 68.35 59 P P 22 40 40.8 -0.8
LMN Caledonia Moun 68.41 42 P P 22 40 40.9 -0.9
W54A Cherokee Point 68.41 61 P P 22 40 41.0 -1.0
baz=319,SNR=12
U56A King 68.42 58 P P 22 40 40.7 -1.3
baz=319,SNR=7.2
U56A King 68.42 58 P P 22 40 41.3 -0.8
DLV T Lat 68.42 262 P P 22 40 42.6 +0.1
KKM Kota Kinabalu 68.43 251 P P 22 40 42.9 +0.5
KKM IAmb IAmb 22 40 44.4
comp=Z,314nm,1.1s
DRLN Deer Lake 68.46 36 P P 22 40 41.7 -0.4
DRLN IAmb IAmb 22 41 11.0
comp=Z,151nm,1.1s
R58B Mineral 68.49 56 P P 22 40 41.4 -1.0
baz=320,SNR=6.7
R58B Mineral 68.49 56 P P 22 40 41.7 -0.7
KMSI Cibinong 68.51 241 P P 22 40 43.0 +0.2
comp=Z,4µmcomp=Z,355nm,0.7s
T57A Hurt 68.52 57 P P 22 40 41.5 -1.1
baz=320,SNR=12
T57A Hurt 68.52 57 P P 22 40 41.5 -1.1
O61A Allentown 68.52 52 P P 22 40 41.7 -0.9
baz=321
BRYW Bryant College 68.55 49 P P 22 40 41.6 -1.1
L63A North Scituate 68.56 49 P P 22 40 41.5 -1.3
baz=321
S58A Poland Farm, P 68.67 56 P P 22 40 42.4 -1.1
baz=320,SNR=5.2
M63A Gales Ferry 68.71 50 P P 22 40 42.3 -1.4
baz=321,SNR=9.2
X54A Belton 68.71 61 P P 22 40 42.9 -0.9
baz=319,SNR=25
TAS Tashkent 68.72 310 P P 22 40 44.4 +0.5
TAS pmax pmax
comp=Z,789nm,1.3s
TAS Tashkent 68.72 310 P P 22 40 44.4 +0.5
OBN Obninsk 68.73 338⇓ *i*P P 22 40 42.9 -0.7
OBN pmax pmax
comp=Z,238nm,0.9s
OBN Obninsk 68.73 338 P P 22 40 44.1 +0.5
OBN IAmb IAmb 22 40 44.6
comp=Z,206nm,0.9s
V56A Mocksville 68.77 59 P P 22 40 42.9 -1.3
baz=319,SNR=11
MOIG Morelia 68.79 85 P P 22 40 44.8 0.0
MOIG IAmb IAmb 22 40 47.0
comp=Z,415nm,1.1s
PAULI Pauline 68.81 60 P P 22 40 43.7 -0.7
KMSC Kings Mountain 68.82 60 P P 22 40 43.5 -1.1
baz=319,SNR=23
L64A Middleborough 68.86 48 P P 22 40 43.0 -1.6
baz=322,SNR=6.4
U57A Blanch 68.90 58 P P 22 40 43.9 -1.1
baz=320,SNR=16
T58A Grand View Acr 68.93 57 P P 22 40 43.4 -1.8
baz=320,SNR=9.9
S59A Mechanicsville 68.94 55 P P 22 40 44.6 -0.6
baz=320
GTK Tadong 68.97 288⇓ *i*P P 22 40 46.3 +0.5
GTK IAmb IAmb 22 40 48.4
comp=Z,250nm,0.9s
GOGA Godfrey 68.97 63 P P 22 40 43.9 -1.6
baz=319,SNR=17
BTK Batken 68.98 308 P P 22 40 45.9 +0.3
BTK pmax pmax
comp=Z,478nm,1.0s
BTK Batken 68.98 308 P P 22 40 45.9 +0.3
BTK IAmb IAmb 22 40 47.7
comp=Z,478nm,1.0s
M64A Tiverton 68.99 49 P P 22 40 44.3 -1.2
baz=322
HODGE Hodges 69.01 61 P P 22 40 45.0 -0.8
CHTO Chiang Mai 69.06 274 P P 22 40 46.0 -0.3
CHTO pmax pmax
comp=Z,226nm,1.0s
CHTO Chiang Mai 69.06 274 P P 22 40 46.0 -0.3
CHTO IAmb IAmb 22 40 47.7
comp=Z,226nm,0.9s
V57A Coltrane Farms 69.09 58 P P 22 40 45.0 -1.2
baz=320,SNR=6.0
X55A Gracelyn & Ava 69.17 61 P P 22 40 45.7 -1.0
baz=319,SNR=31
W56A Indian Trail 69.23 59 P P 22 40 45.9 -1.2
baz=320,SNR=6.6
MSAI Masohi 69.24 234 P P 22 40 48.8 +1.5
comp=Z,149nm,0.7s
CM31 Chiang Mai Arr 69.33 274 P P 22 40 48.3 +0.4
SNR=40
CM31 Chiang Mai Arr 69.33 274 P P 22 40 47.9 -0.1
CM31 IAmb IAmb 22 40 49.7
comp=Z,292nm,1.1s
CMAR Chiang Mai Arr 69.33 274 P P 22 40 48.5 +0.5
comp=Z,112nm,0.8s,baz=26,slow=7.1,SNR=298
CMAR PcP **PcP** 22 41 11.9 +1.1
comp=Z,50nm,0.7s,baz=23,slow=3.5,SNR=17
CMAR PKiKP **PKiKP** 22 47 03.1 +0.1
comp=Z,1.9nm,0.8s,baz=329,slow=1.2,SNR=4.3
CMAR PKP2bc 23 08 50.9
comp=Z,3.7nm,0.9s,baz=239,slow=5.0,SNR=9.5
CMAR P4KPbc 23 17 35.4
comp=Z,2.4nm,0.8s,baz=18,slow=4.5,SNR=11
CMAR Chiang Mai Arr 69.33 274 *i* P **PKiKP** 22 47 03.2 +0.1
CMAR Chiang Mai Arr 69.33 274 P P 22 40 47.8 -0.2
U58A Oxford 69.34 57 P P 22 40 46.3 -1.4
baz=320,SNR=7.2
SPMM Sapulut 69.36 250 P P 22 40 48.0 -0.1
MSVF Nonsavu 69.39 181 P P 22 40 49.5 +1.3
MSVF pmax pmax
comp=Z,407nm,1.3s
MSVF Nonsavu 69.39 181 P P 22 40 49.5 +1.3
MSVF IAmb IAmb 22 40 51.3
comp=Z,407nm,1.3s
T59A Double "B" Far 69.42 56 P P 22 40 47.2 -1.0
baz=320,SNR=9.1
T59A Double "B" Far 69.42 56 P P 22 40 47.5 -0.7
Y55A Saluda 69.45 61 P P 22 40 47.5 -0.9
baz=320,SNR=17
TAPN Taplejung 69.47 288 *e*P P 22 40 49.6 +0.6
comp=Z,2µm,1.1s
X56A White Oak 69.48 60 P P 22 40 47.5 -1.0
baz=320,SNR=18
V58A Windy Hill, Pi 69.50 58 P P 22 40 47.8 -1.0
baz=320,SNR=13
V58A Windy Hill, Pi 69.50 58 P P 22 40 48.2 -0.5
W57A Gilead 69.53 59 P P 22 40 47.5 -1.4
baz=320,SNR=9.5
MRSI Marisa 69.70 243 P P 22 40 49.8 -0.4
comp=Z,997nm,1.2s
U59A Littleton 69.77 57 P P 22 40 49.5 -0.9
baz=320,SNR=6.6
AAI Ambon 69.90 235 P P 22 40 51.6 +0.2
comp=Z,18µmcomp=Z,950nm,1.1s
V59A Middlesex 69.99 57 P P 22 40 50.6 -1.1
baz=320,SNR=14
X57A Johnson Farm, 70.00 60 P P 22 40 50.9 -0.9
baz=320,SNR=7.1
U60A Pendleton 70.00 56 P P 22 40 50.8 -1.0
baz=320
ODAN Odare 70.03 288 *e*P P 22 40 52.9 +0.5
comp=Z,1µm,1.0s
W58A Raeford 70.03 59 P P 22 40 50.9 -1.0
baz=320,SNR=9.6
GAR Garm 70.05 308 P P 22 40 52.6 +0.5
NLAI Namlea 70.08 236 P P 22 40 53.4 +1.0
comp=Z,171nm,1.0s
GUN Gumba 70.12 290 *e*P P 22 40 54.0 +0.9
JIRN Jiri 70.13 290 *e*P P 22 40 54.2 +1.0
TAOE Nuku Hiva Isla 70.16 136 *e*T T 23 56 50.5
comp=Z,46nm,0.2s
Z56A Williston 70.18 61 P P 22 40 52.0 -0.9
baz=320,SNR=6.0
Z56A Williston 70.18 61 P P 22 40 52.6 -0.3
Y57A Sumter 70.18 60 P P 22 40 52.5 -0.4
baz=320
TIGA Tifton 70.39 64 P P 22 40 53.2 -1.1
baz=320
RAMN Ramite 70.42 289 *e*P P 22 40 55.6 +0.8
V60A Jim Taylor Roa 70.49 57 P P 22 40 54.2 -0.6
baz=321
LUWI Luwuk 70.51 241 P P 22 40 54.0 -1.1
comp=Z,1µm,1.2s
LUWI Luwuk 70.51 241 P P 22 40 54.0 -1.1
KKN Kakani 70.56 290 *e*P P 22 40 56.6 +1.0
comp=Z,1µm,0.7s
Z57A Bowman 70.56 61 P P 22 40 54.6 -0.7
baz=320,SNR=6.6
CNNC Cliffs of the 70.57 58 P P 22 40 54.6 -0.6
baz=320
PKI Pulchoki 70.65 290 *e*P P 22 40 57.1 +0.8
comp=Z,1µm,0.7s
PKIN Phulchoki 70.65 290 *e*P P 22 40 57.0 +0.8
comp=Z,1µm,0.6s
X59A McDuffie Farm, 70.71 58 P P 22 40 55.4 -0.7
baz=320
GKN Gorkha 70.77 291 *e*P P 22 40 57.5 +0.7
comp=Z,2µm,1.0s
DMN Daman 70.80 290 *e*P P 22 40 58.2 +1.1
comp=Z,1µm,0.9s
W60A Pine Hill 70.81 58 P P 22 40 56.1 -0.6
baz=321
157A Early Branch 70.88 61 P P 22 40 56.5 -0.6
baz=320
CHGR Chuyangaron 70.88 309 P P 22 40 57.3 +0.1
MPSI Mapaga 70.95 245 P P 22 40 57.2 -0.6
comp=Z,670nm,1.2s
NHSC New Hope 70.99 61 P P 22 40 57.5 -0.3
baz=320
Y59A Loris 71.01 59 P P 22 40 57.4 -0.6
baz=320
Z58A St. Stephen 71.01 60 P P 22 40 57.3 -0.7
baz=320
DANN Dangsing 71.02 292 *e*P P 22 40 59.6 +1.2
X60A Albert Glenn T 71.03 58 P P 22 40 57.5 -0.6
baz=321
V62A Hyde County Ai 71.32 56 P P 22 40 58.5 -1.3
baz=321
Y60A Bolivia 71.35 59 P P 22 40 59.1 -0.9
baz=321
KOLN Koldanda 71.55 291 *e*P P 22 41 02.1 +0.6
PYUN Piuthan 71.65 292 *e*P P 22 41 02.7 +0.6
comp=Z,2µm,0.9s
TLIG Tlapa 72.00 84 P P 22 41 05.1 +0.9
TLIG IAmb IAmb 22 41 06.9
comp=Z,387nm,1.7s
SAUI Saumlaki 72.09 230 P P 22 41 06.4 +1.8
comp=Z,39µmcomp=Z,3µm,1.1s
SAUI Saumlaki 72.09 230 P P 22 41 05.8 +1.2
COEN Coen 72.45 216 P P 22 41 06.6 0.0
COEN IAmb IAmb 22 41 08.0
comp=Z,221nm,1.1s
JMU Jammu 72.59 301 *ex* P 22 41 00.0 -7.4
SMLA Simla 72.59 298⇑ *i*P P 22 41 08.1 +0.6
SMLA IAmb IAmb 22 41 12.7
comp=Z,3µm,0.1s
SMLA *ex* x 22 49 51.2
DDI Dehra Dun 72.73 297⇓ *i*P P 22 41 08.3 -0.1
DDI IAmb IAmb 22 41 10.1
comp=Z,690nm,0.9s
NIL Nilore 72.73 303 P P 22 41 09.0 +0.7
BHK Bhakra 72.78 299 *ex* P 22 41 12.2 +3.6
BOK Bokaro 73.23 287⇓ *i*P P 22 41 12.1 +0.8
BOK IAmb IAmb 22 41 14.5
comp=Z,116nm,0.8s
SBUM Sibu 73.66 253 P P 22 41 14.1 +0.2
SBUM Sibu 73.66 253 P P 22 41 15.0 +1.1
TTSI Tana Toraja 73.79 243 P P 22 41 14.5 -0.1
comp=Z,7µmcomp=Z,541nm,1.3s
BKB Balikpapan 73.96 246 P P 22 41 16.3 +0.7
comp=Z,898nm,1.2s
BKB Balikpapan 73.96 246 P P 22 41 15.8 +0.2
GKP Gorka Klasztor 73.98 348 *e*P P 22 41 14.1 -1.1
DWPF Disney Wildern 74.14 65 P P 22 41 16.1 -0.4
baz=321
KBL Kabul 74.18 306 P P 22 41 16.4 -0.6
BBSI Bau Bau 74.34 239 P P 22 41 19.8 +2.0
comp=Z,466nmcomp=Z,60nm,0.9s
NDI New Delhi 74.45 297 *ex* P 22 41 18.0 -0.4
DZM Mont Dzumac 74.47 192 P P 22 41 20.5 +2.1
comp=Z,174nm,1.1s,baz=17,slow=6.6,SNR=26
AKASG Malin Array Be 74.47 340 P P 22 41 17.8 -0.3
comp=Z,26nm,0.4s,baz=21,slow=6.3,SNR=17
AKASG PP **PP** 22 44 04.8 -0.2
comp=Z,2.8nm,0.6s,baz=25,slow=8.3,SNR=4.3
AKASG S **S** 22 50 42.3 -1.8
comp=Z,1.0nm,0.5s,baz=21,slow=12,SNR=5.1
AKASG Malin Array Be 74.47 340 P P 22 41 17.8 -0.3
AKASG pmax pmax
comp=Z,45nm,1.2s
AKASG Malin Array Be 74.47 340 P P 22 41 17.8 -0.3
SPSI Sidrap Palu 74.58 242 P P 22 41 18.8 -0.4
comp=Z,286nm,1.1s
PPT Papeete 74.59 149 P P 22 41 20.3 +1.2
comp=Z,207nm,0.7s,baz=200,slow=1.5,SNR=4.9
PPT2 Papeete2 74.61 149 *e*P P 22 41 20.2 +0.9
comp=Z,83nm,1.3s
PPT2 Papeete2 74.61 149 *e*T T 00 02 23.7
comp=Z,22nm,0.3s
CMIG Matias Romero 74.62 82 P P 22 41 20.4 +0.9
comp=Z,33nm,0.8s,baz=316,slow=5.4,SNR=43
TIAR Tiarei 74.65 148 *e*P P 22 41 20.4 +0.9
comp=Z,47nm,0.9s
TIAR Tiarei 74.65 148 *e*T T 00 02 26.3
comp=Z,6.6nm,0.3s
PAE Paea 74.67 149 *e*P P 22 41 20.4 +0.9
comp=Z,19nm,0.8s
PAE Paea 74.67 149 *e*T T 00 02 28.3
comp=Z,9.6nm,0.4s
BNSI Bone 74.76 242 P P 22 41 20.3 +0.1
comp=Z,6µmcomp=Z,394nm,1.1s
MTKI Muara Teweh, K 74.84 248 P P 22 41 20.5 -0.2
comp=Z,248nm,1.0s
TVO Taravao 74.89 148 *e*P P 22 41 21.8 +0.9
comp=Z,19nm,0.7s
DSB Dublin 75.09 3 P P 22 41 21.5 -0.1
RAR Rarotonga 75.28 159 P P 22 41 23.7 +0.7
comp=Z,60nm,0.8s,baz=247,slow=23,SNR=3.3
RAR Rarotonga 75.28 159 P P 22 41 23.2 +0.3
MEH Mehetia 75.37 147 *e*P P 22 41 24.4 +0.8
comp=Z,30nm,1.0s
KAPI Kappang 75.47 242 P P 22 41 24.9 +0.6
comp=Z,114nm,0.8s,baz=40,slow=4.1,SNR=33
KAPI Kappang 75.47 242 P P 22 41 24.5 +0.3
KSM Kuching 75.57 254 P P 22 41 24.9 -0.1
KSM IAmb IAmb 22 41 26.4
comp=Z,278nm,0.8s
KSM Kuching 75.57 254 P P 22 41 26.0 +1.1
BWNR Bhubaneshwar 75.95 285⇓ *i*P P 22 41 27.0 0.0
BWNR IAmb IAmb 22 41 29.4
comp=Z,143nm,0.8s
KBKI Kotabaru 76.04 246 P P 22 41 26.6 -1.0
comp=Z,161nm,0.9s
TEIG Tepich 76.23 75 P P 22 41 28.7 +0.1
comp=Z,11nm,0.7s,baz=139,slow=2.0,SNR=5.9
CLL Collm 76.39 351 *e*P P 22 41 28.0 -1.1
comp=Z,86nm,1.6s
CLL *i* PcP **PcP** 22 41 39.3 -1.1
comp=Z,38nm,1.0s
CLL *e*pP **pP** 22 41 56.0 +0.5
MAK Makhachkala 76.41 325 *e*P P 22 41 30.1 +0.8
MAK *e**PP **pP** 22 41 53.4 -2.4
MAK *e*S **S** 22 51 07.3 +1.6
MAK *e**SS **sS** 22 51 50.0 +0.2
MAK pmax pmax
comp=Z,572nm,1.4s
MAK MLR MLR
comp=Z,4µm,16.0s
ASHT Ashkhabad 76.41 315 P P 22 41 30.7 +1.2
ASHT Ashkhabad 76.41 315 P P 22 41 30.7 +1.2
MTN Manton Dam 76.42 228 P P 22 41 29.1 -0.5
GEYT Alibeck 76.54 316 P P 22 41 31.1 +0.9
comp=Z,181nm,0.8s,baz=348,slow=3.6,SNR=67
GEYT PP **PP** 22 44 23.1 +0.2
comp=Z,40nm,1.2s,baz=10,slow=8.8,SNR=3.7
GEYT PKP2ab 23 08 29.4
comp=Z,2.9nm,0.8s,baz=29,slow=3.4,SNR=4.2
GEYT Alibeck 76.54 316 P P 22 41 30.8 +0.6
GYA0B ALIBECK ARRAY 76.54 316 P P 22 41 31.0 +0.8
GYA0B IAmb IAmb 22 41 32.5
comp=Z,356nm,1.0s
OJC Ojcow 76.62 346 *e*P P 22 41 30.2 -0.2
OJC Ojcow 76.62 346 P P 22 41 30.5 +0.1
OJC pmax pmax
comp=Z,84nm,1.3s
OJC Ojcow 76.62 346 P P 22 41 30.5 +0.1
KWP Kalwaria Pacla 76.73 344 *e*P P 22 41 31.3 +0.3
KWP Kalwaria Pacla 76.73 344 P P 22 41 31.7 +0.7
KWP pmax pmax
comp=Z,287nm,1.1s
KWP Kalwaria Pacla 76.73 344 P P 22 41 31.7 +0.7
KWP IAmb IAmb 22 41 35.2
comp=Z,287nm,1.1s
GROC Groznyy 76.79 327 *e*P P 22 41 33.1 +1.6
GROC *e**PP **PcP** 22 41 49.8 +7.5
GROC *e**SP **pP** 22 41 57.2 -0.8
GROC *e* 22 44 25.9
GROC pmax pmax
comp=Z,236nm,1.4s
DGPR DIGLIPUR 77.07 275 *e*P P 22 41 33.7 +0.3
DGPR IAmb IAmb 22 41 35.7
comp=Z,511nm,0.5s
SOEI Soe 77.08 235 P P 22 41 33.2 -0.3
comp=Z,391nm,0.8s
SOEI Soe 77.08 235 P P 22 41 33.1 -0.4
SOEI IAmb IAmb 22 41 41.4
comp=Z,263nm,0.8s
SORM Soroca 77.09 340 ⇑P P 22 41 33.0 0.0
CTA Charters Tower 77.09 211 P P 22 41 33.8 +0.5
comp=Z,193nm,0.9s,baz=10,slow=6.9,SNR=23
CTA PP **PP** 22 44 25.9 -2.8
comp=Z,9.3nm,1.0s,baz=360,slow=7.1,SNR=3.7
CTAO Charters Tower 77.09 211 P P 22 41 33.4 +0.1
CTAO pmax pmax
comp=Z,350nm,1.1s
CTAO Charters Tower 77.09 211 P P 22 41 33.4 +0.1
CTAO IAmb IAmb 22 41 34.9
comp=Z,350nm,1.1s
KIV Kislovodsk 77.15 329 *i* P P 22 41 34.5 +0.9
SNR=7.1
KIV Kislovodsk 77.15 329 *e*P P 22 41 34.2 +0.6
KIV pmax pmax
comp=Z,473nm,1.0s
KBZ Khabaz 77.28 329 P P 22 41 35.0 +0.8
comp=Z,103nm,0.9s,baz=68,slow=2.8,SNR=7.7
KBZ Khabaz 77.28 329 *e i*P P 22 41 35.3 +1.1
KBZ pmax pmax
comp=Z,165nm,1.0s
NIE Niedzica 77.32 346 *e*P P 22 41 32.9 -1.5
BEBN Eben Emael 77.45 355 P P 22 41 34.7 -0.3
BEBN pP **pwP** 22 42 02.7 -0.7
KOLS Kolonicke sedl 77.48 344 *e*P P 22 41 35.9 +0.7
KOLS Kolonicke sedl 77.48 344 *e*P P 22 41 35.9 +0.7
UCC Uccle 77.50 356 P P 22 41 34.5 -0.8
UCC pP **pP** 22 42 02.2 +0.4
AJM Ajmer 77.59 297⇓ *i*x P 22 41 36.0 -0.3
HRA Herat 77.61 311 P P 22 41 37.1 +0.6
AKT Akhty 77.63 324 *e*P P 22 41 36.8 +0.4
AKT *e* 22 41 46.9
AKT *e**PP **pP** 22 42 02.1 -0.8
AKT *e**SP **sP** 22 42 13.8 -0.4
AKT *e* 22 44 34.6
AKT *e*S **S** 22 51 21.2 +1.9
AKT *e* 22 51 47.3
AKT *e**SS **sS** 22 52 06.1 +2.6
AKT pmax pmax
comp=Z,639nm,1.4s
CRVS Cervenica-Dubn 77.64 345 *e*P P 22 41 36.9 +0.7
CRVS Cervenica-Dubn 77.64 345 *e*P P 22 41 36.9 +0.7
BSTI Sart Tilman 77.67 355 P P 22 41 36.1 -0.1
BSTI pP **pwP** 22 42 04.2 -0.5
LANS Liptovska Anna 77.71 346 *e*P P 22 41 38.1 +1.5
LANS pmax pmax
comp=Z,51nm,1.0s
LANS Liptovska Anna 77.71 346 *e*P P 22 41 38.1 +1.5
BATI Baumata 77.77 236 P P 22 41 37.5 +0.2
comp=Z,784nm,0.8s,baz=68,slow=0.2,SNR=84
BATI Baumata 77.77 236 P P 22 41 37.3 +0.1
comp=Z,577nm,0.9s
SNF Seneffe 77.80 356 P P 22 41 36.8 -0.1
SNF pP **pwP** 22 42 05.2 -0.2
ZEI Tsey 77.80 328 *e*P P 22 41 37.2 -0.2
ZEI pmax pmax
comp=Z,184nm,0.7s
BCLA Clavier 77.84 356 P P 22 41 37.2 0.0
comp=Z,36nm,0.0s
BCLA pP **pwP** 22 42 04.9 -0.9
BHOU Houvegnez 77.87 355 P P 22 41 37.2 -0.2
BHOU pP **pP** 22 42 04.2 +0.3
BGES Gesves 77.89 356 P P 22 41 36.9 -0.6
BGES pP **pwP** 22 42 05.0 -1.0
VRAC Vranov 77.95 348 ⇑P P 22 41 38.4 +0.6
BMRD Maredsous 77.98 356 P P 22 41 37.8 -0.2
BMRD pP **pP** 22 42 04.9 +0.4
IAS Iasi 78.15 340 ⇑P P 22 41 39.1 +0.2
BUR08 Bucovina Ar. S 78.19 342 P P 22 41 39.5 +0.2
DOU Dourbes 78.20 356 ⇓P P 22 41 38.9 -0.2
DOU pP **pwP** 22 42 07.0 -0.8
BURAR Bucovina Array 78.22 342 ⇑P P 22 41 40.0 +0.5
BURAR Bucovina Array 78.22 342 P P 22 41 43.0 +3.5
PBA Port Blair 78.36 274 *ex* P 22 41 39.4 -1.2
PBA IAmb IAmb 22 41 41.7
comp=Z,258nm,0.7s
PBA Port Blair 78.36 274 P P 22 41 41.2 +0.6
SNR=6.4
PBA Port Blair 78.36 274 P P 22 41 40.0 -0.5
SOC Sochi 78.41 331 *e*P P 22 41 40.3 -0.1
SOC *e**SP **sP** 22 42 13.4 -4.9
SOC *e*PPP PPP 22 46 27.7
SOC *e*S S 22 51 28.3 +1.0
SOC *e**SS **sS** 22 52 10.8 -0.8
SOC *e*SS **SS** 22 56 34.8 +3.9
SOC pmax pmax
comp=Z,117nm,0.8s
KULM Kulim 78.41 264 P P 22 41 40.5 -0.4
KULM IAmb IAmb 22 41 42.0
comp=Z,199nm,1.1s
KULM Kulim 78.41 264 P P 22 41 41.0 +0.1
VYHS Vyhne 78.44 346 *e*P P 22 41 40.8 +0.2
VYHS Vyhne 78.44 346 *e*P P 22 41 40.8 +0.2
TBLG Delisi 78.46 327 P P 22 41 41.6 +0.8
TBLG pmax pmax
comp=Z,347nm,0.9s
TBLG Delisi 78.46 327 P P 22 41 41.6 +0.8
TBLG IAmb IAmb 22 41 43.5
comp=Z,347nm,0.9s
WLF Walferdange 78.55 355 P P 22 41 41.1 -0.1
WLF pP **pwP** 22 42 09.4 -0.4
BHPL Bhopal 78.57 293⇓ *i*P P 22 41 41.5 -0.2
BHPL IAmb IAmb 22 41 44.5
comp=Z,120nm,0.8s
SMOL Smolenice 78.62 347 *e*P P 22 41 42.2 +0.6
SMOL pmax pmax
comp=Z,19nm,1.0s
SMOL Smolenice 78.62 347 *e*P P 22 41 42.2 +0.6
LEOM Leova 78.69 340 ⇑P P 22 41 41.5 -0.4
BIZ Bicaz 78.69 341 ⇑P P 22 41 42.8 +0.8
GERES GERESS Array B 78.75 350 P P 22 41 42.2 -0.1
comp=Z,3.4nm,0.5s,baz=32,slow=5.8,SNR=8.2
GERES PKKPbc **PKKPbc** 23 00 34.0 +0.4
comp=Z,1.6nm,0.7s,baz=186,slow=2.5,SNR=5.8
GERES PKPPKP P'P'df 23 08 32.5 -8.9
comp=Z,1.2nm,0.7s,baz=177,slow=2.7,SNR=7.4
MODS Modra-Piesok 78.78 347 *e*P P 22 41 41.8 -0.7
MODS pmax pmax
comp=Z,71nm,1.2s
MODS Modra-Piesok 78.78 347 *e*P P 22 41 41.8 -0.7
ARCR ARCALIA 78.89 342 ⇑P P 22 41 44.5 +1.4
ZST Bratislava 78.98 347 *e*P P 22 41 43.0 -0.5
ZST pmax pmax
comp=Z,52nm,1.2s

ZST	**Bratislava**	78.98	347	*e*P		P	22 41 43.0	-0.5
TESR	**Tescani**	78.99	341	⇑P		P	22 41 43.8	+0.2
BIR	**Birlad**	79.02	340	⇑P		P	22 41 44.7	+0.9
BIR	**Birlad**	79.02	340	P		P	22 41 47.1	+3.3
WSI	**Waingapu**	79.06	239	P		P	22 41 43.3	-1.0
	comp=Z,38µcomp=Z,1µm,1.0s							
AKH	**Akhalkalaki**	79.16	327	⇑P		P	22 41 46.3	+1.4
AKH	**Akhalkalaki**	79.16	327	P		P	22 41 46.3	+1.4
MYKOM	**Kota Tinggi**	79.20	259	P		P	22 41 45.3	+0.1
MYKOM				IAmb		IAmb	22 41 46.6	
	comp=Z,159nm,0.9s							
MYKOM	**Kota Tinggi**	79.20	259	P		P	22 41 46.0	+0.8
SEVA	**Sevastopol**	79.23	335	⇑P		P	22 41 45.1	+0.2
GHRR		79.26	340	⇓P		P	22 41 46.5	+1.4
NGP	**Nagpur**	79.27	290	⇓*i*P		P	22 41 45.0	-0.5
NGP				IAmb		IAmb	22 41 48.0	
	comp=Z,425nm,1.4s							
NGP				*i* x		x	22 41 50.4	
VARL	**Varlezi**	79.32	340	⇓P		P	22 41 46.4	+1.0
BASI	**Baing, Sumba**	79.38	238	P		P	22 41 46.1	+0.1
	comp=Z,8µcomp=Z,549nm,1.1s							
CJR	**Cluj-Napoca**	79.39	343	⇓P		P	22 41 47.0	+1.1
CONA	**Conrad Observa**	79.40	348	*e*P		P	22 41 46.6	+0.7
	comp=Z,56nm,1.3s							
CONA				*e*SKSac		SKSac	22 51 55.3	+3.0
	comp=Z,6.0nm,0.6s,SNR=8.8							
DRGR		79.47	343	⇑P		P	22 41 45.1	-1.2
TPRI	**Tanjung Pinang**	79.48	258	P		P	22 41 47.4	+0.7
	comp=Z,37µcomp=Z,279nm,1.3s							
WBSI	**Waikabubak, Su**	79.52	239	P		P	22 41 45.0	-1.9
	comp=Z,6µcomp=Z,452nm,1.3s							
OZUR		79.56	341	⇑P		P	22 41 47.7	+0.9
BATM	**Batumi**	79.58	329	⇑P		P	22 41 47.9	+1.0
ODBI	**Odobesti**	79.62	340	⇑P		P	22 41 48.6	+1.6
PETR	**Petresti**	79.62	340	⇓P		P	22 41 48.8	+1.8
MOA	**Molln**	79.67	349	*i* SKSac		SKSac	22 51 58.3	+4.1
	comp=Z,6.8nm,1.0s							
PLAI	**Plampang**	79.71	241	P		P	22 41 46.2	-1.7
DOPR	**Dopca**	79.77	341	⇑P		P	22 41 48.8	+0.9
MDB	**Medias**	79.79	342	⇑P		P	22 41 47.7	-0.3
MDB	**Medias**	79.79	342	P		P	22 41 52.0	+4.0
CFR	**Carcaliu**	79.94	339	⇑P		P	22 41 48.9	+0.1
KNRA	**Kununurra**	80.00	228	P		P	22 41 49.4	+0.1
GRER		80.00	340	⇑P		P	22 41 50.6	+1.5
TBI	**Tubuai**	80.04	150	*e*P		P	22 41 50.3	+0.9
	comp=Z,274nm,0.9s							
TBI	**Tubuai**	80.04	150	*e*T		T	00 09 10.4	
	comp=Z,6.6nm,0.3s							
NEHR	**Nehoiu**	80.10	341	⇑P		P	22 41 50.3	+0.6
ARSA	**Arzberg**	80.11	348	*e*P		P	22 41 49.5	-0.2
	comp=Z,38nm,1.2s							
MLR	**Muntele Rosu**	80.11	341	⇑P		P	22 41 51.3	+1.4
MLR	**Muntele Rosu**	80.11	341	P		P	22 41 51.3	+1.4
SIRR	**Siria**	80.16	344	⇓P		P	22 41 51.2	+1.2
VOIR		80.34	341	⇑P		P	22 41 52.0	+1.0
CLF	**Chambon-Foret**	80.35	357	P		P	22 41 51.0	+0.1
KMMI	**Kalianget**	80.35	245	P		P	22 41 52.4	+1.1
	comp=Z,8µcomp=Z,438nm,1.4s							
RETA	**Reutte**	80.39	352	*i* SKSac		SKSac	22 52 06.0	+6.8
	comp=Z,4.5nm,0.8s							
HARR	**Harsova**	80.45	339	⇓P		P	22 41 52.0	+0.5
HARR	**Harsova**	80.45	339	P		P	22 41 54.2	+2.7
WATA	**Walderalm**	80.46	351	*e*P		P	22 41 51.1	-0.6
	comp=Z,34nm,0.6s,SNR=5.0							
WATA				*e*SKSac		SKSac	22 52 05.4	+5.5
	comp=Z,8.5nm,0.6s,SNR=4.4							
ARR	**Arges**	80.49	342	⇑P		P	22 41 52.9	+1.1
MOTA	**Moosalm**	80.50	351	*e*P		P	22 41 52.0	+0.1
	comp=Z,90nm,1.4s							
MOTA				*i* SKSac		SKSac	22 52 06.0	+5.8
	comp=Z,17nm,1.1s							
WTTA	**Wattenberg**	80.53	351	*e*P		P	22 41 52.6	+0.5
	comp=Z,47nm,0.7s,SNR=5.6							
WTTA				*e*SKSac		SKSac	22 52 05.9	+5.4
	comp=Z,11nm,0.5s,SNR=8.8							
TPI	**Tanjunggandan**	80.53	253	P		P	22 41 51.8	-0.5
	comp=Z,284nm,1.3s							
KBA	**Koelnbreinsper**	80.53	350	*e*P		P	22 41 53.1	+0.9
	comp=Z,67nm,0.6s							
KBA				*e*SKSac		SKSac	22 52 03.7	+3.2
	comp=Z,8.6nm,0.6s							
MTUR	**Matau**	80.54	341	⇓P		P	22 41 54.3	+2.2
MTUR	**Matau**	80.54	341	P		P	22 41 56.9	+4.8
TIRR	**Tirgusor**	80.57	339	⇑P		P	22 41 52.4	+0.3
TIRR	**Tirgusor**	80.57	339	P		P	22 41 52.4	+0.3
TIRR				pmax		pmax		
	comp=Z,283nm,1.5s							
TIRR	**Tirgusor**	80.57	339	P		P	22 41 52.4	+0.3
TIRR				IAmb		IAmb	22 42 26.7	
	comp=Z,283nm,1.5s							
TLBR	**Topalu**	80.57	339	⇓P		P	22 41 53.6	+1.5
SQTA	**Sankt Quirin**	80.61	351	*e*P		P	22 41 52.9	+0.4
	comp=Z,77nm,1.6s							
SQTA				*i* SKSac		SKSac	22 52 05.7	+4.9
	comp=Z,10nm,1.1s							
AMRR	**Amara**	80.66	340	⇓P		P	22 41 53.6	+1.0
EIDS	**Eidsvold**	80.68	205	P		P	22 41 53.5	+0.7
EIDS				IAmb		IAmb	22 41 55.0	
	comp=Z,266nm,1.3s							
SOKA	**Soboth**	80.73	349	*e*P		P	22 41 53.4	+0.3
	comp=Z,112nm,1.1s,SNR=9.0							
SOKA				*e*SKSac		SKSac	22 52 02.4	+0.8
	comp=Z,8.2nm,0.9s,SNR=6.1							
LHMI	**Lhok Sumawe**	80.74	267	P		P	22 41 54.8	+1.3
	comp=Z,17µcomp=Z,2µm,1.3s							
LHMI	**Lhok Sumawe**	80.74	267	P		P	22 41 53.7	+0.2
KTUT	**Trabzon**	80.75	330	⇓P		P	22 41 53.7	+0.5
CVDA	**Cernavoda**	80.77	339	⇑P		P	22 41 52.9	-0.3
PVM	**Polavaram**	80.80	286	*e*P		P	22 41 53.8	+0.1
PVM				IVmB_BB			22 41 54.8	
	comp=Z,3µm,1.1s							
TSCT	**Constanta Port**	80.80	339	⇑P		P	22 41 54.8	+1.4
BZS	**Buzias**	80.80	344	⇑P		P	22 41 53.7	+0.3
SULR		80.82	340	⇑P		P	22 41 53.4	0.0
FETA	**Feichten**	80.85	352	*e*P		P	22 41 54.2	+0.4
	comp=Z,53nm,1.3s							
EFOR	**EFORIE**	80.88	339	⇑P		P	22 41 54.3	+0.5
RPR	**Rampur**	80.92	289	*e*P		P	22 41 54.4	0.0
RPR				IVmB_BB			22 41 55.2	
	comp=Z,2µm,1.3s							
MYKA	**Terra Mystica**	80.94	350	*e*P		P	22 41 55.4	+1.2
	comp=Z,49nm,1.4s							
MYKA				*e*SKSac		SKSac	22 52 04.5	+1.4
	comp=Z,2.4nm,0.5s							
ABTA	**Abfaltersbach**	80.95	350	*e*P		P	22 41 54.4	+0.1
	comp=Z,50nm,1.2s							
PPBI	**Pangkal Pinang**	80.96	255	P		P	22 41 54.4	-0.2
	comp=Z,330nm,1.4s							
OBKA	**Obir**	80.96	349	*e*P		P	22 41 54.7	+0.4
	comp=Z,72nm,1.1s,SNR=8.4							
OBKA				*e*SKSac		SKSac	22 52 03.7	+0.5
	comp=Z,5.9nm,0.8s							
ICOR	**Ion Corvin**	81.03	339	⇓P		P	22 41 55.7	+1.2
TSI	**Tuntungan**	81.09	264	P		P	22 41 54.8	-0.6
	comp=Z,762nm,0.8s							
BANR	**Banloc**	81.11	344	⇑P		P	22 41 56.0	+1.0
WB0	**Warramunga Arr**	81.15	222	P		P	22 41 54.8	-0.6
WB0				IAmb		IAmb	22 41 56.2	
	comp=Z,311nm,0.8s							
WR0	**Warramunga Arr**	81.26	221	P		P	22 41 55.3	-0.7
WR0				IAmb		IAmb	22 41 56.7	
	comp=Z,262nm,0.8s							
WRAB	**Tennant Creek**	81.31	222	*d i*P		P	22 41 55.6	-0.7
WRAB				pmax		pmax		
	comp=Z,435nm,1.0s							
WRAB	**Tennant Creek**	81.31	222	P		P	22 41 56.0	-0.3
WRAB				IAmb		IAmb	22 41 57.2	
	comp=Z,347nm,0.9s							
SGRR	**Singureni**	81.32	340	⇑P		P	22 41 55.7	-0.4
WB2	**Warramunga Arr**	81.32	222	P		P	22 41 56.1	-0.3
WB2				IAmb		IAmb	22 41 57.3	
	comp=Z,409nm,0.9s							
WRA	**Warramunga Arr**	81.33	222	P		P	22 41 56.1	-0.3
	comp=Z,223nm,0.7s,baz=34,slow=6.1,SNR=133							
WRA				PP		PP	22 44 57.9	-5.9
	comp=Z,21nm,1.1s,baz=27,slow=9.0,SNR=6.2							
WRA				PKKPbc		PKKPbc	23 00 30.0	+0.7
	comp=Z,3.5nm,0.6s,baz=227,slow=2.2,SNR=8.0							
HERR	**Herculane**	81.37	343	⇑P		P	22 41 56.5	+0.1
JAGI	**Jajag, Banyuwa**	81.41	244	P		P	22 41 54.2	-2.8
	comp=Z,142nm,1.5s							
SRSP	**Sriramsagar**	81.42	290	*e*P		P	22 41 56.4	-0.6
SRSP				IVmB_BB			22 41 57.2	
	comp=Z,2µm,1.3s							
PSI	**Prapat**	81.42	264	P		P	22 41 56.9	-0.4
	comp=Z,260nm,0.8s,baz=360,slow=3.3,SNR=114							
PSI	**Prapat**	81.42	264	P		P	22 41 57.1	-0.1
PSI				pmax		pmax		
	comp=Z,387nm,0.9s							
RPSI	**Rantau Prapat**	81.50	263	P		P	22 41 57.1	-0.4
RPSI				IAmb		IAmb	22 41 58.2	
	comp=Z,387nm,0.9s							
CRES	**Cresnjev**	81.52	348	⇑*i*P		P	22 41 56.9	-0.3
FRGS	**Fruska Gora**	81.55	345	⇑*i*P		P	22 41 57.6	+0.2
KCSI	**Kotacane, Aceh**	81.57	265	P		P	22 41 55.9	-2.0
	comp=Z,52nm,1.4s							
MDVR	**Moldovita**	81.59	344	⇑P		P	22 41 57.8	+0.1
CEY	**Cerknica**	81.73	349	⇑*i*P		P	22 41 57.9	-0.4
RGRI	**Rengat**	81.81	259	P		P	22 42 00.3	+1.2
MLSI	**Meulaboh, Aceh**	81.83	266	P		P	22 41 57.6	-1.6
	comp=Z,289nm,1.1s							
RAZG	**Razgrad**	81.83	340	⇑P		P	22 41 58.7	-0.2
VLAD	**Vladila**	81.85	341	⇑P		P	22 41 59.2	+0.3
PUNG	**Punghina**	81.86	343	⇑P		P	22 41 59.0	0.0
ZIMR		81.98	341	⇓P		P	22 41 59.8	+0.1
ZIMR		81.98	341	P		P	22 42 04.5	+4.9
RIY	**Rijeka**	82.13	349	*e*P		P	22 41 59.6	-0.8
TEKS	**Tekeris**	82.19	345	*e*P		P	22 42 00.8	+0.1
BLY	**Banja Luka**	82.34	347	⇑*i*P		P	22 42 01.3	-0.2
SMRI	**Semarang**	82.36	248	P		P	22 42 01.6	-0.3
	comp=Z,337nm,1.8s							
SMRI	**Semarang**	82.36	248	P		P	22 42 01.6	-0.3
PMBI	**Palembang**	82.38	255	P		P	22 42 03.9	+1.8
	comp=Z,369nm,1.2s							
PMBI	**Palembang**	82.38	255	P		P	22 42 02.4	+0.3
PLVB	**Pleven**	82.39	341	⇑P		P	22 42 02.2	+0.4
HYB	**Hyderabad**	82.48	289	*i* P		P	22 42 02.0	-0.7
HYB	**Hyderabad**	82.48	289	*e*P		P	22 42 02.4	-0.2
HYB				IAmb		IAmb	22 42 04.0	
	comp=Z,217nm,0.8s							
HYBB	**Hyderabad (bro**	82.48	289	*e*P		P	22 42 02.0	-0.6
HYBB				IVmB_BB			22 42 03.1	
	comp=Z,3µm,0.8s							
DIVS	**Divibare**	82.55	345	P		P	22 42 02.8	+0.1
DIVS	**Divibare**	82.55	345	⇑*i*P		P	22 42 02.8	+0.1
MNSI	**Mandailing Nat**	82.59	262	P		P	22 42 01.1	-2.1
	comp=Z,230nm,0.9s							
MGRS	**Mrkonjic Grad**	82.68	347	⇑*i*P		P	22 42 04.5	+1.2
NJS	**Nagarjunasagar**	82.71	287	*e*P		P	22 42 03.4	-0.5
NJS				IVmB_BB			22 42 04.3	
	comp=Z,2µm,1.7s							
WOJI	**Wonogiri, Jawa**	82.72	247	P		P	22 42 02.5	-1.3
	comp=Z,209nm,1.7s							
HAPS	**Han Pijesak,Bl**	82.73	345	*e*P		P	22 42 03.1	-0.6
SDSI	**Sungai Dareh**	82.82	259	P		P	22 42 03.6	-0.8
	comp=Z,180nm,1.4s							
BBLS	**Lazići**	82.87	345	⇑*i*P		P	22 42 05.1	+0.7
ADKI	**Addanki**	82.88	286	*e*P		P	22 42 04.5	-0.2
ADKI				IVmB_BB			22 42 05.6	
	comp=Z,2µm,1.7s							
BHUJ	**Bhuj**	82.89	299	*e*P		P	22 42 04.7	0.0
BHUJ				IAmb		IAmb	22 42 08.0	
	comp=Z,133nm,0.7s							
UGM	**Wanagama**	83.01	248	P		P	22 42 04.4	-0.9
	comp=Z,13µcomp=Z,681nm,1.5s							
KLRI	**Killari**	83.11	290	*e*P		P	22 42 05.2	-0.8
KLRI				IVmBBB			22 42 06.1	
	comp=Z,3µm,0.6s							
BNI	**Bardonecchia**	83.12	354	P		P	22 42 06.8	+1.1
BNI				pmax		pmax		
	comp=Z,70nm,1.1s							
BNI	**Bardonecchia**	83.12	354	P		P	22 42 06.8	+1.1
RUDO	**Rudo**	83.12	345	⇑*i*P		P	22 42 05.2	-0.4
SRLM	**Srisailam**	83.31	287	*e*P		P	22 42 06.1	-0.9
SRLM				IVmB_BB			22 42 07.1	
	comp=Z,2µm,1.8s							
VTS	**Vitosha**	83.41	342	⇓P		P	22 42 07.6	+0.3
GSI	**Gunungsitoli**	83.42	264	P		P	22 42 07.4	-0.1
	comp=Z,45µcomp=Z,2µm,1.7s							
GSI	**Gunungsitoli**	83.42	264	P		P	22 42 07.7	+0.2
FITZ	**Fitzroy Crossi**	83.56	230	P		P	22 42 08.1	+0.2
UPM	**Unac-Piva**	83.60	345	⇑*i*P		P	22 42 07.7	-0.6
KRJI	**Kerinci**	83.72	259	P		P	22 42 08.6	-0.5
	comp=Z,653nm,1.4s							
BR131	**Keskin Array S**	83.72	334	P		P	22 42 09.1	+0.2
BR131				pmax		pmax		
	comp=Z,39nm,0.7s							
BR131	**Keskin Array S**	83.72	334	P		P	22 42 09.1	+0.2
BRTR	**Keskin Array B**	83.72	334	P		P	22 42 09.1	+0.2
	comp=Z,33nm,0.6s,baz=37,slow=2.1,SNR=30							
BRTR				PP		PP	22 45 24.0	+1.7
	comp=Z,9.9nm,0.9s,baz=18,slow=5.5,SNR=4.9							
BRTR				PKKPbc		PKKPbc	23 00 23.9	+1.4
	comp=Z,5.0nm,0.8s,baz=178,slow=5.8,SNR=6.6							
BRTR				PKP2bc			23 08 13.7	
	comp=Z,4.1nm,0.9s,baz=170,slow=5.6,SNR=16							
BRTR	**Keskin Array B**	83.72	334	P		P	22 42 08.8	-0.1
BRTR	**Keskin Array B**	83.72	334	P		P	22 42 08.8	-0.1
LEM	**Lembang**	83.81	251	P		P	22 42 08.7	-0.9
	comp=Z,94nm,0.7s,baz=29,slow=3.3,SNR=22							
LHSI	**Lahat**	83.84	256	P		P	22 42 08.3	-1.3
	comp=Z,286nm,1.2s							
BRY	**Bratogost**	83.95	345	⇑*i*P		P	22 42 09.5	-0.5
STON	**Ston**	84.11	346	⇑*i*P		P	22 42 09.6	-1.0
TREB	**Trebinje**	84.16	345	⇑*i*P		P	22 42 10.0	-0.9
OSSC	**Osservatorio P**	84.27	351	P		P	22 42 11.4	-0.1
CISI	**Cisompet, Garu**	84.28	250	P		P	22 42 10.3	-1.6
PDG	**Podgorica**	84.30	345	⇑P		P	22 42 11.2	-0.4
PDG	**Podgorica**	84.30	345	⇑*i*P		P	22 42 11.2	-0.4
POO	**Poona**	84.33	293	*e*P		P	22 42 12.0	-0.1
POO				IAmb		IAmb	22 42 13.6	
	comp=Z,307nm,0.9s							
HCY	**Herceg Novi**	84.40	345	⇑*i*P		P	22 42 11.0	-1.1
DRME	**Dracevica, Mon**	84.54	345	⇑*i*P		P	22 42 12.5	-0.3
SKHT	**Srikalahasti**	84.68	285	*e*P		P	22 42 13.7	-0.2
SKHT				IVmB_BB			22 42 14.6	
	comp=Z,2µm,1.7s							
NRCA	**Norcia**	84.75	349	P		P	22 42 14.5	+0.5
NRCA				IAmb		IAmb	22 42 15.5	
	comp=Z,181nm,1.0s							
AS31	**Alice Springs**	84.84	220	P		P	22 42 14.5	+0.1
ASAR	**Alice Springs**	84.84	220	P		P	22 42 14.9	+0.5
	comp=Z,134nm,0.8s,baz=26,slow=5.3,SNR=117							
ASAR				PP		PP	22 45 27.5	-5.1
	comp=Z,16nm,1.1s,baz=35,slow=8.3,SNR=3.1							
ASAR	**Alice Springs**	84.84	220	P		P	22 42 14.7	+0.3
ASAR	**Alice Springs**	84.84	220	P		P	22 42 14.7	+0.3
LHI	**Lord Howe Isla**	84.86	197	P		P	22 42 15.8	+1.6
LHI				IAmb		IAmb	22 42 16.6	
	comp=Z,276nm,0.9s							
MDRS	**Chennai**	84.89	285	*e*P		P	22 42 14.7	-0.2
MDRS				IAmb		IAmb	22 42 16.6	
	comp=Z,165nm,1.3s							
KAD	**Karad**	85.10	292	⇓*i*P		P	22 42 16.0	-0.1
URV	**Uravakonda**	85.18	288	*e*P		P	22 42 15.4	-1.0
URV				IVmB_BB			22 42 16.4	
	comp=Z,1µm,1.2s							
AQU	**L'Aquila**	85.19	349	P		P	22 42 16.6	+0.4
AQU				pmax		pmax		
	comp=Z,162nm,1.3s							
AQU	**L'Aquila**	85.19	349	P		P	22 42 16.6	+0.4
AQU				IAmb		IAmb	22 42 25.0	
	comp=Z,162nm,1.3s							
AQU	**L'Aquila**	85.19	349	⇑*i*P		P	22 42 16.5	+0.4
ARMA	**Armidale**	85.36	203	P		P	22 42 18.3	+1.3
ARMA				IAmb		IAmb	22 42 19.9	
	comp=Z,279nm,1.1s							
SGRT	**San Giovanni R**	85.48	347	P		P	22 42 17.3	-0.3
PGAV	**Gavieira, Arco**	86.27	5	*e*P		P	22 42 20.9	-0.6
	comp=Z,56nm,1.5s							
PGAV				*e*pP		pP	22 42 51.2	+2.6
PBRG	**Braganca**	86.50	4	*e*P		P	22 42 21.9	-0.7
	comp=Z,50nm,1.5s							
PBRG				*e*pP		pP	22 42 49.4	-0.3
PCAB	**Cabril**	86.54	5	*e*P		P	22 42 22.2	-0.6
GOA	**Goa**	86.75	291	*e*P		P	22 42 23.6	-0.5
GOA				IAmb		IAmb	22 42 24.9	
	comp=Z,102nm,0.6s							
OUZ	**Omahuta**	86.92	184	P		P	22 42 25.5	+1.3
OUZ				IAmb		IAmb	22 42 27.1	
	comp=Z,196nm,1.1s							
PVRL	**Vila Real**	86.99	5	*e*P		P	22 42 24.5	-0.5
	comp=Z,55nm,1.3s							
PVRL				*e*pP		pP	22 42 53.0	+0.9
PTO	**Porto**	87.07	5	*e*P		P	22 42 24.6	-0.7
	comp=Z,71nm,1.6s							
MVO	**Moncorvo**	87.13	4	*e*P		P	22 42 25.1	-0.6
	comp=Z,36nm,1.6s							
MVO				*e*pP		pP	22 42 54.5	+1.7
BANOM	**Banah**	87.48	310	*i* P		P	22 42 27.3	-0.3
	SNR=50							
BANOM	**Banah**	87.48	310	P		P	22 42 28.0	+0.4
	SNR=28							
ELL	**Elmali**	87.51	335	P		P	22 42 27.4	-0.3
ELL				pmax		pmax		
	comp=Z,58nm,0.8s							
ELL	**Elmali**	87.51	335	P		P	22 42 27.4	-0.3
PVIS	**Viseu**	87.53	5	*e*P		P	22 42 26.8	-0.8
	comp=Z,63nm,1.3s							
PVIS				*e*pP		pP	22 42 54.8	0.0
XMIS	**Christmas Isla**	87.89	250	P		P	22 42 29.3	-0.2
XMIS				IAmb		IAmb	22 42 30.3	
	comp=Z,230nm,0.9s							
MDH	**Madha**	88.01	310	*i* P		P	22 42 28.9	-1.1
	SNR=19							
MDH	**Madha**	88.01	310	P		P	22 42 29.0	-1.1
	SNR=22							
COI	**Coimbra**	88.01	5	P		P	22 42 29.1	-0.7
COI				pmax		pmax		
	comp=Z,67nm,1.0s							
COI	**Coimbra**	88.01	5	*e*P		P	22 42 29.0	-0.7
	comp=Z,91nm,1.2s							
COI				*e*pP		pP	22 42 59.0	+2.0
COI	**Coimbra**	88.01	5	P		P	22 42 29.1	-0.7
PCAS	**Casmilo, Conde**	88.16	5	*e*P		P	22 42 25.8	-4.7
	comp=Z,77nm,1.4s							
PCAS				*e*pP		pP	22 42 54.4	-3.3
CSS	**Mathiatis**	88.25	332	P		P	22 42 31.0	0.0
UOSS	**Minazif**	88.36	310	*i* P		P	22 42 30.6	-1.1
	SNR=36							
UOSS	**Minazif**	88.36	310	P		P	22 42 30.5	-1.2
PCBR	**Castelo Branco**	88.43	5	*e*P		P	22 42 30.8	-1.0
	comp=Z,49nm,1.7s							
PCBR				*e*pP		pP	22 42 59.5	+0.5
HATD	**Hatta, Dubai**	88.49	310	*i* P		P	22 42 31.6	-0.7
	SNR=33							
HATD	**Hatta, Dubai**	88.49	310	P		P	22 42 32.0	-0.4
	SNR=28							
NAZ	**Nazwa, Dubai**	88.58	310	*i* P		P	22 42 32.1	-0.6
	SNR=20							
NAZ	**Nazwa, Dubai**	88.58	310	P		P	22 42 32.1	-0.6
	SNR=19							
WSAR	**Wadi Sarin**	88.62	307	P		P	22 42 33.0	0.0
	comp=Z,290nm,1.2s,baz=56,slow=3.7,SNR=33							
WSAR	**Wadi Sarin**	88.62	307	P		P	22 42 33.5	+0.5
	SNR=18							
BIDO	**Bidbid**	88.63	308	P		P	22 42 34.0	+1.0
	SNR=12							
ASHO	**Ashiyiah**	88.65	310	*i* P		P	22 42 32.4	-0.7
	SNR=30							
ASHO	**Ashiyiah**	88.65	310	P		P	22 42 33.1	-0.1
	SNR=23							
PSBE	**So Bento**	88.68	6	*e*P		P	22 42 32.4	-0.6
	comp=Z,70nm,2.0s							
PSBE				*e*pP		pP	22 43 01.5	+1.3
ESDC	**Sonseca Array**	88.72	2	P		P	22 42 32.0	-1.2
	comp=Z,7.0nm,0.8s,baz=347,slow=4.1,SNR=11							
ESDC				PKKPbc		PKKPbc	23 00 12.3	+1.7
	comp=Z,6.4nm,0.9s,baz=194,slow=1.8,SNR=18							
ESDC	**Sonseca Array**	88.72	2	P		P	22 42 32.0	-1.2
FAQ	**Al Faqa, Dubai**	88.81	310	*i* P		P	22 42 33.1	-0.8
	SNR=7.3							
FAQ	**Al Faqa, Dubai**	88.81	310	P		P	22 42 35.0	+1.1
	SNR=6.0							
PMRV	**Marv??o**	88.84	5	*e*P		P	22 42 33.5	-0.3
	comp=Z,56nm,1.8s							
PMRV				*e*pP		pP	22 43 01.7	+0.7
SOHO	**SOHO**	88.89	309	*i* P		P	22 42 33.1	-1.0
	SNR=27							
HOQ	**Hoqain**	88.98	308	P		P	22 42 34.1	-0.6
	SNR=12							
WBK	**Wadi Bani Khal**	88.98	307	P		P	22 42 36.0	+1.3
	SNR=11							
MBWA	**Marble Bar**	89.03	233	P		P	22 42 34.3	-0.3
SMDO	**Samad**	89.06	307	P		P	22 42 36.0	+0.8
	SNR=13				

	comp=Z,117nm,1.1s							
RAYN	**Ar Rayn**	**94.37**	**318**	P	**P**	**22 42 59.4**	**-0.3**
RAYN				IAmb	IAmb	22 43 00.7	
	comp=Z,117nm,1.1s							
OCAC	**Ocana**	**94.50**	**71**	*eP*	**P**	**22 43 02.9**	**+2.4**
BRRC	**Barranca, Sant**	**95.18**	**72**	*eP*	P	22 42 54.8	-8.7
PTBC	**PUERTO BERRIO,**	**95.20**	**73**	*eP*	**P**	**22 43 05.0**	**+1.4**
RPZ	**Rata Peaks**	**95.51**	**185**	P	**P**	**22 43 03.8**	**-0.3**
	comp=Z,32nm,0.8s,baz=121,slow=12,SNR=4.3							
GUY2C	**Guyana, Caldas**	**95.71**	**74**	*eP*	**P**	**22 43 05.0**	**-1.4**
NORC	**Norcasia**	**95.73**	**74**	*eP*	**P**	**22 43 05.0**	**-1.0**
BARC	**Barichara**	**95.91**	**72**	*eP*	**P**	**22 43 11.1**	**+4.1**
RREF	**El Recreo**	**95.98**	**74**	*eP*	**P**	**22 43 07.0**	**-0.8**
YOTC	**Yotoco, Valle**	**96.11**	**76**	*eP*	**P**	**22 43 05.0**	**-2.8**
TOLC	**Tolima**	**96.24**	**74**	*eP*	**P**	**22 43 05.0**	**-3.7**
RUSC	**La Rusia**	**96.53**	**72**	P	**P**	**22 43 10.0**	**-0.1**
ORTC	**Ortega, Tolima**	**96.83**	**75**	*eP*	**P**	**22 43 13.1**	**+2.2**
MORW	**Morawa**	**97.46**	**232**	P	**P**	**22 43 12.8**	**-0.5**
MORW				IAmb	IAmb	22 43 15.0	
	comp=Z,126nm,1.4s							
NWAO	**Narrogin (SRO)**	**100.10**	**229**	P	**Pdif**	**22 43 24.3**	**-0.7**
	comp=Z,37nm,0.9s,baz=40,slow=4.4,SNR=9.2							
TORD	**Torodi Ar. Bea**	**115.11**	**357**	PKP	**PKiKP**	**22 48 19.4**	**-1.2**
	comp=Z,21nm,0.6s,baz=350,slow=2.4,SNR=106							
TORD				PKKPbc	**PKKPbc**	**22 58 55.1**	**+1.0**
	comp=Z,8.9nm,0.6s,baz=171,slow=2.7,SNR=16							
LPAZ	**La Paz**	**117.00**	**82**	PKPdf	**PKPdf**	**22 48 24.4**	**-0.5**
	comp=Z,6.0nm,0.7s,baz=347,slow=2.9,SNR=17							
LPAZ				SKP	**SKPdf**	**22 51 48.9**	**-1.5**
	comp=Z,3.9nm,0.7s,baz=1.7,slow=5.5,SNR=5.1							
LPAZ				PKKPbc	**PKKPbc**	**22 58 50.7**	**+2.5**
	comp=Z,4.8nm,0.6s,baz=104,slow=2.6,SNR=13							
LPAZ	**La Paz**	**117.00**	**82**	PKPdf	**PKPdf**	**22 48 24.2**	**-0.7**
LPAZ	**La Paz**	**117.00**	**82**	*eP*	**PKPdf**	**22 48 24.4**	**-0.5**
LPAZ	**La Paz**	**117.00**	**82**	*eP*	**PKPdf**	**22 48 24.4**	**-0.5**
GO01	**Chusmiza**	**118.91**	**85**		**PKPdf**	**22 48 28.1**	**-0.3**
PB01	**IPOC Station P**	**119.76**	**86**		**PKPdf**	**22 48 28.8**	**-0.7**
KMBO	**Kilima Mbogo**	**119.89**	**314**	PKP	**PKiKP**	**22 48 31.7**	**+1.4**
	comp=Z,42nm,0.9s,baz=4.3,slow=3.1,SNR=56							
KMBO				SKP	**SKPdf**	**22 51 56.3**	**+0.6**
	comp=Z,5.0nm,0.9s,baz=11,slow=2.0,SNR=4.4							
KMBO	**Kilima Mbogo**	**119.89**	**314**	*i* P	**PKPdf**	**22 48 30.2**	**0.0**
	SNR=31							
KMBO	**Kilima Mbogo**	**119.89**	**314**	PKPdf	**PKiKP**	**22 48 30.6**	**+0.3**
PB09	**IPOC Station P**	**120.47**	**87**		**PKPdf**	**22 48 30.7**	**-0.2**
SIV	**San Ignacio**	**121.05**	**76**	PKKPbc	PKKPbc	22 58 32.6	-0.2
	comp=Z,11nm,1.0s,baz=135,slow=6.4,SNR=20							
LVC	**Limon Verde**	**121.28**	**87**	PKIKP	**PKPdf**	**22 48 32.5**	**-0.2**
LVC	**Limon Verde**	**121.28**	**87**	PKPdf	**PKPdf**	**22 48 32.5**	**-0.2**
PB15	**IPOC Station P**	**121.38**	**88**		**PKiKP**	**22 48 32.8**	**0.0**
DBIC	**Dimbokro**	**121.53**	**4**	PKP	**PKPdf**	**22 48 32.0**	**-1.0**
	comp=Z,29nm,0.6s,baz=20,slow=2.0,SNR=46							
DBIC				SKP	**SKPdf**	**22 51 55.5**	**-3.0**
	comp=Z,17nm,1.0s,baz=342,slow=3.6,SNR=3.7							
DBIC				PKKPbc	**PKKPbc**	**22 58 31.7**	**+0.7**
	comp=Z,9.9nm,0.7s,baz=176,slow=4.7,SNR=9.6							
DBIC				SKKP		23 02 27.6		
	comp=Z,10nm,0.9s,baz=147,slow=5.5,SNR=6.7							
DBIC	**Dimbokro**	**121.53**	**4**	PKIKP	**PKPdf**	**22 48 32.0**	**-1.0**
DBIC	**Dimbokro**	**121.53**	**4**	PKPdf	**PKPdf**	**22 48 32.0**	**-1.0**
TIC	**Toumodi**	**121.55**	**4**	*e*PKIKP	**PKPdf**	**22 48 31.6**	**-1.5**
KIC	**Kosan Boka**	**121.84**	**4**	*e*PKIKP	**PKPdf**	**22 48 32.0**	**-1.7**
	comp=Z,104nm,0.9s							
LIC	**Lamto**	**121.97**	**4**	*e*PKIKP	**PKPdf**	**22 48 32.0**	**-1.9**
	comp=Z,249nm,1.1s							
MBAR	**Mbarara**	**122.14**	**321**	PKP	**PKiKP**	**22 48 34.8**	**+0.1**
	comp=Z,12nm,0.7s							
MBAR	**Mbarara**	**122.14**	**321**		**PKPdf**	**22 48 34.2**	**-0.2**
GO02	**Mina Guanaco**	**122.73**	**90**		**PKPdf**	**22 48 35.1**	**-0.3**
H03N2	**Juan Fernandez**	**122.87**	**104**	T	T	01 03 26.8	
	baz=314,slow=77,SNR=6.5							
H03N1	**Juan Fernandez**	**122.89**	**104**	T	T	01 03 31.1	
	baz=314,slow=77,SNR=6.6							
H03N3	**Juan Fernandez**	**122.89**	**104**	T	T	01 03 25.8	
	baz=314,slow=77,SNR=7.4							
GO03	**Copiap**	**124.09**	**92**		**PKPdf**	**22 48 37.0**	**-0.6**
AC02	**Maricunga**	**124.23**	**91**	PKPdf	**PKiKP**	**22 48 38.7**	**0.0**
AC05	**El Transito**	**124.95**	**93**	PKPdf	**PKPdf**	**22 48 39.2**	**-0.1**
CO01	**Juntas del Tor**	**125.86**	**94**		**PKPdf**	**22 48 41.3**	**+0.1**
VCA	**Vinchina**	**126.16**	**92**	*i* P	**PKiKP**	**22 48 42.1**	**0.0**
AROD	**Rodeo**	**126.38**	**94**	*i* P	**PKiKP**	**22 48 42.8**	**+0.1**
AGUA	**GUANDACOL**	**126.51**	**93**	*e*P	**PKiKP**	**22 48 42.5**	**-0.1**
AGUA	**GUANDACOL**	**126.51**	**93**	*i* P	SKPbc	22 51 47.2	
ACCO	**Cerro Coronel**	**126.92**	**94**	*i* P	**PKPdf**	**22 48 43.3**	**0.0**
ACCO	**Cerro Coronel**	**126.92**	**94**	*i* P	SKPbc	22 51 49.1	
ROC1	**El Roble**	**127.37**	**98**		**PKPdf**	**22 48 43.7**	**-0.2**
ROC1	**El Roble**	**127.37**	**98**	*i* P	**PKPdf**	**22 48 43.2**	**-0.7**
ACLC	**CERRO LA CRUZ**	**127.42**	**91**	*i* P	**PKPdf**	**22 48 44.1**	**+0.1**
ACLC	**CERRO LA CRUZ**	**127.42**	**91**	*i* P	SKPbc	22 51 50.2	
CYA	**Choya**	**127.44**	**90**	*eP*	**PKPdf**	**22 48 43.5**	**-0.4**
CYA	**Choya**	**127.44**	**90**	*i* P	SKPbc	22 51 51.4	
MT02	**Curacav**	**127.49**	**98**	PKPdf	**PKPdf**	**22 48 43.7**	**-0.1**
VA03	**San Esteban**	**127.51**	**97**		**PKPdf**	**22 48 44.0**	**0.0**
RTLS	**Leoncito**	**127.62**	**95**	*i* P	**PKiKP**	**22 48 44.8**	**-0.2**
RTLS	**Leoncito**	**127.62**	**95**	*i* P	SKPbc	22 51 51.4	
RTLL	**Cerro Villicun**	**127.80**	**94**	*i* P	**PKPdf**	**22 48 44.4**	**-0.1**
RTLL	**Cerro Villicun**	**127.80**	**94**	*i* P	SKPbc	22 51 51.4	
ZON	**Zonda**	**127.83**	**95**	PKIKP	**PKPdf**	**22 48 44.5**	**-0.1**
ZON	**Zonda**	**127.83**	**95**	PKPdf	**PKPdf**	**22 48 44.5**	**-0.1**
ZON	**Zonda**	**127.83**	**95**	*i* P	**PKPdf**	**22 48 44.8**	**+0.2**
AUSP	**Uspallata**	**127.86**	**96**	*i* P	**PKiKP**	**22 48 45.3**	**-0.2**
AUSP	**Uspallata**	**127.86**	**96**	*i* P	SKPbc	22 51 52.3	
RTCV	**Cerro Valdivia**	**128.13**	**95**	*i* P	**PKPdf**	**22 48 45.1**	**0.0**
RTCV	**Cerro Valdivia**	**128.13**	**95**	*i* P	SKPbc	22 51 52.6	
CFA	**Coronel Fontan**	**128.14**	**94**	*i* P	SKPbc	22 51 52.1	
BDFB	**Brasilia**	**128.33**	**63**	PKP	**PKPdf**	**22 48 45.9**	**-0.1**
	comp=Z,30nm,0.9s,baz=353,slow=3.7,SNR=26							
BDFB				SKPbc	SKPbc	22 51 52.5		
	comp=Z,11nm,1.0s,baz=237,slow=3.4,SNR=4.3							
BDFB				PKKP	**PKKPdf**	**22 58 54.3**	**+1.6**
	comp=Z,3.3nm,0.7s,baz=223,slow=4.9,SNR=4.4							
APLL	**PUNTA DE LOS L**	**128.36**	**92**	*i* P	**PKPdf**	**22 48 45.4**	**-0.2**
APLL	**PUNTA DE LOS L**	**128.36**	**92**	*i* P	SKPbc	22 51 52.9	
ASAL	**Salagasta**	**128.45**	**96**	*eP*	**PKPdf**	**22 48 45.9**	**+0.2**
ASAL	**Salagasta**	**128.45**	**96**	*i* P	SKPbc	22 51 54.3	
ARCO	**CERRO ARCO**	**128.56**	**96**	*i* P	**PKPdf**	**22 48 46.1**	**0.0**
ARCO	**CERRO ARCO**	**128.56**	**96**	*i* P	SKPbc	22 51 54.1	
CASY	**Casey**	**128.66**	**209**	PKPdf	**PKiKP**	**22 48 45.3**	**-0.3**
BI03	**Tigo**	**128.73**	**103**		**PKPdf**	**22 48 46.0**	**0.0**
BO02	**Sierra Bellavi**	**128.74**	**99**		**PKPdf**	**22 48 46.2**	**0.0**
AAGR	**Agrelo**	**128.79**	**96**	*i* P	**PKiKP**	**22 48 46.9**	**-0.2**
AAGR	**Agrelo**	**128.79**	**96**	*i* P	SKPbc	22 51 55.4	
AVIZ	**Vizcacheras**	**129.24**	**96**	*i* P	**PKiKP**	**22 48 48.0**	**0.0**
AVIZ	**Vizcacheras**	**129.24**	**96**	*i* P	SKPbc	22 51 56.6	-2.4
OPO	**Ambohidratompo**	**129.55**	**293**	SKPbc	SKPbc	22 52 00.3	-0.2
	comp=Z,9.6nm,0.7s,baz=52,slow=4.3,SNR=6.2							
VNDA	**Vanda**	**129.63**	**185**	PKP	**PKPdf**	**22 48 46.8**	**+0.3**
	comp=Z,16nm,0.9s,baz=327,slow=4.1,SNR=21							
VNDA				SKPbc	SKPbc	22 51 59.2	+0.5	
	comp=Z,29nm,1.0s,baz=352,slow=3.7,SNR=15							
VNDA	**Vanda**	**129.63**	**185**	PKIKP	**PKiKP**	**22 48 47.0**	**-0.3**
VNDA	**Vanda**	**129.63**	**185**	PKPdf	**PKiKP**	**22 48 47.0**	**-0.3**
BI02	**San Fabin de**	**129.68**	**101**	PKPdf	**PKPdf**	**22 48 47.9**	**-0.1**
ABPO	**Ambohimpanom**	**129.88**	**292**	PKIKP	**PKPdf**	**22 48 48.9**	**-0.1**
ABPO	**Ambohimpanom**	**129.88**	**292**	PKPdf	**PKPdf**	**22 48 48.9**	**-0.1**
TCA	**Tanti**	**130.21**	**91**	*i* P	**PKPdf**	**22 48 49.2**	**+0.1**
TCA	**Tanti**	**130.21**	**91**	*i* P	**SKPbc**	**22 51 59.9**	**-2.5**
EDS3	**Malargue**	**130.23**	**99**	*i* P	**SKPbc**	**22 52 01.1**	**-1.4**
MRA	**San Martin**	**130.25**	**93**	*eP*	**SKPbc**	**22 52 00.1**	**-2.5**
LC01	**Cunco**	**130.76**	**104**	PKPdf	**PKPdf**	**22 48 49.8**	**-0.1**
CPUP	**Villa Florida**	**131.14**	**81**	PKP	**PKPdf**	**22 48 50.8**	**-0.2**
	comp=Z,44nm,1.0s,baz=331,slow=2.9,SNR=48							
CPUP				SKPbc	**SKPbc**	**22 52 03.0**	**-2.9**
	comp=Z,71nm,0.7s,baz=316,slow=3.5,SNR=78							
PCMB	**Pacaembu**	**131.22**	**71**	*eP*	**PKPdf**	**22 48 51.4**	**+0.1**
PCMB	**Pacaembu**	**131.22**	**71**	*eP*	**PKPdf**	**22 48 51.4**	**+0.1**
LL01	**San Ignacio de**	**132.60**	**108**	PKPdf	**PKPdf**	**22 48 53.2**	**+0.1**
PLCA	**Paso Flores**	**132.70**	**105**	PKP	**PKPdf**	**22 48 53.9**	**+0.4**
	comp=Z,36nm,0.9s,baz=290,slow=2.5,SNR=30							
PLCA				SKPbc	**SKPbc**	**22 52 09.4**	**-1.5**
	comp=Z,148nm,1.1s,baz=314,slow=4.3,SNR=45							
RIB01	**Linhares ES**	**135.45**	**58**	*eP*	**PKPdf**	**22 48 58.6**	**-0.6**
RIB01	**Linhares ES**	**135.45**	**58**	*eP*	**PKPdf**	**22 48 58.6**	**-0.6**
PARB	**Paraibuna**	**135.83**	**67**	*eP*	**PKPdf**	**22 49 00.5**	**+0.6**
PARB	**Paraibuna**	**135.83**	**67**	*eP*	**PKPdf**	**22 49 00.5**	**+0.6**
CPSB	**Cacapava Do Su**	**136.44**	**81**	*eP*	**PKPdf**	**22 49 00.5**	**-0.3**
CPSB	**Cacapava Do Su**	**136.44**	**81**	*eP*	**PKPdf**	**22 49 00.5**	**-0.3**
LSZ	**Lusaka**	**136.46**	**316**	PKP	**PKPdf**	**22 49 02.2**	**+0.8**
	comp=Z,31nm,0.8s,baz=59,slow=2.2,SNR=9.0							
LSZ				PP	**PP**	**22 51 44.0**	**+0.8**
	comp=Z,2.7nm,0.2s,baz=28,slow=6.6,SNR=9.8							
LSZ				SKPbc	**SKPbc**	**22 52 22.0**	**-1.9**
	comp=Z,15nm,0.9s,baz=6.6,slow=2.4,SNR=6.7							
LSZ	**Lusaka**	**136.46**	**316**	PKPdf	**PKPdf**	**22 49 01.6**	**+0.2**
MATP	**Matopo**	**140.85**	**312**	PKhKP	PKPpre	22 49 02.9	
	comp=Z,27nm,0.7s,baz=47,slow=3.0,SNR=4.3							
MATP				PKP	**PKPdf**	**22 49 08.8**	**-0.5**
	comp=Z,65nm,0.8s,baz=50,slow=1.5,SNR=7.2							
MATP				PP	**PP**	**22 52 11.6**	**+1.2**
	comp=Z,14nm,0.8s,baz=357,slow=9.5,SNR=5.2							
MATP				SKPbc	**SKPbc**	**22 52 34.2**	**-1.9**
	comp=Z,25nm,0.8s,baz=15,slow=4.8,SNR=6.8							
QSPA	**South Pole Qui**	**141.71**	**180**	PKhKP	PKPpre	22 49 04.5		
	comp=Z,137nm,0.9s,baz=11,slow=1.1,SNR=34							
QSPA				PP	**PP**	**22 52 21.6**	**+6.1**
	comp=Z,14nm,1.0s,baz=51,slow=5.1,SNR=3.2							
QSPA				SKPbc	**SKPbc**	**22 52 35.8**	**-0.8**
	comp=Z,25nm,0.9s,baz=26,slow=1.8,SNR=6.6							
TSUM	**Tsumeb**	**144.07**	**328**	PKP	PKPbc	22 49 13.5	+0.1	
	comp=Z,61nm,1.0s,baz=3.0,slow=6.0,SNR=55							
TSUM				SKPbc	**SKPbc**	**22 52 43.1**	**-1.0**
	comp=Z,21nm,1.2s,baz=0.7,slow=5.8,SNR=5.4							
TSUM	**Tsumeb**	**144.07**	**328**	PKPdf	PKPbc	22 49 13.6	+0.2	
CRZF	**Crozet Islands**	**145.41**	**258**		**PKPbc**	**22 49 16.4**	**-0.1**
EFI	**East Falkland**	**145.75**	**112**	PKP2	**PKPbc**	**22 49 17.2**	**-0.2**
EFI	**East Falkland**	**145.75**	**112**	PKPdf	**PKPbc**	**22 49 17.2**	**-0.2**
MAW	**Mawson**	**145.94**	**218**	PKPbc	**PKPbc**	**22 49 17.7**	**+0.2**
	comp=Z,376nm,0.9s,baz=83,slow=3.8,SNR=134							
MAW	**Mawson**	**145.94**	**218**	PKPdf	**PKPdf**	**22 49 16.7**	**+0.1**
LBTB	**Lobatse**	**146.15**	**312**	PKPbc	**PKPab**	**22 49 20.3**	**-0.2**
	comp=Z,578nm,0.8s,baz=15,slow=1.6,SNR=457							
LBTB				SKPbc	**SKPbc**	**22 52 47.3**	**-1.4**
	comp=Z,52nm,0.8s,baz=322,slow=0.8,SNR=7.8							
LBTB	**Lobatse**	**146.15**	**312**	PKP2	**PKPdf**	**22 49 18.8**	**+0.4**
LBTB	**Lobatse**	**146.15**	**312**	PKPdf	**PKPdf**	**22 49 18.8**	**+0.4**
PMSA	**Palmer Station**	**146.27**	**137**	PKPbc	**PKPbc**	**22 49 18.9**	**+0.4**
	comp=Z,120nm,0.8s,baz=228,slow=1.0,SNR=15							
PMSA	**Palmer Station**	**146.27**	**137**		**PKPab**	**22 49 19.3**	**-0.2**
BOSA	**Boshof**	**149.36**	**309**	PKP	**PKPdf**	**22 49 23.7**	**0.0**
	comp=Z,226nm,1.1s,baz=47,slow=2.5,SNR=17							
BOSA				PKPbc	**PKiKP**	**22 49 28.8**	**-0.4**
	comp=Z,271nm,0.6s,baz=38,slow=2.2,SNR=159							
BOSA	**Boshof**	**149.36**	**309**	PKHKP	**PKPdf**	**22 49 23.7**	**0.0**
BOSA				PKP	**PKPbc**	**22 49 28.5**	**+0.3**
BOSA	**Boshof**	**149.36**	**309**		**PKPdf**	**22 49 23.6**	**0.0**
BOSA					**PKPbc**	**22 49 28.5**	**+0.3**
BOSA				PKPab	**PKPab**	**22 49 34.1**	**+0.9**
SYO	**Syowa Base**	**154.29**	**213**	*i*|*i*PKPdf	**PKPdf**	**22 49 27.9**	**-1.7**
SYO	**Syowa Base**	**154.29**	**213**	*i*|*i*X	**PKPbc**	**22 49 36.9**	**-1.0**
SUR	**Sutherland**	**154.60**	**312**	PKP	**PKPdf**	**22 49 31.5**	**0.0**
	comp=Z,14nm,0.9s,baz=311,slow=1.8,SNR=8.1							
SUR				PKPbc	**PKiKP**	**22 49 40.6**	**+0.5**
	comp=Z,60nm,0.8s,baz=4.6,slow=1.0,SNR=28							
SUR	**Sutherland**	**154.60**	**312**	PKPdf	**PKPdf**	**22 49 31.7**	**+0.2**
SUR					**PKiKP**	**22 49 40.4**	**+0.3**
SUR				PKPab	**PKPab**	**22 49 56.2**	**+1.1**
SNAA	**Sanae**	**160.20**	**179**	PKPdf	**PKPdf**	**22 49 36.2**	**-0.9**
SNAA	**Sanae**	**160.20**	**179**	PKP	**PKPdf**	**22 49 35.9**	**-1.1**
	comp=Z,10.0nm,0.8s,baz=35,slow=1.7,SNR=11							
SNAA				PKPab	**PKPab**	**22 50 17.5**	**-0.6**
	comp=Z,51nm,1.0s,baz=213,slow=4.7,SNR=14							
SNAA				PP	**PP**	**22 54 03.9**	**+2.9**
	comp=Z,7.1nm,1.0s,baz=186,slow=4.8,SNR=4.3							
SNAA	**Sanae**	**160.20**	**179**	PKPdf	**PKPdf**	**22 49 35.7**	**-1.3**
SNAA					**PKPab**	**22 50 17.6**	**-0.5**
VNA2	**Neumayer--Watz**	**160.77**	**174**	PKPdf	**PKPdf**	**22 49 36.5**	**-1.1**
VNA1	**Neumayer--Stat**	**160.98**	**173**	PKPdf	**PKPdf**	**22 49 36.7**	**-1.1**

NEIC ***23*** *22:33:02.3±0.8, 51.72N±0.10×178.4E±0.2, h115km±4km, Error ellipse: s-maj=18.9km s-min=10.1km az=53.0*
AEIC 23 22:33:03±0.8, 51.80N±0.09×178.5E±0.2, h108km±5km, ML3.6, Error ellipse: s-maj=17.0km s-min=9.0km az=51.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.14**	**8**			Pn	22 33 18.4	+0.4
LSPA	**Little Sitkin**	**0.16**	**8**			Pn	22 33 18.6	+0.6
LSPA						Sn	22 33 30.4	+1.1
LSNW	**Little Sitkin**	**0.17**	**356**			Pn	22 33 18.5	+0.5
LSNW						Sn	22 33 31.1	+1.8
AMKA	**Amchitka**	**0.64**	**131**			Pn	22 33 18.3	+0.7
AMKA						Sn	22 33 34.7	+0.9
CEAP	**Semis' Anvil P**	**0.68**	**72**			Pn	22 33 21.4	+0.6
CERAA	**Semis' Rag'd T**	**0.72**	**81**			Pn	22 33 22.3	+1.0
TASE	**Tanaga Southea**	**2.13**	**88**			Pn	22 33 38.4	+0.9
TAFP	**Tanaga Falls P**	**2.16**	**86**			Pn	22 33 38.6	+0.7
TAPA	**Tanaga Point A**	**2.27**	**88**			Pn	22 33 40.4	+1.1
NIKH	**Nikolski High**	**7.81**	**76**	Pn		Pn	22 34 55.1	+1.4
FALS	**False Pass**	**11.21**	**67**	Pn		Pn	22 35 41.0	+1.2

NEIC ***23*** *22:33:46.3±1.8, 30.30S±0.05×177.6W±0.1, h4km±3km, mb5.3/46, Error ellipse: s-maj=16.6km s-min=6.5km az=81.0*
IDC ***23*** *22:33:46.2±0.6, 30.08S×177.32W, h0km, mb5.1/15, mb1 5.2/15, mb1mx4.8/47, mbtmp5.1/15, Error ellipse: s-maj=22.4km s-min=14.3km az=72.0*
BJI ***23*** *22:33:46.1±0.0, 29.96S×177.14W, h14km, mb5.4/18*
MOS ***23*** *22:33:47.7±1.0, 30.23S×177.50W, h18km, mb5.5/5, Error ellipse: s-maj=13.1km s-min=10.0km az=115.7*
ISC 23 22:33:47.1±0.4, 30.26S±0.04×177.40W±0.08, h10km, n328, σ1.978/323, mb5.3/43, 14C-11D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.09**	**335**	P		**Pn**	**22 34 10.4**	**+2.0**
GLKZ				S		**Sg**	**22 34 20.9**	**-1.3**
RAO	**Raoul Island**	**1.10**	**336**	Pn		**Pn**	**22 34 08.6**	**+0.1**
	10μm,0.3s,baz=126,slow=5.3,SNR=20							
RAO				Sn		**Sn**	**22 34 22.6**	**-1.1**
	9μm,0.3s,baz=89,slow=22,SNR=7.9							
RAO	**Raoul Island**	**1.10**	**336**	Pn		**Pn**	**22 34 08.0**	**-0.5**
RAO						**Sg**	**22 34 21.1**	**-1.4**
RIZ	**Raoul Island**	**1.11**	**335**	P		**Pn**	**22 34 09.4**	**+0.8**
RIZ				S		**Sn**	**22 34 23.3**	**-0.7**
MXZ	**Matakaoa Point**	**8.11**	**205**	Pn		**Pn**	**22 35 42.9**	**-2.0**
HAZ	**Te Kaha**	**8.48**	**207**	P		**Pn**	**22 35 48.3**	**-1.6**
HAZ				S		**Sn**	**22 37 28.1**	**+2.4**
PUZ	**Puketiti**	**8.59**	**204**	P		**Pn**	**22 35 48.1**	**-3.3**
PUZ				S		**Sn**	**22 37 27.9**	**-0.5**
KUZ	**Kuaotunu**	**8.65**	**220**	P		Pn	22 35 58.7	+6.4
RUGZ	**Raukumara Rang**	**8.70**	**207**	P		**Pn**	**22 35 50.9**	**-2.3**
RUGZ				S		**Sn**	**22 37 31.6**	**+0.2**
WCZ	**Waipu Caves**	**8.95**	**229**	P		Pn	22 36 05.9	+10
CNGZ	**Carnagh Statio**	**8.97**	**203**	P		**Pn**	**22 35 54.3**	**-2.4**
CNGZ				S		**Sn**	**22 37 37.8**	**0.0**
OUZ	**Omahuta**	**9.05**	**235**	P		Pn	22 36 06.9	+9.0
TKGZ	**Te Karaka**	**9.06**	**204**	P		**Pn**	**22 35 54.9**	**-3.0**
TKGZ				S		**Sn**	**22 37 38.4**	**-1.4**
MWZ	**Matawai**	**9.08**	**206**	P		**Pn**	**22 35 55.7**	**-2.6**
MWZ				S		**Sn**	**22 37 40.7**	**+0.1**
URZ	**Urewera**	**9.18**	**208**	P		**Pn**	**22 35 57.6**	**-2.0**
RIGZ	**Rimuhau**	**9.32**	**204**	P		Pn	22 35 57.6	-4.0
OMRZ	**Omania**	**9.37**	**212**	P		Pn	22 36 08.2	+5.9
PRGZ	**Paritu Road**	**9.48**	**203**	P		**Pn**	**22 36 00.1**	**-3.6**
MUGZ	**Murupara**	**9.51**	**209**	P		**Pn**	**22 36 01.2**	**-2.9**
RTZ	**Ruatahuna**	**9.54**	**208**	P		**Pn**	**22 36 01.6**	**-3.0**
SNGZ	**Shannon Statio**	**9.54**	**206**	P		**Pn**	**22 36 01.9**	**-2.7**
MHGZ	**Mahia Peninsul**	**9.68**	**202**	P		**Pn**	**22 36 02.1**	**-4.2**
RAHZ	**Arahi**	**9.76**	**206**	P		**Pn**	**22 36 05.3**	**-2.2**
MTHZ	**Maungataniwha**	**9.80**	**207**	P		**Pn**	**22 36 05.7**	**-2.3**
TLZ	**Tolley Road**	**9.95**	**214**	P		Pn	22 36 16.0	+5.9
MRHZ	**Matea Rd**	**9.96**	**209**	P		**Pn**	**22 36 07.7**	**-2.5**
NMHZ	**Naumai**	**10.02**	**207**	P		**Pn**	**22 36 09.3**	**-1.9**
ARHZ	**Aropaoanui**	**10.10**	**206**	P		**Pn**	**22 36 09.3**	**-2.8**
BKZ	**Black Stump Fm**	**10.21**	**208**	P		**Pn**	**22 36 11.0**	**-2.7**
BKZ	**Black Stump Fm**	**10.21**	**208**	Pn		**Pn**	**22 36 10.2**	**-3.4**
MCHZ	**McNeill Hill**	**10.37**	**206**	P		**Pn**	**22 36 12.6**	**-3.2**
CKHZ	**Cape Kidnapper**	**10.41**	**204**	P		**Pn**	**22 36 12.0**	**-4.5**
HIZ	**Hauiti**	**10.43**	**216**	P		Pn	22 36 23.5	+6.9
KWHZ	**Kaweka Forest**	**10.46**	**207**	P		**Pn**	**22 36 15.3**	**-1.8**
WTVZ	**West Tongariro**	**10.55**	**211**	P		**Pn**	**22 36 18.1**	**-0.4**
KAHZ	**Kahuranaki**	**10.61**	**205**	P		**Pn**	**22 36 14.5**	**-4.7**
BHHZ	**Black Hill Sta**	**10.66**	**208**	P		**Pn**	**22 36 19.2**	**-0.7**
KRHZ	**Kereru**	**10.66**	**207**	P		**Pn**	**22 36 16.8**	**-3.2**
FWVZ	**Far West T-bar**	**10.68**	**211**	P		**Pn**	**22 36 20.0**	**-0.3**
WHVZ	**Whangaehu Hut**	**10.69**	**211**	P		**Pn**	**22 36 20.2**	**-0.2**
MOVZ	**Moawhango**	**10.72**	**210**	P		**Pn**	**22 36 18.2**	**-2.5**
PKVZ	**Pokaka**	**10.80**	**212**	P		**Pn**	**22 36 19.8**	**-2.0**
PXZ	**Pawanui**	**10.82**	**204**	P		**Pn**	**22 36 17.8**	**-4.2**
VRZ	**Vera Road**	**10.95**	**214**	P		Pn	22 36 29.5	+5.7
PNHZ	**Pukenui**	**10.96**	**207**	P		**Pn**	**22 36 20.1**	**-3.9**
PRHZ	**Porangahau**	**11.11**	**204**	P		**Pn**	**22 36 21.5**	**-4.5**
TSZ	**Takapari Road**	**11.18**	**207**	P		**Pn**	**22 36 24.0**	**-3.1**
BFZ	**Birch Farm**	**11.62**	**205**	P		Pn	22 36 27.0	-5.9
TIWZ	**Tintock**	**11.83**	**206**	P		**Pn**	**22 36 36.2**	**+0.3**
MRZ	**Mangatainoka R**	**11.85**	**207**	P		**Pn**	**22 36 31.5**	**-4.6**
TMWZ	**Te Maipa**	**12.12**	**205**	P		Pn	22 36 33.9	-5.9
OGWZ	**Otaki Gorge**	**12.14**	**208**	P		**Pn**	**22 36 36.2**	**-3.9**

H03S2	**Juan Fernandez**	**80.11**	**123**	T	T	00 15 26.6	
	baz=238,slow=74,SNR=5.4						
H03S1	**Juan Fernandez**	**80.12**	**123**	T	T	00 15 27.8	
	baz=238,slow=74,SNR=5.8						
H03S3	**Juan Fernandez**	**80.13**	**123**	T	T	00 15 26.2	
	baz=238,slow=74,SNR=6.4						
PLCA	**Paso Flores**	**82.22**	**133**	P	**P**	**22 46 10.8 +2.1**	
	comp=Z,4.1nm,0.9s,baz=193,slow=5.3,SNR=6.4						
JKA	**Kamikawa-asahi**	**82.55**	**332**	P	**P**	**22 46 11.5 +1.6**	
ASAJ	**Asahikawa**	**82.56**	**332**	P	**P**	**22 46 11.6 +1.6**	
	comp=Z,44nm,0.9s,baz=252,slow=12,SNR=6.7						
ASAJ	**Asahikawa**	**82.56**	**332**	P	**P**	**22 46 11.5 +1.6**	
ASAJ				pmax	pmax		
	comp=Z,71nm,1.0s						
DLV	**T Lat**	**82.61**	**288**	P	**P**	**22 46 11.7 +0.5**	
DLV				IAmb	IAmb	22 46 13.2	
	comp=Z,26nm,0.8s						
KSRS	**Korea Array**	**84.58**	**319**	P	**P**	**22 46 21.3 +0.8**	
	comp=Z,6.1nm,0.9s,baz=142,slow=5.8,SNR=14						
KSAR	**Wonju Array Be**	**84.59**	**319**	P	**P**	**22 46 20.5 -0.1**	
KSAR	**Wonju Array Be**	**84.59**	**319**		**P**	**22 46 20.5 -0.1**	
KS19	**Wonju Array Si**	**84.64**	**319**	P	**P**	**22 46 20.7 -0.1**	
YSS	**Yuzh-Sakhalins**	**84.85**	**334**	⇑*iP*	**P**	**22 46 22.8 +1.2**	
YSS				pmax	pmax		
	comp=Z,130nm,0.9s						
YSS	**Yuzh-Sakhalins**	**84.85**	**334**	P	**P**	**22 46 23.0 +1.4**	
KULM	**Kulim**	**85.72**	**279**	P	**P**	**22 46 25.9 -1.0**	
KULM				IAmb	IAmb	22 46 42.5	
	comp=Z,11nm,1.0s						
PEA0B	**Petropavlovsk-**	**85.81**	**345**	P	**P**	**22 46 26.9 +0.6**	
PEA0B				pmax	pmax		
	comp=Z,40nm,0.9s						
PEA0B	**Petropavlovsk-**	**85.81**	**345**	P	**P**	**22 46 26.9 +0.6**	
PEA0B				IAmb	IAmb	22 46 27.7	
	comp=Z,40nm,0.9s						
PETK	**Petropavlovsk-**	**85.81**	**345**	P	**P**	**22 46 26.8 +0.5**	
	comp=Z,22nm,0.7s,baz=140,slow=8.1,SNR=12						
PETK	**Petropavlovsk-**	**85.81**	**345**		**P**	**22 46 26.9 +0.7**	
GSI	**Gunungsitoli**	**86.35**	**274**		**P**	**22 46 30.0 0.0**	
NJ2	**Nanjing**	**86.55**	**310**	*eP*	**P**	**22 46 31.3 +0.9**	
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
WDC	**Whiskeytown Da**	**86.88**	**39**	P	**P**	**22 46 32.9 +1.0**	
WDC				pmax	pmax		
	comp=Z,19nm,1.3s						
WDC	**Whiskeytown Da**	**86.88**	**39**	P	**P**	**22 46 32.9 +1.0**	
WDC				IAmb	IAmb	22 47 21.1	
	comp=Z,19nm,1.2s						
WAKR	**Walker**	**87.17**	**42**	P	**P**	**22 46 34.4 +0.7**	
WAKR				IAmb	IAmb	22 46 46.6	
	comp=Z,29nm,1.5s						
USRK	**Ussuriysk Ar.**	**87.33**	**326**	P	**P**	**22 46 34.8 +0.8**	
	comp=Z,14nm,0.7s,baz=130,slow=3.1,SNR=23						
USA0B	**Ussuriysk Arra**	**87.33**	**326**	P	**P**	**22 46 34.7 +0.7**	
USA0B				pmax	pmax		
	comp=Z,27nm,0.9s						
USA0B	**Ussuriysk Arra**	**87.33**	**326**		**P**	**22 46 34.7 +0.7**	
USA0B				IAmb	IAmb	22 46 35.9	
	comp=Z,27nm,0.9s						
MDJ	**Mudanjiang**	**88.80**	**325**	P	**P**	**22 46 41.8 +0.9**	
MDJ				IAmb	IAmb	22 46 42.9	
	comp=Z,40nm,1.3s						
TIA	**Tai'an**	**90.25**	**313**	P	**P**	**22 46 48.4 +0.4**	
TIA				pmax	pmax		
	comp=Z,20nm,0.9s						
CN2	**Changchun**	**90.34**	**323**	*eP*	**P**	**22 46 46.8 -1.4**	
CN2				pmax	pmax		
	comp=Z,40nm,1.0s						
KLR	**Kul'dur**	**91.17**	**329**	P	**P**	**22 46 52.6 +0.6**	
	comp=Z,13nm,0.7s,baz=152,slow=3.1,SNR=17						
B06A	**Marblemount**	**92.98**	**33**	P	**P**	**22 47 01.5 +1.2**	
B06A				IAmb	IAmb	22 47 03.9	
	comp=Z,38nm,1.5s						
CMAR	**Chiang Mai Arr**	**93.84**	**289**	PKPPKP		23 12 22.7	
	comp=Z,0.9nm,0.4s,baz=244,slow=3.6,SNR=4.5						
CMAR	**Chiang Mai Arr**	**93.84**	**289**	P	**P**	**22 47 04.0 -1.1**	
B08A	**Colville Reser**	**93.92**	**35**	P	**P**	**22 47 05.6 +0.9**	
B08A				IAmb	IAmb	22 47 07.1	
	comp=Z,19nm,1.5s						
CD2	**Chengdu**	**96.45**	**302**	P	**P**	**22 47 15.6 -1.2**	
CD2				pmax	pmax		
	comp=Z,20nm,1.2s						
WMQ	**Urumqi**	**113.55**	**308**	*e*PKP	**PKiKP**	**22 52 25.5 0.0**	
MKAR	**Makanchi Array**	**118.08**	**310**	PKP	**PKPdf**	**22 52 32.9 -1.1**	
	comp=Z,1.1nm,0.6s,baz=197,slow=1.0,SNR=8.9						
MKAR	**Makanchi Array**	**118.08**	**310**		**PKiKP**	**22 52 33.2 -0.8**	
ZALV	**Zalesovo Beam**	**118.27**	**318**	PKP	**PKPdf**	**22 52 32.7 -1.4**	
	comp=Z,1.1nm,0.6s,baz=250,slow=3.0,SNR=2.8						
ZALV	**Zalesovo Beam**	**118.27**	**318**		**PKPdf**	**22 52 33.1 -1.0**	
KBL	**Kabul**	**124.64**	**293**	PKIKP	**PKiKP**	**22 52 47.3 -0.3**	
KBL	**Kabul**	**124.64**	**293**		**PKiKP**	**22 52 47.3 -0.3**	
KK31	**Karatay Array**	**125.43**	**304**	PKIKP	**PKiKP**	**22 52 47.9 -0.7**	
KK31	**Karatay Array**	**125.43**	**304**		**PKiKP**	**22 52 47.9 -0.7**	
KKAR	**Karatay Array**	**125.43**	**304**	PKIKP	**PKiKP**	**22 52 47.6 -1.0**	
KKAR						22 52 47.9	
KKAR	**Karatay Array**	**125.43**	**304**		**PKiKP**	**22 52 47.6 -1.0**	
KKAR	**Karatay Array**	**125.43**	**304**		**PKiKP**	**22 52 47.9 -0.7**	
BVAR	**Borovoye Array**	**126.67**	**316**	PKP	**PKiKP**	**22 52 50.4 -0.3**	
SPITS	**Spitsbergen Ar**	**131.59**	**356**	PKP	**PKiKP**	**22 52 59.4 -0.6**	
	comp=Z,5.6nm,0.7s,baz=276,slow=1.3,SNR=3.6						
GEYT	**Alibeck**	**133.97**	**295**	PKP	**PKiKP**	**22 53 06.3 +0.3**	
	comp=Z,2.9nm,0.7s,baz=241,slow=1.5,SNR=4.4						
GEYT	**Alibeck**	**133.97**	**295**		**PKiKP**	**22 53 05.1 -0.9**	
ARCES	**ARCESS Array B**	**138.56**	**348**	PKhKP	PKPpre	22 53 04.2	
	comp=Z,2.5nm,0.7s,baz=59,slow=4.7,SNR=5.2						
TBLG	**Delisi**	**144.36**	**300**	PKIKP	**PKPdf**	**22 53 22.4 -1.1**	
TBLG	**Delisi**	**144.36**	**300**		**PKPdf**	**22 53 22.4 -1.1**	
MOS	**Moscow**	**144.51**	**326**	*e*PKIKP	**PKPab**	**22 53 20.3 -1.3**	
MOS				pmax	pmax		
	comp=Z,46nm,1.2s						
ZEI	**Tsey**	**144.87**	**302**	*e*PKIKP	**PKPdf**	**22 53 23.3 -1.2**	
ZEI				pmax	pmax		
	comp=Z,31nm,0.7s						
PUL	**Pulkovo**	**145.08**	**336**	*eP*	**PKPbc**	**22 53 22.6 -0.9**	
GOF	**Gofitskoye**	**145.12**	**306**	⇑*e*PKIKP	**PKPdf**	**22 53 24.4 -0.2**	
GOF				pmax	pmax		
	comp=Z,62nm,0.7s						
FIA1	**FINESS Array S**	**145.19**	**340**		**PKPdf**	**22 53 23.4 -0.8**	
FINES	**FINESS Array B**	**145.19**	**340**	PKPbc	**PKPab**	**22 53 23.2 -0.7**	
	comp=Z,73nm,0.7s,baz=59,slow=3.2,SNR=127						
AKH	**Akhalkalaki**	**145.32**	**300**	⇓P	**PKiKP**	**22 53 27.8 -1.5**	
AKH	**Akhalkalaki**	**145.32**	**300**	PKIKP	**PKPdf**	**22 53 25.7 +0.4**	
AKH	**Akhalkalaki**	**145.32**	**300**		**PKPdf**	**22 53 25.7 +0.4**	
LPSR	**Galich'ya Gora**	**145.33**	**321**	*e*PKP2	**PKPbc**	**22 53 23.6 -0.9**	
LPSR				pmax	pmax		
	comp=Z,100nm,1.0s						
OBN	**Obninsk**	**145.35**	**326**	⇑P	**PKPdf**	**22 53 24.2 -0.5**	
OBN	**Obninsk**	**145.35**	**326**	*i* PKP2	**PKPbc**	**22 53 23.6 -0.9**	
OBN				pmax	pmax		
	comp=Z,87nm,1.0s						
OBN	**Obninsk**	**145.35**	**326**		**PKPdf**	**22 53 24.0 -0.6**	
KBZ	**Khabaz**	**145.46**	**304**	PKPbc	**PKPab**	**22 53 25.3 -0.2**	
	comp=Z,22nm,0.9s,baz=152,slow=2.7,SNR=17						
KIV	**Kislovodsk**	**145.57**	**305**	⇓P	**PKPab**	**22 53 26.0 -0.1**	
KIV	**Kislovodsk**	**145.57**	**305**	*e*PKIKP	**PKPab**	**22 53 25.6 -0.5**	
KIV				pmax	pmax		
	comp=Z,102nm,1.1s						
KIV	**Kislovodsk**	**145.57**	**305**		**PKPab**	**22 53 25.9 -0.1**	
VSR	**Storozhevoye**	**145.78**	**318**	*e*PKP2	**PKPbc**	**22 53 25.2 -0.8**	
VSR				pmax	pmax		
	comp=Z,80nm,0.8s						
BCA	**Borcka**	**146.72**	**300**	⇓P	**PKiKP**	**22 53 30.7 -1.2**	
VSU	**Vasula**	**147.30**	**337**	*eP*	**PKPbc**	**22 53 29.5 -0.7**	
KTUT	**Trabzon**	**148.16**	**300**	⇑P	**PKiKP**	**22 53 34.2 -0.7**	
NC405	**NORSAR Array S**	**148.55**	**352**		**PKPbc**	**22 53 33.0 -0.6**	
NB2	**NORSAR Subarra**	**148.69**	**352**	PKP	**PKPbc**	**22 53 33.3 -0.6**	
	comp=Z,6.6nm,0.7s,baz=12,slow=2.9						
NOA	**NORSAR Array B**	**148.69**	**352**	PKPbc	**PKPbc**	**22 53 33.2 -0.8**	
	comp=Z,12nm,0.8s,baz=15,slow=4.4,SNR=34						
IZAR	**Zarasai**	**149.50**	**333**	*eP*	**PKiKP**	**22 53 36.4 -0.8**	
ISAL	**Salakas**	**149.68**	**333**	*eP*	**PKiKP**	**22 53 36.4 -1.1**	
IIGN	**Ignalina**	**149.80**	**333**	*eP*	**PKiKP**	**22 53 36.7 -1.1**	
NACGM	**Naroch**	**149.90**	**332**	*e*	**PKPbc**	**22 53 36.0 -1.1**	
KONO	**Kongsberg**	**150.23**	**353**	PKIKP	**PKiKP**	**22 53 37.5 -1.0**	
KONO	**Kongsberg**	**150.23**	**353**		**PKiKP**	**22 53 37.5 -1.0**	
GAZ	**Gaziantep**	**150.51**	**293**		**PKiKP**	**22 53 39.8 -0.2**	
PABE	**Paberze**	**150.54**	**335**	*eP*	**PKiKP**	**22 53 38.1 -1.1**	
PBUR	**Paburge**	**150.84**	**338**	*eP*	**PKPbc**	**22 53 36.7 -2.5**	
AKASG	**Malin Array Be**	**151.50**	**323**	PKPbc	**PKiKP**	**22 53 40.5 -0.9**	
	comp=Z,22nm,0.8s,baz=48,slow=2.9,SNR=35						
AKBB	**Malin Array Si**	**151.50**	**323**	PKIKP	**PKiKP**	**22 53 40.6 -0.8**	
AKBB	**Malin Array Si**	**151.50**	**323**		**PKiKP**	**22 53 40.6 -0.8**	
QRWL	**Qaraoun**	**151.79**	**285**	*eP*	**PKiKP**	**22 53 43.2 +0.5**	
BHL	**Bhannes**	**151.83**	**286**	*eP*	**PKiKP**	**22 53 43.0 +0.2**	

DQRL	**Deir Qamar**	**151.89**	**286**	*eP*	**PKiKP**	**22 53 43.6 +0.6**	
SUW	**Suwalki**	**151.98**	**334**	*eP*	**PKiKP**	**22 53 41.5 -0.8**	
SUW	**Suwalki**	**151.98**	**334**	PKIKP	**PKiKP**	**22 53 41.5 -0.8**	
SUW	**Suwalki**	**151.98**	**334**		**PKiKP**	**22 53 41.5 -0.8**	
EIL	**Elat**	**152.01**	**277**	PKPbc	**PKiKP**	**22 53 43.0 -0.2**	
	comp=Z,23nm,0.7s,baz=125,slow=0.6,SNR=15						
ILGA	**Ilgaz**	**152.65**	**302**		**PKiKP**	**22 53 44.4 -0.1**	
BR131	**Keskin Array S**	**152.99**	**299**	PKIKP	**PKiKP**	**22 53 44.2 -0.9**	
BR131	**Keskin Array S**	**152.99**	**299**		**PKiKP**	**22 53 44.2 -1.0**	
BRTR	**Keskin Array B**	**152.99**	**299**	PKPbc	**PKiKP**	**22 53 44.4 -0.7**	
	comp=Z,3.5nm,0.5s,baz=125,slow=3.6,SNR=13						
BRTR	**Keskin Array B**	**152.99**	**299**	PKIKP	**PKiKP**	**22 53 44.1 -1.0**	
BRTR	**Keskin Array B**	**152.99**	**299**		**PKiKP**	**22 53 44.0 -1.0**	
ANTO	**Ankara**	**153.60**	**299**	PKIKP	**PKPbc**	**22 53 45.2 -0.9**	
ANTO	**Ankara**	**153.60**	**299**		**PKPbc**	**22 53 45.2 -0.9**	
BSD	**Bornholm Skovb**	**153.64**	**344**	*i* P	**PKiKP**	**22 53 45.3 -0.4**	
CSS	**Mathiatis**	**153.75**	**288**		**PKiKP**	**22 53 46.3 -0.4**	
MDUB	**Mudurnu**	**154.65**	**301**		**PKiKP**	**22 53 48.3 -0.1**	
MDUB				PKPab	**PKPab**	**22 54 02.4 -0.8**	
CFR	**Carcaliu**	**155.04**	**314**	⇑P	**PKPab**	**22 53 57.0 -7.6**	
HARR	**Harsova**	**155.40**	**313**	⇑P	**PKPab**	**22 54 07.6 +1.5**	
AMRR	**Amara**	**155.81**	**313**	⇑P	**PKPdf**	**22 53 46.6 +5.4**	
OZUR		**156.00**	**318**	⇑P	**PKPab**	**22 54 09.6 +0.9**	
MLR	**Muntele Rosu**	**156.23**	**316**	⇓P	**PKPab**	**22 54 10.5 +0.6**	
DOPR	**Dopca**	**156.30**	**318**	⇓P	**PKPab**	**22 54 12.2 +2.3**	
MTUR	**Matau**	**156.90**	**317**	⇓P	**PKPab**	**22 54 13.9 +1.3**	
MTUR	**Matau**	**156.90**	**317**	⇓PKP2	**PKPab**	**22 54 14.0 +1.3**	
KSP	**Ksiaz**	**157.03**	**337**	*eP*	**PKPab**	**22 54 14.3 +0.4**	
ARR	**Arges**	**157.07**	**317**	⇓P	PKPab	22 54 04.2 -9.2	
OKC	**Ostrava-Krasne**	**157.19**	**333**	*e*PKPAB	**PKPab**	**22 54 14.0 +0.4**	
OKC	**Ostrava-Krasne**	**157.19**	**333**	*e*PKP2	**PKPab**	**22 54 14.0 +0.4**	
OSTC	**Ostas**	**157.30**	**337**	*e*PKPAB	**PKPab**	**22 54 14.7 +0.6**	
DRGR		**157.30**	**322**	⇑P	**PKPab**	**22 54 15.1 +0.8**	
DRGR		**157.30**	**322**	⇑PKP2	**PKPab**	**22 54 15.1 +0.8**	
HUMR	**Humele**	**157.31**	**315**	⇑P	**PKPab**	**22 54 14.4 0.0**	
CHVC	**Chvalec**	**157.32**	**337**	*e*PKPAB	**PKPab**	**22 54 14.8 +0.6**	
UPC	**Upice**	**157.41**	**337**	*e*PKPAB	**PKPab**	**22 54 15.5 +1.0**	
DPC	**Dobruska-Polom**	**157.44**	**337**	*e*PKPAB	**PKPab**	**22 54 15.2 +0.5**	
DPC	**Dobruska-Polom**	**157.44**	**337**	*e*PKP2	**PKPab**	**22 54 15.2 +0.5**	
MORC	**Moravsky Berou**	**157.47**	**334**	*e*PKP	**PKPab**	**22 54 14.5 -0.4**	
LOT	**Lotru**	**157.53**	**318**	⇑P	**PKPab**	**22 54 18.3 +2.9**	
CLL	**Collm**	**157.59**	**343**	*e*PKPdiff	PKPdf	22 53 54.0 +11	
CLL				*e*PKPab	**PKPab**	**22 54 14.0 -1.2**	
	comp=Z,14nm,1.1s						
CLL				*i*		22 54 27.1	
PVCC	**Panska Ves**	**157.85**	**339**	*e*PKPAB	**PKPab**	**22 54 17.0 +0.6**	
PVCC	**Panska Ves**	**157.85**	**339**	*e*PKP2	**PKPab**	**22 54 17.0 +0.6**	
JAVC	**Velka Javorina**	**158.16**	**333**	*e*PKP	**PKPab**	**22 54 18.7 +0.8**	
VRAC	**Vranov**	**158.21**	**335**	*e*PKP	**PKPab**	**22 54 18.5 +0.5**	
PRA	**Prague**	**158.29**	**339**	*e*PKPAB	**PKPab**	**22 54 19.2 +0.9**	
PRA	**Prague**	**158.29**	**339**	*e*PKP2	**PKPab**	**22 54 19.2 +0.9**	
GOPC	**GO Pecny, Ondr**	**158.32**	**338**	*e*PKPAB	**PKPab**	**22 54 19.2 +0.7**	
GOPC				*ex*	x	22 54 26.3	
GOPC	**GO Pecny, Ondr**	**158.32**	**338**	*e*PKP2	**PKPab**	**22 54 19.2 +0.7**	
PRU	**Pruhonice**	**158.33**	**339**	*e*PKPAB	**PKPab**	**22 54 18.8 +0.3**	
PRU	**Pruhonice**	**158.33**	**339**	*e*PKP2	**PKPab**	**22 54 18.8 +0.3**	
KRUC	**Moravsky**	**158.49**	**335**	*e*PKP	**PKPab**	**22 54 19.2 0.0**	
TREC	**Trest**	**158.62**	**336**	*e*PKPAB	**PKPab**	**22 54 20.1 +0.3**	
TREC	**Trest**	**158.62**	**336**	*e*PKP2	**PKPab**	**22 54 20.1 +0.3**	
HERR	**Herculane**	**158.64**	**319**	⇓P	**PKPab**	**22 54 23.2 +3.2**	
NKC	**Novy Kostel**	**158.71**	**342**	*e*PKPAB	**PKPab**	**22 54 20.3 +0.1**	
NKC	**Novy Kostel**	**158.71**	**342**	*e*PKP2	**PKPab**	**22 54 20.3 +0.1**	
PBCC	**Priiram**	**158.77**	**339**	*e*PKP	**PKPab**	**22 54 21.5 +1.1**	
MDVR	**Moldovita**	**159.10**	**319**	⇓P	**PKPab**	**22 54 22.3 +0.2**	
VTS	**Vitosha**	**159.38**	**312**	PKP2	**PKPab**	**22 54 23.8 +0.2**	
VTS	**Vitosha**	**159.38**	**312**		**PKPab**	**22 54 23.8 +0.2**	
KHC	**Kasperske Hory**	**159.38**	**339**	*e*PKPAB	**PKPab**	**22 54 23.8 +0.6**	
KHC				*ex*	x	22 54 29.1	
KHC	**Kasperske Hory**	**159.38**	**339**	PKP2	**PKPab**	**22 54 23.6 +0.5**	
KHC	**Kasperske Hory**	**159.38**	**339**		**PKPab**	**22 54 23.6 +0.5**	
MEM	**Membach**	**159.51**	**354**	PKPab	**PKPab**	**22 54 22.9 -0.6**	
GEC2	**GERESS Array S**	**159.60**	**339**		**PKPab**	**22 54 24.3 +0.1**	
GERES	**GERESS Array B**	**159.60**	**339**	PKPab	**PKPab**	**22 54 24.1 -0.1**	
	comp=Z,5.9nm,1.0s,baz=35,slow=3.6,SNR=13						
GERES	**GERESS Array B**	**159.60**	**339**	PKP2	**PKPab**	**22 54 23.9 -0.3**	
GERES	**GERESS Array B**	**159.60**	**339**		**PKPab**	**22 54 23.9 -0.3**	
CONA	**Conrad Observa**	**159.62**	**334**	*e*pPKPab	**PKPab**	**22 54 25.3 +1.0**	
	comp=Z,15nm,1.3s,SNR=5.5						
SNF	**Seneffe**	**159.73**	**357**	PKPab	**PKPab**	**22 54 24.1 -0.4**	
BCLA	**Clavier**	**159.76**	**355**	PKPab	**PKPab**	**22 54 24.1 -0.6**	
BGES	**Gesves**	**159.81**	**355**	PKPab	**PKPab**	**22 54 24.0 -0.9**	
BMRD	**Maredsous**	**159.91**	**356**	PKPab	**PKPab**	**22 54 24.7 -0.6**	
DOU	**Dourbes**	**160.13**	**356**	PKPdf	**PKPdf**	**22 53 45.8 -0.5**	
DOU				PKPab	**PKPab**	**22 54 25.4 -0.8**	
MOA	**Molln**	**160.27**	**336**	*e*pPKPab	**PKPab**	**22 54 27.9 +0.9**	
	comp=Z,16nm,1.3s,SNR=5.9						
ARSA	**Arzberg**	**160.31**	**333**	*i* PKPab	**PKPab**	**22 54 26.5 -0.7**	
	comp=Z,3.8nm,0.7s						
WLF	**Walferdange**	**160.43**	**353**	PKPab	**PKPab**	**22 54 27.0 -0.6**	
SOKA	**Soboth**	**160.97**	**333**	PKPab	**PKPab**	**22 54 30.6 +0.4**	
	comp=Z,15nm,1.2s,SNR=5.1						
MYKA	**Terra Mystica**	**161.54**	**335**	*e*PKPab	**PKPab**	**22 54 32.4 -0.3**	
	comp=Z,11nm,0.9s,SNR=5.1						
WATA	**Walderalm**	**161.59**	**340**	*e*pPKPab	**PKPab**	**22 54 33.9 +0.9**	
	comp=Z,22nm,1.2s,SNR=7.1						
WTTA	**Wattenberg**	**161.64**	**340**	*e*pPKPab	**PKPab**	**22 54 33.9 +0.7**	
	comp=Z,16nm,0.9s,SNR=6.6						
RETA	**Reutte**	**161.68**	**342**	*e*PKPab	**PKPab**	**22 54 33.8 +0.5**	
	comp=Z,19nm,1.3s,SNR=6.1						
MOTA	**Moosalm**	**161.72**	**341**	*e*pPKPab	**PKPab**	**22 54 34.0 +0.5**	
	comp=Z,28nm,1.4s						
SQTA	**Sankt Quirin**	**161.80**	**341**	*e*pPKPab	**PKPab**	**22 54 34.5 +0.7**	
	comp=Z,20nm,1.0s,SNR=6.0						
ABTA	**Abfaltersbach**	**161.82**	**338**	*e*PKPab	**PKPab**	**22 54 33.7 -0.2**	
	comp=Z,17nm,1.1s,SNR=6.4						
ZOU	**Zoufplan**	**161.84**	**337**		**PKPab**	**22 54 34.0 -0.1**	
PDG	**Podgorica**	**161.94**	**317**	⇑P	**PKPab**	**22 54 35.7 +1.2**	
DAVA	**Damuels**	**162.09**	**344**	*e*PKPab	**PKPab**	**22 54 35.1 0.0**	
	comp=Z,8.7nm,0.7s						
FETA	**Feichten**	**162.12**	**342**	*e*pPKPab	**PKPab**	**22 54 35.8 +0.5**	
	comp=Z,11nm,1.4s						
FUORN	**Ofenpass-Fuorn**	**162.61**	**342**		**PKPab**	**22 54 37.4 -0.1**	
TORD	**Torodi Ar. Bea**	**162.95**	**177**	PKPab	**PKPab**	**22 54 39.8 +0.4**	
	comp=Z,2.2nm,0.6s,baz=173,slow=2.7,SNR=7.4						
TORD	**Torodi Ar. Bea**	**162.95**	**177**		**PKPab**	**22 54 39.4 0.0**	
ESDC	**Sonseca Array**	**169.18**	**28**	PKPab	**PKPab**	**22 55 07.3 +0.9**	
	comp=Z,1.1nm,0.9s,baz=320,slow=4.0,SNR=4.1						

*NEIC **23** 22:36:49.5±0.9,51°.8N±0°.1×178°.28E±0°.09,h138km±4km, Error ellipse: s-maj=21.0km s-min=7.8km az=175.0*
AEIC 23 22:36:50±1.4,**51°.9N**×0°.2×**178°.36E**±0°.07,**h128**km±6km, **mb3.9**/3(NEIC),**Error ellipse: s-maj=22.4km s-min=5.9km az=182.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.12**	**53**		Pn	22 37 08.4	+1.0
LSNW	**Little Sitkin**	**0.14**	**47**		Pn	22 37 08.2	+0.8
LSSE	**Little Sitkin**	**0.14**	**67**		Pn	22 37 08.5	+1.1
LSPA	**Little Sitkin**	**0.16**	**59**		Pn	22 37 08.6	+1.2
LSPA					Sn	22 37 22.8	+2.1
CESW	**Semis' Southwe**	**0.75**	**88**		Pn	22 37 11.5	+1.1
CEAP	**Semis' Anvil P**	**0.77**	**80**		Pn	22 37 12.2	+1.6
AMKA	**Amchitka**	**0.77**	**130**		Pn	22 37 11.8	+1.2
AMKA					Sn	22 37 27.1	+0.9
CERAA	**Semis' Rag'd T**	**0.82**	**87**		Pn	22 37 12.4	+1.3
CERAA					Sn	22 37 29.8	+2.7
TASE	**Tanaga Southea**	**2.24**	**90**		Pn	22 37 28.6	+1.8
TAFP	**Tanaga Falls P**	**2.27**	**88**		Sn	22 37 57.3	+1.7
SMY	**Shemya**	**2.75**	**290**		Pn	22 37 33.5	+0.3
SMY				Sn	Sn	22 38 06.0	-0.5
ADK	**Adak**	**3.07**	**88**	Pn	Pn	22 37 36.3	-1.1
ADK				Sn	Sn	22 38 15.3	+1.4
SDPT	**Sand Point**	**13.03**	**66**	Pn	Pn	22 39 50.4	+0.4
OHAK	**Old Harbor**	**17.22**	**61**	P	Pn	22 40 42.5	+0.1
OHAK				IAmb	IAmb	22 40 42.8	
	comp=Z,2.8nm,0.7s						
KDAK	**Kodiak Island**	**17.66**	**59**	P	Pn	22 40 47.4	-0.3
KDAK				IAmb	IAmb	22 40 50.6	
	comp=Z,6.7nm,1.1s						
CNPM	**China Poot**	**18.63**	**54**	P	P	22 40 58.0	+0.6
CNPM				IAmb	IAmb	22 41 05.4	
	comp=Z,31nm,1.3s						

*IDC **23** 22:37:04.7±0.8,30°.06S×177°.35W,h0km,mb4.4/10, mb1 4.6/10,mb1mx4.3/47,mbtmp4.4/10,Error ellipse: s-maj=29.4km s-min=19.8km az=66.0*
*NEIC **23** 22:37:07.7±2.2,30°.0S±0°.1×177°.4W±0°.2,h20km±5km, mb4.9/11,Error ellipse: s-maj=25.8km s-min=10.3km az=60.0*
ISC 23 22:37:10.1±0.7,**30°.10S**±0°.05×**177°.5W**±0°.1,**h35**km,**n58, σ1s88/63,mb4.6/14,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.90**	**338**	P	**Pn**	**22 37 24.0**	**-2.2**
GLKZ				S	**Sn**	**22 37 33.7**	**-4.3**
RAO	**Raoul Island**	**0.91**	**338**	Pn	**Pn**	**22 37 23.9**	**-2.5**
	4μm,0.3s,baz=86,slow=11,SNR=11						
RAO				Sn	**Sn**	**22 37 36.0**	**-2.2**
	7μm,0.3s,baz=41,slow=23,SNR=11						
RAO	**Raoul Island**	**0.91**	**338**	Pn	**Pn**	**22 37 23.8**	**-2.6**
RAO				Sn	**Sn**	**22 37 36.5**	**-1.7**
RIZ	**Raoul Island**	**0.92**	**338**	P	**Pn**	**22 37 24.4**	**-2.0**
RIZ				S	**Sn**	**22 37 36.7**	**-1.8**
MXZ	**Matakaoa Point**	**8.21**	**204**	P	**Pn**	**22 39 04.6**	**-2.1**
MXZ				S	**Sn**	**22 40 40.5**	**+2.3**
WMGZ	**Waiomatatini S**	**8.40**	**203**	P	**Pn**	**22 39 09.2**	**-0.1**
WMGZ				S	**Sn**	**22 40 40.9**	**-2.0**
HAZ	**Te Kaha**	**8.57**	**206**	P	**Pn**	**22 39 10.9**	**-0.7**
HAZ				S	**Sn**	**22 40 46.0**	**-1.1**
PUZ	**Puketiti**	**8.69**	**203**	S	**Sn**	**22 40 43.5**	**-6.5**
RUGZ	**Raukumara Rang**	**8.80**	**206**	P	**Pn**	**22 39 10.9**	**-3.9**
WCZ	**Waipu Caves**	**8.97**	**227**	P	Pn	22 39 26.3	+9.2
OUZ	**Omahuta**	**9.06**	**233**	P	Pn	22 39 26.3	+8.0
CNGZ	**Carnagh Statio**	**9.08**	**202**	P	**Pn**	**22 39 17.4**	**-1.1**
TKGZ	**Te Karaka**	**9.16**	**203**	S	**Sn**	**22 41 00.8**	**-0.6**
MWZ	**Matawai**	**9.18**	**205**	S	**Sn**	**22 41 00.5**	**-1.5**
**RIG

WRA	**Warramunga Arr**	**44.75**	**271**	P		**P**	**22 47 39.8**	**-1.0**
	comp=Z,24nm,0.7s,baz=112,slow=7.5,SNR=16							
WB0	**Warramunga Arr**	**44.77**	**272**			**P**	**22 47 40.0**	**-1.0**
VNDA	**Vanda**	**48.42**	**186**	P		**P**	**22 48 09.7**	**+0.8**
	comp=Z,1.4nm,0.7s,baz=355,slow=6.5,SNR=2.7							
KNRA	**Kununurra**	**51.35**	**274**	P		**P**	**22 48 30.4**	**-1.4**
KNRA				IAmb		IAmb	22 48 50.0	
	comp=Z,13nm,0.8s							
CASY	**Casey**	**55.68**	**208**	P		**P**	**22 49 03.1**	**+0.2**
MORW	**Morawa**	**57.24**	**253**	P		**P**	**22 49 12.9**	**-1.7**
MORW				IAmb		IAmb	22 49 15.7	
	comp=Z,17nm,1.2s							
MJAR	**Matsushiro Arr**	**78.41**	**325**	P		**P**	**22 51 27.5**	**-0.1**
	comp=Z,4.6nm,0.7s,baz=162,slow=5.8,SNR=14							
MJAR	**Matsushiro Arr**	**78.41**	**325**	P		**P**	**22 51 27.3**	**-0.3**
MAJO	**Matsushiro**	**78.41**	**325**	P		**P**	**22 51 27.4**	**-0.2**
MAJO				IAmb		IAmb	22 51 29.4	
	comp=Z,9.5nm,0.9s							
MAT	**Matsushiro**	**78.41**	**325**	P		**P**	**22 51 27.6**	**0.0**
JNU	**Nakatsue**	**79.80**	**318**	P		**P**	**22 51 35.5**	**+0.1**
	comp=Z,6.9nm,0.9s,baz=202,slow=5.4,SNR=3.6							
JNU	**Nakatsue**	**79.80**	**318**	P		**P**	**22 51 35.5**	**+0.1**
JNU				IAmb		IAmb	22 51 54.7	
	comp=Z,21nm,1.2s							
ERM	**Erimo**	**80.55**	**331**	P		**P**	**22 51 40.6**	**+1.6**
ERM				IAmb		IAmb	22 51 43.8	
	comp=Z,25nm,1.1s							
JKA	**Kamikawa-asahi**	**82.51**	**332**	P		**P**	**22 51 50.4**	**+1.0**
ASAJ	**Asahikawa**	**82.52**	**332**	P		**P**	**22 51 51.0**	**+1.5**
	comp=Z,18nm,0.9s,baz=223,slow=9.4,SNR=13							
KSRS	**Korea Array**	**84.58**	**319**	P		**P**	**22 52 00.9**	**+0.7**
	comp=Z,3.0nm,0.9s,baz=144,slow=5.9,SNR=8.2							
KSAR	**Wonju Array Be**	**84.59**	**319**	P		**P**	**22 52 00.8**	**+0.5**
YSS	**Yuzh-Sakhalins**	**84.80**	**334**	P		**P**	**22 52 02.1**	**+1.1**
PETK	**Petropavlovsk-**	**85.72**	**345**	P		**P**	**22 52 06.3**	**+0.7**
	comp=Z,10nm,0.8s,baz=127,slow=9.5,SNR=3.8							
PETK	**Petropavlovsk-**	**85.72**	**345**	P		**P**	**22 52 06.0**	**+0.4**
USA0B	**Ussuriysk Arra**	**87.31**	**326**	P		**P**	**22 52 13.9**	**+0.4**
USA0B				IAmb		IAmb	22 52 15.4	
	comp=Z,13nm,0.9s							
USRK	**Ussuriysk Ar.**	**87.31**	**326**	P		**P**	**22 52 14.3**	**+0.7**
	comp=Z,8.9nm,0.8s,baz=145,slow=3.4,SNR=16							
USRK	**Ussuriysk Ar.**	**87.31**	**326**	P		**P**	**22 52 14.0**	**+0.5**
NVAR	**Mina Array Bea**	**87.60**	**42**	P		**P**	**22 52 16.2**	**+0.8**
	comp=Z,1.1nm,0.4s,baz=225,slow=10,SNR=6.1							
NVAR	**Mina Array Bea**	**87.60**	**42**	P		**P**	**22 52 15.5**	**+0.1**
KLR	**Kul'dur**	**91.14**	**329**	P		**P**	**22 52 32.2**	**+0.8**
	comp=Z,5.3nm,0.7s,baz=104,slow=2.5,SNR=15							
ENH	**Enshi**	**92.00**	**304**	P		**P**	**22 52 35.7**	**-0.2**
CMAR	**Chiang Mai Arr**	**93.94**	**289**	P		**P**	**22 52 45.7**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=142,slow=3.1,SNR=3.0							
CMAR	**Chiang Mai Arr**	**93.94**	**289**	P		**P**	**22 52 45.4**	**+0.2**
KBL	**Kabul**	**124.72**	**293**			**PKPdf**	**22 58 26.9**	**-0.2**
KK31	**Karatay Array**	**125.48**	**304**			**PKPdf**	**22 58 27.5**	**-0.5**
KKAR	**Karatay Array**	**125.48**	**304**	P		**PKPdf**	**22 58 27.3**	**-0.9**
KKAR	**Karatay Array**	**125.48**	**304**			**PKPdf**	**22 58 27.1**	**-0.9**
FIA1	**FINESS Array S**	**145.12**	**341**			**PKPbc**	**22 59 02.6**	**-0.6**
FINES	**FINESS Array B**	**145.12**	**341**	PKPbc		**PKPbc**	**22 59 02.6**	**-0.6**
	comp=Z,32nm,0.7s,baz=62,slow=4.5,SNR=23							
FINES	**FINESS Array B**	**145.12**	**341**			**PKPbc**	**22 59 02.9**	**-0.4**
AKH	**Akhalkalaki**	**145.38**	**300**	⇓P		**PKPab**	**22 59 05.8**	**+0.6**
AKH	**Akhalkalaki**	**145.38**	**300**			**PKPab**	**22 59 05.6**	**+0.4**
KBZ	**Khabaz**	**145.51**	**304**	PKPbc		**PKPdf**	**22 59 04.8**	**-0.2**
	comp=Z,10nm,0.9s,baz=89,slow=2.9,SNR=8.1							
KIV	**Kislovodsk**	**145.62**	**305**			**PKPdf**	**22 59 05.3**	**0.0**
NC303	**NORSAR Array S**	**148.39**	**352**			**PKPbc**	**22 59 12.5**	**-0.2**
NB2	**NORSAR Subarra**	**148.59**	**352**	PKP		**PKPdf**	**22 59 03.3**	**-6.3**
	comp=Z,1.0nm,0.7s,baz=22,slow=2.9							
NOA	**NORSAR Array B**	**148.59**	**352**	PKPbc		**PKPbc**	**22 59 12.7**	**-0.6**
	comp=Z,6.2nm,0.8s,baz=13,slow=4.2,SNR=6.9							
GAZ	**Gaziantep**	**150.60**	**293**			**PKPbc**	**22 59 18.5**	**-0.5**
EIL	**Elat**	**152.14**	**277**	PKPbc		**PKiKP**	**22 59 22.9**	**-0.2**
	comp=Z,11nm,0.9s,baz=125,slow=1.2,SNR=6.3							
BRTR	**Keskin Array B**	**153.05**	**299**	PKPbc		**PKPbc**	**22 59 24.4**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=142,slow=4.7,SNR=6.6							
BRTR	**Keskin Array B**	**153.05**	**299**			**PKPbc**	**22 59 24.2**	**-0.5**
BRTR				PKPab		**PKPab**	**22 59 36.9**	**+0.7**
TOPG	**Topolog**	**155.05**	**313**	⇑P		**PKPab**	**22 59 44.8**	**+0.5**
CFR	**Carcaliu**	**155.06**	**314**	⇑P		**PKPab**	**22 59 44.5**	**+0.2**
CFR	**Carcaliu**	**155.06**	**314**	⇑P		**PKPab**	**22 59 44.5**	**+0.2**
HARR	**Harsova**	**155.42**	**313**	⇑P		**PKPab**	**22 59 46.4**	**+0.6**
HARR	**Harsova**	**155.42**	**313**	⇑P		**PKPab**	**22 59 46.4**	**+0.6**
MLR	**Muntele Rosu**	**156.24**	**317**	⇑P		**PKPab**	**22 59 50.7**	**+1.2**
MLR	**Muntele Rosu**	**156.24**	**317**	⇑P		**PKPab**	**22 59 50.7**	**+1.2**
OSTC	**Ostas**	**157.24**	**337**	*e*P		**PKPab**	**22 59 54.4**	**+0.9**
CHVC	**Chvalec**	**157.27**	**338**	*e*P		**PKPab**	**22 59 54.3**	**+0.7**
CHVC				*ex*		x	23 00 12.4	
DPC	**Dobruska-Polom**	**157.38**	**337**	*e*P		**PKPab**	**22 59 55.3**	**+1.2**
DPC				*ex*		x	23 00 03.1	
MORC	**Moravsky Berou**	**157.43**	**334**	*e*P		**PKPab**	**22 59 54.6**	**+0.3**
MORC				*e*			23 00 06.2	
CLL	**Collm**	**157.51**	**343**	*i* PKPab		**PKPab**	**22 59 53.4**	**-1.2**
	comp=Z,10.0nm,1.2s							
CLL				*ep*PKPab		**sPKPab**	**23 00 04.0**	**+1.1**
ELND	**Elena**	**157.55**	**311**	⇑P		**PKPdf**	**22 59 26.1**	**+3.0**
VRAC	**Vranov**	**158.16**	**335**	*e*P		**PKPab**	**22 59 57.7**	**+0.2**
VRAC				*e*			23 00 09.6	
PRU	**Pruhonice**	**158.27**	**339**	*e*P		**PKPab**	**22 59 59.0**	**+1.1**
KRUC	**Moravsky**	**158.44**	**335**	*e*P		**PKPab**	**22 59 58.3**	**-0.4**
TREC	**Trest**	**158.56**	**337**	*e*P		**PKPab**	**22 59 59.7**	**+0.5**
HERR	**Herculane**	**158.64**	**319**	⇑P		**PKPab**	**22 59 59.7**	**0.0**
KHC	**Kasperske Hory**	**159.32**	**340**	*e*P		**PKPab**	**23 00 03.6**	**+1.1**
KHC				*ex*		x	23 00 10.4	
KHC	**Kasperske Hory**	**159.32**	**340**			**PKPab**	**23 00 02.5**	**-0.1**
VTS	**Vitosha**	**159.40**	**313**			**PKPab**	**23 00 03.7**	**+0.4**
GEC2	**GERESS Array S**	**159.54**	**339**			**PKPab**	**23 00 03.8**	**+0.2**
GERES	**GERESS Array B**	**159.54**	**339**	PKPab		**PKPab**	**23 00 02.8**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=15,slow=5.5,SNR=7.5							
GERES	**GERESS Array B**	**159.54**	**339**			**PKPab**	**23 00 03.1**	**-0.5**
FUORN	**Ofenpass-Fuorn**	**162.54**	**343**			**PKPab**	**23 00 17.2**	**+0.3**

*NEIC **23** 22:39:41.7±1.3,51.°9N±0.°2×178.°48E±0.°09,h101km±6km, mb4.5/23,Error ellipse: s-maj=22.7km s-min=7.0km az=189.0*

AEIC 23 22:39:40±1.9,**51.°9N**±0.°1×**178.°46E**±0.°09,**h109**km±5km,
Error ellipse: s-maj=21.6km s-min=7.3km az=189.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.11**	**19**		Pn	22 39 56.1	+1.1
LSNW	**Little Sitkin**	**0.13**	**17**		Pn	22 39 56.0	+0.9
LSNW					Sn	22 40 08.0	+1.6
LSPA	**Little Sitkin**	**0.13**	**34**		Pn	22 39 56.1	+1.0
CESW	**Semis' Southwe**	**0.69**	**85**		Pn	22 39 59.0	+0.9
AMKA	**Amchitka**	**0.71**	**131**		Pn	22 39 59.2	+1.0
AMKA					Sn	22 40 11.9	0.0
CERAA	**Semis' Rag'd T**	**0.76**	**85**		Pn	22 39 59.9	+1.1
GALAA	**Gareloi Lava P**	**1.72**	**92**		Pn	22 40 11.1	+1.7
GAEA	**Gareloi East**	**1.74**	**91**		Pn	22 40 11.3	+1.7
TASE	**Tanaga Southea**	**2.18**	**89**		Pn	22 40 16.6	+1.5
TAFP	**Tanaga Falls P**	**2.21**	**87**		Pn	22 40 16.8	+1.2
TAFP					Sn	22 40 44.1	+1.4
TAPA	**Tanaga Point A**	**2.32**	**89**		Pn	22 40 18.3	+1.4
KIMD	**Kanaga Island**	**2.68**	**90**		Pn	22 40 22.9	+1.3
KICM	**Kanaga Island**	**2.70**	**87**		Pn	22 40 23.6	+1.7
KIKV	**Kanaga Island**	**2.71**	**88**		Pn	22 40 23.7	+1.6
KINC	**Kanaga Island**	**2.74**	**87**		Pn	22 40 24.0	+1.6
KIRH	**Kanaga Island**	**2.76**	**87**		Pn	22 40 24.3	+1.6
SMY	**Shemya**	**2.82**	**290**		Pn	22 40 24.6	+1.1
SMY					Sn	22 40 58.4	+1.5
ADK	**Adak**	**3.01**	**87**		Pn	22 40 27.2	+1.1
ADK					Sn	22 41 02.2	+0.6
GSTD	**Great Sitkin T**	**3.35**	**84**		Pn	22 40 31.7	+1.2
GSMY	**Great Sitkin M**	**3.40**	**85**		Pn	22 40 32.6	+1.3
GSTR	**Great Sitkin T**	**3.40**	**84**		Pn	22 40 32.3	+1.1
ATKA	**Atka Island**	**4.55**	**83**		Pn	22 40 48.4	+1.8
KOKL	**Mount Kliuchef**	**4.55**	**81**		Pn	22 40 49.4	+2.6
KOFP	**Korovin Flat P**	**4.62**	**82**		Pn	22 40 49.9	+2.3
SPIA	**Saint Paul Isl**	**8.46**	**46**	Pn	Pn	22 41 43.5	+3.9
SDPT	**Sand Point**	**12.98**	**66**	Pn	Pn	22 42 40.6	+0.6
CNBA	**Chernabura Isl**	**13.44**	**69**	Pn	Pn	22 42 44.8	-1.3
CHIR	**Chirikof Islan**	**15.77**	**65**	Pn	Pn	22 43 15.0	-0.6
SII	**Sitkinak Islan**	**16.63**	**63**	Pn	Pn	22 43 25.6	-0.6
SII				IAmb	IAmb	22 43 32.9	
	comp=Z,58nm,1.4s						
OHAK	**Old Harbor**	**17.18**	**61**		P	22 43 32.2	-0.7
OHAK				IAmb	IAmb	22 43 35.7	
	comp=Z,32nm,1.4s						
KDAK	**Kodiak Island**	**17.62**	**59**	P	Pn	22 43 38.2	-0.2
CNPM	**China Poot**	**18.60**	**54**	P	Pn	22 43 50.5	+0.5
BRLK	**Bradley Lake**	**18.82**	**53**	P	Pn	22 43 52.6	0.0
BRLK				IAmb	IAmb	22 44 00.3	
	comp=Z,38nm,1.3s						
SEW	**Seward**	**19.59**	**53**	P	Pn	22 44 01.1	-0.5
SEW				IAmb	IAmb	22 44 05.2	
	comp=Z,33nm,1.1s						
GLI	**Glacier Island**	**20.88**	**51**	P	P	22 44 13.8	+0.6
GLI				IAmb	IAmb	22 44 16.1	
	comp=Z,11nm,0.7s						
SCM	**Sheep Creek Mo**	**20.96**	**48**	P	Pn	22 44 16.3	-1.3
SCM				IAmb	IAmb	22 44 20.6	
	comp=Z,35nm,1.4s						
FID	**Port Fidalgo**	**21.16**	**51**	P	P	22 44 17.2	+1.1
FID				IAmb	IAmb	22 44 22.1	
	comp=Z,31nm,1.3s						
DHY	**Denali Highway**	**21.25**	**45**	P	P	22 44 19.5	+2.3
RIDG	**Independent Ri**	**22.52**	**44**	P	P	22 44 33.2	+2.7
VRDI	**Verde Repeater**	**22.68**	**51**	P	P	22 44 33.9	+1.7
CTGM	**Chitina Glacie**	**23.68**	**52**	P	P	22 44 43.5	+1.9
CTGM				IAmb	IAmb	22 44 46.0	
	comp=Z,8.7nm,0.7s						
BCAR	**Beaver Creek A**	**23.73**	**46**	P	P	22 44 44.9	+3.1
HYT	**Haines Junctio**	**25.55**	**52**	P	P	22 45 00.7	+2.3
HYT				IAmb	IAmb	22 45 05.0	
	comp=Z,6.9nm,0.7s						
KRMB	**Red Mountain**	**39.88**	**82**	P	P	22 47 06.3	+3.3
WAKR	**Walker**	**44.44**	**82**	P	P	22 47 43.4	+3.3
WAKR				IAmb	IAmb	22 48 03.1	
	comp=Z,11nm,1.4s						
MCMT	**McKenzie Canyo**	**44.65**	**71**	P	P	22 47 43.6	+1.8
BOZ	**Bozeman (W)**	**44.92**	**69**	P	P	22 47 44.5	+0.7
BOZ				IAmb	IAmb	22 47 44.7	
	comp=Z,7.1nm,1.2s						
PDAR	**Pinedale Array**	**47.78**	**71**		P	22 48 07.6	+1.3
PSUT	**Pine Spring**	**47.83**	**78**	P	P	22 48 09.0	+2.3
MSU	**Marysvale**	**48.86**	**77**	P	P	22 48 17.8	+3.1
SPA0	**Spitsbergen Ar**	**49.77**	**355**	P	P	22 48 22.5	+1.7
KURK	**Kurchatov**	**57.45**	**312**	P	P	22 49 19.8	+2.8
KURK				IAmb	IAmb	22 49 33.5	
	comp=Z,8.6nm,1.1s						
TX31	**Lajitas Ar. Si**	**60.26**	**79**	P	P	22 49 39.3	+2.3
TXAR	**Lajitas Array**	**60.26**	**79**	P	P	22 49 39.1	+2.1
ARU	**Arti**	**61.29**	**327**	P	P	22 49 46.7	+3.4
ABKAR	**Akbulak array**	**66.51**	**321**	P	P	22 50 20.8	+3.1
KKAR	**Karatay Array**	**66.79**	**311**	P	P	22 50 22.5	+2.9

*JMA **23** 22:39:56.0±0.8,46.°54N×153.°06E,h30km,M5.1*
*MOS **23** 22:39:57.5±1.1,46.°75N×152.°78E,h55km,mb5.0/21,Error ellipse: s-maj=8.1km s-min=6.1km az=63.6*
*NEIC **23** 22:39:57.6±1.9,46.°77N±0.°09×153.°0E±0.°1,h43km±6km, mb4.8/46,Error ellipse: s-maj=15.2km s-min=9.2km az=146.0*
*SKHL **23** 22:39:57.2±0.9,46.°37N×153.°09E,h68km±3km,mb5.3/6*
*IDC **23** 22:39:59.9±2.4,46.°82N×152.°73E,h57km±21km,mb4.1/26, mb1 4.3/30,mb1mx4.1/69,mbtmp4.5/30,ML3.8/3,Error ellipse: s-maj=16.8km s-min=11.8km az=154.0*

ISC 23 22:39:56.5±0.4,**46.°49N**±0.°06×**152.°96E**±0.°06,**h40**km,**n232,**
σ1s67/236,**mb4.7**/49,**13C-7D,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.77**	**252**	*e*P	**Pn**	**22 40 54.1**	**+2.0**
KUR				AMB	AMB	22 40 54.8	
	310nm,0.6s						
KUR				*i* S	**Sn**	**22 41 36.6**	**+1.3**
KUR				A	A	22 41 47.0	
	860nm,0.4s						
KUR				A	A	22 41 47.0	
	400nm,0.4s						
KUR	**Kuril'sk**	**3.77**	**252**	*e*PN	**Pn**	**22 40 54.1**	**+2.0**
KUR				*i* S	**Sn**	**22 41 37.3**	**+2.0**
KUR				pmax	pmax		
	comp=E,297μm,0.4s						
KUR				pmax	pmax		
	comp=E,137μm,0.2s						
KUR				pmax	pmax		
	comp=N,176μm,0.3s						
KUR				smax	smax		
	comp=E,399nm,0.4s						
KUR				smax	smax		
	comp=N,868nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.58**	**246**	*e*P	**Pn**	**22 41 19.3**	**+2.4**
YUK				AMB	AMB	22 41 22.8	
	comp=N,330nm,0.7s						
YUK				*e*S	**Sn**	**22 42 20.4**	**+0.6**
YUK				A	A	22 42 41.6	
	comp=N,750nm,0.6s						
YUK				A	A	22 42 41.6	
	comp=N,1μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.58**	**246**	*e*PN	**Pn**	**22 41 19.3**	**+2.4**
YUK				*e*S	**Sn**	**22 42 22.7**	**+2.9**
YUK				pmax	pmax		
	comp=Z,311nm,0.3s						
YUK				pmax	pmax		
	comp=N,84nm,0.2s						
YUK				pmax	pmax		
	comp=E,68nm,0.2s						
YUK				smax	smax		
	comp=N,747nm,0.5s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
LAGR	**Lagunnoye**	**5.62**	**247**	*e*P	**Pn**	**22 41 19.8**	**+2.3**
LAGR				AMB	AMB	22 41 27.0	
	comp=E,230nm,0.5s						
LAGR				AMB	AMB	22 41 27.0	
	comp=E,350nm,0.5s						
LAGR				*e*S	**Sn**	**22 42 21.0**	**+0.3**
LAGR				A	A	22 42 31.0	
	comp=E,970nm,0.6s						
LAGR				A	A	22 42 31.0	
	comp=E,700nm,0.6s						
LAGR	**Lagunnoye**	**5.62**	**247**	PN	**Pn**	**22 41 19.8**	**+2.3**
LAGR				S	**Sn**	**22 42 24.3**	**+3.6**
LAGR				pmax	pmax		
	comp=Z,353nm,0.4s						
LAGR				pmax	pmax		
	comp=E,150nm,0.1s						
LAGR				pmax	pmax		
	comp=N,234nm,0.3s						
LAGR				smax	smax		
	comp=E,700nm,0.6s						
LAGR				smax	smax		
	comp=N,966nm,0.5s						
GRPR	**Tuman**	**5.66**	**246**	*e*P	**Pn**	**22 41 20.0**	**+2.0**
GRPR				AMB	AMB	22 41 21.0	
	comp=N,180nm,0.3s						
GRPR				*i* S	**Sn**	**22 42 22.0**	**+0.3**
GRPR				A	A	22 42 39.0	
	comp=N,680nm,0.4s						
GRPR				A	A	22 42 39.0	
	comp=N,420nm,0.4s						
GRPR	**Tuman**	**5.66**	**246**	*e*PN	**Pn**	**22 41 20.0**	**+2.0**
GRPR				*i* S	**Sn**	**22 42 24.2**	**+2.5**
GRPR				pmax	pmax		
	comp=Z,178nm,0.3s						
GRPR				pmax	pmax		
	comp=E,50nm,0.1s						
GRPR				smax	smax		
	comp=N,677nm,0.4s						
GRPR				smax	smax		
	comp=E,422nm,0.4s						
GLVR	**Golovnino**	**5.94**	**245**	*e*P	**Pn**	**22 41 23.8**	**+1.9**
GLVR				AMB	AMB	22 41 34.0	
	comp=E,120nm,0.3s						
GLVR				AMB	AMB	22 41 34.0	
	comp=E,160nm,0.3s						
GLVR				AMB	AMB	22 41 34.0	
	comp=E,200nm,0.3s						
GLVR				*i* S	**Sn**	**22 42 29.0**	**+0.4**
GLVR				A	A	22 42 48.0	
	comp=E,620nm,0.4s						
GLVR				A	A	22 42 48.0	
	comp=E,730nm,0.4s						
GLVR	**Golovnino**	**5.94**	**245**	*e*PN	**Pn**	**22 41 23.7**	**+1.9**
GLVR				pmax	pmax		
	comp=Z,195nm,0.3s						
GLVR				pmax	pmax		
	comp=N,124nm,0.2s						
GLVR				pmax	pmax		
	comp=E,155nm,0.2s						
NEM2	**Nemuro 2**	**6.00**	**241**	P	**Pn**	**22 41 23.1**	**+0.4**
NEM2				*e*S	**Sn**	**22 42 27.7**	**-2.4**
NMR	**Nemuro--Hokkai**	**6.01**	**241**	*e*P	**Pn**	**22 41 23.3**	**+0.5**
NMR				*e*S	**Sn**	**22 42 29.0**	**-1.3**
NMR	**Nemuro--Hokkai**	**6.01**	**241**	*e*PN	**Pn**	**22 41 23.1**	**+0.3**
JRA	**Rausu**	**6.10**	**248**	P	**Pn**	**22 41 26.9**	**+2.9**
JNK	**Nakash**	**6.52**	**247**	P	**Pn**	**22 41 32.1**	**+2.2**
JNK				*e*S	**Sn**	**22 42 43.4**	**+0.4**
JAK	**Akkeshi**	**6.84**	**242**	P	**Pn**	**22 41 34.5**	**+0.2**
JAK				*e*S	**Sn**	**22 42 48.2**	**-2.6**
JTKR	**Abashiri--Toko**	**6.87**	**252**	P	**Pn**	**22 41 37.6**	**+3.0**
YSS	**Yuzh-Sakhalins**	**7.03**	**277**	*e*P	**Pn**	**22 41 39.6**	**+2.8**
YSS				AMB	AMB	22 41 44.4	
	comp=E,90nm,0.7s						
YSS				*e*S	**Sn**	**22 42 56.1**	**+0.6**
YSS				A	A	22 42 58.2	
	comp=E,40nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.03**	**277**	*e*PN	**Pn**	**22 41 39.6**	**+2.8**
YSS				*e*S	**Sn**	**22 42 56.1**	**+0.6**
YSS				pmax	pmax		
	comp=Z,90nm,0.7s						
YSS				smax	smax		
	comp=E,40nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.03**	**277**		**Pn**	**22 41 38.1**	**+1.3**
YSS				Sn	**Sn**	**22 42 56.0**	**+0.6**
JMP	**Maruseppu**	**7.22**	**253**	P	**Pn**	**22 41 42.6**	**+3.2**
JAR	**Ashorobuto**	**7.27**	**247**	P	**Pn**	**22 41 42.0**	**+1.9**
JAR				*e*S	**Sn**	**22 43 00.3**	**-1.0**
PEA0B	**Petropavlovsk-**	**7.30**	**23**	PN	**Pn**	**22 41 38.4**	**-2.1**
PEA0B	**Petropavlovsk-**	**7.30**	**23**		**Pn**	**22 41 38.4**	**-2.1**
PETK	**Petropavlovsk-**	**7.30**	**23**	P	**Pn**	**22 41 38.9**	**-1.6**
	comp=E,1.0nm,0.3s,baz=108,slow=4.8,SNR=26						
PETK	**Petropavlovsk-**	**7.30**	**23**		**Pn**	**22 41 38.1**	**-2.4**
JSE	**Soyaes**	**7.42**	**262**	P	Pn	22 41 47.1	+4.9
JOB	**Onbets**	**7.42**	**244**	P	**Pn**	**22 41 43.4**	**+1.1**
JOB				*e*S	**Sn**	**22 43 02.4**	**-2.8**
PET	**Petropavlovsk**	**7.50**	**27**	PN	Pn	22 41 37.3	-6.0
PET	**Petropavlovsk**	**7.50**	**27**		Pn	22 41 37.3	-6.0
JKK2	**Kamakawa 2**	**7.68**	**254**	P	**Pn**	**22 41 48.8**	**+3.1**
JKA	**Kamikawa-asahi**	**7.68**	**256**	*e*P	**Pn**	**22 41 49.7**	**+3.9**
JKA	**Kamikawa-asahi**	**7.68**	**256**		**Pn**	**22 41 49.2**	**+3.5**
ASAJ	**Asahikawa**	**7.68**	**256**	P	**Pn**	**22 41 49.7**	**+3.8**
	comp=E,3.7nm,0.3s,baz=81,slow=16,SNR=21						
ASAJ	**Asahikawa**	**7.68**	**256**	P	**Pn**	**22 41 49.6**	**+3.8**
UGL	**Uglegorsk**	**7.78**	**293**	*e*P	**Pn**	**22 41 51.5**	**+4.4**
JWK2	**Keihoku**	**7.81**	**265**	P	Pn	22 41 53.2	+5.7
JCH	**Churui**	**7.87**	**244**	P	**Pn**	**22 41 49.2**	**+0.8**
JCH				*e*S	**Sn**	**22 43 13.3**	**-2.9**
JFR	**Furan**	**8.09**	**249**	P	**Pn**	**22 41 54.5**	**+3.2**
TYV	**Tymovskoe**	**8.10**	**306**	*e*P	**Pn**	**22 41 53.3**	**+1.8**
ERM	**Erimo**	**8.34**	**241**	PN	**Pn**	**22 41 57.0**	**+2.2**
ERM	**Erimo**	**8.34**	**241**		**Pn**	**22 41 57.0**	**+2.2**
JBT2	**Biratori 2**	**8.42**	**248**	P	**Pn**	**22 41 55.8**	**-0.1**
JNBK	**Urakawa-nobuka**	**8.43**	**244**	P	**Pn**	**22 41 56.8**	**+0.7**
JNBK				*e*S	**Sn**	**22 43 26.7**	**-3.3**
JNB	**Noboribetsu**	**9.42**	**249**	*e*S	**Sn**	**22 43 51.1**	**-3.1**
JKB	**Kayabe**	**9.72**	**246**	*e*S	**Sn**	**22 43 54.0**	**-7.6**
JANG	**Nango**	**10.32**	**238**	*e*S	Sn	22 44 06.6	-10
JTM	**Tenmabayashi**	**10.33**	**241**	*e*S	**Sn**	**22 44 07.9**	**-8.6**
JTH	**Tanohata**	**10.41**	**235**	*e*S	Sn	22 44 09.2	-9.2
OFUJ	**Ofunato**	**11.11**	**232**	*e*S	Sn	22 44 25.9	-10
JIO	**Ouri**	**11.74**	**231**	*e*S	Sn	22 44 40.6	-10
MA2	**Magadan**	**13.17**	**355**	P	**Pn**	**22 43 00.9**	**+0.1**
	comp=E,2.9nm,0.3s,baz=162,slow=13,SNR=2.8						
MA2	**Magadan**	**13.17**	**355**		**Pn**	**22 42 60.0**	**-0.8**
MJAR	**Matsushiro Arr**	**14.84**	**233**	P	**P**	**22 43 27.7**	**-1.1**
MJAR				pmax	pmax		
	comp=Z,5.0nm,1.2s						
MJAR	**Matsushiro Arr**	**14.84**	**233**	Pn	**P**	**22 43 27.7**	**-1.1**
MJB9	**Matsu-Tunnel**	**14.84**	**233**		**Pn**	**22 43 24.8**	**+1.2**
MAJO	**Matsushiro**	**14.84**	**233**	P	**Pn**	**22 43 25.1**	**+1.5**
MAJO				pmax	pmax		
	comp=Z,19nm,0.6s						
MAJO	**Matsushiro**	**14.84**	**233**	Pn	**Pn**	**22 43 25.1**	**+1.5**
USA0B	**Ussuriysk Arra**	**14

comp=Z,4.3nm,0.8s,baz=224,slow=4.3,SNR=4.8
YKA Yellowknife Ar 51.19 37 P **P 22 48 55.8 +0.5**
comp=Z,1.2nm,0.6s,baz=293,slow=7.1,SNR=4.9
CHTO Chiang Mai 51.96 257 P **P 22 49 03.0 +1.4**
CHTO pmax pmax
comp=Z,9.0nm,0.8s
CHTO Chiang Mai 51.96 257 P **P 22 49 03.0 +1.4**
CHTO lAmb lAmb 22 49 03.7
comp=Z,8.6nm,0.8s
CM31 Chiang Mai Arr 52.21 256 P **P 22 49 04.7 +1.3**
CM31 lAmb lAmb 22 49 05.8
comp=Z,7.2nm,0.7s
CMAR Chiang Mai Arr 52.21 256 P **P 22 49 05.2 +1.8**
comp=Z,4.1nm,0.7s,baz=37,slow=7.2,SNR=12
CMAR Chiang Mai Arr 52.21 256 P **P 22 49 05.0 +1.5**
SHL Shillong 52.26 269 P **P 22 49 03.8 -0.2**
SHL pmax pmax
comp=Z,21nm,1.2s
SHL Shillong 52.26 269 P **P 22 49 03.8 -0.2**
SHL lAmb lAmb 22 49 06.1
comp=Z,21nm,1.2s
SHL Shillong 52.26 269 *ex* **P 22 49 03.6 -0.4**
KBS Kingsbay 52.74 351 P **P 22 49 05.8 -0.8**
KBS pmax pmax
comp=Z,7.0nm,0.9s
KBS Kingsbay 52.74 351 P **P 22 49 05.8 -0.8**
KBS lAmb lAmb 22 49 06.2
comp=Z,7.1nm,0.9s
SPA0 Spitsbergen Ar 52.85 350 P **P 22 49 05.7 -1.8**
SPA0 lAmb lAmb 22 49 12.5
comp=Z,13nm,1.1s
BOOM Boomskoye usch 53.03 296 P **P 22 49 09.2 -0.3**
BOOM pmax pmax
comp=Z,11nm,1.3s
BOOM Boomskoye usch 53.03 296 P **P 22 49 09.2 -0.3**
BOOM lAmb lAmb 22 49 10.3
comp=Z,11nm,1.2s
TAPN Taplejung 54.01 273 *eP* **P 22 49 17.9 +0.9**
comp=Z,27nm,0.6s
ODAN Odare 54.54 273 *eP* **P 22 49 21.5 +0.7**
comp=Z,16nm,0.5s
JIRN Jiri 54.86 275 *eP* **P 22 49 24.0 +0.7**
comp=Z,102nm,0.6s
GUN Gumba 54.92 275 *eP* **P 22 49 24.0 +0.3**
comp=Z,26nm,0.4s
RAMN Ramite 55.03 274 *eP* **P 22 49 24.8 +0.5**
comp=Z,63nm,0.6s
ARU Arti 55.13 318 P **P 22 49 22.1 -2.3**
ARU pmax pmax
comp=Z,9.0nm,1.1s
ARU Arti 55.13 318 P **P 22 49 22.1 -2.3**
ARU lAmb lAmb 22 49 35.7
comp=Z,8.6nm,1.1s
KKN Kakani 55.41 275 *eP* **P 22 49 27.9 +0.9**
comp=Z,60nm,0.6s
PKI Pulchoki 55.45 275 *eP* **P 22 49 27.7 +0.2**
comp=Z,29nm,0.6s
PKIN Phulchoki 55.46 275 *eP* **P 22 49 27.7 +0.2**
comp=Z,27nm,0.5s
DMN Daman 55.64 275 *eP* **P 22 49 29.5 +0.7**
comp=Z,54nm,0.7s
GKN Gorkha 55.72 276 *eP* **P 22 49 29.7 +0.5**
comp=Z,75nm,0.6s
DANN Dangsing 56.10 277 *eP* **P 22 49 33.0 +0.9**
comp=Z,95nm,0.6s
KOLN Koldanda 56.57 276 *eP* **P 22 49 36.1 +0.7**
comp=Z,60nm,0.7s
ARCES ARCESS Array B 58.06 341 P **P 22 49 43.9 -1.1**
comp=Z,1.7nm,0.5s,baz=39,slow=9.9,SNR=6.5
ABKAR Akbulak array 58.51 310 P **P 22 49 46.8 -1.6**
GAR Garm 58.53 295 P **P 22 49 48.2 -0.7**
CHGR Chuyangaron 59.46 295 P **P 22 49 54.4 -0.9**
NIL Nilore 59.89 288 P **P 22 49 58.2 0.0**
NIL pmax pmax
comp=Z,18nm,0.9s
NIL Nilore 59.89 288 P **P 22 49 58.2 0.0**
SUMG Summit 60.97 4 P **P 22 50 05.2 -0.2**
SUMG pmax pmax
comp=Z,15nm,1.1s
SUMG Summit 60.97 4 P **P 22 50 05.2 -0.2**
SUMG lAmb lAmb 22 50 06.8
comp=Z,15nm,1.1s
FFC Flin Flon 61.00 40 P **P 22 50 05.3 -0.2**
FFC pmax pmax
comp=Z,7.0nm,0.9s
FFC Flin Flon 61.00 40 P **P 22 50 05.3 -0.2**
FFC lAmb lAmb 22 50 07.6
comp=Z,7.4nm,0.9s
FCC Fort Churchill 61.53 33 P **P 22 50 09.1 +0.2**
FCC pmax pmax
comp=Z,9.0nm,0.9s
FCC Fort Churchill 61.53 33 P **P 22 50 09.1 +0.2**
FCC lAmb lAmb 22 50 10.1
comp=Z,9.3nm,0.8s
KBL Kabul 62.06 292 P **P 22 50 12.5 -0.7**
KBL pmax pmax
comp=Z,5.0nm,0.6s
KBL Kabul 62.06 292 P **P 22 50 12.5 -0.7**
KBL lAmb lAmb 22 50 12.8
comp=Z,5.4nm,0.6s
NVAR Mina Array Bea 62.65 62 P **P 22 50 19.0 +2.0**
comp=Z,1.1nm,0.6s,baz=294,slow=7.1,SNR=3.5
ELK Elko 63.03 58 P **P 22 50 22.0 +2.4**
comp=Z,0.9nm,0.4s,baz=204,slow=20,SNR=2.5
ELK Elko 63.03 58 P **P 22 50 22.0 +2.4**
FIA1 FINESS Array S 64.23 335 P **P 22 50 25.4 -1.5**
FINES FINESS Array B 64.23 335 P **P 22 50 25.5 -1.3**
comp=Z,7.3nm,0.4s,baz=32,slow=7.6,SNR=14
PDAR Pinedale Array 64.98 54 P **P 22 50 32.4 0.0**
comp=Z,0.9nm,0.5s,baz=88,slow=2.8,SNR=5.7
PDAR Pinedale Array 64.98 54 P **P 22 50 32.0 -0.4**
HRA Herat 66.47 296 P **P 22 50 41.9 -0.2**
GEYT Alibeck 66.65 301 P **P 22 50 43.1 +0.1**
comp=Z,3.1nm,0.6s,baz=288,slow=3.5,SNR=5.0
GEYT Alibeck 66.65 301 P **P 22 50 42.6 -0.3**
NC303 NORSAR Array S 68.24 341 P **P 22 50 51.6 -0.9**
NC405 NORSAR Array S 68.26 341 P **P 22 50 52.1 -0.6**
NB2 NORSAR Subarra 68.44 341 P **P 22 50 52.8 -1.1**
comp=Z,3.8nm,0.5s,baz=27,slow=6.5
NOA NORSAR Array B 68.44 341 P **P 22 50 53.0 -0.8**
comp=Z,6.9nm,0.7s,baz=28,slow=6.4,SNR=22
KONO Kongsberg 70.05 341 P **P 22 51 03.7 -0.1**
KONO pmax pmax
comp=Z,8.0nm,0.8s
KONO Kongsberg 70.05 341 P **P 22 51 03.7 -0.1**
KONO lAmb lAmb 22 51 04.1
comp=Z,7.8nm,0.8s
KBZ Khabaz 70.96 314 P **P 22 51 10.6 +1.0**
comp=Z,3.3nm,0.7s,baz=23,slow=5.9,SNR=4.7
AKASG Malin Array Be 71.70 326 P **P 22 51 12.7 -1.2**
comp=Z,8.2nm,0.4s,baz=36,slow=6.2,SNR=15
ASAR Alice Springs 71.93 198 P **P 22 51 18.1 +2.5**
comp=Z,2.1nm,0.6s,baz=7.9,slow=5.5,SNR=9.6
SCHQ Schefferville 73.59 23 P **P 22 51 25.3 +0.2**
comp=Z,1.7nm,0.7s,baz=194,slow=15,SNR=1.9
MILM Milestii Mici 74.90 324 ⇓P **P 22 51 32.0 -0.9**
KWP Kalwaria Pacla 74.99 329 P **P 22 51 33.5 +0.1**
KWP pmax pmax
comp=Z,36nm,1.5s
KWP Kalwaria Pacla 74.99 329 P **P 22 51 33.5 +0.1**
BUR08 Bucovina Ar. S 75.73 327 P **P 22 51 37.5 -0.3**
BURAR Bucovina Array 75.75 326 ⇑P **P 22 51 37.8 -0.1**
BURAR Bucovina Array 75.75 326 ⇑P **P 22 51 37.8 -0.1**
BURAR Bucovina Array 75.75 326 P **P 22 51 37.4 -0.5**
BIZ Bicaz 75.96 326 ⇓P **P 22 51 39.0 0.0**
VLDQ Val d'Or 76.02 32 P **P 22 51 37.9 -1.4**
DPC Dobruska-Polom 76.51 333 *eP* **P 22 51 42.3 +0.2**
DPC Dobruska-Polom 76.51 333 *eP* **P 22 51 42.3 +0.2**
ARCR ARCALIA 76.51 327 ⇑P **P 22 51 42.5 +0.4**
ODBI Odobesti 76.55 324 ⇑P **P 22 51 43.5 +1.2**
MORC Moravsky Berou 76.62 332 ⇓P **P 22 51 42.7 0.0**
MORC Moravsky Berou 76.62 332 *eP* **P 22 51 42.1 -0.6**
MORC Moravsky Berou 76.62 332 P **P 22 51 42.4 -0.3**
MORC pmax pmax
comp=Z,6.0nm,0.8s
MORC Moravsky Berou 76.62 332 P **P 22 51 42.4 -0.3**
MORC lAmb lAmb 22 51 43.4
comp=Z,6.1nm,0.8s
CLL Collm 76.66 335 *i* P **P 22 51 42.3 -0.5**
CLL pmax pmax
comp=Z,11nm,0.7s
CLL Collm 76.66 335 P **P 22 51 42.2 -0.6**
CLL lAmb lAmb 22 51 42.8
comp=Z,10nm,0.7s
CLL Collm 76.66 335 *i* pP **P 22 51 42.3 -0.5**
comp=Z,11nm,0.7s
UOSS Minazif 76.74 292 P **P 22 51 43.6 -0.1**
UOSS lAmb lAmb 22 51 44.3
comp=Z,10.0nm,0.8s
OZUR 76.78 325 ⇓P **P 22 51 44.1 +0.5**
HARR Harsova 77.06 323 ⇑P **P 22 51 45.4 +0.2**
HARR Harsova 77.06 323 ⇑P **P 22 51 45.4 +0.2**
MLR Muntele Rosu 77.22 325 ⇑P **P 22 51 45.7 -0.5**
MLR ⇓P **P 22 51 48.8 +2.5**
MLR Muntele Rosu 77.22 325 ⇑P **P 22 51 45.7 -0.5**
VRAC Vranov 77.33 332 *eP* **P 22 51 46.4 -0.3**
GOPC GO Pecny, Ondr 77.36 334 *eP* **P 22 51 46.3 -0.6**
GOPC GO Pecny, Ondr 77.36 334 *eP* **P 22 51 46.3 -0.6**
JAVC Velka Javorina 77.37 332 *eP* **P 22 51 47.5 +0.5**
PRU Pruhonice 77.37 334 *eP* **P 22 51 46.7 -0.2**
PRU Pruhonice 77.37 334 *eP* **P 22 51 46.7 -0.2**
DRGR 77.38 327 ⇑P **P 22 51 47.1 +0.1**
DRGR 77.38 327 ⇑P **P 22 51 47.1 +0.1**
KRUC Moravsky 77.61 332 *eP* **P 22 51 47.6 -0.6**
TXAR Lajitas Array 77.71 60 P **P 22 51 50.8 +1.5**
comp=Z,0.6nm,0.7s,baz=297,slow=4.0,SNR=1.9
ARR Arges 77.83 326 ⇑P **P 22 51 48.4 -1.3**
KHC Kasperske Hory 78.42 334 *eP* **P 22 51 52.9 +0.1**
KHC Kasperske Hory 78.42 334 *eP* **P 22 51 52.9 +0.1**
BRTR Keskin Array B 78.50 317 P **P 22 51 53.8 +0.2**
comp=Z,3.2nm,0.8s,baz=57,slow=7.5,SNR=7.9
BRTR Keskin Array B 78.50 317 P **P 22 51 53.1 -0.4**
COPA Copaceanca 78.63 324 ⇓P **P 22 51 56.6 +2.7**
GERES GERESS Array B 78.64 334 P **P 22 51 53.7 -0.4**
comp=Z,2.0nm,0.5s,baz=38,slow=6.4,SNR=13
GERES GERESS Array B 78.64 334 P **P 22 51 53.6 -0.5**
BZS Buzias 78.77 328 ⇑P **P 22 51 56.3 +1.5**
BZS Buzias 78.77 328 ⇑P **P 22 51 56.3 +1.5**
HERR Herculane 79.10 327 ⇓P **P 22 51 55.7 -0.8**
DIVS Divibare 80.67 328 P **P 22 52 04.5 -0.7**
PRED Cave del Predi 80.82 333 P **P 22 52 04.5 -1.4**
PRED lAmb lAmb 22 52 05.5
comp=Z,10nm,0.7s
ELL Elmali 82.64 317 P **P 22 52 15.6 -0.1**
ELL Elmali 82.64 317 P **P 22 52 15.6 -0.1**
IDI Anoyia 86.14 320 P **P 22 52 32.2 -1.2**
comp=Z,16nm,1.1s,baz=41,slow=9.3,SNR=2.3
IDI Anoyia 86.14 320 P **P 22 52 32.4 -1.1**
LBTB Lobatse 133.19 278 PKP **PKiKP 22 59 10.0 +0.9**
comp=Z,2.9nm,0.6s,baz=144,slow=4.6,SNR=5.4
LBTB Lobatse 133.19 278 PKIKP **PKiKP 22 59 10.3 +1.1**
LBTB Lobatse 133.19 278 **PKiKP 22 59 10.3 +1.1**
H03N2 Juan Fernandez 138.85 91 T T 01 34 41.6
baz=308,slow=77,SNR=26
H03N1 Juan Fernandez 138.87 90 T T 01 34 39.7
baz=308,slow=77,SNR=25
H03N3 Juan Fernandez 138.87 91 T T 01 34 41.7
baz=308,slow=77,SNR=20
BDFB Brasilia 144.61 37 PKP PKPbc 22 59 27.9 +0.1
comp=Z,2.2nm,0.6s,baz=295,slow=4.0,SNR=3.1
CFA Coronel Fontan 145.14 80 PKPbc **PKPdf 22 59 30.2 +0.7**
comp=Z,7.4nm,0.7s,baz=285,slow=3.2,SNR=8.2
PLCA Paso Flores 148.29 96 PKPbc **PKPbc 22 59 38.9 +0.9**
comp=Z,2.6nm,0.8s,baz=278,slow=4.2,SNR=4.0
PLCA Paso Flores 148.29 96 PKPbc **PKPbc 22 59 39.6 0.0**
CPUP Villa Florida 148.69 61 PKPbc **PKPbc 22 59 40.1 +0.9**
comp=Z,1.6nm,0.6s,baz=282,slow=4.1,SNR=5.6
CPUP Villa Florida 148.69 61 **PKiKP 22 59 40.2 -0.5**
SNAA Sanae 152.28 196 PKPbc **PKiKP 22 59 47.2 +0.3**
comp=Z,1.3nm,0.8s,baz=223,slow=4.5,SNR=5.5
SNAA Sanae 152.28 196 PKIKP **PKPbc 22 59 46.9 +0.4**
SNAA Sanae 152.28 196 **PKPbc 22 59 46.9 +0.4**

*NEIC **23** 22:41:22.6±0.7,51.82N±0.08×178.44E±0.08, h117km±3km, Error ellipse: s-maj=12.5km s-min=5.8km az=205.0*

AEIC 23 22:41:23±1.1,**51.80N**±0.06×**178.42E**±0.08,**h109**km±3km, **ML3.1, mb3.8**/3(NEIC),**Error ellipse: s-maj=8.9km s-min=6.4km az=212.0, macroseismic, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.17**	**22**		Pn	22 41 38.7	+0.5
LSSA					Sn	22 41 50.0	+0.3
LSNW	**Little Sitkin**	**0.19**	**20**		Pn	22 41 38.7	+0.5
LSPA	**Little Sitkin**	**0.19**	**31**		Pn	22 41 38.7	+0.4
LSPA					Sn	22 41 51.0	+1.3
AMKA	**Amchitka**	**0.69**	**127**		Pn	22 41 41.4	+0.3
AMKA					Sn	22 41 55.5	+0.6
CESW	**Semis' Southwe**	**0.72**	**81**		Pn	22 41 41.2	-0.2
CEAP	**Semis' Anvil P**	**0.75**	**74**		Sn	22 41 55.9	+0.1
CERAA	**Semis' Rag'd T**	**0.80**	**81**		Pn	22 41 42.1	0.0
GALAA	**Gareloi Lava P**	**1.75**	**90**		Pn	22 41 52.8	0.0
GALEA	**Gareloi East**	**1.76**	**89**		Pn	22 41 53.0	0.0
TASE	**Tanaga Southea**	**2.20**	**88**		Pn	22 41 58.3	-0.2
TAFP	**Tanaga Falls P**	**2.24**	**86**		Pn	22 41 58.6	-0.3
TAFP					Sn	22 42 26.5	0.0
TAPA	**Tanaga Point A**	**2.34**	**88**		Pn	22 42 00.3	0.0
KIMD	**Kanaga Island**	**2.70**	**89**		Pn	22 42 04.8	-0.2
KICM	**Kanaga Island**	**2.73**	**86**		Pn	22 42 05.4	+0.2
KIKV	**Kanaga Island**	**2.74**	**87**		Pn	22 42 05.3	-0.1
KINC	**Kanaga Island**	**2.77**	**85**		Pn	22 42 05.8	-0.1
KIRH	**Kanaga Island**	**2.79**	**86**		Pn	22 42 06.0	-0.1
SMY	**Shemya**	**2.81**	**291**		Pn	22 42 05.2	-1.1
SMY					Sn	22 42 39.5	-0.3
ADK	**Adak**	**3.04**	**86**	Pn	Pn	22 42 08.3	-1.2
GSTD	**Great Sitkin T**	**3.38**	**83**		Pn	22 42 13.6	-0.4
GSTR	**Great Sitkin T**	**3.43**	**83**	Pn	Pn	22 42 14.8	+0.1
ATKA	**Atka Island**	**4.58**	**82**		Pn	22 42 29.8	-0.3
NIKH	**Nikolski High**	**7.88**	**76**		Pn	22 43 16.2	+0.5
FALS	**False Pass**	**11.29**	**67**	Pn	Pn	22 43 57.6	-3.1
CNBA	**Chernabura Isl**	**13.48**	**68**	Pn	Pn	22 44 27.0	-2.6
OHAK	**Old Harbor**	**17.23**	**61**	P	P	22 45 14.3	-2.1
BILL	**Bilibino**	**17.33**	**345**	P	P	22 45 16.2	-1.2
BILL					lAmb	lAmb	22 45 17.7
	comp=Z,6.2nm,1.0s						
KDAK	**Kodiak Island**	**17.67**	**59**	P	P	22 45 20.1	-1.1
CNPM	**China Poot**	**18.65**	**54**	P	P	22 45 31.8	-0.2

IDC 23 22:41:28.9±3.6,**29.84S**×**177.06W**,**h0**km,**mb3.9**/2, **mb1 4.2**/2,**mb1mx3.7**/45,**mbtmp3.9**/2,**Error ellipse: s-maj=80.6km s-min=50.8km az=51.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.95**	**308**	Pn	Pn	22 41 49.8	+0.3
	952nm,0.3s,baz=287,slow=20,SNR=1.6						
RAO				Sn	Sb	22 42 02.0	+0.7
	1μm,0.3s,baz=335,slow=22,SNR=5.7						
CTA	**Charters Tower**	**34.52**	**278**	P	P	22 48 21.9	+2.7
	2.6nm,0.4s,baz=94,slow=8.9,SNR=1.6						
ASAR	**Alice Springs**	**43.96**	**266**	P	P	22 49 37.8	-0.2
	1.6nm,0.8s,baz=111,slow=6.7,SNR=2.1						
WRA	**Warramunga Arr**	**44.90**	**271**	P	P	22 49 45.0	-0.6
	0.8nm,0.4s,baz=109,slow=7.6,SNR=1.2						
FINES	**FINESS Array B**	**144.89**	**341**	PKP	PKPdf	23 01 07.0	-0.2
	2.7nm,0.6s,baz=62,slow=3.8,SNR=1.5						

*IDC **23** 22:45:52.6±2.0,28.41S×177.81W,h0km,mb4.0/2, mb1 4.3/2,mb1mx3.7/44,mbtmp4.0/2,Error ellipse: s-maj=52.7km s-min=20.2km az=83.0*
*NEIC **23** 22:45:55.1±1.6,30.06S±0.05×177.35W±0.08,h35km±2km, mb4.4/8,Error ellipse: s-maj=12.9km s-min=6.1km az=122.0*

ISC 23 22:45:54.9±1.2,**30.07S**±0.09×**177.3W**±0.2,**h35**km,**n21, σ0887/23, mb4.3/7, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.98**	**326**	Pn	**Pn**	**22 46 11.5**	**-0.7**
	1μm,0.3s,baz=74,slow=20,SNR=6.5						
RAO				Sn	**Sn**	**22 46 26.0**	**+1.1**
	1μm,0.3s,baz=66,slow=21,SNR=5.4						
RAO	**Raoul Island**	**0.98**	**326**	Pn	**Pn**	**22 46 12.1**	**-0.1**
RAO				Sn	**Sn**	**22 46 25.3**	**+0.4**
THZ	**Tophouse**	**14.11**	**212**	Pn	**Pn**	**22 49 12.1**	**0.0**
TOO	**Toolangi**	**31.66**	**246**	P	**P**	**22 52 16.9**	**+1.9**
TOO				lAmb	lAmb	22 52 17.8	
	comp=Z,34nm,1.4s						
CTAO	**Charters Tower**	**34.36**	**278**		**P**	**22 52 37.8**	**-0.8**
CTAO				lAmb	lAmb	22 52 43.5	
	comp=Z,10nm,1.4s						
STKA	**Stephens Creek**	**35.16**	**256**	P	**P**	**22 52 46.0**	**+0.6**
STKA				lAmb	lAmb	22 53 00.5	
	comp=Z,2.6nm,1.4s						
BBOO	**Buckleboo**	**39.66**	**254**	P	**P**	**22 53 22.8**	**-0.7**
AS31	**Alice Springs**	**43.75**	**266**	P	**P**	**22 53 57.8**	**+0.7**
ASAR	**Alice Springs**	**43.75**	**266**	P	**P**	**22 53 56.6**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=103,slow=7.5,SNR=2.6						
ASAR	**Alice Springs**	**43.75**	**266**	P	**P**	**22 53 57.3**	**+0.1**
WB2	**Warramunga Arr**	**44.70**	**271**	P	**P**	**22 54 04.2**	**-0.6**
WB2				lAmb	lAmb	22 54 06.8	
	comp=Z,6.3nm,1.0s						
WRA	**Warramunga Arr**	**44.71**	**271**	P	**P**	**22 54 04.2**	**-0.6**
	comp=Z,1.8nm,0.4s,baz=109,slow=7.9,SNR=8.7						
WRA	**Warramunga Arr**	**44.71**	**271**	P	**P**	**22 54 04.1**	**-0.8**
WB0	**Warramunga Arr**	**44.73**	**272**	P	**P**	**22 54 03.0**	**-2.0**
WB0				lAmb	lAmb	22 54 21.6	
	comp=Z,4.4nm,0.9s						
FINES	**FINESS Array B**	**145.04**	**341**	PKP	**PKPbc**	**23 05 26.4**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=46,slow=4.0,SNR=5.1						
FINES	**FINESS Array B**	**145.04**	**341**		**PKPdf**	**23 05 27.9**	**+0.2**
NB2	**NORSAR Subarra**	**148.51**	**352**	PKP	**PKPab**	**23 05 40.8**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=12,slow=3.4						
AKASG	**Malin Array Be**	**151.41**	**324**	PKPbc	**PKiKP**	**23 05 45.0**	**0.0**
	comp=Z,0.6nm,0.5s,baz=57,slow=1.8,SNR=2.0						
AKASG	**Malin Array Be**	**151.41**	**324**		**PKPdf**	**23 05 39.4**	**+0.9**
BRTR	**Keskin Array B**	**152.98**	**299**	PKPbc	**PKPbc**	**23 05 48.6**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=126,slow=2.0,SNR=3.6						
BRTR	**Keskin Array B**	**152.98**	**299**		**PKiKP**	**23 05 49.5**	**+0.6**

*MOS **23** 22:47:50.2±1.0,52.07N×178.48E,h101km,mb4.5/20, Error ellipse: s-maj=7.3km s-min=6.8km az=59.0*
*AEIC **23** 22:47:51±1.4,52.03N±0.08×178.42E±0.08,h125km±4km, Error ellipse: s-maj=12.0km s-min=6.9km az=186.0*
*UNK **23** 22:47:53.5,51.95N×178.49E,h118km*
*NEIC **23** 22:47:53.4±1.3,52.02N±0.08×178.44E±0.08, h120km±4km,mb4.8/198,ML4.6(AEIC), Error ellipse: s-maj=11.1km s-min=6.7km az=184.0*
*IDC **23** 22:47:54.3±1.5,52.07N×178.50E,h124km±13km, mb4.2/34,mb1 4.4/37,mb1mx4.2/63,mbtmp4.6/37,MS5.5/1, Ms1 5.5/1,ms1mx4.6/50, Error ellipse: s-maj=12.8km s-min=7.0km az=165.0*

ISC 23 22:47:53.1±0.6,**52.02N**±0.06×**178.40E**±0.03,**h116**km±4km, **n754, σ1907/761, mb4.7/163, 11C-5D, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSNW	**Little Sitkin**	**0.09**	**124**		**Pn**	**22 48 09.5**	**+0.4**
LSSA	**Little Sitkin**	**0.10**	**135**		**Pn**	**22 48 09.7**	**+0.5**
LSPA	**Little Sitkin**	**0.12**	**120**		**Pn**	**22 48 09.6**	**+0.4**
CEAP	**Semis' Anvil P**	**0.73**	**91**		**Pn**	**22 48 13.3**	**+1.0**
CESW	**Semis' Southwe**	**0.73**	**99**		**Pn**	**22 48 11.7**	**-0.6**
CERB	**Semis' Cerberu**	**0.77**	**96**		**Pn**	**22 48 13.5**	**+0.8**
CERAA	**Semis' Rag'd T**	**0.80**	**98**		**Pn**	**22 48 13.4**	**+0.4**
AMKA	**Amchitka**	**0.85**	**138**		**Pn**	**22 48 13.3**	**-0.1**
AMKA					**Sn**	**22 48 28.5**	**-0.1**
GAEA	**Gareloi East**	**1.78**	**97**		**Pn**	**22 48 23.9**	**+0.2**
TASE	**Tanaga Southea**	**2.21**	**93**		**Pn**	**22 48 29.3**	**+0.2**
TAFP	**Tanaga Falls P**	**2.24**	**92**		**Pn**	**22 48 29.4**	**0.0**
TAFP					**Sn**	**22 48 58.5**	**+1.3**
TAPA	**Tanaga Point A**	**2.35**	**93**		**Pn**	**22 48 30.9**	**0.0**
KIMD	**Kanaga Island**	**2.72**	**94**		**Pn**	**22 48 35.4**	**-0.2**
KIMD					**Sn**	**22 49 07.9**	**-0.3**
KICM	**Kanaga Island**	**2.73**	**90**		**Pn**	**22 48 36.1**	**+0.4**
SMY	**Shemya**	**2.73**	**287**	P	**Pn**	**22 48 35.6**	**-0.1**
SMY						22 49 08.9	
SMY	**Shemya**	**2.73**	**287**		**Pn**	**22 48 35.5**	**-0.1**
SMY					**Sn**	**22 49 08.9**	**+0.5**
KIKV	**Kanaga Island**	**2.75**	**91**		**Pn**	**22 48 36.0**	**0.0**
KIRH	**Kanaga Island**	**2.79**	**91**		**Pn**	**22 48 36.6**	**+0.1**
ADK	**Adak**	**3.04**	**91**	P	**Pn**	**22 48 39.4**	**-0.4**
ADK	**Adak**	**3.04**	**91**		**Pn**	**22 48 39.4**	**-0.4**
GSTD	**Great Sitkin T**	**3.37**	**87**		**Pn**	**22 48 43.5**	**-0.7**
GSTD					**Sn**	**22 49 25.3**	**+1.6**
GSTR	**Great Sitkin T**	**3.42**	**87**		**Pn**	**22 48 44.7**	**-0.2**
GSMY	**Great Sitkin M**	**3.42**	**87**		**Pn**	**22 48 44.4**	**-0.5**
ATKA	**Atka Island**	**4.57**	**85**		**Pn**	**22 48 59.7**	**-0.4**
KOFP	**Korovin Flat P**	**4.63**	**84**		**Pn**	**22 49 01.5**	**+0.5**
KOSE	**Korovin Southe**	**4.66**	**83**		**Pn**	**22 49 01.9**	**+0.5**
NIKH	**Nikolski High**	**7.84**	**78**		**Pn**	**22 49 44.6**	**+0.3**
OKSP	**Okmok Steeple**	**8.19**	**76**		**Pn**	**22 49 50.3**	**+1.2**
OKCE	**Okmok Cone E**	**8.28**	**75**		**Pn**	**22 49 51.8**	**+1.5**
OKNC	**Okmok New Cone**	**8.31**	**75**		**Pn**	**22 49 53.1**	**+2.4**
SPIA	**Saint Paul Isl**	**8.37**	**47**		**Pn**	**22 49 53.2**	**+1.9**
OKFG	**Magazine Ridge**	**8.43**	**75**		**Pn**	**22 49 55.4**	**+3.1**
MSW	**Makushin Switc**	**9.14**	**72**		**Pn**	**22 50 03.4**	**+1.5**
MREP	**Makushin Rep't**	**9.15**	**73**		**Pn**	**22 50 03.5**	**+1.4**
MNAT	**Makushin Natee**	**9.20**	**72**		**Pn**	**22 50 04.9**	**+2.2**
UNV	**Unalaska Valle**	**9.30**	**73**		**Pn**	**22 50 04.3**	**+0.3**
AKRB	**Akutan Reef Bi**	**9.59**	**71**		**Pn**	**22 50 10.6**	**+2.7**
AKMO	**Akutan Morgan**	**9.62**	**71**		**Pn**	**22 50 10.7**	**+2.4**
AKGG	**Akutan Green G**	**9.64**	**71**		**Pn**	**22 50 11.1**	**+2.5**
AKLV	**Akutan Long Va**	**9.65**	**71**		**Pn**	**22 50 11.3**	**+2.4**
AKUT	**Akutan**	**9.76**	**71**		**Pn**	**22 50 10.6**	**+0.4**
FALS	**False Pass**	**11.21**	**68**	Pn	**Pn**	**22 50 29.7**	**0.0**
PET	**Petropavlovsk**	**12.07**	**283**	⇓P	**Pn**	**22 50 41.9**	**+0.8**
PET				eS	**Sn**	**22 52 48.1**	**-5.6**
PET				pmax	pmax		
	comp=Z,60nm,1.2s						
PET	**Petropavlovsk**	**12.07**	**283**	Pn	**Pn**	**22 50 41.5**	**+0.4**
PEA0B	**Petropavlovsk-**	**12.64**	**283**	P	**Pn**	**22 50 49.9**	**+1.3**
PEA0B	**Petropavlovsk-**	**12.64**	**283**		**Pn**	**22 50 49.9**	**+1.3**
PETK	**Petropavlovsk-**	**12.64**	**283**	P	**Pn**	**22 50 49.6**	**+1.0**
	comp=Z,1.8nm,0.3s,baz=96,slow=16,SNR=61						
PETK					S	**Sn**	**22 53 03.4**	**-4.1**
	comp=Z,1.0nm,0.3s,baz=99,slow=18,SNR=1.2						
PETK	**Petropavlovsk-**	**12.64**	**283**	P	**Pn**	**22 50 49.4**	**+0.8**
PETK	**Petropavlovsk-**	**12.64**	**283**		**Pn**	**22 50 49.4**	**+0.8**
SDPT	**Sand Point**	**12.94**	**67**	Pn	**Pn**	**22 50 50.7**	**-1.8**
CNBA	**Chernabura Isl**	**13.41**	**69**	Pn	**Pn**	**22 50 55.8**	**-2.7**
CHIR	**Chirikof Isla**	**15.73**	**66**	Pn	**Pn**	**22 51 25.0**	**-2.9**
CHIR				lAmb	lAmb	22 51 37.6	
	comp=Z,81nm,1.1s						
SII	**Sitkinak Islan**	**16.58**	**63**	Pn	**Pn**	**22 51 36.4**	**-2.1**
SII				lAmb	lAmb	22 51 55.0	
	comp=Z,64nm,1.1s						
SVW2	**Sparrevohn**	**16.87**	**47**	P	**P**	**22 51 42.6**	**+0.5**
SVW2				lAmb	lAmb	22 51 49.8	
	comp=Z,54nm,1.1s						
BILL	**Bilibino**	**17.11**	**344**	*i* P	**Pn**	**22 51 45.6**	**+0.8**
BILL				pmax	pmax		
	comp=Z,59nm,0.9s						
BILL	**Bilibino**	**17.11**	**344**	P	**Pn**	**22 51 46.4**	**+1.6**
BILL				lAmb	lAmb	22 51 48.4	
	comp=Z,60nm,0.8s

CNPM China Poot 18.52 54 P P 22 51 60.0 -0.3
BRLK Bradley Lake 18.74 54 P P 22 52 02.1 -0.5
PPLA Purkeypile 19.01 44 Pn 22 52 07.5 -0.2
O22K Cooper Landing 19.45 52 P P 22 52 11.0 +0.7
baz=258
SEW Seward 19.52 53 P P 22 52 10.3 -0.6
SEW IAmb IAmb 22 52 15.7
comp=Z,82nm,1.0s
BPAW Bear Paw Mtn. 19.96 41 P 22 52 16.6 +0.8
BPAW IAmb IAmb 22 52 18.6
comp=Z,84nm,1.5s
PMR Palmer 19.98 49 P P 22 52 16.4 +0.5
PMR pmax pmax
comp=Z,30nm,1.3s
PMR Palmer 19.98 49 P P 22 52 16.4 +0.5
TRF Thorofare Moun 20.01 43 P 22 52 17.3 +0.7
TRF IAmb IAmb 22 52 23.5
comp=Z,81nm,1.1s
GHO Glory Hole Cre 20.12 48 P P 22 52 18.9 +1.3
GHO IAmb IAmb 22 52 20.2
comp=Z,42nm,1.1s
KNK Knik Glacier 20.25 49 P P 22 52 19.7 +0.7
RND Reindeer 20.61 44 P P 22 52 22.8 0.0
RND pmax pmax
comp=Z,36nm,1.3s
RND Reindeer 20.61 44 P P 22 52 22.8 0.0
MCK McKinley 20.68 43 P P 22 52 23.7 +0.2
MCK pmax pmax
comp=Z,37nm,1.1s
MCK McKinley 20.68 43 P P 22 52 23.7 +0.2
MCK IAmb IAmb 22 52 26.7
comp=Z,36nm,1.1s
SCM Sheep Creek Mo 20.87 49 P P 22 52 25.4 -0.2
SCM pmax pmax
comp=Z,68nm,1.1s
SCM Sheep Creek Mo 20.87 49 P P 22 52 25.4 -0.2
SCM IAmb IAmb 22 52 27.6
comp=Z,68nm,1.1s
NEA2 Nenana 20.93 41 P P 22 52 26.8 +0.7
baz=248,SNR=15
FID Port Fidalgo 21.08 52 P P 22 52 26.9 -0.9
FID IAmb IAmb 22 52 29.5
comp=Z,63nm,1.0s
DHY Denali Highway 21.15 45 P P 22 52 28.4 -0.3
KUR Kuril'sk 21.18 263 *i* P P 22 52 29.6 +0.6
WRH Wood River Hil 21.28 41 P P 22 52 29.2 -0.6
WRH IAmb IAmb 22 52 33.5
comp=Z,45nm,1.5s
MDM Murphy Dome 21.39 40 P P 22 52 31.0 -0.2
EYAK Cordova Ski Ar 21.40 52 P 22 52 30.0 -1.2
EYAK IAmb IAmb 22 52 33.5
comp=Z,82nm,1.2s
CCB Clear Creek Bu 21.45 41 P P 22 52 31.7 0.0
TCOL CIGO, UAF Yank 21.51 40 P P 22 52 33.2 +0.8
baz=249
COLA College 21.51 40 *i* P P 22 52 32.0 -0.4
COLA pmax pmax
comp=Z,19nm,1.0s
COLD Coldfoot 21.64 33 P P 22 52 35.0 +1.3
baz=241
COLD Coldfoot 21.64 33 P P 22 52 34.5 +0.8
HDA Harding Lake 21.73 42 P P 22 52 34.5 -0.2
baz=251,SNR=7.0
HDA Harding Lake 21.73 42 P P 22 52 34.0 -0.7
POKR Poker Flat Res 21.77 40 P P 22 52 35.3 +0.2
baz=249,SNR=5.9
IL31 21.87 41 P P 22 52 35.4 -0.7
ILAR Eielson Array 21.87 41 P P 22 52 34.7 -1.4
comp=Z,3.5nm,0.5s,baz=247,slow=8.2,SNR=27
ILAR ScP ScP 22 59 53.5 -3.4
comp=Z,1.2nm,0.7s,baz=280,slow=3.4,SNR=5.0
ILAR Eielson Array 21.87 41 P P 22 52 35.8 -0.4
PAX Paxson 21.97 46 P P 22 52 37.5 +0.2
PAX pmax pmax
comp=Z,99nm,1.5s
PAX Paxson 21.97 46 P P 22 52 37.5 +0.2
PAX IAmb IAmb 22 52 39.7
comp=Z,99nm,1.5s
RIDG Independent Ri 22.42 44 P P 22 52 41.1 -0.8
GLB Gilahina Butte 22.46 50 P P 22 52 42.4 0.0
GLB IAmb IAmb 22 52 45.9
comp=Z,30nm,0.8s
TOLK Toolik Lake Re 22.56 30 P P 22 52 43.7 +0.4
baz=238
TOLK Toolik Lake Re 22.56 30 P P 22 52 43.5 +0.2
TOLK IAmb IAmb 22 52 45.9
comp=Z,32nm,0.8s
VRDI Verde Repeater 22.60 51 P P 22 52 43.1 -0.8
VRDI IAmb IAmb 22 52 45.1
comp=Z,51nm,1.2s
PRP Porcupine Dome 22.66 40 P P 22 52 43.2 -1.1
CRQM Cirque 22.71 52 P P 22 52 44.7 -0.2
DOT Dot Lake 22.74 45 P P 22 52 43.9 -1.1
DOT IAmb IAmb 22 52 47.0
comp=Z,35nm,1.1s
MENT Mentasta 22.74 47 P P 22 52 45.3 +0.2
MENT IAmb IAmb 22 52 49.0
comp=Z,40nm,1.2s
WAX Waxell Ridge 22.82 53 P P 22 52 45.3 -0.6
MCARA McCarthy VSAT 22.83 51 P P 22 52 45.8 -0.1
MCARA IAmb IAmb 22 52 47.4
comp=Z,76nm,1.2s
SCRK Sand Creek 22.85 44 P P 22 52 45.1 -1.1
ISLE Juniper Island 23.09 53 P P 22 52 48.6 +0.1
ISLE IAmb IAmb 22 52 51.4
comp=Z,72nm,1.2s
BALM Baldy 23.12 52 P P 22 52 48.7 -0.1
BALM IAmb IAmb 22 52 51.7
comp=Z,69nm,1.3s
FYU Fort Yukon 23.13 37 P P 22 52 49.0 +0.3
FYU IAmb IAmb 22 52 52.6
comp=Z,97nm,1.4s
YAH Yahtse 23.36 53 P P 22 52 51.4 +0.2
BARN Barnard Glacie 23.45 52 P P 22 52 52.1 +0.2
YSS Yuzh-Sakhalins 23.54 272 *i* P P 22 52 53.5 +0.9
CTGM Chitina Glacie 23.60 52 P P 22 52 53.4 +0.1
BCAR Beaver Creek A 23.64 47 P P 22 52 53.3 -0.1
TABL Table Mountain 23.67 53 P P 22 52 53.6 -0.3
BMAR Burnt Mountain 23.69 35 P P 22 52 54.2 +0.3
PCA Pinnacle 24.10 54 P P 22 52 57.0 -0.6
EGAK Eagle 24.23 43 P P 22 52 58.5 -0.2
DAWY Dawson 24.85 45 P P 22 53 04.5 +0.1
DAWY IAmb IAmb 22 53 05.9
comp=Z,34nm,1.1s
JKA Kamikawa-asahi 24.99 266 P P 22 53 06.3 +0.6
ASAJ Asahikawa 24.99 266 P P 22 53 07.4 +1.6
comp=Z,5.7nm,0.7s,baz=290,slow=23,SNR=3.6
ASAJ Asahikawa 24.99 266 P P 22 53 06.3 +0.5
ASAJ pmax pmax
comp=Z,28nm,1.4s
HYT Haines Junctio 25.47 52 P 22 53 10.3 +0.2
HYT IAmb IAmb 22 53 13.8
comp=Z,34nm,0.7s
GRNR Gornyy 25.96 284 || *i* P P 22 53 15.1 +0.6
GRNR pmax pmax
comp=Z,8.0nm,1.0s
EPYK Eagle Plains 26.36 40 P P 22 53 17.7 -0.3
baz=259,SNR=7.1
INK Inuvik 27.95 36 P P 22 53 32.4 +0.4
comp=Z,5.0nm,0.4s,baz=268,slow=8.9,SNR=15
INK Inuvik 27.95 36 P P 22 53 32.2 +0.2
INK pmax pmax
comp=Z,18nm,1.4s
INK Inuvik 27.95 36 P P 22 53 32.2 +0.2
TIXI Tiksi 29.22 330 ScP ScP 23 00 15.9 -2.0
comp=Z,5.8nm,0.8s,baz=42,slow=1.3,SNR=7.4
KLR Kul'dur 29.33 283 P P 22 53 44.9 +0.3
comp=Z,7.9nm,0.4s,baz=64,slow=7.8,SNR=37
KLR Kul'dur 29.33 283 *i* P P 22 53 44.5 -0.1
KLR pmax pmax
comp=Z,5.0nm,0.7s
DLBC Dease Lake 29.46 57 P P 22 53 46.7 +1.0
comp=Z,4.9nm,0.7s,baz=227,slow=7.3,SNR=6.3
DLBC Dease Lake 29.46 57 P P 22 53 46.3 +0.6
DLBC IAmb IAmb 22 53 48.0
comp=Z,22nm,1.3s
A36M Sachs Harbour 31.38 30 P P 22 54 03.5 +1.1
baz=261,SNR=8.3
USRK Ussuriysk Ar. 31.50 274 P P 22 54 03.9 +0.2
comp=Z,4.4nm,0.6s,baz=55,slow=9.7,SNR=14
USRK PcP PcP 22 56 54.8 +1.1
comp=Z,4.6nm,0.8s,baz=72,slow=2.0,SNR=10.0
USRK ScP ScP 23 00 26.6 +0.9
comp=Z,1.0nm,0.7s,baz=48,slow=2.8,SNR=5.4
USRK Ussuriysk Ar. 31.50 274 P P 22 54 03.6 -0.1
USRK PcP PcP 22 56 54.4 +0.7
USRK ScP ScP 23 00 26.7 +0.9
USA0B Ussuriysk Arra 31.50 274 P P 22 54 03.8 +0.1
USA0B pmax pmax
comp=Z,4.0nm,0.6s
USA0B Ussuriysk Arra 31.50 274 P P 22 54 03.8 +0.1
VLA Vladivostok 32.13 273 *i* P P 22 54 10.1 +0.9
VLA pmax pmax
comp=Z,17nm,0.8s
MJAR Matsushiro Arr 32.19 257 P P 22 54 09.7 -0.2
comp=Z,14nm,0.5s,baz=46,slow=7.3,SNR=8.6
MJAR Matsushiro Arr 32.19 257 P P 22 54 10.7 +0.8
MJAR pmax pmax
comp=Z,2.0nm,0.8s
MJAR Matsushiro Arr 32.19 257 P P 22 54 10.7 +0.8
MAJO Matsushiro 32.20 257 *i* P P 22 54 10.3 +0.4
MAJO pmax pmax
comp=Z,9.0nm,1.0s
MAJO Matsushiro 32.20 257 P P 22 54 10.3 +0.4
MAJO IAmb IAmb 22 54 12.2
comp=Z,16nm,1.1s
MAT Matsushiro 32.20 257 P P 22 54 10.7 +0.8
BBB Bella Bella 32.23 68 LR LR 23 04 44.3
comp=Z,8µm,21.9s,baz=184,slow=31
MSHR Mys Shultsa 32.87 272 *i* P P 22 54 15.9 +0.2
MSHR pmax pmax
comp=Z,13nm,1.6s
H11N2 WAKE ISLAND Hy 33.46 200 T T 23 29 40.9
baz=11,slow=76,SNR=9.6
H11N3 WAKE ISLAND Hy 33.47 200 T T 23 29 43.1
baz=11,slow=76,SNR=15
H11N1 WAKE ISLAND Hy 33.48 200 T T 23 29 56.1
baz=11,slow=76,SNR=15
YKA Yellowknife Ar 36.05 47 P P 22 54 43.2 +0.4
comp=Z,2.6nm,0.3s,baz=281,slow=8.6,SNR=26
YKA ScP ScP 23 00 38.7 -2.9
comp=Z,1.9nm,0.9s,baz=290,slow=3.5,SNR=5.9
HIA Hailar 36.43 290 P P 22 54 46.1 -0.2
HIA pmax pmax
comp=Z,11nm,0.5s
HIA Hailar 36.43 290 P P 22 54 46.1 -0.2
HIA IAmb IAmb 22 54 46.3
comp=Z,11nm,0.5s
LLLB Lillooet 36.44 68 P P 22 54 46.1 -0.3
NLWA Neilton Lookou 36.77 74 P P 22 54 49.4 +0.2
NLWA IAmb IAmb 22 54 50.8
comp=Z,12nm,0.9s
D03D Eldon 37.16 73 P P 22 54 52.9 +0.5
baz=299,SNR=7.7
B05A Bryant 37.39 71 P P 22 54 54.1 -0.3
baz=299
KSRS Korea Array 37.90 268 P P 22 55 00.5 +1.7
comp=Z,4.3nm,1.0s,baz=60,slow=8.3,SNR=21
KSRS PcP PcP 22 57 13.7 +1.3
comp=Z,2.5nm,0.7s,baz=49,slow=3.4,SNR=9.6
KSAR Wonju Array Be 37.93 268 P P 22 55 00.0 +0.9
KSAR 22 57 13.4
KSAR Wonju Array Be 37.93 268 P P 22 54 60.0 +0.9
KSAR PcP PcP 22 57 13.4 +0.9
E04D Cinebar 37.96 74 P P 22 54 59.2 0.0
baz=300,SNR=6.2
D05A Enumclaw 37.98 73 P P 22 54 59.8 +0.4
I02D Swisshome 38.48 78 P P 22 55 03.8 +0.2
baz=303
JNU Nakatsue 38.94 260 P P 22 55 08.6 +1.0
comp=Z,13nm,1.0s,baz=31,slow=8.7,SNR=5.4
JNU Nakatsue 38.94 260 P P 22 55 07.9 +0.3
JNU IAmb IAmb 22 55 10.3
comp=Z,22nm,1.1s
B08A Colville Reser 38.96 70 P P 22 55 06.7 -0.9
I03D Drain, OR 39.01 79 P P 22 55 08.4 +0.4
baz=303
H04A Detroit Lake 39.17 76 P P 22 55 09.0 -0.4
H04A IAmb IAmb 22 55 10.4
comp=Z,16nm,0.9s
K02D Willamette Mer 39.37 80 P P 22 55 11.4 +0.3
baz=304
G05D Wamic, OR 39.39 75 P P 22 55 11.4 +0.2
baz=302
I04A Tendick Farm, 39.52 78 P P 22 55 12.4 +0.1
baz=303
HAWA Hanford 39.84 73 P P 22 55 14.2 -0.6
HAWA IAmb IAmb 22 55 15.5
comp=Z,24nm,1.1s
C09A Chrisman Ranch 39.85 70 P P 22 55 14.1 -0.9
C09A IAmb IAmb 22 55 15.8
comp=Z,30nm,1.5s
D08A Wollman Farm, 39.86 71 P P 22 55 14.2 -0.7
I05D Terrebonne, OR 39.87 76 P P 22 55 14.2 -0.9
baz=303
KRMB Red Mountain 39.89 82 P P 22 55 16.3 +0.8
J04D Umpqua Nationa 40.01 78 P P 22 55 16.0 -0.5
baz=304
NEW Newport 40.28 69 P P 22 55 17.6 -0.9
baz=300,SNR=12
NEW Newport 40.28 69 P P 22 55 17.8 -0.8
NEW pmax pmax
comp=Z,16nm,1.0s
NEW Newport 40.28 69 P P 22 55 17.8 -0.8
NEW IAmb IAmb 22 55 18.6
comp=Z,16nm,1.0s
KHMM Horse Mountain 40.38 82 P P 22 55 20.7 +1.1
KHMM IAmb IAmb 22 55 21.5
comp=Z,21nm,0.7s
PINE Pine Mountain 40.41 77 P P 22 55 20.0 +0.2
PINE IAmb IAmb 22 55 21.3
comp=Z,25nm,1.5s
L04D Klamath Falls 40.47 80 P P 22 55 20.4 +0.1
baz=305,SNR=5.8
YBH Yreka Blue Hor 40.50 81 P P 22 55 21.6 +1.1
comp=Z,11nm,0.8s,baz=327,slow=5.0,SNR=20
YBH Yreka Blue Hor 40.50 81 P P 22 55 21.1 +0.6
YBH pmax pmax
comp=Z,17nm,1.1s
YBH Yreka Blue Hor 40.50 81 P P 22 55 21.1 +0.6
YBH IAmb IAmb 22 55 22.7
comp=Z,17nm,1.1s
J05D Fort Rock, OR 40.51 78 P P 22 55 20.9 +0.3
baz=304,SNR=9.5
K04D Chiloquin, OR 40.57 79 P P 22 55 21.1 0.0
baz=305
E09A Wood Farm, Sta 40.59 72 P P 22 55 20.3 -0.7
E09A IAmb IAmb 22 55 21.3
comp=Z,18nm,1.2s
M02C Callahan 40.61 81 P P 22 55 21.9 +0.5
baz=306,SNR=7.6
KMRM Mail Ridge 40.78 83 P P 22 55 24.0 +1.3
KMRM IAmb IAmb 22 55 25.3
comp=Z,21nm,0.9s
N02D Trinity Center 40.95 82 P P 22 55 24.8 +0.6
baz=306,SNR=6.9
M04C Macdoel 41.01 80 P P 22 55 25.0 +0.3
baz=306,SNR=8.6
K05A Summer Lake 41.04 78 P P 22 55 25.1 +0.1
K05A IAmb IAmb 22 55 26.2
comp=Z,11nm,0.7s
I07A Izee 41.11 76 P P 22 55 25.0 -0.4
WDC Whiskeytown Da 41.28 82 P P 22 55 26.9 +0.1
WDC pmax pmax
comp=Z,24nm,1.4s
WDC Whiskeytown Da 41.28 82 P P 22 55 26.9 +0.1
WDC IAmb IAmb 22 55 28.6
comp=Z,24nm,1.4s
O02D Mt. Diablo Mer 41.37 83 P P 22 55 28.6 +1.0
baz=307,SNR=7.2
MOD Modoc Plateau 41.87 79 P P 22 55 31.6 -0.2
MOD IAmb IAmb 22 55 33.2
comp=Z,40nm,1.4s
O03E Paynes Creek 41.91 82 P P 22 55 32.0 0.0
baz=307,SNR=5.4
BMO Blue Mountains 41.99 73 P P 22 55 31.8 -0.8
BMO pmax pmax
comp=Z,8.0nm,0.9s
BMO Blue Mountains 41.99 73 P P 22 55 31.8 -0.8
ORV Oroville 42.54 82 P P 22 55 36.6 -0.4
ORV pmax pmax
comp=Z,9.0nm,0.7s
ORV Oroville 42.54 82 P P 22 55 36.6 -0.4
ORV IAmb IAmb 22 55 37.3
comp=Z,9.3nm,0.7s
WVOR Wild Horse Val 42.57 77 P P 22 55 36.9 -0.5
WVOR pmax pmax
comp=Z,8.0nm,0.6s
WVOR Wild Horse Val 42.57 77 P P 22 55 36.9 -0.5
WVOR IAmb IAmb 22 55 37.7
comp=Z,8.0nm,0.6s
MSO Missoula 42.87 69 P P 22 55 38.1 -1.6
baz=303
MSO Missoula 42.87 69 P P 22 55 38.3 -1.4
MSO IAmb IAmb 22 55 39.6
comp=Z,22nm,1.3s
AFDM Forest Hills D 43.23 83 P P 22 55 42.8 +0.1
AFDM IAmb IAmb 22 55 44.2
comp=Z,21nm,1.3s
MFID Camas Ranch 43.68 74 P P 22 55 45.5 -0.8
PAHR Pah Rah Range 43.74 81 P P 22 55 47.0 +0.1
PAHR IAmb IAmb 22 55 48.2
comp=Z,21nm,1.0s
VCNR Virginia City 43.83 81 P P 22 55 47.7 +0.1
VCNR IAmb IAmb 22 55 48.6
comp=Z,13nm,0.7s
PNTR Pine Nut 43.99 82 P P 22 55 49.3 +0.4
HRY Holter Researc 44.15 68 P P 22 55 49.1 -0.9
CMB Columbia Colle 44.16 83 P P 22 55 50.2 +0.1
CMB pmax pmax
comp=Z,21nm,1.3s
CMB Columbia Colle 44.16 83 P P 22 55 50.2 +0.1
CMB IAmb IAmb 22 55 51.1
comp=Z,21nm,1.2s
YERR Yerington 44.27 82 P P 22 55 51.3 +0.1
YERR IAmb IAmb 22 55 52.0
comp=Z,21nm,1.1s
LRM Limekiln Ridge 44.29 69 P P 22 55 49.9 -1.4
HLID Hailey 44.43 73 P P 22 55 51.7 -0.7
baz=306,SNR=14
HLID Hailey 44.43 73 P P 22 55 51.7 -0.7
WAKR Walker 44.45 82 P P 22 55 52.8 +0.2
EGMT Eagleton 44.60 65 P P 22 55 52.2 -1.3
baz=303,SNR=5.5
MCMT McKenzie Canyo 44.62 71 P P 22 55 52.6 -1.3
SONM Songino Array 44.80 295 P P 22 55 56.0 +0.8
comp=Z,3.2nm,0.5s,baz=66,slow=8.2,SNR=15
SONM PcP PcP 22 57 35.6 +0.5
comp=Z,2.2nm,0.8s,baz=73,slow=2.6,SNR=4.5
SONM ScP ScP 23 01 16.1 -0.2
comp=Z,2.3nm,0.8s,baz=29,slow=4.6,SNR=10
SONM Songino Array 44.80 295 P P 22 55 55.5 +0.4
SONM pmax pmax
comp=Z,2.0nm,0.6s
SONM Songino Array 44.80 295 P P 22 55 55.5 +0.4
SONM ScP ScP 23 01 15.4 -0.9
BOZ Bozeman (W) 44.89 69 P P 22 55 54.5 -1.4
baz=305,SNR=18
BOZ Bozeman (W) 44.89 69 P P 22 55 54.8 -1.2
BOZ pmax pmax
comp=Z,14nm,0.9s
BOZ Bozeman (W) 44.89 69 P P 22 55 54.8 -1.2
BOZ IAmb IAmb 22 55 55.8
comp=Z,14nm,0.9s
FFC Flin Flon 45.17 54 P P 22 55 57.5 -0.3
FFC pmax pmax
comp=Z,8.0nm,1.3s
FFC Flin Flon 45.17 54 P P 22 55 57.5 -0.3
NVAR Mina Array Bea 45.19 81 P P 22 55 58.6 +0.1
comp=Z,7.9nm,0.6s,baz=294,slow=7.9,SNR=67
NVAR ScP ScP 23 01 16.2 -2.0
comp=Z,0.5nm,0.6s,baz=264,slow=6.4,SNR=4.4
NV11 Mina Array Sit 45.28 81 P P 22 55 59.2 +0.2
TIA Tai'an 45.36 275 P P 22 56 00.4 +0.8
TIA pmax pmax
comp=Z,16nm,0.5s
QLMT Earthquake Lak 45.45 70 P P 22 55 59.7 -0.7
ELK Elko 45.62 77 P P 22 56 01.6 -0.2
ELK pmax pmax
comp=Z,7.0nm,0.6s
ELK Elko 45.62 77 P P 22 56 01.6 -0.2
HHC Hu-ho-hao-te 45.84 284 *e*P P 22 56 07.8 +4.4
HHC pmax pmax
comp=Z,7.0nm,1.1s
HHC pmax pmax
comp=Z,830nm,5.5s
VOG Valley Oaks Go 45.87 85 P P 22 56 03.2 -0.4
baz=310
H17A Grant Village 46.20 70 P P 22 56 06.2 -0.1
baz=306
IMW Indian Meadow 46.28 71 P P 22 56 06.5 -0.5
RLMT Red Lodge 46.53 68 P P 22 56 07.7 -1.2
baz=306,SNR=8.5
RLMT Red Lodge 46.53 68 P P 22 56 08.0 -0.9
RLMT IAmb IAmb 22 56 09.3
comp=Z,12nm,0.8s
PKM Mcpherson Peak 46.54 86 P P 22 56 09.3 +0.2
baz=311
CWC Cottonwood Cre 46.59 83 P P 22 56 09.2 -0.3
baz=310
ISA Isabella, Lake 46.86 85 P P 22 56 10.7 -0.8
baz=311
ISA Isabella, Lake 46.86 85 P P 22 56 10.6 -0.8
ISA pmax pmax
comp=Z,6.0nm,0.9s
ISA Isabella, Lake 46.86 85 P P 22 56 10.6 -0.8
R11A Troy Canyon, C 46.90 80 P P 22 56 11.4 -0.4
baz=309,SNR=27
R11A Troy Canyon, C 46.90 80 P P 22 56 11.5 -0.4
R11A IAmb IAmb 22 56 12.0
comp=Z,9.6nm,0.5s
NJ2 Nanjing 47.06 269 *e*P P 22 56 13.0 +0.1
NJ2 pmax pmax
comp=Z,13nm,0.5s
MPMC Manual Prospec 47.21 83 P P 22 56 14.0 -0.2
baz=311,SNR=13
SCZ2 Santa Cruz Isl 47.24 87 P P 22 56 15.1 +0.7
baz=312
FURC Furnace Creek, 47.32 83 P P 22 56 14.8 0.0
baz=311,SNR=11
LAO LASA Array 47.34 65 P P 22 56 14.4 -0.5
baz=306
TPNV Topopah Spring 47.39 82 P P 22 56 15.4 -0.2
baz=310,SNR=20
TPNV Topopah Spring 47.39 82 P P 22 56 15.3 -0.3
TPNV pmax pmax
comp=Z,21nm,1.0s
TPNV Topopah Spring 47.39 82 P P 22 56 15.2 -0.3
TPNV IAmb IAmb 22 56 16.8
comp=Z,21nm,0.9s
DUG Dugway, Tooele 47.41 76 P P 22 56 15.3 -0.4
baz=308,SNR=11
DUG Dugway, Tooele 47.41 76 P P 22 56 15.2 -0.5
DUG pmax pmax
comp=Z,28nm,1.4s
DUG Dugway, Tooele 47.41 76 P P 22 56 15.2 -0.5
DUG IAmb IAmb 22 56 16.6
comp=Z,28nm,1.4s
LRMC Laurel Mtn Rad 47.47 84 P P 22 56 15.7 -0.4
baz=311
EDW2 Edwards Air Fo 47.67 85 P P 22 56 17.3 -0.3
baz=312
BW06 Boulder Array 47.76 71 P P 22 56 17.3 -1.2
baz=307,SNR=14
BW06 Boulder Array 47.76 71 P P 22 56 17.5 -1.0
BW06 IAmb IAmb 22 56 18.5
comp=Z,13nm,1.0s
PD31 Pinedale Array 47.76 71 P P 22 56 17.3 -1.2
PDAR Pinedale Array 47.76 71 P P 22 56 17.4 -1.2
comp=Z,8.2nm,0.8s,baz=311,slow=3.7,SNR=49
PDAR Pinedale Array 47.76 71 P P 22 56 17.2 -1.3
SNCC San Nicolas Is 47.81 88 P P 22 56 18.4 -0.4
baz=313
MWC Mount Wilson 48.06 86 P P 22 56 20.9 0.0
MWC pmax pmax
comp=Z,49nm,1.4s
MWC Mount Wilson 48.06 86 P P 22 56 20.9 0.0
GSC Goldstone, Bar 48.12 84 P P 22 56 21.1 -0.1
baz=311,SNR=6.4
BFSC Mount Baldy Ra 48.30 85 P P 22 56 22.9 +0.3
baz=312,SNR=5.7
TUQ Turquoise Moun 48.57 83 P P 22 56 24.6 -0.1
baz=311
HEC Hector,Ludlow 48.72 84 P P 22 56 25.6 -0.1
baz=312,SNR=7.7
MSU Marysvale 48.86 77 P P 22 56 26.9 0.0
MSU Marysvale 48.86 77 P P 22 56 26.9 0.0
TMUT Trail Mountain 48.94 76 P P 22 56 27.5 -0.2
MURC Murrieta 49.01 86 P P 22 56 27.2 -0.8
baz=312
MTPU Mount Pierson 49.16 78 P P 22 56 29.4 +0.1
GMRC Granite Mounta 49.17 83 P P 22 56 28.8 -0.4
baz=312,SNR=16
PFO Pinyon Flats O 49.46 85 P P 22 56 30.8 -0.6
baz=312
PFO Pinyon Flats O 49.46 85 P P 22 56 31.0 -0.4
comp=Z,3.6nm,0.5s,baz=304,slow=8.4,SNR=8.1

PFO **Pinyon Flats O** 49.46 85 P **P** 22 56 31.2 -0.3
PFO pmax pmax
comp=Z,16nm,1.4s
PFO **Pinyon Flats O** 49.46 85 P **P** 22 56 31.2 -0.3
PFO lAmb lAmb 22 56 31.7
comp=Z,16nm,1.4s
SRU **San Rafael Swe** 49.47 76 P **P** 22 56 31.3 -0.3
SRU pmax pmax
comp=Z,11nm,0.7s
SRU **San Rafael Swe** 49.47 76 P **P** 22 56 31.2 -0.3
BELC **Belle Mtn. Jos** 49.48 84 P **P** 22 56 31.0 -0.7
baz=312,SNR=9.8
K22A **Casper** 49.60 69 P **P** 22 56 31.0 -1.5
baz=308
SPA0 **Spitsbergen Ar** 49.60 355 P **P** 22 56 32.0 +0.2
SPA0 lAmb lAmb 22 56 32.4
comp=Z,9.7nm,0.5s
SPITS **Spitsbergen Ar** 49.60 355 P **P** 22 56 31.9 +0.1
comp=Z,7.3nm,0.4s,baz=40,slow=6.6,SNR=80
NEE2 **Needles Airpor** 49.82 83 P **P** 22 56 33.4 -0.6
baz=312
IRM **Iron Mountain** 49.90 84 P **P** 22 56 34.5 -0.2
baz=312,SNR=11
BAR **Barrett** 49.96 86 P **P** 22 56 35.2 +0.1
MONP2 **Monument Peak** 49.97 86 P **P** 22 56 35.2 -0.3
baz=313,SNR=5.9
BC3 **Big Chuckawall** 50.05 84 P **P** 22 56 35.2 -0.7
baz=312,SNR=6.3
RSSD **Black Hills** 50.11 66 P **P** 22 56 34.6 -1.8
baz=308
O20A **White River Ci** 50.17 73 P **P** 22 56 35.7 -1.2
baz=310,SNR=11
MDND **Maddock** 50.28 60 P **P** 22 56 37.0 -0.4
baz=307
IKP **In-Ko-Pah, Jac** 50.33 86 P **P** 22 56 37.6 -0.3
baz=313
PDMCI **Parker Dam,Lak** 50.42 83 P **P** 22 56 38.1 -0.5
baz=312
ULM **Lac du Bonnet** 50.77 56 P **P** 22 56 40.1 -0.9
comp=Z,5.8nm,0.4s,baz=304,slow=7.2,SNR=7.7
ULM **Lac du Bonnet** 50.77 56 P **P** 22 56 40.1 -0.9
ULM pmax pmax
comp=Z,14nm,1.2s
ULM **Lac du Bonnet** 50.77 56 P **P** 22 56 40.1 -0.9
ULM lAmb lAmb 22 56 41.7
comp=Z,14nm,1.1s
GLA **Glamis** 50.84 84 P **P** 22 56 41.5 -0.3
baz=313
WHN **Wuhan** 50.89 271 ⇑P **P** 22 56 42.8 +0.7
PV17 **East Wray Mesa** 50.94 75 P **P** 22 56 42.0 -0.6
N23A **Red Feather La** 51.04 71 P **P** 22 56 42.4 -1.0
baz=310
WUAZ **Wupatki** 51.30 80 P **P** 22 56 45.2 -0.2
baz=312,SNR=8.0
WUAZ **Wupatki** 51.30 80 P **P** 22 56 45.2 -0.2
WUAZ lAmb lAmb 22 56 45.8
comp=Z,9.0nm,0.6s
XAN **Xi'an** 51.83 278 P **P** 22 56 49.3 +0.1
XAN pmax pmax
comp=Z,9.0nm,1.3s
MVCO **Mesa Verde** 51.91 76 P **P** 22 56 49.1 -0.8
baz=311
ISCO **Idaho Springs** 51.94 72 P **P** 22 56 49.4 -0.8
baz=310,SNR=5.4
ISCO **Idaho Springs** 51.94 72 P **P** 22 56 49.8 -0.4
ISCO pmax pmax
comp=Z,46nm,0.8s
ISCO **Idaho Springs** 51.94 72 P **P** 22 56 49.8 -0.4
AGMN **Agassiz Nation** 51.98 58 P **P** 22 56 48.5 -1.5
baz=308,SNR=6.7
AGMN **Agassiz Nation** 51.98 58 P **P** 22 56 48.7 -1.3
AGMN lAmb lAmb 22 56 49.8
comp=Z,22nm,1.3s
ZAA0 **Zalesovo Array** 52.31 312 P **P** 22 56 52.0 -0.4
ZALV **Zalesovo Beam** 52.31 312 P **P** 22 56 52.3 0.0
comp=Z,1.1nm,0.3s,baz=56,slow=6.6,SNR=7.0
ZALV PcP **PcP** 22 58 02.8 +0.9
comp=Z,3.5nm,0.7s,baz=27,slow=5.0,SNR=8.2
ZALV **Zalesovo Beam** 52.31 312 *i* P **P** 22 56 52.2 -0.2
ZALV pmax pmax
comp=Z,1.0nm,0.3s
ZALV **Zalesovo Beam** 52.31 312 P **P** 22 56 52.0 -0.4
S22A **4UR Ranch, Cre** 52.56 74 P **P** 22 56 54.7 -0.1
baz=311,SNR=6.8
214A **Organ Pipe Nat** 52.83 84 P **P** 22 56 55.8 -0.7
baz=314,SNR=5.7
214A **Organ Pipe Nat** 52.83 84 P **P** 22 56 56.3 -0.2
214A lAmb lAmb 22 56 57.5
comp=Z,13nm,1.1s
SUMG **Summit** 53.08 13 P **P** 22 56 58.6 +0.4
SUMG pmax pmax
comp=Z,6.0nm,1.0s
SUMG **Summit** 53.08 13 P **P** 22 56 58.6 +0.4
FRB **Frobisher Bay** 53.38 31 P **P** 22 56 59.6 -0.4
comp=Z,8.8nm,0.4s,baz=320,slow=7.0,SNR=14
GTA **Gaotai** 53.71 290 *e* P **P** 22 57 03.8 +0.8
GTA pmax pmax
comp=Z,8.0nm,1.2s
DGZ **Jazzator, Alta** 53.76 306 *i* P **P** 22 57 02.7 -0.6
DGZ pmax pmax
comp=Z,3.0nm,0.9s
TUC **Tucson** 53.83 82 P **P** 22 57 03.7 -0.2
baz=314
TUC **Tucson** 53.83 82 P **P** 22 57 03.7 -0.2
TUC pmax pmax
comp=Z,10.0nm,1.1s
TUC **Tucson** 53.83 82 P **P** 22 57 03.7 -0.2
TUC lAmb lAmb 22 57 05.1
comp=Z,10nm,1.1s
ENH **Enshi** 54.08 275 P **P** 22 57 05.4 -0.2
ENH lAmb lAmb 22 57 06.7
comp=Z,11nm,1.0s
KSCO **Kaye Shedlock'** 54.20 71 P **P** 22 57 06.0 -0.6
baz=312
T25A **Trinidad** 54.40 73 P **P** 22 57 07.7 -0.5
baz=312,SNR=9.7
EYMN **Ely** 54.46 56 P **P** 22 57 07.3 -0.9
baz=311,SNR=7.5
ECSD **EROS Data Cent** 54.50 63 P **P** 22 57 06.8 -1.7
baz=311
ANMO **Albuquerque** 54.66 77 P **P** 22 57 09.3 -0.8
baz=313
ANMO **Albuquerque** 54.66 77 P **P** 22 57 09.9 -0.1
comp=Z,1.3nm,0.6s,baz=297,slow=9.3,SNR=6.0
ANMO **Albuquerque** 54.66 77 *i* P **P** 22 57 07.9 -2.1
ANMO pmax pmax
comp=Z,3.0nm,1.0s
ANMO **Albuquerque** 54.66 77 P **P** 22 57 09.6 -0.4
BNM **Barren Site** 55.10 78 P **P** 22 57 13.2 -0.1
KNTN **Kanton** 55.23 168 P **P** 22 57 15.0 +1.1
121A **Cookes Peak, D** 55.51 80 P **P** 22 57 15.8 -0.3
baz=314
121A **Cookes Peak, D** 55.51 80 P **P** 22 57 16.4 +0.3
121A lAmb lAmb 22 57 16.7
comp=Z,5.2nm,0.7s
SPMN **Marine on St.** 55.57 59 P **P** 22 57 15.3 -0.9
baz=312
SFJD **Kangerlussuaq** 55.69 21 P **P** 22 57 16.2 -0.4
SFJD pmax pmax
comp=Z,11nm,1.1s
SFJD **Kangerlussuaq** 55.69 21 P **P** 22 57 16.2 -0.4
SFJD lAmb lAmb 22 57 34.6
comp=Z,11nm,1.1s
CBKS **Cedar Bluff** 56.01 69 P **P** 22 57 18.7 -0.7
baz=312
I37A **Lemond, Waseca** 56.05 60 P **P** 22 57 19.2 -0.5
KEV **Kevo** 56.76 349 P **P** 22 57 25.1 +0.9
KEV pmax pmax
comp=Z,20nm,1.3s
KEV **Kevo** 56.76 349 P **P** 22 57 25.1 +0.9
KEV lAmb lAmb 22 57 31.3
comp=Z,20nm,1.3s
ARCES **ARCESS Array B** 57.15 349 P **P** 22 57 26.5 -0.5
comp=Z,1.5nm,0.6s,baz=22,slow=8.1,SNR=12
KURK **Kurchatov** 57.30 312 *i* P **P** 22 57 28.1 -0.3
KURK pmax pmax
comp=Z,8.0nm,1.0s
KURK **Kurchatov** 57.30 312 P **P** 22 57 28.4 +0.1
LVZ **Lovozero** 57.37 345 P **P** 22 57 27.9 -0.7
LVZ pmax pmax
comp=Z,30nm,1.0s
LVZ **Lovozero** 57.37 345 P **P** 22 57 27.9 -0.7
WMQ **Urumqi** 57.52 301 *e* P **P** 22 57 32.8 +2.7
WMQ pmax pmax
comp=Z,13nm,0.7s
WMQ pmax pmax
comp=Z,250nm,7.9s
MSTX **Muleshoe** 57.54 75 P **P** 22 57 29.7 -0.7
baz=314
MNTX **Cornudas Mount** 57.55 79 P **P** 22 57 30.2 -0.2
baz=315,SNR=15
MNTX **Cornudas Mount** 57.55 79 P **P** 22 57 30.3 -0.1
MNTX lAmb lAmb 22 57 31.4
comp=Z,16nm,1.1s
AMTX **Amarillo** 57.55 74 P **P** 22 57 29.7 -0.7
baz=314
SCIA **State Center** 57.58 62 P **P** 22 57 29.6 -0.8
baz=313
KSU1 **Kansas State U** 57.60 67 P **P** 22 57 29.1 -1.6
baz=313
I40A **Norwalk** 57.62 59 P **P** 22 57 29.9 -0.8
E43A **Lone Tree Farm** 57.80 55 P **P** 22 57 31.4 -0.4
MK31 **Makanchi Array** 58.26 307 P **P** 22 57 34.7 -0.4
MK31 pmax pmax
comp=Z,2.0nm,0.5s
MK31 **Makanchi Array** 58.26 307 P **P** 22 57 34.7 -0.4
MKAR **Makanchi Array** 58.26 307 P **P** 22 57 34.7 -0.5
comp=Z,2.5nm,0.4s,baz=53,slow=6.2,SNR=51
MKAR **Makanchi Array** 58.26 307 P **P** 22 57 34.8 -0.4
MAKZ **Makanchi** 58.41 307 P **P** 22 57 35.9 -0.3
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
MAKZ **Makanchi** 58.41 307 P **P** 22 57 35.9 -0.3
JFWS **Jewell Farm** 58.49 59 P **P** 22 57 35.4 -1.4
baz=314
D46A **Sault St. Mari** 58.91 53 P **P** 22 57 39.1 -0.6
baz=314
F45A **CMU Biological** 59.02 54 P **P** 22 57 39.5 -0.9
baz=314
E46A **Sault Ste Mari** 59.14 53 P **P** 22 57 40.8 -0.4
D47A **Chapleau** 59.25 52 P **P** 22 57 41.1 -0.9
baz=315,SNR=9.7
BRVK **Borovoye** 59.28 318 *i* P **P** 22 57 41.5 -0.6
BRVK pmax pmax
comp=Z,3.0nm,0.9s
BRVK **Borovoye** 59.28 318 P **P** 22 57 42.4 +0.4
WMOK **Wichita Mounta** 59.36 72 P **P** 22 57 42.1 -0.9
baz=315,SNR=9.0
WMOK **Wichita Mounta** 59.36 72 P **P** 22 57 42.3 -0.7
WMOK pmax pmax
comp=Z,6.0nm,0.7s
WMOK **Wichita Mounta** 59.36 72 P **P** 22 57 42.3 -0.7
WMOK lAmb lAmb 22 57 42.8
comp=Z,5.9nm,0.7s
G45A **Suttons Bay** 59.40 55 P **P** 22 57 42.2 -0.8
baz=314
G46A **Petoskey** 59.60 54 P **P** 22 57 43.7 -0.6
baz=315
D48A **Paudash Townsh** 59.79 51 P **P** 22 57 44.7 -1.0
baz=315
D49A **Beulah Townshi** 59.94 51 P **P** 22 57 45.7 -1.0
baz=315
H46A **Fife Lake** 59.98 55 P **P** 22 57 46.0 -1.0
baz=315
E48A **Lockeyer** 60.11 52 P **P** 22 57 46.8 -1.1
baz=315,SNR=7.1
W35A **Tecumseh** 60.19 70 P **P** 22 57 47.9 -0.7
L44A **Lake County Fo** 60.24 59 P **P** 22 57 47.8 -1.0
baz=315
TX31 **Lajitas Ar. Si** 60.26 80 P **P** 22 57 48.9 -0.4
TXAR **Lajitas Array** 60.26 80 P **P** 22 57 48.9 -0.4
comp=Z,6.2nm,0.5s,baz=303,slow=5.6,SNR=80
TUL1 **Leonard** 60.28 69 P **P** 22 57 47.2 -2.0
baz=315
ABTX **Abilene, Hawle** 60.34 74 P **P** 22 57 49.0 -0.7
baz=315
F48A **Evansville** 60.36 53 P **P** 22 57 48.8 -0.8
baz=315,SNR=6.5
SCHQ **Schefferville** 60.56 37 P **P** 22 57 50.4 -0.4
comp=Z,7.3nm,0.5s,baz=328,slow=6.5,SNR=28
SCHQ **Schefferville** 60.56 37 P **P** 22 57 50.6 -0.2
HDIL **Hopedale** 60.64 61 P **P** 22 57 50.1 -1.4
baz=315
HDIL **Hopedale** 60.64 61 P **P** 22 57 50.4 -1.2
F49A **Sandfield** 60.69 52 P **P** 22 57 50.9 -0.9
baz=315,SNR=8.0
LSQQ **Lebel-sur-Quev** 60.69 47 P **P** 22 57 50.1 -1.7
baz=317
D50A **G1974 Best Tow** 60.74 50 P **P** 22 57 50.5 -1.6
baz=316,SNR=6.5
E50A **Wahnapitae** 60.84 51 P **P** 22 57 51.8 -1.0
baz=316
D51A **Lot 18 Range I** 61.01 50 P **P** 22 57 52.2 -1.8
baz=316
ARU **Arti** 61.12 327 *c* P **P** 22 57 53.5 -1.1
ARU S **S** 23 06 08.0 +3.8
ARU pmax pmax
comp=Z,24nm,1.0s
ARU **Arti** 61.12 327 P **P** 22 57 55.4 +0.8
VLDQ **Val d'Or** 61.16 48 P **P** 22 57 52.5 -2.4
CHGQ **Chibougamau** 61.22 45 P **P** 22 57 53.8 -1.6
baz=318,SNR=12
CCM **Cathedral Cave** 61.34 64 P **P** 22 57 54.7 -1.6
baz=315
E51A **G1948 Merrick** 61.36 50 P **P** 22 57 54.9 -1.4
baz=316,SNR=6.1
X37A **Clayton** 61.46 70 P **P** 22 57 56.5 -0.6
X37A lAmb lAmb 22 57 56.8
comp=Z,12nm,1.0s
D52A **ZEK Kipawa Sen** 61.55 49 P **P** 22 57 56.1 -1.4
baz=317
F51A **Arnstein** 61.60 51 P **P** 22 57 56.5 -1.4
baz=316
U40A **Yellville** 61.64 67 P **P** 22 57 56.9 -1.5
baz=315
JCT **Junction City** 61.78 76 P **P** 22 57 58.5 -0.9
baz=316
JCT **Junction City** 61.78 76 P **P** 22 57 58.1 -1.3
JCT pmax pmax
comp=Z,14nm,1.1s
JCT **Junction City** 61.78 76 P **P** 22 57 58.1 -1.3
JCT lAmb lAmb 22 57 59.4
comp=Z,14nm,1.1s
D53A **Lac Vacive, Po** 61.80 49 P **P** 22 57 57.7 -1.6
baz=317,SNR=8.1
E52A **Mattawa** 61.94 50 P **P** 22 57 58.3 -1.9
baz=317,SNR=6.8
W39A **Magazine** 61.94 68 P **P** 22 57 59.0 -1.4
baz=316,SNR=6.1
SFIN **Lafayette** 61.95 60 P **P** 22 57 59.2 -1.2
baz=316,SNR=6.3
F52A **Sundridge** 61.98 51 P **P** 22 57 59.3 -1.2
baz=317,SNR=5.8
WHTX **Lake Whitney,** 62.09 73 P **P** 22 58 00.3 -1.1
baz=316,SNR=5.8
K49A **Clarkson** 62.12 56 P **P** 22 58 00.4 -1.1
baz=316
D54A **Lac Fusel, La** 62.23 48 P **P** 22 58 00.5 -1.7
baz=318
E53A **Dumoine, Ponti** 62.34 49 P **P** 22 58 01.1 -1.8
baz=317,SNR=6.2
FCAR **Ozark Folk Cen** 62.39 66 P **P** 22 58 01.7 -1.7
ALGO **Algonquin Park** 62.47 50 P **P** 22 58 02.2 -1.5
baz=317
JOF **Joensuu** 62.51 344 P **P** 22 58 03.2 -0.5
JOF pmax pmax
comp=Z,6.0nm,1.2s
E54A **Lac Daplat, Po** 62.52 49 P **P** 22 58 02.3 -1.8
baz=318,SNR=8.6
MIAR **Mount Ida** 62.52 68 P **P** 22 58 03.1 -1.1
baz=316,SNR=8.9
MIAR **Mount Ida** 62.52 68 P **P** 22 58 03.3 -1.0
MIAR pmax pmax
comp=Z,27nm,1.3s
MIAR **Mount Ida** 62.52 68 P **P** 22 58 03.3 -1.0
I51A **Listowel** 62.60 53 P **P** 22 58 04.4 -0.3
baz=317
G53A **Haliburton** 62.80 51 P **P** 22 58 04.8 -1.2
baz=317,SNR=17
SADO **Sadowa** 62.82 51 P **P** 22 58 04.8 -1.2
comp=Z,6.5nm,0.9s,baz=333,slow=7.0,SNR=7.8
SADO **Sadowa** 62.82 51 P **P** 22 58 05.2 -0.9
SADO lAmb lAmb 22 58 05.7
comp=Z,17nm,1.1s
W41B **Gary Mavity, V** 62.83 67 P **P** 22 58 04.7 -1.6
baz=316
G54A **Lake Saint Pet** 62.86 50 P **P** 22 58 05.0 -1.3
baz=318
D55A **Sainte-Anne-du** 62.88 48 P **P** 22 58 04.8 -1.7
baz=318,SNR=21
JAY **Jayapura** 62.98 223 P **P** 22 58 08.2 +0.7
comp=Z,7.8nm,0.9s,baz=310,slow=6.1,SNR=5.6
D56A **ZEC Mazanza, M** 63.18 47 P **P** 22 58 06.8 -1.7
baz=318,SNR=9.8
H53A **Bobcaygeon** 63.23 51 P **P** 22 58 07.5 -1.3
baz=316,SNR=5.4
J52A **Paris** 63.28 53 P **P** 22 58 08.7 -0.5
baz=317
E56A **St. Veronique** 63.43 48 P **P** 22 58 08.3 -1.8
baz=318,SNR=8.5
SUF **Sumiainen** 63.53 346 P **P** 22 58 10.1 -0.3
SUF pmax pmax
comp=Z,16nm,1.4s
D57A **Chemin Vers le** 63.59 47 P **P** 22 58 09.5 -1.7
baz=319,SNR=9.3
G55A **Calabogie** 63.61 50 P **P** 22 58 09.6 -1.8
baz=318,SNR=6.6
DELO **Deloro Mine** 63.73 51 P **P** 22 58 11.2 -0.9
LATQ **La Tuque** 63.81 46 P **P** 22 58 11.0 -1.5
baz=319,SNR=9.2
H55A **Tweed** 63.92 50 P **P** 22 58 11.9 -1.4
baz=318,SNR=7.0
I55A **Frankford** 63.93 51 P **P** 22 58 12.3 -1.1
baz=318
WCI **Wyandotte Cave** 63.93 61 P **P** 22 58 12.4 -1.0
baz=317
E57A **Chemin Saint G** 63.93 47 P **P** 22 58 11.6 -1.8
baz=319,SNR=12
D58A **Chemin du LacG** 63.98 46 P **P** 22 58 11.8 -1.9
baz=319,SNR=15
N51A **Ashland** 64.03 56 P **P** 22 58 13.4 -0.7
baz=317
ORIO **Orleans, Innes** 64.03 49 P **P** 22 58 12.4 -1.6
baz=319
KDJ **Kajisay** 64.15 306 P **P** 22 58 15.6 +0.5
KDJ pmax pmax
comp=Z,4.0nm,0.7s
KDJ **Kajisay** 64.15 306 P **P** 22 58 15.6 +0.5
ACSO **Alum Creek Sta** 64.22 57 P **P** 22 58 14.0 -1.4
baz=317
H56A **Elgin** 64.32 50 P **P** 22 58 14.2 -1.7
baz=319,SNR=5.3
E58A **La Victoria** 64.36 47 P **P** 22 58 14.3 -1.9
baz=319,SNR=5.1
PECO **Prince Edward** 64.47 51 P **P** 22 58 15.9 -1.0
PECO lAmb lAmb 22 58 16.8
comp=Z,16nm,1.1s
O51A **Pataskala** 64.48 57 P **P** 22 58 16.0 -1.1
baz=318
M53A **WI Miller and** 64.51 55 P **P** 22 58 16.2 -1.1
baz=318
M53A **WI Miller and** 64.51 55 P **P** 22 58 16.4 -0.8
M53A lAmb lAmb 22 58 18.2
comp=Z,16nm,1.1s
D59A **Saint-Raymond** 64.52 46 P **P** 22 58 16.0 -1.2
baz=320
G57A **Newington** 64.54 49 P **P** 22 58 15.7 -1.6
baz=319
J55A **Hilton** 64.57 52 P **P** 22 58 16.8 -0.8
baz=318
L54A **Sinclairville** 64.60 53 P **P** 22 58 17.1 -0.8
baz=318,SNR=5.1
WVT **Waverly** 64.62 63 P **P** 22 58 17.0 -1.0
baz=317
K54A **Basiliko Farm,** 64.63 53 P **P** 22 58 17.2 -0.9
baz=318,SNR=5.5
FIA1 **FINESS Array S** 64.75 346 P **P** 22 58 18.7 +0.3
FIA1 lAmb lAmb 22 58 24.5
comp=Z,14nm,1.3s
FINES **FINESS Array B** 64.75 346 P **P** 22 58 18.9 +0.5
comp=Z,1.5nm,0.3s,baz=18,slow=5.5,SNR=6.3
FINES **FINESS Array B** 64.75 346 *i* P **P** 22 58 18.8 +0.4
FINES pmax pmax
comp=Z,2.0nm,0.3s
FINES **FINESS Array B** 64.75 346 P **P** 22 58 18.7 +0.2
WVNY **West Valley, N** 64.83 53 P **P** 22 58 18.5 -0.8
H57A **Richville** 64.83 49 P **P** 22 58 17.9 -1.4
baz=319
K55A **Perry** 64.85 52 P **P** 22 58 18.7 -0.8
baz=318
O52A **Adamsville** 64.90 57 P **P** 22 58 18.8 -1.0
baz=318
OXF **Oxford** 64.92 66 P **P** 22 58 18.6 -1.3
baz=317,SNR=5.2
MMNY **Mt. Morris Dam** 64.93 52 P **P** 22 58 19.1 -0.8
MMNY lAmb lAmb 22 58 19.9
comp=Z,14nm,0.7s
G58A **Ormstown** 64.93 48 P **P** 22 58 18.0 -1.8
baz=319
M54A **Oil Creek Stat** 64.97 54 P **P** 22 58 19.2 -1.1
baz=318
F59A **Saint Guilaume** 64.98 47 P **P** 22 58 18.6 -1.6
baz=320,SNR=5.6
D60A **Saint Jean D'O** 64.99 45 P **P** 22 58 18.8 -1.4
baz=320,SNR=6.5
J56A **Wolcott** 65.03 51 P **P** 22 58 19.6 -0.9
baz=319
L55A **Hinsdale** 65.08 53 P **P** 22 58 20.1 -0.9
baz=318
D61A **St Aubert, Com** 65.09 44 P **P** 22 58 19.7 -1.2
baz=321
LONY **Lake Ozonia** 65.09 49 P **P** 22 58 19.0 -2.0
baz=319
LONY **Lake Ozonia** 65.09 49 P **P** 22 58 19.1 -1.8
AAK **Ala-Archa** 65.10 308 *i* P **P** 22 58 19.7 -1.6
AAK pmax pmax
comp=Z,4.0nm,1.2s
AAK **Ala-Archa** 65.10 308 P **P** 22 58 21.6 +0.3
I57A **Carthage** 65.10 50 P **P** 22 58 19.4 -1.6
baz=319
P52A **Corning** 65.10 57 P **P** 22 58 19.7 -1.4
baz=318
O53A **New Philadelph** 65.12 56 P **P** 22 58 19.9 -1.3
baz=318
E60A **Ste Agathe de** 65.18 46 P **P** 22 58 19.7 -1.7
baz=320,SNR=7.6
N54A **Moraine State** 65.21 55 P **P** 22 58 20.9 -1.0
baz=318
K56A **Middlesex** 65.24 52 P **P** 22 58 21.2 -0.8
baz=319,SNR=12
F60A **Warwick** 65.26 46 P **P** 22 58 20.3 -1.7
baz=320,SNR=6.0
J57A **Williamstown** 65.34 51 P **P** 22 58 21.4 -1.2
baz=319
G59A **Clarenceville** 65.39 48 P **P** 22 58 20.9 -1.9
baz=320,SNR=6.0
H58A **Gabriels** 65.43 49 P **P** 22 58 21.3 -1.9
baz=320
M55A **Ridgway** 65.45 54 P **P** 22 58 22.6 -0.8
baz=318,SNR=5.0
H59A **Cadyville** 65.48 48 P **P** 22 58 21.8 -1.6
baz=320
Q52A **Bidwell** 65.53 58 P **P** 22 58 22.5 -1.4
baz=318
L56A **Greenwood** 65.54 52 P **P** 22 58 23.2 -0.8
baz=319,SNR=20
L56A **Greenwood** 65.54 52 P **P** 22 58 23.3 -0.6
E61A **Lac Etchemin** 65.55 45 P **P** 22 58 22.5 -1.4
baz=321
T50A **Nancy** 65.60 61 P **P** 22 58 23.6 -0.8
T50A lAmb lAmb 22 58 23.8
comp=Z,8.0nm,0.5s
K57A **Scipio Center** 65.60 51 P **P** 22 58 23.3 -1.0
baz=319
I58A **Old Forge** 65.61 50 P **P** 22 58 22.9 -1.5
baz=319
MOQ **Mont Orford** 65.63 47 P **P** 22 58 23.3 -1.2
D62A **Allapoint, All** 65.67 44 P **P** 22 58 23.6 -1.0
baz=321,SNR=8.1
D62A **Allapoint, All** 65.67 44 P **P** 22 58 23.7 -0.9
D62A lAmb lAmb 22 58 24.2
comp=Z,10nm,0.6s
F61A **St Evariste** 65.68 46 P **P** 22 58 23.4 -1.3
baz=321
J58A **Remsen** 65.72 50 P **P** 22 58 23.1 -1.9
baz=319,SNR=5.1
M56A **Emporium** 65.73 53 P **P** 22 58 24.0 -1.1
baz=319
ZAIG **Zacatecas** 65.73 84 P **P** 22 58 25.8 +0.1
ZAIG lAmb lAmb 22 58 27.1
comp=Z,9.9nm,0.9s
NCB **Newcomb** 65.75 49 P **P** 22 58 23.9 -1.4
G60A **Masonville** 65.76 47 P **P** 22 58 24.2 -1.1
baz=320
E62A **Clayton Lake** 65.83 44 P **P** 22 58 24.3 -1.3
baz=321,SNR=6.6
N55A **Marion Center** 65.85 54 P **P** 22 58 24.7 -1.2
baz=319
G61A **St-Isidore-de-** 65.98 47 P **P** 22 58 24.9 -1.8
baz=320,SNR=5.3

Q53A	Leroy		65.99	57	P		P	22 58 25.8	-1.1
	baz=318								
L57A	Andrews Acres		65.99	52	P		P	22 58 26.0	-0.9
	baz=319,SNR=6.7								
K58A	Earlville		66.00	51	P		P	22 58 26.0	-0.9
	baz=319								
H60A	Morristown		66.00	48	P		P	22 58 25.1	-1.8
	baz=320								
J59A	Piesco		66.00	50	P		P	22 58 25.1	-1.8
	baz=320,SNR=7.3								
I59A	Olmsteadville		66.05	49	P		P	22 58 25.6	-1.5
	baz=320,SNR=8.4								
N56A	West Decatur		66.10	54	P		P	22 58 26.5	-1.0
	baz=319								
D63A	Stockholm		66.11	43	P		P	22 58 26.7	-0.7
	baz=322								
O55A	Ligonier		66.12	55	P		P	22 58 26.6	-1.1
	baz=319								
R53A	Hurricane		66.16	58	P		P	22 58 27.1	-0.8
	baz=318								
F62A	Pittston Farm,		66.19	45	P		P	22 58 26.6	-1.4
	baz=321,SNR=8.3								
F62A	Pittston Farm,		66.19	45	P		P	22 58 27.0	-1.0
F62A					IAmb		IAmb	22 58 27.3	
	comp=Z,9.8nm,0.5s								
BINY	Binghamton		66.26	51	P		P	22 58 27.7	-0.9
	baz=320								
BINY	Binghamton		66.26	51	P		P	22 58 27.7	-0.9
BINY					IAmb		IAmb	22 58 28.1	
	comp=Z,9.7nm,0.6s								
I60A	Shoreham		66.28	49	P		P	22 58 27.2	-1.4
	baz=320								
ABKAR	Akbulak array		66.36	321	P		P	22 58 29.7	+0.7
M57A	Sunshine Farm,		66.36	53	P		P	22 58 28.2	-0.9
	baz=319,SNR=8.9								
M57A	Sunshine Farm,		66.36	53	P		P	22 58 28.6	-0.6
K59A	Cooperstown		66.37	50	P		P	22 58 28.1	-1.1
	baz=320								
H61A	Lyndonville		66.38	47	P		P	22 58 27.8	-1.4
	baz=321								
L58A	Harry Jones Me		66.44	51	P		P	22 58 28.6	-1.1
	baz=320,SNR=5.2								
O56A	Blue Knob Stat		66.45	54	P		P	22 58 28.8	-1.0
	baz=319								
E63A	Oxbow		66.45	44	P		P	22 58 28.0	-1.6
	baz=322,SNR=5.2								
ACCN	Adirondack Com		66.46	49	P		P	22 58 28.5	-1.3
ACCN					IAmb		IAmb	22 58 28.8	
	comp=Z,9.9nm,0.6s								
G62A	West of Eustis		66.47	46	P		P	22 58 28.4	-1.4
	baz=321,SNR=6.5								
SSPA	Standing Stone		66.51	54	P		P	22 58 29.3	-0.8
	baz=319								
SSPA	Standing Stone		66.51	54	P		P	22 58 29.3	-0.8
SSPA					IAmb		IAmb	22 58 30.1	
	comp=Z,9.9nm,0.6s								
N57A	Milroy		66.59	53	P		P	22 58 29.6	-1.1
	baz=319								
LBNH	Lisbon		66.60	48	P		P	22 58 29.6	-1.1
	baz=321								
TZTN	Tazewell		66.65	60	P		P	22 58 30.1	-0.9
	baz=318								
KK31	Karatay Array		66.65	311	P		P	22 58 31.4	+0.4
KK31					pmax		pmax		
	comp=Z,4.0nm,0.8s								
KK31	Karatay Array		66.65	311	P		P	22 58 31.4	+0.4
KK31					IAmb		IAmb	22 58 37.4	
	comp=Z,4.1nm,0.8s								
M58A	Price's Panora		66.66	52	P		P	22 58 30.3	-0.8
	baz=320,SNR=6.4								
J60A	Lant Hill Farm		66.68	49	P		P	22 58 30.1	-1.1
	baz=320,SNR=6.9								
H62A	Milan		66.69	47	P		P	22 58 30.0	-1.2
	baz=321,SNR=16								
H62A	Milan		66.69	47	P		P	22 58 30.2	-1.1
KSH	Kashi		66.71	305	*e*P		P	22 58 36.0	+4.4
KSH					pmax		pmax		
	comp=Z,69nm,1.2s								
KSH					LR		LR		
	comp=N,9μm,16.5s								
KSH					LR		LR		
	comp=E,10μm,17.2s								
KSH					LR		LR		
	comp=Z,13μm,18.3s								
E64A	Bridgewater		66.71	44	P		P	22 58 29.9	-1.4
	baz=322,SNR=11								
I61A	Oroboro, Fairl		66.71	48	P		P	22 58 29.9	-1.4
	baz=321								
L59A	Walton		66.72	51	P		P	22 58 30.3	-1.2
	baz=320								
F63A	Nahmakanta, Br		66.72	45	P		P	22 58 30.0	-1.4
	baz=322,SNR=9.9								
BATG	Bathurst New B		66.77	42	P		P	22 58 30.9	-0.8
R54A	Victor		66.78	57	P		P	22 58 31.0	-0.9
	baz=319								
NB201	NORSAR Array S		66.81	353	P		P	22 58 31.8	+0.1
NOA	NORSAR Array B		66.83	353	P		P	22 58 31.6	-0.2
	comp=Z,0.6nm,0.5s,baz=2.0,slow=5.6,SNR=6.3								
ARSB	Arslanbob		66.83	308	P		P	22 58 32.9	+0.6
ARSB	Arslanbob		66.83	308	P		P	22 58 32.9	+0.6
T53A	Wise		66.86	59	P		P	22 58 31.7	-0.8
	baz=318								
F64A	Sherman		66.92	44	P		P	22 58 31.4	-1.3
	baz=322,SNR=6.9								
N58A	Sunbury		66.94	53	P		P	22 58 31.7	-1.2
	baz=320,SNR=6.1								
G63A	Kingsbury		66.96	46	P		P	22 58 31.6	-1.3
	baz=322,SNR=5.9								
O57A	Amberson		66.96	54	P		P	22 58 32.1	-0.8
	baz=319,SNR=5.0								
PKME	Peaks-Kenny Pk		66.98	45	P		P	22 58 32.4	-0.6
	baz=322								
J61A	Chester		67.01	49	P		P	22 58 31.8	-1.4
	baz=321,SNR=5.3								
M59A	Waymart		67.03	52	P		P	22 58 32.2	-1.2
	baz=320,SNR=5.4								
H63A	New Sharon		67.13	46	P		P	22 58 32.9	-1.0
	baz=321								
I62A	Tamworth		67.16	47	P		P	22 58 33.0	-1.2
	baz=321								
FAKI	Fak Fak		67.18	231	P		P	22 58 35.1	+0.5
K61A	Williamstown		67.20	49	P		P	22 58 32.9	-1.5
	baz=320								
G64A	Maxfield		67.23	45	P		P	22 58 33.1	-1.5
	baz=322								
L60A	Shokan		67.27	50	P		P	22 58 34.1	-0.8
	baz=320								
T54A	Tazewell		67.31	59	P		P	22 58 34.7	-0.7
	baz=319								
P57A	Homestead Farm		67.32	55	P		P	22 58 34.0	-1.3
	baz=319								
N59A	State Game Lan		67.34	52	P		P	22 58 34.4	-1.0
	baz=320,SNR=7.7								
I63A	Otisfield		67.36	47	P		P	22 58 34.5	-0.9
	baz=321								
O58A	Lewisberry		67.38	53	P		P	22 58 34.4	-1.3
	baz=320								
L61A	Hillsdale 1, H		67.43	50	P		P	22 58 34.6	-1.3
	baz=320								
J62A	Henniker		67.44	48	P		P	22 58 34.9	-1.1
	baz=321								
H64A	Troy		67.50	46	P		P	22 58 35.5	-0.8
	baz=322								
M60A	Port Jervis		67.58	51	P		P	22 58 35.8	-1.1
	baz=320								
U54A	Nelsons Funny		67.59	59	P		P	22 58 36.3	-0.8
	baz=319								
O59A	Robesonia		67.60	53	P		P	22 58 35.9	-1.2
	baz=320								
L61B	Northampton		67.64	49	P		P	22 58 35.9	-1.3
	baz=321								
P58A	Pank, Wackersv		67.67	54	P		P	22 58 36.8	-0.7
	baz=320								
K62A	Royalston		67.68	49	P		P	22 58 36.4	-1.1
	baz=321								
N60A	Cedar Hill Far		67.70	52	P		P	22 58 36.7	-0.9
	baz=320,SNR=5.0								
J63A	Strafford		67.74	48	P		P	22 58 36.6	-1.1
	baz=321								
G65A	Princeton		67.79	44	P		P	22 58 37.2	-0.9
	baz=322								
I64A	Boothbay		67.89	46	P		P	22 58 37.1	-1.6
	baz=322								
H65A	Eastbrook		67.89	45	P		P	22 58 37.7	-1.0
	baz=322,SNR=5.2								
S56A	Natural Bridge		67.90	57	P		P	22 58 38.0	-0.9
	baz=319								
Q58A	Fox Den Farm,		67.90	55	P		P	22 58 37.8	-1.1
	baz=320								
R57A	Stanardsville		67.96	56	P		P	22 58 38.4	-0.9
	baz=320								
O60A	Telford		67.98	52	P		P	22 58 38.3	-1.0
	baz=320								
K63A	Dunstable		67.99	48	P		P	22 58 38.6	-0.8
	baz=321								
M61A	Granite Spring		68.01	51	P		P	22 58 38.6	-0.9
	baz=321								
U55A	TA2, Sparta		68.01	59	P		P	22 58 38.8	-0.9
	baz=319								
P59A	Jarrettsville		68.02	54	P		P	22 58 38.8	-0.8
	baz=320								
V54A	Nebo		68.08	60	P		P	22 58 39.3	-0.8
	baz=319								
HRV	Adam Dziewonsk		68.12	48	P		P	22 58 39.2	-1.0
	baz=321								
SHL	Shillong		68.20	284	P		P	22 58 41.0	-0.2
SHL					pmax		pmax		
	comp=Z,27nm,1.2s								
SHL	Shillong		68.20	284	P		P	22 58 41.0	-0.2
SHL					IAmb		IAmb	22 58 42.2	
	comp=Z,27nm,1.2s								
H66A	Whiting		68.22	44	P		P	22 58 39.9	-0.9
	baz=323,SNR=8.4								
R58A	Rapidan		68.23	55	P		P	22 58 39.8	-1.1
	baz=320								
V55A	Taylorsville		68.41	59	P		P	22 58 41.0	-1.1
	baz=319								
W54A	Cherokee Point		68.47	60	P		P	22 58 41.4	-1.1
	baz=319								
U56A	King		68.48	58	P		P	22 58 41.5	-1.0
	baz=319								
L63A	North Scituate		68.60	49	P		P	22 58 41.8	-1.4
	baz=321								
S58A	Poland Farm, P		68.72	56	P		P	22 58 42.7	-1.3
	baz=320								
M63A	Gales Ferry		68.75	50	P		P	22 58 42.9	-1.2
	baz=321								
X54A	Belton		68.77	61	P		P	22 58 43.7	-0.8
	baz=319								
V56A	Mocksville		68.82	59	P		P	22 58 43.7	-1.0
	baz=320								
KMSC	Kings Mountain		68.88	60	P		P	22 58 43.8	-1.3
	baz=319,SNR=5.0								
L64A	Middleborough		68.90	48	P		P	22 58 43.7	-1.3
	baz=322								
CHTO	Chiang Mai		68.95	274	P		P	22 58 45.4	-0.3
CHTO					pmax		pmax		
	comp=Z,8.0nm,1.3s								
U57A	Blanch		68.96	58	P		P	22 58 44.5	-1.0
	baz=320								
T58A	Grand View Acr		68.99	57	P		P	22 58 44.5	-1.2
	baz=320								
CM31	Chiang Mai Arr		69.22	274	P		P	22 58 48.1	+0.7
CM31					IAmb		IAmb	22 58 49.9	
	comp=Z,21nm,1.4s								
CMAR	Chiang Mai Arr		69.22	274	P		P	22 58 48.2	+0.9
	comp=Z,2.7nm,0.7s,baz=23,slow=7.2,SNR=11								
CMAR	Chiang Mai Arr		69.22	274	P		P	22 58 47.3	-0.1
X55A	Gracelyn & Ava		69.23	60	P		P	22 58 46.3	-1.0
	baz=319,SNR=5.1								
TAPN	Taplejung		69.35	288	*e*P		P	22 58 49.5	+1.0
T59A	Double "B" Far		69.47	56	P		P	22 58 47.8	-0.9
	baz=320								
Y55A	Saluda		69.52	61	P		P	22 58 48.0	-1.0
	baz=320								
X56A	White Oak		69.54	60	P		P	22 58 48.0	-1.1
	baz=320								
V58A	Windy Hill, Pi		69.56	58	P		P	22 58 48.0	-1.2
	baz=320								
W57A	Gilead		69.59	59	P		P	22 58 48.4	-1.0
	baz=320								
U59A	Littleton		69.82	57	P		P	22 58 49.7	-1.1
	baz=320								
ODAN	Odare		69.90	288	*e*P		P	22 58 52.4	+0.6
GAR	Garm		69.92	308	P		P	22 58 52.3	+0.7
GAR					IAmb		IAmb	22 58 54.6	
	comp=Z,17nm,0.7s								
GUN	Gumba		70.00	290	*e*P		P	22 58 53.5	+1.0
JIRN	Jiri		70.01	289	*e*P		P	22 58 53.6	+1.0
V59A	Middlesex		70.04	57	P		P	22 58 51.1	-1.1
	baz=320								
W58A	Raeford		70.09	59	P		P	22 58 51.5	-1.0
	baz=320								
RAMN	Kamble		70.30	289	*e*P		P	22 58 54.9	+0.7
LPSR	Galich'ya Gora		70.33	335	*e*P		P	22 59 03.6	+10
LPSR					pmax		pmax		
	comp=Z,40nm,0.9s								
KKN	Kakani		70.44	290	*e*P		P	22 58 55.9	+0.9
LUWI	Luwuk		70.45	241	P		P	22 58 54.2	-0.6
PKI	Pulchoki		70.53	290	*e*P		P	22 58 56.2	+0.5
PKIN	Phulchoki		70.53	290	*e*P		P	22 58 56.2	+0.6
Z57A	Bowman		70.62	61	P		P	22 58 55.3	-0.5
	baz=320								
GKN	Gorkha		70.65	291	*e*P		P	22 58 57.0	+0.8
DMN	Daman		70.67	290	*e*P		P	22 58 57.5	+1.0
CHGR	Chuyangaron		70.75	308	P		P	22 58 56.9	+0.3
DANN	Dangsing		70.89	292	*e*P		P	22 58 58.7	+0.8
158A	Hollywood		71.33	61	P		P	22 58 59.6	-0.5
	baz=320								
KOLN	Koldanda		71.42	291	*e*P		P	22 59 01.5	+0.6
VSR	Storozhevoye		71.53	334	*e*P		P	22 59 04.6	+3.7
VSR					pmax		pmax		
	comp=Z,40nm,0.9s								
NIL	Nilore		72.61	302	P		P	22 59 08.3	+0.6
NIL					pmax		pmax		
	comp=Z,9.0nm,0.8s								
NIL	Nilore		72.61	302	P		P	22 59 08.3	+0.6
KBL	Kabul		74.06	306	P		P	22 59 16.2	-0.3
KBL					pmax		pmax		
	comp=Z,16nm,1.1s								
KBL	Kabul		74.06	306	P		P	22 59 16.1	-0.3
KBL					IAmb		IAmb	22 59 18.3	
	comp=Z,16nm,1.1s								
AKASG	Malin Array Be		74.38	340	P		P	22 59 17.3	-0.4
	comp=Z,1.7nm,0.3s,baz=22,slow=6.5,SNR=14								
AKASG	Malin Array Be		74.38	340	P		P	22 59 17.5	-0.2
AKASG					pmax		pmax		
	comp=Z,7.0nm,0.8s								
AKASG	Malin Array Be		74.38	340	P		P	22 59 17.5	-0.2
AKBB	Malin Array Si		74.38	340	P		P	22 59 17.5	-0.2
AKBB					pmax		pmax		
	comp=Z,8.0nm,0.9s								
AKBB	Malin Array Si		74.38	340	P		P	22 59 17.5	-0.2
KSM	Kuching		75.49	253	P		P	22 59 24.6	0.0
KSM					IAmb		IAmb	22 59 25.6	
	comp=Z,8.2nm,0.7s								
MTN	Manton Dam		76.39	227	P		P	22 59 29.7	+0.1
GEYT	Alibeck		76.42	315	P		P	22 59 31.1	+1.4
	comp=Z,3.0nm,0.7s,baz=274,slow=5.8,SNR=6.0								
GEYT	Alibeck		76.42	315	P		P	22 59 30.6	+1.0
CTAO	Charters Tower		77.09	211	P		P	22 59 33.5	+0.1
CTAO					pmax		pmax		
	comp=Z,10.0nm,1.0s								
CTAO	Charters Tower		77.09	211	P		P	22 59 33.5	+0.1
HRA	Herat		77.48	311	P		P	22 59 36.4	+0.5
AKT	Akhty		77.52	324	*e*P		P	22 59 36.8	+0.9
AKT					*e*			22 59 46.3	
AKT					*e**PP		pP	23 00 03.4	-1.3
AKT					pmax		pmax		
	comp=Z,22nm,1.1s								
MEM	Membach		77.54	355	pP		pP	23 00 06.4	+2.0
BCLA	Clavier		77.77	355	pP		pP	23 00 10.8	+5.2
IAS	Iasi		78.05	340	⇓P		P	22 59 32.3	-6.3
IAS	Iasi		78.05	340	⇓P		P	22 59 32.3	-6.3
BUR08	Bucovina Ar. S		78.10	342	P		P	22 59 39.4	+0.5
BURAR	Bucovina Array		78.12	342	⇑P		P	22 59 39.7	+0.6
BURAR	Bucovina Array		78.12	342	⇑P		P	22 59 39.7	+0.6
BURAR	Bucovina Array		78.12	342	P		P	22 59 39.2	+0.1
DOU	Dourbes		78.12	356	pP		pP	23 00 08.7	+1.0
VYHS	Vyhne		78.36	346	*e*P		P	22 59 42.9	+2.7
VYHS	Vyhne		78.36	346	*e*P		P	22 59 42.8	+2.6
BIZ	Bicaz		78.60	341	⇓P		P	22 59 33.6	-8.0
TESR	Tescani		78.89	341	⇑P		P	22 59 45.3	+2.0
CONA	Conrad Observa		79.32	348	*i* P		P	22 59 45.0	-0.6
	comp=Z,6.4nm,1.1s								
MOA	Molln		79.59	349	*i* P		P	22 59 46.3	-0.7
	comp=Z,10nm,1.7s								
KNRA	Kununurra		79.96	228	P		P	22 59 50.0	+0.8
KNRA					IAmb		IAmb	22 59 50.1	
	comp=Z,17nm,0.9s								
RETA	Reutte		80.31	352	*i* P		P	22 59 51.2	+0.2
	comp=Z,10nm,0.8s,SNR=4.1								
WATA	Walderalm		80.38	351	*i* PcP		P	22 59 54.0	+2.6
	comp=Z,16nm,1.2s								
ARR	Arges		80.39	342	⇑P		P	22 59 54.0	+2.6
MOTA	Moosalm		80.42	351	*i* P		P	22 59 49.8	-1.8
	comp=Z,13nm,1.2s								
WTTA	Wattenberg		80.45	351	*i* P		P	22 59 51.3	-0.5
	comp=Z,13nm,0.7s								
KBA	Koelnbreinsper		80.45	350	*i* P		P	22 59 52.6	+0.7
	comp=Z,13nm,0.9s								
SQTA	Sankt Quirin		80.53	351	*i* P		P	22 59 52.5	+0.3
	comp=Z,18nm,0.7s								
DAVA	Damuels		80.58	352	*i* P		P	22 59 51.8	-0.7
	comp=Z,15nm,1.4s,SNR=5.7								
SOKA	Soboth		80.65	348	*i* P		P	22 59 52.9	+0.1
	comp=Z,8.5nm,1.3s								
FETA	Feichten		80.77	351	*i* P		P	22 59 52.9	-0.7
	comp=Z,5.3nm,0.7s								
MYKA	Terra Mystica		80.86	349	*i* P		P	22 59 53.4	-0.5
	comp=Z,8.8nm,1.6s								
ABTA	Abfaltersbach		80.87	350	*i* P		P	22 59 52.9	-1.1
	comp=Z,12nm,1.2s								
OBKA	Obir		80.87	349	*i* P		P	22 59 52.7	-1.3
	comp=Z,15nm,1.4s								
WB0	Warramunga Arr		81.12	221	P		P	22 59 55.4	0.0
WB0					IAmb		IAmb	22 59 55.8	
	comp=Z,11nm,0.8s								
WR0	Warramunga Arr		81.24	221	P		P	22 59 56.0	0.0
WR0					IAmb		IAmb	22 59 56.8	
	comp=Z,14nm,0.8s								
WRA	Warramunga Arr		81.30	221	P		P	22 59 55.7	-0.6
	comp=Z,11nm,0.7s,baz=34,slow=6.0,SNR=15								
WRA	Warramunga Arr		81.30	221	*i* P		P	22 59 56.4	0.0
WRA					pmax		pmax		
	comp=Z,11nm,0.7s								
WRA	Warramunga Arr		81.30	221	P		P	22 59 56.3	-0.1
PSI	Prapat		81.32	263	P		P	22 59 56.8	0.0
PSI					pmax		pmax		
	comp=Z,11nm,0.8s								
RPSI	Rantau Prapat		81.40	263	P		P	22 59 56.8	-0.3
RPSI					IAmb		IAmb	22 59 57.8	
	comp=Z,11nm,0.8s								
MDVR	Moldovita		81.50	343	⇑P		P	22 59 57.3	0.0
VLAD	Vladila		81.75	341	⇑P		P	22 59 57.5	-1.1
PLVB	Pleven		82.30	341	⇑P		P	22 59 58.4	-3.1
VTS	Vitosha		83.31	342	⇑P		P	23 00 04.3	-2.6
VTS	Vitosha		83.31	342	⇑P		P	23 00 04.3	-2.6
FITZ	Fitzroy Crossi		83.52	230	P		P	23 00 08.4	+0.6
FITZ					IAmb		IAmb	23 00 09.6	
	comp=Z,21nm,0.9s								
AS31	Alice Springs		84.81	220	P		P	23 00 14.9	+0.5
ASAR	Alice Springs		84.82	220	P		P	23 00 14.9	+0.5
	comp=Z,6.2nm,0.8s,baz=25,slow=4.9,SNR=22								
STKA	Stephens Creek		89.56	211	P		P	23 00 38.1	+1.2
	comp=Z,11nm,0.6s,baz=356,slow=5.6,SNR=18								
STKA	Stephens Creek		89.56	211	P		P	23 00 37.8	+0.8
STKA					pmax		pmax		
	comp=Z,5.0nm,0.9s								
STKA	Stephens Creek		89.56	211	P		P	23 00 37.8	+0.8
TORD	Torodi Ar. Bea		115.04	356	PKP		PKiKP	23 06 19.6	-1.0
	comp=Z,1.1nm,0.5s,baz=357,slow=2.5,SNR=15								
SIV	San Ignacio		121.14	75	PKP		PKPdf	23 06 30.9	-1.3
	comp=Z,1.4nm,0.8s,baz=148,slow=1.9,SNR=5.5								
DBIC	Dimbokro		121.47	4	PKP		PKPdf	23 06 31.6	-1.4
	comp=Z,8.6nm,1.2s,baz=301,slow=1.8,SNR=7.9								
DBIC	Dimbokro		121.47	4	PKIKP		PKPdf	23 06 32.0	-1.0
DBIC	Dimbokro		121.47	4			PKPdf	23 06 32.0	-1.0
H03N2	Juan Fernandez		122.99	103	T		T	01 21 33.9	
	baz=314,slow=77,SNR=7.1								
H03N1	Juan Fernandez		123.01	103	T		T	01 21 32.4	
	baz=314,slow=77,SNR=6.2								
H03N3	Juan Fernandez		123.01	103	T		T	01 21 30.0	
	baz=314,slow=77,SNR=6.6								
CFA	Coronel Fontan		128.25	94	PKP		PKPdf	23 06 45.0	-0.4
	comp=Z,4.0nm,0.4s,baz=308,slow=4.5,SNR=6.8								
CPUP	Villa Florida		131.23	80	PKP		PKPdf	23 06 50.4	-0.7
	comp=Z,2.3nm,0.8s,baz=1.8,slow=6.2,SNR=5.0								
QSPA	South Pole Qui		141.77	180	PKhKP		PKPpre	23 07 05.0	
	comp=Z,6.0nm,0.7s,baz=31,slow=0.9,SNR=3.8								
MAW	Mawson		145.92	218	PKPbc		PKPbc	23 07 17.8	+0.3
	comp=Z,19nm,0.9s,baz=66,slow=4.5,SNR=15								
MAW	Mawson		145.92	218	PKP2		PKPab	23 07 17.9	-0.3
LBTB	Lobatse		146.03	312	PKP2		PKPab	23 07 20.2	+0.2
LBTB	Lobatse		146.03	312			PKPab	23 07 20.2	+0.2
BOSA	Boshof		149.24	309	PKPbc		PKiKP	23 07 28.5	-0.6
	comp=Z,8.8nm,0.6s,baz=35,slow=2.5,SNR=42								
BOSA	Boshof		149.24	309	PKP2		PKPbc	23 07 28.2	+0.3
BOSA	Boshof		149.24	309			PKPbc	23 07 28.2	+0.3
SUR	Sutherland		154.48	312	PKPbc		PKiKP	23 07 40.2	+0.3
	comp=Z,4.8nm,0.9s,baz=290,slow=17,SNR=1.7								
SNAA	Sanae		160.27	179	PKPab		PKPab	23 08 17.7	-0.7
	comp=Z,1.7nm,0.6s,baz=13,slow=2.8,SNR=3.2								

IDC ***23*** *22:48:56.8±0.6,30.03S×177.37W,h0km,mb4.6/14, mb1 4.7/15,mb1mx4.5/37,mbtmp4.6/15,ML4.2/1,Error ellipse: s-maj=19.6km s-min=14.5km az=73.0*
NEIC ***23*** *22:49:02.0±1.8,30.04S±0.06×177.5W±0.1,h35km±5km, mb4.8/28,Error ellipse: s-maj=17.6km s-min=8.4km az=76.0*

ISC 23 22:49:02.6±0.5,30.12S±0.06×177.5W±0.1,h35km,n139, σ1.976/144,mb4.8/35,6C-1D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.95	335	Pn	Pn	22 49 17.4	-2.1
	2μm,0.3s,baz=131,slow=7.7,SNR=11						
RAO				Sn	Sn	22 49 31.8	-0.1
	3μm,0.3s,baz=317,slow=23,SNR=6.9						
RAO	Raoul Island	0.95	335	Pn	Pn	22 49 17.4	-2.1
RAO				Sn	Sn	22 49 29.3	-2.5
BKZ	Black Stump Fm	10.30	207	Pn	Pn	22 51 27.5	-0.5
MSWZ	Moikau Station	12.72	206	Pn	Pn	22 52

MAW	**Mawson**	**72.73 200**	P	**P**	**23 00 27.0**	**+0.3**
	comp=Z,5.0nm,0.8s,baz=109,slow=5.0,SNR=5.0					
MAW	**Mawson**	**72.73 200**	P	**P**	**23 00 26.9**	**+0.3**
SYO	**Syowa Base**	**77.49 193** ⇑	*i* P	**P**	**23 00 52.1**	**-2.0**
SYO	**Syowa Base**	**77.49 193** ⇑	*i* PcP	**PcP**	**23 01 01.5**	**-2.8**
SYO	**Syowa Base**	**77.49 193** ⇓	*i* pZP	**PcP**	**23 01 03.4**	**-0.9**
MJAR	**Matsushiro Arr**	**78.28 325**	P	**P**	**23 01 01.0**	**+2.2**
	comp=Z,5.3nm,0.9s,baz=167,slow=5.3,SNR=13					
MJAR	**Matsushiro Arr**	**78.28 325**	P	**P**	**23 00 58.1**	**-0.8**
MAJO	**Matsushiro**	**78.28 325**	P	**P**	**23 00 57.5**	**-1.3**
MAJO			IAmb	IAmb	23 01 02.5	
	comp=Z,9.0nm,0.9s					
MAT	**Matsushiro**	**78.28 325**	P	**P**	**23 01 01.5**	**+2.6**
VNA3	**Neumayer Olymp**	**78.55 176**	P	**P**	**23 00 59.1**	**-0.9**
VNA2	**Neumayer--Watz**	**78.99 177**	P	**P**	**23 01 01.7**	**-0.7**
ASAJ	**Asahikawa**	**82.41 332**	P	**P**	**23 01 24.6**	**+3.8**
	comp=Z,6.0nm,0.7s,baz=202,slow=7.8,SNR=9.5					
KSRS	**Korea Array**	**84.44 319**	P	**P**	**23 01 34.2**	**+2.8**
	comp=Z,1.8nm,0.8s,baz=149,slow=6.1,SNR=9.7					
KSAR	**Wonju Array Be**	**84.45 319**	P	**P**	**23 01 30.6**	**-0.9**
YSS	**Yuzh-Sakhalins**	**84.70 334**	P	**P**	**23 01 32.7**	**+0.2**
PETK	**Petropavlovsk-**	**85.66 345**	P	**P**	**23 01 36.9**	**-0.3**
	comp=Z,6.1nm,0.8s,baz=147,slow=6.5,SNR=7.6					
PETK	**Petropavlovsk-**	**85.66 345**	P	**P**	**23 01 36.5**	**-0.7**
NJ2	**Nanjing**	**86.42 310**	*e*P	**P**	**23 01 41.9**	**+0.5**
NJ2			pmax	pmax		
	comp=Z,11nm,0.6s					
WAKR	**Walker**	**87.11 42**	P	**P**	**23 01 44.4**	**-0.5**
WAKR			IAmb	IAmb	23 01 47.0	
	comp=Z,11nm,1.2s					
USRK	**Ussuriysk Ar.**	**87.19 326**	P	**P**	**23 01 44.9**	**0.0**
	comp=Z,11nm,1.1s,baz=97,slow=5.3,SNR=11					
USRK	**Ussuriysk Ar.**	**87.19 326**	P	**P**	**23 01 44.0**	**-0.9**
YBH	**Yreka Blue Hor**	**87.52 38**	P	**P**	**23 01 47.5**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=157,slow=3.3,SNR=3.1					
YBH	**Yreka Blue Hor**	**87.52 38**	P	**P**	**23 01 45.9**	**-0.9**
YBH			IAmb	IAmb	23 02 01.6	
	comp=Z,3.6nm,1.1s					
NVAR	**Mina Array Bea**	**87.72 42**	P	**P**	**23 01 48.5**	**+0.6**
	comp=Z,4.6nm,1.0s,baz=217,slow=8.4,SNR=11					
NVAR	**Mina Array Bea**	**87.72 42**	P	**P**	**23 01 47.9**	**-0.1**
H04A	**Detroit Lake**	**89.87 36**	P	**P**	**23 01 56.9**	**-0.7**
H04A			IAmb	IAmb	23 01 58.7	
	comp=Z,7.5nm,1.1s					
TIA	**Tai'an**	**90.12 313**	P	**P**	**23 02 03.3**	**+4.3**
TIA			pmax	pmax		
	comp=Z,5.0nm,1.0s					
CN2	**Changchun**	**90.20 323**	*e*P	**P**	**23 02 01.3**	**+2.1**
CN2			pmax	pmax		
	comp=Z,10.0nm,0.9s					
I07A	**Izee**	**90.85 38**	P	**P**	**23 02 01.9**	**-0.5**
I07A			IAmb	IAmb	23 02 16.3	
	comp=Z,2.4nm,1.0s					
KLR	**Kul'dur**	**91.03 329**	P	**P**	**23 02 02.9**	**0.0**
	comp=Z,3.3nm,0.8s,baz=301,slow=5.6,SNR=6.1					
MFID	**Camas Ranch**	**92.40 40**	P	**P**	**23 02 09.2**	**-0.4**
MFID			IAmb	IAmb	23 02 10.2	
	comp=Z,1.7nm,0.8s					
BJI	**Beijing**	**93.06 315**	P	**P**	**23 02 13.5**	**+1.0**
BJI			pmax	pmax		
	comp=Z,4.0nm,0.7s					
CMAR	**Chiang Mai Arr**	**93.75 289**	P	**P**	**23 02 19.6**	**+3.3**
	comp=Z,0.5nm,0.2s,baz=123,slow=3.3,SNR=4.2					
PDAR	**Pinedale Array**	**95.61 43**	P	**P**	**23 02 23.2**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=219,slow=2.3,SNR=3.7					
PDAR	**Pinedale Array**	**95.61 43**	P	**P**	**23 02 23.6**	**-0.9**
HHC	**Hu-ho-hao-te**	**96.38 314**	*e*P	**P**	**23 02 27.8**	**-0.1**
HHC			pmax	pmax		
	comp=Z,9.0nm,1.0s					
HHC			pmax	pmax		
	comp=Z,610nm,5.7s					
WMQ	**Urumqi**	**113.42 308**	*e*P	**PKiKP**	**23 07 36.3**	**-0.4**
WMQ			LR	LR		
	comp=N,350nm,21.7s					
WMQ			LR	LR		
	comp=E,210nm,23.7s					
WMQ			LR	LR		
	comp=Z,670nm,23.7s					
MKAR	**Makanchi Array**	**117.95 310**	PKP	**PKPdf**	**23 07 43.2**	**-2.1**
	comp=Z,0.5nm,0.7s,baz=104,slow=1.8,SNR=4.1					
MKAR	**Makanchi Array**	**117.95 310**		**PKPdf**	**23 07 43.9**	**-1.4**
KURK	**Kurchatov**	**121.19 314**		**PKPdf**	**23 07 49.8**	**-1.5**
KURBB	**Kurchatov Arra**	**121.23 314**	PKP	**PKPdf**	**23 07 49.5**	**-1.9**
	comp=Z,1.0nm,0.6s,baz=111,slow=2.0,SNR=9.5					
KBL	**Kabul**	**124.54 293**	PKPdf	**PKPdf**	**23 07 57.9**	**-0.7**
GAR	**Garm**	**124.63 299**		**PKPdf**	**23 07 57.4**	**-1.1**
KK31	**Karatay Array**	**125.31 304**		**PKPdf**	**23 07 58.4**	**-1.1**
KKAR	**Karatay Array**	**125.31 304**		**PKPdf**	**23 07 57.9**	**-1.7**
KKAR	**Karatay Array**	**125.31 304**		**PKPdf**	**23 07 58.0**	**-1.5**
BVAR	**Borovoye Array**	**126.53 316**	PKP	**PKPdf**	**23 08 00.8**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=81,slow=6.1,SNR=3.6					
ARU	**Arti**	**133.17 321**	PKP	**PKiKP**	**23 08 19.9**	**+4.8**
	comp=Z,1.4nm,0.7s,baz=360,slow=2.7,SNR=8.6					
ARCES	**ARCESS Array B**	**138.41 348**	PKP	**PKPdf**	**23 08 22.9**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=22,slow=3.3,SNR=3.5					
FIA1	**FINESS Array S**	**145.04 340**		**PKPbc**	**23 08 33.7**	**-1.2**
FINES	**FINESS Array B**	**145.04 340**	PKP	**PKPbc**	**23 08 33.6**	**-1.2**
	comp=Z,17nm,0.8s,baz=60,slow=4.6,SNR=28					
FINES	**FINESS Array B**	**145.04 340**		**PKPbc**	**23 08 33.2**	**-1.6**
AKH	**Akhalkalaki**	**145.21 300**	⇑P	**PKPbc**	**23 08 35.8**	**-0.5**
AKH	**Akhalkalaki**	**145.21 300**		**PKPbc**	**23 08 35.0**	**-1.3**
KBZ	**Khabaz**	**145.34 304**	PKPbc	**PKPab**	**23 08 37.8**	**+1.2**
	comp=Z,4.0nm,0.8s,baz=217,slow=6.9,SNR=7.3					
VSU	**Vasula**	**147.16 337**	*e*P	**PKPbc**	**23 08 40.5**	**-0.8**
NC303	**NORSAR Array S**	**148.34 352**		**PKPbc**	**23 08 43.6**	**-0.9**
NB2	**NORSAR Subarra**	**148.34 352**	PKP	**PKPbc**	**23 08 43.7**	**-1.4**
	comp=Z,21nm,1.2s,baz=17,slow=2.6					
NOA	**NORSAR Array B**	**148.54 352**	PKPbc	**PKPbc**	**23 08 43.8**	**-1.3**
	comp=Z,0.8nm,0.8s,baz=59,slow=1.5,SNR=3.7					
NAO01	**NORSAR Array S**	**148.77 352**		**PKPbc**	**23 08 45.0**	**-0.6**
NC602	**NORSAR Array S**	**148.80 351**		**PKPbc**	**23 08 44.6**	**-1.1**
IZAR	**Zarasai**	**149.36 334**	*e*P	**PKPbc**	**23 08 46.0**	**-1.2**
ISAL	**Salakas**	**149.54 333**	*e*P	**PKPbc**	**23 08 46.6**	**-1.1**
IIGN	**Ignalina**	**149.66 333**	*e*P	**PKPbc**	**23 08 47.2**	**-0.7**
NACGM	**Naroch**	**149.75 332**	*e*	**PKPdf**	**23 08 42.0**	**-1.5**
KONO	**Kongsberg**	**150.09 353**	PKPdf	**PKPdf**	**23 08 42.7**	**-1.1**
KONO				**PKPab**	**23 08 54.5**	**-0.3**
PABE	**Paberze**	**150.40 335**	*e*P	**PKPdf**	**23 08 46.0**	**+1.6**
PBUR	**Paburge**	**150.70 338**	*e*P	**PKPdf**	**23 08 46.7**	**+1.8**
AKASG	**Malin Array Be**	**151.36 323**	PKPbc	**PKPbc**	**23 08 50.8**	**-1.4**
	comp=Z,1.7nm,0.5s,baz=49,slow=2.2,SNR=8.5					
AKASG	**Malin Array Be**	**151.36 323**		**PKPbc**	**23 08 50.4**	**-1.7**
AKBB	**Malin Array Si**	**151.36 323**		**PKPbc**	**23 08 50.0**	**-2.1**
ILGA	**Ilgaz**	**152.54 302**		**PKPbc**	**23 08 54.1**	**-1.4**
BR131	**Keskin Array S**	**152.88 299**		**PKPbc**	**23 08 55.0**	**-1.2**
BRTR	**Keskin Array B**	**152.88 299**	PKPbc	**PKPbc**	**23 08 54.9**	**-1.3**
	comp=Z,2.2nm,0.8s,baz=138,slow=5.1,SNR=5.8					
BRTR	**Keskin Array B**	**152.88 299**		**PKPbc**	**23 08 54.6**	**-1.6**
SORM	**Soroca**	**153.28 320**	⇑P	**PKiKP**	**23 09 01.1**	**+4.4**
ANTO	**Ankara**	**153.49 300**	⇑P	**PKiKP**	**23 09 02.7**	**+5.1**
LEF	**Lefka**	**154.01 289**	⇑P	**PKiKP**	**23 09 01.7**	**+3.1**
UPC	**Upice**	**157.26 337**	*e*PKPAB	**PKPab**	**23 09 30.7**	**+5.2**
DPC	**Dobruska-Polom**	**157.29 337**	*e*PKPAB	**PKPab**	**23 09 30.5**	**+4.8**
CLL	**Collm**	**157.44 343**	*e*PKPdf	**PKPdf**	**23 08 57.0**	**+2.4**
CLL			*e*PKPab	**PKPab**	**23 09 27.0**	**+0.8**
	comp=Z,4.0nm,1.0s					
CLL			*i*		23 09 30.3	
	comp=Z,9.0nm,1.0s					
CLL			*i* pPKPab	**sPKPab**	**23 09 37.9**	**-1.6**
BRG	**Berggiesshubel**	**157.58 341**	*i* PKP	**PKPab**	**23 09 26.2**	**-0.6**
	comp=Z,3.4nm,0.8s					
BRG			*i*		23 09 31.3	
	comp=Z,6.8nm,0.9s					
PVCC	**Panska Ves**	**157.70 339**	*e*PKPAB	**PKPab**	**23 09 32.9**	**+5.5**
PVCC			*ex*	x	23 09 40.3	
NKC	**Novy Kostel**	**158.57 342**	*e*PKPAB	**PKPab**	**23 09 36.0**	**+4.9**
KHC	**Kasperske Hory**	**159.24 339**	*e*PKPAB	**PKPab**	**23 09 33.8**	**-0.3**
KHC			*ex*	x	23 09 46.1	
GERES	**GERESS Array B**	**159.45 339**	PKPab	**PKPab**	**23 09 32.4**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=264,slow=38,SNR=2.3					
GERES	**GERESS Array B**	**159.45 339**		**PKPab**	**23 09 33.6**	**-1.5**
CONA	**Conrad Observa**	**159.48 334**	*i* PKPab	**PKPab**	**23 09 35.3**	**0.0**
	comp=Z,1.4nm,0.6s					
MOA	**Molln**	**160.13 336**	*i* PKPab	**PKPab**	**23 09 37.9**	**-0.1**
	comp=Z,6.1nm,1.6s					
ARSA	**Arzberg**	**160.17 333**	*i* PKPab	**PKPab**	**23 09 37.3**	**-0.9**
	comp=Z,4.4nm,0.8s					
SOKA	**Soboth**	**160.83 333**	*i* PKPab	**PKPab**	**23 09 40.2**	**-1.0**
	comp=Z,1.7nm,0.7s					
KBA	**Koelnbreinsper**	**161.11 337**	*i* PKPab	**PKPab**	**23 09 43.6**	**+1.1**
	comp=Z,3.1nm,0.8s					
MYKA	**Terra Mystica**	**161.39 335**	*i* PKPab	**PKPab**	**23 09 47.2**	**+3.6**
	comp=Z,4.0nm,0.9s					
WATA	**Walderalm**	**161.44 340**	*i* PKPab	**PKPab**	**23 09 43.6**	**-0.3**
	comp=Z,1.5nm,0.4s					
WTTA	**Wattenberg**	**161.49 340**	*i* PKPab	**PKPab**	**23 09 43.6**	**-0.5**
	comp=Z,9.2nm,1.3s					
RETA	**Reutte**	**161.53 342**	*i* PKPab	**PKPab**	**23 09 43.8**	**-0.4**
	comp=Z,4.7nm,0.7s					
MOTA	**Moosalm**	**161.57 341**	*i* PKPab	**PKPab**	**23 09 43.9**	**-0.6**
	comp=Z,6.9nm,0.9s					
SQTA	**Sankt Quirin**	**161.66 341**	*i* PKPab	**PKPab**	**23 09 44.4**	**-0.4**
	comp=Z,6.3nm,1.2s					
ABTA	**Abfaltersbach**	**161.68 338**	*i* PKPab	**PKPab**	**23 09 43.8**	**-1.1**
	comp=Z,4.5nm,0.7s					
DAVA	**Damuels**	**161.94 344**	*i* PKPab	**PKPab**	**23 09 47.3**	**+1.2**
	comp=Z,5.7nm,1.1s					
FETA	**Feichten**	**161.97 342**	*i* PKPab	**PKPab**	**23 09 44.5**	**-1.8**
	comp=Z,6.3nm,1.7s					
FUORN	**Ofenpass-Fuorn**	**162.46 342**	PKPab	**PKPab**	**23 09 48.0**	**-0.5**
TORD	**Torodi Ar. Bea**	**163.09 177**	PKPab	**PKPab**	**23 09 50.3**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=182,slow=4.1,SNR=6.5					
TORD	**Torodi Ar. Bea**	**163.09 177**	PKPab	**PKPab**	**23 09 50.8**	**-0.9**

ATH 23 22:50:00.2, 40.16N×25.05E, h19km±6km, ML1.3/1, Error ellipse: s-maj=6.9km s-min=1.0km az=188.0, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIA	**Limnos Island**	**0.28**	**159**	P	Pg	22 50 06.5	0.0
LIA				AML	AML	22 50 10.8	
	comp=E,168μm,0.2s						
LIA				S	Sb	22 50 10.8	+0.1
LIA				AML	AML	22 50 11.0	
	comp=N,124μm,0.2s						
SMTH	**Samothraki Isl**	**0.48**	**49**	P	Pb	22 50 10.1	0.0
THAS	**Thassos island**	**0.51**	**330**	P	Pg	22 50 10.6	0.0
THAS				S	Sb	22 50 17.8	+0.1
OUR	**Ouranopolis**	**0.84**	**282**	P	Pb	22 50 16.4	+0.2
KAVA	**Kavala**	**0.93**	**334**	P	Pb	22 50 17.5	-0.2
KAVA				S	Sn	22 50 31.0	-0.1
RDO	**Rodhopi**	**1.05**	**20**	P	Pn	22 50 20.3	+0.3
ALN	**Alexandroupoli**	**1.06**	**45**	P	Pn	22 50 20.1	+0.1

*IDC **23** 22:55:05.8±0.6, 30.12S×177.36W, h0km, mb4.5/14, mb1 4.6/14, mb1mx4.5/38, mbtmp4.5/14, Error ellipse: s-maj=24.0km s-min=13.5km az=76.0*
*NEIC **23** 22:55:06.5±1.8, 30.25S±0.05×177.49W±0.06, h7km±3km, mb4.9/29, Error ellipse: s-maj=7.7km s-min=7.0km az=66.0*

ISC 23 22:55:11.1±0.6, 30.27S±0.05×177.6W±0.1, h35km, n119, σ1§58/123, mb4.8/28, 8C-6D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.06**	**344**	Pn	**Pn**	**22 55 27.7**	**-1.8**
	2μm,0.3s,baz=261,slow=4.1,SNR=24						
RAO				Sn	**Sn**	**22 55 43.3**	**+0.3**
	3μm,0.3s,baz=98,slow=22,SNR=10						
RAO	**Raoul Island**	**1.06**	**344**	Pn	**Pn**	**22 55 27.8**	**-1.7**
RAO					**Sn**	**22 55 40.6**	**-2.4**
BKZ	**Black Stump Fm**	**10.12**	**207**	Pn	**Pn**	**22 57 31.3**	**-2.7**
BFZ	**Birch Farm**	**11.53**	**204**	Pn	**Pn**	**22 57 51.7**	**-1.6**
PLWZ	**Palliser**	**12.67**	**205**	Pn	**Pn**	**22 58 08.4**	**-0.4**
MSVF	**Nonsavu**	**13.10**	**341**	Pn	**Pn**	**22 58 15.2**	**+0.3**
THZ	**Tophouse**	**13.80**	**211**		**Pn**	**22 58 23.2**	**-1.0**
LTZ	**Lake Taylor**	**14.89**	**210**	Pn	**Pn**	**22 58 36.8**	**-2.4**
OXZ	**Oxford**	**15.44**	**210**		**Pn**	**22 58 43.3**	**-2.9**
OXZ				IAmb	IAmb	22 59 02.8	
	comp=Z,24nm,0.6s						
RPZ	**Rata Peaks**	**16.18**	**211**	Pn	**Pn**	**22 58 54.7**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=71,slow=17,SNR=1.7						
RPZ				Sn	**Sn**	**23 01 47.0**	**-7.0**
	comp=Z,1.0nm,0.3s,baz=91,slow=16,SNR=2.2						
RPZ	**Rata Peaks**	**16.18**	**211**	Pn	**Pn**	**22 58 53.1**	**-2.6**
DZM	**Mont Dzumac**	**16.49**	**296**	Pn	**P**	**22 59 07.4**	**+5.2**
	comp=Z,0.9nm,0.3s,baz=123,slow=14,SNR=12						
ARMA	**Armidale**	**26.53**	**262**	P	**P**	**23 00 47.8**	**+2.0**
EIDS	**Eidsvold**	**28.09**	**272**	P	**P**	**23 01 00.8**	**+1.2**
EIDS				IAmb	IAmb	23 01 14.8	
	comp=Z,30nm,1.5s						
CAN	**Canberra**	**28.46**	**251**	P	**P**	**23 01 03.8**	**+0.9**
CAN				IAmb	IAmb	23 01 18.9	
	comp=Z,15nm,1.0s						
TOO	**Toolangi**	**31.34**	**247**	P	**P**	**23 01 28.2**	**-0.2**
TOO				IAmb	IAmb	23 01 47.7	
	comp=Z,16nm,0.8s						
CTAO	**Charters Tower**	**34.13**	**279**	P	**P**	**23 01 53.2**	**+0.3**
STKA	**Stephens Creek**	**34.86**	**257**	P	**P**	**23 02 01.0**	**+2.0**
	comp=Z,6.8nm,0.5s,baz=99,slow=12,SNR=18						
STKA	**Stephens Creek**	**34.86**	**257**	P	**P**	**23 02 00.4**	**+1.4**
BBOO	**Buckleboo**	**39.35**	**254**	P	**P**	**23 02 38.2**	**+1.0**
BBOO				IAmb	IAmb	23 02 52.9	
	comp=Z,37nm,1.2s						
AS31	**Alice Springs**	**43.48**	**267**	P	**P**	**23 03 11.7**	**+0.5**
ASAR	**Alice Springs**	**43.48**	**267**	P	**P**	**23 03 11.9**	**+0.7**
	comp=Z,9.1nm,0.9s,baz=106,slow=7.9,SNR=29						
ASAR				PcP	**PcP**	**23 05 00.7**	**+1.7**
	comp=Z,1.6nm,0.6s,baz=111,slow=3.5,SNR=4.8						
ASAR	**Alice Springs**	**43.48**	**267**	P	**P**	**23 03 11.0**	**-0.3**
WR0	**Warramunga Arr**	**44.27**	**272**	P	**P**	**23 03 17.5**	**-0.1**
WR0				IAmb	IAmb	23 03 32.1	
	comp=Z,19nm,1.2s						
WB2	**Warramunga Arr**	**44.44**	**272**	P	**P**	**23 03 19.2**	**+0.2**
WB2				IAmb	IAmb	23 03 21.8	
	comp=Z,16nm,0.7s						
WRA	**Warramunga Arr**	**44.45**	**272**	P	**P**	**23 03 19.7**	**+0.6**
	comp=Z,15nm,0.7s,baz=112,slow=7.7,SNR=28						
WRA	**Warramunga Arr**	**44.45**	**272**	P	**P**	**23 03 19.1**	**0.0**
WB0	**Warramunga Arr**	**44.48**	**272**	P	**P**	**23 03 19.6**	**+0.4**
WB0				IAmb	IAmb	23 03 22.0	
	comp=Z,18nm,0.7s						
VNDA	**Vanda**	**48.26**	**186**	P	**P**	**23 03 51.1**	**+3.0**
	comp=Z,1.1nm,0.8s,baz=16,slow=7.2,SNR=5.8						
VNDA	**Vanda**	**48.26**	**186**	P	**P**	**23 03 49.8**	**+1.7**
KNRA	**Kununurra**	**51.06**	**274**	P	**P**	**23 04 10.6**	**+0.4**
KNRA				IAmb	IAmb	23 04 27.4	
	comp=Z,15nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.72**	**270**	P	**P**	**23 04 21.9**	**-0.7**
FITZ				IAmb	IAmb	23 04 40.3	
	comp=Z,17nm,1.4s						
FAKI	**Fak Fak**	**54.63**	**290**	P	**P**	**23 04 36.5**	**-0.2**
NWAO	**Narrogin (SRO)**	**54.78**	**249**	P	**P**	**23 04 37.0**	**-0.6**
NWAO				IAmb	IAmb	23 04 47.2	
	comp=Z,25nm,1.4s						
CASY	**Casey**	**55.42**	**208**	P	**P**	**23 04 42.8**	**+1.1**
MORW	**Morawa**	**56.91**	**253**	P	**P**	**23 04 52.6**	**-0.3**
MORW				IAmb	IAmb	23 04 59.0	
	comp=Z,7.9nm,1.1s						
QSPA	**South Pole Qui**	**59.84**	**180**	P	**P**	**23 05 14.6**	**+1.7**
	comp=Z,5.8nm,0.8s,baz=42,slow=1.1,SNR=18						
QSPA	**South Pole Qui**	**59.84**	**180**	P	**P**	**23 05 14.1**	**+1.2**
MAW	**Mawson**	**72.55**	**200**	P	**P**	**23 06 35.9**	**+1.8**
	comp=Z,2.8nm,0.6s,baz=107,slow=6.4,SNR=4.2						
MAW	**Mawson**	**72.55**	**200**	P	**P**	**23 06 35.4**	**+1.2**
SYO	**Syowa Base**	**77.32**	**193** ⇑	*e*P	**P**	**23 07 01.6**	**0.0**
SYO	**Syowa Base**	**77.32**	**193** ⇑	*e*pP	**P**	**23 07 03.2**	**+1.6**
SNAA	**Sanae**	**78.27**	**178**	P	**P**	**23 07 07.5**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=74,slow=20,SNR=8.7						
SNAA	**Sanae**	**78.27**	**178**	P	**P**	**23 07 07.2**	**+0.2**
MJAR	**Matsushiro Arr**	**78.34**	**325**	P	**P**	**23 07 07.3**	**-0.5**
	comp=Z,3.1nm,0.7s,baz=163,slow=5.3,SNR=13						
MJAR	**Matsushiro Arr**	**78.34**	**325**	P	**P**	**23 07 07.3**	**-0.5**
MAT	**Matsushiro**	**78.35**	**325**	P	**P**	**23 07 07.7**	**-0.1**
ERM	**Erimo**	**80.52**	**331**	P	**P**	**23 07 20.1**	**+0.6**
ERM				IAmb	IAmb	23 07 39.1	
	comp=Z,16nm,1.1s						
JKA	**Kamikawa-asahi**	**82.49**	**332**	P	**P**	**23 07 30.6**	**+0.8**
ASAJ	**Asahikawa**	**82.50**	**332**	P	**P**	**23 07 30.7**	**+0.9**
	comp=Z,11nm,0.8s,baz=219,slow=7.7,SNR=12						
KSRS	**Korea Array**	**84.49**	**319**	P	**P**	**23 07 40.9**	**+0.7**
	comp=Z,1.6nm,0.8s,baz=136,slow=5.9,SNR=7.9						
KSAR	**Wonju Array Be**	**84.50**	**319**	P	**P**	**23 07 40.6**	**+0.3**
YSS	**Yuzh-Sakhalins**	**84.79**	**334**	P	**P**	**23 07 42.1**	**+0.6**
PEA0B	**Petropavlovsk-**	**85.78**	**345**	P	**P**	**23 07 46.5**	**+0.2**
PEA0B				IAmb	IAmb	23 07 47.2	
	comp=Z,13nm,0.9s						
PETK	**Petropavlovsk-**	**85.78**	**345**	P	**P**	**23 07 46.4**	**+0.1**
	comp=Z,7.5nm,0.7s,baz=140,slow=8.3,SNR=16						
USA0B	**Ussuriysk Arra**	**87.26**	**326**	P	**P**	**23 07 53.7**	**0.0**
USA0B				IAmb	IAmb	23 07 55.4	
	comp=Z,9.0nm,0.8s						
USRK	**Ussuriysk Ar.**	**87.26**	**326**	P	**P**	**23 07 54.4**	**+0.6**
	comp=Z,4.6nm,0.7s,baz=160,slow=2.7,SNR=14						
USRK	**Ussuriysk Ar.**	**87.26**	**326**	P	**P**	**23 07 53.7**	**-0.1**
NVAR	**Mina Array Bea**	**87.90**	**43**	P	**P**	**23 07 56.7**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=216,slow=8.8,SNR=6.7						
NVAR	**Mina Array Bea**	**87.90**	**43**	P	**P**	**23 07 56.3**	**-1.1**
KLR	**Kul'dur**	**91.11**	**330**	P	**P**	**23 08 12.7**	**+0.9**
	comp=Z,4.6nm,0.7s,baz=138,slow=2.4,SNR=16						
MKAR	**Makanchi Array**	**117.97**	**310**	PKP	**PKPdf**	**23 13 52.5**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=212,slow=2.1,SNR=4.6						
MKAR	**Makanchi Array**	**117.97**	**310**		**PKPdf**	**23 13 52.6**	**-1.2**
KURK	**Kurchatov**	**121.22**	**314**		**PKPdf**	**23 13 58.4**	**-1.5**
KURBB	**Kurchatov Arra**	**121.26**	**314**	PKP	**PKPdf**	**23 13 58.3**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=114,slow=1.7,SNR=12						
BVAR	**Borovoye Array**	**126.57**	**316**	PKP	**PKPdf**	**23 14 09.6**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=137,slow=3.0,SNR=6.8						
ARCES	**ARCESS Array B**	**138.54**	**348**	PKP	**PKiKP**	**23 14 33.9**	**-0.4**
	comp=Z,3.8nm,0.8s,baz=11,slow=1.8,SNR=4.0						
FIA1	**FINESS Array S**	**145.15**	**340**		**PKPbc**	**23 14 42.7**	**-1.1**
FINES	**FINESS Array B**	**145.15**	**340**	PKPbc	**PKPbc**	**23 14 42.7**	**-1.1**
	comp=Z,22nm,0.6s,baz=58,slow=2.7,SNR=76						
KBZ	**Khabaz**	**145.34**	**304**	PKPbc	**PKPbc**	**23 14 44.9**	**-0.1**
	comp=Z,3.8nm,0.8s,baz=85,slow=2.7,SNR=7.6						
NC303	**NORSAR Array S**	**148.48**	**352**		**PKPbc**	**23 14 52.5**	**-0.9**
NB2	**NORSAR Subarra**	**148.68**	**352**	PKP	**PKPbc**	**23 14 53.1**	**-0.9**
	comp=Z,2.2nm,0.7s,baz=12,slow=2.9						
NOA	**NORSAR Array B**	**148.68**	**352**	PKPbc	**PKPbc**	**23 14 52.8**	**-1.2**
	comp=Z,3.2nm,0.8s,baz=14,slow=4.4,SNR=12						
AKASG	**Malin Array Be**	**151.42**	**323**	PKPbc	**PKPbc**	**23 15 00.3**	**-0.6**
	comp=Z,4.9nm,0.7s,baz=47,slow=2.8,SNR=14						
AKASG	**Malin Array Be**	**151.42**	**323**		**PKPbc**	**23 15 00.1**	**-0.7**
BR131	**Keskin Array S**	**152.86**	**299**		**PKPbc**	**23 15 04.0**	**-0.7**
BR131					**pPKPbc**	**23 15 15.2**	**+0.4**
BRTR	**Keskin Array B**	**152.86**	**299**	PKPbc	**PKPbc**	**23 15 04.8**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=129,slow=3.3,SNR=9.2						
BRTR	**Keskin Array B**	**152.86**	**299**		**PKPbc**	**23 15 04.0**	**-0.7**
MILM	**Milestii Mici**	**153.69**	**317**	⇑P	**PKPab**	**23 15 13.5**	**-5.3**
TOPG	**Topolog**	**154.92**	**313**	⇓P	**PKPab**	**23 15 24.7**	**+0.5**
HARR	**Harsova**	**155.29**	**313**	⇓P	**PKPab**	**23 15 26.0**	**+0.3**
BURAR	**Bucovina Array**	**155.36**	**321**	⇑P	**PKPab**	**23 15 19.8**	**-6.4**
MLR	**Muntele Rosu**	**156.13**	**316**	⇑P	**PKPab**	**23 15 30.3**	**+0.8**
DOPR	**Dopca**	**156.21**	**318**	⇓P	**PKPab**	**23 15 30.1**	**+0.4**
ARR	**Arges**

CNPM	**China Poot**	**18.51**	**54**	P	**P**	**22 59 53.8**	**+0.6**
BRLK	**Bradley Lake**	**18.73**	**54**	P	**P**	**22 59 55.9**	**+0.4**
SEW	**Seward**	**19.50**	**53**	P	**P**	**23 00 03.6**	**-0.3**
BPAW	**Bear Paw Mtn.**	**19.93**	**41**	P	**Pn**	**23 00 09.9**	**-1.5**
BPAW				IAmb	IAmb	23 00 14.0	
	comp=Z,8.5nm,1.1s						
GLI	**Glacier Island**	**20.78**	**51**	P	**P**	**23 00 17.6**	**0.0**
GLI				IAmb	IAmb	23 00 18.8	
	comp=Z,12nm,0.6s						
FID	**Port Fidalgo**	**21.06**	**52**	P	**P**	**23 00 20.4**	**-0.2**
FID				IAmb	IAmb	23 00 23.5	
	comp=Z,16nm,0.9s						
CCB	**Clear Creek Bu**	**21.42**	**41**	P	**P**	**23 00 25.2**	**+0.7**
HDA	**Harding Lake**	**21.70**	**42**	P	**P**	**23 00 28.6**	**+1.2**
ILAR	**Eielson Array**	**21.84**	**41**	P	**P**	**23 00 29.4**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=244,slow=8.1,SNR=5.9						
ILAR	**Eielson Array**	**21.84**	**41**	P	**P**	**23 00 29.9**	**+1.0**
RIDG	**Independent Ri**	**22.40**	**44**	P	**P**	**23 00 34.8**	**0.0**
GLB	**Gilahina Butte**	**22.44**	**51**	P	**P**	**23 00 35.3**	**+0.1**
GLB				IAmb	IAmb	23 00 39.0	
	comp=Z,7.6nm,1.0s						
VRDI	**Verde Repeater**	**22.58**	**51**	P	**P**	**23 00 37.0**	**+0.2**
VRDI				IAmb	IAmb	23 00 49.2	
	comp=Z,15nm,1.4s						
PRP	**Porcupine Dome**	**22.62**	**40**	P	**P**	**23 00 37.3**	**+0.2**
PRP				IAmb	IAmb	23 00 39.3	
	comp=Z,3.7nm,0.6s						
SCRK	**Sand Creek**	**22.82**	**44**	P	**P**	**23 00 38.6**	**-0.4**
YAH	**Yahtse**	**23.35**	**54**	P	**P**	**23 00 45.7**	**+1.6**
BCAR	**Beaver Creek A**	**23.61**	**47**	P	**P**	**23 00 46.9**	**+0.7**
BMAR	**Burnt Mountain**	**23.65**	**35**	P	**P**	**23 00 48.1**	**+1.5**
EGAK	**Eagle**	**24.20**	**43**	P	**P**	**23 00 51.8**	**+0.4**
DAWY	**Dawson**	**24.82**	**45**	P	**P**	**23 00 58.2**	**+1.0**
DAWY				IAmb	IAmb	23 01 01.0	
	comp=Z,6.1nm,0.8s						
HYT	**Haines Junctio**	**25.45**	**53**	P	**P**	**23 01 04.8**	**+1.8**
EPYK	**Eagle Plains**	**26.33**	**40**	P	**P**	**23 01 11.5**	**+0.7**
EPYK				IAmb	IAmb	23 01 12.1	
	comp=Z,3.6nm,0.8s						
INK	**Inuvik**	**27.91**	**36**	P	**P**	**23 01 26.6**	**+1.8**
INK				IAmb	IAmb	23 01 26.9	
	comp=Z,3.1nm,0.8s						
YKA	**Yellowknife Ar**	**36.03**	**47**	P	**P**	**23 02 36.6**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=279,slow=8.5,SNR=6.2						
LTY	**Liberty**	**38.73**	**72**	P	**P**	**23 02 58.6**	**-0.2**
KRMB	**Red Mountain**	**39.91**	**82**	P	**P**	**23 03 09.4**	**+0.7**
KRMB				IAmb	IAmb	23 03 16.2	
	comp=Z,6.2nm,1.2s						
K05A	**Summer Lake**	**41.05**	**78**	P	**P**	**23 03 19.0**	**+0.9**
K05A				IAmb	IAmb	23 03 19.4	
	comp=Z,2.1nm,0.5s						
MOD	**Modoc Plateau**	**41.88**	**79**	P	**P**	**23 03 25.5**	**+0.6**
MOD				IAmb	IAmb	23 03 26.1	
	comp=Z,2.4nm,0.6s						
AFDM	**Forest Hills D**	**43.25**	**83**	P	**P**	**23 03 36.1**	**+0.3**
AFDM				IAmb	IAmb	23 03 51.5	
	comp=Z,4.5nm,1.4s						
PAHR	**Pah Rah Range**	**43.76**	**81**	P	**P**	**23 03 40.2**	**+0.2**
PAHR				IAmb	IAmb	23 03 41.3	
	comp=Z,6.2nm,1.3s						
WAKR	**Walker**	**44.47**	**82**	P	**P**	**23 03 46.3**	**+0.5**
SONM	**Songino Array**	**44.74**	**294**	P	**P**	**23 03 48.4**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=64,slow=9.9,SNR=3.1						
SONM				PcP	**PcP**	**23 05 27.2**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=67,slow=3.7,SNR=2.3						
SONM	**Songino Array**	**44.74**	**294**	P	**P**	**23 03 48.5**	**+0.8**
BOZ	**Bozeman (W)**	**44.89**	**69**	P	**P**	**23 03 48.1**	**-0.8**
RYN	**Ryan**	**44.95**	**81**	P	**P**	**23 03 49.8**	**+0.2**
RYN				IAmb	IAmb	23 03 50.6	
	comp=Z,7.4nm,1.2s						
NVAR	**Mina Array Bea**	**45.21**	**82**	P	**P**	**23 03 52.1**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=293,slow=8.0,SNR=14						
ELK	**Elko**	**45.63**	**77**	P	**P**	**23 03 54.7**	**-0.3**
R11A	**Troy Canyon, C**	**46.91**	**80**	P	**P**	**23 04 04.8**	**-0.1**
R11A				IAmb	IAmb	23 04 05.6	
	comp=Z,1.4nm,0.5s						
PDAR	**Pinedale Array**	**47.77**	**71**	P	**P**	**23 04 09.3**	**-2.3**
	comp=Z,0.7nm,0.5s,baz=82,slow=3.2,SNR=7.7						
PSUT	**Pine Spring**	**47.84**	**75**	P	**P**	**23 04 11.9**	**-0.3**
SPITS	**Spitsbergen Ar**	**49.53**	**355**	P	**P**	**23 04 24.8**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=16,slow=11,SNR=4.9						
KURK	**Kurchatov**	**57.24**	**312**	P	**P**	**23 05 21.2**	**+0.3**
KURK				IAmb	IAmb	23 05 21.9	
	comp=Z,1.7nm,1.0s						
KURBB	**Kurchatov Arra**	**57.35**	**312**	P	**P**	**23 05 22.4**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=42,slow=6.7,SNR=12						
MK31	**Makanchi Array**	**58.20**	**306**	P	**P**	**23 05 27.6**	**-0.1**
MKAR	**Makanchi Array**	**58.20**	**306**	P	**P**	**23 05 27.7**	**0.0**
	comp=Z,0.6nm,0.5s,baz=52,slow=6.4,SNR=8.8						
BVAR	**Borovoye Array**	**59.19**	**318**	P	**P**	**23 05 35.5**	**+1.0**
	comp=Z,1.1nm,0.4s,baz=65,slow=6.2,SNR=8.1						
BVAR				PcP	**PcP**	**23 06 22.3**	**+0.7**
	comp=Z,0.6nm,0.3s,baz=80,slow=3.2,SNR=4.3						
TX31	**Lajitas Ar. Si**	**60.28**	**80**	P	**P**	**23 05 42.5**	**+0.1**
TX31				IAmb	IAmb	23 05 43.1	
	comp=Z,3.1nm,0.8s						
TXAR	**Lajitas Array**	**60.28**	**80**	P	**P**	**23 05 42.5**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=288,slow=4.0,SNR=9.2						
TXAR	**Lajitas Array**	**60.28**	**80**	P	**P**	**23 05 42.2**	**-0.1**
D53A	**Lac Vacive, Po**	**61.78**	**49**	P	**P**	**23 05 51.3**	**-0.8**
FCAR	**Ozark Folk Cen**	**62.39**	**66**	P	**P**	**23 05 54.8**	**-1.6**
BORG	**Borgarnes**	**62.51**	**9**	P	**P**	**23 05 56.0**	**-0.6**
	comp=Z,14nm,1.0s,baz=312,slow=1.6,SNR=3.6						
BORG	**Borgarnes**	**62.51**	**9**	P	**P**	**23 05 57.1**	**+0.4**
MOQ	**Mont Orford**	**65.61**	**47**	P	**P**	**23 06 16.9**	**-0.4**
E62A	**Clayton Lake**	**65.80**	**44**	P	**P**	**23 06 18.3**	**-0.2**
SIJI	**Sorong**	**65.91**	**233**	P	**P**	**23 06 19.9**	**+0.4**
	comp=Z,8.9nm,0.7s,baz=74,slow=18						
ABKAR	**Akbulak array**	**66.29**	**321**	P	**P**	**23 06 22.4**	**+0.9**
KKAR	**Karatay Array**	**66.59**	**311**	P	**P**	**23 06 24.5**	**+0.9**
ASAR	**Alice Springs**	**84.85**	**220**	P	**P**	**23 08 07.8**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=36,slow=4.4,SNR=4.4						
ASAR	**Alice Springs**	**84.85**	**220**	P	**P**	**23 08 07.9**	**+0.4**
TORD	**Torodi Ar. Bea**	**114.97**	**356**	PKP	**PKiKP**	**23 14 12.7**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=338,slow=3.0,SNR=1.5						
BOSA	**Boshof**	**149.17**	**309**	PKPbc	**PKiKP**	**23 15 21.2**	**-0.6**
	comp=Z,1.1nm,0.5s,baz=72,slow=2.2,SNR=5.7						
BOSA	**Boshof**	**149.17**	**309**		**PKPbc**	**23 15 21.0**	**+0.3**

*NEIC **23** 22:57:51.4±1.4, 51.°9N±0.°2×178.°54E±0.°06, h118km±5km, Error ellipse: s-maj=31.7km s-min=5.3km az=184.0*

AEIC 23 22:57:51±1.7, 51.°9N±0.°2×178.°62E±0.°07, h110km±5km, ML3.0, Error ellipse: s-maj=32.6km s-min=5.4km az=186.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.09**	**342**		Pn	22 58 07.6	+1.5
LSPA	**Little Sitkin**	**0.11**	**347**		Pn	22 58 07.6	+1.4
LSPA					Sn	22 58 20.7	+3.2
LSSA	**Little Sitkin**	**0.12**	**328**		Pn	22 58 07.6	+1.4
LSNW	**Little Sitkin**	**0.14**	**334**		Pn	22 58 07.5	+1.4
CETU	**Semis' Tuman**	**0.56**	**77**		Pn	22 58 10.0	+1.8
CETU					Sn	22 58 23.5	+2.4
CESW	**Semis' Southwe**	**0.59**	**84**		Pn	22 58 10.0	+1.6
CESW					Sn	22 58 23.9	+2.4
CERB	**Semis' Cerberu**	**0.64**	**82**		Sn	22 58 24.5	+2.3
AMKA	**Amchitka**	**0.64**	**137**		Pn	22 58 10.1	+1.4
CERAA	**Semis' Rag'd T**	**0.67**	**84**		Pn	22 58 10.7	+1.7
CERAA					Sn	22 58 25.6	+3.1
TASE	**Tanaga Southea**	**2.08**	**89**		Pn	22 58 27.0	+2.1
TAFP	**Tanaga Falls P**	**2.11**	**87**		Pn	22 58 27.2	+1.8
TAFP					Sn	22 58 53.1	+1.5
TAPA	**Tanaga Point A**	**2.22**	**89**		Pn	22 58 29.0	+2.3
KIMD	**Kanaga Island**	**2.58**	**90**		Pn	22 58 33.3	+2.0
KIKV	**Kanaga Island**	**2.61**	**88**		Pn	22 58 33.8	+1.9
KIRH	**Kanaga Island**	**2.66**	**87**		Pn	22 58 34.3	+1.9
SMY	**Shemya**	**2.91**	**289**		Pn	22 58 35.9	+0.2
SMY					Sn	22 59 09.6	-0.5
ADK	**Adak**	**2.92**	**87**		Pn	22 58 37.0	+1.2
ADK					Sn	22 59 11.5	+1.2
GSTR	**Great Sitkin T**	**3.30**	**84**		Pn	22 58 43.0	+2.0
GSMY	**Great Sitkin M**	**3.30**	**85**		Pn	22 58 42.9	+2.0
ATKA	**Atka Island**	**4.46**	**83**		Pn	22 58 58.0	+1.6
NIKH	**Nikolski High**	**7.75**	**77**		Pn	22 59 43.4	+2.5
PETK	**Petropavlovsk-**	**12.81**	**284**		Pn	23 00 50.2	+1.3
SDPT	**Sand Point**	**12.89**	**66**		Pn	23 00 49.0	-0.8
CNBA	**Chernabura Isl**	**13.35**	**69**		Pn	23 00 55.1	-0.8
KDAK	**Kodiak Island**	**17.54**	**59**		Pn	23 01 48.5	+0.2
TRF	**Thorofare Moun**	**20.05**	**43**	P	P	23 02 12.9	-2.3
COLD	**Coldfoot**	**21.71**	**33**	P	P	23 02 33.4	+0.6

*DDA **23** 22:58:32.5, 40.°45N×26.°25E, h7km±3km, ML1.4*

ISK 23 22:58:32.2, 40.°43N×26.°26E, h10km±2km, ML1.5/9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GELI	**Tayfur-Gelibol**	**0.17**	**101**	PG	Pg	22 58 36.4	+0.6
GELI				SG	Sg	22 58 39.2	+0.8
ERIK	**Erikli-Kesan**	**0.31**	**39**	PG	Pg	22 58 38.8	+0.4
ERIK				SG	Sg	22 58 43.5	+0.9
ENEZ	**Enez**	**0.32**	**346**	PG	Pg	22 58 39.1	+0.6
GOKA	**anakkale-Gk**	**0.36**	**228**	*i* P	Pg	22 58 39.9	+0.6
GOKA				*i* S	Sb	22 58 45.7	-0.6
GOKA				IAML		22 58 46.0	
	comp=N,57nm,0.3s						
GOKA				IAML		22 58 46.0	
	comp=E,43nm,0.2s						
GADA	**Gvkgeada**	**0.36**	**229**	PG	Pg	22 58 39.9	+0.5
GADA				SG	Sg	22 58 45.3	+1.1
LPK	**Lapseki**	**0.39**	**98**	PG	Pg	22 58 40.4	+0.5
ALN	**Alexandroupoli**	**0.49**	**341**	PG	Pg	22 58 42.1	+0.3
KESN	**Edirne-Kesan**	**0.51**	**39**	*i* P	Pb	22 58 43.9	+0.4
KESN				*i* S	Sg	22 58 49.3	+0.2
KESN				IAML		22 58 51.0	
	comp=E,38nm,0.3s						
BOZC	**Bozcaada**	**0.61**	**195**	PG	Pb	22 58 44.5	-0.4
BAYC	**CANAKKALE_Bayr**	**0.72**	**162**	*i* P	Pg	22 58 44.7	-1.5
UKOP	**Uzunkopru-Edir**	**0.75**	**22**	PG	Pb	22 58 47.3	-0.1
RDO	**Rodhopi**	**0.90**	**323**	PG	Pb	22 58 50.1	+0.2
MRMT	**Marmara Adasi**	**1.03**	**80**	PG	Pg	22 58 52.0	-0.1

*IDC **23** 22:58:35.2±2.0, 28.°58S×177.°85W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/39, mbtmp4.2/3, Error ellipse: s-maj=45.0km s-min=19.7km az=76.0*

*NEIC **23** 22:58:42.6±2.4, 29.°78S±0.°06×178.°27W±0.°05, h35km±2km, mb4.4/8, Error ellipse: s-maj=10.3km s-min=7.5km az=165.0*

ISC 23 22:58:42.5±0.8, 29.°8S±0.°1×178.°3W±0.°1, h35km, n19, σ1s80/21, mb4.3/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.58**	**32**	Pn	**Pn**	**22 58 52.5**	**-1.9**
	476nm,0.3s,baz=98,slow=9.7,SNR=2.3						
RAO				Sn	**Sn**	**22 59 03.9**	**+1.3**
	1µm,0.3s,baz=34,slow=21,SNR=5.8						
RAO	**Raoul Island**	**0.58**	**32**		**Pn**	**22 58 52.4**	**-2.0**
RAO				Sn	**Sn**	**22 59 04.6**	**+2.0**
MXZ	**Matakaoa Point**	**8.30**	**199**	Pn	**Pn**	**23 00 38.2**	**-2.1**
THZ	**Tophouse**	**13.96**	**208**	Pn	**Pn**	**23 01 57.2**	**-0.6**
CTAO	**Charters Tower**	**33.47**	**278**	P	**P**	**23 05 16.5**	**-2.1**
CTAO				IAmb	IAmb	23 05 20.6	
	comp=Z,9.2nm,1.4s						
STKA	**Stephens Creek**	**34.41**	**256**	P	**P**	**23 05 29.6**	**+3.0**
	comp=Z,4.0nm,0.9s,baz=110,slow=15,SNR=2.1						
STKA	**Stephens Creek**	**34.41**	**256**	P	**P**	**23 05 27.4**	**+0.8**
ASAR	**Alice Springs**	**42.92**	**266**	P	**P**	**23 06 38.9**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=105,slow=7.4,SNR=6.9						
ASAR	**Alice Springs**	**42.92**	**266**	P	**P**	**23 06 37.9**	**-0.2**
WB2	**Warramunga Arr**	**43.84**	**272**	P	**P**	**23 06 45.7**	**+0.2**
WB2				IAmb	IAmb	23 06 45.9	
	comp=Z,6.8nm,1.2s						
WRA	**Warramunga Arr**	**43.85**	**272**	P	**P**	**23 06 46.6**	**+1.0**
	comp=Z,2.0nm,0.4s,baz=111,slow=7.3,SNR=8.5						
WRA	**Warramunga Arr**	**43.85**	**272**	P	**P**	**23 06 45.8**	**+0.2**
WB0	**Warramunga Arr**	**43.87**	**272**	P	**P**	**23 06 47.0**	**+1.2**
WB0				IAmb	IAmb	23 06 55.2	
	comp=Z,6.8nm,1.2s						
KNRA	**Kununurra**	**50.43**	**274**	P	**P**	**23 07 37.0**	**+0.1**
FITZ	**Fitzroy Crossi**	**52.13**	**270**	P	**P**	**23 07 49.6**	**0.0**
FITZ				IAmb	IAmb	23 07 55.8	
	comp=Z,6.8nm,1.2s						
SNAA	**Sanae**	**78.81**	**179**	P	**P**	**23 10 42.3**	**+0.8**
SNAA				IAmb	IAmb	23 10 55.9	
	comp=Z,7.5nm,1.5s						
FINES	**FINESS Array B**	**144.46**	**340**	PKP	**PKPab**	**23 18 09.4**	**-3.3**
	comp=Z,0.8nm,0.4s,baz=50,slow=3.2,SNR=5.6						
AKASG	**Malin Array Be**	**150.64**	**323**	PKPbc	**PKPdf**	**23 18 27.1**	**+2.1**
	comp=Z,0.5nm,0.4s,baz=53,slow=2.7,SNR=2.1						
TORD	**Torodi Ar. Bea**	**163.48**	**180**	PKPab	**PKPab**	**23 19 35.9**	**+2.6**
	comp=Z,0.5nm,0.8s,baz=180,slow=3.7,SNR=1.6						

IDC 23 23:05:00.2±4.3, 28.°42S×177.°39W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/35, mbtmp3.8/2, Error ellipse: s-maj=85.6km s-min=26.1km az=97.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.94**	**209**	Pn	Pn	23 05 20.6	-0.1
	647nm,0.3s,baz=96,slow=5.5,SNR=14						
RAO				Sn	Sn	23 05 36.1	+1.2
	755nm,0.3s,baz=83,slow=24,SNR=12						
ASAR	**Alice Springs**	**43.78**	**265**	P	P	23 13 07.8	-0.1
	0.6nm,0.6s,baz=104,slow=7.2,SNR=7.5						
WRA	**Warramunga Arr**	**44.59**	**270**	P	P	23 13 14.3	-0.2
	1.1nm,0.5s,baz=111,slow=7.8,SNR=6.3						
FINES	**FINESS Array B**	**143.46**	**341**	PKP	PKPdf	23 24 35.6	-0.5
	1.5nm,0.7s,baz=64,slow=3.2,SNR=9.0						

*NEIC **23** 23:05:01.9±1.0, 51.°87N±0.°08×178.°3E±0.°1, h138km±4km, mb4.2/7, Error ellipse: s-maj=12.8km s-min=8.6km az=211.0*

AEIC 23 23:05:02±1.7, 52.°0N±0.°1×178.°4E±0.°1, h127km±3km, Error ellipse: s-maj=15.0km s-min=9.3km az=188.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.06**	**90**		Pn	23 05 20.5	+1.2
LSNW	**Little Sitkin**	**0.06**	**70**		Pn	23 05 20.3	+1.1
LSNW					Sn	23 05 34.2	+1.9
LSPA	**Little Sitkin**	**0.10**	**85**		Pn	23 05 20.6	+1.3
LSPA					Sn	23 05 35.1	+2.7
CETU	**Semis' Tuman**	**0.67**	**88**		Pn	23 05 23.6	+1.8
CESW	**Semis' Southwe**	**0.71**	**93**		Pn	23 05 23.5	+1.4
CEAP	**Semis' Anvil P**	**0.72**	**85**		Pn	23 05 23.9	+1.7
CERAA	**Semis' Rag'd T**	**0.78**	**93**		Pn	23 05 24.3	+1.6
CERAA					Sn	23 05 40.6	+2.2
AMKA	**Amchitka**	**0.79**	**136**		Pn	23 05 24.2	+1.4
AMKA					Sn	23 05 40.0	+1.6
TASE	**Tanaga Southea**	**2.20**	**92**		Pn	23 05 40.3	+2.0
TAFP	**Tanaga Falls P**	**2.23**	**90**		Pn	23 05 40.3	+1.7
TAFP					Sn	23 06 08.4	+1.7
KIMD	**Kanaga Island**	**2.70**	**92**		Sn	23 06 19.5	+2.1
KICM	**Kanaga Island**	**2.71**	**89**		Pn	23 05 46.6	+1.8
KIKV	**Kanaga Island**	**2.73**	**90**		Pn	23 05 46.9	+1.9
SMY	**Shemya**	**2.76**	**288**		Pn	23 05 44.7	-0.7
ADK	**Adak**	**3.03**	**89**		Pn	23 05 49.9	+1.1
GSTR	**Great Sitkin T**	**3.41**	**85**		Pn	23 05 55.2	+1.3
ATKA	**Atka Island**	**4.56**	**84**		Pn	23 06 10.8	+1.7
NIKH	**Nikolski High**	**7.84**	**77**	Pn	Pn	23 06 55.6	+2.4
SPIA	**Saint Paul Isl**	**8.41**	**47**	Pn	Pn	23 07 03.2	+2.5
UNV	**Unalaska Valle**	**9.31**	**72**	Pn	Pn	23 07 16.2	+3.4
SDPT	**Sand Point**	**12.96**	**66**	Pn	Pn	23 08 01.0	-0.2
CNBA	**Chernabura Isl**	**13.42**	**69**	Pn	Pn	23 08 07.1	-0.1
OHAK	**Old Harbor**	**17.15**	**61**	P	P	23 08 51.8	-1.4
OHAK				IAmb	IAmb	23 08 55.9	
	comp=Z,18nm,1.4s						
KDAK	**Kodiak Island**	**17.59**	**59**	P	P	23 08 58.5	+0.4
KDAK				IAmb	IAmb	23 09 16.3	
	comp=Z,10.0nm,1.0s						
CNPM	**China Poot**	**18.56**	**54**	P	Pn	23 09 09.7	-0.7
CNPM				IAmb	IAmb	23 09 21.6	
	comp=Z,24nm,1.4s						
BRLK	**Bradley Lake**	**18.78**	**53**	P	P	23 09 11.4	+0.4
FID	**Port Fidalgo**	**21.11**	**52**	P	P	23 09 36.0	-0.1
FID				IAmb	IAmb	23 09 41.2	
	comp=Z,23nm,1.2s						
DOT	**Dot Lake**	**22.78**	**45**	P	P	23 09 53.8	+0.5
DOT				IAmb	IAmb	23 09 60.0	
	comp=Z,3.8nm,1.2s						
SCRK	**Sand Creek**	**22.89**	**44**	P	P	23 09 54.8	+0.3
BCAR	**Beaver Creek A**	**23.68**	**47**	P	P	23 10 04.0	+2.4

IDC 23 23:05:25.0±2.3, 28.°46S×177.°60W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/35, mbtmp4.1/3, Error ellipse: s-maj=48.1km s-min=24.4km az=85.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.84**	**200**	Pn	Pn	23 05 43.8	-0.3
	749nm,0.3s,baz=83,slow=23,SNR=6.7						
RAO				Sn	Sn	23 05 58.4	+1.2
	1µm,0.3s,baz=294,slow=23,SNR=4.3						
ASAR	**Alice Springs**	**43.60**	**265**	P	P	23 13 30.8	-0.5
	1.3nm,0.6s,baz=105,slow=7.8,SNR=6.7						
WRA	**Warramunga Arr**	**44.41**	**270**	P	P	23 13 38.3	+0.5
	2.9nm,0.8s,baz=111,slow=7.8,SNR=3.8						
QSPA	**South Pole Qui**	**61.64**	**180**	P	P	23 15 44.8	+0.3
	2.0nm,0.7s,baz=57,slow=1.6,SNR=5.6						
FINES	**FINESS Array B**	**143.44**	**341**	PKP	PKPbc	23 24 59.0	+1.0
	3.1nm,0.6s,baz=60,slow=3.5,SNR=9.0						

*NEIC **23** 23:05:37.9±1.6, 51.°8N±0.°2×178.°46E±0.°09, h112km±5km, mb4.0/29, Error ellipse: s-maj=26.5km s-min=7.5km az=184.0*

*AEIC **23** 23:05:37.1±2.0, 51.°85N±0.°08×178.°54E±0.°07, h115km±4km, Error ellipse: s-maj=13.1km s-min=2.3km az=156.0*

*IDC **23** 23:05:41.0±5.4, 52.°06N×178.°48E, h134km±49km, mb3.3/9, mb1 3.5/11, mb1mx3.3/59, mbtmp3.8/11, Error ellipse: s-maj=49.5km s-min=15.0km az=7.0*

ISC 23 23:05:38.0±0.8, 51.°9N±0.°1×178.°43E±0.°05, h112km±6km, n73, σ0s90/78, mb3.9/18, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.10**	**30**		**Pn**	**23 05 53.4**	**0.0**
LSSA					**Sn**	**23 06 05.1**	**+0.1**
LSSE	**Little Sitkin**	**0.11**	**50**		**Pn**	**23 05 53.3**	**-0.1**
LSNW	**Little Sitkin**	**0.12**	**26**		**Pn**	**23 05 53.3**	**-0.1**
LSPA	**Little Sitkin**	**0.13**	**43**		**Pn**	**23 05 53.5**	**0.0**
LSPA					**Sn**	**23 06 05.6**	**+0.5**
CETU	**Semis' Tuman**	**0.67**	**81**		**Pn**	**23 05 56.0**	**-0.2**
CESW	**Semis' Southwe**	**0.70**	**86**		**Pn**	**23 05 56.0**	**-0.5**
CEAP	**Semis' Anvil P**	**0.72**	**78**		**Pn**	**23 05 56.5**	**-0.2**
AMKA	**Amchitka**	**0.73**	**131**		**Pn**	**23 05 56.4**	**-0.3**
AMKA					**Sn**	**23 06 09.9**	**-0.8**
CERB	**Semis' Cerberu**	**0.74**	**84**		**Sn**	**23 06 11.9**	**+0.8**
CERAA	**Semis' Rag'd T**	**0.78**	**86**		**Pn**	**23 05 56.9**	**-0.3**
TAFP	**Tanaga Falls P**	**2.22**	**88**		**Sn**	**23 06 41.3**	**0.0**
KIKV	**Kanaga Island**	**2.73**	**88**		**Pn**	**23 06 20.5**	**+0.2**
KINC	**Kanaga Island**	**2.75**	**87**		**Pn**	**23 06 20.6**	**0.0**
SMY	**Shemya**	**2.80**	**290**	Pn	**Pn**	**23 06 20.6**	**-0.7**
SMY				Sn	**Sn**	**23 06 54.0**	**-0.6**
ADK	**Adak**	**3.03**	**88**		**Pn**	**23 06 23.2**	**-1.1**
ADK				Sn	**Sn**	**23 06 59.1**	**-0.9**
GSTD	**Great Sitkin T**	**3.36**	**85**		**Pn**	**23 06 28.3**	**-0.5**
GSTR	**Great Sitkin T**	**3.41**	**84**		**Pn**	**23 06 29.0**	**-0.4**
GSMY	**Great Sitkin M**	**3.42**	**85**		**Pn**	**23 06 29.1**	**-0.4**
ATKA	**Atka Island**	**4.56**	**83**		**Pn**	**23 06 44.6**	**-0.2**
NIKH	**Nikolski High**	**7.85**	**77**	Pn	**Pn**	**23 07 30.4**	**+1.2**
SPIA	**Saint Paul Isl**	**8.46**	**47**	Pn	**Pn**	**23 07 38.9**	**+1.4**
MREP	**Makushin Rep't**	**9.18**	**72**		**Pn**	**23 07 48.9**	**+1.6**
AKUT	**Akutan**	**9.79**	**70**	Pn	**Pn**	**23 07 56.5**	**+1.0**
PEA0B	**Petropavlovsk-**	**12.70**	**284**	Pn	**Pn**	**23 08 36.0**	**+1.7**
PETK	**Petropavlovsk-**	**12.70**	**284**	P	**Pn**	**23 08 36.8**	**+2.5**
	0.5nm,0.3s,baz=93,slow=16,SNR=4.6						
PETK	**Petropavlovsk-**	**12.70**	**284**		**Pn**	**23 08 35.1**	**+0.9**
SDPT	**Sand Point**	**12.99**	**66**	Pn	**Pn**	**23 08 37.5**	**-0.5**
CNBA	**Chernabura Isl**	**13.45**	**69**	Pn	**Pn**	**23 08 41.9**	**-2.1**
CHIR	**Chirikof Islan**	**15.78**	**65**	Pn	**Pn**	**23 09 11.5**	**-2.0**
SII	**Sitkinak Islan**	**16.63**	**63**		**Pn**	**23 09 23.2**	**-0.9**
SVW2	**Sparrevohn**	**16.96**	**47**		**Pn**	**23 09 27.6**	**-0.5**
SVW2				IAmb	IAmb	23 09 35.8

σ1⚲52/40, **mb4.5**/11, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.89**	**349**	Pn	**Pn**	**23 09 33.3**	**-1.5**
	559nm,0.3s,baz=76,slow=24,SNR=15						
RAO				Sn	**Sn**	**23 09 46.9**	**+0.5**
	2μm,0.3s,baz=33,slow=20,SNR=9.4						
BKZ	**Black Stump Fm**	**10.20**	**206**	Pn	**Pn**	**23 11 42.9**	**+0.2**
BFZ	**Birch Farm**	**11.62**	**203**	Pn	**Pn**	**23 12 00.3**	**-1.8**
KHZ	**Kahutara**	**14.14**	**207**	Pn	**Pn**	**23 12 33.0**	**-3.4**
RPZ	**Rata Peaks**	**16.24**	**210**	Pn	**Pn**	**23 13 03.7**	**-0.5**
	1.0nm,0.3s,baz=18,slow=17,SNR=1.6						
RPZ	**Rata Peaks**	**16.24**	**210**		**Pn**	**23 13 03.3**	**-0.9**
RPZ				IAmb	IAmb	23 13 16.3	
	comp=Z,18nm,1.0s						
DZM	**Mont Dzumac**	**16.32**	**296**	Sn	**Sn**	**23 16 00.6**	**-4.9**
	comp=Z,0.6nm,0.3s,baz=96,slow=17,SNR=2.5						
CAN	**Canberra**	**28.39**	**251**	P	**P**	**23 15 11.0**	**+1.0**
TOO	**Toolangi**	**31.30**	**246**	P	**P**	**23 15 38.0**	**+2.4**
CTAO	**Charters Tower**	**34.00**	**279**	P	**P**	**23 16 01.8**	**+2.4**
CTAO				IAmb	IAmb	23 16 14.8	
	comp=Z,10nm,1.0s						
STKA	**Stephens Creek**	**34.78**	**256**	P	**P**	**23 16 07.2**	**+1.2**
	comp=Z,1.7nm,0.4s,baz=100,slow=12,SNR=5.9						
STKA	**Stephens Creek**	**34.78**	**256**	P	**P**	**23 16 07.7**	**+1.6**
BBOO	**Buckleboo**	**39.28**	**254**	P	**P**	**23 16 45.0**	**+0.8**
AS31	**Alice Springs**	**43.37**	**267**		**P**	**23 17 19.3**	**+1.4**
ASAR	**Alice Springs**	**43.37**	**267**	P	**P**	**23 17 18.5**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=105,slow=7.3,SNR=12						
ASAR	**Alice Springs**	**43.37**	**267**	P	**P**	**23 17 19.2**	**+1.2**
WB2	**Warramunga Arr**	**44.32**	**272**	P	**P**	**23 17 26.4**	**+0.8**
WB2				IAmb	IAmb	23 17 40.2	
	comp=Z,6.9nm,0.8s						
WRA	**Warramunga Arr**	**44.33**	**272**	P	**P**	**23 17 26.9**	**+1.1**
	comp=Z,1.7nm,0.3s,baz=110,slow=8.1,SNR=14						
WRA	**Warramunga Arr**	**44.33**	**272**	P	**P**	**23 17 26.8**	**+1.1**
WB0	**Warramunga Arr**	**44.35**	**272**	P	**P**	**23 17 26.6**	**+0.7**
WB0				IAmb	IAmb	23 17 38.5	
	comp=Z,15nm,1.4s						
VNDA	**Vanda**	**48.39**	**186**	P	**P**	**23 17 57.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**52.61**	**270**	P	**P**	**23 18 31.2**	**+1.8**
FITZ				IAmb	IAmb	23 18 39.1	
	comp=Z,6.9nm,1.2s						
CASY	**Casey**	**55.50**	**208**	P	**P**	**23 18 49.2**	**-0.6**
CASY				IAmb	IAmb	23 19 01.5	
	comp=Z,5.0nm,0.7s						
QSPA	**South Pole Qui**	**59.98**	**180**	P	**P**	**23 19 20.7**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=299,slow=1.6,SNR=9.1						
QSPA	**South Pole Qui**	**59.98**	**180**	P	**P**	**23 19 21.8**	**+0.2**
QSPA				IAmb	IAmb	23 19 41.5	
	comp=Z,5.1nm,0.8s						
MJAR	**Matsushiro Arr**	**78.16**	**325**	P	**P**	**23 21 16.4**	**+2.1**
	comp=Z,1.1nm,0.7s,baz=160,slow=6.3,SNR=4.0						
MJAR	**Matsushiro Arr**	**78.16**	**325**	P	**P**	**23 21 15.1**	**+0.7**
SNAA	**Sanae**	**78.42**	**178**	P	**P**	**23 21 14.8**	**-0.7**
SNAA				IAmb	IAmb	23 21 31.5	
	comp=Z,4.3nm,1.3s						
H03S2	**Juan Fernandez**	**80.41**	**123**	T	T	00 50 47.8	
	baz=238,slow=74,SNR=4.6						
H03S1	**Juan Fernandez**	**80.42**	**123**	T	T	00 50 49.4	
	baz=238,slow=74,SNR=4.2						
H03S3	**Juan Fernandez**	**80.43**	**123**	T	T	00 50 50.5	
	baz=238,slow=74,SNR=4.8						
FINES	**FINESS Array B**	**144.97**	**340**	PKPbc	**PKPbc**	**23 28 49.2**	**-1.6**
	comp=Z,4.8nm,0.7s,baz=49,slow=4.1,SNR=13						
FINES	**FINESS Array B**	**144.97**	**340**		**PKPbc**	**23 28 49.4**	**-1.4**
NB2	**NORSAR Subarra**	**148.52**	**352**	PKP	**PKPbc**	**23 29 00.0**	**-1.2**
	comp=Z,0.9nm,0.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.52**	**352**	PKPbc	**PKiKP**	**23 29 02.2**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=14,slow=4.2,SNR=4.3						
AKASG	**Malin Array Be**	**151.23**	**323**	PKPbc	**PKiKP**	**23 29 08.0**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=53,slow=2.0,SNR=2.4						
AKASG	**Malin Array Be**	**151.23**	**323**		**PKiKP**	**23 29 09.1**	**+0.5**
BRTR	**Keskin Array B**	**152.68**	**299**	PKPbc	**PKiKP**	**23 29 13.0**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=305,slow=29,SNR=2.7						
BRTR				PKPab	**PKPab**	**23 29 23.1**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=118,slow=1.8,SNR=5.6						
BRTR	**Keskin Array B**	**152.68**	**299**		**PKiKP**	**23 29 12.0**	**-0.2**
BRTR				PKPab	**PKPab**	**23 29 23.2**	**+0.4**
TORD	**Torodi Ar. Bea**	**163.09**	**178**	PKPab	**PKPab**	**23 30 06.6**	**-1.2**
	comp=Z,0.3nm,0.8s,baz=243,slow=1.6,SNR=1.6						

*NEIC **23** 23:11:11.3±0.9,51.77N±0.09×178.48E±0.09, h108km±3km, Error ellipse: s-maj=14.3km s-min=7.3km az=199.0*

AEIC 23 23:11:10.8±0.8, **51.8N**±0.1×**178.52E**±0.1, **h107**km±5km, **mb3.9**/2(NEIC), **Error ellipse: s-maj=16.6km s-min=4.8km az=200.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.13**	**357**		Pn	23 11 26.3	+0.6
LSPA	**Little Sitkin**	**0.14**	**13**		Pn	23 11 26.5	+0.7
LSPA					Sn	23 11 38.2	+1.2
LSNW	**Little Sitkin**	**0.15**	**359**		Pn	23 11 26.5	+0.7
CESW	**Semis' Southwe**	**0.65**	**82**		Pn	23 11 29.0	+0.5
AMKA	**Amchitka**	**0.66**	**132**		Pn	23 11 29.2	+0.7
AMKA					Sn	23 11 42.8	+1.0
CEAP	**Semis' Anvil P**	**0.68**	**74**		Pn	23 11 29.6	+0.8
CERAA	**Semis' Rag'd T**	**0.73**	**83**		Pn	23 11 29.8	+0.7
CERAA					Sn	23 11 44.8	+1.9
GAEA	**Gareloi East**	**1.70**	**90**		Sn	23 12 05.3	+3.4
TASE	**Tanaga Southea**	**2.13**	**88**		Pn	23 11 46.6	+1.2
TAFP	**Tanaga Falls P**	**2.17**	**86**		Pn	23 11 46.7	+0.9
TAFP					Sn	23 12 13.3	+0.7
TAPA	**Tanaga Point A**	**2.27**	**89**		Pn	23 11 48.5	+1.2
KIMD	**Kanaga Island**	**2.63**	**90**		Pn	23 11 52.8	+1.0
KICM	**Kanaga Island**	**2.66**	**86**		Pn	23 11 53.5	+1.3
KIKV	**Kanaga Island**	**2.67**	**87**		Pn	23 11 53.6	+1.3
KINC	**Kanaga Island**	**2.70**	**86**		Pn	23 11 53.7	+1.0
SMY	**Shemya**	**2.87**	**290**		Pn	23 11 55.1	+0.2
SMY	**Shemya**	**2.87**	**290**	Sn	Sn	23 12 29.0	+0.1
ADK	**Adak**	**2.97**	**87**	Pn	Pn	23 11 57.0	+0.7
ADK	**Adak**	**2.97**	**87**	Sn	Sn	23 12 32.1	+0.7
ADAG	**Mount Adagdak**	**3.02**	**85**		Pn	23 11 57.7	+0.7
GSTD	**Great Sitkin T**	**3.31**	**84**		Pn	23 12 02.2	+1.3
GSMY	**Great Sitkin M**	**3.36**	**84**		Pn	23 12 02.5	+1.0
GSTR	**Great Sitkin T**	**3.36**	**83**		Pn	23 12 02.7	+1.1
ATKA	**Atka Island**	**4.51**	**82**		Pn	23 12 18.2	+1.3
ATKA	**Atka Island**	**4.51**	**82**	Sn	Sn	23 13 09.3	+0.9
NIKH	**Nikolski High**	**7.81**	**77**		Pn	23 13 03.7	+2.1
SPIA	**Saint Paul Isl**	**8.45**	**46**	Pn	Pn	23 13 13.8	+3.6
KDAK	**Kodiak Island**	**17.60**	**59**	P	Pn	23 15 09.0	-0.1
KDAK				IAmb	IAmb	23 15 11.8	
	comp=Z,11nm,1.3s						
CNPM	**China Poot**	**18.58**	**54**	P	Pn	23 15 20.5	-0.3
DLBC	**Dease Lake**	**29.51**	**57**	P	P	23 17 05.3	+0.6

*NEIC **23** 23:12:02.6±1.2,29.71S±0.1×176.82W±0.03, h35km±2km, mb4.5/12, Error ellipse: s-maj=20.9km s-min=3.0km az=348.0*

*IDC **23** 23:12:04.5±1.4,28.63S×177.82W, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.0/35, mbtmp4.2/4, Error ellipse: s-maj=36.2km s-min=16.3km az=84.0*

ISC 23 23:12:02.8±0.8, **29.2S**±0.1×**176.84W**±0.08, **h31**km, **n30,** σ1⚲45/28, **mb4.5**/9, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.95**	**264**	Pn	**Pb**	**23 12 20.8**	**+0.1**
	1μm,0.3s,baz=98,slow=6.9,SNR=9.2						
RAO				Sn	**Sb**	**23 12 33.2**	**+0.2**
	4μm,0.3s,baz=74,slow=20,SNR=16						
RAO	**Raoul Island**	**0.95**	**264**		**Pb**	**23 12 20.7**	**0.0**
RAO				Sn	**Sn**	**23 12 32.3**	**-0.1**
MXZ	**Matakaoa Point**	**9.32**	**205**	Pn	**Pn**	**23 14 16.1**	**+1.1**
BKZ	**Black Stump Fm**	**11.41**	**207**	Pn	**Pn**	**23 14 45.1**	**+1.5**
ARMA	**Armidale**	**27.36**	**259**	P	**P**	**23 17 45.1**	**-0.2**
ARMA				IAmb	IAmb	23 18 03.2	
	comp=Z,20nm,1.4s						
EIDS	**Eidsvold**	**28.72**	**270**	P	**P**	**23 17 56.1**	**-1.3**
EIDS				IAmb	IAmb	23 18 02.5	
	comp=Z,14nm,1.4s						
CAN	**Canberra**	**29.45**	**249**	P	**P**	**23 18 05.5**	**+1.7**
CAN				IAmb	IAmb	23 18 20.1	
	comp=Z,15nm,1.0s						
CTAO	**Charters Tower**	**34.63**	**277**	P	**P**	**23 18 48.4**	**-1.0**
CTAO				IAmb	IAmb	23 19 03.7	
	comp=Z,7.3nm,0.8s						
STKA	**Stephens Creek**	**35.76**	**255**	P	**P**	**23 18 58.5**	**-0.6**
	comp=Z,1.7nm,0.3s,baz=95,slow=7.8,SNR=4.6						
STKA	**Stephens Creek**	**35.76**	**255**	P	**P**	**23 18 58.7**	**-0.3**
STKA				IAmb	IAmb	23 19 11.5	
	comp=Z,2.4nm,1.2s						
XMAS	**Kiritimati**	**36.15**	**34**	P	**P**	**23 19 02.2**	**-0.2**
BBOO	**Buckleboo**	**40.29**	**253**	P	**P**	**23 19 37.0**	**-0.2**
AS31	**Alice Springs**	**44.20**	**265**		**P**	**23 20 08.3**	**-0.9**
ASAR	**Alice Springs**	**44.20**	**265**	P	**P**	**23 20 08.9**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=103,slow=7.3,SNR=13						
ASAR	**Alice Springs**	**44.20**	**265**	P	**P**	**23 20 08.7**	**-0.6**
WB2	**Warramunga Arr**	**45.07**	**270**	P	**P**	**23 20 16.0**	**-0.2**
WB2				IAmb	IAmb	23 20 26.9	
	comp=Z,4.4nm,0.7s						
WRA	**Warramunga Arr**	**45.08**	**270**	P	**P**	**23 20 16.1**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=110,slow=7.9,SNR=12						
WRA	**Warramunga Arr**	**45.08**	**270**	P	**P**	**23 20 15.5**	**-0.8**
VNDA	**Vanda**	**49.44**	**186**	P	**P**	**23 20 47.9**	**-1.5**
QSPA	**South Pole Qui**	**60.96**	**180**	P	**P**	**23 22 21.3**	**+8.5**
	comp=Z,2.1nm,0.8s,baz=349,slow=2.1,SNR=3.4						
QSPA	**South Pole Qui**	**60.96**	**180**	P	**P**	**23 22 11.4**	**-1.3**
QSPA				IAmb	IAmb	23 22 21.0	
	comp=Z,9.9nm,1.4s						
H03S2	**Juan Fernandez**	**80.31**	**123**	T	T	00 53 46.4	
	baz=239,slow=74,SNR=11						
H03S1	**Juan Fernandez**	**80.32**	**123**	T	T	00 53 47.0	
	baz=239,slow=74,SNR=6.5						
H03S3	**Juan Fernandez**	**80.32**	**123**	T	T	00 53 45.8	
	baz=239,slow=74,SNR=10						
FINES	**FINESS Array B**	**144.30**	**341**	PKP	**PKiKP**	**23 31 38.1**	**-0.5**
	comp=Z,4.4nm,0.4s,baz=44,slow=4.2,SNR=29						
FINES	**FINESS Array B**	**144.30**	**341**		**PKiKP**	**23 31 38.0**	**-0.6**
NB2	**NORSAR Subarra**	**147.66**	**353**	PKP	**PKPab**	**23 31 48.0**	**+2.2**
	comp=Z,1.0nm,1.0s,baz=23,slow=2.5						
NOA	**NORSAR Array B**	**147.66**	**353**	PKPbc	**PKPab**	**23 31 50.0**	**+4.1**
	comp=Z,0.9nm,0.8s,baz=7.1,slow=3.6,SNR=3.8						
AKASG	**Malin Array Be**	**150.89**	**325**	PKPbc	**PKPab**	**23 31 56.9**	**-2.3**
	comp=Z,1.1nm,0.5s,baz=144,slow=8.9,SNR=2.5						
BRTR	**Keskin Array B**	**152.86**	**301**	PKPbc	**PKiKP**	**23 32 00.2**	**+3.0**
	comp=Z,0.2nm,0.5s,baz=35,slow=24,SNR=2.1						

WEL 23 23:12:28.6, 40.9S±0.7×**175.2E**±0.9, **h25**km±1km, **M2.8**/13, **ML3.0**/13, **MLv2.8**/13, **Error ellipse: s-maj=0.0km s-min=0.0km az=109.5, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OGWZ	**Otaki Gorge**	**0.11**	**350**	P	Pb	23 12 33.7	+0.4
OGWZ				S	Sb	23 12 37.5	+1.1
CAW	**Cannon Point**	**0.21**	**208**	P	Pb	23 12 35.0	+0.7
CAW				S	Sb	23 12 39.5	+1.3
KIW	**Kapiti Island**	**0.23**	**286**	P	Pb	23 12 35.1	+0.5
KIW				S	Sb	23 12 39.9	+1.3
HOWZ	**Holdsworth Sta**	**0.24**	**84**	P	Pb	23 12 35.1	+0.3
HOWZ				S	Sb	23 12 40.0	+0.9
MRZ	**Mangatainoka R**	**0.39**	**48**	P	Pb	23 12 36.9	-0.1
PAWZ	**Paruwai Farm**	**0.49**	**159**	P	Pb	23 12 39.1	+0.5
MSWZ	**Moikau Station**	**0.49**	**175**	P	Pb	23 12 39.3	+0.6
BHW	**Baring Head**	**0.54**	**207**	P	Pb	23 12 39.6	+0.1
TIWZ	**Tintock**	**0.54**	**74**	P	Pb	23 12 39.8	+0.2
TMWZ	**Te Maipa**	**0.56**	**109**	P	Pb	23 12 40.2	+0.4
TRWZ	**Traveller**	**0.60**	**142**	P	Pb	23 12 40.8	+0.2
PLWZ	**Palliser**	**0.65**	**176**	P	Pb	23 12 41.5	+0.2
POWZ	**Post Office Ro**	**0.69**	**39**	P	Pb	23 12 41.8	-0.1
PRWZ	**Pori Road**	**0.70**	**58**	P	Pn	23 12 42.5	-0.4
TCW	**Tory Channel**	**0.75**	**247**	P	Pb	23 12 43.2	+0.2
CPWZ	**Castlepoint**	**0.76**	**89**	P	Pb	23 12 43.5	+0.3
BFZ	**Birch Farm**	**0.83**	**73**	P	Pb	23 12 43.9	-0.6
DVHZ	**Dannevirke**	**0.97**	**50**	P	Pn	23 12 45.7	-0.9
DUWZ	**D'Urville Isla**	**0.97**	**277**	P	Pb	23 12 46.9	+0.1
DUWZ				S	Sn	23 13 00.6	+0.8
TSZ	**Takapari Road**	**1.04**	**34**	P	Pn	23 12 47.3	-0.4
TSZ				S	Sn	23 13 01.8	+0.3
WAZ	**Wanganui**	**1.18**	**352**	P	Pb	23 12 50.6	+0.3
WAZ				S	Sb	23 13 07.7	+2.5
PNHZ	**Pukenui**	**1.27**	**38**	P	Pn	23 12 50.1	-0.7
MOVZ	**Moawhango**	**1.58**	**16**	P	Pn	23 12 55.1	0.0
TRVZ	**Turoa**	**1.65**	**10**	P	Pn	23 12 56.9	+0.7
WHVZ	**Whangaehu Hut**	**1.67**	**11**	P	Pn	23 12 57.1	+0.6
FWVZ	**Far West T-bar**	**1.69**	**9**	P	Pn	23 12 57.4	+0.6
VRZ	**Vera Road**	**1.83**	**349**	P	Pb	23 12 60.0	-1.4
WTVZ	**West Tongariro**	**1.83**	**10**	P	Pb	23 13 00.3	-1.2
KRVZ	**Karewarewa**	**1.86**	**11**	P	Pb	23 13 01.3	-0.7
QRZ	**Quartz Range**	**2.02**	**272**	P	Pn	23 13 02.6	+1.4
RTZ	**Ruatahuna**	**2.69**	**31**	P	Pb	23 13 14.5	-1.5
SNGZ	**Shannon Statio**	**2.70**	**38**	P	Pb	23 13 17.3	+1.1

*IDC **23** 23:16:47.3±1.2,29.86S×177.34W, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.9/34, mbtmp4.3/4, Error ellipse: s-maj=36.8km s-min=17.1km az=58.0*

*NEIC **23** 23:16:52.0±0.8,29.86S±0.09×177.4W±0.2, h32km±7km, mb4.5/16, Error ellipse: s-maj=24.1km s-min=9.8km az=64.0*

ISC 23 23:16:52.1±0.9, **29.86S**±0.09×**177.4W**±0.1, **h35**km, **n33,** σ0⚲90/32, **mb4.5**/12, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.78**	**321**	Pn	**Pn**	**23 17 05.7**	**-1.0**
	653nm,0.3s,baz=54,slow=23,SNR=6.3						
RAO				Sn	**Sn**	**23 17 19.5**	**+2.4**
	2μm,0.3s,baz=145,slow=20,SNR=11						
RAO	**Raoul Island**	**0.78**	**321**		**Pn**	**23 17 05.6**	**-1.1**
RAO				Sn	**Sn**	**23 17 17.0**	**-0.1**
THZ	**Tophouse**	**14.25**	**211**	Pn	**Pn**	**23 20 11.1**	**-0.4**
ARMA	**Armidale**	**26.79**	**261**	P	**P**	**23 22 31.1**	**+2.0**
ARMA				IAmb	IAmb	23 22 42.3	
	comp=Z,9.0nm,1.1s						
EIDS	**Eidsvold**	**28.28**	**271**	P	**P**	**23 22 43.9**	**+1.6**
HNR	**Honiara**	**29.38**	**309**	P	**P**	**23 22 51.2**	**-1.0**
	comp=Z,140nm,0.4s,baz=155,slow=8.0,SNR=4.0						
TOO	**Toolangi**	**31.69**	**246**	P	**P**	**23 23 12.9**	**+0.4**
TOO				IAmb	IAmb	23 23 14.8	
	comp=Z,21nm,1.4s						
CTAO	**Charters Tower**	**34.27**	**278**	P	**P**	**23 23 35.1**	**-0.1**
CTAO				IAmb	IAmb	23 23 48.6	
	comp=Z,6.5nm,0.8s						
STKA	**Stephens Creek**	**35.15**	**256**	P	**P**	**23 23 43.4**	**+0.8**
	comp=Z,2.4nm,0.5s,baz=107,slow=11,SNR=6.7						
STKA	**Stephens Creek**	**35.15**	**256**	P	**P**	**23 23 42.6**	**0.0**
STKA				IAmb	IAmb	23 23 52.0	
	comp=Z,4.2nm,1.4s						
BBOO	**Buckleboo**	**39.66**	**253**	P	**P**	**23 24 20.1**	**-0.7**
AS31	**Alice Springs**	**43.70**	**266**	P	**P**	**23 24 54.1**	**0.0**
ASAR	**Alice Springs**	**43.70**	**266**	P	**P**	**23 24 54.2**	**+0.2**
	comp=Z,1.2nm,0.5s,baz=103,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**43.70**	**266**	P	**P**	**23 24 53.6**	**-0.4**
WB2	**Warramunga Arr**	**44.63**	**271**	P	**P**	**23 25 01.4**	**-0.1**
WB2				IAmb	IAmb	23 25 13.2	
	comp=Z,18nm,1.2s						
WRA	**Warramunga Arr**	**44.64**	**271**	P	**P**	**23 25 01.6**	**0.0**
	comp=Z,2.7nm,0.4s,baz=111,slow=8.1,SNR=12						
WRA	**Warramunga Arr**	**44.64**	**271**	P	**P**	**23 25 01.4**	**-0.1**
WB0	**Warramunga Arr**	**44.66**	**272**	P	**P**	**23 25 01.5**	**-0.3**
WB0				IAmb	IAmb	23 25 06.9	
	comp=Z,4.5nm,0.7s						
VNDA	**Vanda**	**48.69**	**186**	P	**P**	**23 25 33.2**	**+0.8**
KNRA	**Kununurra**	**51.23**	**274**	P	**P**	**23 25 51.9**	**-0.6**
CASY	**Casey**	**55.88**	**208**	P	**P**	**23 26 24.3**	**-1.6**
CASY				IAmb	IAmb	23 26 34.0	
	comp=Z,9.4nm,1.3s						
QSPA	**South Pole Qui**	**60.25**	**180**	P	**P**	**23 26 57.2**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=25,slow=1.5,SNR=7.3						
QSPA	**South Pole Qui**	**60.25**	**180**	P	**P**	**23 26 57.0**	**+0.3**
QSPA				IAmb	IAmb	23 27 08.0	
	comp=Z,4.6nm,1.2s						
SNAA	**Sanae**	**78.68**	**178**	P	**P**	**23 28 50.8**	**+0.5**
SNAA				IAmb	IAmb	23 29 02.5	
	comp=Z,5.9nm,1.5s						
H03S2	**Juan Fernandez**	**80.29**	**123**	T	T	00 58 32.1	
	baz=237						
H03S1	**Juan Fernandez**	**80.31**	**123**	T	T	00 58 30.9	
	baz=237						
H03S3	**Juan Fernandez**	**80.31**	**123**	T	T	00 58 29.7	
	baz=237						
NIKH	**Nikolski High**	**82.81**	**5**	P	**P**	**23 29 12.7**	**+0.4**
FINES	**FINESS Array B**	**144.83**	**341**	PKP	**PKPdf**	**23 36 24.1**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=47,slow=3.8,SNR=7.3						
NOA	**NORSAR Array B**	**148.30**	**352**	PKPbc	**PKiKP**	**23 36 34.6**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=61,slow=21,SNR=2.1						
AKASG	**Malin Array Be**	**151.20**	**324**	PKPbc	**PKiKP**	**23 36 42.3**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=1.5,slow=37,SNR=3.1						
BRTR	**Keskin Array B**	**152.83**	**300**	PKPbc	**PKiKP**	**23 36 46.8**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=47,slow=2.2,SNR=2.3						
TORD	**Torodi Ar. Bea**	**163.34**	**177**	PKPab	**PKPab**	**23 37 42.7**	**+0.4**
	comp=Z,0.4nm,0.9s,baz=179,slow=26,SNR=1.6						

IDC 23 23:19:36.9±4.5, **28.33S**×**177.40W**, **h0**km, **mb3.7**/2, **mb1 4.0**/2, **mb1mx3.5**/38, **mbtmp3.7**/2, **Error ellipse: s-maj=91.5km s-min=28.9km az=96.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.03**	**206**	Pn	Pn	23 19 58.4	-0.2
	174nm,0.3s,baz=81,slow=15,SNR=3.6						
RAO				Sn	Sn	23 20 15.2	+1.6
	458nm,0.3s,baz=74,slow=23,SNR=5.7						
ASAR	**Alice Springs**	**43.79**	**265**	P	P	23 27 43.6	-1.0
	0.3nm,0.3s,baz=102,slow=8.6,SNR=3.1						
WRA	**Warramunga Arr**	**44.59**	**270**	P	P	23 27 51.6	+0.6
	0.8nm,0.6s,baz=113,slow=7.2,SNR=1.9						
FINES	**FINESS Array B**	**143.37**	**341**	PKP	PKPdf	23 39 12.5	-0.1
	1.8nm,0.6s,baz=66,slow=3.5,SNR=7.4						

*IDC **23** 23:23:05.4±4.1,28.59S×177.48W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/35, mbtmp3.8/2, Error ellipse: s-maj=83.4km s-min=24.6km az=99.0*

*NEIC **23** 23:23:10.0±1.9,28.51S±0.04×177.5W±0.1, h35km±2km, mb4.1/7, Error ellipse: s-maj=19.5km s-min=7.6km az=268.0*

ISC 23 23:23:10.0±1.4, **28.5S**±0.1×**177.5W**±0.2, **h35**km, **n15,** σ1⚲06/17, **mb3.9**/6, **Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.79**	**205**	Pn	**Pn**	**23 23 23.3**	**-1.4**
	491nm,0.3s,baz=81,slow=9.8,SNR=14						
RAO				Sn	**Sn**	**23 23 37.2**	**+1.9**
	917nm,0.3s,baz=196,slow=23,SNR=7.5						
RAO	**Raoul Island**	**0.79**	**205**		**Pn**	**23 23 23.2**	**-1.5**
RAO				Sn	**Sn**	**23 23 36.4**	**+1.1**
ARMA	**Armidale**	**26.88**	**258**	P	**P**	**23 28 47.2**	**-0.5**
EIDS	**Eidsvold**	**28.11**	**269**	P	**P**	**23 28 58.6**	**-0.2**
EIDS				IAmb	IAmb	23 29 00.4	
	comp=Z,8.1nm,1.3s						
STKA	**Stephens Creek**	**35.34**	**254**	P	**P**	**23 30 01.2**	**-0.9**
AS31	**Alice Springs**	**43.65**	**265**	P	**P**	**23 31 11.1**	**-0.4**
AS31				IAmb	IAmb	23 31 15.9	
	comp=Z,1.3nm,1.2s						
ASAR	**Alice Springs**	**43.65**	**265**	P	**P**	**23 31 11.8**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=104,slow=7.5,SNR=8.6						
ASAR	**Alice Springs**	**43.65**	**265**	P	**P**	**23 31 11.6**	**+0.1**
WRA	**Warramunga Arr**	**44.47**	**270**	P	**P**	**23 31 19.6**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=110,slow=7.8,SNR=2.1						
WRA	**Warramunga Arr**	**44.47**	**270**	P	**P**	**23 31 19.1**	**+0.9**
WB0	**Warramunga Arr**	**44.49**	**270**	P	**P**	**23 31 18.8**	**+0.6**
WB0				IAmb	IAmb	23 31 26.5	
	comp=Z,2.5nm,0.8s						
QSPA	**South Pole Qui**	**61.57**	**180**	P	**P**	**23 33 23.0**	**-0.6**
SNAA	**Sanae**	**80.00**	**178**	P	**P**	**23 35 16.1**	**+0.7**
SNAA				IAmb	IAmb	23 35 22.1	
	comp=Z,6.5nm,1.5s						
FINES	**FINESS Array B**	**143.53**	**341**	PKP	**PKPdf**	**23 42 41.3**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=38,slow=3.2,SNR=6.9						
FINES	**FINESS Array B**	**143.53**	**341**		**PKPdf**	**23 42 40.6**	**+0.4**

*IDC **23** 23:24:12.1±0.9,30.01S×177.78W, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.1/35, mbtmp4.

CLL	**Collm**	**157.35**	**342**	*i* PKP	PKPab	23 44 53.8	+14
	comp=Z,6.0nm,0.9s						
BRG	**Berggiesshubel**	**157.48**	**340**	*i* P	PKPab	23 44 54.7	+14
	comp=Z,3.2nm,0.8s						
GERES	**GERESS Array B**	**159.34**	**338**	PKPab	**PKPab**	**23 44 49.0**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=286,slow=29,SNR=1.8						
CONA	**Conrad Observa**	**159.35**	**333**	*i* pPKPab	PKPab	23 44 58.3	+9.1
	comp=Z,0.9nm,0.6s						
SOKA	**Soboth**	**160.70**	**333**	*i* pPKPab	**PKPab**	**23 45 00.1**	**+5.0**
OBKA	**Obir**	**161.03**	**333**	*i* PKPab	**PKPab**	**23 44 59.9**	**+3.3**
	comp=Z,4.5nm,0.9s						
WATA	**Walderalm**	**161.34**	**340**	*i* PKPab	**PKPab**	**23 44 58.9**	**+1.0**
	comp=Z,3.7nm,1.1s						
WTTA	**Wattenberg**	**161.39**	**340**	*i* PKPab	**PKPab**	**23 45 00.4**	**+2.2**
	comp=Z,7.3nm,1.3s						
RETA	**Reutte**	**161.44**	**342**	*i* PKPab	**PKPab**	**23 45 01.5**	**+3.2**
	comp=Z,4.6nm,1.0s						
MOTA	**Moosalm**	**161.47**	**341**	*i* PKPab	**PKPab**	**23 45 00.9**	**+2.4**
	comp=Z,5.1nm,1.3s						
SQTA	**Sankt Quirin**	**161.55**	**340**	*i* pPKPab	**PKPab**	**23 45 04.8**	**+6.0**
	comp=Z,2.3nm,0.7s						
ABTA	**Abfaltersbach**	**161.57**	**337**	*i* PKPab	**PKPab**	**23 45 00.6**	**+1.7**
	comp=Z,3.4nm,1.1s						
DAVA	**Damuels**	**161.85**	**343**	*i* PKPab	**PKPab**	**23 45 02.5**	**+2.3**
	comp=Z,3.7nm,0.9s						
FETA	**Feichten**	**161.87**	**341**	*i* pPKPab	**PKPab**	**23 45 05.1**	**+4.8**
	comp=Z,4.4nm,1.3s						
TORD	**Torodi Ar. Bea**	**163.13**	**178**	PKPab	**PKPab**	**23 45 06.3**	**0.0**
	comp=Z,0.6nm,0.8s,baz=185,slow=3.9,SNR=4.4						

*NEIC **23** 23:24:18.1±1.3,51.88N±0.08×178.11E±0.06, h132km±4km, Error ellipse: s-maj=11.2km s-min=5.1km az=165.0*

AEIC 23 23:24:18±2.0,**51.90N**±0.08×**178.23E**±0.06,**h126**km±3km, **mb3.7**/6(NEIC),**Error ellipse: s-maj=11.0km s-min=5.5km az=170.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.18**	**74**		Pn	23 24 36.8	+1.6
LSSA					Sn	23 24 50.2	+1.8
LSNW	**Little Sitkin**	**0.19**	**68**		Pn	23 24 36.6	+1.3
LSSE	**Little Sitkin**	**0.21**	**81**		Pn	23 24 35.7	+0.4
LSPA	**Little Sitkin**	**0.22**	**75**		Pn	23 24 35.6	+0.3
LSPA					Sn	23 24 51.0	+2.6
CESW	**Semis' Southwe**	**0.83**	**89**		Pn	23 24 40.3	+1.4
CEAP	**Semis' Anvil P**	**0.84**	**82**		Pn	23 24 40.9	+1.9
AMKA	**Amchitka**	**0.85**	**128**		Pn	23 24 40.5	+1.4
AMKA					Sn	23 24 57.0	+2.0
CERAA	**Semis' Rag'd T**	**0.90**	**89**		Pn	23 24 41.2	+1.6
CERAA					Sn	23 24 58.3	+2.4
TASE	**Tanaga Southea**	**2.32**	**90**		Pn	23 24 57.3	+1.6
TAFP	**Tanaga Falls P**	**2.35**	**89**		Pn	23 24 57.6	+1.6
TAFP					Sn	23 25 27.5	+2.3
SMY	**Shemya**	**2.67**	**290**		Pn	23 25 00.3	+0.3
SMY	**Shemya**	**2.67**	**290**	Sn	Sn	23 25 31.0	-1.4
KIMD	**Kanaga Island**	**2.82**	**91**		Pn	23 25 03.4	+1.3
KIMD					Sn	23 25 38.4	+2.5
KICM	**Kanaga Island**	**2.83**	**88**		Pn	23 25 04.2	+2.0
KIKV	**Kanaga Island**	**2.85**	**89**		Pn	23 25 04.1	+1.6
ADK	**Adak**	**3.15**	**88**	Pn	Pn	23 25 07.5	+1.1
GSTD	**Great Sitkin T**	**3.48**	**85**		Pn	23 25 11.9	+1.1
GSTD					Sn	23 25 54.3	+2.7
GSTR	**Great Sitkin T**	**3.54**	**85**	Pn	Pn	23 25 12.8	+1.3
GSMY	**Great Sitkin M**	**3.54**	**85**		Pn	23 25 12.6	+1.1
ATKA	**Atka Island**	**4.69**	**83**		Pn	23 25 28.0	+1.4
NIKH	**Nikolski High**	**7.97**	**77**		Pn	23 26 11.6	+0.8
KDAK	**Kodiak Island**	**17.72**	**59**	P	P	23 28 15.5	-0.1
CNPM	**China Poot**	**18.68**	**54**	P	P	23 28 24.0	-2.1
PPLA	**Purkeypile**	**19.17**	**44**	P	P	23 28 31.1	-0.5
PPLA				IAmb	IAmb	23 28 38.8	
	comp=Z,3.6nm,0.9s						
BPAW	**Bear Paw Mtn.**	**20.12**	**41**	P	Pn	23 28 44.9	+0.2
TRF	**Thorofare Moun**	**20.17**	**43**	P	P	23 28 43.6	+1.2
TRF				IAmb	IAmb	23 28 46.5	
	comp=Z,2.2nm,0.8s						
MDM	**Murphy Dome**	**21.55**	**40**	P	P	23 28 59.0	+2.0
MDM				IAmb	IAmb	23 29 04.6	
	comp=Z,2.1nm,0.8s						
RIDG	**Independent Ri**	**22.58**	**44**	P	P	23 29 08.5	+0.9
RIDG				IAmb	IAmb	23 29 09.1	
	comp=Z,1.9nm,0.5s						

*NEIC **23** 23:25:27.5±0.9,51.77N±0.06×177.98E±0.10, h130km±5km, mb3.9/18, Error ellipse: s-maj=11.0km s-min=5.8km az=224.0*

AEIC 23 23:25:27±1.1,**51.8N**±0.1×**178.11E**±0.10,**h130**km±4km, **Error ellipse: s-maj=16.4km s-min=7.8km az=195.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.30**	**56**		Pn	23 25 46.1	+1.0
LSSA					Sn	23 25 59.9	+1.0
LSNW	**Little Sitkin**	**0.31**	**53**		Pn	23 25 46.4	+1.2
LSNW					Sn	23 25 60.0	+1.1
LSSE	**Little Sitkin**	**0.32**	**62**		Pn	23 25 45.9	+0.8
LSPA	**Little Sitkin**	**0.33**	**59**		Pn	23 25 46.3	+1.1
LSPA					Sn	23 26 00.2	+1.2
AMKA	**Amchitka**	**0.85**	**118**		Pn	23 25 49.5	+1.1
AMKA					Sn	23 26 06.0	+1.3
CEAP	**Semis' Anvil P**	**0.93**	**76**		Pn	23 25 50.7	+1.5
CERAA	**Semis' Rag'd T**	**0.98**	**82**		Pn	23 25 51.0	+1.4
TASE	**Tanaga Southea**	**2.39**	**87**		Pn	23 26 07.5	+1.8
TAFP	**Tanaga Falls P**	**2.42**	**86**		Pn	23 26 07.7	+1.5
TAFP					Sn	23 26 37.8	+1.5
TAPA	**Tanaga Point A**	**2.53**	**88**		Pn	23 26 09.3	+1.8
SMY	**Shemya**	**2.64**	**293**		Pn	23 26 08.2	-0.7
SMY					Sn	23 26 38.3	-2.8
KIMD	**Kanaga Island**	**2.89**	**89**		Pn	23 26 13.6	+1.5
KIKV	**Kanaga Island**	**2.93**	**86**		Pn	23 26 14.3	+1.7
KIRH	**Kanaga Island**	**2.98**	**86**		Pn	23 26 14.9	+1.6
ADK	**Adak**	**3.23**	**86**	Pn	Pn	23 26 17.9	+1.4
ADK				Pn	Sn	23 26 55.6	+0.9
GSTR	**Great Sitkin T**	**3.62**	**83**	Pn	Pn	23 26 23.3	+1.7
NIKH	**Nikolski High**	**8.06**	**76**	Pn	Pn	23 27 23.9	+2.8
PEA0B	**Petropavlovsk-**	**12.52**	**284**	Pn	Pn	23 28 19.9	-0.6
PETK	**Petropavlovsk-**	**12.52**	**284**	Pn	Pn	23 28 20.0	-0.5
SDPT	**Sand Point**	**13.20**	**66**	Pn	Pn	23 28 29.5	+0.3
CNBA	**Chernabura Isl**	**13.66**	**68**	Pn	Pn	23 28 35.4	+0.3
KDAK	**Kodiak Island**	**17.84**	**59**	P	P	23 29 25.1	-0.5
KDAK				IAmb	IAmb	23 29 25.7	
	comp=Z,13nm,1.2s						
CNPM	**China Poot**	**18.81**	**54**	P	Pn	23 29 37.6	-0.6
BRLK	**Bradley Lake**	**19.03**	**53**	P	Pn	23 29 40.1	-0.7
BRLK				IAmb	IAmb	23 29 42.0	
	comp=Z,9.1nm,1.0s						
PPLA	**Purkeypile**	**19.30**	**43**	P	Pn	23 29 43.5	-0.6
BPAW	**Bear Paw Mtn.**	**20.26**	**41**	P	Pn	23 29 53.9	-1.1
BPAW				IAmb	IAmb	23 30 08.3	
	comp=Z,3.5nm,1.1s						
SCM	**Sheep Creek Mo**	**21.16**	**48**	P	P	23 30 02.0	+0.5
FID	**Port Fidalgo**	**21.36**	**51**	P	P	23 30 04.4	+0.7
DHY	**Denali Highway**	**21.44**	**45**	P	P	23 30 05.7	+1.0
MDM	**Murphy Dome**	**21.69**	**40**	P	P	23 30 08.2	+1.1
MDM				IAmb	IAmb	23 30 09.6	
	comp=Z,4.7nm,1.3s						
HDA	**Harding Lake**	**22.02**	**42**	P	P	23 30 11.5	+0.9
HDA				IAmb	IAmb	23 30 14.0	
	comp=Z,5.6nm,1.4s						
IL31		**22.16**	**41**	P	P	23 30 12.8	+0.9
RIDG	**Independent Ri**	**22.72**	**44**	P	P	23 30 18.0	+0.4
GLB	**Gilahina Butte**	**22.75**	**50**	P	P	23 30 19.3	+1.5
GLB				IAmb	IAmb	23 30 19.4	
	comp=Z,9.4nm,1.4s						
VRDI	**Verde Repeater**	**22.89**	**51**	P	P	23 30 20.4	+1.1
VRDI				IAmb	IAmb	23 30 37.1	
	comp=Z,11nm,1.2s						
DOT	**Dot Lake**	**23.03**	**44**		P	23 30 21.3	+0.8
SCRK	**Sand Creek**	**23.14**	**44**	P	P	23 30 21.8	+0.2
BCAR	**Beaver Creek A**	**23.93**	**46**	P	P	23 30 31.2	+2.5
BMAR	**Burnt Mountain**	**23.98**	**35**	P	P	23 30 31.6	+2.5
HYT	**Haines Junctio**	**25.75**	**52**	P	P	23 30 49.9	+4.6
HYT				IAmb	IAmb	23 31 03.8	
	comp=Z,7.1nm,1.4s						
MK31	**Makanchi Array**	**58.26**	**307**	P	P	23 35 08.2	+0.6
MK31				IAmb	IAmb	23 35 18.8	
	comp=Z,2.1nm,1.3s						
MKAR	**Makanchi Array**	**58.26**	**307**	P	P	23 35 08.2	+0.7
BRVK	**Borovoye**	**59.33**	**318**	P	P	23 35 15.6	+0.8
BRVK				IAmb	IAmb	23 35 30.4	
	comp=Z,0.8nm,0.5s						

*NEIC **23** 23:27:18.4±0.7,51.91N±0.06×178.37E±0.10, h134km±4km, Error ellipse: s-maj=10.9km s-min=4.7km az=46.0*

AEIC 23 23:27:18.3±1.1,**51.94N**±0.09×**178.4E**±0.1,**h130**km±4km, **mb4.1**/2(NEIC),**Error ellipse: s-maj=12.8km s-min=9.3km az=186.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.07**	**61**		Pn	23 27 36.2	+0.3
LSSE	**Little Sitkin**	**0.09**	**93**		Pn	23 27 36.8	+0.9
LSPA	**Little Sitkin**	**0.10**	**78**		Pn	23 27 36.6	+0.7
LSPA					Sn	23 27 50.9	+1.7
CETU	**Semis' Tuman**	**0.66**	**87**		Pn	23 27 39.2	+0.8
CETU					Sn	23 27 54.2	+0.7
CESW	**Semis' Southwe**	**0.71**	**93**		Pn	23 27 39.2	+0.6
CERAA	**Semis' Rag'd T**	**0.78**	**92**		Pn	23 27 40.1	+0.8
AMKA	**Amchitka**	**0.78**	**135**		Pn	23 27 39.9	+0.6
AMKA					Sn	23 27 55.4	+0.3
GAEA	**Gareloi East**	**1.76**	**94**		Pn	23 27 50.5	+1.2
TASE	**Tanaga Southea**	**2.20**	**91**		Pn	23 27 55.9	+1.2
TAFP	**Tanaga Falls P**	**2.23**	**90**		Pn	23 27 56.3	+1.3
TAFP					Sn	23 28 24.6	+1.5
TAPA	**Tanaga Point A**	**2.34**	**92**		Pn	23 27 57.5	+1.1
KIMD	**Kanaga Island**	**2.70**	**92**		Pn	23 28 01.9	+1.0
KICM	**Kanaga Island**	**2.71**	**89**		Pn	23 28 02.6	+1.5
KIKV	**Kanaga Island**	**2.73**	**90**		Pn	23 28 02.8	+1.4
KINC	**Kanaga Island**	**2.75**	**88**		Pn	23 28 03.1	+1.5
SMY	**Shemya**	**2.77**	**288**		Pn	23 28 02.1	+0.2
KIRH	**Kanaga Island**	**2.78**	**89**		Pn	23 28 03.3	+1.3
ADK	**Adak**	**3.03**	**89**	Pn	Pn	23 28 05.9	+0.6
ADAG	**Mount Adagdak**	**3.08**	**87**		Pn	23 28 06.7	+0.8
GSTD	**Great Sitkin T**	**3.36**	**86**		Pn	23 28 10.2	+0.6
GSTR	**Great Sitkin T**	**3.41**	**85**	Pn	Pn	23 28 10.8	+0.6
ATKA	**Atka Island**	**4.56**	**84**	Pn	Pn	23 28 26.6	+1.1
KDAK	**Kodiak Island**	**17.59**	**59**	P	P	23 31 14.3	0.0
KDAK				IAmb	IAmb	23 31 17.2	
	comp=Z,12nm,1.1s						
CNPM	**China Poot**	**18.56**	**54**	P	P	23 31 24.9	0.0
CNPM				IAmb	IAmb	23 31 31.7	
	comp=Z,15nm,1.2s						

*IDC **23** 23:27:55.9±0.7,7.12N±72.90W,h158km±8km,mb3.5/6, mb1 3.7/10,mb1mx3.3/37,mbtmp4.0/10,Error ellipse: s-maj=20.3km s-min=7.6km az=135.0*

*RSNC **23** 23:27:56.3±0.9,7.25N×73.17W,h137km±4km,ML3.8, Mw4.0*

ISC 23 23:27:55.0±0.7,**7.25N**±0.03×**73.13W**±0.03,**h147**km±5km, **n54,σ1§82/89,mb3.8/6,6C-4D,Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.43**	**78**	↓*iP*	**Pn**	**23 28 16.8**	**+0.5**
PAMC				*eS*	**Sn**	**23 28 31.8**	**-0.6**
PAMC				*i*		23 28 35.7	
	comp=Z,1μm,0.3s						
BRRC	**Barranca, Sant**	**0.60**	**257**	↑*iP*	**Pn**	**23 28 16.5**	**0.0**
BRRC				*eS*	**Sn**	**23 28 31.5**	**-1.4**
BRRC				*i*		23 28 35.8	
	comp=Z,1μm,0.5s						
BARC	**Barichara**	**0.65**	**185**	↑*eP*	**Pn**	**23 28 17.1**	**-0.1**
BARC				*eS*	**Sn**	**23 28 32.7**	**-1.4**
BARC				*i*		23 28 34.6	
	comp=Z,2μm,0.4s						
OCAC	**Ocana**	**1.00**	**349**	↑*eP*	**Pn**	**23 28 20.1**	**+0.3**
OCAC				*eS*	**Sn**	**23 28 37.8**	**-0.8**
OCAC				*i*		23 28 42.6	
	comp=Z,611nm,0.3s						
RUSC	**La Rusia**	**1.34**	**178**	*eP*	**Pn**	**23 28 23.1**	**-0.2**
RUSC				*eS*	**Sn**	**23 28 44.3**	**-0.5**
RUSC				*i*		23 28 45.2	
	comp=Z,415nm,0.4s						
PTBC	**PUERTO BERRIO,**	**1.50**	**242**	↑*iP*	**Pn**	**23 28 23.3**	**-1.0**
PTBC				*eS*	**Sn**	**23 28 45.3**	**-1.4**
PTBC				*i*		23 28 48.0	
	comp=Z,868nm,0.2s						
TAMC	**Tame, Arauca**	**1.55**	**121**	↓*iP*	**Pn**	**23 28 25.9**	**+0.9**
TAMC				*eS*	**Sn**	**23 28 48.0**	**+0.2**
TAMC				*i*		23 28 49.4	
	comp=Z,240nm,0.4s						
ZARC	**Zaragoza, Cauc**	**1.73**	**278**	↓*eP*	**Pn**	**23 28 26.7**	**-0.3**
ZARC				*eS*	**Sn**	**23 28 50.5**	**-0.9**
ZARC				*i*		23 28 57.2	
	comp=Z,1μm,0.4s						
SMLC	**San Martn de**	**1.81**	**329**	*eP*	**Pn**	**23 28 27.6**	**-0.1**
SMLC				*eS*	**Sn**	**23 28 51.5**	**-1.4**
SMLC				*i*		23 28 58.7	
	comp=Z,548nm,0.2s						
SPBC	**San Pablo de B**	**1.84**	**211**	*eP*	**Pn**	**23 28 27.5**	**-0.8**
SPBC				*eS*	**Sn**	**23 28 53.1**	**-0.6**
SPBC				*i*		23 29 01.0	
	comp=Z,984nm,0.3s						
CTAU	**Tausa, Cundina**	**2.23**	**204**	*eP*	Pn	23 28 39.0	+5.8
NORC	**Norcasia**	**2.41**	**226**	↑*eP*	**Pn**	**23 28 34.2**	**-0.7**
NORC				*eS*	**Sn**	**23 29 05.2**	**-0.4**
NORC				*i*		23 29 12.0	
	comp=Z,461nm,0.4s						
UREC	**San Jos de Ur**	**2.44**	**282**	*eP*	**Pn**	**23 28 34.0**	**-1.2**
UREC				*eS*	**Sn**	**23 29 03.6**	**-2.6**
UREC				*i*		23 29 13.8	
	comp=Z,698nm,0.2s						
CTAB	**Cerro Tablazo,**	**2.46**	**206**	*eP*	**Pn**	**23 28 37.8**	**+1.8**
HELC	**Santa Helena**	**2.61**	**246**	*eP*	**Pn**	**23 28 38.2**	**+0.5**
HELC				*eS*	**Sn**	**23 29 08.7**	**-1.8**
HELC				*i*		23 29 18.2	
	comp=Z,303nm,0.3s						
CHIC	**Chingaza**	**2.67**	**193**	*eP*	**Pn**	**23 28 38.9**	**+0.4**
CHIC				*eS*	**Sn**	**23 29 11.2**	**-0.8**
CHIC				*i*		23 29 23.3	
	comp=Z,173nm,0.4s						
ROSC	**El Rosal**	**2.67**	**206**	P	**Pn**	**23 28 40.2**	**+1.7**
	comp=Z,53nm,0.3s,baz=290,slow=6.8,SNR=69						
ROSC				S	**Sn**	**23 29 14.4**	**+2.4**
	comp=Z,91nm,0.3s,baz=60,slow=2.4,SNR=7.1						
ROSC	**El Rosal**	**2.67**	**206**	↑*eP*	**Pn**	**23 28 39.6**	**+1.1**
ROSC				*eS*	**Sn**	**23 29 15.3**	**+3.3**
ROSC				*i*		23 29 19.4	
	comp=Z,436nm,0.3s						
ARGC	**Ariguani, Magd**	**2.82**	**337**	*eP*	**Pn**	**23 28 41.9**	**+1.8**
ARGC				*eS*	**Sn**	**23 29 17.2**	**+2.4**
ARGC				*i*		23 29 26.1	
	comp=Z,190nm,0.3s						
CVER	**Cruz Verde, Cu**	**2.87**	**199**	*eP*	**Pn**	**23 28 42.2**	**+1.1**
SDV	**Santo Domingo**	**2.96**	**56**	P	**Pn**	**23 28 43.4**	**+1.4**
	comp=Z,49nm,0.3s,baz=320,slow=4.4,SNR=7.1						
SDV				S	**Sn**	**23 29 17.4**	**-0.7**
	comp=Z,63nm,0.3s,baz=31,slow=15,SNR=18						
SDV	**Santo Domingo**	**2.96**	**56**	*eP*	**Pn**	**23 28 43.0**	**+1.1**
SDV				*eS*	**Sn**	**23 29 17.3**	**-0.9**
GUY2C	**Guyana, Caldas**	**3.00**	**228**	*eP*	**Pn**	**23 28 42.9**	**+0.2**
GUY2C				*eS*	**Sn**	**23 29 17.2**	**-2.2**
GUY2C				*i*		23 29 27.9	
	comp=Z,410nm,0.3s						
DBBC	**Dabeiba**	**3.07**	**266**	*eP*	**Pn**	**23 28 43.2**	**0.0**
VILC	**Villavicencio,**	**3.16**	**190**	*eP*	**Pn**	**23 28 44.5**	**0.0**
VILC				*eS*	**Sn**	**23 29 21.8**	**-1.0**
VILC				*i*		23 29 30.3	
	comp=Z,248nm,0.3s						
CBOC	**Ciudad Bolivar**	**3.18**	**245**	*eP*	**Pn**	**23 28 45.6**	**+0.9**
CBOC				*eS*	**Sn**	**23 29 21.0**	**-2.2**
CBOC				*i*		23 29 35.5	
	comp=Z,144nm,0.7s						
PTGC	**Puerto Gaitan,**	**3.18**	**162**	*eP*	**Pn**	**23 28 43.6**	**-1.0**
PTGC				*eS*	**Sn**	**23 29 20.3**	**-2.8**
PTGC				*i*		23 29 28.1	
	comp=Z,142nm,0.3s						
RREF	**El Recreo**	**3.21**	**224**	*eP*	**Pn**	**23 28 46.8**	**+1.2**
RREF				*eS*	**Sn**	**23 29 26.1**	**+1.5**
RREF				*i*		23 29 33.0	
	comp=Z,598nm,0.1s						
SJCC	**San Jacinto, C**	**3.33**	**323**	↓*iP*	**Pn**	**23 28 46.1**	**-0.4**
SJCC				*eS*	**Sn**	**23 29 23.6**	**-2.8**
SJCC				*i*		23 29 28.6	
	comp=Z,179nm,0.4s						
TOLC	**Tolima**	**3.43**	**220**	*eP*	**Pn**	**23 28 48.4**	**+0.3**
TOLC				*eS*	**Sn**	**23 29 28.7**	**-0.5**
ANIL	**Santa Ana**	**3.55**	**220**	*eP*	**Pn**	**23 28 51.0**	**+1.3**
ANIL				*eS*	**Sn**	**23 29 35.6**	**+3.7**
LCBC	**Los crdobas,**	**3.59**	**297**	*eS*	**Sn**	**23 29 32.0**	**-0.3**
LCBC				*i*		23 29 36.2	
	comp=Z,179nm,0.6s						
PLMC	**San Jos del P**	**3.91**	**234**	*eP*	**Pn**	**23 28 54.5**	**+0.4**
PLMC				*eS*	**Sn**	**23 29 39.2**	**-0.7**
PLMC				*i*		23 29 46.3	
	comp=Z,226nm,0.2s						
PRAC	**Prado**	**3.92**	**207**	*eP*	**Pn**	**23 28 54.2**	**-0.1**
PRAC				*eS*	**Sn**	**23 29 40.7**	**+0.5**
PRAC				*i*		23 29 45.8	
	comp=Z,311nm,0.3s						
ORTC	**Ortega, Tolima**	**3.93**	**213**	*eP*	**Pn**	**23 28 54.5**	**+0.2**
ORTC				*eS*	**Sn**	**23 29 40.1**	**-0.4**
ORTC				*i*		23 29 49.2	
	comp=Z,213nm,0.5s						
SMRC	**Santa Marta, M**	**4.04**	**345**	*eP*	**Pn**	**23 28 55.3**	**-0.4**
SMRC				*eS*	**Sn**	**23 29 40.4**	**-2.6**
SMRC				*i*		23 29 47.1	
	comp=Z,81nm,0.5s						
CAPC	**Capurgana**	**4.41**	**289**	*eP*	**Pn**	**23 28 58.0**	**-2.5**
CAPC				*eS*	**Sn**	**23 29 44.1**	**-7.4**
CAPC				*i*		23 29 54.2	
	comp=Z,83nm,0.4s						
YOTC	**Yotoco, Valle**	**4.56**	**225**	*eP*	**Pn**	**23 29 02.2**	**-0.5**
YOTC				*eS*	**Sn**	**23 29 54.5**	**-0.8**
GUVC	**San Jose del G**	**4.70**	**174**	*eP*	**Pn**	**23 29 01.0**	**-3.5**
GUVC				*eS*	**Sn**	**23 29 53.5**	**-5.0**
GUVC				*i*		23 29 59.3	
	comp=Z,175nm,0.3s						
MACC	**Macarena, Meta**	**5.12**	**188**	*eP*	**Pn**	**23 29 08.8**	**-1.3**
MACC				*eS*	**Sn**	**23 30 02.6**	**-5.9**
GARC	**Garzon, Huila**	**5.55**	**205**	*eP*	**Pn**	**23 29 15.7**	**-0.3**
GARC				*eS*	**Sn**	**23 30 17.8**	**-1.4**
PCRV	**Puerto La Cruz**	**8.88**	**70**	P	**Pn**	**23 30 01.2**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=263,slow=15,SNR=1.7						
PCRV				S	**Sn**	**23 31 36.2**	**-2.8**
	comp=Z,1.6nm,0.3s,baz=334,slow=16,SNR=2.1						
PTGA	**Pitinga**	**15.33**	**121**	P	**P**	**23 31 26.8**	**+1.5**
	comp=Z,0.6nm,0.3s,baz=322,slow=22,SNR=2.7						
TEIG	**Tepich**	**19.55**	**313**	P	**Pn**	**23 32 14.4**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=139,slow=14,SNR=1.7						
MDP	**Montagnes des**	**20.48**	**95**	P	Pn	23 32 23.5	-1.7
	comp=Z,10.0nm,0.9s,baz=269,slow=10,SNR=9.0						
TXAR	**Lajitas Array**	**36.19**	**311**	P	**P**	**23 34 44.2**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=117,slow=8.4,SNR=8.6						
SCHQ	**Schefferville**	**47.72**	**5**	P	**P**	**23 36 18.0**	**+1.2**
	comp=Z,3.6nm,0.5s,baz=199,slow=7.7,SNR=14						
YKA	**Yellowknife Ar**	**62.87**	**340**	P	**P**	**23 38 06.1**	**+1.1**
	comp=Z,0.5nm,0.4s,baz=130,slow=6.6,SNR=7.4						
TORD	**Torodi Ar. Bea**	**73.66**	**78**	P	**P**	**23 39 10.8**	**-2.4**
	comp=Z,0.3nm,0.4s,baz=286,slow=6.2,SNR=9.3						
SPITS	**Spitsbergen Ar**	**82.85**	**12**	P	**P**	**23 40 03.9**	**+1.3**
	comp=Z,2.5nm,1.1s,baz=282,slow=4.2,SNR=0.9						
ARCES	**ARCESS Array B**	**86.28**	**20**	P	**P**	**23 40 19.7**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=297,slow=4.0,SNR=4.4						
MKAR	**Makanchi Array**	**121.93**	**20**	PKP	**PKPdf**	**23 46 32.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=304,slow=3.1,SNR=2.1						
ASAR	**Alice Springs**	**149.35**	**235**	PKPbc	**PKPbc**	**23 47 27.2**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=12,slow=9.6,SNR=1.6						
WRA	**Warramunga Arr**	**150.53**	**242**	PKPbc	**PKPbc**	**23 47 30.2**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=109,slow=2.6,SNR=1.8						

*AEIC **23** 23:32:09±3.4,51.9N±0.2×178.25E±0.05,h126km±4km, Error ellipse: s-maj=23.1km s-min=2.2km az=189.0*

*NEIC **23** 23:32:11.7±2.3,51.9N±0.1×178.26E±0.08,h119km±5km, mb4.0/35,ML4.1(AEIC),Error ellipse: s-maj=21.6km s-min=7.4km az=184.0*

*IDC **23** 23:32:12.7±5.2,52.00N×178.31E,h125km±49km, mb3.4/11,mb1 3.6/13,mb1mx3.4/48,mbtmp3.9/13,Error ellipse: s-maj=33.3km s-min=13.6km az=170.0*

ISC 23 23:32:11.7±0.7,**51.9N**±0.1×**178.26E**±0.04,**h119**km±6km, **n91,σ1§00/94,mb3.9**/24,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.16**	**75**		Pn	**23 32 27.8**	**-0.3**
LSNW	**Little Sitkin**	**0.17**	**69**		Pn	**23 32 27.7**	**-0.3**
LSNW					Sn	**23 32 41.0**	**+0.6**
LSSE	**Little Sitkin**	**0.19**	**82**		Pn	**23 32 28.0**	**-0.1**
LSPA	**Little Sitkin**	**0.20**	**76**		Pn	**23 32 27.8**	**-0.3**
LSPA					Sn	**23 32 41.4**	**+0.9**
CESW	**Semis' Southwe**	**0.81**	**90**		Pn	**23

comp=Z,5.5nm,0.7s
CRQM Cirque 22.84 52 P P 23 37 04.3 -0.2
CRQM IAmb IAmb 23 37 06.7
comp=Z,15nm,1.0s
DOT Dot Lake 22.88 45 P P 23 37 04.1 -0.7
DOT IAmb IAmb 23 37 06.2
comp=Z,5.2nm,0.8s
SCRK Sand Creek 22.99 44 P P 23 37 05.2 -0.8
CTGM Chitina Glacie 23.74 52 P P 23 37 12.6 -0.3
CTGM IAmb IAmb 23 37 14.9
comp=Z,15nm,1.3s
BCAR Beaver Creek A 23.78 47 P P 23 37 13.5 +0.5
DAWY Dawson 24.99 45 P P 23 37 24.4 +0.4
DAWY IAmb IAmb 23 37 27.7
comp=Z,5.3nm,0.9s
HYT Haines Junctio 25.61 52 P P 23 37 32.3 +2.6
HYT IAmb IAmb 23 37 34.1
comp=Z,6.5nm,0.9s
INK Inuvik 28.09 36 P P 23 37 51.1 -0.5
comp=Z,0.9nm,0.5s,baz=265,slow=11,SNR=2.0
KLR Kul'dur 29.27 283 P P 23 38 03.1 +0.7
comp=Z,1.1nm,0.6s,baz=63,slow=7.7,SNR=3.9
H11N2 WAKE ISLAND Hy 33.32 200 T T 00 14 14.9
baz=11
H11N3 WAKE ISLAND Hy 33.33 200 T T 00 14 16.9
baz=11
H11N1 WAKE ISLAND Hy 33.34 200 T T 00 14 22.2
baz=11
YKA Yellowknife Ar 36.19 46 P P 23 39 02.6 +0.2
comp=Z,0.3nm,0.5s,baz=275,slow=8.0,SNR=2.8
D05A Enumclaw 38.10 73 P P 23 39 19.9 +1.3
YBH Yreka Blue Hor 40.61 80 P P 23 39 40.4 +0.8
comp=Z,1.2nm,0.6s,baz=227,slow=2.5,SNR=2.7
YBH Yreka Blue Hor 40.61 80 P P 23 39 40.8 +1.2
YBH IAmb IAmb 23 39 41.9
comp=Z,1.6nm,0.8s
I07A Izee 41.22 75 P P 23 39 44.8 +0.1
PNTR Pine Nut 44.09 81 P P 23 40 09.1 +1.1
WAKR Walker 44.55 82 P P 23 40 12.3 +0.6
SONM Songino Array 44.76 295 P P 23 40 14.0 +0.8
comp=Z,0.5nm,0.5s,baz=73,slow=7.0,SNR=4.2
BOZ Bozeman (W) 45.01 69 P P 23 40 14.1 -1.1
RYN Ryan 45.03 81 P P 23 40 16.1 +0.7
NVAR Mina Array Bea 45.29 81 P P 23 40 18.0 +0.4
comp=Z,0.8nm,0.6s,baz=302,slow=7.8,SNR=7.1
NVAR Mina Array Bea 45.29 81 P P 23 40 18.4 +0.8
NV11 Mina Array Sit 45.38 81 P P 23 40 18.8 +0.6
TPNV Topopah Spring 47.49 81 P P 23 40 35.7 +1.0
TPNV IAmb IAmb 23 40 36.6
comp=Z,2.3nm,0.8s
PDAR Pinedale Array 47.88 71 P P 23 40 37.2 -0.6
comp=Z,0.6nm,0.5s,baz=330,slow=2.8,SNR=7.1
PDAR Pinedale Array 47.88 71 P P 23 40 37.0 -0.7
MKAR Makanchi Array 58.26 307 P P 23 41 53.3 -0.1
comp=Z,0.4nm,0.6s,baz=45,slow=5.6,SNR=5.2
MKAR Makanchi Array 58.26 307 P P 23 41 53.1 -0.3
MAKZ Makanchi 58.40 307 P P 23 41 54.5 +0.1
MAKZ IAmb IAmb 23 42 08.9
comp=Z,1.4nm,0.9s
WRA Warramunga Arr 81.16 221 P P 23 44 13.8 -0.1
comp=Z,1.4nm,0.7s,baz=32,slow=5.7,SNR=4.6
ASAR Alice Springs 84.67 220 P P 23 44 32.5 +0.6
comp=Z,0.7nm,0.7s,baz=26,slow=5.7,SNR=6.2
ASAR Alice Springs 84.67 220 P P 23 44 32.2 +0.3
TORD Torodi Ar. Bea 115.15 356 PKP PKPdf 23 50 38.2 -0.8
comp=Z,0.3nm,0.8s,baz=8.1,slow=3.1,SNR=1.8

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*AEIC **23** 23:33:51±1.4,51.85N±0.10×178.37E±0.08, h106km±4km, Error ellipse: s-maj=14.4km s-min=6.9km az=186.0*
*MOS **23** 23:33:52.3±1.0,52.00N×178.38E, h108km, mb4.5/11, Error ellipse: s-maj=8.5km s-min=7.8km az=134.6*
*UNK **23** 23:33:52.0,51.83N×178.35E, h94km*
*NEIC **23** 23:33:53.1±1.1,51.9N±0.1×178.38E±0.08, h100km±3km, mb4.5/115,ML4.2(AEIC), Error ellipse: s-maj=15.9km s-min=6.9km az=186.0*
*IDC **23** 23:33:53.9±0.5,51.96N×178.41E, h106km±4km, mb4.0/31, mb1 4.1/32, mb1mx4.0/47, mbtmp4.3/32, Error ellipse: s-maj=13.9km s-min=7.8km az=167.0*
ISC 23 23:33:53.2±0.5, 51.91N±0.07×178.31E±0.03, h103km±3km, n351,σ1§14/372, mb4.5/99, 2C-3D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.14**	**72**		**Pn**	**23 34 07.0**	**-0.5**
LSNW	**Little Sitkin**	**0.14**	**65**		**Pn**	**23 34 06.9**	**-0.6**
LSPA	**Little Sitkin**	**0.17**	**74**		**Pn**	**23 34 07.0**	**-0.6**
CESW	**Semis' Southwe**	**0.78**	**90**		**Pn**	**23 34 10.6**	**-1.0**
AMKA	**Amchitka**	**0.82**	**130**		**Pn**	**23 34 10.7**	**-1.2**
AMKA					Amb	23 34 24.0	-2.0
CERB	**Semis' Cerberu**	**0.82**	**88**		**Sn**	**23 34 25.8**	**-0.2**
CERAA	**Semis' Rag'd T**	**0.85**	**90**		**Pn**	**23 34 11.4**	**-0.8**
GAEA	**Gareloi East**	**1.83**	**93**		**Pn**	**23 34 22.9**	**-0.8**
TASE	**Tanaga Southea**	**2.27**	**90**		**Pn**	**23 34 28.5**	**-0.9**
TAFP	**Tanaga Falls P**	**2.30**	**89**		**Pn**	**23 34 28.6**	**-1.0**
TAFP					**Sn**	**23 34 56.5**	**-1.2**
TAPA	**Tanaga Point A**	**2.41**	**91**		**Pn**	**23 34 30.2**	**-1.0**
SMY	**Shemya**	**2.71**	**289**	P	**Pn**	**23 34 34.3**	**-0.7**
SMY						23 35 07.3	
SMY	**Shemya**	**2.71**	**289**	Pn	**Pn**	**23 34 34.3**	**-0.7**
SMY					**Sn**	**23 35 07.3**	**+0.1**
KIMD	**Kanaga Island**	**2.77**	**91**		**Pn**	**23 34 34.8**	**-1.1**
KICM	**Kanaga Island**	**2.79**	**88**		**Pn**	**23 34 35.3**	**-0.8**
KIKV	**Kanaga Island**	**2.80**	**89**		**Pn**	**23 34 35.5**	**-0.8**
KIRH	**Kanaga Island**	**2.85**	**88**		**Pn**	**23 34 36.2**	**-0.7**
ADK	**Adak**	**3.10**	**88**	P	**Pn**	**23 34 38.8**	**-1.5**
ADK	**Adak**	**3.10**	**88**	Pn	**Pn**	**23 34 38.8**	**-1.5**
GSTD	**Great Sitkin T**	**3.44**	**85**		**Pn**	**23 34 43.4**	**-1.4**
GSTR	**Great Sitkin T**	**3.49**	**85**	Pn	**Pn**	**23 34 44.1**	**-1.4**
GSMY	**Great Sitkin M**	**3.49**	**86**		**Pn**	**23 34 44.3**	**-1.1**
ATKA	**Atka Island**	**4.64**	**83**	Pn	**Pn**	**23 34 59.9**	**-0.9**
KOFP	**Korovin Flat P**	**4.70**	**83**		**Pn**	**23 35 02.4**	**+0.6**
KOSE	**Korovin Southe**	**4.73**	**82**		**Pn**	**23 35 02.9**	**+0.7**
NIKH	**Nikolski High**	**7.92**	**77**		**Pn**	**23 35 45.3**	**-0.1**
OKSP	**Okmok Steeple**	**8.28**	**75**		**Pn**	**23 35 51.9**	**+1.6**
OKCE	**Okmok Cone E**	**8.37**	**74**		**Pn**	**23 35 53.4**	**+1.9**
SPIA	**Saint Paul Isl**	**8.49**	**47**	Pn	**Pn**	**23 35 53.4**	**+0.3**
OKFG	**Magazine Ridge**	**8.52**	**74**		**Pn**	**23 35 55.1**	**+1.6**
MSW	**Makushin Switc**	**9.23**	**72**		**Pn**	**23 36 04.1**	**+0.9**
MREP	**Makushin Rep't**	**9.24**	**72**		**Pn**	**23 36 04.2**	**+0.8**
MNAT	**Makushin Natee**	**9.29**	**72**		**Pn**	**23 36 04.9**	**+0.9**
UNV	**Unalaska Valle**	**9.39**	**72**		**Pn**	**23 36 05.4**	**+0.1**
AKRB	**Akutan Reef Bi**	**9.68**	**71**		**Pn**	**23 36 11.9**	**+2.6**
AKMO	**Akutan Morgan**	**9.71**	**71**		**Pn**	**23 36 11.8**	**+1.7**
AKUT	**Akutan**	**9.85**	**71**	Pn	**Pn**	**23 36 12.3**	**+0.7**
FALS	**False Pass**	**11.30**	**68**	Pn	**Pn**	**23 36 32.0**	**+0.7**
PET	**Petropavlovsk**	**12.04**	**283**	*e*P	**Pn**	**23 36 42.1**	**+1.1**
PET				eS	**Sn**	**23 38 46.8**	**-6.4**
PET	**Petropavlovsk**	**12.04**	**283**	Pn	**Pn**	**23 36 42.8**	**+1.7**
PEA0B	**Petropavlovsk-**	**12.61**	**284**	*i* P	**Pn**	**23 36 47.8**	**-0.8**
PEA0B	**Petropavlovsk-**	**12.61**	**284**	Pn	**Pn**	**23 36 49.1**	**+0.5**
PETK	**Petropavlovsk-**	**12.61**	**284**	P	**Pn**	**23 36 49.5**	**+0.9**
	1.6nm,0.3s,baz=96,slow=19,SNR=9.7						
PETK				S	**Sn**	**23 39 04.6**	**-2.5**
	0.9nm,0.3s,baz=204,slow=3.3,SNR=4.0						
PETK	**Petropavlovsk-**	**12.61**	**284**	Pn	**Pn**	**23 36 49.3**	**+0.7**
SDPT	**Sand Point**	**13.04**	**66**	Pn	**Pn**	**23 36 52.0**	**-2.2**
CNBA	**Chernabura Isl**	**13.51**	**69**	Pn	**Pn**	**23 36 56.9**	**-3.4**
SKR	**Severo-Kuril's**	**13.93**	**274**	*e*P	**P**	**23 37 08.9**	**-1.7**
SKR				eS	**Sn**	**23 39 31.7**	**-7.3**
SKR				pmax	pmax		
	comp=Z,21nm,0.7s						
SKR				smax	smax		
	comp=N,34nm,0.7s						
SKR				smax	smax		
	comp=E,26nm,0.9s						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s						
CHIR	**Chirikof Islan**	**15.83**	**65**	Pn	**Pn**	**23 37 25.9**	**-3.9**
SII	**Sitkinak Islan**	**16.68**	**63**	Pn	**Pn**	**23 37 38.4**	**-2.0**
SII				IAmb	IAmb	23 37 50.7	
	comp=Z,32nm,1.1s						
SVW2	**Sparrevohn**	**16.98**	**47**	P	**P**	**23 37 44.8**	**+0.5**
BILL	**Bilibino**	**17.20**	**345**	*i* P	**Pn**	**23 37 47.8**	**+1.1**
BILL				pmax	pmax		
	comp=Z,21nm,1.0s						
BILL	**Bilibino**	**17.20**	**345**		**Pn**	**23 37 47.8**	**+1.1**
BILL				IAmb	IAmb	23 37 50.2	
	comp=Z,20nm,0.9s						
OHAK	**Old Harbor**	**17.23**	**61**	P	**P**	**23 37 44.2**	**-2.9**
OHAK				IAmb	IAmb	23 37 59.1	
	comp=Z,34nm,1.4s						
TTA	**Tatalina**	**17.55**	**41**	P	**Pn**	**23 37 51.4**	**+0.4**
TTA				pmax	pmax		
	comp=Z,16nm,0.9s						
TTA	**Tatalina**	**17.55**	**41**		**Pn**	**23 37 51.4**	**+0.4**
KDAK	**Kodiak Island**	**17.67**	**59**	P	**P**	**23 37 49.2**	**-2.7**
	comp=Z,2.9nm,0.3s,baz=167,slow=1.1,SNR=28						
KDAK	**Kodiak Island**	**17.67**	**59**	P	**P**	**23 37 49.2**	**-2.7**
KDAK				pmax	pmax		
	comp=Z,17nm,0.9s						
KDAK	**Kodiak Island**	**17.67**	**59**	P	**P**	**23 37 49.1**	**-2.7**
RSO	**Redoubt South**	**18.11**	**50**	P	**Pn**	**23 37 57.7**	**-0.1**
CNPM	**China Poot**	**18.64**	**54**	P	**P**	**23 38 02.5**	**+0.1**
BRLK	**Bradley Lake**	**18.86**	**53**	P	**P**	**23 38 04.2**	**-0.7**
BRLK				IAmb	IAmb	23 38 08.4	
	comp=Z,24nm,0.8s						
PPLA	**Purkeypile**	**19.13**	**43**	P	**Pn**	**23 38 09.1**	**-0.8**
SEW	**Seward**	**19.63**	**53**	P	**P**	**23 38 12.5**	**-0.7**
BPAW	**Bear Paw Mtn.**	**20.09**	**41**	P	**P**	**23 38 19.1**	**+0.9**
BPAW				IAmb	IAmb	23 38 20.4	
	comp=Z,19nm,1.0s						
TRF	**Thorofare Moun**	**20.14**	**43**	P	**P**	**23 38 19.6**	**+0.7**
TRF				IAmb	IAmb	23 38 22.3	
	comp=Z,21nm,0.9s						
GHO	**Glory Hole Cre**	**20.24**	**48**	P	**P**	**23 38 20.0**	**+0.1**
GHO				IAmb	IAmb	23 38 26.1	
	comp=Z,25nm,1.2s						
KNK	**Knik Glacier**	**20.37**	**49**	P	**P**	**23 38 21.0**	**-0.3**
KNK				IAmb	IAmb	23 38 22.5	
	comp=Z,30nm,1.0s						
GLI	**Glacier Island**	**20.91**	**51**	P	**P**	**23 38 25.9**	**-1.1**
SCM	**Sheep Creek Mo**	**20.99**	**48**	P	**P**	**23 38 27.7**	**-0.3**
SCM				pmax	pmax		
	comp=Z,34nm,1.2s						
SCM	**Sheep Creek Mo**	**20.99**	**48**	P	**P**	**23 38 27.7**	**-0.3**
SCM				IAmb	IAmb	23 38 30.8	
	comp=Z,34nm,1.2s						
NEA2	**Nenana**	**21.05**	**40**	P	**P**	**23 38 28.4**	**-0.1**
	baz=248,SNR=12						
FID	**Port Fidalgo**	**21.19**	**52**	P	**P**	**23 38 29.1**	**-0.9**
DHY	**Denali Highway**	**21.27**	**45**	P	**P**	**23 38 31.0**	**-0.1**
DHY				IAmb	IAmb	23 38 33.0	
	comp=Z,25nm,0.9s						
WRH	**Wood River Hil**	**21.40**	**41**	P	**P**	**23 38 32.6**	**+0.4**
MDM	**Murphy Dome**	**21.52**	**40**	P	**P**	**23 38 33.6**	**+0.1**
CCB	**Clear Creek Bu**	**21.58**	**41**	P	**P**	**23 38 33.8**	**-0.3**
COLA	**College**	**21.64**	**40**	P	**P**	**23 38 34.5**	**-0.2**
COLA				pmax	pmax		
	comp=Z,26nm,1.3s						
COLA	**College**	**21.64**	**40**	P	**P**	**23 38 34.5**	**-0.2**
COLA				IAmb	IAmb	23 38 36.0	
	comp=Z,26nm,1.3s						
COLD	**Coldfoot**	**21.76**	**33**	P	**P**	**23 38 36.2**	**+0.1**
	baz=241						
COLD	**Coldfoot**	**21.76**	**33**	P	**P**	**23 38 36.2**	**+0.1**
POKR	**Poker Plat Res**	**21.89**	**40**	P	**P**	**23 38 36.5**	**-0.9**
	baz=249						
IL31		**21.99**	**41**	P	**P**	**23 38 38.2**	**-0.2**
ILAR	**Eielson Array**	**21.99**	**41**	P	**P**	**23 38 36.1**	**-2.3**
	comp=Z,2.0nm,0.8s,baz=242,slow=8.1,SNR=14						
ILAR				pP	**pP**	**23 38 58.9**	**+1.1**
	comp=Z,5.0nm,0.9s,baz=264,slow=11,SNR=8.5						
ILAR				ScP	**ScP**	**23 45 58.6**	**-1.6**
	comp=Z,0.7nm,0.7s,baz=286,slow=3.3,SNR=2.4						
ILAR	**Eielson Array**	**21.99**	**41**	P	**P**	**23 38 38.2**	**-0.3**
RAGM	**Ragged Mountai**	**22.03**	**53**	P	**P**	**23 38 39.2**	**+0.2**
RIDG	**Independent Ri**	**22.55**	**44**	P	**P**	**23 38 43.5**	**-0.8**
GLB	**Gilahina Butte**	**22.57**	**50**	P	**P**	**23 38 44.4**	**-0.3**
GLB				IAmb	IAmb	23 38 47.4	
	comp=Z,15nm,0.8s						
VRDI	**Verde Repeater**	**22.72**	**51**	P	**P**	**23 38 45.6**	**-0.7**
VRDI				IAmb	IAmb	23 38 48.1	
	comp=Z,29nm,1.0s						
PRP	**Porcupine Dome**	**22.78**	**39**	P	**P**	**23 38 46.1**	**-0.7**
MENT	**Mentasta**	**22.86**	**46**	P	**P**	**23 38 47.7**	**+0.2**
WAX	**Waxell Ridge**	**22.93**	**53**	P	**P**	**23 38 47.4**	**-0.9**
WAX				IAmb	IAmb	23 38 49.6	
	comp=Z,26nm,0.8s						
MCARA	**McCarthy VSAT**	**22.94**	**51**	P	**P**	**23 38 47.6**	**-0.6**
TGL	**Tana Glacier**	**22.97**	**52**	P	**P**	**23 38 48.4**	**-0.2**
TGL				IAmb	IAmb	23 38 50.3	
	comp=Z,27nm,0.9s						
SCRK	**Sand Creek**	**22.97**	**44**	P	**P**	**23 38 47.3**	**-1.4**
ISLE	**Juniper Island**	**23.20**	**53**	P	**P**	**23 38 50.8**	**0.0**
ISLE				IAmb	IAmb	23 38 52.3	
	comp=Z,29nm,1.0s						
BALM	**Baldy**	**23.23**	**51**	P	**P**	**23 38 50.3**	**-0.8**
BALM				IAmb	IAmb	23 38 52.7	
	comp=Z,15nm,1.0s						
YSS	**Yuzh-Sakhalins**	**23.49**	**272**	*e*P	**P**	**23 38 55.3**	**+1.9**
CTGM	**Chitina Glacie**	**23.72**	**52**	P	**P**	**23 38 55.9**	**+0.3**
BCAR	**Beaver Creek A**	**23.75**	**46**	P	**P**	**23 38 55.7**	**-0.1**
EGAK	**Eagle**	**24.35**	**42**	P	**P**	**23 39 00.8**	**-0.2**
JKA	**Kamikawa-asahi**	**24.92**	**266**	P	**P**	**23 39 07.1**	**+0.7**
JKA				IAmb	IAmb	23 39 08.8	
	comp=Z,19nm,0.9s						
ASAJ	**Asahikawa**	**24.92**	**266**	P	**P**	**23 39 07.4**	**+1.0**
	comp=Z,20nm,0.9s,baz=60,slow=4.7,SNR=13						
ASAJ	**Asahikawa**	**24.92**	**266**	P	**P**	**23 39 07.1**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,19nm,0.9s						
DAWY	**Dawson**	**24.97**	**45**	P	**P**	**23 39 06.8**	**0.0**
DAWY				IAmb	IAmb	23 39 08.3	
	comp=Z,16nm,1.1s						
HYT	**Haines Junctio**	**25.58**	**52**	P	**P**	**23 39 12.4**	**0.0**
GRNR	**Gornyy**	**25.93**	**284**	*i*P	**P**	**23 39 16.0**	**+0.5**
GRNR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
GRNR				MLR	MLR		
	comp=N,830nm,13.0s						
GRNR				MLR	MLR		
	comp=E,940nm,13.0s						
GRNR				MLR	MLR		
	comp=Z,3μm,17.0s						
EPYK	**Eagle Plains**	**26.48**	**40**	P	**P**	**23 39 19.8**	**-0.5**
	baz=259,SNR=5.1						
EPYK	**Eagle Plains**	**26.48**	**40**	P	**P**	**23 39 19.9**	**-0.5**
EPYK				IAmb	IAmb	23 39 21.2	
	comp=Z,11nm,0.9s						
INK	**Inuvik**	**28.07**	**36**	P	**P**	**23 39 34.9**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=233,slow=9.2,SNR=8.4						
INK	**Inuvik**	**28.07**	**36**	P	**P**	**23 39 34.9**	**+0.4**
INK				pmax	pmax		
	comp=Z,8.0nm,1.5s						
INK	**Inuvik**	**28.07**	**36**	P	**P**	**23 39 34.9**	**+0.4**
KLR	**Kul'dur**	**29.30**	**283**	P	**P**	**23 39 46.0**	**+0.4**
	comp=Z,8.6nm,0.7s,baz=62,slow=8.3,SNR=31						
KLR	**Kul'dur**	**29.30**	**283**	*i* P	**P**	**23 39 43.3**	**-2.3**
KLR				pmax	pmax		
	comp=Z,10.0nm,0.9s						
DLBC	**Dease Lake**	**29.57**	**57**	P	**P**	**23 39 47.6**	**-0.4**
	comp=Z,4.1nm,0.9s,baz=279,slow=10,SNR=4.8						
USRK	**Ussuriysk Ar.**	**31.45**	**274**	P	**P**	**23 40 04.7**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=53,slow=9.8,SNR=5.3						
USRK				PcP	**PcP**	**23 42 55.7**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=52,slow=2.9,SNR=4.3						
USRK	**Ussuriysk Ar.**	**31.45**	**274**	P	**P**	**23 40 05.0**	**+0.4**
MJAR	**Matsushiro Arr**	**32.11**	**257**	P	**P**	**23 40 11.4**	**+0.9**
	comp=Z,2.3nm,0.6s,baz=50,slow=6.7,SNR=6.5						
MJAR	**Matsushiro Arr**	**32.11**	**257**	P	**P**	**23 40 11.6**	**+1.1**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MJAR	**Matsushiro Arr**	**32.11**	**257**	P	**P**	**23 40 11.6**	**+1.1**
MAJO	**Matsushiro**	**32.11**	**257**	P	**P**	**23 40 11.8**	**+1.3**
MAJO				pmax	pmax		
	comp=Z,12nm,1.1s						
MAJO	**Matsushiro**	**32.11**	**257**	P	**P**	**23 40 11.8**	**+1.3**
MAJO				IAmb	IAmb	23 40 12.7	
	comp=Z,12nm,1.1s						
MAT	**Matsushiro**	**32.11**	**257**	P	**P**	**23 40 11.6**	**+1.1**
MSHR	**Mys Shultsa**	**32.82**	**272**	*i* P	**P**	**23 40 15.3**	**-1.2**
MSHR				pmax	pmax		
	comp=Z,5.0nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**33.34**	**200**	T	T	00 16 00.6	
	baz=14,slow=76						
H11N3	**WAKE ISLAND Hy**	**33.34**	**200**	T	T	00 15 52.6	
	baz=14,slow=76						
H11N1	**WAKE ISLAND Hy**	**33.35**	**200**	T	T	00 15 60.0	
	baz=14,slow=76						
H11S1	**WAKE ISLAND Hy**	**34.56**	**200**	T	T	00 17 23.8	
	baz=11,slow=76,SNR=4.4						
H11S2	**WAKE ISLAND Hy**	**34.58**	**200**	T	T	00 17 28.3	
	baz=11,slow=76,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**34.58**	**200**	T	T	00 17 16.9	
	baz=11,slow=76,SNR=4.1						
YKA	**Yellowknife Ar**	**36.17**	**46**	P	**P**	**23 40 45.6**	**+0.4**
	comp=Z,3.1nm,0.9s,baz=279,slow=9.0,SNR=15						
YKA				pP	**pwP**	**23 41 09.7**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=281,slow=8.6,SNR=7.7						
HIA	**Hailar**	**36.41**	**290**	*i* P	**P**	**23 40 46.2**	**-1.2**
HIA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
D03D	**Eldon**	**37.25**	**73**	P	**P**	**23 40 54.3**	**-0.2**
	baz=299						
B05A	**Bryant**	**37.48**	**71**	P	**P**	**23 40 56.0**	**-0.5**
	baz=298						
KSRS	**Korea Array**	**37.84**	**268**	P	**P**	**23 41 01.3**	**+1.7**
	comp=Z,3.0nm,0.9s,baz=63,slow=8.3,SNR=14						
KSRS				PcP	**PcP**	**23 43 14.9**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=68,slow=3.3,SNR=5.6						
KSAR	**Wonju Array Be**	**37.87**	**268**	P	**P**	**23 41 00.8**	**+0.9**
KSAR	**Wonju Array Be**	**37.87**	**268**	P	**P**	**23 41 00.8**	**+0.9**
E04D	**Cinebar**	**38.05**	**74**	P	**P**	**23 41 00.8**	**-0.4**
	baz=300						
JNU	**Nakatsue**	**38.87**	**260**	P	**P**	**23 41 09.5**	**+1.2**
	comp=Z,7.6nm,1.0s,baz=89,slow=7.5,SNR=3.9						
JNU	**Nakatsue**	**38.87**	**260**	P	**P**	**23 41 09.3**	**+1.0**
B08A	**Colville Reser**	**39.05**	**70**	P	**P**	**23 41 09.0**	**-0.7**
B08A				IAmb	IAmb	23 41 10.4	
	comp=Z,9.3nm,1.4s						
K02D	**Willamette Mer**	**39.45**	**80**	P	**P**	**23 41 12.6**	**-0.5**
	baz=304						
G05D	**Wamic, OR**	**39.48**	**75**	P	**P**	**23 41 13.1**	**-0.2**
	baz=302						
I04A	**Tendick Farm,**	**39.60**	**78**	P	**P**	**23 41 14.2**	**-0.1**
	baz=303						
HAWA	**Hanford**	**39.93**	**72**	P	**P**	**23 41 16.5**	**-0.4**
HAWA				IAmb	IAmb	23 41 17.9	
	comp=Z,6.2nm,0.8s						
C09A	**Chrisman Ranch**	**39.95**	**70**	P	**P**	**23 41 16.1**	**-0.9**
C09A				IAmb	IAmb	23 41 16.8	
	comp=Z,5.1nm,0.9s						
NEW	**Newport**	**40.38**	**69**	P	**P**	**23 41 19.1**	**-1.6**
	baz=300,SNR=5.2						
NEW	**Newport**	**40.38**	**69**	P	**P**	**23 41 19.7**	**-1.0**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NEW	**Newport**	**40.38**	**69**	P	**P**	**23 41 19.7**	**-1.0**
NEW				IAmb	IAmb	23 41 20.4	
	comp=Z,4.6nm,0.5s						
L04D	**Klamath Falls**	**40.55**	**80**	P	**P**	**23 41 21.4**	**-0.9**
	baz=305						
YBH	**Yreka Blue Hor**	**40.58**	**80**	P	**P**	**23 41 22.7**	**+0.2**
	comp=Z,4.5nm,0.8s,baz=341,slow=4.0,SNR=11						
YBH	**Yreka Blue Hor**	**40.58**	**80**	P	**P**	**23 41 23.1**	**+0.6**
YBH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
YBH	**Yreka Blue Hor**	**40.58**	**80**	P	**P**	**23 41 23.1**	**+0.6**
YBH				IAmb	IAmb	23 41 24.4	
	comp=Z,7.6nm,1.0s						
J05D	**Fort Rock, OR**	**40.59**	**78**	P	**P**	**23 41 22.3**	**-0.3**
	baz=304						
M02C	**Callahan**	**40.69**	**81**	P	**P**	**23 41 23.1**	**-0.3**
	baz=306						
N02D	**Trinity Center**	**41.02**	**81**	P	**P**	**23 41 25.7**	**-0.4**
	baz=306						
M04C	**Macdoel**	**41.08**	**80**	P	**P**	**23 41 26.2**	**-0.4**
	baz=305						
I07A	**Izee**	**41.19**	**75**	P	**P**	**23 41 27.0**	**-0.5**
O02D	**Mt. Diablo Mer**	**41.45**	**82**	P	**P**	**23 41 28.9**	**-0.7**
	baz=307						
WALA	**Waterton Lakes**	**41.81**	**66**	P	**P**	**23 41 31.4**	**-1.1**
WALA				IAmb	IAmb	23 41 32.4	
	comp=Z,8.9nm,1.0s						
O03E	**Paynes Creek**	**41.98**	**82**	P	**P**	**23 41 33.4**	**-0.5**
	baz=307,SNR=7.5						
BMO	**Blue Mountains**	**42.08**	**73**	P	**P**	**23 41 34.0**	**-0.7**
BMO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BMO	**Blue Mountains**	**42.08**	**73**	P	**P**	**23 41 34.0**	**-0.7**
MSO	**Missoula**	**42.97**	**69**	P	**P**	**23 41 40.0**	**-1.9**
	baz=303						
MSO	**Missoula**	**42.97**	**69**	P	**P**	**23 41 40.8**	**-1.0**
MSO				IAmb	IAmb	23 41 41.3	
	comp=Z,7.5nm,1.2s						
PAHR	**Pah Rah Range**	**43.81**	**81**	P	**P**	**23 41 48.9**	**+0.1**
PAHR				IAmb	IAmb	23 41 50.4	
	comp=Z,8.1nm,1.1s						
PNTR	**Pine Nut**	**44.06**	**81**	P	**P**	**23 41 51.2**	**+0.4**
ULN	**Ulaanbaatar**	**44.40**	**294**	*i* P	**P**	**23 41 53.1**	**-0.3**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ULN	**Ulaanbaatar**	**44.40**	**294**	P	**P**	**23 41 54.1**	**+0.7**
ULN				IAmb	IAmb	23 41 55.1	
	comp=Z,5.8nm,0.9s						
HLID	**Hailey**	**44.52**	**73**	P	**P**	**23 41 51.2**	**-3.2**
	baz=305,SNR=5.8						
HLID	**Hailey**	**44.52**	**73**	P	**P**	**23 41 53.6**	**-0.8**
WAKR	**Walker**	**44.52**	**82**	P	**P**	**23 41 54.8**	**+0.3**
WAKR				IAmb	IAmb	23 41 56.0	
	comp=Z,6.4nm,1.0s						
EGMT	**Eagleton**	**44.70**	**65**	P	**P**	**23 41 53.4**	**-2.3**
	baz=303						
**M

TPNV pmax pmax
comp=Z,9.0nm,1.0s
TPNV Topopah Spring 47.46 81 P **P** **23 42 17.1 -0.4**
TPNV lAmb lAmb 23 42 18.4
comp=Z,8.9nm,0.9s
DUG Dugway, Tooele 47.50 76 P **P** **23 42 16.6 -1.2**
baz=308
DUG Dugway, Tooele 47.50 76 P **P** **23 42 17.4 -0.4**
DUG pmax pmax
comp=Z,6.0nm,1.1s
DUG Dugway, Tooele 47.50 76 P **P** **23 42 17.4 -0.4**
DUG lAmb lAmb 23 42 18.2
comp=Z,6.1nm,1.1s
EDW2 Edwards Air Fo 47.74 85 P **P** **23 42 18.7 -0.9**
baz=311
BW06 Boulder Array 47.85 71 P **P** **23 42 18.5 -2.1**
baz=307,SNR=7.6
BW06 Boulder Array 47.85 71 P **P** **23 42 19.6 -1.0**
BW06 lAmb lAmb 23 42 20.9
comp=Z,11nm,1.4s
PDAR Pinedale Array 47.85 71 P **P** **23 42 19.4 -1.2**
comp=Z,2.0nm,0.7s,baz=316,slow=4.1,SNR=18
PDAR pP **pP** **23 42 45.9 +1.1**
comp=Z,0.8nm,0.6s,baz=289,slow=4.5,SNR=3.1
PSUT Pine Spring 47.91 78 P **P** **23 42 20.6 -0.5**
SHOC Shoshone, Teco 48.13 83 P **P** **23 42 21.9 -0.6**
baz=311
GSC Goldstone, Bar 48.19 84 P **P** **23 42 22.2 -0.9**
baz=311
GSC Goldstone, Bar 48.19 84 P **P** **23 42 23.0 -0.1**
GSC pmax pmax
comp=Z,12nm,1.1s
GSC Goldstone, Bar 48.19 84 P **P** **23 42 22.9 -0.1**
GSC lAmb lAmb 23 42 23.9
comp=Z,12nm,1.1s
BFSC Mount Baldy Ra 48.37 85 P **P** **23 42 23.5 -1.1**
baz=312
HEC Hector,Ludlow 48.79 84 P **P** **23 42 27.2 -0.6**
baz=312
MSU Marysvale 48.94 77 P **P** **23 42 28.9 -0.1**
MSU Marysvale 48.94 77 P **P** **23 42 28.9 -0.1**
GMRC Granite Mounta 49.24 83 P **P** **23 42 30.2 -1.0**
baz=312,SNR=6.1
LCMT Little Creek M 49.26 79 P **P** **23 42 31.4 0.0**
BELC Belle Mtn. Jos 49.55 84 P **P** **23 42 32.4 -1.2**
baz=312
SPA0 Spitsbergen Ar 49.71 355 P **P** **23 42 33.7 -0.3**
SPITS Spitsbergen Ar 49.71 355 P **P** **23 42 33.7 -0.3**
comp=Z,11nm,0.8s,baz=36,slow=6.2,SNR=27
BC3 Big Chuckawall 50.12 84 P **P** **23 42 36.9 -0.9**
baz=312
WHN Wuhan 50.83 271 ||P **P** **23 42 43.6 +0.5**
GLA Glamis 50.91 84 P **P** **23 42 43.1 -0.6**
baz=313
PV03 Paradox Valley 51.11 75 P **P** **23 42 44.4 -1.0**
PV03 lAmb lAmb 23 42 45.2
comp=Z,5.6nm,1.1s
N23A Red Feather La 51.13 71 P **P** **23 42 44.6 -1.0**
baz=310
XAN Xi'an 51.79 278 P **P** **23 42 50.4 +0.1**
XAN Xi'an 51.79 278 P **P** **23 42 50.4 +0.1**
XAN pmax pmax
comp=Z,19nm,1.5s
XAN Xi'an 51.79 278 P **P** **23 42 50.4 +0.1**
AGMN Agassiz Nation 52.09 58 P **P** **23 42 50.9 -1.3**
baz=308
ZAA0 Zalesovo Array 52.34 312 P **P** **23 42 54.4 +0.4**
ZAA0 **PcP** **23 44 03.9 +0.3**
ZALV Zalesovo Beam 52.34 312 P **P** **23 42 55.2 +1.2**
comp=Z,0.4nm,0.3s,baz=11,slow=40,SNR=2.1
ZALV PcP **PcP** **23 44 04.3 +0.7**
comp=Z,2.9nm,0.8s,baz=28,slow=3.5,SNR=8.7
ZALV Zalesovo Beam 52.34 312 P **P** **23 42 54.6 +0.6**
ZALV **PcP** **23 44 03.7 +0.1**
S22A 4UR Ranch, Cre 52.65 74 P **P** **23 42 55.8 -1.1**
baz=311
SUMG Summit 53.20 13 P **P** **23 43 00.5 -0.1**
SUMG pmax pmax
comp=Z,6.0nm,0.9s
SUMG Summit 53.20 13 P **P** **23 43 00.5 -0.1**
SUMG lAmb lAmb 23 43 01.7
comp=Z,6.3nm,0.9s
GTA Gaotai 53.69 290 *e*P **P** **23 43 05.1 +0.8**
GTA pmax pmax
comp=Z,10.0nm,0.8s
DGZ Jazzator, Alta 53.78 306 *i* P **P** **23 43 04.2 -0.6**
DGZ pmax pmax
comp=Z,5.0nm,1.1s
TUC Tucson 53.91 82 P **P** **23 43 05.8 -0.1**
TUC pmax pmax
comp=Z,3.0nm,1.1s
TUC Tucson 53.91 82 P **P** **23 43 05.8 -0.1**
EYMN Ely 54.57 56 P **P** **23 43 09.0 -1.4**
baz=310
ECSD EROS Data Cent 54.60 62 P **P** **23 43 09.2 -1.4**
baz=311
ARCES ARCESS Array B 57.24 349 P **P** **23 43 29.5 +0.4**
comp=Z,1.6nm,0.6s,baz=24,slow=8.3,SNR=8.6
ARCES ARCESS Array B 57.24 349 P **P** **23 43 29.3 +0.2**
KURK Kurchatov 57.34 312 P **P** **23 43 30.2 +0.2**
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 57.34 312 P **P** **23 43 30.2 +0.2**
WMQ Urumqi 57.53 301 *e*P **P** **23 43 34.3 +2.7**
WMQ sP sP 23 44 08.8 +0.8
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,120nm,9.3s
MNTX Cornudas Mount 57.63 79 P **P** **23 43 31.5 -0.9**
baz=315,SNR=5.2
MNTX Cornudas Mount 57.63 79 P **P** **23 43 32.1 -0.3**
MK31 Makanchi Array 58.28 307 P **P** **23 43 36.3 -0.5**
MK31 pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 58.28 307 P **P** **23 43 36.2 -0.5**
MK31 lAmb lAmb 23 43 37.2
comp=Z,2.9nm,0.9s
MKAR Makanchi Array 58.28 307 P **P** **23 43 36.2 -0.5**
comp=Z,1.1nm,0.3s,baz=49,slow=7.0,SNR=27
MKAR pP **pP** **23 44 01.6 +0.1**
comp=Z,1.0nm,0.7s,baz=50,slow=8.6,SNR=2.9
MAKZ Makanchi 58.42 307 P **P** **23 43 37.5 -0.2**
MAKZ pmax pmax
comp=Z,4.0nm,0.9s
MAKZ Makanchi 58.42 307 P **P** **23 43 37.5 -0.2**
MAKZ lAmb lAmb 23 43 38.2
comp=Z,3.5nm,0.9s
H43A Windswept, Lux 58.82 57 P **P** **23 43 39.8 -0.7**
D46A Sault St. Mari 59.02 52 P **P** **23 43 41.3 -0.6**
baz=314
F45A CMU Biological 59.13 54 P **P** **23 43 42.0 -0.6**
baz=314
BRVK Borovoye 59.32 318 *i* P **P** **23 43 43.1 -0.7**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
BRVK Borovoye 59.32 318 P **P** **23 43 44.2 +0.4**
BRVK lAmb lAmb 23 43 44.7
comp=Z,3.9nm,0.7s
WMOK Wichita Mounta 59.45 72 P **P** **23 43 44.1 -0.9**
baz=314
WMOK Wichita Mounta 59.45 72 P **P** **23 43 44.1 -0.9**
WMOK pmax pmax
comp=Z,2.0nm,0.6s
WMOK Wichita Mounta 59.45 72 P **P** **23 43 44.0 -0.9**
SVE Sverdlovsk 60.16 326 *e*P **P** **23 43 51.2 +1.7**
SVE pmax pmax
comp=Z,18nm,1.6s
W35A Tecumseh 60.28 70 P **P** **23 43 50.0 -0.7**
TX32 Lajitas Array 60.34 79 P **P** **23 43 51.2 -0.1**
TX32 lAmb lAmb 23 43 52.5
comp=Z,1.5nm,0.5s
TXAR Lajitas Array 60.34 79 P **P** **23 43 50.7 -0.6**
comp=Z,0.8nm,0.3s,baz=307,slow=5.9,SNR=13
TXAR pP **pP** **23 44 15.8 -0.5**
comp=Z,1.0nm,0.8s,baz=286,slow=5.1,SNR=3.5
TXAR Lajitas Array 60.34 79 P **P** **23 43 50.9 -0.4**
SCHQ Schefferville 60.69 37 P **P** **23 43 53.1 0.0**
comp=Z,2.2nm,0.8s,baz=334,slow=11,SNR=2.5
SCHQ pP **pP** **23 44 17.9 -0.1**
comp=Z,3.8nm,0.9s,baz=334,slow=12,SNR=3.8
ARU Arti 61.19 327 *d* /P **P** **23 43 55.3 -1.1**
ARU S **S** **23 52 08.6 +1.0**
ARU pmax pmax
comp=Z,18nm,1.1s
ARU Arti 61.19 327 P **P** **23 43 57.0 +0.6**

KMI Kunming 61.87 275 ||*e*P **P** **23 44 02.5 +0.7**
KMI pmax pmax
comp=Z,5.0nm,0.5s
KMI pmax pmax
comp=Z,3μm,20.3s
KDJ Kajisay 64.17 306 P **P** **23 44 17.1 +0.4**
KDJ pmax pmax
comp=Z,5.0nm,0.9s
KDJ Kajisay 64.17 306 P **P** **23 44 17.1 +0.4**
KDJ lAmb lAmb 23 44 17.8
comp=Z,5.1nm,0.9s
BOOM Boomskoye usch 64.52 307 P **P** **23 44 19.4 +0.4**
BOOM pmax pmax
comp=Z,5.0nm,0.9s
BOOM Boomskoye usch 64.52 307 P **P** **23 44 19.4 +0.4**
BOOM lAmb lAmb 23 44 20.8
comp=Z,5.2nm,0.9s
FIA1 FINESS Array S 64.84 346 P **P** **23 44 20.7 +0.2**
FIA1 lAmb lAmb 23 44 26.7
comp=Z,11nm,1.2s
FINES FINESS Array B 64.84 346 P **P** **23 44 20.9 +0.4**
comp=Z,1.8nm,0.5s,baz=26,slow=4.3,SNR=1.1
FINES FINESS Array B 64.84 346 P **P** **23 44 21.0 +0.5**
FRU1 Bishkek 64.93 308 P **P** **23 44 22.3 +0.8**
FRU1 pmax pmax
comp=Z,9.0nm,0.7s
FRU1 Bishkek 64.93 308 P **P** **23 44 22.3 +0.8**
D60A Saint Jean D'O 65.11 45 P **P** **23 44 20.8 -1.6**
baz=320
AAK Ala-Archa 65.12 308 *i* P **P** **23 44 22.2 -0.7**
AAK pmax pmax
comp=Z,4.0nm,0.9s
AAK Ala-Archa 65.12 308 P **P** **23 44 23.2 +0.3**
AAK lAmb lAmb 23 44 24.1
comp=Z,4.3nm,0.8s
LSA Lhasa 65.56 287 P **P** **23 44 27.6 +1.3**
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 65.56 287 P **P** **23 44 27.6 +1.3**
L56A Greenwood 65.66 52 P **P** **23 44 25.7 -0.5**
baz=319
D62A Allapoint, All 65.79 44 P **P** **23 44 26.1 -0.8**
baz=321
E62A Clayton Lake 65.95 44 P **P** **23 44 26.6 -1.4**
baz=321
G61A St-Isidore-de- 66.10 46 P **P** **23 44 27.6 -1.4**
baz=320
J59A Piesco 66.12 50 P **P** **23 44 27.6 -1.5**
baz=320
H60A Morristown 66.12 48 P **P** **23 44 27.8 -1.3**
baz=320
ABKAR Akbulak array 66.41 321 P **P** **23 44 31.4 +0.6**
KK31 Karatay Array 66.68 311 P **P** **23 44 33.0 +0.3**
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 66.68 311 P **P** **23 44 33.0 +0.3**
KK31 lAmb lAmb 23 44 35.4
comp=Z,5.1nm,0.8s
KKAR Karatay Array 66.68 311 P **P** **23 44 32.9 +0.2**
KKAR Karatay Array 66.68 311 P **P** **23 44 32.9 +0.2**
LBNH Lisbon 66.72 47 P **P** **23 44 31.6 -1.3**
baz=321
KSH Kashi 66.72 305 *e*P **P** **23 44 37.6 +4.4**
KSH pP PcP 23 45 01.0 -0.4
KSH pmax pmax
comp=Z,16nm,0.7s
H62A Milan 66.81 47 P **P** **23 44 32.2 -1.2**
baz=321
H62A Milan 66.81 47 P **P** **23 44 32.6 -0.9**
E64A Bridgewater 66.83 43 P **P** **23 44 32.2 -1.3**
baz=322
NOA NORSAR Array B 66.93 353 P **P** **23 44 33.6 -0.3**
comp=Z,1.0nm,0.8s,baz=12,slow=6.9,SNR=4.0
NOA pP **pwP** **23 45 00.8 -0.4**
comp=Z,2.4nm,0.8s,baz=8.6,slow=6.4,SNR=5.5
SHL Shillong 68.17 284 P **P** **23 44 42.5 0.0**
SHL pmax pmax
comp=Z,15nm,0.9s
SHL Shillong 68.17 284 P **P** **23 44 42.5 0.0**
CMAR Chiang Mai Arr 69.17 274 P **P** **23 44 49.1 +0.6**
comp=Z,2.6nm,0.8s,baz=26,slow=7.4,SNR=12
CMAR Chiang Mai Arr 69.17 274 P **P** **23 44 49.0 +0.4**
X55A Gracelyn & Ava 69.34 60 P **P** **23 44 48.3 -1.1**
baz=319
GAR Garm 69.94 308 P **P** **23 44 53.8 +0.6**
JIRN Jiri 69.99 289 *e*P **P** **23 44 55.0 +1.0**
comp=Z,35nm,0.7s
RAMN Ramite 70.28 289 *e*P **P** **23 44 56.2 +0.6**
comp=Z,54nm,0.9s
GKN Gorkha 70.63 291 *e*P **P** **23 44 58.3 +0.7**
CHGR Chuyangaron 70.78 308 P **P** **23 44 58.7 +0.5**
DANN Dangsing 70.88 292 *e*P **P** **23 45 00.1 +0.8**
comp=Z,55nm,0.8s
KOLN Koldanda 71.41 291 *e*P **P** **23 45 02.9 +0.5**
comp=Z,23nm,1.0s
NIL Nilore 72.62 302 P **P** **23 45 10.3 +1.0**
NIL pmax pmax
comp=Z,16nm,1.1s
NIL Nilore 72.62 302 P **P** **23 45 10.3 +1.0**
KBL Kabul 74.08 306 P **P** **23 45 17.9 -0.2**
KBL pmax pmax
comp=Z,11nm,0.9s
KBL Kabul 74.08 306 P **P** **23 45 17.9 -0.2**
AKASG Malin Array Be 74.46 340 P **P** **23 45 19.6 -0.1**
comp=Z,1.5nm,0.4s,baz=20,slow=5.7,SNR=4.3
AKASG pP **pP** **23 45 46.8 +1.3**
comp=Z,1.7nm,0.5s,baz=23,slow=6.2,SNR=2.8
AKASG Malin Array Be 74.46 340 P **P** **23 45 20.5 +0.8**
AKASG pmax pmax
comp=Z,2.0nm,1.5s
AKASG Malin Array Be 74.46 340 P **P** **23 45 20.5 +0.8**
GOF Gofitskoye 76.00 329 ||*e*P **P** **23 45 30.1 +1.4**
GEYT Alibeck 76.45 315 P **P** **23 45 32.5 +1.1**
comp=Z,1.7nm,0.7s,baz=310,slow=7.6,SNR=5.5
GEYT Alibeck 76.45 315 P **P** **23 45 32.0 +0.5**
CTA Charters Tower 76.97 211 P **P** **23 45 35.1 +0.8**
comp=Z,3.7nm,0.9s,baz=11,slow=7.9,SNR=4.4
KIV Kislovodsk 77.10 329 *e*P **P** **23 45 33.8 -1.2**
KIV pmax pmax
comp=Z,12nm,1.0s
KBZ Khabaz 77.24 329 P **P** **23 45 36.4 +0.8**
comp=Z,1.3nm,0.5s,baz=336,slow=2.1,SNR=3.6
KBZ Khabaz 77.24 329 *i* P **P** **23 45 35.1 -0.5**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
HRA Herat 77.51 310 P **P** **23 45 38.2 +0.5**
HRA lAmb lAmb 23 45 39.1
comp=Z,4.6nm,0.6s
BUR08 Bucovina Ar. S 78.19 342 P **P** **23 45 42.0 +1.0**
BURAR Bucovina Array 78.21 342 P **P** **23 45 41.9 +0.7**
TBLG Delisi 78.40 326 P **P** **23 45 43.1 +0.9**
TBLG pmax pmax
comp=Z,10.0nm,0.8s
TBLG Delisi 78.40 326 P **P** **23 45 43.1 +0.9**
WB0 Warramunga Arr 81.00 221 P **P** **23 45 56.2 -0.1**
WB0 lAmb lAmb 23 45 56.9
comp=Z,9.5nm,0.8s
WB2 Warramunga Arr 81.18 221 P **P** **23 45 57.2 0.0**
WB2 lAmb lAmb 23 45 58.0
comp=Z,9.2nm,0.8s
WRA Warramunga Arr 81.18 221 P **P** **23 45 57.0 -0.2**
comp=Z,5.1nm,0.7s,baz=34,slow=6.2,SNR=11
FITZ Fitzroy Crossi 83.40 230 P **P** **23 46 09.4 +0.6**
BRTR Keskin Array B 83.69 333 P **P** **23 46 10.8 +0.4**
comp=Z,0.6nm,0.8s,baz=38,slow=2.2,SNR=3.2
BRTR pP **pP** **23 46 39.4 +2.7**
comp=Z,0.2nm,0.6s,baz=87,slow=27,SNR=2.0
BRTR Keskin Array B 83.69 333 P **P** **23 46 10.2 -0.2**
ASAR Alice Springs 84.69 220 P **P** **23 46 15.8 +0.4**
comp=Z,3.6nm,0.7s,baz=22,slow=5.8,SNR=29
ASAR Alice Springs 84.69 220 P **P** **23 46 15.6 +0.2**
STKA Stephens Creek 89.43 211 P **P** **23 46 39.4 +1.4**
comp=Z,7.1nm,0.7s,baz=340,slow=3.0,SNR=10.0
STKA Stephens Creek 89.43 211 P **P** **23 46 39.1 +1.1**
STKA pmax pmax
comp=Z,2.0nm,1.3s
STKA Stephens Creek 89.43 211 P **P** **23 46 39.1 +1.1**
TORD Torodi Ar. Bea 115.15 356 PKP **PKiKP** **23 52 21.1 -1.4**
comp=Z,0.6nm,0.4s,baz=360,slow=2.3,SNR=13
DBIC Dimbokro 121.59 4 PKP **PKPdf** **23 52 34.2 -0.7**
comp=Z,6.2nm,1.2s,baz=29,slow=4.0,SNR=4.2
MAW Mawson 145.80 218 PKPbc **PKPab** **23 53 19.9 +0.5**
comp=Z,4.2nm,0.6s,baz=194,slow=2.0,SNR=5.3
BOSA Boshof 149.26 309 PKPbc **PKPbc** **23 53 29.9 +0.4**
comp=Z,2.1nm,0.4s,baz=31,slow=1.7,SNR=13
BOSA pPKPbc **pPKPbc** **23 53 57.3 -0.2**
comp=Z,1.0nm,0.5s,baz=38,slow=3.0,SNR=1.8
BOSA Boshof 149.26 309 PKP2 **PKPbc** **23 53 30.0 +0.4**

IDC 23 23:38:01.2±2.9, 30.07°S×177.36°W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/35, mbtmp3.7/2, Error ellipse: s-maj=59.9km s-min=28.0km az=80.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.95**	**329**	Pn	Pn	23 38 22.5	+0.7
	166nm,0.3s,baz=105,slow=22,SNR=3.7						
RAO				Sn	Sn	23 38 36.0	+0.1
	540nm,0.3s,baz=120,slow=21,SNR=7.8						
ASAR	**Alice Springs**	**43.68**	**266**	P	P	23 46 08.2	+0.1
	0.2nm,0.3s,baz=104,slow=7.6,SNR=5.7						
WRA	**Warramunga Arr**	**44.64**	**271**	P	P	23 46 15.3	-0.5
	0.8nm,0.4s,baz=110,slow=8.1,SNR=6.2						
FINES	**FINESS Array B**	**145.02**	**341**	PKPbc	PKPbc	23 57 38.0	-1.1
	1.7nm,0.8s,baz=29,slow=4.4,SNR=4.5						

*AEIC **23** 23:39:31±1.7, 51°.89N×0°.09×178°.50E±0°.08, h120km±4km, Error ellipse: s-maj=13.2km s-min=6.9km az=184.0*
*MOS **23** 23:39:32.0±0.9, 52°.05N×178°.50E, h116km, mb4.2/12, Error ellipse: s-maj=8.4km s-min=6.9km az=147.1*
*NEIC **23** 23:39:32.9±1.1, 51°.93N×0°.09×178°.49E±0°.07, h113km±4km, mb4.7/187, ML4.3(AEIC), Error ellipse: s-maj=13.2km s-min=6.5km az=187.0*
*UNK **23** 23:39:32.2, 52°.02N×178°.51E, h100km*
*IDC **23** 23:39:34.2±0.6, 52°.04N×178°.53E, h120km±4km, mb4.0/30, mb1 4.2/31, mb1mx4.1/49, mbtmp4.4/31, Error ellipse: s-maj=14.7km s-min=7.4km az=166.0*

ISC 23 23:39:33.1±0.5, 51°.93N±0°.06×178°.44E±0°.03, h113km±3km, n650, σ1§19/670, mb4.6/134, 1C, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.05**	**64**		**Pn**	**23 39 48.6**	**-0.1**
LSNW	**Little Sitkin**	**0.06**	**47**		**Pn**	**23 39 48.5**	**-0.2**
LSPA	**Little Sitkin**	**0.09**	**71**		**Pn**	**23 39 48.6**	**-0.1**
LSPA					Sn	23 40 01.1	+0.7
AMKA	**Amchitka**	**0.77**	**136**		**Pn**	**23 39 51.9**	**-0.5**
AMKA					Sn	23 40 06.2	-0.6
CERAA	**Semis' Rag'd T**	**0.77**	**91**		**Pn**	**23 39 52.0**	**-0.4**
GALAA	**Gareloi Lava P**	**1.73**	**94**		**Pn**	**23 40 02.5**	**-0.4**
GAEA	**Gareloi East**	**1.75**	**94**		**Pn**	**23 40 02.6**	**-0.5**
TANO	**Tanaga North**	**2.13**	**89**		**Sn**	**23 40 34.0**	**-0.4**
TASE	**Tanaga Southea**	**2.18**	**91**		**Pn**	**23 40 08.0**	**-0.6**
TAFP	**Tanaga Falls P**	**2.21**	**89**		**Pn**	**23 40 08.3**	**-0.6**
TAFP					Sn	23 40 35.8	-0.6
TAPA	**Tanaga Point A**	**2.32**	**91**		**Pn**	**23 40 09.7**	**-0.7**
KIMD	**Kanaga Island**	**2.69**	**92**		**Pn**	**23 40 14.2**	**-0.8**
KICM	**Kanaga Island**	**2.70**	**88**		**Pn**	**23 40 14.7**	**-0.5**
KIKV	**Kanaga Island**	**2.72**	**89**		**Pn**	**23 40 14.9**	**-0.5**
SMY	**Shemya**	**2.78**	**288**	P	**Pn**	**23 40 15.5**	**-0.8**
SMY	**Shemya**	**2.78**	**288**		**Pn**	**23 40 15.9**	**-0.3**
SMY					Sn	23 40 50.0	+0.5
ADK	**Adak**	**3.02**	**89**	P	**Pn**	**23 40 18.4**	**-1.0**
ADK	**Adak**	**3.02**	**89**		**Pn**	**23 40 18.4**	**-1.0**
GSTD	**Great Sitkin T**	**3.35**	**86**		**Pn**	**23 40 22.5**	**-1.3**
GSTD					Sn	23 41 05.3	+2.3
GSTR	**Great Sitkin T**	**3.40**	**85**		**Pn**	**23 40 23.7**	**-0.8**
GSMY	**Great Sitkin M**	**3.40**	**86**		**Pn**	**23 40 23.6**	**-0.9**
ATKA	**Atka Island**	**4.55**	**84**		**Pn**	**23 40 39.0**	**-0.8**
ATKA	**Atka Island**	**4.55**	**84**		**Sn**	**23 41 33.0**	**+1.4**
KOKL	**Mount Kliuchef**	**4.55**	**82**		**Pn**	**23 40 39.4**	**-0.5**
KOFP	**Korovin Flat P**	**4.61**	**83**		**Pn**	**23 40 40.9**	**+0.2**
KOSE	**Korovin Southe**	**4.64**	**82**		**Pn**	**23 40 41.2**	**+0.1**
NIKH	**Nikolski High**	**7.83**	**77**		**Pn**	**23 41 25.0**	**+0.8**
OKSP	**Okmok Steeple**	**8.19**	**75**		**Pn**	**23 41 30.3**	**+1.3**
OKCE	**Okmok Cone E**	**8.28**	**74**		**Pn**	**23 41 32.1**	**+1.9**
OKNC	**Okmok New Cone**	**8.30**	**74**		**Pn**	**23 41 32.4**	**+1.8**
SPIA	**Saint Paul Isl**	**8.41**	**47**	Pn	**Pn**	**23 41 33.9**	**+1.9**
OKFG	**Magazine Ridge**	**8.43**	**74**		**Pn**	**23 41 33.9**	**+1.7**
MREP	**Makushin Rep't**	**9.16**	**72**		**Pn**	**23 41 42.8**	**+0.6**
MNAT	**Makushin Natee**	**9.20**	**72**		**Pn**	**23 41 43.5**	**+0.8**
UNV	**Unalaska Valle**	**9.30**	**72**		**Pn**	**23 41 44.4**	**+0.4**
AKRB	**Akutan Reef Bi**	**9.59**	**71**		**Pn**	**23 41 49.4**	**+1.4**
AKMO	**Akutan Morgan**	**9.62**	**71**		**Pn**	**23 41 50.2**	**+1.9**
AKGG	**Akutan Green G**	**9.64**	**70**		**Pn**	**23 41 49.8**	**+1.1**
AKLV	**Akutan Long Va**	**9.66**	**70**		**Pn**	**23 41 51.0**	**+2.1**
AKUT	**Akutan**	**9.76**	**71**	Pn	**Pn**	**23 41 51.5**	**+1.2**
AKSA	**Akutan Strait**	**9.81**	**71**		**Pn**	**23 41 52.4**	**+1.5**
FALS	**False Pass**	**11.22**	**68**		**Pn**	**23 42 10.0**	**+0.1**
PET	**Petropavlovsk**	**12.12**	**283**	*e*P	**Pn**	**23 42 22.3**	**+0.5**
PET				*e*S	**Sn**	**23 44 27.8**	**-7.1**
PET				pmax	pmax		
	comp=Z,18nm,1.1s						
PEA0B	**Petropavlovsk-**	**12.69**	**284**	P	**Pn**	**23 42 29.6**	**+0.3**
PEA0B	**Petropavlovsk-**	**12.69**	**284**	Pn	**Pn**	**23 42 29.6**	**+0.3**
PETK	**Petropavlovsk-**	**12.69**	**284**	P	**Pn**	**23 42 29.3**	**0.0**
	comp=Z,2.2nm,0.3s,baz=99,slow=17,SNR=30						
PETK				S	**Sn**	**23 44 44.5**	**-4.2**
	comp=Z,1.8nm,0.3s,baz=260,slow=25,SNR=4.1						
PETK	**Petropavlovsk-**	**12.69**	**284**	P	**Pn**	**23 42 29.6**	**+0.3**
PETK	**Petropavlovsk-**	**12.69**	**284**		**Pn**	**23 42 29.6**	**+0.3**
SDPT	**Sand Point**	**12.96**	**66**	Pn	**Pn**	**23 42 30.5**	**-2.3**
CNBA	**Chernabura Isl**	**13.42**	**69**	Pn	**Pn**	**23 42 35.5**	**-3.3**
SKR	**Severo-Kuril's**	**14.02**	**274**	*i* P	**Pn**	**23 42 46.7**	**+0.2**
CHIR	**Chirikof Islan**	**15.74**	**65**	Pn	**Pn**	**23 43 04.8**	**-3.5**
SII	**Sitkinak Islan**	**16.60**	**63**	Pn	**Pn**	**23 43 16.9**	**-1.9**
SII				lAmb	lAmb	23 43 19.9	
	comp=Z,26nm,0.6s						
SVW2	**Sparrevohn**	**16.91**	**47**	P	**P**	**23 43 23.6**	**+0.9**
OHAK	**Old Harbor**	**17.15**	**61**	P	**P**	**23 43 22.8**	**-2.5**
OHAK				lAmb	lAmb	23 43 24.3	
	comp=Z,50nm,1.4s						
BILL	**Bilibino**	**17.21**	**344**	*i* P	**P**	**23 43 24.7**	**-1.2**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BILL	**Bilibino**	**17.21**	**344**	P	**Pn**	**23 43 26.4**	**+0.3**
TTA	**Tatalina**	**17.48**	**41**	P	**Pn**	**23 43 29.7**	**+0.2**
TTA				pmax	pmax		
	comp=Z,17nm,0.8s						
TTA	**Tatalina**	**17.48**	**41**		**Pn**	**23 43 29.7**	**+0.2**
KDAK	**Kodiak Island**	**17.59**	**59**	P	**P**	**23 43 27.5**	**-2.7**
	comp=Z,13nm,0.3s,baz=172,slow=1.7,SNR=61						
KDAK				S	Sn	23 46 35.0	-12
	comp=Z,0.1nm,0.3s,baz=344,slow=15,SNR=0.9						
KDAK	**Kodiak Island**	**17.59**	**59**	P	**P**	**23 43 27.6**	**-2.6**
KDAK				pmax	pmax		
	comp=Z,45nm,0.3s						
KDAK	**Kodiak Island**	**17.59**	**59**	P	**P**	**23 43 27.6**	**-2.6**
RSO	**Redoubt South**	**18.03**	**50**	P	**P**	**23 43 32.7**	**-2.5**
CNPM	**China Poot**	**18.56**	**54**	P	**P**	**23 43 40.2**	**-0.6**
BRLK	**Bradley Lake**	**18.78**	**53**	P	**P**	**23 43 43.0**	**-0.3**
PPLA	**Purkeypile**	**19.06**	**43**		**Pn**	**23 43 47.7**	**-0.7**
PPLA				lAmb	lAmb	23 43 52.8	
	comp=Z,39nm,0.9s						
O22K	**Cooper Landing**	**19.49**	**52**	P	**P**	**23 43 50.6**	**-0.3**
	baz=258,SNR=7.2						
SEW	**Seward**	**19.55**	**53**	P	**P**	**23 43 50.7**	**-0.8**
BPAW	**Bear Paw Mtn.**	**20.02**	**41**	P	**P**	**23 43 57.7**	**+1.1**
BPAW				lAmb	lAmb	23 44 01.0	
	comp=Z,25nm,0.9s						
TRF	**Thorofare Moun**	**20.06**	**43**	P	**P**	**23 43 57.2**	**-0.1**
TRF				lAmb	lAmb	23 44 00.6	
	comp=Z,34nm,0.8s						
GHO	**Glory Hole Cre**	**20.16**	**48**	P	**P**	**23 43 58.4**	**+0.1**
GHO				lAmb	lAmb	23 44 01.2	
	comp=Z,25nm,0.5s						
KNK	**Knik Glacier**	**20.29**	**49**	P	**P**	**23 43 59.8**	**+0.2**
KNK				lAmb	lAmb	23 44 02.7	
	comp=Z,40nm,0.9s						
SML	**Sawmill**	**20.44**	**48**	P	**P**	**23 44 00.9**	**-0.3**
SML				lAmb	lAmb	23 44 04.3	
	comp=Z,32nm,0.6s						
RND	**Reindeer**	**20.66**	**44**	P	**P**	**23 44 03.4**	**-0.1**
RND				pmax	pmax		
	comp=Z,13nm,0.6s						
RND	**Reindeer**	**20.66**	**44**	P	**P**	**23 44 03.4**	**-0.1**
MCK	**McKinley**	**20.73**	**43**	P	**P**	**23 44 01.0**	**-3.3**
MCK				pmax	pmax		
	comp=Z,21nm,1.0s						
MCK	**McKinley**	**20.73**	**43**	P	**P**	**23 44 00.9**	**-3.3**
GLI	**Glacier Island**	**20.84**	**51**	P	**P**	**23 44 04.7**	**-0.8**
SCM	**Sheep Creek Mo**	**20.91**	**48**	P	**P**	**23 44 06.1**	**-0.2**
SCM				pmax	pmax		
	comp=Z,38nm,0.7s						
SCM	**Sheep Creek Mo**	**20.91**	**48**	P	**P**	**23 44 06.1**	**-0.2**

NEA2 Nenana 20.98 40 P P 23 44 06.7 -0.2
baz=248,SNR=10.0
MID Middleton Isla 21.02 55 P P 23 44 07.4 +0.1
MID pmax pmax
comp=Z,183nm,0.9s
MID Middleton Isla 21.02 55 P P 23 44 07.3 +0.1
FID Port Fidalgo 21.11 52 P P 23 44 07.2 -1.1
DHY Denali Highway 21.20 45 P P 23 44 08.9 -0.6
DHY IAmb IAmb 23 44 11.2
comp=Z,36nm,0.8s
WRH Wood River Hil 21.33 41 P P 23 44 09.6 -1.1
WRH IAmb IAmb 23 44 22.4
comp=Z,12nm,0.5s
EYAK Cordova Ski Ar 21.44 52 P P 23 44 11.1 -0.7
EYAK IAmb IAmb 23 44 14.1
comp=Z,53nm,1.0s
MDM Murphy Dome 21.45 40 P P 23 44 11.2 -0.7
CCB Clear Creek Bu 21.50 41 P P 23 44 11.4 -1.1
TCOL CIGO, UAF Yank 21.56 40 P P 23 44 12.8 -0.3
baz=249
COLA College 21.57 40 *i* P P 23 44 11.9 -1.2
COLA pmax pmax
comp=Z,12nm,0.8s
COLD Coldfoot 21.70 33 P P 23 44 13.9 -0.7
baz=241
COLD Coldfoot 21.70 33 P P 23 44 14.9 +0.3
HDA Harding Lake 21.77 42 P P 23 44 14.6 -0.8
baz=252,SNR=11
HDA Harding Lake 21.77 42 P P 23 44 14.8 -0.7
POKR Poker Flat Res 21.82 40 P P 23 44 15.2 -0.7
baz=249,SNR=6.6
IL31 21.92 41 P P 23 44 15.7 -1.1
ILAR Eielson Array 21.92 41 P P 23 44 15.3 -1.6
comp=Z,2.7nm,0.5s,baz=244,slow=9.4,SNR=29
ILAR ScP ScP 23 51 36.0 -1.7
comp=Z,0.8nm,0.7s,baz=300,slow=3.3,SNR=5.6
ILAR Eielson Array 21.92 41 P P 23 44 16.1 -0.8
PAX Paxson 22.01 46 P P 23 44 17.3 -0.7
PAX pmax pmax
comp=Z,19nm,0.8s
PAX Paxson 22.01 46 P P 23 44 17.3 -0.7
PAX IAmb IAmb 23 44 19.1
comp=Z,19nm,0.8s
RIDG Independent Ri 22.47 44 P P 23 44 21.6 -1.1
RIDG IAmb IAmb 23 44 24.6
comp=Z,17nm,0.4s
GLB Gilahina Butte 22.50 50 P P 23 44 22.6 -0.4
GLB IAmb IAmb 23 44 25.7
comp=Z,32nm,0.6s
TOLK Toolik Lake Re 22.62 30 P P 23 44 24.6 +0.4
baz=238
TOLK Toolik Lake Re 22.62 30 P P 23 44 24.3 +0.1
TOLK IAmb IAmb 23 44 26.6
comp=Z,23nm,0.6s
VRDI Verde Repeater 22.64 51 P P 23 44 23.9 -0.6
VRDI IAmb IAmb 23 44 26.8
comp=Z,30nm,0.7s
CRQM Cirque 22.74 52 P P 23 44 25.2 -0.4
MENT Mentasta 22.79 46 P P 23 44 25.7 -0.1
MENT IAmb IAmb 23 44 28.5
comp=Z,18nm,0.6s
DOT Dot Lake 22.79 45 P P 23 44 24.2 -1.6
DOT IAmb IAmb 23 44 27.0
comp=Z,22nm,0.8s
WAX Waxell Ridge 22.85 53 P P 23 44 26.4 -0.1
MCARA McCarthy VSAT 22.86 51 P P 23 44 26.2 -0.3
TGL Tana Glacier 22.89 52 P P 23 44 26.4 -0.5
SCRK Sand Creek 22.90 44 P P 23 44 25.5 -1.5
YUK Yuzh-Kuril'sk 23.04 263 *i* P P 23 44 29.0 +0.7
ISLE Juniper Island 23.12 53 P P 23 44 28.8 -0.3
ISLE IAmb IAmb 23 44 36.1
comp=Z,26nm,0.7s
BALM Baldy 23.15 52 P P 23 44 29.0 -0.4
BALM IAmb IAmb 23 44 30.9
comp=Z,21nm,0.6s
FYU Fort Yukon 23.19 37 P P 23 44 29.3 -0.2
FYU IAmb IAmb 23 44 31.8
comp=Z,23nm,0.8s
MESA MESA 23.28 54 P P 23 44 30.8 +0.1
YAH Yahtse 23.40 53 P P 23 44 31.2 -0.6
BARN Barnard Glacie 23.49 52 P P 23 44 32.2 -0.3
CTGM Chitina Glacie 23.64 52 P P 23 44 33.6 -0.3
BCAR Beaver Creek A 23.68 47 P P 23 44 33.7 -0.4
TABL Table Mountain 23.70 53 P P 23 44 34.1 -0.4
BMAR Burnt Mountain 23.75 35 P P 23 44 35.1 +0.5
PCA Pinnacle 24.13 54 P P 23 44 37.6 -0.6
EGAK Eagle 24.28 42 P P 23 44 39.0 -0.4
DAWY Dawson 24.90 45 P P 23 44 45.1 0.0
DAWY IAmb IAmb 23 44 47.9
comp=Z,20nm,0.7s
JKA Kamikawa-asahi 25.01 266 P P 23 44 47.2 +1.0
ASAJ Asahikawa 25.01 266 P P 23 44 47.6 +1.4
comp=Z,8.7nm,0.8s,baz=39,slow=5.9,SNR=4.8
ASAJ Asahikawa 25.01 266 P P 23 44 47.2 +0.9
ASAJ pmax pmax
comp=Z,9.0nm,0.8s
HYT Haines Junctio 25.50 52 P P 23 44 51.1 +0.4
ERM Erimo 25.80 261 P P 23 44 53.6 +0.2
ERM pmax pmax
comp=Z,11nm,1.1s
ERM Erimo 25.80 261 P P 23 44 53.6 +0.2
EPYK Eagle Plains 26.41 40 P P 23 44 58.1 -0.7
baz=259,SNR=9.0
EPYK Eagle Plains 26.41 40 P P 23 44 58.1 -0.7
EPYK IAmb IAmb 23 44 59.4
comp=Z,18nm,0.8s
SKAG Skagway 26.64 55 P P 23 45 00.5 -0.2
INK Inuvik 28.01 36 P P 23 45 13.3 +0.4
comp=Z,2.5nm,0.3s,baz=247,slow=9.6,SNR=14
INK Inuvik 28.01 36 P P 23 45 13.2 +0.4
INK pmax pmax
comp=Z,4.0nm,0.6s
INK Inuvik 28.01 36 P P 23 45 13.2 +0.4
TIKI Tiksi 29.31 330 ScP ScP 23 51 57.6 -1.2
comp=Z,2.5nm,0.5s,baz=98,slow=2.9,SNR=5.4
KLR Kul'dur 29.38 284 P P 23 45 25.3 +0.1
comp=Z,3.9nm,0.7s,baz=67,slow=9.0,SNR=17
KLR Kul'dur 29.38 284 *i* P P 23 45 24.5 -0.8
KLR pmax pmax
comp=Z,4.0nm,0.8s
DLBC Dease Lake 29.49 57 P P 23 45 26.7 +0.5
comp=Z,6.8nm,0.7s,baz=283,slow=10,SNR=15
DLBC Dease Lake 29.49 57 P P 23 45 26.9 +0.7
DLBC IAmb IAmb 23 45 27.8
comp=Z,8.1nm,0.8s
A36M Sachs Harbour 31.45 30 P P 23 45 44.0 +0.9
baz=261,SNR=7.2
USA0B Ussuriysk Arra 31.53 275 P P 23 45 44.0 -0.3
USA0B pmax pmax
comp=Z,3.0nm,0.6s
USA0B Ussuriysk Arra 31.53 275 P P 23 45 44.0 -0.3
USRK Ussuriysk Ar. 31.53 275 P P 23 45 44.6 +0.4
comp=Z,2.2nm,0.5s,baz=61,slow=8.8,SNR=10.0
USRK PcP PcP 23 48 34.5 +0.3
comp=Z,1.6nm,0.6s,baz=52,slow=2.4,SNR=4.4
USRK Ussuriysk Ar. 31.53 275 P P 23 45 44.4 +0.2
MAJO Matsushiro 32.20 257 P P 23 45 50.5 +0.3
MAJO pmax pmax
comp=Z,8.0nm,1.1s
MAJO Matsushiro 32.20 257 P P 23 45 50.5 +0.3
MJAR Matsushiro Arr 32.20 257 P P 23 45 51.6 +1.4
comp=Z,1.5nm,0.3s,baz=48,slow=6.9,SNR=4.7
MJAR Matsushiro Arr 32.20 257 P P 23 45 50.1 -0.2
MJAR pmax pmax
comp=Z,1.0nm,0.8s
MJAR Matsushiro Arr 32.20 257 P P 23 45 50.1 -0.2
H11N2 WAKE ISLAND Hy 33.38 200 T T 00 21 29.0
baz=11,slow=76,SNR=18
H11N3 WAKE ISLAND Hy 33.39 200 T T 00 21 26.6
baz=11,slow=76,SNR=27
H11N1 WAKE ISLAND Hy 33.40 200 T T 00 21 27.7
baz=11,slow=76,SNR=22
H11S1 WAKE ISLAND Hy 34.61 200 T T 00 22 53.9
baz=12
H11S3 WAKE ISLAND Hy 34.62 200 T T 00 22 59.4
baz=12
H11S2 WAKE ISLAND Hy 34.63 200 T T 00 23 04.5
baz=12
YKA Yellowknife Ar 36.10 46 P P 23 46 23.4 -0.1
comp=Z,5.1nm,0.7s,baz=280,slow=8.6,SNR=30
YKA pP pP 23 46 49.2 +0.9
comp=Z,2.1nm,0.6s,baz=281,slow=8.4,SNR=4.6
YKA ScP ScP 23 52 20.7 -1.7
comp=Z,0.9nm,0.9s,baz=287,slow=2.9,SNR=3.6
LLLB Lillooet 36.45 68 P P 23 46 26.3 -0.4
LLLB IAmb IAmb 23 46 27.7
comp=Z,8.6nm,1.1s
D03D Eldon 37.16 73 P P 23 46 32.6 -0.2
baz=299,SNR=6.6
B05A Bryant 37.40 71 P P 23 46 34.4 -0.3
baz=299
KSRS Korea Array 37.93 268 P P 23 46 41.3 +2.0
comp=Z,2.9nm,0.8s,baz=60,slow=8.1,SNR=13
KSRS PcP PcP 23 48 53.2 +0.4
comp=Z,1.8nm,0.8s,baz=52,slow=3.8,SNR=5.0
KS19 Wonju Array Si 37.93 268 P P 23 46 40.6 +1.2
F04D Rainier, OR 37.94 75 P P 23 46 39.0 -0.3
baz=301
KSAR Wonju Array Be 37.96 268 P P 23 46 40.7 +1.1
KSAR Wonju Array Be 37.96 268 P P 23 46 40.6 +1.1
E04D Cinebar 37.96 74 P P 23 46 39.3 -0.2
baz=301
D05A Enumclaw 37.99 73 P P 23 46 39.7 0.0
D05A IAmb IAmb 23 46 40.8
comp=Z,12nm,0.8s
I02D Swisshome 38.47 78 P P 23 46 43.8 0.0
baz=303
LTY Liberty 38.73 72 P P 23 46 45.2 -0.8
H04D Lebanon 38.92 77 P P 23 46 47.4 -0.1
baz=303
J01E Myrtle Point 38.94 80 P P 23 46 48.0 +0.3
baz=304
JNU Nakatsue 38.95 260 P P 23 46 49.3 +1.3
comp=Z,8.4nm,1.0s,baz=46,slow=10.0,SNR=3.6
JNU Nakatsue 38.95 260 P P 23 46 48.4 +0.5
JNU IAmb IAmb 23 46 53.2
comp=Z,11nm,1.0s
B08A Colville Reser 38.97 70 P P 23 46 47.1 -0.8
B08A IAmb IAmb 23 46 47.9
comp=Z,11nm,1.2s
I03D Drain, OR 39.00 78 P P 23 46 48.3 +0.1
baz=304
H04A Detroit Lake 39.16 76 P P 23 46 49.2 -0.4
H04A IAmb IAmb 23 46 50.3
comp=Z,7.2nm,0.7s
K02D Willamette Mer 39.36 80 P P 23 46 51.7 +0.4
baz=304
G05D Wamic, OR 39.39 75 P P 23 46 51.4 -0.1
baz=302
I04A Tendick Farm, 39.51 78 P P 23 46 52.3 -0.2
baz=304
HAWA Hanford 39.84 73 P P 23 46 54.6 -0.5
HAWA IAmb IAmb 23 46 55.5
comp=Z,14nm,1.1s
C09A Chrisman Ranch 39.86 70 P P 23 46 54.2 -1.1
C09A IAmb IAmb 23 46 55.1
comp=Z,11nm,1.0s
D08A Wollman Farm, 39.86 71 P P 23 46 54.2 -1.1
I05D Terrebonne, OR 39.86 76 P P 23 46 55.2 -0.2
baz=303
KRMB Red Mountain 39.88 82 P P 23 46 56.6 +0.9
KRMB IAmb IAmb 23 46 57.1
comp=Z,10nm,0.7s
NEW Newport 40.29 69 P P 23 46 57.6 -1.3
baz=300,SNR=9.2
NEW Newport 40.29 69 P P 23 46 57.8 -1.1
comp=Z,7.1nm,0.4s,baz=292,slow=8.1,SNR=18
NEW Newport 40.29 69 P P 23 46 57.9 -1.1
NEW pmax pmax
comp=Z,15nm,1.1s
NEW Newport 40.29 69 P P 23 46 57.9 -1.1
NEW IAmb IAmb 23 46 58.5
comp=Z,15nm,1.1s
KHMM Horse Mountain 40.37 82 P P 23 47 00.9 +1.2
L04D Klamath Falls 40.46 80 P P 23 47 00.5 0.0
baz=305,SNR=7.1
YBH Yreka Blue Hor 40.49 81 P P 23 47 00.6 -0.1
comp=Z,12nm,0.7s,baz=331,slow=5.1,SNR=33
YBH Yreka Blue Hor 40.49 81 P P 23 47 01.5 +0.8
YBH pmax pmax
comp=Z,12nm,0.8s
YBH Yreka Blue Hor 40.49 81 P P 23 47 01.5 +0.8
YBH IAmb IAmb 23 47 02.6
comp=Z,12nm,0.8s
J05D Fort Rock, OR 40.51 78 P P 23 47 00.8 -0.1
baz=304,SNR=7.1
M02C Callahan 40.60 81 P P 23 47 01.7 +0.1
baz=306,SNR=6.9
N02D Trinity Center 40.94 81 P P 23 47 05.1 +0.8
baz=306,SNR=5.2
M04C Macdoel 40.99 80 P P 23 47 05.1 +0.2
baz=306,SNR=9.9
K05A Summer Lake 41.03 78 P P 23 47 05.6 +0.4
K05A IAmb IAmb 23 47 06.8
comp=Z,18nm,1.2s
I07A Izee 41.10 76 P P 23 47 05.2 -0.5
WDC Whiskeytown Da 41.27 82 P P 23 47 07.1 +0.1
WDC pmax pmax
comp=Z,12nm,1.0s
WDC Whiskeytown Da 41.27 82 P P 23 47 07.0 +0.1
WDC IAmb IAmb 23 47 08.4
comp=Z,12nm,1.0s
O02D Mt. Diablo Mer 41.36 83 P P 23 47 08.5 +0.7
baz=307,SNR=5.2
WALA Waterton Lakes 41.72 66 P P 23 47 09.8 -0.9
WALA IAmb IAmb 23 47 10.6
comp=Z,16nm,0.9s
MOD Modoc Plateau 41.86 79 P P 23 47 12.3 +0.3
MOD IAmb IAmb 23 47 13.5
comp=Z,10nm,0.6s
O03E Paynes Creek 41.89 82 P P 23 47 12.1 0.0
baz=307,SNR=12
BMO Blue Mountains 41.99 73 P P 23 47 12.0 -0.9
BMO pmax pmax
comp=Z,7.0nm,1.0s
BMO Blue Mountains 41.99 73 P P 23 47 12.0 -0.9
J08A Circle Bar Ran 42.13 76 P P 23 47 13.6 -0.4
JTMT Jette 42.19 68 P P 23 47 13.5 -1.1
JTMT IAmb IAmb 23 47 17.8
comp=Z,5.6nm,0.5s
ORV Oroville 42.52 82 P P 23 47 16.7 -0.5
ORV pmax pmax
comp=Z,11nm,0.7s
ORV Oroville 42.52 82 P P 23 47 16.7 -0.5
ORV IAmb IAmb 23 47 17.7
comp=Z,11nm,0.7s
MSO Missoula 42.88 69 P P 23 47 18.6 -1.4
baz=303,SNR=7.9
MSO Missoula 42.88 69 P P 23 47 18.7 -1.4
MSO IAmb IAmb 23 47 19.6
comp=Z,12nm,1.1s
BJI Beijing 43.58 280 P P 23 47 26.6 +0.9
BJI pmax pmax
comp=Z,6.0nm,0.9s
PAHR Pah Rah Range 43.73 81 P P 23 47 27.1 0.0
PAHR IAmb IAmb 23 47 28.0
comp=Z,11nm,0.9s
PNTR Pine Nut 43.97 82 P P 23 47 29.5 +0.4
CMB Columbia Colle 44.15 83 P P 23 47 30.6 +0.3
CMB pmax pmax
comp=Z,12nm,1.3s
CMB Columbia Colle 44.15 83 P P 23 47 30.6 +0.3
CMB IAmb IAmb 23 47 31.7
comp=Z,12nm,1.2s
HRY Holter Researc 44.16 68 P P 23 47 29.2 -1.2
YERR Yerington 44.26 81 P P 23 47 31.3 -0.1
YERR IAmb IAmb 23 47 32.4
comp=Z,12nm,1.0s
LRM Limekiln Ridge 44.30 69 P P 23 47 30.1 -1.5
TLY Talaya 44.31 301 *i* P P 23 47 30.5 -0.9
TLY pmax pmax
comp=Z,2.0nm,1.0s
HLID Hailey 44.43 73 P P 23 47 31.7 -0.9
baz=306,SNR=9.1
WAKR Walker 44.44 82 P P 23 47 33.0 +0.2
WAKR IAmb IAmb 23 47 34.1
comp=Z,12nm,0.6s
ULN Ulaanbaatar 44.47 294 *i* P P 23 47 32.0 -0.9
ULN pmax pmax
comp=Z,2.0nm,0.8s
EGMT Eagleton 44.62 65 P P 23 47 32.0 -2.0
baz=303,SNR=6.9
EGMT Eagleton 44.62 65 P P 23 47 32.8 -1.2
EGMT IAmb IAmb 23 47 34.4
comp=Z,9.9nm,0.8s
MCMT McKenzie Canyo 44.63 71 P P 23 47 33.0 -1.3
SONM Songino Array 44.86 295 P P 23 47 37.1 +1.2
comp=Z,1.3nm,0.4s,baz=53,slow=9.8,SNR=6.6
SONM PcP PcP 23 49 16.3 +0.7
comp=Z,1.1nm,0.6s,baz=54,slow=3.3,SNR=2.5
SONM Songino Array 44.86 295 P P 23 47 36.7 +0.8
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM Songino Array 44.86 295 P P 23 47 36.7 +0.8
BOZ Bozeman (W) 44.90 69 P P 23 47 34.7 -1.6
baz=305,SNR=21
BOZ Bozeman (W) 44.90 69 P P 23 47 34.8 -1.5
BOZ pmax pmax
comp=Z,10.0nm,0.9s
BOZ Bozeman (W) 44.90 69 P P 23 47 34.8 -1.5
BOZ IAmb IAmb 23 47 35.7
comp=Z,10nm,0.8s
KVN Kaiserville 44.91 81 P P 23 47 36.3 -0.3
KVN pmax pmax
comp=Z,17nm,1.3s
KVN Kaiserville 44.91 81 P P 23 47 36.3 -0.3
KVN IAmb IAmb 23 47 37.6
comp=Z,17nm,1.3s
RYN Ryan 44.92 81 P P 23 47 36.4 -0.2
RYN IAmb IAmb 23 47 37.4
comp=Z,20nm,1.2s
NVAR Mina Array Bea 45.18 81 P P 23 47 38.8 +0.1
comp=Z,8.1nm,0.6s,baz=294,slow=7.7,SNR=74
NVAR pP pP 23 48 06.9 +2.1
comp=Z,2.0nm,0.7s,baz=298,slow=7.9,SNR=3.2
NVAR PcP PcP 23 49 18.3 +1.3
comp=Z,0.3nm,0.6s,baz=304,slow=2.1,SNR=1.3
NVAR ScP ScP 23 52 57.7 -1.2
comp=Z,0.5nm,0.6s,baz=314,slow=4.5,SNR=5.1
FFC Flin Flon 45.20 54 P P 23 47 37.8 -0.6
FFC pmax pmax
comp=Z,3.0nm,0.7s
FFC Flin Flon 45.20 54 P P 23 47 37.8 -0.6
NV11 Mina Array Sit 45.27 81 P P 23 47 39.3 0.0
NV11 IAmb IAmb 23 47 40.2
comp=Z,9.9nm,1.1s
TIA Tai'an 45.40 275 P P 23 47 40.4 +0.2
TIA pmax pmax
comp=Z,3.0nm,0.4s
QLMT Earthquake Lak 45.45 70 P P 23 47 39.8 -1.0
YHL Hebgen Lake 45.58 70 P P 23 47 41.0 -0.9
ELK Elko 45.61 77 P P 23 47 41.5 -0.6
ELK pmax pmax
comp=Z,6.0nm,0.5s
ELK Elko 45.61 77 P P 23 47 41.5 -0.6
ELK IAmb IAmb 23 47 42.4
comp=Z,5.7nm,0.5s
HHC Hu-ho-hao-te 45.89 284 *e*P P 23 47 46.5 +2.4
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,530nm,5.1s
H17A Grant Village 46.20 70 P P 23 47 46.5 -0.2
baz=306
FLWY Flagg Ranch 46.31 70 P P 23 47 47.4 -0.1
FLWY IAmb IAmb 23 47 47.8
comp=Z,7.4nm,0.7s
VES Vestal, Richgr 46.35 85 P P 23 47 47.2 -0.4
baz=311,SNR=6.4
HVU Hansel Valley 46.46 74 P P 23 47 48.2 -0.5
HVU pmax pmax
comp=Z,11nm,0.6s
HVU Hansel Valley 46.46 74 P P 23 47 48.2 -0.5
PKM Mcpherson Peak 46.52 86 P P 23 47 49.5 +0.2
baz=312
RLMT Red Lodge 46.53 68 P P 23 47 48.1 -1.2
baz=306,SNR=7.3
RLMT Red Lodge 46.53 68 P P 23 47 48.2 -1.1
RLMT IAmb IAmb 23 47 49.8
comp=Z,12nm,1.0s
CWC Cottonwood Cre 46.58 83 P P 23 47 49.2 -0.4
baz=310
BGU Big Grassy Mou 46.83 75 P P 23 47 51.1 -0.5
ISA Isabella, Lake 46.84 84 P P 23 47 51.1 -0.5
baz=311
AHID Auburn Hatcher 46.86 72 P P 23 47 51.1 -0.7
R11A Troy Canyon, C 46.89 80 P P 23 47 51.5 -0.6
baz=309,SNR=29
R11A Troy Canyon, C 46.89 80 P P 23 47 51.4 -0.6
R11A IAmb IAmb 23 47 52.0
comp=Z,7.2nm,0.6s
SPUT South Promonto 46.94 74 P P 23 47 51.9 -0.5
NJ2 Nanjing 47.09 269 *e*P P 23 47 53.6 +0.2
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
MPMC Manual Prospec 47.19 83 P P 23 47 54.2 -0.2
baz=311,SNR=11
HWUT Hardware Ranch 47.29 74 P P 23 47 54.6 -0.5
FURC Furnace Creek, 47.31 83 P P 23 47 55.0 0.0
baz=311,SNR=7.5
LAO LASA Array 47.35 65 P P 23 47 54.6 -0.8
baz=306
TPNV Topopah Spring 47.37 82 P P 23 47 55.6 -0.2
baz=310,SNR=16
TPNV Topopah Spring 47.37 82 P P 23 47 55.8 0.0
TPNV pmax pmax
comp=Z,17nm,0.8s
TPNV Topopah Spring 47.37 82 P P 23 47 55.8 0.0
DUG Dugway, Tooele 47.41 76 P P 23 47 55.3 -0.7
baz=309,SNR=11
DUG Dugway, Tooele 47.41 76 P P 23 47 55.7 -0.3
DUG pmax pmax
comp=Z,8.0nm,0.6s
DUG Dugway, Tooele 47.41 76 P P 23 47 55.7 -0.3
DUG IAmb IAmb 23 47 56.4
comp=Z,8.3nm,0.6s
LRMC Laurel Mtn Rad 47.45 84 P P 23 47 55.8 -0.6
baz=311
EDW2 Edwards Air Fo 47.65 85 P P 23 47 57.4 -0.4
baz=312
BW06 Boulder Array 47.77 71 P P 23 47 57.5 -1.4
baz=308,SNR=14
PD31 Pinedale Array 47.77 71 P P 23 47 57.6 -1.2
PD31 IAmb IAmb 23 47 58.4
comp=Z,7.9nm,0.9s
PDAR Pinedale Array 47.77 71 P P 23 47 57.5 -1.3
comp=Z,5.5nm,0.7s,baz=306,slow=3.7,SNR=54
PDAR pP pP 23 48 27.2 +2.1
comp=Z,1.7nm,0.7s,baz=320,slow=3.2,SNR=3.3
PDAR ScP ScP 23 53 07.1 -2.5
comp=Z,0.2nm,0.4s,baz=293,slow=24,SNR=2.6
PSUT Pine Spring 47.82 78 P P 23 47 58.8 -0.5
SHOC Shoshone, Teco 48.04 83 P P 23 48 00.7 -0.1
baz=311,SNR=8.1
GSC Goldstone, Bar 48.10 84 P P 23 48 01.3 0.0
baz=311,SNR=21
GSC Goldstone, Bar 48.10 84 P P 23 48 01.6 +0.2
GSC pmax pmax
comp=Z,22nm,0.8s
GSC Goldstone, Bar 48.10 84 P P 23 48 01.6 +0.2
BFSC Mount Baldy Ra 48.28 85 P P 23 48 02.4 -0.4
baz=312
TUQ Turquoise Moun 48.56 83 P P 23 48 04.3 -0.6
baz=311
HEC Hector,Ludlow 48.70 84 P P 23 48 05.8 -0.1
baz=312
MSU Marysvale 48.85 77 P P 23 48 07.1 -0.1
MSU Marysvale 48.85 77 P P 23 48 07.1 -0.1
MURC Murrieta 48.99 86 P P 23 48 07.9 -0.2
baz=312
GMRC Granite Mounta 49.15 83 P P 23 48 09.1 -0.3
baz=312,SNR=17
KNB Kanab 49.42 79 P P 23 48 11.7 +0.1
KNB pmax pmax
comp=Z,6.0nm,0.6s
KNB Kanab 49.42 79 P P 23 48 11.7 +0.1
PFO Pinyon Flats O 49.44 85 P P 23 48 11.0 -0.6
baz=313
PFO Pinyon Flats O 49.44 85 P P 23 48 11.3 -0.3
PFO pmax pmax
comp=Z,4.0nm,0.7s
PFO Pinyon Flats O 49.44 85 P P 23 48 11.3 -0.3
BELC Belle Mtn. Jos 49.46 84 P P 23 48 10.9 -1.0
baz=312,SNR=7.6
K22A Casper 49.60 69 P P 23 48 11.2 -1.6
baz=308
SPA0 Spitsbergen Ar 49.69 355 P P 23 48 12.5 -0.3
SPA0 IAmb IAmb 23 48 31.1
comp=Z,8.8nm,1.1s
SPITS Spitsbergen Ar 49.69 355 P P 23 48 12.4 -0.4
comp=Z,2.4nm,0.4s,baz=49,slow=6.9,SNR=21
IRM Iron Mountain 49.88 84 P P 23 48 14.0 -0.9
baz=312,SNR=6.3
MONP2 Monument Peak 49.95 86 P P 23 48 14.9 -0.7
baz=313
BC3 Big Chuckawall 50.03 84 P P 23 48 15.5 -0.6
baz=313

RSSD **Black Hills** 50.12 66 P P 23 48 15.2 -1.6
baz=308
O20A **White River Ci** 50.17 73 P P 23 48 15.6 -1.6
baz=310,SNR=10
MDND **Maddock** 50.30 60 P P 23 48 16.7 -1.1
baz=307
IKP **In-Ko-Pah, Jac** 50.31 86 P P 23 48 17.6 -0.5
baz=313
PDMCI **Parker Dam,Lak** 50.40 83 P P 23 48 18.0 -0.7
baz=312
PV21 **Cone Mtn., Par** 50.74 75 P P 23 48 20.7 -0.9
PV21 lAmb lAmb 23 48 24.8
comp=Z,5.3nm,0.5s
YHNB **Yeheng** 50.79 260 P P 23 48 21.9 +0.1
YHNB lAmb lAmb 23 48 31.1
comp=Z,15nm,1.1s
ULM **Lac du Bonnet** 50.80 56 P P 23 48 20.4 -1.1
comp=Z,4.4nm,0.4s,baz=316,slow=7.2,SNR=3.2
GLA **Glamis** 50.83 84 P P 23 48 21.6 -0.4
baz=313
GLA **Glamis** 50.83 84 P P 23 48 22.0 0.0
GLA **Glamis** 50.83 84 P P 23 48 22.0 0.0
N23A **Red Feather La** 51.04 71 P P 23 48 22.8 -1.0
baz=310
N23A **Red Feather La** 51.04 71 P P 23 48 22.8 -1.0
N23A lAmb lAmb 23 48 24.4
comp=Z,8.6nm,1.3s
WUAZ **Wupatki** 51.29 80 P P 23 48 25.1 -0.5
baz=312,SNR=6.5
WUAZ **Wupatki** 51.29 80 P P 23 48 25.1 -0.5
XAN **Xi'an** 51.87 279 P P 23 48 30.1 +0.3
XAN pmax pmax
comp=Z,10.0nm,1.1s
XAN **Xi'an** 51.87 279 P P 23 48 29.8 0.0
XAN pmax pmax
comp=Z,5.0nm,0.6s
XAN **Xi'an** 51.87 279 P P 23 48 29.8 0.0
XAN lAmb lAmb 23 48 30.5
comp=Z,4.8nm,0.6s
MVCO **Mesa Verde** 51.91 76 P P 23 48 28.9 -1.4
baz=311
ISCO **Idaho Springs** 51.94 72 P P 23 48 29.7 -0.8
baz=310
ISCO **Idaho Springs** 51.94 72 P P 23 48 29.9 -0.6
ISCO pmax pmax
comp=Z,3.0nm,0.9s
ISCO **Idaho Springs** 51.94 72 P P 23 48 29.9 -0.6
AGMN **Agassiz Nation** 52.01 58 P P 23 48 28.7 -1.8
baz=309,SNR=5.0
AGMN **Agassiz Nation** 52.01 58 P P 23 48 29.1 -1.5
AGMN lAmb lAmb 23 48 29.8
comp=Z,10.0nm,1.1s
TPUB **Ta-pu** 52.26 260 P P 23 48 33.5 +0.8
ZALV **Zalesovo Beam** 52.40 312 P P 23 48 33.2 0.0
comp=Z,0.5nm,0.4s,baz=43,slow=8.0,SNR=2.7
ZALV PcP PcP 23 49 43.3 +0.7
comp=Z,1.8nm,0.7s,baz=42,slow=3.8,SNR=6.7
ZALV **Zalesovo Beam** 52.40 312 P P 23 48 33.1 -0.2
S22A **4UR Ranch, Cre** 52.56 74 P P 23 48 34.8 -0.3
baz=311,SNR=5.4
214A **Organ Pipe Nat** 52.81 84 P P 23 48 36.1 -0.7
baz=314
214A **Organ Pipe Nat** 52.81 84 P P 23 48 36.6 -0.2
214A lAmb lAmb 23 48 37.4
comp=Z,6.6nm,0.9s
B35A **Bob, Littlefor** 53.08 56 P P 23 48 37.3 -1.1
B35A lAmb lAmb 23 48 37.7
comp=Z,7.5nm,0.8s
SUMG **Summit** 53.16 13 P P 23 48 39.1 -0.1
SUMG pmax pmax
comp=Z,6.0nm,1.3s
SUMG **Summit** 53.16 13 P P 23 48 39.0 -0.1
SDCO **Great Sand Dun** 53.35 74 P P 23 48 40.2 -0.7
SDCO lAmb lAmb 23 48 41.4
comp=Z,6.7nm,1.2s
GTA **Gaotai** 53.77 290 eP P 23 48 44.8 +1.1
GTA pmax pmax
comp=Z,9.0nm,0.6s
TUC **Tucson** 53.82 82 P P 23 48 43.6 -0.5
baz=314
TUC **Tucson** 53.82 82 P P 23 48 44.0 -0.1
TUC pmax pmax
comp=Z,8.0nm,1.1s
TUC **Tucson** 53.82 82 P P 23 48 44.0 -0.1
TUC lAmb lAmb 23 48 45.0
comp=Z,8.4nm,1.1s
DGZ **Jazzator, Alta** 53.84 306 i P P 23 48 44.0 -0.1
DGZ pmax pmax
comp=Z,2.0nm,0.9s
T25A **Trinidad** 54.40 73 P P 23 48 47.5 -1.0
baz=312
EYMN **Ely** 54.49 56 P P 23 48 47.4 -1.3
baz=311,SNR=8.2
EYMN **Ely** 54.49 56 P P 23 48 47.6 -1.1
EYMN lAmb lAmb 23 48 48.3
comp=Z,8.3nm,0.8s
ECSD **EROS Data Cent** 54.51 62 P P 23 48 47.0 -2.0
baz=311
ANMO **Albuquerque** 54.65 77 P P 23 48 49.7 -0.6
baz=313
ANMO **Albuquerque** 54.65 77 P P 23 48 49.9 -0.4
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO **Albuquerque** 54.65 77 P P 23 48 49.9 -0.4
BNM **Barren Site** 55.09 78 P P 23 48 53.7 +0.2
121A **Cookes Peak, D** 55.50 80 P P 23 48 55.8 -0.6
baz=314
SPMN **Marine on St.** 55.59 59 P P 23 48 55.3 -1.3
baz=312
SPMN **Marine on St.** 55.59 59 P P 23 48 55.5 -1.1
CBKS **Cedar Bluff** 56.01 69 P P 23 48 58.9 -0.9
baz=312
COWI **Conover** 56.92 56 P P 23 49 04.7 -1.4
COWI lAmb lAmb 23 49 05.6
comp=Z,5.4nm,0.8s
G40A **Rib Lake** 56.93 57 P P 23 49 05.1 -1.1
G40A lAmb lAmb 23 49 05.7
comp=Z,6.5nm,1.1s
N35A **Tabor** 56.96 64 P P 23 49 05.5 -0.9
KURK **Kurchatov** 57.39 312 i P P 23 49 09.1 -0.1
KURK pmax pmax
comp=Z,4.0nm,0.9s
KURK **Kurchatov** 57.39 312 P P 23 49 09.5 +0.3
KURK lAmb lAmb 23 49 11.4
comp=Z,4.1nm,0.6s
MSTX **Muleshoe** 57.53 75 P P 23 49 09.9 -0.8
baz=314
MNTX **Cornudas Mount** 57.54 79 P P 23 49 10.2 -0.5
baz=315,SNR=14
MNTX **Cornudas Mount** 57.54 79 P P 23 49 10.5 -0.1
MNTX lAmb lAmb 23 49 11.3
comp=Z,6.0nm,0.7s
AMTX **Amarillo** 57.55 74 P P 23 49 09.9 -0.9
baz=314
WMQ **Urumqi** 57.59 301 eP P 23 49 13.8 +2.9
WMQ pmax pmax
comp=Z,17nm,0.6s
WMQ pmax pmax
comp=Z,130nm,11.9s
SCIA **State Center** 57.59 62 P P 23 49 09.4 -1.5
baz=313
KSU1 **Kansas State U** 57.61 67 P P 23 49 09.4 -1.6
baz=313
MK31 **Makanchi Array** 58.34 307 P P 23 49 15.8 -0.2
MK31 pmax pmax
comp=Z,1.0nm,0.6s
MK31 **Makanchi Array** 58.34 307 P P 23 49 15.8 -0.2
MKAR **Makanchi Array** 58.34 307 P P 23 49 15.6 -0.5
comp=Z,1.7nm,0.5s,baz=49,slow=5.9,SNR=26
MKAR pP pwP 23 49 45.2 +0.2
comp=Z,0.9nm,0.6s,baz=39,slow=6.6,SNR=3.2
JFWS **Jewell Farm** 58.51 59 P P 23 49 15.6 -1.6
baz=314
JFWS **Jewell Farm** 58.51 59 P P 23 49 15.8 -1.4
JFWS pmax pmax
comp=Z,8.0nm,0.7s
JFWS **Jewell Farm** 58.51 59 P P 23 49 15.8 -1.4
JFWS lAmb lAmb 23 49 16.1
comp=Z,7.6nm,0.7s
D46A **Sault St. Mari** 58.94 53 P P 23 49 19.0 -1.1
baz=314
F45A **CMU Biological** 59.05 54 P P 23 49 19.8 -1.1
baz=314
D47A **Chapleau** 59.28 52 P P 23 49 21.2 -1.4
baz=315,SNR=7.5
BRVK **Borovoye** 59.37 318 P P 23 49 23.3 +0.3
BRVK pmax pmax
comp=Z,4.0nm,0.6s
BRVK **Borovoye** 59.37 318 P P 23 49 23.3 +0.3
BRVK lAmb lAmb 23 49 26.1
comp=Z,4.1nm,0.6s
WMOK **Wichita Mounta** 59.37 72 P P 23 49 22.2 -1.1
baz=315,SNR=7.2
G45A **Suttons Bay** 59.43 55 P P 23 49 22.1 -1.4
baz=314
G46A **Petoskey** 59.63 54 P P 23 49 23.8 -1.1
baz=315
H46A **Fife Lake** 60.01 55 P P 23 49 26.3 -1.2
baz=315
E48A **Lockeyer** 60.15 52 P P 23 49 27.3 -1.1
baz=315
W35A **Tecumseh** 60.19 70 P P 23 49 28.2 -0.8
TX31 **Lajitas Ar. Si** 60.25 80 P P 23 49 29.3 -0.2
TXAR **Lajitas Array** 60.25 80 P P 23 49 29.1 -0.5
comp=Z,5.9nm,0.6s,baz=305,slow=4.9,SNR=53
TUL1 **Leonard** 60.29 69 P P 23 49 28.3 -1.2
baz=315
ABTX **Abilene, Hawle** 60.34 74 P P 23 49 29.3 -0.7
baz=315
ABTX **Abilene, Hawle** 60.34 74 P P 23 49 29.4 -0.7
F48A **Evansville** 60.39 53 P P 23 49 29.0 -1.1
baz=315
SCHQ **Schefferville** 60.62 37 P P 23 49 31.0 -0.6
comp=Z,3.7nm,0.4s,baz=310,slow=6.2,SNR=14
SCHQ **Schefferville** 60.62 37 P P 23 49 30.9 -0.6
HDIL **Hopedale** 60.66 61 P P 23 49 30.5 -1.5
baz=315
HDIL **Hopedale** 60.66 61 P P 23 49 30.7 -1.4
F49A **Sandfield** 60.72 52 P P 23 49 31.2 -1.1
baz=316
D50A **G1974 Best Tow** 60.77 50 P P 23 49 31.1 -1.6
baz=316
E50A **Wahnapitae** 60.88 51 P P 23 49 31.7 -1.7
baz=316
D51A **Lot 18 Range I** 61.05 50 P P 23 49 32.8 -1.7
baz=316
VLDQ **Val d'Or** 61.20 48 P P 23 49 32.6 -2.9
VLDQ lAmb lAmb 23 49 33.0
comp=Z,6.3nm,0.7s
ARU **Arti** 61.22 327 c iP P 23 49 35.7 +0.2
ARU 23 50 12.9
ARU 23 51 50.2
ARU S S 23 57 51.5 +5.5
ARU SS SS 00 01 52.7 +5.8
ARU pmax pmax
comp=Z,5.0nm,0.5s
ARU **Arti** 61.22 327 P P 23 49 36.3 +0.8
CHGQ **Chibougamau** 61.26 45 P P 23 49 33.8 -2.1
baz=318,SNR=7.3
CCM **Cathedral Cave** 61.36 64 P P 23 49 34.6 -2.1
baz=315
E51A **G1948 Merrick** 61.40 50 P P 23 49 35.3 -1.6
baz=316
D52A **ZEK Kipawa Sen** 61.59 49 P P 23 49 36.3 -1.8
baz=317
J48A **Bridge Port** 61.61 55 P P 23 49 37.2 -1.1
baz=316
U40A **Yellville** 61.66 66 P P 23 49 36.7 -2.1
baz=316,SNR=8.8
JCT **Junction City** 61.77 76 P P 23 49 38.6 -1.1
baz=316
D53A **Lac Vacive, Po** 61.84 49 P P 23 49 38.2 -1.7
baz=317
D53A **Lac Vacive, Po** 61.84 49 P P 23 49 38.0 -1.9
D53A lAmb lAmb 23 49 38.9
comp=Z,11nm,1.1s
W39A **Magazine** 61.95 68 P P 23 49 39.5 -1.2
baz=316,SNR=5.1
SFIN **Lafayette** 61.97 60 P P 23 49 39.5 -1.2
baz=316,SNR=9.2
SFIN **Lafayette** 61.97 60 P P 23 49 39.6 -1.2
E52A **Mattawa** 61.97 50 P P 23 49 39.0 -1.8
baz=317
F52A **Sundridge** 62.01 51 P P 23 49 39.4 -1.7
baz=317,SNR=5.1
WHTX **Lake Whitney,** 62.09 73 P P 23 49 40.9 -0.8
baz=316,SNR=5.2
K49A **Clarkson** 62.15 56 P P 23 49 40.8 -1.2
baz=316
D54A **Lac Fusel, La** 62.27 48 P P 23 49 40.8 -1.9
baz=318
E53A **Dumoine, Ponti** 62.38 49 P P 23 49 41.3 -2.2
baz=317
FCAR **Ozark Folk Cen** 62.40 66 P P 23 49 41.7 -2.0
ALGO **Algonquin Park** 62.50 50 P P 23 49 42.4 -1.9
baz=317
MIAR **Mount Ida** 62.53 68 P P 23 49 43.4 -1.3
baz=316,SNR=7.6
MIAR **Mount Ida** 62.53 68 P P 23 49 43.8 -0.9
MIAR pmax pmax
comp=Z,18nm,1.2s
MIAR **Mount Ida** 62.53 68 P P 23 49 43.8 -0.9
E54A **Lac Daplat, Po** 62.56 49 P P 23 49 42.5 -2.1
baz=318,SNR=5.7
I51A **Listowel** 62.63 53 P P 23 49 45.1 -0.2
baz=317
G53A **Haliburton** 62.84 51 P P 23 49 45.2 -1.3
baz=317,SNR=11
W41B **Gary Mavity, V** 62.84 67 P P 23 49 45.2 -1.5
baz=316
G54A **Lake Saint Pet** 62.90 50 P P 23 49 45.0 -1.9
baz=318
D55A **Sainte-Anne-du** 62.92 48 P P 23 49 45.1 -1.9
baz=318,SNR=9.6
X40A **Basin Creek Fa** 63.00 68 P P 23 49 46.7 -1.1
baz=316
D56A **ZEC Mazanza, M** 63.22 47 P P 23 49 47.2 -1.8
baz=318
H53A **Bobcaygeon** 63.27 51 P P 23 49 47.8 -1.5
baz=318
J52A **Paris** 63.32 53 P P 23 49 48.6 -1.2
baz=317
F55A **Otter Lake** 63.39 49 P P 23 49 48.3 -1.9
baz=318
E56A **St. Veronique** 63.47 48 P P 23 49 48.9 -1.8
baz=319
D57A **Chemin Vers le** 63.64 47 P P 23 49 50.1 -1.7
baz=319
G55A **Calabogie** 63.65 50 P P 23 49 49.9 -2.0
baz=318
P49A **Miami Univ. Ec** 63.84 59 P P 23 49 51.3 -2.0
baz=317
LATQ **La Tuque** 63.85 46 P P 23 49 51.4 -1.8
baz=319,SNR=5.1
LATQ **La Tuque** 63.85 46 P P 23 49 51.6 -1.6
LATQ lAmb lAmb 23 49 52.2
comp=Z,4.7nm,0.7s
Z41A **Richland Creek** 63.90 69 P P 23 49 52.1 -1.6
baz=317,SNR=5.7
WCI **Wyandotte Cave** 63.95 61 P P 23 49 52.7 -1.2
baz=317
H55A **Tweed** 63.95 50 P P 23 49 52.3 -1.6
baz=318
I55A **Frankford** 63.96 51 P P 23 49 52.4 -1.5
baz=318
E57A **Chemin Saint G** 63.98 47 P P 23 49 52.1 -2.0
baz=319,SNR=7.6
D58A **Chemin du LacG** 64.03 46 P P 23 49 52.4 -1.9
baz=319,SNR=6.7
N51A **Ashland** 64.06 56 P P 23 49 53.2 -1.4
baz=317
KDJ **Kajisay** 64.23 306 P P 23 49 56.6 +0.6
KDJ pmax pmax
comp=Z,4.0nm,0.8s
KDJ **Kajisay** 64.23 306 P P 23 49 56.6 +0.6
ACSO **Alum Creek Sta** 64.25 57 P P 23 49 54.6 -1.3
baz=317
H56A **Elgin** 64.36 50 P P 23 49 54.9 -1.6
baz=319
E58A **La Victoria** 64.40 47 P P 23 49 54.7 -2.0
baz=319
O51A **Pataala** 64.50 57 P P 23 49 56.0 -1.5
baz=318
HKT **Hockley** 64.53 73 P P 23 49 57.6 -0.1
HKT pmax pmax
comp=Z,3.0nm,0.9s
M53A **WI Miller and** 64.54 55 P P 23 49 56.6 -1.2
baz=318
G57A **Newington** 64.58 49 P P 23 49 55.9 -2.0
baz=319
L54A **Sinclairville** 64.64 53 P P 23 49 57.2 -1.2
baz=318
WVT **Waverly** 64.64 63 P P 23 49 57.2 -1.3
baz=317
K54A **Basiliko Farm,** 64.67 53 P P 23 49 57.3 -1.3
baz=318
FINES **FINESS Array B** 64.85 346 P P 23 49 58.6 -0.8
comp=Z,1.6nm,0.8s,baz=12,slow=9.8,SNR=5.0
FINES **FINESS Array B** 64.85 346 i P P 23 50 01.7 +2.3
FINES pmax pmax
comp=Z,1.0nm,0.8s
H57A **Richville** 64.87 49 P P 23 49 58.2 -1.6
baz=319
K55A **Perry** 64.88 52 P P 23 49 58.5 -1.5
baz=318
O52A **Adamsville** 64.93 57 P P 23 49 59.0 -1.3
baz=318
OXF **Oxford** 64.93 66 P P 23 49 59.3 -1.1
baz=317
M54A **Oil Creek Stat** 65.00 54 P P 23 49 59.2 -1.6
baz=318
F59A **Saint Guilaume** 65.02 47 P P 23 49 59.0 -1.7
baz=320
D60A **Saint Jean D'O** 65.03 45 P P 23 49 59.1 -1.8
baz=320
J56A **Wolcott** 65.06 51 P P 23 49 59.9 -1.2
baz=319
L55A **Hinsdale** 65.11 53 P P 23 50 00.6 -1.0
baz=318
LONY **Lake Ozonia** 65.13 49 P P 23 49 59.5 -2.0
baz=319
D61A **St Aubert, Com** 65.13 44 P P 23 50 00.4 -1.1
baz=321
I57A **Carthage** 65.14 50 P P 23 49 59.9 -1.7
baz=319
AAK **Ala-Archa** 65.18 308 P P 23 50 02.4 +0.3
E60A **Ste Agathe de** 65.22 46 P P 23 50 00.4 -1.7
baz=320
N54A **Moraine State** 65.24 55 P P 23 50 01.1 -1.2
baz=318
K56A **Middlesex** 65.27 52 P P 23 50 01.3 -1.2
baz=319,SNR=6.8
F60A **Warwick** 65.30 46 P P 23 50 00.7 -1.9
baz=320
J57A **Williamstown** 65.38 51 P P 23 50 01.6 -1.5
baz=319
G59A **Clarenceville** 65.43 48 P P 23 50 01.4 -2.0
baz=320
H58A **Gabriels** 65.47 49 P P 23 50 01.8 -2.0
baz=320
M55A **Ridgway** 65.48 54 P P 23 50 03.1 -0.8
baz=319
Q52A **Bidwell** 65.56 58 P P 23 50 02.9 -1.5
baz=318
L56A **Greenwood** 65.58 52 P P 23 50 03.4 -1.1
baz=319,SNR=13
E61A **Lac Etchemin** 65.60 45 P P 23 50 02.9 -1.6
baz=321
O54A **Avella** 65.63 56 P P 23 50 03.6 -1.2
baz=318
K57A **Scipio Center** 65.64 51 P P 23 50 03.7 -1.2
baz=319
I58A **Old Forge** 65.65 50 P P 23 50 03.4 -1.6
baz=320
ZAIG **Zacatecas** 65.71 84 P P 23 50 05.6 -0.4
ZAIG lAmb lAmb 23 50 07.0
comp=Z,6.0nm,0.7s
D62A **Allapoint, All** 65.72 44 P P 23 50 03.5 -1.8
baz=321,SNR=5.3
F61A **St Evariste** 65.73 46 P P 23 50 04.0 -1.3
baz=321
J58A **Remsen** 65.75 50 P P 23 50 04.1 -1.5
baz=320
M56A **Emporium** 65.76 53 P P 23 50 04.5 -1.1
baz=319
E62A **Clayton Lake** 65.87 44 P P 23 50 04.9 -1.4
baz=321
Q53A **Leroy** 66.02 57 P P 23 50 06.4 -0.9
baz=318
G61A **St-Isidore-de-** 66.02 47 P P 23 50 05.7 -1.6
baz=321
L57A **Andrews Acres** 66.03 52 P P 23 50 06.2 -1.2
baz=319
K58A **Earlville** 66.03 51 P P 23 50 06.0 -1.4
baz=320
J59A **Piesco** 66.04 50 P P 23 50 05.5 -2.0
baz=320
I59A **Olmsteadville** 66.09 49 P P 23 50 06.0 -1.8
baz=320
N56A **West Decatur** 66.13 54 P P 23 50 07.5 -0.6
baz=319
D63A **Stockholm** 66.15 43 P P 23 50 06.9 -1.1
baz=322
R53A **Hurricane** 66.19 58 P P 23 50 07.6 -0.8
baz=318
F62A **Pittston Farm,** 66.24 45 P P 23 50 07.3 -1.3
baz=321
BINY **Binghamton** 66.30 51 P P 23 50 08.1 -1.1
baz=320
I60A **Shoreham** 66.32 49 P P 23 50 07.5 -1.7
baz=320
M57A **Sunshine Farm,** 66.39 53 P P 23 50 08.5 -1.2
baz=319
K59A **Cooperstown** 66.40 50 P P 23 50 08.3 -1.5
baz=320
P55A **Reedsville** 66.41 56 P P 23 50 08.7 -1.2
baz=319
H61A **Lyndonville** 66.42 47 P P 23 50 08.0 -1.8
baz=321
ABKAR **Akbulak array** 66.45 321 P P 23 50 10.6 +0.7
L58A **Harry Jones Me** 66.48 51 P P 23 50 09.2 -1.0
baz=320
E63A **Oxbow** 66.50 44 P P 23 50 08.3 -2.0
baz=322
G62A **West of Eustis** 66.52 46 P P 23 50 09.1 -1.3
baz=321
SSPA **Standing Stone** 66.54 54 P P 23 50 09.7 -1.0
baz=319
N57A **Milroy** 66.62 53 P P 23 50 10.0 -1.2
baz=319
LBNH **Lisbon** 66.65 48 P P 23 50 09.8 -1.4
baz=321
Q55A **Buckhannon** 66.67 56 P P 23 50 10.3 -1.2
baz=319
TZTN **Tazewell** 66.67 60 P P 23 50 10.4 -1.1
baz=318
M58A **Price's Panora** 66.69 52 P P 23 50 10.4 -1.3
baz=320
J60A **Lant Hill Farm** 66.72 49 P P 23 50 10.4 -1.4
baz=320
KK31 **Karatay Array** 66.73 311 P P 23 50 12.1 +0.2
KK31 pmax pmax
comp=Z,3.0nm,0.6s
KK31 **Karatay Array** 66.73 311 P P 23 50 12.1 +0.2
KKAR **Karatay Array** 66.73 311 P P 23 50 12.1 +0.2
KKAR **Karatay Array** 66.73 311 P P 23 50 12.1 +0.2
H62A **Milan** 66.74 47 P P 23 50 10.5 -1.3
baz=321,SNR=12
H62A **Milan** 66.74 47 P P 23 50 10.6 -1.3
I61A **Oroboro, Fairl** 66.75 48 P P 23 50 10.5 -1.4
baz=321
E64A **Bridgewater** 66.76 44 P P 23 50 10.2 -1.7
baz=322,SNR=5.2
L59A **Walton** 66.76 51 P P 23 50 11.1 -1.0
baz=320
F63A **Nahmakanta, Br** 66.77 45 P P 23 50 10.3 -1.7
baz=322
R54A **Victor** 66.80 57 P P 23 50 11.5 -0.9
baz=319
BATG **Bathurst New B** 66.82 42 P P 23 50 11.4 -0.9
BATG lAmb lAmb 23 50 12.1
comp=Z,7.3nm,0.5s
T53A **Wise** 66.88 59 P P 23 50 12.3 -0.7
baz=318
NOA **NORSAR Array B** 66.92 353 P P 23 50 13.9 +1.1
comp=Z,0.8nm,0.9s,baz=11,slow=6.7,SNR=2.2
NOA pP PcP 23 50 41.0 +0.5
comp=Z,1.4nm,0.9s,baz=7.6,slow=6.5,SNR=4.4
F64A **Sherman** 66.97 44 P P 23 50 11.5 -1.8
baz=322
N58A **Sunbury** 66.97 53 P P 23 50 12.3 -1.1
baz=320
O57A **Amberson** 66.99 54 P P 23 50 12.1 -1.4
baz=319
G63A **Kingsbury** 67.00 46 P P 23 50 11.7 -1.8
baz=322
FPAL **Fort Paine** 67.03 63 P P 23 50 12.4 -1.5
FPAL lAmb lAmb 23 50 12.9
comp=Z,6.9nm,0.5s
PKME **Peaks-Kenny Pk** 67.03 45 P P 23 50 12.2 -1.4
baz=322

J61A	**Chester**	**67.05**	**49**	P		**P**	**23 50 12.4**	**-1.4**
	baz=321							
M59A	**Waymart**	**67.07**	**52**	P		**P**	**23 50 12.6**	**-1.4**
	baz=320							
FAKI	**Fak Fak**	**67.15**	**231**	P		**P**	**23 50 14.7**	**0.0**
R55A	**Marlinton**	**67.18**	**57**	P		**P**	**23 50 13.5**	**-1.3**
	baz=319							
G64A	**Maxfield**	**67.27**	**45**	P		**P**	**23 50 13.9**	**-1.3**
	baz=322							
T54A	**Tazewell**	**67.33**	**59**	P		**P**	**23 50 14.8**	**-1.1**
	baz=319							
S55A	**Lewisburg**	**67.36**	**57**	P		**P**	**23 50 14.7**	**-1.3**
	baz=319							
LRAL	**Lakeview Retre**	**67.37**	**65**	P		**P**	**23 50 14.2**	**-1.8**
	baz=318							
N59A	**State Game Lan**	**67.38**	**52**	P		**P**	**23 50 14.6**	**-1.4**
	baz=320							
I63A	**Otisfield**	**67.40**	**47**	P		**P**	**23 50 14.6**	**-1.4**
	baz=321							
O58A	**Lewisberry**	**67.41**	**53**	P		**P**	**23 50 15.0**	**-1.2**
	baz=320							
L61A	**Hillsdale 1, H**	**67.47**	**50**	P		**P**	**23 50 15.5**	**-1.0**
	baz=320							
J62A	**Henniker**	**67.48**	**48**	P		**P**	**23 50 15.4**	**-1.2**
	baz=321							
H64A	**Troy**	**67.55**	**46**	P		**P**	**23 50 15.5**	**-1.4**
	baz=322							
U54A	**Nelsons Funny**	**67.61**	**59**	P		**P**	**23 50 16.2**	**-1.4**
	baz=319							
M60A	**Port Jervis**	**67.62**	**51**	P		**P**	**23 50 16.2**	**-1.2**
	baz=320							
O59A	**Robesonia**	**67.64**	**53**	P		**P**	**23 50 16.4**	**-1.2**
	baz=320							
L61B	**Northampton**	**67.68**	**49**	P		**P**	**23 50 16.3**	**-1.5**
	baz=321							
T55A	**Pulaski**	**67.71**	**58**	P		**P**	**23 50 16.6**	**-1.5**
	baz=319							
K62A	**Royalston**	**67.72**	**49**	P		**P**	**23 50 16.8**	**-1.3**
	baz=321							
N60A	**Cedar Hill Far**	**67.74**	**52**	P		**P**	**23 50 17.1**	**-1.1**
	baz=320							
G65A	**Princeton**	**67.83**	**44**	P		**P**	**23 50 17.4**	**-1.3**
	baz=322							
Q58A	**Fox Den Farm,**	**67.93**	**55**	P		**P**	**23 50 18.1**	**-1.4**
	baz=320							
I64A	**Boothbay**	**67.93**	**46**	P		**P**	**23 50 17.8**	**-1.5**
	baz=322							
H65A	**Eastbrook**	**67.94**	**45**	P		**P**	**23 50 17.5**	**-1.8**
	baz=322							
R57A	**Stanardsville**	**67.99**	**56**	P		**P**	**23 50 18.9**	**-0.9**
	baz=320							
O60A	**Telford**	**68.01**	**52**	P		**P**	**23 50 19.0**	**-0.9**
	baz=320							
U55A	**TA2, Sparta**	**68.03**	**59**	P		**P**	**23 50 19.1**	**-1.2**
	baz=319							
P59A	**Jarrettsville**	**68.05**	**54**	P		**P**	**23 50 19.0**	**-1.2**
	baz=320							
V54A	**Nebo**	**68.10**	**60**	P		**P**	**23 50 19.4**	**-1.2**
	baz=319							
T56A	**Rocky Mt**	**68.17**	**58**	P		**P**	**23 50 20.6**	**-0.4**
	baz=319							
GGN	**Saint George**	**68.21**	**44**	P		**P**	**23 50 19.8**	**-1.2**
GGN				IAmb	IAmb		23 50 20.4	
	comp=Z,5.3nm,0.8s							
SHL	**Shillong**	**68.25**	**284**	P		**P**	**23 50 21.4**	**-0.4**
SHL				pmax	pmax			
	comp=Z,13nm,1.2s							
SHL	**Shillong**	**68.25**	**284**	P		**P**	**23 50 21.4**	**-0.4**
SHL				IAmb	IAmb		23 50 22.8	
	comp=Z,13nm,1.2s							
R58A	**Rapidan**	**68.25**	**55**	P		**P**	**23 50 20.3**	**-1.1**
	baz=320							
EMMW	**East Machias**	**68.27**	**44**	P		**P**	**23 50 20.3**	**-1.1**
EMMW				IAmb	IAmb		23 50 20.8	
	comp=Z,9.3nm,0.6s							
H66A	**Whiting**	**68.27**	**44**	P		**P**	**23 50 20.0**	**-1.4**
	baz=323							
KKM	**Kota Kinabalu**	**68.34**	**251**	P		**P**	**23 50 22.2**	**-0.2**
KKM				IAmb	IAmb		23 50 40.9	
	comp=Z,18nm,1.1s							
V55A	**Taylorsville**	**68.43**	**59**	P		**P**	**23 50 21.2**	**-1.4**
	baz=319							
LMN	**Caledonia Moun**	**68.48**	**42**	P		**P**	**23 50 21.5**	**-1.3**
W54A	**Cherokee Point**	**68.49**	**60**	P		**P**	**23 50 21.8**	**-1.3**
	baz=319							
DRLN	**Deer Lake**	**68.53**	**36**	P		**P**	**23 50 22.4**	**-0.6**
DRLN				IAmb	IAmb		23 50 32.6	
	comp=Z,14nm,1.1s							
T57A	**Hurt**	**68.60**	**57**	P		**P**	**23 50 22.3**	**-1.3**
	baz=320							
X54A	**Belton**	**68.80**	**61**	P		**P**	**23 50 23.9**	**-1.0**
	baz=319							
KMSC	**Kings Mountain**	**68.91**	**60**	P		**P**	**23 50 24.2**	**-1.4**
	baz=319							
KMSC	**Kings Mountain**	**68.91**	**60**	P		**P**	**23 50 24.5**	**-1.1**
KMSC				IAmb	IAmb		23 50 25.3	
	comp=Z,25nm,1.4s							
L64A	**Middleborough**	**68.94**	**48**	P		**P**	**23 50 24.5**	**-1.1**
	baz=322							
CHTO	**Chiang Mai**	**68.99**	**274**	P		**P**	**23 50 27.3**	**+1.0**
CHTO				pmax	pmax			
	comp=Z,5.0nm,2.8s							
U57A	**Blanch**	**68.99**	**58**	P		**P**	**23 50 25.2**	**-0.8**
	baz=320							
GOGA	**Godfrey**	**69.06**	**62**	P		**P**	**23 50 24.9**	**-1.6**
	baz=319							
HODGE	**Hodges**	**69.10**	**61**	P		**P**	**23 50 25.6**	**-1.1**
HODGE				IAmb	IAmb		23 50 26.2	
	comp=Z,8.2nm,0.6s							
V57A	**Coltrane Farms**	**69.17**	**58**	P		**P**	**23 50 26.4**	**-0.8**
	baz=320							
X55A	**Gracelyn & Ava**	**69.25**	**60**	P		**P**	**23 50 26.7**	**-1.0**
	baz=320							
CMAR	**Chiang Mai Arr**	**69.25**	**274**	P		**P**	**23 50 28.6**	**+0.6**
	comp=Z,1.6nm,0.5s,baz=26,slow=7.2,SNR=8.7							
CMAR				pP		**pP**	**23 50 57.7**	**+1.7**
	comp=Z,0.9nm,0.4s,baz=18,slow=5.1,SNR=1.7							
CMAR	**Chiang Mai Arr**	**69.25**	**274**	P		**P**	**23 50 28.3**	**+0.4**
TAPN	**Taplejung**	**69.40**	**288**	*eP*		**P**	**23 50 29.8**	**+0.7**
	comp=Z,26nm,0.8s							
Y55A	**Saluda**	**69.53**	**61**	P		**P**	**23 50 28.4**	**-1.1**
	baz=320							
X56A	**White Oak**	**69.56**	**60**	P		**P**	**23 50 28.5**	**-1.1**
	baz=320							
V58A	**Windy Hill, Pi**	**69.59**	**58**	P		**P**	**23 50 28.7**	**-1.0**
	baz=320							
W57A	**Gilead**	**69.61**	**59**	P		**P**	**23 50 28.6**	**-1.3**
	baz=320							
ODAN	**Odare**	**69.96**	**288**	*eP*		**P**	**23 50 33.6**	**+1.1**
	comp=Z,8.4nm,0.4s							
HAL	**Halifax**	**69.97**	**42**	P		**P**	**23 50 30.8**	**-1.1**
HAL				pmax	pmax			
	comp=Z,7.0nm,0.5s							
HAL	**Halifax**	**69.97**	**42**	P		**P**	**23 50 30.8**	**-1.1**
HAL				IAmb	IAmb		23 50 31.3	
	comp=Z,6.9nm,0.5s							
GUN	**Gumba**	**70.06**	**290**	*eP*		**P**	**23 50 34.3**	**+1.1**
	comp=Z,46nm,0.4s							
JIRN	**Jiri**	**70.06**	**289**	*eP*		**P**	**23 50 34.5**	**+1.3**
	comp=Z,55nm,0.7s							
V59A	**Middlesex**	**70.07**	**57**	P		**P**	**23 50 31.8**	**-0.9**
	baz=320							
W58A	**Raeford**	**70.11**	**59**	P		**P**	**23 50 31.9**	**-1.1**
	baz=320							
Z56A	**Williston**	**70.26**	**61**	P		**P**	**23 50 33.1**	**-0.8**
	baz=320							
RAMN	**Ramite**	**70.36**	**289**	*eP*		**P**	**23 50 35.7**	**+0.8**
	comp=Z,37nm,0.6s							
KKN	**Kakani**	**70.49**	**290**	*eP*		**P**	**23 50 36.8**	**+1.1**
	comp=Z,24nm,0.5s							
PKI	**Pulchoki**	**70.58**	**290**	*eP*		**P**	**23 50 37.1**	**+0.7**
	comp=Z,26nm,0.6s							
PKIN	**Phulchoki**	**70.59**	**290**	*eP*		**P**	**23 50 37.0**	**+0.7**
	comp=Z,29nm,0.5s							
DMN	**Daman**	**70.73**	**290**	*eP*		**P**	**23 50 38.0**	**+0.8**
	comp=Z,25nm,0.9s							
CHGR	**Chuyangaron**	**70.83**	**309**	P		**P**	**23 50 37.9**	**+0.5**
DANN	**Dangsing**	**70.95**	**292**	*eP*		**P**	**23 50 39.4**	**+0.8**
	comp=Z,45nm,0.7s							
KOLN	**Koldanda**	**71.48**	**291**	*eP*		**P**	**23 50 42.1**	**+0.5**
	comp=Z,14nm,0.6s							
KBL	**Kabul**	**74.13**	**306**	P		**P**	**23 50 57.0**	**-0.2**
KBL				pmax	pmax			
	comp=Z,6.0nm,0.8s							
KBL	**Kabul**	**74.13**	**306**	P		**P**	**23 50 57.0**	**-0.2**
AKASG	**Malin Array Be**	**74.47**	**340**	P		**P**	**23 50 58.2**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=20,slow=6.0,SNR=2.6							
AKASG				pP		**pwP**	**23 51 28.1**	**-0.6**
	comp=Z,1.6nm,0.4s,baz=22,slow=6.2,SNR=5.2							
MTN	**Manton Dam**	**76.35**	**228**	P		**P**	**23 51 09.8**	**+0.1**
GEYT	**Alibeck**	**76.50**	**315**	P		**P**	**23 51 10.5**	**0.0**
CTA	**Charters Tower**	**77.03**	**211**	P		**P**	**23 51 13.9**	**+0.5**
	comp=Z,3.8nm,0.8s,baz=358,slow=3.8,SNR=3.8							
CTA	**Charters Tower**	**77.03**	**211**	P		**P**	**23 51 14.0**	**+0.5**
HRA	**Herat**	**77.56**	**311**	P		**P**	**23 51 17.4**	**+0.7**
BUR08	**Bucovina Ar. S**	**78.19**	**342**	P		**P**	**23 51 20.1**	**+0.2**
BURAR	**Bucovina Array**	**78.22**	**342**	P		**P**	**23 51 19.9**	**0.0**
WB0	**Warramunga Arr**	**81.07**	**222**	P		**P**	**23 51 35.6**	**+0.1**
WR0	**Warramunga Arr**	**81.19**	**221**	P		**P**	**23 51 36.2**	**+0.1**
WB2	**Warramunga Arr**	**81.25**	**221**	P		**P**	**23 51 36.7**	**+0.3**
WRA	**Warramunga Arr**	**81.25**	**221**	P		**P**	**23 51 36.6**	**+0.1**
	comp=Z,4.7nm,0.7s,baz=34,slow=6.1,SNR=9.8							
FITZ	**Fitzroy Crossi**	**83.48**	**230**	P		**P**	**23 51 48.5**	**+0.5**
FITZ				IAmb	IAmb		23 51 49.6	
	comp=Z,7.8nm,1.0s							
BRTR	**Keskin Array B**	**83.71**	**333**	P		**P**	**23 51 49.9**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=56,slow=2.6,SNR=5.8							
BRTR	**Keskin Array B**	**83.71**	**333**	P		**P**	**23 51 49.6**	**+0.3**
AS31	**Alice Springs**	**84.76**	**220**	P		**P**	**23 51 55.0**	**+0.5**
ASAR	**Alice Springs**	**84.77**	**220**	P		**P**	**23 51 55.2**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=24,slow=5.3,SNR=14							
ASAR	**Alice Springs**	**84.77**	**220**	P		**P**	**23 51 55.0**	**+0.5**
SANT	**Santorini**	**88.95**	**338**	P		**P**	**23 52 14.4**	**-0.4**
PSAD3	**Pilbara Seismi**	**89.33**	**233**	P		**P**	**23 52 15.9**	**-0.7**
STKA	**Stephens Creek**	**89.49**	**211**	P		**P**	**23 52 18.4**	**+1.3**
	comp=Z,5.5nm,0.6s,baz=345,slow=7.9,SNR=10							
STKA	**Stephens Creek**	**89.49**	**211**	P		**P**	**23 52 18.0**	**+1.0**
STKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
STKA	**Stephens Creek**	**89.49**	**211**	P		**P**	**23 52 18.0**	**+1.0**
TORD	**Torodi Ar. Bea**	**115.13**	**357**	PKP		**PKiKP**	**23 58 00.3**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=8.5,slow=2.1,SNR=7.9							
MAW	**Mawson**	**145.86**	**218**	PKPbc		**PKPab**	**23 58 58.2**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=96,slow=4.8,SNR=8.9							
MAW	**Mawson**	**145.86**	**218**			**PKPbc**	**23 58 57.9**	**+0.2**
BOSA	**Boshof**	**149.31**	**309**	PKPbc		**PKPbc**	**23 59 08.7**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=14,slow=2.7,SNR=18							
BOSA	**Boshof**	**149.31**	**309**			**PKPbc**	**23 59 08.7**	**+0.2**
BOSA				PKPab		**PKPab**	**23 59 14.1**	**+0.6**

*IDC **23** 23:41:20.0±0.7, 29°.93S×177°.43W, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.2/35, mbtmp4.3/10, ML4.4/1, Error ellipse: s-maj=22.5km s-min=14.2km az=71.0*
*NEIC **23** 23:41:23.2±1.3, 29°.94S±0°.07×177°.4W±0°.2, h24km±5km, mb4.3/15, Error ellipse: s-maj=21.5km s-min=8.3km az=71.0*

ISC 23 23:41:25.2±0.6, **29°.96S**±0°.07×**177°.5W**±0°.1, **h35**km, **n43,** σ0**s88**/45, **mb4.4**/14, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.80**	**331**	Pn	**Pn**	**23 41 39.1**	**-0.9**
	2μm,0.3s,baz=265,slow=0.9,SNR=28						
RAO				Sn	**Sn**	**23 41 50.7**	**0.0**
	4μm,0.3s,baz=108,slow=22,SNR=19						
RAO	**Raoul Island**	**0.80**	**331**	Pn	**Pn**	**23 41 38.7**	**-1.3**
RAO				Sn	**Sn**	**23 41 50.6**	**-0.1**
BHW	**Baring Head**	**13.00**	**206**	Pn	**Pn**	**23 44 25.7**	**-1.7**
THZ	**Tophouse**	**14.11**	**211**	Pn	**Pn**	**23 44 42.2**	**-0.4**
DZM	**Mont Dzumac**	**16.44**	**295**	Pn	**P**	**23 45 15.9**	**+0.1**
	0.1nm,0.3s,baz=344,slow=21,SNR=1.3						
RPZ	**Rata Peaks**	**16.49**	**211**	Pn	**Pn**	**23 45 13.4**	**-0.4**
	1.4nm,0.3s,baz=19,slow=4.1,SNR=5.0						
RPZ	**Rata Peaks**	**16.49**	**211**		**Pn**	**23 45 12.1**	**-1.7**
RPZ				IAmb	IAmb	23 45 25.9	
	comp=Z,27nm,1.2s						
WKZ	**Wanaka**	**18.27**	**212**		**P**	**23 45 33.9**	**-1.9**
WKZ				IAmb	IAmb	23 45 46.5	
	comp=Z,44nm,1.1s						
EIDS	**Eidsvold**	**28.17**	**272**	P	**P**	**23 47 16.0**	**+1.6**
EIDS				IAmb	IAmb	23 47 19.5	
	comp=Z,4.7nm,0.9s						
CTA	**Charters Tower**	**34.18**	**278**	P	**P**	**23 48 08.6**	**+1.2**
	comp=Z,5.0nm,0.8s,baz=90,slow=12,SNR=4.5						
CTAO	**Charters Tower**	**34.18**	**278**	P	**P**	**23 48 07.5**	**+0.2**
STKA	**Stephens Creek**	**35.02**	**256**	P	**P**	**23 48 15.7**	**+1.2**
	comp=Z,3.5nm,0.8s,baz=162,slow=18,SNR=3.3						
STKA	**Stephens Creek**	**35.02**	**256**	P	**P**	**23 48 15.3**	**+0.8**
STKA				IAmb	IAmb	23 48 23.8	
	comp=Z,2.9nm,1.1s						
AS31	**Alice Springs**	**43.59**	**266**	P	**P**	**23 49 26.2**	**0.0**
ASAR	**Alice Springs**	**43.59**	**266**	P	**P**	**23 49 25.8**	**-0.4**
	comp=Z,3.1nm,0.7s,baz=102,slow=7.2,SNR=21						
WB2	**Warramunga Arr**	**44.52**	**271**	P	**P**	**23 49 33.3**	**-0.4**
WB2				IAmb	IAmb	23 49 36.7	
	comp=Z,6.8nm,0.9s						
WRA	**Warramunga Arr**	**44.53**	**271**	P	**P**	**23 49 33.3**	**-0.4**
	comp=Z,5.6nm,0.8s,baz=111,slow=7.9,SNR=11						
WRA	**Warramunga Arr**	**44.53**	**271**	P	**P**	**23 49 33.4**	**-0.4**
WB0	**Warramunga Arr**	**44.55**	**272**	P	**P**	**23 49 33.9**	**0.0**
WB0				IAmb	IAmb	23 49 34.7	
	comp=Z,5.3nm,0.8s						
VNDA	**Vanda**	**48.58**	**186**	P	**P**	**23 50 04.2**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=2.5,slow=7.3,SNR=5.7						
VNDA	**Vanda**	**48.58**	**186**	P	**P**	**23 50 06.9**	**+2.2**
FITZ	**Fitzroy Crossi**	**52.81**	**269**	P	**P**	**23 50 38.0**	**+0.6**
FITZ				IAmb	IAmb	23 50 51.2	
	comp=Z,3.6nm,0.9s						
CASY	**Casey**	**55.74**	**208**	P	**P**	**23 50 57.8**	**-0.2**
QSPA	**South Pole Qui**	**60.15**	**180**	P	**P**	**23 51 29.7**	**+0.6**
	comp=Z,4.2nm,1.0s,baz=27,slow=4.1,SNR=9.0						
QSPA	**South Pole Qui**	**60.15**	**180**	P	**P**	**23 51 29.7**	**+0.6**
MAW	**Mawson**	**72.88**	**200**	P	**P**	**23 52 51.4**	**+1.3**
	comp=Z,4.1nm,0.8s,baz=162,slow=11,SNR=4.7						
MAW	**Mawson**	**72.88**	**200**	P	**P**	**23 52 50.8**	**+0.7**
SNAA	**Sanae**	**78.58**	**178**	P	**P**	**23 53 22.3**	**-0.6**
SNAA				IAmb	IAmb	23 53 24.2	
	comp=Z,2.8nm,1.0s						
NVAR	**Mina Array Bea**	**87.61**	**42**	P	**P**	**23 54 09.7**	**-0.4**
	comp=Z,2.1nm,0.9s,baz=222,slow=7.5,SNR=10						
NVAR	**Mina Array Bea**	**87.61**	**42**	P	**P**	**23 54 09.8**	**-0.3**
KLR	**Kul'dur**	**90.88**	**329**	P	**P**	**23 54 26.0**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=133,slow=8.8,SNR=4.1						
FINES	**FINESS Array B**	**144.88**	**340**	PKP	**PKPab**	**00 00 56.3**	**-0.6**
	comp=Z,11nm,0.8s,baz=72,slow=6.2,SNR=26						
KBZ	**Khabaz**	**145.24**	**305**	PKPbc	**PKPbc**	**00 00 58.6**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=45,slow=14,SNR=2.5						
NB2	**NORSAR Subarra**	**148.38**	**352**	PKP	**PKPbc**	**00 01 06.7**	**-0.6**
	comp=Z,1.5nm,0.9s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.38**	**352**	PKPbc	**PKPbc**	**00 01 07.1**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=15,slow=4.3,SNR=4.9						
AKASG	**Malin Array Be**	**151.22**	**324**	PKPbc	**PKPbc**	**00 01 14.2**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=42,slow=2.6,SNR=6.7						
AKASG	**Malin Array Be**	**151.22**	**324**		**PKPbc**	**00 01 13.6**	**-0.9**
BRTR	**Keskin Array B**	**152.78**	**299**	PKPbc	**PKiKP**	**00 01 18.8**	**0.0**
	comp=Z,0.3nm,0.4s,baz=304,slow=37,SNR=2.5						
BRTR	**Keskin Array B**	**152.78**	**299**		**PKPbc**	**00 01 18.1**	**-0.4**
GERES	**GERESS Array B**	**159.30**	**339**	PKPab	**PKPab**	**00 01 57.4**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=68,slow=7.4,SNR=5.3						
GERES	**GERESS Array B**	**159.30**	**339**		**PKPab**	**00 01 56.3**	**-0.7**
TORD	**Torodi Ar. Bea**	**163.25**	**177**	PKPab	**PKPab**	**00 02 14.8**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=179,slow=3.7,SNR=4.1						
ESDC	**Sonseca Array**	**168.94**	**27**	PKPab	**PKPab**	**00 02 40.6**	**+0.9**
	comp=Z,2.3nm,0.8s,baz=318,slow=1.7,SNR=6.9						

*IDC **23** 23:42:23.1±1.2, 29°.89S×177°.40W, h0km, mb4.3/5, mb1 4.5/6, mb1mx4.0/37, mbtmp4.3/6, ML4.2/1, Error ellipse: s-maj=27.7km s-min=23.1km az=66.0*
*NEIC **23** 23:42:24.4±1.9, 29°.93S±0°.08×177°.4W±0°.1, h15km±5km, mb4.6/14, Error ellipse: s-maj=17.8km s-min=10.1km az=60.0*

ISC 23 23:42:27.4±0.6, **29°.96S**±0°.08×**177°.39W**±0°.09, **h35**km, **n32,** σ1**s02**/34, **mb4.5**/9, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.84**	**327**	Pn	**Pn**	**23 42 41.7**	**-1.0**
	975nm,0.3s,baz=306,slow=23,SNR=1.3						
RAO				Sn	**Sn**	**23 42 53.8**	**-0.1**
	2μm,0.3s,baz=167,slow=23,SNR=2.2						
RAO	**Raoul Island**	**0.84**	**327**		**Pn**	**23 42 41.7**	**-1.0**
RAO					**Sn**	**23 42 53.0**	**-0.9**
THZ	**Tophouse**	**14.15**	**211**	Pn	**Pn**	**23 45 43.5**	**-1.9**
KHZ	**Kahutara**	**14.42**	**208**	Pn	**Pn**	**23 45 46.8**	**-2.0**
OXZ	**Oxford**	**15.79**	**209**	Pn	**Pn**	**23 46 06.2**	**-0.9**
OXZ				IAmb	IAmb	23 46 10.4	
	comp=Z,16nm,0.5s						
RPZ	**Rata Peaks**	**16.53**	**211**	Pn	**Pn**	**23 46 15.9**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=275,slow=12,SNR=1.5						
RPZ	**Rata Peaks**	**16.53**	**211**		**Pn**	**23 46 14.7**	**-1.8**
RAR	**Rarotonga**	**18.10**	**65**		**Pn**	**23 46 34.4**	**-1.7**
RAR				IAmb	IAmb	23 46 46.1	
	comp=Z,70nm,1.4s						
PPTF	**Pamatai, Papee**	**28.20**	**70**	P	**P**	**23 48 17.3**	**+0.3**
CTA	**Charters Tower**	**34.26**	**278**	P	**P**	**23 49 11.7**	**+1.4**
	comp=Z,2.3nm,0.3s,baz=98,slow=13,SNR=2.2						
CTAO	**Charters Tower**	**34.26**	**278**	P	**P**	**23 49 11.2**	**+0.9**
CTAO				IAmb	IAmb	23 49 12.3	
	comp=Z,12nm,1.2s						
STKA	**Stephens Creek**	**35.10**	**256**	P	**P**	**23 49 18.6**	**+1.2**
	comp=Z,2.4nm,0.5s,baz=104,slow=13,SNR=3.9						
STKA	**Stephens Creek**	**35.10**	**256**	P	**P**	**23 49 18.2**	**+0.8**
BBOO	**Buckleboo**	**39.60**	**254**	P	**P**	**23 49 55.2**	**-0.4**
AS31	**Alice Springs**	**43.66**	**266**	P	**P**	**23 50 28.8**	**-0.2**
ASAR	**Alice Springs**	**43.66**	**266**	P	**P**	**23 50 29.3**	**+0.3**
	comp=Z,1.5nm,0.4s,baz=105,slow=7.4,SNR=10						
ASAR	**Alice Springs**	**43.66**	**266**	P	**P**	**23 50 29.1**	**+0.1**
WB2	**Warramunga Arr**	**44.60**	**271**	P	**P**	**23 50 36.5**	**0.0**
WB2				IAmb	IAmb	23 50 37.5	
	comp=Z,9.9nm,1.2s						
WRA	**Warramunga Arr**	**44.61**	**271**	P	**P**	**23 50 36.6**	**0.0**
	comp=Z,2.8nm,0.4s,baz=111,slow=7.8,SNR=10						
WRA	**Warramunga Arr**	**44.61**	**271**	P	**P**	**23 50 36.3**	**-0.3**
WB0	**Warramunga Arr**	**44.63**	**272**	P	**P**	**23 50 36.8**	**0.0**
WB0				IAmb	IAmb	23 50 52.0	
	comp=Z,14nm,1.4s						
FITZ	**Fitzroy Crossi**	**52.89**	**269**	P	**P**	**23 51 40.4**	**+0.2**
CASY	**Casey**	**55.78**	**208**	P	**P**	**23 52 00.1**	**-0.4**
CASY				IAmb	IAmb	23 52 01.8	
	comp=Z,9.2nm,1.2s						
PSA00	**Pilbara Seismi**	**56.55**	**263**	P	**P**	**23 52 07.0**	**+0.3**
QSPA	**South Pole Qui**	**60.15**	**180**	P	**P**	**23 52 32.2**	**+0.9**
QSPA				IAmb	IAmb	23 52 43.9	
	comp=Z,8.7nm,1.4s						
NVAR	**Mina Array Bea**	**87.56**	**42**	P	**P**	**23 55 12.7**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=225,slow=8.9,SNR=3.7						
NVAR	**Mina Array Bea**	**87.56**	**42**	P	**P**	**23 55 12.4**	**+0.5**
FINES	**FINESS Array B**	**144.91**	**341**	PKP	**PKPab**	**00 01 59.0**	**-0.3**
	comp=Z,3.8nm,0.5s,baz=35,slow=3.4,SNR=2.8						
FINES	**FINESS Array B**	**144.91**	**341**		**PKPab**	**00 01 58.7**	**-0.6**
NOA	**NORSAR Array B**	**148.39**	**352**	PKPbc	**PKiKP**	**00 02 11.0**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=20,slow=2.6,SNR=1.2						
AKASG	**Malin Array Be**	**148.39**	**352**		**PKPbc**	**00 02 16.8**	**0.0**
	comp=Z,0.4nm,0.3s,baz=54,slow=3.4,SNR=1.9						
BRTR	**Keskin Array B**	**152.85**	**299**	PKPbc	**PKiKP**	**00 02 23.7**	**+2.6**
	comp=Z,1.0nm,0.5s,baz=132,slow=6.3,SNR=2.7						

*IDC **23** 23:48:29.4±0.9, 30°.12S×177°.13W, h0km, mb4.3/8, mb1 4.4/9, mb1mx4.1/44, mbtmp4.3/9, ML4.3/1, Error ellipse: s-maj=27.0km s-min=21.5km az=77.0*
*NEIC **23** 23:48:32.8±1.7, 30°.08S±0°.07×177°.2W±0°.2, h23km±6km, mb4.5/14, Error ellipse: s-maj=20.8km s-min=8.6km az=74.0*

ISC 23 23:48:32.9±0.8, **30°.07S**±0°.06×**177°.2W**±0°.1, **h24**km, **n39,** σ0**s95**/44, **mb4.4**/15, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.02**	**323**	Pn	**Pn**	**23 48 51.6**	**-0.2**
	507nm,0.3s,baz=93,slow=23,SNR=5.6						
RAO				Sn	**Sn**	**23 49 05.9**	**+0.5**
	2μm,0.3s,baz=84,slow=22,SNR=18						
RAO	**Raoul Island**	**1.02**	**323**		**Pn**	**23 48 51.6**	**-0.2**
RAO				Sn	**Sb**	**23 49 04.9**	**-0.1**
MXZ	**Matakaoa Point**	**8.35**	**205**	Pn	**Pn**	**23 50 32.1**	**-0.3**
BKZ	**Black Stump Fm**	**10.45**	**208**	Pn	**Pn**	**23 50 58.6**	**-2.7**
MSVF	**Nonsavu**	**13.02

JMK eS Sn 23 53 20.5 -1.4
JOM Ohasama 0.93 314 P Pn 23 53 13.4 -0.8
JOM eS Sn 23 53 24.7 -1.7
JTH Tanohata 1.13 348 P Pn 23 53 15.8 -1.1
JOU Okura 1.26 249 P Pn 23 53 18.5 -0.2
JOU eS Sn 23 53 34.6 +0.1
JRG Rokugo 1.31 296 P Pn 23 53 18.8 -0.6
JYK Kaneyama 1.41 274 P Pn 23 53 20.3 -0.4
JMM Marumori 1.45 228 P Pn 23 53 20.9 -0.3
ERM Erimo 3.27 13 Pn Pn 23 53 47.0 +0.8
ERM Sn Sn 23 54 26.9 +3.1
MAJO Matsushiro 3.88 235 P Pn 23 53 56.4 +1.7
MAT Matsushiro 3.88 235 P Pn 23 53 57.2 +2.5
MAT eS Sn 23 54 40.3 +1.3
MJAR Matsushiro Arr 3.88 235 P Pn 23 53 57.2 +2.5
0.5nm,0.3s,baz=32,slow=13,SNR=18
MJAR S Sn 23 54 43.6 +4.6
0.2nm,0.3s,baz=317,slow=31,SNR=1.4
MJAR Matsushiro Arr 3.88 235 Pn 23 53 56.1 +1.5
MJB9 Matsu-Tunnel 3.88 235 Pn Pn 23 53 57.1 +2.4
ASAJ Asahikawa 5.29 3 P Pn 23 54 17.4 +3.5
1.2nm,0.3s,baz=224,slow=14,SNR=3.8
ASAJ S Sn 23 55 17.1 +3.5
1.3nm,0.3s,baz=66,slow=7.5,SNR=4.2
JKA Kamikawa-asahi 5.29 3 Pn 23 54 16.0 +2.0
INU Inuyama 5.38 231 Pn Pn 23 54 15.4 +0.1
JHJ2 Mitsune 6.02 199 Pn Pn 23 54 24.0 0.0
JHJ Hachijo jima 2 6.02 199 P Pn 23 54 24.2 +0.1
5.1nm,0.3s,baz=58,slow=19,SNR=1.0
JHJ S Sn 23 55 29.2 -2.4
11nm,0.3s,baz=338,slow=23,SNR=1.8
USRK Ussuriysk Ar. 9.32 308 P Pn 23 55 12.4 +3.2
baz=78,slow=8.8,SNR=14
MDJ Mudanjiang 11.02 306 Pn Pn 23 55 35.7 +3.2
KSRS Korea Array 11.30 267 P Pn 23 55 38.9 +2.6
baz=87,slow=14,SNR=6.0
HIA Hailar 19.12 310 P P 23 57 15.9 -0.8
HIA IAmb IAmb 23 57 21.4
comp=Z,7.7nm,0.5s
SONM Songino Array 27.32 301 P P 23 58 36.6 -1.5
comp=Z,1.0nm,0.4s,baz=91,slow=27,SNR=2.2
ENH Enshi 28.11 262 P IAmb 23 58 46.1 +0.9
ENH IAmb IAmb 23 58 47.5
comp=Z,6.4nm,0.7s
H11N2 WAKE ISLAND Hy 28.62 125 T T 00 29 13.5
baz=317,slow=75,SNR=102
H11N1 WAKE ISLAND Hy 28.63 125 T T 00 29 14.3
baz=317,slow=75,SNR=159
H11N3 WAKE ISLAND Hy 28.64 125 T T 00 29 14.9
baz=317,slow=75,SNR=128
H11S1 WAKE ISLAND Hy 29.40 127 T T 00 30 11.4
baz=319,slow=76,SNR=61
H11S3 WAKE ISLAND Hy 29.40 127 T T 00 30 11.6
baz=319,slow=76,SNR=57
H11S2 WAKE ISLAND Hy 29.42 127 T T 00 30 15.0
baz=319,slow=76,SNR=67
ZAA0 Zalesovo Array 41.16 311 P P 00 00 36.8 -0.4
ZALV Zalesovo Beam 41.16 311 P P 00 00 36.8 -0.4
comp=Z,1.8nm,0.5s,baz=89,slow=8.9,SNR=9.5
ZALV Zalesovo Beam 41.16 311 P P 00 00 36.7 -0.5
CMAR Chiang Mai Arr 42.54 254 P P 00 00 49.0 +0.2
comp=Z,0.7nm,0.3s,baz=40,slow=7.1,SNR=2.2
LSA Lhasa 42.66 274 P P 00 00 49.1 -1.2
MK31 Makanchi Array 43.69 301 P P 00 00 57.5 -0.4
MKAR Makanchi Array 43.69 301 P P 00 00 57.5 -0.4
comp=Z,1.8nm,0.5s,baz=86,slow=10,SNR=22
MAKZ Makanchi 43.89 301 P P 00 00 58.9 -0.6
KURK Kurchatov 45.31 307 P P 00 01 10.1 -0.5
KURK IAmb IAmb 00 01 10.7
comp=Z,7.6nm,0.9s
PPLA Purkeypile 45.36 36 P P 00 01 08.9 -2.3
ILAR Eielson Array 47.66 33 P P 00 01 29.3 +0.3
comp=Z,0.4nm,0.5s,baz=268,slow=6.2,SNR=4.7
SCRK Sand Creek 48.98 34 P P 00 01 39.3 0.0
SCRK IAmb IAmb 00 01 42.1
comp=Z,5.6nm,1.5s
BRVK Borovoye 49.87 311 P P 00 01 45.9 -0.2
BRVK IAmb IAmb 00 01 46.9
comp=Z,2.4nm,0.6s
KK31 Karatay Array 52.75 299 P P 00 02 07.0 -0.8
KK31 IAmb IAmb 00 02 08.5
comp=Z,1.7nm,0.7s
KKAR Karatay Array 52.75 299 P P 00 02 07.1 -0.7
ARU Arti 55.41 318 P P 00 02 26.5 -0.5
ABKAR Akbulak array 57.24 309 P P 00 02 39.4 -0.7
FINES FINESS Array B 67.50 332 P P 00 03 48.1 -0.3
comp=Z,1.2nm,0.6s,baz=60,slow=9.1,SNR=2.1
AKASG Malin Array Be 73.24 322 P P 00 04 23.3 -0.4
comp=Z,0.3nm,0.4s,baz=42,slow=7.4,SNR=1.7

IDC ***23*** *23:53:26.2±0.5,29.˚98S×177.˚46W,h0km,mb4.7/22, mb1 4.7/23,mb1mx4.7/36,mbtmp4.6/23,ML3.9/1,MS5.0/2, Ms1 5.0/2,ms1mx4.2/33,Error ellipse: s-maj=15.4km s-min=12.3km az=63.0*

BJI ***23*** *23:53:26.0±0.0,30.˚00S×177.˚20W,h10km,mb5.3/21, Ms5.5/2,Ms7 5.4/2*

NEIC ***23*** *23:53:27.2±1.5,30.˚07S±0.˚06×177.˚5W±0.˚1,h7km±3km, mb5.2/65,Error ellipse: s-maj=14.4km s-min=8.4km az=80.0*

MOS ***23*** *23:53:27.6±1.2,30.˚08S×177.˚57W,h17km,mb5.3/30, Error ellipse: s-maj=10.7km s-min=8.6km az=95.6*

ISC 23 23:53:27.1±0.3,30.˚16S±0.˚04×177.˚47W±0.˚07,h10km, n385,σ1$28/367,mb5.1/70,18C-15D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.98**	**336**	P	**Pn**	**23 53 45.7**	**-1.2**
GLKZ				S	**Sn**	**23 53 59.3**	**-1.4**
RAO	**Raoul Island**	**0.98**	**337**	Pn	**Pn**	**23 53 46.0**	**-0.9**
	4μm,0.3s,baz=75,slow=0.3,SNR=58						
RAO				Sn	**Sn**	**23 53 58.9**	**-2.1**
	9μm,0.3s,baz=183,slow=23,SNR=9.7						
RAO	**Raoul Island**	**0.98**	**337**	P	**Pn**	**23 53 45.9**	**-1.1**
RAO						23 53 59.2	
RAO	**Raoul Island**	**0.98**	**337**	Pn	**Pn**	**23 53 45.9**	**-1.1**
RAO				Sn	**Sn**	**23 53 59.2**	**-1.8**
RIZ	**Raoul Island**	**0.99**	**336**	P	**Pn**	**23 53 46.5**	**-0.6**
RIZ				S	**Sn**	**23 53 59.3**	**-1.9**
MXZ	**Matakaoa Point**	**8.17**	**204**	P	**Pn**	**23 55 22.7**	**-3.1**
MXZ				S	**Sn**	**23 56 53.8**	**-4.4**
MXZ	**Matakaoa Point**	**8.17**	**204**	Pn	**Pn**	**23 55 23.1**	**-2.7**
WMGZ	**Waiomatatini S**	**8.37**	**203**	P	**Pn**	**23 55 27.4**	**-1.0**
HAZ	**Te Kaha**	**8.54**	**206**	P	**Pn**	**23 55 28.6**	**-2.1**
PUZ	**Puketiti**	**8.65**	**203**	P	**Pn**	**23 55 28.6**	**-3.7**
PUZ				S	**Sn**	**23 57 06.5**	**-3.4**
KUZ	**Kuaotunu**	**8.69**	**219**	P	Pn	23 55 46.1	+13
RUGZ	**Raukumara Rang**	**8.76**	**206**	P	**Pn**	**23 55 32.5**	**-1.5**
RUGZ				S	**Sn**	**23 57 10.4**	**-2.5**
WCZ	**Waipu Caves**	**8.96**	**228**	P	Pn	23 55 45.2	+8.7
OUZ	**Omahuta**	**9.06**	**234**	P	Pn	23 55 46.1	+8.2
TKGZ	**Te Karaka**	**9.12**	**204**	P	Pn	23 55 33.8	-5.0
TKGZ				S	**Sn**	**23 57 20.6**	**-0.8**
BKZ	**Black Stump Fm**	**10.26**	**207**		**Pn**	**23 55 51.8**	**-2.7**
KATZ	**Kakaramea**	**10.44**	**211**	P	Pn	23 56 05.3	+8.3
KATZ				S	**Sn**	**23 57 55.1**	**+1.0**
HIZ	**Hauiti**	**10.47**	**215**	P	Pn	23 56 09.1	+12
WTVZ	**West Tongariro**	**10.60**	**211**	P	**Pn**	**23 56 00.9**	**+1.7**
BHHZ	**Black Hill Sta**	**10.71**	**208**	P	**Pn**	**23 55 57.3**	**-3.4**
BHHZ				S	**Sn**	**23 57 56.0**	**-4.6**
KRHZ	**Kereru**	**10.72**	**206**	P	Pn	23 55 56.6	-4.1
KRHZ				S	**Sn**	**23 57 54.1**	**-6.8**
FWVZ	**Far West T-bar**	**10.73**	**210**	P	**Pn**	**23 55 59.4**	**-1.7**
PNHZ	**Pukenui**	**11.02**	**206**	P	Pn	23 56 00.2	-4.6
BFZ	**Birch Farm**	**11.68**	**204**	P	Pn	23 56 08.9	-4.9
MRZ	**Mangatainoka R**	**11.91**	**206**	P	Pn	23 56 11.8	-5.1
HOWZ	**Holdsworth Sta**	**12.13**	**206**	P	**Pn**	**23 56 16.6**	**-3.5**
OGWZ	**Otaki Gorge**	**12.20**	**207**	P	**Pn**	**23 56 17.5**	**-3.4**
MSWZ	**Moikau Station**	**12.68**	**206**	P	**Pn**	**23 56 25.8**	**-1.8**
SNZO	**South Karori**	**12.80**	**208**	Pn	**Pn**	**23 56 26.8**	**-2.3**
MSVF	**Nonsavu**	**13.03**	**341**	*i* P	**Pn**	**23 56 31.5**	**-0.9**
QRZ	**Quartz Range**	**13.39**	**215**	Pn	**Pn**	**23 56 37.1**	**-0.1**
BSWZ	**Blackbirch Sta**	**13.48**	**209**	Pn	**Pn**	**23 56 39.7**	**+1.3**
THZ	**Tophouse**	**13.94**	**211**	Pn	**Pn**	**23 56 42.6**	**-2.2**
RPZ	**Rata Peaks**	**16.32**	**211**	Pn	**Pn**	**23 57 13.8**	**-2.6**
	1.0nm,0.3s,baz=37,slow=5.1,SNR=2.2						
RPZ				LR	LR	00 03 57.6	
	comp=Z,4μm,18.8s,baz=34,slow=38						
RPZ	**Rata Peaks**	**16.32**	**211**	Pn	**Pn**	**23 57 13.8**	**-2.6**
AFI	**Afiamalu**	**17.01**	**19**	P	**Pn**	**23 57 23.8**	**-1.4**
AFI				pmax	pmax		
	comp=Z,54nm,1.1s						
AFI	**Afiamalu**	**17.01**	**19**	Pn	**Pn**	**23 57 23.8**	**-1.4**
RAR	**Rarotonga**	**18.25**	**65**	P	**Pn**	**23 57 38.0**	**-2.6**
	comp=Z,3.6nm,0.3s,baz=286,slow=7.4,SNR=3.6						
RAR	**Rarotonga**	**18.25**	**65**	P	**Pn**	**23 57 37.8**	**-2.8**
RAR				pmax	pmax		
	comp=Z,43nm,0.7s						
RAR	**Rarotonga**	**18.25**	**65**	P	**Pn**	**23 57 37.8**	**-2.8**
WHZ	**Wether Hill Ro**	**19.41**	**212**	P	**P**	**23 57 52.3**	**-1.0**
WHZ				IAmb	IAmb	23 58 10.3	
	comp=Z,140nm,1.7s						
ARMA	**Armidale**	**26.64**	**262**	P	**P**	**23 59 06.7**	**+0.5**
ARMA				IAmb	IAmb	23 59 22.4	
	comp=Z,46nm,0.9s						
EIDS	**Eidsvold**	**28.18**	**272**	P	**P**	**23 59 20.2**	**+0.3**
EIDS				IAmb	IAmb	23 59 34.5	
	comp=Z,47nm,1.0s						
CAN	**Canberra**	**28.58**	**251**	P	**P**	**23 59 25.0**	**+1.5**
CAN				pmax	pmax		
	comp=Z,56nm,1.1s						
CAN	**Canberra**	**28.58**	**251**	P	**P**	**23 59 25.0**	**+1.5**
CAN				IAmb	IAmb	23 59 38.7	
	comp=Z,56nm,1.1s						
HNR	**Honiara**	**29.49**	**310**	P	**P**	**23 59 31.8**	**+0.2**
	comp=Z,107nm,0.5s,baz=198,slow=5.6,SNR=2.2						
HNR	**Honiara**	**29.49**	**310**	P	**P**	**23 59 32.4**	**+0.8**
HNR	**Honiara**	**29.49**	**310**	P	**P**	**23 59 32.4**	**+0.8**
MCQ	**Macquarie Isla**	**29.65**	**208**	P	**P**	**23 59 32.1**	**-0.5**
MCQ				pmax	pmax		
	comp=Z,272nm,1.4s						
MCQ	**Macquarie Isla**	**29.65**	**208**	P	**P**	**23 59 32.1**	**-0.5**
TOO	**Toolangi**	**31.48**	**246**	P	**P**	**23 59 50.7**	**+1.7**
TOO				pmax	pmax		
	comp=Z,119nm,1.5s						
TOO	**Toolangi**	**31.48**	**246**	P	**P**	**23 59 50.7**	**+1.7**
CTA	**Charters Tower**	**34.21**	**278**	P	**P**	**00 00 14.1**	**+1.0**
	comp=Z,36nm,0.6s,baz=100,slow=10,SNR=60						
CTA	**Charters Tower**	**34.21**	**278**	P	**P**	**00 00 15.7**	**+2.6**
CTA				pmax	pmax		
	comp=Z,127nm,1.2s						
CTAO	**Charters Tower**	**34.21**	**278**	P	**P**	**00 00 14.1**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,90nm,0.9s						
CTAO	**Charters Tower**	**34.21**	**278**	P	**P**	**00 00 14.1**	**+1.0**
STKA	**Stephens Creek**	**34.98**	**256**	P	**P**	**00 00 21.7**	**+2.1**
	comp=Z,29nm,0.7s,baz=99,slow=11,SNR=61						
STKA	**Stephens Creek**	**34.98**	**256**	P	**P**	**00 00 21.5**	**+1.9**
STKA				pmax	pmax		
	comp=Z,15nm,0.9s						
STKA	**Stephens Creek**	**34.98**	**256**	P	**P**	**00 00 21.5**	**+1.9**
BBOO	**Buckleboo**	**39.47**	**254**	P	**P**	**00 00 57.9**	**+0.1**
BBOO				IAmb	IAmb	00 01 11.5	
	comp=Z,58nm,1.1s						
COEN	**Coen**	**39.65**	**285**	P	**P**	**00 00 59.9**	**+0.5**
COEN				IAmb	IAmb	00 01 14.2	
	comp=Z,74nm,1.9s						
AS31	**Alice Springs**	**43.58**	**266**	P	**P**	**00 01 31.7**	**+0.1**
ASAR	**Alice Springs**	**43.58**	**266**	P	**P**	**00 01 31.2**	**-0.3**
	comp=Z,11nm,0.5s,baz=106,slow=7.3,SNR=112						
ASAR				PcP	**PcP**	**00 03 20.8**	**+1.5**
	comp=Z,2.4nm,0.6s,baz=113,slow=4.8,SNR=2.4						
ASAR				ScP	**ScP**	**00 07 10.1**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=109,slow=4.0,SNR=3.5						
ASAR	**Alice Springs**	**43.58**	**266**	P	**P**	**00 01 31.1**	**-0.5**
ASAR	**Alice Springs**	**43.58**	**266**	P	**P**	**00 01 31.1**	**-0.5**
WR0	**Warramunga Arr**	**44.36**	**272**	P	**P**	**00 01 38.2**	**+0.3**
WR0				IAmb	IAmb	00 01 53.0	
	comp=Z,58nm,1.0s						
WB2	**Warramunga Arr**	**44.53**	**272**	P	**P**	**00 01 39.5**	**+0.2**
WRAB	**Tennant Creek**	**44.54**	**272**	*i* P	**P**	**00 01 37.5**	**-1.8**
WRAB				pmax	pmax		
	comp=Z,30nm,0.8s						
WRA	**Warramunga Arr**	**44.55**	**272**	P	**P**	**00 01 39.3**	**-0.1**
	comp=Z,36nm,0.5s,baz=112,slow=8.0,SNR=143						
WB0	**Warramunga Arr**	**44.57**	**272**	P	**P**	**00 01 39.7**	**+0.2**
JAY	**Jayapura**	**48.20**	**297**	P	**P**	**00 02 07.0**	**-1.1**
	comp=Z,8.5nm,0.8s,baz=244,slow=2.9,SNR=4.4						
VNDA	**Vanda**	**48.38**	**186**	P	**P**	**00 02 11.6**	**+2.9**
	comp=Z,2.3nm,0.7s,baz=6.4,slow=6.2,SNR=19						
VNDA	**Vanda**	**48.38**	**186**	P	**P**	**00 02 11.3**	**+2.6**
VNDA				pmax	pmax		
	comp=Z,19nm,1.5s						
VNDA	**Vanda**	**48.38**	**186**	P	**P**	**00 02 11.3**	**+2.6**
VNDA				IAmb	IAmb	00 02 39.5	
	comp=Z,19nm,1.5s						
MTN	**Manton Dam**	**50.40**	**278**	P	**P**	**00 02 24.1**	**-0.8**
MTN				IAmb	IAmb	00 02 37.1	
	comp=Z,51nm,1.2s						
KNRA	**Kununurra**	**51.14**	**274**	P	**P**	**00 02 30.4**	**-0.1**
FITZ	**Fitzroy Crossi**	**52.82**	**269**	P	**P**	**00 02 42.8**	**-0.2**
	comp=Z,16nm,0.8s,baz=139,slow=9.3,SNR=7.6						
FITZ	**Fitzroy Crossi**	**52.82**	**269**	P	**P**	**00 02 43.2**	**+0.2**
FITZ				IAmb	IAmb	00 02 56.6	
	comp=Z,100nm,1.8s						
FAKI	**Fak Fak**	**54.69**	**290**	P	**P**	**00 02 56.0**	**-0.8**
FAKI				IAmb	IAmb	00 04 14.0	
	comp=Z,46nm,1.2s						
NWAO	**Narrogin (SRO)**	**54.91**	**249**	P	**P**	**00 02 59.3**	**+1.2**
	comp=Z,11nm,1.0s,baz=50,slow=9.6,SNR=2.5						
NWAO	**Narrogin (SRO)**	**54.91**	**249**	P	**P**	**00 02 58.0**	**-0.2**
NWAO				pmax	pmax		
	comp=Z,55nm,1.6s						
NWAO	**Narrogin (SRO)**	**54.91**	**249**	P	**P**	**00 02 58.0**	**-0.2**
NWAO				IAmb	IAmb	00 04 25.4	
	comp=Z,55nm,1.6s						
CASY	**Casey**	**55.56**	**208**	P	**P**	**00 03 03.1**	**+0.8**
SIJI	**Sorong**	**56.67**	**291**	P	**P**	**00 03 10.1**	**-0.9**
	comp=Z,11nm,0.6s,baz=245,slow=17,SNR=4.4						
MORW	**Morawa**	**57.04**	**253**	P	**P**	**00 03 12.9**	**-0.5**
MORW				IAmb	IAmb	00 03 18.1	
	comp=Z,55nm,1.5s						
QSPA	**South Pole Qui**	**59.95**	**180**	P	**P**	**00 03 35.4**	**+2.1**
	comp=Z,17nm,0.8s,baz=28,slow=1.6,SNR=53						
QSPA	**South Pole Qui**	**59.95**	**180**	P	**P**	**00 03 35.2**	**+1.9**
KAPI	**Kappang**	**64.02**	**280**	P	**P**	**00 04 01.8**	**+0.5**
	comp=Z,5.7nm,0.6s,baz=45,slow=23,SNR=1.6						
KAPI	**Kappang**	**64.02**	**280**	P	**P**	**00 04 01.3**	**0.0**
KAPI				pmax	pmax		
	comp=Z,26nm,1.2s						
KAPI	**Kappang**	**64.02**	**280**	P	**P**	**00 04 01.3**	**0.0**
KAPI				IAmb	IAmb	00 04 31.6	
	comp=Z,26nm,1.2s						
MAW	**Mawson**	**72.69**	**200**	P	**P**	**00 04 56.3**	**+1.5**
	comp=Z,6.2nm,0.8s,baz=148,slow=7.3,SNR=6.1						
MAW	**Mawson**	**72.69**	**200**	P	**P**	**00 04 56.2**	**+1.5**
MAW				pmax	pmax		
	comp=Z,7.0nm,1.1s						
MAW	**Mawson**	**72.69**	**200**	P	**P**	**00 04 56.2**	**+1.4**
KKM	**Kota Kinabalu**	**72.92**	**288**	P	**P**	**00 04 57.3**	**+0.3**
SBUM	**Sibu**	**74.31**	**282**	P	**P**	**00 05 05.9**	**+0.7**
KSM	**Kuching**	**75.43**	**280**	P	**P**	**00 05 10.7**	**-1.0**
KSM				IAmb	IAmb	00 05 24.5	
	comp=Z,23nm,0.9s						
JOW	**Kunigami**	**76.84**	**312**	P	**P**	**00 05 19.3**	**0.0**
	comp=Z,1.6nm,0.7s,baz=125,slow=10.0,SNR=4.1						
JOW	**Kunigami**	**76.84**	**312**	P	**P**	**00 05 19.3**	**0.0**
SYO	**Syowa Base**	**77.45**	**193**	*e*P	**P**	**00 05 21.3**	**-0.9**
SYO	**Syowa Base**	**77.45**	**193**	*e*pP	pP	00 05 24.4	+0.3
SYO	**Syowa Base**	**77.45**	**193**	*i* sP	sP	00 05 27.0	+2.2
INU	**Inuyama**	**77.98**	**323**	P	**P**	**00 05 25.7**	**+0.2**
INU				IAmb	IAmb	00 05 32.0	
	comp=Z,14nm,0.9s						
MJAR	**Matsushiro Arr**	**78.31**	**325**	P	**P**	**00 05 27.7**	**+0.4**
	comp=Z,7.5nm,0.8s,baz=163,slow=5.2,SNR=12						
MAJO	**Matsushiro**	**78.31**	**325**	*i* P	**P**	**00 05 24.4**	**-3.0**
MAJO				pmax	pmax		
	comp=Z,12nm,0.9s						
MAT	**Matsushiro**	**78.31**	**325**	P	**P**	**00 05 27.0**	**-0.4**
MJB9	**Matsu-Tunnel**	**78.31**	**325**	P	**P**	**00 05 27.7**	**+0.3**
MJB9				IAmb	IAmb	00 05 43.7	
	comp=Z,42nm,1.5s						
SNAA	**Sanae**	**78.38**	**178**	P	**P**	**00 05 27.9**	**+0.4**
SNAA	**Sanae**	**78.38**	**178**	P	**P**	**00 05 27.6**	**+0.1**
SNAA				pmax	pmax		
	comp=Z,22nm,1.1s						
SNAA	**Sanae**	**78.38**	**178**	P	**P**	**00 05 27.6**	**+0.1**
SNAA				IAmb	IAmb	00 05 48.3	
	comp=Z,22nm,1.1s						
VNA3	**Neumayer Olymp**	**78.51**	**176**	P	**P**	**00 05 28.2**	**+0.1**
VNA2	**Neumayer--Watz**	**78.95**	**177**	P	**P**	**00 05 31.4**	**+0.9**
	baz=163,slow=4.8						
NVL	**N'lazarevskaya**	**79.14**	**183**	*e*P	P	00 05 38.6	+7.1
NVL				pmax	pmax		
	comp=Z,10.0nm,0.7s						
VNA1	**Neumayer--Stat**	**79.18**	**176**	P	**P**	**00 05 32.0**	**+0.3**
JNU	**Nakatsue**	**79.68**	**318**	P	**P**	**00 05 35.6**	**+0.6**
H03S2	**Juan Fernandez**	**80.22**	**123**	T	T	01 35 08.1	
	baz=239,slow=74,SNR=24						
H03S1	**Juan Fernandez**	**80.23**	**123**	T	T	01 35 11.0	
	baz=239,slow=74,SNR=25						
H03S3	**Juan Fernandez**	**80.23**	**123**	T	T	01 35 12.9	
	baz=239,slow=74,SNR=46						
PLCA	**Paso Flores**	**82.34**	**133**	P	**P**	**00 05 50.0**	**+0.7**
	comp=Z,4.2nm,0.9s,baz=226,slow=7.5,SNR=5.6						
PLCA				LR	LR	00 33 51.4	
	comp=Z,1μm,19.5s,baz=70,slow=29						
PLCA	**Paso Flores**	**82.34**	**133**	P	**P**	**00 05 49.3**	**0.0**
PLCA				pmax	pmax		
	comp=Z,19nm,1.3s						
PLCA	**Paso Flores**	**82.34**	**133**	P	**P**	**00 05 49.3**	**0.0**
PLCA				IAmb	IAmb	00 05 50.7	
	comp=Z,19nm,1.3s						
JKA	**Kamikawa-asahi**	**82.44**	**332**	P	**P**	**00 05 50.6**	**+1.3**
JKA				IAmb	IAmb	00 05 58.0	
	comp=Z,16nm,0.7s						
ASAJ	**Asahikawa**	**82.44**	**332**	P	**P**	**00 05 50.6**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,16nm,0.7s						
NIKH	**Nikolski High**	**83.12**	**5**		**P**	**00 05 53.9**	**+1.3**
KSRS	**Korea Array**	**84.46**	**319**	P	**P**	**00 06 00.7**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=141,slow=5.7,SNR=7.3						
KSAR	**Wonju Array Be**	**84.47**	**319**	P	**P**	**00 06 00.9**	**+0.9**
KSAR	**Wonju Array Be**	**84.47**	**319**	P	**P**	**00 06 00.9**	**+0.9**
YSS	**Yuzh-Sakhalins**	**84.73**	**334**	*e*P	**P**	**00 06 03.0**	**+2.0**
YSS				*e*		00 06 06.9	
YSS				pmax	pmax		
	comp=Z,40nm,0.8s						
YSS	**Yuzh-Sakhalins**	**84.73**	**334**	P	**P**	**00 06 01.3**	**+0.3**
PEA0B	**Petropavlovsk-**	**85.69**	**345**	P	**P**	**00 06 06.4**	**+0.6**
PEA0B				pmax	pmax		
	comp=Z,59nm,1.6s						
PEA0B	**Petropavlovsk-**	**85.69**	**345**	P	**P**	**00 06 06.4**	**+0.6**
PETK	**Petropavlovsk-**	**85.69**	**345**	P	**P**	**00 06 06.0**	**+0.2**
	comp=Z,14nm,0.8s,baz=139,slow=7.5,SNR=27						
PETK	**Petropavlovsk-**	**85.69**	**345**	P	**P**	**00 06 05.7**	**0.0**
PETK	**Petropavlovsk-**	**85.69**	**345**	P	**P**	**00 06 05.7**	**0.0**
PFO	**Pinyon Flats O**	**85.71**	**47**	P	**P**	**00 06 07.6**	**+1.1**
PFO				pmax	pmax		
	comp=Z,16nm,1.4s						
PFO	**Pinyon Flats O**	**85.71**	**47**	P	**P**	**00 06 07.6**	**+1.1**
PFO				IAmb	IAmb	00 06 20.7	
	comp=Z,16nm,1.4s						
ISA	**Isabella, Lake**	**85.81**	**44**	P	**P**	**00 06 08.1**	**+1.2**
ISA				pmax	pmax		
	comp=Z,15nm,1.2s						
ISA	**Isabella, Lake**	**85.81**	**44**	P	**P**	**00 06 08.1**	**+1.2**
ISA				IAmb	IAmb	00 06 22.0	
	comp=Z,15nm,1.2s						
CMB	**Columbia Colle**	**86.28**	**42**	P	**P**	**00 06 09.7**	**+0.6**
CMB				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CMB	**Columbia Colle**	**86.28**	**42**	P	**P**	**00 06 09.7**	**+0.6**
GLA	**Glamis**	**86.39**	**48**	P	**P**	**00 06 11.0**	**+1.2**
GLA				pmax	pmax		
	comp=Z,9.0nm,1.0s						
GLA	**Glamis**	**86.39**	**48**	P	**P**	**00 06 11.0**	**+1.2**
MSHR	**Mys Shultsa**	**86.43**	**325**	*i* P	**P**	**00 06 09.7**	**+0.1**
MSHR				pmax	pmax		
	comp=Z,8.0nm,1.1s						
NJ2	**Nanjing**	**86.44**	**310**	*e*P	**P**	**00 06 10.3**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
GSC	**Goldstone, Bar**	**86.59**	**46**	P	**P**	**00 06 11.3**	**+0.5**
GSC				pmax	pmax		
	comp=Z,19nm,1.4s						
GSC	**Goldstone, Bar**	**86.59**	**46**	P	**P**	**00 06 11.2**	**+0.5**
GSC				IAmb	IAmb	00 06 25.7	
	comp=Z,19nm,1.4s						
OMMB	**Old Mammoth Mi**	**86.80**	**43**	P	**P**	**00 06 12.6**	**+0.6**
OMMB				IAmb	IAmb	00 06 14.2	
	comp=Z,23nm,1.7s						
WDC	**Whiskeytown Da**	**86.84**	**39**	P	**P**	**00 06 12.1**	**+0.4**
WDC				pmax	pmax		
	comp=Z,24nm,1.5s						
WDC	**Whiskeytown Da**	**86.84**	**39**	P	**P**	**00 06 12.1**	**+0.4**
WDC				IAmb	IAmb	00 06 26.7	
	comp=Z,24nm,1.4s						
WAKR	**Walker**	**87.15**	**42**	P	**P**	**00 06 14.4**	**+0.9**
USA0B	**Ussuriysk Arra**	**87.21**	**326**	P	**P**	**00 06 14.1**	**+0.7**
USA0B				pmax	pmax		
	comp=Z,20nm,1.2s						
USA0B	**Ussuriysk Arra**	**87.21**	**326**	P	**P**	**00 06 14.1**	**+0.7**
USA0B				IAmb	IAmb	00 06 19.7	
	comp=Z,20nm,1.1s						
USRK	**Ussuriysk Ar.**	**87.21**	**326**	P	**P**	**00 06 14.1**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=119,slow=4.3,SNR=12						
USRK	**Ussuriysk Ar.**	**87.21**	**326**	P	**P**	**00 06 13.9**	**+0.5**
NVAR	**Mina Array Bea**	**87.75**	**42**	P	**P**	**00 06 16.3**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=224,slow=8.1,SNR=14						
NVAR	**Mina Array Bea**	**87.75**	**42**	P	**P**	**00 06 16.4**	**-0.1**
TPNV	**Topopah Spring**	**88.00**	**45**	P	**P**	**00 06 18.0**	**+0.4**
TPNV				pmax	pmax		
	comp=Z,26nm,1.8s						
TPNV	**Topopah Spring**	**88.00**	**45**	P	**P**	**00 06 18.0**	**+0.4**

comp=Z,1µm,20.1s
KMI LR LR
comp=Z,3µm,28.1s
PDAR Pinedale Array 95.65 43 P **P 00 06 52.7 -0.4**
comp=Z,0.2nm,0.5s,baz=91,slow=20,SNR=1.9
CD2 Chengdu 96.35 302 P **P 00 06 55.4 -0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 96.40 314 *e*P **P 00 06 55.8 -0.6**
HHC pmax pmax
comp=Z,5.0nm,1.0s
ILAR Eielson Array 97.59 13 P **P 00 07 00.3 -0.7**
comp=Z,0.4nm,0.7s,baz=239,slow=5.2,SNR=4.3
ILAR Eielson Array 97.59 13 P Pdif 00 07 01.0 -0.1
ILAR Eielson Array 97.59 13 P Pdif 00 07 01.0 -0.1
BILL Bilibino 98.65 354⇑ *e*P Pdif 00 07 06.5 +0.8
BILL *e* 00 11 12.3
BILL *e*PPP PPP 00 13 14.1
BILL pmax pmax
comp=Z,2.0nm,0.9s
WMQ Urumqi 113.44 308 *e*PKP **PKiKP 00 12 05.3 0.0**
WMQ LR LR
comp=Z,700nm,28.7s
WMQ LR LR
comp=Z,880nm,28.9s
BOSA Boshof 117.66 203 PKP **PKiKP 00 12 16.9 +2.8**
comp=Z,1.2nm,0.5s,baz=162,slow=3.2,SNR=3.8
BOSA Boshof 117.66 203 PKIKP **PKiKP 00 12 15.6 +1.5**
BOSA Boshof 117.66 203 **PKiKP 00 12 15.6 +1.5**
MK31 Makanchi Array 117.97 310 PKIKP **PKiKP 00 12 15.9 +2.0**
MK31 Makanchi Array 117.97 310 **PKiKP 00 12 15.8 +2.0**
MKAR Makanchi Array 117.97 310 PKP **PKPdf 00 12 12.9 -1.0**
comp=Z,.3nm,0.6s,baz=168,slow=0.9,SNR=7.6
ZALV Zalesovo Beam 118.16 318 PKP **PKPdf 00 12 12.4 -1.5**
comp=Z,0.4nm,0.4s,baz=18,slow=34,SNR=1.8
KURK Kurchatov 121.21 314 *i* PKIKP **PKPdf 00 12 17.9 -2.0**
AAK Ala-Archa 122.36 304 *i* PKIKP **PKPdf 00 12 21.3 -1.3**
KBL Kabul 124.54 293 PKIKP **PKiKP 00 12 27.8 +0.4**
KBL Kabul 124.54 293 PKPdf **PKiKP 00 12 27.8 +0.4**
KK31 Karatay Array 125.32 304 PKIKP **PKiKP 00 12 29.4 +1.0**
KK31 Karatay Array 125.32 304 PKPdf **PKiKP 00 12 29.4 +1.0**
KKAR Karatay Array 125.32 304 PKIKP **PKiKP 00 12 29.2 +0.8**
KKAR Karatay Array 125.32 304 **PKiKP 00 12 29.2 +0.8**
KKAR Karatay Array 125.32 304 PKPdf **PKiKP 00 12 28.3 -0.1**
BRVK Borovoye 126.62 316 *i* PKIKP **PKPdf 00 12 29.7 -0.5**
ARU Arti 133.19 321 *i* PKIKP **PKPdf 00 12 41.4 -1.2**
ARU 00 15 07.7
ARU SS SS 00 32 55.8 +2.7
GEYT Alibeck 133.87 295 PKP **PKiKP 00 12 47.0 +1.2**
comp=Z,3.2nm,0.8s,baz=42,slow=2.4,SNR=5.6
GEYT SKPbc **SKPbc 00 16 14.2 +0.6**
comp=Z,3.9nm,0.8s,baz=180,slow=2.5,SNR=7.0
GEYT SKP 00 16 21.5
comp=Z,2.8nm,0.8s,baz=95,slow=5.1,SNR=3.7
GEYT Alibeck 133.87 295 PKPdf **PKiKP 00 12 46.1 +0.3**
KMBO Kilima Mbogo 134.58 233 SKPbc **SKPab 00 16 19.1 -1.2**
comp=Z,0.9nm,0.4s,baz=128,slow=5.2,SNR=3.6
ARCES ARCESS Array B 138.45 348 PKhKP PKPpre 00 12 46.6
comp=Z,2.2nm,0.8s,baz=57,slow=3.3,SNR=2.2
ARCES PKP **PKiKP 00 12 53.6 -0.5**
comp=Z,1.6nm,0.6s,baz=68,slow=1.3,SNR=7.7
ARCES ARCESS Array B 138.45 348 PKIKP **PKiKP 00 12 53.3 -0.8**
ARCES ARCESS Array B 138.45 348 **PKiKP 00 12 53.2 -0.8**
H10N3 ASCENSION HYDR 138.83 154 T T 02 49 25.2
baz=203,slow=75,SNR=52
H10N1 ASCENSION HYDR 138.83 154 T T 02 49 30.3
baz=203,slow=75,SNR=49
H10N2 ASCENSION HYDR 138.84 154 T T 02 49 26.5
baz=203,slow=75,SNR=48
KLMR Klimovskoe 140.76 332 *e*PKIKP **PKiKP 00 12 57.7 -1.3**
KLMR pmax pmax
comp=Z,19nm,1.2s
KLMR Klimovskoe 140.76 332 *e*PKPdf **PKiKP 00 12 57.8 -1.3**
KLMR AMP 00 13 11.7
comp=Z,19nm,1.2s
TBLG Delisi 144.26 301 PKIKP **PKPdf 00 13 03.0 -0.3**
TBLG Delisi 144.26 301 PKPdf **PKPdf 00 13 03.0 -0.3**
MOS Moscow 144.39 326 *e*PKIKP **PKiKP 00 13 06.2 -0.4**
MOS *e* 00 13 13.5
ZEI Tsey 144.76 303 *i* PKIKP **PKPab 00 13 01.8 -1.5**
ZEI pmax pmax
comp=Z,15nm,0.6s
GOF Gofitskoye 145.02 307⇑ *e*PKIKP **PKPdf 00 13 04.6 +0.1**
GOF pmax pmax
comp=Z,31nm,0.6s
FIA1 FINESS Array S 145.07 340 **PKPab 00 13 02.7 -0.8**
FINES FINESS Array B 145.07 340 PKP **PKPab 00 13 02.6 -0.9**
comp=Z,19nm,0.5s,baz=60,slow=3.3,SNR=133
AKH Akhalkalaki 145.22 300⇑ P **PKPdf 00 13 05.3 0.0**
AKH Akhalkalaki 145.22 300 PKIKP **PKPdf 00 13 05.2 0.0**
AKH Akhalkalaki 145.22 300 **PKPdf 00 13 05.2 0.0**
LPSR Galich'ya Gora 145.22 321 *e*PKIKP **PKPbc 00 13 03.7 -0.5**
LPSR pmax pmax
comp=Z,20nm,0.9s
OBN Obninsk 145.23 326⇓ *e*PKP2 **PKPbc 00 13 01.8 -2.3**
OBN *e* 00 16 26.9
OBN pmax pmax
comp=Z,32nm,0.7s
OBN MLR MLR
comp=Z,830nm,18.0s
OBN Obninsk 145.23 326 **PKPbc 00 13 03.7 -0.5**
KBZ Khabaz 145.35 304 PKPbc **PKPab 00 13 04.9 -0.2**
comp=Z,5.8nm,0.7s,baz=156,slow=2.4,SNR=15
KBZ Khabaz 145.35 304 *i* PKIKP **PKPbc 00 13 04.7 -0.2**
KIV Kislovodsk 145.47 305⇑ P **PKPab 00 13 05.8 +0.1**
KIV Kislovodsk 145.47 305 *e*PKP2 **PKPbc 00 13 03.7 -1.7**
KIV pmax pmax
comp=Z,57nm,1.0s
KIV Kislovodsk 145.47 305 **PKPab 00 13 05.4 -0.3**
NEY Neytrino 145.56 304 *i* PKIKP **PKPab 00 13 07.0 +0.9**
VSR Storozhevoye 145.66 318 *e*PKIKP **PKPdf 00 13 04.9 -0.5**
VSR pmax pmax
comp=Z,20nm,0.6s
VORD Divnogorie 145.69 318 *e*PKP2 **PKPdf 00 13 04.5 -0.9**
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSU Vasula 147.19 337 *e*P **PKPbc 00 13 10.2 +0.3**
SOC Sochi 147.65 305 *i* PKIKP **PKPdf 00 13 09.7 +0.7**
SOC *e* 00 16 34.0
SOC *e*PPP PPP 00 20 02.8
SOC *e*SSS SSS 00 41 14.4
SOC pmax pmax
comp=Z,31nm,0.9s
NC303 NORSAR Array S 148.38 352 **PKPbc 00 13 12.1 -1.0**
NC204 NORSAR Array S 148.40 352 **PKiKP 00 13 14.1 -0.8**
NB201 NORSAR Array S 148.56 352 **PKPbc 00 13 13.5 -0.1**
NB2 NORSAR Subarra 148.58 352 PKP **PKPbc 00 13 12.8 -0.9**
comp=Z,2.1nm,0.6s,baz=15,slow=2.9
NOA NORSAR Array B 148.58 352 PKPbc **PKPbc 00 13 13.3 -0.4**
comp=Z,4.7nm,0.7s,baz=16,slow=4.4,SNR=14
SLIT Slitere, Latvi 149.30 339 *e*P **PKiKP 00 13 18.0 +1.4**
IZAR Zarasai 149.39 333 *e*P **PKiKP 00 13 16.9 -0.1**
ISAL Salakas 149.57 333 *e*P **PKiKP 00 13 17.0 -0.3**
MICGM Minsk 149.60 330 *e* **PKiKP 00 13 17.0 -0.4**
MNK Minsk 149.60 330 *e*PKP2 **PKiKP 00 13 17.0 -0.4**
IIGN Ignalina 149.69 333 *e*P **PKiKP 00 13 17.6 0.0**
NACGM Naroch 149.78 332 *e* **PKPab 00 13 21.0 -1.2**
PABE Paberze 150.43 335 *e*P **PKiKP 00 13 18.6 -0.4**
PBUR Paburge 150.73 338 *e*P **PKiKP 00 13 19.4 -0.3**
DIKM Dikmen 151.28 303⇑ P **PKiKP 00 13 21.6 +0.3**
AKASG Malin Array Be 151.38 323 PKPbc **PKiKP 00 13 21.3 +0.1**
comp=Z,4.6nm,0.5s,baz=47,slow=2.8,SNR=16
AKASG Malin Array Be 151.38 323 PKIKP **PKPbc 00 13 20.5 -0.2**
AKASG Malin Array Be 151.38 323 **PKPbc 00 13 20.5 -0.2**
QRWL Qaraoun 151.70 286 *e*P **PKiKP 00 13 22.8 +0.2**
BHL Bhannes 151.74 286 *e*P **PKiKP 00 13 22.7 0.0**
DQRL Deir Qamar 151.80 286 *e*P **PKiKP 00 13 22.9 +0.1**
SUW Suwalki 151.87 334 PKIKP **PKPbc 00 13 21.4 -0.3**
SUW Suwalki 151.87 334 **PKPbc 00 13 21.4 -0.3**
ILGA Ilgaz 152.55 302 **PKiKP 00 13 24.2 -0.1**
BR131 Keskin Array S 152.88 299 PKIKP **PKiKP 00 13 24.9 0.0**
BR131 Keskin Array S 152.88 299 **PKiKP 00 13 24.9 0.0**
BRTR Keskin Array B 152.88 299 PKPbc **PKiKP 00 13 24.9 0.0**
comp=Z,4.5nm,0.8s,baz=145,slow=2.8,SNR=18
BRTR Keskin Array B 152.88 299 PKIKP **PKiKP 00 13 25.2 +0.3**
BRTR Keskin Array B 152.88 299 **PKiKP 00 13 25.2 +0.3**
SORM Soroca 153.30 319⇓ P **PKPbc 00 13 22.5 -2.6**
SORM Soroca 153.30 319⇓ PKIKP **PKPbc 00 13 22.5 -2.6**
ANTO Ankara 153.49 300⇑ P **PKiKP 00 13 26.6 +0.5**
ANTO Ankara 153.49 300⇑ PKIKP **PKiKP 00 13 26.6 +0.5**
CSS Mathiatis 153.66 289 **PKiKP 00 13 27.1 +0.7**
LEF Lefka 154.01 289⇑ P **PKiKP 00 13 27.5 +0.3**
MDUB Mudurnu 154.54 302 PKPdf **PKPdf 00 13 18.6 -1.2**
MDUB **PKiKP 00 13 29.2 +0.9**
TOPG Topolog 154.92 313⇓ P **PKPab 00 13 42.4 -1.7**
CFR Carcaliu 154.93 314⇓ P **PKiKP 00 13 32.8 +4.1**
LIC Lamto 155.15 162 *e*P PKPbc 00 13 33.7
comp=Z,34nm,1.1s
TESR Tescani 155.15 318⇓ P PKPab 00 13 35.1 -10
BIZ Bicaz 155.23 319⇑ P PKPab 00 13 36.4 -9.0
HARR Harsova 155.28 313⇑ P PKPab 00 13 36.7 -8.9
BURAR Bucovina Array 155.33 321⇓ P PKPab 00 13 37.5 -8.4
KIC Kosan Boka 155.36 162 *e*P PKPbc 00 13 29.9
comp=Z,4.5nm,0.7s
PLOR Plostina 155.50 316⇓ P **PKPab 00 13 47.8 +1.2**
PLOR Plostina 155.50 316⇓ PKP2 **PKPab 00 13 47.8 +1.2**
TIC Toumodi 155.56 162 *e*P PKPbc 00 13 32.1
BSEG Bad Segeberg 155.58 349 *e*PKPab **PKPab 00 13 47.0 +0.5**
baz=22,slow=4.3
DBIC Dimbokro 155.62 162 PKPbc PKPbc 00 13 32.0
comp=Z,5.2nm,1.0s,baz=12,slow=21,SNR=2.1
MLR Muntele Rosu 156.11 316⇑ P PKPdf 00 13 29.9 +8.1
MLR Muntele Rosu 156.11 316⇑ PKIKP PKPdf 00 13 29.9 +8.1
UZH Uzhgorod 156.17 326 *e*PKIKP **PKPdf 00 13 21.4 -0.1**
UZH *e* 00 13 29.1
UZH *e* 00 13 45.8
RUE Ruedersdorf 156.21 343 *e*PKPab **PKPab 00 13 49.5 +0.3**
baz=22,slow=4.3
CRVS Cervenica-Dubn 156.37 328 *e*PKP2 **PKPab 00 13 51.2 +1.0**
RETH Rethem/Aller, 156.89 349 *e*PKPab **PKPab 00 13 52.8 +0.6**
baz=22,slow=4.3
ARR Arges 156.96 317⇑ P PKPdf 00 13 32.7 +10
NRDL Niedersach Rie 157.00 348 *e*PKPab **PKPab 00 13 52.8 +0.3**
baz=22,slow=4.3
OSTC Ostas 157.18 337 *e*PKPAB **PKPab 00 13 54.2 +0.6**
CHVC Chvalec 157.21 337 *e*PKPAB **PKPab 00 13 54.4 +0.7**
CHVC *ex* x 00 14 04.2
ASSE Asse, Remlinge 157.24 347 *e*PKPab **PKPab 00 13 54.0 +0.4**
baz=22,slow=4.3
UPC Upice 157.29 337 *e*PKPAB **PKPab 00 13 54.4 +0.4**
UPC Upice 157.29 337 *e*PKP2 **PKPab 00 13 54.4 +0.4**
DPC Dobruska-Polom 157.32 337 *e*PKPAB **PKPab 00 13 54.7 +0.5**
DPC *ex* x 00 14 01.2
DPC Dobruska-Polom 157.32 337 *e*PKP2 **PKPab 00 13 54.7 +0.5**
MORC Moravsky Berou 157.36 334 *e*PKP **PKPab 00 13 56.0 +1.6**
LOT Lotru 157.41 318⇑ P PKPdf 00 13 31.9 +8.4
CLL Collm 157.48 343 *e*PKPab **PKPab 00 13 54.0 -0.8**
comp=Z,9.0nm,0.8s
CLL *i* 00 14 00.1
CLL *i* 00 14 02.6
CLL *i* 00 14 08.4
CLL Collm 157.48 343 *e*PKP2 **PKPab 00 13 54.0 -0.8**
CLL pmax pmax
comp=Z,9.0nm,0.8s
IBBN Ibbenburen 157.54 352 *e*PKPab **PKPab 00 13 55.5 +0.5**
baz=22,slow=4.3
CLZ Clausthal 157.57 347 *e*PKPab **PKPab 00 13 55.6 +0.4**
baz=22,slow=4.3
BRG Berggiesshubel 157.61 341 *i* PKP **PKPab 00 13 55.7 +0.3**
comp=Z,6.1nm,0.7s
BRG Berggiesshubel 157.61 341 *i* PKP2 **PKPab 00 13 55.7 +0.3**
BRG pmax pmax
comp=Z,6.0nm,0.7s
BRG Berggiesshubel 157.61 341 *e*PKPab **PKPab 00 13 55.6 +0.3**
baz=22,slow=4.3
FBE Freiberg 157.74 342 *e*PKPab **PKPab 00 13 56.5 +0.6**
baz=22,slow=4.3
PVCC Panska Ves 157.74 339 *e*PKPAB **PKPab 00 13 56.5 +0.6**
PVCC *ex* x 00 14 03.7
PVCC Panska Ves 157.74 339 *e*PKP2 **PKPab 00 13 56.5 +0.6**
NEUB Neuenburg 157.87 344 *e*PKPab **PKPab 00 13 56.6 +0.1**
baz=22,slow=4.3
GTTG Gottingen 157.93 348 *e*PKPab **PKPab 00 13 57.1 +0.3**
baz=22,slow=4.3
PLVB Pleven 158.00 313⇑ P **PKPab 00 13 56.9 -0.5**
JAVC Velka Javorina 158.05 333 *e*PKP **PKPab 00 13 58.7 +1.3**
VRAC Vranov 158.10 335⇑ P **PKPab 00 13 56.7 -0.9**
VRAC Vranov 158.10 335 *e*PKP **PKPab 00 13 58.8 +1.2**
VRAC Vranov 158.10 335⇑ PKP2 **PKPab 00 13 56.7 -0.9**
GOPC GO Pecny, Ondr 158.21 338 *e*PKPAB **PKPab 00 13 58.4 +0.4**
GOPC GO Pecny, Ondr 158.21 338 *e*PKP2 **PKPab 00 13 58.4 +0.4**
PRU Pruhonice 158.22 339 *e*PKPAB **PKPab 00 13 58.5 +0.5**
PRU *ex* x 00 14 09.9
PRU Pruhonice 158.22 339 *e*PKP2 **PKPab 00 13 58.5 +0.5**
KRUC Moravsky 158.37 335 *e*PKP **PKPab 00 13 59.7 +1.0**
MOX Moxa 158.43 344 *e*PKPab **PKPab 00 13 59.1 +0.1**
baz=22,slow=4.3
TANN Tannenbergstha 158.43 343 *e*PKPab **PKPab 00 13 59.4 +0.4**
baz=22,slow=4.3
PLN Plauen 158.45 343 *e*PKPab **PKPab 00 13 59.4 +0.3**
baz=22,slow=4.3
BUG Bochum--Univer 158.45 352 *e*PKPab **PKPab 00 13 59.6 +0.7**
baz=22,slow=4.3
TREC Trest 158.50 336 *e*PKPAB **PKPab 00 13 59.4 +0.1**
TREC *ex* x 00 14 06.5
TREC Trest 158.50 336 *e*PKP2 **PKPab 00 13 59.4 +0.1**
GUNZ Gunzen 158.51 343 *e*PKPab **PKPab 00 13 59.8 +0.5**
baz=22,slow=4.3
BZS Buzias 158.52 321⇓ P **PKPdf 00 13 28.4 +3.8**
BZS Buzias 158.52 321⇓ PKIKP **PKPdf 00 13 28.4 +3.8**
WERN Wernitzgruen 158.57 343 *e*PKPab **PKPab 00 14 00.2 +0.6**
baz=22,slow=4.3
NKC Novy Kostel 158.60 342 *e*PKPAB **PKPab 00 14 00.6 +0.9**
NKC *ex* x 00 14 12.4
NKC Novy Kostel 158.60 342 *e*PKP2 **PKPab 00 14 00.6 +0.9**
UBBA Unterbreizbach 158.62 347 *e*PKPab **PKPab 00 13 59.8 +0.2**
baz=22,slow=4.3
PBCC Pribram 158.65 339 *e*PKPAB **PKPab 00 14 00.8 +0.9**
MANZ Manzenberg 158.92 343 *e*PKPab **PKPab 00 14 01.5 +0.4**
baz=22,slow=4.3
ROTZ Rotenmuhle 159.09 342 *e*PKPab **PKPab 00 14 02.5 +0.7**
baz=22,slow=4.3
VTS Vitosha 159.27 312 PKP2 **PKPab 00 14 04.0 +0.9**
VTS Vitosha 159.27 312 PKPab **PKPab 00 14 04.0 +0.9**
KHC Kasperske Hory 159.27 339 *e*PKPDF PKPdf 00 13 39.3 +14
KHC *e*PKPAB **PKPab 00 14 03.0 +0.3**
KHC *ex* x 00 14 08.9
KHC Kasperske Hory 159.27 339 PKP2 **PKPab 00 14 02.7 0.0**
KHC Kasperske Hory 159.27 339 **PKPab 00 14 02.7 0.0**
AHRW Bad Neuenahr-A 159.36 352 *e*PKPab **PKPab 00 14 03.2 +0.3**
baz=22,slow=4.3
GRF Grafenberg Arr 159.41 344 *e*PKPab **PKPab 00 14 03.9 +0.7**
baz=22,slow=4.3
TNS Taunus Mtns 159.47 349 *e*PKPab **PKPab 00 14 03.7 +0.2**
baz=22,slow=4.3
WET Wettzell 159.47 340 *e*PKPab **PKPab 00 14 04.2 +0.6**
baz=22,slow=4.3
GEC2 GERESS Array S 159.49 339 PKPab **PKPab 00 14 03.9 +0.2**
GEC2 GERESS Array S 159.49 339 *e*PKPab **PKPab 00 14 03.8 +0.1**
baz=22,slow=4.3
GERES GERESS Array B 159.49 339 PKPab **PKPab 00 14 04.2 +0.5**
comp=Z,2.1nm,0.7s,baz=29,slow=4.9,SNR=12
GERES GERESS Array B 159.49 339 PKP2 **PKPab 00 14 03.7 0.0**
GERES GERESS Array B 159.49 339 PKPab **PKPab 00 14 03.6 0.0**
CONA Conrad Observa 159.51 334 *i* PKPab **PKPab 00 14 03.7 -0.1**
comp=Z,3.9nm,0.8s
MOA Molln 160.16 336 *i* pPKPab **PKPab 00 14 08.2 +1.7**
comp=Z,4.2nm,1.0s
ARSA Arzberg 160.20 333 *i* PKPab **PKPab 00 14 06.9 +0.1**
comp=Z,1.9nm,0.9s
WLF Walferdange 160.33 353 *e*PKPab **PKPab 00 14 07.9 +0.8**
baz=22,slow=4.3
STU Stuttgart 160.73 347 *e*PKPab **PKPab 00 14 08.1 -0.8**
baz=22,slow=4.3
RJOB Jochberg 160.75 339 *e*PKPab **PKPab 00 14 08.9 -0.3**
baz=22,slow=4.3
FUR Furstenfeldbru 160.81 342 *e*PKPab **PKPab 00 14 10.0 +0.6**
baz=22,slow=4.3
SOKA Soboth 160.86 333 *i* PKPab **PKPab 00 14 10.6 +0.8**
comp=Z,4.4nm,1.0s
KBA Koelnbreinsper 161.14 337 *i* PKPab **PKPab 00 14 11.9 +0.8**
comp=Z,5.7nm,0.6s
BFO Black Forest 161.32 348 *e*PKPab **PKPab 00 14 11.6 0.0**
baz=22,slow=4.3
MYKA Terra Mystica 161.42 335 *i* PKPab **PKPab 00 14 11.9 -0.2**
comp=Z,7.3nm,0.7s,SNR=5.2
WATA Walderalm 161.48 340 *i* PKPab **PKPab 00 14 12.5 0.0**
comp=Z,6.6nm,0.6s,SNR=5.9
WTTA Wattenberg 161.53 340 *i* PKPab **PKPab 00 14 12.8 0.0**
comp=Z,8.7nm,0.6s,SNR=9.5
UBR Ueberruh 161.55 344 *e*PKPab **PKPab 00 14 12.8 +0.1**
baz=22,slow=4.3
RETA Reutte 161.57 342 *i* PKPab **PKPab 00 14 13.2 +0.4**
comp=Z,7.8nm,0.9s
MOTA Moosalm 161.60 341 *i* PKPab **PKPab 00 14 13.1 +0.1**
comp=Z,7.3nm,1.0s
PRED Cave del Predi 161.61 335 PKPab **PKPab 00 14 12.6 -0.4**
SQTA Sankt Quirin 161.69 341 *i* PKPab **PKPab 00 14 13.0 -0.4**
comp=Z,7.9nm,1.0s
ABTA Abfaltersbach 161.71 338 *i* PKPab **PKPab 00 14 13.0 -0.5**
comp=Z,3.1nm,0.6s,SNR=5.6
DAVA Damuels 161.98 344 *i* PKPab **PKPab 00 14 14.3 -0.4**
comp=Z,6.7nm,0.7s
FETA Feichten 162.00 342 *i* PKPab **PKPab 00 14 13.7 -1.1**
comp=Z,5.4nm,1.0s
CIMO Cimolais 162.12 337 PKPab **PKPab 00 14 14.6 -0.6**
FUORN Ofenpass-Fuorn 162.50 342 PKPab **PKPab 00 14 17.8 +0.7**
TORD Torodi Ar. Bea 163.05 177 PKP **PKPdf 00 13 30.3 -0.1**
comp=Z,1.1nm,1.1s,baz=338,slow=0.5,SNR=3.5
TORD PKPab **pPKPab 00 14 21.7 -0.2**
comp=Z,2.6nm,0.9s,baz=168,slow=3.7,SNR=11
ESDC Sonseca Array 169.12 28 PKPab **PKPab 00 14 46.3 +0.1**
comp=Z,0.5nm,0.8s,baz=281,slow=16,SNR=1.4

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*IDC **24** 00:00:10.7±1.7, 10.70S×120.07E, h0km, mb3.9/3, mb1 3.9/6, mb1mx3.7/36, mbtmp3.9/6, ML3.6/3, Error ellipse: s-maj=60.4km s-min=24.1km az=47.0*
*NEIC **24** 00:00:15.7±1.2, 10.4S±0.1×120.62E±0.1, h30km, n6, σ0.984/7, mb4.2/3, Sumba region*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**3.00**	**86**	Pn	**Pb**	**00 01 07.8**	**-0.8**
	20nm,0.3s,baz=274,slow=4.8,SNR=7.8						
BATI				Sn	**Sb**	**00 01 45.8**	**+0.9**
	6.9nm,0.3s,baz=18,slow=20,SNR=1.8						
FITZ	**Fitzroy Crossi**	**9.03**	**148**	Pn	**Pn**	**00 02 24.1**	**0.0**
	0.4nm,0.3s,baz=350,slow=10,SNR=12						
FITZ				Sn	Sn	00 03 57.6	-7.4
	1.9nm,0.3s,baz=180,slow=21,SNR=12						
ASAR	**Alice Springs**	**18.26**	**138**	P	**P**	**00 04 27.3**	**+0.3**
	0.1nm,0.3s,baz=314,slow=12,SNR=2.6						
SONM	**Songino Array**	**59.38**	**349**	P	**P**	**00 10 15.7**	**+0.4**
	0.8nm,0.4s,baz=160,slow=7.5,SNR=3.9						
MKAR	**Makanchi Array**	**66.46**	**332**	P	**P**	**00 11 02.9**	**+0.6**
	0.4nm,0.6s,baz=138,slow=7.8,SNR=5.0						
ZALV	**Zalesovo Beam**	**70.95**	**339**	P	**P**	**00 11 29.2**	**-0.9**
	1.3nm,0.6s,baz=156,slow=6.1,SNR=5.7						

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*IDC **24** 00:01:32.5±3.0, 30.01S×177.29W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/31, mbtmp3.9/2, Error ellipse: s-maj=65.6km s-min=28.6km az=70.0*
*NEIC **24** 00:01:37.7±1.3, 29.91S±0.1×177.26W±0.0, h35km±2km, mb4.0/8, Error ellipse: s-maj=16.6km s-min=7.9km az=12.0*
ISC 24 00:01:32.0±1.7, 29.4S±0.3×176.7W±0.1, h21km, n13, σ0.997/14, mb3.9/7, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.10**	**276**	Pn	**Pb**	**00 01 53.7**	**+1.3**
	173nm,0.3s,baz=71,slow=18,SNR=3.3						
RAO				Sn	**Sn**	**00 02 06.9**	**+0.1**
	685nm,0.3s,baz=59,slow=23,SNR=14						
RAO	**Raoul Island**	**1.10**	**276**		**Pb**	**00 01 53.6**	**+1.2**
RAO				Sn	**Sb**	**00 02 05.8**	**-0.6**
CTAO	**Charters Tower**	**34.81**	**277**	P	**P**	**00 08 22.1**	**+0.5**
CTAO				IAmb	IAmb	00 08 24.9	
	comp=Z,4.4nm,0.9s						
STKA	**Stephens Creek**	**35.85**	**255**	P	**P**	**00 08 28.7**	**-1.6**
AS31	**Alice Springs**	**44.34**	**265**	P	**P**	**00 09 40.0**	**-0.9**
AS31				IAmb	IAmb	00 09 46.5	
	comp=Z,1.5nm,1.1s						
ASAR	**Alice Springs**	**44.34**	**265**	P	**P**	**00 09 39.9**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=100,slow=7.7,SNR=2.8						
WB2	**Warramunga Arr**	**45.22**	**270**	P	**P**	**00 09 48.0**	**0.0**
WRA	**Warramunga Arr**	**45.23**	**270**	P	**P**	**00 09 47.2**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=111,slow=7.9,SNR=5.9						
WRA	**Warramunga Arr**	**45.23**	**270**	IAmb	IAmb	00 09 47.7	
	comp=Z,0.3nm,1.0s						
WB0	**Warramunga Arr**	**45.25**	**271**	P	**P**	**00 09 47.5**	**-0.7**
WB0				IAmb	IAmb	00 09 55.4	
	comp=Z,1.2nm,0.8s						
VNDA	**Vanda**	**49.22**	**186**	P	**P**	**00 10 18.5**	**+0.1**
VNDA				IAmb	IAmb	00 10 23.9	
	comp=Z,4.0nm,1.4s						
QSPA	**South Pole Qui**	**60.73**	**180**	P	**P**	**00 11 42.7**	**+0.9**
QSPA				IAmb	IAmb	00 11 46.3	
	comp=Z,0.9nm,0.9s						
FINES	**FINESS Array B**	**144.57**	**341**	PKP	**PKiKP**	**00 21 09.9**	**0.0**
	comp=Z,0.8nm,0.5s,baz=50,slow=4.4,SNR=8.2						

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*IDC **24** 00:01:56.7±1.0, 29.80S×177.18W, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.0/30, mbtmp4.1/6, Error ellipse: s-maj=35.6km s-min=26.7km az=166.0*
*NEIC **24** 00:02:02.4±1.4, 30.14S±0.07×177.4W±0.1, h35km±4km, mb4.5/14, Error ellipse: s-maj=18.7km s-min=8.7km az=69.0*
ISC 24 00:02:02.3±0.7, 30.10S±0.08×177.3W±0.1, h35km, n40, σ1.910/43, mb4.5/11, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.99**	**328**	Pn	**Pn**	**00 02 19.7**	**-0.1**
RAO				Sn	**Sn**	**00 02 32.1**	**-0.4**
BKZ	**Black Stump Fm**	**10.38**	**208**	Pn	**Pn**	**00 04 26.8**	**-2.0**
NNZ	**Nelson**	**13.42**	**212**	Pn	**Pn**	**00 05 08.9**	**-1.3**
THZ	**Tophouse**	**14.07**	**212**	Pn	**Pn**	**00 05 17.4**	**-1.8**
RPZ	**Rata Peaks**	**16.45**	**211**	Pn	**Pn**	**00 05 48.8**	**-1.5**
	1.4nm,0.3s,baz=41,slow=16,SNR=2.3						
RPZ	**Rata Peaks**	**16.45**	**211**		**Pn**	**00 05 47.7**	**-2.7**
RPZ				IAmb	IAmb	00 05 51.2	
	comp=Z,12nm,0.7s						
DZM	**Mont Dzumac**	**16.62**	**295**	Pn	**P**	**00 05 55.3**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=107,slow=19,SNR=2.6						
ARMA	**Armidale**	**26.79**	**261**	P	**P**	**00 07 40.7**	**+1.4**
CTA	**Charters Tower**	**34.34**	**278**	P	**P**	**00 08 47.6**	**+1.6**
	comp=Z,2.9nm,0.7s,baz=86,slow=11,SNR=4.3						
CTAO	**Charters Tower**	**34.34**	**278**	P	**P**	**00 08 47.8**	**+1.8**
STKA	**Stephens Creek**	**35.13**	**256**	P	**P**	**00 08 53.9**	**+1.2**
	comp=Z,5.1nm,0.8s,baz=88,slow=8.9,SNR=6.5						
STKA	**Stephens Creek**	**35.13**	**256**	P	**P**	**00 08 53.7**	**+1.1**
STKA				IAmb	IAmb	00 09 00.4	
	comp=Z,3.2nm,1.1s						
BBOO	**Buckleboo**	**39.62**	**254**	P	**P**	**00 09 30.4**	**-0.3**
AS31	**Alice Springs**	**43.72**	**266**	P	**P**	**00 10 03.6**	**-0.8**
ASAR	**Alice Springs**	**43.72**	**266**	P	**P**	**00 10 04.5**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=106,slow=7.3,SNR=10						
ASAR	**Alice Springs**	**43.72**	**266**	P	**P**	**00 10 03.3**	**-1.1**
WB2	**Warramunga Arr**	**44.67**	**271**		**P**	**00 10 12.0**	**0.0**
WB2				IAmb	IAmb	00 10 14.3	
	comp=Z,8.3nm,0.7s						
WRA	**Warramunga Arr**	**44.68**	**271**	P	**P**	**00 10 11.5**	**-0.6**
	comp=Z,6.9nm,0.6s,baz=111,slow=7.8,SNR=7.4						
WRA	**Warramunga Arr**	**44.68**	**271**	P	**P**	**00 10 12.1**	**0.0**
WB0	**Warramunga Arr**	**44.70**	**272**	P	**P**	**00 10 12.2**	**-0.1**
WB0				IAmb	IAmb	00 10 14.5	
	comp=Z,7.0nm,0.6s						
VNDA	**Vanda**	**48.46**	**186**	P	**P**	**00 10 43.0**	**+2.1**
	comp=Z,0.6nm,0.8s,baz=34,slow=5.4,SNR=2.3						
VNDA	**Vanda**	**48.46**	**186**	P	**P**	**00 10 41.6**	**+0.8**
FITZ	**Fitzroy Crossi**	**52.96**	**269**	P	**P

AKASG					PKPab	**PKPab**	**00 21 58.2**	**-2.2**
	comp=Z,1.7nm,0.6s,baz=47,slow=3.4,SNR=6.2								
AKASG	**Malin Array Be**	**151.41**	**324**			**PKPbc**	**00 21 51.9**	**-0.2**
AKASG						**PKPab**	**00 22 00.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**163.11**	**177**		PKPab	**PKPab**	**00 22 51.9**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=180,slow=3.3,SNR=5.4								
TORD	**Torodi Ar. Bea**	**163.11**	**177**			**PKPab**	**00 22 51.1**	**-0.4**

*NEIC **24** 00:02:34.7±1.1,51.86N±0.08×178.6E±0.2,h103km±5km, Error ellipse: s-maj=16.1km s-min=8.6km az=50.0*
AEIC 24 00:02:35±0.8,**51.84N**±0.07×**178.48E**±0.05,**h95**km±4km, **mb3.9**/2(NEIC),**Error ellipse: s-maj=11.0km s-min=4.2km az=193.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.11**	**10**		Pn	00 02 48.7	+0.3
LSSA					Sn	00 02 59.4	+1.0
LSPA	**Little Sitkin**	**0.13**	**26**		Pn	00 02 48.9	+0.5
LSPA					Sn	00 02 59.3	+0.9
LSNW	**Little Sitkin**	**0.13**	**9**		Pn	00 02 48.7	+0.3
CETU	**Semis' Tuman**	**0.64**	**78**		Pn	00 02 51.9	+0.5
CESW	**Semis' Southwe**	**0.67**	**84**		Pn	00 02 51.6	-0.1
AMKA	**Amchitka**	**0.69**	**132**		Pn	00 02 51.9	+0.1
AMKA					Sn	00 03 04.9	+0.5
CEAP	**Semis' Anvil P**	**0.70**	**76**		Pn	00 02 52.3	+0.4
CERAA	**Semis' Rag'd T**	**0.75**	**84**		Pn	00 02 52.6	+0.2
GALAA	**Gareloi Lava P**	**1.71**	**92**		Pn	00 03 04.1	+0.6
GAEA	**Gareloi East**	**1.72**	**91**		Pn	00 03 04.0	+0.3
TASE	**Tanaga Southea**	**2.16**	**89**		Pn	00 03 09.4	0.0
TAFP	**Tanaga Falls P**	**2.19**	**87**		Pn	00 03 09.3	-0.6
TAFP					Sn	00 03 36.1	-0.4
KIMD	**Kanaga Island**	**2.66**	**90**		Pn	00 03 15.9	-0.1
KICM	**Kanaga Island**	**2.68**	**87**		Pn	00 03 16.1	-0.2
KIKV	**Kanaga Island**	**2.70**	**87**		Pn	00 03 16.5	-0.1
ADK	**Adak**	**3.00**	**87**		Pn	00 03 20.0	-0.5
ADK	**Adak**	**3.00**	**87**		Pn	00 03 20.1	-0.4
ADK					Sn	00 03 53.6	-2.0
ADK	**Adak**	**3.00**	**87**	Sn	Sn	00 03 53.9	-1.7
ADAG	**Mount Adagdak**	**3.05**	**85**		Pn	00 03 20.7	-0.5
GSTD	**Great Sitkin T**	**3.33**	**84**		Pn	00 03 24.6	-0.5
GSTR	**Great Sitkin T**	**3.39**	**84**	Pn	Pn	00 03 25.9	+0.1
NIKH	**Nikolski High**	**7.83**	**77**	Pn	Pn	00 04 27.5	+1.5
CNPM	**China Poot**	**18.59**	**54**	P	P	00 06 43.0	-1.4
CNPM				IAmb	IAmb	00 06 43.5	
	comp=Z,14nm,1.1s						
VRDI	**Verde Repeater**	**22.68**	**51**	P	P	00 07 26.8	-1.6
VRDI				IAmb	IAmb	00 07 34.4	
	comp=Z,2.2nm,0.8s						
BCAR	**Beaver Creek A**	**23.72**	**46**	P	P	00 07 37.5	-0.6

*IDC **24** 00:04:00.6±0.9,29.97S×177.00W,h0km,mb4.3/10, mb1 4.4/11,mb1mx4.2/34,mbtmp4.3/11,ML4.4/1,Error ellipse: s-maj=27.1km s-min=21.9km az=8.0*
*NEIC **24** 00:04:06.0±1.8,29.88S±0.09×177.00W±0.04,h35km±1km, mb4.7/19,Error ellipse: s-maj=14.6km s-min=6.9km az=5.0*
ISC 24 00:04:04.7±0.7,**29.99S**±0.08×**177.0W**±0.1,**h24**km,**n47,** σ1**9**12/48,**mb4.6**/18,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.06**	**314**		**Pn**	**00 04 22.1**	**-1.8**
	1μm,0.3s,baz=93,slow=7.7,SNR=8.1						
RAO					**Sn**	**00 04 38.7**	**+0.7**
	4μm,0.3s,baz=84,slow=24,SNR=11						
RAO	**Raoul Island**	**1.06**	**314**		**Pn**	**00 04 21.9**	**-2.0**
RAO					**Sb**	**00 04 37.5**	**-0.1**
THZ	**Tophouse**	**14.29**	**212**	Pn	**Pn**	**00 07 24.4**	**-1.1**
KHZ	**Kahutara**	**14.53**	**209**	Pn	Pn	00 07 26.4	-2.4
RPZ	**Rata Peaks**	**16.66**	**211**	Pn	**Pn**	**00 07 55.0**	**-1.5**
	1.5nm,0.3s,baz=71,slow=17,SNR=1.8						
RPZ	**Rata Peaks**	**16.66**	**211**		**Pn**	**00 07 55.7**	**-0.8**
RPZ				IAmb	IAmb	00 08 01.6	
	comp=Z,42nm,1.3s						
DZM	**Mont Dzumac**	**16.79**	**294**	Pn	**P**	**00 08 03.8**	**+3.3**
	comp=Z,1.0nm,0.3s,baz=166,slow=16,SNR=13						
ARMA	**Armidale**	**27.04**	**261**	P	**P**	**00 09 46.1**	**+0.8**
ARMA				IAmb	IAmb	00 10 00.4	
	comp=Z,37nm,1.5s						
EIDS	**Eidsvold**	**28.55**	**271**	P	**P**	**00 09 59.1**	**+0.4**
CTA	**Charters Tower**	**34.55**	**278**	P	**P**	**00 10 52.9**	**+1.3**
	comp=Z,4.1nm,0.5s,baz=100,slow=9.6,SNR=6.6						
CTAO	**Charters Tower**	**34.55**	**278**	P	**P**	**00 10 52.6**	**+1.0**
CTAO				IAmb	IAmb	00 10 53.7	
	comp=Z,5.9nm,0.7s						
STKA	**Stephens Creek**	**35.38**	**256**	P	**P**	**00 10 58.8**	**+0.3**
	comp=Z,2.6nm,0.6s,baz=113,slow=13,SNR=3.8						
STKA	**Stephens Creek**	**35.38**	**256**	P	**P**	**00 10 58.7**	**+0.1**
BBOO	**Buckleboo**	**39.88**	**254**	P	**P**	**00 11 35.9**	**-0.8**
AS31	**Alice Springs**	**43.96**	**266**	P	**P**	**00 12 10.0**	**-0.1**
ASAR	**Alice Springs**	**43.96**	**266**	P	**P**	**00 12 09.8**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=104,slow=7.9,SNR=12						
ASAR	**Alice Springs**	**43.96**	**266**	P	**P**	**00 12 09.6**	**-0.5**
WB2	**Warramunga Arr**	**44.90**	**271**	P	**P**	**00 12 17.1**	**-0.6**
WB2				IAmb	IAmb	00 12 30.3	
	comp=Z,18nm,1.2s						
WRA	**Warramunga Arr**	**44.91**	**271**	P	**P**	**00 12 16.8**	**-0.9**
	comp=Z,2.4nm,0.5s,baz=111,slow=7.8,SNR=7.5						
WRA	**Warramunga Arr**	**44.91**	**271**	P	**P**	**00 12 17.2**	**-0.6**
WB0	**Warramunga Arr**	**44.93**	**271**	P	**P**	**00 12 16.8**	**-1.2**
KNRA	**Kununurra**	**51.50**	**273**	P	**P**	**00 13 09.2**	**+0.6**
FITZ	**Fitzroy Crossi**	**53.19**	**269**	P	**P**	**00 13 21.2**	**+0.1**
FITZ				IAmb	IAmb	00 13 24.4	
	comp=Z,16nm,1.5s						
CASY	**Casey**	**55.89**	**208**	P	**P**	**00 13 40.3**	**+0.2**
CASY				IAmb	IAmb	00 13 49.3	
	comp=Z,10nm,1.1s						
QSPA	**South Pole Qui**	**60.12**	**180**	P	**P**	**00 14 10.8**	**+0.9**
QSPA				IAmb	IAmb	00 14 23.2	
	comp=Z,12nm,1.4s						
MJAR	**Matsushiro Arr**	**78.38**	**325**	P	**P**	**00 16 02.7**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=161,slow=5.7,SNR=2.4						
SNAA	**Sanae**	**78.54**	**178**	P	**P**	**00 16 04.3**	**+0.7**
KSRS	**Korea Array**	**84.57**	**319**	P	**P**	**00 16 36.5**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=132,slow=5.7,SNR=5.0						
KSAR	**Wonju Array Be**	**84.59**	**319**	P	**P**	**00 16 36.1**	**+0.2**
PEA0B	**Petropavlovsk-**	**85.62**	**345**	P	**P**	**00 16 40.6**	**-0.1**
PETK	**Petropavlovsk-**	**85.62**	**345**	P	**P**	**00 16 40.7**	**0.0**
	comp=Z,1.7nm,0.6s,baz=125,slow=7.2,SNR=3.6						
USA0B	**Ussuriysk Arra**	**87.28**	**326**	P	**P**	**00 16 48.5**	**-0.5**
USA0B				IAmb	IAmb	00 16 50.8	
	comp=Z,4.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**87.28**	**326**	P	**P**	**00 16 48.9**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=147,slow=2.1,SNR=8.0						
USRK	**Ussuriysk Ar.**	**87.28**	**326**	P	**P**	**00 16 48.6**	**-0.4**
NVAR	**Mina Array Bea**	**87.38**	**42**	P	**P**	**00 16 50.0**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=229,slow=6.2,SNR=4.7						
NVAR	**Mina Array Bea**	**87.38**	**42**	P	**P**	**00 16 49.8**	**-0.2**
U15A	**North Rim**	**89.75**	**47**	P	**P**	**00 17 00.8**	**-0.5**
U15A				IAmb	IAmb	00 17 15.4	
	comp=Z,3.7nm,1.1s						
WUAZ	**Wupatki**	**89.77**	**48**	P	**P**	**00 17 00.5**	**-0.8**
WUAZ				IAmb	IAmb	00 17 05.0	
	comp=Z,3.9nm,1.1s						
KLR	**Kul'dur**	**91.10**	**329**	P	**P**	**00 17 08.5**	**+1.6**
	comp=Z,1.6nm,0.8s,baz=130,slow=7.7,SNR=5.2						
KURBB	**Kurchatov Arra**	**121.40**	**314**	PKP	**PKPdf**	**00 22 54.6**	**-0.9**
	comp=Z,0.6nm,0.7s,baz=110,slow=1.7,SNR=5.3						
BVAR	**Borovoye Array**	**126.69**	**316**	PKP	**PKPdf**	**00 23 04.6**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=73,slow=2.1,SNR=3.4						
FINES	**FINESS Array B**	**145.04**	**341**	PKPbc	**PKPab**	**00 23 37.1**	**-1.5**
	comp=Z,7.9nm,0.5s,baz=55,slow=3.1,SNR=24						
FINES	**FINESS Array B**	**145.04**	**341**		**PKPab**	**00 23 37.2**	**-1.4**
KBZ	**Khabaz**	**145.56**	**305**	PKPbc	**PKPdf**	**00 23 39.6**	**-1.0**
	comp=Z,1.2nm,0.7s,baz=113,slow=3,SNR=3.6						
NB2	**NORSAR Subarra**	**148.46**	**352**	PKP	**PKPdf**	**00 23 47.5**	**+2.5**
	comp=Z,0.6nm,0.7s,baz=29,slow=2.6						
NOA	**NORSAR Array B**	**148.46**	**352**	PKPbc	**PKPdf**	**00 23 47.5**	**+2.5**
	comp=Z,0.8nm,0.6s,baz=14,slow=4.3,SNR=3.9						
AKASG	**Malin Array Be**	**151.47**	**324**	PKPbc	**PKPbc**	**00 23 55.6**	**-0.6**
	comp=Z,1.9nm,0.5s,baz=45,slow=2.5,SNR=7.6						

*NEIC **24** 00:05:02.8±0.7,51.88N±0.04×178.35E±0.10, h128km±5km,Error ellipse: s-maj=9.0km s-min=5.8km az=75.0*
AEIC 24 00:05:04±0.7,**51.91N**±0.08×**178.38E**±0.09,**h118**km±4km, **ML2.5,Error ellipse: s-maj=12.3km s-min=8.1km az=192.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.09**	**64**		Pn	00 05 20.2	+0.1
LSNW	**Little Sitkin**	**0.10**	**54**		Pn	00 05 20.1	0.0
LSSE	**Little Sitkin**	**0.12**	**79**		Pn	00 05 20.5	+0.4
LSPA	**Little Sitkin**	**0.13**	**69**		Pn	00 05 20.3	+0.2
LSPA					Sn	00 05 33.4	+1.1
CETU	**Semis' Tuman**	**0.69**	**85**		Pn	00 05 23.2	+0.2
CETU					Sn	00 05 38.0	+0.6
CESW	**Semis' Southwe**	**0.73**	**90**		Pn	00 05 23.1	-0.2
CEAP	**Semis' Anvil P**	**0.75**	**82**		Pn	00 05 23.7	+0.3
AMKA	**Amchitka**	**0.78**	**133**		Pn	00 05 23.7	0.0
AMKA					Sn	00 05 38.6	0.0
CERAA	**Semis' Rag'd T**	**0.81**	**90**		Pn	00 05 24.0	+0.1
TASE	**Tanaga Southea**	**2.22**	**91**		Pn	00 05 40.0	-0.2
TAFP	**Tanaga Falls P**	**2.25**	**89**		Pn	00 05 40.2	-0.3
TAFP					Sn	00 06 08.2	-0.2
KIMD	**Kanaga Island**	**2.72**	**91**		Pn	00 05 46.0	-0.5
SMY	**Shemya**	**2.75**	**289**	Pn	Pn	00 05 45.9	-1.0
SMY				Sn	Sn	00 06 18.2	-1.7
KIKV	**Kanaga Island**	**2.76**	**89**		Pn	00 05 46.8	-0.2
ADK	**Adak**	**3.06**	**89**	P	Pn	00 05 50.2	-0.7
ADK	**Adak**	**3.06**	**89**	Pn	Pn	00 05 50.2	-0.7
GSTR	**Great Sitkin T**	**3.44**	**85**	Pn	Pn	00 05 54.7	-1.3

*AEIC **24** 00:07:20±1.2,51.7N±0.1×177.89E±0.09,h113km±5km, mb3.9/11(NEIC), Error ellipse: s-maj=16.6km s-min=7.6km az=190.0*
NEIC 24 00:07:18.9±0.6,**51.6N**±0.1×**177.86E**±0.07,**h121**km±6km, **Error ellipse: s-maj=18.0km s-min=4.9km az=191.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.54**	**49**		Pn	00 07 37.3	+0.1
LSNW	**Little Sitkin**	**0.55**	**47**		Pn	00 07 37.1	-0.1
LSNW					Sn	00 07 50.3	-0.9
LSSE	**Little Sitkin**	**0.56**	**52**		Pn	00 07 37.2	-0.1
LSPA	**Little Sitkin**	**0.57**	**51**		Pn	00 07 37.6	+0.1
LSPA					Sn	00 07 51.2	-0.2
AMKA	**Amchitka**	**0.93**	**103**		Pn	00 07 40.4	+0.2
AMKA					Sn	00 07 55.6	-0.8
CETU	**Semis' Tuman**	**1.08**	**69**		Pn	00 07 41.9	+0.1
CEAP	**Semis' Anvil P**	**1.14**	**68**		Pn	00 07 42.5	+0.1
CEAP					Sn	00 07 59.0	-1.3
CERAA	**Semis' Rag'd T**	**1.18**	**74**		Pn	00 07 42.7	-0.1
GAEA	**Gareloi East**	**2.12**	**84**		Pn	00 07 54.2	+0.3
TASE	**Tanaga Southea**	**2.56**	**83**		Pn	00 07 59.8	+0.3
SMY	**Shemya**	**2.58**	**298**		Pn	00 07 59.7	0.0
SMY					Sn	00 08 29.2	-1.9
TAFP	**Tanaga Falls P**	**2.60**	**82**		Pn	00 07 60.0	0.0
TAFP					Sn	00 08 29.9	-1.7
KIMD	**Kanaga Island**	**3.06**	**85**		Pn	00 08 06.0	+0.1
KIKV	**Kanaga Island**	**3.10**	**83**		Pn	00 08 06.5	0.0
ADK	**Adak**	**3.40**	**83**		Pn	00 08 10.1	-0.3
GSTD	**Great Sitkin T**	**3.75**	**81**		Pn	00 08 14.6	-0.5
GSMY	**Great Sitkin M**	**3.80**	**81**		Pn	00 08 15.6	-0.2
GSTR	**Great Sitkin T**	**3.80**	**80**	Pn	Pn	00 08 15.7	-0.1
ATKA	**Atka Island**	**4.96**	**80**		Pn	00 08 31.6	+0.4
OHAK	**Old Harbor**	**17.63**	**60**	P	P	00 11 14.9	-0.9
OHAK				IAmb	IAmb	00 11 32.1	
	comp=Z,24nm,1.5s						
KDAK	**Kodiak Island**	**18.07**	**58**	P	P	00 11 20.0	-0.7
KDAK				IAmb	IAmb	00 11 38.1	
	comp=Z,18nm,1.4s						
CNPM	**China Poot**	**19.05**	**53**	P	P	00 11 31.3	0.0
BRLK	**Bradley Lake**	**19.27**	**53**	P	P	00 11 33.5	-0.3
BRLK				IAmb	IAmb	00 11 46.5	
	comp=Z,8.9nm,1.1s						
BPAW	**Bear Paw Mtn.**	**20.50**	**40**	P	P	00 11 48.2	+1.1
BPAW				IAmb	IAmb	00 11 49.0	
	comp=Z,2.4nm,1.0s						
TRF	**Thorofare Moun**	**20.55**	**42**	P	P	00 11 49.3	+1.6
TRF				IAmb	IAmb	00 11 53.9	
	comp=Z,2.6nm,0.9s						
FID	**Port Fidalgo**	**21.60**	**51**	P	P	00 11 56.1	-2.7
WRH	**Wood River Hil**	**21.82**	**41**	P	P	00 12 00.9	-0.1
CCB	**Clear Creek Bu**	**21.99**	**40**	P	P	00 12 03.8	+1.0
VRDI	**Verde Repeater**	**23.13**	**50**	P	P	00 12 14.3	0.0
VRDI				IAmb	IAmb	00 12 21.2	
	comp=Z,8.3nm,1.2s						
PRP	**Porcupine Dome**	**23.20**	**39**	P	P	00 12 14.9	0.0
PRP				IAmb	IAmb	00 12 16.6	
	comp=Z,2.1nm,0.6s						
BCAR	**Beaver Creek A**	**24.17**	**46**	P	P	00 12 25.1	+1.5
BMAR	**Burnt Mountain**	**24.23**	**35**	P	P	00 12 24.7	+0.6

*IDC **24** 00:10:36.0±0.6,30.16S×177.20W,h0km,mb4.6/13, mb1 4.7/13,mb1mx4.5/31,mbtmp4.5/13,Error ellipse: s-maj=20.6km s-min=15.9km az=65.0*
*NEIC **24** 00:10:40.2±1.7,30.26S±0.06×177.4W±0.1,h26km±4km, mb4.9/42,Error ellipse: s-maj=18.4km s-min=8.1km az=82.0*
ISC 24 00:10:40.8±0.5,**30.31S**±0.04×**177.34W**±0.09,**h33**km, **n141,**σ1**9**33/149,**mb4.8**/34,**3C-6D,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.16**	**334**	P	**Pn**	**00 10 58.8**	**-1.9**
GLKZ				S	**Sb**	**00 11 16.4**	**-0.5**
RAO	**Raoul Island**	**1.16**	**334**	Pn	**Pn**	**00 10 59.2**	**-1.6**
	492nm,0.3s,baz=226,slow=1.7,SNR=20						
RAO				Sn	**Sn**	**00 11 15.2**	**-0.4**
	1μm,0.3s,baz=79,slow=23,SNR=9.1						
RAO	**Raoul Island**	**1.16**	**334**		**Pn**	**00 10 59.3**	**-1.6**
RAO				Sn	**Sn**	**00 11 14.2**	**-1.4**
RIZ	**Raoul Island**	**1.18**	**334**	P	**Pn**	**00 10 59.2**	**-1.7**
RIZ				S	**Sn**	**00 11 16.4**	**+0.6**
MXZ	**Matakaoa Point**	**8.09**	**205**	P	Pn	00 12 30.7	-5.2
MXZ				S	**Sn**	**00 14 06.0**	**-0.2**
MXZ	**Matakaoa Point**	**8.09**	**205**	Pn	**Pn**	**00 12 34.8**	**-1.2**
WMGZ	**Waiomatatini S**	**8.28**	**204**	P	**Pn**	**00 12 38.1**	**-0.5**
WMGZ				S	**Sn**	**00 14 12.9**	**+2.1**
HAZ	**Te Kaha**	**8.46**	**207**	P	**Pn**	**00 12 38.4**	**-2.6**
HAZ				S	**Sn**	**00 14 17.0**	**+1.7**
PUZ	**Puketiti**	**8.56**	**204**	P	**Pn**	**00 12 40.8**	**-1.6**
PUZ				S	**Sn**	**00 14 16.1**	**-1.8**
RUGZ	**Raukumara Rang**	**8.68**	**207**	P	**Pn**	**00 12 41.4**	**-2.8**
RUGZ				S	**Sn**	**00 14 20.1**	**-1.0**
MWZ	**Matawai**	**9.06**	**207**	P	**Pn**	**00 12 46.5**	**-2.8**
MWZ				S	**Sn**	**00 14 29.3**	**-0.9**
OUZ	**Omahuta**	**9.07**	**235**	P	Pn	00 12 56.8	+7.4
URZ	**Urewera**	**9.16**	**209**	P	**Pn**	**00 12 48.3**	**-2.3**
URZ				S	**Sn**	**00 14 31.1**	**-1.5**
RIGZ	**Rimuhau**	**9.30**	**204**	P	**Pn**	**00 12 49.2**	**-3.4**
RIGZ				S	**Sn**	**00 14 32.9**	**-3.2**
MUGZ	**Murupara**	**9.49**	**209**	P	**Pn**	**00 12 52.7**	**-2.5**
RTZ	**Ruatahuna**	**9.52**	**208**	P	Pn	00 12 50.5	-5.1
SNGZ	**Shannon Statio**	**9.52**	**206**	P	**Pn**	**00 12 53.7**	**-1.9**
RAHZ	**Arahi**	**9.74**	**207**	P	**Pn**	**00 12 56.8**	**-1.8**
BKZ	**Black Stump Fm**	**10.19**	**208**	P	**Pn**	**00 13 03.8**	**-1.0**
BKZ	**Black Stump Fm**	**10.19**	**208**	Pn	**Pn**	**00 13 03.2**	**-1.5**
MSWZ	**Moikau Station**	**12.60**	**206**	Pn	**Pn**	**00 13 35.1**	**-2.6**
SNZO	**South Karori**	**12.73**	**208**	Pn	**Pn**	**00 13 37.0**	**-2.4**
BSWZ	**Blackbirch Sta**	**13.41**	**210**	Pn	**Pn**	**00 13 47.4**	**-1.4**
THZ	**Tophouse**	**13.88**	**212**	Pn	**Pn**	**00 13 54.0**	**-1.2**
RPZ	**Rata Peaks**	**16.25**	**211**	Pn	**Pn**	**00 14 22.9**	**-3.7**
	3.5nm,0.3s,baz=78,slow=2.7,SNR=15						
RPZ				Sn	Sn	00 17 12.7	-13
	1.7nm,0.3s,baz=234,slow=19,SNR=5.7						
RPZ	**Rata Peaks**	**16.25**	**211**	Pn	**Pn**	**00 14 24.3**	**-2.3**
DZM	**Mont Dzumac**	**16.69**	**296**	Pn	**P**	**00 14 37.8**	**+3.3**
	1.0nm,0.3s,baz=101,slow=11,SNR=16						
FOZ	**Fox Glacier**	**16.70**	**214**	Pn	**Pn**	**00 14 29.9**	**-2.2**
FOZ				IAmb	IAmb	00 14 35.9	
	comp=Z,76nm,1.3s						
WHZ	**Wether Hill Ro**	**19.34**	**212**	P	**P**	**00 15 01.5**	**-1.9**
ARMA	**Armidale**	**26.73**	**262**		**P**	**00 16 19.5**	**+1.9**
ARMA				IAmb	IAmb	00 16 31.7	
	comp=Z,45nm,1.5s						
EIDS	**Eidsvold**	**28.30**	**272**	P	**P**	**00 16 32.2**	**+0.7**
EIDS				IAmb	IAmb	00 16 37.7	
	comp=Z,26nm,1.4s						
CAN	**Canberra**	**28.64**	**251**	P	**P**	**00 16 36.3**	**+1.8**
TOO	**Toolangi**	**31.52**	**247**	P	**P**	**00 17 01.5**	**+1.6**
CTA	**Charters Tower**	**34.35**	**279**	P	**P**	**00 17 26.2**	**+1.5**
	comp=Z,9.9nm,0.8s,baz=106,slow=11,SNR=14						
CTAO	**Charters Tower**	**34.35**	**279**	P	**P**	**00 17 25.7**	**+1.0**
CTAO				IAmb	IAmb	00 17 39.3	

	comp=Z,18nm,0.8s								
STKA	**Stephens Creek**	**35.05**	**257**		P	**P**	**00 17 33.1**	**+2.4**
	comp=Z,13nm,0.7s,baz=103,slow=11,SNR=21								
STKA	**Stephens Creek**	**35.05**	**257**		P	**P**	**00 17 32.1**	**+1.4**
BBOO	**Buckleboo**	**39.54**	**254**		P	**P**	**00 18 08.7**	**-0.1**
AS31	**Alice Springs**	**43.68**	**267**		P	**P**	**00 18 42.9**	**+0.1**
ASAR	**Alice Springs**	**43.68**	**267**		P	**P**	**00 18 42.7**	**-0.1**
	comp=Z,8.4nm,0.8s,baz=108,slow=7.7,SNR=50								
ASAR	**Alice Springs**	**43.68**	**267**		P	**P**	**00 18 43.1**	**+0.3**
WB2	**Warramunga Arr**	**44.65**	**272**		P	**P**	**00 18 50.4**	**-0.2**
WRA	**Warramunga Arr**	**44.66**	**272**		P	**P**	**00 18 50.5**	**-0.2**
	comp=Z,16nm,0.8s,baz=113,slow=7.5,SNR=34								
WRA	**Warramunga Arr**	**44.66**	**272**		P	**P**	**00 18 50.3**	**-0.4**
WB0	**Warramunga Arr**	**44.69**	**272**		P	**P**	**00 18 50.6**	**-0.2**
WB0					IAmb	IAmb	00 18 52.9		
	comp=Z,20nm,0.9s								
VNDA	**Vanda**	**48.25**	**186**		P	**P**	**00 19 19.7**	**+1.7**
KNRA	**Kununurra**	**51.27**	**274**		P	**P**	**00 19 41.7**	**-0.1**
KNRA					IAmb	IAmb	00 19 48.6		
	comp=Z,19nm,1.1s								
FITZ	**Fitzroy Crossi**	**52.93**	**269**		P	**P**	**00 19 54.7**	**+0.5**
CASY	**Casey**	**55.49**	**208**		P	**P**	**00 20 12.8**	**+0.8**
MORW	**Morawa**	**57.10**	**253**		P	**P**	**00 20 23.5**	**-0.8**
MORW					IAmb	IAmb	00 20 32.4		
	comp=Z,18nm,1.1s								
QSPA	**South Pole Qui**	**59.80**	**180**		P	**P**	**00 20 45.0**	**+2.4**
	comp=Z,4.3nm,0.6s,baz=343,slow=0.7,SNR=42								
QSPA	**South Pole Qui**	**59.80**	**180**		P	**P**	**00 20 44.1**	**+1.4**
MAW	**Mawson**	**72.59**	**200**		P	**P**	**00 22 06.3**	**+2.0**
	comp=Z,7.0nm,1.0s,baz=118,slow=10,SNR=5.4								
MAW	**Mawson**	**72.59**	**200**		P	**P**	**00 22 05.3**	**+0.9**
SYO	**Syowa Base**	**77.33**	**193**	*e*	P	**P**	**00 22 30.2**	**-1.5**
SYO	**Syowa Base**	**77.33**	**193**	*e*	pP	pP	00 22 39.0	-1.7
SYO	**Syowa Base**	**77.33**	**193**	*e*	sP	sP	00 22 44.0	0.0
SNAA	**Sanae**	**78.23**	**178**		P	**P**	**00 22 37.5**	**+0.7**
SNAA	**Sanae**	**78.23**	**178**		P	**P**	**00 22 37.2**	**+0.4**
SNAA					IAmb	IAmb	00 22 50.8		
	comp=Z,9.6nm,1.2s								
VNA3	**Neumayer Olymp**	**78.36**	**176**		P	**P**	**00 22 37.6**	**+0.1**
MJAR	**Matsushiro Arr**	**78.49**	**325**		P	**P**	**00 22 38.9**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=165,slow=5.1,SNR=7.6								
MJAR	**Matsushiro Arr**	**78.49**	**325**		P	**P**	**00 22 38.3**	**-0.3**
MAJO	**Matsushiro**	**78.49**	**325**		P	**P**	**00 22 38.6**	**+0.1**
MAJO					IAmb	IAmb	00 22 45.0		
	comp=Z,8.1nm,1.0s								
VNA2	**Neumayer--Watz**	**78.80**	**177**		P	**P**	**00 22 41.0**	**+1.1**
	baz=178,slow=3.2								
ERM	**Erimo**	**80.65**	**331**		P	**P**	**00 22 50.7**	**+0.6**
ERM					IAmb	IAmb	00 23 04.0		
	comp=Z,17nm,1.1s								
JKA	**Kamikawa-asahi**	**82.62**	**332**		P	**P**	**00 23 01.3**	**+0.8**
KSRS	**Korea Array**	**84.65**	**319**		P	**P**	**00 23 11.5**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=137,slow=5.8,SNR=8.5								
KSAR	**Wonju Array Be**	**84.66**	**319**		P	**P**	**00 23 11.2**	**+0.1**
YSS	**Yuzh-Sakhalins**	**84.91**	**334**		P	**P**	**00 23 13.3**	**+1.3**
PETK	**Petropavlovsk-**	**85.87**	**345**		P	**P**	**00 23 17.7**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=134,slow=8.5,SNR=5.6								
PETK	**Petropavlovsk-**	**85.87**	**345**

comp=Z,0.6nm,0.9s,baz=77,slow=2.9,SNR=4.3
GERES GERESS Array B 159.66 339 PKPab **PKPab 00 31 13.6 -1.0**
CONA Conrad Observa 159.69 334 *i* PKPab **PKPab 00 31 15.4 +0.6**
comp=Z,3.5nm,1.1s
MOA Molln 160.34 336 *i* PKPab **PKPab 00 31 17.3 -0.2**
comp=Z,5.9nm,1.4s
ARSA Arzberg 160.38 333 *i* PKPab **PKPab 00 31 18.0 +0.4**
comp=Z,1.8nm,0.6s
SOKA Soboth 161.04 333 *i* PKPab **PKPab 00 31 21.6 +0.9**
comp=Z,5.9nm,1.3s
WATA Walderalm 161.65 340 *i* PKPab **PKPab 00 31 23.0 -0.4**
comp=Z,4.9nm,0.9s
WTTA Wattenberg 161.70 340 *i* PKPab **PKPab 00 31 21.9 -1.7**
comp=Z,3.2nm,0.8s
RETA Reutte 161.74 342 *i* PKPab **PKPab 00 31 21.2 -2.4**
comp=Z,4.7nm,1.4s
MOTA Moosalm 161.78 341 *i* PKPab **PKPab 00 31 23.6 -0.4**
comp=Z,2.1nm,0.7s
SQTA Sankt Quirin 161.86 341 *i* PKPab **PKPab 00 31 21.3 -3.0**
comp=Z,5.7nm,1.1s
ABTA Abfaltersbach 161.89 338 *i* PKPab **PKPab 00 31 23.1 -1.2**
comp=Z,4.0nm,1.0s
DAVA Damuels 162.15 344 *i* PKPab **PKPab 00 31 23.7 -1.8**
comp=Z,2.7nm,0.8s
FETA Feichten 162.18 342 *i* PKPab **PKPab 00 31 28.7 +3.0**
comp=Z,7.8nm,1.7s
TORD Torodi Ar. Bea 162.90 177 PKP **PKPdf 00 30 40.3 0.0**
comp=Z,1.5nm,1.2s,baz=205,slow=3.1,SNR=3.6
TORD PKPab **PKPab 00 31 29.0 -0.3**
comp=Z,0.8nm,0.5s,baz=182,slow=3.1,SNR=10
TORD Torodi Ar. Bea 162.90 177 PKPdf 00 30 40.0 -0.3
TORD PKPab **PKPab 00 31 28.6 -0.8**

*NEIC **24** 00:14:14.6±1.4, 29.°94S±0.°06×177.°4W±0.°2, h24km±5km, mb4.5/17, Error ellipse: s-maj=20.9km s-min=3.9km az=68.0*
*IDC **24** 00:14:15.5±7.5, 29.°92S×177.°37W, h29km±48km, mb4.1/9, mb1 4.3/10, mb1mx4.0/32, mbtmp4.3/10, ML4.4/1, Error ellipse: s-maj=32.0km s-min=21.5km az=102.0*
ISC 24 00:14:15.9±0.6, 30.°05S±0.°05×177.°4W±0.°1, h35km, n65, σ1§55/70, mb4.4/14, 1C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.93**	**328**	P		**P**	**Pn**	**00 14 30.8**	**-1.7**
GLKZ				S		**Sn**	**Sn**	**00 14 45.5**	**+0.9**
RAO	**Raoul Island**	**0.94**	**329**	Pn		**Pn**	**Pn**	**00 14 31.0**	**-1.6**
	1µm,0.3s,baz=79,slow=14,SNR=10								
RAO	**Raoul Island**	**0.94**	**329**	Pn		**Pn**	**Pn**	**00 14 30.8**	**-1.9**
RAO				Sn		**Sn**	**Sn**	**00 14 43.0**	**-1.7**
RIZ	**Raoul Island**	**0.95**	**328**	P		**Pn**	**Pn**	**00 14 30.8**	**-2.0**
RIZ				S		**Sn**	**Sn**	**00 14 45.5**	**+0.4**
MXZ	**Matakaoa Point**	**8.31**	**205**	P		**Pn**	**Pn**	**00 16 10.9**	**-3.1**
MXZ				S		**Sn**	**Sn**	**00 17 45.3**	**-1.2**
WMGZ	**Waiomatatini S**	**8.50**	**203**	P		**Pn**	**Pn**	**00 16 13.7**	**-2.9**
WMGZ				S		**Sn**	**Sn**	**00 17 52.3**	**+1.1**
HAZ	**Te Kaha**	**8.68**	**206**	P		**Pn**	**Pn**	**00 16 15.3**	**-3.6**
HAZ				S		**Sn**	**Sn**	**00 17 56.5**	**+1.0**
PKGZ	**Pakihiroa**	**8.68**	**205**	P		**Pn**	**Pn**	**00 16 15.7**	**-3.4**
PKGZ				S		**Sn**	**Sn**	**00 17 53.5**	**-2.3**
PUZ	**Puketiti**	**8.78**	**203**	P		**Pn**	**Pn**	**00 16 16.5**	**-3.9**
PUZ				S		**Sn**	**Sn**	**00 17 58.1**	**-0.1**
RUGZ	**Raukumara Rang**	**8.90**	**206**	P		**Pn**	**Pn**	**00 16 20.9**	**-1.3**
WCZ	**Waipu Caves**	**9.11**	**228**	P		Pn	Pn	00 16 33.3	+8.5
OUZ	**Omahuta**	**9.20**	**234**	P		Pn	Pn	00 16 32.5	+6.4
BKZ	**Black Stump Fm**	**10.40**	**207**	P		**Pn**	**Pn**	**00 16 38.2**	**-4.4**
THZ	**Tophouse**	**14.08**	**211**	Pn		**Pn**	**Pn**	**00 17 32.5**	**-0.5**
RPZ	**Rata Peaks**	**16.46**	**211**	Pn		**Pn**	**Pn**	**00 18 04.2**	**0.0**
	1.4nm,0.3s,baz=42,slow=20,SNR=1.3								
RPZ	**Rata Peaks**	**16.46**	**211**			**Pn**	**Pn**	**00 18 04.2**	**0.0**
RPZ				IAmb		IAmb	IAmb	00 18 08.2	
	comp=Z,33nm,1.2s								
DZM	**Mont Dzumac**	**16.57**	**295**	Pn		**P**	**Pn**	**00 18 10.9**	**+2.9**
	comp=Z,0.2nm,0.3s,baz=192,slow=21,SNR=2.1								
EIDS	**Eidsvold**	**28.28**	**272**	P		**P**		**00 20 05.6**	**-0.5**
EIDS				IAmb		IAmb		00 20 20.2	
	comp=Z,12nm,1.4s								
TOO	**Toolangi**	**31.61**	**246**	P		**P**		**00 20 36.5**	**+1.0**
CTA	**Charters Tower**	**34.29**	**278**	P		**P**		**00 20 59.9**	**+0.7**
	comp=Z,3.2nm,0.6s,baz=105,slow=10,SNR=4.5								
CTAO	**Charters Tower**	**34.29**	**278**	P		**P**		**00 20 60.0**	**+0.8**
CTAO				IAmb		IAmb		00 21 01.8	
	comp=Z,11nm,1.1s								
STKA	**Stephens Creek**	**35.10**	**256**	P		**P**		**00 21 07.2**	**+1.2**
	comp=Z,3.0nm,0.6s,baz=104,slow=11,SNR=4.2								
STKA	**Stephens Creek**	**35.10**	**256**	P		**P**		**00 21 06.7**	**+0.8**
BBOO	**Buckleboo**	**39.60**	**254**	P		**P**		**00 21 43.7**	**-0.4**
AS31	**Alice Springs**	**43.68**	**266**	P		**P**		**00 22 17.6**	**-0.1**
ASAR	**Alice Springs**	**43.68**	**266**	P		**P**		**00 22 17.6**	**0.0**
	comp=Z,1.7nm,0.6s,baz=103,slow=8.1,SNR=7.6								
ASAR	**Alice Springs**	**43.68**	**266**	P		**P**		**00 22 18.0**	**+0.3**
WB2	**Warramunga Arr**	**44.63**	**271**	P		**P**		**00 22 25.4**	**+0.1**
WB2				IAmb		IAmb		00 22 31.0	
	comp=Z,4.3nm,0.6s								
WRA	**Warramunga Arr**	**44.64**	**271**	P		**P**		**00 22 24.7**	**-0.7**
	comp=Z,3.7nm,0.6s,baz=110,slow=7.8,SNR=6.1								
WRA	**Warramunga Arr**	**44.64**	**271**	P		**P**		**00 22 24.9**	**-0.5**
WB0	**Warramunga Arr**	**44.66**	**272**	P		**P**		**00 22 25.6**	**+0.1**
WB0				IAmb		IAmb		00 22 35.0	
	comp=Z,7.2nm,1.1s								
VNDA	**Vanda**	**48.49**	**186**	P		**P**		**00 22 57.2**	**+2.5**
FITZ	**Fitzroy Crossi**	**52.92**	**269**	P		**P**		**00 23 29.1**	**+0.1**
FITZ				IAmb		IAmb		00 23 40.5	
	comp=Z,12nm,1.4s								
CASY	**Casey**	**55.70**	**208**	P		**P**		**00 23 49.0**	**+0.5**
QSPA	**South Pole Qui**	**60.05**	**180**	P		**P**		**00 24 21.3**	**+2.1**
	comp=Z,2.1nm,0.7s,baz=34,slow=4.1,SNR=3.8								
QSPA	**South Pole Qui**	**60.05**	**180**	P		**P**		**00 24 20.9**	**+1.7**
QSPA				IAmb		IAmb		00 24 30.6	
	comp=Z,4.9nm,0.8s								
SYO	**Syowa Base**	**77.58**	**193**	*eP*		P		00 26 13.0	+5.1
MAJO	**Matsushiro**	**78.28**	**325**	P		**P**		**00 26 13.0**	**+0.8**
MAJO				IAmb		IAmb		00 26 15.9	
	comp=Z,7.8nm,1.4s								
SNAA	**Sanae**	**78.48**	**178**	P		**P**		**00 26 15.6**	**+2.6**
VNA3	**Neumayer Olymp**	**78.61**	**176**	P		**P**		**00 26 14.2**	**+0.5**
VNA2	**Neumayer--Watz**	**79.05**	**177**	P		**P**		**00 26 17.0**	**+0.9**
PEA0B	**Petropavlovsk-**	**85.62**	**345**	P		**P**		**00 26 50.3**	**-0.1**
PETK	**Petropavlovsk-**	**85.62**	**345**	P		**P**		**00 26 50.0**	**-0.3**
	comp=Z,2.2nm,0.8s,baz=139,slow=9.2,SNR=3.8								
PETK	**Petropavlovsk-**	**85.62**	**345**	P		**P**		**00 26 50.4**	**0.0**
USRK	**Ussuriysk Ar.**	**87.18**	**326**	P		**P**		**00 26 58.6**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=132,slow=2.8,SNR=5.4								
USRK	**Ussuriysk Ar.**	**87.18**	**326**	P		**P**		**00 26 58.7**	**+0.5**
NVAR	**Mina Array Bea**	**87.61**	**42**	P		**P**		**00 27 01.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=217,slow=8.6,SNR=4.3								
NVAR	**Mina Array Bea**	**87.61**	**42**			**P**		**00 27 00.8**	**0.0**
KLR	**Kul'dur**	**91.02**	**329**	P		**P**		**00 27 16.7**	**+0.5**
	comp=Z,2.0nm,0.8s,baz=133,slow=7.7,SNR=5.2								
GEYT	**Alibeck**	**133.91**	**295**	PKP		**PKiKP**		**00 33 29.4**	**-1.3**
	comp=Z,3.2nm,1.0s,baz=205,slow=6.6,SNR=4.1								
GEYT	**Alibeck**	**133.91**	**295**			**PKPdf**		**00 33 27.7**	**-1.7**
FINES	**FINESS Array B**	**145.01**	**341**	PKP		**PKPdf**		**00 33 47.4**	**-1.4**
	comp=Z,5.4nm,0.6s,baz=62,slow=2.9,SNR=12								
NB2	**NORSAR Subarra**	**148.49**	**352**	PKP		**PKiKP**		**00 33 57.8**	**-2.1**
	comp=Z,1.1nm,0.8s,baz=14,slow=2.9								
NOA	**NORSAR Array B**	**148.49**	**352**	PKPbc		**PKPbc**		**00 33 57.5**	**-0.8**
	comp=Z,2.2nm,0.8s,baz=15,slow=4.4,SNR=4.6								
ASF	**Jabal al Asfar**	**150.66**	**283**	PKPbc		**PKiKP**		**00 34 05.1**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=60,slow=6.2,SNR=5.3								
AKASG	**Malin Array Be**	**151.36**	**324**	PKPbc		**PKiKP**		**00 34 04.7**	**-1.3**
	comp=Z,2.4nm,0.7s,baz=47,slow=2.8,SNR=5.9								
AKASG	**Malin Array Be**	**151.36**	**324**			**PKiKP**		**00 34 05.0**	**-1.0**
MMAI	**Mount Meron Ar**	**151.98**	**285**	PKPbc		**PKiKP**		**00 34 07.8**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=55,slow=6.2,SNR=8.7								
EIL	**Elat**	**152.02**	**277**	PKPbc		**PKiKP**		**00 34 08.4**	**+0.3**
	comp=Z,6.3nm,0.8s,baz=351,slow=2.9,SNR=4.6								
BRTR	**Keskin Array B**	**152.92**	**299**	PKPbc		**PKiKP**		**00 34 10.1**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=306,slow=37,SNR=2.5								
BRTR	**Keskin Array B**	**152.92**	**299**			**PKiKP**		**00 34 09.5**	**-0.3**
GERES	**GERESS Array B**	**159.42**	**339**	PKPab		**PKPab**		**00 34 46.4**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=32,slow=5.3,SNR=4.3								
GERES	**GERESS Array B**	**159.42**	**339**			**PKPab**		**00 34 47.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**163.15**	**177**	PKPab		**PKPab**		**00 35 05.0**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=174,slow=2.6,SNR=5.3								
TORD	**Torodi Ar. Bea**	**163.15**	**177**			**PKPab**		**00 35 05.6**	**+0.3**

*IDC **24** 00:15:37.4±0.8, 28.°13N×104.°76E, h0km, mb4.0/11, mb1 4.1/13, mb1mx3.8/46, mbtmp4.0/13, ML4.0/2, MS4.9/1, Ms1 4.9/1, ms1mx3.9/50, Error ellipse: s-maj=22.8km s-min=16.4km az=56.0*

*NEIC **24** 00:15:40.0±2.0, 28.°31N±0.°06×104.°9E±0.°1, h10km±1km, mb4.1/11, Error ellipse: s-maj=16.8km s-min=9.9km az=108.0*
*BJI **24** 00:15:39.0±0.0, 28.°14N×104.°66E, h11km, mb4.3/9, ML4.1/20*
ISC 24 00:15:38.7±0.5, 28.°13N±0.°04×104.°76E±0.°05, h10km, n49, σ1§38/52, mb4.0/16, 2C-1D, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GYA	**Guiyang**	**2.38**	**134**	Pn		**Pn**	**Pn**	**00 16 20.3**	**+2.5**
GYA				Sn		**Sn**	**Sn**	**00 16 45.5**	**-1.6**
GYA				Sg		**Sg**	**Sb**	**00 16 55.5**	**+4.5**
GYA				smax		smax	smax		
	comp=N,760nm,1.0s								
GYA				smax		smax	smax		
	comp=E,530nm,1.1s								
CD2	**Chengdu**	**2.91**	**343**	*i* Pn		**Pn**	**Pn**	**00 16 26.4**	**+1.4**
CD2				Pg		**Pg**	**Pg**	**00 16 34.3**	**-0.1**
CD2				Sg		**Sg**	**Sg**	**00 17 14.0**	**+1.9**
CD2				smax		smax	smax		
	comp=N,2µm,0.9s								
CD2				smax		smax	smax		
	comp=E,3µm,1.1s								
KMI	**Kunming**	**3.50**	**212**	*i* Pg		**Pg**	**Pg**	**00 16 43.8**	**-1.9**
KMI				smax		smax	smax		
	comp=N,65nm,1.0s								
KMI				smax		smax	smax		
	comp=E,68nm,0.9s								
KMI	**Kunming**	**3.50**	**212**			**Pb**	**Pb**	**00 16 38.4**	**-2.4**
ENH	**Enshi**	**4.65**	**62**	Pn		**Pn**	**Pn**	**00 16 48.3**	**-0.8**
SLVN	**Son La**	**6.81**	**187**	Pn		Pn	Pn	00 17 24.4	+5.6
XAN	**Xi'an**	**6.89**	**30**	Pn		**Pn**	**Pn**	**00 17 20.5**	**+0.7**
XAN				Sn		**Sn**	**Sn**	**00 18 40.3**	**+2.0**
XAN				Sg		**Sg**	**Sg**	**00 19 16.8**	**-3.0**
XAN				smax		smax	smax		
	comp=N,460nm,1.0s								
XAN				smax		smax	smax		
	comp=E,260nm,1.0s								
XAN	**Xi'an**	**6.89**	**30**	Pn		**Pn**	**Pn**	**00 17 18.9**	**-0.8**
WHN	**Wuhan**	**8.71**	**72**	*i* P		**Pn**	**Pn**	**00 17 46.8**	**+2.1**
WHN				S		**Sn**	**Sn**	**00 19 20.3**	**-2.7**
CMAR	**Chiang Mai Arr**	**11.01**	**210**	Pn		**Pn**	**Pn**	**00 18 18.4**	**+2.1**
	0.3nm,0.3s,baz=19,slow=11,SNR=1.3								
CMAR	**Chiang Mai Arr**	**11.01**	**210**				Pn	00 18 21.8	+5.5
BJT	**Baijiatuau**	**15.15**	**36**	Pn		**Pn**	**Pn**	**00 19 10.8**	**-1.9**
RAMN	**Ramite**	**16.15**	**270**	*eP*		**P**	**P**	**00 19 28.0**	**-1.3**
	17nm,0.8s								
GUN	**Gumba**	**16.68**	**274**	*eP*		**P**	**P**	**00 19 34.4**	**-0.9**
	27nm,0.7s								
DMN	**Daman**	**17.39**	**273**	*eP*		**P**	**P**	**00 19 42.7**	**-0.3**
DANN	**Dangsing**	**18.50**	**276**	*eP*		**P**	**P**	**00 19 54.4**	**-1.0**
	25nm,0.6s								
KOLN	**Koldanda**	**18.70**	**274**	*eP*		**P**	**P**	**00 19 56.0**	**-1.5**
	24nm,1.0s								
SONM	**Songino Array**	**19.72**	**3**	P		**P**	**P**	**00 20 08.2**	**-0.2**
	0.3nm,0.3s,baz=176,slow=9.8,SNR=9.5								
SONM	**Songino Array**	**19.72**	**3**	P		**P**	**P**	**00 20 08.6**	**+0.2**
ULN	**Ulaanbaatar**	**19.79**	**5**	P		**P**	**P**	**00 20 09.0**	**-0.1**
WMQ	**Urumqi**	**20.82**	**323**	*eP*		Pn	Pn	00 20 21.3	-1.4
KSAR	**Wonju Array Be**	**21.50**	**59**	P		**P**	**P**	**00 20 27.4**	**-0.3**
KS19	**Wonju Array Si**	**21.51**	**58**	P		**P**	**P**	**00 20 26.7**	**-1.0**
KS19				IAmb		IAmb	IAmb	00 20 33.0	
	comp=Z,14nm,1.4s								
KSRS	**Korea Array**	**21.54**	**59**	P		**P**	**P**	**00 20 27.9**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=247,slow=11,SNR=9.4								
JNU	**Nakatsue**	**23.00**	**71**	P		**P**	**P**	**00 20 44.2**	**+0.6**
	comp=Z,8.6nm,0.9s,baz=262,slow=4.9,SNR=5.4								
JNU	**Nakatsue**	**23.00**	**71**	P		**P**	**P**	**00 20 42.9**	**-0.8**
MK31	**Makanchi Array**	**25.64**	**323**	P		**P**	**P**	**00 21 09.0**	**+0.6**
MK31				IAmb		IAmb	IAmb	00 21 20.3	
	comp=Z,3.3nm,1.1s								
MKAR	**Makanchi Array**	**25.64**	**323**	P		**P**	**P**	**00 21 08.4**	**0.0**
	comp=Z,1.0nm,0.5s,baz=123,slow=11,SNR=10								
MKAR	**Makanchi Array**	**25.64**	**323**	P		**P**	**P**	**00 21 08.2**	**-0.2**
MAKZ	**Makanchi**	**25.82**	**322**	P		**P**	**P**	**00 21 11.0**	**+1.0**
USA0B	**Ussuriysk Arra**	**27.04**	**46**	P		**P**	**P**	**00 21 20.1**	**-1.0**
USA0B				IAmb		IAmb	IAmb	00 21 21.8	
	comp=Z,5.3nm,0.8s								
USRK	**Ussuriysk Ar.**	**27.04**	**46**	P		**P**	**P**	**00 21 21.2**	**+0.2**
	comp=Z,4.3nm,0.7s,baz=250,slow=8.9,SNR=10								
USRK	**Ussuriysk Ar.**	**27.04**	**46**	P		**P**	**P**	**00 21 20.8**	**-0.3**
ZALV	**Zalesovo Beam**	**29.65**	**336**	P		**P**	**P**	**00 21 43.7**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=125,slow=8.1,SNR=5.7								
ZALV	**Zalesovo Beam**	**29.65**	**336**	P		**P**		**00 21 44.4**	**+0.2**
KURBB	**Kurchatov Arra**	**29.98**	**326**	P		**P**		**00 21 46.9**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=131,slow=9.2,SNR=12								
KURK	**Kurchatov**	**30.00**	**326**	P		**P**	**P**	**00 21 47.9**	**+0.6**
KURK				IAmb		IAmb	IAmb	00 21 50.7	
	comp=Z,2.1nm,0.8s								
GEYT	**Alibeck**	**39.95**	**296**	P		**P**	**P**	**00 23 13.1**	**-0.2**
ABKAR	**Akbulak array**	**40.11**	**314**	P		**P**	**P**	**00 23 14.4**	**0.0**
AKTO	**Aktyubinsk**	**41.62**	**315**	LR		LR	LR	00 41 40.8	
	comp=Z,2µm,21.0s,baz=49,slow=38								
WRA	**Warramunga Arr**	**55.70**	**146**	P		**P**	**P**	**00 25 15.2**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=335,slow=7.8,SNR=8.0								
WB2	**Warramunga Arr**	**55.70**	**146**	P		**P**	**P**	**00 25 15.0**	**-0.4**
AS31	**Alice Springs**	**58.66**	**148**	P		**P**	**P**	**00 25 36.4**	**0.0**
AS31				IAmb		IAmb	IAmb	00 25 38.5	
	comp=Z,1.5nm,0.8s								
ASAR	**Alice Springs**	**58.66**	**148**	P		**P**	**P**	**00 25 36.2**	**-0.1**
	comp=Z,2.1nm,0.8s,baz=328,slow=6.9,SNR=17								
NOA	**NORSAR Array B**	**67.47**	**328**	P		**P**	**P**	**00 26 36.1**	**+1.6**
	comp=Z,0.7nm,0.8s,baz=71,slow=6.6,SNR=3.3								
GERES	**GERESS Array B**	**70.04**	**315**	P		**P**	**P**	**00 26 51.0**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=90,slow=6.2,SNR=4.1								
GERES	**GERESS Array B**	**70.04**	**315**	P		**P**	**P**	**00 26 50.4**	**-0.5**
BMAR	**Burnt Mountain**	**71.80**	**22**	P		**P**	**P**	**00 27 01.2**	**0.0**
YKA	**Yellowknife Ar**	**84.36**	**17**	P		**P**	**P**	**00 28 11.7**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=326,slow=5.3,SNR=2.8								

IDC 24 00:19:55.0±6.7, 29.°49S×177.°33W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.8/25, mbtmp4.0/2, Error ellipse: s-maj=466.9km s-min=76.5km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.75**	**266**	P		P	P	00 28 02.6	+0.2
	0.3nm,0.4s,baz=105,slow=7.3,SNR=5.4								
WRA	**Warramunga Arr**	**44.66**	**271**	P		P	P	00 28 09.2	-0.5
	1.6nm,0.4s,baz=112,slow=7.5,SNR=3.0								
FINES	**FINESS Array B**	**144.49**	**341**	PKP		PKPdf		00 39 32.1	-0.6
	0.7nm,0.4s,baz=39,slow=2.4,SNR=7.5								

IDC 24 00:20:19.6±11.0, 30.°03S×177.°00W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/25, mbtmp3.8/2, Error ellipse: s-maj=480.6km s-min=62.9km az=154.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.00**	**266**	P		P	P	00 28 28.9	-0.2
	0.6nm,0.6s,baz=105,slow=7.4,SNR=4.8								
WRA	**Warramunga Arr**	**44.95**	**271**	P		P	P	00 28 36.5	-0.2
	1.0nm,0.4s,baz=108,slow=8.1,SNR=1.7								
FINES	**FINESS Array B**	**145.09**	**341**	PKPbc		PKPbc	PKPbc	00 39 57.0	-0.8
	2.2nm,0.8s,baz=26,slow=3.4,SNR=3.9								

*AEIC **24** 00:24:53.0±0.7, 51.°9N±0.°1×178.°46E±0.°08, h112km±5km, ML3.1, mb3.5/2(NEIC), Error ellipse: s-maj=14.8km s-min=6.7km az=191.0*
NEIC 24 00:24:52.7±0.4, 51.°86N±0.°10×178.°48E±0.°08, h113km±5km, Error ellipse: s-maj=14.1km s-min=7.3km az=188.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.10**	**12**				Pn	00 25 08.4	+0.1
LSPA	**Little Sitkin**	**0.12**	**30**				Pn	00 25 08.3	+0.1
LSNW	**Little Sitkin**	**0.12**	**11**				Pn	00 25 08.2	-0.1
CESW	**Semis' Southwe**	**0.67**	**86**				Pn	00 25 11.1	+0.1
CESW							Sn	00 25 24.5	-0.4
AMKA	**Amchitka**	**0.70**	**133**				Pn	00 25 11.7	+0.4
AMKA							Sn	00 25 25.1	-0.2
CERAA	**Semis' Rag'd T**	**0.75**	**86**				Pn	00 25 11.9	+0.2
CERAA							Sn	00 25 25.9	-0.1
GALAA	**Gareloi Lava P**	**1.71**	**92**				Pn	00 25 22.4	+0.3
GAEA	**Gareloi East**	**1.72**	**91**				Pn	00 25 22.3	+0.1
TASE	**Tanaga Southea**	**2.16**	**89**				Pn	00 25 27.9	+0.1
TAFP	**Tanaga Falls P**	**2.19**	**87**				Pn	00 25 28.2	0.0
TAFP							Sn	00 25 55.5	+0.1
TAPA	**Tanaga Point A**	**2.30**	**90**				Pn	00 25 29.5	-0.1
KIMD	**Kanaga Island**	**2.66**	**90**				Pn	00 25 34.1	-0.1
KICM	**Kanaga Island**	**2.68**	**87**				Pn	00 25 34.6	+0.2
KIKV	**Kanaga Island**	**2.70**	**88**				Pn	00 25 34.5	-0.2
SMY	**Shemya**	**2.83**	**290**				Pn	00 25 35.5	-0.9
SMY							Sn	00 26 10.5	+0.5
ADK	**Adak**	**3.00**	**88**				Pn	00 25 38.5	-0.1
ADK	**Adak**	**3.00**	**88**				Pn	00 25 38.5	-0.1
ADAG	**Mount Adagdak**	**3.05**	**86**				Pn	00 25 39.0	-0.3
GSTD	**Great Sitkin T**	**3.33**	**84**				Pn	00 25 42.3	-0.9
GSTR	**Great Sitkin T**	**3.38**	**84**				Pn	00 25 43.8	0.0
GSMY	**Great Sitkin M**	**3.39**	**85**				Pn	00 25 43.4	-0.4
ATKA	**Atka Island**	**4.54**	**83**				Pn	00 25 58.9	-0.2
NIKH	**Nikolski High**	**7.83**	**77**	Pn		Pn	Pn	00 26 44.7	+1.1
CNPM	**China Poot**	**18.58**	**54**	P		P	P	00 29 00.2	-0.4
DHY	**Denali Highway**	**21.23**	**45**	P		P	P	00 29 29.1	-0.3
DHY				IAmb		IAmb	IAmb	00 29 36.5	
	comp=Z,1.7nm,0.8s								

IDC 24 00:27:54.0±6.7, 28.°48S×177.°57W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/26, mbtmp3.6/2, Error ellipse: s-maj=380.3km s-min=94.8km az=164.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.62**	**265**	P		P	P	00 36 00.4	0.0
	0.1nm,0.3s,baz=110,slow=8.1,SNR=1.5								
WRA	**Warramunga Arr**	**44.44**	**270**	P		P	P	00 36 06.8	-0.2
	1.4nm,0.6s,baz=111,slow=8.0,SNR=4.0								
FINES	**FINESS Array B**	**143.46**	**341**	PKP		PKPdf		00 47 29.2	-0.6
	1.2nm,0.7s,baz=36,slow=3.5,SNR=6.4								

IDC 24 00:30:00.2±6.5, 28.°25S×177.°64W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/26, mbtmp3.5/2, Error ellipse: s-maj=310.6km s-min=101.1km az=163.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.58**	**265**	P		P	P	00 38 05.8	-0.6
	0.4nm,0.6s,baz=102,slow=7.7,SNR=2.2								
WRA	**Warramunga Arr**	**44.38**	**270**	P		P	P	00 38 13.0	+0.3
	0.5nm,0.6s,baz=110,slow=7.7,SNR=1.6								
FINES	**FINESS Array B**	**143.23**	**341**	PKP		PKPdf		00 49 35.2	-0.5
	1.4nm,0.8s,baz=51,slow=2.7,SNR=3.6								

*AEIC **24** 00:32:43.0±0.9, 51.°85N±0.°09×178.°36E±0.°07, h123km±4km, Error ellipse: s-maj=13.3km s-min=5.3km az=165.0*
*NEIC **24** 00:32:43.0±0.7, 51.°8N±0.°2×178.°4E±0.°1, h121km±6km, mb4.0/8, Error ellipse: s-maj=26.2km s-min=6.8km az=193.0*
*IDC **24** 00:32:49.4±5.8, 52.°37N×178.°12E, h148km±50km, mb3.2/6, mb1 3.3/7, mb1mx3.1/55, mbtmp3.7/7, Error ellipse: s-maj=70.6km s-min=21.5km az=180.0*
**ISC 24 00:32:43.7±0.8, 51.°9N±0.

SPIA	**Saint Paul Isl**	**8.58**	**46**	Pn	Pn	00 37 46.4	+1.1
RSO	**Redoubt South**	**18.19**	**50**	P	P	00 39 47.7	+0.7
CNPM	**China Poot**	**18.71**	**54**	P	P	00 39 51.5	-1.1
CNPM				IAmb	IAmb	00 39 54.5	
	comp=Z,7.8nm,0.8s						
SCM	**Sheep Creek Mo**	**21.08**	**48**	P	P	00 40 19.1	+1.0
SCM				IAmb	IAmb	00 40 22.4	
	comp=Z,3.3nm,1.1s						
DHY	**Denali Highway**	**21.37**	**45**	P	P	00 40 22.5	+1.2
DHY				IAmb	IAmb	00 40 24.2	
	comp=Z,1.3nm,0.7s						

IDC ***24*** *00:36:35.6±0.6,29.91S×177.00W,h0km,mb4.4/14, mb1 4.5/15,mb1mx4.3/37,mbtmp4.4/15,ML4.4/1,Error ellipse: s-maj=20.9km s-min=17.3km az=22.0*
NEIC ***24*** *00:36:37.8±1.6,29.91S±0.08×177.16W±0.09,h10km±1km, mb4.6/27,Error ellipse: s-maj=17.3km s-min=7.1km az=45.0*

ISC 24 00:36:37.3±0.5,**30.02S**±0.05×**177.16W**±0.08,**h10**km, **n105,**σ1°**35**/109,**mb4.6**/24,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.00**	**318**	P	**Pn**	**00 36 57.1**	**-0.3**
GLKZ				S	**Sn**	**00 37 12.7**	**+1.1**
RAO	**Raoul Island**	**1.01**	**319**	Pn	**Pn**	**00 36 57.6**	**+0.1**
	2μm,0.3s,baz=113,slow=3.5,SNR=37						
RAO				Sn	**Sn**	**00 37 13.3**	**+1.6**
	7μm,0.3s,baz=76,slow=22,SNR=19						
RAO				LR	LR	00 37 31.6	
	comp=Z,7μm,19.0s,baz=62,slow=54						
RAO	**Raoul Island**	**1.01**	**319**	Pg	**Pg**	**00 36 55.3**	**-1.4**
RAO					**Sb**	**00 37 09.0**	**-1.2**
RIZ	**Raoul Island**	**1.02**	**319**	P	**Pn**	**00 36 58.1**	**+0.5**
RIZ				S	**Sn**	**00 37 12.9**	**+0.8**
MXZ	**Matakaoa Point**	**8.42**	**205**	P	**Pn**	**00 38 36.9**	**-2.4**
MXZ				S	**Sn**	**00 40 15.4**	**+1.1**
WMGZ	**Waiomatatini S**	**8.61**	**204**	P	**Pn**	**00 38 40.7**	**-1.2**
WMGZ				S	**Sn**	**00 40 19.6**	**+0.6**
HAZ	**Te Kaha**	**8.79**	**207**	P	Pn	00 38 41.2	-3.2
HAZ				S	**Sn**	**00 40 23.5**	**0.0**
PKGZ	**Pakihiroa**	**8.79**	**205**	P	**Pn**	**00 38 41.7**	**-2.8**
PKGZ				S	**Sn**	**00 40 21.5**	**-2.2**
PUZ	**Puketiti**	**8.89**	**204**	S	**Sn**	**00 40 22.2**	**-3.8**
RUGZ	**Raukumara Rang**	**9.01**	**207**	P	**Pn**	**00 38 46.3**	**-1.2**
RUGZ				S	**Sn**	**00 40 26.9**	**-2.2**
WCZ	**Waipu Caves**	**9.26**	**228**	P	Pn	00 38 59.5	+8.7
TKGZ	**Te Karaka**	**9.36**	**205**	P	Pn	00 38 59.4	+7.2
OUZ	**Omahuta**	**9.36**	**234**	P	Pn	00 39 02.0	+10
MWZ	**Matawai**	**9.39**	**207**	P	**Pn**	**00 38 50.8**	**-1.9**
MWZ				S	**Sn**	**00 40 35.6**	**-2.7**
URZ	**Urewera**	**9.49**	**208**	P	**Pn**	**00 38 53.1**	**-0.9**
URZ				S	**Sn**	**00 40 38.8**	**-2.0**
MUGZ	**Murupara**	**9.82**	**209**	P	**Pn**	**00 38 57.8**	**-0.7**
MUGZ				S	**Sn**	**00 40 45.6**	**-3.2**
SNGZ	**Shannon Statio**	**9.85**	**206**	P	**Pn**	**00 38 58.4**	**-0.6**
SNGZ				S	**Sn**	**00 40 46.6**	**-3.0**
RAHZ	**Arahi**	**10.06**	**207**	S	**Sn**	**00 40 52.1**	**-2.8**
MTHZ	**Maungataniwha**	**10.11**	**208**	P	**Pn**	**00 39 00.7**	**-1.8**
MTHZ				S	**Sn**	**00 40 53.5**	**-2.4**
BKZ	**Black Stump Fm**	**10.52**	**208**	Pn	**Pn**	**00 39 08.8**	**+0.6**
MSVF	**Nonsavu**	**12.99**	**339**	Pn	**Pn**	**00 39 39.1**	**-3.0**
RPZ	**Rata Peaks**	**16.58**	**211**	Pn	**Pn**	**00 40 31.5**	**+1.6**
	1.4nm,0.3s,baz=70,slow=23,SNR=1.9						
RPZ	**Rata Peaks**	**16.58**	**211**		**Pn**	**00 40 31.2**	**+1.3**
DZM	**Mont Dzumac**	**16.71**	**294**	Pn	**P**	**00 40 38.2**	**+4.1**
	0.7nm,0.3s,baz=94,slow=12,SNR=19						
ARMA	**Armidale**	**26.93**	**261**	P	**P**	**00 42 19.9**	**+0.8**
ARMA				IAmb	IAmb	00 42 24.9	
	comp=Z,15nm,1.1s						
EIDS	**Eidsvold**	**28.45**	**272**	P	**P**	**00 42 33.4**	**+1.0**
CTA	**Charters Tower**	**34.46**	**278**	P	**P**	**00 43 26.9**	**+1.4**
	comp=Z,5.3nm,0.7s,baz=104,slow=14,SNR=2.8						
CTAO	**Charters Tower**	**34.46**	**278**	P	**P**	**00 43 25.6**	**+0.1**
CTAO				IAmb	IAmb	00 43 43.3	
	comp=Z,7.9nm,0.9s						
STKA	**Stephens Creek**	**35.27**	**256**	P	**P**	**00 43 34.0**	**+1.6**
	comp=Z,3.8nm,0.7s,baz=109,slow=9.6,SNR=6.5						
STKA	**Stephens Creek**	**35.27**	**256**	P	**P**	**00 43 33.0**	**+0.7**
BBOO	**Buckleboo**	**39.77**	**254**	P	**P**	**00 44 10.3**	**-0.1**
AS31	**Alice Springs**	**43.86**	**266**	P	**P**	**00 44 44.5**	**+0.5**
ASAR	**Alice Springs**	**43.86**	**266**	P	**P**	**00 44 44.3**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=104,slow=7.3,SNR=18						
ASAR	**Alice Springs**	**43.86**	**266**	P	**P**	**00 44 44.6**	**+0.6**
WB2	**Warramunga Arr**	**44.80**	**271**	P	**P**	**00 44 51.5**	**-0.1**
WB2				IAmb	IAmb	00 44 54.0	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**44.81**	**271**	P	**P**	**00 44 51.4**	**-0.3**
	comp=Z,3.9nm,0.6s,baz=111,slow=7.9,SNR=14						
WRA	**Warramunga Arr**	**44.81**	**271**	P	**P**	**00 44 51.6**	**0.0**
WB0	**Warramunga Arr**	**44.84**	**272**	P	**P**	**00 44 51.8**	**-0.1**
WB0				IAmb	IAmb	00 44 53.3	
	comp=Z,7.3nm,0.7s						
VNDA	**Vanda**	**48.55**	**186**	P	**P**	**00 45 22.3**	**+2.2**
KNRA	**Kununurra**	**51.41**	**274**	P	**P**	**00 45 43.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**53.09**	**269**	P	**P**	**00 45 55.5**	**+0.3**
FITZ				IAmb	IAmb	00 45 55.6	
	comp=Z,10nm,1.2s						
CASY	**Casey**	**55.82**	**208**	P	**P**	**00 46 14.5**	**+0.2**
CASY				IAmb	IAmb	00 46 21.3	
	comp=Z,5.3nm,0.8s						
QSPA	**South Pole Qui**	**60.09**	**180**	P	**P**	**00 46 46.0**	**+1.4**
	comp=Z,2.2nm,0.9s,baz=16,slow=0.0,SNR=8.1						
QSPA	**South Pole Qui**	**60.09**	**180**	P	**P**	**00 46 45.9**	**+1.4**
QSPA				IAmb	IAmb	00 46 59.6	
	comp=Z,3.1nm,0.6s						
CISI	**Cisompet, Garu**	**73.31**	**271**	P	**P**	**00 48 10.4**	**+0.8**
MJAR	**Matsushiro Arr**	**78.35**	**325**	P	**P**	**00 48 36.4**	**-1.3**
	comp=Z,3.5nm,0.8s,baz=163,slow=4.7,SNR=6.9						
MJAR	**Matsushiro Arr**	**78.35**	**325**	P	**P**	**00 48 38.4**	**+0.6**
MAJO	**Matsushiro**	**78.35**	**325**	P	**P**	**00 48 37.3**	**-0.5**
MAJO				IAmb	IAmb	00 48 38.2	
	comp=Z,3.8nm,0.7s						
SNAA	**Sanae**	**78.52**	**178**	P	**P**	**00 48 40.2**	**+1.9**
JKA	**Kamikawa-asahi**	**82.44**	**332**	P	**P**	**00 49 00.4**	**+0.9**
JKA				IAmb	IAmb	00 49 13.3	
	comp=Z,6.5nm,0.7s						
ASAJ	**Asahikawa**	**82.44**	**332**	P	**P**	**00 49 00.1**	**+0.5**
	comp=Z,3.7nm,0.3s,baz=253,slow=10.0,SNR=3.8						
KSRS	**Korea Array**	**84.53**	**319**	P	**P**	**00 49 11.2**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=189,slow=16,SNR=3.0						
KSAR	**Wonju Array Be**	**84.55**	**319**	P	**P**	**00 49 10.7**	**+0.1**
YSS	**Yuzh-Sakhalins**	**84.72**	**334**	P	**P**	**00 49 11.8**	**+0.6**
PETK	**Petropavlovsk-**	**85.63**	**345**	P	**P**	**00 49 14.6**	**-1.0**
	comp=Z,2.3nm,0.6s,baz=126,slow=7.7,SNR=5.5						
PETK	**Petropavlovsk-**	**85.63**	**345**	P	**P**	**00 49 15.6**	**0.0**
USA0B	**Ussuriysk Arra**	**87.25**	**326**	P	**P**	**00 49 23.8**	**0.0**
USRK	**Ussuriysk Ar.**	**87.25**	**326**	P	**P**	**00 49 23.8**	**+0.1**
	comp=Z,5.6nm,0.8s,baz=141,slow=3.4,SNR=12						
USRK	**Ussuriysk Ar.**	**87.25**	**326**	P	**P**	**00 49 24.0**	**+0.2**
NVAR	**Mina Array Bea**	**87.47**	**42**	P	**P**	**00 49 25.0**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=224,slow=8.7,SNR=11						
NVAR	**Mina Array Bea**	**87.47**	**42**		**P**	**00 49 24.8**	**-0.5**
KVN	**Kaiserville**	**88.00**	**42**	P	**P**	**00 49 27.3**	**-0.5**
KVN				IAmb	IAmb	00 49 28.4	
	comp=Z,2.0nm,0.8s						
MDJ	**Mudanjiang**	**88.73**	**325**	P	**P**	**00 49 31.7**	**+0.8**
U15A	**North Rim**	**89.84**	**47**		**P**	**00 49 36.9**	**+0.3**
U15A				IAmb	IAmb	00 49 38.4	
	comp=Z,3.7nm,0.8s						
WUAZ	**Wupatki**	**89.87**	**48**		**P**	**00 49 36.8**	**+0.1**
WUAZ				IAmb	IAmb	00 49 37.8	
	comp=Z,5.2nm,1.1s						
KNB	**Kanab**	**89.87**	**46**	P	**P**	**00 49 37.0**	**+0.4**
KLR	**Kul'dur**	**91.08**	**329**	P	**P**	**00 49 42.2**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=115,slow=3.7,SNR=11						
TXAR	**Lajitas Array**	**91.57**	**57**	P	**P**	**00 49 43.1**	**-1.5**
	comp=Z,0.7nm,0.9s,baz=235,slow=4.4,SNR=5.3						
TXAR	**Lajitas Array**	**91.57**	**57**	P	**P**	**00 49 44.2**	**-0.4**
PDAR	**Pinedale Array**	**95.36**	**43**	P	**P**	**00 50 00.8**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=256,slow=3.1,SNR=3.8						
MKAR	**Makanchi Array**	**118.08**	**310**	PKP	**PKPdf**	**00 55 22.8**	**-1.5**
	comp=Z,0.2nm,0.5s,baz=0.0,slow=0.4,SNR=2.4						
KURBB	**Kurchatov Arra**	**121.35**	**314**	PKP	**PKPdf**	**00 55 28.5**	**-1.8**
	comp=Z,0.6nm,0.6s,baz=112,slow=2.0,SNR=6.3						
KKAR	**Karatay Array**	**125.47**	**304**		**PKPdf**	**00 55 37.8**	**-0.8**
BVAR	**Borovoye Array**	**126.64**	**316**	PKP	**PKPdf**	**00 55 39.7**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=62,slow=3.5,SNR=6.3						
FIA1	**FINESS Array S**	**145.03**	**341**		**PKPab**	**00 56 12.8**	**-0.8**
FINES	**FINESS Array B**	**145.03**	**341**	PKP	**PKPab**	**00 56 12.2**	**-1.4**
	comp=Z,15nm,0.7s,baz=52,slow=2.9,SNR=43						
FINES	**FINESS Array B**	**145.03**	**341**		**PKPab**	**00 56 12.4**	**-1.2**

AKH	**Akhalkalaki**	**145.38**	**300**		**PKPbc**	**00 56 15.5**	**0.0**
KBZ	**Khabaz**	**145.50**	**305**	PKPbc	**PKPab**	**00 56 16.6**	**+0.7**
	comp=Z,3.4nm,0.9s,baz=280,slow=1.1,SNR=7.0						
NB2	**NORSAR Subarra**	**148.48**	**352**	PKP	**PKPdf**	**00 56 21.8**	**+1.8**
	comp=Z,1.6nm,0.8s,baz=12,slow=2.7						
NOA	**NORSAR Array B**	**148.48**	**352**	PKPbc	**PKPbc**	**00 56 22.1**	**-1.5**
	comp=Z,3.2nm,0.9s,baz=17,slow=4.2,SNR=8.3						
AKASG	**Malin Array Be**	**151.43**	**324**	PKPbc	**PKPbc**	**00 56 30.2**	**-0.9**
	comp=Z,4.6nm,0.7s,baz=48,slow=2.8,SNR=11						
AKASG				PKPab	**pPKPab**	**00 56 40.9**	**-0.2**
	comp=Z,8.5nm,0.6s,baz=46,slow=3.1,SNR=18						
AKASG	**Malin Array Be**	**151.43**	**324**		**PKPbc**	**00 56 29.9**	**-1.1**
AKASG					**PKPab**	**00 56 39.9**	**+0.6**
BRTR	**Keskin Array B**	**153.05**	**299**	PKPbc	**PKPbc**	**00 56 35.6**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=142,slow=41,SNR=1.8						
DPC	**Dobruska-Polom**	**157.30**	**337**	*e*PKPAB	PKPab	00 57 13.4	+9.1
MORC	**Moravsky Berou**	**157.35**	**335**	*e*PKP	**PKPab**	**00 57 04.6**	**+0.1**
CLL	**Collm**	**157.42**	**343**	*e*PKPab	**PKPab**	**00 57 05.0**	**+0.3**
CLL				*e*		00 57 15.0	
JAVC	**Velka Javorina**	**158.04**	**333**	*e*PKP	**PKPab**	**00 57 08.4**	**+0.8**
VRAC	**Vranov**	**158.08**	**335**	*e*PKP	**PKPab**	**00 57 07.4**	**-0.3**
KRUC	**Moravsky**	**158.36**	**335**	*e*PKP	**PKPab**	**00 57 09.0**	**+0.1**
KHC	**Kasperske Hory**	**159.23**	**340**	*e*PKPAB	**PKPab**	**00 57 14.9**	**+2.2**
KHC				*ex*	x	00 57 22.0	
VTS	**Vitosha**	**159.37**	**313**		**PKPab**	**00 57 13.8**	**0.0**
GERES	**GERESS Array B**	**159.45**	**339**	PKPab	**PKPab**	**00 57 13.9**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=6.7,slow=24,SNR=5.2						
CONA	**Conrad Observa**	**159.50**	**334**	*i* PKPab	**PKPab**	**00 57 14.4**	**+0.4**
	comp=Z,3.6nm,1.2s						
MOA	**Molln**	**160.14**	**337**	*i* PKPab	**PKPab**	**00 57 16.9**	**+0.2**
	comp=Z,6.2nm,1.4s						
SOKA	**Soboth**	**160.85**	**334**	*i* PKPab	**PKPab**	**00 57 19.7**	**-0.2**
	comp=Z,3.6nm,1.1s						
OBKA	**Obir**	**161.18**	**334**	*i* PKPab	**PKPab**	**00 57 21.3**	**0.0**
	comp=Z,8.3nm,1.6s						
WATA	**Walderalm**	**161.43**	**341**	*e*pPKPdf	PKPab	00 57 34.4	+12
	comp=Z,2.4nm,0.7s						
WTTA	**Wattenberg**	**161.48**	**341**	*i* pPKPdf	PKPab	00 57 31.9	+9.2
	comp=Z,4.6nm,0.9s						
RETA	**Reutte**	**161.51**	**343**	*i* pPKPdf	PKPab	00 57 34.8	+12
	comp=Z,3.6nm,1.1s						
MOTA	**Moosalm**	**161.56**	**342**	*i* pPKPdf	PKPab	00 57 34.4	+11
	comp=Z,7.5nm,1.3s						
SQTA	**Sankt Quirin**	**161.64**	**342**	*i* pPKPdf	PKPab	00 57 32.7	+9.3
	comp=Z,4.4nm,1.0s						
ABTA	**Abfaltersbach**	**161.68**	**338**	*i* pPKPdf	PKPab	00 57 33.7	+10
	comp=Z,7.5nm,1.3s						
DAVA	**Damuels**	**161.92**	**344**	*i* pPKPdf	PKPab	00 57 35.6	+11
	comp=Z,5.1nm,1.3s						
FETA	**Feichten**	**161.95**	**342**	*i* PKPab	**PKPab**	**00 57 23.5**	**-1.3**
	comp=Z,4.6nm,1.3s						

IDC ***24*** *00:38:57.8±0.6,30.05S×177.38W,h0km,mb4.4/15, mb1 4.6/16,mb1mx4.4/43,mbtmp4.4/16,ML4.3/1,Error ellipse: s-maj=20.3km s-min=16.3km az=82.0*
NEIC ***24*** *00:39:02.4±1.5,30.00S±0.07×177.4W±0.1,h29km±4km, mb4.8/32,Error ellipse: s-maj=18.9km s-min=9.2km az=72.0*

ISC 24 00:39:03.0±0.5,**30.03S**±0.07×**177.4W**±0.1,**h35**km,**n92,** σ1°**03**/90,**mb4.8**/30,**1C,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.89**	**331**	Pn	**Pn**	**00 39 17.9**	**-1.1**
	1μm,0.3s,baz=93,slow=9.5,SNR=11						
RAO				Sn	**Sn**	**00 39 29.9**	**-0.7**
	6μm,0.3s,baz=97,slow=21,SNR=12						
RAO	**Raoul Island**	**0.89**	**331**	Pn	**Pn**	**00 39 17.8**	**-1.3**
RAO				Sn	**Sn**	**00 39 28.3**	**-2.3**
OXZ	**Oxford**	**15.71**	**210**		**Pn**	**00 42 38.5**	**-3.1**
OXZ				IAmb	IAmb	00 42 47.3	
	comp=Z,30nm,0.4s						
RPZ	**Rata Peaks**	**16.45**	**211**	Pn	**Pn**	**00 42 49.7**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=60,slow=21,SNR=3.1						
RPZ	**Rata Peaks**	**16.45**	**211**		**Pn**	**00 42 49.2**	**-1.9**
DZM	**Mont Dzumac**	**16.51**	**295**	Pn	**P**	**00 42 55.9**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=103,slow=20,SNR=4.2						
ARMA	**Armidale**	**26.71**	**261**	P	**P**	**00 44 39.9**	**+0.7**
EIDS	**Eidsvold**	**28.22**	**272**	P	**P**	**00 44 54.8**	**+2.1**
EIDS				IAmb	IAmb	00 45 06.0	
	comp=Z,13nm,0.9s						
CAN	**Canberra**	**28.67**	**251**	P	**P**	**00 44 57.5**	**+0.9**
CAN				IAmb	IAmb	00 45 10.3	
	comp=Z,45nm,1.2s						
TOO	**Toolangi**	**31.57**	**246**	P	**P**	**00 45 23.3**	**+1.1**
CTA	**Charters Tower**	**34.24**	**278**	P	**P**	**00 45 47.5**	**+1.8**
	comp=Z,8.6nm,0.5s,baz=105,slow=11,SNR=9.8						
CTAO	**Charters Tower**	**34.24**	**278**	P	**P**	**00 45 46.0**	**+0.3**
STKA	**Stephens Creek**	**35.05**	**256**	P	**P**	**00 45 54.2**	**+1.6**
	comp=Z,12nm,0.8s,baz=106,slow=12,SNR=9.0						
STKA	**Stephens Creek**	**35.05**	**256**	P	**P**	**00 45 53.1**	**+0.5**
BBOO	**Buckleboo**	**39.55**	**254**	P	**P**	**00 46 30.7**	**-0.1**
BBOO				IAmb	IAmb	00 46 46.9	
	comp=Z,42nm,1.3s						
AS31	**Alice Springs**	**43.63**	**266**	P	**P**	**00 47 04.8**	**+0.5**
ASAR	**Alice Springs**	**43.63**	**266**	P	**P**	**00 47 03.6**	**-0.7**
	comp=Z,3.9nm,0.7s,baz=102,slow=7.4,SNR=13						
ASAR	**Alice Springs**	**43.63**	**266**	P	**P**	**00 47 04.4**	**+0.1**
WR0	**Warramunga Arr**	**44.40**	**272**		**P**	**00 47 10.8**	**+0.3**
WR0				IAmb	IAmb	00 47 23.1	
	comp=Z,16nm,0.8s						
WB2	**Warramunga Arr**	**44.58**	**271**		**P**	**00 47 12.1**	**+0.2**
WRA	**Warramunga Arr**	**44.59**	**271**	P	**P**	**00 47 10.7**	**-1.3**
	comp=Z,7.1nm,0.3s,baz=110,slow=8.1,SNR=23						
WB0	**Warramunga Arr**	**44.61**	**272**	P	**P**	**00 47 12.2**	**0.0**
VNDA	**Vanda**	**48.51**	**186**	P	**P**	**00 47 41.8**	**-0.2**
	comp=Z,1.5nm,1.0s,baz=350,slow=11,SNR=3.8						
VNDA	**Vanda**	**48.51**	**186**	P	**P**	**00 47 42.5**	**+0.6**
KNRA	**Kununurra**	**51.18**	**274**	P	**P**	**00 48 03.9**	**+0.8**
KNRA				IAmb	IAmb	00 48 21.3	
	comp=Z,19nm,1.2s						
FITZ	**Fitzroy Crossi**	**52.86**	**269**	P	**P**	**00 48 16.2**	**+0.6**
	comp=Z,4.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.86**	**269**	P	**P**	**00 48 15.2**	**-0.4**
FITZ				IAmb	IAmb	00 48 29.0	
	comp=Z,7.8nm,0.9s						
CASY	**Casey**	**55.70**	**208**		**P**	**00 48 35.2**	**-0.3**
CASY				IAmb	IAmb	00 48 52.3	
	comp=Z,8.8nm,0.8s						
MORW	**Morawa**	**57.12**	**253**	P	**P**	**00 48 46.1**	**-0.1**
MORW				IAmb	IAmb	00 49 00.2	
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**60.08**	**180**	P	**P**	**00 49 06.9**	**+0.5**
	comp=Z,12nm,0.9s,baz=37,slow=3.7,SNR=14						
QSPA	**South Pole Qui**	**60.08**	**180**	P	**P**	**00 49 06.9**	**+0.5**
MAW	**Mawson**	**72.83**	**200**	P	**P**	**00 50 27.2**	**-0.4**
	comp=Z,3.2nm,0.8s,baz=113,slow=9.1,SNR=3.6						
MAW	**Mawson**	**72.83**	**200**	P	**P**	**00 50 28.0**	**+0.4**
KSM	**Kuching**	**75.45**	**280**	P	**P**	**00 50 44.1**	**+0.2**
SYO	**Syowa Base**	**77.58**	**193**	*ie*pP	pP	00 51 03.0	-1.6
MJAR	**Matsushiro Arr**	**78.23**	**325**	P	**P**	**00 50 59.2**	**+0.2**
	comp=Z,0.9nm,0.4s,baz=159,slow=5.3,SNR=4.0						
MJAR	**Matsushiro Arr**	**78.23**	**325**	P	**P**	**00 50 58.6**	**-0.4**
MAJO	**Matsushiro**	**78.23**	**325**	P	**P**	**00 50 59.1**	**+0.1**
MAJO				IAmb	IAmb	00 51 18.1	
	comp=Z,5.4nm,0.4s						
SNAA	**Sanae**	**78.51**	**178**	P	**P**	**00 50 59.4**	**-0.8**
SNAA	**Sanae**	**78.51**	**178**	P	**P**	**00 50 59.7**	**-0.5**
VNA3	**Neumayer Olymp**	**78.64**	**176**	P	**P**	**00 50 60.0**	**-0.9**
VNA2	**Neumayer--Watz**	**79.08**	**177**	P	**P**	**00 51 03.0**	**-0.3**
VNA1	**Neumayer--Stat**	**79.31**	**176**	P	**P**	**00 51 04.4**	**-0.1**
H03S2	**Juan Fernandez**	**80.25**	**123**	T	T	02 20 39.2	
	baz=239,slow=74,SNR=5.2						
H03S1	**Juan Fernandez**	**80.26**	**123**	T	T	02 20 42.0	
	baz=239,slow=74,SNR=5.6						
H03S3	**Juan Fernandez**	**80.27**	**123**	T	T	02 20 39.6	
	baz=239,slow=74,SNR=5.7						
KSRS	**Korea Array**	**84.39**	**319**	P	**P**	**00 51 31.9**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=131,slow=5.2,SNR=2.3						
KSAR	**Wonju Array Be**	**84.41**	**319**	P	**P**	**00 51 32.1**	**+0.4**
PEA0B	**Petropavlovsk-**	**85.58**	**345**	P	**P**	**00 51 37.9**	**+0.7**
PETK	**Petropavlovsk-**	**85.58**	**345**	P	**P**	**00 51 37.3**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=120,slow=5.3,SNR=4.2						
PETK	**Petropavlovsk-**	**85.58**	**345**	P	**P**	**00 51 37.8**	**+0.6**
ISA	**Isabella, Lake**	**85.69**	**44**	P	**P**	**00 51 39.0**	**+0.7**
ISA				IAmb	IAmb	00 51 40.3	
	comp=Z,12nm,1.4s						
CMB	**Columbia Colle**	**86.15**	**42**	P	**P**	**00 51 40.8**	**+0.3**
CMB				IAmb	IAmb	00 51 55.7	
	comp=Z,8.0nm,1.3s						
GLA	**Glamis**	**86.28**	**48**	P	**P**	**00 51 41.9**	**+0.6**
GLA				IAmb	IAmb	00 51 58.9	
	comp=Z,6.9nm,1.1s						
GSC	**Goldstone, Bar**	**86.47**	**46**	P	**P**	**00 51 42.9**	**+0.7**
GSC				IAmb	IAmb	00 51 44.1	
	comp=Z,13nm,1.4s						
USRK	**Ussuriysk Ar.**	**87.13**	**326**	P	**P**	**00 51 46.9**	**+1.9**
	comp=Z,4.5nm,0.9s,baz=83,slow=2.4,SNR=5.6						
NVAR	**Mina Array Bea**	**87.63**	**42**	P	**P**	**00 51 48.7**	**+0.8**
	comp=Z,2.5nm,1.0s,baz=220,slow=8.2,SNR=7.3						
NVAR	**Mina Array Bea**	**87.63**	**42**	P	**P**	**00 51 47.9**	**-0.1**
TPNV	**Topopah Spring**	**87.88**	**45**	P	**P**	**00 51 49.4**	**+0.3**
TPNV				IAmb	IAmb	00 51 51.0	
	comp=Z,4.0nm,0.9s						
TUC	**Tucson**	**88.49**	**51**	P	**P**	**00 51 52.2**	**+0.2**
TUC				IAmb	IAmb	00 52 08.8	
	comp=Z,5.5nm,1.2s						
U15A	**North Rim**	**90.02**	**47**	P	**P**	**00 52 00.3**	**+1.0**
U15A				IAmb	IAmb	00 52 19.1	
	comp=Z,6.8nm,1.1s						
KLR	**Kul'dur**	**90.97**	**329**	P	**P**	**00 52 03.0**	**0.0**
	comp=Z,0.9nm,0.6s,baz=125,slow=14,SNR=2.7						
TXAR	**Lajitas Array**	**91.77**	**57**	P	**P**	**00 52 08.2**	**+0.8**
	comp=Z,0.5nm,1.0s,baz=204,slow=2.7,SNR=3.5						
TXAR	**Lajitas Array**	**91.77**	**57**	P	**P**	**00 52 07.8**	**+0.4**
MKAR	**Makanchi Array**	**117.92**	**310**	PKP	**PKiKP**	**00 57 46.1**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=121,slow=1.2,SNR=2.7						
MKAR	**Makanchi Array**	**117.92**	**310**		**PKPdf**	**00 57 44.5**	**-1.1**
KURK	**Kurchatov**	**121.15**	**314**		**PKiKP**	**00 57 52.7**	**+0.9**
KURBB	**Kurchatov Arra**	**121.19**	**314**	PKP	**PKiKP**	**00 57 52.4**	**+0.5**
	comp=Z,0.3nm,0.2s,baz=106,slow=1.9,SNR=2.6						
KKAR	**Karatay Array**	**125.28**	**304**		**PKPdf**	**00 57 59.3**	**-0.6**
BVAR	**Borovoye Array**	**126.49**	**316**	PKP	**PKiKP**	**00 58 03.6**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=90,slow=3.0,SNR=6.8						
ARU	**Arti**	**133.12**	**321**	PKP	**PKPdf**	**00 58 14.0**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=214,slow=18,SNR=2.0						
GEYT	**Alibeck**	**133.85**	**295**	PKP	**PKiKP**	**00 58 17.4**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=62,slow=10.0,SNR=2.0						
ARCES	**ARCESS Array B**	**138.33**	**348**	PKP	**PKPdf**	**00 58 24.7**	**+1.0**
	comp=Z,2.5nm,1.0s,baz=259,slow=1.2,SNR=4.1						
FIA1	**FINESS Array S**	**144.97**	**341**		**PKPab**	**00 58 34.6**	**-0.5**
FINES	**FINESS Array B**	**144.97**	**341**	PKPbc	**PKPab**	**00 58 34.3**	**-0.7**
	comp=Z,11nm,0.7s,baz=49,slow=2.7,SNR=17			

AKASG **Malin Array Be** 151.40 324 PKPbc **PKPbc** 01 01 49.8 -0.6
comp=Z,0.5nm,0.2s,baz=46,slow=2.7,SNR=1.9
AKASG **Malin Array Be** 151.40 324 **PKPbc** 01 01 49.4 -1.0
TORD **Torodi Ar. Bea** 163.14 177 PKPab **PKPab** 01 02 52.6 +2.5
comp=Z,1.0nm,1.1s,baz=186,slow=3.3,SNR=2.3

BJI ***24*** *00:46:02.0±0.0,30°.30S×177°.30W,h5km,mB5.4/1, mb5.2/17,Ms5.3/4,Ms7 5.0/4*
IDC ***24*** *00:46:03.3±0.5,30°.05S×177°.31W,h0km,mb4.9/18, mb1 5.1/19,mb1mx4.9/44,mbtmp4.9/19,ML5.2/1,MS5.2/3, Ms1 5.2/3,ms1mx4.4/39,Error ellipse: s-maj=16.4km s-min=14.0km az=58.0*
NEIC ***24*** *00:46:04.8±1.2,30°.15S±0°.04×177°.46W±0°.06,h10km±1km, mb5.3/99,Error ellipse: s-maj=8.3km s-min=4.6km az=207.0*
MOS ***24*** *00:46:04.9±0.7,30°.12S×177°.44W,h18km,mb5.5/28, Error ellipse: s-maj=11.2km s-min=9.4km az=89.4*
UNK ***24*** *00:46:09.1,30°.09S×177°.42W,h35km*
ISC 24 00:46:04.5±0.7,30°20S±0°.04×177°38W±0°.06,h10km±4km, h10km:pP-P,n406,σ1s77/414,mb5.3/85,5C-9D,
Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GLKZ	**Green Lake**	**1.04**	**333**	P		**Pg**	**00 46 23.5**	**-1.1**
GLKZ				S		**Sg**	**00 46 36.4**	**-1.7**
RAO	**Raoul Island**	**1.05**	**334**	Pn		**Pg**	**00 46 23.6**	**-1.1**
	4μm,0.3s,baz=96,slow=5.3,SNR=58							
RAO				Sn		**Sg**	**00 46 36.3**	**-2.1**
	24μm,0.3s,baz=98,slow=22,SNR=20							
RAO	**Raoul Island**	**1.05**	**334**	P		**Pg**	**00 46 23.5**	**-1.2**
RAO							00 46 36.5	
RAO	**Raoul Island**	**1.05**	**334**	Pg		**Pg**	**00 46 23.4**	**-1.2**
RAO				Sg		**Sg**	**00 46 36.5**	**-1.9**
RIZ	**Raoul Island**	**1.06**	**333**	P		**Pg**	**00 46 23.3**	**-1.6**
RIZ				S		**Sg**	**00 46 36.7**	**-2.0**
MXZ	**Matakaoa Point**	**8.17**	**205**	P		**Pn**	**00 48 01.3**	**-1.9**
MXZ				S		**Sn**	**00 49 31.9**	**-3.7**
MXZ	**Matakaoa Point**	**8.17**	**205**	Pn		**Pn**	**00 48 02.9**	**-0.3**
WMGZ	**Waiomatatini S**	**8.36**	**204**	P		**Pn**	**00 48 02.4**	**-3.4**
HAZ	**Te Kaha**	**8.54**	**207**	P		**Pn**	**00 48 05.8**	**-2.4**
HAZ				S		**Sn**	**00 49 44.7**	**0.0**
PKGZ	**Pakihiroa**	**8.54**	**205**	P		**Pn**	**00 48 04.7**	**-3.6**
PUZ	**Puketiti**	**8.64**	**204**	P		**Pn**	**00 48 07.1**	**-2.6**
RUGZ	**Raukumara Rang**	**8.76**	**207**	P		**Pn**	**00 48 09.5**	**-2.0**
RUGZ				S		**Sn**	**00 49 49.6**	**-0.7**
WCZ	**Waipu Caves**	**9.00**	**228**	P		Pn	00 48 23.6	+9.1
CNGZ	**Carnagh Statio**	**9.03**	**203**	P		**Pn**	**00 48 13.4**	**-1.6**
OUZ	**Omahuta**	**9.10**	**234**	P		Pn	00 48 22.3	+6.4
MWZ	**Matawai**	**9.14**	**206**	P		**Pn**	**00 48 15.0**	**-1.5**
MWZ				S		**Sn**	**00 49 55.6**	**-3.9**
URZ	**Urewera**	**9.24**	**208**	P		**Pn**	**00 48 15.4**	**-2.4**
URZ				S		**Sn**	**00 49 59.5**	**-2.4**
RIGZ	**Rimuhau**	**9.38**	**204**	P		**Pn**	**00 48 17.0**	**-2.8**
RIGZ				S		**Sn**	**00 50 01.1**	**-4.4**
PRGZ	**Paritu Road**	**9.54**	**203**	P		**Pn**	**00 48 18.5**	**-3.5**
PRGZ				S		**Sn**	**00 50 02.5**	**-6.7**
MUGZ	**Murupara**	**9.57**	**209**	P		**Pn**	**00 48 19.0**	**-3.3**
RTZ	**Ruatahuna**	**9.60**	**207**	P		**Pn**	**00 48 20.2**	**-2.6**
SNGZ	**Shannon Statio**	**9.61**	**206**	P		**Pn**	**00 48 20.0**	**-2.9**
SNGZ				S		**Sn**	**00 50 07.9**	**-2.9**
MHGZ	**Mahia Peninsul**	**9.74**	**202**	P		**Pn**	**00 48 20.8**	**-3.9**
RAHZ	**Arahi**	**9.82**	**206**	P		**Pn**	**00 48 26.2**	**+0.4**
MTHZ	**Maungataniwha**	**9.86**	**207**	P		**Pn**	**00 48 24.1**	**-2.3**
TLZ	**Tolley Road**	**10.00**	**214**	P		Pn	00 48 38.1	+10
MRHZ	**Matea Rd**	**10.02**	**209**	P		**Pn**	**00 48 26.5**	**-2.1**
ARHZ	**Aropaoanui**	**10.16**	**206**	P		**Pn**	**00 48 27.4**	**-3.0**
BKZ	**Black Stump Fm**	**10.27**	**208**	P		**Pn**	**00 48 29.8**	**-2.2**
BKZ	**Black Stump Fm**	**10.27**	**208**	Pn		**Pn**	**00 48 29.8**	**-2.2**
HIZ	**Hauiti**	**10.48**	**216**	P		Pn	00 48 47.0	+12
KWHZ	**Kaweka Forest**	**10.52**	**207**	P		**Pn**	**00 48 32.9**	**-2.5**
BHHZ	**Black Hill Sta**	**10.72**	**208**	P		**Pn**	**00 48 37.7**	**-0.4**
KRHZ	**Kereru**	**10.72**	**207**	P		**Pn**	**00 48 34.9**	**-3.3**
WHVZ	**Whangaehu Hut**	**10.75**	**211**	P		**Pn**	**00 48 38.8**	**+0.1**
PXZ	**Pawanui**	**10.88**	**204**	P		**Pn**	**00 48 41.4**	**+1.1**
PNHZ	**Pukenui**	**11.02**	**207**	P		**Pn**	**00 48 41.3**	**-1.0**
TSZ	**Takapari Road**	**11.24**	**207**	P		**Pn**	**00 48 45.3**	**0.0**
DVHZ	**Dannevirke**	**11.37**	**206**	P		**Pn**	**00 48 51.0**	**+3.9**
MSWZ	**Moikau Station**	**12.69**	**206**	Pn		**Pn**	**00 49 04.1**	**-0.9**
SNZO	**South Karori**	**12.81**	**208**	Pn		**Pn**	**00 49 05.6**	**-1.0**
MSVF	**Nonsavu**	**13.09**	**340**	P		**Pn**	**00 49 11.2**	**+0.6**
MSVF	**Nonsavu**	**13.09**	**340**	Pn		**Pn**	**00 49 11.2**	**+0.6**
RPZ	**Rata Peaks**	**16.33**	**211**	Pn		**Pn**	**00 49 54.3**	**+0.4**
	8.9nm,0.3s,baz=355,slow=1.2,SNR=12							
RPZ				Sn		Sn	00 52 41.2	-14
	2.7nm,0.3s,baz=337,slow=15,SNR=3.2							
RPZ	**Rata Peaks**	**16.33**	**211**	Pn		**Pn**	**00 49 52.2**	**-1.7**
DZM	**Mont Dzumac**	**16.61**	**295**	Pn		**P**	**00 50 01.6**	**+1.4**
	1.4nm,0.3s,baz=119,slow=12,SNR=20							
DZM				LR		LR	00 55 31.0	
	comp=Z,7μm,18.1s,baz=90,slow=34							
AFI	**Afiamalu**	**17.02**	**19**	P		**Pn**	**00 50 01.4**	**-1.4**
AFI				pmax		pmax		
	comp=Z,95nm,1.1s							
AFI	**Afiamalu**	**17.02**	**19**			**Pn**	**00 50 01.4**	**-1.4**
WKZ	**Wanaka**	**18.12**	**213**	Pn		**Pn**	**00 50 13.2**	**-3.0**
RAR	**Rarotonga**	**18.20**	**65**	P		**Pn**	**00 50 12.4**	**-4.9**
	comp=Z,4.6nm,0.3s,baz=207,slow=6.1,SNR=11							
RAR	**Rarotonga**	**18.20**	**65**	P		**Pn**	**00 50 14.2**	**-3.2**
RAR				pmax		pmax		
	comp=Z,441nm,1.5s							
RAR	**Rarotonga**	**18.20**	**65**	Pn		**Pn**	**00 50 14.2**	**-3.2**
RAR				IAmb		IAmb	00 50 18.7	
	comp=Z,440nm,1.4s							
SANVU	**Saraoutou**	**20.39**	**313**	P		**P**	**00 50 41.5**	**-0.1**
TBI	**Tubuai**	**25.80**	**81**	*e*LR		LR	00 58 11.0	
	comp=Z,4μm,23.8s							
TBI	**Tubuai**	**25.80**	**81**	*e*T		T	01 18 45.5	
	comp=Z,32nm,0.3s							
ARMA	**Armidale**	**26.72**	**262**	P		**P**	**00 51 45.5**	**+1.3**
ARMA				IAmb		IAmb	00 51 59.9	
	comp=Z,59nm,1.1s							
KNTN	**Kanton**	**27.80**	**12**	P		**P**	**00 51 54.2**	**+0.3**
KNTN				IAmb		IAmb	00 52 07.1	
	comp=Z,101nm,1.1s							
PAE	**Paea**	**28.23**	**70**	*e*T		T	01 21 31.8	
	comp=Z,11nm,0.3s							
EIDS	**Eidsvold**	**28.26**	**272**	P		**P**	**00 51 58.4**	**+0.3**
EIDS				IAmb		IAmb	00 52 11.9	
	comp=Z,67nm,1.1s							
PPT2	**Papeete2**	**28.27**	**70**	*e*LR		LR	00 59 13.2	
	comp=Z,4μm,26.2s							
PPT2	**Papeete2**	**28.27**	**70**	*e*T		T	01 21 35.7	
	comp=Z,14nm,0.8s							
TIAR	**Tiarei**	**28.47**	**70**	*e*P		**P**	**00 51 58.8**	**-1.2**
	comp=Z,14nm,0.8s							
CAN	**Canberra**	**28.64**	**251**	P		**P**	**00 52 02.1**	**+0.6**
CAN				pmax		pmax		
	comp=Z,55nm,1.0s							
CAN	**Canberra**	**28.64**	**251**	P		**P**	**00 52 02.1**	**+0.6**
CAN				IAmb		IAmb	00 52 16.8	
	comp=Z,55nm,1.0s							
TOO	**Toolangi**	**31.53**	**246**	P		**P**	**00 52 28.5**	**+1.5**
TOO				pmax		pmax		
	comp=Z,110nm,1.5s							
TOO	**Toolangi**	**31.53**	**246**	P		**P**	**00 52 28.5**	**+1.5**
CTA	**Charters Tower**	**34.30**	**278**	P		**P**	**00 52 51.7**	**+0.4**
	comp=Z,28nm,0.9s,baz=94,slow=11,SNR=20							
CTA				LR		LR	01 05 58.7	
	comp=Z,4μm,18.4s,baz=114,slow=35							
CTAO	**Charters Tower**	**34.30**	**278**	P		**P**	**00 52 52.3**	**+1.0**
CTAO				pmax		pmax		
	comp=Z,80nm,0.7s							
CTAO	**Charters Tower**	**34.30**	**278**	P		**P**	**00 52 52.2**	**+1.0**
STKA	**Stephens Creek**	**35.04**	**257**	P		**P**	**00 52 59.9**	**+2.3**
	comp=Z,20nm,0.6s,baz=102,slow=12,SNR=26							
STKA	**Stephens Creek**	**35.04**	**257**	P		**P**	**00 52 58.9**	**+1.3**
STKA				pmax		pmax		
	comp=Z,21nm,1.3s							
STKA	**Stephens Creek**	**35.04**	**257**	P		**P**	**00 52 58.9**	**+1.3**
BBOO	**Buckleboo**	**39.54**	**254**	P		**P**	**00 53 35.8**	**0.0**
BBOO				IAmb		IAmb	00 53 40.5	
	comp=Z,48nm,0.8s							
COEN	**Coen**	**39.73**	**285**			**P**	**00 53 38.4**	**+0.9**
AS31	**Alice Springs**	**43.65**	**266**	P		**P**	**00 54 09.9**	**+0.2**
ASAR	**Alice Springs**	**43.65**	**266**	P		**P**	**00 54 09.1**	**-0.6**
	comp=Z,6.3nm,0.3s,baz=106,slow=7.2,SNR=61							
ASAR				LR		LR	01 12 07.8	
	comp=Z,3μm,18.4s,baz=119,slow=36							
ASAR	**Alice Springs**	**43.65**	**266**	P		**P**	**00 54 09.2**	**-0.5**
WR0	**Warramunga Arr**	**44.44**	**272**	P		**P**	**00 54 16.4**	**+0.5**
WR0				IAmb		IAmb	00 54 29.1	
	comp=Z,70nm,1.0s							
WB2	**Warramunga Arr**	**44.61**	**272**	P		**P**	**00 54 17.4**	**+0.1**
WRAB	**Tennant Creek**	**44.62**	**272**	*d*iP		**P**	**00 54 18.2**	**+0.8**
WRAB				pmax		pmax		
	comp=Z,41nm,0.7s							
WRA	**Warramunga Arr**	**44.62**	**272**	P		**P**	**00 54 17.4**	**0.0**
	comp=Z,45nm,0.6s,baz=110,slow=8.1,SNR=95							
WRA	**Warramunga Arr**	**44.62**	**272**	P		**P**	**00 54 16.7**	**-0.7**
WRA				pmax		pmax		
	comp=Z,7.0nm,1.0s							
WRA	**Warramunga Arr**	**44.62**	**272**	P		**P**	**00 54 16.7**	**-0.7**
WB0	**Warramunga Arr**	**44.65**	**272**	P		**P**	**00 54 17.7**	**+0.1**
VNDA	**Vanda**	**48.35**	**186**	P		**P**	**00 54 48.0**	**+2.0**
	comp=Z,4.7nm,0.8s,baz=10,slow=6.1,SNR=20							
VNDA	**Vanda**	**48.35**	**186**	P		**P**	**00 54 47.9**	**+2.0**
VNDA				pmax		pmax		
	comp=Z,27nm,1.5s							
VNDA	**Vanda**	**48.35**	**186**	P		**P**	**00 54 47.9**	**+2.0**
GENI	**Genyem**	**48.65**	**296**	P		**P**	**00 54 46.6**	**-2.4**
	comp=Z,4μmcomp=Z,35nm,0.6s							
SMPI	**Sarmi**	**50.16**	**295**	P		**P**	**00 54 59.1**	**-1.4**
KNRA	**Kununurra**	**51.22**	**274**	P		**P**	**00 55 07.3**	**-1.2**
FITZ	**Fitzroy Crossi**	**52.90**	**269**	P		**P**	**00 55 22.8**	**+1.7**
	comp=Z,13nm,0.7s,baz=149,slow=7.9,SNR=4.8							
FITZ	**Fitzroy Crossi**	**52.90**	**269**	P		**P**	**00 55 20.9**	**-0.1**
HMH	**Humu'ula Sheep**	**53.81**	**26**	P		**P**	**00 55 27.5**	**-0.4**
HPAH	**Hawaii Prepara**	**54.12**	**25**	P		**P**	**00 55 29.9**	**-0.1**
CASY	**Casey**	**55.57**	**208**	P		**P**	**00 55 40.2**	**+0.4**
CASY				IAmb		IAmb	00 55 52.2	
	comp=Z,40nm,0.9s							
MORW	**Morawa**	**57.10**	**253**	P		**P**	**00 55 50.0**	**-1.4**
QSPA	**South Pole Qui**	**59.91**	**180**	P		**P**	**00 56 12.5**	**+2.0**
	comp=Z,58nm,1.0s,baz=42,slow=2.3,SNR=81							
QSPA	**South Pole Qui**	**59.91**	**180**	P		**P**	**00 56 12.0**	**+1.4**
SANI	**Sanana**	**60.42**	**286**	P		**P**	**00 56 12.9**	**-1.7**
	comp=Z,51nm,1.4s							
TNTI	**Ternate**	**60.87**	**290**	P		**P**	**00 56 17.4**	**-0.2**
LUWI	**Luwuk**	**63.65**	**285**	P		**P**	**00 56 35.3**	**-1.0**
	comp=Z,3μmcomp=Z,64nm,1.1s							
LUWI	**Luwuk**	**63.65**	**285**	P		**P**	**00 56 35.7**	**-0.6**
PLAI	**Plampang**	**63.89**	**275**	P		**P**	**00 56 37.8**	**-0.1**
	comp=Z,62nm,0.9s							
BNSI	**Bone**	**64.11**	**281**	P		**P**	**00 56 37.5**	**-1.9**
	comp=Z,34nm,1.6s							
SPSI	**Sidrap Palu**	**64.63**	**281**	P		**P**	**00 56 43.9**	**+1.2**
	comp=Z,2μmcomp=Z,28nm,1.1s							
TTSI	**Tana Toraja**	**65.06**	**282**	P		**P**	**00 56 44.0**	**-1.6**
	comp=Z,2μmcomp=Z,21nm,1.1s							
KCP	**Kidapawan**	**66.38**	**294**	*e*P		**P**	**00 56 53.4**	**-0.7**
MPSI	**Mapaga**	**66.80**	**285**	P		**P**	**00 56 54.7**	**-2.1**
	comp=Z,17nm,0.8s							
MAW	**Mawson**	**72.68**	**200**	P		**P**	**00 57 33.5**	**+1.3**
	comp=Z,17nm,1.1s,baz=114,slow=7.6,SNR=12							
MAW	**Mawson**	**72.68**	**200**	P		**P**	**00 57 33.4**	**+1.3**
MAW				pmax		pmax		
	comp=Z,8.0nm,1.2s							
MAW	**Mawson**	**72.68**	**200**	P		**P**	**00 57 33.4**	**+1.2**
KKM	**Kota Kinabalu**	**73.00**	**288**	P		**P**	**00 57 34.9**	**-0.2**
KKM				IAmb		IAmb	00 57 55.5	
	comp=Z,33nm,1.0s							
SBUM	**Sibu**	**74.40**	**282**	P		**P**	**00 57 42.7**	**-0.4**
KSM	**Kuching**	**75.51**	**280**	P		**P**	**00 57 48.6**	**-0.9**
KSM				IAmb		IAmb	00 58 01.9	
	comp=Z,30nm,1.0s							
SYO	**Syowa Base**	**77.43**	**193**	*e*P		**P**	**00 57 58.6**	**-0.9**
SYO	**Syowa Base**	**77.43**	**193**	*i*pP		pP	00 58 01.2	-0.1
SYO	**Syowa Base**	**77.43**	**193**	*i*sP		sP	00 58 04.6	+2.6
SYO	**Syowa Base**	**77.43**	**193**	*i*PcP		**PcP**	**00 58 09.8**	**-0.1**
INU	**Inuyama**	**78.06**	**323**	P		**P**	**00 58 03.3**	**-0.1**
SNAA	**Sanae**	**78.34**	**178**	P		**P**	**00 58 04.5**	**-0.2**
SNAA	**Sanae**	**78.34**	**178**	*i*P		**P**	**00 58 04.2**	**-0.5**
SNAA				pmax		pmax		
	comp=Z,23nm,1.2s							
SNAA	**Sanae**	**78.34**	**178**	P		**P**	**00 58 04.4**	**-0.3**
SNAA				IAmb		IAmb	00 58 19.6	
	comp=Z,43nm,1.3s							
MJAR	**Matsushiro Arr**	**78.38**	**325**	P		**P**	**00 58 05.1**	**-0.1**
	comp=Z,9.9nm,0.8s,baz=165,slow=5.3,SNR=17							
MJAR	**Matsushiro Arr**	**78.38**	**325**	P		**P**	**00 58 05.1**	**-0.1**
MJAR				pmax		pmax		
	comp=Z,31nm,0.9s							
MJAR	**Matsushiro Arr**	**78.38**	**325**	P		**P**	**00 58 05.1**	**-0.1**
MAJO	**Matsushiro**	**78.38**	**325**	*i*P		**P**	**00 58 05.1**	**-0.1**
MAJO				pmax		pmax		
	comp=Z,23nm,1.0s							
MAJO	**Matsushiro**	**78.38**	**325**	P		**P**	**00 58 04.9**	**-0.3**
MAT	**Matsushiro**	**78.38**	**325**	P		**P**	**00 58 06.5**	**+1.3**
VNA3	**Neumayer Olymp**	**78.47**	**176**	P		**P**	**00 58 04.8**	**-0.5**
COYC	**Coyhaique**	**78.71**	**136**	P		**P**	**00 58 07.7**	**+0.6**
COYC				IAmb		IAmb	00 58 09.5	
	comp=Z,37nm,1.0s							
VNA2	**Neumayer--Watz**	**78.91**	**177**	P		**P**	**00 58 08.5**	**+0.8**
	baz=179,slow=5.2							
NVL	**N'lazarevskaya**	**79.11**	**183**	*e*P		P	00 58 19.0	+10
NVL				pmax		pmax		
	comp=Z,41nm,1.1s							
VNA1	**Neumayer--Stat**	**79.14**	**176**	P		**P**	**00 58 09.7**	**+0.7**
JNU	**Nakatsue**	**79.76**	**318**	P		**P**	**00 58 12.1**	**-0.8**
	comp=Z,12nm,1.0s,baz=141,slow=2.3,SNR=4.3							
H03S2	**Juan Fernandez**	**80.13**	**123**	T		T	02 27 54.3	
	baz=239,slow=74,SNR=20							
H03S1	**Juan Fernandez**	**80.14**	**123**	T		T	02 27 55.4	
	baz=239,slow=74,SNR=18							
H03S3	**Juan Fernandez**	**80.15**	**123**	T		T	02 27 54.3	
	baz=239,slow=74,SNR=18							
RGRI	**Rengat**	**81.42**	**275**	P		**P**	**00 58 23.4**	**+1.2**
	comp=Z,442nm,0.5s							
RGRI				pP		**pwP**	**00 58 29.2**	**-0.7**
	comp=Z,442nm,0.5s							
PLCA	**Paso Flores**	**82.25**	**133**	P		**P**	**00 58 25.9**	**-0.4**
	comp=Z,15nm,1.0s,baz=224,slow=5.9,SNR=16							
PLCA	**Paso Flores**	**82.25**	**133**	P		**P**	**00 58 26.4**	**+0.1**
PLCA				pmax		pmax		
	comp=Z,24nm,1.1s							
PLCA	**Paso Flores**	**82.25**	**133**	P		**P**	**00 58 26.4**	**+0.1**
PLCA				IAmb		IAmb	00 58 28.6	
	comp=Z,24nm,1.1s							
BI02	**San Fabin de**	**84.01**	**129**	P		**P**	**00 58 35.6**	**+0.1**
BI02				IAmb		IAmb	00 58 38.5	
	comp=Z,24nm,1.1s							
CIS	**Catalina Islan**	**84.31**	**46**	P		**P**	**00 58 37.0**	**+0.2**
	baz=228							
PKM	**Mcpherson Peak**	**84.45**	**44**	P		**P**	**00 58 39.1**	**+1.4**
	baz=227							
KSRS	**Korea Array**	**84.54**	**319**	P		**P**	**00 58 38.8**	**+1.0**
	comp=Z,6.7nm,1.1s,baz=141,slow=5.6,SNR=11							
KSAR	**Wonju Array Be**	**84.55**	**319**	P		**P**	**00 58 38.3**	**+0.5**
KSAR	**Wonju Array Be**	**84.55**	**319**	P		**P**	**00 58 38.3**	**+0.5**
FMP	**Fort Macarthur**	**84.59**	**46**	P		**P**	**00 58 40.1**	**+2.0**
	baz=228							
PMPB	**Monarch Peak**	**84.77**	**43**	P		**P**	**00 58 39.3**	**+0.3**
BAR	**Barrett**	**84.94**	**48**	P		**P**	**00 58 40.3**	**+0.4**
BAR				IAmb		IAmb	00 58 41.8	
	comp=Z,23nm,1.4s							
MURC	**Murrieta**	**85.20**	**47**	P		**P**	**00 58 42.4**	**+1.1**
	baz=229,SNR=5.1							
ARVC	**Arvin**	**85.20**	**45**	P		**P**	**00 58 42.1**	**+0.9**
	baz=228							
MONP2	**Monument Peak**	**85.23**	**48**	P		**P**	**00 58 42.3**	**+0.6**
	baz=229,SNR=7.2							
IKP	**In-Ko-Pah, Jac**	**85.28**	**48**	P		**P**	**00 58 42.4**	**+0.6**
	baz=230							
BFSC	**Mount Baldy Ra**	**85.33**	**46**	P		**P**	**00 58 42.8**	**+0.7**
	baz=229,SNR=7.1							
BO02	**Sierra Bellavi**	**85.37**	**128**	P		**P**	**00 58 42.7**	**+0.3**
PET	**Petropavlovsk**	**85.47**	**346**	*e*P		**P**	**00 58 42.8**	**+0.8**
PET				pmax		pmax		
	comp=Z,62nm,1.4s							
VES	**Vestal, Richgr**	**85.53**	**44**	P		**P**	**00 58 43.3**	**+0.5**
	baz=228,SNR=9.0							
EDW2	**Edwards Air Fo**	**85.55**	**45**	P		**P**	**00 58 43.7**	**+0.6**
	baz=228,SNR=7.4							
SWSC	**Sam W. Stewart**	**85.67**	**48**	P		**P**	**00 58 44.9**	**+1.3**
	baz=230							
PFO	**Pinyon Flats O**	**85.68**	**47**	P		**P**	**00 58 44.8**	**+1.1**
	baz=229,SNR=7.4							
PFO	**Pinyon Flats O**	**85.68**	**47**	*i*P		**P**	**00 58 44.2**	**+0.4**
PFO				pmax		pmax		
	comp=Z,30nm,1.1s							
PFO	**Pinyon Flats O**	**85.68**	**47**	P		**P**	**00 58 44.5**	**+0.7**
PFO				IAmb		IAmb	00 58 59.2	
	comp=Z,24nm,1.2s							
XPFO	**Pion Flat**	**85.68**	**47**	P		**P**	**00 58 44.4**	**+0.6**
XPFO				IAmb		IAmb	00 58 59.3	
	comp=Z,24nm,1.2s							
PEA0B	**Petropavlovsk-**	**85.75**	**345**	*d*iP		**P**	**00 58 43.8**	**+0.3**
ISA	**Isabella, Lake**	**85.78**	**44**	P		**P**	**00 58 44.8**	**+0.6**
	baz=228,SNR=8.5							
ISA	**Isabella, Lake**	**85.78**	**44**	P		**P**	**00 58 44.5**	**+0.3**
ISA				pmax		pmax		
	comp=Z,34nm,1.2s							
ISA	**Isabella, Lake**	**85.78**	**44**	P		**P**	**00 58 44.5**	**+0.3**
ISA				IAmb		IAmb	00 58 46.3	
	comp=Z,34nm,1.2s							
BBRC	**Big Bear Solar**	**85.81**	**46**	P		**P**	**00 58 45.3**	**+0.7**
	baz=229							
KMRM	**Mail Ridge**	**85.94**	**38**	P		**P**	**00 58 45.5**	**+0.7**
LRMC	**Laurel Mtn Rad**	**86.14**	**45**	P		**P**	**00 58 46.9**	**+0.9**
	baz=228,SNR=5.7							
RRX	**Edison Barstow**	**86.16**	**46**	P		**P**	**00 58 47.3**	**+1.3**
	baz=229							
BELC	**Belle Mtn. Jos**	**86.22**	**47**	P		**P**	**00 58 47.6**	**+1.1**
	baz=230,SNR=13							
CMB	**Columbia Colle**	**86.25**	**42**	P		**P**	**00 58 46.3**	**-0.1**
CMB				pmax		pmax		
	comp=Z,20nm,1.1s							
CMB	**Columbia Colle**	**86.25**	**42**	P		**P**	**00 58 46.3**	**-0.1**
CMB				IAmb		IAmb	00 58 58.6	
	comp=Z,20nm,1.1s							
BC3	**Big Chuckawall**	**86.34**	**48**	P		**P**	**00 58 47.9**	**+0.8**
	baz=230,SNR=13							
GLA	**Glamis**	**86.36**	**48**	P		**P**	**00 58 48.4**	**+1.3**
	baz=230							
GLA	**Glamis**	**86.36**	**48**	P		**P**	**00 58 48.3**	**+1.3**
GLA				pmax		pmax		
	comp=Z,26nm,1.1s							
GLA	**Glamis**	**86.36**	**48**	P		**P**	**00 58 48.3**	**+1.2**
GLA				IAmb		IAmb	00 58 49.5	
	comp=Z,26nm,1.1s							
KHMM	**Horse Mountain**	**86.39**	**38**	P		**P**	**00 58 48.0**	**+0.8**
KHMM				IAmb		IAmb	00 58 49.3	
	comp=Z,19nm,0.9s							
O02D	**Mt. Diablo Mer**	**86.40**	**39**	P		**P**	**00 58 48.5**	**+1.4**
	baz=225							
HSIG		**86.47**	**54**			**P**	**00 58 48.2**	**+0.5**
HSIG				IAmb		IAmb	00 58 49.2	
	comp=Z,53nm,1.6s							
MSHR	**Mys Shultsa**	**86.50**	**325**	*i*P		**P**	**00 58 47.9**	**+0.5**
NJ2	**Nanjing**	**86.52**	**310**	*e*P		**P**	**00 58 48.9**	**+1.1**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.6s							
CWC	**Cottonwood Cre**	**86.53**	**44**	P		**P**	**00 58 48.3**	**+0.3**
	baz=228							
HEC	**Hector,Ludlow**	**86.55**	**46**	P		**P**	**00 58 48.6**	**+0.7**
	baz=229							
AFDM	**Forest Hills D**	**86.55**	**41**	P		**P**	**00 58 48.1**	**+0.3**
AFDM				IAmb		IAmb	00 58 49.3	
	comp=Z,21nm,1.2s							
GSC	**Goldstone, Bar**	**86.56**	**46**	P		**P**	**00 58 48.6**	**+0.5**
	baz=229,SNR=18							
GSC	**Goldstone, Bar**	**86.56**	**46**	P		**P**	**00 58 48.5**	**+0.5**
GSC				pmax		pmax		
	comp=Z,32nm,1.2s							
GSC	**Goldstone, Bar**	**86.56**	**46**	P		**P**	**00 58 48.5**	**+0.5**
GSC				IAmb		IAmb	00 58 50.1	
	comp=Z,32nm,1.1s							
MPMC	**Manual Prospec**	**86.64**	**45**	P		**P**	**00 58 49.2**	**+0.7**
	baz=229,SNR=21							
ORV	**Oroville**	**86.67**	**40**	P		**P**	**00 58 48.8**	**+0.4**
ORV				pmax		pmax		
	comp=Z,14nm,1.1s							
ORV	**Oroville**	**86.67**	**40**	P		**P**	**00 58 48.8**	**+0.4**
OMMB	**Old Mammoth Mi**	**86.77**	**43**	P		**P**	**00 58 49.8**	**+0.5**

K05A IAmb IAmb 00 59 02.5
comp=Z,32nm,1.2s
R11A Troy Canyon, C 89.28 44 P **P** **00 59 01.3 +0.2**
baz=230
J05D Fort Rock, OR 89.41 37 P **P** **00 59 02.1 +0.6**
baz=226
H04D Lebanon 89.50 36 P **P** **00 59 02.6 +0.8**
baz=225
G03D McMinnville, O 89.73 35 P **P** **00 59 03.3 +0.5**
baz=224
LCMT Little Creek M 89.87 46 P **P** **00 59 04.2 +0.4**
H04A Detroit Lake 89.90 36 P **P** **00 59 03.6 0.0**
I05D Terrebonne, OR 90.09 37 P **P** **00 59 05.2 +0.6**
baz=226
WUAZ Wupatki 90.13 48 P **P** **00 59 05.9 +0.8**
baz=232
WUAZ Wupatki 90.13 48 P **P** **00 59 05.7 +0.6**
WUAZ IAmb IAmb 00 59 07.5
comp=Z,33nm,1.1s
KNB Kanab 90.13 46 P **P** **00 59 05.8 +0.7**
KNB pmax pmax
comp=Z,28nm,1.2s
KNB Kanab 90.13 46 P **P** **00 59 05.8 +0.7**
WVOR Wild Horse Val 90.22 39 P **P** **00 59 05.3 0.0**
WVOR pmax pmax
comp=Z,22nm,1.4s
WVOR Wild Horse Val 90.22 39 P **P** **00 59 05.3 0.0**
WVOR IAmb IAmb 00 59 20.7
comp=Z,22nm,1.4s
TIA Tai'an 90.22 313 P **P** **00 59 07.3 +2.0**
TIA pmax pmax
comp=Z,5.0nm,0.7s
CN2 Changchun 90.31 323 *e*P **P** **00 59 06.3 +0.8**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
GRNR Gornyy 90.35 333 ||*i*P **P** **00 59 05.2 -0.3**
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR MLR MLR
comp=N,290nm,17.0s
GRNR MLR MLR
comp=E,390nm,17.0s
F04D Rainier, OR 90.47 34 P **P** **00 59 08.0 +1.8**
baz=225
E03A Lebam 90.54 34 P **P** **00 59 07.2 +0.7**
PKCU Pink Cliffs 90.72 46 P **P** **00 59 09.0 +1.0**
G05D Wamic, OR 90.73 36 P **P** **00 59 08.5 +1.0**
baz=226
121A Cookes Peak, D 90.74 52 P **P** **00 59 08.9 +0.9**
baz=234
121A Cookes Peak, D 90.74 52 P **P** **00 59 08.7 +0.6**
121A IAmb IAmb 00 59 10.5
comp=Z,25nm,1.6s
I07A Izee 90.87 38 P **P** **00 59 08.7 +0.4**
I07A IAmb IAmb 00 59 09.9
comp=Z,16nm,1.1s
W18A Petrified Fore 90.95 49 P **P** **00 59 10.1 +1.1**
baz=233
W18A Petrified Fore 90.95 49 P **P** **00 59 09.7 +0.7**
W18A IAmb IAmb 00 59 11.2
comp=Z,35nm,1.3s
E04D Cinebar 91.03 34 P **P** **00 59 10.1 +1.3**
baz=225
ELK Elko 91.03 42 P **P** **00 59 09.5 +0.2**
ELK pmax pmax
comp=Z,14nm,1.5s
ELK Elko 91.03 42 P **P** **00 59 09.5 +0.2**
G06A Carlson Farm, 91.07 36 P **P** **00 59 09.4 +0.3**
D03D Eldon 91.47 33 P **P** **00 59 11.7 +0.9**
baz=225
TX31 Lajitas Ar. Si 91.83 57 P **P** **00 59 13.1 0.0**
TXAR Lajitas Array 91.83 57 P **P** **00 59 13.3 +0.2**
comp=Z,2.8nm,1.0s,baz=216,slow=6.2,SNR=26
TXAR Lajitas Array 91.83 57 P **P** **00 59 13.1 0.0**
MNTX Cornudas Mount 91.93 54 P **P** **00 59 13.6 +0.2**
baz=235
MNTX Cornudas Mount 91.93 54 P **P** **00 59 13.5 +0.2**
MNTX IAmb IAmb 00 59 15.0
comp=Z,25nm,1.9s
DUG Dugway, Tooele 92.12 44 P **P** **00 59 14.9 +0.7**
baz=232
MFID Camas Ranch 92.42 40 P **P** **00 59 15.8 +0.3**
MFID IAmb IAmb 00 59 16.9
comp=Z,11nm,0.9s
HAWA Hanford 92.43 36 P **P** **00 59 15.8 +0.5**
BNM Barren Site 92.46 52 P **P** **00 59 16.4 +0.3**
BMO Blue Mountains 92.55 38 P **P** **00 59 15.8 -0.3**
BMO pmax pmax
comp=Z,6.0nm,1.0s
BMO Blue Mountains 92.55 38 P **P** **00 59 15.8 -0.3**
MVCO Mesa Verde 93.00 48 P **P** **00 59 19.2 +0.7**
baz=234
ANMO Albuquerque 93.03 51 P **P** **00 59 19.0 +0.4**
baz=235
ANMO Albuquerque 93.03 51 *i* P **P** **00 59 18.8 +0.1**
ANMO pmax pmax
comp=Z,12nm,1.6s
ANMO Albuquerque 93.03 51 P **P** **00 59 18.6 0.0**
PV05 Paradox Valley 93.13 47 P **P** **00 59 19.3 +0.3**
PV05 IAmb IAmb 00 59 33.8
comp=Z,14nm,1.3s
D08A Wollman Farm, 93.19 36 P **P** **00 59 19.0 +0.3**
HLID Hailey 93.30 40 P **P** **00 59 20.9 +1.2**
baz=231
HLID Hailey 93.30 40 P **P** **00 59 20.4 +0.7**
CMAR Chiang Mai Arr 93.84 289 P **P** **00 59 23.2 +0.7**
comp=Z,1.0nm,0.4s,baz=136,slow=4.1,SNR=7.4
PB01 IPOC Station P 94.00 117 **P** **00 59 23.9 +0.4**
KMI Kunming 94.21 297 ||*e*P **P** **00 59 28.3 +4.0**
KMI pP pwP 00 59 31.4 -0.5
KMI pmax pmax
comp=Z,8.0nm,0.8s
KMI LR LR
comp=Z,510nm,30.6s
KMI LR LR
comp=Z,520nm,34.1s
KMI LR LR
comp=Z,2µm,47.2s
S22A 4UR Ranch, Cre 94.39 49 P **P** **00 59 25.6 +0.7**
baz=235
O20A White River Ci 94.87 46 P **P** **00 59 27.4 +0.4**
baz=234
MNMC Minye Minye 94.99 115 P **P** **00 59 29.3 +1.1**
MNMC IAmb IAmb 00 59 30.1
comp=Z,22nm,1.2s
MSTX Muleshoe 95.01 54 P **P** **00 59 28.2 +0.5**
baz=237
FXWY Fox Creek 95.28 42 P **P** **00 59 28.9 +0.1**
BW06 Boulder Array 95.62 43 P **P** **00 59 30.5 +0.1**
baz=234
PDAR Pinedale Array 95.62 43 P **P** **00 59 30.1 -0.3**
comp=Z,0.9nm,0.8s,baz=199,slow=4.1,SNR=9.0
PDAR Pinedale Array 95.62 43 P **P** **00 59 29.6 -0.7**
T25A Trinidad 95.64 50 P **P** **00 59 31.3 +0.7**
baz=236
H17A Grant Village 96.00 41 P **P** **00 59 33.4 +1.3**
baz=233
BOZ Bozeman (W) 96.13 40 P **P** **00 59 33.5 +0.9**
baz=233
BOZ Bozeman (W) 96.13 40 P **P** **00 59 33.0 +0.5**
BOZ pmax pmax
comp=Z,9.0nm,1.3s
BOZ Bozeman (W) 96.13 40 P **P** **00 59 33.0 +0.5**
CD2 Chengdu 96.43 302 ||*i*P **P** **00 59 34.8 +0.7**
HHC Hu-ho-hao-te 96.48 314 *e*P **P** **00 59 34.6 +0.4**
HHC pmax pmax
comp=Z,19nm,1.2s
HHC LR LR
comp=Z,140nm,19.5s
HHC LR LR
comp=Z,240nm,19.1s
HHC LR LR
comp=Z,490nm,21.1s
N23A Red Feather La 96.75 46 P **P** **00 59 36.1 +0.5**
baz=236
K22A Casper 97.38 45 P Pdif 00 59 38.7 +0.3
baz=236
K22A Casper 97.38 45 P **P** **00 59 38.2 -0.1**
K22A IAmb IAmb 00 59 51.6
comp=Z,6.3nm,1.0s
LPAZ La Paz 97.74 114 P Pdif 00 59 41.4 +0.2
comp=Z,1.2nm,0.8s,baz=221,slow=4.0,SNR=4.4
CPUP Villa Florida 99.69 128 P **Pdif** **00 59 49.8 +0.8**
comp=Z,3.0nm,0.9s,baz=325,slow=3.1,SNR=5.2
RSSD Black Hills 99.70 44 P **Pdif** **00 59 49.0 +0.3**
baz=237

W41B Gary Mavity, V 103.11 57 P **Pdif** **01 00 05.0 +1.2**
baz=242
SONM Songino Array 103.35 318 PKKPbc PKKPbc 01 15 59.5 -0.6
comp=Z,0.5nm,0.5s,baz=305,slow=5.2,SNR=4.4
TLY Talaya 106.77 320 *e*P **Pdif** **01 00 28.7 +9.0**
TLY pmax pmax
comp=Z,176nm,1.3s
GOGA Godfrey 108.89 62 P **PKiKP** **01 04 34.9 +0.6**
baz=246
WMQ Urumqi 113.52 308 *e*PKP **PKiKP** **01 04 43.3 +0.4**
WMQ LR LR
comp=Z,550nm,16.5s
WMQ LR LR
comp=Z,800nm,23.7s
ARCES ARCESS Array B 138.50 348 PKP **PKPdf** **01 05 29.2 -0.4**
comp=Z,4.0nm,0.8s,baz=52,slow=1.5,SNR=2.7
KLMR Klimovskoe 140.83 332 *e*PKIKP **PKPdf** **01 05 32.4 -1.6**
KLMR pmax pmax
comp=Z,28nm,1.3s
KLMR Klimovskoe 140.83 332 *e*PKPdf **PKPdf** **01 05 32.4 -1.6**
KLMR AMP 01 05 50.3
comp=Z,28nm,1.3s
FIA1 FINESS Array S 145.13 340 **PKPbc** **01 05 39.6 -1.5**
FINES FINESS Array B 145.14 340 PKPbc **PKPbc** **01 05 40.1 -1.0**
comp=Z,39nm,0.7s,baz=45,slow=3.6,SNR=19
FINES FINESS Array B 145.14 340 **PKPbc** **01 05 39.8 -1.3**
LPSR Galich'ya Gora 145.30 321 *e*PKIKP **PKPab** **01 05 42.0 0.0**
LPSR pmax pmax
comp=Z,90nm,1.0s
OBN Obninsk 145.31 326 PKPbc **PKPbc** **01 05 41.4 -0.4**
comp=Z,7.6nm,0.6s,baz=0.3,slow=10,SNR=4.4
OBN Obninsk 145.31 326 PKIKP **PKPdf** **01 05 42.0 0.0**
OBN Obninsk 145.31 326 **PKPbc** **01 05 41.1 -0.7**
KIV Kislovodsk 145.55 305 *e*PKIKP **PKiKP** **01 05 47.9 +0.9**
KIV pmax pmax
comp=Z,120nm,1.1s
VSR Storozhevoye 145.74 318 *e*PKP2 **PKPdf** **01 05 42.6 -0.3**
VSR pmax pmax
comp=Z,80nm,0.9s
VSU Vasula 147.25 337 *e*P **PKPbc** **01 05 46.9 -0.6**
VSU *e*PP **PP** **01 09 17.1 +4.3**
SOC Sochi 147.74 305 *d* /PKIKP **PKPdf** **01 05 46.5 0.0**
SOC *i* 01 05 50.2
SOC *e* 01 09 19.8
SOC *e*SS SS 01 28 22.6 +1.1
SOC *e*SSS SSS 01 33 51.0
SOC pmax pmax
comp=Z,9.0nm,0.6s
SOC pmax pmax
comp=Z,34nm,1.1s
NC303 NORSAR Array S 148.43 352 **PKPbc** **01 05 50.0 -0.7**
NC405 NORSAR Array S 148.50 352 **PKPbc** **01 05 50.4 -0.5**
NB2 NORSAR Subarra 148.63 352 PKP **PKPbc** **01 05 50.1 -1.1**
comp=Z,28nm,1.2s,baz=24,slow=3.1
NOA NORSAR Array B 148.63 352 PKPbc **PKPbc** **01 05 50.4 -0.9**
comp=Z,7.6nm,0.8s,baz=19,slow=4.0,SNR=7.7
NAO01 NORSAR Array S 148.86 352 **PKPbc** **01 05 51.3 -0.5**
NC602 NORSAR Array S 148.88 352 **PKPbc** **01 05 51.4 -0.5**
ANN Anapa 149.03 308 *i* PKP2 **PKPab** **01 06 02.8 +5.9**
ANN pmax pmax
comp=Z,119nm,1.2s
HFS Hagfors 149.15 349 PKPbc **PKPbc** **01 05 52.0 -0.5**
comp=Z,12nm,0.7s,baz=117,slow=2.3,SNR=7.4
IZAR Zarasai 149.46 334 *e*P **PKPbc** **01 05 53.6 +0.2**
ISAL Salakas 149.63 333 *e*P **PKPbc** **01 05 54.3 +0.4**
MIGM Minsk 149.67 330 *e* **PKPab** **01 06 04.0 +4.8**
MNK Minsk 149.67 330 *e*PKP2 **PKPab** **01 06 04.0 +4.8**
IIGN Ignalina 149.76 333 *e*P **PKiKP** **01 05 54.9 -0.3**
IIGN *e*PP **PP** **01 09 26.0 -1.6**
NACGM Naroch 149.85 332 *e* **PKPab** **01 06 01.0 +1.1**
KONO Kongsberg 150.17 353 PKIKP **PKPbc** **01 05 54.4 -0.7**
KONO Kongsberg 150.17 353 **PKPbc** **01 05 54.4 -0.7**
PABE Paberze 150.50 335 *e*P **PKPbc** **01 05 55.6 -0.3**
PABE *e*PP **PP** **01 09 31.3 -0.3**
PBUR Paburge 150.79 338 *e*P **PKPbc** **01 05 56.9 +0.3**
SIM Simferopol' 151.23 310 *e*PKIKP **PKPab** **01 06 03.5 -2.5**
SIM *e*PKP **pPKPab** **01 06 06.9 -0.9**
SIM pmax pmax
comp=Z,42nm,0.8s
AKASG Malin Array Be 151.46 323 PKPbc **PKPbc** **01 05 57.5 -0.9**
comp=Z,9.1nm,0.7s,baz=47,slow=2.8,SNR=6.5
AKASG Malin Array Be 151.46 323 PKIKP **PKPbc** **01 05 57.1 -1.2**
AKASG Malin Array Be 151.46 323 **PKPbc** **01 05 57.1 -1.2**
BRTR Keskin Array B 152.97 299 PKPbc **PKiKP** **01 06 03.2 +0.7**
comp=Z,16nm,1.2s,baz=126,slow=4.7,SNR=1.7
ANTO Ankara 153.58 300 PKP2 **PKPab** **01 06 16.4 +0.3**
OKC Ostrava-Krasne 157.15 333 *e*pPKP **PKPab** **01 06 36.2 +5.4**
OKC *ex* x 01 06 45.4
OKC Ostrava-Krasne 157.15 333 *e*PKP2 **PKPab** **01 06 36.2 +5.4**
OSTC Ostas 157.25 337 *e*PKPAB **PKPab** **01 06 36.9 +5.6**
OSTC *ex* x 01 06 44.4
CHVC Chvalec 157.27 337 *e*PKPAB **PKPab** **01 06 34.7 +3.3**
UPC Upice 157.36 337 *e*pPKP **PKPab** **01 06 36.3 +4.5**
UPC Upice 157.36 337 *e*PKP2 **PKPab** **01 06 36.3 +4.5**
DPC Dobruska-Polom 157.39 337 *e*PKPAB **PKPab** **01 06 34.6 +2.7**
DPC *ex* x 01 06 43.2
DPC Dobruska-Polom 157.39 337 *e*PKP2 **PKPab** **01 06 34.6 +2.7**
MORC Moravsky Berou 157.42 334 *e*PKP **PKPab** **01 06 33.7 +1.6**
CLL Collm 157.53 343 *e*PKPab **PKPab** **01 06 32.0 -0.5**
comp=Z,15nm,1.5s
CLL *i* 01 06 37.0
comp=Z,13nm,0.9s
CLL *i* 01 06 42.2
CLL Collm 157.53 343 *e*PKP2 **PKPab** **01 06 32.0 -0.5**
CLL pmax pmax
comp=Z,15nm,1.5s
BRG Berggiesshubel 157.68 341 *i* PKP **PKPab** **01 06 38.5 +5.4**
comp=Z,9.8nm,1.0s
BRG Berggiesshubel 157.68 341 *i* PKP2 **PKPab** **01 06 38.5 +5.4**
BRG pmax pmax
comp=Z,10.0nm,1.0s
PVCC Panska Ves 157.80 340 *e*pPKP **PKPab** **01 06 39.5 +5.9**
PVCC *ex* x 01 06 42.5
PVCC Panska Ves 157.80 340 *e*PKP2 **PKPab** **01 06 39.5 +5.9**
JAVC Velka Javorina 158.12 333 *e*PKP **PKPab** **01 06 35.7 +0.5**
VRAC Vranov 158.16 335 *e*PKP **PKPab** **01 06 35.9 +0.6**
PRA Prague 158.24 339 *e*pPKP **PKPab** **01 06 41.2 +5.6**
PRA Prague 158.24 339 *e*PKP2 **PKPab** **01 06 41.2 +5.6**
GOPC GO Pecny, Ondr 158.27 338 *e*PKPAB **PKPab** **01 06 38.1 +2.4**
GOPC *ex* x 01 06 53.3
GOPC GO Pecny, Ondr 158.27 338 *e*PKP2 **PKPab** **01 06 38.1 +2.4**
PRU Pruhonice 158.28 339 *e*PKPAB **PKPab** **01 06 36.1 +0.4**
PRU *e*pPKP **sPKPab** **01 06 41.3 +3.1**
PRU Pruhonice 158.28 339 *e*PKP2 **PKPab** **01 06 36.1 +0.4**
KRUC Moravsky 158.44 335 *e*PKP **PKPab** **01 06 36.6 +0.1**
TREC Trest 158.57 336 *e*pPKP **PKPab** **01 06 41.8 +4.7**
TREC Trest 158.57 336 *e*PKP2 **PKPab** **01 06 41.8 +4.7**
NKC Novy Kostel 158.66 342 *e*PKPAB **PKPab** **01 06 38.1 +0.7**
NKC *e*pPKP **sPKPab** **01 06 42.5 +2.6**
NKC *ex* x 01 06 52.4
NKC Novy Kostel 158.66 342 *e*PKP2 **PKPab** **01 06 38.1 +0.7**
KHC Kasperske Hory 159.33 339 *e*PKPAB **PKPab** **01 06 40.5 +0.1**
KHC *e*pPKP **sPKPab** **01 06 46.0 +3.1**
KHC *ex* x 01 06 57.7
KHC Kasperske Hory 159.33 339 *e*PKP2 **PKPab** **01 06 40.5 +0.1**
GERES GERESS Array B 159.55 339 PKPab **PKPab** **01 06 43.2 +1.8**
comp=Z,5.6nm,1.0s,baz=26,slow=3.4,SNR=5.2
CONA Conrad Observa 159.58 334 *i* PKPab **PKPab** **01 06 42.6 +1.1**
comp=Z,14nm,1.0s
CONA *i* PP **PP** **01 10 24.4 +1.8**
comp=Z,4.1nm,1.0s
BCLA Clavier 159.70 355 PKPab **PKPab** **01 06 41.4 -0.4**
BGES Gesves 159.75 355 PKPab **PKPab** **01 06 41.1 -0.9**
BMRD Maredsous 159.85 356 PKPab **PKPab** **01 06 41.6 -0.9**
MOA Molln 160.23 336 *i* PKPab **PKPab** **01 06 43.2 -1.1**
comp=Z,12nm,1.3s
WATA Walderalm 161.54 340 *i* PKPab **PKPab** **01 06 50.5 +0.3**
comp=Z,21nm,1.4s
WATA *i* PP **PP** **01 10 28.6 -4.5**
comp=Z,2.9nm,1.0s
WTTA Wattenberg 161.59 340 *i* PKPab **PKPab** **01 06 49.3 -1.1**
comp=Z,16nm,0.9s
RETA Reutte 161.63 342 *i* PKPab **PKPab** **01 06 50.2 -0.3**
comp=Z,13nm,1.2s
MOTA Moosalm 161.66 341 *i* PKPab **PKPab** **01 06 50.8 +0.1**
comp=Z,18nm,1.1s
SQTA Sankt Quirin 161.75 341 *i* PKPab **PKPab** **01 06 51.1 0.0**
comp=Z,18nm,1.0s
ABTA Abfaltersbach 161.78 338 *i* PKPab **PKPab** **01 06 50.8 -0.3**
comp=Z,20nm,1.3s
DAVA Damuels 162.03 344 *i* PKPab **PKPab** **01 06 51.8 -0.6**
comp=Z,9.3nm,1.2s
DAVA *i* PP **PP** **01 10 32.4 -3.3**
comp=Z,8.8nm,0.9s

FETA Feichten 162.06 342 *i* PKPab **PKPab** **01 06 52.0 -0.5**
comp=Z,14nm,1.0s
FETA *i* PP **PP** **01 10 32.0 -3.9**
comp=Z,8.6nm,1.2s
TOA0 Torodi Ar. Sit 163.01 177 PKPab **PKPab** **01 06 56.3 -0.9**
TORD Torodi Ar. Bea 163.01 177 PKP **PKPdf** **01 06 07.3 -0.5**
comp=Z,2.3nm,1.1s,baz=351,slow=1.5,SNR=5.9
TORD PKPab **PKPab** **01 06 56.9 -0.3**
comp=Z,4.5nm,0.9s,baz=187,slow=4.6,SNR=11
TORD PKKPab 01 12 23.9
comp=Z,3.5nm,1.1s,baz=348,slow=6.0,SNR=3.8
TORD Torodi Ar. Bea 163.01 177 **PKPdf** **01 06 07.1 -0.7**
TORD **PKPab** **01 06 56.7 -0.4**
ESDC Sonseca Array 169.12 28 PKPab **PKPab** **01 07 22.4 -1.3**
comp=Z,3.5nm,0.9s,baz=320,slow=3.9,SNR=5.1
ESDC Sonseca Array 169.12 28 **PKPab** **01 07 22.1 -1.6**
TAM Tamanrasset 172.18 200 PKIKP **PKPdf** **01 06 14.4 0.0**
TAM Tamanrasset 172.18 200 **PKPdf** **01 06 14.3 0.0**

IDC ***24*** *00:49:27.1±0.8,30°.08S×177°.04W,h0km,mb4.9/6, mb1 5.1/6,mb1mx4.5/40,mbtmp4.9/6, Error ellipse: s-maj=27.6km s-min=24.4km az=3.0*
NEIC ***24*** *00:49:33±1.2,29°.90S±0°.08×177°.2W±0°.1,h33km±5km, mb4.9/16, Error ellipse: s-maj=19.6km s-min=9.4km az=62.0*
ISC 24 00:49:32.9±0.6,30°.20S±0°.05×177°.4W±0°.1,h35km,n85, σ2s35/87,mb4.9/13,1C-1D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.05**	**332**	P	**Pn**	**00 49 49.1**	**-2.1**
GLKZ				S	**Sn**	**00 50 01.5**	**-3.1**
RAO	**Raoul Island**	**1.06**	**332**	Pn	**Pn**	**00 49 48.9**	**-2.4**
	2µm,0.3s,baz=86,slow=21,SNR=6.0						
RAO				Sn	**Sn**	**00 50 02.9**	**-2.0**
	5µm,0.3s,baz=28,slow=22,SNR=12						
RAO	**Raoul Island**	**1.06**	**332**		**Pn**	**00 49 48.9**	**-2.4**
RAO				Sn	**Sn**	**00 50 00.9**	**-4.0**
RIZ	**Raoul Island**	**1.07**	**332**	P	**Pn**	**00 49 49.1**	**-2.4**
RIZ				S	**Sn**	**00 50 04.0**	**-1.1**
MXZ	**Matakaoa Point**	**8.18**	**205**	P	**Pn**	**00 51 25.8**	**-3.3**
MXZ				S	**Sn**	**00 52 58.4**	**-1.9**
WMGZ	**Waiomatatini S**	**8.37**	**204**	P	**Pn**	**00 51 27.9**	**-3.9**
WMGZ				S	**Sn**	**00 53 03.0**	**-2.0**
HAZ	**Te Kaha**	**8.55**	**207**	P	**Pn**	**00 51 30.0**	**-4.2**
HAZ				S	**Sn**	**00 53 09.2**	**-0.2**
PKGZ	**Pakihiroa**	**8.55**	**205**	P	**Pn**	**00 51 30.4**	**-3.9**
PKGZ				S	**Sn**	**00 53 07.2**	**-2.5**
PUZ	**Puketiti**	**8.65**	**204**	P	**Pn**	**00 51 32.5**	**-3.2**
PUZ				S	**Sn**	**00 53 07.2**	**-4.8**
RUGZ	**Raukumara Rang**	**8.77**	**207**	P	Pn	00 51 32.5	-4.9
RUGZ				S	**Sn**	**00 53 11.7**	**-3.4**
WCZ	**Waipu Caves**	**9.01**	**228**	P	Pn	00 51 47.8	+7.2
OUZ	**Omahuta**	**9.12**	**234**	P	Pn	00 51 49.4	+7.4
TKGZ	**Te Karaka**	**9.13**	**204**	P	**Pn**	**00 51 41.6**	**-0.5**
TKGZ				S	**Sn**	**00 53 20.9**	**-2.7**
MWZ	**Matawai**	**9.15**	**206**	P	**Pn**	**00 51 39.9**	**-2.6**
RIGZ	**Rimuhau**	**9.39**	**204**	S	**Sn**	**00 53 27.5**	**-2.7**
BKZ	**Black Stump Fm**	**10.28**	**208**	P	**Pn**	**00 51 58.7**	**+0.8**
BKZ	**Black Stump Fm**	**10.28**	**208**	Pn	**Pn**	**00 52 01.6**	**+3.7**
MCHZ	**McNeill Hill**	**10.44**	**206**	P	**Pn**	**00 51 58.7**	**-1.4**
KWHZ	**Kaweka Forest**	**10.53**	**207**	P	Pn	00 52 16.5	+15
KWHZ				S	**Sn**	**00 53 53.3**	**-4.7**
KAHZ	**Kahuranaki**	**10.68**	**205**	P	**Pn**	**00 52 00.7**	**-2.7**
KAHZ				S	**Sn**	**00 53 57.4**	**-4.3**
PNHZ	**Pukenui**	**11.03**	**207**	P	**Pn**	**00 52 08.5**	**+0.3**
PRHZ	**Porangahau**	**11.18**	**204**	P	**Pn**	**00 52 07.2**	**-3.0**
DZM	**Mont Dzumac**	**16.64**	**295**	Pn	**P**	**00 53 27.5**	**+1.8**
	0.5nm,0.3s,baz=88,slow=15,SNR=5.2						
ARMA	**Armidale**	**26.74**	**262**	P	**P**	**00 55 12.1**	**+2.7**
ARMA				IAmb	IAmb	00 55 17.1	
	comp=Z,21nm,0.9s						
EIDS	**Eidsvold**	**28.29**	**272**	P	**P**	**00 55 24.9**	**+1.7**
EIDS				IAmb	IAmb	00 55 33.9	
	comp=Z,8.8nm,0.8s						
CAN	**Canberra**	**28.67**	**251**	P	**P**	**00 55 28.9**	**+2.3**
CAN				IAmb	IAmb	00 55 30.5	
	comp=Z,25nm,0.9s						
TOO	**Toolangi**	**31.56**	**246**	P	**P**	**00 55 54.5**	**+2.4**
CTA	**Charters Tower**	**34.32**	**278**	P	**P**	**00 56 18.3**	**+2.0**
	comp=Z,14nm,0.6s,baz=98,slow=9.4,SNR=8.8						
CTAO	**Charters Tower**	**34.32**	**278**		**P**	**00 56 17.6**	**+1.3**
CTAO				IAmb	IAmb	00 56 24.7	
	comp=Z,23nm,0.8s						
STKA	**Stephens Creek**	**35.07**	**257**	P	**P**	**00 56 24.1**	**+1.5**
	comp=Z,18nm,0.7s,baz=93,slow=11,SNR=12						
STKA	**Stephens Creek**	**35.07**	**257**	P	**P**	**00 56 24.8**	**+2.1**
STKA				IAmb	IAmb	00 56 29.0	
	comp=Z,9.3nm,1.3s						
BBOO	**Buckleboo**	**39.56**	**254**	P	**P**	**00 57 01.2**	**+0.4**
BBOO				IAmb	IAmb	00 57 07.4	
	comp=Z,27nm,1.0s						
COEN	**Coen**	**39.76**	**285**	P	**P**	**00 57 04.3**	**+1.8**
AS31	**Alice Springs**	**43.68**	**266**	P	**P**	**00 57 35.3**	**+0.7**
ASAR	**Alice Springs**	**43.68**	**266**	P	**P**	**00 57 35.2**	**+0.6**
	comp=Z,8.2nm,0.7s,baz=102,slow=7.3,SNR=8.0						
ASAR	**Alice Springs**	**43.68**	**266**	P	**P**	**00 57 34.9**	**+0.2**
WRA	**Warramunga Arr**	**44.65**	**272**	P	**P**	**00 57 44.0**	**+1.5**
	comp=Z,15nm,0.5s,baz=112,slow=7.7,SNR=5.2						
WRA	**Warramunga Arr**	**44.65**	**272**	P	**P**	**00 57 43.2**	**+0.8**
VNDA	**Vanda**	**48.35**	**186**	P	**P**	**00 58 13.9**	**+3.2**
CASY	**Casey**	**55.58**	**208**	P	**P**	**00 59 05.4**	**+0.8**
QSPA	**South Pole Qui**	**59.91**	**180**	P	**P**	**00 59 37.5**	**+2.3**
	comp=Z,13nm,0.9s,baz=28,slow=1.6,SNR=6.3						
QSPA	**South Pole Qui**	**59.91**	**180**	P	**P**	**00 59 37.5**	**+2.3**
QSPA				IAmb	IAmb	00 59 46.9	
	comp=Z,17nm,0.7s						
MAW	**Mawson**	**72.69**	**200**	P	**P**	**01 00 58.1**	**+1.3**
	comp=Z,6.9nm,0.9s,baz=112,slow=11,SNR=4.0						
MAW	**Mawson**	**72.69**	**200**	P	**P**	**01 00 58.8**	**+2.0**
SYO	**Syowa Base**	**77.44**	**193**	||*e*P	**P**	**01 01 24.0**	**-0.1**
SYO	**Syowa Base**	**77.44**	**193**	||*e*PcP	**PcP**	**01 01 33.9**	**-0.5**
SNAA	**Sanae**	**78.34**	**178**	P	**P**	**01 01 30.6**	**+1.3**
SNAA	**Sanae**	**78.34**	**178**	P	**P**	**01 01 31.6**	**+2.3**
SNAA				IAmb	IAmb	01 01 41.1	
	comp=Z,5.9nm,0.8s						
MAJO	**Matsushiro**	**78.40**	**325**	P	**P**	**01 01 29.4**	**-0.5**
MAJO				IAmb	IAmb	01 01 34.2	
	comp=Z,32nm,1.0s						
VNA3	**Neumayer Olymp**	**78.47**	**176**	P	**P**	**01 01 30.8**	**+0.9**
VNA2	**Neumayer--Watz**	**78.91**	**177**	P	**P**	**01 01 34.0**	**+1.7**
	baz=177,slow=3.1						
VNA1	**Neumayer--Stat**	**79.14**	**176**	P	**P**	**01 01 35.1**	**+1.7**
H03S2	**Juan Fernandez**	**80.11**	**123**	T	T	02 30 56.3	
	baz=238,slow=74,SNR=11						
H03S1	**Juan Fernandez**	**80.12**	**123**	T	T	02 31 05.4	
	baz=238,slow=74,SNR=12						
H03S3	**Juan Fernandez**	**80.13**	**123**	T	T	02 30 59.8	
	baz=238,slow=74,SNR=11						
H03N3	**Juan Fernandez**	**80.30**	**123**	T	T	02 31 19.4	
	baz=242,slow=73,SNR=11						
H03N2	**Juan Fernandez**	**80.30**	**123**	T	T	02 31 13.2	
	baz=242,slow=73,SNR=12						
H03N1	**Juan Fernandez**	**80.31**	**123**	T	T	02 31 17.1	
	baz=242,slow=73,SNR=16						
NVAR	**Mina Array Bea**	**87.71**	**42**	P	**P**	**01 02 15.1**	**-3.1**
	comp=Z,9.6nm,0.8s,baz=238,slow=4.4,SNR=2.1						
KURBB	**Kurchatov Arra**	**121.35**	**314**	PKP	**PKiKP**	**01 08 21.1**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=110,slow=2.7,SNR=2.0						
BVAR	**Borovoye Array**	**126.65**	**316**	PKP	**PKiKP**	**01 08 32.1**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=48,slow=2.1,SNR=2.3						
ABKAR	**Akbulak array**	**133.20**	**311**		**PKiKP**	**01 08 46.0**	**+0.2**
ARU	**Arti**	**133.29**	**321**	PKP	**PKiKP**	**01 08 45.8**	**0.0**
	comp=Z,1.2nm,0.7s,baz=140,slow=23,SNR=1.9						
GEYT	**Allbeck**	**133.98**	**295**	PKP	**PKiKP**	**01 08 47.3**	**-0.5**
	comp=Z,2.3nm,0.7s,baz=198,slow=2.3,SNR=2.2						
FIA1	**FINESS Array S**	**145.14**	**340**		**PKPdf**	**01 09 05.2**	**-0.8**
FINES	**FINESS Array B**	**145.15**	**340**	PKPbc	**PKPdf**	**01 09 05.2**	**-0.7**
	comp=Z,7.2nm,0.4s,baz=51,slow=3.9,SNR=10						
FINES	**FINESS Array B**	**145.15**	**340**		**PKPdf**	**01 09 05.4**	**-0.6**
AKH	**Akhalkalaki**	**145.32**	**300**		**PKiKP**	**01 09 07.6**	**-3.5**
KBZ	**Khabaz**	**145.46**	**304**	PKPbc	**PKPab**	**01 09 07.4**	**0.0**
	comp=Z,6.4nm,0.9s,baz=338,slow=4.7,SNR=2.8						
NC303	**NORSAR Array S**	**148.43**	**352**		**PKiKP**	**01 09 15.2**	**-1.4**
NB2	**NORSAR Subarra**	**148.63**	**352**	PKP	**PKiKP**	**01 09 15.8**	**-1.3**
	comp=Z,3.3nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.63**	**352**	PKPbc	**PKiKP**	**01 09 15.9**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=210,slow=16,SNR=3.0						
HFS	**Hagfors**	**149.15**	**349**	PKPbc	**PKPbc**	**01 09 15.6**	**-1.3**
	comp=Z,1.7nm,0.5s,

BRTR **Keskin Array B** 152.99 299 PKPbc **PKiKP** 01 09 26.5 -0.5
comp=Z,1.0nm,0.8s,baz=125,slow=4.2,SNR=2.2
OSTC **Ostas** 157.26 337 *e*PKP **PKPab** 01 09 59.9 +4.1
OSTC *ex* x 01 10 06.7
CHVC **Chvalec** 157.28 337 *e*PKP PKPab 01 10 01.9 +5.9
CHVC *ex* x 01 10 07.4
DPC **Dobruska-Polom** 157.40 337 *e*PKP **PKPab** 01 10 00.5 +4.0
DPC *ex* x 01 10 09.2
CLL **Collm** 157.54 343 *e*PKPab **PKPab** 01 09 59.0 +2.0
comp=Z,6.0nm,1.0s
CLL *i* 01 10 09.0
comp=Z,8.0nm,0.8s
BRG **Berggiesshubel** 157.68 341 *e*PKP **PKPab** 01 10 01.8 +4.2
comp=Z,5.8nm,1.0s
NKC **Novy Kostel** 158.67 343 *e*PKP **PKPab** 01 10 06.3 +4.4
NKC *ex* x 01 10 14.5
KHC **Kasperske Hory** 159.34 339 *e*PKP **PKPab** 01 10 04.8 -0.1
KHC *ex* x 01 10 11.0
KHC *ex* x 01 10 17.3
GERES **GERESS Array B** 159.56 339 PKPab **PKPab** 01 10 06.1 +0.1
comp=Z,0.8nm,0.8s,baz=358,slow=3.4,SNR=2.9
TORD **Torodi Ar. Bea** 163.01 177 PKPab **PKPab** 01 10 19.4 -2.2
comp=Z,0.7nm,0.7s,baz=173,slow=3.5,SNR=1.8

DJA ***24*** *00:51:21.3±0.5,7°S±3°×13°1E±°, h139km±9km, M4.7/6, mb4.6/6, mb5.2/4, MLv4.9/6, Mw(mB)4.5/4*
NEIC ***24*** *00:51:21.8±1.7, 6°54S±0°05×130°59E±0°09, h106km±9km, mb4.6/12, Error ellipse: s-maj=14.0km s-min=6.2km az=102.0*
ISC 24 00:51:21.6±0.7,**6°56S**±0°07×**130°61E**±0°07,**h100**km,**n34,** σ1°**16**/35,**mb4.6**/4,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.57**	**154**	P	**Pn**	**00 51 51.0**	**+2.3**
SAUI				S	**Sn**	**00 52 09.8**	**+0.5**
SAUI	**Saumlaki**	**1.57**	**154**	Pn	**Pn**	**00 51 51.3**	**+2.6**
FAKI	**Fak Fak**	**3.97**	**24**	P	**Pn**	**00 52 20.1**	**-0.3**
FAKI	**Fak Fak**	**3.97**	**24**	Pn	**Pn**	**00 52 20.4**	**+0.1**
NLAI	**Namlea**	**4.81**	**313**	P	Pn	00 52 38.3	+6.6
	0.5nm6µm129nm,0.8s						
MTN	**Manton Dam**	**6.27**	**175**	Pn	**Pn**	**00 52 51.7**	**+0.2**
SANI	**Sanana**	**6.43**	**314**	P	**Pn**	**00 52 56.3**	**+2.6**
	0.2nm2µm33nm,0.7s						
SOEI	**Soe**	**7.04**	**243**	P	**Pn**	**00 53 03.2**	**+1.1**
	0.9nm79nm,1.0s						
SOEI	**Soe**	**7.04**	**243**	Pn	**Pn**	**00 53 02.8**	**+0.7**
SOEI					**Sn**	**00 54 20.6**	**-0.1**
KNRA	**Kununurra**	**9.24**	**191**	Pn	**Pn**	**00 53 30.7**	**-1.2**
COEN	**Coen**	**14.38**	**122**	Pn	**Pn**	**00 54 40.6**	**+0.1**
AS31	**Alice Springs**	**17.30**	**170**	P	**P**	**00 55 15.8**	**-1.1**
PSA00	**Pilbara Seismi**	**18.20**	**214**		**P**	**00 55 27.4**	**+0.7**
PSA00				IAmb	IAmb	00 55 28.1	
	comp=Z,22nm,0.6s						
CTAO	**Charters Tower**	**20.29**	**133**	P	**P**	**00 55 50.8**	**+1.3**
CTAO				IAmb	IAmb	00 55 57.6	
	comp=Z,27nm,1.4s						
CISI	**Cisompet, Garu**	**22.64**	**266**	P	**P**	**00 56 14.3**	**-0.3**
GSI	**Gunungsitoli**	**33.88**	**282**	P	**P**	**00 57 55.1**	**0.0**
ODAN	**Odare**	**53.43**	**310**	*e*P	**P**	**01 00 30.6**	**-1.2**
	comp=Z,7.9nm,0.5s						
TAPN	**Taplejung**	**53.45**	**311**	*e*P	**P**	**01 00 31.0**	**-1.0**
	comp=Z,13nm,0.4s						
RAMN	**Ramite**	**54.08**	**310**	*e*P	**P**	**01 00 35.7**	**-0.8**
	comp=Z,22nm,0.5s						
JIRN	**Jiri**	**54.76**	**311**	*e*P	**P**	**01 00 40.5**	**-1.1**
GUN	**Gumba**	**55.12**	**311**	*e*P	**P**	**01 00 43.2**	**-1.0**
	comp=Z,15nm,0.4s						
PKI	**Pulchoki**	**55.30**	**310**	*e*P	**P**	**01 00 43.9**	**-1.6**
PKIN	**Phulchoki**	**55.32**	**310**	*e*P	**P**	**01 00 43.9**	**-1.6**
KKN	**Kakani**	**55.51**	**310**	*e*P	**P**	**01 00 45.3**	**-1.6**
DMN	**Daman**	**55.55**	**310**	*e*P	**P**	**01 00 46.2**	**-1.0**
GKN	**Gorkha**	**56.11**	**310**	*e*P	**P**	**01 00 50.0**	**-1.1**
	comp=Z,7.0nm,0.2s						
KOLN	**Koldanda**	**56.79**	**309**	*e*P	**P**	**01 00 55.0**	**-0.9**
KDJ	**Kajisay**	**68.62**	**320**	P	**P**	**01 02 14.2**	**-0.1**
KDJ				IAmb	IAmb	01 02 32.0	
	comp=Z,4.8nm,0.8s						
AAK	**Ala-Archa**	**70.60**	**319**	P	**P**	**01 02 26.7**	**+0.3**
AAK				IAmb	IAmb	01 02 27.5	
	comp=Z,4.1nm,0.6s						
ARSB	**Arslanbob**	**70.97**	**318**	P	**P**	**01 02 28.6**	**-0.1**
ARSB				IAmb	IAmb	01 02 29.5	
	comp=Z,11nm,0.8s						
GAR	**Garm**	**71.79**	**315**	P	**P**	**01 02 33.1**	**-0.5**
GAR				IAmb	IAmb	01 02 33.8	
	comp=Z,12nm,0.9s						
KK31	**Karatay Array**	**73.41**	**319**	P	**P**	**01 02 42.3**	**-0.7**
KKAR	**Karatay Array**	**73.41**	**319**	P	**P**	**01 02 42.1**	**-0.8**
QSPA	**South Pole Qui**	**83.41**	**180**	P	**P**	**01 03 37.3**	**-0.4**

BJI ***24*** *00:52:26.9±0.0, 52°.11N×178°.29E, h104km, mB5.7/42, mb5.8/81*
MOS ***24*** *00:52:27.6±0.9, 52°.01N×178°.46E, h107km, mb5.7/138, Error ellipse: s-maj=5.3km s-min=3.9km az=99.6*
NEIC ***24*** *00:52:28.0±1.4, 51°.91N±0°.07×178°.44E±0°.08, h100km±3km, mb5.8/526, ML5.5(AEIC), Error ellipse: s-maj=10.3km s-min=6.7km az=198.0*
IDC ***24*** *00:52:28.4±0.8, 51°.98N×178°.48E, h100km±6km, mb5.3/57, mb1 5.3/60, mb1mx5.3/63, mbtmp5.6/60, MS4.7/8, Ms1 4.7/8, ms1mx4.3/43, Error ellipse: s-maj=7.8km s-min=6.3km az=139.0*
AEIC ***24*** *00:52:28±1.9, 51°.83N±0°.07×178°.37E±0°.08, h99km±3km, Error ellipse: s-maj=10.7km s-min=6.5km az=198.0*
UNK ***24*** *00:52:28.7, 51°.99N×178°.43E, h103km*
BGR ***24*** *00:52:34.5±0.0, 52°.91N×177°.05E, h101km±2km, mb5.4*
ISC 24 00:52:28.7±0.2,**51°.96N**±0°.03×**178°.46E**±0°.02,**h104**km±1km**,**
h104km:pP-P,n1949,σ0°**94**/2182,**mb5.7**/518,**51C-136D,**
Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.04**	**104**		**Pn**	**00 52 42.5**	**-0.7**
LSNW	**Little Sitkin**	**0.04**	**72**		**Pn**	**00 52 42.2**	**-0.9**
LSPA	**Little Sitkin**	**0.07**	**91**		**Pn**	**00 52 42.5**	**-0.7**
CESW	**Semis' Southwe**	**0.69**	**94**		**Pn**	**00 52 45.8**	**-0.6**
CERAA	**Semis' Rag'd T**	**0.76**	**93**		**Pn**	**00 52 46.6**	**-0.5**
AMKA	**Amchitka**	**0.78**	**137**		**Pn**	**00 52 45.9**	**-1.4**
AMKA					**Sn**	**00 52 58.7**	**-2.5**
GAEA	**Gareloi East**	**1.74**	**95**		**Pn**	**00 52 57.9**	**-0.3**
TASE	**Tanaga Southea**	**2.18**	**92**		**Pn**	**00 53 03.6**	**-0.2**
TAFP	**Tanaga Falls P**	**2.21**	**90**		**Pn**	**00 53 03.7**	**-0.4**
TAPA	**Tanaga Point A**	**2.32**	**92**		**Pn**	**00 53 05.3**	**-0.3**
KIMD	**Kanaga Island**	**2.68**	**93**		**Pn**	**00 53 09.9**	**-0.4**
KICM	**Kanaga Island**	**2.69**	**89**		**Pn**	**00 53 10.3**	**-0.1**
KIKV	**Kanaga Island**	**2.71**	**90**		**Pn**	**00 53 10.3**	**-0.4**
SMY	**Shemya**	**2.78**	**288**	P	**Pn**	**00 53 10.4**	**-1.2**
SMY	**Shemya**	**2.78**	**288**		**Pn**	**00 53 10.4**	**-1.2**
SMY					**Sn**	**00 53 43.1**	**-1.5**
ADK	**Adak**	**3.01**	**90**	P	**Pn**	**00 53 14.0**	**-0.6**
ADK	**Adak**	**3.01**	**90**		**Pn**	**00 53 14.0**	**-0.6**
ADAG	**Mount Adagdak**	**3.06**	**88**		**Pn**	**00 53 14.7**	**-0.5**
GSTD	**Great Sitkin T**	**3.34**	**86**		**Pn**	**00 53 18.4**	**-0.7**
GSTR	**Great Sitkin T**	**3.39**	**86**		**Pn**	**00 53 19.3**	**-0.4**
GSMY	**Great Sitkin M**	**3.39**	**86**		**Pn**	**00 53 19.3**	**-0.5**
ATKA	**Atka Island**	**4.54**	**84**		**Pn**	**00 53 34.9**	**-0.3**
ATKA	**Atka Island**	**4.54**	**84**		**Sn**	**00 54 26.1**	**-0.7**
KOFP	**Korovin Flat P**	**4.60**	**83**		**Pn**	**00 53 36.3**	**+0.2**
KOSE	**Korovin Southe**	**4.63**	**82**		**Pn**	**00 53 36.9**	**+0.5**
NIKH	**Nikolski High**	**7.82**	**78**		**Pn**	**00 54 19.2**	**-0.4**
OKCE	**Okmok Cone E**	**8.26**	**74**		**Pn**	**00 54 26.3**	**+0.7**
OKNC	**Okmok New Cone**	**8.29**	**74**		**Pn**	**00 54 26.5**	**+0.5**
SPIA	**Saint Paul Isl**	**8.39**	**47**		**Pn**	**00 54 29.6**	**+2.4**
OKFG	**Magazine Ridge**	**8.41**	**75**		**Pn**	**00 54 27.6**	**-0.1**
MSW	**Makushin Switc**	**9.13**	**72**		**Pn**	**00 54 38.2**	**+0.8**
UNV	**Unalaska Valle**	**9.29**	**72**	Pn	**Pn**	**00 54 39.8**	**+0.3**
AKUT	**Akutan**	**9.75**	**71**	Pn	**Pn**	**00 54 46.4**	**+0.7**
FALS	**False Pass**	**11.20**	**68**	Pn	**Pn**	**00 55 06.1**	**+0.7**
PET	**Petropavlovsk**	**12.12**	**283**	⇓*i*	*i*P	**Pn**	**00 55 16.8**	**-0.8**
PET					*e*S	**Sn**	**00 57 24.4**	**-6.2**
PET					pmax	pmax		
	comp=Z,3µm,4.8s						
PET					pmax	pmax		
	comp=Z,184nm,1.6s						
PET					MLR	MLR		
	comp=Z,2µm,16.0s						
PET	**Petropavlovsk**	**12.12**	**283**		Pn	**Pn**	**00 55 17.1**	**-0.5**
PEA0B	**Petropavlovsk-**	**12.69**	**283**		P	**Pn**	**00 55 25.2**	**0.0**
PEA0B	**Petropavlovsk-**	**12.69**	**283**		Pn	**Pn**	**00 55 25.2**	**0.0**
PETK	**Petropavlovsk-**	**12.69**	**283**		P	**Pn**	**00 55 25.1**	**-0.1**
	comp=Z,6.3nm,0.3s,baz=88,slow=16,SNR=105							
PETK					S	**Sn**	**00 57 38.0**	**-6.5**
	comp=Z,4.7nm,0.3s,baz=105,slow=17,SNR=2.9							
PETK					LR	LR	01 00 50.5	
	comp=Z,1µm,19.2s,baz=110,slow=40							
PETK					PcP	**PcP**	**01 00 53.8**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=153,slow=2.4,SNR=6.2							
PETK					ScP	**ScP**	**01 04 17.7**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=114,slow=3.6,SNR=13							
PETK	**Petropavlovsk-**	**12.69**	**283**		Pn	**Pn**	**00 55 24.7**	**-0.5**
GAMB	**Gambell**	**12.93**	**20**		Pn	**Pn**	**00 55 29.0**	**+0.7**
SDPT	**Sand Point**	**12.94**	**67**		Pn	**Pn**	**00 55 27.1**	**-1.3**
CNBA	**Chernabura Isl**	**13.40**	**69**		Pn	**Pn**	**00 55 32.0**	**-2.4**
SKR	**Severo-Kuril's**	**14.02**	**274**	*e*P		**Pn**	**00 55 42.4**	**-0.1**
SKR					*e*S	**Sn**	**00 58 08.1**	**-8.6**
SKR					pmax	pmax		
	comp=Z,1µm,3.4s							
SKR					pmax	pmax		
	comp=Z,62nm,0.6s							
SKR					MLR	MLR		
	comp=Z,2µm,19.0s							
SKR					MLR	MLR		
	comp=Z,2µm,15.0s							
ANM	**Nome**	**15.16**	**27**	P		**Pn**	**00 55 56.4**	**-0.6**
ANM					pmax	pmax		
	comp=Z,122nm,1.2s							
ANM	**Nome**	**15.16**	**27**			**Pn**	**00 55 56.4**	**-0.6**
CHIR	**Chirikof Islan**	**15.72**	**66**			**Pn**	**00 56 02.8**	**-1.2**
SVW2	**Sparrevohn**	**16.88**	**47**	P		**P**	**00 56 19.4**	**+0.7**
SVW2					IAmb	IAmb	00 56 23.9	
	comp=Z,396nm,0.9s							
BILL	**Bilibino**	**17.18**	**344**	*d*	*i*P	**Pn**	**00 56 23.7**	**+1.8**
BILL					pmax	pmax		
	comp=Z,234nm,1.0s							
BILL	**Bilibino**	**17.18**	**344**			**Pn**	**00 56 23.1**	**+1.2**
MA2	**Magadan**	**17.24**	**307**	P		**Pn**	**00 56 23.4**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=107,slow=8.3,SNR=8.4							
MA2					PcP	**PcP**	**01 00 59.2**	**-0.2**
	comp=Z,1.4nm,0.3s,baz=71,slow=2.6,SNR=3.6							
MA2	**Magadan**	**17.24**	**307**	⇓*e*	P	**Pn**	**00 56 24.0**	**+1.3**
MA2					pmax	pmax		
	comp=Z,27nm,1.0s							
MA2	**Magadan**	**17.24**	**307**	P		**Pn**	**00 56 23.5**	**+0.8**
KDAK	**Kodiak Island**	**17.57**	**59**	P		**P**	**00 56 24.3**	**-1.9**
	comp=Z,30nm,0.3s,baz=216,slow=1.9,SNR=192							
KDAK					S	**Sn**	**00 59 38.5**	**-3.6**
	comp=Z,2.9nm,0.3s,baz=61,slow=19,SNR=2.6							
KDAK					LR	LR	01 03 08.4	
	comp=Z,4µm,21.8s,baz=334,slow=36							
KDAK					ScP	**ScP**	**01 04 26.0**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=79,slow=0.3,SNR=9.5							
KDAK	**Kodiak Island**	**17.57**	**59**	P		**P**	**00 56 24.3**	**-1.9**
KDAK					pmax	pmax		
	comp=Z,503nm,0.8s							
KDAK	**Kodiak Island**	**17.57**	**59**	P		**P**	**00 56 24.2**	**-1.9**
KDAK					IAmb	IAmb	00 56 28.1	
	comp=Z,504nm,0.8s							
RSO	**Redoubt South**	**18.00**	**51**	P		**Pn**	**00 56 32.7**	**+0.7**
HOM	**Homer**	**18.36**	**53**	P		**P**	**00 56 35.0**	**+0.2**
RDOG	**Red Dog Mine**	**18.50**	**22**	Pn		**Pn**	**00 56 38.6**	**+0.9**
CNPM	**China Poot**	**18.53**	**54**	P		**P**	**00 56 36.5**	**-0.3**
CNPM					IAmb	IAmb	00 56 38.9	
	comp=Z,891nm,1.1s							
BRLK	**Bradley Lake**	**18.75**	**53**	P		**P**	**00 56 38.8**	**-0.4**
BRLK					IAmb	IAmb	00 56 40.9	
	comp=Z,666nm,0.8s							
CAPN	**Captain Cook N**	**18.84**	**50**	P		**Pn**	**00 56 41.3**	**-0.5**
	baz=256,SNR=23							
PPLA	**Purkeypile**	**19.03**	**44**			**Pn**	**00 56 44.0**	**-0.1**
O22K	**Cooper Landing**	**19.46**	**52**	P		**P**	**00 56 46.8**	**-0.1**
	baz=258,SNR=11							
SEW	**Seward**	**19.52**	**53**	P		**P**	**00 56 46.5**	**-1.0**
BPAW	**Bear Paw Mtn.**	**19.99**	**41**	P		**Pn**	**00 56 54.5**	**-0.7**
BPAW					IAmb	IAmb	00 56 56.0	
	comp=Z,605nm,1.0s							
PMR	**Palmer**	**20.00**	**49**	P		**P**	**00 56 52.5**	**-0.1**
PMR					pmax	pmax		
	comp=Z,270nm,1.0s							
PMR	**Palmer**	**20.00**	**49**	P		**P**	**00 56 52.5**	**-0.1**
PMR					IAmb	IAmb	00 56 57.4	
	comp=Z,270nm,1.0s							
TRF	**Thorofare Moun**	**20.04**	**43**	P		**P**	**00 56 54.1**	**+0.9**
GHO	**Glory Hole Cre**	**20.14**	**48**	P		**P**	**00 56 54.0**	**-0.2**
GHO					IAmb	IAmb	00 56 57.3	
	comp=Z,444nm,0.9s							
KNK	**Knik Glacier**	**20.27**	**49**	P		**P**	**00 56 55.2**	**-0.4**
SML	**Sawmill**	**20.42**	**48**	P		**P**	**00 56 56.7**	**-0.5**
MLY	**Manley**	**20.47**	**38**	P		**P**	**00 56 58.6**	**+0.8**
RND	**Reindeer**	**20.63**	**44**	P		**P**	**00 56 59.2**	**-0.3**
RND					pmax	pmax		
	comp=Z,351nm,1.1s							
RND	**Reindeer**	**20.63**	**44**	P		**P**	**00 56 59.2**	**-0.3**
RND					IAmb	IAmb	00 57 19.9	
	comp=Z,351nm,1.1s							
MCK	**McKinley**	**20.70**	**43**	P		**P**	**00 57 00.2**	**0.0**
MCK					pmax	pmax		
	comp=Z,542nm,1.0s							
MCK	**McKinley**	**20.70**	**43**	P		**P**	**00 57 00.2**	**0.0**
MCK					IAmb	IAmb	00 57 04.2	
	comp=Z,542nm,1.0s							
GLI	**Glacier Island**	**20.81**	**51**	P		**P**	**00 57 00.7**	**-0.8**
SCM	**Sheep Creek Mo**	**20.89**	**48**	P		**P**	**00 57 02.3**	**0.0**
SCM					pmax	pmax		
	comp=Z,1µm,1.1s							
SCM	**Sheep Creek Mo**	**20.89**	**48**	P		**P**	**00 57 02.2**	**0.0**
NEA2	**Nenana**	**20.95**	**40**	P		**P**	**00 57 04.0**	**+1.2**
	baz=248,SNR=262							
MID	**Middleton Isla**	**20.99**	**55**	P		**P**	**00 57 03.7**	**+0.4**
MID					pmax	pmax		
	comp=Z,2µm,0.9s							
MID	**Middleton Isla**	**20.99**	**55**	P		**P**	**00 57 03.7**	**+0.4**
HIN	**Hinchinbrook I**	**21.02**	**53**	P		**P**	**00 57 03.8**	**0.0**
FID	**Port Fidalgo**	**21.09**	**52**	P		**P**	**00 57 03.6**	**-0.8**
DHY	**Denali Highway**	**21.17**	**45**	P		**P**	**00 57 05.4**	**0.0**
KUR	**Kuril'sk**	**21.21**	**264**	⇓*i*	*i*P	**P**	**00 57 06.1**	**+0.3**
KUR					*i* S	**S**	**01 00 57.8**	**+2.3**
KUR					pmax	pmax		
	comp=N,70nm,1.1s							
KUR					pmax	pmax		
	comp=Z,579nm,1.1s							
KUR					pmax	pmax		
	comp=E,182nm,1.3s							
KUR					pmax	pmax		
	comp=Z,3µm,6.2s							
KUR					smax	smax		
	comp=E,4µm,5.6s							
KUR					smax	smax		
	comp=N,4µm,6.0s							
KUR					MLR	MLR		
	comp=Z,1µm,14.0s							
WRH	**Wood River Hil**	**21.30**	**41**	P		**P**	**00 57 06.3**	**-0.3**
WRH					IAmb	IAmb	00 57 10.3	
	comp=Z,327nm,1.0s							
EYAK	**Cordova Ski Ar**	**21.41**	**52**	P		**P**	**00 57 08.0**	**+0.1**
MDM	**Murphy Dome**	**21.42**	**40**	P		**P**	**00 57 08.7**	**+0.8**
CCB	**Clear Creek Bu**	**21.48**	**41**	P		**P**	**00 57 08.0**	**-0.5**
TCOL	**CIGO, UAF Yank**	**21.53**	**40**	P		**P**	**00 57 09.5**	**+0.4**
	baz=249,SNR=40							
COLA	**College**	**21.54**	**40**	*c*	*i*P	**P**	**00 57 09.2**	**+0.1**
COLA					pmax	pmax		
	comp=Z,232nm,0.9s							
COLA	**College**	**21.54**	**40**	P		**P**	**00 57 09.5**	**+0.4**
COLA					IAmb	IAmb	00 57 13.5	
	comp=Z,349nm,0.9s							
COLD	**Coldfoot**	**21.67**	**33**	P		**P**	**00 57 11.3**	**+0.8**
	baz=241,SNR=89							
COLD	**Coldfoot**	**21.67**	**33**	P		**P**	**00 57 11.3**	**+0.8**
HDA	**Harding Lake**	**21.75**	**42**	P		**P**	**00 57 10.0**	**-1.4**
	baz=252,SNR=101							
HDA	**Harding Lake**	**21.75**	**42**	P		**P**	**00 57 10.0**	**-1.4**
POKR	**Poker Flat Res**	**21.79**	**40**	P		**P**	**00 57 12.1**	**+0.2**
	baz=249,SNR=87							
IL31		**21.89**	**41**	P		**P**	**00 57 11.2**	**-1.6**
ILAR	**Eielson Array**	**21.89**	**41**	P		**P**	**00 57 11.3**	**-1.5**
	comp=Z,81nm,0.9s,baz=241,slow=8.9,SNR=118							
ILAR					PcP	**PcP**	**01 01 07.6**	**-0.1**
	comp=Z,5.1nm,0.5s,baz=256,slow=2.7,SNR=6.7							
ILAR					ScP	**ScP**	**01 04 34.1**	**-1.0**
	comp=Z,20nm,0.8s,baz=279,slow=2.9,SNR=20							
ILAR					P3KPbc		01 30 58.1	
	comp=Z,5.1nm,0.9s,baz=59,slow=3.6,SNR=26							
ILAR	**Eielson Array**	**21.89**	**41**	P		**P**	**00 57 11.1**	**-1.8**
ILAR						**ScP**	**01 04 32.8**	**-2.4**
RAGM	**Ragged Mountai**	**21.92**	**53**	P		**P**	**00 57 13.7**	**+0.4**
PAX	**Paxson**	**21.99**	**46**	P		**P**	**00 57 14.0**	**0.0**
PAX				pmax	pmax			
	comp=Z,821nm,1.1s							
PAX	**Paxson**	**21.99**	**46**	P		**P**	**00 57 14.0**	**0.0**
PAX				IAmb	IAmb	00 57 17.0		
	comp=Z,821nm,1.1s							
TYV	**Tymovskoe**	**22.22**	**281**	*e*P		**P**	**00 57 18.0**	**+1.6**
TYV				pmax	pmax			
	comp=Z,2µm,3.8s							
TYV				pmax	pmax			
	comp=Z,135nm,0.9s							
RIDG	**Independent Ri**	**22.44**	**44**	P		**P**	**00 57 18.0**	**-0.7**
GLB	**Gilahina Butte**	**22.47**	**50**	P		**P**	**00 57 19.1**	**+0.1**
TOLK	**Toolik Lake Re**	**22.59**	**30**	P		**P**	**00 57 21.4**	**+1.2**
	baz=239,SNR=94							
TOLK	**Toolik Lake Re**	**22.59**	**30**	P		**P**	**00 57 21.3**	**+1.2**
TOLK				IAmb	IAmb	00 57 24.0		
	comp=Z,652nm,0.9s							
VRDI	**Verde Repeater**	**22.61**	**51**	P		**P**	**00 57 20.6**	**-0.1**
PRP	**Porcupine Dome**	**22.68**	**39**	P		**P**	**00 57 20.1**	**-1.2**
CRQM	**Cirque**	**22.72**	**52**	P		**P**	**00 57 21.7**	**0.0**
MENT	**Mentasta**	**22.76**	**46**	P		**P**	**00 57 22.1**	**+0.2**
MENT				IAmb	IAmb	00 57 30.9		
	comp=Z,262nm,0.8s							
DOT	**Dot Lake**	**22.76**	**45**	P		**P**	**00 57 21.5**	**-0.4**
DOT				IAmb	IAmb	00 57 24.4		
	comp=Z,516nm,0.8s							
WAX	**Waxell Ridge**	**22.83**	**53**	P		**P**	**00 57 22.7**	**0.0**
MCARA	**McCarthy VSAT**	**22.84**	**51**	P		**P**	**00 57 23.0**	**+0.4**
TGL	**Tana Glacier**	**22.87**	**52**	P		**P**	**00 57 23.1**	**+0.1**
SCRK	**Sand Creek**	**22.87**	**44**	P		**P**	**00 57 22.3**	**-0.8**
YUK	**Yuzh-Kuril'sk**	**23.05**	**263**	*e*P		**P**	**00 57 24.3**	**-0.5**
YUK					*i* *SP	**sP**	**00 57 57.9**	**+0.4**
YUK					*i* S	**S**	**01 01 28.3**	**+0.9**
YUK					*i* *SS	**sS**	**01 02 07.0**	**+2.1**
YUK				pmax	pmax			
	comp=Z,865nm,0.9s							
YUK				pmax	pmax			
	comp=N,389nm,0.6s							
YUK				pmax	pmax			
	comp=E,172nm,0.7s							
YUK				pmax	pmax			
	comp=Z,593nm,1.5s							
ISLE	**Juniper Island**	**23.09**	**53**	P		**P**	**00 57 25.3**	**0.0**
ISLE				IAmb	IAmb	00 57 27.9		
	comp=Z,673nm,1.0s							
BALM	**Baldy**	**23.13**	**52**	P		**P**	**00 57 25.3**	**-0.3**
BALM				IAmb	IAmb	00 57 28.2		
	comp=Z,542nm,1.0s							
FYU	**Fort Yukon**	**23.16**	**37**	P		**P**	**00 57 26.5**	**+0.9**
FYU				IAmb	IAmb	00 57 29.3		
	comp=Z,798nm,1.1s							
YAH	**Yahtse**	**23.37**	**53**	P		**P**	**00 57 28.3**	**+0.4**
BARN	**Barnard Glacie**	**23.46**	**52**	P		**P**	**00 57 29.1**	**+0.3**
YSS	**Yuzh-Sakhalins**	**23.58**	**272**	*K*	*i*P	**P**	**00 57 30.7**	**+1.1**
YSS					*e*PP	**pP**	**00 57 50.4**	**-0.5**
YSS					*e*SP	**sP**	**00 58 02.3**	**-1.2**
YSS					*e*S	**S**	**01 01 33.0**	**-2.8**
YSS				pmax	pmax			
	comp=Z,390nm,0.8s							
YSS				pmax	pmax			
	comp=Z,1µm,6.3s							
YSS				smax	smax			
	comp=N,2µm,6.5s							
YSS				smax	smax			
	comp=E,2µm,4.3s							
YSS				MLR	MLR			
	comp=Z,2µm,15.0s							
YSS	**Yuzh-Sakhalins**	**23.58**	**272**	P		**P**	**00 57 30.4**	**+0.7**
YSS				IAmb	IAmb	00 57 33.5		
	comp=Z,322nm,0.8s							
CTGM	**Chitina Glacie**	**23.61**	**52**	P		**P**	**00 57 30.3**	**+0.3**
BCAR	**Beaver Creek A**	**23.65**	**47**	P		**P**	**00 57 29.9**	**-0.3**
TABL	**Table Mountain**	**23.68**	**53**	P		**P**	**00 57 30.7**	**0.0**
BMAR	**Burnt Mountain**	**23.72**	**35**	P		**P**	**00 57 31.2**	**+0.4**
MIDW	**Midway**	**23.92**	**171**	P		**P**	**00 57 33.0**	**+0.2**
MIDW				IAmb	IAmb	00 57 35.9		
	comp=Z,504nm,1.1s							
PCA	**Pinnacle**	**24.11**	**54**	P		**P**	**00 57 34.2**	**-0.1**
EGAK	**Eagle**	**24.25**	**43**	P		**P**	**00 57 35.9**	**+0.4**
YKU2	**Yakutat**	**24.40**	**55**	P		**P**	**00 57 37.2**	**+0.3**
DAWY	**Dawson**	**24.87**	**45**	P		**P**	**00 57 41.8**	**+0.5**
DAWY				IAmb	IAmb	00 57 45.3		
	comp=Z,481nm,0.9s							
JKA	**Kamikawa-asahi**	**25.02**	**266**	P		**P**	**00 57 43.4**	**+0.7**
JKA				IAmb	IAmb	00 57 45.5		
	comp=Z,296nm,0.9s							
ASAJ	**Asahikawa**	**25.02**	**266**	P		**P**	**00 57 43.6**	**+0.8**
	comp

comp=Z,123nm,1.0s
INK Inuvik 27.98 36 P P 00 58 10.0 +1.0
TEY Ternei 28.27 273 ⇓*i*P **P 00 58 11.5 -0.3**
TEY *e* 01 02 47.7
TEY pmax pmax
comp=E,40nm,1.2s
TEY pmax pmax
comp=N,10.0nm,1.3s
TEY pmax pmax
comp=Z,60nm,1.2s
CRAG Craig 28.41 64 P P 00 58 13.1 +0.1
CRAG IAmb IAmb 00 58 15.0
comp=Z,144nm,1.1s
WRAK Wrangell Islan 28.62 61 P P 00 58 15.8 +0.9
WRAK IAmb IAmb 00 58 17.2
comp=Z,129nm,0.9s
TIXI Tiksi 29.29 330 P P 00 58 20.4 -0.2
comp=Z,5.5nm,0.4s,baz=110,slow=12,SNR=14
TIXI PcP **PcP 01 01 24.6 +0.1**
comp=Z,30nm,0.8s,baz=109,slow=4.5,SNR=10
TIXI Tiksi 29.29 330*d i*P **P 00 58 20.1 -0.5**
TIXI pmax pmax
comp=Z,10.0nm,0.7s
TIXI Tiksi 29.29 330 P **P 00 58 20.2 -0.5**
TIXI **PcP 01 01 24.4 0.0**
DIB Dawson Inlet, 29.38 68 P **P 00 58 21.8 +0.2**
KLR Kul'dur 29.38 283 P **P 00 58 21.6 0.0**
comp=Z,162nm,0.8s,baz=62,slow=8.7,SNR=173
KLR PcP **PcP 01 01 25.2 +0.1**
comp=Z,8.4nm,0.7s,baz=114,slow=6.2,SNR=3.7
KLR Kul'dur 29.38 283*d i*P **P 00 58 21.2 -0.5**
KLR pmax pmax
comp=Z,184nm,0.9s
DLBC Dease Lake 29.47 57 P **P 00 58 23.6 +1.1**
comp=Z,122nm,0.9s,baz=283,slow=9.1,SNR=193
DLBC Dease Lake 29.47 57 P **P 00 58 23.6 +1.1**
DLBC IAmb IAmb 00 58 25.2
comp=Z,165nm,0.9s
MOBC Moresby Island 29.69 68 P **P 00 58 24.4 0.0**
ZEA Zeya 30.43 294 *e*P **P 00 58 30.0 -0.9**
ZEA *e*S **S 01 03 21.5 -2.4**
ZEA *e* 01 04 02.0
ZEA pmax pmax
comp=N,47nm,1.0s
ZEA pmax pmax
comp=E,71nm,1.0s
ZEA pmax pmax
comp=Z,160nm,1.0s
ZEA smax smax
comp=E,1μm,5.0s
ZEA smax smax
comp=N,800nm,4.0s
ZEA MLR MLR
comp=Z,1μm,18.0s
A36M Sachs Harbour 31.42 30 P **P 00 58 41.6 +2.2**
baz=261,SNR=141
USA0B Ussuriysk Arra 31.54 274*d i*P **P 00 58 40.2 -0.5**
USA0B Ussuriysk Arra 31.54 274 P **P 00 58 40.5 -0.2**
USA0B PcP **PcP 01 01 31.5 +0.7**
USRK Ussuriysk Ar. 31.54 274 P **P 00 58 40.3 -0.4**
comp=Z,55nm,0.8s,baz=58,slow=8.2,SNR=93
USRK PcP **PcP 01 01 31.4 +0.7**
comp=Z,37nm,0.7s,baz=57,slow=2.0,SNR=22
USRK S **S 01 03 40.6 -0.7**
comp=Z,1.2nm,0.6s,baz=139,slow=41,SNR=0.9
USRK ScP **ScP 01 05 05.0 +0.8**
comp=Z,11nm,1.1s,baz=64,slow=4.4,SNR=13
USRK Ussuriysk Ar. 31.54 274 P **P 00 58 40.3 -0.4**
USRK **PcP 01 01 31.5 +0.7**
USRK ScP **ScP 01 05 05.4 +1.2**
VLA Vladivostok 32.17 273*d i*P **P 00 58 46.6 +0.4**
VLA pmax pmax
comp=Z,126nm,1.2s
MJAR Matsushiro Arr 32.21 257 P **P 00 58 47.5 +0.7**
comp=Z,44nm,0.7s,baz=50,slow=7.3,SNR=67
MJAR PcP **PcP 01 01 33.3 +0.5**
comp=Z,12nm,0.8s,baz=339,slow=0.4,SNR=8.4
MJAR ScP **ScP 01 05 06.5 -0.2**
comp=Z,5.3nm,1.0s,baz=303,slow=1.2,SNR=8.8
MJAR Matsushiro Arr 32.21 257 P **P 00 58 47.3 +0.6**
MJAR **PcP 01 01 33.1 +0.2**
MJAR ScP **ScP 01 05 08.5 +1.8**
MJB9 Matsu-Tunnel 32.21 257 P **P 00 58 47.4 +0.6**
MJB9 IAmb IAmb 00 58 48.8
comp=Z,184nm,1.0s
MJB9 **PcP 01 01 32.9 0.0**
MAJO Matsushiro 32.22 257*d i*P **P 00 58 47.0 +0.2**
MAJO pmax pmax
comp=Z,166nm,0.9s
MAJO Matsushiro 32.22 257 P **P 00 58 47.4 +0.7**
MAJO IAmb IAmb 00 58 48.9
comp=Z,187nm,1.0s
BBB Bella Bella 32.22 68 P **P 00 58 46.8 +0.2**
BBB IAmb IAmb 00 58 48.1
comp=Z,131nm,1.0s
MDJ Mudanjiang 32.80 277 P **P 00 58 51.0 -0.8**
MDJ S **S 01 04 00.8 -0.1**
MDJ pmax pmax
comp=Z,47nm,1.3s
MDJ pmax pmax
comp=Z,1μm,13.2s
MDJ Mudanjiang 32.80 277 P **P 00 58 50.9 -0.8**
MSHR Mys Shultsa 32.91 272*d i*P **P 00 58 53.2 +0.5**
H11N2 WAKE ISLAND Hy 33.41 200 T T 01 34 19.9
baz=11,slow=76,SNR=37
H11N3 WAKE ISLAND Hy 33.42 200 T T 01 34 37.1
baz=11,slow=76,SNR=42
H11N1 WAKE ISLAND Hy 33.43 200 T T 01 34 21.3
baz=11,slow=76,SNR=31
JHJ2 Mitsune 33.62 251 P **P 00 58 58.9 -0.1**
JHJ Hachijo jima 2 33.63 251 P **P 00 58 59.8 +0.7**
comp=Z,362nm,0.9s,baz=169,slow=4.4,SNR=13
INU Inuyama 33.73 257 P **P 00 59 00.0 +0.1**
WAKE Wake Island 33.90 200 P **P 00 59 01.4 -0.1**
CHJN Chongjin 34.18 272 P **P 00 59 03.1 -0.7**
H11S1 WAKE ISLAND Hy 34.64 200 T T 01 35 52.7
baz=11,slow=76,SNR=46
H11S2 WAKE ISLAND Hy 34.66 200 T T 01 36 02.3
baz=11,slow=76,SNR=38
H11S3 WAKE ISLAND Hy 34.66 200 T T 01 35 49.6
baz=11,slow=76,SNR=59
OPA Opana 35.29 140 P **P 00 59 13.7 +0.2**
OPA pmax pmax
comp=Z,315nm,1.2s
OPA Opana 35.29 140 P **P 00 59 13.7 +0.2**
KIP Kipapa 35.52 140*de*P **P 00 59 17.3 +1.8**
KIP pmax pmax
comp=Z,260nm,1.1s
KIP Kipapa 35.52 140 P **P 00 59 16.5 +1.0**
YKA Yellowknife Ar 36.07 47 P **P 00 59 20.5 +0.7**
comp=Z,124nm,0.9s,baz=282,slow=8.9,SNR=368
YKA PP **PnPn 01 00 47.9 +3.9**
comp=Z,31nm,1.1s,baz=275,slow=10,SNR=4.6
YKA ScP **ScP 01 05 18.9 -1.0**
comp=Z,32nm,1.0s,baz=275,slow=3.3,SNR=25
YKA LR LR 01 14 32.3
comp=Z,3μm,21.5s,baz=0.0,slow=37
YKA P3KPbc 01 29 55.2
comp=Z,1.0nm,0.9s,baz=93,slow=4.9,SNR=3.7
PGC Sidney 36.40 72 P **P 00 59 22.8 +0.1**
JOHN Johnston Islan 36.42 160 P **P 00 59 23.8 +0.7**
LLLB Lillooet 36.43 68 P **P 00 59 23.2 +0.2**
LLLB IAmb IAmb 00 59 24.7
comp=Z,141nm,1.1s
HIA Hailar 36.48 290*d i*P **P 00 59 22.8 -0.6**
HIA pmax pmax
comp=Z,91nm,1.0s
HIA Hailar 36.48 290 P **P 00 59 22.9 -0.6**
HIA IAmb IAmb 00 59 24.2
comp=Z,99nm,1.0s
KGE Kanggye 36.64 273 P **P 00 59 25.6 +0.8**
HHU Hamhung 36.67 271 S **S 01 05 01.5 +1.1**
NLWA Neilton Lookou 36.76 74 P **P 00 59 26.1 +0.3**
NLWA IAmb IAmb 00 59 27.9
comp=Z,178nm,1.1s
A04D Lummi Island 36.81 71 P **P 00 59 26.6 +0.5**
baz=298,SNR=13
JCJ Chichijima 36.81 242 P **P 00 59 26.9 +0.5**
D03D Eldon 37.15 73 P **P 00 59 29.8 +0.7**
baz=299,SNR=52
WOSN Wonsan 37.19 270 P **P 00 59 30.0 +0.5**
E03A Lebam 37.36 75 P **P 00 59 31.4 +0.6**
B05A Bryant 37.38 71 P **P 00 59 31.4 +0.4**
baz=299,SNR=46
D04E Lakebay 37.51 73 P **P 00 59 33.1 +1.0**
baz=300,SNR=6.1
B06A Marblemount 37.62 71 P **P 00 59 32.8 -0.2**
B06A IAmb IAmb 00 59 34.0
comp=Z,98nm,1.1s
F03A Seaside 37.67 76 P **P 00 59 34.4 +0.9**
F04D Rainier, OR 37.92 75 P **P 00 59 36.1 +0.5**
baz=301,SNR=5.8
KSRS Korea Array 37.94 268 P **P 00 59 37.0 +1.2**
comp=Z,50nm,0.8s,baz=59,slow=8.2,SNR=102
KSRS PcP **PcP 01 01 50.3 +0.8**
comp=Z,27nm,0.9s,baz=63,slow=3.3,SNR=19
KSRS ScP **ScP 01 05 28.1 +0.9**
comp=Z,1.1nm,0.5s,baz=57,slow=5.4,SNR=5.6
KS19 Wonju Array Si 37.94 268 P **P 00 59 36.8 +0.9**
KS19 IAmb IAmb 00 59 38.5
comp=Z,98nm,1.1s
KS19 **PcP 01 01 50.1 +0.6**
E04D Cinebar 37.94 74 P **P 00 59 36.6 +0.8**
baz=301,SNR=23
HUH Hualalai 37.96 138 P **P 00 59 37.5 +1.0**
HUH IAmb IAmb 01 00 02.0
comp=Z,147nm,1.0s
KSAR Wonju Array Be 37.97 268 P **P 00 59 36.3 +0.2**
KSAR 01 01 50.3
KSAR Wonju Array Be 37.97 268 P **P 00 59 36.3 +0.2**
KSAR PcP **PcP 01 01 50.3 +0.7**
SNY Shenyang 38.00 277 ⇓P **P 00 59 36.8 +0.5**
SNY pP **pP 01 00 02.3 +2.3**
SNY sP **sP 01 00 14.4 +2.5**
SNY S **S 01 05 18.3 -2.3**
SNY pmax pmax
comp=Z,80nm,1.1s
SNY pmax pmax
comp=Z,1μm,12.0s
SNY LR LR
comp=Z,380nm,17.1s
SNY LR LR
comp=Z,570nm,19.8s
SNY LR LR
comp=Z,3μm,19.2s
POHA Pohakuloa 38.02 138 P **P 00 59 37.1 +0.2**
POHA IAmb IAmb 00 59 39.5
comp=Z,137nm,0.8s
PYS Pyongsong 38.11 272 P **P 00 59 38.7 +1.5**
G03D McMinnville, O 38.22 76 P **P 00 59 38.7 +0.6**
baz=302,SNR=5.5
C06D Leavenworth 38.25 71 P **P 00 59 38.6 +0.2**
baz=300
PYAG Pyongyang 38.29 272 P **P 00 59 39.9 +1.2**
PYAG S **S 01 05 27.5 +2.5**
F04A Amboy 38.35 75 P **P 00 59 39.5 +0.3**
F04A IAmb IAmb 00 59 40.7
comp=Z,136nm,1.1s
SUJ Sinuiju 38.44 274 P **P 00 59 40.4 +0.4**
SUJ S **S 01 05 29.2 +2.0**
I02D Swisshome 38.46 78 P **P 00 59 41.3 +1.2**
baz=303,SNR=12
COR Corvallis 38.53 77 P **P 00 59 41.8 +1.1**
COR pmax pmax
comp=Z,355nm,1.4s
COR Corvallis 38.53 77 P **P 00 59 41.8 +1.1**
LTY Liberty 38.71 72 P **P 00 59 42.2 -0.2**
LTY IAmb IAmb 00 59 43.3
comp=Z,119nm,1.2s
INCN Inchon 38.72 269 P **P 00 59 41.7 -0.7**
INCN Inchon 38.72 269 P **P 00 59 43.1 +0.7**
INCN pmax pmax
comp=Z,200nm,1.0s
INCN Inchon 38.72 269 P **P 00 59 43.0 +0.7**
INCN IAmb IAmb 00 59 44.6
comp=Z,200nm,1.0s
CIT Chita 38.76 297 *e*P **P 00 59 42.8 +0.2**
CIT *e* 01 00 05.6
CIT pmax pmax
comp=Z,194nm,1.3s
H04D Lebanon 38.90 77 P **P 00 59 44.9 +1.1**
baz=303,SNR=9.4
J01E Myrtle Point 38.92 80 P **P 00 59 45.3 +1.2**
baz=304,SNR=20
HJU Haeju 38.93 270 P **P 00 59 45.7 +1.6**
B08A Colville Reser 38.95 70 P **P 00 59 44.0 -0.2**
B08A IAmb IAmb 00 59 45.3
comp=Z,155nm,1.1s
F05D White Salmon 38.95 74 P **P 00 59 44.6 +0.3**
baz=302
JNU Nakatsue 38.97 260 P **P 00 59 45.6 +1.0**
comp=Z,131nm,1.0s,baz=42,slow=6.1,SNR=46
JNU PcP **PcP 01 01 52.4 -0.5**
comp=Z,37nm,0.9s,baz=40,slow=5.2,SNR=5.4
JNU Nakatsue 38.97 260 P **P 00 59 45.5 +1.0**
JNU IAmb IAmb 00 59 47.1
comp=Z,221nm,1.1s
TJN Taejon 38.97 267*d i*P **P 00 59 44.7 +0.3**
I03D Drain, OR 38.98 78 P **P 00 59 45.6 +1.1**
baz=303,SNR=28
K02D Willamette Mer 39.35 80 P **P 00 59 48.7 +1.0**
baz=304,SNR=34
G05D Wamic, OR 39.37 75 P **P 00 59 48.1 +0.3**
baz=302,SNR=6.4
I04A Tendick Farm, 39.50 78 P **P 00 59 49.5 +0.7**
baz=304,SNR=56
HAWA Hanford 39.83 73 P **P 00 59 51.7 +0.2**
HAWA IAmb IAmb 00 59 52.8
comp=Z,186nm,0.9s
C09A Chrisman Ranch 39.84 70 P **P 00 59 51.3 -0.4**
C09A IAmb IAmb 00 59 52.4
comp=Z,107nm,0.8s
I05D Terrebonne, OR 39.85 76 P **P 00 59 52.0 +0.3**
baz=303,SNR=17
KRMB Red Mountain 39.87 82 P **P 00 59 53.4 +1.4**
KRMB IAmb IAmb 00 59 54.3
comp=Z,106nm,0.9s
RES Resolute Bay 39.92 24 P **P 00 59 51.9 0.0**
comp=Z,34nm,0.7s,baz=293,slow=2.3,SNR=65
RES Resolute Bay 39.92 24 P **P 00 59 52.9 +1.0**
RES pmax pmax
comp=Z,140nm,1.3s
RES Resolute Bay 39.92 24 P **P 00 59 52.9 +1.0**
RES IAmb IAmb 01 00 21.4
comp=Z,140nm,1.2s
J04D Umpqua Nationa 39.99 78 P **P 00 59 53.9 +0.8**
baz=304,SNR=23
E08A Dider Farm, El 40.05 72 P **P 00 59 53.2 -0.2**
E08A IAmb IAmb 00 59 54.4
comp=Z,124nm,1.0s
JCC Jacoby Creek, 40.20 83 P **P 00 59 55.8 +1.2**
JCC IAmb IAmb 00 59 57.7
comp=Z,243nm,1.1s
NEW Newport 40.27 69 P **P 00 59 54.5 -0.7**
baz=300,SNR=72
NEW Newport 40.27 69 P **P 00 59 54.8 -0.4**
NEW pmax pmax
comp=Z,123nm,0.8s
NEW Newport 40.27 69 P **P 00 59 54.8 -0.4**
NEW IAmb IAmb 00 59 55.9
comp=Z,123nm,0.8s
KHMM Horse Mountain 40.35 82 P **P 00 59 57.7 +1.6**
L04D Klamath Falls 40.45 80 P **P 00 59 57.8 +0.9**
baz=305,SNR=58
YBH Yreka Blue Hor 40.48 81 P **P 00 59 58.5 +1.4**
YBH pmax pmax
comp=Z,226nm,0.9s
YBH Yreka Blue Hor 40.48 81 P **P 00 59 58.5 +1.4**
YBH IAmb IAmb 00 59 59.9
comp=Z,226nm,0.9s
J05D Fort Rock, OR 40.49 78 P **P 00 59 58.4 +1.2**
baz=304,SNR=44
K04D Chiloquin, OR 40.55 79 P **P 00 59 58.7 +1.0**
baz=305,SNR=16
M02C Callahan 40.59 81 P **P 00 59 59.5 +1.6**
baz=306,SNR=53
KMRM Mail Ridge 40.76 83 P **P 01 00 00.9 +1.6**
N02D Trinity Center 40.92 82 P **P 01 00 02.3 +1.6**
baz=306,SNR=36
DL2 Dalian 40.93 275 P **P 01 00 00.5 -0.1**
DL2 pmax pmax
comp=Z,110nm,0.9s
M04C Macdoel 40.98 80 P **P 01 00 02.6 +1.4**
baz=306,SNR=87
I07A Izee 41.09 76 P **P 01 00 02.2 +0.2**
I07A IAmb IAmb 01 00 03.5
comp=Z,99nm,0.9s
WDC Whiskeytown Da 41.26 82 P **P 01 00 04.4 +1.1**
WDC pmax pmax
comp=Z,170nm,0.9s
WDC Whiskeytown Da 41.26 82 P **P 01 00 04.4 +1.1**
WDC IAmb IAmb 01 00 05.8
comp=Z,170nm,0.9s
O02D Mt. Diablo Mer 41.35 83 P **P 01 00 05.8 +1.6**
baz=307,SNR=42
WALA Waterton Lakes 41.71 66 P **P 01 00 06.4 -0.6**
MOD Modoc Plateau 41.85 79 P **P 01 00 08.9 +0.6**
MOD IAmb IAmb 01 00 10.4
comp=Z,158nm,0.9s
O03E Paynes Creek 41.88 82 P **P 01 00 09.0 +0.4**
baz=307,SNR=77
HOPS Hopland Field 41.89 84 P **P 01 00 09.3 +0.9**
JTMT Jette 42.17 68 P **P 01 00 10.2 -0.7**
JTMT IAmb IAmb 01 00 11.7
comp=Z,226nm,1.5s
ORV Oroville 42.51 82 P **P 01 00 13.8 +0.3**
ORV pmax pmax
comp=Z,175nm,0.9s
ORV Oroville 42.51 82 P **P 01 00 13.8 +0.3**
ORV IAmb IAmb 01 00 15.0
comp=Z,175nm,0.9s
WVOR Wild Horse Val 42.55 77 P **P 01 00 14.1 +0.1**
WVOR pmax pmax
comp=Z,73nm,0.8s
WVOR Wild Horse Val 42.55 77 P **P 01 00 14.1 +0.1**
WVOR IAmb IAmb 01 00 15.6
comp=Z,73nm,0.8s
MSO Missoula 42.86 69 P **P 01 00 15.5 -1.0**
baz=303,SNR=95
MSO Missoula 42.86 69 P **P 01 00 15.8 -0.7**
MSO IAmb IAmb 01 00 16.9
comp=Z,102nm,0.7s
BJI Beijing 43.59 280 P **P 01 00 23.0 +0.9**
BJI PcP **PcP 01 02 07.8 0.0**
BJI pmax pmax
comp=Z,98nm,0.9s
BJT Baijiatuan 43.60 280 P **P 01 00 22.7 +0.4**
BJT pmax pmax
comp=Z,101nm,1.0s
BJT Baijiatuan 43.60 280 P **P 01 00 22.7 +0.4**
BJT IAmb IAmb 01 00 25.8
comp=Z,101nm,1.0s
RUBR Rubicon Trail 43.65 82 P **P 01 00 23.7 +0.7**
MFID Camas Ranch 43.66 74 P **P 01 00 22.6 -0.4**
IRK Irkutsk 43.68 301 *e*P **P 01 00 22.8 0.0**
IRK *e* 01 00 44.3
IRK pmax pmax
comp=Z,105nm,1.1s
KWAJ Kwajalein Atol 43.94 196 P **P 01 00 26.3 +1.1**
KWAJ pmax pmax
comp=Z,492nm,1.3s
KWAJ Kwajalein Atol 43.94 196 P **P 01 00 26.3 +1.1**
PNTR Pine Nut 43.96 82 P **P 01 00 26.6 +1.1**
CMB Columbia Colle 44.13 83 P **P 01 00 27.3 +0.7**
CMB pmax pmax
comp=Z,158nm,1.1s
CMB Columbia Colle 44.13 83 P **P 01 00 27.3 +0.7**
CMB IAmb IAmb 01 00 28.9
comp=Z,158nm,1.1s
HRY Holter Researc 44.14 68 P **P 01 00 26.1 -0.6**
YERR Yerington 44.25 81 P **P 01 00 28.5 +0.8**
YERR IAmb IAmb 01 00 29.8
comp=Z,210nm,0.9s
LRM Limekiln Ridge 44.28 69 P **P 01 00 27.0 -0.9**
SAO San Andreas Ge 44.29 86 P **P 01 00 28.1 +0.3**
SAO pmax pmax
comp=Z,123nm,1.0s
SAO San Andreas Ge 44.29 86 P **P 01 00 28.1 +0.3**
SAO IAmb IAmb 01 00 29.8
comp=Z,123nm,1.0s
TLY Talaya 44.30 301 P **P 01 00 28.2 +0.4**
comp=Z,15nm,0.6s,baz=44,slow=7.5,SNR=16
TLY PcP **PcP 01 02 11.2 +1.1**
TLY LR LR 01 18 12.6
comp=Z,652nm,21.5s,baz=72,slow=35
TLY Talaya 44.30 301 P **P 01 00 26.0 -1.8**
TLY Talaya 44.30 301*d i*P **P 01 00 28.0 +0.2**
TLY pmax pmax
comp=Z,43nm,1.0s
TLY Talaya 44.30 301 P **P 01 00 28.0 +0.2**
HLID Hailey 44.42 73 P **P 01 00 28.6 -0.4**
baz=306,SNR=77
HLID Hailey 44.42 73 P **P 01 00 28.6 -0.4**
HLID IAmb IAmb 01 00 30.1
comp=Z,106nm,0.9s
WAKR Walker 44.42 82 P **P 01 00 30.2 +1.1**
WAKR IAmb IAmb 01 00 31.5
comp=Z,211nm,0.9s
DLMT Dillon 44.45 70 P **P 01 00 28.0 -1.2**
ULN Ulaanbaatar 44.47 294 P **P 01 00 27.3 -2.0**
ULN Ulaanbaatar 44.47 294*d i*P **P 01 00 29.7 +0.4**
ULN pmax pmax
comp=Z,101nm,1.0s
ULN Ulaanbaatar 44.47 294 P **P 01 00 29.5 +0.2**
ULN IAmb IAmb 01 00 31.6
comp=Z,95nm,0.9s
EGMT Eagleton 44.60 65 P **P 01 00 29.3 -0.9**
baz=303,SNR=92
EGMT Eagleton 44.60 65 P **P 01 00 29.4 -0.9**
EGMT IAmb IAmb 01 00 31.8
comp=Z,123nm,0.9s
MCMT McKenzie Canyo 44.61 71 P **P 01 00 29.8 -0.8**
SONM Songino Array 44.85 295 P **P 01 00 33.0 +0.6**
comp=Z,46nm,0.8s,baz=58,slow=9.5,SNR=170
SONM PcP **PcP 01 02 12.5 +0.3**
comp=Z,31nm,0.7s,baz=72,slow=1.1,SNR=12
SONM ScP **ScP 01 05 55.2 +0.5**
comp=Z,26nm,1.1s,baz=78,slow=1.3,SNR=21
SONM S **S 01 07 03.3 +1.3**
comp=Z,0.3nm,0.3s,baz=26,slow=44,SNR=0.9
SONM Songino Array 44.85 295 P **P 01 00 32.7 +0.3**
SONM pmax pmax
comp=Z,56nm,1.0s
SONM Songino Array 44.85 295 P **P 01 00 32.7 +0.3**
SONM ScP **ScP 01 05 54.8 +0.1**
BOZ Bozeman (W) 44.88 69 P **P 01 00 31.8 -0.8**
baz=305,SNR=108
BOZ Bozeman (W) 44.88 69 P **P 01 00 31.8 -0.8**
BOZ pmax pmax
comp=Z,165nm,0.9s
BOZ Bozeman (W) 44.88 69 P **P 01 00 31.8 -0.8**
BOZ IAmb IAmb 01 00 33.1
comp=Z,165nm,0.9s
TULEG Thule 44.95 18 P **P 01 00 33.0 +0.4**
TULEG IAmb IAmb 01 00 33.7
comp=Z,58nm,0.6s
JOW Kunigami 45.03 256 P **P 01 00 34.9 +1.1**
comp=Z,14nm,0.9s,baz=93,slow=14,SNR=17
JOW Kunigami 45.03 256 P **P 01 00 34.1 +0.3**
PMPB Monarch Peak 45.04 86 P **P 01 00 34.8 +0.9**
PMPB IAmb IAmb 01 00 43.6
comp=Z,194nm,1.0s
NVAR Mina Array Bea 45.16 81 P **P 01 00 35.8 +0.8**
comp=Z,143nm,0.8s,baz=291,slow=7.6,SNR=208
NVAR ScP **ScP 01 05 55.9 -0.5**
comp=Z,19nm,0.8s,baz=292,slow=4.3,SNR=18
NVAR ScS **ScS 01 10 24.3 +3.1**
comp=Z,0.8nm,0.8s,baz=221,slow=13,SNR=3.6
NVAR LR LR 01 19 15.8
comp=Z,603nm,18.8s,baz=351,slow=36
NVAR Mina Array Bea 45.16 81 P **P 01 00 35.5 +0.5**
NVAR ScP **ScP 01 05 55.5 -0.8**
FFC Flin Flon 45.18 54 P **P 01 00 34.1 -0.6**
FFC pmax pmax
comp=Z,75nm,1.0s
FFC Flin Flon 45.18 54 P **P 01 00 34.1 -0.6**
ZAK Zakamensk 45.19 299 *e*P **P 01 00 34.8 -0.1**
ZAK *e* 01 02 13.7
ZAK pmax pmax
comp=Z,54nm,1.4s
MDPB Devils Postpil 45.19 83 P **P 01 00 36.2 +0.9**
OMMB Old Mammoth Mi 45.25 83 P **P 01 00 36.9 +1.1**
OMMB IAmb IAmb 01 00 38.2
comp=Z,166nm,1.0s
NV11 Mina Array Sit 45.25 81 P **P 01 00 36.1 +0.5**
NV11 IAmb IAmb 01 00 37.6
comp=Z,129nm,0.9s
TIA Tai'an 45.40 275 P **P 01 00 37.1 +0.4**
TIA pmax pmax
comp=Z,200nm,1.2s
QLMT Earthquake Lak 45.44 70 P **P 01 00 36.6 -0.4**
YHL Hebgen Lake 45.57 70 P **P 01 00 37.8 -0.5**
ELK Elko 45.60 77 P **P 01 00 37.6 -0.9**
ELK pmax pmax
comp=Z,71nm,1.0s
ELK Elko 45.60 77 P **P 01 00 37.6 -0.9**

YHB Horse Butte 45.62 70 P P 01 00 38.0 -0.5
PAGB Antelope Grade 45.69 86 P P 01 00 40.0 +1.1
PAGB IAmb IAmb 01 00 41.3
comp=Z,208nm,0.8s
MOY Mondy 45.71 302 eP P 01 00 39.4 +0.3
MOY pmax pmax
comp=Z,116nm,1.4s
VOG Valley Oaks Go 45.84 85 P P 01 00 40.7 +0.6
baz=310,SNR=5.7
HHC Hu-ho-hao-te 45.89 284 eP P 01 00 41.8 +1.2
HHC sP sP 01 01 15.3 -1.2
HHC S S 01 07 19.3 +2.3
HHC sS sS 01 07 54.8 -4.2
HHC pmax pmax
comp=Z,77nm,1.2s
HHC pmax pmax
comp=Z,640nm,5.5s
GCMT Greycliff 45.90 68 P P 01 00 40.2 -0.5
TIN Tinemaha, Big 46.08 83 P P 01 00 43.2 +1.1
baz=310,SNR=47
SMMC Simmler 46.12 86 P P 01 00 43.4 +1.0
baz=311,SNR=10.0
H17A Grant Village 46.19 70 P P 01 00 43.7 +0.7
baz=306
H17A Grant Village 46.19 70 P P 01 00 43.8 +0.7
H17A IAmb IAmb 01 00 45.1
comp=Z,161nm,0.9s
LKWY Lake 46.19 70 P P 01 00 43.6 +0.5
LKWY pmax pmax
comp=Z,93nm,1.0s
LKWY Lake 46.19 70 P P 01 00 43.6 +0.5
LKWY IAmb IAmb 01 00 44.9
comp=Z,93nm,0.9s
SSE Sheshan 46.31 266 P P 01 00 43.9 +0.1
SSE IAmb IAmb 01 00 46.1
comp=Z,207nm,1.0s
VES Vestal, Richgr 46.34 85 P P 01 00 44.3 +0.3
baz=311,SNR=88
FXWY Fox Creek 46.37 71 P P 01 00 44.3 -0.2
NOR Nord 46.44 3 i P P 01 00 44.5 +0.3
comp=Z,15nm,1.0s
NOR i 01 01 09.5
NOR Nord 46.44 3 i P P 01 00 44.5 +0.3
NOR i 01 01 09.5
NOR pmax pmax
comp=Z,15nm,1.0s
PKM Mcpherson Peak 46.51 86 P P 01 00 46.6 +1.0
baz=312,SNR=36
RLMT Red Lodge 46.52 68 P P 01 00 45.2 -0.3
baz=306,SNR=136
RLMT Red Lodge 46.52 68 P P 01 00 45.2 -0.3
RLMT IAmb IAmb 01 00 47.1
comp=Z,186nm,0.9s
CWC Cottonwood Cre 46.57 83 P P 01 00 46.7 +0.7
baz=310
GRAC Grapevine Rang 46.65 82 P P 01 00 47.4 +0.9
baz=310
FCC Fort Churchill 46.78 46 P P 01 00 47.3 +0.1
FCC pmax pmax
comp=Z,84nm,1.0s
FCC Fort Churchill 46.78 46 P P 01 00 47.3 +0.1
FCC IAmb IAmb 01 00 48.6
comp=Z,84nm,0.9s
GUMO Guam 46.79 228 P P 01 00 46.1 -1.6
comp=Z,223nm,0.6s,baz=323,slow=1.0,SNR=19
GUMO Guam 46.79 228 P P 01 00 46.3 -1.4
GUMO pmax pmax
comp=Z,260nm,0.7s
GUMO Guam 46.79 228 P P 01 00 46.3 -1.4
BGU Big Grassy Mou 46.81 75 P P 01 00 47.6 -0.3
ISA Isabella, Lake 46.83 85 P P 01 00 47.8 -0.2
baz=311,SNR=22
ISA Isabella, Lake 46.83 85 P P 01 00 47.8 -0.2
ISA pmax pmax
comp=Z,113nm,1.1s
ISA Isabella, Lake 46.83 85 P P 01 00 47.8 -0.2
ISA IAmb IAmb 01 00 49.2
comp=Z,114nm,1.1s
AHID Auburn Hatcher 46.84 72 P P 01 00 47.7 -0.4
AHID IAmb IAmb 01 00 49.5
comp=Z,103nm,1.1s
SBC Santa Barbara 46.87 87 P P 01 00 49.3 +1.1
baz=312,SNR=8.6
R11A Troy Canyon, C 46.88 80 P P 01 00 48.4 +0.1
baz=309,SNR=127
R11A Troy Canyon, C 46.88 80 P P 01 00 48.5 +0.1
R11A IAmb IAmb 01 00 49.8
comp=Z,113nm,0.9s
ARVC Arvin 46.96 85 P P 01 00 48.8 -0.1
baz=311,SNR=21
NJ2 Nanjing 47.10 269 ⇓i P P 01 00 50.1 +0.2
NJ2 pP pP 01 01 13.8 -0.7
NJ2 PcP PcP 01 02 20.5 +0.4
NJ2 ScP ScP 01 06 04.8 +0.7
NJ2 S S 01 07 35.3 +1.2
NJ2 pmax pmax
comp=Z,100nm,1.0s
NJ2 pmax pmax
comp=Z,810nm,5.0s
NJ2 LR LR
comp=Z,1μm,19.2s
NJ2 LR LR
comp=Z,890nm,12.0s
NJ2 LR LR
comp=Z,3μm,23.7s
MPMC Manual Prospec 47.18 83 P P 01 00 51.3 +0.4
baz=311,SNR=62
SCZ2 Santa Cruz Isl 47.21 87 P P 01 00 51.6 +0.7
baz=312,SNR=11
HWUT Hardware Ranch 47.27 74 P P 01 00 51.1 -0.3
FURC Furnace Creek, 47.30 83 P P 01 00 52.3 +0.8
baz=311,SNR=146
TIY Taiyuan 47.32 280 eP P 01 00 52.8 +1.1
TIY pP pP 01 01 17.8 +1.5
TIY PP PP 01 02 41.3 -2.2
TIY S S 01 07 44.0 +6.7
TIY sS sS 01 08 21.8 +2.3
TIY pmax pmax
comp=Z,150nm,0.8s
TIY pmax pmax
comp=Z,800nm,6.9s
LAO LASA Array 47.33 65 P P 01 00 51.1 -0.7
baz=306,SNR=53
LAO LASA Array 47.33 65 P P 01 00 51.4 -0.4
LAO IAmb IAmb 01 00 52.7
comp=Z,144nm,0.9s
TPNV Topopah Spring 47.36 82 P P 01 00 52.6 +0.5
baz=310,SNR=177
TPNV Topopah Spring 47.36 82 P P 01 00 52.7 +0.5
TPNV pmax pmax
comp=Z,303nm,0.9s
TPNV Topopah Spring 47.36 82 P P 01 00 52.7 +0.5
OSI Osito Audit: C 47.37 86 P P 01 00 52.8 +0.7
baz=312
DUG Dugway, Tooele 47.40 76 P P 01 00 52.6 +0.2
baz=309,SNR=113
DUG Dugway, Tooele 47.40 76 P P 01 00 52.5 +0.1
DUG pmax pmax
comp=Z,134nm,1.0s
DUG Dugway, Tooele 47.40 76 P P 01 00 52.5 +0.1
DUG IAmb IAmb 01 00 53.8
comp=Z,134nm,0.9s
DGMT Dagmar 47.43 62 P P 01 00 51.5 -0.9
baz=305,SNR=5.9
DGMT Dagmar 47.43 62 P P 01 00 51.4 -0.9
DGMT IAmb IAmb 01 00 52.8
comp=Z,139nm,1.0s
LRMC Laurel Mtn Rad 47.44 84 P P 01 00 52.7 0.0
baz=311,SNR=14
EDW2 Edwards Air Fo 47.64 85 P P 01 00 54.4 +0.2
baz=312,SNR=42
BW06 Boulder Array 47.75 71 P P 01 00 54.4 -0.8
baz=308,SNR=174
PD31 Pinedale Array 47.75 71 P P 01 00 54.6 -0.6
PD31 IAmb IAmb 01 00 55.8
comp=Z,124nm,0.9s
PDAR Pinedale Array 47.75 71 P P 01 00 54.5 -0.6
comp=Z,108nm,0.8s,baz=306,slow=3.8,SNR=306
PDAR ScP ScP 01 06 05.5 -1.5
comp=Z,6.7nm,0.9s,baz=334,slow=0.9,SNR=6.8
PDAR Pinedale Array 47.75 71 P P 01 00 54.3 -0.9
SNCC San Nicolas Is 47.78 88 P P 01 00 56.1 +0.8
baz=313,SNR=9.1
SNCC San Nicolas Is 47.78 88 P P 01 00 55.7 +0.4
DECC Green Verdugo 47.84 86 P P 01 00 56.3 +0.5
baz=312,SNR=19

PATS Pohnpei 47.95 207 P P 01 00 56.8 +0.1
PASC Pasadena Art C 47.99 86 P P 01 00 57.1 +0.2
PASC IAmb IAmb 01 00 58.5
comp=Z,187nm,1.0s
SHOC Shoshone, Teco 48.03 83 P P 01 00 57.8 +0.6
baz=311,SNR=32
MWC Mount Wilson 48.03 86 P P 01 00 57.8 +0.4
MWC pmax pmax
comp=Z,453nm,1.2s
MWC Mount Wilson 48.03 86 P P 01 00 57.8 +0.4
GSC Goldstone, Bar 48.09 84 P P 01 00 58.2 +0.5
baz=311,SNR=197
FMP Fort Macarthur 48.23 86 P P 01 00 59.0 +0.3
baz=312
RRX Edison Barstow 48.26 84 P P 01 00 59.7 +0.8
baz=312,SNR=6.7
BFSC Mount Baldy Ra 48.27 85 P P 01 00 59.8 +0.6
baz=312,SNR=53
CIS Catalina Islan 48.37 87 P P 01 00 59.8 +0.1
baz=313,SNR=12
KULLO Kullorsuaq 48.43 17 ⇓i P P 01 01 00.5 +0.8
comp=Z,118nm,0.6s
KULLO Kullorsuaq 48.43 17 ⇓i P P 01 01 00.5 +0.8
KULLO pmax pmax
comp=Z,120nm,0.6s
TUQ Turquoise Moun 48.55 83 P P 01 01 01.7 +0.4
baz=311,SNR=50
SCI2 San Clemente I 48.57 87 P P 01 01 01.5 +0.2
baz=313,SNR=6.3
HEC Hector,Ludlow 48.70 84 P P 01 01 02.7 +0.4
baz=312,SNR=50
BBRC Big Bear Solar 48.71 85 P P 01 01 03.1 +0.4
baz=312
CCUT Cedar City 48.74 79 P P 01 01 03.1 +0.2
MURC Murrieta 48.98 86 P P 01 01 04.8 +0.2
baz=312,SNR=40
KBS Kingsbay 49.13 357 d i P P 01 01 05.6 +0.6
KBS pmax pmax
comp=Z,42nm,0.9s
KBS Kingsbay 49.13 357 P P 01 01 05.8 +0.8
KBS IAmb IAmb 01 01 06.8
comp=Z,42nm,0.6s
KBS Kingsbay 49.13 357 eP P 01 01 05.7 +0.8
GMRC Granite Mounta 49.14 83 P P 01 01 06.1 +0.3
baz=312,SNR=161
Q16A Castle Valley 49.19 76 P P 01 01 06.4 +0.2
PFO Pinyon Flats O 49.43 85 P P 01 01 08.3 +0.2
baz=313,SNR=26
PFO Pinyon Flats O 49.43 85 c i P P 01 01 07.9 -0.1
PFO pmax pmax
comp=Z,88nm,0.9s
PFO Pinyon Flats O 49.43 85 P P 01 01 08.2 +0.2
PFO IAmb IAmb 01 01 08.9
comp=Z,72nm,1.0s
XPFO Pion Flat 49.43 85 P P 01 01 08.2 +0.1
XPFO IAmb IAmb 01 01 08.9
comp=Z,72nm,1.0s
SRU San Rafael Swe 49.45 76 P P 01 01 08.1 -0.1
SRU pmax pmax
comp=Z,99nm,0.8s
SRU San Rafael Swe 49.45 76 P P 01 01 08.1 -0.1
BELC Belle Mtn. Jos 49.45 84 P P 01 01 08.0 -0.3
baz=312,SNR=73
109C Camp Elliot, M 49.52 86 P P 01 01 09.2 +0.6
baz=313,SNR=25
109C Camp Elliot, M 49.52 86 P P 01 01 09.1 +0.6
K22A Casper 49.59 69 P P 01 01 08.2 -1.0
baz=308,SNR=48
K22A Casper 49.59 69 P P 01 01 08.1 -1.0
K22A IAmb IAmb 01 01 09.2
comp=Z,86nm,0.9s
SPA0 Spitsbergen Ar 49.66 355 P P 01 01 08.9 -0.1
SPA0 IAmb IAmb 01 01 10.1
comp=Z,218nm,1.3s
SPA0 Spitsbergen Ar 49.66 355 eP P 01 01 09.0 -0.1
RWWY Rawlins 49.79 71 P P 01 01 09.7 -1.2
RWWY IAmb IAmb 01 01 11.0
comp=Z,89nm,1.0s
NEE2 Needles Airpor 49.79 83 P P 01 01 10.7 +0.1
baz=312,SNR=13
IRM Iron Mountain 49.87 84 P P 01 01 11.5 +0.2
baz=312,SNR=127
BAR Barrett 49.93 86 P P 01 01 11.8 +0.1
MONP2 Monument Peak 49.94 86 P P 01 01 12.4 +0.4
baz=313,SNR=62
YOJ Yonaguni jima 49.96 259 P P 01 01 11.6 -0.4
YOJ pmax pmax
comp=Z,263nm,1.1s
YOJ Yonaguni jima 49.96 259 P P 01 01 11.6 -0.4
W13A Hualapai Mount 50.02 82 P P 01 01 12.7 +0.1
W13A IAmb IAmb 01 01 14.0
comp=Z,85nm,0.9s
BC3 Big Chuckawall 50.02 84 P P 01 01 12.2 -0.3
baz=313,SNR=56
RSSD Black Hills 50.10 66 P P 01 01 12.0 -1.2
baz=308
RSSD Black Hills 50.10 66 P P 01 01 11.9 -1.2
RSSD pmax pmax
comp=Z,45nm,0.9s
RSSD Black Hills 50.10 66 P P 01 01 11.9 -1.2
U15A North Rim 50.12 79 P P 01 01 13.9 +0.5
U15A IAmb IAmb 01 01 15.3
comp=Z,129nm,0.9s
O20A White River Ci 50.16 73 P P 01 01 13.1 -0.5
baz=310,SNR=69
O20A White River Ci 50.16 73 P P 01 01 13.0 -0.5
O20A IAmb IAmb 01 01 14.1
comp=Z,133nm,0.9s
MDND Maddock 50.28 60 P P 01 01 13.7 -0.4
baz=307,SNR=69
MDND Maddock 50.28 60 P P 01 01 13.8 -0.4
SWSC Sam W. Stewart 50.29 85 P P 01 01 14.3 0.0
baz=313,SNR=14
IKP In-Ko-Pah, Jac 50.30 86 P P 01 01 15.1 +0.5
baz=313,SNR=32
PDMCI Parker Dam,Lak 50.39 83 P P 01 01 15.0 -0.1
baz=312,SNR=66
TARA Tarawa 50.64 187 P P 01 01 17.2 +0.1
PV09 Paradox Valley 50.68 75 P P 01 01 17.2 -0.4
HOPEN Hopen 50.68 352 eP P 01 01 16.9 +0.2
ULM Lac du Bonnet 50.78 56 P P 01 01 17.1 -0.7
comp=Z,103nm,0.9s,baz=306,slow=8.1,SNR=50
ULM ScP ScP 01 06 19.1 -0.5
comp=Z,11nm,0.9s,baz=266,slow=2.2,SNR=4.6
ULM Lac du Bonnet 50.78 56 P P 01 01 17.2 -0.7
ULM pmax pmax
comp=Z,126nm,1.0s
ULM Lac du Bonnet 50.78 56 P P 01 01 17.2 -0.7
ULM IAmb IAmb 01 01 18.4
comp=Z,126nm,0.9s
YHNB Yeheng 50.80 260 P P 01 01 19.0 +0.6
YHNB IAmb IAmb 01 01 20.3
comp=Z,74nm,0.9s
GLA Glamis 50.81 84 P P 01 01 18.6 +0.3
baz=313
GLA Glamis 50.81 84 P P 01 01 18.7 +0.3
GLA pmax pmax
comp=Z,206nm,0.9s
GLA Glamis 50.81 84 P P 01 01 18.7 +0.3
HSPB Hornsund (broa 50.86 355 eP P 01 01 18.2 +0.1
HSPB epP pP 01 01 42.6 +0.6
HSPB Hornsund (broa 50.86 355 eP P 01 01 18.1 +0.1
WHN Wuhan 50.92 271 ⇓i P P 01 01 18.8 -0.3
WHN pP pP 01 01 43.3 -0.7
WHN sP sP 01 01 56.6 +1.0
WHN PcP PcP 01 02 35.0 +0.9
WHN S S 01 08 29.3 +1.6
WHN sS sS 01 09 08.5 -1.9
WHN pmax pmax
comp=Z,270nm,0.6s
WHN LR LR
comp=Z,2μm,12.7s
WHN LR LR
comp=Z,2μm,19.4s
N23A Red Feather La 51.03 71 P P 01 01 19.6 -0.6
baz=310,SNR=40
N23A Red Feather La 51.03 71 P P 01 01 19.4 -0.7
N23A IAmb IAmb 01 01 21.1
comp=Z,131nm,1.4s
NACB Ninganchiao 51.03 260 P P 01 01 19.4 -0.7
NACB IAmb IAmb 01 01 21.0
comp=Z,143nm,1.0s
DAG Danmarks Havn 51.08 5 ⇓i P P 01 01 19.3 -0.4
comp=Z,18nm,0.9s
DAG Danmarks Havn 51.08 5 ⇓i P P 01 01 19.3 -0.4
DAG pmax pmax

comp=Z,18nm,0.9s
WUAZ Wupatki 51.28 80 P P 01 01 22.6 +0.6
baz=312,SNR=57
WUAZ Wupatki 51.28 80 P P 01 01 22.4 +0.4
WUAZ IAmb IAmb 01 01 23.8
comp=Z,114nm,1.0s
Y14A Wickenburg 51.34 82 P P 01 01 22.4 +0.1
Y14A IAmb IAmb 01 01 23.8
comp=Z,81nm,1.1s
113A Mohawk Valley, 51.66 84 P P 01 01 24.5 -0.2
113A IAmb IAmb 01 01 25.9
comp=Z,70nm,1.0s
SSLB Suanglung 51.71 260 P P 01 01 24.9 -0.2
YULB Yu-li 51.80 259 P P 01 01 25.3 -0.5
YULB IAmb IAmb 01 01 29.1
comp=Z,115nm,1.0s
XAN Xi'an 51.88 279 P P 01 01 26.0 -0.3
XAN PcP PcP 01 02 37.8 +0.1
XAN ScP ScP 01 06 24.3 -0.3
XAN S S 01 08 41.1 +0.2
XAN pmax pmax
comp=Z,150nm,1.2s
XAN LR LR
comp=Z,900nm,28.2s
XAN LR LR
comp=Z,3μm,31.4s
XAN Xi'an 51.88 279 P P 01 01 26.1 -0.3
XAN pmax pmax
comp=Z,120nm,1.0s
XAN Xi'an 51.88 279 P P 01 01 26.1 -0.2
XAN IAmb IAmb 01 01 27.5
comp=Z,120nm,1.0s
MVCO Mesa Verde 51.90 76 P P 01 01 26.2 -0.4
baz=311,SNR=20
MVCO Mesa Verde 51.90 76 P P 01 01 26.2 -0.4
MVCO IAmb IAmb 01 01 27.6
comp=Z,74nm,1.1s
ISCO Idaho Springs 51.92 72 P P 01 01 26.6 -0.3
baz=310,SNR=79
ISCO Idaho Springs 51.92 72 P P 01 01 26.6 -0.3
ISCO pmax pmax
comp=Z,64nm,1.1s
ISCO Idaho Springs 51.92 72 P P 01 01 26.6 -0.3
ISCO IAmb IAmb 01 01 28.1
comp=Z,64nm,1.1s
AGMN Agassiz Nation 51.99 58 P P 01 01 25.9 -1.0
baz=309,SNR=94
AGMN Agassiz Nation 51.99 58 P P 01 01 25.9 -1.0
AGMN IAmb IAmb 01 01 27.1
comp=Z,151nm,0.9s
TPUB Ta-pu 52.27 260 P P 01 01 29.1 -0.2
QZH Quanzhou 52.30 263 ⇓i P P 01 01 30.1 +0.6
QZH sP sP 01 02 07.6 +1.6
QZH S S 01 08 47.8 +1.1
QZH sS sS 01 09 30.1 +0.6
QZH pmax pmax
comp=Z,200nm,1.2s
ZAA0 Zalesovo Array 52.38 312 P P 01 01 29.0 -0.7
ZALV Zalesovo Beam 52.38 312 P P 01 01 29.1 -0.6
comp=Z,7.7nm,0.5s,baz=62,slow=6.7,SNR=26
ZALV PcP PcP 01 02 40.0 +0.9
comp=Z,39nm,0.7s,baz=42,slow=4.6,SNR=19
ZALV ScP ScP 01 06 26.9 +0.4
comp=Z,13nm,1.0s,baz=50,slow=4.6,SNR=8.5
ZALV Zalesovo Beam 52.38 312 i P P 01 01 29.1 -0.6
ZALV pmax pmax
comp=Z,6.0nm,0.4s
ZALV Zalesovo Beam 52.38 312 P P 01 01 28.6 -1.1
ZALV PcP 01 02 39.9 +0.7
ZALV ScP ScP 01 06 27.3 +0.9
W18A Petrified Fore 52.54 79 P P 01 01 31.7 +0.4
baz=312,SNR=40
W18A Petrified Fore 52.54 79 P P 01 01 31.7 +0.4
W18A IAmb IAmb 01 01 33.1
comp=Z,110nm,1.0s
S22A 4UR Ranch, Cre 52.54 74 P P 01 01 31.8 +0.3
baz=311,SNR=77
S22A 4UR Ranch, Cre 52.54 74 P P 01 01 31.9 +0.4
S22A IAmb IAmb 01 01 33.2
comp=Z,73nm,0.9s
Q24A Divide 52.74 72 P P 01 01 32.5 -0.5
baz=311,SNR=16
SUSD Miller 52.75 63 P P 01 01 31.4 -1.2
baz=310,SNR=6.0
KNMB Chin-men Tao 52.78 263 P P 01 01 33.4 +0.4
214A Organ Pipe Nat 52.80 84 P P 01 01 33.3 +0.2
baz=314,SNR=75
214A Organ Pipe Nat 52.80 84 P P 01 01 33.4 +0.2
214A IAmb IAmb 01 01 34.7
comp=Z,128nm,0.9s
B35A Bob, Littlefor 53.06 56 P P 01 01 34.0 -0.8
B35A IAmb IAmb 01 01 35.1
comp=Z,119nm,0.8s
BJO1 Bjornoya 53.07 353 eP P 01 01 34.6 +0.2
SUMG Summit 53.13 13 ⇓i P P 01 01 36.2 +0.8
comp=Z,500nm,1.2s
SUMG Summit 53.13 13 ⇓i P P 01 01 36.2 +0.8
SUMG pmax pmax
comp=Z,500nm,1.2s
SUMG Summit 53.13 13 P P 01 01 35.8 +0.4
SDCO Great Sand Dun 53.33 74 P P 01 01 37.3 0.0
SDCO IAmb IAmb 01 01 38.7
comp=Z,101nm,1.1s
LZH Lanzhou 53.58 284 eP P 01 01 40.0 +1.0
LZH pP pP 01 02 04.4 +0.6
LZH sP sP 01 02 15.3 0.0
LZH pmax pmax
comp=Z,230nm,1.3s
LZH LR LR
comp=Z,1μm,13.6s
LZH LR LR
comp=Z,1μm,15.4s
LZH LR LR
comp=Z,1μm,15.7s
BBP Basco 53.62 256 eP P 01 01 39.0 -0.2
XMAS Kiritimati 53.68 150 P P 01 01 39.9 +0.3
GTA Gaotai 53.76 290 ⇓P P 01 01 40.8 +0.6
GTA pP pP 01 02 03.4 -1.8
GTA sP sP 01 02 15.3 -1.5
GTA S S 01 09 07.4 +0.8
GTA sS sS 01 09 48.8 -0.4
GTA ScS ScS 01 11 18.8 -0.4
GTA SS SS 01 12 46.8 -1.3
GTA pmax pmax
comp=Z,160nm,1.3s
GTA pmax pmax
comp=Z,1μm,10.0s
GTA LR LR
comp=Z,780nm,15.9s
GTA LR LR
comp=Z,660nm,20.6s
GTA LR LR
comp=Z,1μm,18.7s
TUC Tucson 53.80 82 P P 01 01 41.0 +0.5
baz=314
TUC Tucson 53.80 82 P P 01 01 40.7 +0.2
TUC pmax pmax
comp=Z,108nm,1.0s
TUC Tucson 53.80 82 P P 01 01 40.7 +0.2
TUC IAmb IAmb 01 01 42.3
comp=Z,108nm,0.9s
ILULI Ilulissat 53.81 20 ⇓i P P 01 01 40.1 +0.2
comp=Z,84nm,0.6s
ILULI Ilulissat 53.81 20 ⇓i P P 01 01 40.1 +0.2
ILULI pmax pmax
comp=Z,84nm,0.6s
ILULI Ilulissat 53.81 20 P P 01 01 39.8 -0.2
ILULI IAmb IAmb 01 01 41.0
comp=Z,88nm,0.6s
DGZ Jazzator, Alta 53.83 306 d i P P 01 01 40.7 +0.1
DGZ pmax pmax
comp=Z,75nm,1.0s
K31A O'Neill 54.03 65 P P 01 01 41.7 -0.3
ENH Enshi 54.12 275 P P 01 01 42.5 -0.3
KSCO Kaye Shedlock' 54.19 71 P P 01 01 43.2 0.0
baz=312,SNR=14
KSCO Kaye Shedlock' 54.19 71 P P 01 01 43.3 0.0
T25A Trinidad 54.38 73 P P 01 01 44.9 0.0
baz=312,SNR=140
T25A Trinidad 54.38 73 P P 01 01 44.9 0.0
EYMN Ely 54.47 56 P P 01 01 44.5 -0.6
baz=311,SNR=166
EYMN Ely 54.47 56 P P 01 01 44.5 -0.6
ECSD EROS Data Cent 54.49 62 P P 01 01 43.8 -1.5
baz=311,SNR=59

ECSD EROS Data Cent 54.49 62 P P 01 01 43.8 -1.5
ECSD IAmb IAmb 01 01 45.0
comp=Z,56nm,0.9s
ANMO Albuquerque 54.64 77 P P 01 01 46.6 -0.1
baz=313
ANMO Albuquerque 54.64 77 *c iP* **P 01 01 46.3 -0.4**
ANMO pmax pmax
comp=Z,30nm,1.0s
ANMO Albuquerque 54.64 77 P P 01 01 46.4 -0.3
F36A Milaca 54.77 59 P P 01 01 46.2 -1.1
F36A IAmb IAmb 01 01 47.4
comp=Z,49nm,0.8s
Y22D IRIS PASSCAL I 54.95 78 P P 01 01 49.8 +0.9
baz=313
BNM Barren Site 55.08 78 P P 01 01 50.3 +0.4
KNTN Kanton 55.16 168 P P 01 01 50.8 +0.5
BGNE Belgrade 55.17 66 P P 01 01 49.2 -1.0
baz=312
BGNE Belgrade 55.17 66 P P 01 01 49.6 -0.6
121A Cookes Peak, D 55.48 80 P P 01 01 53.4 +0.6
baz=314,SNR=44
121A Cookes Peak, D 55.48 80 P P 01 01 53.0 +0.2
121A IAmb IAmb 01 01 54.6
comp=Z,60nm,0.9s
SPMN Marine on St. 55.57 59 P P 01 01 52.2 -0.8
baz=312,SNR=36
SPMN Marine on St. 55.57 59 P P 01 01 52.4 -0.6
SPMN IAmb IAmb 01 01 53.6
comp=Z,80nm,0.8s
SFJD Kangerlussuaq 55.73 21 *i P* **P 01 01 53.7 -0.1**
SFJD Kangerlussuaq 55.73 21 *i P* **P 01 01 53.7 -0.1**
SFJD Kangerlussuaq 55.73 21 P P 01 01 53.7 -0.1
SFJD IAmb IAmb 01 01 55.0
comp=Z,137nm,1.6s
L34A Svendsen Farm, 55.79 64 P P 01 01 53.7 -0.9
CBKS Cedar Bluff 55.99 69 P P 01 01 55.8 -0.4
baz=312,SNR=34
CBKS Cedar Bluff 55.99 69 P P 01 01 55.9 -0.3
CBKS pmax pmax
comp=Z,207nm,0.9s
CBKS Cedar Bluff 55.99 69 P P 01 01 55.9 -0.3
HSIG 56.00 85 P P 01 01 56.4 0.0
HSIG IAmb IAmb 01 01 57.8
comp=Z,125nm,0.9s
APYP Conner 56.04 255 *eP* **P 01 01 56.2 -0.4**
I37A Lemond, Waseca 56.05 60 P P 01 01 56.1 -0.4
HAMF Hammerfest 56.36 350 *eP* **P 01 01 57.4 -0.8**
SRIG Santa Rosalia 56.41 88 P P 01 01 59.5 +0.3
ABRA Dolores 56.52 255 *eP* **P 01 02 00.7 +0.6**
D41A Chassel 56.54 55 P P 01 01 59.8 -0.1
D41A IAmb IAmb 01 02 01.2
comp=Z,176nm,1.1s
ZSN Zaisan 56.59 306 *⇓iP* **P 01 02 00.6 +0.3**
comp=Z,53nm,1.1s,baz=306
ZSN *eP*cP **PcP 01 02 55.7 +0.2**
baz=306
ZSN *e*S **S 01 09 43.6 -0.2**
baz=306
ZSN Zaisan 56.59 306 *d iP* **P 01 02 00.6 +0.3**
ZSN *e* 01 02 55.6
ZSN *e*S **S 01 09 43.6 -0.2**
ZSN pmax pmax
comp=Z,53nm,1.1s
KEV Kevo 56.82 349 P P 01 02 01.6 +0.1
KEV pmax pmax
comp=Z,63nm,1.5s
KEV Kevo 56.82 349 P P 01 02 01.6 +0.1
SEM Semipalatinsk 56.83 311 *eP* **P 01 02 01.3 -0.9**
comp=Z,42nm,1.1s,baz=311
SEM *e*PcP **PcP 01 02 55.8 -0.8**
baz=311
SEM *e*S **S 01 09 45.7 -1.6**
baz=311
SEM Semipalatinsk 56.83 311 *eP* **P 01 02 01.2 -0.9**
SEM *e* 01 02 55.8
SEM *e*S **S 01 09 45.7 -1.6**
SEM pmax pmax
comp=Z,42nm,1.1s
R32A Long Quarter, 56.85 69 P P 01 02 01.4 -0.9
R32A IAmb IAmb 01 02 02.6
comp=Z,132nm,0.9s
COWI Conover 56.90 56 P P 01 02 01.8 -0.7
COWI IAmb IAmb 01 02 03.0
comp=Z,105nm,0.9s
SCO Scoresbysund 56.98 8 *i P* **P 01 02 03.1 +0.5**
comp=Z,107nm,1.2s
SCO Scoresbysund 56.98 8 *i P* **P 01 02 03.1 +0.5**
SCO pmax pmax
comp=Z,110nm,1.2s
SCO Scoresbysund 56.98 8 P P 01 02 03.3 +0.7
SCO IAmb IAmb 01 02 04.5
comp=Z,109nm,1.2s
HKPS Hong Kong Po S 57.01 264 P P 01 02 03.6 +0.1
HKPS IAmb IAmb 01 02 05.6
comp=Z,148nm,1.2s
CD2 Chengdu 57.19 279 *⇓iP* **P 01 02 04.9 +0.2**
CD2 pmax pmax
comp=Z,250nm,0.8s
ARCES ARCESS Array B 57.21 349 P P 01 02 03.8 -0.6
comp=Z,16nm,0.6s,baz=24,slow=7.9,SNR=68
ARCES PcP **PcP 01 02 57.9 +0.3**
comp=Z,18nm,0.8s,baz=359,slow=6.1,SNR=5.8
ARCES ScP **ScP 01 06 48.0 +0.6**
comp=Z,20nm,1.1s,baz=5.7,slow=4.9,SNR=8.4
ARCES LR LR 01 27 52.6
comp=Z,536nm,20.2s,baz=68,slow=37
ARCES PKPPKP **P'P'df 01 31 53.2 -1.5**
comp=Z,4.5nm,0.9s,baz=352,slow=1.7,SNR=5.3
ARE0 ARCESS Array S 57.21 349 P P 01 02 03.8 -0.6
ARE0 ARCESS Array S 57.21 349 *eP* **P 01 02 03.6 -0.7**
K38A Parkersburg 57.31 61 P P 01 02 04.6 -0.8
K38A IAmb IAmb 01 02 05.8
comp=Z,136nm,1.0s
KURK Kurchatov 57.37 312 P P 01 02 05.0 -0.6
KURK Kurchatov 57.37 312 *d iP* **P 01 02 05.8 +0.1**
KURK pmax pmax
comp=Z,222nm,1.2s
KURK Kurchatov 57.37 312 P P 01 02 05.8 +0.1
LVZ Lovozero 57.44 345 *deP* **P 01 02 06.2 +0.2**
LVZ pmax pmax
comp=Z,81nm,1.0s
LVZ Lovozero 57.44 345 P P 01 02 05.5 -0.5
LVZ IAmb IAmb 01 02 08.5
comp=Z,80nm,0.9s
KURBB Kurchatov Arra 57.48 312 P P 01 02 06.5 +0.1
comp=Z,63nm,0.6s,baz=42,slow=6.7,SNR=384
KURBB PcP **PcP 01 02 59.2 +0.3**
comp=Z,53nm,1.0s,baz=44,slow=3.8,SNR=7.7
KURBB ScP **ScP 01 06 48.5 -0.3**
comp=Z,10nm,0.9s,baz=47,slow=4.4,SNR=6.9
KURBB S **S 01 09 53.4 -1.9**
comp=Z,12nm,1.3s,baz=48,slow=14,SNR=18
KURBB ScS **ScS 01 11 45.4 +0.1**
comp=Z,0.3nm,0.8s,baz=141,slow=40,SNR=1.9
KURBB Kurchatov Arra 57.48 312 P P 01 02 05.4 -1.0
BALP Baler 57.49 253 *eP* **P 01 02 07.1 +0.2**
MSTX Muleshoe 57.52 75 P P 01 02 06.8 -0.4
baz=314,SNR=36
MSTX Muleshoe 57.52 75 P P 01 02 06.7 -0.4
MSTX IAmb IAmb 01 02 08.8
comp=Z,87nm,0.9s
MNTX Cornudas Mount 57.53 79 P P 01 02 07.5 +0.4
baz=315,SNR=157
MNTX Cornudas Mount 57.53 79 P P 01 02 07.3 +0.2
MNTX IAmb IAmb 01 02 08.8
comp=Z,119nm,1.0s
AMTX Amarillo 57.54 74 P P 01 02 07.1 -0.2
baz=314
AMTX Amarillo 57.54 74 P P 01 02 07.0 -0.2
AMTX IAmb IAmb 01 02 08.2
comp=Z,85nm,1.0s
SCIA State Center 57.58 62 P P 01 02 06.5 -0.7
baz=313,SNR=26
SCIA State Center 57.58 62 P P 01 02 06.8 -0.5
WMQ Urumqi 57.58 301 P P 01 02 08.3 +0.9
WMQ pP pP 01 02 36.0 +3.6
WMQ PcP **PcP 01 02 59.8 +0.3**
WMQ pmax pmax
comp=Z,66nm,1.1s
WMQ pmax pmax
comp=Z,580nm,4.5s
WMQ LR LR
comp=Z,560nm,16.7s
WMQ LR LR
comp=Z,750nm,22.5s
WMQ LR LR
comp=Z,950nm,19.1s
WMQ Urumqi 57.58 301 P P 01 02 08.1 +0.7
WMQ pmax pmax
comp=Z,133nm,1.1s
WMQ Urumqi 57.58 301 P P 01 02 08.1 +0.7
WMQ IAmb IAmb 01 02 09.4
comp=Z,132nm,1.1s
KSU1 Kansas State U 57.59 67 P P 01 02 05.9 -1.5
baz=313,SNR=7.3
KSU1 Kansas State U 57.59 67 P P 01 02 06.3 -1.1
I40A Norwalk 57.62 59 P P 01 02 06.9 -0.7
I40A IAmb IAmb 01 02 08.1
comp=Z,158nm,1.1s
F42A Maple Grove Fa 57.65 56 P P 01 02 07.7 0.0
F42A IAmb IAmb 01 02 08.8
comp=Z,147nm,1.0s
PVCP Virac 57.68 249 *eP* **P 01 02 09.2 +0.9**
SMPP San Manuel, Pa 57.71 254 *eP* **P 01 02 07.6 -0.9**
TRO Tromso 57.80 352 *eP* **P 01 02 08.6 +0.3**
E43A Lone Tree Farm 57.80 55 P P 01 02 08.7 -0.1
APA Apatity 57.94 345 *⇓iP* **P 01 02 07.9 -1.5**
APA *i* *PP **pwP 01 02 35.8 -1.0**
APA pmax pmax
comp=Z,20nm,0.9s
KTK1 Kautokeino 57.97 350 *eP* **P 01 02 09.1 -0.5**
BOLP Bolinao 57.98 255 *eP* **P 01 02 09.3 -1.0**
U32A Winter Ranch, 58.08 71 P P 01 02 10.2 -0.8
CNP Catarman 58.26 248 *eP* **P 01 02 12.7 +0.4**
MK31 Makanchi Array 58.32 307 P P 01 02 11.1 -1.4
MK31 pmax pmax
comp=Z,41nm,0.9s
MK31 Makanchi Array 58.32 307 P P 01 02 11.1 -1.4
MKAR Makanchi Array 58.32 307 P P 01 02 11.0 -1.5
comp=Z,47nm,0.7s,baz=76,slow=6.4,SNR=203
MKAR ScP **ScP 01 06 53.2 +0.5**
comp=Z,5.6nm,1.0s,baz=115,slow=2.0,SNR=4.5
MKAR S **S 01 10 05.4 -1.1**
comp=Z,0.6nm,0.9s,baz=153,slow=1.4,SNR=1.5
MKAR ScS **ScS 01 11 52.2 +0.4**
comp=Z,2.0nm,1.0s,baz=27,slow=8.2,SNR=4.3
MKAR Makanchi Array 58.32 307 P P 01 02 10.9 -1.5
MAKZ Makanchi 58.47 307 P P 01 02 12.0 -1.5
MAKZ pmax pmax
comp=Z,58nm,0.8s
MAKZ Makanchi 58.47 307 P P 01 02 12.0 -1.5
MAKZ IAmb IAmb 01 02 14.8
comp=Z,58nm,0.8s
JFWS Jewell Farm 58.49 59 P P 01 02 12.4 -1.2
baz=314,SNR=43
JFWS Jewell Farm 58.49 59 P P 01 02 12.3 -1.3
JFWS pmax pmax
comp=Z,184nm,1.1s
JFWS Jewell Farm 58.49 59 P P 01 02 12.3 -1.3
L40A Anamosa 58.55 61 P P 01 02 12.9 -1.1
GYA Guiyang 58.57 274 *⇓iP* **P 01 02 14.3 -0.2**
GYA pP pP 01 02 40.8 +0.8
GYA PcP **PcP 01 03 04.1 +0.4**
GYA ScP **ScP 01 06 54.8 +0.6**
GYA S **S 01 10 08.6 -1.8**
GYA sS sS 01 10 51.4 -1.2
GYA SS **SS 01 13 58.3 -5.9**
GYA pmax pmax
comp=Z,76nm,1.1s
H43A Windswept, Lux 58.72 57 P P 01 02 14.6 -0.6
D46A Sault St. Mari 58.92 53 P P 01 02 16.2 -0.4
baz=314,SNR=89
P38A Dawn 58.97 64 P P 01 02 15.7 -1.3
F45A CMU Biological 59.03 54 P P 01 02 16.9 -0.3
baz=314,SNR=59
BOAC Boac 59.14 251 *eP* **P 01 02 19.5 +1.1**
E46A Sault Ste Mari 59.15 53 P P 01 02 18.2 +0.1
T35A Sooner Cattle 59.15 68 P P 01 02 17.1 -1.2
T35A IAmb IAmb 01 02 18.3
comp=Z,84nm,0.9s
TGY Tagaytay City 59.16 252 P P 01 02 19.2 +0.6
comp=Z,1μm,0.9s,baz=115,slow=0.7,SNR=16
D47A Chapleau 59.26 52 P P 01 02 18.4 -0.5
baz=315,SNR=110
BVAR Borovoye Array 59.33 318 P P 01 02 19.7 +0.5
comp=Z,110nm,0.4s,baz=53,slow=6.3,SNR=298
BVAR PcP **PcP 01 03 06.8 +0.6**
comp=Z,28nm,0.4s,baz=29,slow=3.5,SNR=15
BVAR ScP **ScP 01 06 57.6 +0.6**
comp=Z,17nm,1.0s,baz=58,slow=4.2,SNR=5.6
BVAR S **S 01 10 20.4 +1.1**
comp=Z,4.8nm,1.1s,baz=52,slow=9.6,SNR=5.3
BVAR ScS **ScS 01 11 58.0 -0.9**
comp=Z,0.2nm,0.3s,baz=256,slow=41,SNR=2.4
BVAR Borovoye Array 59.33 318 P PcP 01 03 06.8 +0.6
BRVK Borovoye 59.35 318 P P 01 02 18.4 -1.0
BRVK Borovoye 59.35 318 P P 01 02 19.9 +0.5
BRVK pmax pmax
comp=Z,121nm,0.5s
BRVK Borovoye 59.35 318 P PcP 01 03 07.0 +0.7
BRVK Borovoye 59.35 318 P P 01 02 19.9 +0.5
WMOK Wichita Mounta 59.35 72 P P 01 02 19.5 -0.2
baz=315,SNR=47
WMOK Wichita Mounta 59.35 72 P P 01 02 19.5 -0.2
WMOK pmax pmax
comp=Z,61nm,0.9s
WMOK Wichita Mounta 59.35 72 P P 01 02 19.5 -0.2
WMOK IAmb IAmb 01 02 20.7
comp=Z,61nm,0.8s
G45A Suttons Bay 59.40 55 P P 01 02 19.3 -0.6
baz=314,SNR=35
L42A Oliver, Polo 59.43 60 P P 01 02 18.9 -1.2
L42A IAmb IAmb 01 02 20.0
comp=Z,116nm,0.9s
OCLP Ormoc 59.47 247 *eP* **P 01 02 20.7 0.0**
H45A Beulah 59.50 56 P P 01 02 20.1 -0.4
baz=314
ANGG Ammassalik, Gr 59.53 16 P P 01 02 19.8 -0.6
G46A Petoskey 59.61 54 P P 01 02 21.2 -0.1
baz=315,SNR=30
K43A Burlington 59.65 59 P P 01 02 20.9 -0.8
N41A Harden Midland 59.69 62 P P 01 02 21.1 -0.8
STEI Steigen 59.77 353 *eP* **P 01 02 20.9 -1.1**
D48A Paudash Townsh 59.80 51 P P 01 02 22.0 -0.6
baz=315,SNR=24
I45A Fountain 59.81 56 P P 01 02 22.2 -0.5
baz=315,SNR=7.9
P40A Paris 59.85 63 P P 01 02 22.0 -1.0
OTRP Odiongan 59.91 250 *eP* **P 01 02 24.2 +0.5**
D49A Beulah Townshi 59.95 51 P P 01 02 23.0 -0.6
baz=315,SNR=26
H46A Fife Lake 59.98 55 P P 01 02 23.3 -0.6
baz=315,SNR=35
MSLP Maasin 60.07 246 *eP* **P 01 02 25.2 +0.4**
E48A Lockeyer 60.12 52 P P 01 02 24.3 -0.5
baz=315,SNR=87
RCP Roxas 60.13 249 *⇓eP* **P 01 02 25.6 +0.4**
N2TV TWrnvik 60.14 353 *eP* **P 01 02 25.3 +0.8**
J45A Montague 60.15 57 P P 01 02 24.1 -1.0
baz=315,SNR=5.0
SVE Sverdlovsk 60.17 326 *c iP* **P 01 02 26.4 +1.5**
SVE pmax pmax
comp=Z,279nm,1.4s
W35A Tecumseh 60.17 70 P P 01 02 25.1 -0.2
TMCR Tamitsa 60.19 341 *eP* **P 01 02 23.6 -1.3**
TMCR pmax pmax
comp=Z,83nm,0.9s
G47A Hillman 60.22 54 P P 01 02 25.0 -0.5
baz=315,SNR=17
L44A Lake County Fo 60.24 59 P P 01 02 25.2 -0.5
baz=315,SNR=24
L44A Lake County Fo 60.24 59 P P 01 02 24.7 -1.0
TX31 Lajitas Ar. Si 60.24 80 P P 01 02 26.0 0.0
TXAR Lajitas Array 60.24 80 P P 01 02 26.1 +0.1
comp=Z,53nm,0.8s,baz=298,slow=4.8,SNR=289
TXAR ScP **ScP 01 07 01.0 -0.6**
comp=Z,13nm,0.9s,baz=287,slow=3.6,SNR=12
TXAR S **S 01 10 30.9 -0.9**
comp=Z,0.6nm,0.9s,baz=0.0,slow=3.8,SNR=2.1
TXAR ScS **ScS 01 12 07.5 +0.8**
comp=Z,0.1nm,0.5s,baz=41,slow=53,SNR=1.1
TXAR Lajitas Array 60.24 80 P P 01 02 25.8 -0.1
RABL Rabaul 60.24 211 P P 01 02 25.6 -0.3
TUL1 Leonard 60.27 69 P P 01 02 25.2 -0.8
baz=315,SNR=29
I46A Reed City 60.28 56 P P 01 02 25.5 -0.5
baz=315,SNR=15
FAUS Fauske 60.31 353 *eP* **P 01 02 25.1 -0.6**
ABTX Abilene, Hawle 60.33 74 P P 01 02 26.4 0.0
baz=315,SNR=50
ABTX Abilene, Hawle 60.33 74 P P 01 02 26.4 0.0
F48A Evansville 60.37 53 P P 01 02 26.3 -0.1
baz=315,SNR=62
KRVT Keravat (AS076 60.40 211 P P 01 02 26.2 -0.7
comp=Z,62nm,0.8s,baz=160,slow=0.8,SNR=15
KRVT LR LR 01 24 03.5
comp=Z,528nm,20.4s,baz=99,slow=31
H47A Mio 60.45 55 P P 01 02 26.6 -0.5
baz=315,SNR=15
SLBS Sierra La Lagu 60.47 89 P P 01 02 28.1 +0.5
BRZS Berezniki 60.57 314 *⇓iP* **P 01 02 27.8 0.0**
comp=Z,97nm,1.3s,baz=314
BRZS *e*PcP **PcP 01 03 10.9 -0.3**
baz=314
BRZS *e*S **S 01 10 34.8 -0.6**
baz=314
BRZS Berezniki 60.57 314 *d iP* **P 01 02 27.8 0.0**
BRZS *e* 01 03 10.9
BRZS *e*S **S 01 10 34.7 -0.6**
BRZS pmax pmax
comp=Z,97nm,1.3s
SCHQ Schefferville 60.59 37 P P 01 02 28.1 +0.3
comp=Z,38nm,0.4s,baz=330,slow=6.1,SNR=167
SCHQ LR LR 01 29 13.0
comp=Z,1μm,21.3s,baz=11,slow=36
SCHQ Schefferville 60.59 37 P P 01 02 28.2 +0.3
HDIL Hopedale 60.64 61 P P 01 02 27.6 -0.8
baz=315,SNR=19
HDIL Hopedale 60.64 61 P P 01 02 27.6 -0.8
F49A Sandfield 60.70 52 P P 01 02 28.3 -0.4
baz=316,SNR=92
I47A Gladwin 60.70 55 P P 01 02 28.4 -0.4
baz=315,SNR=8.0
I47A Gladwin 60.70 55 P P 01 02 28.6 -0.1
I47A IAmb IAmb 01 02 30.0
comp=Z,84nm,1.1s
LSQQ Lebel-sur-Quev 60.70 47 P P 01 02 27.9 -0.8
baz=317
HPIG 60.74 83 P P 01 02 29.6 +0.1
HPIG IAmb IAmb 01 02 31.1
comp=Z,94nm,1.0s
NBB05 Inndyr 60.75 353 *eP* **P 01 02 29.1 +0.4**
D50A G1974 Best Tow 60.75 50 P P 01 02 28.2 -0.9
baz=316,SNR=46
NBB30 Finnes 60.83 353 *eP* **P 01 02 28.6 -0.7**
E50A Wahnapitae 60.86 51 P P 01 02 29.2 -0.6
baz=316,SNR=19
GUIM Jordan 60.97 249 *eP* **P 01 02 30.5 -0.4**
D51A Lot 18 Range I 61.03 50 P P 01 02 29.8 -1.1
baz=316,SNR=44
HHAR Hobbs 61.07 67 P P 01 02 29.9 -1.5
HHAR IAmb IAmb 01 02 31.0
comp=Z,75nm,1.0s
VLDQ Val d'Or 61.18 48 P P 01 02 29.8 -2.1
VLDQ IAmb IAmb 01 02 30.8
comp=Z,81nm,0.8s
ARU Arti 61.19 327 P P 01 02 32.8 +0.9
comp=Z,60nm,0.8s,baz=26,slow=5.1,SNR=171
ARU Arti 61.19 327 *d iP* **P 01 02 32.7 +0.9**
ARU *PP **pP 01 02 57.2 +0.2**
ARU 01 03 14.8
ARU 01 04 50.0
ARU PPP PPP 01 06 13.6
ARU S **S 01 10 46.2 +3.2**
ARU 01 12 10.7
ARU SS **SS 01 14 45.9 +2.2**
ARU pmax pmax
comp=Z,289nm,0.9s
ARU Arti 61.19 327 P P 01 02 32.6 +0.7
L46A Eue Claire 61.21 58 P P 01 02 31.6 -0.7
IVI Ivigtut 61.21 24 P P 01 02 32.0 +0.1
IVI IAmb IAmb 01 02 32.9
comp=Z,92nm,1.0s
CHGQ Chibougamau 61.24 45 P P 01 02 31.1 -1.2
baz=318,SNR=75
Z35A Perchaven, San 61.24 72 P P 01 02 32.0 -0.5
Z35A IAmb IAmb 01 02 33.2
comp=Z,120nm,0.8s
CCM Cathedral Cave 61.34 64 P P 01 02 31.5 -1.6
baz=315
E51A G1948 Merrick 61.37 50 P P 01 02 32.2 -1.1
baz=317,SNR=44
TDK Taldyqorghan 61.51 307 *i P* **P 01 02 34.6 +0.4**
comp=Z,492nm,3.3s,baz=307
TDK *e*S **S 01 10 47.1 -0.3**
baz=307
TDK Taldyqorghan 61.51 307 *i P* **P 01 02 34.6 +0.4**
TDK *e*S **S 01 10 47.1 -0.3**
TDK pmax pmax
comp=Z,492nm,3.3s
D52A ZEK Kipawa Sen 61.56 49 P P 01 02 33.7 -0.9
baz=317,SNR=49
MOR8 Moi Rana 61.57 353 *eP* **P 01 02 32.8 -1.5**
CNOP Candoni, Negro 61.59 248 *eP* **P 01 02 33.1 -1.9**
J48A Bridge Port 61.59 55 P P 01 02 34.2 -0.5
baz=316,SNR=10
J48A Bridge Port 61.59 55 P P 01 02 34.3 -0.4
F51A Arnstein 61.61 51 P P 01 02 33.8 -1.1
baz=317,SNR=22
I49A Point Hope 61.61 54 P P 01 02 34.8 -0.1
baz=316,SNR=15
U40A Yellville 61.64 67 P P 01 02 33.5 -1.7
baz=316,SNR=143
U40A Yellville 61.64 67 P P 01 02 33.7 -1.5
U40A IAmb IAmb 01 02 35.4
comp=Z,128nm,0.9s
CUYO Cuyo Island 61.70 250 *eP* **P 01 02 36.4 +0.5**
JCT Junction City 61.76 76 P P 01 02 35.4 -0.8
baz=316,SNR=22
BUKP Musuan 61.80 244 *eP* **P 01 02 37.1 +0.5**
D53A Lac Vacive, Po 61.82 49 P P 01 02 35.0 -1.2
baz=317,SNR=60
D53A Lac Vacive, Po 61.82 49 P P 01 02 35.3 -0.9
D53A IAmb IAmb 01 02 36.5
comp=Z,66nm,0.8s
J49A Marlette 61.87 55 P P 01 02 36.5 -0.2
baz=316,SNR=8.8
MATI Mati 61.91 243 *eP* **P 01 02 36.1 -1.1**
NRS Narsarsuaq 61.92 22 P P 01 02 36.3 -0.4
NRS pmax pmax
comp=Z,24nm,0.9s
NRS Narsarsuaq 61.92 22 P P 01 02 36.2 -0.4
W39A Magazine 61.93 68 P P 01 02 36.2 -1.0
baz=316,SNR=59
W39A Magazine 61.93 68 P P 01 02 36.5 -0.7
W39A IAmb IAmb 01 02 37.8
comp=Z,165nm,1.2s
SFIN Lafayette 61.95 60 P P 01 02 36.8 -0.4
baz=316,SNR=38
SFIN Lafayette 61.95 60 P P 01 02 36.8 -0.4
E52A Mattawa 61.95 50 P P 01 02 36.1 -1.1
baz=317,SNR=44
KMI Kunming 61.96 276 *⇓iP* **P 01 02 37.9 +0.1**
KMI pP pP 01 03 06.6 +3.2
KMI sP sP 01 03 16.1 +1.2
KMI pmax pmax
comp=Z,51nm,0.8s
KMI pmax pmax
comp=Z,730nm,3.8s
KMI LR LR
comp=Z,840nm,31.6s
KMI LR LR
comp=Z,580nm,29.2s
KMI LR LR
comp=Z,3μm,35.9s
KMI Kunming 61.96 276 P P 01 02 37.4 -0.4
KMI pmax pmax
comp=Z,112nm,1.3s
KMI Kunming 61.96 276 P P 01 02 37.4 -0.4
KMI IAmb IAmb 01 02 39.1
comp=Z,112nm,1.3s
Q44A Meyer Farm, Va 61.96 62 P P 01 02 36.4 -0.9
Q44A IAmb IAmb 01 02 37.6
comp=Z,159nm,1.4s
F52A Sundridge 61.99 51 P P 01 02 36.6 -0.8
baz=317,SNR=23
OTUK Ortayu 62.00 313 P P 01 02 37.7 +0.2
WHTX Lake Whitney, 62.08 73 P P 01 02 38.0 -0.2
baz=316,SNR=46
WHTX Lake Whitney, 62.08 73 P P 01 02 38.1 -0.1
WHTX IAmb IAmb 01 02 39.3
comp=Z,137nm,0.9s
QIZ Qiongzhong 62.09 265 P P 01 02 39.6 +1.2
QIZ S **S 01 11 01.8 +6.6**
QIZ pmax pmax
comp=Z,110nm,1.2s

QIZ Qiongzhong 62.09 265 P **P** 01 02 38.8 +0.4
QIZ IAmb IAmb 01 02 41.0
comp=Z,145nm,1.1s

K49A Clarkson 62.13 56 P **P** 01 02 38.2 -0.2
baz=316,SNR=24

PDGK Podgornoye 62.18 305 P **P** 01 02 38.7 -0.2
D54A Lac Fusel, La 62.25 48 P **P** 01 02 37.7 -1.5
baz=318,SNR=31

KIRV Kirov 62.29 333 P **P** 01 02 40.0 +0.8
comp=Z,52nm,0.7s,baz=27,slow=3.6,SNR=38

KIRV Kirov 62.29 333 P **P** 01 02 40.0 +0.8
SHLS Shalkode 62.31 305 ⇓*iP* **P** 01 02 38.7 -1.2
comp=Z,59nm,0.6s,baz=305

SHLS *eS* **S** 01 10 54.6 -3.3
baz=305

SHLS Shalkode 62.31 305 *diP* **P** 01 02 38.6 -1.2
SHLS *eS* **S** 01 10 54.5 -3.3
SHLS pmax pmax
comp=Z,59nm,0.6s

ENPP El Nido 62.35 252 *eP* **P** 01 02 40.4 +0.2
E53A Dumoine, Ponti 62.35 49 P **P** 01 02 38.5 -1.3
baz=317,SNR=47

AAM Ann Arbor 62.37 56 P **P** 01 02 39.5 -0.5
baz=316

AAM Ann Arbor 62.37 56 P **P** 01 02 39.6 -0.4
AAM pmax pmax
comp=Z,37nm,0.7s

AAM Ann Arbor 62.37 56 P **P** 01 02 39.6 -0.4
FCAR Ozark Folk Cen 62.38 66 P **P** 01 02 38.7 -1.4
ALGO Algonquin Park 62.48 50 P **P** 01 02 39.7 -0.9
baz=317,SNR=35

KPKS Kokpek 62.48 306 ⇓*iP* **P** 01 02 41.2 +0.3
comp=Z,99nm,1.2s,baz=306

KPKS *eS* **S** 01 10 59.6 -0.2
baz=306

KPKS Kokpek 62.48 306 *diP* **P** 01 02 41.2 +0.3
KPKS *eS* **S** 01 10 59.6 -0.2
KPKS pmax pmax
comp=Z,99nm,1.2s

KCP Kidapawan 62.50 244 ⇓*iP* **P** 01 02 41.8 +0.5
MIAR Mount Ida 62.51 68 P **P** 01 02 40.7 -0.4
baz=316,SNR=148

MIAR Mount Ida 62.51 68 P **P** 01 02 40.7 -0.4
MIAR pmax pmax
comp=Z,212nm,1.1s

MIAR Mount Ida 62.51 68 P **P** 01 02 40.7 -0.4
E54A Lac Daplat, Po 62.53 49 P **P** 01 02 39.6 -1.4
baz=318,SNR=68

UZB Uzynbulak 62.54 306 ⇓*iP* **P** 01 02 41.5 +0.1
comp=Z,55nm,1.5s,baz=306

UZB *eS* **S** 01 11 00.2 -0.6
baz=306

UZB Uzynbulak 62.54 306 *diP* **P** 01 02 41.5 +0.1
UZB *eS* **S** 01 11 00.1 -0.6
UZB pmax pmax
comp=Z,55nm,1.5s

H52A Wyevale 62.56 52 P **P** 01 02 40.7 -0.5
baz=317,SNR=9.1

OLIL Olney 62.59 62 P **P** 01 02 40.6 -0.9
OLIL IAmb IAmb 01 02 41.9
comp=Z,129nm,1.1s

I51A Listowel 62.61 53 P **P** 01 02 41.8 +0.2
baz=317,SNR=62

Z38A Mt. Pleasant 62.62 70 P **P** 01 02 41.6 -0.2
BORG Borgarnes 62.62 9 P **P** 01 02 41.0 -0.3
BORG pmax pmax
comp=Z,96nm,1.4s

BORG Borgarnes 62.62 9 P **P** 01 02 41.0 -0.3
BORG IAmb IAmb 01 03 09.2
comp=Z,96nm,1.4s

S44A Carbondale 62.70 63 P **P** 01 02 41.1 -1.2
PBMO Poplar Bluff 62.70 65 P **P** 01 02 41.0 -1.2
PBMO IAmb IAmb 01 02 42.1
comp=Z,102nm,0.8s

WHAR Wooly Hollow 62.72 67 P **P** 01 02 41.1 -1.3
WHAR IAmb IAmb 01 02 42.4
comp=Z,94nm,0.9s

PAGZ Pagadian 62.77 246 *eP* **P** 01 02 42.6 -0.4
G53A Haliburton 62.82 51 P **P** 01 02 42.5 -0.5
baz=317,SNR=116

W41B Gary Mavity, V 62.83 67 P **P** 01 02 41.8 -1.3
baz=316,SNR=87

W41B Gary Mavity, V 62.83 67 P **P** 01 02 42.1 -1.0
W41B IAmb IAmb 01 02 43.2
comp=Z,128nm,1.1s

SADO Sadowa 62.83 51 P **P** 01 02 42.2 -0.8
KLMR Klimovskoe 62.83 339 *eP* **P** 01 02 40.9 -1.8
KLMR *e* 01 04 59.9
KLMR pmax pmax
comp=Z,66nm,1.1s

KLMR Klimovskoe 62.83 339 *eP* **P** 01 02 41.0 -1.8
KLMR AMP 01 02 45.2
comp=Z,66nm,1.1s

KLMR *ePP* **PP** 01 04 59.9 -1.6
KLMR LQ LQ 01 24 48.3
KLMR LQ LQ 01 24 48.3

435B Jarrell 62.87 74 P **P** 01 02 43.5 +0.1
baz=316,SNR=19

435B Jarrell 62.87 74 P **P** 01 02 43.5 +0.1
435B IAmb IAmb 01 02 44.9
comp=Z,160nm,1.0s

G54A Lake Saint Pet 62.87 50 P **P** 01 02 42.4 -0.9
baz=318,SNR=24

D55A Sainte-Anne-du 62.89 48 P **P** 01 02 42.4 -1.0
baz=318,SNR=112

DDMP Don Marcelino, 62.90 243 *eP* **P** 01 02 41.9 -1.9
SATY Saty 62.92 306 *iP* **P** 01 02 44.3 +0.4
comp=Z,40nm,1.3s,baz=306

SATY *eS* **S** 01 11 05.1 -0.2
baz=306

SATY Saty 62.92 306 *iP* **P** 01 02 44.2 +0.4
SATY *eS* **S** 01 11 05.1 -0.2
SATY pmax pmax
comp=Z,40nm,1.3s

JAY Jayapura 62.96 223 P **P** 01 02 44.5 +0.3
comp=Z,120nm,1.0s,baz=342,slow=3.4,SNR=56

JAY Jayapura 62.96 223 P **P** 01 02 44.6 +0.3
comp=Z,1µcomp=Z,93nm,1.2s

X40A Basin Creek Fa 62.98 68 P **P** 01 02 43.3 -0.8
baz=316,SNR=39

X40A Basin Creek Fa 62.98 68 P **P** 01 02 43.4 -0.8
X40A IAmb IAmb 01 02 44.7
comp=Z,80nm,1.0s

L50A Kingsville 62.99 56 P **P** 01 02 43.5 -0.6
baz=317

237A Washetta, Mont 63.04 72 P **P** 01 02 44.4 -0.2
237A IAmb IAmb 01 02 45.5
comp=Z,115nm,0.9s

CHKK Chushkaly 63.04 307 ⇓*iP* **P** 01 02 44.1 -0.4
baz=307

CHKK Chushkaly 63.04 307 *diP* **P** 01 02 44.0 -0.4
E55A Montcerf-Lytto 63.04 48 P **P** 01 02 43.1 -1.3
baz=318,SNR=6.7

UALR University of 63.06 67 P **P** 01 02 43.8 -0.9
N49A Columbus Grove 63.10 57 P **P** 01 02 43.9 -0.9
N49A IAmb IAmb 01 02 45.2
comp=Z,75nm,0.7s

BLO Bloomington 63.12 60 P **P** 01 02 44.1 -0.9
BLO pmax pmax
comp=Z,68nm,1.0s

BLO Bloomington 63.12 60 P **P** 01 02 44.1 -0.9
BLO IAmb IAmb 01 02 45.4
comp=Z,68nm,1.0s

K51A Iona Station 63.16 54 P **P** 01 02 44.9 -0.3
baz=317

HNR Honiara 63.19 201 P **P** 01 02 45.4 -0.3
comp=Z,131nm,0.6s,baz=200,slow=6.9,SNR=8.5

HNR Honiara 63.19 201 P **P** 01 02 45.3 -0.3
HNR pmax pmax
comp=Z,194nm,0.7s

HNR Honiara 63.19 201 P **P** 01 02 45.3 -0.3
D56A ZEC Mazanza, M 63.20 47 P **P** 01 02 44.0 -1.5
baz=318,SNR=63

SKMP Bagumbayan, Su 63.21 244 *eP* **P** 01 02 46.2 +0.4
H53A Bobcaygeon 63.24 51 P **P** 01 02 45.3 -0.5
baz=318,SNR=33

GENI Genyem 63.26 224 P **P** 01 02 47.0 +0.8
comp=Z,4µcomp=Z,380nm,1.0s

J52A Paris 63.29 53 P **P** 01 02 46.0 -0.1
baz=317,SNR=19

I53A Kortright Cn E 63.30 52 P **P** 01 02 45.6 -0.6
baz=318,SNR=5.5

KUU Kurty 63.33 308 ⇓*iP* **P** 01 02 45.8 -0.6
comp=Z,76nm,1.3s,baz=308

KUU *ePcP* **PcP** 01 03 21.8 -0.8
baz=308

KUU *eS* **S** 01 11 09.0 -1.2
baz=308

KUU Kurty 63.33 308 *diP* **P** 01 02 45.8 -0.6
KUU *e* 01 03 21.7
KUU *eS* **S** 01 11 09.0 -1.2
KUU pmax pmax
comp=Z,76nm,1.3s

PRZ Przheval'sk 63.34 305 P **P** 01 02 47.3 +0.6
PRZ Przheval'sk 63.34 305 P **P** 01 02 47.3 +0.6
PRZ IAmb IAmb 01 02 49.1
comp=Z,115nm,1.1s

SMPI Sarmi 63.36 226 P **P** 01 02 47.3 +0.5
F55A Otter Lake 63.37 49 P **P** 01 02 45.0 -1.5
baz=318,SNR=13

NSS Namsos 63.38 354 *eP* **P** 01 02 46.0 -0.3
USIN University of 63.38 62 P **P** 01 02 45.9 -0.8
USIN IAmb IAmb 01 02 47.1
comp=Z,200nm,1.1s

WLAR White Oak Lake 63.40 69 P **P** 01 02 46.7 -0.2
E56A St. Veronique 63.45 48 P **P** 01 02 45.8 -1.3
baz=319,SNR=49

K52A Tillsonburg 63.51 54 P **P** 01 02 47.1 -0.4
baz=317,SNR=8.1

MDOK Medeo 63.52 307 *iP* **P** 01 02 48.0 +0.2
baz=307

MDOK *eS* **S** 01 11 12.2 -0.7
baz=307

MDOK Medeo 63.52 307 *iP* **P** 01 02 48.0 +0.2
MDOK *eS* **S** 01 11 12.2 -0.7
HICK Hickman 63.54 64 P **P** 01 02 47.3 -0.5
HICK IAmb IAmb 01 02 48.7
comp=Z,109nm,0.8s

O49A Covington 63.55 58 P **P** 01 02 47.0 -0.9
AAA Alma-Ata 63.55 307 ⇓*iP* **P** 01 02 48.4 +0.5
comp=Z,80nm,0.8s,baz=307

AAA *eS* **S** 01 11 12.8 -0.3
baz=307

AAA Alma-Ata 63.55 307 *eP* **P** 01 02 48.7 +0.8
AAA *eS* **S** 01 11 14.9 +1.8
AAA pmax pmax
comp=Z,100nm,1.4s

AAA smax smax
comp=N,300nm,7.3s

AAA MLR MLR
comp=Z,400nm,15.0s

833A Chaparral WMA, 63.56 77 P **P** 01 02 48.3 +0.2
baz=317,SNR=8.6

833A Chaparral WMA, 63.56 77 P **P** 01 02 48.3 +0.2
833A IAmb IAmb 01 02 49.6
comp=Z,69nm,1.0s

BTLS Baital 63.59 310 ⇓*iP* **P** 01 02 48.2 +0.2
comp=Z,55nm,1.5s,baz=310

BTLS *ePcP* **PcP** 01 03 23.6 0.0
baz=310

BTLS *iS* **S** 01 11 13.0 -0.3
baz=310

BTLS Baital 63.59 310 *diP* **P** 01 02 48.2 +0.2
BTLS *e* 01 03 23.5
BTLS *iS* **S** 01 11 13.0 -0.3
BTLS pmax pmax
comp=Z,55nm,1.5s

D57A Chemin Vers le 63.61 47 P **P** 01 02 47.0 -1.1
baz=319,SNR=45

PLVO Plevna 63.62 50 P **P** 01 02 47.4 -0.8
LPAR Lepanto 63.62 65 P **P** 01 02 47.6 -0.7
LPAR IAmb IAmb 01 02 48.8
comp=Z,158nm,1.1s

G55A Calabogie 63.63 50 P **P** 01 02 47.1 -1.2
baz=318,SNR=41

TNSS Tian-Shan 63.66 307 ⇓*iP* **P** 01 02 49.3 +0.2
baz=307

TNSS Tian-Shan 63.66 307 *diP* **P** 01 02 49.2 +0.2
P49A Miami Univ. Ec 63.82 59 P **P** 01 02 48.5 -1.1
baz=317,SNR=11

LATQ La Tuque 63.83 46 P **P** 01 02 48.3 -1.2
baz=319,SNR=42

M51A Elyria 63.83 56 P **P** 01 02 48.7 -1.0
baz=317

MTBS Maitube 63.85 307 ⇓*iP* **P** 01 02 50.5 +0.5
baz=307

MTBS *ePcP* **PcP** 01 03 25.3 +0.5
baz=307

MTBS Maitube 63.85 307 *diP* **P** 01 02 50.4 +0.5
MTBS *e* 01 03 25.3
Z41A Richland Creek 63.89 69 P **P** 01 02 49.7 -0.5
baz=317,SNR=6.5

NATX Nacogdoches 63.89 71 P **P** 01 02 50.1 0.0
baz=317,SNR=13

NATX Nacogdoches 63.89 71 P **P** 01 02 50.2 0.0
NATX IAmb IAmb 01 02 51.4
comp=Z,176nm,1.1s

UTMT University of 63.89 64 P **P** 01 02 49.9 -0.2
TRQ Mont Tremblant 63.91 48 P **P** 01 02 48.9 -1.3
WCI Wyandotte Cave 63.93 61 P **P** 01 02 49.6 -0.8
baz=317

WCI Wyandotte Cave 63.93 61 P **P** 01 02 49.8 -0.5
WCI pmax pmax
comp=Z,86nm,1.0s

WCI Wyandotte Cave 63.93 61 P **P** 01 02 49.8 -0.5
WCI IAmb IAmb 01 02 50.8
comp=Z,86nm,1.0s

H55A Tweed 63.93 50 P **P** 01 02 49.7 -0.6
baz=318,SNR=40

I55A Frankford 63.94 51 P **P** 01 02 49.9 -0.4
baz=318,SNR=22

E57A Chemin Saint G 63.95 47 P **P** 01 02 49.2 -1.2
baz=319,SNR=106

CCAR Cane Creek 64.00 68 P **P** 01 02 50.7 -0.2
CCAR IAmb IAmb 01 02 52.1
comp=Z,82nm,0.9s

D58A Chemin du LacG 64.00 46 P **P** 01 02 49.4 -1.3
baz=319,SNR=64

N51A Ashland 64.03 56 P **P** 01 02 50.1 -1.0
baz=317,SNR=10

SLVN Son La 64.04 272 P **P** 01 02 51.5 +0.2
SLVN IAmb IAmb 01 02 53.4
comp=Z,130nm,1.2s

ORIO Orleans, Innes 64.05 49 P **P** 01 02 49.5 -1.5
baz=319,SNR=15

X43A Marvell 64.08 67 P **P** 01 02 50.6 -0.7
baz=317

M52A Chesterland 64.10 55 P **P** 01 02 50.8 -0.7
baz=318

F57A Hanington 64.15 48 P **P** 01 02 50.3 -1.4
baz=319

J54A Appleton 64.18 52 P **P** 01 02 51.5 -0.4
baz=318,SNR=13

TARG Taragay, Kyrgy 64.19 305 P **P** 01 02 53.0 +0.4
KDJ Kajisay 64.21 306 P **P** 01 02 52.7 +0.3
KDJ pmax pmax
comp=Z,89nm,0.7s

KDJ Kajisay 64.21 306 P **P** 01 02 52.7 +0.3
KDJ IAmb IAmb 01 02 54.8
comp=Z,89nm,0.7s

ACSO Alum Creek Sta 64.22 57 P **P** 01 02 51.6 -0.7
baz=317,SNR=13

ACSO Alum Creek Sta 64.22 57 P **P** 01 02 51.6 -0.7
H56A Elgin 64.34 50 P **P** 01 02 51.9 -1.0
baz=319,SNR=31

L53A Girard 64.35 54 P **P** 01 02 52.5 -0.5
baz=318,SNR=11

ERPA Erie 64.36 54 P **P** 01 02 52.3 -0.9
baz=318

E58A La Victoria 64.38 47 P **P** 01 02 51.9 -1.2
baz=320,SNR=44

TKM2 Tokmak 2 64.41 307 P **P** 01 02 54.2 +0.5
SNR=67

TKM2 Tokmak 2 64.41 307 P **P** 01 02 53.4 -0.3
N52A McGinn's Farm, 64.47 56 P **P** 01 02 52.9 -1.0
baz=318,SNR=7.9

O51A Pataskala 64.48 57 P **P** 01 02 53.1 -0.8
baz=318,SNR=34

SGDS Sogindy 64.49 308 ⇓*iP* **P** 01 02 54.7 +0.6
comp=Z,89nm,1.4s,baz=308

SGDS *eS* **S** 01 11 24.6 -0.2
baz=308

SGDS Sogindy 64.49 308 *diP* **P** 01 02 54.6 +0.6
SGDS *eS* **S** 01 11 24.5 -0.2
SGDS pmax pmax
comp=Z,89nm,1.4s

HKT Hockley 64.51 73 P **P** 01 02 54.4 +0.3
HKT pmax pmax
comp=Z,314nm,2.0s

HKT Hockley 64.51 73 P **P** 01 02 54.4 +0.3
HKT IAmb IAmb 01 02 55.8
comp=Z,314nm,2.0s

M53A WI Miller and 64.52 55 P **P** 01 02 53.8 -0.4
baz=318,SNR=19

M53A WI Miller and 64.52 55 P **P** 01 02 53.8 -0.4
M53A IAmb IAmb 01 02 55.0
comp=Z,111nm,1.1s

D59A Saint-Raymond 64.53 46 P **P** 01 02 53.3 -0.9
baz=320,SNR=8.9

G57A Newington 64.55 49 P **P** 01 02 52.8 -1.5
baz=317,SNR=18

BOOM Boomskoye usch 64.56 307 P **P** 01 02 55.3 +0.6
BOOM pmax pmax
comp=Z,74nm,0.8s

BOOM Boomskoye usch 64.56 307 P **P** 01 02 55.3 +0.6
BOOM IAmb IAmb 01 02 57.4
comp=Z,74nm,0.8s

W45A Hickory Valley 64.57 65 P **P** 01 02 54.2 -0.4
W45A IAmb IAmb 01 02 55.2
comp=Z,118nm,0.8s

J55A Hilton 64.58 52 P **P** 01 02 54.0 -0.5
baz=318,SNR=22

J55A Hilton 64.58 52 P **P** 01 02 54.4 -0.2
J55A IAmb IAmb 01 02 55.3
comp=Z,87nm,0.9s

ULHL Ulahol 64.60 307 P **P** 01 02 55.7 +0.7
SNR=32

L54A Sinclairville 64.61 53 P **P** 01 02 54.4 -0.3
baz=318,SNR=45

WVT Waverly 64.62 63 P **P** 01 02 54.2 -0.7
baz=317

WVT Waverly 64.62 63 P **P** 01 02 54.1 -0.7
WVT pmax pmax
comp=Z,53nm,1.0s

WVT Waverly 64.62 63 P **P** 01 02 54.1 -0.7
E59A St. Maurice 64.64 46 P **P** 01 02 53.9 -0.9
baz=320

K54A Basiliko Farm, 64.64 53 P **P** 01 02 54.6 -0.4
baz=318,SNR=29

USP Ospenovka 64.69 308 P **P** 01 02 56.1 +0.8
SNR=100

P51A Williamsport 64.73 58 P **P** 01 02 54.7 -0.9
baz=318

P51A Williamsport 64.73 58 P **P** 01 02 54.6 -0.9
P51A IAmb IAmb 01 02 55.8
comp=Z,36nm,0.5s

TBLU Trondheim 64.76 354 *eP* **P** 01 02 54.2 -1.1
CHMS Chumysh 64.77 308 P **P** 01 02 56.6 +0.8
SNR=30

FIA1 FINESS Array S 64.82 346 P **P** 01 02 55.0 -0.7
FINES FINESS Array B 64.82 346 P **P** 01 02 54.9 -0.8
comp=Z,10nm,0.4s,baz=21,slow=5.1,SNR=52

WVNY West Valley, N 64.84 53 P **P** 01 02 55.7 -0.6
WVNY IAmb IAmb 01 02 57.2
comp=Z,144nm,1.0s

H57A Richville 64.84 49 P **P** 01 02 55.1 -1.1
baz=319,SNR=31

K55A Perry 64.86 52 P **P** 01 02 55.8 -0.6
baz=318,SNR=23

O52A Adamsville 64.90 57 P **P** 01 02 56.1 -0.6
baz=318,SNR=38

O52A Adamsville 64.90 57 P **P** 01 02 55.9 -0.8
O52A IAmb IAmb 01 03 23.2
comp=Z,151nm,1.1s

N53A Lisbon 64.91 55 P **P** 01 02 56.3 -0.4
baz=318

OXF Oxford 64.91 66 P **P** 01 02 56.2 -0.6
baz=317,SNR=31

OXF Oxford 64.91 66 P **P** 01 02 56.2 -0.6
OXF pmax pmax
comp=Z,451nm,1.2s

OXF Oxford 64.91 66 P **P** 01 02 56.2 -0.6
Q51A Peebles 64.92 58 P **P** 01 02 56.4 -0.5
Q51A IAmb IAmb 01 02 57.6
comp=Z,187nm,1.2s

KBK Karagaybulak 64.93 308 P **P** 01 02 57.8 +0.8
SNR=46

MMNY Mt. Morris Dam 64.94 52 P **P** 01 02 56.3 -0.5
MMNY IAmb IAmb 01 02 57.6
comp=Z,106nm,0.9s

G58A Ormstown 64.95 48 P **P** 01 02 55.5 -1.4
baz=320,SNR=16

FRU1 Bishkek 64.97 308 P **P** 01 02 58.1 +0.9
FRU1 pmax pmax
comp=Z,122nm,0.8s

FRU1 Bishkek 64.97 308 P **P** 01 02 58.1 +0.9
FRU1 IAmb IAmb 01 03 00.0
comp=Z,122nm,0.8s

M54A Oil Creek Stat 64.98 54 P **P** 01 02 56.8 -0.3
baz=318,SNR=16

F59A Saint Guillaume 64.99 47 P **P** 01 02 56.0 -1.2
baz=320,SNR=20

D60A Saint Jean D'O 65.01 45 P **P** 01 02 56.5 -0.7
baz=320,SNR=54

J56A Wolcott 65.04 51 P **P** 01 02 56.8 -0.7
baz=319,SNR=40

J56A Wolcott 65.04 51 P **P** 01 02 56.9 -0.6
J56A IAmb IAmb 01 02 58.0
comp=Z,108nm,0.9s

L55A Hinsdale 65.09 53 P **P** 01 02 57.9 0.0
baz=318,SNR=34

LONY Lake Ozonia 65.10 49 P **P** 01 02 56.2 -1.8
baz=319,SNR=25

D61A St Aubert, Com 65.11 44 P **P** 01 02 57.4 -0.4
baz=321,SNR=32

P52A Corning 65.11 57 P **P** 01 02 56.7 -1.3
baz=318,SNR=9.5

I57A Carthage 65.11 50 P **P** 01 02 57.1 -0.9
baz=319,SNR=20

O53A New Philadelph 65.13 56 P **P** 01 02 57.1 -1.1
baz=318,SNR=9.6

AAK Ala-Archa 65.17 308 P **P** 01 02 58.5 0.0
comp=Z,54nm,0.6s

AAK Ala-Archa 65.17 308 P **P** 01 02 59.1 +0.6
SNR=36

AAK Ala-Archa 65.17 308 *iP* **P** 01 02 59.1 +0.6
SNR=39

AAK Ala-Archa 65.17 308 *iP* **P** 01 02 59.1 +0.6
SNR=39

AAK Ala-Archa 65.17 308 P **P** 01 02 57.7 -0.9
AAK Ala-Archa 65.17 308 P **P** 01 02 58.8 +0.2
AAK pmax pmax
comp=Z,84nm,1.0s

AAK Ala-Archa 65.17 308 P **P** 01 02 58.8 +0.2
AAK IAmb IAmb 01 03 00.7
comp=Z,84nm,1.0s

E60A Ste Agathe de 65.20 46 P **P** 01 02 57.5 -1.0
baz=320,SNR=38

KZA Kyzart 65.21 307 P **P** 01 03 00.2 +1.0
SNR=46

N54A Moraine State 65.22 55 P **P** 01 02 58.1 -0.7
baz=318,SNR=15

N54A Moraine State 65.22 55 P **P** 01 02 58.0 -0.7
BATP Bataraza 65.22 252 *eP* **P** 01 02 59.8 +0.8
K56A Middlesex 65.25 52 P **P** 01 02 58.6 -0.3
baz=319,SNR=64

F60A Warwick 65.28 46 P **P** 01 02 57.8 -1.2
baz=320,SNR=19

Y45A Yeager Farm, C 65.31 66 P **P** 01 02 59.0 -0.4
Y45A IAmb IAmb 01 03 00.1
comp=Z,171nm,0.9s

PLAL Pickwick Lake 65.32 64 P **P** 01 02 58.4 -1.0
PLAL IAmb IAmb 01 02 59.6
comp=Z,94nm,1.1s

J57A Williamstown 65.35 51 P **P** 01 02 58.7 -0.8
baz=319,SNR=23

G59A Clarenceville 65.40 48 P **P** 01 02 58.5 -1.3
baz=320,SNR=23

H58A Gabriels 65.44 49 P **P** 01 02 58.7 -1.4
baz=320,SNR=18

M55A Ridgway 65.46 54 P **P** 01 02 59.9 -0.3
baz=319,SNR=31

M55A Ridgway 65.46 54 P **P** 01 02 60.0 -0.3
M55A IAmb IAmb 01 03 01.3
comp=Z,122nm,1.2s

UCH Uchtor 65.46 308 P **P** 01 03 01.7 +0.8
SNR=29

CLTN Cedars of Leba 65.47 62 P **P** 01 03 00.1 -0.3
CLTN IAmb IAmb 01 03 01.2
comp=Z,122nm,0.9s

EKS2 Erkin-Say 65.50 308 P **P** 01 03 01.7 +1.0
SNR=30

H59A Cadyville 65.50 48 P **P** 01 02 59.1 -1.4
baz=320,SNR=27

342A Flagon Creek P 65.53 70 P **P** 01 03 00.9 +0.1
Q52A Bidwell 65.53 58 P **P** 01 02 59.9 -0.9
baz=318,SNR=14

L56A Greenwood 65.55 52 P **P** 01 03 00.6 -0.3
baz=319,SNR=122

L56A	Greenwood	65.55	52	P		P	01 03 00.7	-0.3
E61A	Lac Etchemin	65.57	45	P		P	01 02 59.9	-1.0
	baz=321,SNR=19							
MOL	Molde	65.59	355	*e*P		P	01 03 00.4	-0.3
T50A	Nancy	65.60	61	P		P	01 03 00.5	-0.7
T50A				IAmb		IAmb	01 03 01.9	
	comp=Z,118nm,1.4s							
P53A	Whipple	65.60	57	P		P	01 03 00.3	-0.9
	baz=318,SNR=11							
O54A	Avella	65.60	56	P		P	01 03 00.4	-0.9
	baz=318,SNR=6.7							
K57A	Scipio Center	65.61	51	P		P	01 03 00.8	-0.5
	baz=319,SNR=32							
I58A	Old Forge	65.63	50	P		P	01 03 00.2	-1.1
	baz=320,SNR=30							
LSA	Lhasa	65.64	287	P		P	01 03 03.5	+1.4
LSA				pmax		pmax		
	comp=Z,350nm,1.1s							
LSA	Lhasa	65.64	287	*i* P		P	01 03 03.4	+1.3
	SNR=19							
LSA	Lhasa	65.64	287	*i* P		P	01 03 03.4	+1.3
	SNR=19							
LSA	Lhasa	65.64	287	P		P	01 03 01.3	-0.8
LSA	Lhasa	65.64	287	P		P	01 03 03.1	+1.0
LSA				pmax		pmax		
	comp=Z,98nm,0.7s							
LSA	Lhasa	65.64	287	P		P	01 03 03.1	+1.0
LSA				IAmb		IAmb	01 03 05.5	
	comp=Z,98nm,0.7s							
MOQ	Mont Orford	65.65	47	P		P	01 03 00.5	-1.0
D62A	Allapoint, All	65.69	44	P		P	01 03 01.2	-0.4
	baz=321							
D62A	Allapoint, All	65.69	44	P		P	01 03 01.3	-0.4
D62A				IAmb		IAmb	01 03 29.5	
	comp=Z,78nm,1.0s							
PUL	Pulkovo	65.69	343⇑	*e*P		P	01 03 01.3	-0.1
PUL				pmax		pmax		
	comp=Z,116nm,0.7s							
F61A	St Evariste	65.70	46	P		P	01 03 01.0	-0.8
	baz=321,SNR=34							
ZAIG	Zacatecas	65.70	84	P		P	01 03 02.8	+0.4
ZAIG				IAmb		IAmb	01 03 04.4	
	comp=Z,115nm,0.9s							
J58A	Remsen	65.73	50	P		P	01 03 01.3	-0.7
	baz=320,SNR=36							
M56A	Emporium	65.74	53	P		P	01 03 01.8	-0.2
	baz=319,SNR=36							
M56A	Emporium	65.74	53	P		P	01 03 01.6	-0.5
M56A				IAmb		IAmb	01 03 02.9	
	comp=Z,61nm,0.8s							
G60A	Masonville	65.77	47	P		P	01 03 00.9	-1.3
	baz=320,SNR=9.7							
E62A	Clayton Lake	65.84	44	P		P	01 03 01.8	-0.9
	baz=321,SNR=42							
E62A	Clayton Lake	65.84	44	P		P	01 03 01.9	-0.7
E62A				IAmb		IAmb	01 03 03.1	
	comp=Z,92nm,1.2s							
N55A	Marion Center	65.86	54	P		P	01 03 02.0	-0.9
	baz=319,SNR=13							
AML	Almayashu	65.94	308	P		P	01 03 04.9	+1.1
	SNR=49							
VBMS	Vicksburg	65.96	68	P		P	01 03 03.2	-0.3
	baz=318							
VBMS	Vicksburg	65.96	68	P		P	01 03 03.1	-0.5
VBMS				IAmb		IAmb	01 03 04.6	
	comp=Z,69nm,0.9s							
P54A	Burton	65.98	56	P		P	01 03 02.8	-0.9
	baz=318,SNR=10.0							
G61A	St-Isidore-de-	66.00	47	P		P	01 03 02.9	-0.8
	baz=321,SNR=33							
Q53A	Leroy	66.00	57	P		P	01 03 03.4	-0.4
	baz=318,SNR=42							
L57A	Andrews Acres	66.00	52	P		P	01 03 03.4	-0.4
	baz=319,SNR=59							
AKN	Aaknes	66.01	356	*e*P		P	01 03 03.3	-0.2
K58A	Earlville	66.01	51	P		P	01 03 03.1	-0.7
	baz=320,SNR=23							
K58A	Earlville	66.01	51	P		P	01 03 03.4	-0.4
J59A	Piesco	66.02	50	P		P	01 03 02.7	-1.2
	baz=320,SNR=30							
J59A	Piesco	66.02	50	P		P	01 03 02.8	-1.1
H60A	Morristown	66.02	48	P		P	01 03 02.6	-1.2
	baz=320,SNR=22							
DOMB	Dombas	66.03	355	*e*P		P	01 03 03.8	+0.2
I59A	Olmsteadville	66.06	49	P		P	01 03 03.0	-1.1
	baz=320,SNR=49							
N56A	West Decatur	66.11	54	P		P	01 03 03.8	-0.7
	baz=319,SNR=14							
D63A	Stockholm	66.13	43	P		P	01 03 03.7	-0.8
	baz=322,SNR=29							
O55A	Ligonier	66.13	55	P		P	01 03 03.6	-1.0
	baz=319,SNR=6.7							
AFI	Afiamalu	66.14	170	P		P	01 03 04.6	-0.2
AFI				pmax		pmax		
	comp=Z,77nm,0.9s							
AFI	Afiamalu	66.14	170	P		P	01 03 04.6	-0.2
AFI				IAmb		IAmb	01 03 05.7	
	comp=Z,78nm,0.9s							
R53A	Hurricane	66.17	58	P		P	01 03 04.5	-0.3
	baz=318,SNR=16							
AKTO	Aktyubinsk	66.21	323	P		P	01 03 05.8	+0.8
	comp=Z,150nm,0.8s,baz=46,slow=6.3,SNR=201							
F62A	Pittston Farm,	66.21	45	P		P	01 03 04.1	-0.9
	baz=321,SNR=54							
Q54A	Coxs Mills	66.26	57	P		P	01 03 04.7	-0.7
	baz=318,SNR=11							
Q54A	Coxs Mills	66.26	57	P		P	01 03 04.8	-0.7
MCWV	Mont Chateau	66.27	56	P		P	01 03 05.0	-0.5
	baz=319							
BINY	Binghamton	66.27	51	P		P	01 03 05.2	-0.3
	baz=320,SNR=26							
BINY	Binghamton	66.27	51	P		P	01 03 05.0	-0.5
BINY				IAmb		IAmb	01 03 06.3	
	comp=Z,73nm,0.9s							
X48A	Hartselle	66.28	64	P		P	01 03 04.3	-1.3
I60A	Shoreham	66.30	49	P		P	01 03 04.3	-1.2
	baz=320,SNR=19							
M57A	Sunshine Farm,	66.37	53	P		P	01 03 05.9	-0.2
	baz=319,SNR=56							
M57A	Sunshine Farm,	66.37	53	P		P	01 03 05.8	-0.2
M57A				IAmb		IAmb	01 03 07.1	
	comp=Z,88nm,0.8s							
K59A	Cooperstown	66.38	50	P		P	01 03 05.4	-0.7
	baz=320,SNR=21							
P55A	Reedsville	66.39	56	P		P	01 03 05.8	-0.5
	baz=319,SNR=11							
H61A	Lyndonville	66.39	47	P		P	01 03 05.5	-0.8
	baz=321,SNR=34							
ABKAR	Akbulak array	66.43	321	P		P	01 03 06.4	+0.1
ABKAR	Akbulak array	66.43	321	P		P	01 03 06.8	+0.5
ABKAR				IAmb		IAmb	01 03 08.6	
	comp=Z,129nm,1.0s							
PQI	Presque Isle	66.45	44	P		P	01 03 05.6	-0.9
L58A	Harry Jones Me	66.46	51	P		P	01 03 06.2	-0.5
	baz=320,SNR=36							
O56A	Blue Knob Stat	66.46	54	P		P	01 03 05.8	-0.9
	baz=319,SNR=15							
E63A	Oxbow	66.47	44	P		P	01 03 05.8	-0.9
	baz=322,SNR=39							
E63A	Oxbow	66.47	44	P		P	01 03 05.7	-0.9
E63A				IAmb		IAmb	01 03 06.8	
	comp=Z,59nm,0.8s							
TNTI	Ternate	66.47	238	P		P	01 03 07.4	+0.4
	comp=Z,2µmcomp=Z,119nm,0.9s							
TNTI	Ternate	66.47	238	P		P	01 03 06.5	-0.5
TNTI				IAmb		IAmb	01 03 08.1	
	comp=Z,262nm,1.4s							
G62A	West of Eustis	66.49	46	P		P	01 03 06.1	-0.8
	baz=321,SNR=52							
G62A	West of Eustis	66.49	46	P		P	01 03 06.2	-0.6
G62A				IAmb		IAmb	01 03 07.4	
	comp=Z,87nm,1.0s							
DZA	Taraz	66.50	310⇓	*i* P		P	01 03 07.3	+0.3
	comp=Z,25nm,1.0s,baz=310							
DZA				*e*S		S	01 11 48.9	-0.2
	baz=310							
DZA	Taraz	66.50	310	*d i* P		P	01 03 07.2	+0.3
DZA				*e*S		S	01 11 48.8	-0.2
DZA				pmax		pmax		
	comp=Z,25nm,1.0s							
SSPA	Standing Stone	66.52	54	P		P	01 03 06.5	-0.5
	baz=319							
SSPA	Standing Stone	66.52	54	P		P	01 03 06.4	-0.7
SSPA				IAmb		IAmb	01 03 07.8	
	comp=Z,73nm,1.0s							
S53A	Williamson	66.56	59	P		P	01 03 06.8	-0.6
	baz=318,SNR=5.1							
N57A	Milroy	66.60	53	P		P	01 03 07.1	-0.4
	baz=319,SNR=25							
LBNH	Lisbon	66.62	48	P		P	01 03 06.8	-0.8
	baz=321,SNR=33							
Q55A	Buckhannon	66.64	56	P		P	01 03 07.3	-0.7
	baz=319,SNR=11							
TZTN	Tazewell	66.65	60	P		P	01 03 07.4	-0.5
	baz=318,SNR=18							
TZTN	Tazewell	66.65	60	P		P	01 03 07.5	-0.5
M58A	Price's Panora	66.67	52	P		P	01 03 07.6	-0.5
	baz=320,SNR=34							
NC303	NORSAR Array S	66.69	353	P		P	01 03 07.5	-0.3
NC303				IAmb		IAmb	01 03 36.5	
	comp=Z,202nm,1.1s							
J60A	Lant Hill Farm	66.70	49	P		P	01 03 07.5	-0.6
	baz=320,SNR=44							
H62A	Milan	66.71	47	P		P	01 03 07.4	-0.9
	baz=321,SNR=80							
KK31	Karatay Array	66.72	311	P		P	01 03 08.6	+0.3
KK31				pmax		pmax		
	comp=Z,90nm,1.0s							
KK31	Karatay Array	66.72	311	P		P	01 03 08.6	+0.3
KK31				IAmb		IAmb	01 03 10.6	
	comp=Z,90nm,1.0s							
KKAR	Karatay Array	66.72	311	P		P	01 03 08.2	-0.1
KKAR	Karatay Array	66.72	311	P		P	01 03 08.2	-0.1
I61A	Oroboro, Fairl	66.73	48	P		P	01 03 07.6	-0.7
	baz=321,SNR=32							
E64A	Bridgewater	66.73	44	P		P	01 03 07.2	-1.1
	baz=322,SNR=55							
L59A	Walton	66.73	51	P		P	01 03 07.8	-0.6
	baz=320,SNR=27							
F63A	Nahmakanta, Br	66.74	45	P		P	01 03 07.9	-0.5
	baz=322,SNR=43							
V51A	Loudon	66.76	61	P		P	01 03 08.0	-0.7
KSH	Kashi	66.77	305	P		P	01 03 13.1	+4.3
KSH				S		S	01 11 57.4	+4.7
KSH				sS		SKSac	01 12 45.9	-10
KSH				SS		SS	01 16 20.1	+8.6
KSH				pmax		pmax		
	comp=Z,110nm,0.6s							
KSH				pmax		pmax		
	comp=Z,1µm,6.5s							
KSH				LR		LR		
	comp=Z,1µm,16.1s							
KSH				LR		LR		
	comp=Z,920nm,10.4s							
KSH				LR		LR		
	comp=Z,860nm,15.3s							
R54A	Victor	66.78	57	P		P	01 03 08.4	-0.4
	baz=319,SNR=20							
PMG	Port Moresby	66.78	214	P		P	01 03 08.8	-0.1
	comp=Z,48nm,0.8s,baz=24,slow=6.5,SNR=17							
PMG	Port Moresby	66.78	214	*d i* P		P	01 03 08.8	-0.1
PMG				pmax		pmax		
	comp=Z,112nm,1.3s							
PMG	Port Moresby	66.78	214	P		P	01 03 08.8	-0.1
PMG				IAmb		IAmb	01 03 10.3	
	comp=Z,248nm,1.4s							
BATG	Bathurst New B	66.80	42	P		P	01 03 08.2	-0.5
BATG				IAmb		IAmb	01 03 09.5	
	comp=Z,68nm,0.4s							
T53A	Wise	66.86	59	P		P	01 03 09.3	-0.1
	baz=318,SNR=20							
KSPA	Keystone Colle	66.87	52	P		P	01 03 08.8	-0.4
NB2	NORSAR Subarra	66.89	353	P		P	01 03 08.5	-0.6
	comp=Z,23nm,0.8s,baz=8.2,slow=6.2							
NB2	NORSAR Subarra	66.89	353	P		P	01 03 08.5	-0.6
	baz=8.2,slow=6.2							
NOA	NORSAR Array B	66.89	353	P		P	01 03 08.8	-0.3
	comp=Z,10nm,0.6s,baz=2.5,slow=5.8,SNR=50							
NOA				PKP2bc			01 31 33.4	
	comp=Z,3.9nm,1.0s,baz=174,slow=3.0,SNR=5.5							
P56A	Dayton Farm, R	66.89	55	P		P	01 03 09.0	-0.5
	baz=319,SNR=18							
S54A	Dingess, Beckl	66.90	58	P		P	01 03 09.0	-0.6
	baz=319,SNR=7.5							
CPCT	Cooper Cave	66.93	62	P		P	01 03 09.0	-0.8
F64A	Sherman	66.94	44	P		P	01 03 08.8	-0.9
	baz=322,SNR=58							
N58A	Sunbury	66.95	53	P		P	01 03 09.2	-0.5
	baz=320,SNR=45							
N58A	Sunbury	66.95	53	P		P	01 03 09.2	-0.5
N58A				IAmb		IAmb	01 03 10.7	
	comp=Z,115nm,1.1s							
K60A	Five Rivers En	66.96	50	P		P	01 03 09.2	-0.5
	baz=320							
O57A	Amberson	66.97	54	P		P	01 03 09.6	-0.3
	baz=319,SNR=22							
TRY	Troy	66.97	50	P		P	01 03 09.2	-0.7
G63A	Kingsbury	66.98	46	P		P	01 03 09.0	-0.9
	baz=322,SNR=28							
PKME	Peaks-Kenny Pk	67.00	45	P		P	01 03 09.4	-0.6
	baz=322,SNR=22							
FPAL	Fort Paine	67.01	63	P		P	01 03 09.4	-1.0
FPAL				IAmb		IAmb	01 03 10.5	
	comp=Z,98nm,1.2s							
J61A	Chester	67.02	49	P		P	01 03 09.5	-0.7
	baz=321,SNR=43							
M59A	Waymart	67.04	52	P		P	01 03 09.6	-0.8
	baz=320,SNR=32							
HYA	Hoyanger	67.06	356	*e*P		P	01 03 11.0	+0.9
Q56A	Snyder Ridge,	67.07	56	P		P	01 03 10.1	-0.5
	baz=319,SNR=5.5							
V52A	Sevierville	67.14	61	P		P	01 03 10.7	-0.4
R55A	Marlinton	67.16	57	P		P	01 03 10.8	-0.4
	baz=319,SNR=14							
NC602	NORSAR Array S	67.17	353	*e*P		P	01 03 10.1	-0.7
FAKI	Fak Fak	67.17	231	P		P	01 03 11.4	0.0
	comp=Z,357nm,1.3s							
FAKI	Fak Fak	67.17	231	P		P	01 03 11.1	-0.3
I62A	Tamworth	67.17	47	P		P	01 03 10.2	-0.9
	baz=321,SNR=17							
I62A	Tamworth	67.17	47	P		P	01 03 10.7	-0.5
TKL	Tuckaleechee C	67.18	61	P		P	01 03 10.6	-0.8
TKL				pmax		pmax		
	comp=Z,47nm,1.0s							
TKL	Tuckaleechee C	67.18	61	P		P	01 03 10.6	-0.8
K61A	Williamstown	67.21	49	P		P	01 03 10.7	-0.7
	baz=321,SNR=21							
G64A	Maxfield	67.25	45	P		P	01 03 11.0	-0.6
	baz=322,SNR=28							
L60A	Shokan	67.28	50	P		P	01 03 11.3	-0.6
	baz=320,SNR=19							
T54A	Tazewell	67.31	59	P		P	01 03 11.9	-0.3
	baz=319,SNR=29							
P57A	Homestead Farm	67.33	55	P		P	01 03 11.8	-0.4
	baz=320							
S55A	Lewisburg	67.34	57	P		P	01 03 11.6	-0.7
	baz=319,SNR=9.3							
N59A	State Game Lan	67.35	52	P		P	01 03 12.0	-0.3
	baz=320,SNR=52							
LRAL	Lakeview Retre	67.36	65	P		P	01 03 11.0	-1.4
	baz=318,SNR=17							
I63A	Otisfield	67.38	47	P		P	01 03 12.2	-0.2
	baz=321,SNR=31							
I63A	Otisfield	67.38	47	P		P	01 03 12.2	-0.2
I63A				IAmb		IAmb	01 03 13.2	
	comp=Z,84nm,0.9s							
O58A	Lewisberry	67.39	53	P		P	01 03 12.2	-0.4
	baz=320,SNR=12							
R56A	Bull Pasture M	67.43	56	P		P	01 03 12.2	-0.8
	baz=319,SNR=8.5							
SKAR	Skarslia	67.43	355	*e*P		P	01 03 12.4	-0.1
L61A	Hillsdale 1, H	67.44	50	P		P	01 03 12.3	-0.6
	baz=321,SNR=16							
J62A	Henniker	67.46	48	P		P	01 03 12.2	-0.7
	baz=321,SNR=29							
Q57A	Strasburg	67.47	55	P		P	01 03 12.0	-1.1
	baz=319,SNR=9.8							
H64A	Troy	67.52	46	P		P	01 03 12.5	-0.8
	baz=322,SNR=23							
VSU	Vasula	67.55	344	*e*P		P	01 03 12.9	-0.4
VSU	Vasula	67.55	344	*ce*P		P	01 03 12.4	-0.8
VSU				pmax		pmax		
	comp=Z,144nm,1.4s							
U54A	Nelsons Funny	67.59	59	P		P	01 03 13.7	-0.3
	baz=319,SNR=12							
U54A	Nelsons Funny	67.59	59	P		P	01 03 13.4	-0.6
M60A	Port Jervis	67.60	51	P		P	01 03 13.0	-0.9
	baz=320,SNR=22							
LBMI	Labuha	67.60	237	P		P	01 03 14.1	0.0
	comp=Z,3µmcomp=Z,179nm,0.9s							
O59A	Robesonia	67.61	53	P		P	01 03 13.6	-0.4
	baz=320							
L61B	Northampton	67.66	49	P		P	01 03 13.3	-0.9
	baz=321,SNR=17							
IUG	luzhnay	67.68	310⇓	*i* P		P	01 03 15.7	+1.1
	comp=Z,28nm,1.7s,baz=310							
IUG				*e*S		S	01 12 04.2	+0.7
	baz=310							
IUG	luzhnay	67.68	310	*d i* P		P	01 03 15.6	+1.1
IUG				*e*S		S	01 12 04.1	+0.7
IUG				pmax		pmax		
	comp=Z,28nm,1.7s							
P58A	Pank, Wackersv	67.68	54	P		P	01 03 13.7	-0.7
	baz=320,SNR=7.2							
T55A	Pulaski	67.69	58	P		P	01 03 14.2	-0.4
	baz=319,SNR=10.0							
V53A	Saluda	67.69	60	P		P	01 03 14.0	-0.6
K62A	Royalston	67.70	49	P		P	01 03 13.8	-0.7
	baz=321,SNR=22							
K62A	Royalston	67.70	49	P		P	01 03 13.8	-0.7
N60A	Cedar Hill Far	67.72	52	P		P	01 03 14.3	-0.3
	baz=320,SNR=27							
CHM	Chimkent	67.75	311	*i* P		P	01 03 15.7	+0.9
	comp=Z,48nm,0.7s,baz=311							
CHM				*e*PcP		PcP	01 03 41.4	+0.5
	baz=311							
CHM	Chimkent	67.75	311	*d i* P		P	01 03 15.7	+0.9
CHM				*e*			01 03 41.4	
CHM				pmax		pmax		
	comp=Z,48nm,0.7s							
J63A	Strafford	67.75	48	P		P	01 03 14.0	-0.8
	baz=321,SNR=10							
ODNJ	Ogdensburg	67.79	51	P		P	01 03 14.4	-0.6
G65A	Princeton	67.81	44	P		P	01 03 14.6	-0.5
	baz=322,SNR=28							
SANVU	Saraoutou	67.83	192	P		P	01 03 15.2	-0.2
MOS	Moscow	67.88	337	*e*P		P	01 03 13.9	-1.5
MOS				*e**PP		pP	01 03 40.0	-0.9
MOS				*e*			01 03 55.3	
MOS				*e*			01 05 50.1	
MOS				*e*PPP		PPP	01 07 23.1	
MOS				*e*S		S	01 12 04.4	-0.7
MOS				*e**SS		sS	01 12 48.4	+0.7
MOS				pmax		pmax		
	comp=Z,102nm,1.0s							
MOS				MLR		MLR		
	comp=Z,1µm,19.0s							
MOS				MLR		MLR		
	comp=N,700nm,18.0s							
S56A	Natural Bridge	67.90	57	P		P	01 03 15.4	-0.5
	baz=319,SNR=11							
I64A	Boothbay	67.91	46	P		P	01 03 14.9	-0.8
	baz=322,SNR=11							
Q58A	Fox Den Farm,	67.91	55	P		P	01 03 15.1	-0.7
	baz=320,SNR=26							
H65A	Eastbrook	67.91	45	P		P	01 03 15.1	-0.6
	baz=322,SNR=37							
R57A	Stanardsville	67.97	56	P		P	01 03 15.9	-0.3
	baz=320,SNR=16							
SDMD	Soldier's Deli	67.97	54	P		P	01 03 15.7	-0.5
L62A	Suffield	67.99	49	P		P	01 03 15.5	-0.8
	baz=321							
O60A	Telford	67.99	52	P		P	01 03 15.9	-0.4
	baz=320,SNR=22							
K63A	Dunstable	68.01	48	P		P	01 03 15.7	-0.7
	baz=321,SNR=16							
U55A	TA2, Sparta	68.01	59	P		P	01 03 16.1	-0.5
	baz=319,SNR=15							
OSL	Oslo	68.02	353	*e*P		P	01 03 16.2	+0.1
M61A	Granite Spring	68.02	51	P		P	01 03 15.6	-0.9
	baz=321,SNR=6.5							
P59A	Jarrettsville	68.02	54	P		P	01 03 16.1	-0.5
	baz=320,SNR=13							
V54A	Nebo	68.08	60	P		P	01 03 16.6	-0.4
	baz=319,SNR=20							
HRV	Adam Dziewonsk	68.13	48	P		P	01 03 16.6	-0.6
	baz=321							
BG3	Lake Jocassee	68.14	61	P		P	01 03 16.9	-0.5
T56A	Rocky Mt	68.15	58	P		P	01 03 16.6	-0.8
	baz=319,SNR=7.2							
S57A	Dark Hollow, R	68.15	56	P		P	01 03 17.1	-0.3
	baz=320							
PAL	Palisades	68.19	51	P		P	01 03 16.9	-0.6
	baz=321,SNR=8.5							
N61A	South Mountain	68.20	51	P		P	01 03 17.0	-0.6
	baz=321,SNR=5.7							
R58A	Rapidan	68.23	55	P		P	01 03 17.2	-0.7
	baz=320,SNR=13							
H66A	Whiting	68.25	44	P		P	01 03 17.3	-0.5
	baz=323,SNR=39							
SHL	Shillong	68.25	284	P		P	01 03 18.1	-0.4
	SNR=61							
SHL	Shillong	68.25	284	P		P	01 03 18.0	-0.4
SHL				pmax		pmax		
	comp=Z,340nm,1.1s							
SHL	Shillong	68.25	284	P		P	01 03 18.0	-0.4
LRW	Lerwick	68.26	360	*e*P		P	01 03 17.6	-0.1
LRW				IAmb		IAmb	01 03 19.1	
	comp=Z,39nm,1.0s							
P60A	Greenville	68.27	53	P		P	01 03 17.3	-0.7
	baz=320,SNR=6.6							
ODD1	Odda	68.29	356	*e*P		P	01 03 19.3	+1.4
CPNY	Central Park	68.33	51	P		P	01 03 18.2	-0.2
CPNY				IAmb		IAmb	01 03 19.1	
	comp=Z,99nm,1.1s							
M62A	Hamden	68.33	50	P		P	01 03 17.2	-1.2
	baz=321,SNR=5.1							
DLV	T Lat	68.35	262	P		P	01 03 18.7	-0.4
DLV				IAmb		IAmb	01 03 20.8	
	comp=Z,75nm,1.0s							
KKM	Kota Kinabalu	68.36	251	P		P	01 03 18.9	-0.2
KKM				IAmb		IAmb	01 03 20.9	
	comp=Z,98nm,1.0s							
KONO	Kongsberg	68.38	354	*ce*P		P	01 03 18.8	+0.4
KONO				*i* *PP		pP	01 03 45.3	+1.2
KONO				pmax		pmax		
	comp=Z,35nm,1.0s							
KONO	Kongsberg	68.38	354	P		P	01 03 18.4	0.0
KONO	Kongsberg	68.38	354	*e*P		P	01 03 18.9	+0.5
V55A	Taylorsville	68.41	59	P		P	01 03 18.4	-0.6
	baz=319,SNR=17							
KMSI	Cibinong	68.45	241	P		P	01 03 18.8	-0.6
	comp=Z,168nm,0.8s							
N62A	Caumsett State	68.46	51	P		P	01 03 18.4	-0.8
	baz=321							
W54A	Cherokee Point	68.47	60	P		P	01 03 18.7	-0.7
	baz=319,SNR=16							
U56A	King	68.48	58	P		P	01 03 19.2	-0.3
	baz=319							
Q59A	Harwood	68.48	54	P		P	01 03 19.1	-0.3
	baz=320							
DRLN	Deer Lake	68.50	36	P		P	01 03 18.9	-0.4
DRLN				IAmb		IAmb	01 03 46.2	
	comp=Z,200nm,1.3s							
R58B	Mineral	68.55	56	P		P	01 03 19.3	-0.6
	baz=320,SNR=7.7							
T57A	Hurt	68.58	57	P		P	01 03 19.3	-0.8
	baz=320,SNR=15							
T57A	Hurt	68.58	57	P		P	01 03 19.2	-0.9
O61A	Allentown	68.58	52	P		P	01 03 19.5	-0.5
	baz=321,SNR=5.3							
BRYW	Bryant College	68.60	49	P		P	01 03 18.9	-1.2
L63A	North Scituate	68.61	49	P		P	01 03 19.1	-1.

baz=321
V56A Mocksville 68.83 59 P P 01 03 21.0 -0.6
baz=320,SNR=14
MOIG Morelia 68.86 85 P P 01 03 22.8 +0.5
MOIG IAmb IAmb 01 03 24.6
comp=Z,232nm,1.0s
KMSC Kings Mountain 68.89 60 P P 01 03 21.1 -0.9
baz=319,SNR=33
L64A Middleborough 68.91 48 P P 01 03 21.3 -0.8
baz=322,SNR=14
BTK Batken 68.92 308 P P 01 03 22.6 +0.3
BTK pmax pmax
comp=Z,163nm,1.0s
BTK Batken 68.92 308 P P 01 03 22.6 +0.3
BTK IAmb IAmb 01 03 24.9
comp=Z,162nm,0.9s
U57A Blanch 68.96 58 P P 01 03 21.8 -0.6
baz=320,SNR=22
CHTO Chiang Mai 68.99 274 P P 01 03 22.7 -0.2
CHTO pmax pmax
comp=Z,133nm,1.2s
CHTO Chiang Mai 68.99 274 P P 01 03 22.7 -0.2
CHTO IAmb IAmb 01 03 24.2
comp=Z,133nm,1.2s
T58A Grand View Acr 68.99 57 P P 01 03 21.6 -1.0
baz=320,SNR=9.7
S59A Mechanicsville 69.00 55 P P 01 03 22.2 -0.4
baz=320
GOGA Godfrey 69.03 62 P P 01 03 21.6 -1.3
baz=319,SNR=19
GOGA Godfrey 69.03 62 P P 01 03 21.8 -1.1
GOGA pmax pmax
comp=Z,33nm,1.0s
GOGA Godfrey 69.03 62 P P 01 03 21.8 -1.1
M64A Tiverton 69.04 49 P P 01 03 22.0 -0.9
baz=322,SNR=8.3
SLIT Slitere, Latvi 69.04 347 *eP* P 01 03 21.3 -1.2
SLIT Slitere, Latvi 69.04 347 *eP* P 01 03 21.3 -1.2
HODGE Hodges 69.08 61 P P 01 03 22.4 -0.7
Q61A Milford 69.14 53 P P 01 03 22.5 -0.9
baz=321
V57A Coltrane Farms 69.15 58 P P 01 03 22.6 -1.0
baz=320,SNR=7.9
MSAI Masohi 69.18 234 P P 01 03 23.8 -0.2
comp=Z,1µmcomp=Z,63nm,0.7s
L65A Cape Cod Natio 69.20 48 P P 01 03 23.4 -0.4
baz=322
X55A Gracelyn & Ava 69.23 61 P P 01 03 23.8 -0.3
baz=320,SNR=31
CM31 Chiang Mai Arr 69.26 274 P P 01 03 25.1 +0.5
SNR=14
CM31 Chiang Mai Arr 69.26 274 P P 01 03 24.4 -0.2
CM31 IAmb IAmb 01 03 26.1
comp=Z,92nm,1.1s
CMAR Chiang Mai Arr 69.26 274 P P 01 03 24.8 +0.2
comp=Z,53nm,0.9s,baz=26,slow=7.2,SNR=112
CMAR PKP2bc 01 31 30.4
comp=Z,0.8nm,0.3s,baz=233,slow=5.6,SNR=5.2
CMAR Chiang Mai Arr 69.26 274 *i* P P 01 03 24.7 +0.2
CMAR pmax pmax
comp=Z,56nm,0.9s
CMAR Chiang Mai Arr 69.26 274 P P 01 03 24.6 +0.1
W56A Indian Trail 69.29 59 P P 01 03 23.6 -0.9
baz=320,SNR=9.1
M65A Busby, Falmout 69.30 49 P P 01 03 23.4 -1.0
baz=322
S60A Water View 69.37 55 P P 01 03 24.7 -0.2
baz=320
MSVF Nonsavu 69.39 180 *d iP* P 01 03 26.6 +1.4
MSVF pmax pmax
comp=Z,183nm,1.1s
MSVF Nonsavu 69.39 180 P P 01 03 26.4 +1.2
MSVF IAmb IAmb 01 03 28.2
comp=Z,245nm,1.1s
TAPN Taplejung 69.40 288 ⇓ *iP* P 01 03 26.5 +0.8
comp=Z,1µm,1.3s
U58A Oxford 69.40 57 P P 01 03 24.4 -0.8
baz=320
T59A Double "B" Far 69.48 56 P P 01 03 25.4 -0.2
baz=320,SNR=10
Y55A Saluda 69.51 61 P P 01 03 25.3 -0.6
baz=320,SNR=21
X56A White Oak 69.54 60 P P 01 03 25.2 -0.8
baz=320,SNR=16
R61A Willards 69.55 54 P P 01 03 25.7 -0.3
baz=321
V58A Windy Hill, Pi 69.57 58 P P 01 03 25.4 -0.7
baz=320,SNR=13
SANI Sanana 69.58 238 P P 01 03 25.5 -1.0
comp=Z,2µmcomp=Z,215nm,1.1s
SANI pP **sP** 01 04 07.2 +3.5
comp=Z,2µmcomp=Z,215nm,1.1s
W57A Gilead 69.59 59 P P 01 03 25.5 -0.8
baz=320,SNR=11
MRSI Marisa 69.64 243 P P 01 03 26.1 -0.7
comp=Z,4µmcomp=Z,474nm,1.0s
T60A Surry 69.77 55 P P 01 03 26.8 -0.5
baz=321
M66A Nantucket 69.77 48 P P 01 03 26.7 -0.6
baz=322
U59A Littleton 69.83 57 P P 01 03 27.5 -0.3
baz=320,SNR=7.4
AAI Ambon 69.84 235 P P 01 03 28.6 +0.5
comp=Z,4µmcomp=Z,375nm,1.1s
Y56A Pelion 69.92 61 P P 01 03 28.2 -0.2
baz=320
HAL Halifax 69.94 42 P P 01 03 27.6 -0.7
HAL pmax pmax
comp=Z,94nm,1.3s
HAL Halifax 69.94 42 P P 01 03 27.6 -0.7
ODAN Odare 69.96 288 ⇓ *iP* P 01 03 29.5 +0.5
comp=Z,485nm,1.2s
GAR Garm 69.99 308 P P 01 03 29.4 +0.5
NLAI Namlea 70.02 236 P P 01 03 29.4 +0.3
comp=Z,2µmcomp=Z,56nm,0.9s
V59A Middlesex 70.05 57 P P 01 03 28.6 -0.5
baz=320,SNR=15
GUN Gumba 70.05 290 ⇓ *iP* P 01 03 30.5 +0.8
JIRN Jiri 70.06 289 ⇓ *iP* P 01 03 30.7 +0.9
comp=Z,1µm,1.0s
U60A Pendleton 70.06 56 P P 01 03 28.8 -0.4
baz=321,SNR=5.6
X57A Johnson Farm, 70.06 59 P P 01 03 28.5 -0.7
baz=320,SNR=5.7
W58A Raeford 70.09 59 P P 01 03 28.9 -0.5
baz=320,SNR=12
LEWI Lewis, Hebride 70.17 3 *eP* P 01 03 29.3 -0.2
LEWI IAmb IAmb 01 03 30.8
comp=Z,36nm,1.0s
TAOE Nuku Hiva Isla 70.21 136 P P 01 03 30.4 0.0
TAOE IAmb IAmb 01 03 31.6
comp=Z,102nm,1.0s
IZAR Zarasai 70.22 344 *eP* P 01 03 29.9 +0.1
Y57A Sumter 70.24 60 P P 01 03 29.9 -0.4
baz=320,SNR=6.0
Z56A Williston 70.24 61 P P 01 03 30.2 -0.2
baz=320,SNR=6.7
Z56A Williston 70.24 61 P P 01 03 30.2 -0.2
Z56A IAmb IAmb 01 03 30.7
comp=Z,65nm,0.7s
RAMN Ramite 70.35 289 ⇓ *iP* P 01 03 32.0 +0.6
X58A Rowland 70.39 59 P P 01 03 30.4 -0.8
baz=320,SNR=6.9
X58A Rowland 70.39 59 P P 01 03 30.7 -0.5
W59A Clinton 70.40 58 P P 01 03 31.0 -0.2
baz=320
LPSR Galich'ya Gora 70.40 335 *eP* P 01 03 30.6 -0.4
LPSR pmax pmax
comp=Z,60nm,0.8s
ISAL Salakas 70.41 344 *eP* P 01 03 31.1 +0.1
LUWI Luwuk 70.45 241 P P 01 03 30.5 -1.3
comp=Z,6µmcomp=Z,553nm,1.2s
LUWI Luwuk 70.45 241 P P 01 03 30.4 -1.3
TIGA Tifton 70.46 64 P P 01 03 31.2 -0.5
baz=320
KKN Kakani 70.49 290 ⇓ *iP* P 01 03 33.0 +0.8
comp=Z,388nm,0.9s
U61A Possum Corner 70.53 56 P P 01 03 31.8 -0.3
baz=321
V60A Jim Taylor Roa 70.55 57 P P 01 03 31.5 -0.7
baz=321,SNR=5.5
PKI Pulchoki 70.58 290 ⇓ *iP* P 01 03 33.3 +0.4
comp=Z,507nm,0.9s
PKIN Phulchoki 70.58 290 ⇓ *iP* P 01 03 33.2 +0.3
IIGN Ignalina 70.60 344 *eP* P 01 03 32.1 -0.1
Z57A Bowman 70.62 61 P P 01 03 32.2 -0.4
baz=320,SNR=11

CNNC Cliffs of the 70.63 57 P P 01 03 32.4 -0.2
baz=321
PBUR Paburge 70.65 346 *eP* P 01 03 31.4 -1.0
PBUR *epP* **pP** 01 03 58.2 0.0
PBUR Paburge 70.65 346 *epP* pP 01 03 58.2 0.0
GKN Gorkha 70.70 291 ⇓ *iP* P 01 03 34.0 +0.6
comp=Z,586nm,0.8s
Y58A Scranton 70.72 60 P P 01 03 32.8 -0.4
baz=320
DMN Dan 70.73 290 ⇓ *iP* P 01 03 34.4 +0.7
comp=Z,723nm,1.2s
X59A McDuffie Farm, 70.77 58 P P 01 03 32.8 -0.7
baz=320
MCD Coleburn Disti 70.81 1 *eP* P 01 03 33.3 -0.1
CHGR Chuyangaron 70.82 309 P P 01 03 34.2 +0.3
PABE Paberze 70.83 345 *eP* P 01 03 33.3 -0.2
PABE *epP* **pP** 01 03 59.3 0.0
PABE Paberze 70.83 345 *epP* pP 01 03 59.3 0.0
W60A Pink Hill 70.87 57 P P 01 03 33.8 -0.2
baz=321
MPSI Mapaga 70.89 245 P P 01 03 33.8 -0.7
comp=Z,2µmcomp=Z,268nm,1.2s
VRH Novokhopyorsk 70.91 333 *eP* P 01 03 33.5 -0.6
VRH pmax pmax
comp=Z,100nm,0.7s
157A Early Branch 70.94 61 P P 01 03 34.7 +0.2
baz=320
MDO Dochfour 70.94 2 *eP* P 01 03 34.1 -0.1
DANN Dangsing 70.95 292 ⇓ *iP* P 01 03 35.7 +0.6
comp=Z,761nm,0.8s
KPL Plockton 71.01 2 *eP* P 01 03 34.7 +0.2
KPL IAmb IAmb 01 03 35.8
comp=Z,27nm,1.1s
NHSC New Hope 71.05 60 P P 01 03 35.0 -0.3
baz=320,SNR=5.2
NHSC New Hope 71.05 60 P P 01 03 35.1 -0.1
NHSC IAmb IAmb 01 04 02.8
comp=Z,141nm,1.1s
Y59A Loris 71.07 59 P P 01 03 34.9 -0.4
baz=320
Z58A St. Stephen 71.08 60 P P 01 03 35.3 -0.1
baz=320
X60A Albert Glenn T 71.09 58 P P 01 03 35.1 -0.3
baz=321
W61A Ground Anchor 71.15 57 P P 01 03 35.6 -0.1
baz=321
V62A Hyde County Ai 71.38 56 P P 01 03 37.3 +0.1
baz=321
Y60A Bolivia 71.41 59 P P 01 03 36.5 -0.9
baz=321
Z59A Georgetown, SC 71.43 60 P P 01 03 37.0 -0.5
baz=320
KOLN Koldanda 71.48 291 ⇓ *iP* P 01 03 38.6 +0.4
comp=Z,335nm,0.8s
DRUM Mains of Drumt 71.49 1 *eP* P 01 03 36.4 -1.1
DRUM IAmb IAmb 01 03 38.6
comp=Z,53nm,1.2s
PYUN Piuthan 71.58 292 ⇓ *iP* P 01 03 39.4 +0.6
comp=Z,726nm,0.9s
VSR Storozhevoye 71.60 334 *eP* P 01 03 38.3 +0.1
VSR pmax pmax
comp=Z,80nm,0.9s
INVG Invergeldie, C 71.96 1 *eP* P 01 03 39.4 -0.9
SAUI Saumlaki 72.04 230 P P 01 03 41.5 +0.3
LAWE Loch Awe, Argy 72.10 2 *eP* P 01 03 41.1 0.0
LAWE IAmb IAmb 01 03 42.2
comp=Z,41nm,1.0s
EAB Aberfoyle 72.19 2 *eP* P 01 03 41.4 -0.3
SUW Suwalki 72.40 345 *eP* P 01 03 42.0 -1.0
SUW Suwalki 72.40 345 P P 01 03 42.2 -0.7
SUW pmax pmax
comp=Z,56nm,1.2s
SUW Suwalki 72.40 345 P P 01 03 42.2 -0.7
COEN Coen 72.41 216 P P 01 03 43.3 -0.1
COEN IAmb IAmb 01 03 44.7
comp=Z,106nm,1.1s
BSD Bornholm Skovb 72.42 350 *i* P P 01 03 42.2 -0.9
BSD Bornholm Skovb 72.42 350 *i* P P 01 03 42.2 -0.9
ESY Stoneypath 72.49 1 *eP* P 01 03 43.0 -0.5
PGBU Glenifferbraes 72.57 2 *eP* P 01 03 43.9 -0.1
PGBU IAmb IAmb 01 03 45.0
comp=Z,34nm,1.0s
656A Willston 72.62 65 P P 01 03 44.8 +0.1
EBL Broad Law 72.63 1 *eP* P 01 03 43.4 -0.9
NIL Nilore 72.67 303 P P 01 03 45.0 +0.1
NIL Nilore 72.67 303 P P 01 03 45.4 +0.4
NIL pmax pmax
comp=Z,195nm,0.9s
NIL Nilore 72.67 303 P P 01 03 45.4 +0.4
NIL IAmb IAmb 01 03 47.3
comp=Z,195nm,0.9s
ESK Eskdalemuir 73.08 1 *eP* P 01 03 46.3 -0.7
ESK IAmb IAmb 01 03 48.0
comp=Z,38nm,1.1s
ESK Eskdalemuir 73.08 1 P P 01 03 46.7 -0.3
ESK pmax pmax
comp=Z,42nm,1.2s
ESK Eskdalemuir 73.08 1 P P 01 03 46.7 -0.3
NEWG New Galloway 73.27 2 *eP* P 01 03 47.9 -0.2
NEWG IAmb IAmb 01 03 48.2
comp=Z,44nm,1.4s
EDMD Edmundbyers 73.58 0 *eP* P 01 03 49.4 -0.5
SBUM Sibu 73.59 252 P P 01 03 50.3 -0.2
SBUM IAmb IAmb 01 03 52.3
comp=Z,166nm,1.8s
SBUM Sibu 73.59 252 P P 01 03 51.0 +0.5
TTSI Tana Toraja 73.73 243 P P 01 03 51.1 -0.2
comp=Z,3µmcomp=Z,236nm,1.2s
BKB Balikpapan 73.89 246 P P 01 03 51.9 -0.4
comp=Z,5µmcomp=Z,384nm,1.1s
BKB Balikpapan 73.89 246 P P 01 03 52.2 -0.1
GKP Gorka Klasztor 73.97 348 *eP* P 01 03 51.5 -0.6
GKP *epP* **pP** 01 04 18.0 -0.1
BSEG Bad Segeberg 74.01 353 *eP* P 01 03 52.6 +0.2
comp=Z,72nm,1.3s,baz=8.8,slow=5.6
KBL Kabul 74.12 306 P P 01 03 52.8 -0.9
KBL Kabul 74.12 306 P P 01 03 53.2 -0.5
KBL pmax pmax
comp=Z,238nm,0.9s
KBL Kabul 74.12 306 P P 01 03 53.1 -0.5
DWPF Disney Wildern 74.20 65 P P 01 03 54.1 +0.1
baz=321
BBSI Bau Bau 74.28 239 P P 01 03 56.9 +2.4
AKASG Malin Array Be 74.45 340 P P 01 03 54.6 -0.4
comp=Z,37nm,0.4s,baz=21,slow=6.2,SNR=61
AKASG Malin Array Be 74.45 340 *i* P P 01 03 54.5 -0.5
AKASG pmax pmax
comp=Z,37nm,0.4s
AKASG Malin Array Be 74.45 340 P P 01 03 54.6 -0.4
AKBB Malin Array Si 74.45 340 P P 01 03 54.4 -0.6
AKBB pmax pmax
comp=Z,53nm,0.6s
AKBB Malin Array Si 74.45 340 P P 01 03 54.4 -0.6
AKBB IAmb IAmb 01 03 56.3
comp=Z,53nm,0.6s
HPK Haverah Park 74.45 0 *eP* P 01 03 54.4 -0.7
HPK IAmb IAmb 01 03 56.0
comp=Z,24nm,1.1s
DZM Mont Dzumac 74.46 192 P P 01 03 57.1 +1.7
comp=Z,180nm,1.1s,baz=44,slow=7.9,SNR=74
SPSI Sidrap Palu 74.52 242 P P 01 03 55.3 -0.6
comp=Z,2µmcomp=Z,109nm,0.8s
PPT Papeete 74.63 148 P P 01 03 57.7 +1.4
comp=Z,70nm,0.9s,baz=38,slow=4.7,SNR=6.4
PPT2 Papeete2 74.65 148 *eP* P 01 03 57.3 +0.7
comp=Z,86nm,1.1s
PPT2 Papeete2 74.65 148 *eT* T 02 25 09.6
comp=Z,17nm,0.3s
PPTF Pamatai, Papee 74.65 148 P P 01 03 57.1 +0.5
PPTF IAmb IAmb 01 04 01.3
comp=Z,94nm,1.0s
TIAR Tiarei 74.69 148 *eP* P 01 03 57.6 +0.8
comp=Z,39nm,1.0s
TIAR Tiarei 74.69 148 *eT* T 02 25 15.5
comp=Z,5.0nm,0.3s
BNSI Bone 74.70 242 P P 01 03 57.2 +0.3
comp=Z,3µmcomp=Z,186nm,1.1s
PAE Paea 74.71 148 *eP* P 01 03 57.6 +0.8
comp=Z,14nm,0.9s
MTKI Muara Teweh, K 74.77 248 P P 01 03 57.4 0.0
comp=Z,70nm,0.6s
BEL Belsk 74.88 346 *eP* P 01 03 57.7 +0.2
BEL *epP* **pP** 01 04 23.7 +0.3
TVO Taravao 74.93 148 *eP* P 01 03 59.0 +0.8
comp=Z,20nm,0.9s

DSB Dublin 75.09 3 P P 01 03 58.6 -0.1
RUE Ruedersdorf 75.14 350 *eP* P 01 03 58.6 -0.4
comp=Z,74nm,1.5s,baz=8.8,slow=5.6
RAR Rarotonga 75.31 159 P P 01 04 00.8 +0.6
comp=Z,21nm,0.8s,baz=224,slow=7.2,SNR=6.1
STNC Stoke 75.32 0 *eP* P 01 03 59.7 -0.3
STNC IAmb IAmb 01 04 01.6
comp=Z,42nm,1.2s
KAPI Kappang 75.40 242 P P 01 04 01.3 +0.3
comp=Z,59nm,0.8s,baz=40,slow=3.8,SNR=19
KAPI Kappang 75.40 242 P P 01 04 00.9 -0.2
KAPI Kappang 75.40 242 P P 01 04 00.8 -0.2
KAPI pmax pmax
comp=Z,103nm,1.0s
KAPI Kappang 75.40 242 P P 01 04 00.8 -0.2
KAPI IAmb IAmb 01 04 02.6
comp=Z,102nm,1.0s
MEH Mehetia 75.41 147 *eP* P 01 04 01.4 +0.5
comp=Z,48nm,1.3s
NRDL Niedersach Rie 75.46 353 *eP* P 01 04 00.5 -0.3
comp=Z,52nm,1.3s,baz=8.8,slow=5.6
KSM Kuching 75.50 253 P P 01 04 01.4 -0.2
KSM IAmb IAmb 01 04 03.1
comp=Z,102nm,0.8s
KSM Kuching 75.50 253 P P 01 04 02.0 +0.4
FOEL Foel Wylfa 75.52 1 *eP* P 01 04 00.9 -0.3
FOEL IAmb IAmb 01 04 02.2
comp=Z,51nm,1.2s
ASSE Asse, Remlinge 75.78 352 *eP* P 01 04 02.5 0.0
comp=Z,94nm,1.6s,baz=8.8,slow=5.6
ASSE *epP* **pP** 01 04 28.3 -0.2
IBBN Ibbenburen 75.81 354 *eP* P 01 04 02.9 0.0
comp=Z,146nm,1.4s,baz=8.8,slow=5.6
KBKI Kotabaru 75.97 246 P P 01 04 03.4 -0.8
comp=Z,7µmcomp=Z,43nm,0.4s
GOF Gofitskoye 76.01 329 ⇑ *eP* P 01 04 05.1 +1.0
GOF *eS* S 01 13 41.7 +3.2
GOF pmax pmax
comp=Z,437nm,0.9s
GOF smax smax
comp=E,75nm,1.6s
GOF smax smax
comp=N,27nm,0.6s
CLZ Clausthal 76.09 352 *eP* P 01 04 04.5 0.0
comp=N,107nm,1.5s,baz=8.8,slow=5.6
LVV L'vov 76.29 343 *eP* P 01 04 05.5 -0.1
TEIG Tepich 76.30 75 P P 01 04 06.0 -0.1
MAK Makhachkala 76.37 325 *eP* P 01 04 05.6 -0.5
MAK *e*PP* **pP** 01 04 30.8 -1.5
MAK *e*SP* **sP** 01 04 40.1 -3.3
MAK *e* 01 06 58.1
MAK *eS* S 01 13 43.2 +0.8
MAK *e*SS* **sS** 01 14 26.9 +1.0
MAK *eSS* SS 01 18 41.0 +3.5
MAK *eSSS* SSS 01 22 03.4
MAK pmax pmax
comp=Z,328nm,1.4s
MTN Manton Dam 76.37 228 P P 01 04 06.2 -0.2
CLL Collm 76.38 351 *i* P P 01 04 05.0 -1.0
comp=Z,11nm,1.4s
CLL *i* 01 04 12.2
CLL *ePcP* **PcP** 01 04 16.0 -1.4
CLL *i pP* **pP** 01 04 31.3 -0.8
comp=Z,37nm,1.5s
CLL *esP* **sP** 01 04 43.0 -0.1
CLL Collm 76.38 351 *i* P P 01 04 05.0 -1.0
CLL *i *PP* **pP** 01 04 31.3 -0.8
CLL Collm 76.38 351 P P 01 04 05.2 -0.8
CLL Collm 76.38 351 *eP* P 01 04 05.4 -0.7
comp=Z,37nm,1.5s,baz=8.8,slow=5.6
CLL *epP* **pP** 01 04 31.2 -0.8
MCH1 Michaelchurch 76.41 1 *eP* P 01 04 05.3 -0.9
MCH1 IAmb IAmb 01 04 06.4
comp=Z,30nm,1.2s
GTTG Gottingen 76.41 353 *eP* P 01 04 06.2 -0.1
comp=Z,57nm,1.3s,baz=8.8,slow=5.6
KSP Ksiaz 76.47 348 *eP* P 01 04 06.0 -0.6
KSP *epP* **pP** 01 04 32.2 -0.4
GEYT Alibeck 76.49 315 P P 01 04 07.8 +0.8
comp=Z,82nm,1.1s,baz=341,slow=3.1,SNR=103
GEYT Alibeck 76.49 315 P P 01 04 07.4 +0.5
GYA0B ALIBECK ARRAY 76.49 315 P P 01 04 06.9 -0.1
GYA0B IAmb IAmb 01 04 09.4
comp=Z,129nm,1.1s
NEUB Neuenburg 76.59 351 *eP* P 01 04 06.9 -0.4
comp=Z,60nm,1.2s,baz=8.8,slow=5.6
OJC Ojcow 76.60 346 *eP* P 01 04 07.2 -0.2
OJC *epP* **pP** 01 04 33.3 0.0
OJC Ojcow 76.60 346 P P 01 04 07.0 -0.4
OJC pmax pmax
comp=Z,31nm,1.0s
OJC Ojcow 76.60 346 P P 01 04 07.0 -0.4
KWP Kalwaria Pacla 76.70 344 *eP* P 01 04 08.4 +0.4
KWP *epP* **pP** 01 04 34.5 +0.5
KWP Kalwaria Pacla 76.70 344 P P 01 04 07.9 -0.1
KWP pmax pmax
comp=Z,71nm,0.7s
KWP Kalwaria Pacla 76.70 344 P P 01 04 07.9 -0.1
KWP IAmb IAmb 01 04 11.6
comp=Z,71nm,0.7s
BRG Berggiesshubel 76.71 350 *i* P P 01 04 07.7 -0.2
comp=Z,11nm,1.3s
BRG *i pP* **pP** 01 04 33.5 -0.5
comp=Z,44nm,1.7s
BRG Berggiesshubel 76.71 350 *i* P P 01 04 07.7 -0.2
BRG *i *PP* **pP** 01 04 33.5 -0.5
BRG Berggiesshubel 76.71 350 *eP* P 01 04 07.3 -0.7
baz=8.8,slow=5.6
BUG Bochum--Univer 76.71 354 *eP* P 01 04 07.6 -0.3
comp=Z,45nm,1.4s,baz=8.8,slow=5.6
BUG *epP* **pP** 01 04 33.9 0.0
FBE Freiberg 76.72 350 *eP* P 01 04 07.8 -0.2
comp=Z,71nm,1.5s,baz=8.8,slow=5.6
CHVC Chvalec 76.75 349 *eP* P 01 04 07.9 -0.3
GROC Groznyy 76.75 326 *eP* P 01 04 08.0 -0.3
GROC *e* 01 04 19.1
GROC *e*SP* **pP** 01 04 32.6 -1.9
GROC *e* 01 07 03.9
GROC pmax pmax
comp=Z,81nm,1.0s
OSTC Ostas 76.76 348 *eP* P 01 04 07.7 -0.6
OSTC *ex* x 01 04 33.4
DPC Dobruska-Polom 76.95 348 *eP* P 01 04 09.3 -0.1
DPC *ex* x 01 04 39.9
DPC Dobruska-Polom 76.95 348 *eP* P 01 04 09.3 -0.1
DPC *e* 01 04 39.9
CCIG Comitan 77.00 80 P P 01 04 10.5 +0.2
SOEI Soe 77.02 235 P P 01 04 10.1 -0.1
comp=Z,3µmcomp=Z,188nm,0.9s
SOEI Soe 77.02 235 P P 01 04 09.4 -0.8
SOEI IAmb IAmb 01 04 18.4
comp=Z,118nm,0.8s
CTA Charters Tower 77.06 211 P P 01 04 10.3 +0.2
comp=Z,104nm,0.9s,baz=16,slow=7.3,SNR=58
CTAO Charters Tower 77.06 211 P P 01 04 09.9 -0.3
CTAO pmax pmax
comp=Z,181nm,1.0s
CTAO Charters Tower 77.06 211 P P 01 04 09.9 -0.3
CTAO IAmb IAmb 01 04 11.6
comp=Z,182nm,1.0s
SORM Soroca 77.06 340 ⇑ P P 01 04 10.2 +0.3
KVAR Kislovodsk Arr 77.10 329 P P 01 04 12.0 +1.5
comp=Z,14nm,0.7s,baz=85,slow=23,SNR=9.3
KIV Kislovodsk 77.11 329 ⇑ P P 01 04 11.6 +1.2
KIV Kislovodsk 77.11 329 *iP* P 01 04 11.3 +0.8
SNR=30
KIV Kislovodsk 77.11 329 *iP* P 01 04 11.3 +0.8
SNR=30
KIV Kislovodsk 77.11 329 *eP* P 01 04 11.2 +0.8
KIV pmax pmax
comp=Z,241nm,1.1s
KIV Kislovodsk 77.11 329 P P 01 04 10.7 +0.3
MMRI Maumere 77.11 237 P P 01 04 10.5 -0.1
comp=Z,159nm,0.9s
MMRI Maumere 77.11 237 P P 01 04 09.5 -1.1
MMRI IAmb IAmb 01 04 10.8
comp=Z,184nm,1.0s
UBBA Unterbreizbach 77.13 353 *eP* P 01 04 10.2 0.0
comp=Z,81nm,1.8s,baz=8.8,slow=5.6
MOX Moxa 77.17 351 *eP* P 01 04 10.2 -0.3
comp=Z,32nm,1.4s,baz=8.8,slow=5.6
MOX *epP* **pP** 01 04 35.9 -0.7
OKC Ostrava-Krasne 77.21 347 *eP* P 01 04 10.7 -0.1
OKC *epP* **pP** 01 04 37.3 +0.5

OKC	**Ostrava-Krasne**	**77.21 347**	*e*P	**P**	**01 04 10.7**	**-0.1**
OKC			*e*		01 04 37.3	
KBZ	**Khabaz**	**77.24 329**	P	**P**	**01 04 12.0**	**+1.0**
	comp=Z,41nm,0.8s,baz=29,slow=1.2,SNR=54					
KBZ	**Khabaz**	**77.24 329**	*d* iP	**P**	**01 04 11.9**	**+0.9**
KBZ			pmax	pmax		
	comp=Z,104nm,1.6s					
PLN	**Plauen**	**77.27 351**	*e*P	**P**	**01 04 10.8**	**-0.3**
	comp=Z,19nm,1.4s,baz=8.8,slow=5.6					
NIE	**Niedzica**	**77.30 346**	*e*P	**P**	**01 04 11.8**	**+0.5**
NIE			*e*pP	**pP**	**01 04 36.7**	**-0.7**
TANN	**Tannenbergstha**	**77.31 351**	*e*P	**P**	**01 04 11.2**	**-0.2**
	comp=Z,39nm,1.6s,baz=8.8,slow=5.6					
MORC	**Moravsky Berou**	**77.35 347**	⇓P	**P**	**01 04 12.3**	**+0.6**
MORC	**Moravsky Berou**	**77.35 347**	*e*P	**P**	**01 04 11.2**	**-0.4**
MORC	**Moravsky Berou**	**77.35 347**	P	**P**	**01 04 11.3**	**-0.4**
MORC	**Moravsky Berou**	**77.35 347**	P	**P**	**01 04 11.3**	**-0.3**
GUNZ	**Gunzen**	**77.38 351**	*e*P	**P**	**01 04 11.6**	**-0.1**
	comp=Z,41nm,1.6s,baz=8.8,slow=5.6					
BEBN	**Eben Emael**	**77.44 355**	P	**P**	**01 04 12.2**	**+0.3**
BEBN			pP	**pP**	**01 04 37.8**	**-0.3**
WERN	**Wernitzgruen**	**77.45 351**	*e*P	**P**	**01 04 12.0**	**-0.2**
	comp=Z,40nm,1.4s,baz=8.8,slow=5.6					
WERN			*e*pP	**pP**	**01 04 37.9**	**-0.3**
KOLS	**Kolonicke sedl**	**77.45 344**	*e*P	**P**	**01 04 12.5**	**+0.3**
KOLS			pmax	pmax		
	comp=Z,25nm,0.7s					
KOLS	**Kolonicke sedl**	**77.45 344**	*e*P	**P**	**01 04 12.5**	**+0.3**
NKC	**Novy Kostel**	**77.49 351**	*e*P	**P**	**01 04 12.4**	**0.0**
NKC	**Novy Kostel**	**77.49 351**	*e*P	**P**	**01 04 12.4**	**0.0**
UCC	**Uccle**	**77.50 356**	P	**P**	**01 04 11.7**	**-0.6**
UCC			pP	**pP**	**01 04 38.0**	**-0.4**
UCC	**Uccle**	**77.50 356**	P	**P**	**01 04 12.2**	**-0.1**
UCC			pmax	pmax		
	comp=Z,24nm,1.3s					
UCC	**Uccle**	**77.50 356**	P	**P**	**01 04 12.2**	**-0.1**
PRU	**Pruhonice**	**77.51 349**	*e*P	**P**	**01 04 12.1**	**-0.4**
PRU	**Pruhonice**	**77.51 349**	*e*P	**P**	**01 04 12.1**	**-0.4**
HRA	**Herat**	**77.55 311**	P	**P**	**01 04 13.7**	**+0.5**
HRA			lAmb	lAmb	01 04 15.7	
	comp=Z,105nm,0.8s					
GOPC	**GO Pecny, Ondr**	**77.56 349**	*e*P	**P**	**01 04 12.0**	**-0.8**
GOPC			*ex*	x	01 04 27.3	
GOPC	**GO Pecny, Ondr**	**77.56 349**	*e*P	**P**	**01 04 12.0**	**-0.8**
GOPC			*e*		01 04 27.3	
AKT	**Akhty**	**77.58 324**	*e*P	**P**	**01 04 14.0**	**+0.8**
AKT			*e*		01 04 23.1	
AKT			*e**PP	**pP**	**01 04 37.7**	**-1.7**
AKT			*e**SP	**sP**	**01 04 48.8**	**-1.7**
AKT			*e*		01 07 10.0	
AKT			pmax	pmax		
	comp=Z,240nm,1.1s					
MEM	**Membach**	**77.61 355**	P	**P**	**01 04 12.6**	**-0.3**
	comp=Z,31nm,1.4s					
MEM			pP	**pP**	**01 04 39.2**	**+0.2**
MEM	**Membach**	**77.61 355**	⇓P	**P**	**01 04 12.8**	**-0.2**
MEM			pP	**pP**	**01 04 39.2**	**+0.2**
AHRW	**Bad Neuenahr-A**	**77.61 354**	*e*P	**P**	**01 04 13.1**	**+0.1**
	comp=Z,71nm,1.6s,baz=8.8,slow=5.6					
BSTI	**Sart Tilman**	**77.66 355**	⇓P	**P**	**01 04 13.3**	**+0.1**
BSTI			pP	**pP**	**01 04 39.4**	**+0.1**
LANS	**Liptovska Anna**	**77.69 346**	*e*P	**P**	**01 04 14.8**	**+1.3**
LANS			pmax	pmax		
	comp=Z,24nm,1.0s					
LANS	**Liptovska Anna**	**77.69 346**	*e*P	**P**	**01 04 14.8**	**+1.3**
BATI	**Baumata**	**77.71 235**	P	**P**	**01 04 14.1**	**+0.1**
	comp=Z,2µmcomp=Z,294nm,0.9s					
NEY	**Neytrino**	**77.73 329**	⇑ *i*P	**P**	**01 04 15.5**	**+1.5**
UZH	**Uzhgorod**	**77.74 344**	*i* iP	**P**	**01 04 13.6**	**-0.1**
UZH			*e*		01 04 26.6	
UZH			*e*		01 04 39.8	
ZEI	**Tsey**	**77.75 328**	*e*P	**P**	**01 04 11.8**	**-2.4**
ZEI			pmax	pmax		
	comp=Z,127nm,0.8s					
MANZ	**Manzenberg**	**77.77 351**	*e*P	**P**	**01 04 13.5**	**-0.4**
	comp=Z,20nm,1.4s,baz=8.8,slow=5.6					
SNF	**Seneffe**	**77.79 356**	⇓P	**P**	**01 04 13.9**	**-0.1**
SNF			pP	**pP**	**01 04 40.6**	**+0.6**
BCLA	**Clavier**	**77.83 356**	⇓P	**P**	**01 04 13.8**	**-0.4**
BCLA			pP	**pP**	**01 04 40.3**	**0.0**
TNS	**Taunus Mts**	**77.84 353**	*e*P	**P**	**01 04 14.2**	**-0.2**
	comp=Z,47nm,1.5s,baz=8.8,slow=5.6					
BHOU	**Houvegnez**	**77.86 355**	⇓P	**P**	**01 04 14.2**	**-0.2**
BHOU			pP	**pP**	**01 04 40.1**	**-0.4**
BGES	**Gesves**	**77.88 356**	⇓P	**P**	**01 04 14.0**	**-0.4**
BGES			pP	**pP**	**01 04 40.6**	**+0.1**
ANN	**Anapa**	**77.93 333**	*e*P	**P**	**01 04 14.5**	**-0.3**
ANN			pmax	pmax		
	comp=Z,45nm,0.8s					
VRAC	**Vranov**	**77.93 348**	⇑P	**P**	**01 04 15.5**	**+0.6**
VRAC	**Vranov**	**77.93 348**	*e*P	**P**	**01 04 14.8**	**0.0**
BMRD	**Maredsous**	**77.97 356**	P	**P**	**01 04 14.8**	**-0.1**
BMRD			pP	**pP**	**01 04 41.7**	**+0.6**
ROTZ	**Rotzenmuhle**	**77.98 351**	*e*P	**P**	**01 04 15.0**	**-0.1**
	comp=Z,39nm,1.6s,baz=8.8,slow=5.6					
KIS	**Kishinev**	**78.04 339**	⇑P	**P**	**01 04 15.6**	**+0.2**
PBKI	**Pangkalan Bun**	**78.06 250**	P	**P**	**01 04 15.0**	**-1.0**
	comp=Z,7µmcomp=Z,312nm,1.1s					
TREC	**Trest**	**78.09 349**	*e*P	**P**	**01 04 15.3**	**-0.4**
TREC	**Trest**	**78.09 349**	*e*P	**P**	**01 04 15.3**	**-0.4**
MILM	**Milestii Mici**	**78.12 339**	⇑P	**P**	**01 04 15.9**	**+0.1**
IAS	**Iasi**	**78.12 340**	⇓P	**P**	**01 04 16.6**	**+0.7**
GRA1	**Grafenberg Arr**	**78.15 352**	P	**P**	**01 04 16.1**	**+0.1**
GRF	**Grafenberg Arr**	**78.15 352**	P	**P**	**01 04 16.1**	**+0.1**
GRF			pmax	pmax		
	comp=Z,14nm,0.8s					
GRF	**Grafenberg Arr**	**78.15 352**	*e*P	**P**	**01 04 16.1**	**+0.1**
	comp=Z,61nm,1.5s,baz=8.8,slow=5.6					
GRF			*e*pP	**pP**	**01 04 41.6**	**-0.5**
BUR08	**Bucovina Ar. S**	**78.17 342**	P	**P**	**01 04 16.5**	**+0.2**
KECS	**Kecovo**	**78.18 345**	*e*P	**P**	**01 04 16.7**	**+0.5**
KECS			pmax	pmax		
	comp=Z,14nm,1.0s					
KECS	**Kecovo**	**78.18 345**	*e*P	**P**	**01 04 16.7**	**+0.5**
DOU	**Dourbes**	**78.19 356**	⇓P	**P**	**01 04 15.9**	**-0.3**
	comp=Z,20nm,1.4s					
DOU			pP	**pP**	**01 04 42.3**	**0.0**
BURAR	**Bucovina Array**	**78.19 342**	⇑P	**P**	**01 04 17.2**	**+0.7**
BURAR	**Bucovina Array**	**78.19 342**	P	**P**	**01 04 16.6**	**+0.2**
KRUC	**Moravsky**	**78.20 348**	*e*P	**P**	**01 04 15.9**	**-0.4**
JAVC	**Velka Javorina**	**78.23 347**	*e*P	**P**	**01 04 17.6**	**+1.1**
PRAR	**RASCA**	**78.24 341**	⇑P	**P**	**01 04 17.2**	**+0.7**
PBA	**Port Blair**	**78.29 274**	P	P	01 04 16.7	-0.5
PBA			lAmb	lAmb	01 04 17.8	
	comp=Z,159nm,0.9s					
KULM	**Kulim**	**78.34 264**	P	**P**	**01 04 16.9**	**-0.6**
KULM	**Kulim**	**78.34 264**	P	**P**	**01 04 18.0**	**+0.5**
SOC	**Sochi**	**78.37 331**	*e*P	**P**	**01 04 16.3**	**-1.0**
SOC			*e**PP	**pP**	**01 04 42.7**	**-0.9**
SOC			*e**SP	**sP**	**01 04 54.3**	**-0.4**
SOC			*e*		01 07 14.2	
SOC			*e*PPP	PPP	01 09 02.0	
SOC			*e*S	**S**	**01 14 03.4**	**-0.7**
SOC			*e**SS	**sS**	**01 14 49.3**	**+1.5**
SOC			*e*SS	**SS**	**01 19 05.7**	**-1.8**
SOC			pmax	pmax		
	comp=Z,45nm,0.9s					
TBLG	**Delisi**	**78.41 326**	P	**P**	**01 04 18.5**	**+0.9**
TBLG			pmax	pmax		
	comp=Z,524nm,1.6s					
TBLG	**Delisi**	**78.41 326**	P	**P**	**01 04 18.5**	**+0.9**
VYHS	**Vyhne**	**78.42 346**	*e*P	**P**	**01 04 17.6**	**+0.1**
VYHS			pmax	pmax		
	comp=Z,15nm,1.0s					
VYHS	**Vyhne**	**78.42 346**	*e*P	**P**	**01 04 17.6**	**+0.1**
KHC	**Kasperske Hory**	**78.47 350**	*e*P	**P**	**01 04 17.3**	**-0.5**
KHC			*ex*	x	01 04 33.6	
KHC			*e*pP	**pP**	**01 04 42.0**	**-2.1**
KHC	**Kasperske Hory**	**78.47 350**	*d* iP	**P**	**01 04 17.6**	**-0.2**
KHC			pmax	pmax		
	comp=Z,34nm,1.3s					
KHC	**Kasperske Hory**	**78.47 350**	P	**P**	**01 04 17.6**	**-0.2**
WET	**Wettzell**	**78.53 350**	*e*P	**P**	**01 04 18.2**	**0.0**
	comp=Z,49nm,1.9s,baz=8.8,slow=5.6					
WLF	**Walferdange**	**78.54 355**	P	**P**	**01 04 17.6**	**-0.5**
WLF			pP	**pP**	**01 04 44.5**	**+0.2**
WLF	**Walferdange**	**78.54 355**	P	**P**	**01 04 17.9**	**-0.2**
WLF			pmax	pmax		
	comp=Z,42nm,1.4s					
WLF	**Walferdange**	**78.54 355**	P	**P**	**01 04 17.9**	**-0.2**
WLF	**Walferdange**	**78.54 355**	*e*P	**P**	**01 04 18.4**	**+0.2**
	comp=Z,46nm,1.4s,baz=8.8,slow=5.6					
WLF			*e*pP	**pP**	**01 04 44.3**	**0.0**
VASR	**Vaslui**	**78.60 340**	⇓P	**P**	**01 04 18.8**	**+0.3**
SMOL	**Smolenice**	**78.60 347**	*e*P	**P**	**01 04 19.1**	**+0.6**
SMOL			pmax	pmax		
	comp=Z,10.0nm,1.0s					
SMOL	**Smolenice**	**78.60 347**	*e*P	**P**	**01 04 19.1**	**+0.6**
LEOM	**Leova**	**78.66 340**	⇓P	**P**	**01 04 19.4**	**+0.6**
BIZ	**Bicaz**	**78.67 341**	⇓P	**P**	**01 04 19.5**	**+0.6**
BIZ	**Bicaz**	**78.67 341**	⇑P	**PKKPbc**	**01 23 10.9**	**+0.2**
SIM	**Simferopol'**	**78.69 335**	*e*P	**P**	**01 04 18.9**	**-0.2**
SIM			*e*PCP	**PcP**	**01 04 24.0**	**-3.6**
SIM			pmax	pmax		
	comp=Z,40nm,1.3s					
GEC2	**GERESS Array S**	**78.73 350**	P	**P**	**01 04 19.3**	**-0.1**
GEC2	**GERESS Array S**	**78.73 350**	*e*P	**P**	**01 04 19.0**	**-0.4**
	comp=Z,42nm,1.8s,baz=8.8,slow=5.6					
GERES	**GERESS Array B**	**78.73 350**	P	**P**	**01 04 18.8**	**-0.5**
	comp=Z,2.9nm,0.7s,baz=27,slow=3.3,SNR=18					
GERES			PKKPbc	**PKKPbc**	**01 23 10.1**	**-0.6**
	comp=Z,1.0nm,0.8s,baz=207,slow=1.2,SNR=8.4					
GERES	**GERESS Array B**	**78.73 350**	P	**P**	**01 04 18.7**	**-0.7**
GERES	**GERESS Array B**	**78.73 350**	P	**P**	**01 04 18.7**	**-0.7**
MODS	**Modra-Piesok**	**78.76 347**	*e*P	**P**	**01 04 19.0**	**-0.4**
MODS			pmax	pmax		
	comp=Z,22nm,1.0s					
MODS	**Modra-Piesok**	**78.76 347**	*e*P	**P**	**01 04 19.0**	**-0.4**
PSZ	**Piszkesteto**	**78.82 345**	⇓P	**P**	**01 04 21.6**	**+1.7**
PSZ	**Piszkesteto**	**78.82 345**	P	**P**	**01 04 20.2**	**+0.3**
PSZ			pmax	pmax		
	comp=Z,28nm,1.0s					
PSZ	**Piszkesteto**	**78.82 345**	P	**P**	**01 04 20.2**	**+0.3**
ARCR	**ARCALIA**	**78.86 342**	⇑P	**P**	**01 04 21.6**	**+1.6**
ZST	**Bratislava**	**78.96 347**	*e*P	**P**	**01 04 20.1**	**-0.3**
ZST			pmax	pmax		
	comp=Z,24nm,0.9s					
ZST	**Bratislava**	**78.96 347**	*e*P	**P**	**01 04 20.1**	**-0.3**
TESR	**Tesciani**	**78.96 341**	⇑P	**P**	**01 04 20.8**	**+0.3**
BIR	**Birlad**	**78.99 340**	⇓P	**P**	**01 04 21.0**	**+0.3**
AKH	**Akhalkalaki**	**79.12 327**	⇑P	**P**	**01 04 23.4**	**+1.7**
AKH	**Akhalkalaki**	**79.12 327**	P	**P**	**01 04 22.4**	**+0.7**
AKH			pmax	pmax		
	comp=Z,200nm,1.5s					
AKH	**Akhalkalaki**	**79.12 327**	P	**P**	**01 04 22.4**	**+0.7**
AKH			lAmb	lAmb	01 04 24.6	
	comp=Z,200nm,1.5s					
MYKOM	**Kota Tinggi**	**79.13 259**	P	**P**	**01 04 21.8**	**-0.1**
MYKOM	**Kota Tinggi**	**79.13 259**	P	**P**	**01 04 23.0**	**+1.1**
SRO	**Srobarova**	**79.16 347**	*e*P	**P**	**01 04 22.6**	**+1.0**
SRO			pmax	pmax		
	comp=Z,22nm,1.1s					
SRO	**Srobarova**	**79.16 347**	*e*P	**P**	**01 04 22.6**	**+1.0**
GHRR		**79.23 340**	⇓P	**P**	**01 04 23.2**	**+1.2**
CJR	**Cluj-Napoca**	**79.36 343**	⇓P	**P**	**01 04 24.2**	**+1.4**
CONA	**Conrad Observa**	**79.38 348**	*i* P	**P**	**01 04 23.2**	**+0.3**
	comp=Z,23nm,1.3s,SNR=13					
CONA			*i* pP	**pP**	**01 04 49.6**	**+0.3**
	comp=Z,23nm,1.4s					
DRGR		**79.45 343**	⇑P	**P**	**01 04 23.9**	**+0.7**
DRGR		**79.45 343**	P	**P**	**01 04 23.6**	**+0.3**
DRGR			pmax	pmax		
	comp=Z,25nm,0.9s					
WBSI	**Waikabubak, Su**	**79.46 239**	P	**P**	**01 04 21.8**	**-1.8**
	comp=Z,3µmcomp=Z,214nm,0.9s					
OZUR		**79.54 341**	⇓P	**P**	**01 04 23.6**	**-0.1**
BATM	**Batumi**	**79.54 329**	⇑P	**P**	**01 04 24.4**	**+0.6**
VRI	**Vrincioaia**	**79.56 340**	⇑P	**P**	**01 04 24.6**	**+0.8**
VRI	**Vrincioaia**	**79.56 340**	⇑P	**PKKPbc**	**01 23 06.3**	**-2.4**
ODBI	**Odobesti**	**79.59 340**	⇑P	**P**	**01 04 25.4**	**+1.5**
PLOR	**Plostina**	**79.59 340**	⇓P	**P**	**01 04 25.0**	**+1.0**
PLOR	**Plostina**	**79.59 340**	⇓P	**PKKPbc**	**01 23 08.4**	**-0.3**
PETR	**Petresti**	**79.59 340**	⇑P	**P**	**01 04 25.6**	**+1.7**
PLAI	**Plampang**	**79.65 241**	P	**P**	**01 04 23.1**	**-1.5**
	comp=Z,4µmcomp=Z,297nm,1.4s					
FUR	**Furstenfeldbru**	**79.65 351**	*e*P	**P**	**01 04 24.1**	**-0.2**
	comp=Z,53nm,1.5s,baz=8.8,slow=5.6					
MOA	**Molln**	**79.65 349**	*i* P	**P**	**01 04 24.5**	**+0.3**
	comp=Z,5.4nm,0.9s					
MOA			*i* pP	**pP**	**01 04 51.5**	**+0.9**
	comp=Z,14nm,1.4s					
BFO	**Black Forest**	**79.73 353**	P	**P**	**01 04 24.2**	**-0.5**
BFO			pmax	pmax		
	comp=Z,13nm,1.0s					
BFO	**Black Forest**	**79.73 353**	P	**P**	**01 04 24.2**	**-0.5**
BFO	**Black Forest**	**79.73 353**	*e*P	**P**	**01 04 24.5**	**-0.2**
	comp=Z,45nm,1.5s,baz=8.8,slow=5.6					
DOPR	**Dopca**	**79.74 341**	⇑P	**P**	**01 04 26.0**	**+1.2**
DOPR	**Dopca**	**79.74 341**	⇑P	**PKKPbc**	**01 23 09.6**	**+1.2**
TLCR		**79.76 339**	⇓P	**P**	**01 04 25.4**	**+0.6**
CFR	**Carcaliu**	**79.92 339**	⇑P	**P**	**01 04 26.2**	**+0.5**
ECH	**Echery**	**79.93 354**	P	**P**	**01 04 25.2**	**-0.6**
ECH			pmax	pmax		
	comp=Z,22nm,1.4s					
ECH	**Echery**	**79.93 354**	P	**P**	**01 04 25.2**	**-0.6**
RJOB	**Jochberg**	**79.93 350**	*e*P	**P**	**01 04 24.3**	**-1.5**
	comp=Z,11nm,1.2s,baz=8.8,slow=5.6					
KNRA	**Kununurra**	**79.94 229**	P	**P**	**01 04 25.6**	**-0.4**
NEHR	**Nehoiu**	**80.07 340**	⇑P	**P**	**01 04 28.0**	**+1.5**
TBI	**Tubuai**	**80.08 150**	*e*P	**P**	**01 04 27.4**	**+0.8**
	comp=Z,363nm,1.2s					
TBI	**Tubuai**	**80.08 150**	*e*T	T	02 32 09.4	
	comp=Z,6.8nm,0.3s					
MLR	**Muntele Rosu**	**80.08 341**	P	**P**	**01 04 27.7**	**+0.9**
	comp=Z,15nm,0.6s					
MLR	**Muntele Rosu**	**80.08 341**	⇑P	**P**	**01 04 28.1**	**+1.4**
MLR	**Muntele Rosu**	**80.08 341**	⇑P	**PKKPbc**	**01 23 07.7**	**0.0**
MLR	**Muntele Rosu**	**80.08 341**	P	**P**	**01 04 27.3**	**+0.5**
MLR	**Muntele Rosu**	**80.08 341**	P	**P**	**01 04 27.3**	**+0.5**
ARSA	**Arzberg**	**80.09 348**	*i* P	**P**	**01 04 26.4**	**-0.3**
	comp=Z,17nm,1.4s,SNR=7.9					
ARSA			*i* pP	**pP**	**01 04 52.3**	**-0.7**
	comp=Z,23nm,1.4s					
ARSA	**Arzberg**	**80.09 348**	*e*P	**P**	**01 04 26.1**	**-0.5**
	comp=Z,47nm,1.6s,baz=8.8,slow=5.6					
TOPG	**Topolog**	**80.15 339**	⇑P	**P**	**01 04 27.5**	**+0.5**
UBR	**Ueberruh**	**80.24 352**	*e*P	**P**	**01 04 27.4**	**-0.1**
	comp=Z,26nm,1.4s,baz=8.8,slow=5.6					
KMMI	**Kalianget**	**80.28 245**	P	**P**	**01 04 29.7**	**+1.7**
VOIR		**80.31 341**	⇑P	**P**	**01 04 29.3**	**+1.3**
VOIR		**80.31 341**	⇓P	**PKKPbc**	**01 23 08.2**	**+1.1**
CLF	**Chambon-Foret**	**80.34 357**	P	**P**	**01 04 27.9**	**0.0**
RETA	**Reutte**	**80.37 352**	*i* P	**P**	**01 04 27.9**	**-0.3**
	comp=Z,4.1nm,0.6s,SNR=5.3					
HARR	**Harsova**	**80.43 339**	⇑P	**P**	**01 04 28.8**	**+0.4**
HARR	**Harsova**	**80.43 339**	⇓P	**PKKPbc**	**01 23 06.8**	**+0.1**
WATA	**Walderalm**	**80.45 351**	*i* P	**P**	**01 04 28.8**	**+0.1**
	comp=Z,22nm,1.0s,SNR=12					
WATA			*i* pP	**pP**	**01 04 56.5**	**+1.4**
	comp=Z,28nm,1.2s					
TPI	**Tanjungpandan**	**80.46 253**	P	**P**	**01 04 28.4**	**-0.6**
	comp=Z,116nm,1.2s					
ARR	**Arges**	**80.46 342**	⇑P	**PKKPbc**	**01 23 07.2**	**+0.4**
MOTA	**Moosalm**	**80.48 351**	*i* P	**P**	**01 04 28.7**	**-0.2**
	comp=Z,31nm,1.5s,SNR=13					
MOTA			*i* pP	**pP**	**01 04 56.8**	**+1.5**
	comp=Z,24nm,1.2s					
WTTA	**Wattenberg**	**80.51 351**	*i* P	**P**	**01 04 29.3**	**+0.1**
	comp=Z,49nm,1.6s,SNR=15					
WTTA			*i* pP	**pP**	**01 04 57.1**	**+1.6**
	comp=Z,33nm,1.2s					
WTTA	**Wattenberg**	**80.51 351**	*e*P	**P**	**01 04 29.1**	**0.0**
	comp=Z,48nm,1.6s,baz=8.8,slow=5.6					
MTUR	**Matau**	**80.51 341**	⇓P	**P**	**01 04 30.4**	**+1.4**
KBA	**Koelnbreinsper**	**80.52 350**	*i* P	**P**	**01 04 29.7**	**+0.5**
	comp=Z,23nm,0.5s,SNR=34					
KBA			*i* pP	**pP**	**01 04 57.0**	**+1.4**
	comp=Z,52nm,1.2s					
KBA	**Koelnbreinsper**	**80.52 350**	*e*P	**P**	**01 04 29.5**	**+0.4**
	comp=Z,57nm,1.2s,baz=8.8,slow=5.6					
TIRR	**Tirgusor**	**80.54 339**	⇓P	**P**	**01 04 29.4**	**+0.3**
TIRR	**Tirgusor**	**80.54 339**	P	**P**	**01 04 29.1**	**+0.1**
TIRR			pmax	pmax		
	comp=Z,47nm,0.7s					
TIRR	**Tirgusor**	**80.54 339**	P	**P**	**01 04 29.1**	**+0.1**
TLBR	**Topalu**	**80.54 339**	⇓P	**P**	**01 04 29.8**	**+0.8**
LOT	**Lotru**	**80.55 342**	⇑P	**P**	**01 04 29.2**	**-0.1**
SQTA	**Sankt Quirin**	**80.60 351**	*i* P	**P**	**01 04 29.5**	**0.0**
	comp=Z,14nm,0.8s,SNR=8.9					
SQTA			*i* pP	**pP**	**01 04 57.1**	**+1.2**
	comp=Z,28nm,1.2s					
DAVA	**Damuels**	**80.65 352**	*i* P	**P**	**01 04 29.9**	**+0.1**
	comp=Z,5.5nm,0.8s					
DAVA			*i* pP	**pP**	**01 04 56.2**	**0.0**
	comp=Z,16nm,1.3s					
DAVA	**Damuels**	**80.65 352**	*e*P	**P**	**01 04 30.1**	**+0.3**
	comp=Z,28nm,1.4s,baz=8.8,slow=5.6					
EIDS	**Eidsvold**	**80.65 205**	P	**P**	**01 04 29.8**	**+0.1**
EIDS			lAmb	lAmb	01 04 31.7	
	comp=Z,148nm,1.2s					
LHMI	**Lhok Sumawe**	**80.67 267**	P	**P**	**01 04 32.0**	**+1.8**
LHMI	**Lhok Sumawe**	**80.67 267**	P	**P**	**01 04 30.7**	**+0.6**
MORH	**Mrgy, Hungar**	**80.68 346**	⇓ *i*P	**P**	**01 04 29.0**	**-0.7**
KTUT	**Trabzon**	**80.71 330**	⇓P	**P**	**01 04 30.6**	**+0.5**
SOKA	**Soboth**	**80.72 349**	*i* P	**P**	**01 04 30.0**	**0.0**
	comp=Z,32nm,0.9s,SNR=34					
SOKA			*i* pP	**pP**	**01 04 57.9**	**+1.4**
	comp=Z,35nm,1.2s					
PVM	**Polavaram**	**80.72 286**	*e*P	**P**	**01 04 30.7**	**+0.3**
PVM			lVmB_BB		01 04 31.4	
	comp=Z,856nm,1.4s					
TIM	**Timisoara**	**80.73 344**	⇑P	**PKKPbc**	**01 23 07.4**	**+1.3**
PERS	**Pernice**	**80.75 348**	*i* P	**P**	**01 04 30.3**	**+0.1**
BZS	**Buzias**	**80.78 344**	⇓P	**P**	**01 04 30.5**	**+0.2**
BZS	**Buzias**	**80.78 344**	⇑P	**PKKPbc**	**01 23 07.4**	**+1.4**
FETA	**Feichten**	**80.84 352**	*i* P	**P**	**01 04 31.1**	**+0.2**
	comp=Z,21nm,1.2s,SNR=8.8					
FETA			*i* pP	**pP**	**01 04 59.4**	**+2.2**
	comp=Z,20nm,1.2s					
RPR	**Rampur**	**80.85 289**	*e*P	**P**	**01 04 31.1**	**0.0**
RPR			lVmB_BB		01 04 31.9	
	comp=Z,753nm,1.3s					
PPBI	**Pangkal Pinang**	**80.89 255**	P	**P**	**01 04 31.4**	**+0.1**
MYKA	**Terra Mystica**	**80.93 349**	*i* P	**P**	**01 04 31.2**	**0.0**
	comp=Z,12nm,1.2s,SNR=5.3					
MYKA			*i* pP	**pP**	**01 04 58.9**	**+1.2**
	comp=Z,19nm,1.5s					
ABTA	**Abfaltersbach**	**80.94 350**	*i* P	**P**	**01 04 31.3**	**0.0**
	comp=Z,17nm,1.0s,SNR=8.5					
ABTA			*i* pP	**pP**	**01 05 00.3**	**+2.6**
	comp=Z,21nm,1.1s					
OBKA	**Obir**	**80.94 349**	*i* P	**P**	**01 04 31.6**	**+0.3**
	comp=Z,22nm,1.0s,SNR=7.1					
OBKA			*i* pP	**pP**	**01 04 58.4**	**+0.6**
OBKA	**Obir**	**80.94 349**	*e*P	**P**	**01 04 31.6**	**+0.3**
	comp=Z,18nm,0.8s,baz=8.8,slow=5.6					
TSI	**Tuntungan**	**81.02 264**	P	**P**	**01 04 32.2**	**+0.2**
RASA	**Rasa**	**81.05 340**	⇓P	**P**	**01 04 32.6**	**+0.8**
KALN	**Kalnik**	**81.07 347**	P	**P**	**01 04 31.5**	**-0.4**
ZOU	**Zoufplan**	**81.07 350**	P	**P**	**01 04 32.3**	**+0.1**
WB0	**Warramunga Arr**	**81.10 222**	P	**P**	**01 04 31.7**	**-0.6**
WB0			lAmb	lAmb	01 04 32.9	
	comp=Z,155nm,0.8s					
PRED	**Cave del Predi**	**81.12 349**	P	**P**	**01 04 31.7**	**-0.6**
WR0	**Warramunga Arr**	**81.21 221**	P	**P**	**01 04 32.1**	**-0.7**
WR0			lAmb	lAmb	01 04 33.4	
	comp=Z,114nm,0.8s					
WRAB	**Tennant Creek**	**81.27 221**	*d* iP	**P**	**01 04 32.5**	**-0.6**
WRAB			pmax	pmax		
	comp=Z,175nm,1.0s					
WB2	**Warramunga Arr**	**81.28 221**	P	**P**	**01 04 32.6**	**-0.6**
WB2			lAmb	lAmb	01 04 33.9	
	comp=Z,200nm,0.9s					
FUORN	**Ofenpass-Fuorn**	**81.28 352**	P	**P**	**01 04 33.1**	**-0.2**
WRA	**Warramunga Arr**	**81.28 221**	P	**P**	**01 04 32.7**	**-0.5**
	comp=Z,107nm,0.8s,baz=34,slow=6.1,SNR=88					
WRA			PKiKP	**PKiKP**	**01 09 57.4**	**-0.4**
	comp=Z,1.3nm,0.9s,baz=351,slow=1.6,SNR=4.9					
WRA	**Warramunga Arr**	**81.28 221**	P	**P**	**01 04 32.3**	**-0.9**
SRSP	**Sriramsagar**	**81.35 290**	*e*P	**P**	**01 04 33.2**	**-0.6**
SRSP			lVmB_BB		01 04 33.7	
	comp=Z,621nm,1.5s					
PSI	**Prapat**	**81.35 263**	P	**P**	**01 04 33.4**	**-0.5**
	comp=Z,130nm,0.9s,baz=360,slow=2.7,SNR=48					
PSI	**Prapat**	**81.35 263**	P	**P**	**01 04 33.1**	**-0.8**
PSI			pmax	pmax		
	comp=Z,273nm,1.2s					

BRTR	**Keskin Array B**	**83.69**	**333**	P		**P**	**01 04 45.6**	**-0.1**
	comp=Z,12nm,0.6s,baz=30,slow=1.9,SNR=60							
BRTR				PKKPbc		**PKKPbc**	**01 23 00.2**	**+0.7**
	comp=Z,3.6nm,0.8s,baz=165,slow=5.1,SNR=12							
BRTR	**Keskin Array B**	**83.69**	**333**	P		**P**	**01 04 45.3**	**-0.5**
LEM	**Lembang**	**83.75**	**251**	P		**P**	**01 04 44.8**	**-1.6**
	comp=Z,72nm,0.8s,baz=77,slow=4.4,SNR=11							
BRY	**Bratogost**	**83.93**	**345**	*eP*		**P**	**01 04 46.4**	**-0.5**
STON	**Ston**	**84.09**	**346**	P		**P**	**01 04 46.5**	**-1.0**
STON	**Ston**	**84.09**	**346**	*jiP*		**P**	**01 04 46.2**	**-1.3**
KKB	**Krupnik**	**84.14**	**342**	*eP*		**P**	**01 04 47.6**	**-0.3**
TREB	**Trebinje**	**84.14**	**345**	*eP*		**P**	**01 04 47.0**	**-0.8**
DBRK	**Dubrovnik**	**84.22**	**346**	P		**P**	**01 04 46.9**	**-1.3**
PDG	**Podgorica**	**84.27**	**345**	*jiP*		**P**	**01 04 48.9**	**+0.4**
PDG	**Podgorica**	**84.27**	**345**	*jiP*		**P**	**01 04 47.4**	**-1.1**
MMB	**Musomiste**	**84.28**	**341**	*eP*		**P**	**01 04 49.2**	**+0.6**
SKO	**Skopje**	**84.34**	**343**	*iP*		**P**	**01 04 49.1**	**+0.2**
HCY	**Herceg Novi**	**84.38**	**345**	*eP*		**P**	**01 04 48.3**	**-0.8**
ALN	**Alexandroupoli**	**84.46**	**339**	P		**P**	**01 04 49.3**	**-0.2**
ALN				pmax		pmax		
	comp=Z,10.0nm,0.8s							
ALN	**Alexandroupoli**	**84.46**	**339**	P		**P**	**01 04 49.2**	**-0.2**
STIP	**Stip**	**84.47**	**342**	*iP*		**P**	**01 04 49.2**	**-0.4**
DRME	**Dracevica, Mon**	**84.52**	**345**	*jiP*		**P**	**01 04 49.3**	**-0.5**
SKHT	**Srikalahasti**	**84.61**	**285**	*eP*		**P**	**01 04 50.7**	**+0.1**
SKHT				IVmB_BB			01 04 51.4	
	comp=Z,542nm,1.4s							
NRCA	**Norcia**	**84.73**	**349**	P		**P**	**01 04 51.4**	**+0.4**
VAY	**Valandovo**	**84.76**	**342**	*iP*		**P**	**01 04 51.7**	**+0.7**
AS31	**Alice Springs**	**84.79**	**220**	P		**P**	**01 04 51.1**	**-0.1**
ASAR	**Alice Springs**	**84.79**	**220**	P		**P**	**01 04 51.4**	**+0.1**
	comp=Z,79nm,0.8s,baz=26,slow=4.9,SNR=186							
ASAR				PKiKP		**PKiKP**	**01 10 03.4**	**0.0**
	comp=Z,2.9nm,0.8s,baz=2.9,slow=1.9,SNR=6.5							
ASAR	**Alice Springs**	**84.79**	**220**	P		**P**	**01 04 51.2**	**-0.1**
GAZ	**Gaziantep**	**85.00**	**330**	P		**P**	**01 04 53.0**	**+0.6**
GAZ				IAmb		IAmb	01 04 55.7	
	comp=Z,67nm,1.0s							
URV	**Uravakonda**	**85.11**	**288**	*eP*		**P**	**01 04 52.4**	**-0.7**
URV				IVmB_BB			01 04 53.0	
	comp=Z,449nm,1.5s							
AQU	**L'Aquila**	**85.17**	**349**	P		**P**	**01 04 53.4**	**+0.3**
AQU				pmax		pmax		
	comp=Z,53nm,1.0s							
AQU	**L'Aquila**	**85.17**	**349**	P		**P**	**01 04 53.4**	**+0.3**
AQU	**L'Aquila**	**85.17**	**349**	*jiP*		**P**	**01 04 53.2**	**+0.1**
OHR	**Ohrid**	**85.29**	**343**	*iP*		**P**	**01 04 54.3**	**+0.6**
ARMA	**Armidale**	**85.34**	**203**	P		**P**	**01 04 54.5**	**+0.6**
ARMA				IAmb		IAmb	01 04 56.6	
	comp=Z,146nm,0.9s							
INTR	**Introdacqua**	**85.45**	**349**	P		**P**	**01 04 53.9**	**-0.6**
PGAV	**Gavieira, Arco**	**86.27**	**5**	*eP*		**P**	**01 04 59.1**	**+0.5**
PBRG	**Braganca**	**86.51**	**4**	*eP*		**P**	**01 04 58.7**	**-1.0**
	comp=Z,9.2nm,1.3s							
PCAB	**Cabril**	**86.54**	**5**	*epP*		pP	01 05 26.4	-0.2
SCTE	**Santa Cesarea**	**86.70**	**345**	P		**P**	**01 05 00.3**	**-0.3**
OUZ	**Omahuta**	**86.91**	**184**	P		**P**	**01 05 02.2**	**+0.9**
OUZ				IAmb		IAmb	01 05 04.1	
	comp=Z,113nm,1.0s							
PVRL	**Vila Real**	**86.99**	**5**	*eP*		**P**	**01 05 01.1**	**-0.9**
	comp=Z,27nm,0.9s							
PVRL				*epP*		**pP**	01 05 28.6	-0.2
MVO	**Moncorvo**	**87.13**	**4**	*eP*		**P**	**01 05 02.0**	**-0.8**
	comp=Z,28nm,1.1s							
MVO				*epP*		**pP**	**01 05 33.4**	**+3.9**
SHME	**Shamm**	**87.39**	**310**	*iP*		**P**	**01 05 03.7**	**-0.5**
	SNR=6.4							
SHME	**Shamm**	**87.39**	**310**	*iP*		**P**	**01 05 03.7**	**-0.5**
	SNR=6.4							
BANOM	**Banah**	**87.42**	**310**	*iP*		**P**	**01 05 04.0**	**-0.3**
	SNR=14							
BANOM	**Banah**	**87.42**	**310**	*iP*		**P**	**01 05 04.0**	**-0.3**
	SNR=14							
BANOM	**Banah**	**87.42**	**310**	P		**P**	**01 05 05.0**	**+0.6**
	SNR=9.4							
ELL	**Elmali**	**87.48**	**335**	P		**P**	**01 05 04.5**	**-0.1**
ELL				pmax		pmax		
	comp=Z,25nm,0.6s							
ELL	**Elmali**	**87.48**	**335**	P		**P**	**01 05 04.5**	**-0.1**
PVIS	**Viseu**	**87.54**	**5**	*eP*		**P**	**01 05 04.0**	**-0.7**
	comp=Z,29nm,1.1s							
PVIS				*epP*		**pP**	**01 05 32.3**	**+0.8**
XMIS	**Christmas Isla**	**87.82**	**250**	P		**P**	**01 05 05.7**	**-0.6**
TIP	**Timpagrande**	**87.84**	**346**	*ifP*		**P**	**01 05 06.0**	**-0.2**
TIP	**Timpagrande**	**87.84**	**346**	*ifP*		**PKKPbc**	**01 22 51.4**	**+1.6**
TIP	**Timpagrande**	**87.84**	**346**	P		**P**	**01 05 05.3**	**-0.9**
MDH	**Madha**	**87.95**	**310**	*iP*		**P**	**01 05 06.1**	**-0.8**
	SNR=6.7							
MDH	**Madha**	**87.95**	**310**	*iP*		**P**	**01 05 06.1**	**-0.8**
	SNR=6.7							
MDH	**Madha**	**87.95**	**310**	P		**P**	**01 05 07.1**	**+0.2**
	SNR=6.7							
MSFE	**Esma-Masafi**	**87.97**	**310**	*iP*		**P**	**01 05 06.4**	**-0.6**
	SNR=8.0							
MSFE	**Esma-Masafi**	**87.97**	**310**	*iP*		**P**	**01 05 06.4**	**-0.6**
	SNR=8.0							
COI	**Coimbra**	**88.02**	**5**	P		**P**	**01 05 06.2**	**-0.6**
COI				pmax		pmax		
	comp=Z,22nm,0.9s							
COI	**Coimbra**	**88.02**	**5**	*eP*		**P**	**01 05 06.3**	**-0.6**
	comp=Z,38nm,1.2s							
COI				*epP*		**pP**	**01 05 34.3**	**+0.5**
COI	**Coimbra**	**88.02**	**5**	P		**P**	**01 05 06.2**	**-0.6**
PCAS	**Casmilo, Conde**	**88.17**	**5**	*eP*		**P**	**01 05 02.9**	**-4.7**
	comp=Z,37nm,1.3s							
PCAS				*epP*		**pP**	**01 05 33.7**	**-0.8**
UOSS	**Minazif**	**88.30**	**310**	*iP*		**P**	**01 05 07.3**	**-1.1**
	SNR=7.0							
UOSS	**Minazif**	**88.30**	**310**	*iP*		**P**	**01 05 07.3**	**-1.1**
	SNR=7.0							
UOSS	**Minazif**	**88.30**	**310**	P		**P**	**01 05 07.1**	**-1.4**
UOSS				IAmb		IAmb	01 05 08.7	
	comp=Z,145nm,1.4s							
PCBR	**Castelo Branco**	**88.43**	**5**	*eP*		**P**	**01 05 08.0**	**-0.9**
	comp=Z,23nm,1.6s							
PCBR				*epP*		**pP**	**01 05 35.6**	**-0.1**
HATD	**Hatta, Dubai**	**88.43**	**310**	*iP*		**P**	**01 05 08.3**	**-0.9**
	SNR=14							
HATD	**Hatta, Dubai**	**88.43**	**310**	*iP*		**P**	**01 05 08.3**	**-0.9**
	SNR=14							
HATD	**Hatta, Dubai**	**88.43**	**310**	P		**P**	**01 05 09.2**	**0.0**
	SNR=12							
NAZ	**Nazwa, Dubai**	**88.52**	**310**	*iP*		**P**	**01 05 08.7**	**-0.8**
	SNR=7.2							
NAZ	**Nazwa, Dubai**	**88.52**	**310**	*iP*		**P**	**01 05 08.7**	**-0.8**
	SNR=7.2							
NAZ	**Nazwa, Dubai**	**88.52**	**310**	P		**P**	**01 05 10.0**	**+0.5**
	SNR=7.6							
WSAR	**Wadi Sarin**	**88.56**	**307**	P		**P**	**01 05 10.7**	**+0.9**
	SNR=5.2							
ASHO	**Ashiyiah**	**88.59**	**310**	*iP*		**P**	**01 05 09.1**	**-0.9**
	SNR=8.6							
ASHO	**Ashiyiah**	**88.59**	**310**	*iP*		**P**	**01 05 09.1**	**-0.9**
	SNR=8.6							
ASHO	**Ashiyiah**	**88.59**	**310**	P		**P**	**01 05 10.0**	**+0.1**
	SNR=13							
PSBE	**So Bento**	**88.68**	**6**	*eP*		**P**	**01 05 10.4**	**+0.3**
	comp=Z,48nm,1.5s							
ESDC	**Sonseca Array**	**88.72**	**2**	P		**P**	**01 05 09.0**	**-1.3**
	comp=Z,2.6nm,0.8s,baz=360,slow=3.8,SNR=23							
ESDC				PKKPbc		**PKKPbc**	**01 22 48.0**	**+0.3**
	comp=Z,1.7nm,0.9s,baz=207,slow=1.9,SNR=11							
ESDC	**Sonseca Array**	**88.72**	**2**	P		**P**	**01 05 09.0**	**-1.3**
SOHO	**SOHO**	**88.83**	**309**	*iP*		**P**	**01 05 09.9**	**-1.0**
	SNR=12							
SOHO	**SOHO**	**88.83**	**309**	*iP*		**P**	**01 05 09.9**	**-1.0**
	SNR=12							
PMRV	**Marv??o**	**88.85**	**5**	*eP*		**P**	**01 05 10.3**	**-0.6**
	comp=Z,24nm,1.4s							
PMRV				*epP*		**pP**	**01 05 36.9**	**-0.8**
MBWA	**Marble Bar**	**88.97**	**233**	P		**P**	**01 05 10.6**	**-0.8**
PMTG	**Montargil**	**89.16**	**5**	*eP*		**P**	**01 05 11.0**	**-1.3**
	comp=Z,11nm,1.9s							
PMTG				*epP*		**pP**	**01 05 39.1**	**-0.1**
AJN	**Ajban**	**89.20**	**311**	*iP*		**P**	**01 05 12.2**	**-0.5**
	SNR=6.1							
AJN	**Ajban**	**89.20**	**311**	*iP*		**P**	**01 05 12.2**	**-0.5**
	SNR=6.1							
AJN	**Ajban**	**89.20**	**311**	P		**P**	**01 05 13.3**	**+0.7**
	SNR=6.0							
PMAFR	**Mafra**	**89.21**	**6**	*eP*		**P**	**01 05 13.1**	**+0.5**
	comp=Z,46nm,2.1s							
PMAFR				*epP*		**pP**	**01 05 39.9**	**+0.4**
PSA00	**Pilbara Seismi**	**89.26**	**233**	P		**P**	**01 05 12.1**	**-0.7**
PSA00				IAmb		IAmb	01 05 13.3	
	comp=Z,104nm,0.9s							
ALNE	**Al Ain**	**89.27**	**310**	*iP*		**P**	**01 05 12.8**	**-0.3**
	SNR=5.2							
ALNE	**Al Ain**	**89.27**	**310**	*iP*		**P**	**01 05 12.8**	**-0.3**
	SNR=5.2							
ARQ	**Araqi**	**89.51**	**309**	P		**P**	**01 05 15.0**	**+0.7**
	SNR=8.2							
STKA	**Stephens Creek**	**89.52**	**211**	P		**P**	**01 05 14.7**	**+0.9**
	comp=Z,148nm,0.8s,baz=3.4,slow=5.9,SNR=98							
STKA	**Stephens Creek**	**89.52**	**211**	*dP*		**P**	**01 05 14.5**	**+0.7**
STKA	**Stephens Creek**	**89.52**	**211**	P		**P**	**01 05 14.5**	**+0.7**
STKA				IAmb		IAmb	01 05 15.9	
	comp=Z,53nm,0.9s							
EVO	**Evora**	**89.71**	**5**	*eP*		**P**	**01 05 14.3**	**-0.6**
	comp=Z,13nm,1.7s							
EVO				*epP*		**pP**	**01 05 45.2**	**+3.4**
HIZ	**Hauiti**	**90.15**	**183**	P		**P**	**01 05 16.5**	**0.0**
PBEJ	**Beja**	**90.22**	**5**	*eP*		**P**	**01 05 17.2**	**-0.1**
	comp=Z,16nm,1.4s							
PBEJ				*epP*		**pP**	**01 05 44.7**	**+0.5**
OBIP	**Obispado Ponce**	**90.37**	**60**	P		**P**	**01 05 17.7**	**-0.6**
SJG	**San Juan**	**90.55**	**59**	*eP*		**P**	**01 05 18.2**	**-0.9**
SJG	**San Juan**	**90.55**	**59**	P		**P**	**01 05 18.8**	**-0.3**
SJG				pmax		pmax		
	comp=Z,102nm,1.7s							
SJG	**San Juan**	**90.55**	**59**	P		**P**	**01 05 18.8**	**-0.3**
SJG				IAmb		IAmb	01 05 47.2	
	comp=Z,102nm,1.7s							
PCVE	**Castro Verde**	**90.60**	**5**	*eP*		**P**	**01 05 18.2**	**-0.9**
CAN	**Canberra**	**90.66**	**204**	P		**P**	**01 05 19.6**	**+0.5**
CAN				pmax		pmax		
	comp=Z,67nm,1.1s							
CAN	**Canberra**	**90.66**	**204**	P		**P**	**01 05 19.6**	**+0.5**
CAN				IAmb		IAmb	01 05 20.9	
	comp=Z,67nm,1.1s							
BKZ	**Black Stump Fm**	**90.77**	**182**	P		**P**	**01 05 18.3**	**-1.1**
BKZ				IAmb		IAmb	01 05 19.1	
	comp=Z,116nm,1.4s							
MTP	**Monte Pirata**	**90.88**	**59**	P		**P**	**01 05 20.1**	**-0.5**
MTP				IAmb		IAmb	01 05 22.9	
	comp=Z,65nm,0.9s							
SJCC	**San Jacinto, C**	**92.16**	**71**	*eP*		**P**	**01 05 28.5**	**+1.9**
KEST	**Kesra**	**92.16**	**351**	P		**P**	**01 05 25.6**	**-0.8**
	comp=Z,8.2nm,1.0s,baz=7.8,slow=3.0,SNR=7.2							
FORT	**Forrest**	**93.47**	**222**	P		**P**	**01 05 32.1**	**0.0**
SMLC	**San Martn de**	**93.68**	**71**	*eP*		**P**	**01 05 30.4**	**-3.2**
RAYN	**Ar Rayn**	**94.32**	**318**	PKiKP		**P**	**01 05 36.0**	**-0.5**
RAYN				pmax		pmax		
	comp=Z,69nm,1.2s							
RAYN	**Ar Rayn**	**94.32**	**318**	P		**P**	**01 05 36.0**	**-0.5**
RAYN				IAmb		IAmb	01 05 37.6	
	comp=Z,69nm,1.2s							
OCAC	**Ocana**	**94.57**	**71**	*eP*		**P**	**01 05 34.7**	**-3.2**
CBOC	**Ciudad Bolivar**	**94.88**	**74**	*eP*		**P**	**01 05 38.6**	**-0.7**
BRRC	**Bianca, Sant**	**95.25**	**72**	*eP*		**P**	**01 05 39.3**	**-1.5**
PTBC	**PUERTO BERRIO,**	**95.27**	**73**	*eP*		**P**	**01 05 39.6**	**-1.3**
GUY2C	**Guyana, Caldas**	**95.78**	**74**	*eP*		**P**	**01 05 43.7**	**-0.1**
NORC	**Norcasia**	**95.80**	**73**	*eP*		**P**	**01 05 43.4**	**0.0**
BARC	**Barichara**	**95.97**	**71**	*eP*		**P**	**01 05 43.9**	**-0.5**
RREF	**El Recreo**	**96.05**	**74**	*eP*		**P**	**01 05 49.2**	**+4.0**
YOTC	**Yotoco, Valle**	**96.18**	**76**	*eP*		**P**	**01 05 45.4**	**+0.2**
SPBC	**San Pablo de B**	**96.20**	**73**	*eP*		**P**	**01 05 40.7**	**-4.5**
TOLC	**Tolima**	**96.31**	**74**	*eP*		**P**	**01 05 45.7**	**-0.4**
RUSC	**La Rusia**	**96.59**	**72**	*eP*		**P**	**01 05 47.1**	**-0.4**
ORTC	**Ortega, Tolima**	**96.90**	**75**	*eP*		**P**	**01 05 47.6**	**-0.8**
TAMC	**Tame, Arauca**	**96.91**	**70**	*eP*		P	01 05 35.8	-13
NWAO	**Narrogin (SRO)**	**100.05**	**228**	P		**Pdif**	**01 06 01.2**	**-0.6**
	comp=Z,21nm,0.9s,baz=164,slow=2.8,SNR=6.2							
TORD	**Torodi Ar. Bea**	**115.11**	**357**	PKP		**PKiKP**	**01 10 56.8**	**-1.0**
	comp=Z,8.5nm,0.4s,baz=23,slow=2.0,SNR=97							
TORD				SKP			01 14 21.9	
	comp=Z,2.5nm,1.0s,baz=342,slow=0.9,SNR=3.8							
TORD				PKKPbc		**PKKPbc**	**01 21 31.7**	**+0.5**
	comp=Z,4.3nm,0.8s,baz=185,slow=2.4,SNR=14							
LPAZ	**La Paz**	**117.07**	**82**	PKKPbc	PKKPbc		01 21 27.1	+2.1
	comp=Z,2.1nm,0.8s,baz=107,slow=6.6,SNR=8.0							
NPGB	**Novo Progresso**	**117.28**	**64**	*eP*		**PKPdf**	**01 11 00.5**	**-1.4**
NPGB	**Novo Progresso**	**117.28**	**64**	*eP*		**PKPdf**	**01 11 00.5**	**-1.4**
VILB	**Vilhena**	**119.26**	**73**	*eP*		**PKPdf**	**01 11 05.3**	**-0.4**
VILB	**Vilhena**	**119.26**	**73**	*eP*		**PKPdf**	**01 11 05.3**	**-0.4**
ROSB	**Rosrio**	**119.64**	**51**	*eP*		**PKPdf**	**01 11 05.5**	**-0.9**
ROSB	**Rosrio**	**119.64**	**51**	*eP*		**PKPdf**	**01 11 05.5**	**-0.9**
KMBO	**Kilima Mbogo**	**119.84**	**314**	PKP		**PKiKP**	**01 11 08.6**	**+1.4**
	comp=Z,19nm,0.9s,baz=336,slow=2.7,SNR=22							
KMBO				SKP			01 14 33.9	
	comp=Z,6.5nm,1.0s,baz=8.5,slow=3.5,SNR=6.1							
KMBO	**Kilima Mbogo**	**119.84**	**314**	*iP*		**PKPdf**	**01 11 07.1**	**0.0**
	SNR=13							
KMBO	**Kilima Mbogo**	**119.84**	**314**	*i* PKPdf		**PKPdf**	**01 11 07.1**	**0.0**
	SNR=13							
KMBO	**Kilima Mbogo**	**119.84**	**314**	PKiKP		**PKiKP**	**01 11 07.5**	**+0.2**
KMBO	**Kilima Mbogo**	**119.84**	**314**	PKPdf		**PKiKP**	**01 11 07.5**	**+0.2**
CLDB	**Colider**	**120.16**	**67**	*eP*		**PKPdf**	**01 11 06.1**	**-1.3**
CLDB	**Colider**	**120.16**	**67**	*eP*		**PKPdf**	**01 11 06.1**	**-1.3**
SIV	**San Ignacio**	**121.12**	**76**	SKP		**SKPdf**	**01 14 35.3**	**+0.5**
	comp=Z,3.7nm,0.8s,baz=320,slow=1.4,SNR=4.7							
DBIC	**Dimbokro**	**121.53**	**4**	PKP		**PKPdf**	**01 11 09.3**	**-0.8**
	comp=Z,23nm,0.5s,baz=348,slow=2.9,SNR=62							
DBIC				SKP			01 14 35.5	
	comp=Z,5.2nm,0.9s,baz=167,slow=7.0,SNR=3.4							
DBIC				PKKPbc		**PKKPbc**	**01 21 08.8**	**+0.7**
	comp=Z,8.7nm,0.9s,baz=158,slow=6.2,SNR=5.0							
DBIC	**Dimbokro**	**121.53**	**4**			**PKPdf**	**01 11 08.9**	**-1.2**
TIC	**Toumodi**	**121.55**	**4**	*ePKiKP*		**PKPdf**	**01 11 08.5**	**-1.7**
KIC	**Kosan Boka**	**121.85**	**4**	*ePKiKP*		**PKPdf**	**01 11 08.9**	**-1.8**
	comp=Z,11nm,0.6s							
PTLB	**Pontes e Lacer**	**121.85**	**73**	*eP*		**PKPdf**	**01 11 10.0**	**-0.5**
PTLB	**Pontes e Lacer**	**121.85**	**73**	*eP*		**PKPdf**	**01 11 10.0**	**-0.5**
LIC	**Lamto**	**121.97**	**4**	*ePKiKP*		**PKPdf**	**01 11 08.9**	**-2.1**
	comp=Z,21nm,0.7s							
H03N2	**Juan Fernandez**	**122.94**	**104**	T		T	03 25 58.8	
	baz=315,slow=77,SNR=9.8							
H03N1	**Juan Fernandez**	**122.96**	**103**	T		T	03 25 59.9	
	baz=315,slow=77,SNR=12							
H03N3	**Juan Fernandez**	**122.96**	**104**	T		T	03 26 01.0	
	baz=315,slow=77,SNR=8.0							
SMTB	**Santa Maria do**	**123.00**	**58**	*eP*		**PKPdf**	**01 11 12.5**	**-0.4**
SMTB	**Santa Maria do**	**123.00**	**58**	*eP*		**PKPdf**	**01 11 12.5**	**-0.4**
SALV	**Santo Antonio**	**124.24**	**71**	*eP*		**PKPdf**	**01 11 14.8**	**-0.4**
SALV	**Santo Antonio**	**124.24**	**71**	*eP*		**PKPdf**	**01 11 14.8**	**-0.4**
AC05	**El Transito**	**125.02**	**93**	PKPdf		**PKPdf**	**01 11 16.3**	**-0.2**
PEXB	**Peixe**	**125.33**	**61**	*eP*		**PKPdf**	**01 11 17.0**	**-0.3**
PEXB	**Peixe**	**125.33**	**61**	*eP*		**PKPdf**	**01 11 17.0**	**-0.3**
RCBR	**Riachuelo**	**125.98**	**44**	PKP		**PKPdf**	**01 11 17.9**	**-0.8**
	comp=Z,9.8nm,0.6s,baz=210,slow=0.2,SNR=6.7							
ARAG	**Araguaiana, MT**	**126.32**	**67**	*eP*		**PKPdf**	**01 11 18.8**	**-0.3**
ARAG	**Araguaiana, MT**	**126.32**	**67**	*eP*		**PKPdf**	**01 11 18.8**	**-0.3**
ROC1	**El Roble**	**127.44**	**98**			**PKPdf**	**01 11 21.2**	**+0.1**
MT02	**Curacav**	**127.56**	**98**	PKPdf		**PKPdf**	**01 11 21.0**	**0.0**
ZON	**Zonda**	**127.90**	**94**	PKiKP		**PKPdf**	**01 11 21.4**	**-0.4**
ZON	**Zonda**	**127.90**	**94**	PKPdf		**PKPdf**	**01 11 21.4**	**-0.4**
C2SB	**Chapadao do Su**	**128.16**	**70**	*eP*		**PKiKP**	**01 11 23.0**	**-0.1**
C2SB	**Chapadao do Su**	**128.16**	**70**	*eP*		**PKiKP**	**01 11 23.0**	**-0.1**
CFA	**Coronel Fontan**	**128.21**	**94**	PKP		**PKPdf**	**01 11 22.3**	**0.0**
	comp=Z,16nm,0.8s,baz=272,slow=2.3,SNR=29							
CFA				SKPbc		SKPbc	01 14 30.8	
	comp=Z,17nm,0.8s,baz=241,slow=1.9,SNR=10							
BDFB	**Brasilia**	**128.40**	**63**	PKP		**PKPdf**	**01 11 22.7**	**-0.6**
	comp=Z,18nm,1.0s,baz=36,slow=7.3,SNR=18							
BDFB				SKPbc		SKPbc	01 14 33.4	
	comp=Z,7.8nm,1.1s,baz=353,slow=11,SNR=5.5							
BDFB	**Brasilia**	**128.40**	**63**	PKPdf		**PKPdf**	**01 11 23.0**	**-0.2**
CASY	**Casey**	**128.63**	**209**	PKPdf		**PKPdf**	**01 11 22.1**	**+0.2**
BI03	**Tigo**	**128.81**	**103**			**PKPdf**	**01 11 23.6**	**+0.3**
BO02	**Sierra Bellavi**	**128.81**	**99**	PKPdf		**PKPdf**	**01 11 23.5**	**+0.1**
VNDA	**Vanda**	**129.62**	**185**	PKP		**PKPdf**	**01 11 23.4**	**-0.2**
	comp=Z,8.6nm,0.9s,baz=310,slow=4.8,SNR=29							
VNDA				SKPbc		SKPbc	01 14 37.2	+1.2
	comp=Z,17nm,1.0s,baz=342,slow=3.7,SNR=16							
VNDA	**Vanda**	**129.62**	**185**	PKPdf		**PKPdf**	**01 11 23.8**	**+0.2**
BI02	**San Fabin de**	**129.75**	**101**	PKPdf		**PKPdf**	**01 11 25.1**	**-0.1**
IPMB	**Ipameri, GO**	**130.18**	**65**	*eP*		**PKPdf**	**01 11 26.6**	**0.0**
IPMB	**Ipameri, GO**	**130.18**	**65**	*eP*		**PKPdf**	**01 11 26.6**	**0.0**
ITRB	**Iturama**	**130.33**	**68**	*eP*		**PKPdf**	**01 11 26.5**	**-0.2**
ITRB	**Iturama**	**130.33**	**68**	*eP*		**PKPdf**	**01 11 26.5**	**-0.2**
LC01	**Cunco**	**130.83**	**104**	PKPdf		**PKPdf**	**01 11 26.8**	**-0.2**
CPUP	**Villa Florida**	**131.21**	**81**	PKP		**PKPdf**	**01 11 27.9**	**-0.3**
	comp=Z,21nm,1.0s,baz=307,slow=1.2,SNR=29							
CPUP				SKPbc		**SKPbc**	**01 14 42.2**	**-1.0**
	comp=Z,34nm,0.8s,baz=325,slow=4.4,SNR=42							
CPUP	**Villa Florida**	**131.21**	**81**	PKPdf		**PKPdf**	**01 11 28.1**	**0.0**
TRCB	**Terra Rica**	**131.40**	**73**	*eP*		**PKiKP**	**01 11 30.4**	**+0.7**
TRCB	**Terra Rica**	**131.40**	**73**	*eP*		**PKiKP**	**01 11 30.4**	**+0.7**
LL01	**San Ignacio de**	**132.67**	**108**	PKPdf		**PKPdf**	**01 11 30.0**	**-0.4**
PLCA	**Paso Flores**	**132.77**	**105**	PKP		**PKPdf**	**01 11 30.6**	**-0.1**
	comp=Z,17nm,0.9s,baz=281,slow=2.0,SNR=20							
PLCA				SKPbc		**SKPbc**	**01 14 48.4**	**-0.1**
	comp=Z,80nm,1.1s,baz=314,slow=3.9,SNR=38							
PLCA	**Paso Flores**	**132.77**	**105**	PKPdf		**PKPdf**	**01 11 31.1**	**+0.4**
PTGB	**Pitanga**	**133.19**	**74**	*eP*		**PKPdf**	**01 11 32.0**	**0.0**
PTGB	**Pitanga**	**133.19**	**74**	*eP*		**PKPdf**	**01 11 32.0**	**0.0**
SJMB	**Sao Joao De Ma**	**134.59**	**58**	*eP*		**PKPdf**	**01 11 34.9**	**+0.2**
SJMB	**Sao Joao De Ma**	**134.59**	**58**	*eP*		**PKPdf**	**01 11 34.9**	**+0.2**
BSFB	**Barra de Sao F**	**134.88**	**58**	*eP*		**PKPdf**	**01 11 35.7**	**+0.5**
BSFB	**Barra de Sao F**	**134.88**	**58**	*eP*		**PKPdf**	**01 11 35.7**	**+0.5**
RIB01	**Linhares ES**	**135.51**	**58**	*eP*		**PKPdf**	**01 11 36.4**	**0.0**
RIB01	**Linhares ES**	**135.51**	**58**	*eP*		**PKPdf**	**01 11 36.4**	**0.0**
PARB	**Paraibuna**	**135.89**	**67**	*eP*		**PKPdf**	**01 11 36.5**	**-0.6**
PARB	**Paraibuna**	**135.89**	**67**	*eP*		**PKPdf**	**01 11 36.5**	**-0.6**
LSZ	**Lusaka**	**136.41**	**316**	*iP*		**PKPdf**	**01 11 34.8**	**-3.5**
LSZ	**Lusaka**	**136.41**	**316**	*iP*		**PKPdf**	**01 11 34.8**	**-3.5**
LSZ	**Lusaka**	**136.41**	**316**	*iP*		**PKPdf**	**01 11 34.8**	**-3.5**
LSZ	**Lusaka**	**136.41**	**316**	PKIKP		**PKPdf**	**01 11 39.2**	**+0.8**
LSZ	**Lusaka**	**136.41**	**316**			**PKPdf**	**01 11 39.2**	**+0.8**
KRI	**Karoi**	**137.15**	**313**	*iP*		**PKPdf**	**01 11 37.8**	**-2.0**
KRI	**Karoi**	**137.15**	**313**	*iP*		**PKPdf**	**01 11 37.8**	**-2.0**
KRI	**Karoi**	**137.15**	**313**	*iP*		**PKPdf**	**01 11 37.8**	**-2.0**
CNLB	**Canela**	**137.31**	**78**	*eP*		**PKPdf**	**01 11 39.7**	**+0.1**
CNLB	**Canela**	**137.31**

comp=Z,0.7nm,0.4s,baz=50,slow=2.8,SNR=2.3
AKASG **Malin Array Be 151.41 324 PKPbc 01 22 24.6 -0.9**

IDC 24 01:03:54.1±3.3, 29.88S×177.26W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/46, mbtmp3.7/2, Error ellipse: s-maj=72.9km s-min=30.0km az=63.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.85**	**317**	Pn	Pn	01 04 14.5	+1.2
	baz=101,slow=22,SNR=0.7						
RAO				Sn	Sn	01 04 25.6	-0.9
	baz=100,slow=22,SNR=0.7						
ASAR	**Alice Springs**	**43.78**	**266**	P	P	01 12 01.8	0.0
	0.6nm,0.9s,baz=92,slow=6.4,SNR=1.3						
WRA	**Warramunga Arr**	**44.72**	**271**	P	P	01 12 09.0	-0.4
	0.7nm,0.3s,baz=110,slow=8.1,SNR=6.3						
FINES	**FINESS Array B**	**144.87**	**341**	PKP	PKPab	01 23 31.0	-0.4
	1.4nm,0.8s,baz=29,slow=3.2,SNR=1.4						

*IDC **24** 01:08:04.1±2.4, 28.54S×177.72W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/47, mbtmp4.0/2, Error ellipse: s-maj=56.0km s-min=27.0km az=84.0*
*NEIC **24** 01:08:07.2±1.2, 28.6S±0.1×177.4W±0.2, h35km±1km, mb4.3/7, Error ellipse: s-maj=29.7km s-min=11.4km az=122.0*
ISC 24 01:08:11.5±0.9, 29.7S±0.1×178.2W±0.2, h35km, n14, σ1s90/16, mb4.2/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.51**	**26**	Pn	**Pn**	**01 08 21.9**	**-0.5**
	284nm,0.3s,baz=196,slow=22,SNR=6.4						
RAO				Sn	**Sn**	**01 08 31.0**	**+1.1**
	777nm,0.3s,baz=92,slow=18,SNR=12						
RAO	**Raoul Island**	**0.51**	**26**		**Pn**	**01 08 21.8**	**-0.6**
RAO				Sn	**Sn**	**01 08 31.3**	**+1.4**
ASAR	**Alice Springs**	**42.99**	**266**	P	**P**	**01 16 08.5**	**+0.8**
	0.9nm,0.7s,baz=97,slow=7.6,SNR=5.6						
WB2	**Warramunga Arr**	**43.91**	**272**	P	**P**	**01 16 16.3**	**+1.2**
WB2				IAmb	IAmb	01 16 31.9	
	comp=Z,5.9nm,1.1s						
WRA	**Warramunga Arr**	**43.92**	**272**	P	**P**	**01 16 16.6**	**+1.4**
	comp=Z,1.2nm,0.3s,baz=111,slow=8.1,SNR=10						
WRA	**Warramunga Arr**	**43.92**	**272**	P	**P**	**01 16 16.2**	**+1.1**
WB0	**Warramunga Arr**	**43.94**	**272**	P	**P**	**01 16 16.5**	**+1.2**
FITZ	**Fitzroy Crossi**	**52.21**	**269**	P	**P**	**01 17 20.2**	**+1.0**
FITZ				IAmb	IAmb	01 17 28.9	
	comp=Z,4.5nm,1.1s						
PSAB2	**Pilbara Seismi**	**55.89**	**263**	P	**P**	**01 17 45.4**	**-0.7**
QSPA	**South Pole Qui**	**60.39**	**180**	P	**P**	**01 18 19.9**	**+2.8**
QSPA				IAmb	IAmb	01 18 34.5	
	comp=Z,3.4nm,1.0s						
SNAA	**Sanae**	**78.84**	**178**	P	**P**	**01 20 08.6**	**-1.9**
SNAA				IAmb	IAmb	01 20 09.2	
	comp=Z,2.7nm,1.0s						
FINES	**FINESS Array B**	**144.45**	**340**	PKP	**PKPab**	**01 27 38.2**	**-3.5**
	comp=Z,0.8nm,0.4s,baz=64,slow=3.2,SNR=8.6						
AKASG	**Malin Array Be**	**150.66**	**323**	PKPbc	**PKPdf**	**01 27 56.0**	**+2.1**
	comp=Z,2.5nm,0.5s,baz=86,slow=2.0,SNR=5.3						
AKASG	**Malin Array Be**	**150.66**	**323**		**PKPdf**	**01 27 51.3**	**-2.6**

*IDC **24** 01:08:26.7±3.8, 19.67S×70.39W, h57km±35km, mb3.4/3, mb1 3.7/6, mb1mx3.4/35, mbtmp3.8/6, ML3.8/3, Error ellipse: s-maj=42.3km s-min=22.6km az=93.0*
*GUC **24** 01:08:27.1±0.6, 19.84S×70.19W, h47km±1km, ML3.8*
*NEIC **24** 01:08:27.1±2.2, 19.83S±0.02×70.23W±0.07, h52km±6km, Error ellipse: s-maj=10.2km s-min=2.7km az=101.0*
ISC 24 01:08:26.5±0.9, 19.85S±0.03×70.24W±0.06, h46km±7km, n49, σ1s86/51, mb3.8/3, 4C-5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.28**	**24**	*e*P	**Pn**	**01 08 36.0**	**+0.8**
PSGC				*e*S	**Sn**	**01 08 41.8**	**+0.6**
PSGC				IAML		01 08 42.2	
	comp=N,14μm,0.2s						
PSGCX	**Pisagua**	**0.28**	**24**		**Pn**	**01 08 35.8**	**+0.7**
PSGCX				Sn	**Sn**	**01 08 41.9**	**+0.7**
TA02	**Huaiquique**	**0.43**	**166**	⇑*i*P	**Pn**	**01 08 37.7**	**+1.0**
TA02				*i*S	**Sn**	**01 08 44.9**	**+1.0**
PB11	**IPOC Station P**	**0.56**	**81**	⇓*e*P	**Pn**	**01 08 39.0**	**+0.6**
PB11				*i*S	**Sn**	**01 08 47.4**	**+0.4**
PB11				IAML		01 08 48.1	
	comp=N,11μm,0.2s						
PB11	**IPOC Station P**	**0.56**	**81**		**Pn**	**01 08 38.1**	**-0.3**
PB11				Sn	**Sn**	**01 08 47.1**	**+0.2**
TA01	**Diego Aracena**	**0.71**	**175**	⇑*i*P	**Pn**	**01 08 41.3**	**+1.1**
TA01				*e*S	**Sn**	**01 08 51.2**	**+1.0**
TA01				IAML		01 08 54.0	
	comp=N,14μm,0.2s						
TA01	**Diego Aracena**	**0.71**	**175**		**Pn**	**01 08 41.2**	**+0.9**
TA01				Sn	**Sn**	**01 08 51.0**	**+0.8**
MNMC	**Minye Minye**	**0.94**	**41**	⇓*i*P	**Pn**	**01 08 44.5**	**+0.9**
MNMC				*i*S	**Sn**	**01 08 57.7**	**+1.6**
MNMC				IAML		01 09 02.6	
	comp=E,4μm,0.1s						
MNMC	**Minye Minye**	**0.94**	**41**		**Pn**	**01 08 43.7**	**+0.1**
GO01	**Chusmiza**	**1.01**	**80**		**Pn**	**01 08 45.6**	**+1.0**
PB08	**IPOC Station P**	**1.07**	**106**	⇓*i*P	**Pn**	**01 08 46.4**	**+1.0**
PB08				*i*S	**Sn**	**01 08 59.7**	**+0.4**
PB08	**IPOC Station P**	**1.07**	**106**		**Pn**	**01 08 45.6**	**+0.2**
PB12	**IPOC Station P**	**1.23**	**356**	⇓*i*P	**Pn**	**01 08 48.8**	**+1.4**
PB12				*e*S	**Sn**	**01 09 04.8**	**+1.9**
PB12				IAML		01 09 05.7	
	comp=E,3μm,0.2s						
PB12	**IPOC Station P**	**1.23**	**356**		**Pn**	**01 08 48.7**	**+1.4**
PB01	**IPOC Station P**	**1.38**	**149**	⇑*e*P	**Pn**	**01 08 50.4**	**+0.9**
PB01				*i*S	**Sn**	**01 09 07.5**	**+0.9**
PB01				IAML		01 09 09.8	
	comp=E,2μm,0.2s						
PB01				⇑*e*		01 09 10.5	
PB01	**IPOC Station P**	**1.38**	**149**		**Pn**	**01 08 50.6**	**+1.1**
AP01	**Chacalluta**	**1.48**	**356**	*e*P	**Pn**	**01 08 52.7**	**+2.1**
AP01				*e*S	**Sn**	**01 09 11.7**	**+3.0**
AP01				IAML		01 09 17.1	
	comp=E,4μm,0.4s						
AP01	**Chacalluta**	**1.48**	**356**		**Pn**	**01 08 52.9**	**+2.3**
PB02	**IPOC Station P**	**1.50**	**167**	⇓*e*P	**Pn**	**01 08 52.9**	**+1.8**
PB02				*i*S	**Sn**	**01 09 12.0**	**+2.6**
PB02				IAML		01 09 14.0	
	comp=E,2μm,0.3s						
PB07	**IPOC Station P**	**1.90**	**170**		**Pn**	**01 08 58.6**	**+2.0**
PB09	**IPOC Station P**	**2.15**	**154**		**Pn**	**01 09 02.7**	**+2.7**
PB04	**IPOC Station P**	**2.47**	**178**		**Pn**	**01 09 05.4**	**+0.9**
PB06	**IPOC Station P**	**2.91**	**168**		**Pn**	**01 09 11.4**	**+1.0**
LVC	**Limon Verde**	**3.01**	**156**	P	**Pn**	**01 09 14.9**	**+2.8**
	comp=E,11nm,0.3s,baz=334,slow=10,SNR=127						
LVC				S	**Sn**	**01 09 53.4**	**+6.3**
	comp=E,18nm,0.3s,baz=93,slow=23,SNR=3.0						
PB15	**IPOC Station P**	**3.42**	**168**		**Pn**	**01 09 16.3**	**-1.2**
PB10	**IPOC Station P**	**3.66**	**184**	Pn	**Pn**	**01 09 19.7**	**-0.9**
LPAZ	**La Paz**	**4.07**	**30**	P	**Pn**	**01 09 31.2**	**+4.4**
	comp=E,3.2nm,0.3s,baz=174,slow=2.2,SNR=58						
LPAZ	**La Paz**	**4.07**	**30**		Pn	01 09 31.9	+5.1
GO02	**Mina Guanaco**	**5.32**	**178**		**Pn**	**01 09 44.4**	**+0.7**
AC01	**Pan de Azucar**	**6.28**	**183**	Pn	**Pn**	**01 09 55.0**	**-1.5**
SIV	**San Ignacio**	**9.54**	**68**	P	**Pn**	**01 10 41.9**	**+0.6**
	comp=E,1.4nm,0.3s,baz=267,slow=10,SNR=30						
CFA	**Coronel Fontan**	**11.84**	**172**	P	**Pn**	**01 11 16.2**	**+3.4**
	comp=E,0.4nm,0.3s,baz=302,slow=9.5,SNR=9.4						
H03N1	**Juan Fernandez**	**15.59**	**208**	T	T	01 28 08.2	
	baz=32,slow=72,SNR=142						
H03N2	**Juan Fernandez**	**15.59**	**208**	T	T	01 28 08.3	
	baz=32,slow=72,SNR=112						
H03N3	**Juan Fernandez**	**15.60**	**208**	T	T	01 28 06.9	
	baz=32,slow=72,SNR=124						
TRQA	**Tornquist**	**19.51**	**160**		**P**	**01 12 48.0**	**-1.9**
PTGA	**Pitinga**	**21.50**	**29**	P	**P**	**01 13 10.3**	**-1.3**
	comp=E,1.2nm,0.3s,baz=27,slow=11,SNR=2.4						
PTGA	**Pitinga**	**21.50**	**29**	IAmb	IAmb	01 13 25.3	
	comp=Z,6.3nm,1.3s						
RUSC	**La Rusia**	**25.73**	**353**	P	**P**	**01 13 53.8**	**+0.4**
PDAR	**Pinedale Array**	**72.07**	**331**	P	**P**	**01 19 43.6**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=110,slow=7.0,SNR=1.6						
TORD	**Torodi Ar. Bea**	**78.00**	**71**	P	**P**	**01 20 19.9**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=255,slow=5.2,SNR=8.0						
TORD	**Torodi Ar. Bea**	**78.00**	**71**	P	**P**	**01 20 19.7**	**-0.9**

H11S2	**WAKE ISLAND Hyl**	**26.41**	**279**	T	T	03 46 44.3	
	baz=102,slow=75,SNR=127						
H11S1	**WAKE ISLAND Hyl**	**26.42**	**279**	T	T	03 46 43.9	
	baz=102,slow=75,SNR=125						
H11S3	**WAKE ISLAND Hyl**	**26.43**	**279**	T	T	03 46 44.9	
	baz=102,slow=75,SNR=155						
H11N3	**WAKE ISLAND Hyl**	**26.45**	**280**	T	T	03 46 45.9	
	baz=100,slow=75,SNR=57						
H11N2	**WAKE ISLAND Hyl**	**26.47**	**280**	T	T	03 46 47.7	
	baz=100,slow=75,SNR=59						
H11N1	**WAKE ISLAND Hyl**	**26.47**	**280**	T	T	03 46 49.1	
	baz=100,slow=75,SNR=73						
MKAR	**Makanchi Array**	**145.00**	**34**	PKP	PKPbc	01 27 56.8	-1.3
	comp=Z,0.7nm,0.7s,baz=338,slow=1.6,SNR=5.5						

*NEIC **24** 01:08:35.2±1.4, 51.7N±0.1×178.2E±0.1, h132km±1km, Error ellipse: s-maj=15.8km s-min=9.0km az=201.0*
AEIC 24 01:08:37±0.9, 51.8N±0.1×178.2E±0.1, h121km±4km, ML2.8, Error ellipse: s-maj=15.5km s-min=8.8km az=198.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.28**	**49**		Pn	01 08 53.5	-0.4
LSNW	**Little Sitkin**	**0.28**	**38**		Pn	01 08 53.5	-0.4
LSNW					Sn	01 09 07.7	+0.9
LSPA	**Little Sitkin**	**0.30**	**45**		Pn	01 08 53.7	-0.3
AMKA	**Amchitka**	**0.76**	**119**		Pn	01 08 56.5	-0.4
AMKA					Sn	01 09 11.2	-0.7
CEAP	**Semis' Anvil P**	**0.87**	**73**		Pn	01 08 57.0	-0.8
CERAA	**Semis' Rag'd T**	**0.92**	**80**		Pn	01 08 57.1	-1.1
CERAA					Sn	01 09 14.2	-0.1
GAEA	**Gareloi East**	**1.88**	**88**		Pn	01 09 08.3	-0.6
TANO	**Tanaga North**	**2.27**	**84**		Pn	01 09 13.2	-0.6
TASE	**Tanaga Southea**	**2.32**	**86**		Pn	01 09 14.1	-0.4
TAFP	**Tanaga Falls P**	**2.35**	**85**		Pn	01 09 14.1	-0.8
TAFP					Sn	01 09 42.5	-1.5
SMY	**Shemya**	**2.72**	**293**	Pn	Pn	01 09 18.6	-1.0
KIMD	**Kanaga Island**	**2.82**	**88**		Pn	01 09 20.0	-0.8
KIKV	**Kanaga Island**	**2.86**	**86**		Pn	01 09 20.8	-0.6
KIRH	**Kanaga Island**	**2.91**	**85**		Pn	01 09 21.3	-0.7
ADK	**Adak**	**3.16**	**86**		Pn	01 09 24.2	-1.1
GSTR	**Great Sitkin T**	**3.55**	**82**		Pn	01 09 29.3	-1.2
NIKH	**Nikolski High**	**8.00**	**76**	Pn	Pn	01 10 30.4	+0.1
BMAR	**Burnt Mountain**	**23.97**	**35**	P	P	01 13 37.1	-2.7

IDC 24 01:14:22.5±1.6, 5.50S×133.85E, h0km, mb3.7/1, mb1 3.8/6, mb1mx3.6/41, mbtmp3.7/6, ML3.4/4, Error ellipse: s-maj=32.7km s-min=26.2km az=95.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIJI	**Sorong**	**5.27**	**331**	Pn	Pn	01 15 42.1	-0.5
	3.5nm,0.3s,baz=16,slow=23,SNR=9.1						
SIJI				Sn	Sn	01 16 35.5	-8.7
	4.4nm,0.3s,baz=168,slow=23,SNR=2.4						
JAY	**Jayapura**	**7.45**	**67**	Pn	Pn	01 16 12.4	-0.3
	0.5nm,0.3s,baz=238,slow=6.3,SNR=4.0						
JAY				Sn	Sn	01 17 40.0	+2.0
	0.2nm,0.3s,baz=273,slow=23,SNR=1.3						
WRA	**Warramunga Arr**	**14.37**	**178**	Pn	Pn	01 17 46.9	-0.5
	0.1nm,0.3s,baz=359,slow=13,SNR=6.0						
WRA				Sn	Sn	01 20 16.4	-11
	0.1nm,0.3s,baz=11,slow=9.7,SNR=1.2						
FITZ	**Fitzroy Crossi**	**14.87**	**212**	Pn	Pn	01 17 54.3	+0.1
	0.2nm,0.3s,baz=36,slow=13,SNR=14						
FITZ				Sn	Sn	01 20 30.6	-9.2
	0.7nm,0.3s,baz=197,slow=18,SNR=6.7						
ASAR	**Alice Springs**	**18.06**	**180**	P	Pn	01 18 35.0	-0.1
	baz=4.0,slow=10,SNR=2.9						
ASAR				S	S	01 22 12.0	+8.2
	0.1nm,0.3s,baz=13,slow=25,SNR=1.5						
MKAR	**Makanchi Array**	**69.14**	**325**	P	P	01 25 31.0	+0.2
	0.4nm,0.8s,baz=112,slow=7.7,SNR=4.3						

*NEIC **24** 01:15:21.8±1.4, 52.0N±0.1×178.28E±0.07, h127km±3km, Error ellipse: s-maj=15.9km s-min=5.7km az=191.0*
*AEIC **24** 01:15:22.1±1.4, 51.97N±0.09×178.28E±0.08, h126km±4km, ML3.8, mb4.0/11(NEIC), Error ellipse: s-maj=13.5km s-min=6.9km az=181.0*
*IDC **24** 01:15:24.4±5.3, 52.34N×178.48E, h134km±45km, mb3.1/6, mb1 3.4/8, mb1mx3.2/57, mbtmp3.6/8, Error ellipse: s-maj=49.0km s-min=20.0km az=178.0*
ISC 24 01:15:22.0±0.7, 52.0N±0.1×178.30E±0.05, h128km±6km, n53, σ1s96/53, mb3.5/9, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.14**	**100**		**Pn**	**01 15 39.5**	**+0.1**
LSSA	**Little Sitkin**	**0.14**	**109**		**Pn**	**01 15 39.7**	**+0.2**
LSPA	**Little Sitkin**	**0.18**	**102**		**Pn**	**01 15 39.3**	**-0.3**
CETU	**Semis' Tuman**	**0.74**	**92**		**Pn**	**01 15 42.8**	**+0.4**
CETU					**Sn**	**01 15 58.6**	**+0.7**
CESW	**Semis' Southwe**	**0.79**	**96**		**Pn**	**01 15 43.0**	**+0.1**
CERAA	**Semis' Rag'd T**	**0.86**	**95**		**Pn**	**01 15 43.7**	**+0.3**
CERAA					**Sn**	**01 15 59.9**	**+0.2**
AMKA	**Amchitka**	**0.88**	**134**		**Pn**	**01 15 43.5**	**-0.1**
AMKA					**Sn**	**01 15 58.5**	**-1.5**
GAEA	**Gareloi East**	**1.84**	**95**		**Pn**	**01 15 54.0**	**+0.1**
TASE	**Tanaga Southea**	**2.28**	**93**		**Pn**	**01 15 59.2**	**0.0**
TAFP	**Tanaga Falls P**	**2.30**	**91**		**Pn**	**01 15 59.4**	**-0.2**
TAFP					**Sn**	**01 16 28.3**	**-0.2**
TAPA	**Tanaga Point A**	**2.42**	**93**		**Pn**	**01 16 00.8**	**-0.2**
SMY	**Shemya**	**2.68**	**288**		**Pn**	**01 16 03.9**	**-0.3**
SMY	**Shemya**	**2.68**	**288**		**Sn**	**01 16 36.9**	**+0.1**
KIMD	**Kanaga Island**	**2.78**	**93**		**Pn**	**01 16 05.1**	**-0.5**
KICM	**Kanaga Island**	**2.79**	**90**		**Pn**	**01 16 05.6**	**-0.2**
KIKV	**Kanaga Island**	**2.81**	**91**		**Pn**	**01 16 05.8**	**-0.2**
ADK	**Adak**	**3.11**	**90**		**Pn**	**01 16 09.5**	**-0.4**
GSTR	**Great Sitkin T**	**3.49**	**86**		**Pn**	**01 16 14.4**	**-0.4**
ATKA	**Atka Island**	**4.63**	**84**		**Pn**	**01 16 29.1**	**-1.0**
NIKH	**Nikolski High**	**7.91**	**78**	Pn	**Pn**	**01 17 15.3**	**+1.2**
PEA0B	**Petropavlovsk-**	**12.58**	**283**	Pn	**Pn**	**01 18 13.0**	**-3.3**
PETK	**Petropavlovsk-**	**12.58**	**283**	P	**Pn**	**01 18 19.3**	**+3.0**
	0.5nm,0.3s,baz=92,slow=18,SNR=8.0						
SDPT	**Sand Point**	**13.01**	**67**	Pn	**Pn**	**01 18 21.6**	**-0.3**
SII	**Sitkinak Islan**	**16.65**	**63**	Pn	**Pn**	**01 19 06.3**	**-1.2**
SVW2	**Sparrevohn**	**16.93**	**47**		**Pn**	**01 19 12.6**	**+1.7**
OHAK	**Old Harbor**	**17.20**	**61**	P	**P**	**01 19 12.3**	**-1.4**
OHAK				IAmb	IAmb	01 19 20.0	
	comp=Z,10nm,1.2s						
KDAK	**Kodiak Island**	**17.63**	**59**	P	**P**	**01 19 17.0**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=284,slow=8.2,SNR=20						
KDAK	**Kodiak Island**	**17.63**	**59**	IAmb	IAmb	01 19 21.0	
	comp=Z,6.2nm,0.8s						
CNPM	**China Poot**	**18.59**	**54**	P	**P**	**01 19 29.8**	**+0.8**
CNPM				IAmb	IAmb	01 19 30.7	
	comp=Z,11nm,0.8s						
TRF	**Thorofare Moun**	**20.08**	**43**	P	**P**	**01 19 45.8**	**+0.6**
TRF				IAmb	IAmb	01 19 49.3	
	comp=Z,5.7nm,0.8s						
ILAR	**Eielson Array**	**21.93**	**41**	P	**P**	**01 20 02.6**	**-2.1**
	comp=Z,0.4nm,0.4s,baz=244,slow=9.1,SNR=7.3						
ILAR	**Eielson Array**	**21.93**	**41**	P	**P**	**01 20 02.0**	**-2.8**
RIDG	**Independent Ri**	**22.49**	**44**	P	**P**	**01 20 10.4**	**0.0**
RIDG				IAmb	IAmb	01 20 26.1	
	comp=Z,8.6nm,1.4s						
DOT	**Dot Lake**	**22.80**	**45**	P	**P**	**01 20 13.2**	**-0.3**
YAH	**Yahtse**	**23.43**	**53**	P	**P**	**01 20 20.2**	**+0.6**
BCAR	**Beaver Creek A**	**23.70**	**47**	P	**P**	**01 20 21.0**	**-0.8**
BMAR	**Burnt Mountain**	**23.75**	**35**	P	**P**	**01 20 22.7**	**+0.6**
EGAK	**Eagle**	**24.29**	**43**	P	**P**	**01 20 27.7**	**+0.6**
EGAK				IAmb	IAmb	01 20 29.4	
	comp=Z,5.1nm,0.9s						
USA0B	**Ussuriysk Arra**	**31.43**	**274**	P	**P**	**01 21 31.8**	**+0.9**
USA0B				IAmb	IAmb	01 21 35.6	
	comp=Z,2.4nm,0.9s						
YKA	**Yellowknife Ar**	**36.12**	**47**	P	**P**	**01 22 10.1**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=278,slow=7.8,SNR=4.6						
NVAR	**Mina Array Bea**	**45.26**	**81**	P	**P**	**01 23 27.8**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=306,slow=7.7,SNR=2.7						
NVAR	**Mina Array Bea**	**45.26**	**81**	P	**P**	**01 23 27.5**	**+0.8**
SPITS	**Spitsbergen Ar**	**49.62**	**355**	P	**P**	**01 23 59.9**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=8.7,slow=10,SNR=1.9						
MKAR	**Makanchi Array**	**58.22**	**307**	P	**P**	**01 25 02.9**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=61,slow=6.5,SNR=1.8						
MKAR	**Makanchi Array**	**58.22**	**307**	P	**P**	**01 25 01.8**	**-0.7**
TXAR	**Lajitas Array**	**60.33**	**79**	P	**P**	**01 25 18.1**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=316,slow=4.6,SNR=4.3						
TXAR	**Lajitas Array**	**60.33**	**79**	P	**P**	**01 25 17.7**	**+0.3**
TORD	**Torodi Ar. Bea**	**115.06**	**356**	PKP	**PKiKP**	**01 33 47.5**	**-0.6**
	comp=Z,0.4nm,1.1s,baz=340,slow=2.4,SNR=1.4						
H03N2	**Juan Fernandez**	**123.05**	**103**	T	T	03 49 44.8	
	baz=314						
H03N1	**Juan Fernandez**	**123.06**	**103**	T	T	03 49 42.3	
	baz=314						
H03N3	**Juan Fernandez**	**123.07**	**103**	T	T	03 49 47.2	
	baz=314						
BOSA	**Boshof**	**149.20**	**309**	PKPbc	**PKiKP**	**01 34 56.5**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=247,slow=4.2,SNR=1.6						
BOSA	**Boshof**	**149.20**	**309**		**PKiKP**	**01 34 56.1**	**-0.3**

*IDC **24** 01:15:33.6±1.9, 30.17S×177.61W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/43, mbtmp4.0/5, ML3.3/1, Error ellipse: s-maj=43.8km s-min=19.8km az=86.0*
*NEIC **24** 01:15:36.1±1.4, 30.20S±0.07×177.6W±0.2, h19km±6km, mb4.3/8, Error ellipse: s-maj=21.2km s-min=5.7km az=65.0*
ISC 24 01:15:38.8±1.2, 30.16S±0.08×177.7W±0.2, h35km, n16, σ0s85/16, mb4.3/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.93**	**346**	Pn	**Pn**	**01 15 54.7**	**-0.6**
	288nm,0.3s,baz=50,slow=23,SNR=9.5						
RAO				Sn	**Sn**	**01 16 08.4**	**+0.8**
	907nm,0.3s,baz=92,slow=18,SNR=10						
THZ	**Tophouse**	**13.86**	**211**	Pn	**Pn**	**01 18 51.9**	**-0.8**
MQZ	**McQueen's Vall**	**15.56**	**207**	Pn	**Pn**	**01 19 16.5**	**+1.1**
MQZ				IAmb	IAmb	01 19 26.8	
	comp=Z,18nm,1.0s						
DZM	**Mont Dzumac**	**16.38**	**296**	Pn	**Pn**	**01 19 26.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=124,slow=18,SNR=1.2						
CTA	**Charters Tower**	**34.05**	**279**	P	**P**	**01 22 20.5**	**+0.7**
	comp=Z,1.2nm,0.3s,baz=97,slow=8.1,SNR=1.8						
AS31	**Alice Springs**	**43.41**	**267**	P	**P**	**01 23 37.7**	**-0.6**
ASAR	**Alice Springs**	**43.41**	**267**	P	**P**	**01 23 37.5**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=107,slow=7.6,SNR=1.9						
WB2	**Warramunga Arr**	**44.37**	**272**	P	**P**	**01 23 45.4**	**-0.6**
WB2				IAmb	IAmb	01 23 49.1	
	comp=Z,4.5nm,0.9s						
WRA	**Warramunga Arr**	**44.38**	**272**	P	**P**	**01 23 46.6**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=110,slow=8.1,SNR=4.9						
WRA	**Warramunga Arr**	**44.38**	**272**	IAmb	IAmb	01 23 48.9	
	comp=Z,0.2nm,0.7s						
WB0	**Warramunga Arr**	**44.40**	**272**	P	**P**	**01 23 45.5**	**-0.7**
VNDA	**Vanda**	**48.36**	**186**	P	**P**	**01 24 16.6**	**+0.1**
	comp=Z,1.9nm,1.1s,baz=32,slow=9.6,SNR=2.7						
VNDA	**Vanda**	**48.36**	**186**	P	**P**	**01 24 18.3**	**+1.8**
VNDA				IAmb	IAmb	01 24 22.0	
	comp=Z,3.7nm,1.1s						
CASY	**Casey**	**55.48**	**208**	P	**P**	**01 25 09.6**	**-0.1**
CASY				IAmb	IAmb	01 25 19.9	
	comp=Z,1.7nm,0.8s						
QSPA	**South Pole Qui**	**59.95**	**180**	P	**P**	**01 25 40.9**	**-0.4**
QSPA				IAmb	IAmb	01 25 57.1	
	comp=Z,3.2nm,0.9s						
FINES	**FINESS Array B**	**145.02**	**340**	PKPbc	**PKPbc**	**01 35 10.4**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=66,slow=3.4,SNR=21						

*IDC **24** 01:15:58.8±4.5, 51.98N×178.45E, h100km±41km, mb3.9/16, mb1 4.1/18, mb1mx3.8/54, mbtmp4.3/18, Error ellipse: s-maj=23.5km s-min=11.7km az=169.0*
*NEIC **24** 01:16:00.9±1.7, 51.95N±0.09×178.43E±0.09, h122km±5km, Error ellipse: s-maj=13.9km s-min=7.5km az=193.0*
*AEIC **24** 01:16:01±2.0, 51.9N±0.1×178.36E±0.09, h123km±4km, ML3.8, mb4.4/107(NEIC), Error ellipse: s-maj=18.6km s-min=8.2km az=181.0*
*UNK **24** 01:16:01.0, 51.89N×178.36E, h123km*
ISC 24 01:16:00.3±0.7, 51.92N±0.09×178.35E±0.04, h120km±5km, n358, σ0s92/343, mb4.4/57, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.11**	**63**		**Pn**	**01 16 17.4**	**+0.6**
LSPA	**Little Sitkin**	**0.14**	**75**		**Pn**	**01 16 17.7**	**+1.0**
LSPA					**Sn**	**01 16 31.2**	**+2.1**
CESW	**Semis' Southwe**	**0.75**	**91**		**Pn**	**01 16 20.4**	**+0.4**
CEAP	**Semis' Anvil P**	**0

ILAR Eielson Array 21.96 41 P P 01 20 42.0 -2.1
RAGM Ragged Mountai 22.00 53 P P 01 20 44.7 +0.1
RIDG Independent Ri 22.52 44 P P 01 20 48.4 -1.4
RIDG IAmb IAmb 01 20 52.2
comp=Z,21nm,1.5s
TOLK Toolik Lake Re 22.66 30 P P 01 20 52.8 +1.6
baz=238
VRDI Verde Repeater 22.69 51 P P 01 20 51.5 -0.1
PRP Porcupine Dome 22.75 39 P P 01 20 51.3 -0.9
CRQM Cirque 22.79 52 P P 01 20 53.0 +0.4
DOT Dot Lake 22.83 45 P P 01 20 51.9 -0.9
WAX Waxell Ridge 22.91 53 P P 01 20 54.0 +0.4
MCARA McCarthy VSAT 22.91 51 P P 01 20 53.7 +0.1
MCARA IAmb IAmb 01 21 04.0
comp=Z,12nm,0.6s
YAH Yahtse 23.45 53 P P 01 20 59.1 +0.2
BARN Barnard Glacie 23.54 52 P P 01 20 59.8 +0.2
CTGM Chitina Glacie 23.69 52 IAmb IAmb 01 21 03.8
comp=Z,16nm,0.6s
BCAR Beaver Creek A 23.73 47 P P 01 21 01.2 0.0
BMAR Burnt Mountain 23.79 35 P P 01 21 01.2 -0.4
EGAK Eagle 24.32 42 P P 01 21 06.3 -0.1
DAWY Dawson 24.94 45 P P 01 21 12.6 +0.4
DAWY IAmb IAmb 01 21 15.4
comp=Z,12nm,0.8s
HYT Haines Junctio 25.55 52 P 01 21 18.3 +0.5
EPYK Eagle Plains 26.46 40 P P 01 21 25.6 -0.1
baz=259,SNR=5.8
EPYK Eagle Plains 26.46 40 P P 01 21 25.1 -0.7
EPYK IAmb IAmb 01 21 26.9
comp=Z,7.4nm,0.8s
INK Inuvik 28.05 36 P P 01 21 39.9 +0.1
comp=Z,1.4nm,0.4s,baz=284,slow=10,SNR=7.5
INK Inuvik 28.05 36 P P 01 21 39.9 +0.1
KLR Kul'dur 29.33 283 P P 01 21 52.5 +1.1
comp=Z,3.2nm,0.5s,baz=58,slow=9.7,SNR=15
A36M Sachs Harbour 31.48 30 P P 01 22 11.8 +1.7
baz=261
H11N2 WAKE ISLAND Hy 33.35 200 T T 01 58 08.8
baz=14
H11N3 WAKE ISLAND Hy 33.37 200 T T 01 58 10.8
baz=14
H11N1 WAKE ISLAND Hy 33.37 200 T T 01 58 08.2
baz=14
H11S1 WAKE ISLAND Hy 34.58 200 T T 01 59 35.7
baz=10
H11S2 WAKE ISLAND Hy 34.60 200 T T 01 59 48.0
baz=10
H11S3 WAKE ISLAND Hy 34.60 200 T T 01 59 43.9
baz=10
YKA Yellowknife Ar 36.14 46 P P 01 22 50.6 +0.1
comp=Z,2.1nm,0.6s,baz=280,slow=8.4,SNR=15
D03D Eldon 37.22 73 P P 01 23 01.0 +1.2
baz=299
E04D Cinebar 38.02 74 P P 01 23 07.6 +1.1
baz=300
H04D Lebanon 38.98 77 P P 01 23 14.7 +0.1
baz=303
I04A Tendick Farm, 39.57 78 P P 01 23 20.1 +0.5
baz=303
G06A Carlson Farm, 39.86 75 P P 01 23 21.3 -0.7
G06A IAmb IAmb 01 23 26.2
comp=Z,4.6nm,0.7s
I05D Terrebonne, OR 39.92 76 P P 01 23 22.9 +0.5
baz=303
KRMB Red Mountain 39.94 82 P P 01 23 24.4 +1.7
KRMB IAmb IAmb 01 23 24.8
comp=Z,15nm,1.4s
NEW Newport 40.35 69 P P 01 23 25.6 -0.3
baz=300
NEW Newport 40.35 69 P 01 23 25.7 -0.3
NEW IAmb IAmb 01 23 26.2
comp=Z,6.9nm,0.9s
L04D Klamath Falls 40.52 80 P P 01 23 27.6 0.0
baz=305
YBH Yreka Blue Hor 40.55 80 P P 01 23 27.9 +0.1
comp=Z,4.9nm,0.8s,baz=337,slow=5.6,SNR=13
YBH Yreka Blue Hor 40.55 80 P P 01 23 28.6 +0.9
YBH IAmb IAmb 01 23 30.2
comp=Z,6.0nm,0.9s
J05D Fort Rock, OR 40.56 78 P P 01 23 28.3 +0.4
baz=304
M02C Callahan 40.66 81 P P 01 23 29.7 +1.0
baz=306
N02D Trinity Center 40.99 81 P P 01 23 32.3 +0.9
baz=306
M04C Macdoel 41.05 80 P P 01 23 32.5 +0.6
baz=305
K05A Summer Lake 41.09 78 P P 01 23 33.1 +0.9
K05A IAmb IAmb 01 23 33.9
comp=Z,4.8nm,0.5s
I07A Izee 41.16 75 P P 01 23 33.1 +0.3
WALA Waterton Lakes 41.78 66 P P 01 23 37.4 -0.4
WALA IAmb IAmb 01 23 38.2
comp=Z,7.3nm,0.8s
MOD Modoc Plateau 41.92 79 P P 01 23 39.6 +0.6
MOD IAmb IAmb 01 23 41.3
comp=Z,5.4nm,0.6s
O03E Paynes Creek 41.95 82 P P 01 23 39.5 +0.3
baz=307,SNR=9.7
BMO Blue Mountains 42.05 73 P P 01 23 39.7 -0.2
WVOR Wild Horse Val 42.62 77 P P 01 23 44.8 +0.2
PAHR Pah Rah Range 43.78 81 P P 01 23 54.6 +0.6
PAHR IAmb IAmb 01 23 55.7
comp=Z,9.5nm,1.3s
PNTR Pine Nut 44.03 82 P P 01 23 57.1 +0.9
CMB Columbia Colle 44.20 83 P P 01 23 58.1 +0.8
CMB IAmb IAmb 01 23 59.3
comp=Z,7.9nm,1.2s
HRY Holter Researc 44.22 68 P P 01 23 56.0 -1.4
HLID Hailey 44.49 73 P P 01 23 59.1 -0.5
baz=306,SNR=6.5
HLID Hailey 44.49 73 P 01 23 58.9 -0.8
WAKR Walker 44.49 82 P P 01 24 00.7 +0.9
WAKR IAmb IAmb 01 24 01.7
comp=Z,13nm,1.2s
EGMT Eagleton 44.67 65 P P 01 23 59.9 -1.0
baz=303
MCMT McKenzie Canyo 44.68 71 P P 01 24 00.4 -0.9
SONM Songino Array 44.81 295 P P 01 24 02.3 +0.2
comp=Z,0.9nm,0.4s,baz=70,slow=8.5,SNR=3.5
BOZ Bozeman (W) 44.95 69 P P 01 24 02.3 -1.0
baz=305,SNR=8.1
KVN Kaiserville 44.97 81 P P 01 24 04.0 +0.4
KVN IAmb IAmb 01 24 05.3
comp=Z,3.2nm,0.5s
RYN Ryan 44.98 81 P P 01 24 04.1 +0.6
RYN IAmb IAmb 01 24 04.8
comp=Z,6.2nm,0.5s
NVAR Mina Array Bea 45.23 81 P P 01 24 06.2 +0.5
comp=Z,3.0nm,0.5s,baz=294,slow=7.7,SNR=18
NVAR Mina Array Bea 45.23 81 P P 01 24 06.3 +0.6
FFC Flin Flon 45.26 53 P P 01 24 03.1 -2.2
MDPB Devils Postpil 45.26 83 P P 01 24 06.4 +0.5
MDPB IAmb IAmb 01 24 07.6
comp=Z,7.1nm,0.7s
NV11 Mina Array Sit 45.32 81 P P 01 24 06.9 +0.6
ELK Elko 45.67 77 P P 01 24 09.4 +0.3
VES Vestal, Richgr 46.41 85 P P 01 24 15.0 +0.4
baz=311
RLMT Red Lodge 46.59 68 P P 01 24 15.8 -0.4
baz=306
RLMT Red Lodge 46.59 68 P P 01 24 15.3 -1.0
CWC Cottonwood Cre 46.64 83 P P 01 24 16.8 +0.2
baz=310
BGU Big Grassy Mou 46.89 75 P 01 24 18.1 -0.5
R11A Troy Canyon, C 46.95 80 P P 01 24 19.0 -0.1
baz=309,SNR=14
R11A Troy Canyon, C 46.95 80 P P 01 24 19.2 +0.1
R11A IAmb IAmb 01 24 20.0
comp=Z,3.8nm,0.6s
MPMC Manual Prospec 47.25 83 P P 01 24 21.7 +0.3
baz=311,SNR=5.6
FURC Furnace Creek, 47.37 82 P P 01 24 22.9 +0.8
baz=310
TPNV Topopah Spring 47.43 82 P P 01 24 23.1 +0.3
baz=310,SNR=9.4
TPNV Topopah Spring 47.43 82 P P 01 24 23.3 +0.5
TPNV IAmb IAmb 01 24 24.3
comp=Z,7.2nm,0.8s
DUG Dugway, Tooele 47.47 76 P P 01 24 22.6 -0.4
baz=308,SNR=6.7
DUG Dugway, Tooele 47.47 76 P 01 24 23.2 +0.2
DUG IAmb IAmb 01 24 24.0
comp=Z,4.8nm,0.8s
BW06 Boulder Array 47.82 71 P P 01 24 25.3 -0.5
baz=307,SNR=5.7
BW06 Boulder Array 47.82 71 P P 01 24 24.4 -1.4
PD31 Pinedale Array 47.82 71 P P 01 24 25.0 -0.8
PDAR Pinedale Array 47.82 71 P P 01 24 25.1 -0.8
comp=Z,3.3nm,0.7s,baz=302,slow=3.7,SNR=26
PDAR Pinedale Array 47.82 71 P P 01 24 24.2 -1.6
PSUT Pine Spring 47.88 78 P P 01 24 25.9 -0.4
SHOC Shoshone, Teco 48.10 83 P P 01 24 28.0 +0.3
baz=311
GSC Goldstone, Bar 48.16 84 P P 01 24 28.8 +0.5
baz=311,SNR=11
GSC Goldstone, Bar 48.16 84 P P 01 24 28.8 +0.5
BFSC Mount Baldy Ra 48.34 85 P P 01 24 30.3 +0.5
baz=312
CCUT Cedar City 48.81 79 P P 01 24 33.5 +0.1
TMUT Trail Mountain 48.99 76 P P 01 24 35.2 +0.2
GMRC Granite Mounta 49.21 83 P P 01 24 36.6 +0.2
baz=312,SNR=5.6
KNB Kanab 49.48 79 P P 01 24 39.1 +0.6
BELC Belle Mtn. Jos 49.52 84 P P 01 24 38.7 -0.1
baz=312
K22A Casper 49.66 69 P P 01 24 39.1 -0.7
baz=308
SPA0 Spitsbergen Ar 49.70 355 P P 01 24 40.3 +0.9
SPA0 IAmb IAmb 01 24 58.6
comp=Z,9.1nm,1.1s
SPITS Spitsbergen Ar 49.70 355 P P 01 24 39.7 +0.3
comp=Z,0.9nm,0.4s,baz=62,slow=7.7,SNR=12
IRM Iron Mountain 49.94 84 P P 01 24 42.0 +0.2
baz=312
BC3 Big Chuckawall 50.09 84 P P 01 24 43.2 +0.1
baz=312
RSSD Black Hills 50.18 66 P P 01 24 42.7 -1.0
baz=308
U15A North Rim 50.19 79 P P 01 24 44.5 +0.6
U15A IAmb IAmb 01 24 45.4
comp=Z,4.6nm,0.6s
O20A White River Ci 50.23 73 P P 01 24 43.3 -0.8
baz=310,SNR=5.3
IKP In-Ko-Pah, Jac 50.36 86 P P 01 24 45.5 +0.4
baz=313
PDMCI Parker Dam,Lak 50.46 83 P P 01 24 45.9 +0.2
baz=312
ULM Lac du Bonnet 50.85 56 P P 01 24 47.9 -0.6
comp=Z,3.3nm,0.5s,baz=3.4,slow=7.5,SNR=3.1
ULM Lac du Bonnet 50.85 56 IAmb IAmb 01 24 48.4
comp=Z,3.9nm,0.6s
GLA Glamis 50.88 84 P P 01 24 49.5 +0.5
baz=313
PV04 Paradox Valley 50.95 75 P P 01 24 49.3 -0.3
PV04 IAmb IAmb 01 24 50.0
comp=Z,4.5nm,0.6s
PV17 East Wray Mesa 50.99 75 P P 01 24 49.7 -0.2
PV03 Paradox Valley 51.08 75 P P 01 24 50.2 -0.3
PV03 IAmb IAmb 01 24 50.6
comp=Z,4.2nm,0.6s
N23A Red Feather La 51.10 71 P P 01 24 50.5 -0.2
baz=310
PV01 Paradox Valley 51.32 75 P P 01 24 51.5 -0.9
WUAZ Wupatki 51.35 80 P P 01 24 52.6 +0.1
baz=312
MVCO Mesa Verde 51.97 76 P P 01 24 56.9 -0.3
baz=311
AGMN Agassiz Nation 52.06 58 P P 01 24 56.5 -0.9
S22A 4UR Ranch, Cre 52.61 74 P P 01 25 01.6 -0.5
baz=311
214A Organ Pipe Nat 52.87 84 P P 01 25 03.8 +0.1
baz=314
TUC Tucson 53.87 82 P P 01 25 11.3 +0.2
baz=314
T25A Trinidad 54.45 73 P P 01 25 15.4 0.0
baz=312
EYMN Ely 54.54 56 P P 01 25 15.1 -0.5
baz=311
EYMN Ely 54.54 56 P P 01 25 15.0 -0.6
EYMN IAmb IAmb 01 25 15.8
comp=Z,5.4nm,0.9s
ECSD EROS Data Cent 54.57 62 P P 01 25 14.6 -1.2
baz=311
ANMO Albuquerque 54.71 77 P P 01 25 17.0 -0.2
baz=313
BNM Barren Site 55.15 77 P P 01 25 20.9 +0.4
121A Cookes Peak, D 55.55 80 P P 01 25 23.5 +0.2
baz=314
CBKS Cedar Bluff 56.07 69 P P 01 25 26.4 -0.3
baz=312
MSTX Muleshoe 57.59 75 P P 01 25 37.4 -0.2
baz=314
MK31 Makanchi Array 58.30 307 P P 01 25 41.4 -0.8
MKAR Makanchi Array 58.30 307 P P 01 25 42.8 +0.6
comp=Z,0.4nm,0.5s,baz=38,slow=7.4,SNR=4.6
JFWS Jewell Farm 58.56 59 P P 01 25 42.9 -1.2
baz=314
JFWS Jewell Farm 58.56 59 P P 01 25 42.8 -1.4
JFWS IAmb IAmb 01 25 43.7
comp=Z,4.3nm,0.7s
P38A Dawn 59.04 64 P P 01 25 45.8 -1.7
F45A CMU Biological 59.10 54 P P 01 25 47.1 -0.7
baz=314
D47A Chapleau 59.34 52 P P 01 25 48.9 -0.5
baz=315
WMOK Wichita Mounta 59.42 72 P P 01 25 50.0 -0.2
baz=315
G45A Suttons Bay 59.48 55 P P 01 25 49.8 -0.6
baz=314
D48A Paudash Townsh 59.88 51 P P 01 25 52.3 -0.8
baz=315
D49A Beulah Townshi 60.02 51 P P 01 25 53.6 -0.5
baz=315
E48A Lockeyer 60.20 52 P P 01 25 54.8 -0.5
baz=315
W35A Tecumseh 60.25 70 P P 01 25 55.7 -0.1
TX31 Lajitas Ar. Si 60.31 79 P P 01 25 56.6 +0.2
TX32 Lajitas Array 60.31 79 P P 01 25 56.8 +0.4
TX32 IAmb IAmb 01 25 57.5
comp=Z,2.9nm,0.7s
TXAR Lajitas Array 60.31 79 P P 01 25 56.7 +0.2
comp=Z,2.2nm,0.6s,baz=298,slow=4.7,SNR=34
TXAR Lajitas Array 60.31 79 P 01 25 56.6 +0.1
TUL1 Leonard 60.34 69 P P 01 25 55.8 -0.7
baz=315
F48A Evansville 60.44 53 P P 01 25 56.0 -0.9
baz=315
SCHQ Schefferville 60.66 37 P P 01 25 57.6 -0.7
comp=Z,2.5nm,0.7s,baz=334,slow=5.6,SNR=5.3
SCHQ Schefferville 60.66 37 P P 01 25 57.0 -1.3
R40A Maddies Statio 60.67 64 P P 01 25 57.1 -1.5
R40A IAmb IAmb 01 25 59.7
comp=Z,2.6nm,0.5s
HDIL Hopedale 60.72 61 P P 01 25 58.2 -0.7
baz=315
F49A Sandfield 60.77 52 P P 01 25 58.5 -0.7
baz=316
D50A G1974 Best Tow 60.82 50 P P 01 25 58.5 -1.0
baz=316
E50A Wahnapitae 60.93 51 P P 01 25 59.3 -0.9
baz=316
D51A Lot 18 Range I 61.10 50 P P 01 26 00.6 -0.8
baz=316
VLDQ Val d'Or 61.25 48 P P 01 25 59.7 -2.7
VLDQ IAmb IAmb 01 26 00.7
comp=Z,5.0nm,1.1s
CHGQ Chibougamau 61.31 45 P P 01 26 01.7 -1.1
baz=318
CCM Cathedral Cave 61.41 64 P P 01 26 02.5 -1.2
baz=315
E51A G1948 Merrick 61.45 50 P P 01 26 02.8 -0.9
baz=316
D52A ZEK Kipawa Sen 61.63 49 P P 01 26 03.7 -1.3
baz=317
U40A Yellville 61.71 66 P P 01 26 04.4 -1.3
baz=315
D53A Lac Vacive, Po 61.89 49 P P 01 26 05.7 -1.1
baz=317
W39A Magazine 62.00 68 P P 01 26 07.2 -0.4
baz=316
E52A Mattawa 62.02 50 P P 01 26 06.6 -1.0
baz=317
F52A Sundridge 62.06 51 P P 01 26 07.3 -0.6
baz=317
WHTX Lake Whitney, 62.15 73 P P 01 26 08.6 0.0
baz=316
WHTX Lake Whitney, 62.15 73 P P 01 26 07.6 -1.0
D54A Lac Fusel, La 62.32 48 P P 01 26 08.3 -1.3
baz=318
E53A Dumoine, Ponti 62.42 49 P P 01 26 09.2 -1.0
baz=317
FCAR Ozark Folk Cen 62.46 66 P P 01 26 09.1 -1.5
ALGO Algonquin Park 62.55 50 P P 01 26 10.0 -1.1
baz=317
MIAR Mount Ida 62.59 68 P P 01 26 11.2 -0.3
baz=316
MIAR Mount Ida 62.59 68 P P 01 26 10.8 -0.8
MIAR IAmb IAmb 01 26 12.2
comp=Z,8.7nm,1.3s
E54A Lac Daplat, Po 62.61 49 P P 01 26 10.3 -1.2
baz=318
G53A Haliburton 62.89 51 P P 01 26 12.4 -1.0
baz=317,SNR=6.1
W41B Gary Mavity, V 62.90 67 P P 01 26 12.5 -1.1
baz=316
D55A Sainte-Anne-du 62.96 48 P P 01 26 12.5 -1.4
baz=318,SNR=7.1
D56A ZEC Mazanza, M 63.27 47 P P 01 26 14.6 -1.3
baz=318
H53A Bobcaygeon 63.31 51 P P 01 26 15.4 -0.8
baz=318
J52A Paris 63.37 53 P P 01 26 15.7 -0.9
baz=317
E56A St. Veronique 63.52 48 P P 01 26 16.2 -1.3
baz=318
D57A Chemin Vers le 63.69 47 P P 01 26 17.3 -1.3
baz=319
G55A Calabogie 63.70 50 P P 01 26 17.1 -1.6
baz=318
P49A Miami Univ. Ec 63.90 59 P P 01 26 19.0 -1.1
baz=317
LATQ La Tuque 63.90 46 P P 01 26 19.1 -0.9
baz=319
TRQ Mont Tremblant 63.98 48 P P 01 26 18.6 -2.1
H55A Tweed 64.00 50 P P 01 26 19.7 -1.0
baz=318
I55A Frankford 64.01 51 P P 01 26 19.8 -1.0
baz=318
E57A Chemin Saint G 64.02 47 P P 01 26 19.8 -1.1
baz=319
D58A Chemin du LacG 64.08 46 P P 01 26 19.9 -1.3
baz=319
H56A Elgin 64.41 50 P P 01 26 22.7 -0.7
baz=319
E58A La Victoria 64.45 47 P P 01 26 22.3 -1.3
baz=319
L54A Sinclairville 64.69 53 P P 01 26 25.0 -0.2
baz=318
WVT Waverly 64.69 63 P P 01 26 24.5 -0.8
baz=317
K54A Basiliko Farm, 64.72 53 P P 01 26 24.6 -0.8
baz=318
H57A Richville 64.92 49 P P 01 26 25.5 -1.1
baz=319
OXF Oxford 64.99 66 P P 01 26 27.1 -0.2
baz=317
OXF Oxford 64.99 66 P P 01 26 26.6 -0.7
D60A Saint Jean D'O 65.08 45 P P 01 26 26.5 -1.1
baz=320
J56A Wolcott 65.11 51 P P 01 26 27.3 -0.6
baz=319
L55A Hinsdale 65.16 53 P P 01 26 27.8 -0.5
baz=318
D61A St Aubert, Com 65.18 44 P P 01 26 27.6 -0.7
baz=321
LONY Lake Ozonia 65.18 49 P P 01 26 26.9 -1.5
baz=319
I57A Carthage 65.19 50 P P 01 26 27.4 -1.0
baz=319
E60A Ste Agathe de 65.27 46 P P 01 26 28.0 -0.9
baz=320
K56A Middlesex 65.32 52 P P 01 26 29.1 -0.3
baz=319
F60A Warwick 65.35 46 P P 01 26 28.3 -1.1
baz=320
H58A Gabriels 65.52 49 P P 01 26 29.3 -1.3
baz=320
M55A Ridgway 65.53 54 P P 01 26 30.4 -0.4
baz=318
L56A Greenwood 65.63 52 P P 01 26 31.0 -0.4
baz=319,SNR=6.9
K57A Scipio Center 65.69 51 P P 01 26 31.0 -0.7
baz=319
I58A Old Forge 65.70 50 P P 01 26 31.4 -0.4
baz=319
MOQ Mont Orford 65.72 47 P P 01 26 31.0 -0.9
D62A Allapoint, All 65.76 44 P P 01 26 31.3 -0.7
baz=321
D62A Allapoint, All 65.76 44 P P 01 26 31.9 -0.1
D62A IAmb IAmb 01 26 32.3
comp=Z,5.7nm,1.1s
F61A St Evariste 65.77 46 P P 01 26 31.7 -0.5
baz=321
J58A Remsen 65.80 50 P P 01 26 31.7 -0.7
baz=319
M56A Emporium 65.81 53 P P 01 26 31.6 -0.9
baz=319
E62A Clayton Lake 65.92 44 P P 01 26 32.2 -0.8
baz=321
E62A Clayton Lake 65.92 44 P P 01 26 32.7 -0.4
E62A IAmb IAmb 01 26 33.0
comp=Z,3.2nm,0.7s
G61A St-Isidore-de- 66.07 46 P P 01 26 33.0 -1.1
baz=321
Q53A Leroy 66.07 57 P P 01 26 33.5 -0.6
baz=318
L57A Andrews Acres 66.08 52 P P 01 26 33.4 -0.8
baz=319
K58A Earlville 66.08 51 P P 01 26 34.1 -0.1
baz=319
J59A Piesco 66.09 50 P P 01 26 32.9 -1.4
baz=320
I59A Olmsteadville 66.14 49 P P 01 26 33.5 -1.0
baz=320
D63A Stockholm 66.20 43 P P 01 26 34.2 -0.6
baz=322
O55A Ligonier 66.20 55 P P 01 26 34.4 -0.7
baz=319
F62A Pittston Farm, 66.29 45 P P 01 26 34.6 -0.8
baz=321
BINY Binghamton 66.35 51 P P 01 26 35.2 -0.7
baz=319
ABKAR Akbulak array 66.42 321 P P 01 26 36.9 +0.7
M57A Sunshine Farm, 66.44 53 P P 01 26 35.6 -0.9
baz=319
K59A Cooperstown 66.45 50 P P 01 26 35.9 -0.7
baz=320
P55A Reedsville 66.46 56 P P 01 26 35.7 -1.0
baz=319
H61A Lyndonville 66.47 47 P P 01 26 35.6 -1.1
baz=321
L58A Harry Jones Me 66.53 51 P P 01 26 36.5 -0.6
baz=320
E63A Oxbow 66.55 44 P P 01 26 36.1 -0.9
baz=322
G62A West of Eustis 66.56 46 P P 01 26 36.5 -0.7
baz=321
SSPA Standing Stone 66.59 54 P P 01 26 36.6 -0.9
baz=319
SSPA Standing Stone 66.59 54 P P 01 26 36.4 -1.1
SSPA IAmb IAmb 01 26 37.4
comp=Z,3.5nm,0.8s
J60A Lant Hill Farm 66.77 49 P P 01 26 37.6 -0.9
baz=320
H62A Milan 66.78 47 P P 01 26 37.9 -0.8
baz=321
H62A Milan 66.78 47 P P 01 26 37.8 -0.8
I61A Oroboro, Fairl 66.80 48 P P 01 26 38.2 -0.6
baz=321
E64A Bridgewater 66.80 44 P P 01 26 37.6 -1.0
baz=322
F63A Nahmakanta, Br 66.81 45 P P 01 26 38.0 -0.8
baz=322
BATG Bathurst New B 66.87 42 P P 01 26 38.7 -0.4
BATG IAmb IAmb 01 26 39.2
comp=Z,8.9nm,1.2s
F64A Sherman 67.02 44 P P 01 26 39.2 -0.8
baz=322
F64A Sherman 67.02 44 P P 01 26 39.4 -0.6
F64A IAmb IAmb 01 26 40.1
comp=Z,5.2nm,0.8s
N58A Sunbury 67.02 53 P P 01 26 39.8 -0.4
baz=320
G63A Kingsbury 67.05 45 P P 01 26 39.5 -0.8
baz=322
J61A Chester 67.09 48 P P 01 26 39.9 -0.7
baz=321
M59A Waymart 67.11 51 P P 01 26 39.9 -0.9
baz=320

T54A	**Tazewell**	**67.39**	**59**	P		**P**		**01 26 42.2**	**-0.5**
	baz=319								
N59A	**State Game Lan**	**67.43**	**52**	P		**P**		**01 26 41.9**	**-0.9**
	baz=320								
I63A	**Otisfield**	**67.45**	**47**	P		**P**		**01 26 41.9**	**-0.9**
	baz=321								
L61A	**Hillsdale 1, H**	**67.52**	**50**	P		**P**		**01 26 42.8**	**-0.4**
	baz=320								
J62A	**Henniker**	**67.53**	**48**	P		**P**		**01 26 42.9**	**-0.5**
	baz=321								
O59A	**Robesonia**	**67.69**	**53**	P		**P**		**01 26 43.4**	**-1.0**
	baz=320								
N60A	**Cedar Hill Far**	**67.79**	**52**	P		**P**		**01 26 44.6**	**-0.4**
	baz=320								
G65A	**Princeton**	**67.88**	**44**	P		**P**		**01 26 44.8**	**-0.7**
	baz=322								
G65A	**Princeton**	**67.88**	**44**	P		**P**		**01 26 44.5**	**-1.0**
G65A				IAmb		IAmb		01 26 45.5	
	comp=Z,8.0nm,1.4s								
H65A	**Eastbrook**	**67.98**	**45**	P		**P**		**01 26 45.3**	**-0.8**
	baz=322								
Q58A	**Fox Den Farm,**	**67.98**	**55**	P		**P**		**01 26 45.6**	**-0.6**
	baz=320								
V54A	**Nebo**	**68.15**	**60**	P		**P**		**01 26 46.6**	**-0.8**
	baz=319								
GGN	**Saint George**	**68.25**	**44**	P		**P**		**01 26 46.5**	**-1.3**
H66A	**Whiting**	**68.32**	**44**	P		**P**		**01 26 47.5**	**-0.7**
	baz=323								
LMN	**Caledonia Moun**	**68.53**	**42**	P		**P**		**01 26 48.7**	**-0.8**
LMN				IAmb		IAmb		01 26 58.5	
	comp=Z,5.0nm,1.1s								
W54A	**Cherokee Point**	**68.55**	**60**	P		**P**		**01 26 49.3**	**-0.6**
	baz=319								
OBN	**Obninsk**	**68.71**	**338**	P		**P**		**01 26 51.1**	**+0.6**
M63A	**Gales Ferry**	**68.84**	**49**	P		**P**		**01 26 50.6**	**-0.9**
	baz=321								
BTK	**Batken**	**68.89**	**308**	P		**P**		**01 26 53.6**	**+1.5**
KMSC	**Kings Mountain**	**68.96**	**60**	P		**P**		**01 26 51.8**	**-0.6**
	baz=319								
X55A	**Gracelyn & Ava**	**69.31**	**60**	P		**P**		**01 26 53.8**	**-0.8**
	baz=319								
GRA1	**Grafenberg Arr**	**78.17**	**352**	P		**P**		**01 27 47.9**	**+1.8**
GRA1				IAmb		IAmb		01 27 48.7	
	comp=Z,7.6nm,1.1s								
BURAR	**Bucovina Array**	**78.21**	**342**	P		**P**		**01 27 44.1**	**-2.3**
CONA	**Conrad Observa**	**79.41**	**348**	*i* PP		PP		01 30 55.4	+1.7
	comp=Z,4.1nm,1.8s								
ARSA	**Arzberg**	**80.12**	**348**	*i* PP		PP		01 30 58.3	-1.2
	comp=Z,3.1nm,0.9s								
WATA	**Walderalm**	**80.47**	**351**	*i* PP		PP		01 31 01.9	-0.7
	comp=Z,2.3nm,0.5s								
MOTA	**Moosalm**	**80.51**	**351**	*i* PP		PP		01 31 06.5	+3.7
	comp=Z,9.5nm,1.5s								
WTTA	**Wattenberg**	**80.54**	**351**	*i* PP		PP		01 31 04.3	+1.1
	comp=Z,4.0nm,0.7s								
SQTA	**Sankt Quirin**	**80.62**	**351**	*i* PP		PP		01 31 05.7	+1.9
	comp=Z,2.4nm,0.6s								
DAVA	**Damuels**	**80.68**	**352**	*i* PP		PP		01 31 04.4	+0.1
	comp=Z,4.1nm,0.8s								
SOKA	**Soboth**	**80.74**	**348**	*i* PP		PP		01 31 04.8	0.0
	comp=Z,4.0nm,1.1s								
FETA	**Feichten**	**80.87**	**351**	*i* PP		PP		01 31 06.4	+0.6
	comp=Z,5.8nm,1.2s								
MYKA	**Terra Mystica**	**80.95**	**349**	*i* PP		PP		01 31 05.7	-0.7
	comp=Z,9.7nm,1.1s								
ABTA	**Abfaltersbach**	**80.96**	**350**	*i* PP		PP		01 31 06.0	-0.5
	comp=Z,3.6nm,0.9s								
OBKA	**Obir**	**80.97**	**349**	*i* PP		PP		01 31 04.6	-2.0
	comp=Z,9.8nm,1.5s								
WB0	**Warramunga Arr**	**81.03**	**221**	P		**P**		**01 28 02.8**	**+1.0**
WB0				IAmb		IAmb		01 28 03.5	
	comp=Z,5.0nm,0.8s								
WB2	**Warramunga Arr**	**81.20**	**221**	P		**P**		**01 28 02.4**	**-0.2**
WB2				IAmb		IAmb		01 28 04.6	
	comp=Z,4.4nm,0.8s								
WRA	**Warramunga Arr**	**81.21**	**221**	P		**P**		**01 28 03.6**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=33,slow=6.3,SNR=6.7								
ASAR	**Alice Springs**	**84.72**	**220**	P		**P**		**01 28 20.9**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=13,slow=5.5,SNR=7.2								
ASAR	**Alice Springs**	**84.72**	**220**	P		**P**		**01 28 21.3**	**+0.6**
STKA	**Stephens Creek**	**89.45**	**211**	P		**P**		**01 28 45.2**	**+1.9**
	comp=Z,2.8nm,0.8s,baz=349,slow=7.7,SNR=4.9								
STKA	**Stephens Creek**	**89.45**	**211**	P		**P**		**01 28 44.5**	**+1.2**
TORD	**Torodi Ar. Bea**	**115.14**	**356**	PKP		**PKiKP**		**01 34 27.1**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=346,slow=3.1,SNR=1.8								
TORD	**Torodi Ar. Bea**	**115.14**	**356**			**PKiKP**		**01 34 26.9**	**-0.6**
BOSA	**Boshof**	**149.28**	**309**	PKPbc		**PKiKP**		**01 35 35.8**	**-0.1**
	comp=Z,2.6nm,1.0s,baz=65,slow=2.5,SNR=4.3								
BOSA	**Boshof**	**149.28**	**309**			**PKPbc**		**01 35 34.8**	**0.0**

*IDC **24** 01:17:22.2±1.2,30.°05S×177.°38W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/41, mbtmp4.0/6, ML3.3/1, Error ellipse: s-maj=35.2km s-min=18.4km az=66.0*
*NEIC **24** 01:17:26.8±1.3, 30.°02S±0.°08×177.°3W±0.°1, h38km±7km, mb4.5/7, Error ellipse: s-maj=17.4km s-min=10.0km az=65.0*
ISC 24 01:17:24.2±0.8, 29.°99S±0.°09×177.°2W±0.°1, h24km, n28, σ1°29/27, mb4.4/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.00**	**317**	Pn	**Pb**	**01 17 43.2**	**+0.4**
	550nm,0.3s,baz=23,slow=9.1,SNR=11						
RAO				Sn	**Sn**	**01 17 56.9**	**+0.9**
	1um,0.3s,baz=38,slow=22,SNR=9.1						
RAO	**Raoul Island**	**1.00**	**317**		**Pb**	**01 17 43.1**	**+0.3**
RAO				Sn	**Sn**	**01 17 57.4**	**+1.4**
BKZ	**Black Stump Fm**	**10.54**	**208**	Pn	**Pn**	**01 19 53.5**	**-0.4**
THZ	**Tophouse**	**14.24**	**212**	Pn	**Pn**	**01 20 44.9**	**+0.5**
KHZ	**Kahutara**	**14.49**	**209**	Pn	**Pn**	**01 20 47.5**	**-0.2**
RPZ	**Rata Peaks**	**16.61**	**211**	Pn	**Pn**	**01 21 15.5**	**0.0**
RPZ				IAmb	IAmb	01 21 32.9	
	comp=Z,51nm,1.4s						
DZM	**Mont Dzumac**	**16.71**	**294**	Pn	**Pn**	**01 21 16.9**	**0.0**
	comp=Z,0.1nm,0.3s,baz=90,slow=18,SNR=1.2						
CTA	**Charters Tower**	**34.47**	**278**	P	**P**	**01 24 09.5**	**-0.8**
	comp=Z,1.3nm,0.2s,baz=97,slow=12,SNR=2.0						
STKA	**Stephens Creek**	**35.29**	**256**	P	**P**	**01 24 17.4**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=85,slow=12,SNR=1.4						
ASAR	**Alice Springs**	**43.87**	**266**	P	**P**	**01 25 28.9**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=106,slow=7.6,SNR=3.0						
ASAR	**Alice Springs**	**43.87**	**266**	P	**P**	**01 25 27.0**	**-2.0**
WB2	**Warramunga Arr**	**44.81**	**271**	P	**P**	**01 25 35.2**	**-1.3**
WB2				IAmb	IAmb	01 25 46.5	
	comp=Z,7.1nm,1.1s						
WRA	**Warramunga Arr**	**44.82**	**271**	P	**P**	**01 25 36.4**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=110,slow=8.1,SNR=3.5						
WB0	**Warramunga Arr**	**44.84**	**272**	P	**P**	**01 25 37.0**	**+0.3**
WB0				IAmb	IAmb	01 25 44.0	
	comp=Z,4.0nm,0.8s						
CASY	**Casey**	**55.85**	**208**	P	**P**	**01 26 59.8**	**+0.4**
QSPA	**South Pole Qui**	**60.12**	**180**	P	**P**	**01 27 31.6**	**+2.1**
	comp=Z,3.6nm,1.1s,baz=298,slow=1.9,SNR=3.2						
QSPA	**South Pole Qui**	**60.12**	**180**	P	**P**	**01 27 30.4**	**+0.9**
QSPA				IAmb	IAmb	01 27 32.6	
	comp=Z,4.9nm,1.1s						
H03S2	**Juan Fernandez**	**80.07**	**123**	T	T	02 57 21.2	
	baz=236						
H03S1	**Juan Fernandez**	**80.08**	**123**	T	T	02 57 22.5	
	baz=236						
H03S3	**Juan Fernandez**	**80.09**	**123**	T	T	02 57 14.5	
	baz=236						
214A	**Organ Pipe Nat**	**86.70**	**50**	P	**P**	**01 30 06.0**	**-0.2**
214A				IAmb	IAmb	01 30 06.7	
	comp=Z,8.0nm,1.4s						
NVAR	**Mina Array Bea**	**87.44**	**42**	P	**P**	**01 30 12.2**	**+2.3**
FINES	**FINESS Array B**	**145.01**	**341**	PKPbc	**PKiKP**	**01 36 59.0**	**-3.5**
	comp=Z,2.7nm,0.7s,baz=58,slow=3.9,SNR=9.8						
FINES	**FINESS Array B**	**145.01**	**341**		**PKPdf**	**01 36 57.9**	**-0.9**
NOA	**NORSAR Array B**	**148.45**	**352**	PKPbc	**PKPab**	**01 37 09.6**	**-1.9**
	comp=Z,1.1nm,1.0s,baz=17,slow=4.4,SNR=2.7						
AKASG	**Malin Array Be**	**151.41**	**324**	PKPbc	**PKiKP**	**01 37 16.0**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=57,slow=3.4,SNR=2.0						
TORD	**Torodi Ar. Bea**	**163.21**	**176**	PKPab	**PKPab**	**01 38 16.7**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=195,slow=3.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**163.21**	**176**		**PKPab**	**01 38 16.1**	**+0.7**

*INET **24** 01:18:30.2, 10.°73N×86.°44W, h18km, ML3.4*
UCR 24 01:18:36.1±1.2, 11.°63N×86.°24W, h124km±20km, MD3.8, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GBS3	**Finca Las Img**	**1.14**	**137**	*i* P	Pn	01 18 59.9	0.0
GBS3				*i* S	Sn	01 19 17.9	0.0
GB1A	**Borinquen Arri**	**1.15**	**134**	*e*P	Pn	01 19 00.2	+0.1
GB1A				*e*S	Sn	01 19 18.9	+0.6
BUEV	**Buena Vista**	**1.16**	**135**	*i* P	Pn	01 19 00.1	0.0
BUEV				*e*P	Pn	01 19 00.2	0.0
BUEV				*e*S	Sn	01 19 19.7	+1.3
LAPC	**Finca la Perla**	**1.16**	**137**	*i* P	Pn	01 19 00.0	-0.1
LAPC				*i* S	Sn	01 19 18.7	+0.3
NY14	**Universidad de**	**1.19**	**144**	*i* P	Pn	01 19 01.2	+0.8
NY14				*i* S	Sn	01 19 20.0	+1.1
GPS1	**Guardaparques**	**1.22**	**134**	*i* S	Sn	01 19 20.6	+1.1
GPS3	**Bodega del ICE**	**1.22**	**135**	*i* S	Sn	01 19 19.7	+0.3
CUI	**Cuipilapa**	**1.43**	**132**	*e*P	Pn	01 19 03.1	+0.1
CUI				*e*S	Sn	01 19 25.4	+1.9
PLVR	**Palo Verde**	**1.54**	**145**	*e*P	Pn	01 19 04.8	+0.3
PLVR				*e*S	Sn	01 19 26.0	0.0
JTS	**Las Juntas de**	**1.83**	**136**	*e*P	Pn	01 19 08.1	+0.3
JTS				*e*S	Sn	01 19 31.1	-0.8

*ATH **24** 01:19:24.8, 38.°30N×26.°20E, h26km±2km, ML2.6/4, Error ellipse: s-maj=2.9km s-min=1.2km az=315.0*
*ISK **24** 01:19:24.8, 38.°35N×26.°24E, h19km, ML2.5/19*
*THE **24** 01:19:25.8, 38.°34N×26.°26E, h10km±1km, ML2.5/4, Error ellipse: s-maj=1.7km s-min=0.4km az=228.0*
*DDA **24** 01:19:25.8, 38.°32N×26.°21E, h8km, ML2.5*
ISC 24 01:19:25.3±0.9, 38.°33N±0.°02×26.°23E±0.°02, h19km±2km, n47, σ0.°56/70, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.15**	**292**	P	**Pg**	**01 19 29.8**	**-0.1**
CHOS				S	**Sg**	**01 19 32.5**	**-0.3**
	2µm,0.3s						
CHOS	**Chios island**	**0.15**	**292**	P	**Pg**	**01 19 29.8**	**-0.1**
CHOS				S	**Sg**	**01 19 32.5**	**-0.3**
CHOS				AML	AML	01 19 33.0	
	comp=E,4352µm,0.3s						
CHOS				AML	AML	01 19 33.6	
	comp=N,3419µm,0.3s						
CHOS	**Chios island**	**0.15**	**292**	PG	**Pg**	**01 19 29.7**	**-0.1**
URLA	**Izmir**	**0.29**	**84**	PG	**Pg**	**01 19 31.6**	**-0.2**
URLA				SG	**Sb**	**01 19 36.1**	**-0.1**
URLA	**Izmir**	**0.29**	**84**	*i* P	**Pg**	**01 19 31.5**	**-0.2**
URLA				*i* S	**Sb**	**01 19 35.8**	**-0.4**
KRBN	**Karaburun**	**0.36**	**44**	PG	**Pg**	**01 19 32.9**	**-0.2**
KRBN				SG	**Sg**	**01 19 38.2**	**-0.1**
PSRA	**Psara**	**0.56**	**292**	P	**Pb**	**01 19 36.7**	**+0.2**
PSRA				S	**Sb**	**01 19 44.2**	**0.0**
DGB	**zmir**	**0.58**	**118**	*i* P	**Pb**	**01 19 36.5**	**-0.3**
DGB				*i* S	**Sb**	**01 19 44.9**	**+0.3**
BLCB	**Balcova**	**0.64**	**85**	P	**Pb**	**01 19 37.6**	**-0.2**
BLCB				S	**Sg**	**01 19 46.7**	**+0.1**
BLCB	**Balcova**	**0.64**	**85**	PG	**Pb**	**01 19 37.6**	**-0.2**
BLCB				SG	**Sg**	**01 19 46.7**	**+0.1**
SMG	**Samos**	**0.78**	**142**	P	**Pb**	**01 19 40.5**	**+0.1**
SMG				S	**Sg**	**01 19 52.1**	**+1.0**
	comp=N,868nm,0.4s						
SMG	**Samos**	**0.78**	**142**	P	**Pb**	**01 19 40.4**	**+0.1**
SMG				S	**Sb**	**01 19 51.0**	**+0.4**
SMG				AML	AML	01 19 53.4	
	comp=E,1908µm,0.4s						
SMG				AML	AML	01 19 53.4	
	comp=N,1558µm,0.4s						
DKL	**Dikili**	**0.91**	**35**	PG	**Pb**	**01 19 42.8**	**+0.3**
PRK	**Paraskevi**	**0.92**	**2**	P	**Pb**	**01 19 43.0**	**+0.4**
PRK				S	**Sn**	**01 19 55.7**	**-0.1**
	comp=N,295nm,0.5s						
PRK	**Paraskevi**	**0.92**	**2**	P	**Pg**	**01 19 43.3**	**+0.1**
PRK				S	**Sn**	**01 19 56.0**	**+0.2**
PRK				AML	AML	01 19 58.7	
	comp=E,679µm,0.4s						
PRK				AML	AML	01 20 00.2	
	comp=N,487µm,0.5s						
ZEDA	**zmir-Bergama**	**0.92**	**46**	*i* P	**Pb**	**01 19 43.0**	**+0.4**
ZEDA				*i* S	**Sg**	**01 19 55.3**	**-0.1**
SIGR	**SIGRI**	**0.93**	**342**	P	**Pb**	**01 19 42.8**	**0.0**
SIGR				S	**Sn**	**01 19 56.3**	**+0.2**
	comp=N,162nm,0.3s						
SIGR	**SIGRI**	**0.93**	**342**	P	**Pb**	**01 19 42.7**	**0.0**
SIGR				S	**Sg**	**01 19 55.8**	**+0.2**
SIGR				AML	AML	01 19 57.9	
	comp=E,345µm,0.3s						
SIGR				AML	AML	01 19 58.1	
	comp=N,309µm,0.3s						
SIGR	**SIGRI**	**0.93**	**342**	PG	**Pb**	**01 19 42.7**	**0.0**
SIGR				SG	**Sg**	**01 19 55.9**	**+0.2**
GCAM	**G?zelcaml?**	**1.01**	**128**	PG	**Pb**	**01 19 44.4**	**+0.2**
AYVA	**Ayvalik**	**1.04**	**20**	*i* P	**Pb**	**01 19 44.4**	**-0.3**
AYVA				*i* S	**Sn**	**01 19 58.9**	**0.0**
AYVA				IAML		01 20 02.0	
	comp=N,85nm,0.3s						
TNSA	**Tinos**	**1.16**	**227**	P	**Pn**	**01 19 46.1**	**-0.4**
AKHS	**Akhisar**	**1.36**	**66**	*i* P	**Pb**	**01 19 50.9**	**+0.8**
AYDB	**Zeytinkoy-Aydi**	**1.36**	**106**	PN	**Pn**	**01 19 49.8**	**+0.4**
APE	**Apeiranthos**	**1.38**	**204**	P	**Pn**	**01 19 49.2**	**-0.4**
APE	**Apeiranthos**	**1.38**	**204**	PN	**Pn**	**01 19 49.7**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**1.43**	**10**	*i* P	**Pn**	**01 19 50.1**	**-0.2**
BAYC				*i* S	**Sn**	**01 20 06.4**	**-2.1**
AYDN	**Tasoluk**	**1.46**	**117**	*i* P	**Pn**	**01 19 51.2**	**+0.5**
EZN	**Ezine**	**1.50**	**3**	P	**Pn**	**01 19 51.4**	**+0.3**
EZN	**Ezine**	**1.50**	**3**	PN	**Pn**	**01 19 51.1**	**0.0**
BOZC	**Bozcaada**	**1.52**	**355**	PN	**Pn**	**01 19 51.4**	**0.0**
BOZC	**Bozcaada**	**1.52**	**355**	*i* P	**Pn**	**01 19 52.2**	**+0.8**
BOZC				*i* S	**Sb**	**01 20 11.8**	**+0.2**
AMGA	**Amorgos Island**	**1.52**	**190**	P	**Pn**	**01 19 51.2**	**-0.3**
BODT	**Bodrum**	**1.53**	**146**	PN	**Pn**	**01 19 51.9**	**+0.3**
STEP	**BALIKESIR_Sava**	**1.56**	**48**	*i* P	**Pn**	**01 19 52.0**	**-0.1**
STEP				*i* S	**Sn**	**01 20 12.1**	**+0.3**
STEP				IAML		01 20 17.0	
	comp=N,79nm,0.4s						
STEP				IAML		01 20 18.0	
	comp=E,88nm,0.4s						
BALB	**Balikesir**	**1.83**	**44**	PN	**Pn**	**01 19 56.1**	**+0.3**
MANT	**Manisa**	**1.83**	**84**	*i* P	**Pb**	**01 19 57.9**	**-0.5**
MANT				*i* S	**Sb**	**01 20 22.0**	**+0.9**
GOKA	**anakkale-Gk**	**1.88**	**352**	*i* P	**Pn**	**01 19 57.2**	**+0.9**
GADA	**Gvkgeada**	**1.88**	**352**	PN	**Pn**	**01 19 56.5**	**+0.1**
KULA	**Kula-Manisa**	**1.92**	**84**	PN	**Pn**	**01 19 56.7**	**-0.3**
DAT	**Datca**	**1.92**	**146**	PN	**Pn**	**01 19 57.2**	**+0.1**
YER	**Yerkesik**	**2.02**	**126**	PN	**Pn**	**01 19 59.0**	**+0.6**
AOS	**Alonnisos**	**2.02**	**295**	PN	**Pn**	**01 19 58.8**	**+0.5**
DEMI	**Demirci**	**2.07**	**69**	*i* P	**Pb**	**01 20 01.5**	**-0.9**
DEMI				IAML		01 20 32.0	
	comp=N,24nm,1.1s						
GELI	**Tayfur-Gelibol**	**2.07**	**5**	PN	**Pn**	**01 19 59.5**	**+0.4**
LPK	**Lapseki**	**2.08**	**11**	PN	**Pn**	**01 19 59.3**	**+0.1**
KESN	**Edirne-Kesan**	**2.52**	**8**	*i* P	**Pn**	**01 20 06.8**	**+1.3**
KESN				*i* S	**Sn**	**01 20 33.5**	**-2.4**
KESN				IAML		01 20 38.0	
	comp=N,43nm,1.2s						

*MOS **24** 01:20:12.2±0.9, 51.°99N×178.°65E, h112km, mb4.7/27, Error ellipse: s-maj=10.4km s-min=8.8km az=143.0*
*NEIC **24** 01:20:12.1±1.7, 51.°82N±0.°09×178.°58E±0.°07, h100km±3km, mb4.7/217, ML4.5(AEIC), Error ellipse: s-maj=12.8km s-min=6.3km az=183.0*
*IDC **24** 01:20:12.9±0.7, 51.°96N×178.°59E, h102km±5km, mb4.1/30, mb1 4.2/31, mb1mx4.1/45, mbtmp4.4/31, Error ellipse: s-maj=16.1km s-min=7.8km az=167.0*
*UNK **24** 01:20:13.0, 51.°83N×178.°59E, h91km*
*AEIC **24** 01:20:13±2.5, 51.°83N±0.°09×178.°59E±0.°07, h91km±4km, Error ellipse: s-maj=12.9km s-min=6.3km az=191.0*
ISC 24 01:20:12.1±0.4, 51.°84N±0.°08×178.°56E±0.°03, h99km±3km, h99km:pP-P, n599, σ0.°97/574, mb4.7/140, 1C, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.09**	**5**		**Pn**	**01 20 26.4**	**+0.4**
LSSA	**Little Sitkin**	**0.11**	**346**		**Pn**	**01 20 26.3**	**+0.2**
LSPA	**Little Sitkin**	**0.12**	**5**		**Pn**	**01 20 26.7**	**+0.7**
LSNW	**Little Sitkin**	**0.13**	**349**		**Pn**	**01 20 26.2**	**+0.1**
CESW	**Semis' Southwe**	**0.63**	**84**		**Pn**	**01 20 28.7**	**0.0**
AMKA	**Amchitka**	**0.66**	**135**		**Pn**	**01 20 28.9**	**-0.1**
AMKA					**Sn**	**01 20 40.8**	**-0.9**
CERAA	**Semis' Rag'd T**	**0.70**	**84**		**Pn**	**01 20 29.6**	**+0.1**
GAEA	**Gareloi East**	**1.68**	**91**		**Pn**	**01 20 40.8**	**+0.3**
TASE	**Tanaga Southea**	**2.11**	**89**		**Pn**	**01 20 46.4**	**+0.2**
TAFP	**Tanaga Falls P**	**2.15**	**87**		**Pn**	**01 20 46.5**	**0.0**
TAFP					**Sn**	**01 21 12.1**	**-0.7**
TAPA	**Tanaga Point A**	**2.25**	**89**		**Pn**	**01 20 48.1**	**+0.2**
KIMD	**Kanaga Island**	**2.61**	**90**		**Pn**	**01 20 52.7**	**+0.1**
KIMD					**Sn**	**01 21 23.2**	**-0.6**
KICM	**Kanaga Island**	**2.63**	**87**		**Pn**	**01 20 53.2**	**+0.3**
KIKV	**Kanaga Island**	**2.65**	**88**		**Pn**	**01 20 53.1**	**0.0**
SMY	**Shemya**	**2.88**	**290**		**Pn**	**01 20 56.2**	**+0.1**
SMY	**Shemya**	**2.88**	**290**		**Sn**	**01 21 29.6**	**-0.5**
ADK	**Adak**	**2.95**	**87**	P	**Pn**	**01 20 56.8**	**-0.3**
ADK	**Adak**	**2.95**	**87**		**Pn**	**01 20 56.8**	**-0.3**
GSTD	**Great Sitkin T**	**3.29**	**84**		**Pn**	**01 21 01.3**	**-0.4**
GSTD					**Sn**	**01 21 40.8**	**+0.9**
GSTR	**Great Sitkin T**	**3.34**	**84**		**Pn**	**01 21 02.1**	**-0.2**
GSMY	**Great Sitkin M**	**3.34**	**84**		**Pn**	**01 21 02.1**	**-0.2**
ATKA	**Atka Island**	**4.49**	**83**		**Pn**	**01 21 17.7**	**-0.1**
ATKA					**Sn**	**01 22 07.8**	**-1.0**
KOFP	**Korovin Flat P**	**4.55**	**82**		**Pn**	**01 21 19.1**	**+0.3**
KOSE	**Korovin Southe**	**4.59**	**81**		**Pn**	**01 21 19.6**	**+0.4**
NIKH	**Nikolski High**	**7.78**	**77**		**Pn**	**01 22 03.5**	**+1.0**
OKCE	**Okmok Cone E**	**8.23**	**74**		**Pn**	**01 22 11.0**	**+2.4**
OKNC	**Okmok New Cone**	**8.26**	**73**		**Pn**	**01 22 11.7**	**+2.6**
OKFG	**Magazine Ridge**	**8.38**	**74**		**Pn**	**01 22 12.7**	**+2.0**
SPIA	**Saint Paul Isl**	**8.42**	**46**		**Pn**	**01 22 13.8**	**+2.7**
MSW	**Makushin Switc**	**9.11**	**71**		**Pn**	**01 22 21.9**	**+1.4**
UNV	**Unalaska Valle**	**9.26**	**72**	Pn	**Pn**	**01 22 23.6**	**+1.1**
AKUT	**Akutan**	**9.73**	**70**	Pn	**Pn**	**01 22 29.5**	**+0.6**
PET	**Petropavlovsk**	**12.20**	**283**	P	**P**	**01 23 08.5**	**-2.1**
PETK	**Petropavlovsk-**	**12.78**	**284**	P	**Pn**	**01 23 10.0**	**+0.1**
	1.4nm,0.3s,baz=98,slow=17,SNR=7.4						
PETK				S	**Sn**	**01 25 23.6**	**-6.6**
	1.2nm,0.3s,baz=83,slow=24,SNR=2.6						
PETK	**Petropavlovsk-**	**12.78**	**284**	P	**Pn**	**01 23 11.7**	**+1.8**
PETK						01 25 23.6	
PETK	**Petropavlovsk-**	**12.78**	**284**	Pn	**Pn**	**01 23 11.7**	**+1.8**
SDPT	**Sand Point**	**12.93**	**66**	Pn	**Pn**	**01 23 09.9**	**-1.9**
CNBA	**Chernabura Isl**	**13.38**	**69**	Pn	**Pn**	**01 23 15.1**	**-2.7**
SII	**Sitkinak Islan**	**16.57**	**63**		**Pn**	**01 23 57.0**	**-1.2**
SII				IAmb	IAmb	01 23 59.5	
	comp=Z,45nm,1.0s						
SVW2	**Sparrevohn**	**16.92**	**47**	P	**P**	**01 24 04.6**	**+1.8**
OHAK	**Old Harbor**	**17.13**	**61**		**Pn**	**01 24 02.5**	**-2.5**
OHAK				IAmb	IAmb	01 24 05.5	
	comp=Z,60nm,1.4s						
BILL	**Bilibino**	**17.31**	**344**	P	**Pn**	**01 24 10.1**	**+3.0**
KDAK	**Kodiak Island**	**17.57**	**59**	P	**P**	**01 24 07.2**	**-2.8**
	comp=Z,5.6nm,0.3s,baz=266,slow=3.5,SNR=60						
KDAK	**Kodiak Island**	**17.57**	**59**	P	**P**	**01 24 07.6**	**-2.4**
KDAK				pmax	pmax		
	comp=Z,23nm,0.7s						
KDAK	**Kodiak Island**	**17.57**	**59**	P	**P**	**01 24 07.5**	**-2.4**
RSO	**Redoubt South**	**18.03**	**50**	P	**Pn**	**01 24 16.5**	**+0.4**
BRLK	**Bradley Lake**	**18.77**	**53**	P	**P**	**01 24 22.9**	**-0.3**
O22K	**Cooper Landing**	**19.49**	**51**	P	**Pn**	**01 24 32.1**	**-1.0**
	baz=258						
SEW	**Seward**	**19.55**	**52**	P	**P**	**01 24 31.3**	**-0.2**
SEW				IAmb	IAmb	01 24 34.8	
	comp=Z,37nm,0.7s						
BPAW	**Bear Paw Mtn.**	**20.04**	**41**	P	**P**	**01 24 37.7**	**+0.8**
TRF	**Thorofare Moun**	**20.08**	**43**	P	**P**	**01 24 38.7**	**+1.2**
TRF				IAmb	IAmb	01 24 41.6	
	comp=Z,22nm,0.7s						
GHO	**Glory Hole Cre**	**20.17**	**48**	P	**P**	**01 24 39.2**	**+0.8**
GHO				IAmb	IAmb	01 24 41.1	
	comp=Z,20nm,0.6s						
SML	**Sawmill**	**20.45**	**48**	IAmb	IAmb	01 24 45.3	
	comp=Z,24nm,0.8s						
RND	**Reindeer**	**20.67**	**43**	P	**P**	**01 24 44.2**	**+0.4**
RND	

TIXI Tiksi 29.42 331 ScP **ScP** **01 32 39.6 -1.6**
comp=Z,3.5nm,0.7s,baz=93,slow=4.7,SNR=6.6
KLR Kul'dur 29.47 284 P **P** **01 26 07.3 +1.0**
comp=Z,8.9nm,0.6s,baz=59,slow=8.3,SNR=34
DLBC Dease Lake 29.48 57 P **P** **01 26 06.7 +0.3**
comp=Z,4.2nm,0.6s,baz=271,slow=10,SNR=10
A36M Sachs Harbour 31.49 30 P **P** **01 26 25.5 +1.6**
baz=261,SNR=6.1
USRK Ussuriysk Ar. 31.61 275 P **P** **01 26 25.9 +0.7**
comp=Z,3.3nm,0.7s,baz=56,slow=9.6,SNR=6.8
USRK Ussuriysk Ar. 31.61 275 P **P** **01 26 25.8 +0.6**
MAJO Matsushiro 32.25 258 P **P** **01 26 32.1 +1.1**
MAJO pmax pmax
comp=Z,10.0nm,0.8s
MAJO Matsushiro 32.25 258 P **P** **01 26 32.1 +1.1**
MAJO IAmb IAmb 01 26 33.8
comp=Z,10nm,0.8s
MAT Matsushiro 32.25 258 P **P** **01 26 32.4 +1.4**
MJAR Matsushiro Arr 32.25 258 P **P** **01 26 32.0 +1.1**
comp=Z,4.6nm,0.7s,baz=46,slow=6.7,SNR=13
MJAR Matsushiro Arr 32.25 258 P **P** **01 26 32.6 +1.6**
MJAR pmax pmax
comp=Z,3.0nm,0.7s
MJAR Matsushiro Arr 32.25 258 P **P** **01 26 32.6 +1.6**
MJB9 Matsu-Tunnel 32.25 258 P **P** **01 26 31.6 +0.6**
MJB9 IAmb IAmb 01 26 33.8
comp=Z,12nm,0.9s
H11N2 WAKE ISLAND Hy 33.33 200 T T 02 02 18.2
baz=11,slow=76,SNR=26
H11N3 WAKE ISLAND Hy 33.34 200 T T 02 02 20.6
baz=11,slow=76,SNR=22
H11N1 WAKE ISLAND Hy 33.34 200 T T 02 02 25.3
baz=11,slow=76,SNR=19
H11S1 WAKE ISLAND Hy 34.55 200 T T 02 03 47.8
baz=12,slow=80
H11S3 WAKE ISLAND Hy 34.57 200 T T 02 03 46.0
baz=12,slow=80
H11S2 WAKE ISLAND Hy 34.57 200 T T 02 03 46.4
baz=12,slow=80
YKA Yellowknife Ar 36.11 46 P **P** **01 27 03.8 -0.1**
comp=Z,5.4nm,0.8s,baz=281,slow=8.6,SNR=17
YKA pP **pP** **01 27 28.2 +1.9**
comp=Z,3.3nm,0.7s,baz=279,slow=8.2,SNR=9.0
YKA ScP **ScP** **01 33 02.3 -2.2**
comp=Z,0.8nm,0.7s,baz=281,slow=3.1,SNR=4.5
D03D Eldon 37.12 73 P **P** **01 27 13.5 +0.7**
baz=299,SNR=6.6
B05A Bryant 37.36 71 P **P** **01 27 15.1 +0.4**
baz=298
KSRS Korea Array 37.99 268 P **P** **01 27 21.7 +1.5**
comp=Z,2.4nm,0.5s,baz=60,slow=8.2,SNR=16
KSAR Wonju Array Be 38.02 268 P **P** **01 27 21.4 +1.0**
KSAR Wonju Array Be 38.02 268 P **P** **01 27 21.4 +1.0**
I02D Swisshome 38.42 78 P **P** **01 27 25.0 +1.3**
baz=303
H04D Lebanon 38.87 77 P **P** **01 27 28.5 +1.0**
baz=302
J01E Myrtle Point 38.88 79 P **P** **01 27 28.8 +1.2**
baz=304
B08A Colville Reser 38.93 70 P **P** **01 27 27.8 -0.2**
I03D Drain, OR 38.95 78 P **P** **01 27 29.6 +1.5**
baz=303
JNU Nakatsue 39.01 260 P **P** **01 27 30.0 +1.2**
comp=Z,6.0nm,0.7s,baz=24,slow=7.8,SNR=5.4
JNU Nakatsue 39.01 260 P **P** **01 27 28.2 -0.5**
JNU IAmb IAmb 01 27 31.1
comp=Z,22nm,1.4s
H04A Detroit Lake 39.12 76 P **P** **01 27 30.1 +0.5**
K02D Willamette Mer 39.31 80 P **P** **01 27 32.5 +1.3**
baz=304
I04A Tendick Farm, 39.46 78 P **P** **01 27 33.0 +0.5**
baz=303,SNR=5.7
HAWA Hanford 39.80 73 IAmb IAmb 01 27 36.8
comp=Z,7.6nm,0.7s
D08A Wollman Farm, 39.82 71 P **P** **01 27 34.0 -1.4**
J04D Umpqua Nationa 39.95 78 P **P** **01 27 37.9 +1.2**
baz=304
NEW Newport 40.26 69 P **P** **01 27 38.4 -0.6**
baz=300
NEW Newport 40.26 69 P **P** **01 27 37.9 -1.1**
NEW pmax pmax
comp=Z,5.0nm,0.5s
NEW Newport 40.26 69 P **P** **01 27 37.9 -1.1**
NEW IAmb IAmb 01 27 39.2
comp=Z,4.5nm,0.5s
L04D Klamath Falls 40.41 80 P **P** **01 27 41.3 +0.9**
baz=305,SNR=6.2
YBH Yreka Blue Hor 40.44 81 P **P** **01 27 41.0 +0.4**
comp=Z,12nm,0.7s,baz=329,slow=4.5,SNR=39
YBH Yreka Blue Hor 40.44 81 P **P** **01 27 41.6 +1.0**
YBH pmax pmax
comp=Z,13nm,0.7s
YBH Yreka Blue Hor 40.44 81 P **P** **01 27 41.6 +1.0**
YBH IAmb IAmb 01 27 43.3
comp=Z,13nm,0.7s
J05D Fort Rock, OR 40.46 78 P **P** **01 27 41.6 +0.8**
baz=304
K04D Chiloquin, OR 40.51 79 P **P** **01 27 42.8 +1.6**
baz=304
M02C Callahan 40.55 81 P **P** **01 27 42.8 +1.3**
baz=306
N02D Trinity Center 40.88 81 P **P** **01 27 45.9 +1.6**
baz=306,SNR=5.4
M04C Macdoel 40.94 80 P **P** **01 27 45.6 +0.8**
baz=305,SNR=6.3
K05A Summer Lake 40.98 78 IAmb IAmb 01 27 47.5
comp=Z,11nm,1.2s
I07A Izee 41.06 76 P **P** **01 27 45.7 0.0**
O02D Mt. Diablo Mer 41.30 83 P **P** **01 27 49.2 +1.5**
baz=307
WALA Waterton Lakes 41.70 66 IAmb IAmb 01 27 52.1
comp=Z,20nm,1.3s
MOD Modoc Plateau 41.81 79 P **P** **01 27 52.0 0.0**
MOD IAmb IAmb 01 27 53.8
comp=Z,8.0nm,0.8s
O03E Paynes Creek 41.84 82 P **P** **01 27 52.7 +0.6**
baz=307,SNR=12
BMO Blue Mountains 41.95 73 P **P** **01 27 52.1 -0.8**
BMO pmax pmax
comp=Z,4.0nm,0.7s
BMO Blue Mountains 41.95 73 P **P** **01 27 52.1 -0.8**
J08A Circle Bar Ran 42.08 76 P **P** **01 27 53.8 -0.3**
ORV Oroville 42.47 82 P **P** **01 27 56.7 -0.4**
ORV pmax pmax
comp=Z,10.0nm,0.8s
ORV Oroville 42.47 82 P **P** **01 27 56.7 -0.4**
ORV IAmb IAmb 01 27 58.5
comp=Z,9.6nm,0.8s
WVOR Wild Horse Val 42.51 77 P **P** **01 27 57.2 -0.4**
WVOR pmax pmax
comp=Z,5.0nm,0.6s
WVOR Wild Horse Val 42.51 77 P **P** **01 27 57.2 -0.4**
MSO Missoula 42.84 69 P **P** **01 27 59.4 -0.8**
baz=303,SNR=7.9
MSO Missoula 42.84 69 P **P** **01 27 59.0 -1.2**
MSO IAmb IAmb 01 27 59.8
comp=Z,6.0nm,0.5s
AFDM Forest Hills D 43.16 83 P **P** **01 28 03.1 +0.3**
PAHR Pah Rah Range 43.67 81 P **P** **01 28 07.8 +0.9**
PAHR IAmb IAmb 01 28 08.7
comp=Z,12nm,0.7s
VCNR Virginia City 43.76 81 P **P** **01 28 09.0 +1.2**
VCNR IAmb IAmb 01 28 09.8
comp=Z,15nm,0.8s
PNTR Pine Nut 43.92 82 P **P** **01 28 10.4 +1.3**
CMB Columbia Colle 44.09 83 IAmb IAmb 01 28 12.4
comp=Z,12nm,1.2s
HRY Holter Researc 44.13 68 P **P** **01 28 09.4 -1.1**
LRM Limekiln Ridge 44.26 69 P **P** **01 28 10.5 -1.3**
HLID Hailey 44.39 73 P **P** **01 28 12.5 -0.2**
baz=305,SNR=8.3
HLID Hailey 44.39 73 P **P** **01 28 12.6 -0.1**
TLY Talaya 44.42 301 P **P** **01 28 14.4 +1.8**
TLY pmax pmax
comp=Z,7.0nm,0.8s
EGMT Eagleton 44.59 65 P **P** **01 28 13.6 -0.6**
baz=303
KVN Kaiserville 44.86 81 IAmb IAmb 01 28 18.1
comp=Z,8.0nm,0.6s
RYN Ryan 44.86 81 P **P** **01 28 17.5 +1.0**
BOZ Bozeman (W) 44.86 69 P **P** **01 28 15.7 -0.7**
baz=304,SNR=22
BOZ Bozeman (W) 44.86 69 P **P** **01 28 15.3 -1.1**
BOZ pmax pmax
comp=Z,10.0nm,0.5s
BOZ Bozeman (W) 44.86 69 P **P** **01 28 15.3 -1.1**
BOZ IAmb IAmb 01 28 16.4
comp=Z,10nm,0.5s
SONM Songino Array 44.96 295 P **P** **01 28 17.0 -0.1**
comp=Z,3.5nm,0.7s,baz=62,slow=9.9,SNR=18
SONM pP **pP** **01 28 40.2 -0.2**
comp=Z,2.0nm,0.5s,baz=58,slow=7.6,SNR=7.0
SONM PcP **PcP** **01 29 57.0 +0.3**
comp=Z,1.6nm,0.6s,baz=59,slow=2.6,SNR=5.1
SONM Songino Array 44.96 295 P **P** **01 28 17.9 +0.8**
SONM pP **pP** **01 28 40.0 -0.4**
NVAR Mina Array Bea 45.12 81 P **P** **01 28 19.5 +0.9**
comp=Z,11nm,0.6s,baz=297,slow=7.4,SNR=71
NVAR PcP **PcP** **01 29 58.4 +0.9**
comp=Z,0.6nm,0.6s,baz=324,slow=2.8,SNR=2.5
NVAR ScP **ScP** **01 33 39.8 -0.9**
comp=Z,0.9nm,0.7s,baz=303,slow=2.8,SNR=4.5
NVAR Mina Array Bea 45.12 81 P **P** **01 28 19.4 +0.8**
NVAR Mina Array Bea 45.12 81 **ScP** **01 33 39.2 -1.5**
FFC Flin Flon 45.20 53 P **P** **01 28 17.7 -1.0**
FFC pmax pmax
comp=Z,3.0nm,0.8s
FFC Flin Flon 45.20 53 P **P** **01 28 17.7 -1.0**
OMMB Old Mammoth Mi 45.20 83 IAmb IAmb 01 28 21.6
comp=Z,9.0nm,0.9s
NV11 Mina Array Sit 45.21 81 P **P** **01 28 20.2 +1.0**
NV11 IAmb IAmb 01 28 21.0
comp=Z,8.4nm,0.7s
QLMT Earthquake Lak 45.42 70 P **P** **01 28 20.1 -0.8**
TIA Tai'an 45.48 275 P **P** **01 28 22.8 +1.6**
TIA pmax pmax
comp=Z,19nm,0.7s
ELK Elko 45.56 77 IAmb IAmb 01 28 23.2
comp=Z,5.4nm,0.6s
YHB Horse Butte 45.60 70 P **P** **01 28 21.9 -0.4**
HHC Hu-ho-hao-te 45.98 284 *eP* **P** **01 28 28.4 +3.2**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,110nm,4.6s
TIN Tinemaha, Big 46.03 83 P **P** **01 28 26.5 +0.8**
baz=310
H17A Grant Village 46.16 70 P **P** **01 28 27.8 +0.9**
baz=306
H17A Grant Village 46.16 70 P **P** **01 28 27.1 +0.3**
H17A IAmb IAmb 01 28 28.5
comp=Z,19nm,1.4s
FLWY Flagg Ranch 46.28 70 P **P** **01 28 27.4 -0.2**
FLWY IAmb IAmb 01 28 28.6
comp=Z,6.4nm,0.6s
VES Vestal, Richgr 46.28 85 P **P** **01 28 27.7 +0.2**
baz=311,SNR=8.6
PKM Mcpherson Peak 46.46 86 P **P** **01 28 29.8 +0.7**
baz=311
RLMT Red Lodge 46.50 68 P **P** **01 28 29.2 -0.2**
baz=306,SNR=6.7
RLMT Red Lodge 46.50 68 P **P** **01 28 28.9 -0.5**
CWC Cottonwood Cre 46.52 83 P **P** **01 28 30.4 +0.9**
baz=310
ISA Isabella, Lake 46.78 84 P **P** **01 28 31.6 +0.1**
baz=311
AHID Auburn Hatcher 46.82 72 P **P** **01 28 29.9 -2.0**
R11A Troy Canyon, C 46.83 80 P **P** **01 28 32.3 +0.2**
baz=309,SNR=32
R11A Troy Canyon, C 46.83 80 IAmb IAmb 01 28 33.2
comp=Z,7.2nm,0.7s
SPUT South Promonto 46.90 74 P **P** **01 28 31.9 -0.5**
MPMC Manual Prospec 47.13 83 P **P** **01 28 35.0 +0.6**
baz=311,SNR=7.9
HWUT Hardware Ranch 47.24 74 P **P** **01 28 34.6 -0.5**
FURC Furnace Creek, 47.25 83 P **P** **01 28 35.8 +0.8**
baz=310,SNR=10
TPNV Topopah Spring 47.32 82 P **P** **01 28 36.4 +0.6**
baz=310,SNR=30
LAO LASA Array 47.33 65 P **P** **01 28 35.5 -0.1**
baz=305
DUG Dugway, Tooele 47.36 76 P **P** **01 28 36.2 +0.1**
baz=308,SNR=22
DUG Dugway, Tooele 47.36 76 P **P** **01 28 36.4 +0.3**
DUG pmax pmax
comp=Z,12nm,0.5s
DUG Dugway, Tooele 47.36 76 P **P** **01 28 36.4 +0.3**
EDW2 Edwards Air Fo 47.59 85 P **P** **01 28 38.6 +0.8**
baz=311
TCUT Toone Canyon 47.64 74 P **P** **01 28 37.7 -0.6**
BW06 Boulder Array 47.73 71 P **P** **01 28 38.3 -0.6**
baz=307,SNR=12
BW06 Boulder Array 47.73 71 P **P** **01 28 38.4 -0.6**
BW06 IAmb IAmb 01 28 39.1
comp=Z,6.0nm,0.7s
PDAR Pinedale Array 47.73 71 P **P** **01 28 38.4 -0.6**
comp=Z,4.9nm,0.6s,baz=301,slow=3.9,SNR=41
PDAR pP **pP** **01 29 03.3 +0.9**
comp=Z,1.6nm,0.6s,baz=298,slow=4.0,SNR=3.1
PDAR Pinedale Array 47.73 71 P **P** **01 28 38.0 -1.0**
PDAR **pP** **01 29 02.4 0.0**
SHOC Shoshone, Teco 47.98 83 P **P** **01 28 41.3 +0.6**
baz=311,SNR=9.5
MWC Mount Wilson 47.98 86 P **P** **01 28 41.0 0.0**
MWC pmax pmax
comp=Z,33nm,1.3s
MWC Mount Wilson 47.98 86 P **P** **01 28 41.0 0.0**
GSC Goldstone, Bar 48.04 84 P **P** **01 28 42.0 +0.6**
baz=311,SNR=20
BFSC Mount Baldy Ra 48.22 85 P **P** **01 28 43.5 +0.7**
baz=312
TUQ Turquoise Moun 48.50 83 P **P** **01 28 45.3 +0.5**
baz=311,SNR=6.9
HEC Hector,Ludlow 48.65 84 P **P** **01 28 46.5 +0.6**
baz=312
MSU Marysvale 48.80 77 P **P** **01 28 47.8 +0.5**
MSU Marysvale 48.80 77 P **P** **01 28 47.8 +0.5**
MURC Murrieta 48.93 86 P **P** **01 28 48.4 +0.3**
baz=312
GMRC Granite Mounta 49.09 83 P **P** **01 28 49.9 +0.5**
baz=312,SNR=13
LCMT Little Creek M 49.12 79 P **P** **01 28 49.7 +0.2**
LCMT **pP** **01 29 13.2 0.0**
PFO Pinyon Flats O 49.38 85 P **P** **01 28 51.9 +0.3**
baz=312
BELC Belle Mtn. Jos 49.40 84 P **P** **01 28 51.8 0.0**
baz=312,SNR=6.5
PKCU Pink Cliffs 49.41 78 P **P** **01 28 52.6 +0.7**
109C Camp Elliot, M 49.47 86 P **P** **01 28 52.9 +0.8**
baz=313
K22A Casper 49.57 69 P **P** **01 28 52.4 -0.5**
baz=308
NEE2 Needles Airpor 49.74 83 P **P** **01 28 54.5 +0.3**
baz=312
SPITS Spitsbergen Ar 49.79 355 P **P** **01 28 54.4 +0.4**
comp=Z,0.8nm,0.4s,baz=53,slow=7.4,SNR=12
IRM Iron Mountain 49.82 84 P **P** **01 28 55.2 +0.4**
baz=312,SNR=8.9
MONP2 Monument Peak 49.88 86 P **P** **01 28 56.1 +0.6**
baz=313,SNR=5.1
BC3 Big Chuckawall 49.97 84 P **P** **01 28 56.3 +0.2**
baz=312
W13A Hualapai Mount 49.97 82 IAmb IAmb 01 28 57.4
comp=Z,6.2nm,0.7s
U15A North Rim 50.08 79 P **P** **01 28 57.6 +0.6**
RSSD Black Hills 50.09 66 P **P** **01 28 55.8 -1.2**
baz=308
O20A White River Ci 50.13 73 P **P** **01 28 56.7 -0.7**
baz=309,SNR=8.1
O20A White River Ci 50.13 73 P **P** **01 28 56.2 -1.1**
O20A IAmb IAmb 01 28 57.5
comp=Z,7.8nm,0.7s
IKP In-Ko-Pah, Jac 50.24 86 P **P** **01 28 58.6 +0.5**
baz=313
MDND Maddock 50.28 60 P **P** **01 28 58.3 +0.2**
baz=307
PDMCI Parker Dam,Lak 50.34 83 P **P** **01 28 59.3 +0.6**
baz=312
PV09 Paradox Valley 50.64 75 P **P** **01 29 01.3 0.0**
PV21 Cone Mtn., Par 50.70 75 IAmb IAmb 01 29 03.7
comp=Z,6.6nm,0.6s
GLA Glamis 50.76 84 P **P** **01 29 02.6 +0.6**
baz=313
GLA Glamis 50.76 84 P **P** **01 29 01.9 0.0**
GLA *PP **pP** **01 29 26.2 +0.7**
GLA pmax pmax
comp=Z,15nm,0.7s
GLA Glamis 50.76 84 P **P** **01 29 01.9 0.0**
GLA pP **pP** **01 29 26.2 +0.7**
ULM Lac du Bonnet 50.79 56 P **P** **01 29 01.1 -0.8**
comp=Z,2.4nm,0.4s,baz=306,slow=7.3,SNR=2.2
ULM Lac du Bonnet 50.79 56 P **P** **01 29 01.1 -0.8**
ULM pmax pmax
comp=Z,5.0nm,1.0s
ULM Lac du Bonnet 50.79 56 IAmb IAmb 01 29 03.0
comp=Z,4.9nm,0.9s
PV22 Blue Mesa, Par 50.83 75 P **P** **01 29 02.0 -0.6**
PV22 IAmb IAmb 01 29 04.3
comp=Z,6.1nm,0.8s
PV20 West Nyswonger 50.84 75 IAmb IAmb 01 29 04.6
comp=Z,7.3nm,0.6s
PV04 Paradox Valley 50.85 75 IAmb IAmb 01 29 03.2
comp=Z,8.7nm,0.7s
PV18 Skein Mesa, Pa 50.94 75 IAmb IAmb 01 29 03.9
comp=Z,8.4nm,0.7s
PV12 Saucer Basin, 50.96 75 IAmb IAmb 01 29 06.2
comp=Z,6.2nm,0.7s
PV03 Paradox Valley 50.97 75 IAmb IAmb 01 29 04.1
comp=Z,9.3nm,0.7s
WHN Wuhan 50.99 271 P **P** **01 29 04.9 +1.3**
N23A Red Feather La 51.01 71 P **P** **01 29 03.9 -0.1**
baz=310
PV13 Radium Mtn., P 51.05 75 P **P** **01 29 04.1 -0.2**
PV01 Paradox Valley 51.22 75 IAmb IAmb 01 29 06.0
comp=Z,4.9nm,0.8s
WUAZ Wupatki 51.23 80 P **P** **01 29 06.0 +0.4**
baz=312,SNR=7.3
WUAZ Wupatki 51.23 80 IAmb IAmb 01 29 07.2
comp=Z,18nm,1.4s
Y14A Wickenburg 51.29 82 IAmb IAmb 01 29 06.8
comp=Z,4.5nm,0.8s
MVCO Mesa Verde 51.86 76 P **P** **01 29 10.8 +0.5**
baz=311
ISCO Idaho Springs 51.90 72 P **P** **01 29 11.0 +0.4**
baz=310
XAN Xi'an 51.96 279 P **P** **01 29 11.5 +0.7**
XAN pmax pmax
comp=Z,9.0nm,0.8s
XAN LR LR
comp=E,530nm,27.1s
XAN Xi'an 51.96 279 P **P** **01 29 10.3 -0.5**
XAN pmax pmax
comp=Z,5.0nm,0.7s
XAN Xi'an 51.96 279 P **P** **01 29 10.3 -0.5**
XAN IAmb IAmb 01 29 12.0
comp=Z,5.2nm,0.7s
AGMN Agassiz Nation 51.99 58 P **P** **01 29 10.1 -0.7**
baz=308,SNR=5.4
AGMN Agassiz Nation 51.99 58 P **P** **01 29 09.6 -1.3**
AGMN IAmb IAmb 01 29 10.7
comp=Z,7.6nm,0.9s
ZALV Zalesovo Beam 52.51 312 P **P** **01 29 14.6 0.0**
comp=Z,0.6nm,0.4s,baz=57,slow=8.6,SNR=2.3
ZALV PcP **PcP** **01 30 23.4 -0.2**
comp=Z,2.1nm,0.6s,baz=22,slow=5.2,SNR=5.8
ZALV Zalesovo Beam 52.51 312 P **P** **01 29 14.2 -0.3**
S22A 4UR Ranch, Cre 52.51 74 P **P** **01 29 15.3 +0.1**
baz=311,SNR=5.8
214A Organ Pipe Nat 52.75 84 P **P** **01 29 17.4 +0.7**
baz=314
214A Organ Pipe Nat 52.75 84 P **P** **01 29 16.3 -0.5**
214A IAmb IAmb 01 29 18.2
comp=Z,11nm,1.1s
B35A Bob, Littlefor 53.07 56 IAmb IAmb 01 29 18.6
comp=Z,6.3nm,0.8s
SUMG Summit 53.23 13 P **P** **01 29 20.8 +0.7**
TUC Tucson 53.76 82 P **P** **01 29 25.1 +0.9**
baz=314
TUC Tucson 53.76 82 P **P** **01 29 24.2 0.0**
TUC pmax pmax
comp=Z,7.0nm,1.0s
TUC Tucson 53.76 82 P **P** **01 29 24.2 0.0**
TUC IAmb IAmb 01 29 25.8
comp=Z,6.9nm,1.0s
GTA Gaotai 53.86 290 *eP* **P** **01 29 26.1 +1.2**
GTA pmax pmax
comp=Z,9.0nm,0.7s
ENH Enshi 54.19 275 P **P** **01 29 27.0 -0.2**
ENH IAmb IAmb 01 29 28.5
comp=Z,9.6nm,0.8s
T25A Trinidad 54.36 73 P **P** **01 29 28.4 -0.2**
baz=312,SNR=6.6
T25A Trinidad 54.36 73 P **P** **01 29 28.3 -0.3**
T25A IAmb IAmb 01 29 29.8
comp=Z,10nm,1.1s
EYMN Ely 54.48 56 P **P** **01 29 28.7 -0.4**
baz=310,SNR=9.4
EYMN Ely 54.48 56 P **P** **01 29 28.3 -0.8**
EYMN IAmb IAmb 01 29 29.3
comp=Z,9.9nm,0.8s
ANMO Albuquerque 54.60 77 P **P** **01 29 31.0 +0.6**
baz=313
E38A The Farm, Brul 55.33 57 P **P** **01 29 34.0 -1.2**
121A Cookes Peak, D 55.44 80 P **P** **01 29 36.9 +0.5**
baz=314
SPMN Marine on St. 55.58 59 P **P** **01 29 36.2 -0.8**
baz=311
CBKS Cedar Bluff 55.98 69 P **P** **01 29 39.9 -0.1**
baz=312
CBKS Cedar Bluff 55.98 69 P **P** **01 29 40.0 -0.1**
CBKS pmax pmax
comp=Z,12nm,0.8s
CBKS Cedar Bluff 55.98 69 P **P** **01 29 40.0 -0.1**
I37A Lemond, Waseca 56.06 60 IAmb IAmb 01 29 40.9
comp=Z,10nm,1.1s
D41A Chassel 56.56 55 IAmb IAmb 01 29 44.9
comp=Z,16nm,1.2s
COWI Conover 56.91 56 IAmb IAmb 01 29 46.6
comp=Z,6.3nm,0.8s
G40A Rib Lake 56.92 57 P **P** **01 29 45.7 -0.9**
G40A IAmb IAmb 01 29 46.3
comp=Z,4.3nm,0.7s
ARCES ARCESS Array B 57.34 349 P **P** **01 29 49.3 +0.2**
comp=Z,2.2nm,0.8s,baz=30,slow=9.3,SNR=1.9
ARCES ARCESS Array B 57.34 349 P **P** **01 29 48.0 -1.1**
MNTX Cornudas Mount 57.49 79 P **P** **01 29 51.3 +0.6**
baz=315
MNTX Cornudas Mount 57.49 79 P **P** **01 29 50.0 -0.7**
MNTX IAmb IAmb 01 29 52.3
comp=Z,8.9nm,1.1s
MSTX Muleshoe 57.49 75 P **P** **01 29 51.0 +0.1**
baz=314
MSTX Muleshoe 57.49 75 P **P** **01 29 49.8 -1.1**
MSTX IAmb IAmb 01 29 51.9
comp=Z,5.8nm,0.7s
KURK Kurchatov 57.50 312 P **P** **01 29 50.6 +0.1**
KURK *PP **pP** **01 30 14.1 -0.2**
KURK pmax pmax
comp=Z,7.0nm,1.0s
KURK Kurchatov 57.50 312 P **P** **01 29 50.6 +0.1**
KURK IAmb IAmb 01 29 52.8
comp=Z,6.6nm,0.9s
KURK pP **pP** **01 30 14.1 -0.2**
AMTX Amarillo 57.51 74 P **P** **01 29 50.8 -0.2**
baz=314
SCIA State Center 57.57 62 P **P** **01 29 50.9 -0.3**
baz=313
KSU1 Kansas State U 57.58 67 P **P** **01 29 50.4 -0.9**
baz=313
WMQ Urumqi 57.70 301 *eP* **P** **01 29 56.4 +4.3**
E43A Lone Tree Farm 57.82 55 P **P** **01 29 52.4 -0.4**
MK31 Makanchi Array 58.44 307 P **P** **01 29 57.4 +0.2**
MK31 pmax pmax
comp=Z,2.0nm,0.6s
MK31 Makanchi Array 58.44 307 P **P** **01 29 57.4 +0.2**
MKAR Makanchi Array 58.44 307 P **P** **01 29 57.4 +0.2**
comp=Z,2.4nm,0.5s,baz=51,slow=6.1,SNR=27
MKAR PcP **PcP** **01 30 47.6 +0.7**
comp=Z,1.0nm,0.6s,baz=47,slow=5.5,SNR=4.0
JFWS Jewell Farm 58.49 59 P **P** **01 29 56.7 -0.9**
baz=313
JFWS Jewell Farm 58.49 59 P **P** **01 29 56.3 -1.3**
JFWS pmax pmax
comp=Z,11nm,0.7s
JFWS Jewell Farm 58.49 59 P **P** **01 29 56.3 -1.3**
MAKZ Makanchi 58.59 307 P **P** **01 29 57.7 -0.5**
MAKZ pmax pmax
comp=Z,3.0nm,0.6s
MAKZ Makanchi 58.59 307 P **P** **01 29 57.7 -0.5**
MAKZ IAmb IAmb 01 29 59.1
comp=Z,3.5nm,0.6s
D46A Sault St. Mari 58.94 53 P **P** **01 30 00.2 -0.4**
baz=314,SNR=5.3
P38A Dawn 58.96 64 P **P** **01 29 59.1 -1.8**
P38A **pP** **01 30 22.9 -2.3**
F45A CMU Biological 59.04 54 P **P** **01 30 01.0 -0.4**
baz=314
D47A Chapleau 59.28 52 P **P** **01 30 02.6 -0.4**

baz=314,SNR=8.3
WMOK Wichita Mounta 59.33 72 P P 01 30 03.1 -0.5
baz=314,SNR=8.0
WMOK Wichita Mounta 59.33 72 P P 01 30 03.2 -0.3
WMOK pmax pmax
comp=Z,4.0nm,0.8s
WMOK Wichita Mounta 59.33 72 P P 01 30 03.2 -0.3
WMOK IAmb IAmb 01 30 04.1
comp=Z,3.9nm,0.8s
G46A Petoskey 59.63 54 P P 01 30 05.1 -0.3
baz=314
N41A Harden Midland 59.69 62 P P 01 30 04.2 -1.6
I45A Fountain 59.82 56 P P 01 30 06.3 -0.5
baz=314
D48A Paudash Townsh 59.83 51 P P 01 30 06.1 -0.7
baz=315
P40A Paris 59.85 63 P P 01 30 05.2 -1.8
D49A Beulah Townshi 59.98 51 P P 01 30 07.2 -0.5
baz=315
H46A Fife Lake 60.00 55 P P 01 30 08.0 +0.1
baz=315
E48A Lockeyer 60.15 52 P P 01 30 08.4 -0.5
baz=315,SNR=5.0
TX32 Lajitas Array 60.20 80 P P 01 30 09.8 +0.2
TX32 IAmb IAmb 01 30 10.8
comp=Z,7.1nm,1.0s
TXAR Lajitas Array 60.20 80 P P 01 30 09.2 -0.4
comp=Z,3.0nm,0.4s,baz=316,slow=5.0,SNR=37
G47A Hillman 60.23 54 P P 01 30 09.8 +0.3
baz=315
L44A Lake County Fo 60.25 59 P P 01 30 09.3 -0.3
baz=315
TUL1 Leonard 60.25 69 P P 01 30 09.5 -0.3
baz=315
I46A Reed City 60.30 56 P P 01 30 09.5 -0.5
baz=315
ABTX Abilene, Hawle 60.30 74 P P 01 30 10.1 -0.1
baz=315
ABTX Abilene, Hawle 60.30 74 IAmb IAmb 01 30 10.7
comp=Z,5.7nm,0.6s
F48A Evansville 60.39 53 P P 01 30 10.3 -0.3
baz=315
H47A Mio 60.46 55 P P 01 30 10.7 -0.4
baz=315
HDIL Hopedale 60.64 61 P P 01 30 11.4 -1.0
baz=315,SNR=6.3
SCHQ Schefferville 60.64 37 P P 01 30 12.0 -0.2
comp=Z,2.7nm,0.4s,baz=300,slow=6.4,SNR=8.8
SCHQ Schefferville 60.64 37 P P 01 30 11.7 -0.5
SCHQ IAmb IAmb 01 30 12.9
comp=Z,8.6nm,1.1s
F49A Sandfield 60.72 52 P P 01 30 12.3 -0.5
baz=316,SNR=6.5
D50A G1974 Best Tow 60.78 50 P P 01 30 12.2 -1.0
baz=316,SNR=5.4
E50A Wahnapitae 60.88 51 P P 01 30 13.3 -0.6
baz=316
D51A Lot 18 Range I 61.05 50 P P 01 30 14.1 -1.0
baz=316
HHAR Hobbs 61.06 67 IAmb IAmb 01 30 14.5
comp=Z,7.4nm,0.6s
P43A Skaggs, Pawnee 61.16 62 IAmb IAmb 01 30 16.5
comp=Z,12nm,1.0s
VLDQ Val d'Or 61.21 48 P P 01 30 13.2 -2.9
VLDQ IAmb IAmb 01 30 14.1
comp=Z,5.0nm,0.8s
CHGQ Chibougamau 61.27 45 P P 01 30 15.2 -1.3
baz=318,SNR=5.2
ARU Arti 61.33 327 P P 01 30 17.6 +0.9
ARU pmax pmax
comp=Z,7.0nm,0.5s
ARU Arti 61.33 327 P P 01 30 17.6 +0.9
CCM Cathedral Cave 61.33 64 P P 01 30 16.1 -0.9
baz=315
E51A G1948 Merrick 61.40 50 P P 01 30 16.2 -1.2
baz=316
X37A Clayton 61.43 70 IAmb IAmb 01 30 18.4
comp=Z,7.3nm,0.8s
D52A ZEK Kipawa Sen 61.59 49 P P 01 30 17.6 -1.1
baz=317
J48A Bridge Port 61.60 55 P P 01 30 18.6 -0.2
baz=316
U40A Yellville 61.62 67 P P 01 30 17.9 -1.2
baz=315,SNR=10
U40A Yellville 61.62 67 IAmb IAmb 01 30 18.9
comp=Z,10nm,0.8s
F51A Arnstein 61.63 51 P P 01 30 18.0 -0.9
baz=316
JCT Junction City 61.73 76 P P 01 30 20.2 +0.3
baz=316
D53A Lac Vacive, Po 61.85 49 P P 01 30 19.3 -1.1
baz=317
W39A Magazine 61.91 68 P P 01 30 20.6 -0.4
baz=316,SNR=5.6
W39A Magazine 61.91 68 IAmb IAmb 01 30 22.0
comp=Z,5.6nm,0.7s
SFIN Lafayette 61.95 60 P P 01 30 20.6 -0.6
baz=316
E52A Mattawa 61.98 50 P P 01 30 20.0 -1.3
baz=317
F52A Sundridge 62.01 51 P P 01 30 20.6 -1.0
baz=317
WHTX Lake Whitney, 62.05 73 P P 01 30 22.0 0.0
baz=316,SNR=8.1
WHTX Lake Whitney, 62.05 73 P P 01 30 21.5 -0.5
K49A Clarkson 62.14 56 P P 01 30 22.0 -0.5
baz=316
D54A Lac Fusel, La 62.28 48 P P 01 30 22.0 -1.3
baz=317
FCAR Ozark Folk Cen 62.37 66 P P 01 30 22.6 -1.5
E53A Dumoine, Ponti 62.38 49 P P 01 30 23.0 -1.0
baz=317
MIAR Mount Ida 62.50 68 P P 01 30 24.6 -0.3
baz=316,SNR=13
MIAR Mount Ida 62.50 68 P P 01 30 24.6 -0.3
MIAR pmax pmax
comp=Z,12nm,0.6s
MIAR Mount Ida 62.50 68 P P 01 30 24.6 -0.3
ALGO Algonquin Park 62.51 50 P P 01 30 24.3 -0.5
baz=317
E54A Lac Daplat, Po 62.56 49 P P 01 30 24.1 -1.1
baz=317
I51A Listowel 62.63 53 P P 01 30 26.0 +0.3
baz=317
PBMO Poplar Bluff 62.69 65 IAmb IAmb 01 30 25.7
comp=Z,9.5nm,0.7s
WHAR Wooly Hollow 62.71 67 IAmb IAmb 01 30 25.9
comp=Z,13nm,1.2s
W41B Gary Mavity, V 62.81 67 P P 01 30 26.0 -1.0
baz=316,SNR=8.1
G53A Haliburton 62.84 51 P P 01 30 26.3 -0.7
baz=317,SNR=7.8
D55A Sainte-Anne-du 62.92 48 P P 01 30 26.5 -1.1
baz=318,SNR=7.0
X40A Basin Creek Fa 62.97 68 P P 01 30 27.5 -0.5
baz=316
D56A ZEC Mazanza, M 63.23 47 P P 01 30 28.5 -1.1
baz=318
H53A Bobcaygeon 63.26 51 P P 01 30 28.9 -0.9
baz=317
J52A Paris 63.31 53 P P 01 30 30.0 -0.2
baz=317
E56A St. Veronique 63.48 48 P P 01 30 29.9 -1.3
baz=318
D57A Chemin Vers le 63.65 47 P P 01 30 30.9 -1.4
baz=319
G55A Calabogie 63.65 50 P P 01 30 30.9 -1.5
baz=318
P49A Miami Univ. Ec 63.83 59 P P 01 30 32.3 -1.3
baz=317
LATQ La Tuque 63.87 46 P P 01 30 32.6 -1.2
baz=319
WCI Wyandotte Cave 63.93 61 P P 01 30 34.1 -0.3
baz=317
H55A Tweed 63.95 50 P P 01 30 33.6 -0.8
baz=318
I55A Frankford 63.96 51 P P 01 30 33.6 -0.8
baz=318
E57A Chemin Saint G 63.98 47 P P 01 30 33.1 -1.5
baz=319,SNR=6.9
D58A Chemin du LacG 64.04 46 P P 01 30 33.6 -1.3
baz=319
N51A Ashland 64.05 56 P P 01 30 34.1 -1.0
baz=317
J54A Appleton 64.20 52 P P 01 30 34.7 -1.2
baz=318
H56A Elgin 64.36 50 P P 01 30 36.1 -0.9
baz=318
E58A La Victoria 64.41 47 P P 01 30 36.1 -1.2
baz=319
O51A Pataskala 64.49 57 P P 01 30 37.3 -0.7
baz=317
J55A Hilton 64.61 52 P P 01 30 38.2 -0.4
baz=318
WVT Waverly 64.61 63 P P 01 30 38.3 -0.5
baz=317
L54A Sinclairville 64.63 53 P P 01 30 38.5 -0.4
baz=318
K54A Basiliko Farm, 64.66 53 P P 01 30 38.7 -0.4
baz=318
P51A Williamsport 64.74 58 P P 01 30 38.8 -0.8
baz=317
H57A Richville 64.87 49 P P 01 30 39.7 -0.7
baz=319
K55A Perry 64.88 52 P P 01 30 39.9 -0.6
baz=318
OXF Oxford 64.90 66 P P 01 30 40.0 -0.7
baz=317
O52A Adamsville 64.92 57 P P 01 30 40.3 -0.4
baz=318
O52A Adamsville 64.92 57 IAmb IAmb 01 30 40.8
comp=Z,13nm,0.9s
FINES FINESS Array B 64.95 346 P P 01 30 40.0 -0.6
comp=Z,5.5nm,1.2s,baz=23,slow=7.5,SNR=1.8
FINES FINESS Array B 64.95 346 P P 01 30 40.0 -0.6
M54A Oil Creek Stat 65.00 54 P P 01 30 40.3 -0.9
baz=318
F59A Saint Guilaume 65.03 47 P P 01 30 40.1 -1.2
baz=320
D60A Saint Jean D'O 65.04 45 P P 01 30 40.2 -1.3
baz=320
J56A Wolcott 65.06 51 P P 01 30 40.5 -1.1
baz=319
L55A Hinsdale 65.11 53 P P 01 30 41.4 -0.6
baz=318
P52A Corning 65.12 57 P P 01 30 41.1 -1.0
baz=318
D61A St Aubert, Com 65.14 44 P P 01 30 40.9 -1.2
baz=320
E60A Ste Agathe de 65.23 46 P P 01 30 41.7 -0.9
baz=320
N54A Moraine State 65.24 55 P P 01 30 42.1 -0.7
baz=318
K56A Middlesex 65.27 52 P P 01 30 42.6 -0.4
baz=319,SNR=6.5
AAK Ala-Archa 65.29 308 P P 01 30 43.7 +0.4
AAK pmax pmax
comp=Z,4.0nm,0.8s
AAK Ala-Archa 65.29 308 P P 01 30 43.7 +0.4
J57A Williamstown 65.38 51 P P 01 30 42.9 -0.8
baz=319
CLTN Cedars of Leba 65.47 62 IAmb IAmb 01 30 44.8
comp=Z,12nm,0.8s
M55A Ridgway 65.48 54 P P 01 30 44.1 -0.2
baz=318
Q52A Bidwell 65.54 58 P P 01 30 44.1 -0.7
baz=318
L56A Greenwood 65.57 52 P P 01 30 44.6 -0.4
baz=319,SNR=12
O54A Avella 65.62 56 P P 01 30 45.5 +0.3
baz=318
K57A Scipio Center 65.64 51 P P 01 30 44.7 -0.7
baz=319
ZAIG Zacatecas 65.65 84 P P 01 30 46.5 +0.5
ZAIG IAmb IAmb 01 30 47.9
comp=Z,12nm,1.0s
I58A Old Forge 65.65 50 P P 01 30 44.5 -1.0
baz=319
D62A Allapoint, All 65.73 44 P P 01 30 45.5 -0.4
baz=321
F61A St Evariste 65.74 46 P P 01 30 45.3 -0.6
baz=320
J58A Remsen 65.75 50 P P 01 30 45.4 -0.7
baz=319
M56A Emporium 65.75 53 P P 01 30 45.5 -0.7
baz=319
M56A Emporium 65.75 53 IAmb IAmb 01 30 46.6
comp=Z,14nm,1.2s
N55A Marion Center 65.88 54 P P 01 30 46.4 -0.6
baz=318
E62A Clayton Lake 65.88 44 P P 01 30 46.0 -0.8
baz=321
P54A Burton 66.00 56 P P 01 30 46.8 -0.9
baz=318
Q53A Leroy 66.01 57 P P 01 30 47.4 -0.4
baz=318
L57A Andrews Acres 66.03 52 P P 01 30 47.4 -0.5
baz=319
G61A St-Isidore-de- 66.03 47 P P 01 30 46.8 -1.1
baz=320
K58A Earlille 66.03 51 P P 01 30 47.1 -0.8
baz=319
J59A Piesco 66.05 50 P P 01 30 46.9 -1.1
baz=320
H60A Morristown 66.05 48 P P 01 30 46.9 -1.1
baz=320
I59A Olmsteadville 66.09 49 P P 01 30 47.2 -1.1
baz=320
N56A West Decatur 66.12 54 P P 01 30 47.2 -1.4
baz=319
O55A Ligonier 66.15 55 P P 01 30 48.3 -0.3
baz=319
D63A Stockholm 66.17 43 P P 01 30 48.2 -0.5
baz=322
R53A Hurricane 66.17 58 P P 01 30 48.1 -0.7
baz=318
F62A Pittston Farm, 66.25 45 P P 01 30 48.6 -0.6
baz=321
Q54A Coxs Mills 66.27 57 P P 01 30 48.7 -0.7
baz=318
BINY Binghamton 66.30 51 P P 01 30 49.1 -0.5
baz=319
I60A Shoreham 66.33 49 P P 01 30 48.6 -1.1
baz=320
M57A Sunshine Farm, 66.39 53 P P 01 30 50.0 -0.2
baz=319
M57A Sunshine Farm, 66.39 53 IAmb IAmb 01 30 50.9
comp=Z,22nm,1.3s
K59A Cooperstown 66.41 50 P P 01 30 49.7 -0.6
baz=320
H61A Lyndonville 66.42 47 P P 01 30 49.5 -0.8
baz=320
O56A Blue Knob Stat 66.47 54 P P 01 30 51.1 +0.3
baz=319
L58A Harry Jones Me 66.48 51 P P 01 30 50.4 -0.4
baz=319
E63A Oxbow 66.51 44 P P 01 30 49.8 -1.1
baz=322
G62A West of Eustis 66.53 46 P P 01 30 50.3 -0.7
baz=321
G62A West of Eustis 66.53 46 IAmb IAmb 01 30 51.6
comp=Z,20nm,1.5s
SSPA Standing Stone 66.54 54 P P 01 30 50.5 -0.6
baz=319
SSPA Standing Stone 66.54 54 P P 01 30 50.2 -0.9
SSPA IAmb IAmb 01 30 50.9
comp=Z,6.3nm,0.8s
ABKAR Akbulak array 66.56 321 P P 01 30 52.3 +1.2
N57A Milroy 66.62 53 P P 01 30 51.0 -0.7
baz=319
TZTN Tazewell 66.65 60 P P 01 30 51.5 -0.5
baz=318
LBNH Lisbon 66.65 48 P P 01 30 51.2 -0.6
baz=320
Q55A Buckhannon 66.65 56 P P 01 30 51.4 -0.6
baz=319
M58A Pri's Panora 66.69 52 P P 01 30 51.7 -0.5
baz=319
J60A Lant Hill Farm 66.72 49 P P 01 30 51.7 -0.6
baz=320
H62A Milan 66.75 47 P P 01 30 51.3 -1.1
baz=321,SNR=5.1
H62A Milan 66.75 47 IAmb IAmb 01 30 52.4
comp=Z,10.0nm,0.9s
I61A Oroboro, Fairl 66.76 48 P P 01 30 51.7 -0.8
baz=320
L59A Walton 66.76 51 P P 01 30 52.0 -0.6
baz=320
E64A Bridgewater 66.77 44 P P 01 30 51.6 -0.9
baz=322
F63A Nahmakanta, Br 66.78 45 P P 01 30 52.2 -0.4
baz=321
R54A Victor 66.79 57 P P 01 30 52.2 -0.6
baz=318
KK31 Karatay Array 66.84 311 pP pP 01 31 18.9 +1.2
KKAR Karatay Array 66.84 311 P P 01 30 53.8 +0.7
KKAR pP pP 01 31 18.5 +0.7
T53A Wise 66.87 59 P P 01 30 53.2 -0.2
baz=318
P56A Dayton Farm, R 66.91 55 P P 01 30 53.2 -0.3
baz=319
CPCT Cooper Cave 66.93 62 IAmb IAmb 01 30 53.4
comp=Z,12nm,1.4s
N58A Sunbury 66.97 53 P P 01 30 53.4 -0.4
baz=319
F64A Sherman 66.98 44 P P 01 30 53.2 -0.7
baz=322
F64A Sherman 66.98 44 IAmb IAmb 01 30 53.7
comp=Z,5.0nm,0.7s
O57A Amberson 66.99 54 P P 01 30 53.5 -0.5
baz=319
NB2 NORSAR Subarra 67.01 353 P pP 01 31 17.9 -0.5
comp=Z,18nm,2.0s,baz=7.9,slow=6.5
NOA NORSAR Array B 67.01 353 P P 01 30 54.0 +0.1
comp=Z,0.5nm,0.7s,baz=9.0,slow=6.4,SNR=2.2
NOA pP pP 01 31 18.2 -0.1
comp=Z,1.8nm,0.7s,baz=9.0,slow=6.4,SNR=5.6
G63A Kingsbury 67.01 46 P P 01 30 52.9 -1.2
baz=321
PKME Peaks-Kenny Pk 67.04 45 P P 01 30 53.7 -0.6
baz=322
J61A Chester 67.05 49 P P 01 30 53.5 -0.8
baz=320
M59A Waymart 67.06 52 P P 01 30 53.5 -1.0
baz=320
I62A Tamworth 67.20 47 P P 01 30 54.2 -1.1
baz=321
K61A Williamstown 67.24 49 P P 01 30 55.2 -0.4
baz=320
G64A Maxfield 67.28 45 P P 01 30 55.4 -0.3
baz=322
L60A Shokan 67.31 51 P P 01 30 55.9 -0.1
baz=320
T54A Tazewell 67.32 59 P P 01 30 55.9 -0.3
baz=319
P57A Homestead Farm 67.34 55 P P 01 30 55.6 -0.6
baz=319
LRAL Lakeview Retre 67.35 65 P P 01 30 55.4 -0.9
baz=318
N59A State Game Lan 67.38 52 P P 01 30 56.0 -0.5
baz=320
N59A State Game Lan 67.38 52 IAmb IAmb 01 30 56.9
comp=Z,11nm,0.9s
O58A Lewisberry 67.41 54 P P 01 30 55.9 -0.8
baz=320
I63A Otisfield 67.41 47 P P 01 30 55.8 -0.8
baz=321
R56A Bull Pasture M 67.45 56 P P 01 30 56.3 -0.7
baz=319
J62A Henniker 67.49 48 P P 01 30 56.6 -0.5
baz=321
H64A Troy 67.56 46 P P 01 30 57.4 -0.1
baz=322
U54A Nelsons Funny 67.59 59 P P 01 30 57.7 -0.3
baz=319
M60A Port Jervis 67.62 51 P P 01 30 57.3 -0.7
baz=320
O59A Robesonia 67.63 53 P P 01 30 57.2 -0.9
baz=320
L61B Northampton 67.68 49 P P 01 30 57.2 -1.1
baz=321
N60A Cedar Hill Far 67.74 52 P P 01 30 58.1 -0.6
baz=320
J63A Strafford 67.78 48 P P 01 30 58.3 -0.7
baz=321
G65A Princeton 67.85 44 P P 01 30 58.7 -0.6
baz=322
S56A Natural Bridge 67.91 57 P P 01 30 59.3 -0.6
baz=319
Q58A Fox Den Farm, 67.92 55 P P 01 30 59.3 -0.6
baz=320
H65A Eastbrook 67.95 45 P P 01 30 58.8 -1.1
baz=322
R57A Stanardsville 67.98 56 P P 01 30 59.6 -0.7
baz=319
O60A Telford 68.01 52 P P 01 31 00.1 -0.3
baz=320
P59A Jarrettsville 68.04 54 P P 01 31 00.2 -0.4
baz=320
V54A Nebo 68.08 60 P P 01 31 00.6 -0.4
baz=319
H66A Whiting 68.28 44 P P 01 31 01.6 -0.4
baz=322
P60A Greenville 68.28 53 P P 01 31 02.0 -0.1
baz=320
SHL Shillong 68.34 284 P P 01 31 02.9 0.0
SHL pmax pmax
comp=Z,14nm,1.0s
SHL Shillong 68.34 284 P P 01 31 02.9 0.0
SHL IAmb IAmb 01 31 04.9
comp=Z,14nm,1.0s
V55A Taylorsville 68.42 59 P P 01 31 03.0 -0.1
baz=319
W54A Cherokee Point 68.47 60 P P 01 31 03.2 -0.2
baz=319
U56A King 68.49 58 P P 01 31 03.5 0.0
baz=319
LMN Caledonia Moun 68.50 42 P P 01 31 01.7 -1.7
LMN IAmb IAmb 01 31 03.6
comp=Z,10nm,0.9s
T57A Hurt 68.59 57 P P 01 31 03.5 -0.6
baz=319
X54A Belton 68.78 61 P P 01 31 05.2 -0.1
baz=319
M63A Gales Ferry 68.79 50 P P 01 31 04.4 -0.8
baz=321
V56A Mocksville 68.83 59 P P 01 31 05.3 -0.3
baz=319
KMSC Kings Mountain 68.89 60 P P 01 31 05.6 -0.4
baz=319
T58A Grand View Acr 69.00 57 P P 01 31 06.0 -0.7
baz=320
GOGA Godfrey 69.03 63 P P 01 31 05.8 -1.0
baz=319
X55A Gracelyn & Ava 69.23 61 P P 01 31 08.0 -0.2
baz=319
W56A Indian Trail 69.30 59 P P 01 31 09.0 +0.5
baz=320
CMAR Chiang Mai Arr 69.33 274 P P 01 31 09.2 +0.3
comp=Z,2.3nm,0.5s,baz=24,slow=7.0,SNR=11
CMAR Chiang Mai Arr 69.33 274 P P 01 31 09.3 +0.3
CMAR *PP pP 01 31 33.3 -0.6
CMAR Chiang Mai Arr 69.33 274 PcP PcP 01 31 28.2 -3.7
CMAR pP 01 31 33.3 -0.6
TAPN Taplejung 69.50 288 eP P 01 31 11.8 +1.6
Y55A Saluda 69.52 61 P P 01 31 09.5 -0.4
baz=319
X56A White Oak 69.54 60 P P 01 31 09.5 -0.5
baz=320
V58A Windy Hill, Pi 69.57 58 P P 01 31 09.8 -0.4
baz=320
W57A Gilead 69.60 59 P P 01 31 09.9 -0.4
baz=320
ODAN Odare 70.05 288 eP P 01 31 14.8 +1.2
V59A Middlesex 70.06 57 P P 01 31 12.7 -0.4
baz=320
W58A Raeford 70.10 59 P P 01 31 13.1 -0.3
baz=320
GAR Garm 70.11 308 P P 01 31 14.1 +0.5
GUN Gumba 70.15 290 eP P 01 31 15.9 +1.6
comp=Z,42nm,0.4s
JIRN Jiri 70.16 290 eP P 01 31 16.0 +1.6
comp=Z,53nm,0.7s
RAMN Ramite 70.45 289 eP P 01 31 17.4 +1.4
comp=Z,33nm,0.5s
KKN Kakani 70.59 290 eP P 01 31 18.2 +1.4
comp=Z,26nm,0.6s
PKI Pulchoki 70.68 290 eP P 01 31 18.7 +1.2
comp=Z,26nm,0.6s
PKIN Phulchoki 70.68 290 eP P 01 31 18.6 +1.2
comp=Z,27nm,0.5s
GKN Gorkha 70.80 291 eP P 01 31 19.0 +1.0
DMN Daman 70.83 290 eP P 01 31 19.7 +1.4
comp=Z,9.4nm,0.4s
CHGR Chuyangaron 70.94 309 P P 01 31 18.7 +0.1
DANN Dangsing 71.05 292 eP P 01 31 21.1 +1.4
comp=Z,37nm,0.7s
KOLN Koldanda 71.58 291 eP P 01 31 24.0 +1.2
comp=Z,16nm,0.7s
PYUN Piuthan 71.68 292 eP P 01 31 24.4 +1.0
NIL Nilore 72.78 303 P P 01 31 27.5 -2.1
NIL pmax pmax
comp=Z,13nm,0.9s
KBL Kabul 74.24 306 P P 01 31 37.6 -0.8

KBL				pmax	pmax			
	comp=Z,11nm,1.0s							
AKASG	**Malin Array Be**	**74.58**	**340**	P	**P**	**01 31 38.7**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=20,slow=6.1,SNR=3.4							
AKASG				pP	**pP**	**01 32 04.5**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=20,slow=6.0,SNR=3.0							
GEYT	**Alibeck**	**76.61**	**316**	P	**P**	**01 31 52.5**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=79,slow=3.2,SNR=4.6							
GEYT	**Alibeck**	**76.61**	**316**	P	**P**	**01 31 49.8**	**-1.9**
KBZ	**Khabaz**	**77.38**	**329**	P	**P**	**01 31 56.1**	**+0.3**
	comp=Z,1.6nm,0.7s,baz=288,slow=3.2,SNR=2.9							
WR0	**Warramunga Arr**	**81.17**	**221**	P	**P**	**01 32 16.8**	**+0.2**
WR0				IAmb	IAmb	01 32 17.5		
	comp=Z,7.2nm,0.6s							
WB2	**Warramunga Arr**	**81.23**	**222**	P	**P**	**01 32 17.5**	**+0.6**
WRA	**Warramunga Arr**	**81.24**	**222**	P	**P**	**01 32 17.6**	**+0.6**
	comp=Z,4.5nm,0.7s,baz=32,slow=5.9,SNR=18							
ASAR	**Alice Springs**	**84.75**	**220**	P	**P**	**01 32 36.1**	**+1.2**
	comp=Z,4.1nm,0.8s,baz=22,slow=5.5,SNR=28							
ASAR	**Alice Springs**	**84.75**	**220**	P	**P**	**01 32 35.0**	**0.0**
STKA	**Stephens Creek**	**89.45**	**211**	P	**P**	**01 32 58.6**	**+1.1**
	comp=Z,5.0nm,0.7s,baz=351,slow=5.9,SNR=8.4							
TORD	**Torodi Ar. Bea**	**115.22**	**357**	PKP	**PKiKP**	**01 38 40.7**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=340,slow=2.4,SNR=5.4							
BOSA	**Boshof**	**149.42**	**309**	PKPbc	**PKPbc**	**01 39 49.4**	**0.0**
	comp=Z,3.5nm,0.6s,baz=24,slow=2.2,SNR=18							

*NEIC **24** 01:21:33.1±0.6,51.8N±0.1×178.6E±0.1,h97km±5km,*
Error ellipse: s-maj=22.1km s-min=5.8km az=212.0
AEIC 24 01:21:34±0.5,**51.8N**±0.1×**178.7E**±0.1,**h93**km±4km,**ML3.4, mb3.8**/3(NEIC),**Error ellipse: s-maj=21.4km s-min=5.1km az=212.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSPA	**Little Sitkin**	**0.18**	**340**		Pn	01 21 46.8	-0.4
LSNW	**Little Sitkin**	**0.21**	**332**		Pn	01 21 47.1	-0.3
LSNW					Sn	01 21 57.0	-0.2
CETU	**Semis' Tuman**	**0.54**	**70**		Pn	01 21 49.0	-0.3
CESW	**Semis' Southwe**	**0.56**	**78**		Pn	01 21 49.0	-0.6
AMKA	**Amchitka**	**0.57**	**136**		Pn	01 21 49.1	-0.4
AMKA					Sn	01 22 00.8	-0.3
CEAP	**Semis' Anvil P**	**0.60**	**69**		Pn	01 21 49.5	-0.4
CERAA	**Semis' Rag'd T**	**0.64**	**79**		Pn	01 21 49.7	-0.5
SMY	**Shemya**	**2.96**	**290**	Pn	Pn	01 22 17.2	-1.8
NIKH	**Nikolski High**	**7.73**	**76**	Pn	Pn	01 23 24.5	+0.8
AKUT	**Akutan**	**9.68**	**70**	Pn	Pn	01 23 48.0	-2.1
CNPM	**China Poot**	**18.53**	**54**	P	P	01 25 41.9	-1.0
CNPM				IAmb	IAmb	01 25 45.8	
	comp=Z,9.5nm,1.0s						
BRLK	**Bradley Lake**	**18.75**	**53**	P	P	01 25 43.8	-1.5
BRLK				IAmb	IAmb	01 25 48.7	
	comp=Z,6.8nm,1.1s						
RND	**Reindeer**	**20.66**	**43**	P	P	01 26 07.5	+1.5
RND				IAmb	IAmb	01 26 10.0	
	comp=Z,3.0nm,0.8s						

*NEIC **24** 01:24:41.1±1.8,17.19N±0.05×101.16W±0.04,h12km±7km,*
Error ellipse: s-maj=8.8km s-min=2.7km az=218.0
*MEX **24** 01:24:41.9±0.7,17.17N×101.22W,h3km,MD4.1*
ISC 24 01:24:40.7±1.4,**17.32N**±0.04×**101.11W**±0.04,**h2**km±10km, **n45,**σ1§**14**/66,**Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.44**	**310**		**Pb**	**01 24 51.1**	**-0.2**
ZIIG					**Sb**	**01 24 58.8**	**0.0**
ZIIG	**Zihuatanejo**	**0.44**	**310**	*eP*	**Pb**	**01 24 51.1**	**-0.2**
ZIIG				*i S*	**Sb**	**01 24 58.4**	**0.0**
CAIG	**El Cayaco**	**0.85**	**108**		**Pg**	**01 24 57.3**	**+0.3**
CAIG					**Sb**	**01 25 09.4**	**-0.7**
CAIG	**El Cayaco**	**0.85**	**108**	*eP*	**Pg**	**01 24 57.3**	**+0.3**
CAIG				*i S*	**Sb**	**01 25 09.4**	**-0.7**
ARIG	**Puente Sto Nin**	**1.20**	**37**		**Pn**	**01 25 04.8**	**+0.2**
ARIG					**Sn**	**01 25 22.0**	**+0.4**
ARIG	**Puente Sto Nin**	**1.20**	**37**	*eP*	**Pn**	**01 25 04.8**	**+0.2**
ARIG				*i S*	**Sn**	**01 25 22.0**	**+0.4**
ACP2	**Acapulco**	**1.25**	**110**		**Pg**	**01 25 04.5**	**-0.2**
ACP2					**Sg**	**01 25 21.0**	**+0.1**
ACP2	**Acapulco**	**1.25**	**110**	*eP*	**Pg**	**01 25 04.5**	**-0.2**
ACP2				*eS*	**Sg**	**01 25 21.0**	**+0.1**
MEIG	**Mezcala**	**1.55**	**67**		**Pn**	**01 25 09.3**	**-0.1**
MEIG					**Sn**	**01 25 30.1**	**-0.1**
MEIG	**Mezcala**	**1.55**	**67**	*eP*	**Pn**	**01 25 09.3**	**-0.1**
MEIG				*eS*	**Sn**	**01 25 30.1**	**-0.1**
PLIG	**Platanillo**	**1.87**	**55**		**Pn**	**01 25 14.4**	**+0.5**
PLIG					**Sb**	**01 25 39.7**	**+0.1**
PLIG	**Platanillo**	**1.87**	**55**	*i P*	**Pn**	**01 25 14.4**	**+0.5**
PLIG				*i S*	**Sb**	**01 25 39.7**	**+0.1**
MAVM	**Malinalco, Edo**	**2.24**	**43**		**Pb**	**01 25 22.1**	**0.0**
MAVM	**Malinalco, Edo**	**2.24**	**43**	*eP*	**Pb**	**01 25 22.1**	**0.0**
MOIG	**Morelia**	**2.35**	**358**		**Pb**	**01 25 23.9**	**0.0**
MOIG	**Morelia**	**2.35**	**358**		**Sg**	**01 25 55.6**	**-0.6**
MOIG	**Morelia**	**2.35**	**358**	*eP*	**Pb**	**01 25 24.1**	**+0.2**
MOIG				*i S*	**Sg**	**01 25 55.6**	**-0.6**
TOVM	**TOLUCA**	**2.38**	**35**		**Pb**	**01 25 25.2**	**+0.7**
TOVM	**TOLUCA**	**2.38**	**35**	*eP*	**Pb**	**01 25 25.2**	**+0.7**
TLIG	**Tlapa**	**2.44**	**84**		**Pn**	**01 25 22.2**	**+0.4**
TLIG	**Tlapa**	**2.44**	**84**		**Sn**	**01 25 51.5**	**-0.9**
TLIG	**Tlapa**	**2.44**	**84**	*eP*	**Pn**	**01 25 21.7**	**0.0**
TLIG				*i S*	**Sn**	**01 25 51.5**	**-0.9**
YAIG	**Yautepec**	**2.48**	**51**		**Pn**	**01 25 22.4**	**+0.1**
YAIG					**Sn**	**01 25 51.7**	**-1.5**
YAIG	**Yautepec**	**2.48**	**51**	*i P*	**Pn**	**01 25 22.4**	**+0.1**
YAIG				*i S*	**Sn**	**01 25 51.7**	**-1.5**
UNM	**Universidad Na**	**2.71**	**42**	Pn	**Pn**	**01 25 26.5**	**+0.8**
UNM					**Pg**	**01 25 32.3**	**-0.5**
UNM					**Sg**	**01 26 11.5**	**+3.5**
AZVM	**Cuida Lopez Ma**	**2.84**	**37**		**Pg**	**01 25 34.0**	**-1.2**
AZVM	**Cuida Lopez Ma**	**2.84**	**37**	*eP*	**Pg**	**01 25 34.0**	**-1.2**
AMVM	**AMECAMECA**	**2.85**	**50**		**Pg**	**01 25 34.3**	**-1.1**
AMVM	**AMECAMECA**	**2.85**	**50**	*eP*	**Pg**	**01 25 34.3**	**-1.1**
PBVM	**Pinon**	**2.86**	**42**		**Pg**	**01 25 34.5**	**-1.0**
PBVM	**Pinon**	**2.86**	**42**	*eP*	**Pg**	**01 25 34.5**	**-1.0**
ACIG	**Acambay**	**2.89**	**24**	*eP*	**Pb**	**01 25 32.1**	**-1.1**
FTIG	**Fresnillo de T**	**2.90**	**78**	*eP*	**Pn**	**01 25 28.6**	**+0.5**
FTIG				*i S*	**Sn**	**01 26 06.1**	**+2.4**
PPM	**Popocatepetl**	**2.93**	**53**	*eP*	**Pn**	**01 25 29.3**	**+0.4**
PPM				*i S*	**Sn**	**01 26 04.1**	**-0.9**
PTVM	**Pico Tres Padr**	**2.95**	**40**		**Pb**	**01 25 35.2**	**+1.0**
PTVM	**Pico Tres Padr**	**2.95**	**40**	*eP*	**Pb**	**01 25 35.2**	**+1.0**
ZUVM	**ZUMPANGO**	**3.15**	**37**		**Pb**	**01 25 38.8**	**+1.1**
ZUVM	**ZUMPANGO**	**3.15**	**37**	*eP*	**Pb**	**01 25 38.8**	**+1.1**
TXIG	**Tlaxiaco**	**3.19**	**91**	*eP*	**Pn**	**01 25 32.6**	**+0.3**
TXIG				*i S*	**Sn**	**01 26 07.9**	**-3.2**
VTVM	**Tizayuca**	**3.30**	**42**		**Pb**	**01 25 37.1**	**-3.0**
VTVM	**Tizayuca**	**3.30**	**42**	*eP*	**Pb**	**01 25 37.1**	**-3.0**
ZAIG	**Zacatecas**	**5.59**	**346**		**Pn**	**01 26 04.1**	**-1.1**
CCIG	**Comitan**	**8.66**	**96**	Pn	**Pn**	**01 26 45.8**	**-1.4**
CCAR	**Cane Creek**	**18.53**	**25**	P	**Pn**	**01 29 00.6**	**+1.9**
CCAR				IAmb	IAmb	01 29 09.6	
	comp=Z,14nm,0.5s						
WHAR	**Wooly Hollow**	**19.55**	**22**	P	**Pn**	**01 29 12.0**	**+1.0**
WHAR				IAmb	IAmb	01 29 24.7	
	comp=Z,7.4nm,1.3s						

IDC 24 01:28:09.6±7.5,**27.60S**×**178.19W,h0**km,**mb3.5**/2, **mb1 3.8**/2,**mb1mx3.5**/18,**mbtmp3.5**/2,**Error ellipse: s-maj=371.0km s-min=111.5km az=163.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.16**	**264**	P	P	01 36 11.8	-0.5
	0.2nm,0.5s,baz=101,slow=8.1,SNR=1.8						
WRA	**Warramunga Arr**	**43.89**	**269**	P	P	01 36 18.5	+0.3
	0.5nm,0.5s,baz=110,slow=7.9,SNR=1.3						
FINES	**FINESS Array B**	**142.46**	**341**	PKP	PKPdf	01 47 43.2	-0.5
	1.0nm,0.6s,baz=65,slow=3.7,SNR=7.6						

*KRNET **24** 01:32:03.1±0.1,39.82N×70.26E,h11km,mb3.4*
*SOME **24** 01:32:05.4,39.83N×70.27E,h10km*
*NNC **24** 01:32:08.1±1.4,39.95N×70.34E,h6km±5km,mb3.7,*
mpv3.5,Error ellipse: s-maj=10.1km s-min=6.0km az=14.0
ISC 24 01:32:04.8±0.8,**39.71N**±0.03×**70.34E**±0.04,**h10**km,**n29,** σ2§**14**/47,**25C-7D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.51**	**46**	⇑*iP*	**Pg**	**01 32 12.6**	**-2.2**
BTK	baz=60			⇑*iS*	**Sg**	**01 32 19.9**	**-1.6**
GAR	**Garm**	**0.71**	**181**	⇑*iP*	**Pb**	**01 32 19.1**	**-0.2**
GAR	baz=77			⇑*iS*	**Sb**	**01 32 30.1**	**+1.0**
CHGR	**Chuyangaron**	**1.39**	**221**	⇑*iP*	**Pn**	**01 32 30.1**	**-0.3**
CHGR	baz=17			⇑*iS*	**Sg**	**01 32 50.1**	**+0.5**
OHH	**Osh**	**2.05**	**66**	⇑*iP*	**Pb**	**01 32 40.9**	**-1.2**
OHH	baz=69			⇑*iS*	**Sb**	**01 33 08.7**	**+1.0**
ARK	**Arkit**	**2.43**	**30**	⇑*iP*	**Pn**	**01 32 45.2**	**+0.6**
ARK	baz=33			⇑*iS*	**Sn**	**01 33 15.6**	**+1.1**
IUG	**Iuzhnay**	**2.45**	**355**	⇑*eP*	**Pb**	**01 32 48.0**	**-1.0**
IUG	23nm,0.4s 129nm,0.3s			*eS*	**Sb**	**01 33 18.9**	**-0.4**
IUG	**Iuzhnay**	**2.45**	**355**	Pg	**Pb**	**01 32 48.0**	**-1.0**
IUG	23nm,0.4s 129nm,0.3s			Lg	Lg	01 33 19.4	
ARSB	**Arslanbob**	**2.58**	**50**	⇓*iP*	**Pn**	**01 32 48.3**	**+1.5**
ARSB	baz=53			⇓*iS*	**Sn**	**01 33 20.7**	**+2.3**
CHM	**Chimkent**	**2.67**	**348**	*eP*	**Pb**	**01 32 52.0**	**-0.6**
CHM	196nm,0.2s 286nm,0.1s			*eS*	**Sb**	**01 33 25.8**	**+0.4**
DZA	**Taraz**	**3.27**	**13**	*eP*	**Pb**	**01 33 04.1**	**+1.2**
DZA	54nm,0.1s 144nm,0.5s			*eS*	**Sg**	**01 33 46.6**	**-3.2**
DZA	**Taraz**	**3.27**	**13**	Pg	**Pb**	**01 33 04.1**	**+1.2**
DZA	54nm,0.1s 144nm,0.5s			Lg	Lg	01 33 46.6	
BRLS	**Boroldav**	**3.34**	**354**	*eP*	**Pn**	**01 33 00.6**	**+3.5**
BRLS	7.6nm,0.3s 18nm,0.2s			*eS*	**Sn**	**01 33 40.7**	**+3.8**
BRLS	**Boroldav**	**3.34**	**354**	Pg	**Pn**	**01 33 00.6**	**+3.5**
BRLS	7.6nm,0.3s 18nm,0.2s			Lg	Lg	01 33 40.7	
KK31	**Karatay Array**	**3.40**	**2**	⇑Pn	**Pn**	**01 32 58.1**	**+0.3**
KK31	0.7nm,0.5s,baz=16,slow=25,SNR=66 3.9nm,0.5s,baz=182,slow=16,SNR=6.4			⇓Pg	**Pb**	**01 33 04.5**	**-0.5**
KK31	8.9nm,0.5s,baz=187,slow=30,SNR=13			Lg	Lg	01 33 48.5	
AML	**Almayashu**	**3.51**	**45**	⇓*iP*	**Pn**	**01 33 00.7**	**+0.9**
AML	baz=47			⇓*iS*	**Sn**	**01 33 43.1**	**+1.5**
ARLS	**Aral**	**3.71**	**53**	⇑*iP*	**Pn**	**01 33 04.3**	**+1.9**
ARLS	baz=55			⇑*iS*	**Sn**	**01 33 48.2**	**+1.9**
MRKS	**Merke**	**3.74**	**35**	⇓*iP*	**Pb**	**01 33 12.0**	**+1.1**
MRKS	6.4nm,0.3s 19nm,0.4s			*eS*	**Sb**	**01 34 00.1**	**+3.8**
MRKS	**Merke**	**3.74**	**35**	Pg	**Pb**	**01 33 12.0**	**+1.1**
MRKS	16nm,0.4s 19nm,0.4s			Lg	Lg	01 34 00.1	
UCH	**Uchtor**	**4.04**	**50**	⇑*iP*	**Pn**	**01 33 08.2**	**+1.1**
UCH	baz=52			⇑*iS*	**Sn**	**01 33 56.1**	**+1.3**
AAK	**Ala-Archa**	**4.29**	**46**	⇑Pn	**Pn**	**01 33 13.1**	**+2.8**
AAK	3.7nm,0.7s 5.0nm,0.6s			⇑Pg	**Pg**	**01 33 24.0**	**-3.0**
AAK	12nm,0.7s			⇓Lg	Lg	01 34 18.1	
KZA	**Kyzart**	**4.41**	**56**	⇑*iP*	**Pn**	**01 33 14.0**	**+1.8**
KZA	baz=58			⇑*iS*	**Sn**	**01 34 04.9**	**+1.0**
CHMS	**Chumysh**	**4.67**	**44**	⇑*iP*	**Pn**	**01 33 16.5**	**+1.1**
CHMS	baz=45			⇑*iS*	**Sn**	**01 34 10.4**	**+0.6**
TKM2	**Tokmak 2**	**5.10**	**49**	⇑Pn	**Pn**	**01 33 23.4**	**+1.9**
TKM2	4.1nm,0.5s 6.5nm,0.8s			⇑Sn	**Sn**	**01 34 20.6**	**+0.1**
TKM2	5.5nm,0.6s			⇑Lg	Lg	01 34 44.5	
KST	**Kastek**	**5.39**	**50**	*eP*	**Pb**	**01 33 42.8**	**+3.7**
KST	3.5nm,0.5s 6.5nm,0.5s			*eS*	**Sg**	**01 34 53.2**	**-4.6**
KST	**Kastek**	**5.39**	**50**	Pg	**Pb**	**01 33 42.8**	**+3.7**
KST	5.5nm,0.9s 12nm,0.9s			Lg	Lg	01 34 54.0	
TNSS	**Tian-Shan**	**5.98**	**54**	Pg	**Pg**	**01 33 54.7**	**-4.7**
TNSS	3.4nm,0.6s 3.6nm,0.5s			Lg	Lg	01 35 14.2	
BTLS	**Baital**	**6.00**	**26**	Pg	Pg	01 33 54.7	-4.9
BTLS	2.0nm,0.5s 1.4nm,0.5s			Lg	Lg	01 35 13.7	
KUU	**Kurty**	**6.13**	**45**	Pg	Pg	01 33 57.3	-4.9
KUU	1.3nm,0.1s 4.3nm,0.3s			Lg	Lg	01 35 18.9	
AB31	**Akbulak array**	**12.08**	**326**	P	**Pn**	**01 34 56.8**	**-0.1**
	0.2nm,0.3s,baz=165,slow=10,SNR=9.1						

IDC 24 01:32:36.8±3.1,**29.96S**×**177.24W,h0**km,**mb3.6**/2, **mb1 3.8**/2,**mb1mx3.5**/26,**mbtmp3.6**/2,**Error ellipse: s-maj=68.3km s-min=30.2km az=65.0,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.92**	**320**	Pn	Pn	01 32 58.2	+1.2
	baz=69,slow=20,SNR=0.8						
RAO				Sn	Sn	01 33 09.9	-1.0
	348nm,0.3s,baz=119,slow=19,SNR=3.1						
ASAR	**Alice Springs**	**43.80**	**266**	P	P	01 40 44.1	-0.5
	0.4nm,0.8s,baz=102,slow=7.7,SNR=2.5						
WRA	**Warramunga Arr**	**44.74**	**271**	P	P	01 40 52.4	+0.2
	0.4nm,0.3s,baz=115,slow=7.2,SNR=5.5						
FINES	**FINESS Array B**	**144.95**	**341**	PKP	PKPab	01 52 14.0	-0.5
	1.0nm,0.6s,baz=48,slow=3.1,SNR=6.3						

*NEIC **24** 01:37:19.7±3.1,29.7S±0.1×177.0W±0.1,h17km±5km,*
mb4.3/10,Error ellipse: s-maj=19.2km s-min=10.1km az=216.0
*IDC **24** 01:37:26.4±1.7,29.56S×177.26W,h58km±11km,mb3.8/8,*
mb1 3.9/9,mb1mx3.7/30,mbtmp4.0/9,Error ellipse: s-maj=26.0km s-min=24.0km az=42.0
ISC 24 01:37:21.9±0.7,**29.70S**±0.09×**177.03W**±0.09,**h31**km,**n34,** σ1§**52**/34,**mb4.3**/13,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.90**	**300**	P	**Pb**	**01 37 39.6**	**+0.7**
	2µm,0.3s,baz=90,slow=10,SNR=20						
RAO				S	**Sb**	**01 37 51.6**	**+1.1**
	2µm,0.3s,baz=217,slow=21,SNR=12						
RAO	**Raoul Island**	**0.90**	**300**		**Pb**	**01 37 39.6**	**+0.7**
RAO				Sn	**Sb**	**01 37 51.2**	**+0.7**
THZ	**Tophouse**	**14.53**	**211**	Pn	**Pn**	**01 40 42.7**	**-2.7**
MQZ	**McQueen's Vall**	**16.22**	**208**	Pn	**Pn**	**01 41 06.4**	**-1.1**
DZM	**Mont Dzumac**	**16.69**	**293**	P	**P**	**01 41 13.1**	**-2.7**
	0.2nm,0.3s,baz=49,slow=4.8,SNR=2.0						
ODZ	**Otahua Downs**	**18.14**	**209**	P	**P**	**01 41 30.0**	**-1.6**
EIDS	**Eidsvold**	**28.55**	**271**	P	**P**	**01 43 16.9**	**+1.8**
EIDS				IAmb	IAmb	01 43 30.3	

	comp=Z,4.6nm,0.8s						
CTA	**Charters Tower**	**34.53**	**278**	P	**P**	**01 44 07.5**	**-0.1**
	comp=Z,2.1nm,0.4s,baz=106,slow=10,SNR=2.9						
CTAO	**Charters Tower**	**34.53**	**278**	P	**P**	**01 44 09.0**	**+1.3**
STKA	**Stephens Creek**	**35.46**	**256**	P	**P**	**01 44 16.5**	**+0.9**
	comp=Z,5.6nm,0.9s,baz=92,slow=12,SNR=5.5						
STKA	**Stephens Creek**	**35.46**	**256**	IAmb	IAmb	01 44 17.8	
	comp=Z,3.4nm,1.1s						
ASAR	**Alice Springs**	**43.99**	**266**	P	**P**	**01 45 25.6**	**-1.1**
	comp=Z,1.6nm,0.5s,baz=106,slow=7.5,SNR=12						
ASAR				PcP	**PcP**	**01 47 13.2**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=109,slow=4.1,SNR=2.1						
WB2	**Warramunga Arr**	**44.91**	**271**	P	**P**	**01 45 34.2**	**+0.2**
WB2				IAmb	IAmb	01 45 49.9	
	comp=Z,4.5nm,0.8s						
WRA	**Warramunga Arr**	**44.92**	**271**	P	**P**	**01 45 33.7**	**-0.5**
	comp=Z,2.6nm,0.4s,baz=111,slow=7.9,SNR=18						
WB0	**Warramunga Arr**	**44.94**	**271**	P	**P**	**01 45 33.8**	**-0.5**
WB0				IAmb	IAmb	01 45 36.6	
	comp=Z,3.7nm,0.7s						
VNDA	**Vanda**	**48.87**	**186**	P	P	01 46 07.3	+3.1
	comp=Z,0.4nm,0.8s,baz=333,slow=9.3,SNR=1.6						
VNDA	**Vanda**	**48.87**	**186**	P	**P**	**01 46 05.7**	**+1.4**
FITZ	**Fitzroy Crossi**	**53.21**	**269**	P	**P**	**01 46 36.1**	**-1.5**
CASY	**Casey**	**56.15**	**208**	P	**P**	**01 46 58.3**	**+0.1**
QSPA	**South Pole Qui**	**60.41**	**180**	P	P	01 47 31.2	+3.0
	comp=Z,0.4nm,0.5s,baz=282,slow=3.6,SNR=5.0						
QSPA	**South Pole Qui**	**60.41**	**180**	P	**P**	**01 47 30.3**	**+2.1**
SNAA	**Sanae**	**78.83**	**178**	P	**P**	**01 49 23.1**	**+1.7**
SNAA				IAmb	IAmb	01 49 33.3	
	comp=Z,1.2nm,0.9s						
PETK	**Petropavlovsk-**	**85.35**	**345**	P	**P**	**01 49 56.0**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=119,slow=7.1,SNR=4.4						
PETK	**Petropavlovsk-**	**85.35**	**345**	P	**P**	**01 49 54.4**	**-1.2**
NVAR	**Mina Array Bea**	**87.16**	**42**	P	**P**	**01 50 06.2**	**+1.0**
	comp=Z,0.1nm,0.5s,baz=222,slow=4.9,SNR=1.6						
NVAR	**Mina Array Bea**	**87.16**	**42**	P	**P**	**01 50 04.7**	**-0.5**
RYN	**Ryan**	**87.16**	**42**	P	**P**	**01 50 04.1**	**-1.0**
RYN				IAmb	IAmb	01 50 11.4	
	comp=Z,1.4nm,0.7s						
ARCES	**ARCESS Array B**	**138.08**	**348**	PKP	**PKiKP**	**01 56 43.2**	**-1.6**
	comp=Z,3.2nm,1.1s,baz=46,slow=2.6,SNR=1.2						
FINES	**FINESS Array B**	**144.77**	**341**	PKP	**PKiKP**	**01 56 55.8**	**-2.9**
	comp=Z,1.1nm,0.4s,baz=45,slow=4.5,SNR=9.7						
FINES	**FINESS Array B**	**144.77**	**341**		**PKiKP**	**01 56 56.1**	**-2.6**
NB2	**NORSAR Subarra**	**148.18**	**352**	PKP	**PKPab**	**01 57 09.1**	**+2.0**
	comp=Z,0.7nm,0.9s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.18**	**352**	PKPbc	**PKPab**	**01 57 05.1**	**-2.0**
	comp=Z,0.3nm,0.8s,baz=14,slow=4.2,SNR=1.4						
AKASG	**Malin Array Be**	**151.24**	**324**	PKPbc	**PKiKP**	**01 57 12.1**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=40,slow=3.5,SNR=2.0						
TORD	**Torodi Ar. Bea**	**163.48**	**176**	PKPab	**PKPab**	**01 58 13.8**	**+0.5**
	comp=Z,0.5nm,0.9s,baz=183,slow=3.5,SNR=2.2						

IDC 24 01:38:16.7±3.4,**30.01S**×**177.39W,h0**km,**mb3.6**/2, **mb1 3.9**/2,**mb1mx3.6**/29,**mbtmp3.6**/2,**Error ellipse: s-maj=71.3km s-min=28.8km az=77.0,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.89**	**328**	Pn	Pn	01 38 37.8	+1.3
	baz=71,slow=23,SNR=0.4						
RAO				Sn	Sn	01 38 49.1	-1.0
	baz=59,slow=20,SNR=0.8						
ASAR	**Alice Springs**	**43.66**	**266**	P	P	01 46 23.2	-0.3
	0.5nm,0.7s,baz=102,slow=8.0,SNR=1.1						
WRA	**Warramunga Arr**	**44.62**	**271**	P	P	01 46 31.0	-0.1
	0.4nm,0.3s,baz=112,slow=7.7,SNR=0.8						
FINES	**FINESS Array B**	**144.96**	**341**	PKP	PKPab	01 57 53.7	-0.7
	0.8nm,0.5s,baz=56,slow=2.5,SNR=0.9						

*NEIC **24** 01:39:31.9±1.9,29.78S±0.09×177.1W±0.1,h24km±4km,*
mb4.2/11,Error ellipse: s-maj=17.9km s-min=7.7km az=51.0
*IDC **24** 01:39:34.1±6.1,29.78S×177.17W,h33km±45km,mb3.9/7,*
mb1 4.0/8,mb1mx3.8/31,mbtmp4.0/8,ML3.6/1,Error ellipse: s-maj=31.1km s-min=23.5km az=58.0
ISC 24 01:39:31.8±0.8,**29.76S**±0.10×**177.1W**±0.1,**h24**km,**n37,** σ1§**32**/32,**mb4.3**/11,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.89**	**304**	Pn	**Pn**	**01 39 49.0**	**+0.2**
	948nm,0.3s,baz=95,slow=6.7,SNR=5.7						
RAO				Sn	**Sn**	**01 40 01.2**	**+0.3**
	2µm,0.3s,baz=3.9,slow=23,SNR=5.8						
RAO	**Raoul Island**	**0.89**	**304**		**Pn**	**01 39 48.6**	**-0.2**
OUZ	**Omahuta**	**9.58**	**233**	Pn	**Pn**	**01 41 48.9**	**+0.8**
MSWZ	**Moikau Station**	**13.20**	**206**	Pn	**Pn**	**01 42 37.4**	**-0.2**
SNZO	**South Karori**	**13.32**	**208**	Pn	**Pn**	**01 42 40.2**	**+0.9**
PLWZ	**Palliser**	**13.33**	**206**	Pn	**Pn**	**01 42 37.1**	**-2.3**
LTZ	**Lake Taylor**	**15.56**	**210**	Pn	**Pn**	**01 43 08.5**	**-1.1**
LTZ				IAmb	IAmb	01 43 22.1	
	comp=Z,12nm,1.2s						
DZM	**Mont Dzumac**	**16.68**	**293**	Pn	**P**	**01 43 25.5**	**-0.7**
	comp=Z,2.0nm,0.3s,baz=108,slow=23,SNR=1.3						
CTA	**Charters Tower**	**34.50**	**278**	P	**P**	**01 46 19.4**	**+1.2**
	comp=Z,1.3nm,0.4s,baz=135,slow=11,SNR=2.2						
CTAO	**Charters Tower**	**34.50**	**278**	P	**P**	**01 46 17.7**	**-0.5**
CTAO				IAmb	IAmb	01 46 32.0	
	comp=Z,6.5nm,1.0s						
STKA	**Stephens Creek**	**35.41**	**256**	P	**P**	**01 46 26.6**	**+0.6**
	comp=Z,1.5nm,0.3s,baz

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.79**	**206**	Pn	Pn	01 41 10.2	+0.4
	baz=265,slow=23,SNR=0.7						
RAO				Sn	Sn	01 41 22.5	+0.1
	baz=61,slow=22,SNR=0.6						
ASAR	**Alice Springs**	**43.66**	**265**	P	P	01 48 57.9	-0.2
	0.3nm,0.6s,baz=97,slow=7.8,SNR=1.3						
WRA	**Warramunga Arr**	**44.48**	**270**	P	P	01 49 04.7	0.0
	0.7nm,0.6s,baz=112,slow=7.4,SNR=1.3						
FINES	**FINESS Array B**	**143.53**	**341**	PKP	PKPdf	02 00 26.1	-1.2
	1.9nm,0.7s,baz=42,slow=2.3,SNR=2.0						

*NEIC **24** 01:41:12.8±0.8,51°.82N±0°.09×178°.2E±0°.1,h130km±5km, Error ellipse: s-maj=14.9km s-min=7.7km az=208.0*

AEIC 24 01:41:14±1.6,**51°.8N**±0°.1×**178°.2E**±0°.1,**h123**km±4km, **mb3.3**/3(NEIC),**Error ellipse: s-maj=15.8km s-min=6.9km az=205.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.21**	**57**		Pn	01 41 30.9	-0.1
LSNW	**Little Sitkin**	**0.22**	**53**		Pn	01 41 30.7	-0.3
LSSE	**Little Sitkin**	**0.23**	**65**		Pn	01 41 30.9	-0.2
LSSE					Sn	01 41 44.0	+0.1
LSPA	**Little Sitkin**	**0.24**	**60**		Pn	01 41 31.1	0.0
LSPA					Sn	01 41 44.1	+0.1
CETU	**Semis' Tuman**	**0.79**	**80**		Pn	01 41 34.1	-0.3
AMKA	**Amchitka**	**0.81**	**124**		Pn	01 41 34.3	-0.2
AMKA					Sn	01 41 49.1	-0.9
CEAP	**Semis' Anvil P**	**0.85**	**78**		Pn	01 41 34.5	-0.3
TASE	**Tanaga Southea**	**2.31**	**89**		Pn	01 41 51.0	-0.5
SMY	**Shemya**	**2.69**	**291**		Pn	01 41 55.2	-1.1
SMY				Sn	Sn	01 42 26.1	-2.7
KIMD	**Kanaga Island**	**2.81**	**90**		Pn	01 41 57.1	-0.8
ADK	**Adak**	**3.15**	**87**		Pn	01 42 01.2	-1.1
GSTR	**Great Sitkin T**	**3.54**	**84**	Pn	Pn	01 42 06.4	-1.0
TTA	**Tatalina**	**17.63**	**41**	P	P	01 45 09.8	-1.1
TTA				IAmb	IAmb	01 45 12.8	
	comp=Z,1.5nm,0.6s						
CCB	**Clear Creek Bu**	**21.66**	**41**	P	P	01 45 53.1	-1.2
CCB				IAmb	IAmb	01 46 01.9	
	comp=Z,1.0nm,0.8s						
IL31		**22.07**	**41**	P	P	01 45 57.6	-1.0
IL31				IAmb	IAmb	01 46 04.0	
	comp=Z,1.1nm,0.7s						
BCAR	**Beaver Creek A**	**23.84**	**46**	P	P	01 46 15.9	+0.4
BMAR	**Burnt Mountain**	**23.90**	**35**	P	P	01 46 13.2	-2.7

*NEIC **24** 01:43:56.4±1.1,51°.9N±0°.1×178°.37E±0°.09,h124km±6km, Error ellipse: s-maj=18.9km s-min=8.1km az=184.0*

AEIC 24 01:43:57±1.1,**51°.9N**±0°.1×**178°.39E**±0°.09,**h121**km±5km, **mb3.6**/8(NEIC),**Error ellipse: s-maj=17.8km s-min=7.9km az=185.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.09**	**68**		Pn	01 44 13.3	-0.2
LSNW	**Little Sitkin**	**0.10**	**57**		Pn	01 44 13.4	-0.1
LSNW					Sn	01 44 26.0	+0.1
LSPA	**Little Sitkin**	**0.12**	**71**		Pn	01 44 13.7	+0.2
CESW	**Semis' Southwe**	**0.73**	**91**		Pn	01 44 16.4	-0.2
AMKA	**Amchitka**	**0.79**	**133**		Pn	01 44 17.0	-0.1
AMKA					Sn	01 44 31.9	-0.4
CERAA	**Semis' Rag'd T**	**0.81**	**90**		Pn	01 44 17.1	-0.1
CERAA					Sn	01 44 32.5	0.0
TASE	**Tanaga Southea**	**2.22**	**91**		Pn	01 44 32.9	-0.3
TAFP	**Tanaga Falls P**	**2.25**	**89**		Pn	01 44 33.4	-0.2
TAFP					Sn	01 45 00.6	-1.1
TAPA	**Tanaga Point A**	**2.36**	**91**		Pn	01 44 34.3	-0.7
KIMD	**Kanaga Island**	**2.72**	**92**		Pn	01 44 39.0	-0.6
KICM	**Kanaga Island**	**2.74**	**88**		Pn	01 44 39.5	-0.3
KIKV	**Kanaga Island**	**2.75**	**89**		Pn	01 44 39.6	-0.4
SMY	**Shemya**	**2.75**	**289**		Pn	01 44 38.6	-1.4
SMY	**Shemya**	**2.75**	**289**		Sn	01 45 12.1	-1.0
ADK	**Adak**	**3.05**	**89**		Sn	01 45 19.4	-0.8
ADK	**Adak**	**3.05**	**89**		Pn	01 44 42.7	-1.3
GSTD	**Great Sitkin T**	**3.38**	**86**		Sn	01 44 47.3	-1.1
GSTD					Sn	01 45 28.2	-2.9
GSTR	**Great Sitkin T**	**3.44**	**85**	Pn	Pn	01 44 48.8	-0.2
GSMY	**Great Sitkin M**	**3.44**	**86**		Pn	01 44 48.2	-0.8
ATKA	**Atka Island**	**4.59**	**84**		Pn	01 45 04.4	+0.1
KDAK	**Kodiak Island**	**17.62**	**59**	P	P	01 47 51.3	-2.6
KDAK				IAmb	IAmb	01 47 53.5	
	comp=Z,2.2nm,0.7s						
CNPM	**China Poot**	**18.59**	**54**	P	P	01 48 03.9	-0.6
BRLK	**Bradley Lake**	**18.81**	**53**	P	P	01 48 06.8	-0.1
DHY	**Denali Highway**	**21.23**	**45**	P	P	01 48 32.8	-0.3
DHY				IAmb	IAmb	01 48 35.3	
	comp=Z,2.8nm,0.7s						
WRH	**Wood River Hil**	**21.36**	**41**	P	P	01 48 34.9	+0.6
CCB	**Clear Creek Bu**	**21.54**	**41**	P	P	01 48 36.6	+0.5
BCAR	**Beaver Creek A**	**23.71**	**46**	P	P	01 48 57.9	+0.4
EGAK	**Eagle**	**24.31**	**42**	P	P	01 49 01.8	-1.0
EGAK				IAmb	IAmb	01 49 04.2	
	comp=Z,4.1nm,1.1s						
DAWY	**Dawson**	**24.93**	**45**	P	P	01 49 09.0	+0.5
DAWY				IAmb	IAmb	01 49 11.3	
	comp=Z,1.2nm,0.8s						

*NEIC **24** 01:46:17.0±0.5,51°.4N±0°.1×178°.6E±0°.1,h99km±6km, Error ellipse: s-maj=18.4km s-min=7.6km az=213.0*

AEIC 24 01:46:17.3±0.6,**51°.3N**±0°.1×**178°.5E**±0°.1,**h98**km±3km, **ML2.9**/20,**Error ellipse: s-maj=17.5km s-min=8.2km az=218.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	**Amchitka**	**0.50**	**85**		Pn	01 46 32.5	-0.4
AMKA					Sn	01 46 43.7	-0.8
LSSA	**Little Sitkin**	**0.61**	**1**		Pn	01 46 33.2	-0.7
LSPA	**Little Sitkin**	**0.62**	**4**		Pn	01 46 33.4	-0.5
LSPA					Sn	01 46 46.1	-0.2
LSNW	**Little Sitkin**	**0.64**	**1**		Pn	01 46 33.3	-0.7
LSNW					Sn	01 46 45.6	-0.8
CESW	**Semis' Southwe**	**0.87**	**49**		Pn	01 46 35.4	-0.8
CERAA	**Semis' Rag'd T**	**0.93**	**52**		Pn	01 46 36.0	-0.9
GAEA	**Gareloi East**	**1.77**	**74**		Pn	01 46 46.1	-0.7
GAEA					Sn	01 47 08.7	-0.7
TANO	**Tanaga North**	**2.18**	**73**		Pn	01 46 51.2	-0.9
TASE	**Tanaga Southea**	**2.22**	**76**		Pn	01 46 51.9	-0.7
TAFP	**Tanaga Falls P**	**2.26**	**74**		Pn	01 46 51.9	-1.3
KIMD	**Kanaga Island**	**2.69**	**79**		Pn	01 46 57.7	-1.2
KICM	**Kanaga Island**	**2.74**	**76**		Pn	01 46 58.5	-1.0
KIKV	**Kanaga Island**	**2.75**	**77**		Pn	01 46 58.6	-1.0
ADK	**Adak**	**3.05**	**78**		Sn	01 47 35.5	-3.8
ADK	**Adak**	**3.05**	**78**		Pn	01 47 02.3	-1.3
GSMY	**Great Sitkin M**	**3.46**	**76**		Pn	01 47 07.4	-1.7
GSTR	**Great Sitkin T**	**3.47**	**75**	Pn	Pn	01 47 08.1	-1.1
BCAR	**Beaver Creek A**	**24.06**	**46**	P	P	01 51 21.0	-2.1
BMAR	**Burnt Mountain**	**24.21**	**34**	P	P	01 51 23.8	-0.6

*IDC **24** 01:47:16.7±2.4,30°.22S×177°.59W,h0km,mb4.1/3, mb1 4.3/3,mb1mx3.8/33,mbtmp4.1/3,Error ellipse: s-maj=56.1km s-min=30.2km az=116.0*

*NEIC **24** 01:47:21.4±0.7,30°.05S±0°.09×177°.4W±0°.2,h31km±10km, mb4.3/5,Error ellipse: s-maj=33.2km s-min=6.7km az=68.0*

ISC 24 01:47:22.3±1.4,**30°.06S**±0°.09×**177°.6W**±0°.2,**h35**km,**n14,** σ1**9**47/15,**mb4.3/5,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.84**	**342**	Pn	**Pn**	**01 47 38.0**	**+0.3**
	323nm,0.3s,baz=108,slow=23,SNR=4.8						
RAO				Sn	**Sn**	**01 47 50.4**	**+1.5**
	392nm,0.3s,baz=259,slow=23,SNR=6.1						
THZ	**Tophouse**	**13.96**	**211**	Pn	**Pn**	**01 50 38.6**	**+0.9**
STKA	**Stephens Creek**	**34.87**	**256**	P	**P**	**01 54 08.1**	**-2.3**
	3.5nm,0.9s,baz=78,slow=9.3,SNR=2.1						
STKA	**Stephens Creek**	**34.87**	**256**	P	**P**	**01 54 08.9**	**-1.5**
ASAR	**Alice Springs**	**43.45**	**266**	P	**P**	**01 55 22.2**	**0.0**
	0.5nm,0.3s,baz=106,slow=7.6,SNR=7.3						
ASAR	**Alice Springs**	**43.45**	**266**	P	**P**	**01 55 22.8**	**+0.6**
WB2	**Warramunga Arr**	**44.40**	**272**	P	**P**	**01 55 31.1**	**+1.3**
WB2				IAmb	IAmb	01 55 41.3	
	comp=Z,4.4nm,1.1s						
WRA	**Warramunga Arr**	**44.41**	**272**	P	**P**	**01 55 30.3**	**+0.4**
	comp=Z,3.2nm,0.5s,baz=111,slow=8.0,SNR=17						
WRA	**Warramunga Arr**	**44.41**	**272**	P	**P**	**01 55 31.1**	**+1.2**
WB0	**Warramunga Arr**	**44.43**	**272**	P	**P**	**01 55 31.3**	**+1.2**
QSPA	**South Pole Qui**	**60.05**	**180**	P	**P**	**01 57 27.4**	**+1.8**
QSPA				IAmb	IAmb	01 57 37.4	
	comp=Z,2.6nm,1.1s						
FINES	**FINESS Array B**	**144.94**	**340**	PKPbc	**PKPdf**	**02 06 54.1**	**-0.9**
	comp=Z,2.0nm,0.5s,baz=56,slow=3.5,SNR=22						
AKASG	**Malin Array Be**	**151.22**	**323**	PKPbc	**PKiKP**	**02 07 11.3**	**-0.8**
	comp=Z,0.2nm,0.2s,baz=46,slow=3.5,SNR=1.7						
AKASG	**Malin Array Be**	**151.22**	**323**		**PKPbc**	**02 07 09.2**	**-2.4**

*IDC **24** 01:52:47.1±1.7,51°.56N×174°.58W,h0km,mb3.8/8, mb1 3.8/11,mb1mx3.6/44,mbtmp3.7/11,ML3.3/3,Error ellipse: s-maj=49.0km s-min=18.3km az=173.0*

*NEIC **24** 01:52:53.2±1.2,51°.40N±0°.06×174°.68W±0°.07,h46km±8km, Error ellipse: s-maj=10.1km s-min=2.8km az=146.0*

*AEIC **24** 01:52:53±1.6,51°.45N±0°.04×174°.66W±0°.04,h42km±6km, ML3.7,mb3.8/15(NEIC),Error ellipse: s-maj=6.2km s-min=2.0km az=215.0*

ISC 24 01:52:52.2±0.8,**51°.37N**±0°.10×**174°.66W**±0°.05,**h38**km,**n53,** σ1**°23/54,mb3.8/9,Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.89**	**19**		**Pn**	**01 53 07.9**	**-0.2**
ATKA					**Sn**	**01 53 19.9**	**+0.1**
KOFP	**Korovin Flat P**	**0.97**	**21**		**Pn**	**01 53 09.8**	**+0.4**
KOSE	**Korovin Southe**	**1.05**	**21**		**Pn**	**01 53 11.1**	**+0.7**
KOSE					**Sn**	**01 53 25.7**	**+1.9**
GSMY	**Great Sitkin M**	**1.10**	**308**		**Pn**	**01 53 11.3**	**+0.2**
GSTR	**Great Sitkin T**	**1.14**	**310**		**Pn**	**01 53 09.1**	**-2.5**
GSTD	**Great Sitkin T**	**1.16**	**307**		**Pn**	**01 53 12.2**	**+0.3**
GSTD					**Sn**	**01 53 27.3**	**+0.9**
ADAG	**Mount Adagdak**	**1.36**	**298**		**Pn**	**01 53 15.7**	**+1.1**
ADK	**Adak**	**1.37**	**293**		**Pn**	**01 53 15.1**	**+0.4**
ADK				Sn	**Sn**	**01 53 32.8**	**+1.3**
KIKV	**Kanaga Island**	**1.65**	**289**		**Pn**	**01 53 19.7**	**+1.1**
KIMD	**Kanaga Island**	**1.66**	**285**		**Pn**	**01 53 19.3**	**+0.6**
KICM	**Kanaga Island**	**1.68**	**290**		**Pn**	**01 53 19.9**	**+0.9**
TAPA	**Tanaga Point A**	**2.02**	**284**		**Pn**	**01 53 24.9**	**+1.1**
TAFP	**Tanaga Falls P**	**2.14**	**286**		**Pn**	**01 53 26.8**	**+1.4**
TASE	**Tanaga Southea**	**2.16**	**284**		**Pn**	**01 53 27.3**	**+1.6**
GAEA	**Gareloi East**	**2.59**	**281**		**Pn**	**01 53 33.5**	**+2.0**
GALAA	**Gareloi Lava P**	**2.60**	**280**		**Pn**	**01 53 33.5**	**+1.8**
NIKH	**Nikolski High**	**3.92**	**63**		**Pn**	**01 53 51.4**	**+1.7**
SPIA	**Saint Paul Isl**	**6.37**	**22**	Pn	**Pn**	**01 54 26.5**	**+3.2**
KDAK	**Kodiak Island**	**14.28**	**55**	Pn	**Pn**	**01 56 09.4**	**-2.1**
	0.2nm,0.3s,baz=28,slow=5.8,SNR=3.8						
KDAK	**Kodiak Island**	**14.28**	**55**		**Pn**	**01 56 09.0**	**-2.5**
TTA	**Tatalina**	**15.30**	**34**	Pn	**Pn**	**01 56 25.7**	**+0.5**
PETK	**Petropavlovsk-**	**16.98**	**287**	Pn	**Pn**	**01 56 45.6**	**-1.0**
	0.1nm,0.3s,baz=96,slow=15.5,SNR=1.7						
PETK	**Petropavlovsk-**	**16.98**	**287**		**Pn**	**01 56 44.2**	**-2.4**
BPAW	**Bear Paw Mtn.**	**17.80**	**35**	Pn	**P**	**01 56 59.3**	**+2.2**
CCB	**Clear Creek Bu**	**19.27**	**36**	P	**Pn**	**01 57 14.1**	**-0.3**
CCB				IAmb	IAmb	01 57 19.4	
	comp=Z,2.5nm,0.5s						
HDA	**Harding Lake**	**19.47**	**37**	P	**Pn**	**01 57 15.7**	**-1.1**
HDA				IAmb	IAmb	01 57 21.2	
	comp=Z,4.3nm,0.7s						
IL31		**19.67**	**36**	P	**P**	**01 57 17.8**	**+0.3**
IL31				IAmb	IAmb	01 57 23.2	
	comp=Z,5.9nm,1.4s						
ILAR	**Eielson Array**	**19.67**	**36**	P	**P**	**01 57 15.8**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=223,slow=7.9,SNR=18						
RIDG	**Independent Ri**	**19.99**	**40**	P	**P**	**01 57 20.3**	**-0.8**
RIDG				IAmb	IAmb	01 57 33.6	
	comp=Z,8.9nm,1.4s						
DOT	**Dot Lake**	**20.27**	**41**	P	**P**	**01 57 24.1**	**0.0**
DOT				IAmb	IAmb	01 57 35.3	
	comp=Z,2.7nm,0.8s						
BMAR	**Burnt Mountain**	**21.86**	**31**	P	**P**	**01 57 42.8**	**+1.6**
EGAK	**Eagle**	**21.88**	**39**	P	**P**	**01 57 41.5**	**+0.2**
DAWY	**Dawson**	**22.36**	**42**	P	**P**	**01 57 46.8**	**+0.2**
INK	**Inuvik**	**26.00**	**34**	P	**P**	**01 58 19.7**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=138,slow=20,SNR=5.1						
INK	**Inuvik**	**26.00**	**34**	P	**P**	**01 58 21.0**	**0.0**
INK				IAmb	IAmb	01 58 25.2	
	comp=Z,2.6nm,0.9s						
USRK	**Ussuriysk Ar.**	**35.87**	**280**	P	**P**	**01 59 48.0**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=48,slow=11,SNR=5.3						
H11S1	**WAKE ISLAND Hy**	**35.95**	**211**	T	T	02 38 52.2	
	baz=19,slow=74						
H11S2	**WAKE ISLAND Hy**	**35.97**	**211**	T	T	02 38 51.5	
	baz=19,slow=74						
H11S3	**WAKE ISLAND Hy**	**35.97**	**211**	T	T	02 38 55.4	
	baz=19						
PDAR	**Pinedale Array**	**43.82**	**75**	P	**P**	**02 00 54.2**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=310,slow=5.6,SNR=2.4						
PDAR	**Pinedale Array**	**43.82**	**75**	P	**P**	**02 00 54.1**	**-0.4**
SONM	**Songino Array**	**48.95**	**299**	P	**P**	**02 01 35.5**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=35,slow=5.3,SNR=1.4						
SONM				PcP	**PcP**	**02 02 58.5**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=68,slow=2.5,SNR=2.1						
SONM	**Songino Array**	**48.95**	**299**	P	**P**	**02 01 34.3**	**-0.2**
ZALV	**Zalesovo Beam**	**55.89**	**315**	PcP	**PcP**	**02 03 23.7**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=48,slow=2.1,SNR=2.3						
TXAR	**Lajitas Array**	**56.08**	**84**	P	**P**	**02 02 27.6**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=305,slow=3.2,SNR=2.5						
MK31	**Makanchi Array**	**62.04**	**311**	P	**P**	**02 03 08.7**	**+0.2**
MK31				IAmb	IAmb	02 03 10.8	
	comp=Z,1.4nm,1.1s						
MKAR	**Makanchi Array**	**62.04**	**311**	P	**P**	**02 03 08.2**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=46,slow=6.5,SNR=24						
NC405	**NORSAR Array S**	**67.75**	**357**	P	**P**	**02 03 45.5**	**+0.1**
NB201	**NORSAR Array S**	**67.83**	**357**	P	**P**	**02 03 46.0**	**+0.2**
NOA	**NORSAR Array B**	**67.85**	**357**	P	**P**	**02 03 45.7**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=18,slow=6.6,SNR=3.9						
ABKAR	**Akbulak array**	**69.47**	**325**	P	**P**	**02 03 56.9**	**+0.7**
AKASG	**Malin Array Be**	**76.31**	**345**	P	**P**	**02 04 36.0**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=19,slow=6.8,SNR=2.0						
AKASG	**Malin Array Be**	**76.31**	**345**	IAmb	IAmb	02 04 41.6	
	comp=Z,0.6nm,0.6s						

*NEIC **24** 01:57:12.3±0.5,51°.7N±0°.1×178°.7E±0°.2,h91km±5km, Error ellipse: s-maj=21.1km s-min=6.0km az=46.0*

AEIC 24 01:57:13±0.8,**51°.76N**±0°.08×**178°.62E**±0°.03,**h87**km±4km, **ML2.9,Error ellipse: s-maj=11.5km s-min=2.4km az=185.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.18**	**350**		Pn	01 57 25.4	-0.2
LSPA	**Little Sitkin**	**0.20**	**352**		Pn	01 57 25.3	-0.4
LSPA					Sn	01 57 35.9	+0.8
LSSA	**Little Sitkin**	**0.20**	**341**		Pn	01 57 25.4	-0.3
LSSA					Sn	01 57 35.4	+0.2
AMKA	**Amchitka**	**0.57**	**131**		Pn	01 57 27.6	-0.4
AMKA					Sn	01 57 39.0	-0.2
CEAP	**Semis' Anvil P**	**0.64**	**67**		Pn	01 57 28.0	-0.6
GAEA	**Gareloi East**	**1.64**	**88**		Pn	01 57 39.7	-0.6
TASE	**Tanaga Southea**	**2.08**	**87**		Pn	01 57 45.3	-0.8
TAFP	**Tanaga Falls P**	**2.11**	**85**		Pn	01 57 45.4	-1.1
TAFP					Sn	01 58 11.4	-0.8
TAPA	**Tanaga Point A**	**2.21**	**87**		Pn	01 57 47.0	-0.9
KIMD	**Kanaga Island**	**2.58**	**88**		Pn	01 57 51.8	-0.9
KICM	**Kanaga Island**	**2.60**	**85**		Pn	01 57 52.4	-0.6
KIKV	**Kanaga Island**	**2.61**	**86**		Pn	01 57 52.4	-0.8
ADK	**Adak**	**2.92**	**86**		Pn	01 57 56.2	-1.1
ADAG	**Mount Adagdak**	**2.97**	**84**		Pn	01 57 56.9	-1.1
GSMY	**Great Sitkin M**	**3.31**	**83**		Pn	01 58 02.4	-0.2
GSTR	**Great Sitkin T**	**3.31**	**82**	Pn	Pn	01 58 01.8	-0.9
BCAR	**Beaver Creek A**	**23.72**	**46**	P	P	02 02 16.7	0.0

*NEIC **24** 01:58:28.1±1.7,51°.6N±0°.2×178°.44E±0°.06,h111km±4km, Error ellipse: s-maj=24.1km s-min=4.9km az=186.0*

*IDC **24** 01:58:29.9±15.0,52°.02N×178°.50E,h121km±126km, mb3.3/7,mb1 3.6/8,mb1mx3.3/36,mbtmp3.7/8,ML4.2/1, MS3.6/1,Ms1 3.6/1,ms1mx3.3/14,Error ellipse: s-maj=83.0km s-min=28.1km az=17.0*

*AEIC **24** 01:58:30±2.5,51°.8N±0°.2×178°.48E±0°.09,h103km±4km, mb3.9/27(NEIC),Error ellipse: s-maj=25.6km s-min=7.3km az=185.0*

ISC 24 01:58:28.3±0.9,**51°.8N**±0°.1×**178°.40E**±0°.05,**h113**km±6km, **n65,**σ0**°95/70,mb3.8/20,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.18**	**24**		**Pn**	**01 58 44.1**	**+0.1**
LSSE	**Little Sitkin**	**0.18**	**36**		**Pn**	**01 58 43.9**	**-0.1**
LSNW	**Little Sitkin**	**0.20**	**22**		**Pn**	**01 58 44.2**	**+0.2**
LSPA	**Little Sitkin**	**0.20**	**33**		**Pn**	**01 58 44.2**	**+0.2**
LSPA					**Sn**	**01 58 55.3**	**-0.6**
AMKA	**Amchitka**	**0.70**	**126**		**Pn**	**01 58 46.8**	**0.0**
AMKA					**Sn**	**01 59 00.3**	**-0.5**
CESW	**Semis' Southwe**	**0.73**	**81**		**Pn**	**01 58 46.9**	**-0.2**
CEAP	**Semis' Anvil P**	**0.76**	**73**		**Pn**	**01 58 47.5**	**0.0**
CEAP					**Sn**	**01 59 01.5**	**-0.3**
CERAA	**Semis' Rag'd T**	**0.81**	**81**		**Pn**	**01 58 47.7**	**-0.1**
CERAA					**Sn**	**01 59 02.0**	**-0.5**
GAEA	**Gareloi East**	**1.77**	**89**		**Pn**	**01 58 58.5**	**-0.1**
TASE	**Tanaga Southea**	**2.21**	**87**		**Pn**	**01 59 03.9**	**-0.2**
TAFP	**Tanaga Falls P**	**2.25**	**86**		**Pn**	**01 59 04.4**	**-0.1**
TAPA	**Tanaga Point A**	**2.35**	**88**		**Pn**	**01 59 05.8**	**-0.1**
KIMD	**Kanaga Island**	**2.71**	**89**		**Pn**	**01 59 10.5**	**0.0**
KICM	**Kanaga Island**	**2.74**	**85**		**Pn**	**01 59 10.9**	**+0.1**
KIKV	**Kanaga Island**	**2.75**	**86**		**Pn**	**01 59 10.9**	**-0.1**
SMY	**Shemya**	**2.80**	**291**		**Pn**	**01 59 13.2**	**+1.5**
SMY					**Sn**	**01 59 43.1**	**-2.0**
ADK	**Adak**	**3.05**	**86**		**Pn**	**01 59 14.8**	**-0.2**
ADK				Sn	**Sn**	**01 59 49.8**	**-1.2**
GSTD	**Great Sitkin T**	**3.39**	**83**		**Pn**	**01 59 18.9**	**-0.7**
GSMY	**Great Sitkin M**	**3.44**	**84**		**Pn**	**01 59 20.4**	**+0.2**
GSTR	**Great Sitkin T**	**3.45**	**83**		**Pn**	**01 59 19.4**	**-0.9**
ATKA	**Atka Island**	**4.60**	**82**	Pn	**Pn**	**01 59 34.8**	**-0.8**
SPIA	**Saint Paul Isl**	**8.53**	**46**	Pn	**Pn**	**02 00 30.9**	**+2.1**
TTA	**Tatalina**	**17.61**	**41**	P	**Pn**	**02 02 27.0**	**+0.7**
KDAK	**Kodiak Island**	**17.69**	**59**	P	**P**	**02 02 24.6**	**-1.9**
	0.8nm,0.3s,baz=266,slow=5.8,SNR=17						
KDAK	**Kodiak Island**	**17.69**	**59**	P	**P**	**02 02 24.2**	**-2.3**
CNPM	**China Poot**	**18.66**	**54**	P	**P**	**02 02 37.3**	**+0.1**
BRLK	**Bradley Lake**	**18.89**	**53**	P	**P**	**02 02 38.3**	**-1.3**
BRLK				IAmb	IAmb	02 02 46.0	
	comp=Z,13nm,1.1s						
PPLA	**Purkeypile**	**19.18**	**43**	P	**Pn**	**02 02 45.9**	**+0.9**
PPLA				IAmb	IAmb	02 02 54.4	
	comp=Z,9.0nm,1.2s						
BPAW	**Bear Paw Mtn.**	**20.14**	**41**	P	**P**	**02 02 54.1**	**+0.9**
RND	**Reindeer**	**20.78**	**43**	P	**P**	**02 03 01.7**	**+1.7**
GLI	**Glacier Island**	**20.95**	**51**	P	**P**	**02 03 00.9**	**-0.9**
SCM	**Sheep Creek Mo**	**21.03**	**48**	P	**P**	**02 03 02.8**	**+0.1**
SCM				IAmb	IAmb	02 03 11.9	
	comp=Z,15nm,1.3s						
FID	**Port Fidalgo**	**21.22**	**51**	P	**P**	**02 03 04.1**	**-0.7**
DHY	**Denali Highway**	**21.32**	**45**	P	**P**	**02 03 05.5**	**-0.4**
DHY				IAmb	IAmb	02 03 07.8	
	comp=Z,5.3nm,1.0s						
CCB	**Clear Creek Bu**	**21.63**	**41**	P	**P**	**02 03 09.0**	**-0.1**
ILAR	**Eielson Array**	**22.05**	**41**	P	**P**	**02 03 12.2**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=256,slow=10,SNR=9.0						
ILAR	**Eielson Array**	**22.05**	**41**	P	**P**	**02 03 15.2**	**+1.8**
RIDG	**Independent Ri**	**22.59**	**44**	P	**P**	**02 03 17.4**	**-1.7**
RIDG				IAmb	IAmb	02 03 21.6	
	comp=Z,7.5nm,1.3s						
GLB	**Gilahina Butte**	**22.61**	**50**	P	**P**	**02 03 19.0**	**-0.3**
GLB				IAmb	IAmb	02 03 31.3	
	comp=Z,9.1nm,1.4s						
VRDI	**Verde Repeater**	**22.75**	**51**	P	**P**	**02 03 19.8**	**-1.1**
VRDI				IAmb	IAmb	02 03 23.8	
	comp=Z,3.6nm,0.8s						
CRQM	**Cirque**	**22.85**	**52**	P	**P**	**02 03 21.8**	**-0.1**
CRQM				IAmb	IAmb	02 03 30.0	
	comp=Z,13nm,1.0s						
DOT	**Dot Lake**	**22.91**	**44**	P	**P**	**02 03 22.3**	**+0.1**
DOT				IAmb	IAmb	02 03 23.2	
	comp=Z,3.2nm,0.8s						
BCAR	**Beaver Creek A**	**23.80**	**46**	P	**P**	**02 03 30.9**	**+0.6**
EGAK	**Eagle**	**24.41

az=82.0
IDC ***24*** *02:16:09.0±0.6,30.10S×177.39W,h0km,mb4.3/12, mb1 4.5/12,mb1mx4.3/31,mbtmp4.3/12,MS3.8/1, Ms1 3.8/1,ms1mx3.4/20,Error ellipse: s-maj=23.1km s-min=14.0km az=74.0*

ISC 24 02:16:14.0±0.5,30.27S±0.05×177.5W±0.1,h35km,n90, σ1§59/98,mb4.7/15,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.06**	**341**	P	**Pn**	**02 16 30.6**	**-1.8**
GLKZ				S	**Sn**	**02 16 45.1**	**-0.9**
RAO	**Raoul Island**	**1.07**	**341**	Pn	**Pn**	**02 16 30.8**	**-1.8**
	3μm,0.3s,baz=34,slow=22,SNR=15						
RAO				Sn	**Sn**	**02 16 45.4**	**-0.8**
	2μm,0.3s,baz=274,slow=20,SNR=11						
RIZ	**Raoul Island**	**1.08**	**340**	P	**Pn**	**02 16 31.5**	**-1.2**
RIZ				S	**Sn**	**02 16 46.4**	**-0.1**
WMGZ	**Waiomatatini S**	**8.25**	**203**	P	**Pn**	**02 18 09.1**	**-2.1**
WMGZ				S	**Sn**	**02 19 45.6**	**+2.4**
HAZ	**Te Kaha**	**8.43**	**206**	P	**Pn**	**02 18 11.3**	**-2.2**
HAZ				S	**Sn**	**02 19 48.5**	**+1.1**
PKGZ	**Pakihiroa**	**8.43**	**205**	P	**Pn**	**02 18 09.5**	**-4.2**
PKGZ				S	**Sn**	**02 19 48.0**	**+0.3**
PUZ	**Puketiti**	**8.53**	**203**	P	**Pn**	**02 18 12.1**	**-3.0**
PUZ				S	**Sn**	**02 19 49.5**	**-0.7**
RUGZ	**Raukumara Rang**	**8.65**	**206**	P	**Pn**	**02 18 13.2**	**-3.6**
RUGZ				S	**Sn**	**02 19 53.6**	**+0.5**
WCZ	**Waipu Caves**	**8.86**	**228**	P	Pn	02 18 30.1	+11
OUZ	**Omahuta**	**8.96**	**234**	P	Pn	02 18 30.5	+9.5
TKGZ	**Te Karaka**	**9.00**	**204**	S	**Sn**	**02 20 01.1**	**-0.5**
MWZ	**Matawai**	**9.03**	**206**	P	**Pn**	**02 18 18.6**	**-3.2**
MWZ				S	**Sn**	**02 19 59.5**	**-2.8**
URZ	**Urewera**	**9.12**	**208**	P	**Pn**	**02 18 19.3**	**-3.8**
URZ				S	**Sn**	**02 20 02.5**	**-2.1**
RIGZ	**Rimuhau**	**9.27**	**204**	P	**Pn**	**02 18 23.1**	**-2.1**
RIGZ				S	**Sn**	**02 20 05.9**	**-2.5**
MUGZ	**Murupara**	**9.45**	**208**	P	**Pn**	**02 18 25.7**	**-1.9**
MUGZ				S	**Sn**	**02 20 12.6**	**0.0**
MTHZ	**Maungataniwha**	**9.74**	**207**	P	**Pn**	**02 18 30.8**	**-0.9**
MTHZ				S	**Sn**	**02 20 17.9**	**-2.0**
BKZ	**Black Stump Fm**	**10.15**	**207**	Pn	**Pn**	**02 18 38.6**	**+1.4**
BFZ	**Birch Farm**	**11.56**	**204**	Pn	**Pn**	**02 18 52.8**	**-3.8**
NNZ	**Nelson**	**13.18**	**212**	Pn	**Pn**	**02 19 16.8**	**-1.8**
LTZ	**Lake Taylor**	**14.93**	**210**	Pn	**Pn**	**02 19 41.9**	**-0.6**
OXZ	**Oxford**	**15.47**	**210**	Pn	**Pn**	**02 19 47.7**	**-1.8**
OXZ				IAmb	IAmb	02 19 56.0	
	comp=Z,27nm,1.0s						
RPZ	**Rata Peaks**	**16.21**	**211**	Pn	**Pn**	**02 19 57.6**	**-1.4**
	comp=Z,2.1nm,0.3s,baz=339,slow=2.9,SNR=6.0						
RPZ				Sn	Sn	02 22 45.1	-13
	comp=Z,0.6nm,0.3s,baz=30,slow=21,SNR=1.3						
RPZ	**Rata Peaks**	**16.21**	**211**		**Pn**	**02 19 56.1**	**-2.9**
DZM	**Mont Dzumac**	**16.54**	**296**	Pn	**P**	**02 20 10.0**	**+4.3**
	comp=Z,0.2nm,0.3s,baz=130,slow=9.5,SNR=6.0						
LBZ	**Lake Benmore**	**17.12**	**211**	Pn	**Pn**	**02 20 08.4**	**-2.1**
WKZ	**Wanaka**	**18.00**	**212**	Pn	**Pn**	**02 20 18.9**	**-2.5**
WKZ				IAmb	IAmb	02 20 29.5	
	comp=Z,34nm,1.1s						
RAR	**Rarotonga**	**18.33**	**65**	LR	LR	02 25 11.9	
	comp=Z,351nm,21.3s,baz=195,slow=30						
MLZ	**Mavora Lakes**	**18.82**	**213**	P	**P**	**02 20 29.7**	**-0.9**
WHZ	**Wether Hill Ro**	**19.30**	**212**	P	**P**	**02 20 33.9**	**-1.9**
WHZ				IAmb	IAmb	02 20 37.7	
	comp=Z,39nm,1.5s						
CTAO	**Charters Tower**	**34.19**	**279**	P	**P**	**02 22 57.4**	**+1.0**
STKA	**Stephens Creek**	**34.92**	**257**	P	**P**	**02 23 04.8**	**+2.4**
	comp=Z,3.9nm,0.4s,baz=102,slow=13,SNR=9.2						
STKA	**Stephens Creek**	**34.92**	**257**	P	**P**	**02 23 02.6**	**+0.2**
ASAR	**Alice Springs**	**43.53**	**267**	P	**P**	**02 24 15.1**	**+0.4**
	comp=Z,4.2nm,0.7s,baz=109,slow=7.9,SNR=22						
ASAR				PcP	**PcP**	**02 26 02.6**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=116,slow=4.2,SNR=4.7						
ASAR	**Alice Springs**	**43.53**	**267**	P	**P**	**02 24 15.0**	**+0.4**
WR0	**Warramunga Arr**	**44.33**	**272**	P	**P**	**02 24 19.7**	**-1.3**
WR0				IAmb	IAmb	02 24 36.6	
	comp=Z,19nm,1.3s						
WB2	**Warramunga Arr**	**44.50**	**272**	P	**P**	**02 24 22.4**	**+0.1**
WB2				IAmb	IAmb	02 24 37.9	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**44.51**	**272**	P	**P**	**02 24 22.8**	**+0.3**
	comp=Z,5.6nm,0.4s,baz=111,slow=8.1,SNR=34						
WB0	**Warramunga Arr**	**44.53**	**272**	P	**P**	**02 24 22.6**	**0.0**
WB0				IAmb	IAmb	02 24 25.2	
	comp=Z,22nm,1.4s						
VNDA	**Vanda**	**48.27**	**186**	P	**P**	**02 24 53.3**	**+2.2**
	comp=Z,1.1nm,1.0s,baz=24,slow=7.9,SNR=4.2						
CASY	**Casey**	**55.45**	**208**	P	**P**	**02 25 44.9**	**+0.2**
QSPA	**South Pole Qui**	**59.84**	**180**	P	**P**	**02 26 17.7**	**+1.9**
	comp=Z,5.3nm,0.9s,baz=351,slow=1.2,SNR=21						
QSPA	**South Pole Qui**	**59.84**	**180**	P	**P**	**02 26 16.0**	**+0.2**
QSPA				IAmb	IAmb	02 26 32.6	
	comp=Z,13nm,1.1s						
MAW	**Mawson**	**72.58**	**200**	P	**P**	**02 27 39.1**	**+1.9**
	comp=Z,2.9nm,0.7s,baz=146,slow=6.6,SNR=4.3						
MAW	**Mawson**	**72.58**	**200**	P	**P**	**02 27 37.5**	**+0.3**
MAW				IAmb	IAmb	02 27 52.5	
	comp=Z,3.1nm,1.1s						
SNAA	**Sanae**	**78.27**	**178**	P	**P**	**02 28 10.9**	**+0.9**
SNAA	**Sanae**	**78.27**	**178**	P	**P**	**02 28 10.6**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=216,slow=5.3,SNR=5.7						
SNAA	**Sanae**	**78.27**	**178**	P	**P**	**02 28 10.4**	**+0.5**
SNAA				IAmb	IAmb	02 28 24.6	
	comp=Z,3.3nm,1.0s						
VNA3	**Neumayer Olymp**	**78.41**	**176**	P	**P**	**02 28 10.9**	**+0.3**
VNA2	**Neumayer--Watz**	**78.85**	**177**	P	**P**	**02 28 13.7**	**+0.6**
	baz=195,slow=3.8						
VNA1	**Neumayer--Stat**	**79.07**	**176**	P	**P**	**02 28 15.2**	**+1.0**
H03S2	**Juan Fernandez**	**80.19**	**123**	T	T	03 57 54.4	
	baz=239,slow=74,SNR=6.8						
H03S1	**Juan Fernandez**	**80.20**	**123**	T	T	03 57 53.8	
	baz=239,slow=74,SNR=5.3						
H03S3	**Juan Fernandez**	**80.20**	**123**	T	T	03 58 00.8	
	baz=239,slow=74,SNR=6.7						
KSRS	**Korea Array**	**84.52**	**319**	P	**P**	**02 28 43.5**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=139,slow=5.9,SNR=6.4						
PEA0B	**Petropavlovsk-**	**85.79**	**345**	P	**P**	**02 28 48.5**	**-0.8**
PETK	**Petropavlovsk-**	**85.79**	**345**	P	**P**	**02 28 49.1**	**-0.2**
	comp=Z,7.5nm,0.9s,baz=124,slow=7.4,SNR=10						
PETK	**Petropavlovsk-**	**85.79**	**345**	P	**P**	**02 28 48.9**	**-0.4**
USRK	**Ussuriysk Ar.**	**87.28**	**326**	P	**P**	**02 28 57.3**	**+0.5**
	comp=Z,4.4nm,0.9s,baz=138,slow=2.9,SNR=12						
USRK	**Ussuriysk Ar.**	**87.28**	**326**	P	**P**	**02 28 57.1**	**+0.3**
NVAR	**Mina Array Bea**	**87.86**	**42**	P	**P**	**02 28 60.0**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=218,slow=8.8,SNR=5.6						
NVAR	**Mina Array Bea**	**87.86**	**42**	P	**P**	**02 28 59.1**	**-0.9**
TXAR	**Lajitas Array**	**91.97**	**57**	P	**P**	**02 29 19.4**	**+0.1**
	comp=Z,0.2nm,0.8s,baz=241,slow=1.7,SNR=2.1						
MKAR	**Makanchi Array**	**118.01**	**310**	PKP	**PKPdf**	**02 34 55.7**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=173,slow=2.5,SNR=2.8						
KKAR	**Karatay Array**	**125.35**	**304**	PKPdf	**PKPdf**	**02 35 09.9**	**-1.1**
ARCES	**ARCESS Array B**	**138.55**	**348**	PKP	**PKPdf**	**02 35 35.8**	**+0.7**
	comp=Z,3.8nm,0.9s,baz=352,slow=3.7,SNR=3.9						
FIA1	**FINESS Array S**	**145.16**	**340**		**PKPbc**	**02 35 45.1**	**-1.6**
FINES	**FINESS Array B**	**145.16**	**340**	PKPbc	**PKPbc**	**02 35 46.1**	**-0.6**
	comp=Z,18nm,0.7s,baz=60,slow=3.2,SNR=56						
FINES	**FINESS Array B**	**145.16**	**340**		**PKPbc**	**02 35 45.8**	**-0.9**
KBZ	**Khabaz**	**145.39**	**304**	PKPbc	**PKPbc**	**02 35 47.9**	**-0.1**
	comp=Z,5.9nm,0.9s,baz=10,slow=2.3,SNR=6.5						
NC303	**NORSAR Array S**	**148.49**	**352**	PKPdf	**PKPdf**	**02 35 53.7**	**+1.0**
NB2	**NORSAR Subarra**	**148.68**	**352**	PKP	**PKPbc**	**02 35 55.7**	**-1.2**
	comp=Z,1.1nm,0.6s,baz=12,slow=2.7						
NOA	**NORSAR Array B**	**148.68**	**352**	PKPbc	**PKPbc**	**02 35 56.2**	**-0.6**
	comp=Z,3.6nm,0.9s,baz=14,slow=4.3,SNR=10						
GAZ	**Gaziantep**	**150.42**	**293**		**PKPbc**	**02 36 02.0**	**0.0**
AKASG	**Malin Array Be**	**151.45**	**323**	PKPbc	**PKPbc**	**02 36 03.4**	**-0.4**
	comp=Z,3.0nm,0.7s,baz=46,slow=2.6,SNR=9.0						
AKASG	**Malin Array Be**	**151.45**	**323**		**PKPbc**	**02 36 02.3**	**-1.5**
AKBB	**Malin Array Si**	**151.45**	**323**		**PKPbc**	**02 36 02.9**	**-0.9**
SUW	**Suwalki**	**151.95**	**334**		**PKPab**	**02 36 13.4**	**-0.7**
BRTR	**Keskin Array B**	**152.91**	**299**	PKPbc	**PKPbc**	**02 36 07.4**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=106,slow=2.7,SNR=6.5						
BURAR	**Bucovina Array**	**155.39**	**321**	PKPab	**PKPab**	**02 36 28.6**	**-0.6**
CLL	**Collm**	**157.57**	**343**	*e*PKPab	**PKPab**	**02 36 36.0**	**-2.2**
	comp=Z,17nm,1.8s						
KHC	**Kasperske Hory**	**159.36**	**339**	*e*PKPAB	**PKPab**	**02 36 46.7**	**+0.6**
KHC				*ex*	x	02 36 52.8	
GERES	**GERESS Array B**	**159.57**	**338**	PKPab	**PKPab**	**02 36 47.1**	**0.0**
	comp=Z,1.4nm,1.0s,baz=42,slow=4.2,SNR=7.0						
GERES	**GERESS Array B**	**159.57**	**338**		**PKPab**	**02 36 46.5**	**-0.6**
WATA	**Walderalm**	**161.57**	**340**	*i* pPKPab	**PKPab**	**02 36 55.9**	**0.0**
	comp=Z,7.0nm,1.3s						
WTTA	**Wattenberg**	**161.62**	**340**	*i* PKPab	**PKPab**	**02 36 56.0**	**-0.2**
	comp=Z,5.6nm,0.9s						
MOTA	**Moosalm**	**161.70**	**341**	*i* pPKPab	**PKPab**	**02 36 56.4**	**-0.1**
	comp=Z,5.4nm,1.1s						
SQTA	**Sankt Quirin**	**161.78**	**341**	*i* pPKPab	**PKPab**	**02 36 57.3**	**+0.5**
	comp=Z,5.9nm,1.2s						
FETA	**Feichten**	**162.10**	**341**	*i* pPKPab	**PKPab**	**02 36 58.6**	**+0.4**
	comp=Z,6.8nm,1.5s						
TORD	**Torodi Ar. Bea**	**162.94**	**177**	PKPab	**PKPab**	**02 37 04.4**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=181,slow=4.0,SNR=6.4						
TORD	**Torodi Ar. Bea**	**162.94**	**177**		**PKPab**	**02 37 03.1**	**+0.7**

NEIC ***24*** *02:23:43.3±2.1,24.08S±0.07×66.9W±0.2,h176km±11km, mb4.2/4,Error ellipse: s-maj=20.4km s-min=10.5km az=98.0*
IDC ***24*** *02:23:43.6±1.3,24.03S×66.87W,h164km±19km,mb3.3/2, mb1 3.4/7,mb1mx3.2/32,mbtmp3.8/7,Error ellipse: s-maj=24.5km s-min=14.7km az=94.0*
GUC ***24*** *02:23:45.7±0.6,23.96S×67.46W,h207km±8km,ML3.9*

ISC 24 02:23:44.2±0.9,24.02S±0.05×67.2W±0.1,h190km±12km, n48,σ1§22/64,mb3.9/3,5C-2D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.15**	**311**	P	**Pn**	**02 24 25.1**	**+1.2**
	9.2nm,0.3s,baz=121,slow=7.5,SNR=165						
LVC				S	**Sn**	**02 24 55.3**	**+0.5**
	20nm,0.3s,baz=280,slow=19,SNR=52						
LVC	**Limon Verde**	**2.15**	**311**	*e*P	**Pn**	**02 24 25.2**	**+1.2**
LVC				*e*S	**Sn**	**02 24 55.2**	**+0.4**
PB15	**IPOC Station P**	**2.28**	**290**	↑*i* P	**Pn**	**02 24 26.7**	**+1.4**
PB15				*i* S	**Sn**	**02 24 57.6**	**+0.5**
PB15	**IPOC Station P**	**2.28**	**290**		**Pn**	**02 24 26.6**	**+1.4**
GO02	**Mina Guanaco**	**2.50**	**242**	↑*i* P	**Pn**	**02 24 29.3**	**+1.5**
GO02				*i* S	**Sn**	**02 25 03.2**	**+1.6**
GO02				IAML		02 25 04.6	
	comp=E,572nm,0.2s						
GO02	**Mina Guanaco**	**2.50**	**242**	Pn	**Pn**	**02 24 29.1**	**+1.4**
PB06	**IPOC Station P**	**2.58**	**300**	↑*i* P	**Pn**	**02 24 29.9**	**+1.2**
PB06				*e*S	**Sn**	**02 25 02.9**	**-0.4**
PB06				IAML		02 25 05.3	
	comp=E,386nm,0.3s						
PB06	**IPOC Station P**	**2.58**	**300**		**Pn**	**02 24 29.5**	**+0.9**
PB09	**IPOC Station P**	**2.94**	**319**	↓*e*P	**Pn**	**02 24 34.4**	**+1.6**
PB09				*i* S	**Sn**	**02 25 11.3**	**+0.5**
PB09				IAML		02 25 12.1	
	comp=N,150nm,0.4s						
PB09	**IPOC Station P**	**2.94**	**319**		**Pn**	**02 24 34.2**	**+1.3**
PB05	**IPOC Station P**	**3.04**	**292**	↑*i* P	**Pn**	**02 24 34.9**	**+0.9**
PB05				*i* S	**Sn**	**02 25 11.4**	**-1.3**
PB05				IAML		02 25 13.8	
	comp=E,191nm,0.4s						
PB03	**IPOC Station P**	**3.10**	**309**	*i* P	**Pn**	**02 24 35.5**	**+0.8**
PB03				*i* S	**Sn**	**02 25 12.9**	**-1.3**
PB03				IAML		02 25 14.3	
	comp=N,237nm,0.3s						
PB10	**IPOC Station P**	**3.16**	**279**	*e*P	**Pn**	**02 24 36.2**	**+0.9**
PB10				*i* S	**Sn**	**02 25 13.9**	**-1.2**
PB10				IAML		02 25 19.1	
	comp=E,117nm,0.3s						
PB10	**IPOC Station P**	**3.16**	**279**	Pn	**Pn**	**02 24 36.2**	**+0.9**
PB04	**IPOC Station P**	**3.23**	**301**	*e*P	**Pn**	**02 24 36.9**	**+0.6**
PB04				*e*S	**Sn**	**02 25 15.7**	**-1.4**
PB04				IAML		02 25 18.3	
	comp=N,270nm,0.7s						
PB04	**IPOC Station P**	**3.23**	**301**	Pn	**Pn**	**02 24 36.7**	**+0.4**
AC02	**Maricunga**	**3.32**	**212**	Pn	**Pn**	**02 24 38.2**	**+0.5**
PB07	**IPOC Station P**	**3.41**	**312**	↓*e*P	**Pn**	**02 24 39.1**	**+0.6**
PB07				*e*S	**Sn**	**02 25 18.8**	**-2.1**
PB07	**IPOC Station P**	**3.41**	**312**		**Pn**	**02 24 37.7**	**-0.8**
PB01	**IPOC Station P**	**3.67**	**323**	*i* S	**Sn**	**02 25 24.1**	**-2.6**
PB01	**IPOC Station P**	**3.67**	**323**	Pn	**Pn**	**02 24 41.9**	**+0.2**
PB02	**IPOC Station P**	**3.70**	**316**	*e*P	**Pn**	**02 24 42.3**	**+0.3**
PB02				*i* S	**Sn**	**02 25 24.7**	**-2.6**
AC01	**Pan de Azucar**	**3.78**	**235**	↑*i* P	**Pn**	**02 24 42.9**	**+0.1**
AC01				*i* S	**Sn**	**02 25 27.4**	**-1.4**
AC01				IAML		02 25 30.2	
	comp=E,117nm,0.2s						
AC01	**Pan de Azucar**	**3.78**	**235**	Pn	**Pn**	**02 24 43.0**	**+0.1**
AC01					**Sn**	**02 25 27.4**	**-1.4**
PB08	**IPOC Station P**	**4.29**	**334**	Pn	**Pn**	**02 24 51.0**	**+1.3**
GO03	**Copiap**	**4.51**	**217**	*e*P	**Pn**	**02 24 52.0**	**-0.1**
GO03				*i* S	**Sn**	**02 25 44.5**	**-1.2**
GO03	**Copiap**	**4.51**	**217**		**Pn**	**02 24 52.1**	**-0.1**
PB11	**IPOC Station P**	**4.84**	**331**	Pn	**Pn**	**02 24 57.4**	**+0.9**
PSGCX	**Pisagua**	**5.20**	**327**	Pn	**Pn**	**02 25 01.6**	**+0.5**
AC04	**Llanos de Chal**	**5.46**	**219**	Pn	**Pn**	**02 25 02.9**	**-1.4**
AC05	**El Transito**	**5.55**	**210**	Pn	**Pn**	**02 25 05.2**	**-0.4**
CO01	**Juntas del Tor**	**6.49**	**203**	Pn	**Pn**	**02 25 18.8**	**+0.9**
GO04	**Tololo Observa**	**6.94**	**207**	Pn	**Pn**	**02 25 22.5**	**-1.3**
CO03	**El Pedregal**	**7.48**	**204**	Pn	**Pn**	**02 25 30.1**	**-0.7**
CFA	**Coronel Fontan**	**7.61**	**187**	P	**Pn**	**02 25 32.4**	**0.0**
	comp=E,0.5nm,0.3s,baz=22,slow=11,SNR=16						
CFA				S	**Sn**	**02 26 57.0**	**-1.4**
	comp=E,0.6nm,0.3s,baz=292,slow=19,SNR=2.2						
LPAZ	**La Paz**	**7.75**	**353**	P	**Pn**	**02 25 35.2**	**+0.3**
	comp=E,0.7nm,0.3s,baz=158,slow=11,SNR=24						
LPAZ	**La Paz**	**7.75**	**353**		**Pn**	**02 25 35.1**	**+0.2**
CO02	**Combarbal**	**7.93**	**205**	Pn	**Pn**	**02 25 35.7**	**-0.9**
SIV	**San Ignacio**	**9.82**	**37**	P	**Pn**	**02 25 58.8**	**-2.6**
	comp=E,0.4nm,0.3s,baz=226,slow=15,SNR=7.2						
BDFB	**Brasilia**	**19.82**	**69**	P	**P**	**02 27 59.8**	**-0.8**
	comp=E,0.9nm,0.3s,baz=240,slow=14,SNR=14						
BDFB	**Brasilia**	**19.82**	**69**	P	**P**	**02 27 60.0**	**-0.7**
BDFB				IAmb	IAmb	02 28 01.1	
	comp=Z,8.6nm,0.7s						
QSPA	**South Pole Qui**	**66.18**	**180**	P	**P**	**02 34 13.8**	**+2.5**
	comp=Z,0.7nm,0.4s,baz=248,slow=1.3,SNR=2.4						
QSPA	**South Pole Qui**	**66.18**	**180**	P	**P**	**02 34 13.6**	**+2.4**
QSPA				IAmb	IAmb	02 38 43.8	
	comp=Z,4.6nm,1.3s						
TOA0	**Torodi Ar. Sit**	**76.70**	**69**	P	**P**	**02 35 13.6**	**-1.2**
TOA0				IAmb	IAmb	02 36 34.5	
	comp=Z,6.4nm,1.3s						
TORD	**Torodi Ar. Bea**	**76.70**	**69**	P	**P**	**02 35 15.4**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=260,slow=5.1,SNR=10.0						
TORD	**Torodi Ar. Bea**	**76.70**	**69**	P	**P**	**02 35 14.2**	**-0.6**
MKAR	**Makanchi Array**	**146.63**	**39**	PKPbc	**PKPab**	**02 43 04.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=280,slow=2.6,SNR=2.8						
MKAR	**Makanchi Array**	**146.63**	**39**		**PKPbc**	**02 43 04.5**	**+1.2**

IDC ***24*** *02:29:08.6±0.5,29.93S×177.40W,h0km,mb4.5/16, mb1 4.7/17,mb1mx4.5/35,mbtmp4.5/17,ML4.7/1,Error ellipse: s-maj=18.1km s-min=13.6km az=75.0*
NEIC ***24*** *02:29:11.9±1.9,29.98S±0.05×177.5W±0.1,h26km±4km, mb4.8/45,Error ellipse: s-maj=15.1km s-min=6.7km az=71.0*

ISC 24 02:29:13.3±0.4,29.98S±0.06×177.40W±0.10,h35km, n163,σ1§05/158,mb4.7/36,1C-1D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.85**	**328**	Pn	**Pn**	**02 29 27.5**	**-1.3**
	5μm,0.3s,baz=100,slow=6.0,SNR=149						
RAO				Sn	**Sn**	**02 29 41.8**	**+1.8**
	6μm,0.3s,baz=73,slow=19,SNR=10						
RAO	**Raoul Island**	**0.85**	**328**	Pn	**Pn**	**02 29 27.5**	**-1.3**
RAO				Sg	**Sn**	**02 29 38.5**	**-1.6**
BKZ	**Black Stump Fm**	**10.46**	**207**	Pn	**Pn**	**02 31 38.9**	**-1.8**
BFZ	**Birch Farm**	**11.87**	**204**	Pn	**Pn**	**02 31 58.2**	**-1.8**
MSVF	**Nonsavu**	**12.88**	**340**	Pn	**Pn**	**02 32 13.2**	**-0.8**
LTZ	**Lake Taylor**	**15.23**	**210**	Pn	**Pn**	**02 32 44.3**	**-1.4**
OXZ	**Oxford**	**15.77**	**209**	P	**Pn**	**02 32 50.7**	**-2.0**
DZM	**Mont Dzumac**	**16.51**	**295**	Pn	**P**	**02 33 08.6**	**+4.0**
	0.7nm,0.3s,baz=123,slow=17,SNR=11						
RPZ	**Rata Peaks**	**16.51**	**211**	Pn	**Pn**	**02 33 01.9**	**-0.2**
	2.6nm,0.3s,baz=43,slow=0.7,SNR=12						
RPZ				Sn	Sn	02 35 52.4	-12
	0.8nm,0.3s,baz=148,slow=2.4,SNR=3.5						
RPZ	**Rata Peaks**	**16.51**	**211**		**Pn**	**02 32 59.3**	**-2.8**
ODZ	**Otahua Downs**	**17.75**	**209**		**Pn**	**02 33 14.9**	**-2.6**
MLZ	**Mavora Lakes**	**19.12**	**213**	P	**P**	**02 33 30.1**	**-3.1**
EIDS	**Eidsvold**	**28.24**	**272**	P	**P**	**02 35 04.3**	**+1.2**
EIDS				IAmb	IAmb	02 35 18.6	
	comp=Z,14nm,1.0s						
CTAO	**Charters Tower**	**34.25**	**278**	P	**P**	**02 35 57.5**	**+1.4**
STKA	**Stephens Creek**	**35.08**	**256**	P	**P**	**02 36 05.3**	**+2.2**
	comp=Z,22nm,1.0s,baz=96,slow=11,SNR=13						
STKA	**Stephens Creek**	**35.08**	**256**	P	**P**	**02 36 05.1**	**+1.9**
BBOO	**Buckleboo**	**39.58**	**254**	P	**P**	**02 36 41.8**	**+0.5**
AS31	**Alice Springs**	**43.65**	**266**	P	**P**	**02 37 14.8**	**0.0**
ASAR	**Alice Springs**	**43.65**	**266**	P	**P**	**02 37 14.7**	**-0.1**
	comp=Z,8.6nm,0.7s,baz=104,slow=7.8,SNR=36						
ASAR	**Alice Springs**	**43.65**	**266**	P	**P**	**02 37 13.4**	**-1.3**
WR0	**Warramunga Arr**	**44.42**	**271**	P	**P**	**02 37 21.4**	**+0.4**
WB2	**Warramunga Arr**	**44.59**	**271**	P	**P**	**02 37 22.0**	**-0.3**
WRA	**Warramunga Arr**	**44.60**	**271**	P	**P**	**02 37 22.0**	**-0.4**
	comp=Z,18nm,0.7s,baz=110,slow=7.6,SNR=54						
WB0	**Warramunga Arr**	**44.62**	**272**	P	**P**	**02 37 21.9**	**-0.7**
FORT	**Forrest**	**46.66**	**255**	P	**P**	**02 37 37.3**	**-1.2**
VNDA	**Vanda**	**48.57**	**186**	P	**P**	**02 37 53.1**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=38,slow=8.8,SNR=3.6						
FITZ	**Fitzroy Crossi**	**52.88**	**269**	P	**P**	**02 38 24.9**	**-1.1**
FITZ				IAmb	IAmb	02 38 37.4	
	comp=Z,16nm,1.4s						
CASY	**Casey**	**55.76**	**208**	P	**P**	**02 38 46.9**	**+0.7**
QSPA	**South Pole Qui**	**60.13**	**180**	P	**P**	**02 39 18.6**	**+1.5**
	comp=Z,4.8nm,0.9s,baz=43,slow=3.0,SNR=12						
QSPA	**South Pole Qui**	**60.13**	**180**	P	**P**	**02 39 18.8**	**+1.7**
MAW	**Mawson**	**72.89**	**200**	P	**P**	**02 40 39.6**	**+1.4**
	comp=Z,6.1nm,0.9s,baz=60,slow=8.1,SNR=5.1						
SYO	**Syowa Base**	**77.64**	**193**	↓*e*P	**P**	**02 41 05.0**	**-0.6**
SYO	**Syowa Base**	**77.64**	**193**	↓*i* pP	pP	02 41 12.0	-3.3
MJAR	**Matsushiro Arr**	**78.19**	**325**	P	**P**	**02 41 09.4**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=164,slow=5.5,SNR=8.6						
MJAR	**Matsushiro Arr**	**78.19**	**325**	P	**P**	**02 41 09.0**	**-0.1**
MAJO	**Matsushiro**	**78.19**	**325**	P	**P**	**02 41 09.4**	**+0.3**
MAJO				IAmb	IAmb	02 41 14.3	
	comp=Z,12nm,1.1s						
SNAA	**Sanae**	**78.56**	**178**	P	**P**	**02 41 11.5**	**+0.7**
SNAA	**Sanae**	**78.56**	**178**	P	**P**	**02 41 10.7**	**-0.1**
VNA3	**Neumayer Olymp**	**78.69**	**176**	P	**P**	**02 41 12.0**	**+0.5**
VNA2	**Neumayer--Watz**	**79.13**	**177**	P	**P**	**02 41 14.7**	**+0.9**
	baz=188,slow=5.4						
VNA1	**Neumayer--Stat**	**79.36**	**176**	P	**P**	**02 41 16.1**	**+1.0**
H03S2	**Juan Fernandez**	**80.26**	**123**	T	T	04 10 43.7	
	baz=238,slow=74,SNR=10						
H03S1	**Juan Fernandez**	**80.28**	**123**	T	T	04 10 48.0	
	baz=238,slow=74,SNR=12						
H03S3	**Juan Fernandez**	**80.28**	**123**	T	T	04 10 43.7	
	baz=238,slow=74,SNR=13						
H03N3	**Juan Fernandez**	**80.45**	**123**	T	T	04 11 02.0	
	baz=232,slow=78,SNR=4.4						
**H03N

IIGN	**Ignalina**	**149.55**	**333**	*e*P	**PKPbc**	**02 48 58.9**	**+0.5**
NACGM	**Naroch**	**149.65**	**332**	*e*	**PKPab**	**02 49 04.0**	**+0.1**
PABE	**Paberze**	**150.29**	**335**	*e*P	**PKPbc**	**02 49 00.1**	**-0.1**
GAZ	**Gaziantep**	**150.40**	**293**		**PKPbc**	**02 49 01.4**	**+0.2**
ASF	**Jabal al Asfar**	**150.61**	**283**	PKPbc	**PKiKP**	**02 49 02.9**	**+0.3**
	comp=Z,9.1nm,0.7s,baz=67,slow=1.0,SNR=15						
AKASG	**Malin Array Be**	**151.27**	**324**	PKPbc	**PKPbc**	**02 49 02.3**	**-0.3**
	comp=Z,6.8nm,0.7s,baz=46,slow=2.8,SNR=20						
AKASG				PKPab	**PKPab**	**02 49 10.1**	**-0.7**
	comp=Z,12nm,0.6s,baz=46,slow=3.5,SNR=28						
AKASG	**Malin Array Be**	**151.27**	**324**		**PKPbc**	**02 49 02.2**	**-0.5**
AKASG					**PKPab**	**02 49 09.4**	**-1.3**
AKBB	**Malin Array Si**	**151.27**	**324**		**PKPbc**	**02 49 02.1**	**-0.6**
SUW	**Suwalki**	**151.73**	**334**		**PKPbc**	**02 49 03.1**	**-0.5**
MMAI	**Mount Meron Ar**	**151.93**	**285**	PKPbc	**PKiKP**	**02 49 06.0**	**+0.8**
	comp=Z,11nm,0.5s,baz=76,slow=5.2,SNR=36						
EIL	**Elat**	**151.98**	**278**	PKPbc	**PKiKP**	**02 49 05.7**	**+0.3**
	comp=Z,14nm,0.8s,baz=350,slow=4.7,SNR=14						
ILGA	**Ilgaz**	**152.50**	**302**		**PKPbc**	**02 49 05.4**	**-0.7**
BRTR	**Keskin Array B**	**152.85**	**299**	PKPbc	**PKiKP**	**02 49 07.3**	**+0.2**
	comp=Z,2.9nm,0.9s,baz=106,slow=4.0,SNR=13						
BRTR	**Keskin Array B**	**152.85**	**299**		**PKPbc**	**02 49 06.0**	**-0.8**
BURAR	**Bucovina Array**	**155.23**	**322**		PKPbc	02 49 12.7	
OKC	**Ostrava-Krasne**	**156.94**	**334**	*e*P	**PKPab**	**02 49 35.1**	**+0.3**
OSTC	**Ostas**	**157.04**	**337**	*e*P	**PKPab**	**02 49 35.8**	**+0.6**
CHVC	**Chvalec**	**157.06**	**338**	*e*P	**PKPab**	**02 49 34.7**	**-0.7**
UPC	**Upice**	**157.15**	**338**	*e*P	**PKPab**	**02 49 36.3**	**+0.6**
DPC	**Dobruska-Polom**	**157.18**	**337**	*e*P	**PKPab**	**02 49 36.1**	**+0.2**
DPC				*ex*	x	02 49 42.5	
MORC	**Moravsky Berou**	**157.22**	**334**	*e*PKP	**PKPab**	**02 49 36.0**	**-0.1**
CLL	**Collm**	**157.32**	**343**	*i* PKPab	**PKPab**	**02 49 36.0**	**-0.4**
	comp=Z,8.0nm,0.9s						
CLL				*ep*PKPab	**pPKPab**	**02 49 43.0**	**-3.3**
CLL	**Collm**	**157.32**	**343**	PKPab	**PKPab**	**02 49 35.9**	**-0.4**
BRG	**Berggiesshubel**	**157.46**	**341**	*i* P	**PKPab**	**02 49 36.7**	**-0.3**
	comp=Z,8.5nm,0.9s						
JAVC	**Velka Javorina**	**157.91**	**333**	*e*PKP	**PKPab**	**02 49 40.1**	**+1.0**
VRAC	**Vranov**	**157.96**	**335**	*e*PKP	**PKPab**	**02 49 39.5**	**+0.3**
GOPC	**GO Pecny, Ondr**	**158.06**	**339**	*e*P	**PKPab**	**02 49 40.5**	**+0.8**
KRUC	**Moravsky**	**158.23**	**335**	*e*PKP	**PKPab**	**02 49 40.5**	**+0.1**
KHC	**Kasperske Hory**	**159.12**	**339**	*e*P	**PKPab**	**02 49 44.6**	**+0.3**
KHC				*ep*P	**pPKPab**	**02 49 50.8**	**-3.4**
KHC	**Kasperske Hory**	**159.12**	**339**		**PKPab**	**02 49 44.8**	**+0.5**
VTS	**Vitosha**	**159.19**	**313**	PKPab	**PKPab**	**02 49 45.2**	**+0.2**
GEC2	**GERESS Array S**	**159.34**	**339**	PKPab	**PKPab**	**02 49 45.0**	**-0.4**
GERES	**GERESS Array B**	**159.34**	**339**	PKPab	**PKPab**	**02 49 45.6**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=46,slow=3.9,SNR=13						
GERES	**GERESS Array B**	**159.34**	**339**	PKPab	**PKPab**	**02 49 45.2**	**-0.1**
CONA	**Conrad Observa**	**159.37**	**334**	*i* pP	**PKPab**	**02 49 45.8**	**+0.3**
	comp=Z,7.3nm,1.0s						
MOA	**Molln**	**160.02**	**337**	*i* PcP	**PKPab**	**02 49 47.6**	**-0.7**
	comp=Z,4.0nm,0.8s						
ARSA	**Arzberg**	**160.06**	**333**	*i* pP	**PKPab**	**02 49 48.4**	**-0.1**
	comp=Z,3.4nm,0.7s						
SOKA	**Soboth**	**160.72**	**333**	*i* pP	**PKPab**	**02 49 51.1**	**-0.3**
	comp=Z,4.2nm,0.9s						
OBKA	**Obir**	**161.05**	**334**	*i* PcP	**PKPab**	**02 49 52.2**	**-0.7**
	comp=Z,6.6nm,1.1s						
MYKA	**Terra Mystica**	**161.28**	**336**	*i* PcP	**PKPab**	**02 49 52.6**	**-1.3**
	comp=Z,6.9nm,0.7s						
WATA	**Walderalm**	**161.33**	**341**	*i* P	**PKPab**	**02 49 54.3**	**+0.2**
	comp=Z,10nm,1.1s						
WTTA	**Wattenberg**	**161.37**	**340**	*i* P	**PKPab**	**02 49 54.0**	**-0.4**
	comp=Z,6.4nm,0.6s						
RETA	**Reutte**	**161.41**	**342**	*i* P	**PKPab**	**02 49 54.0**	**-0.4**
	comp=Z,6.5nm,1.0s						
MOTA	**Moosalm**	**161.45**	**342**	*i* P	**PKPab**	**02 49 54.5**	**-0.1**
	comp=Z,6.5nm,1.4s						
PRED	**Cave del Predi**	**161.47**	**336**	PKPab	**PKPab**	**02 49 53.5**	**-1.2**
SQTA	**Sankt Quirin**	**161.53**	**341**	*i* P	**PKPab**	**02 49 55.0**	**+0.1**
	comp=Z,13nm,1.3s						
ABTA	**Abfaltersbach**	**161.56**	**338**	*i* P	**PKPab**	**02 49 54.3**	**-0.8**
	comp=Z,7.1nm,1.1s						
DAVA	**Damuels**	**161.82**	**344**	*i* P	**PKPab**	**02 49 55.8**	**-0.5**
	comp=Z,3.6nm,0.7s						
FETA	**Feichten**	**161.85**	**342**	*i* P	**PKPab**	**02 49 56.3**	**-0.1**
	comp=Z,3.6nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**162.34**	**342**	PKPab	**PKPab**	**02 49 59.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**163.23**	**177**	PKPab	**PKPab**	**02 50 03.4**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=169,slow=3.8,SNR=6.4						
TORD	**Torodi Ar. Bea**	**163.23**	**177**	PKPab	**PKPab**	**02 50 03.6**	**+0.7**
ESDC	**Sonseca Array**	**168.93**	**27**	PKPab	**PKPab**	**02 50 27.7**	**0.0**
	comp=Z,0.7nm,0.9s,baz=319,slow=3.7,SNR=3.4						

NEIC ***24*** *02:34:48.8±0.7,51°.77N±0°.07×178°.58E±0°.10, h101km±5km, Error ellipse: s-maj=11.8km s-min=7.0km az=211.0*

AEIC 24 02:34:49±0.9**,51°.75N**±0°.08**×178°.5E**±0°.1**,h100**km±5km**, ML2.6, Error ellipse: s-maj=12.8km s-min=6.8km az=218.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.20**	**356**		Pn	02 35 03.0	-0.2
LSPA	**Little Sitkin**	**0.21**	**7**		Pn	02 35 03.2	0.0
LSPA					Sn	02 35 13.7	-0.1
LSNW	**Little Sitkin**	**0.22**	**357**		Pn	02 35 03.2	-0.1
AMKA	**Amchitka**	**0.61**	**128**		Pn	02 35 05.3	-0.2
AMKA					Sn	02 35 18.6	+0.6
CESW	**Semis' Southwe**	**0.66**	**76**		Pn	02 35 06.3	+0.4
CEAP	**Semis' Anvil P**	**0.69**	**68**		Pn	02 35 06.6	+0.2
CERAA	**Semis' Rag'd T**	**0.73**	**77**		Pn	02 35 06.2	-0.5
GAEA	**Gareloi East**	**1.69**	**88**		Pn	02 35 17.7	+0.1
TASE	**Tanaga Southea**	**2.13**	**86**		Pn	02 35 22.9	-0.4
TAFP	**Tanaga Falls P**	**2.17**	**85**		Pn	02 35 23.1	-0.6
KIMD	**Kanaga Island**	**2.63**	**88**		Pn	02 35 28.9	-0.8
ADK	**Adak**	**2.97**	**86**	Pn	Pn	02 35 33.1	-1.2
GSTR	**Great Sitkin T**	**3.37**	**82**	Pn	Pn	02 35 38.6	-1.0
BMAR	**Burnt Mountain**	**23.86**	**35**	P	P	02 39 52.5	-0.3

IDC 24 02:39:25.9±3.4**,30°.56S×177°.15W,h0**km**,mb3.5/2, mb1 3.8/2,mb1mx3.5/39,mbtmp3.5/2, Error ellipse: s-maj=70.5km s-min=44.0km az=105.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.46**	**333**	Pn	Pb	02 39 54.4	+0.4
	139nm,0.3s,baz=102,slow=20,SNR=2.3						
RAO					Sg	02 40 06.1	-6.8
	196nm,0.3s,baz=39,slow=21,SNR=3.3						
ASAR	**Alice Springs**	**43.83**	**267**	P	P	02 47 33.7	-0.3
	0.3nm,0.6s,baz=102,slow=8.1,SNR=1.4						
WRA	**Warramunga Arr**	**44.84**	**272**	P	P	02 47 41.8	-0.3
	0.5nm,0.3s,baz=110,slow=7.9,SNR=6.3						
FINES	**FINESS Array B**	**145.54**	**340**	PKPbc	PKPdf	02 59 04.5	-0.8
	3.9nm,1.1s,baz=56,slow=3.4,SNR=4.5						

IDC 24 02:40:36.0±4.2**,28°.45S×177°.71W,h0**km**,mb3.6/2, mb1 3.8/2,mb1mx3.5/40,mbtmp3.6/2, Error ellipse: s-maj=84.1km s-min=23.5km az=81.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.82**	**193**	Pn	Pn	02 40 55.3	+0.5
	59nm,0.3s,baz=90,slow=20,SNR=1.2						
RAO					Sn	02 41 07.9	+0.3
	486nm,0.3s,baz=78,slow=19,SNR=8.0						
ASAR	**Alice Springs**	**43.50**	**265**	P	P	02 48 42.1	+0.7
	0.2nm,0.5s,baz=116,slow=7.3,SNR=2.0						
WRA	**Warramunga Arr**	**44.31**	**270**	P	P	02 48 47.4	-0.6
	3.5nm,0.9s,baz=111,slow=8.0,SNR=12						
FINES	**FINESS Array B**	**143.40**	**341**	PKP	PKPbc	03 00 10.3	+1.4
	0.9nm,0.5s,baz=40,slow=2.4,SNR=5.5						

NEIC ***24*** *02:40:40.9±2.5, 13°.77S±0°.09×66°.45E±0°.06, h10km±1km, mb5.1/36, Error ellipse: s-maj=15.4km s-min=9.7km az=192.0*

IDC ***24*** *02:40:41.0±0.6, 13°.45S×66°.40E, h0km, mb4.2/21, mb1 4.3/22, mb1mx4.1/50, mbtmp4.2/22, ML4.3/1, MS4.7/9, Ms1 4.7/9, ms1mx4.3/43, Error ellipse: s-maj=19.1km s-min=15.1km az=170.0*

BJI ***24*** *02:40:45.5±0.0, 13°.30S×66°.50E, h10km, mB5.1/11, mb4.8/20, Ms5.2/7, Ms7 5.0/7*

ISC 24 02:40:41.7±0.4**,13°.81S**±0°.09**×66°.43E**±0°.07**,h10**km**,n154,** σ**2**s**11/142,mb4.6/52,MS4.7/9,11C-1D, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**8.54**	**45**	T	T	02 51 12.1	
	baz=226,slow=76,SNR=7412						
H08S2	**Diego Garcia H**	**8.55**	**45**	T	T	02 51 13.2	
	baz=226,slow=76,SNR=4940						
H08S3	**Diego Garcia H**	**8.55**	**45**	T	T	02 51 24.9	
	baz=226,slow=76,SNR=6244						
DGAR	**Diego Garcia**	**8.69**	**44**	Pn	**Pn**	**02 42 46.4**	**-1.1**
OPO	**Ambohidratompo**	**19.07**	**253**	P	**Pn**	**02 45 05.6**	**+0.3**
	0.8nm,0.3s,baz=79,slow=17,SNR=2.5						
OPO				LR	LR	02 49 46.0	
	comp=Z,5μm,20.6s,baz=148,slow=28						
ABPO	**Ambohimpanom**	**19.12**	**252**	P	**P**	**02 45 04.2**	**-1.1**
KMBO	**Kilima Mbogo**	**31.49**	**291**	P	**P**	**02 47 03.2**	**-1.1**
	1.2nm,0.8s,baz=176,slow=14,SNR=1.9						
KMBO				LR	LR	02 56 54.8	
	comp=Z,1μm,20.1s,baz=89,slow=31						
KMBO	**Kilima Mbogo**	**31.49**	**291**	IAmb	IAmb	02 48 03.0	
	comp=Z,37nm,2.0s						
MATP	**Matopo**	**36.77**	**254**	P	**P**	**02 47 50.8**	**+0.8**
	comp=Z,4.0nm,1.1s,baz=96,slow=10,SNR=4.3						
LSZ	**Lusaka**	**37.01**	**263**	P	**P**	**02 47 52.5**	**+0.5**
	comp=Z,7.1nm,1.1s,baz=90,slow=8.3,SNR=4.8						
LSZ	**Lusaka**	**37.01**	**263**	P	**P**	**02 47 50.9**	**-1.2**
WSAR	**Wadi Sarin**	**37.60**	**348**	LR	LR	02 59 02.5	
	comp=Z,1μm,19.5s,baz=190,slow=30						
UOSS	**Minazif**	**39.79**	**345**	P	**P**	**02 48 14.7**	**-0.4**
BOSA	**Boshof**	**40.89**	**242**	P	**P**	**02 48 26.6**	**+2.1**
	comp=Z,4.5nm,0.9s,baz=90,slow=8.3,SNR=6.0						
BOSA				LR	LR	03 02 59.2	
	comp=Z,1μm,20.7s,baz=88,slow=33						
BOSA	**Boshof**	**40.89**	**242**	P	**P**	**02 48 24.6**	**+0.2**
BOSA				IAmb	IAmb	02 48 39.9	
	comp=Z,51nm,1.8s						
RAYN	**Ar Rayn**	**42.38**	**331**	P	**P**	**02 48 37.1**	**+0.7**
KOLN	**Koldanda**	**44.56**	**22**	*e*P	**P**	**02 48 54.3**	**+0.1**
	comp=Z,114nm,1.3s						
PYUN	**Piuthan**	**44.65**	**21**	*e*P	**P**	**02 48 55.3**	**+0.4**
	comp=Z,92nm,0.8s						
DMN	**Daman**	**44.98**	**24**	*e*P	**P**	**02 49 00.0**	**+2.4**
	comp=Z,67nm,1.1s						
RAMN	**Ramite**	**45.01**	**26**	*e*P	**P**	**02 49 00.7**	**+2.9**
PKI	**Pulchoki**	**45.07**	**24**	*e*P	**P**	**02 49 00.8**	**+2.4**
PKIN	**Phulchoki**	**45.07**	**24**	*e*P	**P**	**02 49 00.8**	**+2.5**
KKN	**Kakani**	**45.21**	**24**	*e*P	**P**	**02 49 01.9**	**+2.5**
	comp=Z,51nm,0.9s						
ODAN	**Odare**	**45.27**	**27**	*e*P	**P**	**02 49 03.3**	**+3.4**
	comp=Z,35nm,0.8s						
CMAR	**Chiang Mai Arr**	**45.34**	**46**	P	**P**	**02 49 02.9**	**+2.6**
	comp=Z,2.5nm,0.3s,baz=229,slow=11,SNR=1.9						
CMAR				LR	LR	03 04 55.8	
	comp=Z,614nm,21.7s,baz=261,slow=32						
JIRN	**Jiri**	**45.46**	**25**	*e*P	**P**	**02 49 04.3**	**+2.7**
	comp=Z,90nm,1.1s						
GUN	**Gumba**	**45.56**	**24**	*e*P	**P**	**02 49 05.3**	**+3.0**
KSM	**Kuching**	**46.06**	**74**	P	**P**	**02 49 07.4**	**+1.3**
KSM				IAmb	IAmb	02 49 28.9	
	comp=Z,12nm,0.9s						
SHL	**Shillong**	**46.34**	**32**	P	**P**	**02 49 08.2**	**-0.1**
NIL	**Nilai**	**47.64**	**8**	P	**P**	**02 49 19.2**	**+1.0**
H01W3	**Cape Leeuwin H**	**47.74**	**125**	T	T	03 40 37.0	
	baz=284,slow=75,SNR=46						
H01W2	**Cape Leeuwin H**	**47.75**	**125**	T	T	03 40 36.8	
	baz=284,slow=75,SNR=53						
H01W1	**Cape Leeuwin H**	**47.76**	**125**	T	T	03 40 38.1	
	baz=284,slow=75,SNR=52						
KBL	**Kabul**	**48.15**	**3**	P	**P**	**02 49 19.0**	**-3.3**
KBL				IAmb	IAmb	02 49 41.5	
	comp=Z,29nm,1.1s						
SBUM	**Sibu**	**48.19**	**74**	P	**P**	**02 49 21.7**	**-1.1**
SBUM				IAmb	IAmb	02 49 44.6	
	comp=Z,14nm,1.2s						
LSA	**Lhasa**	**49.40**	**29**		**P**	**02 49 32.5**	**+0.1**
LSA				IAmb	IAmb	02 49 52.3	
	comp=Z,29nm,1.2s						
SLVN	**Son La**	**50.73**	**47**	P	**P**	**02 49 39.9**	**-2.3**
SLVN				IAmb	IAmb	02 50 03.1	
	comp=Z,52nm,1.7s						
GEYT	**Alibeck**	**52.05**	**352**	P	**P**	**02 49 53.0**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=145,slow=5.3,SNR=1.9						
GEYT				LR	LR	03 08 59.4	
	comp=Z,513nm,20.1s,baz=100,slow=33						
GEYT	**Alibeck**	**52.05**	**352**	P	**P**	**02 49 51.8**	**+0.1**
GAR	**Garm**	**52.66**	**4**	P	**P**	**02 49 55.9**	**-0.4**
GAR				IAmb	IAmb	02 50 14.2	
	comp=Z,48nm,1.2s						
ASF	**Jabal al Asfar**	**53.76**	**329**	P	**P**	**02 50 06.8**	**+2.3**
	comp=Z,1.6nm,0.4s,baz=162,slow=3.2,SNR=3.3						
MAW	**Mawson**	**53.80**	**182**	LR	LR	03 09 41.9	
	comp=Z,289nm,19.1s,baz=337,slow=32						
AAK	**Ala-Archa**	**56.66**	**7**	P	**P**	**02 50 26.3**	**+1.0**
	comp=Z,1.0nm,0.3s,baz=166,slow=6.0,SNR=4.4						
AAK	**Ala-Archa**	**56.66**	**7**	P	**P**	**02 50 24.9**	**-0.4**
AAK				IAmb	IAmb	02 50 44.0	
	comp=Z,32nm,1.8s						
SOEI	**Soe**	**56.66**	**93**	P	**P**	**02 50 24.2**	**-1.6**
KKAR	**Karatay Array**	**56.76**	**4**	P	**P**	**02 50 24.2**	**-1.6**
ENH	**Enshi**	**60.33**	**43**	P	**P**	**02 50 53.2**	**+2.2**
KBZ	**Khabaz**	**61.16**	**341**	P	**P**	**02 50 57.1**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=270,slow=2.0,SNR=2.4						
BRTR	**Keskin Array B**	**61.39**	**332**	P	**P**	**02 50 57.4**	**-0.8**
	comp=Z,2.7nm,1.0s,baz=153,slow=6.5,SNR=8.7						
BRTR	**Keskin Array B**	**61.39**	**332**	P	**P**	**02 50 56.6**	**-1.6**
MAKZ	**Makanchi**	**61.94**	**12**	P	**P**	**02 50 59.5**	**-2.1**
MAKZ				IAmb	IAmb	02 51 15.1	
	comp=Z,11nm,1.0s						
MK31	**Makanchi Array**	**61.99**	**12**	P	**P**	**02 51 00.0**	**-1.9**
MK31				IAmb	IAmb	02 51 20.6	
	comp=Z,26nm,1.5s						
MKAR	**Makanchi Array**	**61.99**	**12**	P	**P**	**02 50 59.5**	**-2.4**
	comp=Z,4.2nm,1.0s,baz=205,slow=8.2,SNR=12						
MKAR	**Makanchi Array**	**61.99**	**12**	P	**P**	**02 50 59.1**	**-2.8**
XAN	**Xi'an**	**62.44**	**39**	P	**P**	**02 51 08.9**	**+3.6**
XAN				pmax	pmax		
	comp=Z,16nm,1.1s						
XAN				LR	LR		
	comp=Z,440nm,20.6s						
XAN				LR	LR		
	comp=Z,900nm,22.8s						
XAN	**Xi'an**	**62.44**	**39**	P	**P**	**02 51 04.1**	**-1.1**
ABKAR	**Akbulak array**	**63.05**	**355**	P	**P**	**02 51 06.1**	**-2.8**
ASAR	**Alice Springs**	**64.16**	**110**	P	**P**	**02 51 18.7**	**+1.7**
	comp=Z,2.5nm,0.8s,baz=269,slow=6.1,SNR=10						
ASAR	**Alice Springs**	**64.16**	**110**	P	**P**	**02 51 17.2**	**+0.2**
WRA	**Warramunga Arr**	**64.91**	**106**	P	**P**	**02 51 23.1**	**+1.2**
	comp=Z,11nm,0.9s,baz=271,slow=5.5,SNR=11						
WB2	**Warramunga Arr**	**64.92**	**106**	P	**P**	**02 51 21.4**	**-0.5**
WR0	**Warramunga Arr**	**65.09**	**106**	P	**P**	**02 51 21.3**	**-1.8**
WR0				IAmb	IAmb	02 51 45.0	
	comp=Z,16nm,1.0s						
KURK	**Kurchatov**	**65.13**	**9**	P	**P**	**02 51 22.6**	**0.0**
KURK				IAmb	IAmb	02 51 36.6	
	comp=Z,10nm,1.1s						
ALN	**Alexandroupoli**	**66.03**	**327**	P	**P**	**02 51 26.8**	**-1.8**
BRVK	**Bezovoye**	**66.68**	**3**	P	**P**	**02 51 30.2**	**-2.3**
TIRR	**Tirgusor**	**67.51**	**331**	⇑P	PcP	02 51 52.9	-12
BTO	**Baotou**	**67.55**	**35**	*e*P	**P**	**02 51 40.4**	**+1.9**
PLVB	**Pleven**	**68.56**	**329**	⇑P	PcP	02 52 01.6	-8.1
VTS	**Vitosha**	**68.73**	**327**	⇑P	**P**	**02 51 45.2**	**-0.7**
ZAA0	**Zalesovo Array**	**69.30**	**12**	P	**P**	**02 51 46.3**	**-2.6**
ZALV	**Zalesovo Beam**	**69.30**	**12**	P	**P**	**02 51 46.4**	**-2.5**
	comp=Z,1.2nm,0.5s,baz=212,slow=5.3,SNR=5.2						
ZALV	**Zalesovo Beam**	**69.30**	**12**	P	**P**	**02 51 46.1**	**-2.8**
VRI	**Vrincioaia**	**69.36**	**332**	⇑P	**P**	**02 51 50.9**	**+1.4**
PLOR	**Plostina**	**69.38**	**331**	⇑P	**P**	**02 51 52.3**	**+2.6**
TORD	**Torodi Ar. Bea**	**69.49**	**290**	P	**P**	**02 51 51.4**	**+0.4**
	comp=Z,1.5nm,1.0s,baz=108,slow=6.6,SNR=3.8						
TORD				LR	LR	03 19 33.6	
	comp=Z,517nm,21.9s,baz=80,slow=34						
TORD	**Torodi Ar. Bea**	**69.49**	**290**	P	**P**	**02 51 48.4**	**-2.5**
VOIR		**69.83**	**330**	⇑P	**P**	**02 51 52.6**	**+0.1**
TESR	**Tescani**	**69.88**	**332**	⇑P	**P**	**02 51 51.2**	**-1.5**
ARR	**Arges**	**69.98**	**330**	⇑P	**P**	**02 51 54.1**	**+0.6**
BIZ	**Bicaz**	**70.44**	**332**	⇓P	**P**	**02 51 58.2**	**+2.0**
SNAA	**Sanae**	**70.50**	**198**	P	**P**	**02 51 57.0**	**+0.8**
SNAA				IAmb	IAmb	02 52 35.8	
	comp=Z,21nm,1.6s						
PDG	**Podgorica**	**70.76**	**325**	⇑P	**P**	**02 52 00.3**	**+2.1**
SONM	**Songino Array**	**70.95**	**27**	P	**P**	**02 51 58.4**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=212,slow=6.2,SNR=2.8						
MDVR	**Moldovita**	**71.03**	**328**	⇑P	**P**	**02 52 00.8**	**+1.0**
ULN	**Ulaanbaatar**	**71.27**	**28**		**P**	**02 51 60.0**	**-1.4**
ULN				IAmb	IAmb	02 52 20.6	
	comp=Z,17nm,1.4s						
AKASG	**Malin Array Be**	**72.00**	**336**	P	**P**	**02 52 04.1**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=138,slow=4.7,SNR=6.5						
KEST	**Kesra**	**73.04**	**314**	LR	LR	03 24 04.2	
	comp=Z,834nm,21.0s,baz=110,slow=36						
VYHS	**Vyhne**	**75.01**	**329**	*e*P	**P**	**02 52 25.3**	**+2.0**
SOKA	**Soboth**	**75.80**	**326**	*i* PcP	**PcP**	**02 52 43.6**	**+3.0**
	comp=Z,11nm,1.7s						
JAVC	**Velka Javorina**	**75.83**	**329**	*e*P	**P**	**02 52 30.8**	**+2.7**
ARSA	**Arzberg**	**75.89**	**327**	*i* P	**P**	**02 52 28.8**	**+0.4**
	comp=Z,9.5nm,1.1s						
OBKA	**Obir**	**75.96**	**326**	*i* PcP	**PcP**	**02 52 44.6**	**+3.4**
	comp=Z,20nm,1.7s						
CONA	**Conrad Observa**	**76.15**	**328**	*i* P	**P**	**02 52 31.5**	**+1.6**
	comp=Z,9.3nm,1.2s						
QSPA	**South Pole Qui**	**76.26**	**180**	P	**P**	**02 52 33.5**	**+3.1**
	comp=Z,2.5nm,1.0s,baz=221,slow=2.1						
QSPA	**South Pole Qui**	**76.26**	**180**	P	**P**	**02 52 29.9**	**-0.5**
QSPA				IAmb	IAmb	02 52 45.7	
	comp=Z,24nm,1.3s						
SNY	**Shenyang**	**76.34**	**40**	⇑P	**P**	**02 52 33.8**	**+2.8**
SNY				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MORC	**Moravsky Berou**	**76.50**	**330**	*e*P	**P**	**02 52 33.6**	**+1.8**
MYKA	**Terra Mystica**	**76.53**	**326**	*i* PcP	**PcP**	**02 52 48.4**	**+4.7**
	comp=Z,8.1nm,1.3s						
KRUC	**Moravsky**	**76.60**	**329**	*e*P	**P**	**02 52 34.2**	**+1.8**
VRAC	**Vranov**	**76.66**	**329**	*e*P	**P**	**02 52 35.1**	**+2.4**
MOA	**Molln**	**76.93**	**327**	*i* P	**P**	**02 52 33.5**	**-0.9**
	comp=Z,14nm,1.2s						
KSAR	**Wonju Array Be**	**76.95**	**46**	P	**P**	**02 52 34.5**	**-0.1**
KBA	**Koelnbreinsper**	**76.96**	**326**	*i* pP	**P**	**02 52 37.4**	**+2.7**
	comp=Z,7.5nm,1.3s						
KSRS	**Korea Array**	**76.98**	**46**	P	**P**	**02 52 33.7**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=244,slow=5.4,SNR=1.4						
ABTA	**Abfaltersbach**	**77.22**	**325**	*i* PcP	**PcP**	**02 52 51.6**	**+4.9**
	comp=Z,13nm,1.0s						
KLMR	**Klimovskoe**	**77.45**	**347**	*e*	**P**	**02 52 36.8**	**-0.1**
KLMR				AMP		02 52 48.9	
	comp=Z,34nm,1.4s						
OSTC	**Ostas**	**77.65**	**330**	*e*P	**PcP**	**02 52 55.5**	**+7.1**
CHVC	**Chvalec**	**77.75**	**330**	*e*P	**PcP**	**02 52 55.9**	**+7.1**
VNDA	**Vanda**	**77.79**	**167**	P	**P**	**02 52 37.0**	**-1.6**
GERES	**GERESS Array B**	**77.84**	**327**	P	**P**	**02 52 38.5**	**-1.0**
	comp=Z,0.6nm,0.8s,baz=123,slow=4.9,SNR=5.6						
GERES	**GERESS Array B**	**77.84**	**327**	P	**P**	**02 52 38.2**	**-1.3**
WTTA	**Wattenberg**	**78.01**	**325**	*i* P	**P**	**02 52 42.0**	**+1.5**
	comp=Z,5.8nm,1.0s						
WATA	**Walderalm**	**78.08**	**325**	*i* pP	**P**	**02 52 42.5**	**+1.6**
	comp=Z,14nm,1.4s						
PRU	**Pruhonice**	**78.12**	**329**	*e*P	**PcP**	**02 52 57.9**	**+7.5**
SQTA	**Sankt Quirin**	**78.22**	**325**	*i* pP	**P**	**02 52 43.3**	**+1.6**
	comp=Z,9nm,0.8s						
MOTA	**Moosalm**	**78.35**	**325**	*i* P	**P**	**02 52 43.0**	**+0.6**
	comp=Z,6.9nm,1.2s						
FETA	**Feichten**	**78.37**	**325**	*i* pP	**P**	**02 52 44.1**	**+1.6**
	comp=Z,4.5nm,1.0s						
RETA	**Reutte**	**78.62**	**325**	*i* PcP	**PcP**	**02 52 51.7**

LSSA	**Little Sitkin**	**0.23**	**9**		Pn		02 45 40.6	-0.3
LSPA	**Little Sitkin**	**0.24**	**17**		Pn		02 45 40.8	-0.1
LSPA					Sn		02 45 51.9	+0.7
AMKA	**Amchitka**	**0.63**	**123**		Pn		02 45 43.2	-0.2
AMKA					Sn		02 45 55.5	-0.1
CETU	**Semis' Tuman**	**0.69**	**69**		Pn		02 45 43.7	-0.2
CEAP	**Semis' Anvil P**	**0.75**	**68**		Pn		02 45 44.3	-0.2
CEAP					Sn		02 45 57.0	-0.6
KIMD	**Kanaga Island**	**2.68**	**88**		Pn		02 46 07.6	-0.7
KICM	**Kanaga Island**	**2.70**	**84**		Pn		02 46 08.1	-0.6
KIKV	**Kanaga Island**	**2.72**	**85**		Pn		02 46 08.1	-0.7
SMY	**Shemya**	**2.86**	**292**	Pn	Pn		02 46 09.5	-1.2
SMY				Sn	Sn		02 46 42.6	-1.8
ADK	**Adak**	**3.02**	**85**	Sn	Pn		02 46 12.4	-0.4
ADK	**Adak**	**3.02**	**85**	Pn	Pn		02 46 12.2	-0.6
GSTR	**Great Sitkin T**	**3.42**	**82**	Pn	Pn		02 46 17.6	-0.6
ATKA	**Atka Island**	**4.57**	**81**	Pn	Pn		02 46 33.8	+0.1
OHAK	**Old Harbor**	**17.24**	**60**	Pn	Pn		02 49 19.0	-2.4
KDAK	**Kodiak Island**	**17.69**	**59**	P	P		02 49 23.4	-2.9
DHY	**Denali Highway**	**21.33**	**45**	P	P		02 50 04.9	-1.2
DHY				IAmb	IAmb		02 50 11.7	
	comp=Z,3.3nm,1.1s							
BCAR	**Beaver Creek A**	**23.81**	**46**	P	P		02 50 30.4	-0.3
BMAR	**Burnt Mountain**	**23.91**	**35**	P	P		02 50 30.0	-1.6
EGAK	**Eagle**	**24.42**	**42**	P	P		02 50 34.1	-2.1
EGAK				IAmb	IAmb		02 50 40.5	
	comp=Z,1.7nm,0.9s							
DAWY	**Dawson**	**25.04**	**44**	P	P		02 50 40.8	-1.0
DAWY				IAmb	IAmb		02 50 43.0	
	comp=Z,0.7nm,0.7s							

*BJI **24** 02:47:47.6±0.0,30.2°S×177.3°W,h16km,mB5.6/3, mb5.3/13,Ms5.4/2,Ms7 5.0/1*
*IDC **24** 02:47:48.8±0.4,29.8°S×177.3°W,h0km,mb4.8/23, mb1 4.9/24,mb1mx4.8/41,mbtmp4.8/24,ML5.0/1,MS4.8/5, Ms1 4.8/5,ms1mx4.5/26,Error ellipse: s-maj=15.0km s-min=12.3km az=61.0*
*NEIC **24** 02:47:48.2±2.4,29.89S±0.06°×177.18W±0.10,h7km±3km, mb5.1/67, Error ellipse: s-maj=13.1km s-min=8.1km az=64.0*
*BGR **24** 02:47:51.9±0.0,29.92S×176.70W,h33km*
ISC 24 02:47:52.8±0.3,30.05S±0.04×177.32W±0.06,h35km, n344,σ1§71/334,mb5.0/54,7C-6D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.94**	**326**	P		**Pn**	**Pn**	**02 48 08.0**	**-1.5**
GLKZ				S		**Sn**	**Sn**	**02 48 22.2**	**+0.4**
RAO	**Raoul Island**	**0.95**	**327**	Pn		**Pn**	**Pn**	**02 48 07.6**	**-2.0**
	6μm,0.3s,baz=110,slow=4.9,SNR=87								
RAO				Sn		**Sn**	**Sn**	**02 48 19.6**	**-2.3**
	19μm,0.3s,baz=66,slow=20,SNR=14								
RAO	**Raoul Island**	**0.95**	**327**			**Pn**	**Pn**	**02 48 07.9**	**-1.7**
RIZ	**Raoul Island**	**0.96**	**327**	P		**Pn**	**Pn**	**02 48 08.0**	**-1.8**
RIZ				S		**Sn**	**Sn**	**02 48 22.6**	**+0.4**
MXZ	**Matakaoa Point**	**8.33**	**205**	P		**Pn**	**Pn**	**02 49 48.6**	**-2.4**
MXZ				S		**Sn**	**Sn**	**02 51 23.5**	**-0.2**
MXZ	**Matakaoa Point**	**8.33**	**205**	Pn		**Pn**	**Pn**	**02 49 50.9**	**0.0**
HAZ	**Te Kaha**	**8.69**	**207**	P		**Pn**	**Pn**	**02 49 54.1**	**-1.9**
HAZ	**Te Kaha**	**8.69**	**207**	P		**Pn**	**Pn**	**02 49 51.5**	**-4.5**
HAZ				S		**Sn**	**Sn**	**02 51 28.2**	**-4.5**
PKGZ	**Pakihiroa**	**8.70**	**205**	P		**Pn**	**Pn**	**02 49 52.9**	**-3.3**
PUZ	**Puketiti**	**8.80**	**203**	P		**Pn**	**Pn**	**02 49 55.6**	**-1.9**
PUZ	**Puketiti**	**8.80**	**203**	P		**Pn**	**Pn**	**02 49 53.7**	**-3.7**
PUZ				S		**Sn**	**Sn**	**02 51 33.1**	**-2.3**
RUGZ	**Raukumara Rang**	**8.92**	**206**	P		**Pn**	**Pn**	**02 49 56.6**	**-2.6**
RUGZ	**Raukumara Rang**	**8.92**	**206**	P		**Pn**	**Pn**	**02 49 56.3**	**-2.8**
RUGZ				S		**Sn**	**Sn**	**02 51 39.2**	**+0.8**
WCZ	**Waipu Caves**	**9.13**	**228**	P		Pn	Pn	02 50 10.2	+8.2
TKGZ	**Te Karaka**	**9.27**	**204**	P		**Pn**	**Pn**	**02 50 00.9**	**-3.0**
MWZ	**Matawai**	**9.30**	**206**	P		**Pn**	**Pn**	**02 50 00.9**	**-3.4**
MWZ	**Matawai**	**9.30**	**206**	P		**Pn**	**Pn**	**02 49 59.9**	**-4.4**
MWZ				S		**Sn**	**Sn**	**02 51 41.0**	**-6.6**
URZ	**Urewera**	**9.39**	**208**	P		**Pn**	**Pn**	**02 50 02.2**	**-3.4**
RIGZ	**Rimuhau**	**9.54**	**204**	P		**Pn**	**Pn**	**02 50 04.9**	**-2.7**
PRGZ	**Paritu Road**	**9.69**	**203**	P		**Pn**	**Pn**	**02 50 06.4**	**-3.3**
MUGZ	**Murupara**	**9.72**	**209**	P		Pn	Pn	02 50 03.2	-6.9
MUGZ				S		**Sn**	**Sn**	**02 51 54.1**	**-3.9**
RTZ	**Ruatahuna**	**9.75**	**207**	P		**Pn**	**Pn**	**02 50 08.5**	**-2.1**
SNGZ	**Shannon Statio**	**9.76**	**205**	P		**Pn**	**Pn**	**02 50 10.2**	**-0.4**
MHGZ	**Mahia Peninsul**	**9.89**	**202**	P		**Pn**	**Pn**	**02 50 08.6**	**-3.8**
RAHZ	**Arahi**	**9.97**	**206**	P		**Pn**	**Pn**	**02 50 12.7**	**-0.8**
MTHZ	**Maungataniwha**	**10.01**	**207**	P		**Pn**	**Pn**	**02 50 11.6**	**-2.5**
MTHZ	**Maungataniwha**	**10.01**	**207**	P		**Pn**	**Pn**	**02 50 09.7**	**-4.4**
MTHZ				S		**Sn**	**Sn**	**02 52 02.8**	**-2.4**
WHHZ	**Waihua**	**10.06**	**205**	P		Pn	Pn	02 50 10.0	-4.7
WHHZ				P		**Sn**	**Sn**	**02 52 06.2**	**0.0**
BKZ	**Black Stump Fm**	**10.42**	**208**	Pn		**Pn**	**Pn**	**02 50 18.2**	**-1.5**
HIZ	**Hauiti**	**10.63**	**215**	Pn		**Pn**	**Pn**	**02 50 25.4**	**+2.8**
BFZ	**Birch Farm**	**11.83**	**205**	Pn		**Pn**	**Pn**	**02 50 38.0**	**-1.0**
HOWZ	**Holdsworth Sta**	**12.29**	**206**	P		Pn	Pn	02 50 39.5	-5.7
HOWZ				S		Sn	Sn	02 52 49.1	-12
OGWZ	**Otaki Gorge**	**12.36**	**208**	P		Pn	Pn	02 50 36.9	-9.2
OGWZ				S		**Sn**	**Sn**	**02 52 54.4**	**-8.1**
KIW	**Kapiti Island**	**12.50**	**208**	P		Pn	Pn	02 50 43.1	-5.0
KIW				S		Sn	Sn	02 52 57.0	-9.0
MTW	**Mount Morrison**	**12.52**	**206**	P		Pn	Pn	02 50 39.5	-8.8
MTW				S		Sn	Sn	02 52 57.9	-8.6
CAW	**Cannon Point**	**12.64**	**207**	P		Pn	Pn	02 50 42.2	-7.9
CAW				S		**Sn**	**Sn**	**02 53 04.1**	**-5.4**
MSVF	**Nonsavu**	**12.97**	**340**	Pn		**Pn**	**Pn**	**02 50 53.3**	**-4.4**
BHW	**Baring Head**	**12.98**	**207**	Pn		**Pn**	**Pn**	**02 50 53.0**	**-1.6**
TUWZ	**Tuamarina**	**13.38**	**210**			**Pn**	**Pn**	**02 50 57.1**	**-2.9**
BSWZ	**Blackbirch Sta**	**13.64**	**209**	P		**Pn**	**Pn**	**02 51 03.4**	**-0.2**
BSWZ				S		Sn	Sn	02 53 21.8	-12
THZ	**Tophouse**	**14.10**	**211**	P		Pn	Pn	02 51 04.6	-5.4
THZ				S		Sn	Sn	02 53 36.3	-8.9
THZ	**Tophouse**	**14.10**	**211**	Pn		**Pn**	**Pn**	**02 51 09.7**	**-0.4**
KHZ	**Kahutara**	**14.36**	**208**	Pn		**Pn**	**Pn**	**02 51 09.4**	**-4.1**
DSZ	**Denniston Nort**	**14.61**	**214**	S		Sn	Sn	02 53 47.0	-10
LTZ	**Lake Taylor**	**15.20**	**210**	P		**Pn**	**Pn**	**02 51 20.8**	**-4.0**
LTZ				S		Sn	Sn	02 53 58.2	-14
LTZ	**Lake Taylor**	**15.20**	**210**			**Pn**	**Pn**	**02 51 22.9**	**-1.9**
LTZ				IAmb		IAmb	IAmb	02 51 39.0	
	comp=Z,23nm,0.5s								
INZ	**Inchbonnie**	**15.53**	**212**	P		Pn	Pn	02 51 20.8	-8.2
INZ				S		Sn	Sn	02 54 06.7	-13
OKCZ	**Okains Bay**	**15.65**	**207**	P		**Pn**	**Pn**	**02 51 28.7**	**-1.9**
OKCZ				S		Sn	Sn	02 54 08.9	-14
OXZ	**Oxford**	**15.74**	**210**	P		**Pn**	**Pn**	**02 51 27.5**	**-4.2**
OXZ				S		Sn	Sn	02 54 09.9	-15
OXZ	**Oxford**	**15.74**	**210**	Pn		**Pn**	**Pn**	**02 51 27.5**	**-4.2**
OXZ				IAmb		IAmb	IAmb	02 51 42.1	
	comp=Z,94nm,0.5s								
MQZ	**McQueen's Vall**	**15.79**	**208**	P		**Pn**	**Pn**	**02 51 29.8**	**-2.6**
RPZ	**Rata Peaks**	**16.48**	**211**	Pn		**P**	**P**	**02 51 42.5**	**-1.1**
	comp=Z,5.7nm,0.3s,baz=29,slow=2.9,SNR=17								
RPZ				Sn		Sn	Sn	02 54 31.2	-12
	comp=Z,3.3nm,0.3s,baz=129,slow=23,SNR=7.1								
RPZ	**Rata Peaks**	**16.48**	**211**	P		**Pn**	**Pn**	**02 51 37.9**	**-3.3**
RPZ				S		Sn	Sn	02 54 27.4	-16
RPZ	**Rata Peaks**	**16.48**	**211**	Pn		**Pn**	**Pn**	**02 51 37.3**	**-4.0**
DZM	**Mont Dzumac**	**16.60**	**295**	Pn		**P**	**P**	**02 51 48.5**	**+3.4**
	comp=Z,1.7nm,0.3s,baz=98,slow=17,SNR=20								
DZM				LR		LR	LR	02 57 06.9	
	comp=Z,8μm,18.2s,baz=134,slow=34								
FOZ	**Fox Glacier**	**16.92**	**214**	P		**Pn**	**Pn**	**02 51 44.5**	**-2.2**
FOZ				S		Sn	Sn	02 54 37.5	-16
FOZ	**Fox Glacier**	**16.92**	**214**	Pn		**Pn**	**Pn**	**02 51 44.3**	**-2.4**
LBZ	**Lake Benmore**	**17.40**	**211**	P		**Pn**	**Pn**	**02 51 51.7**	**-1.0**
LBZ				S		Sn	Sn	02 54 50.0	-15
ODZ	**Otahua Downs**	**17.72**	**209**	P		**Pn**	**Pn**	**02 51 54.5**	**-2.1**
ODZ	**Otahua Downs**	**17.72**	**209**			**Pn**	**Pn**	**02 51 53.8**	**-2.8**
RAR	**Rarotonga**	**18.09**	**65**	P		**Pn**	**Pn**	**02 51 55.4**	**-5.9**
	comp=Z,4.1nm,0.3s,baz=262,slow=2.5,SNR=7.2								
RAR				LR		LR	LR	02 57 09.2	
	comp=Z,2μm,21.2s,baz=257,slow=31								
RAR	**Rarotonga**	**18.09**	**65**	P		**Pn**	**Pn**	**02 51 57.2**	**-4.1**
RAR				IAmb		IAmb	IAmb	02 52 00.9	
	comp=Z,88nm,1.1s								
MLZ	**Mavora Lakes**	**19.09**	**213**	P		**P**	**P**	**02 52 12.4**	**0.0**
MLZ	**Mavora Lakes**	**19.09**	**213**	P		**P**	**P**	**02 52 11.6**	**-0.8**
WHZ	**Wether Hill Ro**	**19.57**	**212**	P		**Pn**	**Pn**	**02 52 20.8**	**+1.8**
WHZ	**Wether Hill Ro**	**19.57**	**212**	P		**P**	**P**	**02 52 16.3**	**-1.3**
APZ	**The Paps**	**20.27**	**210**	P		Pn	Pn	02 52 27.3	0.0
TBI	**Tubuai**	**25.73**	**82**	*e*LQ		LQ	LQ	02 58 17.0	
	comp=Z,3μm,26.8s								
TBI				*e*LR		LR	LR	02 59 28.9	
	comp=Z,4μm,28.0s								
TBI	**Tubuai**	**25.73**	**82**	*e*T		T		03 20 25.6	
	comp=Z,55nm,0.4s								
ARMA	**Armidale**	**26.79**	**261**	P		**P**	**P**	**02 53 32.8**	**+3.2**
ARMA				IAmb		IAmb	IAmb	02 53 47.3	
	comp=Z,31nm,0.8s								
PAE	**Paea**	**28.13**	**70**	*e*T		T		03 23 09.6	
	comp=Z,20nm,0.3s								
PPT2	**Papeete2**	**28.17**	**70**	*e*LQ		LQ		02 59 11.3	
	comp=Z,2μm,26.0s								
PPT2				*e*LR		LR		03 00 40.7	
	comp=Z,4μm,26.2s								
PPT2	**Papeete2**	**28.17**	**70**	*e*T		T		03 23 13.6	
	comp=Z,14nm,0.4s								
PPT	**Papeete**	**28.18**	**70**	LR		LR		03 02 00.8	
	comp=Z,945nm,20.2s,baz=248,slow=30								
EIDS	**Eidsvold**	**28.31**	**272**	P		**P**		**02 53 43.2**	**0.0**
EIDS				IAmb		IAmb		02 53 58.7	
	comp=Z,22nm,0.8s								
TOO	**Toolangi**	**31.64**	**246**	P		**P**		**02 54 16.2**	**+3.6**
CTAO	**Charters Tower**	**34.32**	**278**	P		**P**		**02 54 37.8**	**+1.6**
STKA	**Stephens Creek**	**35.13**	**256**	P		**P**		**02 54 45.0**	**+2.0**
	comp=Z,21nm,0.8s,baz=106,slow=10,SNR=30								
STKA	**Stephens Creek**	**35.13**	**256**	P		**P**		**02 54 45.7**	**+2.7**
RKT	**Rikitea**	**38.33**	**90**	*e*LR		LR		03 05 16.5	
	comp=Z,3μm,27.0s								
COEN	**Coen**	**39.74**	**285**	P		**P**		**02 55 23.9**	**+1.6**
TAOE	**Nuku Hiva Isla**	**40.63**	**66**	*e*LR		LR		03 06 27.3	
	comp=Z,2μm,27.0s								
ASAR	**Alice Springs**	**43.71**	**266**	P		**P**		**02 55 55.0**	**+0.3**
	comp=Z,11nm,0.7s,baz=105,slow=7.9,SNR=70								
ASAR				ScP		**ScP**		**03 01 34.9**	**+4.5**
	comp=Z,1.8nm,0.7s,baz=118,slow=4.6,SNR=6.7								
ASAR	**Alice Springs**	**43.71**	**266**	P		**P**		**02 55 52.9**	**-1.8**
WR0	**Warramunga Arr**	**44.49**	**272**	P		**P**		**02 56 00.7**	**-0.3**
WR0				IAmb		IAmb		02 56 06.0	
	comp=Z,40nm,1.1s								
WB2	**Warramunga Arr**	**44.66**	**271**	P		**P**		**02 56 01.4**	**-0.9**
WRAB	**Tennant Creek**	**44.67**	**271**	P		**P**		**02 56 02.9**	**+0.5**
WRA	**Warramunga Arr**	**44.67**	**271**	P		**P**		**02 56 02.7**	**+0.2**
	comp=Z,22nm,0.5s,baz=110,slow=8.0,SNR=77								
WRA				S		**S**		**03 02 33.7**	**-3.0**
	comp=Z,2.0nm,0.8s,baz=108,slow=13,SNR=5.5								
WRA				LR		LR		03 13 46.0	
	comp=Z,2μm,18.3s,baz=95,slow=35								
WB0	**Warramunga Arr**	**44.69**	**272**	P		**P**		**02 56 02.6**	**0.0**
FORT	**Forrest**	**46.70**	**255**	P		**P**		**02 56 18.1**	**-0.2**
JAY	**Jayapura**	**48.26**	**296**	P		**P**		**02 56 29.7**	**-1.0**
	comp=Z,7.1nm,1.2s								
VNDA	**Vanda**	**48.50**	**186**	P		**P**		**02 56 35.5**	**+3.8**
	comp=Z,2.6nm,0.6s,baz=14,slow=6.1,SNR=11								
MTN	**Manton Dam**	**50.51**	**278**	P		**P**		**02 56 48.0**	**+0.2**
MTN				IAmb		IAmb		02 56 48.5	
	comp=Z,20nm,0.9s								
KNRA	**Kununurra**	**51.27**	**274**	P		**P**		**02 56 54.4**	**+1.0**
KNRA				IAmb		IAmb		02 56 56.4	
	comp=Z,35nm,1.1s								
FITZ	**Fitzroy Crossi**	**52.95**	**269**	P		**P**		**02 57 06.1**	**+0.2**
FITZ				IAmb		IAmb		02 57 07.5	
	comp=Z,17nm,1.0s								
CASY	**Casey**	**55.72**	**208**	P		**P**		**02 57 26.9**	**+1.4**
RPN	**Rapa Nui**	**58.96**	**105**	LR		LR		03 16 08.7	
	comp=Z,845nm,21.7s,baz=274,slow=29								
QSPA	**South Pole Qui**	**60.06**	**180**	P		**P**		**02 57 59.1**	**+3.0**
	comp=Z,15nm,0.9s,baz=29,slow=1.2,SNR=92								
QSPA	**South Pole Qui**	**60.06**	**180**	P		**P**		**02 57 59.0**	**+3.0**
LUWI	**Luwuk**	**63.66**	**285**	P		**P**		**02 58 20.1**	**-0.7**
MAW	**Mawson**	**72.84**	**200**	P		**P**		**02 59 20.2**	**+2.7**
	comp=Z,8.3nm,0.8s,baz=142,slow=8.5,SNR=6.6								
MAW	**Mawson**	**72.84**	**200**	P		**P**		**02 59 17.8**	**+0.3**
SBUM	**Sibu**	**74.42**	**282**	P		**P**		**02 59 28.0**	**+0.4**
SYO	**Syowa Base**	**77.58**	**193**	*e*P		**P**		**02 59 45.0**	**+0.2**
SYO	**Syowa Base**	**77.58**	**193**	*e*SP		**P**		**02 59 49.0**	**+4.2**
INU	**Inuyama**	**77.97**	**323**	P		**P**		**02 59 47.4**	**0.0**
INU				IAmb		IAmb		02 59 48.6	
	comp=Z,11nm,0.8s								
MJAR	**Matsushiro Arr**	**78.29**	**325**	P		**P**		**02 59 49.0**	**-0.1**
	comp=Z,6.5nm,0.9s,baz=163,slow=5.1,SNR=12								
MJAR	**Matsushiro Arr**	**78.29**	**325**	P		**P**		**02 59 48.1**	**-1.0**
MAJO	**Matsushiro**	**78.29**	**325**	P		**P**		**02 59 47.9**	**-1.2**
MAJO				IAmb		IAmb		02 59 55.2	
	comp=Z,19nm,1.2s								
MAT	**Matsushiro**	**78.29**	**325**	P		**P**		**02 59 48.4**	**-0.7**
MJB9	**Matsu-Tunnel**	**78.30**	**325**	P		**P**		**02 59 47.6**	**-1.5**
MJB9				IAmb		IAmb		02 59 55.1	
	comp=Z,19nm,1.2s								
SNAA	**Sanae**	**78.49**	**178**	P		**P**		**02 59 51.2**	**+1.3**
SNAA	**Sanae**	**78.49**	**178**	P		**P**		**02 59 49.1**	**-0.7**
SNAA				IAmb		IAmb		02 59 55.7	
	comp=Z,20nm,1.2s								
VNA3	**Neumayer Olymp**	**78.61**	**176**	P		**P**		**02 59 51.4**	**+0.9**
VNA2	**Neumayer--Watz**	**79.05**	**177**	P		**P**		**02 59 54.6**	**+1.7**
	baz=168,slow=3.5								
VNA1	**Neumayer--Stat**	**79.28**	**176**	P		**P**		**02 59 55.9**	**+1.8**
JNU	**Nakatsue**	**79.69**	**318**	P		**P**		**02 59 57.5**	**+0.6**
	comp=Z,27nm,1.2s,baz=56,slow=5.4,SNR=4.0								
JNU	**Nakatsue**	**79.69**	**318**	P		**P**		**02 59 56.3**	**-0.6**
JNU				IAmb		IAmb		03 00 03.7	
	comp=Z,41nm,1.3s								
H03S2	**Juan Fernandez**	**80.17**	**123**	T		T		04 29 43.5	
	baz=239,slow=74,SNR=43								
H03S1	**Juan Fernandez**	**80.18**	**123**	T		T		04 29 35.0	
	baz=239,slow=74,SNR=48								
H03S3	**Juan Fernandez**	**80.19**	**123**	T		T		04 29 33.8	
	baz=239,slow=74,SNR=46								
H03N3	**Juan Fernandez**	**80.36**	**123**	T		T		04 29 45.6	
	baz=241,slow=73,SNR=17								
H03N2	**Juan Fernandez**	**80.36**	**123**	T		T		04 29 45.3	
	baz=241,slow=73,SNR=17								
H03N1	**Juan Fernandez**	**80.37**	**123**	T		T		04 29 45.3	
	baz=241,slow=73,SNR=25								
ADK	**Adak**	**81.58**	**0**	P		**P**		**03 00 05.6**	**-0.9**
ADK				IAmb		IAmb		03 00 13.9	
	comp=Z,25nm,1.1s								
ATKA	**Atka Island**	**81.95**	**2**	P		**P**		**03 00 07.1**	**-1.3**
ATKA				IAmb		IAmb		03 00 11.7	
	comp=Z,20nm,0.9s								
PLCA	**Paso Flores**	**82.31**	**133**	P		**P**		**03 00 13.8**	**+2.8**
	comp=Z,1.7nm,0.7s,baz=212,slow=4.8,SNR=4.9								
PLCA	**Paso Flores**	**82.31**	**133**	P		**P**		**03 00 10.7**	**-0.3**
JKA	**Kamikawa-asahi**	**82.40**	**332**	P		**P**		**03 00 12.5**	**+1.5**
JKA	**Kamikawa-asahi**	**82.40**	**332**	IAmb		IAmb		03 00 14.2	
	comp=Z,25nm,1.1s								
ASAJ	**Asahikawa**	**82.40**	**332**	P		**P**		**03 00 12.5**	**+1.5**
	comp=Z,18nm,1.0s,baz=236,slow=8.3,SNR=10								
LC01	**Cunco**	**82.45**	**131**	P		**P**		**03 00 13.5**	**+1.8**
LC01				IAmb		IAmb		03 00 27.3	
	comp=Z,9.4nm,0.9s								
UNV	**Unalaska Valle**	**84.07**	**6**	P		**P**		**03 00 19.5**	**+0.1**
UNV				IAmb		IAmb		03 00 29.3	
	comp=Z,17nm,1.0s								
KSRS	**Korea Array**	**84.46**	**319**	P		**P**		**03 00 23.3**	**+1.5**
	comp=Z,3.2nm,0.7s,baz=142,slow=5.7,SNR=12								
KSAR	**Wonju Array Be**	**84.48**	**319**	P		**P**		**03 00 22.0**	**+0.2**
YSS	**Yuzh-Sakhalins**	**84.69**	**334**	P		**P**		**03 00 23.2**	**+0.6**
IPM	**Ipoh**	**85.02**	**278**	P		**P**		**03 00 25.0**	**-0.2**
IPM				IAmb		IAmb		03 00 38.0	
	comp=Z,12nm,0.7s								
PFO	**Pinyon Flats O**	**85.54**	**47**	P		**P**		**03 00 28.9**	**+1.4**
	comp=Z,4.4nm,0.8s,baz=246,slow=4.5,SNR=7.4								
PFO	**Pinyon Flats O**	**85.54**	**47**	P		**P**		**03 00 26.5**	**-0.9**
PEA0B	**Petropavlovsk-**	**85.62**	**345**	P		**P**		**03 00 27.1**	**-0.1**
PEA0B				IAmb		IAmb		03 00 28.6	
	comp=Z,16nm,0.8s								
PETK	**Petropavlovsk-**	**85.62**	**345**	P		**P**		**03 00 27.7**	**+0.5**
	comp=Z,15nm,0.7s,baz=141,slow=8.0,SNR=32								
PETK	**Petropavlovsk-**	**85.62**	**345**	P		**P**		**03 00 27.1**	**-0.1**
CMB	**Columbia Colle**	**86.11**	**42**	P		**P**		**03 00 29.9**	**-0.1**
CMB				IAmb		IAmb		03 00 32.6	
	comp=Z,9.7nm,1.1s								
AFDM	**Forest Hills D**	**86.41**	**41**	P		**P**		**03 00 31.5**	**+0.1**
AFDM				IAmb		IAmb		03 00 34.6	
	comp=Z,18nm,1.4s								
GSC	**Goldstone, Bar**	**86.42**	**46**	P		**P**		**03 00 30.7**	**-1.0**
GSC				IAmb		IAmb		03 00 39.9	
	comp=Z,8.9nm,0.9s								
WDC	**Whiskeytown Da**	**86.68**	**39**	P		**P**		**03 00 33.5**	**+0.7**
WAKR	**Walker**	**86.98**	**42**	P		**P**		**03 00 33.5**	**-1.0**
USA0B	**Ussuriysk Arra**	**87.20**	**326**	P		**P**		**03 00 35.9**	**+0.7**
USRK	**Ussuriysk Ar.**	**87.20**	**326**	P		**P**		**03 00 36.4**	**+1.3**
	comp=Z,13nm,0.9s,baz=147,slow=3.2,SNR=34								
USRK	**Ussuriysk Ar.**	**87.20**	**326**	P		**P**		**03 00 35.1**	**0.0**
PNTR	**Pine Nut**	**87.28**	**41**	P		**P**		**03 00 35.8**	**-0.2**
PNTR				IAmb		IAmb		03 00 38.6	
	comp=Z,19nm,1.2s								
YBH	**Yreka Blue Hor**	**87.40**	**38**	P		**P**		**03 00 37.5**	**+1.2**
	comp=Z,4.1nm,1.0s,baz=20,slow=2.0,SNR=8.6								
YBH	**Yreka Blue Hor**	**87.40**	**38**	P		**P**		**03 00 36.4**	**+0.1**
NVAR	**Mina Array Bea**	**87.59**	**42**	P		**P**		**03 00 38.2**	**+0.7**
	comp=Z,5.9nm,0.9s,baz=219,slow=8.2,SNR=23								
NVAR	**Mina Array Bea**	**87.59**	**42**	P		**P**		**03 00 37.5**	**0.0**
RYN	**Ryan**	**87.59**	**42**	P		**P**		**03 00 38.0**	**+0.6**
RYN				IAmb		IAmb		03 00 52.4	
	comp=Z,7.1nm,1.1s								
NV11	**Mina Array Sit**	**87.67**	**42**	P		**P**		**03 00 38.5**	**+0.7**
NV11				IAmb		IAmb		03 00 40.3	
	comp=Z,8.5nm,1.1s								
TPNV	**Topopah Spring**	**87.84**	**45**	P		**P**		**03 00 39.0**	**+0.4**
TPNV				IAmb		IAmb		03 00 54.2	
	comp=Z,15nm,1.2s								
W13A	**Hualapai Mount**	**88.12**	**47**	P		**P**		**03 00 40.2**	**+0.1**
TUC	**Tucson**	**88.44**	**51**	P		**P**		**03 00 40.0**	**-1.5**
TUC				IAmb		IAmb		03 00 56.9	
	comp=Z,12nm,1.3s								
MDJ	**Mudanjiang**	**88.67**	**325**	P		**P**		**03 00 42.6**	**+0.5**
U15A	**North Rim**	**89.97**	**47**	P		**P**		**03 00 49.8**	**+0.9**
U15A				IAmb		IAmb		03 00 57.6	
	comp=Z,12nm,0.9s								
KNB	**Kanab**	**90.00**	**46**	P		**P**		**03 00 49.5**	**+0.7**
TIA	**Tai'an**	**90.17**	**313**	P		**P**		**03 00 50.4**	**+1.0**
TIA				pmax		pmax			
	comp=Z,7.0nm,0.8s								
CN2	**Changchun**	**90.22**	**322**	*e*P		**P**		**03 00 50.1**	**+0.7**
CN2				pmax		pmax			
	comp=Z,20nm,1.0s								
ELK	**Elko**	**90.89**	**42**	P		**P**		**03 00 53.6**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=211,slow=3.7,SNR=6.1								
ELK	**Elko**	**90.89**	**42**	P		**P**		**03 00 51.6**	**-1.3**
KLR	**

MLR Muntele Rosu 156.12 317 PKPab **PKPab 03 08 11.3 +0.2**
comp=Z,3.5nm,0.9s,baz=36,slow=6.4,SNR=4.7
RUE Ruedersdorf 156.14 343 *e*PKPab **PKPab 03 08 10.6 -0.1**
baz=18,slow=4.4
TRPA Tarpa 156.38 325 ⇑P **PKPab 03 08 11.9 0.0**
NIE Niedzica 156.49 330 *e*PKPab **PKPab 03 08 13.3 +0.9**
KSP Ksiaz 156.86 338 *e*PKPab **PKPab 03 08 14.9 +1.0**
NRDL Niedersach Rie 156.92 348 *e*PKPab **PKPab 03 08 13.8 -0.2**
baz=18,slow=4.4
LANS Liptovska Anna 157.05 331 *e*PKP **PKPab 03 08 16.3 +1.5**
OSTC Ostas 157.13 337 *e*PKPAB **PKPab 03 08 15.9 +0.8**
CHVC Chvalec 157.16 338 *e*PKPAB **PKPab 03 08 16.2 +1.0**
CHVC *ex* x 03 08 29.8
ASSE Asse, Remlinge 157.16 347 *e*PKPab **PKPab 03 08 14.9 -0.2**
baz=18,slow=4.4
UPC Upice 157.24 338 *e*PKPAB **PKPab 03 08 16.3 +0.7**
DPC Dobruska-Polom 157.27 337 *e*PKPAB **PKPab 03 08 16.3 +0.5**
MORC Moravsky Berou 157.31 334 ⇓P **PKPab 03 08 16.7 +0.7**
MORC Moravsky Berou 157.31 334 *e*PKP **PKPab 03 08 16.2 +0.2**
CLL Collm 157.41 343 *e*PKPdiff PKPdf 03 07 55.0 +10
CLL *e* 03 08 03.0
CLL ⇓*i*PKPab **PKPab 03 08 16.0 -0.2**
comp=Z,21nm,1.2s
CLL *e* 03 08 22.0
CLL Collm 157.41 343 *e*PKPab **PKPab 03 08 15.8 -0.5**
baz=18,slow=4.4
IBBN Ibbenburen 157.45 352 *e*PKPab **PKPab 03 08 16.2 -0.1**
baz=18,slow=4.4
CLZ Clausthal 157.49 347 *e*PKPdf **PKPdf 03 07 46.5 +1.6**
baz=261,slow=1.4
CLZ *e*PKPab **PKPab 03 08 16.6 -0.1**
baz=18,slow=4.4
BRG Berggiesshubel 157.55 341 *i* PKP **PKPab 03 08 17.2 +0.3**
comp=Z,18nm,1.1s
BRG Berggiesshubel 157.55 341 *e*PKPab **PKPab 03 08 16.8 -0.1**
baz=18,slow=4.4
FBE Freiberg 157.67 342 *e*PKPab **PKPab 03 08 17.6 +0.2**
baz=18,slow=4.4
PVCC Panska Ves 157.68 340 *e*PKPAB **PKPab 03 08 17.5 +0.1**
PVCC *ex* x 03 08 25.8
PSZ Piszkesteto 157.78 328 PKPab **PKPab 03 08 18.1 0.0**
NEUB Neuenburg 157.80 345 *e*PKPab **PKPab 03 08 17.6 -0.3**
baz=18,slow=4.4
VYHS Vyhne 157.82 331 *e*PKP **PKPab 03 08 18.8 +0.6**
GTTG Gottingen 157.85 348 *e*PKPab **PKPab 03 08 18.1 -0.1**
baz=18,slow=4.4
JAVC Velka Javorina 158.01 333 *e*PKP **PKPab 03 08 20.4 +1.4**
PLVB Pleven 158.02 313 ⇓P **PKPab 03 08 20.3 +1.1**
VRAC Vranov 158.05 335 PKPab **PKPab 03 08 19.6 +0.4**
comp=Z,10nm,0.8s,baz=56,slow=4.4,SNR=15
VRAC Vranov 158.05 335 ⇓P **PKPab 03 08 20.1 +0.9**
VRAC Vranov 158.05 335 *e*PKP **PKPab 03 08 19.7 +0.6**
GOPC GO Pecny, Ondr 158.15 339 *e*PKPAB **PKPab 03 08 19.2 -0.3**
PRU Pruhonice 158.16 339 *e*PKPAB **PKPab 03 08 20.3 +0.8**
KRUC Moravsky 158.33 335 *e*PKP **PKPab 03 08 20.8 +0.5**
BUG Bochum--Univer 158.36 352 *e*PKPab **PKPab 03 08 19.7 -0.6**
baz=18,slow=4.4
MOX Moxa 158.36 344 *e*PKPab **PKPab 03 08 20.1 -0.3**
baz=18,slow=4.4
TANN Tannenbergstha 158.37 343 *e*PKPab **PKPab 03 08 20.5 0.0**
baz=18,slow=4.4
PLN Plauen 158.38 343 *e*PKPab **PKPab 03 08 20.4 -0.1**
baz=18,slow=4.4
SMOL Smolenice 158.38 333 *e*PKP **PKPab 03 08 21.6 +1.0**
GUNZ Gunzen 158.45 343 *e*PKPdf **PKPdf 03 07 47.9 +1.8**
baz=261,slow=1.4
GUNZ *e*PKPab **PKPab 03 08 20.9 0.0**
baz=18,slow=4.4
TREC Trest 158.46 337 *e*PKPAB **PKPab 03 08 21.5 +0.6**
WERN Wernitzgruen 158.51 343 *e*PKPab **PKPab 03 08 21.2 +0.1**
baz=18,slow=4.4
NKC Novy Kostel 158.54 343 *e*PKPAB **PKPab 03 08 21.6 +0.4**
NKC *ex* x 03 08 30.6
UBBA Unterbreizbach 158.54 347 *e*PKPab **PKPab 03 08 20.8 -0.2**
baz=18,slow=4.4
MODS Modra-Piesok 158.56 333 *e*PKP **PKPab 03 08 21.4 +0.1**
MANZ Manzenberg 158.85 343 *e*PKPab **PKPab 03 08 22.6 0.0**
baz=18,slow=4.4
MDVR Moldovita 158.98 320 ⇑P **PKPab 03 08 23.1 -0.3**
ROTZ Rotzenmuhle 159.03 343 *e*PKPab **PKPab 03 08 23.6 +0.3**
baz=18,slow=4.4
KHC Kasperske Hory 159.22 340 *e*PKPAB **PKPab 03 08 24.6 +0.4**
KHC *ex* x 03 08 45.0
AHRW Bad Neuenahr-A 159.27 352 *e*PKPab **PKPab 03 08 24.2 -0.1**
baz=18,slow=4.4
VTS Vitosha 159.29 313 ⇑P **PKPab 03 08 25.8 +0.8**
GRF Grafenberg Arr 159.34 344 *e*PKPab **PKPab 03 08 24.9 +0.2**
baz=18,slow=4.4
TNS Taunus Mts 159.39 349 *e*PKPab **PKPab 03 08 24.6 -0.3**
baz=18,slow=4.4
WET Wettzell 159.41 341 *e*PKPdf **PKPdf 03 07 48.2 +0.9**
baz=261,slow=1.4
WET *e*PKPab **PKPab 03 08 25.4 +0.3**
baz=18,slow=4.4
GEC2 GERESS Array S 159.43 339 PKPab **PKPab 03 08 24.6 -0.6**
GEC2 GERESS Array S 159.43 339 *e*PKPab **PKPab 03 08 25.2 -0.1**
baz=18,slow=4.4
GERES GERESS Array B 159.43 339 PKP **PKPdf 03 07 49.1 +1.8**
comp=Z,0.3nm,0.5s,baz=134,slow=2.8,SNR=2.9
GERES PKPab **PKPab 03 08 25.9 +0.7**
comp=Z,7.2nm,1.1s,baz=42,slow=4.3,SNR=18
GERES GERESS Array B 159.43 339 **PKPdf 03 07 46.4 -1.0**
GERES PKPab **PKPab 03 08 25.4 +0.2**
CONA Conrad Observa 159.47 334 *i* PKPab **PKPab 03 08 25.9 +0.5**
comp=Z,13nm,0.9s,SNR=7.3
MOA Molln 160.11 337 *i* pPKPab **PKPab 03 08 28.7 +0.6**
comp=Z,11nm,1.3s
ARSA Arzberg 160.16 333 *i* PKPab **PKPab 03 08 27.4 -0.9**
comp=Z,3.0nm,0.6s
WLF Walferdange 160.23 353 *e*PKPab **PKPab 03 08 28.8 +0.3**
baz=18,slow=4.4
DIVS Divibare 160.37 320 PKPab **PKPab 03 08 29.1 -0.4**
RJOB Jochberg 160.69 339 *e*PKPab **PKPab 03 08 30.4 -0.3**
baz=18,slow=4.4
FUR Furstenfeldbru 160.74 342 *e*PKPab **PKPab 03 08 31.0 +0.1**
baz=18,slow=4.4
SOKA Soboth 160.82 333 *i* PKPab **PKPab 03 08 31.3 0.0**
comp=Z,22nm,1.2s,SNR=7.5
KBA Koelnbreinsper 161.09 337 *i* PKPab **PKPab 03 08 31.6 -1.0**
comp=Z,5.7nm,0.8s
OBKA Obir 161.15 334 *i* PKPab **PKPab 03 08 32.8 +0.1**
comp=Z,6.5nm,0.8s
BFO Black Forest 161.24 348 *e*PKPab **PKPab 03 08 32.6 -0.4**
baz=18,slow=4.4
MYKA Terra Mystica 161.38 336 *i* PKPab **PKPab 03 08 32.7 -1.0**
comp=Z,8.1nm,0.7s
WATA Walderalm 161.42 341 *i* PKPab **PKPab 03 08 34.0 0.0**
comp=Z,26nm,1.1s,SNR=6.7
WTTA Wattenberg 161.47 341 *i* pPKPab **PKPab 03 08 34.9 +0.6**
comp=Z,17nm,0.9s
RETA Reutte 161.50 343 *i* pPKPab **PKPab 03 08 34.7 +0.5**
comp=Z,18nm,1.3s,SNR=6.4
ECH Echery 161.54 351 **PKPab 03 08 33.2 -1.1**
MOTA Moosalm 161.54 342 *i* pPKPab **PKPab 03 08 35.0 +0.5**
comp=Z,22nm,1.3s,SNR=8.2
PRED Cave del Predi 161.57 336 PKPab **PKPab 03 08 33.5 -1.1**
SQTA Sankt Quirin 161.63 341 *i* pPKPab **PKPab 03 08 35.6 +0.8**
comp=Z,18nm,1.2s,SNR=5.3
ABTA Abfaltersbach 161.66 338 *i* pPKPab **PKPab 03 08 35.4 +0.4**
comp=Z,14nm,0.9s
PDG Podgorica 161.83 317 ⇓P **PKPab 03 08 36.1 +0.3**
PDG Podgorica 161.83 317 PKPab **PKPab 03 08 35.4 -0.4**
DAVA Damuels 161.91 344 *i* PKPab **PKPab 03 08 35.5 -0.6**
comp=Z,8.1nm,1.0s
FETA Feichten 161.94 342 *i* pPKPab **PKPab 03 08 36.4 +0.1**
comp=Z,9.4nm,1.1s
DAVOX Davos/Dischmat 162.38 343 PKP **PKPdf 03 07 51.7 +0.9**
comp=Z,1.1nm,0.5s,baz=183,slow=9.0,SNR=2.3
DAVOX PKPab **PKPab 03 08 38.5 +0.3**
comp=Z,7.8nm,0.8s,baz=102,slow=3.3,SNR=6.8
TORD Torodi Ar. Bea 163.15 177 PKP **PKPdf 03 07 53.5 +1.3**
comp=Z,2.8nm,1.1s,baz=222,slow=0.6,SNR=7.0
TORD PKPab **PKPab 03 08 43.4 +1.3**
comp=Z,3.2nm,0.9s,baz=181,slow=2.8,SNR=6.5
TORD Torodi Ar. Bea 163.15 177 **PKPdf 03 07 51.9 -0.3**
TORD **PKPab 03 08 41.8 -0.3**
SENIN Lac Senin/Sane 163.32 349 PKPab **PKPab 03 08 41.5 -0.9**
ESDC Sonseca Array 168.96 28 PKP **PKPdf 03 07 57.3 +1.1**
comp=Z,1.0nm,0.9s,baz=341,slow=2.7,SNR=7.9
ESDC PKPab **PKPab 03 09 07.8 +0.5**
comp=Z,1.4nm,0.9s,baz=317,slow=5.0,SNR=6.9
ESDC Sonseca Array 168.96 28 **PKPdf 03 07 56.1 -0.1**
ESDC PKPab **PKPab 03 09 04.2 -3.1**
KEST Kesra 172.03 317 PKPab **PKPab 03 09 22.1 +1.0**
comp=Z,7.3nm,1.1s,baz=184,slow=1.2,SNR=3.7
MDT Midelt 173.19 64 PKP **PKPdf 03 08 00.3 +1.7**
comp=Z,2.1nm,1.0s,baz=182,slow=5.1,SNR=4.2

*NEIC **24** 02:48:51.1±0.8, 51°.79N±0°.08×178°.0E±0°.1, h141km±4km, Error ellipse: s-maj=12.9km s-min=8.2km az=210.0*
AEIC 24 02:48:52±1.0, **51°.8N**±0°.1×**178°.1E**±0°.1, **h143**km±4km, **mb3.8**/8(NEIC), **Error ellipse: s-maj=15.1km s-min=8.3km az=199.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.30**	**63**		Pn	02 49 11.0	-0.7
LSSA					Sn	02 49 25.9	-0.8
LSNW	**Little Sitkin**	**0.32**	**60**		Pn	02 49 11.2	-0.5
LSPA	**Little Sitkin**	**0.34**	**65**		Pn	02 49 11.1	-0.7
LSPA					Sn	02 49 25.2	-1.7
AMKA	**Amchitka**	**0.88**	**119**		Pn	02 49 14.4	-0.6
AMKA					Sn	02 49 31.7	-0.8
CETU	**Semis' Tuman**	**0.89**	**80**		Pn	02 49 14.4	-0.7
CESW	**Semis' Southwe**	**0.93**	**84**		Pn	02 49 14.5	-0.9
CEAP	**Semis' Anvil P**	**0.95**	**78**		Pn	02 49 14.9	-0.7
CERAA	**Semis' Rag'd T**	**1.00**	**84**		Pn	02 49 15.2	-0.9
SMY	**Shemya**	**2.61**	**292**		Pn	02 49 32.6	-1.4
SMY	**Shemya**	**2.61**	**292**		Sn	02 50 02.9	-3.5
KIMD	**Kanaga Island**	**2.91**	**89**		Pn	02 49 37.4	-0.5
KIKV	**Kanaga Island**	**2.95**	**87**		Pn	02 49 38.2	-0.1
GSTR	**Great Sitkin T**	**3.64**	**83**	Pn	Pn	02 49 47.0	-0.3
SPIA	**Saint Paul Isl**	**8.66**	**47**	Pn	Pn	02 50 55.5	+1.5
KDAK	**Kodiak Island**	**17.84**	**59**	P	P	02 52 48.4	-1.3
KDAK				IAmb	IAmb	02 53 02.8	
	comp=Z,4.6nm,1.1s						
CNPM	**China Poot**	**18.81**	**54**	P	P	02 53 00.2	-0.1
DHY	**Denali Highway**	**21.44**	**45**	P	P	02 53 27.9	-0.8
DHY				IAmb	IAmb	02 53 30.0	
	comp=Z,2.6nm,0.8s						
RIDG	**Independent Ri**	**22.71**	**44**	P	P	02 53 39.9	-1.4
DOT	**Dot Lake**	**23.03**	**44**	P	P	02 53 42.8	-1.5
MENT	**Mentasta**	**23.03**	**46**	P	P	02 53 45.3	+1.0
MENT				IAmb	IAmb	02 53 45.8	
	comp=Z,6.4nm,1.1s						
BCAR	**Beaver Creek A**	**23.92**	**46**	P	P	02 53 54.1	+1.6
BMAR	**Burnt Mountain**	**23.98**	**35**	P	P	02 53 53.3	+0.5
EGAK	**Eagle**	**24.52**	**42**	P	P	02 53 57.2	-0.5
EGAK				IAmb	IAmb	02 53 58.5	
	comp=Z,2.5nm,0.8s						
BESE	**Bessie Mountai**	**27.22**	**57**	P	P	02 54 22.8	+0.7

*NEIC **24** 02:50:06.4±0.8, 51°.68N±0°.10×178°.30E±0°.08, h105km±5km, Error ellipse: s-maj=14.5km s-min=6.4km az=196.0*
AEIC 24 02:50:07±1.3, **51°.61N**±0°.10×**178°.28E**±0°.08, **h98**km±3km, **ML2.9, mb3.4**/4(NEIC), **Error ellipse: s-maj=14.7km s-min=6.1km az=195.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.37**	**23**		Pn	02 50 21.7	-0.1
LSNW	**Little Sitkin**	**0.39**	**22**		Pn	02 50 21.9	+0.1
LSPA	**Little Sitkin**	**0.39**	**28**		Pn	02 50 21.8	-0.1
LSPA					Sn	02 50 32.9	-0.1
AMKA	**Amchitka**	**0.68**	**110**		Pn	02 50 23.8	-0.3
AMKA					Sn	02 50 36.8	0.0
CETU	**Semis' Tuman**	**0.83**	**64**		Pn	02 50 25.3	-0.2
CESW	**Semis' Southwe**	**0.85**	**70**		Pn	02 50 25.2	-0.5
CEAP	**Semis' Anvil P**	**0.89**	**64**		Pn	02 50 25.8	-0.3
CEAP					Sn	02 50 39.3	-1.2
CERAA	**Semis' Rag'd T**	**0.92**	**71**		Pn	02 50 26.0	-0.4
CERAA					Sn	02 50 40.1	-0.9
GAEA	**Gareloi East**	**1.86**	**84**		Pn	02 50 37.2	-0.4
TASE	**Tanaga Southea**	**2.30**	**83**		Pn	02 50 42.9	-0.5
TAFP	**Tanaga Falls P**	**2.34**	**81**		Pn	02 50 43.1	-0.8
TAPA	**Tanaga Point A**	**2.44**	**84**		Pn	02 50 44.6	-0.6
KIMD	**Kanaga Island**	**2.79**	**85**		Pn	02 50 49.3	-0.6
SMY	**Shemya**	**2.81**	**295**		Pn	02 50 48.8	-1.3
SMY	**Shemya**	**2.81**	**295**		Sn	02 51 21.4	-1.8
KICM	**Kanaga Island**	**2.83**	**82**		Pn	02 50 49.9	-0.4
KIKV	**Kanaga Island**	**2.84**	**83**		Pn	02 50 49.9	-0.6
ADK	**Adak**	**3.14**	**83**		Pn	02 50 53.4	-1.1
ADK	**Adak**	**3.14**	**83**	Sn	Sn	02 51 29.1	-2.0
GSTR	**Great Sitkin T**	**3.54**	**80**	Pn	Pn	02 50 59.1	-0.8
NIKH	**Nikolski High**	**8.01**	**75**	Pn	Pn	02 52 00.2	-0.2
PETK	**Petropavlovsk-**	**12.67**	**285**	Pn	Pn	02 52 59.6	-3.8
DHY	**Denali Highway**	**21.49**	**45**	P	P	02 54 46.5	-1.0
DHY				IAmb	IAmb	02 54 57.8	
	comp=Z,2.3nm,1.1s						
DOT	**Dot Lake**	**23.08**	**44**	P	P	02 55 01.9	-2.0
BCAR	**Beaver Creek A**	**23.97**	**46**	P	P	02 55 11.1	-0.8
EGAK	**Eagle**	**24.58**	**42**	P	P	02 55 15.0	-2.4
EGAK				IAmb	IAmb	02 55 17.4	
	comp=Z,1.6nm,1.1s						
BESE	**Bessie Mountai**	**27.22**	**57**	P	P	02 55 40.2	-1.1

*ATH **24** 02:58:17.0, 34°.81N×24°.90E, h16km±1km, ML3.2/10, Error ellipse: s-maj=1.9km s-min=0.9km az=355.0*
*ISK **24** 02:58:16.6, 34°.81N×24°.87E, h7km, ML3.4/15*
*THE **24** 02:58:16.6, 34°.79N×24°.89E, h1km±1km, ML3.2/11, Error ellipse: s-maj=1.9km s-min=0.5km az=169.0*
*IDC **24** 02:58:16.7±1.7, 34°.89N×24°.53E, h0km, mb3.4/2, mb1 3.5/4, mb1mx3.3/48, mbtmp3.4/4, ML3.7/2, MS4.3/1, Ms1 4.2/1, ms1mx3.3/23, Error ellipse: s-maj=48.4km s-min=10.8km az=130.0*
ISC 24 02:58:16.5±1.3, **34.77N**±0°.04×**24°.89E**±0°.02, **h6**km±9km, **n78**, σ0**.93**/100, **Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.26**	**345**	P	**Pg**	**02 58 22.0**	**+0.4**
SIVA				S	**Sg**	**02 58 25.8**	**+0.8**
	32µm,0.3s						
SIVA	**Sivas**	**0.26**	**345**	P	**Pg**	**02 58 22.0**	**+0.4**
SIVA				S	**Sg**	**02 58 25.6**	**+0.6**
SIVA				AML	AML	02 58 26.4	
	comp=N,51445µm,0.3s						
SIVA				AML	AML	02 58 27.2	
	comp=E,75890µm,0.4s						
TMBK	**Timbaki Herakl**	**0.32**	**341**	P	**Pg**	**02 58 23.5**	**+0.7**
TMBK				S	**Sg**	**02 58 28.2**	**+1.2**
	comp=E,7µm,0.5s						
IDI	**Anoyia**	**0.52**	**360**	P	**Pg**	**02 58 26.2**	**-0.3**
IDI				S	**Sg**	**02 58 33.2**	**-0.1**
	comp=E,2µm,0.3s						
IDI	**Anoyia**	**0.52**	**360**	Pg	**Pg**	**02 58 26.2**	**-0.3**
	comp=E,114nm,0.3s,baz=181,slow=19,SNR=876						
IDI				Lg	Lg	02 58 33.0	
	comp=E,300nm,0.3s,baz=274,slow=21,SNR=33						
IDI	**Anoyia**	**0.52**	**360**	P	**Pg**	**02 58 26.2**	**-0.3**
IDI				S	**Sg**	**02 58 33.2**	**-0.1**
IDI				AML	AML	02 58 35.0	
	comp=N,3864µm,0.2s						
IDI				AML	AML	02 58 35.9	
	comp=E,3591µm,0.3s						
IDI	**Anoyia**	**0.52**	**360**	PG	**Pg**	**02 58 26.2**	**-0.3**
IDI				SG	**Sg**	**02 58 33.2**	**-0.1**
KSTL	**Kastelli Herak**	**0.55**	**15**	P	**Pg**	**02 58 27.7**	**+0.5**
KSTL				S	**Sb**	**02 58 36.3**	**-0.6**
IACM	**Heraklion**	**0.56**	**15**	P	**Pg**	**02 58 27.1**	**-0.2**
IACM				S	**Sb**	**02 58 36.0**	**-0.9**
	comp=E,7µm,0.4s						
IACM	**Heraklion**	**0.56**	**15**	P	**Pg**	**02 58 27.2**	**0.0**
IACM				S	**Sg**	**02 58 34.8**	**+0.3**
IACM				AML	AML	02 58 40.4	
	comp=E,10538µm,0.3s						
IACM				AML	AML	02 58 40.6	
	comp=N,17570µm,0.6s						
HRKL	**Herakleio**	**0.57**	**18**	P	**Pg**	**02 58 27.5**	**0.0**
HRKL				S	**Sb**	**02 58 36.2**	**-1.1**
	comp=N,4µm,0.9s						
HRKL	**Herakleio**	**0.57**	**18**	PG	**Pg**	**02 58 27.5**	**0.0**
HRKL				SG	**Sg**	**02 58 35.3**	**+0.4**
LAST	**Lasithi**	**0.62**	**51**	P	**Pg**	**02 58 28.6**	**+0.1**
LAST				S	**Sb**	**02 58 37.8**	**-1.1**
	comp=N,2µm,0.5s						
LAST	**Lasithi**	**0.62**	**51**	P	**Pg**	**02 58 28.7**	**+0.1**
LAST				S	**Sg**	**02 58 36.9**	**+0.3**
LAST				AML	AML	02 58 38.5	
	comp=N,3270µm,0.4s						
LAST				AML	AML	02 58 39.1	
	comp=E,4089µm,0.6s						
GVD	**Gavdhos**	**0.67**	**276**	P	**Pg**	**02 58 29.6**	**+0.3**
GVD				S	**Sb**	**02 58 39.9**	**-0.2**
	comp=E,4µm,0.3s						
GVD	**Gavdhos**	**0.67**	**276**	P	**Pb**	**02 58 29.7**	**-0.9**
GVD				AML	AML	02 58 46.2	
	comp=E,7856µm,0.4s						
GVD				AML	AML	02 58 46.4	
	comp=N,6218µm,0.3s						
GVD	**Gavdhos**	**0.67**	**276**	PG	**Pb**	**02 58 29.7**	**-0.9**
PRNS	**Prines Rethymn**	**0.68**	**332**	P	**Pg**	**02 58 29.4**	**-0.1**
PRNS				S	**Sb**	**02 58 39.8**	**-0.6**
NPS	**Neapolis**	**0.77**	**50**	P	**Pg**	**02 58 31.2**	**-0.1**
NPS				S	**Sb**	**02 58 42.5**	**-0.6**
	comp=N,1µm,0.4s						
NPS	**Neapolis**	**0.77**	**50**	P	**Pg**	**02 58 31.3**	**-0.1**
NPS				S	**Sg**	**02 58 41.7**	**+0.3**
NPS				AML	AML	02 58 43.4	
	comp=E,2754µm,0.4s						
NPS				AML	AML	02 58 44.3	
	comp=N,2450µm,0.4s						
VAM	**Vamos**	**0.85**	**319**	P	**Pg**	**02 58 32.4**	**-0.5**
VAM				S	**Sb**	**02 58 45.4**	**-0.1**
	comp=N,4µm,0.3s						
VAM	**Vamos**	**0.85**	**319**	P	**Pg**	**02 58 32.4**	**-0.5**
VAM				S	**Sg**	**02 58 44.6**	**+0.6**
VAM				AML	AML	02 58 46.0	
	comp=N,7373µm,0.4s						
VAM				AML	AML	02 58 47.1	
	comp=E,7784µm,0.3s						
IMMV	**Iera Moni Meta**	**1.02**	**313**	P	**Pg**	**02 58 34.8**	**-1.3**
IMMV	**Iera Moni Meta**	**1.02**	**313**	P	**Pg**	**02 58 35.9**	**-0.1**
IMMV				S	**Sb**	**02 58 50.1**	**-0.1**
IMMV				AML	AML	02 58 51.4	
	comp=E,4387µm,0.3s						
IMMV				AML	AML	02 58 51.8	
	comp=N,5229µm,0.3s						
IMMV	**Iera Moni Meta**	**1.02**	**313**	PG	**Pg**	**02 58 35.3**	**-0.8**
IMMV				SG	**Sb**	**02 58 49.9**	**-0.3**
CHAN	**Chania**	**1.02**	**317**	P	**Pg**	**02 58 35.3**	**-0.9**
CHAN				S	**Sb**	**02 58 50.2**	**-0.1**
	comp=N,620nm,0.6s						
STIA	**Sitia Lasithi**	**1.08**	**66**	P	**Pb**	**02 58 36.5**	**-1.1**
KNDR	**Palaiochora Ch**	**1.09**	**295**	P	**Pg**	**02 58 37.6**	**+0.1**
KNDR				S	**Sn**	**02 58 54.4**	**+0.6**
	comp=N,555nm,0.3s						
KNDR	**Palaiochora Ch**	**1.09**	**295**	PN	**Pn**	**02 58 37.8**	**-0.6**
ZKR	**Zakros**	**1.14**	**72**	P	**Pn**	**02 58 38.4**	**-0.7**
ZKR	**Zakros**	**1.14**	**72**	P	**Pn**	**02 58 38.6**	**-0.4**
ZKR				AML	AML	02 58 59.1	
	comp=E,1034µm,0.9s						
ZKR				AML	AML	02 59 00.7	
	comp=N,492µm,0.3s						
ZKR	**Zakros**	**1.14**	**72**	PN	**Pn**	**02 58 38.7**	**-0.4**
RODP	**Rodopos**	**1.22**	**311**	P	**Pn**	**02 58 39.4**	**-0.8**
RODP	**Rodopos**	**1.22**	**311**	PN	**Pn**	**02 58 39.4**	**-0.8**
THR6	**Thira Island,**	**1.64**	**14**	P	**Pn**	**02 58 45.0**	**-0.9**
SANT	**Santorini**	**1.67**	**16**	P	**Pb**	**02 58 47.3**	**-0.4**
SANT	**Santorini**	**1.67**	**16**	PN	**Pn**	**02 58 46.3**	**0.0**
THR5	**Thira Island,**	**1.69**	**13**	P	**Pn**	**02 58 46.4**	**-0.2**
THR3	**Thira Island,**	**1.69**	**14**	P	**Pn**	**02 58 46.2**	**-0.4**
ANKY	**Antikythira Is**	**1.70**	**311**	P	**Pn**	**02 58 45.3**	**-1.5**
ANKY	**Antikythira Is**	**1.70**	**311**	P	**Pb**	**02 58 48.1**	**-0.1**
ANKY				AML	AML	02 59 17.4	
	comp=N,729µm,0.5s						
ANKY				AML	AML	02 59 19.2	
	comp=E,1028µm,0.6s						
SAP3	**Santorini-Thir**	**1.70**	**12**	P	**Pb**	**02 58 47.4**	**-0.9**
ANAF	**Anafi Island**	**1.74**	**24**	P	**Pb**	**02 58 47.9**	**-1.0**
CMBO	**Columbo, Santo**	**1.75**	**14**	P	**Pn**	**02 58 47.7**	**+0.2**
MHLO	**Agia Marina, M**	**1.96**	**348**	P	**Pb**	**02 58 51.2**	**-1.4**
IOSP	**Ios island**	**1.98**	**9**	P	**Pn**	**02 58 51.0**	**+0.4**
MHLA	**Plaka, Milos I**	**2.01**	**349**	P	**Pb**	**02 58 52.0**	**-1.5**
KARP	**Karpathos**	**2.02**	**67**	P	**Pb**	**02 58 51.9**	**-0.8**
KARP	**Karpathos**	**2.02**	**67**	PN	**Pb**	**02 58 51.9**	**-1.7**
KTHA	**Kythira Island**	**2.10**	**315**	P	**Pn**	**02 58 52.3**	**-0.1**
KTHA	**Kythira Island**	**2.10**	**315**	P	**Pb**	**02 58 53.9**	**-1.3**
KTHA	**Kythira Island**	**2.10**	**315**	PN	**Pn**	**02 58 52.7**	**+0.3**
AMGA	**Amorgos Island**	**2.21**	**21**	P	**Pn**	**02 58 54.6**	**+0.7**
APE	**Apeiranthos**	**2.35**	**13**	P	**Pn**	**02 58 56.4**	**+0.6**
APE	**Apeiranthos**	**2.35**	**13**	PN	**Pn**	**02 58 56.1**	**+0.3**
VLI	**Veliai**	**2.51**	**321**	P	**Pn**	**02 58 57.7**	**-0.2**
VLI	**Veliai**	**2.51**	**321**	P	**Pn**	**02 58 59.3**	**+1.3**
KOSK	**Kos Island**	**2.61**	**40**	PN	**Pn**	**02 59 00.1**	**+0.9**
DAT	**Datca**	**2.93**	**47**	PN	**Pn**	**02 59 04.7**	**+0.9**
ARG	**Arkhangelos**	**3.01**	**60**	PN	**Pn**	**02 59 05.9**	**+1.1**
DID	**Didima**	**3.04**	**334**	P	**Pn**	**02 59 06.9**	**+1.6**
VLX	**Vlachokerasia**	**3.30**	**323**	P	**Pn**	**02 59 10.6**	**+1.8**
ITM	**Ithomi**	**3.40**	**316**	PN	**Pn**	**02 59 10.5**	**+0.3**
TRIP	**Tripoli**	**3.48**	**323**	P	**Pn**	**02 59 13.1**	**+1.9**
GCAM	**G?zelcaml?**	**3.48**	**32**	PN	**Pn**	**02 59 12.6**	**+1.3**
YER	**Yerkesik**	**3.63**	**48**	PN	**Pn**	**02 59 14.7**	**+1.4**
TURN	**Turunc**	**3.67**	**54**	PN	**Pn**	**02 59 11.3**	**-2.6**
VIL2	**Platees**	**3.68**	**340**	P	**Pn**	**02 59 15.0**	**+1.0**
DALY	**Dalyan (Mula)**	**3.68**	**55**	PN	**Pn**	**02 59 15.8**	**+1.9**
CHOS	**Chios island**	**3.73**	**14**	PN	**Pn**	**02 59 15.9**	**+1.1**
AKAS	**Kas**	**4.11**	**68**	PN	**Pn**	**02 59 22.4**	**+2.3**
AOS	**Alonnisos**	**4.47**	**350**	PN	**Pn**	**02 59 25.9**	**+1.1**
AGG	**Agios Georgios**	**4.71**	**335**	PN	**Pn**	**02 59 29.9**	**+1.6**
AKASG	**Malin Array Be**	**16.23**	**10**	Pn	**Pn**	**03 02 05.5**	**+0.5**
	comp=E,0.3nm,0.3s,baz=201,slow=11,SNR=4.5						
GERES	**GERESS Array B**	**16.33**	**333**	Pn	**Pn**	**03 02 04.3**	**-2.1**
	comp=E,0.1nm,0.3s,baz=144,slow=12,SNR=2.9						
TORD	**Torodi Ar. Bea**	**30.07**	**230**	P	**P**	**03 04 26.4**	**-0.4**
	comp=E,0.2nm,0.3s,baz=36,slow=9.0,SNR=5.5						
DBIC	**Dimbokro**	**39.15**	**231**	LR	LR	03 23 39.0	
	comp=E,377nm,19.6s,baz=94,slow=39						
MKAR	**Makanchi Array**	**44.17**

ASAR	**Alice Springs**	**43.85**	**266**	P		**P**	**03 10 17.1**	**0.0**
	1.0nm,0.7s,baz=100,slow=7.4,SNR=6.9								
WB2	**Warramunga Arr**	**44.77**	**271**	P		**P**	**03 10 26.1**	**+1.6**
WB2				IAmb		IAmb	03 10 28.2		
	comp=Z,3.6nm,0.8s								
WRA	**Warramunga Arr**	**44.78**	**271**	P		**P**	**03 10 25.8**	**+1.2**
	comp=Z,1.5nm,0.5s,baz=111,slow=7.8,SNR=2.8								
WB0	**Warramunga Arr**	**44.80**	**271**	P		**P**	**03 10 26.3**	**+1.5**
WB0				IAmb		IAmb	03 10 44.7		
	comp=Z,4.6nm,1.1s								
CASY	**Casey**	**55.97**	**208**	P		**P**	**03 11 47.9**	**-0.6**
QSPA	**South Pole Qui**	**60.28**	**180**	P		**P**	**03 12 19.8**	**+0.8**
	comp=Z,1.9nm,1.0s,baz=334,slow=1.9,SNR=3.4								
QSPA	**South Pole Qui**	**60.28**	**180**	P		**P**	**03 12 18.9**	**-0.1**
NVAR	**Mina Array Bea**	**87.34**	**42**	P		**P**	**03 15 00.1**	**+2.2**
	comp=Z,0.2nm,0.4s,baz=216,slow=9.0,SNR=2.7								
NVAR	**Mina Array Bea**	**87.34**	**42**	P		**P**	**03 14 57.2**	**-0.6**
FINES	**FINESS Array B**	**144.84**	**341**	PKP		**PKPdf**	**03 21 45.8**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=56,slow=3.5,SNR=2.2								
AKASG	**Malin Array Be**	**151.26**	**324**	PKPbc		**PKiKP**	**03 22 03.7**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=48,slow=2.6,SNR=1.4								
TORD	**Torodi Ar. Bea**	**163.37**	**176**	PKPab		**PKPab**	**03 23 04.5**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=171,slow=3.5,SNR=2.0								
TORD	**Torodi Ar. Bea**	**163.37**	**176**			**PKPab**	**03 23 04.1**	**-0.5**

IDC ***24*** *03:11:21.0±0.9, 52.°05N×176.°92E, h0km, mb3.7/11, mb1 4.0/13, mb1mx3.8/39, mbtmp3.8/13, ML3.8/1, Error ellipse: s-maj=32.1km s-min=16.2km az=166.0*

AEIC ***24*** *03:11:23.2±2.0, 52.°1N±0.°1×176.°65E±0.°08, h11km±4km, ML3.7/20, mb4.2/42(NEIC), Error ellipse: s-maj=16.3km s-min=5.4km az=196.0*

NEIC ***24*** *03:11:24.6±1.5, 52.°2N±0.°1×176.°7E±0.°1, h29km±5km, Error ellipse: s-maj=15.4km s-min=8.7km az=193.0*

ISC 24 03:11:26.1±0.6, 52.°1N±0.°1×176.°68E±0.°04, h40km, n94, σ0s98/89, mb4.0/27, 1D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**1.15**	**98**		**Pn**	**03 11 43.9**	**-1.7**
LSSA	**Little Sitkin**	**1.15**	**99**		**Pn**	**03 11 44.1**	**-1.6**
LSPA	**Little Sitkin**	**1.18**	**98**		**Pn**	**03 11 45.0**	**-1.2**
LSPA					**Sn**	**03 12 02.9**	**+1.9**
SMY	**Shemya**	**1.69**	**291**		**Pn**	**03 11 51.8**	**-1.2**
SMY	**Shemya**	**1.69**	**291**		**Sn**	**03 12 14.5**	**+1.1**
CETU	**Semis' Tuman**	**1.75**	**95**		**Pn**	**03 11 53.0**	**-0.8**
CEAP	**Semis' Anvil P**	**1.79**	**93**		**Pn**	**03 11 54.0**	**-0.5**
CESW	**Semis' Southwe**	**1.80**	**97**		**Pn**	**03 11 53.9**	**-0.7**
AMKA	**Amchitka**	**1.80**	**114**		**Pn**	**03 11 53.7**	**-0.9**
AMKA					**Sn**	**03 12 16.8**	**+0.7**
GAEA	**Gareloi East**	**2.85**	**95**		**Pn**	**03 12 09.0**	**0.0**
TASE	**Tanaga Southea**	**3.28**	**93**		**Pn**	**03 12 14.5**	**-0.5**
TAPA	**Tanaga Point A**	**3.42**	**93**		**Pn**	**03 12 16.8**	**-0.1**
KIMD	**Kanaga Island**	**3.78**	**93**		**Pn**	**03 12 21.4**	**-0.4**
KICM	**Kanaga Island**	**3.79**	**91**		**Pn**	**03 12 22.8**	**+0.9**
KIKV	**Kanaga Island**	**3.81**	**92**		**Pn**	**03 12 23.4**	**+1.2**
ADK	**Adak**	**4.11**	**91**		**Pn**	**03 12 25.9**	**-0.3**
GSTD	**Great Sitkin T**	**4.42**	**88**		**Pn**	**03 12 32.3**	**+1.6**
GSTR	**Great Sitkin T**	**4.47**	**88**	Pn	**Pn**	**03 12 33.1**	**+1.7**
GSMY	**Great Sitkin M**	**4.48**	**88**		**Pn**	**03 12 32.5**	**+1.0**
ATKA	**Atka Island**	**5.62**	**86**	Pn	**Pn**	**03 12 43.8**	**-3.2**
SPIA	**Saint Paul Isl**	**9.09**	**51**	Pn	**Pn**	**03 13 33.7**	**-0.9**
PETK	**Petropavlovsk-**	**11.58**	**282**	Pn	**Pn**	**03 14 09.1**	**+0.5**
	baz=110,slow=12,SNR=2.2								
PETK	**Petropavlovsk-**	**11.58**	**282**		**Pn**	**03 14 07.0**	**-1.7**
OHAK	**Old Harbor**	**18.00**	**62**		**P**	**03 15 32.6**	**-0.5**
KDAK	**Kodiak Island**	**18.42**	**60**	P	**P**	**03 15 36.4**	**-1.3**
	0.3nm,0.3s,baz=210,slow=1.7,SNR=5.8								
KDAK	**Kodiak Island**	**18.42**	**60**	P	**P**	**03 15 36.8**	**-0.9**
RDOG	**Red Dog Mine**	**18.76**	**24**	P	**P**	**03 15 39.6**	**-1.7**
CNPM	**China Poot**	**19.32**	**55**	P	**Pn**	**03 15 48.2**	**-0.6**
CNPM				IAmb	IAmb	03 16 00.1		
	comp=Z,15nm,1.2s								
BRLK	**Bradley Lake**	**19.53**	**54**	P	**P**	**03 15 49.4**	**-0.4**
BRLK				IAmb	IAmb	03 16 05.2		
	comp=Z,11nm,0.9s								
BPAW	**Bear Paw Mtn.**	**20.57**	**42**		**P**	**03 16 01.6**	**+0.4**
TRF	**Thorofare Moun**	**20.66**	**44**	P	**P**	**03 16 02.9**	**+0.7**
TRF				IAmb	IAmb	03 16 10.0		
	comp=Z,7.8nm,1.1s								
SCM	**Sheep Creek Mo**	**21.59**	**49**	P	**P**	**03 16 11.8**	**-0.4**
SCM				IAmb	IAmb	03 16 13.2		
	comp=Z,16nm,0.8s								
DHY	**Denali Highway**	**21.82**	**46**	P	**P**	**03 16 14.4**	**-0.3**
WRH	**Wood River Hil**	**21.89**	**42**	P	**P**	**03 16 15.2**	**0.0**
CCB	**Clear Creek Bu**	**22.06**	**42**	P	**P**	**03 16 17.8**	**+0.7**
IL31		**22.48**	**42**	P	**P**	**03 16 21.4**	**0.0**
ILAR	**Eielson Array**	**22.48**	**42**	P	**P**	**03 16 20.4**	**-1.1**
	comp=Z,1.6nm,0.9s,baz=255,slow=9.3,SNR=21								
ILAR	**Eielson Array**	**22.48**	**42**	P	**P**	**03 16 21.7**	**+0.2**
PAX	**Paxson**	**22.65**	**47**	P	**P**	**03 16 23.0**	**-0.5**
PAX				IAmb	IAmb	03 16 26.7		
	comp=Z,7.9nm,1.1s								
TOLK	**Toolik Lake Re**	**23.00**	**31**	P	**P**	**03 16 26.7**	**-0.3**
TOLK				IAmb	IAmb	03 16 28.2		
	comp=Z,7.0nm,0.9s								
GLB	**Gilahina Butte**	**23.20**	**51**	P	**P**	**03 16 29.8**	**+0.6**
GLB				IAmb	IAmb	03 16 39.3		
	comp=Z,6.0nm,0.9s								
PRP	**Porcupine Dome**	**23.24**	**40**	P	**P**	**03 16 29.8**	**+0.3**
DOT	**Dot Lake**	**23.41**	**45**	P	**P**	**03 16 30.6**	**-0.5**
SCRK	**Sand Creek**	**23.50**	**45**	P	**P**	**03 16 30.8**	**-1.3**
SCRK				IAmb	IAmb	03 16 36.1		
	comp=Z,5.9nm,1.1s								
BMAR	**Burnt Mountain**	**24.21**	**36**	P	**P**	**03 16 39.0**	**+0.4**
BCAR	**Beaver Creek A**	**24.33**	**47**	P	**P**	**03 16 39.6**	**-0.1**
EGAK	**Eagle**	**24.86**	**43**	P	**P**	**03 16 43.9**	**-0.5**
EGAK				IAmb	IAmb	03 16 46.5		
	comp=Z,4.5nm,0.8s								
DAWY	**Dawson**	**25.51**	**45**	P	**P**	**03 16 50.2**	**-0.2**
DAWY				IAmb	IAmb	03 16 57.8		
	comp=Z,3.9nm,0.8s								
HYT	**Haines Junctio**	**26.24**	**53**	P	**P**	**03 16 58.2**	**+1.1**
HYT				IAmb	IAmb	03 17 09.1		
	comp=Z,6.9nm,0.9s								
KLR	**Kul'dur**	**28.27**	**282**	P	**P**	**03 17 16.4**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=100,slow=17,SNR=3.0								
USA0B	**Ussuriysk Arra**	**30.43**	**273**	P	**P**	**03 17 32.9**	**-1.5**
USA0B				IAmb	IAmb	03 17 40.5		
	comp=Z,2.8nm,1.1s								
H11N2	**WAKE ISLAND Hy**	**33.24**	**197**	T	T	03 53 03.3		
	baz=11,slow=76,SNR=48								
H11N3	**WAKE ISLAND Hy**	**33.25**	**197**	T	T	03 53 06.4		
	baz=11,slow=76,SNR=84								
H11N1	**WAKE ISLAND Hy**	**33.26**	**197**	T	T	03 53 06.2		
	baz=11,slow=76,SNR=81								
H11S1	**WAKE ISLAND Hy**	**34.47**	**197**	T	T	03 54 38.5		
	baz=10,slow=76,SNR=39								
H11S3	**WAKE ISLAND Hy**	**34.48**	**197**	T	T	03 54 39.2		
	baz=10,slow=76,SNR=33								
H11S2	**WAKE ISLAND Hy**	**34.49**	**197**	T	T	03 54 38.9		
	baz=10,slow=76,SNR=17								
YKA	**Yellowknife Ar**	**36.74**	**46**	P	**P**	**03 18 30.2**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=291,slow=8.5,SNR=3.1								
NEW	**Newport**	**41.23**	**68**	P	**P**	**03 19 06.2**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=236,slow=6.3,SNR=3.5								
NEW	**Newport**	**41.23**	**68**	P	**P**	**03 19 06.1**	**-0.7**
NEW				IAmb	IAmb	03 19 07.6		
	comp=Z,3.6nm,1.1s								
BMO	**Blue Mountains**	**42.97**	**72**	P	**P**	**03 19 20.6**	**-0.4**
SONM	**Songino Array**	**43.78**	**294**	P	P	03 19 33.4	+5.8
	comp=Z,0.9nm,0.6s,baz=66,slow=7.2,SNR=4.4								
SONM	**Songino Array**	**43.78**	**294**	P	**P**	**03 19 26.6**	**-1.0**
YERR	**Yerington**	**45.30**	**80**	P	**P**	**03 19 38.6**	**-1.3**
NVAR	**Mina Array Bea**	**46.22**	**80**	P	**P**	**03 19 47.4**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=285,slow=7.7,SNR=5.2								
NVAR	**Mina Array Bea**	**46.22**	**80**	P	**P**	**03 19 47.2**	**0.0**
BW06	**Boulder Array**	**48.72**	**70**	P	**P**	**03 20 05.7**	**-1.0**
BW06				IAmb	IAmb	03 20 06.7		
	comp=Z,1.2nm,0.8s								
PDAR	**Pinedale Array**	**48.72**	**70**	P	**P**	**03 20 06.0**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=327,slow=2.5,SNR=6.8								
PDAR	**Pinedale Array**	**48.72**	**70**	P	**P**	**03 20 05.6**	**-1.0**
PV13	**Radium Mtn., P**	**52.09**	**74**	P	**P**	**03 20 31.8**	**-0.4**
PV13				IAmb	IAmb	03 20 32.4		
	comp=Z,3.6nm,0.7s								
AGMN	**Agassiz Nation**	**52.81**	**57**	P	**P**	**03 20 36.7**	**-0.4**
AGMN				IAmb	IAmb	03 20 37.8		
	comp=Z,2.3nm,0.8s								
EYMN	**Ely**	**55.26**	**55**	P	**P**	**03 20 54.9**	**0.0**
EYMN				IAmb	IAmb	03 20 56.0		
	comp=Z,2.5nm,0.8s								
E38A	**The Farm, Brul**	**56.13**	**56**	P	**P**	**03 21 01.1**	**0.0**
E38A				IAmb	IAmb	03 21 06.7		
	comp=Z,3.4nm,0.7s								
D41A	**Chassel**	**57.33**	**54**	P	**P**	**03 21 09.9**	**+0.3**
MKAR	**Makanchi Array**	**57.33**	**306**	P	**P**	**03 21 13.2**	**+3.5**
	comp=Z,0.7nm,0.5s,baz=50,slow=5.5,SNR=7.7								
MKAR	**Makanchi Array**	**57.33**	**306**	P	**P**	**03 21 09.5**	**-0.2**
N35A	**Tabor**	**57.85**	**64**	P	**P**	**03 21 13.4**	**0.0**
BRVK	**Borovoye**	**58.47**	**317**	P	**P**	**03 21 17.6**	**+0.1**
BRVK				IAmb	IAmb	03 21 24.2		
	comp=Z,2.4nm,0.7s								
E43A	**Lone Tree Farm**	**58.58**	**54**	P	**P**	**03 21 18.4**	**0.0**
E46A	**Sault Ste Mari**	**59.91**	**52**	P	**P**	**03 21 28.1**	**+0.4**
CGP	**Cagayan de Oro**	**60.63**	**243**	*e*P	**P**	**03 21 32.5**	**-0.3**
TXAR	**Lajitas Array**	**61.28**	**78**	P	**P**	**03 21 37.0**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=301,slow=3.5,SNR=5.9								
OLIL	**Olney**	**63.45**	**61**	P	**P**	**03 21 50.5**	**-1.1**
TRQ	**Mont Tremblant**	**64.58**	**47**	P	**P**	**03 21 58.0**	**-1.0**
ABKAR	**Akbulak array**	**65.59**	**320**	P	**P**	**03 22 05.9**	**+0.5**
KKAR	**Karatay Array**	**65.76**	**310**	P	**P**	**03 22 07.1**	**+0.5**
MOQ	**Mont Orford**	**66.31**	**46**	P	**P**	**03 22 09.7**	**-0.5**
F64A	**Sherman**	**67.57**	**43**	P	**P**	**03 22 17.3**	**-0.8**
G65A	**Princeton**	**68.43**	**43**	P	**P**	**03 22 23.3**	**-0.2**
EMMW	**East Machias**	**68.87**	**43**	P	**P**	**03 22 25.7**	**-0.5**
AKASG	**Malin Array Be**	**73.89**	**339**	P	**P**	**03 22 56.6**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=20,slow=6.5,SNR=2.0								
WR0	**Warramunga Arr**	**80.64**	**220**	P	**P**	**03 23 35.2**	**+0.7**
WRA	**Warramunga Arr**	**80.71**	**220**	P	**P**	**03 23 35.7**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=32,slow=5.5,SNR=5.4								
ASAR	**Alice Springs**	**84.24**	**219**	P	**P**	**03 23 54.5**	**+1.3**
	comp=Z,0.5nm,0.8s,baz=30,slow=4.3,SNR=4.1								

AEIC ***24*** *03:15:34±1.9, 51.°89N±0.°07×176.°51E±0.°05, h19km±2km, Error ellipse: s-maj=10.5km s-min=3.8km az=195.0*

NEIC ***24*** *03:15:35.5±1.4, 52.°21N±0.°07×176.°70E±0.°06, h4km±1km, mb6.1/448, Ms_20 6.4/909, Mwb6.3/61, ML5.7(AEIC), Mwc6.4(GCMT), Error ellipse: s-maj=12.3km s-min=4.5km az=20.0*

UNK ***24*** *03:15:36.6, 52.°25N×176.°72E, h4km*

MOS ***24*** *03:15:36.8±1.0, 52.°23N×176.°75E, h20km, mb6.1/149, MS6.3/111, Error ellipse: s-maj=5.6km s-min=3.9km az=106.5*

HON ***24*** *03:15:37.1±1.5, 52.°00N±0.°06×176.°70E±0.°03, h26km±3km, Error ellipse: s-maj=8.2km s-min=2.9km az=183.0*

BJI ***24*** *03:15:37.0±0.0, 52.°25N×176.°72E, h30km, mB6.4/82, mb5.6/78, Ms6.7/97, Ms7 6.6/90*

BGR ***24*** *03:15:37.5±0.0, 51.°46N×174.°00E, h33km, mb5.9, Ms6.2*

PMR ***24*** *03:15:38.1±1.5, 52.°01N±0.°07×176.°65E±0.°06, h26km±1km, Error ellipse: s-maj=12.8km s-min=4.8km az=196.0*

IDC ***24*** *03:15:38.5±2.1, 52.°25N×176.°73E, h18km±12km, mb5.1/38, mb1 5.2/41, mb1mx5.2/43, mbtmp5.2/41, ML4.9/3, MS6.2/49, Ms1 6.2/49, ms1mx6.1/60, Error ellipse: s-maj=12.3km s-min=8.2km az=169.0*

NEIC ***24*** *03:15:41.2, 52.°28N×176.°72E, h9km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.03; Mθθ-1.04; Mϕϕ 1.01; Mrθ 0.25; Mθϕ-3.09; Mϕr 1.12; Fault plane solution: Mo3.45000×10¹⁸ NP1:ϕs279.38000°, δ70.59000°, λ-179.29000°. NP2:ϕs189.14000°, δ89.33000°, λ-19.41000°. Principal axes: T 3.4135, Plg13.0000°, Azm236.0000°; N 0.0713, Plg71.0000°, Azm7.0000°; P -3.4848, Plg14.0000°, Azm143.0000°;*

NEIC ***24*** *03:15:42, 52.°29N×176.°71E, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr-1.66; Mθθ-0.40; Mϕϕ2.06; Mrθ-0.27; Mθϕ-4.57; Mϕr 0.12; Fault plane solution: Mo4.96000×10¹⁸ NP1:ϕs8.00000°, δ86.00000°, λ-1.00000°. NP2:ϕs98.00000°, δ89.00000°, λ-176.00000°. Principal axes: T 5.5717, Plg2.0000°, Azm233.0000°; N -1.6592, Plg86.0000°, Azm114.0000°; P -3.9125, Plg4.0000°, Azm323.0000°;*

GCMT ***24*** *03:15:42.5±0.1, 52.°28N±0.°01×176.°70E±0.°01, h12km, MW6.4/183, Moment Tensor Solution. s91,c125; s183,c428; Duration: 37 Moment tensor: Scale 10¹⁸ Nm; Mrr-1.38±.06; Mθθ-0.45±.06; Mϕϕ 1.83±.05; Mrθ-0.26±.17; Mθϕ-4.22±.04; Mϕr 0.22±.17; Best double couple: Mo4.38000×10¹⁸ NP1:ϕs8.00000°, δ87.00000°, λ 1.00000°. NP2:ϕs278.00000°, δ89.00000°, λ177.00000°. Principal axes: T 5.0800, Plg3.0000°, Azm233.0000°; N -1.3950, Plg87.0000°, Azm85.0000°; P -3.6810, Plg2.0000°, Azm323.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 24 03:15:38.9±0.3, 52.°01N±0.°03×176.°78E±0.°02, h23km±1km, h23km:pP-P, n2150, σ1185/2480, mb6.0/457, MS6.4/615, 90C-61D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**1.07**	**93**		**Pn**	**03 15 58.5**	**-0.1**
LSNW	**Little Sitkin**	**1.07**	**91**		**Pn**	**03 15 58.4**	**-0.2**
LSPA	**Little Sitkin**	**1.11**	**92**		**Pn**	**03 15 59.2**	**+0.2**
CETU	**Semis' Tuman**	**1.68**	**90**		**Pn**	**03 16 07.6**	**+0.8**
AMKA	**Amchitka**	**1.69**	**111**		**Pn**	**03 16 07.3**	**+0.3**
AMKA					**Sb**	**03 16 32.1**	**+2.0**
CESW	**Semis' Southwe**	**1.73**	**93**		**Pn**	**03 16 07.9**	**+0.5**
CEAP	**Semis' Anvil P**	**1.73**	**89**		**Pn**	**03 16 07.9**	**+0.3**
SMY	**Shemya**	**1.80**	**295**	Pn	**Pn**	**03 16 05.0**	**-3.5**
SMY				Sn	**Sn**	**03 16 29.1**	**-1.4**
CERAA	**Semis' Rag'd T**	**1.80**	**92**		**Pn**	**03 16 09.2**	**+0.7**
GAEA	**Gareloi East**	**2.78**	**93**		**Pn**	**03 16 23.3**	**+1.3**
TASE	**Tanaga Southea**	**3.21**	**91**		**Pn**	**03 16 28.4**	**+0.4**
TAFP	**Tanaga Falls P**	**3.24**	**90**		**Pn**	**03 16 28.6**	**+0.3**
TAPA	**Tanaga Point A**	**3.35**	**91**		**Pn**	**03 16 30.3**	**+0.5**
KIMD	**Kanaga Island**	**3.72**	**91**		**Pn**	**03 16 35.3**	**+0.5**
KICM	**Kanaga Island**	**3.73**	**89**		**Pn**	**03 16 35.0**	**0.0**
KIKV	**Kanaga Island**	**3.75**	**90**		**Pn**	**03 16 35.3**	**+0.1**
ADK	**Adak**	**4.04**	**89**	P	**Pn**	**03 16 38.4**	**-0.9**
ADK	**Adak**	**4.04**	**89**		**Pn**	**03 16 38.4**	**-0.9**
GSTD	**Great Sitkin T**	**4.37**	**87**		**Pn**	**03 16 43.3**	**-0.6**
GSTR	**Great Sitkin T**	**4.42**	**86**	Pn	**Pn**	**03 16 43.5**	**-1.1**
GSMY	**Great Sitkin M**	**4.42**	**87**		**Pn**	**03 16 44.3**	**-0.3**
ATKA	**Atka Island**	**5.56**	**84**	Pn	**Pn**	**03 16 59.5**	**-0.7**
KOFP	**Korovin Flat P**	**5.62**	**84**		**Pn**	**03 17 01.3**	**+0.3**
KOSE	**Korovin Southe**	**5.65**	**83**		**Pn**	**03 17 02.0**	**+0.6**
NIKH	**Nikolski High**	**8.82**	**78**	Pn	**Pn**	**03 17 44.1**	**-0.8**
SPIA	**Saint Paul Isl**	**9.13**	**50**	Pn	**Pn**	**03 17 46.6**	**-2.5**
OKCE	**Okmok Cone E**	**9.25**	**75**		**Pn**	**03 17 51.0**	**+0.3**
OKNC	**Okmok New Cone**	**9.28**	**75**		**Pn**	**03 17 51.4**	**+0.3**
OKFG	**Magazine Ridge**	**9.40**	**75**		**Pn**	**03 17 53.4**	**+0.6**
UNV	**Unalaska Valle**	**10.26**	**73**	Pn	**Pn**	**03 18 04.2**	**-0.4**
AKUT	**Akutan**	**10.71**	**72**	Pn	**Pn**	**03 18 09.7**	**-1.0**
PET	**Petropavlovsk**	**11.10**	**282**	*e*P	**Pn**	**03 18 14.6**	**-1.4**
PET				*e*S	**Sn**	**03 20 13.7**	**-5.5**
PET				pmax	pmax		
	comp=Z,6μm,11.3s						
PET				pmax	pmax		
	comp=Z,5μm,9.7s						
PET				pmax	pmax		
	comp=Z,634nm,1.3s						
PET				MLR	MLR		
	comp=Z,145μm,16.0s						
PET				MLR	MLR		
	comp=Z,147μm,16.0s						
PET	**Petropavlovsk**	**11.10**	**282**	Pn	**Pn**	**03 18 13.9**	**-2.1**
PET				Sn	**Sn**	**03 20 17.8**	**-1.4**
I44RU	**PETROPAVLOVSK**	**11.66**	**283**	*i*		04 24 10.0	
	baz=88,slow=321,SNR=2.8						
PEA0B	**Petropavlovsk-**	**11.67**	**283**	*c* i P	**Pn**	**03 18 23.1**	**-0.7**
PEA0B	**Petropavlovsk-**	**11.67**	**283**	Pn	**Pn**	**03 18 22.9**	**-0.9**
PEA0B				Sn	**Sn**	**03 20 28.6**	**-4.6**
PETK	**Petropavlovsk-**	**11.67**	**283**	Pn	**Pn**	**03 18 22.9**	**-0.9**
	comp=Z,9.5nm,0.3s,baz=94,slow=17,SNR=104						
PETK				Sn	**Sn**	**03 20 28.2**	**-5.0**
	comp=Z,12nm,0.3s,baz=32,slow=22,SNR=5.2						
PETK				LR	LR	03 22 50.5	
	comp=Z,99μm,20.7s,baz=101,slow=37						
PETK	**Petropavlovsk-**	**11.67**	**283**	P	**Pn**	**03 18 22.4**	**-1.4**
PETK						03 20 28.2	
PETK	**Petropavlovsk-**	**11.67**	**283**	Pn	**Pn**	**03 18 22.4**	**-1.4**
FALS	**False Pass**	**12.14**	**69**	Pn	**Pn**	**03 18 30.1**	**-0.2**
SKR	**Severo-Kuril's**	**12.98**	**272**	*e*P	**Pn**	**03 18 40.6**	**-1.2**
SKR				*e*S	**Sn**	**03 20 57.5**	**-7.8**
SKR				pmax	pmax		
	comp=Z,2μm,2.5s						
SKR				pmax	pmax		
	comp=Z,295nm,1.0s						
SKR				MLR	MLR		
	comp=Z,42μm,15.0s						
SKR				MLR	MLR		
	comp=Z,45μm,14.0s						
GAMB	**Gambell**	**13.26**	**23**	Pn	**Pn**	**03 18 44.1**	**-1.4**
SDPT	**Sand Point**	**13.87**	**67**	Pn	**Pn**	**03 18 53.5**	**-0.3**
CNBA	**Chernabura Isl**	**14.35**	**69**	Pn	**Pn**	**03 18 58.8**	**-1.6**
ANM	**Nome**	**15.61**	**29**	P	**Pn**	**03 19 15.7**	**-1.5**
ANM				pmax	pmax		
	comp=Z,1μm,1.7s						
ANM	**Nome**	**15.61**	**29**	Pn	**Pn**	**03 19 15.7**	**-1.5**
ANM				IAmb	IAmb	03 19 37.1	
	comp=Z,1μm,1.7s						
MA2	**Magadan**	**16.39**	**308**	Pn	**Pn**	**03 19 26.8**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=110,slow=13,SNR=10						
MA2				LR	LR	03 25 27.6	
	comp=Z,134μm,18.1s,baz=112,slow=36						
MA2	**Magadan**	**16.39**	**308**	*c* i P	**Pn**	**03 19 26.6**	**-0.5**
MA2				pmax	pmax		
	comp=Z,53nm,0.9s						
MA2	**Magadan**	**16.39**	**308**	P	**Pn**	**03 19 24.6**	**-2.6**
MA2				IAmb	IAmb	03 19 39.2	
	comp=Z,3μm,1.9s						
CHIR	**Chirikof Islan**	**16.65**	**66**	Pn	**Pn**	**03 19 28.0**	**-2.5**
CHIR				IAmb	IAmb	03 19 40.2	
	comp=Z,3μm,1.9s						
BILL	**Bilibino**	**16.87**	**346**	*c* i P	**Pn**	**03 19 31.1**	**-2.1**
BILL				pmax	pmax		
	comp=Z,50nm,1.1s						
BILL				MLR	MLR		
	comp=Z,100μm,16.0s						
BILL	**Bilibino**	**16.87**	**346**		**Pn**	**03 19 31.1**	**-2.1**
SII	**Sitkinak Islan**	**17.48**	**63**	Pn	**Pn**	**03 19 39.1**	**-1.8**
SVW2	**Sparrevohn**	**17.61**	**48**	P	**Pn**	**03 19 42.2**	**-0.3**
OHAK	**Old Harbor**	**18.01**	**61**		**Pn**	**03 19 45.6**	**-1.7**
OHAK				IAmb	IAmb	03 20 10.9	
	comp=Z,2μm,1.5s						
TTA	**Tatalina**	**18.10**	**42**	P	**Pn**	**03 19 48.5**	**-0.1**
TTA				pmax	pmax		
	comp=Z,749nm,1.3s						
TTA	**Tatalina**	**18.10**	**42**	P	**Pn**	**03 19 48.5**	**-0.1**
KDAK	**Kodiak Island**	**18.43**	**60**	P	**P**	**03 19 50.8**	**-1.6**
	comp=Z,2.1nm,0.3s,baz=250,slow=5.4,SNR=34						
KDAK				LR	LR	03 26 50.9	
	comp=Z,119μm,18.9s,baz=254,slow=37						
KDAK	**Kodiak Island**	**18.43**	**60**	P	**P**	**03 19 50.6**	**-1.8**
KDAK				pmax	pmax		
	comp=Z,1μm,1.2s						
KDAK	**Kodiak Island**	**18.43**	**60**	P	**P**	**03 19 50.6**	**-1.8**
KDAK				IAmb	IAmb	03 20 17.2	
	comp=Z,1μm,1.1s						
RSO	**Redoubt South**	**18.77**	**51**	P	**Pn**	**03 19 56.7**	**-0.2**
HOM	**Homer**	**19.16**	**54**	P	**P**	**03 19 59.6**	**-0.7**
CNPM	**China Poot**	**19.34**	**55**		**P**	**03 20 01.9**	**-0.5**
BRLK	**Bradley Lake**	**19.56**	**54**	IAmb	IAmb	03 20 13.7	
	comp=Z,2μm,1.4s						
CAPN	**Captain Cook N**	**19.61**	**51**	P	**P**	**03 20 03.8**	**-1.4**
	baz=258						
PPLA	**Purkeypile**	**19.71**	**44**		**P**	**03 20 06.5**	**0.0**
KUR	**Kuril'sk**	**20.19**	**262**	*c* i P	Pn	03 20 13.0	-0.7
KUR				*i* S	**S**	**03 23 58.5**	**+1.5**
KUR				pmax	pmax		
	comp=Z,2μm,1.2s						
KUR				pmax	pmax		
	comp=N,445nm,1.5s						
KUR				pmax	pmax		
	comp=E,763nm,2.2s						
KUR				pmax	pmax		
	comp=Z,20μm,3.3s						
KUR				pmax	pmax		
	comp=N,7μm,4.5s						
KUR				MLR	MLR		
	comp=Z,39μm,13.0s						
O22K

EYAK	**Cordova Ski Ar**	**22.20**	**53**	IAmb	IAmb	03 20 53.5			
	comp=Z,717nm,1.0s								
EYAK				IAMs_20	IAMs_20	03 29 26.7			
	comp=Z,172µm,20.0s								
HDA	**Harding Lake**	**22.40**	**42**	P	**P**	**03 20 32.5**	**-2.9**		
	baz=254,SNR=100								
HDA	**Harding Lake**	**22.40**	**42**	IAMs_20	IAMs_20	03 28 46.6			
	comp=Z,107µm,21.0s								
POKR	**Poker Plat Res**	**22.42**	**40**	P	**P**	**03 20 34.8**	**-0.8**		
	baz=252,SNR=219								
ILAR	**Eielson Array**	**22.53**	**41**	P	**P**	**03 20 34.2**	**-2.5**		
	comp=Z,54nm,0.9s,baz=256,slow=8.1,SNR=123								
ILAR				LR	LR	03 29 29.5			
	comp=Z,109µm,19.6s,baz=258,slow=37								
ILAR				P3KPbc		03 54 15.2			
	comp=Z,0.1nm,0.5s,baz=61,slow=2.2,SNR=4.4								
ILAR	**Eielson Array**	**22.53**	**41**	P	**P**	**03 20 33.6**	**-3.2**		
ILAR	**Eielson Array**	**22.53**	**41**	P	**P**	**03 20 33.6**	**-3.2**		
YSS	**Yuzh-Sakhalins**	**22.54**	**271**	*α iP*	**P**	**03 20 38.0**	**+1.0**		
YSS				*e**PP	**sP**	**03 20 46.8**	**+0.4**		
YSS				*e*		03 21 04.7			
YSS				*e*S	**S**	**03 24 40.3**	**-2.4**		
YSS				*e*SS	**SnSn**	**03 25 20.3**	**+8.3**		
YSS				pmax	pmax				
	comp=Z,11µm,3.8s								
YSS				pmax	pmax				
	comp=N,3µm,3.4s								
YSS				pmax	pmax				
	comp=E,7µm,3.9s								
YSS				pmax	pmax				
	comp=N,140nm,0.9s								
YSS				pmax	pmax				
	comp=E,230nm,0.9s								
YSS				pmax	pmax				
	comp=Z,480nm,0.9s								
YSS				smax	smax				
	comp=E,49µm,15.3s								
YSS				MLR	MLR				
	comp=Z,73µm,14.0s								
YSS				MLR	MLR				
	comp=N,31µm,15.0s								
YSS				MLR	MLR				
	comp=E,32µm,15.0s								
YSS	**Yuzh-Sakhalins**	**22.54**	**271**	P	**P**	**03 20 37.1**	**+0.1**		
YSS				IAmb	IAmb	03 20 45.5			
	comp=Z,434nm,0.9s								
PAX	**Paxson**	**22.70**	**46**	IAmb	IAmb	03 20 49.1			
	comp=Z,768nm,1.0s								
PAX				IAMs_20	IAMs_20	03 28 49.7			
	comp=Z,135µm,21.0s								
RAGM	**Ragged Mountai**	**22.72**	**53**	IAMs_20	IAMs_20	03 30 03.4			
	comp=Z,136µm,20.0s								
TOLK	**Toolik Lake Re**	**23.08**	**31**	P	**P**	**03 20 41.7**	**-0.9**		
	baz=241,SNR=174								
TOLK	**Toolik Lake Re**	**23.08**	**31**	IAmb	IAmb	03 20 52.3			
	comp=Z,1µm,1.0s								
TOLK				IAMs_20	IAMs_20	03 29 20.5			
	comp=Z,122µm,20.0s								
RIDG	**Independent Ri**	**23.13**	**45**	P	**P**	**03 20 41.1**	**-2.0**		
RIDG				IAmb	IAmb	03 20 55.3			
	comp=Z,458nm,1.1s								
RIDG				IAMs_20	IAMs_20	03 29 24.0			
	comp=Z,166µm,22.0s								
GLB	**Gilahina Butte**	**23.24**	**51**	P	**P**	**03 20 43.5**	**-0.6**		
GLB				IAmb	IAmb	03 21 05.5			
	comp=Z,1µm,1.5s								
GLB				IAMs_20	IAMs_20	03 29 33.3			
	comp=Z,117µm,20.0s								
PRP	**Porcupine Dome**	**23.30**	**40**	P	**P**	**03 20 43.0**	**-1.9**		
PRP				IAmb	IAmb	03 20 56.1			
	comp=Z,551nm,1.3s								
PRP				IAMs_20	IAMs_20	03 29 32.2			
	comp=Z,152µm,20.0s								
VRDI	**Verde Repeater**	**23.39**	**51**	P	**P**	**03 20 45.2**	**-0.6**		
VRDI				IAmb	IAmb	03 21 02.3			
	comp=Z,511nm,1.1s								
VRDI				IAMs_20	IAMs_20	03 29 38.8			
	comp=Z,110µm,19.0s								
DOT	**Dot Lake**	**23.45**	**45**	P	**P**	**03 20 44.4**	**-1.9**		
DOT				IAMs_20	IAMs_20	03 29 34.5			
	comp=Z,189µm,22.0s								
MENT	**Mentasta**	**23.48**	**47**	IAmb	IAmb	03 21 01.7			
	comp=Z,542nm,1.0s								
MENT				IAMs_20	IAMs_20	03 29 16.4			
	comp=Z,117µm,21.0s								
CRQM	**Cirque**	**23.50**	**52**	IAMs_20	IAMs_20	03 30 29.2			
	comp=Z,110µm,20.0s								
SCRK	**Sand Creek**	**23.55**	**44**	P	**P**	**03 20 45.3**	**-2.1**		
SCRK				IAmb	IAmb	03 21 04.1			
	comp=Z,828nm,1.2s								
SCRK				IAMs_20	IAMs_20	03 29 37.1			
	comp=Z,113µm,21.0s								
MCARA	**McCarthy VSAT**	**23.61**	**51**	P	**P**	**03 20 46.9**	**-0.9**		
MCARA				IAmb	IAmb	03 21 11.8			
	comp=Z,835nm,1.0s								
MCARA				IAMs_20	IAMs_20	03 30 14.1			
	comp=Z,128µm,20.0s								
TGL	**Tana Glacier**	**23.66**	**52**	IAmb	IAmb	03 20 59.2			
	comp=Z,1µm,1.2s								
TGL				IAMs_20	IAMs_20	03 30 34.0			
	comp=Z,115µm,20.0s								
ISLE	**Juniper Island**	**23.89**	**53**	IAMs_20	IAMs_20	03 30 42.2			
	comp=Z,106µm,19.0s								
BALM	**Baldy**	**23.91**	**52**	IAmb	IAmb	03 21 01.6			
	comp=Z,733nm,1.2s								
BALM				IAMs_20	IAMs_20	03 29 55.6			
	comp=Z,106µm,20.0s								
JKA	**Kamikawa-asahi**	**23.99**	**264**	P	**P**	**03 20 52.1**	**+0.5**		
JKA				IAmb	IAmb	03 21 00.5			
	comp=Z,792nm,1.1s								
ASAJ	**Asahikawa**	**23.99**	**264**	P	**P**	**03 20 52.0**	**+0.5**		
	comp=Z,157nm,0.9s,baz=63,slow=12,SNR=47								
ASAJ	**Asahikawa**	**23.99**	**264**	P	**P**	**03 20 52.1**	**+0.5**		
ASAJ				pmax	pmax				
	comp=Z,792nm,1.1s								
MESA	**MESA**	**24.07**	**54**	IAMs_20	IAMs_20	03 30 47.0			
	comp=Z,124µm,20.0s								
YAH	**Yahtse**	**24.17**	**53**	IAMs_20	IAMs_20	03 31 01.7			
	comp=Z,140µm,20.0s								
BARN	**Barnard Glacie**	**24.24**	**52**	P	**P**	**03 20 54.0**	**0.0**		
BARN				IAMs_20	IAMs_20	03 30 06.5			
	comp=Z,117µm,20.0s								
BMAR	**Burnt Mountain**	**24.28**	**36**	P	**P**	**03 20 52.7**	**-1.4**		
BCAR	**Beaver Creek A**	**24.37**	**47**	P	**P**	**03 20 53.9**	**-1.1**		
CTGM	**Chitina Glacie**	**24.40**	**52**	IAMs_20	IAMs_20	03 30 20.5			
	comp=Z,109µm,20.0s								
TABL	**Table Mountain**	**24.48**	**53**	IAMs_20	IAMs_20	03 31 00.7			
	comp=Z,130µm,20.0s								
ERM	**Erimo**	**24.80**	**260**	*c iP*	**P**	**03 20 59.9**	**+1.0**		
ERM				pmax	pmax				
	comp=Z,1µm,1.1s								
ERM				MLR	MLR				
	comp=Z,103µm,20.0s								
ERM	**Erimo**	**24.80**	**260**	P	**P**	**03 20 59.2**	**+0.3**		
ERM				IAMs_20	IAMs_20	03 29 00.0			
	comp=Z,115µm,21.0s								
PCA	**Pinnacle**	**24.91**	**54**	IAMs_20	IAMs_20	03 31 33.5			
	comp=Z,163µm,20.0s								
EGAK	**Eagle**	**24.92**	**43**	P	**P**	**03 20 58.9**	**-0.9**		
EGAK				IAmb	IAmb	03 21 18.3			
	comp=Z,659nm,1.1s								
GRNR	**Gornyy**	**24.99**	**283**	⇑*iP*	**P**	**03 21 00.4**	**-0.2**		
GRNR				*e*S	**S**	**03 25 23.7**	**+0.7**		
GRNR				*e*SS	**SnSn**	**03 26 22.3**	**+10**		
GRNR				pmax	pmax				
	comp=E,40nm,0.8s								
GRNR				pmax	pmax				
	comp=Z,60nm,0.7s								
GRNR				smax	smax				
	comp=N,8.0nm,0.9s								
GRNR				MLR	MLR				
	comp=E,35µm,16.0s								
GRNR				MLR	MLR				
	comp=N,24µm,14.0s								
GRNR				MLR	MLR				
	comp=E,35µm,16.0s								
DAWY	**Dawson**	**25.56**	**45**	IAmb	IAmb	03 21 18.3			
	comp=Z,463nm,0.8s								
DAWY				IAMs_20	IAMs_20	03 30 49.3			
	comp=Z,179µm,21.0s								
HYT	**Haines Junctio**	**26.27**	**52**	IAMs_20	IAMs_20	03 31 35.1			
	comp=Z,100µm,20.0s								
YAK	**Yakutsk**	**26.92**	**310**	P	**P**	**03 21 14.7**	**-3.2**		
	comp=Z,66nm,0.8s,baz=58,slow=0.6,SNR=3.3								
YAK				LR	LR	03 31 42.6			
	comp=Z,38µm,18.1s,baz=96,slow=36								
YAK	**Yakutsk**	**26.92**	**310**	*eP*	**P**	**03 21 15.5**	**-2.4**		
YAK				*e**PP	**pP**	**03 21 24.1**	**-0.5**		
YAK				*e*PPP	PPP	03 22 10.7			
YAK				*e*S	**S**	**03 25 49.9**	**-3.3**		
YAK				*e**SS	**sS**	**03 26 04.5**	**0.0**		
YAK				*e*SSS	SSS	03 27 19.9			
YAK				*e*		03 32 07.4			
YAK				pmax	pmax				
	comp=Z,314nm,0.9s								
YAK				pmax	pmax				
	comp=N,38nm,1.1s								
YAK				pmax	pmax				
	comp=E,256nm,1.4s								
YAK				smax	smax				
	comp=N,865nm,2.2s								
YAK				smax	smax				
	comp=E,2µm,4.3s								
YAK				MLR	MLR				
	comp=Z,87µm,15.0s								
YAK				MLR	MLR				
	comp=E,75µm,15.0s								
YAK				MLR	MLR				
	comp=N,49µm,14.0s								
YAK	**Yakutsk**	**26.92**	**310**	P	**P**	**03 21 15.5**	**-2.4**		
YAK				IAmb	IAmb	03 21 32.3			
	comp=Z,754nm,1.1s								
EPYK	**Eagle Plains**	**27.01**	**40**	P	**P**	**03 21 17.8**	**-1.0**		
	baz=261,SNR=53								
EPYK	**Eagle Plains**	**27.01**	**40**	IAmb	IAmb	03 21 29.5			
	comp=Z,518nm,1.1s								
EPYK				IAMs_20	IAMs_20	03 31 59.2			
	comp=Z,113µm,20.0s								
TEY	**Ternei**	**27.23**	**271**	⇑*eP*	**P**	**03 21 23.0**	**+2.2**		
TEY				*e*		03 21 32.5			
TEY				*e*S	**S**	**03 25 58.7**	**+0.4**		
TEY				pmax	pmax				
	comp=N,20nm,1.1s								
TEY				pmax	pmax				
	comp=Z,40nm,2.4s								
TEY				MLR	MLR				
	comp=E,13µm,14.0s								
TEY				MLR	MLR				
	comp=N,34µm,15.0s								
TEY				MLR	MLR				
	comp=Z,34µm,15.0s								
SKAG	**Skagway**	**27.43**	**55**	P	**P**	**03 21 23.0**	**+0.5**		
WHY	**Whitehorse**	**27.56**	**53**	IAMs_20	IAMs_20	03 33 00.3			
	comp=Z,121µm,20.0s								
SIT	**Sitka**	**27.77**	**60**	P	**P**	**03 21 25.3**	**-0.2**		
SIT				pmax	pmax				
	comp=Z,678nm,1.4s								
SIT				MLR	MLR				
	comp=Z,82µm,20.0s								
SIT	**Sitka**	**27.77**	**60**	P	**P**	**03 21 25.3**	**-0.2**		
SIT				IAmb	IAmb	03 21 52.0			
	comp=Z,678nm,1.4s								
SIT				IAMs_20	IAMs_20	03 31 49.6			
	comp=Z,82µm,20.0s								
BESE	**Bessie Mountai**	**27.78**	**57**	IAMs_20	IAMs_20	03 32 02.5			
	comp=Z,143µm,21.0s								
JIS	**Juneau Island**	**28.07**	**58**	P	**P**	**03 21 29.6**	**+1.4**		
JIS				IAmb	IAmb	03 21 37.6			
	comp=Z,652nm,1.4s								
JIS				IAMs_20	IAMs_20	03 32 09.2			
	comp=Z,132µm,20.0s								
KLR	**Kul'dur**	**28.36**	**282**	P	**P**	**03 21 29.1**	**-1.9**		
	comp=Z,21nm,0.6s,baz=59,slow=8.7,SNR=45								
KLR				LR	LR	03 33 22.4			
	comp=Z,65µm,18.5s,baz=71,slow=38								
KLR	**Kul'dur**	**28.36**	**282**	*c iP*	**P**	**03 21 30.2**	**-0.7**		
KLR				pmax	pmax				
	comp=Z,384nm,1.6s								
KLR				MLR	MLR				
	comp=Z,68µm,18.0s								
INK	**Inuvik**	**28.55**	**36**	P	**P**	**03 21 31.7**	**-0.7**		
	comp=Z,27nm,0.7s,baz=246,slow=6.7,SNR=44								
INK				PcP	**PcP**	**03 24 43.1**	**+0.1**		
	comp=Z,18nm,0.9s,baz=326,slow=3.7,SNR=1.6								
INK				LR	LR	03 33 11.0			
	comp=Z,88µm,19.8s,baz=242,slow=37								
INK	**Inuvik**	**28.55**	**36**	P	**P**	**03 21 31.4**	**-1.0**		
INK				IAmb	IAmb	03 21 47.9			
	comp=Z,422nm,1.1s								
INK	**Inuvik**	**28.55**	**36**	IAMs_20	IAMs_20	03 32 51.5			
	comp=Z,104µm,20.0s								
TIXI	**Tiksi**	**28.74**	**331**	P	**P**	**03 21 33.4**	**-0.6**		
	comp=Z,17nm,0.7s,baz=111,slow=11,SNR=17								
TIXI				PcP	**PcP**	**03 24 43.2**	**-0.3**		
	comp=Z,26nm,1.1s,baz=52,slow=0.9,SNR=2.1								
TIXI				ScP	**ScP**	**03 28 23.5**	**+0.4**		
	comp=Z,29nm,1.0s,baz=45,slow=2.3,SNR=9.3								
TIXI				LR	LR	03 33 30.2			
	comp=Z,79µm,19.1s,baz=92,slow=38								
TIXI	**Tiksi**	**28.74**	**331**	*c iP*	**P**	**03 21 33.6**	**-0.4**		
TIXI				MLR	MLR				
	comp=Z,76µm,19.0s								
TIXI	**Tiksi**	**28.74**	**331**	P	**P**	**03 21 32.2**	**-1.8**		
TIXI	**Tiksi**	**28.74**	**331**	ScP	**ScP**	**03 28 22.6**	**-0.5**		
TIXI				IAMs_20	IAMs_20	03 33 09.5			
	comp=Z,78µm,20.0s								
CRAG	**Craig**	**29.31**	**63**	P	**P**	**03 21 39.0**	**-0.2**		
ZEA	**Zeya**	**29.46**	**293**	*eP*	**P**	**03 21 38.2**	**-2.5**		
ZEA				*e*		03 22 46.0			
ZEA				*e*S	**S**	**03 26 31.0**	**-2.4**		
ZEA				pmax	pmax				
	comp=E,3µm,5.0s								
ZEA				pmax	pmax				
	comp=Z,4µm,5.0s								
ZEA				pmax	pmax				
	comp=E,190nm,1.0s								
ZEA				pmax	pmax				
	comp=Z,360nm,1.2s								
ZEA				smax	smax				
	comp=N,12µm,10.0s								
ZEA				MLR	MLR				
	comp=E,80µm,14.0s								
ZEA				MLR	MLR				
	comp=Z,120µm,14.0s								
ZEA				MLR	MLR				
	comp=N,34µm,16.0s								
WRAK	**Wrangell Islan**	**29.51**	**61**	P	**P**	**03 21 39.0**	**-2.0**		
WRAK				IAmb	IAmb	03 21 52.5			
	comp=Z,448nm,1.7s								
DLBC	**Dease Lake**	**30.30**	**57**	P	**P**	**03 21 49.3**	**+1.1**		
	comp=Z,49nm,0.8s,baz=285,slow=9.4,SNR=42								
DLBC	**Dease Lake**	**30.30**	**57**	P	**P**	**03 21 48.1**	**-0.1**		
DLBC				IAMs_20	IAMs_20	03 33 40.2			
	comp=Z,142µm,20.0s								
DIB	**Dawson Inlet,**	**30.32**	**67**	IAMs_20	IAMs_20	03 32 31.7			
	comp=Z,74µm,20.0s								
USA0B	**Ussuriysk Arra**	**30.50**	**273**	P	**P**	**03 21 49.1**	**-0.8**		
USA0B				pmax	pmax				
	comp=Z,58nm,0.8s								
USA0B	**Ussuriysk Arra**	**30.50**	**273**	P	**P**	**03 21 49.1**	**-0.8**		
USA0B				IAMs_20	IAMs_20	03 32 17.8			
	comp=Z,67µm,22.0s								
USRK	**Ussuriysk Ar.**	**30.50**	**273**	P	**P**	**03 21 49.1**	**-0.8**		
	comp=Z,31nm,0.7s,baz=56,slow=7.7,SNR=38								
USRK				PcP	**PcP**	**03 24 49.1**	**+0.7**		
	comp=Z,12nm,0.7s,baz=53,slow=1.5,SNR=4.4								
USRK				LR	LR	03 32 51.3			
	comp=Z,55µm,21.8s,baz=55,slow=34								
USRK	**Ussuriysk Ar.**	**30.50**	**273**	P	**P**	**03 21 48.8**	**-1.1**		
VLA	**Vladivostok**	**31.13**	**271**	*c iP*	**P**	**03 21 55.6**	**+0.1**		
VLA				pmax	pmax				
	comp=Z,466nm,1.6s								
MJAR	**Matsushiro Arr**	**31.22**	**256**	P	**P**	**03 21 57.2**	**+0.8**		
	comp=Z,31nm,1.1s,baz=52,slow=7.1,SNR=21								
MJAR				PcP	**PcP**	**03 24 50.7**	**+0.2**		
	comp=Z,2.7nm,0.6s,baz=89,slow=1.8,SNR=1.8								
MJAR				ScP	**ScP**	**03 28 32.9**	**+1.1**		
	comp=Z,7.8nm,1.1s,baz=49,slow=2.0,SNR=5.2								
MJAR				LR	LR	03 32 21.7			
	comp=Z,38µm,21.6s,baz=65,slow=32								
MJAR	**Matsushiro Arr**	**31.22**	**256**	P	**P**	**03 21 55.9**	**-0.5**		
MAJO	**Matsushiro**	**31.22**	**256**	*c iP*	**P**	**03 21 57.1**	**+0.7**		
MAJO				pmax	pmax				
	comp=Z,190nm,1.0s								
MAJO	**Matsushiro**	**31.22**	**256**	P	**P**	**03 21 57.5**	**+1.2**		
MAJO				IAmb	IAmb	03 22 04.6			
	comp=Z,172nm,1.0s								
MAJO	**Matsushiro**	**31.22**	**256**	IAMs_20	IAMs_20	03 32 44.2			
	comp=Z,67µm,21.0s								
MAT	**Matsushiro**	**31.22**	**256**	P	**P**	**03 21 57.6**	**+1.2**		
MAT				S	**S**	**03 27 06.8**	**+5.6**		
MJB9	**Matsu-Tunnel**	**31.22**	**256**	P	**P**	**03 21 57.3**	**+0.9**		
MJB9				IAmb	IAmb	03 22 04.5			
	comp=Z,176nm,1.0s								
MJB9				IAMs_20	IAMs_20	03 32 44.2			
	comp=Z,69µm,21.0s								
MDJ	**Mudanjiang**	**31.76**	**276**	P	**P**	**03 21 59.8**	**-1.3**		
MDJ				S	S	03 26 58.8	-11		
MDJ				pmax	pmax				
	comp=Z,12nm,1.0s								
MDJ				pmax	pmax				
	comp=Z,2µm,5.2s								
MDJ				LR	LR				
	comp=Z,77µm,15.6s								
MDJ				LR	LR				
	comp=Z,74µm,16.9s								
MDJ				LR	LR				
	comp=Z,85µm,16.1s								
MDJ	**Mudanjiang**	**31.76**	**276**	P	**P**	**03 21 59.5**	**-1.6**		
MSHR	**Mys Shultsa**	**31.87**	**271**	*c iP*	**P**	**03 22 02.5**	**+0.5**		
MSHR				pmax	pmax				
	comp=Z,396nm,1.7s								
MSHR				MLR	MLR				
	comp=Z,30µm,17.0s								
A36M	**Sachs Harbour**	**31.89**	**30**	P	**P**	**03 22 01.4**	**-0.4**		
	baz=263,SNR=49								
INU	**Inuyama**	**32.74**	**255**	P	**P**	**03 22 10.0**	**+0.3**		
H11N2	**WAKE ISLAND Hy**	**33.13**	**197**	T	T	03 57 23.4			
	baz=11,slow=76,SNR=6486								
H11N3	**WAKE ISLAND Hy**	**33.14**	**197**	T	T	03 57 24.2			
	baz=11,slow=76,SNR=7532								
CHJN	**Chongjin**	**33.15**	**271**	P	**P**	**03 22 13.2**	**0.0**		
H11N1	**WAKE ISLAND Hy**	**33.15**	**197**	T	T	03 57 24.8			
	baz=11,slow=76,SNR=7206								
BBB	**Bella Bella**	**33.16**	**67**	P	**P**	**03 22 12.4**	**-0.8**		
BBB				IAMs_20	IAMs_20	03 33 54.9			
	comp=Z,54µm,20.0s								
H11S1	**WAKE ISLAND Hy**	**34.36**	**197**	T	T	03 58 51.9			
	baz=10,slow=76,SNR=5363								
H11S3	**WAKE ISLAND Hy**	**34.38**	**197**	T	T	03 58 53.0			
	baz=10,slow=76,SNR=5425								
H11S2	**WAKE ISLAND Hy**	**34.38**	**197**	T	T	03 58 52.9			
	baz=10,slow=76,SNR=4102								
CN2	**Changchun**	**34.73**	**277**	*eP*	**P**	**03 22 25.5**	**-1.5**		
CN2				*e*S	**S**	**03 27 54.8**	**-0.8**		
CN2				pmax	pmax				
	comp=Z,2µm,6.0s								
CN2				LR	LR				
	comp=Z,68µm,17.0s								
CN2				LR	LR				
	comp=Z,53µm,17.0s								
CN2				LR	LR				
	comp=Z,73µm,18.0s								
HIA	**Hailar**	**35.49**	**289**	*c iP*	**P**	**03 22 31.4**	**-2.0**		
HIA				pmax	pmax				
	comp=Z,210nm,1.6s								
HIA	**Hailar**	**35.49**	**289**	P	**P**	**03 22 31.4**	**-2.0**		
HIA				IAmb	IAmb	03 22 45.2			
	comp=Z,325nm,1.6s								
HIA	**Hailar**	**35.49**	**289**	IAMs_20	IAMs_20	03 37 11.1			
	comp=Z,60µm,20.0s								
KGE	**Kanggye**	**35.60**	**272**	P	**P**	**03 22 35.2**	**+0.7**		
HHU	**Hamhung**	**35.63**	**270**	P	**P**	**03 22 35.3**	**+0.6**		
HHU				S	**S**	**03 28 11.5**	**+2.1**		
OPA	**Opana**	**36.01**	**138**	P	**P**	**03 22 41.0**	**+2.9**		
OPA				pmax	pmax				
	comp=Z,395nm,1.1s								
OPA	**Opana**	**36.01**	**138**	P	**P**	**03 22 41.0**	**+2.9**		
OPA				IAmb	IAmb	03 22 49.7			
	comp=Z,395nm,1.1s								
WOSN	**Wonsan**	**36.16**	**269**	P	**P**	**03 22 41.6**	**+2.4**		
KIP	**Kipapa**	**36.24**	**138**	*d iP*	**P**	**03 22 43.9**	**+3.8**		
KIP				pmax	pmax				
	comp=Z,699nm,1.3s								
KIP	**Kipapa**	**36.24**	**138**	P	**P**	**03 22 43.1**	**+3.1**		
KIP				IAmb	IAmb	03 22 51.7			
	comp=Z,704nm,1.2s								
HON	**Honolulu**	**36.34**	**138**	P	**P**	**03 22 43.3**	**+2.4**		
HON				pmax	pmax				
	comp=Z,564nm,1.0s								
HON	**Honolulu**	**36.34**	**138**	P	**P**	**03 22 43.3**	**+2.4**		
HON				IAmb	IAmb	03 22 55.6			
	comp=Z,564nm,1.0s								
YKA	**Yellowknife Ar**	**36.78**	**46**	P	**P**	**03 22 44.6**	**+0.3**		
	comp=Z,23nm,0.6s,baz=286,slow=8.8,SNR=56								
YKA				PcP	**PcP**	**03 25 06.1**	**+0.2**		
	comp=Z,9.3nm,0.8s,baz=276,slow=3.3,SNR=4.3								
YKA				ScP	**ScP**	**03 28 50.5**	**-0.5**		
	comp=Z,4.6nm,1.0s,baz=278,slow=3.7,SNR=4.4								
YKA				LR	LR	03 38 00.4			
	comp=Z,63µm,21.0s,baz=0.0,slow=37								
YKA				P3KPbc		03 53 14.1			
	comp=Z,0.5nm,0.8s,baz=98,slow=4.5,SNR=3.8								
YKA				PKPPKP		03 55 37.9			
	comp=Z,0.3nm,0.8s,baz=154,slow=3.4,SNR=1.1								
JOHN	**Johnston Islan**	**36.84**	**158**	P	**P**	**03 22 46.3**	**+1.2**		
JOHN				IAmb	IAmb	03 23 01.0			
	comp=Z,362nm,1.0s								
KSRS	**Korea Array**	**36.90**	**266**	P	**P**	**03 22 46.9**	**+1.3**		
	comp=Z,17nm,0.9s,baz=53,slow=8.4,SNR=45								
KSRS				LR	LR	03 39 10.4			
	comp=Z,24µm,18.0s,baz=55,slow=38								
KS19	**Wonju Array Si**	**36.91**	**267**	P	**P**	**03 22 46.7**	**+1.1**		
KSAR	**Wonju Array Be**	**36.94**	**266**	P	**P**	**03 22 45.2**	**-0.7**		
KSAR	**Wonju Array Be**	**36.94**	**266**	P	**P**	**03 22 45.2**	**-0.7**		
SNY	**Shenyang**	**36.97**	**276**	⇑P	**P**	**03 22 46.0**	**-0.1**		
SNY				S	**S**	**03 28 26.9**	**-2.9**		
SNY				pmax	pmax				
	comp=Z,69nm,2.5s								
SNY				pmax	pmax				
	comp=Z,3µm,5.0s								
SNY				LR	LR				
	comp=Z,37µm,16.5s								
SNY				LR	LR				
	comp=Z,35µm,16.9s								
SNY				LR	LR				
	comp=Z,48µm,17.2s								
PYS	**Pyongsong**	**37.07**	**270**	P	**P**	**03 22 47.4**	**+0.4**		
PYAG	**Pyongyang**	**37.25**	**270**	P	**P**	**03 22 49.4**	**+0.9**		
PYAG				S	**S**	**03 28 37.3**	**+3.1**		
LLLB	**Lillooet**	**37.37**	**67**	P	**P**	**03 22 49.2**	**-0.3**	

baz=301
B06A Marblemount 38.58 70 P **P** **03 22 59.2 -0.4**
B06A IAmb_20 IAmb_20 03 35 41.4
comp=Z,47µm,22.0s
KHLU Kahalu`u 38.76 136 P **P** **03 23 02.2 +0.7**
POHA Pohakuloa 38.77 136 P **P** **03 23 02.6 +0.8**
POHA IAmb IAmb 03 23 20.0
comp=Z,297nm,1.0s
F04D Rainier, OR 38.91 74 P **P** **03 23 00.3 -2.2**
baz=302
E04D Cinebar 38.92 73 P **P** **03 23 02.1 -0.5**
baz=301,SNR=20
D05A Enumclaw 38.94 72 P **P** **03 23 02.5 -0.2**
AIN Ainahou 39.14 136 P **P** **03 23 05.4 +0.6**
AIN IAmb IAmb 03 23 16.3
comp=Z,427nm,1.2s
KHU Kahuku 39.19 136 P **P** **03 23 07.4 +2.1**
KHU pmax pmax
comp=Z,429nm,1.1s
KHU Kahuku 39.19 136 P **P** **03 23 07.4 +2.1**
KHU IAmb IAmb 03 23 20.6
comp=Z,429nm,1.1s
C06D Leavenworth 39.21 70 P **P** **03 23 04.7 -0.4**
baz=300
G03D McMinnville, O 39.21 75 P **P** **03 23 04.5 -0.5**
baz=303,SNR=9.5
PUH Pauahi 39.25 136 P **P** **03 23 05.3 -0.3**
PUH IAmb IAmb 03 23 16.5
comp=Z,443nm,1.4s
LON Longmire 39.27 73 P **P** **03 23 04.9 -0.7**
LON pmax pmax
comp=Z,79nm,1.4s
LON MLR MLR
comp=Z,21µm,19.0s
LON Longmire 39.27 73 P **P** **03 23 04.9 -0.7**
F04A Amboy 39.34 74 P **P** **03 23 05.7 -0.3**
I02D Swisshome 39.46 77 P **P** **03 23 06.4 -0.6**
baz=304
COR Corvallis 39.53 76 P **P** **03 23 07.0 -0.6**
COR pmax pmax
comp=Z,317nm,1.5s
COR Corvallis 39.53 76 P **P** **03 23 07.0 -0.6**
COR Corvallis 39.53 76 IAms_20 IAms_20 03 36 46.3
comp=Z,40µm,20.0s
LTY Liberty 39.68 71 P **P** **03 23 08.0 -1.0**
DL2 Dalian 39.89 273 P **P** **03 23 10.5 -0.2**
DL2 PP **PnPn** **03 24 48.8 +3.0**
DL2 S **S** **03 29 12.4 -1.6**
DL2 SS **SS** **03 31 59.5 -11**
DL2 pmax pmax
comp=Z,190nm,1.3s
DL2 pmax pmax
comp=Z,3µm,4.4s
DL2 LR LR
comp=Z,49µm,21.2s
DL2 LR LR
comp=Z,26µm,20.2s
DL2 LR LR
comp=Z,35µm,27.9s
B08A Colville Reser 39.90 69 P **P** **03 23 09.7 -1.1**
H04D Lebanon 39.90 76 P **P** **03 23 11.0 +0.3**
baz=304,SNR=18
F05D White Salmon 39.93 73 P **P** **03 23 10.8 -0.2**
baz=302
J01E Myrtle Point 39.93 79 P **P** **03 23 10.6 -0.4**
baz=305
I03D Drain, OR 39.99 77 P **P** **03 23 11.2 -0.3**
baz=304,SNR=16
RES Resolute Bay 40.30 24 P **P** **03 23 13.5 -0.2**
RES pmax pmax
comp=Z,242nm,1.5s
RES MLR MLR
comp=Z,35µm,20.0s
RES Resolute Bay 40.30 24 P **P** **03 23 13.5 -0.2**
K02D Willamette Mer 40.36 79 P **P** **03 23 14.3 -0.3**
baz=305,SNR=11
G05D Wamic, OR 40.36 74 P **P** **03 23 14.0 -0.5**
baz=303,SNR=22
I04A Tendick Farm, 40.50 77 P **P** **03 23 15.6 -0.2**
baz=304,SNR=42
E07A Sunnyside 40.52 72 P **P** **03 23 14.2 -1.7**
G06A Carlson Farm, 40.77 74 P **P** **03 23 18.0 0.0**
C09A Chrisman Ranch 40.79 69 P **P** **03 23 17.0 -1.2**
HAWA Hanford 40.80 72 P **P** **03 23 17.4 -0.8**
HAWA IAmb IAmb 03 23 27.7
comp=Z,405nm,1.6s
D08A Wollman Farm, 40.80 71 P **P** **03 23 17.6 -0.6**
F07A Phinny Hill Vi 40.83 73 P **P** **03 23 18.0 -0.4**
I05D Terrebonne, OR 40.84 75 P **P** **03 23 18.4 -0.2**
baz=304,SNR=26
KRMB Red Mountain 40.88 81 P **P** **03 23 20.4 +1.3**
J04D Umpqua Nationa 40.99 77 P **P** **03 23 19.4 -0.6**
baz=305,SNR=14
E08A Dider Farm, El 41.02 71 P **P** **03 23 19.1 -0.9**
E08A IAms_20 IAms_20 03 36 56.4
comp=Z,47µm,22.0s
NEW Newport 41.22 68 P **P** **03 23 20.5 -1.1**
baz=301,SNR=78
NEW Newport 41.22 68 P **P** **03 23 20.8 -0.9**
comp=Z,43nm,0.8s,baz=302,slow=7.3,SNR=54
NEW LR LR 03 37 53.1
comp=Z,28µm,21.1s,baz=299,slow=32
NEW Newport 41.22 68 P **P** **03 23 20.6 -1.1**
NEW pmax pmax
comp=Z,116nm,1.1s
NEW MLR MLR
comp=Z,35µm,21.0s
NEW Newport 41.22 68 P **P** **03 23 20.6 -1.1**
KHMM Horse Mountain 41.37 81 P **P** **03 23 22.4 -0.7**
KHMM IAms_20 IAms_20 03 37 21.8
comp=Z,41µm,20.0s
PINE Pine Mountain 41.38 76 P **P** **03 23 22.8 -0.4**
L04D Klamath Falls 41.45 79 P **P** **03 23 23.1 -0.7**
baz=306,SNR=33
J05D Fort Rock, OR 41.49 77 P **P** **03 23 23.4 -0.7**
baz=305,SNR=17
YBH Yreka Blue Hor 41.49 80 P **P** **03 23 24.9 +0.9**
comp=Z,46nm,0.9s,baz=324,slow=4.5,SNR=44
YBH LR LR 03 39 54.3
comp=Z,36µm,18.2s,baz=302,slow=35
YBH Yreka Blue Hor 41.49 80 P **P** **03 23 24.9 +0.9**
YBH pmax pmax
comp=Z,78nm,1.0s
YBH MLR MLR
comp=Z,39µm,19.0s
YBH Yreka Blue Hor 41.49 80 P **P** **03 23 24.9 +0.9**
YBH IAms_20 IAms_20 03 39 34.7
comp=Z,39µm,19.0s
E09A Wood Farm, Sta 41.55 71 P **P** **03 23 23.2 -1.1**
M02C Callahan 41.60 80 P **P** **03 23 24.6 -0.3**
baz=306,SNR=56
N02D Trinity Center 41.94 80 P **P** **03 23 27.5 -0.2**
baz=307,SNR=18
M04C Macdoel 41.99 79 P **P** **03 23 28.3 +0.1**
baz=306,SNR=24
K05A Summer Lake 42.02 77 P **P** **03 23 29.1 +0.7**
K05A IAms_20 IAms_20 03 38 17.3
comp=Z,42µm,21.0s
I07A Izee 42.08 75 P **P** **03 23 28.7 -0.1**
WDC Whiskeytown Da 42.27 81 P **P** **03 23 30.5 +0.2**
WDC pmax pmax
comp=Z,98nm,1.1s
WDC Whiskeytown Da 42.27 81 P **P** **03 23 30.5 +0.2**
O02D Mt. Diablo Mer 42.37 81 P **P** **03 23 31.3 +0.1**
baz=308,SNR=20
F10A Beach Ranch, E 42.37 71 P **P** **03 23 29.1 -2.1**
F10A IAms_20 IAms_20 03 37 49.0
comp=Z,40µm,22.0s
BJI Beijing 42.55 278 P **P** **03 23 32.8 +0.2**
BJI PP **PP** **03 25 11.1 -0.1**
BJI S **S** **03 29 57.8 +4.3**
BJI pmax pmax
comp=Z,87nm,2.0s
BJI LR LR
comp=Z,41µm,15.3s
BJI LR LR
comp=Z,40µm,16.2s
BJT Baijiatuau 42.57 278 P **P** **03 23 32.6 -0.1**
BJT pmax pmax
comp=Z,493nm,1.6s
BJT MLR MLR
comp=Z,38µm,18.0s
BJT Baijiatuau 42.57 278 P **P** **03 23 32.6 -0.1**
BJT IAmb IAmb 03 23 43.2
comp=Z,493nm,1.6s
BJT Baijiatuau 42.57 278 IAms_20 IAms_20 03 42 35.7
comp=Z,38µm,18.0s
WALA Waterton Lakes 42.63 65 P **P** **03 23 32.7 -0.6**
WALA IAmb IAmb 03 23 42.4
comp=Z,594nm,1.6s
WALA IAms_20 IAms_20 03 42 50.1
comp=Z,61µm,18.0s
IRK Irkutsk 42.76 300 *e*P **P** **03 23 32.9 -1.3**
IRK *e* 03 25 23.2
MOD Modoc Plateau 42.85 78 P **P** **03 23 35.2 0.0**
MOD IAms_20 IAms_20 03 38 33.5
comp=Z,38µm,20.0s
O03E Paynes Creek 42.90 81 P **P** **03 23 35.2 -0.3**
baz=308,SNR=46
HOPS Hopland Field 42.91 83 P **P** **03 23 35.4 -0.1**
HOPS IAmb IAmb 03 23 44.5
comp=Z,436nm,1.4s
HOPS IAms_20 IAms_20 03 38 21.8
comp=Z,43µm,20.0s
BMO Blue Mountains 42.95 72 P **P** **03 23 35.0 -0.9**
BMO pmax pmax
comp=Z,154nm,1.4s
BMO Blue Mountains 42.95 72 P **P** **03 23 35.0 -0.9**
J08A Circle Bar Ran 43.10 75 P **P** **03 23 37.0 -0.2**
JTMT Jette 43.11 67 P **P** **03 23 35.9 -1.4**
JTMT IAms_20 IAms_20 03 41 39.1
comp=Z,39µm,19.0s
GDXM Geysers 43.20 83 P **P** **03 23 38.0 0.0**
GDXM IAmb IAmb 03 23 48.0
comp=Z,318nm,1.3s
GDXM IAms_20 IAms_20 03 38 41.3
comp=Z,52µm,20.0s
TLY Talaya 43.38 300 P **P** **03 23 38.3 -0.9**
TLY Talaya 43.38 300*c i*P **P** **03 23 38.0 -1.2**
TLY *e* 03 25 20.9
TLY *e* 03 25 27.7
TLY *e*S **S** **03 30 05.4 -0.2**
TLY *e*SS **ScS** **03 33 31.7 -5.5**
TLY pmax pmax
comp=Z,365nm,1.7s
TLY MLR MLR
comp=Z,121µm,19.0s
TLY Talaya 43.38 300 P **P** **03 23 37.7 -1.5**
TLY IAms_20 IAms_20 03 40 60.0
comp=Z,77µm,20.0s
ULN Ulaanbaatar 43.50 293 P **P** **03 23 39.5 -0.8**
ULN Ulaanbaatar 43.50 293*c i*P **P** **03 23 39.6 -0.8**
ULN pmax pmax
comp=Z,338nm,2.4s
ULN MLR MLR
comp=Z,71µm,18.0s
ULN Ulaanbaatar 43.50 293 P **P** **03 23 39.1 -1.2**
ULN Ulaanbaatar 43.50 293 IAms_20 IAms_20 03 43 06.6
comp=Z,77µm,19.0s
ORV Oroville 43.53 81 P **P** **03 23 40.6 +0.1**
ORV pmax pmax
comp=Z,76nm,1.1s
ORV Oroville 43.53 81 P **P** **03 23 40.6 +0.1**
WVOR Wild Horse Val 43.54 76 P **P** **03 23 40.6 -0.1**
WVOR pmax pmax
comp=Z,113nm,1.2s
WVOR Wild Horse Val 43.54 76 P **P** **03 23 40.6 -0.1**
WVOR IAms_20 IAms_20 03 39 19.6
comp=Z,34µm,20.0s
MCCM Marconi Confer 43.56 84 IAms_20 IAms_20 03 38 38.9
comp=Z,40µm,21.0s
MSO Missoula 43.81 68 P **P** **03 23 41.2 -1.6**
baz=304,SNR=59
MSO Missoula 43.81 68 P **P** **03 23 41.8 -1.0**
SONM Songino Array 43.89 294 P **P** **03 23 43.0 -0.5**
comp=Z,14nm,0.5s,baz=61,slow=8.2,SNR=62
SONM LR LR 03 43 22.2
comp=Z,73µm,18.4s,baz=60,slow=38
SONM Songino Array 43.89 294 P **P** **03 23 41.4 -2.1**
SONM pmax pmax
comp=Z,64nm,0.8s
SONM Songino Array 43.89 294 P **P** **03 23 41.4 -2.1**
ZAK Zakamensk 44.25 298 *e*P **P** **03 23 45.4 -0.9**
ZAK *e* 03 25 30.6
ZAK pmax pmax
comp=Z,95nm,1.6s
ZAK pmax pmax
comp=Z,49nm,1.4s
TIA Tai'an 44.37 273 P **P** **03 23 47.5 +0.2**
TIA S **S** **03 30 22.8 +2.6**
TIA pmax pmax
comp=Z,27nm,1.0s
TIA pmax pmax
comp=Z,3µm,5.1s
TIA LR LR
comp=Z,26µm,19.0s
TIA LR LR
comp=Z,36µm,23.9s
TIA LR LR
comp=Z,20µm,27.4s
MFID Camas Ranch 44.64 73 P **P** **03 23 47.9 -1.6**
PAHR Pah Rah Range 44.73 80 P **P** **03 23 49.5 -0.8**
PAHR IAms_20 IAms_20 03 41 38.3
comp=Z,32µm,19.0s
MOY Mondy 44.80 301 *e*P **P** **03 23 49.8 -0.9**
MOY pmax pmax
comp=Z,53nm,1.8s
HHC Hu-ho-hao-te 44.87 283 *e*P **P** **03 23 51.8 +0.5**
HHC PP **PP** **03 25 40.6 +4.5**
HHC S **S** **03 30 30.3 +2.7**
HHC pmax pmax
comp=Z,34nm,1.4s
HHC pmax pmax
comp=Z,2µm,4.8s
HHC LR LR
comp=Z,50µm,18.6s
HHC LR LR
comp=Z,28µm,18.1s
HHC LR LR
comp=Z,25µm,15.8s
PNTR Pine Nut 44.98 81 P **P** **03 23 52.4 +0.1**
PNTR IAmb IAmb 03 24 01.3
comp=Z,175nm,0.9s
HRY Holter Researc 45.08 67 P **P** **03 23 52.1 -0.8**
CMB Columbia Colle 45.16 82 P **P** **03 23 53.9 +0.3**
CMB pmax pmax
comp=Z,241nm,1.6s
CMB Columbia Colle 45.16 82 P **P** **03 23 53.9 +0.3**
CMB IAmb IAmb 03 24 03.1
comp=Z,241nm,1.6s
CMB IAms_20 IAms_20 03 38 45.1
comp=Z,35µm,22.0s
TULEG Thule 45.22 17 P **P** **03 23 53.1 -0.4**
TULEG IAmb IAmb 03 24 05.8
comp=Z,441nm,1.7s
YERR Yerington 45.26 80 P **P** **03 23 54.3 -0.3**
YERR IAmb IAmb 03 24 04.2
comp=Z,366nm,1.7s
SSE Sheshan 45.28 265 P **P** **03 23 55.8 +1.2**
SSE S **S** **03 30 37.0 +3.5**
SSE pmax pmax
comp=Z,100nm,1.4s
SSE pmax pmax
comp=Z,2µm,5.3s
HLID Hailey 45.39 72 P **P** **03 23 54.3 -1.2**
baz=306,SNR=94
HLID Hailey 45.39 72 P **P** **03 23 54.4 -1.1**
HLID IAms_20 IAms_20 03 39 46.5
comp=Z,35µm,22.0s
DLMT Dillon 45.41 69 P **P** **03 23 54.3 -1.3**
WAKR Walker 45.44 81 P **P** **03 23 55.6 -0.5**
WAKR IAmb IAmb 03 24 17.9
comp=Z,320nm,1.7s
EGMT Eagleton 45.51 64 P **P** **03 23 55.1 -1.3**
baz=304,SNR=35
EGMT Eagleton 45.51 64 P **P** **03 23 55.3 -1.0**
EGMT IAmb IAmb 03 24 17.9
comp=Z,122nm,1.0s
EGMT IAms_20 IAms_20 03 41 59.3
comp=Z,33µm,20.0s
MCMT McKenzie Canyo 45.57 70 P **P** **03 23 55.9 -1.2**
BOZ Bozeman (W) 45.83 68 P **P** **03 23 57.5 -1.4**
baz=306,SNR=84
BOZ Bozeman (W) 45.83 68 P **P** **03 23 57.9 -1.0**
BOZ pmax pmax
comp=Z,332nm,1.6s
BOZ MLR MLR
comp=Z,28µm,18.0s
BOZ Bozeman (W) 45.83 68 P **P** **03 23 57.9 -1.0**
BOZ IAmb IAmb 03 24 06.4
comp=Z,332nm,1.6s
BOZ IAms_20 IAms_20 03 45 15.1
comp=Z,28µm,18.0s
KVN Kaiserville 45.91 80 P **P** **03 23 59.3 -0.5**
KVN pmax pmax
comp=Z,226nm,1.7s
KVN MLR MLR
comp=Z,35µm,19.0s
KVN Kaiserville 45.91 80 P **P** **03 23 59.3 -0.5**
KVN IAmb IAmb 03 24 07.4
comp=Z,226nm,1.7s
KVN IAms_20 IAms_20 03 42 36.8
comp=Z,35µm,19.0s
RYN Ryan 45.92 80 P **P** **03 23 58.2 -1.6**
BTO Baotou 45.95 283 *e*P **P** **03 23 59.3 -0.6**
BTO S **S** **03 30 34.5 -8.6**
FFC Flin Flon 45.98 53 P **P** **03 23 58.9 -0.9**
FFC pmax pmax
comp=Z,756nm,1.8s
FFC MLR MLR
comp=Z,91µm,18.0s
FFC Flin Flon 45.98 53 P **P** **03 23 58.9 -0.9**
PMPB Monarch Peak 46.06 84 P **P** **03 24 00.2 -0.6**
PMPB IAmb IAmb 03 24 15.3
comp=Z,110nm,1.0s
NJ2 Nanjing 46.06 268 *e*P **P** **03 24 00.8 +0.1**
NJ2 pP **pP** **03 24 07.8 -0.1**
NJ2 sP **sP** **03 24 12.8 +2.1**
NJ2 PP **PP** **03 25 53.5 +4.7**
NJ2 S **S** **03 30 42.4 -2.3**
NJ2 sS **pS** **03 30 53.8 +1.0**
NJ2 pmax pmax
comp=Z,170nm,1.8s
NJ2 pmax pmax
comp=Z,2µm,3.5s
NJ2 LR LR
comp=Z,34µm,20.4s
NJ2 LR LR
comp=Z,30µm,21.8s
NJ2 LR LR
comp=Z,34µm,18.0s
GUMO Guam 46.08 226 LR LR 03 39 51.5
comp=Z,28µm,21.7s,baz=40,slow=31
GUMO Guam 46.08 226 IAms_20 IAms_20 03 41 42.5
comp=Z,34µm,20.0s
NVAR Mina Array Bea 46.18 80 P **P** **03 24 02.0 +0.1**
comp=Z,27nm,0.8s,baz=292,slow=7.6,SNR=106
NVAR LR LR 03 42 40.7
comp=Z,20µm,18.3s,baz=298,slow=35
NVAR PKPPKP 03 55 25.3
comp=Z,2.3nm,1.1s,baz=149,slow=3.5,SNR=4.5
NVAR Mina Array Bea 46.18 80 P **P** **03 24 01.1 -0.8**
MDPB Devils Postpil 46.21 82 IAms_20 IAms_20 03 40 20.9
comp=Z,34µm,19.0s
NV11 Mina Array Sit 46.27 80 P **P** **03 24 02.6 +0.1**
NV11 IAmb IAmb 03 24 10.2
comp=Z,252nm,1.9s
OMMB Old Mammoth Mi 46.27 82 P **P** **03 24 03.3 +0.5**
OMMB IAms_20 IAms_20 03 40 24.5
comp=Z,36µm,20.0s
TIY Taiyuan 46.29 278 *e*P **P** **03 24 04.0 +1.4**
TIY pP **sP** **03 24 15.0 +2.5**
TIY PP **PP** **03 25 47.8 -3.4**
TIY S **S** **03 30 50.3 +2.3**
TIY pmax pmax
comp=Z,300nm,1.5s
TIY pmax pmax
comp=Z,4µm,5.3s
TIY LR LR
comp=Z,52µm,15.5s
TIY LR LR
comp=Z,21µm,17.3s
TIY LR LR
comp=Z,30µm,18.1s
QLMT Earthquake Lak 46.39 69 P **P** **03 24 02.6 -0.9**
NOR Nord 46.44 3 *i*P **P** **03 24 03.1 0.0**
comp=Z,35µm,19.0s
NOR Nord 46.44 3 *i*P **P** **03 24 03.1 0.0**
NOR MLR MLR
comp=Z,35µm,19.0s
YHL Hebgen Lake 46.52 69 P **P** **03 24 03.1 -1.5**
YHB Horse Butte 46.57 69 P **P** **03 24 03.5 -1.4**
KRAR Krasnoyarsk 46.59 310 *e*P **P** **03 24 03.8 -0.7**
ELK Elko 46.59 76 P **P** **03 24 04.5 -0.6**
ELK pmax pmax
comp=Z,60nm,1.0s
ELK Elko 46.59 76 P **P** **03 24 04.5 -0.6**
ELK IAms_20 IAms_20 03 41 17.3
comp=Z,40µm,20.0s
YHH Holmes Hill 46.74 69 P **P** **03 24 05.9 -0.5**
YMR Madison River 46.75 69 P **P** **03 24 04.9 -1.4**
GCMT Greycliff 46.84 67 P **P** **03 24 05.7 -1.2**
VOG Valley Oaks Go 46.87 83 P **P** **03 24 06.5 -0.5**
baz=311
TIN Tinemaha, Big 47.10 82 P **P** **03 24 08.8 -0.2**
baz=311,SNR=15
TIN S **S** **03 31 03.6 +3.8**
baz=311
YNE Yellowstone No 47.10 68 P **P** **03 24 08.1 -0.9**
H17A Grant Village 47.14 69 P **P** **03 24 08.4 -0.9**
baz=307
H17A S **S** **03 31 04.5 +4.1**
baz=307
SMMC Simmler 47.15 85 P **P** **03 24 09.3 0.0**
baz=312
SMMC S **S** **03 31 02.0 +1.7**
baz=312
IMW Indian Meadow 47.22 70 P **P** **03 24 09.6 -0.5**
FLWY Flagg Ranch 47.25 69 P **P** **03 24 09.7 -0.5**
FLWY IAmb IAmb 03 24 30.3
comp=Z,257nm,1.6s
FXWY Fox Creek 47.33 70 P **P** **03 24 10.5 -0.3**
VES Vestal, Richgr 47.36 84 P **P** **03 24 10.5 -0.3**
baz=311,SNR=17
VES S **S** **03 31 06.4 +3.2**
baz=311
RLMT Red Lodge 47.46 67 P **P** **03 24 10.9 -0.9**
baz=307,SNR=41
TPAW Teton Pass 47.46 70 P **P** **03 24 10.9 -1.0**
FCC Fort Churchill 47.48 45 P **P** **03 24 11.2 -0.3**
FCC pmax pmax
comp=Z,307nm,1.2s
FCC MLR MLR
comp=Z,70µm,22.0s
FCC Fort Churchill 47.48 45 P **P** **03 24 11.2 -0.3**
FCC IAmb IAmb 03 24 22.8
comp=Z,307nm,1.1s
FCC IAms_20 IAms_20 03 44 40.8
comp=Z,70µm,22.0s
PATS Pohnpei 47.54 205 P **P** **03 24 15.1 +2.7**
PATS IAmb IAmb 03 24 30.8
comp=Z,170nm,1.3s
PKM Mcpherson Peak 47.54 85 P **P** **03 24 12.2 -0.3**
baz=312,SNR=6.2
PKM S **S** **03 31 10.0 +3.8**
baz=312
CWC Cottonwood Cre 47.59 82 P **P** **03 24 12.5 -0.3**
baz=311
CWC S **S** **03 31 08.8 +2.0**
baz=311
SNOW Snow King Moun 47.59 70 P **P** **03 24 11.5 -1.4**
REDW Red Top Meadow 47.59 70 P **P** **03 24 12.3 -0.6**
REDW IAms_20 IAms_20 03 46 09.1
comp=Z,26µm,18.0s
GRAC Grapevine Rang 47.66 81 P **P** **03 24 13.4 +0.1**
baz=311
GRAC S **S** **03 31 10.7 +3.1**
baz=311
AHID Auburn Hatcher 47.81 71 P **P** **03 24 13.9 -0.6**
ISA Isabella, Lake 47.85 83 P **P** **03 24 14.1 -0.7**
baz=312,SNR=12
ISA Isabella, Lake 47.85 83 P **P** **03 24 14.5 -0.3**
ISA pmax pmax
comp=Z,90nm,1.5s
ISA Isabella, Lake 47.85 83 P **P** **03 24 14.5 -0.3**
ISA IAms_20 IAms_20 03 43 01.6
comp=Z,31µm,18.0s
R11A Troy Canyon, C 47.88 79 P **P** **03 24 14.5 -0.7**
baz=310,SNR=81
R11A S **S** **03 31 10.9 -0.1**
baz=310
R11A Troy Canyon, C 47.88 79 P **P** **03 24 14.8 -0.4**
R11A IAms_20 IAms_20 03 43 42.8
comp=Z,35µm,18.0s
SBC Santa Barbara 47.90 86 P **P** **03 24 14.7 -0.3**
baz=312
ARVC Arvin 47.99 84 P **P** **03 24 15.3 -0.4**

baz=312
MPMC Manual Prospec 48.20 82 P **P** 03 24 17.3 -0.4
baz=311,SNR=31
MPMC S **S** 03 31 16.3 +0.8
baz=311
SCZ2 Santa Cruz Isl 48.24 86 P **P** 03 24 16.9 -0.8
baz=313
LAO LASA Array 48.25 64 P **P** 03 24 17.1 -0.6
baz=307,SNR=18
LAO LASA Array 48.25 64 P **P** 03 24 17.0 -0.7
LAO IAmb IAmb 03 24 31.3
comp=Z,161nm,1.1s
LAO IAMs_20 IAMs_20 03 46 44.6
comp=Z,34µm,18.0s
HWUT Hardware Ranch 48.25 73 P **P** 03 24 17.0 -1.0
HWUT IAmb IAmb 03 24 25.1
comp=Z,212nm,1.8s
DGMT Dagmar 48.31 61 P **P** 03 24 17.1 -1.1
baz=306
DGMT Dagmar 48.31 61 P **P** 03 24 16.8 -1.3
DGMT IAmb IAmb 03 24 27.7
comp=Z,132nm,0.9s
DGMT Dagmar 48.31 61 IAMs_20 IAMs_20 03 44 01.0
comp=Z,41µm,20.0s
FURC Furnace Creek, 48.31 81 P **P** 03 24 18.1 -0.1
baz=311,SNR=59
FURC S **S** 03 31 18.6 +1.9
baz=311
TPNV Topopah Spring 48.38 80 P **P** 03 24 18.4 -0.5
baz=311,SNR=115
TPNV Topopah Spring 48.38 80 P **P** 03 24 18.9 0.0
TPNV pmax pmax
comp=Z,186nm,1.1s
TPNV Topopah Spring 48.38 80 P **P** 03 24 18.9 0.0
TPNV IAmb IAmb 03 24 26.5
comp=Z,186nm,1.1s
TPNV IAMs_20 IAMs_20 03 41 59.1
comp=Z,40µm,20.0s
DUG Dugway, Tooele 48.38 75 P **P** 03 24 18.3 -0.6
baz=309,SNR=67
DUG Dugway, Tooele 48.38 75 P **P** 03 24 18.6 -0.3
DUG pmax pmax
comp=Z,216nm,1.2s
DUG Dugway, Tooele 48.38 75 P **P** 03 24 18.6 -0.3
DUG IAmb IAmb 03 24 30.1
comp=Z,216nm,1.2s
DUG IAMs_20 IAMs_20 03 42 15.6
comp=Z,28µm,19.0s
OSI Osito Audit: C 48.39 85 P **P** 03 24 18.6 -0.4
baz=312
OSI S **S** 03 31 18.7 +0.6
baz=312
LRMC Laurel Mtn Rad 48.46 83 P **P** 03 24 18.4 -1.1
baz=312
LRMC S **S** 03 31 19.8 +0.7
baz=312
TCUT Toone Canyon 48.64 73 P **P** 03 24 21.0 -0.1
EDW2 Edwards Air Fo 48.66 84 P **P** 03 24 21.0 -0.1
baz=312,SNR=11
EDW2 S **S** 03 31 22.1 +0.2
baz=312
KULLO Kullorsuaq 48.68 17 *i* P **P** 03 24 20.1 -0.5
comp=Z,29µm,17.0s
KULLO Kullorsuaq 48.68 17 *i* P **P** 03 24 20.1 -0.5
KULLO MLR MLR
comp=Z,29µm,17.0s
BW06 Boulder Array 48.71 70 P **P** 03 24 20.2 -1.3
baz=308,SNR=70
BW06 Boulder Array 48.71 70 P **P** 03 24 20.0 -1.5
BW06 IAmb IAmb 03 24 30.4
comp=Z,123nm,1.1s
PD31 Pinedale Array 48.71 70 P **P** 03 24 20.5 -1.0
PD31 IAmb IAmb 03 24 30.4
comp=Z,115nm,1.1s
PDAR Pinedale Array 48.71 70 P **P** 03 24 20.6 -1.0
comp=Z,32nm,0.9s,baz=316,slow=4.1,SNR=152
PDAR LR LR 03 44 49.6
comp=Z,16µm,20.2s,baz=312,slow=36
PDAR PKPPKP 03 55 22.9
comp=Z,0.7nm,0.9s,baz=146,slow=2.1,SNR=3.4
PDAR Pinedale Array 48.71 70 P **P** 03 24 19.5 -2.0
SNCC San Nicolas Is 48.81 87 P **P** 03 24 20.9 -1.2
baz=313
SNCC S **S** 03 31 26.2 +2.3
baz=313
DECC Green Verdugo 48.87 85 P **P** 03 24 22.2 -0.5
baz=312,SNR=7.3
DECC S **S** 03 31 25.1 +0.4
baz=312
JLU Jordanelle 48.94 74 P **P** 03 24 22.5 -0.9
YOJ Yonaguni jima 48.96 257 IAMs_20 IAMs_20 03 42 55.7
comp=Z,39µm,22.0s
KBS Kingsbay 49.01 356 *c i* P **P** 03 24 22.7 -0.3
KBS pmax pmax
comp=Z,149nm,1.0s
KBS MLR MLR
comp=Z,19µm,17.0s
KBS Kingsbay 49.01 356 *e* P **P** 03 24 23.2 +0.2
KBS IVmB_BB 03 24 29.1
comp=Z,2µm,3.4s
KBS *e*PP **PP** 03 26 16.2 0.0
KBS *e*S **S** 03 31 28.0 +2.4
KBS *e*ScS **ScS** 03 34 14.7 +1.8
KBS IVMs_BB IVMs_BB 03 48 27.8
comp=Z,8µm,16.2s
PASC Pasadena Art C 49.02 85 P **P** 03 24 23.2 -0.5
PASC IAmb IAmb 03 24 31.2
comp=Z,165nm,1.4s
SHOC Shoshone, Teco 49.05 82 P **P** 03 24 23.6 -0.3
baz=312,SNR=39
SHOC S **S** 03 31 29.8 +2.6
baz=312
GSC Goldstone, Bar 49.12 83 P **P** 03 24 24.1 -0.4
baz=312,SNR=52
GSC Goldstone, Bar 49.12 83 P **P** 03 24 24.0 -0.6
GSC pmax pmax
comp=Z,118nm,1.1s
GSC Goldstone, Bar 49.12 83 P **P** 03 24 24.0 -0.6
GSC IAmb IAmb 03 24 32.1
comp=Z,118nm,1.1s
FMP Fort Macarthur 49.26 85 P **P** 03 24 24.7 -0.8
baz=313
FMP S **S** 03 31 30.9 +0.9
baz=313
RRX Edison Barstow 49.28 83 P **P** 03 24 25.3 -0.4
baz=312
RRX S **S** 03 31 31.0 +0.5
baz=312
BFSC Mount Baldy Ra 49.30 84 P **P** 03 24 25.3 -0.7
baz=312,SNR=18
BFSC S **S** 03 31 33.3 +2.3
baz=312
SHPR Sheep Range 49.33 80 IAMs_20 IAMs_20 03 42 40.4
comp=Z,27µm,20.0s
CIS Catalina Islan 49.39 86 P **P** 03 24 26.2 -0.4
baz=313
CIS S **S** 03 31 33.4 +1.3
baz=313
TATO Taipei 49.50 259 IAMs_20 IAMs_20 03 44 02.2
comp=Z,40µm,21.0s
SPA0 Spitsbergen Ar 49.52 355 P **P** 03 24 25.7 -1.4
SPA0 Spitsbergen Ar 49.52 355 *e* P **P** 03 24 25.5 -1.5
SPA0 IVmB_BB 03 24 37.8
comp=Z,4µm,4.4s
SPA0 *e*PP **PP** 03 26 20.5 -0.4
SPA0 *e*S **S** 03 31 36.4 +3.6
SPA0 IVMs_BB IVMs_BB 03 50 09.4
comp=Z,9µm,15.7s
TUQ Turquoise Moun 49.57 82 P **P** 03 24 27.6 -0.4
baz=312,SNR=26
TUQ S **S** 03 31 35.9 +1.2
baz=312
SCI2 San Clemente I 49.60 86 P **P** 03 24 27.6 -0.6
baz=313
SCI2 S **S** 03 31 36.4 +1.5
baz=313
HEC Hector,Ludlow 49.72 83 P **P** 03 24 28.8 -0.3
baz=312,SNR=13
HEC S **S** 03 31 36.4 -0.3
baz=312
BBRC Big Bear Solar 49.74 84 P **P** 03 24 28.7 -0.8
baz=313
BBRC S **S** 03 31 38.0 +0.7
baz=313
CCUT Cedar City 49.74 78 P **P** 03 24 29.0 -0.4
YHNB Yeheng 49.79 259 IAMs_20 IAMs_20 03 43 17.7
comp=Z,41µm,21.0s

MSU Marysvale 49.83 76 P **P** 03 24 29.5 -0.6
MSU Marysvale 49.83 76 P **P** 03 24 29.5 -0.6
WHN Wuhan 49.89 270 ⇑P **P** 03 24 30.3 0.0
WHN pP **pP** 03 24 37.9 +0.4
WHN S **S** 03 31 39.3 +0.4
WHN sS **sS** 03 31 53.8 +3.1
WHN pmax pmax
comp=Z,3µm,3.1s
WHN LR LR
comp=Z,65µm,15.2s
WHN LR LR
comp=Z,20µm,14.8s
WHN LR LR
comp=Z,62µm,18.2s
MURC Murrieta 50.01 84 P **P** 03 24 30.7 -0.6
baz=313,SNR=17
MURC S **S** 03 31 41.5 +0.8
baz=313
NACB Ninganchiao 50.03 258 P **P** 03 24 31.2 -0.3
NACB IAMs_20 IAMs_20 03 44 00.0
comp=Z,35µm,22.0s
RDMU Red Mountain 50.07 72 P **P** 03 24 30.9 -1.0
MTPU Mount Pierson 50.13 77 P **P** 03 24 32.3 -0.3
GMRC Granite Mounta 50.16 82 P **P** 03 24 31.7 -0.8
baz=312,SNR=30
GMRC S **S** 03 31 44.6 +1.6
baz=312
LCMT Little Creek M 50.16 78 P **P** 03 24 32.0 -0.6
PKCU Pink Cliffs 50.44 77 P **P** 03 24 34.6 -0.3
PFO Pinyon Flats O 50.46 84 P **P** 03 24 34.3 -0.6
baz=313,SNR=12
PFO S **S** 03 31 45.6 -1.5
baz=313
PFO Pinyon Flats O 50.46 84 *d i* P **P** 03 24 34.2 -0.6
PFO pmax pmax
comp=Z,117nm,1.6s
PFO Pinyon Flats O 50.46 84 IAMs_20 IAMs_20 03 41 23.7
comp=Z,30µm,21.0s
XPFO Pion Flat 50.46 84 IAMs_20 IAMs_20 03 41 13.7
comp=Z,33µm,22.0s
TPFO Pinon Flats 50.46 84 S **S** 03 31 47.0 -0.2
baz=313
BELC Belle Mtn. Jos 50.48 83 P **P** 03 24 34.2 -0.8
baz=313,SNR=23
BELC S **S** 03 31 47.8 +0.3
baz=313
HOPEN Hopen 50.48 352 *e* P **P** 03 24 35.2 +0.9
HOPEN IVmB_BB 03 24 47.4
comp=Z,4µm,3.3s
HOPEN *e*PP **PP** 03 26 29.4 -0.2
HOPEN *e*S **S** 03 31 48.2 +2.1
HOPEN IVMsBB 03 53 09.9
comp=Z,9µm,15.5s
K22A Casper 50.53 68 P **P** 03 24 34.0 -1.3
baz=309,SNR=24
K22A S **S** 03 31 47.4 -0.7
baz=309
K22A Casper 50.53 68 P **P** 03 24 33.6 -1.7
K22A IAMs_20 IAMs_20 03 46 49.7
comp=Z,26µm,19.0s
109C Camp Elliot, M 50.55 85 P **P** 03 24 34.6 -0.7
baz=313,SNR=14
109C S **S** 03 31 49.8 +1.7
baz=313
TARA Tarawa 50.58 185 P **P** 03 24 37.0 +1.4
TARA IAmb IAmb 03 24 47.6
comp=Z,226nm,1.0s
SSLB Suanglung 50.70 258 P **P** 03 24 35.7 -0.9
SSLB IAmb IAmb 03 24 45.8
comp=Z,394nm,1.8s
SSLB IAMs_20 IAMs_20 03 43 58.9
comp=Z,32µm,21.0s
HSPB Hornsund (broa 50.71 355 *e* P **P** 03 24 34.6 -1.4
HSPB *e*pP **pP** 03 24 42.9 0.0
HSPB *e*sP **sP** 03 24 46.4 +0.5
HSPB *e*PP **PP** 03 26 29.8 -1.8
HSPB *e*S **S** 03 31 51.9 +2.6
HSPB *e*SS **SS** 03 35 24.0 +1.0
HSPB *e*L L 03 47 46.9
comp=Z,18µm,18.0s
HSPB Hornsund (broa 50.71 355 *e* P **P** 03 24 35.4 -0.6
HSPB IVmB_BB 03 24 47.4
comp=Z,3µm,3.8s
HSPB *e*PP **PP** 03 26 31.2 -0.4
HSPB *e*S **S** 03 31 54.0 +4.7
HSPB IVMs_BB IVMs_BB 03 51 27.9
comp=Z,8µm,16.6s
RWWY Rawlins 50.74 70 IAMs_20 IAMs_20 03 48 29.4
comp=Z,33µm,19.0s
YULB Yu-li 50.79 258 P **P** 03 24 37.1 -0.2
YULB IAmb IAmb 03 24 52.3
comp=Z,216nm,1.2s
YULB IAMs_20 IAMs_20 03 44 16.3
comp=Z,28µm,21.0s
NEE2 Needles Airpor 50.81 81 P **P** 03 24 36.2 -1.1
baz=312
XAN Xi'an 50.84 277 P **P** 03 24 36.4 -1.2
XAN S **S** 03 31 51.4 -0.9
XAN pmax pmax
comp=Z,140nm,1.9s
XAN pmax pmax
comp=Z,3µm,4.9s
XAN LR LR
comp=Z,55µm,18.4s
XAN LR LR
comp=Z,45µm,16.3s
XAN LR LR
comp=Z,65µm,19.5s
XAN Xi'an 50.84 277 P **P** 03 24 36.6 -1.0
XAN pmax pmax
comp=Z,573nm,2.0s
XAN MLR MLR
comp=Z,51µm,20.0s
XAN Xi'an 50.84 277 P **P** 03 24 36.6 -1.0
XAN IAmb IAmb 03 24 50.6
comp=Z,573nm,2.0s
XAN Xi'an 50.84 277 IAMs_20 IAMs_20 03 45 46.9
comp=Z,51µm,20.0s
IRM Iron Mountain 50.90 82 P **P** 03 24 37.3 -0.7
baz=313,SNR=70
MONP2 Monument Peak 50.97 85 P **P** 03 24 37.9 -0.9
baz=313,SNR=17
MONP2 S **S** 03 31 56.4 +2.1
baz=313
RSSD Black Hills 51.03 65 P **P** 03 24 37.5 -1.6
baz=309
RSSD Black Hills 51.03 65 P **P** 03 24 37.5 -1.6
RSSD pmax pmax
comp=Z,89nm,1.4s
RSSD MLR MLR
comp=Z,28µm,20.0s
RSSD Black Hills 51.03 65 P **P** 03 24 37.5 -1.6
RSSD Black Hills 51.03 65 IAMs_20 IAMs_20 03 46 50.4
comp=Z,28µm,20.0s
W13A Hualapai Mount 51.03 81 P **P** 03 24 38.9 -0.4
BC3 Big Chuckawall 51.04 83 P **P** 03 24 38.2 -1.0
baz=313,SNR=21
DAG Danmarks Havn 51.12 5 *i* P **P** 03 24 37.6 -1.4
comp=Z,26µm,21.0s
DAG Danmarks Havn 51.12 5 *i* P **P** 03 24 37.6 -1.4
DAG MLR MLR
comp=Z,27µm,21.0s
U15A North Rim 51.12 78 P **P** 03 24 39.6 -0.3
U15A IAMs_20 IAMs_20 03 45 57.5
comp=Z,30µm,20.0s
O20A White River Ci 51.13 72 P **P** 03 24 38.8 -1.1
baz=310,SNR=31
O20A White River Ci 51.13 72 P **P** 03 24 39.0 -0.9
MDND Maddock 51.15 59 P **P** 03 24 38.7 -1.0
baz=308,SNR=35
MDND S **S** 03 31 58.5 +2.4
baz=308
MDND Maddock 51.15 59 P **P** 03 24 38.8 -0.9
TPUB Ta-pu 51.27 258 P **P** 03 24 41.1 +0.2
TPUB IAmb IAmb 03 24 48.2
comp=Z,186nm,1.0s
QZH Quanzhou 51.28 261 ⇑ *i* P **P** 03 24 43.9 +3.0
QZH S **S** 03 32 00.9 +2.5
QZH pmax pmax
comp=Z,220nm,1.5s
QZH pmax pmax
comp=Z,4µm,5.1s
QZH LR LR
comp=Z,10µm,15.2s
QZH LR LR
comp=Z,17µm,16.1s

QZH LR LR
comp=Z,21µm,15.2s
SWSC Sam W. Stewart 51.31 84 P **P** 03 24 39.5 -1.6
baz=314
SWSC S **S** 03 32 01.1 +2.4
baz=314
IKP In-Ko-Pah, Jac 51.32 85 P **P** 03 24 41.0 -0.3
baz=314,SNR=14
IKP S **S** 03 31 58.4 -0.6
baz=314
E28A Huff 51.35 61 P **P** 03 24 40.9 -0.4
E28A IAmb IAmb 03 24 48.4
comp=Z,413nm,1.6s
E28A IAMs_20 IAMs_20 03 47 06.3
comp=Z,42µm,18.0s
PDMCI Parker Dam,Lak 51.41 82 P **P** 03 24 41.0 -0.8
baz=313,SNR=41
ZAA0 Zalesovo Array 51.57 311 P **P** 03 24 40.5 -2.2
ZAA0 IAMs_20 IAMs_20 03 47 00.6
comp=Z,28µm,20.0s
ZALV Zalesovo Beam 51.57 311 P **P** 03 24 40.4 -2.4
comp=Z,11nm,0.7s,baz=49,slow=4.7,SNR=17
ZALV PcP **PcP** 03 25 55.7 -0.7
comp=Z,10.0nm,0.8s,baz=74,slow=3.9,SNR=1.4
ZALV LR LR 03 47 11.2
comp=Z,28µm,20.2s,baz=54,slow=37
ZALV Zalesovo Beam 51.57 311 *i* P **P** 03 24 43.5 +0.8
ZALV pmax pmax
comp=Z,11nm,0.7s
ZALV Zalesovo Beam 51.57 311 P **P** 03 24 40.7 -2.1
ULM Lac du Bonnet 51.60 55 P **P** 03 24 42.1 -1.0
comp=Z,54nm,0.9s,baz=307,slow=8.1,SNR=31
ULM LR LR 03 47 18.9
comp=Z,74µm,19.5s,baz=318,slow=37
ULM Lac du Bonnet 51.60 55 P **P** 03 24 41.9 -1.1
ULM pmax pmax
comp=Z,804nm,1.7s
ULM MLR MLR
comp=Z,75µm,20.0s
ULM Lac du Bonnet 51.60 55 P **P** 03 24 41.9 -1.1
PV09 Paradox Valley 51.66 74 P **P** 03 24 42.5 -1.5
PV21 Cone Mtn., Par 51.71 74 IAMs_20 IAMs_20 03 44 24.6
comp=Z,29µm,21.0s
PV23 Carpenter Ridg 51.76 74 IAMs_20 IAMs_20 03 44 16.1
comp=Z,33µm,20.0s
PV10 Paradox Valley 51.80 74 P **P** 03 24 44.1 -0.8
PV10 IAmb IAmb 03 24 55.8
comp=Z,373nm,1.7s
PV10 IAMs_20 IAMs_20 03 44 28.3
comp=Z,32µm,20.0s
PV14 Lion Creek, Pa 51.81 74 IAMs_20 IAMs_20 03 44 28.1
comp=Z,33µm,20.0s
GLA Glamis 51.84 83 P **P** 03 24 44.5 -0.6
baz=314
GLA Glamis 51.84 83 IAMs_20 IAMs_20 03 42 08.4
comp=Z,29µm,21.0s
PV22 Blue Mesa, Par 51.84 74 IAMs_20 IAMs_20 03 44 40.0
comp=Z,27µm,20.0s
PV20 West Nyswonger 51.86 74 IAMs_20 IAMs_20 03 44 28.6
comp=Z,28µm,20.0s
PV04 Paradox Valley 51.87 74 IAMs_20 IAMs_20 03 44 29.7
comp=Z,34µm,21.0s
PV19 Morning Glory 51.87 74 P **P** 03 24 44.6 -0.9
PV19 IAmb IAmb 03 24 53.9
comp=Z,223nm,1.4s
PV19 IAMs_20 IAMs_20 03 44 29.9
comp=Z,27µm,20.0s
PV17 East Wray Mesa 51.91 74 P **P** 03 24 45.2 -0.6
PV17 IAmb IAmb 03 24 52.3
comp=Z,121nm,0.7s
PV17 IAMs_20 IAMs_20 03 44 30.8
comp=Z,33µm,20.0s
PV11 David Mesa, Pa 51.95 74 P **P** 03 24 45.4 -0.7
PV11 IAmb IAmb 03 24 52.7
comp=Z,130nm,0.7s
PV11 IAMs_20 IAMs_20 03 44 31.8
comp=Z,34µm,20.0s
PV05 Paradox Valley 51.95 75 IAMs_20 IAMs_20 03 44 22.9
comp=Z,27µm,20.0s
PV18 Skein Mesa, Pa 51.96 74 IAMs_20 IAMs_20 03 44 32.1
comp=Z,28µm,20.0s
PV12 Saucer Basin, 51.98 74 P **P** 03 24 45.3 -1.0
PV12 IAmb IAmb 03 24 54.6
comp=Z,267nm,1.3s
PV12 IAMs_20 IAMs_20 03 44 32.6
comp=Z,35µm,20.0s
N23A Red Feather La 51.98 70 P **P** 03 24 45.4 -0.9
baz=310,SNR=18
N23A Red Feather La 51.98 70 IAMs_20 IAMs_20 03 47 36.2
comp=Z,26µm,20.0s
PV07 Paradox Valley 51.99 74 IAMs_20 IAMs_20 03 48 25.9
comp=Z,27µm,20.0s
PV03 Paradox Valley 51.99 74 IAMs_20 IAMs_20 03 44 32.9
comp=Z,29µm,20.0s
PHWY Pilot Hill 52.00 69 P **P** 03 24 45.5 -1.0
PHWY IAMs_20 IAMs_20 03 47 28.7
comp=Z,26µm,20.0s
PV13 Radium Mtn., P 52.07 74 IAMs_20 IAMs_20 03 44 36.0
comp=Z,29µm,20.0s
PV02 Paradox Valley 52.09 74 P **P** 03 24 45.9 -1.2
PV02 IAmb IAmb 03 24 56.5
comp=Z,145nm,1.0s
PV02 IAMs_20 IAMs_20 03 44 36.5
comp=Z,27µm,20.0s
PV15 Paradox Valley 52.15 74 P **P** 03 24 47.0 -0.6
PV15 IAMs_20 IAMs_20 03 48 31.2
comp=Z,29µm,20.0s
PV01 Paradox Valley 52.23 74 IAMs_20 IAMs_20 03 44 40.4
comp=Z,29µm,20.0s
WUAZ Wupatki 52.28 79 P **P** 03 24 48.1 -0.4
baz=312,SNR=32
WUAZ Wupatki 52.28 79 P **P** 03 24 48.0 -0.4
WUAZ IAMs_20 IAMs_20 03 43 55.3
comp=Z,36µm,21.0s
LZH Lanzhou 52.56 283 *e* P **P** 03 24 51.0 +0.4
LZH pP pP 03 24 57.9 +0.1
LZH sP sP 03 25 01.3 +0.7
LZH PP **PP** 03 26 46.8 -2.6
LZH S **S** 03 32 19.3 +3.1
LZH pmax pmax
comp=Z,78nm,1.4s
LZH pmax pmax
comp=Z,3µm,5.4s
LZH LR LR
comp=Z,38µm,14.6s
LZH LR LR
comp=Z,37µm,14.1s
LZH LR LR
comp=Z,39µm,14.6s
BBP Basco 52.63 255 *e* P **P** 03 24 54.5 +3.5
GTA Gaotai 52.77 289 ⇑P **P** 03 24 51.9 -0.1
GTA pP sP 03 25 02.3 +0.3
GTA sP pP 03 25 05.3 +6.1
GTA S **S** 03 32 18.6 -0.2
GTA sS sS 03 32 34.8 +4.2
GTA SS **SS** 03 35 56.6 -0.4
GTA pmax pmax
comp=Z,26nm,1.0s
GTA pmax pmax
comp=Z,3µm,5.4s
GTA LR LR
comp=Z,95µm,16.8s
GTA LR LR
comp=Z,99µm,16.8s
GTA LR LR
comp=Z,77µm,14.0s
AGMN Agassiz Nation 52.83 57 P **P** 03 24 51.2 -1.0
baz=310,SNR=34
AGMN Agassiz Nation 52.83 57 P **P** 03 24 51.0 -1.2
AGMN IAmb IAmb 03 24 59.1
comp=Z,408nm,1.4s
MVCO Mesa Verde 52.88 75 P **P** 03 24 52.0 -1.1
baz=312,SNR=25
ISCO Idaho Springs 52.89 71 P **P** 03 24 52.3 -0.8
baz=311,SNR=72
ISCO Idaho Springs 52.89 71 P **P** 03 24 52.0 -1.1
ISCO pmax pmax
comp=Z,72nm,1.2s
ISCO MLR MLR
comp=Z,44µm,18.0s
ISCO Idaho Springs 52.89 71 P **P** 03 24 52.0 -1.1
ISCO IAMs_20 IAMs_20 03 49 33.2
comp=Z,44µm,18.0s
BJO1 Bjornoya 52.89 353 *e* P **P** 03 24 51.7 -0.6
BJO1 IVmB_BB 03 24 59.6
comp=Z,2µm,0.7s
BJO1 *e*S **S** 03 32 22.6 +3.3

BJO1 eScS **ScS** **03 34 43.2 +3.6**
BJO1 IVMs_BB IVMs_BB 03 55 36.3
comp=Z,6µm,16.1s
DGZ Jazzator, Alta 52.96 306 *c* iP **P** **03 24 52.3 -1.0**
DGZ pmax pmax
comp=Z,341nm,2.4s
DGZ MLR MLR
comp=Z,54µm,18.0s
D32A Dogwood Acres, 52.96 59 IAMs_20 IAMs_20 03 47 11.7
comp=Z,51µm,21.0s
ENH Enshi 53.08 273 P **P** **03 24 53.3 -1.0**
ENH IAmb IAmb 03 25 11.6
comp=Z,262nm,1.5s
ENH IAMs_20 IAMs_20 03 49 21.4
comp=Z,39µm,19.0s
SUMG Summit 53.31 13 *i* P **P** **03 24 55.5 -0.4**
comp=Z,59µm,18.0s
SUMG Summit 53.31 13 P **P** **03 24 54.8 -1.1**
SUMG pmax pmax
comp=Z,390nm,1.2s
SUMG MLR MLR
comp=Z,24µm,19.0s
SUMG Summit 53.31 13 P **P** **03 24 54.8 -1.1**
SUMG IAmb IAmb 03 25 08.7
comp=Z,390nm,1.2s
SUMG IAMs_20 IAMs_20 03 49 36.9
comp=Z,24µm,19.0s
S22A 4UR Ranch, Cre 53.52 73 P **P** **03 24 57.2 -0.6**
baz=312,SNR=72
S22A 4UR Ranch, Cre 53.52 73 P **P** **03 24 57.5 -0.3**
W18A Petrified Fore 53.54 78 P **P** **03 24 57.7 -0.1**
baz=313
W18A Petrified Fore 53.54 78 P **P** **03 24 56.9 -1.0**
W18A IAmb IAmb 03 25 06.2
comp=Z,168nm,1.2s
W18A IAMs_20 IAMs_20 03 45 17.5
comp=Z,35µm,20.0s
SUSD Miller 53.64 62 P **P** **03 24 56.6 -1.7**
baz=311,SNR=13
SUSD Miller 53.64 62 P **P** **03 24 56.4 -1.8**
SUSD IAmb IAmb 03 25 08.0
comp=Z,236nm,0.9s
SUSD IAMs_20 IAMs_20 03 48 06.2
comp=Z,49µm,20.0s
Q24A Divide 53.71 71 P **P** **03 24 58.4 -0.8**
baz=312
Q24A Divide 53.71 71 IAMs_20 IAMs_20 03 49 53.0
comp=Z,33µm,19.0s
214A Organ Pipe Nat 53.83 83 P **P** **03 24 59.4 -0.3**
baz=314,SNR=19
214A Organ Pipe Nat 53.83 83 P **P** **03 24 59.6 -0.1**
B35A Bob, Littlefor 53.89 56 P **P** **03 24 58.9 -1.0**
B35A IAmb IAmb 03 25 07.0
comp=Z,442nm,1.5s
ILULI Ilulissat 54.10 19 *i* P **P** **03 25 00.2 -1.0**
comp=Z,27µm,20.0s
ILULI Ilulissat 54.10 19 P **P** **03 24 59.8 -1.4**
ILULI pmax pmax
comp=Z,292nm,1.2s
ILULI MLR MLR
comp=Z,28µm,21.0s
ILULI Ilulissat 54.10 19 P **P** **03 24 59.8 -1.4**
ILULI IAmb IAmb 03 25 10.7
comp=Z,292nm,1.2s
ILULI IAMs_20 IAMs_20 03 49 43.2
comp=Z,28µm,21.0s
F33A 5 Mile Ranch, 54.18 59 P **P** **03 25 00.9 -1.2**
XMAS Kiritimati 54.26 148 P **P** **03 25 03.1 +0.1**
XMAS IAmb IAmb 03 25 21.6
comp=Z,236nm,1.1s
SDCO Great Sand Dun 54.31 73 P **P** **03 25 03.3 -0.2**
SDCO IAmb IAmb 03 25 11.7
comp=Z,169nm,1.4s
TUC Tucson 54.82 81 P **P** **03 25 07.0 0.0**
baz=314
TUC Tucson 54.82 81 P **P** **03 25 06.5 -0.6**
TUC pmax pmax
comp=Z,135nm,1.4s
TUC MLR MLR
comp=Z,18µm,18.0s
TUC Tucson 54.82 81 P **P** **03 25 06.5 -0.6**
K31A O'Neill 54.94 64 P **P** **03 25 06.7 -1.1**
K31A IAmb IAmb 03 25 21.6
comp=Z,150nm,0.9s
K31A IAMs_20 IAMs_20 03 50 28.7
comp=Z,32µm,18.0s
APYP Conner 55.06 253 *e*P P 03 25 15.0 +6.2
KSCO Kaye Shedlock' 55.14 70 P **P** **03 25 08.5 -0.9**
baz=312,SNR=19
KSCO S **S** **03 32 55.7 +4.8**
baz=312
EYMN Ely 55.29 55 P **P** **03 25 09.3 -0.9**
baz=312,SNR=100
EYMN Ely 55.29 55 P **P** **03 25 09.1 -1.1**
T25A Trinidad 55.36 72 P **P** **03 25 10.6 -0.5**
baz=313,SNR=63
T25A S **S** **03 33 01.6 +7.6**
baz=313
T25A Trinidad 55.36 72 P **P** **03 25 11.0 -0.1**
T25A IAmb IAmb 03 25 19.3
comp=Z,285nm,1.4s
T25A IAMs_20 IAMs_20 03 52 32.8
comp=Z,24µm,19.0s
ECSD EROS Data Cent 55.38 62 P **P** **03 25 09.3 -1.6**
baz=312,SNR=49
ECSD EROS Data Cent 55.38 62 P **P** **03 25 09.6 -1.3**
ECSD EROS Data Cent 55.38 62 IAMs_20 IAMs_20 03 49 36.1
comp=Z,44µm,19.0s
CAUP Cauayan 55.43 252 *e*P P 03 25 19.3 +7.9
ABRA Dolores 55.54 254 *e*P P 03 25 19.8 +7.6
F36A Milaca 55.62 58 P **P** **03 25 11.8 -0.8**
F36A IAmb IAmb 03 25 25.8
comp=Z,159nm,1.3s
ANMO Albuquerque 55.63 76 P **P** **03 25 12.8 -0.3**
baz=314
ANMO Albuquerque 55.63 76 *d* iP **P** **03 25 12.2 -0.8**
ANMO pmax pmax
comp=Z,59nm,1.3s
ANMO Albuquerque 55.63 76 P **P** **03 25 12.7 -0.3**
ZSN Zaisan 55.72 305 *i* P **P** **03 25 12.2 -1.1**
comp=Z,346nm,3.1s,baz=305
ZSN *e*PcP **PcP** **03 26 11.5 -0.8**
baz=305
ZSN *e*PP **PP** **03 27 16.7 -0.6**
baz=305
ZSN *e*S **S** **03 32 56.3 -1.9**
baz=305
ZSN LR LR 03 50 30.6
comp=Z,7µm,12.9s,baz=305
ZSN Zaisan 55.72 305 *i* P **P** **03 25 12.1 -1.1**
ZSN *e* 03 26 11.4
ZSN *e* 03 27 16.7
ZSN *e*S **S** **03 32 56.2 -1.9**
ZSN pmax pmax
comp=Z,346nm,3.1s
ZSN MLR MLR
comp=Z,7µm,13.0s
GZH Guangzhou 55.87 264 P **P** **03 25 11.8 -2.8**
GZH S **S** **03 32 55.4 -5.3**
GZH LR LR
comp=Z,18µm,16.8s
GZH LR LR
comp=Z,23µm,15.9s
Y22D IRIS PASSCAL I 55.95 77 P **P** **03 25 14.9 -0.4**
baz=314
Y22D IRIS PASSCAL I 55.95 77 IAMs_20 IAMs_20 03 47 10.1
comp=Z,44µm,20.0s
HKPS Hong Kong Po S 55.98 263 IAMs_20 IAMs_20 03 51 07.2
comp=Z,22µm,19.0s
SEM Semipalatinsk 56.01 310 *i* P **P** **03 25 13.6 -1.9**
comp=Z,216nm,2.3s,baz=310
SEM *e*PP **PP** **03 27 18.6 -1.5**
baz=310
SEM *e*S **S** **03 32 59.5 -2.9**
baz=310
SEM LR LR 03 49 12.6
comp=Z,12µm,17.8s,baz=310
SEM Semipalatinsk 56.01 310 *i* P **P** **03 25 13.6 -1.9**
SEM *e* 03 27 18.5
SEM *e*S **S** **03 32 59.4 -2.9**
SEM pmax pmax
comp=Z,216nm,2.3s
SEM MLR MLR
comp=Z,12µm,18.0s
SFJD Kangerlussuaq 56.05 20 *i* P **P** **03 25 14.0 -1.3**
comp=Z,2µm,18.0s

SFJD Kangerlussuaq 56.05 20 P **P** **03 25 13.7 -1.6**
SFJD pmax pmax
comp=Z,283nm,1.4s
SFJD MLR MLR
comp=Z,9µm,19.0s
SFJD Kangerlussuaq 56.05 20 P **P** **03 25 13.7 -1.6**
SFJD IAmb IAmb 03 25 23.1
comp=Z,283nm,1.4s
BNM Barren Site 56.07 76 P **P** **03 25 16.1 -0.1**
BGNE Belgrade 56.09 65 P **P** **03 25 15.2 -0.8**
baz=312
BGNE S **S** **03 33 04.3 +1.1**
baz=312
BGNE Belgrade 56.09 65 P **P** **03 25 14.8 -1.2**
BGNE IAmb IAmb 03 25 30.4
comp=Z,288nm,1.1s
BGNE IAMs_20 IAMs_20 03 52 41.1
comp=Z,27µm,18.0s
HAMF Hammerfest 56.13 350 *e*P **P** **03 25 15.6 -0.2**
HAMF IVmB_BB 03 25 26.5
comp=Z,2µm,3.7s
HAMF *e*PP **PP** **03 27 20.6 +0.1**
HAMF *e*S **S** **03 33 03.9 +1.0**
HAMF IVMs_BB IVMs_BB 03 57 17.1
comp=Z,10µm,16.7s
CD2 Chengdu 56.16 278 ⇓ *i* P **P** **03 25 17.1 +0.5**
CD2 S **S** **03 33 04.9 +0.4**
CD2 SS **SS** **03 36 50.8 +0.2**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,3µm,10.2s
CD2 LR LR
comp=Z,63µm,19.8s
CD2 LR LR
comp=Z,55µm,15.5s
CD2 LR LR
comp=Z,41µm,15.3s
SPMN Marine on St. 56.43 58 P **P** **03 25 17.7 -0.6**
baz=312,SNR=28
SPMN S **S** **03 33 08.5 +0.9**
baz=312
SPMN Marine on St. 56.43 58 P **P** **03 25 17.4 -0.9**
SPMN IAmb IAmb 03 25 25.6
comp=Z,556nm,1.6s
121A Cookes Peak, D 56.49 79 P **P** **03 25 18.2 -1.0**
baz=315,SNR=16
121A S **S** **03 33 12.2 +3.0**
baz=315
121A Cookes Peak, D 56.49 79 IAMs_20 IAMs_20 03 48 42.7
comp=Z,27µm,19.0s
BALP Baler 56.52 251 *e*P P 03 25 27.5 +8.2
KEV Kevo 56.56 348 P **P** **03 25 17.8 -1.1**
KEV pmax pmax
comp=Z,82nm,0.9s
KEV MLR MLR
comp=Z,23µm,20.0s
KEV Kevo 56.56 348 P **P** **03 25 17.8 -1.1**
KEV IAMs_20 IAMs_20 03 53 35.3
comp=Z,23µm,20.0s
KURK Kurchatov 56.56 311 P **P** **03 25 18.4 -0.7**
KURK S **S** **03 33 05.0 -4.2**
KURK Kurchatov 56.56 311 *c* iP **P** **03 25 17.9 -1.2**
KURK pmax pmax
comp=Z,478nm,1.1s
KURK MLR MLR
comp=Z,34µm,18.0s
KURK Kurchatov 56.56 311 P **P** **03 25 18.0 -1.2**
KURK Kurchatov 56.56 311 IAMs_20 IAMs_20 03 50 07.6
comp=Z,35µm,18.0s
WMQ Urumqi 56.66 300 *e*P **P** **03 25 21.0 +0.9**
WMQ pP pP 03 25 25.3 -2.1
WMQ sP sP 03 25 32.5 +2.3
WMQ S **S** **03 33 11.8 +0.9**
WMQ SS **SS** **03 36 59.6 +1.5**
WMQ pmax pmax
comp=Z,160nm,0.9s
WMQ pmax pmax
comp=Z,2µm,4.5s
WMQ LR LR
comp=Z,100µm,18.1s
WMQ LR LR
comp=Z,42µm,20.7s
WMQ LR LR
comp=Z,64µm,21.1s
WMQ Urumqi 56.66 300 P **P** **03 25 18.9 -1.2**
WMQ pmax pmax
comp=Z,142nm,0.8s
WMQ MLR MLR
comp=Z,101µm,18.0s
WMQ Urumqi 56.66 300 P **P** **03 25 18.9 -1.2**
WMQ IAmb IAmb 03 25 28.2
comp=Z,142nm,0.8s
KURBB Kurchatov Arra 56.67 311 P **P** **03 25 18.6 -1.3**
L34A Svendsen Farm, 56.70 63 P **P** **03 25 19.1 -1.2**
L34A IAmb IAmb 03 25 30.1
comp=Z,302nm,1.0s
L34A IAMs_20 IAMs_20 03 52 31.0
comp=Z,34µm,18.0s
PVCP Virac 56.74 248 *e*P **P** **03 25 24.4 +3.5**
N33A J Bar K, Exete 56.93 65 IAMs_20 IAMs_20 03 53 07.4
comp=Z,30µm,18.0s
CBKS Cedar Bluff 56.94 68 P **P** **03 25 21.4 -0.7**
baz=313,SNR=28
CBKS Cedar Bluff 56.94 68 P **P** **03 25 21.4 -0.7**
CBKS pmax pmax
comp=Z,608nm,1.5s
CBKS MLR MLR
comp=Z,22µm,18.0s
CBKS Cedar Bluff 56.94 68 P **P** **03 25 21.4 -0.7**
CBKS IAMs_20 IAMs_20 03 52 36.1
comp=Z,23µm,18.0s
ARCES ARCESS Array B 56.96 348 P **P** **03 25 20.6 -1.2**
comp=Z,17nm,0.8s,baz=37,slow=9.6,SNR=24
ARCES ScP **ScP** **03 30 14.9 +0.2**
comp=Z,16nm,1.0s,baz=54,slow=1.6,SNR=5.9
ARCES LR LR 03 51 49.5
comp=Z,18µm,18.9s,baz=18,slow=38
ARCES PKP2bc 03 55 27.4
comp=Z,4.1nm,0.8s,baz=182,slow=2.7,SNR=4.7
ARE0 ARCESS Array S 56.96 348 P **P** **03 25 20.2 -1.5**
ARE0 ARCESS Array S 56.96 348 *e*P **P** **03 25 22.8 +1.0**
ARE0 IVmB_BB 03 25 29.5
comp=Z,2µm,2.1s
ARE0 *e*PP **PP** **03 27 28.0 +0.1**
ARE0 *e*S **S** **03 33 16.2 +2.2**
ARE0 *e*ScS **ScS** **03 35 08.7 -0.2**
ARE0 *e*SS **SS** **03 37 05.1 +3.6**
ARE0 IVMs_BB IVMs_BB 03 57 53.4
comp=Z,10µm,15.7s
HSIG 57.03 84 P **P** **03 25 22.1 -0.7**
SCO Scoresbysund 57.07 7 *i* P **P** **03 25 22.0 -0.5**
comp=Z,20µm,17.0s
SCO Scoresbysund 57.07 7 *i* P **P** **03 25 22.0 -0.5**
SCO MLR MLR
comp=Z,20µm,17.0s
LVZ Lovozero 57.11 344 ⇑ *e*P **P** **03 25 23.2 +0.3**
LVZ pmax pmax
comp=Z,311nm,1.1s
LVZ MLR MLR
comp=Z,24µm,19.0s
LVZ Lovozero 57.11 344 IAMs_20 IAMs_20 03 53 55.9
comp=Z,24µm,19.0s
JMIC Jan Mayen 57.25 2 *e*P **P** **03 25 23.8 0.0**
JMIC *e*S **S** **03 33 24.2 +6.5**
JMIC IVMs_BB IVMs_BB 03 57 36.9
comp=Z,4µm,13.4s
CNP Catarman 57.33 246 *e*P **P** **03 25 24.0 -1.0**
D41A Chassel 57.36 54 P **P** **03 25 24.4 -0.4**
MK31 Makanchi Array 57.46 306 P **P** **03 25 24.2 -1.5**
MK31 pmax pmax
comp=Z,58nm,0.9s
MK31 Makanchi Array 57.46 306 P **P** **03 25 24.2 -1.5**
MKAR Makanchi Array 57.46 306 P **P** **03 25 24.1 -1.6**
comp=Z,16nm,0.5s,baz=50,slow=6.7,SNR=111
MKAR LR LR 03 52 10.2
comp=Z,30µm,18.2s,baz=38,slow=38
MKAR PKP2bc 03 55 27.0
comp=Z,2.4nm,1.0s,baz=199,slow=2.6,SNR=6.3
MKAR P4KPbc 04 02 32.9
comp=Z,0.1nm,0.5s,baz=80,slow=1.6,SNR=1.1
MKAR Makanchi Array 57.46 306 P **P** **03 25 23.5 -2.2**
GYA Guiyang 57.53 272 ⇓ P **P** **03 25 27.0 +0.5**
GYA PP **PP** **03 27 33.6 -0.5**
GYA S **S** **03 33 23.5 +0.6**
GYA sS sS 03 33 41.3 +6.5

GYA SS **SS** **03 37 15.4 +2.8**
GYA LR LR
comp=Z,18µm,17.4s
GYA LR LR
comp=Z,7µm,17.8s
GYA LR LR
comp=Z,25µm,20.0s
TRO Tromso 57.59 351 *e*P **P** **03 25 26.6 +0.4**
TRO IVmB_BB 03 25 37.5
comp=Z,2µm,3.9s
TRO *e*S **S** **03 33 25.6 +3.3**
TRO *e*ScS **ScS** **03 35 15.8 +2.4**
TRO *e*SS **SS** **03 37 19.0 +7.6**
TRO IVMs_BB IVMs_BB 03 59 10.7
comp=Z,4µm,16.7s
MAKZ Makanchi 57.60 306 P **P** **03 25 24.3 -2.4**
MAKZ pmax pmax
comp=Z,121nm,1.1s
MAKZ Makanchi 57.60 306 P **P** **03 25 24.2 -2.4**
MAKZ IAmb IAmb 03 25 31.7
comp=Z,120nm,1.1s
MAKZ IAMs_20 IAMs_20 03 48 40.8
comp=Z,38µm,20.0s
APA Apatity 57.62 344 ⇑ *i* P **P** **03 25 29.7 +3.3**
APA *i* PPP PPP 03 28 57.0
APA *i* S **S** **03 33 25.0 +2.3**
APA *i* 03 35 15.0
APA pmax pmax
comp=Z,57nm,1.0s
APA MLR MLR
comp=Z,23µm,18.0s
COWI Conover 57.73 55 P **P** **03 25 26.6 -0.9**
KTK1 Kautokeino 57.73 349 ⇑ *i* P **P** **03 25 26.2 -1.0**
KTK1 *e*S **S** **03 33 27.6 +3.5**
G40A Rib Lake 57.75 56 IAMs_20 IAMs_20 03 49 45.1
comp=Z,54µm,21.0s
R32A Long Quarter, 57.79 68 P **P** **03 25 27.1 -1.0**
R32A IAmb IAmb 03 25 34.7
comp=Z,137nm,1.1s
EPT El Paso 57.80 78 IAMs_20 IAMs_20 03 49 44.3
comp=Z,24µm,18.0s
N35A Tabor 57.85 64 IAMs_20 IAMs_20 03 53 09.6
comp=Z,31µm,18.0s
BOAC Boac 58.18 250 *e*P **P** **03 25 34.9 +3.9**
K38A Parkersburg 58.19 60 P **P** **03 25 30.1 -0.8**
K38A IAmb IAmb 03 25 37.6
comp=Z,426nm,1.4s
TGY Tagaytay City 58.20 251 LR LR 03 48 03.6
comp=Z,12µm,21.3s,baz=24,slow=33
SCIA State Center 58.46 61 P **P** **03 25 32.1 -0.6**
baz=314,SNR=32
SCIA State Center 58.46 61 P **P** **03 25 32.2 -0.5**
SCIA IAMs_20 IAMs_20 03 52 18.5
comp=Z,39µm,19.0s
I40A Norwalk 58.48 58 P **P** **03 25 32.0 -0.8**
MSTX Muleshoe 58.50 74 P **P** **03 25 32.0 -1.2**
baz=315
MSTX Muleshoe 58.50 74 P **P** **03 25 32.5 -0.7**
MSTX IAmb IAmb 03 25 41.0
comp=Z,336nm,1.5s
MSTX IAMs_20 IAMs_20 03 54 50.3
comp=Z,19µm,18.0s
AMTX Amarillo 58.51 72 P **P** **03 25 32.2 -1.1**
baz=315
KSU1 Kansas State U 58.52 66 P **P** **03 25 31.4 -1.8**
baz=314,SNR=9.2
KSU1 Kansas State U 58.52 66 IAMs_20 IAMs_20 03 51 17.6
comp=Z,36µm,20.0s
MNTX Cornudas Mount 58.53 78 P **P** **03 25 33.0 -0.3**
baz=315,SNR=158
BVA0 Borovoye Array 58.59 317 P **P** **03 25 32.6 -0.9**
BVAR Borovoye Array 58.59 317 PKP2bc **P'P'bc** **03 55 22.8 -5.3**
comp=Z,1.0nm,0.5s,baz=193,slow=4.4,SNR=4.8
E43A Lone Tree Farm 58.61 54 P **P** **03 25 33.2 -0.5**
BRVK Borovoye 58.61 317 P **P** **03 25 33.0 -0.6**
BRVK S **S** **03 33 35.0 -1.1**
BRVK Borovoye 58.61 317 *c* iP **P** **03 25 32.8 -0.8**
BRVK pmax pmax
comp=Z,597nm,2.5s
BRVK MLR MLR
comp=Z,62µm,16.0s
BRVK Borovoye 58.61 317 P **P** **03 25 32.3 -1.3**
BRVK IAmb IAmb 03 25 40.1
comp=Z,154nm,0.8s
OTRP Odiongan 58.96 249 *e*P **P** **03 25 38.0 +1.6**
U32A Winter Ranch, 59.04 69 P **P** **03 25 35.4 -1.4**
U32A IAmb IAmb 03 25 43.5
comp=Z,109nm,0.9s
MSLP Maasin 59.15 245 *e*P P 03 25 45.5 +7.8
RCP Roxas 59.19 247 ⇑ *e*P **P** **03 25 38.8 +0.8**
N38A Joes South For 59.22 62 P **P** **03 25 36.7 -1.3**
N38A IAMs_20 IAMs_20 03 52 06.7
comp=Z,41µm,19.0s
N2VI Vinje 59.29 353 *e*P **P** **03 25 38.3 +0.3**
N2VI *e*pP **sP** **03 25 46.7 -1.4**
JFWS Jewell Farm 59.35 59 P **P** **03 25 37.5 -1.3**
baz=314,SNR=37
JFWS Jewell Farm 59.35 59 P **P** **03 25 37.7 -1.2**
JFWS pmax pmax
comp=Z,118nm,0.9s
JFWS MLR MLR
comp=Z,67µm,19.0s
JFWS Jewell Farm 59.35 59 P **P** **03 25 37.7 -1.2**
JFWS IAmb IAmb 03 25 47.9
comp=Z,118nm,0.9s
I42A Draeger Farm, 59.37 57 P **P** **03 25 38.2 -0.8**
L40A Anamosa 59.43 60 P **P** **03 25 37.6 -1.8**
L40A IAmb IAmb 03 25 46.8
comp=Z,121nm,0.9s
N2IH Innhavet 59.49 352 *e*P **P** **03 25 40.5 +1.1**
N2IH *e*pP **sP** **03 25 48.9 -0.5**
LOF Lofoten 59.53 353 *e*P **P** **03 25 38.6 -1.0**
LOF IVmB_BB 03 25 49.3
comp=Z,2µm,2.1s
LOF *e*S **S** **03 33 48.2 +0.8**
LOF IVMs_BB IVMs_BB 03 50 38.9
comp=Z,3µm,20.4s
SVE Sverdlovsk 59.54 325 *d* *e*P **P** **03 25 40.2 +0.3**
SVE *e*S **S** **03 33 47.9 0.0**
SVE pmax pmax
comp=Z,301nm,1.5s
SVE MLR MLR
comp=E,27µm,15.0s
SVE MLR MLR
comp=N,31µm,17.0s
SVE MLR MLR
comp=Z,58µm,17.0s
H43A Windswept, Lux 59.55 56 P **P** **03 25 39.4 -0.8**
H43A IAMs_20 IAMs_20 03 51 21.6
comp=Z,47µm,21.0s
STEI Steigen 59.59 352 *e*P **P** **03 25 40.6 +0.5**
STEI IVmB_BB 03 25 51.6
comp=Z,2µm,2.9s
STEI *e*S **S** **03 33 51.7 +3.6**
STEI *e*SS **SS** **03 37 49.8 +7.1**
STEI IVMs_BB IVMs_BB 03 59 43.4
comp=Z,5µm,16.9s
D46A Sault St. Mari 59.71 52 P **P** **03 25 40.3 -0.9**
baz=315,SNR=89
RABL Rabaul 59.78 209 IAMs_20 IAMs_20 03 48 39.1
comp=Z,30µm,20.0s
BRZS Berezniki 59.79 314 *i* P **P** **03 25 40.7 -1.2**
comp=Z,220nm,1.8s,baz=314
BRZS *e*PP **PP** **03 27 52.5 -0.9**
baz=314
BRZS *e*S **S** **03 33 49.5 -2.0**
baz=314
BRZS LR LR 03 52 02.0
comp=Z,12µm,15.0s,baz=314
BRZS Berezniki 59.79 314 *i* P **P** **03 25 40.6 -1.2**
BRZS *e* 03 27 52.5
BRZS *e*S **S** **03 33 49.5 -2.0**
BRZS pmax pmax
comp=Z,220nm,1.8s
BRZS MLR MLR
comp=Z,12µm,15.0s
TMCR Tamitsa 59.80 340 *e*P **P** **03 25 41.0 -0.6**
TMCR pmax pmax
comp=Z,298nm,1.2s
N2SV S,rvŸgen 59.80 353 *e*P **P** **03 25 42.0 +0.5**
N2SV *e*pP **sP** **03 25 50.6 -1.0**
N2SV *e*sP **pP** **03 25 54.7 +6.2**
F45A CMU Biological 59.83 53 P **P** **03 25 41.6 -0.5**
baz=315,SNR=76
F45A S **S** **03 33 51.0 -1.0**

baz=315
P38A Dawn 59.87 63 P P 03 25 41.0 -1.5
P38A IAmb IAmb 03 25 48.7
comp=Z,269nm,1.4s
P38A IAMs_20 IAMs_20 03 52 01.1
comp=Z,35µm,20.0s
E46A Sault Ste Mari 59.95 52 P P 03 25 41.3 -1.6
N2TV TVrnvik 59.95 352 *e*P **P 03 25 43.1 +0.5**
N2TV *e*pP **sP 03 25 51.3 -1.3**
GUIM Jordan 60.03 247 *e*P **P 03 25 46.0 +2.2**
D47A Chapleau 60.04 51 P **P 03 25 42.8 -0.8**
baz=316,SNR=84
D47A S **S 03 33 54.4 -0.3**
baz=316
N2VA Vr_y 60.05 353 *e*P **P 03 25 43.5 +0.2**
N2VA *e*pP **sP 03 25 52.3 -1.0**
T35A Sooner Cattle 60.09 67 P **P 03 25 42.7 -1.4**
T35A IAmb IAmb 03 25 51.1
comp=Z,171nm,1.3s
T35A IAMs_20 IAMs_20 03 54 02.5
comp=Z,24µm,19.0s
FAUS Fauske 60.12 352 *e*P **P 03 25 45.5 +1.8**
FAUS IVmB_BB 03 25 53.6
comp=Z,3µm,2.0s
FAUS *e*S **S 03 33 54.4 -0.6**
FAUS IVMs_BB IVMs_BB 04 03 46.1
comp=Z,5µm,14.4s
N2ST Straumen 60.12 352 *e*P **P 03 25 44.1 +0.4**
N2ST *e*pP **pP 03 25 52.2 +1.5**
NBB08 Skaug oppvekst 60.17 352 *e*P **P 03 25 44.5 +0.4**
G45A Suttons Bay 60.22 54 P **P 03 25 44.1 -0.7**
baz=315,SNR=25
G45A S **S 03 33 57.2 +0.2**
baz=315
G45A Suttons Bay 60.22 54 P **P 03 25 44.6 -0.2**
N2RO R_st 60.24 353 *e*P **P 03 25 45.3 +0.8**
BUSP Coron 60.30 250 *e*P **P 03 25 46.4 +0.8**
WMOK Wichita Mounta 60.31 71 P **P 03 25 44.9 -0.7**
baz=315,SNR=50
WMOK Wichita Mounta 60.31 71 P **P 03 25 44.4 -1.2**
WMOK pmax pmax
comp=Z,162nm,1.5s
WMOK MLR MLR
comp=Z,17µm,18.0s
WMOK Wichita Mounta 60.31 71 P **P 03 25 44.4 -1.2**
WMOK IAmb IAmb 03 25 52.9
comp=Z,162nm,1.4s
H45A Beulah 60.32 55 P **P 03 25 44.7 -0.8**
baz=315,SNR=18
H45A S **S 03 34 00.7 +2.4**
baz=315
G46A Petoskey 60.42 53 P **P 03 25 45.6 -0.5**
baz=316,SNR=30
G46A S **S 03 33 58.5 -1.0**
baz=316
NBB05 Inndyr 60.56 352 *e*P **P 03 25 46.9 +0.1**
NBB05 *e*pP **sP 03 25 55.9 -0.9**
D48A Paudash Townsh 60.57 50 P **P 03 25 46.2 -1.0**
baz=316,SNR=22
D48A S **S 03 34 00.2 -1.4**
baz=316
ARU Arti 60.58 326 LR LR 03 54 47.1
comp=Z,58µm,18.2s,baz=47,slow=39
ARU PKP2bc **P'P'bc 03 55 19.5 -4.2**
comp=Z,1.0nm,0.4s,baz=206,slow=4.7,SNR=7.0
ARU Arti 60.58 326*d i*P **P 03 25 46.7 -0.3**
ARU 03 26 29.5
ARU 03 28 00.9
ARU PPP PPP 03 29 27.6
ARU S **S 03 34 05.0 +3.8**
ARU 03 35 37.2
ARU SS **SS 03 38 01.2 +2.5**
ARU pmax pmax
comp=Z,177nm,1.6s
ARU pmax pmax
comp=Z,840nm,6.2s
ARU smax smax
comp=N,5µm,15.6s
ARU MLR MLR
comp=Z,56µm,18.0s
ARU Arti 60.58 326 P **P 03 25 46.0 -1.0**
I45A Fountain 60.64 55 P **P 03 25 46.8 -0.9**
baz=316,SNR=13
I45A Fountain 60.64 55 P **P 03 25 47.8 +0.2**
CNOP Candoni, Negro 60.65 246 *e*P **P 03 25 50.5 +2.4**
NBB30 Finnes 60.65 352 *e*P **P 03 25 48.0 +0.7**
TDK Taldyqorghan 60.65 306 *e*P **P 03 25 46.1 -1.7**
comp=Z,898nm,3.3s,baz=306
TDK *e*S **S 03 34 01.1 -1.6**
baz=306
TDK LR LR 03 53 48.9
comp=Z,41µm,15.6s,baz=306
TDK Taldyqorghan 60.65 306 *e*P **P 03 25 46.9 -0.9**
TDK *e*S **S 03 34 01.0 -1.6**
TDK pmax pmax
comp=Z,897nm,3.3s
TDK MLR MLR
comp=Z,41µm,16.0s
D49A Beulah Townshi 60.72 50 P **P 03 25 47.3 -0.9**
baz=316,SNR=14
D49A S **S 03 34 03.2 -0.1**
baz=316
CUYO Cuyo Island 60.75 249 *e*P **P 03 25 49.8 +1.0**
P40A Paris 60.75 62 P **P 03 25 46.8 -1.7**
P40A IAmb IAmb 03 25 56.3
comp=Z,304nm,1.2s
P40A IAMs_20 IAMs_20 03 52 53.3
comp=Z,41µm,20.0s
NBB17 Glomfjord BYr 60.79 352 *e*P **P 03 25 49.1 +0.8**
H46A Fife Lake 60.80 54 P **P 03 25 48.0 -0.8**
baz=316,SNR=31
H46A S **S 03 34 04.7 +0.2**
baz=316
BUKP Musuan 60.90 243 *e*P **P 03 25 51.5 +1.7**
E48A Lockeyer 60.90 51 P **P 03 25 48.2 -1.2**
baz=316,SNR=67
E48A S **S 03 34 05.9 +0.2**
baz=316
KMI Kunming 60.92 274‖ *e*P **P 03 25 50.8 +0.7**
KMI S **S 03 34 06.5 -0.5**
KMI sS pS 03 34 15.1 -0.7
KMI pmax pmax
comp=Z,97nm,1.4s
KMI pmax pmax
comp=Z,2µm,4.8s
KMI LR LR
comp=Z,26µm,16.1s
KMI LR LR
comp=Z,24µm,15.9s
KMI LR LR
comp=Z,20µm,16.6s
KMI Kunming 60.92 274 P **P 03 25 49.6 -0.6**
KMI pmax pmax
comp=Z,175nm,1.3s
KMI MLR MLR
comp=Z,22µm,18.0s
KMI Kunming 60.92 274 P **P 03 25 49.5 -0.6**
KMI IAmb IAmb 03 26 07.8
comp=Z,175nm,1.3s
KMI Kunming 60.92 274 IAMs_20 IAMs_20 03 54 21.1
comp=Z,22µm,18.0s
X34A Smith Ranch, M 60.96 70 P **P 03 25 49.5 -0.5**
X34A IAmb IAmb 03 25 58.5
comp=Z,427nm,1.6s
X34A IAMs_20 IAMs_20 03 49 34.9
comp=Z,30µm,21.0s
J45A Montague 60.99 56 P **P 03 25 49.1 -1.0**
baz=316,SNR=6.9
J45A S **S 03 34 05.3 -1.5**
baz=316
J45A Montague 60.99 56 IAMs_20 IAMs_20 03 52 16.6
comp=Z,48µm,21.0s
G47A Hillman 61.02 53 P **P 03 25 49.5 -0.7**
baz=316,SNR=36
G47A S **S 03 34 07.5 +0.3**
baz=316
QIZ Qiongzhong 61.06 264 P **P 03 25 50.9 0.0**
QIZ pP **pP 03 25 59.1 +0.9**
QIZ S **S 03 34 09.8 +1.4**
QIZ SS **SS 03 38 11.9 +3.9**
QIZ pmax pmax
comp=Z,39nm,1.8s
QIZ LR LR
comp=Z,16µm,17.7s
QIZ LR LR
comp=Z,17µm,15.2s
QIZ LR LR
comp=Z,25µm,15.7s
QIZ Qiongzhong 61.06 264 IAMs_20 IAMs_20 03 56 05.1
comp=Z,30µm,18.0s
L44A Lake County Fo 61.09 58 P **P 03 25 49.8 -1.0**
baz=316,SNR=42
L44A S **S 03 34 04.8 -3.5**
baz=316
L44A Lake County Fo 61.09 58 P **P 03 25 49.5 -1.2**
I46A Reed City 61.10 55 P **P 03 25 50.0 -0.9**
baz=316,SNR=28
I46A S **S 03 34 08.2 -0.2**
baz=316
F48A Evansville 61.15 52 P **P 03 25 50.5 -0.7**
baz=316,SNR=113
F48A S **S 03 34 07.0 -1.9**
baz=316
NBB40 Tonnes 61.16 353 *e*P **P 03 25 52.4 +1.6**
KONS Konsvik 61.17 353 *e*P **P 03 25 51.5 +0.6**
KONS *e*S **S 03 34 10.6 +2.2**
SCHQ Schefferville 61.17 36 P **P 03 25 50.6 -0.5**
comp=Z,49nm,0.9s,baz=328,slow=6.8,SNR=58
SCHQ LR LR 03 52 49.1
comp=Z,51µm,20.8s,baz=326,slow=37
SCHQ PKP2bc 03 55 15.9
comp=Z,4.2nm,0.9s,baz=151,slow=3.6,SNR=4.1
SCHQ Schefferville 61.17 36 P **P 03 25 50.0 -1.1**
OTUK Ortayu 61.21 312 P **P 03 25 50.8 -0.7**
TUL1 Leonard 61.21 68 P **P 03 25 50.5 -1.2**
baz=316,SNR=41
TUL1 S **S 03 34 10.3 +0.3**
baz=316
TUL1 Leonard 61.21 68 P **P 03 25 50.8 -0.9**
TUL1 IAmb IAmb 03 25 59.2
comp=Z,338nm,1.4s
TUL1 IAMs_20 IAMs_20 03 54 48.2
comp=Z,25µm,20.0s
TX31 Lajitas Ar. Si 61.25 78 P **P 03 25 51.2 -0.9**
TXAR Lajitas Array 61.25 78 P **P 03 25 51.8 -0.4**
comp=Z,14nm,0.7s,baz=301,slow=4.7,SNR=124
TXAR LR LR 03 51 57.9
comp=Z,18µm,18.1s,baz=0.0,slow=36
TXAR PKP2bc 03 55 14.7
comp=Z,0.6nm,0.9s,baz=123,slow=4.6,SNR=4.8
TXAR Lajitas Array 61.25 78 P **P 03 25 51.0 -1.2**
TXAR Lajitas Array 61.25 78 P **P 03 25 51.0 -1.2**
TXAR P'P'bc 03 55 13.4 -5.4
H47A Mio 61.26 54 P **P 03 25 51.1 -0.7**
baz=316,SNR=28
H47A S **S 03 34 09.9 -0.4**
baz=316
PDGK Podgornoye 61.30 304 P **P 03 25 51.0 -1.3**
ABTX Abilene, Hawle 61.30 73 P **P 03 25 51.9 -0.5**
baz=316,SNR=83
ABTX S **S 03 34 11.2 -0.1**
baz=316
ABTX Abilene, Hawle 61.30 73 P **P 03 25 51.6 -0.8**
STOK Stokkvaagen 61.34 353 *e*P **P 03 25 51.9 -0.1**
STOK *e*S **S 03 34 15.6 +4.9**
S39A Bolivar 61.35 65 IAMs_20 IAMs_20 03 55 40.4
comp=Z,26µm,18.0s
MOR8 Moi Rana 61.38 352 *e*P **P 03 25 52.0 -0.3**
MOR8 IVmB_BB 03 25 59.1
comp=Z,2µm,1.9s
MOR8 *e*S **S 03 34 08.4 -2.8**
MOR8 *e*SS **SS 03 38 14.7 +3.8**
MOR8 IVMs_BB IVMs_BB 04 05 24.6
comp=Z,4µm,14.8s
ENPP El Nido 61.38 250 *e*P **P 03 25 55.8 +2.8**
LSQQ Lebel-sur-Quev 61.42 46 P **P 03 25 51.1 -1.8**
baz=318
SHLS Shalkode 61.44 304 *i* P **P 03 25 51.0 -2.3**
comp=Z,293nm,2.3s,baz=304
SHLS *e*S **S 03 34 08.5 -4.4**
baz=304
SHLS LR LR 03 53 23.8
comp=Z,4µm,13.6s,baz=304
SHLS Shalkode 61.44 304 *i* P **P 03 25 50.9 -2.3**
SHLS *e*S **S 03 34 08.4 -4.4**
SHLS pmax pmax
comp=Z,293nm,2.3s
SHLS MLR MLR
comp=Z,4µm,14.0s
F49A Sandfield 61.48 51 P **P 03 25 52.7 -0.7**
baz=317,SNR=100
F49A S **S 03 34 12.7 -0.4**
baz=317
D50A G1974 Best Tow 61.50 49 P **P 03 25 51.8 -1.7**
baz=317,SNR=63
D50A S **S 03 34 11.3 -2.0**
baz=317
R40A Maddies Statio 61.51 64 IAMs_20 IAMs_20 03 53 12.5
comp=Z,32µm,21.0s
HDIL Hopedale 61.52 60 P **P 03 25 52.5 -1.2**
baz=316,SNR=31
HDIL Hopedale 61.52 60 P **P 03 25 52.5 -1.2**
I47A Gladwin 61.52 54 P **P 03 25 52.7 -0.9**
baz=316,SNR=5.7
I47A S **S 03 34 09.6 -4.0**
baz=316
IVI Ivigtut 61.57 23 IAMs_20 IAMs_20 03 57 10.0
comp=Z,22µm,19.0s
M44A Midewin, Midew 61.59 58 P **P 03 25 52.9 -1.2**
KCP Kidapawan 61.60 242‖ *i*P **P 03 25 56.7 +2.1**
KPKS Kokpek 61.61 305 *i* P **P 03 25 53.6 -0.9**
comp=Z,315nm,3.0s,baz=305
KPKS *e*S **S 03 34 13.5 -1.5**
baz=305
KPKS LR LR 03 52 23.2
comp=Z,16µm,16.9s,baz=305
KPKS Kokpek 61.61 305 *i* P **P 03 25 53.5 -0.9**
KPKS *e*S **S 03 34 13.5 -1.5**
KPKS pmax pmax
comp=Z,315nm,3.0s
KPKS MLR MLR
comp=Z,16µm,17.0s
E50A Wahnapitae 61.62 50 P **P 03 25 53.1 -1.2**
baz=317,SNR=28
E50A S **S 03 34 15.0 +0.1**
baz=317
U38A Gravette 61.64 66 IAMs_20 IAMs_20 03 53 14.3
comp=Z,36µm,20.0s
UZB Uzunbulak 61.67 305 *i* P **P 03 25 53.8 -1.1**
comp=Z,187nm,3.0s,baz=304
UZB *e*PcP **PcP 03 26 35.4 -0.7**
baz=304
UZB *e*PP **PP 03 28 09.9 -0.4**
baz=304
UZB *e*S **S 03 34 13.8 -2.0**
baz=304
UZB LR LR 03 52 29.0
comp=Z,8µm,14.6s,baz=304
UZB Uzunbulak 61.67 305 *i* P **P 03 25 53.7 -1.1**
UZB *e* 03 26 35.4
UZB *e* 03 28 09.8
UZB *e*S **S 03 34 13.8 -2.0**
UZB pmax pmax
comp=Z,187nm,3.0s
UZB MLR MLR
comp=Z,8µm,15.0s
KIRV Kirov 61.76 332 LR LR 03 55 08.0
comp=Z,31µm,19.9s,baz=28,slow=38
KIRV Kirov 61.76 332 P **P 03 25 54.6 -0.4**
HPIG 61.76 82 P **P 03 25 55.4 -0.4**
HPIG IAMs_20 IAMs_20 03 53 53.7
comp=Z,18µm,18.0s
D51A Lot 18 Range I 61.78 49 P **P 03 25 54.0 -1.4**
baz=317,SNR=54
D51A S **S 03 34 16.7 -0.1**
baz=317
PAGZ Pagadian 61.85 244 *e*P **P 03 26 00.1 +3.9**
VLDQ Val d'Or 61.91 47 P **P 03 25 53.8 -2.4**
VLDQ IAmb IAmb 03 26 01.2
comp=Z,234nm,1.1s
CHGQ Chibougamau 61.92 44 P **P 03 25 54.5 -1.8**
baz=319,SNR=67
HHAR Hobbs 62.00 66 IAMs_20 IAMs_20 03 53 34.9
comp=Z,37µm,20.0s
DDMP Don Marcelino, 62.01 241 *e*P **P 03 25 58.6 +1.3**
SATY Saty 62.04 305 *i* P **P 03 25 56.8 -0.6**
comp=Z,221nm,3.0s,baz=305
SATY *e*S **S 03 34 19.1 -1.6**
baz=305
SATY LR LR 03 52 37.6
comp=Z,6µm,15.6s,baz=305
SATY Saty 62.04 305 *i* P **P 03 25 56.8 -0.6**
SATY *e*S **S 03 34 19.0 -1.6**
SATY pmax pmax
comp=Z,221nm,3.0s
SATY MLR MLR
comp=Z,6µm,16.0s
L46A Eue Claire 62.05 57 IAMs_20 IAMs_20 03 52 17.0
comp=Z,49µm,21.0s
E51A G1948 Merrick 62.13 49 P **P 03 25 56.3 -1.5**
baz=318,SNR=47
E51A S **S 03 34 18.4 -2.9**
baz=318
CHKK Chushkaly 62.18 306 *e*P **P 03 25 56.5 -1.6**
baz=306
CHKK Chushkaly 62.18 306 *e*P **P 03 25 56.5 -1.6**
CCM Cathedral Cave 62.24 63 P **P 03 25 56.7 -1.8**
baz=316
CCM Cathedral Cave 62.24 63 P **P 03 25 56.3 -2.3**
CCM pmax pmax
comp=Z,251nm,1.6s
CCM MLR MLR
comp=Z,32µm,21.0s
CCM Cathedral Cave 62.24 63 P **P 03 25 56.3 -2.3**
CCM IAmb IAmb 03 26 04.6
comp=Z,251nm,1.6s
CCM Cathedral Cave 62.24 63 IAMs_20 IAMs_20 03 53 41.8
comp=Z,32µm,21.0s
NRS Narsarsuaq 62.26 22 *i* P **P 03 25 57.7 -0.6**
comp=Z,36µm,18.0s
NRS Narsarsuaq 62.26 22 *i* P **P 03 25 57.7 -0.6**
NRS MLR MLR
comp=Z,36µm,18.0s
NRS Narsarsuaq 62.26 22 IAMs_20 IAMs_20 03 54 48.0
comp=Z,24µm,20.0s
JAY Jayapura 62.30 222 LR LR 03 49 02.3
comp=Z,24µm,21.2s,baz=21,slow=32
SKMP Bagumbayan, Su 62.31 243 *e*P **P 03 26 03.1 +3.8**
D52A ZEK Kipawa Sen 62.31 48 P **P 03 25 57.3 -1.6**
baz=318,SNR=41
D52A S **S 03 34 19.5 -4.0**
baz=318
F51A Arnstein 62.38 50 P **P 03 25 58.0 -1.4**
baz=318,SNR=21
F51A S **S 03 34 22.8 -1.5**
baz=318
X37A Clayton 62.39 68 IAMs_20 IAMs_20 03 56 04.6
comp=Z,28µm,21.0s
J48A Bridge Port 62.41 54 P **P 03 25 59.2 -0.4**
baz=317,SNR=11
J48A S **S 03 34 23.2 -1.6**
baz=317
KLMR Klimovskoe 62.41 338 *e*P **P 03 25 57.9 -1.4**
KLMR *e*S **S 03 34 21.9 -2.3**
KLMR pmax pmax
comp=Z,374nm,1.2s
KLMR MLR MLR
comp=Z,24µm,17.0s
KLMR Klimovskoe 62.41 338 *e*P **P 03 25 57.9 -1.4**
KLMR AMP 03 26 11.5
comp=Z,374nm,1.2s
KLMR *e*S **S 03 34 22.0 -2.3**
KLMR *e*S **S 03 34 22.0 -2.3**
KLMR LQ LQ 03 46 36.4
KLMR LQ LQ 03 46 36.4
KLMR LR LR 03 52 58.4
KLMR AMP 03 58 23.1
comp=Z,24µm,17.1s
I49A Point Hope 62.42 53 P **P 03 25 59.2 -0.5**
baz=317,SNR=18
I49A S **S 03 34 23.3 -1.7**
baz=317
I49A Point Hope 62.42 53 P **P 03 25 59.7 0.0**
KUU Kurty 62.48 307 *e*P **P 03 25 58.4 -1.8**
comp=Z,365nm,2.7s,baz=307
KUU *e*S **S 03 34 23.4 -2.4**
baz=307
KUU LR LR 03 54 50.5
comp=Z,21µm,14.7s,baz=307
KUU Kurty 62.48 307 *e*P **P 03 25 58.3 -1.8**
KUU *e*S **S 03 34 23.4 -2.4**
KUU pmax pmax
comp=Z,365nm,2.7s
KUU MLR MLR
comp=Z,21µm,15.0s
D53A Lac Vacive, Po 62.56 48 P **P 03 25 58.8 -1.7**
baz=318,SNR=82
D53A S **S 03 34 24.7 -2.0**
baz=318
U40A Yellville 62.56 65 P **P 03 25 58.7 -2.1**
baz=316,SNR=47
U40A S **S 03 34 23.5 -3.6**
baz=316
U40A Yellville 62.56 65 P **P 03 25 58.6 -2.1**
U40A IAmb IAmb 03 26 07.4
comp=Z,248nm,1.4s
U40A IAMs_20 IAMs_20 03 55 32.6
comp=Z,27µm,19.0s
MDOK Medeo 62.65 306 *i* P **P 03 26 00.5 -1.0**
comp=Z,2µm,3.3s,baz=306
MDOK *e*S **S 03 34 26.4 -1.9**
baz=306
MDOK LR LR 03 54 29.3
comp=Z,27µm,14.7s,baz=306
MDOK Medeo 62.65 306 *i* P **P 03 26 00.5 -1.0**
MDOK *e*S **S 03 34 26.4 -1.9**
MDOK pmax pmax
comp=Z,2µm,3.3s
MDOK MLR MLR
comp=Z,27µm,15.0s
J49A Marlette 62.68 54 P **P 03 26 00.7 -0.8**
baz=317,SNR=36
J49A S **S 03 34 27.2 -1.2**
baz=317
AAA Alma-Ata 62.69 306 *i* P **P 03 26 01.1 -0.5**
comp=Z,485nm,3.5s,baz=306
AAA *e*S **S 03 34 27.1 -1.4**
baz=306
AAA LR LR 03 54 42.8
comp=Z,18µm,14.7s,baz=306
AAA Alma-Ata 62.69 306 *i* P **P 03 26 01.1 -0.5**
AAA *e*S **S 03 34 27.1 -1.4**
AAA pmax pmax
comp=Z,485nm,3.5s
AAA MLR MLR
comp=Z,18µm,15.0s
E52A Mattawa 62.70 49 P **P 03 26 00.1 -1.4**
baz=318,SNR=73
E52A S **S 03 34 28.5 0.0**
baz=318
JCT Junction City 62.75 75 P **P 03 26 01.1 -1.0**
baz=317,SNR=15
JCT Junction City 62.75 75 P **P 03 26 00.5 -1.6**
JCT pmax pmax
comp=Z,253nm,1.4s
JCT Junction City 62.75 75 P **P 03 26 00.5 -1.6**
JCT IAmb IAmb 03 26 09.6
comp=Z,253nm,1.4s
JCT IAMs_20 IAMs_20 03 51 00.8
comp=Z,26µm,21.0s
F52A Sundridge 62.75 50 P **P 03 26 00.5 -1.4**
baz=318,SNR=38
F52A S **S 03 34 27.5 -1.7**
baz=318
BTLS Baital 62.76 309 *i* P **P 03 26 00.9 -1.0**
comp=Z,128nm,2.5s,baz=309
BTLS *e*S **S 03 34 27.4 -1.8**
baz=309
BTLS LR LR 03 53 07.5
comp=Z,8µm,15.7s,baz=309
BTLS Baital 62.76 309 *i* P **P 03 26 00.9 -1.0**
BTLS *e*S **S 03 34 27.4 -1.8**
BTLS pmax pmax
comp=Z,129nm,2.5s
BTLS MLR MLR
comp=Z,8µm,16.0s
TNSS Tian-Shan 62.80 306 *e*P **P 03 26 02.8 +0.1**
baz=306
TNSS Tian-Shan 62.80 306 *e*P **P 03 26 02.8 +0.1**
SFIN Lafayette 62.81 59 P **P 03 26 01.4 -0.9**
baz=317,SNR=79
SFIN S **S 03 34 26.2 -3.8**
baz=317
SFIN Lafayette 62.81 59 P **P 03 26 01.4 -0.9**
Q44A Meyer Farm, Va 62.85 61 P **P 03 26 01.0 -1.6**
W39A Magazine 62.87 67 P **P 03 26 01.7 -1.1**
baz=316,SNR=83
HNR Honiara 62.89 199 IAMs_20 IAMs_20 03 50 18.4
comp=Z,20µm,18.0s

K49A Clarkson 62.95 55 P P 03 26 02.8 -0.4
baz=317,SNR=25
K49A S S 03 34 31.0 -0.6
baz=317
D54A Lac Fusel, La 62.98 47 P P 03 26 01.5 -1.9
baz=319,SNR=40
D54A S S 03 34 28.2 -3.8
baz=319
MTBS Maitube 62.99 306 eP P 03 26 03.6 0.0
baz=306
MTBS Maitube 62.99 306 eP P 03 26 03.6 0.0
SLVN Son La 63.00 270 P P 03 26 03.9 0.0
SLVN IAmb IAmb 03 26 22.6
comp=Z,123nm,1.0s
SLVN IAMs_20 IAMs_20 03 54 43.8
comp=Z,19µm,19.0s
WHTX Lake Whitney, 63.05 72 P P 03 26 03.5 -0.6
baz=317,SNR=19
WHTX S S 03 34 32.6 -0.5
baz=317
WHTX Lake Whitney, 63.05 72 P P 03 26 03.5 -0.6
WHTX IAmb IAmb 03 26 12.1
comp=Z,324nm,1.4s
WHTX IAMs_20 IAMs_20 03 50 39.4
comp=Z,27µm,22.0s
E53A Dumoine, Ponti 63.10 48 P P 03 26 02.6 -1.6
baz=318,SNR=52
E53A S S 03 34 33.2 -0.3
baz=318
AAM Ann Arbor 63.20 55 P P 03 26 03.6 -1.3
baz=317
NSS Namsos 63.20 353 eP P 03 26 05.7 +1.1
NSS IVmBBB 03 26 14.6
comp=Z,2µm,2.5s
NSS eS S 03 34 37.8 +3.7
NSS eScS ScS 03 35 56.8 +1.4
NSS eSS SS 03 38 46.1 +6.8
NSS IVMsBB 04 04 14.5
comp=Z,4µm,16.4s
ALGO Algonquin Park 63.23 49 P P 03 26 03.3 -1.8
baz=318,SNR=24
E54A Lac Daplat, Po 63.27 48 P P 03 26 03.4 -1.9
baz=319,SNR=81
E54A S S 03 34 29.5 -6.2
baz=319
FCAR Ozark Folk Cen 63.31 65 IAMs_20 IAMs_20 03 55 54.3
comp=Z,28µm,20.0s
TARG Taragay, Kyrgy 63.31 304 P P 03 26 05.0 -1.3
TARG IAmb IAmb 03 26 30.3
comp=Z,267nm,2.0s
TARG IAMs_20 IAMs_20 03 51 26.1
comp=Z,28µm,21.0s
H52A Wyevale 63.34 51 P P 03 26 05.0 -0.8
baz=318,SNR=29
H52A S S 03 34 35.6 -0.9
baz=318
KDJ Kajisay 63.34 305 P P 03 26 04.5 -1.6
KDJ pmax pmax
comp=Z,212nm,1.5s
KDJ Kajisay 63.34 305 P P 03 26 04.5 -1.6
KDJ IAmb IAmb 03 26 22.8
comp=Z,212nm,1.5s
K50A Casco 63.37 54 P P 03 26 05.0 -1.0
baz=318
K50A S S 03 34 35.2 -1.7
baz=318
K50A Casco 63.37 54 P P 03 26 06.0 0.0
K50A IAmb IAmb 03 26 13.2
comp=Z,342nm,1.5s
I51A Listowel 63.41 52 P P 03 26 06.4 +0.2
baz=318,SNR=45
I51A S S 03 34 36.1 -1.3
baz=318
MIAR Mount Ida 63.45 67 P P 03 26 06.0 -0.7
baz=317,SNR=59
MIAR Mount Ida 63.45 67 P P 03 26 06.0 -0.7
MIAR pmax pmax
comp=Z,512nm,1.5s
MIAR MLR MLR
comp=Z,21µm,19.0s
MIAR Mount Ida 63.45 67 P P 03 26 06.0 -0.7
MIAR IAMs_20 IAMs_20 03 56 21.5
comp=Z,21µm,19.0s
TKM2 Tokmak 2 63.56 306 P P 03 26 06.8 -0.7
SNR=15
TKM2 Tokmak 2 63.56 306 P P 03 26 07.0 -0.5
Z38A Mt. Pleasant 63.57 69 IAMs_20 IAMs_20 03 56 44.0
comp=Z,29µm,20.0s
G53A Haliburton 63.58 50 P P 03 26 06.6 -0.8
baz=318,SNR=99
G53A S S 03 34 37.9 -1.7
baz=318
SADO Sadowa 63.60 50 P P 03 26 06.4 -1.1
PBMO Poplar Bluff 63.61 64 P P 03 26 06.2 -1.5
PBMO IAMs_20 IAMs_20 03 54 36.1
comp=Z,32µm,20.0s
D55A Sainte-Anne-du 63.62 47 P P 03 26 06.1 -1.5
baz=319,SNR=116
D55A S S 03 34 35.8 -4.0
baz=319
I52A Shelburne 63.62 52 P P 03 26 07.3 -0.5
baz=318
G54A Lake Saint Pet 63.63 49 P P 03 26 06.2 -1.6
baz=319,SNR=18
G54A S S 03 34 39.5 -0.6
baz=319
SGDS Sogindy 63.64 307 i P P 03 26 07.5 -0.5
comp=Z,305nm,2.8s,baz=307
SGDS eS S 03 34 39.0 -1.5
baz=307
SGDS LR LR 03 54 10.1
comp=Z,15µm,15.3s,baz=307
SGDS Sogindy 63.64 307 i P P 03 26 07.4 -0.5
SGDS eS S 03 34 39.0 -1.5
SGDS pmax pmax
comp=Z,305nm,2.8s
SGDS MLR MLR
comp=Z,15µm,15.0s
WHAR Wooly Hollow 63.65 66 IAMs_20 IAMs_20 03 54 44.4
comp=Z,32µm,20.0s
BOOM Boomskoye usch 63.70 306 P P 03 26 07.2 -1.3
BOOM pmax pmax
comp=Z,103nm,1.1s
BOOM Boomskoye usch 63.70 306 P P 03 26 07.2 -1.3
BOOM IAmb IAmb 03 26 15.0
comp=Z,103nm,1.1s
BOOM IAMs_20 IAMs_20 03 53 10.1
comp=Z,39µm,19.0s
ULHL Ulahol 63.73 306 P P 03 26 13.4 +4.7
SNR=12
W41B Gary Mavity, V 63.75 66 P P 03 26 07.1 -1.5
baz=317,SNR=33
W41B S S 03 34 39.1 -2.8
baz=317
W41B Gary Mavity, V 63.75 66 P P 03 26 06.7 -2.0
W41B IAmb IAmb 03 26 15.0
comp=Z,256nm,1.4s
W41B IAMs_20 IAMs_20 03 54 48.3
comp=Z,33µm,20.0s
L50A Kingsville 63.81 55 P P 03 26 07.1 -1.9
baz=318
L50A S S 03 34 41.0 -1.4
baz=318
435B Jarrell 63.84 73 P P 03 26 08.9 -0.4
baz=317,SNR=5.5
435B S S 03 34 43.6 +0.4
baz=317
435B Jarrell 63.84 73 IAMs_20 IAMs_20 03 58 38.6
comp=Z,23µm,18.0s
USP Ospenovka 63.84 307 P P 03 26 08.8 -0.4
SNR=16
D56A ZEC Mazanza, M 63.91 46 P P 03 26 07.8 -1.8
baz=320,SNR=56
D56A S S 03 34 38.5 -5.1
baz=320
CHMS Chumysh 63.92 307 P P 03 26 13.0 +3.3
SNR=12
X40A Basin Creek Fa 63.92 67 P P 03 26 08.3 -1.5
baz=317,SNR=24
X40A S S 03 34 40.9 -3.0
baz=317
X40A Basin Creek Fa 63.92 67 IAMs_20 IAMs_20 03 54 46.7
comp=Z,27µm,20.0s
N49A Columbus Grove 63.94 56 P P 03 26 08.1 -1.7
N49A IAMs_20 IAMs_20 03 53 55.8
comp=Z,46µm,21.0s
K51A Iona Station 63.96 53 P P 03 26 09.2 -0.8
baz=318
K51A S S 03 34 41.9 -2.4
baz=318
UALR University of 63.99 66 IAMs_20 IAMs_20 03 54 47.5
comp=Z,34µm,20.0s
BLO Bloomington 63.99 59 P P 03 26 09.6 -0.6
BLO pmax pmax
comp=Z,176nm,1.1s
BLO MLR MLR
comp=Z,66µm,21.0s
BLO Bloomington 63.99 59 P P 03 26 09.6 -0.6
BLO IAmb IAmb 03 26 19.0
comp=Z,176nm,1.1s
237A Washetta, Mont 64.00 71 IAMs_20 IAMs_20 03 51 19.6
comp=Z,23µm,21.0s
H53A Bobcaygeon 64.01 50 P P 03 26 09.1 -1.2
baz=319,SNR=39
H53A S S 03 34 42.1 -2.7
baz=319
KBK Karagaybulak 64.07 307 P P 03 26 10.7 -0.2
SNR=14
I53A Kortright Cn E 64.09 51 P P 03 26 09.7 -1.0
baz=318,SNR=8.1
I53A S S 03 34 45.4 -0.3
baz=318
J52A Paris 64.09 52 P P 03 26 10.2 -0.6
baz=318,SNR=28
J52A S S 03 34 44.8 -1.0
baz=318
F55A Otter Lake 64.11 48 P P 03 26 09.0 -1.8
baz=319,SNR=14
F55A S S 03 34 44.1 -2.0
baz=319
FRU1 Bishkek 64.12 307 IAMs_20 IAMs_20 03 55 08.0
comp=Z,36µm,18.0s
E56A St. Veronique 64.17 47 P P 03 26 09.4 -1.9
baz=320,SNR=56
E56A S S 03 34 41.6 -5.2
baz=320
USIN University of 64.26 61 P P 03 26 10.6 -1.3
BATP Bataraza 64.26 250 eP P 03 26 15.1 +2.9
PVMO Portageville 64.28 63 IAMs_20 IAMs_20 03 54 54.8
comp=Z,34µm,20.0s
PENMO Penman 64.29 63 IAMs_20 IAMs_20 03 54 54.1
comp=Z,33µm,20.0s
AAK Ala-Archa 64.31 307 PKPPKP P'P'df 03 55 02.4 -4.9
comp=Z,1.2nm,0.3s,baz=247,slow=8.5,SNR=4.4
AAK Ala-Archa 64.31 307 P P 03 26 12.2 -0.2
SNR=12
AAK Ala-Archa 64.31 307 i P P 03 26 11.6 -0.8
SNR=46
AAK Ala-Archa 64.31 307 i P P 03 26 11.6 -0.8
SNR=46
AAK Ala-Archa 64.31 307 P P 03 26 12.2 -0.2
AAK Ala-Archa 64.31 307 c i P P 03 26 11.9 -0.6
AAK pmax pmax
comp=Z,220nm,1.5s
AAK MLR MLR
comp=Z,25µm,16.0s
AAK Ala-Archa 64.31 307 P P 03 26 11.4 -1.1
AAK IAmb IAmb 03 26 29.2
comp=Z,310nm,1.6s
AAK Ala-Archa 64.31 307 IAMs_20 IAMs_20 03 55 34.1
comp=Z,28µm,18.0s
K52A Tillsonburg 64.31 53 P P 03 26 11.5 -0.7
baz=318,SNR=9.0
K52A S S 03 34 48.4 -0.2
baz=318
D57A Chemin Vers le 64.32 46 P P 03 26 10.6 -1.7
baz=320,SNR=48
D57A S S 03 34 45.4 -3.3
baz=320
WLAR White Oak Lake 64.34 68 IAMs_20 IAMs_20 03 57 01.0
comp=Z,20µm,18.0s
KZA Kyzart 64.35 306 P P 03 26 16.6 +3.6
SNR=12
P48A Milroy 64.36 58 P P 03 26 11.2 -1.4
HBAR Harrisburg 64.37 65 IAMs_20 IAMs_20 03 54 54.4
comp=Z,20µm,22.0s
PLVO Plevna 64.37 49 P P 03 26 10.9 -1.6
G55A Calabogie 64.38 49 P P 03 26 11.2 -1.4
baz=319,SNR=62
G55A S S 03 34 47.9 -1.4
baz=319
O49A Covington 64.39 57 P P 03 26 11.6 -1.2
GNAR Gosnell 64.43 64 IAMs_20 IAMs_20 03 55 12.8
comp=Z,31µm,21.0s
HICK Hickman 64.44 63 IAMs_20 IAMs_20 03 55 19.1
comp=Z,39µm,21.0s
FIA1 FINESS Array S 64.51 345 P P 03 26 11.8 -1.4
FIA1 IAmb IAmb 03 26 20.2
comp=Z,205nm,0.9s
FINES FINESS Array B 64.51 345 P P 03 26 11.8 -1.4
comp=Z,21nm,0.8s,baz=34,slow=7.4,SNR=34
FINES PKPPKP P'P'df 03 55 01.1 -7.2
comp=Z,4.2nm,0.8s,baz=108,slow=6.2,SNR=9.4
FINES LR LR 03 56 58.2
comp=Z,9µm,19.4s,baz=30,slow=39
LATQ La Tuque 64.53 45 P P 03 26 12.1 -1.4
baz=320,SNR=56
LPAR Lepanto 64.53 64 IAMs_20 IAMs_20 03 55 07.7
comp=Z,28µm,21.0s
833A Chaparral WMA, 64.56 76 P P 03 26 13.3 -0.8
baz=318
833A S S 03 34 52.6 +0.6
baz=318
833A Chaparral WMA, 64.56 76 IAMs_20 IAMs_20 03 54 32.9
comp=Z,24µm,20.0s
TBLU Trondheim 64.59 353 eP P 03 26 13.1 -0.6
TBLU IVmB_BB 03 26 21.0
comp=Z,2µm,1.9s
TBLU eS S 03 34 52.7 +1.3
TBLU IVMs_BB IVMs_BB 04 02 51.7
comp=Z,4µm,16.2s
UCH Uchtor 64.61 307 P P 03 26 15.0 +0.2
SNR=27
GLAT Glass 64.61 63 IAMs_20 IAMs_20 03 55 14.6
comp=Z,36µm,21.0s
LNXT Lenox 64.62 63 IAMs_20 IAMs_20 03 55 05.9
comp=Z,36µm,20.0s
LSA Lhasa 64.63 286 P P 03 26 16.1 +1.0
LSA S S 03 34 54.3 +0.4
LSA LR LR
comp=Z,50µm,15.7s
LSA LR LR
comp=Z,45µm,24.9s
LSA LR LR
comp=Z,69µm,23.5s
LSA Lhasa 64.63 286 P P 03 26 15.2 +0.1
LSA Lhasa 64.63 286 P P 03 26 15.2 +0.1
LSA Lhasa 64.63 286 IAMs_20 IAMs_20 03 57 10.0
comp=Z,22µm,18.0s
TRQ Mont Tremblant 64.63 47 P P 03 26 12.3 -2.0
EKS2 Erkin-Say 64.65 307 P P 03 26 14.3 -0.3
SNR=16
M51A Elyria 64.65 55 P P 03 26 13.1 -1.4
baz=318
M51A S S 03 34 53.5 +0.6
baz=318
E57A Chemin Saint G 64.67 46 P P 03 26 12.9 -1.7
baz=320,SNR=96
E57A S S 03 34 51.9 -1.2
baz=320
P49A Miami Univ. Ec 64.68 58 P P 03 26 13.2 -1.5
baz=318,SNR=24
P49A S S 03 34 54.5 +1.3
baz=318
H55A Tweed 64.69 49 P P 03 26 13.3 -1.4
baz=319,SNR=25
H55A S S 03 34 53.5 +0.3
baz=319
I55A Frankford 64.71 50 P P 03 26 13.6 -1.1
baz=319,SNR=15
I55A S S 03 34 53.6 +0.2
baz=319
D58A Chemin du LacG 64.71 45 P P 03 26 13.1 -1.7
baz=320,SNR=41
D58A S S 03 34 50.6 -2.8
baz=320
ORIO Orleans, Innes 64.78 48 P P 03 26 13.1 -2.1
baz=320,SNR=16
ORIO Orleans, Innes 64.78 48 IAMs_20 IAMs_20 03 57 39.6
comp=Z,26µm,18.0s
WCI Wyandotte Cave 64.80 60 P P 03 26 14.6 -0.9
baz=318
WCI Wyandotte Cave 64.80 60 P P 03 26 14.2 -1.3
WCI pmax pmax
comp=Z,499nm,1.8s
WCI MLR MLR
comp=Z,67µm,21.0s
WCI Wyandotte Cave 64.80 60 P P 03 26 14.2 -1.3
Z41A Richland Creek 64.83 68 P P 03 26 14.8 -1.0
baz=317,SNR=7.4
Z41A S S 03 34 52.5 -2.7
baz=317
Z41A Richland Creek 64.83 68 IAMs_20 IAMs_20 03 55 32.0
comp=Z,21µm,20.0s
NATX Nacogdoches 64.85 70 P P 03 26 15.3 -0.6
baz=317,SNR=5.7
NATX Nacogdoches 64.85 70 P P 03 26 14.7 -1.2
NATX IAmb IAmb 03 26 24.1
comp=Z,309nm,1.4s
NATX IAMs_20 IAMs_20 03 52 57.8
comp=Z,25µm,22.0s
N51A Ashland 64.86 55 P P 03 26 14.5 -1.4
baz=318,SNR=9.3
N51A S S 03 34 57.0 +1.5
baz=318
F57A Harrington 64.88 47 P P 03 26 13.7 -2.2
baz=320
F57A S S 03 34 54.7 -0.9
baz=320
M52A Chesterland 64.92 54 P P 03 26 15.6 -0.6
baz=318,SNR=5.8
M52A S S 03 34 56.6 +0.5
baz=318
M52A Chesterland 64.92 54 P P 03 26 15.1 -1.2
CCAR Cane Creek 64.94 67 P P 03 26 15.5 -0.9
CCAR IAMs_20 IAMs_20 03 55 26.6
comp=Z,25µm,20.0s
J54A Appleton 64.96 51 P P 03 26 15.7 -0.7
baz=319,SNR=9.9
J54A S S 03 34 55.3 -1.2
baz=319
J54A Appleton 64.96 51 P P 03 26 15.6 -0.9
X43A Marvell 65.00 66 P P 03 26 15.7 -1.1
baz=317,SNR=8.2
X43A Marvell 65.00 66 IAMs_20 IAMs_20 03 57 05.2
comp=Z,30µm,20.0s
ACSO Alum Creek Sta 65.06 56 P P 03 26 15.9 -1.2
baz=318,SNR=8.6
ACSO Alum Creek Sta 65.06 56 IAMs_20 IAMs_20 03 54 30.5
comp=Z,46µm,21.0s
AML Almayashu 65.08 307 P P 03 26 18.1 +0.3
SNR=11
E58A La Victoria 65.09 46 P P 03 26 15.2 -2.0
baz=320,SNR=38
E58A S S 03 34 56.0 -2.1
baz=320
SIJI Sorong 65.09 232 LR LR 03 49 50.3
comp=Z,11µm,21.6s,baz=22,slow=32
H56A Elgin 65.09 49 P P 03 26 15.7 -1.5
baz=320,SNR=29
H56A S S 03 34 58.2 +0.1
baz=320
MET Memphis--Engin 65.09 64 IAMs_20 IAMs_20 03 55 35.4
comp=Z,21µm,21.0s
735A Kenedy 65.11 75 IAMs_20 IAMs_20 03 53 07.5
comp=Z,25µm,20.0s
L53A Girard 65.15 53 P P 03 26 17.2 -0.6
baz=319,SNR=13
L53A S S 03 34 58.8 -0.2
baz=319
ERPA Erie 65.17 53 P P 03 26 17.4 -0.5
baz=319,SNR=41
ERPA Erie 65.17 53 P P 03 26 16.6 -1.2
D59A Saint-Raymond 65.23 45 P P 03 26 16.8 -1.3
baz=321,SNR=9.9
F58A St-Lin Laurent 65.24 47 P P 03 26 16.2 -1.9
baz=320
PECO Prince Edward 65.24 50 P P 03 26 16.9 -1.3
T47A Sharon Grove 65.28 61 IAMs_20 IAMs_20 03 55 11.9
comp=Z,45µm,21.0s
G57A Newington 65.29 48 P P 03 26 16.5 -2.0
baz=320,SNR=20
G57A S S 03 34 58.7 -1.8
baz=320
N52A McGinn's Farm, 65.29 55 P P 03 26 17.5 -1.2
baz=318,SNR=6.3
N52A S S 03 34 59.8 -1.0
baz=318
O51A Pataskala 65.32 56 P P 03 26 17.8 -1.0
baz=318,SNR=12
O51A S S 03 35 02.8 +1.7
baz=318
PUL Pulkovo 65.33 342 eP P 03 26 19.4 +0.9
PUL Pulkovo 65.33 342 ‖ eP P 03 26 17.5 -1.0
PUL pmax pmax
comp=Z,250nm,0.8s
PUL MLR MLR
comp=Z,18µm,17.0s
M53A WI Miller and 65.33 54 P P 03 26 18.4 -0.5
baz=319,SNR=18
M53A S S 03 35 00.7 -0.5
baz=319
M53A WI Miller and 65.33 54 P P 03 26 18.6 -0.4
E59A St. Maurice 65.34 45 P P 03 26 17.5 -1.4
baz=321
E59A S S 03 34 59.7 -1.5
baz=321
J55A Hilton 65.36 51 P P 03 26 17.9 -1.1
baz=319,SNR=14
J55A S S 03 35 00.7 -0.7
baz=319
J55A Hilton 65.36 51 P P 03 26 17.9 -1.1
L54A Sinclairville 65.41 52 P P 03 26 18.9 -0.5
baz=319,SNR=50
L54A S S 03 35 01.1 -1.1
baz=319
K54A Basiliko Farm, 65.43 52 P P 03 26 19.0 -0.5
baz=319,SNR=40
K54A S S 03 35 01.9 -0.5
baz=319
MOL Molde 65.45 355 eP P 03 26 19.8 +0.5
MOL IVmB_BB 03 26 29.2
comp=Z,2µm,1.4s
MOL eS S 03 35 02.5 +0.6
MOL eSS SS 03 39 21.6 +7.3
MOL IVMsBB 03 52 22.3
comp=Z,3µm,27.0s
W45A Hickory Valley 65.48 64 P P 03 26 18.8 -1.1
W45A IAMs_20 IAMs_20 03 55 34.7
comp=Z,41µm,21.0s
HKT Hockley 65.48 72 IAMs_20 IAMs_20 03 58 10.7
comp=Z,19µm,19.0s
WVT Waverly 65.51 62 P P 03 26 19.3 -0.8
baz=318
WVT Waverly 65.51 62 P P 03 26 19.3 -0.8
WVT pmax pmax
comp=Z,171nm,1.3s
WVT MLR MLR
comp=Z,43µm,20.0s
WVT Waverly 65.51 62 P P 03 26 19.3 -0.8
WVT IAmb IAmb 03 26 26.9
comp=Z,171nm,1.3s
WVT Waverly 65.51 62 IAMs_20 IAMs_20 03 55 57.3
comp=Z,43µm,20.0s
AKTO Aktyubinsk 65.53 322 PKPPKP P'P'df 03 55 02.7 -3.2
comp=Z,1.1nm,0.5s,baz=216,slow=3.1,SNR=7.5
AKTO LR LR 03 57 20.1
comp=Z,55µm,19.4s,baz=39,slow=38
AKTO Aktyubinsk 65.53 322 P P 03 26 19.7 -0.4
P51A Williamsport 65.58 57 P P 03 26 19.1 -1.4
baz=318,SNR=7.6
P51A S S 03 35 06.6 +2.3
baz=318
P51A Williamsport 65.58 57 IAMs_20 IAMs_20 03 54 13.3
comp=Z,44µm,21.0s
H57A Richville 65.59 48 P P 03 26 18.9 -1.6
baz=320,SNR=26
H57A S S 03 35 02.1 -2.1
baz=320
TNTI Ternate 65.63 236 P P 03 26 28.2 +7.1
comp=Z,4µmcomp=Z,178nm,2.2s
K55A Perry 65.64 51 P P 03 26 20.0 -0.9
baz=319,SNR=54
K55A S S 03 35 04.7 -0.4
baz=319
DZA Taraz 65.66 309 i P P 03 26 20.6 -0.5
comp=Z,42nm,2.4s,baz=309
DZA eS S 03 35 03.9 -1.5
baz=309
DZA LR LR 03 55 16.5
comp=Z,7µm,16.0s,baz=309

DZA	**Taraz**	**65.66**	**309**	*i*	P		**P**	**03 26 20.5**	**-0.5**
DZA				*e*	S		**S**	**03 35 03.8**	**-1.5**
DZA					pmax		pmax		
	comp=Z,42nm,2.4s								
DZA					MLR		MLR		
	comp=Z,7µm,16.0s								
G58A	**Ormstown**	**65.68**	**47**		P		**P**	**03 26 19.0**	**-2.0**
	baz=320,SNR=13								
D60A	**Saint Jean D'O**	**65.70**	**44**		P		**P**	**03 26 19.6**	**-1.6**
D60A	baz=321,SNR=33				S		**S**	**03 35 06.1**	**+0.7**
	baz=321								
F59A	**Saint Guilaume**	**65.71**	**46**		P		**P**	**03 26 19.6**	**-1.6**
	baz=321,SNR=39								
F59A					S		**S**	**03 35 03.5**	**-2.1**
	baz=321								
N53A	**Lisbon**	**65.72**	**54**		P		**P**	**03 26 20.3**	**-1.2**
	baz=319,SNR=15								
N53A					S		**S**	**03 35 05.4**	**-0.7**
	baz=319								
AB31	**Akbulak array**	**65.73**	**320**	*i*	P		**P**	**03 26 23.4**	**+2.1**
ABKAR	**Akbulak array**	**65.73**	**320**		P		**P**	**03 26 20.4**	**-0.9**
O52A	**Adamsville**	**65.73**	**56**		P		**P**	**03 26 20.6**	**-0.9**
	baz=319,SNR=72								
O52A					S		**S**	**03 35 04.8**	**-1.4**
	baz=319								
O52A	**Adamsville**	**65.73**	**56**		P		**P**	**03 26 20.6**	**-0.9**
Q51A	**Peebles**	**65.77**	**57**		P		**P**	**03 26 20.8**	**-1.0**
M54A	**Oil Creek Stat**	**65.78**	**53**		P		**P**	**03 26 21.0**	**-0.8**
	baz=319,SNR=60								
M54A					S		**S**	**03 35 03.6**	**-3.2**
	baz=319								
D61A	**St Aubert, Com**	**65.79**	**43**		P		**P**	**03 26 20.5**	**-1.2**
	baz=322,SNR=8.9								
D61A					S		**S**	**03 35 03.9**	**-2.7**
	baz=322								
J56A	**Wolcott**	**65.81**	**50**		P		**P**	**03 26 20.9**	**-1.0**
	baz=320,SNR=35								
J56A					S		**S**	**03 35 06.4**	**-0.5**
	baz=320								
OXF	**Oxford**	**65.83**	**65**		P		**P**	**03 26 21.2**	**-1.0**
	baz=318,SNR=33								
OXF	**Oxford**	**65.83**	**65**		P		**P**	**03 26 20.8**	**-1.4**
OXF					pmax		pmax		
	comp=Z,1µm,1.4s								
OXF					MLR		MLR		
	comp=Z,24µm,20.0s								
OXF	**Oxford**	**65.83**	**65**		P		**P**	**03 26 20.8**	**-1.4**
OXF					IAMs_20		IAMs_20	03 55 58.0	
	comp=Z,24µm,20.0s								
LONY	**Lake Ozonia**	**65.84**	**48**		P		**P**	**03 26 20.3**	**-1.9**
	baz=320,SNR=34								
I57A	**Carthage**	**65.87**	**49**		P		**P**	**03 26 20.9**	**-1.4**
	baz=320,SNR=36								
I57A					S		**S**	**03 35 07.4**	**-0.3**
	baz=320								
AKN	**Aaknes**	**65.87**	**355**	*e*	P		**P**	**03 26 22.6**	**+0.6**
AKN					IVmB_BB			03 26 28.0	
	comp=Z,2µm,4.0s								
AKN				*e*	S		**S**	**03 35 11.1**	**+3.8**
AKN					IVMs_BB		IVMs_BB	03 35 32.9	
	comp=Z,1µm,9.6s								
AKN				*e*	SS		**SS**	**03 39 27.1**	**+6.2**
L55A	**Hinsdale**	**65.88**	**52**		P		**P**	**03 26 21.8**	**-0.7**
	baz=319,SNR=68								
L55A					S		**S**	**03 35 06.2**	**-1.7**
	baz=319								
DOMB	**Dombas**	**65.88**	**354**	*e*	P		**P**	**03 26 22.5**	**+0.4**
DOMB					IVmB_BB			03 26 31.8	
	comp=Z,2µm,1.2s								
DOMB				*e*	S		**S**	**03 35 10.7**	**+3.4**
DOMB				*e*	SKSac		**SKSac**	**03 36 15.7**	**-0.3**
DOMB				*e*	SS		**SS**	**03 39 25.6**	**+4.5**
DOMB					IVMsBB			04 04 09.4	
	comp=Z,7µm,15.2s								
KSH	**Kashi**	**65.89**	**304**		P		**P**	**03 26 25.8**	**+3.1**
KSH					pP		sP	03 26 37.4	+4.6
KSH					S		**S**	**03 35 09.0**	**+0.7**
KSH					pmax		pmax		
	comp=Z,57nm,1.2s								
KSH					pmax		pmax		
	comp=Z,6µm,6.3s								
KSH					LR		LR		
	comp=Z,38µm,14.7s								
KSH					LR		LR		
	comp=Z,56µm,13.9s								
KSH					LR		LR		
	comp=Z,62µm,17.0s								
E60A	**Ste Agathe de**	**65.89**	**45**		P		**P**	**03 26 20.7**	**-1.8**
	baz=321,SNR=48								
E60A					S		**S**	**03 35 06.7**	**-1.2**
	baz=321								
KK31	**Karatay Array**	**65.90**	**310**		P		**P**	**03 26 21.5**	**-1.1**
KK31					pmax		pmax		
	comp=Z,97nm,0.9s								
KK31	**Karatay Array**	**65.90**	**310**		P		**P**	**03 26 21.5**	**-1.1**
KK31					IAmb		IAmb	03 26 30.3	
	comp=Z,97nm,0.9s								
KKAR	**Karatay Array**	**65.90**	**310**		P		**P**	**03 26 21.3**	**-1.2**
KKAR					pmax		pmax		
	comp=Z,97nm,0.9s								
KKAR	**Karatay Array**	**65.90**	**310**		P		**P**	**03 26 21.3**	**-1.2**
KKAR	**Karatay Array**	**65.90**	**310**		P		**P**	**03 26 21.3**	**-1.2**
KKAR					IAmb		IAmb	03 26 30.3	
	comp=Z,97nm,0.9s								
P52A	**Corning**	**65.94**	**56**		P		**P**	**03 26 21.4**	**-1.4**
	baz=319,SNR=10								
P52A					S		**S**	**03 35 04.1**	**-4.7**
	baz=319								
P52A	**Corning**	**65.94**	**56**		IAMs_20		IAMs_20	03 55 08.8	
	comp=Z,41µm,20.0s								
O53A	**New Philadelph**	**65.95**	**55**		P		**P**	**03 26 21.7**	**-1.3**
	baz=319								
O53A					S		**S**	**03 35 08.2**	**-0.6**
	baz=319								
F60A	**Warwick**	**65.98**	**45**		P		**P**	**03 26 21.4**	**-1.6**
	baz=321,SNR=40								
F60A					S		**S**	**03 35 08.0**	**-1.0**
	baz=321								
K56A	**Middlesex**	**66.02**	**51**		P		**P**	**03 26 22.8**	**-0.6**
	baz=320,SNR=42								
K56A					S		**S**	**03 35 08.5**	**-1.2**
	baz=320								
KVTX	**Kingsville**	**66.02**	**76**		IAMs_20		IAMs_20	03 58 38.7	
	comp=Z,25µm,18.0s								
N54A	**Moraine State**	**66.03**	**54**		P		**P**	**03 26 22.4**	**-1.0**
	baz=319,SNR=25								
N54A					S		**S**	**03 35 08.7**	**-1.1**
	baz=319								
143A	**Socs Landing,**	**66.03**	**67**		IAMs_20		IAMs_20	03 56 04.8	
	comp=Z,23µm,20.0s								
J57A	**Williamstown**	**66.11**	**50**		P		**P**	**03 26 22.5**	**-1.4**
	baz=320,SNR=32								
J57A					S		**S**	**03 35 09.0**	**-1.6**
	baz=320								
G59A	**Clarenceville**	**66.13**	**47**		P		**P**	**03 26 22.1**	**-1.8**
	baz=321,SNR=13								
H58A	**Gabriels**	**66.18**	**48**		P		**P**	**03 26 22.7**	**-1.7**
	baz=321,SNR=31								
H58A					S		**S**	**03 35 07.3**	**-4.3**
	baz=321								
PLAL	**Pickwick Lake**	**66.22**	**63**		P		**P**	**03 26 23.5**	**-1.2**
PLAL					IAmb		IAmb	03 26 31.1	
	comp=Z,389nm,1.7s								
PLAL					IAMs_20		IAMs_20	03 56 24.3	
	comp=Z,33µm,20.0s								
H59A	**Cadyville**	**66.23**	**47**		P		**P**	**03 26 22.8**	**-1.8**
	baz=321,SNR=34								
H59A					S		**S**	**03 35 08.3**	**-3.8**
	baz=321								
Y45A	**Yeager Farm, C**	**66.23**	**65**		IAMs_20		IAMs_20	03 55 29.7	
	comp=Z,19µm,20.0s								
M55A	**Ridgway**	**66.26**	**53**		P		**P**	**03 26 24.2**	**-0.7**
	baz=320,SNR=40								
M55A					S		**S**	**03 35 10.8**	**-1.8**
	baz=320								
E61A	**Lac Etchemin**	**66.26**	**44**		P		**P**	**03 26 23.2**	**-1.6**
	baz=322,SNR=12								
E61A					S		**S**	**03 35 07.7**	**-4.8**
	baz=322								
PMG	**Port Moresby**	**66.26**	**212**		LR		LR	03 50 20.1	
	comp=Z,18µm,21.7s,baz=30,slow=31								
PMG	**Port Moresby**	**66.26**	**212**	*ce*	P		**P**	**03 26 27.1**	**+2.0**
PMG					pmax		pmax		
	comp=Z,130nm,1.6s								
PMG	**Port Moresby**	**66.26**	**212**		P		**P**	**03 26 25.9**	**+0.9**
PMG					IAmb		IAmb	03 26 52.6	
	comp=Z,79nm,1.0s								
PMG	**Port Moresby**	**66.26**	**212**		IAMs_20		IAMs_20	03 54 29.6	
	comp=Z,25µm,20.0s								
BRLS	**Boroldav**	**66.27**	**310**	*e*	P		**P**	**03 26 27.1**	**+2.1**
	baz=310								
BRLS				*e*	S		**S**	**03 35 15.3**	**+2.6**
	baz=310								
BRLS					LR		LR	03 54 54.3	
	comp=Z,3µm,15.3s,baz=310								
BRLS	**Boroldav**	**66.27**	**310**	*e*	P		**P**	**03 26 27.1**	**+2.1**
BRLS				*e*	S		**S**	**03 35 15.3**	**+2.6**
BRLS					MLR		MLR		
	comp=Z,3µm,15.0s								
L56A	**Greenwood**	**66.34**	**51**		P		**P**	**03 26 24.8**	**-0.7**
	baz=320,SNR=136								
L56A					S		**S**	**03 35 12.0**	**-1.6**
	baz=320								
L56A	**Greenwood**	**66.34**	**51**		P		**P**	**03 26 24.6**	**-0.8**
V48A	**Smith Brothers**	**66.35**	**62**		IAMs_20		IAMs_20	03 56 52.5	
	comp=Z,42µm,20.0s								
CLTN	**Cedars of Leba**	**66.36**	**61**		P		**P**	**03 26 24.8**	**-0.8**
CLTN					IAMs_20		IAMs_20	03 56 05.6	
	comp=Z,41µm,21.0s								
MOQ	**Mont Orford**	**66.36**	**46**		P		**P**	**03 26 24.3**	**-1.3**
D62A	**Allapoint, All**	**66.36**	**43**		P		**P**	**03 26 24.3**	**-1.1**
	baz=322,SNR=39								
D62A					S		**S**	**03 35 10.4**	**-3.2**
	baz=322								
D62A	**Allapoint, All**	**66.36**	**43**		P		**P**	**03 26 24.3**	**-1.1**
Q52A	**Bidwell**	**66.38**	**57**		P		**P**	**03 26 24.6**	**-1.1**
	baz=319,SNR=16								
Q52A					S		**S**	**03 35 13.8**	**-0.2**
	baz=319								
I58A	**Old Forge**	**66.38**	**49**		P		**P**	**03 26 24.2**	**-1.5**
	baz=320,SNR=31								
I58A					S		**S**	**03 35 10.7**	**-3.3**
	baz=320								
K57A	**Scipio Center**	**66.39**	**50**		P		**P**	**03 26 24.7**	**-1.0**
	baz=320,SNR=35								
K57A					S		**S**	**03 35 13.6**	**-0.4**
	baz=320								
F61A	**St Evariste**	**66.40**	**45**		P		**P**	**03 26 24.7**	**-1.0**
	baz=322,SNR=25								
F61A					S		**S**	**03 35 11.4**	**-2.7**
	baz=322								
FAKI	**Fak Fak**	**66.40**	**230**		P		**P**	**03 26 27.1**	**+1.0**
FAKI					IAMs_20		IAMs_20	03 50 26.2	
	comp=Z,22µm,22.0s								
O54A	**Avella**	**66.42**	**55**		P		**P**	**03 26 24.7**	**-1.3**
	baz=319,SNR=19								
O54A					S		**S**	**03 35 14.1**	**-0.5**
	baz=319								
P53A	**Whipple**	**66.43**	**56**		P		**P**	**03 26 24.9**	**-1.1**
	baz=319,SNR=13								
P53A					S		**S**	**03 35 13.5**	**-1.2**
	baz=319								
441A	**DeRidder**	**66.44**	**70**		IAMs_20		IAMs_20	03 58 35.0	
	comp=Z,26µm,19.0s								
342A	**Flagon Creek P**	**66.48**	**69**		IAMs_20		IAMs_20	03 58 23.9	
	comp=Z,23µm,18.0s								
J58A	**Remsen**	**66.48**	**49**		P		**P**	**03 26 24.9**	**-1.4**
	baz=320,SNR=47								
J58A					S		**S**	**03 35 11.4**	**-3.8**
	baz=320								
G60A	**Masonville**	**66.49**	**46**		P		**P**	**03 26 24.7**	**-1.6**
	baz=321,SNR=12								
G60A					S		**S**	**03 35 12.0**	**-3.2**
	baz=321								
NCB	**Newcomb**	**66.51**	**48**		P		**P**	**03 26 25.0**	**-1.4**
NCB					IAmb		IAmb	03 26 32.8	
	comp=Z,387nm,1.8s								
NCB					IAMs_20		IAMs_20	03 58 41.3	
	comp=Z,40µm,19.0s								
E62A	**Clayton Lake**	**66.53**	**43**		P		**P**	**03 26 25.2**	**-1.3**
	baz=322,SNR=39								
E62A					S		**S**	**03 35 12.8**	**-2.8**
	baz=322								
E62A	**Clayton Lake**	**66.53**	**43**		P		**P**	**03 26 25.1**	**-1.4**
M56A	**Emporium**	**66.53**	**52**		P		**P**	**03 26 25.8**	**-0.8**
	baz=320,SNR=63								
M56A					S		**S**	**03 35 13.9**	**-1.9**
	baz=320								
M56A	**Emporium**	**66.53**	**52**		P		**P**	**03 26 25.7**	**-0.9**
FOO	**Floro**	**66.55**	**356**	*e*	P		**P**	**03 26 26.8**	**+0.4**
FOO					IVmB_BB			03 26 38.3	
	comp=Z,1µm,5.6s								
FOO					ePP		**PP**	**03 28 55.0**	**+2.7**
FOO					eS		**S**	**03 35 20.0**	**+4.7**
FOO					eSKSac		**ScS**	**03 36 21.5**	**+0.3**
FOO					eSS		**SS**	**03 39 38.0**	**+6.7**
NC405	**NORSAR Array S**	**66.60**	**352**		P		**P**	**03 26 25.9**	**-0.8**
N55A	**Marion Center**	**66.67**	**53**		P		**P**	**03 26 26.5**	**-1.0**
	baz=320,SNR=23								
N55A					S		**S**	**03 35 17.0**	**-0.6**
	baz=320								
NB201	**NORSAR Array S**	**66.69**	**352**		P		**P**	**03 26 26.8**	**-0.6**
G61A	**St-Isidore-de-**	**66.71**	**46**		P		**P**	**03 26 26.3**	**-1.4**
	baz=322,SNR=36								
G61A					S		**S**	**03 35 17.6**	**-0.3**
	baz=322								
NB2	**NORSAR Subarra**	**66.71**	**352**		P		**P**	**03 26 26.8**	**-0.7**
	comp=Z,460nm,2.5s,baz=9.2,slow=6.5								
NB2	**NORSAR Subarra**	**66.71**	**352**		P		**P**	**03 26 26.8**	**-0.7**
	baz=9.2,slow=6.5								
NOA	**NORSAR Array B**	**66.71**	**352**		P		**P**	**03 26 26.5**	**-1.0**
	comp=Z,29nm,1.0s,baz=10,slow=6.4,SNR=39								
NOA					PKPPKP		**P'P'df**	**03 54 58.7**	**-6.1**
	comp=Z,1.8nm,0.9s,baz=172,slow=3.6,SNR=4.2								
ZAIG	**Zacatecas**	**66.72**	**82**		P		**P**	**03 26 27.9**	**-0.5**
ZAIG					IAmb		IAmb	03 26 36.5	
	comp=Z,105nm,1.3s								
H60A	**Morristown**	**66.75**	**47**		P		**P**	**03 26 26.1**	**-1.8**
	baz=321,SNR=18								
H60A					S		**S**	**03 35 15.8**	**-2.6**
	baz=321								
LBMI	**Labuha**	**66.77**	**236**		P		P	03 26 34.6	+6.2
	comp=Z,7µmcomp=Z,238nm,1.3s								
J59A	**Piesco**	**66.77**	**49**		P		**P**	**03 26 26.6**	**-1.5**
	baz=321,SNR=63								
J59A					S		**S**	**03 35 16.0**	**-2.7**
	baz=321								
J59A	**Piesco**	**66.77**	**49**		P		**P**	**03 26 26.6**	**-1.5**
K58A	**Earlville**	**66.77**	**50**		P		**P**	**03 26 27.1**	**-1.1**
	baz=320,SNR=18								
K58A					S		**S**	**03 35 16.1**	**-2.7**
	baz=320								
L57A	**Andrews Acres**	**66.78**	**51**		P		**P**	**03 26 27.5**	**-0.8**
	baz=320,SNR=33								
L57A					S		**S**	**03 35 16.9**	**-2.0**
	baz=320								
D63A	**Stockholm**	**66.79**	**42**		P		**P**	**03 26 26.9**	**-1.3**
	baz=323,SNR=22								
D63A					S		**S**	**03 35 15.9**	**-2.9**
	baz=323								
I59A	**Olmsteadville**	**66.80**	**48**		P		**P**	**03 26 26.8**	**-1.6**
	baz=321,SNR=60								
I59A					S		**S**	**03 35 15.5**	**-3.6**
	baz=321								
P54A	**Burton**	**66.81**	**55**		P		**P**	**03 26 27.4**	**-1.1**
	baz=319,SNR=15								
P54A					S		**S**	**03 35 18.6**	**-0.7**
	baz=319								
Q53A	**Leroy**	**66.83**	**56**		P		**P**	**03 26 27.7**	**-0.9**
	baz=319,SNR=40								
Q53A					S		**S**	**03 35 18.2**	**-1.4**
	baz=319								
IUG	**Iuzhnay**	**66.85**	**309**	*i*	P		**P**	**03 26 28.7**	**-0.1**
	comp=Z,38nm,2.5s,baz=309								
IUG				*e*	S		**S**	**03 35 19.0**	**-1.0**
	baz=309								
IUG					LR		LR	03 56 02.7	
	baz=309								
IUG	**Iuzhnay**	**66.85**	**309**	*i*	P		**P**	**03 26 28.7**	**-0.1**
IUG				*e*	S		**S**	**03 35 19.0**	**-1.0**
IUG					pmax		pmax		
	comp=Z,38nm,2.5s								
VBMS	**Vicksburg**	**66.90**	**67**		P		**P**	**03 26 28.1**	**-1.0**
	baz=318,SNR=5.9								
VBMS	**Vicksburg**	**66.90**	**67**		IAMs_20		IAMs_20	03 56 39.6	
	comp=Z,29µm,20.0s								
N56A	**West Decatur**	**66.90**	**53**		P		**P**	**03 26 28.3**	**-0.7**
	baz=320,SNR=21								
N56A					S		**S**	**03 35 19.2**	**-1.3**
	baz=320								
F62A	**Pittston Farm,**	**66.91**	**44**		P		**P**	**03 26 27.7**	**-1.2**
	baz=322,SNR=34								
F62A					S		**S**	**03 35 16.7**	**-3.5**
	baz=322								
HYA	**Hoyanger**	**66.92**	**355**	*e*	P		**P**	**03 26 28.1**	**-0.6**
HYA					IVmB_BB			03 26 38.9	
	comp=Z,2µm,1.3s								
HYA				*e*	S		**S**	**03 35 27.1**	**+7.2**
CHM	**Chimkent**	**66.93**	**310**	*e*	P		**P**	**03 26 28.9**	**-0.3**
	comp=Z,94nm,2.4s,baz=310								
CHM				*e*	S		**S**	**03 35 19.3**	**-1.3**
	baz=310								
CHM					LR		LR	03 56 05.6	
	comp=Z,3µm,14.9s,baz=310								
CHM	**Chimkent**	**66.93**	**310**	*e*	P		**P**	**03 26 28.8**	**-0.3**
CHM				*e*	S		**S**	**03 35 19.3**	**-1.3**
CHM					pmax		pmax		
	comp=Z,94nm,2.4s								
CHM					MLR		MLR		
	comp=Z,3µm,15.0s								
O55A	**Ligonier**	**66.94**	**54**		P		**P**	**03 26 28.0**	**-1.3**
	baz=320,SNR=13								
O55A					S		**S**	**03 35 19.4**	**-1.4**
	baz=320								
NC602	**NORSAR Array S**	**66.98**	**352**		P		**P**	**03 26 28.3**	**-0.9**
NC602	**NORSAR Array S**	**66.98**	**352**	*e*	P		**P**	**03 26 29.4**	**+0.2**
NC602					IVmB_BB			03 26 38.8	
	comp=Z,2µm,1.6s								
NC602				*e*	S		**S**	**03 35 23.9**	**+3.1**
NC602					IVMs_BB		IVMs_BB	04 03 50.2	
	comp=Z,4µm,13.9s								
R53A	**Hurricane**	**67.01**	**57**		P		**P**	**03 26 29.0**	**-0.7**
	baz=319,SNR=20								
R53A					S		**S**	**03 35 22.1**	**+0.4**
	baz=319								
R53A	**Hurricane**	**67.01**	**57**		P		**P**	**03 26 28.9**	**-0.8**
I60A	**Shoreham**	**67.03**	**48**		P		**P**	**03 26 28.0**	**-1.8**
	baz=321,SNR=17								
I60A					S		**S**	**03 35 17.7**	**-4.1**
	baz=321								
BINY	**Binghamton**	**67.04**	**50**		P		**P**	**03 26 29.0**	**-0.9**
	baz=320,SNR=15								
MCWV	**Mont Chateau**	**67.09**	**55**		P		**P**	**03 26 29.5**	**-0.7**
	baz=320,SNR=9.1								
MCWV	**Mont Chateau**	**67.09**	**55**		IAMs_20		IAMs_20	03 56 34.9	
	comp=Z,34µm,20.0s								
Q54A	**Coxs Mills**	**67.09**	**56**		P		**P**	**03 26 29.3**	**-1.0**
	baz=319,SNR=38								
Q54A					S		**S**	**03 35 21.9**	**-0.8**
	baz=319								
SUE	**Sulen**	**67.10**	**356**	*e*	P		**P**	**03 26 25.6**	**-4.3**
SUE					IVmB_BB			03 26 35.8	
	comp=Z,1µm,3.7s								
SUE				*e*	S		**S**	**03 35 26.7**	**+4.6**
SUE				*e*	SS		**SS**	**03 39 46.5**	**+6.6**
H61A	**Lyndonville**	**67.11**	**46**		P		**P**	**03 26 29.0**	**-1.3**
	baz=322,SNR=28								
H61A					S		**S**	**03 35 18.1**	**-4.7**
	baz=322								
PQI	**Presque Isle**	**67.12**	**43**		IAMs_20		IAMs_20	04 00 55.8	
	comp=Z,40µm,19.0s								
K59A	**Cooperstown**	**67.14**	**49**		P		**P**	**03 26 29.4**	**-1.1**
	baz=321,SNR=29								
K59A					S		**S**	**03 35 19.8**	**-3.4**
	baz=321								
E63A	**Oxbow**	**67.15**	**43**		P		**P**	**03 26 29.0**	**-1.5**
	baz=323,SNR=33								
E63A					S		**S**	**03 35 18.9**	**-4.2**
	baz=323								
E63A	**Oxbow**	**67.15**	**43**		P		**P**	**03 26 28.9**	**-1.5**
E63A					IAmb		IAmb	03 26 36.5	
	comp=Z,276nm,1.4s								
M57A	**Sunshine Farm,**	**67.16**	**52**		P		**P**	**03 26 30.0**	**-0.6**
	baz=320,SNR=98								
M57A					S		**S**	**03 35 22.8**	**-0.6**
	baz=320								
X48A	**Hartselle**	**67.19**	**63**		P		**P**	**03 26 29.1**	**-1.7**
X48A					IAmb		IAmb	03 26 37.8	
	comp=Z,152nm,1.3s								
X48A					IAMs_20		IAMs_20	03 56 50.7	
	comp=Z,32µm,20.0s								
G62A	**West of Eustis**	**67.19**	**45**		P		**P**	**03 26 29.8**	**-1.0**
	baz=322,SNR=64								
G62A					S		**S**	**03 35 24.1**	**+0.4**
	baz=322								
P55A	**Reedsville**	**67.21**	**55**		P		**P**	**03 26 30.1**	**-1.0**
	baz=320,SNR=52								
P55A					S		**S**	**03 35 22.6**	**-1.6**
	baz=320								
VSU	**Vasula**	**67.22**	**343**	*e*	P		**P**	**03 26 29.9**	**-0.7**
VSU	**Vasula**	**67.22**	**343**	*di*	P		**P**	**03 26 29.2**	**-1.4**
VSU					pmax		pmax		
	comp=Z,512nm,0.9s								
VSU					MLR		MLR		
	comp=Z,38µm,17.0s								
ACCN	**Adirondack Com**	**67.22**	**48**		P		**P**	**03 26 29.8**	**-1.1**
L58A	**Harry Jones Me**	**67.23**	**50**		P		**P**	**03 26 30.3**	**-0.8**
	baz=321,SNR=33								
L58A					S		**S**	**03 35 22.5**	**-1.8**
	baz=321								
SHL	**Shillong**	**67.23**	**283**	*e*	P		**P**	**03 26 30.7**	**-0.8**
SHL					IAmb		IAmb	03 26 37.8	
	comp=Z,105nm,0.8s								
SHL	**Shillong**	**67.23**	**283**		P		**P**	**03 26 31.7**	**+0.2**
	SNR=67								
SHL	**Shillong**	**67.23**	**283**		P		**P**	**03 26 30.5**	**-1.0**
SHL					pmax		pmax		
	comp=Z,1µm,2.1s								
SHL	**Shillong**	**67.23**	**283**		P		**P**	**03 26 30.5**	**-1.0**
SHL					IAMs_20		IAMs_20	03 53 32.7	
	comp=Z,26µm,20.0s								
O56A	**Blue Knob Stat**	**67.26**	**53**		P		**P**	**03 26 30.3**	**-1.0**
	baz=320,SNR=40								
O56A					S		**S**	**03 35 23.6**	**-1.3**
	baz=320								
O56A	**Blue Knob Stat**	**67.26**	**53**		P		**P**	**03 26 30.6**	**-0.8**
SKAR	**Skarslia**	**67.28**	**354**	*e*	P		**P**	**03 26 31.2**	**+0.1**
SKAR					IVmB_BB			03 26 33.9	
	comp=Z,891nm,1.6s								
SKAR				*e*	S		**S**	**03 35 28.6**	**+4.2**
SKAR					IVMs_BB		IVMs_BB	04 05 30.2	
	comp=Z,6µm,15.8s								
SSPA	**Standing Stone**	**67.32**	**53**		P		**P**	**03 26 30.8**	**-0.9**
	baz=320								
SSPA	**Standing Stone**	**67.32**	**53**		P		**P**	**03 26 31.0**	**-0.7**
DLV	**T Lat**	**67.33**	**260**		P		**P**	**03 26 30.0**	**-2.2**
DLV					IAmb		IAmb	03 26 45.7	
	comp=Z,260nm,1.9s								
344A	**Westbrook Farm**	**67.34**	**68**		IAMs_20		IAMs_20	03 57 54.5	
	comp=Z,24µm,19.0s								
LBNH	**Lisbon**	**67.34**	**47**		P		**P**	**03 26 30.4**	**-1.4**
	baz=322,SNR=34								
N57A	**Milroy**	**67.

comp=Z,29µm,18.0s
F63A Nahmakanta, Br 67.43 44 P P 03 26 30.9 -1.4
baz=323,SNR=51
F63A S S 03 35 23.5 -3.1
baz=323
J60A Lant Hill Farm 67.44 48 P P 03 26 30.9 -1.4
baz=321,SNR=72
J60A S S 03 35 23.1 -3.7
baz=321
BATG Bathurst New B 67.44 41 P P 03 26 31.6 -0.7
BATG IAmb IAmb 03 26 39.0
comp=Z,350nm,1.7s
M58A Price's Panora 67.45 51 P P 03 26 31.8 -0.8
baz=320,SNR=76
M58A S S 03 35 24.0 -3.0
baz=320
I61A Oroboro, Fairl 67.46 47 P P 03 26 31.2 -1.2
baz=322,SNR=38
I61A S S 03 35 23.8 -3.1
baz=322
Q55A Buckhannon 67.47 55 P P 03 26 31.8 -0.8
baz=320,SNR=26
Q55A S S 03 35 25.7 -1.7
baz=320
L59A Walton 67.50 50 P P 03 26 31.8 -1.1
baz=321,SNR=54
L59A S S 03 35 24.9 -2.7
baz=321
TZTN Tazewell 67.52 59 P P 03 26 32.1 -0.8
baz=319,SNR=16
Z47A Carrollton 67.55 65 P P 03 26 32.0 -1.2
Z47A IAMs_20 IAMs_20 03 56 50.6
comp=Z,35µm,20.0s
W50A Signal Mountai 67.58 61 IAMs_20 IAMs_20 03 56 22.8
comp=Z,42µm,21.0s
R54A Victor 67.62 56 P P 03 26 32.9 -0.7
baz=320,SNR=22
F64A Sherman 67.62 43 P P 03 26 32.3 -1.1
baz=323,SNR=78
F64A S S 03 35 28.9 +0.1
baz=323
V51A Loudon 67.64 60 P P 03 26 32.9 -0.9
V51A IAmb IAmb 03 26 44.8
comp=Z,144nm,1.0s
ASK Askoy 67.66 356 *e*P P 03 26 33.4 0.0
ASK *e*PP PP 03 29 03.3 +1.3
ASK *e*S S 03 35 30.1 +1.4
G63A Kingsbury 67.67 45 P P 03 26 32.7 -1.1
baz=323,SNR=30
G63A S S 03 35 25.8 -3.7
baz=323
SANVU Saraoutou 67.69 190 P P 03 26 33.5 -0.6
SANVU IAmb IAmb 03 26 45.5
comp=Z,102nm,0.8s
SANVU IAMs_20 IAMs_20 03 51 05.2
comp=Z,19µm,21.0s
PKME Peaks-Kenny Pk 67.70 44 P P 03 26 33.0 -1.0
baz=323,SNR=40
P56A Dayton Farm, R 67.71 54 P P 03 26 33.5 -0.6
baz=320,SNR=24
P56A S S 03 35 26.4 -3.6
baz=320
K60A Five Rivers En 67.71 49 P P 03 26 33.0 -1.0
baz=321
T53A Wise 67.72 58 P P 03 26 33.8 -0.5
baz=319,SNR=24
T53A S S 03 35 29.5 -1.0
baz=319
N58A Sunbury 67.74 52 P P 03 26 33.4 -0.9
baz=320,SNR=51
N58A S S 03 35 29.3 -1.1
baz=320
N58A Sunbury 67.74 52 P P 03 26 33.5 -0.8
S54A Dingess, Beckl 67.74 57 P P 03 26 33.6 -0.9
baz=320,SNR=8.8
S54A S S 03 35 28.9 -1.8
baz=320
BER Bergen 67.75 355 *e*P P 03 26 33.8 -0.2
BER IVmB_BB 03 26 46.1
comp=Z,2µm,3.7s
BER *e*PP PP 03 29 03.9 +1.2
BER *e*S S 03 35 35.2 +5.4
BER *e*SKSac SKKSac 03 36 30.1 0.0
BER *e*SS SS 03 39 57.3 +7.4
BER IVMsBB 04 07 57.0
comp=Z,5µm,15.7s
J61A Chester 67.76 48 P P 03 26 33.3 -1.1
baz=322,SNR=30
J61A S S 03 35 32.0 +1.5
baz=322
O57A Amberson 67.77 53 P P 03 26 34.0 -0.5
baz=320,SNR=36
O57A S S 03 35 28.8 -2.0
baz=320
M59A Waymart 67.81 51 P P 03 26 33.4 -1.3
baz=321,SNR=27
M59A S S 03 35 28.3 -3.0
baz=321
TAS Tashkent 67.84 309 IAMs_20 IAMs_20 03 55 32.0
comp=Z,21µm,21.0s
OSL Oslo 67.84 352 *e*P P 03 26 35.3 +0.7
OSL *e*S S 03 35 35.5 +4.5
OSL IVMs_BB IVMs_BB 04 02 42.5
comp=Z,5µm,17.1s
OSL IVmB_BB 23 23 20.0
H63A New Sharon 67.85 45 P P 03 26 33.6 -1.3
baz=322,SNR=19
H63A S S 03 35 29.0 -2.6
baz=322
Q56A Snyder Ridge, 67.89 55 P P 03 26 34.2 -1.1
baz=320,SNR=12
Q56A S S 03 35 31.8 -0.5
baz=320
Q56A Snyder Ridge, 67.89 55 P P 03 26 34.2 -1.1
Q56A IAmb IAmb 03 26 42.3
comp=Z,333nm,1.6s
I62A Tamworth 67.89 46 P P 03 26 34.0 -1.2
baz=322,SNR=14
I62A S S 03 35 28.6 -3.5
baz=322
FPAL Fort Paine 67.91 62 IAMs_20 IAMs_20 03 57 49.6
comp=Z,37µm,19.0s
G64A Maxfield 67.94 44 P P 03 26 34.3 -1.1
baz=323,SNR=30
G64A S S 03 35 30.9 -1.7
baz=323
CHTO Chiang Mai 67.95 273 P P 03 26 35.9 -0.1
CHTO pmax pmax
comp=Z,123nm,1.1s
CHTO MLR MLR
comp=Z,21µm,18.0s
CHTO Chiang Mai 67.95 273 P P 03 26 35.9 -0.1
CHTO IAmb IAmb 03 26 53.9
comp=Z,122nm,1.1s
CHTO Chiang Mai 67.95 273 IAMs_20 IAMs_20 03 57 51.7
comp=Z,21µm,18.0s
K61A Williamstown 67.96 48 P P 03 26 34.5 -1.2
baz=322,SNR=28
K61A S S 03 35 31.2 -1.8
baz=322
Y49A Blount Mountai 67.98 63 P P 03 26 33.7 -2.2
Y49A IAmb IAmb 03 26 42.1
comp=Z,387nm,1.8s
Y49A IAMs_20 IAMs_20 03 57 15.7
comp=Z,36µm,20.0s
R55A Marlinton 67.99 56 P P 03 26 35.3 -0.7
baz=320,SNR=15
R55A S S 03 35 32.5 -1.2
baz=320
L60A Shokan 68.04 49 P P 03 26 34.9 -1.3
baz=321,SNR=23
L60A S S 03 35 33.2 -0.8
baz=321
TKL Tuckaleechee C 68.06 60 P P 03 26 35.0 -1.4
TKL pmax pmax
comp=Z,361nm,1.5s
TKL MLR MLR
comp=Z,59µm,20.0s
TKL Tuckaleechee C 68.06 60 P P 03 26 35.0 -1.4
BTK Batken 68.07 307 P P 03 26 36.4 -0.1
BTK pmax pmax
comp=Z,211nm,1.1s
BTK Batken 68.07 307 P P 03 26 36.4 -0.1
BTK IAmb IAmb 03 26 43.0
comp=Z,211nm,1.1s
BTK IAMs_20 IAMs_20 03 55 36.5
comp=Z,32µm,19.0s
I63A Otisfield 68.09 46 P P 03 26 35.5 -0.9
baz=322,SNR=34
I63A S S 03 35 33.4 -1.1
baz=322
I63A Otisfield 68.09 46 P P 03 26 34.9 -1.5
I63A IAmb IAmb 03 26 43.2
comp=Z,342nm,1.6s
346A Big Creek Wild 68.11 67 P P 03 26 36.9 +0.1
346A IAMs_20 IAMs_20 03 57 46.8
comp=Z,29µm,19.0s
N59A State Game Lan 68.13 51 P P 03 26 36.1 -0.7
baz=321,SNR=36
N59A S S 03 35 34.6 -0.6
baz=321
N59A State Game Lan 68.13 51 P P 03 26 36.1 -0.7
P57A Homestead Farm 68.14 54 P P 03 26 35.8 -1.0
baz=320,SNR=14
P57A S S 03 35 34.7 -0.5
baz=320
P57A Homestead Farm 68.14 54 P P 03 26 35.8 -1.0
P57A IAmb IAmb 03 26 43.8
comp=Z,222nm,1.4s
ODD1 Odda 68.15 355 *e*P P 03 26 36.3 -0.3
ODD1 *e*S S 03 35 40.9 +6.1
T54A Tazewell 68.16 58 P P 03 26 36.5 -0.6
baz=320,SNR=33
T54A S S 03 35 35.1 -0.7
baz=320
S55A Lewisburg 68.18 56 P P 03 26 36.2 -1.0
baz=320,SNR=12
S55A S S 03 35 35.8 -0.1
baz=320
O58A Lewisberry 68.19 52 P P 03 26 36.2 -0.9
baz=321,SNR=36
O58A S S 03 35 33.5 -2.2
baz=321
J62A Henniker 68.19 47 P P 03 26 35.9 -1.2
baz=322,SNR=29
J62A S S 03 35 31.2 -4.5
baz=322
L61A Hillsdale 1, H 68.19 49 P P 03 26 35.9 -1.3
baz=322,SNR=20
L61A S S 03 35 33.4 -2.4
baz=322
LRW Lerwick 68.20 359 *e*P P 03 26 36.0 -0.8
LRW IAmb IAmb 03 26 44.8
comp=Z,84nm,1.0s
LRW IAMs_20 IAMs_20 04 02 20.5
comp=Z,14µm,19.3s
KONO Kongsberg 68.22 353 *c i*P P 03 26 35.9 -1.0
KONO pmax pmax
comp=Z,206nm,1.2s
KONO Kongsberg 68.22 353 P P 03 26 36.1 -0.8
KONO IAmb IAmb 03 26 47.2
comp=Z,182nm,1.1s
KONO Kongsberg 68.22 353 *e*P P 03 26 37.3 +0.3
KONO IVmB_BB 03 26 44.7
comp=Z,2µm,3.6s
KONO *e*S S 03 35 40.1 +4.6
KONO *e*SS SS 03 40 04.3 +7.0
KONO IVMsBB 04 07 20.0
comp=Z,4µm,14.8s
H64A Troy 68.22 45 P P 03 26 36.0 -1.3
baz=323,SNR=18
H64A S S 03 35 35.5 -0.5
baz=323
CM31 Chiang Mai Arr 68.22 272 P P 03 26 38.5 +0.9
SNR=34
CM31 Chiang Mai Arr 68.22 272 P P 03 26 38.5 +0.9
CMAR Chiang Mai Arr 68.22 272 P P 03 26 38.1 +0.4
comp=Z,14nm,0.5s,baz=25,slow=7.0,SNR=42
CMAR PKP2ab 03 54 58.8
comp=Z,4.2nm,0.9s,baz=244,slow=4.2,SNR=8.2
CMAR LR LR 03 58 26.6
comp=Z,14µm,18.8s,baz=95,slow=38
CMAR Chiang Mai Arr 68.22 272 *i* P P 03 26 38.0 +0.4
CMAR pmax pmax
comp=Z,15nm,0.5s
CMAR Chiang Mai Arr 68.22 272 P P 03 26 37.5 -0.1
CMAR P'P'bc 03 54 58.4 0.0
OBN Obninsk 68.25 337 PKP2bc **P'P'df** 03 54 59.0 -2.8
comp=Z,3.3nm,0.5s,baz=141,slow=6.5,SNR=3.5
OBN Obninsk 68.25 337 *c i*P P 03 26 36.4 -0.8
OBN *e* 03 27 01.9
OBN *e* 03 29 08.0
OBN *e*S SKiKP 03 36 06.0 -24
OBN pmax pmax
comp=Z,287nm,1.1s
OBN MLR MLR
comp=Z,36µm,20.0s
OBN Obninsk 68.25 337 P P 03 26 35.5 -1.8
OBN Obninsk 68.25 337 IAMs_20 IAMs_20 03 59 12.7
comp=Z,36µm,20.0s
R56A Bull Pasture M 68.26 55 P P 03 26 36.4 -1.3
baz=320,SNR=14
R56A S S 03 35 34.8 -2.0
baz=320
LRAL Lakeview Retre 68.27 64 P P 03 26 36.0 -1.7
baz=319,SNR=15
LRAL Lakeview Retre 68.27 64 P P 03 26 35.7 -2.0
LRAL IAmb IAmb 03 26 43.8
comp=Z,100nm,1.4s
Q57A Strasburg 68.28 54 P P 03 26 36.6 -1.2
baz=320,SNR=13
Q57A S S 03 35 34.9 -2.0
baz=320
X51A Calhoun 68.30 61 P P 03 26 36.2 -1.7
X51A IAmb IAmb 03 26 45.4
comp=Z,323nm,1.5s
X51A IAMs_20 IAMs_20 03 58 10.9
comp=Z,36µm,20.0s
SPMM Sapulut 68.34 249 P P 03 26 46.0 +7.6
M60A Port Jervis 68.36 50 P P 03 26 37.0 -1.2
baz=321,SNR=18
M60A S S 03 35 36.7 -1.2
baz=321
MSAI Masohi 68.38 233 P P 03 26 46.3 +7.8
comp=Z,1µmcomp=Z,65nm,0.8s
L61B Northampton 68.40 48 P P 03 26 36.3 -2.1
baz=322,SNR=26
L61B S S 03 35 34.7 -3.5
baz=322
TAPN Taplejung 68.40 287 *e*P P 03 26 39.1 +0.1
comp=Z,413nm,0.8s
O59A Robesonia 68.40 52 P P 03 26 37.7 -0.8
baz=321
O59A S S 03 35 37.0 -1.4
baz=321
K62A Royalston 68.44 48 P P 03 26 37.3 -1.3
baz=322,SNR=21
K62A S S 03 35 37.7 -1.0
baz=322
U54A Nelsons Funny 68.44 58 P P 03 26 38.3 -0.6
baz=320,SNR=15
J63A Strafford 68.48 47 P P 03 26 37.7 -1.2
baz=322,SNR=8.7
J63A S S 03 35 38.6 -0.5
baz=322
G65A Princeton 68.49 43 P P 03 26 37.9 -1.0
baz=324,SNR=37
G65A S S 03 35 37.1 -2.0
baz=324
G65A Princeton 68.49 43 P P 03 26 37.6 -1.3
G65A IAmb IAmb 03 26 45.4
comp=Z,231nm,1.2s
P58A Pank, Wackersv 68.49 53 P P 03 26 37.9 -1.1
baz=321,SNR=8.7
P58A S S 03 35 37.6 -1.8
baz=321
N60A Cedar Hill Far 68.49 51 P P 03 26 38.1 -0.9
baz=321,SNR=35
N60A S S 03 35 38.9 -0.5
baz=321
T55A Pulaski 68.53 57 P P 03 26 38.8 -0.6
baz=320,SNR=29
T55A S S 03 35 38.7 -1.4
baz=320
KSCT Kent School, K 68.59 49 P P 03 26 38.1 -1.5
KSCT IAmb IAmb 03 26 47.2
comp=Z,203nm,1.5s
H65A Eastbrook 68.60 44 P P 03 26 38.6 -0.9
baz=323,SNR=34
H65A S S 03 35 37.2 -3.3
baz=323
I64A Boothbay 68.61 45 P P 03 26 38.4 -1.2
baz=323,SNR=9.8
I64A S S 03 35 39.4 -1.2
baz=323
BLS5 Blasjo 68.65 355 *e*P P 03 26 40.8 +1.1
BLS5 *e*S S 03 35 46.9 +6.2
BLS5 *e*SS SS 03 40 05.9 +1.9
BLS5 IVMs_BB IVMs_BB 03 54 10.6
comp=Z,4µm,19.9s
Q58A Fox Den Farm, 68.72 54 P P 03 26 39.5 -0.9
baz=321,SNR=18
Q58A S S 03 35 41.1 -1.0
baz=321
L62A Suffield 68.73 48 P P 03 26 39.4 -1.1
baz=322
S56A Natural Bridge 68.73 56 P P 03 26 40.0 -0.6
baz=320,SNR=27
S56A S S 03 35 42.0 -0.4
baz=320
K63A Dunstable 68.74 47 P P 03 26 39.7 -0.8
baz=322,SNR=21
K63A S S 03 35 40.3 -1.9
baz=322
SLIT Slitere, Latvi 68.74 346 *e*P P 03 26 39.7 -0.6
O60A Telford 68.77 51 P P 03 26 39.7 -1.0
baz=321,SNR=45
O60A S S 03 35 42.1 -0.6
baz=321
SDMD Soldier's Deli 68.77 53 P P 03 26 39.5 -1.3
SDMD IAmb IAmb 03 26 47.6
comp=Z,280nm,1.7s
M61A Granite Spring 68.78 50 P P 03 26 39.6 -1.2
baz=322,SNR=20
M61A S S 03 35 42.0 -0.8
baz=322
R57A Stanardsville 68.79 55 P P 03 26 39.9 -1.0
baz=320,SNR=50
R57A S S 03 35 41.6 -1.4
baz=320
P59A Jarrettsville 68.82 52 P P 03 26 40.2 -0.8
baz=321,SNR=34
P59A S S 03 35 42.4 -0.9
baz=321
GGN Saint George 68.86 43 P P 03 26 40.0 -1.1
GGN IAmb IAmb 03 26 47.5
comp=Z,243nm,1.3s
U55A TA2, Sparta 68.86 58 P P 03 26 40.8 -0.7
baz=320,SNR=46
U55A S S 03 35 42.9 -1.2
baz=320
HRV Adam Dziewonsk 68.87 47 P P 03 26 40.0 -1.3
baz=322
EMMW East Machias 68.92 43 P P 03 26 40.4 -1.2
KMY Karmoy 68.92 355 *e*P P 03 26 42.5 +1.1
KMY *e*S S 03 35 50.1 +6.3
H66A Whiting 68.92 43 P P 03 26 40.6 -1.0
baz=324,SNR=61
H66A S S 03 35 42.7 -1.7
baz=324
V54A Nebo 68.94 59 P P 03 26 41.2 -0.7
baz=320,SNR=40
V54A S S 03 35 43.5 -1.4
baz=320
ODAN Odare 68.95 287 *e*P P 03 26 42.3 -0.1
PAL Palisades 68.95 50 P P 03 26 40.7 -1.2
baz=322,SNR=12
PAL S S 03 35 44.5 -0.3
baz=322
N61A South Mountain 68.97 50 P P 03 26 41.1 -0.8
baz=322
N61A S S 03 35 43.2 -1.7
baz=322
S57A Dark Hollow, R 68.98 55 P P 03 26 41.4 -0.7
baz=320,SNR=43
S57A S S 03 35 44.3 -1.0
baz=320
T56A Rocky Mt 68.99 57 P P 03 26 40.9 -1.3
baz=320,SNR=25
T56A S S 03 35 44.4 -1.1
baz=320
BG3 Lake Jocassee 69.01 60 IAMs_20 IAMs_20 03 56 35.6
comp=Z,36µm,21.0s
AAI Ambon 69.03 233 P P 03 26 50.3 +7.7
comp=Z,8µmcomp=Z,556nm,1.6s
R58A Rapidan 69.05 54 P P 03 26 41.2 -1.3
baz=321,SNR=37
R58A S S 03 35 43.2 -2.8
baz=321
P60A Greenville 69.05 52 P P 03 26 41.5 -1.0
baz=321,SNR=7.3
P60A S S 03 35 43.8 -2.2
baz=321
DRLN Deer Lake 69.06 35 P P 03 26 41.1 -1.2
DRLN IAmb IAmb 03 26 49.2
comp=Z,243nm,1.4s
GUN Gumba 69.06 289 *e*P P 03 26 43.2 0.0
comp=Z,943nm,1.0s
JIRN Jiri 69.06 288 *e*P P 03 26 43.4 +0.2
comp=Z,692nm,0.8s
Z51A Franklin 69.06 63 P P 03 26 40.8 -1.9
Z51A IAmb IAmb 03 26 48.6
comp=Z,180nm,1.4s
Z51A IAMs_20 IAMs_20 03 58 07.4
comp=Z,40µm,21.0s
M62A Hamden 69.09 49 P P 03 26 41.1 -1.5
baz=322,SNR=7.6
M62A S S 03 35 46.7 +0.3
baz=322
LMN Caledonia Moun 69.10 41 P P 03 26 41.4 -1.3
LMN IAmb IAmb 03 26 54.0
comp=Z,86nm,0.9s
GAR Garm 69.13 307 P P 03 26 42.0 -1.2
NLAI Namlea 69.19 235 P P 03 26 51.3 +7.7
comp=Z,3µmcomp=Z,60nm,0.9s
N62A Caumsett State 69.22 50 P P 03 26 41.9 -1.6
baz=322
N62A S S 03 35 46.2 -1.8
baz=322
Y52A Lilburn 69.26 61 P P 03 26 42.5 -1.4
Y52A IAmb IAmb 03 26 50.5
comp=Z,390nm,1.8s
V55A Taylorsville 69.27 58 P P 03 26 43.2 -0.7
baz=320,SNR=18
V55A S S 03 35 47.6 -1.2
baz=320
Q59A Harwood 69.29 53 P P 03 26 43.4 -0.6
baz=321
Q59A S S 03 35 48.8 0.0
baz=321
U56A King 69.33 57 P P 03 26 43.2 -1.1
baz=320,SNR=12
U56A S S 03 35 47.9 -1.5
baz=320
W54A Cherokee Point 69.34 59 P P 03 26 43.5 -0.9
baz=320,SNR=21
W54A S S 03 35 48.1 -1.5
baz=320
L63A North Scituate 69.35 48 P P 03 26 42.8 -1.5
baz=322,SNR=9.8
L63A S S 03 35 49.0 -0.5
baz=322
RAMN Ramite 69.35 287 *e*P P 03 26 44.7 -0.2
comp=Z,589nm,0.8s
O61A Allentown 69.36 51 P P 03 26 43.5 -0.9
baz=322,SNR=10
O61A S S 03 35 48.5 -1.1
baz=322
R58B Mineral 69.37 55 P P 03 26 43.3 -1.2
baz=321,SNR=11
R58B S S 03 35 48.7 -1.1
baz=321
T57A Hurt 69.41 56 P P 03 26 43.8 -1.0
baz=320,SNR=17
T57A S S 03 35 49.1 -1.3
baz=320
CBN Corbin Frederi 69.44 54 P P 03 26 43.5 -1.4
baz=321
MSVF Nonsavu 69.45 179 *de*P P 03 26 48.3 +3.2
MSVF pmax pmax
comp=Z,144nm,1.3s
MSVF MLR MLR
comp=Z,13µm,18.0s
MSVF Nonsavu 69.45 179 P P 03 26 46.5 +1.4
MSVF IAmb IAmb 03 27 08.3
comp=Z,163nm,1.3s
MSVF Nonsavu 69.45 179 IAMs_20 IAMs_20 04 00 47.6
comp=Z,14µm,18.0s
250A Grady 69.47 64 P P 03 26 43.6 -1.6
250A IAMs_20 IAMs_20 03 59 36.3
comp=Z,35µm,19.0s

KKN Kakani 69.50 289 *e*P P 03 26 46.0 +0.3
comp=Z,235nm,0.7s
M63A Gales Ferry 69.51 48 P P 03 26 44.0 -1.3
baz=322,SNR=13
M63A S S 03 35 47.9 -3.4
baz=322
S58A Poland Farm, P 69.55 55 P P 03 26 44.5 -1.2
baz=321,SNR=11
S58A S S 03 35 52.0 0.0
baz=321
P61A Hammonton 69.57 51 P P 03 26 44.6 -1.1
baz=322,SNR=5.9
P61A S S 03 35 51.9 -0.2
baz=322
R59A King George, V 69.57 54 P P 03 26 45.2 -0.5
baz=321
R59A S S 03 35 52.0 -0.1
baz=321
LUWI Luwuk 69.58 240 P P 03 26 48.0 +2.0
comp=Z,7μmcomp=Z,361nm,0.8s
LUWI Luwuk 69.58 240 P P 03 26 45.8 -0.2
LUWI IAMs_20 IAMs_20 03 52 54.2
comp=Z,19μm,22.0s
Q60A Greensboro 69.58 53 P P 03 26 44.8 -0.9
baz=321,SNR=5.3
Q60A S S 03 35 53.4 +1.2
baz=321
PKI Pulchoki 69.59 289 *e*P P 03 26 46.2 -0.2
PKIN Phulchoki 69.59 289 *e*P P 03 26 46.2 -0.2
L64A Middleborough 69.65 47 P P 03 26 44.9 -1.2
baz=323,SNR=9.1
L64A S S 03 35 51.5 -1.4
baz=323
X54A Belton 69.65 60 P P 03 26 45.5 -0.7
baz=320,SNR=33
X54A S S 03 35 51.4 -1.8
baz=320
HOMB Homborsund 69.66 353 *e*P P 03 26 46.2 +0.3
HOMB *e*S S 03 35 56.9 +4.3
HOMB IVMs_BB IVMs_BB 04 08 20.8
comp=Z,4μm,15.4s
V56A Mocksville 69.68 58 P P 03 26 45.4 -1.1
baz=320,SNR=20
V56A S S 03 35 52.9 -0.7
baz=320
SNART Snartemo 69.68 354 *e*P P 03 26 45.2 -0.9
SNART IVmB_BB 03 26 52.2
comp=Z,4μm,3.9s
SNART *e*S S 03 35 54.6 +1.8
GKN Gorkha 69.71 290 *e*P P 03 26 46.8 -0.2
comp=Z,694nm,1.2s
DMN Daman 69.74 289 *e*P P 03 26 47.5 +0.2
KMSC Kings Mountain 69.75 59 P P 03 26 46.0 -0.9
baz=320,SNR=28
KMSC S S 03 35 52.7 -1.7
baz=320
KMSC Kings Mountain 69.75 59 P P 03 26 45.6 -1.3
M64A Tiverton 69.78 48 P P 03 26 45.6 -1.3
baz=323,SNR=11
M64A S S 03 35 51.0 -3.6
baz=323
R60A Leonardtown, M 69.78 53 P P 03 26 45.0 -2.0
baz=321
R60A S S 03 35 53.3 -1.3
baz=321
152A Waverly Hall 69.80 63 IAMs_20 IAMs_20 03 58 30.0
comp=Z,38μm,21.0s
U57A Blanch 69.81 57 P P 03 26 46.1 -1.1
baz=321,SNR=20
U57A S S 03 35 52.2 -2.8
baz=321
S59A Mechanicsville 69.82 54 P P 03 26 46.5 -0.7
baz=321,SNR=10
S59A S S 03 35 54.3 -0.8
baz=321
T58A Grand View Acr 69.82 56 P P 03 26 46.0 -1.3
baz=321,SNR=11
T58A S S 03 35 55.1 -0.1
baz=321
IZAR Zarasai 69.87 343 *e*P P 03 26 47.0 -0.3
LPSR Galich'ya Gora 69.91 334 *e*P P 03 26 47.1 -0.5
LPSR *e*S S 03 35 55.2 -0.6
LPSR *e*SS SS 03 40 23.5 -0.2
LPSR pmax pmax
comp=Z,270nm,1.1s
LPSR smax smax
comp=E,6μm,9.8s
LPSR MLR MLR
comp=Z,28μm,15.0s
GOGA Godfrey 69.92 61 P P 03 26 46.5 -1.4
baz=320,SNR=21
GOGA Godfrey 69.92 61 P P 03 26 46.3 -1.7
GOGA pmax pmax
comp=Z,201nm,1.5s
GOGA MLR MLR
comp=Z,51μm,20.0s
GOGA Godfrey 69.92 61 P P 03 26 46.3 -1.7
GOGA IAmb IAmb 03 26 55.1
comp=Z,201nm,1.5s
L65A Cape Cod Natio 69.93 47 P P 03 26 45.8 -2.1
baz=323
Q61A Milford 69.93 52 P P 03 26 46.1 -1.8
baz=322
Q61A S S 03 35 54.9 -1.5
baz=322
HODGE Hodges 69.95 60 P P 03 26 47.0 -1.1
DANN Dangsing 69.96 290 *e*P P 03 26 48.6 -0.1
comp=Z,354nm,0.7s
CHGR Chuyangaron 69.97 307 P P 03 26 47.5 -0.8
V57A Coltrane Farms 70.00 57 P P 03 26 47.1 -1.3
baz=321,SNR=10
V57A S S 03 35 54.1 -3.1
baz=321
M65A Busby, Falmout 70.03 48 P P 03 26 46.6 -1.9
baz=323
ISAL Salakas 70.06 343 *e*P P 03 26 48.0 -0.4
X55A Gracelyn & Ava 70.10 59 P P 03 26 48.1 -1.0
baz=320,SNR=27
X55A S S 03 35 57.7 -0.9
baz=320
W56A Indian Trail 70.15 58 P P 03 26 48.1 -1.3
baz=320,SNR=8.9
W56A S S 03 35 57.2 -1.9
baz=320
LEWI Lewis, Hebride 70.17 2 *e*P P 03 26 48.8 -0.2
LEWI IAMs_20 IAMs_20 03 58 49.2
comp=Z,12μm,18.8s
S60A Water View 70.19 54 P P 03 26 48.3 -1.2
baz=321
S60A S S 03 35 59.3 -0.1
baz=321
U58A Oxford 70.24 56 P P 03 26 48.6 -1.2
baz=321,SNR=12
U58A S S 03 35 58.4 -1.7
baz=321
IIGN Ignalina 70.25 343 *e*P P 03 26 49.1 -0.6
T59A Double "B" Far 70.30 55 P P 03 26 49.5 -0.7
baz=321,SNR=41
T59A S S 03 35 59.4 -1.4
baz=321
PBUR Paburge 70.34 345 *e*P P 03 26 49.3 -0.8
R61A Willards 70.35 53 P P 03 26 49.8 -0.7
baz=322
R61A S S 03 35 59.6 -1.7
baz=322
VRH Novokhopyorsk 70.38 332 *e*P P 03 26 48.0 -2.5
VRH *e*S S 03 35 59.9 -1.3
VRH *e*SS SS 03 40 27.3 -3.6
VRH pmax pmax
comp=Z,170nm,0.8s
VRH smax smax
comp=E,6μm,10.1s
VRH MLR MLR
comp=Z,31μm,15.0s
Y55A Saluda 70.39 60 P P 03 26 50.0 -0.8
baz=320,SNR=69
Y55A S S 03 36 02.3 +0.3
baz=320
X56A White Oak 70.41 59 P P 03 26 50.0 -0.9
baz=320,SNR=57
X56A S S 03 36 00.2 -1.8
baz=320
V58A Windy Hill, Pi 70.41 57 P P 03 26 50.1 -0.9
baz=321,SNR=59
V58A S S 03 36 00.8 -1.2
baz=321
V58A Windy Hill, Pi 70.41 57 IAMs_20 IAMs_20 03 56 54.2
comp=Z,41μm,22.0s
JSC Jenkinsville 70.44 59 IAMs_20 IAMs_20 03 58 08.5
comp=Z,26μm,20.0s
W57A Gilead 70.45 58 P P 03 26 49.9 -1.3
baz=321,SNR=36
KOLN Koldanda 70.49 290 *e*P P 03 26 51.5 -0.3
comp=Z,500nm,1.2s
M66A Nantucket 70.50 47 P P 03 26 49.9 -1.5
baz=323
PABE Paberze 70.51 344 *e*P P 03 26 50.4 -0.8
NACGM Naroch 70.57 342 *e*P P 03 26 50.0 -1.6
NACGM PM 03 26 59.0
comp=Z,0.5nm,1.0s
NACGM *e*S S 03 36 06.0 +2.6
NACGM *e*PS PnS 03 36 34.0 +2.2
NACGM *e*SS SS 03 40 02.0 -32
NACGM *e*SSS SSS 03 43 42.0
NACGM *e*LQ LQ 03 53 04.0
NACGM *e*LR LR 03 57 52.0
NACGM LRM MLR 04 01 44.0
comp=Z,59nm,18.0s
T60A Surry 70.58 54 P P 03 26 50.9 -1.1
baz=321
T60A S S 03 36 03.2 -0.9
baz=321
352A Blakely 70.59 64 P P 03 26 50.4 -1.7
352A IAmb IAmb 03 26 58.5
comp=Z,435nm,1.6s
352A IAMs_20 IAMs_20 03 58 48.9
comp=Z,29μm,20.0s
HAL Halifax 70.59 41 P P 03 26 50.2 -1.7
HAL pmax pmax
comp=Z,474nm,2.0s
HAL Halifax 70.59 41 P P 03 26 50.1 -1.7
HAL IAmb IAmb 03 26 58.4
comp=Z,474nm,2.0s
PYUN Piuthan 70.60 291 *e*P P 03 26 52.5 0.0
comp=Z,679nm,1.1s
U59A Littleton 70.66 56 P P 03 26 51.6 -0.8
baz=321,SNR=13
U59A S S 03 36 03.0 -2.0
baz=321
VORR Voronezh 70.67 334 *e*P P 03 26 49.0 -3.3
VORR pmax pmax
comp=Z,250nm,1.2s
S61A Accomac 70.69 53 P P 03 26 51.0 -1.6
baz=322
S61A S S 03 36 05.2 -0.1
baz=322
MICGM Minsk 70.74 341⇑ *e*P P 03 26 53.0 +0.4
MICGM ⇑ *e*P pP 03 26 54.0 -6.0
MICGM PM 03 26 56.0
comp=Z,0.3nm,2.0s
MICGM *e*PcP PcP 03 27 10.0 -3.4
MICGM *e*PP PP 03 29 40.0 +11
MICGM *e*PPP PPP 03 31 10.0
MICGM *e*S S 03 36 08.0 +2.6
MICGM SM 03 36 09.0
comp=E,6.2nm,14.0s
MICGM *e*PS PnS 03 36 42.0 +8.0
MICGM *e*SS SS 03 40 34.0 -2.3
MICGM *e*SSS SSS 03 44 00.0
MICGM *e*LQ LQ 03 48 42.0
MICGM LQM 03 50 30.0
comp=N,9.6nm,30.0s
MICGM LQM 03 50 48.0
comp=E,12nm,30.0s
MICGM *e*LR LR 03 54 54.0
MICGM LRM MLR 04 02 40.0
comp=Z,29nm,16.0s
MICGM LRM MLR 04 02 42.0
comp=N,14nm,16.0s
MICGM LRM MLR 04 02 54.0
comp=E,12nm,16.0s
MNK Minsk 70.74 341 *oe*P P 03 26 53.0 +0.4
MNK *e* 03 27 10.0
MNK *e*PPP PPP 03 31 10.0
MNK *e*S S 03 36 08.0 +2.6
MNK *e*PS 03 36 42.0
MNK *e*SS SS 03 40 34.0 -2.3
MNK pmax pmax
comp=Z,250nm,2.0s
MNK smax smax
comp=E,6μm,14.0s
MNK MLR MLR
comp=N,14μm,16.0s
MNK MLR MLR
comp=E,12μm,16.0s
MNK MLR MLR
comp=Z,29μm,16.0s
451A Vernon 70.79 65 IAMs_20 IAMs_20 03 58 41.4
comp=Z,29μm,20.0s
Y56A Pelion 70.80 60 P P 03 26 52.5 -0.8
baz=321
Y56A S S 03 36 04.8 -1.9
baz=321
GOET G??ttrup 70.84 353 *i* P P 03 26 57.8 +4.7
KAC Achnashellach 70.84 1 *e*P P 03 26 52.7 -0.5
V59A Middlesex 70.88 56 P P 03 26 52.9 -0.9
baz=321,SNR=19
V59A S S 03 36 07.2 -0.4
baz=321
U60A Pendleton 70.89 55 P P 03 26 53.1 -0.7
baz=321,SNR=7.3
U60A S S 03 36 05.8 -1.8
baz=321
MDO Dochfour 70.91 1 *e*P P 03 26 53.2 -0.4
X57A Johnson Farm, 70.92 58 P P 03 26 53.5 -0.5
baz=321,SNR=17
X57A S S 03 36 08.9 +0.8
baz=321
W58A Raeford 70.94 57 P P 03 26 53.3 -0.9
baz=321,SNR=13
W58A S S 03 36 09.0 +0.7
baz=321
TAOE Nuku Hiva Isla 70.97 134 *e*S S 03 36 07.4 -1.7
comp=Z,10μm,26.5s
TAOE Nuku Hiva Isla 70.97 134 *e*LR LR 03 48 30.4
comp=Z,43μm,29.3s,baz=339
TAOE Nuku Hiva Isla 70.97 134 *e*T T 04 44 09.8
comp=Z,38nm,0.2s
TAOE Nuku Hiva Isla 70.97 134 IAMs_20 IAMs_20 03 51 06.2
comp=Z,17μm,21.0s
KPL Plockton 71.00 1 *e*P P 03 26 53.6 -0.5
KPL IAmb IAmb 03 27 03.2
comp=Z,469nm,2.4s
KPL IAMs_20 IAMs_20 03 59 03.5
comp=Z,12μm,18.9s
VSR Storozhevoye 71.09 333 *e*P P 03 26 53.7 -1.1
VSR *e*S S 03 36 04.7 -4.9
VSR *e*SS SS 03 40 36.8 -5.1
VSR pmax pmax
comp=Z,170nm,1.0s
VSR smax smax
comp=E,6μm,9.6s
VSR MLR MLR
comp=Z,36μm,17.0s
Y57A Sumter 71.11 59 P P 03 26 54.2 -1.0
baz=321
Y57A S S 03 36 09.4 -0.8
baz=321
Z56A Williston 71.12 60 P P 03 26 54.7 -0.6
baz=321,SNR=7.8
Z56A S S 03 36 10.2 -0.2
baz=321
W59A Clinton 71.24 57 P P 03 26 55.4 -0.6
baz=321
W59A S S 03 36 11.5 -0.3
baz=321
X58A Rowland 71.25 58 P P 03 26 55.1 -0.9
baz=321,SNR=9.3
X58A S S 03 36 10.9 -1.0
baz=321
VORD Divnogorie 71.28 333 *e*P P 03 26 54.7 -1.3
VORD pmax pmax
comp=Z,140nm,1.0s
VORD MLR MLR
comp=Z,26μm,16.0s
SAUI Saumlaki 71.29 228 IAMs_20 IAMs_20 03 53 32.5
comp=Z,27μm,22.0s
U61A Possum Corner 71.36 55 P P 03 26 55.8 -0.8
baz=322,SNR=8.0
TIGA Tifton 71.36 63 P P 03 26 55.6 -1.1
baz=320,SNR=6.6
TIGA S S 03 36 15.3 +2.1
baz=320
TIGA Tifton 71.36 63 IAMs_20 IAMs_20 03 59 40.2
comp=Z,32μm,20.0s
UNM Universidad Na 71.38 82 IAMs_20 IAMs_20 03 58 12.6
comp=Z,16μm,19.0s
V60A Jim Taylor Roa 71.38 56 P P 03 26 56.0 -0.9
baz=322,SNR=6.9
V60A S S 03 36 10.9 -2.5
baz=322
V60A Jim Taylor Roa 71.38 56 P P 03 26 55.8 -1.0
V60A IAmb IAmb 03 27 04.7
comp=Z,409nm,1.6s
MUD Monsted U'grnd 71.42 353 *i* P P 03 26 56.3 -0.4
comp=Z,12μm,15.0s
MUD Monsted U'grnd 71.42 353 *i* P P 03 26 56.3 -0.4
MUD MLR MLR
comp=Z,13μm,15.0s
DRUM Mains of Drumt 71.44 360 *e*P P 03 26 56.0 -0.8
DRUM IAMs_20 IAMs_20 04 03 57.3
comp=Z,11μm,19.0s
CNNC Cliffs of the 71.47 56 P P 03 26 56.7 -0.6
baz=321
Z57A Bowman 71.50 60 P P 03 26 56.6 -0.9
baz=321,SNR=20
Z57A S S 03 36 14.6 -0.2
baz=321
Y58A Scranton 71.58 58 P P 03 26 57.2 -0.9
baz=321
Y58A S S 03 36 15.0 -0.6
baz=321
SMLA Simla 71.59 297 *e*P P 03 26 57.7 -0.5
SMLA IAmb IAmb 03 27 03.9
comp=Z,113nm,0.6s
255A Hazlehurst 71.59 62 P P 03 26 56.8 -1.4
X59A McDuffie Farm, 71.62 57 P P 03 26 57.0 -1.2
baz=321
X59A S S 03 36 15.2 -0.9
baz=321
W60A Pink Hill 71.71 56 P P 03 26 57.9 -0.8
baz=322,SNR=6.9
W60A S S 03 36 16.4 -0.7
baz=322
DDI Dehra Dun 71.71 296 *e*P P 03 27 01.0 +2.0
DDI IAmb IAmb 03 27 05.0
comp=Z,97nm,0.7s
V61A Roper 71.71 55 P P 03 26 57.8 -1.0
baz=322,SNR=7.3
NIL Nilore 71.76 301 P P 03 26 58.7 -0.5
NIL pmax pmax
comp=Z,197nm,0.9s
NIL MLR MLR
comp=Z,29μm,20.0s
NIL Nilore 71.76 301 P P 03 26 58.7 -0.5
NIL IAmb IAmb 03 27 06.1
comp=Z,197nm,0.8s
NIL Nilore 71.76 301 IAMs_20 IAMs_20 04 00 11.8
comp=Z,29μm,20.0s
BHK Bhakra 71.78 298 *ex* P 03 27 08.2 +8.9
157A Early Branch 71.82 60 P P 03 26 58.9 -0.5
baz=321,SNR=12
157A S S 03 36 17.9 -0.5
baz=321
553A Crawfordville 71.85 64 IAMs_20 IAMs_20 03 59 50.9
comp=Z,36μm,20.0s
COEN Coen 71.86 214 P P 03 27 01.0 +1.2
NHSC New Hope 71.92 59 P P 03 26 59.3 -0.8
baz=321
INVG Invergeldie, C 71.93 0 *e*P P 03 26 59.1 -0.7
INVG IAmb IAmb 03 27 06.9
comp=Z,46nm,0.9s
INVG IAMs_20 IAMs_20 03 53 37.9
comp=Z,11μm,23.9s
Y59A Loris 71.93 58 P P 03 26 58.8 -1.3
baz=321
X60A Albert Glenn T 71.94 57 P P 03 26 59.0 -1.1
baz=322,SNR=5.7
X60A S S 03 36 17.1 -2.7
baz=322
Z58A St. Stephen 71.94 59 P P 03 26 59.7 -0.5
baz=321,SNR=6.2
Z58A S S 03 36 19.3 -0.5
baz=321
KLNR Kaliningrad 71.98 346⇑ *e*P P 03 27 00.1 0.0
KLNR pmax pmax
comp=Z,232nm,1.2s
KLNR MLR MLR
comp=Z,18μm,19.0s
W61A Ground Anchor 71.98 56 P P 03 26 59.6 -0.9
baz=322
SUW Suwalki 72.07 344 *e*P P 03 26 59.2 -1.5
SUW *es*P sP 03 27 11.1 +0.3
SUW *e*S S 03 36 21.7 +1.0
SUW *e*SKSac ScS 03 37 06.1 +1.2
SUW *e*L L 04 00 32.9
comp=Z,24μm,20.4s
SUW Suwalki 72.07 344 P P 03 26 58.7 -2.0
SUW pmax pmax
comp=Z,274nm,1.0s
SUW MLR MLR
comp=Z,25μm,20.0s
SUW Suwalki 72.07 344 P P 03 26 58.7 -2.0
SUW IAmb IAmb 03 27 08.2
comp=Z,274nm,1.0s
SUW IAMs_20 IAMs_20 04 00 43.4
comp=Z,25μm,20.0s
LAWE Loch Awe, Argy 72.08 1 *e*P P 03 26 59.7 -0.9
LAWE IAMs_20 IAMs_20 04 01 15.3
comp=Z,12μm,20.7s
EAB Aberfoyle 72.16 1 *e*P P 03 27 00.8 -0.4
BSD Bornholm Skovb 72.19 349 *i* P P 03 27 00.0 -1.3
comp=Z,15μm,17.0s
BSD Bornholm Skovb 72.19 349 *i* P P 03 27 00.0 -1.3
BSD MLR MLR
comp=Z,15μm,17.0s
158A Hollywood 72.20 60 P P 03 27 00.9 -0.9
baz=321
V62A Hyde County Ai 72.21 55 P P 03 27 01.2 -0.5
baz=322
Y60A Bolivia 72.26 57 P P 03 27 01.2 -0.9
baz=322
Z59A Georgetown, SC 72.30 59 P P 03 27 01.6 -0.7
baz=321
EDI Edinburgh 72.43 360 *e*P P 03 27 01.9 -0.9
EDI IAMs_20 IAMs_20 04 02 01.8
comp=Z,10μm,18.0s
ESY Stoneypath 72.44 360 *e*P P 03 27 01.2 -1.6
PGBU Glenifferbraes 72.54 1 *e*P P 03 27 03.3 -0.2
PGBU IAmb IAmb 03 27 11.3
comp=Z,108nm,1.0s
PGBU IAMs_20 IAMs_20 04 02 11.6
comp=Z,10μm,19.6s
EBL Broad Law 72.58 360 *e*P P 03 27 03.1 -0.6
SBUM Sibu 72.62 251 P P 03 27 05.3 +0.8
SBUM IAmb IAmb 03 27 14.7
comp=Z,229nm,2.0s
SBUM Sibu 72.62 251 P P 03 27 06.0 +1.5
RGN Rugen 72.92 350 *e*P P 03 27 07.6 +2.0
RGN Rugen 72.92 350 *e*P P 03 27 05.3 -0.4
comp=Z,392nm,1.0s,baz=10,slow=5.7
EKA Eskdalemuir Ar 73.03 360 PKPPKP P'P'df 03 54 50.0 -3.6
comp=Z,1.3nm,0.9s,baz=207,slow=3.5,SNR=4.4
ESK Eskdalemuir 73.04 360 *e*P P 03 27 05.4 -1.0
ESK IAMs_20 IAMs_20 04 02 21.2
comp=Z,11μm,17.9s
ESK Eskdalemuir 73.04 360 P P 03 27 05.0 -1.4
ESK pmax pmax
comp=Z,104nm,1.1s
ESK MLR MLR
comp=Z,12μm,19.0s
ESK Eskdalemuir 73.04 360 P P 03 27 05.0 -1.4
ESK IAmb IAmb 03 27 18.9
comp=Z,104nm,1.1s
SKMB Sankelmark Bun 73.12 352 *e*P P 03 27 07.1 +0.2
comp=Z,418nm,1.2s,baz=10,slow=5.7
NEWG New Galloway 73.24 1 *e*P P 03 27 07.4 -0.2
NEWG IAmb IAmb 03 27 15.2
comp=Z,60nm,1.1s
NEWG IAMs_20 IAMs_20 04 02 42.9
comp=Z,10μm,19.0s
KBL Kabul 73.25 305 P P 03 27 06.3 -2.0
KBL pmax pmax
comp=Z,227nm,1.0s
KBL MLR MLR
comp=Z,24μm,18.0s
KBL Kabul 73.25 305 P P 03 27 06.3 -2.0
KBL IAmb IAmb 03 27 14.1
comp=Z,227nm,0.9s

KBL IAMs_20 IAMs_20 04 01 35.9
comp=Z,24µm,18.0s
BBSI Bau Bau 73.43 237 P P 03 27 16.5 +7.3
comp=Z,13µmcomp=Z,33nm,1.1s
EDMD Edmundbyers 73.52 359 *e*P **P** **03 27 08.2 -1.1**
EDMD IAmb IAmb 03 27 15.0
comp=Z,51nm,1.0s
EDMD IAMs_20 IAMs_20 04 04 00.5
comp=Z,11µm,19.3s
GKP Gorka Klasztor 73.70 347 *e*P **P** **03 27 09.4 -1.0**
GKP *es*P **sP** **03 27 20.5 0.0**
GKP *e*S **S** **03 36 40.6 +1.4**
GKP *e*L L 04 06 24.5
comp=Z,29µm,17.6s
HLG Helgoland 73.77 353 *e*P **P** **03 27 10.6 -0.1**
comp=Z,290nm,1.2s,baz=10,slow=5.7
KESW Keswick, Cumbr 73.77 360 *e*P **P** **03 27 10.0 -0.8**
KESW IAMs_20 IAMs_20 04 02 52.2
comp=Z,12µm,19.3s
BSEG Bad Segeberg 73.82 352 *e*P **P** **03 27 10.7 -0.3**
comp=Z,243nm,1.1s,baz=10,slow=5.7
BSEG *e*S **S** **03 36 42.4 +1.8**
baz=11,slow=11
GDLE Glaisdale, N Y 73.92 359 *e*P **P** **03 27 10.7 -0.9**
GDLE IAMs_20 IAMs_20 04 02 49.7
comp=Z,8µm,18.8s
AKASG Malin Array Be 74.04 339 P **P** **03 27 11.4 -1.0**
comp=Z,16nm,0.5s,baz=25,slow=6.1,SNR=39
AKASG PP **PP** **03 29 57.2 +0.3**
comp=Z,6.8nm,0.7s,baz=25,slow=9.0,SNR=4.7
AKASG PKPPKP 03 54 47.9
comp=Z,0.3nm,0.3s,baz=213,slow=1.8,SNR=4.4
AKASG LR LR 04 03 36.7
comp=Z,22µm,18.3s,baz=25,slow=39
AKASG Malin Array Be 74.04 339 *i* P **P** **03 27 11.3 -1.1**
AKASG pmax pmax
comp=Z,16nm,0.4s
AKASG Malin Array Be 74.04 339 P **P** **03 27 11.0 -1.4**
AKASG **P'P'df** **03 54 43.8 -7.8**
AKBB Malin Array Si 74.04 339 *d* P **P** **03 27 11.3 -1.0**
AKBB Malin Array Si 74.04 339 P **P** **03 27 11.3 -1.0**
AKBB IAmb IAmb 03 27 21.5
comp=Z,164nm,1.1s
WIM Isle of Man 74.21 1 *e*P **P** **03 27 12.2 -1.0**
DZM Mont Dzumac 74.31 190 LR LR 03 54 34.7
comp=Z,16µm,20.2s,baz=15,slow=31
HPK Haverah Park 74.39 359 *e*P **P** **03 27 13.8 -0.5**
HPK IAMs_20 IAMs_20 04 04 06.7
comp=Z,12µm,20.2s
KAPI Kappang 74.52 240 P **P** **03 27 16.1 +0.5**
KAPI pmax pmax
comp=Z,98nm,1.1s
KAPI Kappang 74.52 240 P **P** **03 27 16.1 +0.5**
KSM Kuching 74.53 252 P **P** **03 27 16.5 +0.7**
KSM IAmb IAmb 03 27 35.9
comp=Z,830nm,2.5s
KSM Kuching 74.53 252 P **P** **03 27 18.0 +2.3**
BEL Belsk 74.57 345 *e*P **P** **03 27 16.1 +0.6**
BEL *e*S **S** **03 36 52.7 +3.7**
BEL *e*L L 04 04 44.1
comp=Z,20µm,17.6s
RUE Ruedersdorf 74.91 349 *e*P **P** **03 27 17.3 0.0**
RUE Ruedersdorf 74.91 349 *e*P **P** **03 27 16.5 -0.8**
comp=Z,149nm,1.1s,baz=10,slow=5.7
RUE *e*S **S** **03 36 52.8 0.0**
baz=11,slow=11
LBWR Ladybower, Pea 74.95 359 *e*P **P** **03 27 17.1 -0.6**
LBWR IAmb IAmb 03 27 24.7
comp=Z,76nm,1.0s
LBWR IAMs_20 IAMs_20 04 03 21.6
comp=Z,14µm,19.3s
WLF1 Llynfaes 75.07 1 *e*P **P** **03 27 17.2 -1.1**
WLF1 IAMs_20 IAMs_20 04 12 41.2
comp=Z,19µm,16.0s
DSB Dublin 75.08 2 P **P** **03 27 17.4 -0.9**
DWPF Disney Wildern 75.11 63 P **P** **03 27 18.2 -0.8**
baz=322
DWPF Disney Wildern 75.11 63 P **P** **03 27 17.5 -1.4**
DWPF IAmb IAmb 03 27 27.2
comp=Z,364nm,1.6s
PPT Papeete 75.22 147 P **P** **03 27 23.0 +3.5**
comp=Z,47nm,0.8s,baz=63,slow=14,SNR=3.8
PPT LR LR 03 53 51.1
comp=Z,14µm,21.2s,baz=321,slow=30
PPT2 Papeete2 75.24 147 *e*P **P** **03 27 22.3 +2.6**
comp=Z,127nm,1.2s
PPT2 *e*S **S** **03 36 56.1 -1.3**
comp=Z,25µm,31.2s
PPT2 *e*LQ LQ 03 46 50.0
comp=Z,13µm,27.2s
PPT2 *e*LR LR 03 50 33.3
comp=Z,42µm,25.0s,baz=342
PPT2 Papeete2 75.24 147 *e*T T 04 48 38.4
comp=Z,21nm,0.3s
NRDL Niedersach Rie 75.27 352 *e*P **P** **03 27 18.7 -0.7**
comp=Z,120nm,1.1s,baz=10,slow=5.7
NRDL *e*S **S** **03 36 58.0 +1.2**
baz=11,slow=11
STNC Stoke 75.27 359 *e*P **P** **03 27 19.0 -0.4**
STNC IAMs_20 IAMs_20 04 03 41.5
comp=Z,13µm,19.7s
TIAR Tiarei 75.29 147 *e*P **P** **03 27 22.3 +2.4**
comp=Z,43nm,1.2s
TIAR Tiarei 75.29 147 *e*T T 04 48 48.2
comp=Z,3.5nm,0.3s
PAE Paea 75.31 147 *e*P **P** **03 27 22.3 +2.3**
comp=Z,25nm,1.2s
PAE Paea 75.31 147 *e*T T 04 48 33.0
comp=Z,15nm,0.3s
GOF Gofitskoye 75.42 328⇑ *e*P **P** **03 27 20.7 +0.2**
GOF *e*S **S** **03 37 02.2 +3.3**
GOF pmax pmax
comp=Z,533nm,1.0s
GOF smax smax
comp=E,231nm,2.1s
FOEL Foel Wylfa 75.47 360 *e*P **P** **03 27 20.3 -0.4**
FOEL IAmb IAmb 03 27 29.8
comp=Z,446nm,1.8s
FOEL IAMs_20 IAMs_20 04 04 02.9
comp=Z,11µm,19.7s
LLW Llanuwchllyn 75.51 0 *e*P **P** **03 27 20.2 -0.6**
LLW IAMs_20 IAMs_20 04 13 18.6
comp=Z,5µm,16.9s
TVO Taravao 75.53 147 *e*P **P** **03 27 23.9 +2.6**
comp=Z,22nm,0.8s
ASSE Asse, Remlinge 75.58 351 *e*P **P** **03 27 20.6 -0.5**
comp=Z,168nm,1.6s,baz=10,slow=5.7
ASSE *e*S **S** **03 37 01.3 +1.1**
baz=11,slow=11
WACR West Acre 75.59 358 *e*P **P** **03 27 20.3 -1.0**
WACR IAmb IAmb 03 27 28.9
comp=Z,199nm,0.9s
WACR IAMs_20 IAMs_20 04 07 21.6
comp=Z,10µm,18.3s
CWF Charnwood Fore 75.61 359 *e*P **P** **03 27 20.8 -0.6**
CWF IAMs_20 IAMs_20 04 03 53.7
comp=Z,11µm,20.1s
IBBN Ibbenburen 75.65 353 *e*P **P** **03 27 21.4 -0.2**
comp=Z,386nm,1.1s,baz=10,slow=5.7
MTN Manton Dam 75.65 226 P **P** **03 27 22.8 +0.8**
MTN IAMs_20 IAMs_20 03 56 32.3
comp=Z,21µm,21.0s
GEYT Alibeck 75.72 314 P **P** **03 27 22.8 +0.4**
comp=Z,11nm,0.8s,baz=345,slow=4.6,SNR=20
GEYT PP **PP** **03 30 12.1 +0.5**
comp=Z,22nm,0.9s,baz=13,slow=8.1,SNR=4.3
GEYT LR LR 04 03 20.6
comp=Z,53µm,20.0s,baz=30,slow=38
GEYT Alibeck 75.72 314 P **P** **03 27 20.4 -2.0**
GYA0 ALIBECK ARRAY 75.72 314 P **P** **03 27 22.0 -0.4**
GYA0B ALIBECK ARRAY 75.72 314 P **P** **03 27 22.1 -0.2**
GYA0B IAmb IAmb 03 27 35.8
comp=Z,155nm,0.9s
MAK Makhachkala 75.73 324 *e*P **P** **03 27 20.4 -1.8**
MAK *e*S **S** **03 36 58.2 -4.0**
MAK *es*S **SS** **03 41 50.2 -2.6**
MAK *e*SSS SSS 03 45 12.4
MAK pmax pmax
comp=Z,448nm,1.5s
MAK pmax pmax
comp=Z,2µm,4.1s
MAK smax smax
comp=E,7µm,6.0s
MAK smax smax
comp=N,7µm,8.2s
MAK MLR MLR
comp=N,99µm,18.0s
MAK MLR MLR
comp=Z,48µm,18.0s
RAR Rarotonga 75.74 157 P **P** **03 27 24.8 +2.4**
comp=Z,14nm,0.8s,baz=342,slow=20,SNR=2.1
RAR LR LR 03 53 38.6
comp=Z,15µm,21.6s,baz=334,slow=30
RAR Rarotonga 75.74 157 IAMs_20 IAMs_20 03 53 05.6
comp=Z,17µm,22.0s
CLZ Clausthal 75.89 351 *e*P **P** **03 27 22.7 -0.4**
comp=Z,191nm,1.2s,baz=10,slow=5.7
CLZ *e*S **S** **03 37 05.2 +1.3**
baz=11,slow=11
LVV L'vov 75.94 342 *e*P **P** **03 27 22.9 -0.5**
LVV *e*S **S** **03 36 59.5 -4.9**
DGPR DIGLIPUR 75.96 273 *e*P **P** **03 27 24.6 +0.6**
DGPR IAmb IAmb 03 27 30.4
comp=Z,356nm,1.2s
MEH Mehetia 76.03 146 *e*P **P** **03 27 26.4 +2.3**
comp=Z,36nm,1.2s
GROC Groznyy 76.13 325 *e*P **P** **03 27 25.0 +0.5**
GROC *e* 03 27 37.3
GROC *e* 03 30 18.2
GROC *e*S **S** **03 37 05.4 -1.3**
GROC pmax pmax
comp=Z,97nm,1.2s
CLL Collm 76.15 350 *e*P **P** **03 27 23.0 -1.5**
CLL *e* 03 27 33.0
comp=Z,70nm,1.4s
CLL *i* 03 27 40.4
comp=Z,185nm,1.8s
CLL *e* 03 30 23.0
CLL *e*S **S** **03 37 07.0 +0.4**
CLL *e*PS **PnS** **03 37 44.0 -0.7**
CLL *e*SS **SS** **03 42 00.0 +1.3**
CLL *e*SSS SSS 03 45 24.0
CLL *e*SSSS 03 47 12.0
CLL *e*PKPPKPd **P'P'df** **03 54 51.0 +3.1**
CLL LmV 04 00 00.0
comp=Z,16µm,20.9s
CLL Lmax 04 11 00.0
CLL Collm 76.15 350 *e*P **P** **03 27 23.0 -1.5**
CLL *e* 03 27 33.0
CLL *e*S **S** **03 37 07.0 +0.4**
CLL smax smax
comp=Z,16µm,20.9s
CLL Collm 76.15 350 IAMs_20 IAMs_20 03 59 58.1
comp=Z,16µm,21.0s
CLL Collm 76.15 350 *e*P **P** **03 27 23.4 -1.1**
comp=Z,61nm,1.4s,baz=10,slow=5.7
CLL *e*S **S** **03 37 07.3 +0.7**
baz=11,slow=11
KSP Ksiaz 76.20 347 *e*P **P** **03 27 23.5 -1.3**
KSP *e*PcP **sP** **03 27 35.7 +0.7**
KSP *e*S **S** **03 37 10.4 +3.2**
KSP *e*SS **SS** **03 42 04.4 +4.9**
KSP *e*L L 04 02 27.2
comp=Z,14µm,22.3s
SOEI Soe 76.20 234 P P 03 27 32.2 +6.8
comp=Z,5µmcomp=Z,177nm,1.1s
SOEI Soe 76.20 234 IAMs_20 IAMs_20 03 56 50.1
comp=Z,25µm,22.0s
GTTG Gottingen 76.22 352 *e*P **P** **03 27 24.3 -0.6**
comp=Z,156nm,1.2s,baz=10,slow=5.7
GTTG *e*S **S** **03 37 09.6 +2.2**
baz=11,slow=11
MMRI Maumere 76.27 236 P P 03 27 32.6 +7.0
comp=Z,10µmcomp=Z,259nm,1.2s
OJC Ojcow 76.29 345 *e*P **P** **03 27 25.1 -0.3**
OJC *e*PcP **PcP** **03 27 36.7 -0.5**
OJC *e*S **S** **03 37 11.4 +3.1**
OJC *e*L L 04 03 42.6
comp=Z,23µm,20.2s
OJC Ojcow 76.29 345 P **P** **03 27 24.9 -0.5**
OJC pmax pmax
comp=Z,128nm,0.9s
OJC Ojcow 76.29 345 P **P** **03 27 24.9 -0.5**
OJC IAmb IAmb 03 27 34.0
comp=Z,128nm,0.9s
KWP Kalwaria Pacla 76.36 343 *e*P **P** **03 27 26.0 +0.2**
KWP *e*S **S** **03 37 12.9 +3.8**
KWP *e*L L 04 03 44.7
comp=Z,23µm,20.2s
KWP Kalwaria Pacla 76.36 343 IAMs_20 IAMs_20 04 07 22.9
comp=Z,25µm,18.0s
MCH1 Michaelchurch 76.37 360 *e*P **P** **03 27 25.0 -0.7**
MCH1 IAmb IAmb 03 27 32.9
comp=Z,78nm,0.9s
MCH1 IAMs_20 IAMs_20 04 12 04.8
comp=Z,8µm,18.2s
NEUB Neuenburg 76.38 350 *e*P **P** **03 27 24.9 -0.9**
comp=Z,146nm,1.3s,baz=10,slow=5.7
NEUB *e*S **S** **03 37 10.0 +0.8**
baz=11,slow=11
RSBS Rosebush, Pemb 76.40 1 *e*P **P** **03 27 24.9 -1.1**
RSBS IAmb IAmb 03 27 35.0
comp=Z,292nm,1.8s
RSBS IAMs_20 IAMs_20 04 09 32.3
comp=Z,9µm,17.1s
BRG Berggiesshubel 76.47 349 *i* P **P** **03 27 25.5 -0.8**
comp=Z,9.3nm,1.0s
BRG S **S** **03 37 11.0 +0.8**
BRG Berggiesshubel 76.47 349 *i* P **P** **03 27 25.5 -0.8**
BRG S **S** **03 37 11.0 +0.8**
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG Berggiesshubel 76.47 349 *e*P **P** **03 27 25.2 -1.1**
comp=Z,101nm,1.4s,baz=10,slow=5.7
BRG *e*S **S** **03 37 09.5 -0.7**
baz=11,slow=11
CHVC Chvalec 76.48 348 *e*P **P** **03 27 25.8 -0.7**
CHVC *ex* x 03 27 32.1
CHVC *e*S **S** **03 37 02.8 -7.6**
CHVC AMS AMS 04 08 30.0
comp=Z,18µm,16.8s
FBE Freiberg 76.49 349 *e*P **P** **03 27 25.8 -0.6**
comp=Z,152nm,1.3s,baz=10,slow=5.7
FBE *e*S **S** **03 37 10.1 -0.3**
baz=11,slow=11
OSTC Ostas 76.49 347 *e*P **P** **03 27 26.1 -0.4**
OSTC *ex* x 03 27 32.3
OSTC *e*S **S** **03 37 04.5 -6.0**
OSTC AMS AMS 04 08 30.0
comp=Z,16µm,16.6s
KIV Kislovodsk 76.52 328 ⇑P **P** **03 27 27.6 +0.7**
KIV Kislovodsk 76.52 328 *i* P **P** **03 27 26.5 -0.4**
SNR=8.3
KIV Kislovodsk 76.52 328 *i* P **P** **03 27 26.5 -0.4**
SNR=8.3
KIV Kislovodsk 76.52 328 P **P** **03 27 27.1 +0.2**
KIV Kislovodsk 76.52 328 *e*P **P** **03 27 26.9 0.0**
KIV *e*S **S** **03 37 10.4 -0.8**
KIV pmax pmax
comp=Z,279nm,1.1s
KIV pmax pmax
comp=Z,2µm,4.9s
KIV MLR MLR
comp=Z,60µm,18.0s
KIV Kislovodsk 76.52 328 P **P** **03 27 27.3 +0.4**
KIV IAmb IAmb 03 27 42.5
comp=Z,107nm,0.9s
KIV IAMs_20 IAMs_20 04 05 13.0
comp=Z,24µm,19.0s
BUG Bochum--Univer 76.54 353 *e*P **P** **03 27 26.0 -0.7**
comp=Z,103nm,1.2s,baz=10,slow=5.7
BUG *e*S **S** **03 37 13.2 +2.2**
baz=11,slow=11
UPC Upice 76.56 348 *e*P **P** **03 27 27.2 +0.3**
UPC *ex* x 03 27 31.8
UPC *e*S **S** **03 37 02.9 -8.4**
UPC AMS AMS 04 08 40.0
comp=Z,20µm,16.2s
UPC Upice 76.56 348 *e*P **P** **03 27 27.2 +0.3**
UPC *e* 03 27 31.8
UPC *e*S **S** **03 37 02.9 -8.4**
UPC MLR MLR
comp=Z,20µm,16.2s
AJM Ajmer 76.58 296 *e*P **P** **03 27 27.0 -0.4**
CTA Charters Tower 76.58 209 LR LR 03 56 52.4
comp=Z,10µm,22.0s,baz=16,slow=32
CTAO Charters Tower 76.58 209 P **P** **03 27 28.3 +1.0**
STRD Stroud 76.58 359 *e*P **P** **03 27 26.3 -0.6**
STRD IAmb IAmb 03 27 39.8
comp=Z,2µm,2.1s
STRD IAMs_20 IAMs_20 04 04 40.5
comp=Z,11µm,18.5s
SORM Soroca 76.65 339 ⇓P **P** **03 27 27.2 -0.2**
KBZ Khabaz 76.65 328 P **P** **03 27 27.4 0.0**
comp=Z,57nm,0.9s,baz=50,slow=5.1,SNR=28
KBZ LR LR 04 04 49.3
comp=Z,16µm,20.6s,baz=24,slow=39
DPC Dobruska-Polom 76.68 347 *e*P **P** **03 27 26.9 -0.7**
DPC *ex* x 03 27 33.0
DPC *e*S **S** **03 37 09.6 -3.0**
DPC AMS AMS 04 11 10.0
comp=Z,15µm,15.0s
DPC Dobruska-Polom 76.68 347 *e*P **P** **03 27 26.9 -0.7**
DPC *e* 03 27 33.0
DPC *e*S **S** **03 37 09.6 -3.0**
DPC MLR MLR
comp=Z,15µm,15.0s
OLDB Oldbury-Upon-S 76.70 360 *e*P **P** **03 27 26.4 -1.2**
OLDB IAmb IAmb 03 27 39.6
comp=Z,393nm,1.9s
OLDB IAMs_20 IAMs_20 04 12 16.8
comp=Z,10µm,17.7s
HRA Herat 76.72 309 IAMs_20 IAMs_20 04 04 22.3
comp=Z,29µm,18.0s
PVCC Panska Ves 76.73 348 *e*S **S** **03 37 07.9 -5.2**
PVCC AMS AMS 04 06 30.0
comp=Z,12µm,16.6s
PVCC Panska Ves 76.73 348 *e*P P 03 27 33.3 +5.5
PVCC *e* 03 27 44.0
PVCC *e*S **S** **03 37 07.9 -5.2**
PVCC MLR MLR
comp=Z,12µm,16.6s
SWN1 Swindon 76.84 359 *e*P **P** **03 27 27.4 -1.1**
SWN1 IAmb IAmb 03 27 41.5
comp=Z,1µm,1.9s
SWN1 IAMs_20 IAMs_20 04 04 49.7
comp=Z,12µm,20.8s
BATI Baumata 76.89 234 P P 03 27 36.0 +6.8
comp=Z,3µmcomp=Z,145nm,0.9s
OKC Ostrava-Krasne 76.92 346 *e*P **P** **03 27 28.8 -0.1**
OKC *ex* x 03 27 34.7
OKC *e*S **S** **03 37 14.7 -0.4**
OKC AMS AMS 04 07 40.0
comp=Z,14µm,16.7s
OKC Ostrava-Krasne 76.92 346 *e*P **P** **03 27 28.8 -0.1**
OKC *e* 03 27 34.7
OKC *e*S **S** **03 37 14.7 -0.4**
OKC MLR MLR
comp=Z,14µm,16.7s
AKT Akhty 76.93 323 *e*P **P** **03 27 29.5 +0.2**
AKT *e* 03 27 40.8
AKT *e* 03 30 25.4
AKT *e*S **S** **03 37 17.4 +1.6**
AKT *e* 03 37 41.8
AKT pmax pmax
comp=Z,151nm,1.0s
UBBA Unterbreizbach 76.94 351 *e*P **P** **03 27 28.4 -0.5**
comp=Z,135nm,1.7s,baz=10,slow=5.7
UBBA *e*S **S** **03 37 16.4 +1.3**
baz=11,slow=11
MOX Moxa 76.95 350 *e*P **P** **03 27 28.3 -0.8**
comp=Z,65nm,1.3s,baz=10,slow=5.7
MOX *e*S **S** **03 37 15.7 +0.1**
baz=11,slow=11
MOX *e*L L 04 05 38.9
comp=Z,10µm,20.6s
NIE Niedzica 76.98 344 *e*P **P** **03 27 29.4 +0.1**
NIE *es*P **PcP** **03 27 41.1 +0.8**
NIE *e*S **S** **03 37 20.8 +4.8**
NIE *e*L L 04 03 05.5
comp=Z,11µm,21.9s
WOL Wolverton 77.04 359 *e*P **P** **03 27 28.8 -0.7**
WOL IAMs_20 IAMs_20 04 04 46.4
comp=Z,12µm,22.4s
PLN Plauen 77.05 350 *e*P **P** **03 27 28.9 -0.8**
comp=Z,38nm,1.1s,baz=10,slow=5.7
PLN *e*S **S** **03 37 16.6 0.0**
baz=11,slow=11
MORC Moravsky Berou 77.07 346 ⇓P **P** **03 27 30.1 +0.3**
MORC Moravsky Berou 77.07 346 ⇓ *i*P **P** **03 27 29.3 -0.5**
MORC *e*PP **PP** **03 30 21.7 -0.8**
MORC *e*S **S** **03 37 24.0 +7.1**
MORC Moravsky Berou 77.07 346 P **P** **03 27 29.0 -0.8**
MORC pmax pmax
comp=Z,121nm,1.2s
MORC Moravsky Berou 77.07 346 P **P** **03 27 29.0 -0.8**
MORC IAmb IAmb 03 27 40.3
comp=Z,121nm,1.2s
MORC IAMs_20 IAMs_20 04 06 43.4
comp=Z,15µm,18.0s
TANN Tannenbergstha 77.09 350 *e*P **P** **03 27 29.3 -0.6**
comp=Z,98nm,1.5s,baz=10,slow=5.7
TANN *e*S **S** **03 37 17.1 -0.1**
baz=11,slow=11
KOLS Kolonicke sedl 77.11 343 *e*P **P** **03 27 30.0 0.0**
KOLS *e* 03 27 36.4
KOLS pmax pmax
comp=Z,129nm,1.1s
KOLS Kolonicke sedl 77.11 343 *e*P **P** **03 27 30.0 0.0**
KOLS *e* 03 27 36.4
ZEI Tsey 77.15 326 *e*P **P** **03 27 28.3 -2.3**
ZEI pmax pmax
comp=Z,221nm,1.0s
GUNZ Gunzen 77.15 350 *e*P **P** **03 27 29.6 -0.6**
comp=Z,87nm,1.3s,baz=10,slow=5.7
GUNZ *e*S **S** **03 37 17.7 -0.1**
baz=11,slow=11
PRA Prague 77.20 348 *e*S **S** **03 37 14.7 -3.4**
PRA AMS AMS 04 03 30.0
comp=Z,8µm,21.2s
PRA Prague 77.20 348 *e*P P 03 27 35.8 +5.3
PRA *e*S **S** **03 37 14.7 -3.4**
PRA MLR MLR
comp=Z,8µm,21.2s
WERN Wernitzgruen 77.22 350 *e*P **P** **03 27 30.0 -0.6**
comp=Z,110nm,1.3s,baz=10,slow=5.7
WERN *e*S **S** **03 37 18.3 -0.3**
baz=11,slow=11
PBA Port Blair 77.25 273 IAMs_20 IAMs_20 04 02 15.0
comp=Z,21µm,20.0s
PRU Pruhonice 77.26 348 *e*P **P** **03 27 29.9 -0.9**
PRU *ex* x 03 27 36.3
PRU *e*S **S** **03 37 20.4 +1.5**
PRU AMS AMS 04 03 30.0
comp=Z,16µm,19.5s
PRU Pruhonice 77.26 348 *e*P **P** **03 27 29.9 -0.9**
PRU *e* 03 27 36.3
PRU *e*S **S** **03 37 20.4 +1.5**
PRU MLR MLR
comp=Z,16µm,19.5s
NKC Novy Kostel 77.27 350 *e*P **P** **03 27 30.1 -0.8**
NKC *e*PCP **pP** **03 27 39.7 +1.3**
NKC *e*S **S** **03 37 20.1 +1.1**
NKC AMS AMS 04 13 40.0
comp=Z,13µm,16.7s
NKC Novy Kostel 77.27 350 *e*P **P** **03 27 30.1 -0.8**
NKC *e* 03 27 39.7
NKC *e*S **S** **03 37 20.1 +1.1**
NKC MLR MLR
comp=Z,13µm,16.7s
BEBN Eben Emael 77.29 354 P **P** **03 27 30.9 0.0**
GOPC GO Pecny, Ondr 77.31 348 *e*P **P** **03 27 30.4 -0.7**
GOPC *ex* x 03 27 37.9
GOPC *e*S **S** **03 37 13.0 -6.4**
GOPC AMS AMS 04 11 20.0
comp=Z,18µm,16.1s
GOPC GO Pecny, Ondr 77.31 348 *e*P **P** **03 27 30.4 -0.7**
GOPC *e* 03 27 37.9
GOPC *e*S **S** **03 37 13.0 -6.4**
GOPC MLR MLR
comp=Z,18µm,16.1s
KULM Kulim 77.32 262 IAMs_20 IAMs_20 03 58 11.1
comp=Z,14µm,20.0s
KULM Kulim 77.32 262 P P 03 27 39.0 +7.4
UCC Uccle 77.37 355 P **P** **03 27 30.9 -0.5**
LANS Liptovska Anna 77.38 345 *e*P **P** **03 27 32.6 +1.0**
LANS *e* 03 27 39.0
LANS pmax pmax
comp=Z,174nm,1.2s
LANS Liptovska Anna 77.38 345 *e*P **P** **03 27 32.6 +1.0**
LANS *e* 03 27 39.0
ANN Anapa 77.40 332 *e*P **P** **03 27 30.0 -1.6**
ANN *e* 03 30 25.9
ANN *e*S **S** **03 37 15.2 -5.3**
ANN *e*SS **SS** **03 42 20.1 +2.2**

ANN pmax pmax
comp=Z,95nm,0.9s
ANN MLR MLR
comp=Z,21µm,19.0s
UZH Uzhgorod 77.40 343 *e*P **P** **03 27 30.6 -1.0**
UZH *i* 03 27 39.0
UZH *i* 03 30 29.8
UZH *i*S **S** **03 37 15.0 -5.4**
UZH *i*PS 03 37 43.7
UZH *e*SP **SPn** **03 37 54.4 -3.2**
UZH *i*SSS SSS 03 45 35.0
UZH MLR MLR
comp=N,6µm,18.0s
UZH MLR MLR
comp=E,5µm,18.0s
UZH MLR MLR
comp=Z,3µm,18.0s
AHRW Bad Neuenahr-A 77.45 353 *e*P **P** **03 27 31.6 -0.3**
comp=Z,134nm,1.2s,baz=10,slow=5.7
AHRW *e*S **S** **03 37 22.4 +1.5**
baz=11,slow=11
MEM Membach 77.46 354 P P **03 27 30.4 -1.6**
BSTI Sart Tilman 77.51 354 P P **03 27 31.6 -0.6**
BSTI PcP **sP** **03 27 41.9 -0.5**
BHPL Bhopal 77.53 292 *e*P **P** **03 27 32.2 -0.6**
BHPL IAmb IAmb 03 27 38.6
comp=Z,141nm,0.9s
MANZ Manzenberg 77.55 350 *e*P **P** **03 27 31.7 -0.8**
comp=Z,54nm,1.2s,baz=10,slow=5.7
MANZ *e*S **S** **03 37 21.9 -0.2**
baz=11,slow=11
KIS Kishinev 77.62 338⇓ *i*P **P** **03 27 32.0 -0.9**
comp=Z,640nm,3.5s
KIS Kishinev 77.62 338 *e*PcP **PcP** **03 27 40.0 -3.0**
KIS Kishinev 77.62 338 *i*PP PP 03 30 26.6 -0.6
KIS Kishinev 77.62 338 *e*PPP PPP 03 32 19.0
KIS *i*S **S** **03 37 22.0 -0.7**
comp=Z,3µm,8.0s
KIS *e*LQ LQ 03 57 21.0
KIS *e*LR LR 04 00 47.0
comp=Z,10µm,21.0s
KIS Kishinev 77.62 338*d* *i*P **P** **03 27 31.9 -0.9**
KIS *i* 03 27 39.8
KIS *i* 03 30 26.6
KIS *i*PPP PPP 03 32 18.9
KIS *i*S **S** **03 37 22.1 -0.7**
KIS pmax pmax
comp=Z,640nm,3.5s
KIS smax smax
comp=E,3µm,8.0s
PBCC Pribram 77.63 349 *e*P P 03 27 38.6 +5.7
PBCC *e*S **S** **03 37 23.1 +0.2**
VRAC Vranov 77.66 347⇑ *i*P **P** **03 27 33.4 +0.3**
VRAC Vranov 77.66 347⇓ *i*P **P** **03 27 32.6 -0.5**
VRAC *e*PP **PP** **03 30 26.2 -1.3**
VRAC *e*S **S** **03 37 25.9 +2.7**
SNF Seneffe 77.66 355 P **P** **03 27 33.0 0.0**
SNF PcP **PcP** **03 27 42.4 -0.7**
TNS Taunus Mts 77.66 352 *e*P **P** **03 27 32.4 -0.7**
comp=E,97nm,1.2s,baz=10,slow=5.7
TNS *e*S **S** **03 37 24.2 +0.8**
baz=11,slow=11
MILM Milestii Mici 77.69 338⇑P **P** **03 27 33.4 +0.2**
BHOU Houvegnez 77.71 354 P **P** **03 27 33.4 0.0**
IAS Iasi 77.72 339⇑P **P** **03 27 33.3 -0.1**
IPM Ipoh 77.72 261 P P 03 27 40.0 +6.1
BGES Gesves 77.74 355 P **P** **03 27 32.4 -1.1**
ROTZ Rotzenmuhle 77.75 350 *e*P **P** **03 27 33.1 -0.5**
comp=E,98nm,1.4s,baz=10,slow=5.7
ROTZ *e*S **S** **03 37 24.6 +0.3**
baz=11,slow=11
BUR08 Bucovina Ar. S 77.79 341 P **P** **03 27 33.5 -0.5**
BUR08 IAmb IAmb 03 27 42.9
comp=Z,118nm,0.8s
TBLG Delisi 77.79 325 P **P** **03 27 33.2 -0.8**
TBLG pmax pmax
comp=Z,389nm,1.3s
TBLG Delisi 77.79 325 P **P** **03 27 33.2 -0.8**
SOC Sochi 77.81 330 *e*P **P** **03 27 33.4 -0.6**
SOC *e* 03 30 30.8
SOC *i*S **S** **03 37 28.5 +3.5**
SOC pmax pmax
comp=Z,169nm,1.1s
SOC MLR MLR
comp=Z,17µm,17.0s
BURAR Bucovina Array 77.81 341⇑P **P** **03 27 34.4 +0.3**
BURAR Bucovina Array 77.81 341 P **P** **03 27 33.1 -0.9**
TREC Trest 77.82 348 *e*P **P** **03 27 33.7 -0.3**
TREC *e*PCP **pP** **03 27 40.0 -1.5**
TREC *e*S **S** **03 37 21.4 -3.6**
TREC AMS AMS 04 09 00.0
comp=Z,15µm,15.9s
TREC Trest 77.82 348 *e*P **P** **03 27 33.7 -0.3**
TREC *e* 03 27 40.0
TREC *e*S **S** **03 37 21.4 -3.6**
TREC MLR MLR
comp=Z,15µm,15.9s
TRPA Tarpa 77.84 343⇑P **P** **03 27 35.1 +1.0**
BMRD Maredsous 77.84 355 P **P** **03 27 33.5 -0.6**
BMRD PcP **PcP** **03 27 43.5 -0.4**
KECS Kecovo 77.86 344 *e*P **P** **03 27 34.2 0.0**
KECS *e* 03 27 40.9
KECS pmax pmax
comp=Z,68nm,0.9s
KECS Kecovo 77.86 344 *e*P **P** **03 27 34.2 0.0**
KECS *e* 03 27 40.9
KRUC Moravsky 77.93 347⇓ *i*P **P** **03 27 33.9 -0.7**
KRUC *e*PP **PP** **03 30 28.2 -1.5**
KRUC *e*S **S** **03 37 28.4 +2.3**
DYA Yadsworthy 77.93 0 *e*P **P** **03 27 33.9 -0.6**
DYA IAMs_20 IAMs_20 04 10 12.1
comp=Z,8µm,18.6s
GRA1 Grafenberg Arr 77.93 350 P **P** **03 27 32.4 -2.2**
GRA1 IAmb IAmb 03 27 49.8
comp=Z,179nm,1.3s
GRF Grafenberg Arr 77.93 350 P **P** **03 27 32.4 -2.2**
GRF pmax pmax
comp=Z,179nm,1.3s
GRF MLR MLR
comp=Z,12µm,20.0s
GRF Grafenberg Arr 77.93 350 *e*P **P** **03 27 34.3 -0.3**
comp=Z,213nm,1.4s,baz=10,slow=5.7
GRF *e*S **S** **03 37 28.2 +2.0**
baz=11,slow=11
GRF *e*L L 04 06 16.5
comp=Z,11µm,19.8s
JAVC Velka Javorina 77.94 346⇓ *i*P **P** **03 27 35.3 +0.6**
JAVC *e*S **S** **03 37 30.6 +4.2**
CCIG Comitan 78.00 79 P **P** **03 27 35.8 +0.1**
DOU Dourbes 78.06 355 P **P** **03 27 34.7 -0.5**
DOU PcP **PcP** **03 27 44.7 -0.1**
BMR Baia Mare 78.10 342⇑P **P** **03 27 36.3 +0.8**
VYHS Vyhne 78.12 345 *e*P **P** **03 27 35.6 -0.1**
VYHS *e* 03 27 42.5
VYHS pmax pmax
comp=Z,151nm,1.2s
VYHS Vyhne 78.12 345 *e*P **P** **03 27 35.6 -0.1**
VYHS *e* 03 27 42.5
VASR Vaslui 78.19 339⇓P **P** **03 27 36.4 +0.3**
SIM Simferopol' 78.20 334 *e*P **P** **03 27 40.5 +4.4**
SIM *e*PCP **sP** **03 27 51.0 +4.6**
SIM pmax pmax
comp=Z,139nm,1.1s
KHC Kasperske Hory 78.22 349 *e*P **P** **03 27 36.2 -0.1**
KHC *ex* x 03 27 40.0
KHC *ex* x 03 30 37.5
KHC *e*S **S** **03 37 30.9 +1.5**
KHC AMS AMS 04 07 50.0
comp=Z,17µm,17.2s
KHC Kasperske Hory 78.22 349 *e*P **P** **03 27 36.2 -0.1**
KHC *e* 03 27 40.0
KHC *e* 03 30 37.5
KHC *e*S **S** **03 37 30.9 +1.5**
KHC MLR MLR
comp=Z,17µm,17.2s
LEOM Leova 78.24 338⇓P **P** **03 27 35.7 -0.6**
BIZ Bicaz 78.27 340⇑P **P** **03 27 37.1 +0.5**
WET Wettzell 78.30 349 *e*P **P** **03 27 36.2 -0.4**
comp=Z,68nm,1.3s,baz=10,slow=5.7
WET *e*S **S** **03 37 32.0 +1.9**
baz=11,slow=11
SMOL Smolenice 78.31 346 *e*P **P** **03 27 36.7 0.0**
SMOL *e* 03 27 44.0
SMOL pmax pmax
comp=Z,93nm,1.1s
SMOL Smolenice 78.31 346 *e*P **P** **03 27 36.7 0.0**
SMOL *e* 03 27 44.0
WLF Walferdange 78.39 354 P P **03 27 36.9 -0.2**
WLF Walferdange 78.39 354 IAMs_20 IAMs_20 04 07 13.4
comp=Z,20µm,20.0s
WLF Walferdange 78.39 354 *e*P **P** **03 27 37.0 -0.1**
comp=Z,90nm,1.2s,baz=10,slow=5.7
WLF *e*S **S** **03 37 32.2 +1.2**
baz=11,slow=11
BASI Baing, Sumba 78.47 237 P P 03 27 44.7 +6.8
comp=Z,5µmcomp=Z,293nm,1.1s
MODS Modra-Piesok 78.47 346 *e*P **P** **03 27 37.2 -0.4**
MODS *e* 03 27 43.9
MODS pmax pmax
comp=Z,199nm,1.2s
MODS Modra-Piesok 78.47 346 *e*P **P** **03 27 37.2 -0.4**
MODS *e* 03 27 43.9
ARCR ARCALIA 78.49 341⇑P **P** **03 27 39.0 +1.2**
GEC2 GERESS Array S 78.49 349 P P **03 27 36.4 -1.5**
GEC2 IAMs_20 IAMs_20 04 08 27.1
comp=Z,17µm,18.0s
GEC2 GERESS Array S 78.49 349 *e*P **P** **03 27 37.1 -0.7**
comp=Z,87nm,1.4s,baz=10,slow=5.7
GEC2 *e*S **S** **03 37 33.2 +0.8**
baz=11,slow=11
GERES GERESS Array B 78.49 349 P P **03 27 36.8 -1.0**
comp=Z,2.6nm,0.7s,baz=20,slow=4.3,SNR=27
GERES PP **PP** **03 30 34.2 -0.4**
comp=Z,4.7nm,1.0s,baz=18,slow=6.7,SNR=2.8
GERES PKPPKP 03 54 37.0
comp=Z,0.4nm,0.6s,baz=150,slow=2.9,SNR=4.9
GERES LR LR 04 04 27.8
comp=Z,15µm,21.1s,baz=18,slow=37
GERES GERESS Array B 78.49 349 P **P** **03 27 36.1 -1.7**
GERES GERESS Array B 78.49 349 P **P** **03 27 36.1 -1.7**
PSZ Piszkesteto 78.51 344⇓P **P** **03 27 39.1 +1.2**
PSZ Piszkesteto 78.51 344 IAMs_20 IAMs_20 04 04 39.6
comp=Z,13µm,21.0s
AKH Akhalkalaki 78.51 326⇑P **P** **03 27 39.2 +1.1**
TESR Tescani 78.56 339⇓P **P** **03 27 38.2 +0.1**
WBSI Waikabubak, Su 78.60 238 P P 03 27 45.4 +6.7
ZST Bratislava 78.67 346 *e*P **P** **03 27 38.1 -0.6**
ZST *e* 03 27 45.0
ZST pmax pmax
comp=Z,234nm,1.3s
ZST Bratislava 78.67 346 *e*P **P** **03 27 38.1 -0.6**
ZST *e* 03 27 45.0
PLAI Plampang 78.77 240 P P 03 27 45.2 +5.6
comp=Z,4µmcomp=Z,174nm,1.3s
GHRR 78.82 339⇓P **P** **03 27 40.9 +1.4**
VARL Varlezi 78.88 338⇓P **P** **03 27 40.2 +0.4**
CJR Cluj-Napoca 79.00 342⇓P **P** **03 27 41.7 +1.1**
DRGR 79.09 342⇑P **P** **03 27 41.4 +0.3**
CONA Conrad Observa 79.11 347 *i*sP **P** **03 27 41.4 +0.2**
comp=Z,96nm,1.4s,SNR=25
CONA *i*PP **PP** **03 30 37.4 -2.3**
comp=Z,46nm,1.4s
OZUR 79.14 340⇓P **P** **03 27 42.4 +1.1**
VRI Vrincioaia 79.16 339⇑P **P** **03 27 41.7 +0.3**
JSA Saint Aubin 79.18 359 *e*P **P** **03 27 40.3 -1.1**
JSA IAmb IAmb 03 27 47.4
comp=Z,69nm,0.8s
JSA IAMs_20 IAMs_20 04 16 35.6
comp=Z,10µm,15.1s
PETR Petresti 79.18 339⇑P **P** **03 27 42.7 +1.2**
ODBI Odobesti 79.18 339⇓P **P** **03 27 42.7 +1.1**
PLOR Plostina 79.19 339⇑P **P** **03 27 41.8 +0.2**
KNRA Kununurra 79.21 227 P **P** **03 27 42.3 +0.4**
KNRA IAmb IAmb 03 27 51.8
comp=Z,222nm,1.3s
TLCR 79.33 338⇑P **P** **03 27 42.3 0.0**
DOPR Dopca 79.35 340⇑P **P** **03 27 43.5 +1.0**
KMMI Kalianget 79.37 244 P P 03 27 49.6 +6.7
comp=Z,5µmcomp=Z,161nm,1.3s
MOA Molln 79.40 348 *i*sP **P** **03 27 42.3 -0.5**
comp=Z,55nm,1.3s
MOA *i*PP **PP** **03 30 40.4 -1.7**
comp=Z,52nm,1.4s
FUR Furstenfeldbru 79.44 350 *e*P **P** **03 27 42.4 -0.5**
comp=Z,238nm,1.6s,baz=10,slow=5.7
FUR *e*S **S** **03 37 42.5 +0.2**
baz=11,slow=11
CFR Carcaliu 79.49 338⇑P **P** **03 27 43.3 +0.1**
BFO Black Forest 79.55 352 P **P** **03 27 42.1 -1.5**
BFO pmax pmax
comp=Z,92nm,1.2s
BFO Black Forest 79.55 352 P **P** **03 27 42.1 -1.5**
BFO Black Forest 79.55 352 *e*P **P** **03 27 42.8 -0.7**
comp=Z,102nm,1.2s,baz=10,slow=5.7
BFO *e*S **S** **03 37 43.8 +0.2**
baz=11,slow=11
GRER 79.56 339⇑P **P** **03 27 45.3 +1.7**
LHMI Lhok Sumawe 79.64 265 P P 03 27 50.2 +5.7
comp=Z,11µmcomp=Z,599nm,1.6s
NEHR Nehoiu 79.67 339⇑P **P** **03 27 45.6 +1.3**
MLR Muntele Rosu 79.68 340⇓P **P** **03 27 45.8 +1.4**
MLR Muntele Rosu 79.68 340 IAMs_20 IAMs_20 04 08 11.9
comp=Z,24µm,18.0s
RJOB Jochberg 79.69 349 *e*P **P** **03 27 43.2 -1.2**
comp=Z,67nm,1.1s,baz=10,slow=5.7
PVM Polavaram 79.71 285 *e*P **P** **03 27 44.9 +0.1**
PVM IVmB_BB 03 27 52.7
comp=Z,2µm,2.7s
PVM IVMs_BB IVMs_BB 04 04 00.2
comp=Z,3µm,17.5s
TOPG Topolog 79.72 338⇑P **P** **03 27 44.6 +0.2**
ECH Echery 79.76 353 P **P** **03 27 43.3 -1.4**
ECH pmax pmax
comp=Z,111nm,1.5s
ECH Echery 79.76 353 P **P** **03 27 43.3 -1.4**
SIRR Siria 79.79 343⇑P **P** **03 27 46.3 +1.4**
ARSA Arzberg 79.82 347 *i*sP **P** **03 27 45.4 +0.4**
comp=Z,113nm,1.1s,SNR=13
RPR Rampur 79.85 287 *e*P **P** **03 27 45.5 0.0**
RPR IVmB_BB 03 27 53.4
comp=Z,2µm,2.3s
VOIR 79.92 340⇓P **P** **03 27 46.9 +1.2**
DEV Deva 79.93 342⇑P **P** **03 27 45.9 +0.4**
HARR Harsova 80.00 338⇓P **P** **03 27 46.1 +0.1**
UBR Ueberruh 80.03 351 *e*P **P** **03 27 45.7 -0.5**
comp=Z,150nm,1.6s,baz=10,slow=5.7
SECR 80.09 339⇑P **P** **03 27 47.3 +0.8**
TIRR Tirgusor 80.11 338⇑P **P** **03 27 46.8 +0.3**
TIRR Tirgusor 80.11 338⇑P **P** **03 27 46.8 +0.3**
TIRR Tirgusor 80.11 338 P **P** **03 27 44.7 -1.8**
TIRR pmax pmax
comp=Z,303nm,1.1s
TIRR MLR MLR
comp=Z,74µm,19.0s
TIRR Tirgusor 80.11 338 P **P** **03 27 44.7 -1.8**
TIRR IAmb IAmb 03 28 01.3
comp=Z,303nm,1.1s
TLBR Topalu 80.11 338⇓P **P** **03 27 47.7 +1.1**
MTUR Matau 80.12 340⇑P **P** **03 27 47.2 +0.5**
KTUT Trabzon 80.14 328⇓P **P** **03 27 47.0 +0.2**
RETA Reutte 80.16 350 *i*sP **P** **03 27 46.7 -0.2**
comp=Z,44nm,1.2s
LOT Lotru 80.18 341⇑P **P** **03 27 46.9 -0.2**
AMRR Amara 80.21 338⇓P **P** **03 27 48.1 +1.0**
WATA Walderalm 80.22 350 *i*sP **P** **03 27 46.6 -0.7**
comp=Z,178nm,1.5s,SNR=16
WATA *i*PP **PP** **03 30 45.1 -3.9**
comp=Z,45nm,1.5s
CLF Chambon-Foret 80.23 356 IAMs_20 IAMs_20 04 10 04.1
comp=Z,14µm,20.0s
BBSR BB Station 80.26 49 IAMs_20 IAMs_20 04 04 46.5
comp=Z,20µm,20.0s
MOTA Moosalm 80.27 350 *i*sP **P** **03 27 47.2 -0.4**
comp=Z,162nm,1.1s,SNR=21
KBA Koelnbreinsper 80.27 349 *i*sP **P** **03 27 48.0 +0.3**
comp=Z,325nm,1.1s,SNR=30
KBA *i*PP **PP** **03 30 46.3 -3.2**
comp=Z,38nm,1.3s
EIDS Eidsvold 80.28 203 IAMs_20 IAMs_20 03 59 47.6
comp=Z,27µm,20.0s
WTTA Wattenberg 80.29 350 *i*sP **P** **03 27 47.0 -0.8**
comp=Z,194nm,1.2s,SNR=19
WTTA *i*PP **PP** **03 30 47.0 -2.6**
comp=Z,45nm,1.4s
PSI Prapat 80.33 262 LR LR 04 04 01.3
comp=Z,7µm,21.3s,baz=86,slow=36
MORH Mrgy, Hungar 80.37 345⇓ *i*P **P** **03 27 46.1 -1.8**
SQTA Sankt Quirin 80.38 350 *i*sP **P** **03 27 48.1 -0.1**
comp=Z,144nm,1.2s,SNR=18
RPSI Rantau Prapat 80.41 262 IAMs_20 IAMs_20 04 08 19.7
comp=Z,13µm,19.0s
BZS Buzias 80.43 343⇑P **P** **03 27 48.6 +0.3**
DAVA Damuels 80.45 351 *i*sP **P** **03 27 48.0 -0.6**
comp=Z,90nm,1.4s,SNR=7.6
SOKA Soboth 80.45 347 *i*sP **P** **03 27 48.5 0.0**
comp=Z,299nm,1.2s,SNR=37
SOKA *i*PP **PP** **03 30 49.2 -1.6**
comp=Z,33nm,1.4s
WB0 Warramunga Arr 80.46 220 P **P** **03 27 48.9 +0.3**
WB0 IAmb IAmb 03 28 04.3
comp=Z,104nm,0.8s
WB0 IAMs_20 IAMs_20 03 59 59.3
comp=Z,22µm,22.0s
PERS Pernice 80.48 347 *i*P **P** **03 27 48.6 0.0**
WB8 Warramunga Arr 80.51 220 IAMs_20 IAMs_20 04 00 36.6
comp=Z,18µm,22.0s
WB7 Warramunga Arr 80.54 220 IAMs_20 IAMs_20 04 00 24.0
comp=Z,18µm,21.0s
WB6 Warramunga Arr 80.55 220 IAMs_20 IAMs_20 04 00 35.7
comp=Z,20µm,21.0s
ICOR Ion Corvin 80.57 338⇓P **P** **03 27 50.2 +1.2**
WB5 Warramunga Arr 80.58 220 IAMs_20 IAMs_20 04 00 25.3
comp=Z,17µm,21.0s
WR0 Warramunga Arr 80.58 220 P **P** **03 27 49.1 -0.1**
WR0 IAMs_20 IAMs_20 03 59 53.4
comp=Z,22µm,22.0s
WR9 Warramunga Arr 80.59 220 IAMs_20 IAMs_20 03 59 53.6
comp=Z,22µm,22.0s
WR8 Warramunga Arr 80.59 220 IAMs_20 IAMs_20 03 59 53.7
comp=Z,23µm,22.0s
WB4 Warramunga Arr 80.60 220 IAMs_20 IAMs_20 04 00 25.9
comp=Z,20µm,21.0s
WR7 Warramunga Arr 80.60 220 IAMs_20 IAMs_20 04 00 06.0
comp=Z,23µm,22.0s
WR6 Warramunga Arr 80.61 220 IAMs_20 IAMs_20 03 59 54.2
comp=Z,23µm,22.0s
WC2 Warramunga Arr 80.62 220 IAMs_20 IAMs_20 04 00 15.4
comp=Z,21µm,21.0s
WB3 Warramunga Arr 80.62 220 IAMs_20 IAMs_20 04 00 15.4
comp=Z,21µm,21.0s
WR4 Warramunga Arr 80.62 220 IAMs_20 IAMs_20 04 00 05.6
comp=Z,22µm,22.0s
FETA Feichten 80.62 350 *i*sP **P** **03 27 49.4 -0.1**
comp=Z,100nm,1.2s,SNR=12
FETA *i*PP **PP** **03 30 47.8 -4.6**
comp=Z,16nm,1.3s
WC1 Warramunga Arr 80.63 220 IAMs_20 IAMs_20 04 00 15.6
comp=Z,20µm,21.0s
WR3 Warramunga Arr 80.63 220 IAMs_20 IAMs_20 04 00 05.7
comp=Z,22µm,22.0s
WRAB Tennant Creek 80.63 220 P **P** **03 27 49.8 +0.3**
WRAB pmax pmax
comp=Z,136nm,1.0s
WRAB Tennant Creek 80.63 220 P **P** **03 27 49.8 +0.3**
WRAB IAmb IAmb 03 28 05.7
comp=Z,136nm,0.9s
WRAB Tennant Creek 80.63 220 IAMs_20 IAMs_20 04 00 15.7
comp=Z,21µm,21.0s
WR2 Warramunga Arr 80.64 220 IAMs_20 IAMs_20 04 00 16.9
comp=Z,19µm,22.0s
WB2 Warramunga Arr 80.64 220 P **P** **03 27 50.0 +0.4**
WB2 IAmb IAmb 03 28 05.8
comp=Z,143nm,0.8s
WB2 IAMs_20 IAMs_20 04 00 17.0
comp=Z,22µm,21.0s
WR1 Warramunga Arr 80.64 220 IAMs_20 IAMs_20 04 00 17.1
comp=Z,18µm,21.0s
WRA Warramunga Arr 80.64 220 P **P** **03 27 50.4 +0.8**
comp=Z,42nm,0.8s,baz=33,slow=6.2,SNR=54
WRA PKKPbc **PKKPbc** **03 46 28.9 +0.4**
comp=Z,1.7nm,0.7s,baz=231,slow=1.9,SNR=5.3
WRA LR LR 04 00 38.8
comp=Z,19µm,21.6s,baz=10.0,slow=33
WRA Warramunga Arr 80.64 220 PKKPdf 03 46 16.1 -2.8
WC3 Warramunga Arr 80.64 220 IAMs_20 IAMs_20 04 00 17.1
comp=Z,23µm,22.0s
TBI Tubuai 80.65 149 *e*P **P** **03 27 51.9 +2.4**
comp=Z,335nm,1.2s
TBI Tubuai 80.65 149 *e*S **S** **03 37 53.3 -1.9**
comp=Z,5µm,31.5s
TBI Tubuai 80.65 149 *e*LQ LQ 03 48 45.0
comp=Z,13µm,30.8s
TBI *e*LR LR 03 52 54.6
comp=Z,38µm,32.0s,baz=337
TBI Tubuai 80.65 149 *e*T T 04 56 10.9
comp=Z,12nm,0.3s
WB1 Warramunga Ar. 80.66 220 IAMs_20 IAMs_20 04 00 16.4
comp=Z,22µm,21.0s
WC4 Warramunga Arr 80.66 220 IAMs_20 IAMs_20 04 00 17.5
comp=Z,23µm,21.0s
MANR Mangalia 80.67 337⇑P **P** **03 27 49.9 +0.3**
MYKA Terra Mystica 80.68 348 *i*sP **P** **03 27 49.3 -0.4**
comp=Z,70nm,1.4s
MYKA *i*PP **PP** **03 30 50.3 -2.5**
comp=Z,23nm,1.1s
OBKA Obir 80.68 348 *i*sP **P** **03 27 49.8 0.0**
comp=Z,145nm,0.8s,SNR=10.0
OBKA *i*PP **PP** **03 30 51.6 -1.1**
comp=Z,47nm,1.4s
ABTA Abfaltersbach 80.70 349 *i*sP **P** **03 27 48.9 -1.0**
comp=Z,44nm,1.0s,SNR=14
ABTA *i*PP **PP** **03 30 51.2 -1.7**
comp=Z,29nm,1.6s
BANR Banloc 80.74 343⇓P **P** **03 27 51.4 +1.4**
KALN Kalnik 80.78 346 P **P** **03 27 49.8 -0.4**
ZOU Zoufplan 80.83 349 IAMs_20 IAMs_20 04 05 44.0
comp=Z,18µm,21.0s
PRED Cave del Predi 80.87 348 P **P** **03 27 49.1 -1.6**
PRED IAmb IAmb 03 28 01.3
comp=Z,176nm,0.9s
PRED IAMs_20 IAMs_20 04 05 46.1
comp=Z,13µm,22.0s
SGRR Singureni 80.89 339⇑P **P** **03 27 51.1 +0.3**
DIKM Dikmen 80.92 332⇑P **P** **03 27 52.3 +1.3**
HERR Herculane 80.99 342⇑P **P** **03 27 51.3 0.0**
FUORN Ofenpass-Fuorn 81.07 351 P **P** **03 27 50.6 -1.4**
FUORN IAmb IAmb 03 28 05.8
comp=Z,153nm,1.2s
FUORN IAMs_20 IAMs_20 04 10 31.3
comp=Z,13µm,20.0s
PTJ Puntijarka 81.08 347 P **P** **03 27 51.4 -0.5**
LJU Ljubljana 81.14 348 *e*P **P** **03 27 53.6 +1.5**
ZAG Zagreb 81.15 347 P **P** **03 27 52.1 0.0**
ZAG Zagreb 81.15 347 *e*P **P** **03 27 53.0 +0.9**
STAL STALIGIAL 81.16 349 P **P** **03 27 51.0 -1.3**
FRGS Fruska Gora 81.20 344⇓P **P** **03 27 52.1 -0.3**
MDVR Moldovita 81.22 342⇓P **P** **03 27 52.8 +0.2**
CRES Cresnjev 81.23 347 *e*P **P** **03 27 52.3 -0.3**
MOSL Moslavina 81.25 346 P **P** **03 27 51.9 -0.8**
TUE Stuetta 81.31 351 P **P** **03 27 52.1 -1.2**
TUE IAmb IAmb 03 28 04.1
comp=Z,162nm,1.1s
RAZG Razgrad 81.39 339⇑P **P** **03 27 53.9 +0.4**
HYBB Hyderabad (bro 81.41 287 *e*P **P** **03 27 52.4 -1.6**
HYBB IVmB_BB 03 28 01.5
comp=Z,2µm,2.4s
HYBB IVMs_BB IVMs_BB 04 06 47.0
comp=Z,5µm,16.0s
HYB Hyderabad 81.41 287 *i*P **P** **03 27 52.0 -2.0**
HYB *e*S **S** **03 38 02.0 -1.9**
HYB Hyderabad 81.41 287 *e*P **P** **03 27 54.0 0.0**
HYB IAmb IAmb 03 28 00.2
comp=Z,122nm,0.8s
OZLJ Ozalj 81.43 347 P **P** **03 27 52.9 -0.7**
VLAD Vladila 81.44 340⇑P **P** **03 27 54.4 +0.7**
CEY Cerknica 81.45 348 *e*P **P** **03 27 52.5 -1.3**
PUNG Punghina 81.47 341⇑P **P** **03 27 53.5 -0.3**
CTI Castel Tesino 81.49 350 P **P** **03 27 53.5 -0.6**
CTI pmax pmax
comp=Z,63nm,0.9s
CTI Castel Tesino 81.49 350 P **P** **03 27 53.5 -0.6**
CTI IAMs_20 IAMs_20 04 10 03.3
comp=Z,17µm,18.0s
MNSI Mandailing Nat 81.50 260 P P 03 28 00.2 +5.8
ZIMR 81.56 339⇓P **P** **03 27 55.2 +0.9**
BOJS Bojanci 81.57 347 *i*P **P** **03 27 54.0 -0.4**
SENIN Lac Senin/Sane 81.59 353 P **P** **03 27 55.2 +0.5**
SENIN IAMs_20 IAMs_20 04 09 22.0
comp=Z,14µm,21.0s
GBRS Gornja Briga 81.61 347 *i*P **P** **03 27 54.1 -0.5**
NJS Nagarjunasagar 81.64 286 *e*P **P** **03 27 55.2 0.0**
NJS IVmBBB 03 28 02.8
comp=Z,1µm,2.5s
NJS IVMs_BB IVMs_BB 04 08 58.8

comp=Z,2µm,15.4s
WOJI Wonogiri, Jawa 81.72 246 P P 03 28 01.8 +6.3
comp=Z,60nm,1.7s
SDSI Sungai Dareh 81.75 258 P **P** **03 27 58.0 +2.3**
comp=Z,2µmcomp=Z,65nm,1.4s
ADKI Addanki 81.80 285 *e*P **P** **03 27 55.5 -0.5**
ADKI IAML 03 28 03.9
comp=Z,58nm,2.0s
ADKI IVMs_BB IVMs_BB 04 07 01.8
comp=Z,3µm,17.4s
SZH Strazhica 81.80 339 *e*P **P** **03 27 56.5 +0.8**
TEKS Tekeris 81.84 344 *e*P **P** **03 27 53.2 -2.6**
RIY Rijeka 81.85 347 P **P** **03 27 56.2 +0.4**
RIY Rijeka 81.85 347 *e*P **P** **03 27 56.0 +0.1**
ILGA Ilgaz 81.92 333 P **P** **03 27 57.5 +1.0**
ILGA IAmb IAmb 03 28 08.4
comp=Z,106nm,0.9s
ILGA IAMs_20 IAMs_20 04 10 20.4
comp=Z,16µm,19.0s
PLVB Pleven 81.97 340 ⇑P **P** **03 27 56.8 +0.3**
BLY Banja Luka 82.03 345 *e*P **P** **03 27 56.5 -0.3**
SALO Salr 82.03 350 P **P** **03 27 56.7 -0.2**
SALO IAmb IAmb 03 28 06.9
comp=Z,192nm,0.9s
SALO IAMs_20 IAMs_20 04 10 18.8
comp=Z,15µm,18.0s
KLRI Killari 82.05 289 *e*P **P** **03 27 56.8 -0.5**
KLRI IVmBBB 03 28 04.5
comp=Z,2µm,2.4s
KLRI IVMs_BB IVMs_BB 04 07 11.6
comp=Z,9µm,16.4s
ELND Elena 82.14 339 ⇑P **P** **03 27 57.0 -0.4**
DIVS Divibare 82.19 343 P **P** **03 27 57.4 -0.4**
DIVS IAmb IAmb 03 28 10.0
comp=Z,143nm,1.0s
DIVS IAMs_20 IAMs_20 04 06 54.1
comp=Z,19µm,22.0s
DIVS Divibare 82.19 343 ⇓*i*P **P** **03 27 56.8 -1.0**
SRLM Srisailam 82.24 286 *e*P **P** **03 27 57.9 -0.5**
SRLM IVmB_BB 03 28 05.7
comp=Z,1µm,2.6s
SRLM IVMs_BB IVMs_BB 04 08 08.6
comp=Z,2µm,15.7s
PDSI Padang 82.31 259 P P 03 28 04.5 +5.8
comp=Z,3µmcomp=Z,19nm,0.9s
GSI Gunungsitoli 82.33 262 P P 03 28 04.4 +5.6
comp=Z,41µmcomp=Z,604nm,2.0s
MGRS Mrkonjic Grad 82.36 345 *e*P **P** **03 27 58.9 +0.3**
HAPS Han Pijesak,BI 82.38 344 ⇑*i*P **P** **03 27 57.9 -0.9**
BBLS Lazići 82.52 344 ⇓*i*P **P** **03 27 59.4 -0.1**
KRJI Kerinci 82.64 257 P P 03 28 06.2 +5.7
comp=Z,12µmcomp=Z,425nm,0.5s
TGUH Tegucigalpa,Un 82.67 77 P **P** **03 28 01.8 +1.1**
TGUH IAmb IAmb 03 28 09.2
comp=Z,326nm,1.4s
RCLA Racherla 82.70 286 *e*P **P** **03 28 00.5 -0.3**
FITZ Fitzroy Crossi 82.75 228 P **P** **03 28 02.4 +1.6**
FITZ IAmb IAmb 03 28 11.0
comp=Z,180nm,1.2s
RUDO Rudo 82.77 344 ⇑*i*P **P** **03 28 00.2 -0.5**
LHSI Lahat 82.79 254 P P 03 28 06.5 +5.4
comp=Z,91nm,1.0s
LEM Lembang 82.79 249 LR LR 04 03 51.6
comp=Z,3µm,20.9s,baz=40,slow=35
SSB Saint Sauveur 82.86 354 P **P** **03 28 00.4 -0.8**
SSB pmax pmax
comp=Z,57nm,1.0s
SSB Saint Sauveur 82.86 354 P **P** **03 28 00.4 -0.8**
KIJV Kijevo 82.87 346 P **P** **03 28 00.5 -0.7**
PGB Panagyurishte 82.87 340 *e*P **P** **03 28 01.4 +0.1**
BNI Bardonecchia 82.94 353 P **P** **03 28 02.1 +0.3**
BNI pmax pmax
comp=Z,171nm,1.1s
BNI Bardonecchia 82.94 353 P **P** **03 28 02.1 +0.3**
BNI IAmb IAmb 03 28 20.9
comp=Z,171nm,1.1s
BNI IAMs_20 IAMs_20 04 09 30.8
comp=Z,17µm,18.0s
VTS Vitosha 83.00 341 ⇑P **P** **03 28 02.1 0.0**
VTS Vitosha 83.00 341 *e*P **P** **03 28 00.3 -1.8**
VTS Vitosha 83.00 341 P **P** **03 28 01.7 -0.4**
VTS pmax pmax
comp=Z,75nm,1.0s
VTS MLR MLR
comp=Z,31µm,19.0s
VTS Vitosha 83.00 341 P **P** **03 28 01.7 -0.4**
VTS IAmb IAmb 03 28 12.5
comp=Z,75nm,1.0s
MASI Maura Aman, Be 83.01 256 P P 03 28 08.1 +5.8
comp=Z,6µmcomp=Z,366nm,1.1s
PLE Pljevlja 83.04 344 ⇓*i*P **P** **03 28 01.9 -0.4**
MORI Morici 83.11 346 P **P** **03 28 01.3 -1.1**
BR131 Keskin Array S 83.17 332 P **P** **03 28 02.9 -0.1**
BR131 pmax pmax
comp=Z,60nm,0.9s
BR131 Keskin Array S 83.17 332 P **P** **03 28 02.9 -0.1**
BRTR Keskin Array B 83.17 332 P **P** **03 28 02.8 -0.2**
comp=Z,11nm,0.7s,baz=55,slow=2.0,SNR=45
BRTR PP **PP** **03 31 10.5 -3.0**
comp=Z,11nm,1.0s,baz=7.6,slow=9.2,SNR=3.6
BRTR PKKPbc **PKKPbc** **03 46 23.0 +1.6**
comp=Z,1.0nm,0.7s,baz=176,slow=6.9,SNR=3.6
BRTR PKPPKP **P'P'df** **03 54 28.2 -6.6**
comp=Z,2.6nm,1.1s,baz=176,slow=5.0,SNR=5.8
BRTR LR LR 04 09 21.3
comp=Z,8µm,19.2s,baz=17,slow=39
BRTR Keskin Array B 83.17 332 P **P** **03 28 02.3 -0.7**
BRTR Keskin Array B 83.17 332 P P'P'df 03 54 25.3 -9.5
ZCCA Zocca 83.24 350 IAMs_20 IAMs_20 04 11 33.7
comp=Z,19µm,18.0s
UPM Unac-Piva 83.25 344 ⇓*i*P **P** **03 28 02.5 -0.9**
UPM Unac-Piva 83.25 344 *e*P **P** **03 28 03.7 +0.3**
RICI Ricice 83.26 345 P **P** **03 28 02.3 -0.9**
ANTO Ankara 83.27 333 IAMs_20 IAMs_20 04 08 29.4
comp=Z,11µm,20.0s
POO Poona 83.28 291 *e*P **P** **03 28 03.8 0.0**
POO IAmb IAmb 03 28 11.1
comp=Z,209nm,0.9s
ZIRJ Zirje 83.33 346 P **P** **03 28 02.6 -0.9**
IVA Berane 83.40 343 ⇓*i*P **P** **03 28 03.9 -0.2**
MSSA Maissana 83.42 351 IAMs_20 IAMs_20 04 12 04.6
comp=Z,15µm,19.0s
KDZ Kurdzhali 83.46 339 *e*P **P** **03 28 04.5 +0.2**
SISI Saibi 83.47 259 P P 03 28 10.3 +5.6
comp=Z,86nm,1.4s
KOME Kolasin 83.49 343 ⇓*i*P **P** **03 28 03.0 -1.5**
VLC Villacollemand 83.49 350 P **P** **03 28 05.9 +1.5**
VLC IAmb IAmb 03 28 14.4
comp=Z,87nm,0.9s
VLC IAMs_20 IAMs_20 04 12 07.3
comp=Z,13µm,18.0s
BOM Bombay 83.58 292 *i*P **P** **03 28 08.4 +3.2**
BOM *e*S **S** **03 38 31.9 +6.0**
SKHT Srikalahasti 83.59 284 *e*P **P** **03 28 05.4 +0.1**
SKHT IVmB_BB 03 28 17.7
comp=Z,1µm,4.0s
SKHT IVMs_BB IVMs_BB 04 08 12.2
comp=Z,3µm,17.4s
BRY Bratogost 83.61 344 ⇓*i*P **P** **03 28 04.3 -0.9**
BRY Bratogost 83.61 344 *e*P **P** **03 28 04.1 -1.1**
NKY Niksic 83.61 344 ⇓*i*P **P** **03 28 04.4 -0.8**
PVY Plav 83.66 343 ⇓*i*P **P** **03 28 04.9 -0.6**
NKME Niksic 83.67 344 ⇓*i*P **P** **03 28 04.5 -0.9**
KKB Krupnik 83.75 341 *e*P **P** **03 28 05.8 0.0**
STON Ston 83.77 345 P **P** **03 28 03.6 -2.2**
STON Ston 83.77 345 ⇓*i*P **P** **03 28 03.8 -2.1**
TREB Trebinje 83.82 344 *e*P **P** **03 28 05.0 -1.1**
MMB Musomiste 83.89 340 *e*P **P** **03 28 06.8 +0.3**
CEME Cevo 83.89 344 ⇓*i*P **P** **03 28 05.4 -1.2**
DBRK Dubrovnik 83.90 344 P **P** **03 28 04.8 -1.7**
PDG Podgorica 83.94 343 ⇑P **P** **03 28 06.6 -0.1**
PDG Podgorica 83.94 343 P **P** **03 28 06.1 -0.6**
PDG IAmb IAmb 03 28 14.5
comp=Z,192nm,1.0s
PDG IAMs_20 IAMs_20 04 08 01.4
comp=Z,29µm,22.0s
PDG Podgorica 83.94 343 ⇓*i*P **P** **03 28 05.7 -1.0**
TTG Podgorica 83.94 343 ⇓*i*P **P** **03 28 06.0 -0.7**
SKO Skopje 83.98 342 *i*P **P** **03 28 06.9 -0.1**
OSSC Osservatorio P 84.03 349 P **P** **03 28 07.0 -0.2**
OSSC IAmb IAmb 03 28 17.5
comp=Z,157nm,1.2s
OSSC IAMs_20 IAMs_20 04 12 16.5
comp=Z,12µm,20.0s
ALN Alexandroupoli 84.03 338 P **P** **03 28 07.2 -0.1**
ALN pmax pmax
comp=Z,179nm,1.2s
ALN MLR MLR
comp=Z,19µm,20.0s
ALN Alexandroupoli 84.03 338 P **P** **03 28 07.2 -0.1**
ALN IAmb IAmb 03 28 17.6
comp=Z,179nm,1.2s
ALN IAMs_20 IAMs_20 04 09 11.2
comp=Z,19µm,20.0s
HCY Herceg Novi 84.06 344 ⇓*i*P **P** **03 28 05.9 -1.4**
HCY Herceg Novi 84.06 344 ⇑*i*P **P** **03 28 06.3 -1.0**
STIP Stip 84.10 341 *i*P **P** **03 28 06.5 -1.1**
URV Uravakonda 84.11 287 *e*P **P** **03 28 07.6 -0.4**
URV IVmB_BB 03 28 19.5
comp=Z,914nm,4.4s
URV IVMs_BB IVMs_BB 04 10 54.2
comp=Z,3µm,14.9s
BUM Brajici-Budva 84.13 344 ⇓*i*P **P** **03 28 06.7 -1.1**
MURB Monte Urbino 84.13 349 P **P** **03 28 08.1 +0.3**
MURB IAMs_20 IAMs_20 04 07 49.3
comp=Z,17µm,22.0s
AS31 Alice Springs 84.17 219 P **P** **03 28 09.4 +1.4**
ASAR Alice Springs 84.17 219 P **P** **03 28 09.3 +1.3**
comp=Z,22nm,0.8s,baz=26,slow=4.8,SNR=95
ASAR PKKPbc **PKKPbc** **03 46 20.6 +0.2**
comp=Z,1.0nm,0.9s,baz=233,slow=1.5,SNR=4.9
ASAR PKPPKP **P'P'df** **03 54 27.4 +4.6**
comp=Z,1.0nm,1.0s,baz=191,slow=5.2,SNR=5.5
ASAR LR LR 04 05 10.1
comp=Z,8µm,19.4s,baz=10.0,slow=35
ASAR Alice Springs 84.17 219 P **P** **03 28 08.4 +0.4**
ASAR Alice Springs 84.17 219 P **P** **03 28 08.4 +0.4**
DRME Dracevica, Mon 84.19 343 ⇓*i*P **P** **03 28 08.0 0.0**
DRME Dracevica, Mon 84.19 343 ⇓*i*P **P** **03 28 06.9 -1.1**
MATN Matagalpa 84.36 76 P **P** **03 28 08.6 -0.8**
MATN IAmb IAmb 03 28 16.6
comp=Z,122nm,1.5s
VAY Valandovo 84.38 341 *i*P **P** **03 28 08.6 -0.4**
ULC Ulcinj 84.39 343 ⇓*i*P **P** **03 28 08.2 -0.9**
GAZ Gaziantep 84.43 329 P **P** **03 28 10.2 +0.8**
GAZ IAMs_20 IAMs_20 04 10 21.2
comp=Z,16µm,19.0s
NRCA Norcia 84.48 348 P **P** **03 28 10.2 +0.6**
NRCA IAMs_20 IAMs_20 04 12 51.1
comp=Z,14µm,20.0s
CASP Castiglione de 84.79 350 IAMs_20 IAMs_20 04 12 50.8
comp=Z,14µm,19.0s
TIR Tirane 84.88 343 ⇑P **P** **03 28 11.6 +0.1**
TIR Tirane 84.88 343 IAMs_20 IAMs_20 04 09 28.3
comp=Z,29µm,21.0s
AQU L'Aquila 84.92 348 P **P** **03 28 10.8 -1.0**
AQU pmax pmax
comp=Z,319nm,1.0s
AQU MLR MLR
comp=Z,14µm,21.0s
AQU L'Aquila 84.92 348 P **P** **03 28 10.8 -1.0**
AQU IAMs_20 IAMs_20 04 08 31.1
comp=Z,13µm,21.0s
AQU L'Aquila 84.92 348 ⇓*i*P **P** **03 28 11.7 -0.1**
OHR Ohrid 84.93 342 *i*P **P** **03 28 14.3 +2.4**
ARMA Armidale 84.99 202 P **P** **03 28 12.8 +0.7**
ARMA IAmb IAmb 03 28 27.0
comp=Z,314nm,2.0s
ARMA IAMs_20 IAMs_20 04 03 22.6
comp=Z,21µm,21.0s
MTDJ Mount Denham 85.09 67 IAMs_20 IAMs_20 04 07 57.5
comp=Z,28µm,21.0s
SGRT San Giovanni R 85.17 346 P **P** **03 28 12.1 -1.0**
SGRT IAmb IAmb 03 28 23.2
comp=Z,172nm,1.1s
SGRT IAMs_20 IAMs_20 04 12 58.9
comp=Z,10µm,18.0s
INTR Introdacqua 85.18 347 P **P** **03 28 11.8 -1.3**
INTR IAmb IAmb 03 28 24.5
comp=Z,152nm,1.0s
INTR IAMs_20 IAMs_20 04 11 58.2
comp=Z,18µm,19.0s
ISP Isparta 85.81 334 IAMs_20 IAMs_20 04 13 38.1
comp=Z,17µm,19.0s
RKT Rikitea 85.87 136 *e*S **S** **03 38 45.4 -2.8**
comp=Z,5µm,30.2s
RKT Rikitea 85.87 136 *e*LR LR 03 55 25.4
comp=Z,13µm,31.8s
GRTK Grand Turk 85.98 60 IAMs_20 IAMs_20 04 08 13.9
comp=Z,19µm,18.0s
PAOL Paolisi 86.05 347 IAMs_20 IAMs_20 04 14 04.3
comp=Z,16µm,18.0s
PGAV Gavieira, Arco 86.30 4 *e*P **P** **03 28 18.0 -0.7**
comp=Z,101nm,1.5s
PGAV Gavieira, Arco 86.30 4 *e*S **S** **03 38 58.1 +5.5**
PGAV *e*SS **SS** **03 44 34.8 +4.5**
PGAV Gavieira, Arco 86.30 4 *e*LR LR 03 56 24.4
comp=Z,8µm,20.0s
SCTE Santa Cesarea 86.37 343 IAMs_20 IAMs_20 04 10 05.7
comp=Z,21µm,21.0s
SHME Shamm 86.56 309 *i*P **P** **03 28 18.6 -1.6**
SNR=7.7
SHME Shamm 86.56 309 *i*P **P** **03 28 18.6 -1.6**
SNR=7.7
PCAB Cabril 86.56 4 *e*P **P** **03 28 20.5 +0.6**
comp=Z,62nm,2.3s
BANOM Banah 86.59 309 *i*P **P** **03 28 20.4 0.0**
SNR=11
BANOM Banah 86.59 309 *i*P **P** **03 28 20.4 0.0**
SNR=11
BANOM Banah 86.59 309 P **P** **03 28 21.6 +1.2**
SNR=10
BANOM S **SKSac** **03 38 44.5 -1.1**
AGG Agios Georgios 86.64 340 IAMs_20 IAMs_20 04 12 45.1
comp=Z,21µm,18.0s
ELL Elmali 86.99 334 P **P** **03 28 19.1 -3.1**
ELL pmax pmax
comp=Z,111nm,0.9s
ELL Elmali 86.99 334 P **P** **03 28 19.1 -3.1**
ELL IAmb IAmb 03 28 37.8
comp=Z,110nm,0.9s
PVRL Vila Real 87.01 3 *e*P **P** **03 28 21.4 -0.7**
comp=Z,91nm,1.4s
ROSA Rosais 87.04 19 IAMs_20 IAMs_20 04 10 26.4
comp=Z,11µm,18.0s
PTO Porto 87.11 4 *e*P **P** **03 28 22.5 0.0**
comp=Z,64nm,1.4s
MDH Madha 87.12 309 P **P** **03 28 21.7 -1.2**
MDH Madha 87.12 309 P **P** **03 28 21.7 -1.2**
MDH Madha 87.12 309 P **P** **03 28 23.1 +0.2**
SNR=6.1
MSFE Esma-Masafi 87.14 309 P **P** **03 28 22.5 -0.5**
MSFE Esma-Masafi 87.14 309 P **P** **03 28 22.5 -0.5**
MVO Moncorvo 87.14 3 *e*P **P** **03 28 21.7 -1.1**
comp=Z,72nm,2.2s
MVO Moncorvo 87.14 3 *e*SKSac **SKSac** **03 38 48.9 +0.3**
MVO *e*S **S** **03 39 04.3 +3.6**
MVO *e*SS **SS** **03 44 42.7 +0.1**
MVO *e*LR LR 03 52 20.7
comp=Z,10µm,18.0s
UOSS Minazif 87.46 309 *i*P **P** **03 28 22.8 -1.7**
SNR=7.3
UOSS Minazif 87.46 309 *i*P **P** **03 28 22.8 -1.7**
SNR=7.3
UOSS Minazif 87.46 309 P **P** **03 28 25.0 +0.5**
UOSS Minazif 87.46 309 P **P** **03 28 22.6 -2.0**
UOSS IAmb IAmb 03 28 35.6
comp=Z,164nm,1.3s
UOSS Minazif 87.46 309 IAMs_20 IAMs_20 04 06 59.8
comp=Z,13µm,20.0s
HWQ Hawqa 87.49 328 *e*P **P** **03 28 24.3 -0.4**
TIP Timpagrande 87.53 345 ⇑P **P** **03 28 24.4 -0.3**
TIP Timpagrande 87.53 345 P **P** **03 28 23.8 -0.9**
TIP IAMs_20 IAMs_20 04 13 48.4
comp=Z,13µm,19.0s
PVIS Viseu 87.56 4 *e*P **P** **03 28 25.0 +0.2**
comp=Z,66nm,1.3s
HATD Hatta, Dubai 87.60 309 *i*P **P** **03 28 23.5 -1.7**
SNR=17
HATD Hatta, Dubai 87.60 309 *i*P **P** **03 28 23.5 -1.7**
SNR=17
HATD Hatta, Dubai 87.60 309 P **P** **03 28 26.1 +0.9**
SNR=21
CSS Mathiatis 87.67 331 P **P** **03 28 23.4 -2.0**
CSS IAmb IAmb 03 28 39.8
comp=Z,118nm,1.1s
CSS IAMs_20 IAMs_20 04 11 60.0
comp=Z,17µm,22.0s
NAZ Nazwa, Dubai 87.69 309 *i*P **P** **03 28 24.4 -1.2**
SNR=10
NAZ Nazwa, Dubai 87.69 309 *i*P **P** **03 28 24.4 -1.2**
SNR=10
NAZ Nazwa, Dubai 87.69 309 P **P** **03 28 26.4 +0.8**
SNR=13
WSAR Wadi Sarin 87.70 306 P **P** **03 28 27.4 +1.7**
SNR=9.7
BIDO Bidbid 87.71 306 P **P** **03 28 26.7 +0.9**
ASHO Ashiyiah 87.75 308 *i*P **P** **03 28 24.3 -1.7**
SNR=11
ASHO Ashiyiah 87.75 308 *i*P **P** **03 28 24.3 -1.7**
SNR=11
ASHO Ashiyiah 87.75 308 P **P** **03 28 27.2 +1.2**
SNR=30
BHL Bhannes 87.92 329 *e*P **P** **03 28 26.9 +0.2**
FAQ Al Faqa, Dubai 87.93 309 P **P** **03 28 28.3 +1.6**
SDDR Presa de Saban 87.95 61 IAMs_20 IAMs_20 04 09 07.5
comp=Z,19µm,20.0s
SOHO SOHO 87.98 308 *i*P **P** **03 28 25.3 -1.7**
SNR=9.3
SOHO SOHO 87.98 308 *i*P **P** **03 28 25.3 -1.7**
SNR=9.3
SOHO SOHO 87.98 308 P **P** **03 28 27.6 +0.6**
COI Coimbra 88.05 4 *e*P **P** **03 28 30.1 +3.0**
comp=Z,100nm,1.1s
COI Coimbra 88.05 4 *e*S **S** **03 39 14.6 +5.4**
COI *e*SS **SS** **03 45 03.5 +7.9**
PALK Pallekele 88.06 279 IAMs_20 IAMs_20 04 10 55.3
comp=Z,10µm,19.0s
UCM Universidad Co 88.06 0 *e*P **P** **03 28 25.8 -1.4**
UCM *i*S **S** **03 39 12.9 +3.5**
HOQ Hoqain 88.07 307 P **P** **03 28 28.4 +0.9**
SNR=14
SMDO Samad 88.14 306 P **P** **03 28 29.3 +1.3**
SNR=6.1
PCAS Casmilo, Conde 88.20 4 *e*P **P** **03 28 25.1 -2.7**
comp=Z,74nm,1.4s
PCAS Casmilo, Conde 88.20 4 *e*PP PP 03 31 54.5 +0.6
PCAS *e*S **S** **03 39 10.5 -0.2**
PCAS *e*SS **SS** **03 45 00.7 +2.8**
VSL Villasalto 88.21 350 IAMs_20 IAMs_20 04 14 45.3
comp=Z,11µm,18.0s
MAHO Mahon 88.24 354 *e*P **P** **03 28 27.0 -1.0**
MAHO *i*S **S** **03 39 16.1 +5.1**
AJN Ajban 88.37 309 *i*P **P** **03 28 28.0 -0.8**
SNR=9.9
AJN Ajban 88.37 309 *i*P **P** **03 28 28.0 -0.8**
SNR=9.9
ALNE Al Ain 88.43 308 *i*P **P** **03 28 28.5 -0.6**
SNR=10
ALNE Al Ain 88.43 308 *i*P **P** **03 28 28.5 -0.6**
SNR=10
PCBR Castelo Branco 88.45 3 *e*P **P** **03 28 28.8 -0.2**
comp=Z,60nm,1.3s
SANT Santorini 88.48 337 IAMs_20 IAMs_20 04 11 18.0
comp=Z,14µm,21.0s
CMLA Cha da Macela 88.50 18 IAMs_20 IAMs_20 04 10 54.9
comp=Z,10µm,19.0s
ITM Ithomi 88.50 340 P **P** **03 28 27.4 -2.0**
ITM IAMs_20 IAMs_20 04 13 26.3
comp=Z,15µm,19.0s
CEL Celeste 88.57 345 IAMs_20 IAMs_20 04 13 29.8
comp=Z,13µm,20.0s
ARQ Araqi 88.66 307 P **P** **03 28 31.5 +1.2**
SNR=15
JMDO Jabal Madar 88.69 306 P **P** **03 28 31.5 +1.1**
SNR=8.9
ESDC Sonseca Array 88.69 1 P **P** **03 28 28.7 -1.5**
comp=Z,2.1nm,0.7s,baz=355,slow=3.8,SNR=17
ESDC PKKPbc **PKKPbc** **03 46 08.9 +0.5**
comp=Z,0.5nm,0.6s,baz=168,slow=3.4,SNR=3.6
ESDC PKPPKP 03 54 18.7
comp=Z,0.7nm,0.8s,baz=214,slow=2.4,SNR=5.5
ESDC Sonseca Array 88.69 1 P **P** **03 28 28.1 -2.1**
PSBE So Bento 88.72 4 *e*P **P** **03 28 34.7 +4.4**
comp=Z,84nm,1.8s
PSBE So Bento 88.72 4 *e*S **S** **03 39 18.3 +2.6**
PSBE *e*SS **SS** **03 45 10.7 +5.2**
PAB San Pablo 88.81 1 IAMs_20 IAMs_20 04 15 51.3
comp=Z,10µm,19.0s
BSY Bisya 88.83 307 P **P** **03 28 32.7 +1.6**
SNR=7.1
KARP Karpathos 88.85 336 IAMs_20 IAMs_20 04 11 14.7
comp=Z,15µm,21.0s
PMRV Marv??o 88.86 3 *e*P **P** **03 28 33.5 +2.5**
comp=Z,58nm,1.5s
PMRV Marv??o 88.86 3 *e*SKSac **SKSac** **03 38 59.4 +0.5**
PMRV *e*S **S** **03 39 17.3 +0.3**
PMRV *e*SS **SS** **03 45 15.8 +8.2**
PMRV Marv??o 88.86 3 *e*LR LR 03 55 21.2
comp=Z,7µm,20.0s
STKA Stephens Creek 89.05 209 P **P** **03 28 32.8 +1.2**
comp=Z,39nm,0.9s,baz=4.2,slow=5.2,SNR=30
STKA LR LR 04 08 02.3
comp=Z,8µm,18.6s,baz=11,slow=35
STKA Stephens Creek 89.05 209 P **P** **03 28 32.4 +0.8**
PMTG Montargil 89.19 4 *e*P **P** **03 28 35.6 +3.1**
comp=Z,60nm,1.6s
PMTG Montargil 89.19 4 *e*SKSac **SKSac** **03 39 00.6 -0.2**
PMTG *e*S **ScS** **03 39 24.1 -0.9**
PMTG *e*SS **SS** **03 45 17.0 +4.7**
PMAFR Mafra 89.26 5 *e*P P 03 28 40.9 +8.1
comp=Z,146nm,1.5s
PMAFR Mafra 89.26 5 *e*SKSac **SKSac** **03 39 00.7 -0.5**
PMAFR *e*S **ScS** **03 39 24.8 -0.8**
PMAFR *e*SS **SS** **03 45 16.5 +3.3**
CORL Corleone 89.31 347 IAMs_20 IAMs_20 04 15 31.5
comp=Z,14µm,19.0s
LIS Lisbon 89.50 5 *e*P **P** **03 28 33.4 -0.6**
LIS *e*S **S** **03 39 20.1 -2.9**
LIS *e*SS **SS** **03 45 16.0 -0.7**
LIS AMS AMS 04 11 43.3
comp=N,9µm,22.5s
LIS Lisbon 89.50 5 *e*P **P** **03 28 33.3 -0.6**
LIS *e*S **S** **03 39 20.0 -2.9**
LIS *e*SS **SS** **03 45 16.0 -0.7**
CLTB Caltabellotta 89.64 347 IAMs_20 IAMs_20 04 13 00.0
comp=Z,17µm,20.0s
IDI Anoyia 89.65 337 IAMs_20 IAMs_20 04 11 19.9
comp=Z,13µm,22.0s
PTCN Pitcairn Islan 89.71 133 IAMs_20 IAMs_20 03 59 43.5
comp=Z,17µm,22.0s
EVO Evora 89.74 4 *e*P **P** **03 28 33.6 -1.4**
EVO *i*S **S** **03 39 26.1 +1.0**
EVO Evora 89.74 4 *e*P **P** **03 28 36.3 +1.3**
comp=Z,81nm,1.6s
MHTO MHTO 89.91 305 P **P** **03 28 37.6 +1.5**
SNR=7.0
PNCL Nicolau / Gran 90.13 4 *e*P **P** **03 28 40.6 +3.7**
comp=Z,71nm,1.8s
PNCL Nicolau / Gran 90.13 4 *e*SKSac **SKSac** **03 39 07.8 +1.5**
PNCL *e*S **S** **03 39 30.4 +1.6**
PNCL *e*SS **SS** **03 45 32.6 +6.7**
PBEJ Beja 90.25 4 *e*P **P** **03 28 39.5 +2.1**
comp=Z,67nm,1.6s
CAN Canberra 90.30 202 IAMs_20 IAMs_20 04 11 39.2
comp=Z,11µm,20.0s
MESJ Messejana 90.42 4 *e*S **S** **03 39 28.9 -2.6**
MESJ *e*SS **SS** **03 45 29.7 -0.3**
MESJ AMS AMS 04 14 40.3
comp=Z,10µm,19.2s
PCVE Castro Verde 90.63 4 *e*P **P** **03 28 43.6 +4.4**
comp=Z,68nm,1.8s
PCVE Castro Verde 90.63 4 *e*SKSac **SKSac** **03 39 11.4 +2.1**
PCVE *e*S **ScS** **03 39 36.9 -0.1**
PCVE *e*SS **SS** **03 45 40.3 +7.1**
PTEO Sao Teotonio 90.69 4 *e*P **P** **03 28 41.6 +2.1**
comp=Z,122nm,1.6s
CART Cartagena 90.76 358 *e*P **P** **03 28 35.3 -4.5**
CART *i*S **S** **03 39 32.7 -1.8**
BKZ Black Stump Fm 90.80 180 P P **03 28 39.6 1.0**
PVAQ Vaqueiros 90.87 4 *e*P **P** **03 28 39.9 -0.5**
comp=Z,75nm,1.6s
PVAQ Vaqueiros 90.87 4 *e*S **S** **03 39 40.1 +4.4**
PVAQ *e*SS **SS** **03 45 42.6 +6.0**
PVAQ Vaqueiros 90.87 4 *e*LR LR 03 56 17.1
comp=Z,12µm,18.0s
PVAQ Vaqueiros 90.87 4 IAMs_20 IAMs_20 04 14 31.9
comp=Z,13µm,20.0s
PBDV Barranco-do-Ve 91.02 4 *e*P **P** **03 28 44.3 +3.2**
comp=Z,89nm,1.6s
PBDV Barranco-do-Ve 91.02 4 *e*SKSac **SKSac** **03 39 14.8 +3.2**
PBDV *e*S **ScS** **03 39 39.8 -0.5**
PBDV *e*SS **SS** **03 45 47.3 +8.4**
PFVI Vila Bisbo 91.09 4 *e*P **P** **03 28 39.9 -1.5**
comp=Z,123nm,1.6s
PFVI Vila Bisbo 91.09 4 *e*PP PP 03 32 23.2 +6.2

PFVI				*e*SKSac	**SKSac**	03 39 14.1	+2.2		
PFVI				*e*S	**ScS**	03 39 41.9	+1.1		
PFVI				*e*SS	**SS**	03 45 46.1	+6.3		
PFVI	**Vila Bisbo**	**91.09**	**4**	IAMs_20	IAMs_20	04 12 09.8			
	comp=Z,10μm,19.0s								
EMAL	**Malaga-Limoner**	**91.59**	**1**	*e*P	**P**	**03 28 40.3**	**-3.4**		
EMAL				*i* S	**S**	**03 39 42.7**	**+0.5**		
BBOO	**Buckleboo**	**91.69**	**213**	IAMs_20	IAMs_20	04 09 47.2			
	comp=Z,14μm,20.0s								
MTP	**Monte Pirata**	**91.73**	**57**	P	**P**	**03 28 43.6**	**-1.0**		
MTP				IAmb	IAmb	03 29 10.7			
	comp=Z,56nm,1.1s								
SET	**Setif**	**91.84**	**353**	P	P	03 28 58.0	+13		
SFS	**San Fernando**	**91.86**	**2**	*e*P	**P**	**03 28 47.2**	**+2.3**		
SFS				*i* S	**S**	**03 39 49.5**	**+4.9**		
KEST	**Kesra**	**91.94**	**350**	P	**P**	**03 28 44.8**	**-0.6**		
	comp=Z,5.6nm,0.8s,baz=352,slow=4.0,SNR=4.6								
KEST	**Kesra**	**91.94**	**350**	IAmb	IAmb	03 29 06.5			
	comp=Z,76nm,1.4s								
KEST				IAMs_20	IAMs_20	04 13 21.9			
	comp=Z,11μm,21.0s								
CEU	**Ceuta**	**92.44**	**2**	*e*P	**P**	**03 28 49.3**	**+1.7**		
CEU				*i* S	**S**	**03 39 51.6**	**+1.8**		
FORT	**Forrest**	**92.83**	**220**	IAMs_20	IAMs_20	04 07 11.8			
	comp=Z,12μm,21.0s								
MELI	**Melilla**	**93.06**	**360**	*i* S	**S**	**03 39 55.0**	**-0.4**		
TOO	**Toolangi**	**93.30**	**204**	IAMs_20	IAMs_20	04 08 33.5			
	comp=Z,14μm,21.0s								
SABA	**Saba**	**93.33**	**56**	IAMs_20	IAMs_20	04 12 43.0			
	comp=Z,26μm,21.0s								
RAYN	**Ar Rayn**	**93.57**	**316**	P	**P**	**03 28 51.9**	**-1.2**		
RAYN				pmax	pmax				
	comp=Z,117nm,1.5s								
RAYN	**Ar Rayn**	**93.57**	**316**	P	**P**	**03 28 51.9**	**-1.2**		
RAYN				IAmb	IAmb	03 29 14.5			
	comp=Z,117nm,1.5s								
ANWB	**Willy Bob**	**94.03**	**55**	IAMs_20	IAMs_20	04 14 47.3			
	comp=Z,22μm,20.0s								
RTC	**Rabat Centre**	**94.31**	**3**	IAMs_20	IAMs_20	04 14 22.8			
	comp=Z,18μm,20.0s								
PMOZ	**Porto Moniz, M**	**94.64**	**12**	*e*S	S	03 40 23.3	+14		
PMOZ				*e*SS	**SS**	**03 46 35.3**	**+4.3**		
PMOZ	**Porto Moniz, M**	**94.64**	**12**	*e*LR	LR	04 01 26.6			
	comp=Z,5μm,22.0s								
HATO	**Hato, Curacao**	**94.79**	**63**	IAMs_20	IAMs_20	04 13 12.0			
	comp=Z,18μm,19.0s								
IFR	**Ifrane**	**94.82**	**2**	*e*P	**P**	**03 28 55.5**	**-3.3**		
IFR				*i* S	**S**	**03 40 08.6**	**-2.7**		
FUL	**Funchal**	**94.85**	**12**	*e*PP	**PP**	**03 32 53.9**	**+7.3**		
AVE	**Averroes**	**94.98**	**4**	*e*P	**P**	**03 29 00.9**	**+1.6**		
AVE				*i* S	**S**	**03 40 12.2**	**0.0**		
FOZ	**Fox Glacier**	**95.35**	**185**	IAMs_20	IAMs_20	04 08 53.0			
	comp=Z,11μm,20.0s								
RPZ	**Rata Peaks**	**95.47**	**184**	IAMs_20	IAMs_20	04 16 22.2			
	comp=Z,11μm,20.0s								
LBZ	**Lake Benmore**	**96.19**	**185**	IAMs_20	IAMs_20	04 10 48.0			
	comp=Z,10μm,19.0s								
SDV	**Santo Domingo**	**96.54**	**67**	IAMs_20	IAMs_20	04 13 40.0			
	comp=Z,15μm,21.0s								
WKZ	**Wanaka**	**96.69**	**186**	IAMs_20	IAMs_20	04 14 38.4			
	comp=Z,12μm,20.0s								
ODZ	**Otahua Downs**	**96.82**	**184**	IAMs_20	IAMs_20	04 18 26.8			
	comp=Z,9μm,19.0s								
FDF	**Fort de France**	**96.83**	**56**	IAMs_20	IAMs_20	04 10 41.8			
	comp=Z,23μm,22.0s								
ROSC	**El Rosal**	**97.68**	**72**	LR	LR	04 18 29.3			
	comp=Z,8μm,19.3s,baz=353,slow=39								
ROSC	**El Rosal**	**97.68**	**72**	IAMs_20	IAMs_20	04 18 47.8			
	comp=Z,12μm,20.0s								
TAU	**Tasmania Unive**	**97.93**	**201**	IAMs_20	IAMs_20	04 14 48.0			
	comp=Z,12μm,20.0s								
SVB	**Belmont**	**98.01**	**57**	IAMs_20	IAMs_20	04 11 22.1			
	comp=Z,20μm,22.0s								
NWAO	**Narrogin (SRO)**	**99.31**	**227**	IAMs_20	IAMs_20	04 11 18.9			
	comp=Z,11μm,21.0s								
SOCY	**Socotra**	**99.35**	**304**	IAMs_20	IAMs_20	04 14 34.0			
	comp=Z,11μm,21.0s								
DAMY	**Dhamar**	**101.94**	**313**	IAMs_20	IAMs_20	04 21 15.9			
	comp=Z,18μm,18.0s								
DGAR	**Diego Garcia**	**104.62**	**277**	IAMs_20	IAMs_20	04 19 22.8			
	comp=Z,9μm,19.0s								
TAM	**Tamanrasset**	**105.13**	**352**	IAMs_20	IAMs_20	04 27 14.3			
	comp=Z,8μm,20.0s								
ATD	**Arta Tunnel**	**105.32**	**313**	IAMs_20	IAMs_20	04 22 16.4			
	comp=Z,16μm,20.0s								
ANKE	**Ethiopia-Afar**	**108.42**	**315**	*i* P	**PKiKP**	**03 34 11.1**	**+5.0**		
FURI	**Furi**	**109.50**	**316**	IAMs_20	IAMs_20	04 25 27.9			
	comp=Z,11μm,19.0s								
MSEY	**Mahe Island**	**112.56**	**293**	IAMs_20	IAMs_20	04 27 18.7			
	comp=Z,11μm,18.0s								
MBO	**M'Bour**	**112.81**	**14**	IAMs_20	IAMs_20	04 23 50.5			
	comp=Z,8μm,20.0s								
TOC1	**Torodi Ar. Sit**	**114.95**	**355**	IAMs_20	IAMs_20	04 32 30.5			
	comp=Z,13μm,18.0s								
TOC7	**Torodi Ar. Sit**	**114.96**	**355**	IAMs_20	IAMs_20	04 32 31.7			
	comp=Z,11μm,19.0s								
TOB1	**Torodi Ar. Sit**	**114.96**	**355**	IAMs_20	IAMs_20	04 32 31.8			
	comp=Z,11μm,19.0s								
TOC2	**Torodi Ar. Sit**	**114.96**	**355**	IAMs_20	IAMs_20	04 32 31.8			
	comp=Z,11μm,19.0s								
TOB5	**Torodi Ar. Sit**	**114.97**	**355**	IAMs_20	IAMs_20	04 32 32.0			
	comp=Z,11μm,19.0s								
TOA0	**Torodi Ar. Sit**	**114.97**	**355**	IAMs_20	IAMs_20	04 32 32.1			
	comp=Z,11μm,19.0s								
TOA2	**Torodi Ar. Sit**	**114.97**	**355**	IAMs_20	IAMs_20	04 32 32.1			
	comp=Z,11μm,19.0s								
TORD	**Torodi Ar. Bea**	**114.97**	**355**	Pdiff	**Pdif**	**03 30 33.3**	**+4.4**		
	comp=Z,1.1nm,1.1s,baz=6.4,slow=4.5,SNR=3.6								
TORD				PKP	**PKiKP**	**03 34 16.6**	**-1.4**		
	comp=Z,2.0nm,0.6s,baz=347,slow=2.3,SNR=37								
TORD				PP	**PP**	**03 35 13.7**	**-2.3**		
	comp=Z,7.8nm,1.1s,baz=5.3,slow=6.4,SNR=6.5								
TORD				PKKPbc	**PKKPbc**	**03 44 53.3**	**+1.2**		
	comp=Z,2.7nm,0.8s,baz=176,slow=2.0,SNR=6.9								
TORD				SKKP		03 48 57.4			
	comp=Z,2.7nm,1.0s,baz=176,slow=4.0,SNR=3.8								
TORD	**Torodi Ar. Bea**	**114.97**	**355**		**PP**	**03 35 09.2**	**-6.8**		
TORD					SP	03 44 51.9	-1.1		
TOA3	**Torodi Ar. Sit**	**114.98**	**355**	IAMs_20	IAMs_20	04 32 31.3			
	comp=Z,11μm,18.0s								
TOB3	**Torodi Ar. Sit**	**114.98**	**355**	IAMs_20	IAMs_20	04 32 31.4			
	comp=Z,11μm,18.0s								
TOC3	**Torodi Ar. Sit**	**114.98**	**355**	IAMs_20	IAMs_20	04 32 32.4			
	comp=Z,11μm,19.0s								
TOB4	**Torodi Ar. Sit**	**114.98**	**355**	IAMs_20	IAMs_20	04 32 31.4			
	comp=Z,11μm,19.0s								
TOC5	**Torodi Ar. Sit**	**115.00**	**355**	IAMs_20	IAMs_20	04 32 31.7			
	comp=Z,13μm,19.0s								
TOC4	**Torodi Ar. Sit**	**115.00**	**355**	IAMs_20	IAMs_20	04 32 32.8			
	comp=Z,11μm,19.0s								
SAML	**Samuel**	**115.29**	**71**	IAMs_20	IAMs_20	04 26 29.7			
	comp=Z,13μm,20.0s								
LPAZ	**La Paz**	**118.09**	**80**	PKP	**PKPdf**	**03 34 23.9**	**-0.7**		
	comp=Z,0.8nm,0.6s,baz=34,slow=3.6,SNR=2.8								
LPAZ				PKKPab	**PKKPab**	**03 44 47.9**	**+1.2**		
	comp=Z,1.2nm,0.8s,baz=198,slow=6.4,SNR=4.8								
KMBO	**Kilima Mbogo**	**119.04**	**312**	PKP	**PKPdf**	**03 34 25.7**	**-0.4**		
	comp=Z,2.1nm,0.8s,baz=72,slow=3.2,SNR=2.9								
KMBO	**Kilima Mbogo**	**119.04**	**312**	IAMs_20	IAMs_20	04 29 57.2			
	comp=Z,16μm,21.0s								
PSGCX	**Pisagua**	**119.39**	**84**	IAMs_20	IAMs_20	04 33 40.1			
	comp=Z,7μm,20.0s								
PB11	**IPOC Station P**	**119.80**	**84**	PKPdf	**PKPdf**	**03 34 26.1**	**-1.1**		
PB11					IAMs_20	IAMs_20	04 33 11.9		
	comp=Z,8μm,21.0s								
GO01	**Chusmiza**	**120.01**	**84**	IAMs_20	IAMs_20	04 34 14.5			
	comp=Z,8μm,20.0s								
PB08	**IPOC Station P**	**120.39**	**84**	IAMs_20	IAMs_20	04 30 35.7			
	comp=Z,7μm,22.0s								
PB01	**IPOC Station P**	**120.86**	**85**		**PKPdf**	**03 34 29.0**	**-0.2**		
DBIC	**Dimbokro**	**121.53**	**2**	PKP	**PKPdf**	**03 34 29.5**	**-1.1**		
	comp=Z,4.8nm,0.5s,baz=352,slow=3.9,SNR=11								
DBIC	**Dimbokro**	**121.53**	**2**	PKIKP	**PKPdf**	**03 34 29.3**	**-1.3**		
DBIC	**Dimbokro**	**121.53**	**2**	PKPdf	**PKPdf**	**03 34 29.3**	**-1.3**		
TIC	**Toumodi**	**121.56**	**2**	*e*PKIKP	**PKPdf**	**03 34 29.7**	**-1.0**		
KIC	**Kosan Boka**	**121.84**	**2**	*e*PKIKP	**PKPdf**	**03 34 29.5**	**-1.8**		
	comp=Z,6.8nm,0.7s								
LIC	**Lamto**	**121.97**	**2**	*e*PKIKP	**PKPdf**	**03 34 30.1**	**-1.4**		
	comp=Z,7.0nm,0.6s								
PB15	**IPOC Station P**	**122.48**	**87**		**PKPdf**	**03 34 32.3**	**-0.1**		
KIBA	**Kibaya**	**123.03**	**311**	*i* P	**Pdif**	**03 31 09.3**	**+4.4**		
GO02	**Mina Guanaco**	**123.84**	**88**	IAMs_20	IAMs_20	04 36 07.6			
	comp=Z,6μm,20.0s								
AC05	**El Transito**	**126.06**	**92**	IAMs_20	IAMs_20	04 31 24.8			
	comp=Z,7μm,19.0s								
RCBR	**Riachuelo**	**126.65**	**42**	IAMs_20	IAMs_20	04 29 46.5			
	comp=Z,11μm,20.0s								
GO04	**Tololo Observa**	**126.67**	**94**	IAMs_20	IAMs_20	04 28 57.1			
	comp=Z,10μm,21.0s								
CO01	**Juntas del Tor**	**126.97**	**93**	IAMs_20	IAMs_20	04 27 35.9			
	comp=Z,9μm,19.0s								
CO03	**El Pedregal**	**127.21**	**94**	IAMs_20	IAMs_20	04 29 12.3			
	comp=Z,10μm,22.0s								
CO02	**Combarbal**	**127.27**	**95**	IAMs_20	IAMs_20	04 28 55.2			
	comp=Z,9μm,20.0s								
CASY	**Casey**	**128.18**	**208**	IAMs_20	IAMs_20	04 27 10.9			
	comp=Z,9μm,20.0s								
MT02	**Curacav**	**128.59**	**97**	IAMs_20	IAMs_20	04 30 40.6			
	comp=Z,9μm,20.0s								
VA03	**San Esteban**	**128.62**	**96**	IAMs_20	IAMs_20	04 24 04.1			
	comp=Z,9μm,18.0s								
PEL	**Peldehue**	**128.79**	**96**	IAMs_20	IAMs_20	04 24 08.0			
	comp=Z,8μm,18.0s								
ABPO	**Ambohimpanom**	**128.83**	**291**	IAMs_20	IAMs_20	04 30 56.0			
	comp=Z,10μm,19.0s								
MT05	**Renca**	**128.93**	**96**	IAMs_20	IAMs_20	04 30 59.4			
	comp=Z,8μm,19.0s								
ZON	**Zonda**	**128.94**	**93**	PKIKP	**PKPdf**	**03 34 44.0**	**-0.3**		
ZON	**Zonda**	**128.94**	**93**	PKPdf	**PKPdf**	**03 34 44.0**	**-0.3**		
ZON				IAMs_20	IAMs_20	04 25 05.9			
	comp=Z,8μm,19.0s								
GO05	**Huala**	**129.28**	**99**	IAMs_20	IAMs_20	04 23 39.2			
	comp=Z,8μm,19.0s								
BDFB	**Brasilia**	**129.29**	**61**	PKP	**PKPdf**	**03 34 45.2**	**-0.3**		
	comp=Z,9.3nm,0.7s,baz=19,slow=1.8,SNR=15								
BDFB	**Brasilia**	**129.29**	**61**	PKIKP	**PKPdf**	**03 34 43.6**	**-1.9**		
BDFB				MLR	MLR				
	comp=Z,21μm,22.0s								
BDFB	**Brasilia**	**129.29**	**61**	PKPdf	**PKPdf**	**03 34 43.6**	**-1.9**		
VNDA	**Vanda**	**129.59**	**184**	PKP	**PKiKP**	**03 34 45.7**	**+0.9**		
	comp=Z,3.5nm,0.8s,baz=323,slow=4.5,SNR=19								
VNDA				SKPbc	SKPbc	03 38 05.1	+0.8		
	comp=Z,10nm,1.1s,baz=342,slow=3.7,SNR=6.9								
VNDA				SKKPbc	**SKKPbc**	**03 47 52.1**	**+0.9**		
	comp=Z,1.3nm,0.9s,baz=183,slow=3.4,SNR=3.0								
VNDA	**Vanda**	**129.59**	**184**	PKIKP	**PKPdf**	**03 34 43.9**	**-0.2**		
VNDA	**Vanda**	**129.59**	**184**	PKPdf	**PKPdf**	**03 34 43.9**	**-0.2**		
BI03	**Tigo**	**129.83**	**101**	IAMs_20	IAMs_20	04 22 43.9			
	comp=Z,10μm,20.0s								
BO02	**Sierra Bellavi**	**129.84**	**98**	IAMs_20	IAMs_20	04 28 50.8			
	comp=Z,10μm,20.0s								
BI02	**San Fabin de**	**130.78**	**100**	IAMs_20	IAMs_20	04 23 50.8			
	comp=Z,9μm,18.0s								
LC01	**Cunco**	**131.85**	**103**	PKPdf	**PKPdf**	**03 34 49.0**	**-0.5**		
LC01				IAMs_20	IAMs_20	04 23 47.4			
	comp=Z,10μm,19.0s								
CPUP	**Villa Florida**	**132.22**	**79**	PKhKP	PKPpre	03 34 41.7			
	comp=Z,1.6nm,0.8s,baz=48,slow=1.9,SNR=4.3								
CPUP				PKP	**PKPdf**	**03 34 49.9**	**-0.7**		
	comp=Z,9.7nm,1.1s,baz=7.1,slow=3.2,SNR=10								
CPUP				SKPab	**SKPab**	**03 38 17.3**	**+0.8**		
	comp=Z,15nm,1.2s,baz=355,slow=4.2,SNR=5.2								
CPUP	**Villa Florida**	**132.22**	**79**	SKPbc	**SKPbc**	**03 38 14.2**	**-1.2**		
LL01	**San Ignacio de**	**133.68**	**107**	IAMs_20	IAMs_20	04 31 25.3			
	comp=Z,7μm,20.0s								
PLCA	**Paso Flores**	**133.79**	**104**	PKP	**PKPdf**	**03 34 52.9**	**-0.4**		
	comp=Z,6.1nm,0.6s,baz=243,slow=2.4,SNR=21								
PLCA				SKPab	**SKPab**	**03 38 25.2**	**+2.2**		
	comp=Z,6.8nm,0.9s,baz=315,slow=7.5,SNR=3.1								
ASCN	**Ascension**	**135.11**	**16**	IAMs_20	IAMs_20	04 35 21.7			
	comp=Z,11μm,20.0s								
LSZ	**Lusaka**	**135.64**	**314**	PKP	**PKPdf**	**03 34 55.8**	**-1.7**		
	comp=Z,2.8nm,0.9s,baz=24,slow=3.8,SNR=4.8								
LSZ				PP	**PP**	**03 37 38.6**	**+3.8**		
	comp=Z,8.3nm,1.0s,baz=44,slow=6.7,SNR=4.9								
LSZ	**Lusaka**	**135.64**	**314**	IAMs_20	IAMs_20	04 40 59.9			
	comp=Z,12μm,19.0s								
COYC	**Coyhaique**	**135.73**	**110**	IAMs_20	IAMs_20	04 27 20.4			
	comp=Z,10μm,20.0s								
MATP	**Matopo**	**139.98**	**310**	PKP	**PKPdf**	**03 35 04.2**	**-1.1**		
	comp=Z,6.7nm,1.0s,baz=21,slow=4.9,SNR=8.0								
MATP				PP	**PP**	**03 38 06.5**	**+4.7**		
	comp=Z,23nm,1.2s,baz=344,slow=8.4,SNR=3.5								
QSPA	**South Pole Qui**	**141.76**	**180**	PKhKP	PKPpre	03 35 01.4			
	comp=Z,16nm,0.8s,baz=66,slow=2.2,SNR=46								
QSPA				PKP	**PKPdf**	**03 35 07.2**	**+0.2**		
	comp=Z,27nm,0.6s,baz=59,slow=1.4,SNR=27								
QSPA	**South Pole Qui**	**141.76**	**180**		**PKPdf**	**03 35 06.8**	**-0.2**		
QSPA	**South Pole Qui**	**141.76**	**180**	IAMs_20	IAMs_20	04 40 19.8			
	comp=Z,10μm,20.0s								
MG01	**Puerto William**	**142.75**	**121**	IAMs_20	IAMs_20	04 32 18.7			
	comp=Z,10μm,18.0s								
TSUM	**Tsumeb**	**143.42**	**326**	PKhKP	PKPpre	03 35 06.9			
	comp=Z,7.0nm,0.9s,baz=6.4,slow=7.1,SNR=11								
TSUM				PKP	**PKPdf**	**03 35 11.6**	**0.0**		
	comp=Z,7.0nm,0.9s,baz=346,slow=4.2,SNR=11								
TSUM	**Tsumeb**	**143.42**	**326**		PKPbc	03 35 09.5	+0.7		
TSUM	**Tsumeb**	**143.42**	**326**	IAMs_20	IAMs_20	04 50 46.7			
	comp=Z,8μm,18.0s								
LBTB	**Lobatse**	**145.28**	**310**	PKIKP	**PKPab**	**03 35 14.4**	**-0.1**		
LBTB	**Lobatse**	**145.28**	**310**		**PKPab**	**03 35 14.4**	**-0.1**		
MAW	**Mawson**	**145.29**	**218**	PKPbc	**PKPab**	**03 35 13.5**	**+0.4**		
	comp=Z,23nm,0.6s,baz=105,slow=3.2,SNR=34								
MAW	**Mawson**	**145.29**	**218**		**PKPab**	**03 35 13.6**	**+0.4**		
EFI	**East Falkland**	**146.79**	**112**	IAMs_20	IAMs_20	04 53 24.1			
	comp=Z,10μm,20.0s								
BOSA	**Boshof**	**148.45**	**307**	PKPbc	**PKPbc**	**03 35 23.0**	**-0.4**		
	comp=Z,23nm,1.0s,baz=47,slow=2.8,SNR=22								
SUR	**Sutherland**	**153.72**	**309**	PKP	**PKPdf**	**03 35 28.5**	**+0.7**		
	comp=Z,4.3nm,0.8s,baz=87,slow=2.3,SNR=1.7								
SUR				PKPbc	**PKPbc**	**03 35 36.9**	**+1.2**		
	comp=Z,9.2nm,0.8s,baz=343,slow=1.8,SNR=7.2								
SUR	**Sutherland**	**153.72**	**309**		**PKPdf**	**03 35 26.5**	**-1.4**		
SUR	**Sutherland**	**153.72**	**309**	IAMs_20	IAMs_20	04 57 15.4			
	comp=Z,9μm,19.0s								
SYO	**Syowa Base**	**153.72**	**214**	*e*PKPdf	**PKPdf**	**03 35 28.4**	**+2.0**		
SYO	**Syowa Base**	**153.72**	**214**	*e*PKPbc	**PKiKP**	**03 35 37.0**	**+2.6**		
SYO	**Syowa Base**	**153.72**	**214**	*e*X	**PKPab**	**03 35 41.9**	**-5.4**		
NVL	**N'lazarevskaya**	**159.97**	**195**	*e*PKP2	PKPab	03 36 26.3	+12		
NVL				pmax	pmax				
	comp=Z,23nm,0.9s								
SNAA	**Sanae**	**160.27**	**180**	PKPdf	**PKPdf**	**03 35 33.9**	**-0.9**		
SNAA	**Sanae**	**160.27**	**180**	PKP	**PKPdf**	**03 35 33.7**	**-1.2**		
	comp=Z,1.8nm,0.8s,baz=170,slow=4.0,SNR=9.5								
SNAA				PKPab	**PKPab**	**03 36 15.3**	**-0.2**		
	comp=Z,6.8nm,0.9s,baz=109,slow=1.6,SNR=5.0								
SNAA	**Sanae**	**160.27**	**180**	PKPdf	**PKPdf**	**03 35 33.4**	**-1.4**		
VNA3	**Neumayer Olymp**	**160.48**	**174**	PKPdf	**PKPdf**	**03 35 34.0**	**-1.0**		
VNA2	**Neumayer--Watz**	**160.92**	**176**	PKPdf	**PKPdf**	**03 35 34.8**	**-0.7**		
VNA1	**Neumayer--Stat**	**161.15**	**175**	PKPdf	**PKPdf**	**03 35 34.8**	**-0.8**		

NEIC ***24*** *03:19:31.4±2.0, 52.0°N±0.1°×176.3°E±0.0°, h43km±26km, Error ellipse: s-maj=17.9km s-min=6.0km az=194.0*

AEIC 24 03:19:29.2±2.2, 52.0°N±0.2°×176.4°E±0.0°, h9km±6km, ML4.2, mb4.6/7(NEIC), **Error ellipse: s-maj=24.7km s-min=2.1km az=193.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**1.30**	**93**		Pn	03 19 52.1	-1.2
LSNW	**Little Sitkin**	**1.30**	**92**		Pn	03 19 52.0	-1.4
LSPA	**Little Sitkin**	**1.34**	**92**		Pn	03 19 53.2	-0.6
LSPA					Sg	03 20 12.7	+0.6
SMY	**Shemya**	**1.58**	**297**		Pn	03 19 56.7	-0.5
SMY					Sn	03 20 17.5	-0.2
CETU	**Semis' Tuman**	**1.91**	**91**		Pn	03 20 01.1	-0.5
AMKA	**Amchitka**	**1.91**	**109**		Pn	03 20 01.5	-0.2
AMKA					Sn	03 20 25.8	-0.1
CESW	**Semis' Southwe**	**1.95**	**92**		Pn	03 20 03.0	+0.7
TASE	**Tanaga Southea**	**3.44**	**91**		Pn	03 20 23.1	+0.3
KIKV	**Kanaga Island**	**3.97**	**90**		Pn	03 20 30.8	+0.8
KIRH	**Kanaga Island**	**4.02**	**89**		Pn	03 20 31.7	+1.0
KDAK	**Kodiak Island**	**18.62**	**60**	P	P	03 23 45.0	-1.5
CNPM	**China Poot**	**19.52**	**55**	P	P	03 23 56.0	-0.4
CNPM				IAmb	IAmb	03 24 01.8	
	comp=Z,54nm,1.0s						
BRLK	**Bradley Lake**	**19.73**	**54**	P	P	03 23 57.2	-1.5
BRLK				IAmb	IAmb	03 24 06.0	
	comp=Z,28nm,1.1s						
TRF	**Thorofare Moun**	**20.85**	**44**	P	P	03 24 10.4	-0.6
TRF				IAmb	IAmb	03 24 18.4	
	comp=Z,62nm,1.2s						
WRH	**Wood River Hil**	**22.09**	**42**	P	P	03 24 22.2	-1.8
EYAK	**Cordova Ski Ar**	**22.38**	**53**	P	P	03 24 26.1	-1.0
EYAK				IAmb	IAmb	03 24 31.6	
	comp=Z,34nm,1.2s						
ILAR	**Eielson Array**	**22.67**	**42**	P	P	03 24 29.1	-1.2
PAX	**Paxson**	**22.85**	**47**	P	P	03 24 31.0	-1.3
PAX				IAmb	IAmb	03 24 36.5	
	comp=Z,9.9nm,0.9s						

IDC 24 03:22:05.4±5.6, 29.22S×177.19W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/28, mbtmp3.9/2, Error ellipse: s-maj=330.0km s-min=60.1km az=162.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.89**	**265**	P	P	03 30 13.5	-0.5
	1.1nm,0.8s,baz=106,slow=6.9,SNR=1.1						
WRA	**Warramunga Arr**	**44.77**	**271**	P	P	03 30 21.2	+0.1
	2.4nm,0.8s,baz=109,slow=8.1,SNR=1.6						
H03S2	**Juan Fernandez**	**80.53**	**123**	T	T	05 03 50.2	
	baz=243						
H03S1	**Juan Fernandez**	**80.54**	**123**	T	T	05 03 42.6	
	baz=243						
H03S3	**Juan Fernandez**	**80.55**	**123**	T	T	05 03 50.1	
	baz=243						
FINES	**FINESS Array B**	**144.27**	**341**	PKP	PKPbc	03 41 41.5	+0.7
	1.3nm,0.8s,baz=57,slow=5.1,SNR=1.5						
AKASG	**Malin Array Be**	**150.77**	**325**	PKPbc	PKPbc	03 41 59.2	-0.1
	1.4nm,0.5s,baz=46,slow=2.3,SNR=2.1						

IDC ***24*** *03:24:39.7±0.6, 52.20N×176.47E, h0km, mb4.1/20, mb1 4.3/22, mb1mx4.1/55, mbtmp4.1/22, ML3.8/2, Error ellipse: s-maj=22.5km s-min=12.7km az=164.0*
NEIC ***24*** *03:24:40.8±1.8, 52.1N±0.1°×176.4°E±0.0°, h10km±1km, Error ellipse: s-maj=20.4km s-min=5.9km az=195.0*
AEIC ***24*** *03:24:41±2.4, 52.0N±0.1°×176.42E±0.0°, h6km±3km, mb4.7/50(NEIC), Error ellipse: s-maj=19.1km s-min=5.2km az=191.0*

ISC 24 03:24:40.7±0.5, 52.2N±0.1°×176.4E±0.0°, h10km, n115, σ1s03/108, mb4.5/37, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**1.29**	**97**		**Pn**	**03 25 04.6**	**-0.2**
LSSA	**Little Sitkin**	**1.29**	**98**		**Pb**	**03 25 04.7**	**-0.4**
LSPA	**Little Sitkin**	**1.33**	**98**		**Pb**	**03 25 05.6**	**-0.1**
LSPA					**Sg**	**03 25 24.4**	**+1.0**
SMY	**Shemya**	**1.55**	**293**		**Pn**	**03 25 08.8**	**+0.5**
SMY	**Shemya**	**1.55**	**293**		**Sb**	**03 25 30.2**	**+1.2**
**CETU

PNTR	**Pine Nut**	**45.16**	**80**	P	**P**	**03 32 56.6**	**-1.0**
PNTR				IAmb	IAmb	03 33 00.7	
	comp=Z,7.1nm,0.7s						
HRY	**Holter Researc**	**45.21**	**67**	P	**P**	**03 32 56.6**	**-1.2**
NVAR	**Mina Array Bea**	**46.36**	**80**	P	**P**	**03 33 07.4**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=291,slow=7.7,SNR=6.6						
NVAR	**Mina Array Bea**	**46.36**	**80**	P	**P**	**03 33 06.6**	**-0.5**
TPNV	**Topopah Spring**	**48.56**	**80**	P	**P**	**03 33 23.1**	**-1.1**
PD31	**Pinedale Array**	**48.86**	**70**	P	**P**	**03 33 25.4**	**-1.0**
PDAR	**Pinedale Array**	**48.86**	**70**	P	**P**	**03 33 25.4**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=309,slow=3.2,SNR=7.7						
PDAR	**Pinedale Array**	**48.86**	**70**	P	**P**	**03 33 25.2**	**-1.2**
SPITS	**Spitsbergen Ar**	**49.36**	**355**	P	**P**	**03 33 29.5**	**-0.1**
	comp=Z,2.6nm,0.5s,baz=51,slow=6.7,SNR=16						
PV09	**Paradox Valley**	**51.82**	**74**	P	**P**	**03 33 47.6**	**-1.4**
PV13	**Radium Mtn., P**	**52.23**	**74**	P	**P**	**03 33 50.8**	**-1.2**
PV13				IAmb	IAmb	03 33 52.2	
	comp=Z,6.9nm,0.8s						
SUMG	**Summit**	**53.22**	**12**	P	**P**	**03 33 59.2**	**+0.3**
MKAR	**Makanchi Array**	**57.20**	**305**	P	**P**	**03 34 27.2**	**-0.4**
	comp=Z,0.9nm,0.6s,baz=49,slow=5.5,SNR=6.2						
MKAR	**Makanchi Array**	**57.20**	**305**	P	**P**	**03 34 26.5**	**-1.2**
N35A	**Tabor**	**57.97**	**63**	P	**P**	**03 34 32.8**	**-0.4**
L40A	**Anamosa**	**59.53**	**60**	P	**P**	**03 34 43.5**	**-0.4**
L40A				IAmb	IAmb	03 34 44.8	
	comp=Z,6.2nm,0.8s						
E46A	**Sault Ste Mari**	**60.02**	**52**	P	**P**	**03 34 46.8**	**-0.4**
SCHQ	**Schefferville**	**61.17**	**36**	P	**P**	**03 34 54.9**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=332,slow=6.8,SNR=3.6						
SCHQ	**Schefferville**	**61.17**	**36**	IAmb	IAmb	03 34 56.6	
	comp=Z,4.8nm,0.8s						
TXAR	**Lajitas Array**	**61.42**	**78**	P	**P**	**03 34 56.4**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=307,slow=4.2,SNR=3.7						
TXAR	**Lajitas Array**	**61.42**	**78**	P	**P**	**03 34 56.2**	**-0.9**
VLDQ	**Val d'Or**	**61.96**	**47**	P	**P**	**03 34 58.3**	**-2.0**
VLDQ				IAmb	IAmb	03 34 58.9	
	comp=Z,6.6nm,0.8s						
FCAR	**Ozark Folk Cen**	**63.44**	**65**	P	**P**	**03 35 09.4**	**-1.0**
CLTN	**Cedars of Leba**	**66.47**	**61**	P	**P**	**03 35 29.8**	**-0.3**
CLTN				IAmb	IAmb	03 35 31.4	
	comp=Z,6.7nm,0.8s						
NB2	**NORSAR Subarra**	**66.54**	**352**	P	**P**	**03 35 30.1**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=11,slow=6.9						
NOA	**NORSAR Array B**	**66.54**	**352**	P	**P**	**03 35 30.3**	**0.0**
	comp=Z,1.4nm,0.8s,baz=10.0,slow=6.5,SNR=4.6						
ACCN	**Adirondack Com**	**67.28**	**48**	P	**P**	**03 35 34.0**	**-1.2**
H62A	**Milan**	**67.47**	**46**	P	**P**	**03 35 35.6**	**-0.9**
F64A	**Sherman**	**67.66**	**43**	P	**P**	**03 35 36.2**	**-1.3**
CMAR	**Chiang Mai Arr**	**68.01**	**272**	P	**P**	**03 35 40.7**	**+0.5**
	comp=Z,1.1nm,0.4s,baz=18,slow=6.1,SNR=1.7						
CMAR	**Chiang Mai Arr**	**68.01**	**272**	P	**P**	**03 35 40.2**	**+0.1**
EMMW	**East Machias**	**68.96**	**43**	P	**P**	**03 35 45.3**	**-0.4**
AKASG	**Malin Array Be**	**73.83**	**339**	P	**P**	**03 36 15.0**	**0.0**
	comp=Z,1.0nm,0.4s,baz=22,slow=6.1,SNR=4.3						
AKASG	**Malin Array Be**	**73.83**	**339**	IAmb	IAmb	03 36 22.6	
	comp=Z,0.8nm,0.8s						
WR0	**Warramunga Arr**	**80.56**	**220**	P	**P**	**03 36 53.1**	**0.0**
WR0				IAmb	IAmb	03 36 59.7	
	comp=Z,6.3nm,1.1s						
WRA	**Warramunga Arr**	**80.62**	**220**	P	**P**	**03 36 54.0**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=32,slow=6.3,SNR=9.8						
BRTR	**Keskin Array B**	**82.94**	**332**	P	**P**	**03 37 07.2**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=12,slow=7.7,SNR=2.8						
BRTR	**Keskin Array B**	**82.94**	**332**	P	**P**	**03 37 05.9**	**+0.1**
ASAR	**Alice Springs**	**84.16**	**219**	P	**P**	**03 37 13.1**	**+1.3**
	comp=Z,1.0nm,0.6s,baz=22,slow=5.8,SNR=11						
ASAR	**Alice Springs**	**84.16**	**219**	P	**P**	**03 37 11.9**	**+0.1**
TORD	**Torodi Ar. Bea**	**114.81**	**354**	PKP	**PKiKP**	**03 43 20.8**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=13,slow=0.7,SNR=1.5						
QSPA	**South Pole Qui**	**141.91**	**180**	PKP	**PKPdf**	**03 44 09.9**	**-1.3**
	comp=Z,2.9nm,1.1s,baz=63,slow=0.8,SNR=2.1						
MAW	**Mawson**	**145.28**	**218**	PKPbc	**PKPdf**	**03 44 18.7**	**+1.7**
	comp=Z,2.1nm,0.5s,baz=120,slow=8.1,SNR=2.6						
BOSA	**Boshof**	**148.20**	**306**	PKPbc	**PKPbc**	**03 44 27.0**	**+0.3**
	comp=Z,10nm,1.4s,baz=46,slow=2.2,SNR=3.9						

*IDC **24** 03:27:48.0±0.9,52°.20N×176°.50E,h0km,mb4.0/16, mb1 4.1/18,mb1mx4.0/61,mbtmp4.0/18,ML3.5/2, Error ellipse: s-maj=28.3km s-min=15.2km az=161.0*
*AEIC **24** 03:27:51.1±1.9,51°.96N±0°.10×176°.39E±0°.04,h31km±4km, ML4.0/21,mb4.3/21(NEIC),Error ellipse: s-maj=14.3km s-min=3.2km az=187.0*
*NEIC **24** 03:27:51.5±1.7,52°.14N±0°.09×176°.40E±0°.07, h29km±4km, Error ellipse: s-maj=13.9km s-min=3.3km az=200.0*

ISC 24 03:27:53.0±0.6,52°.1N±0°.1×176°.44E±0°.05,h40km,n74, σ1ᵽ14/69,mb4.0/25,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSNW	**Little Sitkin**	**1.29**	**96**		**Pn**	**03 28 13.3**	**-1.2**
LSSA	**Little Sitkin**	**1.29**	**97**		**Pn**	**03 28 13.7**	**-0.8**
LSPA	**Little Sitkin**	**1.33**	**96**		**Pn**	**03 28 14.3**	**-0.7**
LSPA					**Sn**	**03 28 33.0**	**+1.5**
SMY	**Shemya**	**1.56**	**294**		**Pn**	**03 28 17.4**	**-0.7**
SMY					**Sn**	**03 28 38.0**	**+0.8**
CETU	**Semis' Tuman**	**1.89**	**93**		**Pn**	**03 28 22.4**	**-0.4**
AMKA	**Amchitka**	**1.93**	**111**		**Pn**	**03 28 22.1**	**-1.1**
AMKA					**Sn**	**03 28 46.3**	**+0.1**
CEAP	**Semis' Anvil P**	**1.94**	**92**		**Pn**	**03 28 22.8**	**-0.6**
CESW	**Semis' Southwe**	**1.94**	**95**		**Pn**	**03 28 22.6**	**-0.8**
CERAA	**Semis' Rag'd T**	**2.02**	**95**		**Pn**	**03 28 24.1**	**-0.3**
GAEA	**Gareloi East**	**3.00**	**94**		**Pn**	**03 28 38.0**	**0.0**
TASE	**Tanaga Southea**	**3.43**	**93**		**Pn**	**03 28 44.0**	**+0.2**
TAFP	**Tanaga Falls P**	**3.45**	**91**		**Pn**	**03 28 44.7**	**+0.5**
TAPA	**Tanaga Point A**	**3.57**	**93**		**Pn**	**03 28 45.9**	**+0.1**
KIMD	**Kanaga Island**	**3.93**	**93**		**Pn**	**03 28 50.4**	**-0.4**
KIKV	**Kanaga Island**	**3.96**	**91**		**Pn**	**03 28 51.8**	**+0.7**
ADK	**Adak**	**4.25**	**90**		**Pn**	**03 28 54.2**	**-1.0**
GSTR	**Great Sitkin T**	**4.62**	**87**		**Pn**	**03 29 00.8**	**+0.6**
NIKH	**Nikolski High**	**9.01**	**79**	Pn	**Pn**	**03 29 59.6**	**-0.7**
SPIA	**Saint Paul Isl**	**9.23**	**51**	Pn	**Pn**	**03 30 01.7**	**-1.6**
PETK	**Petropavlovsk-**	**11.44**	**282**	Pn	**Pn**	**03 30 34.5**	**+0.8**
	0.9nm,0.3s,baz=94,slow=20,SNR=4.0						
PETK	**Petropavlovsk-**	**11.44**	**282**		**Pn**	**03 30 29.2**	**-4.4**
OHAK	**Old Harbor**	**18.14**	**62**	P	**P**	**03 31 59.5**	**-2.0**
KDAK	**Kodiak Island**	**18.56**	**60**	P	**P**	**03 32 06.0**	**-0.1**
	0.3nm,0.3s,baz=297,slow=11,SNR=3.3						
KDAK	**Kodiak Island**	**18.56**	**60**	IAmb	IAmb	03 32 13.8	
	comp=Z,24nm,1.1s						
CNPM	**China Poot**	**19.45**	**55**	P	**P**	**03 32 16.2**	**+0.2**
CNPM				IAmb	IAmb	03 32 18.4	
	comp=Z,33nm,1.2s						
SML	**Sawmill**	**21.25**	**49**	P	**P**	**03 32 33.8**	**-1.5**
GLI	**Glacier Island**	**21.69**	**52**	P	**P**	**03 32 39.2**	**-0.8**
GLI				IAmb	IAmb	03 32 49.7	
	comp=Z,16nm,0.9s						
SCM	**Sheep Creek Mo**	**21.72**	**49**	P	**P**	**03 32 40.6**	**+0.1**
FID	**Port Fidalgo**	**21.97**	**52**	P	**P**	**03 32 41.3**	**-1.7**
FID				IAmb	IAmb	03 32 43.9	
	comp=Z,18nm,1.0s						
CCB	**Clear Creek Bu**	**22.18**	**42**	P	**P**	**03 32 46.0**	**+0.7**
IL31		**22.59**	**42**	P	**P**	**03 32 50.2**	**+0.6**
ILAR	**Eielson Array**	**22.59**	**42**	P	**P**	**03 32 49.0**	**-0.6**
	comp=Z,3.4nm,1.1s,baz=256,slow=9.0,SNR=4.7						
TOLK	**Toolik Lake Re**	**23.10**	**31**	P	**P**	**03 32 55.5**	**+0.6**
TOLK				IAmb	IAmb	03 33 04.4	
	comp=Z,8.6nm,0.8s						
PRP	**Porcupine Dome**	**23.36**	**40**	P	**P**	**03 32 57.5**	**-0.2**
PRP				IAmb	IAmb	03 33 04.6	
	comp=Z,5.6nm,0.9s						
SCRK	**Sand Creek**	**23.62**	**45**	P	**P**	**03 32 58.4**	**-1.8**
JKA	**Kamikawa-asahi**	**23.79**	**264**	P	**P**	**03 33 02.2**	**+0.4**
ASAJ	**Asahikawa**	**23.80**	**264**	P	**P**	**03 33 03.5**	**+1.7**
	comp=Z,3.0nm,0.5s,baz=65,slow=14,SNR=1.7						
BMAR	**Burnt Mountain**	**24.32**	**36**	P	**P**	**03 33 07.5**	**+1.0**
BCAR	**Beaver Creek A**	**24.45**	**47**	P	**P**	**03 33 06.8**	**-1.0**
EGAK	**Eagle**	**24.98**	**43**	P	**P**	**03 33 12.8**	**+0.4**
EGAK				IAmb	IAmb	03 33 26.2	
	comp=Z,7.7nm,0.8s						
DAWY	**Dawson**	**25.64**	**45**	P	**P**	**03 33 19.9**	**+1.5**
DAWY				IAmb	IAmb	03 33 26.1	
	comp=Z,8.4nm,0.9s						
KLR	**Kul'dur**	**28.13**	**282**	P	**P**	**03 33 41.4**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=74,slow=7.4,SNR=1.9						
USRK	**Ussuriysk Ar.**	**30.28**	**273**	P	**P**	**03 34 00.7**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=59,slow=8.7,SNR=2.5						
USRK	**Ussuriysk Ar.**	**30.28**	**273**	P	**P**	**03 33 56.8**	**-3.3**
H11N2	**WAKE ISLAND Hy**	**33.17**	**197**	T	T	04 09 32.3	
	baz=11,slow=76,SNR=50						
H11N3	**WAKE ISLAND Hy**	**33.18**	**197**	T	T	04 09 33.1	
	baz=11,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**33.19**	**197**	T	T	04 09 33.7	
	baz=11,slow=76,SNR=45						
H11S1	**WAKE ISLAND Hy**	**34.40**	**197**	T	T	04 11 02.3	
	baz=10,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy**	**34.42**	**197**	T	T	04 11 03.6	
	baz=10,slow=76,SNR=15						
H11S2	**WAKE ISLAND Hy**	**34.42**	**196**	T	T	04 11 03.6	
	baz=10,slow=76,SNR=11						
YKA	**Yellowknife Ar**	**36.86**	**46**	P	**P**	**03 34 58.4**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=284,slow=8.4,SNR=6.2						
SONM	**Songino Array**	**43.65**	**293**	P	**P**	**03 35 54.4**	**+0.9**
	comp=Z,1.3nm,0.7s,baz=62,slow=9.3,SNR=4.6						
SONM	**Songino Array**	**43.65**	**293**	P	**P**	**03 35 53.8**	**+0.3**
PDAR	**Pinedale Array**	**48.87**	**70**	P	**P**	**03 36 34.2**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=295,slow=4.7,SNR=3.2						
SPITS	**Spitsbergen Ar**	**49.40**	**355**	P	**P**	**03 36 38.7**	**+0.7**
	comp=Z,3.5nm,0.7s,baz=57,slow=8.3,SNR=7.9						
KURK	**Kurchatov**	**56.33**	**311**	P	**P**	**03 37 29.6**	**+0.2**
MK31	**Makanchi Array**	**57.23**	**305**	P	**P**	**03 37 35.4**	**-0.5**
MK31				IAmb	IAmb	03 37 41.5	
	comp=Z,2.2nm,1.1s						
MKAR	**Makanchi Array**	**57.23**	**305**	P	**P**	**03 37 35.7**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=54,slow=5.1,SNR=6.8						
MAKZ	**Makanchi**	**57.37**	**306**	P	**P**	**03 37 36.3**	**-0.6**
MAKZ				IAmb	IAmb	03 37 43.1	
	comp=Z,3.3nm,1.0s						
TXAR	**Lajitas Array**	**61.43**	**78**	P	**P**	**03 38 04.7**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=302,slow=5.2,SNR=1.8						
ABKAR	**Akbulak array**	**65.51**	**320**	P	**P**	**03 38 30.5**	**-1.3**
KKAR	**Karaganda Ar**	**65.67**	**309**	P	**P**	**03 38 32.5**	**-0.4**
NB2	**NORSAR Subarra**	**66.58**	**352**	P	**P**	**03 38 37.5**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=11,slow=6.5						
NOA	**NORSAR Array B**	**66.58**	**352**	P	**P**	**03 38 37.5**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=10,slow=6.4,SNR=2.7						
CMAR	**Chiang Mai Arr**	**68.01**	**272**	P	**P**	**03 38 49.2**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=34,slow=6.7,SNR=1.2						
CMAR	**Chiang Mai Arr**	**68.01**	**272**	P	**P**	**03 38 48.0**	**-0.2**
AKASG	**Malin Array Be**	**73.86**	**339**	P	**P**	**03 39 23.2**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=22,slow=6.1,SNR=2.6						
AKASG	**Malin Array Be**	**73.86**	**339**	IAmb	IAmb	03 39 26.6	
	comp=Z,0.6nm,0.7s						
WB2	**Warramunga Arr**	**80.59**	**220**	P	**P**	**03 40 00.1**	**-1.0**
WB2				IAmb	IAmb	03 40 11.9	
	comp=Z,2.8nm,1.1s						
WRA	**Warramunga Arr**	**80.59**	**220**	P	**P**	**03 40 02.6**	**+1.5**
	comp=Z,4.1nm,1.0s,baz=31,slow=5.8,SNR=3.3						
BRTR	**Keskin Array B**	**82.97**	**332**	P	**P**	**03 40 15.0**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=41,slow=3.7,SNR=2.7						
ASAR	**Alice Springs**	**84.12**	**219**	P	**P**	**03 40 21.6**	**+2.0**
	comp=Z,0.6nm,0.6s,baz=18,slow=5.5,SNR=5.9						
BOSA	**Boshof**	**148.22**	**306**	PKPbc	**PKiKP**	**03 47 35.8**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=72,slow=3.2,SNR=1.7						
BOSA	**Boshof**	**148.22**	**306**		**PKPbc**	**03 47 34.3**	**-0.2**

IDC 24 03:33:46.4±2.2,10°.46S×120°.60E,h0km,mb3.7/2, mb1 3.7/5,mb1mx3.5/52,mbtmp3.5/5,ML3.3/3,Error ellipse: s-maj=151.7km s-min=24.5km az=57.0,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.03**	**148**	Pn	Pn	03 35 58.1	0.0
	0.2nm,0.3s,baz=326,slow=11,SNR=17						
FITZ				Sn	Sn	03 37 31.9	-8.7
	0.5nm,0.3s,baz=190,slow=19,SNR=2.3						
WRA	**Warramunga Arr**	**16.26**	**127**	Pn	Pn	03 37 35.9	-0.5
	0.1nm,0.3s,baz=303,slow=13,SNR=4.8						
ASAR	**Alice Springs**	**18.26**	**138**	P	P	03 38 01.8	+0.1
	0.1nm,0.3s,baz=315,slow=13,SNR=5.8						
SONM	**Songino Array**	**59.39**	**349**	P	P	03 43 50.8	+0.1
	0.4nm,0.4s,baz=147,slow=8.1,SNR=3.3						
MKAR	**Makanchi Array**	**66.47**	**332**	P	P	03 44 37.5	-0.2
	0.5nm,0.6s,baz=154,slow=5.4,SNR=3.6						

*AEIC **24** 03:34:41.1±1.8,51°.8N±0°.1×176°.28E±0°.07,h5km±7km, ML3.4,Error ellipse: s-maj=18.7km s-min=4.7km az=193.0*
*NEIC **24** 03:34:42.1±1.5,51°.9N±0°.2×176°.20E±0°.08,h17km±10km, Error ellipse: s-maj=26.3km s-min=1.2km az=194.0*
*IDC **24** 03:34:44.9±1.9,52°.42N×176°.25E,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.4/64,mbtmp3.5/3,Error ellipse: s-maj=91.1km s-min=35.2km az=124.0*

ISC 24 03:34:41.7±2.0,51°.9N±0°.3×176°.22E±0°.10,h10km,n15, σ0ᵽ89/16,mb3.7/3,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**1.42**	**85**		**Pn**	**03 35 06.3**	**-1.2**
LSNW	**Little Sitkin**	**1.43**	**85**		**Pn**	**03 35 06.4**	**-1.2**
LSPA	**Little Sitkin**	**1.46**	**85**		**Pn**	**03 35 06.6**	**-1.5**
LSPA					**Sn**	**03 35 28.0**	**+0.8**
SMY	**Shemya**	**1.57**	**305**		**Pn**	**03 35 08.9**	**-0.7**
SMY	**Shemya**	**1.57**	**305**		**Sb**	**03 35 30.2**	**-0.4**
AMKA	**Amchitka**	**1.98**	**103**		**Pn**	**03 35 14.9**	**-0.3**
AMKA					**Sn**	**03 35 39.7**	**-0.3**
CESW	**Semis' Southwe**	**2.07**	**88**		**Pn**	**03 35 15.6**	**-0.9**
CEAP	**Semis' Anvil P**	**2.08**	**85**		**Pn**	**03 35 16.9**	**+0.3**
KIMD	**Kanaga Island**	**4.06**	**89**		**Pn**	**03 35 43.4**	**-0.4**
ADK	**Adak**	**4.39**	**87**	Pn	**Pn**	**03 35 48.6**	**+0.2**
ILAR	**Eielson Array**	**22.88**	**41**	P	**P**	**03 39 44.9**	**-0.1**
	0.7nm,0.9s,baz=253,slow=8.5,SNR=4.8						
BMAR	**Burnt Mountain**	**24.61**	**36**	P	**P**	**03 40 01.4**	**-0.3**
BCAR	**Beaver Creek A**	**24.73**	**47**	P	**P**	**03 40 02.1**	**-0.7**
NOA	**NORSAR Array B**	**66.81**	**352**	P	**P**	**03 45 34.4**	**+1.4**
	0.4nm,0.7s,baz=11,slow=6.6,SNR=3.6						
ASAR	**Alice Springs**	**83.84**	**218**	P	P	03 47 18.4	+7.2
	0.4nm,0.6s,baz=21,slow=6.0,SNR=4.2						

IDC 24 03:36:22.2±2.4,10°.50S×120°.42E,h0km,mb3.6/2, mb1 3.7/5,mb1mx3.5/49,mbtmp3.5/5,ML3.4/3,Error ellipse: s-maj=157.5km s-min=25.4km az=56.0,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi**	**9.10**	**147**	Pn	Pn	03 38 34.8	-0.1
	0.4nm,0.3s,baz=330,slow=16,SNR=1.6						
FITZ				Sn	Sn	03 40 09.2	-8.8
	0.5nm,0.3s,baz=287,slow=22,SNR=2.8						
WRA	**Warramunga Arr**	**16.38**	**127**	Pn	Pn	03 40 12.5	-1.2
	0.1nm,0.3s,baz=303,slow=12,SNR=7.5						
WRA				Sn	Sn	03 43 01.1	-15
	0.0nm,0.3s,baz=294,slow=21,SNR=1.9						
ASAR	**Alice Springs**	**18.36**	**137**	P	P	03 40 39.3	+0.7
	0.1nm,0.3s,baz=313,slow=12,SNR=3.3						
SONM	**Songino Array**	**59.39**	**349**	P	P	03 46 26.9	+0.3
	0.6nm,0.7s,baz=150,slow=6.1,SNR=2.4						
MKAR	**Makanchi Array**	**66.42**	**332**	P	P	03 47 12.8	-0.4
	0.3nm,0.6s,baz=144,slow=8.2,SNR=1.4						

IDC 24 03:39:38.8±3.1,30°.03S×177°.13W,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.5/28,mbtmp3.5/2,Error ellipse: s-maj=63.2km s-min=44.5km az=74.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.04**	**319**	Pn	Pn	03 40 00.7	+0.1
	126nm,0.3s,baz=90,slow=16,SNR=7.7						
RAO				Sn	Sn	03 40 15.6	-0.2
	294nm,0.3s,baz=41,slow=22,SNR=7.1						
RAO				LR	LR	03 40 26.1	
	comp=Z,2μm,19.6s,baz=153,slow=46						
ASAR	**Alice Springs**	**43.88**	**266**	P	P	03 47 47.2	-0.2
	0.4nm,0.7s,baz=109,slow=7.3,SNR=1.9						
WRA	**Warramunga Arr**	**44.84**	**271**	P	P	03 47 54.8	-0.2
	0.7nm,0.7s,baz=110,slow=7.8,SNR=1.8						
FINES	**FINESS Array B**	**145.05**	**341**	PKPbc	PKPbc	03 59 16.0	-0.8
	1.2nm,0.7s,baz=26,slow=3.5,SNR=4.6						

IDC 24 03:40:34.5±3.6,29°.94S×177°.04W,h0km,mb3.5/2, mb1 3.7/2,mb1mx3.5/28,mbtmp3.5/2,Error ellipse: s-maj=77.1km s-min=50.6km az=57.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.03**	**311**	Pn	Pn	03 40 56.2	0.0
	35nm,0.3s,baz=108,slow=19,SNR=1.1						
RAO				Sn	Sb	03 41 08.9	-0.3
	299nm,0.3s,baz=14,slow=23,SNR=2.8						
ASAR	**Alice Springs**	**43.97**	**266**	P	P	03 48 44.6	+0.8
	0.2nm,0.3s,baz=109,slow=7.6,SNR=1.6						
WRA	**Warramunga Arr**	**44.92**	**271**	P	P	03 48 50.2	-1.1
	0.7nm,0.7s,baz=110,slow=8.1,SNR=2.6						
FINES	**FINESS Array B**	**144.99**	**341**	PKP	PKPbc	04 00 12.4	+0.1
	1.0nm,0.8s,baz=53,slow=2.6,SNR=1.5						

*IPEC **24** 03:44:22.7±0.3,51°.54N×16°.34E,h0km,ML2.6/4,Error ellipse: s-maj=2.8km s-min=1.2km az=47.0*
*VIE **24** 03:44:22.8±0.6,51°.40N×15°.93E,h0km,mb2.6/12, ml2.7/15,ms3.8/1,Error ellipse: s-maj=3.6km s-min=2.8km az=155.0 82 km WNW of Wroclaw Suspected Mining induced.*
*PRU **24** 03:44:24.7±0.0,51°.45N×16°.17E,h0km*
*IDC **24** 03:44:24.6±0.7,51°.48N×15°.99E,h0km,mb3.4/2, mb1 3.5/11,mb1mx3.3/56,mbtmp3.1/11,ML3.0/9,Error ellipse: s-maj=13.5km s-min=7.9km az=107.0*
*BGR **24** 03:44:25.3±0.4,51°.41N×16°.18E,h1km,ML3.1/15,Error ellipse: s-maj=5.6km s-min=3.3km az=18.0*

ISC 24 03:44:21.6±0.6,51°.51N±0°.03×16°.22E±0°.02,h0km,n75, σ1ᵽ81/135,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.67**	**176**	*e*Pg	**Pb**	**03 44 36.4**	**+0.3**
KSP				*e*Sg	**Sb**	**03 44 45.1**	**-0.8**
KSP	**Ksiaz**	**0.67**	**176**	*i* Pg	**Pb**	**03 44 36.4**	**+0.3**
KSP				*i* Sg	**Sb**	**03 44 44.7**	**-1.2**
CHVC	**Chvalec**	**0.93**	**186**	*e*PG	**Pb**	**03 44 41.1**	**+0.6**
CHVC				*e*SG	**Sb**	**03 44 52.8**	**-0.6**
	comp=Z,109nm,0.5s						
OSTC	**Ostas**	**0.95**	**180**	*e*PG	**Pb**	**03 44 41.5**	**+0.5**
OSTC				*e*SG	**Sg**	**03 44 52.9**	**+0.8**
	comp=Z,130nm,0.5s						
UPC	**Upice**	**1.01**	**187**	*e*PG	**Pb**	**03 44 42.5**	**+0.6**
UPC				*e*SG	**Sg**	**03 44 54.7**	**+0.7**
	comp=Z,283nm,0.4s						
DPC	**Dobruska-Polom**	**1.16**	**177**	*e*PG	**Pb**	**03 44 45.2**	**+0.7**
DPC				*e*SG	**Sg**	**03 44 59.3**	**+0.5**
	comp=Z,115nm,0.5s						
DPC	**Dobruska-Polom**	**1.16**	**177**	*e*Pg	**Pn**	**03 44 45.4**	**+0.2**
DPC				*e*Sg	**Sb**	**03 44 59.9**	**-0.3**
PVCC	**Panska Ves**	**1.43**	**227**	*e*PG	**Pb**	**03 44 50.0**	**+0.9**
PVCC				*e*SG	**Sn**	**03 45 09.1**	**+0.8**
	comp=Z,228nm,0.4s						
BRG	**Berggiesshubel**	**1.57**	**247**	PN	**Pb**	**03 44 51.4**	**0.0**
BRG				PG	**Pg**	**03 44 53.5**	**+1.9**
BRG	**Berggiesshubel**	**1.57**	**247**	*e*Pn	**Pn**	**03 44 51.6**	**+0.2**
BRG				*e*Sg	**Sb**	**03 45 13.9**	**+2.2**
PRA	**Prague**	**1.83**	**219**	*e*PG	**Pg**	**03 44 57.4**	**+0.8**
PRA				*e*SG	**Sg**	**03 45 21.0**	**+0.6**
	comp=Z,38nm,0.7s						
GOPC	**GO Pecny, Ondr**	**1.84**	**210**	*e*PG	**Pb**	**03 44 56.1**	**+0.1**
GOPC				*e*SG	**Sg**	**03 45 20.6**	**+0.1**
	comp=Z,73nm,0.8s						
PRU	**Pruhonice**	**1.86**	**216**	*e*PG	**Pg**	**03 44 57.5**	**+0.4**
PRU				*e*SG	**Sg**	**03 45 20.8**	**-0.4**
	comp=Z,76nm,0.6s						
FBE	**Freiberg**	**1.90**	**253**	*e*Pn	**Pg**	**03 44 57.6**	**-0.2**
FBE				*e*Sg	**Sg**	**03 45 24.7**	**+2.3**
MORC	**Moravsky Berou**	**1.93**	**154**	*e*Pn	**Pn**	**03 44 56.9**	**+1.3**
MORC	**Moravsky Ber

KOLS				*e*PG	Pg	03 45 57.3	+6.4
KBA	**Koelnbreinsper**	**4.82**	**204**	*i* Pn	**Pn**	**03 45 37.8**	**+2.4**
	comp=Z,4.1nm,0.4s						
KBA				*i* Sg	**Sg**	**03 46 57.7**	**+1.5**
	comp=Z,5.8nm,0.5s						
SOKA	**Soboth**	**4.90**	**190**	*i* Pn	**Pn**	**03 45 37.0**	**+0.5**
	comp=Z,1.0nm,0.4s						
SOKA				*i* Sg	**Sg**	**03 47 00.3**	**+1.5**
	comp=Z,1.3nm,0.4s						
OBKA	**Obir**	**5.12**	**193**	*i* Pn	**Pn**	**03 45 38.3**	**-1.3**
	comp=Z,2.6nm,0.4s						
OBKA				*i* Sg	**Sg**	**03 47 11.7**	**+5.6**
	comp=Z,6.7nm,0.7s						
WATA	**Walderalm**	**5.16**	**218**	*i* Pn	**Pn**	**03 45 38.3**	**-1.9**
	comp=Z,4.1nm,0.4s						
WATA				*i* Sg	**Sg**	**03 47 07.5**	**+0.3**
	comp=Z,7.1nm,0.4s						
MYKA	**Terra Mystica**	**5.17**	**200**	*i* Sg	**Sg**	**03 47 09.8**	**+2.3**
	comp=Z,7.8nm,0.6s						
WTTA	**Wattenberg**	**5.20**	**217**	*i* Pn	**Pn**	**03 45 40.7**	**+0.1**
	comp=Z,2.6nm,0.4s						
WTTA				*i* Sg	**Sg**	**03 47 06.9**	**-1.4**
	comp=Z,6.4nm,0.5s						
MOTA	**Moosalm**	**5.34**	**221**	*i* Pn	**Pn**	**03 45 41.1**	**-1.5**
	comp=Z,0.6nm,0.3s						
MOTA				*i* Sg	**Sg**	**03 47 15.5**	**+2.6**
	comp=Z,5.9nm,0.5s						
ABTA	**Abfaltersbach**	**5.35**	**208**	*i* Pn	**Pn**	**03 45 43.0**	**+0.3**
	comp=Z,1.7nm,0.5s						
ABTA				*i* Sg	**Sg**	**03 47 14.3**	**+1.0**
	comp=Z,4.4nm,0.5s						
RETA	**Reutte**	**5.37**	**224**	*i* Pn	**Pn**	**03 45 41.6**	**-1.4**
	comp=Z,2.1nm,0.4s						
RETA				*i* Sg	**Sg**	**03 47 13.9**	**0.0**
	comp=Z,7.8nm,0.5s						
SQTA	**Sankt Quirin**	**5.40**	**219**	*i* Pn	**Pn**	**03 45 42.2**	**-1.2**
	comp=Z,0.3nm,0.1s						
SQTA				*i* Sg	**Sg**	**03 47 18.3**	**+3.4**
	comp=Z,3.8nm,0.4s						
FETA	**Feichten**	**5.75**	**221**	*i* Pn	**Pn**	**03 45 48.4**	**+0.1**
	comp=Z,0.3nm,0.2s						
FETA				*i* Sg	**Sg**	**03 47 26.2**	**0.0**
	comp=Z,3.6nm,0.6s						
DAVA	**Damuels**	**5.91**	**227**	*i* Pn	**Pn**	**03 45 51.2**	**+0.7**
	comp=Z,1.9nm,0.3s						
DAVOX	**Davos/Dischmat**	**6.30**	**224**	Pn	**Pn**	**03 45 58.3**	**+2.5**
	comp=Z,0.2nm,0.3s,baz=40,slow=18,SNR=1.8						
DAVOX				Lg	Lg	03 47 29.6	
	comp=Z,0.4nm,0.3s,baz=343,slow=19,SNR=1.8						
AKASG	**Malin Array Be**	**8.23**	**91**	Pn	**Pn**	**03 46 24.0**	**+1.9**
	comp=Z,1.3nm,0.3s,baz=278,slow=12,SNR=5.8						
AKASG				Sn	**Sn**	**03 47 53.5**	**-2.2**
	comp=Z,0.8nm,0.3s,baz=275,slow=24,SNR=1.7						
HFS	**Hagfors**	**8.76**	**352**	Pn	**Pn**	**03 46 30.5**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=169,slow=16,SNR=4.7						
HFS				Sn	**Sn**	**03 48 04.9**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=163,slow=25,SNR=1.5						
MLR	**Muntele Rosu**	**8.83**	**129**	Pn	Pn	03 46 35.5	+5.0
	comp=Z,0.4nm,0.3s,baz=287,slow=16,SNR=4.3						
NOA	**NORSAR Array B**	**9.95**	**346**	Pn	**Pn**	**03 46 45.4**	**-0.2**
	comp=Z,0.0nm,0.3s,baz=168,slow=12,SNR=2.1						
FINES	**FINESS Array B**	**11.34**	**25**	Pn	**Pn**	**03 47 04.0**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=198,slow=12,SNR=5.8						
FINES				Sn	**Sn**	**03 49 04.4**	**-7.4**
	comp=Z,0.1nm,0.3s,baz=203,slow=21,SNR=1.7						
EKA	**Eskdalemuir Ar**	**12.17**	**296**	Pn	**Pn**	**03 47 14.9**	**-1.1**
	baz=101,slow=14,SNR=2.8						
ARCES	**ARCESS Array B**	**18.61**	**10**	Pn	**P**	**03 48 38.8**	**-1.4**
	comp=Z,0.3nm,0.3s,baz=197,slow=11,SNR=9.0						
TORD	**Torodi Ar. Bea**	**40.02**	**202**	P	**P**	**03 51 59.8**	**+1.6**
	comp=Z,0.3nm,0.7s,baz=11,slow=8.1,SNR=2.2						
YKA	**Yellowknife Ar**	**59.89**	**336**	P	**P**	**03 54 31.4**	**+2.9**
	comp=Z,0.3nm,0.6s,baz=28,slow=7.0,SNR=2.6						

PRU 24 03:45:26.4±0.0, 49°.81N×18°.49E, h0km, Mining Induced Event Darkov, E=1.6e+04, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.22**	**277**	*e*PG	Pg	03 45 30.6	-0.1
OKC				*e*SG	Sg	03 45 33.8	+0.2
OKC	**Ostrava-Krasne**	**0.22**	**277**	*e*SG	Pg	03 45 30.1	-0.6
	comp=Z,66nm,0.6s						
DPC	**Dobruska-Polom**	**1.50**	**292**	*e*SG	Sg	03 46 13.7	-0.8
CHVC	**Chvalec**	**1.75**	**297**	*e*SG	Sb	03 46 21.9	0.0

IDC 24 03:46:02.1±7.3, 22°.94N×141°.41E, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.5/48, mbtmp4.0/3, Error ellipse: s-maj=525.6km s-min=35.8km az=85.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**43.18**	**190**	P	P	03 54 04.8	0.0
	1.3nm,0.7s,baz=12,slow=8.1,SNR=1.3						
ASAR	**Alice Springs**	**46.90**	**189**	P	P	03 54 34.2	-0.3
	1.1nm,1.0s,baz=6.0,slow=9.8,SNR=4.3						
FINES	**FINESS Array B**	**81.35**	**334**	P	P	03 58 20.4	+0.1
	1.2nm,0.7s,baz=53,slow=5.6,SNR=3.6						

*CNRM **24** 03:50:55.0±0.9, 36°.08N×7°.83W, h18km, Error ellipse: s-maj=11.6km s-min=5.0km az=59.0*
*SFS **24** 03:50:58.0, 36°.39N×7°.65W, h10km, ML2.2, GOLFO DE CADIZ*
*MDD **24** 03:50:58.3±1.1, 36°.20N×7°.83W, h16km±14km, mbLg2.5/22, Error ellipse: s-maj=14.8km s-min=4.6km az=29.0, PRXIMO*
*INMG **24** 03:50:58.4±1.8, 36°.12N×7°.83W, h21km±5km, MD2.7, ML2.2, Error ellipse: s-maj=4.3km s-min=3.3km az=70.0*
*IGIL **24** 03:50:59.5, 36°.24N×7°.82W, h18km, ML2.4*
ISC 24 03:50:55.3±1.3, 36°.20N±0°.04×7°.76W±0°.03, h12km±9km, n67, σ1§86/131, 1C, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBDV	**Barranco-do-Ve**	**1.05**	**353**	P	**Pn**	**03 51 17.0**	**+1.1**
PBDV				S	**Sn**	**03 51 31.6**	**+1.0**
	34nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.05**	**353**	*e*P	**Pn**	**03 51 17.0**	**+1.1**
PBDV				*e*S	**Sn**	**03 51 31.6**	**+1.0**
PBDV				A	A	03 51 33.9	
	34nm,0.2s						
PVAQ	**Vaqueiros**	**1.21**	**2**	P	**Pn**	**03 51 19.2**	**+1.2**
PVAQ				S	**Sn**	**03 51 36.2**	**+1.9**
	50nm,0.2s						
PVAQ	**Vaqueiros**	**1.21**	**2**	P	**Pn**	**03 51 19.3**	**+1.3**
	SNR=42						
PVAQ				S	**Sn**	**03 51 35.0**	**+0.7**
PVAQ	**Vaqueiros**	**1.21**	**2**	*e*P	**Pn**	**03 51 19.2**	**+1.2**
PVAQ				*e*S	**Sn**	**03 51 36.2**	**+1.9**
PVAQ				A	A	03 51 37.9	
	50nm,0.2s						
PFVI	**Vila Bisbo**	**1.27**	**318**	P	**Pb**	**03 51 18.7**	**-0.3**
	1.8nm,0.1s,SNR=37						
PFVI				S	**Sb**	**03 51 35.9**	**+0.5**
	62nm,0.1s,SNR=10						
PFVI	**Vila Bisbo**	**1.27**	**318**	P	**Pb**	**03 51 20.5**	**+1.3**
	SNR=36						
PFVI				S	**Sb**	**03 51 35.7**	**+0.4**
PFVI	**Vila Bisbo**	**1.27**	**318**	*e*P	**Pb**	**03 51 18.8**	**-0.3**
PFVI				*e*S	**Sb**	**03 51 35.3**	**-0.1**
PFVI				A	A	03 51 38.4	
	46nm,0.1s						
EGRO	**El Granado**	**1.35**	**9**	P	**Pn**	**03 51 21.5**	**+1.5**
	2.1nm,0.2s,SNR=18						
EGRO				S	**Sn**	**03 51 37.4**	**-0.5**
	19nm,0.1s,SNR=48						
PCVE	**Castro Verde**	**1.45**	**351**	P	**Pg**	**03 51 22.6**	**-0.6**
PCVE				S	**Sg**	**03 51 39.6**	**-2.5**
	17nm,0.2s						
PCVE	**Castro Verde**	**1.45**	**351**	*e*P	**Pg**	**03 51 22.6**	**-0.6**
PCVE				*e*S	**Sg**	**03 51 39.6**	**-2.5**
PCVE				A	A	03 51 46.1	
	17nm,0.2s						
PTEO	**Sao Teotonio**	**1.55**	**331**	P	**Pn**	**03 51 23.6**	**+0.9**
PTEO				S	**Sg**	**03 51 44.8**	**-0.5**
	8.1nm,0.2s						
PTEO	**Sao Teotonio**	**1.55**	**331**	*e*Pn	**Pn**	**03 51 23.6**	**+0.9**
PTEO				*e*Sg	**Sg**	**03 51 44.8**	**-0.5**
PTEO				A	A	03 51 46.2	
	16nm,0.2s						
ESPR	**Espera**	**1.68**	**66**	P	**Pb**	**03 51 26.6**	**+0.6**
	1.2nm,0.2s,SNR=15						
ESPR				S	**Sg**	**03 51 47.1**	**-2.2**
	8.7nm,0.1s,SNR=6.1						
MESJ	**Messejana**	**1.68**	**348**	*e*P	**Pn**	**03 51 25.6**	**+1.2**
MESJ				*e*S	**Sn**	**03 51 44.6**	**-1.4**
MESJ				AML	AML	03 51 52.9	
	comp=N,36nm,0.1s						
MESJ	**Messejana**	**1.68**	**348**	P	**Pn**	**03 51 25.7**	**+1.2**
MESJ				S	**Sg**	**03 51 47.2**	**-2.2**
MESJ	**Messejana**	**1.68**	**348**	*e*Pn	**Pn**	**03 51 25.7**	**+1.2**
MESJ	**Messejana**	**1.68**	**348**	*e*Pg	**Pg**	**03 51 29.8**	**+2.2**
MESJ				*e*Sn	**Sg**	**03 51 47.2**	**-2.2**
MESJ				*e*Sg	**Sb**	**03 51 50.6**	**+3.3**
MESJ				A	A	03 51 57.0	
	comp=N,15nm,0.1s						
EMIN	**Mina Concepcio**	**1.80**	**29**	P	**Pg**	**03 51 27.9**	**-1.9**
	comp=N,0.1nm,0.2s,SNR=9.8						
EMIN				S	**Sg**	**03 51 48.4**	**-4.7**
	comp=N,3.8nm,0.1s,SNR=6.3						
PBEJ	**Beja**	**1.83**	**357**	P	**Pg**	**03 51 32.5**	**+2.1**
PBEJ				S	**Sg**	**03 51 50.6**	**-3.6**
PBEJ	**Beja**	**1.83**	**357**	*e*Pg	**Pg**	**03 51 32.5**	**+2.1**
PBEJ				*e*Sn	**Sg**	**03 51 50.6**	**-3.6**
PBEJ				*e*Sg	**Sb**	**03 51 55.7**	**+4.1**
PBEJ				A	A	03 51 58.3	
	comp=N,14nm,0.2s						
EJIF	**Jimena Fronter**	**1.87**	**81**	P	**Pb**	**03 51 30.4**	**+1.1**
	comp=N,122nm,0.2s,SNR=7.9						
EJIF				S	**Sb**	**03 51 53.2**	**+0.5**
	comp=N,298nm,0.3s,SNR=7.9						
PNCL	**Nicolau / Gran**	**2.01**	**342**	P	**Pn**	**03 51 29.7**	**+0.7**
PNCL				S	**Sb**	**03 51 54.5**	**-2.2**
PNCL	**Nicolau / Gran**	**2.01**	**342**	*e*Pn	**Pn**	**03 51 29.7**	**+0.7**
PNCL	**Nicolau / Gran**	**2.01**	**342**	*e*Pg	**Pg**	**03 51 35.1**	**+1.3**
PNCL				*e*Sn	**Sb**	**03 51 54.5**	**-2.2**
PNCL				*e*Sg	**Sg**	**03 51 59.7**	**-0.2**
PNCL				A	A	03 52 04.1	
	comp=N,17nm,0.2s						
PBAR	**Barrancos**	**2.06**	**16**	S	**Sg**	**03 52 04.0**	**+2.5**
PBAR	**Barrancos**	**2.06**	**16**	*e*Sg	**Sg**	**03 52 04.0**	**+2.5**
CHEFC	**Chefchaouen**	**2.25**	**118**	P	**Pn**	**03 51 31.4**	**-1.1**
CHEFC				S	**Sn**	**03 51 59.1**	**-1.1**
EVO	**Evora**	**2.34**	**355**	P	**Pn**	**03 51 34.8**	**+1.2**
EVO				S	**Sb**	**03 52 02.6**	**-3.7**
EVO	**Evora**	**2.34**	**355**	*e*P	**Pn**	**03 51 35.4**	**+1.9**
EVO				*e*S	**Sn**	**03 52 00.8**	**-1.5**
EVO	**Evora**	**2.34**	**355**	*e*Pn	**Pn**	**03 51 34.8**	**+1.2**
EVO	**Evora**	**2.34**	**355**	*e*Pg	**Pg**	**03 51 42.1**	**+1.9**
EVO				*e*Sn	**Sb**	**03 52 02.6**	**-3.7**
EVO				*e*Sg	**Sg**	**03 52 10.3**	**-0.3**
EVO				A	A	03 52 14.2	
	comp=N,9.4nm,0.1s						
EMIJ	**Mijas**	**2.44**	**80**	P	**Pn**	**03 51 36.6**	**+1.7**
	comp=N,0.4nm,0.3s,SNR=7.9						
EMIJ				S	**Sn**	**03 52 04.4**	**-0.3**
	comp=N,2.8nm,0.2s,SNR=7.9						
HORN	**Hornachuelos**	**2.59**	**50**	S	**Sb**	**03 52 12.0**	**-1.6**
EBAD	**Badajoz**	**2.62**	**13**	P	**Pn**	**03 51 38.9**	**+1.5**
	comp=N,0.8nm,0.2s,SNR=12						
EBAD				S	**Sn**	**03 52 09.1**	**-0.2**
	comp=N,4.7nm,0.1s,SNR=5.7						
ECAB	**El Cabril**	**2.65**	**44**	P	**Pn**	**03 51 39.5**	**+1.6**
	comp=N,0.4nm,0.2s,SNR=7.9						
ECAB				S	**Sn**	**03 52 08.5**	**-1.5**
	comp=N,1.1nm,0.2s,SNR=6.1						
PMTG	**Montargil**	**2.89**	**353**	P	**Pn**	**03 51 42.1**	**+0.9**
PMTG				S	**Sn**	**03 52 15.2**	**-0.7**
PMTG	**Montargil**	**2.89**	**353**	*e*Pn	**Pn**	**03 51 42.1**	**+0.9**
PMTG				*e*Sn	**Sn**	**03 52 15.2**	**-0.7**
PMTG				*e*Sg	**Sg**	**03 52 28.4**	**+0.2**
PMTG				A	A	03 52 31.0	
	comp=N,6.9nm,0.4s						
PMAFR	**Mafra**	**3.01**	**337**	P	**Pn**	**03 51 44.4**	**+1.6**
	comp=N,1.0nm,0.2s,SNR=6.1						
PMAFR				S	**Sn**	**03 52 17.9**	**-0.9**
	comp=N,8.9nm,0.2s,SNR=7.9						
PMAFR	**Mafra**	**3.01**	**337**	*e*Pn	**Pn**	**03 51 44.3**	**+1.6**
PMAFR				*e*Sn	**Sn**	**03 52 18.1**	**-0.6**
PMAFR				*e*Sg	**Sg**	**03 52 33.4**	**+1.5**
EGOR	**Sierra Gorda,**	**3.08**	**72**	P	**Pn**	**03 51 46.9**	**+3.1**
	comp=N,0.2nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**03 52 20.1**	**-0.5**
	comp=N,1.5nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.22**	**51**	P	**Pn**	**03 51 47.7**	**+2.0**
	comp=N,0.1nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**03 52 23.4**	**-0.5**
	comp=N,2.4nm,0.1s,SNR=7.9						
PMRV	**Marv??o**	**3.24**	**5**	P	**Pn**	**03 51 47.2**	**+1.2**
PMRV				S	**Sn**	**03 52 24.0**	**-0.5**
PMRV	**Marv??o**	**3.24**	**5**	*e*Pn	**Pn**	**03 51 47.2**	**+1.2**
PMRV				*e*Sn	**Sn**	**03 52 24.0**	**-0.5**
PMRV				*e*Sg	**Sg**	**03 52 37.7**	**-1.7**
PMRV				A	A	03 52 51.6	
	comp=N,4.9nm,0.4s						
ELGU	**Los Guajares,**	**3.40**	**77**	P	**Pn**	**03 51 50.3**	**+2.2**
	comp=N,0.2nm,0.1s,SNR=7.9						
ELGU				S	**Sn**	**03 52 26.4**	**-2.1**
	comp=N,7.1nm,0.3s,SNR=7.9						
PSBE	**So Bento**	**3.41**	**346**	*e*Pn	**Pn**	**03 51 49.6**	**+1.3**
PSBE				*e*Sn	**Sn**	**03 52 27.8**	**-0.9**
PSBE				*e*Sg	**Sg**	**03 52 45.5**	**+0.6**
PSBE				A	A	03 52 50.1	
	comp=N,4.2nm,0.5s						
IFR	**Ifrane**	**3.44**	**140**	*e*P	**Pn**	**03 51 50.0**	**+1.2**
IFR				*e*S	Sn	03 52 25.6	-4.0
EQUE	**Quentar**	**3.62**	**73**	P	**Pn**	**03 51 54.4**	**+3.2**
	comp=N,0.4nm,0.1s,SNR=5.5						
EQUE				S	**Sn**	**03 52 33.8**	**-0.1**
	comp=N,0.5nm,0.1s,SNR=6.6						
PCBR	**Castelo Branco**	**3.65**	**3**	P	**Pn**	**03 51 53.3**	**+1.8**
PCBR				S	**Sn**	**03 52 33.3**	**-1.1**
	comp=N,1.1nm,0.5s						
PCBR	**Castelo Branco**	**3.65**	**3**	*e*Pn	**Pn**	**03 51 53.3**	**+1.8**
PCBR				*e*Sn	**Sn**	**03 52 33.3**	**-1.1**
PCBR				A	A	03 53 03.0	
	comp=N,2.1nm,0.5s						
PCAS	**Casmilo, Conde**	**3.90**	**352**	P	**Pn**	**03 51 52.8**	**-2.2**
PCAS				S	**Sn**	**03 52 36.0**	**-4.6**
	comp=N,3.0nm,0.6s						
PCAS	**Casmilo, Conde**	**3.90**	**352**	*e*Pn	**Pn**	**03 51 52.8**	**-2.2**
PCAS				*e*Sn	**Sn**	**03 52 36.0**	**-4.6**
PCAS				A	A	03 53 21.1	
	comp=N,3.0nm,0.6s						
EBER	**Berja**	**3.99**	**78**	S	**Sn**	**03 52 44.3**	**+1.2**
	comp=N,3.7nm,0.4s,SNR=7.9						
EPLA	**Plasencia**	**4.08**	**18**	P	**Pn**	**03 51 59.3**	**+1.7**
	comp=N,0.1nm,0.1s,SNR=7.9						
EPLA				S	**Sn**	**03 52 43.4**	**-2.0**
	comp=N,1.1nm,0.2s,SNR=7.9						
EQES	**Quesada**	**4.08**	**65**	P	**Pn**	**03 52 00.1**	**+2.4**
	comp=N,0.4nm,0.1s,SNR=11						
EQES				S	**Sn**	**03 52 45.5**	**+0.1**
	comp=N,1.6nm,0.2s,SNR=7.9						
MD31	**MD31**	**4.14**	**142**	P	**Pn**	**03 51 59.5**	**+1.0**
MD31				S	**Sn**	**03 52 44.1**	**-2.8**
MDT	**Midelt**	**4.26**	**141**	S	**Sn**	**03 52 46.8**	**-3.0**
PAB	**San Pablo**	**4.30**	**38**	P	**Pn**	**03 52 02.8**	**+2.2**
	comp=N,0.0nm,0.2s,SNR=7.9						
PAB				S	**Sn**	**03 52 48.3**	**-2.4**
	comp=N,0.6nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**4.51**	**359**	S	**Sn**	**03 52 54.9**	**-1.1**
PVIS	**Viseu**	**4.51**	**359**	*e*Sn	**Sn**	**03 52 54.9**	**-1.1**
SESP	**Santiago Espad**	**4.59**	**64**	P	**Pn**	**03 52 07.2**	**+2.6**
	comp=N,0.5nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**03 52 57.0**	**-1.0**
	comp=N,2.8nm,0.1s,SNR=7.9						
MVO	**Moncorvo**	**5.00**	**6**	P	**Pn**	**03 52 11.2**	**+1.1**
	comp=N,0.2nm,0.2s,SNR=7.9						
MVO				S	**Sn**	**03 53 05.1**	**-2.8**
	comp=N,0.9nm,0.2s,SNR=7.9						
MVO	**Moncorvo**	**5.00**	**6**	*e*Pn	**Pn**	**03 52 12.0**	**+1.9**
MVO				*e*Sn	**Sn**	**03 53 05.0**	**-2.8**
MVO				A	A	03 53 08.1	
	comp=N,1.9nm,0.7s						
ETOB	**Tobarra**	**5.52**	**62**	P	**Pn**	**03 52 18.8**	**+1.5**
	comp=N,0.2nm,0.2s,SNR=19						
ETOB				S	**Sn**	**03 53 19.3**	**-1.4**
	comp=N,2.5nm,0.4s,SNR=6.4						
ELOB	**Lobios**	**5.67**	**358**	P	**Pn**	**03 52 20.0**	**+0.6**
	comp=N,0.1nm,0.2s,SNR=7.9						
ELOB				S	**Sn**	**03 53 22.5**	**-2.0**
	comp=N,0.5nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**5.79**	**8**	P	**Pn**	**03 52 22.0**	**+0.9**
	comp=N,0.1nm,0.3s,SNR=4.0						
ECAL				S	**Sn**	**03 53 25.5**	**-2.0**
	comp=N,0.8nm,0.2s,SNR=7.9						
ETOR	**Torete**	**6.43**	**42**	P	**Pn**	**03 52 31.9**	**+2.1**
	comp=N,1.3nm,0.1s,SNR=7.9						
ETOR				S	**Sn**	**03 53 41.4**	**-1.8**
	comp=N,2.2nm,0.3s,SNR=7.9						

*NEIC **24** 03:52:25.2±1.8, 23°.15N±0°.09×94°.2E±0°.1, h64km±12km, mb4.1/5, Error ellipse: s-maj=15.9km s-min=10.7km az=49.0*
*IDC **24** 03:52:26.7±3.1, 23°.08N×94°.06E, h71km±33km, mb3.7/4, mb1 3.8/5, mb1mx3.3/50, mbtmp3.9/5, ML3.4/1, Error ellipse: s-maj=32.6km s-min=16.8km az=39.0*
ISC 24 03:52:24.5±0.8, 23°.2N±0°.1×93°.99E±0°.10, h58km, n29, σ2§68/41, mb4.0/7, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**2.22**	**258**	P	**Pn**	**03 53 02.0**	**+3.1**
	0.2nm,0.3s,baz=90,slow=20,SNR=2.1						
BRDH				S	**Sn**	**03 53 29.4**	**+4.2**
	0.1nm,0.3s,baz=287,slow=20,SNR=6.0						
SHL	**Shillong**	**3.08**	**322**	Pn	**Pn**	**03 53 13.7**	**+2.8**
SHL				Sn	**Sn**	**03 53 46.6**	**0.0**
CHTO	**Chiang Mai**	**6.33**	**132**	Pn	**Pn**	**03 53 52.6**	**-2.6**
CMAR	**Chiang Mai Arr**	**6.58**	**134**	P	**Pn**	**03 53 59.8**	**+1.1**
	0.2nm,0.3s,baz=316,slow=14,SNR=5.3						
CMAR	**Chiang Mai Arr**	**6.58**	**134**		**Pn**	**03 53 57.1**	**-1.6**
ODAN	**Odare**	**7.04**	**303**	*e*Pn	**Pn**	**03 54 08.0**	**+2.9**
ODAN				*e*Sn	**Sn**	**03 55 22.1**	**-1.8**
	78nm,0.4s						
TAPN	**Taplejung**	**7.06**	**308**	*e*Pn	**Pn**	**03 54 09.0**	**+3.5**
TAPN				*e*Sn	**Sn**	**03 55 23.6**	**-0.9**
	58nm,0.4s						
RAMN	**Ramite**	**7.70**	**301**	*e*Pn	**Pn**	**03 54 16.8**	**+2.6**
RAMN				*e*Sn	**Sn**	**03 55 38.0**	**-2.1**
	24nm,0.4s						
JIRN	**Jiri**	**8.36**	**304**	*e*Pn	**Pn**	**03 54 25.8**	**+2.4**
JIRN				*e*Sn	**Sn**	**03 55 53.8**	**-2.8**
	62nm,0.3s						
GUN	**Gumba**	**8.72**	**305**	*e*Pn	**Pn**	**03 54 30.5**	**+2.1**
GUN				*e*Sn	**Sn**	**03 56 03.2**	**-2.3**
	60nm,0.4s						
PKI	**Pulchoki**	**8.92**	**301**	*e*Pn	**Pn**	**03 54 33.2**	**+2.1**
PKI				*e*Sn	**Sn**	**03 56 07.3**	**-3.0**
	10nm,0.3s						
PKIN	**Phulchoki**	**8.94**	**301**	*e*Pn	**Pn**	**03 54 33.2**	**+2.0**
PKIN				*e*Sn	**Sn**	**03 56 07.6**	**-2.9**
	30nm,0.4s						
DMN	**Daman**	**9.18**	**301**	*e*Pn	**Pn**	**03 54 36.8**	**+2.3**
GKN	**Gorkha**	**9.73**	**302**	*e*Pn	**Pn**	**03 54 44.0**	**+2.1**
GKN				*e*Sn	**Sn**	**03 56 25.5**	**-4.3**
	34nm,0.3s						
KOLN	**Koldanda**	**10.45**	**298**	*e*Pn	**Pn**	**03 54 53.4**	**+1.5**
KOLN				*e*Sn	**Sn**	**03 56 42.1**	**-5.5**
	26nm,0.3s						
DANN	**Dangsing**	**10.57**	**301**	*e*Pn	**Pn**	**03 54 54.9**	**+1.3**
DANN				*e*Sn	**Sn**	**03 56 45.6**	**-5.1**
	56nm,0.9s						
PYUN	**Piuthan**	**11.08**	**299**	*e*Sn	**Sn**	**03 56 57.0**	**-5.9**
	29nm,0.4s						
MK31	**Makanchi Array**	**25.40**	**341**	P	**P**	**03 57 48.5**	**+2.0**
MK31				IAmb	IAmb	03 57 50.0	
	comp=Z,3.8nm,0.9s						
MKAR	**Makanchi Array**	**25.40**	**341**	P	**P**	**03 57 48.5**	**+1.9**
	comp=Z,3.6nm,0.8s,baz=150,slow=10,SNR=25						
MKAR	**Makanchi Array**	**25.40**	**341**	P	**P**	**03 57 48.3**	**+1.8**
MAKZ	**Makanchi**	**25.51**	**341**	P	**P**	**03 57 49.0**	**+1.5**
WB0	**Warramunga Arr**	**58.08**	**134**	P	**P**	**04 02 11.3**	**-0.8**
WRA	**Warramunga Arr**	**58.17**	**134**	P	**P**	**04 02 12.0**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=324,slow=7.3,SNR=2.8						
WB2	**Warramunga Arr**	**58.18**	**134**	P	**P**	**04 02 12.2**	**-0.7**
WB2				IAmb	IAmb	04 02 14.4	
	comp=Z,4.4nm,0.9s						
AS31	**Alice Springs**	**60.58**	**138**	P	**P**	**04 02 28.2**	**-1.2**
AS31				IAmb	IAmb	04 02 29.0	
	comp=Z,1.4nm,1.1s						
ASAR	**Alice Springs**	**60.58**	**138**	P	**P**	**04 02 29.6**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=320,slow=6.8,SNR=18						
ASAR	**Alice Springs**	**60.58**	**138**	P	**P**	**04 02 28.7**	**-0.6**
ARCES	**ARCESS Array B**	**61.01**	**338**	P	**P**	**04 02 33.0**	**+1.3**
	comp=Z,1.1nm,0.7s,baz=104,slow=7.5,SNR=1.3						
ARCES	**ARCESS Array B**	**61.01**	**338**	P	**P**	**04 02 30.6**	**-1.1**

*IDC **24** 03:55:31.1±1.4, 52°.24N×176°.60E, h0km, mb3.4/7, mb1 3.7/8, mb1mx3.5/40, mbtmp3.4/8, ML2.8/1, Error ellipse: s-maj=42.

baz=10,slow=76,SNR=44
H11S3 WAKE ISLAND Hy 34.48 197 T T 04 38 48.3
baz=10,slow=76,SNR=46
H11S2 WAKE ISLAND Hy 34.49 197 T T 04 38 49.8
baz=10,slow=76,SNR=26
YKA Yellowknife Ar 36.80 46 P **P** **04 02 38.9 -0.4**
comp=Z,0.4nm,0.7s,baz=281,slow=9.4,SNR=2.9
PDAR Pinedale Array 48.82 70 P **P** **04 04 17.0 -0.2**
comp=Z,0.1nm,0.4s,baz=296,slow=2.9,SNR=1.8
PDAR Pinedale Array 48.82 70 P **P** **04 04 16.8 -0.5**
MKAR Makanchi Array 57.21 305 P **P** **04 05 18.9 +0.2**
comp=Z,0.2nm,0.4s,baz=54,slow=5.5,SNR=2.1
TXAR Lajitas Array 61.39 78 P **P** **04 05 48.0 +0.2**
comp=Z,0.1nm,0.5s,baz=322,slow=5.7,SNR=2.2
AKASG Malin Array Be 73.82 339 P **P** **04 07 06.4 +0.7**
comp=Z,0.2nm,0.3s,baz=18,slow=5.5,SNR=6.4
ASAR Alice Springs 94.19 219 P **P** **04 08 05.0 +2.3**
comp=Z,0.3nm,0.8s,baz=13,slow=5.7,SNR=1.5
ASAR Alice Springs 84.19 219 P **P** **04 08 00.7 -2.1**

*NEIC **24** 04:02:25.7±1.8,51°.9N±0°.1×178°.55E±0°.07,h108km±2km, mb4.2/77,Error ellipse: s-maj=17.6km s-min=5.5km az=192.0*
*IDC **24** 04:02:26.4±6.0,52°.11N×178°.95E,h90km±61km,mb3.5/7, mb1 3.8/9,mb1mx3.4/47,mbtmp3.8/9,ML3.4/2,Error ellipse: s-maj=47.2km s-min=36.9km az=168.0*
*AEIC **24** 04:02:27±3.0,51°.8N±0°.1×178°.61E±0°.08,h99km±4km, Error ellipse: s-maj=14.5km s-min=6.7km az=179.0*
ISC 24 04:02:25.4±0.7,51°.9N±0°.1×178°.49E±0°.04,h106km±6km, n119,σ1§21/126,mb4.1/33,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSSE	**Little Sitkin**	**0.09**	**37**			**Pn**	**04 02 40.7**	**+0.5**
LSPA	**Little Sitkin**	**0.11**	**30**			**Pn**	**04 02 40.8**	**+0.6**
LSPA						**Sn**	**04 02 52.0**	**+0.7**
CETU	**Semis' Tuman**	**0.63**	**80**			**Pn**	**04 02 42.8**	**-0.1**
CESW	**Semis' Southwe**	**0.67**	**87**			**Pn**	**04 02 43.0**	**-0.1**
CEAP	**Semis' Anvil P**	**0.69**	**78**			**Pn**	**04 02 43.4**	**+0.1**
AMKA	**Amchitka**	**0.70**	**134**			**Pn**	**04 02 43.2**	**-0.2**
AMKA						**Sn**	**04 02 56.0**	**-1.0**
CERAA	**Semis' Rag'd T**	**0.74**	**86**			**Pn**	**04 02 43.8**	**-0.1**
CERAA						**Sn**	**04 02 58.1**	**+0.4**
GAEA	**Gareloi East**	**1.72**	**92**			**Pn**	**04 02 54.4**	**-0.3**
TASE	**Tanaga Southea**	**2.16**	**89**			**Pn**	**04 03 00.1**	**-0.2**
TAFP	**Tanaga Falls P**	**2.19**	**88**			**Pn**	**04 03 00.3**	**-0.4**
TAFP						**Sn**	**04 03 26.8**	**-0.8**
TAPA	**Tanaga Point A**	**2.30**	**90**			**Pn**	**04 03 01.6**	**-0.4**
KIMD	**Kanaga Island**	**2.66**	**91**			**Pn**	**04 03 06.3**	**-0.4**
KICM	**Kanaga Island**	**2.68**	**87**			**Pn**	**04 03 06.8**	**-0.2**
KIKV	**Kanaga Island**	**2.69**	**88**			**Pn**	**04 03 07.0**	**-0.3**
SMY	**Shemya**	**2.83**	**290**	Pn		**Pn**	**04 03 07.7**	**-1.2**
SMY				Sn		**Sn**	**04 03 41.2**	**-1.3**
ADK	**Adak**	**2.99**	**88**	Pn		**Pn**	**04 03 10.4**	**-0.8**
ADK				Sn		**Sn**	**04 03 45.6**	**-0.8**
GSTD	**Great Sitkin T**	**3.33**	**85**			**Pn**	**04 03 14.8**	**-0.8**
GSTR	**Great Sitkin T**	**3.38**	**84**			**Pn**	**04 03 15.5**	**-0.8**
GSMY	**Great Sitkin M**	**3.38**	**85**			**Pn**	**04 03 15.7**	**-0.7**
ATKA	**Atka Island**	**4.53**	**83**			**Pn**	**04 03 31.4**	**-0.4**
KOFP	**Korovin Flat P**	**4.59**	**82**			**Pn**	**04 03 32.7**	**0.0**
NIKH	**Nikolski High**	**7.82**	**77**	Pn		**Pn**	**04 04 16.9**	**+0.6**
SPIA	**Saint Paul Isl**	**8.44**	**46**	Pn		**Pn**	**04 04 25.6**	**+1.0**
UNV	**Unalaska Valle**	**9.30**	**72**	Pn		**Pn**	**04 04 36.7**	**+0.4**
AKUT	**Akutan**	**9.76**	**70**	Pn		**Pn**	**04 04 43.7**	**+1.1**
PEA0B	**Petropavlovsk-**	**12.73**	**284**	Pn		**Pn**	**04 05 23.9**	**+1.6**
PETK	**Petropavlovsk-**	**12.73**	**284**	P		**Pn**	**04 05 26.9**	**+4.6**
	0.1nm,0.3s,baz=98,slow=20,SNR=1.2							
PETK				S		**Sn**	**04 07 38.9**	**-3.3**
	0.2nm,0.3s,baz=35,slow=42,SNR=1.7							
PETK	**Petropavlovsk-**	**12.73**	**284**			**Pn**	**04 05 24.9**	**+2.6**
SDPT	**Sand Point**	**12.96**	**66**	Pn		**Pn**	**04 05 23.2**	**-2.1**
CNBA	**Chernabura Isl**	**13.42**	**69**	Pn		**Pn**	**04 05 28.3**	**-3.0**
CHIR	**Chirikof Islan**	**15.74**	**65**	Pn		**Pn**	**04 05 57.8**	**-3.1**
SII	**Sitkinak Islan**	**16.60**	**63**	Pn		**Pn**	**04 06 09.3**	**-2.2**
SII				IAmb		IAmb	04 06 23.6	
	comp=Z,22nm,1.2s							
SVW2	**Sparrevohn**	**16.93**	**47**			**Pn**	**04 06 15.2**	**-0.4**
OHAK	**Old Harbor**	**17.16**	**61**	P		**Pn**	**04 06 15.4**	**-2.8**
OHAK				IAmb		IAmb	04 06 20.7	
	comp=Z,21nm,1.5s							
BILL	**Bilibino**	**17.28**	**344**	P		**Pn**	**04 06 21.2**	**+1.6**
TTA	**Tatalina**	**17.51**	**41**	P		**Pn**	**04 06 23.7**	**+1.2**
KDAK	**Kodiak Island**	**17.60**	**59**	P		**P**	**04 06 20.3**	**-2.8**
	comp=Z,1.2nm,0.3s,baz=183,slow=1.3,SNR=42							
KDAK	**Kodiak Island**	**17.60**	**59**	P		**P**	**04 06 22.0**	**-1.1**
KDAK				IAmb		IAmb	04 06 24.1	
	comp=Z,17nm,1.2s							
RSO	**Redoubt South**	**18.05**	**50**	P		**Pn**	**04 06 30.2**	**+1.0**
CNPM	**China Poot**	**18.57**	**54**	P		**P**	**04 06 33.5**	**-0.3**
CNPM				IAmb		IAmb	04 06 34.6	
	comp=Z,12nm,0.7s							
BRLK	**Bradley Lake**	**18.79**	**53**	P		**P**	**04 06 36.1**	**-0.1**
SEW	**Seward**	**19.57**	**53**	P		**P**	**04 06 45.8**	**+1.3**
SEW				IAmb		IAmb	04 06 48.9	
	comp=Z,16nm,1.0s							
BPAW	**Bear Paw Mtn.**	**20.05**	**41**	P		**P**	**04 06 51.0**	**+1.3**
TRF	**Thorofare Moun**	**20.09**	**43**	P		**P**	**04 06 51.5**	**+1.2**
TRF				IAmb		IAmb	04 06 54.0	
	comp=Z,5.4nm,0.7s							
SML	**Sawmill**	**20.46**	**48**	P		**P**	**04 06 54.2**	**-0.1**
SML				IAmb		IAmb	04 06 57.7	
	comp=Z,7.7nm,0.8s							
RND	**Reindeer**	**20.68**	**43**			**P**	**04 06 57.8**	**+1.1**
RND				IAmb		IAmb	04 06 59.8	
	comp=Z,11nm,1.4s							
GLI	**Glacier Island**	**20.85**	**51**	P		**P**	**04 06 56.1**	**-2.4**
GLI				IAmb		IAmb	04 07 13.1	
	comp=Z,21nm,1.2s							
SCM	**Sheep Creek Mo**	**20.93**	**48**	P		**P**	**04 06 59.8**	**+0.4**
SCM				IAmb		IAmb	04 07 01.7	
	comp=Z,11nm,0.6s							
FID	**Port Fidalgo**	**21.13**	**51**	P		**P**	**04 07 00.4**	**-1.0**
FID				IAmb		IAmb	04 07 03.2	
	comp=Z,11nm,0.7s							
DHY	**Denali Highway**	**21.22**	**45**	P		**P**	**04 07 02.7**	**+0.2**
DHY				IAmb		IAmb	04 07 05.3	
	comp=Z,5.4nm,0.6s							
CCB	**Clear Creek Bu**	**21.54**	**41**	P		**P**	**04 07 04.8**	**-0.9**
COLA	**College**	**21.60**	**40**	P		**P**	**04 07 06.0**	**-0.3**
COLA				IAmb		IAmb	04 07 10.4	
	comp=Z,3.8nm,0.6s							
HDA	**Harding Lake**	**21.80**	**42**	P		**P**	**04 07 07.6**	**-0.9**
ILAR	**Eielson Array**	**21.95**	**41**	P		**P**	**04 07 07.8**	**-2.2**
	comp=Z,0.7nm,0.7s,baz=244,slow=10,SNR=10							
RAGM	**Ragged Mountai**	**21.96**	**53**	P		**P**	**04 07 09.5**	**-0.8**
RAGM				IAmb		IAmb	04 07 14.5	
	comp=Z,16nm,0.9s							
RIDG	**Independent Ri**	**22.50**	**44**	P		**P**	**04 07 14.7**	**-1.1**
RIDG				IAmb		IAmb	04 07 17.7	
	comp=Z,4.1nm,0.6s							
GLB	**Gilahina Butte**	**22.52**	**50**	P		**P**	**04 07 15.4**	**-0.7**
VRDI	**Verde Repeater**	**22.66**	**51**	P		**P**	**04 07 17.4**	**-0.2**
TOLK	**Toolik Lake Re**	**22.67**	**30**	P		**P**	**04 07 18.0**	**+0.6**
TOLK				IAmb		IAmb	04 07 20.1	
	comp=Z,6.4nm,0.7s							
MENT	**Mentasta**	**22.81**	**46**	P		**P**	**04 07 18.9**	**0.0**
DOT	**Dot Lake**	**22.81**	**44**	P		**P**	**04 07 17.2**	**-1.7**
SCRK	**Sand Creek**	**22.93**	**44**	P		**P**	**04 07 18.9**	**-1.2**
YAH	**Yahtse**	**23.41**	**53**	P		**P**	**04 07 25.5**	**+0.6**
YAH				IAmb		IAmb	04 07 25.9	
	comp=Z,8.4nm,0.9s							
BARN	**Barnard Glacie**	**23.51**	**51**	P		**P**	**04 07 25.5**	**-0.2**
BARN				IAmb		IAmb	04 07 27.9	
	comp=Z,8.8nm,0.6s							
BCAR	**Beaver Creek A**	**23.70**	**46**	P		**P**	**04 07 27.2**	**0.0**
BMAR	**Burnt Mountain**	**23.79**	**35**	P		**P**	**04 07 28.4**	**+0.4**
EGAK	**Eagle**	**24.31**	**42**	P		**P**	**04 07 32.0**	**-0.5**
EGAK				IAmb		IAmb	04 07 33.7	
	comp=Z,6.1nm,0.8s							
DAWY	**Dawson**	**24.93**	**44**	P		**P**	**04 07 37.0**	**-1.2**
DAWY				IAmb		IAmb	04 07 41.6	
	comp=Z,4.9nm,0.8s							
HYT	**Haines Junctio**	**25.52**	**52**	P		**P**	**04 07 45.6**	**+1.8**
HYT				IAmb		IAmb	04 07 48.2	
	comp=Z,5.3nm,0.6s							
EPYK	**Eagle Plains**	**26.45**	**40**	P		**P**	**04 07 51.0**	**-1.0**
EPYK				IAmb		IAmb	04 07 53.8	
	comp=Z,6.1nm,1.2s							
INK	**Inuvik**	**28.04**	**36**	P		**P**	**04 08 05.3**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=258,slow=9.4,SNR=6.8							
INK	**Inuvik**	**28.04**	**36**	P		**P**	**04 08 06.5**	**+0.4**
MDJ	**Mudanjiang**	**32.83**	**277**	P		**P**	**04 08 49.9**	**+1.3**
JHJ2	**Mitsune**	**33.60**	**251**	P		**P**	**04 08 56.7**	**+1.3**
YKA	**Yellowknife Ar**	**36.12**	**46**	P		**P**	**04 09 17.0**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=282,slow=9.0,SNR=5.5							
NLWA	**Neilton Lookou**	**36.76**	**74**	P		**P**	**04 09 22.5**	**+0.1**
NLWA				IAmb		IAmb	04 09 27.5	
	comp=Z,2.9nm,0.9s							
KRMB	**Red Mountain**	**39.86**	**82**	P		**P**	**04 09 50.0**	**+1.5**
YBH	**Yreka Blue Hor**	**40.48**	**81**	P		**P**	**04 09 54.8**	**+1.2**
YBH				IAmb		IAmb	04 09 55.4	
	comp=Z,7.5nm,1.5s							
I07A	**Izee**	**41.09**	**76**	P		**P**	**04 09 59.1**	**+0.5**
ORV	**Oroville**	**42.51**	**82**	P		**P**	**04 10 09.6**	**-0.4**
ORV				IAmb		IAmb	04 10 10.9	
	comp=Z,2.2nm,0.6s							
PNTR	**Pine Nut**	**43.96**	**82**	P		**P**	**04 10 23.4**	**+1.5**
HRY	**Holter Researc**	**44.16**	**68**	P		**P**	**04 10 22.3**	**-1.0**
YERR	**Yerington**	**44.24**	**81**	P		**P**	**04 10 22.3**	**-1.9**
WAKR	**Walker**	**44.42**	**82**	P		**P**	**04 10 26.2**	**+0.6**
WAKR				IAmb		IAmb	04 10 27.3	
	comp=Z,2.7nm,0.7s							
MCMT	**McKenzie Canyo**	**44.62**	**71**	P		**P**	**04 10 25.9**	**-1.3**
BOZ	**Bozeman (W)**	**44.90**	**69**	P		**P**	**04 10 27.9**	**-1.4**
KVN	**Kaiserville**	**44.90**	**81**	P		**P**	**04 10 29.1**	**-0.3**
KVN				IAmb		IAmb	04 10 30.2	
	comp=Z,1.2nm,0.6s							
NVAR	**Mina Array Bea**	**45.16**	**81**	P		**P**	**04 10 32.2**	**+0.7**
	comp=Z,1.5nm,0.6s,baz=297,slow=7.6,SNR=8.5							
MDPB	**Devils Postpil**	**45.18**	**83**	P		**P**	**04 10 32.5**	**+0.7**
MDPB				IAmb		IAmb	04 10 33.5	
	comp=Z,4.2nm,0.8s							
ELK	**Elko**	**45.60**	**77**	P		**P**	**04 10 34.7**	**-0.3**
ELK				IAmb		IAmb	04 10 35.7	
	comp=Z,1.3nm,0.6s							
R11A	**Troy Canyon, C**	**46.87**	**80**	P		**P**	**04 10 44.9**	**0.0**
TPNV	**Topopah Spring**	**47.36**	**82**	P		**P**	**04 10 48.4**	**-0.3**
TPNV				IAmb		IAmb	04 10 49.9	
	comp=Z,3.2nm,0.8s							
DUG	**Dugway, Tooele**	**47.40**	**76**	P		**P**	**04 10 48.6**	**-0.3**
DUG				IAmb		IAmb	04 10 49.6	
	comp=Z,2.0nm,0.6s							
BW06	**Boulder Array**	**47.76**	**71**	P		**P**	**04 10 50.3**	**-1.5**
PD31	**Pinedale Array**	**47.76**	**71**	P		**P**	**04 10 51.1**	**-0.7**
PDAR	**Pinedale Array**	**47.76**	**71**	P		**P**	**04 10 51.0**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=290,slow=2.9,SNR=10							
PDAR	**Pinedale Array**	**47.76**	**71**	P		**P**	**04 10 50.6**	**-1.2**
PSUT	**Pine Spring**	**47.81**	**78**	P		**P**	**04 10 52.4**	**+0.2**
CCUT	**Cedar City**	**48.73**	**79**	P		**P**	**04 10 58.9**	**-0.5**
TMUT	**Trail Mountain**	**48.93**	**76**	P		**P**	**04 11 01.1**	**+0.2**
KNB	**Kanab**	**49.41**	**79**	P		**P**	**04 11 04.7**	**+0.3**
SPA0	**Spitsbergen Ar**	**49.76**	**355**	P		**P**	**04 11 07.8**	**+1.4**
U15A	**North Rim**	**50.12**	**79**	P		**P**	**04 11 09.9**	**0.0**
U15A				IAmb		IAmb	04 11 11.0	
	comp=Z,1.0nm,0.7s							
PV17	**East Wray Mesa**	**50.93**	**75**	P		**P**	**04 11 15.8**	**-0.1**
PV17				IAmb		IAmb	04 11 23.6	
	comp=Z,3.4nm,1.2s							
PV11	**David Mesa, Pa**	**50.97**	**75**	P		**P**	**04 11 15.8**	**-0.4**
PV11				IAmb		IAmb	04 11 16.6	
	comp=Z,3.6nm,0.9s							
PV13	**Radium Mtn., P**	**51.09**	**75**	P		**P**	**04 11 16.9**	**-0.2**
N35A	**Tabor**	**56.96**	**64**	P		**P**	**04 11 59.4**	**-0.1**
MSTX	**Muleshoe**	**57.52**	**75**	P		**P**	**04 12 03.8**	**+0.2**
MNTX	**Cornudas Mount**	**57.52**	**79**	P		**P**	**04 12 03.7**	**+0.1**
E43A	**Lone Tree Farm**	**57.84**	**55**	P		**P**	**04 12 05.1**	**-0.5**
E43A				IAmb		IAmb	04 12 18.4	
	comp=Z,3.5nm,1.1s							
P38A	**Dawn**	**58.99**	**64**	P		**P**	**04 12 12.5**	**-1.1**
P40A	**Paris**	**59.88**	**63**	P		**P**	**04 12 18.5**	**-1.2**
TX31	**Lajitas Ar. Si**	**60.24**	**80**	P		**P**	**04 12 22.6**	**+0.1**
TXAR	**Lajitas Array**	**60.24**	**80**	P		**P**	**04 12 22.5**	**0.0**
	comp=Z,0.7nm,0.6s,baz=303,slow=4.7,SNR=14							
SCHQ	**Scheiferville**	**60.65**	**37**	P		**P**	**04 12 24.5**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=318,slow=7.5,SNR=5.6							
FCAR	**Ozark Folk Cen**	**62.40**	**66**	P		**P**	**04 12 34.8**	**-2.0**
PLAL	**Pickwick Lake**	**65.34**	**64**	P		**P**	**04 12 55.4**	**-0.7**
PLAL				IAmb		IAmb	04 12 55.5	
	comp=Z,7.2nm,1.4s							
E62A	**Clayton Lake**	**65.90**	**44**	P		**P**	**04 12 57.9**	**-1.6**
W57A	**Gilead**	**69.62**	**59**	P		**P**	**04 13 21.0**	**-2.0**

IDC 24 04:07:03.5±5.0,29°.59S×177°.59W,h60km±37km,mb3.4/2, mb1 3.7/2,mb1mx3.3/34,mbtmp3.7/2,Error ellipse: s-maj=113.7km s-min=60.2km az=180.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**0.44**	**320**	P		Pn	04 07 16.1	+1.3
	169nm,0.3s,baz=83,slow=21,SNR=3.6							
RAO				S		Sn	04 07 25.5	+2.4
	351nm,0.3s,baz=93,slow=23,SNR=6.3							
ASAR	**Alice Springs**	**43.51**	**266**	P		P	04 15 00.8	-0.5
	0.4nm,0.7s,baz=102,slow=7.5,SNR=4.5							
WRA	**Warramunga Arr**	**44.43**	**271**	P		P	04 15 08.9	+0.2
	1.5nm,0.6s,baz=110,slow=8.1,SNR=5.9							
FINES	**FINESS Array B**	**144.51**	**341**	PKP		PKPbc	04 26 31.6	+0.5
	1.3nm,0.6s,baz=48,slow=2.1,SNR=7.3							

*MOS **24** 04:13:03.6±0.9,29°.99S×177°.39W,h12km,mb5.2/32, Error ellipse: s-maj=10.6km s-min=8.1km az=111.7*
*NEIC **24** 04:13:05.8±2.4,29°.86S±0°.08×177°.4W±0°.1,h21km±3km, mb5.1/72,Error ellipse: s-maj=14.7km s-min=8.9km az=53.0*
*BJI **24** 04:13:06.1±0.0,29°.99S×177°.29W,h27km,mB5.4/2, mb5.2/24,Ms5.2/2,Ms7 5.2/3*
*IDC **24** 04:13:09.7±1.4,29°.80S×177°.51W,h40km±10km,mb4.6/26, mb1 4.7/26,mb1mx4.7/38,mbtmp4.8/26,MS5.0/4, Ms1 5.0/4,ms1mx4.5/44,Error ellipse: s-maj=15.5km s-min=13.8km az=79.0*
ISC 24 04:13:05.8±0.6,30°.06S±0°.04×177°.44W±0°.06,h20km±2km, h20km:pP-P,n427,σ1§57/428,mb5.1/84,MS5.2/10, 24C-12D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GLKZ	**Green Lake**	**0.90**	**332**	P		**Pb**	**04 13 21.9**	**-0.8**
GLKZ				S		**Sb**	**04 13 33.5**	**-0.7**
RAO	**Raoul Island**	**0.90**	**332**	LR		LR	04 13 15.0	
	comp=Z,3μm,18.6s,baz=58,slow=8.1							
RAO				P		**Pb**	**04 13 22.5**	**-0.3**
	8μm,0.3s,baz=116,slow=2.3,SNR=237							
RAO				S		**Sb**	**04 13 33.3**	**-1.1**
	14μm,0.3s,baz=39,slow=21,SNR=11							
RAO	**Raoul Island**	**0.90**	**332**	P		**Pb**	**04 13 22.2**	**-0.6**
RAO							04 13 33.2	
RAO	**Raoul Island**	**0.90**	**332**	Pn		**Pb**	**04 13 22.2**	**-0.6**
RAO				Sn		**Sb**	**04 13 33.2**	**-1.3**
RIZ	**Raoul Island**	**0.92**	**332**	P		**Pb**	**04 13 22.1**	**-0.9**
RIZ				S		**Sb**	**04 13 33.1**	**-1.7**
MXZ	**Matakaoa Point**	**8.28**	**204**	P		**Pn**	**04 15 03.1**	**-1.7**
MXZ				S		**Sn**	**04 16 37.0**	**-0.8**
WMGZ	**Waiomatatini S**	**8.47**	**203**	P		**Pn**	**04 15 06.7**	**-0.8**
WMGZ				S		**Sn**	**04 16 42.9**	**+0.4**
HAZ	**Te Kaha**	**8.65**	**206**	P		**Pn**	**04 15 09.6**	**-0.2**
HAZ				S		**Sn**	**04 16 45.5**	**-1.2**
PUZ	**Puketiti**	**8.76**	**203**	P		**Pn**	**04 15 07.0**	**-4.4**
PUZ				S		**Sn**	**04 16 49.0**	**-0.5**
RUGZ	**Raukumara Rang**	**8.87**	**206**	P		**Pn**	**04 15 11.7**	**-1.3**
RUGZ				S		**Sn**	**04 16 54.1**	**+1.6**
TKGZ	**Te Karaka**	**9.23**	**204**	P		**Pn**	**04 15 17.2**	**-0.5**
TKGZ				S		**Sn**	**04 16 59.2**	**-1.8**
MWZ	**Matawai**	**9.25**	**205**	P		**Pn**	**04 15 16.3**	**-1.8**
MWZ				S		**Sn**	**04 16 59.2**	**-2.5**
URZ	**Urewera**	**9.35**	**207**	P		**Pn**	**04 15 18.8**	**-0.6**
URZ				S		**Sn**	**04 17 02.6**	**-1.3**
RIGZ	**Rimuhau**	**9.50**	**203**	P		**Pn**	**04 15 19.7**	**-1.8**
RIGZ				S		**Sn**	**04 17 05.2**	**-2.5**
PRGZ	**Paritu Road**	**9.65**	**202**	P		**Pn**	**04 15 22.0**	**-1.6**
PRGZ				S		**Sn**	**04 17 06.0**	**-5.4**
MUGZ	**Murupara**	**9.67**	**208**	P		**Pn**	**04 15 21.7**	**-2.2**
MUGZ				S		**Sn**	**04 17 11.2**	**-0.8**
RAHZ	**Arahi**	**9.93**	**206**	P		**Pn**	**04 15 29.8**	**+2.4**
RAHZ				S		**Sn**	**04 17 18.0**	**-0.2**
MTHZ	**Maungataniwha**	**9.96**	**207**	P		**Pn**	**04 15 26.5**	**-1.4**
MTHZ				S		**Sn**	**04 17 15.4**	**-3.7**
MRHZ	**Matea Rd**	**10.12**	**208**	P		**Pn**	**04 15 28.5**	**-1.5**
MRHZ				S		**Sn**	**04 17 16.3**	**-6.7**
ARHZ	**Aropaoanui**	**10.26**	**205**	P		**Pn**	**04 15 32.0**	**+0.1**
ARHZ				S		**Sn**	**04 17 22.3**	**-4.2**
BKZ	**Black Stump Fm**	**10.37**	**207**	Pn		**Pn**	**04 15 31.4**	**-2.2**
HIZ	**Hauiti**	**10.57**	**215**	P		Pn	04 15 43.0	+6.8
KAHZ	**Kahuranaki**	**10.78**	**204**	P		**Pn**	**04 15 36.6**	**-2.4**
KAHZ				S		**Sn**	**04 17 36.0**	**-3.1**
BHHZ	**Black Hill Sta**	**10.82**	**208**	P		**Pn**	**04 15 41.1**	**+1.4**
BHHZ				S		**Sn**	**04 17 34.3**	**-5.9**
KRHZ	**Kereru**	**10.83**	**206**	P		**Pn**	**04 15 40.4**	**+0.7**
KRHZ				S		**Sn**	**04 17 35.1**	**-5.3**
MOVZ	**Moawhango**	**10.88**	**209**	P		**Pn**	**04 15 42.8**	**+2.3**
MOVZ				S		**Sn**	**04 17 36.0**	**-5.7**
PNHZ	**Pukenui**	**11.13**	**206**	P		**Pn**	**04 15 42.7**	**-1.2**
PNHZ				S		**Sn**	**04 17 43.7**	**-4.1**
TSZ	**Takapari Road**	**11.35**	**207**	P		**Pn**	**04 15 48.0**	**+1.1**
TSZ				S		**Sn**	**04 17 51.4**	**-1.7**
BFZ	**Birch Farm**	**11.79**	**204**	P		**Pn**	**04 15 49.3**	**-3.5**
BFZ				S		**Sn**	**04 17 55.6**	**-8.1**
BFZ	**Birch Farm**	**11.79**	**204**			**Pn**	**04 15 49.0**	**-3.8**
NIUE	**Niue**	**12.88**	**34**	Pn		Pn	04 16 00.5	-7.4
BHW	**Baring Head**	**12.93**	**207**	Pn		**Pn**	**04 16 07.8**	**-0.6**
MSVF	**Nonsavu**	**12.94**	**340**	eP		**Pn**	**04 16 11.6**	**+2.8**
MSVF	**Nonsavu**	**12.94**	**340**	Pn		**Pn**	**04 16 10.6**	**+1.8**
THZ	**Tophouse**	**14.05**	**211**	Pn		**Pn**	**04 16 24.1**	**+0.3**
KHZ	**Kahutara**	**14.31**	**208**	Pn		**Pn**	**04 16 23.4**	**-3.9**
LTZ	**Lake Taylor**	**15.15**	**210**			**Pn**	**04 16 36.5**	**-2.2**
OXZ	**Oxford**	**15.69**	**210**			**Pn**	**04 16 42.8**	**-2.9**
OXZ				IAmb		IAmb	04 16 50.6	
	comp=Z,105nm,0.5s							
RPZ	**Rata Peaks**	**16.43**	**211**	P		**Pn**	**04 16 53.2**	**-2.0**
	comp=Z,1.7nm,0.3s,baz=116,slow=9.6,SNR=5.4							
RPZ				S		Sn	04 19 43.8	-13
	comp=Z,2.3nm,0.3s,baz=102,slow=17,SNR=2.2							
DZM	**Mont Dzumac**	**16.51**	**295**	P		**P**	**04 17 02.5**	**+3.5**
	comp=Z,1.9nm,0.3s,baz=129,slow=12,SNR=25							
DZM				LR		LR	04 22 17.4	
	comp=Z,7μm,18.9s,baz=114,slow=34							
AFI	**Afiamalu**	**16.90**	**19**	P		**Pn**	**04 16 59.3**	**-2.1**
AFI				pmax		pmax		
	comp=Z,80nm,1.1s							
AFI	**Afiamalu**	**16.90**	**19**			**Pn**	**04 16 59.2**	**-2.1**
ODZ	**Otahua Downs**	**17.67**	**209**			**Pn**	**04 17 07.7**	**-3.0**
RAR	**Rarotonga**	**18.18**	**65**	P		**Pn**	**04 17 14.3**	**-2.8**
	comp=Z,3.5nm,0.3s,baz=271,slow=8.5,SNR=7.0							
RAR				S		Sn	04 20 13.1	-26
	comp=Z,1.2nm,0.3s,baz=89,slow=12,SNR=1.5							
RAR	**Rarotonga**	**18.18**	**65**	P		**Pn**	**04 17 14.4**	**-2.8**
RAR				pmax		pmax		
	comp=Z,67nm,1.1s							
SANVU	**Saraoutou**	**20.26**	**312**	P		**P**	**04 17 38.2**	**-1.9**
SANVU				IAmb		IAmb	04 17 49.1	
	comp=Z,115nm,1.3s							
TBI	**Tubuai**	**25.83**	**82**	eLR		LR	04 24 53.5	
	comp=Z,6μm,25.2s							
TBI	**Tubuai**	**25.83**	**82**	eT		T	04 45 47.9	
	comp=Z,52nm,0.3s							
EIDS	**Eidsvold**	**28.21**	**272**	P		**P**	**04 18 57.8**	**+0.4**
EIDS				IAmb		IAmb	04 19 01.6	
	comp=Z,28nm,0.8s							
PAE	**Paea**	**28.22**	**70**	eT		T	04 48 33.8	
	comp=Z,15nm,0.3s							
PPT2	**Papeete2**	**28.26**	**70**	eLR		LR	04 25 50.6	
	comp=Z,5μm,27.8s							
PPT2	**Papeete2**	**28.26**	**70**	eT		T	04 48 37.2	
	comp=Z,15nm,0.3s			

MAW	**Mawson**	**72.80**	**200**	P	**P**	**04 24 34.4**	**+1.9**	
KKM	**Kota Kinabalu**	**72.92**	**288**	P	**P**	**04 24 32.8**	**-1.4**	
KKM				IAmb	IAmb	04 24 48.0		
	comp=Z,16nm,0.7s							
SBUM	**Sibu**	**74.32**	**282**	P	**P**	**04 24 41.9**	**-0.5**	
TPI	**Tanjungpandan**	**75.57**	**275**	P	**P**	**04 24 46.7**	**-2.9**	
	comp=Z,24nm,1.2s							
SYO	**Syowa Base**	**77.56**	**193**	⇑*iP*	**P**	**04 25 00.2**	**+0.3**	
SYO	**Syowa Base**	**77.56**	**193**	⇓*ipP*	pP	04 25 06.0	+1.0	
SYO	**Syowa Base**	**77.56**	**193**	⇓*isP*	sP	04 25 08.8	+1.9	
MJAR	**Matsushiro Arr**	**78.24**	**325**	P	**P**	**04 25 04.0**	**-0.1**	
	comp=Z,24nm,1.2s,baz=162,slow=5.4,SNR=15							
MJAR	**Matsushiro Arr**	**78.24**	**325**	P	**P**	**04 25 02.9**	**-1.2**	
MJAR				pmax	pmax			
	comp=Z,11nm,1.3s							
MJAR	**Matsushiro Arr**	**78.24**	**325**	P	**P**	**04 25 02.9**	**-1.2**	
MAJO	**Matsushiro**	**78.24**	**325**	⇑*eP*	**P**	**04 25 04.7**	**+0.6**	
MAJO				pmax	pmax			
	comp=Z,36nm,1.3s							
MAJO	**Matsushiro**	**78.24**	**325**	P	**P**	**04 25 03.9**	**-0.2**	
MAJO				IAmb	IAmb	04 25 23.1		
	comp=Z,28nm,1.1s							
MAT	**Matsushiro**	**78.24**	**325**	P	**P**	**04 25 04.1**	**0.0**	
SNAA	**Sanae**	**78.48**	**178**	P	**P**	**04 25 06.5**	**+1.4**	
SNAA	**Sanae**	**78.48**	**178**	P	**P**	**04 25 05.2**	**+0.1**	
SNAA				pmax	pmax			
	comp=Z,18nm,1.0s							
SNAA	**Sanae**	**78.48**	**178**	P	**P**	**04 25 05.2**	**+0.1**	
SNAA				IAmb	IAmb	04 25 22.6		
	comp=Z,18nm,1.0s							
VNA3	**Neumayer Olymp**	**78.61**	**176**	P	**P**	**04 25 07.0**	**+1.2**	
VNA2	**Neumayer--Watz**	**79.06**	**177**	P	**P**	**04 25 09.9**	**+1.7**	
NVL	**N'lazarevskaya**	**79.25**	**183**	*eP*	P	04 24 59.6	-10	
NVL				pmax	pmax			
	comp=Z,11nm,0.8s							
VNA1	**Neumayer--Stat**	**79.28**	**176**	P	**P**	**04 25 11.1**	**+1.7**	
JNU	**Nakatsue**	**79.63**	**318**	P	**P**	**04 25 10.6**	**-1.3**	
	comp=Z,20nm,1.1s,baz=194,slow=17,SNR=6.9							
JNU	**Nakatsue**	**79.63**	**318**	IAmb	IAmb	04 25 16.2		
	comp=Z,27nm,1.1s							
H03S2	**Juan Fernandez**	**80.25**	**123**	T	T	05 54 49.0		
	baz=239,slow=74,SNR=59							
H03S1	**Juan Fernandez**	**80.26**	**123**	T	T	05 54 48.3		
	baz=239,slow=74,SNR=43							
H03S3	**Juan Fernandez**	**80.26**	**123**	T	T	05 54 48.5		
	baz=239,slow=74,SNR=54							
H03N3	**Juan Fernandez**	**80.44**	**123**	T	T	05 55 03.4		
	baz=242,slow=73,SNR=7.3							
H03N2	**Juan Fernandez**	**80.44**	**123**	T	T	05 54 54.6		
	baz=242,slow=73,SNR=10							
H03N1	**Juan Fernandez**	**80.45**	**123**	T	T	05 54 55.4		
	baz=242,slow=73,SNR=11							
ADK	**Adak**	**81.59**	**0**	P	**P**	**04 25 20.7**	**-1.1**	
ADK				pmax	pmax			
	comp=Z,31nm,1.1s							
ADK	**Adak**	**81.59**	**0**	P	**P**	**04 25 20.6**	**-1.1**	
ADK				IAmb	IAmb	04 25 22.7		
	comp=Z,31nm,1.1s							
SDSI	**Sungai Dareh**	**81.86**	**274**	P	**P**	**04 25 20.8**	**-3.4**	
	comp=Z,11nm,1.0s							
JKA	**Kamikawa-asahi**	**82.36**	**332**	P	**P**	**04 25 24.8**	**-1.3**	
ASAJ	**Asahikawa**	**82.36**	**332**	P	**P**	**04 25 27.3**	**+1.2**	
	comp=Z,18nm,0.9s,baz=181,slow=24,SNR=5.0							
ASAJ	**Asahikawa**	**82.36**	**332**	P	**P**	**04 25 24.8**	**-1.3**	
ASAJ				pmax	pmax			
	comp=Z,42nm,1.2s							
PLCA	**Paso Flores**	**82.38**	**133**	P	**P**	**04 25 28.6**	**+1.9**	
	comp=Z,3.2nm,0.9s,baz=214,slow=4.9,SNR=5.3							
PLCA	**Paso Flores**	**82.38**	**133**	P	**P**	**04 25 25.7**	**-1.0**	
PLCA				pmax	pmax			
	comp=Z,12nm,1.4s							
PLCA	**Paso Flores**	**82.38**	**133**	P	**P**	**04 25 25.7**	**-1.0**	
LC01	**Cunco**	**82.52**	**131**	P	**P**	**04 25 28.5**	**+1.1**	
LC01				IAmb	IAmb	04 25 46.5		
	comp=Z,18nm,0.9s							
PDSI	**Padang**	**82.70**	**273**	P	**P**	**04 25 25.2**	**-3.5**	
	comp=Z,22nm,0.7s							
TJN	**Taejon**	**83.97**	**318**	⇑*eP*	**P**	**04 25 36.4**	**+1.8**	
KSRS	**Korea Array**	**84.40**	**319**	P	**P**	**04 25 37.3**	**+0.6**	
	comp=Z,8.7nm,1.1s,baz=144,slow=5.4,SNR=18							
KSAR	**Wonju Array Be**	**84.42**	**319**	P	**P**	**04 25 36.6**	**-0.3**	
KSAR	**Wonju Array Be**	**84.42**	**319**	P	**P**	**04 25 36.6**	**-0.3**	
YSS	**Yuzh-Sakhalins**	**84.65**	**334**	*eP*	**P**	**04 25 38.0**	**+0.2**	
YSS				pmax	pmax			
	comp=Z,50nm,0.7s							
YSS	**Yuzh-Sakhalins**	**84.65**	**334**	P	**P**	**04 25 37.4**	**-0.4**	
IPM	**Ipoh**	**84.92**	**278**	P	**P**	**04 25 43.0**	**+3.0**	
PEA0B	**Petropavlovsk-**	**85.60**	**345**	⇑*eP*	**P**	**04 25 43.5**	**+1.1**	
PETK	**Petropavlovsk-**	**85.60**	**345**	P	**P**	**04 25 42.6**	**+0.2**	
	comp=Z,5.6nm,0.6s,baz=133,slow=8.3,SNR=12							
PETK	**Petropavlovsk-**	**85.60**	**345**	P	**P**	**04 25 41.7**	**-0.7**	
PFO	**Pinyon Flats O**	**85.61**	**47**	⇓*eP*	**P**	**04 25 43.4**	**+0.3**	
PFO				pmax	pmax			
	comp=Z,26nm,2.2s							
PFO	**Pinyon Flats O**	**85.61**	**47**	P	**P**	**04 25 42.8**	**-0.3**	
PFO				IAmb	IAmb	04 26 02.2		
	comp=Z,10nm,1.1s							
KULM	**Kulim**	**85.65**	**279**	P	**P**	**04 25 42.6**	**-1.1**	
KULM				IAmb	IAmb	04 25 59.4		
	comp=Z,18nm,0.9s							
KULM	**Kulim**	**85.65**	**279**	P	**P**	**04 25 47.0**	**+3.4**	
ISA	**Isabella, Lake**	**85.71**	**44**	P	**P**	**04 25 44.4**	**+0.9**	
ISA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
ISA	**Isabella, Lake**	**85.71**	**44**	P	**P**	**04 25 44.4**	**+0.9**	
ISA				IAmb	IAmb	04 25 58.9		
	comp=Z,10nm,0.9s							
RPSI	**Rantau Prapat**	**85.83**	**276**	P	**P**	**04 25 46.0**	**+1.5**	
RPSI	**Rantau Prapat**	**85.83**	**276**	P	**P**	**04 25 41.9**	**-2.6**	
RPSI				IAmb	IAmb	04 25 58.7		
	comp=Z,24nm,1.0s							
PSI	**Prapat**	**85.89**	**276**	P	**P**	**04 25 46.0**	**+1.1**	
	comp=Z,4.7nm,0.6s,baz=179,slow=3.8,SNR=1.9							
PSI				LR	LR	05 07 08.7		
	comp=Z,852nm,18.2s,baz=90,slow=38							
CMB	**Columbia Colle**	**86.18**	**42**	P	**P**	**04 25 43.8**	**-1.9**	
CMB				pmax	pmax			
	comp=Z,5.0nm,0.9s							
CMB	**Columbia Colle**	**86.18**	**42**	P	**P**	**04 25 43.8**	**-1.9**	
GSI	**Gunungsitoli**	**86.31**	**274**	P	**P**	**04 25 43.0**	**-3.9**	
	comp=Z,300nm,0.7s							
MSHR	**Mys Shultsa**	**86.36**	**325**	⇑*eP*	**P**	**04 25 47.9**	**+1.5**	
MSHR				pmax	pmax			
	comp=Z,10.0nm,1.1s							
NJ2	**Nanjing**	**86.39**	**310**	*eP*	**P**	**04 25 48.1**	**+1.3**	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PEL	**Peldehue**	**86.47**	**126**	P	**P**	**04 25 48.1**	**+0.6**	
PEL				pmax	pmax			
	comp=Z,71nm,1.5s							
PEL	**Peldehue**	**86.47**	**126**	P	**P**	**04 25 48.1**	**+0.6**	
ORV	**Oroville**	**86.60**	**40**	P	**P**	**04 25 48.0**	**+0.3**	
ORV				pmax	pmax			
	comp=Z,11nm,1.5s							
ORV	**Oroville**	**86.60**	**40**	P	**P**	**04 25 48.0**	**+0.3**	
OMMB	**Old Mammoth Mi**	**86.70**	**43**	P	**P**	**04 25 46.4**	**-2.2**	
RUBR	**Rubicon Trail**	**87.01**	**41**	P	**P**	**04 25 48.6**	**-1.4**	
RUBR				IAmb	IAmb	04 25 59.7		
	comp=Z,14nm,0.9s							
USA0B	**Ussuriysk Arra**	**87.14**	**326**	P	**P**	**04 25 50.1**	**-0.1**	
USA0B				pmax	pmax			
	comp=Z,33nm,1.3s							
USA0B	**Ussuriysk Arra**	**87.14**	**326**	P	**P**	**04 25 50.1**	**-0.1**	
USRK	**Ussuriysk Ar.**	**87.14**	**326**	P	**P**	**04 25 51.1**	**+0.9**	
	comp=Z,4.2nm,0.8s,baz=90,slow=11,SNR=15							
USRK	**Ussuriysk Ar.**	**87.14**	**326**	P	**P**	**04 25 49.9**	**-0.3**	
KCSI	**Kotacane, Aceh**	**87.24**	**276**	P	**P**	**04 25 47.4**	**-4.1**	
	comp=Z,17nm,0.7s							
CO02	**Combarbal**	**87.32**	**125**	P	**P**	**04 25 53.2**	**+1.4**	
YBH	**Yreka Blue Hor**	**87.46**	**38**	P	**P**	**04 25 51.8**	**-0.2**	
YBH				pmax	pmax			
	comp=Z,3.0nm,0.9s							
YBH	**Yreka Blue Hor**	**87.46**	**38**	P	**P**	**04 25 51.8**	**-0.2**	
NVAR	**Mina Array Bea**	**87.66**	**42**	P	**P**	**04 25 53.9**	**+0.8**	
	comp=Z,2.8nm,0.7s,baz=222,slow=8.3,SNR=17							
NVAR	**Mina Array Bea**	**87.66**	**42**	P	**P**	**04 25 53.3**	**+0.2**	
TYV	**Tymovskoe**	**87.94**	**336**	*eP*	**P**	**04 25 54.2**	**+0.4**	
TYV				pmax	pmax			
	comp=Z,21nm,1.7s							
TYV				pmax	pmax			
	comp=Z,1μm,5.5s							
KVN	**Kaiserville**	**88.19**	**42**	P	**P**	**04 25 56.0**	**+0.4**	
KVN				pmax	pmax			
	comp=Z,5.0nm,0.8s							
KVN	**Kaiserville**	**88.19**	**42**	P	**P**	**04 25 56.0**	**+0.4**	
KVN				IAmb	IAmb	04 26 11.2		
	comp=Z,4.8nm,0.8s							
TUC	**Tucson**	**88.52**	**51**	P	**P**	**04 25 57.9**	**+0.7**	
TUC				pmax	pmax			
	comp=Z,13nm,1.3s							
TUC	**Tucson**	**88.52**	**51**	P	**P**	**04 25 57.9**	**+0.7**	
TUC				IAmb	IAmb	04 26 12.0		
	comp=Z,13nm,1.3s							
MDJ	**Mudanjiang**	**88.62**	**325**	P	P	04 26 02.4	+5.1	
MDJ				pmax	pmax			
	comp=Z,18nm,1.0s							
MDJ				pmax	pmax			
	comp=Z,4μm,14.5s							
K05A	**Summer Lake**	**89.12**	**38**	P	**P**	**04 26 00.2**	**+0.3**	
K05A				IAmb	IAmb	04 26 18.7		
	comp=Z,22nm,1.3s							
H04A	**Detroit Lake**	**89.81**	**36**	P	**P**	**04 26 02.5**	**-0.5**	
H04A				IAmb	IAmb	04 26 21.6		
	comp=Z,8.5nm,0.9s							
PINE	**Pine Mountain**	**89.83**	**37**	P	**P**	**04 26 03.0**	**-0.2**	
PINE				IAmb	IAmb	04 26 05.8		
	comp=Z,7.0nm,0.8s							
U15A	**North Rim**	**90.04**	**47**	P	**P**	**04 26 05.5**	**+1.0**	
U15A				IAmb	IAmb	04 26 24.7		
	comp=Z,12nm,1.0s							
CCUT	**Cedar City**	**90.06**	**46**	P	**P**	**04 26 05.3**	**+0.8**	
WUAZ	**Wupatki**	**90.07**	**48**	P	**P**	**04 26 03.4**	**-1.2**	
WUAZ				IAmb	IAmb	04 26 20.5		
	comp=Z,13nm,1.0s							
CN2	**Changchun**	**90.17**	**323**	*eP*	**P**	**04 26 04.8**	**+0.3**	
CN2				pmax	pmax			
	comp=Z,10.0nm,1.3s							
GRNR	**Gornyy**	**90.20**	**333**	⇑*iP*	**P**	**04 26 04.1**	**-0.4**	
GRNR				pmax	pmax			
	comp=Z,10.0nm,0.9s							
GRNR				MLR	MLR			
	comp=E,200nm,12.0s							
GRNR				MLR	MLR			
	comp=N,360nm,14.0s							
GRNR				MLR	MLR			
	comp=Z,1μm,14.0s							
F04A	**Amboy**	**90.57**	**35**	P	**P**	**04 26 06.6**	**+0.2**	
F04A				IAmb	IAmb	04 26 22.8		
	comp=Z,12nm,0.9s							
I07A	**Izee**	**90.79**	**38**	P	**P**	**04 26 07.3**	**-0.2**	
KLR	**Kul'dur**	**90.99**	**329**	P	**P**	**04 26 08.7**	**+0.5**	
	comp=Z,8.1nm,0.9s,baz=114,slow=5.0,SNR=12							
KLR	**Kul'dur**	**90.99**	**329**	⇑*iP*	**P**	**04 26 08.2**	**0.0**	
KLR				pmax	pmax			
	comp=Z,17nm,1.2s							
MSU	**Marysvale**	**91.39**	**45**	P	**P**	**04 26 10.6**	**-0.1**	
MSU	**Marysvale**	**91.39**	**45**	P	**P**	**04 26 10.6**	**-0.1**	
TXAR	**Lajitas Array**	**91.79**	**57**	P	**P**	**04 26 13.4**	**+0.8**	
	comp=Z,0.6nm,0.9s,baz=198,slow=10,SNR=6.2							
TXAR	**Lajitas Array**	**91.79**	**57**	P	**P**	**04 26 09.4**	**-3.2**	
MNTX	**Cornudas Mount**	**91.88**	**54**	P	**P**	**04 26 13.1**	**+0.3**	
MFID	**Camas Ranch**	**92.34**	**40**	P	**P**	**04 26 14.7**	**-0.1**	
MFID				IAmb	IAmb	04 26 31.3		
	comp=Z,11nm,1.4s							
BMO	**Blue Mountains**	**92.47**	**38**	P	**P**	**04 26 14.3**	**-1.1**	
BMO				pmax	pmax			
	comp=Z,6.0nm,1.3s							
BMO	**Blue Mountains**	**92.47**	**38**	P	**P**	**04 26 14.3**	**-1.1**	
ANMO	**Albuquerque**	**92.98**	**51**	P	**P**	**04 26 18.0**	**-0.1**	
ANMO				pmax	pmax			
	comp=Z,5.0nm,1.0s							
ANMO	**Albuquerque**	**92.98**	**51**	P	**P**	**04 26 18.0**	**-0.1**	
ANMO				IAmb	IAmb	04 26 33.3		
	comp=Z,4.8nm,1.0s							
BJT	**Baijiatuan**	**93.01**	**315**	P	**P**	**04 26 17.6**	**-0.2**	
BJT				pmax	pmax			
	comp=Z,5.0nm,0.6s							
BJT	**Baijiatuan**	**93.01**	**315**	P	**P**	**04 26 17.6**	**-0.2**	
BJT				IAmb	IAmb	04 26 24.2		
	comp=Z,4.9nm,0.6s							
HVU	**Hansel Valley**	**93.05**	**43**	P	**P**	**04 26 18.6**	**+0.4**	
HVU				pmax	pmax			
	comp=Z,14nm,1.1s							
HVU	**Hansel Valley**	**93.05**	**43**	P	**P**	**04 26 18.6**	**+0.4**	
PV01	**Paradox Valley**	**93.44**	**47**	P	**P**	**04 26 18.1**	**-2.1**	
PV01				IAmb	IAmb	04 26 34.9		
	comp=Z,7.5nm,1.5s							
CMAR	**Chiang Mai Arr**	**93.75**	**289**	P	**P**	**04 26 22.2**	**+0.4**	
	comp=Z,1.5nm,0.3s,baz=176,slow=21,SNR=2.1							
CMAR	**Chiang Mai Arr**	**93.75**	**289**	P	**P**	**04 26 19.9**	**-1.9**	
AHID	**Auburn Hatcher**	**94.64**	**43**	P	**P**	**04 26 23.5**	**-2.0**	
AHID				IAmb	IAmb	04 26 42.0		
	comp=Z,8.8nm,1.1s							
MCMT	**McKenzie Canyo**	**94.90**	**40**	P	**P**	**04 26 24.7**	**-2.0**	
MSTX	**Muleshoe**	**94.97**	**54**	P	**P**	**04 26 25.4**	**-1.7**	
MSTX				IAmb	IAmb	04 26 41.6		
	comp=Z,7.5nm,0.9s							
PDAR	**Pinedale Array**	**95.55**	**43**	P	**P**	**04 26 29.6**	**-0.1**	
	comp=Z,0.5nm,0.7s,baz=222,slow=3.1,SNR=5.2							
PDAR	**Pinedale Array**	**95.55**	**43**	P	**P**	**04 26 26.7**	**-3.0**	
ZEA	**Zeya**	**96.19**	**331**	*eP*	**P**	**04 26 31.8**	**-0.2**	
CD2	**Chengdu**	**96.32**	**302**	P	**P**	**04 26 33.8**	**+0.5**	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CCB	**Clear Creek Bu**	**97.20**	**12**	IAmb	IAmb	04 26 56.0		
	comp=Z,3.4nm,0.8s							
ILAR	**Eielson Array**	**97.48**	**13**	P	**P**	**04 26 36.6**	**-1.1**	
	comp=Z,0.4nm,0.6s,baz=226,slow=5.7,SNR=6.7							
ILAR				PP	**PP**	**04 30 40.8**	**+5.3**	
	comp=Z,1.0nm,1.0s,baz=215,slow=7.1,SNR=5.9							
ILAR	**Eielson Array**	**97.48**	**13**	P	**P**	**04 26 35.6**	**-2.0**	
LPAZ	**La Paz**	**97.84**	**114**	P	Pdif	04 26 41.5	+0.2	
	comp=Z,0.7nm,0.7s,baz=225,slow=1.4,SNR=2.3							
BILL	**Bilibino**	**98.55**	**354**	⇓*iP*	Pdif	04 26 42.6	+0.2	
BILL				*e*PPP	PPP	04 32 52.1		
BILL				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BILL				MLR	MLR			
	comp=Z,1μm,17.0s							
SONM	**Songino Array**	**103.22**	**318**	P	**Pdif**	**04 27 04.1**	**+0.3**	
	comp=Z,0.3nm,0.4s,baz=201,slow=20,SNR=1.9							
SONM	**Songino Array**	**103.22**	**318**		**Pdif**	**04 27 02.0**	**-1.8**	
YKA	**Yellowknife Ar**	**104.92**	**25**	PKiKP	**PKiKP**	**04 31 24.8**	**-0.8**	
	comp=Z,0.3nm,0.5s,baz=247,slow=1.7,SNR=4.3							
YKA				PKKPbc	**PKKPbc**	**04 42 57.8**	**+2.6**	
	comp=Z,0.6nm,0.9s,baz=46,slow=3.5,SNR=3.1							
WMQ	**Urumqi**	**113.40**	**308**	*e*PKP	**PKiKP**	**04 31 42.6**	**+0.3**	
WMQ				LR	LR			
	comp=Z,660nm,18.9s							
WMQ				LR	LR			
	comp=Z,880nm,18.5s							
WMQ				LR	LR			
	comp=Z,750nm,23.5s							
BOSA	**Boshof**	**117.77**	**203**	PKP	**PKiKP**	**04 31 51.6**	**+0.2**	
	comp=Z,1.2nm,0.5s,baz=114,slow=18,SNR=2.3							
MKAR	**Makanchi Array**	**117.92**	**310**	PKP	**PKPdf**	**04 31 50.0**	**-0.9**	
	comp=Z,0.9nm,0.6s,baz=178,slow=1.0,SNR=11							
MKAR	**Makanchi Array**	**117.92**	**310**	PKIKP	**PKPdf**	**04 31 50.0**	**-0.9**	
MKAR	**Makanchi Array**	**117.92**	**310**	PKPdf	**PKPdf**	**04 31 49.6**	**-1.2**	
ZALV	**Zalesovo Beam**	**118.10**	**318**	PKP	**PKPdf**	**04 31 49.9**	**-1.0**	
	comp=Z,1.1nm,0.5s,baz=277,slow=1.5,SNR=5.0							
ZALV	**Zalesovo Beam**	**118.10**	**318**	PKIKP	**PKPdf**	**04 31 50.2**	**-0.7**	
ZALV	**Zalesovo Beam**	**118.10**	**318**	PKPdf	**PKPdf**	**04 31 50.2**	**-0.7**	
MAKZ	**Makanchi**	**118.14**	**310**	PKIKP	**PKPdf**	**04 31 49.9**	**-1.3**	
MAKZ	**Makanchi**	**118.14**	**310**	PKPdf	**PKPdf**	**04 31 49.9**	**-1.3**	
KURK	**Kurchatov**	**121.16**	**314**	⇓*i*PKIKP	**PKPdf**	**04 31 56.5**	**-0.4**	
KURK	**Kurchatov**	**121.16**	**314**	PKPdf	**PKPdf**	**04 31 56.0**	**-0.8**	
AAK	**Ala-Archa**	**122.33**	**304**	⇑*i*PKIKP	**PKiKP**	**04 32 00.1**	**+0.3**	
KBL	**Kabul**	**124.53**	**293**	PKIKP	**PKPdf**	**04 32 04.4**	**+0.3**	
KBL	**Kabul**	**124.53**	**293**	PKPdf	**PKPdf**	**04 32 04.4**	**+0.3**	
GAR	**Garm**	**124.62**	**299**		**PKPdf**	**04 32 03.9**	**-0.2**	
KK31	**Karatay Array**	**125.29**	**304**	PKIKP	**PKPdf**	**04 32 04.6**	**-0.5**	
KK31	**Karatay Array**	**125.29**	**304**	PKPdf	**PKPdf**	**04 32 04.6**	**-0.5**	
KKAR	**Karatay Array**	**125.29**	**304**	PKIKP	**PKPdf**	**04 32 04.5**	**-0.6**	
KKAR	**Karatay Array**	**125.29**	**304**	PKPdf	**PKPdf**	**04 32 04.5**	**-0.6**	
SCHQ	**Schefferville**	**125.66**	**42**	PKP	**PKPdf**	**04 32 04.8**	**-0.7**	
	comp=Z,2.0nm,0.7s,baz=226,slow=13,SNR=3.0							
BRVK	**Borovoye**	**126.56**	**316**	⇓*i*PKIKP	**PKPdf**	**04 32 07.0**	**-0.2**	
BRVK	**Borovoye**	**126.56**	**316**	PKPdf	**PKPdf**	**04 32 06.2**	**-0.9**	
SPITS	**Spitsbergen Ar**	**131.39**	**356**	PKP	**PKPdf**	**04 32 16.1**	**+0.3**	
	comp=Z,4.2nm,0.7s,baz=121,slow=7.2,SNR=2.1							
ABKAR	**Akbulak array**	**133.05**	**311**	PKPdf	**PKPdf**	**04 32 20.2**	**+0.6**	
ARU	**Arti**	**133.13**	**321**	*i* PKIKP	**PKiKP**	**04 32 21.3**	**+0.6**	
ARU						04 34 46.7		
ARU				SS	SS	04 52 31.4	+2.9	
GEYT	**Alibeck**	**133.85**	**295**	PKP	**PKiKP**	**04 32 22.9**	**0.0**	
	comp=Z,4.1nm,0.7s,baz=270,slow=1.5,SNR=6.9							
GEYT	**Alibeck**	**133.85**	**295**	PKPdf	**PKPdf**	**04 32 22.3**	**+0.7**	
KIRV	**Kirov**	**137.31**	**326**	PKIKP	**PKiKP**	**04 32 31.1**	**+2.0**	
H10S3	**ASCENSION HYDR**	**137.82**	**154**	T	T	07 07 47.2		
	baz=16,slow=74,SNR=46							
H10S2	**ASCENSION HYDR**	**137.83**	**154**	T	T	07 07 47.0		
	baz=204,slow=74,SNR=30							
ARCES	**ARCESS Array B**	**138.36**	**348**	PKhKP	PKPpre	04 32 19.9		
	comp=Z,1.4nm,0.6s,baz=35,slow=4.4,SNR=6.4							
H10N3	**ASCENSION HYDR**	**138.91**	**154**	T	T	07 09 13.2		
	baz=203,slow=76,SNR=68							
H10N1	**ASCENSION HYDR**	**138.91**	**154**	T	T	07 09 13.6		
	baz=203,slow=76,SNR=60							
H10N2	**ASCENSION HYDR**	**138.92**	**154**	T	T	07 09 14.5		
	baz=203,slow=76,SNR=91							
KLMR	**Klimovskoe**	**140.69**	**332**	*e*PKIKP	**PKPdf**	**04 32 33.9**	**+0.6**	
KLMR				pmax	pmax			
	comp=Z,19nm,1.0s							
KLMR	**Klimovskoe**	**140.69**	**332**	*e*PKPdf	**PKPdf**	**04 32 34.0**	**+0.6**	
KLMR				AMP		04 32 52.1		
	comp=Z,19nm,1.0s							
MOS	**Moscow**	**144.32**	**326**	*e*PKHKP	**PKPab**	**04 32 34.2**	**-3.8**	
MOS				pmax	pmax			
	comp=Z,43nm,0.7s							
ZEI	**Tsey**	**144.73**	**303**	*e*PKIKP	**PKPab**	**04 32 39.4**	**-0.9**	
ZEI				pmax	pmax			
	comp=Z,23nm,1.0s							
PUL	**Pulkovo**	**144.89**	**336**	⇓*e*PKIKP	**PKPdf**	**04 32 40.8**	**0.0**	
GOF	**Gofitskoye**	**144.98**	**307**	⇑*e*PKIKP	PKPbc	04 32 40.9	+0.1	
FIA1	**FINESS Array S**	**144.99**	**340**	PKPdf	PKPbc	04 32 39.6	-0.7	
FINES	**FINESS Array B**	**144.99**	**340**	PKP	PKPbc	04 32 39.6	-0.7	
	comp=Z,66nm,0.7s,baz=56,slow=3.4,SNR=132							
FINES				PKKP	PKKPdf	04 41 56.7	+8.2	
	comp=Z,0.6nm,0.4s,baz=52,slow=3.1,SNR=4.9							
FINES	**FINESS Array B**	**144.99**	**340**	PKPdf	PKPbc	04 32 39.4	-0.9	
LPSR	**Galich'ya Gora**	**145.16**	**321**	*e*PKP2	**PKPbc**	**04 32 40.0**	**-1.1**	
LPSR				pmax	pmax			
	comp=Z,30nm,0.7s							
OBN	**Obninsk**	**145.16**	**326**	*c i*PKIKP	**PKPbc**	**04 32 40.3**	**-0.7**	
OBN				*e*		04 36 05.7		
OBN				pmax	pmax			
	comp=Z,149nm,1.1s							
OBN				MLR	MLR			
	comp=Z,517nm,16.0s							
OBN	**Obninsk**	**145.16**	**326**		**PKPbc**	**04 32 40.8**	**-0.2**	
AKH	**Akhalkalaki**	**145.19**	**300**	⇑P	**PKPdf**	**04 32 42.6**	**+0.3**	
AKH	**Akhalkalaki**	**145.19**	**300**	PKIKP	**PKPab**	**04 32 42.2**	**+0.2**	
AKH	**Akhalkalaki**	**145.19**	**300**		**PKPab**	**04 32 42.2**	**+0.2**	
KBZ	**Khabaz**	**145.32**	**304**	PKPbc	**PKPab**	**04 32 42.3**	**+0.2**	
	comp=Z,8.3nm,0.7s,baz=132,slow=2.8,SNR=16							
KBZ	**Khabaz**	**145.32**	**304**	*ce*PKIKP	**PKPbc**	**04 32 41.5**	**-0.4**	
KIV	**Kislovodsk**	**145.43**	**305**	*e*PKIKP	**PKPbc**	**04 32 42.6**	**+0.2**	
KIV				pmax	pmax			
	comp=Z,64nm,1.1s							
NEY	**Neytrino**	**145.53**	**304**	⇑*e*PKIKP	**PKPbc**	**04 32 43.0**	**+0.1**	
VSR	**Storozhevoye**	**145.61**	**318**	*e*PKIKP	**PKPdf**	**04 32 41.6**	**-0.7**	
VSR				pmax	pmax			
	comp=Z,170nm,1.9s							
VORD	**Divnogorie**	**145.63**	**318**	*e*PKP2	**PKPdf**	**04 32 41.4**	**-1.0**	
VORD				pmax	pmax			
	comp=Z,60nm,1.1s							
BATM	**Batumi**	**146.51**	**301**	⇑P	**PKPab**	**04 32 46.9**	**+0.2**	
BATM	**Batumi**	**146.51**	**301

	baz=19,slow=4.3								
GTTG	**Gottingen**	**157.84**	**348**	*e*PKPab	**PKPab**	**04 33 33.5**	**+0.1**
	baz=19,slow=4.3								
JAVC	**Velka Javorina**	**157.97**	**333**	*e*PKP	**PKPab**	**04 33 34.3**	**+0.1**
VRAC	**Vranov**	**158.01**	**335**	*e*PKP	**PKPab**	**04 33 34.3**	**0.0**
GOPC	**GO Pecny, Ondr**	**158.12**	**338**	*e*PKPAB	**PKPab**	**04 33 35.1**	**+0.3**
GOPC	**GO Pecny, Ondr**	**158.12**	**338**	*e*PKPab	**PKPab**	**04 33 35.1**	**+0.3**
PRU	**Pruhonice**	**158.13**	**339**	*e*PKPAB	**PKPab**	**04 33 35.5**	**+0.7**
PRU				*ep*PKP	**pPKPab**	**04 33 40.3**	**+0.3**
PRU	**Pruhonice**	**158.13**	**339**	*e*PKP2	**PKPab**	**04 33 35.5**	**+0.7**
KRUC	**Moravsky**	**158.29**	**335**	*e*PKP	**PKPab**	**04 33 34.6**	**-0.9**
MOX	**Moxa**	**158.34**	**344**	*e*PKPab	**PKPab**	**04 33 35.5**	**-0.1**
	baz=19,slow=4.3								
TANN	**Tannenbergstha**	**158.34**	**343**	*e*PKPab	**PKPab**	**04 33 35.8**	**+0.1**
	baz=19,slow=4.3								
PLN	**Plauen**	**158.36**	**343**	*e*PKPab	**PKPab**	**04 33 35.8**	**0.0**
	baz=19,slow=4.3								
TREC	**Trest**	**158.42**	**337**	*e*PKPAB	**PKPab**	**04 33 36.4**	**+0.3**
TREC				*ep*PKP	**pPKPab**	**04 33 41.1**	**-0.2**
TREC	**Trest**	**158.42**	**337**	*e*PKP2	**PKPab**	**04 33 36.4**	**+0.3**
GUNZ	**Gunzen**	**158.42**	**343**	*e*PKPab	**PKPab**	**04 33 36.2**	**+0.1**
	baz=19,slow=4.3								
WERN	**Wernitzgruen**	**158.48**	**343**	*e*PKPab	**PKPab**	**04 33 36.6**	**+0.3**
	baz=19,slow=4.3								
NKC	**Novy Kostel**	**158.51**	**342**	*e*PKPAB	**PKPab**	**04 33 36.2**	**-0.2**
NKC				*ep*PKP	**sPKPab**	**04 33 42.3**	**-1.2**
NKC	**Novy Kostel**	**158.51**	**342**	*e*PKP2	**PKPab**	**04 33 36.2**	**-0.2**
UBBA	**Unterbreizbach**	**158.52**	**347**	*e*PKPab	**PKPab**	**04 33 36.1**	**-0.2**
	baz=19,slow=4.3								
PBCC	**Pribram**	**158.57**	**339**	*e*PKPAB	**PKPab**	**04 33 37.5**	**+0.8**
MANZ	**Manzenberg**	**158.83**	**343**	*e*PKPab	**PKPab**	**04 33 38.1**	**+0.3**
	baz=19,slow=4.3								
ROTZ	**Rotzenmuhle**	**159.00**	**342**	*e*PKPab	**PKPab**	**04 33 38.9**	**+0.4**
	baz=19,slow=4.3								
KHC	**Kasperske Hory**	**159.19**	**339**	*e*PKPAB	**PKPab**	**04 33 39.3**	**-0.1**
KHC				*ep*PKP	**sPKPab**	**04 33 45.5**	**-1.0**
KHC				*ex*	x	04 33 52.0	
KHC	**Kasperske Hory**	**159.19**	**339**	*e*PKP2	**PKPab**	**04 33 39.3**	**-0.1**
VTS	**Vitosha**	**159.22**	**313**	PKP2	**PKPab**	**04 33 40.1**	**+0.1**
VTS	**Vitosha**	**159.22**	**313**	PKPab	**PKPab**	**04 33 40.1**	**+0.1**
AHRW	**Bad Neuenahr-A**	**159.26**	**352**	*e*PKPab	**PKPab**	**04 33 39.6**	**0.0**
	baz=19,slow=4.3								
GRF	**Grafenberg Arr**	**159.32**	**344**	*e*PKPab	**PKPab**	**04 33 40.4**	**+0.4**
	baz=19,slow=4.3								
TNS	**Taunus Mts**	**159.37**	**349**	*e*PKPab	**PKPab**	**04 33 40.2**	**0.0**
	baz=19,slow=4.3								
WET	**Wettzell**	**159.38**	**340**	*e*PKPab	**PKPab**	**04 33 40.8**	**+0.5**
	baz=19,slow=4.3								
GEC2	**GERESS Array S**	**159.40**	**339**	*e*PKPab	**PKPab**	**04 33 40.6**	**+0.1**
	baz=19,slow=4.3								
GERES	**GERESS Array B**	**159.40**	**339**	PKP	**PKPdf**	**04 33 04.0**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=318,slow=1.8,SNR=3.5								
GERES	**GERESS Array B**	**159.40**	**339**	PKIKP	**PKPdf**	**04 33 01.6**	**-1.2**
GERES						04 33 39.5	
GERES	**GERESS Array B**	**159.40**	**339**		**PKPdf**	**04 33 01.6**	**-1.2**
GERES				PKPab	**PKPab**	**04 33 39.5**	**-0.9**
CONA	**Conrad Observa**	**159.43**	**334**	*i* PKPab	**PKPab**	**04 33 41.0**	**+0.4**
	comp=Z,11nm,1.0s								
BMRD	**Maredsous**	**159.71**	**356**	PKPab	**PKPab**	**04 33 41.5**	**-0.1**
DOU	**Dourbes**	**159.92**	**356**	PKPdf	**PKPdf**	**04 33 03.3**	**+0.1**
DOU				PKPab	**PKPab**	**04 33 40.2**	**-2.3**
DOU				pPKPab	**sPKPab**	**04 33 50.3**	**+0.8**
MOA	**Molln**	**160.08**	**336**	*i* PKPab	**PKPab**	**04 33 43.5**	**+0.2**
	comp=Z,15nm,1.3s								
ARSA	**Arzberg**	**160.12**	**333**	*i* PKPab	**PKPab**	**04 33 44.3**	**+0.8**
	comp=Z,2.8nm,0.7s								
WLF	**Walferdange**	**160.23**	**353**	PKPdf	**PKPdf**	**04 33 04.2**	**+0.7**
WLF				PKPab	**PKPab**	**04 33 44.0**	**+0.1**
WLF	**Walferdange**	**160.23**	**353**	*e*PKPab	**PKPab**	**04 33 44.1**	**+0.3**
	baz=19,slow=4.3								
RJOB	**Jochberg**	**160.66**	**339**	*e*PKPab	**PKPab**	**04 33 45.5**	**-0.4**
	baz=19,slow=4.3								
FUR	**Furstenfeldbru**	**160.72**	**342**	*e*PKPab	**PKPab**	**04 33 46.4**	**+0.3**
	baz=19,slow=4.3								
SOKA	**Soboth**	**160.78**	**333**	*i* PKPab	**PKPab**	**04 33 47.2**	**+0.7**
	comp=Z,16nm,1.3s								
KBA	**Koelnbreinsper**	**161.06**	**337**	*i* PKPab	**PKPab**	**04 33 47.5**	**-0.3**
	comp=Z,4.7nm,0.6s								
OBKA	**Obir**	**161.11**	**334**	*i* PKPab	**PKPab**	**04 33 48.7**	**+0.7**
	comp=Z,21nm,1.5s								
BFO	**Black Forest**	**161.22**	**348**	*e*PKPab	**PKPab**	**04 33 47.8**	**-0.5**
	baz=19,slow=4.3								
MYKA	**Terra Mystica**	**161.34**	**336**	*i* PKPab	**PKPab**	**04 33 48.3**	**-0.6**
	comp=Z,8.8nm,0.8s								
WATA	**Walderalm**	**161.39**	**340**	*i* PKPab	**PKPab**	**04 33 48.2**	**-1.0**
	comp=Z,16nm,1.0s								
WTTA	**Wattenberg**	**161.44**	**340**	*i* PKPab	**PKPab**	**04 33 49.4**	**-0.1**
	comp=Z,9.3nm,0.5s,SNR=5.6								
RETA	**Reutte**	**161.48**	**342**	*i* PKPab	**PKPab**	**04 33 50.4**	**+0.9**
	comp=Z,18nm,1.4s								
MOTA	**Moosalm**	**161.52**	**341**	*i* PKPab	**PKPab**	**04 33 49.7**	**0.0**
	comp=Z,17nm,1.1s								
PRED	**Cave del Predi**	**161.53**	**335**	PKPab	**PKPab**	**04 33 48.5**	**-1.2**
SQTA	**Sankt Quirin**	**161.60**	**341**	*i* PKPab	**PKPab**	**04 33 49.8**	**-0.3**
	comp=Z,13nm,1.0s								
ABTA	**Abfaltersbach**	**161.63**	**338**	*i* PKPab	**PKPab**	**04 33 49.9**	**-0.2**
	comp=Z,25nm,1.2s								
DAVA	**Damuels**	**161.89**	**344**	*i* PKPab	**PKPab**	**04 33 51.0**	**-0.3**
	comp=Z,5.4nm,0.7s								
FETA	**Feichten**	**161.91**	**342**	*i* PKPab	**PKPab**	**04 33 51.6**	**+0.1**
	comp=Z,11nm,1.2s								
FUORN	**Ofenpass-Fuorn**	**162.41**	**342**	PKPab	**PKPab**	**04 33 53.5**	**-0.4**
TUE	**Stuetta**	**162.78**	**344**		**PKPab**	**04 33 53.7**	**-1.7**
TOA0	**Torodi Ar. Sit**	**163.16**	**177**	PKPab	**PKPab**	**04 33 56.4**	**-1.0**
TORD	**Torodi Ar. Bea**	**163.16**	**177**	PKP	**PKPdf**	**04 33 08.3**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=143,slow=0.4,SNR=5.7								
TORD	**Torodi Ar. Bea**	**163.16**	**177**		**PKPdf**	**04 33 06.1**	**-1.5**
TORD				PKPab	**PKPab**	**04 33 57.7**	**+0.3**
ESDC	**Sonseca Array**	**169.01**	**27**		**PKPdf**	**04 33 12.1**	**+0.5**

IDC 24 04:18:07.1±2.0, 10°68S×120°10E, h0km, mb3.8/3, mb1 3.9/5, mb1mx3.6/42, mbtmp3.9/5, ML3.4/2, Error ellipse: s-maj=65.5km s-min=29.8km az=42.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.54**	**83**	Pn	Pn	04 19 03.3	-0.1
	5.1nm,0.3s,baz=307,slow=4.4,SNR=3.9						
BATI				Sn	Sn	04 19 41.1	-4.9
	4.4nm,0.3s,baz=96,slow=23,SNR=1.6						
FITZ	**Fitzroy Crossi**	**9.12**	**145**	Pn	Pn	04 20 20.2	+0.1
	0.2nm,0.3s,baz=331,slow=15,SNR=14						
FITZ				Sn	Sn	04 21 52.9	-11
	0.4nm,0.3s,baz=352,slow=23,SNR=9.0						
SONM	**Songino Array**	**59.51**	**349**	P	P	04 28 12.7	+0.4
	0.7nm,0.8s,baz=176,slow=4.3,SNR=2.1						
MKAR	**Makanchi Array**	**66.43**	**333**	P	P	04 28 58.5	+0.3
	0.4nm,0.6s,baz=144,slow=5.7,SNR=3.7						
ZALV	**Zalesovo Beam**	**70.98**	**339**	P	P	04 29 25.7	-0.7
	1.0nm,0.4s,baz=145,slow=5.3,SNR=2.4						

IDC 24 04:18:20.4±2.1, 51°52N×178°46E, h0km, mb3.5/5, mb1 3.7/7, mb1mx3.5/56, mbtmp3.6/7, ML3.4/2, Error ellipse: s-maj=73.1km s-min=20.8km az=176.0
NEIC 24 04:18:34.7±1.0, 51°83N±0°09×178°37E±0°07, h117km±3km, Error ellipse: s-maj=12.6km s-min=6.1km az=188.0
AEIC 24 04:18:36±1.4, 51°84N±0°10×178°40E±0°08, h112km±4km, mb3.9/13(NEIC), Error ellipse: s-maj=13.9km s-min=7.2km az=185.0

ISC 24 04:18:34.5±0.8, 51°8N±0°1×178°35E±0°05, h115km±6km, n43, σ1°06/48, mb3.8/11, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.19**	**32**		**Pn**	**04 18 51.1**	**+0.5**
LSSA					**Sn**	**04 19 03.1**	**+0.4**
LSNW	**Little Sitkin**	**0.21**	**30**		**Pn**	**04 18 51.0**	**+0.4**
LSPA	**Little Sitkin**	**0.21**	**40**		**Pn**	**04 18 51.1**	**+0.5**
LSPA					**Sn**	**04 19 03.1**	**+0.3**
AMKA	**Amchitka**	**0.72**	**125**		**Pn**	**04 18 54.3**	**+0.7**
AMKA					**Sn**	**04 19 08.2**	**+0.3**
CETU	**Semis' Tuman**	**0.73**	**76**		**Pn**	**04 18 54.1**	**+0.4**
CESW	**Semis' Southwe**	**0.76**	**81**		**Pn**	**04 18 54.0**	**+0.1**
CESW					**Sn**	**04 19 07.9**	**-0.5**
CEAP	**Semis' Anvil P**	**0.79**	**74**		**Pn**	**04 18 54.5**	**+0.4**
CERAA	**Semis' Rag'd T**	**0.83**	**82**		**Pn**	**04 18 54.7**	**+0.2**
TANO	**Tanaga North**	**2.19**	**85**		**Pn**	**04 19 10.5**	**+0.4**
TASE	**Tanaga Southea**	**2.24**	**87**		**Pn**	**04 19 11.0**	**+0.2**
TAFP	**Tanaga Falls P**	**2.28**	**86**		**Pn**	**04 19 11.4**	**+0.2**
TAFP					**Sn**	**04 19 38.2**	**-1.2**
KIMD	**Kanaga Island**	**2.74**	**89**		**Pn**	**04 19 17.1**	**-0.1**
SMY	**Shemya**	**2.78**	**291**		**Pn**	**04 19 17.8**	**+0.1**
SMY					**Sn**	**04 19 50.7**	**-0.2**
KIRH	**Kanaga Island**	**2.83**	**86**		**Pn**	**04 19 18.4**	**+0.1**
ADK	**Adak**	**3.08**	**86**		**Pn**	**04 19 21.3**	**-0.3**
GSTR	**Great Sitkin T**	**3.47**	**83**	Pn	**Pn**	**04 19 26.8**	**-0.1**
NIKH	**Nikolski High**	**7.92**	**76**	Pn	**Pn**	**04 20 27.3**	**+0.5**
SPIA	**Saint Paul Isl**	**8.55**	**46**	Pn	**Pn**	**04 20 36.3**	**+1.1**
UNV	**Unalaska Valle**	**9.40**	**71**	Pn	**Pn**	**04 20 48.1**	**+1.4**
AKUT	**Akutan**	**9.86**	**70**	Pn	**Pn**	**04 20 54.3**	**+1.3**
PEA0B	**Petropavlovsk-**	**12.66**	**284**	Pn	**Pn**	**04 21 28.7**	**-1.6**
PETK	**Petropavlovsk-**	**12.66**	**284**	Pn	Pn	04 21 23.6	-6.7
	0.2nm,0.3s,baz=68,slow=29,SNR=1.7						
SVW2	**Sparrevohn**	**17.04**	**47**		**P**	**04 22 27.9**	**+2.5**
OHAK	**Old Harbor**	**17.27**	**61**	P	**P**	**04 22 25.0**	**-2.9**
KDAK	**Kodiak Island**	**17.71**	**59**	P	**P**	**04 22 30.0**	**-2.7**
	0.6nm,0.3s,baz=230,slow=4.4,SNR=13						
KDAK	**Kodiak Island**	**17.71**	**59**	P	**P**	**04 22 30.5**	**-2.2**
CNPM	**China Poot**	**18.68**	**54**	P	**P**	**04 22 43.7**	**+0.3**
DHY	**Denali Highway**	**21.34**	**45**	P	**P**	**04 23 11.5**	**-0.6**
DHY				IAmb	IAmb	04 23 25.2	
	comp=Z,6.5nm,1.5s						
ILAR	**Eielson Array**	**22.06**	**41**	P	**P**	**04 23 18.1**	**-1.4**
	comp=Z,0.3nm,0.5s,baz=256,slow=10,SNR=5.0						
RIDG	**Independent Ri**	**22.61**	**44**	P	**P**	**04 23 25.0**	**-0.3**
RIDG				IAmb	IAmb	04 23 36.0	
	comp=Z,11nm,1.5s						
TOLK	**Toolik Lake Re**	**22.77**	**30**	P	**P**	**04 23 26.6**	**-0.2**
TOLK				IAmb	IAmb	04 23 28.9	
	comp=Z,2.8nm,0.7s						
PRP	**Porcupine Dome**	**22.85**	**39**	P	**P**	**04 23 27.9**	**+0.2**
SCRK	**Sand Creek**	**23.04**	**44**	P	**P**	**04 23 28.3**	**-1.2**
BALM	**Baldy**	**23.28**	**51**	P	**P**	**04 23 31.4**	**-0.3**
BALM				IAmb	IAmb	04 23 49.2	
	comp=Z,9.6nm,1.3s						
BARN	**Barnard Glacie**	**23.62**	**51**	P	**P**	**04 23 35.6**	**+0.7**
BARN				IAmb	IAmb	04 23 45.6	
	comp=Z,10nm,1.5s						
BCAR	**Beaver Creek A**	**23.81**	**46**	P	**P**	**04 23 37.2**	**+0.7**
HYT	**Haines Junctio**	**25.63**	**52**	P	**P**	**04 23 52.5**	**-0.5**
HYT				IAmb	IAmb	04 24 05.1	
	comp=Z,2.4nm,1.2s						
KLR	**Kul'dur**	**29.36**	**284**	P	**P**	**04 24 25.8**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=89,slow=8.8,SNR=5.9						
SONM	**Songino Array**	**44.87**	**295**	P	**P**	**04 26 39.0**	**+1.9**
	comp=Z,0.5nm,0.5s,baz=59,slow=7.5,SNR=2.4						
SONM	**Songino Array**	**44.87**	**295**	P	**P**	**04 26 38.3**	**+1.1**
MKAR	**Makanchi Array**	**58.37**	**307**	P	**P**	**04 28 17.7**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=60,slow=7.7,SNR=4.6						
TX32	**Lajitas Array**	**60.34**	**79**	P	**P**	**04 28 32.0**	**+0.7**
TXAR	**Lajitas Array**	**60.34**	**79**	P	**P**	**04 28 30.8**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=302,slow=4.9,SNR=6.5						

IDC 24 04:22:59.9±3.2, 10°68S×120°33E, h45km±35km, mb3.7/3, mb1 3.8/8, mb1mx3.5/48, mbtmp3.8/8, ML3.6/5, Error ellipse: s-maj=30.5km s-min=24.2km az=56.0

ISC 24 04:22:58.3±1.0, 10°86S±0°09×120°3E±0°1, h35km, n10, σ3°05/14, mb4.1/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.18**	**358**	P	**Pn**	**04 23 18.5**	**+0.1**
	47µm4µm,0.7s						
WBSI	**Waikabubak, Su**	**1.53**	**322**	P	**Pn**	**04 23 23.9**	**+0.7**
	4µm226nm,0.8s						
BATI	**Baumata**	**3.33**	**79**	P	**Pn**	**04 23 50.1**	**+2.2**
	19nm,0.3s,baz=325,slow=0.6,SNR=5.5						
BATI				S	**Sn**	**04 24 27.7**	**+1.4**
	7.3nm,0.3s,baz=24,slow=22,SNR=1.3						
KAPI	**Kappang**	**5.83**	**354**	P	**Pn**	**04 24 21.2**	**-1.2**
	0.8nm,0.3s,baz=180,slow=17,SNR=1.8						
FITZ	**Fitzroy Crossi**	**8.84**	**145**	P	**Pn**	**04 25 07.0**	**+3.4**
	0.4nm,0.3s,baz=328,slow=13,SNR=7.4						
FITZ				S	**Sn**	**04 26 40.6**	**-1.4**
	0.6nm,0.3s,baz=98,slow=12,SNR=3.2						
WRA	**Warramunga Arr**	**16.23**	**125**	P	**Pn**	**04 26 44.4**	**+0.7**
	0.2nm,0.3s,baz=297,slow=13,SNR=3.5						
WRA				S	**Sn**	**04 29 37.0**	**-5.8**
	0.3nm,0.3s,baz=301,slow=25,SNR=7.3						
ASAR	**Alice Springs**	**18.14**	**136**	P	**P**	**04 27 11.2**	**+3.5**
	0.2nm,0.3s,baz=314,slow=12,SNR=6.4						
ASAR				S	**Sn**	**04 30 23.6**	**-5.7**
	0.0nm,0.3s,baz=312,slow=25,SNR=3.3						
SONM	**Songino Array**	**59.73**	**349**	P	**P**	**04 32 59.2**	**-0.4**
	0.8nm,0.5s,baz=167,slow=8.4,SNR=4.9						
MKAR	**Makanchi Array**	**66.70**	**333**	P	**P**	**04 33 45.1**	**-0.6**
	0.3nm,0.5s,baz=133,slow=8.1,SNR=1.8						
ZALV	**Zalesovo Beam**	**71.24**	**339**	P	**P**	**04 34 12.8**	**-0.9**
	1.6nm,0.6s,baz=144,slow=2.4,SNR=3.1						

NEIC 24 04:24:58.5±0.5, 52°1N±0°2×176°48E±0°09, h4km±9km, Error ellipse: s-maj=31.3km s-min=0.9km az=194.0

AEIC 24 04:24:59±1.0, 52°1N±0°2×176°53E±0°10, h6km±3km, ML2.9, Error ellipse: s-maj=29.5km s-min=4.2km az=195.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**1.24**	**97**		Pn	04 25 22.9	0.0
LSSA	**Little Sitkin**	**1.24**	**98**		Pg	04 25 22.7	0.0
LSSA					Sn	04 25 41.0	+1.0
LSPA	**Little Sitkin**	**1.27**	**97**		Pg	04 25 23.4	0.0
LSPA					Sn	04 25 41.3	+0.5
SMY	**Shemya**	**1.60**	**293**	P	Pn	04 25 27.4	-0.5
SMY	**Shemya**	**1.60**	**293**		Pn	04 25 27.4	-0.6
SMY	**Shemya**	**1.60**	**293**		Sn	04 25 48.3	-0.6
CETU	**Semis' Tuman**	**1.84**	**94**		Pn	04 25 31.5	+0.4
AMKA	**Amchitka**	**1.88**	**113**		Pn	04 25 31.8	+0.1
CESW	**Semis' Southwe**	**1.89**	**96**		Pn	04 25 31.9	+0.1
CERAA	**Semis' Rag'd T**	**1.96**	**95**		Pn	04 25 33.3	+0.5

MOS 24 04:25:37.4±1.0, 30°17S×177°40W, h20km, mb5.3/38, Error ellipse: s-maj=10.7km s-min=8.2km az=114.8
NEIC 24 04:25:39.4±1.8, 30°18S±0°06×177°4W±0°1, h28km±4km, mb5.0/89, Error ellipse: s-maj=15.9km s-min=8.2km az=71.0
BJI 24 04:25:39.1±0.0, 30°00S×176°95W, h35km, mb5.4/24, Ms5.5/1, Ms7 5.2/1
UNK 24 04:25:41.6, 30°20S×177°47W, h35km
IDC 24 04:25:41.9±1.5, 30°06S×177°39W, h43km±12km, mb4.7/25, mb1 4.8/25, mb1mx4.7/43, mbtmp4.9/25, MS5.1/15, Ms1 5.1/15, ms1mx4.8/42, Error ellipse: s-maj=13.6km s-min=12.6km az=71.0

ISC 24 04:25:39.8±0.3, 30°25S±0°04×177°31W±0°06, h33km, n469, σ1°62/463, mb5.0/83, MS5.2/20, 34C-16D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.13**	**332**	P	**Pn**	**04 25 57.6**	**-1.7**
	3µm,0.3s,baz=93,slow=9.3,SNR=30						
RAO				S	**Sn**	**04 26 11.3**	**-2.3**
	3µm,0.3s,baz=302,slow=22,SNR=7.1						
RAO				LR	LR	04 26 24.8	
	comp=Z,35µm,20.6s,baz=95,slow=46						
RAO	**Raoul Island**	**1.13**	**332**		**Pn**	**04 25 58.2**	**-1.0**
RAO	**Raoul Island**	**1.13**	**332**	Pn	**Pn**	**04 25 57.5**	**-1.8**
RAO				Sn	**Sn**	**04 26 12.6**	**-1.0**
WMGZ	**Waiomatatini S**	**8.34**	**204**	P	**Pn**	**04 27 37.0**	**-1.3**
WMGZ				S	**Sn**	**04 29 09.0**	**-2.3**
HAZ	**Te Kaha**	**8.52**	**207**	P	**Pn**	**04 27 38.2**	**-2.6**
HAZ				S	**Sn**	**04 29 16.0**	**+0.3**
PKGZ	**Pakihiroa**	**8.52**	**205**	P	**Pn**	**04 27 37.5**	**-3.5**
PUZ	**Puketiti**	**8.62**	**204**	P	Pn	04 27 31.2	-11
PUZ				S	**Sn**	**04 29 16.0**	**-2.2**
RUGZ	**Raukumara Rang**	**8.74**	**207**	P	**Pn**	**04 27 41.4**	**-2.6**
RUGZ				S	**Sn**	**04 29 19.7**	**-1.8**
TKGZ	**Te Karaka**	**9.09**	**205**	P	**Pn**	**04 27 45.8**	**-2.9**
TKGZ				S	**Sn**	**04 29 26.0**	**-3.9**
MWZ	**Matawai**	**9.12**	**207**	P	**Pn**	**04 27 46.6**	**-2.5**
MWZ				S	**Sn**	**04 29 26.0**	**-4.7**
URZ	**Urewera**	**9.22**	**209**	P	**Pn**	**04 27 48.1**	**-2.4**
URZ				S	**Sn**	**04 29 31.5**	**-1.5**
URZ	**Urewera**	**9.22**	**209**	Pn	**Pn**	**04 27 50.2**	**-0.2**
RIGZ	**Rimuhau**	**9.36**	**204**	P	**Pn**	**04 27 48.3**	**-4.1**
RIGZ				S	**Sn**	**04 29 33.2**	**-3.3**
PRGZ	**Paritu Road**	**9.51**	**203**	P	**Pn**	**04 27 50.2**	**-4.2**
PRGZ				S	**Sn**	**04 29 38.1**	**-2.1**
MUGZ	**Murupara**	**9.55**	**209**	P	**Pn**	**04 27 54.1**	**-0.9**
SNGZ	**Shannon Statio**	**9.58**	**206**	P	**Pn**	**04 27 53.3**	**-2.1**
MHGZ	**Mahia Peninsul**	**9.71**	**203**	P	**Pn**	**04 27 53.8**	**-3.3**
RAHZ	**Arahi**	**9.80**	**207**	P	**Pn**	**04 27 56.8**	**-1.6**
MTHZ	**Maungataniwha**	**9.84**	**208**	P	**Pn**	**04 27 57.2**	**-1.7**
WHHZ	**Waihua**	**9.88**	**206**	P	**Pn**	**04 28 00.7**	**+1.2**
TLZ	**Tolley Road**	**9.99**	**214**	P	Pn	04 28 10.1	+9.0
BKZ	**Black Stump Fm**	**10.25**	**208**	P	**Pn**	**04 28 05.4**	**+0.9**
BKZ	**Black Stump Fm**	**10.25**	**208**	Pn	**Pn**	**04 28 02.6**	**-2.0**
HIZ	**Hauiti**	**10.47**	**216**	P	Pn	04 28 14.5	+6.9
KWHZ	**Kaweka Forest**	**10.49**	**208**	P	**Pn**	**04 28 07.4**	**-0.6**
KAHZ	**Kahuranaki**	**10.64**	**205**	P	Pn	04 28 05.1	-4.9
BHHZ	**Black Hill Sta**	**10.70**	**209**	P	**Pn**	**04 28 08.8**	**-2.0**
KRHZ	**Kereru**	**10.70**	**207**	P	**Pn**	**04 28 07.4**	**-3.4**
FWVZ	**Far West T-bar**	**10.72**	**211**	P	**Pn**	**04 28 10.1**	**-1.2**
PNHZ	**Pukenui**	**11.00**	**207**	P	Pn	04 28 10.1	-4.8
TSZ	**Takapari Road**	**11.22**	**208**	P	**Pn**	**04 28 15.3**	**-2.6**
BFZ	**Birch Farm**	**11.65**	**205**	P	Pn	04 28 18.2	-5.5
MRZ	**Mangatainoka R**	**11.89**	**207**	P	**Pn**	**04 28 23.3**	**-3.6**
HOWZ	**Holdsworth Sta**	**12.11**	**207**	P	**Pn**	**04 28 25.5**	**-4.6**
OGWZ	**Otaki Gorge**	**12.18**	**208**	P	**Pn**	**04 28 28.2**	**-2.8**
MSWZ	**Moikau Station**	**12.66**	**206**	Pn	Pn	04 28 32.5	-5.0
DUWZ	**D'Urville Isla**	**12.71**	**212**	P	**Pn**	**04 28 37.0**	**-1.2**
BHW	**Baring Head**	**12.80**	**208**	Pn	**Pn**	**04 28 35.4**	**-4.1**
MSVF	**Nonsavu**	**13.16**	**340**	*de*P	**Pn**	**04 28 44.6**	**+0.1**
MSVF				pmax	pmax		
	comp=Z,29nm,1.2s						
MSVF	**Nonsavu**	**13.16**	**340**	Pn	**Pn**	**04 28 42.2**	**-2.4**
NNZ	**Nelson**	**13.29**	**212**	P	Pn	**04 28 48.8**	**+2.8**
NNZ	**Nelson**	**13.29**	**212**	Pn	Pn	**04 28 46.1**	**+0.1**
QRZ	**Quartz Range**	**13.39**	**215**	P	Pn	**04 28 49.2**	**+1.6**
QRZ	**Quartz Range**	**13.39**	**215**	Pn	Pn	**04 28 49.0**	**+1.5**
THZ	**Tophouse**	**13.94**	**212**	P	Pn	**04 28 53.2**	**-1.8**
KHZ	**Kahutara**	**14.19**	**209**	Pn	Pn	**04 28 56.8**	**-1.5**
GVZ	**Greta Valley S**	**14.86**	**209**	P	Pn	**04 29 04.8**	**-2.6**
LTZ	**Lake Taylor**	**15.03**	**211**	P	Pn	**04 29 07.9**	**-1.9**
LTZ	**Lake Taylor**	**15.03**	**211**		Pn	**04 29 07.1**	**-2.7**
LTZ				IAmb	IAmb	04 29 18.3	
	comp=Z,62nm,1.1s						
INZ	**Inchbonnie**	**15.37**	**213**	P	Pn	**04 29 11.4**	**-2.7**
OXZ	**Oxford**	**15.57**	**210**	P	Pn	**04 29 14.0**	**-2.8**
OXZ	**Oxford**	**15.57**	**210**		Pn	**04 29 14.0**	**-2.8**
OXZ				IAmb	IAmb	04 29 29.4	
	comp=Z,136nm,1.0s						
MQZ	**McQueen's Vall**	**15.62**	**208**	P	Pn	**04 29 14.5**	**-2.9**
RPZ	**Rata Peaks**	**16.32**	**211**	P	Pn	**04 29 23.0**	**-3.3**
	comp=Z,3.0nm,0.3s,baz=29,slow=3.5,SNR=12						
RPZ				S	Sn	04 32 07.9	-18
	comp=Z,1.9nm,0.3s,baz=258,slow=14,SNR=1.7						
RPZ	**Rata Peaks**	**16.32**	**211**	Pn	**Pn**	**04 29 23.2**	**-3.1**
RPZ				IAmb	IAmb	04 29 37.8	
	comp=Z,85nm,1.1s						
DZM	**Mont Dzumac**	**16.69**	**295**	P	**P**	**04 29 36.6**	**+3.2**
	comp=Z,0.

JAY Jayapura 48.36 297 P **P** **04 34 18.8 +0.1**
comp=Z,10nm,1.4s
GENI Genyem 48.73 296 P **P** **04 34 21.6 +0.1**
SMPI Sarmi 50.24 295 P **P** **04 34 33.1 +0.1**
comp=Z,13µmcomp=Z,29nm,0.4s
MTN Manton Dam 50.55 278 P **P** **04 34 35.2 -0.2**
MTN IAmb IAmb 04 34 36.9
comp=Z,20nm,1.1s
KNRA Kununurra 51.29 274 P **P** **04 34 40.5 -0.4**
KNRA IAmb IAmb 04 34 42.6
comp=Z,30nm,1.1s
WAKE Wake Island 51.61 341 P **P** **04 34 43.8 +0.7**
FITZ Fitzroy Crossi 52.96 269 P **P** **04 34 53.1 -0.2**
comp=Z,24nm,1.1s,baz=143,slow=9.1,SNR=11
FITZ LR LR 04 56 04.4
comp=Z,2µm,19.4s,baz=72,slow=34
CASY Casey 55.55 208 P **P** **04 35 12.2 +0.7**
SIJI Sorong 56.84 291 P **P** **04 35 21.4 -0.1**
comp=Z,35nm,0.9s,baz=113,slow=9.9,SNR=12
MORW Morawa 57.14 253 P **P** **04 35 22.3 -1.2**
BATI Baumata 58.22 277 LR LR 05 00 47.4
comp=Z,5µm,18.7s,baz=138,slow=36
QSPA South Pole Qui 59.86 180 P **P** **04 35 44.7 +2.7**
comp=Z,11nm,0.6s,baz=21,slow=3.2,SNR=38
QSPA South Pole Qui 59.86 180 P **P** **04 35 44.0 +2.0**
TNTI Ternate 60.95 290 P **P** **04 35 48.9 -1.2**
LUWI Luwuk 63.72 285 P **P** **04 36 08.2 -0.4**
KAPI Kappang 64.17 280 P **P** **04 36 11.2 -0.4**
comp=Z,2.2nm,0.3s,baz=83,slow=9.3,SNR=4.1
KAPI LR LR 05 04 46.1
comp=Z,1µm,19.0s,baz=267,slow=37
KAPI Kappang 64.17 280 P **P** **04 36 11.1 -0.4**
KAPI pmax pmax
comp=Z,8.0nm,1.1s
KAPI Kappang 64.17 280 P **P** **04 36 11.1 -0.4**
KAPI IAmb IAmb 04 36 16.3
comp=Z,8.3nm,1.1s
BNSI Bone 64.19 281 P **P** **04 36 13.8 +2.2**
SPSI Sidrap Palu 64.70 281 P **P** **04 36 15.3 +0.3**
comp=Z,14nm,1.2s
TTSI Tana Toraja 65.14 282 P **P** **04 36 19.2 +1.4**
MPSI Mapaga 66.88 285 P **P** **04 36 26.8 -2.2**
comp=Z,13nm,1.2s
MAW Mawson 72.65 200 P **P** **04 37 05.8 +2.1**
comp=Z,21nm,1.0s,baz=117,slow=6.7,SNR=14
MAW Mawson 72.65 200 P **P** **04 37 04.8 +1.1**
MAW pmax pmax
comp=Z,8.0nm,1.2s
MAW Mawson 72.65 200 P **P** **04 37 04.8 +1.1**
LEM Lembang 73.71 272 P **P** **04 37 11.8 +0.8**
comp=Z,23nm,0.5s,baz=58,slow=9.6,SNR=3.7
SBUM Sibu 74.47 282 P **P** **04 37 15.4 +0.1**
SBUM **sP** **04 37 27.8 +0.3**
SBUM Sibu 74.47 282 P **P** **04 37 17.0 +1.7**
KSM Kuching 75.58 280 P **P** **04 37 23.0 +1.3**
SYO Syowa Base 77.39 193‖ *eP* **P** **04 37 30.8 -0.2**
SYO Syowa Base 77.39 193‖ *i* pP pP 04 37 40.0 0.0
SNAA Sanae 78.28 178 P **P** **04 37 37.0 +1.0**
SNAA Sanae 78.28 178⇑ *eP* **P** **04 37 37.1 +1.0**
SNAA pmax pmax
comp=Z,13nm,1.2s
SNAA Sanae 78.28 178 P **P** **04 37 37.2 +1.2**
SNAA IAmb IAmb 04 37 48.5
comp=Z,12nm,1.1s
VNA3 Neumayer Olymp 78.41 176 P **P** **04 37 37.5 +0.8**
MJAR Matsushiro Arr 78.46 325 P **P** **04 37 37.0 -0.4**
comp=Z,5.4nm,0.9s,baz=166,slow=5.7,SNR=14
MJAR Matsushiro Arr 78.46 325 P **P** **04 37 37.4 0.0**
MJAR pmax pmax
comp=Z,6.0nm,1.2s
MJAR Matsushiro Arr 78.46 325 P **P** **04 37 37.4 0.0**
MAJO Matsushiro 78.47 325 *de* **P** **04 37 37.7 +0.3**
MAJO Matsushiro 78.47 325 P **P** **04 37 37.7 +0.3**
MAJO IAmb IAmb 04 37 38.6
comp=Z,16nm,1.1s
MAT Matsushiro 78.47 325 P **P** **04 37 37.7 +0.3**
VNA2 Neumayer--Watz 78.85 177 P **P** **04 37 40.4 +1.3**
baz=180,slow=5.2
NVL N'lazarevskaya 79.06 183 *eP* **P** **04 37 43.2 +3.0**
NVL pmax pmax
comp=Z,16nm,0.9s
VNA1 Neumayer--Stat 79.08 176 P **P** **04 37 41.4 +1.1**
JNU Nakatsue 79.85 318 P **P** **04 37 45.0 0.0**
comp=Z,7.5nm,1.1s,baz=6.6,slow=5.7,SNR=2.3
JNU Nakatsue 79.85 318 P **P** **04 37 43.7 -1.4**
JNU IAmb IAmb 04 37 52.0
comp=Z,11nm,1.1s
H03S2 Juan Fernandez 80.05 123 T T 06 07 18.3
baz=238,slow=74,SNR=6.5
H03S1 Juan Fernandez 80.06 123 T T 06 07 18.6
baz=238,slow=74,SNR=7.8
H03S3 Juan Fernandez 80.06 123 T T 06 07 23.0
baz=238,slow=74,SNR=6.0
ERM Erimo 80.62 331 *ce* **P** **04 37 50.6 +1.7**
ERM pmax pmax
comp=Z,42nm,1.3s
ADK Adak 81.78 0 P **P** **04 37 54.8 -0.1**
ADK pmax pmax
comp=Z,40nm,1.1s
ADK Adak 81.78 0 P **P** **04 37 54.8 -0.1**
ATKA Atka Island 82.15 2 P **P** **04 37 56.7 0.0**
PLCA Paso Flores 82.17 133 P **P** **04 37 60.0 +2.3**
comp=Z,8.8nm,1.2s,baz=243,slow=7.3,SNR=4.0
PLCA Paso Flores 82.17 133 P **P** **04 37 58.8 +1.2**
PLCA pmax pmax
comp=Z,10.0nm,1.2s
PLCA Paso Flores 82.17 133 P **P** **04 37 58.8 +1.2**
PLCA IAmb IAmb 04 38 15.9
comp=Z,10nm,1.1s
LC01 Cunco 82.31 131 P **P** **04 38 00.2 +1.9**
LC01 IAmb IAmb 04 38 19.0
comp=Z,10.0nm,1.0s
JKA Kamikawa-asahi 82.59 332 P **P** **04 38 00.1 +0.9**
ASAJ Asahikawa 82.59 332 P **P** **04 38 00.1 +0.8**
comp=Z,61nm,1.1s,baz=224,slow=11,SNR=18
ASAJ Asahikawa 82.59 332 P **P** **04 38 00.2 +0.9**
ASAJ pmax pmax
comp=Z,75nm,1.1s
SKR Severo-Kuril's 83.94 343‖ *eP* **P** **04 38 07.0 +0.9**
TJN Taejon 84.19 318 *de* **P** **04 38 08.6 +0.9**
KSRS Korea Array 84.62 319 P **P** **04 38 11.0 +1.1**
comp=Z,9.4nm,1.1s,baz=141,slow=5.5,SNR=31
KSAR Wonju Array Be 84.64 319 P **P** **04 38 10.2 +0.2**
KSAR Wonju Array Be 84.64 319 P **P** **04 38 10.2 +0.2**
YSS Yuzh-Sakhalins 84.88 334⇑ *eP* **P** **04 38 12.5 +1.6**
YSS *e* 04 38 18.6
YSS pmax pmax
comp=Z,100nm,1.3s
YSS Yuzh-Sakhalins 84.88 334 P **P** **04 38 11.9 +1.0**
BAR Barrett 84.93 48 P **P** **04 38 10.4 -1.2**
IPM Ipoh 85.06 278 P **P** **04 38 12.0 -0.7**
IPM IAmb IAmb 04 38 29.6
comp=Z,17nm,1.1s
MURC Murrieta 85.20 47 P **P** **04 38 15.0 +2.1**
baz=229
MONP2 Monument Peak 85.22 48 P **P** **04 38 15.4 +2.1**
baz=229
BFSC Mount Baldy Ra 85.33 46 P **P** **04 38 14.9 +1.2**
baz=228
PET Petropavlovsk 85.53 346 *eP* **P** **04 38 15.9 +1.9**
PET pmax pmax
comp=Z,29nm,1.0s
EDW2 Edwards Air Fo 85.55 45 P **P** **04 38 16.0 +1.3**
baz=228
SWSC Sam W. Stewart 85.66 48 P **P** **04 38 15.9 +0.7**
baz=230
PFO Pinyon Flats O 85.67 47 P **P** **04 38 17.1 +1.7**
baz=229
PFO Pinyon Flats O 85.67 47⇑ *eP* **P** **04 38 16.5 +1.1**
PFO pmax pmax
comp=Z,16nm,1.3s
XPFO Pion Flat 85.67 47 P **P** **04 38 16.0 +0.6**
XPFO IAmb IAmb 04 38 18.3
comp=Z,8.6nm,1.1s
ISA Isabella, Lake 85.78 44 P **P** **04 38 17.9 +2.1**
baz=228
ISA Isabella, Lake 85.78 44 P **P** **04 38 14.5 -1.3**
ISA pmax pmax
comp=Z,8.0nm,1.1s
ISA Isabella, Lake 85.78 44 P **P** **04 38 14.5 -1.3**
ISA IAmb IAmb 04 38 32.7
comp=Z,7.8nm,1.1s
KULM Kulim 85.79 279 P **P** **04 38 13.3 -3.0**
KULM IAmb IAmb 04 38 21.9
comp=Z,5.5nm,0.8s

BBRC Big Bear Solar 85.80 46 P **P** **04 38 18.0 +1.8**
baz=229
PEA0B Petropavlovsk- 85.82 345 P **P** **04 38 14.9 -0.6**
PEA0B pmax pmax
comp=Z,33nm,1.0s
PEA0B Petropavlovsk- 85.82 345 P **P** **04 38 14.9 -0.6**
PETK Petropavlovsk- 85.82 345 P **P** **04 38 15.9 +0.3**
comp=Z,28nm,1.1s,baz=128,slow=9.6,SNR=12
PETK Petropavlovsk- 85.82 345 P **P** **04 38 16.0 +0.5**
TEY Ternei 85.87 329⇑ *eP* **P** **04 38 17.0 +1.1**
TEY pmax pmax
comp=Z,10.0nm,1.3s
LRMC Laurel Mtn Rad 86.14 45 P **P** **04 38 20.2 +2.5**
baz=228
BELC Belle Mtn. Jos 86.21 47 P **P** **04 38 20.0 +1.9**
baz=230,SNR=6.6
CMB Columbia Colle 86.25 42 P **P** **04 38 18.4 +0.3**
CMB pmax pmax
comp=Z,7.0nm,1.0s
CMB Columbia Colle 86.25 42 P **P** **04 38 18.4 +0.3**
CMB IAmb IAmb 04 38 20.0
comp=Z,7.2nm,1.0s
BC3 Big Chuckawall 86.34 47 P **P** **04 38 20.9 +2.2**
baz=230
GLA Glamis 86.35 48 P **P** **04 38 21.0 +2.3**
baz=230
O02D Mt. Diablo Mer 86.41 39 P **P** **04 38 20.7 +1.8**
baz=225,SNR=13
CWC Cottonwood Cre 86.53 44 P **P** **04 38 21.1 +1.4**
baz=228
GSC Goldstone, Bar 86.56 45 P **P** **04 38 21.4 +1.6**
baz=229,SNR=6.5
GSC Goldstone, Bar 86.56 45 P **P** **04 38 20.7 +1.0**
GSC pmax pmax
comp=Z,9.0nm,1.0s
GSC Goldstone, Bar 86.56 45 P **P** **04 38 20.6 +1.0**
GSC IAmb IAmb 04 38 23.2
comp=Z,8.8nm,1.0s
MSHR Mys Shultsa 86.58 325⇓ *eP* **P** **04 38 20.1 +0.6**
MSHR pmax pmax
comp=Z,33nm,1.2s
NJ2 Nanjing 86.60 310 *eP* **P** **04 38 22.3 +2.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
MPMC Manual Prospec 86.64 45 P **P** **04 38 22.0 +1.8**
baz=228,SNR=7.6
ORV Oroville 86.68 40 P **P** **04 38 20.8 +0.7**
ORV pmax pmax
comp=Z,3.0nm,1.0s
ORV Oroville 86.68 40 P **P** **04 38 20.8 +0.7**
OMMB Old Mammoth Mi 86.77 43 P **P** **04 38 21.8 +0.8**
OMMB IAmb IAmb 04 38 24.6
comp=Z,7.0nm,1.2s
WDC Whiskeytown Da 86.83 39 IAmb IAmb 04 38 23.0
comp=Z,10nm,1.1s
IRM Iron Mountain 86.86 47 P **P** **04 38 22.9 +1.8**
baz=230,SNR=9.4
GMRC Granite Mounta 86.93 47 P **P** **04 38 23.0 +1.4**
baz=230
214A Organ Pipe Nat 86.98 50 P **P** **04 38 23.7 +1.9**
baz=231
N02D Trinity Center 87.02 38 P **P** **04 38 23.9 +2.1**
baz=225,SNR=10
O03E Paynes Creek 87.03 39 P **P** **04 38 22.4 +0.5**
baz=226
WAKR Walker 87.12 42 P **P** **04 38 21.7 -0.9**
WAKR IAmb IAmb 04 38 24.7
comp=Z,9.2nm,1.1s
M02C Callahan 87.23 38 P **P** **04 38 25.1 +2.2**
baz=225,SNR=8.2
SHOC Shoshone, Teco 87.27 45 P **P** **04 38 24.6 +1.5**
baz=229,SNR=6.2
FURC Furnace Creek, 87.28 45 P **P** **04 38 24.1 +1.1**
baz=229
GRAC Grapevine Rang 87.33 44 P **P** **04 38 24.9 +1.5**
baz=229,SNR=5.7
USA0B Ussuriysk Arra 87.37 326 P **P** **04 38 23.9 +0.6**
USA0B pmax pmax
comp=Z,20nm,1.1s
USA0B Ussuriysk Arra 87.37 326 P **P** **04 38 23.9 +0.6**
USA0B IAmb IAmb 04 38 27.4
comp=Z,20nm,1.1s
USRK Ussuriysk Ar. 87.37 326 P **P** **04 38 23.8 +0.5**
comp=Z,27nm,1.1s,baz=142,slow=3.1,SNR=41
PNTR Pine Nut 87.42 41 P **P** **04 38 25.0 +1.0**
PNTR IAmb IAmb 04 38 26.6
comp=Z,20nm,1.2s
YBH Yreka Blue Hor 87.55 38 P **P** **04 38 24.9 +0.5**
YBH pmax pmax
comp=Z,4.0nm,1.1s
YBH Yreka Blue Hor 87.55 38 P **P** **04 38 24.9 +0.5**
PDMCI Parker Dam,Lak 87.59 48 P **P** **04 38 26.4 +1.8**
baz=231
NVAR Mina Array Bea 87.73 42 P **P** **04 38 26.6 +1.1**
comp=Z,7.3nm,1.0s,baz=222,slow=7.8,SNR=21
NVAR Mina Array Bea 87.73 42 P **P** **04 38 26.1 +0.6**
K02D Willamette Mer 87.74 36 P **P** **04 38 27.2 +1.9**
baz=224
TPNV Topopah Spring 87.97 45 P **P** **04 38 28.0 +1.3**
baz=229,SNR=5.2
Y14A Wickenburg 88.09 49 P **P** **04 38 27.4 +0.3**
Y14A IAmb IAmb 04 38 29.6
comp=Z,9.3nm,1.1s
TYV Tymovskoe 88.16 336 *eP* **P** **04 38 28.4 +1.5**
KVN Kaiserville 88.26 42 P **P** **04 38 28.5 +0.6**
KVN pmax pmax
comp=Z,9.0nm,1.1s
KVN Kaiserville 88.26 42 P **P** **04 38 28.5 +0.6**
KVN IAmb IAmb 04 38 30.3
comp=Z,9.4nm,1.1s
SHPR Sheep Range 88.35 45 P **P** **04 38 29.6 +1.2**
TUC Tucson 88.56 51 P **P** **04 38 31.2 +1.8**
baz=233
TUC Tucson 88.56 51 P **P** **04 38 31.6 +2.2**
TUC pmax pmax
comp=Z,2.0nm,1.0s
TUC Tucson 88.56 51 P **P** **04 38 31.6 +2.2**
I03D Drain, OR 88.62 36 P **P** **04 38 31.6 +2.4**
baz=224
MDJ Mudanjiang 88.84 325 P **P** **04 38 31.6 +1.3**
MDJ pmax pmax
comp=Z,23nm,1.1s
MDJ Mudanjiang 88.84 325 P **P** **04 38 31.1 +0.8**
J04D Umpqua Nationa 88.93 37 P **P** **04 38 32.5 +1.5**
baz=225
MOD Modoc Plateau 88.96 39 P **P** **04 38 32.0 +0.8**
I04A Tendick Farm, 89.16 36 P **P** **04 38 34.1 +2.2**
baz=225
R11A Troy Canyon, C 89.28 44 P **P** **04 38 34.6 +1.9**
baz=230
J05D Fort Rock, OR 89.42 37 P **P** **04 38 35.0 +1.8**
baz=226
H04D Lebanon 89.51 36 P **P** **04 38 35.5 +2.1**
baz=225
G03D McMinnville, O 89.74 35 P **P** **04 38 36.3 +1.8**
baz=224
H04A Detroit Lake 89.91 36 P **P** **04 38 35.8 +0.5**
H04A IAmb IAmb 04 38 36.9
comp=Z,12nm,1.2s
U15A North Rim 90.09 47 IAmb IAmb 04 38 39.6
comp=Z,12nm,1.1s
I05D Terrebonne, OR 90.10 36 P **P** **04 38 38.2 +1.9**
baz=226
WUAZ Wupatki 90.12 48 P **P** **04 38 38.2 +1.5**
baz=232
WUAZ Wupatki 90.12 48 P **P** **04 38 38.0 +1.3**
WUAZ IAmb IAmb 04 38 40.7
comp=Z,14nm,1.1s
KNB Kanab 90.13 46 P **P** **04 38 38.1 +1.3**
KNB pmax pmax
comp=Z,10.0nm,1.1s
KNB Kanab 90.13 46 P **P** **04 38 38.1 +1.3**
CN2 Changchun 90.39 322 *eP* **P** **04 38 38.3 +0.8**
CN2 pmax pmax
comp=Z,40nm,1.2s
GRNR Gornyy 90.43 333⇑ *iP* **P** **04 38 39.5 +1.9**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=E,270nm,11.0s
GRNR MLR MLR
comp=N,540nm,13.0s
GRNR MLR MLR
comp=Z,750nm,12.0s
PSUT Pine Spring 90.44 45 P **P** **04 38 38.2 -0.1**
J08A Circle Bar Ran 90.94 39 P **P** **04 38 39.9 -0.4**
J08A IAmb IAmb 04 38 43.5
comp=Z,9.0nm,1.2s
W18A Petrified Fore 90.94 49 P **P** **04 38 43.4 +2.8**
baz=233
ELK Elko 91.03 42 P **P** **04 38 39.9 -1.1**
ELK pmax pmax
comp=Z,4.0nm,1.2s
ELK Elko 91.03 42 P **P** **04 38 39.9 -1.1**
E04D Cinebar 91.04 34 P **P** **04 38 42.9 +2.4**
baz=225
KLR Kul'dur 91.21 329 P **P** **04 38 41.5 +0.2**
comp=Z,19nm,1.1s,baz=118,slow=6.6,SNR=21
KLR Kul'dur 91.21 329⇑ *eP* **P** **04 38 42.6 +1.4**
KLR pmax pmax
comp=Z,21nm,1.1s
SLVN Son La 91.40 294 P **P** **04 38 42.4 -0.5**
SLVN IAmb IAmb 04 38 55.8
comp=Z,9.7nm,1.1s
LON Longmire 91.55 35 P **P** **04 38 43.1 +0.2**
LON pmax pmax
comp=Z,5.0nm,1.1s
LON Longmire 91.55 35 P **P** **04 38 43.1 +0.2**
LON IAmb IAmb 04 39 02.0
comp=Z,4.5nm,1.1s
TX31 Lajitas Ar. Si 91.81 57 P **P** **04 38 43.9 -0.8**
TXAR Lajitas Array 91.81 57 P **P** **04 38 46.2 +1.5**
comp=Z,1.5nm,1.0s,baz=216,slow=6.2,SNR=10
TXAR LR LR 05 12 45.1
comp=Z,1µm,20.9s,baz=0.0,slow=31
TXAR Lajitas Array 91.81 57 P **P** **04 38 44.9 +0.2**
TXAR Lajitas Array 91.81 57 P **P** **04 38 44.9 +0.2**
MNTX Cornudas Mount 91.91 54 P **P** **04 38 46.5 +1.5**
baz=235
MNTX Cornudas Mount 91.91 54 P **P** **04 38 44.7 -0.2**
ENH Enshi 92.01 304 P **P** **04 38 45.0 -0.5**
MFID Camas Ranch 92.42 40 P **P** **04 38 47.9 +0.7**
MFID IAmb IAmb 04 38 50.2
comp=Z,5.2nm,1.1s
TMUT Trail Mountain 92.53 45 P **P** **04 38 48.7 +0.7**
SRU San Rafael Swe 92.84 46 P **P** **04 38 49.3 0.0**
SRU pmax pmax
comp=Z,5.0nm,1.1s
SRU San Rafael Swe 92.84 46 P **P** **04 38 49.3 0.0**
MVCO Mesa Verde 92.99 48 P **P** **04 38 51.8 +1.6**
baz=234
ANMO Albuquerque 93.02 51 P **P** **04 38 51.6 +1.3**
baz=235
ANMO Albuquerque 93.02 51⇑ *eP* **P** **04 38 51.4 +1.1**
ANMO pmax pmax
comp=Z,3.0nm,1.2s
ANMO Albuquerque 93.02 51 P **P** **04 38 49.8 -0.4**
HVU Hansel Valley 93.12 43 P **P** **04 38 51.3 +0.8**
HVU pmax pmax
comp=Z,6.0nm,0.6s
HVU Hansel Valley 93.12 43 P **P** **04 38 51.3 +0.8**
BJT Baijiatuao 93.23 315 P **P** **04 38 51.2 +0.4**
BJT pmax pmax
comp=Z,8.0nm,1.0s
BJT Baijiatuao 93.23 315 P **P** **04 38 51.2 +0.4**
BJT IAmb IAmb 04 38 54.1
comp=Z,7.9nm,1.0s
HLID Hailey 93.31 40 P **P** **04 38 52.7 +1.4**
baz=230
F10A Beach Ranch, E 93.34 37 P **P** **04 38 50.8 -0.5**
F10A IAmb IAmb 04 38 52.9
comp=Z,7.9nm,1.1s
PV13 Radium Mtn., P 93.34 47 P **P** **04 38 50.3 -1.4**
CMAR Chiang Mai Arr 93.92 289 P **P** **04 38 55.1 +0.6**
comp=Z,2.0nm,0.7s,baz=148,slow=3.9,SNR=11
CMAR Chiang Mai Arr 93.92 289 P **P** **04 38 51.9 -2.6**
S22A 4UR Ranch, Cre 94.38 49 P **P** **04 38 58.7 +2.1**
baz=235
S22A 4UR Ranch, Cre 94.38 49 P **P** **04 38 56.8 +0.2**
XAN Xi'an 94.50 307 P **P** **04 38 58.3 +1.4**
XAN pP sP 04 39 08.3 -0.9
XAN pmax pmax
comp=Z,7.0nm,1.2s
AHID Auburn Hatcher 94.71 43 P **P** **04 38 57.5 -0.3**
AHID IAmb IAmb 04 39 00.3
comp=Z,7.7nm,1.1s
MCMT McKenzie Canyo 94.98 40 P **P** **04 38 59.1 0.0**
BW06 Boulder Array 95.62 43 P **P** **04 39 02.7 +0.6**
baz=234
PDAR Pinedale Array 95.62 43 P **P** **04 39 02.2 +0.2**
comp=Z,1.8nm,1.2s,baz=225,slow=1.0,SNR=6.1
PDAR Pinedale Array 95.62 43 P **P** **04 39 01.7 -0.4**
BOZ Bozeman (W) 96.13 40 P **P** **04 39 05.5 +1.3**
baz=232
ZEA Zeya 96.41 331 *eP* **P** **04 39 06.0 +1.0**
ZEA pmax pmax
comp=Z,23nm,1.0s
CD2 Chengdu 96.52 302 P **P** **04 39 08.3 +2.1**
HHC Hu-ho-hao-te 96.56 314 *eP* P 04 39 00.5 -5.7
HHC pmax pmax
comp=Z,5.0nm,1.3s
HHC pmax pmax
comp=Z,250nm,6.3s
HHC LR LR
comp=N,660nm,17.5s
HHC LR LR
comp=E,580nm,17.6s
HHC LR LR
comp=Z,650nm,18.8s
DLBC Dease Lake 96.75 23 LR LR 05 14 13.2
comp=Z,602nm,20.0s,baz=334,slow=30
ILAR Eielson Array 97.65 13 P Pdif 04 39 10.9 +0.5
comp=Z,0.9nm,0.9s,baz=224,slow=5.0,SNR=1.9
BILL Bilibino 98.76 354⇑ *eP* Pdif 04 39 15.9 +0.6
BILL *eS* **SKSac** **04 49 54.5 +4.3**
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,887nm,17.0s
YKA Yellowknife Ar 105.06 25 PKKP 04 55 43.2
comp=Z,0.7nm,0.9s,baz=64,slow=2.8,SNR=3.8
WMQ Urumqi 113.60 308 *eP* KP **PKiKP** **04 44 16.4 +1.8**
WMQ LR LR
comp=Z,460nm,20.7s
WMQ LR LR
comp=Z,340nm,16.3s
WMQ LR LR
comp=Z,600nm,19.9s
MKAR Makanchi Array 118.14 310 PKP **PKPdf** **04 44 22.2 -0.9**
comp=Z,1.4nm,0.9s,baz=107,slow=1.3,SNR=5.2
MKAR Makanchi Array 118.14 310 PKPdf **PKPdf** **04 44 22.5 -0.6**
KURK Kurchatov 121.38 314 PKIKP **PKPdf** **04 44 28.3 -0.9**
KURBB Kurchatov Arra 121.42 314 PKP **PKPdf** **04 44 28.3 -1.0**
comp=Z,0.7nm,0.3s,baz=107,slow=1.8,SNR=5.3
AAK Ala-Archa 122.53 304‖ *i* PKIKP **PKiKP** **04 44 32.7 +0.6**
BVAR Borovoye Array 126.72 316 PKP **PKPdf** **04 44 38.7 -0.7**
comp=Z,3.0nm,0.9s,baz=119,slow=1.9,SNR=6.2
BRVK Borovoye 126.78 316‖ *i* PKIKP **PKiKP** **04 44 40.0 0.0**
KIRV Kirov 137.54 326 *e* PKIKP **PKiKP** **04 45 02.7 +1.2**
H10N3 ASCENSION HYDR 138.68 154 T T 07 21 48.9
baz=203,slow=76,SNR=4.9
H10N1 ASCENSION HYDR 138.69 154 T T 07 21 44.3
baz=203,slow=76,SNR=5.7
H10N2 ASCENSION HYDR 138.70 154 T T 07 21 47.7
baz=203,slow=76,SNR=5.1
KLMR Klimovskoe 140.91 332 *e* PKIKP **PKPdf** **04 45 04.7 -0.9**
KLMR *e* 04 48 06.8
KLMR pmax pmax
comp=Z,14nm,1.1s
KLMR Klimovskoe 140.91 332 *e* PKPdf **PKPdf** **04 45 04.8 -0.9**
KLMR AMP 04 45 17.5
comp=Z,14nm,1.1s
KLMR *e* PP **PP** **04 48 06.8 +0.1**
VRH Novokhopyorsk 144.34 317 *e* PKIKP **PKPab** **04 45 09.8 -0.4**
VRH pmax pmax
comp=Z,10.0nm,0.4s
MOS Moscow 144.55 326 *e* PKIKP **PKPab** **04 45 10.0 -0.8**
MOS pmax pmax
comp=Z,54nm,0.7s
ZEI Tsey 144.93 302 *e* PKIKP **PKPab** **04 45 11.9 -1.0**
ZEI pmax pmax
comp=Z,81nm,1.4s
GOF Gofitskoye 145.19 307⇑ *e* PKIKP **PKPdf** **04 45 14.4 +0.6**
FINES FINESS Array B 145.21 340 PKPbc **PKPbc** **04 45 12.4 -0.5**
comp=Z,32nm,0.8s,baz=57,slow=3.2,SNR=52
FINES FINESS Array B 145.21 340 **PKPbc** **04 45 12.2 -0.7**
LPSR Galich'ya Gora 145.38 321 *e* PKIKP **PKPab** **04 45 13.9 -0.1**
LPSR pmax pmax
comp=Z,130nm,1.2s
AKH Akhalkalaki 145.39 300 ⇑P **PKPab** **04 45 16.0 +1.4**
AKH Akhalkalaki 145.39 300 PKIKP **PKPab** **04 45 14.9 +0.3**

AKH	Akhalkalaki	145.39	300			PKPab	04 45 14.9	+0.3
OBN	Obninsk	145.39	326	PKPbc		PKPbc	04 45 13.4	-0.2
	comp=Z,8.6nm,0.4s,baz=72,slow=2.1,SNR=27							
OBN	Obninsk	145.39	326	*c*	iPKIKP	PKPdf	04 45 13.7	0.0
OBN				*e*			04 48 34.0	
OBN					pmax	pmax		
	comp=Z,176nm,1.4s							
OBN					MLR	MLR		
	comp=Z,457nm,18.0s							
OBN	Obninsk	145.39	326			PKPbc	04 45 13.6	-0.1
KBZ	Khabaz	145.52	304		PKPbc	PKPdf	04 45 14.0	-0.3
	comp=Z,27nm,1.1s,baz=75,slow=1.9,SNR=29							
KBZ	Khabaz	145.52	304	*ce*	PKIKP	PKPab	04 45 15.0	+0.2
KIV	Kislovodsk	145.64	305	⇑	P	PKPab	04 45 16.6	+1.2
KIV	Kislovodsk	145.64	305	*e*	PKIKP	PKPab	04 45 15.4	0.0
KIV					pmax	pmax		
	comp=Z,94nm,1.0s							
NEY	Neytrino	145.72	303	*i*	PKIKP	PKPab	04 45 16.7	+0.9
VSR	Storozhevoye	145.82	318	*e*	PKP2	PKPbc	04 45 14.9	-0.3
VSR					pmax	pmax		
	comp=Z,110nm,1.2s							
VORD	Divnogorie	145.85	318	*e*	PKP2	PKPbc	04 45 15.5	+0.2
VORD					pmax	pmax		
	comp=Z,70nm,1.0s							
BCA	Borcka	146.78	300	⇓	P	PKPab	04 45 19.9	+0.2
VSU	Vasula	147.33	337	*e*	P	PKPdf	04 45 12.9	-4.0
VSU	Vasula	147.33	337	*ce*	PKP2	PKPbc	04 45 19.4	+0.1
SOC	Sochi	147.82	305	*e*	PKP2	PKPbc	04 45 20.4	-0.8
SOC					pmax	pmax		
	comp=Z,38nm,1.4s							
KTUT	Trabzon	148.23	300	⇑	P	PKiKP	04 45 24.1	+0.1
NC303	NORSAR Array S	148.49	352			PKPbc	04 45 21.8	-0.6
NB2	NORSAR Subarra1	148.69	352		PKP	PKPbc	04 45 22.7	-0.3
	comp=Z,52nm,1.7s,baz=17,slow=2.6							
NB2	NORSAR Subarra1	148.69	352		PKP	PKPbc	04 45 22.7	-0.3
	baz=17,slow=2.6							
NOA	NORSAR Array B	148.69	352		PKPbc	PKPbc	04 45 22.1	-0.9
	comp=Z,14nm,1.1s,baz=14,slow=4.3,SNR=14							
ANN	Anapa	149.12	308	*i*	PKP2	PKPbc	04 45 24.6	+0.1
ANN					pmax	pmax		
	comp=Z,58nm,1.1s							
HFS	Hagfors	149.22	349		PKPbc	PKPbc	04 45 22.6	-1.6
	comp=Z,6.7nm,0.8s,baz=169,slow=1.5,SNR=7.6							
IZAR	Zarasai	149.53	334	*e*	P	PKiKP	04 45 26.2	-0.1
ISAL	Salakas	149.71	333	*e*	P	PKiKP	04 45 26.8	+0.2
MIGM	Minsk	149.75	330	*e*		PKPbc	04 45 26.0	+0.2
MNK	Minsk	149.75	330	*e*	PKP2	PKPbc	04 45 26.0	+0.2
IIGN	Ignalina	149.84	333	*e*	P	PKiKP	04 45 26.9	0.0
NACGM	Naroch	149.93	332	*e*		PKPbc	04 45 26.0	-0.2
KONO	Kongsberg	150.23	353			PKPbc	04 45 26.4	-0.4
PABE	Paberze	150.57	335	*e*	P	PKiKP	04 45 28.4	0.0
GAZ	Gaziantep	150.58	293			PKiKP	04 45 29.2	0.0
PBUR	Paburge	150.87	338	*e*	P	PKiKP	04 45 29.8	+0.8
AKASG	Malin Array Be	151.54	323		PKPbc	PKPbc	04 45 29.4	-0.7
	comp=Z,20nm,1.1s,baz=48,slow=2.6,SNR=23							
AKASG	Malin Array Be	151.54	323			PKPbc	04 45 29.2	-0.9
AKBB	Malin Array Si	151.54	323		PKIKP	PKiKP	04 45 30.3	-0.2
AKBB	Malin Array Si	151.54	323			PKiKP	04 45 30.3	-0.2
SHBL	Chebaa	151.80	285	*e*	P	PKiKP	04 45 33.0	+1.1
BHL	Bhannes	151.90	286	*e*	P	PKiKP	04 45 32.6	+0.7
SUW	Suwalki	152.01	334	*e*	PKiKP	PKiKP	04 45 31.9	+0.6
SUW	Suwalki	152.01	334		PKIKP	PKiKP	04 45 31.2	-0.2
SUW	Suwalki	152.01	334			PKiKP	04 45 31.2	-0.2
BRTR	Keskin Array B	153.05	299		PKPbc	PKPbc	04 45 32.9	-1.2
	comp=Z,3.6nm,0.9s,baz=137,slow=2.7,SNR=17							
BRTR	Keskin Array B	153.05	299			PKPbc	04 45 33.8	-0.3
ANTO	Ankara	153.66	300		PKIKP	PKiKP	04 45 36.1	+0.7
ANTO	Ankara	153.66	300			PKiKP	04 45 36.1	+0.7
CSS	Mathiatis	153.82	288			PKPbc	04 45 35.7	0.0
EKA	Eskdalemuir Ar	154.59	8		PKPab	PKPab	04 45 50.7	-0.6
	comp=Z,1.3nm,0.8s,baz=343,slow=2.6,SNR=4.3							
LVV	L'vov	154.68	327	*e*	PKP2	PKPab	04 45 51.8	-0.2
TOPG	Topolog	155.08	313	⇑	P	PKPab	04 45 50.9	-3.0
CFR	Carcaliu	155.09	314	⇑	P	PKPab	04 45 46.0	-7.9
TIRR	Tirgusor	155.25	312	⇑	P	PKPab	04 45 55.8	+1.2
TIRR	Tirgusor	155.25	312	⇑	PKP2	PKPab	04 45 55.8	+1.2
TESR	Tescani	155.32	318	⇑	P	PKPab	04 45 52.4	-2.4
KWP	Kalwaria Pacla	155.44	328	*e*	PKPab	PKPab	04 45 55.6	+0.4
BURAR	Bucovina Array	155.49	321	⇑	P	PKPab	04 45 51.7	-4.0
BURAR	Bucovina Array	155.49	321	⇑	PKP2	PKPab	04 45 51.7	-4.0
VRI	Vrincioaia	155.61	316	⇑	P	PKPab	04 46 00.5	+4.3
VRI	Vrincioaia	155.61	316	⇑	PKP2	PKPab	04 46 00.5	+4.3
PLOR	Plostina	155.67	316	⇑	P	PKPab	04 45 57.7	+1.3
PLOR	Plostina	155.67	316	⇑	PKP2	PKPab	04 45 57.7	+1.3
OZUR		156.05	318	⇓	P	PKPab	04 46 00.5	+2.5
OJC	Ojcow	156.27	332	*e*	PKPab	PKPab	04 45 59.6	+0.9
MLR	Muntele Rosu	156.28	316	⇑	P	PKPab	04 45 58.5	-0.6
MLR	Muntele Rosu	156.28	316	⇑	PKP2	PKPab	04 45 58.5	-0.6
UZH	Uzhgorod	156.33	326	*e*	PKIKP	PKPdf	04 45 38.8	+8.1
UZH				*i*			04 45 56.3	
RUE	Ruedersdorf	156.34	343	*e*		PKPdf	04 45 23.1	-7.5
PRD	Provadia	156.45	310	*e*	P	PKPab	04 46 01.2	+1.4
KSP	Ksiaz	157.05	338	*e*	PKPab	PKPab	04 46 03.5	+1.4
ARR	Arges	157.12	317	⇓	P	PKPab	04 46 04.7	+2.0
KECS	Kecovo	157.28	328	*e*	PKP2	PKPab	04 46 04.3	+1.2
KECS	Kecovo	157.28	328	*e*	PKP	PKPab	04 46 04.3	+1.2
OSTC	Ostas	157.32	337	*e*	PKP	PKPab	04 46 04.9	+1.6
OSTC				*ex*		x	04 46 09.2	
CHVC	Chvalec	157.35	338	*e*	PKPAB	PKPab	04 46 04.8	+1.4
CHVC				*ex*		x	04 46 12.3	
SZH	Strazhica	157.39	311	*e*	P	PKPab	04 46 04.7	+0.9
DPC	Dobruska-Polom	157.46	337	*e*	PKPAB	PKPab	04 46 05.4	+1.5
DPC				*ex*		x	04 46 17.6	
DPC	Dobruska-Polom	157.46	337	*e*	PKP2	PKPab	04 46 05.4	+1.5
MORC	Moravsky Berou	157.50	334	*e*	PKP	PKPab	04 46 04.7	+0.6
CLL	Collm	157.61	343	*i*	PKPab	PKPab	04 46 04.7	+0.3
	comp=Z,26nm,1.6s							
CLL				*i*	sPKPab	sPKPab	04 46 16.2	-0.5
CLL	Collm	157.61	343	*i*	PKP2	PKPab	04 46 04.7	+0.3
CLL					pmax	pmax		
	comp=Z,26nm,1.6s							
BRG	Berggiesshubel	157.75	341	*e*	PKP	PKPab	04 46 06.1	+1.1
	comp=Z,38nm,1.8s							
BRG	Berggiesshubel	157.75	341	*e*	PKP2	PKPab	04 46 06.1	+1.1
BRG					pmax	pmax		
	comp=Z,38nm,1.8s							
PSZ	Piszkesteto	157.96	328	⇑	P	PKPab	04 46 07.8	+1.5
PSZ	Piszkesteto	157.96	328		PKP2	PKPab	04 46 06.9	+0.7
PSZ	Piszkesteto	157.96	328		PKPab	PKPab	04 46 06.9	+0.7
VYHS	Vyhne	158.00	330	*e*	PKP2	PKPab	04 46 07.2	+0.9
VYHS	Vyhne	158.00	330	*e*	PKP	PKPab	04 46 07.2	+0.9
PLVB	Pleven	158.17	313	⇓	P	PKPab	04 46 08.3	+1.1
JAVC	Velka Javorina	158.19	333	*e*	PKP	PKPab	04 46 08.9	+1.7
SIRR	Siria	158.24	323	⇓	P	PKPab	04 46 07.8	+0.4
VRAC	Vranov	158.24	335	*e*	PKP	PKPab	04 46 08.4	+1.1
GOPC	GO Pecny, Ondr	158.34	338	*e*	PKPAB	PKPab	04 46 09.4	+1.7
GOPC				*ex*		x	04 46 21.0	
GOPC	GO Pecny, Ondr	158.34	338	*e*	PKP2	PKPab	04 46 09.4	+1.7
PRU	Pruhonice	158.35	339	*e*	PKPAB	PKPab	04 46 09.5	+1.8
PRU				*ex*		x	04 46 17.6	
PRU	Pruhonice	158.35	339	*e*	PKP2	PKPab	04 46 09.5	+1.8
KRUC	Moravsky	158.52	335	*e*	PKP	PKPab	04 46 09.2	+0.7
MODS	Modra-Piesok	158.74	332	*e*	PKP2	PKPab	04 46 10.0	+0.5
MODS	Modra-Piesok	158.74	332	*e*	PKP	PKPab	04 46 09.9	+0.5
MDVR	Moldovita	159.14	319	⇑	P	PKPab	04 46 10.9	-0.5
KHC	Kasperske Hory	159.41	339	*e*	PKPAB	PKPab	04 46 12.8	+0.4
KHC				*ep*	PKP	pPKPab	04 46 19.2	-2.4
KHC	Kasperske Hory	159.41	339	*e*	PKP2	PKPab	04 46 12.8	+0.4
KHC	Kasperske Hory	159.41	339			PKPab	04 46 12.9	+0.5
VTS	Vitosha	159.43	312	⇓	P	PKPab	04 46 14.6	+1.7
VTS	Vitosha	159.43	312	*e*	P	PKPab	04 46 13.9	+1.0
VTS	Vitosha	159.43	312		PKP2	PKPab	04 46 13.4	+0.5
VTS	Vitosha	159.43	312		PKPab	PKPab	04 46 13.4	+0.5
MMB	Musomiste	159.60	309	*e*	P	PKPab	04 46 13.9	+0.3
GERES	GERESS Array B	159.62	339		PKPab	PKPab	04 46 12.6	-0.8
	comp=Z,3.8nm,1.0s,baz=67,slow=4.5,SNR=12							
GERES	GERESS Array B	159.62	339		PKPab	PKPab	04 46 12.9	-0.5
CONA	Conrad Observa	159.65	334	*i*	PKPab	PKPab	04 46 15.0	+1.4
	comp=Z,25nm,1.3s,SNR=11							
BCLA	Clavier	159.76	355		PKPdf	PKPdf	04 45 36.0	+1.1
BCLA					PKPab	PKPab	04 46 14.0	+0.3
BGES	Gesves	159.81	356		PKPab	PKPab	04 46 14.1	+0.2
KKB	Krupnik	159.90	311	*e*	P	PKPab	04 46 15.2	+0.4
BMRD	Maredsous	159.91	356		PKPab	PKPab	04 46 15.0	+0.6
DOU	Dourbes	160.13	356		PKPdf	PKPdf	04 45 34.7	-0.6
DOU					PKPab	PKPab	04 46 14.2	-1.2
MOA	Molln	160.30	336	*i*	PKPab	PKPab	04 46 18.2	+1.9
	comp=Z,19nm,1.6s,SNR=5.3							
ARSA	Arzberg	160.34	333	*i*	PKPab	PKPab	04 46 18.7	+2.2
	comp=Z,8.7nm,1.2s							
WLF	Walferdange	160.44	353		PKPab	PKPab	04 46 17.0	+0.3
VAY	Valandovo	160.50	310	*i*	P	PKPab	04 46 17.7	+0.3
STIP	Stip	160.57	311	*i*	P	PKPab	04 46 17.3	-0.4
SKO	Skopje	160.91	313	*i*	P	PKPab	04 46 20.6	+1.4
SOKA	Soboth	161.00	333	*i*	PKPab	PKPab	04 46 20.7	+1.2
	comp=Z,16nm,1.4s							
KBA	Koelnbreinsper	161.28	337	*i*	PKPab	PKPab	04 46 21.2	+0.5
	comp=Z,15nm,1.9s							
OBKA	Obir	161.33	334	*i*	PKPab	PKPab	04 46 21.7	+0.8
	comp=Z,12nm,1.3s							
MYKA	Terra Mystica	161.57	336	*i*	PKPab	PKPab	04 46 22.4	+0.5
	comp=Z,15nm,1.5s							
WATA	Walderalm	161.61	341	*i*	PKPab	PKPab	04 46 24.3	+2.1
	comp=Z,23nm,1.3s							
WTTA	Wattenberg	161.66	340	*i*	PKPab	PKPab	04 46 23.9	+1.5
	comp=Z,28nm,1.4s,SNR=6.1							
RETA	Reutte	161.70	342	*i*	PKPab	PKPab	04 46 24.1	+1.7
	comp=Z,10.0nm,1.3s							
MOTA	Moosalm	161.74	341	*i*	PKPab	PKPab	04 46 25.2	+2.5
	comp=Z,23nm,1.2s,SNR=6.7							
OHR	Ohrid	161.77	311	*i*	P	PKPab	04 46 23.2	+0.2
SQTA	Sankt Quirin	161.82	341	*i*	PKPab	PKPab	04 46 25.0	+1.9
	comp=Z,24nm,1.5s							
ABTA	Abfaltersbach	161.85	338	*i*	PKPab	PKPab	04 46 23.8	+0.6
	comp=Z,19nm,1.2s							
PDG	Podgorica	161.99	317	⇑	P	PKPab	04 46 23.7	-0.1
PDG	Podgorica	161.99	317		PKPab	PKPab	04 46 24.2	+0.4
DAVA	Damuels	162.11	344	*i*	PKPab	PKPab	04 46 24.9	+0.6
	comp=Z,11nm,1.4s							
FETA	Feichten	162.14	342	*i*	PKPab	PKPab	04 46 26.9	+2.4
	comp=Z,15nm,1.4s							
TORD	Torodi Ar. Bea	162.95	177		PKP	PKPdf	04 45 39.5	+0.1
	comp=Z,4.9nm,1.1s,baz=345,slow=1.0,SNR=11							
TORD					PKPab	PKPab	04 46 28.4	-0.1
	comp=Z,3.2nm,1.1s,baz=179,slow=3.2,SNR=7.9							
TORD	Torodi Ar. Bea	162.95	177			PKPdf	04 45 38.8	-0.6
TORD					PKPab	PKPab	04 46 28.1	-0.4
TIP	Timpagrande	165.41	311	⇓	P	PKPab	04 46 40.5	+1.3
ESDC	Sonseca Array	169.14	28		PKP	PKPdf	04 45 44.5	+0.9
	comp=Z,1.3nm,1.2s,baz=343,slow=2.7,SNR=5.4							
ESDC					PKPab	PKPab	04 46 55.8	+0.3
	comp=Z,1.5nm,1.1s,baz=310,slow=4.9,SNR=2.3							
ESDC	Sonseca Array	169.14	28			PKPdf	04 45 44.8	+1.2
ESDC						PKPab	04 46 55.3	-0.1

NEIC ***24*** *04:31:08.9±1.8,29.9°S±0.1°×177.3°W±0.2,h17km±6km, mb4.4/9,Error ellipse: s-maj=25.8km s-min=10.0km az=59.0*

IDC ***24*** *04:31:13.0±4.1,29.81°S×177.40°W,h40km±36km,mb3.9/6, mb1 4.1/6,mb1mx3.8/39,mbtmp4.1/6,Error ellipse: s-maj=38.4km s-min=31.5km az=1.0*

ISC 24 04:31:12.0±1.0,29.94°S±0.09°×177.3°W±0.2,h35km,n21, σ1°**41**/23,**mb4.3**/10,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.85	323	Pn	Pn	04 31 26.4	-1.0
	1µm,0.3s,baz=99,slow=6.4,SNR=35						
RAO				Sn	Sn	04 31 37.4	-1.3
	1µm,0.3s,baz=96,slow=22,SNR=13						
RAO	Raoul Island	0.85	323		Pn	04 31 26.4	-1.0
RAO				Sn	Sn	04 31 38.8	+0.1
KHZ	Kahutara	14.45	208	Pn	Pn	04 34 33.4	-0.5
DZM	Mont Dzumac	16.54	294	Pn	P	04 35 08.6	+4.9
	0.2nm,0.3s,baz=230,slow=19,SNR=3.0						
CTA	Charters Tower	34.30	278	P	P	04 37 54.7	-0.5
	4.9nm,0.7s,baz=15,slow=20,SNR=1.2						
CTAO	Charters Tower	34.30	278	P	P	04 37 54.9	-0.3
STKA	Stephens Creek	35.14	256	P	P	04 38 02.8	+0.4
	1.8nm,0.5s,baz=110,slow=15,SNR=2.1						
ASAR	Alice Springs	43.71	266	P	P	04 39 14.4	+0.5
	1.0nm,0.7s,baz=104,slow=7.4,SNR=5.2						
ASAR	Alice Springs	43.71	266	P	P	04 39 12.5	-1.4
WR0	Warramunga Arr	44.48	271	P	P	04 39 19.9	-0.2
WR0				IAmb	IAmb	04 39 37.9	
	comp=Z,6.4nm,0.9s						
WB2	Warramunga Arr	44.65	271	P	P	04 39 21.7	+0.3
WB2				IAmb	IAmb	04 39 34.0	
	comp=Z,5.1nm,0.7s						
WRA	Warramunga Arr	44.66	271	P	P	04 39 21.6	+0.1
	comp=Z,1.5nm,0.5s,baz=111,slow=7.9,SNR=5.0						
WB0	Warramunga Arr	44.68	272	P	P	04 39 21.4	-0.3
WB0				IAmb	IAmb	04 39 28.3	
	comp=Z,7.7nm,1.1s						
VNDA	Vanda	48.61	186	P	P	04 39 51.0	-0.7
VNDA				IAmb	IAmb	04 40 01.1	
	comp=Z,1.6nm,0.9s						
FITZ	Fitzroy Crossi	52.94	269	P	P	04 40 23.7	-1.4
CASY	Casey	55.81	208	P	P	04 40 44.3	-1.0
QSPA	South Pole Qui	60.17	180	P	P	04 41 17.2	+1.2
	comp=Z,1.9nm,0.9s,baz=113,slow=4.7,SNR=2.8						
QSPA	South Pole Qui	60.17	180	P	P	04 41 16.6	+0.5
QSPA				IAmb	IAmb	04 41 31.4	
	comp=Z,2.7nm,0.8s						
TXAR	Lajitas Array	91.66	57	P	P	04 44 16.8	+1.0
	comp=Z,0.5nm,0.7s,baz=281,slow=1.5,SNR=1.4						
FINES	FINESS Array B	144.91	341	PKP	PKPab	04 50 43.0	-0.8
	comp=Z,1.8nm,0.5s,baz=62,slow=4.3,SNR=8.4						
FINES	FINESS Array B	144.91	341		PKPab	04 50 42.6	-1.2

DDA ***24*** *04:31:37.8,37.05N×27.47E,h7km,ML1.5*

ISK 24 04:31:36.8,37.06N×27.43E,h18km,ML1.8/5,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BDRM	Kayabasi	0.01	49	*i* P	Pg	04 31 39.4	-0.5
BDRM				*i* S	Sg	04 31 40.5	-1.6
BDRM				IAML		04 31 41.0	
	comp=E,378nm,0.2s						
BDRM				IAML		04 31 41.0	
	comp=N,491nm,0.2s						
BODT	Bodrum	0.10	274	PG	Pg	04 31 40.7	+0.3
BODT				SG	Sg	04 31 43.5	+0.6
YKAV	Yalikavak-Bodr	0.14	300	PG	Pg	04 31 41.1	+0.2
YKAV				SG	Sg	04 31 44.3	+0.7
DAT	Datca	0.35	160	PG	Pb	04 31 44.4	-0.1
DAT	Datca	0.35	160	*i* P	Pg	04 31 43.5	-0.7
DAT				*i* S	Sb	04 31 50.1	+0.3
GCAM	G?zelcaml?	0.66	346	PG	Pg	04 31 50.5	+0.6
GCAM	G?zelcaml?	0.66	346	*i* P	Pn	04 31 50.9	-0.4
GCAM				*i* S	Sn	04 32 01.2	-0.1
GCAM				IAML		04 32 03.0	
	comp=N,16nm,0.3s						
GCAM				IAML		04 32 03.0	
	comp=E,26nm,0.6s						
TURN	Turunc	0.96	101	PG	Pb	04 31 51.1	-3.8
TURN	Turunc	0.96	101	*i* P	Pb	04 31 51.5	-3.3
TURN				*i* S	Sb	04 32 00.8	-6.4
TURN				IAML		04 32 03.0	
	comp=N,25nm,0.3s						
TURN				IAML		04 32 03.0	
	comp=E,51nm,0.5s						

NEIC ***24*** *04:32:25.4±0.6,51.73N±0.08×178.6E±0.1,h89km±5km, Error ellipse: s-maj=13.6km s-min=6.8km az=214.0*

AEIC 24 04:32:26±1.2,51.77N±0.08×178.63E±0.10,h85km±4km, ML3.6,mb4.0/4(NEIC)**,Error ellipse: s-maj=12.4km s-min=7.4km az=206.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSPA	Little Sitkin	0.20	350		Pn	04 32 38.6	+0.2
LSPA					Sn	04 32 48.1	+0.5
LSSA	Little Sitkin	0.20	339		Pn	04 32 38.4	0.0
LSSA					Sn	04 32 47.8	+0.2
LSNW	Little Sitkin	0.22	342		Pn	04 32 38.2	-0.2
AMKA	Amchitka	0.57	132		Pn	04 32 40.8	0.0
AMKA					Sn	04 32 51.8	0.0
CETU	Semis' Tuman	0.57	69		Pn	04 32 40.9	0.0
CESW	Semis' Southwe	0.60	76		Pn	04 32 40.8	-0.3
CEAP	Semis' Anvil P	0.64	68		Pn	04 32 41.4	0.0
CERAA	Semis' Rag'd T	0.67	77		Pn	04 32 41.5	-0.3
CERAA					Sn	04 32 53.8	+0.2
GAEA	Gareloi East	1.63	88		Pn	04 32 52.9	-0.3
TASE	Tanaga Southea	2.07	87		Pn	04 32 58.7	-0.3
TAFP	Tanaga Falls P	2.11	85		Pn	04 32 58.8	-0.6
TAFP					Sn	04 33 24.6	-0.3
TAPA	Tanaga Point A	2.21	87		Pn	04 33 00.2	-0.6
KIMD	Kanaga Island	2.57	88		Pn	04 33 05.1	-0.5
KICM	Kanaga Island	2.60	85		Pn	04 33 05.5	-0.5
KIKV	Kanaga Island	2.61	86		Pn	04 33 05.6	-0.5
ADK	Adak	2.91	86		Pn	04 33 09.2	-1.0
ADK				Sn	Sn	04 33 43.1	-1.1
GSMY	Great Sitkin M	3.31	83		Pn	04 33 14.8	-0.7
GSTR	Great Sitkin T	3.31	82	Pn	Pn	04 33 14.2	-1.3
ATKA	Atka Island	4.46	82		Pn	04 33 31.1	-0.1
SPIA	Saint Paul Isl	8.44	46	Pn	Pn	04 34 26.3	+1.0
UNV	Unalaska Valle	9.25	71	Pn	Pn	04 34 38.1	+1.8
SPBG	Spurr Blockage	18.46	48	P	P	04 36 35.0	+0.3
MCK	McKinley	20.77	42	P	P	04 37 00.1	+0.4
MCK				IAmb	IAmb	04 37 17.1	
	comp=Z,3.5nm,0.7s						
GLI	Glacier Island	20.85	51	P	P	04 37 02.0	+1.4
RAGM	Ragged Mountai	21.96	53	P	P	04 37 12.3	-0.1
RAGM				IAmb	IAmb	04 37 21.1	
	comp=Z,9.6nm,1.0s						
DOT	Dot Lake	22.83	44	P	P	04 37 18.8	-2.8
BCAR	Beaver Creek A	23.71	46	P	P	04 37 29.0	-0.9

NEIC ***24*** *04:33:00.8±2.6,30.0°S±0.1°×177.2°W±0.2,h8km±5km, mb4.5/10,Error ellipse: s-maj=30.9km s-min=8.0km az=49.0*

IDC ***24*** *04:33:06.7±3.2,29.88°S×177.34°W,h44km±24km,mb3.9/6, mb1 4.1/6,mb1mx3.8/37,mbtmp4.2/6,Error ellipse: s-maj=35.8km s-min=32.6km az=87.0*

ISC 24 04:33:04.9±1.2,30.05°S±0.1°×177.2°W±0.2,h35km,n24, σ1°**49**/25,**mb4.4/7,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.99	321	P	Pn	04 33 22.2	-0.1
	445nm,0.3s,baz=66,slow=20,SNR=2.9						
RAO				S	Sn	04 33 33.5	-1.5
	770nm,0.3s,baz=108,slow=19,SNR=4.1						
DZM	Mont Dzumac	16.68	295	P	P	04 37 00.8	+2.7
	0.3nm,0.3s,baz=65,slow=17,SNR=3.0						
FOZ	Fox Glacier	16.99	214		P	04 37 01.3	0.0
FOZ				IAmb	IAmb	04 37 09.3	
	comp=Z,59nm,1.1s						
LBZ	Lake Benmore	17.47	211		P	04 37 07.3	+0.7
WKZ	Wanaka	18.34	213	P	P	04 37 12.5	-3.8
WKZ				IAmb	IAmb	04 37 29.2	
	comp=Z,26nm,1.0s						
WHZ	Wether Hill Ro	19.64	212	P	P	04 37 30.1	-0.4
WHZ				IAmb	IAmb	04 37 40.6	
	comp=Z,19nm,1.1s						
CTA	Charters Tower	34.42	278	P	P	04 39 50.6	+1.4
	comp=Z,1.6nm,0.4s,baz=108,slow=11,SNR=1.9						
CTAO	Charters Tower	34.42	278	P	P	04 39 51.0	+1.8
CTAO				IAmb	IAmb	04 40 05.3	
	comp=Z,8.4nm,1.1s						
STKA	Stephens Creek	35.23	256	P	P	04 39 57.0	+0.9
	comp=Z,4.3nm,0.8s,baz=90,slow=12,SNR=1.7						
STKA	Stephens Creek	35.23	256	P	P	04 39 56.6	+0.6
ASAR	Alice Springs	43.82	266	P	P	04 41 06.8	-0.9
	comp=Z,0.2nm,0.3s,baz=102,slow=7.6,SNR=4.3						
ASAR	Alice Springs	43.82	266	P	P	04 41 05.6	-2.1
WB2	Warramunga Arr	44.76	271	P	P	04 41 13.4	-1.8
WB2				IAmb	IAmb	04 41 32.0	
	comp=Z,9.0nm,0.9s						
WRA	Warramunga Arr	44.77	271	P	P	04 41 14.2	-1.1
	comp=Z,3.1nm,0.3s,baz=112,slow=8.1,SNR=12						
WB0	Warramunga Arr	44.79	272	P	P	04 41 13.7	-1.8
CASY	Casey	55.79	208	P	P	04 42 37.0	-1.0
QSPA	South Pole Qui	60.08	180	P	P	04 43 10

DHY IAmb IAmb 04 37 44.4
comp=Z,21nm,0.8s
WRH Wood River Hil 21.30 41 P P 04 37 43.5 +0.5
TCOL CIGO, UAF Yank 21.53 40 P P 04 37 46.3 +0.8
baz=249
COLA College 21.54 40 P P 04 37 46.5 +0.9
COLD Coldfoot 21.66 33 P P 04 37 47.0 +0.1
HDA Harding Lake 21.75 42 P P 04 37 48.1 +0.3
baz=252
POKR Poker Plat Res 21.79 40 P P 04 37 49.0 +0.7
baz=249
IL31 21.89 41 P P 04 37 48.0 -1.2
ILAR Eielson Array 21.89 41 P P 04 37 48.0 -1.3
comp=Z,1.7nm,0.7s,baz=235,slow=8.4,SNR=18
ILAR Eielson Array 21.89 41 P P 04 37 48.2 -1.1
PAX Paxson 21.99 46 P P 04 37 50.3 -0.1
PAX IAmb IAmb 04 37 52.7
comp=Z,45nm,1.6s
GLB Gilahina Butte 22.48 50 P P 04 37 55.7 +0.3
GLB IAmb IAmb 04 37 59.0
comp=Z,16nm,0.8s
TOLK Toolik Lake Re 22.59 30 P P 04 37 58.0 +1.5
baz=238,SNR=6.4
TOLK Toolik Lake Re 22.59 30 P P 04 37 56.2 -0.2
VRDI Verde Repeater 22.62 51 P P 04 37 56.9 -0.1
VRDI IAmb IAmb 04 38 00.1
comp=Z,12nm,0.7s
PRP Porcupine Dome 22.68 40 P P 04 37 57.4 0.0
CRQM Cirque 22.72 52 P P 04 37 58.4 +0.5
DOT Dot Lake 22.76 45 P P 04 37 57.2 -1.0
DOT IAmb IAmb 04 38 00.1
comp=Z,13nm,0.8s
WAX Waxell Ridge 22.84 53 P P 04 37 59.2 +0.3
SCRK Sand Creek 22.87 44 P P 04 37 58.2 -1.1
BALM Baldy 23.13 52 P P 04 38 02.1 +0.3
BALM IAmb IAmb 04 38 04.3
comp=Z,14nm,0.8s
FYU Fort Yukon 23.16 37 P P 04 38 02.3 +0.5
FYU IAmb IAmb 04 38 05.7
comp=Z,58nm,1.8s
YAH Yahtse 23.38 53 P P 04 38 05.2 +1.0
BARN Barnard Glacie 23.47 52 P P 04 38 05.0 +0.1
BARN IAmb IAmb 04 38 08.4
comp=Z,22nm,0.7s
CTGM Chitina Glacie 23.62 52 P P 04 38 05.8 -0.5
CTGM IAmb IAmb 04 38 09.3
comp=Z,20nm,0.7s
BCAR Beaver Creek A 23.65 47 P P 04 38 06.2 -0.2
BMAR Burnt Mountain 23.71 35 P P 04 38 07.8 +0.9
EGAK Eagle 24.25 43 P P 04 38 11.7 -0.1
EGAK IAmb IAmb 04 38 13.4
comp=Z,27nm,0.8s
DAWY Dawson 24.87 45 P P 04 38 17.9 +0.4
DAWY IAmb IAmb 04 38 21.0
comp=Z,14nm,0.8s
HYT Haines Junctio 25.48 52 P P 04 38 25.1 +2.0
EPYK Eagle Plains 26.38 40 P P 04 38 31.5 +0.4
baz=259
EPYK Eagle Plains 26.38 40 P P 04 38 31.2 +0.2
EPYK IAmb IAmb 04 38 32.4
comp=Z,10nm,0.8s
INK Inuvik 27.97 36 P P 04 38 45.9 +0.8
comp=Z,1.2nm,0.5s,baz=268,slow=6.0,SNR=5.1
INK Inuvik 27.97 36 P P 04 38 44.9 -0.2
A36M Sachs Harbour 31.41 30 P P 04 39 16.8 +1.4
baz=261
USA0B Ussuriysk Arra 31.51 274 P P 04 39 14.6 -2.0
USA0B IAmb IAmb 04 39 47.6
comp=Z,6.6nm,0.8s
USRK Ussuriysk Ar. 31.51 274 P P 04 39 16.9 +0.3
comp=Z,2.8nm,0.5s,baz=54,slow=9.0,SNR=7.1
USRK Ussuriysk Ar. 31.51 274 P P 04 39 16.2 -0.4
MJAR Matsushiro Arr 32.20 257 P P 04 39 23.1 +0.4
comp=Z,2.0nm,0.8s,baz=52,slow=7.4,SNR=2.7
MJAR Matsushiro Arr 32.20 257 P P 04 39 20.4 -2.3
MAT Matsushiro 32.20 257 P P 04 39 24.1 +1.3
YKA Yellowknife Ar 36.07 47 P P 04 39 56.5 +0.6
comp=Z,3.5nm,0.8s,baz=280,slow=8.5,SNR=22
YKA pP pP 04 40 22.9 +0.8
comp=Z,1.4nm,0.7s,baz=278,slow=8.3,SNR=3.7
YKA Yellowknife Ar 36.07 47 P P 04 39 56.5 +0.6
D03D Eldon 37.16 73 P P 04 40 05.5 +0.2
baz=299,SNR=5.4
B05A Bryant 37.40 71 P P 04 40 07.5 +0.3
baz=299
KSRS Korea Array 37.91 268 P P 04 40 13.7 +2.0
comp=Z,2.2nm,0.5s,baz=60,slow=8.2,SNR=11
KSRS PcP PcP 04 42 26.2 +1.1
comp=Z,1.0nm,0.5s,baz=31,slow=2.0,SNR=6.2
E04D Cinebar 37.96 74 P P 04 40 12.9 +0.8
baz=300
JNU Nakatsue 38.95 260 P P 04 40 22.6 +2.1
comp=Z,8.9nm,0.9s,baz=44,slow=6.4,SNR=4.8
JNU Nakatsue 38.95 260 P P 04 40 20.6 +0.1
JNU IAmb IAmb 04 40 23.2
comp=Z,10nm,0.9s
I03D Drain, OR 39.00 78 P P 04 40 21.1 +0.4
baz=303
K02D Willamette Mer 39.37 80 P P 04 40 24.6 +0.7
baz=304
I04A Tendick Farm, 39.52 78 P P 04 40 25.8 +0.7
baz=303
I05D Terrebonne, OR 39.87 76 P P 04 40 28.2 +0.2
baz=303
NEW Newport 40.29 69 P P 04 40 31.2 -0.2
baz=300
NEW Newport 40.29 69 P P 04 40 31.2 -0.2
comp=Z,5.7nm,0.7s,baz=303,slow=5.9,SNR=10
KHMM Horse Mountain 40.38 82 P P 04 40 33.0 +0.7
L04D Klamath Falls 40.47 80 P P 04 40 33.6 +0.5
baz=305
YBH Yreka Blue Hor 40.50 81 P P 04 40 34.2 +0.9
YBH IAmb IAmb 04 40 35.9
comp=Z,7.0nm,0.8s
N02D Trinity Center 40.95 82 P P 04 40 37.8 +0.9
baz=306
M04C Macdoel 41.00 80 P P 04 40 38.2 +0.7
baz=306
I07A Izee 41.11 76 P P 04 40 37.8 -0.5
O02D Mt. Diablo Mer 41.37 83 P P 04 40 40.5 +0.1
baz=307
WALA Waterton Lakes 41.72 66 P P 04 40 42.5 -0.7
WALA IAmb IAmb 04 40 43.9
comp=Z,10.0nm,0.8s
O03E Paynes Creek 41.90 82 P P 04 40 44.8 +0.1
baz=307,SNR=7.6
MSO Missoula 42.88 69 P P 04 40 51.8 -0.8
baz=303,SNR=6.5
MSO Missoula 42.88 69 P P 04 40 51.2 -1.4
AFDM Forest Hills D 43.23 83 P P 04 40 55.4 0.0
HRY Holter Researc 44.16 68 P P 04 41 01.8 -1.1
LRM Limekiln Ridge 44.29 69 P P 04 41 02.1 -2.0
HLID Hailey 44.43 73 P P 04 41 04.8 -0.4
baz=306,SNR=9.2
HLID Hailey 44.43 73 P P 04 41 04.2 -1.0
EGMT Eagleton 44.61 65 P P 04 41 05.6 -0.8
baz=303
EGMT Eagleton 44.61 65 P P 04 41 05.0 -1.4
EGMT IAmb IAmb 04 41 07.6
comp=Z,6.5nm,0.9s
MCMT McKenzie Canyo 44.63 71 P P 04 41 06.2 -0.6
SONM Songino Array 44.82 295 P P 04 41 09.2 +1.0
comp=Z,1.9nm,0.5s,baz=64,slow=7.8,SNR=9.6
SONM PcP PcP 04 42 48.2 +0.4
comp=Z,0.3nm,0.5s,baz=82,slow=2.9,SNR=4.3
SONM ScP ScP 04 46 29.4 +0.7
comp=Z,1.3nm,0.8s,baz=43,slow=2.5,SNR=5.2
SONM Songino Array 44.82 295 P P 04 41 09.1 +1.0
BOZ Bozeman (W) 44.90 69 P P 04 41 08.0 -0.8
baz=305,SNR=13
BOZ Bozeman (W) 44.90 69 P P 04 41 07.6 -1.2
BOZ IAmb IAmb 04 41 08.9
comp=Z,5.8nm,0.8s
KVN Kaiserville 44.92 81 P P 04 41 09.3 +0.2
KVN IAmb IAmb 04 41 11.6
comp=Z,15nm,1.6s
RYN Ryan 44.93 81 P P 04 41 09.2 +0.1
RYN IAmb IAmb 04 41 10.6
comp=Z,6.8nm,0.6s
NVAR Mina Array Bea 45.19 81 P P 04 41 12.2 +1.0
comp=Z,2.8nm,0.5s,baz=294,slow=7.6,SNR=14
NVAR Mina Array Bea 45.19 81 P P 04 41 11.2 0.0
MDPB Devils Postpil 45.21 83 P P 04 41 11.4 -0.1
MDPB IAmb IAmb 04 41 13.6
comp=Z,9.0nm,0.8s
QLMT Earthquake Lak 45.45 70 P P 04 41 12.3 -1.0
YHL Hebgen Lake 45.58 70 P P 04 41 13.5 -0.9
ELK Elko 45.62 77 P P 04 41 14.1 -0.5
YHB Horse Butte 45.63 70 P P 04 41 14.2 -0.5
HHC Hu-ho-hao-te 45.86 284 eP P 04 41 16.1 -0.3
HHC pmax pmax
comp=Z,9.0nm,1.0s
HHC pmax pmax
comp=Z,370nm,4.9s
GCMT Greycliff 45.91 68 P P 04 41 16.1 -0.7
FLWY Flagg Ranch 46.31 70 P P 04 41 19.9 -0.1
VES Vestal, Richgr 46.36 85 P P 04 41 20.4 +0.2
baz=311
RLMT Red Lodge 46.53 68 P P 04 41 21.3 -0.4
baz=306,SNR=5.4
PKM Mcpherson Peak 46.53 86 P P 04 41 22.3 +0.5
baz=311
CWC Cottonwood Cre 46.59 83 P P 04 41 22.5 +0.3
baz=310
ISA Isabella, Lake 46.85 85 P P 04 41 23.7 -0.5
baz=311
R11A Troy Canyon, C 46.90 80 P P 04 41 24.4 -0.2
baz=309,SNR=10.0
MPMC Manual Prospec 47.20 83 P P 04 41 27.0 0.0
baz=311,SNR=6.4
FURC Furnace Creek, 47.32 83 P P 04 41 28.2 +0.5
baz=310,SNR=5.7
LAO LASA Array 47.35 65 P P 04 41 28.0 +0.1
baz=306
TPNV Topopah Spring 47.38 82 P P 04 41 28.7 +0.3
baz=310,SNR=7.9
TPNV Topopah Spring 47.38 82 P P 04 41 28.3 -0.1
TPNV IAmb IAmb 04 41 29.9
comp=Z,9.4nm,0.9s
DUG Dugway, Tooele 47.41 76 P P 04 41 28.5 -0.1
baz=308,SNR=6.5
DUG Dugway, Tooele 47.41 76 P P 04 41 28.4 -0.1
DUG IAmb IAmb 04 41 29.6
comp=Z,5.4nm,0.8s
BW06 Boulder Array 47.77 71 P P 04 41 30.6 -0.8
baz=307,SNR=7.3
BW06 Boulder Array 47.77 71 P P 04 41 30.2 -1.2
PD31 Pinedale Array 47.77 71 P P 04 41 30.5 -0.9
PDAR Pinedale Array 47.77 71 P P 04 41 30.6 -0.7
comp=Z,3.6nm,0.7s,baz=303,slow=3.9,SNR=31
PDAR ScP ScP 04 46 39.8 -1.4
comp=Z,0.2nm,0.5s,baz=276,slow=2.4,SNR=2.7
PSUT Pine Spring 47.83 78 P P 04 41 31.7 -0.1
SHOC Shoshone, Teco 48.05 83 P P 04 41 34.0 +0.7
baz=311
GSC Goldstone, Bar 48.12 84 P P 04 41 34.4 +0.5
baz=311,SNR=13
GSC Goldstone, Bar 48.12 84 P P 04 41 34.2 +0.2
RRX Edison Barstow 48.28 84 P P 04 41 35.0 -0.1
baz=312
BFSC Mount Baldy Ra 48.29 85 P P 04 41 35.7 +0.3
baz=312
TUQ Turquoise Moun 48.57 83 P P 04 41 37.9 +0.4
baz=311
HEC Hector,Ludlow 48.72 84 P P 04 41 38.8 +0.3
baz=312
MSU Marysvale 48.86 77 P P 04 41 39.9 +0.2
TMUT Trail Mountain 48.94 76 P P 04 41 40.4 -0.1
MURC Murrieta 49.01 86 P P 04 41 41.1 +0.4
baz=312
RDMU Red Mountain 49.11 73 P P 04 41 40.6 -1.1
GMRC Granite Mounta 49.16 83 P P 04 41 42.2 +0.2
baz=312,SNR=6.8
PFO Pinyon Flats O 49.45 85 P P 04 41 44.2 0.0
baz=312
PFO Pinyon Flats O 49.45 85 P P 04 41 44.2 0.0
comp=Z,2.3nm,0.8s,baz=305,slow=11,SNR=2.8
PFO Pinyon Flats O 49.45 85 P P 04 41 43.5 -0.7
PFO IAmb IAmb 04 43 34.0
comp=Z,23nm,1.9s
TPFO Pinon Flats 49.46 85 P P 04 41 44.5 +0.2
baz=312
BELC Belle Mtn. Jos 49.48 84 P P 04 41 44.4 0.0
baz=312
109C Camp Elliot, M 49.54 86 P P 04 41 45.1 +0.3
baz=313
K22A Casper 49.60 69 P P 04 41 45.0 -0.2
baz=308
SPA0 Spitsbergen Ar 49.64 355 P P 04 41 43.5 -1.4
SPITS Spitsbergen Ar 49.64 355 P P 04 41 44.9 0.0
comp=Z,11nm,0.9s,baz=42,slow=7.9,SNR=13
SPITS Spitsbergen Ar 49.64 355 P P 04 41 44.9 0.0
IRM Iron Mountain 49.90 84 P P 04 41 47.9 +0.5
baz=312
MONP2 Monument Peak 49.96 86 P P 04 41 48.9 +0.7
baz=313
BC3 Big Chuckawall 50.04 84 P P 04 41 48.7 0.0
baz=312
RSSD Black Hills 50.12 66 P P 04 41 48.4 -0.9
baz=308
U15A North Rim 50.14 79 P P 04 41 49.7 +0.2
U15A IAmb IAmb 04 41 50.6
comp=Z,5.0nm,0.6s
O20A White River Ci 50.17 73 P P 04 41 49.0 -0.7
baz=310,SNR=5.2
SWSC Sam W. Stewart 50.31 85 P P 04 41 49.7 -0.8
baz=313
PDMCI Parker Dam,Lak 50.41 83 P P 04 41 51.8 +0.5
baz=312
PV21 Cone Mtn., Par 50.75 75 P P 04 41 53.4 -0.7
GLA Glamis 50.84 84 P P 04 41 55.3 +0.7
baz=313
PV18 Skein Mesa, Pa 50.99 75 P P 04 41 55.0 -0.8
PV18 IAmb IAmb 04 41 57.3
comp=Z,6.0nm,0.9s
PV02 Paradox Valley 51.12 75 P P 04 41 56.0 -0.8
PV02 IAmb IAmb 04 41 57.4
comp=Z,7.2nm,0.7s
WUAZ Wupatki 51.30 80 P P 04 41 58.3 +0.2
baz=312
MVCO Mesa Verde 51.91 76 P P 04 42 02.6 -0.2
baz=311
ISCO Idaho Springs 51.94 72 P P 04 42 03.0 0.0
baz=310
AGMN Agassiz Nation 51.99 58 P P 04 42 02.4 -0.5
baz=308
AGMN Agassiz Nation 51.99 58 P P 04 42 02.1 -0.8
AGMN IAmb IAmb 04 42 03.0
comp=Z,5.8nm,1.0s
ZALV Zalesovo Beam 52.35 312 P P 04 42 05.2 -0.2
comp=Z,0.6nm,0.5s,baz=31,slow=8.7,SNR=1.8
ZALV PcP PcP 04 43 15.3 +0.6
comp=Z,2.4nm,0.7s,baz=23,slow=3.7,SNR=8.3
S22A 4UR Ranch, Cre 52.56 74 P P 04 42 07.9 +0.3
baz=311
214A Organ Pipe Nat 52.83 84 P P 04 42 09.3 0.0
baz=314
GTA Gaotai 53.73 290 eP P 04 42 17.0 +1.0
GTA pmax pmax
comp=Z,8.0nm,0.7s
TUC Tucson 53.83 82 P P 04 42 16.8 +0.1
baz=314
TUC Tucson 53.83 82 P P 04 42 16.6 -0.1
TUC IAmb IAmb 04 42 18.2
comp=Z,5.9nm,1.1s
T25A Trinidad 54.40 73 P P 04 42 21.0 0.0
baz=312
EYMN Ely 54.48 56 P P 04 42 20.4 -0.7
baz=311,SNR=5.6
ECSD EROS Data Cent 54.51 62 P P 04 42 20.2 -1.1
baz=311
ANMO Albuquerque 54.66 77 P P 04 42 21.9 -0.9
baz=313
CBKS Cedar Bluff 56.01 69 P P 04 42 31.9 -0.3
baz=312
N35A Tabor 56.95 64 P P 04 42 38.6 -0.2
ARCES ARCESS Array B 57.18 349 P P 04 42 40.6 +0.5
comp=Z,2.5nm,1.0s,baz=16,slow=7.8,SNR=1.5
ARCES ARCESS Array B 57.18 349 P P 04 42 39.0 -1.1
KURK Kurchatov 57.34 312 P P 04 42 41.3 -0.1
KURK IAmb IAmb 04 42 43.8
comp=Z,5.4nm,0.7s
KURK Kurchatov 57.34 312 PcP 04 43 34.4 +0.4
KURBB Kurchatov Arra 57.44 312 P P 04 42 42.5 +0.4
comp=Z,4.6nm,0.6s,baz=42,slow=6.8,SNR=8.6
KURBB PcP PcP 04 43 34.4 0.0
comp=Z,1.0nm,0.3s,baz=34,slow=3.7,SNR=5.1
MSTX Muleshoe 57.54 75 P P 04 42 42.6 -0.6
baz=314
MNTX Cornudas Mount 57.55 79 P P 04 42 43.4 +0.3
baz=315,SNR=8.1
MNTX Cornudas Mount 57.55 79 P P 04 42 43.5 +0.3
MNTX IAmb IAmb 04 42 44.5
comp=Z,3.9nm,0.8s
WMQ Urumqi 57.55 301 eP P 04 42 45.3 +2.2
AMTX Amarillo 57.55 74 P P 04 42 42.8 -0.5
baz=314
SCIA State Center 57.59 62 P P 04 42 43.1 -0.2
baz=313
MK31 Makanchi Array 58.29 307 P P 04 42 47.6 -0.5
MKAR Makanchi Array 58.29 307 P P 04 42 48.1 0.0
comp=Z,1.8nm,0.5s,baz=48,slow=6.7,SNR=18
MKAR PcP PcP 04 43 38.6 +0.7
comp=Z,1.3nm,0.9s,baz=60,slow=5.7,SNR=3.8
MKAR Makanchi Array 58.29 307 P P 04 42 47.3 -0.8
MAKZ Makanchi 58.44 307 P P 04 42 48.6 -0.5
MAKZ IAmb IAmb 04 42 49.7
comp=Z,3.5nm,0.6s
JFWS Jewell Farm 58.50 59 P P 04 42 48.5 -1.1
baz=314
D46A Sault St. Mari 58.92 53 P P 04 42 51.2 -1.3
baz=314
F45A CMU Biological 59.03 54 P P 04 42 52.7 -0.6
baz=314
D47A Chapleau 59.27 52 P P 04 42 54.3 -0.6
baz=315,SNR=5.1
BVAR Borovoye Array 59.29 318 P P 04 42 55.8 +0.9
comp=Z,5.7nm,0.6s,baz=52,slow=7.9,SNR=8.6
BVAR PcP PcP 04 43 42.3 +0.5
comp=Z,2.0nm,0.5s,baz=65,slow=3.2,SNR=3.9
BRVK Borovoye 59.31 318 P P 04 42 55.5 +0.5
BRVK IAmb IAmb 04 42 56.6
comp=Z,5.4nm,0.6s
WMOK Wichita Mounta 59.37 72 P P 04 42 55.6 -0.2
baz=315
WMOK Wichita Mounta 59.37 72 P P 04 42 55.1 -0.6
D48A Paudash Townsh 59.81 51 P P 04 42 58.1 -0.5
baz=315
P40A Paris 59.87 63 P P 04 42 58.1 -1.0
D49A Beulah Townshi 59.96 51 P P 04 42 59.2 -0.4
baz=315
H46A Fife Lake 59.99 55 P P 04 42 59.5 -0.3
baz=315
E48A Lockeyer 60.13 52 P P 04 43 00.4 -0.4
baz=315
TX32 Lajitas Array 60.26 80 P P 04 43 02.0 0.0
TX32 IAmb IAmb 04 43 03.1
comp=Z,4.2nm,0.8s
TXAR Lajitas Array 60.26 80 P P 04 43 02.1 +0.1
comp=Z,2.3nm,0.6s,baz=299,slow=5.0,SNR=41
TUL1 Leonard 60.28 69 P P 04 43 01.3 -0.7
baz=315
ABTX Abilene, Hawle 60.34 74 P P 04 43 02.4 -0.1
baz=315
ABTX Abilene, Hawle 60.34 74 P P 04 43 01.5 -1.0
ABTX IAmb IAmb 04 43 03.6
comp=Z,4.7nm,0.8s
F48A Evansville 60.37 53 P P 04 43 02.3 -0.1
baz=315
F49A Sandfield 60.70 52 P P 04 43 04.9 +0.2
baz=316
D50A G1974 Best Tow 60.75 50 P P 04 43 04.0 -1.0
baz=316
E50A Wahnapitae 60.86 51 P P 04 43 05.1 -0.6
baz=316
D51A Lot 18 Range I 61.03 50 P P 04 43 06.2 -0.7
baz=316
ARU Arti 61.16 327 P P 04 43 08.6 +1.0
comp=Z,2.4nm,0.5s,baz=16,slow=5.4,SNR=11
ARU Arti 61.16 327 P P 04 43 07.6 0.0
CHGQ Chibougamau 61.24 45 P P 04 43 07.4 -0.8
baz=318
E51A G1948 Merrick 61.38 50 P P 04 43 08.3 -0.9
baz=316
D52A ZEK Kipawa Sen 61.56 49 P P 04 43 09.4 -1.1
baz=317
J48A Bridge Port 61.59 55 P P 04 43 09.4 -1.3
baz=316
F51A Arnstein 61.61 51 P P 04 43 10.1 -0.7
baz=316
U40A Yellville 61.65 66 P P 04 43 09.9 -1.3
baz=315
U40A Yellville 61.65 66 P P 04 43 09.2 -2.0
U40A IAmb IAmb 04 43 10.7
comp=Z,4.0nm,0.9s
JCT Junction City 61.78 76 P P 04 43 11.5 -0.7
baz=316
D53A Lac Vacive, Po 61.82 49 P P 04 43 11.0 -1.2
baz=317
W39A Magazine 61.95 68 P P 04 43 12.8 -0.3
baz=316
E52A Mattawa 61.95 50 P P 04 43 12.2 -0.9
baz=317
F52A Sundridge 61.99 51 P P 04 43 12.6 -0.8
baz=317
WHTX Lake Whitney, 62.09 73 P P 04 43 14.0 -0.2
baz=316
WHTX Lake Whitney, 62.09 73 P P 04 43 13.9 -0.4
WHTX IAmb IAmb 04 43 14.7
comp=Z,4.7nm,0.7s
E53A Dumoine, Ponti 62.35 49 P P 04 43 14.9 -0.8
baz=317
FCAR Ozark Folk Cen 62.40 66 P P 04 43 14.8 -1.3
FCAR IAmb IAmb 04 43 15.4
comp=Z,12nm,1.3s
ALGO Algonquin Park 62.48 50 P P 04 43 16.0 -0.6
baz=317
MIAR Mount Ida 62.53 68 P P 04 43 16.7 -0.3
baz=316
MIAR Mount Ida 62.53 68 P P 04 43 15.9 -1.1
MIAR IAmb IAmb 04 43 17.6
comp=Z,9.6nm,1.3s
E54A Lac Daplat, Po 62.54 49 P P 04 43 16.3 -0.7
baz=318
H52A Wyevale 62.56 52 P P 04 43 16.7 -0.5
baz=317
I51A Listowel 62.62 53 P P 04 43 17.1 -0.5
baz=317
G53A Haliburton 62.82 51 P P 04 43 18.2 -0.7
baz=317,SNR=7.2
W41B Gary Mavity, V 62.84 67 P P 04 43 18.1 -1.0
baz=316
G54A Lake Saint Pet 62.87 50 P P 04 43 18.1 -1.2
baz=318
D55A Sainte-Anne-du 62.89 48 P P 04 43 18.4 -0.9
baz=318
D56A ZEC Mazanza, M 63.20 47 P P 04 43 20.0 -1.3
baz=318
E56A St. Veronique 63.45 48 P P 04 43 21.7 -1.3
baz=318
K52A Tillsonburg 63.52 54 P P 04 43 22.0 -1.5
baz=317
D57A Chemin Vers le 63.61 47 P P 04 43 23.0 -1.1
baz=319
G55A Calabogie 63.63 50 P P 04 43 23.2 -1.0
baz=318
LATQ La Tuque 63.83 46 P P 04 43 23.9 -1.6
baz=319
TRQ Mont Tremblant 63.91 48 P P 04 43 24.4 -1.8
E57A Chemin Saint G 63.95 47 P P 04 43 24.9 -1.4
baz=319
D58A Chemin du LacG 64.00 46 P P 04 43 25.3 -1.3
baz=319
SLVN Son La 64.01 272 P P 04 43 24.0 -3.1
N51A Ashland 64.04 56 P P 04 43 26.1 -0.9
baz=317
ORIO Orleans, Innes 64.05 49 P P 04 43 25.6 -1.4
baz=319
M52A Chesterland 64.11 55 P P 04 43 26.5 -0.9
baz=318
E58A La Victoria 64.38 47 P P 04 43 27.6 -1.5
baz=319
O51A Pataskala 64.49 57 P P 04 43 28.9 -1.0
baz=317
L54A Sinclairville 64.62 53 P P 04 43 29.9 -0.8
baz=318
WVT Waverly 64.63 63 P P 04 43 29.9 -0.9
baz=317
FINES FINESS Array B 64.79 346 P P 04 43 32.0 +0.6
comp=Z,2.0nm,0.9s,baz=34,slow=7.1,SNR=4.9
FINES FINESS Array B 64.79 346 P P 04 43 31.2 -0.2
K55A Perry 64.87 52 P P 04 43 31.8 -0.5
baz=318
F59A Saint Guilaume 65.00 47 P P 04 43 32.0 -1.0
baz=320
L55A Hinsdale 65.09 53 P P 04 43 34.0 +0.2
baz=318
AAK Ala-Archa 65.13 308 P P 04 43 35.3 +1.0
comp=Z,2.2nm,0.4s,baz=178,slow=3.7,SNR=5.9
AAK Ala-Archa 65.13 308 P P 04 43 34.2 -0.1

AAK IAmb IAmb 04 44 55.1
comp=Z,4.6nm,0.9s
E60A Ste Agathe de 65.20 46 P P 04 43 33.4 -0.9
baz=320
N54A Moraine State 65.23 55 P P 04 43 33.8 -0.9
baz=318
K56A Middlesex 65.25 52 P P 04 43 34.5 -0.4
baz=319
M55A Ridgway 65.46 54 P P 04 43 35.8 -0.4
baz=318
L56A Greenwood 65.56 52 P P 04 43 36.6 -0.3
baz=319,SNR=8.3
L56A Greenwood 65.56 52 P P 04 43 36.3 -0.6
K57A Scipio Center 65.62 51 P P 04 43 36.6 -0.6
baz=319
I58A Old Forge 65.63 50 P P 04 43 36.1 -1.2
baz=320
MOQ Mont Orford 65.65 47 P P 04 43 35.7 -1.7
D62A Allapoint, All 65.69 44 P P 04 43 36.9 -0.6
baz=321
F61A St Evariste 65.70 46 P P 04 43 37.4 -0.3
baz=321
J58A Remsen 65.73 50 P P 04 43 37.3 -0.6
baz=319
M56A Emporium 65.74 53 P P 04 43 37.4 -0.6
baz=319
E62A Clayton Lake 65.84 44 P P 04 43 37.9 -0.6
baz=321
N55A Marion Center 65.87 54 P P 04 43 38.5 -0.4
baz=319
SIJI Sorong 65.88 233 P P 04 43 40.2 +1.1
comp=Z,31nm,0.7s,baz=12,slow=6.3,SNR=3.7
G61A St-Isidore-de- 66.00 47 P P 04 43 38.7 -0.8
baz=321
Q53A Leroy 66.00 57 P P 04 43 39.0 -0.7
baz=318
K58A Earlville 66.01 51 P P 04 43 39.0 -0.7
baz=319
J59A Piesco 66.02 50 P P 04 43 38.2 -1.5
baz=320
H60A Morristown 66.02 48 P P 04 43 38.3 -1.4
baz=320
I59A Olmsteadville 66.06 49 P P 04 43 39.1 -0.9
baz=320
N56A West Decatur 66.11 54 P P 04 43 39.2 -1.2
baz=319
O55A Ligonier 66.14 55 P P 04 43 39.6 -0.9
baz=319
F62A Pittston Farm, 66.22 45 P P 04 43 40.1 -0.8
baz=321
M57A Sunshine Farm, 66.37 53 P P 04 43 41.8 -0.2
baz=319
K59A Cooperstown 66.38 50 P P 04 43 41.1 -1.0
baz=320
ABKAR Akbulak array 66.39 321 P P 04 43 42.3 +0.3
H61A Lyndonville 66.39 47 P P 04 43 41.4 -0.7
baz=321
P55A Reedsville 66.40 56 P P 04 43 41.9 -0.4
baz=319
L58A Harry Jones Me 66.46 51 P P 04 43 42.1 -0.5
baz=320
O56A Blue Knob Stat 66.46 54 P P 04 43 42.0 -0.6
baz=319
G62A West of Eustis 66.49 46 P P 04 43 41.9 -0.9
baz=321
SSPA Standing Stone 66.53 54 P P 04 43 42.5 -0.4
baz=319
TZTN Tazewell 66.66 60 P P 04 43 43.4 -0.5
baz=318
KK31 Karatay Array 66.69 311 P P 04 43 43.9 -0.1
KKAR Karatay Array 66.69 311 P P 04 43 44.2 +0.2
J60A Lant Hill Farm 66.70 49 P P 04 43 43.3 -0.7
baz=320
H62A Milan 66.71 47 P P 04 43 43.4 -0.7
baz=321
E64A Bridgewater 66.73 44 P P 04 43 43.5 -0.7
baz=322
I61A Oroboro, Fairl 66.73 48 P P 04 43 43.6 -0.6
baz=321
L59A Walton 66.74 51 P P 04 43 44.0 -0.4
baz=320
F63A Nahmakanta, Br 66.74 45 P P 04 43 43.9 -0.4
baz=322
F63A Nahmakanta, Br 66.74 45 P P 04 43 43.7 -0.6
F63A IAmb IAmb 04 44 59.6
comp=Z,18nm,1.6s
NB2 NORSAR Subarra 66.86 353 P pP 04 44 16.4 +2.8
comp=Z,0.7nm,0.8s,baz=10,slow=6.2
NOA NORSAR Array B 66.86 353 P P 04 43 44.8 -0.1
comp=Z,0.5nm,0.8s,baz=350,slow=4.3,SNR=2.3
T53A Wise 66.87 59 P P 04 43 45.2 -0.1
baz=318
P56A Dayton Farm, R 66.90 55 P P 04 43 45.9 +0.5
baz=319
F64A Sherman 66.94 44 P P 04 43 44.6 -0.9
baz=322
N58A Sunbury 66.95 53 P P 04 43 44.7 -1.0
baz=320
O57A Amberson 66.97 54 P P 04 43 45.3 -0.6
baz=319
M59A Waymart 67.05 52 P P 04 43 45.8 -0.5
baz=320
Q56A Snyder Ridge, 67.07 56 P P 04 43 46.1 -0.5
baz=319
K61A Williamstown 67.21 49 P P 04 43 47.0 -0.4
baz=320
G64A Maxfield 67.25 45 P P 04 43 46.8 -0.7
baz=322
L60A Shokan 67.28 50 P P 04 43 47.1 -0.7
baz=320
T54A Tazewell 67.32 59 P P 04 43 47.2 -1.0
baz=319
N59A State Game Lan 67.36 52 P P 04 43 47.8 -0.5
baz=320
R56A Bull Pasture M 67.44 56 P P 04 43 48.3 -0.6
baz=319
L61A Hillsdale 1, H 67.44 50 P P 04 43 48.2 -0.6
baz=320
N60A Cedar Hill Far 67.72 52 P P 04 43 50.0 -0.6
baz=320
G65A Princeton 67.81 44 P P 04 43 50.4 -0.6
baz=322
I64A Boothbay 67.91 46 P P 04 43 50.1 -1.5
baz=322
H65A Eastbrook 67.91 45 P P 04 43 49.7 -1.9
baz=322
H66A Whiting 68.25 44 P P 04 43 52.9 -0.8
baz=323
X54A Belton 68.78 61 P P 04 43 56.3 -0.9
baz=319
KMSC Kings Mountain 68.89 60 P P 04 43 57.1 -0.8
baz=319
U57A Blanch 68.97 58 P P 04 43 57.5 -0.8
baz=320
R60A Leonardtown, M 68.98 55 P P 04 43 57.4 -1.0
baz=320
T58A Grand View Acr 69.00 57 P P 04 43 57.5 -1.1
baz=320
CMAR Chiang Mai Arr 69.23 274 P P 04 43 59.4 -0.8
comp=Z,2.7nm,0.8s,baz=20,slow=7.1,SNR=7.8
CMAR pP pP 04 44 31.2 +1.0
comp=Z,0.9nm,0.3s,baz=23,slow=4.9,SNR=2.8
CMAR Chiang Mai Arr 69.23 274 P P 04 43 59.9 -0.4
X55A Gracelyn & Ava 69.24 60 P P 04 43 59.1 -0.9
baz=319
TAPN Taplejung 69.37 288 eP P 04 44 02.5 +1.1
comp=Z,31nm,0.8s
Y55A Saluda 69.52 61 P P 04 44 00.9 -0.9
baz=320
ODAN Odare 69.92 288 eP P 04 44 05.5 +0.8
comp=Z,11nm,0.7s
GAR Garm 69.95 308 P P 04 44 04.9 +0.4
GUN Gumba 70.02 290 eP P 04 44 06.5 +1.1
comp=Z,62nm,0.7s
JIRN Jiri 70.03 289 eP P 04 44 06.9 +1.4
comp=Z,57nm,0.7s
V59A Middlesex 70.05 57 P P 04 44 04.4 -0.6
baz=320
W58A Raeford 70.10 59 P P 04 44 04.4 -0.9
baz=320
RAMN Ramite 70.32 289 eP P 04 44 08.2 +1.1
comp=Z,40nm,0.7s
PKI Pulchoki 70.55 290 eP P 04 44 09.4 +0.8
comp=Z,27nm,0.7s
PKIN Phulchoki 70.55 290 eP P 04 44 09.3 +0.8
comp=Z,26nm,0.6s
V60A Jim Taylor Roa 70.56 57 P P 04 44 07.2 -0.9
baz=321

GKN Gorkha 70.67 291 eP P 04 44 10.1 +1.0
DMN Daman 70.70 290 eP P 04 44 10.9 +1.5
comp=Z,24nm,0.9s
CHGR Chuyangaron 70.78 308 P P 04 44 07.8 -1.8
DANN Dangsing 70.92 292 eP P 04 44 11.7 +0.9
comp=Z,60nm,0.9s
KOLN Koldanda 71.45 291 eP P 04 44 14.7 +0.8
comp=Z,20nm,0.8s
PYUN Piuthan 71.55 292 eP P 04 44 14.9 +0.4
EKA Eskdalemuir Ar 73.04 1 pP pP 04 44 53.3 +1.2
comp=Z,1.2nm,0.8s,baz=14,slow=6.6,SNR=3.9
AKASG Malin Array Be 74.42 340 P P 04 44 29.4 -1.3
comp=Z,0.6nm,0.3s,baz=21,slow=5.9,SNR=2.4
AKASG pP pP 04 45 01.5 +1.3
comp=Z,1.9nm,0.5s,baz=19,slow=5.9,SNR=4.7
GEYT Alibeck 76.45 315 P P 04 44 42.3 -0.4
comp=Z,1.8nm,0.6s,baz=30,slow=4.4,SNR=3.8
GEYT Alibeck 76.45 315 P P 04 44 40.5 -2.1
KBZ Khabaz 77.21 329 P P 04 44 46.6 0.0
comp=Z,1.8nm,0.8s,baz=4.6,slow=2.6,SNR=3.6
BUR08 Bucovina Ar. S 78.14 342 P P 04 44 52.2 +0.2
BUR08 IAmb IAmb 04 45 58.1
comp=Z,16nm,1.2s
BURAR Bucovina Array 78.16 342 P P 04 44 52.7 +0.6
WR0 Warramunga Arr 81.22 221 P P 04 45 08.8 +0.1
WRA Warramunga Arr 81.28 221 P P 04 45 09.3 +0.3
comp=Z,3.8nm,0.6s,baz=34,slow=6.1,SNR=7.7
FITZ Fitzroy Crossi 83.50 230 P P 04 45 21.6 +1.1
comp=Z,5.4nm,0.7s,baz=29,slow=7.4,SNR=7.1
FITZ Fitzroy Crossi 83.50 230 P P 04 45 20.3 -0.2
BRTR Keskin Array B 83.65 333 P P 04 45 20.7 -0.7
comp=Z,0.5nm,0.5s,baz=46,slow=3.6,SNR=3.6
BRTR Keskin Array B 83.65 333 PKIKP P 04 45 20.4 -1.0
BRTR Keskin Array B 83.65 333 P P 04 45 20.4 -1.1
ASAR Alice Springs 84.80 220 P P 04 45 28.2 +1.2
comp=Z,2.4nm,0.8s,baz=18,slow=5.0,SNR=13
ASAR Alice Springs 84.80 220 P P 04 45 27.9 +0.9
STKA Stephens Creek 89.53 211 P P 04 45 51.3 +1.7
comp=Z,3.8nm,0.6s,baz=349,slow=5.5,SNR=7.3
TORD Torodi Ar. Bea 115.08 356 PKP PKiKP 04 51 32.9 -0.4
comp=Z,0.5nm,0.5s,baz=354,slow=2.3,SNR=7.5
TORD Torodi Ar. Bea 115.08 356 PKiKP 04 51 32.6 -0.8
BRTR Keskin Array B 83.65 333 P P 04 45 20.4 -1.1
MAW Mawson 145.90 218 PKPbc PKPab 04 52 30.9 0.0
comp=Z,7.3nm,0.7s,baz=105,slow=2.2,SNR=7.9
MAW Mawson 145.90 218 PKPbc 04 52 30.1 -0.1
BOSA Boshof 149.27 309 PKPbc PKiKP 04 52 41.5 -0.4
comp=Z,5.8nm,0.6s,baz=29,slow=2.4,SNR=26

*NEIC **24** 04:36:33.3± 1.8, 30.0°S± 0.2× 177.2°W± 0.3, h22km± 10km, mb4.4/7, Error ellipse: s-maj=36.4km s-min=12.0km az=56.0*
*IDC **24** 04:36:37.7± 4.6, 30.01°S× 177.44°W, h38km± 39km, mb3.9/5, mb1 4.0/5, mb1mx3.7/38, mbtmp4.1/5, Error ellipse: s-maj=39.2km s-min=33.3km az=62.0*
ISC 24 04:36:36.4± 1.1, 30.0°S± 0.1× 177.3°W± 0.2, h35km, n29, σ1° 49/21, mb4.3/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
RAO	**Raoul Island**	**0.95**	**323**	Pn		**Pn**	**04 36 53.2**	**0.0**
	372nm,0.3s,baz=97,slow=22,SNR=7.8							
RAO				Sn		**Sn**	**04 37 05.1**	**-0.4**
	2µm,0.3s,baz=220,slow=22,SNR=9.3							
RAO	**Raoul Island**	**0.95**	**323**			**Pn**	**04 36 52.7**	**-0.5**
RAO				Sn		**Sn**	**04 37 04.5**	**-1.1**
DZM	**Mont Dzumac**	**16.63**	**295**	Pn		**P**	**04 40 33.9**	**+4.9**
	0.1nm,0.3s,baz=83,slow=21,SNR=1.7							
ODZ	**Otahu Downs**	**17.78**	**209**			**Pn**	**04 40 40.1**	**-0.9**
CTA	**Charters Tower**	**34.37**	**278**	P		**P**	**04 43 19.4**	**-0.8**
	2.1nm,0.5s,baz=104,slow=8.3,SNR=2.0							
CTAO	**Charters Tower**	**34.37**	**278**	P		**P**	**04 43 19.9**	**-0.3**
CTAO				IAmb	IAmb		04 43 28.3	
	comp=Z,4.9nm,1.1s							
STKA	**Stephens Creek**	**35.19**	**256**	P		**P**	**04 43 27.8**	**+0.6**
	comp=Z,4.4nm,1.0s,baz=94,slow=14,SNR=4.4							
STKA	**Stephens Creek**	**35.19**	**256**	IAmb	IAmb		04 43 45.5	
	comp=Z,1.4nm,0.9s							
ASAR	**Alice Springs**	**43.77**	**266**	P		**P**	**04 44 37.5**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=105,slow=7.5,SNR=6.6							
WB2	**Warramunga Arr**	**44.71**	**271**	P		**P**	**04 44 45.5**	**-0.9**
WRA	**Warramunga Arr**	**44.73**	**271**	P		**P**	**04 44 46.3**	**-0.2**
	comp=Z,2.0nm,0.4s,baz=110,slow=8.1,SNR=6.7							
WB0	**Warramunga Arr**	**44.75**	**272**	P		**P**	**04 44 44.4**	**-2.2**
WB0				IAmb	IAmb		04 44 54.5	
	comp=Z,4.2nm,0.8s							
CASY	**Casey**	**55.78**	**208**	P		**P**	**04 46 08.6**	**-0.8**
CASY				IAmb	IAmb		04 46 15.7	
	comp=Z,6.3nm,0.8s							
QSPA	**South Pole Qui**	**60.09**	**180**	P		**P**	**04 46 40.8**	**+0.9**
	comp=Z,3.0nm,1.1s,baz=53,slow=3.3,SNR=4.1							
QSPA	**South Pole Qui**	**60.09**	**180**	P		**P**	**04 46 40.9**	**+1.0**
QSPA				IAmb	IAmb		04 46 49.0	
	comp=Z,5.0nm,1.0s							
H03S2	**Juan Fernandez**	**80.14**	**123**	T		T	06 18 11.8	
	baz=238,slow=75,SNR=8.3							
H03S1	**Juan Fernandez**	**80.15**	**123**	T		T	06 18 12.9	
	baz=238,slow=75,SNR=7.9							
H03S3	**Juan Fernandez**	**80.16**	**123**	T		T	06 18 11.8	
	baz=238,slow=75,SNR=8.4							
H03N3	**Juan Fernandez**	**80.33**	**123**	T		T	06 18 23.5	
	baz=242,slow=73,SNR=4.2							
H03N2	**Juan Fernandez**	**80.33**	**123**	T		T	06 18 15.6	
	baz=242,slow=73,SNR=4.7							
H03N1	**Juan Fernandez**	**80.35**	**123**	T		T	06 18 17.8	
	baz=242,slow=73,SNR=5.9							
H10N3	**ASCENSION HYDR**	**88.88**	**153**	T		T	07 31 56.6	
	baz=204,slow=76,SNR=5.0							
H10N1	**ASCENSION HYDR**	**88.88**	**154**	T		T	07 31 56.4	
	baz=204,slow=76,SNR=6.0							
H10N2	**ASCENSION HYDR**	**88.89**	**153**	T		T	07 31 58.7	
	baz=204,slow=76,SNR=5.4							
FINES	**FINESS Array B**	**145.00**	**341**	PKP		**PKPdf**	**04 56 09.0**	**-0.1**
	comp=Z,3.0nm,0.5s,baz=62,slow=3.3,SNR=11							
FINES	**FINESS Array B**	**145.00**	**341**			**PKPab**	**04 56 07.0**	**-1.5**
NB2	**NORSAR Subarra**	**148.46**	**352**	PKP		**PKiKP**	**04 56 20.8**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=17,slow=2.6							
AKASG	**Malin Array Be**	**151.38**	**324**	PKPbc		**PKiKP**	**04 56 26.9**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=60,slow=2.2,SNR=1.8							
AKASG	**Malin Array Be**	**151.38**	**324**			**PKPbc**	**04 56 26.2**	**+0.2**

*AEIC **24** 04:39:05.1± 7.7, 51.96°N± 0.09× 176.30°E± 0.07, h17km± 3km, Error ellipse: s-maj=13.4km s-min=4.8km az=195.0*
*IDC **24** 04:39:06.2± 0.5, 52.23°N× 176.61°E, h0km, mb4.4/40, mb1 4.6/43, mb1mx4.5/69, mbtmp4.5/43, ML5.0/2, MS4.9/1, Ms1 4.9/1, ms1mx3.5/45, Error ellipse: s-maj=15.0km s-min=9.1km az=166.0*
*MOS **24** 04:39:07.0± 1.0, 52.22°N× 176.60°E, h19km, mb4.9/58, Error ellipse: s-maj=6.6km s-min=5.8km az=79.4*
*UNK **24** 04:39:08.6, 52.18°N× 176.45°E, h17km*
*NEIC **24** 04:39:08.2± 1.4, 52.23°N± 0.08× 176.49°E± 0.06, h17km± 3km, mb4.9/182, ML4.5(AEIC), Error ellipse: s-maj=12.5km s-min=4.4km az=194.0*
*BGR **24** 04:39:22.7± 0.0, 53.05°N× 176.00°E, h33km, mb4.9*
ISC 24 04:39:08.3± 0.7, 52°22'N± 0.07× 176°52'E± 0.03, h13km± 4km, n751, σ1° 92/730, mb4.8/171, MS4.8/4, 21C-15D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LSNW	**Little Sitkin**	**1.26**	**100**			**Pn**	**04 39 31.2**	**-0.4**
LSSA	**Little Sitkin**	**1.26**	**101**			**Pn**	**04 39 31.2**	**-0.4**
LSPA	**Little Sitkin**	**1.29**	**101**			**Pb**	**04 39 32.5**	**+0.1**
SMY	**Shemya**	**1.57**	**290**	P		**Pn**	**04 39 33.6**	**-2.2**
SMY	**Shemya**	**1.57**	**290**			**Pn**	**04 39 33.8**	**-1.9**
SMY	**Shemya**	**1.57**	**290**			**Sn**	**04 39 56.0**	**+0.1**
CETU	**Semis' Tuman**	**1.85**	**97**			**Pn**	**04 39 39.7**	**0.0**
CEAP	**Semis' Anvil P**	**1.90**	**95**			**Pn**	**04 39 40.6**	**+0.3**
AMKA	**Amchitka**	**1.92**	**115**			**Pn**	**04 39 39.6**	**-1.0**
AMKA						**Sn**	**04 40 05.5**	**+0.9**
CERAA	**Semis' Rag'd T**	**1.98**	**98**			**Pn**	**04 39 41.0**	**-0.4**
GAEA	**Gareloi East**	**2.96**	**97**			**Pn**	**04 39 55.7**	**+0.8**
TASE	**Tanaga Southea**	**3.38**	**94**			**Pn**	**04 40 01.1**	**+0.3**
TAFP	**Tanaga Falls P**	**3.41**	**93**			**Pn**	**04 40 01.9**	**+0.8**
TAPA	**Tanaga Point A**	**3.52**	**94**			**Pn**	**04 40 02.7**	**0.0**
KIMD	**Kanaga Island**	**3.89**	**94**			**Pn**	**04 40 07.8**	**+0.2**
KICM	**Kanaga Island**	**3.89**	**92**			**Pn**	**04 40 08.1**	**+0.4**
KIKV	**Kanaga Island**	**3.91**	**92**			**Pn**	**04 40 07.8**	**-0.2**
ADK	**Adak**	**4.21**	**92**	P		**Pn**	**04 40 10.0**	**-2.0**
ADK	**Adak**	**4.21**	**92**			**Pn**	**04 40 10.0**	**-2.0**
GSTD	**Great Sitkin T**	**4.52**	**89**			**Pn**	**04 40 15.1**	**-1.3**
GSTR	**Great Sitkin T**	**4.57**	**89**			**Pn**	**04 40 16.1**	**-1.0**

GSMY Great Sitkin M 4.58 89 Pn 04 40 16.8 -0.3
ATKA Atka Island 5.71 86 Pn 04 40 31.1 -1.6
KOFP Korovin Flat P 5.77 86 Pn 04 40 34.7 +1.2
NIKH Nikolski High 8.94 79 Pn 04 41 16.7 -0.3
SPIA Saint Paul Isl 9.13 52 Pn 04 41 19.5 0.0
UNV Unalaska Valle 10.36 74 Pn Pn 04 41 36.4 +0.1
AKUT Akutan 10.80 73 Pn Pn 04 41 41.7 -0.8
PET Petropavlovsk 10.89 281 P Pn 04 41 44.1 +0.4
PET Petropavlovsk 10.89 281 Pn Pn 04 41 42.2 -1.5
PEA0B Petropavlovsk- 11.46 282 ceP Pn 04 41 52.3 +0.8
PEA0B Petropavlovsk- 11.46 282 Pn Pn 04 41 51.2 -0.3
PETK Petropavlovsk- 11.46 282 Pn Pn 04 41 52.7 +1.2
1.5nm,0.3s,baz=92,slow=19,SNR=23
PETK Sn Sn 04 43 54.4 -4.9
0.4nm,0.3s,baz=102,slow=23,SNR=2.4
PETK Petropavlovsk- 11.46 282 Pn Pn 04 41 50.9 -0.6
SKR Severo-Kuril's 12.82 271 eP Pn 04 42 11.2 +1.2
SKR e 04 44 26.3
GAMB Gambell 13.13 24 Pn Pn 04 42 14.0 -0.2
SDPT Sand Point 13.94 68 Pn Pn 04 42 23.4 -1.9
CNBA Chernabura Isl 14.43 70 Pn Pn 04 42 33.8 +1.8
ANM Nome 15.51 30 P Pn 04 42 43.7 -2.7
ANM pmax pmax
comp=Z,49nm,1.2s
ANM Nome 15.51 30 Pn Pn 04 42 43.7 -2.7
MA2 Magadan 16.13 307 Pn P 04 42 56.5 -1.2
comp=Z,1.1nm,0.3s,baz=110,slow=12,SNR=2.2
MA2 Magadan 16.13 307↑ eP Pn 04 42 56.0 +1.5
MA2 Magadan 16.13 307 Pn Pn 04 42 54.8 +0.3
BILL Bilibino 16.63 346↑ eP P 04 43 03.1 -0.1
BILL pmax pmax
comp=Z,15nm,1.2s
BILL MLR MLR
comp=Z,2µm,17.0s
BILL Bilibino 16.63 346 P Pn 04 43 01.5 +0.7
SVW2 Sparrevohn 17.60 49 P P 04 43 14.6 +0.7
OHAK Old Harbor 18.05 62 Pn 04 43 18.2 -0.3
TTA Tatalina 18.06 43 P P 04 43 19.2 +0.1
TTA pmax pmax
comp=Z,20nm,1.0s
TTA Tatalina 18.06 43 P P 04 43 19.2 +0.1
KDAK Kodiak Island 18.47 60 P P 04 43 23.2 -0.3
comp=Z,1.0nm,0.3s,baz=274,slow=4.4,SNR=16
KDAK Kodiak Island 18.47 60 P Pn 04 43 23.7 +0.1
KDAK pmax pmax
comp=Z,68nm,1.0s
KDAK Kodiak Island 18.47 60 P Pn 04 43 23.7 +0.1
KDAK IAmb IAmb 04 43 37.2
comp=Z,68nm,1.0s
RDOG Red Dog Mine 18.73 24 Pn 04 43 27.5 +0.7
CNPM China Poot 19.36 55 Pn 04 43 34.3 0.0
CNPM IAmb IAmb 04 43 40.7
comp=Z,74nm,0.9s
BRLK Bradley Lake 19.57 54 IAmb IAmb 04 43 40.0
comp=Z,63nm,0.9s
O22K Cooper Landing 20.25 53 P P 04 43 43.1 +0.1
baz=261
SEW Seward 20.33 54 P P 04 43 44.2 +0.4
SEW IAmb IAmb 04 44 02.7
comp=Z,64nm,1.0s
BPAW Bear Paw Mtn. 20.59 42 Pn 04 43 48.3 -0.6
BPAW IAmb IAmb 04 43 50.1
comp=Z,41nm,1.1s
TRF Thorofare Moun 20.67 44 P Pn 04 43 49.0 -1.0
TRF IAmb IAmb 04 43 50.2
comp=Z,78nm,1.0s
PMR Palmer 20.73 50 P P 04 43 47.7 -0.4
PMR pmax pmax
comp=Z,15nm,0.8s
PMR Palmer 20.73 50 P P 04 43 47.7 -0.4
KNK Knik Glacier 21.01 50 IAmb IAmb 04 43 58.4
comp=Z,58nm,0.8s
SML Sawmill 21.15 49 P P 04 43 52.5 -0.2
NEA2 Nenana 21.54 42 P P 04 43 57.6 +0.8
baz=251,SNR=46
GLI Glacier Island 21.59 52 P P 04 43 57.4 0.0
GLI IAmb IAmb 04 43 58.5
comp=Z,69nm,0.9s
SCM Sheep Creek Mo 21.62 49 P P 04 43 57.7 -0.1
SCM pmax pmax
comp=Z,178nm,0.9s
SCM Sheep Creek Mo 21.62 49 P P 04 43 57.7 -0.1
DHY Denali Highway 21.84 46 P P 04 44 00.6 +0.3
DHY IAmb IAmb 04 44 02.1
comp=Z,51nm,1.1s
WRH Wood River Hil 21.90 42 IAmb IAmb 04 44 03.4
comp=Z,49nm,0.9s
YUK Yuzh-Kuril'sk 21.91 260↓ eP P 04 44 00.9 0.0
MDM Murphy Dome 22.00 41 P P 04 44 01.9 +0.1
MDM IAmb IAmb 04 44 05.4
comp=Z,34nm,1.2s
CCB Clear Creek Bu 22.07 42 IAmb IAmb 04 44 05.2
comp=Z,54nm,1.1s
TCOL CIGO, UAF Yank 22.12 41 P P 04 44 03.6 +0.5
baz=252,SNR=9.0
COLA College 22.12 41 ceP P 04 44 03.8 +0.7
COLA pmax pmax
comp=Z,68nm,1.1s
COLA College 22.12 41 P P 04 44 04.1 +1.0
COLD Coldfoot 22.12 35 P P 04 44 03.5 +0.4
baz=244,SNR=13
COLD Coldfoot 22.12 35 P P 04 44 04.0 +0.9
EYAK Cordova Ski Ar 22.21 53 IAmb IAmb 04 44 07.6
comp=Z,46nm,1.0s
HDA Harding Lake 22.36 43 P P 04 44 06.5 +0.8
baz=254,SNR=8.8
HDA Harding Lake 22.36 43 P P 04 44 04.2 -1.5
HDA IAmb IAmb 04 44 09.3
comp=Z,29nm,1.0s
POKR Poker Plat Res 22.37 41 P P 04 44 06.2 +0.5
baz=252,SNR=16
YSS Yuzh-Sakhalins 22.38 270 eP P 04 44 07.7 +1.7
YSS e 04 44 32.6
YSS pmax pmax
comp=Z,30nm,1.2s
IL31 22.49 42 P P 04 44 05.7 -1.2
IL31 IAmb IAmb 04 44 09.6
comp=Z,40nm,1.1s
ILAR Eielson Array 22.49 42 P P 04 44 06.5 -0.5
comp=Z,24nm,1.0s,baz=244,slow=8.6,SNR=81
ILAR Eielson Array 22.49 42 P P 04 44 05.3 -1.7
ILAR Eielson Array 22.49 42 P P 04 44 05.3 -1.7
PAX Paxson 22.67 47 P P 04 44 09.2 +0.1
PAX pmax pmax
comp=Z,65nm,1.1s
PAX Paxson 22.67 47 P P 04 44 09.2 +0.1
PAX IAmb IAmb 04 44 11.1
comp=Z,65nm,1.1s
TOLK Toolik Lake Re 22.99 32 P P 04 44 13.0 +0.7
baz=242,SNR=44
TOLK Toolik Lake Re 22.99 32 P P 04 44 12.8 +0.5
TOLK IAmb IAmb 04 44 14.1
comp=Z,50nm,1.1s
GLB Gilahina Butte 23.23 51 P P 04 44 14.8 -0.1
GLB IAmb IAmb 04 44 18.5
comp=Z,27nm,0.9s
DOT Dot Lake 23.43 45 P P 04 44 15.9 -0.8
MENT Mentasta 23.46 47 IAmb IAmb 04 44 37.6
comp=Z,32nm,0.9s
SCRK Sand Creek 23.52 45 P P 04 44 16.9 -0.9
SCRK IAmb IAmb 04 44 18.0
comp=Z,34nm,1.0s
FYU Fort Yukon 23.68 38 P P 04 44 20.1 +0.9
FYU IAmb IAmb 04 44 22.7
comp=Z,28nm,0.9s
ASAJ Asahikawa 23.85 264 P P 04 44 21.8 +0.7
comp=Z,13nm,0.8s,baz=111,slow=6.8,SNR=7.4
BMAR Burnt Mountain 24.21 36 P P 04 44 25.2 +1.0
BCAR Beaver Creek A 24.35 47 P P 04 44 25.8 +0.2
CTGM Chitina Glacie 24.40 52 P P 04 44 28.1 +2.0
CTGM IAmb IAmb 04 44 37.1
comp=Z,48nm,1.0s
ERM Erimo 24.68 259↑ eP P 04 44 30.6 +1.9
ERM pmax pmax
comp=Z,55nm,1.2s
ERM Erimo 24.68 259 P P 04 44 29.4 +0.7
GRNR Gornyy 24.79 283↓ iP P 04 44 30.0 +0.4
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=E,360nm,13.0s
GRNR MLR MLR
comp=N,420nm,12.0s
GRNR MLR MLR
comp=Z,1µm,14.0s

EGAK Eagle 24.88 43 P P 04 44 31.2 +1.0
EGAK IAmb IAmb 04 44 35.1
comp=Z,40nm,0.9s

DAWY Dawson 25.53 45 P P 04 44 37.9 +1.6
DAWY IAmb IAmb 04 44 41.1
comp=Z,44nm,1.1s

HYT Haines Junctio 26.27 53 P P 04 44 44.4 +1.3
YAK Yakutsk 26.67 310 *eP* P 04 44 48.2 +1.8
YAK pmax pmax
comp=Z,20nm,0.9s

EPYK Eagle Plains 26.96 40 P P 04 44 50.0 +0.9
baz=261
EPYK Eagle Plains 26.96 40 IAmb IAmb 04 44 51.4
comp=Z,22nm,1.1s

SKAG Skagway 27.45 56 P P 04 44 54.1 +0.6
KLR Kul'dur 28.16 282 P P 04 44 58.8 -1.1
comp=Z,1.3nm,0.7s,baz=62,slow=10.0,SNR=3.1
KLR Kul'dur 28.16 282‖ *eP* P 04 45 00.0 +0.1
KLR pmax pmax
comp=Z,5.0nm,1.4s

TIXI Tiksi 28.48 331 P P 04 45 03.2 +0.7
comp=Z,1.4nm,0.5s,baz=292,slow=18,SNR=2.2
INK Inuvik 28.48 37 P P 04 45 02.5 -0.1
comp=Z,12nm,0.9s,baz=235,slow=6.4,SNR=14
INK Inuvik 28.48 37 P P 04 45 03.5 +0.9
INK pmax pmax
comp=Z,19nm,1.1s
INK Inuvik 28.48 37 P P 04 45 03.5 +0.9
INK IAmb IAmb 04 45 11.7
comp=Z,19nm,1.1s

ZEA Zeya 29.23 293 *eP* P 04 45 11.6 +2.1
ZEA pmax pmax
comp=Z,17nm,1.0s

USA0B Ussuriysk Arra 30.33 273 P P 04 45 18.5 -0.7
USA0B pmax pmax
comp=Z,7.0nm,1.0s
USA0B Ussuriysk Arra 30.33 273 P P 04 45 18.5 -0.7
USRK Ussuriysk Ar. 30.33 273 P P 04 45 18.7 -0.5
comp=Z,2.9nm,0.8s,baz=59,slow=12,SNR=4.5

MAJO Matsushiro 31.11 255 P P 04 45 26.6 +0.3
MAJO pmax pmax
comp=Z,12nm,1.1s
MAJO Matsushiro 31.11 255 P P 04 45 26.6 +0.3
MAJO IAmb IAmb 04 45 36.5
comp=Z,12nm,1.1s
MAT Matsushiro 31.11 255 P P 04 45 26.9 +0.6
MJAR Matsushiro Arr 31.11 255 P P 04 45 27.5 +1.3
comp=Z,1.3nm,0.4s,baz=54,slow=6.5,SNR=4.4
MJAR Matsushiro Arr 31.11 255 P P 04 45 26.3 0.0
MJAR pmax pmax
comp=Z,2.0nm,1.0s
MJAR Matsushiro Arr 31.11 255 P P 04 45 26.3 0.0
MSHR Mys Shultsa 31.71 271 *iP* P 04 45 32.4 +1.0
MSHR pmax pmax
comp=Z,8.0nm,0.8s

A36M Sachs Harbour 31.79 30 P P 04 45 33.1 +1.3
baz=263
H11N2 WAKE ISLAND Hy 33.28 197 T T 05 20 49.7
baz=11,slow=76,SNR=2416
H11N3 WAKE ISLAND Hy 33.29 197 T T 05 20 50.5
baz=11,slow=76,SNR=2575
H11N1 WAKE ISLAND Hy 33.30 197 T T 05 20 51.1
baz=11,slow=76,SNR=2863
H11S1 WAKE ISLAND Hy 34.51 197 T T 05 22 22.1
baz=10,slow=76,SNR=799
H11S3 WAKE ISLAND Hy 34.53 197 T T 05 22 23.7
baz=10,slow=76,SNR=1100
H11S2 WAKE ISLAND Hy 34.53 197 T T 05 22 23.3
baz=10,slow=76,SNR=228

KSRS Korea Array 36.76 266 P P 04 46 16.5 +1.3
comp=Z,2.7nm,0.8s,baz=54,slow=8.3,SNR=8.0
YKA Yellowknife Ar 36.76 46 P P 04 46 16.0 +1.1
comp=Z,3.9nm,0.8s,baz=285,slow=8.6,SNR=20
YKA PcP PcP 04 48 36.6 -0.2
comp=Z,1.4nm,0.9s,baz=290,slow=2.5,SNR=5.0
YKA LR LR 05 01 57.9
comp=Z,2µm,18.1s,baz=0.0,slow=37

KSAR Wonju Array Be 36.79 266 P P 04 46 14.7 -0.8
KSAR Wonju Array Be 36.79 266 P P 04 46 14.7 -0.8
LLLB Lillooet 37.44 67 P P 04 46 21.0 +0.1
TJN Taejon 37.79 265‖ *eP* P 04 46 25.0 +1.0
JNU Nakatsue 37.84 258 P P 04 46 25.7 +1.2
comp=Z,8.6nm,0.9s,baz=6.0,slow=6.2,SNR=5.1
JNU Nakatsue 37.84 258 P P 04 46 24.6 +0.1
JNU IAmb IAmb 04 46 41.2
comp=Z,20nm,1.1s

D03D Eldon 38.21 72 P P 04 46 27.2 -0.2
baz=300,SNR=6.4
B05A Bryant 38.43 71 P P 04 46 29.0 -0.2
baz=300
E04D Cinebar 39.02 73 P P 04 46 34.1 -0.1
baz=301
D05A Enumclaw 39.03 72 P P 04 46 33.7 -0.6
COR Corvallis 39.63 76 P P 04 46 39.2 -0.2
COR pmax pmax
comp=Z,32nm,1.2s
COR Corvallis 39.63 76 P P 04 46 39.2 -0.2
COR IAmb IAmb 04 46 49.6
comp=Z,32nm,1.2s

H04D Lebanon 40.01 76 P P 04 46 42.3 -0.1
baz=303
J01E Myrtle Point 40.05 79 P P 04 46 42.7 -0.1
baz=304
RES Resolute Bay 40.18 24 P P 04 46 41.6 -1.9
RES pmax pmax
comp=Z,14nm,1.1s
RES Resolute Bay 40.18 24 P P 04 46 41.6 -1.9
G05D Wamic, OR 40.46 74 P P 04 46 46.5 +0.2
baz=303
HAWA Hanford 40.89 72 P P 04 46 49.3 -0.5
D08A Wollman Farm, 40.89 71 P P 04 46 48.3 -1.5
I05D Terrebonne, OR 40.94 75 P P 04 46 49.6 -0.7
baz=304
J04D Umpqua Nationa 41.10 77 P P 04 46 51.0 -0.8
baz=305
NEW Newport 41.29 68 P P 04 46 52.4 -0.7
baz=301,SNR=10
NEW Newport 41.29 68 P P 04 46 51.7 -1.4
NEW pmax pmax
comp=Z,11nm,1.0s
NEW Newport 41.29 68 P P 04 46 51.7 -1.4
PINE Pine Mountain 41.49 76 P P 04 46 52.8 -2.2
PINE PcP PcP 04 48 52.8 +0.4
L04D Klamath Falls 41.57 79 P P 04 46 54.8 -0.8
baz=306
J05D Fort Rock, OR 41.60 77 P P 04 46 54.8 -1.0
baz=305
M02C Callahan 41.73 80 P P 04 46 56.2 -0.6
baz=306
M04C Macdoel 42.11 79 P P 04 46 59.4 -0.6
baz=306
BJI Beijing 42.37 278 P P 04 47 02.8 +0.9
BJI pmax pmax
comp=Z,9.0nm,1.6s
BJT Baijiatuau 42.38 278 P P 04 47 02.2 +0.1
BJT pmax pmax
comp=Z,9.0nm,1.0s
BJT Baijiatuau 42.38 278 P P 04 47 02.2 +0.1
O02D Mt. Diablo Mer 42.49 82 P P 04 47 02.4 -0.7
baz=308
WALA Waterton Lakes 42.69 65 P P 04 47 04.7 +0.1
WALA IAmb IAmb 04 47 12.1
comp=Z,19nm,0.9s
MOD Modoc Plateau 42.96 78 P P 04 47 06.8 -0.1
O03E Paynes Creek 43.02 81 P P 04 47 06.8 -0.6
baz=308
BMO Blue Mountains 43.04 72 P P 04 47 06.9 -0.6
BMO pmax pmax
comp=Z,4.0nm,1.0s
BMO Blue Mountains 43.04 72 P P 04 47 06.9 -0.6
ULN Ulaanbaatar 43.27 293 P P 04 47 08.5 -0.9
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 43.27 293 P P 04 47 08.4 -0.9
SONM Songino Array 43.66 293 P P 04 47 12.7 +0.2
comp=Z,2.1nm,0.6s,baz=66,slow=7.6,SNR=10
SONM Songino Array 43.66 293 P P 04 47 12.5 0.0
SONM pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 43.66 293 P P 04 47 12.5 0.0
ORV Oroville 43.66 81 P P 04 47 12.2 -0.2
ORV pmax pmax
comp=Z,4.0nm,0.8s
ORV Oroville 43.66 81 P P 04 47 12.2 -0.2
MSO Missoula 43.88 68 P P 04 47 12.6 -1.7
baz=304

MSO Missoula 43.88 68 P P 04 47 13.5 -0.8
ZAK Zakamensk 44.01 298 *eP* P 04 47 15.5 +0.3
ZAK pmax pmax
comp=Z,5.0nm,1.4s
HHC Hu-ho-hao-te 44.67 282 *eP* P 04 47 19.8 -0.8
HHC pmax pmax
comp=Z,230nm,1.0s
HHC pmax pmax
comp=Z,250nm,5.5s
HHC LR LR
comp=N,560nm,15.5s
HHC LR LR
comp=E,710nm,14.2s
HHC LR LR
comp=Z,980nm,14.4s
HRY Holter Researc 45.15 67 P P 04 47 23.7 -0.7
HLID Hailey 45.48 72 P P 04 47 26.4 -0.7
baz=306,SNR=8.5
HLID Hailey 45.48 72 P P 04 47 26.1 -1.0
EGMT Eagleton 45.57 64 P P 04 47 27.1 -0.6
baz=304,SNR=8.2
EGMT Eagleton 45.57 64 P P 04 47 27.0 -0.6
EGMT IAmb IAmb 04 47 29.1
comp=Z,9.5nm,0.9s
MCMT McKenzie Canyo 45.65 70 P P 04 47 27.6 -0.9
BOZ Bozeman (W) 45.90 68 P P 04 47 29.6 -0.8
baz=306,SNR=16
BOZ Bozeman (W) 45.90 68 P P 04 47 29.7 -0.7
BOZ pmax pmax
comp=Z,7.0nm,0.8s
BOZ Bozeman (W) 45.90 68 P P 04 47 29.7 -0.7
BOZ IAmb IAmb 04 47 35.9
comp=Z,7.4nm,0.8s
NJ2 Nanjing 45.91 267 *eP* P 04 47 30.4 0.0
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
FFC Flin Flon 45.98 53 P P 04 47 30.3 -0.4
FFC pmax pmax
comp=Z,6.0nm,1.1s
FFC Flin Flon 45.98 53 P P 04 47 30.3 -0.4
NVAR Mina Array Bea 46.30 80 P P 04 47 33.8 0.0
comp=Z,5.0nm,0.8s,baz=289,slow=7.9,SNR=18
NVAR PcP PcP 04 49 09.1 +0.3
comp=Z,2.2nm,0.8s,baz=278,slow=4.6,SNR=4.2
NVAR Mina Array Bea 46.30 80 P P 04 47 33.3 -0.5
NVAR PcP PcP 04 49 08.7 -0.1
ELK Elko 46.70 76 P P 04 47 36.0 -0.8
ELK pmax pmax
comp=Z,4.0nm,1.0s
ELK Elko 46.70 76 P P 04 47 36.0 -0.8
GCMT Greycliff 46.90 67 P P 04 47 37.3 -1.0
H17A Grant Village 47.21 69 P P 04 47 40.3 -0.5
baz=307
TIN Tinemaha, Big 47.23 82 P P 04 47 40.7 -0.2
baz=310
FCC Fort Churchill 47.45 45 P P 04 47 42.2 +0.1
FCC pmax pmax
comp=Z,15nm,1.1s
FCC Fort Churchill 47.45 45 P P 04 47 42.2 +0.1
FCC IAmb IAmb 04 47 49.1
comp=Z,15nm,1.1s
RLMT Red Lodge 47.53 67 P P 04 47 42.6 -0.6
baz=306,SNR=6.5
CWC Cottonwood Cre 47.72 82 P P 04 47 44.4 -0.4
baz=311
BGU Big Grassy Mou 47.90 74 P P 04 47 44.8 -1.3
R11A Troy Canyon, C 48.00 79 P P 04 47 46.2 -0.7
baz=310,SNR=11
R11A Troy Canyon, C 48.00 79 P P 04 47 46.4 -0.5
LAO LASA Array 48.30 64 P P 04 47 48.8 -0.2
baz=307
LAO LASA Array 48.30 64 P P 04 47 48.3 -0.7
LAO IAmb IAmb 04 47 55.0
comp=Z,8.9nm,0.8s
MPMC Manual Prospec 48.33 82 P P 04 47 48.8 -0.7
baz=311
DGMT Dagmar 48.35 61 P P 04 47 48.8 -0.5
baz=306
FURC Furnace Creek, 48.45 81 P P 04 47 49.6 -0.5
baz=311
DUG Dugway, Tooele 48.49 75 P P 04 47 49.9 -0.7
baz=309,SNR=7.7
DUG Dugway, Tooele 48.49 75 P P 04 47 49.7 -0.9
DUG pmax pmax
comp=Z,6.0nm,1.0s
DUG Dugway, Tooele 48.49 75 P P 04 47 49.7 -0.9
TPNV Topopah Spring 48.50 80 P P 04 47 50.4 -0.4
baz=311,SNR=16
TPNV Topopah Spring 48.50 80 P P 04 47 50.6 -0.2
TPNV pmax pmax
comp=Z,12nm,0.9s
TPNV Topopah Spring 48.50 80 P P 04 47 50.6 -0.2
TPNV IAmb IAmb 04 47 56.8
comp=Z,12nm,0.8s
BW06 Boulder Array 48.79 70 P P 04 47 52.0 -1.1
baz=308,SNR=14
BW06 Boulder Array 48.79 70 P P 04 47 52.2 -0.8
BW06 IAmb IAmb 04 47 58.6
comp=Z,7.9nm,0.9s
PDAR Pinedale Array 48.79 70 P P 04 47 52.2 -0.8
comp=Z,5.0nm,0.8s,baz=306,slow=3.7,SNR=39
PDAR Pinedale Array 48.79 70 P P 04 47 51.7 -1.3
CTU Camp Tracy 48.80 74 P P 04 47 50.8 -2.2
EDW2 Edwards Air Fo 48.80 84 P P 04 47 52.4 -0.6
baz=312
SHOC Shoshone, Teco 49.18 82 P P 04 47 55.1 -0.7
baz=312
GSC Goldstone, Bar 49.25 83 P P 04 47 55.9 -0.5
baz=312,SNR=7.9
GSC Goldstone, Bar 49.25 83 P P 04 47 56.2 -0.2
GSC pmax pmax
comp=Z,8.0nm,0.8s
GSC Goldstone, Bar 49.25 83 P P 04 47 56.2 -0.2
GSC IAmb IAmb 04 48 02.4
comp=Z,8.1nm,0.8s
SPA0 Spitsbergen Ar 49.30 355 P P 04 47 56.8 +0.6
SPITS Spitsbergen Ar 49.30 355 P P 04 47 56.5 +0.3
comp=Z,4.2nm,0.6s,baz=46,slow=7.1,SNR=18
HEC Hector,Ludlow 49.85 83 P P 04 48 00.5 -0.5
baz=312
TMUT Trail Mountain 50.01 75 P P 04 48 02.0 -0.5
MURC Murrieta 50.15 84 P P 04 48 03.1 -0.2
baz=313
GMRC Granite Mounta 50.29 82 P P 04 48 03.9 -0.5
baz=312
SRU San Rafael Swe 50.54 74 P P 04 48 06.0 -0.3
SRU pmax pmax
comp=Z,7.0nm,0.8s
SRU San Rafael Swe 50.54 74 P P 04 48 06.0 -0.3
PFO Pinyon Flats O 50.59 84 P P 04 48 05.1 -1.6
comp=Z,2.4nm,0.8s,baz=348,slow=4.2,SNR=5.4
PFO Pinyon Flats O 50.59 84‖ *eP* P 04 48 06.4 -0.3
PFO pmax pmax
comp=Z,4.0nm,0.9s
K22A Casper 50.61 68 P P 04 48 05.8 -1.0
baz=309
BELC Belle Mtn. Jos 50.61 83 P P 04 48 06.2 -0.7
baz=313
XAN Xi'an 50.66 277 P P 04 48 10.3 +3.2
XAN pmax pmax
comp=Z,7.0nm,1.2s
IRM Iron Mountain 51.03 82 P P 04 48 09.6 -0.3
baz=313
RSSD Black Hills 51.09 65 P P 04 48 09.6 -0.9
baz=309
W13A Hualapai Mount 51.16 81 P P 04 48 09.8 -1.3
BC3 Big Chuckawall 51.18 83 P P 04 48 10.5 -0.6
baz=313
O20A White River Ci 51.22 72 P P 04 48 10.3 -1.1
baz=310,SNR=5.5
U15A North Rim 51.24 78 P P 04 48 11.8 +0.1
IKP In-Ko-Pah, Jac 51.47 85 P P 04 48 13.1 -0.1
baz=314
PDMCI Parker Dam,Lak 51.54 82 P P 04 48 13.3 -0.4
baz=313
ULM Lac du Bonnet 51.62 55 P P 04 48 13.1 -0.9
comp=Z,6.0nm,0.8s,baz=273,slow=6.6,SNR=4.0
ULM Lac du Bonnet 51.62 55 P P 04 48 13.5 -0.5
ULM pmax pmax
comp=Z,14nm,1.0s
ULM Lac du Bonnet 51.62 55 P P 04 48 13.5 -0.5
ULM IAmb IAmb 04 48 19.9
comp=Z,14nm,1.0s
PV22 Blue Mesa, Par 51.94 74 P P 04 48 15.9 -0.9
PV22 IAmb IAmb 04 48 21.9
comp=Z,11nm,0.9s

GLA Glamis 51.98 83 P P 04 48 16.7 -0.3
baz=313
PV17 East Wray Mesa 52.01 74 P P 04 48 16.8 -0.5
PV17 IAmb IAmb 04 48 18.9
comp=Z,15nm,1.0s
N23A Red Feather La 52.06 70 P P 04 48 17.0 -0.9
baz=310
PV03 Paradox Valley 52.09 74 P P 04 48 16.9 -1.1
PV03 IAmb IAmb 04 48 23.0
comp=Z,10nm,0.9s
LZH Lanzhou 52.36 282 *eP* P 04 48 23.8 +3.8
LZH pP sP 04 48 28.4 +2.8
LZH sP pP 04 48 31.6 +7.6
LZH pmax pmax
comp=Z,29nm,1.0s
WUAZ Wupatki 52.40 78 P P 04 48 19.3 -1.0
baz=312
GTA Gaotai 52.55 288 *eP* P 04 48 21.5 +0.2
GTA pP pP 04 48 26.1 +0.8
GTA sP sP 04 48 29.3 +2.4
GTA pmax pmax
comp=Z,5.0nm,1.1s
DGZ Jazzator, Alta 52.71 305‖ *eP* P 04 48 22.2 -0.1
DGZ pmax pmax
comp=Z,3.0nm,0.9s
AGMN Agassiz Nation 52.85 57 P P 04 48 22.7 -0.6
baz=310,SNR=10
AGMN Agassiz Nation 52.85 57 P P 04 48 23.1 -0.2
AGMN IAmb IAmb 04 48 28.9
comp=Z,16nm,0.9s
ISCO Idaho Springs 52.97 71 P P 04 48 24.0 -0.6
baz=311
ISCO Idaho Springs 52.97 71 P P 04 48 24.0 -0.6
ISCO pmax pmax
comp=Z,4.0nm,1.1s
ISCO Idaho Springs 52.97 71 P P 04 48 24.0 -0.6
MVCO Mesa Verde 52.99 75 P P 04 48 24.2 -0.4
baz=312
SUMG Summit 53.14 12 *i* P P 04 48 26.3 +0.8
comp=Z,82nm,1.1s
SUMG Summit 53.14 12 *i* P P 04 48 26.3 +0.8
SUMG pmax pmax
comp=Z,82nm,1.1s
SUMG Summit 53.14 12 P P 04 48 25.1 -0.4
S22A 4UR Ranch, Cre 53.62 73 P P 04 48 29.0 -0.4
baz=312
W18A Petrified Fore 53.66 78 P P 04 48 29.0 -0.6
baz=313
SUSD Miller 53.69 62 P P 04 48 29.1 -0.4
baz=311
SUSD Miller 53.69 62 P P 04 48 28.7 -0.8
FRB Frobisher Bay 53.79 30 P P 04 48 28.9 -0.9
comp=Z,5.6nm,0.7s,baz=105,slow=0.2,SNR=4.2
Q24A Divide 53.79 71 P P 04 48 29.9 -0.8
baz=312
214A Organ Pipe Nat 53.96 83 P P 04 48 31.1 -0.5
baz=314
F33A 5 Mile Ranch, 54.21 59 P P 04 48 32.4 -0.9
F33A IAmb IAmb 04 48 38.8
comp=Z,7.4nm,0.9s
TUC Tucson 54.95 81 P P 04 48 38.4 -0.5
baz=314
TUC Tucson 54.95 81 P P 04 48 37.3 -1.6
TUC pmax pmax
comp=Z,4.0nm,1.0s
TUC Tucson 54.95 81 P P 04 48 37.3 -1.6
KSCO Kaye Shedlock' 55.22 69 P P 04 48 40.1 -0.7
baz=312
EYMN Ely 55.30 55 P P 04 48 40.9 -0.3
baz=312,SNR=14
EYMN Ely 55.30 55 P P 04 48 41.3 +0.2
EYMN IAmb IAmb 04 48 47.1
comp=Z,22nm,1.1s
ECSD EROS Data Cent 55.43 62 P P 04 48 41.2 -0.9
baz=312,SNR=6.5
ECSD EROS Data Cent 55.43 62 P P 04 48 40.7 -1.4
T25A Trinidad 55.45 72 P P 04 48 41.9 -0.7
baz=313,SNR=10
ANMO Albuquerque 55.74 76 P P 04 48 44.0 -0.8
baz=314
ANMO Albuquerque 55.74 76 P P 04 48 43.9 -0.8
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ANMO Albuquerque 55.74 76 P P 04 48 43.9 -0.8
BGNE Belgrade 56.14 65 P P 04 48 46.9 -0.4
baz=312
E38A The Farm, Brul 56.17 56 P P 04 48 47.3 -0.1
KURK Kurchatov 56.30 311‖ *eP* P 04 48 48.1 -0.1
KURK pmax pmax
comp=Z,23nm,1.2s
KURK Kurchatov 56.30 311 P P 04 48 48.1 -0.1
KURK IAmb IAmb 04 48 55.1
comp=Z,19nm,1.1s
KURBB Kurchatov Arra 56.41 311 P P 04 48 48.5 -0.5
comp=Z,5.7nm,0.8s,baz=46,slow=6.5,SNR=18
WMQ Urumqi 56.42 300 *eP* P 04 48 51.9 +2.6
WMQ pmax pmax
comp=Z,24nm,0.7s
WMQ pmax pmax
comp=Z,250nm,7.7s
WMQ LR LR
comp=N,550nm,18.5s
WMQ LR LR
comp=E,560nm,15.5s
WMQ LR LR
comp=Z,680nm,20.5s
SPMN Marine on St. 56.45 58 P P 04 48 48.7 -0.7
baz=312
SPMN Marine on St. 56.45 58 IAmb IAmb 04 48 55.4
comp=Z,14nm,0.9s
ARCES ARCESS Array B 56.72 348 P P 04 48 50.5 -0.5
comp=Z,2.7nm,0.8s,baz=41,slow=8.4,SNR=2.2
L34A Svendsen Farm, 56.74 63 P P 04 48 51.0 -0.5
CBKS Cedar Bluff 57.01 68 P P 04 48 52.5 -1.0
baz=313
MK31 Makanchi Array 57.21 305 P P 04 48 53.7 -1.1
MK31 pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 57.21 305 P P 04 48 53.7 -1.1
MKAR Makanchi Array 57.21 305 P P 04 48 53.9 -0.9
comp=Z,2.6nm,0.7s,baz=52,slow=6.2,SNR=14
MAKZ Makanchi 57.35 306 P P 04 48 54.3 -1.5
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 57.35 306 P P 04 48 54.3 -1.5
GYA Guiyang 57.36 272 *eP* P 04 48 57.1 +0.9
GYA pmax pmax
comp=Z,13nm,0.9s
COWI Conover 57.74 55 IAmb IAmb 04 49 04.3
comp=Z,11nm,0.8s
N35A Tabor 57.90 63 P P 04 48 59.8 0.0
K38A Parkersburg 58.23 60 IAmb IAmb 04 49 02.3
comp=Z,9.4nm,0.9s
BVAR Borovoye Array 58.33 317 P P 04 49 02.9 +0.4
comp=Z,6.5nm,0.7s,baz=50,slow=5.9,SNR=18
BRVK Borovoye 58.35 317‖ *eP* P 04 49 02.8 +0.1
BRVK pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 58.35 317 P P 04 49 02.1 -0.5
BRVK IAmb IAmb 04 49 06.0
comp=Z,7.2nm,0.7s
SCIA State Center 58.50 61 P P 04 49 03.8 -0.1
baz=314,SNR=5.6
SCIA State Center 58.50 61 P P 04 49 03.8 -0.1
KSU1 Kansas State U 58.58 66 P P 04 49 03.9 -0.6
baz=314
KSU1 Kansas State U 58.58 66 P P 04 49 03.3 -1.2
KSU1 IAmb IAmb 04 49 09.8
comp=Z,18nm,1.1s
MSTX Muleshoe 58.60 74 P P 04 49 04.3 -0.5
baz=315
AMTX Amarillo 58.60 72 P P 04 49 04.3 -0.5
baz=315
MNTX Cornudas Mount 58.64 78 P P 04 49 04.8 -0.2
baz=315,SNR=8.7
MNTX Cornudas Mount 58.64 78 P P 04 49 04.2 -0.9
JFWS Jewell Farm 59.38 58 P P 04 49 08.8 -1.1
baz=315,SNR=8.6
JFWS Jewell Farm 59.38 58 P P 04 49 08.8 -1.1
JFWS pmax pmax
comp=Z,13nm,0.9s
JFWS Jewell Farm 59.38 58 P P 04 49 08.8 -1.1
JFWS IAmb IAmb 04 49 15.1
comp=Z,13nm,0.8s
L40A Anamosa 59.46 60 P P 04 49 09.4 -1.1
L40A IAmb IAmb 04 49 15.6

comp=Z,14nm,0.8s
TMCR Tamitsa 59.55 340 *e*P **P 04 49 11.8 +1.0**
TMCR pmax pmax
comp=Z,34nm,1.1s
D46A Sault St. Mari 59.70 52 P **P 04 49 11.7 -0.4**
baz=315
F45A CMU Biological 59.84 53 P **P 04 49 12.7 -0.4**
baz=315
D47A Chapleau 60.03 51 P **P 04 49 13.6 -0.8**
baz=316,SNR=16
G45A Suttons Bay 60.23 54 P **P 04 49 15.4 -0.4**
baz=316
ARU Arti 60.31 326 P **P 04 49 17.0 +0.8**
comp=Z,1.7nm,0.4s,baz=28,slow=5.6,SNR=6.4
ARU Arti 60.31 326*c i*P **P 04 49 16.9 +0.8**
ARU 04 51 26.1
ARU S **S 04 57 35.6 +5.8**
ARU pmax pmax
comp=Z,23nm,1.6s
ARU Arti 60.31 326 P **P 04 49 15.4 -0.7**
ARU IAmb IAmb 04 49 31.0
comp=Z,10nm,0.9s
H45A Beulah 60.33 55 P **P 04 49 16.1 -0.4**
baz=316
WMOK Wichita Mounta 60.40 71 P **P 04 49 16.3 -0.8**
baz=315,SNR=6.8
WMOK Wichita Mounta 60.40 71 P **P 04 49 16.3 -0.8**
WMOK Wichita Mounta 60.40 71 P **P 04 49 16.3 -0.8**
G46A Petoskey 60.42 53 P **P 04 49 16.9 -0.1**
baz=316,SNR=9.0
D48A Paudash Townsh 60.56 50 P **P 04 49 17.4 -0.7**
baz=316
N41A Harden Midland 60.61 61 P **P 04 49 17.4 -1.0**
N41A IAmb IAmb 04 49 23.7
comp=Z,13nm,0.8s
I45A Fountain 60.65 55 P **P 04 49 18.5 -0.1**
baz=316
D49A Beulah Townshi 60.71 50 P **P 04 49 18.3 -0.7**
baz=316
P40A Paris 60.80 62 P **P 04 49 18.9 -0.8**
H46A Fife Lake 60.81 54 P **P 04 49 19.3 -0.5**
baz=316
E48A Lockeyer 60.90 51 P **P 04 49 19.9 -0.4**
baz=316,SNR=15
J45A Montague 61.00 56 P **P 04 49 20.7 -0.3**
baz=316
G47A Hillman 61.02 53 P **P 04 49 20.7 -0.5**
baz=316
SCHQ Schefferville 61.10 36 P **P 04 49 21.9 +0.3**
comp=Z,7.6nm,0.9s,baz=323,slow=5.9,SNR=8.0
SCHQ Schefferville 61.10 36 P **P 04 49 21.8 +0.3**
I46A Reed City 61.12 55 P **P 04 49 21.6 -0.3**
baz=316
L44A Lake County Fo 61.12 58 P **P 04 49 21.3 -0.6**
baz=316
F48A Evansville 61.15 52 P **P 04 49 21.9 -0.2**
baz=316,SNR=17
H47A Mio 61.26 54 P **P 04 49 22.3 -0.5**
baz=316
TUL1 Leonard 61.28 68 P **P 04 49 22.4 -0.7**
baz=316
TX31 Lajitas Ar. Si 61.36 78 P **P 04 49 22.9 -1.0**
TX31 IAmb IAmb 04 49 24.3
comp=Z,12nm,1.0s
TXAR Lajitas Array 61.37 78 P **P 04 49 23.4 -0.4**
comp=Z,2.5nm,0.9s,baz=296,slow=5.1,SNR=25
TXAR PcP **PcP 04 50 06.3 +0.3**
comp=Z,1.7nm,0.9s,baz=310,slow=3.7,SNR=4.0
TXAR Lajitas Array 61.37 78 P **P 04 49 23.0 -0.9**
LSQD Lebel-sur-Quev 61.39 46 P **P 04 49 22.8 -0.8**
baz=318
ABTX Abilene, Hawle 61.40 73 P **P 04 49 23.2 -0.7**
baz=316,SNR=7.2
ABTX Abilene, Hawle 61.40 73 P **P 04 49 23.8 -0.1**
ABTX IAmb IAmb 04 49 29.8
comp=Z,12nm,0.9s
F49A Sandfield 61.48 51 P **P 04 49 23.7 -0.5**
baz=317,SNR=14
D50A G1974 Best Tow 61.49 49 P **P 04 49 23.7 -0.7**
baz=317,SNR=10
I47A Gladwin 61.53 54 P **P 04 49 23.5 -1.2**
baz=316
HDIL Hopedale 61.55 60 P **P 04 49 23.6 -1.2**
baz=316
E50A Wahnapitae 61.62 50 P **P 04 49 24.5 -0.6**
baz=317,SNR=8.9
M44A Midewin, Midew 61.62 58 P **P 04 49 24.8 -0.4**
D51A Lot 18 Range I 61.76 49 P **P 04 49 25.2 -1.0**
baz=318,SNR=10.0
VLDQ Val d'Or 61.88 47 P **P 04 49 24.7 -2.2**
CHGQ Chibougamau 61.89 44 P **P 04 49 25.9 -1.1**
baz=319,SNR=12
E51A G1948 Merrick 62.12 49 P **P 04 49 27.4 -1.1**
baz=318,SNR=13
KLMR Klimovskoe 62.15 338 *e*P **P 04 49 28.9 +0.4**
KLMR pmax pmax
comp=Z,13nm,1.1s
KLMR Klimovskoe 62.15 338 *e*P **P 04 49 29.0 +0.4**
KLMR AMP 04 49 33.8
comp=Z,13nm,1.1s
D52A ZEK Kipawa Sen 62.29 48 P **P 04 49 28.9 -0.8**
baz=318,SNR=10
CCM Cathedral Cave 62.29 63 P **P 04 49 28.2 -1.6**
baz=316
F51A Arnstein 62.37 50 P **P 04 49 29.1 -1.1**
baz=318
J48A Bridge Port 62.42 54 P **P 04 49 29.8 -0.8**
baz=317
I49A Point Hope 62.42 53 P **P 04 49 29.9 -0.7**
baz=317
D53A Lac Vacive, Po 62.54 48 P **P 04 49 30.0 -1.4**
baz=318,SNR=12
U40A Yellville 62.62 65 P **P 04 49 30.9 -1.2**
baz=316,SNR=9.4
U40A Yellville 62.62 65 P **P 04 49 30.7 -1.4**
U40A IAmb IAmb 04 49 37.0
comp=Z,13nm,1.1s
E52A Mattawa 62.69 49 P **P 04 49 31.2 -1.2**
baz=318,SNR=7.5
F52A Sundridge 62.74 50 P **P 04 49 32.1 -0.7**
baz=318,SNR=12
SFIN Lafayette 62.84 59 P **P 04 49 32.6 -0.9**
baz=317,SNR=9.7
SFIN Lafayette 62.84 59 P **P 04 49 33.4 -0.1**
JCT Junction City 62.85 75 P **P 04 49 32.8 -0.9**
baz=317
JCT Junction City 62.85 75 P **P 04 49 32.7 -1.0**
JCT pmax pmax
comp=Z,7.0nm,1.0s
JCT Junction City 62.85 75 P **P 04 49 32.6 -1.0**
JCT IAmb IAmb 04 49 38.8
comp=Z,7.4nm,1.0s
Q44A Meyer Farm, Va 62.89 61 IAmb IAmb 04 49 39.9
comp=Z,14nm,0.9s
W39A Magazine 62.94 67 P **P 04 49 33.3 -0.9**
baz=316
K49A Clarkson 62.96 54 P **P 04 49 33.3 -0.9**
baz=317
D54A Lac Fusel, La 62.96 47 P **P 04 49 32.8 -1.4**
baz=319
E53A Dumoine, Ponti 63.08 48 P **P 04 49 33.9 -1.1**
baz=318,SNR=12
WHTX Lake Whitney, 63.14 72 P **P 04 49 34.9 -0.7**
baz=317
WHTX Lake Whitney, 63.14 72 P **P 04 49 33.8 -1.7**
WHTX IAmb IAmb 04 49 36.1
comp=Z,7.7nm,1.1s
ALGO Algonquin Park 63.22 49 P **P 04 49 34.8 -1.1**
baz=318
E54A Lac Daplat, Po 63.26 48 P **P 04 49 34.9 -1.2**
baz=319,SNR=15
H52A Wyevale 63.33 51 P **P 04 49 35.8 -0.8**
baz=318,SNR=8.2
FCAR Ozark Folk Cen 63.37 65 P **P 04 49 35.6 -1.4**
I51A Listowel 63.41 52 P **P 04 49 37.4 +0.2**
baz=318,SNR=16
OLIL Olney 63.51 60 P **P 04 49 37.3 -0.6**
MIAR Mount Ida 63.52 67 P **P 04 49 37.3 -0.7**
baz=317,SNR=9.7
G53A Haliburton 63.57 50 P **P 04 49 37.4 -0.9**
baz=318,SNR=18
D55A Sainte-Anne-du 63.59 47 P **P 04 49 37.1 -1.2**
baz=319,SNR=15
G54A Lake Saint Pet 63.62 49 P **P 04 49 37.4 -1.1**
baz=319
WHAR Wooly Hollow 63.71 66 P **P 04 49 37.6 -1.7**
WHAR IAmb IAmb 04 49 38.9
comp=Z,9.7nm,1.0s
W41B Gary Mavity, V 63.82 66 P **P 04 49 38.8 -1.2**
baz=317,SNR=6.4
D56A ZEC Mazanza, M 63.89 46 P **P 04 49 39.2 -1.1**
baz=320,SNR=8.8
X40A Basin Creek Fa 63.99 67 P **P 04 49 40.5 -0.6**
baz=317
X40A Basin Creek Fa 63.99 67 P **P 04 49 40.5 -0.6**
X40A IAmb IAmb 04 49 46.7
comp=Z,6.1nm,0.9s
H53A Bobcaygeon 64.00 50 P **P 04 49 40.4 -0.7**
baz=319
AAK Ala-Archa 64.06 307 P **P 04 49 42.1 +0.4**
comp=Z,3.7nm,0.7s,baz=121,slow=4.5,SNR=4.9
AAK Ala-Archa 64.06 307*ij e*P **P 04 49 41.9 +0.2**
AAK pmax pmax
comp=Z,1.0nm,0.7s
AAK Ala-Archa 64.06 307 P **P 04 49 41.9 +0.2**
AAK IAmb IAmb 04 49 49.0
comp=Z,6.3nm,0.9s
F55A Otter Lake 64.09 48 P **P 04 49 40.7 -1.0**
baz=319
J52A Paris 64.09 52 P **P 04 49 41.5 -0.2**
baz=318,SNR=7.9
E56A St. Veronique 64.15 47 P **P 04 49 40.6 -1.5**
baz=320,SNR=9.3
FINES FINESS Array B 64.27 345 P **P 04 49 42.0 -0.5**
comp=Z,10nm,1.2s,baz=90,slow=2.8,SNR=3.1
FINES FINESS Array B 64.27 345 P **P 04 49 42.0 -0.5**
D57A Chemin Vers le 64.30 46 P **P 04 49 42.0 -1.0**
baz=320
K52A Tillsonburg 64.32 53 P **P 04 49 42.2 -0.9**
baz=318
PLVO Plevna 64.36 49 P **P 04 49 42.1 -1.3**
PLVO IAmb IAmb 04 49 48.4
comp=Z,7.5nm,0.9s
G55A Calabogie 64.36 49 P **P 04 49 42.3 -1.1**
baz=319
LATQ La Tuque 64.50 45 P **P 04 49 43.6 -0.7**
baz=320,SNR=6.8
LATQ La Tuque 64.50 45 P **P 04 49 43.5 -0.8**
LATQ IAmb IAmb 04 49 49.7
comp=Z,7.0nm,0.8s
TRQ Mont Tremblant 64.61 47 P **P 04 49 43.9 -1.3**
E57A Chemin Saint G 64.64 46 P **P 04 49 44.3 -1.1**
baz=320,SNR=19
D58A Chemin du LacG 64.67 45 P **P 04 49 44.3 -1.2**
baz=320
H55A Tweed 64.68 49 P **P 04 49 44.7 -0.8**
baz=319,SNR=6.8
I55A Frankford 64.70 50 P **P 04 49 44.9 -0.7**
baz=319
P49A Miami Univ. Ec 64.70 58 P **P 04 49 44.5 -1.2**
baz=318
P49A Miami Univ. Ec 64.70 58 IAmb IAmb 04 49 50.3
comp=Z,10nm,0.7s
ORIO Orleans, Innes 64.77 48 P **P 04 49 44.6 -1.4**
baz=320
WCI Wyandotte Cave 64.84 60 P **P 04 49 46.2 -0.5**
baz=318
WCI Wyandotte Cave 64.84 60 P **P 04 49 45.9 -0.8**
WCI pmax pmax
comp=Z,11nm,0.9s
WCI Wyandotte Cave 64.84 60 P **P 04 49 45.9 -0.8**
WCI IAmb IAmb 04 49 52.4
comp=Z,11nm,0.8s
N51A Ashland 64.88 55 P **P 04 49 46.4 -0.5**
baz=318
NATX Nacogdoches 64.93 70 P **P 04 49 46.9 -0.4**
baz=317
NATX Nacogdoches 64.93 70 P **P 04 49 46.8 -0.6**
NATX IAmb IAmb 04 49 57.4
comp=Z,9.7nm,0.6s
J54A Appleton 64.95 51 P **P 04 49 46.5 -0.8**
baz=319
E58A La Victoria 65.06 46 P **P 04 49 47.2 -0.8**
baz=320
H56A Elgin 65.08 49 P **P 04 49 47.2 -0.8**
baz=320
ACSO Alum Creek Sta 65.08 56 P **P 04 49 47.3 -0.9**
baz=318
SIJI Sorong 65.09 232 P **P 04 49 48.0 -0.5**
comp=Z,12nm,0.6s,baz=334,slow=5.0,SNR=2.3
L53A Girard 65.16 53 P **P 04 49 48.2 -0.5**
baz=319
ERPA Erie 65.17 53 P **P 04 49 48.0 -0.7**
baz=319
D59A Saint-Raymond 65.20 44 P **P 04 49 47.6 -1.2**
baz=321
G57A Newington 65.27 48 P **P 04 49 47.9 -1.4**
baz=320
T47A Sharon Grove 65.32 61 P **P 04 49 49.3 -0.5**
O51A Pataskala 65.34 56 P **P 04 49 49.3 -0.6**
baz=318
M53A WI Miller and 65.34 54 P **P 04 49 49.1 -0.8**
baz=319
J55A Hilton 65.35 51 P **P 04 49 49.2 -0.7**
baz=319
J55A Hilton 65.35 51 P **P 04 49 48.9 -1.0**
L54A Sinclairville 65.41 52 P **P 04 49 50.2 -0.2**
baz=319,SNR=19
K54A Basiliko Farm, 65.43 52 P **P 04 49 49.9 -0.5**
baz=319,SNR=9.6
ABKAR Akbulak array 65.47 320 P **P 04 49 50.0 -0.6**
WVT Waverly 65.56 62 P **P 04 49 50.7 -0.7**
baz=318
WVT Waverly 65.56 62 P **P 04 49 50.9 -0.5**
WVT pmax pmax
comp=Z,13nm,0.9s
WVT Waverly 65.56 62 P **P 04 49 50.9 -0.5**
WVT IAmb IAmb 04 49 57.1
comp=Z,13nm,0.9s
HKT Hockley 65.58 72 *e*P **P 04 49 50.8 -0.7**
HKT pmax pmax
comp=Z,8.0nm,1.3s
H57A Richville 65.58 48 P **P 04 49 50.3 -1.1**
baz=320
P51A Williamsport 65.60 57 P **P 04 49 51.0 -0.5**
baz=318
KK31 Karatay Array 65.64 309 P **P 04 49 50.8 -1.0**
KK31 pmax pmax
comp=Z,5.0nm,0.9s
KK31 Karatay Array 65.64 309 P **P 04 49 50.8 -1.0**
KK31 IAmb IAmb 04 49 59.3
comp=Z,5.0nm,0.9s
KKAR Karatay Array 65.64 309 P **P 04 49 50.6 -1.2**
KKAR Karatay Array 65.64 309 P **P 04 49 50.6 -1.2**
K55A Perry 65.64 51 P **P 04 49 51.1 -0.8**
baz=320
G58A Ormstown 65.66 47 P **P 04 49 50.4 -1.4**
baz=320
F59A Saint Guilaume 65.68 46 P **P 04 49 51.3 -0.6**
baz=321
MMNY Mt. Morris Dam 65.72 51 P **P 04 49 51.9 -0.3**
N53A Lisbon 65.73 54 P **P 04 49 51.9 -0.6**
baz=319
O52A Adamsville 65.75 55 P **P 04 49 52.3 -0.2**
baz=319
O52A Adamsville 65.75 55 P **P 04 49 52.0 -0.5**
M54A Oil Creek Stat 65.79 53 P **P 04 49 52.5 -0.3**
baz=319
J56A Wolcott 65.80 50 P **P 04 49 51.6 -1.2**
baz=320
LONY Lake Ozonia 65.83 48 P **P 04 49 51.2 -1.8**
baz=320
I57A Carthage 65.85 49 P **P 04 49 52.2 -1.0**
baz=320
E60A Ste Agathe de 65.86 45 P **P 04 49 51.9 -1.2**
baz=321
L55A Hinsdale 65.88 52 P **P 04 49 53.2 -0.2**
baz=320,SNR=14
OXF Oxford 65.89 64 P **P 04 49 53.3 -0.2**
baz=318
OXF Oxford 65.89 64 P **P 04 49 52.4 -1.1**
OXF pmax pmax
comp=Z,54nm,1.0s
OXF Oxford 65.89 64 P **P 04 49 52.4 -1.1**
P52A Corning 65.96 56 P **P 04 49 53.1 -0.8**
baz=319
O53A New Philadelph 65.97 55 P **P 04 49 52.9 -1.0**
baz=319
K56A Middlesex 66.02 51 P **P 04 49 54.0 -0.3**
baz=320,SNR=14
N54A Moraine State 66.04 54 P **P 04 49 53.6 -0.8**
baz=319
J57A Williamstown 66.10 49 P **P 04 49 54.1 -0.6**
baz=320
H58A Gabriels 66.17 48 P **P 04 49 53.7 -1.5**
baz=321
H59A Cadyville 66.21 47 P **P 04 49 54.5 -0.9**
baz=321
E61A Lac Etchemin 66.23 44 P **P 04 49 54.6 -1.0**
baz=322
M55A Ridgway 66.26 53 P **P 04 49 55.4 -0.4**
baz=320,SNR=20
PLAL Pickwick Lake 66.28 63 P **P 04 49 54.7 -1.3**
PLAL IAmb IAmb 04 50 00.8
comp=Z,10.0nm,0.8s
D62A Allapoint, All 66.32 43 P **P 04 49 55.1 -1.0**
baz=322
D62A Allapoint, All 66.32 43 IAmb IAmb 04 50 01.6
comp=Z,13nm,1.1s
MOQ Mont Orford 66.33 46 P **P 04 49 55.6 -0.7**
L56A Greenwood 66.33 51 P **P 04 49 55.9 -0.5**
baz=320,SNR=32
I58A Old Forge 66.36 49 P **P 04 49 55.2 -1.3**
baz=320
F61A St Evariste 66.37 45 P **P 04 49 55.3 -1.1**
baz=322
K57A Scipio Center 66.38 50 P **P 04 49 55.7 -0.9**
baz=320,SNR=8.5
U49A Red Boiling Sp 66.39 61 P **P 04 49 55.8 -0.8**
U49A IAmb IAmb 04 50 02.0
comp=Z,8.9nm,0.9s
P53A Whipple 66.45 56 P **P 04 49 56.1 -0.9**
baz=319
G60A Masonville 66.47 46 P **P 04 49 56.1 -1.0**
baz=321
J58A Remsen 66.47 49 P **P 04 49 56.3 -0.9**
baz=320,SNR=12
NB2 NORSAR Subarra 66.48 352 P **P 04 49 56.8 -0.2**
comp=Z,19nm,1.0s,baz=10,slow=6.5
NB2 NORSAR Subarra 66.48 352 P **P 04 49 56.8 -0.2**
baz=10,slow=6.5
NOA NORSAR Array B 66.48 352 P **P 04 49 56.8 -0.2**
comp=Z,12nm,0.9s,baz=11,slow=6.5,SNR=14
E62A Clayton Lake 66.49 43 P **P 04 49 55.9 -1.3**
baz=322
M56A Emporium 66.53 52 P **P 04 49 57.0 -0.5**
baz=320,SNR=15
M56A Emporium 66.53 52 P **P 04 49 57.2 -0.4**
N55A Marion Center 66.67 53 P **P 04 49 57.8 -0.7**
baz=320,SNR=9.7
G61A St-Isidore-de- 66.68 45 P **P 04 49 57.4 -1.0**
baz=322
H60A Morristown 66.72 47 P **P 04 49 57.5 -1.3**
baz=321
D63A Stockholm 66.75 42 P **P 04 49 57.7 -1.2**
baz=323
J59A Piesco 66.75 49 P **P 04 49 57.7 -1.3**
baz=321,SNR=11
K58A Earlville 66.76 50 P **P 04 49 57.9 -1.1**
baz=320
L57A Andrews Acres 66.78 51 P **P 04 49 58.6 -0.5**
baz=320,SNR=11
I59A Olmsteadville 66.78 48 P **P 04 49 58.0 -1.1**
baz=321,SNR=11
P54A Burton 66.82 55 P **P 04 49 59.0 -0.5**
baz=319
Q53A Leroy 66.86 56 P **P 04 49 59.0 -0.7**
baz=319,SNR=6.7
F62A Pittston Farm, 66.87 44 P **P 04 49 58.9 -0.7**
baz=322
N56A West Decatur 66.91 53 P **P 04 49 59.9 -0.1**
baz=320,SNR=14
O55A Ligonier 66.95 54 P **P 04 49 59.7 -0.6**
baz=320
R53A Hurricane 67.03 57 P **P 04 50 00.3 -0.5**
baz=319
BINY Binghamton 67.04 50 P **P 04 50 00.2 -0.5**
baz=320
BINY Binghamton 67.04 50 P **P 04 49 59.7 -1.1**
H61A Lyndonville 67.09 46 P **P 04 50 00.3 -0.8**
baz=322
MCWV Mont Chateau 67.10 55 P **P 04 50 00.4 -0.8**
baz=320
E63A Oxbow 67.11 43 P **P 04 49 60.0 -1.1**
baz=323
Q54A Coxs Mills 67.11 56 P **P 04 50 00.5 -0.8**
baz=319
K59A Cooperstown 67.12 49 P **P 04 50 00.3 -1.0**
baz=321,SNR=8.7
HFS Hagfors 67.15 351 P **P 04 50 00.0 -1.2**
comp=Z,2.3nm,0.7s,baz=356,slow=4.3,SNR=2.2
M57A Sunshine Farm, 67.15 52 P **P 04 50 01.1 -0.4**
baz=320,SNR=17
G62A West of Eustis 67.16 45 P **P 04 50 00.4 -1.2**
baz=322
G62A West of Eustis 67.16 45 P **P 04 50 00.3 -1.2**
G62A IAmb IAmb 04 50 07.0
comp=Z,15nm,0.9s
ACCN Adirondack Com 67.20 48 P **P 04 50 01.0 -0.8**
L58A Harry Jones Me 67.22 50 P **P 04 50 01.3 -0.6**
baz=321,SNR=8.3
P55A Reedsville 67.22 55 P **P 04 50 01.3 -0.7**
baz=320
O56A Blue Knob Stat 67.27 53 P **P 04 50 01.6 -0.8**
baz=320
LBNH Lisbon 67.32 46 P **P 04 50 01.8 -0.7**
baz=322
SSPA Standing Stone 67.32 53 P **P 04 50 02.2 -0.4**
baz=320
SSPA Standing Stone 67.32 53 P **P 04 50 02.1 -0.5**
E64A Bridgewater 67.36 43 P **P 04 50 01.6 -1.1**
baz=323,SNR=8.9
F63A Nahmakanta, Br 67.39 44 P **P 04 50 01.6 -1.4**
baz=323
N57A Milroy 67.39 52 P **P 04 50 02.8 -0.3**
baz=320,SNR=11
H62A Milan 67.40 46 P **P 04 50 02.2 -0.8**
baz=322,SNR=21
J60A Lant Hill Farm 67.42 48 P **P 04 50 02.3 -0.9**
baz=321,SNR=8.8
I61A Oroboro, Fairl 67.43 47 P **P 04 50 02.0 -1.2**
baz=322
M58A Price's Panora 67.45 51 P **P 04 50 03.0 -0.4**
baz=320,SNR=8.9
Q55A Buckhannon 67.48 55 P **P 04 50 03.0 -0.7**
baz=320
L59A Walton 67.49 50 P **P 04 50 02.9 -0.8**
baz=321,SNR=8.4
TZTN Tazewell 67.55 59 P **P 04 50 03.2 -0.9**
baz=319
HNH Hanover 67.58 47 P **P 04 50 03.2 -0.9**
HNH IAmb IAmb 04 50 09.8
comp=Z,9.1nm,0.9s
F64A Sherman 67.58 43 P **P 04 50 03.5 -0.7**
baz=323,SNR=9.4
G63A Kingsbury 67.64 44 P **P 04 50 03.5 -1.0**
baz=323
R54A Victor 67.64 56 P **P 04 50 04.1 -0.6**
baz=320,SNR=6.8
PKME Peaks-Kenny Pk 67.66 44 P **P 04 50 03.9 -0.8**
baz=323
P56A Dayton Farm, R 67.72 54 P **P 04 50 04.5 -0.6**
baz=320,SNR=7.3
N58A Sunbury 67.73 52 P **P 04 50 04.5 -0.7**
baz=321,SNR=14
N58A Sunbury 67.73 52 P **P 04 50 04.4 -0.7**
J61A Chester 67.74 47 P **P 04 50 04.3 -0.9**
baz=322,SNR=6.5
T53A Wise 67.75 58 P **P 04 50 04.7 -0.7**
baz=319
S54A Dingess, Beckl 67.77 57 P **P 04 50 04.9 -0.6**
baz=320
O57A Amberson 67.77 53 P **P 04 50 04.8 -0.6**
baz=320,SNR=9.8
CHTO Chiang Mai 67.78 272 P **P 04 50 05.9 +0.1**
CHTO pmax pmax
comp=Z,12nm,1.0s
CHTO Chiang Mai 67.78 272 P **P 04 50 05.9 +0.1**
CHTO IAmb IAmb 04 50 10.9
comp=Z,12nm,1.0s
M59A Waymart 67.81 50 P **P 04 50 05.0 -0.6**
baz=321
H63A New Sharon 67.82 45 P **P 04 50 05.1 -0.5**
baz=322
I62A Tamworth 67.87 46 P **P 04 50 05.0 -1.0**
baz=322
G64A Maxfield 67.90 44 P **P 04 50 05.5 -0.7**
baz=323
Q56A Snyder Ridge, 67.90 55 P **P 04 50 05.5 -0.8**
baz=320
K61A Williamstown 67.94 48 P **P 04 50 05.6 -0.9**
baz=322

FPAL	**Fort Paine**	67.95	62	P	**P**	04 50 05.9	-0.8
FPAL				IAmb	IAmb	04 50 11.6	
	comp=Z,13nm,0.8s						
KONO	**Kongsberg**	67.99	353	⇓*e*P	**P**	04 50 07.1	+0.6
KONO				pmax	pmax		
	comp=Z,15nm,1.5s						
R55A	**Marlinton**	68.01	56	P	**P**	04 50 06.3	-0.8
	baz=320						
L60A	**Shokan**	68.03	49	P	**P**	04 50 06.5	-0.5
	baz=321						
CMAR	**Chiang Mai Arr**	68.06	272	P	**P**	04 50 08.2	+0.7
	comp=Z,4.8nm,0.6s,baz=26,slow=7.2,SNR=11						
I63A	**Otisfield**	68.06	46	P	**P**	04 50 06.7	-0.6
	baz=322,SNR=7.9						
I63A	**Otisfield**	68.06	46	P	**P**	04 50 06.6	-0.6
TKL	**Tuckaleechee C**	68.10	60	P	**P**	04 50 06.7	-0.9
	comp=Z,5.7nm,0.9s,baz=316,slow=8.9,SNR=8.8						
N59A	**State Game Lan**	68.13	51	P	**P**	04 50 07.2	-0.5
	baz=321,SNR=14						
P57A	**Homestead Farm**	68.14	53	P	**P**	04 50 07.0	-0.8
	baz=320						
P57A	**Homestead Farm**	68.14	53	P	**P**	04 50 07.1	-0.7
P57A				IAmb	IAmb	04 50 13.1	
	comp=Z,8.4nm,0.8s						
J62A	**Henniker**	68.17	47	P	**P**	04 50 07.0	-0.9
	baz=322						
L61A	**Hillsdale 1, H**	68.18	49	P	**P**	04 50 07.0	-1.0
	baz=322						
O58A	**Lewisberry**	68.19	52	P	**P**	04 50 07.2	-0.8
	baz=321						
H64A	**Troy**	68.19	45	P	**P**	04 50 07.1	-0.9
	baz=323						
T54A	**Tazewell**	68.19	57	P	**P**	04 50 07.4	-0.8
	baz=320						
S55A	**Lewisburg**	68.20	56	P	**P**	04 50 07.6	-0.6
	baz=320						
R56A	**Bull Pasture M**	68.28	55	P	**P**	04 50 08.0	-0.8
	baz=320						
Q57A	**Strasburg**	68.29	54	P	**P**	04 50 08.0	-0.7
	baz=320						
LRAL	**Lakeview Retre**	68.32	64	P	**P**	04 50 08.0	-1.0
	baz=319						
M60A	**Port Jervis**	68.36	50	P	**P**	04 50 08.2	-0.8
	baz=321,SNR=5.1						
L61B	**Northampton**	68.38	48	P	**P**	04 50 08.1	-1.1
	baz=322,SNR=7.5						
O59A	**Robesonia**	68.40	52	P	**P**	04 50 08.8	-0.6
	baz=321						
K62A	**Royalston**	68.42	48	P	**P**	04 50 08.8	-0.6
	baz=322						
K62A	**Royalston**	68.42	48	P	**P**	04 50 07.8	-1.7
K62A				IAmb	IAmb	04 50 14.7	
	comp=Z,9.8nm,0.8s						
G65A	**Princeton**	68.45	43	P	**P**	04 50 09.0	-0.5
	baz=324						
J63A	**Strafford**	68.45	47	P	**P**	04 50 08.7	-1.0
	baz=322						
U54A	**Nelsons Funny**	68.47	58	P	**P**	04 50 08.8	-1.2
	baz=320						
N60A	**Cedar Hill Far**	68.49	51	P	**P**	04 50 09.3	-0.6
	baz=321,SNR=9.8						
P58A	**Pank, Wackersv**	68.49	53	P	**P**	04 50 08.9	-1.0
	baz=321						
H65A	**Eastbrook**	68.56	44	P	**P**	04 50 09.1	-1.2
	baz=323						
K63A	**Dunstable**	68.72	47	P	**P**	04 50 10.8	-0.5
	baz=322						
Q58A	**Fox Den Farm,**	68.73	54	P	**P**	04 50 10.9	-0.6
	baz=321,SNR=6.7						
S56A	**Natural Bridge**	68.75	56	P	**P**	04 50 11.1	-0.6
	baz=320						
O60A	**Telford**	68.77	51	P	**P**	04 50 11.1	-0.6
	baz=321						
M61A	**Granite Spring**	68.77	50	P	**P**	04 50 10.9	-0.7
	baz=322						
R57A	**Stanardsville**	68.80	55	P	**P**	04 50 11.1	-0.8
	baz=320						
GGN	**Saint George**	68.81	43	P	**P**	04 50 11.4	-0.5
P59A	**Jarrettsville**	68.82	52	P	**P**	04 50 11.0	-1.0
	baz=321						
HRV	**Adam Dziewonsk**	68.85	47	P	**P**	04 50 11.3	-0.9
	baz=322						
H66A	**Whiting**	68.89	43	P	**P**	04 50 11.6	-0.7
	baz=324,SNR=6.8						
U55A	**TA2, Sparta**	68.89	58	P	**P**	04 50 11.9	-0.7
	baz=320,SNR=7.2						
PAL	**Palisades**	68.94	50	P	**P**	04 50 11.8	-0.9
	baz=322						
V54A	**Nebo**	68.97	59	P	**P**	04 50 12.7	-0.3
	baz=320,SNR=12						
T56A	**Rocky Mt**	69.01	56	P	**P**	04 50 12.9	-0.3
	baz=320						
WES	**Weston**	69.05	47	P	**P**	04 50 12.6	-0.8
WES				pmax	pmax		
	comp=Z,15nm,0.8s						
WES	**Weston**	69.05	47	P	**P**	04 50 12.6	-0.8
P60A	**Greenville**	69.05	52	P	**P**	04 50 12.5	-0.9
	baz=321						
R58A	**Rapidan**	69.06	54	P	**P**	04 50 12.7	-0.8
	baz=321						
M62A	**Hamden**	69.08	49	P	**P**	04 50 12.5	-1.0
	baz=322						
V55A	**Taylorsville**	69.30	58	P	**P**	04 50 14.3	-0.7
	baz=320						
L63A	**North Scituate**	69.33	48	P	**P**	04 50 14.3	-0.8
	baz=322						
U56A	**King**	69.35	57	P	**P**	04 50 15.1	-0.3
	baz=320						
O61A	**Allentown**	69.35	51	P	**P**	04 50 14.5	-0.8
	baz=322						
W54A	**Cherokee Point**	69.37	59	P	**P**	04 50 14.6	-0.9
	baz=320,SNR=6.7						
R58B	**Mineral**	69.38	54	P	**P**	04 50 14.6	-0.9
	baz=321						
T57A	**Hurt**	69.43	56	P	**P**	04 50 15.0	-0.9
	baz=321						
M63A	**Gales Ferry**	69.50	48	P	**P**	04 50 15.2	-0.9
	baz=322						
S58A	**Poland Farm, P**	69.57	55	P	**P**	04 50 15.9	-0.7
	baz=321						
L64A	**Middleborough**	69.63	47	P	**P**	04 50 15.6	-1.3
	baz=323						
X54A	**Belton**	69.69	60	P	**P**	04 50 16.3	-1.1
	baz=320						
V56A	**Mocksville**	69.71	58	P	**P**	04 50 16.5	-1.1
	baz=320						
CHGR	**Chuyangaron**	69.72	307	P	**P**	04 50 16.5	-1.2
M64A	**Tiverton**	69.76	48	P	**P**	04 50 16.8	-0.9
	baz=323						
KMSC	**Kings Mountain**	69.78	59	P	**P**	04 50 17.3	-0.7
	baz=320,SNR=7.8						
KMSC	**Kings Mountain**	69.78	59	P	**P**	04 50 16.2	-1.8
U57A	**Blanch**	69.83	56	P	**P**	04 50 17.0	-1.3
	baz=321						
S59A	**Mechanicsville**	69.83	54	P	**P**	04 50 16.9	-1.3
	baz=321						
T58A	**Grand View Acr**	69.84	56	P	**P**	04 50 17.3	-1.1
	baz=321						
GOGA	**Godfrey**	69.97	61	P	**P**	04 50 18.3	-0.9
	baz=320						
V57A	**Coltrane Farms**	70.02	57	P	**P**	04 50 18.5	-1.0
	baz=321						
X55A	**Gracelyn & Ava**	70.14	59	P	**P**	04 50 19.8	-0.5
	baz=320,SNR=9.7						
W56A	**Indian Trail**	70.18	58	P	**P**	04 50 19.8	-0.7
	baz=320						
T59A	**Double "B" Far**	70.31	55	P	**P**	04 50 20.5	-0.7
	baz=321						
Y55A	**Saluda**	70.43	60	P	**P**	04 50 21.4	-0.6
	baz=320						
V58A	**Windy Hill, Pi**	70.43	57	P	**P**	04 50 21.3	-0.7
	baz=321						
X56A	**White Oak**	70.44	59	P	**P**	04 50 21.2	-0.8
	baz=320						
W57A	**Gilead**	70.47	58	P	**P**	04 50 21.2	-1.0
	baz=321						
M66A	**Nantucket**	70.48	47	P	**P**	04 50 21.3	-0.9
	baz=323						
T60A	**Surry**	70.59	54	P	**P**	04 50 22.1	-0.8
	baz=322						
U59A	**Littleton**	70.67	55	P	**P**	04 50 22.7	-0.7
	baz=321						
V59A	**Middlesex**	70.90	56	P	**P**	04 50 24.7	-0.1
	baz=321						
X57A	**Johnson Farm,**	70.95	58	P	**P**	04 50 24.6	-0.6
	baz=321						
W58A	**Raeford**	70.97	57	P	**P**	04 50 24.1	-1.2
	baz=321						
Z56A	**Williston**	71.16	60	P	**P**	04 50 26.0	-0.4
	baz=321						
MUD	**Monsted U'grnd**	71.19	353	*i* P	P	04 50 31.2	+5.0
	comp=Z,38nm,1.2s						
MUD	**Monsted U'grnd**	71.19	353	*i* P	P	04 50 31.2	+5.0
MUD				pmax	pmax		
	comp=Z,38nm,1.2s						
V60A	**Jim Taylor Roa**	71.40	55	P	**P**	04 50 26.9	-0.9
	baz=322						
Z57A	**Bowman**	71.53	59	P	**P**	04 50 28.4	-0.3
	baz=321						
X60A	**Albert Glenn T**	71.96	57	P	**P**	04 50 30.3	-0.9
	baz=322						
Z58A	**St. Stephen**	71.97	59	P	**P**	04 50 30.7	-0.7
	baz=321						
W61A	**Ground Anchor**	72.00	56	P	**P**	04 50 30.4	-1.0
	baz=322						
EKA	**Eskdalemuir Ar**	72.82	360	P	**P**	04 50 35.5	-0.5
	comp=Z,1.2nm,0.7s,baz=8,9,slow=2.7,SNR=5.6						
KBL	**Kabul**	73.00	305	P	**P**	04 50 36.5	-1.3
KBL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KBL	**Kabul**	73.00	305	P	**P**	04 50 36.5	-1.3
KBL				IAmb	IAmb	04 50 46.3	
	comp=Z,8.1nm,0.7s						
AKASG	**Malin Array Be**	73.79	339	P	**P**	04 50 41.7	-0.1
	comp=Z,2.6nm,0.5s,baz=25,slow=6.1,SNR=7.4						
AKBB	**Malin Array Si**	73.79	339	P	**P**	04 50 41.0	-0.9
AKBB				pmax	pmax		
	comp=Z,5.0nm,0.7s						
AKBB	**Malin Array Si**	73.79	339	P	**P**	04 50 41.0	-0.9
AKBB				IAmb	IAmb	04 50 47.6	
	comp=Z,5.3nm,0.7s						
GOF	**Gofitskoye**	75.16	328	⇑*e*P	**P**	04 50 53.9	+4.0
GEYT	**Alibeck**	75.46	314	P	**P**	04 50 53.0	+1.2
	comp=Z,2.2nm,0.5s,baz=308,slow=7.2,SNR=3.6						
GEYT	**Alibeck**	75.46	314	P	**P**	04 50 51.4	-0.4
CLL	**Collm**	75.92	349	*e*P	**P**	04 50 53.0	-1.1
CLL	**Collm**	75.92	349	*e*P	**P**	04 50 53.0	-1.1
OSTC	**Ostas**	76.25	347	*e*P	P	04 51 01.5	+5.4
KIV	**Kislovodsk**	76.26	328	*e*P	**P**	04 50 59.5	+3.1
KIV				pmax	pmax		
	comp=Z,21nm,1.1s						
KBZ	**Khabaz**	76.39	327	P	**P**	04 50 58.1	+1.1
	comp=Z,3.6nm,0.8s,baz=67,slow=6.8,SNR=3.8						
KBZ	**Khabaz**	76.39	327	⇓*e*P	**P**	04 50 57.7	+0.8
KBZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
DPC	**Dobruska-Polom**	76.44	347	*e*P	**P**	04 51 00.4	+3.2
DPC	**Dobruska-Polom**	76.44	347	*e*P	**P**	04 51 00.4	+3.2
HRA	**Herat**	76.47	309	P	**P**	04 50 57.3	-0.5
HRA				IAmb	IAmb	04 51 05.8	
	comp=Z,10.0nm,0.9s						
CTA	**Charters Tower**	76.69	209	P	**P**	04 50 59.3	+0.5
	comp=Z,5.9nm,0.9s,baz=350,slow=6.1,SNR=2.4						
CTAO	**Charters Tower**	76.69	209	P	**P**	04 50 58.6	-0.2
CTAO				pmax	pmax		
	comp=Z,11nm,1.1s						
CTAO	**Charters Tower**	76.69	209	P	**P**	04 50 58.6	-0.2
CTAO				IAmb	IAmb	04 51 04.9	
	comp=Z,11nm,1.1s						
MORC	**Moravsky Berou**	76.83	346	*e*P	**P**	04 50 59.9	+0.5
KOLS	**Kolonicke sedl**	76.87	343	*e*P	**P**	04 51 00.5	+0.9
KOLS	**Kolonicke sedl**	76.87	343	*e*P	**P**	04 51 00.5	+0.9
ZEI	**Tsey**	76.89	326	*e*P	**P**	04 50 59.4	-0.7
ZEI				pmax	pmax		
	comp=Z,13nm,1.0s						
UZH	**Uzhgorod**	77.16	343	*e*P	**P**	04 51 03.5	+2.3
UZH				*e*		04 51 06.0	
UZH				*e*		04 51 13.4	
MEM	**Membach**	77.24	354	P	**P**	04 51 01.7	+0.1
MEM				pP	**pP**	04 51 06.5	+0.7
VRAC	**Vranov**	77.42	347	*e*P	**P**	04 51 02.7	0.0
BCLA	**Clavier**	77.47	354	P	**P**	04 51 01.9	-1.1
BCLA				sP	**sP**	04 51 08.7	+0.2
BURAR	**Bucovina Array**	77.56	341	⇑P	**P**	04 51 04.4	+0.8
BURAR	**Bucovina Array**	77.56	341	⇑P	**P**	04 51 04.4	+0.8
BURAR	**Bucovina Array**	77.56	341	P	**P**	04 51 02.6	-1.1
TRPA	**Tarpa**	77.59	342	⇑P	**P**	04 51 04.8	+1.2
BMRD	**Maredsous**	77.62	355	pP	**pP**	04 51 08.7	+0.8
BMRD				PcP	**PcP**	04 51 13.3	-0.6
KRUC	**Moravsky**	77.69	347	*e*P	**P**	04 51 04.5	+0.3
JAVC	**Velka Javorina**	77.70	346	*e*P	**P**	04 51 06.2	+1.9
GRF	**Grafenberg Arr**	77.70	350	*e*P	P	04 51 09.5	+5.2
	comp=Z,6.2nm,0.7s,baz=16,slow=5.2						
DOU	**Dourbes**	77.83	355	P	**P**	04 51 04.1	-0.8
VYHS	**Vyhne**	77.88	345	*e*P	**P**	04 51 05.3	0.0
VYHS	**Vyhne**	77.88	345	*e*P	**P**	04 51 05.3	0.0
KHC	**Kasperske Hory**	77.99	349	*e*P	**P**	04 51 06.1	+0.2
KHC				epP	**sP**	04 51 11.6	+0.1
KHC	**Kasperske Hory**	77.99	349	⇓*e*P	**P**	04 51 05.7	-0.2
KHC				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KHC	**Kasperske Hory**	77.99	349	P	**P**	04 51 05.4	-0.5
BIZ	**Bicaz**	78.02	340	⇑P	**P**	04 51 07.3	+1.2
GERES	**GERESS Array B**	78.26	349	P	**P**	04 51 07.5	0.0
	comp=Z,2.1nm,1.0s,baz=4.2,slow=5.5,SNR=3.4						
GERES	**GERESS Array B**	78.26	349	P	**P**	04 51 06.3	-1.2
GERES	**GERESS Array B**	78.26	349	P	**P**	04 51 06.3	-1.2
PSZ	**Piszkesteto**	78.26	344	P	**P**	04 51 04.4	-3.1
PSZ				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PSZ	**Piszkesteto**	78.26	344	P	**P**	04 51 04.4	-3.1
PSZ				IAmb	IAmb	04 51 15.0	
	comp=Z,9.8nm,0.9s						
CONA	**Conrad Observa**	78.87	347	*i* sP	P	04 51 16.2	+5.3
	comp=Z,9.9nm,1.4s						
CFR	**Carcaliu**	79.24	338	⇑P	P	04 51 17.5	+4.7
CFR	**Carcaliu**	79.24	338	⇑P	P	04 51 17.5	+4.7
MLR	**Muntele Rosu**	79.43	339	⇑P	P	04 51 20.3	+6.3
MLR	**Muntele Rosu**	79.43	339	⇑P	P	04 51 20.3	+6.3
ARSA	**Arzberg**	79.58	347	*i* sP	P	04 51 19.4	+4.7
	comp=Z,7.4nm,0.9s						
VOIR		79.68	340	⇑P	**P**	04 51 16.6	+1.3
VOIR		79.68	340	⇑P	**P**	04 51 16.6	+1.3
RETA	**Reutte**	79.93	350	*i* pP	**P**	04 51 18.8	+2.2
	comp=Z,5.8nm,1.7s						
WATA	**Walderalm**	79.99	350	*i* sP	P	04 51 22.2	+5.1
	comp=Z,6.7nm,0.8s						
MOTA	**Moosalm**	80.03	350	*i* PcP	**P**	04 51 21.7	+4.4
	comp=Z,9.9nm,1.1s						
KBA	**Koelnbreinsper**	80.04	348	*i* pP	**P**	04 51 18.7	+1.4
	comp=Z,29nm,0.9s						
WTTA	**Wattenberg**	80.06	350	*i* PcP	**P**	04 51 22.0	+4.5
	comp=Z,10nm,0.9s						
SQTA	**Sankt Quirin**	80.15	350	*i* pP	**P**	04 51 18.9	+1.1
	comp=Z,13nm,1.1s						
BZS	**Buzias**	80.18	342	⇑P	**P**	04 51 18.0	+0.1
BZS	**Buzias**	80.18	342	⇑P	**P**	04 51 18.0	+0.1
SOKA	**Soboth**	80.21	347	*i* pP	**P**	04 51 19.4	+1.2
	comp=Z,19nm,1.1s						
DAVA	**Damuels**	80.22	351	*i* P	**P**	04 51 17.0	-1.3
	comp=Z,2.8nm,0.7s						
FETA	**Feichten**	80.39	350	*i* PcP	**P**	04 51 23.1	+3.9
	comp=Z,11nm,1.1s						
OBKA	**Obir**	80.44	347	*i* P	**P**	04 51 19.2	-0.3
	comp=Z,13nm,1.1s						
ABTA	**Abfaltersbach**	80.47	349	*i* sP	P	04 51 24.8	+5.3
	comp=Z,7.5nm,0.8s						
WB0	**Warramunga Arr**	80.52	220	P	**P**	04 51 19.8	-0.1
WB0				IAmb	IAmb	04 51 26.0	
	comp=Z,19nm,1.2s						
WRAB	**Tennant Creek**	80.69	220	⇓*e*P	**P**	04 51 21.1	+0.3
WRAB				pmax	pmax		
	comp=Z,6.0nm,1.1s						
WB2	**Warramunga Arr**	80.69	220	P	**P**	04 51 19.6	-1.3
WB2				IAmb	IAmb	04 51 26.5	
	comp=Z,17nm,1.0s						
WRA	**Warramunga Arr**	80.70	220	P	**P**	04 51 20.6	-0.2
	comp=Z,7.2nm,0.8s,baz=34,slow=6.0,SNR=5.6						
MDVR	**Moldovita**	80.97	342	⇓P	**P**	04 51 23.0	+0.8
BR131	**Keskin Array S**	82.91	332	⇑*e*P	**P**	04 51 33.5	+0.9
BRTR	**Keskin Array B**	82.91	332	P	**P**	04 51 33.6	+1.0
	comp=Z,1.8nm,0.8s,baz=64,slow=4.3,SNR=7.2						
BRTR	**Keskin Array B**	82.91	332	P	**P**	04 51 31.0	-1.7
BRTR	**Keskin Array B**	82.91	332	P	**P**	04 51 31.0	-1.7
PDG	**Podgorica**	83.70	343	⇓P	**P**	04 51 36.4	0.0
PDG	**Podgorica**	83.70	343	P	**P**	04 51 36.2	-0.2
PDG				IAmb	IAmb	04 51 42.6	
	comp=Z,11nm,0.8s						
ASAR	**Alice Springs**	84.23	219	P	**P**	04 51 39.8	+0.6
	comp=Z,3.9nm,0.9s,baz=27,slow=4.3,SNR=12						
ASAR	**Alice Springs**	84.23	219	P	**P**	04 51 38.3	-1.0
DBIC	**Dimbokro**	121.33	2	PKP	**PKPdf**	04 58 00.1	-1.1
	comp=Z,1.2nm,0.6s,baz=352,slow=14,SNR=1.2						
MAW	**Mawson**	145.36	218	PKPbc	**PKPab**	04 58 44.6	+0.3
	comp=Z,4.7nm,1.0s,baz=180,slow=4.0,SNR=2.3						
BOSA	**Boshof**	148.20	307	PKPbc	**PKPbc**	04 58 53.5	-0.2
	comp=Z,1.6nm,0.5s,baz=54,slow=2.6,SNR=8.5						

IDC 24 04:45:26.4±3.4, 29°.89S×177°.16W, h47km±30km, mb3.5/3, mb1 3.7/3, mb1mx3.4/38, mbtmp3.7/3, Error ellipse: s-maj=67.7km s-min=32.8km az=49.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	0.92	314	P	Pn	04 45 43.3	+0.4
	207nm,0.3s,baz=76,slow=21,SNR=7.0						
RAO				S	Sn	04 45 55.7	+0.6
	344nm,0.3s,baz=94,slow=22,SNR=7.8						
ASAR	**Alice Springs**	43.87	266	P	P	04 53 28.1	-0.4
	0.2nm,0.3s,baz=105,slow=7.5,SNR=1.7						
WRA	**Warramunga Arr**	44.81	271	P	P	04 53 36.2	+0.2
	0.6nm,0.2s,baz=111,slow=8.1,SNR=5.9						
VNDA	**Vanda**	48.67	186	P	P	04 54 05.1	-0.3
	0.7nm,0.6s,baz=27,slow=16,SNR=5.9						
FINES	**FINESS Array B**	144.91	341	PKP	PKPab	05 04 56.8	-0.1
	1.3nm,0.9s,baz=17,slow=1.8,SNR=6.1						

IDC 24 04:45:43.5±2.0, 52°.20N×176°.55E, h0km, mb3.6/8, mb1 3.9/10, mb1mx3.7/56, mbtmp3.7/10, ML3.5/1, Error ellipse: s-maj=60.9km s-min=18.3km az=0.0
AEIC 24 04:45:44±2.1, 52°.1N±0°.1×176°.42E±0°.05, h5km±5km, mb4.1/15(NEIC), Error ellipse: s-maj=18.8km s-min=3.5km az=190.0
NEIC 24 04:45:44.2±2.3, 51°.9N±0°.2×176°.35E±0°.10, h10km±7km, Error ellipse: s-maj=33.9km s-min=3.7km az=193.0
ISC 24 04:45:44.7±0.8, 52°.1N±0°.2×176°.45E±0°.05, h10km, n53, σ1§07/48, mb4.0/14, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	1.28	96		Pn	04 46 08.8	+0.1
LSSA	**Little Sitkin**	1.28	97		Pn	04 46 08.8	0.0
LSPA	**Little Sitkin**	1.32	96		Pn	04 46 09.6	+0.4
LSPA					Sg	04 46 28.7	+1.5
SMY	**Shemya**	1.57	294		Pn	04 46 12.5	0.0
SMY	**Shemya**	1.57	294		Sb	04 46 34.6	+1.0
CETU	**Semis' Tuman**	1.89	93		Pn	04 46 17.2	+0.2
AMKA	**Amchitka**	1.92	112		Pn	04 46 17.7	+0.3
AMKA					Sb	04 46 42.4	-1.3
CEAP	**Semis' Anvil P**	1.93	92		Pn	04 46 18.2	+0.6
CESW	**Semis' Southwe**	1.94	95		Pn	04 46 18.1	+0.5
CERAA	**Semis' Rag'd T**	2.01	95		Pn	04 46 19.0	+0.3
GAEA	**Gareloi East**	2.99	95		Pn	04 46 34.4	+2.2
TASE	**Tanaga Southea**	3.42	93		Pn	04 46 39.9	+1.8
TAFP	**Tanaga Falls P**	3.45	91		Pn	04 46 40.4	+2.0
KIMD	**Kanaga Island**	3.92	93		Pn	04 46 46.0	+1.0
ADK	**Adak**	4.25	90		Pn	04 46 49.6	+0.2
GSMY	**Great Sitkin M**	4.62	88		Pn	04 46 56.8	+2.3
ATKA	**Atka Island**	5.76	85	Pn	Pn	04 47 09.6	-0.6
PETK	**Petropavlovsk-**	11.45	282	Pn	Pn	04 48 30.1	+2.1
	baz=99,slow=18,SNR=4.0						
PETK				Sn	Sn	04 50 35.0	-0.8
	0.3nm,0.3s,baz=338,slow=43,SNR=1.5						
PETK	**Petropavlovsk-**	11.45	282		Pn	04 48 27.7	-0.4
KDAK	**Kodiak Island**	18.56	60	P	P	04 50 01.9	+0.6
	0.1nm,0.3s,baz=241,slow=3.9,SNR=3.1						
KDAK	**Kodiak Island**	18.56	60	P	P	04 49 59.8	-1.5
BPAW	**Bear Paw Mtn.**	20.69	42		Pn	04 50 30.8	+3.8
SML	**Sawmill**	21.24	49	P	P	04 50 29.0	-1.6
SCM	**Sheep Creek Mo**	21.71	49	P	P	04 50 35.2	-0.5
ILAR	**Eielson Array**	22.59	42	P	P	04 50 44.6	-0.4
	1.1nm,1.0s,baz=252,slow=11,SNR=6.9						
ILAR	**Eielson Array**	22.59	42	P	P	04 50 43.7	-1.3
PAX	**Paxson**	22.77	47	P	P	04 50 45.2	-1.8
PAX				IAmb	IAmb	04 50 49.1	
	comp=Z,6.6nm,1.0s						
TOLK	**Toolik Lake Re**	23.09	31	P	P	04 50 50.5	+0.2
TOLK				IAmb	IAmb	04 50 56.5	
	comp=Z,6.8nm,1.0s						
SCRK	**Sand Creek**	23.62	45	P	P	04 50 54.9	-0.8
BMAR	**Burnt Mountain**	24.31	36	P	P	04 51 02.5	+0.4
BCAR	**Beaver Creek A**	24.45	47	P	P	04 51 02.6	-0.8
EGAK	**Eagle**	24.98	43	P	P	04 51 09.0	+1.0
EGAK				IAmb	IAmb	04 51 11.0	
	comp=Z,4.0nm,0.8s						
DAWY	**Dawson**	25.63	45	P	P	04 51 14.4	+0.3
DAWY				IAmb	IAmb	04 51 21.3	
	comp=Z,3.4nm,0.8s						
HYT	**Haines Junctio**	26.36	53	P	P	04 51 21.9	+1.1
HYT				IAmb	IAmb	04 51 33.5	
	comp=Z,3.7nm,0.9s						
H11N2	**WAKE ISLAND Hy**	33.17	197	T	T	05 27 25.8	
	baz=11,slow=76,SNR=186						
H11N3	**WAKE ISLAND Hy**	33.19	197	T	T	05 27 28.6	
	baz=11,slow=76,SNR=92						
H11N1	**WAKE ISLAND Hy**	33.19	197	T	T	05 27 29.1	
	baz=11,slow=76,SNR=87						
H11S1	**WAKE ISLAND Hy**	34.40	197	T	T	05 28 58.0	
	baz=10,slow=76,SNR=71						
H11S3	**WAKE ISLAND Hy**	34.42	197	T	T	05 28 59.2	
	baz=10,slow=76,SNR=80						
H11S2	**WAKE ISLAND Hy**	34.42	197	T	T	05 28 59.6	
	baz=10

mb1 4.4/15,mb1mx4.2/37,mbtmp4.4/15,ML4.5/1,MS4.7/1, Ms1 4.7/1,ms1mx3.9/25,Error ellipse: s-maj=22.6km s-min=16.0km az=105.0

ISC 24 04:48:37.6±0.5,**30°02S**±0.07×**177°5W**±0.1,**h35**km,**n93,** σ1§**16**/87,**mb4.6**/23,**1C-1D,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.86**	**333**	Pn	**Pn**	**04 48 52.2**	**-1.0**
	4µm,0.3s,baz=106,slow=2.6,SNR=92						
RAO				Sn	**Sn**	**04 49 03.4**	**-1.1**
	5µm,0.3s,baz=55,slow=21,SNR=13						
URZ	**Urewera**	**9.37**	**207**	Pn	**Pn**	**04 50 48.3**	**-1.7**
BFZ	**Birch Farm**	**11.81**	**204**	Pn	**Pn**	**04 51 20.9**	**-2.6**
TUWZ	**Tuamarina**	**13.35**	**209**	Pn	**Pn**	**04 51 42.6**	**-1.9**
LTZ	**Lake Taylor**	**15.17**	**210**	Pn	**Pn**	**04 52 08.7**	**-0.5**
RPZ	**Rata Peaks**	**16.45**	**211**	Pn	**Pn**	**04 52 25.2**	**-0.4**
	1.6nm,0.3s,baz=131,slow=2.5,SNR=5.3						
RPZ				Sn	Sn	04 55 08.2	-19
	0.4nm,0.3s,baz=276,slow=14,SNR=1.7						
RPZ	**Rata Peaks**	**16.45**	**211**		**Pn**	**04 52 22.9**	**-2.8**
RPZ				IAmb	IAmb	04 52 23.2	
	comp=Z,39nm,1.1s						
DZM	**Mont Dzumac**	**16.47**	**295**	Pn	**P**	**04 52 28.2**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=104,slow=15,SNR=2.4						
LBZ	**Lake Benmore**	**17.36**	**211**	Pn	**Pn**	**04 52 33.9**	**-3.1**
ARMA	**Armidale**	**26.67**	**261**	P	**P**	**04 54 17.5**	**+4.1**
ARMA				IAmb	IAmb	04 54 35.1	
	comp=Z,29nm,1.5s						
CTA	**Charters Tower**	**34.20**	**278**	P	**P**	**04 55 21.6**	**+1.6**
	comp=Z,7.5nm,0.5s,baz=102,slow=11,SNR=18						
CTAO	**Charters Tower**	**34.20**	**278**	P	**P**	**04 55 22.1**	**+2.2**
STKA	**Stephens Creek**	**35.02**	**256**	P	**P**	**04 55 28.8**	**+1.9**
	comp=Z,4.9nm,0.5s,baz=101,slow=10.0,SNR=12						
STKA	**Stephens Creek**	**35.02**	**256**	P	**P**	**04 55 28.3**	**+1.4**
KRVT	**Keravat (AS076**	**38.53**	**306**	LR	LR	05 09 25.3	
	comp=Z,1µm,21.7s,baz=347,slow=32						
COEN	**Coen**	**39.62**	**285**	P	**P**	**04 56 07.0**	**+1.0**
AS31	**Alice Springs**	**43.59**	**266**	P	**P**	**04 56 39.3**	**+0.7**
ASAR	**Alice Springs**	**43.59**	**266**	P	**P**	**04 56 38.1**	**-0.5**
	comp=Z,5.8nm,0.6s,baz=105,slow=7.4,SNR=50						
ASAR				PcP	**PcP**	**04 58 24.9**	**-0.9**
	comp=Z,1.2nm,0.6s,baz=118,slow=3.4,SNR=4.1						
WR0	**Warramunga Arr**	**44.37**	**272**	P	**P**	**04 56 44.7**	**-0.1**
WB2	**Warramunga Arr**	**44.54**	**271**	P	**P**	**04 56 45.9**	**-0.3**
WRA	**Warramunga Arr**	**44.55**	**271**	P	**P**	**04 56 45.6**	**-0.7**
	comp=Z,7.3nm,0.4s,baz=110,slow=8.0,SNR=65						
WB0	**Warramunga Arr**	**44.57**	**272**	P	**P**	**04 56 46.3**	**-0.1**
WB0				IAmb	IAmb	04 56 48.2	
	comp=Z,10nm,0.6s						
VNDA	**Vanda**	**48.52**	**186**	P	**P**	**04 57 19.3**	**+2.7**
	comp=Z,1.0nm,0.5s,baz=19,slow=6.9,SNR=18						
KNRA	**Kununurra**	**51.14**	**274**	P	**P**	**04 57 36.5**	**-0.8**
FITZ	**Fitzroy Crossi**	**52.83**	**269**	P	**P**	**04 57 49.8**	**-0.1**
	comp=Z,2.5nm,0.7s,baz=148,slow=11,SNR=6.7						
FITZ	**Fitzroy Crossi**	**52.83**	**269**	P	**P**	**04 57 49.4**	**-0.5**
FITZ				IAmb	IAmb	04 58 01.1	
	comp=Z,7.2nm,1.4s						
CASY	**Casey**	**55.69**	**208**	P	**P**	**04 58 08.9**	**-1.2**
QSPA	**South Pole Qui**	**60.09**	**180**	P	**P**	**04 58 41.1**	**0.0**
MAW	**Mawson**	**72.83**	**200**	P	**P**	**05 00 02.5**	**+0.2**
	comp=Z,4.3nm,0.6s,baz=150,slow=10.0,SNR=3.9						
MAW	**Mawson**	**72.83**	**200**	P	**P**	**05 00 01.9**	**-0.4**
SYO	**Syowa Base**	**77.59**	**193**⇑	*e*P	**P**	**05 00 28.7**	**-0.9**
SYO	**Syowa Base**	**77.59**	**193** ⇓	*i* pP	pP	05 00 36.5	-2.7
MJAR	**Matsushiro Arr**	**78.19**	**325**	P	**P**	**05 00 34.0**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=164,slow=5.7,SNR=5.9						
MJAR	**Matsushiro Arr**	**78.19**	**325**	P	**P**	**05 00 33.6**	**+0.2**
SNAA	**Sanae**	**78.52**	**178**	P	**P**	**05 00 35.4**	**+0.5**
VNA3	**Neumayer Olymp**	**78.65**	**176**	P	**P**	**05 00 36.2**	**+0.6**
VNA2	**Neumayer--Watz**	**79.09**	**177**	P	**P**	**05 00 37.1**	**-0.8**
VNA1	**Neumayer--Stat**	**79.32**	**176**	P	**P**	**05 00 39.1**	**-0.1**
H03S2	**Juan Fernandez**	**80.29**	**123**	T	T	06 30 15.5	
	baz=239,slow=74,SNR=11						
H03S1	**Juan Fernandez**	**80.30**	**123**	T	T	06 30 16.5	
	baz=239,slow=74,SNR=11						
H03S3	**Juan Fernandez**	**80.31**	**123**	T	T	06 30 25.8	
	baz=239,slow=74,SNR=11						
KSRS	**Korea Array**	**84.36**	**319**	P	**P**	**05 01 05.7**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=134,slow=5.2,SNR=2.0						
PETK	**Petropavlovsk-**	**85.56**	**345**	P	**P**	**05 01 12.2**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=111,slow=8.1,SNR=5.6						
PETK	**Petropavlovsk-**	**85.56**	**345**	P	**P**	**05 01 11.2**	**-0.5**
USA0B	**Ussuriysk Arra**	**87.10**	**326**	P	**P**	**05 01 20.1**	**+0.6**
USA0B				IAmb	IAmb	05 01 25.9	
	comp=Z,4.7nm,1.0s						
USRK	**Ussuriysk Ar.**	**87.10**	**326**	P	**P**	**05 01 20.4**	**+0.9**
	comp=Z,1.5nm,0.7s,baz=108,slow=4.7,SNR=2.8						
USRK	**Ussuriysk Ar.**	**87.10**	**326**	P	**P**	**05 01 19.8**	**+0.3**
NVAR	**Mina Array Bea**	**87.64**	**42**	P	**P**	**05 01 23.6**	**+1.0**
	comp=Z,2.7nm,0.9s,baz=217,slow=7.8,SNR=8.1						
NVAR	**Mina Array Bea**	**87.64**	**42**	P	**P**	**05 01 22.8**	**+0.3**
TPNV	**Topopah Spring**	**87.90**	**45**	P	**P**	**05 01 24.5**	**+0.7**
TPNV				IAmb	IAmb	05 01 38.7	
	comp=Z,3.6nm,0.8s						
KVN	**Kaiserville**	**88.18**	**42**	P	**P**	**05 01 25.0**	**0.0**
KVN				IAmb	IAmb	05 01 39.7	
	comp=Z,3.8nm,1.0s						
U15A	**North Rim**	**90.03**	**47**	P	**P**	**05 01 35.2**	**+1.3**
U15A				IAmb	IAmb	05 01 49.5	
	comp=Z,7.7nm,1.1s						
CCUT	**Cedar City**	**90.06**	**46**	P	**P**	**05 01 34.3**	**+0.3**
WUAZ	**Wupatki**	**90.06**	**48**	P	**P**	**05 01 34.8**	**+0.8**
WUAZ				IAmb	IAmb	05 01 49.3	
	comp=Z,4.3nm,0.9s						
KLR	**Kul'dur**	**90.94**	**329**	P	**P**	**05 01 37.6**	**+0.2**
	comp=Z,2.1nm,0.7s,baz=174,slow=1.9,SNR=7.1						
MSU	**Marysvale**	**91.39**	**45**	P	**P**	**05 01 39.5**	**-0.7**
TXAR	**Lajitas Array**	**91.79**	**57**	P	**P**	**05 01 43.3**	**+1.2**
	comp=Z,1.3nm,1.2s,baz=280,slow=5.4,SNR=2.7						
MFID	**Camas Ranch**	**92.33**	**40**		**P**	**05 01 44.0**	**-0.2**
MFID				IAmb	IAmb	05 01 45.9	
	comp=Z,2.5nm,0.9s						
F10A	**Beach Ranch, E**	**93.24**	**37**	P	**P**	**05 01 47.4**	**-0.9**
F10A				IAmb	IAmb	05 02 02.0	
	comp=Z,3.2nm,0.8s						
MKAR	**Makanchi Array**	**117.88**	**310**	PKP	**PKPdf**	**05 07 19.4**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=90,slow=1.0,SNR=4.9						
MKAR	**Makanchi Array**	**117.88**	**310**		**PKPdf**	**05 07 19.1**	**-1.0**
KKAR	**Karatay Array**	**125.25**	**304**		**PKPdf**	**05 07 33.7**	**-0.8**
ARCES	**ARCESS Array B**	**138.31**	**348**	PKP	**PKPdf**	**05 07 57.8**	**-0.5**
	comp=Z,2.1nm,0.8s,baz=40,slow=2.1,SNR=5.4						
ARCES	**ARCESS Array B**	**138.31**	**348**		**PKPdf**	**05 07 57.0**	**-1.3**
H10N3	**ASCENSION HYDR**	**138.95**	**154**	T	T	07 44 36.0	
	baz=203,slow=75,SNR=6.1						
H10N1	**ASCENSION HYDR**	**138.96**	**154**	T	T	07 44 36.3	
	baz=203,slow=75,SNR=8.5						
H10N2	**ASCENSION HYDR**	**138.97**	**154**	T	T	07 44 37.3	
	baz=203,slow=75,SNR=9.5						
FIA1	**FINESS Array S**	**144.94**	**340**		**PKPab**	**05 08 08.9**	**-0.6**
FINES	**FINESS Array B**	**144.94**	**340**	PKP	**PKPab**	**05 08 09.1**	**-0.5**
	comp=Z,14nm,0.6s,baz=56,slow=3.8,SNR=67						
KBZ	**Khabaz**	**145.28**	**304**	PKPbc	**PKPdf**	**05 08 11.4**	**0.0**
	comp=Z,2.6nm,0.7s,baz=154,slow=4.6,SNR=5.5						
NC303	**NORSAR Array S**	**148.24**	**352**		**PKPbc**	**05 08 18.1**	**-1.1**
NB2	**NORSAR Subarra**	**148.44**	**352**	PKP	**PKPbc**	**05 08 19.6**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=11,slow=2.8						
NOA	**NORSAR Array B**	**148.44**	**352**	PKPbc	**PKPbc**	**05 08 19.4**	**-0.5**
	comp=Z,3.2nm,0.7s,baz=15,slow=4.3,SNR=10.0						
AKASG	**Malin Array Be**	**151.27**	**324**	PKPbc	**PKPbc**	**05 08 26.6**	**-0.4**
	comp=Z,2.5nm,0.5s,baz=47,slow=2.8,SNR=11						
AKASG	**Malin Array Be**	**151.27**	**324**		**PKPbc**	**05 08 26.3**	**-0.6**
AKBB	**Malin Array Si**	**151.27**	**324**		**PKPbc**	**05 08 26.5**	**-0.5**
ILGA	**Ilgaz**	**152.48**	**302**		**PKiKP**	**05 08 30.8**	**+0.2**
BRTR	**Keskin Array B**	**152.82**	**299**	PKPbc	**PKPbc**	**05 08 30.4**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=152,slow=3.6,SNR=7.3						
BRTR	**Keskin Array B**	**152.82**	**299**		**PKPbc**	**05 08 30.1**	**-0.9**
DPC	**Dobruska-Polom**	**157.19**	**337**	*e*PKPAB	**PKPab**	**05 09 00.6**	**+0.3**
DPC				*ex*	x	05 09 06.9	
CLL	**Collm**	**157.34**	**343**	*e*PKPab	**PKPab**	**05 09 01.0**	**+0.2**
KHC	**Kasperske Hory**	**159.14**	**339**	*e*PKPAB	**PKPab**	**05 09 09.4**	**+0.7**
KHC				*ex*	x	05 09 14.3	
GERES	**GERESS Array B**	**159.35**	**339**	PKPab	**PKPab**	**05 09 09.7**	**0.0**
	comp=Z,1.0nm,0.7s,baz=20,slow=4.3,SNR=8.1						
GERES	**GERESS Array B**	**159.35**	**339**		**PKPab**	**05 09 09.4**	**-0.4**
CONA	**Conrad Observa**	**159.38**	**334**	*i* PKPab	**PKPab**	**05 09 10.3**	**+0.4**
	comp=Z,6.2nm,0.8s						
KBA	**Koelnbreinsper**	**161.01**	**337**	*i* PKPdf	**PKPdf**	**05 08 37.8**	**+3.7**
	comp=Z,9.1nm,1.2s						
WATA	**Walderalm**	**161.35**	**340**	*i* PKPab	**PKPab**	**05 09 18.8**	**+0.3**
	comp=Z,2.4nm,0.5s						
WTTA	**Wattenberg**	**161.39**	**340**	*i* PKPab	**PKPab**	**05 09 19.2**	**+0.4**
	comp=Z,4.6nm,0.5s						
MOTA	**Moosalm**	**161.47**	**341**	*i* PKPab	**PKPab**	**05 09 17.7**	**-1.3**
	comp=Z,4.9nm,0.9s						
DAVA	**Damuels**	**161.84**	**344**	*i* PKPab	**PKPab**	**05 09 20.7**	**+0.1**
	comp=Z,5.7nm,0.8s						
FUORN	**Ofenpass-Fuorn**	**162.36**	**342**		**PKPab**	**05 09 21.8**	**-1.3**
TORD	**Torodi Ar. Bea**	**163.19**	**177**	PKPab	**PKPab**	**05 09 27.3**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=172,slow=2.9,SNR=7.5						
TORD	**Torodi Ar. Bea**	**163.19**	**177**	PKPab	**PKPab**	**05 09 26.5**	**-0.6**

IDC 24 04:58:41.0±1.8,30°.19S×177°.44W,h0km,mb3.9/4, mb1 4.0/4,mb1mx3.7/37,mbtmp3.9/4,Error ellipse: s-maj=44.5km s-min=20.2km az=79.0
NEIC 24 04:58:41.3±0.7,30°.19S±0.05×177°.1W±0.2,h17km±10km, mb4.1/4, Error ellipse: s-maj=22.7km s-min=6.8km az=89.0

ISC 24 04:58:41.3±1.7,**30°2S**±0.1×**177°2W**±0.2,**h10**km,**n16,** σ1§**49**/17,**mb4.0**/6,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.16**	**325**	Pn	**Pb**	**04 59 03.4**	**0.0**
	343nm,0.3s,baz=125,slow=8.2,SNR=20						
RAO				Sn	**Sb**	**04 59 18.2**	**-0.4**
	549nm,0.3s,baz=81,slow=22,SNR=14						
RAO	**Raoul Island**	**1.16**	**325**		**Pb**	**04 59 03.1**	**-0.4**
TUWZ	**Tuamarina**	**13.31**	**210**	Pn	**Pn**	**05 01 49.9**	**-0.3**
DZM	**Mont Dzumac**	**16.79**	**295**	Pn	**P**	**05 02 42.5**	**+3.5**
	0.5nm,0.3s,baz=185,slow=9.9,SNR=3.3						
ODZ	**Otahua Downs**	**17.64**	**210**	Pn	**Pn**	**05 02 45.9**	**-1.3**
STKA	**Stephens Creek**	**35.22**	**257**	P	**P**	**05 05 36.7**	**+0.7**
	2.1nm,0.9s,baz=104,slow=10,SNR=3.1						
STKA	**Stephens Creek**	**35.22**	**257**	P	**P**	**05 05 35.0**	**-0.9**
ASAR	**Alice Springs**	**43.84**	**266**	P	**P**	**05 06 47.9**	**-0.1**
	0.5nm,0.5s,baz=101,slow=8.1,SNR=2.7						
ASAR	**Alice Springs**	**43.84**	**266**	P	**P**	**05 06 46.9**	**-1.0**
WR0	**Warramunga Arr**	**44.63**	**272**	P	**P**	**05 06 54.0**	**-0.3**
WR0				IAmb	IAmb	05 07 11.3	
	comp=Z,2.4nm,0.8s						
WB2	**Warramunga Arr**	**44.80**	**272**	P	**P**	**05 06 54.7**	**-1.0**
WB2				IAmb	IAmb	05 07 07.7	
	comp=Z,2.7nm,0.9s						
WRA	**Warramunga Arr**	**44.81**	**272**	P	**P**	**05 06 53.0**	**-2.7**
	comp=Z,1.1nm,0.5s,baz=111,slow=8.0,SNR=9.1						
QSPA	**South Pole Qui**	**59.90**	**180**	P	**P**	**05 08 48.9**	**+1.6**
	comp=Z,1.2nm,0.9s,baz=60,slow=2.3,SNR=2.4						
QSPA	**South Pole Qui**	**59.90**	**180**	P	**P**	**05 08 47.8**	**+0.5**
FINES	**FINESS Array B**	**145.21**	**341**	PKPbc	**PKPbc**	**05 18 17.8**	**-0.3**
	comp=Z,2.2nm,0.5s,baz=63,slow=3.1,SNR=16						
FINES	**FINESS Array B**	**145.21**	**341**		**PKPbc**	**05 18 16.6**	**-1.5**

NEIC 24 05:04:04.8±1.1,51°.78N±0°.06×178°.40E±0°.10, h111km±5km,Error ellipse: s-maj=9.6km s-min=8.0km az=136.0
AEIC 24 05:04:05±1.4,51°.79N±0°.09×178°.4E±0°.1,h109km±4km, ML3.3,Error ellipse: s-maj=13.5km s-min=8.9km az=185.0
IDC 24 05:04:05.6±8.6,52°.24N×178°.60E,h103km±55km,mb3.2/2, mb1 3.4/4,mb1mx3.0/38,mbtmp3.8/4,Error ellipse: s-maj=174.1km s-min=32.7km az=175.0

ISC 24 05:04:04.8±0.9,**51°8N**±0°.1×**178°43E**±0°.06,**h110**km±7km, **n34,** σ0§**88**/38,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.18**	**17**		**Pn**	**05 04 20.4**	**+0.2**
LSNW	**Little Sitkin**	**0.20**	**16**		**Pn**	**05 04 20.2**	**0.0**
LSPA	**Little Sitkin**	**0.20**	**27**		**Pn**	**05 04 20.3**	**+0.2**
LSPA					Sn	**05 04 32.3**	**+0.6**
AMKA	**Amchitka**	**0.68**	**126**		**Pn**	**05 04 23.2**	**+0.4**
AMKA					Sn	**05 04 36.5**	**0.0**
CETU	**Semis' Tuman**	**0.69**	**74**		**Pn**	**05 04 23.3**	**+0.3**
CESW	**Semis' Southwe**	**0.72**	**80**		**Pn**	**05 04 23.3**	**0.0**
CEAP	**Semis' Anvil P**	**0.75**	**72**		**Pn**	**05 04 23.8**	**+0.3**
CERAA	**Semis' Rag'd T**	**0.79**	**80**		**Pn**	**05 04 24.0**	**+0.1**
CERAA					Sn	**05 04 38.4**	**+0.1**
GAEA	**Gareloi East**	**1.76**	**89**		**Pn**	**05 04 34.9**	**+0.3**
TASE	**Tanaga Southea**	**2.20**	**87**		**Pn**	**05 04 40.5**	**+0.3**
TAFP	**Tanaga Falls P**	**2.23**	**85**		**Pn**	**05 04 40.5**	**-0.1**
TAFP					Sn	**05 05 07.7**	**-0.5**
TAPA	**Tanaga Point A**	**2.33**	**88**		**Pn**	**05 04 42.1**	**0.0**
KIMD	**Kanaga Island**	**2.69**	**89**		**Pn**	**05 04 46.7**	**+0.1**
KICM	**Kanaga Island**	**2.72**	**85**		**Pn**	**05 04 47.2**	**+0.2**
KIKV	**Kanaga Island**	**2.73**	**86**		**Pn**	**05 04 47.3**	**+0.1**
KINC	**Kanaga Island**	**2.76**	**85**		**Pn**	**05 04 48.0**	**+0.4**
SMY	**Shemya**	**2.83**	**291**		**Pn**	**05 04 47.4**	**-0.9**
ADK	**Adak**	**3.04**	**86**		**Pn**	**05 04 50.9**	**-0.3**
ADK	**Adak**	**3.04**	**86**	Pn	**Pn**	**05 04 50.8**	**-0.4**
GSTD	**Great Sitkin T**	**3.37**	**83**		**Pn**	**05 04 55.3**	**-0.5**
GSMY	**Great Sitkin M**	**3.43**	**83**		**Pn**	**05 04 56.2**	**-0.2**
GSTR	**Great Sitkin T**	**3.43**	**83**		**Pn**	**05 04 56.4**	**-0.1**
ATKA	**Atka Island**	**4.58**	**82**		**Pn**	**05 05 12.2**	**+0.4**
KOFP	**Korovin Flat P**	**4.64**	**81**		**Pn**	**05 05 13.7**	**+0.9**
NIKH	**Nikolski High**	**7.88**	**76**	Pn	**Pn**	**05 05 57.7**	**+1.3**
SPIA	**Saint Paul Isl**	**8.52**	**46**	Pn	**Pn**	**05 06 07.4**	**+2.3**
UNV	**Unalaska Valle**	**9.36**	**71**	Pn	**Pn**	**05 06 18.1**	**+1.6**
AKUT	**Akutan**	**9.82**	**70**	Pn	**Pn**	**05 06 24.4**	**+1.6**
PETK	**Petropavlovsk-**	**12.71**	**284**	P	**Pn**	**05 07 02.3**	**+0.9**
	0.4nm,0.3s,baz=97,slow=18,SNR=4.4						
CNBA	**Chernabura Isl**	**13.48**	**68**	Pn	**Pn**	**05 07 10.0**	**-1.4**
KDAK	**Kodiak Island**	**17.68**	**59**	P	**P**	**05 08 00.8**	**-2.3**
	0.9nm,0.3s,baz=268,slow=6.0,SNR=21						
SONM	**Songino Array**	**44.91**	**295**	P	**P**	**05 12 09.7**	**+1.3**
	0.4nm,0.5s,baz=35,slow=7.6,SNR=2.8						
MKAR	**Makanchi Array**	**58.42**	**307**	P	**P**	**05 13 48.3**	**-0.3**
	0.4nm,0.5s,baz=44,slow=6.3,SNR=4.3						
BOSA	**Boshof**	**149.40**	**309**	PKPbc	**PKPbc**	**05 23 41.5**	**+0.7**
	1.3nm,0.7s,baz=18,slow=3.2,SNR=1.6						

IDC 24 05:04:49.7±2.7,**13°44S×66°61E,h0km,mb4.0/5, mb1 4.1/5,mb1mx3.7/26,mbtmp4.0/5,Error ellipse: s-maj=93.4km s-min=30.9km az=58.0,Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**8.15**	**46**	T	T	05 15 33.2	
	baz=226,slow=76,SNR=994						
H08S2	**Diego Garcia H**	**8.16**	**46**	T	T	05 15 34.2	
	baz=226,slow=76,SNR=738						
H08S3	**Diego Garcia H**	**8.17**	**46**	T	T	05 15 34.7	
	baz=226,slow=76,SNR=1067						
H01W3	**Cape Leeuwin H**	**47.81**	**125**	T	T	06 04 53.9	
	baz=284,slow=75,SNR=26						
H01W2	**Cape Leeuwin H**	**47.81**	**125**	T	T	06 04 53.9	
	baz=284,slow=75,SNR=29						
H01W1	**Cape Leeuwin H**	**47.83**	**125**	T	T	06 04 55.2	
	baz=284,slow=75,SNR=28						
MKAR	**Makanchi Array**	**61.59**	**12**	P	P	05 15 08.6	-0.3
	0.6nm,0.5s,baz=202,slow=7.9,SNR=6.6						
ASAR	**Alice Springs**	**64.11**	**110**	P	P	05 15 26.2	-0.2
	1.0nm,0.8s,baz=279,slow=5.7,SNR=7.2						
WRA	**Warramunga Arr**	**64.84**	**106**	P	P	05 15 31.1	0.0
	2.8nm,1.1s,baz=268,slow=5.4,SNR=4.2						
ZALV	**Zalesovo Beam**	**68.90**	**11**	P	P	05 15 55.4	-0.8
	1.1nm,0.5s,baz=208,slow=6.0,SNR=5.2						
SONM	**Songino Array**	**70.54**	**27**	P	P	05 16 07.8	+1.1
	1.0nm,0.8s,baz=206,slow=4.6,SNR=5.0						
PDAR	**Pinedale Array**	**150.59**	**354**	PKPbc	PKPbc	05 24 44.2	-0.1
	1.6nm,0.7s,baz=46,slow=1.7,SNR=15						

IDC 24 05:06:07.5±5.0,52°.05N×178°.39E,h119km±46km, mb3.4/12,mb1 3.7/14,mb1mx3.5/38,mbtmp3.9/14,Error ellipse: s-maj=34.5km s-min=12.1km az=167.0
AEIC 24 05:06:08±1.7,52°.0N±0°.1×178°.28E±0°.08,h133km±4km, Error ellipse: s-maj=20.0km s-min=7.3km az=183.0
NEIC 24 05:06:08.5±1.0,52°.0N±0°.1×178°.38E±0°.10,h126km±3km, mb4.2/17,Error ellipse: s-maj=19.5km s-min=8.8km az=182.0

ISC 24 05:06:08.1±0.7,**52°0N**±0°.1×**178°33E**±0°.05,**h127**km±7km, **n62,** σ0§**72**/62,**mb3.8**/18,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.12**	**115**		**Pn**	**05 06 25.6**	**+0.2**
LSSA	**Little Sitkin**	**0.13**	**124**		**Pn**	**05 06 25.8**	**+0.3**
LSPA	**Little Sitkin**	**0.16**	**114**		**Pn**	**05 06 25.9**	**+0.4**
CETU	**Semis' Tuman**	**0.72**	**94**		**Pn**	**05 06 28.9**	**+0.6**
CEAP	**Semis' Anvil P**	**0.77**	**91**		**Pn**	**05 06 29.3**	**+0.6**
CESW	**Semis' Southwe**	**0.77**	**99**		**Pn**	**05 06 28.8**	**+0.1**
CERAA	**Semis' Rag'd T**	**0.84**	**97**		**Pn**	**05 06 29.6**	**+0.3**
AMKA	**Amchitka**	**0.88**	**137**		**Pn**	**05 06 29.6**	**-0.1**
AMKA					Sn	**05 06 45.0**	**-0.9**
GAEA	**Gareloi East**	**1.82**	**96**		**Pn**	**05 06 40.0**	**+0.2**
TASE	**Tanaga Southea**	**2.25**	**93**		**Pn**	**05 06 45.0**	**-0.1**
TAFP	**Tanaga Falls P**	**2.28**	**92**		**Pn**	**05 06 45.2**	**-0.2**
TAFP					Sn	**05 07 14.0**	**0.0**
TAPA	**Tanaga Point A**	**2.40**	**93**		**Pn**	**05 06 46.6**	**-0.2**
SMY	**Shemya**	**2.69**	**287**		**Pn**	**05 06 49.7**	**-0.8**
SMY					Sn	**05 07 22.4**	**-0.8**
KIMD	**Kanaga Island**	**2.76**	**94**		**Pn**	**05 06 51.1**	**-0.4**
KICM	**Kanaga Island**	**2.77**	**90**		**Pn**	**05 06 51.5**	**0.0**
KIKV	**Kanaga Island**	**2.79**	**91**		**Pn**	**05 06 51.7**	**-0.1**
ADK	**Adak**	**3.09**	**91**		**Pn**	**05 06 55.0**	**-0.7**
ADK	**Adak**	**3.09**	**91**		**Pn**	**05 06 55.1**	**-0.5**
GSTD	**Great Sitkin T**	**3.41**	**87**		**Pn**	**05 06 59.1**	**-0.9**
GSTD					Sn	**05 07 40.7**	**+0.6**
GSTR	**Great Sitkin T**	**3.46**	**87**		**Pn**	**05 07 00.1**	**-0.5**
GSMY	**Great Sitkin M**	**3.46**	**87**		**Pn**	**05 07 00.3**	**-0.4**
ATKA	**Atka Island**	**4.61**	**85**		**Pn**	**05 07 15.6**	**-0.3**
KOFP	**Korovin Flat P**	**4.67**	**84**		**Pn**	**05 07 17.3**	**+0.6**
NIKH	**Nikolski High**	**7.88**	**78**		**Pn**	**05 07 59.9**	**+0.1**
UNV	**Unalaska Valle**	**9.34**	**73**	Pn	**Pn**	**05 08 20.1**	**+0.7**
AKUT	**Akutan**	**9.80**	**71**	Pn	**Pn**	**05 08 27.1**	**+1.5**
PETK	**Petropavlovsk-**	**12.60**	**283**	P	**Pn**	**05 09 03.8**	**+1.0**
	0.2nm,0.3s,baz=90,slow=19,SNR=8.8						
SDPT	**Sand Point**	**12.98**	**67**	Pn	**Pn**	**05 09 06.7**	**-0.9**
SVW2	**Sparrevohn**	**16.89**	**47**	P	**Pn**	**05 09 57.1**	**+0.4**
OHAK	**Old Harbor**	**17.16**	**61**		**P**	**05 09 57.5**	**-2.0**
OHAK				IAmb	IAmb	05 09 59.4	
	comp=Z,14nm,1.1s						
KDAK	**Kodiak Island**	**17.60**	**59**	P	**P**	**05 10 02.6**	**-1.7**
	comp=Z,2.3nm,0.3s,baz=156,slow=0.8,SNR=30						
KDAK	**Kodiak Island**	**17.60**	**59**	IAmb	IAmb	05 10 06.2	
	comp=Z,32nm,1.5s						
CNPM	**China Poot**	**18.56**	**54**	P	**P**	**05 10 15.1**	**+0.2**
BRLK	**Bradley Lake**	**18.77**	**54**	P	**P**	**05 10 17.3**	**+0.1**
GHO	**Glory Hole Cre**	**20.15**	**48**	P	Pn	05 10 34.0	-1.2
GLI	**Glacier Island**	**20.83**	**51**	P	**P**	**05 10 39.2**	**-0.1**
SCM	**Sheep Creek Mo**	**20.90**	**49**	P	**P**	**05 10 41.3**	**+1.1**
SCM				IAmb	IAmb	05 10 49.9	
	comp=Z,12nm,1.1s						
FID	**Port Fidalgo**	**21.11**	**52**	P	**P**	**05 10 41.7**	**-0.6**
FID				IAmb	IAmb	05 10 45.9	
	comp=Z,16nm,1.2s						
DHY	**Denali Highway**	**21.18**	**45**	P	**P**	**

MXZ	Matakaoa Point	0.58	98	P		Pn	05 24 37.6	+0.4
WHRZ	Whale Island	0.61	232	P		Pn	05 24 35.4	-2.0
WMGZ	Waiomatatini S	0.74	118	P		Pn	05 24 38.4	+0.4
PUZ	Puketiti	0.79	138	P		Pn	05 24 38.0	-0.4
MWZ	Matawai	0.85	183	P		Pn	05 24 37.2	-1.5
URZ	Urewera	0.86	206	P		Pn	05 24 36.7	-2.0
OPRZ	Ohinepanea	0.90	246	P		Pn	05 24 37.3	-1.6
EDRZ	Edgecumbe	0.92	227	P		Pn	05 24 37.6	-1.6
TKGZ	Te Karaka	0.98	168	P		Pn	05 24 41.3	+1.9
TGRZ	Tauranga	1.08	256	P		Pn	05 24 39.4	-0.8
CNGZ	Carnagh Station	1.11	154	P		Pn	05 24 41.9	+1.5
TARZ	Mount Tarawera	1.14	228	P		Pn	05 24 39.8	-0.9
MUGZ	Murupara	1.19	213	P		Pn	05 24 39.6	-1.3
KARZ	Kaharoa	1.19	243	P		Pn	05 24 40.3	-0.7
RIGZ	Rimuhau	1.23	174	P		Pn	05 24 40.5	-0.8
RTZ	Ruatahuna	1.23	203	P		Pn	05 24 40.2	-1.2
KMRZ	Kaimai	1.36	254	P		Pn	05 24 39.3	-3.1
MTHZ	Maungataniwha	1.49	203	P		Pn	05 24 43.1	-0.4
MRHZ	Matea Rd	1.64	214	P		Pn	05 24 44.5	-0.4
MHGZ	Mahia Peninsul	1.69	172	P		Pn	05 24 45.0	-0.2
TLZ	Tolley Road	1.83	242	P		Pn	05 24 47.9	+1.2
ARHZ	Aropaoanui	1.84	194	P		Pn	05 24 47.2	+0.5
MKAZ	Moumakai	1.97	280	P		Pn	05 24 50.9	+2.9
KWHZ	Kaweka Forest	2.15	205	P		Pn	05 24 54.3	+4.4
KRHZ	Kereru	2.36	203	P		Pn	05 24 52.6	+0.5
ASAR	Alice Springs	39.71	278	P		P	05 31 29.1	+6.2
	0.4nm,0.4s,baz=104,slow=7.3,SNR=5.5							
WRA	Warramunga Arr	41.36	283	P		P	05 31 36.8	+0.3
	0.7nm,0.3s,baz=111,slow=7.9,SNR=12							

IDC 24 05:24:32.8±5.8, 28°84S×177°32W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.7/29, mbtmp3.9/2, Error ellipse: s-maj=292.2km s-min=88.0km az=163.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.81	265	P	P	05 32 40.5	-0.3
	0.9nm,0.7s,baz=104,slow=7.6,SNR=6.1						
WRA	Warramunga Arr	44.66	270	P	P	05 32 47.6	0.0
	1.6nm,0.6s,baz=110,slow=7.6,SNR=3.4						
FINES	FINESS Array B	143.88	341	PKP	PKPdf	05 44 08.8	-0.6
	1.6nm,0.6s,baz=46,slow=6.0,SNR=4.6						

NEIC 24 05:26:50.8±0.9, 52°2N±0°2×176°35E±0°10, h3km±9km, Error ellipse: s-maj=33.8km s-min=1.2km az=195.0

AEIC 24 05:26:51.0±0.8, 52°2N±0°1×176°33E±0°08, h3km±6km, ML3.1/8, Error ellipse: s-maj=20.6km s-min=4.3km az=196.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	Little Sitkin	1.36	98		Pn	05 27 16.6	-0.4
LSNW					Sn	05 27 35.5	0.0
LSSA	Little Sitkin	1.37	99		Pn	05 27 16.6	-0.5
LSPA	Little Sitkin	1.40	99		Pn	05 27 16.6	-0.9
SMY	Shemya	1.47	292		Pn	05 27 17.8	-0.6
SMY					Sg	05 27 38.7	+0.5
CETU	Semis' Tuman	1.96	95		Pn	05 27 24.9	-0.3
AMKA	Amchitka	2.02	113		Pn	05 27 25.7	-0.2
ATKA	Atka Island	5.83	86		Pn	05 28 20.2	+2.0

NEIC 24 05:27:16.9±0.6, 51°85N±0°08×178°6E±0°1, h104km±6km, Error ellipse: s-maj=14.7km s-min=10.1km az=54.0

AEIC 24 05:27:18±1.1, 51°80N±0°09×178°5E±0°1, h97km±5km, ML2.7, Error ellipse: s-maj=13.8km s-min=10.1km az=217.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	Little Sitkin	0.13	7		Pn	05 27 31.4	-0.3
LSPA	Little Sitkin	0.16	7		Pn	05 27 31.3	-0.4
AMKA	Amchitka	0.64	132		Pn	05 27 34.0	-0.5
AMKA					Sn	05 27 47.1	+0.3
CESW	Semis' Southwe	0.64	81		Pn	05 27 33.9	-0.7
CESW					Sn	05 27 46.9	-0.1
CEAP	Semis' Anvil P	0.67	72		Pn	05 27 34.5	-0.3
CERAA	Semis' Rag'd T	0.72	81		Pn	05 27 34.6	-0.6
GAEA	Gareloi East	1.68	90		Pn	05 27 46.2	-0.1
TASE	Tanaga Southea	2.12	88		Pn	05 27 51.4	-0.7
TAFP	Tanaga Falls P	2.16	86		Pn	05 27 51.4	-1.0
TAFP					Sn	05 28 17.2	-1.7
TAPA	Tanaga Point A	2.26	88		Pn	05 27 53.1	-0.8
KIMD	Kanaga Island	2.62	89		Pn	05 27 57.7	-0.9
KIKV	Kanaga Island	2.66	87		Pn	05 27 58.0	-1.1
ADK	Adak	2.96	87	Pn	Pn	05 28 01.6	-1.5
ADK	Adak	2.96	87		Pn	05 28 01.8	-1.3
GSTR	Great Sitkin T	3.35	83		Pn	05 28 07.3	-1.1

NNC 24 05:30:15.1±3.6, 54°40N×86°32E, h0km, mb3.8, mpv2.8, Error ellipse: s-maj=47.8km s-min=19.2km az=162.0, Suspected Mining explosion.

KRAR 24 05:30:15.5±0.1, 54°35N×85°88E, M2.3, 3C-4D, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	Zalesovo Array	0.74	238	⇓P	Pn	05 30 33.9	+0.7
	0.2nm,0.3s,baz=27,slow=14						
ZAA0				⇓S	Sn	05 30 47.8	+2.6
	7.4nm,0.9s,baz=27,slow=14						
KURBB	Kurchatov Arra	5.84	233	⇑Pn	Pn	05 31 47.1	+3.9
	1.7nm,0.5s,baz=27,slow=14						
KURBB				⇓Lg	Lg	05 33 28.3	
	10nm,0.9s,baz=27,slow=14						
MK31	Makanchi Array	7.90	198	⇑Pn	Pn	05 32 15.0	+3.4
	1.3nm,0.6s,baz=27,slow=14,SNR=31						
MK31				⇓Sn	Sn	05 33 46.4	+4.7
	0.9nm,0.7s,baz=20,slow=27,SNR=6.0						
MK31				⇑Lg	Lg	05 34 29.5	
	3.8nm,1.1s,baz=27,slow=14,SNR=4.9						

IDC 24 05:32:56.0±13.0, 51°84N×178°52E, h75km±128km, mb3.3/8, mb1 3.6/9, mb1mx3.3/61, mbtmp3.6/9, ML3.9/1, Error ellipse: s-maj=61.9km s-min=32.4km az=161.0

NEIC 24 05:32:58.1±0.6, 51°73N±0°06×178°62E±0°09, h92km±5km, mb3.9/12, ML3.0(AEIC), Error ellipse: s-maj=10.1km s-min=6.8km az=149.0

AEIC 24 05:32:58±1.7, 51°71N±0°09×178°58E±0°08, h88km±4km, Error ellipse: s-maj=12.5km s-min=7.3km az=170.0

ISC 24 05:32:57.7±0.9, 51°8N±0°1×178°57E±0°05, h94km±6km, n45, σ0°86/49, mb3.7/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	Little Sitkin	0.16	359		Pn	05 33 11.5	+0.4
LSSA	Little Sitkin	0.18	348		Pn	05 33 11.4	+0.2
LSPA	Little Sitkin	0.19	0		Pn	05 33 11.7	+0.5
LSPA					Sn	05 33 21.3	+0.2
AMKA	Amchitka	0.60	131		Pn	05 33 13.6	-0.1
AMKA					Sn	05 33 24.7	-0.8
CETU	Semis' Tuman	0.60	71		Pn	05 33 13.9	+0.2
CESW	Semis' Southwe	0.63	78		Pn	05 33 13.8	-0.1
CEAP	Semis' Anvil P	0.66	69		Pn	05 33 14.4	+0.2
CEAP					Sn	05 33 26.4	-0.2
CERAA	Semis' Rag'd T	0.70	78		Pn	05 33 14.6	0.0
CERAA					Sn	05 33 26.9	-0.3
GAEA	Gareloi East	1.67	89		Pn	05 33 25.9	+0.2
TASE	Tanaga Southea	2.11	87		Pn	05 33 31.6	+0.1
TAFP	Tanaga Falls P	2.14	85		Pn	05 33 31.8	-0.1
TAFP					Sn	05 33 57.3	-0.6
TAPA	Tanaga Point A	2.25	87		Pn	05 33 33.3	0.0
KIMD	Kanaga Island	2.60	89		Pn	05 33 37.9	-0.1
KICM	Kanaga Island	2.63	85		Pn	05 33 38.6	+0.3
KIKV	Kanaga Island	2.64	86		Pn	05 33 38.4	-0.2
SMY	Shemya	2.91	291		Pn	05 33 43.0	+0.9
SMY					Sn	05 34 15.9	-0.3
ADK	Adak	2.94	86		Pn	05 33 42.3	-0.2
GSTD	Great Sitkin T	3.28	83		Pn	05 33 46.5	-0.6
GSTD					Sn	05 34 25.6	+0.2
GSMY	Great Sitkin M	3.34	83		Pn	05 33 47.6	-0.2
GSTR	Great Sitkin T	3.34	82		Pn	05 33 47.6	-0.2
ATKA	Atka Island	4.49	82		Pn	05 34 03.6	+0.2
NIKH	Nikolski High	7.79	76	Pn	Pn	05 34 49.9	+1.7
UNV	Unalaska Valle	9.28	71	Pn	Pn	05 35 10.7	+2.3
SDPT	Sand Point	12.95	66	Pn	Pn	05 35 57.0	-0.9
SVW2	Sparrevohn	16.96	47		Pn	05 36 48.6	-0.2
KDAK	Kodiak Island	17.60	59	P	P	05 36 53.9	-2.5
	0.4nm,0.3s,baz=260,slow=7.2,SNR=17						
KDAK	Kodiak Island	17.60	59	IAmb	IAmb	05 36 57.1	
	comp=Z,8.5nm,1.4s						
RSO	Redoubt South	18.07	50	P	P	05 37 02.2	+0.5
CNPM	China Poot	18.59	54	P	P	05 37 07.6	+0.5
TRF	Thorofare Moun	20.12	42	P	P	05 37 25.0	+1.0
TRF				IAmb	IAmb	05 37 27.6	
	comp=Z,2.8nm,0.8s						
RND	Reindeer	20.72	43	P	P	05 37 32.0	+1.7
GLI	Glacier Island	20.87	51	P	P	05 37 31.6	-0.3
SCM	Sheep Creek Mo	20.96	48	P	P	05 37 33.0	+0.2
SCM				IAmb	IAmb	05 37 36.7	
	comp=Z,15nm,1.4s						
FID	Port Fidalgo	21.15	51	P	P	05 37 33.9	-1.0
FID				IAmb	IAmb	05 37 35.9	
	comp=Z,13nm,1.0s						
DHY	Denali Highway	21.25	45	P	P	05 37 37.2	+1.1
DHY				IAmb	IAmb	05 37 39.4	
	comp=Z,4.9nm,1.0s						
ILAR	Eielson Array	21.99	40	P	P	05 37 44.7	+1.0
	comp=Z,0.4nm,0.5s,baz=249,slow=7.6,SNR=6.3						
INK	Inuvik	28.09	36	P	P	05 38 40.4	+0.4
	comp=Z,0.5nm,0.6s,baz=255,slow=6.8,SNR=1.3						
INK	Inuvik	28.09	36	IAmb	IAmb	05 38 47.7	
	comp=Z,3.0nm,1.2s						
YKA	Yellowknife Ar	36.15	46	P	P	05 39 48.6	-1.8
	comp=Z,0.3nm,0.4s,baz=282,slow=8.9,SNR=4.7						
YBH	Yreka Blue Hor	40.44	80	P	P	05 40 28.2	+1.5
	comp=Z,1.5nm,0.8s,baz=336,slow=1.2,SNR=5.9						
YBH	Yreka Blue Hor	40.44	80	IAmb	IAmb	05 40 30.3	
	comp=Z,2.9nm,1.2s						
NVAR	Mina Array Bea	45.12	81	P	P	05 41 05.5	+0.7
	comp=Z,0.8nm,0.6s,baz=298,slow=6.2,SNR=5.2						
PDAR	Pinedale Array	47.74	71	P	P	05 41 24.4	-0.8
	comp=Z,0.5nm,0.5s,baz=339,slow=2.8,SNR=8.0						
TXAR	Lajitas Array	60.20	80	P	P	05 42 55.8	-0.1
	comp=Z,0.2nm,0.4s,baz=297,slow=5.3,SNR=5.5						
WRA	Warramunga Arr	81.19	222	P	P	05 45 03.5	+0.6
	comp=Z,5.1nm,0.9s,baz=30,slow=5.4,SNR=12						

AEIC 24 05:37:01±2.2, 51°8N±0°2×176°17E±0°10, h16km±6km, ML3.6, mb4.4/23(NEIC), Error ellipse: s-maj=29.5km s-min=3.4km az=196.0

NEIC 24 05:37:02.6±2.4, 52°0N±0°2×176°31E±0°08, h12km±6km, Error ellipse: s-maj=23.8km s-min=3.8km az=195.0

IDC 24 05:37:11.5±12.0, 52°25N×176°54E, h78km±113km, mb3.4/8, mb1 3.7/9, mb1mx3.5/57, mbtmp3.8/9, ML3.8/1, MS4.2/1, Ms1 4.2/1, ms1mx3.4/38, Error ellipse: s-maj=41.9km s-min=22.3km az=4.0

ISC 24 05:37:01.6±0.8, 51°9N±0°1×176°23E±0°05, h10km, n64, σ1°38/56, mb4.2/20, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	Little Sitkin	1.42	85		Pn	05 37 26.8	-0.6
LSNW	Little Sitkin	1.42	84		Pn	05 37 26.7	-0.7
LSNW					Sg	05 37 46.2	-1.0
LSPA	Little Sitkin	1.45	85		Pn	05 37 27.3	-0.6
SMY	Shemya	1.58	305	Pn	Pn	05 37 28.8	-0.7
SMY	Shemya	1.58	305		Sb	05 37 51.2	+0.5
AMKA	Amchitka	1.97	103		Pn	05 37 34.7	-0.3
AMKA					Sb	05 38 02.0	-0.1
CETU	Semis' Tuman	2.02	86		Pn	05 37 35.8	+0.1
CESW	Semis' Southwe	2.06	87		Pn	05 37 36.0	-0.3
CEAP	Semis' Anvil P	2.08	85		Pn	05 37 36.2	-0.3
CERAA	Semis' Rag'd T	2.14	87		Pn	05 37 38.3	+1.0
GAEA	Gareloi East	3.12	89		Pn	05 37 51.3	+0.6
TASE	Tanaga Southea	3.55	88		Pn	05 37 57.7	+0.9
TAPA	Tanaga Point A	3.69	88		Pn	05 37 59.3	+0.6
KIMD	Kanaga Island	4.05	89		Pn	05 38 03.3	-0.3
KIKV	Kanaga Island	4.09	87		Pn	05 38 05.5	+1.4
ADK	Adak	4.39	87		Pn	05 38 08.3	+0.1
GSTR	Great Sitkin T	4.77	84	Pn	Pn	05 38 14.7	+1.2
GSMY	Great Sitkin M	4.77	85		Pn	05 38 14.2	+0.7
ATKA	Atka Island	5.92	83		Pn	05 38 30.0	+0.8
OHAK	Old Harbor	18.38	61	P	Pn	05 41 15.6	-0.6
TTA	Tatalina	18.44	42	P	P	05 41 20.1	+3.1
KDAK	Kodiak Island	18.80	59	P	P	05 41 21.0	+0.2
	0.3nm,0.3s,baz=276,slow=7.7,SNR=5.3						
KDAK	Kodiak Island	18.80	59	P	P	05 41 21.1	+0.2
RSO	Redoubt South	19.13	51	P	Pn	05 41 29.1	+3.6
CNPM	China Poot	19.71	54	P	Pn	05 41 32.5	+0.2
CNPM				IAmb	IAmb	05 41 38.5	
	comp=Z,28nm,1.2s						
TRF	Thorofare Moun	21.05	44	P	P	05 41 47.6	+2.0
TRF				IAmb	IAmb	05 41 51.4	
	comp=Z,24nm,1.2s						
SCM	Sheep Creek Mo	21.99	49	P	P	05 41 55.7	+0.2
SCM				IAmb	IAmb	05 41 59.2	
	comp=Z,32nm,1.2s						
DHY	Denali Highway	22.22	46	P	P	05 42 00.2	+2.2
CCB	Clear Creek Bu	22.46	41	P	P	05 42 01.1	+0.7
ILAR	Eielson Array	22.87	41	P	P	05 42 03.3	-1.6
	comp=Z,2.2nm,1.0s,baz=248,slow=8.6,SNR=4.2						
PAX	Paxson	23.05	46	P	P	05 42 05.3	-1.4
PAX				IAmb	IAmb	05 42 10.1	
	comp=Z,14nm,1.2s						
TOLK	Toolik Lake Re	23.39	31	P	P	05 42 10.8	+0.7
TOLK				IAmb	IAmb	05 42 13.6	
	comp=Z,10nm,1.1s						
DOT	Dot Lake	23.80	45	P	P	05 42 16.4	+2.2
DOT				IAmb	IAmb	05 42 16.7	
	comp=Z,8.3nm,1.3s						
SCRK	Sand Creek	23.90	44	P	P	05 42 14.7	-0.5
SCRK				IAmb	IAmb	05 42 17.5	
	comp=Z,6.6nm,1.0s						
BMAR	Burnt Mountain	24.60	36	P	P	05 42 20.1	-1.5
BCAR	Beaver Creek A	24.72	47	P	P	05 42 21.8	-0.9
TABL	Table Mountain	24.84	53	P	P	05 42 25.2	+1.3
EGAK	Eagle	25.26	43	IAmb	IAmb	05 42 33.3	
	comp=Z,8.9nm,1.3s						
DAWY	Dawson	25.91	45	IAmb	IAmb	05 42 40.8	
	comp=Z,7.2nm,1.1s						
HYT	Haines Junctio	26.63	52	P	P	05 42 38.2	-1.9
HYT				IAmb	IAmb	05 42 49.8	
	comp=Z,14nm,1.0s						
H11N2	WAKE ISLAND Hy	32.89	196	T	T	06 18 47.4	
	baz=11,slow=76,SNR=496						
H11N3	WAKE ISLAND Hy	32.90	196	T	T	06 18 48.2	
	baz=11,slow=76,SNR=650						
H11N1	WAKE ISLAND Hy	32.90	196	T	T	06 18 48.8	
	baz=11,slow=76,SNR=524						
H11S1	WAKE ISLAND Hy	34.12	196	T	T	06 20 19.7	
	baz=10,slow=76,SNR=87						
H11S3	WAKE ISLAND Hy	34.13	196	T	T	06 20 20.9	
	baz=10,slow=76,SNR=118						
H11S2	WAKE ISLAND Hy	34.13	196	T	T	06 20 21.0	
	baz=10,slow=76,SNR=42						
YKA	Yellowknife Ar	37.14	46	P	P	05 44 11.4	-0.5
	comp=Z,0.7nm,0.8s,baz=289,slow=8.3,SNR=5.1						
JNU	Nakatsue	37.59	258	LR	LR	05 58 04.3	
	comp=Z,350nm,20.9s,baz=198,slow=33						
SONM	Songino Array	43.64	294	P	P	05 45 08.7	+2.6
	comp=Z,0.5nm,0.5s,baz=53,slow=7.4,SNR=2.8						
HHC	Hu-ho-hao-te	44.57	282	*e*P	P	05 45 12.8	-0.8
HHC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,140nm,5.2s						
HHC				LR	LR		
	comp=N,220nm,14.5s						
HHC				LR	LR		
	comp=E,180nm,15.5s						
HHC				LR	LR		
	comp=Z,170nm,14.2s						
NJ2	Nanjing	45.72	267	*e*P	P	05 45 20.1	-2.6
NJ2				pmax	pmax		
	comp=Z,19nm,0.5s						
PDAR	Pinedale Array	49.08	70	P	P	05 45 47.5	-1.5
	comp=Z,0.9nm,0.9s,baz=298,slow=6.2,SNR=6.5						
P17A	Butcher Ranch,	50.45	74	P	P	05 45 57.6	-1.7
SDCO	Great Sand Dun	54.68	72	IAmb	IAmb	05 46 35.7	
	comp=Z,10nm,1.5s						
WMQ	Urumqi	56.45	300	*e*P	P	05 46 44.3	+1.0
MKAR	Makanchi Array	57.27	305	P	P	05 46 49.1	+0.1
	comp=Z,0.7nm,0.5s,baz=52,slow=5.0,SNR=9.4						
N35A	Tabor	58.22	63	P	P	05 46 55.7	-0.1
E43A	Lone Tree Farm	58.98	53	P	P	05 47 00.8	-0.1
H43A	Windswept, Lux	59.92	55	P	P	05 47 08.0	+0.6
TXAR	Lajitas Array	61.61	78	P	P	05 47 18.7	-0.6
	comp=Z,0.5nm,0.7s,baz=304,slow=6.4,SNR=2.5						
FCAR	Ozark Folk Cen	63.68	65	P	P	05 47 30.6	-2.3
NB2	NORSAR Subarra	66.82	352	P	P	05 47 52.3	-0.6
	comp=Z,1.9nm,0.8s,baz=9.4,slow=6.9						
NOA	NORSAR Array B	66.82	352	P	P	05 47 52.3	-0.6
	comp=Z,0.4nm,0.8s,baz=11,slow=6.6,SNR=4.5						
ASAR	Alice Springs	83.84	218	P	P	05 49 34.7	+3.6
	comp=Z,0.7nm,0.6s,baz=17,slow=5.6,SNR=8.2						

IDC 24 05:37:25.6±3.7, 28°66S×177°83W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/34, mbtmp3.8/2, Error ellipse: s-maj=75.3km s-min=18.8km az=75.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.60	187	Pn	Pn	05 37 41.6	+0.2
	838nm,0.3s,baz=266,slow=4.9,SNR=19						
RAO				Sn	Sn	05 37 52.3	+0.5
	937nm,0.3s,baz=76,slow=22,SNR=22						
ASAR	Alice Springs	43.38	265	P	P	05 45 30.1	0.0
	0.5nm,0.3s,baz=106,slow=7.7,SNR=6.3						
WRA	Warramunga Arr	44.21	270	P	P	05 45 36.6	-0.2
	0.6nm,0.4s,baz=110,slow=7.9,SNR=7.1						
H03S2	Juan Fernandez	81.30	124	T	T	07 18 59.6	
	baz=238						
H03S1	Juan Fernandez	81.32	124	T	T	07 19 04.8	
	baz=238,slow=74,SNR=3.8						
H03S3	Juan Fernandez	81.32	124	T	T	07 18 57.2	
	baz=238,slow=74,SNR=3.4						
FINES	FINESS Array B	143.56	341	PKP	PKPbc	05 57 00.2	+1.2
	2.6nm,0.9s,baz=72,slow=4.5,SNR=5.4						

IDC 24 05:44:51.8±2.1, 23°82S×179°85W, h506km±22km, mb3.8/14, mb1 4.0/15, mb1mx3.6/49, mbtmp4.6/15, Error ellipse: s-maj=18.5km s-min=14.4km az=169.0

NEIC 24 05:44:54.1±1.3, 23°88S±0°10×180°0E±0°1, h534km±11km, mb4.5/30, Error ellipse: s-maj=17.6km s-min=13.4km az=62.0

ISC 24 05:44:53.6±0.6, 23°90S±0°10×179°95W±0°09, h526km, n55, σ1°916/54, mb4.3/24, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.42	343	P	P	05 46 35.6	+0.4
NIUE	Niue	10.49	65	P	P	05 47 17.9	+1.5
OUZ	Omahuta	12.60	205	P	P	05 47 36.5	-1.7
DZM	Mont Dzumac	12.67	276	P	P	05 47 40.3	+1.1
	0.5nm,0.3s,baz=87,slow=16,SNR=15						
QRZ	Quartz Range	18.02	199	P	P	05 48 32.7	0.0
NNZ	Nelson	18.15	196	P	P	05 48 31.4	-2.4
TUWZ	Tuamarina	18.21	195	P	P	05 48 33.3	-1.0
THZ	Tophouse	18.79	197	P	P	05 48 40.7	+1.0
THZ				IAmb	IAmb	05 48 47.2	
	comp=Z,16nm,0.8s						
LTZ	Lake Taylor	19.90	197	P	P	05 48 49.4	-0.5
LTZ				IAmb	IAmb	05 48 55.9	
	comp=Z,20nm,1.1s						
RPZ	Rata Peaks	21.11	198	P	P	05 49 04.6	+3.9
EIDS	Eidsvold	26.36	261	P	P	05 49 47.8	+0.1
EIDS				IAmb	IAmb	05 49 49.0	
	comp=Z,15nm,0.6s						
CTA	Charters Tower	31.52	270	P	P	05 50 33.4	+0.7
	comp=Z,28nm,0.5s,baz=97,slow=11,SNR=53						
CTAO	Charters Tower	31.52	270	P	P	05 50 33.4	+0.7
TOO	Toolangi	32.49	237	P	P	05 50 40.6	-0.1
PMG	Port Moresby	34.54	289	P	P	05 50 58.3	+0.1
	comp=Z,9.9nm,0.3s,baz=65,slow=3.7,SNR=6.1						
STKA	Stephens Creek	34.77	248	P	P	05 51 00.4	+0.4
	comp=Z,6.7nm,0.8s,baz=96,slow=8.3,SNR=5.8						
STKA	Stephens Creek	34.77	248	IAmb	IAmb	05 51 01.2	
	comp=Z,4.8nm,1.3s						
COEN	Coen	36.16	279	P	P	05 51 11.4	-0.4
COEN				IAmb	IAmb	05 51 13.8	
	comp=Z,16nm,1.1s						
BBOO	Buckleboo	39.49	247	P	P	05 51 37.9	-0.8
AS31	Alice Springs	42.08	261	P	P	05 51 59.4	-0.2
ASAR	Alice Springs	42.08	261	P	P	05 51 59.4	-0.2
	comp=Z,13nm,0.8s,baz=94,slow=8.1,SNR=78						
ASAR				ScP	ScP	05 56 44.9	+2.3
	comp=Z,2.3nm,0.9s,baz=103,slow=4.2,SNR=8.0						
ASAR	Alice Springs	42.08	261	P	P	05 51 58.8	-0.8
WR0	Warramunga Arr	42.27	266	P	P	05 52 00.2	-0.7
WR0				IAmb	IAmb	05 52 00.9	
	comp=Z,10nm,0.8s						
WB2	Warramunga Arr	42.44	266	P	P	05 52 01.8	-0.6
WRAB	Tennant Creek	42.45	266	P	P	05 52 01.7	-0.7
WRAB				IAmb	IAmb	05 52 02.4	
	comp=Z,19nm,0.8s						
WB0	Warramunga Arr	42.45	266	P	P	05 52 01.7	-0.7
WRA	Warramunga Arr	42.45	266	P	P	05 52 01.8	-0.7
	comp=Z,21nm,0.6s,baz=103,slow=8.1,SNR=50						
WRA				ScP	ScP	05 56 46.9	+2.8
	comp=Z,2.3nm,1.0s,baz=98,slow=3.9,SNR=5.0						
WRA	Warramunga Arr	42.45	266	P	P	05 52 01.4	-1.1
JAY	Jayapura	43.56	293	P	P	05 52 10.8	-0.4
	comp=Z,9.2nm,0.5s,baz=119,slow=2.1,SNR=8.3						
JAY	Jayapura	43.56	293	P	P	05 52 12.7	+1.5
	comp=Z,10nm,0.8s						
FORT	Forrest	46.36	250	P	P	05 52 31.4	-1.0
KNRA	Kununurra	48.74	270	P	P	05 52 50.2	-0.3
KNRA				IAmb	IAmb	05 52 51.1	
	comp=Z,20nm,0.8s						
FITZ	Fitzroy Crossi	50.88	266	P	P	05 53 06.4	+0.2
	comp=Z

3µm,0.3s,baz=102,slow=20,SNR=13
RAO **Raoul Island** 0.78 184 Pn 05 45 37.6 -0.7
CTAO **Charters Tower** 33.67 276 P P 05 52 01.3 -0.1
STKA **Stephens Creek** 35.08 254 P P 05 52 13.2 -0.4
4.8nm,0.5s,baz=101,slow=11,SNR=16
STKA **Stephens Creek** 35.08 254 P P 05 52 13.0 -0.6
COEN **Coen** 38.91 284 P P 05 52 45.1 -1.2
COEN IAmb IAmb 05 53 03.9
comp=Z,12nm,1.4s
ASAR **Alice Springs** 43.37 265 P P 05 53 22.2 -0.8
comp=Z,2.8nm,0.7s,baz=104,slow=7.4,SNR=13
WB2 **Warramunga Arr** 44.18 270 P P 05 53 30.8 +1.3
WB2 IAmb IAmb 05 53 34.9
comp=Z,8.2nm,0.7s
WRA **Warramunga Arr** 44.19 270 P P 05 53 29.9 +0.3
comp=Z,6.4nm,0.5s,baz=111,slow=8.1,SNR=13
WRA **Warramunga Arr** 44.19 270 P P 05 53 29.9 +0.3
WB0 **Warramunga Arr** 44.20 270 P P 05 53 30.7 +1.1
WB0 IAmb IAmb 05 53 35.5
comp=Z,8.9nm,0.7s
SYO **Syowa Base** 79.02 193 *eP* P 05 57 14.2 -9.5
SYO **Syowa Base** 79.02 193 *eP* P 05 57 25.7 +2.0
SNAA **Sanae** 80.07 178 PKPab P 05 57 27.0 -2.5
VNA3 **Neumayer Olymp** 80.21 176 PKPab P 05 57 28.6 -1.6
VNA2 **Neumayer--Watz** 80.65 177 PKPdf P 05 57 30.0 -2.5
baz=181,slow=3.8
H03S2 **Juan Fernandez** 81.42 124 T T 07 27 04.1
baz=239,slow=74,SNR=9.1
H03S1 **Juan Fernandez** 81.44 124 T T 07 27 00.1
baz=239,slow=74,SNR=8.6
H03S3 **Juan Fernandez** 81.44 124 T T 07 27 07.0
baz=239,slow=74,SNR=9.4
H03N3 **Juan Fernandez** 81.61 123 T T 07 27 08.9
baz=243,slow=73,SNR=4.7
H03N2 **Juan Fernandez** 81.61 123 T T 07 27 15.2
baz=243,slow=73,SNR=5.7
H03N1 **Juan Fernandez** 81.62 123 T T 07 27 04.9
baz=243,slow=73,SNR=7.2
H10N3 **ASCENSION HYDR** 140.48 154 T T 08 41 33.0
baz=203,slow=75,SNR=3.3
H10N1 **ASCENSION HYDR** 140.49 154 T T 08 41 28.5
baz=203,slow=75,SNR=8.9
H10N2 **ASCENSION HYDR** 140.50 154 T T 08 41 25.0
baz=203,slow=75,SNR=2.9
FINES **FINESS Array B** 143.38 341 PKP PKPdf 06 04 53.5 -0.2
comp=Z,6.3nm,0.6s,baz=50,slow=3.6,SNR=18
NB2 **NORSAR Subarra** 146.87 352 PKP PKPab 06 05 03.5 +0.4
comp=Z,1.0nm,0.7s,baz=17,slow=2.6
NOA **NORSAR Array B** 146.87 352 PKPbc PKPab 06 05 03.6 +0.5
comp=Z,0.4nm,0.7s,baz=311,slow=21,SNR=1.5
AKASG **Malin Array Be** 149.82 325 PKPbc PKPbc 06 05 10.0 +0.3
comp=Z,0.9nm,0.5s,baz=46,slow=3.0,SNR=2.9
AKASG PKPab PKPab 06 05 17.8 +2.6
comp=Z,8.8nm,0.8s,baz=49,slow=2.8,SNR=14
BRTR **Keskin Array B** 151.75 302 PKPbc PKPbc 06 05 14.9 0.0
comp=Z,0.7nm,0.5s,baz=144,slow=42,SNR=2.3

*IDC **24** 05:49:50.4±1.4,28.°62S×177.°67W,h0km,mb4.1/3, mb1 4.4/3,mb1mx3.8/49,mbtmp4.1/3, Error ellipse: s-maj=41.2km s-min=17.2km az=105.0*
ISC 24 05:49:55.9±1.4,29.°5S±0.°3×177.°3W±0.°2,h54km,n6,
σ1§63/7,mb4.2/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.59**	**297**	Pn	**Pn**	**05 50 06.9**	**-1.6**
	825nm,0.3s,baz=81,slow=13,SNR=18						
RAO				Sn	**Sn**	**05 50 19.6**	**+1.9**
	2µm,0.3s,baz=74,slow=22,SNR=9.9						
STKA	**Stephens Creek**	**35.26**	**256**	P	P	**05 56 46.8**	**+1.3**
	2.1nm,0.7s,baz=84,slow=10,SNR=2.9						
WRA	**Warramunga Arr**	**44.67**	**271**	P	P	**05 58 02.7**	**-0.9**
	1.8nm,0.4s,baz=110,slow=7.7,SNR=7.3						
NVAR	**Mina Array Bea**	**87.20**	**42**	P	P	**06 02 37.6**	**+1.1**
	0.5nm,0.6s,baz=206,slow=6.4,SNR=4.0						
FINES	**FINESS Array B**	**144.53**	**341**	PKP	PKPab	**06 09 23.7**	**-0.3**
	3.6nm,0.8s,baz=52,slow=4.1,SNR=8.2						
AKASG	**Malin Array Be**	**150.96**	**324**	PKPbc	PKPbc	**06 09 41.4**	**-0.8**
	0.4nm,0.3s,baz=47,slow=2.7,SNR=5.2						

*NEIC **24** 05:52:20.9±2.5,29.°91S±0.°06×177.°5W±0.°1,h35km±1km, mb5.0/32,Error ellipse: s-maj=15.5km s-min=9.4km az=75.0*
*IDC **24** 05:52:22.0±4.2,29.°82S×177.°48W,h33km±30km,mb4.3/15, mb1 4.4/15,mb1mx4.2/43,mbtmp4.5/15,Error ellipse: s-maj=21.1km s-min=15.7km az=92.0*
ISC 24 05:52:21.1±0.5,29.°93S±0.°06×177.°30W±0.°08,h35km,n94,
σ1§81/93,mb4.8/21,1C-1D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.86**	**321**	Pn	**Pn**	**05 52 35.1**	**-1.7**
	10µm,0.3s,baz=103,slow=4.8,SNR=112						
RAO				Sn	**Sn**	**05 52 46.5**	**-1.6**
	9µm,0.3s,baz=74,slow=21,SNR=10						
RAO	**Raoul Island**	**0.86**	**321**		**Pn**	**05 52 35.2**	**-1.6**
MXZ	**Matakaoa Point**	**8.45**	**204**	Pn	**Pn**	**05 54 19.9**	**-1.0**
OUZ	**Omahuta**	**9.32**	**233**	Pn	**Pn**	**05 54 36.2**	**+3.3**
URZ	**Urewera**	**9.51**	**208**	Pn	**Pn**	**05 54 35.4**	**-0.2**
BKZ	**Black Stump Fm**	**10.54**	**207**	Pn	**Pn**	**05 54 49.0**	**-0.6**
MSVF	**Nonsavu**	**12.86**	**340**	Pn	**Pn**	**05 55 24.6**	**+3.1**
PLWZ	**Palliser**	**13.09**	**205**	Pn	**Pn**	**05 55 22.9**	**-1.6**
TUWZ	**Tuamarina**	**13.49**	**209**		**Pn**	**05 55 27.8**	**-2.2**
NNZ	**Nelson**	**13.57**	**211**	Pn	**Pn**	**05 55 30.8**	**-0.2**
QRZ	**Quartz Range**	**13.67**	**215**	Pn	**Pn**	**05 55 33.1**	**+0.8**
BSWZ	**Blackbirch Sta**	**13.76**	**209**	Pn	**Pn**	**05 55 32.8**	**-0.9**
KHZ	**Kahutara**	**14.48**	**208**	Pn	**Pn**	**05 55 40.4**	**-3.0**
LTZ	**Lake Taylor**	**15.32**	**210**	Pn	**Pn**	**05 55 52.1**	**-2.6**
LTZ				IAmb	IAmb	05 56 11.4	
	comp=Z,147nm,1.8s						
OXZ	**Oxford**	**15.86**	**210**		**Pn**	**05 55 60.0**	**-1.6**
OXZ				IAmb	IAmb	05 56 07.6	
	comp=Z,38nm,0.4s						
DZM	**Mont Dzumac**	**16.57**	**294**	Pn	P	**05 56 15.9**	**+2.8**
	comp=Z,1.4nm,0.3s,baz=178,slow=15,SNR=21						
RPZ	**Rata Peaks**	**16.60**	**211**	Pn	**Pn**	**05 56 06.3**	**-4.7**
	comp=Z,2.2nm,0.3s,baz=171,slow=1.5,SNR=7.8						
RPZ	**Rata Peaks**	**16.60**	**211**		**Pn**	**05 56 08.8**	**-2.2**
LBZ	**Lake Benmore**	**17.51**	**211**	Pn	**Pn**	**05 56 19.3**	**-3.2**
ODZ	**Otahua Downs**	**17.84**	**209**	Pn	**Pn**	**05 56 24.5**	**-1.9**
RAR	**Rarotonga**	**18.02**	**65**	P	**Pn**	**05 56 23.9**	**-4.9**
	comp=Z,3.8nm,0.3s,baz=213,slow=6.0,SNR=7.3						
RAR	**Rarotonga**	**18.02**	**65**	Pn	**Pn**	**05 56 24.7**	**-4.1**
RAR				IAmb	IAmb	05 56 41.1	
	comp=Z,308nm,1.9s						
WKZ	**Wanaka**	**18.38**	**212**	P	P	**05 56 29.3**	**-3.7**
WKZ				IAmb	IAmb	05 56 41.4	
	comp=Z,230nm,2.0s						
MLZ	**Mavora Lakes**	**19.21**	**213**	P	P	**05 56 40.4**	**-1.6**
WHZ	**Wether Hill Ro**	**19.68**	**212**	P	P	**05 56 45.6**	**-1.6**
WHZ				IAmb	IAmb	05 57 40.1	
	comp=Z,220nm,1.9s						
ARMA	**Armidale**	**26.83**	**261**	P	P	**05 57 59.9**	**+1.6**
ARMA				IAmb	IAmb	05 58 04.9	
	comp=Z,56nm,1.6s						
EIDS	**Eidsvold**	**28.32**	**272**	P	P	**05 58 12.5**	**+0.8**
EIDS				IAmb	IAmb	05 58 41.2	
	comp=Z,64nm,2.0s						
CAN	**Canberra**	**28.80**	**250**	P	P	**05 58 15.9**	**0.0**
CAN				IAmb	IAmb	05 58 17.7	
	comp=Z,38nm,1.3s						
TOO	**Toolangi**	**31.71**	**246**	P	P	**05 58 41.4**	**-0.2**
TOO				IAmb	IAmb	05 59 30.4	
	comp=Z,48nm,1.3s						
CTA	**Charters Tower**	**34.33**	**278**	P	P	**05 59 04.6**	**0.0**
	comp=Z,8.1nm,0.5s,baz=102,slow=10,SNR=16						
CTAO	**Charters Tower**	**34.33**	**278**	P	P	**05 59 04.8**	**+0.3**
CTAO				IAmb	IAmb	06 00 20.2	
	comp=Z,30nm,0.9s						
STKA	**Stephens Creek**	**35.18**	**256**	P	P	**05 59 12.8**	**+0.9**
	comp=Z,5.6nm,0.4s,baz=101,slow=11,SNR=20						
STKA	**Stephens Creek**	**35.18**	**256**		P	**05 59 12.7**	**+0.9**
COEN	**Coen**	**39.73**	**285**	P	P	**05 59 49.2**	**-1.3**
AS31	**Alice Springs**	**43.74**	**266**		P	**06 00 21.8**	**-1.5**
ASAR	**Alice Springs**	**43.74**	**266**	P	P	**06 00 21.6**	**-1.7**
	comp=Z,8.2nm,0.6s,baz=104,slow=7.0,SNR=42						
ASAR	**Alice Springs**	**43.74**	**266**		P	**06 00 21.3**	**-2.1**
WR0	**Warramunga Arr**	**44.51**	**271**		P	**06 00 28.1**	**-1.4**
WRAB	**Tennant Creek**	**44.68**	**271**	P	P	**06 00 29.5**	**-1.4**
WRA	**Warramunga Arr**	**44.69**	**271**	P	P	**06 00 29.3**	**-1.7**
	comp=Z,12nm,0.5s,baz=111,slow=7.8,SNR=56						
WRA	**Warramunga Arr**	**44.69**	**271**		P	**06 00 29.2**	**-1.7**
WB0	**Warramunga Arr**	**44.71**	**272**	P	P	**06 00 28.8**	**-2.3**
FORT	**Forrest**	**46.76**	**254**	P	P	**06 00 44.6**	**-2.5**
VNDA	**Vanda**	**48.62**	**186**	P	P	**06 01 04.3**	**+3.3**
	comp=Z,0.7nm,0.6s,baz=1.8,slow=7.3,SNR=9.7						
VNDA	**Vanda**	**48.62**	**186**	P	P	**06 01 04.0**	**+3.1**
VNDA				IAmb	IAmb	06 02 28.5	
	comp=Z,20nm,1.9s						
MTN	**Manton Dam**	**50.51**	**278**	P	P	**06 01 14.1**	**-2.1**
KNRA	**Kununurra**	**51.28**	**274**	P	P	**06 01 20.0**	**-1.9**
FITZ	**Fitzroy Crossi**	**52.97**	**269**	P	P	**06 01 35.4**	**+0.9**
	comp=Z,3.0nm,0.6s,baz=119,slow=10,SNR=5.5						
FITZ	**Fitzroy Crossi**	**52.97**	**269**	P	P	**06 01 33.3**	**-1.2**
CASY	**Casey**	**55.84**	**208**	P	P	**06 01 54.0**	**-0.6**
QSPA	**South Pole Qui**	**60.18**	**180**	P	P	**06 02 26.7**	**+1.5**
	comp=Z,4.6nm,0.9s,baz=33,slow=0.9,SNR=9.5						
QSPA	**South Pole Qui**	**60.18**	**180**	P	P	**06 02 27.2**	**+1.9**
SYO	**Syowa Base**	**77.71**	**193**	*eP*	P	**06 04 13.9**	**+0.1**
SYO	**Syowa Base**	**77.71**	**193**	*eX*	P	06 04 20.6	+6.8
MJAR	**Matsushiro Arr**	**78.20**	**325**	P	P	**06 04 17.0**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=165,slow=6.4,SNR=5.4						
SNAA	**Sanae**	**78.61**	**178**	P	P	**06 04 19.9**	**+1.0**
SNAA	**Sanae**	**78.61**	**178**	P	P	**06 04 19.4**	**+0.5**
SNAA				IAmb	IAmb	06 05 55.4	
	comp=Z,14nm,1.2s						
VNA3	**Neumayer Olymp**	**78.73**	**176**	P	P	**06 04 20.1**	**+0.6**
VNA1	**Neumayer--Stat**	**79.40**	**176**	P	P	**06 04 24.4**	**+1.3**
KSRS	**Korea Array**	**84.39**	**319**	P	P	**06 04 50.9**	**+1.2**
	comp=Z,1.0nm,0.5s,baz=142,slow=5.7,SNR=2.9						
PFO	**Pinyon Flats O**	**85.44**	**47**	P	P	**06 04 56.5**	**+1.2**
	comp=Z,1.9nm,0.9s,baz=229,slow=4.2,SNR=3.6						
PETK	**Petropavlovsk-**	**85.51**	**345**	P	P	**06 04 55.2**	**+0.2**
	comp=Z,6.4nm,0.8s,baz=140,slow=7.4,SNR=7.3						
PETK	**Petropavlovsk-**	**85.51**	**345**	P	P	**06 04 54.3**	**-0.7**
USRK	**Ussuriysk Ar.**	**87.11**	**326**	P	P	**06 05 04.4**	**+1.4**
	comp=Z,5.2nm,0.8s,baz=95,slow=4.7,SNR=7.7						
USRK	**Ussuriysk Ar.**	**87.11**	**326**	P	P	**06 05 04.8**	**+1.7**
NVAR	**Mina Array Bea**	**87.48**	**42**	P	P	**06 05 06.7**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=229,slow=8.6,SNR=5.2						
U15A	**North Rim**	**89.87**	**47**	P	P	**06 05 18.4**	**+1.7**
U15A				IAmb	IAmb	06 06 38.3	
	comp=Z,7.3nm,1.1s						
KLR	**Kul'dur**	**90.94**	**329**	P	P	**06 05 21.7**	**+0.7**
	comp=Z,5.4nm,0.8s,baz=345,slow=0.9,SNR=14						
PDAR	**Pinedale Array**	**95.38**	**43**	P	P	**06 05 43.9**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=87,slow=3.1,SNR=3.6						
MKAR	**Makanchi Array**	**117.93**	**310**	PKP	PKiKP	**06 11 04.8**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=249,slow=2.6,SNR=5.0						
MKAR	**Makanchi Array**	**117.93**	**310**		PKPdf	**06 11 02.3**	**-1.4**
KKAR	**Karatay Array**	**125.32**	**304**		PKPdf	**06 11 17.7**	**-0.3**
ARCES	**ARCESS Array B**	**138.26**	**348**	PKhKP	PKPpre	06 11 36.3	
	comp=Z,1.7nm,0.6s,baz=110,slow=1.8,SNR=4.4						
FIA1	**FINESS Array S**	**144.91**	**341**		PKPab	**06 11 52.5**	**-0.5**
FINES	**FINESS Array B**	**144.91**	**341**	PKP	PKPab	**06 11 52.3**	**-0.6**
	comp=Z,12nm,0.5s,baz=55,slow=3.8,SNR=49						
FINES	**FINESS Array B**	**144.91**	**341**		PKPab	**06 11 52.2**	**-0.7**
KBZ	**Khabaz**	**145.35**	**305**	PKPbc	PKPbc	**06 11 54.7**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=139,slow=5.5,SNR=7.0						
NB2	**NORSAR Subarra**	**148.37**	**352**	PKP	PKPbc	**06 12 02.8**	**-0.4**
	comp=Z,4.0nm,0.8s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.37**	**352**	PKPbc	PKPbc	**06 12 02.8**	**-0.4**
	comp=Z,4.0nm,0.7s,baz=14,slow=4.3,SNR=13						
IZAR	**Zarasai**	**149.25**	**334**	*eP*	PKPbc	**06 12 04.0**	**-1.5**
ISAL	**Salakas**	**149.43**	**334**	*eP*	PKPbc	**06 12 05.5**	**-0.4**
IIGN	**Ignalina**	**149.55**	**333**	*eP*	PKPbc	**06 12 06.6**	**+0.3**
PABE	**Paberze**	**150.28**	**335**	*eP*	PKPbc	**06 12 08.2**	**+0.3**
PBUR	**Paburge**	**150.57**	**338**	*eP*	PKiKP	**06 12 09.3**	**0.0**
AKASG	**Malin Array Be**	**151.29**	**324**	PKPbc	PKPbc	**06 12 09.9**	**-0.6**
	comp=Z,6.9nm,0.5s,baz=47,slow=2.8,SNR=12						
AKASG	**Malin Array Be**	**151.29**	**324**		PKPbc	**06 12 09.7**	**-0.8**
BRTR	**Keskin Array B**	**152.90**	**299**	PKPbc	PKiKP	**06 12 15.7**	**+0.7**
	comp=Z,2.3nm,0.6s,baz=90,slow=4.0,SNR=6.2						
BRTR	**Keskin Array B**	**152.90**	**299**		PKiKP	**06 12 15.0**	**0.0**
OSTC	**Ostas**	**157.03**	**338**	*e*PKPAB	PKPab	**06 12 46.5**	**+3.5**
CHVC	**Chvalec**	**157.05**	**338**	*e*PKPAB	PKPab	**06 12 46.5**	**+3.4**
CHVC				*ex*	x	06 12 57.8	
DPC	**Dobruska-Polom**	**157.17**	**337**	*e*PKPAB	PKPab	**06 12 43.3**	**-0.4**
DPC				*ex*	x	06 12 46.9	
KHC	**Kasperske Hory**	**159.11**	**340**	*e*PKPAB	PKPab	**06 12 52.6**	**+0.5**
KHC				*ex*	x	06 12 55.5	
GERES	**GERESS Array B**	**159.32**	**339**	PKPab	PKPab	**06 12 53.1**	**0.0**
	comp=Z,2.4nm,0.9s,baz=35,slow=4.9,SNR=7.8						
TORD	**Torodi Ar. Bea**	**163.28**	**177**	PKPab	PKPab	**06 13 12.0**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=164,slow=3.2,SNR=6.7						

*IDC **24** 05:53:16.6±3.2,51.°81N×176.°79E,h0km,mb3.7/7, mb1 3.9/9,mb1mx3.6/67,mbtmp3.8/9,ML3.2/2,Error ellipse: s-maj=92.6km s-min=19.2km az=175.0*
*NEIC **24** 05:53:18.2±2.0,52.°2N±0.°2×176.°51E±0.°07,h1km±6km, mb4.1/19,Error ellipse: s-maj=24.3km s-min=3.8km az=192.0*
*AEIC **24** 05:53:19±3.0,52.°0N±0.°2×176.°42E±0.°08,h14km±4km, Error ellipse: s-maj=26.7km s-min=4.5km az=192.0*
ISC 24 05:53:19.2±0.9,52.°1N±0.°1×176.°52E±0.°05,h10km,n51,
σ1§29/44,mb4.0/12,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSNW	**Little Sitkin**	**1.24**	**96**		Pg	**05 53 42.2**	**-0.8**
LSSA	**Little Sitkin**	**1.24**	**97**		Pg	**05 53 42.3**	**-0.7**
LSPA	**Little Sitkin**	**1.28**	**96**		Pg	**05 53 43.0**	**-0.7**
LSPA					Sg	**05 54 01.9**	**+1.6**
SMY	**Shemya**	**1.60**	**293**		Pn	**05 53 46.7**	**-0.9**
SMY					Sb	**05 54 07.7**	**-1.5**
CETU	**Semis' Tuman**	**1.84**	**94**		Pb	**05 53 51.4**	**-1.5**
AMKA	**Amchitka**	**1.88**	**112**		Pn	**05 53 50.9**	**-0.4**
AMKA					Sb	**05 54 16.4**	**-0.7**
CEAP	**Semis' Anvil P**	**1.89**	**92**		Pn	**05 53 51.7**	**+0.2**
CESW	**Semis' Southwe**	**1.89**	**95**		Pn	**05 53 51.6**	**0.0**
CERAA	**Semis' Rag'd T**	**1.97**	**95**		Pn	**05 53 52.2**	**-0.4**
GAEA	**Gareloi East**	**2.95**	**95**		Pn	**05 54 06.2**	**+0.2**
TASE	**Tanaga Southea**	**3.38**	**93**		Pn	**05 54 12.7**	**+0.7**
KIMD	**Kanaga Island**	**3.88**	**93**		Pn	**05 54 19.4**	**+0.5**
KICM	**Kanaga Island**	**3.89**	**90**		Pn	**05 54 20.6**	**+1.6**
KIKV	**Kanaga Island**	**3.91**	**91**		Pn	**05 54 20.6**	**+1.4**
ADK	**Adak**	**4.21**	**91**	Pn	Pn	**05 54 24.8**	**+1.5**
GSTR	**Great Sitkin T**	**4.57**	**87**	Pn	Pn	**05 54 29.6**	**+1.2**
GSMY	**Great Sitkin M**	**4.58**	**88**		Pn	**05 54 30.3**	**+1.8**
PETK	**Petropavlovsk-**	**11.49**	**282**		Pn	**05 56 03.8**	**+0.6**
	0.3nm,0.3s,baz=100,slow=17,SNR=6.3						
OHAK	**Old Harbor**	**18.10**	**62**	Pn	**Pn**	**05 57 28.5**	**-1.9**
OHAK				IAmb	IAmb	05 57 41.5	
	comp=Z,11nm,1.3s						
KDAK	**Kodiak Island**	**18.52**	**60**	P	**Pn**	**05 57 34.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=184,slow=3.7,SNR=1.9						
KDAK	**Kodiak Island**	**18.52**	**60**	IAmb	IAmb	05 57 50.4	
	comp=Z,9.2nm,1.1s						
CNPM	**China Poot**	**19.41**	**55**	P	**Pn**	**05 57 45.8**	**-0.6**
PPLA	**Purkeypile**	**19.75**	**45**	P	**Pn**	**05 57 49.6**	**-0.9**
PPLA				IAmb	IAmb	05 58 07.1	
	comp=Z,10nm,1.1s						
SEW	**Seward**	**20.39**	**54**	P	Pn	05 57 57.6	-0.2
BPAW	**Bear Paw Mtn.**	**20.66**	**42**	P	**P**	**05 57 57.1**	**-1.6**
TRF	**Thorofare Moun**	**20.74**	**44**	P	Pn	05 58 01.6	-0.6
TRF				IAmb	IAmb	05 58 13.4	
	comp=Z,14nm,1.3s						
SML	**Sawmill**	**21.21**	**49**	P	**P**	**05 58 07.0**	**+2.2**
SML				IAmb	IAmb	05 58 13.7	
	comp=Z,11nm,0.8s						
GLI	**Glacier Island**	**21.65**	**52**	P	P	**05 58 08.2**	**-1.2**
GLI				IAmb	IAmb	05 58 20.1	
	comp=Z,9.5nm,0.9s						
SCM	**Sheep Creek Mo**	**21.68**	**49**	P	P	**05 58 08.9**	**-1.0**
FID	**Port Fidalgo**	**21.93**	**52**	P	P	**05 58 13.0**	**+0.6**
ILAR	**Eielson Array**	**22.56**	**42**	P	P	**05 58 17.7**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=245,slow=8.6,SNR=9.1						
RAGM	**Ragged Mountai**	**22.79**	**53**	P	P	**05 58 20.0**	**-1.6**
RIDG	**Independent Ri**	**23.17**	**45**	P	P	**05 58 25.3**	**-0.3**
RIDG				IAmb	IAmb	05 58 37.2	
	comp=Z,8.2nm,1.4s						
GLB	**Gilahina Butte**	**23.29**	**51**	P	P	**05 58 26.9**	**+0.1**
GLB				IAmb	IAmb	05 58 35.0	
	comp=Z,7.4nm,1.2s						
VRDI	**Verde Repeater**	**23.45**	**51**	P	P	**05 58 27.6**	**-0.9**
VRDI				IAmb	IAmb	05 58 38.8	
	comp=Z,5.8nm,1.0s						
DOT	**Dot Lake**	**23.49**	**45**	P	P	**05 58 28.1**	**-0.7**
SCRK	**Sand Creek**	**23.59**	**45**	P	P	**05 58 29.0**	**-0.9**
H11N2	**WAKE ISLAND Hy**	**33.19**	**197**	T	T	06 35 03.2	
	baz=11,slow=76,SNR=79						
H11N3	**WAKE ISLAND Hy**	**33.20**	**197**	T	T	06 35 05.1	
	baz=11,slow=76,SNR=90						
H11N1	**WAKE ISLAND Hy**	**33.21**	**197**	T	T	06 35 05.6	
	baz=11,slow=76,SNR=112						
H11S1	**WAKE ISLAND Hy**	**34.42**	**197**	T	T	06 36 36.4	
	baz=10,slow=76,SNR=37						
H11S3	**WAKE ISLAND Hy**	**34.43**	**197**	T	T	06 36 37.5	
	baz=10,slow=76,SNR=25						
H11S2	**WAKE ISLAND Hy**	**34.43**	**197**	T	T	06 36 37.0	
	baz=10,slow=76,SNR=14						
YKA	**Yellowknife Ar**	**36.83**	**46**	P	P	**06 00 27.2**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=283,slow=8.8,SNR=5.5						
SONM	**Songino Array**	**43.70**	**293**	P	P	**06 01 24.1**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=52,slow=8.5,SNR=2.4						
PDAR	**Pinedale Array**	**48.82**	**70**	P	P	**06 02 03.0**	**-1.7**
	comp=Z,0.5nm,0.7s,baz=339,slow=3.8,SNR=6.6						
KURK	**Kurchatov**	**56.37**	**311**	P	P	**06 03 03.2**	**+3.1**
KURK	**Kurchatov**	**56.37**	**311**	IAmb	IAmb	06 03 04.9	
	comp=Z,3.2nm,0.8s						
KURBB	**Kurchatov Arra**	**56.48**	**311**	P	P	**06 03 03.2**	**+2.3**
	comp=Z,1.1nm,0.7s,baz=45,slow=6.8,SNR=7.9						
MKAR	**Makanchi Array**	**57.26**	**305**	P	P	**06 03 07.3**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=50,slow=6.2,SNR=5.5						
AKTO	**Aktyubinsk**	**65.35**	**322**	P	P	**06 04 03.3**	**+2.0**
	comp=Z,1.9nm,0.6s,baz=46,slow=10.0,SNR=6.5						

*IDC **24** 05:53:17.6±0.7,30.°19S×177.°36W,h0km,mb4.8/14, mb1 5.0/15,mb1mx4.7/41,mbtmp4.8/15,ML4.9/1,MS4.9/1, Ms1 4.9/1,ms1mx3.9/30,Error ellipse: s-maj=21.0km s-min=18.0km az=100.0*
*NEIC **24** 05:53:24.4±2.7,30.°16S±0.°07×177.°5W±0.°2,h45km±6km, mb5.1/22,Error ellipse: s-maj=21.5km s-min=9.5km az=82.0*
ISC 24 05:53:22.7±0.6,30.°21S±0.°07×177.°3W±0.°1,h35km,n76,
σ1§13/73,mb5.1/22,2C,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.09**	**331**	Pn	**Pn**	**05 53 40.6**	**-0.9**
	baz=49,slow=21,SNR=0.9						
RAO				Sn	**Sn**	**05 53 55.8**	**+0.5**
	6µm,0.3s,baz=26,slow=23,SNR=6.6						
RAO				LR	LR	05 54 05.9	
	comp=Z,13µm,19.2s,baz=72,slow=46						
URZ	**Urewera**	**9.27**	**208**	Pn	**Pn**	**05 55 34.7**	**+0.9**
MSWZ	**Moikau Station**	**12.71**	**206**	Pn	**Pn**	**05 56 23.0**	**+2.1**
OXZ	**Oxford**	**15.61**	**210**		P	**05 57 03.2**	**-0.7**
OXZ				IAmb	IAmb	05 57 05.6	
	comp=Z,64nm,0.5s						
RPZ	**Rata Peaks**	**16.36**	**211**	Pn	**Pn**	**05 57 09.3**	**-0.3**
	comp=Z,4.7nm,0.3s,baz=45,slow=3.1,SNR=5.8						
DZM	**Mont Dzumac**	**16.68**	**295**	Pn	P	**05 57 19.6**	**+3.7**
	comp=Z,1.5nm,0.3s,baz=114,slow=13,SNR=9.6						
DZM				LR	LR	06 02 20.4	
	comp=Z,4µm,18.2s,baz=152,slow=33						
FOZ	**Fox Glacier**	**16.80**	**214**	Pn	**Pn**	**05 57 14.2**	**-0.9**
ODZ	**Otahua Downs**	**17.59**	**209**	P	P	**05 57 26.5**	**+0.7**
WKZ	**Wanaka**	**18.15**	**213**	P	**Pn**	**05 57 30.2**	**-1.7**
WKZ				IAmb	IAmb	05 57 43.3	
	comp=Z,204nm,1.7s						
WHZ	**Wether Hill Ro**	**19.45**	**212**	P	P	**05 57 43.9**	**-2.2**
WHZ				IAmb	IAmb	05 57 44.1	
	comp=Z,189nm,1.9s						
CAN	**Canberra**	**28.71**	**251**	P	P	**05 59 18.3**	**+1.6**
CAN				IAmb	IAmb	05 59 30.8	
	comp=Z,91nm,1.8s						
TOO	**Toolangi**	**31.59**	**247**	P	P	**05 59 44.0**	**+1.9**
CTA	**Charters Tower**	**34.36**	**278**	P	P	**06 00 06.6**	**+0.1**
	comp=Z,16nm,0.5s,baz=99,slow=10,SNR=9.7						
CTAO	**Charters Tower**	**34.36**	**278**		P	**06 00 07.0**	**+0.5**
CTAO				IAmb	IAmb	06 00 20.8	
	comp=Z,34nm,1.0s						
STKA	**Stephens Creek**	**35.11**	**257**	P	P	**06 00 13.8**	**+1.0**
	comp=Z,16nm,0.5s,baz=104,slow=13,SNR=16						
STKA	**Stephens Creek**	**35.11**	**257**	P	P	**06 00 13.4**	**+0.6**
BBOO	**Buckleboo**	**39.60**	**254**	P	P	**06 00 50.7**	**-0.2**
ASAR	**Alice Springs**	**43.72**	**266**	P	P	**06 01 23.2**	**-1.5**
	comp=Z,6.3nm,0.4s,baz=110,slow=7.7,SNR=9.3						
ASAR				PcP	**PcP**	**06 03 12.1**	**+0.7**
	comp=Z,3.9nm,0.6s,baz=117,slow=3.7,SNR=4.8			

comp=Z,6.3nm,1.0s,baz=81,slow=4.0,SNR=7.1
BRTR Keskin Array B 153.03 299 PKPbc 06 13 15.8 -0.9
CLL Collm 157.56 343 *e*PKPab **PKPab 06 13 47.0 +0.2**
CLL *i* pPKPab **sPKPab 06 13 58.3 -1.5**
KHC Kasperske Hory 159.37 339 *e*P **PKPab 06 13 54.5 -0.3**
GERES GERESS Array B 159.58 339 PKPab **PKPab 06 13 56.3 +0.5**
comp=Z,1.1nm,0.7s,baz=35,slow=3.3,SNR=5.6
MOA Molln 160.26 336 *e*PKPab **PKPab 06 13 56.4 -2.3**
comp=Z,5.8nm,1.5s
WTTA Wattenberg 161.62 340 *e*PKPab **PKPab 06 14 03.1 -1.8**
comp=Z,16nm,1.5s
RETA Reutte 161.66 342 *e*PKPab **PKPab 06 14 05.1 +0.2**
comp=Z,12nm,1.1s
MOTA Moosalm 161.69 342 *e*PKPab **PKPab 06 14 05.4 +0.3**
comp=Z,11nm,1.1s
SQTA Sankt Quirin 161.78 341 *e*PKPab **PKPab 06 14 06.1 +0.7**
comp=Z,13nm,1.1s
ABTA Abfaltersbach 161.81 338 *e*PKPab **PKPab 06 14 05.2 -0.4**
comp=Z,2.6nm,0.6s
DAVA Damuels 162.06 344 *e*PKPab **PKPab 06 14 06.5 -0.2**
comp=Z,5.0nm,0.7s
FETA Feichten 162.09 342 *e*PKPab **PKPab 06 14 06.5 -0.4**
comp=Z,9.7nm,1.9s
TORD Torodi Ar. Bea 163.00 177 PKPab **PKPab 06 14 12.1 +0.7**
comp=Z,1.3nm,0.5s,baz=179,slow=3.8,SNR=4.4

NEIC ***24*** *05:53:42.2±1.6, 7°.3S±0°.2×120°.4E±0°.1, h386km±11km, mb4.0/5, Error ellipse: s-maj=24.4km s-min=16.8km az=208.0*
IDC ***24*** *05:53:42.3±1.4, 7°.35S×120°.36E, h388km±13km, mb3.3/7, mb1 3.4/10, mb1mx3.1/61, mbtmp4.0/10, Error ellipse: s-maj=59.1km s-min=12.7km az=58.0*
DJA ***24*** *05:53:47.1±1.0, 7°.S±7°×12°.0E±°, h298km±16km, M3.9/7, mb3.9/1, MLv3.9/7*
ISC 24 05:53:40.9±0.7, 7°.20S±0°.08×120°.36E±0°.07, h350km, n25, σ2s48/27, mb3.8/7, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**2.02**	**140**	P		**Pn**		**05 54 31.9**	**-0.6**
KAPI	**Kappang**	**2.26**	**344**	P		Pn		05 54 41.0	+6.9
	15nm,0.3s,baz=177,slow=3.7,SNR=49								
BNSI	**Bone**	**2.79**	**355**	P		**Pn**		**05 54 42.1**	**+3.6**
PLAI	**Plampang**	**3.03**	**238**	P		**Pn**		**05 54 43.2**	**+2.7**
PLAI				S		**S**		**05 55 29.8**	**+1.3**
BATI	**Baumata**	**4.42**	**133**	P		**Pn**		**05 54 58.0**	**+3.7**
	11nm,0.3s,baz=274,slow=3.3,SNR=3.9								
BATI				S		**S**		**05 55 55.4**	**+1.8**
	20nm,0.3s,baz=140,slow=22,SNR=2.8								
BATI	**Baumata**	**4.42**	**133**	P		Pn		05 55 00.2	+5.9
BATI				S		**S**		**05 55 55.1**	**+1.5**
SOEI	**Soe**	**4.62**	**124**	P		**Pn**		**05 54 58.8**	**+2.2**
SOEI				S		**S**		**05 55 58.7**	**+1.1**
SOEI	**Soe**	**4.62**	**124**			**Pn**		**05 54 58.7**	**+2.2**
SOEI						**S**		**05 56 03.7**	**+6.1**
JAGI	**Jajag, Banyuwa**	**6.28**	**258**	P		**Pn**		**05 55 19.2**	**+4.2**
JAGI	**Jajag, Banyuwa**	**6.28**	**258**	Pn		**Pn**		**05 55 17.1**	**+2.2**
WB0	**Warramunga Arr**	**18.48**	**134**	P		**P**		**05 57 31.4**	**-1.6**
WRA	**Warramunga Arr**	**18.55**	**134**	P		**P**		**05 57 32.6**	**-1.2**
	0.4nm,0.3s,baz=315,slow=11,SNR=7.5								
WRA	**Warramunga Arr**	**18.55**	**134**	IAmb		IAmb		05 57 36.5	
	comp=Z,0.3nm,1.2s								
WB2	**Warramunga Arr**	**18.56**	**134**	P		**P**		**05 57 32.2**	**-1.7**
WB2				IAmb		IAmb		05 57 34.9	
	comp=Z,5.6nm,0.9s								
ASAR	**Alice Springs**	**20.91**	**143**	P		**P**		**05 57 55.7**	**-1.6**
	comp=Z,2.4nm,0.6s,baz=324,slow=9.2,SNR=24								
ASAR	**Alice Springs**	**20.91**	**143**	P		**P**		**05 57 56.0**	**-1.3**
MORW	**Morawa**	**22.13**	**190**	P		**P**		**05 58 06.3**	**-2.0**
MORW				IAmb		IAmb		05 58 16.5	
	comp=Z,10nm,1.1s								
KSRS	**Korea Array**	**44.98**	**9**	P		**P**		**06 01 22.1**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=190,slow=9.7,SNR=4.9								
SONM	**Songino Array**	**56.17**	**349**	P		**P**		**06 02 44.6**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=167,slow=10,SNR=4.9								
MK31	**Makanchi Array**	**63.50**	**332**	P		**P**		**06 03 33.7**	**-1.0**
MKAR	**Makanchi Array**	**63.50**	**332**	P		**P**		**06 03 33.4**	**-1.4**
	comp=Z,1.7nm,0.5s,baz=138,slow=7.3,SNR=18								
ZALV	**Zalesovo Beam**	**67.87**	**338**	P		**P**		**06 03 59.8**	**-2.4**
	comp=Z,1.2nm,0.3s,baz=134,slow=4.3,SNR=5.4								
ZALV	**Zalesovo Beam**	**67.87**	**338**	P		**P**		**06 04 00.0**	**-2.2**
KURBB	**Kurchatov Arra**	**67.98**	**333**	P		**P**		**06 04 01.6**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=141,slow=5.8,SNR=6.9								
BVAR	**Borovoye Array**	**73.37**	**331**	P		**P**		**06 04 32.9**	**-2.2**
	comp=Z,0.9nm,0.5s,baz=101,slow=7.5,SNR=4.9								

MOS ***24*** *05:55:09.5±1.8, 13°.78S×66°.32E, h10km, mb5.0/26, Error ellipse: s-maj=10.6km s-min=7.2km az=102.0*
IDC ***24*** *05:55:09.6±0.5, 13°.67S×66°.27E, h0km, mb4.5/21, mb1 4.6/22, mb1mx4.3/59, mbtmp4.5/22, ML5.0/1, MS4.8/21, Ms1 4.8/21, ms1mx4.6/41, Error ellipse: s-maj=18.1km s-min=14.9km az=147.0*
NEIC ***24*** *05:55:10.6±3.1, 13°.92S±0°.08×66°.2E±0°.1, h10km±1km, mb5.1/23, Error ellipse: s-maj=18.8km s-min=13.6km az=97.0*
ISC 24 05:55:11.7±0.4, 13°.95S±0°.08×66°.20E±0°.07, h15km, n223, σ1s87/186, mb4.9/75, MS4.9/26, 27C-13D, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**8.79**	**45**	T		T		06 06 19.6	
	baz=226,slow=75,SNR=7539								
H08S2	**Diego Garcia H**	**8.80**	**45**	T		T		06 06 23.6	
	baz=226,slow=75,SNR=6480								
H08S3	**Diego Garcia H**	**8.81**	**45**	T		T		06 06 36.5	
	baz=226,slow=75,SNR=6558								
RER	**Riviere de l'E**	**12.27**	**233**	Pn		**Pn**		**05 58 05.6**	**-0.5**
RER						**Pn**		**05 58 07.4**	**+1.2**
MSEY	**Mahe Island**	**14.03**	**310**	P		**Pn**		**05 58 28.1**	**-2.1**
MSEY	**Mahe Island**	**14.03**	**310**	Pn		**Pn**		**05 58 28.1**	**-2.1**
OPO	**Ambohidratompo**	**18.82**	**253**	P		**Pn**		**05 59 32.9**	**+1.1**
	5.1nm,0.3s,baz=85,slow=16,SNR=16								
ABPO	**Ambohimpanom**	**18.87**	**252**	P		**Pn**		**05 59 33.7**	**+1.3**
ABPO				pmax		pmax			
	comp=Z,101nm,1.5s								
ABPO	**Ambohimpanom**	**18.87**	**252**	P		**Pn**		**05 59 33.7**	**+1.3**
KMBO	**Kilima Mbogo**	**31.34**	**292**	P		**P**		**06 01 32.8**	**+0.6**
	comp=Z,6.4nm,0.7s,baz=80,slow=11,SNR=15								
KMBO				LR		LR		06 11 22.4	
	comp=Z,2μm,21.2s,baz=108,slow=31								
LSZ	**Lusaka**	**36.77**	**263**	P		**P**		**06 02 19.3**	**0.0**
LSZ				pmax		pmax			
	comp=Z,58nm,1.2s								
LSZ	**Lusaka**	**36.77**	**263**	P		**P**		**06 02 19.3**	**0.0**
LBTB	**Lobatse**	**39.69**	**248**	P		**P**		**06 02 43.4**	**-0.4**
LBTB				pmax		pmax			
	comp=Z,36nm,1.4s								
LBTB	**Lobatse**	**39.69**	**248**	P		**P**		**06 02 43.4**	**-0.4**
LBTB				IAmb		IAmb		06 02 46.3	
	comp=Z,36nm,1.4s								
UOSS	**Minazif**	**39.87**	**346**	P		**P**		**06 02 48.9**	**+3.9**
UOSS				IAmb		IAmb		06 03 04.0	
	comp=Z,19nm,0.6s								
BOSA	**Boshof**	**40.63**	**242**	P		**P**		**06 02 52.2**	**+0.6**
	comp=Z,20nm,1.2s,baz=89,slow=9.5,SNR=9.1								
BOSA				LR		LR		06 17 07.2	
	comp=Z,1μm,19.4s,baz=92,slow=32								
BOSA	**Boshof**	**40.63**	**242**	P		**P**		**06 02 52.5**	**+0.9**
BOSA				pmax		pmax			
	comp=Z,22nm,1.2s								
BOSA	**Boshof**	**40.63**	**242**	P		**P**		**06 02 52.5**	**+0.9**
RAYN	**Ar Rayn**	**42.39**	**331**	P		**P**		**06 03 08.2**	**+2.3**
RAYN				pmax		pmax			
	comp=Z,12nm,0.9s								
RAYN	**Ar Rayn**	**42.39**	**331**	P		**P**		**06 03 08.2**	**+2.3**
SUR	**Sutherland**	**45.20**	**238**	P		**P**		**06 03 30.7**	**+2.1**
	comp=Z,17nm,1.1s,baz=40,slow=7.1,SNR=3.6								
SUR	**Sutherland**	**45.20**	**238**	IAmb		IAmb		06 03 32.0	
	comp=Z,43nm,1.4s								
CMAR	**Chiang Mai Arr**	**45.60**	**46**	LR		LR		06 19 40.6	
	comp=Z,677nm,20.0s,baz=260,slow=32								
SHL	**Shillong**	**46.58**	**33**	P		**P**		**06 03 43.3**	**+3.8**
SHL				pmax		pmax			
	comp=Z,25nm,1.1s								
SHL	**Shillong**	**46.58**	**33**	P		**P**		**06 03 43.3**	**+3.8**
SHL				IAmb		IAmb		06 03 49.1	
	comp=Z,25nm,1.1s								
NIL	**Nilore**	**47.81**	**8**	P		**P**		**06 03 46.7**	**-2.1**
NIL				pmax		pmax			
	comp=Z,12nm,1.7s								
H01W3	**Cape Leeuwin H**	**47.84**	**125**	T		T		06 55 23.9	
	baz=283,slow=75,SNR=57								
H01W2	**Cape Leeuwin H**	**47.85**	**125**	T		T		06 55 18.2	
	baz=283,slow=75,SNR=349								
H01W1	**Cape Leeuwin H**	**47.86**	**125**	T		T		06 55 19.4	
	baz=283,slow=75,SNR=233								
LSA	**Lhasa**	**49.63**	**29**	P		**P**		**06 04 05.5**	**+2.1**
GEYT	**Alibeck**	**52.16**	**352**	LR		LR		06 23 31.0	
	comp=Z,650nm,20.3s,baz=245,slow=33								
KMI	**Kunming**	**52.71**	**43**	*e*P		**P**		**06 04 27.8**	**+1.5**
KMI				pP		pP		06 04 29.3	-1.0
KMI				sP		pwP		06 04 32.8	-0.7
KMI				pmax		pmax			
	comp=Z,10.0nm,0.5s								
KMI				pmax		pmax			
	comp=Z,370nm,16.1s								
MAW	**Mawson**	**53.65**	**182**	LR		LR		06 22 14.6	
	comp=Z,690nm,20.6s,baz=5.5,slow=30								
KSH	**Kashi**	**53.97**	**9**	*e*P		P		06 04 29.9	-5.3
KSH				sP		pP		06 04 37.8	-1.3
KSH				S		S		06 11 56.1	-14
KSH	**Kashi**	**53.97**	**9**	SS		SKiKP		06 15 36.8	-11
KSH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
KSH				pmax		pmax			
	comp=Z,400nm,5.1s								
KSH				LR		LR			
	comp=N,910nm,10.9s								
KSH				LR		LR			
	comp=E,480nm,11.1s								
KSH				LR		LR			
	comp=Z,480nm,13.1s								
QIZ	**Qiongzhong**	**54.06**	**54**	P		**P**		**06 04 33.8**	**-2.3**
QIZ				S		**S**		**06 12 13.4**	**+1.2**
QIZ				LR		LR			
	comp=N,710nm,18.6s								
QIZ				LR		LR			
	comp=E,590nm,17.6s								
QIZ				LR		LR			
	comp=Z,710nm,5.9s								
GYA	**Guiyang**	**56.22**	**44**	P		P		06 04 57.4	+5.7
GYA				pmax		pmax			
	comp=Z,17nm,1.3s								
AAK	**Ala-Archa**	**56.83**	**7**	*e*P		**P**		**06 04 54.5**	**-1.3**
AAK				pmax		pmax			
	comp=Z,7.0nm,1.9s								
FITZ	**Fitzroy Crossi**	**57.08**	**103**	LR		LR		06 25 35.8	
	comp=Z,2μm,21.2s,baz=246,slow=32								
CD2	**Chengdu**	**57.38**	**38**	*i*P		**P**		**06 05 02.0**	**+2.2**
CD2				pmax		pmax			
	comp=Z,20nm,0.8s								
SYO	**Syowa Base**	**57.57**	**191**	*e*P		**P**		**06 05 00.5**	**0.0**
SYO	**Syowa Base**	**57.57**	**191**	*e*pP		pP		06 05 04.4	0.0
AKT	**Akhty**	**57.74**	**344**	*e*P		**P**		**06 05 04.5**	**+2.3**
AKT				*e*				06 06 00.0	
AKT				*e*				06 07 12.8	
AKT				pmax		pmax			
	comp=Z,27nm,1.4s								
WMQ	**Urumqi**	**60.76**	**18**	*e*P		**P**		**06 05 24.0**	**+1.0**
WMQ				pP		sP		06 05 28.5	+0.1
WMQ				pmax		pmax			
	comp=Z,19nm,1.7s								
WMQ				pmax		pmax			
	comp=Z,230nm,4.7s								
LZH	**Lanzhou**	**61.17**	**34**	*e*P		**P**		**06 05 28.3**	**+2.2**
LZH				pP		pwP		06 05 33.5	+0.1
LZH				sP		sP		06 05 36.9	+5.2
LZH				pmax		pmax			
	comp=Z,13nm,1.0s								
KBZ	**Khabaz**	**61.23**	**341**	LR		LR		06 30 21.6	
	comp=Z,576nm,20.3s,baz=170,slow=35								
KBZ	**Khabaz**	**61.23**	**341**	*i*P		**P**		**06 05 25.6**	**-0.4**
KBZ				pmax		pmax			
	comp=Z,5.0nm,1.0s								
BR131	**Keskin Array S**	**61.41**	**332**	*e*P		**P**		**06 05 24.5**	**-3.1**
BRTR	**Keskin Array B**	**61.41**	**332**	*i*P		P		06 05 22.5	-5.1
BRTR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
GTA	**Gaotai**	**61.65**	**29**	*e*P		**P**		**06 05 30.1**	**+0.9**
GTA				pP		sP		06 05 34.9	+0.3
GTA				sP		pwP		06 05 37.9	+1.0
GTA				pmax		pmax			
	comp=Z,5.0nm,0.8s								
GTA				pmax		pmax			
	comp=Z,120nm,6.5s								
GTA				LR		LR			
	comp=N,460nm,20.6s								
GTA				LR		LR			
	comp=E,640nm,17.2s								
GTA				LR		LR			
	comp=Z,730nm,17.9s								
MAKZ	**Makanchi**	**62.12**	**12**	P		**P**		**06 05 29.8**	**-2.3**
MAKZ				pmax		pmax			
	comp=Z,16nm,1.4s								
MAKZ	**Makanchi**	**62.12**	**12**	P		**P**		**06 05 29.8**	**-2.3**
MAKZ				IAmb		IAmb		06 05 38.6	
	comp=Z,16nm,1.4s								
MK31	**Makanchi Array**	**62.17**	**12**	P		**P**		**06 05 29.5**	**-2.9**
MK31				pmax		pmax			
	comp=Z,15nm,1.4s								
MK31	**Makanchi Array**	**62.17**	**12**	P		**P**		**06 05 29.5**	**-2.9**
MK31				IAmb		IAmb		06 05 38.8	
	comp=Z,15nm,1.4s								
MKAR	**Makanchi Array**	**62.17**	**12**	P		**P**		**06 05 29.9**	**-2.5**
	comp=Z,1.2nm,0.6s,baz=199,slow=7.4,SNR=10								
MKAR				LR		LR		06 31 19.5	
	comp=Z,610nm,18.6s,baz=220,slow=35								
MKAR	**Makanchi Array**	**62.17**	**12**	*i*P		**P**		**06 05 29.8**	**-2.6**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.6s								
MKAR	**Makanchi Array**	**62.17**	**12**	P		**P**		**06 05 29.5**	**-3.0**
GOF	**Gofitskoye**	**62.38**	**342**	*e*P		P		06 05 40.2	+6.4
ABKAR	**Akbulak array**	**63.17**	**355**	P		**P**		**06 05 36.6**	**-2.4**
ASAR	**Alice Springs**	**64.32**	**110**	P		**P**		**06 05 47.1**	**-0.1**
	comp=Z,1.3nm,0.6s,baz=278,slow=5.6,SNR=6.4								
ASAR				LR		LR		06 31 17.0	
	comp=Z,1μm,18.2s,baz=232,slow=34								
ASAR	**Alice Springs**	**64.32**	**110**	P		**P**		**06 05 47.5**	**+0.2**
ASAR	**Alice Springs**	**64.32**	**110**	P		**P**		**06 05 47.5**	**+0.2**
AKTO	**Aktyubinsk**	**64.51**	**354**	P		**P**		**06 05 45.3**	**-2.5**
	comp=Z,6.6nm,0.9s,baz=165,slow=6.3,SNR=7.1								
WRA	**Warramunga Arr**	**65.08**	**106**	P		**P**		**06 05 52.7**	**+0.4**
	comp=Z,6.0nm,0.8s,baz=271,slow=5.9,SNR=6.5								
WRA				LR		LR		06 32 29.2	
	comp=Z,679nm,19.1s,baz=275,slow=34								
WRA	**Warramunga Arr**	**65.08**	**106**	P		**P**		**06 05 52.2**	**-0.1**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.9s								
WRA	**Warramunga Arr**	**65.08**	**106**	P		**P**		**06 05 52.2**	**-0.1**
WB2	**Warramunga Arr**	**65.09**	**106**	P		**P**		**06 05 54.5**	**+2.1**
WRAB	**Tennant Creek**	**65.09**	**106**	*e*P		**P**		**06 05 53.0**	**+0.6**
WRAB				pmax		pmax			
	comp=Z,9.0nm,0.8s								
KURBB	**Kurchatov Arra**	**65.20**	**9**	P		**P**		**06 05 50.0**	**-2.3**
	comp=Z,1.7nm,0.5s,baz=209,slow=7.1,SNR=9.5								
WR0	**Warramunga Arr**	**65.27**	**106**	P		**P**		**06 05 54.4**	**+0.9**
WR0				IAmb		IAmb		06 06 02.3	
	comp=Z,12nm,0.8s								
KURK	**Kurchatov**	**65.31**	**9**	*e*P		**P**		**06 05 50.8**	**-2.2**
KURK				pmax		pmax			
	comp=Z,15nm,1.4s								
KURK	**Kurchatov**	**65.31**	**9**	P		**P**		**06 05 50.0**	**-2.9**
KURK	**Kurchatov**	**65.31**	**9**	IAmb		IAmb		06 05 59.0	
	comp=Z,19nm,1.4s								
DGZ	**Jazzator, Alta**	**66.09**	**15**	*e*P		**P**		**06 05 55.1**	**-3.1**
DGZ				pmax		pmax			
	comp=Z,20nm,1.8s								
BVAR	**Borovoye Array**	**66.80**	**3**	P		**P**		**06 06 00.2**	**-2.4**
	comp=Z,2.3nm,0.8s,baz=179,slow=6.8,SNR=8.7								
BRVK	**Borovoye**	**66.83**	**3**	*e*P		**P**		**06 06 00.2**	**-2.5**
BRVK				pmax		pmax			
	comp=Z,10.0nm,1.3s								
TIRR	**Tirgusor**	**67.53**	**332**	P		**P**		**06 06 08.7**	**+1.4**
TIRR	**Tirgusor**	**67.53**	**332**	P		**P**		**06 06 08.7**	**+1.4**
NJ2	**Nanjing**	**68.06**	**47**	*e*P		**P**		**06 06 11.1**	**+0.1**
NJ2				pmax		pmax			
	comp=Z,13nm,0.5s								
CFR	**Carcaliu**	**68.21**	**332**	P		**P**		**06 06 11.9**	**+0.3**
CFR	**Carcaliu**	**68.21**	**332**	P		**P**		**06 06 11.9**	**+0.3**
VRH	**Novokhopyorsk**	**68.31**	**344**	*e*P		**P**		**06 06 13.3**	**+1.2**
VRH				pmax		pmax			
	comp=Z,20nm,0.9s								
HHC	**Hu-ho-hao-te**	**68.82**	**35**	*e*P		**P**		**06 06 13.5**	**-2.2**
HHC				pmax		pmax			
	comp=Z,13nm,1.0s								
HHC				pmax		pmax			
	comp=Z,140nm,6.3s								
HHC				LR		LR			
	comp=N,280nm,16.4s								
HHC				LR		LR			
	comp=E,280nm,18.9s								
HHC				LR		LR			
	comp=Z,560nm,18.0s								
VSR	**Storozhevoye**	**69.05**	**342**	*e*P		**P**		**06 06 17.7**	**+1.0**
VSR				pmax		pmax			
	comp=Z,20nm,1.3s								
TOA0	**Torodi Ar. Sit**	**69.33**	**290**	P		**P**		**06 06 18.8**	**-0.5**
TORD	**Torodi Ar. Bea**	**69.33**	**290**	P		**P**		**06 06 18.0**	**-1.3**
	comp=Z,7.8nm,1.0s,baz=186,slow=1.7,SNR=17								
TORD				LR		LR		06 33 38.2	
	comp=Z,605nm,21.7s,baz=100,slow=33								
TORD	**Torodi Ar. Bea**	**69.33**	**290**	P		**P**		**06 06 17.5**	**-1.8**
VRI	**Vrincioaia**	**69.38**	**332**	P		**P**		**06 06 20.4**	**+1.5**
VRI	**Vrincioaia**	**69.38**	**332**	P		**P**		**06 06 20.4**	**+1.5**
PLOR	**Plostina**	**69.40**	**332**	P		**P**		**06 06 21.0**	**+1.9**
PLOR	**Plostina**	**69.40**	**332**	P		**P**		**06 06 21.0**	**+1.9**
MLR	**Muntele Rosu**	**69.46**	**331**	P		P		06 06 29.1	+9.5
MLR	**Muntele Rosu**	**69.46**	**331**	P		P		06 06 29.1	+10
ZALV	**Zalesovo Beam**	**69.48**	**12**	P		**P**		**06 06 16.8**	**-2.5**
	comp=Z,3.3nm,0.6s,baz=216,slow=7.3,SNR=8.7								
ZALV				LR		LR		06 35 25.6	
	comp=Z,598nm,19.1s,baz=168,slow=35								
ZALV	**Zalesovo Beam**	**69.48**	**12**	*i*P		**P**		**06 06 16.7**	**-2.6**
ZALV				pmax		pmax			
	comp=Z,3.0nm,0.6s								
ZALV	**Zalesovo Beam**	**69.48**	**12**	P		**P**		**06 06 17.2**	**-2.1**
VOIR				**69.84**	**330**	⇓P		**P**	**06 06 23.0**	**+1.1**
VOIR				**69.84**	**330**	⇓P		**P**	**06 06 23.0**	**+1.1**
LPSR	**Galich'ya Gora**	**70.34**	**343**	*e*P		**P**		**06 06 25.0**	**+0.4**
LPSR				pmax		pmax			
	comp=Z,10.0nm,0.9s								
ARU	**Arti**	**70.41**	**356**	*c*P		**P**		**06 06 23.0**	**-2.0**
ARU				S		**S**		**06 15 33.6**	**-3.4**
ARU				pmax		pmax			
	comp=Z,13nm,1.7s								
STKA	**Stephens Creek**	**70.48**	**119**	LR		LR		06 32 48.8	
	comp=Z,1μm,21.0s,baz=256,slow=32								
PDG	**Podgorica**	**70.75**	**325**	⇑P		**P**		**06 06 29.7**	**+2.3**
MDVR	**Moldovita**	**71.03**	**328**	⇑P		**P**		**06 06 30.7**	**+1.5**
SONM	**Songino Array**	**71.18**	**27**	P		**P**		**06 06 28.7**	**-1.4**
	comp=Z,3.0nm,0.7s,baz=248,slow=9.3,SNR=16								
SONM				LR		LR		06 37 51.8	
	comp=Z,614nm,18.1s,baz=206,slow=36								
BURAR	**Bucovina Array**	**71.37**	**332**	⇑P		**P**		**06 06 32.1**	**+0.9**
BURAR	**Bucovina Array**	**71.37**	**332**	⇑P		**P**		**06 06 32.1**	**+0.9**
ULN	**Ulaanbaatar**	**71.50**	**28**	*e*P		**P**		**06 06 32.6**	**+0.6**
ULN				pmax		pmax			
	comp=Z,14nm,1.9s								
BZS	**Buzias**	**71.66**	**329**	⇑P		**P**		**06 06 34.4**	**+1.6**
BZS	**Buzias**	**71.66**	**329**	⇑P		**P**		**06 06 34.4**	**+1.6**
ZAK	**Zakamensk**	**71.83**	**24**	*e*P		**P**		**06 06 33.9**	**0.0**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.6s								
AKASG	**Malin Array Be**	**72.04**	**336**	P		**P**		**06 06 34.5**	**-0.5**
	comp=Z,2.5nm,0.7s,baz=142,slow=5.0,SNR=4.1								
AKASG	**Malin Array Be**	**72.04**	**336**	IAmb		IAmb		06 06 43.7	
	comp=Z,1.9nm,0.8s								
AKBB	**Malin Array Si**	**72.04**	**336**	*de*P		**P**		**06 06 35.7**	**+0.7**
SIRR	**Siria**	**72.09**	**329**	⇓P		**P**		**06 06 37.8**	**+2.3**
KEST	**Kesra**	**72.99**	**315**	LR		LR		06 38 21.4	
	comp=Z,922nm,20.5s,baz=88,slow=36								
TLY	**Talaya**	**73.00**	**23**	*e*P		**P**		**06 06 39.8**	**-0.9**
TLY				pmax		pmax			
	comp=Z,15nm,2.1s								
KIC	**Kosan Boka**	**73.22**	**281**	*e*P		**P**		**06 06 41.4**	**-1.4**
	comp=Z,29nm,0.9s								
DBIC	**Dimbokro**	**73.41**	**281**	P		**P**		**06 06 43.4**	**-0.6**
	comp=Z,20nm,1.0s,baz=97,slow=8.0,SNR=7.1								
DBIC				LR		LR		06 36 16.8	
	comp=Z,310nm,21.7s,baz=102,slow=34								
DBIC	**Dimbokro**	**73.41**	**281**	P		**P**		**06 06 43.3**	**-0.6**
DBIC				pmax		pmax			
	comp=Z,33nm,1.2s								
DBIC	**Dimbokro**	**73.41**	**281**	P		**P**		**06 06 43.3**	**-0.6**
LIC	**Lamto**	**73.45**	**281**	*e*P		**P**		**06 06 42.5**	**-1.7**
	comp=Z,7.2nm,0.5s								
UZH	**Uzhgorod**	**73.46**	**331**	*e*P		**P**		**06 06 39.5**	**-4.0**
UZH				*e*				06 06 43.7	
UZH				*e*				06 06 56.1	
MOS	**Moscow**	**73.47**	**344**	*e*P		**P**		**06 06 43.0**	**-0.3**
MOS				*e*				06 06 59.0	
MOS				pmax		pmax			
	comp=Z,43nm,0.7s								
TIC	**Toumodi**	**73.56**	**281**	*e*P		**P**		**06 06 43.6**	**-1.3**
KIRV	**Kirov**	**73.58**	**351**	*e*P		**P**		**06 06 45.1**	**+1.2**
ARSA	**Arzberg**	**75.89**	**327**	*e*P		**P**		**06 06 59.6**

MJAR	**Matsushiro Arr**	**84.29**	**50**	P		**P**	**06 07 43.2**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=246,slow=6.7,SNR=2.9							
MJAR	**Matsushiro Arr**	**84.29**	**50**	IAmb		IAmb	06 07 51.6	
	comp=Z,4.7nm,1.1s							
NRIK	**Noril'sk**	**84.44**	**7**	LR		LR	06 45 03.2	
	comp=Z,713nm,19.9s,baz=159,slow=36							
KRVT	**Keravat (AS076**	**84.93**	**93**	LR		LR	06 45 03.5	
	comp=Z,206nm,19.4s,baz=88,slow=35							
ZEA	**Zeya**	**85.04**	**31**	*eP*		P	06 07 52.0	+5.4
EVO	**Evora**	**86.64**	**311**	*eP*		**P**	**06 07 56.7**	**+1.7**
	comp=Z,19nm,2.2s							
PCBR	**Castelo Branco**	**86.72**	**312**	*eP*		**P**	**06 07 59.3**	**+4.0**
	comp=Z,21nm,1.8s							
PNCL	**Nicolau / Gran**	**86.88**	**310**	*eP*		**P**	**06 08 00.1**	**+4.0**
	comp=Z,17nm,1.7s							
MVO	**Moncorvo**	**86.88**	**314**	*eP*		P	06 08 02.9	+6.7
	comp=Z,22nm,1.8s							
PMTG	**Montargil**	**86.99**	**311**	*eP*		P	06 08 03.2	+6.6
	comp=Z,23nm,1.5s							
ARCES	**ARCESS Array B**	**88.02**	**347**	P		**P**	**06 07 60.0**	**-0.9**
	comp=Z,2.4nm,0.7s,baz=131,slow=4.9,SNR=5.0							
ARCES	**ARCESS Array B**	**88.02**	**347**	P		**P**	**06 08 00.0**	**-0.9**
GRNR	**Gornyy**	**88.65**	**37**	*eP*		**P**	**06 08 00.9**	**-3.4**
GRNR				MLR		MLR		
	comp=N,190nm,18.0s							
TIXI	**Tiksi**	**94.94**	**16**	P		**P**	**06 08 32.7**	**-0.2**
	comp=N,4.6nm,1.0s,baz=258,slow=9.3,SNR=3.5							
TIXI	**Tiksi**	**94.94**	**16**	*eP*		**P**	**06 08 34.1**	**+1.1**
TIXI				pmax		pmax		
	comp=Z,14nm,1.8s							
TIXI	**Tiksi**	**94.94**	**16**	IAmb		IAmb	06 08 39.3	
	comp=Z,10nm,1.2s							
WRH	**Wood River Hil**	**124.30**	**17**			**PKiKP**	**06 14 10.8**	**+0.9**
ILAR	**Eielson Array**	**124.41**	**16**	PKP		**PKiKP**	**06 14 10.3**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=311,slow=3.4,SNR=11							
ILAR	**Eielson Array**	**124.41**	**16**	PKIKP		**PKiKP**	**06 14 10.7**	**+0.5**
ILAR	**Eielson Array**	**124.41**	**16**	PKPdf		**PKiKP**	**06 14 10.7**	**+0.5**
LPAZ	**La Paz**	**125.78**	**238**	PKP		**PKiKP**	**06 14 16.5**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=114,slow=5.2,SNR=4.3							
LPAZ	**La Paz**	**125.78**	**238**	PKPdf		**PKiKP**	**06 14 19.0**	**+3.9**
BCAR	**Beaver Creek A**	**127.14**	**16**	PKPdf		**PKiKP**	**06 14 16.4**	**+0.7**
BARN	**Barnard Glacie**	**128.82**	**17**			**PKPdf**	**06 14 17.2**	**-1.4**
YKA	**Yellowknife Ar**	**131.53**	**0**	PKP		**PKiKP**	**06 14 24.2**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=353,slow=1.7,SNR=6.9							
B08A	**Colville Reser**	**145.39**	**6**			**PKPdf**	**06 14 49.4**	**+0.1**
WCI	**Wyandotte Cave**	**145.67**	**320**	PKIKP		**PKPdf**	**06 14 49.6**	**-0.4**
WCI	**Wyandotte Cave**	**145.67**	**320**			**PKPdf**	**06 14 49.6**	**-0.4**
CLTN	**Cedars of Leba**	**146.95**	**317**			**PKPdf**	**06 14 52.7**	**+0.5**
MSO	**Missoula**	**147.23**	**0**			**PKPbc**	**06 14 54.1**	**-0.6**
WVT	**Waverly**	**147.92**	**318**	PKP2		**PKPbc**	**06 14 55.1**	**-1.7**
WVT	**Waverly**	**147.92**	**318**	PKPdf		**PKPbc**	**06 14 55.1**	**-1.7**
BOZ	**Bozeman (W)**	**148.41**	**357**	PKP2		**PKiKP**	**06 14 58.5**	**-1.2**
BOZ	**Bozeman (W)**	**148.41**	**357**			**PKiKP**	**06 14 58.5**	**-1.2**
CCM	**Cathedral Cave**	**148.75**	**324**	PKIKP		**PKPdf**	**06 14 56.4**	**+1.2**
CCM	**Cathedral Cave**	**148.75**	**324**	PKPdf		**PKPdf**	**06 14 56.4**	**+1.2**
RSSD	**Black Hills**	**148.80**	**346**	PKP2		**PKPbc**	**06 14 58.6**	**-0.6**
RSSD	**Black Hills**	**148.80**	**346**			**PKPbc**	**06 14 58.6**	**-0.6**
LRAL	**Lakeview Retre**	**149.08**	**313**			**PKPbc**	**06 14 59.1**	**-0.9**
YHL	**Hebgen Lake**	**149.12**	**356**	PKPbc		**PKiKP**	**06 15 02.0**	**+0.7**
PBMO	**Poplar Bluff**	**149.13**	**322**	PKPdf		**PKPdf**	**06 14 55.0**	**-0.9**
R40A	**Maddies Statio**	**149.15**	**326**	PKPdf		**PKPbc**	**06 14 58.0**	**-2.0**
FXWY	**Fox Creek**	**150.32**	**356**			**PKPbc**	**06 15 02.5**	**-0.6**
TPAW	**Teton Pass**	**150.47**	**356**			**PKPbc**	**06 15 02.4**	**-1.0**
HLID	**Hailey**	**150.49**	**1**			**PKPbc**	**06 15 02.9**	**-0.4**
K22A	**Casper**	**150.72**	**349**			**PKPbc**	**06 15 03.2**	**-0.7**
U40A	**Yellville**	**150.85**	**324**			**PKPbc**	**06 15 01.4**	**-2.8**
PDAR	**Pinedale Array**	**151.06**	**354**	PKPbc		**PKiKP**	**06 15 05.1**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=40,slow=2.5,SNR=11							
PDAR	**Pinedale Array**	**151.06**	**354**	PKPdf		**PKPdf**	**06 15 00.8**	**+1.8**
U38A	**Gravette**	**151.65**	**326**			**PKPbc**	**06 15 04.9**	**-1.1**
R32A	**Long Quarter,**	**152.20**	**334**			**PKPdf**	**06 15 01.8**	**+1.2**
CBKS	**Cedar Bluff**	**152.29**	**336**	PKIKP		**PKiKP**	**06 15 07.6**	**-0.1**
CBKS	**Cedar Bluff**	**152.29**	**336**			**PKiKP**	**06 15 07.6**	**-0.1**
HWUT	**Hardware Ranch**	**152.38**	**356**			**PKPbc**	**06 15 06.3**	**-1.5**
MIAR	**Mount Ida**	**152.53**	**322**	PKIKP		**PKiKP**	**06 15 09.2**	**+0.9**
MIAR	**Mount Ida**	**152.53**	**322**			**PKiKP**	**06 15 09.2**	**+0.9**
NVAR	**Mina Array Bea**	**155.30**	**8**	PKPbc		PKPbc	06 15 17.0	
	comp=Z,1.8nm,0.8s,baz=280,slow=1.6,SNR=8.5							
NVAR				PKPab		**PKPab**	**06 15 31.1**	**+0.9**
	comp=Z,2.2nm,0.7s,baz=327,slow=1.7,SNR=6.4							
NVAR	**Mina Array Bea**	**155.30**	**8**	PKPbc		PKPbc	06 15 10.1	
TXAR	**Lajitas Array**	**162.05**	**330**	PKPab		**PKPab**	**06 16 00.2**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=48,slow=4.9,SNR=3.9							
TXAR	**Lajitas Array**	**162.05**	**330**	PKIKP		**PKPdf**	**06 15 09.9**	**-3.5**
TXAR	**Lajitas Array**	**162.05**	**330**	PKPdf		**PKPdf**	**06 15 09.9**	**-3.5**

*IDC **24** 05:57:48.8±1.7,29.7°S×177.7°W,h0km,mb4.3/4, mb1 4.4/4,mb1mx4.0/28,mbtmp4.3/4,MS4.2/1,Ms1 4.2/1, ms1mx3.7/34,Error ellipse: s-maj=44.7km s-min=25.8km az=33.0*

ISC 24 05:57:53.7±1.6,29°8S±0.3°×177°1W±0.2,h31km,n8, σ0s82/9,mb4.3/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.86**	**305**	Pn	**Pn**	**05 58 09.3**	**-0.4**
	615nm,0.3s,baz=94,slow=9.0,SNR=11						
RAO				Sn	**Sb**	**05 58 21.7**	**+0.3**
	2µm,0.3s,baz=56,slow=20,SNR=20						
HNR	**Honiara**	**29.48**	**309**	LR	LR	06 12 42.5	
	comp=Z,529nm,20.8s,baz=248,slow=30						
CTA	**Charters Tower**	**34.47**	**278**	P	**P**	**06 04 39.8**	**+0.9**
	2.7nm,0.6s,baz=84,slow=12,SNR=4.6						
STKA	**Stephens Creek**	**35.38**	**256**	P	**P**	**06 04 47.1**	**+0.4**
	1.2nm,0.4s,baz=104,slow=13,SNR=3.7						
ASAR	**Alice Springs**	**43.92**	**266**	P	**P**	**06 05 57.2**	**-0.7**
	4.0nm,1.0s,baz=105,slow=7.1,SNR=6.1						
WRA	**Warramunga Arr**	**44.85**	**271**	P	**P**	**06 06 04.0**	**-1.4**
	5.2nm,0.7s,baz=110,slow=7.8,SNR=11						
FINES	**FINESS Array B**	**144.79**	**341**	PKP	**PKPdf**	**06 17 26.6**	**-0.1**
	2.5nm,0.6s,baz=44,slow=3.5,SNR=10						
AKASG	**Malin Array Be**	**151.24**	**324**	PKPbc	**PKiKP**	**06 17 44.6**	**+0.4**
	0.3nm,0.3s,baz=46,slow=2.7,SNR=2.1						
AKASG				PKPab	**sPKPdf**	**06 17 50.1**	**+0.3**
	4.9nm,0.8s,baz=49,slow=2.8,SNR=7.6						

*NEIC **24** 05:58:43.2±1.6,51.9°N±0.2°×178.3°E±0.0°,h121km±6km, Error ellipse: s-maj=27.0km s-min=7.9km az=185.0*
*AEIC **24** 05:58:44±1.3,51.9°N±0.2°×178.3°E±0.0°,h117km±4km, MLS.4, mb4.0/22(NEIC),Error ellipse: s-maj=26.4km s-min=7.2km az=187.0*
*IDC **24** 05:58:44.5±5.9,52.2°N×178.7°E,h98km±50km,mb3.2/5, mb1 3.5/7,mb1mx3.2/57,mbtmp3.7/7,Error ellipse: s-maj=47.8km s-min=24.4km az=169.0*

ISC 24 05:58:44.1±0.8,52°0N±0.1°×178°42E±0°05,h116km±6km, n62,σ1s26/64,mb3.9/13,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.07**	**122**		**Pn**	**05 58 59.7**	**-0.3**
LSSA	**Little Sitkin**	**0.08**	**136**		**Pn**	**05 58 59.7**	**-0.3**
LSPA	**Little Sitkin**	**0.11**	**118**		**Pn**	**05 58 59.9**	**-0.1**
LSPA					**Sn**	**05 59 13.1**	**+1.1**
CETU	**Semis' Tuman**	**0.66**	**93**		**Pn**	**05 59 03.0**	**+0.3**
CETU					**Sn**	**05 59 17.1**	**+0.3**
CEAP	**Semis' Anvil P**	**0.71**	**90**		**Pn**	**05 59 03.4**	**+0.3**
CESW	**Semis' Southwe**	**0.71**	**98**		**Pn**	**05 59 02.9**	**-0.2**
CERAA	**Semis' Rag'd T**	**0.79**	**97**		**Pn**	**05 59 03.7**	**0.0**
CERAA					**Sn**	**05 59 18.5**	**0.0**
AMKA	**Amchitka**	**0.83**	**139**		**Pn**	**05 59 03.3**	**-0.8**
AMKA					**Sn**	**05 59 17.6**	**-1.7**
GAEA	**Gareloi East**	**1.77**	**96**		**Pn**	**05 59 14.4**	**-0.1**
TASE	**Tanaga Southea**	**2.20**	**93**		**Pn**	**05 59 19.6**	**-0.2**
TAFP	**Tanaga Falls P**	**2.23**	**91**		**Pn**	**05 59 19.7**	**-0.5**
TAFP					**Sn**	**05 59 47.3**	**-0.5**
TAPA	**Tanaga Point A**	**2.34**	**93**		**Pn**	**05 59 21.3**	**-0.4**
KIMD	**Kanaga Island**	**2.70**	**94**		**Pn**	**05 59 25.8**	**-0.5**
KICM	**Kanaga Island**	**2.71**	**90**		**Pn**	**05 59 26.1**	**-0.3**
KIKV	**Kanaga Island**	**2.73**	**91**		**Pn**	**05 59 26.3**	**-0.3**
SMY	**Shemya**	**2.75**	**287**		**Pn**	**05 59 26.2**	**-0.6**
SMY					**Sn**	**05 59 57.5**	**-2.3**
ADK	**Adak**	**3.03**	**90**		**Pn**	**05 59 30.0**	**-0.6**
ADK	**Adak**	**3.03**	**90**		**Pn**	**05 59 30.2**	**-0.4**
GSTD	**Great Sitkin T**	**3.36**	**87**		**Pn**	**05 59 34.1**	**-0.9**
GSTR	**Great Sitkin T**	**3.41**	**86**		**Pn**	**05 59 35.1**	**-0.5**
GSMY	**Great Sitkin M**	**3.41**	**87**		**Pn**	**05 59 34.9**	**-0.7**
ATKA	**Atka Island**	**4.55**	**85**		**Pn**	**05 59 50.4**	**-0.5**
SPIA	**Saint Paul Isl**	**8.37**	**47**		**Pn**	**06 00 45.3**	**+2.9**
UNV	**Unalaska Valle**	**9.29**	**73**	Pn	**Pn**	**06 00 56.0**	**+1.2**
PETK	**Petropavlovsk-**	**12.66**	**283**	P	**Pn**	**06 01 42.6**	**+2.9**
	0.2nm,0.3s,baz=95,slow=18,SNR=1.8						
CNBA	**Chernabura Isl**	**13.40**	**69**	Pn	**Pn**	**06 01 46.3**	**-3.1**
CHIR	**Chirikof Islan**	**15.72**	**66**	Pn	**Pn**	**06 02 16.4**	**-2.4**
SVW2	**Sparrevohn**	**16.86**	**47**		**P**	**06 02 34.3**	**+1.3**
OHAK	**Old Harbor**	**17.12**	**61**		**P**	**06 02 33.7**	**-2.1**
KDAK	**Kodiak Island**	**17.56**	**59**	P	**P**	**06 02 38.4**	**-2.2**
	1.6nm,0.3s,baz=283,slow=1.4,SNR=38						
KDAK				S	S	06 05 45.7	-11
	0.1nm,0.3s,baz=84,slow=17,SNR=1.3						
KDAK	**Kodiak Island**	**17.56**	**59**	IAmb	IAmb	06 02 41.1	
	comp=Z,7.3nm,0.5s						
RSO	**Redoubt South**	**17.99**	**51**		**P**	**06 02 43.7**	**-1.8**
CNPM	**China Poot**	**18.52**	**54**	P	**P**	**06 02 51.7**	**+0.6**
BRLK	**Bradley Lake**	**18.74**	**54**		**P**	**06 02 52.8**	**-0.8**
SEW	**Seward**	**19.51**	**53**	P	**P**	**06 03 01.8**	**0.0**
BPAW	**Bear Paw Mtn.**	**19.96**	**41**	P	**P**	**06 03 08.4**	**+1.6**
BPAW				IAmb	IAmb	06 03 09.0	
	comp=Z,5.4nm,1.0s						
TRF	**Thorofare Moun**	**20.01**	**43**	P	**P**	**06 03 09.0**	**+1.5**
TRF				IAmb	IAmb	06 03 11.0	
	comp=Z,7.2nm,0.8s						
RND	**Reindeer**	**20.61**	**44**	P	**P**	**06 03 15.0**	**+1.2**
GLI	**Glacier Island**	**20.80**	**51**	P	**P**	**06 03 15.7**	**-0.1**
GLI				IAmb	IAmb	06 03 15.9	
	comp=Z,9.9nm,0.7s						
WRH	**Wood River Hil**	**21.28**	**41**	P	**P**	**06 03 20.2**	**-0.6**
WRH				IAmb	IAmb	06 03 28.7	
	comp=Z,8.2nm,1.5s						
CCB	**Clear Creek Bu**	**21.45**	**41**	P	**P**	**06 03 23.1**	**+0.4**
HDA	**Harding Lake**	**21.73**	**42**	P	**P**	**06 03 25.9**	**+0.3**
HDA				IAmb	IAmb	06 03 27.0	
	comp=Z,3.6nm,0.7s						
ILAR	**Eielson Array**	**21.87**	**41**	P	**P**	**06 03 25.5**	**-1.6**
	comp=Z,0.6nm,0.5s,baz=244,slow=8.5,SNR=13						
RAGM	**Ragged Mountai**	**21.91**	**53**	P	**P**	**06 03 25.1**	**-2.5**
RIDG	**Independent Ri**	**22.42**	**44**	P	**P**	**06 03 32.0**	**-0.9**
RIDG				IAmb	IAmb	06 03 47.3	
	comp=Z,6.0nm,1.2s						
GLB	**Gilahina Butte**	**22.46**	**50**	P	**P**	**06 03 33.4**	**+0.1**
GLB				IAmb	IAmb	06 03 37.5	
	comp=Z,6.9nm,1.3s						
VRDI	**Verde Repeater**	**22.60**	**51**	P	**P**	**06 03 34.1**	**-0.8**
PRP	**Porcupine Dome**	**22.66**	**40**	P	**P**	**06 03 34.6**	**-0.7**
PRP				IAmb	IAmb	06 03 37.0	
	comp=Z,3.3nm,0.5s						
DOT	**Dot Lake**	**22.74**	**45**	P	**P**	**06 03 35.6**	**-0.5**
DOT				IAmb	IAmb	06 03 37.4	
	comp=Z,4.4nm,0.8s						
BCAR	**Beaver Creek A**	**23.63**	**47**	P	**P**	**06 03 44.1**	**-0.2**
BMAR	**Burnt Mountain**	**23.69**	**35**	P	**P**	**06 03 44.6**	**-0.2**
EGAK	**Eagle**	**24.23**	**43**	P	**P**	**06 03 49.8**	**+0.1**
EGAK				IAmb	IAmb	06 03 50.8	
	comp=Z,8.4nm,0.8s						
DAWY	**Dawson**	**24.85**	**45**	P	**P**	**06 03 55.8**	**+0.4**
DAWY				IAmb	IAmb	06 03 58.3	
	comp=Z,4.2nm,0.8s						
H11N2	**WAKE ISLAND Hy**	**33.45**	**200**	T	T	06 40 55.4	
	baz=11,slow=76,SNR=8.0						
H11N3	**WAKE ISLAND Hy**	**33.46**	**200**	T	T	06 40 41.3	
	baz=11,slow=76,SNR=10						
H11N1	**WAKE ISLAND Hy**	**33.47**	**200**	T	T	06 40 52.0	
	baz=11,slow=76,SNR=9.3						
YKA	**Yellowknife Ar**	**36.05**	**47**	P	**P**	**06 05 33.9**	**0.0**
	comp=Z,0.7nm,0.6s,baz=281,slow=8.4,SNR=7.0						
PDAR	**Pinedale Array**	**47.75**	**71**	P	**P**	**06 07 08.5**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=316,slow=2.5,SNR=4.3						
SPITS	**Spitsbergen Ar**	**49.61**	**355**	P	**P**	**06 07 23.4**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=44,slow=11,SNR=1.4						
TXAR	**Lajitas Array**	**50.25**	**80**	P	**P**	**06 08 40.0**	**-0.2**
	comp=Z,0.2nm,0.5s,baz=302,slow=7.4,SNR=4.5						
VNDA	**Vanda**	**129.67**	**185**	PKP	**PKiKP**	**06 17 42.1**	**+3.7**
	comp=Z,0.4nm,0.3s,baz=4.1,slow=1.3,SNR=12						
BOSA	**Boshof**	**149.25**	**309**	PKPbc	**PKPbc**	**06 18 19.3**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=70,slow=1.8,SNR=3.2						

*BJI **24** 06:20:20.6±0.0,52.2°N×178.2°E,h117km,mB5.2/34, mb5.3/71*
*MOS **24** 06:20:21.7±1.1,52.2°N×178.4°E,h125km,mb5.0/63, Error ellipse: s-maj=7.0km s-min=5.2km az=117.4*
*NEIC **24** 06:20:22.4±1.8,52.0°N±0.0°×178.4°E±0.0°,09, h121km±4km,mb5.2/512,ML4.7(AEIC),Error ellipse: s-maj=11.9km s-min=7.9km az=180.0*
*AEIC **24** 06:20:22±2.1,51.9°N±0.0°×178.3°E±0.0°,09,h125km±3km, Error ellipse: s-maj=12.3km s-min=7.9km az=181.0*
*IDC **24** 06:20:23.6±0.9,52.1°N×178.4°E,h128km±6km,mb4.6/39, mb1 4.8/41,mb1mx4.7/51,mbtmp5.1/41,MS4.2/3, Ms1 4.2/3,ms1mx3.6/49,Error ellipse: s-maj=10.5km s-min=6.6km az=161.0*
*UNK **24** 06:20:23.2,52.0°N×178.4°E,h124km*

ISC 24 06:20:22.1±0.3,52°06N±0.0°×178°40E±0°03,h117km±2km, h118km±pP-P,n1105,σ1s07/987,mb5.2/343,32C-53D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.11**	**138**		**Pn**	**06 20 39.0**	**+0.8**
LSSA	**Little Sitkin**	**0.13**	**145**		**Pn**	**06 20 39.1**	**+0.9**
LSPA	**Little Sitkin**	**0.15**	**132**		**Pn**	**06 20 39.1**	**+0.9**
CETU	**Semis' Tuman**	**0.69**	**97**		**Pn**	**06 20 42.2**	**+1.3**
CEAP	**Semis' Anvil P**	**0.73**	**94**		**Pn**	**06 20 42.7**	**+1.4**
CESW	**Semis' Southwe**	**0.74**	**102**		**Pn**	**06 20 42.2**	**+0.8**
CERAA	**Semis' Rag'd T**	**0.81**	**100**		**Pn**	**06 20 43.0**	**+0.9**
AMKA	**Amchitka**	**0.88**	**140**		**Pn**	**06 20 42.8**	**+0.2**
AMKA					**Sn**	**06 20 57.4**	**-0.7**
GAEA	**Gareloi East**	**1.79**	**98**		**Pn**	**06 20 53.4**	**+0.7**
TASE	**Tanaga Southea**	**2.22**	**94**		**Pn**	**06 20 58.6**	**+0.5**
TAFP	**Tanaga Falls P**	**2.25**	**93**		**Pn**	**06 20 58.9**	**+0.4**
TAFP					**Sn**	**06 21 26.7**	**+0.4**
TAPA	**Tanaga Point A**	**2.36**	**94**		**Pn**	**06 21 00.3**	**+0.4**
SMY	**Shemya**	**2.72**	**286**	P	**Pn**	**06 21 04.1**	**-0.4**
SMY	**Shemya**	**2.72**	**286**		**Sn**	**06 21 36.0**	**-1.1**
SMY	**Shemya**	**2.72**	**286**	Pn	**Pn**	**06 21 04.1**	**-0.4**
KIMD	**Kanaga Island**	**2.72**	**94**		**Pn**	**06 21 04.8**	**+0.2**
KICM	**Kanaga Island**	**2.73**	**91**		**Pn**	**06 21 05.3**	**+0.7**
KIKV	**Kanaga Island**	**2.75**	**92**		**Pn**	**06 21 05.3**	**+0.4**
ADK	**Adak**	**3.05**	**91**	P	**Pn**	**06 21 08.8**	**0.0**
ADK	**Adak**	**3.05**	**91**		**Pn**	**06 21 08.8**	**0.0**
GSTD	**Great Sitkin T**	**3.37**	**88**		**Pn**	**06 21 13.0**	**-0.1**
GSTR	**Great Sitkin T**	**3.42**	**87**	Pn	**Pn**	**06 21 13.4**	**-0.4**
GSMY	**Great Sitkin M**	**3.43**	**88**		**Pn**	**06 21 13.8**	**0.0**
ATKA	**Atka Island**	**4.57**	**85**		**Sn**	**06 22 20.9**	**-0.2**
ATKA	**Atka Island**	**4.57**	**85**	Pn	**Pn**	**06 21 28.6**	**-0.4**
KOFP	**Korovin Flat P**	**4.63**	**84**		**Pn**	**06 21 30.5**	**+0.6**
KOSE	**Korovin Southe**	**4.66**	**83**		**Pn**	**06 21 30.9**	**+0.6**
NIKH	**Nikolski High**	**7.84**	**78**	Pn	**Pn**	**06 22 14.2**	**+1.1**
OKSP	**Okmok Steeple**	**8.19**	**76**		**Pn**	**06 22 19.6**	**+1.7**
OKCE	**Okmok Cone E**	**8.27**	**75**		**Pn**	**06 22 21.1**	**+2.0**
OKNC	**Okmok New Cone**	**8.30**	**75**		**Pn**	**06 22 20.2**	**+0.8**
SPIA	**Saint Paul Isl**	**8.35**	**48**	Pn	**Pn**	**06 22 22.4**	**+2.4**
UNV	**Unalaska Valle**	**9.29**	**73**	Pn	**Pn**	**06 22 34.0**	**+1.2**
AKUT	**Akutan**	**9.75**	**71**	Pn	**Pn**	**06 22 41.0**	**+2.0**
FALS	**False Pass**	**11.20**	**68**	Pn	**Pn**	**06 23 00.9**	**+2.4**
PET	**Petropavlovsk**	**12.06**	**282**	*iP*	**Pn**	**06 23 09.4**	**-0.5**
PET				*eS*	**Sn**	**06 25 15.9**	**-6.5**
PET				pmax	pmax		
	comp=Z,600nm,2.3s						
PET				pmax	pmax		
	comp=Z,117nm,1.2s						
PET	**Petropavlovsk**	**12.06**	**282**	Pn	**Pn**	**06 23 10.2**	**+0.4**
PEA0B	**Petropavlovsk-**	**12.63**	**283**	P	**Pn**	**06 23 18.4**	**+1.0**
PEA0B	**Petropavlovsk-**	**12.63**	**283**	Pn	**Pn**	**06 23 18.4**	**+1.0**
PETK	**Petropavlovsk-**	**12.63**	**283**	P	**Pn**	**06 23 17.6**	**+0.2**
	comp=Z,2.8nm,0.3s,baz=89,slow=17,SNR=181						
PETK				S	**Sn**	**06 25 30.0**	**-6.2**
	comp=Z,2.9nm,0.3s,baz=100,slow=24,SNR=2.1						
PETK				ScP	**ScP**	**06 32 06.9**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=122,slow=5.6,SNR=9.3						
PETK	**Petropavlovsk-**	**12.63**	**283**	Pn	**Pn**	**06 23 17.7**	**+0.3**
GAMB	**Gambell**	**12.85**	**20**	P	**P**	**06 23 25.6**	**-0.8**
SDPT	**Sand Point**	**12.93**	**67**	Pn	**Pn**	**06 23 20.5**	**-0.7**
CNBA	**Chernabura Isl**	**13.40**	**69**		**Pn**	**06 23 25.2**	**-2.2**
SKR	**Severo-Kuril's**	**13.98**	**273**	*eP*	**Pn**	**06 23 35.0**	**+0.2**
SKR				*eS*	Sn	06 25 59.4	-9.4
SKR				pmax	pmax		
	comp=Z,86nm,1.0s						
SKR				pmax	pmax		
	comp=Z,300nm,2.4s						
SKR				MLR	MLR		
	comp=Z,300nm,16.0s						
CHIR	**Chirikof Islan**	**15.72**	**66**	P	**Pn**	**06 23 54.4**	**-2.3**
SVW2	**Sparrevohn**	**16.84**	**47**	P	**P**	**06 24 12.1**	**+1.4**
SVW2				IAmb	IAmb	06 24 19.4	
	comp=Z,134nm,0.9s						
BILL	**Bilibino**	**17.08**	**344**	*d iP*	**Pn**	**06 24 14.9**	**+1.6**
BILL				pmax	pmax		
	comp=Z,79nm,1.3s						
BILL	**Bilibino**	**17.08**	**344**	P	**Pn**	**06 24 15.3**	**+2.0**
OHAK	**Old Harbor**	**17.11**	**61**	P	**P**	**06 24 11.8**	**-1.8**
OHAK				IAmb	IAmb	06 24 14.2	
	comp=Z,105nm,1.0s						
MA2	**Magadan**	**17.15**	**307**	ScP	**ScP**	**06 32 14.0**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=188,slow=5.1,SNR=4.6						
MA2	**Magadan**	**17.15**	**307**	*‖eP*	**P**	**06 24 14.3**	**+0.2**
MA2				pmax	pmax		
	comp=Z,12nm,0.8s						
KDAK	**Kodiak Island**	**17.55**	**60**	P	**P**	**06 24 16.8**	**-1.7**
	comp=Z,14nm,0.3s,baz=273,slow=5.9,SNR=140						
KDAK				ScP	**ScP**	**06 32 13.5**	**-2.3**
	comp=Z,0.6nm,0.3s,baz=327,slow=1.1,SNR=8.1						
KDAK	**Kodiak Island**	**17.55**	**60**	P	**P**	**06 24 16.7**	**-1.7**
KDAK				IAmb	IAmb	06 24 19.4	
	comp=Z,117nm,0.8s						
CNPM	**China Poot**	**18.51**	**54**	P	**P**	**06 24 29.4**	**+0.5**
BRLK	**Bradley Lake**	**18.73**	**54**	P	**P**	**06 24 31.4**	**0.0**
CAPN	**Captain Cook N**	**18.81**	**50**	P	**P**	**06 24 32.7**	**+0.6**
	baz=256						
O22K	**Cooper Landing**	**19.43**	**52**	P	**P**	**06 24 39.4**	**+0.5**
	baz=259						
BPAW	**Bear Paw Mtn.**	**19.94**	**41**	P	**Pn**	**06 24 46.2**	**-1.0**
BPAW				IAmb	IAmb	06 24 49.8	
	comp=Z,160nm,1.0s						
GHO	**Glory Hole Cre**	**20.10**	**48**	IAmb	IAmb	06 24 49.4	
	comp=Z,113nm,0.7s						
RND	**Reindeer**	**20.59**	**44**	IAmb	IAmb	06 24 54.3	
	comp=Z,58nm,0.7s						
MCK	**McKinley**	**20.66**	**43**	IAmb	IAmb	06 24 55.7	
	comp=Z,147nm,1.0s						
GLI	**Glacier Island**	**20.78**	**51**	P	**P**	**06 24 53.2**	**-0.3**
SCM	**Sheep Creek Mo**	**20.85**	**49**	P	**P**	**06 24 54.5**	**+0.2**
SCM				pmax	pmax		
	comp=Z,351nm,1.2s						
SCM	**Sheep Creek Mo**	**20.85**	**49**	P	**P**	**06 24 54.5**	**+0.2**
NEA2	**Nenana**	**20.90**	**41**	P	**P**	**06 24 55.8**	**+1.1**
	baz=249,SNR=140						
HIN	**Hinchinbrook I**	**21.00**	**53**	P	**P**	**06 24 55.9**	**+0.1**
HIN				IAmb	IAmb	06 24 57.2	
	comp=

BESE Bessie Mountai 26.92 57 P **P** **06 25 52.2 +0.2**
JIS Juneau Island 27.20 58 IAmb IAmb 06 25 55.9
comp=Z,45nm,0.9s
YAK Yakutsk 27.65 310 *e*P **P** **06 25 57.9 -0.5**
YAK pmax pmax
comp=Z,23nm,1.0s
INK Inuvik 27.92 36 P **P** **06 26 01.6 +0.9**
comp=Z,18nm,0.5s,baz=256,slow=7.1,SNR=143
INK ScP **ScP** **06 32 40.1 -2.5**
comp=Z,15nm,0.9s,baz=228,slow=2.5,SNR=21
INK Inuvik 27.92 36 P **P** **06 26 01.8 +1.1**
INK pmax pmax
comp=Z,24nm,0.7s
INK Inuvik 27.92 36 P **P** **06 26 01.8 +1.1**
TIXI Tiksi 29.19 330 P **P** **06 26 11.9 0.0**
comp=Z,2.0nm,0.5s,baz=117,slow=9.3,SNR=5.5
TIXI PcP **PcP** **06 29 16.0 0.0**
comp=Z,4.6nm,0.6s,baz=297,slow=2.3,SNR=6.0
TIXI ScP **ScP** **06 32 44.7 -1.8**
comp=Z,22nm,0.7s,baz=110,slow=3.5,SNR=40
TIXI Tiksi 29.19 330⇑ *e*P **P** **06 26 11.5 -0.4**
TIXI pmax pmax
comp=Z,5.0nm,1.1s
KLR Kul'dur 29.32 283 P **P** **06 26 13.6 +0.2**
comp=Z,41nm,0.7s,baz=66,slow=8.4,SNR=128
KLR ScP **ScP** **06 32 47.0 -0.4**
comp=Z,2.0nm,0.8s,baz=353,slow=4.5,SNR=4.1
KLR Kul'dur 29.32 283 *d* iP **P** **06 26 13.4 +0.1**
KLR pmax pmax
comp=Z,61nm,1.0s
DLBC Dease Lake 29.45 57 P **P** **06 26 15.9 +1.5**
comp=Z,18nm,0.7s,baz=281,slow=7.6,SNR=49
DLBC Dease Lake 29.45 57 P **P** **06 26 14.7 +0.2**
ZEA Zeya 30.36 294 *e*P **P** **06 26 22.0 -0.4**
ZEA pmax pmax
comp=Z,46nm,1.0s
A36M Sachs Harbour 31.35 30 P **P** **06 26 32.8 +1.9**
baz=261,SNR=44
USA0B Ussuriysk Arra 31.49 274 *d* iP **P** **06 26 32.1 -0.4**
USA0B Ussuriysk Arra 31.49 274 IAmb IAmb 06 26 33.2
comp=Z,22nm,0.7s
USA0B PcP **PcP** **06 29 23.5 +0.9**
USRK Ussuriysk Ar. 31.49 274 P **P** **06 26 32.3 -0.2**
comp=Z,17nm,0.5s,baz=57,slow=9.9,SNR=44
USRK PcP **PcP** **06 29 23.0 +0.5**
comp=Z,10nm,0.7s,baz=96,slow=1.4,SNR=15
USRK ScP **ScP** **06 32 55.1 +0.5**
comp=Z,2.5nm,0.7s,baz=40,slow=10,SNR=6.6
VLA Vladivostok 32.12 273 *d* iP **P** **06 26 38.8 +0.8**
VLA pmax pmax
comp=Z,120nm,1.9s
MJAR Matsushiro Arr 32.20 257 P **P** **06 26 39.5 +0.7**
comp=Z,9.9nm,0.8s,baz=47,slow=6.5,SNR=21
MJAR PcP **PcP** **06 29 24.8 +0.1**
comp=Z,2.5nm,0.5s,baz=94,slow=1.3,SNR=7.7
MJAR ScP **ScP** **06 32 58.5 +1.3**
comp=Z,1.2nm,0.5s,baz=21,slow=2.7,SNR=5.2
MJAR Matsushiro Arr 32.20 257 P **P** **06 26 39.5 +0.7**
MJAR PcP **PcP** **06 29 25.0 +0.4**
MJB9 Matsu-Tunnel 32.20 257 IAmb IAmb 06 26 40.8
comp=Z,54nm,1.1s
MAJO Matsushiro 32.20 257 P **P** **06 26 39.7 +0.9**
MAJO pmax pmax
comp=Z,53nm,1.2s
MAJO Matsushiro 32.20 257 P **P** **06 26 39.7 +0.9**
MAJO IAmb IAmb 06 26 40.8
comp=Z,53nm,1.1s
MAT Matsushiro 32.20 257 P **P** **06 26 39.4 +0.6**
MDJ Mudanjiang 32.75 277 P **P** **06 26 43.3 -0.2**
MDJ pP pP 06 27 08.8 -0.2
MDJ pmax pmax
comp=Z,15nm,0.7s
MDJ pmax pmax
comp=Z,310nm,12.0s
MSHR Mys Shultsa 32.87 272⇓ *e*P **P** **06 26 45.5 +1.0**
MSHR pmax pmax
comp=Z,34nm,1.0s
H11N2 WAKE ISLAND Hy 33.49 200 T T 07 02 11.2
baz=11,slow=76,SNR=39
H11N3 WAKE ISLAND Hy 33.50 200 T T 07 02 27.7
baz=11,slow=76,SNR=33
H11N1 WAKE ISLAND Hy 33.51 200 T T 07 02 12.9
baz=11,slow=76,SNR=34
H11S1 WAKE ISLAND Hy 34.72 200 T T 07 04 02.1
baz=10,slow=76,SNR=30
H11S2 WAKE ISLAND Hy 34.73 200 T T 07 03 49.5
baz=10,slow=76,SNR=17
H11S3 WAKE ISLAND Hy 34.73 200 T T 07 04 04.4
baz=10,slow=76,SNR=34
CN2 Changchun 35.71 278 *e*P **P** **06 27 08.3 -0.8**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
YKA Yellowknife Ar 36.03 47 P **P** **06 27 12.2 +0.7**
comp=Z,24nm,0.6s,baz=282,slow=8.5,SNR=169
YKA ScP **ScP** **06 33 07.0 -3.3**
comp=Z,5.1nm,0.9s,baz=286,slow=3.4,SNR=18
HIA Hailar 36.41 290 *d* iP **P** **06 27 14.2 -0.8**
HIA pmax pmax
comp=Z,16nm,1.0s
LLLB Lillooet 36.43 68 P **P** **06 27 14.9 -0.3**
LLLB IAmb IAmb 06 27 16.5
comp=Z,23nm,0.8s
NLWA Neilton Lookou 36.76 74 P **P** **06 27 18.2 +0.2**
NLWA IAmb IAmb 06 27 19.8
comp=Z,37nm,0.9s
A04D Lummi Island 36.81 71 P **P** **06 27 18.6 +0.3**
baz=298,SNR=10.0
D03D Eldon 37.16 73 P **P** **06 27 22.0 +0.7**
baz=299,SNR=55
E03A Lebam 37.37 75 P **P** **06 27 23.5 +0.5**
E03A IAmb IAmb 06 27 25.1
comp=Z,62nm,1.0s
B05A Bryant 37.38 71 P **P** **06 27 23.2 +0.1**
baz=299,SNR=28
D04E Lakebay 37.52 73 P **P** **06 27 25.5 +1.2**
baz=300,SNR=5.0
F03A Seaside 37.68 76 IAmb IAmb 06 27 27.4
comp=Z,31nm,0.8s
KSRS Korea Array 37.90 268 P **P** **06 27 29.0 +1.4**
comp=Z,21nm,0.9s,baz=59,slow=8.2,SNR=82
KSRS PcP **PcP** **06 29 42.0 +0.7**
comp=Z,7.0nm,0.8s,baz=51,slow=3.0,SNR=16
KSRS ScP **ScP** **06 33 18.0 +0.3**
comp=Z,0.5nm,0.3s,baz=70,slow=4.0,SNR=5.3
F04D Rainier, OR 37.93 75 P **P** **06 27 28.2 +0.4**
baz=301
KSAR Wonju Array Be 37.93 268 PcP **PcP** **06 29 41.2 -0.2**
SNY Shenyang 37.95 277 ⇓P **P** **06 27 28.8 +0.8**
SNY pP **pP** **06 27 53.8 -0.2**
SNY sP **sP** **06 28 07.1 -0.2**
SNY S **S** **06 33 17.8 +6.8**
SNY pmax pmax
comp=Z,27nm,1.4s
SNY pmax pmax
comp=Z,200nm,3.5s
SNY LR LR
comp=Z,270nm,17.5s
SNY LR LR
comp=Z,310nm,17.9s
SNY LR LR
comp=Z,680nm,21.7s
E04D Cinebar 37.95 74 P **P** **06 27 28.6 +0.6**
baz=301,SNR=22
D05A Enumclaw 37.98 73 P **P** **06 27 29.6 +1.4**
D05A IAmb IAmb 06 27 29.9
comp=Z,51nm,0.9s
G03D McMinnville, O 38.23 76 P **P** **06 27 30.8 +0.4**
baz=302,SNR=6.8
LON Longmire 38.30 73 P **P** **06 27 30.8 -0.2**
LON pmax pmax
comp=Z,14nm,0.8s
LON Longmire 38.30 73 P **P** **06 27 30.8 -0.2**
F04A Amboy 38.36 75 P **P** **06 27 31.9 +0.5**
F04A IAmb IAmb 06 27 32.5
comp=Z,42nm,0.8s
I02D Swisshome 38.48 78 P **P** **06 27 33.2 +0.9**
baz=303
COR Corvallis 38.55 77 P **P** **06 27 33.9 +0.9**
COR pmax pmax
comp=Z,45nm,0.8s
COR Corvallis 38.55 77 P **P** **06 27 33.9 +0.9**
COR IAmb IAmb 06 27 35.0
comp=Z,45nm,0.8s
H04D Lebanon 38.92 77 P **P** **06 27 36.7 +0.6**
baz=303,SNR=16
TJN Taejon 38.93 267 *d* iP **P** **06 27 37.0 +0.7**

J01E Myrtle Point 38.95 80 P **P** **06 27 36.9 +0.6**
baz=304,SNR=6.4
JNU Nakatsue 38.95 260 P **P** **06 27 37.7 +1.2**
comp=Z,32nm,0.9s,baz=58,slow=6.1,SNR=21
JNU PcP **PcP** **06 29 44.1 -0.5**
comp=Z,6.6nm,0.8s,baz=12,slow=7.7,SNR=4.4
JNU Nakatsue 38.95 260 P **P** **06 27 36.1 -0.4**
JNU IAmb IAmb 06 27 38.8
comp=Z,53nm,1.0s
B08A Colville Reser 38.95 70 IAmb IAmb 06 27 37.0
comp=Z,29nm,0.8s
F05D White Salmon 38.96 74 P **P** **06 27 36.6 +0.1**
baz=302
I03D Drain, OR 39.00 79 P **P** **06 27 37.5 +0.7**
baz=304,SNR=12
H04A Detroit Lake 39.16 77 IAmb IAmb 06 27 39.5
comp=Z,48nm,0.8s
K02D Willamette Mer 39.37 80 P **P** **06 27 40.6 +0.6**
baz=305,SNR=11
G05D Wamic, OR 39.38 75 P **P** **06 27 40.2 +0.2**
baz=302,SNR=14
I04A Tendick Farm, 39.51 78 P **P** **06 27 41.6 +0.4**
baz=304
HAWA Hanford 39.83 73 IAmb IAmb 06 27 44.6
comp=Z,48nm,0.8s
C09A Chrisman Ranch 39.84 70 IAmb IAmb 06 27 44.1
comp=Z,30nm,0.8s
RES Resolute Bay 39.85 24 P **P** **06 27 43.5 +0.1**
RES pmax pmax
comp=Z,34nm,1.1s
RES Resolute Bay 39.85 24 P **P** **06 27 43.5 +0.1**
RES IAmb IAmb 06 28 16.0
comp=Z,34nm,1.1s
I05D Terrebonne, OR 39.86 76 P **P** **06 27 44.0 0.0**
baz=303,SNR=15
F07A Phinny Hill Vi 39.86 74 IAmb IAmb 06 27 45.0
comp=Z,47nm,0.8s
KRMB Red Mountain 39.89 82 P **P** **06 27 45.8 +1.4**
KRMB IAmb IAmb 06 27 46.7
comp=Z,127nm,1.7s
J04D Umpqua Nationa 40.01 78 P **P** **06 27 46.2 +0.8**
baz=304,SNR=17
NEW Newport 40.27 69 P **P** **06 27 46.5 -0.8**
baz=301,SNR=47
NEW Newport 40.27 69 P **P** **06 27 46.7 -0.7**
comp=Z,40nm,0.7s,baz=302,slow=6.9,SNR=80
NEW ScP **ScP** **06 33 24.8 -2.1**
comp=Z,2.2nm,0.6s,baz=124,slow=2.3,SNR=5.6
NEW Newport 40.27 69 P **P** **06 27 46.7 -0.7**
NEW IAmb IAmb 06 27 47.7
comp=Z,44nm,0.8s
KHMM Horse Mountain 40.38 82 P **P** **06 27 49.4 +1.0**
PINE Pine Mountain 40.40 77 P **P** **06 27 49.3 +0.7**
L04D Klamath Falls 40.47 80 P **P** **06 27 49.8 +0.7**
baz=305,SNR=35
YBH Yreka Blue Hor 40.50 81 P **P** **06 27 50.7 +1.3**
comp=Z,36nm,0.8s,baz=329,slow=5.2,SNR=127
YBH ScP **ScP** **06 33 26.8 -1.1**
comp=Z,1.7nm,0.7s,baz=338,slow=5.4,SNR=5.6
YBH LR LR 06 41 55.8
comp=Z,427nm,21.0s,baz=268,slow=32
YBH Yreka Blue Hor 40.50 81 P **P** **06 27 50.6 +1.3**
YBH pmax pmax
comp=Z,42nm,0.9s
YBH Yreka Blue Hor 40.50 81 P **P** **06 27 50.6 +1.3**
YBH IAmb IAmb 06 27 51.7
comp=Z,42nm,0.9s
J05D Fort Rock, OR 40.51 78 P **P** **06 27 50.3 +0.9**
baz=304,SNR=18
K04D Chiloquin, OR 40.57 79 P **P** **06 27 50.7 +0.8**
baz=305,SNR=8.1
E09A Wood Farm, Sta 40.59 72 IAmb IAmb 06 27 50.4
comp=Z,42nm,1.1s
M02C Callahan 40.61 81 P **P** **06 27 51.7 +1.4**
baz=306,SNR=23
KMRM Mail Ridge 40.78 83 P **P** **06 27 53.2 +1.5**
KMRM IAmb IAmb 06 27 54.5
comp=Z,61nm,0.8s
N02D Trinity Center 40.95 82 P **P** **06 27 54.4 +1.4**
baz=306,SNR=22
M04C Macdoel 41.00 80 P **P** **06 27 54.4 +0.8**
baz=306,SNR=22
K05A Summer Lake 41.03 78 IAmb IAmb 06 27 55.3
comp=Z,37nm,0.6s
I07A Izee 41.10 76 IAmb IAmb 06 27 55.3
comp=Z,38nm,0.8s
KCPM Cahto Peak 41.18 84 P **P** **06 27 56.7 +1.7**
KCPM IAmb IAmb 06 27 56.9
comp=Z,40nm,0.7s
WDC Whiskeytown Da 41.28 82 IAmb IAmb 06 27 57.7
comp=Z,35nm,0.9s
O02D Mt. Diablo Mer 41.37 83 P **P** **06 27 57.9 +1.4**
baz=307,SNR=16
MOD Modoc Plateau 41.87 79 P **P** **06 28 01.1 +0.5**
MOD IAmb IAmb 06 28 01.6
comp=Z,30nm,0.7s
O03E Paynes Creek 41.90 82 P **P** **06 28 01.1 +0.3**
baz=307,SNR=57
BMO Blue Mountains 41.98 73 IAmb IAmb 06 28 02.1
comp=Z,27nm,0.8s
JTMT Jette 42.17 68 IAmb IAmb 06 28 03.4
comp=Z,69nm,1.5s
ORV Oroville 42.54 82 IAmb IAmb 06 28 06.9
comp=Z,43nm,1.0s
MSO Missoula 42.86 69 P **P** **06 28 07.7 -0.9**
baz=303,SNR=37
MSO Missoula 42.86 69 P **P** **06 28 07.7 -0.9**
MSO IAmb IAmb 06 28 08.6
comp=Z,33nm,0.8s
NRIK Noril'sk 42.93 329 P **P** **06 28 09.4 +0.7**
comp=Z,12nm,0.8s,baz=74,slow=8.8,SNR=11
NRIK ScP **ScP** **06 33 36.8 -0.1**
comp=Z,5.7nm,0.8s,baz=36,slow=3.6,SNR=5.2
AFDM Forest Hills D 43.23 83 IAmb IAmb 06 28 13.0
comp=Z,47nm,1.3s
BJI Beijing 43.53 280 P **P** **06 28 15.0 +1.2**
BJI PcP **PcP** **06 29 59.8 +0.3**
BJI S **S** **06 34 30.1 -3.7**
BJI pmax pmax
comp=Z,29nm,1.0s
RUBR Rubicon Trail 43.67 82 IAmb IAmb 06 28 19.2
comp=Z,38nm,0.6s
VCNR Virginia City 43.83 81 P **P** **06 28 17.3 +0.8**
VCNR IAmb IAmb 06 28 18.3
comp=Z,75nm,1.2s
CMB Columbia Colle 44.16 83 P **P** **06 28 19.4 +0.4**
CMB pmax pmax
comp=Z,19nm,0.7s
CMB Columbia Colle 44.16 83 P **P** **06 28 19.4 +0.4**
TLY Talaya 44.22 301 P **P** **06 28 19.8 +0.5**
comp=Z,7.0nm,0.6s,baz=40,slow=6.2,SNR=9.6
TLY Talaya 44.22 301 *d* iP **P** **06 28 19.3 +0.1**
TLY pmax pmax
comp=Z,9.0nm,0.9s
TLY Talaya 44.22 301 P **P** **06 28 19.8 +0.5**
YERR Yerington 44.27 82 IAmb IAmb 06 28 21.7
comp=Z,64nm,1.2s
ULN Ulaanbaatar 44.39 294 P **P** **06 28 21.4 +0.5**
ULN pmax pmax
comp=Z,36nm,1.3s
ULN Ulaanbaatar 44.39 294 P **P** **06 28 21.4 +0.5**
HLID Hailey 44.42 73 P **P** **06 28 20.7 -0.5**
baz=306,SNR=53
WAKR Walker 44.45 82 IAmb IAmb 06 28 23.2
comp=Z,92nm,1.3s
DLMT Dillon 44.45 70 P **P** **06 28 19.7 -1.7**
EGMT Eagleton 44.59 65 P **P** **06 28 21.2 -1.2**
baz=303,SNR=34
EGMT Eagleton 44.59 65 IAmb IAmb 06 28 22.2
comp=Z,28nm,0.8s
SONM Songino Array 44.78 295 P **P** **06 28 24.6 +0.8**
comp=Z,12nm,0.6s,baz=58,slow=9.3,SNR=63
SONM PcP **PcP** **06 30 04.1 +0.2**
comp=Z,6.8nm,0.7s,baz=57,slow=2.3,SNR=7.6
SONM ScP **ScP** **06 33 44.5 -0.5**
comp=Z,9.2nm,0.8s,baz=58,slow=3.3,SNR=17
SONM Songino Array 44.78 295 P **P** **06 28 23.6 -0.3**
SONM 06 30 04.1
SONM pmax pmax
comp=Z,12nm,0.7s
SONM Songino Array 44.78 295 P **P** **06 28 23.6 -0.3**
BOZ Bozeman (W) 44.88 69 P **P** **06 28 23.8 -0.9**
baz=305,SNR=89
BOZ Bozeman (W) 44.88 69 IAmb IAmb 06 28 24.8
comp=Z,47nm,0.9s
KVN Kaiserville 44.92 81 IAmb IAmb 06 28 26.8
comp=Z,25nm,0.6s

RYN Ryan 44.93 81 IAmb IAmb 06 28 26.2
comp=Z,42nm,0.5s
PMPB Monarch Peak 45.07 86 IAmb IAmb 06 28 27.6
comp=Z,38nm,0.7s
ZAK Zakamensk 45.10 299 *e*P **P** **06 28 26.5 +0.1**
ZAK *e* 06 30 05.2
ZAK pmax pmax
comp=Z,13nm,1.2s
FFC Flin Flon 45.15 54 P **P** **06 28 25.6 -1.0**
FFC pmax pmax
comp=Z,11nm,0.8s
FFC Flin Flon 45.15 54 P **P** **06 28 25.6 -1.0**
NVAR Mina Array Bea 45.19 82 P **P** **06 28 27.9 +0.5**
comp=Z,21nm,0.5s,baz=294,slow=7.6,SNR=146
NVAR ScP **ScP** **06 33 46.0 -1.0**
comp=Z,2.6nm,0.7s,baz=299,slow=4.5,SNR=9.9
NVAR Mina Array Bea 45.19 82 P **P** **06 28 27.6 +0.3**
MDPB Devils Postpil 45.22 83 IAmb IAmb 06 28 29.5
comp=Z,48nm,0.8s
NV11 Mina Array Sit 45.28 81 IAmb IAmb 06 28 28.9
comp=Z,21nm,0.7s
OMMB Old Mammoth Mi 45.28 83 IAmb IAmb 06 28 30.2
comp=Z,62nm,1.3s
TIA Tai'an 45.36 275 P **P** **06 28 29.0 +0.6**
TIA pmax pmax
comp=Z,94nm,0.7s
ELK Elko 45.61 77 IAmb IAmb 06 28 31.6
comp=Z,24nm,0.7s
MOY Mondy 45.63 302 *e*P **P** **06 28 30.9 +0.4**
MOY pmax pmax
comp=Z,35nm,1.7s
PAGB Antelope Grade 45.72 86 P **P** **06 28 32.2 +0.9**
HHC Hu-ho-hao-te 45.83 284 *e*P **P** **06 28 33.4 +1.2**
HHC PP **PP** **06 30 18.9 -2.7**
HHC S **S** **06 35 01.1 -6.1**
HHC pmax pmax
comp=Z,23nm,1.1s
HHC pmax pmax
comp=Z,130nm,5.1s
VOG Valley Oaks Go 45.87 85 P **P** **06 28 32.9 +0.5**
baz=311,SNR=5.1
TIN Tinemaha, Big 46.11 83 P **P** **06 28 35.4 +0.9**
baz=310,SNR=15
H17A Grant Village 46.19 70 P **P** **06 28 35.6 +0.4**
baz=306,SNR=27
H17A Grant Village 46.19 70 P **P** **06 28 35.8 +0.6**
H17A IAmb IAmb 06 28 36.9
comp=Z,45nm,1.1s
FLWY Flagg Ranch 46.30 70 IAmb IAmb 06 28 36.9
comp=Z,32nm,0.7s
VES Vestal, Richgr 46.37 85 P **P** **06 28 36.5 +0.1**
baz=311,SNR=31
TPAW Teton Pass 46.50 71 P **P** **06 28 37.2 -0.5**
RLMT Red Lodge 46.52 68 P **P** **06 28 37.2 -0.5**
baz=306,SNR=30
PKM Mcpherson Peak 46.54 86 P **P** **06 28 38.7 +0.8**
baz=312,SNR=8.7
CWC Cottonwood Cre 46.59 83 P **P** **06 28 38.8 +0.4**
baz=311
GRAC Grapevine Rang 46.67 82 P **P** **06 28 39.4 +0.7**
baz=310,SNR=7.8
ISA Isabella, Lake 46.86 85 P **P** **06 28 40.0 -0.3**
baz=311,SNR=17
ISA Isabella, Lake 46.86 85 P **P** **06 28 40.0 -0.3**
ISA pmax pmax
comp=Z,15nm,0.6s
ISA Isabella, Lake 46.86 85 P **P** **06 28 40.0 -0.3**
R11A Troy Canyon, C 46.90 80 P **P** **06 28 40.5 -0.1**
baz=310,SNR=82
R11A Troy Canyon, C 46.90 80 IAmb IAmb 06 28 41.1
comp=Z,25nm,0.6s
SBC Santa Barbara 46.90 87 P **P** **06 28 41.2 +0.7**
baz=312
BTO Baotou 46.90 284 *e*P **P** **06 28 41.3 +0.7**
ARVC Arvin 46.99 85 P **P** **06 28 41.2 0.0**
baz=312
NJ2 Nanjing 47.06 269⇓ *i*P **P** **06 28 42.0 +0.2**
NJ2 pmax pmax
comp=Z,47nm,0.8s
MPMC Manual Prospec 47.20 83 P **P** **06 28 43.2 +0.1**
baz=311,SNR=39
SCZ2 Santa Cruz Isl 47.25 87 P **P** **06 28 43.3 +0.1**
baz=312
TIY Taiyuan 47.26 280 *e*P **P** **06 28 45.1 +1.7**
TIY pP **pP** **06 29 12.0 +1.6**
TIY pmax pmax
comp=Z,46nm,0.8s
KRAR Krasnoyarsk 47.32 310⇑ *i*P **P** **06 28 43.6 +0.2**
FURC Furnace Creek, 47.32 83 P **P** **06 28 44.1 +0.4**
baz=311,SNR=42
LAO LASA Array 47.33 65 P **P** **06 28 43.3 -0.5**
baz=306,SNR=18
LAO LASA Array 47.33 65 IAmb IAmb 06 28 44.4
comp=Z,34nm,1.0s
TPNV Topopah Spring 47.39 82 P **P** **06 28 44.9 +0.4**
baz=310,SNR=56
TPNV Topopah Spring 47.39 82 IAmb IAmb 06 28 45.8
comp=Z,61nm,0.9s
OSI Osito Audit: C 47.40 86 P **P** **06 28 44.7 +0.2**
baz=312
OSI Osito Audit: C 47.40 86 IAmb IAmb 06 28 45.9
comp=Z,40nm,0.7s
DUG Dugway, Tooele 47.41 76 P **P** **06 28 44.6 0.0**
baz=309,SNR=66
DUG Dugway, Tooele 47.41 76 IAmb IAmb 06 28 45.5
comp=Z,35nm,0.8s
DGMT Dagmar 47.41 62 P **P** **06 28 43.3 -1.1**
baz=305
LRMC Laurel Mtn Rad 47.47 84 P **P** **06 28 45.1 0.0**
baz=311,SNR=6.1
EDW2 Edwards Air Fo 47.67 85 P **P** **06 28 46.6 0.0**
baz=312,SNR=9.5
TCUT Toone Canyon 47.67 74 P **P** **06 28 46.4 -0.4**
BW06 Boulder Array 47.75 71 P **P** **06 28 46.5 -0.8**
baz=308,SNR=38
BW06 Boulder Array 47.75 71 IAmb IAmb 06 28 47.5
comp=Z,33nm,0.9s
PD31 Pinedale Array 47.75 71 IAmb IAmb 06 28 47.5
comp=Z,31nm,0.9s
PDAR Pinedale Array 47.75 71 P **P** **06 28 46.5 -0.9**
comp=Z,24nm,0.8s,baz=305,slow=4.1,SNR=202
PDAR ScP **ScP** **06 33 53.8 -3.9**
comp=Z,1.3nm,0.7s,baz=299,slow=1.5,SNR=6.5
PDAR Pinedale Array 47.75 71 P **P** **06 28 45.4 -1.9**
SNCC San Nicolas Is 47.82 88 P **P** **06 28 48.1 +0.4**
baz=313
DECC Green Verdugo 47.88 86 P **P** **06 28 48.6 +0.4**
baz=312,SNR=6.5
PATS Pohnpei 48.02 207 P **P** **06 28 49.7 +0.4**
PASC Pasadena Art C 48.02 86 IAmb IAmb 06 28 50.4
comp=Z,30nm,0.8s
SHOC Shoshone, Teco 48.05 83 P **P** **06 28 49.8 +0.4**
baz=311,SNR=44
MWC Mount Wilson 48.06 86 pP pP 06 29 19.6 +2.8
GSC Goldstone, Bar 48.12 84 P **P** **06 28 50.4 +0.3**
baz=312,SNR=76
FMP Fort Macarthur 48.26 86 P **P** **06 28 51.2 +0.2**
baz=312
RRX Edison Barstow 48.28 84 P **P** **06 28 51.6 +0.3**
baz=312
BFSC Mount Baldy Ra 48.30 85 P **P** **06 28 51.8 +0.3**
baz=312,SNR=18
CIS Catalina Islan 48.40 87 P **P** **06 28 52.0 -0.1**
baz=313
TUQ Turquoise Moun 48.57 83 P **P** **06 28 53.5 -0.1**
baz=312,SNR=10
SCI2 San Clemente I 48.60 87 P **P** **06 28 53.9 +0.3**
baz=313
HEC Hector,Ludlow 48.72 84 P **P** **06 28 54.9 +0.3**
baz=312,SNR=20
BBRC Big Bear Solar 48.74 85 P **P** **06 28 55.3 +0.3**
baz=312,SNR=20
MSU Marysvale 48.85 77 P **P** **06 28 55.7 -0.1**
MSU Marysvale 48.85 77 P **P** **06 28 55.7 -0.1**
MURC Murrieta 49.02 86 P **P** **06 28 57.1 +0.2**
baz=313,SNR=14
GMRC Granite Mounta 49.17 83 P **P** **06 28 58.1 0.0**
baz=312,SNR=48
Q16A Castle Valley 49.20 76 P **P** **06 28 58.2 -0.2**
PFO Pinyon Flats O 49.46 85 P **P** **06 29 00.3 0.0**
baz=313,SNR=9.9
PFO Pinyon Flats O 49.46 85 P **P** **06 29 00.4 0.0**
PFO pmax pmax
comp=Z,15nm,0.7s
PFO Pinyon Flats O 49.46 85 P **P** **06 29 00.4 0.0**
XPFO Pion Flat 49.46 85 P **P** **06 29 00.4 0.0**
BELC Belle Mtn. Jos 49.48 84 P **P** **06 29 00.2 -0.3**

baz=312,SNR=46
109C Camp Elliot, M 49.55 86 P P 06 29 01.4 +0.5
baz=313,SNR=9.1
109C Camp Elliot, M 49.55 86 IAmb IAmb 06 29 02.3
comp=Z,50nm,0.9s
109C pP 06 29 31.0 +3.0
SPA0 Spitsbergen Ar 49.56 355 P P 06 29 00.1 -0.3
SPA0 IAmb IAmb 06 29 34.0
comp=Z,39nm,1.1s
SPITS Spitsbergen Ar 49.56 355 P P 06 29 00.3 -0.1
comp=Z,8.2nm,0.4s,baz=51,slow=6.6,SNR=80
K22A Casper 49.59 69 P P 06 29 00.0 -1.2
baz=308,SNR=11
RWWY Rawlins 49.79 71 P P 06 29 01.6 -1.3
NEE2 Needles Airpor 49.81 83 P P 06 29 02.6 -0.2
baz=312,SNR=6.4
IRM Iron Mountain 49.90 84 P P 06 29 03.5 0.0
baz=312,SNR=42
BAR Barrett 49.96 86 IAmb IAmb 06 29 05.3
comp=Z,38nm,0.8s
MONP2 Monument Peak 49.97 86 P P 06 29 04.3 0.0
baz=313,SNR=17
W13A Hualapai Mount 50.04 82 IAmb IAmb 06 29 05.7
comp=Z,17nm,0.8s
BC3 Big Chuckawall 50.05 84 P P 06 29 04.3 -0.5
baz=313,SNR=22
RSSD Black Hills 50.10 66 P P 06 29 03.8 -1.3
baz=308
RSSD Black Hills 50.10 66 P P 06 29 03.9 -1.3
RSSD pmax pmax
comp=Z,9.0nm,0.7s
RSSD Black Hills 50.10 66 P P 06 29 03.9 -1.3
O20A White River Ci 50.17 73 P P 06 29 04.9 -0.8
baz=310,SNR=39
O20A White River Ci 50.17 73 P P 06 29 04.4 -1.3
O20A IAmb IAmb 06 29 05.8
comp=Z,30nm,0.8s
MDND Maddock 50.26 60 P P 06 29 05.5 -0.6
baz=307,SNR=22
SWSC Sam W. Stewart 50.32 85 P P 06 29 06.4 -0.3
baz=313
IKP In-Ko-Pah, Jac 50.33 86 P P 06 29 06.8 -0.1
baz=313,SNR=8.9
PDMCI Parker Dam,Lak 50.42 83 P P 06 29 07.2 -0.2
baz=312,SNR=10
E28A Huff 50.45 62 IAmb IAmb 06 29 07.8
comp=Z,34nm,1.1s
PV21 Cone Mtn., Par 50.74 75 P P 06 29 09.2 -0.9
PV21 IAmb IAmb 06 29 11.0
comp=Z,19nm,0.8s
ULM Lac du Bonnet 50.76 56 P P 06 29 08.9 -0.8
comp=Z,16nm,0.6s,baz=308,slow=8.2,SNR=15
ULM Lac du Bonnet 50.76 56 P P 06 29 09.0 -0.8
ULM Lac du Bonnet 50.76 56 IAmb IAmb 06 29 09.9
comp=Z,47nm,1.2s
GLA Glamis 50.84 84 P P 06 29 10.8 +0.1
baz=313
PV22 Blue Mesa, Par 50.87 75 P P 06 29 10.0 -1.0
PV22 IAmb IAmb 06 29 11.4
comp=Z,24nm,0.7s
WHN Wuhan 50.88 271 ⇓P P 06 29 10.9 0.0
PV20 West Nyswonger 50.89 75 IAmb IAmb 06 29 11.4
comp=Z,21nm,0.7s
PV04 Paradox Valley 50.89 75 IAmb IAmb 06 29 11.5
comp=Z,30nm,0.6s
PV19 Morning Glory 50.90 75 IAmb IAmb 06 29 11.5
comp=Z,25nm,0.6s
PV05 Paradox Valley 50.98 76 IAmb IAmb 06 29 12.6
comp=Z,62nm,1.3s
PV18 Skein Mesa, Pa 50.98 75 P P 06 29 10.8 -1.0
DAG Danmarks Havn 50.99 5 *i* P P 06 29 10.6 -0.5
DAG *i* 06 29 39.9
DAG Danmarks Havn 50.99 5 *i* P P 06 29 10.6 -0.5
DAG *i* 06 29 39.9
PV12 Saucer Basin, 51.00 75 IAmb IAmb 06 29 12.5
comp=Z,26nm,0.7s
NACB Ninganchiao 51.02 259 IAmb IAmb 06 29 12.9
comp=Z,58nm,1.1s
PV07 Paradox Valley 51.02 75 IAmb IAmb 06 29 12.4
comp=Z,17nm,0.8s
N23A Red Feather La 51.03 71 P P 06 29 11.5 -0.7
baz=310,SNR=12
N23A Red Feather La 51.03 71 IAmb IAmb 06 29 12.9
comp=Z,60nm,1.9s
PV15 Paradox Valley 51.18 75 P P 06 29 12.7 -0.7
PV15 IAmb IAmb 06 29 16.2
comp=Z,24nm,0.7s
PV01 Paradox Valley 51.26 75 IAmb IAmb 06 29 14.4
comp=Z,40nm,1.3s
WUAZ Wupatki 51.30 80 P P 06 29 14.5 +0.3
baz=312,SNR=16
WUAZ Wupatki 51.30 80 IAmb IAmb 06 29 15.0
comp=Z,22nm,0.6s
Y14A Wickenburg 51.36 82 IAmb IAmb 06 29 15.6
comp=Z,38nm,1.4s
113A Mohawk Valley, 51.69 84 pP pP 06 29 46.6 +2.3
SSLB Suanglung 51.69 260 P P 06 29 17.2 +0.1
YULB Yu-li 51.78 259 P P 06 29 17.2 -0.5
XAN Xi'an 51.83 278 P P 06 29 17.8 -0.2
XAN pmax pmax
comp=Z,36nm,1.2s
XAN Xi'an 51.83 278 IAmb IAmb 06 29 19.1
comp=Z,65nm,1.4s
MVCO Mesa Verde 51.91 76 P P 06 29 18.1 -0.7
baz=312,SNR=18
ISCO Idaho Springs 51.93 72 P P 06 29 18.7 -0.3
baz=311,SNR=20
AGMN Agassiz Nation 51.97 58 P P 06 29 17.8 -1.0
baz=309,SNR=28
AGMN Agassiz Nation 51.97 58 IAmb IAmb 06 29 18.8
comp=Z,44nm,1.1s
TPUB Ta-pu 52.25 260 P P 06 29 20.9 -0.3
ZALV Zalesovo Beam 52.29 312 P P 06 29 20.4 -0.7
comp=Z,2.0nm,0.3s,baz=52,slow=6.5,SNR=8.1
ZALV PcP PcP 06 30 31.1 +0.4
comp=Z,13nm,0.7s,baz=33,slow=3.7,SNR=15
ZALV ScP ScP 06 34 16.3 -0.4
comp=Z,4.6nm,0.8s,baz=44,slow=5.0,SNR=10
S22A 4UR Ranch, Cre 52.55 74 P P 06 29 23.8 +0.2
baz=312,SNR=32
S22A 4UR Ranch, Cre 52.55 74 IAmb IAmb 06 29 24.9
comp=Z,53nm,1.6s
W18A Petrified Fore 52.56 79 P P 06 29 23.6 +0.1
baz=312
SUSD Miller 52.74 63 P P 06 29 23.4 -1.2
baz=310
Q24A Divide 52.74 72 P P 06 29 24.7 -0.4
baz=311
214A Organ Pipe Nat 52.83 84 P P 06 29 25.3 -0.1
baz=314,SNR=17
214A Organ Pipe Nat 52.83 84 P P 06 29 25.1 -0.4
214A IAmb IAmb 06 29 26.5
comp=Z,34nm,1.1s
B35A Bob, Littlefor 53.03 57 IAmb IAmb 06 29 26.7
comp=Z,29nm,0.8s
SUMG Summit 53.05 13 *i* P P 06 29 27.0 +0.1
comp=Z,21nm,0.7s
SUMG *i* 06 29 59.8
SUMG Summit 53.05 13 *i* P P 06 29 27.0 +0.1
SUMG *i* 06 29 59.8
SUMG pmax pmax
comp=Z,21nm,0.7s
SUMG Summit 53.05 13 P P 06 29 27.7 +0.9
SUMG **pwP 06 29 56.9 -0.4**
SUMG IAmb IAmb 06 30 00.8
comp=Z,23nm,1.1s
SDCO Great Sand Dun 53.34 74 IAmb IAmb 06 29 30.4
comp=Z,28nm,1.2s
LZH Lanzhou 53.52 284 *e*P P 06 29 31.4 +0.8
LZH pP pP 06 29 57.4 -0.4
LZH sP sP 06 30 08.0 -2.6
LZH pmax pmax
comp=Z,28nm,1.1s
LZH pmax pmax
comp=Z,110nm,4.7s
BBP Basco 53.61 256 *e*P P 06 29 24.4 -6.7
GTA Gaotai 53.69 290 *e*P P 06 29 32.4 +0.6
GTA pmax pmax
comp=Z,56nm,1.0s
DGZ Jazzator, Alta 53.74 306 *d i*P P 06 29 32.3 +0.3
DGZ pmax pmax
comp=Z,18nm,1.1s
TUC Tucson 53.83 82 P P 06 29 32.9 +0.2
baz=314
TUC Tucson 53.83 82 P P 06 29 33.0 +0.2
TUC pmax pmax
comp=Z,31nm,1.2s
TUC Tucson 53.83 82 P P 06 29 33.0 +0.2
TUC IAmb IAmb 06 29 34.1
comp=Z,31nm,1.2s
K31A O'Neill 54.02 65 IAmb IAmb 06 29 34.2
comp=Z,43nm,1.1s
ENH Enshi 54.07 275 IAmb IAmb 06 29 35.2
comp=Z,34nm,0.8s
KSCO Kaye Shedlock' 54.19 71 P P 06 29 35.3 -0.1
baz=312,SNR=9.3
KSCO Kaye Shedlock' 54.19 71 P P 06 29 35.0 -0.4
T25A Trinidad 54.39 73 P P 06 29 36.8 -0.2
baz=312,SNR=36
T25A Trinidad 54.39 73 IAmb IAmb 06 29 38.1
comp=Z,55nm,1.2s
EYMN Ely 54.44 56 P P 06 29 36.2 -0.8
baz=311,SNR=30
EYMN Ely 54.44 56 IAmb IAmb 06 29 37.3
comp=Z,36nm,0.9s
ECSD EROS Data Cent 54.48 63 P P 06 29 35.5 -1.7
baz=311,SNR=15
ANMO Albuquerque 54.65 77 P P 06 29 38.7 -0.1
baz=313
ANMO Albuquerque 54.65 77 P P 06 29 38.6 -0.3
ANMO pmax pmax
comp=Z,12nm,1.2s
ANMO Albuquerque 54.65 77 P P 06 29 38.6 -0.3
Y22D IRIS PASSCAL I 54.97 78 P P 06 29 41.7 +0.6
baz=314
BNM Barrow Site 55.09 78 P P 06 29 41.9 -0.2
BGNE Belgrade 55.16 66 P P 06 29 41.2 -1.0
baz=312,SNR=5.3
E38A The Farm, Brul 55.29 57 pP 06 30 11.8 +1.4
121A Cookes Peak, D 55.51 80 P P 06 29 45.2 +0.2
baz=314,SNR=14
121A Cookes Peak, D 55.51 80 IAmb IAmb 06 29 46.2
comp=Z,14nm,0.7s
SPMN Marine on St. 55.55 59 P P 06 29 44.1 -0.8
baz=312,SNR=14
SPMN Marine on St. 55.55 59 IAmb IAmb 06 29 45.4
comp=Z,46nm,1.3s
CBKS Cedar Bluff 55.99 69 P P 06 29 47.8 -0.5
baz=313,SNR=21
CBKS Cedar Bluff 55.99 69 P P 06 29 47.7 -0.5
CBKS pmax pmax
comp=Z,48nm,0.8s
CBKS Cedar Bluff 55.99 69 P P 06 29 47.7 -0.5
APYP Conner 56.03 255 *e*P P 06 29 47.4 -1.2
CAUP Cauayan 56.40 254 *e*P P 06 29 52.4 +1.1
ZSN Zaisan 56.50 306 ⇓*e*P P 06 29 52.1 +0.4
comp=Z,10nm,1.4s,baz=306
ZSN *e*S S 06 37 34.8 +1.1
baz=306
ZSN Zaisan 56.50 306 *de*P P 06 29 52.1 +0.4
ZSN *e*S S 06 37 34.8 +1.1
ZSN pmax pmax
comp=Z,10.0nm,1.4s
ABRA Dolores 56.51 255 *e*P P 06 29 51.3 -0.7
D41A Chassel 56.52 55 IAmb IAmb 06 29 52.7
comp=Z,51nm,1.2s
SEM Semipalatinsk 56.73 311 *i* P P 06 29 52.6 -1.0
comp=Z,3.0nm,0.6s,baz=311
SEM Semipalatinsk 56.73 311 *i* P P 06 29 52.5 -1.0
SEM pmax pmax
comp=Z,3.0nm,0.6s
COWI Conover 56.88 56 P P 06 29 53.5 -0.8
COWI IAmb IAmb 06 29 54.5
comp=Z,23nm,1.0s
G40A Rib Lake 56.89 57 IAmb IAmb 06 29 54.8
comp=Z,28nm,1.1s
ARCES ARCESS Array B 57.11 349 P P 06 29 55.8 +0.2
comp=Z,4.7nm,0.8s,baz=23,slow=7.5,SNR=13
CD2 Chengdu 57.13 279 ⇓*i*P P 06 29 56.5 +0.1
CD2 pmax pmax
comp=Z,40nm,0.7s
KURK Kurchatov 57.28 312 *d i*P P 06 29 56.9 -0.1
KURK *i* *PP **pP** 06 30 23.6 -0.5
KURK pmax pmax
comp=Z,70nm,1.4s
KURK Kurchatov 57.28 312 P P 06 29 56.7 -0.3
K38A Parkersburg 57.30 61 IAmb IAmb 06 29 57.4
comp=Z,63nm,1.4s
LVZ Lovozero 57.34 345 ⇑*e*P P 06 29 56.6 -0.7
LVZ pmax pmax
comp=Z,24nm,0.8s
WMQ Urumqi 57.50 301 *e*P P 06 29 59.8 +1.0
WMQ PcP **PcP** 06 30 53.3 +2.2
WMQ pmax pmax
comp=Z,25nm,0.7s
MSTX Muleshoe 57.53 75 P P 06 29 58.7 -0.6
baz=314,SNR=16
MSTX Muleshoe 57.53 75 IAmb IAmb 06 29 59.9
comp=Z,18nm,0.8s
MNTX Cornudas Mount 57.54 79 P P 06 29 59.3 +0.1
baz=315,SNR=48
MNTX Cornudas Mount 57.54 79 IAmb IAmb 06 30 00.4
comp=Z,22nm,0.8s
AMTX Amarillo 57.55 74 P P 06 29 58.9 -0.4
baz=314
AMTX Amarillo 57.55 74 IAmb IAmb 06 29 59.5
comp=Z,18nm,0.6s
SCIA State Center 57.56 62 P P 06 29 58.4 -0.8
baz=313,SNR=8.0
KSU1 Kansas State U 57.59 67 P P 06 29 58.0 -1.5
baz=313,SNR=6.3
KSU1 Kansas State U 57.59 67 IAmb IAmb 06 29 59.0
comp=Z,38nm,1.1s
PVCP Virac 57.68 249 *e*P P 06 30 01.4 +1.1
SMPP San Manuel, Pa 57.70 254 *e*P P 06 29 59.8 -0.6
E43A Lone Tree Farm 57.78 55 P P 06 30 00.1 -0.6
POLP Polilio Island 58.07 252 *e*P P 06 30 03.4 +0.4
MKAR Makanchi Array 58.24 307 P P 06 30 03.4 -0.5
comp=Z,14nm,0.6s,baz=49,slow=6.5,SNR=121
MKAR LR LR 06 57 56.9
comp=Z,286nm,20.3s,baz=36,slow=39
MAKZ Makanchi 58.38 307 P P 06 30 04.3 -0.6
MAKZ pmax pmax
comp=Z,18nm,0.6s
MAKZ Makanchi 58.38 307 P P 06 30 04.3 -0.6
MAKZ IAmb IAmb 06 30 05.3
comp=Z,18nm,0.6s
JFWS Jewell Farm 58.47 60 P P 06 30 04.1 -1.4
baz=314,SNR=22
JFWS Jewell Farm 58.47 60 P P 06 30 03.9 -1.6
JFWS pmax pmax
comp=Z,91nm,1.4s
JFWS Jewell Farm 58.47 60 P P 06 30 03.9 -1.6
GYA Guiyang 58.53 274 ⇑P P 06 30 06.3 0.0
GYA pmax pmax
comp=Z,22nm,0.9s
D46A Sault St. Mari 58.89 53 P P 06 30 08.0 -0.4
baz=314,SNR=26
P38A Dawn 58.96 64 IAmb IAmb 06 30 08.5
comp=Z,42nm,1.1s
F45A CMU Biological 59.00 54 P P 06 30 08.7 -0.5
baz=314,SNR=6.9
BOAC Boac 59.13 251 *e*P P 06 30 11.1 +0.7
T35A Sooner Cattle 59.15 68 IAmb IAmb 06 30 10.7
comp=Z,32nm,1.3s
D47A Chapleau 59.23 52 P P 06 30 10.2 -0.6
baz=315,SNR=49
BRVK Borovoye 59.25 318 *d i*P P 06 30 11.2 +0.5
BRVK pmax pmax
comp=Z,26nm,0.6s
BRVK Borovoye 59.25 318 P P 06 30 11.0 +0.3
WMOK Wichita Mounta 59.35 72 P P 06 30 11.3 -0.5
baz=315,SNR=30
WMOK Wichita Mounta 59.35 72 IAmb IAmb 06 30 11.9
comp=Z,14nm,0.7s
G45A Suttons Bay 59.38 55 P P 06 30 10.9 -0.8
baz=315,SNR=18
L42A Oliver, Polo 59.41 60 IAmb IAmb 06 30 11.6
comp=Z,40nm,1.2s
H45A Beulah 59.47 56 P P 06 30 11.7 -0.7
baz=315,SNR=5.6
E47A Iron Bridge 59.57 53 P P 06 30 12.5 -0.5
baz=315
G46A Petoskey 59.58 54 P P 06 30 12.8 -0.3
baz=315,SNR=18
N41A Harden Midland 59.68 62 P P 06 30 12.5 -1.3
D48A Paudash Townsh 59.77 51 P P 06 30 13.6 -0.8
baz=315,SNR=12
I45A Fountain 59.79 56 P P 06 30 13.9 -0.6
baz=315
OTRP Odiongan 59.91 250 *e*P P 06 30 16.1 +0.4
D49A Beulah Townshi 59.92 51 P P 06 30 14.7 -0.8
baz=316,SNR=6.8
H46A Fife Lake 59.96 55 P P 06 30 15.3 -0.4
baz=315,SNR=18
SVE Sverdlovsk 60.07 326 ⇑*e*P P 06 30 17.7 +1.4
SVE pmax pmax
comp=Z,63nm,1.4s
MSLP Maasin 60.08 246 *e*P P 06 30 16.2 -0.6
TMCR Tamitsa 60.08 341 *e*P P 06 30 15.5 -0.7
TMCR pmax pmax
comp=Z,18nm,0.4s
E48A Lockeyer 60.09 52 P P 06 30 16.0 -0.6
baz=316,SNR=28
J45A Montague 60.13 57 P P 06 30 16.0 -0.9
baz=315
W35A Tecumseh 60.18 70 P P 06 30 16.7 -0.7
G47A Hillman 60.19 54 P P 06 30 16.8 -0.5
baz=315,SNR=7.1
L44A Lake County Fo 60.22 59 P P 06 30 16.6 -1.0
baz=315,SNR=9.1
L44A Lake County Fo 60.22 59 pP 06 30 46.4 +1.1
I46A Reed City 60.26 56 P P 06 30 17.3 -0.5
baz=315,SNR=9.2
TX32 Lajitas Array 60.26 80 IAmb IAmb 06 30 18.5
comp=Z,20nm,0.6s
TXAR Lajitas Array 60.26 80 P P 06 30 18.0 -0.2
comp=Z,19nm,0.7s,baz=301,slow=4.8,SNR=213
TXAR ScP **ScP** 06 34 50.8 -1.5
comp=Z,2.1nm,0.7s,baz=279,slow=2.8,SNR=8.2
TXAR Lajitas Array 60.26 80 P P 06 30 17.0 -1.1
TXAR Lajitas Array 60.26 80 P P 06 30 17.0 -1.1
TUL1 Leonard 60.27 69 P P 06 30 17.0 -1.0
baz=315,SNR=8.1
TUL1 Leonard 60.27 69 IAmb IAmb 06 30 18.1
comp=Z,21nm,0.9s
ABTX Abilene, Hawle 60.34 74 P P 06 30 18.2 -0.3
baz=315,SNR=24
ABTX Abilene, Hawle 60.34 74 IAmb IAmb 06 30 19.4
comp=Z,46nm,1.1s
F48A Evansville 60.34 53 P P 06 30 17.9 -0.3
baz=316,SNR=41
H47A Mio 60.42 55 P P 06 30 18.5 -0.4
baz=315,SNR=6.6
BRZS Berezniki 60.48 314 ⇓*i*P P 06 30 19.2 -0.1
comp=Z,15nm,1.1s,baz=314
BRZS Berezniki 60.48 314 *d i*P P 06 30 19.1 -0.1
BRZS pmax pmax
comp=Z,15nm,1.1s
SLBS Sierra La Lagu 60.51 89 P P 06 30 20.2 +0.4
SLBS IAmb IAmb 06 30 21.6
comp=Z,44nm,1.1s
SCHQ Schefferville 60.53 37 P P 06 30 19.5 0.0
comp=Z,16nm,0.7s,baz=334,slow=6.8,SNR=27
SCHQ Schefferville 60.53 37 P P 06 30 19.4 0.0
SCHQ IAmb IAmb 06 30 20.4
comp=Z,37nm,1.1s
HDIL Hopedale 60.63 61 P P 06 30 19.3 -1.0
baz=315,SNR=8.4
F49A Sandfield 60.66 52 P P 06 30 20.1 -0.4
baz=316,SNR=30
LSQQ Lebel-sur-Quev 60.67 47 P P 06 30 19.1 -1.4
baz=317
I47A Gladwin 60.68 55 P P 06 30 20.1 -0.5
baz=316,SNR=5.9
I47A Gladwin 60.68 55 IAmb IAmb 06 30 21.5
comp=Z,44nm,1.3s
D50A G1974 Best Tow 60.72 50 P P 06 30 19.8 -1.1
baz=316,SNR=26
HPIG 60.77 83 P P 06 30 21.2 -0.5
E50A Wahnapitae 60.82 51 P P 06 30 20.7 -0.8
baz=316
D51A Lot 18 Range I 60.99 50 P P 06 30 21.5 -1.2
baz=316,SNR=21
ARU Arti 61.09 327 *d i*P P 06 30 23.2 0.0
ARU 06 31 04.1
ARU 06 32 37.8
ARU S S 06 38 35.0 +2.3
ARU SS SS 06 42 30.9 -2.4
ARU pmax pmax
comp=Z,110nm,1.3s
ARU Arti 61.09 327 P P 06 30 24.0 +0.8
CHGQ Chibougamau 61.19 45 P P 06 30 22.7 -1.3
baz=318,SNR=49
BUSP Coron 61.25 252 *e*P P 06 30 24.5 -0.3
CCM Cathedral Cave 61.33 64 P P 06 30 23.1 -2.0
baz=315
E51A G1948 Merrick 61.34 50 P P 06 30 24.0 -1.1
baz=317,SNR=30
O44A Mansfield 61.36 61 IAmb IAmb 06 30 24.9
comp=Z,21nm,0.5s
TDK Taldyqorghan 61.42 307 *i* P P 06 30 26.0 +0.3
comp=Z,20nm,0.6s,baz=307
TDK Taldyqorghan 61.42 307 *i* P P 06 30 25.9 +0.3
TDK pmax pmax
comp=Z,20nm,0.6s
X37A Clayton 61.45 70 IAmb IAmb 06 30 26.5
comp=Z,22nm,1.1s
D52A ZEK Kipawa Sen 61.53 49 P P 06 30 25.1 -1.2
baz=317,SNR=20
J48A Bridge Port 61.56 55 P P 06 30 25.7 -0.9
baz=316
J48A Bridge Port 61.56 55 P P 06 30 26.0 -0.6
F51A Arnstein 61.58 51 P P 06 30 25.6 -1.1
baz=317,SNR=9.5
I49A Point Hope 61.59 54 P P 06 30 26.3 -0.5
baz=316
I49A Point Hope 61.59 54 IAmb IAmb 06 30 27.6
comp=Z,26nm,0.9s
U40A Yellville 61.63 67 P P 06 30 25.4 -1.8
baz=316,SNR=26
CUYO Cuyo Island 61.70 250 *e*P P 06 30 27.7 -0.2
JCT Junction City 61.77 76 P P 06 30 27.4 -0.9
baz=316,SNR=7.3
JCT Junction City 61.77 76 IAmb IAmb 06 30 29.1
comp=Z,16nm,0.8s
D53A Lac Vacive, Po 61.78 49 P P 06 30 26.8 -1.2
baz=317,SNR=26
BUKP Musuan 61.81 244 *e*P P 06 30 28.4 -0.2
J49A Marlette 61.85 55 P P 06 30 28.0 -0.5
baz=316
KMI Kunming 61.91 275 ⇑*e*P P 06 30 29.9 +0.4
KMI pmax pmax
comp=Z,15nm,0.6s
KMI pmax pmax
comp=Z,290nm,13.0s
KMI LR LR
comp=Z,180nm,12.6s
KMI LR LR
comp=Z,140nm,10.3s
KMI LR LR
comp=Z,190nm,14.0s
E52A Mattawa 61.92 50 P P 06 30 27.5 -1.4
baz=317,SNR=22
MATI Mati 61.92 243 *e*P P 06 30 27.4 -1.9
W39A Magazine 61.93 68 P P 06 30 28.2 -0.9
baz=316,SNR=16
SFIN Lafayette 61.93 60 P P 06 30 28.4 -0.7
baz=316,SNR=45
SFIN Lafayette 61.93 60 P P 06 30 28.5 -0.7
Q44A Meyer Farm, Va 61.95 62 IAmb IAmb 06 30 29.2
comp=Z,44nm,1.6s
F52A Sundridge 61.96 51 P P 06 30 28.4 -0.8
baz=317,SNR=27
QIZ Qiongzhong 62.06 265 P P 06 30 31.3 +1.1
QIZ S S 06 38 47.3 +1.4
QIZ pmax pmax
comp=Z,31nm,1.1s
QIZ LR LR
comp=Z,260nm,16.2s
QIZ LR LR
comp=Z,260nm,13.2s
WHTX Lake Whitney, 62.08 73 P P 06 30 29.9 -0.3
baz=316,SNR=28
K49A Clarkson 62.10 56 P P 06 30 30.1 -0.1
baz=316,SNR=13
KIRV Kirov 62.19 333 *i* P P 06 30 31.6 +1.1
L48A N Adams 62.21 57 IAmb IAmb 06 30 31.2
comp=Z,41nm,1.2s
D54A Lac Fusel, La 62.21 48 P P 06 30 29.5 -1.4
baz=318,SNR=13
SHLS Shalkode 62.23 305 ⇓*i*P P 06 30 30.0 -1.3
comp=Z,18nm,0.6s,baz=305
SHLS Shalkode 62.23 305 *d i*P P 06 30 29.9 -1.3
SHLS pmax pmax
comp=Z,18nm,0.6s
E53A Dumoine, Ponti 62.31 49 P P 06 30 30.3 -1.3
baz=318,SNR=22
ENPP El Nido 62.34 252 *e*P P 06 30 30.4 -1.8
AAM Ann Arbor 62.35 56 P P 06 30 30.9 -0.9

baz=316
FCAR Ozark Folk Cen 62.38 66 P **P** 06 30 30.8 -1.4
KPKS Kokpek 62.40 306 *i* P **P** 06 30 32.6 +0.2
comp=Z,18nm,0.8s,baz=306
KPKS *e*S **S** 06 38 51.0 +1.2
baz=306
KPKS Kokpek 62.40 306 *i* P **P** 06 30 32.5 +0.2
KPKS *e*S **S** 06 38 50.9 +1.2
KPKS pmax pmax
comp=Z,18nm,0.8s
P46A Rosedale 62.42 60 IAmb IAmb 06 30 32.0
comp=Z,23nm,0.6s
ALGO Algonquin Park 62.45 50 P **P** 06 30 31.2 -1.3
baz=318
UZB Uzynbulak 62.46 305 *i* P **P** 06 30 32.9 +0.1
comp=Z,17nm,1.5s,baz=306
UZB Uzynbulak 62.46 305 *i* P **P** 06 30 32.9 +0.1
UZB pmax pmax
comp=Z,17nm,1.5s
E54A Lac Daplat, Po 62.50 49 P **P** 06 30 31.2 -1.6
baz=318,SNR=29
KCP Kidapawan 62.51 244⇓ *i* P **P** 06 30 33.8 +0.4
MIAR Mount Ida 62.51 68 P **P** 06 30 32.3 -0.7
baz=316,SNR=34
H52A Wyevale 62.53 52 P **P** 06 30 32.3 -0.7
baz=317,SNR=12
K50A Casco 62.53 55 P **P** 06 30 32.4 -0.7
baz=317
OLIL Olney 62.57 62 IAmb IAmb 06 30 32.9
comp=Z,24nm,0.6s
I51A Listowel 62.58 53 P **P** 06 30 33.5 +0.1
baz=317,SNR=18
S44A Carbondale 62.69 63 IAmb IAmb 06 30 35.3
comp=Z,10.0nm,0.5s
PBMO Poplar Bluff 62.69 65 P **P** 06 30 32.8 -1.4
PBMO IAmb IAmb 06 30 33.2
comp=Z,24nm,0.5s
WHAR Woody Hollow 62.72 67 IAmb IAmb 06 30 34.1
comp=Z,46nm,1.4s
KLMR Klimovskoe 62.73 339 *e*P **P** 06 30 33.9 -0.2
KLMR *e**SP **pwP** 06 31 06.7 +1.5
KLMR pmax pmax
comp=Z,20nm,1.2s
KLMR Klimovskoe 62.73 339 *e*P **P** 06 30 33.9 -0.2
KLMR AMP 06 30 35.6
comp=Z,20nm,1.2s
KLMR *e*sP **pwP** 06 31 06.8 +1.5
PAGZ Pagadian 62.78 246 *e*P **P** 06 30 33.1 -1.9
G53A Haliburton 62.78 51 P **P** 06 30 34.2 -0.5
baz=318,SNR=60
SADO Sadowa 62.80 51 pP pP 06 31 05.2 +2.4
W41B Gary Mavity, V 62.82 67 P **P** 06 30 33.7 -1.4
baz=316,SNR=24
W41B Gary Mavity, V 62.82 67 IAmb IAmb 06 30 34.3
comp=Z,18nm,0.6s
SATY Saty 62.83 306⇓ *i* P **P** 06 30 35.7 +0.5
comp=Z,17nm,1.4s,baz=306
SATY *e*S **S** 06 38 56.3 +1.0
baz=306
SATY Saty 62.83 306 *d i* P **P** 06 30 35.7 +0.5
SATY *e*S **S** 06 38 56.2 +1.0
SATY pmax pmax
comp=Z,17nm,1.4s
G54A Lake Saint Pet 62.84 50 P **P** 06 30 33.9 -1.2
baz=318,SNR=12
D55A Sainte-Anne-du 62.85 48 P **P** 06 30 33.9 -1.2
baz=318,SNR=45
435B Jarrell 62.88 74 P **P** 06 30 35.5 0.0
baz=316,SNR=5.5
DDMP Don Marcelino, 62.91 243 *e*P **P** 06 30 34.8 -1.1
CHKK Chushkaly 62.95 307⇓ *e*P **P** 06 30 35.2 -0.8
baz=307
CHKK Chushkaly 62.95 307⇓ *e*P **P** 06 30 35.1 -0.8
X40A Basin Creek Fa 62.98 68 P **P** 06 30 35.0 -1.1
baz=316,SNR=7.7
JAY Jayapura 63.01 223 P **P** 06 30 36.9 +0.3
comp=Z,21nm,0.9s,baz=348,slow=2.0,SNR=9.0
JAY Jayapura 63.01 223 P **P** 06 30 37.2 +0.6
comp=Z,724nmcomp=Z,20nm,1.1s
N49A Columbus Grove 63.08 57 P **P** 06 30 35.9 -0.8
N49A IAmb IAmb 06 30 36.8
comp=Z,53nm,1.3s
BLO Bloomington 63.11 60 IAmb IAmb 06 30 36.4
comp=Z,15nm,0.6s
D56A ZEC Mazanza, M 63.16 47 P **P** 06 30 35.8 -1.4
baz=319,SNR=26
H53A Bobcaygeon 63.21 51 P **P** 06 30 36.8 -0.8
baz=318,SNR=16
SKMP Bagumbayan, Su 63.22 244 *e*P **P** 06 30 37.4 -0.5
KUU Kurty 63.24 308 *e*P **P** 06 30 37.1 -0.8
comp=Z,13nm,1.1s,baz=308
KUU *e*S **S** 06 39 00.1 0.0
baz=308
KUU Kurty 63.24 308 *e*P **P** 06 30 37.0 -0.8
KUU *e*S **S** 06 39 00.1 0.0
KUU pmax pmax
comp=Z,13nm,1.1s
J52A Paris 63.27 53 P **P** 06 30 37.1 -0.8
baz=317,SNR=7.3
I53A Kortright Cn E 63.27 52 P **P** 06 30 37.4 -0.6
baz=318
F55A Otter Lake 63.33 49 P **P** 06 30 36.8 -1.6
baz=318,SNR=8.7
USIN University of 63.36 62 P **P** 06 30 38.1 -0.6
WLAR White Oak Lake 63.40 69 IAmb IAmb 06 30 39.5
comp=Z,60nm,1.3s
SMPI Sarmi 63.40 226 P **P** 06 30 39.7 +0.6
E56A St. Veronique 63.41 48 P **P** 06 30 37.4 -1.4
baz=319,SNR=20
MDOK Medeo 63.43 307 *i* P **P** 06 30 39.5 +0.3
baz=307
MDOK Medeo 63.43 307 *i* P **P** 06 30 39.5 +0.3
AAA Alma-Ata 63.46 307 *e*P **P** 06 30 39.8 +0.4
comp=Z,17nm,0.5s,baz=307
AAA Alma-Ata 63.46 307 *e*P **P** 06 30 39.7 +0.4
AAA pmax pmax
comp=Z,17nm,0.5s
K52A Tillsonburg 63.49 54 P **P** 06 30 39.0 -0.4
baz=318
BTLS Baital 63.50 310⇓ *i* P **P** 06 30 39.6 +0.2
comp=Z,11nm,1.1s,baz=310
BTLS Baital 63.50 310 *d i* P **P** 06 30 39.6 +0.2
BTLS pmax pmax
comp=Z,11nm,1.1s
D57A Chemin Vers le 63.57 47 P **P** 06 30 38.4 -1.5
baz=319,SNR=16
833A Chaparral WMA, 63.57 77 P **P** 06 30 39.9 -0.3
baz=317
PLVO Plevna 63.58 50 P **P** 06 30 38.9 -1.1
G55A Calabogie 63.59 50 P **P** 06 30 38.7 -1.3
baz=318,SNR=18
DELO Deloro Mine 63.71 51 IAmb IAmb 06 30 41.6
comp=Z,36nm,1.2s
MTBS Maitube 63.76 307⇓ *i* P **P** 06 30 41.6 +0.2
baz=307
MTBS Maitube 63.76 307⇓ *i* P **P** 06 30 41.5 +0.2
LATQ La Tuque 63.79 46 P **P** 06 30 40.0 -1.3
baz=319,SNR=22
P49A Miami Univ. Ec 63.80 59 P **P** 06 30 40.1 -1.5
baz=317,SNR=6.8
TRQ Mont Tremblant 63.87 48 P **P** 06 30 40.5 -1.4
Z41A Richland Creek 63.89 69 P **P** 06 30 41.3 -0.9
baz=317
NATX Nacogdoches 63.89 71 P **P** 06 30 42.1 -0.2
baz=317
NATX Nacogdoches 63.89 71 IAmb IAmb 06 30 42.5
comp=Z,24nm,0.5s
H55A Tweed 63.90 50 P **P** 06 30 41.1 -0.9
baz=318,SNR=14
I55A Frankford 63.91 51 P **P** 06 30 41.3 -0.8
baz=318,SNR=12
E57A Chemin Saint G 63.91 47 P **P** 06 30 40.7 -1.5
baz=319,SNR=30
WCI Wyandotte Cave 63.91 61 P **P** 06 30 41.3 -0.9
baz=317
WCI Wyandotte Cave 63.91 61 P **P** 06 30 41.6 -0.7
WCI pmax pmax
comp=Z,22nm,1.2s
WCI Wyandotte Cave 63.91 61 P **P** 06 30 41.6 -0.7
D58A Chemin du LacG 63.96 46 P **P** 06 30 41.0 -1.5
baz=320,SNR=29
SLVN Son La 64.00 272 pP pP 06 31 12.1 +0.5
ORIO Orleans, Innes 64.01 49 P **P** 06 30 41.0 -1.7
baz=319,SNR=11
N51A Ashland 64.01 56 P **P** 06 30 41.6 -1.3
baz=317,SNR=5.7
N51A Ashland 64.01 56 IAmb IAmb 06 30 42.9
comp=Z,22nm,0.9s
X43A Marvell 64.07 67 P **P** 06 30 42.4 -1.0
baz=317
M52A Chesterland 64.08 55 P **P** 06 30 42.4 -0.9
baz=318
F57A Harrington 64.11 48 P **P** 06 30 42.5 -1.0
baz=319
KDJ Kajisay 64.13 306 IAmb IAmb 06 30 44.9
comp=Z,25nm,0.6s
J54A Appleton 64.15 52 P **P** 06 30 43.2 -0.5
baz=318,SNR=5.9
J54A Appleton 64.15 52 P **P** 06 30 43.5 -0.2
J54A IAmb IAmb 06 30 44.3
comp=Z,46nm,1.1s
ACSO Alum Creek Sta 64.20 57 P **P** 06 30 43.1 -1.1
baz=317
H56A Elgin 64.30 50 P **P** 06 30 43.5 -1.2
baz=319,SNR=8.1
L53A Girard 64.32 54 P **P** 06 30 44.4 -0.5
baz=318
TKM2 Tokmak 2 64.33 307 P **P** 06 30 45.8 +0.6
SNR=14
E58A La Victoria 64.33 47 P **P** 06 30 43.4 -1.5
baz=320,SNR=15
ERPA Erie 64.34 54 P **P** 06 30 44.4 -0.6
baz=318
SGDS Sogindy 64.40 308⇓ *i* P **P** 06 30 46.1 +0.6
comp=Z,18nm,1.6s,baz=308
SGDS Sogindy 64.40 308 *d i* P **P** 06 30 46.0 +0.6
SGDS pmax pmax
comp=Z,18nm,1.6s
PECO Prince Edward 64.45 51 IAmb IAmb 06 30 46.4
comp=Z,27nm,0.9s
PECO pP 06 31 15.6 +1.9
O51A Pataskala 64.46 57 P **P** 06 30 44.9 -1.0
baz=318,SNR=14
BOOM Boonsboye usch 64.48 307 IAmb IAmb 06 30 47.5
comp=Z,18nm,0.7s
D59A Saint-Raymond 64.49 46 P **P** 06 30 44.8 -1.0
baz=320,SNR=9.3
M53A WI Miller and 64.49 55 P **P** 06 30 45.2 -0.8
baz=318
G57A Newington 64.52 49 P **P** 06 30 44.3 -1.8
baz=319,SNR=6.0
HKT Hockley 64.52 74 P **P** 06 30 46.2 0.0
HKT pmax pmax
comp=Z,47nm,1.8s
HKT Hockley 64.52 74 P **P** 06 30 46.2 0.0
HKT IAmb IAmb 06 30 47.7
comp=Z,47nm,1.8s
J55A Hilton 64.55 52 P **P** 06 30 45.7 -0.6
baz=318,SNR=7.2
J55A Hilton 64.55 52 IAmb IAmb 06 30 46.7
comp=Z,47nm,1.1s
W45A Hickory Valley 64.56 65 IAmb IAmb 06 30 46.3
comp=Z,20nm,0.7s
L54A Sinclairville, 64.58 53 P **P** 06 30 46.0 -0.6
baz=318,SNR=12
E59A St. Maurice 64.60 46 P **P** 06 30 45.8 -0.7
baz=320
USP Ospenovka 64.60 308 P **P** 06 30 47.6 +0.9
SNR=29
ALLY Alegheny Colle 64.61 54 IAmb IAmb 06 30 47.3
comp=Z,49nm,1.0s
WVT Waverly 64.61 63 P **P** 06 30 45.9 -0.9
baz=317
WVT Waverly 64.61 63 P **P** 06 30 45.9 -0.9
WVT Waverly 64.61 63 P **P** 06 30 45.9 -0.9
K54A Basiliko Farm, 64.61 53 P **P** 06 30 46.1 -0.7
baz=318,SNR=21
CHMS Chumysh 64.68 308 P **P** 06 30 48.0 +0.8
SNR=5.1
P51A Williamsport 64.71 58 P **P** 06 30 46.3 -1.2
baz=318
P51A Williamsport 64.71 58 IAmb IAmb 06 30 46.7
comp=Z,11nm,0.6s
FINES FINESS Array B 64.72 346 P **P** 06 30 46.7 -0.4
comp=Z,3.3nm,0.4s,baz=19,slow=8.1,SNR=28
FINES pP **pwP** 06 31 17.8 -0.2
comp=Z,6.3nm,0.9s,baz=46,slow=5.5,SNR=3.5
FINES FINESS Array B 64.72 346 *i* P **P** 06 30 47.0 -0.1
FINES pmax pmax
comp=Z,3.0nm,0.4s
WVNY West Valley, N 64.81 53 P **P** 06 30 47.3 -0.8
H57A Richville 64.81 49 P **P** 06 30 46.5 -1.4
baz=319,SNR=9.9
K55A Perry 64.83 52 P **P** 06 30 47.6 -0.6
baz=319,SNR=11
KBK Karagaybulak 64.84 308 P **P** 06 30 49.3 +0.8
SNR=12
N53A Lisbon 64.88 55 P **P** 06 30 47.6 -0.9
baz=318
O52A Adamsville 64.88 57 P **P** 06 30 47.5 -1.0
baz=318,SNR=11
O52A Adamsville 64.88 57 IAmb IAmb 06 30 48.6
comp=Z,52nm,1.1s
OXF Oxford 64.91 66 P **P** 06 30 47.8 -1.0
baz=317,SNR=12
MMNY Mt. Morris Dam 64.91 52 IAmb IAmb 06 30 49.0
comp=Z,50nm,1.0s
G58A Ormstown 64.91 48 P **P** 06 30 46.9 -1.7
baz=320
M54A Oil Creek Stat 64.95 54 P **P** 06 30 48.3 -0.7
baz=318,SNR=5.9
F59A Saint Guilaume 64.95 47 P **P** 06 30 47.7 -1.2
baz=320,SNR=12
D60A Saint Jean D'O 64.97 45 P **P** 06 30 47.8 -1.1
baz=320,SNR=7.1
J56A Wolcott 65.01 51 P **P** 06 30 48.4 -0.8
baz=319,SNR=10
J56A Wolcott 65.01 51 P **P** 06 30 48.3 -1.0
J56A IAmb IAmb 06 30 49.3
comp=Z,51nm,1.1s
L55A Hinsdale 65.06 53 P **P** 06 30 49.2 -0.5
baz=319,SNR=15
D61A St Aubert, Com 65.06 44 P **P** 06 30 48.6 -0.9
baz=321
LONY Lake Ozonia 65.07 49 P **P** 06 30 48.0 -1.7
baz=320,SNR=7.7
AAK Ala-Archa 65.08 308 P **P** 06 30 50.8 +0.8
SNR=13
AAK Ala-Archa 65.08 308 P **P** 06 30 50.8 +0.8
AAK pmax pmax
comp=Z,19nm,0.6s
AAK Ala-Archa 65.08 308 P **P** 06 30 50.8 +0.8
AAK IAmb IAmb 06 30 51.2
comp=Z,19nm,0.6s
I57A Carthage 65.08 50 P **P** 06 30 48.5 -1.3
baz=319,SNR=7.2
P52A Corning 65.08 57 P **P** 06 30 48.4 -1.5
baz=318
O53A New Philadelph 65.10 56 P **P** 06 30 48.7 -1.3
baz=318
KZA Kyzart 65.12 307 P **P** 06 30 51.5 +0.8
SNR=12
E60A Ste Agathe de 65.16 46 P **P** 06 30 48.8 -1.4
baz=320,SNR=12
N54A Moraine State 65.19 55 P **P** 06 30 49.8 -0.8
baz=318,SNR=11
K56A Middlesex 65.22 52 P **P** 06 30 50.1 -0.6
baz=319,SNR=18
F60A Wanask 65.24 46 P **P** 06 30 49.2 -1.5
baz=320,SNR=11
PLAL Pickwick Lake 65.31 64 P **P** 06 30 50.2 -1.2
PLAL IAmb IAmb 06 30 50.9
comp=Z,20nm,0.6s
J57A Williamstown 65.32 51 P **P** 06 30 50.2 -1.1
baz=319,SNR=8.5
J57A Williamstown 65.32 51 IAmb IAmb 06 30 51.5
comp=Z,30nm,1.2s
UCH Uchtor 65.38 308 P **P** 06 30 53.0 +0.8
SNR=7.5
EKS2 Erkin-Say 65.41 308 P **P** 06 30 53.0 +1.0
SNR=22
H58A Gabriels 65.41 49 P **P** 06 30 50.3 -1.6
baz=320,SNR=9.1
M55A Ridgway 65.43 54 P **P** 06 30 51.4 -0.7
baz=319,SNR=16
M55A Ridgway 65.43 54 IAmb IAmb 06 30 52.6
comp=Z,52nm,1.2s
U49A Red Boiling Sp 65.45 62 IAmb IAmb 06 30 51.9
comp=Z,16nm,0.5s
H59A Cadyville 65.46 48 P **P** 06 30 50.5 -1.7
baz=320,SNR=11
Q52A Bidwell 65.51 58 P **P** 06 30 51.6 -1.0
baz=318,SNR=7.7
L56A Greenwood 65.52 52 P **P** 06 30 52.3 -0.4
baz=319,SNR=72
L56A Greenwood 65.52 52 P **P** 06 30 52.6 -0.1
E61A Lac Etchemin 65.53 45 P **P** 06 30 51.4 -1.2
baz=321
LSA Lhasa 65.57 287 IAmb IAmb 06 30 56.2
comp=Z,29nm,0.8s
P53A Whipple 65.58 57 P **P** 06 30 52.0 -1.1
baz=318
O54A Avella 65.58 56 P **P** 06 30 51.9 -1.2
baz=318
K57A Scipio Center 65.58 51 P **P** 06 30 52.1 -1.0
baz=319,SNR=16
T50A Nancy 65.58 61 IAmb IAmb 06 30 52.9
comp=Z,15nm,0.6s
I58A Old Forge 65.59 50 P **P** 06 30 51.7 -1.4
baz=320,SNR=11
D62A Allapoint, All 65.64 44 P **P** 06 30 52.7 -0.7
baz=321,SNR=13
D62A Allapoint, All 65.64 44 IAmb IAmb 06 30 53.6
comp=Z,38nm,1.1s
F61A St Evariste 65.66 46 P **P** 06 30 52.8 -0.7
baz=321,SNR=11
J58A Remsen 65.69 50 P **P** 06 30 52.6 -1.2
baz=320,SNR=14
J58A Remsen 65.69 50 IAmb IAmb 06 30 53.8
comp=Z,41nm,1.3s
M56A Emporium 65.71 53 P **P** 06 30 53.0 -0.9
baz=319,SNR=15
M56A Emporium 65.71 53 P **P** 06 30 53.2 -0.7
M56A IAmb IAmb 06 30 54.4
comp=Z,60nm,1.2s
G60A Masonville 65.73 47 P **P** 06 30 52.5 -1.5
baz=320
E62A Clayton Lake 65.80 44 P **P** 06 30 53.4 -1.0
baz=321,SNR=14
E62A Clayton Lake 65.80 44 IAmb IAmb 06 30 54.4
comp=Z,56nm,1.4s
N55A Marion Center 65.83 54 P **P** 06 30 53.6 -1.1
baz=319,SNR=5.8
G61A St-Isidore-de- 65.96 47 P **P** 06 30 54.3 -1.1
baz=321,SNR=15
VBMS Vicksburg 65.96 68 P **P** 06 30 54.5 -1.1
baz=318
P54A Burton 65.96 56 P **P** 06 30 54.5 -1.1
baz=319,SNR=6.1
L57A Andrews Acres 65.97 52 P **P** 06 30 54.8 -0.8
baz=319,SNR=20
K58A Earlville 65.98 51 P **P** 06 30 54.8 -0.8
baz=320,SNR=11
K58A Earlville 65.98 51 IAmb IAmb 06 30 55.9
comp=Z,16nm,0.7s
Q53A Leroy 65.98 57 P **P** 06 30 54.9 -0.8
baz=318,SNR=15
H60A Morristown 65.98 48 P **P** 06 30 54.1 -1.5
baz=320,SNR=7.5
J59A Piesco 65.98 50 P **P** 06 30 54.3 -1.3
baz=320,SNR=23
J59A Piesco 65.98 50 IAmb IAmb 06 30 55.1
comp=Z,46nm,1.3s
I59A Olmsteadville 66.03 49 P **P** 06 30 54.4 -1.4
baz=320,SNR=18
N56A West Decatur 66.08 54 P **P** 06 30 55.6 -0.7
baz=319,SNR=9.7
D63A Stockholm 66.08 43 P **P** 06 30 55.2 -0.9
baz=322,SNR=7.9
O55A Ligonier 66.11 55 P **P** 06 30 55.1 -1.3
baz=319
VT1 Waterbury 66.13 48 P **P** 06 30 55.3 -1.2
VT1 IAmb IAmb 06 30 57.0
comp=Z,29nm,1.2s
R53A Hurricane 66.15 58 P **P** 06 30 55.9 -0.8
baz=318,SNR=7.1
F62A Pittston Farm, 66.17 45 P **P** 06 30 55.7 -1.0
baz=321,SNR=18
Q54A Coxs Mills 66.24 57 P **P** 06 30 56.2 -1.1
baz=319
BINY Binghamton 66.24 51 P **P** 06 30 56.7 -0.6
baz=320,SNR=18
MCWV Mont Chateau 66.24 56 P **P** 06 30 56.4 -0.9
baz=319
I60A Shoreham 66.26 49 P **P** 06 30 55.9 -1.4
baz=320,SNR=6.2
X48A Hartselle 66.27 64 IAmb IAmb 06 30 57.1
comp=Z,12nm,0.5s
ABKAR Akbulak array 66.33 321 P **P** 06 30 58.6 +0.9
M57A Sunshine Farm, 66.34 53 P **P** 06 30 57.5 -0.4
baz=319,SNR=24
K59A Cooperstown 66.35 50 P **P** 06 30 57.0 -1.0
baz=320,SNR=10
H61A Lyndonville 66.35 47 P **P** 06 30 56.8 -1.1
baz=321,SNR=11
P55A Reedsville 66.36 56 P **P** 06 30 57.1 -1.0
baz=319
344A Westbrook Farm 66.40 69 IAmb IAmb 06 30 58.8
comp=Z,14nm,0.7s
DZA Taraz 66.40 310 *e*P **P** 06 30 58.6 +0.2
baz=310
DZA Taraz 66.40 310 *e*P **P** 06 30 58.5 +0.2
L58A Harry Jones Me 66.42 51 P **P** 06 30 57.9 -0.5
baz=320,SNR=15
E63A Oxbow 66.43 44 P **P** 06 30 57.2 -1.2
baz=322,SNR=11
E63A Oxbow 66.43 44 IAmb IAmb 06 30 58.0
comp=Z,37nm,1.2s
O56A Blue Knob Stat 66.43 54 P **P** 06 30 57.5 -1.1
baz=319,SNR=5.3
ACCN Adirondack Com 66.44 49 IAmb IAmb 06 30 58.3
comp=Z,47nm,1.2s
G62A West of Eustis 66.45 46 P **P** 06 30 57.7 -0.8
baz=321,SNR=16
G62A West of Eustis 66.45 46 IAmb IAmb 06 30 58.6
comp=Z,46nm,1.2s
146A Union 66.48 67 P **P** 06 30 58.0 -0.9
SSPA Standing Stone 66.49 54 P **P** 06 30 58.2 -0.7
baz=319
SSPA Standing Stone 66.49 54 P **P** 06 30 58.3 -0.6
SSPA IAmb IAmb 06 30 59.2
comp=Z,20nm,0.6s
S53A Williamson 66.54 59 P **P** 06 30 58.5 -0.8
baz=318
N57A Milroy 66.57 53 P **P** 06 30 58.7 -0.6
baz=319,SNR=13
LBNH Lisbon 66.58 48 P **P** 06 30 58.4 -1.0
baz=321,SNR=14
LBNH Lisbon 66.58 48 IAmb IAmb 06 30 59.4
comp=Z,25nm,1.1s
Q55A Buckhannon 66.62 56 P **P** 06 30 58.8 -1.0
baz=319
KK31 Karatay Array 66.63 311 IAmb IAmb 06 31 00.6
comp=Z,19nm,0.7s
KKAR Karatay Array 66.63 311 P **P** 06 30 59.8 +0.1
KKAR pmax pmax
comp=Z,19nm,0.7s
KKAR Karatay Array 66.63 311 P **P** 06 30 59.8 +0.1
KKAR IAmb IAmb 06 31 00.6
comp=Z,19nm,0.7s
KKAR Karatay Array 66.63 311 P **P** 06 30 60.0 +0.2
TZTN Tazewell 66.63 60 P **P** 06 30 59.1 -0.7
baz=318
TZTN Tazewell 66.63 60 IAmb IAmb 06 31 00.4
comp=Z,43nm,1.6s
M58A Price's Panora 66.64 52 P **P** 06 30 59.2 -0.7
baz=320,SNR=15
J60A Lant Hill Farm 66.66 49 P **P** 06 30 58.9 -1.0
baz=320,SNR=22
H62A Milan 66.67 47 P **P** 06 30 59.1 -0.9
baz=321,SNR=31
W50A Signal Mountai 66.67 62 IAmb IAmb 06 31 00.3
comp=Z,58nm,1.6s
KSH Kashi 66.69 305 P **P** 06 31 04.5 +4.2
KSH S **S** 06 39 44.0 +1.4
KSH pmax pmax
comp=Z,53nm,0.7s
KSH pmax pmax
comp=Z,77nm,5.8s
KSH LR LR
comp=Z,980nm,14.8s
KSH LR LR
comp=Z,620nm,11.2s
KSH LR LR
comp=Z,290nm,11.0s
E64A Bridgewater 66.69 44 P **P** 06 30 58.9 -1.1
baz=322,SNR=16
I61A Oroboro, Fairl 66.69 48 P **P** 06 30 59.2 -0.9
baz=321,SNR=9.1
F63A Nahmakanta, Br 66.70 45 P **P** 06 30 59.4 -0.8
baz=322,SNR=11
F63A Nahmakanta, Br 66.70 45 IAmb IAmb 06 31 00.2
comp=Z,38nm,1.2s

L59A	**Walton**	**66.70**	**51**	P	**P**	**06 30 59.4**	**-0.8**			
	baz=320,SNR=15									
L59A	**Walton**	**66.70**	**51**	IAmb	IAmb	06 31 00.5				
	comp=Z,42nm,1.1s									
BATG	**Bathurst New B**	**66.75**	**42**	IAmb	IAmb	06 31 00.3				
	comp=Z,18nm,0.5s									
V51A	**Loudon**	**66.75**	**61**	IAmb	IAmb	06 31 00.7				
	comp=Z,14nm,0.5s									
R54A	**Victor**	**66.76**	**57**	P	**P**	**06 30 59.7**	**-1.0**			
	baz=319,SNR=7.0									
NB201	**NORSAR Array S**	**66.77**	**353**	P	**P**	**06 31 00.0**	**-0.3**			
NB201				IAmb	IAmb	06 31 33.0				
	comp=Z,63nm,1.3s									
NB2	**NORSAR Subarra**	**66.79**	**353**	P	**P**	**06 30 59.8**	**-0.7**			
	comp=Z,7.5nm,1.2s,baz=7.8,slow=6.5									
NOA	**NORSAR Array B**	**66.79**	**353**	P	**P**	**06 30 59.9**	**-0.5**			
	comp=Z,3.6nm,0.9s,baz=8.7,slow=6.3,SNR=8.5									
NOA				pP	**pP**	**06 31 30.1**	**+1.7**			
	comp=Z,6.3nm,0.8s,baz=8.1,slow=6.3,SNR=7.3									
KSPA	**Keystone Colle**	**66.83**	**52**	IAmb	IAmb	06 31 01.3				
	comp=Z,30nm,1.1s									
T53A	**Wise**	**66.84**	**59**	P	**P**	**06 31 00.7**	**-0.6**			
	baz=319,SNR=8.2									
P56A	**Dayton Farm, R**	**66.87**	**55**	P	**P**	**06 31 00.5**	**-0.8**			
	baz=319,SNR=7.4									
S54A	**Dingess, Beckl**	**66.88**	**58**	P	**P**	**06 30 60.0**	**-1.4**			
	baz=319									
F64A	**Sherman**	**66.90**	**44**	P	**P**	**06 31 00.5**	**-0.9**			
	baz=322,SNR=17									
F64A	**Sherman**	**66.90**	**44**	IAmb	IAmb	06 31 01.4				
	comp=Z,27nm,0.8s									
N58A	**Sunbury**	**66.92**	**53**	P	**P**	**06 31 00.9**	**-0.7**			
	baz=320,SNR=18									
N58A	**Sunbury**	**66.92**	**53**	IAmb	IAmb	06 31 02.6				
	comp=Z,38nm,0.9s									
K60A	**Five Rivers En**	**66.92**	**50**	P	**P**	**06 31 00.3**	**-1.2**			
	baz=320									
G63A	**Kingsbury**	**66.94**	**46**	P	**P**	**06 31 00.7**	**-0.9**			
	baz=322,SNR=11									
O57A	**Amberson**	**66.94**	**54**	P	**P**	**06 31 01.0**	**-0.7**			
	baz=320,SNR=11									
PKME	**Peaks-Kenny Pk**	**66.96**	**45**	P	**P**	**06 31 00.7**	**-1.1**			
	baz=322,SNR=8.6									
PKME	**Peaks-Kenny Pk**	**66.96**	**45**	P	**P**	**06 31 00.7**	**-1.1**			
J61A	**Chester**	**66.98**	**49**	P	**P**	**06 31 01.1**	**-0.8**			
	baz=321,SNR=12									
FPAL	**Fort Paine**	**67.00**	**63**	IAmb	IAmb	06 31 01.5				
	comp=Z,18nm,0.6s									
M59A	**Waymart**	**67.01**	**52**	P	**P**	**06 31 01.3**	**-0.9**			
	baz=320,SNR=15									
H63A	**New Sharon**	**67.11**	**46**	P	**P**	**06 31 01.3**	**-1.3**			
	baz=322									
I62A	**Tamworth**	**67.13**	**47**	P	**P**	**06 31 01.7**	**-1.2**			
	baz=321									
I62A	**Tamworth**	**67.13**	**47**	P	**P**	**06 31 02.2**	**-0.7**			
R55A	**Marlinton**	**67.14**	**57**	P	**P**	**06 31 02.2**	**-0.9**			
	baz=319,SNR=5.8									
TKL	**Tuckaleechee C**	**67.17**	**61**	IAmb	IAmb	06 31 03.3				
	comp=Z,30nm,1.4s									
K61A	**Williamstown**	**67.17**	**49**	P	**P**	**06 31 02.2**	**-1.0**			
	baz=321,SNR=8.4									
FAKI	**Fak Fak**	**67.20**	**231**	P	**P**	**06 31 03.8**	**+0.2**			
	comp=Z,982nmcomp=Z,87nm,0.9s									
G64A	**Maxfield**	**67.20**	**45**	P	**P**	**06 31 02.5**	**-0.7**			
	baz=322,SNR=8.7									
L60A	**Shokan**	**67.25**	**50**	P	**P**	**06 31 02.7**	**-0.9**			
	baz=320,SNR=7.3									
T54A	**Tazewell**	**67.29**	**59**	P	**P**	**06 31 03.6**	**-0.5**			
	baz=319,SNR=14									
P57A	**Homestead Farm**	**67.30**	**55**	P	**P**	**06 31 03.1**	**-0.9**			
	baz=320,SNR=5.5									
S55A	**Lewisburg**	**67.32**	**57**	P	**P**	**06 31 03.1**	**-1.2**			
	baz=319									
N59A	**State Game Lan**	**67.32**	**52**	P	**P**	**06 31 03.6**	**-0.5**			
	baz=320,SNR=32									
I63A	**Otisfield**	**67.34**	**47**	P	**P**	**06 31 03.5**	**-0.6**			
	baz=322,SNR=9.0									
I63A	**Otisfield**	**67.34**	**47**	IAmb	IAmb	06 31 04.4				
	comp=Z,48nm,1.2s									
LRAL	**Lakeview Retre**	**67.35**	**65**	P	**P**	**06 31 02.7**	**-1.7**			
	baz=318,SNR=10.0									
WVL	**Waterville**	**67.35**	**46**	P	**P**	**06 31 03.0**	**-1.2**			
O58A	**Lewisberry**	**67.36**	**53**	P	**P**	**06 31 03.4**	**-1.0**			
	baz=320,SNR=7.6									
L61A	**Hillsdale 1, H**	**67.41**	**50**	P	**P**	**06 31 04.0**	**-0.6**			
	baz=321,SNR=8.1									
R56A	**Bull Pasture M**	**67.41**	**56**	P	**P**	**06 31 03.5**	**-1.3**			
	baz=319									
J62A	**Henniker**	**67.42**	**48**	P	**P**	**06 31 03.9**	**-0.8**			
	baz=321,SNR=9.9									
Q57A	**Strasburg**	**67.44**	**55**	P	**P**	**06 31 03.7**	**-1.2**			
	baz=320									
H64A	**Troy**	**67.48**	**46**	P	**P**	**06 31 04.0**	**-1.0**			
	baz=322,SNR=6.0									
M60A	**Port Jervis**	**67.56**	**51**	P	**P**	**06 31 04.7**	**-0.9**			
	baz=320,SNR=8.7									
U54A	**Nelsons Funny**	**67.57**	**59**	P	**P**	**06 31 05.4**	**-0.4**			
	baz=319,SNR=7.6									
U54A	**Nelsons Funny**	**67.57**	**59**	IAmb	IAmb	06 31 06.5				
	comp=Z,54nm,1.6s									
O59A	**Robesonia**	**67.58**	**53**	P	**P**	**06 31 05.1**	**-0.7**			
	baz=320,SNR=11									
IUG	**luzhnay**	**67.59**	**310**	⇓*i*P	**P**	**06 31 06.9**	**+1.0**			
	comp=Z,3.7nm,1.4s,baz=310									
IUG	**luzhnay**	**67.59**	**310**	*d i*P	**P**	**06 31 06.9**	**+1.0**			
IUG				pmax	pmax					
	comp=Z,4.0nm,1.4s									
L61B	**Northampton**	**67.62**	**49**	P	**P**	**06 31 04.9**	**-1.1**			
	baz=321,SNR=7.5									
P58A	**Pank, Wackersv**	**67.66**	**54**	P	**P**	**06 31 05.2**	**-1.0**			
	baz=320									
CHM	**Chimkent**	**67.66**	**311**	⇓*e*P	**P**	**06 31 07.0**	**+0.8**			
	baz=311									
CHM	**Chimkent**	**67.66**	**311**	*de*P	**P**	**06 31 07.0**	**+0.8**			
K62A	**Royalston**	**67.66**	**49**	P	**P**	**06 31 05.4**	**-0.8**			
	baz=321,SNR=6.9									
T55A	**Pulaski**	**67.67**	**58**	P	**P**	**06 31 05.6**	**-0.8**			
	baz=319									
N60A	**Cedar Hill Far**	**67.69**	**52**	P	**P**	**06 31 05.4**	**-1.0**			
	baz=320,SNR=14									
J63A	**Strafford**	**67.72**	**48**	P	**P**	**06 31 05.5**	**-1.0**			
	baz=321									
ODNJ	**Ogdensburg**	**67.76**	**51**	P	**P**	**06 31 06.0**	**-0.9**			
G65A	**Princeton**	**67.76**	**44**	P	**P**	**06 31 06.2**	**-0.6**			
	baz=323,SNR=12									
G65A	**Princeton**	**67.76**	**44**	IAmb	IAmb	06 31 07.0				
	comp=Z,57nm,1.4s									
I64A	**Boothbay**	**67.86**	**46**	P	**P**	**06 31 06.2**	**-1.3**			
	baz=322									
H65A	**Eastbrook**	**67.87**	**45**	P	**P**	**06 31 06.6**	**-0.9**			
	baz=322,SNR=13									
S56A	**Natural Bridge**	**67.88**	**57**	P	**P**	**06 31 07.1**	**-0.6**			
	baz=320,SNR=7.4									
Q58A	**Fox Den Farm,**	**67.88**	**55**	P	**P**	**06 31 06.8**	**-0.8**			
	baz=320,SNR=9.3									
R57A	**Stanardsville**	**67.94**	**56**	P	**P**	**06 31 07.4**	**-0.6**			
	baz=320,SNR=8.5									
L62A	**Suffield**	**67.95**	**49**	P	**P**	**06 31 07.0**	**-1.0**			
	baz=321									
O60A	**Telford**	**67.96**	**52**	P	**P**	**06 31 07.4**	**-0.7**			
	baz=320,SNR=8.2									
K63A	**Dunstable**	**67.97**	**48**	P	**P**	**06 31 07.3**	**-0.8**			
	baz=321,SNR=7.8									
M61A	**Granite Spring**	**67.99**	**51**	P	**P**	**06 31 07.2**	**-1.1**			
	baz=321									
U55A	**TA2, Sparta**	**67.99**	**59**	P	**P**	**06 31 07.8**	**-0.7**			
	baz=319,SNR=6.3									
P59A	**Jarrettsville**	**68.00**	**54**	P	**P**	**06 31 07.6**	**-0.8**			
	baz=320,SNR=7.7									
V54A	**Nebo**	**68.06**	**60**	P	**P**	**06 31 08.3**	**-0.6**			
	baz=319,SNR=6.9									
HRV	**Adam Dziewonsk**	**68.10**	**48**	P	**P**	**06 31 07.9**	**-1.0**			
	baz=321									
HRV	**Adam Dziewonsk**	**68.10**	**48**	P	**P**	**06 31 07.9**	**-1.0**			
HRV				pmax	pmax					
	comp=Z,21nm,1.2s									
HRV	**Adam Dziewonsk**	**68.10**	**48**	P	**P**	**06 31 07.9**	**-1.0**			
T56A	**Rocky Mt**	**68.13**	**58**	P	**P**	**06 31 08.0**	**-1.3**			
	baz=320									
GGN	**Saint George**	**68.14**	**44**	IAmb	IAmb	06 31 09.2				
	comp=Z,26nm,0.8s									
PAL	**Palisades**	**68.16**	**51**	P	**P**	**06 31 08.6**	**-0.7**			
	baz=321,SNR=7.4									
PAL	**Palisades**	**68.16**	**51**	IAmb	IAmb	06 31 09.4				
	comp=Z,48nm,1.2s									
N61A	**South Mountain**	**68.17**	**51**	P	**P**	**06 31 08.3**	**-1.1**			
	baz=321									
EMMW	**East Machias**	**68.20**	**44**	P	**P**	**06 31 08.9**	**-0.6**			
H66A	**Whiting**	**68.20**	**44**	P	**P**	**06 31 08.8**	**-0.7**			
	baz=323,SNR=12									
R58A	**Rapidan**	**68.21**	**55**	P	**P**	**06 31 08.6**	**-1.1**			
	baz=320									
P60A	**Greenville**	**68.24**	**53**	P	**P**	**06 31 08.9**	**-0.9**			
	baz=320									
M62A	**Hamden**	**68.30**	**50**	P	**P**	**06 31 08.9**	**-1.3**			
	baz=321									
WES	**Weston**	**68.30**	**48**	IAmb	IAmb	06 31 10.1				
	comp=Z,24nm,0.6s									
Y52A	**Lilburn**	**68.36**	**63**	P	**P**	**06 31 09.2**	**-1.5**			
V55A	**Taylorsville**	**68.39**	**59**	P	**P**	**06 31 10.1**	**-0.8**			
	baz=319,SNR=7.6									
V55A	**Taylorsville**	**68.39**	**59**	IAmb	IAmb	06 31 11.4				
	comp=Z,44nm,1.5s									
LMN	**Caledonia Moun**	**68.41**	**42**	IAmb	IAmb	06 31 11.0				
	comp=Z,27nm,0.9s									
W54A	**Cherokee Point**	**68.45**	**60**	P	**P**	**06 31 10.3**	**-1.0**			
	baz=319,SNR=6.2									
U56A	**King**	**68.46**	**58**	P	**P**	**06 31 10.3**	**-1.0**			
	baz=320,SNR=5.6									
U56A	**King**	**68.46**	**58**	IAmb	IAmb	06 31 11.7				
	comp=Z,44nm,1.6s									
R58B	**Mineral**	**68.53**	**56**	P	**P**	**06 31 10.7**	**-1.0**			
	baz=320									
250A	**Grady**	**68.55**	**65**	IAmb	IAmb	06 31 11.6				
	comp=Z,20nm,0.6s									
O61A	**Allentown**	**68.55**	**52**	P	**P**	**06 31 11.0**	**-0.8**			
	baz=321,SNR=5.2									
T57A	**Hurt**	**68.56**	**57**	P	**P**	**06 31 10.8**	**-1.1**			
	baz=320,SNR=6.7									
T57A	**Hurt**	**68.56**	**57**	P	**P**	**06 31 11.3**	**-0.6**			
BRYW	**Bryant College**	**68.57**	**49**	IAmb	IAmb	06 31 11.3				
	comp=Z,20nm,0.6s									
L63A	**North Scituate**	**68.58**	**49**	P	**P**	**06 31 10.7**	**-1.2**			
	baz=322,SNR=5.3									
OBN	**Obninsk**	**68.60**	**338**	*d* iP	**P**	**06 31 11.4**	**-0.4**			
OBN				*e**PP	**pwP**	**06 31 43.2**	**-0.8**			
OBN				*e*		06 33 41.8				
OBN				*e*S	SKiKP	06 40 38.0	-14			
OBN				pmax	pmax					
	comp=Z,33nm,1.1s									
CBN	**Corbin Frederi**	**68.60**	**55**	P	**P**	**06 31 11.2**	**-0.9**			
	baz=320									
S58A	**Poland Farm, P**	**68.71**	**56**	P	**P**	**06 31 11.6**	**-1.2**			
	baz=320									
M63A	**Gales Ferry**	**68.73**	**50**	P	**P**	**06 31 11.8**	**-1.1**			
	baz=322,SNR=9.2									
X54A	**Belton**	**68.76**	**61**	P	**P**	**06 31 12.6**	**-0.6**			
	baz=319,SNR=10									
V56A	**Mocksville**	**68.81**	**59**	P	**P**	**06 31 12.4**	**-1.1**			
	baz=320,SNR=6.0									
KMSC	**Kings Mountain**	**68.87**	**60**	P	**P**	**06 31 13.0**	**-0.9**			
	baz=320,SNR=16									
KMSC	**Kings Mountain**	**68.87**	**60**	P	**P**	**06 31 13.1**	**-0.8**			
KMSC				IAmb	IAmb	06 31 13.5				
	comp=Z,19nm,0.5s									
L64A	**Middleborough**	**68.88**	**48**	P	**P**	**06 31 12.7**	**-1.1**			
	baz=322,SNR=8.7									
U57A	**Blanch**	**68.94**	**58**	P	**P**	**06 31 13.4**	**-0.9**			
	baz=320,SNR=8.5									
CHTO	**Chiang Mai**	**68.95**	**274**	P	**P**	**06 31 14.9**	**+0.3**			
CHTO				pmax	pmax					
	comp=Z,17nm,0.8s									
CHTO	**Chiang Mai**	**68.95**	**274**	P	**P**	**06 31 14.9**	**+0.3**			
T58A	**Grand View Acr**	**68.97**	**57**	P	**P**	**06 31 13.0**	**-1.5**			
	baz=320									
S59A	**Mechanicsville**	**68.98**	**55**	P	**P**	**06 31 12.9**	**-1.5**			
	baz=320									
GOGA	**Godfrey**	**69.02**	**62**	P	**P**	**06 31 13.5**	**-1.4**			
	baz=319,SNR=7.6									
HODGE	**Hodges**	**69.06**	**61**	IAmb	IAmb	06 31 15.1				
	comp=Z,20nm,0.5s									
V57A	**Coltrane Farms**	**69.13**	**58**	P	**P**	**06 31 14.0**	**-1.5**			
	baz=320									
CMAR	**Chiang Mai Arr**	**69.22**	**274**	P	**P**	**06 31 16.5**	**+0.3**			
	comp=Z,8.8nm,0.6s,baz=25,slow=7.1,SNR=37									
CMAR				PcP	**PcP**	**06 31 40.2**	**+0.9**			
	comp=Z,3.8nm,0.5s,baz=12,slow=3.3,SNR=7.1									
CMAR	**Chiang Mai Arr**	**69.22**	**274**	P	**P**	**06 31 16.0**	**-0.3**			
CMAR					**PcP**	**06 31 40.0**	**+0.8**			
X55A	**Gracelyn & Ava**	**69.22**	**60**	P	**P**	**06 31 15.2**	**-0.8**			
	baz=320,SNR=16									
W56A	**Indian Trail**	**69.27**	**59**	P	**P**	**06 31 15.8**	**-0.5**			
	baz=320									
SPMM	**Sapulut**	**69.28**	**250**	P	**P**	**06 31 17.0**	**+0.3**			
TAPN	**Taplejung**	**69.33**	**288**	*e*P	**P**	**06 31 18.0**	**+0.8**			
	comp=Z,160nm,0.8s									
S60A	**Water View**	**69.35**	**55**	P	**P**	**06 31 16.4**	**-0.3**			
	baz=320									
U58A	**Oxford**	**69.38**	**57**	P	**P**	**06 31 16.3**	**-0.7**			
	baz=320									
T59A	**Double "B" Far**	**69.45**	**56**	P	**P**	**06 31 16.9**	**-0.5**			
	baz=320									
MSVF	**Nonsavu**	**69.49**	**180**	⇓*e*P	**P**	**06 31 18.9**	**+1.1**			
MSVF				pmax	pmax					
	comp=Z,16nm,1.2s									
Y55A	**Saluda**	**69.50**	**61**	P	**P**	**06 31 16.9**	**-0.8**			
	baz=320,SNR=8.7									
X56A	**White Oak**	**69.52**	**60**	P	**P**	**06 31 17.0**	**-0.9**			
	baz=320,SNR=9.4									
V58A	**Windy Hill, Pi**	**69.55**	**58**	P	**P**	**06 31 17.1**	**-1.0**			
	baz=320,SNR=6.4									
W57A	**Gilead**	**69.57**	**59**	P	**P**	**06 31 17.0**	**-1.2**			
	baz=320,SNR=6.6									
MRSI	**Marisa**	**69.65**	**243**	P	**P**	**06 31 17.8**	**-1.1**			
	comp=Z,991nmcomp=Z,101nm,1.0s									
BIRD	**Birdtown, Kers**	**69.71**	**60**	P	**P**	**06 31 18.2**	**-0.9**			
T60A	**Surry**	**69.74**	**55**	P	**P**	**06 31 18.0**	**-1.2**			
	baz=321									
U59A	**Littleton**	**69.81**	**57**	P	**P**	**06 31 18.8**	**-0.8**			
	baz=320									
154A	**Montrose**	**69.82**	**63**	IAmb	IAmb	06 31 19.3				
	comp=Z,24nm,0.6s									
ODAN	**Odare**	**69.89**	**288**	*e*P	**P**	**06 31 21.1**	**+0.5**			
	comp=Z,65nm,0.8s									
HAL	**Halifax**	**69.89**	**42**	IAmb	IAmb	06 31 19.8				
	comp=Z,14nm,0.5s									
GUN	**Gumba**	**69.98**	**290**	*e*P	**P**	**06 31 22.2**	**+0.9**			
	comp=Z,351nm,0.8s									
JIRN	**Jiri**	**69.99**	**289**	*e*P	**P**	**06 31 22.3**	**+1.0**			
	comp=Z,280nm,0.7s									
V59A	**Middlesex**	**70.03**	**57**	P	**P**	**06 31 20.3**	**-0.7**			
	baz=320,SNR=8.5									
U60A	**Pendleton**	**70.04**	**56**	P	**P**	**06 31 19.8**	**-1.2**			
	baz=321									
X57A	**Johnson Farm,**	**70.05**	**59**	P	**P**	**06 31 20.3**	**-0.8**			
	baz=320,SNR=5.4									
W58A	**Raeford**	**70.08**	**59**	P	**P**	**06 31 20.1**	**-1.2**			
	baz=320									
GBN	**Guysborough**	**70.11**	**40**	P	**P**	**06 31 20.8**	**-0.5**			
Y57A	**Sumter**	**70.23**	**60**	P	**P**	**06 31 21.1**	**-1.1**			
	baz=320									
Y57A	**Sumter**	**70.23**	**60**	IAmb	IAmb	06 31 22.5				
	comp=Z,16nm,0.5s									
Z56A	**Williston**	**70.23**	**61**	P	**P**	**06 31 21.3**	**-0.9**			
	baz=320									
Z56A	**Williston**	**70.23**	**61**	IAmb	IAmb	06 31 22.5				
	comp=Z,26nm,0.6s									
RAMN	**Ramite**	**70.28**	**289**	*e*P	**P**	**06 31 23.6**	**+0.6**			
	comp=Z,316nm,0.9s									
LPSR	**Galich'ya Gora**	**70.30**	**335**	*e*P	**P**	**06 31 21.8**	**-0.5**			
LPSR				pmax	pmax					
	comp=Z,10.0nm,1.3s									
X58A	**Rowland**	**70.38**	**59**	P	**P**	**06 31 22.4**	**-0.7**			
	baz=320									
W59A	**Clinton**	**70.38**	**58**	P	**P**	**06 31 22.4**	**-0.7**			
	baz=320									
KKN	**Kakani**	**70.42**	**290**	*e*P	**P**	**06 31 24.7**	**+0.9**			
LUWI	**Luwuk**	**70.47**	**241**	P	**P**	**06 31 23.1**	**-0.7**			
	comp=Z,9µmcomp=Z,172nm,0.5s									
PKI	**Pulchoki**	**70.51**	**290**	*e*P	**P**	**06 31 24.9**	**+0.4**			
	comp=Z,128nm,0.6s									
U61A	**Possum Corner**	**70.51**	**56**	P	**P**	**06 31 22.9**	**-1.0**			
	baz=321									
PKIN	**Phulchoki**	**70.52**	**290**	*e*P	**P**	**06 31 24.8**	**+0.4**			
	comp=Z,123nm,0.5s									
V60A	**Jim Taylor Roa**	**70.53**	**57**	P	**P**	**06 31 23.1**	**-0.9**			
	baz=321									
Z57A	**Bowman**	**70.61**	**61**	P	**P**	**06 31 24.3**	**-0.3**			
	baz=320									
GKN	**Gorkha**	**70.63**	**291**	*e*P	**P**	**06 31 25.6**	**+0.6**			
	comp=Z,298nm,1.0s									
DMN	**Daman**	**70.66**	**290**	*e*P	**P**	**06 31 25.9**	**+0.6**			
	comp=Z,131nm,0.9s									
255A	**Hazlehurst**	**70.69**	**63**	IAmb	IAmb	06 31 25.1				
	comp=Z,22nm,0.5s									
Y58A	**Scranton**	**70.70**	**60**	P	**P**	**06 31 24.5**	**-0.6**			
	baz=320									
X59A	**McDuffie Farm,**	**70.75**	**58**	P	**P**	**06 31 24.7**	**-0.7**			
	baz=321									
VRH	**Novokhopyorsk**	**70.80**	**333**	*e*P	**P**	**06 31 24.8**	**-0.6**			
VRH				pmax	pmax					
	comp=Z,30nm,0.6s									
W60A	**Pink Hill**	**70.85**	**57**	P	**P**	**06 31 25.4**	**-0.5**			
	baz=321									
V61A	**Roper**	**70.86**	**56**	P	**P**	**06 31 26.0**	**-0.1**			
	baz=321									
DANN	**Dangsing**	**70.88**	**292**	*e*P	**P**	**06 31 27.4**	**+0.8**			
	comp=Z,300nm,0.8s									
MPSI	**Mapaga**	**70.90**	**244**	P	**P**	**06 31 26.1**	**-0.4**			
	comp=Z,866nmcomp=Z,77nm,1.1s									
APSI	**Ampana**	**70.97**	**242**	P	**P**	**06 31 27.2**	**+0.3**			
	comp=Z,495nmcomp=Z,46nm,1.2s									
NHSC	**New Hope**	**71.04**	**60**	P	**P**	**06 31 26.5**	**-0.6**			
	baz=320									
NHSC	**New Hope**	**71.04**	**60**	P	**P**	**06 31 27.1**	**-0.1**			
Y59A	**Loris**	**71.06**	**59**	P	**P**	**06 31 26.4**	**-0.8**			
	baz=321									
Z58A	**St. Stephen**	**71.06**	**60**	P	**P**	**06 31 26.4**	**-0.9**			
	baz=320									
X60A	**Albert Glenn T**	**71.08**	**58**	P	**P**	**06 31 26.6**	**-0.7**			
	baz=321									
W61A	**Ground Anchor**	**71.12**	**57**	P	**P**	**06 31 26.9**	**-0.7**			
	baz=321									
Y60A	**Bolivia**	**71.39**	**59**	P	**P**	**06 31 28.3**	**-0.9**			
	baz=321									
KOLN	**Koldanda**	**71.41**	**291**	*e*P	**P**	**06 31 30.2**	**+0.5**			
	comp=Z,137nm,0.9s									
VSR	**Storozhevoye**	**71.49**	**334**	*e*P	**P**	**06 31 29.6**	**0.0**			
VSR				pmax	pmax					
	comp=Z,20nm,1.2s									
PYUN	**Piuthan**	**71.51**	**292**	*e*P	**P**	**06 31 30.9**	**+0.6**			
	comp=Z,237nm,0.9s									
456A	**Hilliard**	**71.86**	**63**	P	**P**	**06 31 31.8**	**-0.3**			
456A				IAmb	IAmb	06 31 32.6				
	comp=Z,28nm,0.7s									
NIL	**Nilore**	**72.58**	**302**	P	**P**	**06 31 37.4**	**+1.0**			
NIL				pmax	pmax					
	comp=Z,97nm,1.3s									
NIL	**Nilore**	**72.58**	**302**	P	**P**	**06 31 37.4**	**+1.0**			
SBUM	**Sibu**	**73.58**	**252**	P	**P**	**06 31 43.0**	**+0.5**			
SBUM	**Sibu**	**73.58**	**252**	P	**P**	**06 31 44.0**	**+1.5**			
TTSI	**Tana Toraja**	**73.74**	**243**	P	**P**	**06 31 43.4**	**+0.1**			
	comp=Z,1µmcomp=Z,57nm,1.1s									
KBL	**Kabul**	**74.03**	**306**	P	**P**	**06 31 45.1**	**-0.1**			
KBL				pmax	pmax					
	comp=Z,47nm,0.9s									
KBL	**Kabul**	**74.03**	**306**	P	**P**	**06 31 45.1**	**-0.1**			
KBL				IAmb	IAmb	06 31 46.8				
	comp=Z,48nm,0.8s									
DWPF	**Disney Wildern**	**74.19**	**65**	P	**P**	**06 31 45.5**	**-0.4**			
	baz=321									
DWPF	**Disney Wildern**	**74.19**	**65**	P	**P**	**06 31 46.0**	**+0.1**			
DWPF				IAmb	IAmb	06 31 46.4				
	comp=Z,24nm,0.7s									
AKASG	**Malin Array Be**	**74.34**	**340**	P	**P**	**06 31 45.8**	**-0.6**			
	comp=Z,7.2nm,0.4s,baz=22,slow=6.3,SNR=22									
AKASG	**Malin Array Be**	**74.34**	**340**	P	**P**	**06 31 47.3**	**+0.9**			
AKASG				pmax	pmax					
	comp=Z,2.0nm,0.6s									
AKASG	**Malin Array Be**	**74.34**	**340**	P	**P**	**06 31 47.3**	**+0.9**			
AKBB	**Malin Array Si**	**74.34**	**340**	*de*P	**P**	**06 31 45.6**	**-0.8**			
SPSI	**Sidrap Palu**	**74.53**	**242**	P	**P**	**06 31 48.1**	**+0.2**			
	comp=Z,21nm,0.9s									
DZM	**Mont Dzumac**	**74.55**	**191**	P	**P**	**06 31 49.6**	**+1.7**			
	comp=Z,16nm,1.0s,baz=69,slow=12,SNR=9.2									
BNSI	**Bone**	**74.71**	**242**	P	**P**	**06 31 49.3**	**+0.3**	

BZS	**Buzias**	**80.67 344**	⇑P		**P**		**06 32 21.0**	**-0.7**
BZS	**Buzias**	**80.67 344**	⇑P		**P**		**06 32 21.0**	**-0.7**
RPR	**Rampur**	**80.78 289**	*e*P		**P**		**06 32 22.6**	**0.0**
BANR	**Banloc**	**80.98 344**	⇓P		**P**		**06 32 18.6**	**-4.7**
WB0	**Warramunga Arr**	**81.15 221**	P		**P**		**06 32 24.0**	**-0.5**
WR0	**Warramunga Arr**	**81.26 221**	IAmb		IAmb		06 32 25.0	
	comp=Z,25nm,0.7s							
SRSP	**Sriramsagar**	**81.28 289**	*e*P		**P**		**06 32 24.6**	**-0.7**
WRAB	**Tennant Creek**	**81.32 221**	*de*P		**P**		**06 32 24.8**	**-0.5**
WRAB				pmax	pmax			
	comp=Z,28nm,1.0s							
WB2	**Warramunga Arr**	**81.32 221**	IAmb		IAmb		06 32 25.5	
	comp=Z,31nm,0.8s							
WRA	**Warramunga Arr**	**81.33 221**	P		**P**		**06 32 25.0**	**-0.4**
	comp=Z,18nm,0.6s,baz=32,slow=6.1,SNR=74							
WRA	**Warramunga Arr**	**81.33 221**	P		**P**		**06 32 24.8**	**-0.6**
WRA	**Warramunga Arr**	**81.33 221**	P		**P**		**06 32 24.8**	**-0.6**
MDVR	**Moldovita**	**81.47 343**	⇑P		**P**		**06 32 26.2**	**+0.2**
RAZG	**Razgrad**	**81.70 340**	⇓P		P		06 32 21.7	-5.4
HYBB	**Hyderabad (bro**	**82.34 288**	*e*P		**P**		**06 32 30.8**	**-0.1**
HYB	**Hyderabad**	**82.34 288**	*i* P		**P**		**06 32 30.0**	**-1.0**
	comp=Z,90nm,1.0s							
MNSI	**Mandailing Nat**	**82.50 262**	P		**P**		**06 32 30.7**	**-1.0**
	comp=Z,3μmcomp=Z,26nm,1.2s							
NJS	**Nagarjunasagar**	**82.58 287**	*e*P		**P**		**06 32 31.7**	**-0.4**
SDSI	**Sungai Dareh**	**82.73 259**	P		**P**		**06 32 32.9**	**0.0**
	comp=Z,2μmcomp=Z,16nm,1.5s							
ADKI	**Addanki**	**82.74 286**	*e*P		**P**		**06 32 33.1**	**+0.2**
KLRI	**Killari**	**82.97 290**	*e*P		**P**		**06 32 33.5**	**-0.7**
SRLM	**Srisailam**	**83.18 287**	*e*P		**P**		**06 32 35.2**	**-0.1**
FITZ	**Fitzroy Crossi**	**83.54 230**	P		**P**		**06 32 37.1**	**+0.3**
	comp=Z,26nm,0.7s,baz=30,slow=4.7,SNR=44							
FITZ	**Fitzroy Crossi**	**83.54 230**	P		**P**		**06 32 37.0**	**+0.1**
FITZ			IAmb		IAmb		06 32 38.2	
	comp=Z,40nm,0.9s							
BR131	**Keskin Array S**	**83.58 333**	*de*P		**P**		**06 32 36.8**	**-0.3**
BRTR	**Keskin Array B**	**83.58 333**	P		**P**		**06 32 36.9**	**-0.3**
	comp=Z,2.8nm,0.5s,baz=48,slow=2.9,SNR=11							
BRTR	**Keskin Array B**	**83.58 333**	*ce*P		**P**		**06 32 38.5**	**+1.3**
BRTR				pmax	pmax			
	comp=Z,3.0nm,0.5s							
BRTR	**Keskin Array B**	**83.58 333**	P		**P**		**06 32 38.5**	**+1.3**
KRJI	**Kerinci**	**83.63 258**	P		P		06 32 46.3	+8.7
RCLA	**Racherla**	**83.65 287**	*e*P		**P**		**06 32 37.1**	**-0.6**
MDSI	**Maura Dua**	**83.90 255**	P		**P**		**06 32 38.1**	**-0.7**
	comp=Z,2nm,1.5s							
SKHT	**Srikalahasti**	**84.55 285**	*e*P		**P**		**06 32 42.0**	**-0.2**
ASAR	**Alice Springs**	**84.84 220**	P		**P**		**06 32 43.5**	**+0.1**
	comp=Z,12nm,0.7s,baz=22,slow=5.2,SNR=79							
ASAR	**Alice Springs**	**84.84 220**	P		**P**		**06 32 43.2**	**-0.1**
URV	**Uravakonda**	**85.05 288**	*e*P		**P**		**06 32 44.1**	**-0.6**
UOSS	**Minazif**	**88.21 310**	P		**P**		**06 32 59.1**	**-0.9**
UOSS			IAmb		IAmb		06 32 59.8	
	comp=Z,40nm,1.5s							
STKA	**Stephens Creek**	**89.58 211**	P		**P**		**06 33 06.8**	**+0.9**
	comp=Z,20nm,0.6s,baz=353,slow=6.3,SNR=46							
STKA	**Stephens Creek**	**89.58 211**	IAmb		IAmb		06 33 07.9	
	comp=Z,30nm,1.6s							
TORD	**Torodi Ar. Bea**	**115.00 356**	PKP		**PKiKP**		**06 38 48.3**	**-1.1**
	comp=Z,2.5nm,0.5s,baz=347,slow=2.4,SNR=40							
TORD			SKP				06 42 10.6	
	comp=Z,0.4nm,0.5s,baz=337,slow=2.9,SNR=4.9							
TORD			PKKPbc		**PKKPbc**		**06 49 24.1**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=171,slow=2.7,SNR=6.2							
KMBO	**Kilima Mbogo**	**119.74 314**	PKP		**PKiKP**		**06 38 59.6**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=28,slow=2.7,SNR=4.1							
KMBO	**Kilima Mbogo**	**119.74 314**	*i* PKiKP		**PKiKP**		**06 39 00.9**	**+2.0**
KMBO				pmax	pmax			
	comp=Z,1.0nm,0.4s							
DBIC	**Dimbokro**	**121.44 4**	PKP		**PKPdf**		**06 39 01.3**	**-0.5**
	comp=Z,4.8nm,0.6s,baz=316,slow=2.3,SNR=15							
BDFB	**Brasilia**	**128.38 63**	PKP		**PKPdf**		**06 39 14.9**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=164,slow=25,SNR=3.0							
VNDA	**Vanda**	**129.72 185**	SKPbc		SKPbc		06 42 27.4	+0.4
	comp=Z,3.1nm,0.8s,baz=331,slow=4.9,SNR=10							
CPUP	**Villa Florida**	**131.23 80**	PKP		**PKPdf**		**06 39 19.7**	**-0.3**
	comp=Z,1.5nm,0.8s,baz=96,slow=6.9,SNR=3.6							
CPUP			SKPbc		**SKPbc**		**06 42 31.2**	**-2.8**
	comp=Z,12nm,0.6s,baz=313,slow=3.4,SNR=38							
PLCA	**Paso Flores**	**132.83 105**	PKP		**PKiKP**		**06 39 23.2**	**-0.7**
	comp=Z,2.5nm,0.6s,baz=263,slow=3.0,SNR=16							
PLCA			SKPbc		**SKPbc**		**06 42 37.9**	**-1.4**
	comp=Z,9.4nm,0.8s,baz=300,slow=4.3,SNR=24							
QSPA	**South Pole Qui**	**141.81 180**	PKhKP		PKPpre		06 39 33.0	
	comp=Z,12nm,0.7s,baz=22,slow=1.1,SNR=48							
QSPA			SKPbc		**SKPbc**		**06 43 04.5**	**-0.1**
	comp=Z,4.0nm,0.6s,baz=245,slow=2.5,SNR=5.1							
TSUM	**Tsumeb**	**143.93 328**	PKPdf		**PKPdf**		**06 39 43.0**	**-0.7**
MAW	**Mawson**	**145.95 218**	PKPbc		**PKPbc**		**06 39 46.3**	**-0.1**
	comp=Z,32nm,0.7s,baz=72,slow=4.1,SNR=30							
MAW	**Mawson**	**145.95 218**	PKP2		**PKPbc**		**06 39 45.9**	**-0.5**
MAW	**Mawson**	**145.95 218**	PKPdf		**PKPbc**		**06 39 45.9**	**-0.5**
LBTB	**Lobatse**	**146.00 312**	PKP2		**PKPbc**		**06 39 47.8**	**-0.3**
LBTB	**Lobatse**	**146.00 312**	PKPdf		**PKPbc**		**06 39 47.8**	**-0.3**
BOSA	**Boshof**	**149.21 309**	PKPbc		**PKPbc**		**06 39 57.0**	**+0.3**
	comp=Z,27nm,0.6s,baz=33,slow=2.5,SNR=95							
SYO	**Syowa Base**	**154.31 213**	⇑X		**PKPbc**		**06 40 05.0**	**-1.9**
SYO	**Syowa Base**	**154.31 213**	⇑*e*X		**PKPab**		**06 40 20.0**	**-1.6**
SNAA	**Sanae**	**160.31 179**	PKPab		**PKPab**		**06 40 46.7**	**-0.9**
SNAA	**Sanae**	**160.31 179**	PKIKP		**PKPdf**		**06 40 06.2**	**+0.1**
SNAA	**Sanae**	**160.31 179**	PKPdf		**PKPdf**		**06 40 06.2**	**+0.1**
VNA3	**Neumayer Olymp**	**160.40 172**	PKPdf		**PKPdf**		**06 40 07.2**	**+1.1**
VNA2	**Neumayer--Watz**	**160.88 174**	PKPdf		**PKPdf**		**06 40 07.0**	**+0.3**
	baz=199,slow=2.2							

*NEIC **24** 06:30:16.5±3.2, 30.02S±0.05×177.3W±0.1, h35km±2km, mb4.6/22, Error ellipse: s-maj=20.9km s-min=7.5km az=80.0*
*IDC **24** 06:30:19.4±2.2, 29.82S×177.50W, h41km±15km, mb4.2/9, mb1 4.4/9, mb1mx4.1/30, mbtmp4.4/9, MS4.6/1, Ms1 4.6/1, ms1mx3.4/33, Error ellipse: s-maj=26.8km s-min=20.1km az=102.0*

ISC 24 06:30:17.8±0.7, 30.12S±0.05×177.6W±0.1, h35km, n94, σ2s28/107, mb4.6/13, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.91**	**340**	P	**Pn**	**06 30 32.1**	**-1.9**
GLKZ				S	**Sn**	**06 30 44.2**	**-1.7**
RAO	**Raoul Island**	**0.92**	**340**	P	**Pn**	**06 30 32.2**	**-2.0**
	3μm,0.3s,baz=103,slow=6.4,SNR=108						
RAO				S	**Sn**	**06 30 43.6**	**-2.5**
	4μm,0.3s,baz=95,slow=22,SNR=11						
RIZ	**Raoul Island**	**0.93**	**340**	P	**Pn**	**06 30 32.3**	**-2.0**
RIZ				S	**Sn**	**06 30 44.4**	**-2.0**
MXZ	**Matakaoa Point**	**8.18**	**204**	P	**Pn**	**06 32 12.5**	**-1.6**
MXZ				S	**Sn**	**06 33 45.3**	**0.0**
MXZ	**Matakaoa Point**	**8.18**	**204**	Pn	**Pn**	**06 32 13.8**	**-0.2**
WMGZ	**Waiomatatini S**	**8.38**	**202**	P	**Pn**	**06 32 18.7**	**+1.9**
WMGZ				S	**Sn**	**06 33 48.3**	**-1.7**
HAZ	**Te Kaha**	**8.54**	**206**	P	**Pn**	**06 32 18.6**	**-0.4**
HAZ				S	**Sn**	**06 33 57.0**	**+2.8**
PKGZ	**Pakihiroa**	**8.55**	**204**	P	**Pn**	**06 32 18.0**	**-1.3**
PKGZ				S	**Sn**	**06 33 54.5**	**-0.1**
PUZ	**Puketiti**	**8.66**	**202**	P	**Pn**	**06 32 18.6**	**-2.1**
PUZ				S	**Sn**	**06 33 58.7**	**+1.7**
RUGZ	**Raukumara Rang**	**8.77**	**205**	P	**Pn**	**06 32 22.7**	**+0.4**
RUGZ				S	**Sn**	**06 34 01.9**	**+2.0**
CNGZ	**Carnagh Statio**	**9.05**	**202**	P	**Pn**	**06 32 24.7**	**-1.3**
CNGZ				S	**Sn**	**06 34 02.1**	**-4.5**
TKGZ	**Te Karaka**	**9.13**	**203**	P	**Pn**	**06 32 22.6**	**-4.4**
TKGZ				S	**Sn**	**06 34 08.2**	**-0.3**
MWZ	**Matawai**	**9.15**	**205**	P	**Pn**	**06 32 26.7**	**-0.7**
MWZ				S	**Sn**	**06 34 10.4**	**+1.3**
URZ	**Urewera**	**9.24**	**207**	P	**Pn**	**06 32 26.7**	**-1.9**
URZ				S	**Sn**	**06 34 12.3**	**+1.0**
URZ	**Urewera**	**9.24**	**207**	Pn	**Pn**	**06 32 29.3**	**+0.7**
RIGZ	**Rimuhau**	**9.40**	**203**	P	**Pn**	**06 32 28.8**	**-2.0**
RIGZ				S	**Sn**	**06 34 14.4**	**-0.8**
SNGZ	**Shannon Statio**	**9.61**	**205**	P	Pn	06 32 25.5	-8.2
SNGZ				S	**Sn**	**06 34 19.2**	**-1.2**
HSRZ	**Hossack Road**	**9.65**	**210**	P	**Pn**	**06 32 34.1**	**-0.1**
KNZ	**Kokohu**	**9.71**	**203**	P	**Pn**	**06 32 30.5**	**-4.6**
KNZ				S	**Sn**	**06 34 21.5**	**-1.3**
NMHZ	**Naumai**	**10.09**	**206**	P	**Pn**	**06 32 38.3**	**-2.0**
NMHZ				S	**Sn**	**06 34 31.9**	**-0.3**
BKZ	**Black Stump Fm**	**10.27**	**207**	P	**Pn**	**06 32 42.7**	**0.0**
BKZ				S	**Sn**	**06 34 35.6**	**-1.0**
BKZ	**Black Stump Fm**	**10.27**	**207**	Pn	**Pn**	**06 32 43.5**	**+0.8**
BKZ					**Sn**	**06 34 40.6**	**+4.0**
HIZ	**Hauiti**	**10.46**	**215**	Pn	**Pn**	**06 32 45.9**	**+0.7**
BHHZ	**Black Hill Sta**	**10.72**	**208**	P	**Pn**	**06 32 47.9**	**-0.9**
BHHZ				S	**Sn**	**06 34 45.8**	**-1.8**
KRHZ	**Kereru**	**10.73**	**206**	P	**Pn**	**06 32 49.2**	**+0.2**
KRHZ				S	**Sn**	**06 34 46.6**	**-1.2**
PXZ	**Pawanui**	**10.89**	**203**	P	**Pn**	**06 32 49.8**	**-1.4**
BFZ	**Birch Farm**	**11.69**	**204**	P	**Pn**	**06 33 00.8**	**-1.3**
BFZ				S	**Sn**	**06 35 02.8**	**-8.5**
BFZ	**Birch Farm**	**11.69**	**204**	Pn	**Pn**	**06 33 01.8**	**-0.3**
BHW	**Baring Head**	**12.83**	**207**	Pn	**Pn**	**06 33 16.4**	**-1.2**
TUWZ	**Tuamarina**	**13.22**	**209**		**Pn**	**06 33 21.1**	**-1.9**
NNZ	**Nelson**	**13.29**	**211**	Pn	**Pn**	**06 33 24.7**	**+0.7**
QRZ	**Quartz Range**	**13.38**	**214**	P	P	06 33 29.3	-5.0
THZ	**Tophouse**	**13.94**	**211**	P	**Pn**	**06 33 33.6**	**+0.7**
THZ				S	**Sn**	**06 35 57.4**	**-9.0**
KHZ	**Kahutara**	**14.21**	**208**	Pn	**Pn**	**06 33 35.8**	**-0.7**
LTZ	**Lake Taylor**	**15.04**	**210**	P	P	**06 33 49.9**	**-2.9**
LTZ				S	Sn	06 36 20.0	-13
LTZ	**Lake Taylor**	**15.04**	**210**	Pn	**P**	**06 33 49.8**	**-2.9**
LTZ				IAmb	IAmb	06 34 07.7	
	comp=Z,38nm,1.3s						
INZ	**Inchbonnie**	**15.37**	**212**	P	**Pn**	**06 33 52.1**	**+0.1**
INZ				S	**Sn**	**06 36 30.5**	**-10**
OXZ	**Oxford**	**15.58**	**209**	Pn	**Pn**	**06 33 53.1**	**-1.7**
OXZ				IAmb	IAmb	06 34 00.3	
	comp=Z,31nm,0.5s						
MQZ	**McQueen's Vall**	**15.64**	**207**	Pn	**Pn**	**06 33 53.1**	**-2.4**
MQZ				IAmb	IAmb	06 34 06.6	
	comp=Z,43nm,1.3s						
RPZ	**Rata Peaks**	**16.32**	**211**	P	**Pn**	**06 34 01.7**	**-2.6**
	comp=Z,0.5nm,0.3s,baz=329,slow=13,SNR=2.0						
RPZ	**Rata Peaks**	**16.32**	**211**	P	**Pn**	**06 34 03.5**	**-0.8**
RPZ				IAmb	IAmb	06 34 08.9	
	comp=Z,40nm,1.2s						
FOZ	**Fox Glacier**	**16.75**	**213**	Pn	**Pn**	**06 34 09.7**	**+0.1**
FOZ				IAmb	IAmb	06 34 20.2	
	comp=Z,35nm,1.0s						
LBZ	**Lake Benmore**	**17.23**	**211**	Pn	**Pn**	**06 34 15.1**	**-0.6**
LBZ				IAmb	IAmb	06 34 16.9	
	comp=Z,43nm,1.3s						
ODZ	**Otahua Downs**	**17.56**	**209**	Pn	**P**	**06 34 19.5**	**-1.0**
MLZ	**Mavora Lakes**	**18.93**	**213**	P	**Pn**	**06 34 35.8**	**-0.7**
WHZ	**Wether Hill Ro**	**19.41**	**212**	P	**P**	**06 34 40.7**	**-0.1**
WHZ				IAmb	IAmb	06 34 59.2	
	comp=Z,33nm,1.1s						
CTA	**Charters Tower**	**34.13**	**278**	LR	LR	06 50 07.0	
	comp=Z,818nm,18.2s,baz=80,slow=35						
CTAO	**Charters Tower**	**34.13**	**278**	P	**P**	**06 37 01.1**	**+1.4**
STKA	**Stephens Creek**	**34.91**	**256**	P	**P**	**06 37 09.8**	**+3.6**
	comp=Z,7.4nm,0.6s,baz=94,slow=11,SNR=18						
STKA	**Stephens Creek**	**34.91**	**256**	P	**P**	**06 37 09.7**	**+3.4**
BBOO	**Buckleboo**	**39.41**	**254**	P	**P**	**06 37 46.3**	**+1.8**
COEN	**Coen**	**39.56**	**285**	P	**P**	**06 37 48.9**	**+3.1**
COEN				IAmb	IAmb	06 37 49.6	
	comp=Z,15nm,1.4s						
ASAR	**Alice Springs**	**43.51**	**266**	P	**P**	**06 38 18.8**	**+0.6**
	comp=Z,6.1nm,0.6s,baz=102,slow=6.9,SNR=45						
ASAR	**Alice Springs**	**43.51**	**266**	P	**P**	**06 38 19.3**	**+1.1**
WR0	**Warramunga Arr**	**44.29**	**272**	P	**P**	**06 38 25.1**	**+0.7**
WR0				IAmb	IAmb	06 38 37.8	
	comp=Z,13nm,0.9s						
WB2	**Warramunga Arr**	**44.46**	**272**	P	**P**	**06 38 26.5**	**+0.7**
WB2				IAmb	IAmb	06 38 29.0	
	comp=Z,14nm,0.8s						
WRAB	**Tennant Creek**	**44.46**	**272**	P	**P**	**06 38 27.4**	**+1.5**
WRAB				IAmb	IAmb	06 38 39.9	
	comp=Z,14nm,0.8s						
WRA	**Warramunga Arr**	**44.47**	**272**	P	**P**	**06 38 26.0**	**+0.1**
	comp=Z,10nm,0.6s,baz=110,slow=7.7,SNR=57						
WRA	**Warramunga Arr**	**44.47**	**272**	P	**P**	**06 38 26.2**	**+0.4**
WB0	**Warramunga Arr**	**44.49**	**272**	P	**P**	**06 38 26.3**	**+0.3**
FORT	**Forrest**	**46.49**	**255**	P	P	**06 38 41.7**	**0.0**
VNDA	**Vanda**	**48.41**	**186**	P	P	06 39 00.1	+4.1
	comp=Z,0.9nm,0.7s,baz=25,slow=7.4,SNR=7.6						
VNDA	**Vanda**	**48.41**	**186**	P	P	06 38 59.9	+3.8
FITZ	**Fitzroy Crossi**	**52.74**	**269**	P	**P**	**06 39 30.6**	**+1.1**
CASY	**Casey**	**55.57**	**208**	P	**P**	**06 39 51.1**	**+1.7**
MJAR	**Matsushiro Arr**	**78.23**	**325**	P	**P**	**06 42 13.8**	**-0.1**
	comp=Z,3.1nm,0.8s,baz=167,slow=6.7,SNR=5.2						
SNAA	**Sanae**	**78.43**	**178**	P	**P**	**06 42 17.2**	**+2.5**
VNA3	**Neumayer Olymp**	**78.56**	**176**	P	**P**	**06 42 16.6**	**+1.3**
VNA2	**Neumayer--Watz**	**79.00**	**177**	P	**P**	**06 42 18.6**	**+0.9**
	baz=180,slow=6.1						
H03S2	**Juan Fernandez**	**80.30**	**123**	T	T	08 11 56.5	
	baz=238,slow=74,SNR=16						
H03S1	**Juan Fernandez**	**80.31**	**123**	T	T	08 11 57.7	
	baz=238,slow=74,SNR=17						
H03S3	**Juan Fernandez**	**80.32**	**123**	T	T	08 11 56.6	
	baz=238,slow=74,SNR=18						
H03N3	**Juan Fernandez**	**80.49**	**123**	T	T	08 12 03.8	
	baz=253,slow=72,SNR=7.3						
H03N2	**Juan Fernandez**	**80.50**	**123**	T	T	08 12 06.4	
	baz=253,slow=72,SNR=4.7						
H03N1	**Juan Fernandez**	**80.51**	**123**	T	T	08 12 12.5	
	baz=253,slow=72,SNR=12						
KSRS	**Korea Array**	**84.38**	**319**	P	**P**	**06 42 47.1**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=152,slow=7.9,SNR=1.9						
PETK	**Petropavlovsk-**	**85.63**	**345**	P	**P**	**06 42 52.0**	**-0.4**
	comp=Z,1.7nm,0.5s,baz=120,slow=8.5,SNR=6.6						
USRK	**Ussuriysk Ar.**	**87.14**	**326**	P	**P**	**06 43 01.2**	**+1.3**
	comp=Z,3.2nm,0.8s,baz=83,slow=4.4,SNR=6.5						
USRK	**Ussuriysk Ar.**	**87.14**	**326**	P	**P**	**06 42 59.6**	**-0.3**
NVAR	**Mina Array Bea**	**87.77**	**42**	P	**P**	**06 43 03.8**	**+0.3**
	comp=Z,1.2nm,0.8s,baz=230,slow=7.8,SNR=5.1						
MKAR	**Makanchi Array**	**117.88**	**310**	PKP	**PKPdf**	**06 48 59.1**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=222,slow=1.6,SNR=2.4						
FIA1	**FINESS Array S**	**145.01**	**340**		**PKPbc**	**06 49 49.5**	**-0.5**
FINES	**FINESS Array B**	**145.01**	**340**	PKP	**PKPbc**	**06 49 49.2**	**-0.9**
	comp=Z,16nm,0.8s,baz=65,slow=3.3,SNR=60						
FINES	**FINESS Array B**	**145.01**	**340**		**PKPbc**	**06 49 49.0**	**-1.0**
KBZ	**Khabaz**	**145.27**	**304**	PKPbc	**PKPab**	**06 49 51.6**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=129,slow=5.0,SNR=4.6						
NB2	**NORSAR Subarra**	**148.53**	**352**	PKP	**PKPbc**	**06 49 59.2**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=7.9,slow=2.6						
NOA	**NORSAR Array B**	**148.53**	**352**	PKPbc	**PKPbc**	**06 49 59.8**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=14,slow=4.3,SNR=7.3						
AKASG	**Malin Array Be**	**151.30**	**323**	PKPbc	**PKPbc**	**06 50 06.5**	**-0.7**
	comp=Z,1.9nm,0.4s,baz=45,slow=3.0,SNR=6.7						
AKASG	**Malin Array Be**	**151.30**	**323**		**PKPbc**	**06 50 06.4**	**-0.9**
BRTR	**Keskin Array B**	**152.80**	**299**	PKPbc	**PKPbc**	**06 50 10.4**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=121,slow=4.8,SNR=6.1						
CLL	**Collm**	**157.41**	**343**	*e*PKPab	**PKPab**	**06 50 41.0**	**-0.3**
CLL				*i*		06 50 46.7	
	comp=Z,6.0nm,0.8s						
BRG	**Bergqiesshubel**	**157.55**	**341**	*e*PKP	**PKPab**	**06 50 41.5**	**-0.5**
	comp=Z,4.5nm,1.1s						
GERES	**GERESS Array B**	**159.42**	**338**	PKPab	**PKPab**	**06 50 49.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=38,slow=5.4,SNR=7.2						
TORD	**Torodi Ar. Bea**	**163.10**	**178**	PKPab	**PKPab**	**06 51 08.8**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=182,slow=4.0,SNR=4.1						

*SOME **24** 06:31:36.7, 40.85N×69.87E, h5km*
*NNC **24** 06:31:37.4±3.8, 40.85N×69.40E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=27.2km s-min=23.9km az=65.0*
*KRNET **24** 06:31:37.1±0.1, 41.05N×69.33E, mb2.5*

ISC 24 06:31:39.1±2.1, 40.93N±0.06×69.4E±0.1, h34km±3km, n11, σ1s44/21, 6C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**luzhnay**	**1.31**	**22**	⇓*e*P	**Pb**	**06 32 03.3**	**+0.1**
	14nm,0.2s						
IUG				*e*S	**Sb**	**06 32 22.6**	**+2.7**
	102nm,0.7s						
IUG	**luzhnay**	**1.31**	**22**	P	**Pb**	**06 32 03.3**	**+0.1**
	14nm,0.2s						
IUG				S	**Sb**	**06 32 22.6**	**+2.7**
	102nm,0.7s						
BTK	**Batken**	**1.41**	**128**	⇑*e*P	**Pb**	**06 32 04.0**	**-0.9**
	baz=31						
BTK				⇑*i*S	**Sb**	**06 32 23.7**	**+1.1**
	baz=31						
BRLS	**Borolday**	**2.12**	**9**	*e*P	**Pn**	**06 32 12.0**	**-0.2**
	19nm,0.3s						
BRLS				*e*S	**Sn**	**06 32 37.5**	**+0.1**
	33nm,0.3s						
BRLS	**Borolday**	**2.12**	**9**	P	**Pn**	**06 32 12.0**	**-0.2**
	19nm,0.3s						
BRLS				S	**Sn**	**06 32 37.5**	**+0.1**
	33nm,0.3s						
ARK	**Arkit**	**2.14**	**65**	⇑*i*P	**Pn**	**06 32 12.9**	**+0.4**
	baz=69						
ARK				⇑*i*S	**Sn**	**06 32 38.5**	**+0.6**
	baz=69						
KK31	**Karatay Array**	**2.33**	**21**	⇓Pn	**Pb**	**06 32 18.7**	**-1.7**
	8.8nm,0.8s,baz=198,slow=15,SNR=35						
KK31				Sn	**Sb**	**06 32 48.9**	**+0.1**
	7.2nm,0.4s,baz=204,slow=27,SNR=13						
OHH	**Osh**	**2.63**	**98**	⇓*i*P	**Pn**	**06 32 19.7**	**+0.5**
	baz=0.0						
OHH				⇓*i*S	**Sn**	**06 32 51.7**	**+1.7**
	baz=0.0						
ARSB	**Arslanbob**	**2.76**	**81**	⇑*i*P	**Pn**	**06 32 21.7**	**+0.6**
	baz=83						
ARSB				⇑*i*S	**Sn**	**06 32 53.7**	**+0.4**
	baz=83						
MRKS	**Merke**	**3.41**	**57**	*e*P	**Pb**	**06 32 36.5**	**-2.3**
	4.8nm,0.4s						
MRKS				*e*S	**Sb**	**06 33 19.3**	**-0.4**
	7.7nm,0.5s						
MRKS	**Merke**	**3.41**	**57**	Pg	**Pb**	**06 32 36.5**	**-2.3**
	4.8nm,0.4s						
MRKS				Lg	Lg	06 33 19.3	
	7.7nm,0.5s						

*PGC **24** 06:33:46.4±0.3, 59.94N×140.85W, h4km, ML3.1/11, 105km Wnw of Yakutat, Ak Southeastern Alaska*
*AEIC **24** 06:33:46±3.0, 60.00N±0.04×140.73W±0.04, h15km±6km, ML3.1,ML3.1(OTT), Error ellipse: s-maj=5.9km s-min=2.0km az=197.0*
*NEIC **24** 06:33:47.6±2.9, 60.00N±0.03×140.79W±0.05, h19km±6km, Error ellipse: s-maj=4.8km s-min=3.0km az=207.0*

ISC 24 06:33:46.1±1.0, 60.00N±0.03×140.75W±0.02, h11km±8km, n94, σ1s91/121, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHX	**Chaix Hills**	**0.19**	**290**		**Pg**	**06 33 50.5**	**+0.2**
PCA	**Pinnacle**	**0.27**	**68**	P	**Pb**	**06 33 52.5**	**-0.5**
PCA				S	**Sb**	**06 33 56.9**	**-0.7**
PCA	**Pinnacle**	**0.27**	**68**	Pg	**Pb**	**06 33 52.7**	**-0.3**
PCA	**Pinnacle**	**0.27**	**68**		**Sb**	**06 33 58.1**	**+0.5**
RKAV	**Rock Avalanche**	**0.42**	**316**	P	**Pg**	**06 33 54.9**	**+0.4**
RKAV				S	**Sg**	**06 34 00.0**	**-0.1**
RKAV	**Rock Avalanche**	**0.42**	**316**		**Pg**	**06 33 54.7**	**+0.2**
RKAV					**Sb**	**06 34 02.9**	**+0.7**
TABL	**Table Mountain**	**0.48**	**337**	P	**Pg**	**06 33 56.0**	**+0.3**
TABL				S	**Sb**	**06 34 03.3**	**-0.7**
TABL	**Table Mountain**	**0.48**	**337**		**Pg**	**06 33 55.8**	**+0.2**
TABL	**Table Mountain**	**0.48**	**337**		**Sb**	**06 34 04.9**	**+0.9**
YAH	**Yahtse**	**0.62**	**307**	Pg	**Pb**	**06 33 59.1**	**+0.1**
MESA	**MESA**	**0.63**	**287**	P	**Pb**	**06 33 58.8**	**-0.4**
MESA				S	**Sg**	**06 34 07.1**	**+0.5**
MESA	**MESA**	**0.63**	**287**	Pg	**Pb**	**06 33 59.1**	**-0.1**
MESA	**MESA**	**0.63**	**287**		**Sn**	**06 34 09.6**	**-1.6**
YKU2	**Yakutat**	**0.73**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.94**	**312**	Pn	Pn	06 37 27.6	0.0
	178nm,0.3s,baz=74,slow=16,SNR=5.5						
RAO				Sn	Sn	06 37 40.9	+1.0
	629nm,0.3s,baz=99,slow=21,SNR=7.4						
ASAR	**Alice Springs**	**43.90**	**266**	P	P	06 45 13.9	-0.5
	0.9nm,0.7s,baz=100,slow=7.3,SNR=6.1						
WRA	**Warramunga Arr**	**44.84**	**271**	P	P	06 45 22.0	0.0
	3.4nm,0.6s,baz=111,slow=8.0,SNR=11						
FINES	**FINESS Array B**	**144.92**	**341**	PKP	PKPbc	06 56 43.2	+0.3
	1.4nm,0.5s,baz=35,slow=3.0,SNR=3.3						

*IDC **24** 06:38:45.2±0.9,30.°02S×177.°35W,h0km,mb4.5/9, mb1 4.6/9,mb1mx4.2/40,mbtmp4.5/9,MS4.2/7,Ms1 4.2/7, ms1mx3.8/30,Error ellipse: s-maj=24.2km s-min=18.4km az=66.0*

*NEIC **24** 06:38:50.3±2.5,30.°11S±0.°06×177.°4W±0.°1,h35km±1km, mb4.7/25,Error ellipse: s-maj=19.6km s-min=9.7km az=77.0*

ISC 24 06:38:50.3±0.6,**30.°15S**±0.°07×**177.°4W**±0.°1,**h35**km,**n69,** σ1§**49**/62,**mb4.8**/15,**MS4.3**/6,**3C,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.99**	**334**	Pn	**Pn**	**06 39 06.0**	**-1.7**
	2µm,0.3s,baz=84,slow=18,SNR=15						
RAO				Sn	**Sn**	**06 39 19.9**	**-0.6**
	5µm,0.3s,baz=37,slow=23,SNR=14						
RAO	**Raoul Island**	**0.99**	**334**		**Pn**	**06 39 06.0**	**-1.7**
URZ	**Urewera**	**9.27**	**208**	Pn	**Pn**	**06 41 02.1**	**+0.7**
BKZ	**Black Stump Fm**	**10.29**	**207**	Pn	**Pn**	**06 41 11.9**	**-3.6**
HIZ	**Hauiti**	**10.50**	**215**	Pn	**Pn**	**06 41 19.4**	**+1.2**
BFZ	**Birch Farm**	**11.70**	**204**	Pn	**Pn**	**06 41 33.5**	**-1.2**
MSWZ	**Moikau Station**	**12.71**	**206**	Pn	**Pn**	**06 41 47.3**	**-1.2**
TUWZ	**Tuamarina**	**13.25**	**210**	Pn	**Pn**	**06 41 54.9**	**-0.9**
NNZ	**Nelson**	**13.32**	**212**	Pn	**Pn**	**06 41 54.9**	**-1.9**
QRZ	**Quartz Range**	**13.42**	**215**	Pn	**Pn**	**06 41 59.3**	**+1.1**
KHZ	**Kahutara**	**14.23**	**208**	Pn	**Pn**	**06 42 09.5**	**-1.8**
OXZ	**Oxford**	**15.61**	**210**	Pn	**Pn**	**06 42 28.1**	**+0.5**
OXZ				IAmb	IAmb	06 42 39.6	
	comp=Z,25nm,0.6s						
MQZ	**McQueen's Vall**	**15.67**	**208**	Pn	**Pn**	**06 42 23.1**	**-5.2**
MQZ				IAmb	IAmb	06 42 30.8	
	comp=Z,34nm,1.2s						
RPZ	**Rata Peaks**	**16.35**	**211**	Pn	**Pn**	**06 42 34.6**	**-2.5**
DZM	**Mont Dzumac**	**16.56**	**295**	LR	LR	06 47 56.3	
	comp=Z,1µm,18.9s,baz=189,slow=33						
LBZ	**Lake Benmore**	**17.27**	**211**	Pn	**Pn**	**06 42 46.8**	**-1.7**
ODZ	**Otahua Downs**	**17.59**	**209**	P	**P**	**06 42 53.2**	**-0.1**
WKZ	**Wanaka**	**18.14**	**212**	Pn	**Pn**	**06 42 56.0**	**-3.3**
WKZ				IAmb	IAmb	06 43 00.4	
	comp=Z,95nm,1.4s						
MLZ	**Mavora Lakes**	**18.96**	**213**	P	**P**	**06 43 05.9**	**-2.5**
MLZ				IAmb	IAmb	06 43 09.6	
	comp=Z,35nm,1.3s						
WHZ	**Wether Hill Ro**	**19.44**	**212**	P	**P**	**06 43 11.1**	**-2.5**
WHZ				IAmb	IAmb	06 43 12.6	
	comp=Z,65nm,1.5s						
PPT	**Papeete**	**28.29**	**70**	LR	LR	06 56 01.3	
	comp=Z,184nm,18.1s,baz=280,slow=37						
TOO	**Toolangi**	**31.52**	**246**	P	**P**	**06 45 09.3**	**+0.2**
TOO				IAmb	IAmb	06 45 11.9	
	comp=Z,23nm,1.1s						
CTA	**Charters Tower**	**34.26**	**278**	P	**P**	**06 45 34.3**	**+1.2**
	comp=Z,9.3nm,0.7s,baz=102,slow=10,SNR=13						
CTAO	**Charters Tower**	**34.26**	**278**	P	**P**	**06 45 34.0**	**+0.9**
STKA	**Stephens Creek**	**35.02**	**256**	P	**P**	**06 45 41.9**	**+2.3**
	comp=Z,4.6nm,0.4s,baz=98,slow=11,SNR=13						
STKA				LR	LR	06 58 41.4	
	comp=Z,645nm,21.1s,baz=68,slow=34						
BBOO	**Buckleboo**	**39.52**	**254**	P	**P**	**06 46 18.6**	**+0.9**
AS31	**Alice Springs**	**43.62**	**266**	P	**P**	**06 46 52.7**	**+1.2**
ASAR	**Alice Springs**	**43.62**	**266**	P	**P**	**06 46 50.9**	**-0.7**
	comp=Z,2.8nm,0.6s,baz=103,slow=7.5,SNR=17						
ASAR				LR	LR	07 04 50.2	
	comp=Z,780nm,18.4s,baz=74,slow=36						
WR0	**Warramunga Arr**	**44.41**	**272**	P	**P**	**06 46 58.4**	**+0.6**
WR0				IAmb	IAmb	06 47 10.7	
	comp=Z,14nm,0.9s						
WB2	**Warramunga Arr**	**44.58**	**272**	P	**P**	**06 46 59.1**	**0.0**
WB2				IAmb	IAmb	06 47 04.2	
	comp=Z,15nm,0.7s						
WRAB	**Tennant Creek**	**44.58**	**272**	P	**P**	**06 47 00.2**	**+1.0**
WRAB				IAmb	IAmb	06 47 12.6	
	comp=Z,17nm,0.9s						
WRA	**Warramunga Arr**	**44.59**	**272**	P	**P**	**06 46 58.7**	**-0.6**
	comp=Z,14nm,0.7s,baz=111,slow=7.9,SNR=20						
WRA	**Warramunga Arr**	**44.59**	**272**	P	**P**	**06 46 58.9**	**-0.4**
WB0	**Warramunga Arr**	**44.61**	**272**	P	**P**	**06 46 59.6**	**+0.2**
QSPA	**South Pole Qui**	**59.96**	**180**	P	**P**	**06 48 54.6**	**+1.8**
	comp=Z,3.4nm,0.9s,baz=218,slow=0.6,SNR=5.9						
QSPA	**South Pole Qui**	**59.96**	**180**	P	**P**	**06 48 54.8**	**+1.9**
SYO	**Syowa Base**	**77.47**	**193**	*e*P	**P**	**06 49 42.0**	**+0.4**
SYO	**Syowa Base**	**77.47**	**193**	*e*PcP	**PcP**	**06 50 49.9**	**-2.0**
SYO	**Syowa Base**	**77.47**	**193**	*e*pP	pP	06 50 52.0	+0.8
MJAR	**Matsushiro Arr**	**78.33**	**325**	P	**P**	**06 50 46.1**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=166,slow=5.5,SNR=2.1						
SNAA	**Sanae**	**78.39**	**178**	P	**P**	**06 50 46.7**	**-0.1**
VNA3	**Neumayer Olymp**	**78.52**	**176**	P	**P**	**06 50 47.5**	**0.0**
VNA2	**Neumayer--Watz**	**78.96**	**177**	P	**P**	**06 50 50.4**	**+0.5**
	baz=187,slow=3.8						
VNA1	**Neumayer--Stat**	**79.19**	**176**	P	**P**	**06 50 51.5**	**+0.4**
H03S2	**Juan Fernandez**	**80.18**	**123**	T	T	08 20 24.2	
	baz=238,slow=74,SNR=13						
H03S1	**Juan Fernandez**	**80.19**	**123**	T	T	08 20 20.3	
	baz=238,slow=74,SNR=11						
H03S3	**Juan Fernandez**	**80.20**	**123**	T	T	08 20 20.7	
	baz=238,slow=74,SNR=12						
H03N3	**Juan Fernandez**	**80.37**	**123**	T	T	08 20 29.4	
	baz=242,slow=72,SNR=6.4						
H03N2	**Juan Fernandez**	**80.38**	**123**	T	T	08 20 36.1	
	baz=242,slow=72,SNR=5.8						
H03N1	**Juan Fernandez**	**80.39**	**123**	T	T	08 20 34.0	
	baz=242,slow=72,SNR=11						
PETK	**Petropavlovsk**	**85.70**	**345**	P	**P**	**06 51 25.2**	**+0.1**
	comp=Z,3.9nm,0.8s,baz=146,slow=8.2,SNR=5.4						
PETK				LR	LR	07 29 15.6	
	comp=Z,64nm,18.5s,baz=91,slow=35						
NVAR	**Mina Array Bea**	**87.72**	**42**	P	**P**	**06 51 36.3**	**+0.7**
	comp=Z,0.6nm,0.8s,baz=239,slow=8.3,SNR=4.7						
U15A	**North Rim**	**90.10**	**47**	P	**P**	**06 51 46.1**	**-0.8**
U15A				IAmb	IAmb	06 52 02.8	
	comp=Z,8.4nm,1.3s						
KNB	**Kanab**	**90.13**	**46**	P	**P**	**06 51 47.1**	**+0.2**
G06A	**Carlson Farm,**	**91.06**	**36**	P	**P**	**06 51 51.0**	**+0.1**
G06A				IAmb	IAmb	06 52 06.6	
	comp=Z,5.1nm,1.0s						
KLR	**Kul'dur**	**91.08**	**329**	P	**P**	**06 51 51.6**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=358,slow=3.1,SNR=5.4						
MTPU	**Mount Pierson**	**91.16**	**46**	P	**P**	**06 51 53.8**	**+1.9**
PDAR	**Pinedale Array**	**95.61**	**43**	LR	LR	07 30 40.0	
	comp=Z,178nm,18.9s,baz=34,slow=33						
CPUP	**Villa Florida**	**99.75**	**128**	LR	LR	07 30 06.1	
	comp=Z,73nm,20.9s,baz=2.0,slow=31						
MKAR	**Makanchi Array**	**118.00**	**310**	PKP	**PKiKP**	**06 57 33.8**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=64,slow=3.4,SNR=2.2						
FIA1	**FINESS Array S**	**145.08**	**340**		**PKPab**	**06 58 22.5**	**-0.2**
FINES	**FINESS Array B**	**145.08**	**340**	PKP	**PKPbc**	**06 58 22.1**	**-0.6**
	comp=Z,3.9nm,0.5s,baz=60,slow=3.0,SNR=14						
FINES	**FINESS Array B**	**145.08**	**340**		**PKPbc**	**06 58 21.8**	**-0.9**
KBZ	**Khabaz**	**145.39**	**304**	PKPbc	**PKPab**	**06 58 24.5**	**+0.1**
	comp=Z,2.3nm,0.9s,baz=198,slow=1.4,SNR=3.2						
NB2	**NORSAR Subarra**	**148.58**	**352**	PKP	**PKPbc**	**06 58 32.9**	**+0.1**
	comp=Z,23nm,2.0s,baz=18,slow=3.2						
NOA	**NORSAR Array B**	**148.58**	**352**	PKPbc	**PKPbc**	**06 58 32.0**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=6.1,slow=1.3,SNR=2.8						
AKASG	**Malin Array Be**	**151.40**	**323**	PKPbc	**PKPbc**	**06 58 39.6**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=48,slow=2.4,SNR=2.9						
AKASG				PKPab	**sPKPdf**	**06 58 47.0**	**-0.4**
	comp=Z,5.4nm,0.7s,baz=50,slow=3.4,SNR=4.0						
BRTR	**Keskin Array B**	**152.92**	**299**	PKPbc	**PKPbc**	**06 58 43.7**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=159,slow=4.5,SNR=2.5						
BRTR				PKPab	**PKPab**	**06 58 55.8**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=131,slow=3.4,SNR=4.3						
CLL	**Collm**	**157.48**	**343**	*e*PKPab	**sPKPab**	**06 59 16.0**	**+2.0**
CLL				*ep*PKPab	**sPKPab**	**06 59 26.0**	**-1.4**

*MOS **24** 06:55:30.2±1.1,52.°03N×178.°50E,h121km,mb4.8/50, Error ellipse: s-maj=7.1km s-min=5.3km az=103.0*

*NEIC **24** 06:55:30.7±1.5,51.°96N±0.°08×178.°47E±0.°09, h116km±4km,mb4.9/415,ML4.7(AEIC),Error ellipse: s-maj=12.0km s-min=7.8km az=180.0*

*UNK **24** 06:55:31.1,52.°08N×178.°45E,h113km*

*AEIC **24** 06:55:31±1.9,51.°87N±0.°09×178.°37E±0.°09,h115km±3km, Error ellipse: s-maj=12.2km s-min=7.6km az=180.0*

*IDC **24** 06:55:31.9±0.6,52.°08N×178.°50E,h120km±4km,mb4.3/41, mb1 4.5/44,mb1mx4.4/52,mbtmp4.7/44,MS3.8/9, Ms1 3.8/9,ms1mx3.5/53,Error ellipse: s-maj=10.3km s-min=6.5km az=167.0*

ISC 24 06:55:30.9±0.4,**51.°98N**±0.°05×**178.°46E**±0.°03,**h115**km±2km, **h116**km:**pP-P,n913,**σ1§**02**/835,**mb4.9**/282,**24C-33D,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.04**	**112**		**Pn**	**06 55 46.3**	**-0.2**
LSSA	**Little Sitkin**	**0.05**	**137**		**Pn**	**06 55 46.3**	**-0.3**
LSPA	**Little Sitkin**	**0.07**	**112**		**Pn**	**06 55 46.3**	**-0.3**
CETU	**Semis' Tuman**	**0.64**	**91**		**Pn**	**06 55 49.6**	**+0.4**
CESW	**Semis' Southwe**	**0.69**	**97**		**Pn**	**06 55 49.5**	**-0.1**
CEAP	**Semis' Anvil P**	**0.69**	**88**		**Pn**	**06 55 50.0**	**+0.5**
CERAA	**Semis' Rag'd T**	**0.76**	**95**		**Pn**	**06 55 50.3**	**+0.1**
AMKA	**Amchitka**	**0.80**	**139**		**Pn**	**06 55 49.9**	**-0.6**
AMKA					**Sn**	**06 56 04.4**	**-0.9**
GAEA	**Gareloi East**	**1.74**	**96**		**Pn**	**06 56 00.3**	**-0.5**
TASE	**Tanaga Southea**	**2.17**	**93**		**Pn**	**06 56 06.3**	**+0.1**
TAFP	**Tanaga Falls P**	**2.20**	**91**		**Pn**	**06 56 06.5**	**-0.1**
TAFP					**Sn**	**06 56 33.5**	**-0.5**
TAPA	**Tanaga Point A**	**2.31**	**93**		**Pn**	**06 56 08.0**	**-0.1**
KIMD	**Kanaga Island**	**2.68**	**93**		**Pn**	**06 56 12.5**	**-0.2**
KICM	**Kanaga Island**	**2.69**	**90**		**Pn**	**06 56 13.0**	**+0.2**
KIKV	**Kanaga Island**	**2.71**	**91**		**Pn**	**06 56 12.9**	**-0.2**
SMY	**Shemya**	**2.78**	**287**	P	**Pn**	**06 56 12.9**	**-1.1**
SMY						06 56 45.8	
SMY	**Shemya**	**2.78**	**287**		**Pn**	**06 56 12.9**	**-1.1**
SMY					**Sn**	**06 56 45.8**	**-1.4**
ADK	**Adak**	**3.01**	**90**	P	**Pn**	**06 56 16.5**	**-0.5**
ADK	**Adak**	**3.01**	**90**		**Pn**	**06 56 16.5**	**-0.5**
ADAG	**Mount Adagdak**	**3.05**	**88**		**Pn**	**06 56 17.3**	**-0.3**
GSTD	**Great Sitkin T**	**3.33**	**87**		**Pn**	**06 56 21.1**	**-0.3**
GSTR	**Great Sitkin T**	**3.39**	**86**	Pn	**Pn**	**06 56 21.7**	**-0.3**
GSMY	**Great Sitkin M**	**3.39**	**87**		**Pn**	**06 56 21.6**	**-0.4**
ATKA	**Atka Island**	**4.53**	**84**	Pn	**Pn**	**06 56 37.1**	**-0.3**
ATKA	**Atka Island**	**4.53**	**84**		**Sn**	**06 57 28.2**	**-0.8**
KOFP	**Korovin Flat P**	**4.59**	**83**		**Pn**	**06 56 38.4**	**+0.2**
KOSE	**Korovin Southe**	**4.62**	**83**		**Pn**	**06 56 38.7**	**+0.1**
NIKH	**Nikolski High**	**7.81**	**78**	Pn	**Pn**	**06 57 22.2**	**+0.6**
OKSP	**Okmok Steeple**	**8.16**	**76**		**Pn**	**06 57 26.8**	**+0.4**
OKCE	**Okmok Cone E**	**8.25**	**75**		**Pn**	**06 57 28.1**	**+0.5**
OKNC	**Okmok New Cone**	**8.28**	**74**		**Pn**	**06 57 28.3**	**+0.3**
SPIA	**Saint Paul Isl**	**8.37**	**47**	Pn	**Pn**	**06 57 30.8**	**+1.7**
OKFG	**Magazine Ridge**	**8.40**	**75**		**Pn**	**06 57 30.4**	**+0.8**
UNV	**Unalaska Valle**	**9.27**	**72**	Pn	**Pn**	**06 57 41.3**	**-0.1**
AKUT	**Akutan**	**9.73**	**71**	Pn	**Pn**	**06 57 48.7**	**+1.1**
FALS	**False Pass**	**11.19**	**68**	Pn	**Pn**	**06 58 08.2**	**+1.1**
PET	**Petropavlovsk**	**12.11**	**283**	*i*P	**Pn**	**06 58 19.0**	**-0.4**
PET				*e*S	**Sn**	**07 00 26.9**	**-5.6**
PET				pmax	pmax		
	comp=Z,800nm,2.7s						
PET				pmax	pmax		
	comp=Z,107nm,1.3s						
PET	**Petropavlovsk**	**12.11**	**283**	Pn	**Pn**	**06 58 19.0**	**-0.4**
PEA0B	**Petropavlovsk-**	**12.69**	**283**	P	**Pn**	**06 58 27.4**	**+0.5**
PEA0B	**Petropavlovsk-**	**12.69**	**283**	Pn	**Pn**	**06 58 27.4**	**+0.5**
PETK	**Petropavlovsk-**	**12.69**	**283**	P	**Pn**	**06 58 26.6**	**-0.3**
	comp=Z,3.0nm,0.3s,baz=92,slow=20,SNR=66						
PETK				PcP	**PcP**	**07 03 54.8**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=90,slow=4.9,SNR=4.3						
PETK				ScP	**ScP**	**07 07 17.1**	**+0.9**
	comp=Z,0.5nm,0.3s,baz=132,slow=4.4,SNR=6.2						
PETK	**Petropavlovsk-**	**12.69**	**283**	Pn	**Pn**	**06 58 26.2**	**-0.8**
SDPT	**Sand Point**	**12.92**	**67**	Pn	**Pn**	**06 58 29.0**	**-1.0**
CNBA	**Chernabura Isl**	**13.39**	**69**	Pn	**Pn**	**06 58 33.7**	**-2.3**
SKR	**Severo-Kuril's**	**14.02**	**274**	*e*P	**Pn**	**06 58 43.3**	**-0.9**
SKR				pmax	pmax		
	comp=Z,31nm,1.1s						
SKR				pmax	pmax		
	comp=Z,300nm,3.4s						
SKR				MLR	MLR		
	comp=Z,200nm,15.0s						
CHIR	**Chirikof Islan**	**15.71**	**66**		**Pn**	**06 59 04.2**	**-1.3**
SII	**Sitkinak Islan**	**16.56**	**63**		**Pn**	**06 59 13.7**	**-2.3**
SVW2	**Sparrevohn**	**16.86**	**47**	IAmb	IAmb	06 59 27.6	
	comp=Z,63nm,0.9s						
OHAK	**Old Harbor**	**17.11**	**61**		**P**	**06 59 20.3**	**-2.2**
OHAK				IAmb	IAmb	06 59 22.9	
	comp=Z,97nm,1.0s						
BILL	**Bilibino**	**17.16**	**344**	*i*P	**Pn**	**06 59 24.8**	**+1.7**
BILL				*e*S	**Sn**	**07 02 31.6**	**-2.3**
BILL				pmax	pmax		
	comp=Z,33nm,1.0s						
BILL	**Bilibino**	**17.16**	**344**		**Pn**	**06 59 25.0**	**+1.9**
BILL				IAmb	IAmb	06 59 52.8	
	comp=Z,180nm,1.6s						
MA2	**Magadan**	**17.23**	**307**	P	**Pn**	**06 59 24.6**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=93,slow=13,SNR=3.5						
MA2				ScP	**ScP**	**07 07 23.7**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=124,slow=3.6,SNR=4.9						
TTA	**Tatalina**	**17.43**	**41**	IAmb	IAmb	06 59 29.4	
	comp=Z,72nm,0.9s						
KDAK	**Kodiak Island**	**17.55**	**59**	P	**P**	**06 59 25.7**	**-1.7**
	comp=Z,13nm,0.3s,baz=263,slow=5.8,SNR=127						
KDAK				ScP	**ScP**	**07 07 23.7**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=207,slow=3.8,SNR=7.1						
KDAK	**Kodiak Island**	**17.55**	**59**		**P**	**06 59 25.1**	**-2.3**
CAPN	**Captain Cook N**	**18.82**	**50**	P	**P**	**06 59 41.3**	**+0.1**
	baz=256						
O22K	**Cooper Landing**	**19.45**	**52**	P	**P**	**06 59 47.5**	**-0.5**
	baz=258						
BPAW	**Bear Paw Mtn.**	**19.97**	**41**	IAmb	IAmb	06 59 56.5	
	comp=Z,98nm,1.0s						
PMR	**Palmer**	**19.98**	**49**	P	**P**	**06 59 53.4**	**-0.3**
PMR				pmax	pmax		
	comp=Z,211nm,2.0s						
PMR	**Palmer**	**19.98**	**49**	P	**P**	**06 59 53.4**	**-0.3**
PMR				IAmb	IAmb	07 00 18.5	
	comp=Z,211nm,2.0s						
GHO	**Glory Hole Cre**	**20.12**	**48**	IAmb	IAmb	06 59 59.3	
	comp=Z,62nm,0.6s						
RND	**Reindeer**	**20.61**	**44**	IAmb	IAmb	07 00 25.4	
	comp=Z,117nm,1.4s						
MCK	**McKinley**	**20.68**	**43**	IAmb	IAmb	07 00 04.7	
	comp=Z,102nm,1.1s						
NEA2	**Nenana**	**20.93**	**40**	P	**P**	**07 00 04.7**	**+0.8**
	baz=248,SNR=45						
MID	**Middleton Isla**	**20.98**	**55**	P	**P**	**07 00 05.0**	**+0.6**
MID				pmax	pmax		
	comp=Z,372nm,0.8s						
MID	**Middleton Isla**	**20.98**	**55**	P	**P**	**07 00 05.0**	**+0.6**
WRH	**Wood River Hil**	**21.28**	**41**	IAmb	IAmb	07 00 10.8	
	comp=Z,48nm,1.0s						
EYAK	**Cordova Ski Ar**	**21.40**	**52**	P	**P**	**07 00 08.6**	**-0.3**
MDM	**Murphy Dome**	**21.40**	**40**	IAmb	IAmb	07 00 12.2	
	comp=Z,58nm,1.4s						
TCOL	**CIGO, UAF Yank**	**21.51**	**40**	P	**P**	**07 00 11.0**	**+0.8**
	baz=249,SNR=18						
COLA	**College**	**21.52**	**40**	*c i*P	**P**	**07 00 10.6**	**+0.4**
COLA				pmax	pmax		
	comp=Z,59nm,1.2s						
COLA	**College**	**21.52**	**40**	P	**P**	**07 00 11.1**	**+1.0**
COLA				IAmb	IAmb	07 00 24.0	
	comp=Z,45nm,0.8s						
COLD	**Coldfoot**	**21.65**	**33**	P	**P**	**07 00 12.1**	**+0.5**
	baz=241,SNR=18						
HDA	**Harding Lake**	**21.73**	**42**	P	**P**	**07 00 12.8**	**+0.4**
	baz=252,SNR=23						
POKR	**Poker Flat Res**	**21.77**	**40**	P	**P**	**07 00 13.4**	**+0.5**
	baz=249,SNR=13						
ILAR	**Eielson Array**	**21.87**	**41**	P	**P**	**07 00 11.9**	**-2.1**
	comp=Z,14nm,1.0s,baz=265,slow=12,SNR=54						
ILAR				PcP	**PcP**	**07 04 06.9**	**-1.6**
	comp=Z,2.3nm,0.7s,baz=270,slow=3.2,SNR=6.5						
ILAR				ScP	**ScP**	**07 07 31.4**	**-3.5**
	comp=Z,4.8nm,0.7s,baz=282,slow=3.4,SNR=22						
ILAR	**Eielson Array**	**21.87**	**41**	P	**P**	**07 00 13.3**	**-0.6**
TYV	**Tymovskoe**	**22.22**	**281**	*e*P	**P**	**07 00 19.6**	**+1.9**
TYV				pmax	pmax		
	comp=Z,45nm,1.9s						
TYV				pmax	pmax		
	comp=Z,200nm,2.0s						
RIDG	**Independent Ri**	**22.42**	**44**	IAmb	IAmb	07 00 57.6	
	comp=Z,69nm,1.1s						
GLB	**Gilahina Butte**	**22.45**	**50**	IAmb	IAmb	07 00 23.7	
	comp=Z,75nm,0.8s						
TOLK	**Toolik Lake Re**	**22.57**	**30**	P	**P**	**07 00 21.8**	**+0.6**
	baz=239,SNR=42						
TOLK	**Toolik Lake Re**	**22.57**	**30**	IAmb	IAmb	07 00 24.5	
	comp=Z,77nm,1.1s						
VRDI	**Verde Repeater**	**22.60**	**51**	IAmb	IAmb	07 00 24.9	
	comp=Z,87nm,0.8s						
DOT	**Dot Lake**	**22.74**	**45**	IAmb	IAmb	07 00 24.9	
	comp=Z,59nm,0.8s						
WAX	**Waxell Ridge**	**22.81**	**53**	P	**P**	**07 00 24.1**	**+0.4**
BALM	**Baldy**	**23.11**	**52**	IAmb	IAmb	07 00 27.8	
	comp=Z,75nm,0.9s						
FYU	**Fort Yukon**	**23.14**	**37**	P	**P**	**07 00 26.9**	**+0.3**
YSS	**Yuzh-Sakhalins**	**23.58**	**272**	*e*P	**P**	**07 00 33.0**	**+2.2**
YSS				*e*		07 00 55.3	
YSS				*e*		07 01 06.5	
YSS				pmax	pmax		
	comp=Z,40nm,1.2s						
YSS	**Yuzh-Sakhalins**	**23.58**	**272**	P	**P**	**07 00 30.7**	**-0.1**
YSS				IAmb	IAmb	07 00 35.7	
	comp=Z,54nm,1.2s						
BCAR	**Beaver Creek A**	**23.63**	**47**	P	**P**	**07 00 30.9**	**-0.3**
BMAR	**Burnt Mountain**	**23.70**	**35**	P	**P**	**07 00 32.4**	**+0.7**
EGAK	**Eagle**	**24.23**	**43**	P	**P**	**07 00 36.2**	**-0.3**
DAWY	**Dawson**	**24.85**	**45**	IAmb	IAmb	07 00 45.9	
	comp=Z,59nm,0.8s						
JKA	**Kamikawa-asahi**	**25.02**	**266**	IAmb	IAmb	07 01 29.3	
	comp=Z,93nm,1.6s						
ASAJ	**Asahikawa**	**25.03**	**266**	P	**P**	**07 00 45.4**	**+1.5**
	comp=Z,12nm,0.7s,baz=39,slow=5.0,SNR=9.2						
ASAJ				LR	LR	07 11 46.4	
	comp=Z,111nm,20.2s,baz=104,slow=39						
GRNR	**Gornyy**	**26.01**	**284**	*i*P	**P**	**07 00 51.6**	**-1.2**
GRNR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
GRNR				MLR	MLR		
	comp=E,70nm,15.0s						
GRNR				MLR	MLR		
	comp=N,120nm,16.0s						
EPYK	**Eagle Plains**	**26.36**	**40**	P	**P**	**07 00 55.8**	**0.0**
	baz=259,SNR=28						
EPYK	**Eagle Plains**	**26.36**	**40**	IAmb	IAmb	07 00 57.3	
	comp=Z,38nm,0.8s						
SKAG	**Skagway**	**26.59**	**55**	P	**P**	**07 00 58.1**	**+0.2**
SIT	**Sitka**	**26.88**	**61**	IAmb	IAmb	07 01 02.4	
	comp=Z,64nm,1.2s						
JIS	**Juneau Island**	**27.20**	**58**	IAmb	IAmb	07 01 05.4	
	comp=Z,41nm,0.9s						
YAK	**Yakutsk**	**27.73**	**310**	ScP	**ScP**	**07 07 51.1**	**-0.3**
	comp=Z,16nm,0.4s,baz=248,slow=1.6,SNR=4.3						
INK	**Inuvik**	**27.95**	**36**	P	**P**	**07 01 10.6**	**+0.7**
	comp=Z,4.4nm,0.6s,baz=244,slow=11,SNR=23						
INK				ScP	**ScP**	**07 07 51.1**	**-0.8**
	comp=Z,15nm,0.9s,baz=242,slow=3.1,SNR=21						
INK				LR	LR	07 12 10.5	
	comp=Z,219nm,18.5s,baz=240,slow=36						
INK	**Inuvik**	**27.95**	**36**	P	**P**	**07 01 11.0**	**+1.1**
INK				pmax	pmax		
	comp=Z,20nm,1.2s						
INK	**Inuvik**	**27.95**	**36**	P	**P**	**07 01 11.0**	**+1.1**
KLR	**Kul'dur**	**29.38**	**283**	P	**P**	**07 01 22.8**	**0.0**
	comp=Z,9.1nm,0.5s,baz=67,slow=8.2,SNR=49						
KLR				ScP	**ScP**	**07 07 56.9**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=28,slow=3.1,SNR=4.9						
DLBC	**Dease Lake**	**29.45**	**57**	P	**P**	**07 01 24.8**	**+1.4**
	comp=Z,15nm,0.9s,baz=282,slow=8.6,SNR=29						
DLBC				ScP	**ScP**	**07 07 56.2**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=186,slow=6.7,SNR=3.6						
DLBC				LR	LR	07 13 49.0	
	comp=Z,431nm

J01E **Myrtle Point** 38.92 80 P P 07 02 45.8 +0.7
baz=304
B08A **Colville Reser** 38.94 70 IAmb IAmb 07 02 46.0
comp=Z,20nm,1.0s
TJN **Taejon** 38.97 267 *deP* P 07 02 46.4 +0.9
JNU **Nakatsue** 38.97 260 P P 07 02 47.2 +1.5
comp=Z,9.7nm,0.9s,baz=38,slow=13,SNR=4.2
JNU PcP PcP 07 04 53.5 -0.2
comp=Z,10.0nm,0.9s,baz=17,slow=4.7,SNR=4.5
JNU **Nakatsue** 38.97 260 IAmb IAmb 07 02 48.2
comp=Z,20nm,1.1s
I03D **Drain, OR** 38.98 79 P P 07 02 46.4 +0.9
baz=304,SNR=7.0
H04A **Detroit Lake** 39.14 76 P P 07 02 46.8 -0.2
H04A IAmb IAmb 07 02 48.4
comp=Z,23nm,1.0s
K02D **Willamette Mer** 39.34 80 P P 07 02 49.6 +0.9
baz=304,SNR=8.8
G05D **Wamic, OR** 39.36 75 P P 07 02 48.0 -0.8
baz=302
I04A **Tendick Farm,** 39.49 78 P P 07 02 50.3 +0.4
baz=304,SNR=11
HAWA **Hanford** 39.82 73 P P 07 02 51.9 -0.6
HAWA IAmb IAmb 07 02 53.5
comp=Z,32nm,1.0s
C09A **Chrisman Ranch** 39.83 70 P P 07 02 52.5 -0.1
C09A IAmb IAmb 07 02 53.7
comp=Z,17nm,0.9s
D08A **Wollman Farm,** 39.83 71 P P 07 02 52.5 -0.1
I05D **Terrebonne, OR** 39.84 76 P P 07 02 52.8 0.0
baz=303,SNR=6.3
F07A **Phinny Hill Vi** 39.84 74 P P 07 02 53.1 +0.4
F07A IAmb IAmb 07 02 53.9
comp=Z,28nm,0.9s
KRMB **Red Mountain** 39.86 82 P P 07 02 53.9 +0.8
RES **Resolute Bay** 39.90 24 P P 07 02 54.1 +1.4
comp=Z,3.2nm,0.4s,baz=280,slow=6.1,SNR=13
RES **Resolute Bay** 39.90 24 IAmb IAmb 07 03 26.0
comp=Z,25nm,1.3s
J04D **Umpqua Nationa** 39.98 78 P P 07 02 55.1 +1.0
baz=304,SNR=9.1
E08A **Dider Farm, El** 40.04 72 P P 07 02 54.0 -0.4
E08A IAmb IAmb 07 02 55.1
comp=Z,20nm,0.9s
NEW **Newport** 40.26 69 P P 07 02 55.4 -0.8
baz=301,SNR=22
NEW **Newport** 40.26 69 P P 07 02 55.8 -0.4
comp=Z,17nm,0.8s,baz=300,slow=6.9,SNR=28
NEW ScP ScP 07 08 36.0 0.0
comp=Z,2.9nm,0.6s,baz=298,slow=7.8,SNR=5.8
NEW **Newport** 40.26 69 P P 07 02 55.6 -0.6
NEW pmax pmax
comp=Z,24nm,1.0s
NEW **Newport** 40.26 69 P P 07 02 55.5 -0.6
NEW IAmb IAmb 07 02 56.6
comp=Z,24nm,0.9s
KHMM **Horse Mountain** 40.35 82 P P 07 02 58.4 +1.3
KHMM IAmb IAmb 07 02 59.9
comp=Z,30nm,0.9s
PINE **Pine Mountain** 40.38 77 P P 07 02 57.7 +0.3
L04D **Klamath Falls** 40.44 80 P P 07 02 58.6 +0.8
baz=305,SNR=20
YBH **Yreka Blue Hor** 40.47 81 P P 07 02 59.6 +1.5
comp=Z,23nm,0.9s,baz=336,slow=4.7,SNR=65
YBH ScP ScP 07 08 36.7 -0.2
comp=Z,2.3nm,0.9s,baz=13,slow=1.9,SNR=5.9
YBH **Yreka Blue Hor** 40.47 81 IAmb IAmb 07 03 00.7
comp=Z,27nm,0.9s
J05D **Fort Rock, OR** 40.48 78 P P 07 02 58.8 +0.6
baz=304,SNR=18
K04D **Chiloquin, OR** 40.54 79 P P 07 02 59.1 +0.4
baz=305
E09A **Wood Farm, Sta** 40.57 72 IAmb IAmb 07 02 59.9
comp=Z,31nm,1.1s
M02C **Callahan** 40.58 81 P P 07 03 00.4 +1.5
baz=306,SNR=16
N02D **Trinity Center** 40.92 82 P P 07 03 03.3 +1.6
baz=306,SNR=15
M04C **Macdoel** 40.97 80 P P 07 03 03.1 +0.9
baz=306,SNR=22
K05A **Summer Lake** 41.01 78 IAmb IAmb 07 03 04.8
comp=Z,35nm,1.2s
I07A **Izee** 41.08 76 IAmb IAmb 07 03 04.3
comp=Z,16nm,0.9s
WDC **Whiskeytown Da** 41.25 82 P P 07 03 04.8 +0.5
WDC pmax pmax
comp=Z,21nm,1.0s
WDC **Whiskeytown Da** 41.25 82 P P 07 03 04.8 +0.5
WDC IAmb IAmb 07 03 06.6
comp=Z,22nm,1.0s
O02D **Mt. Diablo Mer** 41.34 83 P P 07 03 06.3 +1.1
baz=307
WALA **Waterton Lakes** 41.69 66 IAmb IAmb 07 03 08.6
comp=Z,40nm,0.9s
MOD **Modoc Plateau** 41.84 79 IAmb IAmb 07 03 11.2
comp=Z,38nm,1.3s
O03E **Paynes Creek** 41.87 82 P P 07 03 10.0 +0.5
baz=307,SNR=38
JTMT **Jette** 42.16 68 P P 07 03 11.2 -0.7
JTMT IAmb IAmb 07 03 12.4
comp=Z,25nm,1.3s
ORV **Oroville** 42.51 82 IAmb IAmb 07 03 15.8
comp=Z,21nm,1.0s
MSO **Missoula** 42.85 69 P P 07 03 16.5 -0.9
baz=303,SNR=20
MSO **Missoula** 42.85 69 IAmb IAmb 07 03 17.6
comp=Z,20nm,0.9s
NRIK **Noril'sk** 43.01 329 P P 07 03 19.9 +1.6
comp=Z,11nm,0.8s,baz=70,slow=7.1,SNR=15
AFDM **Forest Hills D** 43.20 83 IAmb IAmb 07 03 22.0
comp=Z,23nm,1.2s
BJI **Beijing** 43.59 280 P P 07 03 24.0 +0.8
BJI S S 07 09 43.6 -0.1
BJI pmax pmax
comp=Z,12nm,0.7s
PAHR **Pah Rah Range** 43.71 81 IAmb IAmb 07 03 26.8
comp=Z,54nm,1.3s
PNTR **Pine Nut** 43.95 82 P P 07 03 27.1 +0.6
CMB **Columbia Colle** 44.13 83 IAmb IAmb 07 03 29.8
comp=Z,26nm,1.2s
YERR **Yerington** 44.24 82 IAmb IAmb 07 03 30.6
comp=Z,20nm,0.9s
TLY **Talaya** 44.29 301 LR LR 07 22 30.7
comp=Z,109nm,19.2s,baz=18,slow=37
HLID **Hailey** 44.41 73 P P 07 03 29.5 -0.5
baz=306,SNR=44
HLID **Hailey** 44.41 73 P P 07 03 29.2 -0.8
HLID IAmb IAmb 07 03 31.4
comp=Z,19nm,1.0s
WAKR **Walker** 44.42 82 IAmb IAmb 07 03 32.3
comp=Z,32nm,1.1s
ULN **Ulaanbaatar** 44.46 294 *deP* P 07 03 30.8 +0.5
ULN *i* *PP pwP 07 03 58.2 -0.6
ULN pmax pmax
comp=Z,6.0nm,1.0s
ULN **Ulaanbaatar** 44.46 294 P P 07 03 31.0 +0.6
ULN PcP PcP 07 05 12.5 +0.7
EGMT **Eagleton** 44.58 65 P P 07 03 30.0 -1.2
baz=303,SNR=15
EGMT **Eagleton** 44.58 65 IAmb IAmb 07 03 31.2
comp=Z,17nm,0.9s
SONM **Songino Array** 44.85 295 P P 07 03 34.1 +0.7
comp=Z,4.0nm,0.5s,baz=60,slow=8.0,SNR=15
SONM PcP PcP 07 05 13.3 +0.2
comp=Z,6.3nm,0.7s,baz=52,slow=2.6,SNR=12
SONM ScP ScP 07 08 54.5 0.0
comp=Z,9.0nm,0.8s,baz=59,slow=2.4,SNR=22
SONM **Songino Array** 44.85 295 P P 07 03 34.0 +0.7
SONM pmax pmax
comp=Z,7.0nm,0.7s
SONM **Songino Array** 44.85 295 P P 07 03 34.0 +0.7
SONM PcP PcP 07 05 13.1 0.0
BOZ **Bozeman (W)** 44.87 69 P P 07 03 32.7 -0.9
baz=305,SNR=41
BOZ **Bozeman (W)** 44.87 69 P P 07 03 32.1 -1.5
BOZ pmax pmax
comp=Z,22nm,0.9s
BOZ **Bozeman (W)** 44.87 69 P P 07 03 32.1 -1.5
BOZ IAmb IAmb 07 03 33.8
comp=Z,22nm,0.9s
KVN **Kaiserville** 44.90 81 IAmb IAmb 07 03 36.3
comp=Z,45nm,1.5s
RYN **Ryan** 44.90 81 IAmb IAmb 07 03 35.7
comp=Z,28nm,1.1s
TULEG **Thule** 44.93 18 P P 07 03 33.5 +0.1
NVAR **Mina Array Bea** 45.16 81 P P 07 03 36.7 +0.6
comp=Z,13nm,0.8s,baz=293,slow=7.8,SNR=55
NVAR ScP ScP 07 08 54.4 -1.7
comp=Z,3.6nm,0.8s,baz=312,slow=4.1,SNR=12
NVAR **Mina Array Bea** 45.16 81 P P 07 03 35.9 -0.2
FFC **Flin Flon** 45.16 54 P P 07 03 34.6 -1.0
FFC pmax pmax
comp=Z,7.0nm,1.1s
FFC **Flin Flon** 45.16 54 P P 07 03 34.6 -1.0
OMMB **Old Mammoth Mi** 45.24 83 IAmb IAmb 07 03 39.7
comp=Z,28nm,1.2s
YHH **Holmes Hill** 45.78 70 P P 07 03 40.1 -0.9
VOG **Valley Oaks Go** 45.84 85 P P 07 03 41.5 +0.4
baz=311
HHC **Hu-ho-hao-te** 45.88 284 *eP* P 07 03 41.8 +0.2
HHC ScP ScP 07 08 58.0 -0.9
HHC S S 07 10 19.3 +2.2
HHC sS sS 07 11 19.4 +16
HHC ScS ScS 07 13 26.8 +1.4
HHC pmax pmax
comp=Z,14nm,1.1s
HHC pmax pmax
comp=Z,82nm,4.5s
TIN **Tinemaha, Big** 46.07 83 P P 07 03 43.6 +0.5
baz=310
SMMC **Simmler** 46.11 86 P P 07 03 44.5 +1.1
baz=311
H17A **Grant Village** 46.17 70 P P 07 03 44.6 +0.6
baz=306,SNR=19
H17A **Grant Village** 46.17 70 IAmb IAmb 07 03 46.4
comp=Z,39nm,1.2s
LKWY **Lake** 46.17 70 P P 07 03 44.3 +0.3
LKWY pmax pmax
comp=Z,19nm,1.1s
LKWY **Lake** 46.17 70 P P 07 03 44.3 +0.3
LKWY IAmb IAmb 07 03 46.2
comp=Z,20nm,1.1s
FLWY **Flagg Ranch** 46.28 70 IAmb IAmb 07 03 46.4
comp=Z,17nm,0.9s
VES **Vestal, Richgr** 46.33 85 P P 07 03 45.0 0.0
baz=311,SNR=14
NOR **Nord** 46.41 3 *i* P P 07 03 45.1 +0.1
NOR **Nord** 46.41 3 *i* P P 07 03 45.1 +0.1
RLMT **Red Lodge** 46.50 68 P P 07 03 46.1 -0.5
baz=306,SNR=22
PKM **Mcpherson Peak** 46.51 86 P P 07 03 46.5 -0.2
baz=312
CWC **Cottonwood Cre** 46.56 83 P P 07 03 47.1 +0.1
baz=311
GRAC **Grapevine Rang** 46.64 82 P P 07 03 47.8 +0.3
baz=310
GUMO **Guam** 46.81 228 P P 07 03 47.8 -1.1
comp=Z,22nm,0.3s,baz=171,slow=13,SNR=4.2
GUMO **Guam** 46.81 228 P P 07 03 47.8 -1.1
GUMO pmax pmax
comp=Z,170nm,1.3s
ISA **Isabella, Lake** 46.82 85 P P 07 03 49.0 0.0
baz=311,SNR=5.9
AHID **Auburn Hatcher** 46.83 72 P P 07 03 48.8 -0.3
R11A **Troy Canyon, C** 46.87 80 P P 07 03 49.3 -0.1
baz=310,SNR=38
R11A **Troy Canyon, C** 46.87 80 IAmb IAmb 07 03 50.7
comp=Z,29nm,1.4s
BTO **Baotou** 46.96 284 *eP* P 07 03 51.0 +1.0
NJ2 **Nanjing** 47.10 269 *eP* P 07 03 51.3 +0.3
NJ2 pmax pmax
comp=Z,21nm,1.1s
MPMC **Manual Prospec** 47.17 83 P P 07 03 52.0 +0.2
baz=311,SNR=16
FURC **Furnace Creek,** 47.29 83 P P 07 03 52.9 +0.4
baz=311,SNR=18
LAO **LASA Array** 47.32 65 P P 07 03 52.0 -0.6
baz=306,SNR=12
LAO **LASA Array** 47.32 65 IAmb IAmb 07 03 53.4
comp=Z,23nm,1.1s
TPNV **Topopah Spring** 47.35 82 P P 07 03 53.4 +0.2
baz=310,SNR=29
TPNV **Topopah Spring** 47.35 82 IAmb IAmb 07 03 54.8
comp=Z,31nm,1.0s
DUG **Dugway, Tooele** 47.38 76 P P 07 03 53.4 0.0
baz=309,SNR=33
DUG **Dugway, Tooele** 47.38 76 IAmb IAmb 07 03 54.5
comp=Z,26nm,1.1s
KRAR **Krasnoyarsk** 47.40 310⇑ *eP* P 07 03 53.4 +0.4
LRMC **Laurel Mtn Rad** 47.43 84 P P 07 03 53.8 +0.1
baz=311
EDW2 **Edwards Air Fo** 47.63 85 P P 07 03 55.3 +0.1
baz=312
CTU **Camp Tracy** 47.71 75 P P 07 03 56.2 +0.3
BW06 **Boulder Array** 47.74 71 P P 07 03 55.3 -0.9
baz=308,SNR=22
BW06 **Boulder Array** 47.74 71 IAmb IAmb 07 03 57.0
comp=Z,28nm,1.2s
PD31 **Pinedale Array** 47.74 71 IAmb IAmb 07 03 57.0
comp=Z,24nm,1.1s
PDAR **Pinedale Array** 47.74 71 P P 07 03 55.2 -1.0
comp=Z,17nm,1.0s,baz=308,slow=4.9,SNR=77
PDAR ScP ScP 07 09 03.9 -2.9
comp=Z,1.9nm,0.8s,baz=281,slow=0.8,SNR=8.3
PDAR **Pinedale Array** 47.74 71 P P 07 03 54.6 -1.6
DECC **Green Verdugo** 47.84 86 P P 07 03 56.3 -0.4
baz=312
PATS **Pohnpei** 47.98 207 P P 07 03 59.1 +1.2
PASC **Pasadena Art C** 47.99 86 P P 07 03 57.8 -0.1
PASC IAmb IAmb 07 03 59.3
comp=Z,29nm,1.3s
SHOC **Shoshone, Teco** 48.02 83 P P 07 03 58.5 +0.4
baz=311,SNR=17
MWC **Mount Wilson** 48.03 86 IAmb IAmb 07 04 00.8
comp=Z,38nm,1.1s
MWC pP pP 07 04 26.6 +1.4
GSC **Goldstone, Bar** 48.09 84 P P 07 03 59.3 +0.5
baz=312,SNR=24
GSC **Goldstone, Bar** 48.09 84 IAmb IAmb 07 04 00.2
comp=Z,41nm,1.1s
BFSC **Mount Baldy Ra** 48.27 85 P P 07 04 00.3 +0.1
baz=312,SNR=9.1
CIS **Catalina Islan** 48.36 87 P P 07 04 01.2 +0.4
baz=313
KULLO **Kullorsuaq** 48.40 17⇓ *iP* P 07 04 01.1 +0.6
comp=Z,49nm,0.9s
KULLO **Kullorsuaq** 48.40 17⇓ *iP* P 07 04 01.1 +0.6
KULLO pmax pmax
comp=Z,49nm,0.9s
TUQ **Turquoise Moun** 48.54 83 P P 07 04 02.4 +0.1
baz=312,SNR=9.6
HEC **Hector,Ludlow** 48.69 84 P P 07 04 03.7 +0.3
baz=312
BBRC **Big Bear Solar** 48.70 85 P P 07 04 04.3 +0.6
baz=312
MSU **Marysvale** 48.83 77 P P 07 04 05.0 +0.4
MSU **Marysvale** 48.83 77 P P 07 04 05.0 +0.4
MURC **Murrieta** 48.98 86 P P 07 04 05.5 0.0
baz=313,SNR=5.8
KBS **Kingsbay** 49.10 357 *deP* P 07 04 06.0 +0.2
KBS pmax pmax
comp=Z,21nm,0.8s
GMRC **Granite Mounta** 49.13 83 P P 07 04 07.1 +0.3
baz=312,SNR=18
KNB **Kanab** 49.40 79 P P 07 04 09.2 +0.3
KNB pmax pmax
comp=Z,16nm,0.9s
KNB **Kanab** 49.40 79 P P 07 04 09.2 +0.3
PFO **Pinyon Flats O** 49.42 85 P P 07 04 09.0 0.0
baz=313
PFO **Pinyon Flats O** 49.42 85 P P 07 04 09.2 +0.1
comp=Z,3.7nm,0.7s,baz=332,slow=5.7,SNR=8.0
PFO ScP ScP 07 09 12.2 -1.9
comp=Z,2.4nm,0.7s,baz=266,slow=2.4,SNR=4.8
PFO **Pinyon Flats O** 49.42 85⇓ *eP* P 07 04 08.4 -0.7
PFO pmax pmax
comp=Z,18nm,1.5s
PFO **Pinyon Flats O** 49.42 85 P P 07 04 08.3 -0.7
XPFO **Pion Flat** 49.43 85 P P 07 04 08.3 -0.8
XPFO PcP PcP 07 05 30.4 +0.8
BELC **Belle Mtn. Jos** 49.45 84 P P 07 04 08.8 -0.5
baz=312,SNR=10
109C **Camp Elliot, M** 49.52 86 P P 07 04 09.8 +0.3
baz=313,SNR=5.6
K22A **Casper** 49.57 69 P P 07 04 09.0 -1.2
baz=308,SNR=8.3
K22A **Casper** 49.57 69 IAmb IAmb 07 04 10.5
comp=Z,14nm,1.1s
SPA0 **Spitsbergen Ar** 49.64 355 P P 07 04 10.0 0.0
SPITS **Spitsbergen Ar** 49.64 355 P P 07 04 09.5 -0.4
comp=Z,8.9nm,0.4s,baz=40,slow=6.6,SNR=87
RWWY **Rawlins** 49.77 71 P P 07 04 10.6 -1.2
RWWY IAmb IAmb 07 04 12.3
comp=Z,24nm,1.3s
IRM **Iron Mountain** 49.87 84 P P 07 04 12.3 +0.1
baz=312,SNR=20
BAR **Barrett** 49.92 86 IAmb IAmb 07 04 14.3
comp=Z,27nm,1.2s
MONP2 **Monument Peak** 49.93 86 P P 07 04 13.3 +0.3
baz=313,SNR=7.2
BC3 **Big Chuckawall** 50.02 84 P P 07 04 12.9 -0.6
baz=313,SNR=6.8
RSSD **Black Hills** 50.09 66 P P 07 04 13.0 -1.1
baz=308
RSSD **Black Hills** 50.09 66 P P 07 04 13.1 -1.0
RSSD pmax pmax
comp=Z,10.0nm,1.3s
RSSD **Black Hills** 50.09 66 P P 07 04 13.1 -1.0
U15A **North Rim** 50.11 79 IAmb IAmb 07 04 16.0
comp=Z,38nm,1.5s
O20A **White River Ci** 50.15 73 P P 07 04 13.5 -1.0
baz=310,SNR=15
O20A **White River Ci** 50.15 73 IAmb IAmb 07 04 15.5
comp=Z,26nm,1.2s
MDND **Maddock** 50.26 60 P P 07 04 14.2 -0.9
baz=307,SNR=9.0
MDND **Maddock** 50.26 60 P P 07 04 14.6 -0.4
IKP **In-Ko-Pah, Jac** 50.29 86 P P 07 04 15.7 +0.2
baz=313
PDMCI **Parker Dam,Lak** 50.39 83 P P 07 04 16.0 -0.1
baz=312,SNR=6.4
E28A **Huff** 50.45 62 IAmb IAmb 07 04 16.9
comp=Z,26nm,1.4s
PV21 **Cone Mtn., Par** 50.72 75 P P 07 04 18.2 -0.7
ULM **Lac du Bonnet** 50.76 56 P P 07 04 18.2 -0.6
comp=Z,8.3nm,0.7s,baz=308,slow=7.6,SNR=5.8
ULM **Lac du Bonnet** 50.76 56 IAmb IAmb 07 04 18.9
comp=Z,11nm,0.8s
PV23 **Carpenter Ridg** 50.77 75 IAmb IAmb 07 05 30.0
comp=Z,12nm,0.9s
PV10 **Paradox Valley** 50.80 75 P P 07 04 19.3 -0.2
PV10 IAmb IAmb 07 05 20.9
comp=Z,22nm,0.8s
GLA **Glamis** 50.81 84 P P 07 04 19.4 0.0
baz=313
GLA **Glamis** 50.81 84 IAmb IAmb 07 04 22.1
comp=Z,17nm,0.7s
HSPB **Hornsund (broa** 50.83 355 *eP* P 07 04 18.7 -0.2
PV22 **Blue Mesa, Par** 50.85 75 IAmb IAmb 07 04 20.9
comp=Z,14nm,1.0s
PV20 **West Nwsonger** 50.87 75 IAmb IAmb 07 05 20.9
comp=Z,14nm,1.0s
PV04 **Paradox Valley** 50.87 75 IAmb IAmb 07 05 21.0
comp=Z,15nm,0.8s
PV19 **Morning Glory** 50.88 75 IAmb IAmb 07 05 21.0
comp=Z,11nm,0.8s
PV17 **East Wray Mesa** 50.91 75 IAmb IAmb 07 05 21.3
comp=Z,22nm,0.8s
WHN **Wuhan** 50.93 271 ⇓P P 07 04 20.3 +0.1
WHN pmax pmax
comp=Z,54nm,0.7s
PV05 **Paradox Valley** 50.96 76 P P 07 04 20.3 -0.4
PV05 IAmb IAmb 07 04 22.1
comp=Z,19nm,1.0s
PV18 **Skein Mesa, Pa** 50.96 75 IAmb IAmb 07 04 21.8
comp=Z,24nm,1.0s
PV12 **Saucer Basin,** 50.98 75 IAmb IAmb 07 05 21.9
comp=Z,18nm,0.8s
PV03 **Paradox Valley** 50.99 75 IAmb IAmb 07 04 22.0
comp=Z,24nm,1.1s
N23A **Red Feather La** 51.02 71 P P 07 04 20.4 -0.8
baz=310,SNR=8.5
DAG **Danmarks Havn** 51.05 5 *i* P P 07 04 20.0 -0.5
comp=Z,5.3nm,0.8s
DAG **Danmarks Havn** 51.05 5 *i* P P 07 04 20.0 -0.5
DAG pmax pmax
comp=Z,5.0nm,0.8s
PV02 **Paradox Valley** 51.09 75 IAmb IAmb 07 04 22.8
comp=Z,21nm,0.9s
PV15 **Paradox Valley** 51.16 75 IAmb IAmb 07 04 23.2
comp=Z,14nm,1.0s
PV01 **Paradox Valley** 51.24 75 P P 07 04 22.6 -0.2
PV01 IAmb IAmb 07 04 23.9
comp=Z,12nm,1.0s
WUAZ **Wupatki** 51.27 80 P P 07 04 23.1 +0.1
baz=312,SNR=5.7
WUAZ **Wupatki** 51.27 80 IAmb IAmb 07 04 24.6
comp=Z,30nm,1.6s
SSLB **Suanglung** 51.72 260 P P 07 04 26.8 +0.6
XAN **Xi'an** 51.88 279 P P 07 04 27.3 0.0
XAN pP pP 07 04 42.3 -12
XAN pmax pmax
comp=Z,16nm,1.1s
XAN LR LR
comp=N,170nm,15.2s
XAN LR LR
comp=E,160nm,15.2s
MVCO **Mesa Verde** 51.89 76 P P 07 04 26.8 -0.8
baz=312,SNR=7.4
MVCO **Mesa Verde** 51.89 76 P P 07 04 27.2 -0.4
ISCO **Idaho Springs** 51.91 72 P P 07 04 27.4 -0.5
baz=311,SNR=12
AGMN **Agassiz Nation** 51.97 58 P P 07 04 26.5 -1.3
baz=309,SNR=17
AGMN **Agassiz Nation** 51.97 58 IAmb IAmb 07 04 28.3
comp=Z,24nm,1.2s
TPUB **Ta-pu** 52.28 260 P P 07 04 30.3 -0.1
ZAA0 **Zalesovo Array** 52.37 312 PcP PcP 07 05 40.5 +0.6
ZALV **Zalesovo Beam** 52.37 312 P P 07 04 29.9 -0.7
comp=Z,1.1nm,0.5s,baz=62,slow=6.9,SNR=5.4
ZALV PcP PcP 07 05 40.3 +0.3
comp=Z,16nm,0.7s,baz=30,slow=3.9,SNR=26
ZALV ScP ScP 07 09 26.2 +0.1
comp=Z,4.0nm,0.7s,baz=40,slow=5.7,SNR=12
ZALV **Zalesovo Beam** 52.37 312 *i* P P 07 04 32.2 +1.6
ZALV pmax pmax
comp=Z,1.0nm,0.5s
W18A **Petrified Fore** 52.53 79 P P 07 04 32.3 0.0
baz=312
W18A **Petrified Fore** 52.53 79 IAmb IAmb 07 04 49.6
comp=Z,14nm,1.1s
S22A **4UR Ranch, Cre** 52.53 74 P P 07 04 32.4 0.0
baz=312,SNR=18
S22A **4UR Ranch, Cre** 52.53 74 IAmb IAmb 07 04 34.6
comp=Z,14nm,1.1s
SUSD **Miller** 52.73 63 P P 07 04 32.0 -1.5
baz=310
214A **Organ Pipe Nat** 52.80 84 P P 07 04 34.2 0.0
baz=314,SNR=10
214A **Organ Pipe Nat** 52.80 84 IAmb IAmb 07 04 35.5
comp=Z,17nm,1.1s
B35A **Bob, Littlefor** 53.04 57 IAmb IAmb 07 04 35.7
comp=Z,13nm,0.9s
SUMG **Summit** 53.10 13⇓ *iP* P 07 04 36.7 +0.4
comp=Z,87nm,0.9s
SUMG **Summit** 53.10 13⇓ *iP* P 07 04 36.7 +0.4
SUMG pmax pmax
comp=Z,87nm,0.9s
SUMG **Summit** 53.10 13 P P 07 04 36.0 -0.3
SDCO **Great Sand Dun** 53.32 74 IAmb IAmb 07 04 40.1
comp=Z,16nm,1.1s
LZH **Lanzhou** 53.58 284 *eP* P 07 04 40.9 +0.9
LZH pP pP 07 05 09.1 +1.9
LZH sP sP 07 05 18.4 -1.5
LZH pmax pmax
comp=Z,24nm,1.1s
GTA **Gaotai** 53.76 290 *eP* P 07 04 40.8 -0.4
GTA pmax pmax
comp=Z,20nm,0.9s
ILULI **Ilulissat** 53.78 20 *i* P P 07 04 40.6 -0.1
comp=Z,28nm,0.6s
ILULI **Ilulissat** 53.78 20 *i* P P 07 04 40.6 -0.1
ILULI pmax pmax
comp=Z,28nm,0.6s
TUC **Tucson** 53.80 82 P P 07 04 41.6 +0.1
baz=314
TUC **Tucson** 53.80 82 P P 07 04 42.3 +0.8
TUC pmax pmax
comp=Z,13nm,1.2s
TUC **Tucson** 53.80 82 P P 07 04 42.3 +0.8
TUC IAmb IAmb 07 04 43.1
comp=Z,13nm,1.1s
DGZ **Jazzator, Alta** 53.81 306 *deP* P 07 04 41.8 +0.3
DGZ pmax pmax
comp=Z,8.0nm,1.1s
ENH **Enshi** 54.12 275 IAmb IAmb 07 04 44.5
comp=Z,23nm,0.9s
KSCO **Kaye Shedlock'** 54.17 71 P P 07 04 44.1 -0.2
baz=312,SNR=7.7
KSCO **Kaye Shedlock'** 54.17 71 P P 07 04 44.3 +0.1

T25A Trinidad 54.37 73 P P 07 04 45.7 -0.1
baz=312,SNR=28
EYMN Ely 54.45 56 P P 07 04 45.5 -0.5
baz=311,SNR=11
EYMN Ely 54.45 56 IAmb IAmb 07 04 46.9
comp=Z,22nm,1.1s
ECSD EROS Data Cent 54.48 63 P P 07 04 44.6 -1.6
baz=311,SNR=6.7
ANMO Albuquerque 54.63 77 P P 07 04 47.2 -0.4
baz=313
ANMO Albuquerque 54.63 77 P P 07 04 47.4 -0.2
comp=Z,3.1nm,1.0s,baz=316,slow=8.0,SNR=10
ANMO Albuquerque 54.63 77 P P 07 04 47.5 -0.2
ANMO pmax pmax
comp=Z,7.0nm,1.3s
ANMO Albuquerque 54.63 77 P P 07 04 47.5 -0.2
BNM Barren Site 55.07 78 P P 07 04 50.7 -0.2
BGNE Belgrade 55.16 66 P P 07 04 50.3 -0.9
baz=312
121A Cookes Peak, D 55.48 80 P P 07 04 54.1 +0.4
baz=314,SNR=5.5
SPMN Marine on St. 55.55 59 P P 07 04 52.8 -1.1
baz=312
SPMN Marine on St. 55.55 59 IAmb IAmb 07 04 54.3
comp=Z,21nm,1.2s
SFJD Kangerlussuaq 55.71 21 *i* P P 07 04 53.6 -1.0
SFJD Kangerlussuaq 55.71 21 *i* P P 07 04 53.6 -1.0
CBKS Cedar Bluff 55.98 69 P P 07 04 56.7 -0.5
baz=313
CBKS Cedar Bluff 55.98 69 P P 07 04 56.9 -0.2
CBKS pmax pmax
comp=Z,66nm,1.5s
CBKS Cedar Bluff 55.98 69 P P 07 04 56.9 -0.2
D41A Chassel 56.53 55 IAmb IAmb 07 05 01.7
comp=Z,25nm,1.2s
ZSN Zaisan 56.58 306 *e*P P 07 05 01.3 0.0
comp=Z,3.7nm,0.7s,baz=305
ZSN *e*S S 07 12 42.8 -1.1
baz=305
ZSN Zaisan 56.58 306 *e*P P 07 05 01.2 0.0
ZSN eS S 07 12 42.7 -1.1
ZSN pmax pmax
comp=Z,4.0nm,0.7s
R32A Long Quarter, 56.84 69 IAmb IAmb 07 05 03.8
comp=Z,18nm,1.1s
COWI Conover 56.88 56 IAmb IAmb 07 05 04.1
comp=Z,12nm,1.1s
G40A Rib Lake 56.89 57 P P 07 05 02.6 -0.9
G40A IAmb IAmb 07 05 03.8
comp=Z,15nm,1.1s
CD2 Chengdu 57.19 279 P P 07 05 04.8 -0.9
CD2 pmax pmax
comp=Z,30nm,0.5s
ARCES ARCESS Array B 57.19 349 P P 07 05 04.6 -0.5
comp=Z,3.7nm,0.7s,baz=28,slow=7.1,SNR=14
ARCES LR LR 07 30 31.5
comp=Z,84nm,21.9s,baz=340,slow=37
KURK Kurchatov 57.36 312 *d* iP P 07 05 06.6 0.0
KURK pmax pmax
comp=Z,27nm,0.7s
KURK Kurchatov 57.36 312 P P 07 05 06.7 +0.2
LVZ Lovozero 57.42 345 *de*P P 07 05 06.0 -0.8
LVZ pmax pmax
comp=Z,40nm,0.9s
MSTX Muleshoe 57.51 75 P P 07 05 07.6 -0.4
baz=314,SNR=5.2
MSTX Muleshoe 57.51 75 P P 07 05 07.2 -0.8
MSTX IAmb IAmb 07 05 09.4
comp=Z,20nm,1.2s
MNTX Cornudas Mount 57.52 79 P P 07 05 08.2 +0.1
baz=315,SNR=21
MNTX Cornudas Mount 57.52 79 IAmb IAmb 07 06 08.6
comp=Z,15nm,1.0s
AMTX Amarillo 57.52 74 P P 07 05 07.7 -0.5
baz=314
AMTX Amarillo 57.52 74 IAmb IAmb 07 06 08.2
comp=Z,17nm,1.0s
SCIA State Center 57.56 62 P P 07 05 07.5 -0.7
baz=313
WMQ Urumqi 57.57 301 *e*P P 07 05 10.5 +2.2
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ pmax pmax
comp=Z,120nm,6.9s
KSU1 Kansas State U 57.58 67 P P 07 05 06.8 -1.6
baz=313
KSU1 Kansas State U 57.58 67 IAmb IAmb 07 05 08.6
comp=Z,34nm,1.4s
I40A Norwalk 57.61 59 IAmb IAmb 07 05 08.8
comp=Z,11nm,0.9s
PVCP Virac 57.70 249 *e*P P 07 05 09.6 +0.2
E43A Lone Tree Farm 57.78 55 P P 07 05 09.2 -0.4
E43A IAmb IAmb 07 05 10.3
comp=Z,12nm,0.8s
MKAR Makanchi Array 58.31 307 P P 07 05 12.8 -0.5
comp=Z,7.1nm,0.5s,baz=49,slow=6.7,SNR=58
MKAR PcP PcP 07 06 03.5 +0.3
comp=Z,3.7nm,0.7s,baz=54,slow=6.3,SNR=5.5
MKAR ScP ScP 07 09 52.3 -0.2
comp=Z,1.3nm,0.8s,baz=54,slow=4.8,SNR=4.5
MKAR Makanchi Array 58.31 307 P P 07 05 12.5 -0.8
MAKZ Makanchi 58.46 307 P P 07 05 14.1 -0.3
MAKZ pmax pmax
comp=Z,10.0nm,0.7s
MAKZ Makanchi 58.46 307 P P 07 05 14.1 -0.3
MAKZ IAmb IAmb 07 05 16.7
comp=Z,9.7nm,0.7s
JFWS Jewell Farm 58.47 60 P P 07 05 13.2 -1.3
baz=314,SNR=8.5
JFWS Jewell Farm 58.47 60 IAmb IAmb 07 05 14.2
comp=Z,13nm,0.8s
I42A Draeger Farm, 58.51 58 P P 07 05 14.2 -0.5
L40A Anamosa 58.54 61 IAmb IAmb 07 05 14.8
comp=Z,12nm,0.8s
GYA Guiyang 58.57 274 P P 07 05 15.8 +0.2
GYA pmax pmax
comp=Z,14nm,0.9s
H43A Windswept, Lux 58.70 57 IAmb IAmb 07 05 17.0
comp=Z,28nm,1.2s
H43A pP 07 05 43.5 0.0
D46A Sault St. Mari 58.90 53 P P 07 05 16.9 -0.5
baz=314,SNR=5.4
P38A Dawn 58.95 64 IAmb IAmb 07 05 18.0
comp=Z,14nm,0.7s
F45A CMU Biological 59.01 54 P P 07 05 17.7 -0.5
baz=314
E46A Sault Ste Mari 59.13 53 IAmb IAmb 07 05 20.0
comp=Z,19nm,1.0s
T35A Sooner Cattle 59.14 68 IAmb IAmb 07 05 19.7
comp=Z,17nm,1.4s
D47A Chapleau 59.24 52 P P 07 05 19.0 -0.7
baz=315,SNR=6.9
BRVK Borovoye 59.33 318 *d* iP P 07 05 20.6 +0.3
BRVK pmax pmax
comp=Z,13nm,0.6s
BRVK Borovoye 59.33 318 P P 07 05 20.8 +0.5
WMOK Wichita Mounta 59.34 72 P P 07 05 20.2 -0.5
baz=315,SNR=9.5
WMOK Wichita Mounta 59.34 72 P P 07 05 19.7 -0.9
WMOK pmax pmax
comp=Z,6.0nm,0.7s
WMOK Wichita Mounta 59.34 72 P P 07 05 19.7 -0.9
WMOK IAmb IAmb 07 06 20.2
comp=Z,5.8nm,0.7s
G45A Suttons Bay 59.38 55 P P 07 05 20.4 -0.4
baz=315,SNR=5.4
G45A Suttons Bay 59.38 55 IAmb IAmb 07 05 21.3
comp=Z,13nm,0.8s
L42A Oliver, Polo 59.41 60 IAmb IAmb 07 05 20.6
comp=Z,11nm,0.8s
E47A Iron Bridge 59.58 53 P P 07 05 21.1 -0.9
baz=315
G46A Petoskey 59.59 54 P P 07 05 21.9 -0.3
baz=315,SNR=5.3
D48A Paudash Townsh 59.78 51 P P 07 05 22.4 -1.1
baz=315
I45A Fountain 59.79 56 P P 07 05 22.8 -0.8
baz=315
H46A Fife Lake 59.97 55 P P 07 05 24.5 -0.3
baz=315,SNR=6.2
X34A Smith Ranch, M 59.99 71 IAmb IAmb 07 05 27.0
comp=Z,16nm,1.2s
E48A Lockeyer 60.10 52 P P 07 05 25.0 -0.6
baz=315,SNR=5.8
SVE Sverdlovsk 60.15 326 *l* eP P 07 05 27.1 +1.3
SVE pmax pmax
comp=Z,46nm,1.1s

TMCR Tamitsa 60.16 341 *e*P P 07 05 23.5 -2.2
TMCR pmax pmax
comp=Z,25nm,0.6s
L44A Lake County Fo 60.22 59 P P 07 05 25.5 -1.0
baz=315
TX32 Lajitas Array 60.23 80 IAmb IAmb 07 06 25.6
comp=Z,7.0nm,0.8s
TXAR Lajitas Array 60.23 80 P P 07 05 26.9 0.0
comp=Z,3.2nm,0.6s,baz=308,slow=5.2,SNR=64
TXAR pP pP 07 05 55.4 +0.7
comp=Z,4.0nm,0.8s,baz=297,slow=5.5,SNR=3.7
TXAR PcP PcP 07 06 12.1 +0.9
comp=Z,4.0nm,0.8s,baz=270,slow=2.3,SNR=5.2
TXAR ScP ScP 07 10 00.7 -0.7
comp=Z,2.8nm,0.8s,baz=281,slow=3.4,SNR=11
TXAR Lajitas Array 60.23 80 P P 07 05 26.3 -0.6
TUL1 Leonard 60.26 69 P P 07 05 26.0 -0.9
baz=315
TUL1 Leonard 60.26 69 IAmb IAmb 07 05 27.1
comp=Z,15nm,1.1s
I46A Reed City 60.27 56 P P 07 05 26.0 -0.8
baz=315
ABTX Abilene, Hawle 60.32 74 P P 07 05 27.1 -0.3
baz=315,SNR=7.2
F48A Evansville 60.35 53 P P 07 05 27.2 -0.1
baz=316,SNR=8.2
H47A Mio 60.43 55 P P 07 05 26.9 -1.0
baz=315
BRZS Berezniki 60.56 314 *e*P P 07 05 28.4 -0.4
comp=Z,6.5nm,0.8s,baz=314
BRZS Berezniki 60.56 314 *e*P P 07 05 28.3 -0.4
BRZS pmax pmax
comp=Z,7.0nm,0.8s
SCHQ Schefferville 60.57 37 P P 07 05 28.8 +0.1
comp=Z,6.3nm,0.5s,baz=320,slow=5.6,SNR=28
R40A Maddies Statio 60.59 65 P P 07 05 26.7 -2.3
HDIL Hopedale 60.63 61 P P 07 05 28.5 -0.8
baz=315
F49A Sandfield 60.68 52 P P 07 05 29.2 -0.4
baz=316,SNR=9.1
LSQQ Lebel-sur-Quev 60.69 47 P P 07 05 28.2 -1.4
baz=317
I47A Gladwin 60.69 55 P P 07 05 29.2 -0.4
baz=315
M44A Midewin, Midew 60.71 59 IAmb IAmb 07 05 30.8
comp=Z,17nm,1.0s
D50A G1974 Best Tow 60.73 50 P P 07 05 29.2 -0.7
baz=316,SNR=6.6
HPIG 60.74 83 P P 07 05 31.0 +0.5
HPIG pP pP 07 05 58.6 +0.3
HPIG IAmb IAmb 07 06 00.3
comp=Z,17nm,1.3s
D51A Lot 18 Range I 61.01 50 P P 07 05 30.6 -1.2
baz=316
ARU Arti 61.17 327 *d* iP P 07 05 33.4 +0.7
ARU 07 06 09.8
ARU 07 07 45.6
ARU S S 07 13 46.6 +3.8
ARU SS SS 07 17 48.8 +5.1
ARU pmax pmax
comp=Z,81nm,1.1s
ARU Arti 61.17 327 P P 07 05 32.5 -0.2
IVI Ivigtut 61.19 24 P P 07 05 32.4 -0.3
CHGQ Chibougamau 61.22 45 P P 07 05 31.6 -1.5
baz=318,SNR=8.6
CCM Cathedral Cave 61.32 64 P P 07 05 32.3 -1.7
baz=315
E51A G1948 Merrick 61.35 50 P P 07 05 32.9 -1.2
baz=317,SNR=5.7
X37A Clayton 61.43 70 IAmb IAmb 07 05 35.5
comp=Z,10nm,1.0s
D52A ZEK Kipawa Sen 61.54 49 P P 07 05 34.4 -1.0
baz=317
F51A Arnstein 61.59 51 P P 07 05 34.2 -1.5
baz=317
CNOP Candoni, Negro 61.60 248 *e*P P 07 05 33.8 -2.4
U40A Yellville 61.62 67 P P 07 05 34.4 -1.8
baz=316,SNR=14
U40A Yellville 61.62 67 IAmb IAmb 07 05 36.1
comp=Z,16nm,1.1s
JCT Junction City 61.75 76 P P 07 05 36.3 -0.8
baz=316,SNR=5.6
JCT Junction City 61.75 76 IAmb IAmb 07 05 52.5
comp=Z,16nm,1.2s
D53A Lac Vacive, Po 61.80 49 P P 07 05 36.0 -1.1
baz=317
D53A Lac Vacive, Po 61.80 49 P P 07 05 35.6 -1.5
BUKP Musuan 61.81 244 *e*P P 07 05 38.4 +0.7
W39A Magazine 61.92 68 P P 07 05 37.4 -0.6
baz=316,SNR=7.5
W39A Magazine 61.92 68 IAmb IAmb 07 05 39.1
comp=Z,16nm,1.1s
E52A Mattawa 61.93 50 P P 07 05 36.8 -1.2
baz=317
SFIN Lafayette 61.93 60 P P 07 05 37.6 -0.5
baz=316
SFIN Lafayette 61.93 60 IAmb IAmb 07 05 38.5
comp=Z,17nm,1.1s
F52A Sundridge 61.97 51 P P 07 05 37.8 -0.5
baz=317,SNR=5.9
WHTX Lake Whitney, 62.06 73 P P 07 05 38.8 -0.3
baz=316,SNR=6.2
WHTX Lake Whitney, 62.06 73 IAmb IAmb 07 06 37.8
comp=Z,8.1nm,0.7s
QIZ Qiongzhong 62.10 265 P P 07 05 38.0 -1.5
QIZ S S 07 13 53.9 -1.5
QIZ pmax pmax
comp=Z,11nm,1.1s
K49A Clarkson 62.11 56 P P 07 05 38.6 -0.6
baz=316
D54A Lac Fusel, La 62.23 48 P P 07 05 38.6 -1.4
baz=318
KIRV Kirov 62.27 333 *i* P P 07 05 41.1 +1.1
E53A Dumoine, Ponti 62.33 49 P P 07 05 39.6 -1.1
baz=318
FCAR Ozark Folk Cen 62.37 66 IAmb IAmb 07 05 41.1
comp=Z,22nm,0.9s
KPKS Kokpek 62.47 306 *i* P P 07 05 42.1 +0.3
comp=Z,15nm,0.8s,baz=306
KPKS Kokpek 62.47 306 *i* P P 07 05 42.1 +0.3
KPKS pmax pmax
comp=Z,15nm,0.8s
MIAR Mount Ida 62.50 68 P P 07 05 41.4 -0.5
baz=316,SNR=17
MIAR Mount Ida 62.50 68 IAmb IAmb 07 05 43.2
comp=Z,26nm,1.2s
E54A Lac Daplat, Po 62.51 49 P P 07 05 40.7 -1.2
baz=318,SNR=6.6
KCP Kidapawan 62.52 244 *li* P P 07 05 43.1 +0.7
UZB Uzynbulak 62.53 306 *i* P P 07 05 42.4 +0.1
comp=Z,6.5nm,1.3s,baz=305
UZB Uzynbulak 62.53 306 *i* P P 07 05 42.4 +0.1
UZB pmax pmax
comp=Z,6.0nm,1.3s
K50A Casco 62.54 55 P P 07 05 41.2 -0.9
baz=317
I51A Listowel 62.59 53 P P 07 05 41.7 -0.7
baz=317,SNR=6.4
PBMO Poplar Bluff 62.69 65 IAmb IAmb 07 05 42.8
comp=Z,15nm,1.1s
WHAR Wooly Hollow 62.70 67 IAmb IAmb 07 05 43.2
comp=Z,13nm,1.1s
PAGZ Pagadian 62.78 246 *e*P P 07 05 42.6 -1.4
G53A Haliburton 62.80 51 P P 07 05 43.2 -0.6
baz=318,SNR=16
KLMR Klimovskoe 62.81 339 *e*P P 07 05 42.7 -0.8
KLMR pmax pmax
comp=Z,9.0nm,0.9s
KLMR Klimovskoe 62.81 339 *e*P P 07 05 42.8 -0.8
KLMR AMP 07 05 44.2
comp=Z,9.0nm,0.9s
W41B Gary Mavity, V 62.81 67 P P 07 05 42.9 -1.1
baz=316,SNR=9.5
W41B Gary Mavity, V 62.81 67 IAmb IAmb 07 05 43.9
comp=Z,16nm,1.1s
G54A Lake Saint Pet 62.85 50 P P 07 05 42.9 -1.2
baz=318
D55A Sainte-Anne-du 62.87 48 P P 07 05 43.1 -1.2
baz=318,SNR=15
SATY Saty 62.91 306 *e*P P 07 05 44.2 -0.6
comp=Z,4.0nm,1.0s,baz=306
SATY Saty 62.91 306 *e*P P 07 05 44.1 -0.6
SATY pmax pmax
comp=Z,4.0nm,1.0s
DDMP Don Marcelino, 62.92 243 *e*P P 07 05 43.0 -1.9
X40A Basin Creek Fa 62.97 68 P P 07 05 44.2 -0.9
baz=316

X40A Basin Creek Fa 62.97 68 P P 07 05 44.6 -0.5
D56A ZEC Mazanza, M 63.17 47 P P 07 05 44.8 -1.5
baz=319
H53A Bobcaygeon 63.22 51 P P 07 05 45.9 -0.7
baz=318
SKMP Bagumbayan, Su 63.22 244 *e*P P 07 05 46.5 -0.4
KUU Kurty 63.32 308 *e*P P 07 05 46.4 -0.9
comp=Z,7.0nm,1.1s,baz=307
KUU Kurty 63.32 308 *e*P P 07 05 46.3 -0.9
KUU pmax pmax
comp=Z,7.0nm,1.1s
F55A Otter Lake 63.35 49 P P 07 05 45.9 -1.5
baz=318
WLAR White Oak Lake 63.38 69 IAmb IAmb 07 05 48.5
comp=Z,19nm,1.0s
E56A St. Veronique 63.43 48 P P 07 05 46.6 -1.3
baz=319,SNR=6.6
P48A Milroy 63.48 59 IAmb IAmb 07 05 48.2
comp=Z,19nm,1.1s
MDOK Medeo 63.51 307 *i* P P 07 05 48.8 +0.1
baz=306
MDOK Medeo 63.51 307 *i* P P 07 05 48.8 +0.1
BTLS Baital 63.57 310 *i* P P 07 05 49.0 0.0
comp=Z,6.8nm,1.1s,baz=310
BTLS Baital 63.57 310 *i* P P 07 05 48.9 0.0
BTLS pmax pmax
comp=Z,7.0nm,1.1s
D57A Chemin Vers le 63.59 47 P P 07 05 47.5 -1.5
baz=319,SNR=6.1
G55A Calabogie 63.61 50 P P 07 05 47.8 -1.3
baz=318
P49A Miami Univ. Ec 63.81 59 P P 07 05 49.6 -0.9
baz=317
LATQ La Tuque 63.81 46 P P 07 05 48.9 -1.4
baz=319,SNR=6.8
H55A Tweed 63.91 50 P P 07 05 50.1 -1.0
baz=318
WCI Wyandotte Cave 63.91 61 P P 07 05 51.4 +0.1
WCI Wyandotte Cave 63.91 61 P P 07 05 51.4 +0.1
WCI IAmb IAmb 07 05 54.2
comp=Z,7.4nm,0.6s
I55A Frankford 63.92 51 P P 07 05 50.4 -0.8
baz=318
E57A Chemin Saint G 63.93 47 P P 07 05 49.7 -1.6
baz=319,SNR=9.5
D58A Chemin du LacG 63.98 46 P P 07 05 50.2 -1.3
baz=320,SNR=9.3
ORIO Orleans, Innes 64.03 49 P P 07 05 50.4 -1.4
baz=319
SLVN Son La 64.04 272 P P 07 05 52.3 0.0
SLVN IAmb IAmb 07 05 54.3
comp=Z,16nm,1.1s
SLVN pP pP 07 06 21.7 +1.2
KDJ Kajisay 64.20 306 IAmb IAmb 07 05 54.3
comp=Z,14nm,0.7s
ACSO Alum Creek Sta 64.21 57 P P 07 05 52.0 -1.1
baz=317
H56A Elgin 64.32 50 P P 07 05 52.6 -1.2
baz=319
E58A La Victoria 64.35 47 P P 07 05 52.6 -1.4
baz=320,SNR=7.3
T47A Sharon Grove 64.37 62 P P 07 05 53.7 -0.6
T47A IAmb IAmb 07 05 55.4
comp=Z,17nm,1.1s
N52A McGinn's Farm, 64.45 56 P P 07 05 54.3 -0.4
baz=318
O51A Pataskala 64.47 57 P P 07 05 54.0 -0.8
baz=318
SGDS Sogindy 64.48 308 *i* P P 07 05 55.6 +0.6
comp=Z,8.1nm,1.0s,baz=308
SGDS Sogindy 64.48 308 *i* P P 07 05 55.5 +0.6
SGDS pmax pmax
comp=Z,8.0nm,1.0s
HKT Hockley 64.50 74 *e*P P 07 05 54.8 -0.3
M53A WI Miller and 64.50 55 P P 07 05 54.1 -1.0
baz=318
D59A Saint-Raymond 64.51 46 P P 07 05 53.9 -1.1
baz=320
G57A Newington 64.53 49 P P 07 05 53.7 -1.4
baz=319
BOOM Boomskoye usch 64.55 307 IAmb IAmb 07 05 59.1
comp=Z,10nm,0.6s
J55A Hilton 64.56 52 P P 07 05 54.6 -0.8
baz=318
L54A Sinclairville 64.59 53 P P 07 05 54.9 -0.8
baz=318
WVT Waverly 64.60 63 P P 07 05 54.8 -1.0
baz=317
WVT Waverly 64.60 63 P P 07 05 55.2 -0.5
WVT pmax pmax
comp=Z,5.0nm,1.0s
WVT Waverly 64.60 63 P P 07 05 55.2 -0.5
K54A Basiliko Farm, 64.62 53 P P 07 05 55.1 -0.7
baz=318
FINES FINESS Array B 64.80 346 P P 07 05 55.5 -1.0
comp=Z,3.5nm,0.8s,baz=26,slow=6.6,SNR=15
FINES PcP PcP 07 06 28.6 -0.4
comp=Z,3.5nm,0.6s,baz=45,slow=5.9,SNR=6.4
FINES PKPPKP P'P'df 07 34 41.9 -1.5
comp=Z,3.1nm,0.9s,baz=189,slow=5.0,SNR=5.9
WVNY West Valley, N 64.82 53 IAmb IAmb 07 05 58.3
comp=Z,12nm,0.9s
H57A Richville 64.83 49 P P 07 05 55.9 -1.2
baz=319
K55A Perry 64.84 52 P P 07 05 56.4 -0.8
baz=319
O52A Adamsville 64.89 57 P P 07 05 56.9 -0.7
baz=318
O52A Adamsville 64.89 57 IAmb IAmb 07 05 58.4
comp=Z,20nm,1.2s
N53A Lisbon 64.89 55 P P 07 05 56.9 -0.6
baz=318
OXF Oxford 64.90 66 P P 07 05 57.1 -0.5
baz=317
MMNY Mt. Morris Dam 64.92 52 P P 07 05 56.9 -0.9
MMNY IAmb IAmb 07 05 58.2
comp=Z,9.1nm,0.8s
M54A Oil Creek Stat 64.96 54 P P 07 05 57.5 -0.5
baz=318
F59A Saint Guilaume 64.97 47 P P 07 05 56.6 -1.4
baz=320,SNR=5.2
D60A Saint Jean D'O 64.99 45 P P 07 05 56.7 -1.3
baz=320
J56A Wolcott 65.02 51 P P 07 05 57.2 -1.1
baz=319
L55A Hinsdale 65.07 53 P P 07 05 58.2 -0.6
baz=319
LONY Lake Ozonia 65.08 49 P P 07 05 57.1 -1.7
baz=320
D61A St Aubert, Com 65.08 44 P P 07 05 57.4 -1.2
baz=321
I57A Carthage 65.09 50 P P 07 05 57.9 -0.9
baz=319
AAK Ala-Archa 65.15 308 *d* iP P 07 05 59.8 +0.3
AAK pmax pmax
comp=Z,11nm,0.6s
AAK Ala-Archa 65.15 308 P P 07 05 59.4 0.0
AAK IAmb IAmb 07 06 02.7
comp=Z,12nm,0.6s
E60A Ste Agathe de 65.17 46 P P 07 05 58.2 -1.1
baz=320
N54A Moraine State 65.20 55 P P 07 05 58.6 -1.0
baz=318
K56A Middlesex 65.23 52 P P 07 05 59.8 0.0
baz=319,SNR=7.3
F60A Warwick 65.26 46 P P 07 05 58.6 -1.2
baz=320
J57A Williamstown 65.33 51 P P 07 05 59.6 -0.8
baz=319
H58A Gabriels 65.42 49 P P 07 05 59.7 -1.3
baz=320
M55A Ridgway 65.44 54 P P 07 06 00.0 -1.1
baz=319
CLTN Cedars of Leba 65.45 62 P P 07 06 00.8 -0.4
CLTN IAmb IAmb 07 06 02.4
comp=Z,16nm,1.0s
H59A Cadyville 65.48 48 P P 07 06 00.1 -1.2
baz=320
Q52A Bidwell 65.52 58 P P 07 06 00.5 -1.1
baz=318
L56A Greenwood 65.53 52 P P 07 06 01.0 -0.8
baz=319,SNR=18
E61A Lac Etchemin 65.55 45 P P 07 06 00.6 -1.2
baz=321
P53A Whipple 65.58 57 P P 07 06 01.0 -1.0
baz=318
T50A Nancy 65.58 61 IAmb IAmb 07 06 47.1

	comp=Z,34nm,1.9s							
K57A	**Scipio Center**	65.59	51	P		**P**	07 06 01.2	-0.9
	baz=319							
I58A	**Old Forge**	65.61	50	P		**P**	07 06 01.2	-1.0
	baz=320							
D62A	**Allapoint, All**	65.67	44	P		**P**	07 06 01.0	-1.5
	baz=321,SNR=5.8							
D62A	**Allapoint, All**	65.67	44	P		**P**	07 06 01.6	-0.9
D62A				IAmb		IAmb	07 06 02.6	
	comp=Z,8.4nm,0.7s							
F61A	**St Evariste**	65.68	46	P		**P**	07 06 01.6	-1.0
	baz=321							
ZAIG	**Zacatecas**	65.69	84	P		**P**	07 06 04.4	+1.1
ZAIG				IAmb		IAmb	07 06 05.9	
	comp=Z,17nm,1.2s							
J58A	**Remsen**	65.71	50	P		**P**	07 06 01.9	-1.0
	baz=320							
M56A	**Emporium**	65.72	53	P		**P**	07 06 01.9	-1.1
	baz=319,SNR=5.8							
G60A	**Masonville**	65.75	47	P		**P**	07 06 01.5	-1.6
	baz=320							
E62A	**Clayton Lake**	65.82	44	P		**P**	07 06 02.9	-0.6
	baz=321							
E62A	**Clayton Lake**	65.82	44	IAmb		IAmb	07 06 03.7	
	comp=Z,7.8nm,0.6s							
G61A	**St-Isidore-de-**	65.97	47	P		**P**	07 06 03.6	-0.9
	baz=321							
Q53A	**Leroy**	65.98	57	P		**P**	07 06 04.1	-0.6
	baz=318							
L57A	**Andrews Acres**	65.98	52	P		**P**	07 06 03.0	-1.6
	baz=319,SNR=7.7							
K58A	**Earlville**	65.99	51	P		**P**	07 06 03.9	-0.7
	baz=320							
J59A	**Piesco**	66.00	50	P		**P**	07 06 03.1	-1.6
	baz=320,SNR=5.5							
J59A	**Piesco**	66.00	50	P		**P**	07 06 03.3	-1.4
I59A	**Olmsteadville**	66.04	49	P		**P**	07 06 03.2	-1.7
	baz=320,SNR=6.3							
N56A	**West Decatur**	66.09	54	P		**P**	07 06 05.2	-0.1
	baz=319							
D63A	**Stockholm**	66.11	43	P		**P**	07 06 04.6	-0.7
	baz=322							
R53A	**Hurricane**	66.15	58	P		**P**	07 06 05.3	-0.4
	baz=318							
F62A	**Pittston Farm,**	66.19	45	P		**P**	07 06 04.4	-1.5
	baz=321,SNR=5.9							
F62A	**Pittston Farm,**	66.19	45	IAmb		IAmb	07 06 06.6	
	comp=Z,18nm,1.4s							
BINY	**Binghamton**	66.25	51	P		**P**	07 06 06.0	-0.4
	baz=320							
I60A	**Shoreham**	66.28	49	P		**P**	07 06 05.7	-0.7
	baz=320							
M57A	**Sunshine Farm,**	66.35	53	P		**P**	07 06 05.6	-1.3
	baz=319,SNR=7.9							
M57A	**Sunshine Farm,**	66.35	53	IAmb		IAmb	07 06 07.8	
	comp=Z,15nm,0.9s							
K59A	**Cooperstown**	66.36	50	P		**P**	07 06 06.2	-0.8
	baz=320							
H61A	**Lyndonville**	66.37	47	P		**P**	07 06 06.0	-1.0
	baz=321							
ABKAR	**Akbulak array**	66.41	321	P		**P**	07 06 07.6	+0.4
L58A	**Harry Jones Me**	66.44	51	P		**P**	07 06 06.4	-1.1
	baz=320,SNR=6.7							
O56A	**Blue Knob Stat**	66.44	54	P		**P**	07 06 07.1	-0.4
	baz=319							
E63A	**Oxbow**	66.45	44	P		**P**	07 06 06.4	-1.1
	baz=322							
E63A	**Oxbow**	66.45	44	P		**P**	07 06 05.6	-1.9
E63A				IAmb		IAmb	07 06 36.1	
	comp=Z,13nm,1.1s							
G62A	**West of Eustis**	66.47	46	P		**P**	07 06 06.2	-1.5
	baz=321,SNR=6.5							
G62A	**West of Eustis**	66.47	46	IAmb		IAmb	07 06 07.7	
	comp=Z,8.9nm,0.7s							
SSPA	**Standing Stone**	66.50	54	P		**P**	07 06 07.4	-0.5
	baz=319							
SSPA	**Standing Stone**	66.50	54	P		**P**	07 06 07.4	-0.5
N57A	**Milroy**	66.58	53	P		**P**	07 06 07.7	-0.7
	baz=319							
LBNH	**Lisbon**	66.60	48	P		**P**	07 06 07.4	-1.1
	baz=321							
Z47A	**Carrollton**	66.62	66	IAmb		IAmb	07 06 09.3	
	comp=Z,15nm,1.0s							
Q55A	**Buckhannon**	66.62	56	P		**P**	07 06 08.0	-0.7
	baz=319							
TZTN	**Tazewell**	66.63	60	P		**P**	07 06 08.2	-0.6
	baz=318							
M58A	**Price's Panora**	66.65	52	P		**P**	07 06 07.7	-1.1
	baz=320,SNR=6.2							
W50A	**Signal Mountai**	66.67	62	P		**P**	07 06 07.8	-1.3
W50A				IAmb		IAmb	07 06 10.7	
	comp=Z,18nm,1.4s							
J60A	**Lant Hill Farm**	66.68	49	P		**P**	07 06 07.6	-1.4
	baz=320,SNR=6.2							
H62A	**Milan**	66.69	47	P		**P**	07 06 07.5	-1.6
	baz=321,SNR=12							
H62A	**Milan**	66.69	47	IAmb		IAmb	07 06 09.3	
	comp=Z,21nm,0.8s							
KK31	**Karatay Array**	66.71	311	P		**P**	07 06 09.5	+0.3
KK31				pmax		pmax		
	comp=Z,12nm,0.7s							
KK31	**Karatay Array**	66.71	311	P		**P**	07 06 09.5	+0.3
KK31				IAmb		IAmb	07 06 11.6	
	comp=Z,12nm,0.7s							
KKAR	**Karatay Array**	66.71	311	P		**P**	07 06 09.3	+0.1
KKAR	**Karatay Array**	66.71	311	P		**P**	07 06 09.3	+0.1
KKAR	**Karatay Array**	66.71	311	IAmb		IAmb	07 06 11.6	
	comp=Z,12nm,0.7s							
I61A	**Oroboro, Fairl**	66.71	48	P		**P**	07 06 08.3	-0.8
	baz=321							
E64A	**Bridgewater**	66.71	44	P		**P**	07 06 07.5	-1.7
	baz=322,SNR=7.4							
L59A	**Walton**	66.72	51	P		**P**	07 06 08.1	-1.2
	baz=320,SNR=5.6							
L59A	**Walton**	66.72	51	IAmb		IAmb	07 06 10.2	
	comp=Z,11nm,0.8s							
F63A	**Nahmakanta, Br**	66.72	45	P		**P**	07 06 08.2	-1.0
	baz=322							
NC405	**NORSAR Array S**	66.75	353	P		**P**	07 06 08.3	-0.8
KSH	**Kashi**	66.76	305	P		**P**	07 06 13.8	+4.1
KSH				pP		pwP	07 06 41.8	+2.2
KSH				S		**S**	07 14 53.6	+1.0
KSH				sS		sS	07 15 42.5	+3.4
KSH	**Kashi**	66.76	305	SS		SS	07 19 16.8	+5.1
KSH				pmax		pmax		
	comp=Z,30nm,0.6s							
KSH				pmax		pmax		
	comp=Z,62nm,5.5s							
KSH				LR		LR		
	comp=N,520nm,13.3s							
KSH				LR		LR		
	comp=E,160nm,11.1s							
KSH				LR		LR		
	comp=Z,220nm,11.3s							
R54A	**Victor**	66.76	57	P		**P**	07 06 08.8	-0.8
	baz=319							
BATG	**Bathurst New B**	66.77	42	IAmb		IAmb	07 06 38.9	
	comp=Z,27nm,1.5s							
PMG	**Port Moresby**	66.81	214⇑	*eP*		**P**	07 06 09.6	-0.4
PMG				pmax		pmax		
	comp=Z,44nm,1.4s							
T53A	**Wise**	66.85	59	P		**P**	07 06 09.0	-1.3
	baz=319							
NB2	**NORSAR Subarra**	66.86	353	P		**P**	07 06 09.5	-0.4
	comp=Z,1.2nm,0.6s,baz=6.9,slow=6.5							
NOA	**NORSAR Array B**	66.86	353	P		**P**	07 06 09.3	-0.7
	comp=Z,1.8nm,0.6s,baz=8.5,slow=6.3,SNR=11							
NOA				pP		**pwP**	07 06 39.6	-0.4
	comp=Z,7.2nm,1.0s,baz=7.8,slow=6.3,SNR=7.1							
P56A	**Dayton Farm, R**	66.88	55	P		**P**	07 06 09.0	-1.3
	baz=319							
F64A	**Sherman**	66.92	44	P		**P**	07 06 08.5	-2.0
	baz=322,SNR=7.6							
F64A	**Sherman**	66.92	44	P		**P**	07 06 09.2	-1.3
F64A				IAmb		IAmb	07 06 10.8	
	comp=Z,13nm,0.7s							
F64A				pP		**pP**	07 06 38.5	+0.3
N58A	**Sunbury**	66.93	53	P		**P**	07 06 08.8	-1.8
	baz=320,SNR=6.1							
N58A	**Sunbury**	66.93	53	IAmb		IAmb	07 06 11.8	
	comp=Z,12nm,0.8s							
O57A	**Amberson**	66.95	54	P		**P**	07 06 08.9	-1.8
	baz=320,SNR=5.4							
G63A	**Kingsbury**	66.96	46	P		**P**	07 06 09.1	-1.6
	baz=322							
PKME	**Peaks-Kenny Pk**	66.98	45	P		**P**	07 06 09.7	-1.2
	baz=322							
PKME	**Peaks-Kenny Pk**	66.98	45	IAmb		IAmb	07 06 39.9	
	comp=Z,29nm,1.6s							
J61A	**Chester**	67.00	49	P		**P**	07 06 10.0	-1.1
	baz=321							
M59A	**Waymart**	67.02	52	P		**P**	07 06 10.2	-1.0
	baz=320							
H63A	**New Sharon**	67.12	46	P		**P**	07 06 10.4	-1.4
	baz=322							
R55A	**Marlinton**	67.14	57	P		**P**	07 06 11.0	-1.1
	baz=319							
I62A	**Tamworth**	67.15	47	P		**P**	07 06 10.9	-1.1
	baz=321							
K61A	**Williamstown**	67.19	49	P		**P**	07 06 11.4	-0.8
	baz=321							
FAKI	**Fak Fak**	67.19	231	P		**P**	07 06 13.0	+0.5
G64A	**Maxfield**	67.23	45	P		**P**	07 06 11.3	-1.1
	baz=322							
T54A	**Tazewell**	67.30	59	P		**P**	07 06 12.2	-0.9
	baz=319							
P57A	**Homestead Farm**	67.31	55	P		**P**	07 06 12.2	-0.8
	baz=320							
S55A	**Lewisburg**	67.33	57	P		**P**	07 06 12.4	-0.8
	baz=319							
N59A	**State Game Lan**	67.33	52	P		**P**	07 06 11.3	-1.9
	baz=320,SNR=6.7							
N59A	**State Game Lan**	67.33	52	IAmb		IAmb	07 06 13.9	
	comp=Z,13nm,0.8s							
LRAL	**Lakeview Retre**	67.34	65	P		**P**	07 06 12.3	-1.0
	baz=318							
I63A	**Otisfield**	67.36	47	P		**P**	07 06 11.0	-2.2
	baz=321,SNR=5.0							
I63A	**Otisfield**	67.36	47	P		**P**	07 06 12.2	-1.1
I63A				IAmb		IAmb	07 06 13.8	
	comp=Z,13nm,0.8s							
O58A	**Lewisberry**	67.37	54	P		**P**	07 06 12.6	-0.8
	baz=320							
R56A	**Bull Pasture M**	67.42	56	P		**P**	07 06 13.2	-0.7
	baz=319							
L61A	**Hillsdale 1, H**	67.42	50	P		**P**	07 06 12.8	-0.9
	baz=321							
J62A	**Henniker**	67.44	48	P		**P**	07 06 11.6	-2.1
	baz=321,SNR=5.7							
Q57A	**Strasburg**	67.45	55	P		**P**	07 06 13.2	-0.7
	baz=320							
H64A	**Troy**	67.50	46	P		**P**	07 06 13.3	-0.9
	baz=322							
U54A	**Nelsons Funny**	67.57	59	P		**P**	07 06 14.3	-0.6
	baz=319							
M60A	**Port Jervis**	67.58	51	P		**P**	07 06 13.9	-0.8
	baz=320							
O59A	**Robesonia**	67.59	53	P		**P**	07 06 14.2	-0.6
	baz=320							
L61B	**Northampton**	67.64	49	P		**P**	07 06 14.0	-1.0
	baz=321							
IUG	**Iuzhnay**	67.67	310	*eP*		**P**	07 06 16.3	+0.9
	comp=Z,2.6nm,0.8s,baz=310							
IUG	**Iuzhnay**	67.67	310	*eP*		**P**	07 06 16.3	+0.9
IUG				pmax		pmax		
	comp=Z,3.0nm,0.8s							
K62A	**Royalston**	67.68	49	P		**P**	07 06 14.4	-0.9
	baz=321							
N60A	**Cedar Hill Far**	67.70	52	P		**P**	07 06 14.6	-0.9
	baz=320,SNR=6.3							
J63A	**Strafford**	67.73	48	P		**P**	07 06 14.6	-1.0
	baz=321							
CHM	**Chimkent**	67.74	311	*i* P		**P**	07 06 16.5	+0.7
	baz=310							
CHM	**Chimkent**	67.74	311	*i* P		**P**	07 06 16.4	+0.7
G65A	**Princeton**	67.79	44	P		**P**	07 06 14.2	-1.7
	baz=323,SNR=6.6							
G65A	**Princeton**	67.79	44	IAmb		IAmb	07 06 15.9	
	comp=Z,9.5nm,0.7s							
SANVU	**Saraoutou**	67.86	192	P		**P**	07 06 16.3	-0.2
S56A	**Natural Bridge**	67.88	57	P		**P**	07 06 16.0	-0.7
	baz=319							
H65A	**Eastbrook**	67.89	45	P		**P**	07 06 15.2	-1.4
	baz=322,SNR=5.9							
Q58A	**Fox Den Farm,**	67.89	55	P		**P**	07 06 15.8	-0.9
	baz=320							
R57A	**Stanardsville**	67.95	56	P		**P**	07 06 16.7	-0.4
	baz=320							
O60A	**Telford**	67.97	52	P		**P**	07 06 16.8	-0.4
	baz=320							
K63A	**Dunstable**	67.99	48	P		**P**	07 06 16.3	-0.9
	baz=321							
U55A	**TA2, Sparta**	68.00	59	P		**P**	07 06 16.6	-0.9
	baz=319							
P59A	**Jarrettsville**	68.01	54	P		**P**	07 06 16.9	-0.5
	baz=320							
V54A	**Nebo**	68.06	60	P		**P**	07 06 17.1	-0.7
	baz=319							
HRV	**Adam Dziewonsk**	68.11	48	P		**P**	07 06 17.1	-0.9
	baz=321							
HRV	**Adam Dziewonsk**	68.11	48	P		**P**	07 06 17.6	-0.4
HRV				pmax		pmax		
	comp=Z,11nm,1.0s							
HRV	**Adam Dziewonsk**	68.11	48	P		**P**	07 06 17.6	-0.4
T56A	**Rocky Mt**	68.13	58	P		**P**	07 06 17.3	-1.0
	baz=319							
GGN	**Saint George**	68.16	44	P		**P**	07 06 16.9	-1.4
GGN				IAmb		IAmb	07 06 18.6	
	comp=Z,17nm,0.8s							
PAL	**Palisades**	68.17	51	P		**P**	07 06 17.1	-1.3
	baz=321							
H66A	**Whiting**	68.22	44	P		**P**	07 06 17.2	-1.4
	baz=323,SNR=9.5							
WES	**Weston**	68.32	48	P		**P**	07 06 17.9	-1.4
WES				pmax		pmax		
	comp=Z,14nm,0.8s							
WES	**Weston**	68.32	48	P		**P**	07 06 17.9	-1.4
WES				IAmb		IAmb	07 06 19.5	
	comp=Z,14nm,0.8s							
V55A	**Taylorsville**	68.40	59	P		**P**	07 06 19.6	-0.4
	baz=319							
LMN	**Caledonia Moun**	68.43	42	P		**P**	07 06 18.9	-1.1
LMN				IAmb		IAmb	07 06 20.5	
	comp=Z,15nm,0.7s							
W54A	**Cherokee Point**	68.45	60	P		**P**	07 06 19.7	-0.5
	baz=319							
R58B	**Mineral**	68.53	56	P		**P**	07 06 20.4	-0.3
	baz=320							
T57A	**Hurt**	68.56	57	P		**P**	07 06 20.1	-0.8
	baz=320							
O61A	**Allentown**	68.56	52	P		**P**	07 06 20.5	-0.4
	baz=321							
OBN	**Obninsk**	68.68	338⇑	*iP*		**P**	07 06 21.1	-0.2
OBN				*e**PP		**pwP**	07 06 52.1	+0.2
OBN				pmax		pmax		
	comp=Z,23nm,1.0s							
S58A	**Poland Farm, P**	68.71	56	P		**P**	07 06 21.1	-0.7
	baz=320							
M63A	**Gales Ferry**	68.75	50	P		**P**	07 06 20.9	-1.1
	baz=322							
X54A	**Belton**	68.76	61	P		**P**	07 06 21.7	-0.5
	baz=319							
V56A	**Mocksville**	68.81	59	P		**P**	07 06 21.9	-0.6
	baz=320							
U57A	**Blanch**	68.95	58	P		**P**	07 06 22.8	-0.5
	baz=320							
T58A	**Grand View Acr**	68.97	57	P		**P**	07 06 22.7	-0.7
	baz=320							
CHTO	**Chiang Mai**	68.99	274	P		**P**	07 06 24.2	+0.3
CHTO				pmax		pmax		
	comp=Z,12nm,0.9s							
CHTO	**Chiang Mai**	68.99	274	P		**P**	07 06 24.2	+0.3
GOGA	**Godfrey**	69.02	62	P		**P**	07 06 23.2	-0.6
	baz=319							
M64A	**Tiverton**	69.02	49	P		**P**	07 06 23.0	-0.6
	baz=322							
X55A	**Gracelyn & Ava**	69.22	61	P		**P**	07 06 24.1	-0.9
	baz=320							
CMAR	**Chiang Mai Arr**	69.26	274	P		**P**	07 06 25.9	+0.3
	comp=Z,9.5nm,0.8s,baz=26,slow=7.1,SNR=21							
CMAR				PcP		**PcP**	07 06 49.5	+1.0
	comp=Z,3.0nm,0.4s,baz=20,slow=4.1,SNR=5.7							
CMAR				PKPPKP		**P'P'df**	07 34 36.7	+1.2
	comp=Z,1.2nm,0.3s,baz=233,slow=5.8,SNR=5.2							
CMAR	**Chiang Mai Arr**	69.26	274	P		**P**	07 06 25.1	-0.4
TAPN	**Taplejung**	69.40	288	*eP*		**P**	07 06 27.2	+0.6
	comp=Z,105nm,0.9s							
MSVF	**Nonsavu**	69.42	180	*ceP*		**P**	07 06 27.5	+1.2
MSVF				pmax		pmax		
	comp=Z,31nm,1.2s							
T59A	**Double "B" Far**	69.46	56	P		**P**	07 06 25.5	-0.9
	baz=320							
Y55A	**Saluda**	69.50	61	P		**P**	07 06 25.5	-1.3
	baz=320							
X56A	**White Oak**	69.52	60	P		**P**	07 06 25.9	-1.0
	baz=320							
V58A	**Windy Hill, Pi**	69.55	58	P		**P**	07 06 26.2	-0.8
	baz=320							
W57A	**Gilead**	69.58	59	P		**P**	07 06 26.4	-0.8
	baz=320							
T60A	**Surry**	69.75	55	P		**P**	07 06 27.5	-0.7
	baz=321							
HAL	**Halifax**	69.92	42	IAmb		IAmb	07 06 29.1	
	comp=Z,12nm,0.6s							
ODAN	**Odare**	69.95	288	*eP*		**P**	07 06 30.3	+0.4
	comp=Z,48nm,0.8s							
V59A	**Middlesex**	70.03	57	P		**P**	07 06 29.0	-0.9
	baz=320							
U60A	**Pendleton**	70.04	56	P		**P**	07 06 29.3	-0.7
	baz=321							
X57A	**Johnson Farm,**	70.05	59	P		**P**	07 06 29.4	-0.6
	baz=320							
GUN	**Gumba**	70.05	290	*eP*		**P**	07 06 31.4	+0.8
JIRN	**Jiri**	70.05	289	*eP*		**P**	07 06 31.7	+1.0
	comp=Z,304nm,1.0s							
W58A	**Raeford**	70.08	59	P		**P**	07 06 29.4	-0.9
	baz=320							
GBN	**Guysborough**	70.14	40	P		**P**	07 06 29.2	-1.3
GBN				IAmb		IAmb	07 07 01.1	
	comp=Z,31nm,1.4s							
Z56A	**Williston**	70.23	61	P		**P**	07 06 30.4	-0.8
	baz=320							
RAMN	**Ramite**	70.35	289	*eP*		**P**	07 06 32.9	+0.5
	comp=Z,192nm,0.9s							
KKN	**Kakani**	70.48	290	*eP*		**P**	07 06 33.8	+0.6
U61A	**Possum Corner**	70.52	56	P		**P**	07 06 33.1	+0.2
	baz=321							
V60A	**Jim Taylor Roa**	70.53	57	P		**P**	07 06 32.8	-0.2
	baz=321							
PKI	**Pulchoki**	70.58	290	*eP*		**P**	07 06 34.3	+0.5
PKIN	**Phulchoki**	70.58	290	*eP*		**P**	07 06 34.0	+0.2
Z57A	**Bowman**	70.61	61	P		**P**	07 06 33.2	-0.4
	baz=320							
GKN	**Gorkha**	70.70	291	*eP*		**P**	07 06 34.7	+0.3
	comp=Z,177nm,0.9s							
DMN	**Daman**	70.72	290	*eP*		**P**	07 06 35.2	+0.6
	comp=Z,92nm,0.9s							
W60A	**Pink Hill**	70.85	57	P		**P**	07 06 34.6	-0.3
	baz=321							
DANN	**Dangsing**	70.94	292	*eP*		**P**	07 06 36.7	+0.7
	comp=Z,173nm,0.8s							
KOLN	**Koldanda**	71.47	291	*eP*		**P**	07 06 39.4	+0.3
	comp=Z,77nm,0.9s							
PYUN	**Piuthan**	71.57	292	*eP*		**P**	07 06 40.2	+0.5
	comp=Z,187nm,0.9s							
NIL	**Nilore**	72.66	303	P		**P**	07 06 46.1	+0.2
NIL				pmax		pmax		
	comp=Z,53nm,1.2s							
NIL	**Nilore**	72.66	303	P		**P**	07 06 46.1	+0.2
SBUM	**Sibu**	73.60	252	IAmb		IAmb	07 06 53.5	
	comp=Z,43nm,1.9s							
KBL	**Kabul**	74.11	306	P		**P**	07 06 54.5	-0.1
KBL				pmax		pmax		
	comp=Z,46nm,0.8s							
KBL	**Kabul**	74.11	306	P		**P**	07 06 54.5	-0.1
AKASG	**Malin Array Be**	74.42	340	P		**P**	07 06 55.2	-0.6
	comp=Z,3.1nm,0.3s,baz=24,slow=6.3,SNR=18							
AKASG				pP		**pP**	07 07 25.3	+1.1
	comp=Z,7.5nm,0.4s,baz=23,slow=6.2,SNR=7.3							
AKASG	**Malin Array Be**	74.42	340	P		**P**	07 06 55.4	-0.4
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.5s							
AKASG	**Malin Array Be**	74.42	340	P		**P**	07 06 55.4	-0.4
AKBB	**Malin Array Si**	74.42	340	*d iP*		**P**	07 06 54.8	-1.0
AKBB	**Malin Array Si**	74.42	340	IAmb		IAmb	07 07 29.9	
	comp=Z,12nm,0.5s							
DZM	**Mont Dzumac**	74.48	192	P		**P**	07 06 58.6	+2.1
	comp=Z,25nm,1.0s,baz=46,slow=9.3,SNR=16							
KAPI	**Kappang**	75.42	242	LR		LR	07 37 08.1	
	comp=Z,190nm,19.9s,baz=342,slow=33							
GOF	**Gofitskoye**	75.99	329⇑	*eP*		**P**	07 07 05.7	+0.8
GOF				pmax		pmax		
	comp=Z,76nm,0.7s							
CLL	**Collm**	76.35	351	*e*(P)		**P**	07 07 10.0	+3.2
CLL	**Collm**	76.35	351	*eP*		**P**	07 07 10.0	+3.2
GEYT	**Alibeck**	76.47	315	P		**P**	07 07 08.7	+0.9
	comp=Z,14nm,0.8s,baz=349,slow=3.0,SNR=22							
GEYT	**Alibeck**	76.47	315	P		**P**	07 07 08.8	+1.0
GYA0B	**ALIBECK ARRAY**	76.47	315	P		**P**	07 07 08.8	+0.9
GYA0B				IAmb		IAmb	07 07 09.8	
	comp=Z,27nm,1.1s							
KWP	**Kalwaria Pacla**	76.68	344	*eP*		**P**	07 07 09.0	+0.3
CTA	**Charters Tower**	77.08	211	P		**P**	07 07 11.7	+0.5
	comp=Z,21nm,1.0s,baz=12,slow=7.7,SNR=22							
CTAO	**Charters Tower**	77.08	211	P		**P**	07 06 12.0	+0.8
CTAO				pmax		pmax		
	comp=Z,35nm,1.1s							
CTAO	**Charters Tower**	77.08	211	P		**P**	07 07 12.0	+0.8
CTAO				IAmb		IAmb	07 07 12.8	
	comp=Z,35nm,1.1s							
KIV	**Kislovodsk**	77.09	329	*eP*		**P**	07 07 12.5	+1.2
KIV				pmax		pmax		
	comp=Z,56nm,1.0s							
KBZ	**Khabaz**	77.22	329	P		**P**	07 07 12.9	+1.1
	comp=Z,10nm,0.8s,baz=108,slow=1.4,SNR=24							
KBZ	**Khabaz**	77.22	329⇑	*eP*		**P**	07 07 12.7	+0.9
KBZ				pmax		pmax		
	comp=Z,17nm,0.9s							
AKT	**Akhty**	77.57	324	*eP*		**P**	07 07 15.1	+1.1
AKT				*e*			07 07 24.5	
AKT				*e**PP		**pP**	07 07 41.0	-1.6
AKT				pmax		pmax		
	comp=Z,36nm,1.0s							
UZH	**Uzhgorod**	77.72	344⇑	*iP*		P	07 07 07.2	-7.3
ZEI	**Tsey**	77.73	328	*eP*		**P**	07 07 14.9	-0.1
ZEI				pmax		pmax		
	comp=Z,25nm,0.6s							
ZKTA	**Zakatala**	77.82	325	P		**P**	07 07 16.9	+1.6
SEKA	**Sheki**	78.00	325	P		**P**	07 07 16.9	+0.6
ONI	**Oni**	78.06	328	P		**P**	07 07 21.3	+4.6
TRPA	**Tarpa**	78.16	344	⇓P		**P**	07 07 17.6	+0.6
BURAR	**Bucovina Array**	78.17	342	⇑P		**P**	07 07 17.0	-0.2
BURAR	**Bucovina Array**	78.17	342	P		**P**	07 07 17.1	-0.1
TBLG	**Delisi**	78.39	326	P		**P**	07 07 20.1	+1

WR0	**Warramunga Arr**	**81.24**	**221**	P	**P**	**07 07 32.9**	**-0.9**
WR0				IAmb	IAmb	07 07 34.5	
	comp=Z,28nm,0.8s						
SSF	**Saint Saulge**	**81.24**	**357**	*e*P	**P**	**07 07 32.0**	**-1.7**
SSF				pmax	pmax		
	comp=Z,11nm,1.3s						
WRAB	**Tennant Creek**	**81.29**	**221**	*de*P	**P**	**07 07 33.9**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,44nm,1.0s						
WRAB	**Tennant Creek**	**81.29**	**221**	P	**P**	**07 07 33.9**	**-0.2**
WRA	**Warramunga Arr**	**81.30**	**221**	P	**P**	**07 07 34.0**	**-0.3**
	comp=Z,24nm,0.7s,baz=34,slow=6.2,SNR=53						
WRA	**Warramunga Arr**	**81.30**	**221**	P	**P**	**07 07 33.5**	**-0.7**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**81.30**	**221**	P	**P**	**07 07 33.5**	**-0.7**
SRSP	**Sriramsagar**	**81.34**	**290**	*e*P	**P**	**07 07 34.2**	**-0.4**
PSI	**Prapat**	**81.36**	**263**	P	**P**	**07 07 34.7**	**-0.2**
PSI				pmax	pmax		
	comp=Z,25nm,0.9s						
RPSI	**Rantau Prapat**	**81.44**	**263**	P	**P**	**07 07 34.7**	**-0.5**
RPSI				IAmb	IAmb	07 07 35.6	
	comp=Z,25nm,0.9s						
MDVR	**Moldovita**	**81.55**	**343**	ǁP	**P**	**07 07 35.2**	**-0.2**
HYB	**Hyderabad**	**82.40**	**288**	*i* P	**P**	**07 07 40.0**	**-0.3**
HYBB	**Hyderabad (bro**	**82.40**	**288**	*e*P	**P**	**07 07 40.4**	**+0.1**
LPL	**La Plagne**	**82.62**	**354**	*e*P	**P**	**07 07 42.7**	**+1.5**
LPL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
NJS	**Nagarjunasagar**	**82.64**	**287**	*e*P	**P**	**07 07 41.5**	**0.0**
ADKI	**Addanki**	**82.80**	**286**	*e*P	**P**	**07 07 42.4**	**+0.2**
KLRI	**Killari**	**83.03**	**290**	*e*P	**P**	**07 07 43.3**	**-0.2**
BNI	**Bardonecchia**	**83.08**	**354**	P	**P**	**07 07 43.6**	**+0.1**
BNI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BNI	**Bardonecchia**	**83.08**	**354**	P	**P**	**07 07 43.6**	**+0.1**
VTS	**Vitosha**	**83.36**	**342**	⇑P	**P**	**07 07 45.0**	**0.0**
BR131	**Keskin Array S**	**83.66**	**333**	*de*P	**P**	**07 07 46.1**	**-0.5**
BRTR	**Keskin Array B**	**83.66**	**333**	P	**P**	**07 07 46.5**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=54,slow=3.2,SNR=10						
BRTR	**Keskin Array B**	**83.66**	**333**	*ce*P	**P**	**07 07 46.7**	**+0.1**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BRTR	**Keskin Array B**	**83.66**	**333**	P	**P**	**07 07 46.3**	**-0.2**
RCLA	**Racherla**	**83.71**	**287**	*e*P	**P**	**07 07 45.4**	**-1.5**
MDSI	**Maura Dua**	**83.92**	**255**	P	**P**	**07 07 48.2**	**+0.3**
SKHT	**Srikalahasti**	**84.60**	**285**	*e*P	**P**	**07 07 51.7**	**+0.2**
NRCA	**Narcia**	**84.71**	**349**	P	**P**	**07 07 51.7**	**0.0**
ASAR	**Alice Springs**	**84.81**	**220**	P	**P**	**07 07 52.6**	**+0.4**
	comp=Z,15nm,0.8s,baz=26,slow=5.0,SNR=88						
ASAR				PKiKP	**PKiKP**	**07 13 03.7**	**-0.4**
	comp=Z,0.8nm,0.8s,baz=23,slow=0.9,SNR=6.3						
ASAR	**Alice Springs**	**84.81**	**220**	P	**P**	**07 07 51.5**	**-0.8**
URV	**Uravakonda**	**85.11**	**288**	*e*P	**P**	**07 07 52.4**	**-1.6**
UOSS	**Minazif**	**88.28**	**310**	P	**P**	**07 08 08.6**	**-0.8**
UOSS				IAmb	IAmb	07 08 09.2	
	comp=Z,24nm,1.4s						
ESDC	**Sonseca Array**	**88.69**	**2**	P	**P**	**07 08 09.9**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=349,slow=5.5,SNR=6.3						
STKA	**Stephens Creek**	**89.54**	**211**	P	**P**	**07 08 15.9**	**+1.2**
	comp=Z,25nm,0.6s,baz=348,slow=6.8,SNR=40						
STKA	**Stephens Creek**	**89.54**	**211**	*ce*P	**P**	**07 08 16.2**	**+1.4**
RAYN	**Ar Rayn**	**94.30**	**318**	P	**P**	**07 08 37.3**	**0.0**
RAYN				pmax	pmax		
	comp=Z,12nm,1.1s						
RAYN	**Ar Rayn**	**94.30**	**318**	P	**P**	**07 08 37.3**	**0.0**
TORD	**Torodi Ar. Bea**	**115.08**	**357**	PKP	**PKiKP**	**07 13 57.4**	**-1.2**
	comp=Z,3.1nm,0.5s,baz=356,slow=2.4,SNR=34						
LPAZ	**La Paz**	**117.06**	**82**	PKP	**PKPdf**	**07 14 02.4**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=355,slow=5.5,SNR=6.3						
KMBO	**Kilima Mbogo**	**119.82**	**314**	PKP	**PKiKP**	**07 14 10.0**	**+2.0**
	comp=Z,4.8nm,0.9s,baz=17,slow=7.2,SNR=8.5						
DBIC	**Dimbokro**	**121.51**	**4**	PKP	**PKPdf**	**07 14 09.9**	**-1.0**
	comp=Z,4.4nm,0.6s,baz=332,slow=4.0,SNR=16						
TIC	**Toumodi**	**121.53**	**4**	*e*PKiKP	**PKPdf**	**07 14 10.1**	**-0.9**
KIC	**Kosan Boka**	**121.82**	**4**	*e*PKiKP	**PKPdf**	**07 14 10.3**	**-1.2**
	comp=Z,7.7nm,0.7s						
LIC	**Lamto**	**121.94**	**4**	*e*PKiKP	**PKPdf**	**07 14 10.6**	**-1.1**
	comp=Z,18nm,0.7s						
BDFB	**Brasilia**	**128.38**	**63**	PKP	**PKPdf**	**07 14 23.6**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=323,slow=10,SNR=4.2						
BO02	**Sierra Bellavi**	**128.81**	**99**	PKPdf	**PKPdf**	**07 14 24.4**	**+0.1**
VNDA	**Vanda**	**129.65**	**185**	PKP	**PKiKP**	**07 14 25.0**	**-0.2**
	comp=Z,1.9nm,0.9s,baz=318,slow=5.6,SNR=13						
VNDA				SKPbc	SKPbc	07 17 37.1	+1.2
	comp=Z,2.6nm,0.8s,baz=327,slow=4.7,SNR=10.0						
VNDA	**Vanda**	**129.65**	**185**	PKPdf	**PKiKP**	**07 14 24.9**	**-0.4**
CPUP	**Villa Florida**	**131.20**	**81**	PKP	**PKPdf**	**07 14 28.6**	**-0.4**
	comp=Z,5.7nm,0.9s,baz=320,slow=3.8,SNR=11						
CPUP				SKPbc	**SKPbc**	**07 17 41.0**	**-2.0**
	comp=Z,12nm,0.7s,baz=313,slow=3.7,SNR=36						
PLCA	**Paso Flores**	**132.78**	**105**	PKP	**PKiKP**	**07 14 32.2**	**-0.6**
	comp=Z,7.7nm,0.8s,baz=259,slow=2.4,SNR=19						
PLCA				SKPbc	**SKPbc**	**07 17 47.5**	**-0.7**
	comp=Z,12nm,0.8s,baz=302,slow=4.3,SNR=26						
QSPA	**South Pole Qui**	**141.74**	**180**		PKPpre	07 14 42.5	
TSUM	**Tsumeb**	**144.01**	**328**	PKPdf	PKPbc	07 14 51.4	+0.4
MAW	**Mawson**	**145.91**	**218**	PKPbc	**PKPbc**	**07 14 55.2**	**-0.2**
	comp=Z,47nm,0.9s,baz=81,slow=3.3,SNR=40						
MAW	**Mawson**	**145.91**	**218**	PKP2	**PKPbc**	**07 14 55.3**	**0.0**
MAW	**Mawson**	**145.91**	**218**	PKPdf	**PKPbc**	**07 14 55.3**	**0.0**
LBTB	**Lobatse**	**146.08**	**312**	PKP2	**PKPdf**	**07 14 56.7**	**+0.4**
LBTB	**Lobatse**	**146.08**	**312**	PKPdf	**PKPdf**	**07 14 56.6**	**+0.4**
BOSA	**Boshof**	**149.29**	**309**	PKP	**PKPdf**	**07 15 01.0**	**-0.5**
	comp=Z,6.3nm,1.1s,baz=93,slow=1.0,SNR=4.3						
BOSA				PKPbc	**PKPbc**	**07 15 06.3**	**+0.4**
	comp=Z,33nm,0.6s,baz=38,slow=2.3,SNR=43						
SYO	**Syowa Base**	**154.28**	**213**	ǁ*i*P	**PKPbc**	**07 15 14.6**	**-1.2**
SYO	**Syowa Base**	**154.28**	**213**	⇑*e*P	**PKiKP**	**07 15 17.6**	**+1.8**
SYO	**Syowa Base**	**154.28**	**213**	ǁ*i*P	**PKPab**	**07 15 29.0**	**-1.4**
SYO	**Syowa Base**	**154.28**	**213**	⇑*e*P	**PKPab**	**07 15 34.2**	**+3.8**
SNAA	**Sanae**	**160.23**	**179**	PKPdf	**PKPdf**	**07 15 13.2**	**-1.8**
VNA3	**Neumayer Olympu**	**160.33**	**172**	PKPdf	**PKPdf**	**07 15 13.4**	**-1.7**
VNA2	**Neumayer--Watz**	**160.81**	**174**	PKPdf	**PKPdf**	**07 15 14.4**	**-1.1**
	baz=173,slow=5.9						

IDC 24 07:03:37.3±2.3, 29°.85S×177°.07W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/29, mbtmp3.6/2, MS4.0/1, Ms1 4.0/1, ms1mx3.1/23, Error ellipse: s-maj=70.9km s-min=22.7km az=47.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.95**	**308**	Pn	Pn	07 03 58.4	+0.5
	418nm,0.3s,baz=102,slow=8.8,SNR=23						
RAO				Sn	Sn	07 04 11.1	-1.1
	398nm,0.3s,baz=22,slow=20,SNR=10						
ASAR	**Alice Springs**	**43.95**	**266**	P	P	07 11 46.4	0.0
	0.4nm,0.5s,baz=104,slow=7.5,SNR=4.8						
ASAR				LR	LR	07 27 59.3	
	comp=Z,202nm,21.4s,baz=358,slow=33						
WRA	**Warramunga Arr**	**44.89**	**271**	P	P	07 11 54.1	+0.2
	0.8nm,0.6s,baz=110,slow=8.1,SNR=9.4						
FINES	**FINESS Array B**	**144.90**	**341**	PKP	PKPdf	07 23 15.5	-0.2
	1.0nm,0.6s,baz=48,slow=2.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**163.34**	**176**	PKPab	PKPab	07 24 32.0	-1.1
	1.4nm,0.6s,baz=174,slow=2.6,SNR=7.0						

IDC 24 07:07:15.1±10.0, 51°.44N×175°.41E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.5/50, mbtmp3.6/6, Error ellipse: s-maj=199.5km s-min=62.8km az=80.0
NEIC 24 07:07:23.9±0.3, 51°.4N±0°.1×178°.4E±0°.1, h101km±7km, Error ellipse: s-maj=17.6km s-min=4.3km az=215.0
AEIC 24 07:07:24±0.4, 51°.41N±0°.09×178°.4E±0°.1, h98km±6km, ML3.3, Error ellipse: s-maj=17.1km s-min=6.4km az=222.0

ISC 24 07:07:34.8±1.2, 51°.59N±0°.09×178°.74E±0°.08, h40km, n18, σ3°16/18, mb3.6/6, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSPA	**Little Sitkin**	**0.39**	**344**		**Pn**	**07 07 40.4**	**-3.7**
LSPA					**Sn**	**07 07 52.8**	**+2.3**
LSSA	**Little Sitkin**	**0.39**	**339**		**Pn**	**07 07 40.3**	**-3.8**
AMKA	**Amchitka**	**0.41**	**121**		**Pn**	**07 07 40.2**	**-4.0**
AMKA					**Sn**	**07 07 52.2**	**+1.3**
LSNW	**Little Sitkin**	**0.41**	**340**		**Pn**	**07 07 40.4**	**-4.0**
LSNW					**Sn**	**07 07 52.6**	**+1.6**
CESW	**Semis' Southwe**	**0.60**	**58**		**Pn**	**07 07 43.0**	**-3.9**
CESW					**Sn**	**07 07 57.2**	**+1.8**
CETU	**Semis' Tuman**	**0.60**	**51**		**Pn**	**07 07 43.2**	**-3.7**
CEAP	**Semis' Anvil P**	**0.67**	**51**		**Pn**	**07 07 43.6**	**-4.1**
CERAA	**Semis' Rag'd T**	**0.67**	**61**		**Pn**	**07 07 43.7**	**-4.1**
TASE	**Tanaga Southea**	**2.02**	**82**		Pn	07 08 00.1	-6.2
TAFP	**Tanaga Falls P**	**2.06**	**80**		Pn	07 08 00.0	-6.8
KIMD	**Kanaga Island**	**2.51**	**84**		Pn	07 08 06.0	-7.0
SPIA	**Saint Paul Isl**	**8.52**	**45**	Pn	Pn	07 09 30.2	-5.1
ILAR	**Eielson Array**	**22.06**	**40**	P	**P**	**07 12 26.5**	**+0.8**
	0.5nm,0.5s,baz=251,slow=8.9,SNR=7.8						
YKA	**Yellowknife Ar**	**36.20**	**46**	P	**P**	**07 14 32.4**	**-0.7**
	0.5nm,0.7s,baz=284,slow=8.8,SNR=4.0						
YBH	**Yreka Blue Hor**	**40.37**	**80**	P	**P**	**07 15 11.3**	**+2.8**
	1.0nm,0.7s,baz=318,slow=15,SNR=5.1						
NVAR	**Mina Array Bea**	**45.05**	**81**	P	**P**	**07 15 49.0**	**+2.4**
	0.7nm,0.8s,baz=300,slow=7.2,SNR=4.1						
PDAR	**Pinedale Array**	**47.70**	**71**	P	**P**	**07 16 08.0**	**+0.5**
	0.5nm,0.6s,baz=308,slow=4.4,SNR=6.6						
TXAR	**Lajitas Array**	**60.13**	**80**	P	**P**	**07 17 39.1**	**+0.9**
	0.4nm,0.8s,baz=302,slow=4.6,SNR=4.4						

NEIC 24 07:07:42.8±1.9, 51°.8N±0°.2×178°.4E±0°.1, h106km±4km, Error ellipse: s-maj=26.3km s-min=8.7km az=187.0
AEIC 24 07:07:44.1±2.2, 51°.8N±0°.2×178°.45E±0°.09, h102km±3km, ML3.2/20, mb3.8/30(NEIC), Error ellipse: s-maj=31.6km s-min=6.5km az=187.0

ISC 24 07:07:43.3±1.0, 51°.9N±0°.1×178°.41E±0°.07, h105km±7km, n58, σ1°27/61, mb3.8/12, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.13**	**49**		**Pn**	**07 07 58.2**	**+0.2**
LSPA	**Little Sitkin**	**0.15**	**43**		**Pn**	**07 07 58.2**	**+0.1**
LSPA					**Sn**	**07 08 08.6**	**-0.4**
CETU	**Semis' Tuman**	**0.68**	**79**		**Pn**	**07 08 00.8**	**-0.3**
CESW	**Semis' Southwe**	**0.72**	**85**		**Pn**	**07 08 00.8**	**-0.6**
AMKA	**Amchitka**	**0.73**	**130**		**Pn**	**07 08 00.8**	**-0.7**
AMKA					**Sn**	**07 08 14.1**	**-0.9**
CEAP	**Semis' Anvil P**	**0.74**	**77**		**Pn**	**07 08 01.2**	**-0.3**
CERAA	**Semis' Rag'd T**	**0.79**	**85**		**Pn**	**07 08 01.5**	**-0.6**
CERAA					**Sn**	**07 08 16.9**	**+0.7**
GAEA	**Gareloi East**	**1.77**	**91**		**Pn**	**07 08 12.7**	**-0.5**
TASE	**Tanaga Southea**	**2.21**	**89**		**Pn**	**07 08 18.2**	**-0.6**
TAFP	**Tanaga Falls P**	**2.24**	**87**		**Pn**	**07 08 18.3**	**-0.8**
TAPA	**Tanaga Point A**	**2.35**	**89**		**Pn**	**07 08 19.8**	**-0.8**
KIMD	**Kanaga Island**	**2.71**	**90**		**Pn**	**07 08 24.5**	**-0.8**
KICM	**Kanaga Island**	**2.73**	**87**		**Pn**	**07 08 24.9**	**-0.7**
KIKV	**Kanaga Island**	**2.74**	**88**		**Pn**	**07 08 24.9**	**-0.8**
SMY	**Shemya**	**2.79**	**290**	Pn	**Pn**	**07 08 25.0**	**-1.3**
ADK	**Adak**	**3.04**	**87**	Pn	**Pn**	**07 08 28.4**	**-1.3**
ADK				Sn	**Sn**	**07 09 03.9**	**-1.6**
GSMY	**Great Sitkin M**	**3.43**	**85**		**Pn**	**07 08 34.1**	**-0.8**
GSTR	**Great Sitkin T**	**3.43**	**84**		**Pn**	**07 08 33.5**	**-1.4**
ATKA	**Atka Island**	**4.58**	**83**		**Pn**	**07 08 49.9**	**-0.4**
UNV	**Unalaska Vale**	**9.35**	**72**	Pn	**Pn**	**07 09 58.8**	**+3.8**
AKUT	**Akutan**	**9.81**	**70**	Pn	**Pn**	**07 09 57.0**	**-4.3**
RSO	**Redoubt South**	**18.10**	**50**	P	**Pn**	**07 11 48.2**	**+0.5**
CNPM	**China Poot**	**18.62**	**54**	P	**P**	**07 11 52.2**	**-0.1**
SEW	**Seward**	**19.62**	**53**	P	**P**	**07 12 03.9**	**+0.9**
BPAW	**Bear Paw Mtn.**	**20.09**	**41**	P	**P**	**07 12 08.9**	**+0.7**
TRF	**Thorofare Moun**	**20.14**	**43**	P	Pn	07 12 11.1	-0.6
TRF				IAmb	IAmb	07 12 15.0	
	comp=Z,3.0nm,0.9s						
SML	**Sawmill**	**20.51**	**48**	P	**P**	**07 12 13.9**	**+1.1**
SML				IAmb	IAmb	07 12 15.1	
	comp=Z,5.9nm,0.8s						
GLI	**Glacier Island**	**20.90**	**51**	P	**P**	**07 12 16.3**	**-0.7**
GLI				IAmb	IAmb	07 12 16.7	
	comp=Z,5.7nm,0.7s						
SCM	**Sheep Creek Mo**	**20.98**	**48**	P	**P**	**07 12 17.9**	**0.0**
SCM				IAmb	IAmb	07 12 24.2	
	comp=Z,4.7nm,0.9s						
FID	**Port Fidalgo**	**21.18**	**51**	P	**P**	**07 12 18.4**	**-1.6**
DHY	**Denali Highway**	**21.27**	**45**	P	**P**	**07 12 19.6**	**-1.4**
DHY				IAmb	IAmb	07 12 19.8	
	comp=Z,8.7nm,1.4s						
WRH	**Wood River Hil**	**21.41**	**41**	P	**P**	**07 12 23.1**	**+0.9**
MDM	**Murphy Dome**	**21.52**	**40**	P	**P**	**07 12 25.0**	**+1.4**
MDM				IAmb	IAmb	07 12 25.9	
	comp=Z,2.8nm,0.8s						
CCB	**Clear Creek Bu**	**21.58**	**41**	P	**P**	**07 12 23.5**	**-0.6**
IL31		**22.00**	**41**	P	**P**	**07 12 28.9**	**+0.5**
TOLK	**Toolik Lake Re**	**22.71**	**30**	P	**P**	**07 12 36.2**	**+0.3**
TOLK				IAmb	IAmb	07 12 37.2	
	comp=Z,5.0nm,0.7s						
VRDI	**Verde Repeater**	**22.71**	**51**	P	**P**	**07 12 37.5**	**+1.4**
VRDI				IAmb	IAmb	07 12 48.0	
	comp=Z,6.1nm,1.2s						
PRP	**Porcupine Dome**	**22.79**	**39**	P	**P**	**07 12 36.8**	**0.0**
MENT	**Mentasta**	**22.86**	**46**	P	**P**	**07 12 39.5**	**+2.0**
MENT				IAmb	IAmb	07 12 42.7	
	comp=Z,3.0nm,0.4s						
DOT	**Dot Lake**	**22.86**	**44**	P	**P**	**07 12 36.8**	**-0.7**
DOT				IAmb	IAmb	07 12 37.8	
	comp=Z,2.3nm,0.7s						
SCRK	**Sand Creek**	**22.97**	**44**	P	**P**	**07 12 37.7**	**-0.9**
BCAR	**Beaver Creek A**	**23.75**	**46**	P	**P**	**07 12 45.8**	**+0.1**
BMAR	**Burnt Mountain**	**23.83**	**35**	P	**P**	**07 12 47.4**	**+1.1**
EGAK	**Eagle**	**24.36**	**42**	P	**P**	**07 12 50.0**	**-1.1**
EGAK				IAmb	IAmb	07 12 51.1	
	comp=Z,3.2nm,0.8s						
DAWY	**Dawson**	**24.97**	**44**	P	**P**	**07 12 58.4**	**+1.7**
DAWY				IAmb	IAmb	07 12 58.6	
	comp=Z,1.5nm,0.6s						
HYT	**Haines Junctio**	**25.57**	**52**	P	**P**	**07 13 05.2**	**+2.9**
HYT				IAmb	IAmb	07 13 05.3	
	comp=Z,2.6nm,0.8s						
INK	**Inuvik**	**28.09**	**36**	P	**P**	**07 13 24.4**	**-0.1**
INK				IAmb	IAmb	07 13 26.8	
	comp=Z,5.1nm,1.4s						
NLWA	**Neilton Lookou**	**36.82**	**73**	P	**P**	**07 14 41.6**	**+0.7**
KRMB	**Red Mountain**	**39.91**	**82**	P	**P**	**07 15 07.7**	**+0.7**
YBH	**Yreka Blue Hor**	**40.53**	**80**	P	**P**	**07 15 12.6**	**+0.6**
YBH				IAmb	IAmb	07 15 12.8	
	comp=Z,1.0nm,0.7s						
PNTR	**Pine Nut**	**44.01**	**81**	P	**P**	**07 15 41.6**	**+1.2**
NVAR	**Mina Array Bea**	**45.21**	**81**	P	**P**	**07 15 50.1**	**+0.1**
R11A	**Troy Canyon, C**	**46.92**	**80**	P	**P**	**07 16 02.6**	**-0.8**
DUG	**Dugway, Tooele**	**47.45**	**76**	P	**P**	**07 16 06.3**	**-1.1**
DUG				IAmb	IAmb	07 16 14.4	
	comp=Z,2.4nm,1.2s						
PDAR	**Pinedale Array**	**47.81**	**71**	P	**P**	**07 16 08.5**	**-1.7**
PV13	**Radium Mtn., P**	**51.14**	**75**	P	**P**	**07 16 34.3**	**-1.2**
MKAR	**Makanchi Array**	**58.37**	**307**	P	**P**	**07 17 28.9**	**+1.6**
TXAR	**Lajitas Array**	**60.29**	**79**	P	**P**	**07 17 40.4**	**-0.5**

NEIC 24 07:28:46.7±2.5, 29°.48S±0°.09×176°.3W±0°.1, h10km±8km, mb4.5/12, Error ellipse: s-maj=17.6km s-min=12.7km az=105.0
IDC 24 07:28:54.2±2.2, 28°.57S×177°.77W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/30, mbtmp4.0/3, Error ellipse: s-maj=48.6km s-min=18.1km az=82.0

ISC 24 07:28:47.0±1.0, 29°.4S±0°.1×176°.5W±0°.1, h10km, n23, σ1°84/24, mb4.5/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.26**	**275**	Pn	**Pn**	**07 29 11.7**	**+1.0**
	583nm,0.3s,baz=84,slow=10.0,SNR=25						
RAO				Sn	**Sn**	**07 29 22.9**	**-4.9**
	2µm,0.3s,baz=157,slow=23,SNR=14						
RAO	**Raoul Island**	**1.26**	**275**		**Pn**	**07 29 11.6**	**+0.9**
OUZ	**Omahuta**	**10.22**	**233**		**Pn**	**07 31 13.9**	**+0.1**
BKZ	**Black Stump Fm**	**11.37**	**209**	Pn	**Pn**	**07 31 28.5**	**-1.0**
NIUE	**Niue**	**11.86**	**32**	Pn	**Pn**	**07 31 35.2**	**-1.1**
THZ	**Tophouse**	**15.07**	**212**	Pn	**Pn**	**07 32 21.1**	**+1.1**
THZ				IAmb	IAmb	07 32 26.0	
	comp=Z,20nm,1.2s						
OXZ	**Oxford**	**16.70**	**210**	Pn	**Pn**	**07 32 39.5**	**-1.6**
OXZ				IAmb	IAmb	07 32 39.5	
	comp=Z,24nm,1.1s						
MQZ	**McQueen's Vall**	**16.74**	**208**	Pn	**Pn**	**07 32 41.3**	**-0.3**
CTAO	**Charters Tower**	**34.96**	**277**	P	**P**	**07 35 42.1**	**+2.5**
CTAO				IAmb	IAmb	07 35 59.2	
	comp=Z,7.0nm,1.2s						
STKA	**Stephens Creek**	**36.01**	**255**	P	**P**	**07 35 50.0**	**+1.6**
	comp=Z,2.5nm,0.9s,baz=93,slow=12,SNR=4.6						
STKA	**Stephens Creek**	**36.01**	**255**	P	**P**	**07 35 50.6**	**+2.2**
BBOO	**Buckleboo**	**40.53**	**253**	P	**P**	**07 36 27.8**	**+1.3**
ASAR	**Alice Springs**	**44.50**	**265**	P	**P**	**07 36 58.6**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=102,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**44.50**	**265**	P	**P**	**07 37 01.3**	**+2.4**
WR0	**Warramunga Arr**	**45.21**	**270**	P	**P**	**07 37 05.5**	**+0.9**
WR0				IAmb	IAmb	07 37 10.0	
	comp=Z,18nm,1.4s						
WB2	**Warramunga Arr**	**45.38**	**270**	P	**P**	**07 37 07.1**	**+1.1**
WB2				IAmb	IAmb	07 37 25.8	
	comp=Z,9.5nm,1.3s						
WRAB	**Tennant Creek**	**45.39**	**270**	P	**P**	**07 37 05.1**	**-1.0**
WRAB				IAmb	IAmb	07 37 14.0	
	comp=Z,8.3nm,1.1s						
WRA	**Warramunga Arr**	**45.40**	**270**	P	**P**	**07 37 05.8**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=110,slow=8.1,SNR=14						
WRA	**Warramunga Arr**	**45.40**	**270**	P	**P**	**07 37 06.9**	**+0.8**
WB0	**Warramunga Arr**	**45.41**	**271**		**P**	**07 37 07.3**	**+1.0**
WB0				IAmb	IAmb	07 37 14.0	
	comp=Z,14nm,1.5s						
CASY	**Casey**	**56.66**	**208**	P	**P**	**07 38 27.8**	**-2.3**
FINES	**FINESS Array B**	**144.61**	**341**	PKP	**PKiKP**	**07 48 28.4**	**+1.5**
	comp=Z,1.8nm,0.5s,baz=55,slow=4.1,SNR=9.9						
AKASG	**Malin Array Be**	**151.25**	**325**	PKPbc	**PKPab**	**07 48 45.9**	**-2.4**
	comp=Z,1.1nm,0.4s,baz=66,slow=2.3,SNR=4.9						

IDC 24 07:39:20.9±7.8, 27°.24S×179°.84W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.6/31, mbtmp3.5/2, Error ellipse: s-maj=354.5km s-min=116.4km az=162.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.74**	**264**	P	P	07 47 11.4	-0.7
	0.3nm,0.4s,baz=107,slow=8.4,SNR=4.6						
WRA	**Warramunga Arr**	**42.43**	**270**	P	P	07 47 18.2	+0.5
	0.7nm,0.7s,baz=108,slow=7.8,SNR=1.7						
FINES	**FINESS Array B**	**141.63**	**340**	PKP	PKPdf	07 58 53.2	-0.4
	1.2nm,0.5s,baz=66,slow=3.5,SNR=8.2						

IDC 24 07:44:41.2±1.3, 14°.63S×167°.92E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.1/35, mbtmp4.1/12, ML4.0/1, MS3.4/1, Ms1 3.4/1, ms1mx3.0/34, Error ellipse: s-maj=39.6km s-min=20.0km az=125.0
NEIC 24 07:44:46.2±1.8, 14°.70S±0°.10×167°.9E±0°.1, h33km±6km, mb4.6/18, Error ellipse: s-maj=19.0km s-min=12.6km az=113.0

ISC 24 07:44:45.8±0.7, 14°.68S±0°.08×168°.0E±0°.1, h30km, n37, σ1°34/33, mb4.5/18, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**1.05**	**223**		**Pn**	**07 45 01.1**	**-3.4**
DZM	**Mont Dzumac**	**7.49**	**191**	Pn	**Pn**	**07 46 32.7**	**-0.4**
	2.4nm,0.3s,baz=325,slow=6.9,SNR=39						
DZM				Sn	**Sn**	**07 47 55.6**	**-1.5**
	1.8nm,0.3s,baz=326,slow=22,SNR=7.3						
HNR	**Honiara**	**9.40**	**303**	LR	LR	07 50 35.2	
	comp=Z,239nm,20.5s,baz=90,slow=38						
EIDS	**Eidsvold**	**19.06**	**233**	P	**Pn**	**07 49 08.8**	**+2.0**
CTA	**Charters Tower**	**21.38**	**252**	P	**P**	**07 49 32.2**	**+1.1**
	4.2nm,0.6s,baz=74,slow=12,SNR=9.0						
CTAO	**Charters Tower**	**21.38**	**252**	P	**P**	**07 49 33.3**	**+2.1**
BKZ	**Black Stump Fm**	**25.52**	**164**	P	**P**	**07 50 12.9**	**+1.1**
BKZ				IAmb	IAmb	07 50 19.4	
	comp=Z,17nm,1.3s						
STKA	**Stephens Creek**	**29.52**	**230**	P	**P**	**07 50 47.4**	**-0.3**
	comp=Z,

ISC 24 08:00:30.1±0.7,51°81N±0'.10×178°.58E±0'.04,h102km±6km, n134,σ0s99/116,mb4.3/49,1C,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.14**	**343**		**Pn**	**08 00 44.1**	**-0.3**
LSPA	**Little Sitkin**	**0.14**	**359**		**Pn**	**08 00 44.1**	**-0.3**
LSNW	**Little Sitkin**	**0.16**	**346**		**Pn**	**08 00 44.0**	**-0.4**
CETU	**Semis' Tuman**	**0.59**	**75**		**Pn**	**08 00 47.1**	**+0.3**
CESW	**Semis' Southwe**	**0.62**	**81**		**Pn**	**08 00 46.9**	**0.0**
AMKA	**Amchitka**	**0.63**	**134**		**Pn**	**08 00 47.1**	**0.0**
AMKA					**Sn**	**08 00 59.1**	**-0.6**
CEAP	**Semis' Anvil P**	**0.65**	**73**		**Pn**	**08 00 47.6**	**+0.3**
CEAP					**Sn**	**08 01 00.2**	**+0.1**
CERAA	**Semis' Rag'd T**	**0.69**	**82**		**Pn**	**08 00 47.8**	**+0.2**
GALAA	**Gareloi Lava P**	**1.65**	**91**		**Pn**	**08 00 58.6**	**+0.4**
GAEA	**Gareloi East**	**1.66**	**90**		**Pn**	**08 00 58.9**	**+0.4**
TASE	**Tanaga Southea**	**2.10**	**88**		**Pn**	**08 01 04.5**	**+0.4**
TAFP	**Tanaga Falls P**	**2.13**	**86**		**Pn**	**08 01 04.7**	**+0.2**
TAFP					**Sn**	**08 01 30.9**	**+0.2**
TAPA	**Tanaga Point A**	**2.24**	**89**		**Pn**	**08 01 06.3**	**+0.4**
KIMD	**Kanaga Island**	**2.60**	**90**		**Pn**	**08 01 10.8**	**+0.2**
KICM	**Kanaga Island**	**2.62**	**86**		**Pn**	**08 01 11.3**	**+0.5**
KIKV	**Kanaga Island**	**2.64**	**87**		**Pn**	**08 01 11.4**	**+0.4**
KIWB	**Kanaga Island**	**2.65**	**87**	Pn	**Pn**	**08 01 10.7**	**-0.5**
SMY	**Shemya**	**2.90**	**290**		**Pn**	**08 01 13.3**	**-1.2**
SMY				Sn	**Sn**	**08 01 47.0**	**-1.7**
ADK	**Adak**	**2.94**	**87**	Pn	**Pn**	**08 01 14.8**	**-0.2**
ADK				Sn	**Sn**	**08 01 48.7**	**-0.9**
GSTD	**Great Sitkin T**	**3.27**	**84**		**Pn**	**08 01 19.3**	**-0.3**
GSMY	**Great Sitkin M**	**3.33**	**84**		**Pn**	**08 01 20.3**	**0.0**
GSTR	**Great Sitkin T**	**3.33**	**83**	Pn	**Pn**	**08 01 20.2**	**-0.1**
ATKA	**Atka Island**	**4.48**	**82**	Pn	**Pn**	**08 01 36.2**	**+0.5**
ATKA	**Atka Island**	**4.48**	**82**		**Sn**	**08 02 26.1**	**-0.6**
KOFP	**Korovin Flat P**	**4.54**	**81**		**Pn**	**08 01 37.9**	**+1.2**
NIKH	**Nikolski High**	**7.78**	**76**	Pn	**Pn**	**08 02 22.1**	**+1.7**
SPIA	**Saint Paul Isl**	**8.43**	**46**	Pn	**Pn**	**08 02 31.2**	**+2.0**
UNV	**Unalaska Valle**	**9.26**	**71**	Pn	**Pn**	**08 02 41.5**	**+1.0**
PETK	**Petropavlovsk-** 0.1nm,0.3s,baz=104,slow=18,SNR=1.7	**12.80**	**284**	P	**Pn**	**08 03 28.7**	**+0.6**
SDPT	**Sand Point**	**12.93**	**66**	Pn	**Pn**	**08 03 27.9**	**-1.8**
CHIR	**Chirikof Islan**	**15.71**	**65**	Pn	**Pn**	**08 04 05.1**	**-0.4**
SII	**Sitkinak Islan**	**16.57**	**63**	Pn	**Pn**	**08 04 15.0**	**-1.1**
SII				IAmb	IAmb	08 04 33.7	
	comp=Z,18nm,1.3s						
SVW2	**Sparrevohn**	**16.93**	**47**	P	**P**	**08 04 21.6**	**+0.9**
TTA	**Tatalina**	**17.51**	**41**	P	**P**	**08 04 28.1**	**+0.9**
KDAK	**Kodiak Island**	**17.58**	**59**	P	**P**	**08 04 25.4**	**-2.4**
	comp=Z,2.2nm,0.3s,baz=264,slow=7.9,SNR=82						
RSO	**Redoubt South**	**18.04**	**50**	P	**Pn**	**08 04 34.8**	**+0.8**
CNPM	**China Poot**	**18.56**	**54**	P	**P**	**08 04 38.6**	**-0.1**
RDOG	**Red Dog Mine**	**18.60**	**22**	P	**Pn**	**08 04 40.8**	**+0.3**
BRLK	**Bradley Lake**	**18.78**	**53**	P	**P**	**08 04 41.1**	**+0.1**
BRLK				IAmb	IAmb	08 04 41.4	
	comp=Z,19nm,0.9s						
PPLA	**Purkeypile**	**19.08**	**43**		**P**	**08 04 46.3**	**+1.8**
PPLA				IAmb	IAmb	08 04 51.0	
	comp=Z,9.3nm,0.8s						
SEW	**Seward**	**19.55**	**52**	P	**P**	**08 04 48.8**	**-0.6**
PMR	**Palmer**	**20.04**	**48**	P	**P**	**08 04 56.3**	**+1.7**
BPAW	**Bear Paw Mtn.**	**20.05**	**40**	P	**P**	**08 04 56.0**	**+1.2**
TRF	**Thorofare Moun**	**20.09**	**43**	P	**P**	**08 04 56.7**	**+1.3**
TRF				IAmb	IAmb	08 04 58.9	
	comp=Z,9.0nm,0.6s						
GHO	**Glory Hole Cre**	**20.18**	**48**	P	**P**	**08 04 56.2**	**-0.1**
GHO				IAmb	IAmb	08 05 01.0	
	comp=Z,25nm,1.4s						
KNK	**Knik Glacier**	**20.30**	**49**	P	**P**	**08 04 58.7**	**+1.1**
KNK				IAmb	IAmb	08 04 58.8	
	comp=Z,10.0nm,0.9s						
SML	**Sawmill**	**20.46**	**48**	P	**P**	**08 05 00.2**	**+1.0**
SML				IAmb	IAmb	08 05 02.0	
	comp=Z,15nm,0.9s						
MCK	**McKinley**	**20.76**	**42**	P	**P**	**08 05 03.6**	**+1.2**
GLI	**Glacier Island**	**20.84**	**51**	IAmb	IAmb	08 05 03.9	
	comp=Z,18nm,0.7s						
SCM	**Sheep Creek Mo**	**20.93**	**48**	IAmb	IAmb	08 05 09.8	
	comp=Z,25nm,1.3s						
FID	**Port Fidalgo**	**21.12**	**51**	P	**P**	**08 05 05.1**	**-1.2**
FID				IAmb	IAmb	08 05 07.8	
	comp=Z,19nm,0.8s						
DHY	**Denali Highway**	**21.22**	**45**	P	**P**	**08 05 07.3**	**-0.3**
DHY				IAmb	IAmb	08 05 09.5	
	comp=Z,17nm,1.2s						
IL31		**21.95**	**41**	P	**P**	**08 05 15.0**	**0.0**
ILAR	**Eielson Array**	**21.95**	**41**	P	**P**	**08 05 12.9**	**-2.2**
	comp=Z,1.3nm,0.7s,baz=247,slow=10.0,SNR=22						
ILAR				ScP	**ScP**	**08 12 35.2**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=270,slow=2.2,SNR=4.4						
RAGM	**Ragged Mountai**	**21.95**	**53**	IAmb	IAmb	08 05 18.6	
	comp=Z,23nm,0.9s						
VRDI	**Verde Repeater**	**22.65**	**51**	IAmb	IAmb	08 05 24.4	
	comp=Z,11nm,0.8s						
TOLK	**Toolik Lake Re**	**22.68**	**30**	P	**P**	**08 05 23.3**	**+0.6**
TOLK				IAmb	IAmb	08 05 25.0	
	comp=Z,12nm,0.7s						
CRQM	**Cirque**	**22.75**	**52**	P	**P**	**08 05 23.5**	**-0.1**
CRQM				IAmb	IAmb	08 05 25.4	
	comp=Z,17nm,0.9s						
MCARA	**McCarthy VSAT**	**22.87**	**50**	IAmb	IAmb	08 05 27.0	
	comp=Z,13nm,0.7s						
TGL	**Tana Glacier**	**22.90**	**52**	IAmb	IAmb	08 05 26.6	
	comp=Z,11nm,0.6s						
SCRK	**Sand Creek**	**22.92**	**44**	P	**P**	**08 05 23.7**	**-1.6**
FYU	**Fort Yukon**	**23.23**	**37**	P	**P**	**08 05 28.1**	**+0.2**
CTGM	**Chitina Glacie**	**23.64**	**52**	IAmb	IAmb	08 05 33.6	
	comp=Z,16nm,0.9s						
BCAR	**Beaver Creek A**	**23.70**	**46**	P	**P**	**08 05 31.9**	**-0.4**
TABL	**Table Mountain**	**23.70**	**53**	P	**P**	**08 05 32.1**	**-0.4**
TABL				IAmb	IAmb	08 05 34.1	
	comp=Z,11nm,0.6s						
BMAR	**Burnt Mountain**	**23.79**	**35**	P	**P**	**08 05 33.5**	**+0.4**
PCA	**Pinnacle**	**24.13**	**54**	IAmb	IAmb	08 05 37.8	
	comp=Z,15nm,0.8s						
EGAK	**Eagle**	**24.31**	**42**	P	**P**	**08 05 37.4**	**-0.3**
EGAK				IAmb	IAmb	08 05 38.6	
	comp=Z,13nm,0.8s						
DAWY	**Dawson**	**24.92**	**44**	IAmb	IAmb	08 05 46.1	
	comp=Z,7.1nm,0.6s						
HYT	**Haines Junctio**	**25.51**	**52**	P	**P**	**08 05 48.9**	**+0.2**
HYT				IAmb	IAmb	08 05 53.0	
	comp=Z,9.7nm,0.7s						
EPYK	**Eagle Plains**	**26.45**	**40**	IAmb	IAmb	08 05 57.6	
	comp=Z,5.2nm,0.8s						
INK	**Inuvik**	**28.05**	**36**	P	**P**	**08 06 11.6**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=250,slow=8.5,SNR=18						
DLBC	**Dease Lake**	**29.48**	**57**	P	**P**	**08 06 24.7**	**+0.5**
	comp=Z,1.3nm,0.4s,baz=194,slow=12,SNR=5.7						
H11N2	**WAKE ISLAND Hy**	**33.30**	**200**	T	T	08 42 35.4	
	baz=11,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**33.31**	**200**	T	T	08 42 30.8	
	baz=11,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**33.32**	**200**	T	T	08 42 17.6	
	baz=11,slow=76,SNR=15						
H11S1	**WAKE ISLAND Hy**	**34.53**	**200**	T	T	08 44 05.6	
	baz=13,slow=74,SNR=7.1						
H11S3	**WAKE ISLAND Hy**	**34.55**	**200**	T	T	08 43 56.1	
	baz=73,slow=74,SNR=4.2						
YKA	**Yellowknife Ar**	**36.12**	**46**	P	**P**	**08 07 21.7**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=282,slow=9.0,SNR=16						
YBH	**Yreka Blue Hor**	**40.43**	**81**	P	**P**	**08 07 59.8**	**+1.5**
YBH				IAmb	IAmb	08 08 00.6	
	comp=Z,3.1nm,0.7s						
VCNR	**Virginia City**	**43.75**	**81**	IAmb	IAmb	08 08 27.1	
	comp=Z,4.2nm,0.8s						
WAKR	**Walker**	**44.37**	**82**	IAmb	IAmb	08 08 32.2	
	comp=Z,3.7nm,0.6s						
KVN	**Kaiserville**	**44.85**	**81**	IAmb	IAmb	08 08 35.4	
	comp=Z,2.1nm,0.6s						
BOZ	**Bozeman (W)**	**44.86**	**69**	IAmb	IAmb	08 08 33.8	
	comp=Z,3.1nm,0.5s						
NVAR	**Mina Array Bea**	**45.11**	**81**	P	**P**	**08 08 37.1**	**+0.8**
	comp=Z,2.8nm,0.6s,baz=298,slow=7.4,SNR=28						
NVAR	**Mina Array Bea**	**45.11**	**81**	P	**P**	**08 08 36.9**	**+0.6**
ELK	**Elko**	**45.56**	**77**	IAmb	IAmb	08 08 40.6	
	comp=Z,2.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**46.00**	**284**	*e*P	**P**	**08 08 44.1**	**+1.0**
HHC				pmax	pmax		
	comp=Z,8.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,34nm,4.7s						
R11A	**Troy Canyon, C**	**46.83**	**80**	IAmb	IAmb	08 08 50.5	
	comp=Z,2.3nm,0.5s						
TPNV	**Topopah Spring**	**47.31**	**82**	P	**P**	**08 08 54.0**	**+0.5**
TPNV				IAmb	IAmb	08 08 54.8	
	comp=Z,5.2nm,0.8s						
DUG	**Dugway, Tooele**	**47.36**	**76**	IAmb	IAmb	08 08 54.5	
	comp=Z,3.3nm,0.5s						
PD31	**Pinedale Array**	**47.72**	**71**	P	**P**	**08 08 56.1**	**-0.5**
PDAR	**Pinedale Array**	**47.72**	**71**	P	**P**	**08 08 55.6**	**-1.0**
	comp=Z,1.2nm,0.5s,baz=318,slow=3.8,SNR=19						
PDAR	**Pinedale Array**	**47.72**	**71**	P	**P**	**08 08 55.8**	**-0.9**
PSUT	**Pine Spring**	**47.76**	**78**	P	**P**	**08 08 57.1**	**+0.1**
GSC	**Goldstone, Bar**	**48.03**	**84**	IAmb	IAmb	08 09 00.3	
	comp=Z,4.7nm,0.8s						
CCUT	**Cedar City**	**48.69**	**79**	P	**P**	**08 09 04.3**	**+0.2**
KNB	**Kanab**	**49.36**	**79**	P	**P**	**08 09 09.9**	**+0.7**
SPITS	**Spitsbergen Ar**	**49.82**	**355**	P	**P**	**08 09 10.9**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=52,slow=5.8,SNR=11						
U15A	**North Rim**	**50.07**	**79**	IAmb	IAmb	08 09 15.9	
	comp=Z,7.5nm,1.4s						
KURBB	**Kurchatov Arra**	**57.63**	**312**	P	**P**	**08 10 10.4**	**+1.2**
	comp=Z,0.6nm,0.4s,baz=42,slow=6.7,SNR=4.3						
WMQ	**Urumqi**	**57.72**	**301**	*e*P	**P**	**08 10 13.1**	**+3.1**
I42A	**Draeger Farm,**	**58.53**	**58**	P	**P**	**08 10 14.6**	**-1.0**
H43A	**Windswept, Lux**	**58.73**	**57**	P	**P**	**08 10 16.2**	**-0.7**
E46A	**Sault Ste Mari**	**59.18**	**53**	P	**P**	**08 10 19.6**	**-0.4**
G45A	**Suttons Bay**	**59.42**	**55**	P	**P**	**08 10 21.0**	**-0.7**
BVAR	**Borovoye Array**	**59.49**	**318**	P	**P**	**08 10 22.8**	**+0.7**
	comp=Z,0.7nm,0.3s,baz=28,slow=8.4,SNR=4.2						
N41A	**Harden Midland**	**59.69**	**62**	P	**P**	**08 10 22.7**	**-0.9**
P40A	**Paris**	**59.85**	**63**	P	**P**	**08 10 23.4**	**-1.3**
W35A	**Tecumseh**	**60.15**	**70**	P	**P**	**08 10 26.6**	**-0.3**
TXAR	**Lajitas Array**	**60.19**	**80**	P	**P**	**08 10 27.5**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=307,slow=5.1,SNR=5.9						
TXAR	**Lajitas Array**	**60.19**	**80**	P	**P**	**08 10 26.9**	**-0.4**
SCHQ	**Schefferville**	**60.66**	**37**	P	**P**	**08 10 29.2**	**-0.8**
	comp=Z,1.6nm,0.4s,baz=313,slow=5.9,SNR=7.4						
SCHQ	**Schefferville**	**60.66**	**37**	P	**P**	**08 10 29.4**	**-0.6**
M44A	**Midewin, Midew**	**60.73**	**59**	P	**P**	**08 10 29.5**	**-1.2**
X37A	**Clayton**	**61.42**	**70**	P	**P**	**08 10 34.8**	**-0.6**
X37A				IAmb	IAmb	08 10 44.5	
	comp=Z,4.3nm,1.2s						
D53A	**Lac Vacive, Po**	**61.86**	**49**	P	**P**	**08 10 36.5**	**-1.7**
D53A				IAmb	IAmb	08 10 43.6	
	comp=Z,3.7nm,1.2s						
KMI	**Kunming**	**62.05**	**276**	i*P*	**P**	**08 10 41.3**	**+1.2**
KMI				pP	pP	08 10 54.4	-11
KMI				pmax	pmax		
	comp=Z,13nm,0.6s						
KMI				pmax	pmax		
	comp=Z,85nm,4.0s						
KMI				LR	LR		
	comp=N,1μm,16.3s						
KMI				LR	LR		
	comp=E,1μm,18.6s						
KMI				LR	LR		
	comp=Z,1μm,24.4s						
FCAR	**Ozark Folk Cen**	**62.37**	**66**	P	**P**	**08 10 40.0**	**-1.7**
PBMO	**Poplar Bluff**	**62.69**	**65**	P	**P**	**08 10 42.3**	**-1.6**
P48A	**Milroy**	**63.51**	**59**	P	**P**	**08 10 47.9**	**-1.4**
LATQ	**La Tuque**	**63.88**	**46**	P	**P**	**08 10 49.8**	**-1.8**
WVT	**Waverly**	**64.61**	**63**	P	**P**	**08 10 55.6**	**-0.9**
OXF	**Oxford**	**64.90**	**66**	P	**P**	**08 10 57.6**	**-0.8**
PLAL	**Pickwick Lake**	**65.31**	**64**	P	**P**	**08 10 59.7**	**-1.4**
PLAL				IAmb	IAmb	08 11 00.2	
	comp=Z,2.6nm,0.7s						
T50A	**Nancy**	**65.60**	**61**	P	**P**	**08 11 02.3**	**-0.6**
T50A				IAmb	IAmb	08 11 02.6	
	comp=Z,2.7nm,0.6s						
SSPA	**Standing Stone**	**66.55**	**54**	P	**P**	**08 11 07.8**	**-1.0**
SSPA				IAmb	IAmb	08 11 19.0	
	comp=Z,11nm,1.5s						
BATG	**Bathurst New B**	**66.85**	**42**	P	**P**	**08 11 09.8**	**-1.0**
FPAL	**Fort Paine**	**67.01**	**63**	P	**P**	**08 11 10.8**	**-1.2**
FPAL				IAmb	IAmb	08 11 11.1	
	comp=Z,2.4nm,0.5s						
V53A	**Saluda**	**67.70**	**60**	P	**P**	**08 11 15.6**	**-0.7**
V53A				IAmb	IAmb	08 11 20.6	
	comp=Z,7.1nm,1.5s						
EMMW	**East Machias**	**68.29**	**45**	P	**P**	**08 11 18.5**	**-1.3**
EMMW				IAmb	IAmb	08 11 31.9	
	comp=Z,4.8nm,0.9s						
DRLN	**Deer Lake**	**68.57**	**36**	P	**P**	**08 11 20.8**	**-0.7**
WR0	**Warramunga Arr**	**81.16**	**221**	P	**P**	**08 12 34.0**	**-0.2**
WR0				IAmb	IAmb	08 12 36.7	
	comp=Z,6.1nm,1.2s						
ASAR	**Alice Springs**	**84.73**	**220**	P	**P**	**08 12 53.0**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=27,slow=6.6,SNR=5.8						

*BJI **24** 08:05:50.3±0.0,30°.08S×176°.93W,h11km,mB5.7/13, mb5.5/20,Ms5.9/7,Ms7 5.6/6*
*IDC **24** 08:05:51.0±0.5,30°.10S×177°.52W,h0km,mb4.8/18, mb1 4.9/18,mb1mx4.8/37,mbtmp4.8/18,MS5.0/15, Ms1 5.0/15,ms1mx4.7/36,Error ellipse: s-maj=17.5km s-min=14.0km az=72.0*
*MOS **24** 08:05:53.4±0.9,30°.09S×177°.57W,h21km,mb5.3/23, Error ellipse: s-maj=11.8km s-min=9.2km az=114.8*
*NEIC **24** 08:05:53.9±2.3,30°.12S±0°.05×177°.4W±0°.1,h20km±3km, mb5.2/103,Error ellipse: s-maj=13.6km s-min=7.4km az=78.0*

ISC 24 08:05:56.2±0.3,30°.18S±0°.04×177°.52W±0°.06,h35km, n358,σ2s06/297,mb5.2/72,MS5.1/19,9C-9D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.98**	**339**	P	**Pn**	**08 06 11.8**	**-1.7**
GLKZ				S	**Sn**	**08 06 24.9**	**-1.2**
RAO	**Raoul Island**	**0.99**	**339**	Pn	**Pn**	**08 06 11.6**	**-2.0**
	5μm,0.3s,baz=117,slow=6.3,SNR=88						
RAO				Sn	**Sn**	**08 06 22.7**	**-3.7**
	13μm,0.3s,baz=78,slow=18,SNR=15						
RAO	**Raoul Island**	**0.99**	**339**		**Pn**	**08 06 11.5**	**-2.0**
RAO					**Sn**	**08 06 25.4**	**-0.9**
RIZ	**Raoul Island**	**1.00**	**339**	P	**Pn**	**08 06 12.5**	**-1.3**
RIZ				S	**Sn**	**08 06 25.6**	**-1.0**
MXZ	**Matakaoa Point**	**8.14**	**204**	P	Pn	08 07 46.2	-5.6
MXZ	**Matakaoa Point**	**8.14**	**204**	Pn	**Pn**	**08 07 49.6**	**-2.2**
WMGZ	**Waiomatatini S**	**8.33**	**203**	S	**Sn**	**08 09 25.9**	**-1.4**
GRZ	**Great Barrier**	**8.44**	**222**	P	**Pn**	**08 07 59.5**	**+3.5**
HAZ	**Te Kaha**	**8.50**	**206**	P	**Pn**	**08 07 53.1**	**-3.7**
HAZ				S	**Sn**	**08 09 28.6**	**-2.9**
PKGZ	**Pakihiroa**	**8.51**	**204**	P	Pn	08 07 51.7	-5.3
PKGZ				S	**Sn**	**08 09 28.2**	**-3.5**
PUZ	**Puketiti**	**8.61**	**203**	P	Pn	08 07 52.7	-5.6
PUZ				S	**Sn**	**08 09 28.8**	**-5.5**
KUZ	**Kuaotunu**	**8.64**	**219**	P	**Pn**	**08 07 59.1**	**+0.4**
RUGZ	**Raukumara Rang**	**8.72**	**206**	P	**Pn**	**08 07 56.1**	**-3.9**
WCZ	**Waipu Caves**	**8.92**	**228**	P	Pn	08 08 07.8	+5.3
CNGZ	**Carnagh Statio**	**9.00**	**202**	P	Pn	08 07 58.3	-5.3
CNGZ				S	**Sn**	**08 09 42.5**	**-1.3**
OUZ	**Omahuta**	**9.01**	**234**	Pn	Pn	08 08 08.9	+5.1
TKGZ	**Te Karaka**	**9.08**	**204**	P	Pn	08 07 59.5	-5.3
OPRZ	**Ohinepanea**	**9.09**	**211**	P	**Pn**	**08 08 03.3**	**-1.5**
MWZ	**Matawai**	**9.10**	**205**	P	Pn	08 08 00.1	-5.0
URZ	**Urewera**	**9.20**	**207**	P	Pn	08 08 00.5	-5.9
URZ				S	**Sn**	**08 09 45.9**	**-2.7**
MKAZ	**Moumakai**	**9.21**	**220**	P	**Pn**	**08 08 10.7**	**+4.2**
RIGZ	**Rimuhau**	**9.35**	**203**	P	Pn	08 08 02.3	-6.2
RIGZ				S	**Sn**	**08 09 48.2**	**-4.2**
PRGZ	**Paritu Road**	**9.51**	**202**	P	Pn	08 08 04.5	-6.1
PRGZ				S	**Sn**	**08 09 50.5**	**-5.7**
RRRZ	**Republican Roa**	**9.51**	**210**	P	**Pn**	**08 08 11.3**	**+0.6**
MUGZ	**Murupara**	**9.52**	**208**	P	Pn	08 08 05.5	-5.3
MUGZ				S	**Sn**	**08 09 49.9**	**-6.7**
SNGZ	**Shannon Statio**	**9.57**	**205**	P	**Pn**	**08 08 07.7**	**-3.8**
SNGZ				S	**Sn**	**08 09 52.6**	**-5.1**
KNZ	**Kokohu**	**9.66**	**203**	P	Pn	08 08 06.9	-5.8
KNZ				S	Sn	08 09 50.3	-10
RAHZ	**Arahi**	**9.78**	**206**	P	Pn	08 08 09.6	-4.7
RAHZ				S	**Sn**	**08 09 59.3**	**-3.6**
MTHZ	**Maungataniwha**	**9.82**	**207**	P	**Pn**	**08 08 13.1**	**-1.8**
WHHZ	**Waihua**	**9.87**	**205**	P	Pn	08 08 10.4	-5.1
TLZ	**Tolley Road**	**9.95**	**213**	P	**Pn**	**08 08 15.1**	**-1.6**
NMHZ	**Naumai**	**10.04**	**206**	P	Pn	08 08 13.3	-4.7
NMHZ				S	Sn	08 10 00.9	-8.6
ARHZ	**Aropaoanui**	**10.12**	**205**	P	Pn	08 08 13.0	-6.0
ARHZ				S	**Sn**	**08 10 06.8**	**-4.4**
HATZ	**Hinemaiaia**	**10.16**	**209**	P	Pn	08 08 13.6	-5.9
BKZ	**Black Stump Fm**	**10.22**	**207**	P	Pn	08 08 15.8	-4.7
BKZ				S	Sn	08 10 03.4	-11
BKZ	**Black Stump Fm**	**10.22**	**207**	Pn	**Pn**	**08 08 20.0**	**-0.5**
MCHZ	**McNeill Hill**	**10.39**	**206**	P	Pn	08 08 17.4	-5.3
HIZ	**Hauiti**	**10.43**	**215**	P	**Pn**	**08 08 20.8**	**-2.4**
KWHZ	**Kaweka Forest**	**10.47**	**207**	P	Pn	08 08 19.1	-4.9
WTVZ	**West Tongariro**	**10.56**	**211**	P	**Pn**	**08 08 21.9**	**-3.2**
KAHZ	**Kahuranaki**	**10.63**	**204**	P	Pn	08 08 19.3	-6.8
BHHZ	**Black Hill Sta**	**10.67**	**208**	P	Pn	08 08 21.1	-5.5
KRHZ	**Kereru**	**10.69**	**206**	P	Pn	08 08 19.2	-7.6
FWVZ	**Far West T-bar**	**10.69**	**210**	P	Pn	08 08 21.7	-5.4
WHVZ	**Whangaehu Hut**	**10.70**	**210**	P	**Pn**	**08 08 29.2**	**+2.1**
VRZ	**Vera Road**	**10.95**	**213**	P	**Pn**	**08 08 35.1**	**+4.7**
PNHZ	**Pukenui**	**10.98**	**206**	P	Pn	08 08 24.7	-6.2
WPHZ	**Waipukurau**	**11.03**	**205**	P	Pn	08 08 26.2	-5.2
PRHZ	**Porangahau**	**11.13**	**204**	P	**Pn**	**08 08 30.7**	**-2.2**
TSZ	**Takapari Road**	**11.20**	**207**	P	Pn	08 08 27.4	-6.4
DVHZ	**Dannevirke**	**11.33**	**205**	P	Pn	08 08 29.9	-5.7
BFZ	**Birch Farm**	**11.64**	**204**	Pn	**Pn**	**08 08 38.9**	**-0.9**
MRZ	**Mangatainoka R**	**11.87**	**206**	P	Pn	08 08 34.3	-8.6
HOWZ	**Holdsworth Sta**	**12.10**	**206**	P	**Pn**	**08 08 42.4**	**-3.7**
OGWZ	**Otaki Gorge**	**12.16**	**207**	P	Pn	08 08 40.0	-6.9
DUWZ	**D'Urville Isla**	**12.68**	**211**	P	**Pn**	**08 08 50.1**	**-3.9**
BHW	**Baring Head**	**12.78**	**207**	P	Pn	08 08 50.6	-4.8
TCW	**Tory Channel**	**12.86**	**209**	P	**Pn**	**08 08 52.8**	**-3.6**
MSVF	**Nonsavu**	**13.03**	**341**	*de*P	**Pn**	**08 08 59.8**	**+0.8**
MSVF	**Nonsavu**	**13.03**	**341**	Pn	**Pn**	**08 09 00.5**	**+1.4**
TUWZ	**Tuamarina**	**13.18**	**209**	P	Pn	08 08 53.7	-7.1
TUWZ	**Tuamarina**	**13.18**	**209**		**Pn**	**08 09 00.4**	**-0.4**
NNZ	**Nelson**	**13.25**	**211**	P	**Pn**	**08 08 57.6**	**-4.3**
THZ	**Tophouse**	**13.90**	**211**	P	Pn	08 09 04.1	-6.6
THZ	**Tophouse**	**13.90**	**211**	Pn	**Pn**	**08 09 10.8**	**+0.1**
DSZ	**Denniston Nort**	**14.40**	**214**	P	**Pn**	**08 09 15.9**	**-1.7**
LTZ	**Lake Taylor**	**15.00**	**210**	P	**Pn**	**08 09 20.2**	**-5.4**
INZ	**Inchbonnie**	**15.33**	**212**	P	**Pn**	**08 09 24.7**	**-5.1**
OXZ	**Oxford**	**15.54**	**210**	Pn	**Pn**	**08 09 33.7**	**+1.0**
OXZ				IAmb	IAmb	08 09 37.0	
	comp=Z,98nm,0.7s						
MQZ	**McQueen's Vall**	**15.60**	**207**	P	**Pn**	**08 09 27.6**	**-5.8**
RPZ	**Rata Peaks**	**16.28**	**211**	Pn	**Pn**	**08 09 38.2**	**-4.0**
	comp=Z,1.6nm,0.3s,baz=57,slow=17,SNR=2.6						
RPZ				Sn	Sn	08 12 28.5	-13
	comp=Z,2.1nm,0.3s,baz=327,slow=24,SNR=6.9						
RPZ	**Rata Peaks**	**16.28**	**211**	P	**Pn**	**08 09 39.2**	**-2.9**
RPZ	**Rata Peaks**	**16.28**	**211**	Pn	**Pn**	**08 09 41.2**	**-1.0**
DZM	**Mont Dzumac**	**16.50**	**296**	Pn	**P**	**08 09 49.1**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=139,slow=11,SNR=17						
DZM				LR	LR	08 14 57.7	
	comp=Z,10μm,18.6s,baz=126,slow=33						
FOZ	**Fox Glacier**	**16.71**	**214**	P	**Pn**	**08 09 44.3**	**-3.3**
AFI	**Afiamalu**	**17.04**	**19**	P	**Pn**	**08 09 50.6**	**-1.3**
AFI	**Afiamalu**	**17.04**	**19**	Pn	**Pn**	**08 09 46.3**	**-5.6**
LBZ	**Lake Benmore**	**17.20**	**211**	P	**Pn**	**08 09 49.7**	**-3.9**
ODZ	**Otahua Downs**	**17.52**	**209**	P	**Pn**	**08 09 53.5**	**-4.1**
ODZ	**Otahua Downs**	**17.52**	**209**		**Pn**	**08 09 56.3**	**-1.3**
RAR	**

comp=Z,17nm,0.8s,baz=158,slow=9.0,SNR=20
CASY Casey 55.53 208 P P 08 15 27.0 -0.5
PSA00 Pilbara Seismi 56.40 263 P P 08 15 33.3 -1.2
PSA00 IAmb IAmb 08 15 46.3
comp=Z,20nm,0.9s
GUMO Guam 56.62 315 P P 08 15 36.0 +0.1
GUMO pmax pmax
comp=Z,55nm,0.9s
GUMO Guam 56.62 315 P 08 15 36.0 +0.1
MORW Morawa 56.99 253 P P 08 15 37.2 -1.4
QSPA South Pole Qui 59.93 180 P P 08 15 58.9 +0.3
comp=Z,28nm,1.1s,baz=26,slow=1.2,SNR=74
QSPA LR LR 08 40 18.2
comp=Z,2µm,18.7s,baz=61,slow=34
QSPA South Pole Qui 59.93 180 P P 08 16 00.2 +1.6
GIRL Giralia 60.79 259 P P 08 16 05.8 +0.8
KCP Kidapawan 66.26 294 *j i*P P **08 16 39.8 -1.4**
SKMP Bagumbayan, Su 66.40 293 *e*P P **08 16 39.7 -2.4**
BUKP Musuan 66.81 295 *e*P P **08 16 44.2 -0.5**
PVCP Virac 71.02 299 *e*P P **08 17 08.4 -2.4**
PMSA Palmer Station 72.29 156 LR LR 08 45 11.2
comp=Z,902nm,19.5s,baz=288,slow=33
MAW Mawson 72.66 200 P P **08 17 20.2 +0.3**
comp=Z,9.4nm,0.9s,baz=117,slow=7.0,SNR=9.1
MAW LR LR 08 48 17.6
comp=Z,1µm,20.4s,baz=120,slow=35
MAW Mawson 72.66 200 P P **08 17 21.5 +1.6**
MAW pmax pmax
comp=Z,8.0nm,1.3s
MAW Mawson 72.66 200 P P **08 17 21.5 +1.6**
KKM Kota Kinabalu 72.89 288 IAmb IAmb 08 17 31.9
comp=Z,35nm,1.1s
SBUM Sibu 74.28 282 P P **08 17 29.1 -1.2**
KSM Kuching 75.39 280 P P **08 17 35.2 -1.5**
KSM IAmb IAmb 08 17 49.9
comp=Z,50nm,1.5s
SYO Syowa Base 77.42 193⇑ *e*P P **08 17 46.0 -1.3**
SYO Syowa Base 77.42 193 *j i*pP P **08 17 51.0 +3.7**
SYO Syowa Base 77.42 193 *j i*sP sP 08 17 55.6 -4.9
INU Inuyama 77.97 323 P P **08 17 51.4 +0.6**
INU IAmb IAmb 08 18 04.9
comp=Z,36nm,1.0s
MJAR Matsushiro Arr 78.30 325 P P **08 17 51.6 -1.0**
comp=Z,4.2nm,0.8s,baz=164,slow=5.0,SNR=14
MJAR Matsushiro Arr 78.30 325 P P **08 17 51.1 -1.5**
MJAR pmax pmax
comp=Z,10.0nm,0.9s
MJAR Matsushiro Arr 78.30 325 P P **08 17 51.0 -1.5**
MAJO Matsushiro 78.30 325 *de*P P **08 17 52.6 0.0**
MAJO pmax pmax
comp=Z,39nm,2.1s
MAJO Matsushiro 78.30 325 P P **08 17 52.8 +0.2**
MAJO IAmb IAmb 08 18 06.6
comp=Z,37nm,1.1s
MAT Matsushiro 78.30 325 P P **08 17 51.1 -1.5**
MJB9 Matsu-Tunnel 78.31 325 IAmb IAmb 08 18 06.6
comp=Z,38nm,1.1s
SNAA Sanae 78.36 178 P P **08 17 52.1 -0.6**
SNAA Sanae 78.36 178 P P **08 17 52.4 -0.2**
SNAA pmax pmax
comp=Z,53nm,1.7s
SNAA Sanae 78.36 178 P P **08 17 52.4 -0.2**
SNAA IAmb IAmb 08 18 07.9
comp=Z,53nm,1.7s
VNA3 Neumayer Olymp 78.49 176 P P **08 17 52.9 -0.4**
VNA2 Neumayer--Watz 78.93 177 P P **08 17 55.8 +0.1**
baz=178,slow=5.5
NVL N'lazarevskaya 79.12 183 *e*P P **08 17 57.9 +1.2**
NVL *e*S S **08 28 00.1 +6.9**
NVL pmax pmax
comp=Z,20nm,0.9s
VNA1 Neumayer--Stat 79.16 176 P P **08 17 57.0 +0.1**
H03S2 Juan Fernandez 80.24 123 T T 09 47 24.4
baz=238,slow=74,SNR=49
H03S1 Juan Fernandez 80.25 123 T T 09 47 25.3
baz=238,slow=74,SNR=44
H03S3 Juan Fernandez 80.26 123 T T 09 47 24.5
baz=238,slow=74,SNR=50
H03N3 Juan Fernandez 80.43 123 T T 09 47 35.5
baz=230,slow=77,SNR=20
H03N2 Juan Fernandez 80.43 123 T T 09 47 44.6
baz=230,slow=77,SNR=23
H03N1 Juan Fernandez 80.44 123 T T 09 47 40.5
baz=230,slow=77,SNR=24
PLCA Paso Flores 82.35 133 P P **08 18 15.9 +1.2**
comp=Z,2.6nm,0.8s,baz=205,slow=4.2,SNR=6.4
PLCA Paso Flores 82.35 133 P P **08 18 15.5 +0.8**
PLCA pmax pmax
comp=Z,39nm,1.7s
PLCA Paso Flores 82.35 133 P P **08 18 15.5 +0.8**
PLCA IAmb IAmb 08 18 29.8
comp=Z,39nm,1.7s
DLV T Lat 82.48 288 P P **08 18 17.0 +1.2**
LC01 Cunco 82.50 131 P P **08 18 16.3 +0.9**
LC01 IAmb IAmb 08 18 31.7
comp=Z,12nm,0.8s
TJN Taejon 84.02 318⇑ *e*P P **08 18 23.2 +0.3**
BI02 San Fabin de 84.11 129 P P **08 18 23.2 -0.7**
BI02 IAmb IAmb 08 18 40.0
comp=Z,9.4nm,0.8s
KSRS Korea Array 84.45 319 P P **08 18 26.1 +1.0**
comp=Z,4.1nm,0.8s,baz=146,slow=5.3,SNR=9.9
KSAR Wonju Array Be 84.47 319 P P **08 18 24.8 -0.4**
KSAR Wonju Array Be 84.47 319 P P **08 18 24.8 -0.4**
KS19 Wonju Array Si 84.52 319 P P **08 18 25.6 +0.1**
KS19 IAmb IAmb 08 18 37.9
comp=Z,11nm,0.9s
QIZ Qiongzhong 85.28 295 P P **08 18 29.3 -0.4**
QIZ S S **08 29 00.9 +2.9**
QIZ pmax pmax
comp=Z,290nm,10.8s
PETK Petropavlovsk- 85.71 345 P P **08 18 30.6 -0.5**
comp=Z,12nm,0.6s,baz=125,slow=7.4,SNR=2.8
PETK LR LR 08 53 58.5
comp=Z,811nm,18.8s,baz=152,slow=34
PETK Petropavlovsk- 85.71 345 P P **08 18 31.5 +0.4**
PETK Petropavlovsk- 85.71 345 P P **08 18 31.5 +0.4**
PFO Pinyon Flats O 85.75 47⇑ *e*P P **08 18 32.9 +0.9**
PFO pmax pmax
comp=Z,24nm,2.5s
PFO Pinyon Flats O 85.75 47 P P **08 18 31.7 -0.3**
PFO IAmb IAmb 08 18 48.5
comp=Z,26nm,1.4s
XPFO Pion Flat 85.76 47 P P **08 18 32.1 +0.1**
XPFO IAmb IAmb 08 18 48.5
comp=Z,24nm,1.4s
ISA Isabella, Lake 85.85 44 IAmb IAmb 08 18 48.9
comp=Z,17nm,1.1s
CMB Columbia Colle 86.32 42 IAmb IAmb 08 18 49.9
comp=Z,20nm,1.1s
NJ2 Nanjing 86.42 310 *e*P P **08 18 37.8 +2.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
MSHR Mys Shultsa 86.42 325 *j e*P P **08 18 33.9 -0.9**
MSHR pmax pmax
comp=Z,10.0nm,1.1s
GSC Goldstone, Bar 86.64 46 IAmb IAmb 08 18 52.7
comp=Z,31nm,1.2s
113A Mohawk Valley, 86.95 49 IAmb IAmb 08 18 49.9
comp=Z,17nm,1.3s
WAKR Walker 87.19 42 IAmb IAmb 08 18 50.8
comp=Z,22nm,1.4s
USA0B Ussuriysk Arra 87.21 326 *c i*P P **08 18 38.5 -0.1**
USRK Ussuriysk Ar. 87.21 326 P P **08 18 37.3 -1.3**
comp=Z,4.1nm,0.7s,baz=98,slow=3.9,SNR=14
USRK LR LR 08 49 42.6
comp=Z,443nm,22.0s,baz=89,slow=30
USRK Ussuriysk Ar. 87.21 326 P P **08 18 38.3 -0.3**
USRK Ussuriysk Ar. 87.21 326 P P **08 18 38.3 -0.3**
PNTR Pine Nut 87.49 41 IAmb IAmb 08 18 55.8
comp=Z,17nm,0.9s
VCNR Virginia City 87.60 41 IAmb IAmb 08 18 56.2
comp=Z,18nm,1.2s
YBH Yreka Blue Hor 87.61 38 P P **08 18 41.1 +0.3**
YBH pmax pmax
comp=Z,9.0nm,1.0s
YBH Yreka Blue Hor 87.61 38 P P **08 18 41.1 +0.3**
NVAR Mina Array Bea 87.80 42 P P **08 18 42.4 +0.5**
comp=Z,4.5nm,0.9s,baz=222,slow=7.3,SNR=19
NVAR Mina Array Bea 87.80 42 P P **08 18 41.8 -0.1**
NV11 Mina Array Sit 87.89 43 P P **08 18 42.3 0.0**
PAHR Pah Rah Range 88.03 41 IAmb IAmb 08 18 58.0
comp=Z,16nm,1.1s
TPNV Topopah Spring 88.05 45 IAmb IAmb 08 18 59.8
comp=Z,27nm,1.4s

Y14A Wickenburg 88.18 49 IAmb IAmb 08 18 55.9
comp=Z,20nm,1.2s
KVN Kaiserville 88.33 42 IAmb IAmb 08 18 59.5
comp=Z,9.9nm,1.0s
TUC Tucson 88.65 51 P P **08 18 47.8 +1.9**
TUC pmax pmax
comp=Z,32nm,1.5s
TUC Tucson 88.65 51 P P **08 18 47.8 +1.9**
MOD Modoc Plateau 89.02 39 IAmb IAmb 08 19 02.6
comp=Z,9.0nm,0.8s
K05A Summer Lake 89.27 38 IAmb IAmb 08 19 04.9
comp=Z,21nm,1.1s
H04A Detroit Lake 89.95 36 P P **08 18 51.7 0.0**
H04A IAmb IAmb 08 19 06.6
comp=Z,23nm,1.0s
TIA Tai'an 90.13 313 P P **08 18 53.4 +0.7**
TIA pmax pmax
comp=Z,10.0nm,0.6s
WUAZ Wupatki 90.21 48 IAmb IAmb 08 19 06.2
comp=Z,20nm,1.3s
CN2 Changchun 90.22 323 *e*P P **08 18 53.0 +0.1**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 pmax pmax
comp=Z,240nm,4.0s
E03A Lebam 90.59 34 P P **08 18 53.8 -0.7**
F04A Amboy 90.72 35 P P **08 18 54.7 -0.4**
I07A Izee 90.93 38 IAmb IAmb 08 19 11.7
comp=Z,19nm,1.2s
J08A Circle Bar Ran 91.00 39 IAmb IAmb 08 19 11.9
comp=Z,19nm,1.2s
G06A Carlson Farm, 91.13 36 IAmb IAmb 08 19 12.9
comp=Z,17nm,1.0s
GYA Guiyang 91.80 300⇑ P P **08 18 59.0 -1.8**
GYA PP PP **08 22 46.9 +6.5**
GYA S S **08 29 58.1 -1.5**
GYA pmax pmax
comp=Z,170nm,7.7s
GYA LR LR
comp=Z,1µm,15.3s
GYA LR LR
comp=Z,2µm,17.2s
GYA LR LR
comp=Z,2µm,16.9s
MNTX Cornudas Mount 92.02 54 IAmb IAmb 08 19 17.7
comp=Z,18nm,1.6s
CMIG Matias Romero 92.29 72 LR LR 08 52 22.7
comp=Z,2µm,21.4s,baz=298,slow=30
MFID Camas Ranch 92.48 40 IAmb IAmb 08 19 18.7
comp=Z,15nm,1.1s
LTY Liberty 92.50 35 IAmb IAmb 08 19 19.2
comp=Z,29nm,1.9s
BMO Blue Mountains 92.62 38 IAmb IAmb 08 19 18.9
comp=Z,8.1nm,1.1s
ANMO Albuquerque 93.12 51 P P **08 19 06.4 -0.4**
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO Albuquerque 93.12 51 P P **08 19 06.4 -0.4**
HLID Hailey 93.37 40 IAmb IAmb 08 19 23.2
comp=Z,7.0nm,0.9s
F10A Beach Ranch, E 93.40 37 IAmb IAmb 08 19 22.6
comp=Z,14nm,1.1s
CMAR Chiang Mai Arr 93.72 289 P P **08 19 09.7 0.0**
comp=Z,1.5nm,0.8s,baz=134,slow=2.6,SNR=2.0
CMAR Chiang Mai Arr 93.72 289 P P **08 19 09.6 -0.1**
HWUT Hardware Ranch 93.80 43 IAmb IAmb 08 19 29.3
comp=Z,15nm,1.8s
KMI Kunming 94.09 297 *j e*P P **08 19 13.1 +1.5**
KMI pP PcP 08 19 15.8 +3.8
KMI pmax pmax
comp=Z,150nm,5.6s
KMI LR LR
comp=Z,2µm,16.3s
KMI LR LR
comp=Z,1µm,16.2s
KMI LR LR
comp=Z,2µm,16.2s
REDW Red Top Meadow 95.28 42 IAmb IAmb 08 19 32.4
comp=Z,8.1nm,1.0s
PDAR Pinedale Array 95.69 43 P P **08 19 17.9 -0.5**
comp=Z,0.5nm,0.8s,baz=224,slow=4.1,SNR=4.5
PDAR PKKPbc **PKKPdf 08 36 10.8 0.0**
comp=Z,0.6nm,0.7s,baz=107,slow=4.9,SNR=6.1
PDAR Pinedale Array 95.69 43 P P **08 19 17.8 -0.7**
CD2 Chengdu 96.32 302 P P **08 19 22.3 +0.9**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 96.38 314 *e*P P **08 19 21.6 +0.1**
HHC pmax pmax
comp=Z,16nm,1.3s
HHC pmax pmax
comp=Z,90nm,5.5s
HIA Hailar 96.78 324⇑ *e*P P **08 19 24.0 +1.0**
HIA pmax pmax
comp=Z,5.0nm,0.9s
LPAZ La Paz 97.85 114 P Pdif 08 19 30.7 +1.2
comp=Z,1.2nm,0.9s,baz=225,slow=4.3,SNR=3.7
LPAZ La Paz 97.85 114 P Pdif 08 19 30.1 +0.6
LPAZ pmax pmax
comp=Z,3.0nm,1.0s
LPAZ La Paz 97.85 114 P Pdif 08 19 30.1 +0.6
LZH Lanzhou 98.92 306 *e*P **Pdif 08 19 34.3 +1.1**
LZH pP pP 08 19 39.3 -3.8
LZH sP sP 08 19 42.1 -4.6
LZH pmax pmax
comp=Z,25nm,0.9s
RSSD Black Hills 99.77 44 P **Pdif 08 19 35.3 -1.5**
RSSD pmax pmax
comp=Z,4.0nm,0.9s
RSSD Black Hills 99.77 44 Pdif 08 19 35.3 -1.5
YKA Yellowknife Ar 105.07 25 PKKPbc PKKPbc 08 35 49.6 +6.8
comp=Z,1.3nm,0.9s,baz=29,slow=2.9,SNR=5.4
WMQ Urumqi 113.42 308 *e*PKP **PKiKP 08 24 30.6 +0.3**
WMQ LR LR
comp=Z,890nm,17.1s
WMQ LR LR
comp=Z,630nm,18.7s
WMQ LR LR
comp=Z,830nm,22.1s
BOSA Boshof 117.62 203 PKP **PKiKP 08 24 41.6 +2.5**
comp=Z,0.7nm,0.4s,baz=146,slow=1.2,SNR=4.3
BOSA Boshof 117.62 203 PKIKP **PKiKP 08 24 41.0 +1.9**
BOSA Boshof 117.62 203 PKiKP 08 24 41.0 +1.9
KURK Kurchatov 121.20 314 PKIKP **PKPdf 08 24 44.3 -0.7**
KURK Kurchatov 121.20 314 PKPdf 08 24 43.8 -1.2
KURBB Kurchatov Arra 121.24 314 PKP **PKPdf 08 24 44.2 -0.8**
comp=Z,3.0nm,0.6s,baz=114,slow=2.0,SNR=5.1
BVAR Borovoye Array 126.54 316 PKP **PKiKP 08 24 54.8 -0.8**
comp=Z,3.3nm,0.5s,baz=88,slow=1.4,SNR=4.8
UOSS Minazif 132.45 277 PKPdf **PKPdf 08 25 07.0 -0.3**
GEYT Alibeck 133.84 295 SKPbc **SKPab 08 28 37.8 -0.7**
comp=Z,6.2nm,1.0s,baz=45,slow=0.4,SNR=3.6
H10S3 ASCENSION HYDR 137.74 154 T T 11 00 41.3
baz=16,slow=74,SNR=58
H10S2 ASCENSION HYDR 137.75 154 T T 11 00 41.0
baz=204,slow=74,SNR=19
ARCES ARCESS Array B 138.46 348 PKhKP PKPpre 08 25 08.8
comp=Z,2.2nm,0.6s,baz=45,slow=2.1,SNR=4.9
ARCES PKP **PKPdf 08 25 17.2 +0.1**
comp=Z,3.4nm,0.7s,baz=56,slow=1.6,SNR=4.1
ARCES ARCESS Array B 138.46 348 PKPdf 08 25 16.7 -0.4
H10N3 ASCENSION HYDR 138.83 154 T T 11 02 04.7
baz=203,slow=76,SNR=101
H10N1 ASCENSION HYDR 138.83 154 T T 11 02 05.0
baz=203,slow=76,SNR=133
H10N2 ASCENSION HYDR 138.84 154 T T 11 02 06.0
baz=203,slow=76,SNR=105
AKT Akhty 142.01 300 *e*PKIKP **PKiKP 08 25 30.6 +3.1**
AKT *e* 08 28 37.7
AKT pmax pmax
comp=Z,30nm,1.0s
ZEI Tsey 144.74 302 *e*PKIKP PKPbc 08 25 28.2 -0.3
ZEI pmax pmax
comp=Z,48nm,1.3s
FINES FINESS Array B 145.08 340 PKPbc **PKPbc 08 25 27.9 -0.7**
comp=Z,33nm,0.5s,baz=64,slow=3.1,SNR=69
FINES FINESS Array B 145.08 340 PKIKP **PKPbc 08 25 27.7 -1.0**
FINES FINESS Array B 145.08 340 PKPbc 08 25 27.7 -1.0
AKH Akhalkalaki 145.19 300 PKIKP **PKPdf 08 25 30.6 +0.3**
AKH Akhalkalaki 145.19 300 PKPdf 08 25 30.6 +0.3
LPSR Galich'ya Gora 145.21 321 *e*PKIKP **PKPbc 08 25 28.8 -0.5**
LPSR pmax pmax
comp=Z,30nm,0.8s
OBN Obninsk 145.23 326 PKPbc **PKPbc 08 25 28.5 -0.8**
comp=Z,11nm,0.6s,baz=355,slow=19,SNR=8.3
OBN Obninsk 145.23 326 *c i*PKP2 **PKPbc 08 25 28.3 -1.0**

OBN Obninsk 145.23 326 PKPbc 08 25 27.9 -1.4
KBZ Khabaz 145.33 304 PKPbc **PKPab 08 25 30.2 0.0**
comp=Z,16nm,1.0s,baz=34,slow=15,SNR=5.1
VSR Storozhevoye 145.65 318 *e*PKIKP **PKPbc 08 25 30.2 -0.6**
VSR pmax pmax
comp=Z,50nm,0.5s
VORD Divnogorie 145.68 318 *e*PKIKP **PKPdf 08 25 30.0 -0.5**
VORD pmax pmax
comp=Z,30nm,0.6s
VSU Vasula 147.19 337 *e*P **PKPbc 08 25 34.9 -0.2**
VSU Vasula 147.19 337 *de*PKP2 **PKPbc 08 25 34.7 -0.4**
NB2 NORSAR Subarra 148.60 352 PKP **PKPbc 08 25 37.6 -1.3**
comp=Z,102nm,2.0s,baz=17,slow=2.6
NB2 NORSAR Subarra 148.60 352 PKP **PKPbc 08 25 37.6 -1.3**
baz=17,slow=2.6
NOA NORSAR Array B 148.60 352 PKPbc **PKPbc 08 25 38.5 -0.3**
comp=Z,6.8nm,0.7s,baz=14,slow=4.3,SNR=9.2
NC602 NORSAR Array S 148.85 351 PKPbc 08 25 39.2 -0.2
HFS Hagfors 149.11 349 PKPbc **PKPbc 08 25 39.3 -0.8**
comp=Z,19nm,0.8s,baz=315,slow=0.2,SNR=9.7
IZAR Zarasai 149.39 333 *e*P **PKPbc 08 25 38.8 -2.1**
ISAL Salakas 149.57 333 *e*P **PKPbc 08 25 40.4 -0.9**
MICGM Minsk 149.60 330 *e* **PKPbc 08 25 41.0 -0.5**
MNK Minsk 149.60 330 *e*PKP2 **PKPbc 08 25 41.0 -0.5**
IIGN Ignalina 149.69 333 *e*P **PKPbc 08 25 41.1 -0.6**
NACGM Naroch 149.78 332 *e*PKP **PKPbc 08 25 40.0 -1.9**
NACGM *e*PKP PKPbc 08 25 40.0 -1.9
NACGM *e*PP PP 08 29 04.0 -12
NACGM *e*PPP PPP 08 33 42.0
NACGM *e*SKKS 08 36 21.0
NACGM *e*SS SS 08 44 04.0 -264
NACGM *e*SSS SSS 08 51 14.0
KONO Kongsberg 150.14 353⇑ *e*PKIKP **PKPbc 08 25 41.2 -1.4**
KONO Kongsberg 150.14 353 PKiKP 08 25 42.8 -0.7
PABE Paberze 150.43 335 *e*P **PKPbc 08 25 43.0 -0.5**
ASF Jabal al Asfar 150.56 283 PKPbc **PKPbc 08 25 44.4 -0.3**
comp=Z,3.2nm,0.5s,baz=176,slow=6.3,SNR=3.3
PBUR Paburge 150.73 338 *e*P **PKiKP 08 25 43.9 -0.9**
AKASG Malin Array Be 151.38 323 PKPbc **PKPbc 08 25 45.1 -0.7**
comp=Z,18nm,0.6s,baz=47,slow=3.3,SNR=13
MMAI Mount Meron Ar 151.88 284 PKPbc **PKiKP 08 25 48.5 +0.4**
comp=Z,30nm,0.5s,baz=76,slow=7.0,SNR=32
EIL Elat 151.90 277 PKPbc **PKiKP 08 25 47.7 -0.4**
comp=Z,23nm,0.6s,baz=170,slow=2.6,SNR=20
BRTR Keskin Array B 152.86 299 PKPbc **PKiKP 08 25 51.0 +1.0**
comp=Z,7.0nm,0.7s,baz=153,slow=5.9,SNR=7.3
BRTR PKPab **PKPab 08 26 01.2 +0.3**
comp=Z,10nm,0.8s,baz=105,slow=4.2,SNR=5.6
BRTR Keskin Array B 152.86 299 PKiKP 08 25 49.6 -0.4
BRTR **PKPab 08 25 59.9 -1.0**
ANTO Ankara 153.47 300 PKIKP **PKiKP 08 25 51.4 +0.3**
ANTO Ankara 153.47 300 PKiKP 08 25 51.4 +0.3
CSS Mathiatis 153.63 289 PKiKP 08 25 51.7 +0.2
EKA Eskdalemuir Ar 154.54 8 PKPab **PKPab 08 26 06.7 -0.6**
comp=Z,2.1nm,0.6s,baz=328,slow=2.5,SNR=2.6
LIC Lamto 155.14 162 *e*P **PKPdf 08 25 50.2 +3.8**
comp=Z,4.3nm,0.5s
ORH Orhaniye 155.24 303 P **PKPdf 08 25 52.3 +6.6**
KIC Kosan Boka 155.35 163 *e*P **PKPdf 08 25 48.3 +1.6**
comp=Z,51nm,1.5s
TIC Toumodi 155.55 162 *e*P **PKPdf 08 25 50.7 +3.8**
CRVS Cervenica-Dubn 156.37 328 *e*PKP2 **PKPab 08 26 15.4 0.0**
CRVS Cervenica-Dubn 156.37 328 *e*PKP **PKPab 08 26 15.4 0.0**
CHVC Chvalec 157.21 337 *e*PKPAB **PKPab 08 26 19.4 +0.5**
UPC Upice 157.30 337 *e*PKPAB **PKPab 08 26 19.8 +0.5**
UPC *ex* x 08 26 25.7
UPC Upice 157.30 337 *e*PKP2 **PKPab 08 26 19.8 +0.5**
DPC Dobruska-Polom 157.32 337 *e*PKPAB **PKPab 08 26 19.4 0.0**
DPC *ex* x 08 26 32.1
DPC Dobruska-Polom 157.32 337 *e*PKP2 **PKPab 08 26 19.4 0.0**
MORC Moravsky Berou 157.36 334 *e*PP **PKPab 08 26 19.8 +0.2**
CLL Collm 157.49 343 *i* PKPab **PKPab 08 26 19.4 -0.6**
comp=Z,17nm,1.0s
CLL *i* 08 26 22.1
CLL *i* pPKPab **pPKPab 08 26 24.3 -5.6**
CLL *i* (sPKPab) 08 26 32.1
comp=Z,40nm,1.0s
CLL *i* 08 26 40.4
CLL Collm 157.49 343 *i* PKP2 **PKPab 08 26 19.4 -0.6**
CLL pmax pmax
comp=Z,17nm,1.0s
BRG Berggiesshubel 157.62 341 *i* PKP **PKPab 08 26 20.6 0.0**
comp=Z,20nm,1.0s
BRG Berggiesshubel 157.62 341 *i* PKP2 **PKPab 08 26 20.6 0.0**
BRG pmax pmax
comp=Z,21nm,1.0s
PVCC Panska Ves 157.74 339 *e*PKPAB **PKPab 08 26 21.8 +0.6**
PVCC Panska Ves 157.74 339 *e*PKP2 **PKPab 08 26 21.8 +0.6**
VYHS Vyhne 157.85 330 *e*PKP2 **PKPab 08 26 22.4 +0.7**
VYHS Vyhne 157.85 330 *e*PKP **PKPab 08 26 22.4 +0.7**
JAVC Velka Javorina 158.05 332 *e*PP **PKPab 08 26 24.0 +1.4**
VRAC Vranov 158.10 335 PKPab **PKPab 08 26 23.0 +0.2**
comp=Z,7.2nm,0.7s,baz=25,slow=5.3,SNR=3.1
VRAC Vranov 158.10 335 PKP2 **PKPab 08 26 23.0 +0.2**
VRAC Vranov 158.10 335 *e*PP **PKPab 08 26 22.3 -0.5**
GOPC GO Pecny, Ondr 158.21 338 *e*PKPAB **PKPab 08 26 24.1 +0.9**
GOPC *ex* x 08 26 35.7
GOPC GO Pecny, Ondr 158.21 338 *e*PKP2 **PKPab 08 26 24.1 +0.9**
PRU Pruhonice 158.22 339 *e*PKPAB **PKPab 08 26 23.3 0.0**
PRU *ex* x 08 26 35.5
PRU Pruhonice 158.22 339 *e*PKP2 **PKPab 08 26 23.3 0.0**
KRUC Moravsky 158.38 335 *e*PP **PKPab 08 26 23.6 -0.4**
PBCC Pribram 158.66 339 *e*PKPAB **PKPab 08 26 25.8 +0.6**
PBCC *ex* x 08 26 31.1
KHC Kasperske Hory 159.28 339 *e*PKPAB **PKPab 08 26 28.0 +0.1**
KHC *ep*PKP **pPKPab 08 26 34.2 -3.6**
KHC *ex* x 08 26 41.8
KHC Kasperske Hory 159.28 339 *e*PKP2 **PKPab 08 26 28.0 +0.1**
GERES GERESS Array B 159.49 338 PKPab **PKPab 08 26 29.2 +0.2**
comp=Z,2.4nm,0.6s,baz=36,slow=5.0,SNR=5.2
GERES GERESS Array B 159.49 338 PKP2 **PKPab 08 26 28.6 -0.3**
GERES GERESS Array B 159.49 338 PKPab **PKPab 08 26 28.6 -0.3**
CONA Conrad Observa 159.51 334 *e*PKPab **PKPab 08 26 29.2 +0.2**
comp=Z,6.6nm,0.9s
BMRD Maredsous 159.83 356 PKPab **PKPab 08 26 28.9 -1.2**
MOA Molln 160.16 336 *e*PKPab **PKPab 08 26 32.3 +0.5**
comp=Z,24nm,1.8s
SOKA Soboth 160.86 333 *e*PKPab **PKPab 08 26 34.3 -0.7**
comp=Z,10nm,1.4s
MYKA Terra Mystica 161.43 335 *e*PKPab **PKPab 08 26 36.4 -1.0**
comp=Z,6.1nm,0.8s
WATA Walderalm 161.48 340 *e*PKPab **PKPab 08 26 37.8 +0.1**
comp=Z,14nm,0.8s
WTTA Wattenberg 161.53 340 *e*PKPab **PKPab 08 26 38.0 +0.1**
comp=Z,16nm,0.7s,SNR=4.7
RETA Reutte 161.57 342 *e*PKPab **PKPab 08 26 38.0 0.0**
comp=Z,19nm,0.9s
MOTA Moosalm 161.61 341 *e*PKPab **PKPab 08 26 38.3 0.0**
comp=Z,19nm,0.8s
SQTA Sankt Quirin 161.69 341 *e*PKPab **PKPab 08 26 38.3 -0.3**
comp=Z,8.8nm,0.9s
DAVA Damuels 161.99 344 *e*PKPab **PKPab 08 26 39.7 -0.2**
comp=Z,9nm,0.8s
DAVOX Davos/Dischmat 162.46 343 PKPab **PKPab 08 26 42.3 +0.3**
comp=Z,15nm,0.7s,baz=332,slow=3.0,SNR=7.3
TUE Stuetta 162.88 344 PKPab **PKPab 08 26 44.2 +0.3**
TORD Torodi Ar. Bea 163.03 177 PKP **PKPdf 08 25 56.0 +0.5**
comp=Z,1.2nm,1.0s,baz=222,slow=1.9,SNR=4.3
TORD PKPab **PKPab 08 26 46.1 +1.1**
comp=Z,5.2nm,1.0s,baz=178,slow=3.4,SNR=5.9
TORD Torodi Ar. Bea 163.03 177 PKPdf 08 25 55.1 -0.4
TORD **PKPab 08 26 47.2 +2.2**

NEIC ***24*** *08:09:35.3±1.5, 51.5N±0.2×178.6E±0.0, 09, h106km±5km, Error ellipse: s-maj=24.3km s-min=8.3km az=180.0*
AEIC ***24*** *08:09:37±2.1, 51.8N±0.2×178.3E±0.1, h108km±5km, ML3.1, mb3.9/13(NEIC), Error ellipse: s-maj=28.3km s-min=8.6km az=186.0*
IDC ***24*** *08:09:41.0±9.2, 50.96N×177.26E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/72, mbtmp3.3/4, Error ellipse: s-maj=241.6km s-min=32.8km az=168.0*
ISC 24 08:09:37.1±1.4, 51.7N±0.1×178.4E±0.1, h100km, n46,
σ1s 00/44, mb3.5/7, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.28**	**15**			**Pn**	**08 09 52.1**	**+0.4**
LSPA	**Little Sitkin**	**0.30**	**21**			**Pn**	**08 09 52.1**	**+0.4**
LSPA						**Sn**	**08 10 03.6**	**+1.0**
LSNW	**Little Sitkin**	**0.30**	**14**			**Pn**	**08 09 52.0**	**+0.2**
AMKA	**Amchitka**	**0.64**	**117**			**Pn**	**08 09 55.0**	**+1.1**
AMKA						**Sn**	**08 10 07.5**	**+0.9**

CETU	Semis' Tuman	0.74	66			Pn		08 09 55.1	+0.2
CESW	Semis' Southwe	0.76	72			Pn		08 09 55.0	0.0
CEAP	Semis' Anvil P	0.80	65			Pn		08 09 55.6	+0.2
CERAA	Semis' Rag'd T	0.83	73			Pn		08 09 55.8	0.0
GAEA	Gareloi East	1.78	85			Pn		08 10 06.9	+0.1
TASE	Tanaga Southea	2.22	84			Pn		08 10 12.5	-0.1
TAFP	Tanaga Falls P	2.26	83			Pn		08 10 12.7	-0.3
TAPA	Tanaga Point A	2.36	85			Pn		08 10 14.1	-0.3
KIMD	Kanaga Island	2.72	86			Pn		08 10 18.8	-0.2
KICM	Kanaga Island	2.75	83			Pn		08 10 19.4	0.0
KIKV	Kanaga Island	2.76	84			Pn		08 10 19.4	-0.2
KIWB	Kanaga Island	2.77	85		Pn	Pn		08 10 17.8	-1.9
SMY	Shemya	2.85	293			Pn		08 10 18.4	-2.4
ADK	Adak	3.06	84		Pn	Pn		08 10 22.9	-0.7
GSTD	Great Sitkin T	3.41	81			Pn		08 10 27.7	-0.6
GSMY	Great Sitkin M	3.46	82			Pn		08 10 28.5	-0.5
GSTR	Great Sitkin T	3.46	81			Pn		08 10 28.3	-0.7
ATKA	Atka Island	4.61	81			Pn		08 10 44.7	+0.2
SPIA	Saint Paul Isl	8.61	46		Pn	Pn		08 11 40.1	+1.4
UNV	Unalaska Valle	9.41	71		Pn	Pn		08 11 50.1	+0.6
SVW2	Sparrevohn	17.10	46		P	P		08 13 30.7	+0.9
SVW2					IAmb	IAmb		08 13 37.3	
	comp=Z,6.6nm,1.4s								
OHAK	Old Harbor	17.30	60		P	P		08 13 28.6	-3.3
KDAK	Kodiak Island	17.75	58		P	P		08 13 35.7	-1.1
KDAK					IAmb	IAmb		08 13 44.4	
	comp=Z,22nm,1.3s								
RSO	Redoubt South	18.21	50		P	P		08 13 41.0	-1.1
HOM	Homer	18.55	53		P	Pn		08 13 46.1	-0.9
CNPM	China Poot	18.73	53		P	P		08 13 47.1	-0.5
CNPM					IAmb	IAmb		08 14 04.2	
	comp=Z,15nm,1.2s								
BRLK	Bradley Lake	18.95	53		P	P		08 13 48.8	-1.3
BRLK					IAmb	IAmb		08 13 56.0	
	comp=Z,12nm,1.2s								
SEW	Seward	19.73	52		P	P		08 13 58.6	+0.2
BPAW	Bear Paw Mtn.	20.23	40		P	P		08 14 04.3	+0.5
ILAR	Eielson Array	22.13	40		P	P		08 14 48.5	+24
	comp=Z,0.2nm,0.7s,baz=250,slow=9.6,SNR=1.8								
GLB	Gilahina Butte	22.68	50		P	P		08 14 28.8	-1.1
GLB					IAmb	IAmb		08 14 30.6	
	comp=Z,6.5nm,1.3s								
DOT	Dot Lake	22.99	44		P	P		08 14 33.5	+0.6
BARN	Barnard Glacie	23.67	51		P	P		08 14 38.9	-0.5
BARN					IAmb	IAmb		08 14 40.6	
	comp=Z,3.9nm,0.9s								
BCAR	Beaver Creek A	23.88	46		P	P		08 14 41.5	+0.4
EGAK	Eagle	24.49	42		P	P		08 14 45.3	-1.1
EGAK					IAmb	IAmb		08 14 46.4	
	comp=Z,1.7nm,0.8s								
DAWY	Dawson	25.10	44		P	P		08 14 53.7	+1.5
WRAK	Wrangell Islan	28.79	61		P	P		08 15 26.1	+0.9
YKA	Yellowknife Ar	36.29	46		P	P		08 16 54.2	+24
	comp=Z,0.3nm,0.6s,baz=285,slow=8.6,SNR=2.3								
MCMT	McKenzie Canyo	44.74	70		P	P		08 17 40.0	-0.4
NVAR	Mina Array Bea	45.24	81		P	P		08 17 45.2	+0.7
KURBB	Kurchatov Arra	57.64	312		P	P		08 19 32.2	+16
	comp=Z,0.6nm,0.8s,baz=45,slow=7.1,SNR=5.7								
MKAR	Makanchi Array	58.46	307		P	P		08 19 37.2	+15
	comp=Z,0.2nm,0.4s,baz=52,slow=7.5,SNR=2.2								

AEIC ***24*** *08:12:29±2.0, 52.˙15N±0.˙02×176.˙40E±0.˙07, h19km±3km, Error ellipse: s-maj=6.6km s-min=2.4km az=104.0*

MOS ***24*** *08:12:30.4±1.1, 52.˙23N×176.˙51E, h14km, mb5.5/90, MS5.4/65, Error ellipse: s-maj=6.2km s-min=4.1km az=108.6*

IDC ***24*** *08:12:30.2±0.3, 52.˙29N×176.˙53E, h0km, mb5.0/56, mb1 5.1/59, mb1mx5.1/78, mbtmp5.0/59, ML4.5/3, MS5.4/46, Ms1 5.4/46, ms1mx5.4/52, Error ellipse: s-maj=9.4km s-min=7.2km az=132.0*

NEIC ***24*** *08:12:30.5, 52.˙25N×176.˙46E, h11km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr 1.14; Mθθ -1.94; Mϕϕ 0.80; Mrθ -0.73; Mϕr -4.78; Mθr 1.25; Fault plane solution: M₀5.27000×10¹⁷ NP1:ϕ₁8.28000°, δ89.36000°, λ-14.88000°. NP2:ϕ₂98.45000°, δ75.12000°, λ-179.34000°. Principal axes: T 4.4950, Plg10.0000°, Azm54.0000°; N 1.3027, Plg75.0000°, Azm186.0000°; P -5.7976, Plg11.0000°, Azm322.0000°;*

NEIC ***24*** *08:12:31.2±1.7, 52.˙25N±0.˙08×176.˙46E±0.˙06, h11km±1km, mb5.5/595, Ms_20 5.7/775, Mwb5.7/22, ML5.2(AEIC), Mwc5.8(GCMT) Error ellipse: s-maj=13.4km s-min=5.5km az=195.0*

UNK ***24*** *08:12:31.3, 52.˙26N×176.˙47E, h11km*

BJI ***24*** *08:12:33.0±0.0, 52.˙49N×176.˙14E, h30km, mB5.5/61, mb5.1/72, Ms5.8/78, Ms7 5.6/72*

BGR ***24*** *08:12:34.0±0.0, 51.˙92N×175.˙07E, h33km, mb5.4*

NEIC ***24*** *08:12:35, 52.˙35N×176.˙52E, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-2.16; Mθθ-0.35; Mϕϕ 2.51; Mrθ-0.04; Mθϕ-6.21; Mϕr 0.51; Fault plane solution: M₀6.66000×10¹⁷ NP1:ϕ₁277.00000°, δ84.00000°, λ-178.00000°. NP2:ϕ₂186.00000°, δ88.00000°, λ-6.00000°. Principal axes: T 7.4741, Plg3.0000°, Azm232.0000°; N -2.1494, Plg84.0000°, Azm347.0000°; P -5.3247, Plg6.0000°, Azm141.0000°;*

GCMT ***24*** *08:12:36.2±0.2, 52.˙33N±0.˙01×176.˙53E±0.˙01, h12km, MW5.8/160, Moment Tensor Solution. s56,c62; s160,c291; Duration: 1§9 Moment tensor: Scale 10¹⁷ Nm; Mrr-2.03±.14; Mθθ-0.44±.14; Mϕϕ 2.47±.11; Mrθ 0.11±.40; Mθϕ-5.85±.08; Mϕr 0.11±.37; Best double couple: M₀6.03200×10¹⁷ NP1:ϕ₁277.00000°, δ88.00000°, λ-178.00000°. NP2:ϕ₂187.00000°, δ88.00000°, λ-2.00000°. Principal axes: T 7.0430, Plg0.0000°, Azm232.0000°; N -2.0220, Plg87.0000°, Azm325.0000°; P -5.0210, Plg3.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

KEA ***24*** *08:12:38.3±0.0, 52.˙60N×176.˙70E, h33km, mB5.8/1, MS5.0/1*

ISC 24 08:12:33.2±0.4, 52.˙19N±0.˙04×176.˙55E±0.˙03, h18km±1km, h18km:pP-P, n1688, σ1§58/1288, mb5.4/469, MS5.6/490, 60C-37D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LSNW	Little Sitkin	1.23	99			Pn	08 12 54.7	-0.7
LSSA	Little Sitkin	1.23	100			Pn	08 12 55.4	-0.2
LSPA	Little Sitkin	1.27	100			Pn	08 12 55.9	-0.1
SMY	Shemya	1.60	291	P		Pn	08 12 57.0	-3.5
SMY				SN		Sn	08 13 19.3	-1.3
SMY	Shemya	1.60	291			Pn	08 12 57.5	-3.0
SMY				Sn		Sn	08 13 19.3	-1.3
CETU	Semis' Tuman	1.83	96			Pn	08 13 03.8	+0.1
CEAP	Semis' Anvil P	1.88	94			Pn	08 13 04.5	+0.2
CESW	Semis' Southwe	1.88	98			Pn	08 13 04.0	-0.4
AMKA	Amchitka	1.89	114			Pn	08 13 03.5	-1.0
AMKA						Sb	08 13 30.2	-0.1
CERAA	Semis' Rag'd T	1.95	97			Pn	08 13 05.7	+0.3
GAEA	Gareloi East	2.93	96			Pn	08 13 18.8	-0.1
TASE	Tanaga Southea	3.36	94			Pn	08 13 24.5	-0.3
TAFP	Tanaga Falls P	3.39	93			Pn	08 13 24.6	-0.5
TAPA	Tanaga Point A	3.50	94			Pn	08 13 26.4	-0.3
KIMD	Kanaga Island	3.87	94			Pn	08 13 31.1	-0.6
KICM	Kanaga Island	3.87	92			Pn	08 13 31.0	-0.7
KIKV	Kanaga Island	3.89	92			Pn	08 13 31.2	-0.8
KIWB	Kanaga Island	3.90	92			Pn	08 13 30.7	-1.5
ADK	Adak	4.19	91	P		Pn	08 13 34.9	-1.2
ADK	Adak	4.19	91	Pn		Pn	08 13 34.9	-1.2
GSTD	Great Sitkin T	4.50	89			Pn	08 13 39.1	-1.4
GSTR	Great Sitkin T	4.55	88	Pn		Pn	08 13 40.0	-1.1
GSMY	Great Sitkin M	4.56	89			Pn	08 13 40.2	-1.0
ATKA	Atka Island	5.69	86	Pn		Pn	08 13 55.8	-0.9
KOFP	Korovin Flat P	5.75	85			Pn	08 13 57.1	-0.4
KOSE	Korovin Southe	5.77	85			Pn	08 13 58.0	0.0
NIKH	Nikolski High	8.92	79	Pn		Pn	08 14 41.9	+0.8
SPIA	Saint Paul Isl	9.13	52	Pn		Pn	08 14 43.0	-0.8
OKCE	Okmok Cone E	9.34	76			Pn	08 14 47.1	+0.3
UNV	Unalaska Valle	10.34	74	Pn		Pn	08 15 00.3	-0.2
AKUT	Akutan	10.79	73	Pn		Pn	08 15 06.3	-0.2
PET	Petropavlovsk	10.92	281	*e*P		Pn	08 15 09.2	+0.8
PET				*e*S		Sn	08 17 06.6	-3.3
PET				pmax		pmax		
	comp=Z,159nm,1.2s							
PET				pmax		pmax		
	comp=Z,800nm,3.5s							
PET				MLR		MLR		
	comp=Z,18µm,18.0s							
PET				MLR		MLR		
	comp=Z,17µm,17.0s							
PET	Petropavlovsk	10.92	281	Pn		Pn	08 15 06.0	-2.4
PEA0B	Petropavlovsk-	11.49	282	*ce*P		Pn	08 15 16.0	-0.2
PEA0B	Petropavlovsk-	11.49	282	Pn		Pn	08 15 15.3	-1.0
PETK	Petropavlovsk-	11.49	282	Pn		Pn	08 15 14.3	-1.9
	comp=Z,4.2nm,0.3s,baz=94,slow=18,SNR=86							
PETK				Sn		Sn	08 17 24.9	+0.9
	comp=Z,5.6nm,0.3s,baz=198,slow=28,SNR=8.2							
PETK				LR		LR	08 19 51.4	
	comp=Z,11µm,20.0s,baz=102,slow=38							
PETK	Petropavlovsk-	11.49	282	P		Pn	08 15 15.0	-1.2
PETK	Petropavlovsk-	11.49	282			Pn	08 15 15.0	-1.2
FALS	False Pass	12.21	69	Pn		Pn	08 15 25.6	-0.3
SKR	Severo-Kuril's	12.84	271	*e*P		Pn	08 15 33.0	-1.6
SKR				pmax		pmax		
	comp=Z,32nm,0.6s							
SKR				pmax		pmax		
	comp=Z,500nm,2.5s							
SKR				MLR		MLR		
	comp=Z,4µm,16.0s							
SKR				MLR		MLR		
	comp=Z,5µm,15.0s							
GAMB	Gambell	13.15	23	Pn		Pn	08 15 38.5	-0.3
SDPT	Sand Point	13.93	68	Pn		Pn	08 15 49.9	+0.5
CNBA	Chernabura Isl	14.42	70			Pn	08 15 54.4	-1.8
ANM	Nome	15.53	30	P		Pn	08 16 10.9	0.0
ANM				pmax		pmax		
	comp=Z,300nm,1.5s							
ANM	Nome	15.53	30	P		Pn	08 16 10.9	0.0
ANM				IAmb		IAmb	08 16 18.2	
	comp=Z,300nm,1.5s							
MA2	Magadan	16.17	307	Pn		Pn	08 16 17.0	-2.2
	comp=Z,0.2nm,0.3s,baz=176,slow=22,SNR=2.1							
MA2				LR		LR	08 22 09.1	
	comp=Z,12µm,18.2s,baz=112,slow=36							
MA2	Magadan	16.17	307	*de*P		Pn	08 16 20.3	+1.1
MA2	Magadan	16.17	307	P		P	08 16 21.0	-1.3
MA2				IAmb		IAmb	08 16 31.8	
	comp=Z,302nm,1.4s							
BILL	Bilibino	16.66	346	*c* P		Pn	08 16 24.9	-0.6
BILL				*i* S		S	08 19 37.8	-3.1
BILL				pmax		pmax		
	comp=Z,72nm,1.7s							
BILL				MLR		MLR		
	comp=Z,11µm,16.0s							
BILL	Bilibino	16.66	346	P		Pn	08 16 24.8	-0.7
CHIR	Chirikof Islan	16.70	66	P		Pn	08 16 24.4	-1.6
CHIR				IAmb		IAmb	08 16 32.5	
	comp=Z,652nm,1.6s							
SII	Sitkinak Islan	17.53	64	P		Pn	08 16 35.1	-1.3
SII				IAmb		IAmb	08 16 51.5	
	comp=Z,211nm,1.0s							
SVW2	Sparrevohn	17.60	49	IAmb		IAmb	08 17 00.3	
	comp=Z,407nm,1.6s							
OHAK	Old Harbor	18.05	62	IAmb		IAmb	08 16 56.0	
	comp=Z,282nm,1.3s							
KDAK	Kodiak Island	18.47	60	P		P	08 16 46.3	-1.4
	comp=Z,4.5nm,0.3s,baz=264,slow=6.0,SNR=51							
KDAK				LR		LR	08 23 36.5	
	comp=Z,22µm,20.3s,baz=252,slow=36							
KDAK	Kodiak Island	18.47	60	P		P	08 16 46.8	-0.9
KDAK				pmax		pmax		
	comp=Z,313nm,1.2s							
KDAK	Kodiak Island	18.47	60	P		P	08 16 46.8	-0.9
KDAK				IAmb		IAmb	08 16 53.6	
	comp=Z,313nm,1.1s							
RDOG	Red Dog Mine	18.75	24	P		Pn	08 16 51.4	+0.2
CNPM	China Poot	19.36	55	IAmb		IAmb	08 17 07.9	
	comp=Z,524nm,1.2s							
BRLK	Bradley Lake	19.57	54	IAmb		IAmb	08 17 10.0	
	comp=Z,266nm,0.9s							
CAPN	Captain Cook N	19.61	51	P		P	08 16 59.8	-0.3
	baz=259							
KUR	Kuril'sk	20.08	261	*e*P		P	08 17 03.3	-2.1
KUR				*i* S		S	08 20 47.1	-2.9
KUR				pmax		pmax		
	comp=Z,438nm,1.3s							
KUR				pmax		pmax		
	comp=E,217nm,1.5s							
KUR				pmax		pmax		
	comp=N,122nm,1.8s							
KUR				pmax		pmax		
	comp=Z,4µm,3.8s							
KUR				pmax		pmax		
	comp=N,1µm,3.0s							
KUR				MLR		MLR		
	comp=Z,5µm,14.0s							
KUR				MLR		MLR		
	comp=E,4µm,13.0s							
O22K	Cooper Landing	20.25	53	P		P	08 17 06.9	-0.2
	baz=261							
SEW	Seward	20.33	54	P		P	08 17 06.9	-1.1
SEW				IAmb		IAmb	08 17 22.0	
	comp=Z,184nm,0.8s							
SEW				IAMs_20		IAMs_20	08 24 41.6	
	comp=Z,23µm,20.0s							
BPAW	Bear Paw Mtn.	20.59	42	IAmb		IAmb	08 17 18.4	
	comp=Z,415nm,1.3s							
BPAW				IAMs_20		IAMs_20	08 24 35.1	
	comp=Z,28µm,20.0s							
TRF	Thorofare Moun	20.68	44	IAMs_20		IAMs_20	08 24 40.4	
	comp=Z,20µm,20.0s							
PMR	Palmer	20.73	50	P		P	08 17 10.9	-1.5
PMR				pmax		pmax		
	comp=Z,76nm,0.7s							
PMR	Palmer	20.73	50	P		P	08 17 10.9	-1.5
GHO	Glory Hole Cre	20.86	49	IAmb		IAmb	08 17 34.3	
	comp=Z,145nm,0.8s							
GHO				IAMs_20		IAMs_20	08 24 50.6	
	comp=Z,25µm,20.0s							
KNK	Knik Glacier	21.02	50	IAMs_20		IAMs_20	08 24 56.6	
	comp=Z,33µm,21.0s							
TYV	Tymovskoe	21.03	280	*e*P		P	08 17 16.3	+0.7
TYV				*e*			08 21 10.2	
TYV				pmax		pmax		
	comp=Z,500nm,2.6s							
TYV				pmax		pmax		
	comp=Z,82nm,0.9s							
TYV				MLR		MLR		
	comp=E,7µm,14.0s							
TYV				MLR		MLR		
	comp=Z,6µm,15.0s							
MLY	Manley	21.03	40	P		P	08 17 16.5	+0.9
SML	Sawmill	21.15	49	IAMs_20		IAMs_20	08 24 49.1	
	comp=Z,29µm,22.0s							
RND	Reindeer	21.28	45	IAmb		IAmb	08 17 44.8	
	comp=Z,161nm,1.2s							
RND				IAMs_20		IAMs_20	08 24 59.3	
	comp=Z,23µm,22.0s							
MCK	McKinley	21.34	44	IAmb		IAmb	08 17 20.7	
	comp=Z,399nm,1.2s							
MCK				IAMs_20		IAMs_20	08 24 58.9	
	comp=Z,28µm,21.0s							
NEA2	Nenana	21.55	42	P		P	08 17 21.3	+0.1
	baz=251,SNR=211							
GLI	Glacier Island	21.59	52	IAmb		IAmb	08 17 21.9	
	comp=Z,256nm,0.8s							
GLI				IAMs_20		IAMs_20	08 25 22.8	
	comp=Z,18µm,20.0s							
SCM	Sheep Creek Mo	21.62	49	IAMs_20		IAMs_20	08 25 14.6	
	comp=Z,28µm,22.0s							
NKL	Nikolayevsk	21.64	287	*e*P		P	08 17 24.3	+2.1
NKL				*e*S		S	08 21 17.7	-3.2
NKL				pmax		pmax		
	comp=Z,157nm,1.4s							
NKL				pmax		pmax		
	comp=E,4.0nm,1.2s							
NKL				pmax		pmax		
	comp=N,2.0nm,0.9s							
NKL				smax		smax		
	comp=E,21nm,4.6s							
NKL				smax		smax		
	comp=N,4.0nm,3.3s							
HIN	Hinchinbrook I	21.82	53	IAMs_20		IAMs_20	08 25 31.1	
	comp=Z,21µm,20.0s							
MID	Middleton Isla	21.83	56	IAMs_20		IAMs_20	08 25 50.5	
	comp=Z,22µm,18.0s							
DHY	Denali Highway	21.85	46	IAMs_20		IAMs_20	08 25 19.5	
	comp=Z,24µm,20.0s							
FID	Port Fidalgo	21.87	52	IAMs_20		IAMs_20	08 25 29.8	
	comp=Z,21µm,20.0s							
WRH	Wood River Hil	21.91	42	IAmb		IAmb	08 17 30.1	
	comp=Z,261nm,0.9s							
WRH				IAMs_20		IAMs_20	08 25 25.9	
	comp=Z,20µm,20.0s							
YUK	Yuzh-Kuril'sk	21.92	260	*e*P		P	08 17 24.8	-0.5
YUK				*i* S		S	08 21 28.4	+1.9
YUK				pmax		pmax		
	comp=Z,699nm,1.3s							
YUK				pmax		pmax		
	comp=E,437nm,0.9s							
YUK				pmax		pmax		
	comp=N,603nm,1.2s							
YUK				pmax		pmax		
	comp=Z,1µm,1.4s							
UGL	Uglegorsk	21.97	276	*e*P		P	08 17 28.3	+2.5
UGL				S		S	08 21 15.1	-12
UGL				pmax		pmax		
	comp=Z,330nm,1.1s							
UGL				smax		smax		
	comp=N,8µm,18.0s							
UGL				MLR		MLR		
	comp=Z,8µm,14.0s							
UGL				MLR		MLR		
	comp=N,4µm,10.0s							
UGL				MLR		MLR		
	comp=E,7µm,16.0s							
MDM	Murphy Dome	22.00	41	IAmb		IAmb	08 17 29.2	
	comp=Z,362nm,1.5s							
CCB	Clear Creek Bu	22.08	42	IAmb		IAmb	08 17 29.2	
	comp=Z,444nm,1.5s							
CCB				IAMs_20		IAMs_20	08 26 00.4	
	comp=Z,20µm,20.0s							
TCOL	CIGO, UAF Yank	22.13	41	P		P	08 17 26.9	-0.4
	baz=252,SNR=90							
COLA	College	22.13	41	P		P	08 17 27.0	-0.4
COLA				pmax		pmax		
	comp=Z,544nm,1.3s							
COLA				MLR		MLR		
	comp=Z,21µm,20.0s							
COLA	College	22.13	41	P		P	08 17 27.0	-0.4
COLA	College	22.13	41	IAMs_20		IAMs_20	08 25 41.6	
	comp=Z,21µm,20.0s							
COLD	Coldfoot	22.14	34	P		P	08 17 26.9	-0.5
	baz=244,SNR=124							
COLD	Coldfoot	22.14	34	P		P	08 17 27.3	-0.1
COLD				IAmb		IAmb	08 17 43.0	
	comp=Z,181nm,1.4s							
EYAK	Cordova Ski Ar	22.21	53	IAMs_20		IAMs_20	08 26 12.3	
	comp=Z,26µm,20.0s							
HDA	Harding Lake	22.37	43	P		P	08 17 27.8	-2.2
	baz=254,SNR=77							
HDA	Harding Lake	22.37	43	IAmb		IAmb	08 17 33.4	
	comp=Z,95nm,1.0s							
POKR	Poker Plat Res	22.38	41	P		P	08 17 30.1	0.0
	baz=252,SNR=83							
YSS	Yuzh-Sakhalins	22.40	270	*ce*P		P	08 17 30.5	+0.1
YSS				*e*			08 17 57.9	
YSS				*e*S		S	08 21 32.8	-2.7
YSS				pmax		pmax		
	comp=Z,50nm,0.9s							
YSS				pmax		pmax		
	comp=Z,1µm,3.2s							
YSS				smax		smax		
	comp=E,5µm,17.0s							
YSS				MLR		MLR		
	comp=Z,7µm,16.0s							
YSS				MLR		MLR		
	comp=N,4µm,15.0s							
YSS				MLR		MLR		
	comp=E,4µm,16.0s							
YSS	Yuzh-Sakhalins	22.40	270	P		P	08 17 30.7	+0.3
YSS				IAmb		IAmb	08 17 37.5	
	comp=Z,111nm,0.7s							
IL31		22.50	42	P		P	08 17 29.1	-2.2
IL31				IAmb		IAmb	08 17 32.9	
	comp=Z,146nm,1.1s							
ILAR	Eielson Array	22.50	42	P		P	08 17 29.3	-2.0
	comp=Z,141nm,1.2s,baz=254,slow=8.9,SNR=146							
ILAR				ScP		ScP	08 25 01.9	+0.9
	comp=Z,1.5nm,0.9s,baz=296,slow=2.5,SNR=4.3							
ILAR				LR		LR	08 26 34.1	
	comp=Z,18µm,19.9s,baz=257,slow=38							
ILAR	Eielson Array	22.50	42	P		P	08 17 29.2	-2.1
PAX	Paxson	22.68	47	IAmb		IAmb	08 17 35.0	
	comp=Z,260nm,1.0s							
PAX				IAMs_20		IAMs_20	08 25 55.4	
	comp=Z,21µm,20.0s							
RAGM	Ragged Mountai	22.73	54	IAMs_20		IAMs_20	08 27 09.0	
	comp=Z,21µm,19.0s							
TOLK	Toolik Lake Re	23.00	32	P		P	08 17 36.5	-0.2
	baz=242,SNR=160							
TOLK	Toolik Lake Re	23.00	32	P		P	08 17 36.3	-0.3
TOLK				IAmb		IAmb	08 17 40.9	
	comp=Z,186nm,1.0s							
TOLK				IAMs_20		IAMs_20	08 26 14.3	
	comp=Z,19µm,20.0s							
RIDG	Independent Ri	23.11	45	IAMs_20		IAMs_20	08 26 18.6	
	comp=Z,23µm,22.0s							
GLB	Gilahina Butte	23.23	51	IAmb		IAmb	08 18 10.2	
	comp=Z,205nm,1.0s							
GLB				IAMs_20		IAMs_20	08 26 38.3	
	comp=Z,16µm,20.0s							
PRP	Porcupine Dome	23.26	40	IAmb		IAmb	08 17 41.1	
	comp=Z,162nm,1.2s							
PRP				IAMs_20		IAMs_20	08 26 26.5	
	comp=Z,24µm,20.0s							
VRDI	Verde Repeater	23.39	52	IAmb		IAmb	08 17 49.6	
	comp=Z,156nm,0.8s							
VRDI				IAMs_20		IAMs_20	08 26 34.3	
	comp=Z,16µm,20.0s							
DOT	Dot Lake	23.43	45	IAmb		IAmb	08 17 43.8	
	comp=Z,69nm,0.8s							
DOT				IAMs_20		IAMs_20	08 26 29.1	
	comp=Z,27µm,22.0s							
MENT	Mentasta	23.46	47	IAmb		IAmb	08 18 10.7	
	comp=Z,345nm,1.5s							
MENT				IAMs_20		IAMs_20	08 26 21.1	
	comp=Z,16µm,20.0s							
SCRK	Sand Creek	23.53	45	IAmb		IAmb	08 17 41.8	
	comp=Z,129nm,1.1s							
MCARA	McCarthy VSAT	23.61	51	IAMs_20		IAMs_20	08 27 09.1	
	comp=Z,19µm,19.0s							
JKA	Kamikawa-asahi	23.87	264	IAmb		IAmb	08 17 57.5	
	comp=Z,112nm,0.9s							
ASAJ	Asahikawa	23.87	264	P		P	08 17 45.5	+0.1
	comp=Z,41nm,0.7s,baz=27,slow=4.8,SNR=23							
ASAJ				LR		LR	08 26 09.7	
	comp=Z,8µm,21.0s,baz=74,slow=34							
BALM	Baldy	23.91	52	IAmb		IAmb	08 18 13.9	
	comp=Z,110nm,1.0s							
BALM				IAMs_20		IAMs_20	08 26 50.9	
	comp=Z,16µm,20.0s							
MESA	MESA	24.08	54	IAMs_20		IAMs_20	08 27 41.7	
	comp=Z,24µm,20.0s							
YAH	Yahtse	24.18	54	IAMs_20		IAM

comp=Z,25µm,22.0s
HYT Haines Junctio 26.27 53 IAMs_20 IAMs_20 08 28 19.7
comp=Z,19µm,21.0s
YAK Yakutsk 26.70 310 P **P** **08 18 09.4 -1.4**
comp=Z,23nm,0.4s,baz=165,slow=0.6,SNR=12
YAK LR LR 08 28 24.5
comp=Z,3µm,18.7s,baz=98,slow=36
YAK Yakutsk 26.70 310 *e*P **P** **08 18 08.7 -2.2**
YAK *e**PP **sP** **08 18 18.3 -0.3**
YAK *e* 08 18 51.3
YAK *e*S **S** **08 22 45.7 +0.6**
YAK *e**SS **sS** **08 22 54.6 +0.8**
YAK pmax pmax
comp=Z,186nm,1.0s
YAK pmax pmax
comp=N,15nm,0.9s
YAK pmax pmax
comp=E,81nm,1.1s
YAK pmax pmax
comp=Z,110nm,0.9s
YAK pmax pmax
comp=N,55nm,0.9s
YAK pmax pmax
comp=E,101nm,1.4s
YAK smax smax
comp=N,372nm,2.9s
YAK MLR MLR
comp=Z,10µm,16.0s
YAK MLR MLR
comp=N,5µm,17.0s
YAK MLR MLR
comp=E,7µm,16.0s
YAK Yakutsk 26.70 310 P **P** **08 18 09.0 -1.9**
EPYK Eagle Plains 26.97 40 P **P** **08 18 12.7 -0.6**
baz=262,SNR=46
EPYK Eagle Plains 26.97 40 IAmb IAmb 08 18 44.2
comp=Z,100nm,1.1s
EPYK IAMs_20 IAMs_20 08 28 43.5
comp=Z,17µm,20.0s
TEY Ternei 27.09 271⇑ *e*P **P** **08 18 21.1 +6.6**
TEY pmax pmax
comp=E,10.0nm,0.9s
TEY pmax pmax
comp=Z,20nm,0.7s
TEY pmax pmax
comp=N,10.0nm,1.7s
TEY MLR MLR
comp=E,4µm,18.0s
TEY MLR MLR
comp=N,2µm,13.0s
TEY MLR MLR
comp=Z,4µm,17.0s
WHY Whitehorse 27.57 53 IAMs_20 IAMs_20 08 30 05.9
comp=Z,21µm,20.0s
SIT Sitka 27.80 61 IAmb IAmb 08 18 30.4
comp=Z,129nm,1.2s
SIT IAMs_20 IAMs_20 08 31 24.6
comp=Z,15µm,18.0s
JIS Juneau Island 28.09 58 P **P** **08 18 24.3 +0.9**
JIS IAmb IAmb 08 18 35.2
comp=Z,119nm,1.4s
JIS IAMs_20 IAMs_20 08 28 54.1
comp=Z,23µm,21.0s
KLR Kul'dur 28.18 282 P **P** **08 18 23.1 -1.2**
comp=Z,9.0nm,0.6s,baz=52,slow=9.0,SNR=20
KLR LR LR 08 30 22.4
comp=Z,8µm,18.7s,baz=70,slow=38
KLR Kul'dur 28.18 282 *ce*P **P** **08 18 23.0 -1.4**
KLR pmax pmax
comp=Z,39nm,0.9s
KLR MLR MLR
comp=Z,8µm,18.0s
INK Inuvik 28.49 37 P **P** **08 18 27.0 +0.2**
comp=Z,52nm,1.2s,baz=254,slow=7.9,SNR=53
INK LR LR 08 30 05.3
comp=Z,12µm,19.6s,baz=245,slow=37
INK Inuvik 28.49 37 P **P** **08 18 26.8 -0.1**
INK pmax pmax
comp=Z,123nm,1.3s
INK MLR MLR
comp=Z,14µm,20.0s
INK Inuvik 28.49 37 P **P** **08 18 26.8 -0.1**
INK IAmb IAmb 08 18 44.3
comp=Z,123nm,1.3s
INK IAMs_20 IAMs_20 08 29 45.6
comp=Z,14µm,20.0s
TIXI Tiksi 28.51 331 P **P** **08 18 26.6 -0.4**
comp=Z,7.9nm,0.4s,baz=118,slow=14,SNR=7.3
TIXI ScP **ScP** **08 25 17.0 -1.0**
comp=Z,12nm,0.8s,baz=28,slow=1.8,SNR=7.4
TIXI LR LR 08 30 21.6
comp=Z,9µm,19.4s,baz=113,slow=38
TIXI Tiksi 28.51 331 *de*P **P** **08 18 26.8 -0.2**
TIXI pmax pmax
comp=Z,7.0nm,0.9s
TIXI MLR MLR
comp=Z,9µm,20.0s
TIXI Tiksi 28.51 331 P **P** **08 18 26.4 -0.6**
ZEA Zeya 29.26 293 *e*P **P** **08 18 31.8 -2.1**
ZEA *e* 08 19 30.0
ZEA *e*S **S** **08 23 22.0 -3.7**
ZEA *e*SSS SSS 08 25 13.0
ZEA pmax pmax
comp=E,59nm,1.0s
ZEA pmax pmax
comp=Z,160nm,1.8s
ZEA pmax pmax
comp=Z,1µm,14.0s
ZEA pmax pmax
comp=E,600nm,14.0s
ZEA pmax pmax
comp=Z,1µm,14.0s
ZEA smax smax
comp=N,2µm,13.0s
ZEA smax smax
comp=E,2µm,13.0s
ZEA MLR MLR
comp=Z,13µm,16.0s
ZEA MLR MLR
comp=E,6µm,15.0s
ZEA MLR MLR
comp=N,6µm,14.0s
WRAK Wrangell Islan 29.54 61 IAMs_20 IAMs_20 08 31 16.6
comp=Z,11µm,19.0s
DLBC Dease Lake 30.32 57 P **P** **08 18 44.6 +1.3**
comp=Z,21nm,0.9s,baz=283,slow=9.1,SNR=37
DLBC Dease Lake 30.32 57 P **P** **08 18 44.7 +1.3**
DLBC IAmb IAmb 08 19 00.1
comp=Z,169nm,1.4s
DLBC IAMs_20 IAMs_20 08 30 26.0
comp=Z,22µm,20.0s
USA0B Ussuriysk Arra 30.35 273 *de*P **P** **08 18 43.0 -0.6**
USRK Ussuriysk Ar. 30.35 273 P **P** **08 18 44.2 +0.6**
comp=Z,20nm,0.6s,baz=59,slow=6.9,SNR=22
USRK PcP **PcP** **08 21 44.1 +1.0**
comp=Z,14nm,1.0s,baz=38,slow=5.1,SNR=5.2
USRK ScP **ScP** **08 25 24.7 +0.3**
comp=Z,1.7nm,0.8s,baz=343,slow=4.5,SNR=4.1
USRK LR LR 08 29 41.5
comp=Z,6µm,21.4s,baz=54,slow=34
DIB Dawson Inlet, 30.38 68 IAMs_20 IAMs_20 08 29 28.0
comp=Z,13µm,20.0s
VLA Vladivostok 30.99 271⇑ *e*P **P** **08 18 49.9 +0.7**
VLA pmax pmax
comp=Z,41nm,0.7s
MJAR Matsushiro Arr 31.13 255 P **P** **08 18 50.9 +0.3**
comp=Z,9.3nm,0.9s,baz=44,slow=9.7,SNR=5.1
MJAR ScP **ScP** **08 25 27.6 +0.5**
comp=Z,2.5nm,0.8s,baz=311,slow=1.5,SNR=5.9
MJAR LR LR 08 29 12.3
comp=Z,5µm,21.7s,baz=70,slow=32
MJAR Matsushiro Arr 31.13 255 P **P** **08 18 50.4 -0.2**
MJAR pmax pmax
comp=Z,12nm,1.2s
MJAR Matsushiro Arr 31.13 255 P **P** **08 18 50.4 -0.2**
MAJO Matsushiro 31.13 255 *ce*P **P** **08 18 50.8 +0.2**
MAJO pmax pmax
comp=Z,22nm,1.0s
MAT Matsushiro 31.13 255 P **P** **08 18 50.5 -0.1**
MAT S **S** **08 23 57.6 +2.4**
MJB9 Matsu-Tunnel 31.13 255 IAmb IAmb 08 18 57.5
comp=Z,44nm,1.0s
MDJ Mudanjiang 31.61 275 P **P** **08 18 52.6 -2.1**
MDJ pP sP 08 19 02.5 +0.8
MDJ sP pP 08 19 06.8 +6.6
MDJ S **S** **08 24 00.6 -1.9**
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MDJ LR LR
comp=Z,8µm,16.5s
MDJ LR LR
comp=Z,5µm,16.2s
MDJ LR LR
comp=Z,9µm,14.7s
MDJ Mudanjiang 31.61 275 P **P** **08 18 52.1 -2.5**
MSHR Mys Shultsa 31.73 271⇑ *e*P **P** **08 18 57.0 +1.3**
MSHR pmax pmax
comp=Z,16nm,1.0s
A36M Sachs Harbour 31.80 30 P **P** **08 18 56.0 -0.1**
baz=263,SNR=10
JHJ Hachijo jima 2 32.61 249 LR LR 08 30 48.5
comp=Z,4µm,19.2s,baz=40,slow=34
CHJN Chongjin 33.00 271 P **P** **08 19 04.9 -2.0**
BBB Bella Bella 33.22 68 IAMs_20 IAMs_20 08 30 50.2
comp=Z,9µm,20.0s
H11N2 WAKE ISLAND Hy 33.26 197 H H 08 54 14.3
baz=11,slow=76
H11N3 WAKE ISLAND Hy 33.27 197 H H 08 54 17.2
baz=11,slow=76
H11N1 WAKE ISLAND Hy 33.28 197 H H 08 54 17.8
baz=11,slow=76
H11S1 WAKE ISLAND Hy 34.49 197 T T 08 55 49.1
baz=10,slow=76
H11S3 WAKE ISLAND Hy 34.51 197 T T 08 55 48.6
baz=10,slow=76
H11S2 WAKE ISLAND Hy 34.51 197 T T 08 55 50.4
baz=10,slow=76,SNR=3530
BOD Bodaibo 35.16 304 *e*P **P** **08 19 23.3 -2.2**
BOD pmax pmax
comp=Z,101nm,2.0s
HIA Hailar 35.30 288 *ce*P **P** **08 19 24.9 -1.9**
HIA pmax pmax
comp=Z,46nm,1.5s
HIA Hailar 35.30 288 P **P** **08 19 24.9 -1.9**
HHU Hamhung 35.49 270 P P 08 19 34.0 +5.5
WOSN Wonsan 36.02 269 P P 08 19 40.5 +7.5
OPA Opana 36.23 137 P **P** **08 19 36.0 +1.0**
OPA pmax pmax
comp=Z,141nm,0.8s
OPA Opana 36.23 137 P **P** **08 19 36.0 +1.0**
KIP Kipapa 36.47 138 P **P** **08 19 38.8 +1.8**
KIP pmax pmax
comp=Z,181nm,0.9s
KIP Kipapa 36.47 138 P **P** **08 19 38.8 +1.8**
YKA Yellowknife Ar 36.76 46 P **P** **08 19 39.5 +0.4**
comp=Z,21nm,0.7s,baz=286,slow=8.8,SNR=66
YKA PcP **PcP** **08 22 00.4 -0.6**
comp=Z,3.4nm,0.7s,baz=281,slow=3.6,SNR=4.5
YKA LR LR 08 35 46.0
comp=Z,10µm,20.9s,baz=0.0,slow=38
KSRS Korea Array 36.77 266 P **P** **08 19 40.1 +0.6**
comp=Z,7.9nm,0.7s,baz=56,slow=8.4,SNR=17
KSRS PcP **PcP** **08 22 02.5 +1.1**
comp=Z,1.9nm,0.6s,baz=21,slow=2.6,SNR=3.2
KSRS LR LR 08 35 34.2
comp=Z,3µm,18.0s,baz=56,slow=38
KSAR Wonju Array Be 36.81 266 P **P** **08 19 39.2 -0.6**
KSAR Wonju Array Be 36.81 266 P **P** **08 19 39.1 -0.6**
SNY Shenyang 36.81 275⇑ P **P** **08 19 40.9 +1.1**
SNY S **S** **08 25 18.1 -4.8**
SNY pmax pmax
comp=Z,14nm,0.7s
SNY pmax pmax
comp=Z,370nm,6.2s
SNY LR LR
comp=Z,4µm,14.8s
SNY LR LR
comp=Z,4µm,17.5s
SNY LR LR
comp=Z,5µm,17.4s
PYAG Pyongyang 37.11 270 P **P** **08 19 44.3 +2.0**
PYAG S **S** **08 25 28.9 +1.4**
LLLB Lillooet 37.43 67 IAMs_20 IAMs_20 08 33 23.4
comp=Z,10µm,19.0s
INCN Inchon 37.55 267 P **P** **08 19 46.2 +0.1**
INCN pmax pmax
comp=Z,51nm,0.8s
INCN MLR MLR
comp=Z,4µm,18.0s
INCN Inchon 37.55 267 P **P** **08 19 46.2 +0.1**
INCN IAmb IAmb 08 19 52.9
comp=Z,50nm,0.8s
CIT Chita 37.60 296 *e*P **P** **08 19 47.4 +0.9**
CIT pmax pmax
comp=Z,130nm,1.6s
KHLH Kahului Airpor 37.60 136 IAmb IAmb 08 19 50.0
comp=Z,135nm,1.0s
HJU Haeju 37.76 269 P P 08 19 53.9 +6.1
TJN Taejon 37.81 265 *de*P **P** **08 19 48.8 +0.5**
A04D Lummi Island 37.84 70 P **P** **08 19 48.1 -0.3**
baz=299
JNU Nakatsue 37.86 258 P **P** **08 19 49.4 +0.6**
comp=Z,21nm,0.7s,baz=41,slow=8.7,SNR=12
JNU LR LR 08 34 15.1
comp=Z,6µm,21.0s,baz=61,slow=34
JNU Nakatsue 37.86 258 IAmb IAmb 08 19 58.6
comp=Z,67nm,0.8s
D03D Eldon 38.20 72 P **P** **08 19 51.4 -0.1**
baz=300,SNR=8.2
B05A Bryant 38.42 71 P **P** **08 19 53.1 -0.2**
baz=300
E03A Lebam 38.42 74 IAMs_20 IAMs_20 08 35 02.2
comp=Z,7µm,18.0s
D04E Lakebay 38.57 73 P **P** **08 19 53.9 -0.6**
baz=301
B06A Marblemount 38.65 70 IAMs_20 IAMs_20 08 32 36.8
comp=Z,9µm,22.0s
HPAH Hawaii Prepara 38.68 136 IAmb IAmb 08 20 03.4
comp=Z,131nm,0.8s
HUH Hualalai 38.93 136 IAmb IAmb 08 20 18.0
comp=Z,200nm,1.2s
KHLU Kahalu`u 38.99 136 IAmb IAmb 08 20 06.4
comp=Z,122nm,0.9s
F04D Rainier, OR 38.99 74 P **P** **08 19 57.2 -0.9**
baz=302
POHA Pohakuloa 39.00 136 P **P** **08 20 00.2 +1.6**
POHA IAmb IAmb 08 20 02.6
comp=Z,118nm,0.8s
E04D Cinebar 39.01 73 P **P** **08 19 57.6 -0.6**
baz=302
HMH Humu'ula Sheep 39.15 136 IAmb IAmb 08 20 26.7
comp=Z,190nm,1.3s
MLOA Mauna Loa Obse 39.17 136 IAmb IAmb 08 20 11.2
comp=Z,90nm,0.8s
MWH Moku'aweowe 39.21 136 IAmb IAmb 08 20 10.5
comp=Z,230nm,1.3s
G03D McMinnville, O 39.30 76 P **P** **08 20 00.6 -0.2**
baz=303
I02D Swisshome 39.56 77 P **P** **08 20 02.9 0.0**
baz=304
COR Corvallis 39.62 76 P **P** **08 20 03.9 +0.5**
COR pmax pmax
comp=Z,81nm,1.5s
COR Corvallis 39.62 76 P **P** **08 20 03.9 +0.5**
COR Corvallis 39.62 76 IAMs_20 IAMs_20 08 32 43.0
comp=Z,9µm,22.0s
LTY Liberty 39.76 71 IAMs_20 IAMs_20 08 33 11.4
comp=Z,10µm,22.0s
B08A Colville Reser 39.97 69 P **P** **08 20 05.5 -0.8**
H04D Lebanon 39.99 76 P **P** **08 20 06.6 +0.1**
baz=304
F05D White Salmon 40.01 74 P **P** **08 20 06.0 -0.7**
baz=302
J01E Myrtle Point 40.03 79 P **P** **08 20 07.0 +0.1**
baz=305
I03D Drain, OR 40.08 78 P **P** **08 20 07.5 +0.2**
baz=304
RES Resolute Bay 40.20 24 P **P** **08 20 07.5 -0.3**
comp=Z,16nm,1.0s,baz=248,slow=9.6,SNR=8.4
RES Resolute Bay 40.20 24 P **P** **08 20 07.2 -0.6**
RES pmax pmax
comp=Z,54nm,1.4s
RES MLR MLR
comp=Z,5µm,20.0s
RES Resolute Bay 40.20 24 P **P** **08 20 07.2 -0.6**
H04A Detroit Lake 40.23 76 P **P** **08 20 08.3 -0.3**
G05D Wamic, OR 40.45 74 P **P** **08 20 09.5 -0.8**
baz=303
K02D Willamette Mer 40.46 79 P **P** **08 20 09.6 -0.9**
baz=305
I04A Tendick Farm, 40.59 77 P **P** **08 20 11.2 -0.4**
baz=304,SNR=9.4
C09A Chrisman Ranch 40.86 69 IAMs_20 IAMs_20 08 39 41.4
comp=Z,7µm,18.0s
HAWA Hanford 40.88 72 IAMs_20 IAMs_20 08 33 45.9
comp=Z,8µm,22.0s
F07A Phinny Hill Vi 40.91 73 IAMs_20 IAMs_20 08 36 43.9
comp=Z,6µm,18.0s
I05D Terrebonne, OR 40.93 75 P **P** **08 20 13.7 -0.7**
baz=304
KRMB Red Mountain 40.99 81 IAMs_20 IAMs_20 08 35 56.6
comp=Z,7µm,18.0s
J04D Umpqua Nationa 41.09 77 P **P** **08 20 14.8 -1.0**
baz=305
E08A Dider Farm, El 41.10 71 P **P** **08 20 14.9 -0.7**
E08A IAMs_20 IAMs_20 08 33 52.8
comp=Z,8µm,22.0s
NEW Newport 41.28 68 P **P** **08 20 15.9 -1.3**
baz=302,SNR=15
NEW Newport 41.28 68 P **P** **08 20 16.2 -1.0**
comp=Z,14nm,0.8s,baz=299,slow=6.6,SNR=20
KHMM Horse Mountain 41.48 81 P **P** **08 20 18.7 -0.3**
KHMM IAMs_20 IAMs_20 08 36 10.6
comp=Z,8µm,18.0s
L04D Klamath Falls 41.56 79 P **P** **08 20 19.3 -0.3**
baz=306
J05D Fort Rock, OR 41.59 77 P **P** **08 20 19.3 -0.5**
baz=305,SNR=8.0
YBH Yreka Blue Hor 41.60 80 P **P** **08 20 20.2 +0.3**
YBH pmax pmax
comp=Z,16nm,0.8s
YBH Yreka Blue Hor 41.60 80 P **P** **08 20 20.2 +0.3**
YBH IAMs_20 IAMs_20 08 33 49.5
comp=Z,7µm,21.0s
E09A Wood Farm, Sta 41.62 71 IAMs_20 IAMs_20 08 34 18.5
comp=Z,6µm,21.0s
K04D Chiloquin, OR 41.65 78 P **P** **08 20 19.8 -0.6**
baz=306
M02C Callahan 41.71 80 P **P** **08 20 20.9 +0.1**
baz=306
KMRM Mail Ridge 41.89 82 P **P** **08 20 23.2 +0.9**
N02D Trinity Center 42.05 81 P **P** **08 20 23.8 +0.2**
baz=307
M04C Macdoel 42.09 79 P **P** **08 20 23.7 -0.3**
baz=306,SNR=16
K05A Summer Lake 42.11 77 IAMs_20 IAMs_20 08 35 03.0
comp=Z,8µm,20.0s
I07A Izee 42.16 75 IAMs_20 IAMs_20 08 34 18.2
comp=Z,7µm,22.0s
NRIK Noril'sk 42.22 328 P **P** **08 20 23.6 -1.0**
comp=Z,18nm,0.9s,baz=82,slow=9.7,SNR=14
NRIK LR LR 08 40 11.7
comp=Z,4µm,18.3s,baz=74,slow=39
WDC Whiskeytown Da 42.38 81 P **P** **08 20 25.5 -0.7**
WDC pmax pmax
comp=Z,34nm,1.4s
WDC Whiskeytown Da 42.38 81 P **P** **08 20 25.5 -0.7**
BJI Beijing 42.39 278 P **P** **08 20 26.9 +0.7**
BJI S **S** **08 26 45.4 -1.2**
BJI pmax pmax
comp=Z,21nm,1.4s
BJI LR LR
comp=Z,8µm,28.4s
BJI LR LR
comp=Z,5µm,29.4s
BJT Baijiatuao 42.41 278 P **P** **08 20 27.1 +0.7**
BJT pmax pmax
comp=Z,28nm,0.9s
BJT MLR MLR
comp=Z,4µm,18.0s
BJT Baijiatuao 42.41 278 P **P** **08 20 27.1 +0.7**
F10A Beach Ranch, E 42.45 71 IAMs_20 IAMs_20 08 34 45.5
comp=Z,7µm,21.0s
O02D Mt. Diablo Mer 42.48 82 P **P** **08 20 26.6 -0.5**
baz=308
IRK Irkutsk 42.55 300 *e*P **P** **08 20 28.4 +0.9**
IRK pmax pmax
comp=Z,91nm,2.3s
WALA Waterton Lakes 42.68 65 IAMs_20 IAMs_20 08 39 45.3
comp=Z,10µm,19.0s
MOD Modoc Plateau 42.95 78 IAMs_20 IAMs_20 08 35 28.2
comp=Z,8µm,20.0s
O03E Paynes Creek 43.01 81 P **P** **08 20 30.4 -1.0**
baz=308
BMO Blue Mountains 43.03 72 IAMs_20 IAMs_20 08 35 13.9
comp=Z,6µm,20.0s
HOPS Hopland Field 43.03 83 IAMs_20 IAMs_20 08 35 28.6
comp=Z,9µm,20.0s
JTMT Jette 43.17 67 IAMs_20 IAMs_20 08 38 44.4
comp=Z,6µm,20.0s
TLY Talaya 43.17 300 P **P** **08 20 31.8 -0.7**
comp=Z,12nm,0.6s,baz=39,slow=6.6,SNR=11
TLY LR LR 08 38 13.7
comp=Z,7µm,21.5s,baz=53,slow=36
TLY Talaya 43.17 300 *c i*P **P** **08 20 31.3 -1.2**
TLY *e* 08 22 12.7
TLY *e* 08 22 19.1
TLY *e*S **S** **08 27 01.8 +3.9**
TLY pmax pmax
comp=Z,49nm,0.6s
TLY MLR MLR
comp=Z,14µm,19.0s
TLY Talaya 43.17 300 P **P** **08 20 31.5 -1.0**
TLY IAMs_20 IAMs_20 08 37 50.1
comp=Z,9µm,20.0s
ULN Ulaanbaatar 43.30 293 P **P** **08 20 32.9 -0.9**
ULN pmax pmax
comp=Z,23nm,0.9s
ULN MLR MLR
comp=Z,7µm,18.0s
ULN Ulaanbaatar 43.30 293 P **P** **08 20 32.9 -0.9**
ULN Ulaanbaatar 43.30 293 IAMs_20 IAMs_20 08 39 47.7
comp=Z,7µm,18.0s
GDXM Geysers 43.31 83 IAMs_20 IAMs_20 08 35 28.1
comp=Z,10µm,19.0s
WVOR Wild Horse Val 43.63 76 IAMs_20 IAMs_20 08 36 16.2
comp=Z,6µm,20.0s
MCCM Marconi Confer 43.68 84 IAMs_20 IAMs_20 08 35 34.8
comp=Z,9µm,19.0s
SONM Songino Array 43.69 293 P **P** **08 20 36.1 -0.7**
comp=Z,21nm,0.6s,baz=59,slow=8.4,SNR=21
SONM PcP **PcP** **08 22 22.8 -0.9**
comp=Z,5.1nm,0.8s,baz=93,slow=5.9,SNR=2.3
SONM LR LR 08 40 12.7
comp=Z,8µm,18.4s,baz=60,slow=38
SONM Songino Array 43.69 293 P **P** **08 20 35.9 -0.9**
SONM pmax pmax
comp=Z,16nm,0.6s
SONM Songino Array 43.69 293 P **P** **08 20 35.9 -0.9**
MSO Missoula 43.87 68 P **P** **08 20 36.9 -1.4**
baz=304,SNR=21
MSO Missoula 43.87 68 IAMs_20 IAMs_20 08 39 54.0
comp=Z,5µm,18.0s
ZAK Zakamensk 44.05 298 *e*P **P** **08 20 38.3 -1.3**
ZAK *e* 08 22 28.1
ZAK pmax pmax
comp=Z,25nm,1.8s
TIA Tai'an 44.22 273 P **P** **08 20 40.8 -0.3**
TIA S **S** **08 27 15.9 +2.5**
TIA pmax pmax
comp=Z,13nm,0.8s
TIA pmax pmax
comp=Z,300nm,4.6s
TIA LR LR
comp=Z,3µm,22.4s
TIA LR LR
comp=Z,4µm,23.0s
TIA LR LR
comp=Z,3µm,23.7s
MOY Mondy 44.59 301 *e*P **P** **08 20 43.0 -1.0**
MOY pmax pmax
comp=Z,91nm,2.0s
HHC Hu-ho-hao-te 44.69 282 *e*P **P** **08 20 46.9 +2.0**
HHC ScS ScS 08 30 40.6 -1.0
HHC pmax pmax
comp=Z,19nm,1.1s
HHC pmax pmax
comp=Z,270nm,4.7s
HHC LR LR
comp=Z,6µm,19.9s
HHC LR LR
comp=Z,3µm,18.6s
HHC LR LR
comp=Z,3µm,15.8s
RUBR Rubicon Trail 44.77 81 IAmb IAmb 08 20 52.7
comp=Z,32nm,0.7s
PAHR Pah Rah Range 44.83 80 IAMs_20 IAMs_20 08 38 25.1
comp=Z,6µm,19.0s
PNTR Pine Nut 45.09 81 IAmb IAmb 08 20 53.3
comp=Z,48nm,0.6s
HRY Holter Researc 45.14 67 P **P** **08 20 47.1 -1.3**

SSE	**Sheshan**	**45.16**	**265**	P	**P**	**08 20 48.8**	**+0.2**		
SSE				S	**S**	**08 27 28.4**	**+1.2**		
SSE				pmax	pmax				
	comp=Z,25nm,1.2s								
SSE				pmax	pmax				
	comp=Z,230nm,9.6s								
SSE				LR	LR				
	comp=Z,2µm,22.3s								
SSE				LR	LR				
	comp=Z,850nm,22.7s								
CMB	**Columbia Colle**	**45.27**	**82**	IAMs_20	IAMs_20	08 36 32.9			
	comp=Z,5µm,20.0s								
HLID	**Hailey**	**45.47**	**72**	P	**P**	**08 20 50.0**	**-1.1**		
	baz=306,SNR=14								
HLID	**Hailey**	**45.47**	**72**	IAMs_20	IAMs_20	08 36 41.5			
	comp=Z,7µm,22.0s								
WAKR	**Walker**	**45.55**	**81**	IAMs_20	IAMs_20	08 37 19.2			
	comp=Z,7µm,20.0s								
EGMT	**Eagleton**	**45.56**	**64**	P	**P**	**08 20 50.3**	**-1.5**		
	baz=304,SNR=17								
EGMT	**Eagleton**	**45.56**	**64**	IAmb	IAmb	08 21 02.0			
	comp=Z,39nm,0.8s								
BTO	**Baotou**	**45.77**	**283**	*e*P	**P**	**08 20 53.1**	**-0.4**		
BTO				S	**S**	**08 27 34.9**	**-1.1**		
BOZ	**Bozeman (W)**	**45.89**	**68**	P	**P**	**08 20 52.9**	**-1.6**		
	baz=306,SNR=27								
NJ2	**Nanjing**	**45.93**	**267**	*e*P	**P**	**08 20 54.4**	**-0.3**		
NJ2				sP	**sP**	**08 21 08.8**	**+6.9**		
NJ2				S	**S**	**08 27 35.6**	**-2.7**		
NJ2				sS	**sS**	**08 27 51.1**	**+3.9**		
NJ2				SS	**ScS**	**08 30 54.8**	**+5.3**		
NJ2				pmax	pmax				
	comp=Z,13nm,0.5s								
NJ2				LR	LR				
	comp=Z,4µm,20.8s								
NJ2				LR	LR				
	comp=Z,4µm,19.9s								
NJ2				LR	LR				
	comp=Z,4µm,16.3s								
FFC	**Flin Flon**	**45.98**	**53**	P	**P**	**08 20 54.6**	**-0.2**		
FFC				pmax	pmax				
	comp=Z,89nm,1.7s								
FFC				MLR	MLR				
	comp=Z,13µm,18.0s								
FFC	**Flin Flon**	**45.98**	**53**	P	**P**	**08 20 54.6**	**-0.2**		
FFC				IAmb	IAmb	08 21 04.8			
	comp=Z,89nm,1.6s								
FFC	**Flin Flon**	**45.98**	**53**	IAMs_20	IAMs_20	08 41 16.9			
	comp=Z,13µm,18.0s								
KVN	**Kaiserville**	**46.02**	**80**	IAMs_20	IAMs_20	08 39 41.6			
	comp=Z,6µm,18.0s								
TIY	**Taiyuan**	**46.12**	**278**	*e*P	**P**	**08 20 58.3**	**+2.0**		
TIY				pP	**sP**	**08 21 04.4**	**+1.0**		
TIY				sP	pP	08 21 12.3	+11		
TIY				pmax	pmax				
	comp=Z,27nm,0.5s								
TIY				pmax	pmax				
	comp=Z,320nm,4.6s								
TIY				LR	LR				
	comp=Z,3µm,13.5s								
TIY				LR	LR				
	comp=Z,3µm,15.1s								
TIY				LR	LR				
	comp=Z,3µm,16.7s								
NVAR	**Mina Array Bea**	**46.29**	**80**	P	**P**	**08 20 57.5**	**-0.2**		
	comp=Z,8.6nm,0.6s,baz=300,slow=7.1,SNR=17								
NVAR				PcP	**PcP**	**08 22 32.9**	**0.0**		
	comp=Z,5.9nm,0.8s,baz=308,slow=3.3,SNR=2.5								
NVAR				LR	LR	08 38 04.7			
	comp=Z,5µm,21.0s,baz=298,slow=33								
NVAR	**Mina Array Bea**	**46.29**	**80**	P	**P**	**08 20 57.3**	**-0.4**		
MDPB	**Devils Postpil**	**46.32**	**82**	IAMs_20	IAMs_20	08 37 16.7			
	comp=Z,7µm,19.0s								
KRAR	**Krasnoyarsk**	**46.37**	**310**↑	*e*P	**P**	**08 20 56.0**	**-1.8**		
NV11	**Mina Array Sit**	**46.38**	**80**	IAMs_20	IAMs_20	08 36 29.0			
	comp=Z,6µm,21.0s								
OMMB	**Old Mammoth Mi**	**46.38**	**82**	IAMs_20	IAMs_20	08 37 30.3			
	comp=Z,7µm,20.0s								
YHL	**Hebgen Lake**	**46.58**	**69**	P	**P**	**08 20 59.0**	**-1.1**		
ELK	**Elko**	**46.69**	**76**	IAMs_20	IAMs_20	08 38 12.9			
	comp=Z,7µm,20.0s								
PAGB	**Antelope Grade**	**46.84**	**85**	IAmb	IAmb	08 21 14.4			
	comp=Z,23nm,0.8s								
VOG	**Valley Oaks Go**	**46.99**	**83**	P	**P**	**08 21 03.0**	**+0.1**		
	baz=311								
H17A	**Grant Village**	**47.20**	**69**	P	**P**	**08 21 05.0**	**+0.1**		
	baz=307,SNR=15								
LKWY	**Lake**	**47.20**	**69**	IAMs_20	IAMs_20	08 43 21.9			
	comp=Z,5µm,18.0s								
TIN	**Tinemaha, Big**	**47.21**	**82**	P	**P**	**08 21 04.8**	**0.0**		
	baz=311								
SMMC	**Simmler**	**47.27**	**85**	P	**P**	**08 21 05.2**	**-0.1**		
	baz=312								
VES	**Vestal, Richgr**	**47.48**	**84**	P	**P**	**08 21 06.2**	**-0.6**		
	baz=311,SNR=12								
RLMT	**Red Lodge**	**47.52**	**67**	P	**P**	**08 21 05.8**	**-1.5**		
	baz=307,SNR=22								
TPAW	**Teton Pass**	**47.53**	**70**	IAMs_20	IAMs_20	08 42 59.9			
	comp=Z,5µm,18.0s								
PKM	**Mcpherson Peak**	**47.66**	**85**	P	**P**	**08 21 08.2**	**-0.3**		
	baz=312								
REDW	**Red Top Meadow**	**47.67**	**70**	IAMs_20	IAMs_20	08 43 03.5			
	comp=Z,5µm,18.0s								
CWC	**Cottonwood Cre**	**47.70**	**82**	P	**P**	**08 21 08.1**	**-0.7**		
	baz=311								
GRAC	**Grapevine Rang**	**47.78**	**81**	P	**P**	**08 21 08.7**	**-0.4**		
	baz=311								
AHID	**Auburn Hatcher**	**47.88**	**71**	IAMs_20	IAMs_20	08 41 18.4			
	comp=Z,5µm,18.0s								
ISA	**Isabella, Lake**	**47.97**	**83**	P	**P**	**08 21 09.9**	**-0.8**		
	baz=312								
ISA	**Isabella, Lake**	**47.97**	**83**	IAMs_20	IAMs_20	08 38 15.5			
	comp=Z,6µm,19.0s								
R11A	**Troy Canyon, C**	**47.98**	**79**	P	**P**	**08 21 09.4**	**-1.5**		
	baz=310,SNR=23								
R11A	**Troy Canyon, C**	**47.98**	**79**	P	**P**	**08 21 10.0**	**-1.0**		
R11A				IAMs_20	IAMs_20	08 40 39.5			
	comp=Z,6µm,18.0s								
SBC	**Santa Barbara**	**48.02**	**85**	P	**P**	**08 21 10.2**	**-0.9**		
	baz=312								
ARVC	**Arvin**	**48.11**	**84**	P	**P**	**08 21 10.8**	**-0.9**		
	baz=312								
LAO	**LASA Array**	**48.30**	**64**	P	**P**	**08 21 12.6**	**-0.5**		
	baz=307,SNR=12								
LAO	**LASA Array**	**48.30**	**64**	IAmb	IAmb	08 21 24.6			
	comp=Z,31nm,0.8s								
LAO				IAMs_20	IAMs_20	08 43 48.7			
	comp=Z,7µm,18.0s								
MPMC	**Manual Prospec**	**48.31**	**82**	P	**P**	**08 21 12.6**	**-0.9**		
	baz=311,SNR=11								
DGMT	**Dagmar**	**48.35**	**61**	P	**P**	**08 21 12.3**	**-1.1**		
	baz=306,SNR=7.9								
DGMT	**Dagmar**	**48.35**	**61**	IAmb	IAmb	08 21 27.3			
	comp=Z,46nm,1.1s								
DGMT	**Dagmar**	**48.35**	**61**	IAMs_20	IAMs_20	08 44 01.0			
	comp=Z,7µm,18.0s								
FURC	**Furnace Creek,**	**48.43**	**81**	P	**P**	**08 21 13.3**	**-0.8**		
	baz=311,SNR=15								
DUG	**Dugway, Tooele**	**48.47**	**75**	P	**P**	**08 21 13.8**	**-0.8**		
	baz=309,SNR=25								
DUG	**Dugway, Tooele**	**48.47**	**75**	IAmb	IAmb	08 21 45.9			
	comp=Z,47nm,1.2s								
DUG				IAMs_20	IAMs_20	08 39 21.2			
	comp=Z,5µm,19.0s								
TPNV	**Topopah Spring**	**48.49**	**80**	P	**P**	**08 21 14.3**	**-0.5**		
	baz=311,SNR=23								
TPNV	**Topopah Spring**	**48.49**	**80**	IAmb	IAmb	08 21 36.6			
	comp=Z,30nm,0.8s								
TPNV				IAMs_20	IAMs_20	08 38 55.9			
	comp=Z,8µm,20.0s								
KULLO	**Kullorsuaq**	**48.55**	**17**	*i* P	**P**	**08 21 14.1**	**-0.5**		
KULLO	**Kullorsuaq**	**48.55**	**17**	*i* P	**P**	**08 21 14.1**	**-0.5**		
LRMC	**Laurel Mtn Rad**	**48.58**	**83**	P	**P**	**08 21 14.6**	**-0.9**		
	baz=312								
BW06	**Boulder Array**	**48.78**	**70**	P	**P**	**08 21 15.8**	**-1.3**		
	baz=308,SNR=18								
PDAR	**Pinedale Array**	**48.78**	**70**	P	**P**	**08 21 15.8**	**-1.2**		
	comp=Z,7.4nm,0.6s,baz=303,slow=3.2,SNR=43								
PDAR				LR	LR	08 41 55.3			
	comp=Z,4µm,19.6s,baz=316,slow=36								
PDAR	**Pinedale Array**	**48.78**	**70**	P	**P**	**08 21 15.5**	**-1.6**		
EDW2	**Edwards Air Fo**	**48.78**	**84**	P	**P**	**08 21 16.4**	**-0.6**		
	baz=312								
KBS	**Kingsbay**	**48.82**	**356**	P	**P**	**08 21 16.6**	**0.0**		
KBS				pmax	pmax				
	comp=Z,39nm,0.9s								
KBS	**Kingsbay**	**48.82**	**356**	P	**P**	**08 21 16.6**	**0.0**		
KBS				IAmb	IAmb	08 21 26.3			
	comp=Z,39nm,0.8s								
KBS	**Kingsbay**	**48.82**	**356**	*e*P	**P**	**08 21 17.0**	**+0.4**		
YOJ	**Yonaguni jima**	**48.86**	**257**	IAMs_20	IAMs_20	08 39 56.9			
	comp=Z,5µm,22.0s								
DECC	**Green Verdugo**	**49.00**	**85**	P	**P**	**08 21 18.5**	**-0.1**		
	baz=312								
SHOC	**Shoshone, Teco**	**49.16**	**82**	P	**P**	**08 21 19.0**	**-0.8**		
	baz=312,SNR=16								
MWC	**Mount Wilson**	**49.19**	**84**	IAmb	IAmb	08 21 28.5			
	comp=Z,46nm,1.1s								
MWC				IAMs_20	IAMs_20	08 37 57.6			
	comp=Z,4µm,19.0s								
GSC	**Goldstone, Bar**	**49.23**	**83**	P	**P**	**08 21 19.6**	**-0.9**		
	baz=312,SNR=26								
GSC	**Goldstone, Bar**	**49.23**	**83**	IAmb	IAmb	08 21 25.1			
	comp=Z,31nm,0.8s								
SPA0	**Spitsbergen Ar**	**49.33**	**355**	*e*P	**P**	**08 21 20.7**	**+0.1**		
SPITS	**Spitsbergen Ar**	**49.33**	**355**	P	**P**	**08 21 19.9**	**-0.7**		
	comp=Z,29nm,0.7s,baz=52,slow=6.8,SNR=88								
TATO	**Taipei**	**49.39**	**259**	IAMs_20	IAMs_20	08 40 52.9			
	comp=Z,5µm,20.0s								
BFSC	**Mount Baldy Ra**	**49.42**	**84**	P	**P**	**08 21 21.8**	**-0.2**		
	baz=313,SNR=15								
SHPR	**Sheep Range**	**49.44**	**80**	IAMs_20	IAMs_20	08 39 36.8			
	comp=Z,5µm,20.0s								
CIS	**Catalina Islan**	**49.52**	**86**	P	**P**	**08 21 22.1**	**-0.5**		
	baz=312								
TUQ	**Turquoise Moun**	**49.68**	**82**	P	**P**	**08 21 23.2**	**-0.8**		
	baz=312								
YHNB	**Yeheng**	**49.69**	**258**	IAMs_20	IAMs_20	08 46 05.8			
	comp=Z,5µm,18.0s								
SCI2	**San Clemente I**	**49.73**	**86**	P	**P**	**08 21 23.7**	**-0.4**		
	baz=313								
WHN	**Wuhan**	**49.75**	**270**	⇓P	**P**	**08 21 24.3**	**0.0**		
WHN				LR	LR				
	comp=Z,6µm,17.5s								
WHN				LR	LR				
	comp=Z,7µm,15.4s								
WHN				LR	LR				
	comp=Z,7µm,17.5s								
HEC	**Hector,Ludlow**	**49.83**	**83**	P	**P**	**08 21 24.3**	**-0.8**		
	baz=312								
BBRC	**Big Bear Solar**	**49.85**	**84**	P	**P**	**08 21 24.7**	**-0.7**		
	baz=313,SNR=9.8								
MSU	**Marysvale**	**49.93**	**76**	P	**P**	**08 21 25.4**	**-0.5**		
MSU	**Marysvale**	**49.93**	**76**	P	**P**	**08 21 25.4**	**-0.5**		
MURC	**Murrieta**	**50.13**	**84**	P	**P**	**08 21 26.8**	**-0.5**		
	baz=313,SNR=8.4								
GMRC	**Granite Mounta**	**50.27**	**82**	P	**P**	**08 21 27.3**	**-1.2**		
	baz=312,SNR=22								
HSPB	**Hornsund (broa**	**50.52**	**355**	*e*P	**P**	**08 21 28.9**	**-0.7**		
HSPB				*e*S	**S**	**08 28 46.6**	**+4.4**		
HSPB				*e*L	L	08 40 55.3			
	comp=Z,4µm,22.7s								
HSPB	**Hornsund (broa**	**50.52**	**355**	*e*P	**P**	**08 21 29.4**	**-0.2**		
SRU	**San Rafael Swe**	**50.52**	**74**	P	**P**	**08 21 29.6**	**-0.7**		
SRU				pmax	pmax				
	comp=Z,21nm,0.8s								
SRU	**San Rafael Swe**	**50.52**	**74**	P	**P**	**08 21 29.6**	**-0.7**		
PFO	**Pinyon Flats O**	**50.58**	**84**	P	**P**	**08 21 28.9**	**-1.8**		
	baz=313								
PFO	**Pinyon Flats O**	**50.58**	**84**⇓	*e*P	**P**	**08 21 31.8**	**+1.1**		
PFO				pmax	pmax				
	comp=Z,10.0nm,0.8s								
PFO	**Pinyon Flats O**	**50.58**	**84**	P	**P**	**08 21 30.0**	**-0.7**		
PFO	**Pinyon Flats O**	**50.58**	**84**	IAMs_20	IAMs_20	08 38 19.5			
	comp=Z,5µm,20.0s								
XPFO	**Pion Flat**	**50.58**	**84**	P	**P**	**08 21 29.4**	**-1.3**		
XPFO	**Pion Flat**	**50.58**	**84**	IAMs_20	IAMs_20	08 38 19.5			
	comp=Z,5µm,20.0s								
BELC	**Belle Mtn. Jos**	**50.60**	**83**	P	**P**	**08 21 29.3**	**-1.6**		
	baz=313,SNR=12								
K22A	**Casper**	**50.60**	**68**	P	**P**	**08 21 29.3**	**-1.5**		
	baz=309,SNR=8.2								
K22A	**Casper**	**50.60**	**68**	IAMs_20	IAMs_20	08 43 45.0			
	comp=Z,5µm,19.0s								
109C	**Camp Elliot, M**	**50.67**	**85**	P	**P**	**08 21 30.7**	**-0.5**		
	baz=313,SNR=7.7								
XAN	**Xi'an**	**50.68**	**277**	P	**P**	**08 21 30.5**	**-0.9**		
XAN				pP	sP	08 21 44.8	+6.2		
XAN				S	**S**	**08 28 45.8**	**+0.3**		
XAN				ScS	**ScS**	**08 31 18.6**	**-2.7**		
XAN				pmax	pmax				
	comp=Z,32nm,1.0s								
XAN				pmax	pmax				
	comp=Z,390nm,4.5s								
XAN				LR	LR				
	comp=Z,6µm,18.4s								
XAN				LR	LR				
	comp=Z,4µm,17.3s								
XAN				LR	LR				
	comp=Z,6µm,15.2s								
XAN	**Xi'an**	**50.68**	**277**	P	**P**	**08 21 30.0**	**-1.4**		
XAN				pmax	pmax				
	comp=Z,33nm,1.1s								
XAN	**Xi'an**	**50.68**	**277**	P	**P**	**08 21 30.0**	**-1.4**		
XAN	**Xi'an**	**50.68**	**277**	IAMs_20	IAMs_20	08 42 38.1			
	comp=Z,5µm,19.0s								
RWWY	**Rawlins**	**50.81**	**70**	IAMs_20	IAMs_20	08 45 25.8			
	comp=Z,4µm,18.0s								
NEE2	**Needles Airpor**	**50.92**	**81**	P	**P**	**08 21 32.0**	**-1.2**		
	baz=312								
DAG	**Danmarks Havn**	**50.95**	**4**	*i* P	**P**	**08 21 32.4**	**-0.4**		
DAG	**Danmarks Havn**	**50.95**	**4**	*i* P	**P**	**08 21 32.4**	**-0.4**		
IRM	**Iron Mountain**	**51.01**	**82**	P	**P**	**08 21 32.5**	**-1.4**		
	baz=313,SNR=13								
RSSD	**Black Hills**	**51.08**	**65**	P	**P**	**08 21 32.9**	**-1.7**		
	baz=309								
RSSD	**Black Hills**	**51.08**	**65**	P	**P**	**08 21 32.6**	**-1.9**		
RSSD				pmax	pmax				
	comp=Z,14nm,0.8s								
RSSD				MLR	MLR				
	comp=Z,5µm,19.0s								
RSSD	**Black Hills**	**51.08**	**65**	P	**P**	**08 21 32.6**	**-1.9**		
RSSD	**Black Hills**	**51.08**	**65**	IAMs_20	IAMs_20	08 45 06.6			
	comp=Z,5µm,19.0s								
MONP2	**Monument Peak**	**51.09**	**85**	P	**P**	**08 21 33.6**	**-1.1**		
	baz=314,SNR=6.6								
BC3	**Big Chuckawall**	**51.16**	**83**	P	**P**	**08 21 33.5**	**-1.6**		
	baz=313								
TPUB	**Ta-pu**	**51.16**	**258**	P	**P**	**08 21 34.9**	**-0.2**		
TPUB				IAmb	IAmb	08 21 46.0			
	comp=Z,73nm,1.1s								
QZH	**Quanzhou**	**51.17**	**261**	P	P	08 21 41.3	+6.2		
QZH				S	**S**	**08 29 00.8**	**+8.5**		
QZH				LR	LR				
	comp=N,1µm,19.0s								
QZH				LR	LR				
	comp=E,2µm,24.2s								
QZH				LR	LR				
	comp=Z,2µm,25.1s								
MDND	**Maddock**	**51.18**	**59**	P	**P**	**08 21 33.6**	**-1.3**		
	baz=308,SNR=6.9								
MDND	**Maddock**	**51.18**	**59**	IAMs_20	IAMs_20	08 44 12.7			
	comp=Z,11µm,20.0s								
O20A	**White River Ci**	**51.21**	**72**	P	**P**	**08 21 34.1**	**-1.4**		
	baz=310,SNR=16								
O20A	**White River Ci**	**51.21**	**72**	IAMs_20	IAMs_20	08 40 08.4			
	comp=Z,5µm,21.0s								
U15A	**North Rim**	**51.22**	**78**	IAMs_20	IAMs_20	08 40 25.2			
	comp=Z,6µm,20.0s								
TWG	**Pinlang**	**51.26**	**257**	IAMs_20	IAMs_20	08 41 33.5			
	comp=Z,13µm,22.0s								
ZALV	**Zalesovo Beam**	**51.35**	**311**	P	**P**	**08 21 34.2**	**-1.9**		
	comp=Z,3.2nm,0.7s,baz=57,slow=5.5,SNR=11								
ZALV				PcP	**PcP**	**08 22 49.4**	**-1.2**		
	comp=Z,4.6nm,0.8s,baz=17,slow=5.3,SNR=2.1								
ZALV				LR	LR	08 44 01.7			
	comp=Z,4µm,19.9s,baz=52,slow=37								
ZALV	**Zalesovo Beam**	**51.35**	**311**	P	**P**	**08 21 33.8**	**-2.2**		
E28A	**Huff**	**51.39**	**61**	IAmb	IAmb	08 21 44.1			
	comp=Z,33nm,0.8s								
E28A				IAMs_20	IAMs_20	08 42 23.3			
	comp=Z,7µm,20.0s								
SWSC	**Sam W. Stewart**	**51.44**	**84**	P	**P**	**08 21 35.6**	**-1.4**		
	baz=314								
IKP	**In-Ko-Pah, Jac**	**51.45**	**85**	P	**P**	**08 21 36.3**	**-0.9**		
	baz=314								
PDMCI	**Parker Dam,Lak**	**51.52**	**82**	P	**P**	**08 21 36.6**	**-1.0**		
	baz=313								
ULM	**Lac du Bonnet**	**51.62**	**55**	P	**P**	**08 21 37.4**	**-0.7**		
	comp=Z,12nm,0.6s,baz=311,slow=7.3,SNR=11								
ULM				LR	LR	08 43 54.0			
	comp=Z,12µm,20.8s,baz=316,slow=36								
ULM	**Lac du Bonnet**	**51.62**	**55**	P	**P**	**08 21 37.6**	**-0.5**		
ULM				pmax	pmax				
	comp=Z,172nm,1.8s								
ULM				MLR	MLR				
	comp=Z,13µm,21.0s								
ULM	**Lac du Bonnet**	**51.62**	**55**	P	**P**	**08 21 37.6**	**-0.5**		
ULM				IAmb	IAmb	08 21 47.7			
	comp=Z,172nm,1.8s								
ULM				IAMs_20	IAMs_20	08 43 32.0			
	comp=Z,13µm,21.0s								
PV21	**Cone Mtn., Par**	**51.80**	**74**	IAMs_20	IAMs_20	08 41 22.2			
	comp=Z,6µm,22.0s								
PV10	**Paradox Valley**	**51.88**	**74**	IAmb	IAmb	08 21 45.5			
	comp=Z,35nm,0.7s								
PV14	**Lion Creek, Pa**	**51.90**	**74**	IAMs_20	IAMs_20	08 41 23.7			
	comp=Z,6µm,20.0s								
PV22	**Blue Mesa, Par**	**51.93**	**74**	IAMs_20	IAMs_20	08 45 16.6			
	comp=Z,5µm,19.0s								
PV20	**West Nyswonger**	**51.95**	**74**	P	**P**	**08 21 39.8**	**-1.3**		
PV20				IAMs_20	IAMs_20	08 41 26.1			
	comp=Z,5µm,20.0s								
PV04	**Paradox Valley**	**51.95**	**74**	IAMs_20	IAMs_20	08 41 25.3			
	comp=Z,5µm,20.0s								
GLA	**Glamis**	**51.96**	**83**	P	**P**	**08 21 40.1**	**-0.9**		
	baz=314								
GLA	**Glamis**	**51.96**	**83**	P	**P**	**08 21 40.2**	**-0.8**		
GLA				pmax	pmax				
	comp=Z,21nm,0.9s								
GLA	**Glamis**	**51.96**	**83**	P	**P**	**08 21 40.2**	**-0.8**		
GLA				IAMs_20	IAMs_20	08 39 57.0			
	comp=Z,5µm,20.0s								
PV19	**Morning Glory**	**51.96**	**74**	IAMs_20	IAMs_20	08 41 25.4			
	comp=Z,5µm,19.0s								
PV17	**East Wray Mesa**	**51.99**	**74**	IAmb	IAmb	08 21 45.4			
	comp=Z,32nm,0.8s								
PV17				IAMs_20	IAMs_20	08 41 27.3			
	comp=Z,6µm,20.0s								
PV11	**David Mesa, Pa**	**52.03**	**74**	IAmb	IAmb	08 21 47.3			
	comp=Z,44nm,0.7s								
PV11				IAMs_20	IAMs_20	08 41 27.3			
	comp=Z,6µm,20.0s								
PV05	**Paradox Valley**	**52.04**	**75**	IAMs_20	IAMs_20	08 41 28.5			
	comp=Z,5µm,20.0s								
PV18	**Skein Mesa, Pa**	**52.05**	**74**	IAmb	IAmb	08 21 46.4			
	comp=Z,33nm,0.9s								
PV18				IAMs_20	IAMs_20	08 41 27.7			
	comp=Z,5µm,20.0s								
N23A	**Red Feather La**	**52.05**	**70**	P	**P**	**08 21 40.3**	**-1.6**		
	baz=311,SNR=8.1								
N23A	**Red Feather La**	**52.05**	**70**	IAMs_20	IAMs_20	08 44 31.6			
	comp=Z,4µm,20.0s								
PV12	**Saucer Basin,**	**52.06**	**74**	IAMs_20	IAMs_20	08 41 30.1			
	comp=Z,6µm,20.0s								
PV07	**Paradox Valley**	**52.08**	**74**	IAMs_20	IAMs_20	08 45 21.4			
	comp=Z,5µm,19.0s								
PV03	**Paradox Valley**	**52.08**	**74**	IAmb	IAmb	08 21 46.5			
	comp=Z,27nm,0.8s								
PV03				IAMs_20	IAMs_20	08 41 29.5			
	comp=Z,5µm,20.0s								
PV13	**Radium Mtn., P**	**52.16**	**74**	IAmb	IAmb	08 21 47.2			
	comp=Z,68nm,0.7s								
PV13				IAMs_20	IAMs_20	08 41 31.6			
	comp=Z,5µm,19.0s								
PV02	**Paradox Valley**	**52.17**	**74**	IAmb	IAmb	08 21 51.3			
	comp=Z,40nm,1.0s								
PV02				IAMs_20	IAMs_20	08 41 33.1			
	comp=Z,5µm,21.0s								
PV15	**Paradox Valley**	**52.24**	**74**	P	**P**	**08 21 42.0**	**-1.2**		
PV15				IAMs_20	IAMs_20	08 45 36.7			
	comp=Z,6µm,18.0s								
PV01	**Paradox Valley**	**52.32**	**74**	IAMs_20	IAMs_20	08 45 30.0			
	comp=Z,5µm,21.0s								
WUAZ	**Wupatki**	**52.38**	**78**	P	**P**	**08 21 43.5**	**-0.8**		
	baz=313,SNR=9.8								
WUAZ	**Wupatki**	**52.38**	**78**	IAMs_20	IAMs_20	08 40 50.0			
	comp=Z,7µm,21.0s								
LZH	**Lanzhou**	**52.39**	**282**	*e*P	**P**	**08 21 45.6**	**+1.3**		
LZH				sP	sP	08 21 59.0	+7.6		
LZH				pmax	pmax				
	comp=Z,45nm,1.1s								
LZH				pmax	pmax				
	comp=Z,520nm,6.0s								
LZH				LR	LR				
	comp=Z,6µm,14.1s								
LZH				LR	LR				
	comp=Z,5µm,15.7s								
LZH				LR	LR				
	comp=Z,5µm,15.2s								
BJO1	**Bjornoya**	**52.70**	**353**	*e*P	**P**	**08 21 46.4**	**+0.5**		
DGZ	**Jazzator, Alta**	**52.74**	**305**	*de*P	**P**	**08 21 46.1**	**-0.6**		
DGZ				pmax	pmax				
	comp=Z,12nm,0.8s								
113A	**Mohawk Valley,**	**52.80**	**83**	IAMs_20	IAMs_20	08 40 34.2			
	comp=Z,4µm,21.0s								
AGMN	**Agassiz Nation**	**52.85**	**57**	P	**P**	**08 21 46.2**	**-1.1**		
	baz=310,SNR=32								
AGMN	**Agassiz Nation**	**52.85**	**57**	IAmb	IAmb	08 22 02.4			
	comp=Z,59nm,1.0s								
AGMN				IAMs_20	IAMs_20	08 43 38.7	

ZSN LR LR 08 45 32.4
comp=Z,1µm,17.1s,baz=305
ZSN Zaisan 55.50 305 *e*P **P 08 22 06.1 -0.6**
ZSN pmax pmax
comp=Z,9.0nm,0.7s
ZSN MLR MLR
comp=Z,1µm,17.0s
ANMO Albuquerque 55.72 76 P **P 08 22 07.4 -1.3**
baz=314
ANMO Albuquerque 55.72 76 *de*P **P 08 22 07.6 -1.1**
ANMO pmax pmax
comp=Z,11nm,2.5s
ANMO Albuquerque 55.72 76 P **P 08 22 07.9 -0.8**
SFJD Kangerlussuaq 55.94 20 P **P 08 22 09.6 +0.1**
SFJD pmax pmax
comp=Z,78nm,1.3s
SFJD MLR MLR
comp=Z,2µm,19.0s
SFJD Kangerlussuaq 55.94 20 P **P 08 22 09.6 +0.1**
SFJD IAmb IAmb 08 22 19.9
comp=Z,78nm,1.2s
CD2 Chengdu 55.99 278 P **P 08 22 10.5 0.0**
CD2 sP sP 08 22 25.8 +8.1
CD2 PP **PP 08 24 14.9 -0.2**
CD2 S **S 08 29 53.0 -4.8**
CD2 sS sS 08 30 13.4 +6.1
CD2 SS **SS 08 33 40.1 -3.3**
CD2 pmax pmax
comp=Z,30nm,0.9s
CD2 LR LR
comp=Z,6µm,20.6s
CD2 LR LR
comp=Z,8µm,17.8s
CD2 LR LR
comp=Z,5µm,22.4s
Y22D IRIS PASSCAL I 56.05 77 P **P 08 22 09.8 -1.2**
baz=314
Y22D IRIS PASSCAL I 56.05 77 IAMs_20 IAMs_20 08 43 55.8
comp=Z,9µm,20.0s
BGNE Belgrade 56.14 65 P **P 08 22 10.4 -0.9**
baz=313
BGNE Belgrade 56.14 65 IAmb IAmb 08 22 26.3
comp=Z,66nm,0.9s
BGNE IAMs_20 IAMs_20 08 49 35.3
comp=Z,5µm,18.0s
E38A The Farm, Brul 56.17 56 IAmb IAmb 08 22 17.6
comp=Z,71nm,1.0s
E38A IAMs_20 IAMs_20 08 46 01.2
comp=Z,11µm,21.0s
KURK Kurchatov 56.34 311 P **P 08 22 11.5 -1.1**
KURK pmax pmax
comp=Z,101nm,1.1s
KURK MLR MLR
comp=Z,4µm,18.0s
KURK Kurchatov 56.34 311 P **P 08 22 11.5 -1.1**
KURK Kurchatov 56.34 311 IAMs_20 IAMs_20 08 46 48.8
comp=Z,4µm,18.0s
KEV Kevo 56.36 348 P **P 08 22 13.4 +1.0**
KEV pmax pmax
comp=Z,22nm,0.9s
KEV MLR MLR
comp=Z,3µm,20.0s
KEV Kevo 56.36 348 P **P 08 22 13.4 +1.0**
KURBB Kurchatov Arra 56.45 311 P **P 08 22 12.2 -1.2**
comp=Z,16nm,0.7s,baz=45,slow=6.7,SNR=126
KURBB PP **PP 08 24 22.2 +3.5**
comp=Z,14nm,1.2s,baz=48,slow=9.5,SNR=4.3
KURBB Kurchatov Arra 56.45 311 P **P 08 22 11.8 -1.6**
SPMN Marine on St. 56.45 58 P **P 08 22 12.9 -0.6**
baz=313,SNR=14
SPMN Marine on St. 56.45 58 IAmb IAmb 08 22 28.3
comp=Z,74nm,1.2s
WMQ Urumqi 56.45 300 *e*P **P 08 22 14.5 +0.8**
WMQ sP sP 08 22 27.3 +5.6
WMQ pmax pmax
comp=Z,50nm,0.9s
WMQ pmax pmax
comp=Z,240nm,4.9s
WMQ LR LR
comp=Z,15µm,18.7s
WMQ LR LR
comp=Z,6µm,19.3s
WMQ LR LR
comp=Z,5µm,23.5s
121A Cookes Peak, D 56.59 79 P **P 08 22 13.8 -1.1**
baz=315
121A Cookes Peak, D 56.59 79 IAMs_20 IAMs_20 08 45 48.5
comp=Z,5µm,18.0s
SMPP San Manuel, Pa 56.65 252 *e*P **P 08 22 19.0 +3.7**
PVCP Virac 56.68 247 *e*P P 08 22 20.4 +4.9
L34A Svendsen Farm, 56.74 63 IAMs_20 IAMs_20 08 48 41.1
comp=Z,4µm,18.0s
ARCES ARCESS Array B 56.76 348 P **P 08 22 14.2 -1.2**
comp=Z,10nm,0.8s,baz=23,slow=5.6,SNR=17
ARCES LR LR 08 50 37.8
comp=Z,2µm,18.1s,baz=14,slow=40
ARCES ARCESS Array B 56.76 348 P **P 08 22 14.6 -0.8**
ARE0 ARCESS Array S 56.76 348 P **P 08 22 14.0 -1.3**
ARE0 ARCESS Array S 56.76 348 *e*P **P 08 22 14.9 -0.5**
LVZ Lovozero 56.90 344 IAMs_20 IAMs_20 08 50 47.9
comp=Z,4µm,20.0s
SCO Scoresbysund 56.91 7 *i*P **P 08 22 14.8 -1.6**
SCO Scoresbysund 56.91 7 *e*P **P 08 22 14.8 -1.6**
N33A J Bar K, Exete 56.98 65 P **P 08 22 16.1 -1.3**
N33A IAmb IAmb 08 22 32.4
comp=Z,55nm,0.9s
N33A IAMs_20 IAMs_20 08 49 53.6
comp=Z,5µm,19.0s
CBKS Cedar Bluff 57.00 68 P **P 08 22 16.6 -0.9**
baz=313,SNR=11
CBKS Cedar Bluff 57.00 68 IAmb IAmb 08 22 28.4
comp=Z,64nm,1.1s
CBKS IAMs_20 IAMs_20 08 49 40.4
comp=Z,4µm,18.0s
MK31 Makanchi Array 57.24 305 *i*P **P 08 22 17.0 -2.1**
MKAR Makanchi Array 57.24 305 P **P 08 22 17.2 -1.9**
comp=Z,7.0nm,0.4s,baz=52,slow=6.7,SNR=47
MKAR LR LR 08 48 35.0
comp=Z,5µm,18.3s,baz=38,slow=38
MKAR PKP2bc 08 52 18.0
comp=Z,0.6nm,0.8s,baz=215,slow=3.8,SNR=4.0
GYA Guiyang 57.39 272 ⇓P **P 08 22 20.1 -0.4**
GYA pP sP 08 22 30.0 +2.3
GYA S **S 08 30 19.5 +3.1**
GYA pmax pmax
comp=Z,32nm,1.4s
GYA pmax pmax
comp=Z,310nm,3.5s
GYA LR LR
comp=Z,2µm,18.3s
GYA LR LR
comp=Z,2µm,17.2s
GYA LR LR
comp=Z,3µm,21.0s
MAKZ Makanchi 57.39 306 P **P 08 22 18.0 -2.2**
MAKZ pmax pmax
comp=Z,28nm,0.9s
MAKZ Makanchi 57.39 306 P **P 08 22 18.0 -2.2**
MAKZ IAmb IAmb 08 22 25.7
comp=Z,28nm,0.9s
MAKZ IAMs_20 IAMs_20 08 45 30.8
comp=Z,4µm,20.0s
APA Apatity 57.41 344 ⇓*i*P **P 08 22 23.3 +3.4**
APA pmax pmax
comp=Z,12nm,0.9s
KTK1 Kautokeino 57.53 349 *e*P **P 08 22 20.1 -0.7**
COWI Conover 57.74 55 IAMs_20 IAMs_20 08 47 31.0
comp=Z,10µm,20.0s
G40A Rib Lake 57.77 56 IAMs_20 IAMs_20 08 46 49.9
comp=Z,10µm,22.0s
R32A Long Quarter, 57.85 67 P **P 08 22 22.0 -1.6**
R32A IAmb IAmb 08 22 33.2
comp=Z,34nm,1.1s
N35A Tabor 57.90 63 IAMs_20 IAMs_20 08 49 56.8
comp=Z,5µm,18.0s
EPT El Paso 57.90 78 IAMs_20 IAMs_20 08 46 40.0
comp=Z,5µm,19.0s
K38A Parkersburg 58.23 60 IAmb IAmb 08 22 40.5
comp=Z,59nm,1.1s
BVA0 Borovoye Array 58.37 317 *i*P **P 08 22 25.4 -1.5**
BVAR Borovoye Array 58.37 317 P **P 08 22 26.0 -0.9**
comp=Z,22nm,0.6s,baz=48,slow=6.9,SNR=46
BVAR LR LR 08 49 08.9
comp=Z,7µm,19.1s,baz=51,slow=38
BRVK Borovoye 58.39 317 P **P 08 22 26.0 -1.0**
BRVK pmax pmax
comp=Z,31nm,0.8s
BRVK MLR MLR
comp=Z,8µm,19.0s
BRVK Borovoye 58.39 317 P **P 08 22 26.0 -1.0**
BRVK IAmb IAmb 08 22 47.7
comp=Z,31nm,0.8s
BRVK Borovoye 58.39 317 IAMs_20 IAMs_20 08 48 56.7
comp=Z,8µm,19.0s
SCIA State Center 58.50 61 P **P 08 22 27.3 -0.7**
baz=314,SNR=18
SCIA State Center 58.50 61 IAMs_20 IAMs_20 08 47 56.5
comp=Z,7µm,20.0s
KSU1 Kansas State U 58.57 66 P **P 08 22 26.9 -1.6**
baz=314
KSU1 Kansas State U 58.57 66 IAmb IAmb 08 22 42.7
comp=Z,29nm,0.9s
KSU1 Kansas State U 58.57 66 IAMs_20 IAMs_20 08 51 14.8
comp=Z,6µm,18.0s
MSTX Muleshoe 58.59 74 P **P 08 22 27.5 -1.4**
baz=315,SNR=7.7
MSTX Muleshoe 58.59 74 IAmb IAmb 08 22 43.0
comp=Z,84nm,1.8s
MSTX IAMs_20 IAMs_20 08 45 53.9
comp=Z,3µm,19.0s
AMTX Amarillo 58.59 72 P **P 08 22 27.6 -1.3**
baz=315
AMTX Amarillo 58.59 72 P **P 08 22 28.1 -0.8**
E43A Lone Tree Farm 58.62 54 IAmb IAmb 08 22 40.4
comp=Z,62nm,0.9s
E43A IAMs_20 IAMs_20 08 48 06.2
comp=Z,10µm,20.0s
MNTX Cornudas Mount 58.63 78 P **P 08 22 28.2 -0.9**
baz=315,SNR=18
MNTX Cornudas Mount 58.63 78 IAMs_20 IAMs_20 08 47 16.2
comp=Z,4µm,19.0s
OTRP Odiongan 58.89 248 *e*P **P 08 22 31.8 +0.9**
N2VI Vinje 59.09 352 *e*P **P 08 22 31.8 +0.1**
U32A Winter Ranch, 59.11 69 IAmb IAmb 08 22 46.9
comp=Z,41nm,1.0s
RCP Roxas 59.13 247⇑ *e*P **P 08 22 32.6 0.0**
N38A Joes South For 59.26 62 IAmb IAmb 08 22 40.4
comp=Z,57nm,1.0s
N38A IAMs_20 IAMs_20 08 49 00.8
comp=Z,7µm,20.0s
SVE Sverdlovsk 59.31 325⇓ *e*P **P 08 22 33.7 +0.3**
SVE *e*S **S 08 30 46.2 +5.7**
SVE pmax pmax
comp=Z,69nm,1.2s
SVE MLR MLR
comp=Z,6µm,18.0s
SJMP San Jose 59.33 249 *e*P P 08 22 39.5 +5.5
JFWS Jewell Farm 59.38 58 P **P 08 22 32.7 -1.4**
baz=315,SNR=16
JFWS Jewell Farm 59.38 58 IAmb IAmb 08 22 49.1
comp=Z,44nm,1.0s
I42A Draeger Farm, 59.39 57 IAMs_20 IAMs_20 08 47 39.7
comp=Z,9µm,21.0s
STEI Steigen 59.39 352 *e*P **P 08 22 32.4 -1.3**
L40A Anamosa 59.46 60 IAmb IAmb 08 22 41.6
comp=Z,39nm,0.8s
H43A Windswept, Lux 59.57 56 P **P 08 22 34.4 -1.0**
H43A IAMs_20 IAMs_20 08 48 06.4
comp=Z,8µm,21.0s
BRZS Berezniki 59.57 313 *e*P **P 08 22 33.7 -1.7**
comp=Z,21nm,0.9s,baz=313
BRZS LR LR 08 49 06.4
comp=Z,1µm,14.6s,baz=313
BRZS Berezniki 59.57 313 *e*P **P 08 22 33.6 -1.7**
BRZS pmax pmax
comp=Z,21nm,0.9s
BRZS MLR MLR
comp=Z,1µm,15.0s
TMCR Tamitsa 59.59 340 *e*P **P 08 22 33.2 -1.9**
TMCR pmax pmax
comp=Z,89nm,1.4s
ANGG Ammassalik, Gr 59.64 16 P **P 08 22 37.0 +1.6**
D46A Sault St. Mari 59.70 52 P **P 08 22 35.6 -0.7**
baz=316,SNR=22
N2TV T∀rnvik 59.76 352 *e*P **P 08 22 36.2 0.0**
F45A CMU Biological 59.84 53 P **P 08 22 36.5 -0.7**
baz=315
P38A Dawn 59.92 63 IAmb IAmb 08 23 07.4
comp=Z,27nm,0.8s
P38A IAMs_20 IAMs_20 08 49 05.2
comp=Z,5µm,20.0s
N2ST Straumen 59.93 352 *e*P **P 08 22 37.8 +0.4**
D47A Chapleau 60.03 51 P **P 08 22 37.7 -0.9**
baz=316,SNR=32
N2RO R st 60.05 353 *e*P **P 08 22 37.5 -0.7**
T35A Sooner Cattle 60.15 67 IAMs_20 IAMs_20 08 50 48.8
comp=Z,5µm,19.0s
G45A Suttons Bay 60.23 54 P **P 08 22 38.9 -1.0**
baz=316,SNR=17
G45A Suttons Bay 60.23 54 IAmb IAmb 08 22 58.4
comp=Z,46nm,0.8s
G45A IAMs_20 IAMs_20 08 49 15.7
comp=Z,9µm,19.0s
L42A Oliver, Polo 60.32 59 IAmb IAmb 08 22 54.9
comp=Z,35nm,0.9s
H45A Beulah 60.33 55 P **P 08 22 39.3 -1.3**
baz=316
ARU Arti 60.35 326 P **P 08 22 40.3 -0.3**
comp=Z,8.5nm,0.6s,baz=14,slow=5.1,SNR=25
ARU LR LR 08 51 46.2
comp=Z,6µm,18.0s,baz=48,slow=39
ARU Arti 60.35 326 *c i*P **P 08 22 40.2 -0.3**
ARU 08 23 25.5
ARU 08 24 54.1
ARU S **S 08 30 54.3 +0.5**
ARU 08 32 29.5
ARU SS **SS 08 34 52.2 +1.6**
ARU pmax pmax
comp=Z,41nm,0.9s
ARU MLR MLR
comp=Z,6µm,18.0s
ARU Arti 60.35 326 P **P 08 22 39.6 -0.9**
ARU IAMs_20 IAMs_20 08 51 33.3
comp=Z,6µm,18.0s
NBB05 Inndyr 60.37 352 *e*P **P 08 22 40.1 -0.3**
E47A Iron Bridge 60.38 52 P **P 08 22 39.8 -1.1**
baz=316
WMOK Wichita Mounta 60.39 71 P **P 08 22 40.4 -0.8**
baz=315,SNR=22
WMOK Wichita Mounta 60.39 71 IAmb IAmb 08 22 51.4
comp=Z,29nm,1.2s
WMOK Wichita Mounta 60.39 71 IAMs_20 IAMs_20 08 50 51.3
comp=Z,4µm,20.0s
G46A Petoskey 60.42 53 P **P 08 22 40.8 -0.4**
baz=316,SNR=24
D48A Paudash Townsh 60.57 50 P **P 08 22 40.7 -1.4**
baz=316,SNR=18
N41A Harden Midland 60.61 61 IAmb IAmb 08 22 57.2
comp=Z,54nm,0.9s
I45A Fountain 60.65 55 P **P 08 22 42.2 -0.6**
baz=316,SNR=6.0
OKCFA Oklahoma City 60.68 69 IAMs_20 IAMs_20 08 49 27.8
comp=Z,3µm,18.0s
CUYO Cuyo Island 60.68 248 *e*P **P 08 22 43.4 0.0**
D49A Beulah Townshi 60.71 50 P **P 08 22 42.0 -1.1**
baz=316,SNR=21
KMI Kunming 60.77 274⇑ *i*P **P 08 22 47.0 +2.9**
KMI pP pP 08 22 49.6 -0.1
KMI sP sP 08 22 53.6 +2.2
KMI PP **PP 08 25 02.0 +4.1**
KMI S **S 08 31 00.9 +0.4**
KMI sS sS 08 31 14.0 +4.4
KMI SS **SS 08 34 56.4 -2.6**
KMI pmax pmax
comp=Z,17nm,0.5s
KMI pmax pmax
comp=Z,280nm,7.8s
KMI LR LR
comp=Z,2µm,15.7s
KMI LR LR
comp=Z,3µm,16.9s
KMI LR LR
comp=Z,2µm,19.7s
P40A Paris 60.80 62 IAMs_20 IAMs_20 08 49 58.4
comp=Z,7µm,20.0s
H46A Fife Lake 60.81 54 P **P 08 22 43.2 -0.6**
baz=316,SNR=14
BUKP Musuan 60.85 243 *e*P P 08 22 49.7 +5.1
E48A Lockeyer 60.90 51 P **P 08 22 43.4 -1.1**
baz=316,SNR=20
QIZ Qiongzhong 60.94 264 P **P 08 22 46.5 +1.4**
QIZ pP **sP 08 22 51.9 -0.5**
QIZ S **S 08 31 02.1 -0.3**
QIZ SS **SS 08 35 02.3 +0.8**
QIZ pmax pmax
comp=Z,14nm,1.6s
QIZ LR LR
comp=Z,2µm,23.0s
QIZ LR LR
comp=Z,2µm,21.6s
QIZ LR LR
comp=Z,2µm,27.5s
OTUK Ortayu 60.98 312 P **P 08 22 43.7 -1.3**
J45A Montague 61.00 56 P **P 08 22 44.2 -1.0**
baz=316
J45A Montague 61.00 56 IAMs_20 IAMs_20 08 48 49.4
comp=Z,8µm,21.0s
G47A Hillman 61.02 53 P **P 08 22 44.4 -0.9**
baz=316,SNR=7.7
X34A Smith Ranch, M 61.03 70 IAmb IAmb 08 23 05.8
comp=Z,51nm,1.4s
X34A IAMs_20 IAMs_20 08 46 30.4
comp=Z,5µm,21.0s
PDGK Podgornoye 61.08 304 P **P 08 22 44.8 -1.1**
SCHQ Schefferville 61.11 36 P **P 08 22 45.4 -0.4**
comp=Z,33nm,0.9s,baz=337,slow=7.3,SNR=22
SCHQ LR LR 08 49 43.7
comp=Z,8µm,20.6s,baz=324,slow=37
SCHQ PKP2bc 08 52 09.6
comp=Z,1.7nm,0.8s,baz=239,slow=4.9,SNR=4.5
SCHQ Schefferville 61.11 36 P **P 08 22 45.3 -0.4**
SCHQ IAMs_20 IAMs_20 08 49 42.7
comp=Z,8µm,20.0s
I46A Reed City 61.12 55 P **P 08 22 45.2 -0.7**
baz=316
L44A Lake County Fo 61.12 58 P **P 08 22 44.8 -1.2**
baz=316,SNR=10
F48A Evansville 61.15 52 P **P 08 22 45.2 -0.9**
baz=316,SNR=28
MOR8 Moi Rana 61.18 352 *e*P **P 08 22 44.2 -1.8**
SHLS Shalkode 61.22 304⇓ *e*P **P 08 22 45.1 -1.7**
comp=Z,17nm,0.7s,baz=304
SHLS *e*S **S 08 31 01.6 -4.0**
baz=304
SHLS LR LR 08 50 44.6
comp=Z,354nm,12.6s,baz=304
SHLS Shalkode 61.22 304 *de*P **P 08 22 45.1 -1.7**
SHLS *e*S **S 08 31 01.6 -4.0**
SHLS pmax pmax
comp=Z,17nm,0.7s
SHLS MLR MLR
comp=Z,354nm,13.0s
H47A Mio 61.26 54 P **P 08 22 46.5 -0.4**
baz=316,SNR=5.7
TUL1 Leonard 61.27 68 P **P 08 22 45.6 -1.5**
baz=316,SNR=8.7
TUL1 Leonard 61.27 68 IAmb IAmb 08 23 07.2
comp=Z,31nm,1.2s
TUL1 IAMs_20 IAMs_20 08 51 33.5
comp=Z,5µm,19.0s
TX31 Lajitas Ar. Si 61.35 78 IAmb IAmb 08 23 02.2
comp=Z,65nm,1.1s
TX32 Lajitas Array 61.35 78 IAmb IAmb 08 23 02.2
comp=Z,22nm,1.1s
TXAR Lajitas Array 61.35 78 P **P 08 22 47.1 -0.8**
comp=Z,6.5nm,0.7s,baz=305,slow=4.4,SNR=14
TXAR LR LR 08 49 12.2
comp=Z,4µm,18.1s,baz=0.0,slow=36
TXAR Lajitas Array 61.35 78 P **P 08 22 46.8 -1.1**
TXAR Lajitas Array 61.35 78 P **P 08 22 46.8 -1.1**
ABTX Abilene, Hawle 61.39 73 P **P 08 22 47.1 -0.9**
baz=316,SNR=18
ABTX Abilene, Hawle 61.39 73 IAMs_20 IAMs_20 08 47 46.9
comp=Z,4µm,21.0s
KPKS Kokpek 61.39 305⇓ *e*P **P 08 22 46.6 -1.4**
comp=Z,8.0nm,0.8s,baz=305
KPKS LR LR 08 49 06.4
comp=Z,2µm,16.9s,baz=305
KPKS Kokpek 61.39 305⇓ *e*P **P 08 22 46.6 -1.4**
KPKS pmax pmax
comp=Z,8.0nm,0.8s
KPKS MLR MLR
comp=Z,2µm,17.0s
LSQQ Lebel-sur-Quev 61.40 46 P **P 08 22 45.8 -2.0**
baz=318
S39A Bolivar 61.40 65 IAMs_20 IAMs_20 08 51 37.6
comp=Z,5µm,19.0s
UZB Uzunbulak 61.45 304⇓ *e*P **P 08 22 46.3 -2.1**
comp=Z,13nm,2.1s,baz=304
UZB *e*S **S 08 31 05.4 -3.3**
baz=304
UZB LR LR 08 49 44.3
comp=Z,823nm,14.7s,baz=304
UZB Uzunbulak 61.45 304 *de*P **P 08 22 46.3 -2.1**
UZB *e*S **S 08 31 05.3 -3.3**
UZB pmax pmax
comp=Z,13nm,2.1s
UZB MLR MLR
comp=Z,823nm,15.0s
F49A Sandfield 61.48 51 P **P 08 22 47.3 -1.0**
baz=317,SNR=31
D50A G1974 Best Tow 61.49 49 P **P 08 22 46.9 -1.6**
baz=317,SNR=20
I47A Gladwin 61.53 54 P **P 08 22 47.5 -1.3**
baz=316
I47A Gladwin 61.53 54 IAmb IAmb 08 22 59.3
comp=Z,64nm,1.3s
KIRV Kirov 61.54 332 P **P 08 22 48.4 -0.2**
comp=Z,16nm,0.5s,baz=15,slow=3.5,SNR=9.3
KIRV LR LR 08 53 30.0
comp=Z,4µm,18.2s,baz=26,slow=40
HDIL Hopedale 61.55 60 P **P 08 22 47.7 -1.2**
baz=316,SNR=27
HDIL Hopedale 61.55 60 P **P 08 22 47.5 -1.4**
R40A Maddies Statio 61.55 63 IAmb IAmb 08 22 54.6
comp=Z,21nm,0.9s
R40A IAMs_20 IAMs_20 08 51 30.6
comp=Z,5µm,18.0s
KCP Kidapawan 61.56 242⇓ *i*P **P 08 22 51.3 +2.0**
E50A Wahnapitae 61.62 50 P **P 08 22 48.1 -1.2**
baz=317,SNR=12
U38A Gravette 61.70 66 IAMs_20 IAMs_20 08 50 09.5
comp=Z,5µm,20.0s
D51A Lot 18 Range I 61.77 49 P **P 08 22 48.7 -1.6**
baz=318,SNR=20
PAGZ Pagadian 61.80 244 *e*P **P 08 22 54.2 +3.4**
SATY Saty 61.83 305⇓ *e*P **P 08 22 50.2 -0.7**
comp=Z,18nm,1.6s,baz=305
SATY *e*S **S 08 31 11.5 -1.9**
baz=305
SATY LR LR 08 49 16.9
comp=Z,703nm,15.7s,baz=305
SATY Saty 61.83 305 *de*P **P 08 22 50.2 -0.7**
SATY *e*S **S 08 31 11.4 -1.9**
SATY pmax pmax
comp=Z,18nm,1.6s
SATY MLR MLR
comp=Z,703nm,16.0s
HPIG 61.88 82 P **P 08 22 50.8 -0.8**
HPIG IAMs_20 IAMs_20 08 50 58.5
comp=Z,3µm,18.0s
VLDQ Val d'Or 61.89 47 IAmb IAmb 08 23 00.2
comp=Z,46nm,0.9s
CHGQ Chibougamau 61.89 44 P **P 08 22 49.3 -1.8**
baz=319,SNR=18
HHAR Hobbs 62.06 66 IAMs_20 IAMs_20 08 50 31.2
comp=Z,6µm,20.0s
L46A Eue Claire 62.07 57 IAMs_20 IAMs_20 08 49 33.8
comp=Z,8µm,21.0s
P43A Skaggs, Pawnee 62.08 61 IAmb IAmb 08 23 01.6
comp=Z,34nm,0.7s
E51A G1948 Merrick 62.12 49 P **P 08 22 51.1 -1.6**
baz=318,SNR=34
NRS Narsarsuaq 62.14 22 IAMs_20 IAMs_20 08 52 02.2
comp=Z,4µm,20.0s
KLMR Klimovskoe 62.19 338 *e*P **P 08 22 52.3 -0.6**
KLMR *e*S **S 08 31 16.9 -0.1**
KLMR pmax pmax
comp=Z,95nm,1.3s
KLMR MLR MLR
comp=Z,2µm,15.0s
KLMR Klimovskoe 62.19 338 *e*P **P 08 22 52.4 -0.5**
KLMR AMP 08 23 03.7
comp=Z,95nm,1.3s
KLMR *e*S **S 08 31 17.0 -0.1**
KLMR *e*S **S 08 31 17.0 -0.1**
KLMR LQ LQ 08 45 38.7
KLMR LQ LQ 08 45 38.7

KLMR LR LR 08 49 51.0
KLMR AMP 08 54 56.5
comp=Z,2µm,15.4s
KUU Kurty 62.26 306 *e*P **P 08 22 52.3 -1.5**
comp=Z,11nm,0.7s,baz=306
KUU LR LR 08 51 32.3
comp=Z,2µm,15.8s,baz=306
KUU Kurty 62.26 306 *e*P **P 08 22 52.2 -1.5**
KUU pmax pmax
comp=Z,11nm,0.7s
KUU MLR MLR
comp=Z,2µm,16.0s
SKMP Bagumbayan, Su 62.26 242 *e*P **P 08 22 56.9 +2.9**
O44A Mansfield 62.28 60 IAmb IAmb 08 23 00.3
comp=Z,28nm,0.7s
Z35A Perchaven, San 62.28 71 IAmb IAmb 08 23 03.6
comp=Z,91nm,1.9s
Z35A IAMs_20 IAMs_20 08 47 21.3
comp=Z,4µm,22.0s
CCM Cathedral Cave 62.29 63 P **P 08 22 51.9 -2.0**
baz=316
CCM Cathedral Cave 62.29 63 P **P 08 22 51.5 -2.4**
CCM pmax pmax
comp=Z,63nm,1.9s
CCM MLR MLR
comp=Z,6µm,18.0s
CCM Cathedral Cave 62.29 63 P **P 08 22 51.5 -2.4**
CCM IAmb IAmb 08 23 13.3
comp=Z,63nm,1.9s
CCM Cathedral Cave 62.29 63 IAMs_20 IAMs_20 08 52 16.9
comp=Z,6µm,18.0s
D52A ZEK Kipawa Sen 62.29 48 P **P 08 22 52.2 -1.7**
baz=318,SNR=17
JAY Jayapura 62.34 221 P **P 08 22 55.4 +0.9**
comp=Z,13nm,0.9s,baz=328,slow=18,SNR=3.7
JAY Jayapura 62.34 221 P **P 08 22 55.4 +0.9**
comp=Z,364nmcomp=Z,24nm,1.2s
F51A Arnstein 62.37 50 P **P 08 22 52.5 -1.9**
baz=318,SNR=10
J48A Bridge Port 62.41 54 P **P 08 22 51.9 -2.8**
baz=317
J48A Bridge Port 62.41 54 IAmb IAmb 08 23 01.9
comp=Z,25nm,0.8s
SLM Saint Louis 62.42 62 IAMs_20 IAMs_20 08 51 27.4
comp=Z,7µm,20.0s
I49A Point Hope 62.42 53 P **P 08 22 53.2 -1.5**
baz=317
MDOK Medeo 62.44 306 *e*P **P 08 22 53.7 -1.3**
baz=306
MDOK LR LR 08 51 21.1
comp=Z,3µm,15.0s,baz=306
MDOK Medeo 62.44 306 *e*P **P 08 22 53.7 -1.3**
MDOK MLR MLR
comp=Z,3µm,15.0s
X37A Clayton 62.46 68 IAmb IAmb 08 23 27.6
comp=Z,22nm,1.0s
X37A IAMs_20 IAMs_20 08 53 10.0
comp=Z,5µm,19.0s
AAA Alma-Ata 62.47 306 LR LR 08 50 48.8
comp=Z,2µm,15.9s,baz=306
BTLS Baital 62.53 309 *e*P **P 08 22 54.3 -1.2**
comp=Z,5.1nm,0.8s,baz=309
BTLS *e*S **S 08 31 19.8 -2.2**
baz=309
BTLS LR LR 08 49 59.0
comp=Z,853nm,15.9s,baz=309
BTLS Baital 62.53 309 *e*P **P 08 22 54.3 -1.2**
BTLS *e*S **S 08 31 19.7 -2.2**
BTLS pmax pmax
comp=Z,5.0nm,0.8s
BTLS MLR MLR
comp=Z,853nm,16.0s
D53A Lac Vacive, Po 62.54 48 P **P 08 22 54.0 -1.5**
baz=318,SNR=28
U40A Yellville 62.62 65 P **P 08 22 54.0 -2.2**
baz=316,SNR=17
U40A Yellville 62.62 65 IAmb IAmb 08 23 02.5
comp=Z,26nm,0.9s
U40A IAMs_20 IAMs_20 08 52 26.8
comp=Z,5µm,20.0s
GENI Genyem 62.63 222 P **P 08 22 58.8 +2.4**
comp=Z,4µmcomp=Z,62nm,0.7s
J49A Marlette 62.69 54 P **P 08 22 54.6 -2.0**
baz=317
E52A Mattaw 62.69 49 P **P 08 22 54.7 -1.8**
baz=318,SNR=20
SMPI Sarmi 62.70 224 P **P 08 22 58.3 +1.5**
comp=Z,2µmcomp=Z,26nm,1.4s
F52A Sundridge 62.75 50 P **P 08 22 55.5 -1.4**
baz=318,SNR=20
JCT Junction City 62.84 75 P **P 08 22 56.3 -1.4**
baz=317
JCT Junction City 62.84 75 IAMs_20 IAMs_20 08 47 57.4
comp=Z,5µm,21.0s
SFIN Lafayette 62.84 59 P **P 08 22 55.9 -1.7**
baz=317
SFIN Lafayette 62.84 59 P **P 08 22 56.4 -1.1**
SLVN Son La 62.86 270 IAmb IAmb 08 23 04.6
comp=Z,39nm,1.0s
Q44A Meyer Farm, Va 62.89 61 IAmb IAmb 08 23 13.5
comp=Z,28nm,0.9s
W39A Magazine 62.93 67 P **P 08 22 56.9 -1.3**
baz=316,SNR=11
W39A Magazine 62.93 67 IAMs_20 IAMs_20 08 54 29.2
comp=Z,3µm,18.0s
K49A Clarkson 62.96 54 P **P 08 22 58.0 -0.4**
baz=317,SNR=14
D54A Lac Fusel, La 62.96 47 P **P 08 22 56.4 -2.0**
baz=319,SNR=14
L48A N Adams 63.08 56 IAMs_20 IAMs_20 08 50 24.3
comp=Z,9µm,21.0s
E53A Dumoine, Ponti 63.08 48 P **P 08 22 57.4 -1.7**
baz=319,SNR=24
SUF Sumiainen 63.08 345 P **P 08 22 58.6 -0.2**
SUF pmax pmax
comp=Z,91nm,1.1s
TARG Taragay, Kyrgy 63.10 304 P **P 08 23 00.5 +0.7**
TARG IAMs_20 IAMs_20 08 55 07.0
comp=Z,4µm,18.0s
KDJ Kajisay 63.12 305 IAmb IAmb 08 23 04.6
comp=Z,24nm,0.8s
KDJ IAMs_20 IAMs_20 08 51 29.8
comp=Z,5µm,18.0s
WHTX Lake Whitney, 63.12 72 P **P 08 22 58.5 -1.1**
baz=317
WHTX Lake Whitney, 63.12 72 IAmb IAmb 08 23 14.1
comp=Z,25nm,0.8s
WHTX IAMs_20 IAMs_20 08 48 26.8
comp=Z,4µm,20.0s
N47A Urbana 63.21 57 IAmb IAmb 08 23 11.2
comp=Z,57nm,1.4s
AAM Ann Arbor 63.21 55 IAMs_20 IAMs_20 08 50 17.7
comp=Z,9µm,21.0s
ALGO Algonquin Park 63.22 49 P **P 08 22 57.9 -2.1**
baz=318
E54A Lac Daplat, Po 63.26 48 P **P 08 22 58.5 -1.8**
baz=319,SNR=38
H52A Wyevale 63.33 51 P **P 08 22 59.5 -1.3**
baz=318,SNR=26
P46A Rosedale 63.33 59 P **P 08 22 59.5 -1.4**
P46A IAmb IAmb 08 23 10.8
comp=Z,38nm,0.8s
TKM2 Tokmak 2 63.34 306 P **P 08 23 00.4 -0.7**
SNR=16
TKM2 Tokmak 2 63.34 306 P **P 08 22 59.3 -1.8**
FCAR Ozark Folk Cen 63.36 65 IAMs_20 IAMs_20 08 52 49.5
comp=Z,5µm,20.0s
K50A Casco 63.38 54 P **P 08 22 59.9 -1.2**
baz=318
I51A Listowel 63.41 52 P **P 08 23 01.1 -0.2**
baz=318,SNR=36
SGDS Sogindy 63.42 307 *e*P **P 08 23 00.2 -1.3**
comp=Z,6.8nm,1.2s,baz=307
SGDS *e*S **S 08 31 31.1 -2.1**
baz=307
SGDS LR LR 08 51 01.4
comp=Z,2µm,16.2s,baz=307
SGDS Sogindy 63.42 307 *e*P **P 08 23 00.2 -1.3**
SGDS *e*S **S 08 31 31.1 -2.1**
SGDS pmax pmax
comp=Z,7.0nm,1.2s
SGDS MLR MLR
comp=Z,2µm,16.0s
BOOM Boomskoye usch 63.48 306 IAMs_20 IAMs_20 08 50 01.1
comp=Z,5µm,19.0s
MIAR Mount Ida 63.51 67 P **P 08 23 01.0 -1.2**
baz=317,SNR=32
MIAR Mount Ida 63.51 67 IAmb IAmb 08 23 09.1
comp=Z,27nm,0.9s
MIAR IAMs_20 IAMs_20 08 53 17.8
comp=Z,4µm,19.0s
G53A Haliburton 63.58 50 P **P 08 23 01.2 -1.2**
baz=318,SNR=64
SADO Sadowa 63.59 50 IAmb IAmb 08 23 08.7
comp=Z,24nm,0.8s
D55A Sainte-Anne-du 63.59 47 P **P 08 23 00.7 -1.8**
baz=319,SNR=68
G54A Lake Saint Pet 63.62 49 P **P 08 23 00.8 -1.9**
baz=319
USP Ospenovka 63.62 307 P **P 08 23 02.3 -0.5**
SNR=23
S44A Carbondale 63.63 62 IAmb IAmb 08 23 09.6
comp=Z,25nm,0.8s
S44A IAMs_20 IAMs_20 08 51 43.5
comp=Z,7µm,20.0s
Z38A Mt. Pleasant 63.64 69 IAmb IAmb 08 23 36.0
comp=Z,37nm,0.9s
Z38A IAMs_20 IAMs_20 08 53 50.3
comp=Z,6µm,19.0s
PBMO Poplar Bluff 63.66 63 P **P 08 23 01.1 -2.0**
PBMO IAmb IAmb 08 23 09.6
comp=Z,37nm,0.9s
PBMO IAMs_20 IAMs_20 08 51 41.2
comp=Z,5µm,19.0s
WHAR Wooly Hollow 63.70 66 IAmb IAmb 08 23 10.0
comp=Z,25nm,1.1s
WHAR IAMs_20 IAMs_20 08 51 39.6
comp=Z,5µm,20.0s
W41B Gary Mavity, V 63.81 66 P **P 08 23 02.1 -2.0**
baz=317,SNR=13
W41B Gary Mavity, V 63.81 66 IAmb IAmb 08 23 10.3
comp=Z,23nm,0.8s
W41B IAMs_20 IAMs_20 08 51 43.5
comp=Z,5µm,19.0s
KBK Karagaybulak 63.85 306 P **P 08 23 04.0 -0.5**
SNR=13
D56A ZEC Mazanza, M 63.89 46 P **P 08 23 02.4 -2.1**
baz=320,SNR=30
FRU1 Bishkek 63.90 307 IAMs_20 IAMs_20 08 52 00.0
comp=Z,4µm,18.0s
435B Jarrell 63.93 73 P **P 08 23 04.1 -0.9**
baz=317
435B Jarrell 63.93 73 IAmb IAmb 08 23 19.7
comp=Z,29nm,0.9s
435B IAMs_20 IAMs_20 08 53 04.1
comp=Z,4µm,20.0s
N49A Columbus Grove 63.95 56 IAmb IAmb 08 23 14.7
comp=Z,50nm,1.1s
N49A IAMs_20 IAMs_20 08 50 51.5
comp=Z,9µm,21.0s
K51A Iona Station 63.97 53 P **P 08 23 03.6 -1.4**
baz=318
X40A Basin Creek Fa 63.98 67 P **P 08 23 03.8 -1.4**
baz=317,SNR=5.7
X40A Basin Creek Fa 63.98 67 IAmb IAmb 08 23 12.3
comp=Z,17nm,0.8s
X40A IAMs_20 IAMs_20 08 51 41.0
comp=Z,4µm,20.0s
H53A Bobcaygeon 64.00 50 P **P 08 23 03.8 -1.4**
baz=319,SNR=19
BLO Bloomington 64.02 59 IAmb IAmb 08 23 15.1
comp=Z,30nm,0.9s
UALR University of 64.05 66 IAMs_20 IAMs_20 08 51 52.8
comp=Z,5µm,19.0s
237A Washetta, Mont 64.08 71 IAMs_20 IAMs_20 08 48 17.0
comp=Z,4µm,21.0s
I53A Kortright Cn E 64.08 51 P **P 08 23 04.9 -0.9**
baz=319
J52A Paris 64.09 52 P **P 08 23 05.3 -0.5**
baz=318,SNR=14
AAK Ala-Archa 64.09 307 P **P 08 23 05.8 -0.3**
comp=Z,19nm,0.7s,baz=127,slow=3.1,SNR=14
AAK LR LR 08 52 37.5
comp=Z,3µm,18.2s,baz=24,slow=38
AAK Ala-Archa 64.09 307 P **P 08 23 05.5 -0.6**
SNR=12
AAK Ala-Archa 64.09 307 P **P 08 23 05.0 -1.1**
AAK pmax pmax
comp=Z,22nm,0.7s
AAK MLR MLR
comp=Z,3µm,18.0s
AAK Ala-Archa 64.09 307 P **P 08 23 05.0 -1.1**
AAK IAmb IAmb 08 23 11.1
comp=Z,22nm,0.7s
AAK Ala-Archa 64.09 307 IAMs_20 IAMs_20 08 55 01.2
comp=Z,3µm,18.0s
F55A Otter Lake 64.09 48 P **P 08 23 03.5 -2.2**
baz=319
PARMO Parma 64.11 63 P **P 08 23 04.9 -1.1**
PARMO IAMs_20 IAMs_20 08 52 03.3
comp=Z,5µm,20.0s
E56A St. Veronique 64.15 47 P **P 08 23 04.2 -1.9**
baz=320,SNR=23
HENM Henderson Moun 64.23 63 IAMs_20 IAMs_20 08 52 06.3
comp=Z,7µm,21.0s
FINES FINESS Array B 64.30 345 P **P 08 23 05.6 -1.3**
comp=Z,18nm,0.7s,baz=19,slow=6.5,SNR=23
FINES LR LR 08 56 48.2
comp=Z,1µm,18.1s,baz=28,slow=41
FINES FINESS Array B 64.30 345 P **P 08 23 05.8 -1.0**
D57A Chemin Vers le 64.30 46 P **P 08 23 05.3 -1.9**
baz=320,SNR=16
K52A Tillsonburg 64.32 53 P **P 08 23 06.7 -0.6**
baz=318,SNR=8.1
PVMO Portageville 64.32 63 IAMs_20 IAMs_20 08 53 12.9
comp=Z,6µm,18.0s
PENMO Penman 64.34 63 IAMs_20 IAMs_20 08 52 10.2
comp=Z,6µm,20.0s
PLVO Plevna 64.36 49 IAmb IAmb 08 23 13.6
comp=Z,20nm,0.8s
G55A Calabogie 64.36 49 P **P 08 23 05.8 -1.8**
baz=319,SNR=19
P48A Milroy 64.39 58 IAmb IAmb 08 23 17.1
comp=Z,52nm,0.9s
UCH Uchtor 64.39 306 P **P 08 23 07.8 -0.6**
SNR=8.7
WLAR White Oak Lake 64.40 68 P **P 08 23 07.1 -0.9**
WLAR IAmb IAmb 08 23 15.4
comp=Z,30nm,0.9s
WLAR IAMs_20 IAMs_20 08 54 04.3
comp=Z,3µm,19.0s
O49A Covington 64.42 57 IAmb IAmb 08 23 17.7
comp=Z,30nm,0.8s
HBAR Harrisburg 64.42 65 IAMs_20 IAMs_20 08 55 56.6
comp=Z,4µm,18.0s
ZIRO ZIRO 64.42 282 *e*P **P 08 23 08.3 -0.1**
ZIRO IAmb IAmb 08 23 15.5
comp=Z,64nm,1.1s
EKS2 Erkin-Say 64.43 307 P **P 08 23 07.8 -0.4**
SNR=21
LSA Lhasa 64.44 286 P **P 08 23 09.3 +0.4**
LSA pmax pmax
comp=Z,56nm,0.7s
LSA Lhasa 64.44 286 IAmb IAmb 08 23 17.1
comp=Z,39nm,0.7s
T45A Paducah 64.46 62 IAMs_20 IAMs_20 08 52 18.4
comp=Z,7µm,20.0s
GNAR Gonell 64.48 64 IAMs_20 IAMs_20 08 52 08.0
comp=Z,5µm,19.0s
HICK Hickman 64.49 63 IAMs_20 IAMs_20 08 52 24.2
comp=Z,7µm,20.0s
DELO Deloro Mine 64.50 50 IAmb IAmb 08 23 19.1
comp=Z,51nm,1.2s
LATQ La Tuque 64.50 45 P **P 08 23 06.7 -1.7**
baz=320,SNR=22
LATQ La Tuque 64.50 45 IAMs_20 IAMs_20 08 52 30.1
comp=Z,4µm,20.0s
LPAR Lepanto 64.58 64 IAMs_20 IAMs_20 08 51 51.9
comp=Z,4µm,20.0s
833A Chaparral WMA, 64.65 76 P **P 08 23 09.0 -0.7**
baz=318
833A Chaparral WMA, 64.65 76 IAmb IAmb 08 23 51.8
comp=Z,31nm,1.2s
833A IAMs_20 IAMs_20 08 51 28.5
comp=Z,4µm,20.0s
E57A Chemin Saint G 64.65 46 P **P 08 23 07.6 -1.9**
baz=320,SNR=32
LNXT Lenox 64.67 63 IAMs_20 IAMs_20 08 52 21.0
comp=Z,6µm,20.0s
M51A Elyria 64.67 55 P **P 08 23 08.2 -1.4**
baz=318
D58A Chemin du LacG 64.68 45 P **P 08 23 08.0 -1.7**
baz=321,SNR=16
H55A Tweed 64.68 49 P **P 08 23 08.4 -1.3**
baz=319,SNR=10
I55A Frankford 64.70 50 P **P 08 23 08.5 -1.3**
baz=319,SNR=15
P49A Miami Univ. Ec 64.70 58 P **P 08 23 08.4 -1.5**
baz=318
P49A Miami Univ. Ec 64.70 58 P **P 08 23 08.2 -1.7**
P49A IAmb IAmb 08 23 21.8
comp=Z,44nm,1.1s
ORIO Orleans, Innes 64.77 48 P **P 08 23 08.2 -2.0**
baz=320,SNR=9.8
WCI Wyandotte Cave 64.83 60 P **P 08 23 09.3 -1.4**
baz=318
WCI Wyandotte Cave 64.83 60 P **P 08 23 09.9 -0.9**
WCI pmax pmax
comp=Z,29nm,0.8s
WCI MLR MLR
comp=Z,11µm,21.0s
WCI Wyandotte Cave 64.83 60 P **P 08 23 09.9 -0.9**
WCI IAmb IAmb 08 23 26.0
comp=Z,30nm,0.8s
F57A Harrington 64.86 47 P **P 08 23 08.6 -2.3**
baz=320
N51A Ashland 64.88 55 P **P 08 23 09.4 -1.6**
baz=318
N51A Ashland 64.88 55 IAmb IAmb 08 23 22.4
comp=Z,81nm,1.4s
HALT Halls 64.89 63 IAMs_20 IAMs_20 08 53 38.9
comp=Z,6µm,18.0s
Z41A Richland Creek 64.89 68 P **P 08 23 09.9 -1.2**
baz=317
Z41A Richland Creek 64.89 68 IAMs_20 IAMs_20 08 55 30.3
comp=Z,4µm,18.0s
NATX Nacogdoches 64.92 70 P **P 08 23 10.5 -0.9**
baz=317
NATX Nacogdoches 64.92 70 IAMs_20 IAMs_20 08 54 13.2
comp=Z,5µm,20.0s
M52A Chesterland 64.92 54 P **P 08 23 09.9 -1.4**
baz=319
M52A Chesterland 64.92 54 P **P 08 23 10.7 -0.6**
M52A IAmb IAmb 08 23 22.5
comp=Z,43nm,1.1s
J54A Appleton 64.96 51 P **P 08 23 09.8 -1.7**
baz=319
CCAR Cane Creek 64.99 67 IAMs_20 IAMs_20 08 52 31.9
comp=Z,4µm,20.0s
X43A Marvell 65.06 65 P **P 08 23 11.2 -1.0**
baz=318
X43A Marvell 65.06 65 IAMs_20 IAMs_20 08 53 50.4
comp=Z,6µm,19.0s
E58A La Victoria 65.06 46 P **P 08 23 10.3 -1.8**
baz=321,SNR=25
H56A Elgin 65.08 49 P **P 08 23 10.6 -1.6**
baz=320,SNR=13
ACSO Alum Creek Sta 65.08 56 P **P 08 23 10.5 -1.8**
baz=318
ACSO Alum Creek Sta 65.08 56 IAmb IAmb 08 23 31.9
comp=Z,25nm,0.9s
ACSO IAMs_20 IAMs_20 08 51 26.3
comp=Z,8µm,20.0s
MET Memphis--Engin 65.14 64 IAMs_20 IAMs_20 08 56 27.6
comp=Z,4µm,19.0s
L53A Girard 65.16 53 P **P 08 23 12.2 -0.6**
baz=319,SNR=5.8
ERPA Erie 65.17 53 P **P 08 23 12.2 -0.6**
baz=319,SNR=9.1
ERPA Erie 65.17 53 P **P 08 23 12.4 -0.5**
735A Kenedy 65.20 74 IAMs_20 IAMs_20 08 50 12.1
comp=Z,5µm,19.0s
D59A Saint-Raymond 65.20 44 P **P 08 23 11.4 -1.6**
baz=321
F58A St-Lin Laurent 65.22 46 P **P 08 23 11.6 -1.5**
baz=320
PECO Prince Edward 65.24 50 IAmb IAmb 08 23 19.6
comp=Z,36nm,0.8s
MOL Molde 65.26 354 *e*P **P 08 23 13.3 +0.3**
G57A Newington 65.27 48 P **P 08 23 11.7 -1.8**
baz=320
N52A McGinn's Farm, 65.30 55 P **P 08 23 12.3 -1.5**
baz=319
AKTO Aktyubinsk 65.31 322 P **P 08 23 13.3 -0.3**
comp=Z,47nm,0.7s,baz=56,slow=7.3,SNR=77
AKTO LR LR 08 54 01.5
comp=Z,6µm,19.3s,baz=40,slow=38
AKTO Aktyubinsk 65.31 322 P **P 08 23 12.7 -0.9**
T47A Sharon Grove 65.31 61 IAMs_20 IAMs_20 08 52 07.0
comp=Z,8µm,21.0s
O51A Pataskala 65.33 56 P **P 08 23 12.9 -1.1**
baz=318,SNR=13
M53A WI Miller and 65.34 54 P **P 08 23 13.2 -0.8**
baz=319,SNR=8.2
J55A Hilton 65.35 51 P **P 08 23 13.1 -0.9**
baz=320,SNR=11
L54A Sinclairville 65.41 52 P **P 08 23 13.8 -0.7**
baz=319,SNR=24
K54A Basiliko Farm, 65.43 52 P **P 08 23 13.8 -0.8**
baz=319,SNR=17
DZA Taraz 65.44 309 LR LR 08 52 09.5
comp=Z,660nm,14.0s,baz=309
AB31 Akbulak array 65.50 320 *i* P **P 08 23 14.9 0.0**
ABKAR Akbulak array 65.50 320 P **P 08 23 13.9 -1.0**
W45A Hickory Valley 65.53 64 IAMs_20 IAMs_20 08 52 29.8
comp=Z,5µm,20.0s
WVT Waverly 65.56 62 P **P 08 23 14.3 -1.1**
baz=318
WVT Waverly 65.56 62 P **P 08 23 14.0 -1.4**
WVT pmax pmax
comp=Z,19nm,0.8s
WVT MLR MLR
comp=Z,6µm,20.0s
WVT Waverly 65.56 62 P **P 08 23 14.0 -1.4**
WVT IAmb IAmb 08 23 25.2
comp=Z,18nm,0.8s
WVT Waverly 65.56 62 IAMs_20 IAMs_20 08 52 51.4
comp=Z,6µm,20.0s
HKT Hockley 65.56 72 P **P 08 23 15.5 0.0**
HKT pmax pmax
comp=Z,84nm,2.0s
HKT MLR MLR
comp=Z,4µm,18.0s
HKT Hockley 65.56 72 P **P 08 23 15.5 0.0**
HKT IAmb IAmb 08 23 26.2
comp=Z,84nm,1.9s
HKT Hockley 65.56 72 IAMs_20 IAMs_20 08 55 43.9
comp=Z,4µm,18.0s
H57A Richville 65.58 48 P **P 08 23 13.7 -1.8**
baz=320,SNR=13
P51A Williamsport 65.60 57 P **P 08 23 14.2 -1.5**
baz=318
P51A Williamsport 65.60 57 IAmb IAmb 08 23 22.6
comp=Z,22nm,0.9s
P51A IAMs_20 IAMs_20 08 51 31.1
comp=Z,8µm,21.0s
TNTI Ternate 65.61 236 P **P 08 23 17.5 +1.5**
comp=Z,45nm,0.7s
WVNY West Valley, N 65.63 52 P **P 08 23 14.9 -0.9**
K55A Perry 65.64 51 P **P 08 23 14.4 -1.5**
baz=320,SNR=9.5
G58A Ormstown 65.66 47 P **P 08 23 14.6 -1.3**
baz=321
D60A Saint Jean D'O 65.67 44 P **P 08 23 14.2 -1.7**
baz=322,SNR=11
KSH Kashi 65.67 303 P **P 08 23 19.0 +2.7**
KSH pP sP 08 23 28.8 +5.3
KSH S **S 08 32 00.9 -0.3**
KSH ScS **SKSac 08 33 08.5 -2.4**
KSH pmax pmax
comp=Z,19nm,0.9s
KSH pmax pmax
comp=Z,770nm,4.4s
KSH LR LR
comp=Z,3µm,15.2s
KSH LR LR
comp=Z,3µm,13.6s
KSH LR LR
comp=Z,4µm,15.8s
KK31 Karatay Array 65.67 309 *i* P **P 08 23 15.0 -1.2**
KK31 Karatay Array 65.67 309 IAmb IAmb 08 23 29.8
comp=Z,34nm,1.1s
KKAR Karatay Array 65.67 309 P **P 08 23 14.9 -1.3**
KKAR Karatay Array 65.67 309 P **P 08 23 14.9 -1.3**
KKAR Karatay Array 65.67 309 IAmb IAmb 08 23 29.8
comp=Z,34nm,1.1s
AKN Aaknes 65.68 355 *e*P **P 08 23 17.1 +1.2**
DOMB Dombas 65.68 354 *e*P **P 08 23 15.6 -0.3**
F59A Saint Guilaume 65.69 46 P **P 08 23 14.4 -1.7**
baz=321,SNR=14
N53A Lisbon 65.73 54 P **P 08 23 15.2 -1.4**
baz=319
N53A Lisbon 65.73 54 IAmb IAmb 08 23 28.3

comp=Z,60nm,1.3s
O52A Adamsville 65.75 55 P P 08 23 15.1 -1.6
baz=319,SNR=19
O52A Adamsville 65.75 55 IAmb IAmb 08 23 26.4
comp=Z,43nm,0.9s
O52A IAMs_20 IAMs_20 08 51 48.0
comp=Z,8µm,21.0s
D61A St Aubert, Com 65.75 43 P P 08 23 15.5 -1.1
baz=322
M54A Oil Creek Stat 65.79 53 P P 08 23 15.7 -1.2
baz=319,SNR=13
J56A Wolcott 65.80 50 P P 08 23 15.6 -1.4
baz=320,SNR=13
J56A Wolcott 65.80 50 P P 08 23 16.1 -0.8
ARSB Arslanbob 65.82 307 IAMs_20 IAMs_20 08 53 33.6
comp=Z,4µm,21.0s
LONY Lake Ozonia 65.83 48 P P 08 23 15.3 -1.8
baz=320
LONY Lake Ozonia 65.83 48 IAmb IAmb 08 23 23.6
comp=Z,16nm,0.8s
I57A Carthage 65.86 49 P P 08 23 15.8 -1.5
baz=320,SNR=11
E60A Ste Agathe de 65.87 45 P P 08 23 15.6 -1.7
baz=322,SNR=8.7
L55A Hinsdale 65.88 52 P P 08 23 16.7 -0.8
baz=320,SNR=25
OXF Oxford 65.88 64 P P 08 23 16.3 -1.2
baz=318,SNR=12
OXF Oxford 65.88 64 IAMs_20 IAMs_20 08 52 53.2
comp=Z,4µm,20.0s
P52A Corning 65.96 56 P P 08 23 16.4 -1.7
baz=319,SNR=9.7
P52A Corning 65.96 56 IAmb IAmb 08 23 26.8
comp=Z,37nm,1.4s
F60A Warwick 65.96 45 P P 08 23 15.9 -2.0
baz=321
O53A New Philadelph 65.96 55 P P 08 23 16.0 -2.0
baz=319,SNR=8.7
O53A New Philadelph 65.96 55 P P 08 23 16.7 -1.3
O53A IAmb IAmb 08 23 39.3
comp=Z,17nm,0.8s
K56A Middlesex 66.02 51 P P 08 23 17.7 -0.7
baz=320,SNR=14
N54A Moraine State 66.04 54 P P 08 23 17.3 -1.2
baz=319,SNR=10.0
N54A Moraine State 66.04 54 IAmb IAmb 08 23 27.9
comp=Z,31nm,0.9s
143A Socs Landing, 66.09 67 IAMs_20 IAMs_20 08 53 09.1
comp=Z,3µm,20.0s
J57A Williamstown 66.10 49 P P 08 23 17.4 -1.5
baz=320,SNR=7.9
FRNY Flat Rock 66.11 47 IAmb IAmb 08 23 35.0
comp=Z,22nm,1.1s
KVTX Kingsville 66.12 75 IAMs_20 IAMs_20 08 55 26.4
comp=Z,5µm,18.0s
H58A Gabriels 66.17 48 P P 08 23 17.4 -1.9
baz=321
H59A Cadyville 66.21 47 P P 08 23 17.5 -2.0
baz=321,SNR=6.1
E61A Lac Etchemin 66.23 44 P P 08 23 17.8 -1.9
baz=322,SNR=5.2
M55A Ridgway 66.26 53 P P 08 23 19.1 -0.9
baz=320,SNR=50
M55A Ridgway 66.26 53 P P 08 23 19.4 -0.5
PLAL Pickwick Lake 66.27 63 IAmb IAmb 08 23 26.7
comp=Z,27nm,0.7s
PLAL IAMs_20 IAMs_20 08 53 18.4
comp=Z,6µm,19.0s
Y45A Yeager Farm, C 66.28 65 IAMs_20 IAMs_20 08 55 28.9
comp=Z,3µm,19.0s
D62A Allapoint, All 66.33 43 P P 08 23 19.1 -1.1
baz=322,SNR=23
L56A Greenwood 66.34 51 P P 08 23 19.5 -1.0
baz=320,SNR=45
I58A Old Forge 66.36 49 P P 08 23 19.0 -1.6
baz=321,SNR=12
F61A St Evariste 66.37 45 P P 08 23 19.6 -1.0
baz=322,SNR=16
K57A Scipio Center 66.38 50 P P 08 23 19.6 -1.1
baz=320,SNR=18
U49A Red Boiling Sp 66.38 61 P P 08 23 19.3 -1.5
U49A IAmb IAmb 08 23 30.5
comp=Z,22nm,0.8s
V48A Smith Brothers 66.39 62 IAmb IAmb 08 23 27.9
comp=Z,27nm,1.1s
V48A IAMs_20 IAMs_20 08 53 48.5
comp=Z,6µm,20.0s
Q52A Bidwell 66.39 57 P P 08 23 19.3 -1.5
baz=319,SNR=6.6
CLTN Cedars of Leba 66.40 61 IAMs_20 IAMs_20 08 51 14.6
comp=Z,7µm,21.0s
FAKI Fak Fak 66.41 230 P P 08 23 22.7 +1.6
comp=Z,1µmcomp=Z,72nm,0.8s
FAKI Fak Fak 66.41 230 IAMs_20 IAMs_20 08 46 43.7
comp=Z,3µm,22.0s
O54A Avella 66.44 55 P P 08 23 18.4 -2.6
baz=319
O54A Avella 66.44 55 IAmb IAmb 08 23 29.2
comp=Z,104nm,1.9s
P53A Whipple 66.45 56 P P 08 23 20.1 -1.1
baz=319
P53A Whipple 66.45 56 IAmb IAmb 08 23 30.1
comp=Z,82nm,1.8s
J58A Remsen 66.47 49 P P 08 23 19.7 -1.5
baz=321,SNR=29
NCB Newcomb 66.49 48 IAmb IAmb 08 23 39.5
comp=Z,30nm,1.2s
E62A Clayton Lake 66.49 43 P P 08 23 19.5 -1.8
baz=322,SNR=21
E62A Clayton Lake 66.49 43 P P 08 23 20.3 -1.0
E62A IAmb IAmb 08 23 29.1
comp=Z,46nm,0.9s
NB201 NORSAR Array S 66.50 352 P P 08 23 20.5 -0.6
T50A Nancy 66.50 60 IAmb IAmb 08 23 31.4
comp=Z,27nm,0.7s
441A DeRidder 66.51 70 IAMs_20 IAMs_20 08 55 30.4
comp=Z,5µm,19.0s
NB2 NORSAR Subarra 66.52 352 P P 08 23 20.6 -0.7
comp=Z,28nm,0.9s,baz=11,slow=6.5
NB2 NORSAR Subarra 66.52 352 P P 08 23 20.6 -0.7
baz=11,slow=6.5
NOA NORSAR Array B 66.52 352 P P 08 23 20.2 -1.0
comp=Z,14nm,0.8s,baz=11,slow=6.4,SNR=36
M56A Emporium 66.53 52 P P 08 23 20.7 -1.0
baz=320,SNR=60
342A Flagon Creek P 66.55 69 IAMs_20 IAMs_20 08 54 09.0
comp=Z,5µm,18.0s
IUG luzhnay 66.63 309 *e*P P 08 23 22.0 -0.5
IUG comp=Z,1.5nm,0.7s,baz=309 LR LR 08 55 51.9
comp=Z,154nm,15.0s,baz=309
IUG luzhnay 66.63 309 *e*P P 08 23 21.9 -0.5
IUG MLR MLR
comp=Z,154nm,15.0s
N55A Marion Center 66.67 53 P P 08 23 21.3 -1.3
baz=320,SNR=26
G61A St-Isidore-de- 66.68 45 P P 08 23 21.2 -1.4
baz=322,SNR=12
S51A Beattyville 66.70 58 IAmb IAmb 08 23 32.1
comp=Z,19mm,0.7s
H60A Morristown 66.73 47 P P 08 23 21.0 -1.8
baz=321
LBMI Labuha 66.75 235 P P 08 23 25.2 +1.9
comp=Z,2µmcomp=Z,95nm,1.1s
D63A Stockholm 66.76 42 P P 08 23 21.8 -1.2
baz=323,SNR=5.6
J59A Piesco 66.76 49 P P 08 23 21.3 -1.8
baz=321,SNR=32
J59A Piesco 66.76 49 IAmb IAmb 08 23 30.3
comp=Z,34nm,0.8s
K58A Earlville 66.77 50 P P 08 23 21.5 -1.7
baz=321,SNR=13
K58A Earlville 66.77 50 IAmb IAmb 08 23 34.0
comp=Z,47nm,1.1s
L57A Andrews Acres 66.78 51 P P 08 23 22.2 -1.1
baz=320,SNR=25
I59A Olmsteadville 66.79 48 P P 08 23 21.3 -2.0
baz=321,SNR=21
NC602 NORSAR Array S 66.79 352 P P 08 23 22.9 0.0
NC602 NORSAR Array S 66.79 352 *e*P P 08 23 22.2 -0.7
P54A Burton 66.82 55 P P 08 23 21.7 -1.8
baz=320
ZAIG Zacatecas 66.84 82 P P 08 23 23.2 -1.0
ZAIG IAmb IAmb 08 23 39.4
comp=Z,25nm,1.3s
Q53A Leroy 66.85 56 P P 08 23 22.8 -1.0
baz=319,SNR=16
F62A Pittston Farm, 66.88 44 P P 08 23 22.5 -1.3
baz=322,SNR=14
F62A Pittston Farm, 66.88 44 IAmb IAmb 08 23 34.5
comp=Z,64nm,1.2s
VT1 Waterbury 66.88 47 IAmb IAmb 08 23 48.5
comp=Z,35nm,1.2s
N56A West Decatur 66.91 53 P P 08 23 23.3 -0.8
baz=320,SNR=17
O55A Ligonier 66.95 54 P P 08 23 23.2 -1.2
baz=320
VBMS Vicksburg 66.95 67 P P 08 23 23.2 -1.2
baz=318
VBMS Vicksburg 66.95 67 IAMs_20 IAMs_20 08 53 44.9
comp=Z,5µm,20.0s
VSU Vasula 67.00 343 *e*P P 08 23 24.9 +0.5
VSU Vasula 67.00 343 *d*iP P 08 23 24.6 +0.3
VSU pmax pmax
comp=Z,64nm,1.0s
I60A Shoreham 67.02 48 P P 08 23 22.7 -2.0
baz=321
R53A Hurricane 67.03 57 P P 08 23 23.8 -1.1
baz=319,SNR=12
BINY Binghamton 67.04 50 P P 08 23 23.8 -1.1
baz=321,SNR=10
BINY Binghamton 67.04 50 P P 08 23 23.6 -1.4
BINY IAmb IAmb 08 23 32.5
comp=Z,42nm,0.8s
SHL Shillong 67.05 282 *e*P P 08 23 23.9 -1.5
SHL IAmb IAmb 08 23 31.4
comp=Z,43nm,0.8s
SHL Shillong 67.05 282 IAMs_20 IAMs_20 08 55 10.6
comp=Z,3µm,18.0s
PQI Presque Isle 67.08 42 IAmb IAmb 08 23 32.4
comp=Z,14nm,0.7s
SKAR Skarslia 67.09 354 *es*P sP 08 23 30.1 -3.0
H61A Lyndonville 67.09 46 P P 08 23 23.8 -1.4
baz=322,SNR=15
MCWV Mont Chateau 67.10 55 P P 08 23 23.7 -1.6
baz=320
MCWV Mont Chateau 67.10 55 IAMs_20 IAMs_20 08 53 19.6
comp=Z,6µm,20.0s
Q54A Coxs Mills 67.11 56 P P 08 23 23.7 -1.7
baz=320
Q54A Coxs Mills 67.11 56 IAmb IAmb 08 23 37.1
comp=Z,93nm,1.9s
E63A Oxbow 67.11 43 P P 08 23 23.6 -1.7
baz=323,SNR=7.4
E63A Oxbow 67.11 43 P P 08 23 23.8 -1.4
E63A IAmb IAmb 08 23 36.2
comp=Z,58nm,1.1s
K59A Cooperstown 67.13 49 P P 08 23 24.0 -1.4
baz=321,SNR=13
M57A Sunshine Farm, 67.16 52 P P 08 23 24.9 -0.8
baz=320,SNR=37
G62A West of Eustis 67.17 45 P P 08 23 24.4 -1.3
baz=322,SNR=14
HFS Hagfors 67.18 351 P P 08 23 24.6 -0.9
comp=Z,20nm,0.6s,baz=49,slow=4.7,SNR=22
HFS LR LR 08 55 30.4
comp=Z,2µm,19.3s,baz=9.5,slow=38
ACCN Adirondack Com 67.20 48 P P 08 23 24.2 -1.7
ACCN IAmb IAmb 08 23 33.4
comp=Z,42nm,0.8s
MOS Moscow 67.21 336 *e*P P 08 23 24.5 -1.2
MOS *e* 08 23 57.1
MOS *e*S S 08 32 20.7 +1.7
MOS pmax pmax
comp=Z,62nm,0.8s
MOS MLR MLR
comp=Z,5µm,18.0s
L58A Harry Jones Me 67.22 50 P P 08 23 25.1 -0.9
baz=321,SNR=8.7
P55A Reedsville 67.22 55 P P 08 23 24.8 -1.3
baz=320,SNR=7.1
X48A Hartselle 67.23 63 IAmb IAmb 08 23 32.8
comp=Z,42nm,1.6s
X48A IAMs_20 IAMs_20 08 53 45.8
comp=Z,5µm,20.0s
O56A Blue Knob Stat 67.27 53 P P 08 23 25.4 -1.0
baz=320,SNR=12
O56A Blue Knob Stat 67.27 53 IAmb IAmb 08 23 38.0
comp=Z,32nm,1.1s
LBNH Lisbon 67.32 46 P P 08 23 25.4 -1.3
baz=322,SNR=26
LBNH Lisbon 67.32 46 IAmb IAmb 08 23 36.7
comp=Z,42nm,0.9s
LBNH IAMs_20 IAMs_20 08 53 38.9
comp=Z,7µm,19.0s
SSPA Standing Stone 67.32 53 P P 08 23 25.6 -1.1
baz=320
SSPA Standing Stone 67.32 53 P P 08 23 25.7 -1.1
E64A Bridgewater 67.36 43 P P 08 23 25.2 -1.7
baz=323,SNR=15
N57A Milroy 67.39 52 P P 08 23 26.1 -1.1
baz=320,SNR=30
F63A Nahmakanta, Br 67.40 44 P P 08 23 25.9 -1.2
baz=323,SNR=17
F63A Nahmakanta, Br 67.40 44 IAmb IAmb 08 23 34.9
comp=Z,57nm,1.1s
BATG Bathurst New B 67.40 41 IAmb IAmb 08 23 35.2
comp=Z,50nm,1.3s
H62A Milan 67.40 46 P P 08 23 26.0 -1.2
baz=322,SNR=29
344A Westbrook Farm 67.40 68 IAMs_20 IAMs_20 08 54 49.8
comp=Z,5µm,19.0s
J60A Lant Hill Farm 67.42 48 P P 08 23 26.2 -1.1
baz=321,SNR=15
S53A Williamson 67.43 57 P P 08 23 26.2 -1.3
baz=319,SNR=11
I61A Oroboro, Fairl 67.44 47 P P 08 23 26.0 -1.4
baz=322,SNR=9.0
M58A Price's Panora 67.45 51 P P 08 23 26.4 -1.2
baz=321,SNR=15
146A Union 67.47 66 IAMs_20 IAMs_20 08 54 12.3
comp=Z,4µm,19.0s
Q55A Buckhannon 67.48 55 P P 08 23 26.8 -1.1
baz=320,SNR=6.5
L59A Walton 67.49 50 P P 08 23 26.2 -1.6
baz=321,SNR=15
L59A Walton 67.49 50 P P 08 23 26.6 -1.2
L59A IAmb IAmb 08 23 35.7
comp=Z,41nm,0.8s
TZTN Tazewell 67.55 59 P P 08 23 27.1 -1.1
baz=319,SNR=7.6
TZTN Tazewell 67.55 59 IAmb IAmb 08 23 43.4
comp=Z,28nm,1.0s
HNH Hanover 67.58 47 IAmb IAmb 08 23 38.9
comp=Z,32nm,1.1s
F64A Sherman 67.59 43 P P 08 23 26.9 -1.4
baz=323,SNR=26
Z47A Carrollton 67.60 65 IAmb IAmb 08 23 34.9
comp=Z,31nm,0.7s
Z47A IAMs_20 IAMs_20 08 53 54.7
comp=Z,6µm,21.0s
W50A Signal Mountai 67.61 61 P P 08 23 27.1 -1.5
W50A IAmb IAmb 08 23 48.8
comp=Z,35nm,1.0s
W50A IAMs_20 IAMs_20 08 53 27.8
comp=Z,7µm,21.0s
KSPA Keystone Colle 67.64 51 IAmb IAmb 08 23 35.1
comp=Z,23nm,0.7s
R54A Victor 67.64 56 P P 08 23 27.5 -1.3
baz=320,SNR=12
G63A Kingsbury 67.64 44 P P 08 23 27.3 -1.4
baz=323,SNR=14
OSL Oslo 67.65 352 *e*P P 08 23 27.7 -0.7
PKME Peaks-Kenny Pk 67.67 44 P P 08 23 27.0 -1.7
baz=323
PKME Peaks-Kenny Pk 67.67 44 IAmb IAmb 08 23 39.6
comp=Z,56nm,1.1s
V51A Loudon 67.68 60 IAmb IAmb 08 23 38.7
comp=Z,38nm,1.0s
K60A Five Rivers En 67.70 49 P P 08 23 27.6 -1.4
baz=321
GTK Tadong 67.71 286 *e*P P 08 23 29.0 -0.5
GTK IAmb IAmb 08 23 34.7
comp=Z,27nm,0.6s
TRY Troy 67.71 49 IAmb IAmb 08 23 40.7
comp=Z,23nm,0.9s
P56A Dayton Farm, R 67.72 54 P P 08 23 28.3 -0.9
baz=320,SNR=15
N58A Sunbury 67.74 52 P P 08 23 28.3 -1.0
baz=321,SNR=23
J61A Chester 67.74 47 P P 08 23 28.0 -1.3
baz=322,SNR=10.0
T53A Wise 67.75 58 P P 08 23 28.5 -1.0
baz=319,SNR=14
S54A Dingess, Beckl 67.76 57 P P 08 23 28.3 -1.3
baz=320,SNR=6.4
S54A Dingess, Beckl 67.76 57 IAmb IAmb 08 23 49.4
comp=Z,24nm,0.8s
O57A Amberson 67.77 53 P P 08 23 28.4 -1.2
baz=320,SNR=28
CHTO Chiang Mai 67.81 272 P P 08 23 29.7 -0.3
CHTO pmax pmax
comp=Z,27nm,0.8s
CHTO MLR MLR
comp=Z,3µm,18.0s
CHTO Chiang Mai 67.81 272 P P 08 23 29.7 -0.3
CHTO IAmb IAmb 08 23 35.4
comp=Z,27nm,0.8s
CHTO IAMs_20 IAMs_20 08 56 54.8
comp=Z,3µm,18.0s
M59A Waymart 67.81 50 P P 08 23 28.4 -1.4
baz=321,SNR=11
H63A New Sharon 67.82 45 P P 08 23 28.5 -1.3
baz=323
SANVU Saraoutou 67.84 190 P P 08 23 30.3 +0.3
CPCT Cooper Cave 67.85 61 IAmb IAmb 08 23 45.3
comp=Z,48nm,1.3s
I62A Tamworth 67.87 46 P P 08 23 28.4 -1.7
baz=322
I62A Tamworth 67.87 46 IAmb IAmb 08 23 36.5
comp=Z,16nm,0.7s
Q56A Snyder Ridge, 67.90 55 P P 08 23 29.1 -1.3
baz=320,SNR=7.9
Q56A Snyder Ridge, 67.90 55 IAmb IAmb 08 23 42.1
comp=Z,40nm,1.2s
G64A Maxfield 67.91 44 P P 08 23 28.3 -2.0
baz=323
K61A Williamstown 67.94 48 P P 08 23 29.3 -1.3
baz=322,SNR=16
FPAL Fort Paine 67.95 62 IAmb IAmb 08 23 40.2
comp=Z,35nm,0.9s
FPAL IAMs_20 IAMs_20 08 51 50.7
comp=Z,6µm,21.0s
R55A Marlinton 68.01 56 P P 08 23 30.0 -1.2
baz=320,SNR=8.0
R55A Marlinton 68.01 56 IAmb IAmb 08 23 41.2
comp=Z,21nm,0.8s
KONO Kongsberg 68.02 353 *ce*P P 08 23 31.2 +0.4
KONO pmax pmax
comp=Z,59nm,1.3s
KONO Kongsberg 68.02 353 P P 08 23 31.0 +0.3
KONO Kongsberg 68.02 353 *e*P P 08 23 30.0 -0.7
Y49A Blount Mountai 68.02 63 IAmb IAmb 08 23 40.2
comp=Z,15nm,0.8s
Y49A IAMs_20 IAMs_20 08 54 19.8
comp=Z,6µm,21.0s
L60A Shokan 68.03 49 P P 08 23 29.8 -1.4
baz=321,SNR=13
OBN Obninsk 68.03 337 P P 08 23 30.0 -0.9
comp=Z,6.8nm,0.4s,baz=67,slow=3.5,SNR=7.8
OBN LR LR 08 56 17.8
comp=Z,1µm,20.2s,baz=23,slow=39
OBN Obninsk 68.03 337 *i*P P 08 23 30.8 -0.1
OBN *e* 08 26 02.0
OBN pmax pmax
comp=Z,50nm,1.0s
OBN MLR MLR
comp=Z,5µm,20.0s
OBN Obninsk 68.03 337 P P 08 23 29.7 -1.2
OBN IAMs_20 IAMs_20 08 55 54.2
comp=Z,5µm,20.0s
V52A Sevierville 68.05 60 IAmb IAmb 08 23 38.8
comp=Z,22nm,0.8s
WVL Waterville 68.06 45 IAmb IAmb 08 23 41.7
comp=Z,30nm,1.0s
I63A Otisfield 68.07 46 P P 08 23 30.3 -1.0
baz=322,SNR=19
I63A Otisfield 68.07 46 IAMs_20 IAMs_20 08 56 40.6
comp=Z,7µm,19.0s
CMAR Chiang Mai Arr 68.08 272 P P 08 23 31.4 -0.4
comp=Z,18nm,0.6s,baz=26,slow=6.7,SNR=27
CMAR PKPPKP P'P'df 08 51 55.0 +2.5
comp=Z,1.0nm,0.7s,baz=236,slow=4.1,SNR=4.7
CMAR LR LR 08 56 47.7
comp=Z,2µm,18.1s,baz=45,slow=39
CMAR Chiang Mai Arr 68.08 272 P P 08 23 30.8 -1.0
CMAR Chiang Mai Arr 68.08 272 P P 08 23 30.8 -1.0
TKL Tuckaleechee C 68.09 60 P P 08 23 30.3 -1.4
TKL pmax pmax
comp=Z,39nm,1.0s
TKL MLR MLR
comp=Z,9µm,21.0s
TKL Tuckaleechee C 68.09 60 P P 08 23 30.3 -1.4
TKL IAmb IAmb 08 23 47.0
comp=Z,39nm,0.9s
N59A State Game Lan 68.13 51 P P 08 23 30.7 -1.1
baz=321,SNR=40
P57A Homestead Farm 68.14 53 P P 08 23 30.8 -1.1
baz=320,SNR=12
P57A Homestead Farm 68.14 53 IAmb IAmb 08 23 41.2
comp=Z,19nm,0.8s
J62A Henniker 68.17 47 P P 08 23 30.5 -1.4
baz=322,SNR=14
346A Big Creek Wild 68.17 67 IAMs_20 IAMs_20 08 56 15.0
comp=Z,5µm,19.0s
L61A Hillsdale 1, H 68.18 49 P P 08 23 31.0 -1.1
baz=322,SNR=15
T54A Tazewell 68.19 57 P P 08 23 31.3 -1.0
baz=320,SNR=26
O58A Lewisberry 68.19 52 P P 08 23 31.1 -1.1
baz=321,SNR=9.0
H64A Troy 68.19 45 P P 08 23 30.6 -1.5
baz=323
S55A Lewisburg 68.20 56 P P 08 23 31.1 -1.2
baz=320,SNR=5.7
TAPN Taplejung 68.21 287 *e*P P 08 23 32.5 -0.4
comp=Z,296nm,0.9s
R56A Bull Pasture M 68.27 55 P P 08 23 31.5 -1.3
baz=320,SNR=8.5
Q57A Strasburg 68.29 54 P P 08 23 31.6 -1.3
baz=320,SNR=6.8
LRAL Lakeview Retre 68.32 64 P P 08 23 31.0 -2.0
baz=319,SNR=7.9
X51A Calhoun 68.34 61 IAmb IAmb 08 23 55.2
comp=Z,25nm,0.9s
X51A IAMs_20 IAMs_20 08 52 13.9
comp=Z,7µm,22.0s
M60A Port Jervis 68.36 50 P P 08 23 31.7 -1.5
baz=321,SNR=12
L61B Northampton 68.39 48 P P 08 23 31.5 -1.9
baz=322,SNR=17
O59A Robesonia 68.40 52 P P 08 23 32.5 -1.0
baz=321,SNR=15
K62A Royalston 68.42 48 P P 08 23 31.3 -2.2
baz=322
K62A Royalston 68.42 48 IAmb IAmb 08 23 44.2
comp=Z,36nm,1.1s
W52A Murphy 68.44 60 IAmb IAmb 08 23 43.5
comp=Z,24nm,0.9s
G65A Princeton 68.45 43 P P 08 23 32.8 -1.0
baz=324,SNR=13
G65A Princeton 68.45 43 P P 08 23 32.7 -1.0
G65A IAmb IAmb 08 23 41.6
comp=Z,52nm,1.0s
J63A Strafford 68.46 47 P P 08 23 32.7 -1.1
baz=322
U54A Nelsons Funny 68.47 58 P P 08 23 33.2 -0.9
baz=320,SNR=13
U54A Nelsons Funny 68.47 58 IAmb IAmb 08 23 43.7
comp=Z,31nm,0.8s
N60A Cedar Hill Far 68.49 51 P P 08 23 33.0 -1.0
baz=321,SNR=14
P58A Pank, Wackersv 68.49 53 P P 08 23 32.6 -1.5
baz=321
T55A Pulaski 68.55 57 P P 08 23 33.7 -0.9
baz=320,SNR=6.4
ODNJ Ogdensburg 68.56 50 IAmb IAmb 08 23 45.7
comp=Z,26nm,1.0s
MVL Millersville 68.56 52 IAmb IAmb 08 23 45.0
comp=Z,38nm,0.8s
H65A Eastbrook 68.57 44 P P 08 23 33.4 -1.0
baz=323,SNR=8.6
KSCT Kent School, K 68.58 49 P P 08 23 33.0 -1.6
KSCT IAmb IAmb 08 23 40.6
comp=Z,21nm,0.7s
I64A Boothbay 68.59 45 P P 08 23 33.0 -1.6
baz=323
V53A Saluda 68.59 59 IAmb IAmb 08 23 44.3
comp=Z,22nm,0.8s
QUA2 Belchertown 68.67 48 IAmb IAmb 08 23 42.6
comp=Z,63nm,1.6s
SAIH SAIHA 68.69 279 *e*P P 08 23 33.6 -2.1
SAIH IAmb IAmb 08 23 41.6
comp=Z,62nm,0.6s

SAIH *i* x x 08 47 15.7
MRSI Marisa 68.71 241 P **P** **08 23 36.2 +0.5**
comp=Z,1µmcomp=Z,108nm,0.9s
K63A Dunstable 68.72 47 P **P** **08 23 34.4 -1.1**
baz=322,SNR=12
L62A Suffield 68.72 48 P **P** **08 23 33.6 -1.8**
baz=322
Q58A Fox Den Farm, 68.73 54 P **P** **08 23 34.5 -1.0**
baz=321,SNR=10
S56A Natural Bridge 68.75 56 P **P** **08 23 34.9 -0.9**
baz=320,SNR=9.9
ODAN Odare 68.77 287 *e*P **P** **08 23 35.6 -0.7**
O60A Telford 68.77 51 P **P** **08 23 35.0 -0.7**
baz=321,SNR=8.7
M61A Granite Spring 68.77 50 P **P** **08 23 34.3 -1.5**
baz=322
SDMD Soldier's Deli 68.78 53 IAMs_20 IAMs_20 08 54 56.9
comp=Z,5µm,18.0s
R57A Stanardsville 68.80 55 P **P** **08 23 34.9 -1.1**
baz=321,SNR=19
P59A Jarrettsville 68.82 52 P **P** **08 23 35.2 -0.9**
baz=321,SNR=10
HRV Adam Dziewonsk 68.85 47 P **P** **08 23 34.6 -1.7**
baz=322
HRV Adam Dziewonsk 68.85 47 P **P** **08 23 34.2 -2.0**
HRV pmax pmax
comp=Z,37nm,1.2s
HRV MLR MLR
comp=Z,10µm,18.0s
HRV Adam Dziewonsk 68.85 47 P **P** **08 23 34.2 -2.0**
HRV IAmb IAmb 08 23 46.8
comp=Z,37nm,1.1s
GUN Gumba 68.87 288 *e*P **P** **08 23 36.5 -0.5**
comp=Z,340nm,0.8s
JIRN Jiri 68.87 288 *e*P **P** **08 23 36.9 -0.2**
comp=Z,221nm,0.7s
U55A TA2, Sparta 68.89 58 P **P** **08 23 35.6 -1.1**
baz=320,SNR=16
H66A Whiting 68.89 43 P **P** **08 23 35.0 -1.4**
baz=324,SNR=17
PAL Palisades 68.95 50 P **P** **08 23 35.6 -1.2**
baz=322,SNR=11
V54A Nebo 68.97 59 P **P** **08 23 36.2 -0.9**
baz=320,SNR=21
DRLN Deer Lake 68.99 35 P **P** **08 23 37.7 +0.7**
DRLN IAmb IAmb 08 23 45.8
comp=Z,37nm,1.0s
S57A Dark Hollow, R 69.00 55 P **P** **08 23 36.1 -1.2**
baz=320
T56A Rocky Mt 69.01 56 P **P** **08 23 35.9 -1.4**
baz=320,SNR=5.3
BG3 Lake Jocassee 69.05 60 IAmb IAmb 08 23 47.5
comp=Z,25nm,1.0s
BG3 IAMs_20 IAMs_20 08 53 41.6
comp=Z,6µm,20.0s
P60A Greenville 69.05 52 P **P** **08 23 36.0 -1.5**
baz=321
P60A Greenville 69.05 52 IAmb IAmb 08 23 45.7
comp=Z,49nm,1.3s
WES Weston 69.06 47 P **P** **08 23 36.3 -1.2**
WES pmax pmax
comp=Z,39nm,0.7s
WES MLR MLR
comp=Z,10µm,19.0s
WES Weston 69.06 47 P **P** **08 23 36.3 -1.2**
WES IAmb IAmb 08 23 43.6
comp=Z,39nm,0.7s
R58A Rapidan 69.06 54 P **P** **08 23 36.6 -1.0**
baz=321,SNR=8.3
M62A Hamden 69.08 49 P **P** **08 23 36.0 -1.7**
baz=322
WSPT Westport, CT 69.09 49 IAmb IAmb 08 23 43.6
comp=Z,26nm,0.7s
Z51A Franklin 69.11 62 IAmb IAmb 08 23 44.4
comp=Z,30nm,1.2s
Z51A IAMs_20 IAMs_20 08 54 50.4
comp=Z,6µm,21.0s
RAMN Ramite 69.17 287 *e*P **P** **08 23 38.1 -0.7**
comp=Z,353nm,0.8s
V55A Taylorsville 69.30 58 P **P** **08 23 37.7 -1.5**
baz=320,SNR=9.7
V55A Taylorsville 69.30 58 IAmb IAmb 08 23 46.7
comp=Z,61nm,1.5s
Y52A Lilburn 69.30 61 IAmb IAmb 08 23 48.7
comp=Z,23nm,0.8s
Y52A IAMs_20 IAMs_20 08 54 52.4
comp=Z,7µm,21.0s
KKN Kakani 69.31 289 *e*P **P** **08 23 39.2 -0.4**
comp=Z,57nm,0.9s
BRYW Bryant College 69.33 48 IAmb IAmb 08 23 46.7
comp=Z,40nm,0.7s
L63A North Scituate 69.34 48 P **P** **08 23 37.9 -1.4**
baz=323
U56A King 69.35 57 P **P** **08 23 38.2 -1.3**
baz=320,SNR=5.5
U56A King 69.35 57 P **P** **08 23 38.4 -1.1**
U56A IAmb IAmb 08 23 46.9
comp=Z,40nm,1.3s
O61A Allentown 69.35 51 P **P** **08 23 38.2 -1.2**
baz=322,SNR=12
W54A Cherokee Point 69.37 59 P **P** **08 23 38.5 -1.1**
baz=320,SNR=11
R58B Mineral 69.38 54 P **P** **08 23 38.5 -1.1**
baz=321,SNR=5.5
R58B Mineral 69.38 54 IAmb IAmb 08 23 51.5
comp=Z,32nm,1.4s
PKI Pulchoki 69.40 289 *e*P **P** **08 23 39.6 -0.7**
comp=Z,120nm,0.8s
PKIN Phulchoki 69.40 289 *e*P **P** **08 23 39.3 -0.9**
comp=Z,115nm,0.7s
T57A Hurt 69.43 56 P **P** **08 23 38.4 -1.5**
baz=321,SNR=8.6
T57A Hurt 69.43 56 IAmb IAmb 08 23 49.1
comp=Z,18nm,0.7s
CBN Corbin Frederi 69.45 54 P **P** **08 23 38.8 -1.2**
baz=321
CBN Corbin Frederi 69.45 54 IAmb IAmb 08 23 47.5
comp=Z,34nm,1.2s
M63A Gales Ferry 69.50 48 P **P** **08 23 38.9 -1.4**
baz=322,SNR=8.8
250A Grady 69.52 64 IAmb IAmb 08 23 47.0
comp=Z,31nm,0.8s
GKN Gorkha 69.52 289 *e*P **P** **08 23 40.1 -0.7**
comp=Z,171nm,0.9s
S58A Poland Farm, P 69.57 55 P **P** **08 23 39.3 -1.4**
baz=321,SNR=5.5
R59A King George, V 69.58 54 P **P** **08 23 39.6 -1.2**
baz=321
Q60A Greensboro 69.58 52 P **P** **08 23 39.8 -1.0**
baz=321
L64A Middleborough 69.63 47 P **P** **08 23 39.7 -1.4**
baz=323
MSVF Nonsavu 69.64 178‖ *e*P **P** **08 23 42.5 +1.2**
MSVF pmax pmax
comp=Z,7.0nm,0.9s
IZAR Zarasai 69.66 343 *e*P **P** **08 23 43.6 +2.6**
X54A Belton 69.68 60 P **P** **08 23 40.6 -0.9**
baz=320,SNR=16
LPSR Galich'ya Gora 69.69 334 *e*P **P** **08 23 40.4 -0.9**
LPSR pmax pmax
comp=Z,20nm,0.8s
LPSR MLR MLR
comp=Z,3µm,17.0s
V56A Mocksville 69.70 58 P **P** **08 23 40.4 -1.2**
baz=320,SNR=8.3
CHGR Chuyangaron 69.75 307 P **P** **08 23 40.6 -1.4**
M64A Tiverton 69.77 48 P **P** **08 23 40.3 -1.6**
baz=323
DANN Dangsing 69.77 290 *e*P **P** **08 23 41.9 -0.6**
comp=Z,255nm,0.8s
PAULI Pauline 69.77 59 IAmb IAmb 08 23 57.4
comp=Z,25nm,1.0s
KMSC Kings Mountain 69.78 59 P **P** **08 23 40.8 -1.3**
baz=320,SNR=14
KMSC Kings Mountain 69.78 59 IAmb IAmb 08 24 02.3
comp=Z,42nm,1.0s
U57A Blanch 69.82 56 P **P** **08 23 41.2 -1.1**
baz=321,SNR=12
S59A Mechanicsville 69.83 54 P **P** **08 23 41.5 -0.8**
baz=321
T58A Grand View Acr 69.84 56 P **P** **08 23 41.2 -1.3**
baz=321,SNR=6.1
152A Waverly Hall 69.85 63 IAMs_20 IAMs_20 08 55 25.1
comp=Z,6µm,21.0s
ISAL Salakas 69.85 343 *e*P **P** **08 23 44.3 +2.1**
MPSI Mapaga 69.94 243 P **P** **08 23 44.1 +0.8**
comp=Z,852nmcomp=Z,64nm,1.0s
GOGA Godfrey 69.96 61 P **P** **08 23 41.6 -1.7**
baz=320,SNR=7.3
HODGE Hodges 69.98 60 IAmb IAmb 08 23 53.1
comp=Z,30nm,0.7s
V57A Coltrane Farms 70.02 57 P **P** **08 23 41.8 -1.8**
baz=321
APSI Ampana 70.03 241 P **P** **08 23 44.4 +0.5**
comp=Z,832nmcomp=Z,73nm,1.4s
IIGN Ignalina 70.04 342 *e*P **P** **08 23 44.3 +0.9**
X55A Gracelyn & Ava 70.13 59 P **P** **08 23 43.1 -1.2**
baz=320,SNR=25
PBUR Paburge 70.14 345 *e*P **P** **08 23 45.5 +1.6**
VRH Novokhopyorsk 70.16 332 *e*P **P** **08 23 43.0 -1.1**
VRH pmax pmax
comp=Z,70nm,0.6s
VRH MLR MLR
comp=Z,5µm,18.0s
W56A Indian Trail 70.18 58 P **P** **08 23 43.0 -1.5**
baz=321,SNR=5.4
S60A Water View 70.19 54 P **P** **08 23 43.2 -1.4**
baz=321
PABE Paberze 70.30 344 *e*P **P** **08 23 44.5 -0.4**
KOLN Koldanda 70.30 290 *e*P **P** **08 23 44.9 -0.8**
comp=Z,75nm,0.8s
T59A Double "B" Far 70.31 55 P **P** **08 23 44.5 -0.8**
baz=321,SNR=7.2
T59A Double "B" Far 70.31 55 IAmb IAmb 08 23 55.4
comp=Z,20nm,0.8s
NACGM Naroch 70.36 342 *e* **P** **08 23 47.0 +1.7**
NACGM *e*LQ LQ 08 53 03.0
NACGM *e*LR LR 08 55 20.0
NACGM LRM MLR 08 56 42.0
comp=Z,12nm,20.0s
PYUN Piuthan 70.40 291 *e*P **P** **08 23 45.5 -0.8**
comp=Z,174nm,0.9s
Y55A Saluda 70.42 60 P **P** **08 23 45.1 -1.0**
baz=320,SNR=18
V58A Windy Hill, Pi 70.43 57 P **P** **08 23 45.2 -0.9**
baz=321,SNR=8.0
V58A Windy Hill, Pi 70.43 57 P **P** **08 23 45.2 -0.9**
V58A IAmb IAmb 08 24 05.8
comp=Z,35nm,1.1s
V58A IAMs_20 IAMs_20 08 54 22.0
comp=Z,7µm,20.0s
X56A White Oak 70.43 59 P **P** **08 23 45.1 -1.0**
baz=321,SNR=8.1
W57A Gilead 70.47 58 P **P** **08 23 44.9 -1.4**
baz=321,SNR=8.2
W57A Gilead 70.47 58 IAmb IAmb 08 23 55.4
comp=Z,83nm,1.7s
JSC Jenkinsville 70.47 59 IAMs_20 IAMs_20 08 55 03.4
comp=Z,5µm,19.0s
MICGM Minsk 70.53 341 *e* **P** **08 23 46.0 -0.4**
MICGM *e*LR LR 08 49 52.0
MICGM LRM MLR 08 59 10.0
comp=Z,2.6nm,16.0s
MNK Minsk 70.53 341 *e*P **P** **08 23 46.0 -0.4**
MNK MLR MLR
comp=Z,3µm,16.0s
T60A Surry 70.59 54 P **P** **08 23 45.4 -1.6**
baz=322
BIRD Birdtown, Kers 70.62 58 IAmb IAmb 08 24 02.6
comp=Z,39nm,1.3s
352A Blakely 70.64 64 IAmb IAmb 08 24 06.4
comp=Z,51nm,1.4s
352A IAMs_20 IAMs_20 08 57 03.1
comp=Z,5µm,19.0s
GOET G??ttrup 70.64 353 *i* P **P** **08 23 48.1 +1.1**
U59A Littleton 70.67 55 P **P** **08 23 46.6 -0.9**
baz=321,SNR=5.5
154A Montrose 70.77 62 IAmb IAmb 08 24 03.1
comp=Z,45nm,0.9s
154A IAMs_20 IAMs_20 08 55 47.3
comp=Z,7µm,20.0s
Y56A Pelion 70.83 60 P **P** **08 23 47.6 -0.9**
baz=321
451A Vernon 70.84 65 IAMs_20 IAMs_20 08 57 25.5
comp=Z,5µm,18.0s
VSR Storozhevoye 70.87 333 *e*P **P** **08 23 47.6 -0.9**
VSR pmax pmax
comp=Z,40nm,0.9s
VSR MLR MLR
comp=Z,5µm,17.0s
U60A Pendleton 70.90 55 P **P** **08 23 47.9 -1.0**
baz=322
V59A Middlesex 70.90 56 P **P** **08 23 47.9 -1.0**
baz=321,SNR=16
X57A Johnson Farm, 70.95 58 P **P** **08 23 48.1 -1.2**
baz=321
W58A Raeford 70.97 57 P **P** **08 23 48.3 -1.1**
baz=321,SNR=7.3
VORD Divnogorie 71.06 333 *e*P **P** **08 23 48.6 -1.1**
VORD pmax pmax
comp=Z,30nm,0.7s
Y57A Sumter 71.14 59 P **P** **08 23 49.5 -0.9**
baz=321
Y57A Sumter 71.14 59 IAmb IAmb 08 24 05.8
comp=Z,28nm,0.9s
Z56A Williston 71.15 60 P **P** **08 23 49.3 -1.2**
baz=321,SNR=8.2
TAOE Nuku Hiva Isla 71.20 134 *e*S **S** **08 33 08.5 +1.3**
comp=Z,3µm,27.1s
TAOE *e*SS **SS** **08 37 33.7 -7.8**
comp=Z,1µm,27.8s
TAOE *e*LR LR 08 45 28.9
comp=Z,7µm,24.4s,baz=342
TAOE Nuku Hiva Isla 71.20 134 *e*T T 09 41 05.8
comp=Z,30nm,0.3s
TAOE Nuku Hiva Isla 71.20 134 IAMs_20 IAMs_20 08 47 29.4
comp=Z,3µm,21.0s
MUD Monsted U'grnd 71.22 353 *i* P **P** **08 23 52.2 +1.7**
MUD Monsted U'grnd 71.22 353 *e*P **P** **08 23 52.2 +1.7**
W59A Clinton 71.26 57 P **P** **08 23 50.0 -1.1**
baz=321
X58A Rowland 71.27 58 P **P** **08 23 50.3 -1.0**
baz=321
X58A Rowland 71.27 58 IAmb IAmb 08 24 00.5
comp=Z,72nm,1.5s
V60A Jim Taylor Roa 71.40 55 P **P** **08 23 51.1 -0.9**
baz=322
V60A Jim Taylor Roa 71.40 55 IAmb IAmb 08 23 59.4
comp=Z,33nm,1.1s
TIGA Tifton 71.40 63 IAMs_20 IAMs_20 08 56 46.2
comp=Z,5µm,20.0s
UNM Universidad Na 71.50 82 IAMs_20 IAMs_20 08 55 18.5
comp=Z,3µm,18.0s
Z57A Boman 71.53 59 P **P** **08 23 51.7 -1.1**
baz=321,SNR=11
NIL Nilore 71.55 301 P **P** **08 23 51.8 -1.2**
NIL pmax pmax
comp=Z,58nm,1.0s
NIL MLR MLR
comp=Z,3µm,21.0s
NIL Nilore 71.55 301 P **P** **08 23 51.8 -1.2**
NIL IAmb IAmb 08 24 20.1
comp=Z,58nm,1.0s
NIL Nilore 71.55 301 IAMs_20 IAMs_20 08 57 03.7
comp=Z,3µm,21.0s
Y58A Scranton 71.60 58 P **P** **08 23 52.8 -0.5**
baz=321
X59A McDuffie Farm, 71.64 57 P **P** **08 23 52.6 -0.8**
baz=321
V61A Roper 71.72 55 P **P** **08 23 53.2 -0.7**
baz=322
W60A Pink Hill 71.72 56 P **P** **08 23 53.1 -0.9**
baz=322,SNR=5.2
157A Early Branch 71.85 60 P **P** **08 23 54.0 -0.7**
baz=321
553A Crawfordville 71.90 64 IAMs_20 IAMs_20 08 56 45.5
comp=Z,6µm,19.0s
COEN Coen 71.93 214 P **P** **08 23 55.5 +0.3**
NHSC New Hope 71.95 59 P **P** **08 23 54.6 -0.8**
baz=321
Y59A Loris 71.95 58 P **P** **08 23 54.5 -0.8**
baz=321
X60A Albert Glenn T 71.96 57 P **P** **08 23 54.5 -0.9**
baz=322
BOK Bokaro 71.97 286 *e*P **P** **08 23 54.8 -0.8**
BOK IAmb IAmb 08 24 00.8
comp=Z,26nm,0.9s
Z58A St. Stephen 71.97 59 P **P** **08 23 54.9 -0.6**
baz=321
BSD Bornholm Skovb 71.98 349 *i* P **P** **08 23 56.6 +1.5**
BSD Bornholm Skovb 71.98 349 *i* P **P** **08 23 56.6 +1.5**
W61A Ground Anchor 72.00 56 P **P** **08 23 54.8 -0.8**
baz=322
158A Hollywood 72.23 59 P **P** **08 23 56.6 -0.4**
baz=321
Y60A Bolivia 72.28 57 P **P** **08 23 56.6 -0.7**
baz=322
SBUM Sibu 72.55 251 P P 08 24 06.0 +6.9
RGN Rugen 72.72 350 *e*P **P** **08 24 01.2 +1.7**
RGN Rugen 72.72 350 *e*P **P** **08 24 00.3 +0.7**
comp=Z,134nm,0.8s,baz=10,slow=5.7
TTSI Tana Toraja 72.80 241 P **P** **08 24 01.8 +1.2**
comp=Z,3µmcomp=Z,64nm,0.9s
456A Hilliard 72.81 62 IAmb IAmb 08 24 15.8
comp=Z,51nm,1.0s
EKA Eskdalemuir Ar 72.85 360 P **P** **08 24 00.1 -0.3**
comp=Z,6.7nm,0.7s,baz=8.6,slow=5.3,SNR=25
ESK Eskdalemuir 72.86 360 P **P** **08 24 00.1 -0.3**
ESK pmax pmax
comp=Z,35nm,1.0s
ESK MLR MLR
comp=Z,2µm,20.0s
ESK Eskdalemuir 72.86 360 P **P** **08 24 00.1 -0.3**
ESK IAmb IAmb 08 24 11.8
comp=Z,35nm,1.0s
SKMB Sankelmark Bun 72.92 352 *e*P **P** **08 24 02.1 +1.4**
comp=Z,123nm,1.0s,baz=10,slow=5.7
KBL Kabul 73.03 305 P **P** **08 24 00.0 -2.0**
KBL pmax pmax
comp=Z,50nm,0.7s
KBL MLR MLR
comp=Z,2µm,19.0s
KBL Kabul 73.03 305 P **P** **08 24 00.0 -2.0**
KBL IAmb IAmb 08 24 06.0
comp=Z,50nm,0.7s
KBL IAMs_20 IAMs_20 08 58 26.9
comp=Z,2µm,19.0s
TLIG Tlapa 73.22 83 P **P** **08 24 04.9 +1.7**
656A Willston 73.57 63 IAMs_20 IAMs_20 08 57 44.8
comp=Z,6µm,21.0s
SPSI Sidrap Palu 73.60 240 P **P** **08 24 06.1 +0.8**
comp=Z,31nm,1.3s
BSEG Bad Segeberg 73.62 352 *e*P **P** **08 24 05.7 +0.8**
comp=Z,63nm,1.0s,baz=10,slow=5.7
AKASG Malin Array Be 73.82 339 P **P** **08 24 05.3 -0.8**
comp=Z,30nm,0.6s,baz=23,slow=6.2,SNR=18
AKASG LR LR 09 00 27.8
comp=Z,2µm,18.6s,baz=25,slow=39
AKASG Malin Array Be 73.82 339 P **P** **08 24 05.0 -1.1**
AKASG Malin Array Be 73.82 339 P **P** **08 24 05.0 -1.1**
AKBB Malin Array Si 73.82 339 IAmb IAmb 08 24 11.5
comp=Z,38nm,0.7s
AKBB IAMs_20 IAMs_20 09 00 06.3
comp=Z,2µm,19.0s
KSM Kuching 74.45 252 P **P** **08 24 11.3 +1.0**
KSM IAmb IAmb 08 24 19.1
comp=Z,29nm,1.0s
KSM Kuching 74.45 252 P **P** **08 24 13.0 +2.7**
DZM Mont Dzumac 74.47 190 P **P** **08 24 11.6 +1.5**
comp=Z,18nm,1.0s,baz=43,slow=10,SNR=7.0
BWNR Bhubaneshwar 74.68 283 *e*P **P** **08 24 09.5 -2.0**
BWNR IAmb IAmb 08 24 20.8
comp=Z,47nm,1.0s
RUE Ruedersdorf 74.70 349 *e*P **P** **08 24 12.3 +1.1**
RUE Ruedersdorf 74.70 349 *e*P **P** **08 24 11.5 +0.3**
comp=Z,48nm,1.1s,baz=10,slow=5.7
DSB Dublin 74.91 2 IAmb IAmb 08 24 18.3
comp=Z,23nm,0.7s
NRDL Niedersach Rie 75.07 351 *e*P **P** **08 24 13.7 +0.5**
comp=Z,39nm,1.3s,baz=10,slow=5.7
DWPF Disney Wildern 75.16 63 IAMs_20 IAMs_20 08 58 52.8
comp=Z,7µm,21.0s
GOF Gofitskoye 75.20 328‖ *e*P **P** **08 24 14.3 +0.1**
GOF *e*S **S** **08 33 53.5 +1.6**
GOF pmax pmax
comp=Z,92nm,0.9s
ASSE Asse, Remlinge 75.38 351 *e*P **P** **08 24 15.6 +0.6**
comp=Z,27nm,1.2s,baz=10,slow=5.7
PPT Papeete 75.45 147 LR LR 08 50 15.6
comp=Z,2µm,21.8s,baz=318,slow=30
IBBN Ibbenburen 75.45 353 *e*P **P** **08 24 16.3 +0.8**
comp=Z,116nm,1.0s,baz=10,slow=5.7
PPT2 Papeete2 75.47 147 *e*P **P** **08 24 19.7 +3.7**
comp=Z,49nm,1.0s
PPT2 *e*S **S** **08 33 58.7 +3.3**
comp=Z,3µm,30.0s
PPT2 *e*LQ LQ 08 43 46.4
comp=Z,2µm,26.5s
PPT2 *e*LR LR 08 47 20.6
comp=Z,7µm,24.8s,baz=340
PPT2 Papeete2 75.47 147 *e*T T 09 46 28.8
comp=Z,7.2nm,0.3s
GEYT Alibeck 75.49 314 P **P** **08 24 16.2 +0.1**
comp=Z,23nm,0.7s,baz=349,slow=4.5,SNR=15
GEYT PP **PP** **08 27 05.6 +0.9**
comp=Z,8.0nm,0.9s,baz=31,slow=9.5,SNR=3.6
GEYT LR LR 09 00 11.5
comp=Z,6µm,20.0s,baz=35,slow=38
GEYT Alibeck 75.49 314 P **P** **08 24 15.6 -0.5**
GYA0 ALIBECK ARRAY 75.49 314 P **P** **08 24 15.9 -0.2**
GYA0B ALIBECK ARRAY 75.49 314 IAmb IAmb 08 24 25.7
comp=Z,52nm,0.8s
MAK Makhachkala 75.50 324 *e*P **P** **08 24 14.7 -1.3**
MAK *e*S **S** **08 33 53.5 -1.8**
MAK *e*SS **SS** **08 38 46.4 +1.6**
MAK *e*SSS SSS 08 42 07.8
MAK pmax pmax
comp=Z,222nm,1.4s
MAK MLR MLR
comp=Z,5µm,18.0s
TIAR Tiarei 75.52 146 *e*P **P** **08 24 19.8 +3.5**
comp=Z,10nm,0.8s
MTN Manton Dam 75.68 226 IAMs_20 IAMs_20 08 53 35.4
comp=Z,3µm,20.0s
CLZ Clausthal 75.69 351 *e*P **P** **08 24 17.7 +0.7**
comp=Z,67nm,1.1s,baz=10,slow=5.7
LVV L'vov 75.72 342 *e*P **P** **08 24 17.8 +0.6**
LVV *e*S **S** **08 33 59.1 +1.5**
DGPR DIGLIPUR 75.81 273 *e*P **P** **08 24 15.7 -2.4**
DGPR IAmb IAmb 08 24 20.4
comp=Z,303nm,1.6s
GROC Groznyy 75.90 325 *e*P **P** **08 24 18.1 -0.2**
GROC *e* 08 24 30.1
GROC *e* 08 27 08.9
GROC pmax pmax
comp=Z,19nm,0.4s
CLL Collm 75.95 349 *e*P **P** **08 24 19.0 +0.6**
CLL *i* sP **pP** **08 24 23.6 -0.6**
comp=Z,36nm,1.6s
CLL *i* 08 24 26.8
comp=Z,85nm,1.9s
CLL *e*S **S** **08 33 57.0 -3.0**
CLL *e*PS **PnS** **08 34 37.0 0.0**
CLL *e*SS **SS** **08 38 54.0 +2.9**
CLL *e*SSS SSS 08 42 18.0
CLL *e*SSSS 08 44 06.0
CLL LmV 08 56 00.0
comp=Z,2µm,22.0s
CLL Collm 75.95 349 *e*P **P** **08 24 19.0 +0.6**
CLL *i* 08 24 23.6
CLL *i* 08 24 26.8
CLL *e*S **S** **08 33 57.0 -3.0**
CLL MLR MLR
comp=Z,2µm,22.0s
CLL Collm 75.95 349 *e*P **P** **08 24 18.3 -0.1**
comp=Z,36nm,1.6s,baz=10,slow=5.7
KSP Ksiaz 76.00 347 *e*P **P** **08 24 18.9 +0.2**
KSP *e*L L 08 59 17.0
comp=Z,2µm,22.8s
GTTG Gottingen 76.02 351 *e*P **P** **08 24 19.4 +0.5**
comp=Z,41nm,1.1s,baz=10,slow=5.7
OJC Ojcow 76.08 345 *e*P **P** **08 24 19.0 -0.2**
OJC *e*S **S** **08 34 04.7 +3.2**
OJC *e*L L 09 00 25.0
comp=Z,3µm,20.5s
OJC Ojcow 76.08 345 IAmb IAmb 08 24 29.8
comp=Z,75nm,1.3s
KWP Kalwaria Pacla 76.15 343 *e*P **P** **08 24 20.8 +1.2**
KWP *e*L L 08 56 35.3
comp=Z,4µm,25.1s
KWP Kalwaria Pacla 76.15 343 IAMs_20 IAMs_20 09 02 12.8
comp=Z,3µm,19.0s
NEUB Neuenburg 76.18 350 *e*P **P** **08 24 20.0 +0.2**
comp=Z,36nm,0.6s,baz=10,slow=5.7
SOEI Soe 76.20 233 P **P** **08 24 19.9 -0.5**
comp=Z,80nm,0.9s
BRG Berggiesshubel 76.27 349 *e*P **P** **08 24 20.5 +0.3**
comp=Z,17nm,0.9s
comp=N,1µm,18.2s
comp=E,1µm,14.6s
comp=Z,2µm,15.4s

BRG Berggiesshubel 76.27 349 *e*P **P 08 24 20.5 +0.3**
BRG pmax pmax
comp=Z,17nm,0.9s
BRG pmax pmax
comp=N,1µm,18.2s
BRG pmax pmax
comp=E,1µm,14.6s
BRG pmax pmax
comp=Z,2µm,15.4s
BRG Berggiesshubel 76.27 349 *e*P **P 08 24 20.2 0.0**
comp=Z,17nm,0.9s,baz=10,slow=5.7
CHVC Chvalec 76.28 347 *e*P **P 08 24 20.2 -0.2**
CHVC *ex* x 08 24 26.6
CHVC AMS AMS 09 05 30.0
comp=Z,2µm,16.5s
OSTC Ostas 76.28 347 *e*P **P 08 24 21.6 +1.2**
OSTC *e*S **S 08 34 02.7 -1.1**
OSTC AMS AMS 08 59 10.0
comp=Z,2µm,22.5s
FBE Freiberg 76.29 349 *e*P **P 08 24 20.8 +0.4**
comp=Z,40nm,1.2s,baz=10,slow=5.7
KVAR Kislovodsk Arr 76.29 328 LR LR 09 02 50.8
comp=Z,3µm,18.6s,baz=278,slow=40
KIV Kislovodsk 76.30 328 *e*P **P 08 24 22.0 +1.3**
KIV *e*S **S 08 34 04.2 -0.1**
KIV pmax pmax
comp=Z,97nm,1.1s
KIV pmax pmax
comp=Z,230nm,4.6s
KIV MLR MLR
comp=Z,9µm,18.0s
KIV Kislovodsk 76.30 328 IAMs_20 IAMs_20 09 01 54.6
comp=Z,4µm,19.0s
BUG Bochum--Univer 76.35 353 *e*P **P 08 24 21.0 +0.3**
comp=Z,46nm,1.2s,baz=10,slow=5.7
UPC Upice 76.36 347 *e*P **P 08 24 21.1 +0.3**
UPC *e*pP **pP 08 24 25.6 -1.0**
UPC *e*S **S 08 34 03.0 -1.6**
UPC AMS AMS 08 59 10.0
comp=Z,2µm,20.5s
UPC Upice 76.36 347 *e*P **P 08 24 21.1 +0.3**
UPC *e* 08 24 25.6
UPC *e*S **S 08 34 03.0 -1.6**
UPC MLR MLR
comp=Z,2µm,20.5s
KBZ Khabaz 76.43 327 P **P 08 24 21.5 +0.3**
comp=Z,11nm,0.9s,baz=286,slow=1.3,SNR=20
KBZ LR LR 09 01 41.0
comp=Z,2µm,21.2s,baz=21,slow=39
DPC Dobruska-Polom 76.47 347 *e*P **P 08 24 21.0 -0.5**
DPC *e*pP **pP 08 24 26.3 -1.0**
DPC *e*S **S 08 34 08.7 +2.8**
DPC AMS AMS 08 59 20.0
comp=Z,2µm,22.5s
DPC Dobruska-Polom 76.47 347 *e*P **P 08 24 21.0 -0.5**
DPC *e* 08 24 26.3
DPC *e*S **S 08 34 08.7 +2.8**
DPC MLR MLR
comp=Z,2µm,22.5s
HRA Herat 76.50 309 IAmb IAmb 08 24 28.0
comp=Z,34nm,0.8s
HRA IAMs_20 IAMs_20 08 55 59.5
comp=Z,3µm,21.0s
PVCC Panska Ves 76.53 348 *e*P **P 08 24 17.6 -4.1**
PVCC AMS AMS 09 00 10.0
comp=Z,2µm,22.6s
PVCC Panska Ves 76.53 348 *e*P **P 08 24 17.6 -4.1**
PVCC MLR MLR
comp=Z,2µm,22.6s
EDFI Ende, Flores 76.63 236 P **P 08 24 23.0 +0.1**
comp=Z,46nm,0.9s
CTAO Charters Tower 76.67 209 P **P 08 24 22.8 0.0**
CTAO pmax pmax
comp=Z,26nm,0.9s
CTAO Charters Tower 76.67 209 P **P 08 24 22.8 0.0**
CTAO IAmb IAmb 08 24 28.0
comp=Z,26nm,0.8s
AKT Akhty 76.70 323 *e*P **P 08 24 23.4 +0.3**
AKT *e* 08 24 34.6
AKT *e* 08 27 12.9
AKT pmax pmax
comp=Z,44nm,1.0s
OKC Ostrava-Krasne 76.71 346 *e*P **P 08 24 23.1 +0.3**
OKC *e*pP **pP 08 24 27.4 -1.1**
OKC *e*S SKiKP 08 33 51.9 +14
OKC AMS AMS 09 00 20.0
comp=Z,2µm,20.5s
OKC Ostrava-Krasne 76.71 346 *e*P **P 08 24 23.1 +0.3**
OKC *e* 08 24 27.4
OKC MLR MLR
comp=Z,2µm,20.5s
UBBA Unterbreizbach 76.74 351 *e*P **P 08 24 23.4 +0.6**
comp=Z,31nm,1.5s,baz=10,slow=5.7
MOX Moxa 76.75 350 P **P 08 24 24.0 +1.0**
MOX pmax pmax
comp=Z,19nm,1.2s
MOX Moxa 76.75 350 *e*P **P 08 24 23.3 +0.2**
comp=Z,31nm,1.4s,baz=10,slow=5.7
NIE Niedzica 76.78 344 *e*P **P 08 24 24.5 +1.3**
NIE *e*S **S 08 34 14.5 +5.3**
NIE *e*L L 08 59 51.2
comp=Z,2µm,21.8s
PLN Plauen 76.85 350 *e*P **P 08 24 23.9 +0.3**
comp=Z,12nm,1.1s,baz=10,slow=5.7
MORC Moravsky Berou 76.86 346 ⇑P **P 08 24 24.2 +0.5**
MORC Moravsky Berou 76.86 346 *e*P **P 08 24 23.6 -0.1**
MORC Moravsky Berou 76.86 346 ⇑P **P 08 24 24.2 +0.5**
MORC Moravsky Berou 76.86 346 IAmb IAmb 08 24 31.3
comp=Z,36nm,1.3s
BATI Baumata 76.88 234 P **P 08 24 26.1 +1.9**
comp=Z,74nm,0.6s,baz=142,slow=2.3,SNR=6.9
BATI Baumata 76.88 234 P **P 08 24 27.1 +2.9**
comp=Z,63nm,0.8s
TANN Tannenbergstha 76.89 350 *e*P **P 08 24 24.3 +0.4**
comp=Z,20nm,1.2s,baz=10,slow=5.7
KOLS Kolonicke sedl 76.90 343 *e*P **P 08 24 23.9 0.0**
KOLS pmax pmax
comp=Z,31nm,0.8s
KOLS Kolonicke sedl 76.90 343 *e*P **P 08 24 23.9 0.0**
NEY Neytrino 76.91 327⇑ *e*P **P 08 24 24.8 +0.5**
ZEI Tsey 76.92 326 *e*P **P 08 24 23.6 -0.8**
ZEI pmax pmax
comp=Z,34nm,0.7s
GUNZ Gunzen 76.95 350 *e*P **P 08 24 24.7 +0.5**
comp=Z,31nm,1.4s,baz=10,slow=5.7
PRA Prague 76.99 348 *e*P P 08 24 10.3 -14
PRA AMS AMS 09 00 30.0
comp=Z,1µm,21.5s
WERN Wernitzgruen 77.02 350 *e*P **P 08 24 25.1 +0.5**
comp=Z,45nm,1.5s,baz=10,slow=5.7
PRU Pruhonice 77.06 348 *e*pP **pP 08 24 30.0 -0.5**
PRU *ex* x 08 24 33.3
PRU *e*S **S 08 34 11.0 -1.2**
PRU AMS AMS 09 00 30.0
comp=Z,2µm,24.0s
PRU Pruhonice 77.06 348 *e*P **pP 08 24 30.0 -0.5**
PRU *e* 08 24 33.3
PRU *e*S **S 08 34 11.0 -1.2**
PRU MLR MLR
comp=Z,2µm,24.0s
NKC Novy Kostel 77.07 350 *e*P **P 08 24 26.7 +1.9**
NKC *e*S S 08 34 03.0 -9.4
NKC AMS AMS 09 09 20.0
comp=Z,2µm,15.0s
NKC Novy Kostel 77.07 350 *e*P **P 08 24 26.7 +1.9**
NKC *e*S S 08 34 03.0 -9.4
NKC MLR MLR
comp=Z,2µm,15.0s
CRVS Cervenica-Dubn 77.08 343 *e*P **P 08 24 25.1 +0.2**
CRVS pmax pmax
comp=Z,63nm,0.9s
CRVS Cervenica-Dubn 77.08 343 *e*P **P 08 24 25.1 +0.2**
GOPC GO Pecny, Ondr 77.10 348 *e*S **S 08 34 11.0 -1.7**
GOPC AMS AMS 09 06 10.0
comp=Z,2µm,16.2s
GOPC GO Pecny, Ondr 77.10 348 *e*P P 08 24 31.2 +6.2
GOPC *e*S **S 08 34 11.0 -1.7**
GOPC MLR MLR
comp=Z,2µm,16.2s
LANS Liptovska Anna 77.17 345 *e*P **P 08 24 26.9 +1.4**
LANS pmax pmax
comp=Z,50nm,1.1s
LANS Liptovska Anna 77.17 345 *e*P **P 08 24 26.9 +1.4**
ANN Anapa 77.17 331 *e*P **P 08 24 26.9 +1.5**
ANN *e*S **S 08 34 13.6 0.0**
ANN pmax pmax
comp=Z,38nm,0.8s
ANN MLR MLR
comp=Z,3µm,17.0s
ANN MLR MLR
comp=E,3µm,17.0s
ANN MLR MLR
comp=N,4µm,15.0s
UZH Uzhgorod 77.19 343 *e*P **P 08 24 22.2 -3.3**
UZH *e* 08 24 25.7
UZH *i* 08 24 32.6
UZH *i* 08 24 38.9
UZH *e*PPP PPP 08 29 11.2
UZH *i*S **S 08 34 05.6 -8.0**
UZH *e*PS 08 34 50.4
UZH *e*SS **SS 08 39 19.8 +10**
UZH MLR MLR
comp=N,600nm,18.0s
UZH MLR MLR
comp=E,700nm,18.0s
UZH MLR MLR
comp=Z,300nm,18.0s
AHRW Bad Neuenahr-A 77.26 353 *e*P **P 08 24 26.6 +0.7**
comp=Z,48nm,1.1s,baz=10,slow=5.7
MEM Membach 77.27 354 P **P 08 24 23.9 -2.0**
MEM x x 08 24 29.3
MEM x x 08 24 30.8
BHPL Bhopal 77.33 291 *e*P **P 08 24 24.1 -2.7**
BHPL IAmb IAmb 08 24 33.4
comp=Z,58nm,0.8s
MANZ Manzenberg 77.35 350 *e*P **P 08 24 26.7 +0.2**
comp=Z,14nm,1.2s,baz=10,slow=5.7
PBCC Pribram 77.43 348 *e*P P 08 24 31.6 +4.8
VRAC Vranov 77.45 347 P **P 08 24 27.2 +0.2**
comp=Z,20nm,0.8s,baz=9.1,slow=6.4,SNR=13
VRAC Vranov 77.45 347 ⇑P **P 08 24 26.8 -0.2**
VRAC Vranov 77.45 347 *e*P **P 08 24 27.2 +0.2**
VRAC Vranov 77.45 347 ⇑P **P 08 24 26.8 -0.2**
TNS Taunus Mts 77.47 352 *e*P **P 08 24 27.5 +0.4**
comp=Z,25nm,1.0s,baz=10,slow=5.7
SNF Seneffe 77.47 355 P **P 08 24 27.0 0.0**
BCLA Clavier 77.50 354 P **P 08 24 27.8 +0.6**
BCLA x x 08 24 31.8
BCLA x x 08 24 36.5
BHUU Houvegnez 77.52 354 P **P 08 24 26.6 -0.8**
BHOU x x 08 24 33.3
BHOU x x 08 24 37.1
BHOU x x 08 24 43.6
BGES Gesves 77.55 354 P **P 08 24 26.8 -0.7**
BGES x x 08 24 30.5
BGES x x 08 24 32.0
ROTZ Rotzenmuhle 77.56 350 *e*P **P 08 24 28.1 +0.5**
comp=Z,25nm,1.3s,baz=10,slow=5.7
TBLG Delisi 77.56 325 P **P 08 24 29.3 +1.5**
TBLG Delisi 77.56 325 IAmb IAmb 08 24 38.7
comp=Z,73nm,1.2s
BUR08 Bucovina Ar. S 77.57 341 IAmb IAmb 08 24 37.0
comp=Z,28nm,0.8s
SOC Sochi 77.58 329 *e*P **P 08 24 26.8 -1.0**
SOC *e* 08 27 23.1
SOC *e*S **S 08 34 15.3 -2.8**
SOC *e*SS **SS 08 39 22.7 +6.5**
SOC pmax pmax
comp=Z,40nm,1.1s
SOC MLR MLR
comp=Z,3µm,19.0s
BURAR Bucovina Array 77.60 341 ⇑P **P 08 24 28.1 +0.1**
BURAR Bucovina Array 77.60 341 ⇑P **P 08 24 28.1 +0.1**
BURAR Bucovina Array 77.60 341 P **P 08 24 27.9 -0.1**
TREC Trest 77.62 347 AMS AMS 08 58 50.0
comp=Z,2µm,20.7s
TRPA Tarpa 77.62 343 ⇓P **P 08 24 28.5 +0.5**
BMRD Maredsous 77.65 355 P **P 08 24 27.4 -0.6**
BMRD x x 08 24 32.8
BMRD x x 08 24 41.4
KECS Kecovo 77.65 344 *e*P **P 08 24 28.6 +0.5**
KECS pmax pmax
comp=Z,14nm,0.8s
KECS Kecovo 77.65 344 *e*P **P 08 24 28.6 +0.5**
KRUC Moravsky 77.72 347 *e*P **P 08 24 28.5 0.0**
GRF Grafenberg Arr 77.73 350 *e*P **P 08 24 29.4 +0.8**
comp=Z,99nm,1.4s,baz=10,slow=5.7
JAVC Velka Javorina 77.73 346 *e*P **P 08 24 29.2 +0.6**
DOU Dourbes 77.86 355 x P **08 24 32.7 +3.5**
DOU x x 08 24 34.9
VYHS Vyhne 77.91 345 *e*P **P 08 24 29.6 0.0**
VYHS pmax pmax
comp=Z,78nm,1.4s
VYHS Vyhne 77.91 345 *e*P **P 08 24 29.6 0.0**
NGP Nagpur 78.02 289 *e*P **P 08 24 29.1 -1.5**
NGP IAmb IAmb 08 24 37.6
comp=Z,34nm,0.8s
KHC Kasperske Hory 78.02 349 *e*P **P 08 24 30.4 +0.2**
KHC *e*pP **pP 08 24 34.2 -1.8**
KHC *e*S **S 08 34 22.9 +0.1**
KHC AMS AMS 09 04 40.0
comp=Z,2µm,17.8s
KHC Kasperske Hory 78.02 349 *e*P **P 08 24 30.4 +0.2**
KHC *e* 08 24 34.2
KHC *e*S **S 08 34 22.9 +0.1**
KHC MLR MLR
comp=Z,2µm,17.8s
BIZ Bicaz 78.06 340 ⇓P **P 08 24 30.9 +0.5**
WET Wettzell 78.09 349 *e*P **P 08 24 31.2 +0.6**
comp=Z,49nm,1.7s,baz=10,slow=5.7
CCIG Comitan 78.11 79 IAMs_20 IAMs_20 08 56 20.3
comp=Z,3µm,22.0s
WLF Walferdange 78.20 354 x P 08 24 36.0 +4.9
WLF Walferdange 78.20 354 *e*P **P 08 24 31.9 +0.8**
comp=Z,34nm,1.0s,baz=10,slow=5.7
MODS Modra-Piesok 78.27 346 *e*P **P 08 24 31.1 -0.4**
MODS pmax pmax
comp=Z,54nm,1.1s
MODS Modra-Piesok 78.27 346 *e*P **P 08 24 31.1 -0.4**
ARCR ARCALIA 78.28 341 ⇑P **P 08 24 32.5 +0.9**
AKH Akhalkalaki 78.28 326 ⇑P **P 08 24 36.1 +4.1**
AKH Akhalkalaki 78.28 326 P **P 08 24 32.0 0.0**
AKH pmax pmax
comp=Z,65nm,1.1s
AKH MLR MLR
comp=Z,6µm,20.0s
AKH Akhalkalaki 78.28 326 P **P 08 24 31.9 0.0**
AKH IAmb IAmb 08 25 45.2
comp=Z,65nm,1.1s
GEC2 GERESS Array S 78.29 349 IAMs_20 IAMs_20 09 02 50.3
comp=Z,2µm,19.0s
GEC2 GERESS Array S 78.29 349 *e*P **P 08 24 32.1 +0.4**
comp=Z,19nm,1.2s,baz=10,slow=5.7
GERES GERESS Array B 78.29 349 P **P 08 24 30.9 -0.8**
comp=Z,5.1nm,0.8s,baz=15,slow=5.7,SNR=17
GERES LR LR 09 01 08.9
comp=Z,2µm,21.6s,baz=18,slow=37
GERES GERESS Array B 78.29 349 P **P 08 24 30.5 -1.3**
GERES GERESS Array B 78.29 349 P **P 08 24 30.5 -1.3**
PSZ Piszkesteto 78.30 344 ⇑P **P 08 24 32.4 +0.6**
PSZ Piszkesteto 78.30 344 ⇑P **P 08 24 32.4 +0.6**
PSZ Piszkesteto 78.30 344 IAmb IAmb 08 24 41.0
comp=Z,45nm,1.0s
TESR Tescani 78.34 339 ⇑P **P 08 24 32.2 +0.2**
ZST Bratislava 78.47 346 *e*P **P 08 24 31.9 -0.7**
ZST Bratislava 78.47 346 *e*P **P 08 24 31.9 -0.7**
PLAI Plampang 78.74 240 P **P 08 24 36.1 +1.6**
comp=Z,86nm,1.1s
CJR Cluj-Napoca 78.78 341 ⇑P **P 08 24 35.8 +1.3**
CJR Cluj-Napoca 78.78 341 ⇑P **P 08 24 35.8 +1.3**
DRGR 78.88 342 ⇑P **P 08 24 35.8 +0.8**
DRGR 78.88 342 ⇑P **P 08 24 35.8 +0.8**
CONA Conrad Observa 78.91 347 *e*pP **P 08 24 35.5 +0.3**
comp=Z,20nm,0.8s,SNR=9.4
VRI Vrincioaia 78.94 339 ⇑P **P 08 24 35.8 +0.5**
VRI Vrincioaia 78.94 339 ⇑P **P 08 24 35.8 +0.5**
PLOR Plostina 78.97 339 ⇓P **P 08 24 36.8 +1.3**
PLOR Plostina 78.97 339 ⇓P **P 08 24 36.8 +1.3**
TLCR 79.11 337 ⇑P **P 08 24 35.5 -0.7**
TLCR 79.11 337 ⇑P **P 08 24 35.5 -0.7**
DOPR Dopca 79.13 340 ⇑P **P 08 24 35.0 -1.3**
MOA Molln 79.20 348 *e*sP **P 08 24 38.3 +1.6**
comp=Z,7.6nm,0.7s
KNRA Kununurra 79.23 227 P **P 08 24 37.6 +0.5**
KNRA IAmb IAmb 08 24 44.5
comp=Z,50nm,1.1s
KNRA IAMs_20 IAMs_20 08 55 04.6
comp=Z,2µm,20.0s
FUR Furstenfeldbru 79.24 350 *e*P **P 08 24 37.4 +0.5**
comp=Z,37nm,1.0s,baz=10,slow=5.7
CFR Carcaliu 79.27 338 ⇑P **P 08 24 36.9 -0.1**
CFR Carcaliu 79.27 338 ⇑P **P 08 24 36.9 -0.1**
BFO Black Forest 79.36 352 P **P 08 24 36.7 -0.9**
BFO pmax pmax
comp=Z,25nm,1.0s
BFO Black Forest 79.36 352 P **P 08 24 36.7 -0.9**
BFO Black Forest 79.36 352 *e*P **P 08 24 37.8 +0.3**
comp=Z,32nm,1.1s,baz=10,slow=5.7
MLR Muntele Rosu 79.47 339 P **P 08 24 37.7 -0.7**
comp=Z,12nm,0.7s,baz=40,slow=6.2,SNR=10
MLR Muntele Rosu 79.47 339 ⇑P **P 08 24 38.1 -0.2**
MLR Muntele Rosu 79.47 339 ⇑P **P 08 24 38.1 -0.2**
MLR Muntele Rosu 79.47 339 IAMs_20 IAMs_20 09 05 04.6
comp=Z,3µm,19.0s
JURR Jurilovca 79.49 337 ⇑P **P 08 24 33.8 -4.4**
RJOB Jochberg 79.49 349 *e*P **P 08 24 38.0 -0.3**
comp=Z,15nm,1.0s,baz=10,slow=5.7
PVM Polavaram 79.53 284 *e*P **P 08 24 38.0 -0.9**
PVM IVmBBB 08 24 45.5
comp=Z,324nm,2.6s
SIRR Siria 79.58 343 ⇑P **P 08 24 39.8 +1.0**
ARSA Arzberg 79.62 347 *e*pP **P 08 24 39.4 +0.5**
comp=Z,39nm,1.0s
RPR Rampur 79.66 287 *e*P **P 08 24 37.0 -2.6**
RPR IVmBBB 08 24 40.4
comp=Z,160nm,1.6s
VOIR 79.71 340 ⇑P **P 08 24 40.2 +0.6**
VOIR 79.71 340 ⇑P **P 08 24 40.2 +0.6**
HARR Harsova 79.78 338 ⇓P **P 08 24 41.0 +1.2**
HARR Harsova 79.78 338 ⇓P **P 08 24 41.0 +1.2**
UBR Ueberruh 79.84 351 *e*P **P 08 24 40.6 +0.4**
comp=Z,29nm,1.2s,baz=10,slow=5.7
ARR Arges 79.86 340 ⇑P **P 08 24 41.2 +0.8**
TIRR Tirgusor 79.89 337 ⇓P **P 08 24 40.1 -0.3**
TIRR Tirgusor 79.89 337 ⇓P **P 08 24 40.1 -0.3**
TIRR Tirgusor 79.89 337 IAmb IAmb 08 24 50.7
comp=Z,58nm,1.0s
MTUR Matau 79.91 340 ⇑P P 08 24 45.6 +4.9
MTUR Matau 79.91 340 ⇑P P 08 24 45.6 +4.9
RETA Reutte 79.96 350 *e*pP **P 08 24 41.4 +0.5**
comp=Z,8.4nm,0.8s
LOT Lotru 79.96 341 ⇓P **P 08 24 44.8 +3.8**
WATA Walderalm 80.02 350 *e*pP **P 08 24 41.3 -0.1**
comp=Z,25nm,0.8s
MOTA Moosalm 80.07 350 *i* pP **P 08 24 42.5 +1.0**
comp=Z,31nm,1.1s,SNR=17
KBA Koelnbreinsper 80.07 348 *e*pP **P 08 24 42.0 +0.3**
comp=Z,144nm,0.9s,SNR=31
WTTA Wattenberg 80.09 350 *e*pP **P 08 24 41.7 -0.1**
comp=Z,28nm,0.7s,SNR=13
MORH Mrgy, Hungar 80.16 345 *e*P **P 08 24 41.3 -0.6**
SRSP Sriramsagar 80.16 288 *e*P **P 08 24 40.9 -1.4**
SRSP IVmBBB 08 24 46.4
comp=Z,234nm,1.3s
SQTA Sankt Quirin 80.18 350 *e*pP **P 08 24 41.9 -0.3**
comp=Z,26nm,0.8s
BZS Buzias 80.22 342 ⇑P **P 08 24 42.2 0.0**
BZS Buzias 80.22 342 ⇑P **P 08 24 42.2 0.0**
SOKA Soboth 80.25 347 *e*pP **P 08 24 42.8 +0.3**
comp=Z,107nm,1.6s,SNR=19
DAVA Damuels 80.25 351 *i* pP **P 08 24 42.1 -0.4**
comp=Z,11nm,0.9s
BBSR BB Station 80.25 49 IAMs_20 IAMs_20 09 03 55.4
comp=Z,3µm,20.0s
RPSI Rantau Prapat 80.30 262 IAMs_20 IAMs_20 09 02 59.7
comp=Z,2µm,18.0s
EIDS Eidsvold 80.38 203 IAMs_20 IAMs_20 08 56 50.1
comp=Z,3µm,20.0s
FETA Feichten 80.43 350 *i* pP **P 08 24 43.0 -0.6**
comp=Z,17nm,0.9s
MYKA Terra Mystica 80.47 348 *i* P **P 08 24 42.5 -1.2**
OBKA Obir 80.48 348 *e*pP **P 08 24 43.9 +0.2**
comp=Z,50nm,0.8s,SNR=17
ABTA Abfaltersbach 80.50 349 *e*pP **P 08 24 43.6 -0.2**
comp=Z,42nm,1.1s,SNR=18
WB0 Warramunga Arr 80.51 220 IAmb IAmb 08 24 53.5
comp=Z,48nm,0.9s
WB0 IAMs_20 IAMs_20 08 57 12.8
comp=Z,3µm,21.0s
KALN Kalnik 80.58 346 P **P 08 24 43.7 -0.5**
WB5 Warramunga Arr 80.62 220 IAMs_20 IAMs_20 08 57 08.7
comp=Z,3µm,22.0s
WR0 Warramunga Arr 80.63 220 IAmb IAmb 08 24 49.1
comp=Z,30nm,0.7s
ZOU Zoufplan 80.63 349 IAMs_20 IAMs_20 09 02 25.2
comp=Z,3µm,22.0s
WR9 Warramunga Arr 80.63 220 IAMs_20 IAMs_20 08 56 56.1
comp=Z,3µm,19.0s
WR8 Warramunga Arr 80.64 220 IAMs_20 IAMs_20 08 56 55.2
comp=Z,3µm,20.0s
WR7 Warramunga Arr 80.65 220 IAMs_20 IAMs_20 08 57 09.4
comp=Z,3µm,21.0s
WB3 Warramunga Arr 80.67 220 IAMs_20 IAMs_20 08 57 07.9
comp=Z,3µm,21.0s
PRED Cave del Predi 80.67 348 P **P 08 24 43.9 -0.8**
PRED IAmb IAmb 08 24 52.5
comp=Z,32nm,0.9s
WR4 Warramunga Arr 80.67 220 IAMs_20 IAMs_20 08 56 57.0
comp=Z,3µm,22.0s
WRAB Tennant Creek 80.68 220*d* *i*P **P 08 24 43.9 -1.0**
WRAB pmax pmax
comp=Z,33nm,0.8s
WRAB Tennant Creek 80.68 220 P **P 08 24 44.1 -0.8**
WRAB IAmb IAmb 08 24 52.2
comp=Z,67nm,1.1s
WB2 Warramunga Arr 80.69 220 IAmb IAmb 08 24 52.2
comp=Z,73nm,1.1s
WRA Warramunga Arr 80.69 220 P **P 08 24 44.4 -0.6**
comp=Z,26nm,0.6s,baz=32,slow=6.3,SNR=23
WRA LR LR 08 57 30.1
comp=Z,3µm,21.7s,baz=35,slow=33
WRA Warramunga Arr 80.69 220 P **P 08 24 44.0 -0.9**
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRA Warramunga Arr 80.69 220 P **P 08 24 44.0 -0.9**
DIKM Dikmen 80.70 332 ⇑P **P 08 24 45.8 +1.0**
WC4 Warramunga Arr 80.71 220 IAMs_20 IAMs_20 08 58 01.0
comp=Z,3µm,21.0s
DAVOX Davos/Dischmat 80.75 351 P **P 08 24 44.2 -1.1**
comp=Z,9.4nm,0.8s,baz=358,slow=7.4,SNR=15
HERR Herculane 80.77 342 ⇑P **P 08 24 44.9 -0.3**
PTJ Puntijarka 80.87 346 P **P 08 24 45.4 -0.5**
FUORN Ofenpass-Fuorn 80.87 350 IAmb IAmb 08 24 59.9
comp=Z,44nm,0.9s
TBI Tubuai 80.87 149 *e*P **P 08 24 49.0 +3.2**
comp=Z,147nm,1.0s
TBI Tubuai 80.87 149 *e*S **S 08 34 55.5 +2.4**
comp=Z,2µm,32.2s
TBI Tubuai 80.87 149 *e*LQ LQ 08 45 40.5
comp=Z,2µm,30.5s
TBI *e*LR LR 08 49 53.4
comp=Z,6µm,24.8s,baz=334
TBI Tubuai 80.87 149 *e*T T 09 53 13.8
comp=Z,3.9nm,0.3s
BKNI Bangkinang 80.88 259 IAMs_20 IAMs_20 08 58 49.4
comp=Z,2µm,19.0s
FRGS Fruska Gora 80.99 344 *e*P **P 08 24 46.3 -0.1**
MDVR Moldovita 81.00 342 ⇑P **P 08 24 46.5 -0.1**
CRES Cresnjev 81.02 347 *e*P **P 08 24 47.7 +1.2**
MOSL Moslavina 81.04 346 P **P 08 24 46.2 -0.5**
TUE Stuetta 81.11 351 IAmb IAmb 08 24 54.6
comp=Z,124nm,1.7s
HYBB Hyderabad (bro 81.22 287 *e*P **P 08 24 46.9 -1.2**
HYBB IVmBBB 08 24 54.3
comp=Z,627nm,2.4s
HYB Hyderabad 81.22 287 *i* P **P 08 24 47.0 -1.0**
HYB *e*S **S 08 34 58.0 +0.5**
HYB Hyderabad 81.22 287 *e*P **P 08 24 46.3 -1.8**
HYB IAmb IAmb 08 24 52.1
comp=Z,39nm,0.7s
CEY Cerknica 81.25 347 *e*P **P 08 24 49.0 +1.2**
CTI Castel Tesino 81.29 349 IAmb IAmb 08 24 57.8
comp=Z,45nm,1.2s
PRD Provadia 81.32 338 *e*P **P 08 24 50.2 +2.1**
SENIN Lac Senin/Sane 81.39 352 IAMs_20 IAMs_20 09 08 04.5
comp=Z,2µm,18.0s
NJS Nagarjunasagar 81.45 286 *e*P **P 08 24 48.1 -1.1**
NJS IVmB_BB 08 24 51.0
comp=Z,161nm,2.3s
SZH Strazhica 81.59 339 *e*P **P 08 24 49.3 -0.3**
ADKI Addanki 81.61 285 *e*P **P 08 24 49.6 -0.5**
ADKI IVmB_BB 08 25 07.5
comp=Z,333nm,3.0s
SDSI Sungai Dareh 81.65 258 P **P 08 24 51.1 +0.9**
comp=Z,20nm,1.2s

ILGA	**Ilgaz**	**81.69**	**333**	IAmb	IAmb	08 25 56.1			
	comp=Z,35nm,0.8s								
BLY	**Banja Luka**	**81.82**	**345**	*eP*	**P**	**08 24 50.4**	**-0.4**		
SALO	**Salr**	**81.83**	**350**	IAmb	IAmb	08 24 56.3			
	comp=Z,40nm,0.7s								
KLRI	**Killari**	**81.86**	**289**	*eP*	**P**	**08 24 50.0**	**-1.4**		
KLRI				IVmB_BB		08 24 50.1			
	comp=Z,311nm,3.5s								
SNET	**Serv Nac Est T**	**81.88**	**78**	IAMs_20	IAMs_20	08 56 54.2			
	comp=Z,2µm,21.0s								
DIVS	**Divibare**	**81.98**	**343**	P	**P**	**08 24 51.1**	**-0.6**		
DIVS				IAmb	IAmb	08 25 02.3			
	comp=Z,63nm,1.2s								
DIVS				IAMs_20	IAMs_20	09 04 32.1			
	comp=Z,2µm,21.0s								
DIVS	**Divibare**	**81.98**	**343**	*eP*	**P**	**08 24 51.4**	**-0.3**		
SRLM	**Srisailam**	**82.05**	**286**	*eP*	**P**	**08 24 51.9**	**-0.6**		
SRLM				IVmB_BB		08 24 52.8			
	comp=Z,93nm,1.8s								
MGRS	**Mrkonjic Grad**	**82.16**	**345**	*eP*	**P**	**08 24 54.3**	**+1.7**		
HAPS	**Han Pijesak,BI**	**82.17**	**344**	*eP*	**P**	**08 24 52.2**	**-0.6**		
BBLS	**Lazići**	**82.31**	**344**	*eP*	**P**	**08 24 53.4**	**-0.1**		
RCLA	**Racherla**	**82.52**	**285**	*eP*	**P**	**08 24 53.2**	**-1.6**		
SSB	**Saint Sauveur**	**82.67**	**354**	IAmb	IAmb	08 25 03.0			
	comp=Z,24nm,1.0s								
PRMA	**PARMA**	**82.70**	**350**	IAMs_20	IAMs_20	09 08 29.0			
	comp=Z,2µm,18.0s								
BNI	**Bardonecchia**	**82.75**	**353**	IAmb	IAmb	08 25 03.2			
	comp=Z,50nm,1.0s								
BNI				IAMs_20	IAMs_20	09 06 22.3			
	comp=Z,2µm,19.0s								
FITZ	**Fitzroy Crossi**	**82.77**	**228**	P	**P**	**08 24 56.1**	**+0.2**		
	comp=Z,20nm,0.6s,baz=22,slow=5.4,SNR=34								
FITZ	**Fitzroy Crossi**	**82.77**	**228**	IAmb	IAmb	08 25 03.8			
	comp=Z,44nm,0.8s								
VTS	**Vitosha**	**82.79**	**340**	⇓P	**P**	**08 24 56.3**	**+0.2**		
VTS	**Vitosha**	**82.79**	**340**	*eP*	**P**	**08 24 56.6**	**+0.5**		
VTS	**Vitosha**	**82.79**	**340**	⇓P	**P**	**08 24 56.3**	**+0.2**		
VTS	**Vitosha**	**82.79**	**340**	IAMs_20	IAMs_20	09 06 09.4			
	comp=Z,4µm,20.0s								
BR131	**Keskin Array S**	**82.94**	**332**	*de*P	**P**	**08 24 56.7**	**-0.2**		
BRTR	**Keskin Array B**	**82.94**	**332**	P	**P**	**08 24 56.5**	**-0.4**		
	comp=Z,9.5nm,0.7s,baz=41,slow=3.2,SNR=22								
BRTR				LR	LR	09 06 12.7			
	comp=Z,1µm,19.4s,baz=14,slow=39								
RICI	**Ricice**	**83.05**	**345**	P	**P**	**08 24 56.2**	**-1.1**		
POO	**Poona**	**83.08**	**291**	*eP*	**P**	**08 24 56.0**	**-1.8**		
POO				IAmb	IAmb	08 25 00.1			
	comp=Z,77nm,1.3s								
POO	**Poona**	**83.08**	**291**	*ex*	**P**	**08 24 54.0**	**-3.8**		
CAF	**Calviac**	**83.15**	**356**	*eP*	**P**	**08 25 00.2**	**+2.4**		
CAF				pmax	pmax				
	comp=Z,58nm,1.8s								
KDZ	**Kurdzhali**	**83.24**	**339**	*eP*	**P**	**08 24 58.9**	**+0.6**		
VLC	**Villacollemand**	**83.29**	**350**	IAmb	IAmb	08 25 09.5			
	comp=Z,38nm,0.9s								
BRY	**Bratogost**	**83.39**	**344**	*eP*	**P**	**08 24 58.4**	**-0.8**		
SKHT	**Srikalahasti**	**83.41**	**284**	*eP*	**P**	**08 24 57.0**	**-2.5**		
SKHT				IVmB_BB		08 25 05.0			
	comp=Z,334nm,3.3s								
KKB	**Krupnik**	**83.54**	**340**	*eP*	**P**	**08 24 59.4**	**-0.4**		
TREB	**Trebinje**	**83.61**	**344**	*eP*	**P**	**08 25 00.3**	**+0.2**		
MMB	**Musomiste**	**83.67**	**340**	*eP*	**P**	**08 25 00.8**	**+0.3**		
PDG	**Podgorica**	**83.73**	**343**	⇓P	**P**	**08 25 00.6**	**-0.1**		
PDG	**Podgorica**	**83.73**	**343**	IAMs_20	IAMs_20	09 07 46.3			
	comp=Z,39nm,1.0s								
PDG	**Podgorica**	**83.73**	**343**	*eP*	**P**	**08 25 00.0**	**-0.7**		
ALN	**Alexandroupoli**	**83.82**	**338**	IAMs_20	IAMs_20	09 06 02.7			
	comp=Z,3µm,19.0s								
STIP	**Stip**	**83.89**	**341**	*i* P	**P**	**08 25 00.5**	**-1.1**		
URV	**Uravakonda**	**83.92**	**286**	*eP*	**P**	**08 24 59.5**	**-2.6**		
URV				IVmBBB		08 25 05.3			
	comp=Z,162nm,1.5s								
DRME	**Dracevica, Mon**	**83.98**	**343**	*eP*	**P**	**08 25 01.5**	**-0.5**		
GAZ	**Gaziantep**	**84.20**	**328**	IAMs_20	IAMs_20	09 07 11.3			
	comp=Z,2µm,20.0s								
ASAR	**Alice Springs**	**84.22**	**219**	P	**P**	**08 25 03.4**	**+0.1**		
	comp=Z,18nm,0.6s,baz=21,slow=5.5,SNR=42								
ASAR				LR	LR	08 59 34.1			
	comp=Z,984nm,21.1s,baz=10,slow=34								
ASAR	**Alice Springs**	**84.22**	**219**	P	**P**	**08 25 02.6**	**-0.7**		
ASAR	**Alice Springs**	**84.22**	**219**	P	**P**	**08 25 02.6**	**-0.7**		
TIR	**Tirane**	**84.67**	**343**	IAMs_20	IAMs_20	09 06 20.2			
	comp=Z,3µm,21.0s								
AQU	**L'Aquila**	**84.71**	**348**	IAMs_20	IAMs_20	09 03 56.3			
	comp=Z,2µm,22.0s								
INTR	**Introdacqua**	**84.98**	**347**	IAmb	IAmb	08 25 17.4			
	comp=Z,34nm,0.9s								
BOAB	**BOACO BROADBAN**	**84.99**	**76**	IAMs_20	IAMs_20	09 04 55.4			
	comp=Z,3µm,21.0s								
MTDJ	**Mount Denham**	**85.15**	**67**	IAMs_20	IAMs_20	09 04 51.8			
	comp=Z,5µm,21.0s								
ISP	**Isparta**	**85.59**	**334**	IAMs_20	IAMs_20	09 10 20.4			
	comp=Z,2µm,20.0s								
MATE	**Matera**	**85.89**	**345**	⇑P	**P**	**08 25 12.7**	**+1.0**		
GRTK	**Grand Turk**	**86.01**	**60**	IAMs_20	IAMs_20	09 04 33.8			
	comp=Z,4µm,19.0s								
RKT	**Rikitea**	**86.09**	**136**	*e*S	**S**	**08 35 47.7**	**+1.8**		
	comp=Z,1µm,34.0s								
PGAV	**Gavieira, Arco**	**86.13**	**4**	*e*S	**S**	**08 35 52.4**	**+5.9**		
PGAV	**Gavieira, Arco**	**86.13**	**4**	*e*LR	LR	08 53 23.3			
	comp=Z,2µm,18.0s								
SCTE	**Santa Cesarea**	**86.16**	**343**	IAMs_20	IAMs_20	09 06 45.6			
	comp=Z,3µm,21.0s								
AGG	**Agios Georgios**	**86.43**	**340**	IAMs_20	IAMs_20	09 09 35.8			
	comp=Z,3µm,18.0s								
PVRL	**Vila Real**	**86.84**	**3**	*eP*	**P**	**08 25 15.9**	**-0.5**		
	comp=Z,30nm,1.5s								
MVO	**Moncorvo**	**86.97**	**3**	*eP*	**P**	**08 25 16.6**	**-0.5**		
	comp=Z,24nm,1.7s								
MVO	**Moncorvo**	**86.97**	**3**	*e*S	**S**	**08 36 00.3**	**+5.7**		
MVO				*e*SS	**SS**	**08 41 39.5**	**+4.0**		
MVO	**Moncorvo**	**86.97**	**3**	*e*LR	LR	08 55 01.9			
	comp=Z,2µm,20.0s								
UOSS	**Minazif**	**87.24**	**308**	IAMs_20	IAMs_20	09 03 39.6			
	comp=Z,2µm,21.0s								
PVIS	**Viseu**	**87.39**	**3**	*eP*	**P**	**08 25 17.0**	**-2.1**		
CSS	**Mathiatis**	**87.45**	**331**	IAMs_20	IAMs_20	09 08 51.1			
	comp=Z,2µm,22.0s								
HDC	**Heredia**	**87.84**	**77**	IAMs_20	IAMs_20	09 11 42.1			
	comp=Z,2µm,20.0s								
COI	**Coimbra**	**87.88**	**4**	*e*S	**S**	**08 36 08.1**	**+5.0**		
COI				*e*SS	SS	08 42 06.3	+18		
PALK	**Pallekele**	**87.89**	**279**	IAMs_20	IAMs_20	09 12 08.5			
	comp=Z,2µm,20.0s								
SDDR	**Presa de Saban**	**87.99**	**61**	IAMs_20	IAMs_20	09 04 48.5			
	comp=Z,3µm,19.0s								
PCAS	**Casmilo, Conde**	**88.03**	**4**	*eP*	**P**	**08 25 18.2**	**-3.9**		
PCAS	**Casmilo, Conde**	**88.03**	**4**	*e*S	**S**	**08 36 07.7**	**+3.1**		
PCAS				*e*SS	SS	08 42 05.2	+14		
SANT	**Santorini**	**88.27**	**337**	IAMs_20	IAMs_20	09 08 51.5			
	comp=Z,2µm,20.0s								
PCBR	**Castelo Branco**	**88.28**	**3**	*eP*	**P**	**08 25 23.1**	**-0.1**		
	comp=Z,18nm,1.2s								
ITM	**Ithomi**	**88.29**	**340**	IAMs_20	IAMs_20	09 12 06.0			
	comp=Z,2µm,20.0s								
CMLA	**Cha da Macela**	**88.37**	**17**	IAMs_20	IAMs_20	09 08 09.9			
	comp=Z,2µm,20.0s								
PSAA1	**Pilbara Seismi**	**88.49**	**231**	IAMs_20	IAMs_20	08 59 59.7			
	comp=Z,2µm,18.0s								
ESDC	**Sonseca Array**	**88.51**	**0**	P	**P**	**08 25 23.1**	**-1.4**		
	comp=Z,1.4nm,0.8s,baz=349,slow=4.5,SNR=9.9								
ESDC	**Sonseca Array**	**88.51**	**0**	P	**P**	**08 25 22.2**	**-2.2**		
PSBE	**So Bento**	**88.56**	**4**	*e*S	**S**	**08 36 10.8**	**+1.1**		
PSBE				*e*SS	SS	08 42 15.2	+17		
MMAI	**Mount Meron Ar**	**88.60**	**328**	P	**P**	**08 25 25.0**	**0.0**		
	comp=Z,4.5nm,0.7s,baz=298,slow=39,SNR=2.1								
KARP	**Karpathos**	**88.62**	**335**	IAMs_20	IAMs_20	09 07 55.7			
	comp=Z,2µm,20.0s								
PMRV	**Marv??o**	**88.69**	**3**	*e*S	**S**	**08 36 11.0**	**0.0**		
PMRV				*e*SS	**SS**	**08 42 01.3**	**+0.7**		
PMRV				*e*LR	LR	08 51 57.5			
	comp=Z,1µm,18.0s								
PMTG	**Montargil**	**89.02**	**4**	*e*S	**S**	**08 36 16.3**	**+2.3**		
PMTG				*e*SS	**SS**	**08 42 12.0**	**+6.7**		
PMAFR	**Mafra**	**89.09**	**5**	*e*S	**S**	**08 36 16.8**	**+2.1**		
PMAFR				*e*SS	**SS**	**08 42 14.1**	**+7.8**		
STKA	**Stephens Creek**	**89.13**	**209**	P	**P**	**08 25 27.3**	**+0.3**		
	comp=Z,36nm,1.2s,baz=359,slow=5.9,SNR=8.6								
STKA				LR	LR	09 05 14.0			
	comp=Z,846nm,18.2s,baz=14,slow=36								
CLTB	**Caltabellotta**	**89.43**	**347**	IAMs_20	IAMs_20	09 09 52.1			
	comp=Z,3µm,19.0s								
PNCL	**Nicolau / Gran**	**89.97**	**4**	*e*S	**S**	**08 36 31.0**	**+8.2**		
PVAQ	**Vaqueiros**	**90.70**	**3**	*e*S	**S**	**08 36 33.8**	**+4.1**		
PVAQ	**Vaqueiros**	**90.70**	**3**	*e*LR	LR	08 56 37.5			
	comp=Z,2µm,18.0s								
PVAQ	**Vaqueiros**	**90.70**	**3**	IAMs_20	IAMs_20	09 14 25.0			
	comp=Z,2µm,18.0s								
PBDV	**Barranco-do-Ve**	**90.86**	**4**	*e*S	**S**	**08 36 35.6**	**+4.5**		
PBDV				*e*SS	**SS**	**08 42 38.8**	**+6.9**		
PFVI	**Vila Bisbo**	**90.93**	**4**	*e*S	**S**	**08 36 35.5**	**+3.8**		
KEST	**Kesra**	**91.74**	**350**	P	**P**	**08 25 38.8**	**-0.8**		
	comp=Z,5.6nm,0.8s,baz=22,slow=4.3,SNR=6.1								
KEST	**Kesra**	**91.74**	**350**	IAmb	IAmb	08 25 49.5			
	comp=Z,26nm,1.3s								
SABA	**Saba**	**93.34**	**56**	IAMs_20	IAMs_20	09 09 40.7			
	comp=Z,3µm,21.0s								
RAYN	**Ar Rayn**	**93.35**	**316**	IAMs_20	IAMs_20	09 12 18.6			
	comp=Z,3µm,19.0s								
SEUS	**St. Eustatius**	**93.58**	**56**	IAMs_20	IAMs_20	09 06 59.1			
	comp=Z,4µm,22.0s								
SKI	**Saint Kitts**	**93.84**	**55**	IAMs_20	IAMs_20	09 06 01.9			
	comp=Z,5µm,22.0s								
ANWB	**Willy Bob**	**94.04**	**54**	IAMs_20	IAMs_20	09 06 29.0			
	comp=Z,4µm,22.0s								
RTC	**Rabat Centre**	**94.14**	**3**	IAMs_20	IAMs_20	09 16 12.9			
	comp=Z,4µm,18.0s								
PMOZ	**Porto Moniz, M**	**94.50**	**12**	*e*S	S	08 37 17.1	+13		
PMOZ				*e*SS	**SS**	**08 43 32.0**	**+7.6**		
PMOZ	**Porto Moniz, M**	**94.50**	**12**	*e*LR	LR	09 00 54.1			
	comp=Z,1µm,18.0s								
HATO	**Hato, Curacao**	**94.84**	**63**	IAMs_20	IAMs_20	09 10 18.1			
	comp=Z,3µm,19.0s								
SDV	**Santo Domingo**	**96.60**	**66**	IAMs_20	IAMs_20	09 10 36.2			
	comp=Z,3µm,20.0s								
FDF	**Fort de France**	**96.84**	**55**	IAMs_20	IAMs_20	09 07 36.5			
	comp=Z,4µm,22.0s								
ROSC	**El Rosal**	**97.76**	**72**	LR	LR	09 15 14.8			
	comp=Z,1µm,19.4s,baz=354,slow=38								
ROSC	**El Rosal**	**97.76**	**72**	IAMs_20	IAMs_20	09 15 42.3			
	comp=Z,2µm,21.0s								
MCLT	**Moule a Chique**	**97.81**	**56**	IAMs_20	IAMs_20	09 08 21.7			
	comp=Z,4µm,22.0s								
SVB	**Belmont**	**98.03**	**56**	IAMs_20	IAMs_20	09 10 25.9			
	comp=Z,4µm,21.0s								
DAMY	**Dhamar**	**101.72**	**313**	IAMs_20	IAMs_20	09 18 08.2			
	comp=Z,3µm,19.0s								
ATD	**Arta Tunnel**	**105.09**	**313**	IAMs_20	IAMs_20	09 19 06.7			
	comp=Z,2µm,19.0s								
FURI	**Furi**	**109.28**	**315**	IAMs_20	IAMs_20	09 22 28.3			
	comp=Z,1µm,19.0s								
PTGA	**Pitinga**	**110.46**	**63**	IAMs_20	IAMs_20	09 16 58.2			
	comp=Z,2µm,21.0s								
TOC1	**Torodi Ar. Sit**	**114.76**	**354**	IAMs_20	IAMs_20	09 28 52.0			
	comp=Z,2µm,18.0s								
TOB1	**Torodi Ar. Sit**	**114.77**	**354**	IAMs_20	IAMs_20	09 28 51.3			
	comp=Z,2µm,18.0s								
TOC2	**Torodi Ar. Sit**	**114.77**	**354**	IAMs_20	IAMs_20	09 28 51.4			
	comp=Z,2µm,18.0s								
TOB5	**Torodi Ar. Sit**	**114.78**	**354**	IAMs_20	IAMs_20	09 28 51.6			
	comp=Z,2µm,18.0s								
TOA0	**Torodi Ar. Sit**	**114.78**	**354**	IAMs_20	IAMs_20	09 28 51.7			
	comp=Z,2µm,18.0s								
TOA2	**Torodi Ar. Sit**	**114.78**	**354**	IAMs_20	IAMs_20	09 28 51.7			
	comp=Z,2µm,18.0s								
TORD	**Torodi Ar. Bea**	**114.78**	**354**	PKP	**PKiKP**	**08 31 10.9**	**-1.8**		
	comp=Z,1.5nm,0.5s,baz=343,slow=2.3,SNR=9.8								
TORD				PKKPbc	**PKKPab**	**08 41 54.0**	**-4.4**		
	comp=Z,1.7nm,0.6s,baz=180,slow=3.6,SNR=7.1								
TORD	**Torodi Ar. Bea**	**114.78**	**354**		**PKiKP**	**08 31 12.0**	**-0.8**		
TOA3	**Torodi Ar. Sit**	**114.79**	**354**	IAMs_20	IAMs_20	09 28 51.8			
	comp=Z,2µm,18.0s								
TOC3	**Torodi Ar. Sit**	**114.79**	**354**	IAMs_20	IAMs_20	09 28 52.9			
	comp=Z,2µm,19.0s								
TOB3	**Torodi Ar. Sit**	**114.79**	**354**	IAMs_20	IAMs_20	09 28 51.9			
	comp=Z,2µm,18.0s								
TOB4	**Torodi Ar. Sit**	**114.79**	**354**	IAMs_20	IAMs_20	09 28 51.9			
	comp=Z,2µm,18.0s								
TOC5	**Torodi Ar. Sit**	**114.81**	**355**	IAMs_20	IAMs_20	09 28 51.2			
	comp=Z,3µm,18.0s								
TOC4	**Torodi Ar. Sit**	**114.81**	**354**	IAMs_20	IAMs_20	09 28 52.4			
	comp=Z,2µm,19.0s								
SAML	**Samuel**	**115.36**	**71**	IAMs_20	IAMs_20	09 23 25.2			
	comp=Z,2µm,20.0s								
KMBO	**Kilima Mbogo**	**118.82**	**312**	IAMs_20	IAMs_20	09 26 35.5			
	comp=Z,2µm,22.0s								
MBAR	**Mbarara**	**121.16**	**319**	IAMs_20	IAMs_20	09 29 22.1			
	comp=Z,1µm,20.0s								
DBIC	**Dimbokro**	**121.36**	**2**	PKP	**PKPdf**	**08 31 24.0**	**-1.4**		
	comp=Z,2.9nm,0.5s,baz=341,slow=3.0,SNR=10								
TIC	**Toumodi**	**121.38**	**2**	*e*P	**PKPdf**	**08 31 23.9**	**-1.6**		
KIC	**Kosan Boka**	**121.67**	**2**	*e*P	**PKPdf**	**08 31 21.3**	**-4.7**		
	comp=Z,80nm,1.6s								
PB09	**IPOC Station P**	**121.70**	**85**		**PKPdf**	**08 31 25.1**	**-0.8**		
LIC	**Lamto**	**121.80**	**2**	*e*P	**PKPdf**	**08 31 24.8**	**-1.4**		
	comp=Z,25nm,1.0s								
AC04	**Llanos de Chal**	**125.26**	**92**	IAMs_20	IAMs_20	09 19 03.5			
	comp=Z,1µm,20.0s								
AC05	**El Transito**	**126.20**	**92**	PKPdf	**PKPdf**	**08 31 33.8**	**-0.6**		
RCBR	**Riachuelo**	**126.61**	**42**	IAMs_20	IAMs_20	09 26 40.9			
	comp=Z,2µm,19.0s								
MT02	**Curacav**	**128.75**	**96**	IAMs_20	IAMs_20	09 20 58.2			
	comp=Z,2µm,18.0s								
ZON	**Zonda**	**129.09**	**93**	IAMs_20	IAMs_20	09 25 07.2			
	comp=Z,2µm,18.0s								
BDFB	**Brasilia**	**129.32**	**61**	PKP	**PKPdf**	**08 31 40.1**	**-0.5**		
	comp=Z,3.8nm,0.8s,baz=343,slow=5.3,SNR=4.7								
BDFB	**Brasilia**	**129.32**	**61**	PKIKP	**PKPdf**	**08 31 39.8**	**-0.8**		
BDFB				MLR	MLR				
	comp=Z,3µm,21.0s								
BDFB	**Brasilia**	**129.32**	**61**	PKPdf	**PKPdf**	**08 31 39.8**	**-0.8**		
CFA	**Coronel Fontan**	**129.40**	**93**	SKPbc	SKPab	08 35 00.5	+0.6		
	comp=Z,1.4nm,0.3s,baz=314,slow=6.7,SNR=4.7								
VNDA	**Vanda**	**129.76**	**184**	PKP	**PKPdf**	**08 31 39.4**	**-0.1**		
	comp=Z,0.9nm,0.8s,baz=322,slow=4.5,SNR=4.2								
VNDA				SKPbc	SKPbc	08 35 01.0	+0.5		
	comp=Z,2.6nm,1.0s,baz=319,slow=4.0,SNR=5.2								
BI03	**Tigo**	**130.00**	**101**	IAMs_20	IAMs_20	09 21 07.9			
	comp=Z,2µm,18.0s								
BI02	**San Fabin de**	**130.94**	**100**	PKPdf	**PKPdf**	**08 31 42.5**	**-0.5**		
BI02				IAMs_20	IAMs_20	09 20 46.8			
	comp=Z,2µm,20.0s								
LC01	**Cunco**	**132.02**	**102**	PKPdf	**PKPdf**	**08 31 44.2**	**-0.8**		
LC01				IAMs_20	IAMs_20	09 20 43.4			
	comp=Z,2µm,20.0s								
CPUP	**Villa Florida**	**132.32**	**79**	PKP	**PKPdf**	**08 31 45.1**	**-0.8**		
	comp=Z,2.3nm,0.9s,baz=32,slow=7.9,SNR=3.5								
CPUP				SKPbc	**SKPbc**	**08 35 11.7**	**+0.4**		
	comp=Z,2.8nm,1.0s,baz=337,slow=3.3,SNR=3.0								
PLCA	**Paso Flores**	**133.97**	**103**	PKP	**PKPdf**	**08 31 48.7**	**+0.1**		
	comp=Z,4.6nm,0.8s,baz=276,slow=3.6,SNR=7.1								
PLCA	**Paso Flores**	**133.97**	**103**	PKIKP	**PKPdf**	**08 31 48.0**	**-0.6**		
PLCA	**Paso Flores**	**133.97**	**103**	PKPdf	**PKPdf**	**08 31 48.0**	**-0.6**		
LSZ	**Lusaka**	**135.42**	**314**	IAMs_20	IAMs_20	09 37 42.2			
	comp=Z,2µm,19.0s								
MATP	**Matopo**	**139.76**	**310**	PKP	**PKPdf**	**08 31 59.5**	**-0.5**		
	comp=Z,3.4nm,0.9s,baz=13,slow=0.9,SNR=5.7								
QSPA	**South Pole Qui**	**141.94**	**180**	PKP	**PKPdf**	**08 32 01.6**	**-0.8**		
	comp=Z,9.4nm,0.6s								
QSPA	**South Pole Qui**	**141.94**	**180**		**PKPdf**	**08 32 01.2**	**-1.2**		
TSUM	**Tsumeb**	**143.20**	**326**	PKP	PKPbc	08 32 04.6	+1.4		
	comp=Z,5.8nm,0.9s,baz=67,slow=23,SNR=9.6								
TSUM	**Tsumeb**	**143.20**	**326**	PKPdf	**PKPdf**	**08 32 05.6**	**-0.7**		
LBTB	**Lobatse**	**145.06**	**310**	PKIKP	**PKPab**	**08 32 08.7**	**-0.1**		
LBTB	**Lobatse**	**145.06**	**310**		**PKPab**	**08 32 08.7**	**-0.1**		
MAW	**Mawson**	**145.35**	**218**	PKPbc	**PKPbc**	**08 32 07.6**	**-0.6**		
	comp=Z,17nm,0.5s,baz=103,slow=8.4,SNR=7.7								
MAW	**Mawson**	**145.35**	**218**	PKIKP	**PKPbc**	**08 32 07.0**	**-1.2**		
MAW	**Mawson**	**145.35**	**218**		**PKPbc**	**08 32 07.0**	**-1.2**		
BOSA	**Boshof**	**148.24**	**307**	PKPbc	**PKPbc**	**08 32 17.1**	**-0.8**		
	comp=Z,9.6nm,0.6s,baz=24,slow=3.0,SNR=21								
BOSA	**Boshof**	**148.24**	**307**	PKP2	**PKPbc**	**08 32 16.9**	**-1.0**		
BOSA	**Boshof**	**148.24**	**307**		**PKPbc**	**08 32 16.9**	**-1.0**		
SYO	**Syowa Base**	**153.79**	**214**	⇑*ep*PKPdf	pPKPdf	08 32 25.2	-2.1		
SYO	**Syowa Base**	**153.79**	**214**	⇑*ep*PKiKP	**PKiKP**	**08 32 32.4**	**+2.8**		
SYO	**Syowa Base**	**153.79**	**214**	⇑*ep*PKPbc	pPKPbc	08 32 33.0	-2.1		
SYO	**Syowa Base**	**153.79**	**214**	⇑*es*PKPbc	sPKPbc	08 32 36.4	-0.9		
SNAA	**Sanae**	**160.44**	**181**	PKPdf	**PKPdf**	**08 32 28.6**	**-1.5**		
SNAA	**Sanae**	**160.44**	**181**	PKIKP	**PKPdf**	**08 32 28.3**	**-1.8**		
SNAA						08 33 09.7			
SNAA	**Sanae**	**160.44**	**181**	PKPdf	**PKPdf**	**08 32 28.2**	**-1.8**		
SNAA					**PKPab**	**08 33 09.7**	**-1.7**		
VNA3	**Neumayer Olymp**	**160.67**	**174**	PKPdf	**PKPdf**	**08 32 29.0**	**-1.3**		
VNA2	**Neumayer--Watz**	**161.11**	**176**	PKPdf	**PKPdf**	**08 32 29.2**	**-1.6**		
	baz=190,slow=2.9								
VNA1	**Neumayer--Stat**	**161.34**	**175**	PKPdf	**PKPdf**	**08 32 31.6**	**+0.7**		

*IDC **24** 08:15:34.9±0.8,30°.10S×177°.63W,h0km,mb4.4/7, mb1 4.5/8,mb1mx4.1/38,mbtmp4.4/8,ML4.1/1,Error ellipse: s-maj=25.4km s-min=16.2km az=81.0*

*NEIC **24** 08:15:35.5±2.2,30°.10S±0°.07×177°.3W±0°.1,h11km±3km, mb4.6/15,Error ellipse: s-maj=15.1km s-min=9.1km az=73.0*

ISC 24 08:15:35.6±0.6,30°.09S±0°.07×177°.21W±0°.09,h10km,n53, σ1s57/51,mb4.5/10,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.04**	**324**	Pn	**Pn**	**08 15 55.5**	**-0.6**
	950nm,0.3s,baz=96,slow=8.2,SNR=33						
RAO				Sn	**Sn**	**08 16 09.7**	**-1.0**
	4µm,0.3s,baz=146,slow=23,SNR=18						
RAO	**Raoul Island**	**1.04**	**324**		**Pn**	**08 15 56.1**	**-0.1**
RAO				Sn	**Sn**	**08 16 09.6**	**-1.0**
OUZ	**Omahuta**	**9.28**	**234**	Pn	**Pn**	**08 17 53.4**	**+3.9**
BFZ	**Birch Farm**	**11.83**	**205**	Pn	**Pn**	**08 18 24.3**	**-0.1**
THZ	**Tophouse**	**14.12**	**212**	Pn	**Pn**	**08 18 55.6**	**-0.1**
OXZ	**Oxford**	**15.75**	**210**	Pn	**Pn**	**08 19 13.4**	**-4.1**
OXZ				IAmb	IAmb	08 19 20.1	
	comp=Z,13nm,0.5s						
RPZ	**Rata Peaks**	**16.50**	**211**	Pn	**Pn**	**08 19 24.6**	**-2.4**
	comp=Z,0.7nm,0.3s,baz=57,slow=21,SNR=2.1						
RPZ	**Rata Peaks**	**16.50**	**211**		**Pn**	**08 19 25.1**	**-1.9**
DZM	**Mont Dzumac**	**16.70**	**295**	Pn	**P**	**08 19 33.2**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=83,slow=15,SNR=2.2						
RAR	**Rarotonga**	**18.02**	**65**	Pn	**Pn**	**08 19 45.3**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=195,slow=22,SNR=2.0						
RAR	**Rarotonga**	**18.02**	**65**	P	**Pn**	**08 19 45

QSPA					IAmb	IAmb	08 37 22.9		
	comp=Z,4.8nm,1.4s								
FINES	**FINESS Array B**	**143.75**	**341**	PKP		**PKPdf**	**08 46 32.5**	**-0.7**	
	comp=Z,2.3nm,0.9s,baz=56,slow=3.5,SNR=2.8								

*SJA **24** 08:38:22.5±0.9, 27°.58S×70°.80W, h22km±6km, ML3.5, MW3.7*
*GUC **24** 08:38:22.1±0.8, 27°.48S×70°.64W, h52km±4km, ML3.8*
*NEIC **24** 08:38:23.6±2.4, 27°.44S±0°.04×70°.70W±0°.08, h39km±22km, Error ellipse: s-maj=10.6km s-min=5.5km az=109.0*
*IDC **24** 08:38:27.0±3.5, 27°.22S×69°.99W, h64km±22km, mb3.6/1, mb1 3.4/5, mb1mx3.3/30, mbtmp3.6/5, MS3.9/1, Ms1 3.9/1, ms1mx3.0/29, Error ellipse: s-maj=84.0km s-min=15.2km az=84.0*

ISC 24 08:38:22.4±1.0, 27°.45S±0°.04×70°.76W±0°.06, h43km±11km, n48, σ1§92/56, 2C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO03	**Copiap**	**0.48**	**107**	*eP*	**Pn**	**08 38 33.2**	**+0.1**
GO03				*eS*	**Sn**	**08 38 40.8**	**+0.1**
GO03				IAML		08 38 41.5	
	comp=E,17μm,0.3s						
GO03	**Copiap**	**0.48**	**107**		**Pn**	**08 38 33.6**	**+0.5**
GO03				Sn	**Sn**	**08 38 40.6**	**-0.1**
GO03	**Copiap**	**0.48**	**107**	*eP*	**Pn**	**08 38 33.4**	**+0.2**
GO03				*i* S	**Sn**	**08 38 40.8**	**+0.1**
AC04	**Llanos de Chal**	**0.80**	**201**	↑*iP*	**Pn**	**08 38 39.3**	**+2.1**
AC04				IAML		08 38 53.3	
	comp=E,4μm,0.1s						
AC04	**Llanos de Chal**	**0.80**	**201**		**Pn**	**08 38 39.4**	**+2.1**
AC04				Sn	**Sn**	**08 38 50.8**	**+2.7**
AC01	**Pan de Azucar**	**1.31**	**6**	*i* P	**Pn**	**08 38 45.8**	**+1.5**
AC01				*i* S	**Sn**	**08 39 03.6**	**+3.1**
AC01				IAML		08 39 06.0	
	comp=E,2μm,0.1s						
AC01	**Pan de Azucar**	**1.31**	**6**		**Pn**	**08 38 45.8**	**+1.5**
AC05	**El Transito**	**1.44**	**163**	↓*eP*	**Pn**	**08 38 47.6**	**+1.4**
AC05				*i* S	**Sn**	**08 39 05.7**	**+1.7**
AC05				IAML		08 39 08.5	
	comp=N,1μm,0.2s						
AC05	**El Transito**	**1.44**	**163**		**Pn**	**08 38 47.6**	**+1.4**
AC02	**Maricunga**	**1.57**	**67**	↓*iP*	**Pn**	**08 38 49.6**	**+1.3**
AC02				IAML		08 39 11.1	
	comp=N,2μm,0.2s						
AC02	**Maricunga**	**1.57**	**67**		**Pn**	**08 38 49.6**	**+1.3**
GO02	**Mina Guanaco**	**2.51**	**25**	*eP*	**Pn**	**08 39 02.6**	**+1.6**
GO02				*eS*	**Sn**	**08 39 34.0**	**+3.4**
GO02				IAML		08 39 45.9	
	comp=N,620nm,0.5s						
GO02	**Mina Guanaco**	**2.51**	**25**	Pn	**Pn**	**08 39 02.6**	**+1.6**
CO01	**Juntas del Tor**	**2.58**	**167**		**Pn**	**08 39 04.0**	**+2.1**
VCA	**Vinchina**	**2.59**	**120**	*eP*	**Pn**	**08 39 05.5**	**+3.5**
VCA				IAML		08 39 45.5	
	comp=Z,271nm,0.5s						
GO04	**Tololo Observa**	**2.71**	**181**	↑*iP*	**Pn**	**08 39 05.2**	**+1.5**
GO04	**Tololo Observa**	**2.71**	**181**		**Pn**	**08 39 05.2**	**+1.5**
GO04	**Tololo Observa**	**2.71**	**181**	*i* P	**Pn**	**08 39 05.2**	**+1.5**
AROD	**Rodeo**	**2.93**	**158**	*i* P	**Pn**	**08 39 10.4**	**+3.6**
ACDV	**Cuesta del Vie**	**3.06**	**152**	*i* P	**Pn**	**08 39 12.2**	**+3.6**
ACDV				IAML		08 40 07.7	
	comp=Z,62nm,0.6s						
CO03	**El Pedregal**	**3.37**	**179**		**Pn**	**08 39 14.1**	**+1.4**
ACCO	**Cerro Coronel**	**3.46**	**155**	*i* P	**Pn**	**08 39 17.5**	**+3.5**
ACCO				IAML		08 40 10.9	
	comp=Z,132nm,0.3s						
CO02	**Combarbal**	**3.74**	**183**		**Pn**	**08 39 18.2**	**+0.4**
ACLC	**CERRO LA CRUZ**	**3.88**	**121**	*eP*	**Pn**	**08 39 24.0**	**+4.2**
PB15	**IPOC Station P**	**4.38**	**16**		**Pn**	**08 39 27.6**	**+0.9**
CYA	**Choya**	**4.49**	**104**	*i* P	**Pn**	**08 39 28.9**	**+0.9**
CYA				*eS*	**Sn**	**08 40 19.9**	**+0.9**
CYA				IAML		08 40 24.8	
	comp=Z,77nm,0.7s						
CYA				*i* S		08 40 25.1	
CFA	**Coronel Fontan**	**4.68**	**153**	P	**Pn**	**08 39 32.8**	**+2.1**
	comp=Z,5.6nm,0.3s,baz=344,slow=12,SNR=36						
CFA				S	**Sn**	**08 40 27.9**	**+4.2**
	comp=Z,10nm,0.3s,baz=114,slow=19,SNR=7.7						
APLL	**PUNTA DE LOS L**	**4.72**	**129**	*eP*	**Pn**	**08 39 32.3**	**+1.1**
PB06	**IPOC Station P**	**4.85**	**13**		**Pn**	**08 39 35.0**	**+2.0**
LVC	**Limon Verde**	**5.11**	**20**	P	**Pn**	**08 39 37.0**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=181,slow=8.4,SNR=21						
LVC				S	**Sn**	**08 40 33.0**	**-1.6**
	comp=Z,6.3nm,0.3s,baz=113,slow=8.0,SNR=4.0						
VA03	**San Esteban**	**5.29**	**178**		**Pn**	**08 39 38.6**	**-0.4**
ROC1	**El Roble**	**5.51**	**182**		**Pn**	**08 39 43.1**	**+0.9**
ROC1	**El Roble**	**5.51**	**182**	*i* P	**Pn**	**08 39 42.1**	**-0.1**
MT02	**Curacav**	**5.80**	**183**	Pn	**Pn**	**08 39 45.5**	**-0.4**
PB09	**IPOC Station P**	**5.80**	**14**	Pn	**Pn**	**08 39 46.4**	**+0.3**
PB01	**IPOC Station P**	**6.49**	**11**	Pn	**Pn**	**08 39 57.5**	**+2.0**
MRA	**San Martin**	**6.60**	**140**	*i* P	**Pn**	**08 39 57.8**	**+0.8**
MRA				IAML		08 42 00.7	
	comp=Z,12nm,0.8s						
BO02	**Sierra Bellavi**	**7.32**	**180**	Pn	**Pn**	**08 40 05.6**	**-1.2**
GO05	**Huala**	**7.60**	**187**	Pn	**Pn**	**08 40 08.1**	**-2.5**
PSGCX	**Pisagua**	**7.84**	**4**	Pn	**Pn**	**08 40 15.8**	**+1.7**
MNMC	**Minye Minye**	**8.35**	**8**	Pn	**Pn**	**08 40 21.4**	**+0.2**
LPAZ	**La Paz**	**11.38**	**13**	P	**Pn**	**08 41 01.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=217,slow=10,SNR=1.7						
LPAZ	**La Paz**	**11.38**	**13**		**Pn**	**08 41 01.6**	**-1.3**
SIV	**San Ignacio**	**14.52**	**40**	P	Pn	08 41 39.3	-5.9
	comp=Z,0.2nm,0.3s,baz=219,slow=14,SNR=1.9						
ATAH	**Atahualpa**	**21.47**	**339**	LR	LR	08 51 41.2	
	comp=Z,292nm,18.7s,baz=236,slow=37						
TORD	**Torodi Ar. Bea**	**80.95**	**70**	P	**P**	**08 50 31.5**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=255,slow=5.4,SNR=3.4						
ZALV	**Zalesovo Beam**	**148.01**	**27**	PKPbc	**PKPbc**	**08 58 03.0**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=302,slow=3.9,SNR=6.2						
MKAR	**Makanchi Array**	**151.34**	**40**	PKPbc	**PKPbc**	**08 58 10.9**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=291,slow=2.1,SNR=13						

SJA 24 08:54:32.0±0.6, 22°.85S×66°.17W, h275km±5km, ML3.5, MW3.4, 1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HJA	**Humahuaca**	**0.79**	**117**	*i* P	Pn	08 55 10.0	+0.7
HJA				*i* S	S	08 55 37.5	-1.1
YJA	**Yavi**	**0.90**	**43**	*i* P	Pn	08 55 10.7	+0.8
YJA				*i* S	S	08 55 35.0	-4.7
LVC	**Limon Verde**	**2.54**	**275**	*i* P	Pn	08 55 21.8	-0.1
PB09	**IPOC Station P**	**3.03**	**290**	*i* P	Pn	08 55 27.1	+0.4
PB15	**IPOC Station P**	**3.06**	**263**	*i* P	Pn	08 55 27.0	+0.1
PB15				*i* S	S	08 56 08.3	-2.3
PB06	**IPOC Station P**	**3.14**	**272**	*i* P	Pn	08 55 28.1	+0.4
PB06				IAML		08 56 12.7	
	comp=Z,48nm,0.1s						
PB04	**IPOC Station P**	**3.71**	**277**	*i* P	Pn	08 55 34.4	+0.5
PB04				IAML		08 56 25.9	
	comp=Z,51nm,0.2s						
PB05	**IPOC Station P**	**3.72**	**269**	↓*iP*	Pn	08 55 34.3	+0.3
PB05				IAML		08 56 25.7	
	comp=Z,24nm,0.3s						
APLL	**PUNTA DE LOS L**	**7.53**	**182**	*i* P	Pn	08 56 19.2	-0.3
ACDV	**Cuesta del Vie**	**7.76**	**199**	*i* P	Pn	08 56 23.5	+0.9
ACDV				IAML		08 57 58.0	
	comp=Z,7.7nm,3.4s						
ACCO	**Cerro Coronel**	**8.13**	**198**	*i* P	Pn	08 56 27.9	+0.6

*IDC **24** 09:02:28.1±2.1, 29°.97S×177°.10W, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/42, mbtmp3.8/4, Error ellipse: s-maj=49.6km s-min=27.5km az=60.0*
*NEIC **24** 09:02:32.7±2.5, 29°.85S±0°.1×177°.2W±0°.1, h24km±2km, mb4.3/8, Error ellipse: s-maj=20.7km s-min=13.8km az=49.0*

ISC 24 09:02:31.7±1.7, 29°.85S±0°.1×177°.1W±0°.2, h24km, n21, σ1§56/21, mb4.2/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.94**	**308**	Pn	**Pn**	**09 02 49.6**	**+0.3**
	228nm,0.3s,baz=104,slow=11,SNR=9.2						
RAO				Sn	**Sn**	**09 03 01.7**	**-0.2**
	236nm,0.3s,baz=268,slow=21,SNR=4.0						
OUZ	**Omahuta**	**9.53**	**233**	Pn	**Pn**	**09 04 49.1**	**+1.7**
URZ	**Urewera**	**9.69**	**208**	Pn	**Pn**	**09 04 48.9**	**-0.6**
BKZ	**Black Stump Fm**	**10.71**	**208**	Pn	**Pn**	**09 05 05.1**	**+1.5**
THZ	**Tophouse**	**14.40**	**212**	Pn	**Pn**	**09 05 49.8**	**-4.3**
KHZ	**Kahutara**	**14.65**	**209**	Pn	**Pn**	**09 05 59.2**	**+1.8**

CTAO	**Charters Tower**	**34.51**	**278**	P		**P**	**09 09 17.1**	**-1.1**	
CTAO				IAmb		IAmb	09 09 29.3		
	comp=Z,5.7nm,1.2s								
STKA	**Stephens Creek**	**35.39**	**256**	P		**P**	**09 09 26.1**	**+0.4**	
	comp=Z,2.3nm,0.8s,baz=104,slow=15,SNR=2.9								
AS31	**Alice Springs**	**43.94**	**266**	P		**P**	**09 10 36.8**	**-0.2**	
ASAR	**Alice Springs**	**43.94**	**266**	P		**P**	**09 10 36.8**	**-0.3**	
	comp=Z,0.8nm,1.0s,baz=105,slow=7.5,SNR=9.6								
ASAR	**Alice Springs**	**43.94**	**266**	P		**P**	**09 10 37.6**	**+0.6**	
WR0	**Warramunga Arr**	**44.70**	**271**	P		**P**	**09 10 42.7**	**-0.4**	
WR0				IAmb		IAmb	09 10 55.2		
	comp=Z,5.1nm,1.3s								
WB2	**Warramunga Arr**	**44.87**	**271**	P		**P**	**09 10 45.3**	**+0.8**	
WB2				IAmb		IAmb	09 10 52.8		
	comp=Z,3.5nm,1.0s								
WRAB	**Tennant Creek**	**44.88**	**271**	P		**P**	**09 10 44.2**	**-0.3**	
WRA	**Warramunga Arr**	**44.88**	**271**	P		**P**	**09 10 43.6**	**-1.0**	
	comp=Z,1.0nm,0.6s,baz=111,slow=8.0,SNR=7.5								
WRA	**Warramunga Arr**	**44.88**	**271**	P		**P**	**09 10 41.7**	**-2.8**	
WB0	**Warramunga Arr**	**44.90**	**271**	P		**P**	**09 10 45.2**	**+0.5**	
WB0				IAmb		IAmb	09 11 02.0		
	comp=Z,7.1nm,1.2s								
QSPA	**South Pole Qui**	**60.27**	**180**	P		**P**	**09 12 37.2**	**-0.8**	
	comp=Z,0.5nm,0.9s,baz=324,slow=1.4,SNR=1.0								
QSPA	**South Pole Qui**	**60.27**	**180**	P		**P**	**09 12 40.0**	**+2.0**	
QSPA				IAmb		IAmb	09 12 52.0		
	comp=Z,2.6nm,1.5s								
FINES	**FINESS Array B**	**144.88**	**341**	PKPbc		PKPbc	09 22 05.2	0.0	
	comp=Z,1.2nm,0.5s,baz=46,slow=3.6,SNR=6.8								
FINES	**FINESS Array B**	**144.88**	**341**			**PKPdf**	**09 22 06.2**	**+0.2**	

*IDC **24** 09:06:41.8±0.9, 20°.60N×120°.56E, h0km, mb4.1/7, mb1 4.2/8, mb1mx3.8/54, mbtmp4.0/8, ML3.3/1, Error ellipse: s-maj=36.5km s-min=17.7km az=70.0*
*NEIC **24** 09:06:46.7±2.5, 20°.68N±0°.08×120°.44E±0°.08, h35km±10km, mb4.3/11, Error ellipse: s-maj=12.6km s-min=10.5km az=148.0*

ISC 24 09:06:45.7±0.7, 20°.68N±0°.07×120°.4E±0°.1, h26km, n29, σ1§33/36, mb4.2/13, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWG	**Pinlang**	**2.21**	**15**	Pn	**Pn**	**09 07 20.1**	**-0.7**
TWG				Sn	**Sn**	**09 07 47.0**	**-0.3**
TPUB	**Ta-pu**	**2.62**	**4**	Pn	**Pn**	**09 07 27.5**	**+1.2**
TPUB				Sn	**Sn**	**09 07 56.2**	**-1.1**
YULB	**Yu-li**	**2.82**	**16**		**Pn**	**09 07 27.8**	**-1.3**
YULB				Sn	**Sn**	**09 08 00.5**	**-1.7**
SSLB	**Suanglung**	**3.13**	**9**	Pn	**Pn**	**09 07 33.2**	**-0.2**
SSLB				Sn	**Sn**	**09 08 08.7**	**-1.4**
NACB	**Ninganchiao**	**3.64**	**17**	Pn	**Pn**	**09 07 39.8**	**-0.6**
NACB				Sn	**Sn**	**09 08 23.9**	**+1.4**
YHNB	**Yeheng**	**4.07**	**12**	Pn	**Pn**	**09 07 46.9**	**+0.6**
YHNB				Sn	**Sn**	**09 08 33.7**	**+0.6**
KNMB	**Chin-men Tao**	**4.22**	**334**	Pn	**Pn**	**09 07 47.6**	**-0.7**
KNMB				Sn	**Sn**	**09 08 34.1**	**-2.6**
KSRS	**Korea Array**	**17.94**	**20**	P	**P**	**09 10 53.6**	**-0.1**
	0.1nm,0.3s,baz=198,slow=11,SNR=8.9						
MJAR	**Matsushiro Arr**	**22.15**	**41**	P	**P**	**09 11 39.8**	**+0.2**
	1.5nm,1.0s,baz=246,slow=4.8,SNR=2.1						
MK31	**Makanchi Array**	**40.45**	**319**	P	**P**	**09 14 23.9**	**+1.9**
MKAR	**Makanchi Array**	**40.45**	**319**	P	**P**	**09 14 23.8**	**+1.8**
	0.5nm,0.5s,baz=118,slow=9.2,SNR=5.9						
MKAR	**Makanchi Array**	**40.45**	**319**	P	**P**	**09 14 23.2**	**+1.2**
WB0	**Warramunga Arr**	**42.45**	**160**	P	**P**	**09 14 37.6**	**-1.1**
WB0				IAmb	IAmb	09 14 53.6	
	comp=Z,5.3nm,1.0s						
WRAB	**Tennant Creek**	**42.59**	**160**	P	**P**	**09 14 38.9**	**-0.9**
WRAB				IAmb	IAmb	09 14 44.8	
	comp=Z,7.8nm,1.1s						
WRA	**Warramunga Arr**	**42.60**	**160**	P	**P**	**09 14 37.7**	**-2.1**
	comp=Z,3.3nm,0.7s,baz=342,slow=9.1,SNR=22						
WRA	**Warramunga Arr**	**42.60**	**160**	P	**P**	**09 14 37.8**	**-2.1**
WB2	**Warramunga Arr**	**42.60**	**160**	P	**P**	**09 14 37.0**	**-2.8**
WB2				IAmb	IAmb	09 14 39.2	
	comp=Z,5.1nm,0.7s						
WR0	**Warramunga Arr**	**42.68**	**160**	P	**P**	**09 14 37.8**	**-2.7**
WR0				IAmb	IAmb	09 14 45.0	
	comp=Z,9.9nm,1.2s						
ZALV	**Zalesovo Beam**	**42.86**	**330**	P	**P**	**09 14 42.0**	**+0.5**
	comp=Z,4.2nm,0.7s,baz=114,slow=7.6,SNR=12						
ZALV	**Zalesovo Beam**	**42.86**	**330**	P	**P**	**09 14 41.8**	**+0.3**
AAK	**Ala-Archa**	**44.16**	**310**	P	**P**	**09 14 53.0**	**+0.6**
AAK				IAmb	IAmb	09 14 55.8	
	comp=Z,4.4nm,1.2s						
KURBB	**Kurchatov Arra**	**44.40**	**323**	P	**P**	**09 14 55.0**	**+0.9**
	comp=Z,2.9nm,0.8s,baz=125,slow=7.2,SNR=12						
AS31	**Alice Springs**	**45.98**	**163**	P	**P**	**09 15 07.7**	**+0.8**
ASAR	**Alice Springs**	**45.99**	**163**	P	**P**	**09 15 07.2**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=351,slow=7.5,SNR=22						
CTAO	**Charters Tower**	**47.75**	**146**	P	**P**	**09 15 21.0**	**+0.3**
ABKAR	**Akbulak array**	**55.44**	**316**	P	**P**	**09 16 18.5**	**+0.6**
ABKAR	**Akbulak array**	**55.44**	**316**	P	**P**	**09 16 19.2**	**+1.3**
STKA	**Stephens Creek**	**56.05**	**158**	P	**P**	**09 16 22.6**	**+0.2**
STKA				IAmb	IAmb	09 16 25.8	
	comp=Z,2.2nm,0.5s						
YKA	**Yellowknife Ar**	**86.46**	**22**	P	**P**	**09 19 25.5**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=316,slow=5.0,SNR=5.1						

*NEIC **24** 09:08:21.1±0.8, 51°.96N±0°.05×178°.3E±0°.1, h129km±6km, Error ellipse: s-maj=9.9km s-min=7.4km az=110.0*

AEIC 24 09:08:21±0.8, 51°.96N±0°.06×178°.3E±0°.1, h131km±5km, ML3.5, mb3.9/3(NEIC), Error ellipse: s-maj=9.3km s-min=8.3km az=90.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.16**	**92**		Pn	09 08 38.6	-0.3
LSNW	**Little Sitkin**	**0.16**	**85**		Pn	09 08 38.4	-0.5
LSPA	**Little Sitkin**	**0.20**	**90**		Pn	09 08 38.7	-0.3
CETU	**Semis' Tuman**	**0.77**	**89**		Pn	09 08 41.6	-0.3
CESW	**Semis' Southwe**	**0.81**	**93**		Pn	09 08 41.8	-0.6
CESW					Sn	09 08 57.7	-0.8
CEAP	**Semis' Anvil P**	**0.82**	**86**		Pn	09 08 42.0	-0.3
AMKA	**Amchitka**	**0.87**	**131**		Pn	09 08 42.4	-0.4
AMKA					Sn	09 08 58.2	-1.1
CERAA	**Semis' Rag'd T**	**0.89**	**93**		Pn	09 08 41.6	-1.3
GAEA	**Gareloi East**	**1.87**	**94**		Pn	09 08 53.1	-0.3
TASE	**Tanaga Southea**	**2.30**	**92**		Pn	09 08 58.0	-0.7
TAFP	**Tanaga Falls P**	**2.33**	**90**		Pn	09 08 58.1	-1.0
TAFP					Sn	09 09 28.2	-0.1
SMY	**Shemya**	**2.66**	**289**	Pn	Pn	09 09 03.8	+0.6
KIMD	**Kanaga Island**	**2.81**	**92**		Pn	09 09 04.1	-1.0
KICM	**Kanaga Island**	**2.82**	**89**		Pn	09 09 04.7	-0.5
ADK	**Adak**	**3.14**	**89**		Pn	09 09 08.0	-1.3
GSTR	**Great Sitkin T**	**3.52**	**86**		Pn	09 09 11.8	-2.5
ATKA	**Atka Island**	**4.67**	**84**	Pn	Pn	09 09 29.2	-0.3
CNBA	**Chernabura Isl**	**13.52**	**69**	Pn	Pn	09 11 26.8	-0.4
BILL	**Bilibino**	**17.15**	**345**	Pn	Pn	09 12 13.9	+1.6
BILL				IAmb	IAmb	09 12 16.6	
	comp=Z,4.7nm,0.3s						
OHAK	**Old Harbor**	**17.24**	**61**	P	P	09 12 11.4	-1.5
KDAK	**Kodiak Island**	**17.68**	**59**	P	P	09 12 16.0	-1.7
KDAK				IAmb	IAmb	09 12 24.5	
	comp=Z,9.4nm,1.2s						
CNPM	**China Poot**	**18.64**	**54**	P	P	09 12 27.9	-0.3
CNPM				IAmb	IAmb	09 12 34.6	
	comp=Z,1.1nm,0.6s						

*UNK **24** 09:08:56.6, 51°.77N×178°.31E, h104km*
*MOS **24** 09:08:57.9±0.9, 51°.96N×178°.38E, h127km, mb4.4/34, Error ellipse: s-maj=8.6km s-min=7.6km az=82.0*
*IDC **24** 09:08:57.9±0.7, 51°.91N×178°.37E, h114km±5km, mb4.1/25, mb1 4.2/27, mb1mx4.0/56, mbtmp4.5/27, MS4.0/1, Ms1 4.0/1, ms1mx3.2/65, Error ellipse: s-maj=15.7km s-min=9.4km az=175.0*
*NEIC **24** 09:08:58.1±1.5, 51°.83N±0°.09×178°.35E±0°.08, h118km±5km, Error ellipse: s-maj=13.5km s-min=6.8km az=185.0*
*AEIC **24** 09:08:58.5±1.6, 51°.82N±0°.08×178°.26E±0°.08, h119km±4km, ML4.3, mb4.7/257(NEIC), Error ellipse: s-maj=11.4km s-min=6.7km az=191.0*

ISC 24 09:08:57.6±0.5, 51°.84N±0°.06×178°.28E±0°.03, h116km±4km, n624, σ1§06/593, mb4.6/155, 4C-7D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.18**	**51**		**Pn**	**09 09 14.3**	**+0.7**

LSPA	**Little Sitkin**	**0.22**	**56**			**Pn**	**09 09 14.5**	**+0.8**	
CETU	**Semis' Tuman**	**0.76**	**80**			**Pn**	**09 09 17.8**	**+0.8**	
AMKA	**Amchitka**	**0.78**	**125**			**Pn**	**09 09 17.6**	**+0.5**	
AMKA						**Sn**	**09 09 32.0**	**+0.1**	
CESW	**Semis' Southwe**	**0.80**	**85**			**Pn**	**09 09 17.8**	**+0.5**	
CEAP	**Semis' Anvil P**	**0.82**	**78**			**Pn**	**09 09 18.3**	**+0.9**	
GAEA	**Gareloi East**	**1.84**	**90**			**Pn**	**09 09 29.2**	**+0.4**	
TASE	**Tanaga Southea**	**2.28**	**89**			**Pn**	**09 09 34.5**	**+0.1**	
TAFP	**Tanaga Falls P**	**2.32**	**87**			**Pn**	**09 09 35.0**	**+0.2**	
TAFP						**Sn**	**09 10 02.8**	**-0.5**	
TAPA	**Tanaga Point A**	**2.42**	**89**			**Pn**	**09 09 36.3**	**+0.1**	
SMY	**Shemya**	**2.72**	**291**	P		**Pn**	**09 09 39.9**	**-0.1**	
SMY							09 10 13.2		
SMY	**Shemya**	**2.72**	**291**			**Pn**	**09 09 39.9**	**-0.1**	
SMY				Sn		**Sn**	**09 10 13.2**	**+0.6**	
KIMD	**Kanaga Island**	**2.78**	**90**			**Pn**	**09 09 40.9**	**+0.1**	
KICM	**Kanaga Island**	**2.80**	**87**			**Pn**	**09 09 41.4**	**+0.3**	
KIKV	**Kanaga Island**	**2.82**	**87**			**Pn**	**09 09 41.4**	**+0.1**	
KIWB	**Kanaga Island**	**2.83**	**88**	Pn		**Pn**	**09 09 39.7**	**-1.7**	
ADK	**Adak**	**3.12**	**87**	P		**Pn**	**09 09 45.0**	**-0.2**	
ADK							09 10 22.2		
ADK	**Adak**	**3.12**	**87**			**Pn**	**09 09 45.0**	**-0.2**	
ADK				Sn		**Sn**	**09 10 22.2**	**+0.2**	
GSTD	**Great Sitkin T**	**3.46**	**84**			**Pn**	**09 09 49.2**	**-0.6**	
GSTD						**Sn**	**09 10 28.4**	**-1.7**	
GSMY	**Great Sitkin M**	**3.51**	**84**			**Pn**	**09 09 50.0**	**-0.4**	
GSTR	**Great Sitkin T**	**3.51**	**84**			**Pn**	**09 09 50.3**	**-0.1**	
GSTR				Sn		**Sn**	**09 10 30.9**	**-0.4**	
ATKA	**Atka Island**	**4.66**	**83**			**Pn**	**09 10 05.6**	**-0.1**	
ATKA	**Atka Island**	**4.66**	**83**			**Sn**	**09 10 57.8**	**-1.0**	
KOFP	**Korovin Flat P**	**4.72**	**82**			**Pn**	**09 10 06.9**	**+0.2**	
KOSE	**Korovin Southe**	**4.76**	**81**			**Pn**	**09 10 07.7**	**+0.6**	
NIKH	**Nikolski High**	**7.95**	**77**	Pn		**Pn**	**09 10 51.1**	**+0.9**	
OKCE	**Okmok Cone E**	**8.40**	**74**			**Pn**	**09 10 57.8**	**+1.5**	
SPIA	**Saint Paul Isl**	**8.55**	**47**			**Pn**	**09 11 00.9**	**+2.7**	
SPIA						**Sn**	**09 12 33.8**	**+1.0**	
UNV	**Unalaska Valle**	**9.43**	**72**	Pn		**Pn**	**09 11 11.3**	**+1.2**	
AKUT	**Akutan**	**9.89**	**70**			**Pn**	**09 11 16.6**	**+0.3**	
FALS	**False Pass**	**11.35**	**67**	Pn		**Pn**	**09 11 36.7**	**+0.7**	
PET	**Petropavlovsk**	**12.04**	**283**	*eP*		**Pn**	**09 11 45.8**	**+0.7**	
PET				*eS*		**Sn**	**09 13 52.1**	**-5.3**	
PET				pmax		pmax			
	comp=Z,47nm,0.5s								
PET	**Petropavlovsk**	**12.04**	**283**	Pn		**Pn**	**09 11 47.4**	**+2.2**	
PEA0B	**Petropavlovsk-**	**12.61**	**284**	*deP*		**Pn**	**09 11 54.0**	**+1.3**	
PEA0B	**Petropavlovsk-**	**12.61**	**284**			**Pn**	**09 11 53.3**	**+0.6**	
PETK	**Petropavlovsk-**	**12.61**	**284**	P		**Pn**	**09 11 54.1**	**+1.5**	
	comp=Z,9.0nm,0.3s,baz=102,slow=18,SNR=166								
PETK	**Petropavlovsk-**	**12.61**	**284**	P		**Pn**	**09 11 54.7**	**+2.0**	
PETK	**Petropavlovsk-**	**12.61**	**284**	Pn		Pn	**09 11 54.7**	**+2.0**	
GAMB	**Gambell**	**13.08**	**20**	Pn		**Pn**	**09 11 58.6**	**-0.1**	
SDPT	**Sand Point**	**13.08**	**66**	Pn		**Pn**	**09 11 57.4**	**-1.3**	
CNBA	**Chernabura Isl**	**13.54**	**69**	Pn		**Pn**	**09 12 01.3**	**-3.4**	
SKR	**Severo-Kuril's**	**13.92**	**274**	*eP*		**P**	**09 12 13.1**	**-0.8**	
SKR				*eS*		**Sn**	**09 14 35.0**	**-7.9**	
SKR				MLR		MLR			
	comp=Z,300nm,13.0s								
CHIR	**Chirikof Islan**	**15.87**	**65**	Pn		**Pn**	**09 12 31.3**	**-2.9**	
CHIR				IAmb		IAmb	09 12 34.3		
	comp=Z,50nm,0.7s								
SII	**Sitkinak Islan**	**16.73**	**63**	Pn		**Pn**	**09 12 42.0**	**-2.7**	
SII				IAmb		I

comp=Z,1.3nm,0.6s,baz=289,slow=3.7,SNR=11
RAGM Ragged Mountai 22.08 53 P **P** **09 13 43.0 0.0**
RIDG Independent Ri 22.61 44 P **P** **09 13 46.7 -1.5**
GLB Gilahina Butte 22.63 50 P **P** **09 13 49.1 +0.6**
GLB IAmb IAmb 09 13 49.6
comp=Z,18nm,0.6s
TOLK Toolik Lake Re 22.75 30 P **P** **09 13 50.1 +0.4**
baz=238,SNR=23
TOLK Toolik Lake Re 22.75 30 P **P** **09 13 50.1 +0.4**
TOLK IAmb IAmb 09 13 51.9
comp=Z,15nm,0.7s
VRDI Verde Repeater 22.77 51 P **P** **09 13 50.2 +0.1**
VRDI IAmb IAmb 09 13 51.0
comp=Z,18nm,0.8s
PRP Porcupine Dome 22.84 39 P **P** **09 13 50.3 -0.3**
CRQM Cirque 22.88 52 P **P** **09 13 51.2 +0.2**
MENT Mentasta 22.92 46 P **P** **09 13 51.0 -0.3**
DOT Dot Lake 22.92 44 IAmb IAmb 09 13 52.2
comp=Z,26nm,0.7s
MCARA McCarthy VSAT 23.00 50 P **P** **09 13 52.9 +0.9**
MCARA IAmb IAmb 09 13 54.0
comp=Z,36nm,0.8s
TGL Tana Glacier 23.03 52 P **P** **09 13 52.0 -0.4**
TGL IAmb IAmb 09 13 54.5
comp=Z,30nm,0.8s
ISLE Juniper Island 23.25 52 P **P** **09 13 54.8 +0.2**
ISLE IAmb IAmb 09 13 56.6
comp=Z,24nm,0.9s
BALM Baldy 23.29 51 P **P** **09 13 55.1 +0.2**
BALM IAmb IAmb 09 13 56.0
comp=Z,17nm,0.6s
YAH Yahtse 23.53 53 P **P** **09 13 57.0 -0.2**
YAH IAmb IAmb 09 13 59.7
comp=Z,46nm,1.0s
BARN Barnard Glacie 23.62 51 P **P** **09 13 57.8 -0.2**
BARN IAmb IAmb 09 14 00.0
comp=Z,54nm,1.2s
CTGM Chitina Glacie 23.77 52 P **P** **09 13 59.7 +0.5**
CTGM IAmb IAmb 09 14 01.3
comp=Z,20nm,0.5s
BCAR Beaver Creek A 23.82 46 P **P** **09 13 59.9 +0.4**
TABL Table Mountain 23.84 53 IAmb IAmb 09 14 02.0
comp=Z,28nm,0.7s
BMAR Burnt Mountain 23.88 35 P **P** **09 14 00.7 +0.6**
PCA Pinnacle 24.26 54 P **P** **09 14 03.8 +0.2**
EGAK Eagle 24.42 42 P **P** **09 14 05.2 +0.4**
EGAK IAmb IAmb 09 14 06.3
comp=Z,27nm,0.8s
ASAJ Asahikawa 24.91 266 P **P** **09 14 11.7 +2.2**
comp=Z,3.8nm,0.8s,baz=278,slow=6.0,SNR=3.8
DAWY Dawson 25.04 44 IAmb IAmb 09 14 12.4
comp=Z,16nm,0.8s
HYT Haines Junctio 25.64 52 IAmb IAmb 09 14 20.3
comp=Z,31nm,0.8s
EPYK Eagle Plains 26.55 40 P **P** **09 14 24.3 +0.1**
baz=259,SNR=9.8
EPYK Eagle Plains 26.55 40 IAmb IAmb 09 14 25.3
comp=Z,10nm,0.7s
INK Inuvik 28.14 36 P **P** **09 14 38.3 +0.1**
comp=Z,1.2nm,0.3s,baz=241,slow=10,SNR=26
INK ScP **ScP** **09 21 16.8 -2.3**
comp=Z,2.5nm,0.9s,baz=197,slow=6.8,SNR=6.0
INK Inuvik 28.14 36 P **P** **09 14 39.1 +0.9**
INK pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 28.14 36 P **P** **09 14 39.1 +0.9**
KLR Kul'dur 29.30 284 P **P** **09 14 49.5 +0.8**
comp=Z,2.0nm,0.4s,baz=68,slow=7.3,SNR=8.1
TIXI Tiksi 29.34 331 P **P** **09 14 49.7 +0.8**
comp=Z,3.0nm,0.5s,baz=119,slow=14,SNR=7.9
TIXI ScP **ScP** **09 21 21.5 -1.4**
comp=Z,2.3nm,0.6s,baz=105,slow=3.1,SNR=5.0
TIXI Tiksi 29.34 331 P **P** **09 14 48.0 -0.9**
DLBC Dease Lake 29.62 57 P **P** **09 14 52.0 +0.3**
comp=Z,4.2nm,0.5s,baz=260,slow=7.3,SNR=12
DLBC LR LR 09 27 37.7
comp=Z,261nm,18.0s,baz=312,slow=38
DLBC Dease Lake 29.62 57 P **P** **09 14 53.0 +1.4**
A36M Sachs Harbour 31.58 30 P **P** **09 15 09.7 +1.2**
baz=261
MJAR Matsushiro Arr 32.08 257 PP PP 09 16 26.9 -1.1
comp=Z,1.1nm,0.4s,baz=26,slow=11,SNR=5.2
H11N2 WAKE ISLAND Hy 33.26 200 T T 09 50 58.8
baz=11,slow=76,SNR=49
H11N3 WAKE ISLAND Hy 33.27 200 T T 09 50 59.6
baz=11,slow=76,SNR=62
H11N1 WAKE ISLAND Hy 33.28 200 T T 09 50 50.1
baz=11,slow=76,SNR=57
H11S1 WAKE ISLAND Hy 34.49 200 T T 09 52 18.0
baz=11,slow=76,SNR=24
H11S2 WAKE ISLAND Hy 34.51 200 T T 09 52 19.3
baz=11,slow=76,SNR=14
H11S3 WAKE ISLAND Hy 34.51 200 T T 09 52 33.7
baz=11,slow=76,SNR=20
YKA Yellowknife Ar 36.23 46 P **P** **09 15 49.3 +0.4**
comp=Z,5.7nm,0.6s,baz=281,slow=8.5,SNR=32
YKA ScP **ScP** **09 21 44.1 -2.7**
comp=Z,1.9nm,0.8s,baz=290,slow=3.5,SNR=9.3
A04D Lummi Island 36.95 71 P **P** **09 15 55.0 0.0**
baz=298
D03D Eldon 37.29 73 P **P** **09 15 58.7 +0.7**
baz=299,SNR=18
E03A Lebam 37.49 74 IAmb IAmb 09 16 02.8
comp=Z,9.9nm,0.8s
B05A Bryant 37.52 71 P **P** **09 15 60.0 0.0**
baz=298,SNR=5.7
KSRS Korea Array 37.82 268 pP pP 09 16 30.9 +2.7
comp=Z,1.1nm,0.7s,baz=51,slow=9.2,SNR=3.5
E04D Cinebar 38.08 74 P **P** **09 16 05.3 +0.6**
baz=300,SNR=8.4
G03D McMinnville, O 38.35 76 P **P** **09 16 07.4 +0.5**
baz=302
LON Longmire 38.43 73 P **P** **09 16 07.4 -0.3**
LON pmax pmax
comp=Z,5.0nm,0.7s
LON Longmire 38.43 73 P **P** **09 16 07.4 -0.3**
F04A Amboy 38.49 75 P **P** **09 16 08.2 +0.2**
I02D Swisshome 38.59 78 P **P** **09 16 09.9 +0.9**
baz=303
COR Corvallis 38.66 77 P **P** **09 16 10.2 +0.7**
COR pmax pmax
comp=Z,17nm,0.6s
COR Corvallis 38.66 77 P **P** **09 16 10.2 +0.7**
LTY Liberty 38.85 72 P **P** **09 16 10.1 -1.1**
LTY IAmb IAmb 09 16 11.4
comp=Z,6.3nm,0.5s
H04D Lebanon 39.04 77 P **P** **09 16 13.4 +0.7**
baz=302,SNR=7.4
B08A Colville Reser 39.09 70 P **P** **09 16 12.5 -0.7**
B08A IAmb IAmb 09 16 13.4
comp=Z,7.2nm,0.6s
I03D Drain, OR 39.11 78 P **P** **09 16 14.6 +1.3**
baz=303,SNR=5.8
H04A Detroit Lake 39.28 76 P **P** **09 16 15.0 +0.2**
H04A IAmb IAmb 09 16 16.6
comp=Z,10nm,0.7s
K02D Willamette Mer 39.48 80 P **P** **09 16 17.5 +1.0**
baz=304,SNR=5.4
G05D Wamic, OR 39.51 75 P **P** **09 16 17.0 +0.4**
baz=302,SNR=5.3
I04A Tendick Farm, 39.63 78 P **P** **09 16 18.2 +0.5**
baz=303,SNR=7.1
HAWA Hanford 39.97 72 P **P** **09 16 20.2 -0.2**
HAWA IAmb IAmb 09 16 21.3
comp=Z,15nm,0.8s
I05D Terrebonne, OR 39.98 76 P **P** **09 16 20.9 +0.3**
baz=303,SNR=6.1
C09A Chrisman Ranch 39.98 70 P **P** **09 16 20.2 -0.3**
D08A Wollman Farm, 39.98 71 P **P** **09 16 19.6 -0.9**
D08A IAmb IAmb 09 16 20.5
comp=Z,7.1nm,0.5s
KRMB Red Mountain 39.99 81 P **P** **09 16 22.5 +1.7**
KRMB IAmb IAmb 09 16 23.6
comp=Z,24nm,1.4s
J04D Umpqua Nationa 40.12 78 P **P** **09 16 22.9 +1.0**
baz=304,SNR=6.0
NEW Newport 40.42 69 P **P** **09 16 23.8 -0.3**
baz=300,SNR=13
NEW Newport 40.42 69 P **P** **09 16 23.6 -0.6**
NEW pmax pmax
comp=Z,14nm,0.6s
NEW Newport 40.42 69 P **P** **09 16 23.6 -0.6**
KHMM Horse Mountain 40.48 82 P **P** **09 16 26.6 +1.7**
PINE Pine Mountain 40.52 77 P **P** **09 16 26.1 +0.9**
L04D Klamath Falls 40.58 79 P **P** **09 16 26.9 +1.3**
baz=305,SNR=11

YBH Yreka Blue Hor 40.61 80 P **P** **09 16 27.0 +1.2**
YBH pmax pmax
comp=Z,11nm,0.8s
YBH Yreka Blue Hor 40.61 80 P **P** **09 16 27.0 +1.2**
YBH IAmb IAmb 09 16 28.5
comp=Z,11nm,0.8s
J05D Fort Rock, OR 40.62 77 P **P** **09 16 27.2 +1.1**
baz=304,SNR=17
K04D Chiloquin, OR 40.68 79 P **P** **09 16 27.5 +1.1**
baz=304
M02C Callahan 40.72 81 P **P** **09 16 28.2 +1.5**
baz=306,SNR=6.0
N02D Trinity Center 41.05 81 P **P** **09 16 31.1 +1.7**
baz=306,SNR=8.0
M04C Macdoel 41.11 80 P **P** **09 16 31.2 +1.2**
baz=305,SNR=13
K05A Summer Lake 41.15 78 P **P** **09 16 31.4 +1.1**
I07A Izee 41.22 75 IAmb IAmb 09 16 32.1
comp=Z,9.3nm,0.7s
WDC Whiskeytown Da 41.38 82 P **P** **09 16 32.7 +0.6**
WDC pmax pmax
comp=Z,11nm,1.0s
WDC Whiskeytown Da 41.38 82 P **P** **09 16 32.7 +0.6**
WDC IAmb IAmb 09 16 34.4
comp=Z,11nm,0.9s
O02D Mt. Diablo Mer 41.47 82 P **P** **09 16 34.4 +1.5**
baz=307,SNR=6.2
F10A Beach Ranch, E 41.55 72 P **P** **09 16 33.0 -0.5**
WALA Waterton Lakes 41.85 66 P **P** **09 16 35.7 -0.3**
WALA IAmb IAmb 09 16 36.5
comp=Z,15nm,0.8s
MOD Modoc Plateau 41.98 79 P **P** **09 16 38.0 +0.9**
MOD IAmb IAmb 09 16 38.8
comp=Z,11nm,0.5s
O03E Paynes Creek 42.01 81 P **P** **09 16 37.8 +0.5**
baz=307,SNR=18
HOPS Hopland Field 42.01 84 P **P** **09 16 36.6 -0.6**
BMO Blue Mountains 42.11 73 IAmb IAmb 09 16 38.8
comp=Z,8.1nm,0.7s
J08A Circle Bar Ran 42.25 76 IAmb IAmb 09 16 40.3
comp=Z,7.4nm,0.5s
GDXM Geysers 42.29 84 IAmb IAmb 09 16 42.6
comp=Z,19nm,1.1s
ORV Oroville 42.63 82 P **P** **09 16 42.3 0.0**
ORV pmax pmax
comp=Z,9.0nm,0.8s
ORV Oroville 42.63 82 P **P** **09 16 42.3 0.0**
ORV IAmb IAmb 09 16 43.7
comp=Z,8.9nm,0.8s
MSO Missoula 43.01 69 P **P** **09 16 44.3 -1.0**
baz=303,SNR=5.2
MSO Missoula 43.01 69 IAmb IAmb 09 16 45.4
comp=Z,8.4nm,0.8s
NRIK Noril'sk 43.08 329 P **P** **09 16 46.2 +0.8**
comp=Z,6.9nm,0.8s,baz=73,slow=7.6,SNR=8.8
AFDM Forest Hills D 43.33 82 P **P** **09 16 48.8 +0.9**
PAHR Pah Rah Range 43.84 81 P **P** **09 16 52.5 +0.4**
PAHR IAmb IAmb 09 16 53.9
comp=Z,16nm,1.2s
VCNR Virginia City 43.93 81 P **P** **09 16 54.1 +1.2**
VCNR IAmb IAmb 09 16 55.0
comp=Z,11nm,0.9s
PNTR Pine Nut 44.09 81 P **P** **09 16 55.8 +1.5**
YERR Yerington 44.37 81 IAmb IAmb 09 16 58.4
comp=Z,12nm,0.9s
ULN Ulaanbaatar 44.42 294¶ *eP* **P** **09 16 57.4 +0.7**
ULN pmax pmax
comp=Z,3.0nm,0.6s
WAKR Walker 44.55 82 IAmb IAmb 09 17 00.1
comp=Z,10.0nm,0.7s
HLID Hailey 44.56 73 P **P** **09 16 57.5 -0.3**
baz=305,SNR=14
HLID Hailey 44.56 73 P **P** **09 16 57.8 -0.1**
DLMT Dillon 44.60 70 P **P** **09 16 57.6 -0.5**
EGMT Eagleton 44.75 65 P **P** **09 16 58.0 -1.2**
baz=303,SNR=7.0
EGMT Eagleton 44.75 65 P **P** **09 16 58.0 -1.2**
MCMT McKenzie Canyo 44.75 71 P **P** **09 16 58.7 -0.7**
SONM Songino Array 44.81 295 P **P** **09 17 01.0 +1.3**
comp=Z,2.9nm,0.5s,baz=63,slow=7.8,SNR=14
SONM pP **pP** **09 17 26.6 +0.4**
comp=Z,1.3nm,0.5s,baz=63,slow=7.8,SNR=4.0
SONM ScP **ScP** **09 22 20.8 -0.2**
comp=Z,1.6nm,0.7s,baz=45,slow=2.5,SNR=8.8
SONM Songino Array 44.81 295 P **P** **09 17 00.9 +1.2**
SONM Songino Array 44.81 295 ScP **ScP** **09 22 21.3 +0.3**
BOZ Bozeman (W) 45.02 69 P **P** **09 17 00.7 -0.8**
baz=304,SNR=29
BOZ Bozeman (W) 45.02 69 IAmb IAmb 09 17 01.6
comp=Z,12nm,0.6s
KVN Kaiserville 45.03 80 IAmb IAmb 09 17 03.3
comp=Z,18nm,1.4s
RYN Ryan 45.03 81 P **P** **09 17 02.5 +0.9**
RYN IAmb IAmb 09 17 03.4
comp=Z,10.0nm,0.8s
NVAR Mina Array Bea 45.29 81 P **P** **09 17 04.7 +0.9**
comp=Z,7.9nm,0.7s,baz=298,slow=7.3,SNR=67
NVAR PcP **PcP** **09 18 41.7 +0.1**
comp=Z,1.5nm,0.8s,baz=282,slow=3.9,SNR=3.9
NVAR ScP **ScP** **09 22 22.4 -0.8**
comp=Z,1.6nm,0.7s,baz=293,slow=4.5,SNR=12
NVAR Mina Array Bea 45.29 81 P **P** **09 17 04.5 +0.7**
MDPB Devils Postpil 45.31 83 P **P** **09 17 05.5 +1.5**
MDPB IAmb IAmb 09 17 06.3
comp=Z,14nm,0.8s
OMMB Old Mammoth Mi 45.37 83 P **P** **09 17 06.0 +1.4**
NV11 Mina Array Sit 45.38 81 P **P** **09 17 04.8 +0.5**
ELK Elko 45.73 77 IAmb IAmb 09 17 08.4
comp=Z,7.3nm,0.6s
HHC Hu-ho-hao-te 45.81 284 *eP* **P** **09 17 07.8 +0.1**
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,74nm,5.2s
HHC LR LR
comp=N,260nm,15.2s
HHC LR LR
comp=E,230nm,16.1s
HHC LR LR
comp=Z,220nm,15.2s
GCMT Greycliff 46.05 68 P **P** **09 17 09.2 -0.3**
TIN Tinemaha, Big 46.20 83 P **P** **09 17 11.8 +1.0**
baz=310
YPP Pitchstone Pla 46.27 70 P **P** **09 17 12.0 +0.5**
H17A Grant Village 46.33 70 P **P** **09 17 12.3 +0.4**
baz=306,SNR=7.4
H17A Grant Village 46.33 70 IAmb IAmb 09 17 13.6
comp=Z,7.7nm,0.6s
FLWY Flagg Ranch 46.44 70 IAmb IAmb 09 17 13.7
comp=Z,9.1nm,0.6s
VES Vestal, Richgr 46.46 85 P **P** **09 17 12.9 +0.2**
baz=311,SNR=8.5
PKM Mcpherson Peak 46.63 86 P **P** **09 17 15.3 +1.0**
baz=311
RLMT Red Lodge 46.66 68 P **P** **09 17 14.0 -0.5**
baz=306,SNR=7.6
RLMT Red Lodge 46.66 68 IAmb IAmb 09 17 15.6
comp=Z,7.6nm,0.8s
CWC Cottonwood Cre 46.69 83 P **P** **09 17 15.4 +0.7**
baz=310
GRAC Grapevine Rang 46.77 82 P **P** **09 17 16.0 +0.8**
baz=310
ISA Isabella, Lake 46.95 84 P **P** **09 17 16.8 +0.2**
baz=311
NJ2 Nanjing 46.99 269 *eP* **P** **09 17 16.5 -0.3**
NJ2 pmax pmax
comp=Z,11nm,0.5s
R11A Troy Canyon, C 47.00 79 P **P** **09 17 17.2 +0.1**
baz=309,SNR=14
MPMC Manual Prospec 47.30 83 P **P** **09 17 19.9 +0.4**
baz=310,SNR=8.7
SCZ2 Santa Cruz Isl 47.33 87 P **P** **09 17 20.2 +0.7**
baz=312
FURC Furnace Creek, 47.42 82 P **P** **09 17 20.9 +0.8**
baz=310,SNR=13
LAO LASA Array 47.48 65 P **P** **09 17 20.2 -0.4**
baz=305,SNR=8.1
LAO LASA Array 47.48 65 P **P** **09 17 20.4 -0.2**
LAO IAmb IAmb 09 17 20.8
comp=Z,7.0nm,0.7s
TPNV Topopah Spring 47.49 81 P **P** **09 17 21.3 +0.5**
baz=310,SNR=36
TPNV Topopah Spring 47.49 81 P **P** **09 17 21.7 +0.8**
TPNV pmax pmax
comp=Z,21nm,0.8s
TPNV Topopah Spring 47.49 81 P **P** **09 17 21.7 +0.8**

DUG Dugway, Tooele 47.53 76 P **P** **09 17 21.1 0.0**
baz=308,SNR=13
DUG Dugway, Tooele 47.53 76 P **P** **09 17 21.2 0.0**
DUG pmax pmax
comp=Z,9.0nm,0.9s
DUG Dugway, Tooele 47.53 76 P **P** **09 17 21.2 0.0**
DUG IAmb IAmb 09 17 22.3
comp=Z,9.5nm,0.8s
LRMC Laurel Mtn Rad 47.56 84 P **P** **09 17 21.7 +0.3**
baz=311
EDW2 Edwards Air Fo 47.76 85 P **P** **09 17 23.1 +0.3**
baz=311
BW06 Boulder Array 47.89 71 P **P** **09 17 23.3 -0.7**
baz=307,SNR=16
BW06 Boulder Array 47.89 71 IAmb IAmb 09 17 24.2
comp=Z,7.4nm,0.6s
PD31 Pinedale Array 47.89 71 IAmb IAmb 09 17 24.2
comp=Z,7.0nm,0.6s
PDAR Pinedale Array 47.89 71 P **P** **09 17 23.4 -0.6**
comp=Z,6.7nm,0.5s,baz=317,slow=3.3,SNR=93
PDAR ScP **ScP** **09 22 32.2 -1.8**
comp=Z,0.4nm,0.6s,baz=48,slow=1.0,SNR=4.9
PSUT Pine Spring 47.94 78 P **P** **09 17 24.7 +0.3**
JLU Jordanelle 48.09 74 P **P** **09 17 26.3 +0.6**
SHOC Shoshone, Teco 48.15 82 P **P** **09 17 26.1 +0.3**
baz=311,SNR=13
GSC Goldstone, Bar 48.21 83 P **P** **09 17 27.2 +0.8**
baz=311,SNR=25
BFSC Mount Baldy Ra 48.39 85 P **P** **09 17 28.2 +0.4**
baz=312
CIS Catalina Islan 48.48 87 P **P** **09 17 28.9 +0.6**
baz=312
TUQ Turquoise Moun 48.67 83 P **P** **09 17 30.5 +0.5**
baz=311
HEC Hector,Ludlow 48.81 84 P **P** **09 17 31.7 +0.7**
baz=312
BBRC Big Bear Solar 48.83 85 P **P** **09 17 31.5 +0.2**
baz=312
MURC Murrieta 49.10 85 P **P** **09 17 33.5 +0.3**
baz=312
RDMU Red Mountain 49.23 73 P **P** **09 17 34.5 +0.2**
KBS Kingsbay 49.24 357*ce*P **P** **09 17 33.7 +0.2**
KBS pmax pmax
comp=Z,15nm,0.9s
GMRC Granite Mounta 49.26 83 P **P** **09 17 34.6 +0.2**
baz=312,SNR=11
MTPU Mount Pierson 49.27 77 P **P** **09 17 35.8 +1.0**
Q16A Castle Valley 49.32 76 P **P** **09 17 35.5 +0.5**
KNB Kanab 49.54 79 P **P** **09 17 37.3 +0.7**
KNB 09 18 58.6
KNB pmax pmax
comp=Z,5.0nm,0.6s
KNB Kanab 49.54 79 P **P** **09 17 37.3 +0.7**
KNB **PcP** **09 18 58.6 +1.9**
PFO Pinyon Flats O 49.55 85 P **P** **09 17 36.5 -0.1**
baz=312
PFO Pinyon Flats O 49.55 85*ce*P **P** **09 17 36.8 +0.2**
PFO pmax pmax
comp=Z,6.0nm,1.0s
PFO Pinyon Flats O 49.55 85 P **P** **09 17 37.0 +0.4**
XPFO Pion Flat 49.55 85 P **P** **09 17 37.0 +0.4**
BELC Belle Mtn. Jos 49.57 84 P **P** **09 17 36.7 -0.1**
baz=312,SNR=10
SRU San Rafael Swe 49.59 75 P **P** **09 17 37.4 +0.5**
SRU pmax pmax
comp=Z,15nm,1.2s
SRU San Rafael Swe 49.59 75 P **P** **09 17 37.4 +0.5**
109C Camp Elliot, M 49.63 86 P **P** **09 17 37.9 +0.8**
baz=313,SNR=5.0
K22A Casper 49.73 69 P **P** **09 17 37.2 -0.7**
baz=308
K22A Casper 49.73 69 IAmb IAmb 09 17 37.8
comp=Z,4.3nm,0.7s
IRM Iron Mountain 49.99 83 P **P** **09 17 39.9 0.0**
baz=312,SNR=9.8
MONP2 Monument Peak 50.06 86 P **P** **09 17 41.2 +0.6**
baz=313,SNR=5.4
BC3 Big Chuckawall 50.14 84 P **P** **09 17 41.0 -0.1**
baz=312,SNR=5.2
W13A Hualapai Mount 50.14 82 IAmb IAmb 09 17 42.5
comp=Z,5.8nm,0.8s
U15A North Rim 50.24 79 IAmb IAmb 09 17 43.7
comp=Z,11nm,1.1s
RSSD Black Hills 50.25 66 P **P** **09 17 41.1 -0.8**
baz=308
O20A White River Ci 50.30 73 P **P** **09 17 41.5 -0.8**
baz=309,SNR=9.2
SWSC Sam W. Stewart 50.41 85 P **P** **09 17 43.4 +0.4**
baz=313
IKP In-Ko-Pah, Jac 50.41 86 P **P** **09 17 43.5 +0.4**
baz=313
MDND Maddock 50.43 60 P **P** **09 17 42.6 -0.4**
baz=307,SNR=6.8
PDMCI Parker Dam,Lak 50.52 83 P **P** **09 17 44.0 +0.3**
baz=312
PV09 Paradox Valley 50.81 75 P **P** **09 17 45.9 -0.4**
PV21 Cone Mtn., Par 50.87 75 IAmb IAmb 09 17 48.8
comp=Z,5.1nm,0.6s
PV23 Carpenter Ridg 50.91 75 IAmb IAmb 09 17 48.7
comp=Z,5.8nm,0.5s
GLA Glamis 50.93 84 P **P** **09 17 47.4 +0.5**
baz=313
PV10 Paradox Valley 50.95 75 IAmb IAmb 09 17 48.2
comp=Z,12nm,0.7s
PV14 Lion Creek, Pa 50.96 75 IAmb IAmb 09 17 47.7
comp=Z,6.5nm,0.7s
PV22 Blue Mesa, Par 50.99 75 IAmb IAmb 09 17 48.5
comp=Z,7.5nm,0.9s
PV20 West Nyswonger 51.01 75 IAmb IAmb 09 17 50.0
comp=Z,6.7nm,0.6s
PV04 Paradox Valley 51.02 75 IAmb IAmb 09 17 48.2
comp=Z,7.2nm,0.7s
PV19 Morning Glory 51.02 75 IAmb IAmb 09 17 48.2
comp=Z,6.8nm,0.5s
PV11 David Mesa, Pa 51.10 75 P **P** **09 17 48.4 0.0**
PV18 Skein Mesa, Pa 51.11 75 IAmb IAmb 09 17 49.5
comp=Z,20nm,1.2s
PV12 Saucer Basin, 51.13 75 IAmb IAmb 09 17 51.4
comp=Z,11nm,1.1s
PV07 Paradox Valley 51.14 75 IAmb IAmb 09 17 49.2
comp=Z,4.0nm,0.6s
N23A Red Feather La 51.17 71 P **P** **09 17 48.7 -0.2**
baz=310
PV15 Paradox Valley 51.30 75 IAmb IAmb 09 17 54.3
comp=Z,6.8nm,0.9s
PV01 Paradox Valley 51.38 75 P **P** **09 17 50.5 -0.1**
PV01 IAmb IAmb 09 17 52.1
comp=Z,4.6nm,0.6s
WUAZ Wupatki 51.40 79 P **P** **09 17 51.0 +0.4**
baz=312,SNR=6.2
WUAZ Wupatki 51.40 79 IAmb IAmb 09 17 52.8
comp=Z,8.9nm,1.1s
MVCO Mesa Verde 52.03 76 P **P** **09 17 55.2 -0.1**
baz=311,SNR=5.3
MVCO Mesa Verde 52.03 76 P **P** **09 17 55.4 0.0**
MVCO IAmb IAmb 09 17 56.2
comp=Z,7.6nm,1.2s
ISCO Idaho Springs 52.06 71 P **P** **09 17 55.7 0.0**
baz=310
ISCO Idaho Springs 52.06 71 P **P** **09 17 55.8 +0.2**
ISCO pmax pmax
comp=Z,2.0nm,0.8s
ISCO Idaho Springs 52.06 71 P **P** **09 17 55.8 +0.2**
AGMN Agassiz Nation 52.14 58 P **P** **09 17 54.4 -1.3**
baz=308,SNR=5.3
AGMN Agassiz Nation 52.14 58 P **P** **09 17 54.5 -1.2**
AGMN IAmb IAmb 09 17 55.6
comp=Z,6.3nm,0.9s
ZALV Zalesovo Beam 52.38 312 P **P** **09 17 57.0 -0.3**
comp=Z,1.0nm,0.4s,baz=14,slow=3.1,SNR=3.8
ZALV Zalesovo Beam 52.38 312 P **P** **09 17 56.9 -0.5**
W18A Petrified Fore 52.67 79 P **P** **09 18 00.0 0.0**
baz=312
S22A 4UR Ranch, Cre 52.68 74 P **P** **09 18 00.6 +0.4**
baz=311,SNR=8.7
S22A 4UR Ranch, Cre 52.68 74 P **P** **09 17 59.3 -0.9**
214A Organ Pipe Nat 52.92 84 P **P** **09 18 02.2 +0.5**
baz=314
214A Organ Pipe Nat 52.92 84 IAmb IAmb 09 18 03.2
comp=Z,9.5nm,1.1s
B35A Bob, Littlefor 53.21 56 P **P** **09 18 02.5 -1.1**
B35A IAmb IAmb 09 18 03.5
comp=Z,6.9nm,0.9s
SDCO Great Sand Dun 53.47 73 P **P** **09 18 05.9 -0.1**
GTA Gaotai 53.70 290 *eP* **P** **09 18 08.8 +1.3**
GTA pmax pmax
comp=Z,6.0nm,0.7s

DGZ	Jazzator, Alta	53.81	306	‖ *e*	P		P	09 18 08.7	+0.6
DGZ					pmax		pmax		
	comp=Z,3.0nm,0.9s								
TUC	Tucson	53.93	82		P		P	09 18 09.4	+0.3
	baz=314								
KSCO	Kaye Shedlock'	54.33	70		P		P	09 18 12.3	+0.2
	baz=311								
KSCO	Kaye Shedlock'	54.33	70		IAmb		IAmb	09 18 13.0	
	comp=Z,9.6nm,0.7s								
T25A	Trinidad	54.52	73		P		P	09 18 13.7	+0.2
	baz=312,SNR=7.7								
T25A	Trinidad	54.52	73		IAmb		IAmb	09 18 14.8	
	comp=Z,12nm,1.1s								
EYMN	Ely	54.62	56		P		P	09 18 13.1	-0.8
	baz=310,SNR=5.4								
EYMN	Ely	54.62	56		P		P	09 18 13.6	-0.3
EYMN					IAmb		IAmb	09 18 14.1	
	comp=Z,6.2nm,0.8s								
ECSD	EROS Data Cent	54.65	62		P		P	09 18 12.6	-1.4
	baz=311								
ECSD	EROS Data Cent	54.65	62		P		P	09 18 12.7	-1.4
ANMO	Albuquerque	54.77	77		P		P	09 18 15.4	+0.1
	baz=313								
ANMO	Albuquerque	54.77	77	*de*	P		P	09 18 15.7	+0.4
ANMO					pmax		pmax		
	comp=Z,3.0nm,1.1s								
F36A	Milaca	54.93	59		P		P	09 18 15.0	-1.0
F36A					IAmb		IAmb	09 18 16.3	
	comp=Z,4.0nm,0.5s								
BNM	Barren Site	55.21	77		P		P	09 18 19.2	+0.7
BGNE	Belgrade	55.32	65		P		P	09 18 18.4	-0.6
	baz=311								
BGNE	Belgrade	55.32	65		P		P	09 18 18.8	-0.2
121A	Cookes Peak, D	55.61	80		P		P	09 18 21.8	+0.4
	baz=314								
SPMN	Marine on St.	55.73	59		P		P	09 18 20.9	-0.9
	baz=311,SNR=6.2								
SPMN	Marine on St.	55.73	59		P		P	09 18 21.6	-0.2
CBKS	Cedar Bluff	56.14	69		P		P	09 18 24.5	-0.4
	baz=312								
COWI	Conover	57.06	56		IAmb		IAmb	09 18 30.9	
	comp=Z,3.9nm,0.6s								
G40A	Rib Lake	57.07	57		IAmb		IAmb	09 18 31.4	
	comp=Z,8.1nm,1.2s								
ARCES	ARCESS Array B	57.31	349		P		P	09 18 32.6	-0.1
	comp=Z,2.5nm,0.7s,baz=31,slow=7.9,SNR=9.3								
KURK	Kurchatov	57.37	312		P		P	09 18 34.1	+0.8
KURK					pmax		pmax		
	comp=Z,25nm,1.4s								
KURK	Kurchatov	57.37	312		P		P	09 18 34.1	+0.8
KURBB	Kurchatov Arra	57.48	312		P		P	09 18 34.6	+0.5
	comp=Z,7.7nm,0.5s,baz=42,slow=6.6,SNR=36								
KURBB					pP		pP	09 19 01.0	-0.4
	comp=Z,4.5nm,0.7s,baz=44,slow=7.1,SNR=6.1								
KURBB					S		S	09 26 17.9	-4.1
	comp=Z,0.4nm,0.3s,baz=48,slow=13,SNR=5.5								
LVZ	Lovozero	57.53	345		P		P	09 18 34.4	+0.1
LVZ					pmax		pmax		
	comp=Z,29nm,1.3s								
WMQ	Urumqi	57.55	301	*e*	P		P	09 18 36.5	+1.7
WMQ					pmax		pmax		
	comp=Z,34nm,0.7s								
WMQ					pmax		pmax		
	comp=Z,200nm,8.5s								
MSTX	Muleshoe	57.65	75		P		P	09 18 35.3	-0.4
	baz=314								
MNTX	Cornudas Mount	57.66	79		P		P	09 18 35.9	+0.3
	baz=314,SNR=15								
MNTX	Cornudas Mount	57.66	79		P		P	09 18 36.5	+0.9
MNTX					IAmb		IAmb	09 18 37.2	
	comp=Z,6.6nm,0.8s								
AMTX	Amarillo	57.67	73		P		P	09 18 35.6	-0.2
	baz=314								
AMTX	Amarillo	57.67	73		P		P	09 18 35.3	-0.6
AMTX					IAmb		IAmb	09 18 36.6	
	comp=Z,7.0nm,0.9s								
SCIA	State Center	57.73	62		P		P	09 18 35.5	-0.5
	baz=313								
SCIA	State Center	57.73	62		P		P	09 18 35.8	-0.2
KSU1	Kansas State U	57.74	66		P		P	09 18 35.1	-1.0
	baz=313								
I40A	Norwalk	57.78	59		P		P	09 18 35.8	-0.5
MK31	Makanchi Array	58.31	307		P		P	09 18 40.2	+0.2
MK31					pmax		pmax		
	comp=Z,2.0nm,0.6s								
MK31	Makanchi Array	58.31	307		P		P	09 18 40.2	+0.2
MKAR	Makanchi Array	58.31	307		P		P	09 18 40.0	0.0
	comp=Z,3.0nm,0.5s,baz=47,slow=6.4,SNR=30								
MKAR					pP		pP	09 19 06.0	-1.3
	comp=Z,1.5nm,0.7s,baz=50,slow=11,SNR=4.0								
MKAR	Makanchi Array	58.31	307		P		P	09 18 40.0	0.0
MAKZ	Makanchi	58.46	307		P		P	09 18 41.5	+0.5
MAKZ					pmax		pmax		
	comp=Z,5.0nm,0.6s								
MAKZ	Makanchi	58.46	307		P		P	09 18 41.5	+0.5
MAKZ					IAmb		IAmb	09 18 41.7	
	comp=Z,4.6nm,0.6s								
JFWS	Jewell Farm	58.64	59		P		P	09 18 40.9	-1.4
	baz=313,SNR=6.5								
JFWS	Jewell Farm	58.64	59		P		P	09 18 41.5	-0.8
JFWS					pmax		pmax		
	comp=Z,8.0nm,0.6s								
JFWS	Jewell Farm	58.64	59		P		P	09 18 41.5	-0.8
I42A	Draeger Farm,	58.68	58		P		P	09 18 42.4	-0.2
L40A	Anamosa	58.70	61		IAmb		IAmb	09 18 42.4	
	comp=Z,7.1nm,0.7s								
D46A	Sault St. Mari	59.08	52		P		P	09 18 44.4	-0.9
	baz=314,SNR=5.5								
F45A	CMU Biological	59.19	54		P		P	09 18 46.0	0.0
	baz=314								
BRVK	Borovoye	59.37	318	*d i*	P		P	09 18 47.9	+0.7
BRVK					pmax		pmax		
	comp=Z,5.0nm,0.5s								
BRVK	Borovoye	59.37	318		P		P	09 18 48.2	+1.0
D47A	Chapleau	59.42	52		P		P	09 18 46.9	-0.8
	baz=315,SNR=12								
WMOK	Wichita Mounta	59.49	72		P		P	09 18 47.9	-0.4
	baz=314,SNR=9.7								
WMOK	Wichita Mounta	59.49	72		P		P	09 18 48.7	+0.3
WMOK					pmax		pmax		
	comp=Z,4.0nm,0.8s								
WMOK	Wichita Mounta	59.49	72		P		P	09 18 48.6	+0.3
WMOK					IAmb		IAmb	09 18 49.1	
	comp=Z,4.4nm,0.8s								
G45A	Suttons Bay	59.56	55		P		P	09 18 48.1	-0.5
	baz=314								
E47A	Iron Bridge	59.76	52		P		P	09 18 49.7	-0.3
	baz=315								
G46A	Petoskey	59.77	54		P		P	09 18 49.5	-0.5
	baz=314,SNR=5.8								
D48A	Paudash Townsh	59.97	51		P		P	09 18 51.1	-0.3
	baz=315								
D49A	Beulah Townshi	60.11	51		P		P	09 18 51.7	-0.6
	baz=315								
H46A	Fife Lake	60.14	55		P		P	09 18 52.5	-0.2
	baz=315								
E48A	Lockeyer	60.28	52		P		P	09 18 53.3	-0.3
	baz=315								
TX31	Lajitas Ar. Si	60.37	79		P		P	09 18 55.0	+0.5
TX32	Lajitas Array	60.37	79		P		P	09 18 55.0	+0.5
TX32					IAmb		IAmb	09 18 55.7	
	comp=Z,4.9nm,0.7s								
TXAR	Lajitas Array	60.37	79		P		P	09 18 54.8	+0.3
	comp=Z,3.6nm,0.5s,baz=303,slow=5.3,SNR=28								
TXAR					ScP		ScP	09 23 26.4	-2.2
	comp=Z,1.2nm,0.8s,baz=289,slow=3.8,SNR=4.3								
TXAR	Lajitas Array	60.37	79		P		P	09 18 54.9	+0.4
G47A	Hillman	60.38	54		P		P	09 18 54.7	+0.5
	baz=315								
L44A	Lake County Fo	60.40	59		P		P	09 18 53.8	-0.6
	baz=315								
TUL1	Leonard	60.41	69		P		P	09 18 54.1	-0.5
	baz=315								
TUL1	Leonard	60.41	69		P		P	09 18 54.0	-0.5
TUL1					IAmb		IAmb	09 18 54.8	
	comp=Z,5.9nm,0.8s								
ABTX	Abilene, Hawle	60.46	74		P		P	09 18 54.7	-0.3
	baz=315,SNR=6.8								
ABTX	Abilene, Hawle	60.46	74		P		P	09 18 55.4	+0.4
ABTX					IAmb		IAmb	09 18 56.7	
	comp=Z,14nm,1.1s								
F48A	Evansville	60.52	52		P		P	09 18 54.8	-0.4
	baz=315								
SLBS	Sierra La Lagu	60.58	88		P		P	09 18 57.3	+1.3
R40A	Maddies Statio	60.75	64		P		P	09 18 55.0	-1.8
R40A					IAmb		IAmb	09 18 55.4	
	comp=Z,3.1nm,0.5s								
SCHQ	Schefferville	60.75	37		P		P	09 18 56.6	0.0
	comp=Z,3.1nm,0.5s,baz=288,slow=7.2,SNR=7.8								
SCHQ	Schefferville	60.75	37		P		P	09 18 56.8	+0.2
SCHQ					IAmb		IAmb	09 18 57.6	
	comp=Z,5.6nm,0.9s								
HDIL	Hopedale	60.80	61		P		P	09 18 56.0	-1.1
	baz=315,SNR=7.6								
F49A	Sandfield	60.85	52		P		P	09 18 56.6	-0.8
	baz=316,SNR=5.6								
HPIG		60.87	83		P		P	09 18 57.6	-0.4
LSQQ	Lebel-sur-Quev	60.87	47		P		P	09 18 55.9	-1.5
	baz=317								
D50A	G1974 Best Tow	60.91	50		P		P	09 18 56.8	-1.0
	baz=316								
E50A	Wahnapitae	61.02	51		P		P	09 18 57.6	-0.9
	baz=316								
D51A	Lot 18 Range I	61.19	50		P		P	09 18 58.4	-1.3
	baz=316								
HHAR	Hobbs	61.22	67		P		P	09 18 58.3	-1.8
ARU	Arti	61.24	327	*d i*	P		P	09 19 00.6	+0.8
ARU					S		S	09 27 13.9	+3.7
ARU					SS		SS	09 31 16.4	+5.1
ARU					pmax		pmax		
	comp=Z,17nm,0.9s								
ARU	Arti	61.24	327		P		P	09 19 00.7	+0.9
VLDQ	Val d'Or	61.34	48		P		P	09 18 58.4	-2.2
VLDQ					IAmb		IAmb	09 18 59.0	
	comp=Z,7.5nm,1.0s								
CHGQ	Chibougamau	61.40	45		P		P	09 18 59.6	-1.4
	baz=318,SNR=6.9								
E51A	G1948 Merrick	61.53	50		P		P	09 19 00.8	-1.2
	baz=316								
X37A	Clayton	61.59	69		IAmb		IAmb	09 19 03.7	
	comp=Z,7.3nm,1.0s								
D52A	ZEK Kipawa Sen	61.72	49		P		P	09 19 01.6	-1.6
	baz=317								
F51A	Arnstein	61.77	51		P		P	09 19 02.2	-1.4
	baz=316								
U40A	Yellville	61.78	66		P		P	09 19 02.2	-1.7
	baz=315,SNR=6.8								
U40A	Yellville	61.78	66		IAmb		IAmb	09 19 03.7	
	comp=Z,7.1nm,0.9s								
JCT	Junction City	61.89	76		P		P	09 19 03.5	-1.2
	baz=316								
JCT	Junction City	61.89	76		P		P	09 19 03.5	-1.2
JCT					pmax		pmax		
	comp=Z,5.0nm,0.9s								
JCT	Junction City	61.89	76		P		P	09 19 03.5	-1.2
JCT					IAmb		IAmb	09 19 06.2	
	comp=Z,5.0nm,0.9s								
D53A	Lac Vacive, Po	61.98	49		P		P	09 19 03.6	-1.4
	baz=317								
D53A	Lac Vacive, Po	61.98	49		P		P	09 19 03.7	-1.3
W39A	Magazine	62.08	68		P		P	09 19 04.8	-0.9
	baz=316								
W39A	Magazine	62.08	68		P		P	09 19 05.5	-0.2
W39A					IAmb		IAmb	09 19 06.3	
	comp=Z,13nm,1.5s								
SFIN	Lafayette	62.10	59		P		P	09 19 05.2	-0.7
	baz=316,SNR=8.6								
E52A	Mattawa	62.11	50		P		P	09 19 04.8	-1.0
	baz=317								
F52A	Sundridge	62.15	51		P		P	09 19 05.4	-0.7
	baz=317								
WHTX	Lake Whitney,	62.21	73		P		P	09 19 06.4	-0.3
	baz=316,SNR=6.5								
K49A	Clarkson	62.28	55		P		P	09 19 06.8	-0.3
	baz=316								
D54A	Lac Fusel, La	62.41	48		P		P	09 19 06.2	-1.6
	baz=318								
E53A	Dumoine, Ponti	62.51	49		P		P	09 19 06.9	-1.6
	baz=317								
FCAR	Ozark Folk Cen	62.53	66		P		P	09 19 07.4	-1.4
ALGO	Algonquin Park	62.64	50		P		P	09 19 08.4	-0.9
	baz=317								
MIAR	Mount Ida	62.66	68		P		P	09 19 09.3	-0.4
	baz=316,SNR=7.3								
MIAR	Mount Ida	62.66	68		P		P	09 19 09.2	-0.4
MIAR					pmax		pmax		
	comp=Z,9.0nm,1.2s								
MIAR	Mount Ida	62.66	68		P		P	09 19 09.2	-0.4
MIAR					IAmb		IAmb	09 19 10.2	
	comp=Z,9.2nm,1.1s								
E54A	Lac Daplat, Po	62.69	49		P		P	09 19 08.6	-1.2
	baz=318								
H52A	Wyevale	62.72	52		P		P	09 19 09.4	-0.5
	baz=316								
I51A	Listowel	62.77	53		P		P	09 19 10.3	0.0
	baz=317								
PBMO	Poplar Bluff	62.85	64		IAmb		IAmb	09 19 10.3	
	comp=Z,5.8nm,0.7s								
W41B	Gary Mavity, V	62.97	67		P		P	09 19 10.6	-1.2
	baz=316,SNR=5.2								
G53A	Haliburton	62.98	51		P		P	09 19 10.7	-0.9
	baz=317,SNR=9.6								
435B	Jarrell	63.00	74		P		P	09 19 11.8	-0.2
	baz=316								
G54A	Lake Saint Pet	63.03	50		P		P	09 19 10.8	-1.2
	baz=317								
D55A	Sainte-Anne-du	63.05	47		P		P	09 19 10.7	-1.4
	baz=318,SNR=12								
X40A	Basin Creek Fa	63.13	68		P		P	09 19 12.1	-0.7
	baz=316								
D56A	ZEC Mazanza, M	63.36	47		P		P	09 19 12.7	-1.4
	baz=318								
H53A	Bobcaygeon	63.40	51		P		P	09 19 13.6	-0.8
	baz=316								
J52A	Paris	63.45	53		P		P	09 19 14.4	-0.3
	baz=317								
E56A	St. Veronique	63.61	48		P		P	09 19 14.3	-1.5
	baz=318								
P48A	Milroy	63.66	59		IAmb		IAmb	09 19 15.6	
	comp=Z,7.6nm,0.6s								
SUF	Sumiainen	63.69	346		P		P	09 19 16.7	+0.7
SUF					pmax		pmax		
	comp=Z,14nm,2.3s								
D57A	Chemin Vers le	63.77	47		P		P	09 19 15.6	-1.3
	baz=319								
G55A	Calabogie	63.79	50		P		P	09 19 15.5	-1.5
	baz=318								
LATQ	La Tuque	63.99	46		P		P	09 19 16.9	-1.4
	baz=319								
WCI	Wyandotte Cave	64.08	61		P		P	09 19 17.8	-1.2
	baz=317								
I55A	Frankford	64.10	51		P		P	09 19 17.8	-1.2
	baz=318								
E57A	Chemin Saint G	64.11	47		P		P	09 19 17.5	-1.7
	baz=319,SNR=5.7								
D58A	Chemin du LacG	64.17	46		P		P	09 19 17.7	-1.7
	baz=319,SNR=5.6								
ACSO	Alum Creek Sta	64.38	57		P		P	09 19 19.9	-1.0
	baz=317								
E58A	La Victoria	64.54	47		P		P	09 19 20.6	-1.3
	baz=319								
T47A	Sharon Grove	64.54	62		IAmb		IAmb	09 19 22.4	
	comp=Z,9.4nm,0.6s								
O51A	Pataskala	64.64	57		P		P	09 19 21.7	-0.9
	baz=317								
HKT	Hockley	64.65	73		P		P	09 19 23.3	+0.6
HKT					pmax		pmax		
	comp=Z,8.0nm,1.1s								
J55A	Hilton	64.74	52		P		P	09 19 22.6	-0.5
	baz=318								
WVT	Waverly	64.77	63		P		P	09 19 23.1	-0.4
	baz=317								
L54A	Sinclairville	64.77	53		P		P	09 19 22.9	-0.6
	baz=318								
K54A	Basiliko Farm,	64.80	53		P		P	09 19 23.2	-0.5
	baz=318								
FINES	FINESS Array B	64.91	346		P		P	09 19 23.9	-0.1
	comp=Z,1.4nm,0.5s,baz=4.4,slow=7.2,SNR=9.1								
FINES	FINESS Array B	64.91	346	*i*	P		P	09 19 23.8	-0.2
FINES					pmax		pmax		
	comp=Z,1.0nm,0.5s								
FINES	FINESS Array B	64.91	346		P		P	09 19 23.2	-0.8
H57A	Richville	65.01	49		P		P	09 19 24.0	-0.9
	baz=319								
K55A	Perry	65.02	52		P		P	09 19 24.1	-0.9
	baz=318								
O52A	Adamsville	65.06	56		P		P	09 19 24.3	-1.0
	baz=318								
OXF	Oxford	65.06	66		P		P	09 19 24.7	-0.7
	baz=317								
Q51A	Peebles	65.08	58		IAmb		IAmb	09 19 25.6	
	comp=Z,7.7nm,0.6s								
M54A	Oil Creek Stat	65.14	54		P		P	09 19 25.4	-0.5
	baz=318								
AAK	Ala-Archa	65.16	308		P		P	09 19 26.9	+0.8
	comp=Z,3.3nm,0.5s,baz=189,slow=11,SNR=6.0								
AAK	Ala-Archa	65.16	308	‖ *e*	P		P	09 19 27.0	+0.8
AAK					pmax		pmax		
	comp=Z,3.0nm,0.6s								
AAK	Ala-Archa	65.16	308		P		P	09 19 25.8	-0.3
AAK					IAmb		IAmb	09 19 28.0	
	comp=Z,3.8nm,0.6s								
F59A	Saint Guilaume	65.16	47		P		P	09 19 24.7	-1.1
	baz=320								
D60A	Saint Jean D'O	65.17	45		P		P	09 19 24.7	-1.2
	baz=320								
J56A	Wolcott	65.20	51		P		P	09 19 25.4	-0.8
	baz=319								
L55A	Hinsdale	65.25	53		P		P	09 19 26.0	-0.5
	baz=318								
P52A	Corning	65.26	57		P		P	09 19 25.3	-1.3
	baz=318								
LONY	Lake Ozonia	65.27	49		P		P	09 19 25.1	-1.5
	baz=319								
D61A	St Aubert, Com	65.27	44		P		P	09 19 25.7	-0.8
	baz=321								
I57A	Carthage	65.28	50		P		P	09 19 25.4	-1.3
	baz=319								
E60A	Ste Agathe de	65.36	46		P		P	09 19 25.8	-1.4
	baz=320								
N54A	Moraine State	65.38	55		P		P	09 19 26.6	-0.8
	baz=318								
K56A	Middlesex	65.41	52		P		P	09 19 27.1	-0.5
	baz=319								
F60A	Warwick	65.44	46		P		P	09 19 26.2	-1.5
	baz=320								
PLAL	Pickwick Lake	65.47	64		P		P	09 19 27.0	-1.0
PLAL					IAmb		IAmb	09 19 27.7	
	comp=Z,4.5nm,0.6s								
J57A	Williamstown	65.51	50		P		P	09 19 27.5	-0.7
	baz=319								
V48A	Smith Brothers	65.61	63		P		P	09 19 27.5	-1.5
M55A	Ridgway	65.62	54		P		P	09 19 28.1	-0.8
	baz=318								
CLTN	Cedars of Leba	65.62	62		P		P	09 19 28.7	-0.3
CLTN					IAmb		IAmb	09 19 29.4	
	comp=Z,8.8nm,0.8s								
H59A	Cadyville	65.66	48		P		P	09 19 28.1	-1.0
	baz=320								
L56A	Greenwood	65.71	52		P		P	09 19 29.1	-0.5
	baz=319,SNR=11								
L56A	Greenwood	65.71	52		P		P	09 19 29.4	-0.2
E61A	Lac Etchemin	65.73	45		P		P	09 19 28.6	-1.0
	baz=321								
T50A	Nancy	65.75	61		P		P	09 19 29.4	-0.4
K57A	Scipio Center	65.77	51		P		P	09 19 29.1	-0.8
	baz=319								
ZAIG	Zacatecas	65.82	84		P		P	09 19 26.5	-4.3
ZAIG					IAmb		IAmb	09 19 32.8	
	comp=Z,6.9nm,1.0s								
D62A	Allapoint, All	65.85	44		P		P	09 19 29.2	-1.1
	baz=321								
F61A	St Evariste	65.86	46		P		P	09 19 29.7	-0.7
	baz=320								
J58A	Remsen	65.89	50		P		P	09 19 29.9	-0.7
	baz=319								
M56A	Emporium	65.89	53		P		P	09 19 30.2	-0.5
	baz=319								
M56A	Emporium	65.89	53		P		P	09 19 30.1	-0.6
M56A					IAmb		IAmb	09 19 35.8	
	comp=Z,9.2nm,1.1s								
E62A	Clayton Lake	66.01	44		P		P	09 19 29.9	-1.4
	baz=321								
N55A	Marion Center	66.02	54		P		P	09 19 30.5	-1.0
	baz=319								
Q53A	Leroy	66.15	57		P		P	09 19 31.6	-0.8
	baz=318								
G61A	St-Isidore-de-	66.16	46		P		P	09 19 31.7	-0.6
	baz=320								
L57A	Andrews Acres	66.16	52		P		P	09 19 31.8	-0.6
	baz=319								
K58A	Earlville	66.17	51		P		P	09 19 31.7	-0.7
	baz=319								
J59A	Piesco	66.18	49		P		P	09 19 31.1	-1.4
	baz=320								
H60A	Morristown	66.18	48		P		P	09 19 31.1	-1.4
	baz=320								
I59A	Olmsteadville	66.22	49		P		P	09 19 31.3	-1.5
	baz=320								
D63A	Stockholm	66.29	43		P		P	09 19 32.3	-0.8
	baz=322								
R53A	Hurricane	66.32	58		P		P	09 19 32.9	-0.5
	baz=318								
BINY	Binghamton	66.43	51		P		P	09 19 33.4	-0.7
	baz=319								
ABKAR	Akbulak array	66.45	321		P		P	09 19 35.0	+0.9
I60A	Shoreham	66.46	48		P		P	09 19 32.8	-1.4
	baz=320								
M57A	Sunshine Farm,	66.53	53		P		P	09 19 34.2	-0.6
	baz=319,SNR=6.1								
M57A	Sunshine Farm,	66.53	53		P		P	09 19 34.5	-0.2
M57A					IAmb		IAmb	09 19 35.1	
	comp=Z,11nm,1.1s								
K59A	Cooperstown	66.54	50		P		P	09 19 34.1	-0.7
	baz=320								
H61A	Lyndonville	66.56	47		P		P	09 19 33.8	-1.1
	baz=320								
L58A	Harry Jones Me	66.62	51		P		P	09 19 34.8	-0.5
	baz=320								
O56A	Blue Knob Stat	66.62	54		P		P	09 19 34.8	-0.6
	baz=319								
E63A	Oxbow	66.64	44		P		P	09 19 34.5	-0.8
	baz=322								
SSPA	Standing Stone	66.68	54		P		P	09 19 35.0	-0.7
	baz=319								
SSPA	Standing Stone	66.68	54		P		P	09 19 34.9	-0.8
KK31	Karatay Array	66.72	311		P		P	09 19 36.6	+0.6
KK31					pmax		pmax		
	comp=Z,4.0nm,0.7s								
KK31	Karatay Array	66.72	311		P		P	09 19 36.6	+0.6
KK31					IAmb		IAmb	09 19 37.4	
	comp=Z,4.4nm,0.7s								
KKAR	Karatay Array	66.72	311		P		P	09 19 36.6	+0.6
KKAR					pmax		pmax		
	comp=Z,4.0nm,0.7s								
KKAR	Karatay Array	66.72	311		P		P	09 19 36.5	+0.6
KKAR					IAmb		IAmb	09 19 37.4	
	comp=Z,4.4nm,0.7s								
KKAR	Karatay Array	66.72	311		P		P	09 19 36.5	+0.6
KSH	Kashi	66.75	305		P		P	09 19 41.0	+4.6
KSH					pmax		pmax		
	comp=Z,13nm,0.6s								
KSH					pmax		pmax		
	comp=Z,360nm,7.2s								
N57A	Milroy	66.76	53		P		P	09 19 35.8	-0.4
	baz=319								
Z47A	Carrollton	66.78	66		P		P

baz=322
N58A Sunbury 67.11 53 P P 09 19 37.6 -0.8
baz=319
O57A Amberson 67.13 54 P P 09 19 37.9 -0.7
baz=319
G63A Kingsbury 67.14 45 P P 09 19 37.5 -1.0
baz=321
FPAL Fort Paine 67.16 63 P P 09 19 37.8 -1.1
J61A Chester 67.18 48 P P 09 19 38.3 -0.6
baz=321
M59A Waymart 67.20 51 P P 09 19 38.2 -0.8
baz=320
R55A Marlinton 67.31 57 P P 09 19 39.1 -0.7
baz=319
G64A Maxfield 67.41 45 P P 09 19 39.2 -1.0
baz=322
T54A Tazewell 67.47 58 P P 09 19 40.5 -0.4
baz=319
LRAL Lakeview Retre 67.50 65 P P 09 19 40.1 -0.9
baz=318
N59A State Game Lan 67.51 52 P P 09 19 40.3 -0.7
baz=320
O58A Lewisberry 67.55 53 P P 09 19 40.7 -0.5
baz=320
R56A Bull Pasture M 67.59 56 P P 09 19 40.6 -1.0
baz=319
J62A Henniker 67.62 48 P P 09 19 40.9 -0.7
baz=321
K62A Royalston 67.86 49 P P 09 19 42.2 -0.9
baz=321
N60A Cedar Hill Far 67.88 52 P P 09 19 42.4 -0.9
baz=320
G65A Princeton 67.97 44 P P 09 19 42.5 -1.2
baz=322
S56A Natural Bridge 68.06 57 P P 09 19 43.8 -0.6
baz=319
Q58A Fox Den Farm, 68.06 55 P P 09 19 43.8 -0.6
baz=320
H65A Eastbrook 68.07 45 P P 09 19 43.5 -0.9
baz=322
R57A Stanardsville 68.13 56 P P 09 19 44.2 -0.6
baz=319
O60A Telford 68.15 52 P P 09 19 44.3 -0.6
baz=320
K63A Dunstable 68.17 48 P P 09 19 44.4 -0.6
baz=321
U55A TA2, Sparta 68.17 59 P P 09 19 44.4 -0.8
baz=319
P59A Jarrettsville 68.18 53 P P 09 19 44.5 -0.6
baz=320
V54A Nebo 68.23 60 P P 09 19 45.1 -0.5
baz=319
H66A Whiting 68.41 44 P P 09 19 45.6 -0.9
baz=323
V55A Taylorsville 68.57 59 P P 09 19 47.0 -0.6
baz=319
W54A Cherokee Point 68.62 60 P P 09 19 47.4 -0.6
baz=319
R58B Mineral 68.71 55 P P 09 19 47.9 -0.6
baz=320
T57A Hurt 68.73 57 P P 09 19 47.7 -0.9
baz=320
M63A Gales Ferry 68.93 49 P P 09 19 48.8 -1.0
baz=321
X54A Belton 68.93 61 P P 09 19 49.2 -0.7
baz=319
V56A Mocksville 68.98 59 P P 09 19 49.4 -0.8
baz=319
KMSC Kings Mountain 69.04 60 P P 09 19 50.1 -0.5
baz=319
U57A Blanch 69.12 57 P P 09 19 50.8 -0.2
baz=320
T58A Grand View Acr 69.15 57 P P 09 19 50.8 -0.4
baz=320
X55A Gracelyn & Ava 69.39 60 P P 09 19 52.4 -0.3
baz=319
Y55A Saluda 69.67 61 P P 09 19 53.9 -0.5
baz=319
X56A White Oak 69.69 60 P P 09 19 53.8 -0.8
baz=320
GAR Garm 69.98 308 P P 09 19 56.4 0.0
V59A Middlesex 70.20 57 P P 09 19 56.8 -0.9
baz=320
X58A Rowland 70.55 59 P P 09 19 59.1 -0.6
baz=320
Z57A Bowman 70.78 61 P P 09 20 00.2 -1.0
baz=320
158A Hollywood 71.48 61 P P 09 20 04.3 -1.2
baz=320
AKASG Malin Array Be 74.53 340 P P 09 20 22.8 -0.2
comp=Z,4.1nm,0.4s,baz=22,slow=6.2,SNR=12
AKASG Malin Array Be 74.53 340 *i* P P 09 20 23.8 +0.7
AKASG pmax pmax
comp=Z,4.0nm,0.4s
BUR08 Bucovina Ar. S 78.25 342 P P 09 20 45.1 +0.8
BURAR Bucovina Array 78.28 342 P P 09 20 45.2 +0.8
BURAR Bucovina Array 78.28 342 P P 09 20 45.3 +0.8
WRA Warramunga Arr 81.12 221 P P 09 21 00.4 +0.5
comp=Z,0.8nm,0.5s,baz=32,slow=5.8,SNR=2.8
WRA Warramunga Arr 81.12 221 IAmb IAmb 09 21 09.1
comp=Z,0.3nm,0.9s
ASAR Alice Springs 84.63 220 P P 09 21 18.2 +0.3
comp=Z,0.7nm,0.5s,baz=318,slow=8.8,SNR=9.6
ASAR pP pP 09 21 47.9 +0.8
comp=Z,1.0nm,0.9s,baz=24,slow=4.7,SNR=4.3
STKA Stephens Creek 89.36 211 P P 09 21 42.6 +2.0
comp=Z,3.6nm,1.0s,baz=350,slow=12,SNR=3.2
STKA Stephens Creek 89.36 211 IAmb IAmb 09 21 50.6
comp=Z,1.3nm,1.1s
KEST Kesra 92.26 351 P P 09 21 56.5 +2.0
comp=Z,4.2nm,0.7s,baz=322,slow=3.7,SNR=2.5
KEST Kesra 92.26 351 P P 09 21 56.1 +1.6
TORD Torodi Ar. Bea 115.22 356 PKP PKiKP 09 27 25.1 -0.4
comp=Z,0.2nm,0.4s,baz=346,slow=2.9,SNR=2.4
TORD Torodi Ar. Bea 115.22 356 PKiKP 09 27 24.7 -0.7
BOSA Boshof 149.29 309 PKPbc PKiKP 09 28 34.8 +1.1
comp=Z,2.5nm,0.6s,baz=352,slow=2.2,SNR=7.7

*IDC **24** 09:10:53.1±0.9,30°.16S×177°.77W, h0km, mb4.1/6, mb1 4.3/6, mb1mx3.9/35, mbtmp4.1/6, Error ellipse: s-maj=29.2km s-min=20.6km az=99.0*
*NEIC **24** 09:10:54.6±2.9,30°.11S±0°.03×177°.9W±0°.2, h10km±1km, mb4.4/15, Error ellipse: s-maj=29.3km s-min=5.5km az=89.0*
ISC 24 09:10:54.6±0.7,30°.15S±0°.06×177°.9W±0°.2,h10km,n41, σ1§21/44,mb4.4/11,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.90**	**356**	Pn	**Pb**	**09 11 11.3**	**-1.0**
	520nm,0.3s,baz=54,slow=21,SNR=13						
RAO				Sn	**Sg**	**09 11 22.4**	**-1.2**
	1µm,0.3s,baz=81,slow=20,SNR=12						
RAO	**Raoul Island**	**0.90**	**356**		**Sg**	**09 11 21.4**	**-2.2**
BKZ	**Black Stump Fm**	**10.13**	**206**	Pn	**Pn**	**09 13 18.7**	**-1.4**
BFZ	**Birch Farm**	**11.55**	**203**	Pn	**Pn**	**09 13 38.0**	**-1.6**
TUWZ	**Tuamarina**	**13.07**	**208**	Pn	**Pn**	**09 14 00.2**	**-0.1**
THZ	**Tophouse**	**13.79**	**210**	Pn	**Pn**	**09 14 10.6**	**+0.5**
KHZ	**Kahutara**	**14.06**	**207**	Pn	**Pn**	**09 14 10.2**	**-3.6**
OXZ	**Oxford**	**15.43**	**209**	Pn	**Pn**	**09 14 31.3**	**-1.1**
MQZ	**McQueen's Vall**	**15.50**	**207**	Pn	**Pn**	**09 14 32.0**	**-1.2**
MQZ				IAmb	IAmb	09 14 33.5	
	comp=Z,47nm,1.4s						
ODZ	**Otahua Downs**	**17.41**	**208**	Pn	**Pn**	**09 14 57.6**	**0.0**
TARA	**Tarawa**	**32.54**	**343**	P	**P**	**09 17 27.1**	**+1.1**
CTAO	**Charters Tower**	**33.89**	**279**	P	**P**	**09 17 37.3**	**-0.5**
CTAO				IAmb	IAmb	09 17 53.2	
	comp=Z,5.9nm,1.2s						
STKA	**Stephens Creek**	**34.66**	**257**	P	**P**	**09 17 45.7**	**+1.3**
	comp=Z,4.7nm,1.0s,baz=99,slow=13,SNR=2.1						
STKA	**Stephens Creek**	**34.66**	**257**	P	**P**	**09 17 45.4**	**+1.0**
STKA				IAmb	IAmb	09 18 03.2	
	comp=Z,6.9nm,1.5s						
AS31	**Alice Springs**	**43.25**	**267**	P	**P**	**09 18 55.5**	**-1.0**
ASAR	**Alice Springs**	**43.25**	**267**	P	**P**	**09 18 57.3**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=100,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**43.25**	**267**	P	**P**	**09 18 56.9**	**+0.5**
WR0	**Warramunga Arr**	**44.04**	**272**	P	**P**	**09 19 03.1**	**+0.3**
WR0				IAmb	IAmb	09 19 19.8	
	comp=Z,15nm,1.4s						
WRAB	**Tennant Creek**	**44.21**	**272**	P	**P**	**09 19 04.0**	**-0.2**
WRAB				IAmb	IAmb	09 19 07.9	
	comp=Z,4.5nm,0.8s						
WRA	**Warramunga Arr**	**44.22**	**272**	P	**P**	**09 19 03.8**	**-0.5**
	comp=Z,3.8nm,0.6s,baz=110,slow=8.1,SNR=51						
WRA	**Warramunga Arr**	**44.22**	**272**	P	**P**	**09 19 02.2**	**-2.0**
WB0	**Warramunga Arr**	**44.24**	**272**	P	**P**	**09 19 04.0**	**-0.4**
WB0				IAmb	IAmb	09 19 09.4	
	comp=Z,6.8nm,1.1s						
VNDA	**Vanda**	**48.36**	**186**	P	**P**	**09 19 37.1**	**+1.2**
CASY	**Casey**	**55.42**	**208**	P	**P**	**09 20 27.3**	**-1.5**
QSPA	**South Pole Qui**	**59.96**	**180**	P	**P**	**09 20 59.1**	**-1.8**
	comp=Z,2.8nm,0.8s,baz=45,slow=2.6,SNR=14						
QSPA	**South Pole Qui**	**59.96**	**180**	P	**P**	**09 21 00.1**	**-0.8**
QSPA				IAmb	IAmb	09 21 00.6	
	comp=Z,3.2nm,0.8s						
SNAA	**Sanae**	**78.40**	**178**	P	**P**	**09 22 54.2**	**-0.9**
SNAA				IAmb	IAmb	09 23 06.8	
	comp=Z,5.1nm,1.5s						
USRK	**Ussuriysk Ar.**	**87.03**	**326**	P	**P**	**09 23 41.3**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=68,slow=5.1,SNR=4.1						
USRK	**Ussuriysk Ar.**	**87.03**	**326**	P	**P**	**09 23 41.2**	**+1.2**
NVAR	**Mina Array Bea**	**87.97**	**43**	P	**P**	**09 23 45.2**	**+0.2**
	comp=Z,0.4nm,0.9s,baz=233,slow=8.9,SNR=1.7						
MKAR	**Makanchi Array**	**117.71**	**310**	PKP	**PKiKP**	**09 29 42.2**	**+1.3**
	comp=Z,0.2nm,0.5s,baz=142,slow=3.3,SNR=2.1						
MKAR	**Makanchi Array**	**117.71**	**310**		**PKPdf**	**09 29 40.4**	**-0.4**
KURK	**Kurchatov**	**120.97**	**314**		**PKiKP**	**09 29 47.7**	**+0.7**
KURBB	**Kurchatov Arra**	**121.01**	**314**	PKP	**PKiKP**	**09 29 47.9**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=111,slow=1.8,SNR=6.8						
FINES	**FINESS Array B**	**144.96**	**340**	PKP	**PKPdf**	**09 30 31.8**	**+0.5**
	comp=Z,5.7nm,0.6s,baz=44,slow=3.9,SNR=11						
NB2	**NORSAR Subarra**	**148.52**	**352**	PKP	**PKPbc**	**09 30 40.9**	**-0.1**
	comp=Z,1.5nm,0.9s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.52**	**352**	PKPbc	**PKPbc**	**09 30 41.1**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=16,slow=4.4,SNR=5.0						
AKASG	**Malin Array Be**	**151.18**	**323**	PKPbc	**PKiKP**	**09 30 48.9**	**+0.6**
	comp=Z,1.8nm,0.5s,baz=50,slow=2.8,SNR=8.0						
AKASG	**Malin Array Be**	**151.18**	**323**		**PKiKP**	**09 30 50.7**	**+2.4**
BRTR	**Keskin Array B**	**152.59**	**299**	PKPbc	**PKiKP**	**09 30 52.1**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=101,slow=3.9,SNR=4.3						
BRTR	**Keskin Array B**	**152.59**	**299**	PKPdf	**PKPdf**	**09 30 45.2**	**+0.6**
BRTR					**PKiKP**	**09 30 52.1**	**+0.3**
BRTR				PKPab	**PKPab**	**09 31 02.9**	**+0.8**

*NEIC **24** 09:12:46.1±1.4,28°.04S±0°.07×177°.6W±0°.3, h10km±2km, mb4.4/11, Error ellipse: s-maj=39.0km s-min=10.3km az=98.0*
*IDC **24** 09:13:03.3±4.5,28°.48S×177°.40W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/36, mbtmp3.7/2, MS3.6/1, Ms1 3.6/1, ms1mx3.2/39, Error ellipse: s-maj=92.4km s-min=28.2km az=101.0*
ISC 24 09:12:45.4±2.3,28°.0S±0°.1×177°.5W±0°.4,h10km,n19, σ1§18/14,mb4.3/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.30**	**195**	Pn	Pg	09 13 23.0	+13
	220nm,0.3s,baz=273,slow=23,SNR=2.0						
RAO				Sn	Sn	09 13 37.8	+11
	600nm,0.3s,baz=121,slow=22,SNR=6.1						
RAO	**Raoul Island**	**1.30**	**195**		**Pn**	**09 13 08.9**	**-0.7**
NNZ	**Nelson**	**15.15**	**207**	Pn	**Pn**	**09 16 21.6**	**+2.0**
BSWZ	**Blackbirch Sta**	**15.39**	**205**	Pn	**Pn**	**09 16 22.7**	**+0.1**
THZ	**Tophouse**	**15.81**	**207**	Pn	**Pn**	**09 16 28.2**	**+0.1**
THZ				IAmb	IAmb	09 16 39.7	
	comp=Z,54nm,1.5s						
KHZ	**Kahutara**	**16.12**	**204**	Pn	**Pn**	**09 16 31.6**	**-0.5**
KHZ				IAmb	IAmb	09 16 44.1	
	comp=Z,57nm,1.5s						
OXZ	**Oxford**	**17.47**	**206**		**Pn**	**09 16 48.8**	**-0.4**
RAR	**Rarotonga**	**17.49**	**71**	LR	LR	09 22 00.1	
	comp=Z,215nm,19.8s,baz=255,slow=31						
MQZ	**McQueen's Vall**	**17.56**	**204**	P	**P**	**09 16 52.0**	**+0.7**
MQZ				IAmb	IAmb	09 17 02.4	
	comp=Z,52nm,1.4s						
AS31	**Alice Springs**	**43.70**	**264**	P	**P**	**09 20 51.1**	**+0.2**
ASAR	**Alice Springs**	**43.70**	**264**	P	P	09 21 10.2	+19
	comp=Z,0.5nm,0.7s,baz=108,slow=7.0,SNR=2.6						
ASAR	**Alice Springs**	**43.70**	**264**	P	**P**	**09 20 51.1**	**+0.1**
WR0	**Warramunga Arr**	**44.29**	**270**	P	**P**	**09 20 57.3**	**+1.6**
WR0				IAmb	IAmb	09 21 10.7	
	comp=Z,8.1nm,1.5s						
WB2	**Warramunga Arr**	**44.46**	**269**	P	**P**	**09 20 55.9**	**-1.1**
WB2				IAmb	IAmb	09 21 01.3	
	comp=Z,7.1nm,1.5s						
WRAB	**Tennant Creek**	**44.47**	**269**	P	**P**	**09 20 56.6**	**-0.5**
WRAB				IAmb	IAmb	09 21 16.9	
	comp=Z,6.3nm,1.2s						
WRA	**Warramunga Arr**	**44.47**	**269**	P	P	09 21 17.8	+21
	comp=Z,1.1nm,0.7s,baz=109,slow=8.0,SNR=2.8						
WB0	**Warramunga Arr**	**44.49**	**270**	P	**P**	**09 20 54.9**	**-2.3**
WB0				IAmb	IAmb	09 21 14.8	
	comp=Z,7.9nm,1.3s						
PEA0B	**Petropavlovsk-**	**83.59**	**345**	P	**P**	**09 25 13.8**	**+0.3**
FINES	**FINESS Array B**	**143.02**	**341**	PKP	PKiKP	09 32 38.8	+17
	comp=Z,1.7nm,0.5s,baz=31,slow=4.4,SNR=4.8						

*INET **24** 09:16:03.1, 12°.89N×87°.11W, h0km, ML3.8*
*SNET **24** 09:16:04.0±0.8, 12°.92N×87°.20W, h15km±144km, ML3.7*
UCR 24 09:16:04.0±0.8,12°.92N×87°.21W,h10km±254km,ML3.5, 2D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.76**	**300**	*e*P	Pg	09 16 18.4	-0.4
LCND				*e*S	Sb	09 16 29.6	-0.3
LCND				IAML		09 16 37.6	
	comp=Z,2µm,0.5s						
LCND	**La Caada**	**0.76**	**300**	*e*P	Pg	09 16 18.4	-0.4
LCND				*e*S	Sb	09 16 29.6	-0.3
LCND				IAML		09 16 37.6	
	comp=Z,2µm,0.5s						
JUCU	**Jucuarn**	**1.06**	**288**	*e*P	Pg	09 16 23.3	-1.1
JUCU				*e*S	Sg	09 16 38.0	-0.2
JUCU	**Jucuarn**	**1.06**	**288**	*e*P	Pg	09 16 23.3	-1.1
JUCU				*e*S	Sg	09 16 38.0	-0.2
FAGO	**Alcalda de S**	**1.16**	**311**	*i*P	Pb	09 16 24.9	-1.3
FAGO				*e*S	Sb	09 16 41.1	-0.3
FAGO	**Alcalda de S**	**1.16**	**311**	*i*P	Pb	09 16 24.9	-1.3
FAGO				*e*S	Sb	09 16 41.1	-0.3
ALJI	**Alcalda de J**	**1.38**	**287**	*e*P	Pn	09 16 28.5	-0.9
ALJI				*e*S	Sn	09 16 48.0	+0.2
ALJI	**Alcalda de J**	**1.38**	**287**	*e*P	Pn	09 16 28.5	-0.9
ALJI				*e*S	Sn	09 16 48.0	+0.2
OPAM	**Oficina de Pla**	**2.08**	**292**	IAML		09 17 14.5	
	comp=Z,419nm,0.3s						
OPAM	**Oficina de Pla**	**2.08**	**292**	IAML		09 17 14.5	
	comp=Z,419nm,0.3s						
UEES	**Universidad Ev**	**2.12**	**292**	IAML		09 17 13.4	
	comp=Z,365nm,0.4s						
UEES	**Universidad Ev**	**2.12**	**292**	IAML		09 17 13.4	
	comp=Z,365nm,0.4s						
JAYA	**Jayaque - finc**	**2.29**	**289**	IAML		09 17 17.5	
	comp=Z,492nm,0.3s						
JAYA	**Jayaque - finc**	**2.29**	**289**	IAML		09 17 17.5	
	comp=Z,492nm,0.3s						
CEDA	**San Andres**	**2.30**	**293**	IAML		09 17 22.6	
	comp=Z,450nm,0.6s						
CEDA	**San Andres**	**2.30**	**293**	IAML		09 17 22.6	
	comp=Z,450nm,0.6s						

*NEIC **24** 09:21:34.8±1.4,29°.83S±0°.10×177°.2W±0°.2, h10km±2km, mb4.1/4, Error ellipse: s-maj=32.1km s-min=9.3km az=63.0*
*IDC **24** 09:21:34.2±3.2,29°.83S×177°.22W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/28, mbtmp3.5/2, Error ellipse: s-maj=72.8km s-min=29.2km az=57.0*
ISC 24 09:21:35.7±1.9,29°.9S±0°.2×177°.1W±0°.2,h24km,n12, σ1§04/13,mb3.8/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.96**	**308**	Pn	**Pn**	**09 21 54.1**	**+0.5**
	104nm,0.3s,baz=98,slow=19,SNR=2.9						
RAO				Sn	**Sn**	**09 22 05.9**	**-0.6**
	340nm,0.3s,baz=13,slow=22,SNR=13						
RAO	**Raoul Island**	**0.96**	**308**		**Pn**	**09 21 53.5**	**-0.1**
BFZ	**Birch Farm**	**12.11**	**205**	Pn	**Pn**	**09 24 27.1**	**+0.5**
ASAR	**Alice Springs**	**43.96**	**266**	P	**P**	**09 29 41.8**	**+0.7**
	0.3nm,0.6s,baz=106,slow=7.2,SNR=4.9						
ASAR	**Alice Springs**	**43.96**	**266**	P	**P**	**09 29 41.1**	**0.0**
WR0	**Warramunga Arr**	**44.72**	**271**	P	**P**	**09 29 46.3**	**-0.9**
WR0				IAmb	IAmb	09 29 58.3	
	comp=Z,3.4nm,1.1s						
WB2	**Warramunga Arr**	**44.89**	**271**	P	**P**	**09 29 48.8**	**+0.2**
WB2				IAmb	IAmb	09 29 56.3	
	comp=Z,4.8nm,1.1s						
WRA	**Warramunga Arr**	**44.90**	**271**	P	**P**	**09 29 49.8**	**+1.2**
	comp=Z,1.2nm,1.0s,baz=110,slow=8.1,SNR=5.5						
WRA	**Warramunga Arr**	**44.90**	**271**	P	**P**	**09 29 46.5**	**-2.1**
WB0	**Warramunga Arr**	**44.92**	**271**	P	**P**	**09 29 49.0**	**+0.2**
WB0				IAmb	IAmb	09 29 58.0	
	comp=Z,0.9nm,0.9s						
QSPA	**South Pole Qui**	**60.26**	**180**	P	**P**	**09 31 40.7**	**-1.2**
FINES	**FINESS Array B**	**144.90**	**341**	PKP	**PKPdf**	**09 41 11.2**	**+1.2**
	comp=Z,1.3nm,0.8s,baz=90,slow=4.2,SNR=3.9						

*IDC **24** 09:23:49.6±1.9,51°.79N×177°.78E, h0km, mb3.9/13, mb1 4.1/15, mb1mx3.8/58, mbtmp4.0/15, ML3.4/2, Error ellipse: s-maj=51.4km s-min=16.5km az=3.0*
*NEIC **24** 09:24:04.8±1.8,51°.8N±0°.1×177°.90E±0°.05, h130km±5km, Error ellipse: s-maj=15.2km s-min=2.9km az=167.0*
*AEIC **24** 09:24:05.7±1.9,51°.8N±0°.1×177°.91E±0°.05, h131km±4km, mb4.2/49(NEIC), Error ellipse: s-maj=15.1km s-min=2.6km az=166.0*
ISC 24 09:24:04.7±0.8,51°.9N±0°.1×177°.84E±0°.05,h126km±6km, n104,σ1§28/105,mb4.1/31,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.43**	**78**		**Pn**	**09 24 23.7**	**+0.8**
LSSA					**Sn**	**09 24 37.8**	**+1.0**
LSNW	**Little Sitkin**	**0.43**	**76**		**Pn**	**09 24 23.8**	**+0.8**
LSPA	**Little Sitkin**	**0.47**	**78**		**Pn**	**09 24 24.0**	**+0.9**
LSPA					**Sn**	**09 24 38.3**	**+1.2**
CETU	**Semis' Tuman**	**1.03**	**84**		**Pn**	**09 24 28.0**	**+0.5**
CETU					**Sn**	**09 24 44.4**	**-0.5**
AMKA	**Amchitka**	**1.03**	**117**		**Pn**	**09 24 27.6**	**0.0**
AMKA					**Sn**	**09 24 43.5**	**-1.4**
CEAP	**Semis' Anvil P**	**1.09**	**82**		**Pn**	**09 24 28.5**	**+0.5**
CERAA	**Semis' Rag'd T**	**1.15**	**87**		**Pn**	**09 24 28.8**	**+0.1**
GALAA	**Gareloi Lava P**	**2.11**	**91**		**Pn**	**09 24 39.6**	**-0.1**
GAEA	**Gareloi East**	**2.12**	**91**		**Pn**	**09 24 39.8**	**-0.1**
SMY	**Shemya**	**2.45**	**292**		**Pn**	**09 24 45.2**	**+1.2**
SMY					**Sn**	**09 25 13.5**	**-0.8**
TASE	**Tanaga Southea**	**2.56**	**89**		**Pn**	**09 24 45.3**	**-0.2**
TAFP	**Tanaga Falls P**	**2.59**	**88**		**Pn**	**09 24 45.2**	**-0.6**
TAFP					**Sn**	**09 25 15.6**	**-1.9**
KIMD	**Kanaga Island**	**3.06**	**90**		**Pn**	**09 24 51.3**	**-0.6**
KICM	**Kanaga Island**	**3.08**	**87**		**Pn**	**09 24 51.9**	**-0.2**
KIKV	**Kanaga Island**	**3.10**	**88**		**Pn**	**09 24 52.0**	**-0.4**
ADK	**Adak**	**3.40**	**88**		**Pn**	**09 24 55.7**	**-0.6**
ADAG	**Mount Adagdak**	**3.45**	**86**		**Pn**	**09 24 56.2**	**-0.8**
GSTR	**Great Sitkin T**	**3.78**	**84**		**Pn**	**09 25 01.0**	**-0.4**
GSMY	**Great Sitkin M**	**3.78**	**85**		**Pn**	**09 25 00.4**	**-1.0**
ATKA	**Atka Island**	**4.93**	**83**	Pn	**Pn**	**09 25 18.4**	**+1.7**
SPIA	**Saint Paul Isl**	**8.73**	**48**	Pn	**Pn**	**09 26 11.2**	**+3.4**
UNV	**Unalaska Valle**	**9.68**	**72**	Pn	**Pn**	**09 26 19.1**	**-1.4**
PETK	**Petropavlovsk-**	**12.34**	**284**	Pn	Pn	09 26 46.4	-9.4
	0.1nm,0.3s,baz=72,slow=9.3,SNR=2.6						
PETK					Sn	**09 29 07.5**	**-4.1**
	0.2nm,0.3s,baz=20,slow=40,SNR=1.2						
SDPT	**Sand Point**	**13.33**	**66**	Pn	**Pn**	**09 27 09.7**	**+1.0**
CNBA	**Chernabura Isl**	**13.79**	**69**	Pn	**Pn**	**09 27 11.8**	**-2.8**
SVW2	**Sparrevohn**	**17.23**	**47**	P	**Pn**	**09 27 57.4**	**+0.1**
OHAK	**Old Harbor**	**17.51**	**61**	P	**P**	**09 27 56.9**	**-3.0**
KDAK	**Kodiak Island**	**17.95**	**59**	P	**P**	**09 28 02.2**	**-2.5**
	1.0nm,0.3s,baz=254,slow=5.3,SNR=22						
KDAK	**Kodiak Island**	**17.95**	**59**	P	**P**	**09 28 01.9**	**-2.8**
RSO	**Redoubt South**	**18.36**	**51**	P	**P**	**09 28 09.6**	**+0.2**
HOM	**Homer**	**18.72**	**53**	P	**P**	**09 28 14.0**	**+0.9**
RDOG	**Red Dog Mine**	**18.73**	**23**	P	**P**	**09 28 13.7**	**+0.5**
RDOG				IAmb	IAmb	09 28 16.5	
	comp=Z,7.4nm,0.7s						
CNPM	**China Poot**	**18.90**	**54**	P	**P**	**09 28 15.1**	**0.0**
BRLK	**Bradley Lake**	**19.12**	**53**	P	**P**	**09 28 18.1**	**+0.6**
BRLK				IAmb	IAmb	09 28 22.9	
	comp=Z,18nm,1.2s						
PPLA	**Purkeypile**	**19.36**	**44**		**Pn**	**09 28 21.7**	**-1.0**
PPLA				IAmb	IAmb	09 28 26.2	
	comp=Z,7.4nm,0.7s						
SEW	**Seward**	**19.89**	**53**	P	**P**	**09 28 25.5**	**-0.2**
BPAW	**Bear Paw Mtn.**	**20.31**	**41**		**P**	**09 28 31.5**	**+1.2**
BPAW				IAmb	IAmb	09 28 34.2	
	comp=Z,6.4nm,0.6s						
TRF	**Thorofare Moun**	**20.37**	**43**	P	**P**	**09 28 32.5**	**+1.4**
TRF				IAmb	IAmb	09 28 34.1	
	comp=Z,9.7nm,0.8s						
KNK	**Knik Glacier**	**20.62**	**49**	P	**P**	**09 28 31.3**	**-2.4**
KNK				IAmb	IAmb	09 28 35.4	
	comp=Z,7.2nm,0.6s						
RND	**Reindeer**	**20.96**	**44**	P	**P**	**09 28 38.4**	**+1.0**
GLI	**Glacier Island**	**21.17**	**51**	P	**P**	**09 28 39.0**	**-0.5**
SCM	**Sheep Creek Mo**	**21.24**	**48**	P	**P**	**09 28 40.8**	**+0.5**
SCM				IAmb	IAmb	09 28 43.0	
	comp=Z,7.1nm,0.8s						
FID	**Port Fidalgo**	**21.45**	**52**	P	**P**	**09 28 41.5**	**-1.0**
FID				IAmb	IAmb	09 28 51.4	
	comp=Z,22nm,1.5s						
DHY	**Denali Highway**	**21.51**	**45**	P	**P**	**09 28 42.6**	**-0.7**
DHY				IAmb	IAmb	09 28 44.7	
	comp=Z,9.4nm,0.7s						
WRH	**Wood River Hil**	**21.62**	**41**	P	**P**	**09 28 42.9**	**-1.5**
MDM	**Murphy Dome**	**21.74**	**40**	P	**P**	**09 28 45.7**	**+0.1**
MDM				IAmb	IAmb	09 28 46.5	
	comp=Z,5.0nm,0.6s						
EYAK	**Cordova Ski Ar**	**21.78**	**52**	P	**P**	**09 28 45.1**	**-0.9**
CCB	**Clear Creek Bu**	**21.80**	**41**	P	**P**	**09 28 45.1**	**-1.1**
COLA	**College**	**21.86**	**40**	P	**P**	**09 28 48.3**	**+1.5**
COLA				IAmb	IAmb	09 28 48.7	
	comp=Z,7.2nm,0.8s						
HDA	**Harding Lake**	**22.07**	**42**	P	**P**	**09 28 49.1**	**+0.1**
HDA				IAmb	IAmb	09 28 50.2	
	comp=Z,6.0nm,0.5s						
IL31		**22.21**	**41**	P	**P**	**09 28 48.0**	**-2.4**
ILAR	**Eielson Array**	**22.21**	**41**	P	**P**	**09 28 48.2**	**-2.3**
	comp=Z,1.7nm,0.4s,baz=244,slow=7.8,SNR=32						
ILAR	**Eielson Array**	**22.21**	**41**	P	**P**	**09 28 49.4**	**-1.1**
RAGM	**Ragged Mountai**	**22.29**	**53**	P	**P**	**09 28 49.9**	**-1.4**
RAGM				IAmb	IAmb	09 28 53.1	
	comp=Z,8.8nm,0.9s						
RIDG	**Independent Ri**	**22.78**	**44**	P	**P**	**09 28 54.9**	**-1.2**
RIDG				IAmb	IAmb	09 28 59.9	
	comp=Z,11nm,1.4s						
GLB	**Gilahina Butte**	**22.83**	**50**	P	**P**	**09 28 56.5**	**-0.1**
TOLK	**Toolik Lake Re**	**22.87**	**31**	P	**P**	**09 28 57.8**	**+0.9**
VRDI	**Verde Repeater**	**22.97**	**51**	P	**P**	**09 28 58.1**	**0.0**
PRP	**Porcupine Dome

H11N3	**WAKE ISLAND Hy**	**33.20**	**199**	T	T	10 06 14.4	
	baz=11,slow=76,SNR=18						
H11N1	**WAKE ISLAND Hy**	**33.21**	**199**	T	T	10 06 10.9	
	baz=11,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**34.42**	**199**	T	T	10 07 41.2	
	baz=13,slow=74,SNR=7.1						
H11S3	**WAKE ISLAND Hy**	**34.44**	**199**	T	T	10 07 39.9	
	baz=72,slow=74,SNR=4.4						
YKA	**Yellowknife Ar**	**36.41**	**46**	P	**P**	**09 30 55.6**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=283,slow=8.1,SNR=4.7						
NVAR	**Mina Array Bea**	**45.56**	**81**	P	**P**	**09 32 12.4**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=293,slow=7.7,SNR=4.4						
NVAR	**Mina Array Bea**	**45.56**	**81**	P	**P**	**09 32 12.0**	**+0.1**
PDAR	**Pinedale Array**	**48.14**	**71**	P	**P**	**09 32 30.9**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=298,slow=4.0,SNR=2.9						
PDAR	**Pinedale Array**	**48.14**	**71**	P	**P**	**09 32 30.8**	**-1.2**
SPA0	**Spitsbergen Ar**	**49.73**	**355**	P	**P**	**09 32 44.1**	**+0.8**
KURK	**Kurchatov**	**57.15**	**312**	P	**P**	**09 33 38.0**	**+0.2**
KURK				IAmb	IAmb	09 33 41.6	
	comp=Z,2.0nm,0.9s						
KURBB	**Kurchatov Arra**	**57.25**	**312**	P	**P**	**09 33 39.4**	**+0.9**
	comp=Z,1.2nm,0.5s,baz=42,slow=6.5,SNR=9.5						
MK31	**Makanchi Array**	**58.07**	**306**	P	**P**	**09 33 44.9**	**+0.6**
MKAR	**Makanchi Array**	**58.07**	**306**	P	**P**	**09 33 43.6**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=46,slow=5.2,SNR=4.0						
MKAR	**Makanchi Array**	**58.07**	**306**	P	**P**	**09 33 45.0**	**+0.7**
BVAR	**Borovoye Array**	**59.14**	**318**	P	**P**	**09 33 52.7**	**+1.1**
	comp=Z,2.2nm,0.5s,baz=56,slow=6.0,SNR=10						
TXAR	**Lajitas Array**	**60.64**	**79**	P	**P**	**09 34 02.2**	**0.0**
	comp=Z,0.5nm,0.5s,baz=297,slow=5.5,SNR=4.2						
TXAR	**Lajitas Array**	**60.64**	**79**	P	**P**	**09 34 03.3**	**+1.0**
ARU	**Arti**	**61.06**	**326**	P	**P**	**09 34 04.9**	**+0.3**
	comp=Z,1.9nm,0.3s,baz=315,slow=15,SNR=4.1						
FINES	**FINESS Array B**	**64.82**	**345**	P	**P**	**09 34 29.1**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=16,slow=8.4,SNR=5.4						
AKTO	**Aktyubinsk**	**66.05**	**323**	P	**P**	**09 34 37.6**	**+0.2**
	comp=Z,0.8nm,0.3s,baz=342,slow=1.4,SNR=5.5						
ABKAR	**Akbulak array**	**66.26**	**321**	P	**P**	**09 34 40.3**	**+1.5**
AKASG	**Malin Array Be**	**74.40**	**340**	P	**P**	**09 35 28.7**	**+0.5**
	comp=Z,1.6nm,0.4s,baz=20,slow=6.3,SNR=4.7						
AKASG	**Malin Array Be**	**74.40**	**340**	P	**P**	**09 35 28.2**	**-0.1**
BUR08	**Bucovina Ar. S**	**78.14**	**341**	P	**P**	**09 35 51.7**	**+2.1**
BURAR	**Bucovina Array**	**78.16**	**341**	P	**P**	**09 35 51.5**	**+1.8**
WR0	**Warramunga Arr**	**80.89**	**221**	P	**P**	**09 36 05.7**	**+1.2**

IDC 24 09:25:17.4±4.4, 28°45S×177°61W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/24, mbtmp3.5/2, Error ellipse: s-maj=87.9km s-min=25.7km az=88.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.85**	**199**	Pn	Pn	09 25 37.0	+0.4
	88nm,0.3s,baz=64,slow=23,SNR=1.2						
RAO				Sn	Sn	09 25 50.2	+0.5
	861nm,0.3s,baz=355,slow=20,SNR=7.8						
ASAR	**Alice Springs**	**43.59**	**265**	P	P	09 33 23.2	-0.4
	0.3nm,0.9s,baz=107,slow=7.4,SNR=1.8						
WRA	**Warramunga Arr**	**44.41**	**270**	P	P	09 33 30.1	0.0
	0.8nm,0.7s,baz=109,slow=8.0,SNR=2.5						
FINES	**FINESS Array B**	**143.43**	**341**	PKP	PKPdf	09 44 52.2	-1.0
	2.5nm,1.0s,baz=48,slow=2.8,SNR=3.6						

*NEIC **24** 09:31:11.5±0.8, 51°7N±0°1×177°58E±0°08, h122km±8km, Error ellipse: s-maj=16.9km s-min=6.6km az=186.0*

AEIC 24 09:31:12±0.9, 51°7N±0°1×177°74E±0°09, h110km±5km, mb4.1/3(NEIC), Error ellipse: s-maj=15.3km s-min=6.0km az=199.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.54**	**62**		Pn	09 31 30.7	+1.5
LSSA					Sn	09 31 44.7	+2.6
LSNW	**Little Sitkin**	**0.56**	**60**		Pn	09 31 30.7	+1.5
LSPA	**Little Sitkin**	**0.58**	**63**		Pn	09 31 30.8	+1.4
LSPA					Sn	09 31 45.5	+3.1
AMKA	**Amchitka**	**1.03**	**107**		Pn	09 31 35.0	+1.6
AMKA					Sn	09 31 51.9	+2.3
CETU	**Semis' Tuman**	**1.12**	**75**		Pn	09 31 36.3	+1.8
CESW	**Semis' Southwe**	**1.15**	**79**		Pn	09 31 36.3	+1.5
CESW					Sn	09 31 53.5	+1.6
CEAP	**Semis' Anvil P**	**1.18**	**74**		Pn	09 31 36.8	+1.7
CERAA	**Semis' Rag'd T**	**1.23**	**79**		Pn	09 31 37.1	+1.5
SMY	**Shemya**	**2.47**	**296**	Pn	Pn	09 31 49.5	-1.4
TASE	**Tanaga Southea**	**2.63**	**85**		Pn	09 31 54.6	+1.5
KIMD	**Kanaga Island**	**3.13**	**87**		Pn	09 32 00.8	+1.2
ADK	**Adak**	**3.47**	**85**	Pn	Pn	09 32 03.9	-0.3
GSKR	**Great Sitkin T**	**3.86**	**82**	Pn	Pn	09 32 10.2	+0.7
OHAK	**Old Harbor**	**17.64**	**60**		P	09 35 08.7	-1.2
OHAK				IAmb	IAmb	09 35 16.7	
	comp=Z,1.5nm,1.1s						
KDAK	**Kodiak Island**	**18.09**	**59**	P	P	09 35 13.7	-1.0
KDAK				IAmb	IAmb	09 35 18.0	
	comp=Z,23nm,1.4s						
CNPM	**China Poot**	**19.05**	**54**	P	P	09 35 25.0	-0.3
CNPM				IAmb	IAmb	09 35 34.5	
	comp=Z,24nm,1.4s						

*IDC **24** 09:31:17.2±0.7, 30°04S×177°52W, h0km, mb4.3/12, mb1 4.4/13, mb1mx4.3/39, mbtmp4.3/13, ML4.6/1, Error ellipse: s-maj=23.3km s-min=14.5km az=77.0*

*NEIC **24** 09:31:19.1±2.4, 30°14S±0°06×177°5W±0°1, h18km±4km, mb4.6/25, Error ellipse: s-maj=18.1km s-min=9.1km az=88.0*

ISC 24 09:31:18.2±0.6, 30°14S±0°05×177°5W±0°1, h10km, n81, σ1§43/80, mb4.5/16, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.97**	**336**	Pn	**Pb**	**09 31 37.6**	**+0.5**
	1μm,0.3s,baz=115,slow=1.7,SNR=39						
RAO				Sn	**Sb**	**09 31 50.5**	**+0.5**
	2μm,0.3s,baz=70,slow=22,SNR=7.9						
RAO	**Raoul Island**	**0.97**	**336**		**Pg**	**09 31 37.4**	**+0.5**
MXZ	**Matakaoa Point**	**8.20**	**204**	Pn	**Pn**	**09 33 14.8**	**-2.3**
URZ	**Urewera**	**9.26**	**208**	Pn	**Pn**	**09 33 31.9**	**+0.1**
HIZ	**Hauiti**	**10.49**	**215**	Pn	**Pn**	**09 33 48.3**	**-0.3**
BFZ	**Birch Farm**	**11.70**	**204**	Pn	**Pn**	**09 34 02.6**	**-2.6**
MSWZ	**Moikau Station**	**12.71**	**206**	Pn	**Pn**	**09 34 18.7**	**-0.2**
MSVF	**Nonsavu**	**13.01**	**341**	Pn	**Pn**	**09 34 22.2**	**-1.0**
NNZ	**Nelson**	**13.32**	**211**	Pn	**Pn**	**09 34 27.7**	**+0.5**
QRZ	**Quartz Range**	**13.41**	**215**	Pn	**Pn**	**09 34 28.7**	**+0.2**
BSWZ	**Blackbirch Sta**	**13.51**	**209**	Pn	**Pn**	**09 34 31.2**	**+1.4**
THZ	**Tophouse**	**13.97**	**211**	Pn	**Pn**	**09 34 34.3**	**-1.9**
KHZ	**Kahutara**	**14.23**	**208**	Pn	**Pn**	**09 34 35.5**	**-4.1**
LTZ	**Lake Taylor**	**15.06**	**210**	Pn	**Pn**	**09 34 50.5**	**-0.6**
LTZ				IAmb	IAmb	09 34 51.8	
	comp=Z,28nm,1.3s						
OXZ	**Oxford**	**15.60**	**210**		**Pn**	**09 34 54.5**	**-3.6**
OXZ				IAmb	IAmb	09 35 03.2	
	comp=Z,37nm,1.1s						
MQZ	**McQueen's Vall**	**15.66**	**207**	Pn	**Pn**	**09 34 55.7**	**-3.1**
MQZ				IAmb	IAmb	09 35 01.6	
	comp=Z,25nm,1.0s						
RPZ	**Rata Peaks**	**16.34**	**211**	Pn	**Pn**	**09 35 07.7**	**0.0**
	comp=Z,2.3nm,0.3s,baz=179,slow=4.4,SNR=6.0						
RPZ	**Rata Peaks**	**16.34**	**211**		**Pn**	**09 35 07.4**	**-0.3**
RPZ				IAmb	IAmb	09 35 26.1	
	comp=Z,40nm,1.2s						
DZM	**Mont Dzumac**	**16.53**	**295**	Pn	**P**	**09 35 15.7**	**+2.8**
	comp=Z,2.2nm,0.3s,baz=124,slow=15,SNR=6.1						
FOZ	**Fox Glacier**	**16.78**	**214**	Pn	**Pn**	**09 35 13.1**	**0.0**
FOZ				IAmb	IAmb	09 35 29.2	
	comp=Z,68nm,1.2s						
LBZ	**Lake Benmore**	**17.26**	**211**	Pn	**Pn**	**09 35 17.2**	**-2.0**
ODZ	**Otahua Downs**	**17.58**	**209**		**Pn**	**09 35 23.3**	**+0.1**
WKZ	**Wanaka**	**18.13**	**212**	Pn	**Pn**	**09 35 27.0**	**-3.1**
WKZ				IAmb	IAmb	09 35 38.6	
	comp=Z,86nm,1.4s						
MLZ	**Mavora Lakes**	**18.96**	**213**	P	**P**	**09 35 40.0**	**+0.5**
WHZ	**Wether Hill Ro**	**19.43**	**212**	P	**P**	**09 35 42.4**	**-2.2**
WHZ				IAmb	IAmb	09 35 59.8	
	comp=Z,30nm,1.4s						
CTA	**Charters Tower**	**34.22**	**278**	P	**P**	**09 38 05.0**	**+0.7**
	comp=Z,5.6nm,0.4s,baz=98,slow=11,SNR=22						
CTAO	**Charters Tower**	**34.22**	**278**	P	**P**	**09 38 05.4**	**+1.2**
CTAO				IAmb	IAmb	09 38 11.2	
	comp=Z,9.9nm,0.7s						
STKA	**Stephens Creek**	**34.99**	**256**	P	**P**	**09 38 12.0**	**+1.2**
	comp=Z,5.1nm,0.4s,baz=102,slow=12,SNR=18						
STKA	**Stephens Creek**	**34.99**	**256**	P	**P**	**09 38 09.9**	**-0.9**

BBOO	**Buckleboo**	**39.49**	**254**	P	**P**	**09 38 49.1**	**+0.1**
BBOO				IAmb	IAmb	09 39 07.2	
	comp=Z,25nm,1.3s						
AS31	**Alice Springs**	**43.59**	**266**	P	**P**	**09 39 20.3**	**-2.5**
ASAR	**Alice Springs**	**43.59**	**266**	P	**P**	**09 39 22.3**	**-0.5**
	comp=Z,1.7nm,0.4s,baz=105,slow=7.4,SNR=44						
ASAR				PcP	**PcP**	**09 41 10.5**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=119,slow=4.1,SNR=5.2						
ASAR	**Alice Springs**	**43.59**	**266**	P	**P**	**09 39 21.4**	**-1.4**
WR0	**Warramunga Arr**	**44.38**	**272**	P	**P**	**09 39 28.5**	**-0.6**
WR0				IAmb	IAmb	09 39 45.2	
	comp=Z,15nm,1.1s						
WB2	**Warramunga Arr**	**44.55**	**272**	P	**P**	**09 39 29.1**	**-1.4**
WB2				IAmb	IAmb	09 39 38.5	
	comp=Z,13nm,0.9s						
WRAB	**Tennant Creek**	**44.55**	**272**	P	**P**	**09 39 29.6**	**-0.9**
WRAB				IAmb	IAmb	09 39 38.6	
	comp=Z,11nm,0.8s						
WRA	**Warramunga Arr**	**44.56**	**272**	P	**P**	**09 39 29.9**	**-0.6**
	comp=Z,8.5nm,0.4s,baz=111,slow=8.0,SNR=62						
WRA	**Warramunga Arr**	**44.56**	**272**	P	**P**	**09 39 29.7**	**-0.8**
WB0	**Warramunga Arr**	**44.58**	**272**	P	**P**	**09 39 31.2**	**+0.6**
VNDA	**Vanda**	**48.40**	**186**	P	**P**	**09 40 02.4**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=359,slow=9.4,SNR=3.9						
KNRA	**Kununurra**	**51.15**	**274**	P	**P**	**09 40 20.0**	**-1.6**
FITZ	**Fitzroy Crossi**	**52.83**	**269**	P	**P**	**09 40 33.0**	**-1.1**
CASY	**Casey**	**55.59**	**208**	P	**P**	**09 40 54.1**	**+0.5**
MORW	**Morawa**	**57.05**	**253**	P	**P**	**09 41 03.9**	**-0.8**
QSPA	**South Pole Qui**	**59.97**	**180**	P	**P**	**09 41 26.6**	**+2.1**
	comp=Z,1.9nm,0.6s,baz=56,slow=1.0,SNR=20						
QSPA	**South Pole Qui**	**59.97**	**180**	P	**P**	**09 41 26.7**	**+2.2**
MJAR	**Matsushiro Arr**	**78.30**	**325**	P	**P**	**09 43 17.3**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=78,slow=5.9,SNR=1.6						
SNAA	**Sanae**	**78.40**	**178**	P	**P**	**09 43 19.0**	**+0.4**
VNA3	**Neumayer Olymp**	**78.53**	**176**	P	**P**	**09 43 19.9**	**+0.6**
VNA2	**Neumayer--Watz**	**78.97**	**177**	P	**P**	**09 43 23.8**	**+2.1**
	baz=165,slow=4.1						
H03S2	**Juan Fernandez**	**80.22**	**123**	T	T	11 12 48.7	
	baz=238,slow=74,SNR=5.2						
H03S1	**Juan Fernandez**	**80.23**	**123**	T	T	11 12 49.7	
	baz=238,slow=74,SNR=4.4						
H03S3	**Juan Fernandez**	**80.23**	**123**	T	T	11 12 52.8	
	baz=238,slow=74,SNR=4.7						
KSRS	**Korea Array**	**84.46**	**319**	P	**P**	**09 43 52.1**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=126,slow=6.2,SNR=1.8						
PETK	**Petropavlovsk-**	**85.68**	**345**	P	**P**	**09 43 57.4**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=121,slow=8.0,SNR=5.0						
PETK	**Petropavlovsk-**	**85.68**	**345**	P	**P**	**09 43 56.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**87.20**	**326**	P	**P**	**09 44 05.1**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=66,slow=5.2,SNR=4.0						
USRK	**Ussuriysk Ar.**	**87.20**	**326**	P	**P**	**09 44 04.7**	**+0.3**
KLR	**Kul'dur**	**91.05**	**329**	P	**P**	**09 44 22.1**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=142,slow=2.1,SNR=6.6						
SLVN	**Sonn**	**91.24**	**294**	P	**P**	**09 44 22.4**	**-1.7**
TXAR	**Lajitas Array**	**91.86**	**57**	P	**P**	**09 44 28.9**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=224,slow=7.5,SNR=3.0						
TXAR	**Lajitas Array**	**91.86**	**57**	P	**P**	**09 44 25.7**	**-1.1**
MKAR	**Makanchi Array**	**117.97**	**310**	PKP	**PKPdf**	**09 50 04.2**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=214,slow=1.7,SNR=2.2						
MKAR	**Makanchi Array**	**117.97**	**310**	PKPdf	**PKPdf**	**09 50 02.9**	**-2.0**
KURK	**Kurchatov**	**121.21**	**314**		**PKPdf**	**09 50 09.4**	**-1.6**
KURBB	**Kurchatov Arra**	**121.25**	**314**	PKP	**PKPdf**	**09 50 09.6**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=93,slow=1.7,SNR=4.3						
BVAR	**Borovoye Array**	**126.55**	**316**	PKP	**PKPdf**	**09 50 21.5**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=107,slow=1.5,SNR=3.7						
ARCES	**ARCESS Array B**	**138.44**	**348**	PKP	**PKiKP**	**09 50 45.2**	**+0.1**
	comp=Z,3.3nm,0.9s,baz=50,slow=6.5,SNR=3.7						
ARCES	**ARCESS Array B**	**138.44**	**348**		**PKPdf**	**09 50 42.5**	**-0.5**
FINES	**FINESS Array B**	**145.06**	**340**	PKP	**PKPbc**	**09 50 54.1**	**-0.4**
	comp=Z,6.2nm,0.6s,baz=66,slow=3.1,SNR=48						
FINES	**FINESS Array B**	**145.06**	**340**		**PKPbc**	**09 50 54.0**	**-0.5**
KBZ	**Khabaz**	**145.35**	**304**	PKPbc	**PKPbc**	**09 50 55.5**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=41,slow=0.7,SNR=4.4						
NC303	**NORSAR Array S**	**148.37**	**352**	PKPdf	**PKPdf**	**09 50 58.6**	**-2.1**
NB2	**NORSAR Subarra**	**148.56**	**352**	PKP	**PKPbc**	**09 51 04.0**	**-0.7**
	comp=Z,3.5nm,1.4s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.56**	**352**	PKPbc	**PKPbc**	**09 51 03.8**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=15,slow=4.3,SNR=4.4						
AKASG	**Malin Array Be**	**151.38**	**323**	PKPbc	**PKPbc**	**09 51 10.7**	**-1.0**
	comp=Z,1.5nm,0.5s,baz=47,slow=2.9,SNR=4.3						
AKASG	**Malin Array Be**	**151.38**	**323**	PKPbc	**PKPbc**	**09 51 11.0**	**-0.8**
MMAI	**Mount Meron Ar**	**151.92**	**284**	PKPbc	**PKiKP**	**09 51 14.9**	**+0.8**
	comp=Z,7.8nm,0.6s,baz=72,slow=8.0,SNR=7.8						
BRTR	**Keskin Array B**	**152.89**	**299**	PKPbc	**PKPbc**	**09 51 15.4**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=116,slow=2.9,SNR=6.2						
BRTR	**Keskin Array B**	**152.89**	**299**		**PKPbc**	**09 51 15.3**	**-0.4**
TORD	**Torodi Ar. Bea**	**163.07**	**177**	PKPab	**PKPab**	**09 52 11.0**	**0.0**
	comp=Z,0.7nm,0.8s,baz=191,slow=4.4,SNR=3.6						

WEL 24 09:32:38.9, 39°S±76°×17°6E±13°0, h186km±122km, M2.5/9, ML2.7/9, MLv2.5/9, Error ellipse: s-maj=0.2km s-min=0.1km az=62.3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRRZ	**Handcock Road**	**0.66**	**29**	P	Pn	09 33 05.6	+0.4
HSRZ	**Hossack Road**	**0.72**	**24**	P	Pn	09 33 05.2	-0.2
RRRZ	**Republican Roa**	**0.81**	**39**	P	Pn	09 33 05.7	-0.3
HLRZ	**Highlands Stat**	**0.81**	**28**	P	Pn	09 33 04.4	-1.6
UTU	**Utuhina**	**0.83**	**18**	P	Pn	09 33 07.2	+1.0
RTZ	**Ruatahuna**	**0.94**	**68**	P	Pn	09 33 01.4	-5.4
OMRZ	**Omania**	**0.95**	**24**	P	Pn	09 33 07.1	+0.2
POWZ	**Post Office Ro**	**1.42**	**183**	P	Pn	09 33 13.9	+3.3
ANWZ	**Angora Road**	**1.56**	**163**	P	Pn	09 33 18.0	+6.2
PRWZ	**Pori Road**	**1.58**	**177**	P	Pn	09 33 12.6	+0.6
MRZ	**Mangatainoka R**	**1.70**	**188**	P	Pn	09 33 13.6	+0.4
BFZ	**Birch Farm**	**1.73**	**171**	P	Pn	09 33 14.6	+1.1
TIWZ	**Tinui**	**1.80**	**180**	P	Pn	09 33 13.0	-1.3
CNGZ	**Carnagh Statio**	**1.89**	**76**	P	Pn	09 33 15.6	+0.5
TMWZ	**Te Maipa**	**2.13**	**180**	P	Pn	09 33 26.3	+8.5

*SOME **24** 09:34:38.6, 40°.93N×80°.02E, h5km*

*NNC **24** 09:34:38.9±2.7, 40°.88N×80°.02E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=18.4km s-min=16.6km az=123.0*

ISC 24 09:34:40.8±3.6, 41°.0N±0°.1×80°.0E±0°.1, h10km, n14, σ1§19/19, 1C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.20**	**349**	*eP*	**Pb**	**09 35 21.8**	**+1.1**
	14nm,0.1s						
SHLS				*eS*	**Sg**	**09 35 52.8**	**+1.3**
	17nm,0.3s						
SHLS	**Shalkode**	**2.20**	**349**	Pg	**Pb**	**09 35 21.8**	**+1.1**
	14nm,0.1s						
SHLS				Lg	Lg	09 35 52.8	
	17nm,0.3s						
UZB	**Uzynbulak**	**2.27**	**341**	*eP*	**Pb**	**09 35 23.3**	**+1.3**
	4.8nm,0.2s						
UZB				*eS*	**Sg**	**09 35 55.6**	**+1.8**
	5.5nm,0.4s						
PDGK	**Podgornoye**	**2.36**	**350**	⇑Pg	**Pb**	**09 35 22.1**	**-1.4**
	1.6nm,0.3s						
PDGK				⇓Lg	Lg	09 35 57.5	
	9.6nm,0.7s						
SATY	**Saty**	**2.39**	**330**	*eP*	**Pb**	**09 35 24.2**	**+0.3**
	2.7nm,0.1s						
SATY				*eS*	**Sg**	**09 35 57.1**	**-0.4**
	7.0nm,0.1s						
SATY	**Saty**	**2.39**	**330**	Pg	**Pb**	**09 35 24.2**	**+0.3**
	2.7nm,0.1s						
SATY				Lg	Lg	09 35 57.1	
	9.4nm,0.4s						
KTMS	**Ketmen**	**2.46**	**6**	*eP*	**Pb**	**09 35 25.8**	**+0.7**
	4.2nm,0.2s						
KTMS				*eS*	**Sg**	**09 35 59.8**	**0.0**
	12nm,0.3s						
KTMS	**Ketmen**	**2.46**	**6**	Pg	**Pb**	**09 35 25.8**	**+0.7**
	4.2nm,0.2s						
KTMS				Lg	Lg	09 35 59.8	
	12nm,0.3s						
KPKS	**Kokpek**	**2.66**	**338**	*eP*	**Pb**	**09 35 29.8**	**+1.3**
	13nm,0.5s						
KPKS				*eS*	**Sg**	**09 36 06.7**	**+0.4**
	15nm,0.3s						
MNBS	**Baschi**	**3.31**	**339**	*eP*	**Pb**	**09 35 40.7**	**+1.2**
	2.3nm,0.2s						
MNBS				*eS*	**Sg**	**09 36 25.2**	**-1.8**
	4.9nm,0.4s						
MNBS	**Baschi**	**3.31**	**339**	Pg	**Pb**	**09 35 40.7**	**+1.2**
	2.3nm,0.2s						
MNBS				Lg	Lg	09 36 25.2	
	4.9nm,0.4s						
ARXS	**Arharly**	**3.60**	**334**	Pg	**Pg**	**09 35 48.2**	**-1.5**
	3.1nm,0.3s						
ARXS				Lg	Lg	09 36 38.2	
	3.3nm,0.3s						
KST	**Kastek**	**3.65**	**305**	Pg	**Pb**	**09 35 46.5**	**+1.0**
	2.2nm,0.2s						
KST				Lg	Lg	09 36 35.1	
	2.3nm,0.3s						
KK31	**Karatay Array**	**7.39**	**290**	⇓Pn	Pn	09 36 33.0	+4.3
	0.2nm,0.2s,baz=193,slow=18,SNR=17						
KK31				Pg	Pb	09 36 39.3	-10
	0.9nm,0.2s,baz=192,slow=17,SNR=28						
KK31				Lg	Lg	09 37 13.9	
	1.7nm,0.2s,baz=196,slow=32,SNR=13						

*BJI **24** 09:36:17.5±0.0, 30°.48S×176°.98W, h5km, mB5.5/7, mb5.4/20, Ms5.1/6, Ms7 5.0/6*

*NEIC **24** 09:36:20.5±2.7, 30°.31S±0°.06×177°.1W±0°.1, h10km±1km, mb4.9/57, ML4.9(WEL), Error ellipse: s-maj=15.5km s-min=10.7km az=93.0*

*IDC **24** 09:36:21.7±0.5, 30°.08S×177°.35W, h0km, mb4.8/19, mb1 4.9/20, mb1mx4.7/39, mbtmp4.7/20, ML5.2/1, MS4.8/21, Ms1 4.8/21, ms1mx4.7/30, Error ellipse: s-maj=17.0km s-min=13.1km az=71.0*

ISC 24 09:36:25.0±0.3, 30°29S±0°03×177°29W±0°05, h33km, n268, σ2§04/259, mb4.9/42, MS4.9/24, 8C-8D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.16**	**331**	P	**Pn**	**09 36 43.2**	**-1.7**
GLKZ				S	**Sn**	**09 36 57.2**	**-2.5**
RAO	**Raoul Island**	**1.17**	**332**	Pn	**Pn**	**09 36 43.8**	**-1.3**
	10μm,0.3s,baz=105,slow=4.2,SNR=431						
RAO				Sn	**Sn**	**09 36 58.5**	**-1.4**
	10μm,0.3s,baz=100,slow=21,SNR=9.5						
RAO				LR	LR	09 37 10.0	
	comp=Z,41μm,19.4s,baz=94,slow=50						
RIZ	**Raoul Island**	**1.18**	**331**	P	**Pn**	**09 36 43.9**	**-1.4**
RIZ				S	**Sn**	**09 36 58.2**	**-1.9**
MXZ	**Matakaoa Point**	**8.13**	**206**	P	**Pn**	**09 38 18.0**	**-2.7**
MXZ				S	**Sn**	**09 39 48.7**	**-2.7**
MXZ	**Matakaoa Point**	**8.13**	**206**	Pn	**Pn**	**09 38 18.0**	**-2.7**
WMGZ	**Waiomatatini S**	**8.32**	**204**	P	**Pn**	**09 38 21.9**	**-1.4**
WMGZ				S	**Sn**	**09 39 57.3**	**+1.2**
HAZ	**Te Kaha**	**8.50**	**207**	P	**Pn**	**09 38 23.1**	**-2.7**
HAZ				S	**Sn**	**09 40 02.0**	**+1.4**
PKGZ	**Pakihiroa**	**8.50**	**206**	P	**Pn**	**09 38 22.5**	**-3.4**
PKGZ				S	**Sn**	**09 40 02.2**	**+1.5**
PUZ	**Puketiti**	**8.60**	**204**	P	**Pn**	**09 38 23.4**	**-3.8**
PUZ				S	**Sn**	**09 40 04.0**	**+1.0**
KUZ	**Kuaotunu**	**8.69**	**220**	P	Pn	09 38 34.8	+6.4
RUGZ	**Raukumara Rang**	**8.72**	**207**	P	**Pn**	**09 38 25.9**	**-3.1**
RUGZ				S	**Sn**	**09 40 08.2**	**+2.0**
CNGZ	**Carnagh Statio**	**8.98**	**203**	P	**Pn**	**09 38 29.9**	**-2.6**
CNGZ				S	**Sn**	**09 40 14.1**	**+1.6**
TKGZ	**Te Karaka**	**9.07**	**205**	P	**Pn**	**09 38 29.4**	**-4.2**
TKGZ				S	**Sn**	**09 40 14.1**	**-0.6**
MWZ	**Matawai**	**9.10**	**207**	P	**Pn**	**09 38 30.7**	**-3.4**
MWZ				S	**Sn**	**09 40 14.7**	**-0.7**
OUZ	**Omahuta**	**9.12**	**235**	P	Pn	09 38 41.4	+7.1
URZ	**Urewera**	**9.21**	**209**	P	**Pn**	**09 38 32.6**	**-2.8**
URZ				S	**Sn**	**09 40 18.1**	**+0.3**
MKAZ	**Moumakai**	**9.26**	**221**	P	Pn	09 38 41.4	+5.1
RIGZ

comp=Z,3µm,24.8s
PPT2 eLR LR 09 49 19.5
comp=Z,4µm,26.2s,baz=232
PPT2 Papeete2 28.22 70 *e*T T 10 11 51.4
comp=Z,5.0nm,0.3s
PPT Papeete 28.23 70 LR LR 09 50 37.7
comp=Z,1µm,20.7s,baz=243,slow=30
EIDS Eidsvold 28.35 272 P **P** **09 42 14.2 -1.9**
CAN Canberra 28.70 251 P **P** **09 42 18.5 -0.7**
CAN IAmb IAmb 09 42 25.9
comp=Z,16nm,1.0s
HNR Honiara 29.70 310 LR LR 09 53 29.9
comp=Z,2µm,18.8s,baz=158,slow=35
TOO Toolangi 31.58 247 P **P** **09 42 43.4 -1.2**
TOO IAmb IAmb 09 42 48.3
comp=Z,30nm,1.1s
CTA Charters Tower 34.39 279 P **P** **09 43 11.3 +1.9**
comp=Z,41nm,0.7s,baz=105,slow=11,SNR=37
CTA LR LR 09 55 51.9
comp=Z,4µm,18.3s,baz=110,slow=34
CTAO Charters Tower 34.39 279 P **P** **09 43 07.9 -1.5**
STKA Stephens Creek 35.11 257 P **P** **09 43 17.8 +2.4**
comp=Z,18nm,0.6s,baz=98,slow=11,SNR=40
STKA LR LR 09 56 45.3
comp=Z,3µm,18.1s,baz=84,slow=35
STKA Stephens Creek 35.11 257 P **P** **09 43 17.9 +2.4**
RKT Rikitea 38.30 90 *e*LR LR 09 53 58.5
comp=Z,3µm,27.0s
PMG Port Moresby 39.12 295 LR LR 09 57 14.9
comp=Z,2µm,20.4s,baz=145,slow=32
BBOO Buckleboo 39.59 254 P **P** **09 43 53.5 +0.1**
BBOO IAmb IAmb 09 43 56.8
comp=Z,32nm,0.7s
COEN Coen 39.84 285 P **P** **09 43 54.0 -1.5**
TAOE Nuku Hiva Isla 40.69 66 *e*S **S** **09 50 12.7 +1.6**
comp=Z,549nm,24.3s
TAOE *e*LR LR 09 55 05.2
comp=Z,3µm,26.7s,baz=232
AS31 Alice Springs 43.73 266 P **P** **09 44 26.5 -0.9**
ASAR Alice Springs 43.73 266 P **P** **09 44 27.8 +0.3**
comp=Z,7.8nm,0.4s,baz=103,slow=7.5,SNR=55
ASAR PcP **PcP** **09 46 16.5 +2.5**
comp=Z,4.1nm,0.6s,baz=119,slow=3.5,SNR=5.0
ASAR ScP **ScP** **09 50 07.0 +3.7**
comp=Z,1.1nm,0.8s,baz=125,slow=3.5,SNR=4.6
ASAR LR LR 10 02 18.4
comp=Z,5µm,18.4s,baz=114,slow=36
ASAR Alice Springs 43.73 266 P **P** **09 44 26.2 -1.2**
ASAR Alice Springs 43.73 266 P **PcP** **09 46 16.8 +2.8**
WR0 Warramunga Arr 44.53 272 P **P** **09 44 33.9 +0.1**
WR0 IAmb IAmb 09 44 42.2
comp=Z,28nm,0.9s
WB2 Warramunga Arr 44.70 272 P **P** **09 44 35.6 +0.4**
WRAB Tennant Creek 44.71 272 P **P** **09 44 35.3 0.0**
WRA Warramunga Arr 44.71 272 P **P** **09 44 35.5 +0.2**
comp=Z,16nm,0.3s,baz=111,slow=8.1,SNR=118
WRA LR LR 10 02 18.9
comp=Z,2µm,18.2s,baz=105,slow=35
WRA Warramunga Arr 44.71 272 P **P** **09 44 35.4 +0.1**
WB0 Warramunga Arr 44.73 272 P **P** **09 44 35.7 +0.3**
FORT Forrest 46.67 255 P **P** **09 44 50.0 -0.7**
VNDA Vanda 48.27 186 P **P** **09 45 05.8 +3.4**
comp=Z,2.7nm,0.6s,baz=7.9,slow=6.5,SNR=14
VNDA Vanda 48.27 186 P **P** **09 45 01.3 -1.1**
MTN Manton Dam 50.58 278 P **P** **09 45 20.6 -0.3**
MTN IAmb IAmb 09 45 26.2
comp=Z,16nm,0.9s
KNRA Kununurra 51.31 274 P **P** **09 45 26.8 +0.4**
KNRA IAmb IAmb 09 45 34.5
comp=Z,12nm,0.6s
FITZ Fitzroy Crossi 52.98 269 P **P** **09 45 39.3 +0.6**
comp=Z,5.8nm,0.5s,baz=145,slow=5.8,SNR=13
FITZ Fitzroy Crossi 52.98 269 P **P** **09 45 38.4 -0.4**
FITZ IAmb IAmb 09 45 42.6
comp=Z,9.0nm,0.7s
CASY Casey 55.53 208 P **P** **09 45 56.2 -0.4**
CASY IAmb IAmb 09 46 04.3
comp=Z,21nm,0.9s
PSA00 Pilbara Seismi 56.59 263 P **P** **09 46 04.5 -0.5**
MORW Morawa 57.16 253 P **P** **09 46 08.8 0.0**
MORW IAmb IAmb 09 46 09.1
comp=Z,9.8nm,0.8s
QSPA South Pole Qui 59.83 180 P **P** **09 46 30.9 +3.9**
comp=Z,13nm,0.7s,baz=287,slow=0.6,SNR=64
QSPA South Pole Qui 59.83 180 P **P** **09 46 30.9 +3.9**
GIRL Giralia 60.98 259 P **P** **09 46 31.9 -3.5**
KCP Kidapawan 66.49 294‖ *e*P **P** **09 47 12.0 +0.1**
MAW Mawson 72.63 200 P **P** **09 47 52.0 +3.2**
comp=Z,7.3nm,0.7s,baz=139,slow=8.7,SNR=4.4
MAW Mawson 72.63 200 P **P** **09 47 49.6 +0.8**
KKM Kota Kinabalu 73.11 288 P **P** **09 47 52.6 0.0**
KKM IAmb IAmb 09 47 54.6
comp=Z,17nm,0.8s
SBUM Sibu 74.50 282 P **P** **09 48 01.4 +0.7**
SYO Syowa Base 77.36 193‖ *e*pP **P** **09 48 16.8 +0.7**
SYO Syowa Base 77.36 193‖ *e*sP **P** **09 48 19.4 +3.3**
SYO Syowa Base 77.36 193‖ *e*PcP **PcP** **09 48 29.4 +2.9**
SNAA Sanae 78.25 178 P **P** **09 48 23.3 +2.1**
SNAA Sanae 78.25 178 P **P** **09 48 17.5 -3.6**
SNAA IAmb IAmb 09 48 25.8
comp=Z,7.1nm,1.0s
VNA3 Neumayer Olymp 78.38 176 P **P** **09 48 23.8 +2.0**
MJAR Matsushiro Arr 78.50 325 P **P** **09 48 22.7 -0.1**
comp=Z,5.7nm,0.7s,baz=162,slow=4.9,SNR=19
MJAR LR LR 10 17 57.3
comp=Z,216nm,21.9s,baz=125,slow=32
MJAR Matsushiro Arr 78.50 325 P **P** **09 48 23.5 +0.6**
MAJO Matsushiro 78.50 325 P **P** **09 48 22.5 -0.4**
MAJO IAmb IAmb 09 48 25.6
comp=Z,9.3nm,0.8s
MAT Matsushiro 78.50 325 P **P** **09 48 21.2 -1.6**
MJB9 Matsu-Tunnel 78.51 325 P **P** **09 48 22.6 -0.3**
MJB9 IAmb IAmb 09 48 25.5
comp=Z,9.8nm,0.8s
VNA2 Neumayer--Watz 78.82 177 P **P** **09 48 26.5 +2.3**
baz=174,slow=3.8
VNA1 Neumayer--Stat 79.05 176 P **P** **09 48 27.7 +2.3**
JNU Nakatsue 79.88 318 P **P** **09 48 30.1 -0.4**
JNU IAmb IAmb 09 48 38.0
comp=Z,11nm,1.0s
TPUB Ta-pu 79.92 304 P **P** **09 48 30.5 -0.5**
TPUB IAmb IAmb 09 48 31.7
comp=Z,11nm,0.8s
SSLB Suanglung 80.00 305 P **P** **09 48 30.4 -0.9**
SSLB IAmb IAmb 09 48 31.1
comp=Z,12nm,0.9s
H03S2 Juan Fernandez 80.01 123 T T 11 18 06.3
baz=238,slow=74,SNR=17
H03S1 Juan Fernandez 80.02 123 T T 11 18 07.5
baz=238,slow=74,SNR=18
H03S3 Juan Fernandez 80.03 123 T T 11 18 06.4
baz=238,slow=74,SNR=17
COCO West Island 80.44 261 P **P** **09 48 32.0 -1.9**
ERM Erimo 80.66 331 P **P** **09 48 33.2 -1.1**
ADK Adak 81.82 0 P **P** **09 48 39.7 -0.6**
ADK IAmb IAmb 09 48 42.9
comp=Z,15nm,0.8s
PLCA Paso Flores 82.13 133 P **P** **09 48 46.5 +3.9**
comp=Z,6.5nm,1.2s,baz=190,slow=9.1,SNR=4.4
PLCA LR LR 10 19 01.9
comp=Z,426nm,19.2s,baz=192,slow=31
ATKA Atka Island 82.18 2 P **P** **09 48 40.3 -1.9**
LC01 Cunco 82.27 131 P **P** **09 48 43.8 +0.5**
LC01 IAmb IAmb 09 48 47.8
comp=Z,5.7nm,0.8s
JKA Kamikawa-asahi 82.62 332 P **P** **09 48 46.0 +1.3**
JKA Kamikawa-asahi 82.62 332 IAmb IAmb 09 48 51.9
comp=Z,28nm,0.9s
ASAJ Asahikawa 82.63 332 P **P** **09 48 46.0 +1.3**
comp=Z,15nm,0.8s,baz=223,slow=5.8,SNR=18
UNV Unalaska Valle 84.30 6 P **P** **09 48 51.4 -1.7**
UNV IAmb IAmb 09 48 58.8
comp=Z,16nm,1.0s
KSRS Korea Array 84.66 319 P **P** **09 48 56.7 +1.4**
comp=Z,2.8nm,0.7s,baz=142,slow=6.3,SNR=12
KSRS LR LR 10 23 54.1
comp=Z,241nm,19.2s,baz=130,slow=34
KSAR Wonju Array Be 84.68 319 P **P** **09 48 55.5 +0.1**
YSS Yuzh-Sakhalins 84.92 334 P **P** **09 48 55.1 -1.2**
PEA0B Petropavlovsk- 85.86 345 P **P** **09 49 00.9 0.0**
PETK Petropavlovsk- 85.86 345 P **P** **09 49 01.9 +1.0**
comp=Z,16nm,0.8s,baz=142,slow=7.7,SNR=28
PETK LR LR 10 29 18.2
comp=Z,171nm,18.3s,baz=193,slow=37
PETK Petropavlovsk- 85.86 345 P **P** **09 49 00.9 0.0**
NJ2 Nanjing 86.64 310 *e*P **P** **09 49 05.1 -0.2**
NJ2 pmax pmax
comp=Z,16nm,0.5s
MDPB Devils Postpil 86.75 43 P **P** **09 49 01.7 -4.3**
OMMB Old Mammoth Mi 86.78 43 P **P** **09 49 03.4 -2.9**
USA0B Ussuriysk Arra 87.41 326 P **P** **09 49 09.3 +0.6**
USA0B IAmb IAmb 09 49 11.1
comp=Z,12nm,0.9s
USRK Ussuriysk Ar. 87.41 326 P **P** **09 49 09.6 +0.9**
comp=Z,7.1nm,0.7s,baz=126,slow=3.3,SNR=22
USRK LR LR 10 23 33.1
comp=Z,225nm,20.4s,baz=114,slow=32
USRK Ussuriysk Ar. 87.41 326 P **P** **09 49 09.2 +0.5**
NVAR Mina Array Bea 87.74 42 P **P** **09 49 12.3 +1.5**
comp=Z,2.4nm,0.9s,baz=221,slow=6.6,SNR=13
NVAR LR LR 10 23 50.0
comp=Z,736nm,18.1s,baz=223,slow=32
NVAR Mina Array Bea 87.74 42 P **P** **09 49 06.2 -4.5**
TIA Tai'an 90.35 313 P **P** **09 49 24.4 +1.6**
TIA pmax pmax
comp=Z,11nm,0.8s
CN2 Changchun 90.43 322 *e*P **P** **09 49 24.4 +1.4**
KLR Kul'dur 91.25 329 LR LR 10 25 06.4
comp=Z,411nm,21.4s,baz=135,slow=32
TXAR Lajitas Array 91.81 57 P **P** **09 49 32.9 +3.0**
comp=Z,0.6nm,0.8s,baz=256,slow=5.0,SNR=5.0
TXAR LR LR 10 26 08.4
comp=Z,468nm,18.1s,baz=0.0,slow=33
TXAR Lajitas Array 91.81 57 P **P** **09 49 29.3 -0.6**
F10A Beach Ranch, E 93.35 37 P **P** **09 49 34.7 -1.9**
F10A IAmb IAmb 09 49 42.4
comp=Z,4.2nm,1.0s
CMAR Chiang Mai Arr 93.95 289 P **P** **09 49 41.8 +1.9**
comp=Z,1.4nm,0.4s,baz=141,slow=4.6,SNR=4.3
CMAR LR LR 10 34 08.5
comp=Z,187nm,19.1s,baz=105,slow=37
KMI Kunming 94.32 296 P **P** **09 49 45.6 +3.9**
KMI pP pP 09 49 51.5 +0.7
KMI pmax pmax
comp=Z,16nm,0.6s
KMI pmax pmax
comp=Z,100nm,5.6s
PDAR Pinedale Array 95.63 43 P **P** **09 49 48.1 +0.8**
comp=Z,0.2nm,0.6s,baz=145,slow=3.3,SNR=2.8
PDAR PKKPbc **PKKPdf** **10 06 42.2 +2.1**
comp=Z,0.3nm,0.6s,baz=87,slow=5.0,SNR=4.6
PDAR LR LR 10 30 41.0
comp=Z,517nm,18.1s,baz=246,slow=34
PDAR Pinedale Array 95.63 43 P **P** **09 49 45.6 -1.7**
HHC Hu-ho-hao-te 96.60 314 *e*P **P** **09 49 50.8 -0.8**
HHC S **S** **10 01 04.3 -6.1**
HHC pmax pmax
comp=Z,8.0nm,1.1s
HHC pmax pmax
comp=Z,29nm,6.2s
HHC LR LR
comp=Z,140nm,18.1s
HHC LR LR
comp=Z,160nm,18.4s
HHC LR LR
comp=Z,220nm,19.2s
LPAZ La Paz 97.63 114 LR LR 10 24 57.9
comp=Z,375nm,21.4s,baz=128,slow=30
ILAR Eielson Array 97.68 13 P Pdif 09 49 55.6 -0.2
comp=Z,0.4nm,0.8s,baz=221,slow=5.2,SNR=5.4
CPUP Villa Florida 99.57 128 LR LR 10 30 26.6
comp=Z,337nm,18.1s,baz=196,slow=32
WMQ Urumqi 113.64 308 *e*PKP **PKiKP** **09 54 58.1 -1.8**
MKAR Makanchi Array 118.17 310 PKP **PKiKP** **09 55 08.7 +0.2**
comp=Z,0.6nm,0.5s,baz=212,slow=2.1,SNR=5.1
MKAR Makanchi Array 118.17 310 **PKiKP** **09 55 08.9 +0.4**
ZALV Zalesovo Beam 118.36 318 PKP **PKiKP** **09 55 08.4 -0.2**
comp=Z,0.7nm,0.5s,baz=149,slow=3.0,SNR=2.1
KURK Kurchatov 121.42 314 **PKPdf** **09 55 12.6 -1.9**
KURBB Kurchatov Arra 121.45 314 PKP **PKiKP** **09 55 14.4 -0.3**
comp=Z,1.9nm,0.6s,baz=107,slow=2.0,SNR=22
KK31 Karatay Array 125.53 304 **PKiKP** **09 55 23.0 -0.1**
KKAR Karatay Array 125.53 304 **PKPdf** **09 55 21.9 -0.8**
KKAR Karatay Array 125.53 304 **PKiKP** **09 55 23.1 0.0**
BVAR Borovoye Array 126.75 316 PKP **PKiKP** **09 55 25.4 +0.2**
comp=Z,2.9nm,0.7s,baz=90,slow=1.6
BRVK Borovoye 126.82 316 **PKiKP** **09 55 25.4 +0.1**
SPITS Spitsbergen Ar 131.63 356 PKP **PKiKP** **09 55 34.5 +0.1**
comp=Z,4.3nm,0.7s,baz=100,slow=9.4,SNR=3.9
GEYT Alibeck 134.07 295 PKP **PKiKP** **09 55 41.0 +0.6**
comp=Z,3.1nm,0.8s,baz=264,slow=1.4,SNR=2.5
GEYT SKPbc **SKPab** **09 59 10.3 +1.5**
comp=Z,3.0nm,0.8s,baz=18,slow=5.6,SNR=3.6
AKTO Aktyubinsk 134.48 313 PKP **PKiKP** **09 55 40.9 +0.1**
comp=Z,2.1nm,0.5s,baz=68,slow=6.6,SNR=6.4
H10S2 ASCENSION HYDR 137.56 154 T T 12 31 07.8
baz=16,slow=74,SNR=5.2
H10S3 ASCENSION HYDR 137.56 154 T T 12 31 07.5
baz=204,slow=74,SNR=9.7
ARCES ARCESS Array B 138.61 348 PKhKP PKPpre 09 55 38.5
comp=Z,3.4nm,0.8s,baz=46,slow=3.5,SNR=5.7
ARCES PKP **PKiKP** **09 55 47.5 -1.2**
comp=Z,2.3nm,0.7s,baz=44,slow=5.4,SNR=5.7
H10N3 ASCENSION HYDR 138.64 154 T T 12 32 30.9
baz=203,slow=75,SNR=11
H10N1 ASCENSION HYDR 138.65 154 T T 12 32 26.5
baz=203,slow=75,SNR=14
H10N2 ASCENSION HYDR 138.66 154 T T 12 32 27.5
baz=203,slow=75,SNR=13
KLMR Klimovskoe 140.95 332 *e*PKPdf **PKiKP** **09 55 53.7 0.0**
KLMR AMP 09 56 02.2
comp=Z,22nm,1.4s
FIA1 FINESS Array S 145.25 340 **PKPdf** **09 55 58.5 -0.1**
FINES FINESS Array B 145.25 340 PKPbc **PKPdf** **09 55 58.9 +0.4**
comp=Z,60nm,0.8s,baz=58,slow=3.8,SNR=178
FINES FINESS Array B 145.25 340 **PKPdf** **09 55 58.8 +0.2**
AKH Akhalkalaki 145.42 300 ⇑P **PKiKP** **09 56 01.5 -2.3**
OBN Obninsk 145.43 326 PKPbc **PKPab** **09 55 59.5 +0.3**
comp=Z,7.3nm,0.4s,baz=172,slow=1.5,SNR=12
KBZ Khabaz 145.56 304 PKPbc **PKPab** **09 56 01.0 +0.9**
comp=Z,9.3nm,0.8s,baz=92,slow=1.2,SNR=16
BCA Borcka 146.81 300 ⇓P **PKPdf** **09 56 00.9 -1.0**
VSU Vasula 147.37 337 *e*P **PKPab** **09 56 05.4 -1.2**
NC303 NORSAR Array S 148.53 352 **PKiKP** **09 56 08.8 -0.5**
NC204 NORSAR Array S 148.55 353 **PKiKP** **09 56 08.1 -1.3**
NC405 NORSAR Array S 148.59 352 **PKPbc** **09 56 07.4 -0.5**
NB201 NORSAR Array S 148.71 352 **PKiKP** **09 56 08.4 -1.3**
NB2 NORSAR Subarra 148.73 352 PKP **PKiKP** **09 56 08.9 -0.8**
comp=Z,103nm,2.5s,baz=11,slow=2.8
NB2 NORSAR Subarra 148.73 352 PKP **PKiKP** **09 56 08.9 -0.8**
baz=11,slow=2.8
NOA NORSAR Array B 148.73 352 PKPbc **PKiKP** **09 56 08.8 -1.0**
comp=Z,6.3nm,0.7s,baz=14,slow=4.2,SNR=27
NAO01 NORSAR Array S 148.96 352 **PKPbc** **09 56 07.6 -1.3**
NC602 NORSAR Array S 148.98 352 **PKiKP** **09 56 09.5 -0.7**
IZAR Zarasai 149.57 334 *e*P **PKPab** **09 56 13.4 -2.2**
ISAL Salakas 149.75 333 *e*P **PKiKP** **09 56 12.8 +0.9**
MICGM Minsk 149.79 330 *e* **PKiKP** **09 56 12.0 0.0**
IIGN Ignalina 149.87 333 *e*P **PKiKP** **09 56 12.8 +0.7**
NACGM Naroch 149.97 332 *e* **PKiKP** **09 56 13.0 +0.6**
NACGM *e*LR LR 11 00 38.0
PABE Paberze 150.61 335 *e*P **PKiKP** **09 56 14.4 +0.8**
PBUR Paburge 150.91 338 *e*P **PKiKP** **09 56 14.6 +0.3**
DIKM Dikmen 151.49 302 ⇑P **PKPab** **09 56 23.1 -0.9**
AKASG Malin Array Be 151.58 323 PKPbc **PKiKP** **09 56 16.6 +0.7**
comp=Z,7.3nm,0.6s,baz=46,slow=2.9,SNR=26
AKBB Malin Array Si 151.58 323 **PKiKP** **09 56 15.6 -0.2**
SUW Suwalki 152.05 334 *e*PKP **PKPab** **09 56 26.9 +1.0**
MMAI Mount Meron Ar 152.10 284 PKPbc **PKiKP** **09 56 19.3 +1.6**
comp=Z,10nm,0.5s,baz=75,slow=7.8,SNR=18
EIL Elat 152.12 277 PKPbc **PKiKP** **09 56 19.1 +1.4**
comp=Z,16nm,0.9s,baz=252,slow=3.3,SNR=11
BR131 Keskin Array S 153.09 299 **PKiKP** **09 56 18.9 -0.6**
BRTR Keskin Array B 153.09 299 PKP **PKPdf** **09 56 12.0 -0.1**
comp=Z,0.3nm,0.6s,baz=228,slow=3.7,SNR=2.2
BRTR PKPbc **PKPbc** **09 56 20.1 +0.7**
comp=Z,1.9nm,0.5s,baz=128,slow=3.8,SNR=13
BRTR Keskin Array B 153.09 299 **PKPdf** **09 56 10.6 -1.4**
BRTR **PKPbc** **09 56 19.2 -0.2**
BRTR PKPab **PKPab** **09 56 27.8 -3.3**
ANTO Ankara 153.70 299 ⇑P **PKiKP** **09 56 22.7 +2.0**
CFR Carcaliu 155.13 314 ⇓P **PKPab** **09 56 40.5 +1.2**
TSCT Constanta Port 155.26 311 ⇓P **PKPdf** **09 56 16.4 +1.7**
PETR Petresti 155.42 316 ⇓P PKPab 09 56 29.4 -11
KWP Kalwaria Pacla 155.47 328 *e*PKP **PKPab** **09 56 41.7 +1.1**
BURAR Bucovina Array 155.53 321 ⇑P PKPdf 09 56 26.2 +11
VRI Vrincioaia 155.65 316 ⇑P **PKPab** **09 56 43.1 +1.5**
CRVS Cervenica-Dubn 156.57 328 *e*PKP **PKPab** **09 56 46.6 +1.3**
INCR INCERC-Sediu C 156.72 314 ⇑P **PKPdf** **09 56 12.9 -3.7**
KSP Ksiaz 157.09 338 *e*PKP **PKPab** **09 56 49.5 +2.1**
ARR Arges 157.16 317 ⇓P **PKPdf** **09 56 18.8 +1.5**
CHVC Chvalec 157.39 338 *e*PKPAB PKPab 09 56 57.3 +8.5
CHVC *ex* x 09 57 02.8
DPC Dobruska-Polom 157.50 337 *e*PKPAB **PKPab** **09 56 51.0 +1.7**
DPC *ex* x 09 56 58.6
MORC Moravsky Berou 157.54 334 *e*PKP **PKPab** **09 56 50.1 +0.6**
CLL Collm 157.64 343 *i* PKPab **PKPab** **09 56 50.1 +0.3**
comp=Z,9.0nm,1.0s
CLL *e* 09 56 57.0
BRG Berggiesshubel 157.78 341 *e*PKP **PKPab** **09 56 51.7 +1.2**
comp=Z,11nm,1.2s
JAVC Velka Javorina 158.23 333 *e*PKP **PKPab** **09 56 54.7 +2.1**
VRAC Vranov 158.28 335 *e*PKP **PKPab** **09 56 54.1 +1.4**
KRUC Moravsky 158.56 335 *e*PKP **PKPab** **09 56 55.2 +1.3**
KHC Kasperske Hory 159.45 339 *e*PKPAB **PKPab** **09 56 58.4 +0.6**
KHC *ex* x 09 57 17.6
VTS Vitosha 159.47 312 ⇑P **PKPab** **09 56 59.3 +1.0**
GERES GERESS Array B 159.66 339 PKP **PKPdf** **09 56 21.7 +1.5**
comp=Z,0.3nm,0.2s,baz=29,slow=2.2,SNR=1.5
GERES PKPab **PKPab** **09 56 59.9 +1.1**
comp=Z,1.1nm,0.6s,baz=31,slow=6.2,SNR=6.7
CONA Conrad Observa 159.69 334 *e*pPKPab **PKPab** **09 57 00.5 +1.5**
comp=Z,5.9nm,0.9s
MOA Molln 160.34 336 *e*pPKPab **PKPab** **09 57 03.3 +1.6**
comp=Z,4.7nm,0.7s
ARSA Arzberg 160.38 333 *e*PKPab **PKPab** **09 57 02.5 +0.6**
comp=Z,5.2nm,1.1s
SOKA Soboth 161.04 333 *e*PKPab **PKPab** **09 57 04.0 -0.9**
comp=Z,8.6nm,1.4s
WATA Walderalm 161.65 341 *e*pPKPab **PKPab** **09 57 08.6 +1.0**
comp=Z,20nm,1.5s
WTTA Wattenberg 161.70 340 *e*pPKPab **PKPab** **09 57 09.0 +1.1**
comp=Z,8.2nm,0.8s
RETA Reutte 161.74 342 *e*pPKPab **PKPab** **09 57 09.3 +1.5**
comp=Z,5.2nm,0.7s
MOTA Moosalm 161.77 342 *e*pPKPab **PKPab** **09 57 09.7 +1.6**
comp=Z,17nm,1.6s
PRED Cave del Predi 161.79 335 PKPab **PKPab** **09 57 09.0 +0.9**
SQTA Sankt Quirin 161.86 341 *e*pPKPab **PKPab** **09 57 10.4 +1.9**
comp=Z,9.7nm,1.1s
ABTA Abfaltersbach 161.89 338 *e*PKPab **PKPab** **09 57 09.1 +0.5**
comp=Z,6.5nm,0.8s
DAVA Damuels 162.14 344 *e*pPKPab **PKPab** **09 57 10.4 +0.7**
comp=Z,6.9nm,0.7s
FETA Feichten 162.17 342 *e*pPKPab **PKPab** **09 57 11.6 +1.7**
comp=Z,13nm,1.8s
TORD Torodi Ar. Bea 162.92 177 PKP **PKPdf** **09 56 26.5 +2.0**
comp=Z,1.4nm,1.0s,baz=6.2,slow=0.9,SNR=4.5
TORD PKPab **PKPab** **09 57 15.7 +2.1**
comp=Z,1.8nm,0.6s,baz=178,slow=3.8,SNR=5.9
TORD Torodi Ar. Bea 162.92 177 PKPab **PKPab** **09 57 12.1 -1.6**
ESDC Sonseca Array 169.15 28 PKP **PKPdf** **09 56 30.8 +1.9**
comp=Z,0.4nm,0.3s,baz=318,slow=2.0,SNR=4.1

DJA **24** *09:40:55.4±0.7,2˚N±4˚×12˚7E±˚, h105km±7km, M4.2/8, mB5.4/1, MLv4.2/8, MLv4.2/6, Mw(mB)4.9/1*
NEIC **24** *09:40:55.9±1.7, 1˚75N±0˚09×127˚31E±0˚08, h129km±7km, mb4.4/18, Error ellipse: s-maj=14.2km s-min=11.7km az=208.0*
IDC **24** *09:40:55.4±4.8, 1˚84N×127˚46E, h122km±48km, mb3.9/11, mb1 3.9/13, mb1mx3.6/57, mbtmp4.2/13, Error ellipse: s-maj=31.3km s-min=14.1km az=76.0*
ISC 24 09:40:54.3±0.5,1˚**88N**±0˚04×**127˚32E**±0˚06,**h112**km,**n50,** σ1º**54/58**,**mb4.4**/18,**1D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.10**	**178**	P		**Pn**	**09 41 18.2**	**+1.4**
TNTI	**Ternate**	**1.10**	**178**			**Pn**	**09 41 18.4**	**+1.7**
TNTI				Sn		**Sn**	**09 41 34.8**	**+1.1**
LBMI	**Labuha**	**2.51**	**176**	P		**Pn**	**09 41 35.6**	**+1.7**
LBMI				S		**Sn**	**09 42 05.5**	**+1.1**
KMSI	**Cibinong**	**3.58**	**249**	P		**Pn**	**09 41 49.5**	**+1.4**
KMSI				S		**Sn**	**09 42 31.5**	**+1.7**
SANI	**Sanana**	**4.13**	**199**	P		**Pn**	**09 41 54.7**	**-0.7**
DDMP	**Don Marcelino,**	**4.49**	**339**	*e*P		**Pn**	**09 42 00.8**	**+0.4**
DDMP				*e*S		**Sn**	**09 42 47.2**	**-4.5**
NLAI	**Namlea**	**5.09**	**183**	P		**Pn**	**09 42 08.7**	**+0.3**
MATI	**Mati**	**5.14**	**348**	*e*P		**Pn**	**09 42 13.0**	**+3.8**
SKMP	**Bagumbayan, Su**	**5.38**	**329**	*e*P		**Pn**	**09 42 13.5**	**+1.2**
SKMP				*e*S		**Sn**	**09 43 11.3**	**-1.8**
LUWI	**Luwuk**	**5.40**	**238**	Pn		**Pn**	**09 42 12.6**	**0.0**
LUWI				Sn		**Sn**	**09 43 13.8**	**+0.2**
KCP	**Kidapawan**	**5.56**	**336**‖	*e*P		**Pn**	**09 42 16.3**	**+1.5**
BUKP	**Musuan**	**6.37**	**339**	*e*P		**Pn**	**09 42 24.6**	**-1.2**
BUKP				*e*S		**Sn**	**09 43 41.2**	**+4.0**
FAKI	**Fak Fak**	**6.85**	**134**	Pn		**Pn**	**09 42 34.5**	**+2.2**
PAGZ	**Pagadian**	**7.11**	**327**	*e*P		Pn	09 42 30.3	-5.5
KAPI	**Kappang**	**10.20**	**228**	P		**Pn**	**09 43 20.2**	**+2.5**
	0.9nm,0.3s,baz=58,slow=17,SNR=1.0							
KAPI				S		**Sn**	**09 45 08.1**	**-2.2**
	3.9nm,0.3s,baz=19,slow=23,SNR=6.8							
KAPI	**Kappang**	**10.20**	**228**			**Pn**	**09 43 17.9**	**+0.2**
KAPI				Sn		**Sn**	**09 45 08.2**	**-2.1**
SBUM	**Sibu**	**15.10**	**272**	P		**P**	**09 44 25.5**	**+1.1**
MTN	**Manton Dam**	**15.11**	**166**	Pn		**Pn**	**09 44 20.4**	**-1.5**
KNRA	**Kununurra**	**17.50**	**175**	P		**P**	**09 44 51.0**	**+0.1**
KNRA				IAmb		IAmb	09 44 51.6	
	comp=Z,14nm,0.6s							
FITZ	**Fitzroy Crossi**	**19.92**	**185**	P		**P**	**09 45 16.1**	**-1.2**
	comp=Z,0.5nm,0.3s,baz=14,slow=9.5,SNR=12							
FITZ	**Fitzroy Crossi**	**19.92**	**185**	P		**P**	**09 45 16.4**	**-0.9**
YULB	**Yu-li**	**22.17**	**345**	P		**P**	**09 45 41.8**	**+0.5**
YULB				IAmb		IAmb	09 45 49.9	
	comp=Z,19nm,1.3s							
TPUB	**Ta-pu**	**22.26**	**344**	P		**P**	**09 45 42.9**	**+0.6**
TPUB				IAmb		IAmb	09 45 46.6	
	comp=Z,20nm,1.1s							
WB0	**Warramunga Arr**	**22.61**	**162**	P		**P**	**09 45 44.9**	**-0.9**
WB0				IAmb		IAmb	09 45 45.1	
	comp=Z,18nm,0.7s							
WRAB	**Tennant Creek**	**22.75**	**163**	P		**P**	**09 45 46.6**	**-0.6**
WRA	**Warramunga Arr**	**22.75**	**163**	P		**P**	**09 45 46.2**	**-1.1**
	comp=Z,16nm,0.5s,baz=342,slow=10,SNR=7.9							
WRA	**Warramunga Arr**	**22.75**	**163**	P		**P**	**09 45 45.1**	**-2.2**
WB2	**Warramunga Arr**	**22.76**	**163**	P		**P**	**09 45 46.9**	**-0.4**
WR0	**Warramunga Arr**	**22.83**	**162**	P		**P**	**09 45 47.3**	**-0.7**
WR0				IAmb		IAmb	09 45 47.8	
	comp=Z,14nm,0.6s							
AS31	**Alice Springs**	**26.19**	**166**	P		**P**	**09 46 16.6**	**-2.1**
ASAR	**Alice Springs**	**26.19**	**166**	P		**P**	**09 46 19.6**	**+1.0**
	comp=Z,1.7nm,0.3s,baz=344,slow=11,SNR=3.8							
KSRS	**Korea Array**	**35.41**	**1**	P		**P**	**09 47 40.8**	**+1.3**
	comp=Z,1.2nm,0.6s,baz=178,slow=7,SNR=8.9							
MJAR	**Matsushiro Arr**	**35.93**	**15**	P		**P**	**09 47 43.1**	**-0.9**
	comp=Z,1.6nm,0.6s,baz=182,slow=10.0,SNR=7.4							
STKA	**Stephens Creek**	**36.20**	**159**	P		**P**	**09 47 46.0**	**-0.4**
	comp=Z,4.3nm,0.4s,baz=344,slow=8.4,SNR=6.8							
STKA	**Stephens Creek**	**36.20**	**159**	P		**P**	**09 47 44.9**	**-1.5**
USRK	**Ussuriysk Ar.**	**42.34**	**5**	P		**P**	**09 48 37.4**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=211,slow=8.2,SNR=5.9							
SONM	**Songino Array**	**49.23**	**341**	P		**P**	**09 49 32.3**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=162,slow=8.9,SNR=5.8							
SONM	**Songino Array**	**49.23**	**341**	P		**P**	**09 49 32.1**	**+0.7**
FUNA	**Funafuti**	**52.73**	**102**	P		**P**	**09 49 55.9**	**-2.2**
MK31	**Makanchi Array**	**59.40**	**326**	P		**P**	**09 50 46.1**	**+1.0**
MK31				IAmb		IAmb	09 50 46.9	
	comp=Z,3.1nm,0.7s							
MKAR	**Makanchi Array**	**59.40**	**326**	P		**P**	**09 50 46.2**	**+1.1**
	comp=Z,3.9nm,0.6s,baz=118,slow=8.4,SNR=40							
MAKZ	**Makanchi**	**59.59**	**325**	P		**P**	**09 50 47.4**	**+1.0**
MAKZ				IAmb		IAmb	09 50 48.1	
	comp=Z,3.3nm,0.7s							
KURBB	**Kurchatov Arra**	**63

mb4.5/5, Error ellipse: s-maj=40.4km s-min=7.1km az=103.0

ISC 24 09:44:03.0±3.1, **28°.6S**±0°.2×**177°.6W**±0°.4, **h35**km, **n11, σ0°79/9, mb4.4/5, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.74**	**200**	**Pn**	**Pn**	**09 44 17.0**	**+0.1**
	186nm,0.3s,baz=222,slow=22,SNR=4.4						
RAO	**Raoul Island**	**0.74**	**200**		**Pn**	**09 44 16.6**	**-0.3**
URZ	**Urewera**	**10.63**	**203**	Pn	**Pn**	**09 46 32.9**	**+0.2**
ASAR	**Alice Springs**	**43.56**	**265**	**P**	**P**	**09 52 03.8**	**0.0**
	0.3nm,0.7s,baz=102,slow=7.5,SNR=1.6						
WR0	**Warramunga Arr**	**44.20**	**270**	**P**	**P**	**09 52 07.4**	**-1.5**
WR0				IAmb	IAmb	09 52 13.5	
	comp=Z,11nm,1.3s						
WB2	**Warramunga Arr**	**44.37**	**270**	**P**	**P**	**09 52 10.6**	**+0.3**
WB2				IAmb	IAmb	09 52 27.9	
	comp=Z,6.8nm,1.1s						
WRA	**Warramunga Arr**	**44.38**	**270**	P	**P**	**09 52 10.5**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=111,slow=8.1,SNR=6.0						
WB0	**Warramunga Arr**	**44.40**	**270**	**P**	**P**	**09 52 11.6**	**+1.1**
QSPA	**South Pole Qui**	**61.55**	**180**	**P**	**P**	**09 54 16.4**	**0.0**
QSPA				IAmb	IAmb	09 54 25.6	
	comp=Z,7.9nm,1.4s						
FINES	**FINESS Array B**	**143.52**	**341**	PKPbc	PKPab	10 03 31.4	+1.7
	comp=Z,1.4nm,0.8s,baz=72,slow=4.5,SNR=4.9						
FINES	**FINESS Array B**	**143.52**	**341**		PKPab	10 03 31.7	+2.1

*NEIC **24** 09:53:04.0±0.6, 51°.8N±0°.2×178°.31E±0°.08, h133km±8km, Error ellipse: s-maj=34.8km s-min=6.3km az=184.0*

AEIC 24 09:53:06±0.9, **51°.9N**±0°.1×**178°.38E**±0°.07, **h120**km±4km, **mb3.9**/2(NEIC), **Error ellipse: s-maj=16.9km s-min=5.5km az=171.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.10**	**58**		Pn	09 53 22.2	-0.3
LSNW	**Little Sitkin**	**0.11**	**49**		Pn	09 53 21.9	-0.5
LSPA	**Little Sitkin**	**0.13**	**64**		Pn	09 53 22.6	+0.1
LSPA					Sn	09 53 36.3	+1.4
CETU	**Semis' Tuman**	**0.69**	**84**		Pn	09 53 25.1	-0.2
CESW	**Semis' Southwe**	**0.73**	**89**		Pn	09 53 25.0	-0.6
CEAP	**Semis' Anvil P**	**0.75**	**82**		Pn	09 53 25.5	-0.2
AMKA	**Amchitka**	**0.78**	**132**		Pn	09 53 25.7	-0.3
AMKA					Sn	09 53 40.2	-0.7
CERAA	**Semis' Rag'd T**	**0.81**	**89**		Pn	09 53 25.8	-0.4
TASE	**Tanaga Southea**	**2.22**	**90**		Pn	09 53 41.6	-0.6
TAFP	**Tanaga Falls P**	**2.25**	**89**		Pn	09 53 41.8	-0.7
TAFP					Sn	09 54 10.2	-0.4
KIMD	**Kanaga Island**	**2.72**	**91**		Pn	09 53 47.7	-0.9
KICM	**Kanaga Island**	**2.74**	**88**		Pn	09 53 48.4	-0.5
SMY	**Shemya**	**2.76**	**289**	Pn	Pn	09 53 47.6	-1.4
SMY					Sn	09 54 20.2	-1.9
ADK	**Adak**	**3.06**	**88**		Pn	09 53 51.3	-1.6
ADK	**Adak**	**3.06**	**88**	Sn	Sn	09 54 29.1	-0.1
GSTR	**Great Sitkin T**	**3.44**	**85**	Pn	Pn	09 53 57.8	-0.3
ATKA	**Atka Island**	**4.59**	**83**	Sn	Sn	09 55 05.6	-0.1
OHAK	**Old Harbor**	**17.20**	**61**	P	P	09 56 54.9	-3.3
OHAK				IAmb	IAmb	09 57 13.9	
	comp=Z,4.7nm,1.3s						
KDAK	**Kodiak Island**	**17.64**	**59**	P	P	09 57 01.2	-1.8
CNPM	**China Poot**	**18.61**	**54**	P	P	09 57 11.9	-1.7
CNPM				IAmb	IAmb	09 57 12.2	
	comp=Z,19nm,1.4s						

*NEIC **24** 09:55:00.4±1.0, 51°.8N±0°.1×176°.14E±0°.07, h1km±6km, Error ellipse: s-maj=20.6km s-min=4.1km az=192.0*

AEIC 24 09:55:02±1.0, **52°.2N**±0°.2×**176°.31E**±0°.09, **h4**km±4km, **ML3.1, Error ellipse: s-maj=23.1km s-min=4.2km az=196.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**1.38**	**97**		Pn	09 55 28.0	+0.1
LSNW					Sn	09 55 47.2	+0.6
LSSA	**Little Sitkin**	**1.38**	**98**		Pn	09 55 28.0	0.0
LSSA					Sn	09 55 47.0	+0.3
LSPA	**Little Sitkin**	**1.41**	**97**		Pn	09 55 28.1	-0.3
LSPA					Sn	09 55 48.6	+1.1
SMY	**Shemya**	**1.47**	**294**		Pn	09 55 28.6	-0.5
SMY					Sg	09 55 49.7	+0.5
CETU	**Semis' Tuman**	**1.98**	**94**		Pn	09 55 36.5	+0.3
AMKA	**Amchitka**	**2.02**	**112**		Pn	09 55 37.1	+0.4
AMKA					Sn	09 56 01.4	-1.0
CEAP	**Semis' Anvil P**	**2.02**	**93**		Pn	09 55 37.2	+0.4
CESW	**Semis' Southwe**	**2.03**	**96**		Pn	09 55 37.0	+0.1
TASE	**Tanaga Southea**	**3.51**	**93**		Pn	09 55 58.8	+1.5
KIMD	**Kanaga Island**	**4.01**	**93**		Pn	09 56 04.8	+0.7
ADK	**Adak**	**4.34**	**91**	P	Pn	09 56 10.1	+1.5
ADK	**Adak**	**4.34**	**91**		Pn	09 56 09.7	+1.1

*IDC **24** 09:58:27.6±3.5, 53°.60N×88°.12E, h0km, mb1 2.9/2, mb1mx2.8/43, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=33.8km s-min=18.5km az=53.0*

*NNC **24** 09:58:30.6±2.5, 53°.59N×87°.86E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=21.0km s-min=11.1km az=60.0, Suspected Mining explosion.*

KRAR 24 09:58:28.8±0.1, **53°.66N×87°.67E, M2.1, 7C, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**1.71**	**281**	⇑Pg	Pg	09 59 03.8	+2.2
	0.5nm,0.5s						
ZAA0				⇑Lg	Lg	09 59 29.8	
	3.9nm,0.8s						
ZALV	**Zalesovo Beam**	**1.71**	**281**	Pn	Pg	09 59 03.1	+1.4
	2.1nm,0.3s,baz=98,slow=15,SNR=21						
ZALV				Lg	Lg	09 59 30.3	
	5.4nm,0.3s,baz=101,slow=31,SNR=20						
I46RU	**ZALESOVO INFRA**	**1.72**	**281**	*i*		10 10 00.0	
	baz=97,slow=309,SNR=0.6						
KURBB	**Kurchatov Arra**	**6.39**	**245**	Pn	Pn	10 00 06.5	+2.4
	0.1nm,0.3s,baz=62,slow=14,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.39**	**245**	⇑Pn	Pn	10 00 07.7	+3.5
	1.7nm,0.7s						
KURBB				⇑Sn	Sn	10 01 22.5	+4.7
	5.8nm,0.5s						
KURBB				⇑Lg	Lg	10 01 55.9	
	6.7nm,0.7s						
MK31	**Makanchi Array**	**7.69**	**209**	Pn	Pn	10 00 24.9	+2.9
	0.5nm,0.7s,baz=308,slow=72,SNR=10						
MK31				⇑Sn	Sn	10 01 51.7	+1.9
	0.3nm,0.5s						
MK31				⇑Lg	Lg	10 02 35.0	
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**7.69**	**209**	Pn	Pn	10 00 22.7	+0.7
	0.2nm,0.3s,baz=25,slow=13,SNR=6.7						
MKAR				Lg	Lg	10 02 34.4	
	0.1nm,0.3s,baz=29,slow=30,SNR=3.9						

*IDC **24** 09:58:29.5±3.2, 30°.34S×177°.19W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/27, mbtmp3.7/2, Error ellipse: s-maj=64.9km s-min=42.7km az=103.0*

*NEIC **24** 09:58:30.1±2.3, 30°.40S±0°.04×177°.1W±0°.2, h10km±2km, mb4.5/4, Error ellipse: s-maj=29.8km s-min=4.3km az=80.0*

ISC 24 09:58:32.0±2.8, **30°.4S**±0°.1×**177°.1W**±0°.4, **h24**km, **n12, σ1°16/12, mb4.2/4, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.34**	**329**	Pn	**Pn**	**09 58 54.4**	**-0.9**
	89nm,0.3s,baz=116,slow=23,SNR=2.3						
URZ	**Urewera**	**9.16**	**210**	Pn	**Pn**	**10 00 42.0**	**-0.6**
BKZ	**Black Stump Fm**	**10.18**	**209**	Pn	**Pn**	**10 00 55.8**	**-0.8**
KHZ	**Kahutara**	**14.12**	**209**	Pn	**Pn**	**10 01 50.3**	**-0.2**
ASAR	**Alice Springs**	**43.85**	**267**	**P**	**P**	**10 06 37.4**	**+0.8**
	0.4nm,0.6s,baz=103,slow=7.2,SNR=6.4						
WR0	**Warramunga Arr**	**44.66**	**272**	**P**	**P**	**10 06 42.4**	**-0.7**
WR0				IAmb	IAmb	10 06 48.6	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**44.83**	**272**	**P**	**P**	**10 06 45.7**	**+1.3**
WRAB	**Tennant Creek**	**44.84**	**272**	**P**	**P**	**10 06 46.5**	**+2.0**
WRA	**Warramunga Arr**	**44.84**	**272**	**P**	**P**	**10 06 45.0**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=112,slow=7.4,SNR=8.4						
WB0	**Warramunga Arr**	**44.87**	**272**	**P**	**P**	**10 06 46.5**	**+1.8**
WB0				IAmb	IAmb	10 06 47.0	
	comp=Z,8.2nm,1.4s						
FINES	**FINESS Array B**	**145.41**	**341**	PKPbc	**PKPab**	**10 18 07.5**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=64,slow=4.4,SNR=6.2						
FINES	**FINESS Array B**	**145.41**	**341**		**PKPab**	**10 18 07.7**	**+0.4**

*IDC **24** 10:04:29.7±2.9, 30°.03S×177°.29W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/30, mbtmp4.0/2, Error ellipse: s-maj=57.1km s-min=35.7km az=90.0*

*NEIC **24** 10:04:30.6±2.8, 29°.99S±0°.04×177°.36W±0°.07, h10km±2km, mb4.5/9, Error ellipse: s-maj=11.7km s-min=4.4km az=117.0*

ISC 24 10:04:33.8±1.2, **29°.91S**±0°.08×**177°.3W**±0°.2, **h35**km, **n23, σ1°91/24, mb4.4/6, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.87**	**319**	Pn	**Pn**	**10 04 49.9**	**+0.3**
	626nm,0.3s,baz=83,slow=8.1,SNR=26						
RAO				Sn	**Sn**	**10 05 00.6**	**-0.3**
	2µm,0.3s,baz=188,slow=24,SNR=11						
RAO	**Raoul Island**	**0.87**	**319**		**Sn**	**10 04 59.9**	**-1.1**
OUZ	**Omahuta**	**9.35**	**233**	Pn	**Pn**	**10 06 44.4**	**-1.7**
URZ	**Urewera**	**9.54**	**208**	Pn	**Pn**	**10 06 45.3**	**-3.3**
BKZ	**Black Stump Fm**	**10.57**	**207**	Pn	**Pn**	**10 07 01.7**	**-1.0**
BFZ	**Birch Farm**	**11.98**	**204**	Pn	**Pn**	**10 07 19.3**	**-2.7**
MSVF	**Nonsavu**	**12.86**	**340**	Pn	**Pn**	**10 07 31.7**	**-2.4**
THZ	**Tophouse**	**14.25**	**211**	Pn	**Pn**	**10 07 53.9**	**+0.9**
KHZ	**Kahutara**	**14.51**	**208**	Pn	**Pn**	**10 07 53.6**	**-2.9**
OXZ	**Oxford**	**15.88**	**210**		**Pn**	**10 08 16.0**	**+1.3**
DZM	**Mont Dzumac**	**16.59**	**294**	Pn	**P**	**10 08 30.8**	**+4.8**
	0.3nm,0.3s,baz=88,slow=11,SNR=49						
KWAJ	**Kwajalein Atol**	**41.15**	**337**	**P**	**P**	**10 12 14.5**	**-0.3**
AS31	**Alice Springs**	**43.77**	**266**	**P**	**P**	**10 12 35.9**	**-0.4**
ASAR	**Alice Springs**	**43.77**	**266**	**P**	**P**	**10 12 36.6**	**+0.4**
	0.5nm,0.4s,baz=105,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**43.77**	**266**	**P**	**P**	**10 12 36.0**	**-0.3**
WR0	**Warramunga Arr**	**44.54**	**271**	**P**	**P**	**10 12 42.3**	**-0.1**
WR0				IAmb	IAmb	10 12 55.5	
	comp=Z,12nm,1.5s						
WB2	**Warramunga Arr**	**44.71**	**271**	**P**	**P**	**10 12 44.4**	**+0.7**
WB2				IAmb	IAmb	10 12 58.5	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**44.72**	**271**	**P**	**P**	**10 12 45.2**	**+1.4**
	comp=Z,1.5nm,0.4s,baz=110,slow=8.1,SNR=19						
WRA	**Warramunga Arr**	**44.72**	**271**	**P**	**P**	**10 12 42.0**	**-1.8**
WB0	**Warramunga Arr**	**44.74**	**272**	**P**	**P**	**10 12 45.2**	**+1.2**
WB0				IAmb	IAmb	10 12 51.1	
	comp=Z,6.3nm,1.2s						
CASY	**Casey**	**55.87**	**208**	**P**	**P**	**10 14 07.1**	**-0.4**
SNAA	**Sanae**	**78.62**	**178**	**P**	**P**	**10 16 34.0**	**+2.4**
SNAA				IAmb	IAmb	10 16 38.4	
	comp=Z,8.6nm,1.5s						
FINES	**FINESS Array B**	**144.90**	**341**	PKPbc	**PKPdf**	**10 24 06.7**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=61,slow=4.0,SNR=9.6						

*NEIC **24** 10:18:03.7±2.7, 30°.06S±0°.09×176°.78W±0°.06, h10km±2km, mb4.2/3, Error ellipse: s-maj=15.3km s-min=8.9km az=356.0*

*IDC **24** 10:18:04.4±3.0, 29°.99S×177°.18W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.5/34, mbtmp3.8/2, Error ellipse: s-maj=59.1km s-min=40.1km az=81.0*

ISC 24 10:18:06.0±1.6, **30°.0S**±0°.1×**177°.0W**±0°.2, **h24**km, **n13, σ1°44/14, mb3.9/4, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.08**	**312**	Pn	**Pn**	**10 18 24.8**	**-0.8**
	566nm,0.3s,baz=98,slow=6.4,SNR=12						
RAO				Sn	**Sn**	**10 18 38.1**	**-1.6**
	756nm,0.3s,baz=66,slow=22,SNR=7.7						
RAO	**Raoul Island**	**1.08**	**312**		**Pn**	**10 18 24.9**	**-0.6**
OUZ	**Omahuta**	**9.50**	**234**	Pn	**Pn**	**10 20 22.9**	**+1.7**
URZ	**Urewera**	**9.59**	**209**	Pn	**Pn**	**10 20 19.8**	**-2.7**
BKZ	**Black Stump Fm**	**10.62**	**209**	Pn	**Pn**	**10 20 36.9**	**+0.3**
ASAR	**Alice Springs**	**44.00**	**266**	**P**	**P**	**10 26 12.7**	**+0.9**
	0.4nm,0.4s,baz=105,slow=7.1,SNR=11						
ASAR	**Alice Springs**	**44.00**	**266**	**P**	**P**	**10 26 11.6**	**-0.2**
WRA	**Warramunga Arr**	**44.95**	**271**	**P**	**P**	**10 26 20.2**	**+0.8**
	0.9nm,0.5s,baz=110,slow=8.0,SNR=9.3						
WRA	**Warramunga Arr**	**44.95**	**271**	**P**	**P**	**10 26 21.2**	**+1.8**
WB0	**Warramunga Arr**	**44.97**	**271**	**P**	**P**	**10 26 20.1**	**+0.6**
WB0				IAmb	IAmb	10 26 32.9	
	comp=Z,5.9nm,1.1s						
SNAA	**Sanae**	**78.55**	**178**	**P**	**P**	**10 30 04.5**	**-0.5**
SNAA				IAmb	IAmb	10 30 13.4	
	comp=Z,1.6nm,1.5s						
FINES	**FINESS Array B**	**145.04**	**341**	PKPbc	**PKPdf**	**10 37 41.6**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=48,slow=2.8,SNR=5.3						
FINES	**FINESS Array B**	**145.04**	**341**		**PKPdf**	**10 37 42.0**	**+1.5**

*IDC **24** 10:20:44.5±1.7, 29°.90S×177°.32W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.8/37, mbtmp4.1/5, Error ellipse: s-maj=43.7km s-min=18.6km az=60.0*

*NEIC **24** 10:20:45.7±2.5, 29°.85S±0°.1×177°.17W±0°.2, h17km±9km, mb4.4/10, Error ellipse: s-maj=25.9km s-min=11.0km az=50.0*

ISC 24 10:20:47.5±1.4, **29°.9S**±0°.1×**177°.2W**±0°.2, **h24**km, **n24, σ0°92/25, mb4.3/7, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.91**	**314**	Pn	**Pn**	**10 21 04.1**	**-0.6**
	211nm,0.3s,baz=84,slow=22,SNR=3						
RAO				Sn	**Sb**	**10 21 15.9**	**-0.4**
	925nm,0.3s,baz=61,slow=20,SNR=11						
RAO	**Raoul Island**	**0.91**	**314**		**Pn**	**10 21 04.8**	**0.0**
RAO	**Raoul Island**	**0.91**	**314**	Sn	**Sn**	**10 21 17.2**	**+0.1**
OUZ	**Omahuta**	**9.43**	**233**	Pn	**Pn**	**10 23 03.1**	**+1.3**
URZ	**Urewera**	**9.60**	**208**	Pn	**Pn**	**10 23 04.8**	**+0.7**
THZ	**Tophouse**	**14.31**	**211**	Pn	**Pn**	**10 24 07.0**	**-1.6**
OXZ	**Oxford**	**15.95**	**210**	Pn	**Pn**	**10 24 28.8**	**-1.4**
OXZ				IAmb	IAmb	10 24 34.6	
	comp=Z,12nm,0.5s						
MQZ	**McQueen's Vall**	**16.00**	**208**	Pn	**Pn**	**10 24 30.3**	**-0.6**
MQZ				IAmb	IAmb	10 24 43.6	
	comp=Z,24nm,1.0s						
CTA	**Charters Tower**	**34.43**	**278**	**P**	**P**	**10 27 34.0**	**+0.7**
	comp=Z,2.9nm,0.7s,baz=97,slow=8.8,SNR=5.6						
CTAO	**Charters Tower**	**34.43**	**278**	**P**	**P**	**10 27 35.2**	**+1.9**
CTAO				IAmb	IAmb	10 27 46.7	
	comp=Z,5.3nm,0.9s						
STKA	**Stephens Creek**	**35.30**	**256**	**P**	**P**	**10 27 40.2**	**-0.4**
	comp=Z,3.6nm,0.9s,baz=101,slow=10,SNR=3.5						
STKA	**Stephens Creek**	**35.30**	**256**	**P**	**P**	**10 27 39.6**	**-1.0**
AS31	**Alice Springs**	**43.86**	**266**	**P**	**P**	**10 28 52.3**	**+0.2**
ASAR	**Alice Springs**	**43.86**	**266**	**P**	**P**	**10 28 51.3**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=103,slow=7.6,SNR=15						
ASAR	**Alice Springs**	**43.86**	**266**	**P**	**P**	**10 28 51.5**	**-0.6**
WR0	**Warramunga Arr**	**44.62**	**271**	**P**	**P**	**10 28 57.8**	**-0.4**
WB2	**Warramunga Arr**	**44.79**	**271**	**P**	**P**	**10 28 58.3**	**-1.3**
WB2				IAmb	IAmb	10 29 11.2	
	comp=Z,4.7nm,0.9s						
WRA	**Warramunga Arr**	**44.80**	**271**	**P**	**P**	**10 28 58.9**	**-0.8**
	comp=Z,1.3nm,0.4s,baz=111,slow=8.0,SNR=9.9						
WRA	**Warramunga Arr**	**44.80**	**271**	**P**	**P**	**10 28 58.7**	**-0.9**
WB0	**Warramunga Arr**	**44.82**	**271**	**P**	**P**	**10 28 59.6**	**-0.2**
WB0				IAmb	IAmb	10 29 11.3	
	comp=Z,7.2nm,1.1s						
QSPA	**South Pole Qui**	**60.22**	**180**	**P**	**P**	**10 30 53.9**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=72,slow=1.1,SNR=11						
QSPA	**South Pole Qui**	**60.22**	**180**	**P**	**P**	**10 30 54.3**	**+0.9**
FINES	**FINESS Array B**	**144.91**	**341**	PKP	**PKPdf**	**10 40 21.4**	**-0.4**
	comp=Z,2.8nm,0.7s,baz=68,slow=5.1,SNR=4.2						
AKASG	**Malin Array Be**	**151.32**	**324**	PKPbc	**PKiKP**	**10 40 39.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=53,slow=2.7,SNR=1.6						

*NEIC **24** 10:22:10.7±0.5, 51°.73N±0°.09×178°.52E±0°.08, h99km±6km, Error ellipse: s-maj=13.9km s-min=5.9km az=161.0*

AEIC 24 10:22:11±0.9, **51°.8N**±0°.1×**178°.51E**±0°.06, **h95**km±4km, **mb4.0**/6(NEIC), **Error ellipse: s-maj=16.2km s-min=5.3km az=180.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.19**	**0**		Pn	10 22 24.9	+0.3
LSSA					Sn	10 22 36.3	+1.6
LSPA	**Little Sitkin**	**0.20**	**11**		Pn	10 22 24.8	+0.2
LSNW	**Little Sitkin**	**0.21**	**1**		Pn	10 22 24.8	+0.2
AMKA	**Amchitka**	**0.62**	**128**		Pn	10 22 27.5	+0.2
AMKA					Sn	10 22 39.5	+0.1
CETU	**Semis' Tuman**	**0.64**	**71**		Pn	10 22 27.7	+0.3
CESW	**Semis' Southwe**	**0.67**	**78**		Pn	10 22 27.6	0.0
CEAP	**Semis' Anvil P**	**0.70**	**70**		Pn	10 22 28.2	+0.2
CERAA	**Semis' Rag'd T**	**0.74**	**78**		Pn	10 22 28.3	0.0
CERAA					Sn	10 22 41.6	+0.3
TASE	**Tanaga Southea**	**2.14**	**87**		Pn	10 22 45.2	-0.1
TAFP	**Tanaga Falls P**	**2.18**	**85**		Pn	10 22 45.4	-0.2
TAPA	**Tanaga Point A**	**2.28**	**87**		Pn	10 22 46.8	-0.3
KIMD	**Kanaga Island**	**2.64**	**88**		Pn	10 22 51.5	-0.3
KICM	**Kanaga Island**	**2.67**	**85**		Pn	10 22 52.1	0.0
KIKV	**Kanaga Island**	**2.68**	**86**		Pn	10 22 51.9	-0.4
SMY	**Shemya**	**2.88**	**291**	Pn	Pn	10 22 54.6	-0.3
ADK	**Adak**	**2.98**	**86**		Pn	10 22 55.9	-0.4
GSTD	**Great Sitkin T**	**3.32**	**83**		Pn	10 23 00.6	-0.3
GSTD					Sn	10 23 39.4	-0.2
GSMY	**Great Sitkin M**	**3.38**	**83**		Pn	10 23 01.1	-0.5
GSTR	**Great Sitkin T**	**3.38**	**82**	Pn	Pn	10 23 01.6	-0.1
ATKA	**Atka Island**	**4.53**	**82**		Pn	10 23 16.6	-0.5
NIKH	**Nikolski High**	**7.83**	**76**	Pn	Pn	10 24 03.6	+1.6
SPIA	**Saint Paul Isl**	**8.50**	**46**	Pn	Pn	10 24 13.4	+2.4
UNV	**Unalaska Valle**	**9.31**	**71**	Pn	Pn	10 24 24.1	+1.9
OHAK	**Old Harbor**	**17.19**	**60**	Pn	Pn	10 26 03.3	-1.6
OHAK				IAmb	IAmb	10 26 10.3	
	comp=Z,12nm,1.4s						
TTA	**Tatalina**	**17.58**	**41**	P	P	10 26 08.4	-1.0
KDAK	**Kodiak Island**	**17.64**	**59**	P	P	10 26 09.4	-0.5
KDAK				IAmb	IAmb	10 26 26.0	
	comp=Z,17nm,1.4s						
RSO	**Redoubt South**	**18.10**	**50**	P	P	10 26 15.1	-0.1
CNPM	**China Poot**	**18.62**	**54**	P	P	10 26 21.0	+0.2
CNPM				IAmb	IAmb	10 26 38.2	
	comp=Z,17nm,1.4s						
SEW	**Seward**	**19.62**	**52**	P	P	10 26 31.2	-0.3
EYAK	**Cordova Ski Ar**	**21.51**	**52**	P	P	10 26 53.4	+1.6
EYAK				IAmb	IAmb	10 27 06.6	
	comp=Z,6.4nm,1.2s						

*IDC **24** 10:23:56.9±1.0, 29°.85S×177°.27W, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.0/39, mbtmp4.1/9, MS3.7/1, Ms1 3.7/1, ms1mx3.1/23, Error ellipse: s-maj=26.9km s-min=19.1km az=48.0*

*NEIC **24** 10:23:59.1±2.5, 29°.92S±0°.09×177°.2W±0°.1, h22km±6km, mb4.6/20, Error ellipse: s-maj=17.4km s-min=12.1km az=67.0*

ISC 24 10:23:59.7±0.7, **29°.86S**±0°.08×**177°.2W**±0°.1, **h24**km, **n42, σ1°38/44, mb4.4/15, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.85**	**315**	Pn	**Pn**	**10 24 17.1**	**+1.0**
	842nm,0.3s,baz=95,slow=6.0,SNR=12						
RAO				Sn	**Sn**	**10 24 28.6**	**+0.8**
	2µm,0.3s,baz=40,slow=22,SNR=9.6						
URZ	**Urewera**	**9.60**	**208**	Pn	**Pn**	**10 26 15.4**	**-0.9**
BKZ	**Black Stump Fm**	**10.62**	**207**	Pn	**Pn**	**10 26 29.6**	**-0.8**
HIZ	**Hauiti**	**10.83**	**215**	Pn	**Pn**	**10 26 32.2**	**-0.9**
THZ	**Tophouse**	**14.30**	**211**	Pn	**Pn**	**10 27 19.5**	**-1.2**
DZM	**Mont Dzumac**	**16.59**	**294**	Pn	**P**	**10 27 55.6**	**+2.5**
	0.6nm,0.3s,baz=152,slow=12,SNR=14						
DZM				LR	LR	10 32 57.6	
	comp=Z,273nm,19.5s,baz=168,slow=33						
RPZ	**Rata Peaks**	**16.68**	**211**	Pn	**Pn**	**10 27 51.0**	**-0.9**
LBZ	**Lake Benmore**	**17.60**	**211**	Pn	**Pn**	**10 28 01.3**	**-1.9**
LBZ				IAmb	IAmb	10 28 09.3	
	comp=Z,53nm,1.5s						
ODZ	**Otahua Downs**	**17.92**	**209**	Pn	**Pn**	**10 28 05.6**	**-1.6**
WHZ	**Wether Hill Ro**	**19.77**	**212**	P	**P**	**10 28 26.1**	**-1.8**
WHZ				IAmb	IAmb	10 28 33.0	
	comp=Z,56nm,1.5s						
FUNA	**Funafuti**	**21.49**	**350**	P	**P**	**10 28 43.0**	**-3.6**
TOO	**Toolangi**	**31.79**	**246**	P	**P**	**10 30 24.4**	**+2.1**
TOO				IAmb	IAmb	10 30 26.6	
	comp=Z,42nm,1.5s						
CTA	**Charters Tower**	**34.37**	**278**	**P**	**P**	**10 30 46.2**	**+1.2**
	comp=Z,6.2nm,0.9s,baz=101,slow=10,SNR=10						
CTAO	**Charters Tower**	**34.37**	**278**	**P**	**P**	**10 30 44.8**	**-0.2**
CTAO				IAmb	IAmb	10 30 51.8	
	comp=Z,5.0nm,0.7s						
STKA	**Stephens Creek**	**35.25**	**256**	**P**	**P**	**10 30 54.0**	**+1.6**
	comp=Z,4.9nm,0.7s,baz=107,slow=12,SNR=6.8						
STKA	**Stephens Creek**	**35.25**	**256**	P	**P**	**10 30 54.6**	**+2.2**
STKA				IAmb	IAmb	10 31 12.8	
	com

20nm,0.3s,baz=125,slow=0.3,SNR=22
BATI S **S** **10 35 57.6 -2.1**
36nm,0.3s,baz=327,slow=22,SNR=13
BATI Baumata 4.24 129 P **Pn** **10 34 59.6 +0.3**
BATI S **S** **10 35 57.1 -2.6**
SOEI Soe 4.49 120 P **Pn** **10 35 01.1 -0.8**
SOEI S **S** **10 36 01.8 -2.5**
JAGI Jajag, Banyuwa 6.16 261 P **Pn** **10 35 18.8 -0.6**
0.4nm35nm,0.5s
SANI Sanana 7.87 46 P **Pn** **10 35 38.4 -0.1**
0.1nm42nm,0.7s
FITZ Fitzroy Crossi 11.70 154 P **P** **10 36 23.1 +1.8**
0.5nm,0.3s,baz=339,slow=8.2,SNR=11
WRA Warramunga Arr 18.35 134 P **P** **10 37 35.0 +1.7**
0.7nm,0.3s,baz=316,slow=11,SNR=19
ASAR Alice Springs 20.66 142 P **P** **10 37 58.6 +3.1**
2.6nm,0.5s,baz=338,slow=15,SNR=46
STKA Stephens Creek 31.29 144 P **P** **10 39 31.9 +2.0**
2.7nm,0.8s,baz=329,slow=10,SNR=4.0
SONM Songino Array 56.50 349 P **P** **10 42 46.9 -0.3**
0.5nm,0.6s,baz=151,slow=3.3,SNR=2.6
MKAR Makanchi Array 63.78 332 P **P** **10 43 36.9 +0.9**
1.3nm,0.5s,baz=144,slow=7.5,SNR=14
ZALV Zalesovo Beam 68.17 338 P **P** **10 44 03.3 0.0**
1.5nm,0.3s,baz=156,slow=4.6,SNR=6.8

IDC 24 10:41:57.4±8.0, 30°36S×177°16W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/22, mbtmp3.4/2, Error ellipse: s-maj=339.1km s-min=61.7km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.84**	**267**	P	P	10 50 05.2	-0.4
	0.8nm,1.1s,baz=106,slow=7.3,SNR=2.2						
WRA	**Warramunga Arr**	**44.82**	**272**	P	P	10 50 13.6	+0.1
	0.3nm,0.5s,baz=111,slow=8.1,SNR=5.5						
FINES	**FINESS Array B**	**145.35**	**341**	PKPbc	PKPbc	11 01 35.5	-0.8
	0.9nm,0.8s,baz=352,slow=2.9,SNR=4.6						

*GUC **24** 10:45:36.6±0.7, 34°69S×72°69W, h25km±4km, ML3.6*
*SJA **24** 10:45:38.9±1.0, 34°78S×72°54W, h10km, ML3.1, MW3.6*
ISC 24 10:45:37.2±2.4, 34°71S±0°03×72°56W±0°07, h12km±17km, n19, σ1°33/29, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GO05	**Huala**	**0.60**	**120**	⇑*i*P	**Pb**	**10 45 49.2**	**-0.6**
GO05				*i*S	**Sb**	**10 45 58.2**	**-0.1**
GO05				IAML		10 46 00.2	
	comp=N,5μm,0.3s						
GO05	**Huala**	**0.60**	**120**	*i*P	**Pb**	**10 45 49.8**	**+0.1**
GO05				*i*S	**Sb**	**10 45 58.2**	**-0.1**
BO02	**Sierra Bellavi**	**1.47**	**94**	⇑*i*P	**Pn**	**10 46 03.6**	**-0.1**
BO02				*i*S	**Sn**	**10 46 23.1**	**+0.3**
BO02				IAML		10 46 25.6	
	comp=E,4μm,0.2s						
MT02	**Curacav**	**1.87**	**40**	*e*P	**Pn**	**10 46 07.9**	**-1.2**
MT02				*i*S	**Sn**	**10 46 32.6**	**0.0**
MT02				IAML		10 46 43.7	
	comp=E,201nm,0.4s						
MT03	**Universidad Ad**	**2.09**	**55**	*e*P	**Pn**	**10 46 11.8**	**-0.4**
MT03				*i*S	**Sn**	**10 46 38.8**	**+0.6**
MT03				IAML		10 46 45.8	
	comp=N,687nm,0.2s						
ROC1	**El Roble**	**2.15**	**37**	*i*P	**Pb**	**10 46 18.2**	**+1.9**
ROC1				*i*S	**Sg**	**10 46 47.2**	**+0.8**
ROCH	**El Roble**	**2.16**	**37**	*e*P	**Pn**	**10 46 12.8**	**-0.5**
ROCH				*i*S	**Sn**	**10 46 40.0**	**-0.1**
ROCH				IAML		10 46 52.1	
	comp=N,518nm,0.5s						
BI03	**Tigo**	**2.17**	**190**	*e*P	**Pn**	**10 46 11.6**	**-1.6**
BI03				*i*S	**Sb**	**10 46 45.2**	**+1.9**
BI03				IAML		10 46 48.4	
	comp=N,1μm,0.4s						
PEL	**Peldehue**	**2.21**	**46**	*e*P	**Pn**	**10 46 15.3**	**+1.6**
PEL	**Peldehue**	**2.21**	**46**	*i*P	**Pb**	**10 46 18.0**	**+0.9**
BI02	**San Fabin de**	**2.22**	**152**	⇓*i*P	**Pn**	**10 46 14.1**	**+0.1**
BI02				*i*S	**Sn**	**10 46 41.6**	**+0.3**
BI02				IAML		10 46 49.9	
	comp=N,367nm,0.4s						
COIS	**El Sosneado**	**2.47**	**100**	*i*P	**Pb**	**10 46 21.6**	**-0.1**
COIS				*i*S	**Sb**	**10 46 54.7**	**+2.6**
VA03	**San Esteban**	**2.56**	**41**	*e*P	**Pn**	**10 46 18.8**	**+0.1**
VA03				*i*S	**Sb**	**10 46 52.7**	**-2.0**
VA03				IAML		10 46 59.8	
	comp=E,435nm,0.4s						
PUMA	**Malargue**	**2.67**	**108**	*i*P	**Pb**	**10 46 24.6**	**-0.4**
LAMA	**Las Malvinas**	**2.77**	**96**	*i*P	**Pb**	**10 46 25.0**	**-1.7**
AAGR	**Agrelo**	**3.50**	**64**	*i*P	**Pb**	**10 46 38.5**	**-0.7**
AAGR				IAML		10 47 41.8	
	comp=Z,32nm,1.6s						
ARCO	**CERRO ARCO**	**3.55**	**59**	*i*P	**Pb**	**10 46 40.1**	**0.0**
ARCO				IAML		10 47 36.9	
	comp=Z,47nm,1.2s						
ASAL	**Salagasta**	**3.76**	**57**	*i*P	**Pb**	**10 46 39.9**	**-3.7**
ASAL				IAML		10 47 56.2	
	comp=Z,21nm,0.7s						
MRA	**San Martin**	**6.15**	**70**	*i*P	Pn	10 47 13.6	+5.5
MRA				IAML		10 49 02.1	
	comp=Z,8.2nm,0.6s						

*NIC **24** 10:52:56.0±0.0, 33°66N×34°91E, h32km±33km, Ml2.7/3*
*GRAL **24** 10:52:55.4±0.4, 33°67N×34°84E, h13km±14km, MD3.0*
*GII **24** 10:52:56.7±0.8, 33°53N×35°00E, h14km±1km, MD2.1/4, Mm2.2/3*
ISC 24 10:52:52.5±1.1, 33°71N±0°03×34°92E±0°03, h13km±9km, n24, σ0°84/39, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DQRL	**Deir Qamar**	**0.55**	**90**	*e*P	**Pn**	**10 53 06.5**	**+0.3**
DQRL				*e*S	**Sn**	**10 53 14.7**	**-0.6**
BHL	**Bhannes**	**0.64**	**72**	*e*P	**Pn**	**10 53 08.2**	**+0.7**
QRWL	**Qaraoun**	**0.66**	**104**	*e*P	**Pn**	**10 53 08.5**	**+0.8**
QRWL				*e*S	**Sn**	**10 53 17.6**	**-0.5**
HNTI	**Hanita**	**0.66**	**161**	Pg	**Pg**	**10 53 06.2**	**+0.8**
SHBL	**Chebaa**	**0.78**	**117**	*e*P	**Pn**	**10 53 09.8**	**+0.3**
RCY	**Rachaya**	**0.80**	**105**	*e*P	**Pn**	**10 53 10.4**	**+0.7**
GEM	**Giv'at Ha'Em**	**0.80**	**128**	Pg	**Pn**	**10 53 09.7**	**+0.1**
GEM				Sg	**Sg**	**10 53 18.2**	**-0.3**
MMA0B	**Mount Meron ar**	**0.80**	**149**	Pg	**Pb**	**10 53 09.3**	**+0.8**
MMA0B				Sg	**Sg**	**10 53 18.2**	**-0.5**
NATI	**Neve Ativ**	**0.82**	**123**	Pg	**Pn**	**10 53 10.0**	**+0.2**
NATI				Sg	**Sb**	**10 53 19.8**	**+0.2**
BLGI	**Bet Lehem HaGe**	**1.00**	**167**	Pg	**Pg**	**10 53 12.6**	**+0.8**
BLGI				Sg	**Sg**	**10 53 24.5**	**-0.4**
HWQ	**Hawqa**	**1.03**	**56**	*e*P	**Pn**	**10 53 14.4**	**+1.6**
OFRI	**`Ofer**	**1.09**	**177**	Pg	**Pg**	**10 53 13.6**	**+0.1**
OFRI				Sg	**Sg**	**10 53 26.4**	**-1.3**
SHMJ	**Saham**	**1.21**	**144**	Pg	**Pb**	**10 53 15.8**	**+0.4**
SHMJ				Sg	**Sg**	**10 53 29.8**	**-1.8**
MMLI	**Mount Malkishu**	**1.34**	**161**	Pg	**Pn**	**10 53 17.7**	**+0.7**
MMLI				Sg	**Sb**	**10 53 33.5**	**-1.1**
MMLI	**Mount Malkishu**	**1.34**	**161**	P	**Pn**	**10 53 18.0**	**+1.0**
MMLI				S	**Sb**	**10 53 33.5**	**-1.1**
SLTI	**Sal'it**	**1.47**	**176**	Sg	**Sn**	**10 53 36.7**	**-1.2**
PARAL	**Paralimni**	**1.47**	**331**	P	**Pg**	**10 53 20.8**	**0.0**
PARAL				S	**Sg**	**10 53 39.6**	**-0.4**
PARAL				AML	AML	10 53 39.9	
	0.1nm,0.4s						
PARAL				AML	AML	10 53 39.9	
	0.1nm,0.4s						
HMDT	**Nahal Hemdat**	**1.54**	**160**	Pn	**Pn**	**10 53 20.7**	**+0.9**
HMDT				Sn	**Sn**	**10 53 39.3**	**-0.4**
MVOU	**Mavrovouni**	**1.68**	**321**	P	**Pb**	**10 53 23.3**	**-0.1**
MVOU				AML	AML	10 53 43.9	
	0.1nm,0.2s						
ASGA	**Asgata**	**1.75**	**308**	P	**Pb**	**10 53 24.1**	**-0.4**
ASGA				S	**Sn**	**10 53 44.7**	**-0.1**
SZAC	**Souni**	**1.98**	**302**	P	**Pb**	**10 53 28.0**	**-0.5**
SZAC				S	**Sb**	**10 53 52.7**	**-0.4**
SZAC				AML	AML	10 53 55.1	
	0.3nm,0.2s						
SZAC				AML	AML	10 53 55.1	
	0.3nm,0.2s						
SZAC				AML	AML	10 53 55.2	
	0.2nm,0.2s						
SZAC				AML	AML	10 53 55.2	
	0.2nm,0.2s						
DSI	**Dead Sea**	**2.17**	**169**	Pn	**Pn**	**10 53 29.6**	**+1.2**
OSC2	**CSNet OBS 4**	**2.31**	**255**	P	**Pn**	**10 53 32.0**	**+1.8**
OSC2				S	**Sn**	**10 53 58.1**	**-0.4**
YTIR	**Yattir**	**2.35**	**176**	Sn	**Sn**	**10 53 59.5**	**-0.2**

*NEIC **24** 11:04:31.6±1.6, 31°27S±0°06×69°74W±0°1, h148km±10km, Error ellipse: s-maj=14.8km s-min=8.0km az=92.0*
*SJA **24** 11:04:32.1±0.8, 31°30S×69°25W, h114km±4km, ML3.6, MW3.7*
ISC 24 11:04:30.6±0.9, 31°30S±0°04×69°21W±0°04, h130km±8km, n42, σ1°24/56, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTLS	**Leoncito**	**0.50**	**188**	*i*P	**Pn**	**11 04 50.7**	**+0.7**
RTLS				*i*S	**Sn**	**11 05 04.4**	**-0.3**
RTLS				IAML		11 05 05.5	
	comp=Z,2μm,0.2s						
ZON	**Zonda**	**0.52**	**118**	Pn	**Pn**	**11 04 50.5**	**+0.7**
ZON	**Zonda**	**0.52**	**118**	*i*P	**Pn**	**11 04 50.5**	**+0.7**
ZON				*i*S	**Sn**	**11 05 03.9**	**-0.5**
ZON				IAML		11 05 05.7	
	comp=Z,2μm,0.4s						
SJA	**San Juan**	**0.60**	**112**	*i*P	**Pn**	**11 04 51.5**	**+1.2**
SJA				*i*S	**Sn**	**11 05 05.1**	**-0.1**
SJA				IAML		11 05 06.9	
	comp=Z,1μm,0.2s						
ACCO	**Cerro Coronel**	**0.72**	**10**	*i*P	**Pn**	**11 04 52.5**	**+1.0**
ACCO				*i*S	**Sn**	**11 05 05.5**	**-1.8**
ACCO				IAML		11 05 07.9	
	comp=Z,924nm,0.7s						
RTCV	**Cerro Valdivia**	**0.80**	**135**	*i*P	**Pn**	**11 04 53.0**	**+1.2**
RTCV				*i*S	**Sn**	**11 05 08.3**	**+0.4**
RTCV				IAML		11 05 11.7	
	comp=Z,533nm,1.9s						
CFA	**Coronel Fontan**	**0.89**	**110**	*i*P	**Pn**	**11 04 53.6**	**+1.1**
CFA				*i*S	**Sn**	**11 05 09.1**	**0.0**
CFA				IAML		11 05 09.9	
	comp=Z,638nm,0.4s						
AUSP	**Uspallata**	**0.93**	**189**	*i*P	**Pn**	**11 04 54.3**	**+1.1**
ACDV	**Cuesta del Vie**	**1.13**	**4**	*i*P	**Pn**	**11 04 56.3**	**+1.4**
ACDV				*i*S	**Sn**	**11 05 13.9**	**+0.6**
ACDV				IAML		11 05 14.4	
	comp=Z,1μm,0.8s						
AROD	**Rodeo**	**1.15**	**349**	*i*P	**Pn**	**11 04 56.8**	**+1.5**
AROD				*i*S	**Sn**	**11 05 14.6**	**+0.6**
ASAL	**Salagasta**	**1.33**	**166**	*i*P	**Pn**	**11 04 58.2**	**+1.3**
ASAL				IAML		11 05 20.0	
	comp=Z,588nm,0.6s						
CO03	**El Pedregal**	**1.35**	**290**	Pn	**Pn**	**11 04 58.2**	**+1.1**
CO03				Sn	**Sn**	**11 05 17.7**	**+0.5**
CO01	**Juntas del Tor**	**1.52**	**330**		**Pn**	**11 05 01.4**	**+2.2**
CO01				Sn	**Sn**	**11 05 22.8**	**+1.9**
CO02	**Combarbal**	**1.53**	**273**		**Pn**	**11 05 00.1**	**+1.0**
CO02				Sn	**Sn**	**11 05 21.3**	**+0.4**
ARCO	**CERRO ARCO**	**1.56**	**171**	*i*P	**Pn**	**11 05 01.3**	**+1.8**
ARCO				IAML		11 05 25.8	
	comp=Z,519nm,0.6s						
GO04	**Tololo Observa**	**1.77**	**309**		**Pn**	**11 05 02.9**	**+0.9**
GO04				Sn	**Sn**	**11 05 25.4**	**-0.6**
VA03	**San Esteban**	**1.85**	**218**		**Pn**	**11 05 04.5**	**+1.7**
VA03				Sn	**Sn**	**11 05 28.6**	**+1.1**
AGUA	**GUANDACOL**	**1.91**	**19**	*i*P	**Pn**	**11 05 06.0**	**+2.4**
AGUA				IAML		11 05 33.6	
	comp=Z,541nm,0.2s						
PEL	**Peldehue**	**2.22**	**214**		**Pn**	**11 05 08.8**	**+1.5**
PEL				Sn	**Sn**	**11 05 36.4**	**+0.9**
ROC1	**El Roble**	**2.27**	**222**		**Pn**	**11 05 08.7**	**+0.7**
MT05	**Renca**	**2.45**	**211**	Pn	**Pn**	**11 05 12.1**	**+1.9**
MT02	**Curacav**	**2.54**	**219**	Pn	**Pn**	**11 05 12.2**	**+0.8**
AC05	**El Transito**	**2.62**	**339**	Pn	**Pn**	**11 05 14.7**	**+2.2**
MRA	**San Martin**	**3.18**	**111**	*i*P	**Pn**	**11 05 21.6**	**+2.0**
MRA				IAML		11 06 30.5	
	comp=Z,118nm,0.5s						
AC04	**Llanos de Chal**	**3.48**	**332**	Pn	**Pn**	**11 05 24.0**	**+0.5**
BO02	**Sierra Bellavi**	**3.73**	**200**	Pn	**Pn**	**11 05 27.8**	**+1.1**
GO03	**Copiap**	**3.80**	**346**		**Pn**	**11 05 28.7**	**+1.0**
GO05	**Huala**	**4.35**	**211**		**Pn**	**11 05 33.7**	**-1.2**
AC01	**Pan de Azucar**	**5.27**	**346**	Pn	**Pn**	**11 05 47.4**	**0.0**
BI02	**San Fabin de**	**5.62**	**197**	Pn	**Pn**	**11 05 51.5**	**-0.4**
GO02	**Mina Guanaco**	**6.12**	**357**	Pn	**Pn**	**11 05 59.7**	**+0.6**
PB15	**IPOC Station P**	**8.06**	**358**	Pn	**Pn**	**11 06 24.5**	**-0.6**
LVC	**Limon Verde**	**8.66**	**2**	Pn	**Pn**	**11 06 32.6**	**-0.7**
PB09	**IPOC Station P**	**9.46**	**360**	Pn	**Pn**	**11 06 43.2**	**-0.7**
PB07	**IPOC Station P**	**9.55**	**356**	Pn	**Pn**	**11 06 43.3**	**-1.9**
PB08	**IPOC Station P**	**11.11**	**0**	Pn	**Pn**	**11 07 07.1**	**+0.9**
PB11	**IPOC Station P**	**11.50**	**358**	Pn	**Pn**	**11 07 10.8**	**-0.2**
GO01	**Chusmiza**	**11.58**	**0**	Pn	**Pn**	**11 07 10.7**	**-1.8**
PSGCX	**Pisagua**	**11.68**	**356**	Pn	**Pn**	**11 07 12.5**	**-1.0**
MNMC	**Minye Minye**	**12.12**	**358**	Pn	**Pn**	**11 07 17.5**	**-1.9**
LPAZ	**La Paz**	**14.98**	**4**	Pn	**Pn**	**11 07 54.9**	**-1.4**
QSPA	**South Pole Qui**	**58.93**	**180**	P	**P**	**11 14 16.5**	**+0.5**
QSPA				IAmb	IAmb	11 14 22.5	
	comp=Z,2.0nm,1.1s						

IDC 24 11:10:36.0±3.1, 29°81S×177°16W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/24, mbtmp3.4/2, Error ellipse: s-maj=75.0km s-min=31.1km az=51.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.86**	**310**	Pn	Pn	11 10 56.1	+0.7
	baz=94,slow=19,SNR=0.9						
RAO				Sn	Sn	11 11 08.4	-0.3
	474nm,0.3s,baz=198,slow=20,SNR=2.4						
ASAR	**Alice Springs**	**43.87**	**266**	P	P	11 18 44.3	-0.2
	0.3nm,0.5s,baz=106,slow=8.4,SNR=4.3						
WRA	**Warramunga Arr**	**44.81**	**271**	P	P	11 18 51.6	-0.3
	0.3nm,0.4s,baz=113,slow=6.1,SNR=5.0						
FINES	**FINESS Array B**	**144.83**	**341**	PKP	PKPbc	11 30 13.7	+0.4
	1.2nm,0.6s,baz=40,slow=2.4,SNR=4.7						

IDC 24 11:11:47.8±3.1, 10°67S×120°22E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.5/33, mbtmp3.5/4, ML3.3/2, Error ellipse: s-maj=186.4km s-min=29.4km az=52.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.43**	**126**	Pn	Pn	11 15 38.7	-1.3
	0.1nm,0.3s,baz=297,slow=13,SNR=2.2						
ASAR	**Alice Springs**	**18.36**	**137**	P	P	11 16 04.7	+0.5
	0.1nm,0.3s,baz=312,slow=12,SNR=8.9						
SONM	**Songino Array**	**59.52**	**349**	P	P	11 21 52.8	-0.2
	0.7nm,0.6s,baz=162,slow=8.1,SNR=2.2						
MKAR	**Makanchi Array**	**66.48**	**333**	P	P	11 22 39.3	+0.1
	0.4nm,0.7s,baz=136,slow=8.5,SNR=4.1						

*IDC **24** 11:16:04.6±2.5, 30°04S×177°33W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/35, mbtmp3.6/2, Error ellipse: s-maj=45.0km s-min=27.8km az=81.0*
*NEIC **24** 11:16:07.0±2.1, 30°12S±0°10×177°6W±0°3, h10km±1km, mb4.3/4, Error ellipse: s-maj=43.3km s-min=6.7km az=69.0*
ISC 24 11:16:10.0±1.6, 30°1S±0°1×177°4W±0°3, h35km, n12, σ0°88/14, mb4.0/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.90**	**332**	Pn	**Pn**	**11 16 26.0**	**-0.2**
	122nm,0.3s,baz=142,slow=20,SNR=3.1						
RAO				Sn	**Sn**	**11 16 38.6**	**+0.6**
	717nm,0.3s,baz=127,slow=20,SNR=18						
RAO	**Raoul Island**	**0.90**	**332**		**Pn**	**11 16 25.3**	**-0.9**
RAO					**Sn**	**11 16 39.1**	**+1.1**
ASAR	**Alice Springs**	**43.61**	**266**	P	**P**	**11 24 10.9**	**-0.3**
	0.4nm,0.7s,baz=104,slow=7.3,SNR=4.8						
ASAR	**Alice Springs**	**43.61**	**266**	P	**P**	**11 24 10.0**	**-1.2**
WR0	**Warramunga Arr**	**44.39**	**272**	P	**P**	**11 24 17.1**	**-0.4**
WR0				IAmb	IAmb	11 24 36.6	
	comp=Z,2.7nm,1.0s						
WB2	**Warramunga Arr**	**44.56**	**272**	P	**P**	**11 24 20.1**	**+1.2**
WB2				IAmb	IAmb	11 24 30.9	
	comp=Z,5.2nm,1.1s						
WRA	**Warramunga Arr**	**44.57**	**271**	P	**P**	**11 24 19.4**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=110,slow=8.2,SNR=8.6						
WRA	**Warramunga Arr**	**44.57**	**271**	P	**P**	**11 24 17.8**	**-1.1**
WB0	**Warramunga Arr**	**44.59**	**272**	P	**P**	**11 24 19.4**	**+0.3**
WB0				IAmb	IAmb	11 24 24.7	
	comp=Z,9.3nm,1.4s						
QSPA	**South Pole Qui**	**60.05**	**180**	P	**P**	**11 26 14.2**	**+0.9**
FINES	**FINESS Array B**	**144.99**	**340**	PKPbc	**PKPbc**	**11 35 41.5**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=22,slow=2.1,SNR=4.7						
FINES	**FINESS Array B**	**144.99**	**340**		**PKPab**	**11 35 42.0**	**-0.2**

KRSZO 24 11:18:49.2, 48°01N×19°63E, h0km, ML1.1, 2C, Explosion. locality : Nagyloc GT info : GT2 explosion, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSZ	**Piszkesteto**	**0.20**	**116**	⇑*e*Pg	Pg	11 18 53.6	+0.6
PSZ				⇑*e*Sg	Sg	11 18 56.6	+1.0
PSZ	**Piszkesteto**	**0.20**	**116**	Pg	Pg	11 18 53.6	+0.6
PSZ				*e*Pg	Pg	11 18 53.6	+0.6
PSZ				Lg	Lg	11 18 56.6	
PSZ				*e*Sg	Sg	11 18 56.6	+1.0
IZAB	**Izabela**	**0.57**	**6**	*e*Pg	Pg	11 18 59.9	-0.2
IZAB	**Izabela**	**0.57**	**6**	Pg	Pg	11 18 59.9	-0.2
IZAB				*e*Pg	Pg	11 18 59.9	-0.2
VYHS	**Vyhne**	**0.72**	**313**	*e*Pg	Pg	11 19 03.0	0.0
VYHS	**Vyhne**	**0.72**	**313**	Pg	Pg	11 19 03.0	0.0
VYHS				*e*Pg	Pg	11 19 03.0	0.0
VYHS	**Vyhne**	**0.72**	**313**	*e*PG	Pg	11 19 03.0	0.0
KECS	**Kecovo**	**0.75**	**50**	*e*Pg	Pg	11 19 03.4	-0.1
KECS	**Kecovo**	**0.75**	**50**	Pg	Pg	11 19 03.4	-0.1
KECS				*e*Pg	Pg	11 19 03.4	-0.1
KECS	**Kecovo**	**0.75**	**50**	*e*PG	Pg	11 19 03.4	-0.1

*IDC **24** 11:23:29.6±1.3, 32°40S×72°22W, h0km, mb3.9/2, mb1 3.8/7, mb1mx3.7/33, mbtmp3.7/7, ML3.9/5, MS3.1/1, Ms1 3.1/1, ms1mx2.8/27, Error ellipse: s-maj=37.5km s-min=21.5km az=112.0*
*SJA **24** 11:23:32.6±0.8, 32°54S×71°94W, h10km, ML3.5, MW3.7*
*NEIC **24** 11:23:33.5±2.1, 32°47S±0°03×71°89W±0°04, h24km±5km, Error ellipse: s-maj=5.5km s-min=3.9km az=110.0*
*GUC **24** 11:23:33.9±0.8, 32°47S×71°75W, h31km±6km, ML3.7*
ISC 24 11:23:31.6±1.4, 32°44S±0°02×71°79W±0°05, h11km±8km, n75, σ1°29/93, mb4.2/6, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.84**	**130**		**Pn**	**11 23 49.5**	**-0.1**
ROC1				Sn	**Sn**	**11 24 01.6**	**-0.6**
ROC1	**El Roble**	**0.84**	**130**	*i*P	**Pn**	**11 23 50.1**	**+0.4**
ROC1				*i*S	**Sn**	**11 24 02.9**	**+0.7**
ROCH	**El Roble**	**0.84**	**129**	*e*P	**Pn**	**11 23 50.1**	**+0.4**
ROCH				*i*S	**Sn**	**11 24 02.0**	**-0.2**
ROCH				IAML		11 24 06.4	
	comp=E,4μm,0.7s						
MT02	**Curacav**	**0.98**	**146**	⇓*i*P	**Pn**	**11 23 51.5**	**+0.1**
MT02				*i*S	**Sn**	**11 24 04.8**	**-0.5**
MT02				IAML		11 24 06.1	
	comp=E,1μm,0.4s						
MT02	**Curacav**	**0.98**	**146**		**Pn**	**11 23 51.5**	**+0.1**
MT02				Sn	**Sn**	**11 24 05.0**	**-0.3**
VA03	**San Esteban**	**1.09**	**108**	*e*P	**Pn**	**11 23 54.3**	**+1.4**
VA03				*i*S	**Sn**	**11 24 09.4**	**+1.3**
VA03				IAML		11 24 11.5	
	comp=E,4μm,0.2s						
VA03	**San Esteban**	**1.09**	**108**		**Pn**	**11 23 54.1**	**+1.1**
VA03				Sn	**Sn**	**11 24 09.0**	**+0.9**
PEL	**Peldehue**	**1.16**	**127**	*e*P	**Pg**	**11 23 55.1**	**+1.1**
PEL				*i*S	**Sn**	**11 24 10.9**	**+1.1**
PEL				IAML		11 24 13.6	
	comp=N,4μm,0.6s						
PEL	**Peldehue**	**1.16**	**127**		**Pg**	**11 23 55.3**	**+1.4**
PEL				Sn	**Sn**	**11 24 11.1**	**+1.3**
PEL	**Peldehue**	**1.16**	**127**	*i*P	**Pg**	**11 23 55.4**	**+1.4**
PEL				*i*S	**Sn**	**11 24 11.3**	**+1.5**
MT05	**Renca**	**1.29**	**137**	Pn	**Pg**	**11 23 57.1**	**+0.6**
MT05				Sn	**Sg**	**11 24 13.9**	**+0.6**
CO02	**Combarbal**	**1.40**	**29**	*e*P	**Pg**	**11 23 59.5**	**+0.9**
CO02				*i*S	**Sg**	**11 24 19.2**	**+2.4**
CO02				IAML		11 24 22.9	
	comp=N,4μm,0.3s						
CO02	**Combarbal**	**1.40**	**29**		**Pg**	**11 23 59.4**	**+0.9**
CO02				Sn	**Sg**	**11 24 16.5**	**-0.2**
CLCH	**Cerro Calan**	**1.42**	**133**	*e*P	**Pg**	**11 23 59.2**	**+0.3**
CLCH				*i*S	**Sg**	**11 24 18.1**	**+0.7**
CLCH				IAML		11 24 22.3	
	comp=N,2μm,0.2s						
MT03	**Universidad Ad**	**1.50**	**135**	*e*P	**Pg**	**11 24 00.4**	**0.0**
MT03				*i*S	**Sg**	**11 24 20.4**	**+0.5**
MT03				IAML		11 24 24.9	
	comp=E,4μm,0.5s						
CO03	**El Pedregal**	**1.85**	**31**	*i*S	**Sg**	**11 24 31.3**	**+0.2**
CO03				IAML		11 24 36.8	
	comp=E,1μm,0.5s						
CO03	**El Pedregal**	**1.85**	**31**	Pn	**Pb**	**11 24 06.1**	**+0.6**
AUSP	**Uspallata**	**2.04**	**85**	*i*P	**Pg**	**11 24 11.4**	**+0.6**
RTLS	**Leoncito**	**2.21**	**74**	*i*P	**Pg**	**11 24 14.3**	**+0.4**
RTLS				IAML		11 24 51.1	
	comp=Z,373nm,0.9s						
GO04	**Tololo Observa**	**2.41**	**21**	⇑*i*P	**Pn**	**11 24 13.2**	**+1.9**
GO04				*i*S	**Sg**	**11 24 48.8**	**-0.3**
GO04	**Tololo Observa**	**2.41**	**21**		**Pn**	**11 24 13.2**	**+1.9**
GO04	**Tololo Observa**	**2.41**	**21**	*i*P	**Pn**	**11 24 13.3**	**+2.1**
GO04				*e*S	**Sg**	**11 24 48.8**	**-0.3**
ARCO	**CERRO ARCO**	**2.44**	**100**	*i*P

comp=Z,0.1nm,0.3s,baz=231,slow=16,SNR=1.2
LPAZ La Paz 16.42 13 Pn Pn 11 27 23.9 +1.2
comp=Z,0.2nm,0.3s,baz=195,slow=8.3,SNR=7.2
LPAZ La Paz 16.42 13 Pn Pn 11 27 21.9 -0.8
SIV San Ignacio 19.05 33 P P 11 27 54.5 +0.6
comp=Z,0.5nm,0.3s,baz=232,slow=12,SNR=4.3
SNAA Sanae 52.95 158 P P 11 32 48.7 +1.0
SNAA IAmb IAmb 11 32 58.9
comp=Z,3.8nm,1.4s
QSPA South Pole Qui 57.79 180 P P 11 33 23.1 +0.4
comp=Z,0.7nm,0.9s,baz=157,slow=2.0,SNR=5.6
QSPA South Pole Qui 57.79 180 P P 11 33 23.6 +0.9
QSPA IAmb IAmb 11 33 38.2
comp=Z,2.7nm,1.1s
PV13 Radium Mtn., P 78.25 331 P P 11 35 31.8 +0.2
PV13 IAmb IAmb 11 35 46.9
comp=Z,2.3nm,1.1s
PV03 Paradox Valley 78.34 331 P P 11 35 31.6 -0.5
PV03 IAmb IAmb 11 35 38.1
comp=Z,2.3nm,0.6s
PV17 East Wray Mesa 78.41 331 P P 11 35 34.0 +1.6
PV17 IAmb IAmb 11 35 39.1
comp=Z,7.2nm,1.3s
PV23 Carpenter Ridg 78.58 331 P P 11 35 32.9 -0.5
TORD Torodi Ar. Bea 83.48 70 P P 11 36 00.1 +0.3
comp=Z,1.2nm,0.7s,baz=264,slow=4.2,SNR=5.6
TORD Torodi Ar. Bea 83.48 70 P P 11 36 00.3 +0.5
H11S2 WAKE ISLAND Hyl 25.99 270 T T 14 01 32.4
baz=118,slow=75
H11S1 WAKE ISLAND Hyl 26.00 270 T T 14 01 32.5
baz=118,slow=75
H11S3 WAKE ISLAND Hyl 26.01 270 T T 14 01 34.5
baz=118,slow=75
KURBB Kurchatov Arra 151.58 42 PKPbc PKPbc 11 43 25.9 +0.4
comp=Z,0.6nm,0.4s,baz=303,slow=3.2,SNR=7.3
KURK Kurchatov 151.58 41 PKPbc PKPbc 11 43 25.8 +0.3
ZALV Zalesovo Beam 152.79 31 PKPbc PKPbc 11 43 28.6 +0.5
comp=Z,1.1nm,0.4s,baz=298,slow=3.1,SNR=2.1
ZALV Zalesovo Beam 152.79 31 PKPbc PKPbc 11 43 27.0 -1.1
ZALV PKPab PKPab **11 43 36.6 -2.4**
MKAR Makanchi Array 155.56 47 PKPab PKPab 11 43 51.4 +0.2
comp=Z,0.3nm,0.6s,baz=289,slow=4.4,SNR=3.0
MKAR Makanchi Array 155.56 47 PKPab 11 43 51.7 +0.6

*NEIC **24** 11:29:54.9±1.8,29.89S±0.07×177.4W±0.1,h10km±1km, mb5.1/126,Error ellipse: s-maj=15.7km s-min=11.8km az=114.0*
*IDC **24** 11:29:54.0±0.4,29.80S×177.23W,h0km,mb4.5/20, mb1 4.7/22,mb1mx4.6/40,mbtmp4.6/22,ML4.0/2,MS4.4/17, Ms1 4.4/17,ms1mx4.3/22,Error ellipse: s-maj=15.1km s-min=12.8km az=47.0*
*MOS **24** 11:29:56.7±1.4,29.87S×177.33W,h25km,mb5.3/33, Error ellipse: s-maj=10.7km s-min=9.7km az=86.5*

ISC 24 11:29:58.8±0.3,29.91S±0.05×177.36W±0.07,h35km, n388,σ1§38/351,mb5.1/88,MS4.4/24,18C-7D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.81**	**324**	Pn	**Pn**	**11 30 13.0**	**-0.8**
	2μm,0.3s,baz=102,slow=2.6,SNR=50						
RAO				Sn	**Sn**	**11 30 25.6**	**+0.9**
	12μm,0.3s,baz=75,slow=20,SNR=21						
RAO				LR	LR	11 30 38.5	
	comp=Z,23μm,20.1s,baz=107,slow=55						
RAO	**Raoul Island**	**0.81**	**324**	P	**Pn**	**11 30 13.1**	**-0.8**
RAO	**Raoul Island**	**0.81**	**324**		**Pn**	**11 30 13.1**	**-0.8**
MXZ	**Matakaoa Point**	**8.44**	**204**	Pn	**Pn**	**11 31 57.9**	**-0.7**
WMGZ	**Waiomatatini S**	**8.63**	**203**	P	**Pn**	**11 31 58.9**	**-2.3**
HAZ	**Te Kaha**	**8.80**	**206**	P	**Pn**	**11 32 00.3**	**-3.3**
PKGZ	**Pakihiroa**	**8.81**	**204**	P	**Pn**	**11 31 59.5**	**-4.2**
PUZ	**Puketiti**	**8.91**	**203**	P	**Pn**	**11 32 01.1**	**-4.0**
RUGZ	**Raukumara Rang**	**9.03**	**206**	P	**Pn**	**11 32 04.0**	**-2.8**
OUZ	**Omahuta**	**9.28**	**233**	Pn	**Pn**	**11 32 08.2**	**-1.9**
CNGZ	**Carnagh Statio**	**9.30**	**202**	P	**Pn**	**11 32 07.0**	**-3.4**
MWZ	**Matawai**	**9.41**	**205**	P	**Pn**	**11 32 08.7**	**-3.1**
URZ	**Urewera**	**9.50**	**207**	P	**Pn**	**11 32 09.7**	**-3.4**
RIGZ	**Rimuhau**	**9.65**	**203**	P	Pn	11 32 10.2	-5.0
SNGZ	**Shannon Statio**	**9.87**	**205**	P	**Pn**	**11 32 16.6**	**-1.6**
RAHZ	**Arahi**	**10.08**	**206**	P	**Pn**	**11 32 19.8**	**-1.3**
MTHZ	**Maungataniwha**	**10.12**	**207**	P	**Pn**	**11 32 19.8**	**-1.9**
BKZ	**Black Stump Fm**	**10.53**	**207**	Pn	**Pn**	**11 32 22.9**	**-4.4**
HIZ	**Hauiti**	**10.72**	**215**	P	Pn	11 32 36.7	+6.9
HIZ	**Hauiti**	**10.72**	**215**	Pn	**Pn**	**11 32 29.1**	**-0.8**
BHHZ	**Black Hill Sta**	**10.98**	**208**	P	**Pn**	**11 32 33.8**	**+0.5**
KRHZ	**Kereru**	**10.99**	**206**	P	**Pn**	**11 32 34.9**	**+1.4**
BFZ	**Birch Farm**	**11.94**	**204**	Pn	Pn	11 32 41.0	-5.5
NIUE	**Niue**	**12.73**	**34**	Pn	**Pn**	**11 32 56.0**	**-1.4**
MSWZ	**Moikau Station**	**12.95**	**206**	Pn	**Pn**	**11 32 58.6**	**-1.7**
SNZO	**South Karori**	**13.07**	**207**	Pn	**Pn**	**11 33 00.9**	**-0.9**
PLWZ	**Palliser**	**13.08**	**205**	Pn	**Pn**	**11 33 00.8**	**-1.3**
BHW	**Baring Head**	**13.09**	**207**	Pn	**Pn**	**11 33 00.3**	**-1.8**
TUWZ	**Tuamarina**	**13.48**	**209**	P	**P**	**11 33 12.7**	**-3.6**
TUWZ	**Tuamarina**	**13.48**	**209**	Pn	**Pn**	**11 33 08.1**	**-1.4**
NNZ	**Nelson**	**13.55**	**211**	Pn	**Pn**	**11 33 06.6**	**-1.9**
QRZ	**Quartz Range**	**13.65**	**214**	Pn	**Pn**	**11 33 08.1**	**-1.7**
BSWZ	**Blackbirch Sta**	**13.75**	**209**	Pn	**Pn**	**11 33 10.4**	**-0.7**
THZ	**Tophouse**	**14.20**	**211**	Pn	**Pn**	**11 33 15.7**	**-1.8**
KHZ	**Kahutara**	**14.47**	**208**	Pn	**Pn**	**11 33 18.6**	**-2.4**
DSZ	**Denniston Nort**	**14.70**	**214**	P	**P**	**11 33 28.7**	**-1.2**
LTZ	**Lake Taylor**	**15.30**	**210**	Pn	**Pn**	**11 33 29.9**	**-2.3**
OXZ	**Oxford**	**15.84**	**209**	P	**Pn**	**11 33 38.9**	**-0.3**
OXZ	**Oxford**	**15.84**	**209**	Pn	**Pn**	**11 33 35.3**	**-3.8**
MQZ	**McQueen's Vall**	**15.90**	**207**	Pn	**Pn**	**11 33 34.0**	**-5.8**
DZM	**Mont Dzumac**	**16.51**	**294**	Pn	**P**	**11 33 50.6**	**+0.4**
	0.3nm,0.3s,baz=123,slow=9.4,SNR=9.4						
DZM				LR	LR	11 38 55.1	
	comp=Z,3μm,18.6s,baz=116,slow=33						
RPZ	**Rata Peaks**	**16.58**	**211**	Pn	**Pn**	**11 33 48.1**	**-0.4**
	2.6nm,0.3s,baz=66,slow=14,SNR=5.1						
RPZ	**Rata Peaks**	**16.58**	**211**	Pn	**Pn**	**11 33 47.6**	**-1.0**
AFI	**Afiamalu**	**16.74**	**19**	P	**Pn**	**11 33 47.9**	**-2.9**
AFI				pmax	pmax		
	comp=Z,43nm,0.9s						
AFI	**Afiamalu**	**16.74**	**19**	Pn	**Pn**	**11 33 47.9**	**-2.9**
FOZ	**Fox Glacier**	**17.01**	**213**	Pn	**Pn**	**11 33 52.8**	**-1.2**
LBZ	**Lake Benmore**	**17.50**	**211**		**Pn**	**11 33 59.1**	**-0.9**
ODZ	**Otahua Downs**	**17.82**	**209**	Pn	**Pn**	**11 34 01.9**	**-2.0**
RAR	**Rarotonga**	**18.06**	**65**	P	**Pn**	**11 34 03.1**	**-4.0**
	comp=Z,1.2nm,0.3s,baz=255,slow=12,SNR=1.7						
RAR	**Rarotonga**	**18.06**	**65**	P	**Pn**	**11 34 05.1**	**-2.0**
RAR				pmax	pmax		
	comp=Z,93nm,1.4s						
RAR	**Rarotonga**	**18.06**	**65**	P	**Pn**	**11 34 05.1**	**-2.0**
WKZ	**Wanaka**	**18.37**	**212**	P	**P**	**11 34 08.2**	**-2.2**
MLZ	**Mavora Lakes**	**19.19**	**213**	P	**P**	**11 34 19.1**	**-0.4**
WHZ	**Wether Hill Ro**	**19.67**	**212**	P	**P**	**11 34 22.5**	**-2.2**
TBI	**Tubuai**	**25.75**	**82**	*e*LQ	LQ	11 40 34.0	
	comp=Z,722nm,28.4s						
TBI				*e*LR	LR	11 41 39.0	
	comp=Z,3μm,28.8s,baz=248						
TBI	**Tubuai**	**25.75**	**82**	*e*T	T	12 02 35.8	
	comp=Z,9.1nm,0.3s						
ARMA	**Armidale**	**26.77**	**261**	P	**P**	**11 35 33.3**	**-2.4**
PAE	**Paea**	**28.12**	**71**	*e*T	T	12 05 20.3	
	comp=Z,3.1nm,0.2s						
PPT2	**Papeete2**	**28.16**	**70**	*e*LQ	LQ	11 41 29.0	
	comp=Z,802nm,24.2s						
PPT2				*e*LR	LR	11 42 40.7	
	comp=Z,3μm,28.2s,baz=236						
PPT	**Papeete**	**28.17**	**70**	LR	LR	11 43 48.5	
	comp=Z,513nm,19.9s,baz=243,slow=30						
EIDS	**Eidsvold**	**28.27**	**272**	P	**P**	**11 35 47.5**	**-1.4**
CAN	**Canberra**	**28.75**	**250**	P	**P**	**11 35 51.9**	**-1.3**
CAN				pmax	pmax		
	comp=Z,52nm,1.4s						
CAN	**Canberra**	**28.75**	**250**	P	**P**	**11 35 51.9**	**-1.3**
CAN				IAmb	IAmb	11 36 04.2	
	comp=Z,52nm,1.4s						
HNR	**Honiara**	**29.41**	**309**	LR	LR	11 46 40.5	
	comp=Z,574nm,18.6s,baz=154,slow=34						
TOO	**Toolangi**	**31.66**	**246**	P	**P**	**11 36 16.7**	**-2.2**
TOO				pmax	pmax		
	comp=Z,58nm,1.4s						
TOO	**Toolangi**	**31.66**	**246**	P	**P**	**11 36 16.7**	**-2.2**
TOO				IAmb	IAmb	11 36 25.5	
	comp=Z,58nm,1.4s						
CTA	**Charters Tower**	**34.27**	**278**	P	**P**	**11 36 44.6**	**+2.8**
	comp=Z,12nm,0.5s,baz=98,slow=13,SNR=7.2						
CTA				LR	LR	11 49 16.3	
	comp=Z,1μm,19.1s,baz=66,slow=34						
CTAO	**Charters Tower**	**34.27**	**278**	P	**P**	**11 36 43.2**	**+1.4**
CTAO				pmax	pmax		
	comp=Z,24nm,1.1s						
CTAO	**Charters Tower**	**34.27**	**278**	P	**P**	**11 36 43.2**	**+1.4**
CTAO				IAmb	IAmb	11 36 45.9	
	comp=Z,24nm,1.1s						
STKA	**Stephens Creek**	**35.13**	**256**	P	**P**	**11 36 51.4**	**+2.3**
	comp=Z,7.6nm,0.5s,baz=101,slow=12,SNR=12						
STKA				LR	LR	11 50 22.6	
	comp=Z,820nm,18.5s,baz=92,slow=35						
STKA	**Stephens Creek**	**35.13**	**256**	P	**P**	**11 36 48.6**	**-0.5**
STKA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
STKA	**Stephens Creek**	**35.13**	**256**	P	**P**	**11 36 48.6**	**-0.5**
RKT	**Rikitea**	**38.37**	**90**	*e*LR	LR	11 47 22.3	
	comp=Z,2μm,29.8s						
BBOO	**Buckleboo**	**39.63**	**254**	P	**P**	**11 37 27.1**	**-0.1**
BBOO				IAmb	IAmb	11 37 28.3	
	comp=Z,86nm,1.5s						
TAOE	**Nuku Hiva Isla**	**40.61**	**67**	*e*LR	LR	11 48 23.9	
	comp=Z,1μm,27.8s,baz=242						
AS31	**Alice Springs**	**43.69**	**266**	P	**P**	**11 37 59.0**	**-1.6**
ASAR	**Alice Springs**	**43.69**	**266**	P	**P**	**11 38 00.8**	**+0.1**
	comp=Z,4.2nm,0.5s,baz=105,slow=7.3,SNR=82						
ASAR				PcP	**PcP**	**11 39 49.2**	**+1.8**
	comp=Z,1.8nm,0.6s,baz=122,slow=3.5,SNR=4.4						
ASAR				LR	LR	11 55 53.9	
	comp=Z,1μm,18.1s,baz=104,slow=36						
ASAR	**Alice Springs**	**43.69**	**266**	P	**P**	**11 37 59.6**	**-1.0**
ASAR	**Alice Springs**	**43.69**	**266**	P	**P**	**11 37 59.6**	**-1.0**
WR0	**Warramunga Arr**	**44.45**	**271**	P	**P**	**11 38 07.3**	**+0.6**
WR0				IAmb	IAmb	11 38 13.1	
	comp=Z,26nm,1.3s						
WB2	**Warramunga Arr**	**44.62**	**271**	P	**P**	**11 38 08.0**	**-0.1**
WB2				IAmb	IAmb	11 38 12.5	
	comp=Z,19nm,0.9s						
WRAB	**Tennant Creek**	**44.63**	**271**	P	**P**	**11 38 07.0**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,13nm,0.9s						
WRAB	**Tennant Creek**	**44.63**	**271**	P	**P**	**11 38 07.0**	**-1.1**
WRA	**Warramunga Arr**	**44.63**	**271**	P	**P**	**11 38 08.2**	**0.0**
	comp=Z,8.2nm,0.5s,baz=110,slow=8.1,SNR=38						
WRA				LR	LR	11 55 34.6	
	comp=Z,735nm,18.1s,baz=100,slow=34						
WRA	**Warramunga Arr**	**44.63**	**271**	P	**P**	**11 38 08.2**	**0.0**
WB0	**Warramunga Arr**	**44.65**	**272**	P	**P**	**11 38 08.7**	**+0.3**
WB0				IAmb	IAmb	11 38 12.7	
	comp=Z,19nm,0.9s						
JAY	**Jayapura**	**48.17**	**296**	LR	LR	11 56 27.9	
	comp=Z,344nm,21.6s,baz=118,slow=33						
VNDA	**Vanda**	**48.64**	**186**	P	**P**	**11 38 40.5**	**+1.8**
	comp=Z,1.7nm,0.7s,baz=20,slow=5.9,SNR=14						
VNDA				LR	LR	11 55 07.8	
	comp=Z,136nm,21.6s,baz=24,slow=31						
VNDA	**Vanda**	**48.64**	**186**	P	**P**	**11 38 40.5**	**+1.8**
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.2s						
VNDA	**Vanda**	**48.64**	**186**	P	**P**	**11 38 40.5**	**+1.8**
FITZ	**Fitzroy Crossi**	**52.91**	**269**	P	**P**	**11 39 10.9**	**-0.9**
NWAO	**Narrogin (SRO)**	**55.09**	**249**	LR	LR	11 59 12.0	
	comp=Z,344nm,19.2s,baz=111,slow=32						
CASY	**Casey**	**55.83**	**208**	P	**P**	**11 39 32.0**	**-0.3**
CASY				IAmb	IAmb	11 39 34.6	
	comp=Z,25nm,0.8s						
MORW	**Morawa**	**57.20**	**253**	P	**P**	**11 39 42.6**	**0.0**
MORW				IAmb	IAmb	11 39 50.3	
	comp=Z,25nm,1.4s						
QSPA	**South Pole Qui**	**60.20**	**180**	P	**P**	**11 40 04.7**	**+1.7**
	comp=Z,10nm,0.7s,baz=53,slow=1.1,SNR=84						
QSPA	**South Pole Qui**	**60.20**	**180**	P	**P**	**11 40 05.2**	**+2.1**
GIRL	**Giralia**	**60.98**	**259**	P	**P**	**11 40 08.3**	**-0.5**
MAW	**Mawson**	**72.96**	**200**	P	**P**	**11 41 25.5**	**+1.3**
	comp=Z,5.4nm,0.8s,baz=127,slow=7.6,SNR=6.1						
MAW				LR	LR	12 12 21.4	
	comp=Z,198nm,18.9s,baz=172,slow=35						
MAW	**Mawson**	**72.96**	**200**	P	**P**	**11 41 24.7**	**+0.5**
MAW				pmax	pmax		
	comp=Z,5.0nm,1.5s						
MAW	**Mawson**	**72.96**	**200**	P	**P**	**11 41 24.7**	**+0.5**
KSM	**Kuching**	**75.47**	**280**	P	**P**	**11 41 39.1**	**-0.7**
KSM				IAmb	IAmb	11 41 41.3	
	comp=Z,15nm,1.2s						
SYO	**Syowa Base**	**77.71**	**193**	⇑*e*P	**P**	**11 41 51.4**	**-0.1**
SYO	**Syowa Base**	**77.71**	**193**	*e*pP	**P**	**11 41 55.0**	**+3.5**
SYO	**Syowa Base**	**77.71**	**193**	⇓*e*sP	P	11 41 56.4	+4.9
MJAR	**Matsushiro Arr**	**78.16**	**325**	P	**P**	**11 41 53.8**	**-0.6**
	comp=Z,2.8nm,0.8s,baz=163,slow=5.3,SNR=9.0						
MJAR	**Matsushiro Arr**	**78.16**	**325**	P	**P**	**11 41 53.6**	**-0.8**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MJAR	**Matsushiro Arr**	**78.16**	**325**	P	**P**	**11 41 53.6**	**-0.8**
MAJO	**Matsushiro**	**78.16**	**325**	*d*iP	**P**	**11 41 55.6**	**+1.2**
MAJO				pmax	pmax		
	comp=Z,21nm,2.0s						
MAJO	**Matsushiro**	**78.16**	**325**	P	**P**	**11 41 53.8**	**-0.7**
MAT	**Matsushiro**	**78.16**	**325**	P	**P**	**11 41 53.4**	**-1.0**
MJB9	**Matsu-Tunnel**	**78.16**	**325**	P	**P**	**11 41 53.6**	**-0.8**
SNAA	**Sanae**	**78.63**	**178**	P	**P**	**11 41 57.8**	**+1.1**
SNAA	**Sanae**	**78.63**	**178**	P	**P**	**11 41 58.0**	**+1.3**
SNAA				pmax	pmax		
	comp=Z,12nm,0.9s						
SNAA	**Sanae**	**78.63**	**178**	P	**P**	**11 41 58.0**	**+1.3**
SNAA				IAmb	IAmb	11 42 07.4	
	comp=Z,12nm,0.9s						
VNA3	**Neumayer Olymp**	**78.75**	**176**	P	**P**	**11 41 58.1**	**+0.8**
VNA2	**Neumayer--Watz**	**79.19**	**177**	P	**P**	**11 42 00.5**	**+0.7**
	baz=156,slow=4.2						
VNA1	**Neumayer--Stat**	**79.42**	**176**	P	**P**	**11 42 02.2**	**+1.2**
H03S2	**Juan Fernandez**	**80.27**	**123**	T	T	13 10 16.8	
	baz=239,slow=74						
H03S1	**Juan Fernandez**	**80.29**	**123**	T	T	13 10 18.4	
	baz=239,slow=74						
H03S3	**Juan Fernandez**	**80.29**	**123**	T	T	13 10 16.7	
	baz=239,slow=74						
H03N3	**Juan Fernandez**	**80.46**	**123**	T	T	13 10 24.1	
	baz=238,slow=74						
H03N2	**Juan Fernandez**	**80.46**	**123**	T	T	13 10 28.9	
	baz=238,slow=74						
H03N1	**Juan Fernandez**	**80.48**	**123**	T	T	13 10 27.0	
	baz=238						
JKA	**Kamikawa-asahi**	**82.26**	**332**	P	**P**	**11 42 17.8**	**+1.5**
JKA	**Kamikawa-asahi**	**82.26**	**332**	IAmb	IAmb	11 42 22.2	
	comp=Z,14nm,1.0s						
ASAJ	**Asahikawa**	**82.26**	**332**	P	**P**	**11 42 17.8**	**+1.5**
	comp=Z,8.3nm,0.9s,baz=230,slow=7.9						
ASAJ	**Asahikawa**	**82.26**	**332**	P	**P**	**11 42 17.8**	**+1.5**
ASAJ				pmax	pmax		
	comp=Z,14nm,1.0s						
PLCA	**Paso Flores**	**82.44**	**133**	P	**P**	**11 42 18.8**	**+1.1**
	comp=Z,2.0nm,0.8s,baz=243,slow=4.8,SNR=4.6						
PLCA				LR	LR	12 13 04.1	
	comp=Z,70nm,18.4s,baz=260,slow=31						
PLCA	**Paso Flores**	**82.44**	**133**	P	**P**	**11 42 18.8**	**+1.1**
PLCA				pmax	pmax		
	comp=Z,22nm,1.4s						
PLCA	**Paso Flores**	**82.44**	**133**	IAmb	IAmb	11 42 28.9	
	comp=Z,22nm,1.4s						
LC01	**Cunco**	**82.57**	**131**	P	**P**	**11 42 21.5**	**+3.2**
LC01				IAmb	IAmb	11 42 29.0	
	comp=Z,21nm,1.2s						
TJN	**Taejon**	**83.90**	**318**	‖*e*P	**P**	**11 42 25.0**	**0.0**
KSRS	**Korea Array**	**84.33**	**319**	P	**P**	**11 42 27.4**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=140,slow=5.9,SNR=8.5						
YSS	**Yuzh-Sakhalins**	**84.55**	**334**	⇑*e*P	**P**	**11 42 29.8**	**+1.8**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**84.55**	**334**	P	**P**	**11 42 27.5**	**-0.5**
HOPS	**Hopland Field**	**85.18**	**39**	P	**P**	**11 42 32.5**	**+1.1**
QIZ	**Qiongzhong**	**85.28**	**295**	P	**P**	**11 42 30.8**	**-1.6**
QIZ	**Qiongzhong**	**85.28**	**295**	S	**S**	**11 53 01.9**	**+1.2**
QIZ				pmax	pmax		
	comp=Z,180nm,8.2s						
QIZ				LR	LR		
	comp=N,180nm,12.8s						
QIZ				LR	LR		
	comp=E,130nm,11.3s						
PFO	**Pinyon Flats O**	**85.47**	**47**	P	**P**	**11 42 33.1**	**-0.1**
	comp=E,4.6nm,0.9s,baz=235,slow=6.3,SNR=6.5						
PFO	**Pinyon Flats O**	**85.47**	**47**	*ce*P	**P**	**11 42 34.6**	**+1.4**
PFO				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PFO	**Pinyon Flats O**	**85.47**	**47**	P	**P**	**11 42 31.8**	**-1.4**
PFO				IAmb	IAmb	11 42 44.9	
	comp=Z,18nm,1.2s						
XPFO	**Pion Flat**	**85.47**	**47**	P	**P**	**11 42 31.8**	**-1.4**
XPFO				IAmb	IAmb	11 42 44.9	
	comp=Z,18nm,1.2s						
PEA0B	**Petropavlovsk-**	**85.48**	**345**	P	**P**	**11 42 32.6**	**+0.1**
PEA0B				pmax	pmax		
	comp=Z,69nm,1.5s						
PEA0B	**Petropavlovsk-**	**85.48**	**345**	P	**P**	**11 42 32.6**	**+0.1**
PETK	**Petropavlovsk-**	**85.48**	**345**	P	**P**	**11 42 32.7**	**+0.2**
	comp=Z,6.8nm,0.8s,baz=118,slow=7.8,SNR=17						
PETK	**Petropavlovsk-**	**85.48**	**345**	P	**P**	**11 42 33.2**	**+0.7**
PETK	**Petropavlovsk-**	**85.48**	**345**	P	**P**	**11 42 33.2**	**+0.7**
ISA	**Isabella, Lake**	**85.56**	**44**	P	**P**	**11 42 34.2**	**+0.7**
ISA				pmax	pmax		
	comp=Z,25nm,1.4s						
ISA	**Isabella, Lake**	**85.56**	**44**	P	**P**	**11 42 34.2**	**+0.7**
ISA				IAmb	IAmb	11 42 45.4	
	comp=Z,25nm,1.4s						
JCC	**Jacoby Creek,**	**85.96**	**38**	P	**P**	**11 42 32.5**	**-2.7**
CMB	**Columbia Colle**	**86.03**	**42**	P	**P**	**11 42 35.6**	**-0.1**
CMB				pmax	pmax		
	comp=Z,17nm,1.1s						
CMB	**Columbia Colle**	**86.03**	**42**	P	**P**	**11 42 35.6**	**-0.1**
CMB				IAmb	IAmb	11 42 47.2	
	comp=Z,16nm,1.1s						
AFDM	**Forest Hills D**	**86.32**	**41**	P	**P**	**11 42 37.4**	**+0.3**
AFDM				IAmb	IAmb	11 42 48.6	
	comp=Z,23nm,1.3s						
NJ2	**Nanjing**	**86.35**	**310**	*e*P	**P**	**11 42 37.8**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
GSC	**Goldstone, Bar**	**86.35**	**46**	P	**P**	**11 42 37.8**	**+0.3**
GSC				pmax	pmax		
	comp=Z,20nm,1.2s						
GSC	**Goldstone, Bar**	**86.35**	**46**	P	**P**	**11 42 37.8**	**+0.3**
GSC				IAmb	IAmb	11 42 49.2	
	comp=Z,20nm,1.2s						
ORV	**Oroville**	**86.45**	**40**	P	**P**	**11 42 37.9**	**+0.2**
ORV				pmax	pmax		
	comp=Z,15nm,1.3s						
ORV	**Oroville**	**86.45**	**40**	P	**P**	**11 42 37.9**	**+0.2**
ORV				IAmb	IAmb	11 42 42.8	
	comp=Z,15nm,1.2s						
MDPB	**Devils Postpil**	**86.52**	**43**	P	**P**	**11 42 39.4**	**+0.9**
MDPB				IAmb	IAmb	11 42 50.2	
	comp=Z,13nm,1.3s						
OMMB	**Old Mammoth Mi**	**86.55**	**43**	P	**P**	**11 42 36.4**	**-2.3**
OMMB				IAmb	IAmb	11 42 43.9	
	comp=Z,14nm,1.4s						
WDC	**Whiskeytown Da**	**86.59**	**39**	P	**P**	**11 42 39.0**	**+0.7**
WDC				pmax	pmax		
	comp=Z,26nm,1.2s						
WDC	**Whiskeytown Da**	**86.59**	**39**	P	**P**	**11 42 39.0**	**+0.7**
113A	**Mohawk Valley,**	**86.67**	**49**	P	**P**	**11 42 41.0**	**+2.1**
113A				IAmb	IAmb	11 42 50.9	
	comp=Z,15nm,1.4s						
WAKR	**Walker**	**86.90**	**42**	P	**P**	**11 42 42.4**	**+2.2**
USA0B	**Ussuriysk Arra**	**87.06**	**326**	P	**P**	**11 42 41.8**	**+1.3**
USA0B				pmax	pmax		
	comp=Z,18nm,1.2s						
USA0B	**Ussuriysk Arra**	**87.06**	**326**	P	**P**	**11 42 41.8**	**+1.3**
USA0B				IAmb	IAmb	11 42 43.7	
	comp=Z,18nm,1.1s						
USRK	**Ussuriysk Ar.**	**87.06**	**326**	P	**P**	**11 42 42.2**	**+1.7**
	comp=Z,4.3nm,0.8s,baz=122,slow=2.5,SNR=15						
USRK	**Ussuriysk Ar.**	**87.06**	**326**	P	**P**	**11 42 42.5**	**+2.0**
USRK	**Ussuriysk Ar.**	**87.06**	**326**	P	**P**	**11 42 42.5**	**+2.0**
PNTR	**Pine Nut**	**87.20**	**41**	P	**P**	**11 42 42.0**	**+0.3**
YBH	**Yreka Blue Hor**	**87.31**	**38**	P	**P**	**11 42 43.2**	**+1.2**
	comp=Z,1.9nm,0.9s,baz=170,slow=6.9,SNR=6.7						
YBH	**Yreka Blue Hor**	**87.31**	**38**	IAmb	IAmb	11 42 53.9	
	comp=Z,11nm,1.2s						
VCNR	**Virginia City**	**87.31**	**41**	IAmb	IAmb	11 42 53.8	
	comp=Z,18nm,1.3s						
YERR	**Yerington**	**87.34**	**41**	IAmb	IAmb	11 42 53.8	
	comp=Z,22nm,1.2s						
NVAR	**Mina Array Bea**	**87.51**	**42**	P	**P**	**11 42 44.5**	**+1.3**
	comp=Z,4.0nm,0.9s,baz=222,slow=7.4,SNR=20						
NVAR				LR	LR	12 16 11.8	
	comp=Z,196nm,19.0s,baz=236,slow=32						
NVAR	**Mina Array Bea**	**87.51**	**42**	P	**P**	**11 42 44.0**	**+0.9**
RYN	**Ryan**	**87.51**	**42**	P	**P**	**11 42 42.8**	**-0.3**
RYN				IAmb	IAmb	11 42 54.7	
	comp=Z,27nm,1.5s						
NV11	**Mina Array Sit**	**87.60**	**42**	P	**P**	**11 42 43.8**	**+0.3**
NV11				IAmb	IAmb	11 42 55.0	
	comp=Z,20nm,1.2s						
PAHR	**Pah Rah Range**	**87.74**	**41**	P	**P**	**11 42 43.0**	**-1.2**

comp=Z,111nm,19.6s,baz=0.0,slow=30
TXAR Lajitas Array 91.66 57 P **P** 11 43 01.1 -1.6
TXAR Lajitas Array 91.66 57 P **P** 11 43 01.1 -1.6
E07A Sunnyside 92.14 36 P **P** 11 43 04.4 +0.1
HAWA Hanford 92.19 36 P **P** 11 43 04.9 +0.4
MFID Camas Ranch 92.19 40 IAmb IAmb 11 43 16.3
comp=Z,16nm,1.1s
BMO Blue Mountains 92.32 38 IAmb IAmb 11 43 15.8
comp=Z,7.9nm,1.4s
ANMO Albuquerque 92.84 51 P **P** 11 43 08.1 -0.1
ANMO pmax pmax
comp=Z,10.0nm,1.3s
ANMO Albuquerque 92.84 51 P **P** 11 43 08.1 -0.1
ANMO IAmb IAmb 11 43 19.7
comp=Z,10nm,1.2s
D08A Wollman Farm, 92.94 36 P **P** 11 43 08.4 +0.4
HLID Hailey 93.08 40 P **P** 11 43 09.5 +0.5
HLID IAmb IAmb 11 43 20.7
comp=Z,7.7nm,1.1s
F10A Beach Ranch, E 93.10 37 P **P** 11 43 09.6 +0.6
F10A IAmb IAmb 11 43 19.7
comp=Z,9.9nm,1.1s
PV03 Paradox Valley 93.19 47 IAmb IAmb 11 43 20.8
comp=Z,9.2nm,1.4s
PV12 Saucer Basin, 93.25 47 IAmb IAmb 11 43 21.3
comp=Z,17nm,1.3s
PV01 Paradox Valley 93.29 47 IAmb IAmb 11 43 21.2
comp=Z,6.2nm,1.0s
CMAR Chiang Mai Arr 93.76 289 P **P** 11 43 10.7 -1.8
comp=Z,1.4nm,0.8s,baz=111,slow=5.0,SNR=5.2
CMAR Chiang Mai Arr 93.76 289 *i* P **P** 11 43 13.1 +0.6
CMAR pmax pmax
comp=Z,1.0nm,0.9s
CMAR Chiang Mai Arr 93.76 289 P **P** 11 43 10.1 -2.4
AHID Auburn Hatcher 94.49 43 P **P** 11 43 14.8 -0.8
REDW Red Top Meadow 95.00 42 P **P** 11 43 18.6 +0.7
TPAW Teton Pass 95.01 42 P **P** 11 43 16.9 -1.1
FXWY Fox Creek 95.06 42 P **P** 11 43 18.1 -0.1
FXWY IAmb IAmb 11 43 29.8
comp=Z,12nm,1.3s
DLMT Dillon 95.22 40 P **P** 11 43 17.5 -1.2
DLMT IAmb IAmb 11 43 31.0
comp=Z,7.4nm,1.1s
IMW Indian Meadow 95.27 42 P **P** 11 43 19.8 +0.6
IMW IAmb IAmb 11 43 30.7
comp=Z,7.0nm,1.1s
PDAR Pinedale Array 95.40 43 P **P** 11 43 19.4 -0.4
comp=Z,0.2nm,0.5s,baz=280,slow=2.7,SNR=2.3
PDAR LR LR 12 17 50.3
comp=Z,134nm,20.7s,baz=240,slow=30
PDAR Pinedale Array 95.40 43 P **P** 11 43 17.4 -2.3
FLWY Flagg Ranch 95.52 42 P **P** 11 43 18.6 -1.6
QLMT Earthquake Lak 95.55 41 P **P** 11 43 20.3 -0.1
YHL Hebgen Lake 95.70 41 P **P** 11 43 20.7 -0.5
BOZ Bozeman (W) 95.90 40 P **P** 11 43 21.9 0.0
BOZ pmax pmax
comp=Z,15nm,1.5s
BOZ Bozeman (W) 95.90 40 P **P** 11 43 21.9 0.0
BOZ IAmb IAmb 11 43 34.1
comp=Z,15nm,1.4s
ZEA Zeya 96.09 331 *e*P **P** 11 43 23.4 +1.1
ZEA pmax pmax
comp=Z,12nm,1.0s
HHC Hu-ho-hao-te 96.29 314 *e*P **P** 11 43 22.8 -0.9
HHC Hu-ho-hao-te 96.29 314 S **S** 11 54 39.1 -1.9
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,43nm,6.1s
HHC LR LR
comp=N,78nm,16.3s
HHC LR LR
comp=E,96nm,19.6s
HHC LR LR
comp=Z,120nm,16.8s
CD2 Chengdu 96.30 302 P **P** 11 43 23.8 -0.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
ILAR Eielson Array 97.33 13 P **P** 11 43 25.9 -1.8
comp=Z,0.5nm,0.8s,baz=233,slow=6.7,SNR=4.9
ILAR Eielson Array 97.33 13 P **P** 11 43 26.3 -1.4
ILAR Eielson Array 97.33 13 P **P** 11 43 26.2 -1.4
LPAZ La Paz 97.84 114 LR LR 12 22 17.1
comp=Z,56nm,18.2s,baz=234,slow=32
BILL Bilibino 98.42 354‖ *e*P Pdif 11 43 33.6 +1.1
BILL *e*S **SKSac** 11 54 07.1 +0.1
BILL pmax pmax
comp=Z,5.0nm,1.7s
BILL MLR MLR
comp=Z,121nm,19.0s
LZH Lanzhou 98.87 306 *e*P Pdif 11 43 37.3 +1.7
LZH pP pP 11 43 42.3 -3.1
LZH sP sP 11 43 45.3 -3.6
LZH pmax pmax
comp=Z,18nm,1.0s
CPUP Villa Florida 99.85 128 LR LR 12 25 45.5
comp=Z,81nm,18.4s,baz=235,slow=34
WMQ Urumqi 113.36 308 *e*P **PKiKP** 11 48 33.9 +1.1
WMQ pmax pmax
comp=Z,63nm,4.9s
WMQ LR LR
comp=N,530nm,19.3s
WMQ LR LR
comp=E,440nm,21.1s
WMQ LR LR
comp=Z,200nm,22.5s
MKAR Makanchi Array 117.88 310 PKP **PKPdf** 11 48 41.4 0.0
comp=Z,0.7nm,0.6s,baz=158,slow=1.0,SNR=6.0
MKAR Makanchi Array 117.88 310 PKPdf **PKPdf** 11 48 40.5 -0.9
ZALV Zalesovo Beam 118.03 318 PKP **PKPdf** 11 48 41.4 0.0
comp=Z,1.2nm,0.6s,baz=102,slow=1.3,SNR=5.3
ZALV Zalesovo Beam 118.03 318 PKIKP **PKPdf** 11 48 39.3 -2.1
ZALV Zalesovo Beam 118.03 318 PKPdf **PKPdf** 11 48 39.3 -2.1
NRIK Noril'sk 119.42 336 PKP **PKPdf** 11 48 43.6 0.0
comp=Z,1.1nm,0.3s,baz=125,slow=3.2,SNR=3.7
KURK Kurchatov 121.11 314 *d* PKIKP **PKiKP** 11 48 47.5 0.0
KURK pmax pmax
comp=Z,11nm,1.7s
KURK Kurchatov 121.11 314 PKPdf **PKPdf** 11 48 45.6 -1.8
AAK Ala-Archa 122.30 304‖ *i* PKIKP **PKiKP** 11 48 52.3 +1.9
KK31 Karatay Array 125.26 304 PKIKP **PKPdf** 11 48 55.6 -0.1
KK31 Karatay Array 125.26 304 PKPdf **PKPdf** 11 48 55.6 -0.1
KKAR Karatay Array 125.26 304 PKIKP **PKiKP** 11 48 55.9 -0.1
KKAR Karatay Array 125.26 304 PKPdf **PKiKP** 11 48 56.0 -0.1
KKAR Karatay Array 125.26 304 **PKiKP** 11 48 55.9 -0.1
BRVK Borovoye 126.50 316 *c i* PKIKP **PKiKP** 11 48 58.0 -0.1
BRVK pmax pmax
comp=Z,10.0nm,1.7s
BRVK Borovoye 126.50 316 PKPdf **PKPdf** 11 48 57.6 -0.1
KBS Kingsbay 130.72 358‖ *i* PKIKP **PKiKP** 11 49 07.8 +1.9
KBS pmax pmax
comp=Z,33nm,1.7s
KBS Kingsbay 130.72 358 **PKPdf** 11 49 05.1 0.0
SPITS Spitsbergen Ar 131.25 356 PKP **PKPdf** 11 49 06.3 +0.2
comp=Z,5.3nm,0.7s,baz=110,slow=7.8,SNR=5.9
ABKAR Akbulak array 133.01 311 PKPdf **PKPdf** 11 49 10.6 +0.5
ARU Arti 133.06 321 *i* PKIKP **PKiKP** 11 49 12.8 +1.6
ARU 11 51 35.4
ARCES ARCESS Array B 138.23 348 PKP **PKPdf** 11 49 18.4 -0.9
comp=Z,3.9nm,0.7s,baz=48,slow=1.3,SNR=8.0
ARCES ARCESS Array B 138.23 348 PKIKP **PKPdf** 11 49 18.1 -1.2
ARCES ARCESS Array B 138.23 348 **PKPdf** 11 49 18.1 -1.2
H10N3 ASCENSION HYDR 139.01 154 T T 14 26 12.7
baz=203,slow=75
H10N1 ASCENSION HYDR 139.01 154 T T 14 26 08.5
baz=203,slow=75
H10N2 ASCENSION HYDR 139.03 154 T T 14 26 10.9
baz=203,slow=75
KLMR Klimovskoe 140.59 332 *e*PKIKP **PKPdf** 11 49 24.3 +0.5
KLMR pmax pmax
comp=Z,14nm,1.5s
KLMR Klimovskoe 140.59 332 *e*PKPdf **PKPdf** 11 49 24.3 +0.5
KLMR AMP 11 49 33.8
comp=Z,14nm,1.5s
MOS Moscow 144.24 326 *e*PKHKP **PKPab** 11 49 27.0 -1.4
MOS pmax pmax
comp=Z,44nm,1.0s
ZEI Tsey 144.71 303 *e*PKHKP **PKPab** 11 49 26.9 -3.9
ZEI pmax pmax
comp=Z,24nm,1.0s
FIA1 FINESS Array S 144.87 341 PKPdf **PKPdf** 11 49 31.3 0.0
FINES FINESS Array B 144.87 341 PKP **PKPdf** 11 49 31.1 -0.3
comp=Z,20nm,0.8s,baz=55,slow=2.8,SNR=34
FINES FINESS Array B 144.87 341 PKIKP **PKPab** 11 49 30.5 0.0
FINES FINESS Array B 144.87 341 PKPdf **PKPab** 11 49 30.5 0.0
GOF Gofitskoye 144.94 307‖ *e*PKIKP **PKPdf** 11 49 32.6 +0.5
GOF pmax pmax
comp=Z,97nm,1.8s
OBN Obninsk 145.08 326 *c i* PKIKP **PKPdf** 11 49 31.9 0.0
OBN *e* 11 52 56.0
OBN pmax pmax
comp=Z,146nm,1.6s
LPSR Galich'ya Gora 145.09 321 *e*PKIKP **PKPdf** 11 49 32.0 0.0
LPSR pmax pmax
comp=Z,40nm,0.9s
KBZ Khabaz 145.29 305 PKPbc **PKPdf** 11 49 33.0 +0.3
comp=Z,3.3nm,0.6s,baz=43,slow=0.6,SNR=10
KBZ Khabaz 145.29 305 *ce* PKIKP **PKPdf** 11 49 33.4 +0.7
KIV Kislovodsk 145.40 305 *i* PKIKP **PKPab** 11 49 33.7 +0.5
KIV pmax pmax
comp=Z,27nm,1.0s
NEY Neytrino 145.50 304‖ *e*PKIKP **PKPab** 11 49 35.1 +1.4
VSR Storozhevoye 145.54 319 *e*PKIKP **PKPab** 11 49 33.4 +0.1
VSR pmax pmax
comp=Z,50nm,1.0s
VORD Divnogorie 145.57 318 *e*PKIKP **PKPab** 11 49 33.5 +0.1
VORD pmax pmax
comp=Z,20nm,1.2s
VSU Vasula 147.00 337 *e*P **PKPab** 11 49 37.9 -0.7
VSU Vasula 147.00 337 *ce* PKP2 **PKPbc** 11 49 37.5 +0.4
SOC Sochi 147.59 305 *i* PKIKP **PKPdf** 11 49 36.3 -0.3
SOC *i* 11 49 42.3
SOC *e* 11 53 06.1
SOC *e*PPP PPP 11 56 25.2
SOC *e*SS SS 12 12 01.6 -6.1
SOC *e*SSS SSS 12 17 45.2
SOC pmax pmax
comp=Z,31nm,1.2s
SOC pmax pmax
comp=Z,26nm,0.9s
NB2 NORSAR Subarra 148.35 352 PKP **PKPbc** 11 49 41.0 +0.2
comp=Z,115nm,2.0s,baz=11,slow=2.9
NB2 NORSAR Subarra 148.35 352 PKP **PKPbc** 11 49 41.0 +0.2
baz=11,slow=2.9
NOA NORSAR Array B 148.35 352 PKPbc **PKPbc** 11 49 40.9 0.0
comp=Z,4.4nm,0.8s,baz=16,slow=4.3,SNR=16
ANN Anapa 148.87 308 *i* PKP2 **PKPbc** 11 49 42.2 -0.4
ANN pmax pmax
comp=Z,33nm,1.1s
IZAR Zarasai 149.21 334 *e*P **PKiKP** 11 49 45.2 +0.9
ISAL Salakas 149.39 334 *e*P **PKPbc** 11 49 43.8 +0.2
MICGM Minsk 149.43 331 *e* **PKPbc** 11 49 44.0 +0.3
MNK Minsk 149.43 331 *e*PKP2 **PKPbc** 11 49 44.0 +0.3
IIGN Ignalina 149.51 333 *e*P **PKiKP** 11 49 45.0 +0.1
KONO Kongsberg 149.89 353 *c i* PKP2 **PKiKP** 11 49 45.4 -0.2
KONO pmax pmax
comp=Z,15nm,0.8s
PABE Paberze 150.24 335 *e*P **PKiKP** 11 49 46.3 -0.1
PBUR Paburge 150.53 338 *e*P **PKiKP** 11 49 47.5 +0.5
AKASG Malin Array Be 151.24 324 PKPbc **PKiKP** 11 49 48.5 -0.1
comp=Z,15nm,0.7s,baz=46,slow=2.9,SNR=30
AKASG PKPab **PKPab** 11 49 56.8 +0.6
comp=Z,9.2nm,0.6s,baz=47,slow=3.4,SNR=12
AKASG Malin Array Be 151.24 324 *c i* PKIKP **PKiKP** 11 49 49.0 +0.4
AKASG pmax pmax
comp=Z,15nm,0.7s
AKASG Malin Array Be 151.24 324 **PKiKP** 11 49 48.7 +0.1
AKBB Malin Array Si 151.24 324 *c i* PKIKP **PKiKP** 11 49 48.4 -0.2
AKBB Malin Array Si 151.24 324 **PKiKP** 11 49 48.5 -0.2
ILGA Ilgaz 152.50 302 **PKiKP** 11 49 52.1 +0.2
BR131 Keskin Array S 152.84 299 PKIKP **PKiKP** 11 49 53.2 +0.6
BR131 Keskin Array S 152.84 299 **PKiKP** 11 49 53.2 +0.6
BRTR Keskin Array B 152.84 299 PKPbc **PKiKP** 11 49 52.6 +0.1
comp=Z,4.0nm,1.1s,baz=116,slow=2.9,SNR=15
BRTR Keskin Array B 152.84 299 *c i* PKIKP **PKiKP** 11 49 53.2 +0.6
BRTR pmax pmax
comp=Z,4.0nm,1.1s
BRTR Keskin Array B 152.84 299 **PKPbc** 11 49 52.1 -0.3
CSS Mathiatis 153.67 289 PKPbc **PKiKP** 11 49 54.9 +0.7
CSS PKPab **sPKPbc** 11 50 07.3 -0.3
LVV L'vov 154.37 327 *e*PKP2 **PKPab** 11 50 09.0 -0.4
BUR08 Bucovina Ar. S 155.19 322 PKPbc PKPbc 11 49 59.1
BUR08 PKPab **PKPab** 11 50 14.1 +1.0
BURAR Bucovina Array 155.19 322 PKPbc 11 49 55.6
OJC Ojcow 155.94 332 *e*PKPab **PKPab** 11 50 17.1 +1.1
UZH Uzhgorod 156.02 327‖ *i* PKP2 **PKPab** 11 50 17.2 +0.8
CRVS Cervenica-Dubn 156.21 328 *e*PKP2 **PKPab** 11 50 18.5 +1.2
CRVS Cervenica-Dubn 156.21 328 *e*PKP **PKPab** 11 50 18.5 +1.2
KSP Ksiaz 156.72 338 *e*PKPab **PKPab** 11 50 20.6 +1.2
OSTC Ostas 156.99 337 *e*PKPAB **PKPab** 11 50 22.2 +1.6
CHVC Chvalec 157.02 338 *e*PKPAB **PKPab** 11 50 21.9 +1.2
CHVC *ex* x 11 50 33.9
DPC Dobruska-Polom 157.13 337 *e*PKPAB **PKPab** 11 50 22.6 +1.4
DPC *ex* x 11 50 31.4
DPC Dobruska-Polom 157.13 337 *e*PKP2 **PKPab** 11 50 22.6 +1.4
MORC Moravsky Berou 157.17 335 *e*PKP **PKPab** 11 50 22.3 +0.9
CLL Collm 157.27 343 *e*PKPdf **PKPdf** 11 49 53.0 +2.4
CLL *i* PKPab **PKPab** 11 50 22.3 +0.6
comp=Z,17nm,1.3s
CLL *e* 11 50 31.0
CLL Collm 157.27 343 *e*PKIKP **PKPdf** 11 49 53.0 +2.4
CLL pmax pmax
comp=Z,17nm,1.3s
BRG Berggiesshubel 157.41 341 *e*PKP **PKPab** 11 50 23.4 +1.2
comp=Z,17nm,1.2s
BRG Berggiesshubel 157.41 341 *e*PKP2 **PKPab** 11 50 23.5 +1.2
BRG pmax pmax
comp=Z,17nm,1.2s
PSZ Piszkesteto 157.65 328 PKP2 **PKPab** 11 50 23.0 -0.6
PSZ Piszkesteto 157.65 328 PKPab **PKPab** 11 50 23.0 -0.6
VYHS Vyhne 157.68 331 *e*PKP2 **PKPab** 11 50 24.9 +1.3
VYHS Vyhne 157.68 331 *e*PKP **PKPab** 11 50 24.9 +1.3
JAVC Velka Javorina 157.87 333 *e*PKP **PKPab** 11 50 26.4 +1.9
VRAC Vranov 157.91 335 *e*PKP **PKPab** 11 50 26.0 +1.4
PRU Pruhonice 158.02 339 *e*PKPAB **PKPab** 11 50 26.8 +1.8
PRU Pruhonice 158.02 339 *e*PKP2 **PKPab** 11 50 26.8 +1.8
KRUC Moravsky 158.19 335 *e*PKP **PKPab** 11 50 26.8 +1.0
MODS Modra-Piesok 158.41 333 *e*PKP2 **PKPab** 11 50 27.7 +0.9
MODS Modra-Piesok 158.41 333 *e*PKP **PKPab** 11 50 27.7 +0.9
KHC Kasperske Hory 159.07 340 *e*PKPAB **PKPab** 11 50 30.6 +1.0
KHC *ex* x 11 50 39.2
KHC Kasperske Hory 159.07 340 *e*PKP2 **PKPab** 11 50 30.6 +1.0
KHC Kasperske Hory 159.07 340 **PKPab** 11 50 30.2 +0.5
VTS Vitosha 159.17 313 PKP2 **PKPab** 11 50 31.8 +1.3
VTS Vitosha 159.17 313 PKPab **PKPab** 11 50 31.8 +1.3
GEC2 GERESS Array S 159.29 339 PKPab **PKPab** 11 50 31.7 +1.0
GERES GERESS Array B 159.29 339 PKPab **PKPab** 11 50 31.3 +0.6
comp=Z,1.3nm,0.7s,baz=34,slow=5.0,SNR=9.8
GERES GERESS Array B 159.29 339 PKP2 **PKPab** 11 50 31.0 +0.3
GERES GERESS Array B 159.29 339 PKPab **PKPab** 11 50 31.0 +0.3
CONA Conrad Observa 159.33 334 *ep*PKPab **PKPab** 11 50 32.1 +1.2
comp=Z,7.0nm,1.0s,SNR=7.7
BCLA Clavier 159.42 355 PKPab **PKPab** 11 50 32.2 +1.2
BMRD Maredsous 159.57 356 PKPab **PKPab** 11 50 33.0 +1.4
DOU Dourbes 159.78 356 PKPab **PKPab** 11 50 34.1 +1.5
MOA Molln 159.97 337 *e*PKPab **PKPab** 11 50 34.6 +1.1
comp=Z,3.7nm,0.7s
SOKA Soboth 160.68 333 *e*PKPab **PKPab** 11 50 37.4 +0.6
comp=Z,13nm,1.3s,SNR=5.1
WATA Walderalm 161.28 341 *e*PKPab **PKPab** 11 50 40.5 +1.1
comp=Z,8.7nm,1.0s
WTTA Wattenberg 161.32 341 *e*PKPab **PKPab** 11 50 40.7 +1.0
comp=Z,24nm,1.6s
RETA Reutte 161.36 343 *e*PKPab **PKPab** 11 50 40.5 +0.9
comp=Z,12nm,1.3s
ECH Echery 161.39 350 PKP2 **PKPab** 11 50 39.2 -0.5
ECH Echery 161.39 350 **PKPab** 11 50 39.2 -0.5
MOTA Moosalm 161.40 342 *e*PKPab **PKPab** 11 50 41.0 +1.0
comp=Z,14nm,1.1s,SNR=5.9
PRED Cave del Predi 161.42 336 PKPab **PKPab** 11 50 39.9 -0.1
SQTA Sankt Quirin 161.48 341 *e*PKPab **PKPab** 11 50 41.1 +0.8
comp=Z,7.4nm,1.0s
ABTA Abfaltersbach 161.52 338 *e*PKPab **PKPab** 11 50 40.5 +0.1
comp=Z,12nm,1.1s
DAVA Damuels 161.76 344 *e*PKPab **PKPab** 11 50 42.3 +0.7
comp=Z,2.7nm,0.5s
FETA Feichten 161.80 342 *e*PKPab **PKPab** 11 50 42.5 +0.8
comp=Z,11nm,1.5s
FUORN Ofenpass-Fuorn 162.29 342 PKPab **PKPab** 11 50 45.3 +1.3
TORD Torodi Ar. Bea 163.29 177 PKP **PKPdf** 11 49 59.3 +0.9
comp=Z,1.0nm,0.9s,baz=263,slow=1.8,SNR=4.0
TORD PKPab **PKPab** 11 50 49.3 +0.5
comp=Z,2.2nm,0.7s,baz=186,slow=3.9,SNR=7.9
TORD Torodi Ar. Bea 163.29 177 **PKPdf** 11 49 58.6 +0.2
TORD PKPab **PKPab** 11 50 48.8 0.0
ESDC Sonseca Array 168.86 27 PKP **PKPdf** 11 50 02.6 +0.4
comp=Z,0.3nm,0.4s,baz=329,slow=1.5,SNR=5.1
ESDC PKPab **PKPab** 11 51 12.8 -0.1
comp=Z,0.9nm,0.9s,baz=299,slow=4.0,SNR=2.2
ESDC Sonseca Array 168.86 27 **PKPdf** 11 50 02.8 +0.6
ESDC **PKPab** 11 51 11.0 -1.9

*IDC **24** 11:37:19.5±5.4, 17.66S×175.08W, h181km±52km, mb3.8/15, mb1 4.0/15, mb1mx3.8/44, mbtmp4.3/15, Error ellipse: s-maj=30.2km s-min=15.2km az=160.0*
*NEIC **24** 11:37:24.4±1.4, 17.9S±0.1×175.03W±0.1, h234km±7km, mb4.2/31, Error ellipse: s-maj=15.6km s-min=12.1km az=145.0*

ISC 24 11:37:23.9±0.5, **17.87S**±0.09×**175.09W**±0.08, **h228**km, **n66**, σ**1**§**05**/65, **mb4.1**/28, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.04**	**105**	Pn	**Pn**	**11 38 41.0**	**+1.4**
AFI	**Afiamalu**	**5.07**	**39**	Pn	**Pn**	**11 38 40.3**	**+0.3**
MSVF	**Nonsavu**	**6.54**	**270**	Pn	**Pn**	**11 39 01.7**	**+3.1**
RAO	**Raoul Island**	**11.62**	**192**	P	**Pn**	**11 40 02.8**	**-0.5**
	96nm,0.3s,baz=72,slow=20,SNR=2.5						
RAO				S	S	11 42 00.3	-12
	124nm,0.3s,baz=229,slow=22,SNR=2.8						
RAO	**Raoul Island**	**11.62**	**192**	Pn	**Pn**	**11 40 03.4**	**+0.1**
TUWZ	**Tuamarina**	**25.30**	**200**	P	**P**	**11 42 27.4**	**-2.1**
EIDS	**Eidsvold**	**32.26**	**251**	P	**P**	**11 43 29.9**	**-1.4**
EIDS				IAmb	IAmb	11 43 44.0	
	comp=Z,16nm,1.4s						
ARMA	**Armidale**	**32.71**	**241**	P	**P**	**11 43 36.2**	**+0.8**
ARMA				IAmb	IAmb	11 43 52.7	
	comp=Z,8.2nm,1.1s						
CTA	**Charters Tower**	**36.57**	**260**	P	**P**	**11 44 08.5**	**+0.1**
	comp=Z,3.3nm,0.5s,baz=97,slow=9.5,SNR=9.0						
CTAO	**Charters Tower**	**36.57**	**260**	P	**P**	**11 44 08.8**	**+0.4**
CTAO				IAmb	IAmb	11 44 09.6	
	comp=Z,4.5nm,0.7s						
PMG	**Port Moresby**	**37.58**	**278**	P	**P**	**11 44 16.2**	**-0.7**
	comp=Z,6.2nm,0.5s,baz=108,slow=20,SNR=1.2						
PMG	**Port Moresby**	**37.58**	**278**	P	**P**	**11 44 17.0**	**+0.1**
STKA	**Stephens Creek**	**41.43**	**242**	P	**P**	**11 44 49.8**	**+1.3**
	comp=Z,5.4nm,0.8s,baz=78,slow=9.5,SNR=7.3						
STKA	**Stephens Creek**	**41.43**	**242**	P	**P**	**11 44 49.5**	**+1.1**
BBOO	**Buckleboo**	**46.20**	**241**	P	**P**	**11 45 27.3**	**+1.0**
WR0	**Warramunga Arr**	**47.56**	**259**	P	**P**	**11 45 36.7**	**-0.3**
WB0	**Warramunga Arr**	**47.72**	**259**	P	**P**	**11 45 38.0**	**-0.2**
WB0				IAmb	IAmb	11 45 38.9	
	comp=Z,8.1nm,0.9s						
WB2	**Warramunga Arr**	**47.73**	**259**	P	**P**	**11 45 38.4**	**0.0**
WB2				IAmb	IAmb	11 45 39.1	
	comp=Z,6.7nm,0.6s						
WRAB	**Tennant Creek**	**47.74**	**259**	P	**P**	**11 45 38.3**	**-0.1**
WRA	**Warramunga Arr**	**47.75**	**259**	P	**P**	**11 45 38.3**	**-0.2**
	comp=Z,3.5nm,0.4s,baz=97,slow=6.8,SNR=57						
WRA	**Warramunga Arr**	**47.75**	**259**	P	**P**	**11 45 38.6**	**+0.1**
AS31	**Alice Springs**	**47.84**	**254**	P	**P**	**11 45 40.2**	**+1.0**
AS31				IAmb	IAmb	11 45 40.9	
	comp=Z,6.0nm,0.6s						
ASAR	**Alice Springs**	**47.84**	**254**	P	**P**	**11 45 39.8**	**+0.6**
	comp=Z,21nm,0.5s,baz=90,slow=8.3,SNR=254						
ASAR				PcP	**PcP**	**11 47 04.8**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=92,slow=4.8,SNR=2.7						
ASAR				S	**S**	**11 52 14.4**	**-4.4**
	comp=Z,0.2nm,0.7s,baz=92,slow=16,SNR=2.1						
MTN	**Manton Dam**	**51.96**	**267**	P	**P**	**11 46 10.2**	**0.0**
MTN				IAmb	IAmb	11 46 11.8	
	comp=Z,7.9nm,0.8s						
KNRA	**Kununurra**	**53.64**	**263**	P	**P**	**11 46 22.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**56.15**	**260**	P	**P**	**11 46 41.0**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=87,slow=8.0,SNR=6.6						
FITZ	**Fitzroy Crossi**	**56.15**	**260**	P	**P**	**11 46 41.2**	**+0.8**
FITZ				IAmb	IAmb	11 46 50.5	
	comp=Z,6.4nm,1.1s						
JHJ	**Hachijo jima 2**	**66.55**	**320**	P	**P**	**11 47 47.9**	**-1.7**
	comp=Z,12nm,0.3s,baz=334,slow=20,SNR=7.4						
JNU	**Nakatsue**	**72.33**	**315**	P	**P**	**11 48 25.0**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=163,slow=17,SNR=1.2						
JNU	**Nakatsue**	**72.33**	**315**	P	**P**	**11 48 24.9**	**-0.1**
JKA	**Kamikawa-asahi**	**72.80**	**329**	P	**P**	**11 48 28.2**	**+0.7**
ASAJ	**Asahikawa**	**72.81**	**329**	P	**P**	**11 48 28.1**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=31,slow=12,SNR=2.4						
PETK	**Petropavlovsk-**	**74.50**	**343**	P	**P**	**11 48 36.8**	**-0.4**
	comp=Z,2.6nm,0.5s,baz=131,slow=8.6,SNR=4.2						
KSM	**Kuching**	**75.82**	**276**	P	**P**	**11 48 46.3**	**+0.7**
YBH	**Yreka Blue Hor**	**76.53**	**38**	P	**P**	**11 48 49.4**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=88,slow=21,SNR=4.7						
YBH	**Yreka Blue Hor**	**76.53**	**38**	P	**P**	**11 48 48.8**	**-0.3**
KSRS	**Korea Array**	**76.81**	**317**	P	**P**	**11 48 51.9**	**+1.3**
	comp=Z,1.4nm,0.8s,baz=125,slow=6.6,SNR=9.3						
KSAR	**Wonju Array Be**	**76.83**	**317**		**P**	**11 48 51.2**	**+0.5**
NVAR	**Mina Array Bea**	**77.24**	**42**	P	**P**	**11 48 53.4**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=224,slow=9.5,SNR=9.5						
NVAR	**Mina Array Bea**	**77.24**	**42**	P	**P**	**11 48 53.2**	**-0.1**
KVN	**Kaiseriine**	**77.72**	**42**	P	**P**	**11 48 55.4**	**-0.5**
PINE	**Pine Mountain**	**78.84**	**37**	P	**P**	**11 49 01.1**	**-0.8**
PINE				IAmb	IAmb	11 49 03.7	
	comp=Z,5.9nm,1.1s						
I07A	**Izee**	**79.84**	**37**	P	**P**	**11 49 06.1**	**-1.1**
J08A	**Circle Bar Ran**	**80.00**	**38**	P	**P**	**11 49 08.1**	**0.0**
J08A				IAmb	IAmb	11 49 09.0	
	comp=Z,6.0nm,1.2s						
F10A	**Beach Ranch, E**	**82.26**	**37**		**P**	**11 49 19.3**	**-0.6**
F10A				IAmb	IAmb	11 49 20.3	
	comp=Z,4.0nm,1.1s						
HLID	**Hailey**	**82.55**	**40**	P	**P**	**11 49 22.2**	**+0.6**
HWUT	**Hardware Ranch**	**83.30**	**43**	P	**P**	**11 49 23.1**	**-2.4**
TXAR	**Lajitas Array**	**83.32**	**56**	P	**P**	**11 49 26.4**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=218,slow=7.9,SNR=4.4						
TXAR	**Lajitas Array**	**83.32**	**56**	P	**P**	**11 49 26.1**	**+0.4**
TRF	**Thorofare Moun**	**83.34**	**11**	P	**P**	**11 49 24.4**	**-0.7**
TRF				IAmb	IAmb	11 49 25.7	
	comp=Z,2.4nm,1.0s						
PV09	**Paradox Valley**	**83.37**	**46**	P	**P**	**11 49 26.3**	**+0.3**
RND	**Reindeer**	**83.56**	**12**	P	**P**	**11 49 26.1**	**0.0**
RND				IAmb	IAmb	11 49 36.6	
	comp=Z,6.0nm,1.2s						
HDA	**Harding Lake**	**84.84**	**12**	P	**P**	**11 49 31.3**	**-1.1**
HDA				IAmb	IAmb	11 49 32.0	
	comp=Z,3.5nm,0.6s						
PDAR	**Pinedale Array**	**85.17**	**42**	P	**P**	**11 49 33.9**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=209,slow=1.5,SNR=4.8						
PDAR	**Pinedale Array**	**85.17**	**42**	P	**P**	**11 49 34.2**	**-0.7**
ILAR	**Eielson Array**	**85.17**	**12**	P	**P**	**11 49 33.0**	**-1.0**
	comp=Z,1.4nm,0.5s,baz=225,slow=5.4,SNR=14						
ILAR	**Eielson Array**	**85.17**	**12**	P	**P**	**11 49 33.3**	**-0.7**
H03S2	**Juan Fernandez**	**85.18**	**124**	T	T	13 22 39.5	
	baz=249,slow=75						
H03S1	**Juan Fernandez**	**85.20**	**124**	T	T	13 22 40.6	
	baz=249,slow=75						
H03S3	**Juan Fernandez**	**85.20**	**124**	T	T	13 22 40.1	
	baz=249,slow=75						
ARCES	**ARCESS Array B**	**126.80**	**351**	PKP	**PKPdf**	**11 55 58.9**	**-0.9**
	comp=Z,2.0nm,0.8s,baz=341,slow=1.9,SNR=5.4						
ARCES	**ARCESS Array B**	**126.80**	**351**		**PKPdf**	**11 55 59.5**	**-0.2**
BRTR	**Keskin Array B**	**146.96**	**317**	PKPbc	**PKPbc**	**11 56 40.0**	**0.0**
	comp=Z,2.0nm,0.8s,baz=149,slow=2.6,SNR=7.7						
GERES	**GERESS Array B**	**148.29**	**349**	PKPbc	**PKPbc**	**11 56 43.0**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=339,slow=2.4,SNR=6.5						
GERES	**GERESS Array B**	**148.29**	**349**		**PKPbc**	**11 56 42.4**	**-0.8**
ESDC	**Sonseca Array**	**156.95**	**18**	PKPab	**PKPab**	**11 57 23.1**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=336,slow=2.8,SNR=4.0						

*NEIC **24** 11:39:11.7±2.2, 13.8S±0.1×166.9E±0.2

WB0	**Warramunga Arr**	**31.68**	**254**	P		**P**	**11 45 28.8**	**-1.4**
WRAB	**Tennant Creek**	**31.74**	**254**	P		**P**	**11 45 31.2**	**+0.5**
WRAB				IAmb		IAmb	11 45 39.3	
	comp=Z,9.8nm,0.5s							
WRA	**Warramunga Arr**	**31.75**	**254**	P		**P**	**11 45 31.6**	**+0.8**
AS31	**Alice Springs**	**32.73**	**247**	P		**P**	**11 45 37.5**	**-1.9**
ASAR	**Alice Springs**	**32.73**	**247**	P		**P**	**11 45 39.0**	**-0.4**
GUMO	**Guam**	**34.77**	**320**	LR		LR	12 00 43.0	
	comp=Z,100nm,20.8s,baz=132,slow=37							
FITZ	**Fitzroy Crossi**	**39.87**	**258**	P		**P**	**11 46 39.8**	**-0.6**
ASAJ	**Asahikawa**	**61.51**	**340**	LR		LR	12 13 23.7	
	comp=Z,77nm,19.1s,baz=162,slow=33							
CMAR	**Chiang Mai Arr**	**74.18**	**294**	P		**P**	**11 50 44.7**	**+1.3**
	comp=Z,2.0nm,0.7s,baz=128,slow=4.9,SNR=8.4							
CMAR	**Chiang Mai Arr**	**74.18**	**294**	P		**P**	**11 50 41.6**	**-1.8**
QSPA	**South Pole Qui**	**76.37**	**180**	P		**P**	**11 50 53.2**	**-2.2**
QSPA				IAmb		IAmb	11 51 11.2	
	comp=Z,3.5nm,1.4s							
ILAR	**Eielson Array**	**85.62**	**18**	P		**P**	**11 51 44.6**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=238,slow=4.9,SNR=9.5							
ILAR	**Eielson Array**	**85.62**	**18**	P		**P**	**11 51 44.5**	**+0.1**
MKAR	**Makanchi Array**	**96.18**	**317**	P		**P**	**11 52 34.0**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=107,slow=4.9,SNR=4.8							
MKAR				LR		LR	12 35 49.6	
	comp=Z,64nm,21.2s,baz=100,slow=35							
MKAR	**Makanchi Array**	**96.18**	**317**	P		**P**	**11 52 34.3**	**+0.1**
ZALV	**Zalesovo Beam**	**96.31**	**324**	LR		LR	12 35 43.8	
	comp=Z,40nm,20.0s,baz=130,slow=35							
NRIK	**Noril'sk**	**98.94**	**339**	LR		LR	12 37 42.1	
	comp=Z,46nm,19.6s,baz=120,slow=35							

*SNET **24** 11:41:15.6±1.1, 13°.13N×89°.60W, h42km±13km, ML3.7*
*UCR **24** 11:41:15.7±0.9, 13°.13N×89°.59W, h42km±11km, ML3.8*
*GCG **24** 11:41:18.5±0.7, 13°.62N×89°.51W, h20km±8km, MD4.2*

ISC 24 11:41:16.0±4.1, 13°.12N±0°.08×89°.61W±0°.05, h39km±8km, n42, σ0ˢ47/54, 10D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.46**	**37**	⇓*i*P			**Pn**	**11 41 25.9**	**-0.2**
LALI				*e*S			**Sn**	**11 41 33.2**	**0.0**
LALI	**Alcalda de L**	**0.46**	**37**	⇓*i*P			**Pn**	**11 41 25.9**	**-0.2**
LALI				*e*S			**Sn**	**11 41 33.2**	**0.0**
JAYA	**Jayaque - finc**	**0.55**	**16**	*e*P			**Pn**	**11 41 27.0**	**-0.6**
JAYA				*e*S			**Sn**	**11 41 36.0**	**+0.3**
JAYA				IAML				11 41 36.8	
	comp=Z,7μm,0.1s								
JAYA	**Jayaque - finc**	**0.55**	**16**	*e*P			**Pn**	**11 41 27.0**	**-0.6**
JAYA				*e*S			**Sn**	**11 41 36.0**	**+0.3**
JAYA				IAML				11 41 36.8	
	comp=Z,7μm,0.1s								
SNET	**Serv Nac Est T**	**0.67**	**33**	IAML				11 41 31.9	
	comp=Z,2μm,0.2s								
SNET				*e*S			**Sn**	**11 41 38.6**	**+0.1**
SNET	**Serv Nac Est T**	**0.67**	**33**	IAML				11 41 31.9	
	comp=Z,2μm,0.2s								
SNET				*e*S			**Sn**	**11 41 38.6**	**+0.1**
BOQS	**Boqueron**	**0.69**	**27**	⇓*i*P			**Pn**	**11 41 29.1**	**-0.4**
BOQS	**Boqueron**	**0.69**	**27**	⇓*i*P			**Pn**	**11 41 29.1**	**-0.4**
UEES	**Universidad Ev**	**0.69**	**31**	IAML				11 41 40.4	
	comp=Z,3μm,0.2s								
UEES	**Universidad Ev**	**0.69**	**31**	IAML				11 41 40.4	
	comp=Z,3μm,0.2s								
CEDA	**San Andres**	**0.71**	**17**	*i*P			**Pn**	**11 41 29.2**	**-0.4**
CEDA				*e*S			**Sn**	**11 41 39.5**	**+0.2**
CEDA				IAML				11 41 44.5	
	comp=Z,2μm,0.3s								
CEDA	**San Andres**	**0.71**	**17**	*i*P			**Pn**	**11 41 29.2**	**-0.4**
CEDA				*e*S			**Sn**	**11 41 39.5**	**+0.2**
CEDA				IAML				11 41 44.5	
	comp=Z,2μm,0.3s								
OPAM	**Oficina de Pla**	**0.71**	**34**	IAML				11 41 44.5	
	comp=Z,3μm,0.2s								
OPAM	**Oficina de Pla**	**0.71**	**34**	IAML				11 41 44.5	
	comp=Z,3μm,0.2s								
SBLS	**San Blas**	**0.71**	**359**	⇓*i*P			**Pn**	**11 41 29.3**	**-0.6**
SBLS	**San Blas**	**0.71**	**359**	⇓*i*P			**Pn**	**11 41 29.3**	**-0.6**
LFRS	**El Faro**	**0.73**	**47**	⇓*i*P			**Pn**	**11 41 29.6**	**-0.3**
LFRS	**El Faro**	**0.73**	**47**	⇓*i*P			**Pn**	**11 41 29.6**	**-0.3**
SNJE	**San Jose**	**0.74**	**0**	*e*P			**Pn**	**11 41 29.7**	**-0.5**
SNJE	**San Jose**	**0.74**	**0**	*e*P			**Pn**	**11 41 29.7**	**-0.5**
LBRS	**Las Brisas**	**0.82**	**42**	⇓*i*P			**Pn**	**11 41 31.1**	**-0.1**
LBRS	**Las Brisas**	**0.82**	**42**	⇓*i*P			**Pn**	**11 41 31.1**	**-0.1**
PAVA	**Las Pavas**	**0.88**	**48**	*e*P			**Pn**	**11 41 32.0**	**+0.1**
PAVA				*e*S			**Sn**	**11 41 44.6**	**+1.0**
PAVA				IAML				11 41 45.9	
	comp=Z,4μm,0.4s								
PAVA	**Las Pavas**	**0.88**	**48**	*e*P			**Pn**	**11 41 32.0**	**+0.1**
PAVA				*e*S			**Sn**	**11 41 44.6**	**+1.0**
PAVA				IAML				11 41 45.9	
	comp=Z,4μm,0.4s								
TACO	**Tacachico**	**0.88**	**16**	*e*P			**Pn**	**11 41 31.4**	**-0.5**
TACO				*e*S			**Sn**	**11 41 43.6**	**0.0**
TACO	**Tacachico**	**0.88**	**16**	*e*P			**Pn**	**11 41 31.4**	**-0.5**
TACO				*e*S			**Sn**	**11 41 43.6**	**0.0**
ALJI	**Alcalda de J**	**1.03**	**78**	*e*P			**Pn**	**11 41 34.0**	**+0.1**
ALJI				*e*S			**Sn**	**11 41 47.3**	**+0.2**
ALJI	**Alcalda de J**	**1.03**	**78**	*e*P			**Pn**	**11 41 34.0**	**+0.1**
ALJI				*e*S			**Sn**	**11 41 47.3**	**+0.2**
TECA	**Tecapa**	**1.14**	**71**	*e*P			**Pn**	**11 41 34.9**	**-0.7**
TECA	**Tecapa**	**1.14**	**71**	*e*P			**Pn**	**11 41 34.9**	**-0.7**
IXG	**Ixpaco**	**1.32**	**322**	*e*P			**Pn**	**11 41 37.9**	**-0.2**
JUCU	**Jucuaŗn**	**1.33**	**84**	*e*P			**Pn**	**11 41 37.7**	**-0.4**
JUCU				*e*S			**Sn**	**11 41 54.5**	**-0.1**
JUCU	**Jucuaŗn**	**1.33**	**84**	*e*P			**Pn**	**11 41 37.7**	**-0.4**
JUCU				*e*S			**Sn**	**11 41 54.5**	**-0.1**
BLLM	**Bellamira**	**1.37**	**76**	*e*P			**Pn**	**11 41 38.9**	**+0.2**
BLLM	**Bellamira**	**1.37**	**76**	*e*P			**Pn**	**11 41 38.9**	**+0.2**
ESQI	**Esquipulas**	**1.45**	**10**	*e*P			**Pn**	**11 41 40.0**	**+0.1**
FAGO	**Alcalda de S**	**1.57**	**68**	*e*P			**Pn**	**11 41 41.0**	**-0.3**
FAGO	**Alcalda de S**	**1.57**	**68**	*e*P			**Pn**	**11 41 41.0**	**-0.3**
PCG	**Pacaya**	**1.59**	**323**	*e*P			**Pn**	**11 41 43.1**	**+1.1**
PCG				*e*S			**Sn**	**11 42 01.2**	**-0.2**
NBG	**Las Nubes**	**1.63**	**334**	*e*P			**Pn**	**11 41 41.4**	**-1.0**
FUG	**Fuego 3**	**1.78**	**318**	*e*P			**Pn**	**11 41 44.9**	**+0.5**
FUG				*e*S			**Sn**	**11 42 05.6**	**-0.4**
MRL	**Marmol**	**1.95**	**358**	*e*P			**Pn**	**11 41 47.7**	**+0.9**

*AEIC **24** 11:42:36.5±2.0, 51°.9N±0°.1×178°.28E±0°.08, h125km±4km, ML4.0, mb4.3/69(NEIC), Error ellipse: s-maj=15.5km s-min=7.0km az=184.0*
*NEIC **24** 11:42:36.2±1.7, 52°.02N±0°.09×178°.37E±0°.04, h122km±5km, Error ellipse: s-maj=12.7km s-min=1.6km az=165.0*
*IDC **24** 11:42:36.9±0.6, 52°.08N×178°.35E, h127km±5km, mb3.8/22, mb1 4.0/24, mb1mx3.8/54, mbtmp4.2/24, Error ellipse: s-maj=15.4km s-min=9.4km az=165.0*

ISC 24 11:42:36.4±0.5, 52°.07N±0°.08×178°.36E±0°.04, h125km±4km, n153, σ1ˢ26/160, mb4.2/42, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.14**	**136**				**Pn**	**11 42 52.9**	**-0.6**
LSSA	**Little Sitkin**	**0.15**	**142**				**Pn**	**11 42 53.0**	**-0.5**
LSPA	**Little Sitkin**	**0.17**	**131**				**Pn**	**11 42 53.0**	**-0.6**
LSPA							**Sn**	**11 43 06.7**	**+0.2**
CETU	**Semis' Tuman**	**0.71**	**98**				**Pn**	**11 42 56.3**	**0.0**
CEAP	**Semis' Anvil P**	**0.76**	**95**				**Pn**	**11 42 56.8**	**+0.1**
CESW	**Semis' Southwe**	**0.76**	**103**				**Pn**	**11 42 56.2**	**-0.5**
CERAA	**Semis' Rag'd T**	**0.84**	**101**				**Pn**	**11 42 57.0**	**-0.3**
AMKA	**Amchitka**	**0.91**	**140**				**Pn**	**11 42 56.9**	**-1.1**
AMKA							**Sn**	**11 43 11.8**	**-2.5**
GAEA	**Gareloi East**	**1.81**	**98**				**Pn**	**11 43 07.6**	**-0.2**
TASE	**Tanaga Southea**	**2.24**	**95**				**Pn**	**11 43 12.8**	**-0.3**
TAFP	**Tanaga Falls P**	**2.27**	**93**				**Pn**	**11 43 13.1**	**-0.2**
TAFP							**Sn**	**11 43 41.1**	**-0.7**
TAPA	**Tanaga Point A**	**2.38**	**95**				**Pn**	**11 43 14.4**	**-0.4**
SMY	**Shemya**	**2.69**	**286**	Pn			**Pn**	**11 43 17.7**	**-1.0**
SMY	**Shemya**	**2.69**	**286**				**Sn**	**11 43 50.2**	**-1.1**
KIMD	**Kanaga Island**	**2.75**	**95**				**Pn**	**11 43 18.8**	**-0.6**
KICM	**Kanaga Island**	**2.75**	**91**				**Pn**	**11 43 19.3**	**-0.2**
KIKV	**Kanaga Island**	**2.77**	**92**				**Pn**	**11 43 19.3**	**-0.5**
KIWB	**Kanaga Island**	**2.79**	**93**				**Pn**	**11 43 18.9**	**-1.0**
ADK	**Adak**	**3.07**	**92**	Pn			**Pn**	**11 43 22.8**	**-0.8**
GSTD	**Great Sitkin T**	**3.39**	**88**				**Pn**	**11 43 27.3**	**-0.6**
GSTR	**Great Sitkin T**	**3.44**	**87**				**Pn**	**11 43 28.0**	**-0.5**
GSMY	**Great Sitkin M**	**3.45**	**88**				**Pn**	**11 43 27.9**	**-0.7**
ATKA	**Atka Island**	**4.59**	**85**	Pn			**Pn**	**11 43 42.3**	**-1.4**
ATKA	**Atka Island**	**4.59**	**85**				**Sn**	**11 44 35.3**	**-0.8**
KOFP	**Korovin Flat P**	**4.65**	**85**				**Pn**	**11 43 44.9**	**+0.3**
KOSE	**Korovin Southe**	**4.68**	**84**				**Pn**	**11 43 45.2**	**+0.2**
NIKH	**Nikolski High**	**7.85**	**78**	Pn			**Pn**	**11 44 29.2**	**+1.6**
SPIA	**Saint Paul Isl**	**8.35**	**48**				**Pn**	**11 44 36.6**	**+2.3**
UNV	**Unalaska Valle**	**9.31**	**73**	Pn			**Pn**	**11 44 48.1**	**+0.9**
AKUT	**Akutan**	**9.77**	**72**	Pn			**Pn**	**11 44 54.4**	**+1.1**
FALS	**False Pass**	**11.21**	**68**	Pn			**Pn**	**11 45 14.4**	**+1.7**
PET	**Petropavlovsk**	**12.03**	**282**	Pn			**Pn**	**11 45 21.9**	**-1.6**
PEA0B	**Petropavlovsk-**	**12.60**	**283**	Pn			**Pn**	**11 45 31.9**	**+0.8**
PETK	**Petropavlovsk-**	**12.60**	**283**	P			**Pn**	**11 45 31.6**	**+0.5**
	1.4nm,0.3s,baz=98,slow=18,SNR=28								
PETK				S			**Sn**	**11 47 45.8**	**-3.9**
	0.5nm,0.3s,baz=86,slow=30,SNR=2.7								
PETK	**Petropavlovsk-**	**12.60**	**283**	Pn			**Pn**	**11 45 31.7**	**+0.6**
SDPT	**Sand Point**	**12.95**	**67**	Pn			**Pn**	**11 45 34.5**	**-0.9**
CNBA	**Chernabura Isl**	**13.41**	**69**				**Pn**	**11 45 39.2**	**-2.3**
CHIR	**Chirikof Islan**	**15.73**	**66**	Pn			**Pn**	**11 46 08.4**	**-2.3**
SII	**Sitkinak Islan**	**16.58**	**63**	Pn			**Pn**	**11 46 19.4**	**-1.7**
SVW2	**Sparrevohn**	**16.85**	**47**				**Pn**	**11 46 26.1**	**+1.7**
SVW2					IAmb		IAmb	11 46 33.1	
	comp=Z,11nm,0.8s								
OHAK	**Old Harbor**	**17.12**	**61**	P			**P**	**11 46 25.8**	**-1.6**
OHAK					IAmb		IAmb	11 46 32.5	
	comp=Z,17nm,1.1s								
TTA	**Tatalina**	**17.41**	**41**	P			**Pn**	**11 46 31.8**	**+0.6**
TTA					IAmb		IAmb	11 46 34.5	
	comp=Z,11nm,0.8s								
KDAK	**Kodiak Island**	**17.56**	**60**	P			**P**	**11 46 31.0**	**-1.3**
	comp=Z,4.0nm,0.3s,baz=271,slow=8.1,SNR=42								
KDAK				S			**S**	**11 49 39.0**	**-9.2**
	comp=Z,0.1nm,0.3s,baz=163,slow=19,SNR=1.2								
KDAK	**Kodiak Island**	**17.56**	**60**	P			**P**	**11 46 30.9**	**-1.3**
KDAK					IAmb		IAmb	11 46 33.1	
	comp=Z,20nm,0.9s								
RSO	**Redoubt South**	**17.98**	**51**	P			**P**	**11 46 37.2**	**+0.2**
HOM	**Homer**	**18.34**	**54**	P			**Pn**	**11 46 42.3**	**+0.1**
CNPM	**China Poot**	**18.51**	**54**	P			**P**	**11 46 43.5**	**+0.8**
BRLK	**Bradley Lake**	**18.73**	**54**	P			**P**	**11 46 45.7**	**+0.6**
PPLA	**Purkeypile**	**18.99**	**44**	P			**Pn**	**11 46 49.9**	**-0.1**
PPLA					IAmb		IAmb	11 46 55.4	
	comp=Z,19nm,1.0s								
SEW	**Seward**	**19.50**	**53**	P			**P**	**11 46 53.8**	**+0.4**
BPAW	**Bear Paw Mtn.**	**19.94**	**41**	P			**P**	**11 46 59.5**	**+1.4**
BPAW					IAmb		IAmb	11 47 01.1	
	comp=Z,8.0nm,0.9s								
PMR	**Palmer**	**19.96**	**49**	P			Pn	11 47 00.6	-0.6
TRF	**Thorofare Moun**	**19.99**	**43**	P			**P**	**11 47 00.7**	**+1.9**
TRF					IAmb		IAmb	11 47 03.1	
	comp=Z,13nm,0.9s								
GHO	**Glory Hole Cre**	**20.10**	**48**	P			**P**	**11 47 01.9**	**+2.0**
GHO					IAmb		IAmb	11 47 03.2	
	comp=Z,11nm,0.6s								
KNK	**Knik Glacier**	**20.24**	**50**	P			**P**	**11 47 02.5**	**+1.2**
KNK					IAmb		IAmb	11 47 05.0	
	comp=Z,15nm,0.7s								
SML	**Sawmill**	**20.39**	**48**	P			**P**	**11 47 03.1**	**+0.2**
SML					IAmb		IAmb	11 47 06.5	
	comp=Z,14nm,0.7s								
RND	**Reindeer**	**20.59**	**44**	P			**P**	**11 47 06.2**	**+1.1**
RND					IAmb		IAmb	11 47 11.3	
	comp=Z,4.7nm,0.6s								
MCK	**McKinley**	**20.66**	**43**	P			**P**	**11 47 07.0**	**+1.2**
MCK					IAmb		IAmb	11 47 11.1	
	comp=Z,7.4nm,0.6s								
GLI	**Glacier Island**	**20.79**	**51**	P			**P**	**11 47 07.4**	**+0.3**
SCM	**Sheep Creek Mo**	**20.86**	**49**	P			**P**	**11 47 09.5**	**+1.5**
SCM					IAmb		IAmb	11 47 10.3	
	comp=Z,16nm,1.0s								
FID	**Port Fidalgo**	**21.06**	**52**	P			**P**	**11 47 09.5**	**-0.6**
DHY	**Denali Highway**	**21.13**	**45**	P			**P**	**11 47 11.5**	**+0.5**
DHY					IAmb		IAmb	11 47 14.6	
	comp=Z,11nm,0.6s								
WRH	**Wood River Hil**	**21.25**	**41**	P			**P**	**11 47 12.1**	**0.0**
MDM	**Murphy Dome**	**21.37**	**40**	P			**P**	**11 47 14.3**	**+0.9**
EYAK	**Cordova Ski Ar**	**21.39**	**53**	P			**P**	**11 47 13.7**	**0.0**
EYAK					IAmb		IAmb	11 47 27.9	
	comp=Z,14nm,1.1s								
CCB	**Clear Creek Bu**	**21.43**	**41**	P			**P**	**11 47 14.1**	**+0.1**
HDA	**Harding Lake**	**21.70**	**42**	P			**P**	**11 47 17.3**	**+0.4**
HDA					IAmb		IAmb	11 47 19.2	
	comp=Z,5.0nm,0.7s								
IL31		**21.84**	**41**	P			**P**	**11 47 18.7**	**+0.4**
ILAR	**Eielson Array**	**21.84**	**41**	P			**P**	**11 47 17.7**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=244,slow=8.2,SNR=22								
ILAR					pP		**pP**	**11 47 41.2**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=254,slow=16,SNR=4.3								
ILAR					PcP		**PcP**	**11 51 11.7**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=233,slow=3.9,SNR=4.1								
ILAR					ScP		**ScP**	**11 54 36.5**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=285,slow=2.8,SNR=4.2								
ILAR	**Eielson Array**	**21.84**	**41**	P			**P**	**11 47 17.5**	**-0.9**
RIDG	**Independent Ri**	**22.40**	**44**				**P**	**11 47 24.3**	**+0.1**
GLB	**Gilahina Butte**	**22.44**	**51**	P			**P**	**11 47 25.1**	**+0.5**
GLB					IAmb		IAmb	11 47 29.0	
	comp=Z,6.1nm,0.8s								
TOLK	**Toolik Lake Re**	**22.53**	**31**	P			**P**	**11 47 25.9**	**+0.6**
VRDI	**Verde Repeater**	**22.59**	**51**	P			**P**	**11 47 25.4**	**-0.8**
PRP	**Porcupine Dome**	**22.63**	**40**	P			**P**	**11 47 26.0**	**-0.5**
CRQM	**Cirque**	**22.69**	**52**	P			**P**	**11 47 27.8**	**+0.6**
DOT	**Dot Lake**	**22.72**	**45**				**P**	**11 47 27.3**	**0.0**
DOT					IAmb		IAmb	11 47 29.6	
	comp=Z,12nm,0.9s								
MENT	**Mentasta**	**22.73**	**47**	P			**P**	**11 47 29.6**	**+2.3**
MENT					IAmb		IAmb	11 47 32.8	
	comp=Z,5.9nm,0.6s								
WAX	**Waxell Ridge**	**22.81**	**53**	P			**P**	**11 47 27.6**	**-0.6**
MCARA	**McCarthy VSAT**	**22.81**	**51**	P			**P**	**11 47 29.1**	**+0.9**
MCARA					IAmb		IAmb	11 47 38.8	
	comp=Z,14nm,0.7s								
SCRK	**Sand Creek**	**22.83**	**44**				**P**	**11 47 28.0**	**-0.4**
TGL	**Tana Glacier**	**22.84**	**52**	P			**P**	**11 47 29.7**	**+1.1**
TGL					IAmb		IAmb	11 47 30.3	
	comp=Z,7.2nm,0.8s								
BALM	**Baldy**	**23.10**	**52**				**P**	**11 47 32.4**	**+1.4**
BALM					IAmb		IAmb	11 47 34.3	
	comp=Z,5.5nm,0.6s								
FYU	**Fort Yukon**	**23.11**	**37**	P			**P**	**11 47 33.1**	**+2.3**
YAH	**Yahtse**	**23.35**	**54**	P			**P**	**11 47 34.4**	**+1.0**
BARN	**Barnard Glacie**	**23.44**	**52**	P			**P**	**11 47 35.7**	**+1.6**
BARN					IAmb		IAmb	11 47 36.8	
	comp=Z,12nm,0.7s								
CTGM	**Chitina Glacie**	**23.59**	**52**	P			**P**	**11 47 37.1**	**+1.6**
CTGM					IAmb		IAmb	11 47 38.2	
	comp=Z,11nm,0.8s								
BCAR	**Beaver Creek A**	**23.62**	**47**				**P**	**11 47 36.2**	**+0.6**
TABL	**Table Mountain**	**23.66**	**53**	P			**P**	**11 47 36.4**	**+0.2**
TABL					IAmb		IAmb	11 47 39.4	
	comp=Z,15nm,1.0s								
BMAR	**Burnt Mountain**	**23.66**	**35**	P			**P**	**11 47 37.2**	**+1.3**
PCA	**Pinnacle**	**24.09**	**54**	P			**P**	**11 47 41.1**	**+1.2**
DAWY	**Dawson**	**24.83**	**45**				**P**	**11 47 47.8**	**+1.2**
DAWY					IAmb		IAmb	11 47 50.5	
	comp=Z,8.4nm,0.7s								
ASAJ	**Asahikawa**	**24.97**	**266**	P			**P**	**11 47 48.5**	**+0.5**
	comp=Z,4.6nm,0.7s,baz=55,slow=12,SNR=7.9								
HYT	**Haines Junctio**	**25.46**	**53**	P			**P**	**11 47 54.2**	**+1.9**
EPYK	**Eagle Plains**	**26.34**	**40**	P			**P**	**11 48 01.1**	**+1.0**
EPYK					IAmb		IAmb	11 48 01.9	
	comp=Z,5.6nm,0.8s								
INK	**Inuvik**	**27.92**	**36**	P			**P**	**11 48 14.9**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=250,slow=11,SNR=11								
INK					ScP		**ScP**	**11 54 54.2**	**-0.8**
	comp=Z,2.0nm,1.0s,baz=358,slow=3.9,SNR=4.1								
INK	**Inuvik**	**27.92**	**36**		IAmb		IAmb	11 48 17.4	
	comp=Z,2.4nm,0.8s								
TIXI	**Tiksi**	**29.16**	**330**		ScP		**ScP**	**11 54 58.2**	**-0.7**
	comp=Z,1.9nm,0.7s,baz=123,slow=3.2,SNR=4.6								
KLR	**Kul'dur**	**29.30**	**283**	P			**P**	**11 48 26.3**	**-0.3**
	comp=Z,2.1nm,0.4s,baz=80,slow=6.4,SNR=13								
USRK	**Ussuriysk Ar.**	**31.47**	**274**	P			**P**	**11 48 45.5**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=66,slow=9.8,SNR=4.2								
USRK					PcP		**PcP**	**11 51 36.2**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=21,slow=1.6,SNR=3.0								
H11N2	**WAKE ISLAND Hy**	**33.50**	**200**	T			T	12 24 44.5	
	baz=11,slow=76,SNR=34								
H11N3	**WAKE ISLAND Hy**	**33.51**	**200**	T			T	12 24 46.9	
	baz=11,slow=76,SNR=36								
H11N1	**WAKE ISLAND Hy**	**33.52**	**200**	T			T	12 24 45.9	
	baz=11,slow=76,SNR=44								
H11S1	**WAKE ISLAND Hy**	**34.73**	**200**	T			T	12 26 21.0	
	baz=11,slow=76,SNR=13								
H11S3	**WAKE ISLAND Hy**	**34.74**	**200**	T			T	12 26 21.1	
	baz=11,slow=76,SNR=12								
H11S2	**WAKE ISLAND Hy**	**34.74**	**200**	T			T	12 26 13.4	
	baz=11,slow=76,SNR=6.5								
YKA	**Yellowknife Ar**	**36.04**	**47**	P			**P**	**11 49 26.2**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=280,slow=8.3,SNR=12								
YKA				pP			**pwP**	**11 49 53.8**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=281,slow=8.7,SNR=3.9								
KSRS	**Korea Array**	**37.88**	**268**	PcP			**PcP**	**11 51 54.5**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=60,slow=2.4,SNR=5.1								
I07A	**Izee**	**41.12**	**76**	P			**P**	**11 50 07.6**	**-0.2**
NRIK	**Noril'sk**	**42.91**	**329**	P			**P**	**11 50 22.9**	**+1.0**
	comp=Z,1.5nm,0.3s,baz=87,slow=7.6,SNR=1.5								
PNTR	**Pine Nut**	**44.00**	**82**	P			**P**	**11 50 32.1**	**+0.7**
PNTR					IAmb		IAmb	11 50 34.5	
	comp=Z,4.5nm,0.5s								
MCMT	**McKenzie Canyo**	**44.63**	**71**	P			**P**	**11 50 34.7**	**-1.6**
SONM	**Songino Array**	**44.75**	**295**	P			**P**	**11 50 37.6**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=75,slow=5.8,SNR=3.9								
SONM				PcP			**PcP**	**11 52 17.6**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=48,slow=2.4,SNR=4.3								
SONM				ScP			**ScP**	**11 55 57.5**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=37,slow=5.6,SNR=1.6								
SONM	**Songino Array**	**44.75**	**295**	P			**P**	**11 50 37.0**	**-0.1**
BOZ	**Bozeman (W)**	**44.90**	**69**	P			**P**	**11 50 37.1**	**-1.2**
NVAR	**Mina Array Bea**	**45.21**	**82**	P			**P**	**11 50 41.6**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=292,slow=7.8,SNR=10.0								
NVAR				pP			**pP**	**11 51 10.1**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=296,slow=7.2,SNR=3.5								
NVAR				ScP			**ScP**	**11 56 00.2**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=326,slow=7.7,SNR=3.5								
NVAR	**Mina Array Bea**	**45.21**	**82**	P			**P**	**11 50 40.2**	**-0.7**
HHC	**Hu-ho-hao-te**	**45.80**	**283**	*e*P			**P**	**11 50 44.5**	**-0.9**
HHC				pmax			pmax		
	comp=Z,12nm,1.0s								
HHC				pmax			pmax		
	comp=Z,44nm,5.1s								
BW06	**Boulder Array**	**47.77**	**71**	P			**P**	**11 51 00.3**	**-0.5**
PD31	**Pinedale Array**	**47.77**	**71**	P			**P**	**11 51 00.8**	**-0.1**
PDAR	**Pinedale Array**	**47.77**	**71**	P			**P**	**11 51 00.8**	**-0.1**
	comp=Z,1.0nm,0.7s,baz=296,slow=4.8,SNR=9.4								
PDAR				pP			**pP

AS31	**Alice Springs**	**43.72**	**266**	P	**P**	**11 58 53.9**	**+0.5**
ASAR	**Alice Springs**	**43.72**	**266**	P	**P**	**11 58 51.9**	**-1.5**
	comp=Z,2.4nm,0.7s,baz=102,slow=7.6,SNR=22						
ASAR				LR	LR	12 15 52.5	
	comp=Z,222nm,19.6s,baz=102,slow=34						
ASAR	**Alice Springs**	**43.72**	**266**	P	**P**	**11 58 53.5**	**+0.1**
WR0	**Warramunga Arr**	**44.49**	**271**	P	**P**	**11 58 59.9**	**+0.3**
WR0				IAmb	IAmb	11 59 12.8	
	comp=Z,11nm,1.0s						
WB2	**Warramunga Arr**	**44.67**	**271**	P	**P**	**11 59 01.2**	**+0.2**
WRA	**Warramunga Arr**	**44.68**	**271**	P	**P**	**11 58 59.8**	**-1.3**
	comp=Z,2.1nm,0.4s,baz=110,slow=8.1,SNR=29						
WRA	**Warramunga Arr**	**44.68**	**271**	P	**P**	**11 59 01.0**	**-0.1**
WB0	**Warramunga Arr**	**44.70**	**272**	P	**P**	**11 59 00.1**	**-1.2**
WB0				IAmb	IAmb	11 59 13.8	
	comp=Z,9.4nm,1.1s						
QSPA	**South Pole Qui**	**60.08**	**180**	P	**P**	**12 00 55.8**	**+0.9**
QSPA				IAmb	IAmb	12 01 08.0	
	comp=Z,3.8nm,0.9s						
MJAR	**Matsushiro Arr**	**78.28**	**325**	P	**P**	**12 02 50.8**	**+2.9**
	comp=Z,1.6nm,0.8s,baz=163,slow=5.4,SNR=5.6						
VNA3	**Neumayer Olymp**	**78.63**	**176**	P	**P**	**12 02 50.2**	**+0.7**
VNA2	**Neumayer--Watz**	**79.07**	**177**	P	**P**	**12 02 55.6**	**+3.7**
H03S2	**Juan Fernandez**	**80.17**	**123**	T	T	13 32 27.8	
	baz=238,slow=74						
H03S1	**Juan Fernandez**	**80.19**	**123**	T	T	13 32 28.8	
	baz=238,slow=74						
H03S3	**Juan Fernandez**	**80.19**	**123**	T	T	13 32 25.2	
	baz=238,slow=74						
NVAR	**Mina Array Bea**	**87.57**	**42**	P	**P**	**12 03 36.6**	**+0.3**
	comp=Z,0.5nm,0.8s,baz=224,slow=7.5,SNR=4.2						
NVAR				LR	LR	12 36 57.9	
	comp=Z,59nm,18.6s,baz=208,slow=32						
NVAR	**Mina Array Bea**	**87.57**	**42**	P	**P**	**12 03 35.2**	**-1.1**
KLR	**Kul'dur**	**91.02**	**329**	P	**P**	**12 03 52.2**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=171,slow=6.6						
FINES	**FINESS Array B**	**145.00**	**341**	PKP	**PKPab**	**12 10 22.9**	**-1.0**
	comp=Z,3.2nm,0.6s,baz=72,slow=4.5,SNR=20						
FINES	**FINESS Array B**	**145.00**	**341**		**PKPab**	**12 10 23.2**	**-0.7**
NB2	**NORSAR Subarra**	**148.47**	**352**	PKP	**PKiKP**	**12 10 34.9**	**-0.8**
	comp=Z,6.7nm,1.4s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.47**	**352**	PKPbc	**PKPbc**	**12 10 32.7**	**-1.4**
	comp=Z,1.2nm,0.9s,baz=17,slow=2.8,SNR=3.0						
AKASG	**Malin Array Be**	**151.36**	**324**	PKPbc	**PKPbc**	**12 10 40.9**	**-0.5**
	comp=Z,1.5nm,0.5s,baz=50,slow=2.1,SNR=8.1						
AKASG				PKPab	**PKPab**	**12 10 47.5**	**-2.1**
	comp=Z,1.5nm,0.4s,baz=47,slow=2.8,SNR=9.5						
BRTR	**Keskin Array B**	**152.94**	**299**	PKPbc	**PKPbc**	**12 10 44.7**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=102,slow=3.5,SNR=2.0						
BRTR	**Keskin Array B**	**152.94**	**299**		**PKiKP**	**12 10 45.9**	**+0.2**
BRTR				PKPab	**PKPab**	**12 10 56.5**	**-0.2**

*IDC **24** 12:02:27.5±3.4,28°.71S×178°.19W,h0km,mb3.8/2, mb1 4.1/2,mb1mx3.6/18,mbtmp3.8/2,Error ellipse: s-maj=86.4km s-min=15.9km az=48.0*
*NEIC **24** 12:02:31.0±2.5,28°.72S±0°.09×178°.34W±0°.1,h19km±12km, mb4.3/6,Error ellipse: s-maj=19.1km s-min=12.6km az=73.0*
ISC 24 12:02:29.3±2.0,28°.7S±0°.2×178°.4W±0°.2,h10km,n14, σ1§43/14,mb4.2/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.69**	**144**	Pn	**Pg**	**12 02 42.8**	**+0.2**
	155nm,0.3s,baz=69,slow=23,SNR=7.2						
RAO				Sn	**Sn**	**12 02 55.3**	**-0.7**
	780nm,0.3s,baz=270,slow=20,SNR=10						
RAO	**Raoul Island**	**0.69**	**144**	Sg	**Sb**	**12 02 53.0**	**0.0**
OUZ	**Omahuta**	**9.42**	**224**	Pn	**Pn**	**12 04 44.1**	**-0.9**
URZ	**Urewera**	**10.25**	**200**	Pn	**Pn**	**12 04 57.2**	**+0.7**
AS31	**Alice Springs**	**42.89**	**265**	P	**P**	**12 10 29.2**	**+1.0**
ASAR	**Alice Springs**	**42.89**	**265**	P	**P**	**12 10 28.7**	**+0.5**
	0.5nm,0.5s,baz=99,slow=7.5,SNR=8.8						
ASAR	**Alice Springs**	**42.89**	**265**	P	**P**	**12 10 28.4**	**+0.2**
WR0	**Warramunga Arr**	**43.54**	**271**	P	**P**	**12 10 35.5**	**+2.0**
WR0				IAmb	IAmb	12 10 46.4	
	comp=Z,6.6nm,1.2s						
WB2	**Warramunga Arr**	**43.71**	**271**	P	**P**	**12 10 36.8**	**+1.9**
WB2				IAmb	IAmb	12 10 41.0	
	comp=Z,7.9nm,1.3s						
WRA	**Warramunga Arr**	**43.72**	**271**	P	**P**	**12 10 36.5**	**+1.6**
	comp=Z,1.7nm,0.7s,baz=110,slow=8.2,SNR=15						
WRA	**Warramunga Arr**	**43.72**	**271**	P	**P**	**12 10 36.6**	**+1.6**
WB0	**Warramunga Arr**	**43.74**	**271**	P	**P**	**12 10 36.8**	**+1.8**
WB0				IAmb	IAmb	12 10 56.2	
	comp=Z,5.7nm,1.2s						
KAPI	**Kappang**	**62.98**	**280**	P	**P**	**12 12 54.8**	**-1.8**
FINES	**FINESS Array B**	**143.43**	**340**	PKP	PKPbc	12 22 03.3	+2.7
	comp=Z,1.3nm,0.6s,baz=57,slow=5.1,SNR=7.9						

*NEIC **24** 12:03:38.0±1.3,51°.7N±0°.1×177°.70E±0°.09,h119km±6km, Error ellipse: s-maj=17.3km s-min=7.6km az=185.0*
*AEIC **24** 12:03:39±1.5,51°.7N±0°.1×177°.68E±0°.08,h116km±4km, ML3.4,mb4.0/34(NEIC),Error ellipse: s-maj=18.9km s-min=7.2km az=185.0*
*IDC **24** 12:03:41.3±4.7,52°.08N×177°.89E,h130km±41km, mb3.4/12,mb1 3.6/14,mb1mx3.4/52,mbtmp3.8/14,Error ellipse: s-maj=39.2km s-min=16.4km az=10.0*
ISC 24 12:03:37.3±1.0,51°.7N±0°.2×177°.64E±0°.05,h117km±6km, n75,σ1§08/76,mb3.9/25,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.61**	**62**		**Pn**	**12 03 56.8**	**+1.1**
LSNW	**Little Sitkin**	**0.62**	**61**		**Pn**	**12 03 56.8**	**+1.0**
LSNW					**Sn**	**12 04 10.6**	**+0.8**
LSPA	**Little Sitkin**	**0.65**	**63**		**Pn**	**12 03 56.9**	**+0.9**
AMKA	**Amchitka**	**1.08**	**105**		**Pn**	**12 04 00.7**	**+0.8**
AMKA					**Sn**	**12 04 16.9**	**0.0**
CETU	**Semis' Tuman**	**1.19**	**75**		**Pn**	**12 04 02.1**	**+1.0**
CESW	**Semis' Southwe**	**1.22**	**78**		**Pn**	**12 04 02.0**	**+0.6**
CEAP	**Semis' Anvil P**	**1.25**	**74**		**Pn**	**12 04 02.6**	**+0.9**
CEAP					**Sn**	**12 04 19.4**	**-0.8**
CERAA	**Semis' Rag'd T**	**1.29**	**79**		**Pn**	**12 04 02.8**	**+0.6**
CERAA					**Sn**	**12 04 20.6**	**-0.5**
SMY	**Shemya**	**2.42**	**297**		**Pn**	**12 04 16.9**	**+1.0**
SMY					**Sn**	**12 04 46.0**	**+0.5**
TASE	**Tanaga Southea**	**2.69**	**85**		**Pn**	**12 04 20.0**	**+0.5**
TAPA	**Tanaga Point A**	**2.83**	**85**		**Pn**	**12 04 21.6**	**+0.3**
KIMD	**Kanaga Island**	**3.19**	**86**		**Pn**	**12 04 26.2**	**+0.3**
ADK	**Adak**	**3.53**	**84**		**Pn**	**12 04 30.7**	**+0.2**
GSMY	**Great Sitkin M**	**3.93**	**82**		**Pn**	**12 04 36.2**	**+0.4**
GSTR	**Great Sitkin T**	**3.93**	**81**	Pn	**Pn**	**12 04 36.1**	**+0.3**
ATKA	**Atka Island**	**5.08**	**81**		**Pn**	**12 04 50.7**	**-0.5**
UNV	**Unalaska Valle**	**9.86**	**71**	Pn	**Pn**	**12 05 55.8**	**+0.1**
PETK	**Petropavlovsk-**	**12.26**	**285**	P	**P**	**12 06 33.3**	**-1.9**
	0.1nm,0.3s,baz=100,slow=18,SNR=5.0						
PETK				S	**Sn**	**12 08 41.7**	**-0.9**
	0.2nm,0.3s,baz=84,slow=39,SNR=1.1						
SDPT	**Sand Point**	**13.52**	**66**	Pn	**Pn**	**12 06 42.8**	**-1.3**
CNBA	**Chernabura Isl**	**13.98**	**68**	Pn	**Pn**	**12 06 47.4**	**-2.6**
CHIR	**Chirikof Islan**	**16.31**	**65**	Pn	**Pn**	**12 07 17.8**	**-1.4**
SII	**Sitkinak Islan**	**17.16**	**62**	P	**P**	**12 07 28.9**	**-0.6**
SII				IAmb	IAmb	12 07 44.7	
	comp=Z,4.8nm,0.9s						
OHAK	**Old Harbor**	**17.71**	**60**	P	**P**	**12 07 34.3**	**-1.1**
OHAK				IAmb	IAmb	12 07 37.0	
	comp=Z,5.9nm,0.7s						
TTA	**Tatalina**	**18.00**	**41**	P	**Pn**	**12 07 39.9**	**+0.1**
KDAK	**Kodiak Island**	**18.15**	**59**	P	**P**	**12 07 38.7**	**-1.5**
	comp=Z,1.7nm,0.3s,baz=273,slow=3.4,SNR=38						
KDAK	**Kodiak Island**	**18.15**	**59**	P	**P**	**12 07 39.5**	**-0.8**
KDAK				IAmb	IAmb	12 07 43.5	
	comp=Z,8.0nm,1.1s						
HOM	**Homer**	**18.94**	**53**	P	**P**	**12 07 47.8**	**-1.0**
RDOG	**Red Dog Mine**	**18.96**	**23**	P	**P**	**12 07 49.7**	**+0.8**
CNPM	**China Poot**	**19.11**	**54**	P	**P**	**12 07 50.7**	**-0.1**
BRLK	**Bradley Lake**	**19.33**	**53**	P	**P**	**12 07 52.6**	**-0.6**
SEW	**Seward**	**20.11**	**52**	P	**P**	**12 08 01.4**	**0.0**
BPAW	**Bear Paw Mtn.**	**20.54**	**41**	P	**P**	**12 08 06.5**	**+0.4**
PMR	**Palmer**	**20.57**	**48**	P	**P**	**12 08 06.8**	**+0.5**
PMR				IAmb	IAmb	12 08 10.9	
	comp=Z,5.8nm,1.0s						
GLI	**Glacier Island**	**21.39**	**51**	P	**P**	**12 08 13.5**	**-1.7**
GLI				IAmb	IAmb	12 08 27.3	
	comp=Z,5.4nm,0.7s						
SCM	**Sheep Creek Mo**	**21.46**	**48**	P	**P**	**12 08 16.1**	**+0.1**
SCM				IAmb	IAmb	12 08 23.6	
	comp=Z,7.8nm,1.0s						
FID	**Port Fidalgo**	**21.67**	**51**	P	**P**	**12 08 13.8**	**-4.4**
DHY	**Denali Highway**	**21.73**	**45**	P	**P**	**12 08 18.6**	**-0.4**
DHY				IAmb	IAmb	12 08 19.4	
	comp=Z,4.9nm,0.7s						
WRH	**Wood River Hil**	**21.85**	**41**	P	**P**	**12 08 19.3**	**-0.8**
MDM	**Murphy Dome**	**21.97**	**40**	P	**P**	**12 08 21.3**	**0.0**
MDM				IAmb	IAmb	12 08 22.2	
	comp=Z,4.7nm,0.8s						
CCB	**Clear Creek Bu**	**22.03**	**41**	P	**P**	**12 08 21.5**	**-0.4**
CCB				IAmb	IAmb	12 08 26.4	
	comp=Z,7.3nm,1.4s						
HDA	**Harding Lake**	**22.30**	**42**	P	**P**	**12 08 25.1**	**+0.3**
HDA				IAmb	IAmb	12 08 25.8	
	comp=Z,3.7nm,0.6s						
IL31		**22.44**	**41**	P	**P**	**12 08 24.1**	**-2.0**
ILAR	**Eielson Array**	**22.44**	**41**	P	**P**	**12 08 24.2**	**-1.9**
	comp=Z,1.1nm,0.5s,baz=246,slow=8.6,SNR=19						
ILAR	**Eielson Array**	**22.44**	**41**	P	**P**	**12 08 24.4**	**-1.7**
RAGM	**Ragged Mountai**	**22.50**	**52**	P	**P**	**12 08 26.6**	**-0.2**
RAGM				IAmb	IAmb	12 08 34.5	
	comp=Z,20nm,1.4s						
PAX	**Paxson**	**22.55**	**46**	P	**P**	**12 08 27.9**	**+0.5**
RIDG	**Independent Ri**	**23.01**	**44**	P	**P**	**12 08 31.0**	**-0.7**
RIDG				IAmb	IAmb	12 08 33.2	
	comp=Z,3.4nm,0.5s						
GLB	**Gilahina Butte**	**23.05**	**50**	P	**P**	**12 08 30.5**	**-1.7**
TOLK	**Toolik Lake Re**	**23.10**	**30**	P	**P**	**12 08 33.1**	**+0.5**
VRDI	**Verde Repeater**	**23.19**	**51**	P	**P**	**12 08 32.9**	**-0.7**
PRP	**Porcupine Dome**	**23.23**	**39**	P	**P**	**12 08 33.5**	**-0.3**
PRP				IAmb	IAmb	12 08 35.6	
	comp=Z,2.5nm,0.6s						
DOT	**Dot Lake**	**23.32**	**44**	P	**P**	**12 08 32.6**	**-2.1**
DOT				IAmb	IAmb	12 08 35.1	
	comp=Z,7.2nm,0.8s						
SCRK	**Sand Creek**	**23.43**	**44**	P	**P**	**12 08 34.6**	**-1.2**
SCRK				IAmb	IAmb	12 08 35.8	
	comp=Z,5.1nm,0.7s						
BCAR	**Beaver Creek A**	**24.22**	**46**	P	**P**	**12 08 43.0**	**+0.3**
BMAR	**Burnt Mountain**	**24.25**	**35**	P	**P**	**12 08 42.8**	**-0.2**
EGAK	**Eagle**	**24.81**	**42**	P	**P**	**12 08 48.3**	**+0.2**
EGAK				IAmb	IAmb	12 08 48.8	
	comp=Z,3.9nm,0.8s						
DAWY	**Dawson**	**25.43**	**44**	P	**P**	**12 08 53.3**	**-0.4**
DAWY				IAmb	IAmb	12 08 57.7	
	comp=Z,4.7nm,0.7s						
INK	**Inuvik**	**28.51**	**36**	P	**P**	**12 09 20.1**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=259,slow=8.7,SNR=4.4						
INK	**Inuvik**	**28.51**	**36**	P	**P**	**12 09 21.8**	**+0.7**
H11N2	**WAKE ISLAND Hy**	**32.97**	**199**	T	T	12 45 46.2	
	baz=11,slow=76						
H11N3	**WAKE ISLAND Hy**	**32.98**	**199**	T	T	12 45 46.9	
	baz=11,slow=76						
H11N1	**WAKE ISLAND Hy**	**32.99**	**199**	T	T	12 45 47.2	
	baz=11,slow=76						
H11S1	**WAKE ISLAND Hy**	**34.20**	**199**	T	T	12 47 14.8	
	baz=10						
H11S2	**WAKE ISLAND Hy**	**34.22**	**199**	T	T	12 47 09.6	
	baz=10						
H11S3	**WAKE ISLAND Hy**	**34.22**	**199**	T	T	12 47 18.4	
	baz=10						
YKA	**Yellowknife Ar**	**36.64**	**46**	P	**P**	**12 10 32.4**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=281,slow=8.1,SNR=3.8						
NVAR	**Mina Array Bea**	**45.71**	**81**	P	**P**	**12 11 48.0**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=299,slow=8.1,SNR=6.3						
PDAR	**Pinedale Array**	**48.32**	**70**	P	**P**	**12 12 06.3**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=305,slow=6.5,SNR=2.3						
PDAR				PcP	**PcP**	**12 13 33.4**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=228,slow=3.5,SNR=1.9						
ARCES	**ARCESS Array B**	**57.40**	**349**	P	**P**	**12 13 12.8**	**0.0**
	comp=Z,1.1nm,0.4s,baz=34,slow=8.1,SNR=9.9						
MKAR	**Makanchi Array**	**58.09**	**306**	P	**P**	**12 13 18.6**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=60,slow=7.8,SNR=4.7						
TXAR	**Lajitas Array**	**60.80**	**79**	P	**P**	**12 13 37.5**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=294,slow=5.4,SNR=5.1						
FINES	**FINESS Array B**	**64.97**	**345**	P	**P**	**12 14 04.1**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=15,slow=7.1,SNR=5.5						
NOA	**NORSAR Array B**	**67.12**	**353**	P	**P**	**12 14 18.4**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=9.2,slow=5.9,SNR=2.1						
HFS	**Hagfors**	**67.80**	**351**	P	**P**	**12 14 21.9**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=30,slow=6.7,SNR=1.7						
AKASG	**Malin Array Be**	**74.54**	**340**	P	**P**	**12 15 03.6**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=26,slow=6.6,SNR=4.5						

*NEIC **24** 12:05:08.8±1.1,51°.9N±0°.1×178°.30E±0°.07,h126km±5km, Error ellipse: s-maj=16.3km s-min=6.5km az=183.0*
AEIC 24 12:05:09±1.2,51°.9N±0°.1×178°.29E±0°.09,h126km±5km, ML3.2,mb3.8/7(NEIC),Error ellipse: s-maj=15.6km s-min=7.6km az=184.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.15**	**70**		Pn	12 05 25.9	-0.4
LSSE	**Little Sitkin**	**0.17**	**86**		Pn	12 05 26.3	0.0
LSPA	**Little Sitkin**	**0.18**	**78**		Pn	12 05 26.1	-0.2
CETU	**Semis' Tuman**	**0.75**	**86**		Pn	12 05 29.2	-0.1
CEAP	**Semis' Anvil P**	**0.80**	**84**		Pn	12 05 29.6	-0.2
CEAP					Sn	12 05 45.9	+0.4
AMKA	**Amchitka**	**0.83**	**130**		Pn	12 05 29.8	-0.2
AMKA					Sn	12 05 44.8	-1.1
CERAA	**Semis' Rag'd T**	**0.86**	**90**		Pn	12 05 29.9	-0.4
CERAA					Sn	12 05 45.6	-0.8
TASE	**Tanaga Southea**	**2.28**	**91**		Pn	12 05 45.6	-0.6
TAFP	**Tanaga Falls P**	**2.31**	**89**		Pn	12 05 46.0	-0.6
TAFP					Sn	12 06 15.4	0.0
SMY	**Shemya**	**2.70**	**289**	Pn	Pn	12 05 51.6	+0.1
SMY				Sn	Sn	12 06 24.2	+0.1
KIMD	**Kanaga Island**	**2.78**	**92**		Pn	12 05 51.8	-0.7
KIRH	**Kanaga Island**	**2.86**	**89**		Pn	12 05 53.1	-0.5
ADK	**Adak**	**3.11**	**89**	Pn	Pn	12 05 56.6	-0.3
ADK				Sn	Sn	12 06 34.0	+0.1
GSTR	**Great Sitkin T**	**3.50**	**85**	Pn	Pn	12 06 00.6	-1.3
ATKA	**Atka Island**	**4.64**	**84**		Pn	12 06 16.6	-0.6
SPIA	**Saint Paul Isl**	**8.49**	**47**	Pn	Pn	12 07 09.1	+0.3
UNV	**Unalaska Valle**	**9.39**	**72**	Pn	Pn	12 07 22.2	+1.1
SII	**Sitkinak Islan**	**16.68**	**63**	P	P	12 08 56.1	+0.8
OHAK	**Old Harbor**	**17.23**	**61**	P	P	12 08 59.1	-2.1
OHAK				IAmb	IAmb	12 09 02.1	
	comp=Z,3.6nm,1.1s						
KDAK	**Kodiak Island**	**17.68**	**59**	P	P	12 09 04.1	-1.9
CNPM	**China Poot**	**18.64**	**54**	P	P	12 09 16.8	+0.2
CNPM				IAmb	IAmb	12 09 25.9	
	comp=Z,17nm,1.4s						
SEW	**Seward**	**19.63**	**53**	P	P	12 09 26.7	-0.6
SEW				IAmb	IAmb	12 09 34.0	
	comp=Z,12nm,1.4s						
TOLK	**Toolik Lake Re**	**22.68**	**30**	P	P	12 10 00.6	+1.2
BCAR	**Beaver Creek A**	**23.75**	**47**	P	P	12 10 10.8	+1.3
EGAK	**Eagle**	**24.35**	**43**	P	P	12 10 15.4	+0.7
EGAK				IAmb	IAmb	12 10 18.3	
	comp=Z,2.9nm,1.2s						
DAWY	**Dawson**	**24.97**	**45**	P	P	12 10 21.3	+0.9
DAWY				IAmb	IAmb	12 10 25.4	
	comp=Z,3.6nm,1.4s						

*IDC **24** 12:22:12.8±1.9,29°.88S×177°.92W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.5/18,mbtmp3.6/2,Error ellipse: s-maj=29.0km s-min=17.1km az=125.0*
*NEIC **24** 12:22:16.8±2.5,29°.8S±0°.2×178°.4W±0°.2,h10km±2km, mb4.6/5,Error ellipse: s-maj=38.9km s-min=6.4km az=131.0*
ISC 24 12:22:16.8±1.0,29°.7S±0°.2×178°.4W±0°.2,h10km,n15, σ1§01/16,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.64**	**42**	Pn	**Pg**	**12 22 28.7**	**-0.4**
	345nm,0.3s,baz=150,slow=4.6,SNR=18						
RAO				Sn	**Sb**	**12 22 40.7**	**+1.8**
	477nm,0.3s,baz=180,slow=22,SNR=8.2						
RAO	**Raoul Island**	**0.64**	**42**		**Pg**	**12 22 28.8**	**-0.3**
RAO	**Raoul Island**	**0.64**	**42**		**Sg**	**12 22 35.8**	**-1.7**
OUZ	**Omahuta**	**8.69**	**229**	Pn	**Pn**	**12 24 21.3**	**-1.2**
ASAR	**Alice Springs**	**42.79**	**266**	P	**P**	**12 30 15.6**	**+0.6**
	0.4nm,0.6s,baz=105,slow=7.4,SNR=12						
ASAR	**Alice Springs**	**42.79**	**266**	P	**P**	**12 30 15.0**	**+0.1**
WR0	**Warramunga Arr**	**43.54**	**272**	P	**P**	**12 30 21.4**	**+0.4**
WR0				IAmb	IAmb	12 30 28.9	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**43.71**	**272**	P	**P**	**12 30 23.3**	**+1.0**
WRAB	**Tennant Creek**	**43.71**	**272**	P	**P**	**12 30 22.3**	**-0.1**
WRA	**Warramunga Arr**	**43.72**	**272**	P	**P**	**12 30 23.4**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=110,slow=8.1,SNR=5.2						
WRA	**Warramunga Arr**	**43.72**	**272**	P	**P**	**12 30 21.9**	**-0.5**
WB0	**Warramunga Arr**	**43.74**	**272**	P	**P**	**12 30 24.0**	**+1.5**
WB0				IAmb	IAmb	12 30 42.9	
	comp=Z,19nm,1.5s						
QSPA	**South Pole Qui**	**60.38**	**180**	P	**P**	**12 32 26.7**	**+0.7**
FINES	**FINESS Array B**	**144.39**	**340**	PKP	**PKPab**	**12 41 50.8**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=38,slow=2.5,SNR=1.0						
FINES	**FINESS Array B**	**144.39**	**340**		**PKPab**	**12 41 50.6**	**-0.1**

*MOS **24** 12:36:34.7±0.0,43°.57N×45°.62E,h22km,MPVA3.8*
*NORS **24** 12:36:35.2±0.0,43°.53N×45°.68E,h23km,MPVA4.0*
*DRS **24** 12:36:39.2±0.0,43°.57N×45°.78E,h18km*
ISC 24 12:36:34.8±1.3,43°.60N±0°.04×45°.62E±0°.02,h10km±9km, n31,σ0§89/59,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GROC	**Groznyy**	**0.42**	**162**	*e*Pg	**Pb**	**12 36 43.9**	**-0.5**
GROC				*e*Sg	**Sb**	**12 36 51.3**	**+0.5**
TRKR	**Terskaya**	**0.65**	**281**	*e*Pg	**Pg**	**12 36 45.1**	**-2.4**
TRKR				*e*Sg	**Sb**	**12 36 59.0**	**+1.6**
KMGR	**Komgaron**	**0.77**	**225**	*e*Pg	**Pg**	**12 36 50.1**	**+0.4**
KMGR				*e*Sg	**Sb**	**12 37 02.6**	**+1.6**
BTKR	**Batakoyurt**	**0.82**	**254**	*e*Pg	**Pn**	**12 36 52.2**	**-0.2**
BTKR				*e*Sg	**Sn**	**12 37 05.2**	**+0.6**
VLKR	**Vladikavkaz**	**0.88**	**231**	*e*Pg	**Pg**	**12 36 52.3**	**+0.2**
VLKR				*e*Sg	**Sn**	**12 37 06.1**	**-0.2**
PRTR	**Priterechnaya**	**0.98**	**279**	*e*Pg	**Pb**	**12 36 54.1**	**+0.2**
PRTR				*e*Sg	**Sn**	**12 37 08.8**	**+0.2**
BTLR	**Botlikh**	**1.04**	**155**	*e*Pg	**Pg**	**12 36 54.1**	**-0.7**
BTLR				*e*Sg	**Sg**	**12 37 08.2**	**-0.2**
ARNR	**Ardon**	**1.06**	**247**	*e*Pg	**Pg**	**12 36 55.2**	**-0.1**
ARNR				*e*Sg	**Sn**	**12 37 10.8**	**+0.2**
DBC	**Dubki**	**1.06**	**123**	*e*Pg	**Pb**	**12 36 55.2**	**-0.1**
DBC				*e*Sg	**Sn**	**12 37 09.9**	**-0.8**
STDR	**Stavd-Durt**	**1.16**	**259**	*i* Pg	**Pn**	**12 36 57.9**	**+0.8**
STDR				*e*Sg	**Sn**	**12 37 13.3**	**+0.3**
PNSH	**Pansheti**	**1.21**	**217**	P	**Pn**	**12 36 56.8**	**-1.3**
PNSH				S	**Sb**	**12 37 12.5**	**-1.3**
UNCR	**Uncukul**	**1.24**	**136**	*e*Pg	**Pg**	**12 36 58.5**	**-0.1**
UNCR				*e*Sg	**Sn**	**12 37 15.0**	**0.0**
LACR	**Lac**	**1.24**	**232**	*e*Pg	**Pn**	**12 36 57.2**	**-1.1**
LACR				*e*Sg	**Sg**	**12 37 15.4**	**+0.7**
XNZR	**Khunzakh**	**1.33**	**143**	*e*Pg	**Pg**	**12 37 00.0**	**-0.3**
XNZR				*e*Sg	**Sn**	**12 37 17.5**	**+0.1**
BUJR	**Buynaksk**	**1.34**	**125**	*e*Pg	**Pg**	**12 37 01.3**	**+0.8**
BUJR				*e*Sg	**Sg**	**12 37 19.8**	**+1.9**
LSNR	**Lesken**	**1.34**	**257**	*e*Pg	**Pg**	**12 37 00.6**	**-0.1**
LSNR				*e*Sg	**Sg**	**12 37 19.2**	**+1.1**
ZEI	**Tsey**	**1.50**	**238**	*e*Pg	**Pn**	**12 37 01.4**	**-0.6**
ZEI				*e*Sg	**Sn**	**12 37 20.2**	**-1.4**
MAK	**Makhachkala**	**1.52**	**114**	*e*Pg	**Pg**	**12 37 03.1**	**-0.9**
MAK				*e*Sg	**Sb**	**12 37 22.2**	**-0.2**
DIGR	**Digorskoe uzhe**	**1.65**	**245**	*e*Pg	**Pn**	**12 37 03.8**	**-0.3**
DIGR				*e*Sg	**Sn**	**12 37 24.7**	**-0.7**
ONI	**Oni**	**1.88**	**238**	P	**Pn**	**12 37 07.8**	**+0.7**
ONI				S	**Sb**	**12 37 33.4**	**+0.5**
ONI	**Oni**	**1.88**	**238**	*e*Pg	**Pn**	**12 37 08.1**	**+1.0**
ONI				*e*Sg	**Sb**	**12 37 32.8**	**-0.1**
KBZ	**Khabaz**	**1.98**	**275**	*e*Pg	**Pn**	**12 37 08.7**	**+0.4**
KBZ				*e*Sg	**Sn**	**12 37 34.5**	**+1.3**
BEYR	**Belyy Ugol+**	**2.07**	**282**	*e*Pg	**

SMY	**Shemya**	**3.11**	**298**			Pn	12 42 00.5	-0.6
GSMY	**Great Sitkin M**	**3.39**	**76**			Pn	12 42 03.6	-1.2
GSTR	**Great Sitkin T**	**3.40**	**75**			Pn	12 42 04.2	-0.7
ATKA	**Atka Island**	**4.55**	**76**			Pn	12 42 19.7	-0.7
NIKH	**Nikolski High**	**7.88**	**73**	Pn	Pn	Pn	12 43 05.9	+0.2
UNV	**Unalaska Valle**	**9.39**	**69**	Pn	Pn	Pn	12 43 25.4	-0.9
AKUT	**Akutan**	**9.87**	**68**	Pn	Pn	Pn	12 43 31.8	-1.0
SDPT	**Sand Point**	**13.10**	**64**	Pn	Pn	Pn	12 44 12.7	-3.4
GAMB	**Gambell**	**13.47**	**19**	Pn	Pn	Pn	12 44 16.9	-3.9
CNBA	**Chernabura Isl**	**13.54**	**67**	Pn	Pn	Pn	12 44 17.1	-4.7
CHIR	**Chirikof Islan**	**15.89**	**64**	Pn	Pn	Pn	12 44 47.4	-4.4
SII	**Sitkinak Islan**	**16.77**	**61**	Pn	Pn	Pn	12 44 58.9	-3.8
SVW2	**Sparrevohn**	**17.23**	**46**	P	Pn	Pn	12 45 03.0	-5.3
SVW2					IAmb	IAmb	12 45 07.6	
	comp=Z,4.0nm,1.3s							
OHAK	**Old Harbor**	**17.34**	**59**	P	P	P	12 45 04.5	-5.1
OHAK					IAmb	IAmb	12 45 20.8	
	comp=Z,16nm,1.4s							
MA2	**Magadan**	**17.69**	**309**			P	12 45 13.5	+0.1
KDAK	**Kodiak Island**	**17.80**	**58**	P	P	P	12 45 12.1	-2.5
CNPM	**China Poot**	**18.82**	**53**	P	P	P	12 45 24.4	-1.3
CNPM					IAmb	IAmb	12 45 37.7	
	comp=Z,23nm,1.5s							
SEW	**Seward**	**19.82**	**51**	P	P	P	12 45 35.0	-1.6
SEW					IAmb	IAmb	12 45 47.7	
	comp=Z,21nm,1.5s							
TOLK	**Toolik Lake Re**	**23.07**	**30**	P	P	P	12 46 09.2	-1.7
BCAR	**Beaver Creek A**	**24.00**	**46**	P	P	P	12 46 18.3	-1.1
EGAK	**Eagle**	**24.64**	**42**	P	P	P	12 46 23.6	-1.5
EGAK					IAmb	IAmb	12 46 33.4	
	comp=Z,3.3nm,1.3s							
DAWY	**Dawson**	**25.24**	**44**	P	P	P	12 46 27.6	-3.0

*NNC **24** 12:48:28.1±0.7, 42°.77N×79°.25E, h0km, mb3.2, mpv3.0,*
Error ellipse: s-maj=4.9km s-min=2.0km az=152.0
*SOME **24** 12:48:28.1, 42°.73N×79°.20E, h10km*
*KRNET **24** 12:48:28.5±0.1, 42°.80N×79°.24E, h35km, mb2.4*

ISC 24 12:48:28.0±1.4, **42°.75N**±0°.04×**79°.22E**±0°.03, **h6**km±10km, **n45**, σ1.9**10°/77, 10C-17D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**0.44**	**23**	⇑*eP*		**Pn**	**12 48 40.4**	**-0.6**
	56nm,0.1s							
SHLS				*eS*		**Sb**	**12 48 49.4**	**+4.1**
	49nm,0.2s							
SHLS	**Shalkode**	**0.44**	**23**	P		**Pn**	**12 48 40.4**	**-0.6**
	56nm,0.1s							
SHLS				S		**Sb**	**12 48 49.4**	**+4.1**
	49nm,0.2s							
PDGK	**Podgornoye**	**0.61**	**19**	P		**Pg**	**12 48 39.7**	**-0.1**
	3.5nm,0.2s							
PDGK				S		**Sg**	**12 48 48.0**	**+0.2**
	24nm,0.3s							
PDGK	**Podgornoye**	**0.61**	**19**	⇓P		**Pg**	**12 48 39.7**	**-0.1**
	1.8nm,0.2s							
PDGK				⇓S		**Sg**	**12 48 47.8**	**0.0**
	21nm,0.3s							
PRZ	**Przheval'sk**	**0.66**	**247**	⇑*iP*		**Pn**	**12 48 45.4**	**+1.3**
	baz=43							
PRZ				⇑*iS*		**Sn**	**12 48 58.3**	**+3.4**
	baz=43							
SATY	**Saty**	**0.68**	**298**	*eP*		**Pg**	**12 48 41.2**	**+0.2**
	4.7nm,0.2s							
SATY				*eS*		**Sg**	**12 48 50.8**	**+1.0**
	40nm,0.1s							
SATY	**Saty**	**0.68**	**298**	P		**Pg**	**12 48 41.2**	**+0.2**
	4.7nm,0.2s							
SATY				S		**Sg**	**12 48 50.7**	**+1.0**
	40nm,0.1s							
ZHN	**Zhinishke**	**0.71**	**306**	*eP*		**Pg**	**12 48 41.8**	**0.0**
	15nm,0.2s							
ZHN				*eS*		**Sg**	**12 48 51.6**	**+0.6**
	15nm,0.2s							
ZHN	**Zhinishke**	**0.71**	**306**	P		**Pg**	**12 48 41.8**	**0.0**
	15nm,0.2s							
ZHN				S		**Sg**	**12 48 51.6**	**+0.6**
	15nm,0.3s							
KPKS	**Kokpek**	**0.82**	**331**	⇓*eP*		**Pg**	**12 48 43.8**	**+0.1**
	19nm,0.1s							
KPKS				*eS*		**Sb**	**12 48 54.9**	**-1.1**
	54nm,0.2s							
KTMS	**Ketmen**	**1.08**	**50**	*eP*		**Pg**	**12 48 47.9**	**-0.9**
	3.6nm,0.1s							
KTMS				*eS*		**Sg**	**12 49 02.2**	**-0.6**
	12nm,0.1s							
KTMS	**Ketmen**	**1.08**	**50**	P		**Pg**	**12 48 47.9**	**-0.9**
	3.6nm,0.1s							
KTMS				S		**Sg**	**12 49 02.2**	**-0.6**
	11nm,0.2s							
ANVS	**Anan'yevo**	**1.15**	**272**	⇑*iP*		**Pn**	**12 48 51.0**	**+0.2**
	baz=70							
ANVS				⇑*iS*		**Sn**	**12 49 06.8**	**-0.1**
	baz=70							
MNBS	**Baschi**	**1.46**	**336**	⇓*eP*		**Pb**	**12 48 55.5**	**-0.1**
	10.0nm,0.3s							
MNBS				*eS*		**Sg**	**12 49 15.1**	**+0.3**
	32nm,0.1s							
MNBS	**Baschi**	**1.46**	**336**	P		**Pb**	**12 48 55.3**	**-0.3**
	10.0nm,0.3s							
MNBS				S		**Sg**	**12 49 15.1**	**+0.3**
	32nm,0.1s							
TARG	**Taragay, Kyrgy**	**1.47**	**226**	⇓*iP*		**Pn**	**12 48 55.1**	**-0.2**
	baz=26							
TARG				⇓*iS*		**Sn**	**12 49 14.4**	**-0.7**
	baz=26							
KDJ	**Kajisay**	**1.63**	**248**	⇑*iP*		**Pn**	**12 48 57.1**	**-0.4**
	baz=47							
KDJ				⇑*iS*		**Sn**	**12 49 18.3**	**-0.6**
	baz=47							
DJR	**Jarkent**	**1.64**	**14**	*eP*		**Pb**	**12 48 58.4**	**-0.2**
	6.8nm,0.2s							
DJR				*eS*		**Sg**	**12 49 20.1**	**-0.5**
	25nm,0.3s							
DJR	**Jarkent**	**1.64**	**14**	P		**Pb**	**12 48 58.4**	**-0.2**
	6.8nm,0.2s							
DJR				S		**Sg**	**12 49 20.1**	**-0.5**
	25nm,0.3s							
MDOK	**Medeo**	**1.65**	**285**	*eP*		**Pb**	**12 48 59.1**	**+0.2**
	3.3nm,0.4s							
MDOK				*eS*		**Sg**	**12 49 20.9**	**-0.1**
	6.1nm,0.5s							
MDOK	**Medeo**	**1.65**	**285**	Pg		**Pn**	**12 48 58.0**	**+0.3**
	2.7nm,0.5s							
MDOK				⇓Lg		Lg	12 49 20.6	
	5.1nm,0.5s							
MDOK	**Medeo**	**1.65**	**285**	Pg		**Pb**	**12 48 59.1**	**+0.2**
	1.8nm,0.4s							
MDOK				Lg		Lg	12 49 20.9	
	6.1nm,0.5s							
ARXS	**Arharly**	**1.78**	**326**	*eP*		**Pb**	**12 49 00.8**	**-0.3**
	13nm,0.4s							
ARXS				*eS*		**Sg**	**12 49 24.4**	**-0.8**
	13nm,0.2s							
ARXS	**Arharly**	**1.78**	**326**	P		**Pb**	**12 49 00.8**	**-0.3**
	12nm,0.4s							
ARXS				S		**Sg**	**12 49 24.4**	**-0.8**
	13nm,0.2s							
IZV	**Izvestkoviy**	**1.94**	**279**	⇓*eP*		**Pb**	**12 49 04.3**	**+0.4**
	2.5nm,0.2s							
IZV				*eS*		**Sg**	**12 49 30.0**	**-0.3**
	13nm,0.3s							
IZV	**Izvestkoviy**	**1.94**	**279**	P		**Pb**	**12 49 04.2**	**+0.4**
	3.5nm,0.3s							
IZV				S		**Sg**	**12 49 30.0**	**-0.3**
	13nm,0.3s							
CHKK	**Chushkaly**	**1.97**	**305**	⇑*eP*		**Pb**	**12 49 04.1**	**-0.2**
	6.7nm,0.3s							
CHKK				*eS*		**Sg**	**12 49 30.1**	**-1.2**
	20nm,0.3s							
CHKK	**Chushkaly**	**1.97**	**305**	Pg		**Pb**	**12 49 04.1**	**-0.2**
	6.7nm,0.3s							
CHKK				Lg		Lg	12 49 30.1	
	20nm,0.3s							
MTBS	**Maitube**	**2.09**	**281**	*eP*		**Pg**	**12 49 07.3**	**-0.6**
	3.0nm,0.2s							
MTBS				*eS*		**Sg**	**12 49 35.4**	**+0.4**
	12nm,0.3s							
MTBS	**Maitube**	**2.09**	**281**	Pg		**Pg**	**12 49 07.3**	**-0.6**
	3.0nm,0.2s							
MTBS				Lg		Lg	12 49 35.4	
	12nm,0.3s							
KTBS	**Karatobe**	**2.09**	**298**	⇓*eP*		**Pb**	**12 49 06.3**	**-0.1**
	8.2nm,0.2s							
KTBS				*eS*		**Sb**	**12 49 33.6**	**+1.0**
	36nm,0.5s							
KTBS	**Karatobe**	**2.09**	**298**	Pg		**Pb**	**12 49 06.1**	**-0.2**
	8.2nm,0.2s							
KTBS				Lg		Lg	12 49 33.6	
	36nm,0.5s							
KUU	**Kurty**	**2.40**	**299**	*eP*		**Pb**	**12 49 11.0**	**-0.6**
	0.8nm,0.2s							
KUU				*eS*		**Sb**	**12 49 41.7**	**+0.4**
	9.3nm,0.4s							
KUU	**Kurty**	**2.40**	**299**	Pg		**Pb**	**12 49 11.0**	**-0.6**
	0.8nm,0.2s							
KUU				Lg		Lg	12 49 41.7	
	9.3nm,0.4s							
KST	**Kastek**	**2.41**	**278**	*eP*		**Pb**	**12 49 12.2**	**+0.3**
	4.5nm,0.4s							
KST				*eS*		**Sg**	**12 49 44.0**	**-1.5**
	11nm,0.4s							
KST	**Kastek**	**2.41**	**278**	Pg		**Pb**	**12 49 12.2**	**+0.3**
	4.5nm,0.4s							
KST				Lg		Lg	12 49 44.0	
	11nm,0.4s							
BOOM	**Boomskoye usch**	**2.44**	**265**	⇓*iP*		**Pn**	**12 49 08.0**	**-0.5**
	baz=64							
BOOM				⇓*iS*		**Sn**	**12 49 36.0**	**-2.7**
	baz=64							
KAPS	**Kapalarasan**	**2.54**	**2**	⇓*eP*		**Pb**	**12 49 13.7**	**-0.3**
	1.2nm,0.2s							
KAPS				*eS*		**Sb**	**12 49 46.2**	**+0.8**
	10.0nm,0.4s							
KAPS	**Kapalarasan**	**2.54**	**2**	Pg		**Pb**	**12 49 13.6**	**-0.3**
	1.6nm,0.4s							
KAPS				Lg		Lg	12 49 46.2	
	10.0nm,0.4s							
DGS	**Degeres**	**2.58**	**282**	*eP*		**Pb**	**12 49 15.8**	**+1.1**
	1.5nm,0.8s							
DGS				*eS*		**Sg**	**12 49 49.8**	**-1.0**
	15nm,0.6s							
DGS	**Degeres**	**2.58**	**282**	Pg		**Pb**	**12 49 15.8**	**+1.1**
	1.5nm,0.8s							
DGS				Lg		Lg	12 49 49.8	
	15nm,0.6s							
TKM2	**Tokmak 2**	**2.67**	**275**	⇑Pg		**Pb**	**12 49 16.6**	**+0.2**
	1.2nm,0.5s							
TKM2				⇓Lg		Lg	12 49 53.3	
	4.0nm,0.4s							
KZA	**Kyzart**	**3.02**	**258**	⇓*iP*		**Pn**	**12 49 15.8**	**-0.9**
	baz=58							
KZA				⇓*iS*		**Sn**	**12 49 50.0**	**-3.3**
	baz=58							
AAK	**Ala-Archa**	**3.49**	**270**	⇓Lg		Lg	12 50 17.1	
	3.0nm,0.9s							
MK31	**Makanchi Array**	**4.60**	**27**	⇑Sn		**Sn**	**12 50 32.2**	**+0.5**
	0.4nm,0.6s							
MK31				⇓Lg		Lg	12 50 51.6	
	0.5nm,0.5s,baz=210,slow=28,SNR=4.9							

*NEIC **24** 12:58:04±2.2, 29°.6S±0°.2×177°.1W±0°.1, h10km±2km,*
mb4.4/7, Error ellipse: s-maj=39.5km s-min=3.1km
az=27.0
*IDC **24** 12:58:04.3±3.2, 30°.03S×177°.31W, h0km, mb3.6/2,*
mb1 3.9/2, mb1mx3.5/37, mbtmp3.6/2, Error ellipse:
s-maj=63.0km s-min=42.4km az=94.0

ISC 24 12:58:09.6±1.7, **29°.85S**±0°.09×**177°.5W**±0°.3, **h35**km, **n29,**
σ2.2 3/21, mb4.3/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.70**	**328**	Pn		**Pn**	**12 58 23.9**	**+0.9**
	186nm,0.3s,baz=98,slow=19,SNR=3.0							
RAO				Sn		**Sn**	**12 58 35.9**	**+3.4**
	494nm,0.3s,baz=93,slow=21,SNR=13							
RAO	**Raoul Island**	**0.70**	**328**	Pg		**Pn**	**12 58 19.2**	**-3.8**
RAO	**Raoul Island**	**0.70**	**328**			**Sn**	**12 58 31.4**	**-1.2**
WMGZ	**Waiomatatini S**	**8.65**	**202**	P		Pn	13 00 20.6	+8.4
HAZ	**Te Kaha**	**8.81**	**205**	P		Pn	13 00 10.1	-4.4
PKGZ	**Pakihiroa**	**8.82**	**203**	P		**Pn**	**13 00 13.8**	**-0.9**
PUZ	**Puketiti**	**8.93**	**202**	P		**Pn**	**13 00 19.5**	**+3.4**
RUGZ	**Raukumara Rang**	**9.04**	**205**	P		Pn	13 00 10.5	-7.2
OPRZ	**Ohinepanea**	**9.38**	**210**	P		Pn	13 00 09.7	-13
TKGZ	**Te Karaka**	**9.40**	**203**	P		**Pn**	**13 00 19.8**	**-2.7**
MWZ	**Matawai**	**9.42**	**205**	P		Pn	13 00 14.9	-7.9
URZ	**Urewera**	**9.51**	**207**	P		Pn	13 00 12.6	-11
URZ	**Urewera**	**9.51**	**207**			Pn	13 00 12.2	-12
LIRZ	**Lichensteins R**	**9.59**	**210**	P		Pn	13 00 16.9	-8.3
RIGZ	**Rimuhau**	**9.67**	**203**	P		**Pn**	**13 00 22.9**	**-3.3**
MURZ	**Murupara**	**9.83**	**207**	P		Pn	13 00 18.3	-10
MTHZ	**Maungataniwha**	**10.13**	**206**	P		**Pn**	**13 00 29.0**	**-3.5**
WKZ	**Wanaka**	**18.36**	**212**	P		**Pn**	**13 02 24.5**	**+3.0**
AS31	**Alice Springs**	**43.58**	**266**	P		**P**	**13 06 11.5**	**+1.0**
ASAR	**Alice Springs**	**43.58**	**266**	P		**P**	**13 06 11.5**	**+1.0**
	0.6nm,0.7s,baz=100,slow=7.1,SNR=8.6							
ASAR	**Alice Springs**	**43.58**	**266**	P		**P**	**13 06 11.1**	**+0.5**
WR0	**Warramunga Arr**	**44.34**	**271**	P		**P**	**13 06 15.8**	**-0.8**
WR0					IAmb	IAmb	13 06 35.1	
	comp=Z,6.2nm,1.1s							
WB2	**Warramunga Arr**	**44.51**	**271**	P		**P**	**13 06 17.9**	**-0.1**
WB2					IAmb	IAmb	13 06 23.5	
	comp=Z,5.9nm,1.2s							
WRA	**Warramunga Arr**	**44.52**	**271**	P		**P**	**13 06 19.4**	**+1.3**
	comp=Z,1.0nm,0.7s,baz=110,slow=8.1,SNR=4.6							
WRA	**Warramunga Arr**	**44.52**	**271**	P		**P**	**13 06 19.1**	**+1.1**
WB0	**Warramunga Arr**	**44.54**	**272**	P		**P**	**13 06 19.0**	**+0.7**
WB0					IAmb	IAmb	13 06 29.5	
	comp=Z,8.4nm,1.3s							
QSPA	**South Pole Qui**	**60.26**	**180**	P		**P**	**13 08 15.8**	**+1.5**
QSPA					IAmb	IAmb	13 08 22.7	
	comp=Z,5.3nm,1.5s							
FINES	**FINESS Array B**	**144.77**	**341**	PKPbc		**PKPdf**	**13 17 41.5**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=48,slow=2.8,SNR=5.5							
FINES	**FINESS Array B**	**144.77**	**341**			**PKPdf**	**13 17 41.2**	**-0.9**

*IDC **24** 13:03:26.7±0.9, 51°.80N×178°.48E, h0km, mb3.9/13,*
mb1 4.1/13, mb1mx3.8/58, mbtmp3.9/13, Error ellipse:
s-maj=27.5km s-min=15.9km az=163.0
*NEIC **24** 13:03:38.3±1.5, 51°.8N±0°.1×178°.57E±0°.08, h99km±4km,*
mb4.3/121, ML3.5(AEIC), Error ellipse: s-maj=15.2km
s-min=6.8km az=182.0
*AEIC **24** 13:03:39.9±2.3, 51°.7N±0°.1×178°.58E±0°.07, h88km±4km,*
Error ellipse: s-maj=15.5km s-min=6.5km az=184.0

ISC 24 13:03:38.2±0.6, **51°.75N**±0°.09×**178°.57E**±0°.04, **h100**km,
n188, σ0.8 **83**/183, **mb4.3**/58, **Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.20**	**351**			**Pn**	**13 03 52.3**	**-0.2**
LSPA	**Little Sitkin**	**0.21**	**1**			**Pn**	**13 03 52.3**	**-0.2**
LSNW	**Little Sitkin**	**0.23**	**352**			**Pn**	**13 03 52.3**	**-0.3**
AMKA	**Amchitka**	**0.59**	**129**			**Pn**	**13 03 54.5**	**-0.1**
AMKA						**Sn**	**13 04 06.3**	**-0.7**
CETU	**Semis' Tuman**	**0.62**	**69**			**Pn**	**13 03 55.0**	**0.0**
CESW	**Semis' Southwe**	**0.64**	**76**			**Pn**	**13 03 54.8**	**-0.3**
CEAP	**Semis' Anvil P**	**0.68**	**67**			**Pn**	**13 03 55.5**	**0.0**
CEAP						**Sn**	**13 04 07.5**	**-0.9**
CERAA	**Semis' Rag'd T**	**0.71**	**77**			**Pn**	**13 03 55.6**	**-0.1**
GAEA	**Gareloi East**	**1.67**	**88**			**Pn**	**13 04 07.0**	**+0.4**
TASE	**Tanaga Southea**	**2.11**	**86**			**Pn**	**13 04 12.5**	**+0.3**
TAFP	**Tanaga Falls P**	**2.15**	**85**			**Pn**	**13 04 12.7**	**0.0**
TAFP						**Sn**	**13 04 37.9**	**-1.1**
TAPA	**Tanaga Point A**	**2.25**	**87**			**Pn**	**13 04 14.3**	**+0.2**
KIMD	**Kanaga Island**	**2.61**	**88**			**Pn**	**13 04 18.8**	**+0.1**
KICM	**Kanaga Island**	**2.64**	**85**			**Pn**	**13 04 19.2**	**+0.2**
KIKV	**Kanaga Island**	**2.65**	**85**			**Pn**	**13 04 19.4**	**+0.2**
KIWB	**Kanaga Island**	**2.66**	**86**	Pn		**Pn**	**13 04 18.4**	**-1.1**
SMY	**Shemya**	**2.92**	**291**			**Pn**	**13 04 22.9**	**+0.1**
SMY	**Shemya**	**2.92**	**291**			**Sn**	**13 04 55.9**	**-1.2**
ADK	**Adak**	**2.95**	**85**			**Pn**	**13 04 22.9**	**-0.3**
GSTD	**Great Sitkin T**	**3.29**	**83**			**Pn**	**13 04 27.6**	**-0.3**
GSMY	**Great Sitkin M**	**3.34**	**83**			**Pn**	**13 04 28.7**	**+0.2**
GSTR	**Great Sitkin T**	**3.35**	**82**			**Pn**	**13 04 27.7**	**-0.9**
ATKA	**Atka Island**	**4.50**	**81**	Pn		**Pn**	**13 04 44.2**	**+0.2**
KOFP	**Korovin Flat P**	**4.56**	**80**			**Pn**	**13 04 46.7**	**+1.7**
KOSE	**Korovin Southe**	**4.60**	**80**			**Pn**	**13 04 46.8**	**+1.4**
NIKH	**Nikolski High**	**7.80**	**76**	Pn		**Pn**	**13 05 29.6**	**+0.7**
SPIA	**Saint Paul Isl**	**8.48**	**46**	Pn		**Pn**	**13 05 38.1**	**0.0**
UNV	**Unalaska Valle**	**9.29**	**71**	Pn		**Pn**	**13 05 50.3**	**+1.3**
AKUT	**Akutan**	**9.75**	**70**	Pn		**Pn**	**13 05 56.6**	**+1.3**
PETK	**Petropavlovsk-**	**12.80**	**284**	Pn		**Pn**	**13 06 36.0**	**-0.3**
SDPT	**Sand Point**	**12.96**	**66**	Pn		**Pn**	**13 06 36.4**	**-1.9**
CNBA	**Chernabura Isl**	**13.41**	**68**	Pn		**Pn**	**13 06 41.4**	**-2.9**
CHIR	**Chirikof Islan**	**15.75**	**65**	Pn		**Pn**	**13 07 12.1**	**-2.0**
SII	**Sitkinak Islan**	**16.61**	**62**	Pn		**Pn**	**13 07 23.1**	**-1.7**
SVW2	**Sparrevohn**	**16.98**	**47**	P		**P**	**13 07 31.6**	**+2.1**

OHAK	**Old Harbor**	**17.17**	**60**	Pn		**Pn**	**13 07 30.0**	**-1.6**
BILL	**Bilibino**	**17.40**	**344**			**Pn**	**13 07 35.5**	**+1.2**
MA2	**Magadan**	**17.42**	**308**			**Pn**	**13 07 34.9**	**+0.3**
MA2					IAmb	IAmb	13 07 36.1	
	comp=Z,50nm,1.8s							
TTA	**Tatalina**	**17.57**	**41**	P		**Pn**	**13 07 37.2**	**+0.8**
RSO	**Redoubt South**	**18.08**	**50**	P		**Pn**	**13 07 43.2**	**+0.4**
HOM	**Homer**	**18.43**	**53**	P		**Pn**	**13 07 46.5**	**-0.2**
CNPM	**China Poot**	**18.60**	**53**	P		**P**	**13 07 47.6**	**+0.2**
SPU	**Mount Spurr**	**18.62**	**48**	P		**Pn**	**13 07 49.5**	**+0.5**
RDOG	**Red Dog Mine**	**18.67**	**22**			**Pn**	**13 07 51.8**	**+2.3**
RDOG					IAmb	IAmb	13 07 55.7	
	comp=Z,9.9nm,0.7s							
BRLK	**Bradley Lake**	**18.82**	**53**	P		**P**	**13 07 49.7**	**-0.1**
BRLK					IAmb	IAmb	13 08 47.7	
	comp=Z,35nm,1.5s							
PPLA	**Purkeypile**	**19.14**	**43**	Pn		**Pn**	**13 07 55.8**	**+0.6**
SEW	**Seward**	**19.60**	**52**	P		**P**	**13 07 58.6**	**+0.4**
BPAW	**Bear Paw Mtn.**	**20.11**	**40**	P		Pn	13 08 05.0	-1.4
TRF	**Thorofare Moun**	**20.14**	**42**	P		**P**	**13 08 05.3**	**+1.0**
TRF					IAmb	IAmb	13 08 08.0	
	comp=Z,9.8nm,0.7s							
RND	**Reindeer**	**20.74**	**43**	P		**P**	**13 08 11.7**	**+1.2**
MCK	**McKinley**	**20.81**	**42**	P		**P**	**13 08 12.6**	**+1.4**
GLI	**Glacier Island**	**20.89**	**51**	P		**P**	**13 08 11.3**	**-0.8**
HIN	**Hinchinbrook I**	**21.10**	**52**	P		**P**	**13 08 14.6**	**+0.2**
FID	**Port Fidalgo**	**21.17**	**51**	P		**P**	**13 08 14.6**	**-0.5**
DHY	**Denali Highway**	**21.27**	**45**	P		**P**	**13 08 16.9**	**+0.6**
DHY					IAmb	IAmb	13 08 19.6	
	comp=Z,11nm,0.4s							
EYAK	**Cordova Ski Ar**	**21.49**	**52**	P		**P**	**13 08 19.8**	**+1.3**
EYAK					IAmb	IAmb	13 09 01.7	
	comp=Z,12nm,0.8s							
MDM	**Murphy Dome**	**21.54**	**39**	P		**P**	**13 08 19.6**	**+0.5**
CCB	**Clear Creek Bu**	**21.59**	**40**	P		**P**	**13 08 19.4**	**-0.1**
COLA	**College**	**21.66**	**40**	P		**P**	**13 08 19.9**	**-0.3**
HDA	**Harding Lake**	**21.86**	**41**	P		**P**	**13 08 22.7**	**+0.3**
RAGM	**Ragged Mountai**	**22.00**	**53**	P		**P**	**13 08 24.2**	**+0.2**
IL31		**22.01**	**40**	P		**P**	**13 08 23.8**	**-0.1**
ILAR	**Eielson Array**	**22.01**	**40**	P		**P**	**13 08 22.4**	**-1.5**
	comp=Z,1.3nm,0.6s,baz=235,slow=7.8,SNR=20							
PAX	**Paxson**	**22.08**	**46**	P		**P**	**13 08 25.5**	**+0.6**
RIDG	**Independent Ri**	**22.55**	**44**	P		**P**	**13 08 28.6**	**-1.1**
RIDG					IAmb	IAmb	13 08 31.7	
	comp=Z,6.0nm,0.5s							
GLB	**Gilahina Butte**	**22.55**	**50**	P		**P**	**13 08 29.6**	**-0.1**
GLB					IAmb	IAmb	13 09 18.6	
	comp=Z,11nm,0.8s							
VRDI	**Verde Repeater**	**22.70**	**51**	P		**P**	**13 08 31.1**	**-0.2**
VRDI					IAmb	IAmb	13 08 33.4	
	comp=Z,9.4nm,0.8s							
TOLK	**Toolik Lake Re**	**22.74**	**30**	P		**P**	**13 08 31.7**	**+0.1**
TOLK					IAmb	IAmb	13 08 33.8	
	comp=Z,12nm,0.8s							
CRQM	**Cirque**	**22.79**	**52**	P		**P**	**13 08 32.1**	**-0.2**
CRQM					IAmb	IAmb	13 08 37.1	
	comp=Z,14nm,0.8s							
PRP	**Porcupine Dome**	**22.80**	**39**	P		**P**	**13 08 31.8**	**-0.5**
MENT	**Mentasta**	**22.86**	**46**	P		**P**	**13 08 34.0**	**+1.2**
DOT	**Dot Lake**	**22.86**	**44**	P		**P**	**13 08 32.7**	**-0.1**
WAX	**Waxell Ridge**	**22.90**	**53**	P		**P**	**13 08 32.5**	**-0.8**
WAX					IAmb	IAmb	13 08 35.2	
	comp=Z,12nm,1.0s							
MCARA	**McCarthy VSAT**	**22.92**	**50**	P		**P**	**13 08 32.4**	**-1.0**
MCARA					IAmb	IAmb	13 08 35.6	
	comp=Z,13nm,1.0s							
TGL	**Tana Glacier**	**22.94**	**52**	P		**P**	**13 08 33.8**	**+0.1**
TGL					IAmb	IAmb	13 08 35.5	
	comp=Z,11nm,1.0s							
SCRK	**Sand Creek**	**22.98**	**43**	P		**P**	**13 08 32.5**	**-1.5**
ISLE	**Juniper Island**	**23.17**	**52**	P		**P**	**13 08 35.0**	**-0.9**
ISLE					IAmb	IAmb	13 09 13.4	
	comp=Z,46nm,2.0s							
BALM	**Baldy**	**23.21**	**51**	P		**P**	**13 08 35.3**	**-0.9**
FYU	**Fort Yukon**	**23.29**	**37**	P		**P**	**13 08 36.5**	**-0.3**
FYU					IAmb	IAmb	13 08 39.4	
	comp=Z,40nm,2.0s							
MESA	**MESA**	**23.33**	**53**	P		**P**	**13 08 37.7**	**+0.2**
MESA					IAmb	IAm

NV11	**Mina Array Sit**	**45.22**	**81**	P	**P**	**13 11 45.9**	**+0.5**
NV11				IAmb	IAmb	13 12 50.8	
	comp=Z,6.4nm,1.6s						
YHL	**Hebgen Lake**	**45.58**	**70**	P	**P**	**13 11 47.6**	**-0.7**
ELK	**Elko**	**45.58**	**77**	P	**P**	**13 11 48.2**	**-0.1**
YHH	**Holmes Hill**	**45.81**	**70**	P	**P**	**13 11 49.6**	**-0.5**
HHC	**Hu-ho-hao-te**	**46.00**	**284**	*e*P	**P**	**13 11 50.8**	**-0.7**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,50nm,5.5s						
R11A	**Troy Canyon, C**	**46.85**	**80**	P	**P**	**13 11 58.5**	**+0.3**
HWUT	**Hardware Ranch**	**47.27**	**73**	P	**P**	**13 12 01.3**	**-0.1**
TPNV	**Topopah Spring**	**47.33**	**81**	P	**P**	**13 12 02.7**	**+0.8**
TPNV				IAmb	IAmb	13 12 03.7	
	comp=Z,4.1nm,0.8s						
DUG	**Dugway, Tooele**	**47.38**	**76**	P	**P**	**13 12 02.5**	**+0.2**
DUG				IAmb	IAmb	13 12 04.0	
	comp=Z,2.9nm,0.5s						
SNCC	**San Nicolas Is**	**47.72**	**88**	P	**P**	**13 12 03.9**	**-0.9**
BW06	**Boulder Array**	**47.75**	**71**	P	**P**	**13 12 04.7**	**-0.5**
PD31	**Pinedale Array**	**47.75**	**71**	P	**P**	**13 12 04.5**	**-0.7**
PDAR	**Pinedale Array**	**47.75**	**71**	P	**P**	**13 12 04.9**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=322,slow=3.2,SNR=20						
PDAR	**Pinedale Array**	**47.75**	**71**		**P**	**13 12 04.6**	**-0.7**
PSUT	**Pine Spring**	**47.79**	**78**	P	**P**	**13 12 05.7**	**+0.2**
GSC	**Goldstone, Bar**	**48.05**	**84**	P	**P**	**13 12 08.3**	**+0.9**
GSC				IAmb	IAmb	13 12 09.2	
	comp=Z,5.7nm,0.9s						
MSU	**Marysvale**	**48.82**	**77**	P	**P**	**13 12 14.2**	**+0.8**
TMUT	**Trail Mountain**	**48.91**	**76**	P	**P**	**13 12 14.7**	**+0.5**
RDMU	**Red Mountain**	**49.09**	**73**	P	**P**	**13 12 15.7**	**+0.2**
KNB	**Kanab**	**49.38**	**79**	P	**P**	**13 12 18.4**	**+0.7**
SRU	**San Rafael Swe**	**49.44**	**75**	P	**P**	**13 12 18.4**	**+0.3**
SPA0	**Spitsbergen Ar**	**49.88**	**355**	P	**P**	**13 12 20.6**	**-0.1**
SPITS	**Spitsbergen Ar**	**49.88**	**355**	P	**P**	**13 12 20.6**	**-0.1**
	comp=Z,1.7nm,0.4s,baz=59,slow=6.9,SNR=19						
U15A	**North Rim**	**50.09**	**79**	P	**P**	**13 12 23.9**	**+0.7**
PV09	**Paradox Valley**	**50.66**	**75**	P	**P**	**13 12 27.7**	**+0.2**
PV21	**Cone Mtn., Par**	**50.72**	**75**	P	**P**	**13 12 27.4**	**-0.4**
PV21				IAmb	IAmb	13 13 43.3	
	comp=Z,4.2nm,1.2s						
PV23	**Carpenter Ridg**	**50.77**	**75**	P	**P**	**13 12 28.3**	**+0.1**
PV23				IAmb	IAmb	13 12 35.6	
	comp=Z,2.9nm,0.9s						
GLA	**Glamis**	**50.77**	**84**	P	**P**	**13 12 28.5**	**+0.5**
PV10	**Paradox Valley**	**50.80**	**75**	P	**P**	**13 12 29.3**	**+0.8**
PV14	**Lion Creek, Pa**	**50.81**	**75**	P	**P**	**13 12 28.7**	**+0.2**
PV22	**Blue Mesa, Par**	**50.85**	**75**	P	**P**	**13 12 29.2**	**+0.5**
PV22				IAmb	IAmb	13 14 01.4	
	comp=Z,3.7nm,1.2s						
PV04	**Paradox Valley**	**50.87**	**75**	P	**P**	**13 12 28.9**	**0.0**
PV17	**East Wray Mesa**	**50.91**	**75**	P	**P**	**13 12 28.2**	**-1.0**
PV11	**David Mesa, Pa**	**50.95**	**75**	P	**P**	**13 12 29.2**	**-0.3**
PV18	**Skein Mesa, Pa**	**50.96**	**75**	P	**P**	**13 12 29.3**	**-0.3**
PV18				IAmb	IAmb	13 12 31.8	
	comp=Z,2.8nm,0.9s						
PV12	**Saucer Basin,**	**50.98**	**75**	P	**P**	**13 12 30.0**	**+0.2**
PV03	**Paradox Valley**	**50.99**	**75**	P	**P**	**13 12 29.7**	**-0.2**
PV03				IAmb	IAmb	13 12 31.8	
	comp=Z,2.3nm,0.9s						
PV13	**Radium Mtn., P**	**51.07**	**75**	P	**P**	**13 12 30.3**	**-0.2**
PV02	**Paradox Valley**	**51.09**	**75**	P	**P**	**13 12 30.8**	**+0.2**
KURK	**Kurchatov**	**57.56**	**312**	P	**P**	**13 13 17.9**	**+0.9**
KURK				IAmb	IAmb	13 13 19.5	
	comp=Z,2.6nm,0.5s						
WMQ	**Urumqi**	**57.75**	**301**	*e*P	**P**	**13 13 21.1**	**+2.6**
E43A	**Lone Tree Farm**	**57.87**	**55**	P	**P**	**13 13 18.3**	**-0.9**
MK31	**Makanchi Array**	**58.51**	**307**	P	**P**	**13 13 23.6**	**-0.1**
MK31				IAmb	IAmb	13 14 51.5	
	comp=Z,5.5nm,1.9s						
MKAR	**Makanchi Array**	**58.51**	**307**	P	**P**	**13 13 23.4**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=49,slow=5.8,SNR=8.4						
MKAR	**Makanchi Array**	**58.51**	**307**	P	**P**	**13 13 23.5**	**-0.2**
H43A	**Windswept, Lux**	**58.78**	**57**	P	**P**	**13 13 25.0**	**-0.6**
WMOK	**Wichita Mounta**	**59.35**	**72**	P	**P**	**13 13 29.5**	**-0.3**
WMOK				IAmb	IAmb	13 15 18.7	
	comp=Z,3.3nm,1.0s						
I45A	**Fountain**	**59.87**	**56**	P	**P**	**13 13 31.6**	**-1.5**
P40A	**Paris**	**59.89**	**63**	P	**P**	**13 13 32.0**	**-1.2**
W35A	**Tecumseh**	**60.18**	**70**	P	**P**	**13 13 35.2**	**-0.2**
SCHQ	**Schefferville**	**60.72**	**37**	P	**P**	**13 13 38.7**	**0.0**
D53A	**Lac Vacive, Po**	**61.91**	**49**	P	**P**	**13 13 45.9**	**-0.9**
W39A	**Magazine**	**61.95**	**68**	P	**P**	**13 13 46.8**	**-0.5**
FCAR	**Ozark Folk Cen**	**62.41**	**66**	P	**P**	**13 13 48.9**	**-1.5**
MIAR	**Mount Ida**	**62.53**	**68**	P	**P**	**13 13 50.7**	**-0.5**
MIAR				IAmb	IAmb	13 13 51.8	
	comp=Z,3.1nm,0.7s						
WHAR	**Wooly Hollow**	**62.74**	**67**	P	**P**	**13 13 51.2**	**-1.4**
W41B	**Gary Mavity, V**	**62.84**	**67**	P	**P**	**13 13 52.3**	**-1.0**
W41B				IAmb	IAmb	13 13 53.0	
	comp=Z,3.6nm,0.7s						
PARMO	**Parma**	**63.19**	**64**	P	**P**	**13 13 55.1**	**-0.5**
P48A	**Milroy**	**63.55**	**59**	P	**P**	**13 13 56.6**	**-1.2**
FINES	**FINESS Array B**	**65.04**	**346**	P	**P**	**13 14 06.0**	**-1.2**
	comp=Z,1.8nm,0.9s,baz=23,slow=7.5,SNR=1.9						
PLAL	**Pickwick Lake**	**65.35**	**64**	P	**P**	**13 14 09.0**	**-0.6**
PLAL				IAmb	IAmb	13 15 19.9	
	comp=Z,8.3nm,1.4s						
L56A	**Greenwood**	**65.63**	**52**	P	**P**	**13 14 11.0**	**-0.4**
ABKAR	**Akbulak array**	**66.63**	**321**	P	**P**	**13 14 18.7**	**+1.0**
BATG	**Bathurst New B**	**66.91**	**42**	P	**P**	**13 14 18.9**	**-0.6**
KKAR	**Karatay Array**	**66.91**	**311**	P	**P**	**13 14 19.8**	**+0.3**
WRA	**Warramunga Arr**	**81.17**	**222**	P	**P**	**13 15 43.3**	**+0.7**
	comp=Z,1.0nm,1.1s,baz=32,slow=6.0,SNR=1.9						
ASAR	**Alice Springs**	**84.68**	**220**	P	**P**	**13 16 02.0**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=26,slow=5.0,SNR=6.4						
BOSA	**Boshof**	**149.49**	**309**	PKPbc	**PKiKP**	**13 23 16.5**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=16,slow=5.6,SNR=4.6						

*IDC **24** 13:09:10.9±1.0,30.°06S×177.°39W,h0km,mb4.4/10, mb1 4.6/10,mb1mx4.2/42,mbtmp4.4/10,MS3.9/13, Ms1 3.9/13,ms1mx3.6/29,Error ellipse: s-maj=26.4km s-min=23.1km az=145.0*

*NEIC **24** 13:09:15.2±2.4,29.°90S±0.°08×177.°4W±0.°1,h26km±5km, mb4.8/29,Error ellipse: s-maj=18.5km s-min=9.8km az=61.0*

ISC 24 13:09:15.8±0.5,29.°93S±0.°06×177.°37W±0.°09,h35km,n84, σ1°58/67,mb4.7/17,MS4.0/13,1C-1D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.83**	**325**	Pn	**Pn**	**13 09 30.3**	**-0.7**
	2μm,0.3s,baz=120,slow=7.0,SNR=94						
RAO				Sn	**Sn**	**13 09 41.4**	**-0.7**
	4μm,0.3s,baz=48,slow=23,SNR=13						
RAO	**Raoul Island**	**0.83**	**325**		**Pn**	**13 09 30.1**	**-1.0**
BKZ	**Black Stump Fm**	**10.51**	**207**	Pn	**Pn**	**13 11 40.7**	**-3.2**
BFZ	**Birch Farm**	**11.92**	**204**	Pn	**Pn**	**13 11 59.9**	**-3.4**
TUWZ	**Tuamarina**	**13.46**	**209**	Pn	**Pn**	**13 12 21.5**	**-2.7**
NNZ	**Nelson**	**13.54**	**211**	Pn	**Pn**	**13 12 24.5**	**-0.8**
THZ	**Tophouse**	**14.19**	**211**	Pn	**Pn**	**13 12 33.6**	**-0.5**
KHZ	**Kahutara**	**14.45**	**208**	Pn	**Pn**	**13 12 34.5**	**-3.2**
DZM	**Mont Dzumac**	**16.52**	**295**	Pn	**P**	**13 13 08.5**	**+1.2**
	0.3nm,0.3s,baz=170,slow=14,SNR=8.0						
DZM				LR	LR	13 18 27.4	
	comp=Z,502nm,18.2s,baz=182,slow=34						
RPZ	**Rata Peaks**	**16.56**	**211**	LR	LR	13 19 21.0	
	comp=Z,339nm,20.1s,baz=50,slow=37						
RPZ	**Rata Peaks**	**16.56**	**211**	Pn	**Pn**	**13 13 01.8**	**-3.5**
RPZ				IAmb	IAmb	13 13 05.5	
	comp=Z,136nm,1.7s						
AFI	**Afiamalu**	**16.76**	**19**	Pn	**Pn**	**13 13 03.3**	**-4.7**
LBZ	**Lake Benmore**	**17.48**	**211**	P	**P**	**13 13 17.2**	**-0.5**
LBZ				IAmb	IAmb	13 13 53.4	
	comp=Z,81nm,1.5s						
ODZ	**Otahua Downs**	**17.80**	**209**	P	**Pn**	**13 13 19.5**	**-1.2**
RAR	**Rarotonga**	**18.07**	**65**	LR	LR	13 19 45.2	
	comp=Z,139nm,18.6s,baz=256,slow=35						
RAR	**Rarotonga**	**18.07**	**65**	P	**Pn**	**13 13 22.1**	**-2.1**
WKZ	**Wanaka**	**18.35**	**212**	P	**P**	**13 13 23.3**	**-4.0**
WKZ				IAmb	IAmb	13 14 16.0	
	comp=Z,171nm,1.6s						
MLZ	**Mavora Lakes**	**19.17**	**213**	P	**P**	**13 13 34.6**	**-1.7**
WHZ	**Wether Hill Ro**	**19.65**	**212**	P	**P**	**13 13 38.4**	**-3.0**
TBI	**Tubuai**	**25.75**	**82**	*e*LR	LR	13 21 06.3	
	comp=Z,445nm,27.0s						
ARMA	**Armidale**	**26.77**	**261**	P	**P**	**13 14 52.6**	**+0.1**
ARMA				IAmb	IAmb	13 15 12.4	
	comp=Z,53nm,1.6s						
PPT2	**Papeete2**	**28.16**	**70**	*e*LR	LR	13 22 08.9	
	comp=Z,467nm,25.8s						
PPT	**Papeete**	**28.17**	**70**	LR	LR	13 25 52.9	
	comp=Z,65nm,18.7s,baz=216,slow=36						
EIDS	**Eidsvold**	**28.27**	**272**	P	**P**	**13 15 07.1**	**+1.2**
EIDS				IAmb	IAmb	13 15 19.8	
	comp=Z,44nm,1.7s						
CAN	**Canberra**	**28.75**	**250**	P	**P**	**13 15 10.3**	**+0.2**
CTA	**Charters Tower**	**34.27**	**278**	P	**P**	**13 15 59.9**	**+1.0**
	comp=Z,6.4nm,0.7s,baz=100,slow=10,SNR=14						
CTA				LR	LR	13 27 38.4	
	comp=Z,284nm,21.6s,baz=68,slow=32						
CTAO	**Charters Tower**	**34.27**	**278**	P	**P**	**13 16 00.3**	**+1.5**
CTAO				IAmb	IAmb	13 16 15.5	
	comp=Z,27nm,1.4s						
STKA	**Stephens Creek**	**35.12**	**256**	P	**P**	**13 16 06.4**	**+0.4**
	comp=Z,2.6nm,0.4s,baz=102,slow=11,SNR=9.6						
STKA				LR	LR	13 29 34.7	
	comp=Z,290nm,18.6s,baz=41,slow=35						
STKA	**Stephens Creek**	**35.12**	**256**	P	**P**	**13 16 07.5**	**+1.4**
RKT	**Rikitea**	**38.37**	**90**	*e*LR	LR	13 27 07.0	
	comp=Z,247nm,24.2s						
PMG	**Port Moresby**	**38.91**	**294**	LR	LR	13 29 49.5	
	comp=Z,142nm,19.9s,baz=120,slow=32						
BBOO	**Buckleboo**	**39.63**	**254**	P	**P**	**13 16 44.3**	**+0.1**
AS31	**Alice Springs**	**43.69**	**266**	P	**P**	**13 17 17.6**	**0.0**
ASAR	**Alice Springs**	**43.69**	**266**	P	**P**	**13 17 16.4**	**-1.1**
	comp=Z,2.5nm,0.4s,baz=105,slow=7.3,SNR=103						
ASAR				LR	LR	13 34 46.9	
	comp=Z,359nm,18.5s,baz=107,slow=35						
ASAR	**Alice Springs**	**43.69**	**266**	P	**P**	**13 17 17.1**	**-0.5**
WR0	**Warramunga Arr**	**44.45**	**271**	P	**P**	**13 17 23.0**	**-0.8**
WR0				IAmb	IAmb	13 17 36.4	
	comp=Z,11nm,1.0s						
WB2	**Warramunga Arr**	**44.62**	**271**	P	**P**	**13 17 24.1**	**-0.9**
WB2				IAmb	IAmb	13 17 37.8	
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**44.63**	**271**	P	**P**	**13 17 24.3**	**-0.9**
	comp=Z,5.7nm,0.4s,baz=111,slow=7.9,SNR=69						
WRA	**Warramunga Arr**	**44.63**	**271**	P	**P**	**13 17 23.9**	**-1.3**
WB0	**Warramunga Arr**	**44.65**	**272**	P	**P**	**13 17 24.3**	**-1.1**
WB0				IAmb	IAmb	13 17 26.9	
	comp=Z,15nm,1.0s						
FORT	**Forrest**	**46.70**	**255**	P	**P**	**13 17 39.7**	**-1.6**
JAY	**Jayapura**	**48.18**	**296**	LR	LR	13 35 41.3	
	comp=Z,70nm,19.6s,baz=134,slow=33						
VNDA	**Vanda**	**48.61**	**186**	P	**P**	**13 17 57.5**	**+1.9**
	comp=Z,0.6nm,0.6s,baz=3.2,slow=6.0,SNR=7.2						
VNDA	**Vanda**	**48.61**	**186**	P	**P**	**13 17 58.3**	**+2.7**
VNDA				IAmb	IAmb	13 18 18.3	
	comp=Z,12nm,1.8s						
KNRA	**Kununurra**	**51.22**	**274**	P	**P**	**13 18 16.1**	**-0.1**
FITZ	**Fitzroy Crossi**	**52.91**	**269**	P	**P**	**13 18 29.4**	**+0.7**
CASY	**Casey**	**55.81**	**208**	P	**P**	**13 18 48.5**	**-0.6**
QSPA	**South Pole Qui**	**60.17**	**180**	P	**P**	**13 19 21.4**	**+1.5**
BKB	**Balikpapan**	**68.44**	**281**	P	**P**	**13 20 14.3**	**-0.4**
SYO	**Syowa Base**	**77.69**	**193**	*e*P	**P**	**13 21 09.6**	**+1.2**
SYO	**Syowa Base**	**77.69**	**193**	*e*pP	pP	13 21 16.3	-1.6
MJAR	**Matsushiro Arr**	**78.18**	**325**	P	**P**	**13 21 12.6**	**+1.1**
	comp=Z,1.7nm,0.8s,baz=165,slow=6.0,SNR=5.2						
SNAA	**Sanae**	**78.60**	**178**	P	**P**	**13 21 14.5**	**+1.0**
SNAA	**Sanae**	**78.60**	**178**	P	**P**	**13 21 15.0**	**+1.4**
VNA3	**Neumayer Olymp**	**78.73**	**176**	P	**P**	**13 21 14.2**	**0.0**
VNA2	**Neumayer--Watz**	**79.17**	**177**	P	**P**	**13 21 17.2**	**+0.6**
	baz=21,slow=0.9						
H03S2	**Juan Fernandez**	**80.26**	**123**	T	T	14 50 55.4	
	baz=239,slow=74,SNR=11						
H03S1	**Juan Fernandez**	**80.27**	**123**	T	T	14 50 57.8	
	baz=239,slow=74,SNR=12						
H03S3	**Juan Fernandez**	**80.28**	**123**	T	T	14 50 50.4	
	baz=239,slow=74,SNR=12						
KSRS	**Korea Array**	**84.35**	**319**	P	**P**	**13 21 45.9**	**+1.7**
	comp=Z,1.4nm,0.9s,baz=134,slow=5.2,SNR=7.3						
PETK	**Petropavlovsk-**	**85.50**	**345**	P	**P**	**13 21 50.6**	**+1.0**
	comp=Z,4.2nm,0.9s,baz=128,slow=8.0,SNR=4.2						
USRK	**Ussuriysk Ar.**	**87.08**	**326**	P	**P**	**13 21 59.1**	**+1.6**
	comp=Z,2.8nm,0.8s,baz=113,slow=4.4,SNR=5.4						
NVAR	**Mina Array Bea**	**87.52**	**42**	P	**P**	**13 22 01.1**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=220,slow=7.8,SNR=10						
NVAR				LR	LR	13 57 40.3	
	comp=Z,63nm,18.1s,baz=188,slow=33						
NVAR	**Mina Array Bea**	**87.52**	**42**		**P**	**13 22 00.9**	**+0.7**
U15A	**North Rim**	**89.91**	**47**	P	**P**	**13 22 12.3**	**+0.7**
U15A				IAmb	IAmb	13 22 14.8	
	comp=Z,8.0nm,1.4s						
KLR	**Kul'dur**	**90.91**	**329**	P	**P**	**13 22 16.4**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=82,slow=6.7,SNR=4.8						
TXAR	**Lajitas Array**	**91.67**	**57**	LR	LR	13 58 30.2	
	comp=Z,33nm,18.5s,baz=0.0,slow=32						
PDAR	**Pinedale Array**	**95.42**	**43**	LR	LR	14 03 00.7	
	comp=Z,43nm,18.2s,baz=186,slow=34						
CPUP	**Villa Florida**	**99.84**	**128**	LR	LR	13 59 28.7	
	comp=Z,56nm,20.2s,baz=188,slow=30						
H10N3	**ASCENSION HYDR**	**138.99**	**154**	T	T	16 04 55.5	
	baz=203,slow=75,SNR=2.4						
H10N1	**ASCENSION HYDR**	**139.99**	**154**	T	T	16 04 55.5	
	baz=203,slow=75,SNR=2.6						
H10N2	**ASCENSION HYDR**	**139.00**	**154**	T	T	16 04 55.5	
	baz=203,slow=75,SNR=2.9						
FIA1	**FINESS Array S**	**144.89**	**341**		**PKPab**	**13 28 47.2**	**-0.4**
FINES	**FINESS Array B**	**144.89**	**341**	PKPbc	**PKPab**	**13 28 47.4**	**-0.2**
	comp=Z,7.4nm,0.7s,baz=51,slow=3.7,SNR=20						
FINES	**FINESS Array B**	**144.89**	**341**		**PKPab**	**13 28 47.1**	**-0.5**
KBZ	**Khabaz**	**145.30**	**305**	PKPbc	**PKPbc**	**13 28 49.2**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=148,slow=11,SNR=2.7						
NB2	**NORSAR Subarra**	**148.37**	**352**	PKP	**PKPbc**	**13 28 58.6**	**+0.7**
	comp=Z,3.2nm,0.8s,baz=15,slow=2.5						
NOA	**NORSAR Array B**	**148.37**	**352**	PKPbc	**PKPbc**	**13 28 58.3**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=40,slow=4.7,SNR=2.5						
AKASG	**Malin Array Be**	**151.26**	**324**	PKPbc	**PKiKP**	**13 29 06.6**	**+0.9**
	comp=Z,3.2nm,0.6s,baz=48,slow=3.0,SNR=3.3						
BRTR	**Keskin Array B**	**152.85**	**299**	PKPbc	**PKPbc**	**13 29 09.5**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=314,slow=36,SNR=2.3						
BRTR	**Keskin Array B**	**152.85**	**299**		**PKPbc**	**13 29 08.8**	**-0.6**
GERES	**GERESS Array B**	**159.31**	**339**	PKPab	**PKPab**	**13 29 48.4**	**+0.6**
	comp=Z,0.3nm,0.2s,baz=291,slow=41,SNR=1.5						
GERES	**GERESS Array B**	**159.31**	**339**		**PKPab**	**13 29 48.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**163.27**	**177**	PKPab	**PKPab**	**13 30 06.0**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=160,slow=4.0,SNR=4.2						

*NEIC **24** 13:12:42.8±1.0,30.°3S±0.°1×177.°1W±0.°2,h10km±2km, mb4.6/9,Error ellipse: s-maj=28.7km s-min=12.1km az=45.0*

*IDC **24** 13:12:42.1±2.6,30.°21S×177.°08W,h0km,mb4.0/2, mb1 4.2/2,mb1mx3.6/40,mbtmp4.0/2,Error ellipse: s-maj=55.4km s-min=30.8km az=71.0*

ISC 24 13:12:41.3±2.2,30.°1S±0.°2×176.°6W±0.°2,h24km,n15, σ0°69/17,mb4.1/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.47**	**307**	Pn	**Pn**	**13 13 05.9**	**-0.3**
	366nm,0.3s,baz=233,slow=23,SNR=6.0						
RAO				Sn	**Sn**	**13 13 24.5**	**-0.1**
	582nm,0.3s,baz=258,slow=22,SNR=5.8						
RAO	**Raoul Island**	**1.47**	**307**		**Pn**	**13 13 05.7**	**-0.5**
RAO					**Sb**	**13 13 26.0**	**-0.1**
LTZ	**Lake Taylor**	**15.46**	**212**	P	**P**	**13 16 21.1**	**-1.0**
RPZ	**Rata Peaks**	**16.75**	**213**	P	**P**	**13 16 36.0**	**-0.4**
WHZ	**Wether Hill Ro**	**19.85**	**213**	P	**P**	**13 17 09.9**	**-0.4**
WHZ				IAmb	IAmb	13 17 34.1	
	comp=Z,89nm,1.4s						
BBOO	**Buckleboo**	**40.23**	**254**	P	**P**	**13 20 16.9**	**+0.8**
AS31	**Alice Springs**	**44.35**	**266**	P	**P**	**13 20 49.4**	**-0.5**
AS31				IAmb	IAmb	13 21 31.2	
	comp=Z,1.8nm,1.1s						
ASAR	**Alice Springs**	**44.36**	**266**	P	**P**	**13 20 50.9**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=105,slow=7.2,SNR=5.4						
ASAR	**Alice Springs**	**44.36**	**266**	P	**P**	**13 20 49.8**	**-0.1**
WB2	**Warramunga Arr**	**45.31**	**271**	P	**P**	**13 20 57.9**	**+0.3**
WB2				IAmb	IAmb	13 21 11.3	
	comp=Z,14nm,1.4s						
WRAB	**Tennant Creek**	**45.32**	**271**	P	**P**	**13 20 58.9**	**+1.3**
WRA	**Warramunga Arr**	**45.32**	**271**	P	**P**	**13 20 58.5**	**+0.9**
	comp=Z,1.3nm,0.3s,baz=110,slow=8.2,SNR=17						
WRA	**Warramunga Arr**	**45.32**	**271**	P	**P**	**13 20 57.4**	**-0.2**
WB0	**Warramunga Arr**	**45.34**	**271**	P	**P**	**13 20 58.4**	**+0.6**
FINES	**FINESS Array B**	**145.31**	**341**	PKPbc	**PKiKP**	**13 32 19.9**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=55,slow=3.8,SNR=7.2						

*IDC **24** 13:15:21.1±3.2,30.°22S×177.°09W,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.5/39,mbtmp3.5/2,Error ellipse: s-maj=63.1km s-min=46.9km az=92.0*

*NEIC **24** 13:15:22.3±0.7,30.°13S±0.°10×177.°10W±0.°06,h10km±2km, mb4.7/5,Error ellipse: s-maj=17.0km s-min=8.2km az=9.0*

ISC 24 13:15:24.8±2.7,30.°2S±0.°1×177.°2W±0.°4,h24km,n11, σ0°67/12,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.13**	**325**	Pn	**Pn**	**13 15 45.3**	**+0.1**
	135nm,0.3s,baz=285,slow=19,SNR=3.1						
RAO				Sn	**Sn**	**13 15 59.9**	**0.0**
	136nm,0.3s,baz=81,slow=22,SNR=2.6						
MSWZ	**Moikau Station**	**12.78**	**207**	Pn	**Pn**	**13 18 26.1**	**+1.1**
TUWZ	**Tuamarina**	**13.33**	**210**	Pn	**Pn**	**13 18 31.3**	**-1.2**
WHZ	**Wether Hill Ro**	**19.53**	**212**	P	**P**	**13 19 50.5**	**0.0**
WHZ				IAmb	IAmb	13 20 01.4	
	comp=Z,65nm,1.4s						
ASAR	**Alice Springs**	**43.84**	**266**	P	**P**	**13 23 29.3**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=100,slow=7.4,SNR=1.4						
WR0	**Warramunga Arr**	**44.63**	**272**	P	**P**	**13 23 36.0**	**+0.3**
WR0				IAmb	IAmb	13 24 38.4	
	comp=Z,16nm,1.5s						
WB2	**Warramunga Arr**	**44.80**	**271**	P	**P**	**13 23 36.4**	**-0.6**
WRA	**Warramunga Arr**	**44.81**	**271**	P	**P**	**13 23 37.6**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=110,slow=8.2,SNR=8.5						
WRA	**Warramunga Arr**	**44.81**	**271**	P	**P**	**13 23 37.4**	**+0.3**
WB0	**Warramunga Arr**	**44.83**	**272**	P	**P**	**13 23 37.8**	**+0.6**
FINES	**FINESS Array B**	**145.18**	**341**	PKPbc	**PKPbc**	**13 34 58.8**	**-0.5**
	comp=Z,0.7nm,0.4s,baz=61,slow=4.6,SNR=5.1						

*IDC **24** 13:16:58.5±1.6,10.°65S×120.°10E,h0km,mb3.8/3, mb1 3.8/7,mb1mx3.6/45,mbtmp3.8/7,ML3.6/4,Error ellipse: s-maj=59.0km s-min=21.3km az=47.0*

*DJA **24** 13:17:04.4±0.6,10.°5S±8.°×12.°1E±.°,h10km,M3.2/7, MLv3.2/7*

*NEIC **24** 13:17:04.9±1.9,10.°66S±0.°07×120.°32E±0.°10,h55km±10km, mb4.0/8,Error ellipse: s-maj=14.5km s-min=9.1km az=61.0*

ISC 24 13:17:03.6±0.7,10.°68S±0.°06×120.°37E±0.°05,h31km,n31, σ1°67/34,mb4.0/4,Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.50**	**24**	P	Pb	13 17 06.2	-8.0
WBSI	**Waikabubak, Su**	**1.42**	**317**	Pg	**Pn**	**13 17 27.8**	**+0.5**
WBSI				S	**Sb**	**13 17 45.9**	**-1.3**
EDFI	**Ende, Flores**	**2.32**	**34**	Pg	**Pn**	**13 17 40.2**	**+0.4**
MMRI	**Maumere**	**2.74**	**42**	P	**Pn**	**13 17 43.1**	**-2.4**
MMRI	**Maumere**	**2.74**	**42**	Pn	**Pn**	**13 17 45.5**	**-0.1**
PLAI	**Plampang**	**3.15**	**306**	P	**Pn**	**13 17 53.4**	**+2.2**
PLAI				S	**Sn**	**13 18 29.4**	**+1.6**
BATI	**Baumata**	**3.27**	**82**	Pn	**Pn**	**13 17 55.3**	**+2.5**
	20nm,0.3s,baz=351,slow=2.8,SNR=12						
BATI				Sn	**Sn**	**13 18 32.5**	**+1.8**
	10nm,0.3s,baz=126,slow=16,SNR=8.0						
BATI	**Baumata**	**3.27**	**82**	P	**Pn**	**13 17 54.1**	**+1.3**
BATI				S	**Sn**	**13 18 31.4**	**+0.6**
SOEI	**Soe**	**3.94**	**77**	Pn	**Pn**	**13 18 05.5**	**+3.3**
KAPI	**Kappang**	**5.67**	**354**	Pn	**Pn**	**13 18 26.9**	**+1.1**
FITZ

STKA	**Stephens Creek**	**34.89**	**256**	P		**P**		**13 44 11.7**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=109,slow=11,SNR=7.4								
STKA				LR		LR		13 57 34.2	
	comp=Z,84nm,18.6s,baz=66,slow=35								
STKA	**Stephens Creek**	**34.89**	**256**	P		**P**		**13 44 11.8**	**+0.9**
BBOO	**Buckleboo**	**39.40**	**254**	P		**P**		**13 44 49.5**	**+0.3**
COEN	**Coen**	**39.48**	**285**	P		**P**		**13 44 51.4**	**+1.4**
COEN				IAmb		IAmb		13 45 25.7	
	comp=Z,18nm,1.5s								
AS31	**Alice Springs**	**43.46**	**266**	P		**P**		**13 45 22.2**	**-0.5**
ASAR	**Alice Springs**	**43.46**	**266**	P		**P**		**13 45 21.6**	**-1.1**
	comp=Z,1.4nm,0.3s,baz=105,slow=7.4,SNR=72								
ASAR	**Alice Springs**	**43.46**	**266**	P		**P**		**13 45 21.9**	**-0.7**
WR0	**Warramunga Arr**	**44.23**	**272**	P		**P**		**13 45 28.3**	**-0.6**
WR0				IAmb		IAmb		13 45 29.7	
	comp=Z,6.9nm,0.4s								
WB2	**Warramunga Arr**	**44.40**	**272**	P		**P**		**13 45 29.6**	**-0.6**
WRAB	**Tennant Creek**	**44.41**	**272**	P		**P**		**13 45 30.2**	**-0.1**
WRAB				IAmb		IAmb		13 46 32.5	
	comp=Z,15nm,1.0s								
WRA	**Warramunga Arr**	**44.41**	**272**	P		**P**		**13 45 29.7**	**-0.6**
	comp=Z,5.2nm,0.3s,baz=110,slow=8.2,SNR=95								
WRA	**Warramunga Arr**	**44.41**	**272**	P		**P**		**13 45 29.7**	**-0.6**
WB0	**Warramunga Arr**	**44.43**	**272**	P		**P**		**13 45 29.8**	**-0.7**
VNDA	**Vanda**	**48.53**	**186**	P		**P**		**13 46 03.0**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=347,slow=6.4,SNR=2.1								
VNDA	**Vanda**	**48.53**	**186**	P		**P**		**13 46 03.7**	**+1.9**
VNDA				IAmb		IAmb		13 47 06.5	
	comp=Z,12nm,2.0s								
KNRA	**Kununurra**	**51.00**	**274**	P		**P**		**13 46 21.6**	**+0.1**
FITZ	**Fitzroy Crossi**	**52.69**	**269**	P		**P**		**13 46 34.2**	**+0.2**
CASY	**Casey**	**55.65**	**208**	P		**P**		**13 46 54.0**	**-0.9**
QSPA	**South Pole Qui**	**60.12**	**180**	P		**P**		**13 47 26.8**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=260,slow=1.5,SNR=22								
QSPA	**South Pole Qui**	**60.12**	**180**	P		**P**		**13 47 27.6**	**+1.2**
SYO	**Syowa Base**	**77.59**	**193**	⇑*e*P		**eP**		**13 49 13.0**	**-1.7**
SYO	**Syowa Base**	**77.59**	**193**	⇑*e*pP		**eP**		**13 49 16.9**	**+2.2**
SYO	**Syowa Base**	**77.59**	**193**	⇑*e*PcP		**PcP**		**13 49 24.1**	**-0.8**
SNAA	**Sanae**	**78.55**	**178**	P		**P**		**13 49 19.8**	**-0.4**
VNA3	**Neumayer Olymp**	**78.69**	**176**	P		**P**		**13 49 20.2**	**-0.7**
VNA2	**Neumayer--Watz**	**79.13**	**177**	P		**P**		**13 49 23.5**	**+0.2**
	baz=175,slow=4.4								
H03S2	**Juan Fernandez**	**80.42**	**123**	T		T		15 18 53.8	
	baz=238,slow=74,SNR=9.4								
H03S1	**Juan Fernandez**	**80.43**	**123**	T		T		15 18 54.1	
	baz=238,slow=74,SNR=9.8								
H03S3	**Juan Fernandez**	**80.43**	**123**	T		T		15 18 56.1	
	baz=238,slow=74,SNR=11								
NVAR	**Mina Array Bea**	**87.72**	**43**	P		**P**		**13 50 09.0**	**+1.0**
	comp=Z,1.0nm,0.9s,baz=225,slow=10.0,SNR=4.6								
NVAR	**Mina Array Bea**	**87.72**	**43**	P		**P**		**13 50 07.8**	**-0.2**
FINES	**FINESS Array B**	**144.87**	**340**	PKP		**PKPab**		**13 56 53.9**	**-0.6**
	comp=Z,6.3nm,0.5s,baz=63,slow=3.5,SNR=45								
FINES	**FINESS Array B**	**144.87**	**340**			**PKPab**		**13 56 53.6**	**-0.8**
NB2	**NORSAR Subarra**	**148.40**	**352**	PKP		**PKPbc**		**13 57 04.3**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**148.40**	**352**	PKPbc		**PKPbc**		**13 57 03.8**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=16,slow=4.3,SNR=4.7								
AKASG	**Malin Array Be**	**151.17**	**323**	PKPbc		**PKPbc**		**13 57 10.5**	**-1.4**
	comp=Z,0.7nm,0.4s,baz=50,slow=2.2,SNR=2.5								
BRTR	**Keskin Array B**	**152.69**	**299**	PKP		**PKPdf**		**13 57 09.8**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=121,slow=4.3,SNR=1.8								
BRTR				PKPbc		**PKPbc**		**13 57 14.8**	**-1.1**
	comp=Z,0.6nm,0.4s,baz=113,slow=3.3,SNR=2.9								

*IDC **24** 13:50:02.7±8.2, 49.°04N×179.°59E, h0km, mb3.0/2, mb1 3.6/4, mb1mx3.3/35, mbtmp3.5/4, ML3.5/2, Error ellipse: s-maj=194.8km s-min=32.4km az=168.0*
*AEIC **24** 13:50:33.0±0.7, 51.°9N±0.°1×178.°3E±0.°1, h126km±5km, ML3.1, Error ellipse: s-maj=17.5km s-min=9.2km az=181.0*

ISC 24 13:50:32.9±1.0, 52.°0N±0.°2×178.°35E±0.°05, h127km±8km, n26, σ0s76/31, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.11**	**93**		**Pn**	**13 50 50.0**	**-0.2**
LSSA	**Little Sitkin**	**0.11**	**104**		**Pn**	**13 50 50.1**	**-0.1**
LSPA	**Little Sitkin**	**0.14**	**97**		**Pn**	**13 50 50.0**	**-0.2**
LSPA					**Sn**	**13 51 03.5**	**+0.2**
CETU	**Semis' Tuman**	**0.71**	**90**		**Pn**	**13 50 53.4**	**+0.4**
CETU					**Sn**	**13 51 08.5**	**+0.3**
CESW	**Semis' Southwe**	**0.76**	**95**		**Pn**	**13 50 53.4**	**+0.1**
CESW					**Sn**	**13 51 08.4**	**-0.4**
CEAP	**Semis' Anvil P**	**0.76**	**87**		**Pn**	**13 50 53.9**	**+0.5**
CERAA	**Semis' Rag'd T**	**0.83**	**94**		**Pn**	**13 50 54.1**	**+0.1**
AMKA	**Amchitka**	**0.84**	**135**		**Pn**	**13 50 54.0**	**-0.1**
AMKA					**Sn**	**13 51 09.0**	**-1.1**
GAEA	**Gareloi East**	**1.81**	**95**		**Pn**	**13 51 04.4**	**0.0**
TASE	**Tanaga Southea**	**2.25**	**92**		**Pn**	**13 51 09.8**	**+0.1**
TAFP	**Tanaga Falls P**	**2.27**	**90**		**Pn**	**13 51 10.1**	**0.0**
TAFP					**Sn**	**13 51 38.3**	**-0.3**
TAPA	**Tanaga Point A**	**2.39**	**92**		**Pn**	**13 51 11.4**	**-0.1**
SMY	**Shemya**	**2.71**	**288**		**Pn**	**13 51 14.5**	**-1.0**
SMY	**Shemya**	**2.71**	**288**		**Sn**	**13 51 47.8**	**-0.7**
KIMD	**Kanaga Island**	**2.75**	**93**		**Pn**	**13 51 15.9**	**-0.1**
KICM	**Kanaga Island**	**2.76**	**89**		**Pn**	**13 51 16.4**	**+0.2**
KIKV	**Kanaga Island**	**2.78**	**90**		**Pn**	**13 51 16.5**	**+0.1**
ADK	**Adak**	**3.08**	**90**	Pn	**Pn**	**13 51 19.8**	**-0.5**
GSTD	**Great Sitkin T**	**3.41**	**86**		**Pn**	**13 51 24.1**	**-0.6**
GSTR	**Great Sitkin T**	**3.46**	**86**		**Pn**	**13 51 25.3**	**0.0**
GSMY	**Great Sitkin M**	**3.46**	**87**		**Pn**	**13 51 24.7**	**-0.7**
ATKA	**Atka Island**	**4.61**	**84**		**Pn**	**13 51 40.9**	**+0.4**
PETK	**Petropavlovsk-**	**12.62**	**283**	Pn	**Pn**	**13 53 28.9**	**+1.2**
	0.2nm,0.3s,baz=86,slow=16,SNR=9.4						
KDAK	**Kodiak Island**	**17.62**	**59**	Pn	**P**	**13 54 26.4**	**-2.8**
	0.7nm,0.3s,baz=268,slow=4.5,SNR=21						
ILAR	**Eielson Array**	**21.92**	**41**	P	**P**	**13 55 15.4**	**-0.2**
	0.1nm,0.4s,baz=238,slow=8.2,SNR=4.5						
MKAR	**Makanchi Array**	**58.26**	**307**	P	**P**	**14 00 14.9**	**+1.2**
	0.1nm,0.3s,baz=55,slow=7.6,SNR=1.8						

*IDC **24** 14:28:42.0±1.6, 30.°17S×177.°48W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/29, mbtmp4.0/4, MS3.3/2, Ms1 3.3/2, ms1mx2.8/34, Error ellipse: s-maj=40.0km s-min=22.6km az=78.0*
*NEIC **24** 14:28:47.1±1.1, 30.°12S±0.°08×177.°5W±0.°1, h38km±11km, mb4.7/8, Error ellipse: s-maj=19.1km s-min=7.7km az=61.0*

ISC 24 14:28:46.8±1.8, 30.°12S±0.°09×177.°5W±0.°3, h35km, n15, σ0s97/13, mb4.2/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.94**	**336**	Pn	**Pn**	**14 29 03.7**	**+0.1**
	582nm,0.3s,baz=105,slow=10,SNR=23						
RAO				Sn	**Sn**	**14 29 16.0**	**+0.1**
	464nm,0.3s,baz=236,slow=23,SNR=8.0						
BKZ	**Black Stump Fm**	**10.30**	**207**	Pn	**Pn**	**14 31 11.8**	**-0.3**
RPZ	**Rata Peaks**	**16.35**	**211**	LR	LR	14 38 00.3	
	comp=Z,89nm,18.8s,baz=118,slow=34						
CTAO	**Charters Tower**	**34.20**	**278**	P	**P**	**14 35 29.8**	**+0.6**
CTAO				IAmb	IAmb	14 35 45.6	
	comp=Z,17nm,1.6s						
STKA	**Stephens Creek**	**34.98**	**256**	P	**P**	**14 35 36.7**	**+0.9**
	comp=Z,1.9nm,0.6s,baz=101,slow=14,SNR=6.4						
BBOO	**Buckleboo**	**39.48**	**254**	P	**P**	**14 36 14.3**	**+0.4**
ASAR	**Alice Springs**	**43.57**	**266**	P	**P**	**14 36 47.5**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=104,slow=7.5,SNR=11						
WR0	**Warramunga Arr**	**44.36**	**272**	P	**P**	**14 36 51.6**	**-2.3**
WB2	**Warramunga Arr**	**44.53**	**272**	P	**P**	**14 36 54.6**	**-0.8**
WB2				IAmb	IAmb	14 37 06.4	
	comp=Z,22nm,1.7s						
WRA	**Warramunga Arr**	**44.54**	**272**	P	**P**	**14 36 55.1**	**-0.3**
	comp=Z,1.5nm,0.4s,baz=110,slow=8.1,SNR=14						
WB0	**Warramunga Arr**	**44.56**	**272**	P	**P**	**14 36 54.4**	**-1.2**
WB0				IAmb	IAmb	14 37 20.1	
	comp=Z,22nm,1.7s						
QSPA	**South Pole Qui**	**59.99**	**180**	P	**P**	**14 38 50.1**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=57,slow=2.1,SNR=9.5						
QSPA	**South Pole Qui**	**59.99**	**180**	IAmb	IAmb	14 38 59.6	
	comp=Z,21nm,1.9s						
KLR	**Kul'dur**	**91.02**	**329**	LR	LR	15 18 30.4	
	comp=Z,19nm,19.4s,baz=354,slow=33						
FINES	**FINESS Array B**	**145.03**	**340**	PKPbc	**PKPab**	**14 48 18.6**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=54,slow=5.5,SNR=10						

*IDC **24** 14:44:47.3±1.2, 28.°58S×178.°01W, h0km, mb4.2/4, mb1 4.5/4, mb1mx3.9/33, mbtmp4.2/4, MS3.9/1, Ms1 3.9/1, ms1mx2.9/33, Error ellipse: s-maj=29.4km s-min=15.9km az=71.0*
*NEIC **24** 14:44:52.2±0.8, 29.°4S±0.°2×177.°8W±0.°2, h42km±5km, mb4.6/11, Error ellipse: s-maj=26.4km s-min=19.0km az=208.0*

ISC 24 14:44:52.1±1.1, 29.°4S±0.°2×177.°8W±0.°1, h49km±8km, n29, σ1s83/22, mb4.6/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.15**	**323**	Pn	Pn	14 45 04.2	+4.2
	3μm,0.3s,baz=257,slow=3.2,SNR=65						
RAO				Sn	Sn	14 45 16.1	+10
	2μm,0.3s,baz=42,slow=21,SNR=8.0						
RAO	**Raoul Island**	**0.15**	**323**		**Pn**	**14 45 00.1**	**+0.1**
RAO					**Sn**	**14 45 04.4**	**-1.2**
MXZ	**Matakaoa Point**	**8.79**	**201**		Pn	14 47 03.0	+6.6
OUZ	**Omahuta**	**9.32**	**229**	Pn	**Pn**	**14 47 05.3**	**+1.6**
STKA	**Stephens Creek**	**34.88**	**255**	P	**P**	**14 51 40.8**	**+2.0**
	1.9nm,0.5s,baz=99,slow=10,SNR=13						
STKA	**Stephens Creek**	**34.88**	**255**	IAmb	IAmb	14 52 25.0	
	comp=Z,5.3nm,1.5s						
RABL	**Rabaul**	**37.89**	**306**	P	**P**	**14 52 01.4**	**-3.3**
BBOO	**Buckleboo**	**39.41**	**253**	P	**P**	**14 52 17.3**	**0.0**
TAOE	**Nuku Hiva Isla**	**40.76**	**68**	P	**P**	**14 52 30.8**	**+2.0**
AS31	**Alice Springs**	**43.34**	**266**	P	**P**	**14 52 51.0**	**+1.4**
ASAR	**Alice Springs**	**43.34**	**266**	P	**P**	**14 52 50.1**	**+0.5**
	comp=Z,1.7nm,0.5s,baz=106,slow=7.2,SNR=66						
ASAR				LR	LR	15 10 38.6	
	comp=Z,138nm,18.3s,baz=25,slow=36						
ASAR	**Alice Springs**	**43.34**	**266**	P	**P**	**14 52 50.6**	**+1.0**
WR0	**Warramunga Arr**	**44.05**	**271**	P	**P**	**14 52 55.9**	**+0.6**
WR0				IAmb	IAmb	14 53 01.8	
	comp=Z,20nm,1.6s						
WB2	**Warramunga Arr**	**44.22**	**271**	P	**P**	**14 52 57.2**	**+0.5**
WB2				IAmb	IAmb	14 53 55.6	
	comp=Z,29nm,1.6s						
WRA	**Warramunga Arr**	**44.23**	**271**	P	**P**	**14 52 57.6**	**+0.8**
	comp=Z,3.3nm,0.3s,baz=110,slow=8.1,SNR=8.0						
WRA	**Warramunga Arr**	**44.23**	**271**	P	**P**	**14 52 57.4**	**+0.6**
WB0	**Warramunga Arr**	**44.25**	**271**	P	**P**	**14 52 57.9**	**+0.9**
WB0				IAmb	IAmb	14 53 00.5	
	comp=Z,19nm,1.6s						
KNRA	**Kununurra**	**50.80**	**273**	P	**P**	**14 53 49.8**	**+1.9**
SNAA	**Sanae**	**79.17**	**178**	P	**P**	**14 56 47.8**	**-3.6**
SNAA				IAmb	IAmb	14 57 08.4	
	comp=Z,14nm,1.6s						
VNA3	**Neumayer Olymp**	**79.31**	**176**	P	P	14 56 48.0	-4.1
VNA2	**Neumayer--Watz**	**79.75**	**177**	P	**P**	**14 56 50.9**	**-3.6**
NVAR	**Mina Array Bea**	**87.38**	**43**	P	**P**	**14 57 34.8**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=218,slow=9.4,SNR=4.5						
H10N3	**ASCENSION HYDR**	**139.66**	**154**	T	T	17 40 44.6	
	baz=247,slow=74,SNR=3.4						
H10N1	**ASCENSION HYDR**	**139.66**	**154**	T	T	17 40 42.9	
H10N2	**ASCENSION HYDR**	**139.68**	**154**	T	T	17 40 44.6	
	baz=208,slow=74,SNR=6.0						
FINES	**FINESS Array B**	**144.24**	**341**	PKP	PKPbc	15 04 21.1	+1.0
	comp=Z,2.9nm,0.4s,baz=48,slow=3.6,SNR=18						
FINES	**FINESS Array B**	**144.24**	**341**		**PKPab**	**15 04 20.8**	**+1.0**
AKASG	**Malin Array Be**	**150.58**	**324**	PKPbc	**PKPbc**	**15 04 38.9**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=47,slow=3.3,SNR=2.1						
BRTR	**Keskin Array B**	**152.24**	**300**	PKPbc	**PKPbc**	**15 04 42.7**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=101,slow=5.2,SNR=3.8						

*MOS **24** 14:52:10.0±0.8, 36.°53N×70.°91E, h195km, mb4.7/34, Error ellipse: s-maj=5.2km s-min=3.2km az=89.2*
*IDC **24** 14:52:10.7±1.5, 36.°46N×70.°88E, h192km±14km, mb4.1/27, mb1 4.2/35, mb1mx3.9/62, mbtmp4.7/35, MS3.0/1, Ms1 3.0/1, ms1mx2.2/49, Error ellipse: s-maj=9.2km s-min=8.0km az=178.0*
*NEIC **24** 14:52:11.7±1.6, 36.°51N±0.°06×70.°84E±0.°08, h199km±5km, mb4.6/114, Error ellipse: s-maj=9.4km s-min=8.3km az=74.0*
*BJI **24** 14:52:11.6±0.0, 36.°56N×71.°00E, h193km, mB4.4/23, mb4.4/37*
*NNC **24** 14:52:21.3±1.5, 37.°31N×71.°23E, h220km±13km, mb3.9, mpv4.9, Error ellipse: s-maj=13.1km s-min=9.3km az=19.0*

ISC 24 14:52:10.4±0.3, 36.°55N±0.°03×70.°88E±0.°03, h188km, n446, σ1s59/481, mb4.6/119, 44C-24D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.49**	**350**		**Pn**	**14 52 54.8**	**+1.2**
KBL	**Kabul**	**2.50**	**217**	PN	**Pn**	**14 52 54.1**	**+0.2**
KBL	**Kabul**	**2.50**	**217**	Pn	**Pn**	**14 52 54.1**	**+0.2**
CHGR	**Chuyangaron**	**2.51**	**327**	Pn	**Pn**	**14 52 54.4**	**+0.6**
CEP	**Cherat**	**2.84**	**162**	P	**Pn**	**14 52 58.7**	**+0.9**
CEP				S	**Sn**	**14 53 34.0**	**-0.7**
CHCP	**Chirah Chowk**	**3.48**	**145**	P	**Pn**	**14 53 06.7**	**+1.3**
NIL	**Nilore**	**3.48**	**145**	PN	**Pn**	**14 53 06.5**	**+1.1**
NIL	**Nilore**	**3.48**	**145**	Pn	**Pn**	**14 53 06.5**	**+1.1**
THW	**Thamme Wali**	**3.81**	**169**	P	**Pn**	**14 53 09.9**	**+0.4**
TAS	**Tashkent**	**4.93**	**346**	PN	**Pn**	**14 53 24.9**	**+1.3**
TAS	**Tashkent**	**4.93**	**346**	Pn	**Pn**	**14 53 24.9**	**+1.3**
KSH	**Kashi**	**4.99**	**52**	P	**Pn**	**14 53 21.6**	**-3.0**
KSH				sP		14 54 00.5	
KSH				S	Sn	14 54 13.3	-10
KSH				smax	smax		
	comp=N,770nm,0.6s						
KSH				smax	smax		
	comp=E,690nm,0.4s						
ARSB	**Arslanbob**	**5.04**	**18**	PN	**Pn**	**14 53 25.6**	**+0.4**
ARSB	**Arslanbob**	**5.04**	**18**	Pn	**Pn**	**14 53 25.6**	**+0.4**
JMU	**Jammu**	**5.06**	**138**	*e*P	Pn	14 53 16.0	-9.3
JMU				*e*S	Sn	14 54 08.0	-16
IUG	**luzhnay**	**5.63**	**354**	⇓*i*P	**Pn**	**14 53 34.2**	**+1.4**
	79nm,0.7s,baz=351						
IUG				*e*S	**Sn**	**14 54 35.8**	**-1.9**
	596nm,0.7s,baz=351						
IUG	**luzhnay**	**5.63**	**354**	*d*iPN	**Pn**	**14 53 34.1**	**+1.4**
IUG				pmax	pmax		
	comp=Z,79nm,0.7s						
CHM	**Chimkent**	**5.85**	**351**	*e*P	**Pn**	**14 53 37.1**	**+1.6**
	comp=Z,355nm,0.7s,baz=348						
CHM				*e*S	**Sn**	**14 54 40.7**	**-2.0**
	comp=Z,848nm,0.7s,baz=348						
CHM	**Chimkent**	**5.85**	**351**	*e*PN	**Pn**	**14 53 37.0**	**+1.6**
CHM				pmax	pmax		
	comp=Z,355nm,0.7s						
AML	**Almayashu**	**5.99**	**20**	P	**Pn**	**14 53 38.6**	**+0.9**
	SNR=104						
UCH	**Uchtor**	**6.33**	**25**	P	**Pn**	**14 53 43.1**	**+0.9**
	SNR=72						
DZA	**Taraz**	**6.35**	**3**	⇓*i*P	**Pn**	**14 53 43.1**	**+1.1**
	comp=Z,527nm,0.6s,baz=1.6						
DZA				*e*S	**Sn**	**14 54 52.2**	**-2.2**
	comp=Z,1μm,0.8s,baz=1.6						
DZA	**Taraz**	**6.35**	**3**	⇓*i*PN	**Pn**	**14 53 43.0**	**+1.1**
DZA				pmax	pmax		
	comp=Z,527nm,0.6s						
KZA	**Kyzart**	**6.48**	**30**	P	**Pn**	**14 53 44.4**	**+0.4**
	SNR=15						
EKS2	**Erkin-Say**	**6.50**	**19**	P	**Pn**	**14 53 45.2**	**+1.1**
	SNR=134						
BRLS	**Borolday**	**6.52**	**353**	*e*P	**Pn**	**14 53 42.5**	**-1.9**
	comp=Z,33nm,0.6s,baz=350						
BRLS				*e*S	Sn	14 54 48.6	-10
	comp=Z,190nm,0.8s,baz=350						
BRLS	**Borolday**	**6.52**	**353**	*e*PN	**Pn**	**14 53 42.4**	**-1.9**
BRLS				pmax	pmax		
	comp=Z,33nm,0.6s						
KK31	**Karatay Array**	**6.55**	**358**	P	**Pn**	**14 53 45.3**	**+0.5**
	comp=Z,91nm,0.6s,baz=183,slow=13,SNR=577						
KK31				⇓S	**Sn**	**14 54 55.7**	**-3.5**
	comp=Z,279nm,0.7s,baz=179,slow=17,SNR=17						
KK31	**Karatay Array**	**6.55**	**358**	*e*PN	**Pn**	**14 53 45.2**	**+0.5**
KK31	**Karatay Array**	**6.55**	**358**	Pn	**Pn**	**14 53 45.2**	**+0.5**
KKAR	**Karatay Array**	**6.55**	**358**	PN	**Pn**	**14 53 45.0**	**+0.3**
KKAR	**Karatay Array**	**6.55**	**358**		**Pn**	**14 53 45.2**	**+0.5**
KKAR	**Karatay Array**	**6.55**	**358**	Pn	**Pn**	**14 53 45.0**	**+0.3**
AAK	**Ala-Archa**	**6.69**	**24**	P	**Pn**	**14 53 47.8**	**+1.2**
	comp=Z,22nm,0.3s,baz=196,slow=8.3,SNR=97						
AAK				S	**Sn**	**14 55 01.0**	**-1.7**
	comp=Z,10.0nm,0.3s,baz=148,slow=23,SNR=20						
AAK	**Ala-Archa**	**6.69**	**24**	P	**Pn**	**14 53 47.9**	**+1.2**
	SNR=71						
AAK	**Ala-Archa**	**6.69**	**24**	⇑P	**Pn**	**14 53 47.5**	**+0.9**
	comp=Z,38nm,0.5s						
AAK				S	**Sn**	**14 54 56.5**	**-6.2**
	comp=Z,231nm,0.9s						
AAK	**Ala-Archa**	**6.69**	**24**	Pn	**Pn**	**14 53 47.5**	**+0.9**
KBK	**Karagaybulak**	**6.86**	**26**	P	**Pn**	**14 53 50.3**	**+1.5**
	SNR=40						
BHK	**Bhakra**	**6.88**	**136**	*e*P	**Pn**	**14 53 51.0**	**+1.9**
BHK				*e*S	**Sn**	**14 55 03.2**	**-3.9**
FRU1	**Bishkek**	**6.89**	**24**	PN	**Pn**	**14 53 50.2**	**+1.1**
FRU1	**Bishkek**	**6.89**	**24**		**Pn**	**14 53 50.2**	**+1.1**
ULHL	**Ulahol**	**7.04**	**34**	P	**Pn**	**14 53 52.1**	**+0.8**
	SNR=7.0						
CHMS	**Chumysh**	**7.10**	**24**	P	**Pn**	**14 53 52.6**	**+0.8**
	SNR=24						
BOOM	**Boomskoye usch**	**7.11**	**32**	PN	**Pn**	**14 53 52.9**	**+0.8**
BOOM	**Boomskoye usch**	**7.11**	**32**		**Pn**	**14 53 52.9**	**+0.8**
USP	**Ospenovka**	**7.26**	**21**	P	**Pn**	**14 53 54.3**	**+0.3**
	SNR=35						
TKM2	**Tokmak 2**	**7.33**	**28**	P	**Pn**	**14 53 56.1**	**+1.1**
	SNR=193						
TKM2	**Tokmak 2**	**7.33**	**28**	⇑P	**Pn**	**14 53 55.8**	**+0.7**
	comp=Z,212nm,0.7s						
TKM2				⇑S	**Sn**	**14 55 10.0**	**-7.8**
	comp=Z,56nm,0.7s						
TKM2	**Tokmak 2**	**7.33**	**28**	PN	**Pn**	**14 53 55.7**	**+0.7**
HRA	**Herat**	**7.37**	**256**	Pn	**Pn**	**14 53 55.3**	**-0.4**
KDJ	**Kajisay**	**7.41**	**39**	PN	**Pn**	**14 53 56.5**	**+0.5**
KDJ	**Kajisay**	**7.41**	**39**		**Pn**	**14 53 56.5**	**+0.5**
TARG	**Taragay, Kyrgy**	**7.46**	**44**	Pn	**Pn**	**14 53 56.6**	**-0.4**
SGDS	**Sogindy**	**7.47**	**21**	⇓*i*P	**Pn**	**14 53 56.9**	**+0.1**
	comp=Z,18nm,0.3s,baz=21						
SGDS	**Sogindy**	**7.47**	**21**	*d*iPN	**Pn**	**14 53 56.8**	**+0.1**
SGDS				pmax	pmax		
	comp=Z,18nm,0.3s						
SMLA	**Simla**	**7.52**	**134**	*e*PG	**Pn**	**14 53 56.5**	**-0.9**
SMLA				*e*S	**Sn**	**14 55 16.6**	**-5.6**
MTBS	**Maitube**	**7.84**	**31**	⇓*i*P	**Pn**	**14 54 02.6**	**+1.1**
	baz=32						
MTBS	**Maitube**	**7.84**	**31**	⇓*i*PN	**Pn**	**14 54 02.6**	**+1.1**
TNSS	**Tian-Shan**	**7.99**	**34**	*e*P	**Pn**	**14 54 04.2**	**+0.4**
	baz=35						
TNSS	**Tian-Shan**	**7.99**	**34**	*e*PN	**Pn**	**14 54 04.2**	**+0.4**
AAA	**Alma-Ata**	**8.11**	**33**	*e*P	**Pn**	**14 54 06.6**	**+1.5**
	comp=Z,70nm,1.1s,baz=34						
AAA	**Alma-Ata**	**8.11**	**33**	*e*PN	**Pn**	**14 54 06.6**	**+1.5**
AAA				pmax	pmax		
	comp=Z,70nm,1.1s						
MDOK	**Medeo**	**8.13**	**34**	*e*P	**Pn**	**14 54 06.6**	**+1.1**
	baz=34						
MDOK	**Medeo**	**8.13**	**34**	⇑P	**Pn**	**14 54 06.4**	**+0.9**
	comp=Z,36nm,0.6s						
MDOK				⇑S	**Sn**	**14 55 30.7**	**-6.1**
	comp=Z,41nm,1.3s						
MDOK	**Medeo**	**8.13**	**34**	PN	**Pn**	**14 54 06.4**	**+0.9**
KNDC	**Almaty**	**8.14**	**33**	⇑P	**Pn**	**14 54 06.9**	**+1.4**
	comp=Z,103nm,0.8s						
KUU	**Kurty**	**8.44**	**28**	*e*P	**Pn**	**14 54 09.0**	**-0.4**
	comp=Z,14nm,0.7s,baz=28						
KUU	**Kurty**	**8.44**	**28**	*e*PN	**Pn**	**14 54 09.0**	**-0.4**
KUU				pmax	pmax		
	comp=Z,14nm,0.7s						
DDI	**Dehra Dun**	**8.63**	**134**	*e*P	**Pn**	**14 54 11.5**	**-0.5**
DDI				*e*S	**Sn**	**14 55 42.7**	**-6.1**
CHKK	**Chushkaly**	**8.66**	**31**	*e*P	**Pn**	**14 54 12.2**	**-0.2**
	baz=31						
CHKK	**Chushkaly**	**8.66**	**31**	*e*PN	**Pn**	**14 54 12.1**	**-0.2**
SATY	**Saty**	**8.70**	**39**	*e*P	**Pn**	**14 54 12.8**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=40						
SATY	**Saty**	**8.70**	**39**	*e*PN	**Pn**	**14 54 12.8**	**-0.2**
SATY				pmax	pmax		

baz=203,slow=23,SNR=5.1
KURBB **Kurchatov Arra** 15.11 19 ⇓P Pn 14 55 33.4 -0.9
comp=Z,18nm,0.6s
KURBB **Kurchatov Arra** 15.11 19 P Pn 14 55 33.4 -0.9
PKIN **Phulchoki** 15.20 122 *eP* Pn 14 55 34.7 -1.2
comp=Z,686nm,0.6s
PKI **Pulchoki** 15.21 122 *eP* Pn 14 55 35.1 -1.0
comp=Z,854nm,0.6s
KURK **Kurchatov** 15.22 19 P Pn 14 55 34.2 -1.4
KURK S S 14 58 24.6 -0.7
KURK pmax pmax
comp=Z,8.0nm,0.8s
KURK **Kurchatov** 15.22 19 Pn Pn 14 55 34.2 -1.4
KURK **Kurchatov** 15.22 19 S 14 58 24.6 -0.7
GUN **Gumba** 15.32 120 *eP* Pn 14 55 36.3 -1.2
comp=Z,100nm,0.3s
SEM **Semipalatinsk** 15.41 23 *eP* P 14 55 38.7 -0.1
comp=Z,5.8nm,1.2s,baz=23
SEM **Semipalatinsk** 15.41 23 *eP* P 14 55 38.6 -0.1
SEM pmax pmax
comp=Z,6.0nm,1.2s
JBP **Jabalpur** 15.48 147⇑ *eP* Pn 14 55 38.9 -0.2
JBP AMB AMB 14 55 48.9
comp=Z,14nm,0.8s
JBP *eS* S 14 58 16.7 -15
JIRN **Jiri** 15.69 120 *eP* Pn 14 55 40.8 -1.2
comp=Z,463nm,0.5s
RAMN **Ramite** 16.42 121 *eP* P 14 55 50.0 -0.1
BVA0 **Borovoye Array** 16.48 359 ⇑P Pn 14 55 51.5 +0.6
comp=Z,7.7nm,0.6s,baz=157,slow=11,SNR=76
BVA0 **Borovoye Array** 16.48 359 *i* P Pn 14 55 51.5 +0.6
BVAR **Borovoye Array** 16.48 359 P Pn 14 55 51.9 +1.1
comp=Z,2.4nm,0.3s,baz=160,slow=12,SNR=58
BVAR S S 14 58 49.6 -2.8
comp=Z,0.7nm,0.3s,baz=161,slow=24,SNR=8.3
BRVK **Borovoye** 16.51 359 ⇓P Pn 14 55 51.3 0.0
comp=Z,36nm,1.4s
BRVK ⇓S S 14 58 45.3 -7.9
comp=Z,10nm,0.8s
BRVK **Borovoye** 16.51 359 P Pn 14 55 51.2 0.0
BRVK S S 14 58 48.6 -4.6
BRVK **Borovoye** 16.51 359 Pn 14 55 51.3 0.0
BRVK IAmb IAmb 14 55 55.9
comp=Z,20nm,0.7s
AKTO **Aktyubinsk** 16.69 330 P Pn 14 55 54.3 +0.8
comp=Z,4.4nm,0.3s,baz=140,slow=10,SNR=179
AKTO S S 14 58 54.0 -2.9
comp=Z,0.4nm,0.3s,baz=345,slow=23,SNR=2.4
AKTO **Aktyubinsk** 16.69 330 ⇑P Pn 14 55 54.2 +0.7
comp=Z,125nm,0.8s
NGP **Nagpur** 16.92 153 *e*PG P 14 55 55.6 +0.3
NGP *e*SG S 14 58 48.7 -13
TAPN **Taplejung** 16.95 118 *eP* Pn 14 55 56.9 -0.2
comp=Z,101nm,0.4s
WSAR **Wadi Sarin** 16.97 222 P P 14 55 55.6 -0.2
comp=Z,0.3nm,0.3s,baz=88,slow=8.0,SNR=4.3
WSAR LR LR 15 02 57.5
comp=Z,46nm,18.8s,baz=154,slow=38
ODAN **Odare** 17.03 120 *eP* Pn 14 55 57.5 -0.4
comp=Z,241nm,0.6s
UOSS **Minazif** 17.09 232 P 14 55 58.0 +0.8
UOSS IAmb IAmb 14 56 43.6
comp=Z,28nm,1.4s
LKRN **Lenkeran, Azer** 17.64 284 P Pn 14 56 04.7 0.0
DGZ **Jazzator, Alta** 17.80 37*ce*P Pn 14 56 06.6 -0.1
DGZ pmax pmax
comp=Z,9.0nm,0.8s
LSA **Lhasa** 18.28 106 P Pn 14 56 12.1 -0.8
LSA pmax pmax
comp=Z,32nm,0.8s
LSA **Lhasa** 18.28 106 P Pn 14 56 12.1 -0.8
LSA IAmb IAmb 14 56 15.2
comp=Z,32nm,0.8s
AKT **Akhty** 18.63 292 *eP* P 14 56 15.3 +1.3
AKT *eS* S 14 59 39.3 +3.0
AKT pmax pmax
comp=Z,21nm,0.5s
AKT smax smax
comp=N,15nm,0.3s
AKT smax smax
comp=E,14nm,0.4s
SEKA **Sheki** 19.00 291 P P 14 56 18.3 +0.4
MAK **Makhachkala** 19.05 297 *eP* P 14 56 17.6 -0.7
MAK *eS* S 14 59 43.5 -0.8
MAK pmax pmax
comp=Z,28nm,0.3s
MAK MLR MLR
comp=Z,157nm,13.0s
ZKTA **Zakatala** 19.48 293 P P 14 56 24.1 +1.1
GANJ **Ganja** 19.61 290 P P 14 56 25.8 +1.4
DDFL **Dedoflistskaro** 19.83 292 P Pn 14 56 30.1 -0.6
ZAA0 **Zalesovo Array** 19.91 25 ⇓P P 14 56 28.1 +0.6
comp=Z,5.7nm,0.7s
ZAA0 **Zalesovo Array** 19.91 25 P P 14 56 28.0 +0.6
ZALV **Zalesovo Beam** 19.91 25 P P 14 56 28.3 +0.8
comp=Z,4.6nm,0.3s,baz=221,slow=11,SNR=169
ZALV S S 14 59 59.0 -1.9
comp=Z,0.2nm,0.3s,baz=158,slow=43,SNR=2.1
ZALV **Zalesovo Beam** 19.91 25 *i* P P 14 56 28.2 +0.8
ZALV pmax pmax
comp=Z,38nm,0.6s
ZALV **Zalesovo Beam** 19.91 25 P P 14 56 28.0 +0.6
NAX **Nakhchivan** 20.20 285 P P 14 56 32.2 +1.4
HYB **Hyderabad** 20.23 158 *i* P P 14 56 32.0 +0.8
HYB *eS* S 15 00 11.0 +3.1
HYB **Hyderabad** 20.23 158 *ex* P 14 56 32.1 +0.8
GROC **Groznyy** 20.32 297 *eP* P 14 56 33.0 +1.0
GROC pmax pmax
comp=Z,33nm,0.5s
TBLG **Delisi** 20.89 292 P P 14 56 38.5 +0.5
TBLG pmax pmax
comp=Z,40nm,0.7s
TBLG **Delisi** 20.89 292 P P 14 56 38.5 +0.5
SHL **Shillong** 21.02 115 P P 14 56 39.7 0.0
SHL pmax pmax
comp=Z,64nm,1.0s
SHL **Shillong** 21.02 115 P P 14 56 39.7 0.0
KZRT **Kazreti** 21.11 291 P P 14 56 43.3 +2.9
SVE **Sverdlovsk** 21.42 344⇑ *eP* P 14 56 44.0 +0.6
SVE pmax pmax
comp=Z,47nm,0.9s
ARU **Arti** 21.56 341 P P 14 56 46.3 +1.5
comp=Z,14nm,0.7s,baz=154,slow=8.4,SNR=35
ARU **Arti** 21.56 341*c* *i*P P 14 56 45.8 +1.0
ARU *PP pP 14 57 19.9 +2.3
ARU S S 15 00 34.6 +3.5
ARU pmax pmax
comp=Z,60nm,0.9s
ARU **Arti** 21.56 341 P P 14 56 45.9 +1.0
ZEI **Tsey** 21.63 295 *eP* P 14 56 49.2 +3.2
ZEI pmax pmax
comp=Z,10.0nm,0.6s
AKH **Akhalkalaki** 21.80 291 P P 14 56 52.0 +4.3
ONI **Oni** 21.93 294 P P 14 56 52.4 +3.5
KBZ **Khabaz** 22.49 297 P P 14 56 54.2 +0.1
comp=Z,5.1nm,0.7s,baz=116,slow=8.3,SNR=14
KBZ **Khabaz** 22.49 297*ce*P P 14 56 54.4 +0.3
KBZ pmax pmax
comp=Z,7.0nm,1.0s
GOF **Gofitskoye** 22.64 301⇑ *eP* P 14 56 57.4 +2.0
GOF pmax pmax
comp=Z,78nm,1.1s
KIV **Kislovodsk** 22.68 298 *eP* P 14 56 56.5 +0.6
KIV *eS* S 15 00 50.5 +0.8
KIV pmax pmax
comp=Z,38nm,1.0s
KIV **Kislovodsk** 22.68 298 P P 14 56 56.5 +0.6
KIV IAmb IAmb 14 57 38.6
comp=Z,13nm,0.8s
GTA **Gaotai** 22.94 74 *eP* P 14 57 00.8 +2.4
GTA pmax pmax
comp=Z,6.0nm,0.8s
VRH **Novokhopyorsk** 25.41 314 *eP* P 14 57 20.6 +0.2
VRH pmax pmax
comp=Z,40nm,1.0s
KIRV **Kirov** 26.16 334 P P 14 57 28.6 +1.6
comp=Z,39nm,0.6s,baz=140,slow=2.9,SNR=13
VSR **Storozhevoye** 26.90 313 *eP* P 14 57 34.0 +0.2
VSR pmax pmax
comp=Z,30nm,1.2s
LPSR **Galich'ya Gora** 27.55 316 *eP* P 14 57 40.3 +0.8
LPSR pmax pmax
comp=Z,40nm,0.9s
SONM **Songino Array** 28.39 55 P P 14 57 48.5 +1.3
comp=Z,2.9nm,0.8s,baz=254,slow=10,SNR=16
SONM **Songino Array** 28.39 55 P P 14 57 48.3 +1.1
SONM pmax pmax
comp=Z,2.0nm,0.9s
ULN **Ulaanbaatar** 28.83 56⇑ *eP* P 14 57 52.5 +1.4
ULN pmax pmax
comp=Z,2.0nm,0.5s
MMAI **Mount Meron Ar** 29.25 274 PcP PcP 15 00 56.7 -0.4
comp=Z,2.1nm,0.5s,baz=77,slow=4.4,SNR=3.7
BR131 **Keskin Array S** 29.33 288 P P 14 57 56.2 +0.6
BR131 pmax pmax
comp=Z,2.0nm,0.7s
BR131 **Keskin Array S** 29.33 288 P P 14 57 56.2 +0.6
BRTR **Keskin Array B** 29.33 288 P P 14 57 56.8 +1.1
comp=Z,1.5nm,0.7s,baz=97,slow=8.9,SNR=10.0
BRTR **Keskin Array B** 29.33 288 P P 14 57 56.2 +0.6
KMI **Kunming** 29.50 104⇓ *eP* P 14 58 02.8 +5.4
KMI pmax pmax
comp=Z,8.0nm,0.5s
KMI pmax pmax
comp=Z,62nm,5.5s
KMI LR LR
comp=Z,130nm,8.0s
KMI LR LR
comp=Z,96nm,9.1s
KMI LR LR
comp=Z,110nm,10.5s
MOS **Moscow** 29.56 321 *eP* P 14 57 57.7 +0.4
MOS pmax pmax
comp=Z,43nm,0.9s
OBN **Obninsk** 29.84 319 P P 14 58 01.1 +1.4
comp=Z,8.8nm,0.4s,baz=53,slow=9.1,SNR=6.7
OBN **Obninsk** 29.84 319⇓ *eP* P 14 58 00.4 +0.7
OBN *e**PP pP 14 58 37.1 -1.4
OBN *e* 14 59 05.2
OBN pmax pmax
comp=Z,30nm,0.5s
OBN **Obninsk** 29.84 319 IAmb IAmb 14 58 01.8
comp=Z,50nm,0.5s
CHTO **Chiang Mai** 30.33 118 P P 14 58 04.3 -0.2
CHTO pmax pmax
comp=Z,5.0nm,0.6s
CHTO **Chiang Mai** 30.33 118 P P 14 58 04.3 -0.2
CHTO IAmb IAmb 14 58 06.7
comp=Z,4.6nm,0.6s
CM31 **Chiang Mai Arr** 30.56 119 P P 14 58 06.0 -0.5
CM31 IAmb IAmb 14 58 09.2
comp=Z,17nm,1.3s
CMAR **Chiang Mai Arr** 30.56 119 P P 14 58 07.3 +0.8
comp=Z,5.1nm,0.8s,baz=295,slow=9.3,SNR=22
CMAR **Chiang Mai Arr** 30.56 119 P P 14 58 06.2 -0.3
XAN **Xi'an** 31.02 83 P P 14 58 12.4 +1.9
XAN pmax pmax
comp=Z,8.0nm,0.6s
KLMR **Klimovskoe** 31.39 331 *eP* P 14 58 12.8 -0.5
KLMR pmax pmax
comp=Z,39nm,1.3s
KLMR **Klimovskoe** 31.39 331 *eP* P 14 58 12.9 -0.4
KLMR AMP 14 58 15.0
comp=Z,39nm,1.3s
HHC **Hu-ho-hao-te** 31.84 70 *eP* P 14 58 20.8 +3.2
HHC pmax pmax
comp=Z,10.0nm,1.0s
HHC pmax pmax
comp=Z,45nm,5.5s
ELL **Elmali** 32.70 283 P P 14 58 25.9 +0.7
ELL pmax pmax
comp=Z,52nm,0.6s
ELL **Elmali** 32.70 283 P P 14 58 25.9 +0.7
AKASG **Malin Array Be** 32.84 309 P P 14 58 26.9 +0.8
comp=Z,13nm,0.6s,baz=81,slow=6.9,SNR=35
AKASG **Malin Array Be** 32.84 309 P P 14 58 26.0 0.0
AKBB **Malin Array Si** 32.84 309 P P 14 58 26.1 0.0
AKBB pmax pmax
comp=Z,14nm,0.7s
AKBB **Malin Array Si** 32.84 309 P P 14 58 26.1 0.0
AKBB IAmb IAmb 14 58 27.6
comp=Z,14nm,0.7s
PBKT **Sadao Pong** 33.26 119 P P 14 58 31.3 +1.3
TMCR **Tamitsa** 33.96 335 *eP* P 14 58 36.8 +1.2
TMCR pmax pmax
comp=Z,53nm,0.9s
NRIK **Noril'sk** 34.10 10 P P 14 58 38.8 +2.1
comp=Z,19nm,0.8s,baz=190,slow=5.9,SNR=28
PLOR **Plostina** 34.17 300 ⇑P P 14 58 40.3 +2.6
PLOR **Plostina** 34.17 300 ⇑P P 14 58 40.3 +2.6
TESR **Tescani** 34.18 301 ⇑P P 14 58 38.6 +0.9
BIZ **Bicaz** 34.56 302 ⇑P P 14 58 42.5 +1.5
MLR **Muntele Rosu** 34.67 299 ⇑P P 14 58 44.4 +2.3
MLR **Muntele Rosu** 34.67 299 P P 14 58 43.6 +1.5
MLR pmax pmax
comp=Z,17nm,0.9s
MLR **Muntele Rosu** 34.67 299 P P 14 58 43.6 +1.5
MLR IAmb IAmb 14 58 45.5
comp=Z,17nm,0.9s
DOPR **Dopca** 35.05 300 ⇑P P 14 58 46.5 +1.2
BURAR **Bucovina Array** 35.18 303 ⇑P P 14 58 47.7 +1.3
BURAR **Bucovina Array** 35.18 303 ⇑P P 14 58 47.7 +1.3
BURAR **Bucovina Array** 35.18 303 P P 14 58 46.5 +0.1
BUR08 **Bucovina Ar. S** 35.19 303 P P 14 58 46.8 +0.3
VOIR 35.30 299 ⇑P P 14 58 48.4 +0.9
VOIR 35.30 299 ⇑P P 14 58 48.4 +0.9
IIGN **Ignalina** 35.53 316 *eP* P 14 58 50.9 +1.8
ARR **Ārges** 35.60 299 ⇑P P 14 58 51.5 +1.6
IZAR **Zarasai** 35.61 317 *eP* P 14 58 50.8 +1.1
ISAL **Salakas** 35.63 317 *eP* P 14 58 50.9 +0.9
VSU **Vasula** 36.09 322 *eP* P 14 58 54.5 +0.7
VSU **Vasula** 36.09 322*c* *i*P P 14 58 54.5 +0.7
VSU pmax pmax
comp=Z,71nm,0.8s
PABE **Paberze** 36.82 316 *eP* P 14 59 00.8 +0.7
DRGR 36.89 301 ⇑P P 14 59 02.6 +1.7
DRGR 36.89 301 ⇑P P 14 59 02.6 +1.7
IDI **Anoyia** 37.00 282 P P 14 59 01.9 -0.1
LVZ **Lovozero** 37.38 338 P P 14 59 05.3 +0.6
LVZ pmax pmax
comp=Z,116nm,1.6s
LVZ **Lovozero** 37.38 338 P P 14 59 05.3 +0.6
FIA1 **FINESS Array S** 37.39 326 P P 14 59 05.6 +0.8
FINES **FINESS Array B** 37.39 326 P P 14 59 05.8 +1.0
comp=Z,18nm,0.7s,baz=106,slow=11,SNR=54
SIRR **Siria** 37.64 301 ⇑P P 14 59 09.0 +1.9
MDVR **Moldovita** 37.70 298 ⇑P P 14 59 08.9 +1.1
BZS **Buzias** 37.71 300 ⇑P P 14 59 09.1 +1.4
BZS **Buzias** 37.71 300 ⇑P P 14 59 09.1 +1.4
SUF **Sumiainen** 37.83 328 P P 14 59 10.1 +1.6
SUF pmax pmax
comp=Z,49nm,1.2s
PBUR **Paburge** 38.04 317 *eP* P 14 59 02.7 -7.6
NIE **Niedzica** 38.47 306 *eP* P 14 59 16.4 +2.3
OJC **Ojcow** 38.80 307 P P 14 59 16.5 -0.2
OJC pmax pmax
comp=Z,17nm,1.3s
OJC **Ojcow** 38.80 307 P P 14 59 16.5 -0.2
OJC IAmb IAmb 14 59 18.8
comp=Z,17nm,1.3s
NJ2 **Nanjing** 39.56 82 *eP* P 14 59 23.4 +0.1
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
MORC **Moravsky Berou** 40.26 306 ⇑P P 14 59 29.5 +0.7
MORC **Moravsky Berou** 40.26 306 P P 14 59 29.2 +0.4
MORC pmax pmax
comp=Z,4.0nm,0.6s
MORC **Moravsky Berou** 40.26 306 P P 14 59 29.2 +0.4
KEV **Kevo** 40.72 338 P P 14 59 33.5 +1.2
KEV pmax pmax
comp=Z,23nm,0.9s
KEV **Kevo** 40.72 338 P P 14 59 33.5 +1.2
KEV IAmb IAmb 14 59 34.4
comp=Z,23nm,0.9s
DPC **Dobruska-Polom** 41.03 307 *eP* P 14 59 36.3 +1.2
DPC **Dobruska-Polom** 41.03 307 *eP* P 14 59 36.3 +1.2
ARCES **ARCESS Array B** 41.06 338 P P 14 59 36.6 +1.5
comp=Z,22nm,0.7s,baz=110,slow=8.1,SNR=61
ARCES **ARCESS Array B** 41.06 338 P P 14 59 36.4 +1.3
ARE0 **ARCESS Array S** 41.06 338 P P 14 59 36.4 +1.4
ARE0 **ARCESS Array S** 41.06 338 *eP* P 14 59 36.5 +1.4
KULM **Kulim** 41.38 132 P P 14 59 38.9 +0.6
KULM IAmb IAmb 15 00 21.2
comp=Z,54nm,1.9s
CONA **Conrad Observa** 41.47 304 *eP* P 14 59 39.8 +1.0
comp=Z,5.7nm,0.7s
KTK1 **Kautokeino** 41.53 336 *eP* P 14 59 40.0 +1.0
HAMF **Hammerfest** 42.15 339 *eP* P 14 59 45.6 +1.8
SOKA **Soboth** 42.16 302 *eP* P 14 59 45.6 +1.1
comp=Z,2.7nm,0.5s
PRU **Pruhonice** 42.19 307 *eP* P 14 59 45.7 +1.2
PRU **Pruhonice** 42.19 307 *eP* P 14 59 45.7 +1.2
IPM **Ipoh** 42.25 132 P P 14 59 45.3 -0.1
IPM IAmb IAmb 14 59 46.3
comp=Z,19nm,0.8s
TIP **Timpagrande** 42.28 291 P P 14 59 46.0 +0.6
PSI **Prapat** 42.38 136 P P 14 59 45.8 -0.8
comp=Z,10nm,0.7s,baz=360,slow=7.0,SNR=7.7
RPSI **Rantau Prapat** 42.47 136 P P 14 59 45.8 -1.3
RPSI IAmb IAmb 14 59 46.8
comp=Z,12nm,0.8s
RPSI **Rantau Prapat** 42.47 136 P P 14 59 45.8 -1.3
BRG **Berggiesshubel** 42.52 308 *i* P P 14 59 48.4 +1.3
comp=Z,5.6nm,0.7s
BRG **Berggiesshubel** 42.52 308 *i* P P 14 59 48.4 +1.3
BRG pmax pmax
comp=Z,6.0nm,0.7s
MOA **Molln** 42.55 304 *eP* P 14 59 48.2 +0.8
comp=Z,4.1nm,0.7s
GERES **GERESS Array B** 42.82 305 P P 14 59 50.3 +0.6
comp=Z,1.1nm,0.6s,baz=81,slow=8.2,SNR=7.2
GERES PP PP 15 01 30.6 -2.3
comp=Z,1.5nm,0.8s,baz=101,slow=11,SNR=4.0
GERES ScP ScP 15 05 08.2 -2.1
comp=Z,0.2nm,0.3s,baz=64,slow=3.1,SNR=3.5
GERES **GERESS Array B** 42.82 305 P P 14 59 49.5 -0.2
GERES **GERESS Array B** 42.82 305 P P 14 59 49.5 -0.2
KHC **Kasperske Hory** 42.88 306 *eP* P 14 59 52.0 +1.9
KHC **Kasperske Hory** 42.88 306 *eP* P 14 59 52.0 +1.9
GSI **Gunungsitoli** 42.89 139 P P 14 59 50.9 +0.4
comp=Z,226nm,1.2s
GSI **Gunungsitoli** 42.89 139 P P 14 59 51.4 +0.9
CLL **Collm** 43.09 309 *i* P P 14 59 52.0 +0.3
comp=Z,6.0nm,1.1s
CLL *i* 15 01 29.1
CLL *e*PP PcP 15 01 37.0 -1.0
CLL **Collm** 43.09 309 *i* P P 14 59 52.0 +0.3
CLL pmax pmax
comp=Z,6.0nm,1.1s
TRO **Tromso** 43.19 336 *eP* P 14 59 53.4 +1.2
PRED **Cave del Predi** 43.20 302 P P 14 59 52.7 -0.1
N2ST **Straumen** 43.59 333 *eP* P 14 59 56.7 +1.2
N2IH **Innhavet** 43.65 333 *eP* P 14 59 57.2 +1.3
FAUS **Fauske** 43.72 332 *eP* P 14 59 57.4 +1.0
MOR8 **Moi Rana** 43.73 331 *eP* P 14 59 57.1 +0.5
STAL **STALIGIAL** 43.81 302 P P 14 59 57.5 -0.1
N2TV **TΥrnvik** 43.83 333 *eP* P 14 59 58.7 +1.4
STEI **Steigen** 43.89 333 *eP* P 14 59 59.2 +1.4
NBB08 **Skaug oppvekst** 43.96 332 *eP* P 14 59 59.9 +1.5
YAK **Yakutsk** 43.98 36 P P 14 59 59.3 +0.7
comp=Z,7.7nm,0.4s,baz=273,slow=1.3,SNR=5.4
YAK **Yakutsk** 43.98 36 *eP* P 14 59 59.1 +0.5
YAK pmax pmax
comp=Z,11nm,0.8s
YAK **Yakutsk** 43.98 36 P P 14 59 59.3 +0.7
YAK IAmb IAmb 15 01 30.8
comp=Z,17nm,0.5s
NC405 **NORSAR Array S** 44.05 323 P P 14 59 59.6 +0.3
NBB17 **Glomfjord BΥr** 44.07 332 *eP* P 15 00 00.4 +1.1
NC602 **NORSAR Array S** 44.10 323 P P 14 59 59.4 -0.2
NC602 IAmb IAmb 15 00 00.9
comp=Z,21nm,0.9s
NC602 **NORSAR Array S** 44.10 323 *eP* P 14 59 60.0 +0.4
NBB05 **Inndyr** 44.10 332 *eP* P 15 00 01.4 +1.9
NBB30 **Finnes** 44.20 332 *eP* P 15 00 01.4 +1.1
NC303 **NORSAR Array S** 44.23 323 P P 15 00 01.3 +0.7
NB201 **NORSAR Array S** 44.25 323 P P 15 00 01.1 +0.3
NB201 IAmb IAmb 15 00 02.3
comp=Z,26nm,0.8s
NB2 **NORSAR Subarra** 44.28 323 P P 15 00 01.5 +0.4
comp=Z,19nm,0.7s,baz=95,slow=7.9
NB2 **NORSAR Subarra** 44.28 323 P P 15 00 01.5 +0.4
baz=95,slow=7.9
NOA **NORSAR Array B** 44.28 323 P P 15 00 01.4 +0.2
comp=Z,17nm,0.7s,baz=96,slow=7.8,SNR=86
NOA PP PP 15 01 46.6 -1.5
comp=Z,1.2nm,0.7s,baz=91,slow=7.8,SNR=3.4
KONS **Konsvik** 44.32 331 *eP* P 15 00 02.1 +0.8
WTTA **Wattenberg** 44.39 303 *eP* P 15 00 03.9 +1.6
comp=Z,4.1nm,0.6s
MNSI **Mandailing Nat** 44.40 137 P P 15 00 03.3 +0.8
comp=Z,30nm,0.8s
NSS **Namsos** 44.41 328 *eP* P 15 00 02.5 +0.5
NAO01 **NORSAR Array S** 44.43 323 P P 15 00 02.5 +0.2
NAO01 IAmb IAmb 15 00 03.6
comp=Z,37nm,1.0s
NBO00 **NORSAR Array S** 44.49 323 P P 15 00 02.7 0.0
NC204 **NORSAR Array S** 44.52 323 P P 15 00 03.0 -0.1
CTI **Castel Tesino** 44.57 301 P P 15 00 03.2 -0.5
CTI pmax pmax
comp=Z,7.0nm,0.6s
CTI **Castel Tesino** 44.57 301 P P 15 00 03.2 -0.5
SQTA **Sankt Quirin** 44.68 303 *eP* P 15 00 03.8 -0.8
comp=Z,3.0nm,0.5s
MOTA **Moosalm** 44.74 303 *eP* P 15 00 04.6 -0.5
comp=Z,4.2nm,0.8s
KONO **Kongsberg** 44.99 321 P P 15 00 06.8 +0.2
KONO pmax pmax
comp=Z,9.0nm,0.9s
KONO **Kongsberg** 44.99 321 P P 15 00 06.8 +0.2
FETA **Feichten** 45.04 303 *i* P P 15 00 07.5 0.0
comp=Z,2.8nm,0.9s
BJO1 **Bjornoya** 45.19 343 *eP* P 15 00 09.5 +1.4
KLR **Kul'dur** 45.19 54 P P 15 00 09.2 +0.7
comp=Z,1.3nm,0.5s,baz=293,slow=7.8,SNR=6.0
KLR **Kul'dur** 45.19 54⇓ *eP* P 15 00 09.6 +1.2
KLR pmax pmax
comp=Z,4.0nm,1.5s
DOMB **Dombas** 45.40 324 *eP* P 15 00 10.9 +1.0
FUORN **Ofenpass-Fuorn** 45.42 303 P P 15 00 10.6 0.0
DAVA **Damuels** 45.57 304 *eP* P 15 00 11.7 +0.1
comp=Z,17nm,0.8s
SKAR **Skarslia** 45.68 322 *eP* P 15 00 12.9 +0.8
TIXI **Tiksi** 45.77 22*c* *i*P P 15 00 13.5 +0.9
TIXI pmax pmax
comp=Z,9.0nm,0.5s
TIXI **Tiksi** 45.77 22 P P 15 00 13.3 +0.7
TIXI IAmb IAmb 15 00 14.5
comp=Z,18nm,0.9s
TUE **Stuetta** 46.07 302 P P 15 00 14.9 -0.7
SNART **Snartemo** 46.20 319 *eP* P 15 00 16.0 -0.1
USA0B **Ussuriysk Arra** 46.23 61 P P 15 00 17.3 +0.7
USA0B pmax pmax
comp=Z,4.0nm,1.0s
USA0B **Ussuriysk Arra** 46.23 61 P P 15 00 17.3 +0.7
MSSA **Maissana** 46.38 300 P P 15 00 18.0 +0.1
HSPB **Hornsund (broa** 47.06 345 *eP* P 15 00 23.9 +1.3
HSPB **Hornsund (broa** 47.06 345 *eP* P 15 00 24.8 +2.2
SPA0 **Spitsbergen Ar** 47.42 347 P P 15 00 27.1 +1.6
SPA0 IAmb IAmb 15 00 28.4
comp=Z,17nm,1.0s
SPA0 **Spitsbergen Ar** 47.42 347 *eP* P 15 00 27.3 +1.9
SENIN **Lac Senin/Sane** 47.48 303 P P 15 00 26.2 -0.3
BNI **Bardonecchia** 48.19 301 P P 15 00 31.9 -0.1
BNI pmax pmax
comp=Z,7.0nm,1.2s
BNI **Bardonecchia** 48.19 301 P P 15 00 31.9 -0.1
KBS **Kingsbay** 48.54 347⇓ *eP* P 15 00 35.7 +1.7
KBS pmax pmax
comp=Z,26nm,0.9s
KBS **Kingsbay** 48.54 347 P P 15 00 35.8 +1.9
KBS IAmb IAmb 15 00 36.8
comp=Z,21nm,0.8s
KMBO **Kilima Mbogo** 48.79 227 P P 15 00 39.3 +2.3
comp=Z,2.0nm,0.7s,baz=40,slow=13,SNR=4.9
KMBO **Kilima Mbogo** 48.79 227 P P 15 00 39.3 +2.3
KMBO pmax pmax
comp=Z,13nm,1.5s
KMBO **Kilima Mbogo** 48.79 227 IAmb IAmb 15 00 42.8
comp=Z,12nm,1.4s
KEST **Kesra** 48.93 288 P P 15 00 38.5 +0.8
comp=Z,4.1nm,0.6s,baz=280,slow=4.5,SNR=6.4
KEST **Kesra** 48.93 288 P P 15 00 38.2 +0.6
SSB **Saint Sauveur** 49.60 302 P P 15 00 42.9 +0.4
SSB pmax pmax
comp=Z,16nm,1.5s
SSB **Saint Sauveur** 49.60 302 P P 15 00 42.9 +0.4
DAG **Danmarks Havn** 54.66 344⇑ *i*P P 15 01 20.3 +1.1
comp=Z,18nm,0.9s
DAG **Danmarks Havn** 54.66 344⇑ *i*P P 15 01 20.3 +1.1
DAG pmax pmax
comp=Z,18nm,0.9s

ESDC	**Sonseca Array**	**57.35**	**298**	P		**P**	**15 01 38.8**	**-0.2**
	comp=Z,2.3nm,0.8s,baz=56,slow=7.6,SNR=13							
ESDC	**Sonseca Array**	**57.35**	**298**	P		**P**	**15 01 38.0**	**-0.9**
BILL	**Bilibino**	**58.61**	**26***c*	*i*P		**P**	**15 01 48.5**	**+1.4**
BILL				*e**PP		**PcP**	**15 02 34.0**	**-1.2**
BILL				*e*			15 03 59.0	
BILL				*e*S		**S**	**15 09 35.5**	**-0.4**
BILL				pmax	pmax			
	comp=Z,11nm,1.2s							
BILL	**Bilibino**	**58.61**	**26**	P		**P**	**15 01 48.6**	**+1.5**
BILL				IAmb	IAmb		15 01 49.7	
	comp=Z,9.1nm,1.0s							
SUMG	**Summit**	**60.98**	**341**	*i*P		**P**	**15 02 05.2**	**+1.4**
	comp=Z,64nm,1.3s							
SUMG	**Summit**	**60.98**	**341**	*i*P		**P**	**15 02 05.2**	**+1.4**
SUMG				pmax	pmax			
	comp=Z,64nm,1.3s							
SUMG	**Summit**	**60.98**	**341**	P		**P**	**15 02 04.8**	**+1.0**
SUMG				IAmb	IAmb		15 02 06.4	
	comp=Z,24nm,1.3s							
TOA0	**Torodi Ar. Sit**	**65.62**	**269**	P		**P**	**15 02 32.5**	**-2.1**
TORD	**Torodi Ar. Bea**	**65.62**	**269**	P		**P**	**15 02 32.6**	**-2.0**
	comp=Z,14nm,0.5s,baz=48,slow=6.0,SNR=106							
TORD	**Torodi Ar. Bea**	**65.62**	**269**	P		**P**	**15 02 32.3**	**-2.3**
RDOG	**Red Dog Mine**	**68.25**	**19**	P		**P**	**15 02 50.7**	**+0.4**
TOLK	**Toolik Lake Re**	**70.90**	**15**	P		**P**	**15 03 07.4**	**+0.8**
COLD	**Coldfoot**	**71.95**	**16**	P		**P**	**15 03 13.6**	**+0.8**
COLD				IAmb	IAmb		15 03 14.9	
	comp=Z,9.6nm,1.0s							
BMAR	**Burnt Mountain**	**72.92**	**14**	P		**P**	**15 03 19.8**	**+1.2**
FYU	**Fort Yukon**	**73.55**	**14**	P		**P**	**15 03 23.6**	**+1.4**
INK	**Inuvik**	**73.87**	**9**	P		**P**	**15 03 25.2**	**+1.1**
INK				pmax	pmax			
	comp=Z,9.0nm,0.6s							
INK	**Inuvik**	**73.87**	**9**	P		**P**	**15 03 25.2**	**+1.1**
INK				IAmb	IAmb		15 03 26.2	
	comp=Z,9.1nm,0.6s							
TTA	**Tatalina**	**74.01**	**20**	P		**P**	**15 03 25.8**	**+0.7**
TTA	**Tatalina**	**74.01**	**20**	P		**P**	**15 03 25.8**	**+0.7**
MDM	**Murphy Dome**	**74.30**	**16**	P		**P**	**15 03 27.9**	**+1.2**
BPAW	**Bear Paw Mtn.**	**74.38**	**18**	P		**P**	**15 03 27.4**	**+0.3**
PRP	**Porcupine Dome**	**74.40**	**15**	P		**P**	**15 03 28.3**	**+0.9**
COLA	**College**	**74.46**	**16**	P		**P**	**15 03 28.5**	**+1.0**
COLA				pmax	pmax			
	comp=Z,32nm,0.3s							
COLA	**College**	**74.46**	**16**	P		**P**	**15 03 28.5**	**+1.0**
DBIC	**Dimbokro**	**74.61**	**267**	P		**P**	**15 03 27.4**	**-1.8**
	comp=Z,2.8nm,0.7s,baz=33,slow=2.7,SNR=3.6							
LBTB	**Lobatse**	**74.65**	**222**	P		**P**	**15 03 29.0**	**-0.3**
LBTB				pmax	pmax			
	comp=Z,22nm,1.5s							
LBTB	**Lobatse**	**74.65**	**222**	P		**P**	**15 03 28.9**	**-0.3**
LBTB				IAmb	IAmb		15 04 43.4	
	comp=Z,22nm,1.5s							
CCB	**Clear Creek Bu**	**74.66**	**16**	P		**P**	**15 03 28.8**	**+0.1**
WRH	**Wood River Hil**	**74.75**	**16**	P		**P**	**15 03 29.2**	**0.0**
IL31		**74.76**	**16**	P		**P**	**15 03 29.1**	**-0.1**
ILAR	**Eielson Array**	**74.76**	**16**	P		**P**	**15 03 29.1**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=303,slow=4.8,SNR=29							
ILAR				PP		**PP**	**15 06 22.4**	**+4.0**
	comp=Z,0.6nm,0.8s,baz=314,slow=6.4,SNR=5.4							
TSUM	**Tsumeb**	**74.87**	**232**	P		**P**	**15 03 30.0**	**-0.7**
TSUM				IAmb	IAmb		15 03 33.1	
	comp=Z,22nm,1.7s							
HDA	**Harding Lake**	**75.06**	**16**	P		**P**	**15 03 30.9**	**-0.1**
PPLA	**Purkeypile**	**75.07**	**19**	P		**P**	**15 03 31.6**	**+0.3**
PPLA				IAmb	IAmb		15 03 32.6	
	comp=Z,5.7nm,0.5s							
TRF	**Thorofare Moun**	**75.09**	**18**	P		**P**	**15 03 31.8**	**+0.4**
MCK	**McKinley**	**75.18**	**17**	P		**P**	**15 03 32.5**	**+0.7**
MCK				pmax	pmax			
	comp=Z,8.0nm,0.4s							
MCK	**McKinley**	**75.18**	**17**	P		**P**	**15 03 32.5**	**+0.7**
MCK				IAmb	IAmb		15 03 33.0	
	comp=Z,7.6nm,0.4s							
KNRA	**Kununurra**	**75.33**	**123**	P		**P**	**15 03 32.4**	**-0.8**
RND	**Reindeer**	**75.48**	**17**	P		**P**	**15 03 33.3**	**-0.2**
RND				pmax	pmax			
	comp=Z,6.0nm,0.6s							
RND	**Reindeer**	**75.48**	**17**	P		**P**	**15 03 33.3**	**-0.2**
RND				IAmb	IAmb		15 03 34.2	
	comp=Z,5.6nm,0.6s							
EGAK	**Eagle**	**75.92**	**14**	P		**P**	**15 03 35.3**	**-0.6**
SCRK	**Sand Creek**	**76.07**	**15**	P		**P**	**15 03 37.3**	**+0.4**
SCRK				IAmb	IAmb		15 03 38.6	
	comp=Z,6.0nm,0.5s							
RIDG	**Independent Ri**	**76.10**	**16**	P		**P**	**15 03 37.0**	**0.0**
RIDG				IAmb	IAmb		15 03 37.6	
	comp=Z,5.4nm,0.5s							
DHY	**Denali Highway**	**76.11**	**17**	P		**P**	**15 03 37.0**	**-0.2**
DHY				IAmb	IAmb		15 03 38.8	
	comp=Z,7.8nm,0.6s							
DOT	**Dot Lake**	**76.35**	**15**	P		**P**	**15 03 38.7**	**+0.3**
DOT				IAmb	IAmb		15 05 06.8	
	comp=Z,12nm,1.2s							
PAX	**Paxson**	**76.64**	**16**	P		**P**	**15 03 40.6**	**+0.5**
PAX				pmax	pmax			
	comp=Z,16nm,0.6s							
PAX	**Paxson**	**76.64**	**16**	P		**P**	**15 03 40.6**	**+0.5**
GHO	**Glory Hole Cre**	**76.85**	**18**	P		**P**	**15 03 41.5**	**+0.2**
GHO				IAmb	IAmb		15 03 43.8	
	comp=Z,36nm,1.7s							
DAWY	**Dawson**	**76.90**	**13**	P		**P**	**15 03 41.8**	**+0.3**
DAWY				IAmb	IAmb		15 03 43.1	
	comp=Z,23nm,1.9s							
SML	**Sawmill**	**76.97**	**18**	P		**P**	**15 03 42.1**	**+0.2**
SML				IAmb	IAmb		15 03 43.2	
	comp=Z,11nm,0.6s							
SCM	**Sheep Creek Mo**	**77.19**	**18**	P		**P**	**15 03 43.6**	**+0.4**
SCM				pmax	pmax			
	comp=Z,16nm,0.6s							
SCM	**Sheep Creek Mo**	**77.19**	**18**	P		**P**	**15 03 43.6**	**+0.4**
KNK	**Knik Glacier**	**77.27**	**18**	P		**P**	**15 03 44.2**	**+0.6**
KNK				IAmb	IAmb		15 03 45.6	
	comp=Z,5.7nm,0.6s							
BCAR	**Beaver Creek A**	**77.34**	**15**	P		**P**	**15 03 44.7**	**+0.7**
BOSA	**Boshof**	**77.72**	**220**	P		**P**	**15 03 45.4**	**-1.1**
	comp=Z,4.5nm,0.8s,baz=36,slow=4.7,SNR=8.2							
BOSA	**Boshof**	**77.72**	**220**	P		**P**	**15 03 46.1**	**-0.4**
BOSA				pmax	pmax			
	comp=Z,32nm,1.8s							
BOSA	**Boshof**	**77.72**	**220**	P		**P**	**15 03 46.1**	**-0.4**
BOSA				IAmb	IAmb		15 05 32.1	
	comp=Z,32nm,1.8s							
MORW	**Morawa**	**77.85**	**141**	P		**P**	**15 03 47.1**	**0.0**
BRLK	**Bradley Lake**	**78.03**	**20**	P		**P**	**15 03 47.7**	**-0.1**
GLI	**Glacier Island**	**78.07**	**18**	P		**P**	**15 03 48.5**	**+0.5**
GLI				IAmb	IAmb		15 04 25.1	
	comp=Z,9.6nm,0.5s							
CNPM	**China Poot**	**78.13**	**20**	P		**P**	**15 03 48.5**	**+0.2**
CNPM				IAmb	IAmb		15 06 14.5	
	comp=Z,31nm,1.4s							
SEW	**Seward**	**78.13**	**19**	P		**P**	**15 03 48.6**	**+0.3**
SEW				IAmb	IAmb		15 04 58.7	
	comp=Z,31nm,1.5s							
FID	**Port Fidalgo**	**78.34**	**18**	P		**P**	**15 03 50.2**	**+0.7**
FID				IAmb	IAmb		15 04 25.4	
	comp=Z,41nm,1.8s							
GLB	**Gilahina Butte**	**78.36**	**16**	P		**P**	**15 03 50.3**	**+0.7**
GLB				IAmb	IAmb		15 05 45.4	
	comp=Z,16nm,1.8s							
SDPT	**Sand Point**	**78.49**	**27**	P		**P**	**15 03 49.9**	**-0.5**
SDPT				IAmb	IAmb		15 05 18.0	
	comp=Z,26nm,1.2s							
VRDI	**Verde Repeater**	**78.63**	**16**	P		**P**	**15 03 52.2**	**+0.9**
VRDI				IAmb	IAmb		15 04 50.5	
	comp=Z,14nm,1.6s							
HIN	**Hinchinbrook I**	**78.64**	**18**	P		**P**	**15 03 52.2**	**+1.1**
EYAK	**Cordova Ski Ar**	**78.69**	**18**	P		**P**	**15 03 52.4**	**+1.1**
EYAK				IAmb	IAmb		15 03 57.1	
	comp=Z,20nm,1.2s							
BALM	**Baldy**	**79.04**	**16**	P		**P**	**15 03 54.6**	**+1.2**
BALM				IAmb	IAmb		15 03 55.3	
	comp=Z,6.4nm,0.4s							
RAGM	**Ragged Mountai**	**79.09**	**17**	P		**P**	**15 03 55.0**	**+1.4**
RAGM				IAmb	IAmb		15 04 14.4	
	comp=Z,19nm,1.2s							
BARN	**Barnard Glacie**	**79.17**	**15**	P		**P**	**15 03 54.7**	**+0.5**
BARN				IAmb	IAmb		15 03 57.1	
	comp=Z,18nm,1.7s							
KDAK	**Kodiak Island**	**79.19**	**22**	P		**P**	**15 03 54.7**	**+0.6**
KDAK				pmax	pmax			
	comp=Z,20nm,1.0s							
KDAK	**Kodiak Island**	**79.19**	**22**	P		**P**	**15 03 54.6**	**+0.6**
KDAK				IAmb	IAmb		15 03 55.5	
	comp=Z,20nm,0.9s							
CNBA	**Chernabura Isl**	**79.23**	**27**	P		**P**	**15 03 54.3**	**-0.1**
CTGM	**Chitina Glacie**	**79.33**	**15**	P		**P**	**15 03 56.0**	**+1.0**
CTGM				IAmb	IAmb		15 03 56.6	
	comp=Z,5.6nm,0.6s							
WAX	**Waxell Ridge**	**79.46**	**16**	P		**P**	**15 03 56.6**	**+1.0**
WAX				IAmb	IAmb		15 04 57.5	
	comp=Z,40nm,1.8s							
YAH	**Yahtse**	**79.78**	**16**	P		**P**	**15 03 58.4**	**+0.9**
YAH				IAmb	IAmb		15 06 44.4	
	comp=Z,24nm,1.6s							
HYT	**Haines Junctio**	**80.23**	**14**	P		**P**	**15 04 00.9**	**+1.1**
YKA	**Yellowknife Ar**	**81.20**	**3**	P		**P**	**15 04 05.6**	**+0.8**
	comp=Z,3.3nm,0.5s,baz=350,slow=5.5,SNR=24							
SCHQ	**Schefferville**	**82.01**	**337**	P		**P**	**15 04 09.4**	**+0.2**
	comp=Z,2.3nm,0.6s,baz=288,slow=3.7,SNR=4.6							
SCHQ	**Schefferville**	**82.01**	**337**	IAmb	IAmb		15 05 58.3	
	comp=Z,14nm,1.3s							
WRA	**Warramunga Arr**	**82.10**	**122**	P		**P**	**15 04 08.4**	**-1.7**
	comp=Z,3.0nm,0.6s,baz=324,slow=5.2,SNR=6.3							
ASAR	**Alice Springs**	**84.36**	**125**	P		**P**	**15 04 20.6**	**-1.1**
	comp=Z,2.7nm,0.6s,baz=314,slow=5.0,SNR=5.4							
FFC	**Flin Flon**	**88.89**	**356**	P		**P**	**15 04 43.8**	**+0.7**
FFC				pmax	pmax			
	comp=Z,5.0nm,0.9s							
FFC	**Flin Flon**	**88.89**	**356**	P		**P**	**15 04 43.8**	**+0.7**
FFC				IAmb	IAmb		15 04 44.6	
	comp=Z,5.0nm,0.9s							
CTA	**Charters Tower**	**90.65**	**115**	P		**P**	**15 04 50.7**	**-1.1**
	comp=Z,0.8nm,0.4s,baz=246,slow=7.8,SNR=3.8							
CPUP	**Villa Florida**	**135.12**	**268**	PKP		**PKPdf**	**15 11 07.3**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=62,slow=4.2,SNR=7.1							
PLCA	**Paso Flores**	**149.75**	**250**	PKPbc		**PKPbc**	**15 11 37.8**	**-0.1**
	comp=Z,6.9nm,0.8s,baz=164,slow=3.2,SNR=14							
PLCA	**Paso Flores**	**149.75**	**250**			**PKPbc**	**15 11 38.2**	**+0.3**

*IDC **24** 14:55:53.2±1.6, 10°.63S×120°.15E, h0km, mb3.8/3, mb1 3.9/7, mb1mx3.5/42, mbtmp3.8/7, ML3.8/4, Error ellipse: s-maj=58.4km s-min=21.4km az=47.0*
*DJA **24** 14:55:59.3±1.3, 10°.5S±11°×12°.0E±°, h15km±6km, M3.6/7, MLv3.6/7*
*NEIC **24** 14:55:59.2±2.0, 10°.65S±0°.10×120°.30E±0°.04, h46km±11km, mb4.0/8, Error ellipse: s-maj=15.3km s-min=3.1km az=199.0*

ISC 24 14:55:57.3±0.7, 10°.66S±0°.06×120°.30E±0°.05, h31km, n32, σ1s86/35, mb3.8/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BASI	**Baing, Sumba**	**0.51**	**32**	P	**Pb**	**14 56 07.0**	**-1.0**
BASI				S	**Sb**	**14 56 11.7**	**-3.6**
WSI	**Waingapu**	**0.98**	**360**	P	**Pb**	**14 56 16.4**	**+0.6**
WBSI	**Waikabubak, Su**	**1.35**	**318**	P	**Pb**	**14 56 21.8**	**-0.2**
EDFI	**Ende, Flores**	**2.34**	**36**	P	**Pn**	**14 56 34.2**	**+0.5**
MMRI	**Maumere**	**2.77**	**44**	P	**Pn**	**14 56 39.8**	**+0.2**
MMRI	**Maumere**	**2.77**	**44**	Pn	**Pn**	**14 56 40.1**	**+0.5**
PLAI	**Plampang**	**3.08**	**306**	P	**Pb**	**14 56 47.9**	**-3.6**
BATI	**Baumata**	**3.34**	**83**	Pn	**Pn**	**14 56 49.0**	**+1.6**
	26nm,0.3s,baz=293,slow=3.8,SNR=30						
BATI				Sn	**Sn**	**14 57 27.1**	**+1.1**
	13nm,0.3s,baz=349,slow=21,SNR=12						
BATI	**Baumata**	**3.34**	**83**	P	**Pn**	**14 56 49.3**	**+1.9**
SOEI	**Soe**	**4.01**	**77**	P	**Pn**	**14 56 58.2**	**+1.5**
SOEI	**Soe**	**4.01**	**77**	Pn	**Pn**	**14 56 58.6**	**+1.9**
JAGI	**Jajag, Banyuwa**	**6.44**	**289**	Pn	**Pn**	**14 57 29.9**	**-0.2**
FITZ	**Fitzroy Crossi**	**9.03**	**146**	Pn	**Pn**	**14 58 06.6**	**+1.1**
	0.6nm,0.3s,baz=339,slow=8.4,SNR=24						
FITZ				Sn	**Sn**	**14 59 39.8**	**-6.3**
	0.8nm,0.3s,baz=167,slow=21,SNR=10						
FITZ	**Fitzroy Crossi**	**9.03**	**146**		**Pn**	**14 58 06.0**	**+0.4**
KNRA	**Kununurra**	**9.63**	**122**	Pn	**Pn**	**14 58 14.5**	**+0.6**
UGM	**Wanagama**	**10.03**	**285**	Pn	**Pn**	**14 58 21.6**	**+2.3**
MTN	**Manton Dam**	**10.83**	**103**	Pn	**Pn**	**14 58 30.1**	**-0.1**
GIRL	**Girilia**	**13.26**	**205**	Pn	**Pn**	**14 59 04.6**	**+1.2**
WB0	**Warramunga Arr**	**16.33**	**125**	Pn	**Pn**	**14 59 43.7**	**-0.8**
WB0				IAmb	IAmb	15 00 26.5	
	comp=Z,21nm,1.6s						
WRA	**Warramunga Arr**	**16.38**	**126**	Pn	**Pn**	**14 59 44.7**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=296,slow=13,SNR=4.8						
WRA	**Warramunga Arr**	**16.38**	**126**		**Pn**	**14 59 44.5**	**-0.5**
WRAB	**Tennant Creek**	**16.38**	**126**	Pn	**Pn**	**14 59 43.5**	**-1.7**
WRAB				IAmb	IAmb	14 59 49.3	
	comp=Z,33nm,1.9s						
WB2	**Warramunga Arr**	**16.39**	**126**	Pn	**Pn**	**14 59 43.6**	**-1.6**
WB2				IAmb	IAmb	15 00 30.7	
	comp=Z,16nm,1.5s						
WR0	**Warramunga Arr**	**16.55**	**126**	Pn	**Pn**	**14 59 46.3**	**-0.9**
WR0				IAmb	IAmb	15 00 34.6	
	comp=Z,18nm,1.5s						
AS31	**Alice Springs**	**18.32**	**137**	Pn	**Pn**	**15 00 11.2**	**+2.0**
ASAR	**Alice Springs**	**18.32**	**137**	P	**Pn**	**15 00 11.1**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=314,slow=12,SNR=17						
ASAR	**Alice Springs**	**18.32**	**137**	P	**Pn**	**15 00 11.2**	**+2.0**
SONM	**Songino Array**	**59.53**	**349**	P	**P**	**15 05 57.8**	**0.0**
	comp=Z,0.4nm,0.5s,baz=160,slow=10,SNR=2.4						
MK31	**Makanchi Array**	**66.51**	**333**	P	**P**	**15 06 44.6**	**+0.5**
MKAR	**Makanchi Array**	**66.51**	**333**	P	**P**	**15 06 45.0**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=148,slow=6.9,SNR=6.7						
MKAR	**Makanchi Array**	**66.51**	**333**	P	**P**	**15 06 44.4**	**+0.3**
ZALV	**Zalesovo Beam**	**71.04**	**339**	P	**P**	**15 07 11.4**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=139,slow=5.7,SNR=4.6						

*IDC **24** 14:57:27.8±0.6, 3°.00S×129°.54E, h0km, mb4.0/15, mb1 4.2/18, mb1mx4.0/42, mbtmp4.1/18, ML4.6/3, MS3.1/2, Ms1 3.1/2, ms1mx2.6/44, Error ellipse: s-maj=28.7km s-min=13.4km az=78.0*
*DJA **24** 14:57:31.5±1.0, 3°.5S±4°×13°.0E±°, h10km±9km, M4.5/15, mB5.1/3, mb4.7/9, MLv4.4/15, Mw(mB)4.5/3*
*NEIC **24** 14:57:32.7±2.4, 2°.98S±0°.02×129°.59E±0°.07, h38km±7km, mb4.5/30, Error ellipse: s-maj=9.8km s-min=3.1km az=91.0*

ISC 24 14:57:32.1±0.4, 2°.99S±0°.04×129°.60E±0°.05, h28km, n84, σ1s25/84, mb4.2/24, Seram

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSAI	**Masohi**	**0.76**	**242**	P	**Pn**	**14 57 47.2**	**+0.2**
BNDI	**Bandanaira**	**1.56**	**169**	P	**Pb**	**14 58 01.4**	**+1.2**
AAI	**Ambon**	**1.57**	**244**	P	**Pb**	**14 58 00.5**	**0.0**
NLAI	**Namlea**	**2.51**	**264**	P	**Pn**	**14 58 13.5**	**+2.4**
FAKI	**Fak Fak**	**2.64**	**89**	P	**Pn**	**14 58 13.8**	**+0.9**
FAKI	**Fak Fak**	**2.64**	**89**	Pn	**Pn**	**14 58 13.7**	**+0.8**
SIJI	**Sorong**	**2.68**	**38**	Pn	**Pn**	**14 58 13.7**	**+0.2**
	96nm,0.3s,baz=216,slow=22,SNR=200						
SIJI				Sn	**Sn**	**14 58 46.0**	**+1.0**
	40nm,0.3s,baz=250,slow=9.8,SNR=13						
LBMI	**Labuha**	**3.14**	**318**	P	**Pn**	**14 58 19.7**	**-0.1**
SANI	**Sanana**	**3.73**	**284**	P	**Pn**	**14 58 27.5**	**-0.4**
TNTI	**Ternate**	**4.35**	**329**	P	**Pn**	**14 58 36.0**	**-0.4**
TNTI	**Ternate**	**4.35**	**329**	Pn	**Pn**	**14 58 36.0**	**-0.4**
RKPI	**Ransiki, Papua**	**4.80**	**72**	P	**Pn**	**14 58 43.3**	**+0.7**
KMSI	**Cibinong**	**6.64**	**302**	P	**Pn**	**14 59 08.1**	**+0.2**
	0.6nm132nm,0.5s						
LUWI	**Luwuk**	**7.10**	**286**	P	**Pn**	**14 59 14.4**	**+0.3**
	0.5nm2µm57nm,0.7s						
LUWI	**Luwuk**	**7.10**	**286**	Pn	**Pn**	**14 59 14.8**	**+0.7**
APSI	**Ampana**	**8.21**	**284**	P	**Pn**	**14 59 30.4**	**+0.9**
	827nm67nm,0.5s						
MRSI	**Marisa**	**8.40**	**294**	P	**Pn**	**14 59 30.9**	**-1.1**
	1µm53nm,0.6s						
SMPI	**Sarmi**	**9.15**	**84**	P	**Pn**	**14 59 44.1**	**+1.7**
	13nm,1.1s						
BATI	**Baumata**	**9.29**	**219**	Pn	Pn	14 59 51.3	+7.0
	2.7nm,0.3s,baz=99,slow=2.0,SNR=3.9						
BNSI	**Bone**	**9.58**	**261**	P	**Pn**	**14 59 49.3**	**+1.0**
	27nm,1.1s						
MTN	**Manton Dam**	**9.91**	**171**	Pn	**Pn**	**14 59 52.9**	**+0.1**
MPSI	**Mapaga**	**10.25**	**289**	P	**Pn**	**14 59 58.1**	**+0.7**
JAY	**Jayapura**	**11.10**	**88**	LR	LR	15 05 58.4	
	comp=Z,108nm,18.1s,baz=314,slow=46						
KNRA	**Kununurra**	**12.64**	**184**	Pn	**Pn**	**15 00 32.5**	**+2.4**
FITZ	**Fitzroy Crossi**	**15.51**	**194**	Pn	**Pn**	**15 01 08.7**	**-0.4**
	1.6nm,0.3s,baz=29,slow=7.4,SNR=8.7						
FITZ	**Fitzroy Crossi**	**15.51**	**194**	P	**P**	**15 01 12.9**	**-0.2**
FITZ				IAmb	IAmb	15 01 13.8	
	comp=Z,21nm,1.1s						
COEN	**Coen**	**17.28**	**130**		**Pn**	**15 01 31.6**	**+0.1**
WB0	**Warramunga Arr**	**17.32**	**165**	Pn	**Pn**	**15 01 30.7**	**-1.4**
WB0				IAmb	IAmb	15 01 35.5	
	comp=Z,86nm,2.0s						
WRAB	**Tennant Creek**	**17.47**	**165**		**Pn**	**15 01 33.8**	**-0.1**
WRA	**Warramunga Arr**	**17.48**	**165**	P	**Pn**	**15 01 33.5**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=352,slow=12,SNR=26						
WRA				S	**Sn**	**15 04 42.1**	**-5.7**
	comp=Z,0.1nm,0.3s,baz=340,slow=20,SNR=1.3						
WRA	**Warramunga Arr**	**17.48**	**165**		**Pn**	**15 01 34.0**	**+0.1**
WB2	**Warramunga Arr**	**17.48**	**165**		**Pn**	**15 01 33.8**	**-0.2**
WR0	**Warramunga Arr**	**17.54**	**164**		**Pn**	**15 01 35.0**	**+0.2**
SBUM	**Sibu**	**18.20**	**287**		**Pn**	**15 01 41.9**	**-1.0**
UGM	**Wanagama**	**19.61**	**255**	P	**Pn**	**15 02 00.0**	**0.0**
KSM	**Kuching**	**19.79**	**283**	P	**P**	**15 02 01.2**	**+0.8**
KSM				IAmb	IAmb	15 02 06.4	
	comp=Z,67nm,1.9s						
PSA00	**Pilbara Seismi**	**20.77**	**206**	P	**P**	**15 02 09.5**	**-1.5**
PSA00				IAmb	IAmb	15 02 41.6	
	comp=Z,76nm,1.6s						
PSA00	**Pilbara Seismi**	**20.77**	**206**	P	**P**	**15 02 09.3**	**-1.7**
PSA00				IAmb	IAmb	15 02 19.1	
	comp=Z,7.4nm,0.7s						
AS31	**Alice Springs**	**20.97**	**169**	P	**P**	**15 02 12.7**	**-0.6**
AS31				IAmb	IAmb	15 02 18.5	
	comp=Z,16nm,0.5s						
ASAR	**Alice Springs**	**20.98**	**169**	P	**P**	**15 02 13.1**	**-0.2**
	comp=Z,29nm,0.6s,baz=346,slow=11,SNR=254						
ASAR				S	**S**	**15 06 02.9**	**-2.7**
	comp=Z,2.9nm,0.9s,baz=349,slow=20,SNR=7.5						
ASAR	**Alice Springs**	**20.98**	**169**	P	**P**	**15 02 12.8**	**-0.5**
KRVT	**Keravat (AS076**	**22.41**	**94**	LR	LR	15 12 15.5	
	comp=Z,37nm,19.9s,baz=266,slow=40						
DBJI	**Dramaga**	**23.05**	**260**	P	**P**	**15 02 37.1**	**+1.6**
CTA	**Charters Tower**	**23.51**	**138**	P	**P**	**15 02 40.9**	**+0.9**
	comp=Z,1.7nm,0.4s,baz=244,slow=15,SNR=2.8						
FORT	**Forrest**	**27.68**	**183**	P	**P**	**15 03 17.2**	**-0.7**
FORT				IAmb	IAmb	15 03 28.6	
	comp=Z,38nm,1.1s						
MORW	**Morawa**	**28.97**	**205**	P	**P**	**15 03 28.1**	**-1.3**
STKA	**Stephens Creek**	**30.88**	**160**	P	**P**	**15 03 46.1**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=351,slow=6.8,SNR=5.1						
STKA	**Stephens Creek**	**30.88**	**160**	P	**P**	**15 03 46.1**	**-0.1**
STKA				IAmb	IAmb	15 04 43.6	
	comp=Z,11nm,1.9s						
NWAO	**Narrogin (SRO)**	**31.96**	**200**	P	**P**	**15 03 57.9**	**+2.1**
GSI	**Gunungsitoli**	**32.30**	**277**	P	**P**	**15 03 59.2**	**+0.2**
PBKT	**Sadao Pong**	**34.32**	**305**	P	**P**	**15 04 17.4**	**+0.9**
PBKT				IAmb	IAmb	15 04 24.5	
	comp=Z,13nm,1.4s						
ARMA	**Armidale**	**34.33**	**145**	P	**P**	**15 04 18.2**	**+1.6**
SLVN	**Son La**	**34.89**	**315**	P	**P**	**15 04 20.7**	**-0.9**
SLVN				IAmb	IAmb	15 04 51.5	
	comp=Z,10.0nm,1.5s						
NJ2	**Nanjing**	**36.31**	**344**	*e*P	**P**	**15 04 34.5**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,17nm,0.5s						
CMAR	**Chiang Mai Arr**	**36.95**	**306**	P	**P**	**15 04 40.0**	**+0.9**
	comp=Z,1.1nm,0.7s,baz=143,slow=6.8,SNR=5.5						
CMAR	**Chiang Mai Arr**	**36.95**	**306**	P	**P**	**15 04 39.9**	**+0.7**
CHTO	**Chiang Mai**	**37.14**	**307**	P	**P**	**15 04 40.7**	**-0.1**
CHTO				IAmb	IAmb	15 04 43.0	
	comp=Z,5.7nm,0.9s						
MJAR	**Matsushiro Arr**	**40.14**	**11**	P	**P**	**15 05 04.3**	**-1.4**
	comp=Z,1.2nm,0.7s,baz=179,slow=8.8,SNR=6.1						
MJAR	**Matsushiro Arr**	**40.14**	**11**	P	**P**	**15 05 04.1**	**-1.5**
MAJO	**Matsushiro**	**40.14**	**11**	P	**P**	**15 05 04.5**	**-1.2**
MJB9	**Matsu-Tunnel**	**40.14**	**11**	P	**P**	**15 05 04.4**	**-1.3**
MJB9				IAmb	IAmb	15 05 28.2	
	comp=Z,5.4nm,1.1s						
HHC	**Hu-ho

KOSE Korovin Southe 4.70 82 Pn 15 16 12.9 0.0
NIKH Nikolski High 7.89 77 Pn Pn 15 16 56.7 +0.7
OKSP Okmok Steeple 8.25 75 Pn 15 17 02.2 +1.4
OKCE Okmok Cone E 8.34 74 Pn 15 17 04.2 +2.2
SPIA Saint Paul Isl 8.46 47 Pn Pn 15 17 05.9 +2.2
UNV Unalaska Valle 9.36 72 Pn Pn 15 17 16.8 +0.9
AKUT Akutan 9.82 71 Pn Pn 15 17 23.7 +1.5
FALS False Pass 11.28 68 Pn Pn 15 17 42.8 +1.1
PET Petropavlovsk 12.06 283 eP Pn 15 17 53.5 +1.3
PET eS Sn 15 20 00.6 -4.1
PET pmax pmax
comp=Z,17nm,1.1s
PET Petropavlovsk 12.06 283 Pn Pn 15 17 54.0 +1.7
PEA0B Petropavlovsk- 12.64 284 P Pn 15 18 01.2 +1.4
PEA0B Petropavlovsk- 12.64 284 Pn Pn 15 18 01.2 +1.4
PETK Petropavlovsk- 12.64 284 P Pn 15 18 01.1 +1.3
comp=Z,1.9nm,0.3s,baz=89,slow=19,SNR=40
PETK S Sn 15 20 14.3 -4.3
comp=Z,0.9nm,0.3s,baz=109,slow=21,SNR=4.2
PETK LR LR 15 22 30.5
comp=Z,43nm,21.3s,baz=63,slow=35
PETK PcP PcP 15 23 28.6 +0.7
comp=Z,0.2nm,0.3s,baz=141,slow=3.1,SNR=4.1
PETK Petropavlovsk- 12.64 284 Pn Pn 15 18 01.3 +1.5
SDPT Sand Point 13.01 66 Pn Pn 15 18 02.6 -2.0
CNBA Chernabura Isl 13.48 69 Pn Pn 15 18 07.4 -3.2
SKR Severo-Kuril's 13.96 274 eP Pn 15 18 18.4 +1.5
SKR eS Sn 15 20 45.4 -5.2
SKR pmax pmax
comp=Z,16nm,0.5s
SKR pmax pmax
comp=Z,100nm,4.0s
SKR MLR MLR
comp=Z,100nm,16.0s
SKR MLR MLR
comp=Z,100nm,15.0s
CHIR Chirikof Islan 15.80 65 Pn Pn 15 18 36.3 -3.8
CHIR IAmb IAmb 15 18 56.6
comp=Z,62nm,1.1s
SII Sitkinak Islan 16.65 63 Pn Pn 15 18 47.9 -2.8
SVW2 Sparrevohn 16.96 47 P 15 18 54.9 +0.4
OHAK Old Harbor 17.20 61 P 15 18 54.6 -2.6
BILL Bilibino 17.21 345 eP Pn 15 18 57.6 +0.3
BILL eS Sn 15 22 08.0 -0.6
BILL pmax pmax
comp=Z,19nm,0.9s
BILL MLR MLR
comp=Z,36nm,15.0s
BILL Bilibino 17.21 345 P P 15 18 57.2 0.0
BILL IAmb IAmb 15 19 00.9
comp=Z,16nm,0.9s
TTA Tatalina 17.53 41 P P 15 19 00.7 -0.2
TTA pmax pmax
comp=Z,10.0nm,0.8s
TTA Tatalina 17.53 41 P 15 19 00.7 -0.2
KDAK Kodiak Island 17.65 59 P P 15 19 00.2 -1.9
comp=Z,4.8nm,0.3s,baz=174,slow=1.6,SNR=129
KDAK LR LR 15 25 44.4
comp=Z,74nm,19.3s,baz=295,slow=36
KDAK Kodiak Island 17.65 59 P P 15 18 59.4 -2.7
KDAK IAmb IAmb 15 19 01.5
comp=Z,103nm,1.9s
RSO Redoubt South 18.08 50 P P 15 19 07.4 +0.3
HOM Homer 18.43 53 P Pn 15 19 11.5 -0.6
RDOG Red Dog Mine 18.56 22 Pn Pn 15 19 14.9 +1.3
CNPM China Poot 18.61 54 P P 15 19 12.7 0.0
BRLK Bradley Lake 18.83 53 P P 15 19 14.7 -0.3
BRLK IAmb IAmb 15 19 15.7
comp=Z,29nm,0.6s
PPLA Purkeypile 19.11 43 P Pn 15 19 19.5 -0.7
PPLA IAmb IAmb 15 19 25.1
comp=Z,18nm,1.0s
SEW Seward 19.60 53 P P 15 19 23.0 -0.4
SEW IAmb IAmb 15 19 26.6
comp=Z,26nm,0.9s
BPAW Bear Paw Mtn. 20.07 41 P P 15 19 29.4 +1.0
PMR Palmer 20.07 49 P P 15 19 29.6 +1.2
PMR pmax pmax
comp=Z,8.0nm,0.6s
PMR Palmer 20.07 49 P P 15 19 29.6 +1.2
TRF Thorofare Moun 20.11 43 P P 15 19 30.0 +0.9
TRF IAmb IAmb 15 19 32.9
comp=Z,16nm,0.8s
GHO Glory Hole Cre 20.21 48 P P 15 19 31.1 +1.0
GHO IAmb IAmb 15 19 39.5
comp=Z,13nm,0.7s
KNK Knik Glacier 20.34 49 P P 15 19 31.7 +0.2
KNK IAmb IAmb 15 19 33.1
comp=Z,19nm,0.8s
SML Sawmill 20.50 48 P P 15 19 33.0 0.0
SML IAmb IAmb 15 19 35.2
comp=Z,15nm,0.8s
RND Reindeer 20.71 44 P P 15 19 35.7 +0.3
RND pmax pmax
comp=Z,11nm,0.8s
RND Reindeer 20.71 44 P P 15 19 35.7 +0.3
MCK McKinley 20.78 43 P P 15 19 36.6 +0.5
MCK pmax pmax
comp=Z,17nm,0.9s
MCK McKinley 20.78 43 P P 15 19 36.6 +0.5
MCK IAmb IAmb 15 20 05.6
comp=Z,16nm,0.9s
GLI Glacier Island 20.89 51 P P 15 19 36.8 -0.5
GLI IAmb IAmb 15 19 38.0
comp=Z,22nm,0.6s
SCM Sheep Creek Mo 20.96 48 P P 15 19 38.5 +0.3
SCM pmax pmax
comp=Z,22nm,0.7s
SCM Sheep Creek Mo 20.96 48 P P 15 19 38.5 +0.3
SCM IAmb IAmb 15 19 41.0
comp=Z,22nm,0.7s
HIN Hinchinbrook I 21.10 53 P P 15 19 39.2 -0.4
HIN IAmb IAmb 15 20 29.8
comp=Z,59nm,1.4s
FID Port Fidalgo 21.17 52 P P 15 19 39.1 -1.1
FID IAmb IAmb 15 19 42.2
comp=Z,23nm,0.8s
DHY Denali Highway 21.25 45 P P 15 19 41.0 -0.3
DHY IAmb IAmb 15 20 09.7
comp=Z,23nm,0.7s
WRH Wood River Hil 21.38 41 P P 15 19 42.9 +0.5
EYAK Cordova Ski Ar 21.49 52 P P 15 19 43.2 -0.5
EYAK IAmb IAmb 15 19 46.4
comp=Z,24nm,1.1s
MDM Murphy Dome 21.49 40 P P 15 19 43.7 0.0
CCB Clear Creek Bu 21.55 41 P P 15 19 44.4 +0.1
HDA Harding Lake 21.82 42 P P 15 19 47.5 +0.3
IL31 21.97 41 P P 15 19 47.8 -0.8
ILAR Eielson Array 21.97 41 P P 15 19 47.5 -1.2
comp=Z,1.5nm,0.7s,baz=248,slow=10.0,SNR=23
ILAR ScP ScP 15 27 07.3 -2.2
comp=Z,0.9nm,0.7s,baz=272,slow=3.4,SNR=7.0
ILAR Eielson Array 21.97 41 P P 15 19 48.5 -0.2
RAGM Ragged Mountai 22.00 53 P P 15 19 49.0 -0.1
PAX Paxson 22.06 46 P P 15 19 50.3 +0.5
PAX pmax pmax
comp=Z,9.0nm,0.8s
PAX Paxson 22.06 46 P P 15 19 50.3 +0.5
RIDG Independent Ri 22.52 44 P P 15 19 53.7 -0.7
GLB Gilahina Butte 22.55 50 P P 15 19 53.8 -0.9
GLB IAmb IAmb 15 19 58.0
comp=Z,14nm,0.6s
VRDI Verde Repeater 22.69 51 P P 15 19 55.3 -1.1
VRDI IAmb IAmb 15 19 59.1
comp=Z,13nm,0.7s
CRQM Cirque 22.79 52 P P 15 19 56.6 -0.8
DOT Dot Lake 22.84 45 P P 15 19 57.4 -0.2
MENT Mentasta 22.84 46 P P 15 19 58.1 +0.5
WAX Waxell Ridge 22.91 53 P P 15 19 57.9 -0.4
WAX IAmb IAmb 15 20 00.1
comp=Z,28nm,0.9s
MCARA McCarthy VSAT 22.92 51 P P 15 19 58.4 +0.1
MCARA IAmb IAmb 15 20 00.8
comp=Z,26nm,0.9s
TGL Tana Glacier 22.95 52 P P 15 19 58.5 -0.2
TGL IAmb IAmb 15 20 00.8
comp=Z,27nm,0.7s
SCRK Sand Creek 22.95 44 P P 15 19 57.3 -1.4
ISLE Juniper Island 23.17 53 P P 15 20 00.5 -0.4
ISLE IAmb IAmb 15 20 08.8
comp=Z,13nm,0.8s
BALM Baldy 23.21 51 P P 15 20 01.3 +0.1
BALM IAmb IAmb 15 20 03.2
comp=Z,12nm,0.7s

FYU Fort Yukon 23.23 37 P P 15 20 02.1 +0.8
MESA MESA 23.34 54 P P 15 20 02.5 0.0
YAH Yahtse 23.45 53 P P 15 20 03.5 -0.1
YAH IAmb IAmb 15 20 05.9
comp=Z,24nm,1.0s
BARN Barnard Glacie 23.54 51 P P 15 20 04.5 +0.2
CTGM Chitina Glacie 23.69 52 P P 15 20 05.6 0.0
CTGM IAmb IAmb 15 20 08.3
comp=Z,22nm,0.6s
BCAR Beaver Creek A 23.73 46 P P 15 20 05.3 -0.6
TABL Table Mountain 23.75 53 P P 15 20 06.1 -0.2
TABL IAmb IAmb 15 20 08.3
comp=Z,21nm,0.8s
BMAR Burnt Mountain 23.79 35 P P 15 20 06.8 +0.4
PCA Pinnacle 24.18 54 P P 15 20 10.3 +0.3
PCA IAmb IAmb 15 20 11.7
comp=Z,19nm,0.8s
EGAK Eagle 24.33 42 P P 15 20 10.8 -0.3
EGAK IAmb IAmb 15 20 12.7
comp=Z,16nm,0.8s
EGAK pP pP 15 20 35.4 +1.2
DAWY Dawson 24.95 45 P P 15 20 16.9 0.0
DAWY pP pP 15 20 41.8 +1.5
JKA Kamikawa-asahi 24.95 266 P P 15 20 19.0 +2.0
JKA Kamikawa-asahi 24.95 266 IAmb IAmb 15 20 19.9
comp=Z,7.1nm,0.7s
ASAJ Asahikawa 24.95 266 P P 15 20 19.0 +2.0
comp=Z,8.1nm,0.8s,baz=71,slow=8.6,SNR=9.4
EPYK Eagle Plains 26.46 40 P P 15 20 30.1 -0.4
JIS Juneau Island 27.30 58 P P 15 20 38.4 +0.4
JIS IAmb IAmb 15 20 39.6
comp=Z,7.6nm,0.8s
INK Inuvik 28.05 36 P P 15 20 45.4 +0.7
comp=Z,1.2nm,0.4s,baz=272,slow=9.4,SNR=5.3
INK Inuvik 28.05 36 P P 15 20 45.3 +0.7
INK pmax pmax
comp=Z,17nm,1.9s
INK Inuvik 28.05 36 P P 15 20 45.3 +0.7
INK IAmb IAmb 15 21 23.2
comp=Z,17nm,1.9s
TIXI Tiksi 29.30 331 P P 15 20 56.4 +0.8
comp=Z,1.1nm,0.5s,baz=98,slow=11,SNR=2.7
TIXI PcP PcP 15 23 59.4 +0.2
comp=Z,0.8nm,0.4s,baz=1.9,slow=13,SNR=1.9
TIXI ScP ScP 15 27 29.2 -1.3
comp=Z,2.4nm,0.7s,baz=114,slow=4.0,SNR=6.7
TIXI Tiksi 29.30 331 P P 15 20 55.5 -0.1
KLR Kul'dur 29.33 283 P P 15 20 56.9 +0.7
comp=Z,7.3nm,0.6s,baz=64,slow=7.7,SNR=27
DLBC Dease Lake 29.55 57 P P 15 20 57.5 -0.5
comp=Z,3.0nm,0.8s,baz=296,slow=10,SNR=6.2
DLBC Dease Lake 29.55 57 P P 15 20 59.4 +1.4
DLBC IAmb IAmb 15 22 02.5
comp=Z,12nm,1.6s
USA0B Ussuriysk Arra 31.48 274 P P 15 21 14.6 -0.5
USA0B pmax pmax
comp=Z,5.0nm,0.9s
USA0B Ussuriysk Arra 31.48 274 P P 15 21 14.6 -0.5
USRK Ussuriysk Ar. 31.48 274 P P 15 21 15.1 0.0
comp=Z,1.9nm,0.7s,baz=72,slow=8.8,SNR=5.2
USRK PcP PcP 15 24 06.3 +0.9
comp=Z,2.3nm,0.6s,baz=66,slow=1.1,SNR=4.5
USRK Ussuriysk Ar. 31.48 274 P P 15 21 15.0 -0.1
MJAR Matsushiro Arr 32.14 257 P P 15 21 21.9 +0.9
comp=Z,1.2nm,0.6s,baz=51,slow=6.0,SNR=4.5
MAJO Matsushiro 32.14 257 P P 15 21 21.8 +0.7
MAJO pmax pmax
comp=Z,5.0nm,0.9s
MAJO Matsushiro 32.14 257 P P 15 21 21.8 +0.7
MJB9 Matsu-Tunnel 32.14 257 P P 15 21 21.7 +0.6
H11N2 WAKE ISLAND Hy 33.35 200 T T 15 57 11.9
baz=11,slow=76,SNR=30
H11N3 WAKE ISLAND Hy 33.36 200 T T 15 57 00.8
baz=11,slow=76,SNR=36
H11N1 WAKE ISLAND Hy 33.37 200 T T 15 57 13.3
baz=11,slow=76,SNR=28
YKA Yellowknife Ar 36.15 46 P P 15 21 54.9 -0.4
comp=Z,1.4nm,0.7s,baz=282,slow=8.6,SNR=5.2
YKA pP pP 15 22 20.3 +0.7
comp=Z,0.4nm,0.5s,baz=193,slow=28,SNR=1.9
JOHN Johnston Islan 36.40 160 P P 15 21 56.6 -1.2
KSRS Korea Array 37.87 268 P P 15 22 11.8 +1.7
comp=Z,2.2nm,0.9s,baz=57,slow=8.0,SNR=13
KSRS PcP PcP 15 24 25.1 +1.1
comp=Z,1.3nm,0.8s,baz=37,slow=3.9,SNR=7.9
KSAR Wonju Array Be 37.90 268 P P 15 22 10.8 +0.4
KSAR Wonju Array Be 37.90 268 P P 15 22 10.8 +0.4
KRMB Red Mountain 39.94 82 P P 15 22 28.4 +0.9
KRMB IAmb IAmb 15 23 22.8
comp=Z,19nm,1.5s
RES Resolute Bay 39.99 24 P P 15 22 28.6 +1.3
RES pmax pmax
comp=Z,23nm,1.7s
RES Resolute Bay 39.99 24 P P 15 22 28.6 +1.3
RES IAmb IAmb 15 23 12.1
comp=Z,23nm,1.6s
NEW Newport 40.35 69 P P 15 22 29.9 -0.8
NEW pmax pmax
comp=Z,4.0nm,1.1s
NEW Newport 40.35 69 P P 15 22 29.9 -0.8
KHMM Horse Mountain 40.42 82 P P 15 22 33.1 +1.5
KHMM IAmb IAmb 15 22 34.0
comp=Z,8.7nm,0.7s
YBH Yreka Blue Hor 40.55 80 P P 15 22 33.4 +0.9
YBH pmax pmax
comp=Z,4.0nm,0.9s
YBH Yreka Blue Hor 40.55 80 P P 15 22 33.4 +0.9
K05A Summer Lake 41.09 78 P P 15 22 36.6 -0.4
K05A IAmb IAmb 15 23 58.1
comp=Z,18nm,1.7s
I07A Izee 41.16 75 P P 15 22 37.3 -0.2
I07A IAmb IAmb 15 23 05.9
comp=Z,17nm,2.0s
WALA Waterton Lakes 41.78 66 P P 15 22 41.6 -1.0
MOD Modoc Plateau 41.92 79 P P 15 22 43.9 +0.1
BMO Blue Mountains 42.05 73 P P 15 22 44.1 -0.6
BMO pmax pmax
comp=Z,3.0nm,1.3s
BMO Blue Mountains 42.05 73 P P 15 22 44.0 -0.6
NRIK Noril'sk 43.04 329 P P 15 22 53.1 +0.8
comp=Z,4.2nm,0.8s,baz=76,slow=8.4,SNR=7.4
PNTR Pine Nut 44.03 82 P P 15 23 01.5 +0.6
PNTR IAmb IAmb 15 23 30.9
comp=Z,8.8nm,0.6s
YERR Yerington 44.32 81 P P 15 23 03.0 -0.1
YERR IAmb IAmb 15 23 06.8
comp=Z,22nm,1.8s
ULN Ulaanbaatar 44.43 294 P P 15 23 05.0 +1.1
ULN pmax pmax
comp=Z,4.0nm,0.6s
ULN Ulaanbaatar 44.43 294 P P 15 23 05.0 +1.1
ULN IAmb IAmb 15 23 05.8
comp=Z,4.0nm,0.6s
HLID Hailey 44.49 73 P P 15 23 03.8 -0.7
WAKR Walker 44.49 82 P P 15 23 04.6 0.0
WAKR IAmb IAmb 15 23 06.0
comp=Z,4.7nm,0.7s
MCMT McKenzie Canyo 44.69 71 P P 15 23 04.2 -1.9
SONM Songino Array 44.81 295 P P 15 23 08.3 +1.3
comp=Z,3.2nm,0.6s,baz=60,slow=9.1,SNR=19
SONM pP pwP 15 23 33.5 -0.6
comp=Z,0.9nm,0.4s,baz=32,slow=11,SNR=3.1
SONM PcP PcP 15 24 47.6 +0.7
comp=Z,2.0nm,0.6s,baz=67,slow=2.8,SNR=8.8
SONM ScP ScP 15 28 29.2 +0.4
comp=Z,0.8nm,0.6s,baz=32,slow=4.2,SNR=4.6
SONM LR LR 15 41 36.5
comp=Z,37nm,20.7s,baz=27,slow=36
SONM Songino Array 44.81 295 P 15 23 07.0 +0.1
BOZ Bozeman (W) 44.96 69 P P 15 23 06.9 -1.2
BOZ pmax pmax
comp=Z,4.0nm,1.2s
BOZ Bozeman (W) 44.96 69 P P 15 23 06.8 -1.2
KVN Kaiserville 44.97 81 P P 15 23 07.1 -1.3
KVN pmax pmax
comp=Z,13nm,1.6s
KVN Kaiserville 44.97 81 P P 15 23 07.1 -1.3
KVN IAmb IAmb 15 23 35.8
comp=Z,13nm,1.6s
RYN Ryan 44.98 81 P P 15 23 07.4 -0.9
RYN IAmb IAmb 15 23 09.4
comp=Z,3.4nm,0.6s
TULEG Thule 45.02 18 P P 15 23 08.3 +0.3
NVAR Mina Array Bea 45.23 81 P P 15 23 11.1 +0.6
comp=Z,2.0nm,0.6s,baz=293,slow=7.7,SNR=20

NVAR pP pP 15 23 35.7 -0.2
comp=Z,1.8nm,0.6s,baz=296,slow=6.8,SNR=6.2
NVAR ScP ScP 15 28 29.7 -1.1
comp=Z,0.6nm,0.7s,baz=299,slow=4.4,SNR=4.8
NVAR Mina Array Bea 45.23 81 P P 15 23 10.2 -0.3
FFC Flin Flon 45.26 53 P P 15 23 09.8 -0.4
FFC pmax pmax
comp=Z,4.0nm,1.3s
FFC Flin Flon 45.26 53 P P 15 23 09.8 -0.4
NV11 Mina Array Sit 45.32 81 P P 15 23 11.3 +0.2
TIA Tai'an 45.34 275 P P 15 23 12.8 +1.7
TIA pmax pmax
comp=Z,17nm,0.7s
QLMT Earthquake Lak 45.51 70 P P 15 23 11.8 -0.8
YHL Hebgen Lake 45.64 70 P P 15 23 12.9 -0.8
ELK Elko 45.67 77 P P 15 23 13.7 -0.2
ELK pmax pmax
comp=Z,2.0nm,0.6s
ELK Elko 45.67 77 P P 15 23 13.7 -0.2
HHC Hu-ho-hao-te 45.84 284 eP P 15 23 16.4 +1.4
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,49nm,5.6s
YHH Holmes Hill 45.87 70 P P 15 23 14.8 -0.7
YNE Yellowstone No 46.23 69 P P 15 23 17.5 -0.8
FLWY Flagg Ranch 46.37 70 P P 15 23 18.9 -0.4
R11A Troy Canyon, C 46.95 80 P P 15 23 23.7 -0.1
R11A pP pP 15 23 49.7 +0.3
NJ2 Nanjing 47.03 269 eP P 15 23 23.8 -0.5
NJ2 pmax pmax
comp=Z,15nm,0.5s
TPNV Topopah Spring 47.43 81 P P 15 23 27.4 -0.2
TPNV pmax pmax
comp=Z,7.0nm,0.8s
TPNV Topopah Spring 47.43 81 P P 15 23 27.4 -0.2
TPNV pP pP 15 23 53.1 -0.1
TPNV IAmb IAmb 15 23 56.3
comp=Z,7.0nm,0.8s
DUG Dugway, Tooele 47.47 76 P P 15 23 27.6 -0.2
DUG pP pP 15 23 53.8 +0.3
DUG IAmb IAmb 15 23 57.0
comp=Z,3.7nm,0.6s
BW06 Boulder Array 47.82 71 P P 15 23 29.3 -1.3
PD31 Pinedale Array 47.82 71 P P 15 23 29.6 -1.0
PDAR Pinedale Array 47.82 71 P P 15 23 29.1 -1.5
comp=Z,0.9nm,0.5s,baz=302,slow=3.3,SNR=9.9
PDAR pP pP 15 23 55.8 -0.5
comp=Z,1.2nm,0.6s,baz=309,slow=3.4,SNR=4.2
PDAR Pinedale Array 47.82 71 P P 15 23 29.5 -1.2
PSUT Pine Spring 47.88 78 P P 15 23 30.9 -0.2
KULLO Kullorsuaq 48.49 17 i P P 15 23 35.2 +0.2
comp=Z,13nm,0.8s
KULLO Kullorsuaq 48.49 17 i P P 15 23 35.2 +0.2
KULLO pmax pmax
comp=Z,13nm,0.8s
MSU Marysvale 48.91 77 P P 15 23 38.9 -0.1
MSU Marysvale 48.91 77 P P 15 23 38.9 -0.1
TMUT Trail Mountain 48.99 76 P P 15 23 39.6 -0.2
RDMU Red Mountain 49.17 73 P P 15 23 40.2 -0.7
KNB Kanab 49.48 79 P P 15 23 42.9 -0.4
KNB Kanab 49.48 79 P P 15 23 42.9 -0.4
SRU San Rafael Swe 49.52 75 P P 15 23 43.8 +0.2
SRU pmax pmax
comp=Z,3.0nm,1.0s
SRU San Rafael Swe 49.52 75 P P 15 23 43.8 +0.2
SPA0 Spitsbergen Ar 49.70 355 P P 15 23 44.1 -0.2
U15A North Rim 50.19 79 P P 15 23 48.5 -0.3
U15A pP pP 15 24 15.3 +0.6
U15A IAmb IAmb 15 24 16.2
comp=Z,14nm,1.6s
PV21 Cone Mtn., Par 50.80 75 P P 15 23 52.7 -0.6
PV21 pP pP 15 24 19.4 +0.1
PV21 IAmb IAmb 15 24 21.9
comp=Z,9.8nm,1.5s
ULM Lac du Bonnet 50.86 56 P P 15 23 52.3 -1.0
comp=Z,2.6nm,0.5s,baz=297,slow=5.3,SNR=3.0
ULM Lac du Bonnet 50.86 56 IAmb IAmb 15 23 52.5
comp=Z,4.4nm,0.8s
PV04 Paradox Valley 50.95 75 P P 15 23 53.7 -0.7
PV04 IAmb IAmb 15 24 23.2
comp=Z,5.5nm,0.6s
PV17 East Wray Mesa 50.99 75 P P 15 23 54.3 -0.5
PV17 IAmb IAmb 15 24 23.1
comp=Z,5.3nm,0.6s
PV11 David Mesa, Pa 51.03 75 P P 15 23 53.9 -1.2
PV03 Paradox Valley 51.08 75 P P 15 23 54.7 -0.7
PV03 IAmb IAmb 15 24 24.0
comp=Z,3.4nm,0.7s
PV07 Paradox Valley 51.08 75 P P 15 23 54.0 -1.4
PV07 IAmb IAmb 15 24 31.1
comp=Z,7.8nm,1.4s
DAG Danmarks Havn 51.13 5 i P P 15 23 54.5 -0.4
DAG Danmarks Havn 51.13 5 i P P 15 23 54.5 -0.4
PV13 Radium Mtn., P 51.16 75 P P 15 23 55.1 -0.9
PV13 pP pP 15 24 22.7 +0.7
XAN Xi'an 51.82 278 P P 15 24 01.3 +0.5
XAN pP pP 15 24 15.1 -12
XAN pmax pmax
comp=Z,6.0nm,1.1s
XAN Xi'an 51.82 278 P P 15 24 01.3 +0.5
XAN pmax pmax
comp=Z,4.0nm,0.8s
XAN Xi'an 51.82 278 P P 15 24 01.3 +0.5
XAN IAmb IAmb 15 24 01.9
comp=Z,3.8nm,0.8s
ZAA0 Zalesovo Array 52.36 312 PcP PcP 15 25 14.4 +0.5
ZALV Zalesovo Beam 52.36 312 P P 15 24 04.1 -0.3
comp=Z,0.8nm,0.4s,baz=52,slow=5.0,SNR=4.1
ZALV PcP PcP 15 25 14.4 +0.6
comp=Z,3.8nm,0.7s,baz=35,slow=3.7,SNR=12
SUMG Summit 53.19 13 i P P 15 24 11.1 +0.4
comp=Z,33nm,1.1s
SUMG Summit 53.19 13 i P P 15 24 11.1 +0.4
SUMG pmax pmax
comp=Z,33nm,1.1s
SUMG Summit 53.19 13 P P 15 24 11.1 +0.4
GTA Gaotai 53.72 290 eP P 15 24 14.8 +0.1
GTA pmax pmax
comp=Z,13nm,0.8s
ENH Enshi 54.06 275 P P 15 24 17.5 +0.3
ENH IAmb IAmb 15 24 18.5
comp=Z,7.2nm,0.8s
T25A Trinidad 54.46 73 P P 15 24 19.9 -0.3
T25A IAmb IAmb 15 25 31.6
comp=Z,19nm,1.9s
ARCES ARCESS Array B 57.24 349 P P 15 24 40.7 +1.4
comp=Z,2.8nm,0.8s,baz=27,slow=7.5,SNR=9.7
ARCES ARCESS Array B 57.24 349 P P 15 24 38.9 -0.5
KURK Kurchatov 57.35 312 P P 15 24 40.8 +0.4
KURK pmax pmax
comp=Z,9.0nm,0.9s
KURK Kurchatov 57.35 312 P P 15 24 40.8 +0.4
KURK IAmb IAmb 15 24 43.1
comp=Z,8.9nm,0.9s
WMQ Urumqi 57.55 301 eP P 15 24 44.1 +2.1
MK31 Makanchi Array 58.30 307 P P 15 24 46.4 -0.7
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 58.30 307 P P 15 24 46.4 -0.7
MK31 IAmb IAmb 15 24 47.5
comp=Z,2.6nm,0.6s
MKAR Makanchi Array 58.30 307 P P 15 24 47.0 -0.1
comp=Z,4.7nm,0.7s,baz=49,slow=6.5,SNR=38
MKAR Makanchi Array 58.30 307 P P 15 24 46.7 -0.4
MAKZ Makanchi 58.45 307 P P 15 24 48.0 -0.1
MAKZ pmax pmax
comp=Z,4.0nm,0.6s
MAKZ Makanchi 58.45 307 P P 15 24 48.0 -0.1
MAKZ IAmb IAmb 15 24 48.9
comp=Z,4.1nm,0.6s
E46A Sault Ste Mari 59.23 53 P P 15 24 53.2 -0.3
BRVK Borovoye 59.34 318 P P 15 24 54.8 +0.6
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 59.34 318 P P 15 24 54.8 +0.6
WMOK Wichita Mounta 59.42 72 P P 15 24 54.1 -1.0
WMOK pmax pmax
comp=Z,2.0nm,0.9s
WMOK Wichita Mounta 59.42 72 P P 15 24 54.0 -1.0
W35A Tecumseh 60.25 70 P P 15 24 59.4 -1.3
TXAR Lajitas Array 60.31 79 P P 15 25 01.4 +0.1
comp=Z,1.0nm,0.5s,baz=317,slow=5.0,SNR=3.4
TXAR Lajitas Array 60.31 79 P P 15 25 01.2 -0.1

SCHQ	**Schefferville**	**60.66**	**37**	P		**P**	**15 25 02.5**	**-0.7**	
	comp=Z,2.8nm,0.4s,baz=317,slow=4.7,SNR=9.8								
SCHQ	**Schefferville**	**60.66**	**37**	P		**P**	**15 25 02.8**	**-0.4**	
ARU	**Arti**	**61.20**	**327**	P		**P**	**15 25 07.6**	**+0.9**	
ARU	**Arti**	**61.20**	**327**	P		**P**	**15 25 06.9**	**+0.2**	
D53A	**Lac Vacive, Po**	**61.90**	**49**	P		**P**	**15 25 10.3**	**-1.3**	
SFIN	**Lafayette**	**62.03**	**60**	P		**P**	**15 25 11.6**	**-1.0**	
FCAR	**Ozark Folk Cen**	**62.46**	**66**	P		**P**	**15 25 14.1**	**-1.5**	
FCAR				IAmb		IAmb	15 26 58.9		
	comp=Z,6.6nm,1.0s								
MIAR	**Mount Ida**	**62.59**	**68**	P		**P**	**15 25 15.6**	**-0.8**	
MIAR				pmax		pmax			
	comp=Z,16nm,2.0s								
MIAR	**Mount Ida**	**62.59**	**68**	P		**P**	**15 25 15.6**	**-0.8**	
MIAR				IAmb		IAmb	15 26 22.5		
	comp=Z,16nm,1.9s								
KDJ	**Kajisay**	**64.19**	**306**	P		**P**	**15 25 27.1**	**0.0**	
KDJ				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KDJ	**Kajisay**	**64.19**	**306**	P		**P**	**15 25 27.1**	**0.0**	
KDJ				IAmb		IAmb	15 26 08.9		
	comp=Z,6.3nm,0.9s								
BOOM	**Boomskoye usch**	**64.54**	**307**	P		**P**	**15 25 29.9**	**+0.5**	
BOOM				pmax		pmax			
	comp=Z,9.0nm,0.8s								
BOOM	**Boomskoye usch**	**64.54**	**307**	P		**P**	**15 25 29.9**	**+0.5**	
BOOM				IAmb		IAmb	15 25 33.4		
	comp=Z,8.6nm,0.8s								
FIA1	**FINESS Array S**	**64.85**	**346**	P		**P**	**15 25 31.1**	**+0.3**	
FINES	**FINESS Array B**	**64.85**	**346**	P		**P**	**15 25 29.8**	**-1.0**	
	comp=Z,1.3nm,0.4s,baz=11,slow=8.5,SNR=16								
FINES	**FINESS Array B**	**64.85**	**346**	P		**P**	**15 25 30.4**	**-0.4**	
FINES	**FINESS Array B**	**64.85**	**346**	P		**P**	**15 25 30.4**	**-0.4**	
OXF	**Oxford**	**64.99**	**66**	P		**P**	**15 25 31.5**	**-0.6**	
OXF				pmax		pmax			
	comp=Z,39nm,1.3s								
OXF	**Oxford**	**64.99**	**66**	P		**P**	**15 25 31.5**	**-0.6**	
Q51A	**Peebles**	**65.00**	**58**	P		**P**	**15 25 30.6**	**-1.5**	
Q51A				IAmb		IAmb	15 26 09.0		
	comp=Z,8.2nm,0.8s								
AAK	**Ala-Archa**	**65.14**	**308**	P		**P**	**15 25 34.3**	**+1.1**	
AAK				pmax		pmax			
	comp=Z,5.0nm,0.6s								
AAK	**Ala-Archa**	**65.14**	**308**	P		**P**	**15 25 34.3**	**+1.1**	
AAK				IAmb		IAmb	15 25 37.0		
	comp=Z,5.0nm,0.6s								
U49A	**Red Boiling Sp**	**65.54**	**62**	P		**P**	**15 25 35.1**	**-0.6**	
U49A				IAmb		IAmb	15 27 45.7		
	comp=Z,2.9nm,0.7s								
LSA	**Lhasa**	**65.59**	**287**	P		**P**	**15 25 35.4**	**-1.3**	
LSA				pmax		pmax			
	comp=Z,7.0nm,0.8s								
LSA	**Lhasa**	**65.59**	**287**	P		**P**	**15 25 35.4**	**-1.3**	
LSA				IAmb		IAmb	15 25 39.6		
	comp=Z,6.6nm,0.8s								
T50A	**Nancy**	**65.68**	**61**	P		**P**	**15 25 35.6**	**-1.0**	
T50A				IAmb		IAmb	15 27 19.4		
	comp=Z,3.7nm,0.8s								
MOQ	**Mont Orford**	**65.72**	**47**	P		**P**	**15 25 35.6**	**-1.2**	
D62A	**Allapoint, All**	**65.77**	**44**	P		**P**	**15 25 36.3**	**-0.7**	
D62A				IAmb		IAmb	15 28 01.9		
	comp=Z,19nm,1.6s								
E62A	**Clayton Lake**	**65.92**	**44**	P		**P**	**15 25 36.9**	**-1.1**	
ABKAR	**Akbulak array**	**66.42**	**321**	P		**P**	**15 25 41.8**	**+0.7**	
E63A	**Oxbow**	**66.55**	**44**	P		**P**	**15 25 40.4**	**-1.6**	
E63A				IAmb		IAmb	15 26 22.5		
	comp=Z,13nm,1.2s								
KK31	**Karatay Array**	**66.70**	**311**	P		**P**	**15 25 43.7**	**+0.7**	
KK31				pmax		pmax			
	comp=Z,5.0nm,0.7s								
KK31	**Karatay Array**	**66.70**	**311**	P		**P**	**15 25 43.7**	**+0.7**	
KK31				IAmb		IAmb	15 25 44.6		
	comp=Z,4.7nm,0.7s								
KKAR	**Karatay Array**	**66.70**	**311**	P		**P**	**15 25 43.7**	**+0.7**	
KKAR							15 26 11.3		
KKAR				pmax		pmax			
	comp=Z,5.0nm,0.7s								
KKAR	**Karatay Array**	**66.70**	**311**	P		**P**	**15 25 43.4**	**+0.3**	
KKAR						**PcP**	**15 26 11.3**	**+0.1**	
KKAR	**Karatay Array**	**66.70**	**311**	P		**P**	**15 25 43.7**	**+0.7**	
KKAR				IAmb		IAmb	15 25 44.6		
	comp=Z,4.7nm,0.7s								
NC204	**NORSAR Array S**	**66.72**	**354**	P		**P**	**15 25 42.3**	**-0.6**	
KSH	**Kashi**	**66.75**	**305**	*e*P		P	15 25 48.4	+4.9	
KSH				pP		PcP	15 26 16.4	+4.7	
KSH				pmax		pmax			
	comp=Z,14nm,0.5s								
KSH				pmax		pmax			
	comp=Z,280nm,7.0s								
H62A	**Milan**	**66.79**	**47**	P		**P**	**15 25 42.6**	**-0.9**	
NC405	**NORSAR Array S**	**66.82**	**353**	P		**P**	**15 25 43.3**	**-0.2**	
F63A	**Nahmakanta, Br**	**66.82**	**45**	P		**P**	**15 25 42.7**	**-1.0**	
F63A				IAmb		IAmb	15 26 02.6		
	comp=Z,11nm,1.1s								
BATG	**Bathurst New B**	**66.87**	**42**	P		**P**	**15 25 43.2**	**-0.8**	
NB201	**NORSAR Array S**	**66.91**	**353**	P		**P**	**15 25 43.6**	**-0.5**	
NB2	**NORSAR Subarra**	**66.93**	**353**	P		**P**	**15 25 43.5**	**-0.7**	
	comp=Z,2.2nm,0.8s,baz=7.6,slow=6.5								
NOA	**NORSAR Array B**	**66.93**	**353**	P		**P**	**15 25 43.9**	**-0.3**	
	comp=Z,1.2nm,0.8s,baz=9.0,slow=6.3,SNR=4.4								
NOA				pP		**pP**	**15 26 11.2**	**+0.2**	
	comp=Z,1.6nm,0.8s,baz=7.8,slow=6.5,SNR=5.5								
CPCT	**Cooper Cave**	**67.01**	**62**	P		**P**	**15 25 44.0**	**-1.1**	
CPCT				IAmb		IAmb	15 27 16.6		
	comp=Z,19nm,1.8s								
F64A	**Sherman**	**67.02**	**44**	P		**P**	**15 25 43.9**	**-1.1**	
N59A	**State Game Lan**	**67.43**	**52**	P		**P**	**15 25 47.2**	**-0.5**	
G65A	**Princeton**	**67.88**	**44**	P		**P**	**15 25 49.6**	**-0.8**	
G65A				IAmb		IAmb	15 26 21.8		
	comp=Z,12nm,1.1s								
GGN	**Saint George**	**68.26**	**44**	P		**P**	**15 25 51.9**	**-0.9**	
EMMW	**East Machias**	**68.32**	**44**	P		**P**	**15 25 52.2**	**-0.9**	
LMN	**Caledonia Moun**	**68.53**	**42**	P		**P**	**15 25 53.3**	**-1.1**	
DRLN	**Deer Lake**	**68.57**	**36**	P		**P**	**15 25 54.4**	**-0.3**	
R58B	**Mineral**	**68.63**	**56**	P		**P**	**15 25 53.7**	**-1.4**	
R58B				IAmb		IAmb	15 25 58.4		
	comp=Z,8.4nm,0.8s								
OBN	**Obninsk**	**68.72**	**338⇑**	*e*P		**P**	**15 25 55.4**	**0.0**	
OBN				*e*			15 28 31.3		
OBN				pmax		pmax			
	comp=Z,9.0nm,0.6s								
OBN				MLR		MLR			
	comp=Z,24nm,15.0s								
HODGE	**Hodges**	**69.15**	**61**	P		**P**	**15 25 57.2**	**-1.2**	
HODGE				IAmb		IAmb	15 25 58.5		
	comp=Z,16nm,1.5s								
CM31	**Chiang Mai Arr**	**69.20**	**274**	P		**P**	**15 25 59.8**	**+0.8**	
CMAR	**Chiang Mai Arr**	**69.20**	**274**	P		**P**	**15 26 00.0**	**+1.0**	
	comp=Z,2.0nm,0.5s,baz=27,slow=6.6,SNR=14								
CMAR	**Chiang Mai Arr**	**69.20**	**274**	P		**P**	**15 25 59.2**	**+0.2**	
CMAR	**Chiang Mai Arr**	**69.20**	**274**	P		**P**	**15 25 59.2**	**+0.2**	
TAPN	**Taplejung**	**69.35**	**288**	*e*P		**P**	**15 26 01.4**	**+1.2**	
	comp=Z,34nm,0.8s								
GAR	**Garm**	**69.96**	**308**	P		**P**	**15 26 04.3**	**+0.7**	
GUN	**Gumba**	**70.01**	**290**	*e*P		**P**	**15 26 05.7**	**+1.4**	
	comp=Z,56nm,0.4s								
JIRN	**Jiri**	**70.01**	**289**	*e*P		**P**	**15 26 05.8**	**+1.5**	
	comp=Z,56nm,0.7s								
RAMN	**Ramite**	**70.31**	**289**	*e*P		**P**	**15 26 07.2**	**+1.2**	
	comp=Z,37nm,0.5s								
KKN	**Kakani**	**70.45**	**290**	*e*P		**P**	**15 26 08.2**	**+1.4**	
	comp=Z,34nm,0.6s								
PKI	**Pulchoki**	**70.54**	**290**	*e*P		**P**	**15 26 08.5**	**+1.0**	
	comp=Z,30nm,0.6s								
PKIN	**Phulchoki**	**70.54**	**290**	*e*P		**P**	**15 26 08.5**	**+1.1**	
	comp=Z,32nm,0.5s								
GKN	**Gorkha**	**70.66**	**291**	*e*P		**P**	**15 26 09.1**	**+1.1**	
	comp=Z,30nm,0.5s								
DMN	**Daman**	**70.68**	**290**	*e*P		**P**	**15 26 09.3**	**+1.0**	
	comp=Z,23nm,0.8s								
CHGR	**Chuyangaron**	**70.80**	**308**	P		**P**	**15 26 09.4**	**+0.8**	
DANN	**Dangsing**	**70.91**	**292**	*e*P		**P**	**15 26 10.9**	**+1.3**	
	comp=Z,67nm,0.7s								
KOLN	**Koldanda**	**71.44**	**291**	*e*P		**P**	**15 26 13.9**	**+1.2**	
	comp=Z,38nm,0.9s								
PYUN	**Piuthan**	**71.54**	**292**	*e*P		**P**	**15 26 14.4**	**+1.1**	
	comp=Z,41nm,0.8s								
NIL	**Nilore**	**72.64**	**302**	P		**P**	**15 26 21.0**	**+1.4**	
NIL				pmax		pmax			
	comp=Z,18nm,1.0s								
NIL	**Nilore**	**72.64**	**302**	P		**P**	**15 26 20.9**	**+1.4**	
SBUM	**Sibu**	**73.52**	**252**	P		**P**	**15 26 26.1**	**+1.2**	
SBUM				IAmb		IAmb	15 26 27.5		
	comp=Z,12nm,1.8s								
KBL	**Kabul**	**74.10**	**306**	P		**P**	**15 26 27.8**	**-0.6**	
KBL				pmax		pmax			
	comp=Z,11nm,0.7s								
KBL	**Kabul**	**74.10**	**306**	P		**P**	**15 26 27.8**	**-0.6**	
AKASG	**Malin Array Be**	**74.47**	**340**	P		**P**	**15 26 29.2**	**-0.8**	
	comp=Z,2.2nm,0.4s,baz=20,slow=6.1,SNR=6.0								
AKASG				pP		**pP**	**15 26 57.9**	**+0.6**	
	comp=Z,1.1nm,0.5s,baz=22,slow=6.6,SNR=2.2								
AKASG	**Malin Array Be**	**74.47**	**340**	P		**P**	**15 26 29.2**	**-0.8**	
AKBB	**Malin Array Si**	**74.47**	**340**	P		**P**	**15 26 29.6**	**-0.3**	
AKBB				pmax		pmax			
	comp=Z,5.0nm,0.5s								
AKBB	**Malin Array Si**	**74.47**	**340**	P		**P**	**15 26 29.6**	**-0.3**	
AKBB				IAmb		IAmb	15 26 31.5		
	comp=Z,4.6nm,0.5s								
KSM	**Kuching**	**75.43**	**253**	P		**P**	**15 26 35.7**	**-0.3**	
KSM				IAmb		IAmb	15 26 37.8		
	comp=Z,7.8nm,0.6s								
MTN	**Manton Dam**	**76.30**	**227**	P		**P**	**15 26 41.4**	**+0.7**	
GEYT	**Alibeck**	**76.47**	**315**	P		**P**	**15 26 42.0**	**+0.3**	
	comp=Z,3.6nm,0.9s,baz=349,slow=1.5,SNR=7.7								
GEYT	**Alibeck**	**76.47**	**315**	P		**P**	**15 26 42.5**	**+0.8**	
GYA0B	**ALIBECK ARRAY**	**76.47**	**315**	P		**P**	**15 26 42.5**	**+0.8**	
GYA0B				IAmb		IAmb	15 26 44.1		
	comp=Z,8.1nm,1.1s								
KBZ	**Khabaz**	**77.25**	**329**	P		**P**	**15 26 46.5**	**+0.6**	
	comp=Z,2.8nm,0.7s,baz=72,slow=5.4,SNR=7.7								
HRA	**Herat**	**77.53**	**310**	P		**P**	**15 26 48.7**	**+0.7**	
HRA				IAmb		IAmb	15 26 49.8		
	comp=Z,5.7nm,0.6s								
ZEI	**Tsey**	**77.76**	**327**	*e*P		**P**	**15 26 44.6**	**-4.4**	
BUR08	**Bucovina Ar. S**	**78.19**	**342**	P		**P**	**15 26 51.6**	**+0.4**	
BURAR	**Bucovina Array**	**78.22**	**342**	P		**P**	**15 26 51.4**	**+0.1**	
WRA	**Warramunga Arr**	**81.20**	**221**	P		**P**	**15 27 07.1**	**-0.5**	
	comp=Z,5.2nm,0.7s,baz=31,slow=6.3,SNR=12								
WRA	**Warramunga Arr**	**81.20**	**221**	IAmb		IAmb	15 27 08.8		
	comp=Z,0.3nm,0.8s								
HYB	**Hyderabad**	**82.36**	**288**	*i* P		**P**	**15 27 14.5**	**+0.6**	
BRTR	**Keskin Array B**	**83.70**	**333**	P		**P**	**15 27 21.1**	**+0.5**	
	comp=Z,1.0nm,0.6s,baz=33,slow=2.3,SNR=6.5								
ASAR	**Alice Springs**	**84.72**	**220**	P		**P**	**15 27 26.6**	**+1.0**	
	comp=Z,3.1nm,0.8s,baz=22,slow=5.5,SNR=24								
ASAR	**Alice Springs**	**84.72**	**220**	P		**P**	**15 27 25.6**	**-0.1**	
STKA	**Stephens Creek**	**89.45**	**211**	P		**P**	**15 27 49.4**	**+1.2**	
	comp=Z,4.7nm,0.6s,baz=349,slow=4.2,SNR=15								
STKA	**Stephens Creek**	**89.45**	**211**	IAmb		IAmb	15 29 52.3		
	comp=Z,13nm,1.9s								
TORD	**Torodi Ar. Bea**	**115.15**	**356**	PKP		**PKiKP**	**15 33 31.7**	**-0.8**	
	comp=Z,1.1nm,0.5s,baz=0.6,slow=2.6,SNR=13								
DBIC	**Dimbokro**	**121.58**	**4**	PKP		**PKPdf**	**15 33 44.2**	**-0.7**	
	comp=Z,1.9nm,0.6s,baz=28,slow=3.6,SNR=6.4								
CFA	**Coronel Fontan**	**128.27**	**94**	PKP		**PKPdf**	**15 33 56.3**	**-1.0**	
	comp=Z,1.5nm,0.5s,baz=120,slow=1.6,SNR=3.6								
MAW	**Mawson**	**145.82**	**218**	PKPbc		**PKPbc**	**15 34 28.8**	**-0.1**	
	comp=Z,8.1nm,0.8s,baz=2.9,slow=2.7,SNR=8.4								
MAW	**Mawson**	**145.82**	**218**	PKP2		**PKPab**	**15 34 29.5**	**-0.1**	
MAW	**Mawson**	**145.82**	**218**	PKPdf		**PKPab**	**15 34 29.5**	**-0.1**	
BOSA	**Boshof**	**149.28**	**309**	PKPbc		**PKPbc**	**15 34 39.9**	**+0.1**	
	comp=Z,5.5nm,0.6s,baz=32,slow=2.0,SNR=22								
BOSA	**Boshof**	**149.28**	**309**	PKP2		**PKPbc**	**15 34 40.2**	**+0.4**	
BOSA	**Boshof**	**149.28**	**309**			**PKPbc**	**15 34 40.2**	**+0.4**	
SNAA	**Sanae**	**160.16**	**179**	PKPab		**PKPab**	**15 35 29.5**	**-0.3**	
VNA3	**Neumayer Olymp**	**160.26**	**172**	PKPab		**PKPab**	**15 35 30.8**	**+0.7**	
VNA2	**Neumayer--Watz**	**160.74**	**174**	PKPab		**PKPab**	**15 35 32.7**	**+0.5**	

*IDC **24** 15:15:14.3±1.6,30°.33S×177°.24W,h0km,mb3.9/4, mb1 4.2/5,mb1mx3.8/33,mbtmp3.9/5,ML3.1/1,MS3.2/3, Ms1 3.2/3,ms1mx3.0/29,Error ellipse: s-maj=32.6km s-min=27.4km az=86.0*
*NEIC **24** 15:15:20.3±2.0,30°.14S±0°.09×177°.3W±0°.2,h35km±2km, mb4.8/13,Error ellipse: s-maj=24.6km s-min=14.2km az=71.0*

ISC 24 15:15:20.1±1.1,30°.22S±0°.08×177°.3W±0°.2,h35km,n25, σ1§61/23,mb4.3/8,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.09**	**331**	Pn	**Pn**	**15 15 39.3**	**+0.4**
	173nm,0.3s,baz=101,slow=7.7,SNR=6.0						
RAO				Sn	**Sn**	**15 15 55.5**	**+2.7**
	351nm,0.3s,baz=284,slow=23,SNR=4.8						
RAO	**Raoul Island**	**1.09**	**331**		**Pn**	**15 15 39.0**	**+0.1**
MSWZ	**Moikau Station**	**12.69**	**206**	Pn	**Pn**	**15 18 21.3**	**+3.3**
TUWZ	**Tuamarina**	**13.24**	**210**	Pn	**P**	**15 18 30.6**	**-4.2**
LTZ	**Lake Taylor**	**15.06**	**211**	P	**P**	**15 18 56.4**	**+1.2**
DZM	**Mont Dzumac**	**16.67**	**295**	Pn	**P**	**15 19 12.9**	**-0.3**
	0.1nm,0.3s,baz=282,slow=21,SNR=2.1						
DZM				LR	LR	15 24 11.5	
	comp=Z,90nm,20.0s,baz=218,slow=32						
LBZ	**Lake Benmore**	**17.26**	**212**		**P**	**15 19 19.5**	**+0.1**
LBZ				IAmb	IAmb	15 19 40.5	
	comp=Z,113nm,1.6s						
RAR	**Rarotonga**	**18.16**	**65**	LR	LR	15 26 18.2	
	comp=Z,80nm,19.4s,baz=277,slow=37						
HNR	**Honiara**	**29.63**	**310**	LR	LR	15 31 17.9	
	comp=Z,36nm,21.1s,baz=189,slow=32						
STKA	**Stephens Creek**	**35.09**	**257**	P	**P**	**15 22 09.0**	**-1.1**
	comp=Z,2.5nm,1.0s,baz=75,slow=12,SNR=4.0						
BBOO	**Buckleboo**	**39.58**	**254**	P	**P**	**15 22 48.1**	**0.0**
ASAR	**Alice Springs**	**43.71**	**266**	P	**P**	**15 23 21.4**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=111,slow=8.2,SNR=4.9						
WR0	**Warramunga Arr**	**44.50**	**272**	P	**P**	**15 23 28.7**	**+0.4**
WR0				IAmb	IAmb	15 25 12.4	
	comp=Z,38nm,2.0s						
WB2	**Warramunga Arr**	**44.67**	**272**	P	**P**	**15 23 30.2**	**+0.5**
WB2				IAmb	IAmb	15 25 02.4	
	comp=Z,18nm,1.4s						
WRAB	**Tennant Creek**	**44.67**	**272**	P	**P**	**15 23 30.4**	**+0.7**
WRA	**Warramunga Arr**	**44.68**	**272**	P	**P**	**15 23 30.2**	**+0.4**
	comp=Z,2.1nm,0.6s,baz=111,slow=7.9,SNR=4.8						
WRA	**Warramunga Arr**	**44.68**	**272**	IAmb	IAmb	15 23 37.9	
	comp=Z,0.3nm,0.9s						
WB0	**Warramunga Arr**	**44.70**	**272**	P	**P**	**15 23 30.1**	**+0.1**
WB0				IAmb	IAmb	15 24 30.9	
	comp=Z,38nm,1.9s						
KNRA	**Kununurra**	**51.28**	**274**	P	**P**	**15 24 21.5**	**+0.7**
PSA00	**Pilbara Seismi**	**56.57**	**263**	P	**P**	**15 24 58.3**	**-1.2**
QSPA	**South Pole Qui**	**59.89**	**180**	P	**P**	**15 25 24.1**	**+1.9**
QSPA				IAmb	IAmb	15 25 37.4	
	comp=Z,3.3nm,0.8s						
KKM	**Kota Kinabalu**	**73.06**	**288**	P	**P**	**15 26 44.8**	**-2.3**
NVAR	**Mina Array Bea**	**87.71**	**42**	P	**P**	**15 28 05.3**	**0.0**
	comp=Z,0.3nm,0.7s,baz=198,slow=4.7,SNR=2.4						
FINES	**FINESS Array B**	**145.17**	**340**	PKPbc	**PKPbc**	**15 34 52.1**	**-0.6**
	comp=Z,2.6nm,0.4s,baz=52,slow=4.2,SNR=24						
FINES	**FINESS Array B**	**145.17**	**340**		**PKPbc**	**15 34 51.9**	**-0.9**

*IDC **24** 15:28:40.9±3.6,30°.07S×177°.42W,h0km,mb3.6/2, mb1 3.8/2,mb1mx3.5/31,mbtmp3.6/2,Error ellipse: s-maj=73.5km s-min=40.4km az=98.0*
*NEIC **24** 15:28:46.3±1.3,29°.9S±0°.2×177°.5W±0°.2,h35km±2km, mb4.6/5,Error ellipse: s-maj=42.3km s-min=11.4km az=52.0*

ISC 24 15:28:45.8±2.6,30°.0S±0°.1×177°.5W±0°.4,h35km,n9, σ0§96/10,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.79**	**332**	Pn	**Pn**	**15 29 01.0**	**+0.5**
	57nm,0.3s,baz=37,slow=19,SNR=1.8						
RAO				Sn	**Sn**	**15 29 11.8**	**+0.8**
	217nm,0.3s,baz=104,slow=19,SNR=8.0						
RAO	**Raoul Island**	**0.79**	**332**		**Sn**	**15 29 09.1**	**-2.0**
LTZ	**Lake Taylor**	**15.22**	**210**		**P**	**15 32 22.0**	**-0.6**
ASAR	**Alice Springs**	**43.58**	**266**	P	**P**	**15 36 47.0**	**+0.3**
	0.1nm,0.2s,baz=96,slow=8.5,SNR=2.1						
WR0	**Warramunga Arr**	**44.34**	**272**	P	**P**	**15 36 53.2**	**+0.4**
WR0				IAmb	IAmb	15 37 23.1	
	comp=Z,22nm,1.6s						
WB2	**Warramunga Arr**	**44.52**	**271**	P	**P**	**15 36 54.7**	**+0.5**
WB2				IAmb	IAmb	15 38 28.2	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**44.52**	**271**	P	**P**	**15 36 54.2**	**-0.1**
WRA	**Warramunga Arr**	**44.53**	**271**	P	**P**	**15 36 55.2**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=110,slow=8.1,SNR=4.6						
FINES	**FINESS Array B**	**144.87**	**340**	PKPbc	**PKPdf**	**15 48 18.1**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=36,slow=7.3,SNR=1.6						

*NEIC **24** 15:32:01.5±1.3,16°.51S±0°.07×69°.84W±0°.09,h192km±6km, mb4.4/6,Error ellipse: s-maj=13.2km s-min=9.6km az=117.0*

*GUC **24** 15:32:03.1±0.7,16°.53S×69°.96W,h184km±26km,ML4.1*
*IDC **24** 15:32:03.1±1.4,16°.46S×69°.60W,h199km±8km,mb3.7/7, mb1 3.7/9,mb1mx3.4/36,mbtmp4.1/9,Error ellipse: s-maj=26.4km s-min=18.3km az=131.0*

ISC 24 15:32:00.7±0.6,16°.48S±0°.05×69°.84W±0°.07,h183km,n64, σ1§23/72,mb4.2/7,4C-1D,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.65**	**84**	P	**Pn**	**15 32 37.1**	**+2.0**
	83nm,0.3s,baz=291,slow=7.6,SNR=1222						
LPAZ				S	**Sn**	**15 33 02.7**	**+1.1**
	19nm,0.3s,baz=136,slow=6.7,SNR=12						
LPAZ	**La Paz**	**1.65**	**84**	‖ *i* P	**Pn**	**15 32 37.1**	**+2.0**
LPAZ				*i* S	**Sn**	**15 33 02.6**	**+1.0**
AP01	**Chacalluta**	**1.94**	**194**	Pn	**Pn**	**15 32 38.4**	**+1.0**
PB12	**IPOC Station P**	**2.18**	**192**	⇑ *i* P	**Pn**	**15 32 40.7**	**+0.7**
PB12				*i* S	**Sn**	**15 33 10.3**	**-0.5**
PB12				IAML		15 33 13.7	
	comp=N,907nm,0.8s						
PB12	**IPOC Station P**	**2.18**	**192**		**Pn**	**15 32 40.6**	**+0.5**
MNMC	**Minye Minye**	**2.65**	**175**	⇑ *i* P	**Pn**	**15 32 47.8**	**+2.1**
MNMC				*i* S	**Sn**	**15 33 21.2**	**+0.5**
MNMC				IAML		15 33 27.8	
	comp=N,537nm,0.2s						
MNMC	**Minye Minye**	**2.65**	**175**	Pn	**Pn**	**15 32 47.7**	**+2.0**
PSGC	**Pisagua**	**3.12**	**185**	*e*P	**Pn**	**15 32 51.5**	**+0.5**
PSGC				*i* S	**Sn**	**15 33 29.0**	**-1.4**
PSGC				IAML		15 33 32.1	
	comp=N,297nm,0.3s						
PSGCX	**Pisagua**	**3.12**	**185**		**Pn**	**15 32 51.8**	**+0.7**
GO01	**Chusmiza**	**3.23**	**169**	*e*P	**Pn**	**15 32 55.6**	**+2.7**
GO01				*i* S	**Sn**	**15 33 35.8**	**+2.2**
GO01	**Chusmiza**	**3.23**	**169**	Pn	**Pn**	**15 32 54.2**	**+1.3**
PB11	**IPOC Station P**	**3.27**	**177**	⇑ *i* P	**Pn**	**15 32 54.3**	**+1.3**
PB11				*i* S	**Sn**	**15 33 34.3**	**+0.4**
PB11	**IPOC Station P**	**3.27**	**177**		**Pn**	**15 32 54.2**	**+1.2**
PB08	**IPOC Station P**	**3.70**	**170**	⇑ *i* P	**Pn**	**15 33 00.9**	**+2.3**
PB08				*i* S	**Sn**	**15 33 44.8**	**+0.9**
PB08	**IPOC Station P**	**3.70**	**170**		**Pn**	**15 33 00.6**	**+2.1**
TA01	**Diego Aracena**	**4.08**	**184**	*i* P	**Pn**	**15 33 03.9**	**+0.9**
TA01				*i* S	**Sn**	**15 33 49.4**	**-2.5**
TA01	**Diego Aracena**	**4.08**	**184**		**Pn**	**15 33 03.7**	**+0.7**
PB01	**IPOC Station P**	**4.56**	**176**		**Pn**	**15 33 09.9**	**+0.7**
PB07	**IPOC Station P**	**5.22**	**180**		**Pn**	**15 33 18.4**	**+0.5**
PB09	**IPOC Station P**	**5.32**	**174**	Pn	**Pn**	**15 33 20.3**	**+1.1**
PB04	**IPOC Station P**	**5.83**	**183**	Pn	**Pn**	**15 33 26.7**	**+1.0**
LVC	**Limon Verde**	**6.17**	**172**	P	**Pn**	**15 33 32.1**	**+1.8**
	comp=N,1.6nm,0.3s,baz=30,slow=7.5,SNR=28						
LVC				S	**Sn**	**15 34 38.6**	**-2.3**
	comp=N,3.8nm,0.3s,baz=347,slow=9.1,SNR=12						
LVC	**Limon Verde**	**6.17**	**172**		**Pn**	**15 33 31.1**	**+0.8**
PB06	**IPOC Station P**	**6.20**	**178**	Pn	**Pn**	**15 33 31.0**	**+0.4**
PB15	**IPOC Station P**	**6.71**	**177**		**Pn**	**15 33 38.0**	**+0.8**
PB10	**IPOC Station P**	**7.03**	**185**	Pn	**Pn**	**15 33 40.9**	**-0.4**
NNA	**Nana**	**8.12**	**302**	Pn	**Pn**	**15 33 57.0**	**+1.2**
SIV	**San Ignacio**	**8.44**	**88**	P	**Pn**	**15 34 01.0**	**+1.2**
	comp=N,0.5nm,0.3s,baz=303,slow=12,SNR=2.5	

SPIA	Saint Paul Isl	7.95	37	Pn	Pn	15 42 38.8	+2.8		
UNV	Unalaska Valle	8.10	65	Pn	Pn	15 42 41.9	+3.8		
AKUT	Akutan	8.60	64	Pn	Pn	15 42 48.6	+3.8		
SDPT	Sand Point	11.87	62	Pn	Pn	15 43 30.0	+0.4		
CNBA	Chernabura Isl	12.27	65	Pn	Pn	15 43 34.5	-0.5		
GAMB	Gambell	13.28	14	Pn	Pn	15 43 51.2	+2.4		
PET	Petropavlovsk	13.88	287	*eP*	Pn	15 43 59.5	+2.5		
PET				*eS*	Sn	15 46 24.7	-5.6		
PET				pmax	pmax				
	comp=Z,23nm,1.2s								
PET	Petropavlovsk	13.88	287	Pn	Pn	15 44 00.1	+3.1		
PEA0B	Petropavlovsk-	14.45	287	P	Pn	15 44 06.7	+1.8		
PEA0B	Petropavlovsk-	14.45	287	Pn	Pn	15 44 06.7	+1.8		
PETK	Petropavlovsk-	14.45	287	Pn	Pn	15 44 05.5	+0.6		
	comp=Z,0.5nm,0.3s,baz=104,slow=15,SNR=8.5								
PETK				LR	LR	15 49 47.1			
	comp=Z,201nm,20.2s,baz=69,slow=38								
PETK	Petropavlovsk-	14.45	287	P	Pn	15 44 07.0	+2.1		
PETK	Petropavlovsk-	14.45	287	Pn	Pn	15 44 07.0	+2.1		
CHIR	Chirikof Islan	14.67	62	Pn	Pn	15 44 06.1	-1.7		
ANM	Nome	15.26	23	P	P	15 44 21.2	+0.7		
ANM				pmax	pmax				
	comp=Z,31nm,1.3s								
ANM	Nome	15.26	23	P	P	15 44 21.2	+0.7		
SII	Sitkinak Islan	15.58	60	Pn	Pn	15 44 19.9	0.0		
SII				IAmb	IAmb	15 44 27.4			
	comp=Z,51nm,1.0s								
SKR	Severo-Kuril's	15.69	278	*eP*	P	15 44 23.6	-1.7		
OHAK	Old Harbor	16.19	58	Pn	Pn	15 44 24.4	-3.3		
OHAK				IAmb	IAmb	15 44 51.0			
	comp=Z,145nm,1.8s								
SVW2	Sparrevohn	16.35	43	P	P	15 44 32.3	-0.3		
KDAK	Kodiak Island	16.67	56	Pn	Pn	15 44 31.7	-2.1		
	comp=Z,1.2nm,0.3s,baz=222,slow=3.9,SNR=26								
KDAK				Sn	Sn	15 47 32.6	-5.7		
	comp=Z,0.1nm,0.3s,baz=4.7,slow=22,SNR=1.9								
KDAK	Kodiak Island	16.67	56	Pn	Pn	15 44 31.6	-2.3		
TTA	Tatalina	17.10	37	P	P	15 44 41.5	+0.5		
TTA				pmax	pmax				
	comp=Z,21nm,1.1s								
TTA	Tatalina	17.10	37	P	P	15 44 41.5	+0.5		
RSO	Redoubt South	17.36	47	P	P	15 44 45.3	+1.3		
CNPM	China Poot	17.79	51	P	P	15 44 48.2	-0.2		
BRLK	Bradley Lake	18.02	50		P	15 44 51.2	+0.1		
BILL	Bilibino	18.45	342	*eP*	Pn	15 44 56.9	+1.0		
BILL				pmax	pmax				
	comp=Z,42nm,1.7s								
BILL				MLR	MLR				
	comp=Z,380nm,18.0s								
BILL	Bilibino	18.45	342		Pn	15 44 56.2	+0.3		
PPLA	Purkeypile	18.60	40		Pn	15 44 59.1	+1.2		
RDOG	Red Dog Mine	18.73	19	P	Pn	15 44 60.0	+0.7		
SEW	Seward	18.81	50	P	P	15 44 59.9	+0.2		
GHO	Glory Hole Cre	19.56	45	P	P	15 45 07.9	0.0		
TRF	Thorofare Moun	19.62	40	P	P	15 45 08.9	+0.2		
TRF				IAmb	IAmb	15 45 16.2			
	comp=Z,38nm,0.8s								
BPAW	Bear Paw Mtn.	19.64	38	P	Pn	15 45 09.8	-0.4		
BPAW				IAmb	IAmb	15 45 14.9			
	comp=Z,33nm,0.7s								
KNK	Knik Glacier	19.65	47	P	P	15 45 08.4	-0.6		
SML	Sawmill	19.84	46	P	P	15 45 10.3	-0.7		
GLI	Glacier Island	20.14	49	P	P	15 45 13.6	-0.6		
MLY	Manley	20.19	36	P	P	15 45 14.1	-0.7		
RND	Reindeer	20.19	41	P	P	15 45 13.6	-1.2		
RND				pmax	pmax				
	comp=Z,23nm,0.6s								
RND	Reindeer	20.19	41	P	P	15 45 13.6	-1.2		
RND				IAmb	IAmb	15 45 20.6			
	comp=Z,22nm,0.6s								
MCK	McKinley	20.29	40	P	P	15 45 14.8	-1.0		
MCK				pmax	pmax				
	comp=Z,15nm,0.7s								
MCK	McKinley	20.29	40	P	P	15 45 14.8	-1.0		
SCM	Sheep Creek Mo	20.30	46	P	P	15 45 15.1	-0.9		
SCM				pmax	pmax				
	comp=Z,26nm,0.7s								
SCM	Sheep Creek Mo	20.30	46	P	P	15 45 15.1	-0.9		
SCM				IAmb	IAmb	15 45 19.5			
	comp=Z,26nm,0.7s								
HIN	Hinchinbrook I	20.31	50	P	P	15 45 15.4	-0.7		
HIN				IAmb	IAmb	15 45 36.3			
	comp=Z,119nm,2.0s								
FID	Port Fidalgo	20.40	49	P	P	15 45 16.0	-1.1		
NEA2	Nenana	20.61	38	P	P	15 45 19.0	-0.3		
	baz=243,SNR=78								
DHY	Denali Highway	20.68	43	P	P	15 45 19.8	-0.5		
DHY				IAmb	IAmb	15 45 26.3			
	comp=Z,31nm,0.6s								
EYAK	Cordova Ski Ar	20.71	50	P	P	15 45 19.7	-0.6		
WRH	Wood River Hil	20.93	39	P	P	15 45 21.6	-1.2		
MDM	Murphy Dome	21.09	37	P	P	15 45 24.5	0.0		
CCB	Clear Creek Bu	21.12	38	P	P	15 45 23.4	-1.4		
COLA	College	21.20	38	P	P	15 45 24.0	-1.6		
COLA				pmax	pmax				
	comp=Z,24nm,0.8s								
COLA	College	21.20	38	P	P	15 45 24.0	-1.6		
COLA				IAmb	IAmb	15 45 42.2			
	comp=Z,24nm,0.8s								
HDA	Harding Lake	21.36	39	P	P	15 45 26.8	-0.6		
	baz=247,SNR=18								
HDA	Harding Lake	21.36	39	P	P	15 45 27.0	-0.4		
POKR	Poker Flat Res	21.47	37	P	P	15 45 27.8	-0.8		
	baz=244,SNR=8.2								
PAX	Paxson	21.47	44	P	P	15 45 28.7	0.0		
PAX				pmax	pmax				
	comp=Z,31nm,1.0s								
PAX	Paxson	21.47	44	P	P	15 45 28.7	0.0		
PAX				IAmb	IAmb	15 45 37.6			
	comp=Z,31nm,1.0s								
IL31		21.53	38	P	P	15 45 28.6	-0.5		
ILAR	Eielson Array	21.53	38	P	P	15 45 29.1	-0.1		
	comp=Z,3.3nm,0.5s,baz=240,slow=8.9,SNR=43								
ILAR				PcP	PcP	15 49 29.6	-1.3		
	comp=Z,0.9nm,0.4s,baz=289,slow=3.4,SNR=8.7								
ILAR	Eielson Array	21.53	38	P	P	15 45 28.6	-0.6		
COLD	Coldfoot	21.55	31	P	P	15 45 29.1	-0.3		
	baz=236,SNR=26								
COLD	Coldfoot	21.55	31	P	P	15 45 28.7	-0.7		
GLB	Gilahina Butte	21.82	48	P	P	15 45 31.1	-1.3		
VRDI	Verde Repeater	21.95	49	P	P	15 45 33.6	-0.3		
RIDG	Independent Ri	21.98	42	P	P	15 45 33.5	-0.6		
RIDG				IAmb	IAmb	15 45 37.0			
	comp=Z,23nm,0.4s								
CRQM	Cirque	22.01	50	P	P	15 45 33.9	-0.7		
WAX	Waxell Ridge	22.10	51	P	P	15 45 34.8	-0.6		
TGL	Tana Glacier	22.16	50	P	P	15 45 36.0	-0.1		
MCARA	McCarthy VSAT	22.18	49	P	P	15 45 35.5	-0.7		
MENT	Mentasta	22.22	44	P	P	15 45 35.7	-1.0		
DOT	Dot Lake	22.28	42	P	P	15 45 36.4	-0.9		
DOT				IAmb	IAmb	15 45 38.9			
	comp=Z,28nm,0.8s								
PRP	Porcupine Dome	22.36	37	P	P	15 45 37.4	-0.9		
ISLE	Juniper Island	22.37	51	P	P	15 45 38.9	+0.4		
SCRK	Sand Creek	22.42	42	P	P	15 45 37.0	-1.9		
MESA	MESA	22.50	52	P	P	15 45 40.1	+0.2		
TOLK	Toolik Lake Re	22.56	28	P	P	15 45 40.0	-0.3		
	baz=234,SNR=9.3								
TOLK	Toolik Lake Re	22.56	28	P	P	15 45 40.0	-0.3		
BARN	Barnard Glacie	22.77	50	P	P	15 45 42.9	+0.2		
CTGM	Chitina Glacie	22.91	50	P	P	15 45 43.4	-0.8		
FYU	Fort Yukon	22.91	35	P	P	15 45 43.7	-0.2		
TABL	Table Mountain	22.94	51	P	P	15 45 43.9	-0.6		
BCAR	Beaver Creek A	23.11	45	P	P	15 45 45.0	-1.1		
PCA	Pinnacle	23.34	52	P	P	15 45 48.9	+0.5		
BMAR	Burnt Mountain	23.53	33	P	P	15 45 49.5	-0.6		
EGAK	Eagle	23.83	41	P	P	15 45 51.5	-1.6		
EGAK				IAmb	IAmb	15 45 54.4			
	comp=Z,62nm,1.4s								
TYV	Tymovskoe	23.97	285	*eP*	P	15 45 55.2	+0.8		
TYV				*eS*	S	15 50 11.3	+1.4		
TYV				pmax	pmax				
	comp=Z,19nm,1.3s								
TYV				smax	smax				
	comp=E,8.0nm,1.3s								
DAWY	Dawson	24.39	43	P	P	15 45 57.3	-1.0		
HYT	Haines Junctio	24.76	51	P	P	15 46 00.9	-0.8		
YSS	Yuzh-Sakhalins	25.23	276	*iP*	P	15 46 07.7	+1.8		
YSS				*e*		15 46 52.1			
YSS				pmax	pmax				
	comp=Z,40nm,1.2s								
YSS				MLR	MLR				
	comp=Z,100nm,17.0s								
YSS	Yuzh-Sakhalins	25.23	276	P	P	15 46 07.1	+1.1		
WHY	Whitehorse	26.04	51	P	P	15 46 12.8	-0.6		
EPYK	Eagle Plains	26.05	38	P	P	15 46 12.2	-1.1		
	baz=255,SNR=5.6								
EPYK	Eagle Plains	26.05	38	P	P	15 46 12.2	-1.1		
JKA	Kamikawa-asahi	26.58	270	P	P	15 46 19.4	+1.1		
JKA	Kamikawa-asahi	26.58	270	IAmb	IAmb	15 46 21.3			
	comp=Z,31nm,1.1s								
ASAJ	Asahikawa	26.58	270	P	P	15 46 19.4	+1.1		
	comp=Z,23nm,1.0s,baz=17,slow=3.9,SNR=14								
ASAJ				LR	LR	15 56 50.8			
	comp=Z,70nm,20.7s,baz=85,slow=37								
INK	Inuvik	27.75	35	P	P	15 46 28.1	-0.4		
	comp=Z,2.1nm,0.4s,baz=241,slow=9.4,SNR=5.3								
INK				PcP	PcP	15 49 44.4	0.0		
	comp=Z,2.0nm,0.5s,baz=311,slow=4.5,SNR=4.0								
INK				LR	LR	15 58 36.4			
	comp=Z,116nm,19.0s,baz=236,slow=39								
INK	Inuvik	27.75	35	P	P	15 46 28.1	-0.4		
GRNR	Gornyy	27.78	287	*iP*	P	15 46 29.1	+0.1		
GRNR				pmax	pmax				
	comp=Z,9.0nm,1.0s								
GRNR				MLR	MLR				
	comp=E,70nm,15.0s								
GRNR				MLR	MLR				
	comp=N,30nm,16.0s								
GRNR				MLR	MLR				
	comp=Z,100nm,16.0s								
DLBC	Dease Lake	28.61	56	PcP	PcP	15 49 47.3	+0.4		
	comp=Z,1.0nm,0.4s,baz=45,slow=1.3,SNR=3.8								
DLBC				LR	LR	15 59 14.8			
	comp=Z,96nm,19.2s,baz=295,slow=39								
YAK	Yakutsk	29.51	312	PcP	PcP	15 49 49.3	+0.5		
	comp=Z,12nm,0.7s,baz=78,slow=1.0,SNR=6.1								
YAK	Yakutsk	29.51	312	PcP	PcP	15 49 49.1	+0.2		
TEY	Ternei	29.92	276	*iP*	P	15 46 48.2	+0.2		
TEY				pmax	pmax				
	comp=E,10.0nm,0.7s								
TEY				pmax	pmax				
	comp=Z,30nm,0.7s								
TEY				pmax	pmax				
	comp=N,10.0nm,0.6s								
TIXI	Tiksi	30.81	331	P	P	15 46 55.2	-0.5		
	comp=N,1.5nm,0.5s,baz=132,slow=17,SNR=2.8								
TIXI				PcP	PcP	15 49 51.7	-0.4		
	comp=N,5.4nm,0.7s,baz=117,slow=1.7,SNR=9.7								
TIXI	Tiksi	30.81	331	P	P	15 46 54.8	-0.8		
TIXI				PcP	PcP	15 49 51.5	-0.6		
BBB	Bella Bella	31.07	68	LR	LR	15 58 58.7			
	comp=N,63nm,18.2s,baz=272,slow=36								
BBB	Bella Bella	31.07	68	P	P	15 46 57.2	-0.9		
KLR	Kul'dur	31.14	286	P	P	15 46 59.0	+0.2		
	comp=N,17nm,0.7s,baz=68,slow=7.8,SNR=57								
KLR				LR	LR	16 01 11.1			
	comp=N,88nm,18.0s,baz=76,slow=40								
KLR	Kul'dur	31.14	286	*c iP*	P	15 46 58.7	-0.1		
KLR				pmax	pmax				
	comp=Z,23nm,1.0s								
A36M	Sachs Harbour	31.38	29	P	P	15 47 00.5	-0.1		
	baz=258								
ZEA	Zeya	32.24	296	*eP*	P	15 47 07.0	-1.4		
ZEA				pmax	pmax				
	comp=Z,17nm,1.0s								
USA0B	Ussuriysk Arra	33.21	278	P	P	15 47 16.9	-0.1		
USA0B				pmax	pmax				
	comp=Z,4.0nm,0.8s								
USA0B	Ussuriysk Arra	33.21	278	P	P	15 47 16.9	-0.1		
USRK	Ussuriysk Ar.	33.21	278	P	P	15 47 17.0	0.0		
	comp=Z,3.7nm,0.6s,baz=60,slow=8.5,SNR=9.1								
USRK				LR	LR	15 59 46.4			
	comp=Z,51nm,20.9s,baz=28,slow=35								
USRK	Ussuriysk Ar.	33.21	278	P	P	15 47 16.5	-0.5		
H11N2	WAKE ISLAND Hy	33.23	205	T	T	16 22 44.1			
	baz=17,slow=76,SNR=283								
H11N3	WAKE ISLAND Hy	33.24	205	T	T	16 22 35.8			
	baz=17,slow=76,SNR=427								
H11N1	WAKE ISLAND Hy	33.25	205	T	T	16 22 45.5			
	baz=17,slow=76,SNR=352								
MJAR	Matsushiro Arr	33.62	261	P	P	15 47 21.5	+0.9		
	comp=Z,1.8nm,0.6s,baz=50,slow=7.7,SNR=7.7								
MJAR				LR	LR	15 58 57.8			
	comp=Z,76nm,21.6s,baz=65,slow=33								
MJAR	Matsushiro Arr	33.62	261	P	P	15 47 21.6	+0.9		
MJAR				pmax	pmax				
	comp=Z,6.0nm,1.5s								
MJAR	Matsushiro Arr	33.62	261	P	P	15 47 21.6	+0.9		
MAJO	Matsushiro	33.62	261	*c iP*	P	15 47 22.0	+1.3		
MAJO				pmax	pmax				
	comp=Z,9.0nm,1.1s								
MAJO	Matsushiro	33.62	261	P	P	15 47 21.7	+1.0		
MAT	Matsushiro	33.62	261	P	P	15 47 22.1	+1.4		
MJB9	Matsu-Tunnel	33.62	261	P	P	15 47 21.8	+1.1		
MJB9				IAmb	IAmb	15 47 23.1			
	comp=Z,11nm,1.1s								
HON	Honolulu	33.96	143	P	P	15 47 24.5	+0.8		
HON				pmax	pmax				
	comp=Z,102nm,0.9s								
HON	Honolulu	33.96	143	P	P	15 47 24.5	+0.8		
H11S1	WAKE ISLAND Hy	34.45	204	T	T	16 24 10.5			
	baz=16,slow=76,SNR=270								
H11S2	WAKE ISLAND Hy	34.47	204	T	T	16 24 11.8			
	baz=16,slow=76,SNR=198								
H11S3	WAKE ISLAND Hy	34.47	205	T	T	16 24 11.8			
	baz=16,slow=76,SNR=148								
MDJ	Mudanjiang	34.50	280	P	P	15 47 27.8	-0.4		
MDJ				pP	pP	15 47 33.5	-0.4		
MDJ				pmax	pmax				
	comp=Z,11nm,0.8s								
MDJ				pmax	pmax				
	comp=Z,95nm,5.3s								
MDJ	Mudanjiang	34.50	280	P	P	15 47 27.3	-0.9		
MDJ				IAmb	IAmb	15 47 29.0			
	comp=Z,13nm,1.0s								
MSHR	Mys Shultsa	34.56	276	*deP*	P	15 47 30.1	+1.4		
MSHR				pmax	pmax				
	comp=Z,17nm,0.9s								
NLWA	Neilton Lookou	35.46	74	P	P	15 47 37.5	+1.0		
NLWA				IAmb	IAmb	15 47 55.2			
	comp=Z,22nm,1.4s								
YKA	Yellowknife Ar	35.51	46	P	P	15 47 36.4	-0.3		
	comp=Z,6.8nm,0.8s,baz=280,slow=8.7,SNR=21								
YKA				PcP	PcP	15 50 05.2	-0.2		
	comp=Z,1.3nm,0.7s,baz=288,slow=2.8,SNR=6.0								
YKA				LR	LR	16 03 33.4			
	comp=Z,115nm,19.9s,baz=0.0,slow=39								
A04D	Lummi Island	35.57	71	P	P	15 47 38.1	+0.8		
	baz=296								
D03D	Eldon	35.87	73	P	P	15 47 40.9	+0.9		
	baz=297,SNR=14								
E03A	Lebam	36.04	75	P	P	15 47 40.6	-0.7		
E03A				IAmb	IAmb	15 47 46.9			
	comp=Z,23nm,0.9s								
B05A	Bryant	36.14	72	P	P	15 47 43.1	+0.9		
	baz=296,SNR=6.3								
E04D	Cinebar	36.64	74	P	P	15 47 46.9	+0.4		
	baz=298,SNR=5.6								
D05A	Enumclaw	36.69	73	P	P	15 47 48.9	+2.0		
D05A				IAmb	IAmb	15 48 03.4			
	comp=Z,17nm,0.7s								
LON	Longmire	37.01	74	P	P	15 47 51.2	+1.5		
LON				pmax	pmax				
	comp=Z,8.0nm,0.7s								
LON	Longmire	37.01	74	P	P	15 47 51.2	+1.5		
F04A	Amboy	37.03	75	P	P	15 47 51.4	+1.6		
F04A				IAmb	IAmb	15 47 53.8			
	comp=Z,22nm,0.6s								
LTY	Liberty	37.45	72	P	P	15 47 54.5	+1.0		
B08A	Colville Reser	37.74	70	P	P	15 47 57.2	+1.3		
B08A				IAmb	IAmb	15 47 58.4			
	comp=Z,14nm,0.8s								
H04A	Detroit Lake	37.80	77	P	P	15 47 58.0	+1.6		
H04A				IAmb	IAmb	15 47 59.6			
	comp=Z,12nm,0.8s								
BOD	Bodaibo	38.04	307	*eP*	P	15 47 57.2	-1.1		
BOD				pmax	pmax				
	comp=Z,5.0nm,1.2s								
G05D	Wamic, OR	38.05	76	P	P	15 47 59.7	+1.2		
	baz=300								
I04A	Tendick Farm,	38.12	78	P	P	15 48 00.5	+1.4		
	baz=302								
HIA	Hailar	38.27	292	P	P	15 47 59.3	-1.1		
HIA				pmax	pmax				
	comp=Z,26nm,1.5s								
HIA	Hailar	38.27	292	P	P	15 47 59.3	-1.1		
HIA				IAmb	IAmb	15 48 00.8			
	comp=Z,26nm,1.5s								
I05D	Terrebonne, OR	38.49	77	P	P	15 48 03.8	+1.5		
	baz=301								
HAWA	Hanford	38.56	73	P	P	15 48 03.5	+0.7		
HAWA				IAmb	IAmb	15 48 06.0			
	comp=Z,13nm,0.6s								
F07A	Phinny Hill Vi	38.56	74	P	P	15 48 04.1	+1.3		
F07A				IAmb	IAmb	15 48 06.8			
	comp=Z,15nm,0.6s								
J04D	Umpqua Nationa	38.59	79	P	P	15 48 04.8	+1.5		
	baz=302								
D08A	Wollman Farm,	38.60	72	P	P	15 48 03.5	+0.4		
C09A	Chrisman Ranch	38.63	70	P	P	15 48 04.2	+0.9		
C09A				IAmb	IAmb	15 48 05.6			
	comp=Z,18nm,1.1s								
L04D	Klamath Falls	39.02	80	P	P	15 48 08.6	+1.7		
	baz=303								
YBH	Yreka Blue Hor	39.04	81	LR	LR	16 00 57.7			
	comp=Z,69nm,20.3s,baz=307,slow=31								
NEW	Newport	39.09	69	P	P	15 48 07.0	-0.3		
	baz=298,SNR=11								
NEW	Newport	39.09	69	LR	LR	16 03 41.3			
	comp=Z,41nm,18.0s,baz=288,slow=35								
NEW	Newport	39.09	69	P	P	15 48 07.9	+0.6		
NEW				pmax	pmax				
	comp=Z,14nm,0.8s								
NEW	Newport	39.09	69	P	P	15 48 07.9	+0.6		
NEW				IAmb	IAmb	15 48 09.3			
	comp=Z,14nm,0.8s								
J05D	Fort Rock, OR	39.11	78	P	P	15 48 09.0	+1.4		
	baz=302								
E09A	Wood Farm, Sta	39.33	72	P	P	15 48 10.9	+1.7		
E09A				IAmb	IAmb	15 48 12.5			
	comp=Z,41nm,1.7s								
KSRS	Korea Array	39.52	271	P	P	15 48 12.3	+1.5		
	comp=Z,5.5nm,0.9s,baz=58,slow=8.2,SNR=33								
KSRS				PcP	PcP	15 50 18.6	+0.5		
	comp=Z,1.5nm,0.9s,baz=70,slow=3.4,SNR=8.8								
KSRS				LR	LR	16 03 25.3			
	comp=Z,28nm,21.7s,baz=50,slow=35								
KS19	Wonju Array Si	39.53	271	P	P	15 48 10.2	-0.7		
KSAR	Wonju Array Be	39.55	271	P	P	15 48 10.4	-0.7		
KSAR	Wonju Array Be	39.55	271	P	P	15 48 10.4	-0.7		
KSAR				PcP	PcP	15 50 18.6	+0.4		
I07A	Izee	39.75	76	P	P	15 48 13.7	+0.8		
F10A	Beach Ranch, E	40.15	72	P	P	15 48 16.9	+0.7		
JNU	Nakatsue	40.42	263	P	P	15 48 19.3	+0.9		
JNU				IAmb	IAmb	15 48 21.2			
	comp=Z,23nm,1.0s								
MOD	Modoc Plateau	40.44	79	P	P	15 48 18.7	0.0		
TJN	Taejon	40.54	270	*deP*	P	15 48 20.7	+1.4		
WALA	Waterton Lakes	40.59	66	P	P	15 48 19.8	0.0		
BMO	Blue Mountains	40.68	74	P	P	15 48 21.3	+0.7		
BMO				pmax	pmax				
	comp=Z,4.0nm,0.8s								
BMO	Blue Mountains	40.68	74	P	P	15 48 21.3	+0.7		
JTMT	Jette	41.01	68	P	P	15 48 23.0	-0.3		
WVOR	Wild Horse Val	41.17	78	P	P	15 48 26.0	+1.3		
WVOR				pmax	pmax				
	comp=Z,9.0nm,0.9s								
WVOR	Wild Horse Val	41.17	78	P	P	15 48 26.0	+1.3		
MSO	Missoula	41.67	69	P	P	15 48 28.9	+0.1		
	baz=301,SNR=5.4								
MSO	Missoula	41.67	69	P	P	15 48 27.8	-0.9		
PAHR	Pah Rah Range	42.27	82	P	P	15 48 32.6	-1.1		
MFID	Camas Ranch	42.35	75	P	P	15 48 34.2	-0.1		
PNTR	Pine Nut	42.50	82	P	P	15 48 35.0	-0.7		
WAKR	Walker	42.95	83	P	P	15 48 39.1	-0.2		
HRY	Holter Researc	42.98	68	P	P	15 48 39.3	0.0		
LRM	Limekiln Ridge	43.08	70	P	P	15 48 39.2	-1.1		
HLID	Hailey	43.13	74	P	P	15 48 41.0	+0.3		
	baz=304,SNR=18								
HLID	Hailey	43.13	74	P	P	15 48 40.4	-0.3		
DLMT	Dillon	43.24	71	P	P	15 48 41.9	+0.4		
MCMT	McKenzie Canyo	43.38	71	P	P	15 48 43.1	+0.3		
EGMT	Eagleton	43.50	66	P	P	15 48 43.5	0.0		
	baz=301,SNR=10								
EGMT	Eagleton	43.50	66	P	P	15 48 43.3	-0.2		
EGMT				IAmb	IAmb	15 48 46.1			
	comp=Z,14nm,0.9s								
BOZ	Bozeman (W)	43.69	70	P	P	15 48 45.3	+0.1		
	baz=303,SNR=31								
BOZ	Bozeman (W)	43.69	70	P	P	15 48 45.1	0.0		
BOZ				pmax	pmax				
	comp=Z,17nm,0.9s								
BOZ	Bozeman (W)	43.69	70	P	P	15 48 45.1	0.0		
BOZ				IAmb	IAmb	15 48 47.1			
	comp=Z,17nm,0.8s								
NVAR	Mina Array Bea	43.71	82	P	P	15 48 46.8	+1.4		
	comp=Z,2.4nm,0.8s,baz=291,slow=8.0,SNR=13								
NVAR				LR	LR	16 03 23.7			
	comp=Z,55nm,21.1s,baz=197,slow=31								
NVAR	Mina Array Bea	43.71	82	P	P	15 48 45.7	+0.3		
NV11	Mina Array Sit	43.80	82	P	P	15 48 46.1	0.0		
PAGB	Antelope Grade	44.16	87	P	P	15 48 48.6	-0.3		
PAGB				IAmb	IAmb	15 49 32.9			
	comp=Z,48nm,1.8s								
QLMT

ULN **Ulaanbaatar** 46.27 296*c* iP P 15 49 05.9 +0.2
ULN pmax pmax
comp=Z,14nm,1.3s
ULN **Ulaanbaatar** 46.27 296 P P 15 49 05.0 -0.6
ULN IAmb IAmb 15 49 07.0
comp=Z,8.8nm,0.8s
TCUT **Toone Canyon** 46.36 75 P P 15 49 05.9 -0.7
PSUT **Pine Spring** 46.41 79 P P 15 49 08.1 +1.2
BW06 **Boulder Array** 46.51 72 P P 15 49 08.1 +0.4
baz=306,SNR=36
BW06 **Boulder Array** 46.51 72 P P 15 49 08.4 +0.7
BW06 IAmb IAmb 15 49 09.6
comp=Z,13nm,0.6s
PD31 **Pinedale Array** 46.51 72 P P 15 49 08.4 +0.7
PD31 IAmb IAmb 15 49 09.6
comp=Z,12nm,0.7s
PDAR **Pinedale Array** 46.51 72 P P 15 49 08.8 +1.1
comp=Z,13nm,0.5s,baz=299,slow=3.9,SNR=124
PDAR LR LR 16 06 17.4
comp=Z,48nm,18.7s,baz=313,slow=33
PDAR **Pinedale Array** 46.51 72 P P 15 49 08.3 +0.7
JLU **Jordanelle** 46.64 75 P P 15 49 08.8 0.0
SONM **Songino Array** 46.66 297 P P 15 49 09.4 +0.7
comp=Z,6.1nm,0.7s,baz=54,slow=8.8,SNR=28
SONM ScP ScP 15 54 34.4 0.0
comp=Z,0.4nm,0.3s,baz=341,slow=22,SNR=2.4
SONM LR LR 16 09 27.9
comp=Z,191nm,20.5s,baz=65,slow=37
SONM **Songino Array** 46.66 297 P P 15 49 08.5 -0.2
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM **Songino Array** 46.66 297 P P 15 49 08.5 -0.2
ZAK **Zakamensk** 46.99 301 *e*P P 15 49 10.6 -0.6
ZAK *e* 15 50 43.0
ZAK pmax pmax
comp=Z,8.0nm,1.4s
TCRU **Three Creeks R** 47.23 78 P P 15 49 13.6 +0.2
MSU **Marysvale** 47.46 78 P P 15 49 14.3 -0.9
MSU **Marysvale** 47.46 78 P P 15 49 14.3 -0.9
TMUT **Trail Mountain** 47.58 77 P P 15 49 16.1 -0.1
HHC **Hu-ho-hao-te** 47.65 286 *e*P P 15 49 16.6 +0.2
HHC pmax pmax
comp=Z,16nm,1.0s
HHC pmax pmax
comp=Z,49nm,5.4s
HHC LR LR
comp=N,69nm,15.7s
HHC LR LR
comp=E,72nm,17.0s
HHC LR LR
comp=Z,87nm,16.3s
P17A **Butcher Ranch,** 47.76 76 P P 15 49 17.2 -0.2
RDMU **Red Mountain** 47.80 74 P P 15 49 18.4 +0.6
KNB **Kanab** 47.99 80 P P 15 49 19.8 +0.5
KNB pmax pmax
comp=Z,5.0nm,1.0s
KNB **Kanab** 47.99 80 P P 15 49 19.8 +0.5
PKCU **Pink Cliffs** 48.04 79 P P 15 49 20.3 +0.5
SRU **San Rafael Swe** 48.11 76 P P 15 49 20.9 +0.8
SRU pmax pmax
comp=Z,15nm,0.7s
SRU **San Rafael Swe** 48.11 76 P P 15 49 20.9 +0.8
K22A **Casper** 48.38 70 P P 15 49 22.3 +0.1
baz=307,SNR=6.9
K22A **Casper** 48.38 70 P P 15 49 22.1 -0.1
K22A IAmb IAmb 15 49 24.2
comp=Z,10nm,0.6s
RWWY **Rawlins** 48.55 72 P P 15 49 22.4 -1.2
RWWY IAmb IAmb 15 49 25.9
comp=Z,27nm,1.4s
U15A **North Rim** 48.70 80 P P 15 49 25.6 +0.8
U15A IAmb IAmb 15 49 29.9
comp=Z,6.0nm,0.7s
NJ2 **Nanjing** 48.70 272 *e*P P 15 49 24.3 -0.2
NJ2 pmax pmax
comp=Z,14nm,0.5s
O20A **White River Ci** 48.87 74 P P 15 49 26.2 +0.2
baz=308,SNR=17
O20A **White River Ci** 48.87 74 P P 15 49 26.6 +0.6
RSSD **Black Hills** 48.98 67 P P 15 49 27.2 +0.5
baz=306
RSSD **Black Hills** 48.98 67 P P 15 49 26.2 -0.6
RSSD pmax pmax
comp=Z,8.0nm,0.7s
RSSD **Black Hills** 48.98 67 P P 15 49 26.2 -0.6
RSSD IAmb IAmb 15 49 27.8
comp=Z,7.6nm,0.7s
PV09 **Paradox Valley** 49.34 76 P P 15 49 29.7 0.0
PV21 **Cone Mtn., Par** 49.40 76 P P 15 49 30.0 -0.1
PV21 IAmb IAmb 15 49 33.9
comp=Z,11nm,0.6s
PV23 **Carpenter Ridg** 49.44 76 P P 15 49 30.0 -0.5
PV23 IAmb IAmb 15 49 37.3
comp=Z,14nm,0.7s
PV10 **Paradox Valley** 49.48 76 P P 15 49 31.8 +1.1
PV14 **Lion Creek, Pa** 49.49 76 P P 15 49 29.9 -0.8
PV14 IAmb IAmb 15 49 34.3
comp=Z,12nm,0.7s
PV22 **Blue Mesa, Par** 49.53 76 P P 15 49 30.9 -0.2
PV22 IAmb IAmb 15 49 35.2
comp=Z,14nm,0.8s
PV20 **West Nyswonger** 49.54 76 P P 15 49 30.3 -0.9
PV20 IAmb IAmb 15 49 34.3
comp=Z,11nm,0.7s
PV04 **Paradox Valley** 49.55 76 P P 15 49 31.1 -0.1
PV04 IAmb IAmb 15 49 34.4
comp=Z,16nm,0.6s
PV19 **Morning Glory** 49.55 76 P P 15 49 31.0 -0.2
PV19 IAmb IAmb 15 49 34.4
comp=Z,15nm,0.6s
PV17 **East Wray Mesa** 49.58 76 P P 15 49 31.4 -0.1
PV05 **Paradox Valley** 49.62 77 P P 15 49 31.9 +0.1
PV05 IAmb IAmb 15 49 36.0
comp=Z,34nm,1.4s
PV11 **David Mesa, Pa** 49.62 76 P P 15 49 32.4 +0.6
PV18 **Skein Mesa, Pa** 49.64 76 P P 15 49 30.9 -1.0
PV12 **Saucer Basin,** 49.66 76 P P 15 49 30.8 -1.3
PV12 IAmb IAmb 15 49 35.9
comp=Z,25nm,1.2s
PV03 **Paradox Valley** 49.67 76 P P 15 49 32.3 +0.1
PV07 **Paradox Valley** 49.68 76 P P 15 49 32.3 +0.1
PV07 IAmb IAmb 15 49 37.7
comp=Z,8.8nm,0.7s
PV13 **Radium Mtn., P** 49.74 76 P P 15 49 33.4 +0.7
PV02 **Paradox Valley** 49.77 76 P P 15 49 33.1 +0.2
N23A **Red Feather La** 49.79 72 P P 15 49 33.5 +0.4
baz=308,SNR=8.6
N23A **Red Feather La** 49.79 72 P P 15 49 32.8 -0.3
N23A IAmb IAmb 15 49 38.0
comp=Z,5.9nm,0.6s
PV15 **Paradox Valley** 49.84 76 P P 15 49 33.9 +0.4
PV15 IAmb IAmb 15 49 37.7
comp=Z,20nm,1.2s
WUAZ **Wupatki** 49.85 81 P P 15 49 34.9 +1.4
baz=310
WUAZ **Wupatki** 49.85 81 P P 15 49 34.0 +0.5
PV01 **Paradox Valley** 49.91 76 P P 15 49 33.7 -0.3
PV01 IAmb IAmb 15 49 37.7
comp=Z,9.1nm,0.7s
ULM **Lac du Bonnet** 49.93 56 LR LR 16 12 14.4
comp=Z,41nm,18.4s,baz=283,slow=38
KBS **Kingsbay** 50.06 357 P P 15 49 33.9 -0.4
KBS pmax pmax
comp=Z,20nm,0.8s
KBS **Kingsbay** 50.06 357 P P 15 49 33.9 -0.4
KBS IAmb IAmb 15 49 38.5
comp=Z,20nm,0.8s
MVCO **Mesa Verde** 50.54 77 P P 15 49 40.0 +1.1
baz=310
SPA0 **Spitsbergen Ar** 50.64 356 P P 15 49 37.5 -1.3
ISCO **Idaho Springs** 50.67 73 P P 15 49 40.8 +1.0
baz=309,SNR=6.7
ISCO **Idaho Springs** 50.67 73 P P 15 49 39.7 -0.1
ISCO pmax pmax
comp=Z,7.0nm,0.9s
ISCO **Idaho Springs** 50.67 73 P P 15 49 39.7 -0.1
AGMN **Agassiz Nation** 51.08 58 P P 15 49 42.9 +0.4
baz=306
S22A **4UR Ranch, Cre** 51.22 75 P P 15 49 45.3 +1.3
baz=310
S22A **4UR Ranch, Cre** 51.22 75 P P 15 49 43.9 -0.1
Q24A **Divide** 51.47 73 P P 15 49 45.6 -0.2
SUSD **Miller** 51.70 64 P P 15 49 46.6 -0.5
DAG **Danmarks Havn** 51.78 6 *i*P P 15 49 46.5 -0.7
DAG **Danmarks Havn** 51.78 6 *e*P P 15 49 46.5 -0.7

F33A **5 Mile Ranch,** 52.33 61 P P 15 49 51.2 -0.6
T25A **Trinidad** 53.09 74 P P 15 49 57.7 -0.1
baz=311,SNR=14
T25A **Trinidad** 53.09 74 P P 15 49 57.8 0.0
T25A IAmb IAmb 15 50 01.9
comp=Z,13nm,0.8s
ANMO **Albuquerque** 53.27 78 P P 15 49 59.3 +0.2
ANMO pmax pmax
comp=Z,11nm,1.6s
ANMO **Albuquerque** 53.27 78 P P 15 49 59.3 +0.2
ECSD **EROS Data Cent** 53.46 63 P P 15 49 59.6 -0.6
baz=309
ECSD **EROS Data Cent** 53.46 63 P P 15 49 59.2 -1.0
LENM **Lemitar** 53.47 79 P P 15 49 59.6 -0.9
SUMG **Summit** 53.59 14 *i*P P 15 50 00.8 -0.4
comp=Z,33nm,1.0s
SUMG **Summit** 53.59 14 *i*P P 15 50 00.8 -0.4
SUMG pmax pmax
comp=Z,33nm,1.0s
SUMG **Summit** 53.59 14 P P 15 50 00.1 -1.0
SUMG IAmb IAmb 15 50 02.5
comp=Z,14nm,1.0s
XAN **Xi'an** 53.59 281 P P 15 50 01.1 -0.2
XAN pP sP 15 50 14.6 +5.1
XAN pmax pmax
comp=Z,12nm,1.1s
XAN **Xi'an** 53.59 281 P P 15 50 00.7 -0.6
XAN pmax pmax
comp=Z,13nm,1.1s
XAN **Xi'an** 53.59 281 P P 15 50 00.7 -0.6
XAN IAmb IAmb 15 50 02.1
comp=Z,13nm,1.1s
BNM **Barren Site** 53.69 79 P P 15 50 01.1 -1.1
ZAA0 **Zalesovo Array** 54.13 314 PcP PcP 15 51 09.0 -0.3
ZALV **Zalesovo Beam** 54.13 314 P P 15 50 04.8 -0.1
comp=Z,0.7nm,0.4s,baz=40,slow=7.0,SNR=3.4
ZALV PcP PcP 15 51 09.4 +0.1
comp=Z,7.0nm,0.8s,baz=30,slow=4.0,SNR=17
ZALV LR LR 16 14 36.9
comp=Z,61nm,18.5s,baz=176,slow=38
ZALV **Zalesovo Beam** 54.13 314 P P 15 50 04.5 -0.4
E38A **The Farm, Brul** 54.43 58 P P 15 50 05.5 -1.7
E38A IAmb IAmb 15 50 07.8
comp=Z,6.5nm,0.8s
CBKS **Cedar Bluff** 54.80 70 P P 15 50 10.6 +0.5
baz=311
CBKS **Cedar Bluff** 54.80 70 P P 15 50 09.9 -0.2
CBKS pmax pmax
comp=Z,19nm,0.9s
CBKS **Cedar Bluff** 54.80 70 P P 15 50 09.9 -0.2
CBKS IAmb IAmb 15 50 12.7
comp=Z,19nm,0.8s
LZH **Lanzhou** 55.34 286 *e*P P 15 50 15.5 +1.4
LZH pP sP 15 50 30.0 +7.7
LZH sP pP 15 50 35.3 +15
LZH pmax pmax
comp=Z,17nm,1.2s
GTA **Gaotai** 55.55 292 P P 15 50 16.0 +0.4
GTA pP sP 15 50 23.0 -0.8
GTA sP pP 15 50 26.6 +5.1
GTA pmax pmax
comp=Z,15nm,0.5s
DGZ **Jazzator, Alta** 55.61 308 *e*P P 15 50 17.1 +1.2
DGZ pmax pmax
comp=Z,2.0nm,0.8s
ENH **Enshi** 55.79 277 P P 15 50 16.0 -1.3
ENH IAmb IAmb 15 50 37.7
comp=Z,46nm,2.0s
N35A **Tabor** 55.86 66 P P 15 50 16.8 -0.8
MNTX **Cornudas Mount** 56.11 80 P P 15 50 20.8 +1.2
baz=313
MSTX **Muleshoe** 56.18 76 P P 15 50 21.4 +1.3
baz=313
MSTX **Muleshoe** 56.18 76 P P 15 50 20.1 0.0
MSTX IAmb IAmb 15 50 26.5
comp=Z,17nm,1.3s
AMTX **Amarillo** 56.23 75 P P 15 50 21.7 +1.2
baz=312
AMTX **Amarillo** 56.23 75 P P 15 50 21.1 +0.6
AMTX IAmb IAmb 15 51 56.0
comp=Z,10nm,0.7s
KSU1 **Kansas State U** 56.45 68 P P 15 50 20.6 -1.2
U32A **Winter Ranch,** 56.85 72 P P 15 50 24.8 0.0
E43A **Lone Tree Farm** 56.98 56 P P 15 50 25.0 -0.5
E43A IAmb IAmb 15 50 26.6
comp=Z,7.1nm,0.6s
N38A **Joes South For** 57.27 64 P P 15 50 27.1 -0.6
N38A IAmb IAmb 15 50 28.3
comp=Z,15nm,0.8s
JFWS **Jewell Farm** 57.53 61 P P 15 50 28.8 -0.7
baz=312
JFWS **Jewell Farm** 57.53 61 P P 15 50 28.4 -1.1
JFWS pmax pmax
comp=Z,6.0nm,0.6s
JFWS **Jewell Farm** 57.53 61 P P 15 50 28.4 -1.1
JFWS IAmb IAmb 15 50 30.0
comp=Z,6.4nm,0.6s
L40A **Anamosa** 57.56 62 P P 15 50 29.4 -0.3
L40A IAmb IAmb 15 50 32.9
comp=Z,5.7nm,0.7s
H43A **Windswept, Lux** 57.84 58 P P 15 50 30.5 -1.1
H43A IAmb IAmb 15 50 32.6
comp=Z,6.9nm,0.8s
P38A **Dawn** 57.88 65 P P 15 50 30.9 -1.1
WMOK **Wichita Mounta** 58.09 73 P P 15 50 33.9 +0.4
baz=313,SNR=12
WMOK **Wichita Mounta** 58.09 73 P P 15 50 33.4 -0.1
WMOK pmax pmax
comp=Z,7.0nm,0.9s
WMOK **Wichita Mounta** 58.09 73 P P 15 50 33.4 -0.1
WMOK IAmb IAmb 15 50 36.3
comp=Z,7.0nm,0.8s
ARCES **ARCESS Array B** 58.34 350 P P 15 50 33.6 -1.1
comp=Z,3.2nm,0.6s,baz=26,slow=8.3,SNR=17
ARCES PcP PcP 15 51 23.9 -1.6
comp=Z,4.1nm,0.9s,baz=54,slow=6.2,SNR=3.5
ARCES **ARCESS Array B** 58.34 350 P P 15 50 33.5 -1.2
ARE0 **ARCESS Array S** 58.34 350 P P 15 50 33.7 -1.0
E46A **Sault Ste Mari** 58.37 54 P P 15 50 34.6 -0.7
E46A PcP 15 51 26.3 +0.3
E46A IAmb IAmb 15 51 28.0
comp=Z,12nm,0.8s
L42A **Oliver, Polo** 58.46 61 P P 15 50 34.4 -1.6
L42A IAmb IAmb 15 50 36.0
comp=Z,10.0nm,0.8s
D47A **Chapleau** 58.52 53 P P 15 50 35.4 -0.9
baz=313
N41A **Harden Midland** 58.67 63 P P 15 50 36.9 -0.5
N41A IAmb IAmb 15 50 38.7
comp=Z,20nm,0.9s
P40A **Paris** 58.80 65 P P 15 50 37.6 -0.7
TX31 **Lajitas Ar. Si** 58.81 81 P P 15 50 39.0 +0.3
TX31 IAmb IAmb 15 50 43.7
comp=Z,14nm,0.9s
TX32 **Lajitas Array** 58.81 81 P P 15 50 39.1 +0.4
TXAR **Lajitas Array** 58.81 81 P P 15 50 39.8 +1.1
comp=Z,3.2nm,0.8s,baz=305,slow=4.4,SNR=20
TXAR **Lajitas Array** 58.81 81 P P 15 50 39.2 +0.5
E47A **Iron Bridge** 58.84 54 P P 15 50 37.9 -0.7
baz=313
CD2 **Chengdu** 58.91 282 P P 15 50 37.8 -1.5
CD2 pmax pmax
comp=Z,10.0nm,0.5s
W35A **Tecumseh** 58.95 71 P P 15 50 39.7 +0.2
TUL1 **Leonard** 59.08 70 P P 15 50 40.8 +0.5
baz=313
TUL1 **Leonard** 59.08 70 P P 15 50 40.4 +0.1
TUL1 IAmb IAmb 15 50 43.4
comp=Z,31nm,1.5s
D48A **Paudash Townsh** 59.09 52 P P 15 50 39.5 -0.7
baz=313
KURK **Kurchatov** 59.12 314 *e*P P 15 50 39.9 -0.5
KURK pmax pmax
comp=Z,9.0nm,1.3s
KURK **Kurchatov** 59.12 314 P P 15 50 38.6 -1.7
KURK IAmb IAmb 15 50 41.6
comp=Z,5.4nm,0.8s
D49A **Beulah Townshi** 59.24 52 P P 15 50 40.4 -1.0
baz=313
L44A **Lake County Fo** 59.31 60 P P 15 50 41.4 -0.5
baz=313
S39A **Bolivar** 59.31 67 P P 15 50 40.4 -1.5
S39A IAmb IAmb 15 50 41.5
comp=Z,5.7nm,0.8s
E48A **Lockeyer** 59.38 53 P P 15 50 41.6 -0.7
baz=313
WMQ **Urumqi** 59.39 303 *e*P P 15 50 45.1 +2.6
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,94nm,4.3s
I46A **Reed City** 59.43 57 P P 15 50 42.8 +0.1
baz=313
R40A **Maddies Statio** 59.51 66 P P 15 50 42.4 -0.9
R40A IAmb IAmb 15 50 43.8
comp=Z,11nm,0.6s
F48A **Evansville** 59.60 54 P P 15 50 43.6 -0.2
baz=314
HDIL **Hopedale** 59.65 62 P P 15 50 43.9 -0.3
baz=313
HDIL **Hopedale** 59.65 62 P P 15 50 43.9 -0.3
M44A **Midewin, Midew** 59.77 61 P P 15 50 44.3 -0.7
F49A **Sandfield** 59.94 53 P P 15 50 45.5 -0.6
baz=314
D50A **G1974 Best Tow** 60.06 51 P P 15 50 46.0 -1.0
baz=314
LSQQ **Lebel-sur-Quev** 60.11 48 P P 15 50 45.5 -1.7
baz=315
MK31 **Makanchi Array** 60.11 308 P P 15 50 46.1 -1.2
MK31 pmax pmax
comp=Z,2.0nm,0.6s
MK31 **Makanchi Array** 60.11 308 P P 15 50 46.1 -1.2
MKAR **Makanchi Array** 60.11 308 P P 15 50 45.5 -1.8
comp=Z,2.5nm,0.4s,baz=50,slow=6.4,SNR=27
MKAR PcP PcP 15 51 32.4 -0.5
comp=Z,1.7nm,0.5s,baz=32,slow=3.1,SNR=6.3
MKAR LR LR 16 17 53.5
comp=Z,54nm,20.2s,baz=36,slow=37
MKAR **Makanchi Array** 60.11 308 P P 15 50 46.4 -0.9
MKAR pmax pmax
comp=Z,29nm,0.4s
MKAR **Makanchi Array** 60.11 308 P P 15 50 45.4 -1.9
E50A **Wahnapitae** 60.13 52 P P 15 50 46.7 -0.8
baz=314
P43A **Skaggs, Pawnee** 60.15 63 P P 15 50 47.0 -0.6
X37A **Clayton** 60.23 71 P P 15 50 47.6 -0.7
X37A IAmb IAmb 15 50 50.7
comp=Z,9.6nm,0.8s
MAKZ **Makanchi** 60.25 309 P P 15 50 46.9 -1.4
MAKZ pmax pmax
comp=Z,4.0nm,0.5s
MAKZ **Makanchi** 60.25 309 P P 15 50 46.9 -1.4
MAKZ IAmb IAmb 15 50 48.6
comp=Z,3.7nm,0.5s
CCM **Cathedral Cave** 60.26 65 P P 15 50 48.1 -0.4
baz=314
CCM **Cathedral Cave** 60.26 65 P P 15 50 47.3 -1.1
CCM pmax pmax
comp=Z,27nm,1.7s
CCM **Cathedral Cave** 60.26 65 P P 15 50 47.3 -1.1
CCM IAmb IAmb 15 50 48.6
comp=Z,27nm,1.6s
SCHQ **Schefferville** 60.29 38 P P 15 50 47.1 -1.3
comp=Z,7.3nm,0.7s,baz=314,slow=6.4,SNR=7.0
SCHQ LR LR 16 18 28.4
comp=Z,68nm,19.4s,baz=282,slow=38
SCHQ **Schefferville** 60.29 38 P P 15 50 47.2 -1.3
SCHQ IAmb IAmb 15 50 49.4
comp=Z,19nm,1.2s
D51A **Lot 18 Range I** 60.34 51 P P 15 50 47.8 -1.1
baz=314
SLM **Saint Louis** 60.44 64 P P 15 50 49.5 -0.1
SLM pmax pmax
comp=Z,30nm,0.5s
SLM **Saint Louis** 60.44 64 P P 15 50 49.5 -0.1
U40A **Yellville** 60.50 68 P P 15 50 50.1 0.0
baz=314,SNR=5.6
U40A **Yellville** 60.50 68 P P 15 50 49.4 -0.7
U40A IAmb IAmb 15 50 50.6
comp=Z,15nm,1.2s
E51A **G1948 Merrick** 60.67 51 P P 15 50 50.2 -1.0
baz=315
CHGQ **Chibougamau** 60.70 46 P P 15 50 49.6 -1.7
baz=316
W39A **Magazine** 60.76 69 P P 15 50 51.7 -0.1
baz=314
W39A **Magazine** 60.76 69 P P 15 50 51.6 -0.3
W39A IAmb IAmb 15 50 54.2
comp=Z,5.5nm,0.8s
WHTX **Lake Whitney,** 60.78 74 P P 15 50 53.0 +0.9
baz=314
D52A **ZEK Kipawa Sen** 60.89 50 P P 15 50 52.0 -0.6
baz=315
Q44A **Meyer Farm, Va** 60.94 63 P P 15 50 51.2 -1.9
SFIN **Lafayette** 60.99 61 P P 15 50 53.4 0.0
baz=314,SNR=21
SFIN **Lafayette** 60.99 61 P P 15 50 53.3 -0.1
BRVK **Borovoye** 61.04 320 *de*P P 15 50 55.1 +1.6
BRVK pmax pmax
comp=Z,6.0nm,1.3s
BRVK **Borovoye** 61.04 320 P P 15 50 52.3 -1.2
BRVK IAmb IAmb 15 50 55.5
comp=Z,4.1nm,0.6s
T42A **Van Buren** 61.05 66 P P 15 50 52.5 -1.3
T42A IAmb IAmb 15 50 53.7
comp=Z,5.1nm,0.8s
D53A **Lac Vacive, Po** 61.16 50 P P 15 50 53.4 -1.1
baz=315
D53A **Lac Vacive, Po** 61.16 50 P P 15 50 52.8 -1.7
FCAR **Ozark Folk Cen** 61.25 68 P P 15 50 54.2 -1.0
FCAR IAmb IAmb 15 50 56.3
comp=Z,16nm,0.9s
E52A **Mattawa** 61.26 51 P P 15 50 54.2 -0.9
baz=315
MIAR **Mount Ida** 61.33 70 P P 15 50 55.8 0.0
baz=314,SNR=6.8
MIAR **Mount Ida** 61.33 70 P P 15 50 54.9 -0.9
MIAR pmax pmax
comp=Z,14nm,1.1s
MIAR **Mount Ida** 61.33 70 P P 15 50 54.9 -0.9
MIAR IAmb IAmb 15 50 58.5
comp=Z,14nm,1.1s
L48A **N Adams** 61.34 58 P P 15 50 55.0 -0.8
N47A **Urbana** 61.41 60 P P 15 50 55.2 -1.0
N47A IAmb IAmb 15 50 56.4
comp=Z,12nm,0.9s
P46A **Rosedale** 61.45 62 P P 15 50 55.8 -0.8
WHAR **Wooly Hollow** 61.57 68 P P 15 50 56.6 -0.7
WHAR IAmb IAmb 15 51 00.0
comp=Z,10nm,1.0s
OLIL **Olney** 61.57 63 P P 15 50 56.1 -1.2
PBMO **Poplar Bluff** 61.61 66 P P 15 50 56.9 -0.7
D54A **Lac Fusel, La** 61.61 49 P P 15 50 56.0 -1.5
baz=316
S44A **Carbondale** 61.65 64 P P 15 50 57.3 -0.5
W41B **Gary Mavity, V** 61.67 68 P P 15 50 57.8 -0.2
baz=314
W41B **Gary Mavity, V** 61.67 68 P P 15 50 57.9 -0.2
W41B IAmb IAmb 15 50 59.1
comp=Z,18nm,1.5s
E53A **Dumoine, Ponti** 61.68 50 P P 15 50 56.8 -1.2
baz=316
LCAR **Lake Charles** 61.69 67 P P 15 50 56.7 -1.4
LCAR IAmb IAmb 15 50 58.2
comp=Z,5.9nm,0.8s
ALGO **Algonquin Park** 61.79 51 P P 15 50 57.9 -0.8
baz=316
X40A **Basin Creek Fa** 61.81 69 P P 15 50 59.5 +0.5
baz=315
X40A **Basin Creek Fa** 61.81 69 P P 15 50 58.8 -0.2
X40A IAmb IAmb 15 51 01.3
comp=Z,7.1nm,1.1s
I51A **Listowel** 61.83 54 P P 15 50 58.9 -0.1
baz=315
E54A **Lac Daplat, Po** 61.87 50 P P 15 50 57.8 -1.4
baz=316
PARMO **Parma** 62.08 65 P P 15 51 01.1 +0.4
SADO **Sadowa** 62.09 53 P P 15 51 00.4 -0.4
SADO IAmb IAmb 15 51 01.0
comp=Z,8.0nm,1.0s
G53A **Haliburton** 62.10 52 P P 15 51 00.1 -0.7
baz=316,SNR=5.3
BLO **Bloomington** 62.15 61 P P 15 51 00.7 -0.5
BLO pmax pmax
comp=Z,37nm,1.0s
BLO **Bloomington** 62.15 61 P P 15 51 00.7 -0.5
G54A **Lake Saint Pet** 62.17 51 P P 15 51 00.3 -1.0
baz=316
N49A **Columbus Grove** 62.19 59 P P 15 51 00.8 -0.7
N49A IAmb IAmb 15 51 01.7
comp=Z,10.0nm,0.7s

D55A Sainte-Anne-du 62.27 49 P P 15 51 00.9 -1.0
baz=316
USIN University of 62.35 63 P P 15 51 02.8 +0.2
J52A Paris 62.51 55 P P 15 51 03.3 -0.3
baz=315
H53A Bobcaygeon 62.51 52 P P 15 51 03.0 -0.6
baz=316
P48A Milroy 62.55 61 P P 15 51 03.1 -0.8
D56A ZEC Mazanza, M 62.59 48 P P 15 51 02.5 -1.6
baz=317
O49A Covington 62.63 59 P P 15 51 04.1 -0.3
O49A IAmb IAmb 15 51 05.0
comp=Z,7.7nm,0.8s
ARU Arti 62.77 328 P P 15 51 06.2 +1.1
comp=Z,2.1nm,0.4s,baz=123,slow=0.7,SNR=12
ARU Arti 62.77 328*c i* P P 15 51 06.8 +1.7
ARU 15 51 41.7
ARU 15 53 21.1
ARU S S 15 59 35.2 +2.6
ARU SS SS 16 03 40.3 +3.7
ARU pmax pmax
comp=Z,3.0nm,0.5s
ARU Arti 62.77 328 P P 15 51 06.5 +1.5
ARU IAmb IAmb 15 51 08.2
comp=Z,5.6nm,0.5s
E56A St. Veronique 62.82 49 P P 15 51 04.0 -1.6
baz=317
P49A Miami Univ. Ec 62.88 60 P P 15 51 05.6 -0.6
baz=315
P49A Miami Univ. Ec 62.88 60 P P 15 51 05.3 -0.9
P49A IAmb IAmb 15 51 06.5
comp=Z,26nm,1.3s
PLVO Plevna 62.93 51 P P 15 51 05.0 -1.4
WCI Wyandotte Cave 62.94 62 P P 15 51 06.6 +0.1
baz=315
WCI Wyandotte Cave 62.94 62 P P 15 51 04.8 -1.7
WCI pmax pmax
comp=Z,21nm,0.7s
WCI Wyandotte Cave 62.94 62 P P 15 51 04.8 -1.7
G55A Calabogie 62.95 51 P P 15 51 05.2 -1.3
baz=316
D57A Chemin Vers le 63.02 48 P P 15 51 05.0 -2.0
baz=317
DELO Deloro Mine 63.03 52 P P 15 51 06.3 -0.7
DELO IAmb IAmb 15 51 09.4
comp=Z,6.6nm,1.1s
N51A Ashland 63.16 58 P P 15 51 07.4 -0.6
baz=316
N51A Ashland 63.16 58 P P 15 51 07.4 -0.6
HKT Hockley 63.21 75 P P 15 51 08.5 +0.2
HKT pmax pmax
comp=Z,6.0nm,0.9s
HKT Hockley 63.21 75 P P 15 51 08.5 +0.2
HKT IAmb IAmb 15 51 21.9
comp=Z,5.9nm,0.9s
I55A Frankford 63.22 52 P P 15 51 07.6 -0.7
baz=316
H55A Tweed 63.23 52 P P 15 51 07.4 -0.9
baz=316
ACSO Alum Creek Sta 63.33 58 P P 15 51 09.0 0.0
baz=316
E57A Chemin Saint G 63.34 48 P P 15 51 07.6 -1.5
baz=317
T47A Sharon Grove 63.36 64 P P 15 51 09.6 +0.2
J54A Appleton 63.42 53 P P 15 51 09.7 +0.1
baz=316
J54A Appleton 63.42 53 P P 15 51 09.4 -0.2
D58A Chemin du LacG 63.43 47 P P 15 51 08.2 -1.4
baz=318
WVT Waverly 63.55 65 P P 15 51 10.8 +0.2
baz=315
WVT Waverly 63.55 65 P P 15 51 10.2 -0.4
WVT pmax pmax
comp=Z,14nm,0.9s
WVT Waverly 63.55 65 P P 15 51 10.2 -0.4
WVT IAmb IAmb 15 51 11.9
comp=Z,14nm,0.8s
ERPA Erie 63.56 55 P P 15 51 10.4 -0.1
O51A Pataskala 63.59 58 P P 15 51 10.2 -0.6
baz=316
N52A McGinn's Farm, 63.60 57 P P 15 51 10.5 -0.4
baz=316
KMI Kunming 63.64 278⇓ *e*P P 15 51 13.6 +2.0
KMI pP pP 15 51 15.3 -2.4
KMI pmax pmax
comp=Z,9.0nm,0.7s
KMI pmax pmax
comp=Z,110nm,4.7s
H56A Elgin 63.65 51 P P 15 51 10.2 -0.9
baz=317
M53A WI Miller and 63.69 56 P P 15 51 11.0 -0.5
baz=316
M53A WI Miller and 63.69 56 P P 15 51 10.5 -0.9
E58A La Victoria 63.78 48 P P 15 51 10.5 -1.5
baz=318
OXF Oxford 63.79 67 P P 15 51 12.5 +0.3
baz=316
OXF Oxford 63.79 67 P P 15 51 11.2 -1.0
OXF pmax pmax
comp=Z,86nm,1.4s
OXF Oxford 63.79 67 P P 15 51 11.2 -1.0
P51A Williamsport 63.82 59 P P 15 51 12.2 -0.1
baz=316
P51A Williamsport 63.82 59 P P 15 51 11.1 -1.2
L54A Sinclairville 63.82 55 P P 15 51 12.0 -0.3
baz=316
J55A Hilton 63.84 53 P P 15 51 11.9 -0.5
baz=316
J55A Hilton 63.84 53 P P 15 51 11.2 -1.2
J55A IAmb IAmb 15 52 05.6
comp=Z,7.5nm,0.8s
K54A Basiliko Farm, 63.87 54 P P 15 51 12.6 -0.1
baz=316
G57A Newington 63.90 50 P P 15 51 10.6 -2.1
baz=317
R50A Paris 63.99 61 P P 15 51 13.5 0.0
R50A IAmb IAmb 15 51 14.8
comp=Z,17nm,1.1s
Q51A Peebles 63.99 60 P P 15 51 13.3 -0.2
O52A Adamsville 64.03 58 P P 15 51 13.0 -0.6
baz=316,SNR=8.7
O52A Adamsville 64.03 58 P P 15 51 13.1 -0.6
N53A Lisbon 64.06 57 P P 15 51 13.4 -0.4
baz=316
N53A Lisbon 64.06 57 P P 15 51 13.3 -0.6
N53A IAmb IAmb 15 51 49.9
comp=Z,7.3nm,0.8s
WVNY West Valley, N 64.06 54 P P 15 51 13.4 -0.5
WVNY IAmb IAmb 15 51 14.6
comp=Z,12nm,0.8s
K55A Perry 64.10 54 P P 15 51 13.9 -0.2
baz=317
M54A Oil Creek Stat 64.17 55 P P 15 51 13.9 -0.7
baz=316
M54A Oil Creek Stat 64.17 55 P P 15 51 13.8 -0.7
M54A IAmb IAmb 15 51 15.1
comp=Z,6.6nm,0.7s
H57A Richville 64.17 51 P P 15 51 12.8 -1.7
baz=317
MMNY Mt. Morris Dam 64.18 53 P P 15 51 14.2 -0.4
MMNY IAmb IAmb 15 51 15.2
comp=Z,12nm,0.7s
KLMR Klimovskoe 64.19 340 *e*P P 15 51 12.5 -1.8
KLMR pmax pmax
comp=Z,12nm,1.4s
KLMR Klimovskoe 64.19 340 *e*P P 15 51 12.6 -1.8
KLMR AMP 15 51 25.4
comp=Z,12nm,1.4s
P52A Corning 64.21 58 P P 15 51 14.2 -0.7
baz=316
P52A Corning 64.21 58 P P 15 51 14.3 -0.6
P52A IAmb IAmb 15 51 15.2
comp=Z,7.4nm,0.7s
PLAL Pickwick Lake 64.23 66 P P 15 51 14.8 -0.3
O53A New Philadelph 64.26 57 P P 15 51 14.5 -0.8
baz=316
O53A New Philadelph 64.26 57 P P 15 51 14.6 -0.6
O53A IAmb IAmb 15 51 15.6
comp=Z,11nm,0.7s
L55A Hinsdale 64.31 54 P P 15 51 15.0 -0.6
baz=317
G58A Ormstown 64.31 49 P P 15 51 14.5 -0.9
baz=318
J56A Wolcott 64.31 52 P P 15 51 14.6 -0.8
baz=317
J56A Wolcott 64.31 52 P P 15 51 14.7 -0.8
J56A IAmb IAmb 15 51 17.7
comp=Z,6.8nm,0.8s
N54A Moraine State 64.39 56 P P 15 51 15.0 -1.0
baz=316,SNR=5.7
N54A Moraine State 64.39 56 P P 15 51 15.5 -0.6
F59A Saint Guilaume 64.39 48 P P 15 51 14.9 -1.1
baz=318
V48A Smith Brothers 64.41 64 P P 15 51 16.0 -0.2
I57A Carthage 64.42 51 P P 15 51 14.8 -1.4
baz=317
CLTN Cedars of Leba 64.43 64 P P 15 51 16.5 +0.1
U49A Red Boiling Sp 64.44 63 P P 15 51 16.3 -0.2
LONY Lake Ozonia 64.45 50 P P 15 51 14.6 -1.8
baz=318
D60A Saint Jean D'O 64.46 46 P P 15 51 15.1 -1.2
baz=318
K56A Middlesex 64.50 53 P P 15 51 16.0 -0.8
baz=317,SNR=11
D61A St Aubert, Com 64.58 46 P P 15 51 16.2 -0.9
baz=319
T50A Nancy 64.61 62 P P 15 51 17.4 -0.1
Q52A Bidwell 64.62 59 P P 15 51 16.8 -0.8
baz=316
E60A Ste Agathe de 64.63 47 P P 15 51 16.1 -1.4
baz=318
J57A Williamstown 64.64 52 P P 15 51 16.8 -0.9
baz=317
J57A Williamstown 64.64 52 P P 15 51 17.3 -0.3
J57A IAmb IAmb 15 52 14.8
comp=Z,7.3nm,0.9s
M55A Ridgway 64.66 55 P P 15 51 16.9 -1.0
baz=317,SNR=5.4
M55A Ridgway 64.66 55 P P 15 51 17.4 -0.4
M55A IAmb IAmb 15 51 19.7
comp=Z,7.9nm,0.7s
F60A Warwick 64.69 48 P P 15 51 16.7 -1.2
baz=318
P53A Whipple 64.72 58 P P 15 51 17.7 -0.5
baz=316
P53A Whipple 64.72 58 P P 15 51 17.8 -0.5
P53A IAmb IAmb 15 51 18.9
comp=Z,12nm,0.7s
L56A Greenwood 64.79 54 P P 15 51 18.5 -0.3
baz=317,SNR=19
L56A Greenwood 64.79 54 P P 15 51 18.4 -0.3
S51A Beattyville 64.85 61 P P 15 51 18.6 -0.5
S51A IAmb IAmb 15 51 19.7
comp=Z,9.6nm,0.6s
K57A Scipio Center 64.88 53 P P 15 51 18.3 -0.9
baz=317
M56A Emporium 64.95 55 P P 15 51 19.0 -0.7
baz=317,SNR=6.9
M56A Emporium 64.95 55 P P 15 51 19.3 -0.4
M56A IAmb IAmb 15 51 20.3
comp=Z,22nm,1.2s
E61A Lac Etchemin 65.02 46 P P 15 51 19.1 -1.0
baz=319
J58A Remsen 65.03 51 P P 15 51 19.6 -0.6
baz=318
J58A Remsen 65.03 51 P P 15 51 19.0 -1.2
J58A IAmb IAmb 15 51 20.4
comp=Z,13nm,1.4s
MOQ Mont Orford 65.04 48 P P 15 51 19.0 -1.3
N55A Marion Center 65.05 56 P P 15 51 19.6 -0.7
baz=317
Q53A Leroy 65.10 59 P P 15 51 20.3 -0.4
baz=316,SNR=14
NCB Newcomb 65.10 50 P P 15 51 19.1 -1.5
NCB IAmb IAmb 15 52 43.4
comp=Z,21nm,1.9s
P54A Burton 65.12 57 P P 15 51 20.5 -0.3
baz=317
F61A St Evariste 65.14 47 P P 15 51 20.0 -0.8
baz=319
D62A Allapoint, All 65.18 45 P P 15 51 20.0 -1.1
baz=319,SNR=5.1
D62A Allapoint, All 65.18 45 P P 15 51 19.9 -1.2
D62A IAmb IAmb 15 51 21.5
comp=Z,14nm,1.1s
X48A Hartselle 65.20 65 P P 15 51 20.7 -0.7
X48A IAmb IAmb 15 51 22.0
comp=Z,21nm,1.3s
R53A Hurricane 65.25 59 P P 15 51 21.6 -0.1
baz=317,SNR=5.0
R53A Hurricane 65.25 59 P P 15 51 21.6 -0.1
L57A Andrews Acres 65.25 53 P P 15 51 21.2 -0.5
baz=317,SNR=6.8
SWET Sewanee 65.29 64 P P 15 51 21.6 -0.5
K58A Earlville 65.29 52 P P 15 51 21.3 -0.6
baz=318
K58A Earlville 65.29 52 P P 15 51 21.1 -0.8
O55A Ligonier 65.30 56 P P 15 51 21.3 -0.7
baz=317
N56A West Decatur 65.30 55 P P 15 51 21.1 -1.0
baz=317
E62A Clayton Lake 65.32 46 P P 15 51 20.8 -1.2
baz=319
E62A Clayton Lake 65.32 46 P P 15 51 20.6 -1.4
E62A IAmb IAmb 15 51 22.7
comp=Z,5.3nm,0.8s
J59A Piesco 65.34 51 P P 15 51 20.9 -1.3
baz=318
J59A Piesco 65.34 51 P P 15 51 20.8 -1.5
J59A IAmb IAmb 15 52 48.5
comp=Z,19nm,1.8s
Q54A Coxs Mills 65.38 58 P P 15 51 22.5 0.0
baz=317
Q54A Coxs Mills 65.38 58 P P 15 51 21.6 -0.9
Q54A IAmb IAmb 15 51 24.4
comp=Z,8.1nm,0.9s
I59A Olmsteadville 65.40 50 P P 15 51 21.4 -1.2
baz=318
G61A St-Isidore-de- 65.41 48 P P 15 51 21.2 -1.4
baz=319
Z47A Carrollton 65.51 67 P P 15 51 22.6 -0.8
P55A Reedsville 65.53 57 P P 15 51 23.0 -0.6
baz=317
BINY Binghamton 65.54 53 P P 15 51 23.1 -0.5
baz=318
BINY Binghamton 65.54 53 P P 15 51 22.9 -0.7
BINY IAmb IAmb 15 51 24.8
comp=Z,11nm,0.8s
M57A Sunshine Farm, 65.60 54 P P 15 51 23.0 -0.8
baz=317,SNR=7.5
M57A Sunshine Farm, 65.60 54 P P 15 51 23.4 -0.5
D63A Stockholm 65.63 45 P P 15 51 23.2 -0.9
baz=320
O56A Blue Knob Stat 65.64 56 P P 15 51 23.5 -0.8
O56A IAmb IAmb 15 51 56.7
comp=Z,4.9nm,0.7s
W50A Signal Mountai 65.65 64 P P 15 51 24.2 -0.2
F62A Pittston Farm, 65.66 46 P P 15 51 23.0 -1.3
baz=319
TZTN Tazewell 65.67 62 P P 15 51 23.6 -0.8
baz=317,SNR=6.3
TZTN Tazewell 65.67 62 P P 15 51 24.1 -0.3
TZTN IAmb IAmb 15 51 37.5
comp=Z,11nm,0.9s
SLVN Son La 65.67 274 P P 15 51 25.1 +0.3
SLVN IAmb IAmb 15 51 26.6
comp=Z,19nm,1.7s
K59A Cooperstown 65.68 52 P P 15 51 23.6 -0.8
baz=318
L58A Harry Jones Me 65.72 53 P P 15 51 23.9 -0.8
baz=318,SNR=5.6
SSPA Standing Stone 65.72 55 P P 15 51 24.1 -0.5
baz=317
SSPA Standing Stone 65.72 55 P P 15 51 24.2 -0.5
SSPA IAmb IAmb 15 51 25.3
comp=Z,9.6nm,1.0s
Q55A Buckhannon 65.77 58 P P 15 51 24.8 -0.3
baz=317,SNR=5.0
H61A Lyndonville 65.78 49 P P 15 51 24.1 -0.9
baz=319
ACCN Adirondack Com 65.81 50 P P 15 51 24.4 -0.8
ACCN IAmb IAmb 15 51 25.0
comp=Z,14nm,1.3s
N57A Milroy 65.81 55 P P 15 51 24.8 -0.5
baz=318
R54A Victor 65.88 59 P P 15 51 24.7 -1.1
baz=317,SNR=8.5
T53A Wise 65.91 61 P P 15 51 25.2 -0.8
baz=317,SNR=5.0
M58A Price's Panora 65.91 54 P P 15 51 24.8 -1.1
baz=318,SNR=6.5
CPCT Cooper Cave 65.91 63 P P 15 51 25.8 -0.2
G62A West of Eustis 65.92 47 P P 15 51 25.0 -0.9
baz=319
G62A West of Eustis 65.92 47 P P 15 51 24.9 -1.0
G62A IAmb IAmb 15 51 25.4
comp=Z,7.4nm,0.7s
PQI Presque Isle 65.95 45 P P 15 51 24.3 -1.8
PQI IAmb IAmb 15 52 11.0
comp=Z,9.0nm,1.0s
FPAL Fort Paine 65.96 64 P P 15 51 26.1 -0.3
E63A Oxbow 65.96 45 P P 15 51 24.9 -1.3
baz=320
E63A Oxbow 65.96 45 P P 15 51 24.3 -1.8
E63A IAmb IAmb 15 51 25.4
comp=Z,13nm,0.9s
S54A Dingess, Beckl 65.98 59 P P 15 51 25.9 -0.6
baz=317
Y49A Blount Mountai 65.99 66 P P 15 51 26.0 -0.6
Y49A IAmb IAmb 15 51 27.3
comp=Z,9.2nm,0.8s
KDJ Kajisay 66.00 308 P P 15 51 25.5 -1.2
KDJ pmax pmax
comp=Z,14nm,1.2s
KDJ Kajisay 66.00 308 P P 15 51 25.5 -1.2
KDJ IAmb IAmb 15 51 28.3
comp=Z,14nm,1.1s
LBNH Lisbon 66.00 49 P P 15 51 25.3 -1.1
baz=319
LBNH Lisbon 66.00 49 P P 15 51 25.4 -1.1
LBNH pmax pmax
comp=Z,6.0nm,0.9s
LBNH Lisbon 66.00 49 P P 15 51 25.4 -1.1
LBNH IAmb IAmb 15 51 26.7
comp=Z,5.7nm,0.8s
L59A Walton 66.02 52 P P 15 51 26.5 -0.2
baz=318
L59A Walton 66.02 52 P P 15 51 25.8 -0.9
L59A IAmb IAmb 15 51 27.0
comp=Z,8.6nm,0.8s
FIA1 FINESS Array S 66.02 347 P P 15 51 25.1 -1.2
FIA1 IAmb IAmb 15 51 26.5
comp=Z,9.4nm,0.8s
FINES FINESS Array B 66.02 347 P P 15 51 24.7 -1.6
comp=Z,6.8nm,0.6s,baz=16,slow=7.4,SNR=30
FINES LR LR 16 26 01.0
comp=Z,64nm,18.1s,baz=28,slow=41
FINES FINESS Array B 66.02 347 P P 15 51 24.4 -1.9
J60A Lant Hill Farm 66.03 50 P P 15 51 25.8 -0.8
baz=318
P56A Dayton Farm, R 66.06 56 P P 15 51 26.6 -0.3
baz=317
I61A Oroboro, Fairl 66.10 49 P P 15 51 25.9 -1.2
baz=319
H62A Milan 66.11 48 P P 15 51 26.0 -1.1
baz=319,SNR=6.2
H62A Milan 66.11 48 P P 15 51 25.9 -1.3
KSPA Keystone Colle 66.12 53 P P 15 51 26.5 -0.8
KSPA IAmb IAmb 15 51 27.8
comp=Z,28nm,1.5s
V52A Sevierville 66.15 62 P P 15 51 27.3 -0.2
V52A IAmb IAmb 15 51 28.9
comp=Z,18nm,1.1s
O57A Amberson 66.16 55 P P 15 51 27.0 -0.6
baz=318,SNR=7.8
N58A Sunbury 66.17 54 P P 15 51 27.0 -0.6
baz=318
N58A Sunbury 66.17 54 P P 15 51 27.1 -0.5
N58A IAmb IAmb 15 51 28.9
comp=Z,17nm,1.2s
TKL Tuckaleechee C 66.18 62 P P 15 51 27.7 -0.1
TKL pmax pmax
comp=Z,21nm,1.0s
TKL Tuckaleechee C 66.18 62 P P 15 51 27.7 -0.1
F63A Nahmakanta, Br 66.20 46 P P 15 51 26.8 -1.0
baz=320
Q56A Snyder Ridge, 66.21 57 P P 15 51 27.1 -0.8
baz=317
Q56A Snyder Ridge, 66.21 57 P P 15 51 27.4 -0.5
Q56A IAmb IAmb 15 52 11.5
comp=Z,6.4nm,1.0s
E64A Bridgewater 66.23 45 P P 15 51 26.3 -1.5
baz=320,SNR=8.2
LRAL Lakeview Retre 66.25 67 P P 15 51 28.0 -0.2
baz=317
LRAL Lakeview Retre 66.25 67 P P 15 51 27.5 -0.7
LRAL IAmb IAmb 15 51 29.4
comp=Z,6.9nm,0.9s
R55A Marlinton 66.27 58 P P 15 51 28.1 -0.2
baz=317
R55A Marlinton 66.27 58 P P 15 51 28.2 -0.2
R55A IAmb IAmb 15 51 29.5
comp=Z,5.6nm,0.8s
M59A Waymart 66.30 53 P P 15 51 27.7 -0.8
baz=318
BATG Bathurst New B 66.34 43 P P 15 51 27.4 -1.2
BATG IAmb IAmb 15 51 29.1
comp=Z,8.6nm,0.7s
X51A Calhoun 66.37 64 P P 15 51 28.6 -0.3
J61A Chester 66.37 50 P P 15 51 27.5 -1.3
baz=319
T54A Tazewell 66.38 60 P P 15 51 28.8 -0.3
baz=317,SNR=7.9
G63A Kingsbury 66.42 47 P P 15 51 28.1 -1.0
baz=320
F64A Sherman 66.42 46 P P 15 51 27.6 -1.5
baz=320,SNR=5.4
F64A Sherman 66.42 46 P P 15 51 27.6 -1.5
F64A IAmb IAmb 15 51 28.7
comp=Z,10nm,0.8s
S55A Lewisburg 66.44 59 P P 15 51 29.1 -0.3
baz=317
PKME Peaks-Kenny Pk 66.45 46 P P 15 51 28.5 -0.8
baz=320
P57A Homestead Farm 66.50 56 P P 15 51 29.1 -0.6
baz=318
W52A Murphy 66.51 63 P P 15 51 29.9 0.0
I62A Tamworth 66.56 49 P P 15 51 28.7 -1.3
baz=319
R56A Bull Pasture M 66.56 58 P P 15 51 29.6 -0.6
baz=317
L60A Shokan 66.57 52 P P 15 51 29.4 -0.8
baz=318
O58A Lewisberry 66.60 55 P P 15 51 29.7 -0.6
baz=318
N59A State Game Lan 66.60 54 P P 15 51 30.1 -0.2
baz=318,SNR=7.2
N59A State Game Lan 66.60 54 P P 15 51 30.0 -0.4
N59A IAmb IAmb 15 51 31.0
comp=Z,14nm,0.9s
Q57A Strasburg 66.62 57 P P 15 51 30.0 -0.5
baz=318
U54A Nelsons Funny 66.64 61 P P 15 51 30.8 +0.1
baz=317,SNR=5.6
U54A Nelsons Funny 66.64 61 P P 15 51 30.8 +0.1
U54A IAmb IAmb 15 51 32.1
comp=Z,10.0nm,0.6s
G64A Maxfield 66.71 46 P P 15 51 29.6 -1.4
baz=320
V53A Saluda 66.71 62 P P 15 51 31.1 -0.1
V53A IAmb IAmb 15 51 32.7
comp=Z,23nm,1.4s
L61A Hillsdale 1, H 66.75 51 P P 15 51 30.6 -0.7
baz=319
T55A Pulaski 66.77 59 P P 15 51 31.7 +0.2
baz=317
I63A Otisfield 66.78 48 P P 15 51 30.4 -1.0
baz=320
J62A Henniker 66.82 49 P P 15 51 31.1 -0.6
baz=319
O59A Robesonia 66.83 54 P P 15 51 31.4 -0.5
baz=318
M60A Port Jervis 66.87 53 P P 15 51 31.5 -0.5
baz=318
AAK Ala-Archa 66.94 310*c i* P P 15 51 33.3 +0.6
AAK pmax pmax
comp=Z,13nm,1.3s
AAK Ala-Archa 66.94 310 P P 15 51 32.6 -0.1
AAK IAmb IAmb 15 51 34.5
comp=Z,7.0nm,0.7s
H64A Troy 66.96 47 P P 15 51 31.7 -0.9
baz=320
N60A Cedar Hill Far 66.97 53 P P 15 51 32.3 -0.4
baz=318,SNR=5.8
MVL Millersville 66.98 55 P P 15 51 32.2 -0.5
MVL IAmb IAmb 15 51 33.3
comp=Z,6.6nm,0.7s
L61B Northampton 66.98 51 P P 15 51 31.7 -1.0
baz=319
S56A Natural Bridge 67.01 58 P P 15 51 32.9 -0.2

baz=318,SNR=5.4
K62A Royalston 67.04 50 P **P** 15 51 32.0 -1.0
baz=319
K62A Royalston 67.04 50 P **P** 15 51 32.1 -1.0
K62A IAmb IAmb 15 51 33.2
comp=Z,10nm,1.1s
U55A TA2, Sparta 67.07 60 P **P** 15 51 33.1 -0.4
baz=317,SNR=7.1
Q58A Fox Den Farm, 67.08 56 P **P** 15 51 32.9 -0.5
baz=318
Z51A Franklin 67.09 65 P **P** 15 51 33.1 -0.5
R57A Stanardsville 67.11 57 P **P** 15 51 33.2 -0.4
baz=318,SNR=6.9
V54A Nebo 67.11 61 P **P** 15 51 34.0 +0.3
baz=317,SNR=7.6
J63A Strafford 67.13 49 P **P** 15 51 32.8 -0.8
baz=320
BG3 Lake Jocassee 67.14 62 P **P** 15 51 33.6 -0.3
O60A Telford 67.23 54 P **P** 15 51 33.6 -0.7
baz=318
P59A Jarrettsville 67.23 55 P **P** 15 51 33.7 -0.7
baz=318
T56A Rocky Mt 67.24 59 P **P** 15 51 33.9 -0.6
baz=318
S57A Dark Hollow, R 67.28 58 P **P** 15 51 34.6 -0.1
baz=318
S57A Dark Hollow, R 67.28 58 P **P** 15 51 35.0 +0.3
G65A Princeton 67.29 46 P **P** 15 51 33.3 -1.3
baz=321
G65A Princeton 67.29 46 P **P** 15 51 33.3 -1.3
G65A IAmb IAmb 15 51 37.0
comp=Z,22nm,1.4s
Y52A Lilburn 67.33 64 P **P** 15 51 34.8 -0.3
K63A Dunstable 67.36 50 P **P** 15 51 34.3 -0.8
baz=319
H65A Eastbrook 67.36 46 P **P** 15 51 34.1 -1.0
baz=320
BRNJ Basking Ridge 67.38 53 P **P** 15 51 34.4 -0.9
BRNJ IAmb IAmb 15 51 35.5
comp=Z,9.6nm,0.7s
R58A Rapidan 67.38 57 P **P** 15 51 35.0 -0.4
baz=318
LSA Lhasa 67.42 290 P **P** 15 51 37.8 +1.5
LSA pmax pmax
comp=Z,74nm,0.4s
LSA Lhasa 67.42 290 P **P** 15 51 35.1 -1.2
LSA P 15 51 35.4 -0.9
250A Grady 67.44 67 P **P** 15 51 35.2 -0.6
V55A Taylorsville 67.46 61 P **P** 15 51 35.6 -0.3
baz=318,SNR=5.1
V55A Taylorsville 67.46 61 P **P** 15 51 35.8 -0.1
V55A IAmb IAmb 15 51 37.1
comp=Z,23nm,1.4s
PAL Palisades 67.47 52 P **P** 15 51 35.3 -0.5
baz=319
PAL Palisades 67.47 52 P **P** 15 51 35.0 -0.8
PAL pmax pmax
comp=Z,11nm,0.7s
PAL Palisades 67.47 52 P **P** 15 51 35.0 -0.8
PAL IAmb IAmb 15 51 36.1
comp=Z,11nm,0.7s
W54A Cherokee Point 67.48 62 P **P** 15 51 36.2 +0.1
baz=317
U56A King 67.55 60 P **P** 15 51 36.5 0.0
baz=318
U56A King 67.55 60 P **P** 15 51 36.2 -0.2
U56A IAmb IAmb 15 51 37.5
comp=Z,8.3nm,0.7s
CPNY Central Park 67.60 52 P **P** 15 51 35.4 -1.2
CPNY IAmb IAmb 15 54 06.1
comp=Z,23nm,1.2s
M62A Hamden 67.64 51 P **P** 15 51 36.7 -0.2
baz=319
GGN Saint George 67.67 45 P **P** 15 51 35.8 -1.2
GGN IAmb IAmb 15 54 04.7
comp=Z,23nm,1.2s
T57A Hurt 67.68 59 P **P** 15 51 36.8 -0.4
baz=318,SNR=6.3
T57A Hurt 67.68 59 P **P** 15 51 36.9 -0.4
WES Weston 67.69 50 P **P** 15 51 36.3 -0.9
WES pmax pmax
comp=Z,10.0nm,0.7s
WES Weston 67.69 50 P **P** 15 51 36.3 -0.9
WES IAmb IAmb 15 51 37.1
comp=Z,10nm,0.7s
NC204 NORSAR Array S 67.69 355 P **P** 15 51 36.1 -0.9
R58B Mineral 67.70 57 P **P** 15 51 37.5 +0.2
baz=318
R58B Mineral 67.70 57 P **P** 15 51 36.8 -0.5
R58B IAmb IAmb 15 51 38.2
comp=Z,6.0nm,0.8s
NC303 NORSAR Array S 67.71 355 P **P** 15 51 36.2 -0.9
EMMW East Machias 67.71 46 P **P** 15 51 36.3 -1.0
H66A Whiting 67.72 46 P **P** 15 51 36.8 -0.6
baz=321
X54A Belton 67.78 62 P **P** 15 51 37.7 -0.2
baz=318,SNR=8.9
NC405 NORSAR Array S 67.80 354 P **P** 15 51 37.0 -0.7
152A Waverly Hall 67.83 65 P **P** 15 51 37.5 -0.8
152A IAmb IAmb 15 51 38.7
comp=Z,22nm,1.4s
S58A Poland Farm, P 67.87 57 P **P** 15 51 38.3 -0.1
baz=318
S58A Poland Farm, P 67.87 57 P **P** 15 51 38.3 -0.1
S58A IAmb IAmb 15 51 39.2
comp=Z,7.0nm,0.8s
V56A Mocksville 67.88 60 P **P** 15 51 38.5 -0.1
baz=318
PAULI Pauline 67.89 62 P **P** 15 51 38.7 +0.2
PAULI IAmb IAmb 15 51 39.8
comp=Z,20nm,1.3s
NB201 NORSAR Array S 67.89 355 P **P** 15 51 37.1 -1.1
NB2 NORSAR Subarra 67.91 355 P **P** 15 51 37.3 -1.1
comp=Z,2.8nm,0.6s,baz=7.4,slow=6.5
NOA NORSAR Array B 67.91 355 P **P** 15 51 37.2 -1.1
comp=Z,2.7nm,0.7s,baz=7.5,slow=6.5,SNR=13
NOA LR LR 16 22 24.3
comp=Z,24nm,19.3s,baz=0.0,slow=37
KMSC Kings Mountain 67.92 61 P **P** 15 51 38.1 -0.7
baz=318,SNR=7.1
KMSC Kings Mountain 67.92 61 P **P** 15 51 38.9 +0.1
FAKI Fak Fak 67.93 234 P **P** 15 51 39.7 +0.7
GOGA Godfrey 68.00 64 P **P** 15 51 38.5 -0.8
baz=318,SNR=8.1
GOGA Godfrey 68.00 64 P **P** 15 51 38.8 -0.5
GOGA pmax pmax
comp=Z,15nm,1.0s
GOGA Godfrey 68.00 64 P **P** 15 51 38.8 -0.5
GOGA IAmb IAmb 15 51 40.6
comp=Z,15nm,0.9s
LMN Caledonia Moun 68.00 43 P **P** 15 51 37.9 -1.2
U57A Blanch 68.06 59 P **P** 15 51 39.3 -0.3
baz=318
HODGE Hodges 68.07 62 P **P** 15 51 40.0 +0.2
ABKAR Akbulak array 68.08 323 P **P** 15 51 38.2 -1.4
V57A Coltrane Farms 68.22 60 P **P** 15 51 40.1 -0.5
baz=318
DRLN Deer Lake 68.24 37 P **P** 15 51 39.3 -1.2
X55A Gracelyn & Ava 68.25 62 P **P** 15 51 40.9 0.0
baz=318,SNR=8.5
W56A Indian Trail 68.33 61 P **P** 15 51 41.3 -0.1
baz=318
KK31 Karatay Array 68.48 312 P **P** 15 51 42.2 0.0
KK31 pmax pmax
comp=Z,6.0nm,0.6s
KK31 Karatay Array 68.48 312 P **P** 15 51 42.2 0.0
KK31 IAmb IAmb 15 51 43.6
comp=Z,6.4nm,0.6s
KKAR Karatay Array 68.48 312 P **P** 15 51 42.0 -0.2
KKAR pmax pmax
comp=Z,6.0nm,0.6s
KKAR Karatay Array 68.48 312 P **P** 15 51 41.2 -1.0
KKAR Karatay Array 68.48 312 P **P** 15 51 42.0 -0.2
KKAR IAmb IAmb 15 51 43.6
comp=Z,6.4nm,0.6s
Y55A Saluda 68.51 62 P **P** 15 51 42.7 +0.2
baz=318,SNR=9.3
X56A White Oak 68.56 61 P **P** 15 51 42.6 -0.2
baz=318
KSH Kashi 68.56 307 *e*P **P** 15 51 47.3 +4.4
KSH S **S** 16 00 48.1 +3.9
KSH Kashi 68.56 307 SS SS 16 05 15.3 +7.8
KSH pmax pmax
comp=Z,24nm,0.7s
KSH pmax pmax
comp=Z,250nm,8.0s

JSC Jenkinsville 68.59 62 P **P** 15 51 43.2 +0.2
JSC pmax pmax
comp=Z,6.0nm,0.7s
JSC Jenkinsville 68.59 62 P **P** 15 51 43.2 +0.2
JSC IAmb IAmb 15 51 44.3
comp=Z,6.4nm,0.7s
T59A Double "B" Far 68.61 57 P **P** 15 51 42.7 -0.3
baz=318
T59A Double "B" Far 68.61 57 P **P** 15 51 42.8 -0.2
T59A IAmb IAmb 15 51 44.5
comp=Z,9.5nm,0.9s
W57A Gilead 68.65 60 P **P** 15 51 43.0 -0.3
baz=318
W57A Gilead 68.65 60 P **P** 15 51 43.0 -0.3
W57A IAmb IAmb 15 51 44.2
comp=Z,21nm,1.4s
V58A Windy Hill, Pi 68.65 59 P **P** 15 51 43.4 +0.1
baz=318
V58A Windy Hill, Pi 68.65 59 P **P** 15 51 43.4 +0.1
V58A IAmb IAmb 15 51 44.4
comp=Z,9.6nm,0.9s
BIRD Birdtown, Kers 68.77 61 P **P** 15 51 43.6 -0.5
BIRD IAmb IAmb 15 51 44.8
comp=Z,7.7nm,0.8s
U59A Littleton 68.94 58 P **P** 15 51 45.2 0.0
baz=319
U59A Littleton 68.94 58 P **P** 15 51 45.2 0.0
V59A Middlesex 69.14 59 P **P** 15 51 46.0 -0.4
baz=319,SNR=5.4
W58A Raeford 69.16 60 P **P** 15 51 46.4 -0.1
baz=318
U60A Pendleton 69.19 58 P **P** 15 51 46.4 -0.3
baz=319
KONO Kongsberg 69.38 355 P **P** 15 51 47.2 -0.2
KONO pmax pmax
comp=Z,45nm,1.9s
KONO Kongsberg 69.38 355 P **P** 15 51 47.2 -0.2
HAL Halifax 69.48 44 P **P** 15 51 47.3 -1.0
HAL pmax pmax
comp=Z,18nm,1.3s
HAL Halifax 69.48 44 P **P** 15 51 47.3 -1.0
HAL IAmb IAmb 15 51 49.2
comp=Z,18nm,1.3s
Z57A Bowman 69.63 62 P **P** 15 51 49.6 +0.2
baz=318,SNR=5.4
Y58A Scranton 69.75 61 P **P** 15 51 50.2 0.0
baz=319
Y58A Scranton 69.75 61 P **P** 15 51 50.4 +0.2
SHL Shillong 70.01 286 P **P** 15 51 51.8 -0.3
SHL pmax pmax
comp=Z,25nm,1.0s
SHL Shillong 70.01 286 P **P** 15 51 51.8 -0.3
NHSC New Hope 70.07 62 P **P** 15 51 52.6 +0.5
baz=319
OBN Obninsk 70.08 339 *de*P **P** 15 51 51.1 -0.7
OBN *e* 15 54 29.1
OBN *e*S **SKiKP** 16 01 36.6 +0.4
OBN pmax pmax
comp=Z,17nm,1.3s
OBN MLR MLR
comp=Z,77nm,17.0s
BTK Batken 70.69 310 P **P** 15 51 56.6 +0.6
BTK Batken 70.69 310 P **P** 15 51 56.6 +0.6
CM31 Chiang Mai Arr 70.92 276 P **P** 15 51 57.9 +0.4
CM31 IAmb IAmb 15 52 59.7
comp=Z,16nm,1.4s
CMAR Chiang Mai Arr 70.92 276 P **P** 15 51 57.8 +0.2
comp=Z,3.5nm,0.8s,baz=25,slow=6.5,SNR=16
CMAR LR LR 16 26 47.4
comp=Z,36nm,18.2s,baz=193,slow=39
CMAR Chiang Mai Arr 70.92 276 P **P** 15 51 57.4 -0.1
TAPN Taplejung 71.19 290 *e*P **P** 15 52 00.3 +0.9
comp=Z,30nm,0.5s
ODAN Odare 71.74 290 *e*P **P** 15 52 02.8 +0.1
comp=Z,19nm,0.6s
GAR Garm 71.76 310 P **P** 15 52 02.0 -0.5
GUN Gumba 71.85 292 *e*P **P** 15 52 04.3 +0.8
comp=Z,83nm,0.4s
JIRN Jiri 71.85 292 *e*P **P** 15 52 04.5 +1.0
comp=Z,42nm,0.4s
RAMN Ramite 72.14 291 *e*P **P** 15 52 05.8 +0.7
comp=Z,33nm,0.4s
KKN Kani 72.29 292 *e*P **P** 15 52 06.7 +0.8
comp=Z,38nm,0.4s
PKI Pulchoki 72.38 292 *e*P **P** 15 52 07.0 +0.4
comp=Z,35nm,0.5s
PKIN Phulchoki 72.38 292 *e*P **P** 15 52 07.0 +0.4
comp=Z,39nm,0.5s
GKN Gorkha 72.50 293 *e*P **P** 15 52 07.7 +0.5
comp=Z,46nm,0.5s
DMN Daman 72.52 292 *e*P **P** 15 52 08.3 +0.9
CHGR Chuyangaron 72.59 310 P **P** 15 52 07.3 -0.1
DANN Dangsing 72.75 294 *e*P **P** 15 52 09.5 +0.7
comp=Z,46nm,0.7s
PPT Papeete 73.08 151 LR LR 16 16 17.6
comp=Z,52nm,19.9s,baz=183,slow=29
PPT2 Papeete2 73.10 151 *e*LR LR 16 14 27.0
comp=Z,111nm,29.8s
PPT2 Papeete2 73.10 151 *e*T T 17 12 20.4
comp=Z,10nm,0.3s
KOLN Koldanda 73.28 293 *e*P **P** 15 52 12.3 +0.5
comp=Z,54nm,1.1s
PYUN Piuthan 73.38 294 *e*P **P** 15 52 12.8 +0.4
comp=Z,93nm,1.1s
NIL Nilore 74.47 304 P **P** 15 52 18.7 +0.2
NIL pmax pmax
comp=Z,88nm,1.5s
NIL Nilore 74.47 304 P **P** 15 52 18.6 +0.2
SBUM Sibu 74.88 255 P **P** 15 52 21.4 +0.4
AKASG Malin Array Be 75.77 342 P **P** 15 52 24.5 -1.2
comp=Z,2.8nm,0.3s,baz=22,slow=6.2,SNR=26
AKASG LR LR 16 29 19.7
comp=Z,33nm,19.8s,baz=30,slow=39
AKASG Malin Array Be 75.77 342 P **P** 15 52 24.2 -1.4
AKASG pmax pmax
comp=Z,7.0nm,1.3s
AKASG Malin Array Be 75.77 342 P **P** 15 52 24.2 -1.4
AKBB Malin Array Si 75.77 342 P **P** 15 52 24.5 -1.1
AKBB pmax pmax
comp=Z,24nm,1.2s
AKBB Malin Array Si 75.77 342 P **P** 15 52 24.5 -1.1
AKBB IAmb IAmb 15 52 26.0
comp=Z,24nm,1.2s
DSB Dublin 75.83 5 P **P** 15 52 25.0 -1.0
DSB IAmb IAmb 15 52 26.5
comp=Z,11nm,1.0s
KBL Kabul 75.91 308 P **P** 15 52 25.9 -1.1
KBL pmax pmax
comp=Z,13nm,0.8s
KBL Kabul 75.91 308 P **P** 15 52 25.9 -1.1
KBL IAmb IAmb 15 52 27.5
comp=Z,12nm,0.8s
MTN Manton Dam 77.01 230 P **P** 15 52 33.6 +0.5
CTA Charters Tower 77.19 213 P **P** 15 52 35.2 +1.3
comp=Z,3.5nm,0.9s,baz=38,slow=13,SNR=4.6
CLL Collm 77.45 352 *i* P **P** 15 52 33.5 -1.7
comp=Z,12nm,1.6s
CLL *e*PP **PP** 15 55 33.0 +4.1
CLL Collm 77.45 352 *i* P **P** 15 52 33.5 -1.7
CLL pmax pmax
comp=Z,12nm,1.6s
CLL Collm 77.45 352 P **P** 15 52 34.0 -1.1
CLL IAmb IAmb 15 52 34.3
comp=Z,11nm,1.5s
GOF Gofitskoye 77.54 331⇑ *e*P **P** 15 52 36.1 +0.3
OJC Ojcow 77.79 348 P **P** 15 52 36.1 -1.0
OJC pmax pmax
comp=Z,8.0nm,1.1s
OJC Ojcow 77.79 348 P **P** 15 52 36.1 -1.0
KWP Kalwaria Pacla 77.94 346 P **P** 15 52 37.5 -0.5
KWP Kalwaria Pacla 77.94 346 P **P** 15 52 37.5 -0.5
DPC Dobruska-Polom 78.08 350 *e*P **P** 15 52 38.7 -0.1
DPC Dobruska-Polom 78.08 350 *e*P **P** 15 52 38.7 -0.1
GEYT Alibeck 78.20 317 LR LR 16 30 07.7
comp=Z,82nm,20.2s,baz=45,slow=38
SORM Soroca 78.39 342 ⇑P **P** 15 52 39.4 -1.0
NKC Novy Kostel 78.57 353 *e*P **P** 15 52 41.0 -0.4
NKC Novy Kostel 78.57 353 *e*P **P** 15 52 41.0 -0.4
TBI Tubuai 78.57 152 *e*LR LR 16 17 02.7
comp=Z,94nm,23.0s
TBI Tubuai 78.57 152 *e*T T 17 19 09.0
comp=Z,3.7nm,0.3s
MEM Membach 78.57 357 ⇓P **P** 15 52 41.1 -0.3
comp=Z,8.6nm,0.9s
KIV Kislovodsk 78.65 331 *e*P **P** 15 52 42.5 +0.5
KIV pmax pmax
comp=Z,18nm,1.0s
KIV MLR MLR
comp=Z,120nm,19.0s
KOLS Kolonicke sedl 78.69 346 *e*P **P** 15 52 41.6 -0.5
KOLS pmax pmax
comp=Z,7.0nm,1.1s
KOLS Kolonicke sedl 78.69 346 *e*P **P** 15 52 41.6 -0.5
BCLA Clavier 78.78 357 ⇓P **P** 15 52 42.0 -0.5
KBZ Khabaz 78.79 330 P **P** 15 52 42.1 -0.5
comp=Z,3.3nm,0.9s,baz=290,slow=0.5,SNR=7.3
KBZ LR LR 16 31 11.8
comp=Z,56nm,21.5s,baz=24,slow=39
KBZ Khabaz 78.79 330⇓ *e*P **P** 15 52 42.6 0.0
KBZ pmax pmax
comp=Z,6.0nm,1.1s
LANS Liptovska Anna 78.88 348 *e*P **P** 15 52 43.8 +0.6
LANS pmax pmax
comp=Z,7.0nm,1.2s
LANS Liptovska Anna 78.88 348 *e*P **P** 15 52 43.8 +0.6
BMRD Maredsous 78.92 358 ⇓P **P** 15 52 43.2 -0.1
UZH Uzhgorod 78.98 346 *e*P **P** 15 52 45.3 +1.7
UZH *i* 15 52 55.0
VRAC Vranov 79.08 350 ⇑P **P** 15 52 44.2 0.0
DOU Dourbes 79.13 358 ⇓P **P** 15 52 44.2 -0.2
HRA Herat 79.31 312 P **P** 15 52 46.1 +0.1
ZEI Tsey 79.32 329 *e*P **P** 15 52 44.0 -1.9
TRPA Tarpa 79.43 346 ⇑P **P** 15 52 46.5 +0.4
BUR08 Bucovina Ar. S 79.45 344 P **P** 15 52 46.0 -0.4
BUR08 IAmb IAmb 15 52 47.6
comp=Z,23nm,1.1s
BURAR Bucovina Array 79.48 344 ⇑P **P** 15 52 46.1 -0.4
BURAR Bucovina Array 79.48 344 P **P** 15 52 45.7 -0.8
WLF Walferdange 79.51 357 P **P** 15 52 46.2 -0.4
WLF pmax pmax
comp=Z,6.0nm,0.8s
WLF Walferdange 79.51 357 P **P** 15 52 46.1 -0.4
KHC Kasperske Hory 79.56 352 *e*P **P** 15 52 46.4 -0.5
KHC Kasperske Hory 79.56 352 *de*P **P** 15 52 46.9 0.0
KHC pmax pmax
comp=Z,10.0nm,1.3s
KHC Kasperske Hory 79.56 352 P **P** 15 52 46.0 -0.9
VYHS Vyhne 79.61 348 *e*P **P** 15 52 46.8 -0.3
VYHS pmax pmax
comp=Z,6.0nm,1.2s
VYHS Vyhne 79.61 348 *e*P **P** 15 52 46.8 -0.3
GEC2 GERESS Array S 79.83 352 P **P** 15 52 47.4 -1.1
GERES GERESS Array B 79.83 352 P **P** 15 52 47.2 -1.3
comp=Z,1.4nm,0.5s,baz=23,slow=4.4,SNR=13
GERES LR LR 16 30 58.2
comp=Z,24nm,19.1s,baz=38,slow=38
GERES GERESS Array B 79.83 352 P **P** 15 52 47.4 -1.1
GERES GERESS Array B 79.83 352 P **P** 15 52 47.4 -1.1
BIZ Bicaz 79.97 343 ⇑P **P** 15 52 48.5 -0.6
TBLG Delisi 79.99 328 P **P** 15 52 49.5 +0.2
TBLG pmax pmax
comp=Z,11nm,0.8s
TBLG Delisi 79.99 328 P **P** 15 52 49.5 +0.2
TBLG IAmb IAmb 15 52 50.7
comp=Z,11nm,0.8s
PSZ Piszkesteto 80.03 347 P **P** 15 52 48.9 -0.6
PSZ pmax pmax
comp=Z,7.0nm,0.9s
PSZ Piszkesteto 80.03 347 P **P** 15 52 48.9 -0.6
ARCR ARCALIA 80.14 344 ⇑P **P** 15 52 50.5 +0.5
TESR Tescani 80.28 342 ⇑P **P** 15 52 50.2 -0.6
CONA Conrad Observa 80.52 350 *i* P **P** 15 52 51.9 -0.3
comp=Z,4.0nm,0.7s,SNR=4.7
DRGR 80.70 345 ⇑P **P** 15 52 52.2 -1.0
DRGR 80.70 345 P **P** 15 52 52.1 -1.0
OZUR 80.84 343 ⇑P **P** 15 52 54.8 +0.9
VRI Vrincioaia 80.88 341 ⇑P **P** 15 52 53.4 -0.7
PLOR Plostina 80.91 342 ⇑P **P** 15 52 53.8 -0.5
DOPR Dopca 81.04 343 ⇑P **P** 15 52 55.1 +0.2
TLCR 81.11 340 ⇑P **P** 15 52 54.8 -0.4
ARSA Arzberg 81.23 350 *i* P **P** 15 52 55.7 -0.2
comp=Z,3.8nm,0.8s
CLF Chambon-Foret 81.24 359 P **P** 15 52 55.3 -0.5
CFR Carcaliu 81.26 341 ⇑P **P** 15 52 56.9 +0.9
SIRR Siria 81.38 346 ⇑P **P** 15 52 56.3 -0.4
NEHR Nehoiu 81.39 342 ⇑P **P** 15 52 57.3 +0.6
MLR Muntele Rosu 81.39 343 ⇑P **P** 15 52 57.0 +0.1
MLR Muntele Rosu 81.39 343 P **P** 15 52 56.3 -0.6
MLR pmax pmax
comp=Z,12nm,0.8s
MLR Muntele Rosu 81.39 343 P **P** 15 52 56.3 -0.6
MLR IAmb IAmb 15 52 58.6
comp=Z,12nm,0.8s
WATA Walderalm 81.52 353 *e*P **P** 15 52 57.1 -0.4
comp=Z,16nm,1.4s
MOTA Moosalm 81.54 353 *e*P **P** 15 52 57.1 -0.6
comp=Z,7.5nm,0.9s
WTTA Wattenberg 81.58 353 *e*P **P** 15 52 57.6 -0.4
comp=Z,8.5nm,0.7s
VOIR 81.61 343 ⇑P **P** 15 52 58.0 0.0
KBA Koelnbreinsper 81.62 352 *i* P **P** 15 52 58.2 0.0
comp=Z,13nm,0.6s,SNR=13
WRA Warramunga Arr 81.73 224 P **P** 15 52 58.8 +0.1
comp=Z,1.2nm,0.7s,baz=33,slow=6.1,SNR=6.3
ARR Arges 81.75 343 ⇑P **P** 15 52 58.1 -0.6
HARR Harsova 81.77 341 ⇑P **P** 15 52 58.6 -0.1
SOKA Soboth 81.85 350 *e*P **P** 15 52 58.8 -0.4
comp=Z,17nm,1.1s,SNR=8.1
FETA Feichten 81.89 353 *i* P **P** 15 52 59.1 -0.5
comp=Z,8.7nm,1.0s
BZS Buzias 82.02 346 ⇑P **P** 15 52 59.5 -0.5
ABTA Abfaltersbach 82.02 352 *e*P **P** 15 52 59.7 -0.4
comp=Z,9.9nm,1.0s
OBKA Obir 82.06 351 *i* P **P** 15 52 59.7 -0.7
comp=Z,7.2nm,0.7s,SNR=4.6
PRED Cave del Predi 82.23 351 P **P** 15 52 59.9 -1.3
PRED IAmb IAmb 15 53 01.4
comp=Z,11nm,1.1s
FUORN Ofenpass-Fuorn 82.33 354 P **P** 15 53 00.6 -1.3
FUORN IAmb IAmb 15 53 02.6
comp=Z,6.6nm,0.9s
TUE Stuetta 82.53 354 P **P** 15 53 02.0 -1.0
TUE IAmb IAmb 15 53 03.6
comp=Z,7.0nm,0.9s
HERR Herculane 82.61 345 ⇑P **P** 15 53 02.6 -0.6
MFF Saint Martin d 82.67 1 *e*P **P** 15 53 02.6 -0.8
MFF pmax pmax
comp=Z,11nm,0.9s
MDVR Moldovita 82.82 345 ⇑P **P** 15 53 03.8 -0.5
PSI Prapat 82.85 266 P **P** 15 53 04.2 -0.8
PSI pmax pmax
comp=Z,12nm,0.7s
RPSI Rantau Prapat 82.94 266 P **P** 15 53 04.2 -1.0
RPSI IAmb IAmb 15 53 05.8
comp=Z,12nm,0.7s
RAZG Razgrad 83.14 342 ⇑P **P** 15 53 05.2 -0.7
PLVB Pleven 83.67 343 ⇑P **P** 15 53 08.5 -0.1
BNI Bardonecchia 84.09 356 P **P** 15 53 11.0 0.0
BNI pmax pmax
comp=Z,6.0nm,0.8s
BNI Bardonecchia 84.09 356 P **P** 15 53 11.0 0.0
BNI IAmb IAmb 15 53 12.5
comp=Z,5.8nm,0.8s
HYB Hyderabad 84.20 290 *i* P **P** 15 53 11.5 -0.3
FITZ Fitzroy Crossi 84.20 232 P **P** 15 53 12.2 +0.7
comp=Z,9.6nm,0.9s,baz=6.2,slow=4.7,SNR=12
FITZ Fitzroy Crossi 84.20 232 P **P** 15 53 12.3 +0.8
FITZ IAmb IAmb 15 53 14.0
comp=Z,11nm,1.0s
LFF La Frestale 84.33 0 *e*P **P** 15 53 11.2 -0.8
LFF pmax pmax
comp=Z,9.0nm,0.6s
VTS Vitosha 84.67 344 ⇑P **P** 15 53 13.5 -0.5
VTS Vitosha 84.67 344 P **P** 15 53 12.9 -1.1
VTS pmax pmax
comp=Z,5.0nm,0.8s
VTS Vitosha 84.67 344 P **P** 15 53 12.9 -1.1
VTS IAmb IAmb 15 53 14.2
comp=Z,5.1nm,0.8s
BR131 Keskin Array S 85.14 335 P **P** 15 53 15.3 -1.1
BR131 pmax pmax
comp=Z,7.0nm,0.8s
BR131 Keskin Array S 85.14 335 P **P** 15 53 15.3 -1.1
BR131 IAmb IAmb 15 53 16.6
comp=Z,7.0nm,0.8s
BRTR Keskin Array B 85.14 335 P **P** 15 53 15.9 -0.4
comp=Z,5.8nm,0.7s,baz=46,slow=2.6,SNR=34
BRTR LR LR 16 36 49.3
comp=Z,18nm,18.3s,baz=353,slow=40
BRTR Keskin Array B 85.14 335 P **P** 15 53 16.0 -0.4

BRTR	**Keskin Array B**	**85.14**	**335**	P		**P**	**15 53 15.3**	**-1.1**
ASAR	**Alice Springs**	**85.20**	**222**	P		**P**	**15 53 17.4**	**+0.9**
	comp=Z,2.3nm,0.7s,baz=24,slow=5.7,SNR=22							
ASAR	**Alice Springs**	**85.20**	**222**	P		**P**	**15 53 17.1**	**+0.5**
OSSC	**Osservatorio P**	**85.33**	**353**	P		**P**	**15 53 16.0**	**-1.1**
PDG	**Podgorica**	**85.50**	**347**	⇑P		**P**	**15 53 17.1**	**-0.8**
NRCA	**Norcia**	**85.85**	**351**	P		**P**	**15 53 19.1**	**-0.6**
ESDC	**Sonseca Array**	**89.49**	**4**	P		**P**	**15 53 35.2**	**-2.0**
	comp=Z,3.4nm,0.9s,baz=349,slow=3.4,SNR=13							
ESDC	**Sonseca Array**	**89.49**	**4**	P		**P**	**15 53 35.8**	**-1.5**
STKA	**Stephens Creek**	**89.63**	**213**	P		**P**	**15 53 38.8**	**+1.2**
	comp=Z,5.1nm,0.7s,baz=344,slow=4.3,SNR=7.9							
STKA				LR		LR	16 30 53.3	
	comp=Z,60nm,21.9s,baz=30,slow=34							
STKA	**Stephens Creek**	**89.63**	**213**	IAmb		IAmb	15 55 26.5	
	comp=Z,7.1nm,1.6s							
KEST	**Kesra**	**93.22**	**353**	LR		LR	16 40 29.6	
	comp=Z,23nm,18.0s,baz=296,slow=39							
TORD	**Torodi Ar. Bea**	**116.02**	**359**	PKP		**PKiKP**	**15 59 22.2**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=351,slow=2.2,SNR=8.8							
H03N2	**Juan Fernandez**	**121.19**	**106**	T		T	18 12 38.4	
	baz=317,slow=77,SNR=25							
H03N1	**Juan Fernandez**	**121.20**	**106**	T		T	18 12 45.3	
	baz=317,slow=77,SNR=28							
H03N3	**Juan Fernandez**	**121.20**	**106**	T		T	18 12 39.1	
	baz=317,slow=77,SNR=33							
DBIC	**Dimbokro**	**122.23**	**7**	PKP		**PKPdf**	**15 59 34.8**	**-0.6**
	comp=Z,2.1nm,0.4s,baz=352,slow=2.3,SNR=10							
PLCA	**Paso Flores**	**131.00**	**107**	PKP		**PKiKP**	**15 59 52.3**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=212,slow=8.5,SNR=4.3							
TSUM	**Tsumeb**	**145.57**	**332**			**PKPdf**	**16 00 17.9**	**-0.6**
MAW	**Mawson**	**146.19**	**217**	PKPbc		**PKPab**	**16 00 19.7**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=86,slow=5.0,SNR=4.6							
LBTB	**Lobatse**	**147.84**	**315**	PKP2		**PKPbc**	**16 00 25.2**	**0.0**
LBTB	**Lobatse**	**147.84**	**315**			**PKPbc**	**16 00 25.2**	**0.0**
BOSA	**Boshof**	**151.07**	**312**	PKPbc		**PKPbc**	**16 00 32.1**	**-1.0**
	comp=Z,5.3nm,0.6s,baz=53,slow=2.7,SNR=14							
BOSA	**Boshof**	**151.07**	**312**			**PKPbc**	**16 00 33.0**	**-0.1**
VNA3	**Neumayer Olymp**	**159.22**	**170**	PKPdf		**PKPdf**	**16 00 36.0**	**-0.9**
VNA2	**Neumayer--Watz**	**159.74**	**172**	PKPdf		**PKPdf**	**16 00 37.0**	**-0.5**
	baz=278,slow=0.7							

*IDC **24** 15:47:54.4±3.4,51.°52N×179.°04E,h0km,mb3.5/2, mb1 4.0/4,mb1mx3.4/46,mbtmp3.8/4,ML3.6/2,Error ellipse: s-maj=135.0km s-min=37.1km az=1.0*
*AEIC **24** 15:48:06±1.5,51.°9N±0.°2×178.°37E±0.°08,h114km±5km, ML3.2,mb4.0/15(NEIC),Error ellipse: s-maj=23.4km s-min=6.5km az=189.0*

ISC 24 15:48:05.9±0.8,52.°1N±0.°1×178.°48E±0.°04,h100km,n47, σ1§48/52,mb3.8/6,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.14**	**171**		**Pn**	**15 48 21.7**	**+1.7**
LSSA	**Little Sitkin**	**0.16**	**173**		**Pn**	**15 48 21.7**	**+1.7**
LSPA	**Little Sitkin**	**0.16**	**159**		**Pn**	**15 48 21.7**	**+1.7**
LSPA					**Sn**	**15 48 34.9**	**+4.4**
CETU	**Semis' Tuman**	**0.64**	**102**		**Pn**	**15 48 24.9**	**+2.1**
CEAP	**Semis' Anvil P**	**0.69**	**98**		**Pn**	**15 48 25.4**	**+2.2**
CESW	**Semis' Southwe**	**0.70**	**107**		**Pn**	**15 48 24.8**	**+1.5**
CERAA	**Semis' Rag'd T**	**0.77**	**105**		**Pn**	**15 48 25.6**	**+1.6**
AMKA	**Amchitka**	**0.89**	**145**		**Pn**	**15 48 25.2**	**0.0**
AMKA					**Sn**	**15 48 39.0**	**-0.6**
GAEA	**Gareloi East**	**1.75**	**100**		**Pn**	**15 48 36.2**	**+1.0**
TASE	**Tanaga Southea**	**2.17**	**96**		**Pn**	**15 48 41.7**	**+0.9**
TAFP	**Tanaga Falls P**	**2.19**	**94**		**Pn**	**15 48 42.1**	**+1.1**
TAFP					**Sn**	**15 49 09.6**	**+1.7**
TAPA	**Tanaga Point A**	**2.31**	**96**		**Pn**	**15 48 43.4**	**+0.8**
KIMD	**Kanaga Island**	**2.67**	**96**		**Pn**	**15 48 47.8**	**+0.5**
KICM	**Kanaga Island**	**2.68**	**92**		**Pn**	**15 48 48.3**	**+1.0**
KIKV	**Kanaga Island**	**2.70**	**93**		**Pn**	**15 48 48.4**	**+0.8**
KIWB	**Kanaga Island**	**2.71**	**94**	Pn	**Pn**	**15 48 47.9**	**+0.1**
SMY	**Shemya**	**2.75**	**285**		**Pn**	**15 48 48.3**	**0.0**
SMY					**Sn**	**15 49 22.9**	**+2.0**
ADK	**Adak**	**3.00**	**92**		**Pn**	**15 48 51.8**	**+0.3**
GSTD	**Great Sitkin T**	**3.32**	**89**		**Pn**	**15 48 56.3**	**+0.4**
GSTD					**Sn**	**15 49 38.0**	**+3.5**
GSTR	**Great Sitkin T**	**3.37**	**88**		**Pn**	**15 48 57.2**	**+0.6**
GSMY	**Great Sitkin M**	**3.37**	**89**		**Pn**	**15 48 57.1**	**+0.5**
ATKA	**Atka Island**	**4.51**	**86**		**Pn**	**15 49 12.6**	**+0.7**
KOFP	**Korovin Flat P**	**4.57**	**85**		**Pn**	**15 49 14.4**	**+1.6**
NIKH	**Nikolski High**	**7.77**	**79**	Pn	**Pn**	**15 49 58.6**	**+2.4**
PEA0B	**Petropavlovsk-**	**12.67**	**283**	Pn	**Pn**	**15 51 02.9**	**+0.6**
PETK	**Petropavlovsk-**	**12.67**	**283**	Pn	**Pn**	**15 51 02.6**	**+0.4**
	0.3nm,0.3s,baz=88,slow=17,SNR=13							
SDPT	**Sand Point**	**12.86**	**67**	Pn	**Pn**	**15 51 04.1**	**-0.7**
CNBA	**Chernabura Isl**	**13.33**	**70**	Pn	**Pn**	**15 51 08.7**	**-2.2**
CHIR	**Chirikof Islan**	**15.65**	**66**	Pn	**Pn**	**15 51 39.0**	**-1.5**
SII	**Sitkinak Islan**	**16.50**	**64**	Pn	**Pn**	**15 51 50.9**	**-0.2**
OHAK	**Old Harbor**	**17.04**	**61**	P	**Pn**	**15 51 55.6**	**-2.0**
TTA	**Tatalina**	**17.33**	**41**	P	**P**	**15 52 00.5**	**-0.7**
TTA				IAmb	IAmb	15 52 58.3	
	comp=Z,11nm,1.8s							
KDAK	**Kodiak Island**	**17.48**	**60**	P	**P**	**15 52 00.6**	**-2.1**
	comp=Z,1.0nm,0.3s,baz=272,slow=7.3,SNR=30							
KDAK	**Kodiak Island**	**17.48**	**60**	P	**P**	**15 52 00.9**	**-1.8**
CNPM	**China Poot**	**18.43**	**54**	P	**P**	**15 52 13.5**	**+0.3**
BRLK	**Bradley Lake**	**18.65**	**54**	P	**P**	**15 52 15.0**	**-0.6**
RND	**Reindeer**	**20.51**	**44**	P	**P**	**15 52 34.1**	**-1.7**
GLI	**Glacier Island**	**20.70**	**51**	P	**P**	**15 52 37.5**	**-0.3**
GLI				IAmb	IAmb	15 53 09.8	
	comp=Z,18nm,1.5s							
SCM	**Sheep Creek Mo**	**20.78**	**49**	P	**P**	**15 52 38.6**	**0.0**
SCM				IAmb	IAmb	15 53 07.5	
	comp=Z,11nm,1.2s							
DHY	**Denali Highway**	**21.05**	**45**	P	**P**	**15 52 42.2**	**+0.5**
DHY				IAmb	IAmb	15 52 45.7	
	comp=Z,6.9nm,1.3s							
COLD	**Coldfoot**	**21.54**	**33**	P	**P**	**15 52 47.1**	**+0.4**
GLB	**Gilahina Butte**	**22.36**	**51**	P	**P**	**15 52 56.0**	**+0.5**
GLB				IAmb	IAmb	15 53 25.1	
	comp=Z,21nm,1.8s							
VRDI	**Verde Repeater**	**22.51**	**51**	P	**P**	**15 52 56.6**	**-0.5**
VRDI				IAmb	IAmb	15 53 17.8	
	comp=Z,18nm,1.6s							
BARN	**Barnard Glacie**	**23.36**	**52**	P	**P**	**15 53 05.7**	**+0.3**
BARN				IAmb	IAmb	15 53 56.3	
	comp=Z,3.8nm,1.0s							
BCAR	**Beaver Creek A**	**23.54**	**47**		**P**	**15 53 07.3**	**+0.5**
NVAR	**Mina Array Bea**	**45.13**	**82**	P	**P**	**15 56 11.6**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=296,slow=8.5,SNR=3.9							
PDAR	**Pinedale Array**	**47.69**	**71**	P	**P**	**15 56 30.1**	**-2.3**
	comp=Z,0.3nm,0.4s,baz=322,slow=5.7,SNR=5.0							

VIE 24 15:51:49.3±0.2,48.°79N×15.°91E,h0km,mb1.3/1,ml1.5/4, Error ellipse: s-maj=2.2km s-min=1.2km az=130.0 5 km NW of Retz Suspected Mining explosion.,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRUC	**Moravsky**	**0.42**	**49**	*e*PG	Pg	15 51 57.7	+0.2
KRUC				*e*SG	Sg	15 52 02.0	-1.0
VRAC	**Vranov**	**0.69**	**40**	*e*PG	Pg	15 52 02.5	-0.1
VRAC				*e*SG	Sg	15 52 10.6	-0.9
CONA	**Conrad Observa**	**0.86**	**182**	*e*Pg	Pg	15 52 05.8	0.0
	0.9nm,0.1s						
CONA				*e*Sg	Sg	15 52 17.9	+1.0
	0.5nm,0.1s						
MOA	**Molln**	**1.44**	**230**	*i* Pg	Pg	15 52 16.9	-0.1
	0.5nm,0.1s						
MORC	**Moravsky Berou**	**1.46**	**47**	*e*PG	Pn	15 52 16.1	-0.9
MORC				*e*SG	Sg	15 52 34.5	-1.7
BRG	**Berggiesshubel**	**2.45**	**329**	*e*P	Pb	15 52 33.5	-0.7
	1.8nm,0.5s						
BRG				*e*		15 52 36.8	
	4.8nm,1.1s						
BRG	**Berggiesshubel**	**2.45**	**329**	*e*P	Pb	15 52 33.5	-0.7
BRG				pmax	pmax		
	comp=Z,2.0nm,0.5s						

*NEIC **24** 15:59:02.8±2.4,51.°93N±0.°04×178.°53E±0.°08, h100km±1km,mb4.3/19,Error ellipse: s-maj=8.3km s-min=7.4km az=119.0*
*IDC **24** 15:59:02.5±6.0,51.°90N×178.°61E,h105km±56km,mb3.3/6, mb1 3.6/8,mb1mx3.2/42,mbtmp3.8/8,Error ellipse: s-maj=44.2km s-min=18.8km az=176.0*
*AEIC **24** 15:59:03±1.6,51.°8N±0.°2×178.°53E±0.°03,h105km±4km, Error ellipse: s-maj=23.3km s-min=1.2km az=186.0*

ISC 24 15:59:02.6±0.7,51.°8N±0.°1×178.°57E±0.°04,h107km±6km, n58,σ1§03/60,mb3.8/10,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.12**	**345**		**Pn**	**15 59 17.7**	**+0.2**
LSPA	**Little Sitkin**	**0.13**	**2**		**Pn**	**15 59 17.7**	**+0.3**
LSNW	**Little Sitkin**	**0.14**	**348**		**Pn**	**15 59 17.5**	**0.0**
LSNW					**Sn**	**15 59 28.7**	**+0.1**
CETU	**Semis' Tuman**	**0.59**	**76**		**Pn**	**15 59 20.2**	**+0.4**
CESW	**Semis' Southwe**	**0.62**	**83**		**Pn**	**15 59 20.1**	**+0.1**
AMKA	**Amchitka**	**0.64**	**134**		**Pn**	**15 59 20.2**	**+0.1**
AMKA					**Sn**	**15 59 32.6**	**-0.7**
CEAP	**Semis' Anvil P**	**0.65**	**74**		**Pn**	**15 59 20.7**	**+0.4**
CEAP					**Sn**	**15 59 34.6**	**+1.1**
CERAA	**Semis' Rag'd T**	**0.70**	**83**		**Pn**	**15 59 20.8**	**+0.2**
GAEA	**Gareloi East**	**1.67**	**91**		**Pn**	**15 59 31.5**	**+0.3**
TASE	**Tanaga Southea**	**2.11**	**89**		**Pn**	**15 59 37.0**	**+0.2**
TAFP	**Tanaga Falls P**	**2.14**	**87**		**Pn**	**15 59 37.3**	**+0.1**
TAFP					**Sn**	**16 00 03.4**	**-0.3**
TAPA	**Tanaga Point A**	**2.25**	**89**		**Pn**	**15 59 38.7**	**+0.1**
KIMD	**Kanaga Island**	**2.61**	**90**		**Pn**	**15 59 43.3**	**0.0**
KICM	**Kanaga Island**	**2.63**	**86**		**Pn**	**15 59 43.9**	**+0.3**
KIKV	**Kanaga Island**	**2.64**	**87**		**Pn**	**15 59 44.0**	**+0.2**
KIWB	**Kanaga Island**	**2.66**	**88**	Pn	**Pn**	**15 59 43.3**	**-0.7**
SMY	**Shemya**	**2.89**	**290**	Pn	**Pn**	**15 59 45.9**	**-1.1**
SMY	**Shemya**	**2.89**	**290**		**Sn**	**16 00 20.3**	**-0.9**
ADK	**Adak**	**2.94**	**87**	Pn	**Pn**	**15 59 47.2**	**-0.5**
GSTD	**Great Sitkin T**	**3.28**	**84**		**Pn**	**15 59 52.0**	**-0.3**
GSTD					**Sn**	**16 00 31.6**	**+1.0**
GSMY	**Great Sitkin M**	**3.33**	**84**		**Pn**	**15 59 53.1**	**+0.1**
GSTR	**Great Sitkin T**	**3.33**	**83**	Pn	**Pn**	**15 59 52.4**	**-0.5**
ATKA	**Atka Island**	**4.49**	**82**	Pn	**Pn**	**16 00 08.6**	**+0.2**
ATKA	**Atka Island**	**4.49**	**82**		**Sn**	**16 00 58.6**	**-0.8**
KOFP	**Korovin Flat P**	**4.55**	**81**		**Pn**	**16 00 10.2**	**+0.9**
NIKH	**Nikolski High**	**7.78**	**77**	Pn	**Pn**	**16 00 54.1**	**+1.1**
SPIA	**Saint Paul Isl**	**8.43**	**46**	Pn	**Pn**	**16 01 03.5**	**+1.8**
UNV	**Unalaska Valle**	**9.26**	**72**	Pn	**Pn**	**16 01 14.4**	**+1.4**
PETK	**Petropavlovsk-**	**12.79**	**284**	P	**Pn**	**16 02 01.0**	**+0.7**
	0.4nm,0.3s,baz=83,slow=14,SNR=13						
SDPT	**Sand Point**	**12.93**	**66**	Pn	**Pn**	**16 02 00.3**	**-1.7**
SII	**Sitkinak Islan**	**16.57**	**63**	P	**Pn**	**16 02 47.2**	**-1.2**
OHAK	**Old Harbor**	**17.13**	**61**	P	**Pn**	**16 02 52.2**	**-2.9**
KDAK	**Kodiak Island**	**17.57**	**59**	P	**P**	**16 02 57.8**	**-2.2**
	0.6nm,0.3s,baz=189,slow=2.1,SNR=16						
KDAK	**Kodiak Island**	**17.57**	**59**	P	**P**	**16 02 57.9**	**-2.1**
KDAK				IAmb	IAmb	16 03 00.4	
	comp=Z,26nm,1.2s						
RSO	**Redoubt South**	**18.03**	**50**	P	**Pn**	**16 03 06.9**	**+0.8**
HOM	**Homer**	**18.38**	**53**	P	**Pn**	**16 03 10.2**	**+0.1**
CNPM	**China Poot**	**18.55**	**54**	P	**P**	**16 03 10.5**	**-0.3**
BRLK	**Bradley Lake**	**18.77**	**53**	P	**P**	**16 03 12.9**	**-0.3**
BRLK				IAmb	IAmb	16 03 49.8	
	comp=Z,36nm,1.5s						
PPLA	**Purkeypile**	**19.08**	**43**	P	**Pn**	**16 03 16.9**	**-1.6**
SEW	**Seward**	**19.55**	**52**	P	**Pn**	**16 03 22.5**	**-1.3**
SEW				IAmb	IAmb	16 03 49.1	
	comp=Z,30nm,1.5s						
GHO	**Glory Hole Cre**	**20.17**	**48**	P	Pn	16 03 30.3	-0.9
GHO				IAmb	IAmb	16 04 28.1	
	comp=Z,22nm,1.7s						
SML	**Sawmill**	**20.45**	**48**	P	Pn	16 03 33.2	-1.2
SML				IAmb	IAmb	16 03 42.9	
	comp=Z,13nm,1.3s						
RND	**Reindeer**	**20.68**	**43**	P	Pn	16 03 35.6	-1.5
GLI	**Glacier Island**	**20.84**	**51**	P	**P**	**16 03 35.0**	**-0.5**
SCM	**Sheep Creek Mo**	**20.92**	**48**	P	**P**	**16 03 36.8**	**+0.4**
SCM				IAmb	IAmb	16 04 28.7	
	comp=Z,26nm,1.7s						
HIN	**Hinchinbrook I**	**21.05**	**52**	P	**P**	**16 03 36.1**	**-1.6**
HIN				IAmb	IAmb	16 04 18.0	
	comp=Z,30nm,1.3s						
FID	**Port Fidalgo**	**21.11**	**51**	P	**P**	**16 03 36.4**	**-2.0**
DHY	**Denali Highway**	**21.21**	**45**	P	**P**	**16 03 39.7**	**+0.1**
DHY				IAmb	IAmb	16 04 06.4	
	comp=Z,12nm,1.6s						
BCAR	**Beaver Creek A**	**23.69**	**46**	P	**P**	**16 04 04.9**	**+0.6**
EPYK	**Eagle Plains**	**26.44**	**40**	P	**P**	**16 04 28.0**	**-1.1**
EPYK				IAmb	IAmb	16 04 29.3	
	comp=Z,5.7nm,1.2s						
SONM	**Songino Array**	**44.97**	**295**	P	**P**	**16 07 07.5**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=28,slow=43,SNR=2.1						
NVAR	**Mina Array Bea**	**45.12**	**81**	P	**P**	**16 07 08.7**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=296,slow=7.0,SNR=6.7						
HHC	**Hu-ho-hao-te**	**45.99**	**284**	*e*P	**P**	**16 07 16.3**	**+1.3**
HHC				pmax	pmax		
	comp=Z,10.0nm,1.1s						
HHC				pmax	pmax		
	comp=Z,31nm,5.1s						
PDAR	**Pinedale Array**	**47.73**	**71**	P	**P**	**16 07 28.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=270,slow=2.5,SNR=2.3						
WMQ	**Urumqi**	**57.71**	**301**	*e*P	**P**	**16 08 44.1**	**+2.2**
MKAR	**Makanchi Array**	**58.46**	**307**	P	**P**	**16 08 46.5**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=55,slow=7.2,SNR=5.1						
WRA	**Warramunga Arr**	**81.23**	**222**	P	**P**	**16 11 06.6**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=28,slow=5.6,SNR=2.4						
ASAR	**Alice Springs**	**84.74**	**220**	P	**P**	**16 11 24.9**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=27,slow=5.0,SNR=5.7						

AEIC 24 16:03:10±1.5,51.°8N±0.°1×178.°40E±0.°08,h105km±5km, mb4.2/20(NEIC),Error ellipse: s-maj=20.1km s-min=7.4km az=183.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.16**	**27**		Pn	16 03 25.0	+0.2
LSNW	**Little Sitkin**	**0.18**	**24**		Pn	16 03 24.9	+0.1
LSPA	**Little Sitkin**	**0.18**	**36**		Pn	16 03 24.9	+0.1
LSPA					Sn	16 03 36.5	+0.7
CETU	**Semis' Tuman**	**0.70**	**77**		Pn	16 03 28.1	+0.2
AMKA	**Amchitka**	**0.71**	**127**		Pn	16 03 28.1	+0.2
AMKA					Sn	16 03 41.0	-0.5
CESW	**Semis' Southwe**	**0.73**	**82**		Pn	16 03 28.1	-0.1
CEAP	**Semis' Anvil P**	**0.76**	**75**		Pn	16 03 28.6	+0.3
CERAA	**Semis' Rag'd T**	**0.80**	**82**		Pn	16 03 28.9	0.0
CERAA					Sn	16 03 42.3	-0.7
GAEA	**Gareloi East**	**1.77**	**90**		Pn	16 03 38.6	-0.2
TASE	**Tanaga Southea**	**2.21**	**88**		Pn	16 03 45.3	-0.2
TAFP	**Tanaga Falls P**	**2.25**	**86**		Pn	16 03 45.4	-0.5
TAFP					Sn	16 04 12.6	-0.9
TAPA	**Tanaga Point A**	**2.35**	**88**		Pn	16 03 47.0	-0.3
KIMD	**Kanaga Island**	**2.71**	**89**		Pn	16 03 51.6	-0.4
KICM	**Kanaga Island**	**2.73**	**86**		Pn	16 03 52.3	0.0
KIKV	**Kanaga Island**	**2.75**	**87**		Pn	16 03 52.2	-0.3
SMY	**Shemya**	**2.80**	**291**		Pn	16 03 52.6	-0.5
SMY					Sn	16 04 26.6	+0.3
ADK	**Adak**	**3.05**	**87**		Pn	16 03 55.6	-0.8
ADAG	**Mount Adagdak**	**3.10**	**85**		Pn	16 03 56.5	-0.7
GSTD	**Great Sitkin T**	**3.39**	**84**		Pn	16 04 00.3	-0.7
GSMY	**Great Sitkin M**	**3.44**	**84**		Pn	16 04 01.0	-0.7
GSTR	**Great Sitkin T**	**3.44**	**83**		Pn	16 04 01.2	-0.5
ATKA	**Atka Island**	**4.59**	**82**		Pn	16 04 16.9	-0.3
KOFP	**Korovin Flat P**	**4.66**	**81**		Pn	16 04 13.3	+0.2
NIKH	**Nikolski High**	**7.89**	**77**	Pn	Pn	16 05 02.6	+0.8
SPIA	**Saint Paul Isl**	**8.51**	**46**	Pn	Pn	16 05 11.8	+1.5
PETK	**Petropavlovsk-**	**12.69**	**284**	Pn	Pn	16 06 01.4	-5.0
SDPT	**Sand Point**	**13.03**	**66**		Pn	16 06 08.5	-2.4
CNBA	**Chernabura Isl**	**13.49**	**68**	Pn	Pn	16 06 13.0	-3.8
CHIR	**Chirikof Islan**	**15.82**	**65**	Pn	Pn	16 06 42.7	-3.7
SII	**Sitkinak Islan**	**16.68**	**63**	Pn	Pn	16 06 54.5	-2.6
OHAK	**Old Harbor**	**17.23**	**61**	P	P	16 07 00.8	-2.9
BILL	**Bilibino**	**17.32**	**345**	P	P	16 07 03.2	-1.3
KDAK	**Kodiak Island**	**17.68**	**59**	P	P	16 07 05.6	-3.0
CNPM	**China Poot**	**18.65**	**54**	P	P	16 07 18.5	-0.8
BRLK	**Bradley Lake**	**18.87**	**53**	P	P	16 07 20.6	-1.1
SEW	**Seward**	**19.64**	**52**	P	P	16 07 31.2	+1.1
SEW				IAmb	IAmb	16 08 07.4	
	comp=Z,31nm,1.3s						
GLI	**Glacier Island**	**20.93**	**51**	P	P	16 07 43.7	-0.2
GLI				IAmb	IAmb	16 08 03.6	
	comp=Z,6.4nm,0.9s						
SCM	**Sheep Creek Mo**	**21.01**	**48**	P	P	16 07 44.9	+0.1
SCM				IAmb	IAmb	16 08 33.1	
	comp=Z,30nm,1.7s						
HIN	**Hinchinbrook I**	**21.14**	**52**	P	P	16 07 47.0	+0.8
FID	**Port Fidalgo**	**21.21**	**51**	P	P	16 07 46.2	-0.7
FID				IAmb	IAmb	16 08 45.3	
	comp=Z,25nm,1.6s						
DHY	**Denali Highway**	**21.30**	**45**	P	P	16 07 48.2	+0.2
RAGM	**Ragged Mountai**	**22.04**	**53**	P	P	16 07 55.4	-0.4
GLB	**Gilahina Butte**	**22.59**	**50**	P	P	16 08 00.7	-0.7
GLB				IAmb	IAmb	16 08 40.4	
	comp=Z,15nm,2.0s						
VRDI	**Verde Repeater**	**22.74**	**51**	P	P	16 08 02.1	-1.0
VRDI				IAmb	IAmb	16 08 46.2	
	comp=Z,20nm,1.8s						
SCRK	**Sand Creek**	**23.00**	**44**	P	P	16 08 03.9	-1.7
BARN	**Barnard Glacie**	**23.58**	**51**	P	P	16 08 11.3	+0.3
BARN				IAmb	IAmb	16 08 13.3	
	comp=Z,4.9nm,0.9s						
BCAR	**Beaver Creek A**	**23.78**	**46**	P	P	16 08 13.6	+1.0
TABL	**Table Mountain**	**23.79**	**53**	P	P	16 08 12.8	-0.1
TABL				IAmb	IAmb	16 08 59.0	
	comp=Z,26nm,1.8s						
BMAR	**Burnt Mountain**	**23.86**	**35**	P	P	16 08 13.6	+0.3
KS19	**Wonju Array Si**	**37.90**	**268**	P	P	16 10 15.4	-1.3
KS19				IAmb	IAmb	16 10 16.9	
	comp=Z,5.4nm,0.8s						
KSAR	**Wonju Array Be**	**37.93**	**268**	P	P	16 10 15.1	-1.8

*AEIC **24** 16:35:01±2.1,51.°86N±0.°10×176.°90E±0.°08,h20km±4km, Error ellipse: s-maj=14.5km s-min=6.3km az=191.0*
*NEIC **24** 16:35:02.7±1.7,52.°11N±0.°09×176.°96E±0.°06,h5km±4km, mb4.6/114,ML4.2(AEIC),Error ellipse: s-maj=12.8km s-min=5.2km az=192.0*
*IDC **24** 16:35:02.6±0.7,52.°18N×177.°24E,h0km,mb4.0/24, mb1 4.2/27,mb1mx4.1/43,mbtmp4.1/27,ML4.4/2,MS3.6/27, Ms1 3.6/27,ms1mx3.4/59,Error ellipse: s-maj=22.1km s-min=11.7km az=172.0*
*MOS **24** 16:35:04.3±1.3,52.°18N×177.°13E,h23km,mb4.8/10,Error ellipse: s-maj=9.9km s-min=8.1km az=109.5*

ISC 24 16:35:04.1±0.4,52.°14N±0.°07×177.°06E±0.°04,h10km,n238, σ1§10/217,mb4.5/80,MS3.6/25,9C-1D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.92**	**100**		**Pg**	**16 35 21.1**	**-0.6**
LSSA	**Little Sitkin**	**0.92**	**101**		**Pg**	**16 35 21.3**	**-0.5**
LSPA	**Little Sitkin**	**0.95**	**100**		**Pn**	**16 35 22.2**	**-0.5**
CETU	**Semis' Tuman**	**1.52**	**96**		**Pn**	**16 35 30.9**	**-0.3**
CEAP	**Semis' Anvil P**	**1.56**	**94**		**Pn**	**16 35 31.7**	**-0.2**
CESW	**Semis' Southwe**	**1.57**	**98**		**Pn**	**16 35 31.5**	**-0.4**
AMKA	**Amchitka**	**1.59**	**118**		**Pn**	**16 35 30.9**	**-1.3**
AMKA					**Sb**	**16 35 52.8**	**-0.8**
CERAA	**Semis' Rag'd T**	**1.64**	**97**		**Pn**	**16 35 32.7**	**-0.3**
SMY	**Shemya**	**1.90**	**289**	P	**Pn**	**16 35 34.5**	**-2.0**
SMY						16 36 01.9	
SMY	**Shemya**	**1.90**	**289**	Pn	**Pn**	**16 35 34.5**	**-2.0**
GAEA	**Gareloi East**	**2.62**	**96**		**Pn**	**16 35 47.5**	**+1.1**
TASE	**Tanaga Southea**	**3.05**	**94**		**Pn**	**16 35 53.3**	**+1.0**
TAFP	**Tanaga Falls P**	**3.08**	**92**		**Pn**	**16 35 53.4**	**+0.7**
KIMD	**Kanaga Island**	**3.55**	**94**		**Pn**	**16 35 59.3**	**+0.1**
KICM	**Kanaga Island**	**3.56**	**91**		**Pn**	**16 35 59.9**	**+0.6**
KIKV	**Kanaga Island**	**3.58**	**92**		**Pn**	**16 35 59.5**	**-0.1**
KIWB	**Kanaga Island**	**3.59**	**92**	Pn	**Pn**	**16 35 59.9**	**+0.1**
ADK	**Adak**	**3.88**	**91**	P	**Pn**	**16 36 02.9**	**-0.8**
ADK	**Adak**	**3.88**	**91**	Pn	**Pn**	**16 36 02.9**	**-0.8**
GSTD	**Great Sitkin T**	**4.

comp=Z,17nm,0.9s
PAX Paxson 22.49 47 P P 16 40 02.4 -0.9
PAX IAmb IAmb 16 40 04.9
comp=Z,17nm,0.9s
RAGM Ragged Mountai 22.51 53 P P 16 40 03.7 +0.1
TOLK Toolik Lake Re 22.88 31 P P 16 40 07.8 +0.3
TOLK IAmb IAmb 16 40 08.8
comp=Z,19nm,0.7s
RIDG Independent Ri 22.92 45 P P 16 40 06.1 -1.8
GLB Gilahina Butte 23.02 51 P P 16 40 08.4 -0.6
GLB IAmb IAmb 16 40 17.0
comp=Z,14nm,1.1s
PRP Porcupine Dome 23.10 40 P P 16 40 08.8 -1.0
VRDI Verde Repeater 23.18 51 P P 16 40 10.0 -0.7
VRDI IAmb IAmb 16 40 29.5
comp=Z,11nm,0.8s
DOT Dot Lake 23.24 45 P P 16 40 09.8 -1.4
MENT Mentasta 23.27 47 P P 16 40 12.1 +0.6
MENT IAmb IAmb 16 40 27.0
comp=Z,12nm,0.8s
CRQM Cirque 23.29 53 P P 16 40 12.6 +0.7
CRQM IAmb IAmb 16 40 20.8
comp=Z,23nm,1.0s
SCRK Sand Creek 23.34 44 P P 16 40 10.5 -1.8
MCARA McCarthy VSAT 23.40 51 P P 16 40 11.7 -1.0
MCARA IAmb IAmb 16 40 26.3
comp=Z,25nm,1.0s
WAX Waxell Ridge 23.41 53 P P 16 40 11.9 -1.0
WAX IAmb IAmb 16 40 39.8
comp=Z,20nm,1.0s
TGL Tana Glacier 23.44 53 P P 16 40 12.8 -0.5
TGL IAmb IAmb 16 40 23.2
comp=Z,26nm,1.0s
FYU Fort Yukon 23.54 38 P P 16 40 13.8 -0.3
FYU IAmb IAmb 16 40 17.1
comp=Z,38nm,1.4s
ISLE Juniper Island 23.68 53 P P 16 40 14.8 -0.8
ISLE IAmb IAmb 16 40 34.9
comp=Z,13nm,1.0s
BALM Baldy 23.70 52 P P 16 40 14.8 -1.0
YAH Yahtse 23.96 54 P P 16 40 18.4 0.0
BARN Barnard Glacie 24.03 52 P P 16 40 19.3 +0.2
BARN IAmb IAmb 16 40 45.1
comp=Z,14nm,0.8s
BMAR Burnt Mountain 24.08 36 P P 16 40 19.1 -0.1
BCAR Beaver Creek A 24.16 47 P P 16 40 20.0 -0.1
JKA Kamikawa-asahi 24.17 264 P P 16 40 22.9 +2.6
JKA Kamikawa-asahi 24.17 264 IAmb IAmb 16 40 29.3
comp=Z,11nm,1.0s
ASAJ Asahikawa 24.17 264 P P 16 40 22.9 +2.6
comp=Z,5.0nm,0.8s,baz=74,slow=4.9,SNR=6.3
ASAJ LR LR 16 48 58.7
comp=Z,114nm,19.9s,baz=80,slow=34
CTGM Chitina Glacie 24.19 52 P P 16 40 20.2 -0.3
CTGM IAmb IAmb 16 40 34.8
comp=Z,22nm,1.0s
TABL Table Mountain 24.26 54 P P 16 40 20.9 -0.3
PCA Pinnacle 24.70 54 P P 16 40 25.8 +0.7
EGAK Eagle 24.71 43 P P 16 40 25.1 +0.1
EGAK IAmb IAmb 16 40 36.0
comp=Z,13nm,0.8s
DAWY Dawson 25.35 45 P P 16 40 31.3 +0.4
DAWY IAmb IAmb 16 40 35.1
comp=Z,12nm,1.0s
HYT Haines Junctio 26.05 53 P P 16 40 38.3 +1.0
EPYK Eagle Plains 26.80 40 P P 16 40 43.9 -0.1
EPYK IAmb IAmb 16 41 22.0
comp=Z,13nm,1.4s
YAK Yakutsk 26.97 310 P P 16 40 44.7 -0.7
comp=Z,3.2nm,0.4s,baz=259,slow=15,SNR=4.3
YAK Yakutsk 26.97 310 P P 16 40 45.1 -0.3
YAK IAmb IAmb 16 40 45.9
comp=Z,20nm,1.1s
KLR Kul'dur 28.50 282 *ce*P P **16 41 00.5 +1.3**
DLBC Dease Lake 30.09 57 P P **16 41 13.2 -0.2**
comp=Z,1.7nm,0.3s,baz=296,slow=6.1,SNR=3.3
DLBC Dease Lake 30.09 57 P P **16 41 12.8 -0.6**
DLBC IAmb IAmb 16 41 22.2
comp=Z,7.7nm,1.1s
USA0B Ussuriysk Arra 30.66 273 P P 16 41 18.7 +0.3
USA0B Ussuriysk Arra 30.66 273 P P **16 41 18.7 +0.3**
USA0B IAmb IAmb 16 42 21.7
comp=Z,5.0nm,0.8s
USRK Ussuriysk Ar. 30.66 273 P P **16 41 19.1 +0.7**
comp=Z,1.9nm,0.8s,baz=51,slow=12,SNR=2.7
USRK LR LR 16 52 19.5
comp=Z,64nm,21.4s,baz=39,slow=34
USRK Ussuriysk Ar. 30.66 273 P P 16 41 18.3 -0.1
USRK Ussuriysk Ar. 30.66 273 P P 16 41 18.3 -0.1
MJAR Matsushiro Arr 31.41 256 LR LR 16 52 02.1
comp=Z,59nm,21.8s,baz=200,slow=32
H11N2 WAKE ISLAND Hy 33.30 198 T T 17 16 46.6
baz=11,slow=76,SNR=1144
H11N3 WAKE ISLAND Hy 33.31 198 T T 17 16 47.4
baz=11,slow=76,SNR=976
H11N1 WAKE ISLAND Hy 33.32 198 T T 17 16 48.0
baz=11,slow=76,SNR=904
H11S1 WAKE ISLAND Hy 34.53 198 T T 17 18 18.5
baz=11,slow=76,SNR=101
H11S3 WAKE ISLAND Hy 34.55 198 T T 17 18 19.6
baz=11,slow=76,SNR=116
H11S2 WAKE ISLAND Hy 34.55 197 T T 17 18 20.0
baz=11,slow=76,SNR=71
KEKH Kekaha 35.04 140 P P **16 41 54.9 -2.0**
BOD Bodaibo 35.44 305 *eP* P **16 41 59.1 -0.9**
BOD pmax pmax
comp=Z,8.0nm,1.1s
YKA Yellowknife Ar 36.57 46 P P **16 42 08.1 -1.6**
comp=Z,1.1nm,0.6s,baz=191,slow=35,SNR=4.7
YKA LR LR 16 58 20.2
comp=Z,156nm,19.7s,baz=0.0,slow=38
KSRS Korea Array 37.08 266 P P **16 42 15.4 +1.2**
comp=Z,0.9nm,0.8s,baz=54,slow=8.8,SNR=6.6
KSRS LR LR 16 58 12.9
comp=Z,36nm,18.0s,baz=62,slow=37
WALA Waterton Lakes 42.42 66 P P **16 42 58.9 +0.2**
NRIK Noril'sk 42.43 328 P P **16 42 58.8 +0.5**
comp=Z,5.1nm,1.1s,baz=33,slow=3.5,SNR=5.0
NRIK LR LR 17 01 34.0
comp=Z,62nm,18.5s,baz=50,slow=38
ULN Ulaanbaatar 43.60 293 *ce*P P **16 43 09.6 +1.3**
ULN pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 43.99 294 P P **16 43 11.2 -0.2**
comp=Z,1.2nm,0.7s,baz=51,slow=9.7,SNR=6.9
SONM LR LR 17 02 52.5
comp=Z,112nm,18.0s,baz=70,slow=38
SONM Songino Array 43.99 294 P P **16 43 10.8 -0.6**
SONM pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 43.99 294 P P **16 43 10.8 -0.6**
PNTR Pine Nut 44.79 81 P P **16 43 18.1 +0.1**
PNTR IAmb IAmb 16 44 15.8
comp=Z,8.7nm,1.3s
HHC Hu-ho-hao-te 45.00 283 *eP* P **16 43 21.3 +1.7**
HHC pmax pmax
comp=Z,9.0nm,1.1s
HHC pmax pmax
comp=Z,37nm,4.9s
HLID Hailey 45.19 72 P P **16 43 20.1 -1.0**
MCMT McKenzie Canyo 45.37 70 P P **16 43 21.4 -1.1**
BOZ Bozeman (W) 45.62 69 P P **16 43 24.0 -0.5**
BOZ pmax pmax
comp=Z,7.0nm,1.6s
BOZ Bozeman (W) 45.62 69 P P **16 43 24.0 -0.5**
BOZ IAmb IAmb 16 43 29.2
comp=Z,7.3nm,1.6s
NVAR Mina Array Bea 45.99 81 P P **16 43 27.4 -0.2**
comp=Z,0.8nm,0.7s,baz=294,slow=7.4,SNR=8.3
NVAR Mina Array Bea 45.99 81 P P **16 43 25.5 -2.1**
YHL Hebgen Lake 46.31 69 P P **16 43 29.7 -0.4**
ELK Elko 46.40 76 P P **16 43 30.4 -0.4**
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 46.40 76 P P **16 43 30.4 -0.4**
R11A Troy Canyon, C 47.69 79 P P **16 43 40.2 -0.6**
R11A IAmb IAmb 16 44 07.1
comp=Z,8.5nm,1.8s
TPNV Topopah Spring 48.19 81 P P **16 43 44.8 +0.1**
TPNV pmax pmax
comp=Z,4.0nm,0.9s
TPNV Topopah Spring 48.19 81 P P **16 43 44.8 +0.1**
TPNV IAmb IAmb 16 43 53.9
comp=Z,3.8nm,0.9s
PD31 Pinedale Array 48.51 70 P P **16 43 46.3 -0.8**

PDAR Pinedale Array 48.51 70 P P **16 43 46.0 -1.1**
comp=Z,1.1nm,0.8s,baz=308,slow=4.2,SNR=8.7
PDAR LR LR 17 04 07.7
comp=Z,31nm,20.2s,baz=304,slow=36
PDAR Pinedale Array 48.51 70 P P **16 43 46.0 -1.1**
SPA0 Spitsbergen Ar 49.41 355 P P **16 43 54.4 +1.0**
SPITS Spitsbergen Ar 49.41 355 LR LR 17 06 01.5
comp=Z,34nm,18.2s,baz=45,slow=38
RDMU Red Mountain 49.87 73 P P **16 43 57.5 -0.1**
LCMT Little Creek M 49.97 79 P P **16 43 59.0 +0.7**
U15A North Rim 50.93 79 P P **16 44 05.5 -0.2**
U15A IAmb IAmb 16 44 43.1
comp=Z,9.4nm,1.7s
ULM Lac du Bonnet 51.39 55 LR LR 17 06 47.9
comp=Z,115nm,18.9s,baz=294,slow=37
ZALV Zalesovo Beam 51.61 311 P P **16 44 11.4 +1.2**
comp=Z,0.9nm,0.7s,baz=90,slow=2.9,SNR=1.6
PV13 Radium Mtn., P 51.87 75 P P **16 44 11.8 -0.9**
PV13 IAmb IAmb 16 44 12.8
comp=Z,4.5nm,0.8s
SMCO Snowmass 52.30 72 P P **16 44 14.7 -1.3**
GTA Gaotai 52.89 289 *e*P P **16 44 20.5 +0.4**
GTA pP sP 16 44 26.4 +2.0
GTA sP pP 16 44 30.3 +7.1
GTA pmax pmax
comp=Z,5.0nm,1.0s
EYMN Ely 55.08 55 P P **16 44 36.0 +0.2**
EYMN IAmb IAmb 16 44 51.9
comp=Z,11nm,1.1s
SZP Santa 55.96 254 P P **16 44 40.5 -1.9**
KURK Kurchatov 56.60 311 *ce*P P **16 44 46.9 +0.2**
KURK pmax pmax
comp=Z,18nm,1.0s
KURK Kurchatov 56.60 311 P P **16 44 46.5 -0.1**
I37A Lemond, Waseca 56.71 60 P P **16 44 47.7 +0.1**
WMQ Urumqi 56.75 300 *eP* P **16 44 50.9 +3.0**
ARCES ARCESS Array B 56.87 348 LR LR 17 11 34.5
comp=Z,34nm,19.3s,baz=118,slow=39
ARCES ARCESS Array B 56.87 348 P P **16 44 49.0 +0.7**
ARCES ARCESS Array B 56.87 348 P P **16 44 49.0 +0.7**
MK31 Makanchi Array 57.52 306 P P **16 44 52.2 -1.0**
MK31 pmax pmax
comp=Z,1.0nm,0.8s
MK31 Makanchi Array 57.52 306 P P **16 44 52.2 -1.0**
MKAR Makanchi Array 57.52 306 P P **16 44 53.2 -0.1**
comp=Z,1.3nm,0.8s,baz=54,slow=6.3,SNR=10
MKAR LR LR 17 08 40.7
comp=Z,58nm,21.4s,baz=52,slow=35
MKAR Makanchi Array 57.52 306 P P **16 44 52.3 -1.0**
MKAR Makanchi Array 57.52 306 P P **16 44 52.3 -1.0**
K38A Parkersburg 57.98 60 P P **16 44 56.5 0.0**
BVAR Borovoye Array 58.61 317 LR LR 17 11 17.2
comp=Z,100nm,20.7s,baz=44,slow=37
BRVK Borovoye 58.63 317 *ce*P P **16 45 01.4 +0.5**
BRVK pmax pmax
comp=Z,9.0nm,1.0s
BRVK Borovoye 58.63 317 P P **16 45 01.3 +0.4**
E46A Sault Ste Mari 59.73 52 P P **16 45 09.2 +0.6**
E46A IAmb IAmb 16 45 16.3
comp=Z,6.9nm,0.8s
G45A Suttons Bay 60.01 54 P P **16 45 10.4 -0.1**
L42A Oliver, Polo 60.08 59 P P **16 45 10.6 -0.5**
P40A Paris 60.54 63 P P **16 45 13.6 -0.7**
P40A IAmb IAmb 16 45 14.5
comp=Z,5.9nm,0.8s
ARU Arti 60.56 326 LR LR 17 13 59.6
comp=Z,63nm,18.0s,baz=36,slow=39
ARU Arti 60.56 326 *c iP* P **16 45 15.1 +0.9**
ARU 16 47 26.8
ARU S **S** **16 53 22.6 -7.0**
ARU pmax pmax
comp=Z,8.0nm,0.9s
ARU Arti 60.56 326 P P **16 45 13.9 -0.3**
ARU IAmb IAmb 16 45 17.5
comp=Z,6.0nm,0.8s
SCHQ Schefferville 60.96 36 P P **16 45 16.5 -0.4**
comp=Z,3.4nm,0.9s,baz=349,slow=5.8,SNR=3.0
SCHQ LR LR 17 12 09.8
comp=Z,89nm,20.1s,baz=268,slow=37
TX31 Lajitas Ar. Si 61.06 79 P P **16 45 17.5 -0.6**
TX31 IAmb IAmb 16 45 19.0
comp=Z,8.0nm,1.1s
TX32 Lajitas Array 61.06 79 P P **16 45 17.6 -0.5**
TXAR Lajitas Array 61.06 79 P P **16 45 17.8 -0.3**
comp=Z,1.1nm,0.9s,baz=289,slow=4.9,SNR=8.5
TXAR Lajitas Array 61.06 79 P P **16 45 17.4 -0.7**
M44A Midewin, Midew 61.38 59 P P **16 45 19.8 -0.2**
KIRV Kirov 61.73 332 LR LR 17 16 01.0
comp=Z,53nm,18.9s,baz=29,slow=40
KLMR Klimovskoe 62.35 338 *eP* P **16 45 24.9 -1.2**
KLMR pmax pmax
comp=Z,15nm,1.2s
KLMR Klimovskoe 62.35 338 *eP* P **16 45 24.9 -1.2**
KLMR AMP 16 45 28.8
comp=Z,15nm,1.2s
SFIN Lafayette 62.60 59 P P **16 45 27.9 -0.3**
P46A Rosedale 63.09 60 P P **16 45 32.3 +0.8**
FCAR Ozark Folk Cen 63.10 66 P P **16 45 30.0 -1.5**
MIAR Mount Ida 63.25 68 P P **16 45 32.4 -0.1**
MIAR pmax pmax
comp=Z,3.0nm,0.9s
MIAR Mount Ida 63.25 68 P P **16 45 32.4 -0.1**
MIAR IAmb IAmb 16 45 33.3
comp=Z,3.1nm,0.8s
W41B Gary Mavity, V 63.55 66 P P **16 45 33.7 -0.8**
W41B IAmb IAmb 16 45 34.2
comp=Z,4.2nm,1.0s
AAK Ala-Archa 64.37 307 LR LR 17 16 07.9
comp=Z,40nm,18.3s,baz=52,slow=38
AAK Ala-Archa 64.37 307 *ce*P P **16 45 41.6 +1.6**
AAK pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 64.43 345 P P **16 45 39.5 -0.3**
comp=Z,2.7nm,0.9s,baz=24,slow=11,SNR=2.9
FINES LR LR 17 16 05.4
comp=Z,26nm,20.2s,baz=51,slow=38
T47A Sharon Grove 65.07 61 P P **16 45 43.7 -0.7**
AKTO Aktyubinsk 65.54 322 LR LR 17 16 49.2
comp=Z,84nm,19.3s,baz=43,slow=38
Q51A Peebles 65.56 58 P P **16 45 47.5 -0.2**
ABKAR Akbulak array 65.74 320 P P **16 45 49.1 +0.5**
KK31 Karatay Array 65.94 310 P P **16 45 50.1 0.0**
KK31 pmax pmax
comp=Z,11nm,1.6s
KK31 Karatay Array 65.94 310 P P **16 45 50.1 0.0**
KK31 IAmb IAmb 16 45 51.7
comp=Z,11nm,1.6s
KKAR Karatay Array 65.94 310 P P **16 45 49.9 -0.2**
KKAR pmax pmax
comp=Z,11nm,1.6s
KKAR Karatay Array 65.94 310 P P **16 45 49.8 -0.3**
KKAR Karatay Array 65.94 310 P P **16 45 49.9 -0.2**
KKAR IAmb IAmb 16 45 51.7
comp=Z,11nm,1.6s
L56A Greenwood 66.12 52 P P **16 45 51.5 +0.2**
CLTN Cedars of Leba 66.15 62 P P **16 45 51.5 +0.1**
M56A Emporium 66.32 53 P P **16 45 52.8 +0.3**
M56A IAmb IAmb 16 45 58.6
comp=Z,6.2nm,0.9s
NOA NORSAR Array B 66.60 353 P P **16 45 54.2 +0.1**
comp=Z,0.8nm,0.7s,baz=160,slow=18,SNR=3.1
R53A Hurricane 66.80 57 P P **16 45 55.6 0.0**
SSPA Standing Stone 67.11 53 P P **16 45 57.4 -0.1**
SSPA IAmb IAmb 16 45 59.3
comp=Z,4.5nm,0.8s
N58A Sunbury 67.52 52 P P **16 46 00.4 +0.3**
CPCT Cooper Cave 67.61 61 P P **16 46 00.2 -0.6**
CPCT IAmb IAmb 16 46 05.8
comp=Z,8.5nm,1.3s
CMAR Chiang Mai Arr 68.39 272 P P **16 46 07.0 +1.1**
comp=Z,1.5nm,0.8s,baz=29,slow=7.4,SNR=9.5
CMAR LR LR 17 19 28.2
comp=Z,28nm,18.0s,baz=220,slow=39
GAR Garm 69.19 307 P P **16 46 11.1 +0.3**
AKASG Malin Array Be 73.98 339 P P **16 46 39.0 -0.2**
comp=Z,1.7nm,0.6s,baz=22,slow=6.5,SNR=4.1
AKASG LR LR 17 22 45.8
comp=Z,47nm,19.2s,baz=70,slow=39
AKASG Malin Array Be 73.98 339 P P **16 46 39.0 -0.2**
AKASG Malin Array Be 73.98 339 IAmb IAmb 16 46 41.3
comp=Z,1.2nm,1.0s
GEYT Alibeck 75.75 314 P P **16 46 51.0 +1.2**
comp=Z,0.8nm,0.5s,baz=33,SNR=2.1
GEYT LR LR 17 23 27.7
comp=Z,76nm,18.1s,baz=25,slow=38

GEYT Alibeck 75.75 314 IAmb IAmb 16 46 52.1
comp=Z,2.8nm,1.2s
KVAR Kislovodsk Arr 76.50 328 LR LR 17 25 40.5
comp=Z,34nm,18.4s,baz=290,slow=40
KBZ Khabaz 76.63 328 P P **16 46 55.2 +0.6**
comp=Z,1.6nm,0.8s,baz=228,slow=2.4,SNR=3.7
KBZ Khabaz 76.63 328 *ce*P P **16 46 57.3 +2.7**
ZEI Tsey 77.13 327 *eP* P **16 46 57.9 +0.1**
BUR08 Bucovina Ar. S 77.72 341 P P **16 47 01.2 +0.3**
BUR08 IAmb IAmb 16 47 15.5
comp=Z,5.4nm,1.1s
BURAR Bucovina Array 77.75 341 P P **16 47 01.5 +0.6**
GERES GERESS Array B 78.40 349 LR LR 17 21 53.3
comp=Z,19nm,21.4s,baz=341,slow=36
DRGR 79.02 342 P P **16 47 09.1 +1.1**
DRGR pmax pmax
comp=Z,8.0nm,1.4s
VOIR 79.86 340 P P **16 47 14.9 +2.3**
VOIR pmax pmax
comp=Z,4.0nm,1.3s
KBA Koelnbreinsper 80.18 349 P P **16 47 17.1 +2.7**
KBA pmax pmax
comp=Z,6.0nm,1.1s
WRA Warramunga Arr 80.85 220 P P **16 47 18.2 +0.2**
comp=Z,1.1nm,0.7s,baz=32,slow=6.0,SNR=3.3
WRA Warramunga Arr 80.85 220 *i* P P 16 47 23.6 +5.6
WRA pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 83.13 332 P P **16 47 30.6 +0.5**
comp=Z,0.8nm,0.8s,baz=140,slow=4.0,SNR=5.0
BRTR Keskin Array B 83.13 332 *ce*P P **16 47 31.2 +1.1**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 84.38 219 P P **16 47 36.8 +0.4**
comp=Z,1.4nm,1.0s,baz=19,slow=5.3,SNR=9.3

BJI **24** *16:53:40.0±0.0,30.02S×177.13W,h6km,mB5.5/22, mb5.3/32,Ms4.9/11,Ms7 4.6/12*
MOS **24** *16:53:42.4±0.9,30.11S×177.45W,h20km,mb5.3/18, MS4.7/6,Error ellipse: s-maj=11.1km s-min=8.5km az=93.0*
UNK **24** *16:53:44.1,30.16S×177.47W,h27km*
NEIC **24** *16:53:45.6±1.4,30.08S±0.05×177.51W±0.08,h35km±3km, mb5.1/84,Error ellipse: s-maj=10.5km s-min=6.1km az=113.0*
IDC **24** *16:53:46.1±2.4,30.00S×177.46W,h33km±17km,mb4.7/20, mb1 4.8/21,mb1mx4.7/33,mbtmp4.9/21,ML3.6/1,MS4.3/23, Ms1 4.3/23,ms1mx4.3/24,Error ellipse: s-maj=16.1km s-min=12.4km az=74.0*
ISC 24 16:53:45.7±0.3,30.21S±0.04×177.54W±0.06,h35km, n647,σ1$72/655,mb5.1/77,MS4.5/33,29C-21D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.00**	**341**	P	**Pn**	**16 54 01.0**	**-2.2**
GLKZ				S	**Sn**	**16 54 13.2**	**-2.9**
RAO	**Raoul Island**	**1.01**	**341**	Pn	**Pn**	**16 54 01.3**	**-2.1**
	2μm,0.3s,baz=28,slow=15,SNR=107						
RAO				Sn	**Sn**	**16 54 14.0**	**-2.3**
	6μm,0.3s,baz=110,slow=23,SNR=14						
RIZ	**Raoul Island**	**1.02**	**340**	P	**Pn**	**16 54 01.4**	**-2.1**
RIZ				S	**Sn**	**16 54 13.8**	**-2.7**
MXZ	**Matakaoa Point**	**8.10**	**204**	P	**Pn**	**16 55 37.4**	**-3.4**
MXZ				S	**Sn**	**16 57 09.9**	**-1.3**
MXZ	**Matakaoa Point**	**8.10**	**204**	Pn	**Pn**	**16 55 38.6**	**-2.2**
WMGZ	**Waiomatatini S**	**8.30**	**203**	P	**Pn**	**16 55 41.0**	**-2.5**
WMGZ				S	**Sn**	**16 57 15.6**	**-0.4**
HAZ	**Te Kaha**	**8.47**	**206**	P	**Pn**	**16 55 43.5**	**-2.2**
HAZ				S	**Sn**	**16 57 24.3**	**+4.2**
PKGZ	**Pakihiroa**	**8.48**	**204**	P	**Pn**	**16 55 42.5**	**-3.5**
PKGZ				S	**Sn**	**16 57 18.8**	**-1.7**
PUZ	**Puketiti**	**8.58**	**203**	P	**Pn**	**16 55 43.4**	**-3.9**
PUZ				S	**Sn**	**16 57 21.9**	**-1.0**
RUGZ	**Raukumara Rang**	**8.69**	**206**	P	**Pn**	**16 55 46.0**	**-3.0**
RUGZ				S	**Sn**	**16 57 25.1**	**-0.7**
WCZ	**Waipu Caves**	**8.89**	**228**	P	Pn	16 55 58.7	+7.1
CNGZ	**Carnagh Statio**	**8.97**	**202**	P	**Pn**	**16 55 49.3**	**-3.4**
CNGZ				S	**Sn**	**16 57 32.0**	**-0.4**
OUZ	**Omahuta**	**8.98**	**234**	P	Pn	16 56 00.3	+7.4
TKGZ	**Te Karaka**	**9.05**	**204**	P	Pn	16 55 49.3	-4.4
TKGZ				S	**Sn**	**16 57 32.9**	**-1.5**
MWZ	**Matawai**	**9.07**	**205**	P	**Pn**	**16 55 51.3**	**-2.8**
MWZ				S	**Sn**	**16 57 34.2**	**-0.8**
URZ	**Urewera**	**9.17**	**207**	P	**Pn**	**16 55 51.4**	**-4.0**
URZ				S	**Sn**	**16 57 35.4**	**-1.9**
RIGZ	**Rimuhau**	**9.32**	**203**	P	**Pn**	**16 55 53.4**	**-4.1**
RIGZ				S	**Sn**	**16 57 39.1**	**-1.9**
MUGZ	**Murupara**	**9.49**	**208**	P	**Pn**	**16 55 55.7**	**-4.1**
MUGZ				S	**Sn**	**16 57 42.2**	**-2.3**
SNGZ	**Shannon Statio**	**9.54**	**205**	P	**Pn**	**16 55 59.1**	**-1.3**
SNGZ				S	**Sn**	**16 57 45.7**	**-0.7**
MHGZ	**Mahia Peninsul**	**9.67**	**202**	P	Pn	16 55 57.0	-5.3
MHGZ				S	**Sn**	**16 57 47.4**	**-2.3**
RAHZ	**Arahi**	**9.75**	**206**	P	**Pn**	**16 56 00.8**	**-2.5**
RAHZ				S	**Sn**	**16 57 51.7**	**+0.1**
MTHZ	**Maungataniwha**	**9.79**	**207**	S	**Sn**	**16 57 49.4**	**-3.1**
WHHZ	**Waihua**	**9.83**	**205**	S	**Sn**	**16 57 51.8**	**-1.9**
MRHZ	**Matea Rd**	**9.94**	**208**	S	**Sn**	**16 57 54.4**	**-2.0**
NMHZ	**Naumai**	**10.01**	**206**	S	**Sn**	**16 57 57.5**	**-0.6**
ARHZ	**Aropaoanui**	**10.09**	**205**	P	**Pn**	**16 56 04.3**	**-3.6**
ARHZ				S	**Sn**	**16 57 57.3**	**-2.5**
BKZ	**Black Stump Fm**	**10.19**	**207**	S	**Sn**	**16 57 59.5**	**-3.0**
BKZ	**Black Stump Fm**	**10.19**	**207**	Pn	**Pn**	**16 56 06.3**	**-3.1**
RITZ	**Rihia Road**	**10.30**	**210**	S	**Sn**	**16 58 05.3**	**+0.3**
MCHZ	**McNeill Hill**	**10.36**	**206**	P	**Pn**	**16 56 08.4**	**-3.2**
MCHZ				S	**Sn**	**16 58 04.0**	**-2.5**
HIZ	**Hauiti**	**10.39**	**215**	P	**Pn**	**16 56 15.0**	**+2.8**
HIZ	**Hauiti**	**10.39**	**215**	Pn	**Pn**	**16 56 12.2**	**0.0**
CKHZ	**Cape Kidnapper**	**10.41**	**204**	S	**Sn**	**16 58 02.9**	**-4.8**
KWHZ	**Kaweka Forest**	**10.44**	**207**	P	**Pn**	**16 56 08.8**	**-4.1**
KWHZ				S	**Sn**	**16 58 05.2**	**-3.5**
OTVZ	**Oturere**	**10.53**	**210**	P	Pn	16 56 05.7	-8.6
OTVZ				S	**Sn**	**16 58 13.6**	**+2.5**
KAHZ	**Kahuranaki**	**10.60**	**204**	S	**Sn**	**16 58 09.3**	**-3.2**
BHHZ	**Black Hill Sta**	**10.64**	**208**	P	Pn	16 56 11.1	-4.5
BHHZ				S	**Sn**	**16 58 08.8**	**-4.8**
KRHZ	**Kereru**	**10.65**	**206**	P	**Pn**	**16 56 12.8**	**-3.0**
KRHZ				S	**Sn**	**16 58 08.7**	**-5.0**
FWVZ	**Far West T-bar**	**10.66**	**210**	P	**Pn**	**16 56 14.6**	**-1.4**
FWVZ				S	**Sn**	**16 58 13.2**	**-1.1**
WHVZ	**Whangaehu Hut**	**10.67**	**210**	S	**Sn**	**16 58 11.8**	**-2.6**
MOVZ	**Moawhango**	**10.70**	**209**	S	**Sn**	**16 58 11.2**	**-3.8**
WNVZ	**Wahianoa**	**10.70**	**210**	S	**Sn**	**16 58 12.6**	**-2.6**
MTVZ	**Mangateitei**	**10.80**	**210**	S	**Sn**	**16 58 16.2**	**-1.3**
PXZ	**Pawanui**	**10.81**	**204**	S	**Sn**	**16 58 13.1**	**-4.6**
PNHZ	**Pukenui**	**10.95**	**206**	P	Pn	16 56 14.6	-5.2
PNHZ				S	**Sn**	**16 58 16.2**	**-4.9**
WPHZ	**Waipukurau**	**10.99**	**205**	P	Pn	16 56 14.9	-5.5
WPHZ				S	**Sn**	**16 58 18.6**	**-3.5**
PRHZ	**Porangahau**	**11.10**	**204**	S	**Sn**	**16 58 18.3**	**-6.5**
TSZ	**Takapari Road**	**11.17**	**207**	P	**Pn**	**16 56 19.7**	**-3.2**
TSZ				S	**Sn**	**16 58 22.5**	**-4.0**
DVHZ	**Dannevirke**	**11.30**	**205**	S	**Sn**	**16 58 24.1**	**-5.5**
WAZ	**Wanganui**	**11.32**	**211**	S	**Sn**	**16 58 29.4**	**-0.7**
ANWZ	**Angora Road**	**11.33**	**204**	S	**Sn**	**16 58 24.4**	**-5.9**
POWZ	**Post Office Ro**	**11.53**	**206**	S	**Sn**	**16 58 30.1**	**-5.2**
OHWZ	**Ohakea**	**11.55**	**208**	S	**Sn**	**16 58 31.9**	**-3.8**
PRWZ	**Pori Road**	**11.60**	**205**	P	**Pn**	**16 56 24.5**	**-4.2**
PRWZ				S	**Sn**	**16 58 30.3**	**-6.5**
BFZ	**Birch Farm**	**11.61**	**204**	P	Pn	16 56 23.2	-5.6
BFZ				S	**Sn**	**16 58 30.7**	**-6.4**
TIWZ	**Tintock**	**11.82**	**205**	S	**Sn**	**16 58 34.6**	**-7.8**
CPWZ	**Castlepoint**	**11.82**	**204**	S	**Sn**	**16 58 36.2**	**-6.2**
MRZ	**Mangatainoka R**	**11.84**	**206**	P	**Pn**	**16 56 28.4**	**-3.5**
MRZ				S	**Sn**	**16 58 34.6**	**-8.1**
HOWZ	**Holdsworth Sta**	**12.06**	**206**	S	**Sn**	**16 58 40.2**	**-8.1**
OGWZ	**Otaki Gorge**	**12.13**	**207**	P	Pn	16 56 30.9	-5.0
OGWZ				S	**Sn**	**16 58 43.1**	**-6.7**
KIW	**Kapiti Island**	**12.27**	**208**	S	**Sn**	**16 58 44.9**	**-8.5**
MTW	**Mount Morrison**	**12.29**	**205**	P	Pn	16 56 31.9	-6.3
MTW				S	Sn	16 58 44.5	-9.4
PAWZ	**Paruwai Farm**	**12.52**	**205**	S	Sn	16 58 50.1	-9.3
DUWZ	**D'Urville Isla**	**12.64**	**211**	P	**Pn**	**16 56 40.4**	**-2.5**
DUWZ				S	**Sn**	**16 58 57.8**	**-4.7**
SNZO	**South Karori**	**12.73**	**207**	Pn	**Pn**	**16 56 44.8**	**+0.7**
MSVF	**Nonsavu**	**13.06**	**341**	P	**Pn**	**16 56 49.2**	**+0.4**
MSVF	**Nonsavu**	**13.06**	**341**		**Pn**	**16 56 49.2**	**+0.4**
NNZ	**Nelson**	**13.22**	**211**	Pn	**Pn**	**16 56 52.7**	**+1.9**

QRZ	Quartz Range	13.31	215	Pn		Pn		16 56 52.1	0.0
BSWZ	Blackbirch Sta	13.41	209	Pn		Pn		16 56 53.9	+0.4
THZ	Tophouse	13.87	211	Pn		Pn		16 56 59.9	+0.1
KHZ	Kahutara	14.13	208			Pn		16 57 00.1	-3.2
LTZ	Lake Taylor	14.97	210	Pn		Pn		16 57 13.2	-1.4
LTZ				IAmb		IAmb		16 57 34.5	
	comp=Z,152nm,1.8s								
OXZ	Oxford	15.51	210			Pn		16 57 18.0	-3.7
MQZ	McQueen's Vall	15.57	207	Pn		Pn		16 57 18.8	-3.6
RPZ	Rata Peaks	16.25	211	Pn		Pn		16 57 29.3	-1.9
	comp=Z,2.1nm,0.3s,baz=246,slow=3.8,SNR=2.7								
RPZ				Sn		Sn		17 00 14.7	-16
	comp=Z,0.9nm,0.3s,baz=19,slow=23,SNR=1.1								
RPZ	Rata Peaks	16.25	211	Pn		Pn		16 57 27.5	-3.7
DZM	Mont Dzumac	16.50	296	Pn		P		16 57 39.9	+3.0
	comp=Z,0.6nm,0.3s,baz=103,slow=15,SNR=16								
DZM				LR		LR		17 02 40.7	
	comp=Z,3µm,20.7s,baz=134,slow=32								
FOZ	Fox Glacier	16.68	214	Pn		Pn		16 57 36.0	-0.6
FOZ				IAmb		IAmb		16 58 24.4	
	comp=Z,174nm,1.2s								
AFI	Afiamalu	17.07	19	P		Pn		16 57 37.5	-4.3
AFI				pmax		pmax			
	comp=Z,62nm,0.9s								
AFI	Afiamalu	17.07	19	Pn		Pn		16 57 37.5	-4.3
LBZ	Lake Benmore	17.16	211	Pn		Pn		16 57 40.1	-2.5
ODZ	Otahua Downs	17.49	209	Pn		Pn		16 57 45.8	-0.9
RAR	Rarotonga	18.33	65	P		P		16 57 55.0	-2.0
	comp=Z,1.8nm,0.3s,baz=279,slow=16,SNR=6.1								
RAR				LR		LR		17 03 04.4	
	comp=Z,473nm,21.8s,baz=250,slow=31								
RAR	Rarotonga	18.33	65	P		P		16 57 55.0	-2.0
RAR				pmax		pmax			
	comp=Z,347nm,1.9s								
RAR	Rarotonga	18.33	65	IAmb		IAmb		16 58 05.5	
	comp=Z,347nm,1.9s								
MLZ	Mavora Lakes	18.86	213	P		P		16 58 01.6	-1.1
WHZ	Wether Hill Ro	19.33	212	P		P		16 58 06.3	-1.6
WHZ				IAmb		IAmb		16 58 21.4	
	comp=Z,224nm,1.8s								
TBI	Tubuai	25.94	81	*e*S		S		17 03 45.8	+2.9
	comp=Z,325nm,27.9s								
TBI				*e*LQ		LQ		17 04 19.2	
	comp=Z,2µm,25.8s								
TBI				*e*LR		LR		17 05 37.6	
	comp=Z,1µm,26.0s,baz=243								
TBI	Tubuai	25.94	81	*e*T		T		17 26 12.5	
	comp=Z,25nm,0.3s								
KNTN	Kanton	27.84	13	P		P		16 59 30.3	-1.6
PAE	Paea	28.36	70	*e*T		T		17 29 02.5	
	comp=Z,11nm,0.3s								
PPT2	Papeete2	28.40	70	*e*S		S		17 04 23.9	+2.0
	comp=Z,158nm,27.5s								
PPT2				*e*LQ		LQ		17 05 14.1	
	comp=Z,1µm,24.5s								
PPT2				*e*LR		LR		17 06 53.1	
	comp=Z,980nm,25.0s,baz=231								
PPT2	Papeete2	28.40	70	*e*T		T		17 29 06.4	
	comp=Z,12nm,0.4s								
PPT	Papeete	28.41	70	LR		LR		17 07 45.5	
	comp=Z,306nm,21.7s,baz=246,slow=30								
CAN	Canberra	28.51	251	P		P		16 59 39.0	+1.1
CAN				pmax		pmax			
	comp=Z,77nm,1.4s								
CAN	Canberra	28.51	251	P		P		16 59 39.0	+1.1
CAN				IAmb		IAmb		16 59 43.0	
	comp=Z,77nm,1.4s								
CTAO	Charters Tower	34.16	279	P		P		17 00 29.6	+1.9
CTAO				pmax		pmax			
	comp=Z,86nm,1.3s								
CTAO	Charters Tower	34.16	279			P		17 00 29.6	+1.9
STKA	Stephens Creek	34.91	257	P		P		17 00 37.1	+3.0
	comp=Z,13nm,0.5s,baz=102,slow=11,SNR=40								
STKA				LR		LR		17 14 30.2	
	comp=Z,1µm,18.0s,baz=91,slow=36								
STKA	Stephens Creek	34.91	257	P		P		17 00 35.4	+1.3
STKA				pmax		pmax			
	comp=Z,10.0nm,1.1s								
STKA	Stephens Creek	34.91	257			P		17 00 35.4	+1.3
RKT	Rikitea	38.52	90	*e*LR		LR		17 11 35.7	
	comp=Z,878nm,25.8s								
BBOO	Buckleboo	39.40	254	P		P		17 01 13.4	+1.3
COEN	Coen	39.60	285	P		P		17 01 15.9	+1.9
AS31	Alice Springs	43.52	267	P		P		17 01 45.7	-0.4
ASAR	Alice Springs	43.52	267	P		P		17 01 45.9	-0.2
	comp=Z,12nm,0.8s,baz=105,slow=7.1,SNR=51								
ASAR				PcP		PcP		17 03 35.4	+1.8
	comp=Z,4.1nm,0.6s,baz=123,slow=3.9,SNR=6.8								
ASAR				ScP		ScP		17 07 22.6	+0.1
	comp=Z,2.8nm,1.0s,baz=111,slow=4.3,SNR=5.3								
ASAR	Alice Springs	43.52	267	P		P		17 01 45.4	-0.7
ASAR								17 03 35.4	
ASAR	Alice Springs	43.52	267	P		P		17 01 45.4	-0.7
WR0	Warramunga Arr	44.31	272	P		P		17 01 52.2	-0.2
WR0				IAmb		IAmb		17 01 57.6	
	comp=Z,39nm,1.1s								
WB2	Warramunga Arr	44.48	272	P		P		17 01 53.5	-0.3
WRAB	Tennant Creek	44.48	272⇑	*e*P		P		17 01 54.3	+0.5
WRAB				pmax		pmax			
	comp=Z,45nm,0.8s								
WRA	Warramunga Arr	44.49	272	P		P		17 01 54.0	+0.1
	comp=Z,42nm,0.7s,baz=111,slow=7.8,SNR=106								
WRA				ScP		ScP		17 07 26.9	+0.5
	comp=Z,4.9nm,1.0s,baz=109,slow=4.0,SNR=5.2								
WRA	Warramunga Arr	44.49	272	P		P		17 01 52.5	-1.4
WRA				pmax		pmax			
	comp=Z,3.0nm,0.7s								
WRA	Warramunga Arr	44.49	272	P		P		17 01 52.5	-1.4
WB0	Warramunga Arr	44.51	272	P		P		17 01 53.8	-0.3
FORT	Forrest	46.48	255	P		P		17 02 09.0	-0.5
FORT				IAmb		IAmb		17 03 45.3	
	comp=Z,27nm,0.7s								
VNDA	Vanda	48.32	186	P		P		17 02 26.7	+3.6
	comp=Z,5.8nm,0.7s,baz=18,slow=6.5,SNR=43								
VNDA				LR		LR		17 19 05.9	
	comp=Z,225nm,21.9s,baz=14,slow=31								
VNDA	Vanda	48.32	186	P		P		17 02 25.9	+2.7
VNDA				pmax		pmax			
	comp=Z,36nm,1.6s								
VNDA	Vanda	48.32	186	P		P		17 02 25.9	+2.7
VNDA				IAmb		IAmb		17 02 28.1	
	comp=Z,36nm,1.6s								
MTN	Manton Dam	50.35	279	P		P		17 02 38.8	-0.7
MTN				IAmb		IAmb		17 02 40.0	
	comp=Z,16nm,0.8s								
KNRA	Kununurra	51.09	274	P		P		17 02 45.3	+0.3
FITZ	Fitzroy Crossi	52.76	270	LR		LR		17 23 57.0	
	comp=Z,450nm,20.8s,baz=113,slow=34								
FITZ	Fitzroy Crossi	52.76	270	P		P		17 02 57.4	0.0
FITZ				IAmb		IAmb		17 03 19.2	
	comp=Z,29nm,1.1s								
KIP	Kipapa	54.66	22⇑	*e*P		P		17 03 10.9	-0.3
KIP				pmax		pmax			
	comp=Z,137nm,1.5s								
CASY	Casey	55.49	208	P		P		17 03 17.6	+0.9
PSA00	Pilbara Seismi	56.38	263	P		P		17 03 22.7	-1.0
BATI	Baumata	58.02	277	LR		LR		17 29 15.9	
	comp=Z,1µm,18.0s,baz=129,slow=37								
QSPA	South Pole Qui	59.90	180	P		P		17 03 50.6	+2.8
	comp=Z,64nm,1.0s,baz=37,slow=1.6,SNR=216								
QSPA	South Pole Qui	59.90	180	IAmb		IAmb		17 03 51.8	
	comp=Z,92nm,1.1s								
GIRL	Giralia	60.77	259	P		P		17 03 54.8	+0.5
KAPI	Kappang	63.97	280	LR		LR		17 32 13.4	
	comp=Z,134nm,18.2s,baz=118,slow=36								
APSI	Ampana	64.53	285	P		P		17 04 19.2	-0.3
	comp=Z,16nm,1.1s								
DDMP	Don Marcelino,	65.22	294	*e*P		P		17 04 36.0	+12
KCP	Kidapawan	66.26	294⇑	*e*P		P		17 04 37.8	+7.1
SKMP	Bagumbayan, Su	66.40	293	*e*P		P		17 04 30.9	-0.6
MPSI	Mapaga	66.68	285	P		P		17 04 33.0	-0.3
	comp=Z,16nm,0.9s								
BUKP	Musuan	66.81	295	*e*P		P		17 04 33.6	-0.5
PAGZ	Pagadian	68.11	294	*e*P		P		17 04 41.6	-0.7
MAW	Mawson	72.62	200	P		P		17 05 11.2	+2.1
	comp=Z,20nm,0.8s,baz=129,slow=6.8,SNR=22								
MAW				LR		LR		17 38 08.7	
	comp=Z,288nm,18.5s,baz=126,slow=37								
MAW	Mawson	72.62	200	P		P		17 05 11.2	+2.1
MAW				pmax		pmax			
	comp=Z,21nm,1.5s								
MAW	Mawson	72.62	200	P		P		17 05 11.2	+2.1
LEM	Lembang	73.51	272	LR		LR		17 38 20.8	
	comp=Z,267nm,18.4s,baz=124,slow=36								
SBUM	Sibu	74.27	282	P		P		17 05 19.6	0.0

KSM	Kuching	75.38	280	P		P		17 05 25.4	-0.7
KSM				IAmb		IAmb		17 05 39.3	
	comp=Z,22nm,1.0s								
SYO	Syowa Base	77.39	193⇓	*i*P		P		17 05 36.3	-0.3
SYO	Syowa Base	77.39	193⇑	*i*PcP		PcP		17 05 45.1	-1.8
SYO	Syowa Base	77.39	193⇑	*i*pP		pP		17 05 47.8	+1.6
SYO	Syowa Base	77.39	193⇑	*i*sP		sP		17 05 51.8	+2.0
MDSI	Maura Dua	77.63	272	P		P		17 05 39.9	+1.0
	comp=Z,19nm,0.9s								
INU	Inuyama	77.99	323	P		P		17 05 39.9	-0.4
INU				IAmb		IAmb		17 05 45.2	
	comp=Z,20nm,0.9s								
MJAR	Matsushiro Arr	78.31	325	P		P		17 05 41.6	-0.5
	comp=Z,14nm,0.9s,baz=167,slow=5.0,SNR=24								
MJAR				LR		LR		17 41 23.2	
	comp=Z,70nm,18.0s,baz=115,slow=37								
MJAR	Matsushiro Arr	78.31	325	P		P		17 05 40.0	-2.1
MJAR				pmax		pmax			
	comp=Z,8.0nm,0.9s								
MJAR	Matsushiro Arr	78.31	325	P		P		17 05 40.0	-2.1
MAJO	Matsushiro	78.32	325⇑	*e*P		P		17 05 42.2	+0.1
MAJO				pmax		pmax			
	comp=Z,15nm,1.0s								
MAJO	Matsushiro	78.32	325	P		P		17 05 40.1	-2.0
MAJO				IAmb		IAmb		17 05 46.9	
	comp=Z,25nm,1.0s								
MAT	Matsushiro	78.32	325	P		P		17 05 41.6	-0.5
MAT				S		S		17 15 35.0	0.0
MJB9	Matsu-Tunnel	78.32	325	P		P		17 05 40.4	-1.8
MJB9				IAmb		IAmb		17 05 46.9	
	comp=Z,25nm,1.0s								
SNAA	Sanae	78.33	178	P		P		17 05 42.8	+0.9
SNAA	Sanae	78.33	178	*c i*P		P		17 05 42.7	+0.8
SNAA				pmax		pmax			
	comp=Z,30nm,1.7s								
SNAA	Sanae	78.33	178	P		P		17 05 42.7	+0.8
SNAA				IAmb		IAmb		17 05 43.6	
	comp=Z,18nm,1.1s								
VNA3	Neumayer Olymp	78.47	176	P		P		17 05 43.4	+0.8
VNA2	Neumayer--Watz	78.91	177	P		P		17 05 46.1	+1.1
VNA1	Neumayer--Stat	79.13	176	P		P		17 05 47.5	+1.3
JNU	Nakatsue	79.68	318	P		P		17 05 50.3	+0.6
	comp=Z,21nm,1.2s,baz=127,slow=7.9,SNR=5.5								
JNU	Nakatsue	79.68	318	P		P		17 05 50.0	+0.3
JNU				IAmb		IAmb		17 05 54.5	
	comp=Z,21nm,1.0s								
H03S2	Juan Fernandez	80.23	123	T		T		18 35 17.5	
	baz=239,slow=74,SNR=29								
H03S1	Juan Fernandez	80.25	123	T		T		18 35 25.4	
	baz=239,slow=74,SNR=13								
H03S3	Juan Fernandez	80.25	123	T		T		18 35 20.0	
	baz=239,slow=74,SNR=22								
H03N3	Juan Fernandez	80.43	123	T		T		18 35 26.7	
	baz=252,slow=71,SNR=7.0								
H03N2	Juan Fernandez	80.43	123	T		T		18 35 30.9	
	baz=252,slow=71,SNR=8.3								
H03N1	Juan Fernandez	80.44	123	T		T		18 35 30.7	
	baz=252,slow=71,SNR=11								
MYKOM	Kota Tinggi	81.06	277	P		P		17 05 57.6	0.0
MYKOM				IAmb		IAmb		17 06 11.0	
	comp=Z,22nm,1.0s								
YUK	Yuzh-Kuril'sk	81.12	334	P		P		17 05 53.1	-4.0
YUK								17 08 59.7	
YUK				S		S		17 16 04.5	+0.4
YUK				SS		SS		17 21 18.9	-1.4
YUK				MLR		MLR			
	comp=N,261nm,17.0s								
YUK				MLR		MLR			
	comp=Z,179nm,17.0s								
PLCA	Paso Flores	82.34	133	P		P		17 06 04.8	+0.8
	comp=Z,7.2nm,0.8s,baz=231,slow=4.5,SNR=15								
PLCA				LR		LR		17 34 05.1	
	comp=Z,377nm,20.6s,baz=233,slow=29								
PLCA	Paso Flores	82.34	133	P		P		17 06 03.3	-0.8
PLCA				pmax		pmax			
	comp=Z,15nm,1.1s								
PLCA	Paso Flores	82.34	133	P		P		17 06 03.3	-0.8
PLCA				IAmb		IAmb		17 06 06.2	
	comp=Z,15nm,1.1s								
JKA	Kamikawa-asahi	82.46	332	P		P		17 06 05.8	+1.6
JKA	Kamikawa-asahi	82.46	332	IAmb		IAmb		17 06 11.8	
	comp=Z,36nm,1.0s								
ASAJ	Asahikawa	82.46	332	P		P		17 06 05.8	+1.6
	comp=Z,21nm,1.0s,baz=197,slow=15,SNR=5.0								
ASAJ	Asahikawa	82.46	332	P		P		17 06 05.8	+1.6
ASAJ				pmax		pmax			
	comp=Z,36nm,1.0s								
LC01	Cunco	82.49	131	P		P		17 06 05.3	+0.5
LC01				IAmb		IAmb		17 06 06.9	
	comp=Z,22nm,1.0s								
TJN	Taejon	84.03	318⇑	*e*P		P		17 06 12.8	+0.4
BI02	San Fabin de	84.11	129	P		P		17 06 13.6	+0.4
BI02				IAmb		IAmb		17 06 15.3	
	comp=Z,10nm,0.8s								
KSRS	Korea Array	84.46	319	P		P		17 06 15.1	+0.4
	comp=Z,6.3nm,1.0s,baz=140,slow=5.4,SNR=29								
KSAR	Wonju Array Be	84.48	319	P		P		17 06 14.5	-0.2
KSAR	Wonju Array Be	84.48	319	P		P		17 06 14.5	-0.2
PKM	Mcpherson Peak	84.55	44	P		P		17 06 16.8	+1.4
	baz=227								
YSS	Yuzh-Sakhalins	84.75	334⇑	*i*P		P		17 06 17.1	+1.3
YSS				*e*				17 06 20.7	
YSS				*e*				17 06 29.2	
YSS				*e*S		S		17 16 43.7	+2.8
YSS				pmax		pmax			
	comp=Z,30nm,0.8s								
YSS				MLR		MLR			
	comp=N,200nm,14.0s								
YSS	Yuzh-Sakhalins	84.75	334	P		P		17 06 16.2	+0.4
OSI	Osito Audit: C	85.03	45	P		P		17 06 18.9	+1.2
	baz=228								
MURC	Murrieta	85.31	47	P		P		17 06 20.4	+1.3
	baz=229								
MONP2	Monument Peak	85.34	48	P		P		17 06 20.6	+1.1
	baz=229								
IKP	In-Ko-Pah, Jac	85.39	48	P		P		17 06 20.8	+1.3
	baz=230								
BFSC	Mount Baldy Ra	85.44	46	P		P		17 06 20.8	+1.0
	baz=229								
EDW2	Edwards Air Fo	85.66	45	P		P		17 06 21.9	+1.1
	baz=228								
PEA0B	Petropavlovsk-	85.73	345	*ce*P		P		17 06 21.0	+0.4
PETK	Petropavlovsk-	85.73	345	P		P		17 06 21.0	+0.4
	comp=N,14nm,0.7s,baz=143,slow=8.0,SNR=24								
PETK				LR		LR		17 39 04.2	
	comp=N,221nm,21.5s,baz=144,slow=32								
PETK	Petropavlovsk-	85.73	345	P		P		17 06 20.6	0.0
PETK	Petropavlovsk-	85.73	345	P		P		17 06 20.6	0.0
SWSC	Sam W. Stewart	85.78	48	P		P		17 06 22.5	+1.2
	baz=230								
PFO	Pinyon Flats O	85.78	47	P		P		17 06 22.6	+1.0
	baz=229								
PFO	Pinyon Flats O	85.78	47	*de*P		P		17 06 22.9	+1.4
PFO				pmax		pmax			
	comp=Z,8.0nm,1.0s								
PSI	Prapat	85.81	276	LR		LR		17 47 50.2	
	comp=Z,302nm,18.0s,baz=92,slow=38								
ISA	Isabella, Lake	85.88	44	P		P		17 06 23.4	+1.4
	baz=228,SNR=5.4								
ISA	Isabella, Lake	85.88	44	P		P		17 06 21.7	-0.2
ISA				pmax		pmax			
	comp=Z,32nm,1.5s								
ISA	Isabella, Lake	85.88	44	P		P		17 06 21.7	-0.2
LRMC	Laurel Mtn Rad	86.25	45	P		P		17 06 24.4	+0.6
	baz=228,SNR=6.9								
RRX	Edison Barstow	86.27	46	P		P		17 06 24.9	+1.1
	baz=229								
BELC	Belle Mtn. Jos	86.33	47	P		P		17 06 25.5	+1.2
	baz=230,SNR=8.1								
CMB	Columbia Colle	86.36	42	P		P		17 06 24.3	+0.1
CMB				pmax		pmax			
	comp=Z,17nm,1.1s								
CMB	Columbia Colle	86.36	42	P		P		17 06 24.3	+0.1
CMB				IAmb		IAmb		17 06 39.1	
	comp=Z,17nm,1.1s								
NJ2	Nanjing	86.43	310	*e*P		P		17 06 26.6	+2.0
NJ2				pmax		pmax			
	comp=Z,12nm,0.5s								
MSHR	Mys Shultsa	86.43	325⇓	*e*P		P		17 06 25.5	+1.2
MSHR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
PEL	Peldehue	86.45	126	P		P		17 06 25.3	+0.3
PEL				pmax		pmax			
	comp=Z,26nm,0.8s								
PEL	Peldehue	86.45	126	P		P		17 06 25.3	+0.3

BC3	Big Chuckawall	86.45	48	P		P		17 06 26.2	+1.4
	baz=230,SNR=6.0								
GLA	Glamis	86.47	48	P		P		17 06 26.1	+1.3
	baz=230								
KHMM	Horse Mountain	86.49	38	P		P		17 06 25.0	+0.1
KHMM				IAmb		IAmb		17 06 41.0	
	comp=Z,16nm,1.0s								
O02D	Mt. Diablo Mer	86.50	39	P		P		17 06 26.5	+1.6
	baz=225,SNR=14								
CWC	Cottonwood Cre	86.64	44	P		P		17 06 26.9	+1.2
	baz=228								
AFDM	Forest Hills D	86.65	41	P		P		17 06 25.8	+0.2
HEC	Hector,Ludlow	86.65	46	P		P		17 06 27.0	+1.2
	baz=229								
GSC	Goldstone, Bar	86.67	46	P		P		17 06 26.8	+1.0
	baz=229,SNR=6.8								
GSC	Goldstone, Bar	86.67	46	P		P		17 06 25.5	-0.3
GSC				pmax		pmax			
	comp=Z,18nm,1.2s								
GSC	Goldstone, Bar	86.67	46	P		P		17 06 25.5	-0.3
GSC				IAmb		IAmb		17 06 41.2	
	comp=Z,18nm,1.2s								
MPMC	Manual Prospec	86.74	45	P		P		17 06 27.1	+0.8
	baz=229,SNR=7.9								
OMMB	Old Mammoth Mi	86.88	43	P		P		17 06 27.1	0.0
OMMB				IAmb		IAmb		17 06 29.6	
	comp=Z,33nm,1.9s								
WDC	Whiskeytown Da	86.92	39	P		P		17 06 26.4	-0.4
WDC				pmax		pmax			
	comp=Z,22nm,1.3s								
WDC	Whiskeytown Da	86.92	39	P		P		17 06 26.4	-0.4
WDC				IAmb		IAmb		17 06 42.0	
	comp=Z,22nm,1.2s								
IRM	Iron Mountain	86.97	47	P		P		17 06 28.8	+1.6
	baz=230								
GMRC	Granite Mounta	87.05	47	P		P		17 06 28.9	+1.1
	baz=230								
N02D	Trinity Center	87.11	38	P		P		17 06 29.1	+1.3
	baz=225,SNR=8.7								
214A	Organ Pipe Nat	87.11	50	P		P		17 06 29.3	+1.3
	baz=232								
Y12C	Blythe	87.11	48	P		P		17 06 29.5	+1.6
	baz=230								
O03E	Paynes Creek	87.12	39	P		P		17 06 29.0	+1.2
	baz=226								
WAKR	Walker	87.22	42	P		P		17 06 28.5	-0.1
WAKR				IAmb		IAmb		17 06 31.0	
	comp=Z,13nm,1.1s								
USA0B	Ussuriysk Arra	87.22	326⇑	*e*P		P		17 06 29.5	+1.4
USRK	Ussuriysk Ar.	87.22	326	P		P		17 06 29.2	+1.1
	comp=Z,14nm,0.9s,baz=137,slow=3.7,SNR=22								
USRK				LR		LR		17 39 13.9	
	comp=Z,123nm,21.7s,baz=117,slow=31								
USRK	Ussuriysk Ar.	87.22	326	P		P		17 06 28.4	+0.2
USRK	Ussuriysk Ar.	87.22	326	P		P		17 06 28.4	+0.2
M02C	Callahan	87.32	38	P		P		17 06 30.3	+1.4
	baz=225,SNR=7.4								
SHOC	Shoshone, Teco	87.38	45	P		P		17 06 30.4	+1.2
	baz=229								
FURC	Furnace Creek,	87.39	45	P		P		17 06 30.5	+1.3
	baz=229								
GRAC	Grapevine Rang	87.44	44	P		P		17 06 31.0	+1.6
	baz=229								
PNTR	Pine Nut	87.52	41	P		P		17 06 29.8	-0.2
PNTR				IAmb		IAmb		17 06 32.1	
	comp=Z,11nm,0.8s								
YBH	Yreka Blue Hor	87.64	38	P		P		17 06 30.1	-0.2
YBH				pmax		pmax			
	comp=Z,12nm,1.3s								
YBH	Yreka Blue Hor	87.64	38	P		P		17 06 30.1	-0.2
YBH				IAmb		IAmb		17 06 45.5	
	comp=Z,12nm,1.2s								
YERR	Yerington	87.66	42	P		P		17 06 30.2	-0.4
NEE2	Needles Airpor	87.69	47	P		P		17 06 32.3	+1.6
	baz=230								
PDMCI	Parker Dam,Lak	87.71	48	P		P		17 06 32.2	+1.5
	baz=231								
K02D	Willamette Mer	87.82	37	P		P		17 06 32.3	+1.1
	baz=224,SNR=5.4								
NVAR	Mina Array Bea	87.83	42	P		P		17 06 32.2	+0.7
	comp=Z,6.5nm,0.8s,baz=220,slow=8.4,SNR=35								
NVAR				LR		LR		17 40 22.8	
	comp=Z,283nm,18.7s,baz=231,slow=32								
NVAR	Mina Array Bea	87.83	42	P		P		17 06 30.9	-0.6
RYN	Ryan	87.83	42	P		P		17 06 31.2	-0.3
RYN				IAmb		IAmb		17 06 34.9	
	comp=Z,14nm,1.4s								
NV11	Mina Array Sit	87.92	43	P		P		17 06 31.3	-0.6
NV11				IAmb		IAmb		17 06 33.9	
	comp=Z,11nm,1.1s								
J01E	Myrtle Point	88.02	36	P		P		17 06 33.5	+1.5
	baz=224								
TYV	Tymovskoe	88.04	336	*e*P		P		17 06 32.6	+0.7
TYV				pmax		pmax			
	comp=Z,17nm,0.8s								
PAHR	Pah Rah Range	88.06	41	P		P		17 06 32.1	-0.4
TPNV	Topopah Spring	88.08	45	P		P		17 06 33.9	+1.3
	baz=229								
TPNV	Topopah Spring	88.08	45	P		P		17 06 31.9	-0.8
TPNV				pmax		pmax			
	comp=Z,9.

E04D Cinebar 91.12 34 P **P** 17 06 48.2 +1.8
baz=225
ELK Elko 91.13 42 P **P** 17 06 46.4 -0.6
ELK pmax pmax
comp=Z,6.0nm,1.3s
ELK Elko 91.13 42 P **P** 17 06 46.4 -0.6
G06A Carlson Farm, 91.16 36 P **P** 17 06 46.4 -0.3
D03D Eldon 91.56 33 P **P** 17 06 49.7 +1.2
baz=225
ENH Enshi 91.83 304 P **P** 17 06 49.8 -0.4
TXAR Lajitas Array 91.95 57 P **P** 17 06 51.2 +0.4
comp=Z,1.2nm,0.8s,baz=200,slow=10,SNR=5.1
TXAR LR LR 17 42 34.0
comp=Z,78nm,18.0s,baz=0.0,slow=32
TXAR Lajitas Array 91.95 57 P **P** 17 06 50.1 -0.8
TXAR Lajitas Array 91.95 57 P **P** 17 06 50.1 -0.8
MNTX Cornudas Mount 92.05 54 P **P** 17 06 51.7 +0.6
baz=235
CMIG Matias Romero 92.31 72 P **P** 17 06 53.9 +1.2
comp=Z,3nm,0.8s,baz=301,slow=9.1,SNR=3.7
MFID Camas Ranch 92.52 40 P **P** 17 06 53.1 -0.1
MFID IAmb IAmb 17 06 55.0
comp=Z,7.1nm,0.8s
BMO Blue Mountains 92.65 38 P **P** 17 06 53.2 -0.5
BMO pmax pmax
comp=Z,4.0nm,1.0s
BMO Blue Mountains 92.65 38 P **P** 17 06 53.2 -0.5
NNA Nana 93.09 106 LR LR 17 39 16.5
comp=Z,116nm,21.7s,baz=232,slow=29
ANMO Albuquerque 93.15 51 P **P** 17 06 57.1 +0.7
baz=235
ANMO Albuquerque 93.15 51 *ce*P **P** 17 06 57.2 +0.7
ANMO pmax pmax
comp=Z,11nm,2.4s
HLID Hailey 93.40 41 P **P** 17 06 58.2 +0.9
baz=231
HLID Hailey 93.40 41 P **P** 17 06 56.4 -1.0
HLID IAmb IAmb 17 06 59.4
comp=Z,5.0nm,0.8s
F10A Beach Ranch, E 93.43 37 P **P** 17 06 56.3 -1.0
F10A IAmb IAmb 17 06 58.4
comp=Z,8.2nm,0.8s
CMAR Chiang Mai Arr 93.72 289 P **P** 17 07 00.7 +1.6
comp=Z,1.9nm,1.0s,baz=132,slow=3.7,SNR=4.5
CMAR LR LR 17 51 24.4
comp=Z,50nm,19.2s,baz=155,slow=37
CMAR Chiang Mai Arr 93.72 289 P **P** 17 06 58.5 -0.6
CMAR Chiang Mai Arr 93.72 289 P **P** 17 06 58.5 -0.6
KMI Kunming 94.09 297 ‖ *e*P **P** 17 07 02.1 +1.1
KMI pP pP 17 07 07.3 -3.6
KMI pmax pmax
comp=Z,8.0nm,0.5s
KMI pmax pmax
comp=Z,64nm,3.7s
XAN Xi'an 94.32 307 P **P** 17 07 04.4 +2.8
XAN SKS **SKSac** 17 17 36.5 +2.4
XAN S **S** 17 18 06.9 -4.0
XAN pmax pmax
comp=Z,5.0nm,1.6s
XAN LR LR
comp=Z,120nm,19.5s
XAN LR LR
comp=Z,250nm,19.5s
S22A 4UR Ranch, Cre 94.50 49 P **P** 17 07 03.1 +0.4
baz=235
YAH Yahtse 94.90 17 P **P** 17 07 03.1 -0.8
MCMT McKenzie Canyo 95.07 40 P **P** 17 07 04.1 -1.0
FXWY Fox Creek 95.38 42 P **P** 17 07 06.5 0.0
DLMT Dillon 95.54 40 P **P** 17 07 06.8 -0.3
DLMT IAmb IAmb 17 07 21.9
comp=Z,7.0nm,1.2s
PDAR Pinedale Array 95.72 43 P **P** 17 07 07.8 -0.3
comp=Z,0.6nm,0.7s,baz=98,slow=3.0,SNR=3.7
PDAR PKKPbc **PKKPbc** 17 23 59.0 +0.1
comp=Z,0.5nm,0.6s,baz=84,slow=4.6,SNR=5.3
PDAR LR LR 17 46 31.1
comp=Z,197nm,18.2s,baz=270,slow=33
TRF Thorofare Moun 95.82 12 P **P** 17 07 06.7 -1.2
TRF IAmb IAmb 17 07 11.4
comp=Z,5.6nm,0.8s
BOZ Bozeman (W) 96.22 40 P **P** 17 07 11.2 +1.0
baz=233
BOZ Bozeman (W) 96.22 40 P **P** 17 07 10.0 -0.2
BOZ pmax pmax
comp=Z,6.0nm,1.2s
BOZ Bozeman (W) 96.22 40 P **P** 17 07 10.0 -0.2
ZEA Zeya 96.28 331 *e*P **P** 17 07 13.8 +3.8
ZEA pmax pmax
comp=Z,12nm,1.0s
CD2 Chengdu 96.33 302 P **P** 17 07 10.8 -0.1
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 96.39 314 *e*P **P** 17 07 11.0 0.0
HHC SKS **SKSac** 17 17 48.3 +3.3
HHC S **S** 17 18 27.3 -1.4
HHC pmax pmax
comp=Z,19nm,1.2s
HHC pmax pmax
comp=Z,41nm,6.2s
HHC LR LR
comp=Z,59nm,21.3s
HHC LR LR
comp=Z,72nm,17.3s
HHC LR LR
comp=Z,140nm,19.9s
CCB Clear Creek Bu 97.37 12 P **P** 17 07 13.5 -1.2
ILAR Eielson Array 97.65 13 P **P** 17 07 14.6 -1.4
comp=Z,1.0nm,0.8s,baz=219,slow=5.4,SNR=5.9
ILAR LR LR 17 45 17.4
comp=Z,40nm,21.2s,baz=178,slow=32
ILAR Eielson Array 97.65 13 P **P** 17 07 14.9 -1.1
ILAR Eielson Array 97.65 13 P **P** 17 07 14.9 -1.1
LPAZ La Paz 97.86 114 LR LR 17 41 54.9
comp=Z,97nm,21.9s,baz=172,slow=30
BILL Bilibino 98.70 354 ‖ *e*P Pdif 17 07 20.9 +0.3
BILL *e* 17 11 25.0
BILL pmax pmax
comp=Z,2.0nm,1.0s
BILL MLR MLR
comp=Z,163nm,19.0s
CPUP Villa Florida 99.79 128 LR LR 17 44 13.6
comp=Z,248nm,21.4s,baz=232,slow=30
RSSD Black Hills 99.81 44 P **Pdif** 17 07 26.8 +0.4
baz=237
INK Inuvik 103.49 15 P **Pdif** 17 07 43.6 +1.7
INK pmax pmax
comp=Z,3.0nm,0.9s
INK Inuvik 103.49 15 P **Pdif** 17 07 43.6 +1.7
INK IAmb IAmb 17 07 50.6
comp=Z,2.8nm,0.8s
N51A Ashland 112.69 55 P **PKiKP** 17 12 17.8 -0.6
baz=249
R54A Victor 112.70 58 P **PKiKP** 17 12 18.0 -0.5
baz=249
WMQ Urumqi 113.42 308 *e*PKP **PKiKP** 17 12 20.4 +0.6
WMQ LR LR
comp=Z,140nm,23.5s
WMQ LR LR
comp=Z,170nm,22.3s
DGZ Jazzator, Alta 115.47 314 ‖ *i*PKIKP **PKiKP** 17 12 24.7 +1.0
D50A G1974 Best Tow 116.43 49 P **PKPdf** 17 12 25.6 +0.3
baz=253
H53A Bobcaygeon 116.52 52 P **PKPdf** 17 12 25.7 0.0
baz=253
BOSA Boshof 117.59 203 PKP **PKPdf** 17 12 27.2 -1.3
comp=Z,2.5nm,0.9s,baz=173,slow=6.6,SNR=4.1
MK31 Makanchi Array 117.96 310 PKIKP **PKPdf** 17 12 27.3 -1.0
MK31 Makanchi Array 117.96 310 **PKPdf** 17 12 27.3 -1.0
MKAR Makanchi Array 117.96 310 PKP **PKPdf** 17 12 27.4 -0.9
comp=Z,1.0nm,0.6s,baz=222,slow=0.9,SNR=9.7
MKAR PKKPbc **PKKPab** 17 22 52.3 +2.3
comp=Z,0.5nm,0.6s,baz=270,slow=3.6,SNR=4.3
MKAR Makanchi Array 117.96 310 PKIKP **PKPdf** 17 12 27.3 -1.1
MKAR Makanchi Array 117.96 310 **PKPdf** 17 12 27.3 -1.1
ZALV Zalesovo Beam 118.16 318 PKP **PKPdf** 17 12 27.3 -1.1
comp=Z,0.9nm,0.6s,baz=13,slow=1.8,SNR=4.2
ZALV Zalesovo Beam 118.16 318 PKIKP **PKPdf** 17 12 27.0 -1.4
ZALV Zalesovo Beam 118.16 318 PKPdf **PKPdf** 17 12 27.0 -1.4
MAKZ Makanchi 118.17 310 PKIKP **PKPdf** 17 12 28.1 -0.7
MAKZ Makanchi 118.17 310 **PKPdf** 17 12 28.1 -0.7
NRIK Noril'sk 119.63 336 PKP **PKPdf** 17 12 30.0 -0.9
comp=Z,2.5nm,0.6s,baz=93,slow=4.1,SNR=4.3
NRIK Noril'sk 119.63 336 PKIKP **PKPdf** 17 12 30.0 -0.9
TARG Taragay, Kyrgy 119.73 303 PKPdf **PKPdf** 17 12 31.6 -0.9
M63A Gales Ferry 120.25 57 P **PKPdf** 17 12 33.0 +0.1
baz=255

KURK Kurchatov 121.21 314 *c* iPKIKP **PKPdf** 17 12 33.5 -0.9
KURK pmax pmax
comp=Z,7.0nm,1.7s
KURK Kurchatov 121.21 314 **PKPdf** 17 12 33.2 -1.2
KURK Kurchatov 121.21 314 PKKPab 17 22 36.5 +0.9
KURBB Kurchatov Arra 121.25 314 PKP **PKPdf** 17 12 33.6 -0.8
comp=Z,2.9nm,0.7s,baz=110,slow=1.7,SNR=40
KURBB PKKPbc **PKKPab** 17 22 36.5 +1.1
comp=Z,0.3nm,0.8s,baz=278,slow=5.0,SNR=5.4
I62A Tamworth 121.36 54 P **PKPdf** 17 12 35.0 0.0
baz=257
F60A Warwick 121.40 52 P **PKPdf** 17 12 35.1 +0.1
baz=258
J63A Strafford 121.41 55 P **PKPdf** 17 12 35.4 +0.4
baz=256
G61A St-Isidore-de- 121.54 53 P **PKPdf** 17 12 35.7 +0.4
baz=258
I63A Otisfield 121.93 54 P **PKPdf** 17 12 36.2 +0.2
baz=257
F61A St Evariste 122.06 52 P **PKPdf** 17 12 36.2 0.0
baz=258
G62A West of Eustis 122.22 53 P **PKPdf** 17 12 36.5 -0.1
baz=258
AAK Ala-Archa 122.34 304 PKP **PKPdf** 17 12 37.1 0.0
comp=Z,1.6nm,0.5s,baz=185,slow=19,SNR=1.8
E61A Lac Etchemin 122.49 52 P **PKPdf** 17 12 37.2 +0.1
baz=259
F62A Pittston Farm, 122.74 52 P **PKiKP** 17 12 38.2 +0.5
baz=259
G63A Kingsbury 122.83 53 P **PKPdf** 17 12 38.0 +0.3
baz=259
F63A Nahmakanta, Br 123.30 53 P **PKPdf** 17 12 38.5 -0.2
baz=259
E63A Oxbow 123.89 52 P **PKPdf** 17 12 39.8 +0.1
baz=260
E64A Bridgewater 124.30 52 P **PKiKP** 17 12 41.0 +0.3
baz=260
H66A Whiting 124.38 54 P **PKPdf** 17 12 40.8 +0.2
baz=260
KBL Kabul 124.51 293 PKIKP **PKPdf** 17 12 41.3 -0.3
KBL Kabul 124.51 293 **PKPdf** 17 12 41.3 -0.3
GAR Garm 124.61 299 PKPdf **PKPdf** 17 12 41.5 0.0
KK31 Karatay Array 125.30 304 PKIKP **PKPdf** 17 12 42.5 -0.1
KK31 Karatay Array 125.30 304 PKPdf **PKPdf** 17 12 42.5 -0.1
KKAR Karatay Array 125.30 304 PKIKP **PKPdf** 17 12 42.4 -0.2
KKAR pmax pmax
comp=Z,13nm,0.8s
KKAR Karatay Array 125.30 304 **PKPdf** 17 12 42.0 -0.6
KKAR Karatay Array 125.30 304 **PKPdf** 17 12 42.2 -0.4
KKAR Karatay Array 125.30 304 P **PKPdf** 17 12 42.4 -0.1
KKAR IAmb IAmb 17 12 56.7
comp=Z,13nm,0.8s
CHGR Chuyangaron 125.42 298 **PKPdf** 17 12 42.6 -0.4
LMN Caledonia Moun 126.29 53 PKPdf **PKPdf** 17 12 43.4 -0.9
BVAR Borovoye Array 126.55 316 PKP **PKPdf** 17 12 44.6 0.0
comp=Z,3.1nm,0.6s,baz=104,slow=1.4,SNR=19
BRVK Borovoye 126.61 316 ‖ *i*PKIKP **PKPdf** 17 12 44.6 -0.1
BRVK pmax pmax
comp=Z,8.0nm,1.7s
BRVK Borovoye 126.61 316 PKPdf **PKPdf** 17 12 44.1 -0.7
SPA0 Spitsbergen Ar 131.54 356 *e*PKPdf **PKPdf** 17 12 54.2 +0.8
SPITS Spitsbergen Ar 131.54 356 PKP **PKPdf** 17 12 53.4 -0.1
comp=Z,7.6nm,0.9s,baz=119,slow=8.7,SNR=3.2
ABKAR Akbulak array 133.09 311 **PKPdf** 17 12 56.5 -0.7
ARU Arti 133.20 321 PKP **PKPdf** 17 12 57.3 +0.2
comp=Z,1.1nm,0.5s,baz=160,slow=5.1,SNR=5.6
ARU Arti 133.20 321 *i* PKIKP **PKPdf** 17 12 57.1 0.0
ARU 17 15 24.8
ARU SS SS 17 33 12.9 +7.4
ARU MLR MLR
comp=Z,196nm,21.0s
ARU Arti 133.20 321 **PKPdf** 17 12 57.2 0.0
GEYT Alibeck 133.84 295 PKP **PKPdf** 17 12 59.1 +0.1
comp=Z,4.9nm,0.8s,baz=211,slow=1.7,SNR=9.7
GEYT Alibeck 133.84 295 **PKPdf** 17 12 59.3 +0.3
GYA0B ALIBECK ARRAY 133.84 295 PKPdf **PKPdf** 17 12 59.0 0.0
AKTO Aktyubinsk 134.27 313 PKP **PKPdf** 17 12 59.9 +0.5
comp=Z,2.9nm,0.7s,baz=81,slow=3.2,SNR=8.9
BJO1 Bjornoya 134.86 354 *e*PKPdf **PKPdf** 17 13 00.0 +0.3
ARCES ARCESS Array B 138.49 348 PKhKP PKPpre 17 12 58.8
comp=Z,3.3nm,0.9s,baz=18,slow=1.5,SNR=5.3
H10N3 ASCENSION HYDR 138.81 154 T T 19 50 04.3
baz=203,slow=76,SNR=23
comp=Z,7.6nm,0.9s,baz=119,slow=8.7,SNR=3.2
H10N1 ASCENSION HYDR 138.81 154 T T 19 49 58.5
baz=203,slow=76,SNR=21
H10N2 ASCENSION HYDR 138.82 154 T T 19 50 00.3
baz=203,slow=76,SNR=29
KLMR Klimovskoe 140.78 332 *e*PKIKP **PKPdf** 17 13 08.8 -2.2
KLMR pmax pmax
comp=Z,12nm,0.8s
KLMR Klimovskoe 140.78 332 *e*PKPdf **PKPdf** 17 13 08.8 -2.2
KLMR AMP 17 13 18.2
comp=Z,12nm,0.8s
MOS Moscow 144.40 326 *e*PKIKP **PKPab** 17 13 14.9 -0.9
MOS pmax pmax
comp=Z,45nm,1.0s
ZEI Tsey 144.74 302 *e*PKIKP **PKPab** 17 13 16.5 -1.3
ZEI pmax pmax
comp=Z,25nm,0.8s
PUL Pulkovo 144.99 336 *e*P PKiKP 17 13 30.8 +8.5
PUL Pulkovo 144.99 336 ‖ *e*PKIKP **PKPab** 17 13 17.7 -0.1
GOF Gofitskoye 145.00 306 ‖ *e*PKIKP PKPbc 17 13 18.7 +0.3
GOF pmax pmax
comp=Z,41nm,0.7s
CLDR Caldiran 145.01 296 *e*P **PKPdf** 17 13 20.1 +0.6
FIA1 FINESS Array S 145.10 340 **PKPbc** 17 13 17.6 -0.6
FINES FINESS Array B 145.10 340 PKP **PKPbc** 17 13 17.7 -0.4
comp=Z,38nm,0.6s,baz=58,slow=2.7,SNR=119
FINES FINESS Array B 145.10 340 PKIKP **PKPbc** 17 13 17.6 -0.5
AKH Akhalkalaki 145.19 300 ↑P **PKPdf** 17 13 20.4 +0.7
AKH Akhalkalaki 145.19 300 PKIKP **PKPbc** 17 13 19.0 -0.4
AKH Akhalkalaki 145.19 300 **PKPbc** 17 13 19.0 -0.4
LPSR Galich'ya Gora 145.22 321 *e*PKIKP **PKPbc** 17 13 18.5 -0.3
LPSR pmax pmax
comp=Z,30nm,0.7s
OBN Obninsk 145.24 326 PKPbc **PKPbc** 17 13 18.7 -0.1
comp=Z,12nm,0.8s,baz=301,slow=3.1,SNR=14
OBN Obninsk 145.24 326 ‖ P **PKPbc** 17 13 18.4 -0.4
OBN Obninsk 145.24 326 *e*PKIKP **PKPbc** 17 13 18.3 -0.4
OBN Obninsk 145.24 326 **PKPbc** 17 13 18.3 -0.4
CUKT Cukurca 145.28 293 *e*P **PKPdf** 17 13 21.2 +1.3
KBZ Khabaz 145.34 304 PKPbc **PKPbc** 17 13 19.6 +0.1
comp=Z,6.8nm,0.6s,baz=173,slow=3.6,SNR=18
KIV Kislovodsk 145.45 305 ‖ P **PKPbc** 17 13 19.9 -0.1
KIV Kislovodsk 145.45 305 *i* PKIKP **PKiKP** 17 13 23.2 -0.7
KIV pmax pmax
comp=Z,79nm,1.1s
KIV MLR MLR
comp=Z,345nm,24.0s
KIV Kislovodsk 145.45 305 PKPbc **PKPbc** 17 13 20.1 +0.1
VSR Storozhevoye 145.66 318 *e*PKP2 **PKPdf** 17 13 19.7 -0.2
VSR pmax pmax
comp=Z,40nm,0.6s
VORD Divnogorie 145.69 318 *e*PKP2 **PKPdf** 17 13 20.2 +0.3
VORD pmax pmax
comp=Z,20nm,0.7s
AGRB Hanur-Agry 145.71 297 *e*P **PKPab** 17 13 22.2 +0.7
AKDM Akdamar-Van 145.77 295 *e*P **PKPab** 17 13 22.3 +0.6
SIRT Sirnak 146.21 293 *e*P **PKPbc** 17 13 22.6 +0.1
GURO Guroymak-BITLI 146.50 295 *e*P **PKPab** 17 13 24.5 0.0
KOPR Koprukoy-ERZUR 146.56 298 *e*P **PKPbc** 17 13 24.3 +0.7
BCA Borcka 146.59 300 ‖ P **PKPbc** 17 13 23.5 +0.1
BCA Borcka 146.59 300 *e*P **PKPbc** 17 13 23.4 0.0
SVAN Silvan-Diyarba 147.18 294 *e*P **PKPbc** 17 13 25.8 +0.6
VSU Vasula 147.21 336 *e*P **PKPbc** 17 13 24.8 +0.2
CHOM Cayeli-Rize 147.28 300 *e*P **PKPbc** 17 13 23.3 +0.3
MOL Molde 147.46 356 *e*PKPdf **PKPdf** 17 13 22.8 +0.2
BNGB Bingl 147.54 296 *e*P **PKPbc** 17 13 27.5 +1.2
SOC Sochi 147.63 305 *e*PKP2 **PKPdf** 17 13 25.1 +1.6
SOC *e* 17 17 01.0
SOC *e*PPP PPP 17 20 12.4
SOC *e*SS SS 17 35 56.8 +1.7
SOC pmax pmax
comp=Z,23nm,0.8s
SOC MLR MLR
comp=Z,184nm,20.0s
MAZI Mazidag 147.79 293 *e*P **PKPbc** 17 13 27.8 +0.7
DOMB Dombas 147.87 354 *e*PKPbc **PKPbc** 17 13 25.9 -0.5
AKN Aaknes 147.89 356 *e*PKPbc **PKPbc** 17 13 26.6 +0.3
AKN *e*gPKPbc **PKPab** 17 13 30.1 +1.2
DYBB Diyarbakir 148.02 294 *e*P **PKPbc** 17 13 27.4 -0.2
NC303 NORSAR Array S 148.42 352 **PKPbc** 17 13 27.4 -0.4
NC204 NORSAR Array S 148.45 352 **PKPbc** 17 13 27.5 -0.5
NC405 NORSAR Array S 148.49 351 **PKPbc** 17 13 27.9 -0.1

PTK Pertek 148.55 296 *e*P **PKiKP** 17 13 30.7 +0.1
FOO Floro 148.56 358 *e*PKPdf **PKPdf** 17 13 25.1 +0.8
FOO *e*gPKPdf **PKPbc** 17 13 28.1 0.0
NB201 NORSAR Array S 148.60 352 **PKPbc** 17 13 28.0 -0.3
NB2 NORSAR Subarra 148.62 352 PKP **PKPbc** 17 13 28.4 0.0
comp=Z,4.5nm,0.7s,baz=12,slow=2.7
NB2 NORSAR Subarra 148.62 352 PKPab **PKPbc** 17 13 28.4 0.0
baz=12,slow=2.7
NOA NORSAR Array B 148.62 352 PKPbc **PKPbc** 17 13 27.1 -1.3
comp=Z,10.0nm,0.9s,baz=14,slow=4.3,SNR=26
SVRC Sivrice-ELAZID 148.65 295 *e*P **PKiKP** 17 13 30.8 0.0
NBO00 NORSAR Array S 148.68 352 **PKPbc** 17 13 28.2 -0.3
NAO01 NORSAR Array S 148.85 352 **PKPbc** 17 13 28.4 -0.6
NC602 NORSAR Array S 148.88 351 **PKPbc** 17 13 28.2 -0.7
NC602 NORSAR Array S 148.88 351 *e*gPKPdf **PKPbc** 17 13 28.5 -0.4
ANN Anapa 148.94 308 *i* PKP2 **PKPbc** 17 13 29.8 +0.2
ANN pmax pmax
comp=Z,70nm,0.9s
SKAR Skarslia 149.28 354 *e*gPKPdf **PKPbc** 17 13 29.5 -0.6
MALT Malatya 149.34 295 *e*P **PKiKP** 17 13 32.1 0.0
IZAR Zarasai 149.41 333 *e*P **PKPab** 17 13 34.7 -0.5
ISAL Salakas 149.59 333 *e*P **PKiKP** 17 13 33.1 +1.2
MICGM Minsk 149.62 330 *e* **PKPbc** 17 13 29.0 -2.0
MNK Minsk 149.62 330 *e*PKHKP **PKPdf** 17 13 29.0 +2.7
ASK Askoy 149.67 357 *e*gPKPdf **PKPbc** 17 13 30.1 -0.7
ASK *e*PKPbc **PKiKP** 17 13 31.6 -0.3
IIGN Ignalina 149.71 333 *e*P **PKPbc** 17 13 31.6 +0.4
OSL Oslo 149.75 352 *e*PKPdf **PKPdf** 17 13 24.9 -1.4
BER Bergen 149.76 357 *e*gPKPdf **PKPbc** 17 13 30.5 -0.7
NACGM Naroch 149.80 332 *e* **PKPab** 17 13 38.0 +1.1
NACGM *e*LQ LQ 18 12 16.0
NACGM *e*LR LR 18 16 26.0
RSDY Resadiye-TOKAT 149.96 299 *e*P **PKiKP** 17 13 33.6 +0.4
DARE Darende-Malaty 150.06 296 *e*P **PKiKP** 17 13 34.5 +0.9
ODD1 Odda 150.17 356 *e*PKPdf **PKPdf** 17 13 27.4 +0.3
ODD1 *e*gPKPdf **PKPbc** 17 13 30.8 -1.4
KONO Kongsberg 150.17 353 PKIKP **PKPbc** 17 13 32.0 -0.2
KONO Kongsberg 150.17 353 **PKPbc** 17 13 32.0 -0.2
KONO Kongsberg 150.17 353 *e*PKPbc **PKPbc** 17 13 31.9 -0.2
KONO *e*PKPab **PKPab** 17 13 39.2 +0.9
SVSK Karacayir 150.28 298 *e*P **PKiKP** 17 13 34.7 +0.9
GAZ Gaziantep 150.38 293 *e*P **PKPbc** 17 13 34.1 +0.6
GAZ Gaziantep 150.38 293 **PKPbc** 17 13 34.0 +0.5
PABE Paberze 150.45 335 *e*P **PKPbc** 17 13 33.2 +0.3
KMRS Kahramanmaras 150.61 294 *e*P **PKPbc** 17 13 34.3 +0.3
BLS5 Blasjo 150.66 356 *e*PKPdf **PKPdf** 17 13 28.4 +0.6
BLS5 *e*PKPab **PKPab** 17 13 40.6 +0.3
PBUR Paburge 150.75 337 *e*P **PKPbc** 17 13 33.8 +0.1
KVT Kavak 150.80 301 *e*P **PKiKP** 17 13 35.5 +0.5
SARI SarD1z-Kayseri 150.91 295 *e*P **PKiKP** 17 13 35.9 +0.4
DIKM Dikmen 151.26 302 ‖ P **PKiKP** 17 13 36.4 +0.6
DIKM Dikmen 151.26 302 *e*P **PKPdf** 17 13 26.0 -3.3
BNN Bunyan 151.30 297 *e*P **PKiKP** 17 13 36.9 +0.7
AKASG Malin Array Be 151.39 323 PKPbc **PKPbc** 17 13 35.0 -0.3
comp=Z,7.2nm,0.6s,baz=47,slow=2.7,SNR=20
AKASG Malin Array Be 151.39 323 PKIKP **PKPbc** 17 13 34.8 -0.5
AKASG Malin Array Be 151.39 323 PKPbc **PKPbc** 17 13 34.8 -0.5
AKBB Malin Array Si 151.39 323 PKIKP **PKPbc** 17 13 34.8 -0.5
AKBB Malin Array Si 151.39 323 **PKPbc** 17 13 34.8 -0.5
KOZT Kozan 151.46 294 *e*P **PKiKP** 17 13 36.7 +0.3
CEYT Ceyhan 151.56 293 *e*P **PKiKP** 17 13 36.8 +0.2
SHBL Chebaa 151.60 285 *e*P **PKiKP** 17 13 37.6 +0.6
HOMB Homborsund 151.64 353 *e*PKPbc **PKPbc** 17 13 35.9 +0.3
SNART Snartemo 151.69 355 *e*gPKPdf **PKPbc** 17 13 33.1 -2.6
SNART *e*PKPbc **PKPbc** 17 13 36.2 0.0
BHL Bhannes 151.70 286 *e*P **PKiKP** 17 13 37.5 +0.3
SUW Suwalki 151.89 334 PKIKP **PKPbc** 17 13 36.0 -0.3
SUW Suwalki 151.89 334 **PKPbc** 17 13 36.0 -0.3
CORM Corum 152.03 300 *e*P **PKiKP** 17 13 38.4 +0.8
ILGA Ilgaz 152.53 302 **PKPbc** 17 13 38.6 0.0
MERS Mersin 152.55 293 *e*P **PKPbc** 17 13 38.5 0.0
BR131 Keskin Array S 152.86 299 PKIKP **PKPbc** 17 13 38.4 -0.8
BR131 Keskin Array S 152.86 299 **PKPbc** 17 13 38.4 -0.8
BRTR Keskin Array B 152.86 299 PKPbc **PKPbc** 17 13 38.5 -0.7
comp=Z,5.6nm,0.7s,baz=129,slow=3.3,SNR=25
BRTR Keskin Array B 152.86 299 PKIKP **PKPbc** 17 13 38.7 -0.5
BRTR Keskin Array B 152.86 299 **PKPbc** 17 13 38.7 -0.5
EREN Erenkoy 152.91 290 *e*P **PKiKP** 17 13 40.3 +0.9
SORM Soroca 153.30 319 ↑P **PKPbc** 17 13 39.9 +0.2
SORM Soroca 153.30 319 ↑PKIKP **PKPbc** 17 13 39.9 +0.2
ANTO Ankara 153.47 300 ‖ P **PKiKP** 17 13 41.3 +0.7
ANTO Ankara 153.47 300 PKIKP **PKPbc** 17 13 40.3 -0.2
ANTO Ankara 153.47 300 **PKPbc** 17 13 40.3 -0.2
BSD Bornholm Skovb 153.56 344 *i* P **PKPbc** 17 13 38.2 -1.8
BSD Bornholm Skovb 153.56 344 *e*PKIKP **PKPbc** 17 13 38.2 -1.8
CSS Mathiatis 153.62 288 **PKPbc** 17 13 40.6 -0.2
MDUB Mudurnu 154.52 302 **PKPbc** 17 13 42.0 -0.7
SKMB Sankelmark Bun 155.00 350 *e*PKPab **PKPab** 17 13 59.2 +0.6
baz=20,slow=4.3
LIC Lamto 155.12 162 *e*PKP1 PKPbc 17 13 44.5
comp=Z,41nm,1.0s
BIZ Bicaz 155.23 319 ‖ P PKPab 17 13 51.0 -9.1
KWP Kalwaria Pacla 155.29 327 PKP2 **PKPab** 17 14 00.2 +0.1
KWP Kalwaria Pacla 155.29 327 **PKPab** 17 14 00.2 +0.1
KIC Kosan Boka 155.33 163 *e*PKP1 PKPbc 17 13 45.4
comp=Z,9.8nm,0.7s
BURAR Bucovina Array 155.34 321 ↑P PKPbc 17 13 47.2
BURAR Bucovina Array 155.34 321 PKPbc 17 13 45.0
VRI Vrincioaia 155.45 316 ↑P **PKPab** 17 14 00.6 -0.4
VRI Vrincioaia 155.45 316 ↑PKP2 **PKPab** 17 14 00.6 -0.4
TIC Toumodi 155.52 162 *e*PKP1 PKPbc 17 13 45.7
DBIC Dimbokro 155.59 162 PKPbc PKPbc 17 13 46.0
comp=Z,6.2nm,0.8s,baz=200,slow=5.9,SNR=5.4
BSEG Bad Segeberg 155.62 349 *e*PKPab **PKPab** 17 14 01.3 0.0
baz=20,slow=4.3
UZH Uzhgorod 156.18 326 *e*PKIKP **PKPdf** 17 13 38.7 +2.6
UZH *e* 17 13 50.5
DOPR Dopca 156.18 318 ‖ P PKPab 17 13 52.5 -12
RUE Ruedersdorf 156.24 343 *e*PKPab **PKPab** 17 14 03.9 -0.2
baz=20,slow=4.3
CRVS Cervenica-Dubn 156.39 328 *e*PKP2 **PKPab** 17 14 05.4 +0.5
CRVS Cervenica-Dubn 156.39 328 *e*PKP **PKPab** 17 14 05.4 +0.5
TRPA Tarpa 156.40 325 ↑P **PKPab** 17 13 59.4 -5.5
NRDL Niedersach Rie 157.03 348 *e*PKPab **PKPab** 17 14 07.2 -0.2
baz=20,slow=4.3
OSTC Ostas 157.21 337 *e*PKPAB **PKPab** 17 14 09.5 +1.2
OSTC *ex* x 17 14 14.2
OSTC *ex* x 17 14 28.0
CHVC Chvalec 157.24 337 *e*PKPAB **PKPab** 17 14 08.7 +0.2
CHVC *ex* x 17 14 14.6
CHVC *ex* x 17 14 21.3
ASSE Asse, Remlinge 157.28 347 *e*PKPab **PKPab** 17 14 08.3 -0.1
baz=20,slow=4.3
UPC Upice 157.32 337 *e*PKPAB **PKPab** 17 14 09.6 +0.8
UPC *ep*PKP **sPKPab** 17 14 22.0 -0.2
UPC Upice 157.32 337 *e*PKP2 **PKPab** 17 14 09.6 +0.8
DPC Dobruska-Polom 157.34 337 *e*PKPAB **PKPab** 17 14 09.4 +0.4
DPC *ex* x 17 14 14.8
DPC *ep*PKP **sPKPab** 17 14 22.1 -0.3
DPC Dobruska-Polom 157.34 337 *e*PKP2 **PKPab** 17 14 08.4 +0.4
MORC Moravsky Berou 157.38 334 *e*PKP **PKPab** 17 14 09.1 0.0
CLL Collm 157.51 343 *e*PKPdiff PKPab 17 13 54.0 -16
CLL *e* 17 14 06.0
CLL *e*PKPab **PKPab** 17 14 10.0 +0.5
comp=Z,8.0nm,0.8s
CLL *i* 17 14 15.1
CLL *i* pPKPab sPKPab 17 14 22.3 -0.6
comp=Z,17nm,0.8s
CLL Collm 157.51 343 *e*PKP2 **PKPab** 17 14 06.0 -3.5
CLL Collm 157.51 343 *e*PKPab **PKPab** 17 14 09.1 -0.5
baz=20,slow=4.3
IBBN Ibbenburen 157.58 351 *e*PKPab **PKPab** 17 14 09.8 0.0
baz=20,slow=4.3
CLZ Clausthal 157.61 347 *e*PKPab **PKPab** 17 14 10.0 -0.1
baz=20,slow=4.3
BRG Berggiesshubel 157.64 341 *e*P PKPab 17 14 02.1 -8.0
comp=Z,5.2nm,1.1s
BRG *i* 17 14 10.1
comp=Z,9.6nm,0.8s
comp=N,167nm,20.1s
comp=E,75nm,21.0s
comp=Z,166nm,19.0s
BRG Berggiesshubel 157.64 341 *e*PKP2 PKPab 17 14 02.1 -8.1
BRG pmax pmax
comp=Z,5.0nm,1.1s
BRG Berggiesshubel 157.64 341 *e*PKPab **PKPab** 17 14 09.9 -0.2
baz=20,slow=4.3
PVCC Panska Ves 157.76 339 *e*PKPAB **PKPab** 17 14 11.6 +0.9
PVCC *ex* x 17 14 17.1
PVCC *ep*PKP **sPKPab** 17 14 24.3 +0.2
PVCC Panska Ves 157.76 339 *e*PKP2 **PKPab** 17 14 11.6 +0.9
FBE Freiberg 157.76 342 *e*PKPab **PKPab** 17 14 10.8 +0.1

	baz=20,slow=4.3							
PSZ	**Piszkesteto**	**157.82**	**328**	⇓P	**PKPab**	**17 14 11.7**	**+0.6**
PSZ	**Piszkesteto**	**157.82**	**328**	⇓PKP2	**PKPab**	**17 14 11.7**	**+0.6**
PSZ	**Piszkesteto**	**157.82**	**328**	PKPab	**PKPab**	**17 14 11.2**	**+0.1**
VYHS	**Vyhne**	**157.86**	**330**	*e*PKP2	**PKPab**	**17 14 11.6**	**+0.3**
VYHS	**Vyhne**	**157.86**	**330**	*e*PKP	**PKPab**	**17 14 11.6**	**+0.3**
NEUB	**Neuenburg**	**157.90**	**344**	*e*PKPab	**PKPab**	**17 14 10.9**	**-0.3**
	baz=20,slow=4.3							
GTTG	**Gottingen**	**157.97**	**347**	*e*PKPab	**PKPab**	**17 14 11.4**	**-0.1**
	baz=20,slow=4.3							
PLVB	**Pleven**	**158.00**	**313**	⇓P	**PKPab**	**17 14 12.9**	**+0.8**
JAVC	**Velka Javorina**	**158.06**	**332**	*e*PKP	**PKPab**	**17 14 13.2**	**+1.0**
VRAC	**Vranov**	**158.12**	**335**	⇓P	**PKPab**	**17 14 12.9**	**+0.6**
VRAC	**Vranov**	**158.12**	**335**	*e*PKP	**PKPab**	**17 14 12.7**	**+0.4**
VRAC	**Vranov**	**158.12**	**335**	⇓PKP2	**PKPab**	**17 14 12.9**	**+0.6**
GOPC	**GO Pecny, Ondr**	**158.23**	**338**	*e*PKPAB	**PKPab**	**17 14 13.2**	**+0.4**
GOPC				*ep*PKP	**sPKPab**	**17 14 25.7**	**-0.5**
GOPC	**GO Pecny, Ondr**	**158.23**	**338**	*e*PKP2	**PKPab**	**17 14 13.2**	**+0.4**
PRU	**Pruhonice**	**158.25**	**339**	*e*PKPAB	**PKPab**	**17 14 13.7**	**+0.9**
PRU				*ep*PKP	**sPKPab**	**17 14 25.6**	**-0.6**
PRU	**Pruhonice**	**158.25**	**339**	*e*PKP2	**PKPab**	**17 14 13.7**	**+0.9**
KRUC	**Moravsky**	**158.39**	**335**	*e*PKP	**PKPab**	**17 14 13.8**	**+0.3**
SMOL	**Smolenice**	**158.44**	**332**	*e*PKP2	**PKPab**	**17 14 14.5**	**+0.8**
SMOL	**Smolenice**	**158.44**	**332**	*e*PKP	**PKPab**	**17 14 14.5**	**+0.8**
MOX	**Moxa**	**158.46**	**344**	*e*PKPab	**PKPab**	**17 14 13.5**	**-0.3**
	baz=20,slow=4.3							
TANN	**Tannenbergstha**	**158.46**	**342**	*e*PKPab	**PKPab**	**17 14 13.8**	**0.0**
	baz=20,slow=4.3							
PLN	**Plauen**	**158.48**	**343**	*e*PKPab	**PKPab**	**17 14 13.7**	**-0.1**
	baz=20,slow=4.3							
BUG	**Bochum--Univer**	**158.49**	**352**	*e*PKPab	**PKPab**	**17 14 13.3**	**-0.4**
	baz=20,slow=4.3							
BZS	**Buzias**	**158.52**	**321**	⇓P	PKPdf	17 13 51.5	+12	
HERR	**Herculane**	**158.52**	**318**	⇑P	**PKPab**	**17 14 13.6**	**-0.7**
TREC	**Trest**	**158.53**	**336**	*e*PKPAB	**PKPab**	**17 14 14.4**	**+0.3**
TREC				*ex*	x	17 14 19.5		
TREC	**Trest**	**158.53**	**336**	*e*PKP2	**PKPab**	**17 14 14.4**	**+0.3**
GUNZ	**Gunzen**	**158.54**	**343**	*e*PKPab	**PKPab**	**17 14 14.2**	**0.0**
	baz=20,slow=4.3							
WERN	**Wernitzgruen**	**158.60**	**342**	*e*PKPab	**PKPab**	**17 14 14.5**	**+0.1**
	baz=20,slow=4.3							
NKC	**Novy Kostel**	**158.63**	**342**	*e*PKP	**PKPab**	**17 14 14.8**	**+0.3**
NKC				*ex*	x	17 14 20.1		
NKC				*ep*PKP	**sPKPab**	**17 14 27.3**	**-0.6**
NKC	**Novy Kostel**	**158.63**	**342**	*e*PKP2	**PKPab**	**17 14 14.8**	**+0.3**
UBBA	**Unterbreizbach**	**158.65**	**347**	*e*PKPab	**PKPab**	**17 14 14.1**	**-0.3**
	baz=20,slow=4.3							
PBCC	**Pribram**	**158.68**	**339**	*e*PKP	**PKPab**	**17 14 15.4**	**+0.7**
MANZ	**Manzenberg**	**158.95**	**342**	*e*PKPab	**PKPab**	**17 14 15.8**	**-0.1**
	baz=20,slow=4.3							
MDVR	**Moldovita**	**158.98**	**319**	⇑P	**PKPab**	**17 14 16.6**	**+0.3**
ROTZ	**Rotzenmuhle**	**159.12**	**342**	*e*PKPab	**PKPab**	**17 14 16.9**	**+0.2**
	baz=20,slow=4.3							
VTS	**Vitosha**	**159.26**	**312**	⇑P	**PKPab**	**17 14 22.9**	**+5.2**
VTS	**Vitosha**	**159.26**	**312**	⇑PKP2	**PKPab**	**17 14 22.9**	**+5.2**
VTS	**Vitosha**	**159.26**	**312**	PKPab	**PKPab**	**17 14 18.1**	**+0.4**
KHC	**Kasperske Hory**	**159.30**	**339**	*e*PKPAB	**PKPab**	**17 14 17.6**	**+0.1**
KHC				*ex*	x	17 14 23.3		
KHC				*ep*PKP	**sPKPab**	**17 14 30.3**	**-0.5**
KHC	**Kasperske Hory**	**159.30**	**339**	*e*PKP2	**PKPab**	**17 14 17.6**	**+0.1**
KHC	**Kasperske Hory**	**159.30**	**339**		**PKPab**	**17 14 17.2**	**-0.3**
AHRW	**Bad Neuenahr-A**	**159.40**	**352**	*e*PKPab	**PKPab**	**17 14 17.8**	**+0.1**
	baz=20,slow=4.3							
GRF	**Grafenberg Arr**	**159.44**	**344**	*e*PKPab	**PKPab**	**17 14 18.3**	**+0.2**
	baz=20,slow=4.3							
WET	**Wettzell**	**159.50**	**340**	*e*PKPab	**PKPab**	**17 14 18.5**	**+0.2**
	baz=20,slow=4.3							
TNS	**Taunus Mts**	**159.51**	**349**	*e*PKPab	**PKPab**	**17 14 18.0**	**-0.4**
	baz=20,slow=4.3							
GEC2	**GERESS Array S**	**159.51**	**338**	PKPab	**PKPab**	**17 14 18.2**	**-0.2**
GEC2	**GERESS Array S**	**159.51**	**338**	*e*PKPab	**PKPab**	**17 14 18.3**	**-0.2**
	baz=20,slow=4.3							
GERES	**GERESS Array B**	**159.51**	**338**	PKP	**PKPdf**	**17 13 40.0**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=61,slow=6.3,SNR=3.9							
GERES				PKPab	**PKPab**	**17 14 17.9**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=35,slow=4.4,SNR=11							
GERES	**GERESS Array B**	**159.51**	**338**	PKP2	**PKPab**	**17 14 18.1**	**-0.4**
GERES	**GERESS Array B**	**159.51**	**338**		**PKPab**	**17 14 18.1**	**-0.4**
CONA	**Conrad Observa**	**159.53**	**334**	*e*PKPab	**PKPab**	**17 14 17.8**	**-0.8**
	comp=Z,7.1nm,1.4s							
BMRD	**Maredsous**	**159.86**	**356**	PKPab	**PKPab**	**17 14 19.7**	**0.0**
MOA	**Molln**	**160.18**	**336**	*e*PKPab	**PKPab**	**17 14 21.5**	**+0.2**
	comp=Z,11nm,1.1s							
WLF	**Walferdange**	**160.37**	**353**	*e*PKPab	**PKPab**	**17 14 22.3**	**+0.3**
	baz=20,slow=4.3							
STU	**Stuttgart**	**160.76**	**346**	*e*PKPab	**PKPab**	**17 14 23.4**	**-0.3**
	baz=20,slow=4.3							
RJOB	**Jochberg**	**160.77**	**338**	*e*PKPab	**PKPab**	**17 14 23.2**	**-0.8**
	baz=20,slow=4.3							
FUR	**Furstenfeldbru**	**160.84**	**342**	*e*PKPab	**PKPab**	**17 14 24.3**	**+0.1**
	baz=20,slow=4.3							
SOKA	**Soboth**	**160.88**	**333**	*e*PKPab	**PKPab**	**17 14 23.8**	**-0.7**
	comp=Z,4.6nm,0.9s							
KBA	**Koelnbreinsper**	**161.17**	**336**	*e*PKPab	**PKPab**	**17 14 26.1**	**+0.3**
	comp=Z,3.7nm,0.6s							
BFO	**Black Forest**	**161.35**	**348**	PKP2	**PKPab**	**17 14 25.9**	**-0.5**
BFO	**Black Forest**	**161.35**	**348**		**PKPab**	**17 14 25.9**	**-0.5**
BFO	**Black Forest**	**161.35**	**348**	*e*PKPab	**PKPab**	**17 14 25.9**	**-0.5**
	baz=20,slow=4.3							
MYKA	**Terra Mystica**	**161.45**	**335**	*e*PKPab	**PKPab**	**17 14 26.4**	**-0.5**
	comp=Z,4.8nm,0.6s,SNR=5.2							
WATA	**Walderalm**	**161.51**	**340**	*e*PKPab	**PKPab**	**17 14 27.3**	**+0.1**
	comp=Z,4.2nm,0.6s							
WTTA	**Wattenberg**	**161.55**	**340**	*e*PKPab	**PKPab**	**17 14 27.8**	**+0.3**
	comp=Z,12nm,0.6s,SNR=8.8							
RETA	**Reutte**	**161.60**	**342**	*e*PKPab	**PKPab**	**17 14 27.8**	**+0.2**
	comp=Z,13nm,0.8s							
PRED	**Cave del Predi**	**161.63**	**335**	PKPab	**PKPab**	**17 14 26.2**	**-1.6**
MOTA	**Moosalm**	**161.63**	**341**	*i* PKPab	**PKPab**	**17 14 27.9**	**+0.1**
	comp=Z,10nm,0.9s,SNR=4.2							
SQTA	**Sankt Quirin**	**161.72**	**341**	*e*PKPab	**PKPab**	**17 14 28.4**	**+0.3**
	comp=Z,7.2nm,0.7s							
ABTA	**Abfaltersbach**	**161.74**	**337**	*e*PKPab	**PKPab**	**17 14 27.4**	**-0.8**
	comp=Z,8.2nm,0.7s,SNR=5.7							
ZOU	**Zoufplan**	**161.75**	**336**		**PKPab**	**17 14 27.1**	**-1.3**
DAVA	**Damuels**	**162.01**	**343**	*e*PKPab	**PKPab**	**17 14 28.4**	**-1.1**
	comp=Z,11nm,0.8s							
FETA	**Feichten**	**162.03**	**341**	*e*PKPab	**PKPab**	**17 14 29.9**	**+0.4**
	comp=Z,12nm,1.1s							
FUORN	**Ofenpass-Fuorn**	**162.53**	**342**	PKPab	**PKPab**	**17 14 32.1**	**+0.2**
CTI	**Castel Tesino**	**162.63**	**338**	PKP2	**PKPab**	**17 14 31.5**	**-0.7**
CTI	**Castel Tesino**	**162.63**	**338**		**PKPab**	**17 14 31.5**	**-0.7**
TUE	**Stuetta**	**162.90**	**344**	PKPab	**PKPab**	**17 14 33.4**	**0.0**
TOA0	**Torodi Ar. Sit**	**163.00**	**177**	PKPab	**PKPab**	**17 14 33.7**	**-0.7**
TORD	**Torodi Ar. Bea**	**163.00**	**177**	PKP	**PKPdf**	**17 13 44.5**	**-0.4**
	comp=Z,1.9nm,1.1s,baz=335,slow=2.2,SNR=6.7							
TORD				PKPab	**PKPab**	**17 14 34.4**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=175,slow=2.1,SNR=12							
TORD	**Torodi Ar. Bea**	**163.00**	**177**		**PKPdf**	**17 13 44.1**	**-0.8**
TORD				PKPab	**PKPab**	**17 14 34.4**	**+0.1**
SENIN	**Lac Senin/Sane**	**163.44**	**348**	PKPab	**PKPab**	**17 14 36.0**	**+0.2**
ESDC	**Sonseca Array**	**169.19**	**27**	PKP	**PKPdf**	**17 13 49.9**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=25,slow=3.9,SNR=5.7							
ESDC				PKPab	**PKPab**	**17 14 59.7**	**-1.5**
	comp=Z,1.0nm,0.7s,baz=314,slow=3.7,SNR=4.5							
ESDC	**Sonseca Array**	**169.19**	**27**		**PKPdf**	**17 13 48.5**	**-0.7**

AEIC 24 16:58:07±1.4,51°.6N×0°.2×176°.07E±0°.10, h11km±9km, ML3.5/6, mb4.0/11(NEIC), Error ellipse: s-maj=22.9km s-min=6.6km az=194.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**1.55**	**77**		Pn	16 58 34.9	+0.4
LSNW	**Little Sitkin**	**1.56**	**77**		Pn	16 58 34.6	0.0
LSNW					Sn	16 58 54.0	-0.8
LSPA	**Little Sitkin**	**1.59**	**77**		Pn	16 58 34.4	-0.6
LSPA					Sn	16 58 55.3	-0.2
SMY	**Shemya**	**1.63**	**313**		Pb	16 58 36.6	-0.4
SMY					Sb	16 58 58.5	+0.9
AMKA	**Amchitka**	**2.04**	**96**		Pb	16 58 43.9	-0.1
AMKA					Sb	16 59 08.9	-0.3
CETU	**Semis' Tuman**	**2.15**	**80**		Pn	16 58 44.2	+1.4
CESW	**Semis' Southwe**	**2.19**	**82**		Pn	16 58 44.6	+1.4
ADK	**Adak**	**4.51**	**84**		Pn	16 59 15.5	+0.4
SDPT	**Sand Point**	**14.43**	**66**	Pn	Pn	17 01 31.0	+0.2
BILL	**Bilibino**	**17.13**	**347**	P	P	17 02 08.2	+0.5
BILL				IAmb	IAmb	17 02 09.4	
	comp=Z,6.6nm,1.2s						
OHAK	**Old Harbor**	**18.58**	**60**		P	17 02 22.7	-1.0
KDAK	**Kodiak Island**	**19.01**	**59**	P	P	17 02 28.4	0.0
CNPM	**China Poot**	**19.92**	**54**	P	P	17 02 38.4	-0.1
GLI	**Glacier Island**	**22.17**	**51**	P	P	17 03 01.9	-0.7
SCM	**Sheep Creek Mo**	**22.21**	**48**	P	P	17 03 02.5	-0.7
SCM				IAmb	IAmb	17 03 10.2	
	comp=Z,9.7nm,1.1s						
FID	**Port Fidalgo**	**22.45**	**51**	P	P	17 03 05.0	-0.6
CCB	**Clear Creek Bu**	**22.69**	**41**	P	P	17 03 09.1	+1.0
VRDI	**Verde Repeater**	**23.97**	**51**	P	P	17 03 22.2	+1.0
VRDI				IAmb	IAmb	17 04 01.9	
	comp=Z,7.8nm,1.4s						
BARN	**Barnard Glacie**	**24.82**	**51**	P	P	17 03 29.8	+0.8
BMAR	**Burnt Mountain**	**24.84**	**36**	P	P	17 03 28.6	-0.4
BCAR	**Beaver Creek A**	**24.95**	**46**	P	P	17 03 30.0	0.0
HYT	**Haines Junctio**	**26.85**	**52**	P	P	17 03 47.8	+0.6
HYT				IAmb	IAmb	17 03 57.4	
	comp=Z,4.4nm,0.9s						

*ATH **24** 17:01:48.6,38°.05N×20°.21E, h19km±1km, ML2.8/15, Error ellipse: s-maj=3.2km s-min=1.0km az=61.0*
*THE **24** 17:01:49.5,38°.07N×20°.21E, h10km±2km, ML3.2/7, Error ellipse: s-maj=2.8km s-min=0.5km az=81.0*
ISC 24 17:01:47.1±1.4, 37°.98N±0°.04×20°.17E±0°.05, h14km±8km, n46, σ0°.92/66, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.26**	**32**	P	**Pg**	**17 01 53.4**	**+0.6**
KEF3				S	**Sg**	**17 01 56.7**	**+0.1**
ARGA	**Argostoli. Kep**	**0.31**	**51**	P	**Pb**	**17 01 54.5**	**0.0**
ARGA				S	**Sb**	**17 01 58.3**	**-1.2**
ARGA				AML	AML	17 01 58.7	
	comp=N,57608μm,0.3s						
ARGA				AML	AML	17 01 58.9	
	comp=E,26288μm,0.5s						
ARG2	**Argostoli**	**0.32**	**52**	P	**Pb**	**17 01 54.6**	**0.0**
ARG2				S	**Sb**	**17 01 58.4**	**-1.2**
	comp=E,20μm,0.2s						
KEF4	**Livadi, Kephal**	**0.34**	**36**	P	**Pb**	**17 01 54.8**	**-0.3**
KEF4				S	**Sb**	**17 01 59.0**	**-1.3**
KEF5	**Kardakata, Kep**	**0.38**	**38**	P	**Pb**	**17 01 55.4**	**-0.3**
KEF5				S	**Sg**	**17 01 59.8**	**-0.2**
VLS	**Valsamata**	**0.39**	**59**	P	**Pb**	**17 01 55.6**	**-0.2**
VLS				S	**Sb**	**17 02 00.1**	**-1.5**
	comp=E,4μm,0.4s						
VLS	**Valsamata**	**0.39**	**59**	P	**Pb**	**17 01 55.6**	**-0.2**
VLS				S	**Sb**	**17 02 00.3**	**-1.2**
VLS				AML	AML	17 02 00.7	
	comp=N,10257μm,0.3s						
VLS				AML	AML	17 02 03.9	
	comp=E,4538μm,0.3s						
VSK1	**VASILIKIADES**	**0.53**	**36**	P	**Pb**	**17 01 58.0**	**-0.2**
VSK1				S	**Sb**	**17 02 04.7**	**-1.0**
	comp=E,9μm,0.4s						
FSK	**Fiskardo**	**0.57**	**33**	P	**Pb**	**17 01 58.6**	**-0.3**
FSK				S	**Sb**	**17 02 06.1**	**-0.7**
FSK	**Fiskardo**	**0.57**	**33**	P	**Pb**	**17 01 58.5**	**-0.4**
FSK				S	**Sb**	**17 02 05.9**	**-0.9**
KRI1	**kERI**	**0.60**	**122**	P	**Pn**	**17 02 01.5**	**+0.3**
KRI1				S	**Sn**	**17 02 11.2**	**+0.4**
	comp=E,5μm,0.3s						
EVGI	**Lefkada island**	**0.74**	**31**	P	**Pb**	**17 02 01.7**	**-0.2**
EVGI				S	**Sb**	**17 02 11.3**	**-0.6**
EVGI	**Lefkada island**	**0.74**	**31**	P	**Pb**	**17 02 01.6**	**-0.2**
EVGI				S	**Sb**	**17 02 11.3**	**-0.6**
LKD2	**Lefkada island**	**0.89**	**25**	P	**Pb**	**17 02 04.2**	**-0.2**
LKD2				S	**Sg**	**17 02 15.6**	**-0.6**
	comp=E,1μm,0.6s						
LKD2	**Lefkada island**	**0.89**	**25**	P	**Pg**	**17 02 03.9**	**-0.5**
LKD2				AML	AML	17 02 24.6	
	comp=E,1932μm,0.5s						
LKD2				AML	AML	17 02 26.6	
	comp=N,2553μm,0.7s						
TSLK	**Tsoukalades, L**	**0.93**	**24**	P	**Pb**	**17 02 04.9**	**-0.1**
TSLK	**Tsoukalades, L**	**0.93**	**24**	P	**Pb**	**17 02 04.9**	**-0.1**
RLS	**Riolos of Patr**	**1.03**	**85**	P	**Pn**	**17 02 07.7**	**+0.6**
RLS	**Riolos of Patr**	**1.03**	**85**	P	**Pn**	**17 02 07.5**	**+0.4**
RLS				AML	AML	17 02 31.5	
	comp=N,511μm,0.6s						
RLS				AML	AML	17 02 33.5	
	comp=E,404μm,0.7s						
DRO	**Drossia**	**1.22**	**91**	P	**Pn**	**17 02 11.5**	**+1.7**
DRO				S	**Sn**	**17 02 28.9**	**+2.9**
	comp=E,420nm,0.6s						
DRO	**Drossia**	**1.22**	**91**	P	**Pn**	**17 02 11.4**	**+1.7**
DRO				AML	AML	17 02 35.4	
	comp=E,414μm,0.6s						
DRO				AML	AML	17 02 38.3	
	comp=N,1322μm,0.6s						
PVO	**Paravola**	**1.24**	**59**	P	**Pg**	**17 02 11.3**	**+0.2**
PVO				S	**Sn**	**17 02 28.2**	**+1.6**
PVO	**Paravola**	**1.24**	**59**	P	**Pg**	**17 02 11.2**	**+0.2**
PVO				AML	AML	17 02 34.7	
	comp=N,908μm,0.6s						
PVO				AML	AML	17 02 35.4	
	comp=E,1520μm,0.4s						
ANX	**Ano Chora**	**1.51**	**65**	P	**Pg**	**17 02 16.1**	**-0.1**
ANX				S	**Sg**	**17 02 35.7**	**0.0**
	comp=E,400nm,0.6s						
ANX	**Ano Chora**	**1.51**	**65**	P	**Pg**	**17 02 16.0**	**-0.1**
ANX				AML	AML	17 02 46.0	
	comp=E,607μm,0.7s						
ANX				AML	AML	17 02 46.9	
	comp=N,1012μm,0.5s						
SERG	**Sergoula**	**1.55**	**73**	P	**Pg**	**17 02 16.3**	**-0.6**
SERG	**Sergoula**	**1.55**	**73**	P	**Pg**	**17 02 16.1**	**-0.8**
SERG				AML	AML	17 02 44.5	
	comp=E,460μm,0.4s						
SERG				AML	AML	17 02 50.8	
	comp=N,309μm,0.4s						
TRIZ	**Trizonia**	**1.55**	**75**	P	**Pg**	**17 02 16.1**	**-0.8**
KLV	**Kalavryta, Ach**	**1.56**	**87**	P	**Pg**	**17 02 16.9**	**-0.3**
KLV	**Kalavryta, Ach**	**1.56**	**87**	P	**Pg**	**17 02 16.9**	**-0.3**
KLV				AML	AML	17 02 48.5	
	comp=N,270μm,0.5s						
KLV				AML	AML	17 02 55.6	
	comp=E,203μm,0.7s						
KALE	**Kalithea**	**1.60**	**75**	P	**Pg**	**17 02 17.1**	**-0.9**
KALE	**Kalithea**	**1.60**	**75**	P	**Pb**	**17 02 16.8**	**+0.2**
KALE				AML	AML	17 02 50.0	
	comp=N,347μm,0.5s						
KALE				AML	AML	17 02 52.8	
	comp=E,241μm,0.5s						
ITM	**Ithomi**	**1.61**	**119**	P	**Pg**	**17 02 18.2**	**+0.1**
ITM				AML	AML	17 02 46.6	
	comp=E,339μm,0.4s						
ITM				AML	AML	17 02 49.2	
	comp=N,281μm,0.5s						
PYL	**PYLOS**	**1.65**	**130**	P	**Pg**	**17 02 19.1**	**+0.2**
GUR	**Goura**	**1.72**	**91**	P	**Pg**	**17 02 19.2**	**-0.9**
GUR	**Goura**	**1.72**	**91**	P	**Pg**	**17 02 19.7**	**-0.4**
GUR				AML	AML	17 03 02.9	
	comp=N,475μm,0.5s						
GUR				AML	AML	17 03 03.2	
	comp=E,514μm,0.7s						
KEK	**Kerkira**	**1.75**	**351**	P	**Pb**	**17 02 19.0**	**-0.1**
KEK	**Kerkira**	**1.75**	**351**	P	**Pb**	**17 02 19.2**	**+0.1**
KEK				AML	AML	17 02 55.1	
	comp=E,250μm,0.5s						
KEK				AML	AML	17 03 00.2	
	comp=N,263μm,0.7s						
MAKR	**Makrakomi, Fth**	**1.85**	**56**	P	**Pg**	**17 02 21.5**	**-1.2**
MAKR				AML	AML	17 02 55.7	
	comp=N,409μm,0.6s						
MAKR				AML	AML	17 02 58.4	
	comp=E,381μm,0.4s						
THL	**Klokotos Trika**	**2.14**	**42**	P	**Pb**	**17 02 25.4**	**-0.2**
THL				AML	AML	17 03 03.0	
	comp=E,204μm,0.9s						
THL				AML	AML	17 03 04.4	
	comp=N,238μm,0.6s						
LTK	**Loutraki**	**2.21**	**88**	P	**Pb**	**17 02 26.8**	**0.0**
KTHA	**Kythira Island**	**2.88**	**126**	P	**Pb**	**17 02 36.5**	**-1.8**
STON	**Ston**	**5.24**	**340**	*e*Pn	**Pn**	**17 03 05.6**	**+0.6**
RICI	**Ricice**	**5.97**	**338**	*e*Pn	**Pn**	**17 03 16.3**	**+1.2**
RICI				Sn	**Sn**	**17 04 21.9**	**-1.3**
KIJV	**Kijevo**	**6.66**	**336**	*e*Pn	**Pn**	**17 03 26.5**	**+2.0**
KIJV				Sn	**Sn**	**17 04 39.6**	**-0.5**
MORI	**Morici**	**6.78**	**332**	*e*Pn	**Pn**	**17 03 28.2**	**+2.1**
MORI				Sn	**Sn**	**17 04 42.1**	**-1.0**

*IDC **24** 17:02:02.7±4.3, 52°.06N×178°.48E, h98km±40km, mb3.7/18, mb1 3.8/20, mb1mx3.6/63, mbtmp4.0/20, Error ellipse: s-maj=27.2km s-min=10.6km az=173.0*

*NEIC **24** 17:02:04.8±1.2, 51°.9N±0°.1×178°.43E±0°.09, h121km±5km, Error ellipse: s-maj=20.3km s-min=7.6km az=185.0*
*AEIC **24** 17:02:05±1.7, 51°.9N±0°.1×178°.35E±0°.08, h120km±4km, ML3.6, mb4.2/43(NEIC), Error ellipse: s-maj=19.9km s-min=6.4km az=188.0*
ISC 24 17:02:04.4±0.7, 52°.0N±0°.1×178°.35E±0°.04, h118km±6km, n108, σ1°.08/106, mb4.0/29, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.10**	**91**		Pn	**17 02 21.2**	**+0.7**
LSNW	**Little Sitkin**	**0.10**	**79**		Pn	**17 02 21.0**	**+0.5**
LSPA	**Little Sitkin**	**0.14**	**87**		Pn	**17 02 21.2**	**+0.6**
LSPA					Sn	**17 02 33.9**	**+1.1**
CETU	**Semis' Tuman**	**0.71**	**88**		Pn	**17 02 24.3**	**+0.8**
CEAP	**Semis' Anvil P**	**0.76**	**86**		Pn	**17 02 24.7**	**+0.8**
AMKA	**Amchitka**	**0.82**	**134**		Pn	**17 02 24.8**	**+0.3**
AMKA					Sn	**17 02 39.5**	**-0.2**
CERAA	**Semis' Rag'd T**	**0.82**	**93**		Pn	**17 02 24.9**	**+0.4**
CERAA					Sn	**17 02 40.1**	**+0.4**
GAEA	**Gareloi East**	**1.81**	**94**		Pn	**17 02 35.7**	**+0.4**
TASE	**Tanaga Southea**	**2.24**	**92**		Pn	**17 02 40.8**	**0.0**
TAFP	**Tanaga Falls P**	**2.27**	**90**		Pn	**17 02 41.1**	**+0.1**
TAFP					Sn	**17 03 08.7**	**-0.6**
TAPA	**Tanaga Point A**	**2.38**	**92**		Pn	**17 02 42.4**	**-0.1**
SMY	**Shemya**	**2.72**	**288**		Pn	**17 02 47.0**	**+0.1**
SMY	**Shemya**	**2.72**	**288**		Sn	**17 03 21.5**	**+1.9**
KIMD	**Kanaga Island**	**2.74**	**92**		Pn	**17 02 47.0**	**-0.2**
KICM	**Kanaga Island**	**2.75**	**89**		Pn	**17 02 47.4**	**0.0**
KIKV	**Kanaga Island**	**2.77**	**90**		Pn	**17 02 47.8**	**+0.2**
KIWB	**Kanaga Island**	**2.79**	**90**	Pn	Pn	**17 02 47.0**	**-0.8**
ADK	**Adak**	**3.07**	**89**	Pn	Pn	**17 02 50.6**	**-0.9**
GSTD	**Great Sitkin T**	**3.40**	**86**		Pn	**17 02 55.5**	**-0.5**
GSTR	**Great Sitkin T**	**3.45**	**85**		Pn	**17 02 56.3**	**-0.3**
GSMY	**Great Sitkin M**	**3.46**	**86**		Pn	**17 02 56.0**	**-0.5**
ATKA	**Atka Island**	**4.60**	**84**		Pn	**17 03 11.8**	**-0.1**
KOFP	**Korovin Flat P**	**4.66**	**83**		Pn	**17 03 13.0**	**+0.2**
NIKH	**Nikolski High**	**7.88**	**78**	Pn	Pn	**17 03 57.1**	**+1.0**
SPIA	**Saint Paul Isl**	**8.44**	**47**		Pn	**17 04 05.8**	**+2.2**
UNV	**Unalaska Valle**	**9.35**	**72**	Pn	Pn	**17 04 16.9**	**+1.0**
AKUT	**Akutan**	**9.81**	**71**	Pn	Pn	**17 04 23.8**	**+1.7**
PETK	**Petropavlovsk-**	**12.63**	**283**	P	Pn	**17 05 00.5**	**+0.9**
	0.3nm,0.3s,baz=88,slow=16,SNR=14						
PETK				S	Sn	**17 07 13.3**	**-5.2**
	0.7nm,0.3s,baz=100,slow=13,SNR=5.3						
SDPT	**Sand Point**	**13.00**	**67**	Pn	Pn	**17 05 02.9**	**-1.5**
CNBA	**Chernabura Isl**	**13.46**	**69**	Pn	Pn	**17 05 07.5**	**-2.9**
SVW2	**Sparrevohn**	**16.93**	**47**	P	P	**17 05 55.7**	**+1.8**
OHAK	**Old Harbor**	**17.19**	**61**	P	P	**17 05 54.4**	**-2.3**
OHAK				IAmb	IAmb	17 06 24.8	
	comp=Z,39nm,1.5s						
TTA	**Tatalina**	**17.50**	**41**	P	Pn	**17 06 01.7**	**+0.9**
KDAK	**Kodiak Island**	**17.62**	**59**	P	P	**17 05 59.6**	**-1.9**
	comp=Z,1.8nm,0.3s,baz=162,slow=1.6,SNR=33						
KDAK				S	S	17 09 05.2	-13
	comp=Z,0.1nm,0.3s,baz=270,slow=17,SNR=2.0						
KDAK	**Kodiak Island**	**17.62**	**59**	P	P	**17 05 59.7**	**-1.9**
CNPM	**China Poot**	**18.59**	**54**		P	**17 06 12.0**	**-0.1**
CNPM				IAmb	IAmb	17 06 13.3	
	comp=Z,13nm,0.7s						
BRLK	**Bradley Lake**	**18.81**	**53**	P	P	**17 06 14.3**	**-0.2

PD31					IAmb	IAmb	17 10 29.8		
	comp=Z,1.9nm,0.8s								
PDAR	**Pinedale Array**	**47.81**	**71**	P		**P**	**17 10 29.1**	**-0.9**	
	comp=Z,1.6nm,0.6s,baz=307,slow=3.6,SNR=13								
PSUT	**Pine Spring**	**47.87**	**78**	P		**P**	**17 10 30.3**	**-0.2**	
RDMU	**Red Mountain**	**49.16**	**73**	P		**P**	**17 10 40.3**	**0.0**	
SPITS	**Spitsbergen Ar**	**49.67**	**355**	P		**P**	**17 10 42.8**	**-0.7**	
	comp=Z,3.8nm,0.9s,baz=22,slow=12,SNR=2.3								
PV17	**East Wray Mesa**	**50.98**	**75**	P		**P**	**17 10 53.6**	**-0.5**	
PV13	**Radium Mtn., P**	**51.15**	**75**	P		**P**	**17 10 54.8**	**-0.5**	
KURK	**Kurchatov**	**57.33**	**312**	P		**P**	**17 11 40.1**	**+0.4**	
KURBB	**Kurchatov Arra**	**57.44**	**312**	P		**P**	**17 11 40.9**	**+0.5**	
	comp=Z,0.9nm,0.5s,baz=41,slow=6.7,SNR=16								
WMQ	**Urumqi**	**57.53**	**301**	*eP*		**P**	**17 11 43.3**	**+2.0**	
MKAR	**Makanchi Array**	**58.28**	**307**	P		**P**	**17 11 46.3**	**-0.1**	
	comp=Z,0.5nm,0.5s,baz=48,slow=7.3,SNR=8.0								
MKAR	**Makanchi Array**	**58.28**	**307**	P		**P**	**17 11 46.1**	**-0.3**	
BVAR	**Borovoye Array**	**59.29**	**318**	P		**P**	**17 11 53.9**	**+0.6**	
	comp=Z,1.1nm,0.5s,baz=64,slow=6.5,SNR=11								
TXAR	**Lajitas Array**	**60.30**	**79**	P		**P**	**17 12 00.7**	**0.0**	
	comp=Z,1.6nm,0.6s,baz=295,slow=4.1,SNR=12								
TXAR	**Lajitas Array**	**60.30**	**79**	P		**P**	**17 12 00.1**	**-0.6**	
SCHQ	**Schefferville**	**60.63**	**37**	P		**P**	**17 12 02.2**	**-0.2**	
	comp=Z,2.6nm,0.5s,baz=307,slow=14,SNR=4.1								
SCHQ	**Schefferville**	**60.63**	**37**	P			**17 12 02.3**	**-0.2**	
CMAR	**Chiang Mai Arr**	**69.20**	**274**	P		**P**	**17 12 59.0**	**+0.6**	
	comp=Z,0.4nm,0.5s,baz=24,slow=6.4,SNR=2.4								
ASAR	**Alice Springs**	**84.75**	**220**	P		**P**	**17 14 25.8**	**+0.6**	
	comp=Z,0.4nm,0.8s,baz=23,slow=4.9,SNR=2.8								
QSPA	**South Pole Qui**	**141.70**	**180**	PKhKP	PKPpre		17 21 15.8		
	comp=Z,0.9nm,1.1s,baz=20,slow=2.6,SNR=1.4								
BOSA	**Boshof**	**149.26**	**309**	PKPbc		**PKPbc**	**17 21 39.3**	**+0.3**	
	comp=Z,0.8nm,0.5s,baz=30,slow=3.8,SNR=1.7								
BOSA	**Boshof**	**149.26**	**309**			**PKPbc**	**17 21 39.5**	**+0.5**	

*ISK **24** 17:11:08.8, 37.°17N×39.°02E, h5km, ML1.8/4, Suspected Mining explosion.*

DDA 24 17:11:08.8, 37.°12N×39.°06E, h6km±1km, ML2.1, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANL	**SANLIURFA_Merk**	**0.08**	**311**	*i* P	Pg	17 11 11.3	+0.7
SANL				*i* S	Sg	17 11 12.5	+0.5
SANL				IAML		17 11 13.0	
	comp=E,999nm,0.2s						
SURC	**SANLIURFA_SURC**	**0.43**	**236**	*i* P	Pg	17 11 17.9	+0.7
SURC				*i* S	Sg	17 11 22.5	-0.3
ATAB	**Bozova**	**0.70**	**300**	*i* P	Pg	17 11 22.9	+0.5
ATAB				*i* S	Sg	17 11 29.8	-1.8
MAZI	**Mazidag**	**1.15**	**73**	PN	Pn	17 11 31.6	0.0
DYBB	**Diyarbakir**	**1.19**	**45**	PN	Pb	17 11 32.0	+0.1
DYBB				SN	Sn	17 11 48.8	+0.1
SVRC	**Sivrice-ELAZID**	**1.27**	**9**	PN	Pg	17 11 32.9	-0.3
SVRC				SN	Sn	17 11 50.5	-0.3
MALT	**Malatya**	**1.29**	**337**	PN	Pn	17 11 32.4	-1.2
MALT				SN	Sg	17 11 50.1	-0.3
ELZG	**Elazig**	**1.38**	**357**	*i* P	Pb	17 11 35.1	0.0
ELZG				*i* S	Sb	17 11 49.7	-3.4
MARD	**Mardin**	**1.38**	**81**	*i* P	Pn	17 11 34.8	0.0
MARD				*i* S	Sb	17 11 51.6	-1.5
MARD				IAML		17 11 55.0	
	comp=E,27nm,0.4s						
MARD				IAML		17 11 56.0	
	comp=N,31nm,0.5s						
GAZ	**Gaziantep**	**1.48**	**273**	PN	Pn	17 11 36.4	+0.3
GAZ				SN	Sg	17 11 56.3	-0.1
KUZU	**Kuzuini**	**1.63**	**258**	*i* P	Pg	17 11 40.8	+0.7
KUZU				*i* S	Sn	17 11 55.8	-3.6
KUZU				IAML		17 12 05.0	
	comp=E,35nm,0.3s						
KUZU				IAML		17 12 07.0	
	comp=N,33nm,0.4s						

*IDC **24** 17:12:49.7±6.3, 37.°81N×71.°50E, h98km±30km, mb3.5/3, mb1 3.4/9, mb1mx3.1/51, mbtmp3.7/9, Error ellipse: s-maj=78.2km s-min=19.4km az=149.0*

*NNC **24** 17:12:52.8±2.5, 38.°18N×71.°72E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=24.2km s-min=20.7km az=134.0*

ISC 24 17:12:50.4±1.9, 37.°8N±0.°2×71.°4E±0.°1, h100km, n15, σ1§40/18, mb4.0/3, 1C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**3.94**	**63**	Pn	Pn	17 13 41.8	-7.1
KSH				Sn	Sn	17 14 17.3	-17
KSH				smax	smax		
	comp=N,170nm,0.3s						
KSH				smax	smax		
	comp=E,130nm,0.3s						
KK31	**Karatay Array**	**5.31**	**353**	P	**Pn**	**17 14 09.7**	**+2.5**
	comp=E,1.7nm,0.2s,baz=169,slow=10,SNR=35						
KK31				⇓S	**Sn**	**17 15 08.0**	**+0.9**
	comp=E,4.4nm,0.5s,baz=169,slow=16,SNR=5.4						
AAK	**Ala-Archa**	**5.34**	**25**	P	**Pn**	**17 14 08.2**	**+0.3**
	comp=E,1.8nm,0.3s,baz=162,slow=6.4,SNR=6.7						
AAK				S	**Sn**	**17 15 07.6**	**-0.6**
	comp=E,1.6nm,0.3s,baz=301,slow=22,SNR=8.6						
AAK	**Ala-Archa**	**5.34**	**25**	⇓P	**Pn**	**17 14 08.3**	**+0.4**
	comp=E,1.7nm,0.3s						
AAK				⇓S	**Sn**	**17 15 07.4**	**-0.8**
	comp=E,7.9nm,0.6s						
TKM2	**Tokmak 2**	**6.00**	**31**	⇓P	**Pn**	**17 14 16.2**	**-0.6**
	comp=E,2.4nm,0.5s						
GEYT	**Alibeck**	**10.51**	**275**	P	**Pn**	**17 15 18.0**	**0.0**
	comp=E,0.3nm,0.3s,baz=99,slow=12,SNR=1.4						
GEYT				S	**Sn**	**17 17 14.2**	**+0.3**
	comp=E,0.5nm,0.3s,baz=146,slow=22,SNR=1.3						
MK31	**Makanchi Array**	**12.03**	**38**	⇓P	**Pn**	**17 15 40.7**	**+2.4**
	comp=E,0.9nm,0.9s,baz=218,slow=10,SNR=5.3						
MKAR	**Makanchi Array**	**12.03**	**38**	P	**Pn**	**17 15 40.8**	**+2.5**
	comp=E,0.1nm,0.3s,baz=220,slow=12,SNR=4.7						
KURBB	**Kurchatov Arra**	**13.75**	**19**	P	**Pn**	**17 16 01.3**	**+0.3**
	comp=E,0.0nm,0.3s,baz=207,slow=11,SNR=4.6						
BVAR	**Borovoye Array**	**15.21**	**358**	P	**Pn**	**17 16 18.4**	**-1.2**
	comp=E,0.1nm,0.3s,baz=160,slow=13,SNR=2.5						
AKTO	**Aktyubinsk**	**15.81**	**327**	P	**P**	**17 16 28.0**	**-1.0**
	comp=E,0.3nm,0.3s,baz=134,slow=13,SNR=4.6						
ZALV	**Zalesovo Beam**	**18.57**	**25**	P	**P**	**17 16 56.7**	**-2.5**
	comp=E,0.2nm,0.3s,baz=230,slow=11,SNR=2.7						
FINES	**FINESS Array B**	**36.57**	**325**	P	**P**	**17 19 46.4**	**+0.2**
	comp=E,0.7nm,0.3s,baz=113,slow=6.9,SNR=5.3						
ARCES	**ARCESS Array B**	**40.04**	**337**	P	**P**	**17 20 15.4**	**+0.1**
	comp=E,4.0nm,1.0s,baz=98,slow=8.7,SNR=4.0						
NOA	**NORSAR Array B**	**43.52**	**322**	P	**P**	**17 20 43.3**	**-0.5**
	comp=E,0.4nm,0.6s,baz=91,slow=7.6,SNR=1.9						

IDC 24 17:23:26.5±2.2, 24.°18S×174.°98W, h0km, mb3.8/5, mb1 4.2/6, mb1mx3.9/40, mbtmp3.9/6, ML3.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/35, Error ellipse: s-maj=150.0km s-min=25.5km az=163.0, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.35**	**81**	Pn	Pn	17 26 48.8	-2.1
	1.3nm,0.3s,baz=246,slow=10.0,SNR=2.3						
DZM	**Mont Dzumac**	**17.21**	**273**	LR	LR	17 32 11.0	
	comp=Z,83nm,19.4s,baz=68,slow=30						
ASAR	**Alice Springs**	**46.51**	**260**	P	P	17 31 56.1	+0.1
	0.5nm,0.9s,baz=91,slow=7.1,SNR=6.0						
WRA	**Warramunga Arr**	**46.96**	**265**	P	P	17 31 59.1	-0.4
	0.7nm,0.6s,baz=107,slow=8.4,SNR=7.6						
NVAR	**Mina Array Bea**	**81.84**	**42**	P	P	17 35 48.1	+0.2
	0.5nm,0.7s,baz=213,slow=9.5,SNR=4.5						
TXAR	**Lajitas Array**	**86.74**	**56**	P	P	17 36 14.1	+1.3
	0.2nm,0.4s,baz=201,slow=4.8,SNR=1.9						
CMAR	**Chiang Mai Arr**	**93.95**	**288**	P	P	17 36 47.2	+0.4
	1.0nm,0.7s,baz=88,slow=2.1,SNR=5.7						
AKASG	**Malin Array Be**	**147.57**	**331**	PKPbc	PKPdf	17 43 10.0	+0.1
	0.3nm,0.3s,baz=56,slow=3.5,SNR=1.5						

IDC 24 17:31:38.0±4.3, 29.°61S×178.°24W, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/34, mbtmp3.4/2, Error ellipse: s-maj=141.7km s-min=15.9km az=142.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.45**	**38**	Pn	Pn	17 31 51.0	-0.8
	87nm,0.3s,baz=94,slow=18,SNR=2.3						
RAO				Sn	Sb	17 32 02.2	+6.1
	102nm,0.3s,baz=28,slow=23,SNR=6.3						
ASAR	**Alice Springs**	**42.95**	**266**	P	P	17 39 38.3	-0.7
	0.3nm,0.8s,baz=95,slow=7.5,SNR=1.5						
WRA	**Warramunga Arr**	**43.87**	**271**	P	P	17 39 46.6	+0.2
	0.5nm,0.7s,baz=112,slow=7.4,SNR=1.9						
FINES	**FINESS Array B**	**144.33**	**340**	PKP	PKPdf	17 51 16.2	+0.8
	1.8nm,0.8s,baz=30,slow=3.4,SNR=6.7						

*IDC **24** 17:32:37.0±0.7, 32.°57S×71.°50W, h0km, mb4.3/7, mb1 4.3/12, mb1mx4.1/28, mbtmp4.1/12, ML4.0/5, MS3.2/2, Ms1 3.2/2, ms1mx3.0/21, Error ellipse: s-maj=22.5km s-min=14.7km az=144.0*

*SJA **24** 17:32:39.5±0.7, 32.°99S×71.°82W, h58km±9km, ML4.5, MW4.5*

*NEIC **24** 17:32:41.7±2.4, 32.°68S±0.°03×71.°65W±0.°06, h33km±4km, mb4.6/13, Mwr4.3/16, ML4.1(GUC), Error ellipse: s-maj=7.0km s-min=4.5km az=77.0*

*GUC **24** 17:32:42.9±0.6, 32.°63S×71.°54W, h39km±2km, ML4.1*

*NEIC **24** 17:32:42.9, 32.°66S×71.°61W, h40km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr2.71; Mθθ-0.33; Mϕϕ-2.39; Mrθ-0.16; Mrϕ0.30; Mθϕ-2.06; Fault plane solution: M₀3.31000×10¹⁵ NP1:ϕ₁179.28000°, δ64.42000°, λ95.73000°. NP2:ϕ₂346.19000°, δ26.17000°, λ78.21000°. Principal axes: T 3.4564, Plg70.0000°, Azm101.0000°; N -0.3227, Plg5.0000°, Azm357.0000°; P -3.1336, Plg19.0000°, Azm265.0000°;*

*VAO **24** 17:33:01.7±1.7, 31.°96S×70.°83W, h170km, mb4.1*

ISC 24 17:32:41.4±0.8, 32.°60S±0.°03×71.°63W±0.°05, h29km±5km, n173, σ1§33/189, mb4.5/10, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ROC1	**El Roble**	**0.64**	**126**		**Pn**	**17 32 54.4**	**-0.4**
ROC1				Sn	Sn	17 33 03.1	-0.9
ROC1	**El Roble**	**0.64**	**126**	*i* P	Pn	17 32 54.6	-0.1
ROC1				*eS*	Sn	17 33 03.2	-0.9
ROCH	**El Roble**	**0.64**	**126**	⇓*i* P	Pn	17 32 54.5	-0.2
ROCH				*i* S	Sn	17 33 03.2	-0.8
ROCH				IAML		17 33 06.1	
	comp=N,14μm,0.6s						
MT02	**Curacav**	**0.78**	**148**	⇓*i* P	**Pb**	**17 32 56.4**	**-0.1**
MT02				*i* S	Sn	17 33 06.2	-1.0
MT02				IAML		17 33 07.4	
	comp=E,8μm,0.3s						
MT02	**Curacav**	**0.78**	**148**		**Pb**	**17 32 56.4**	**-0.1**
MT02					Sn	17 33 06.1	-1.0
VA03	**San Esteban**	**0.93**	**101**	⇓*i* P	Pn	**17 32 58.6**	**+0.1**
VA03				*i* S	Sn	17 33 10.2	-0.6
VA03				IAML		17 33 11.8	
	comp=E,13μm,0.7s						
VA03	**San Esteban**	**0.93**	**101**		**Pn**	**17 32 58.6**	**+0.1**
VA03					Sn	17 33 10.4	-0.4
PEL	**Peldehue**	**0.96**	**125**	*eP*	**Pb**	**17 32 59.2**	**-0.4**
PEL				*i* S	**Sb**	**17 33 12.0**	**0.0**
PEL				IAML		17 33 13.5	
	comp=N,12μm,0.6s						
PEL	**Peldehue**	**0.96**	**125**		**Pb**	**17 32 59.5**	**-0.1**
PEL					**Sb**	**17 33 11.5**	**-0.5**
PEL	**Peldehue**	**0.96**	**125**	*i* P	**Pb**	**17 32 59.5**	**-0.1**
PEL				*eS*	**Sb**	**17 33 12.3**	**+0.3**
MT05	**Renca**	**1.09**	**137**		**Pb**	**17 33 01.2**	**-0.5**
MT05				Sn	**Sb**	**17 33 15.4**	**-0.2**
CLCH	**Cerro Calan**	**1.22**	**131**	*eP*	**Pb**	**17 33 03.0**	**-0.8**
CLCH				*i* S	**Sb**	**17 33 18.1**	**-1.1**
CLCH				IAML		17 33 25.4	
	comp=N,10μm,0.5s						
MT03	**Universidad Ad**	**1.30**	**134**	⇓*i* P	**Pb**	**17 33 04.5**	**-0.8**
MT03				*i* S	**Sb**	**17 33 20.5**	**-1.1**
MT03				IAML		17 33 23.9	
	comp=N,10μm,0.3s						
CO02	**Combarbal**	**1.49**	**21**	⇑*i* P	**Pn**	**17 33 08.5**	**+2.2**
CO02				*i* S	**Sb**	**17 33 28.4**	**+1.4**
CO02	**Combarbal**	**1.49**	**21**		**Pn**	**17 33 08.5**	**+2.2**
CO02				Sn	**Sn**	**17 33 28.1**	**+3.4**
LMEL	**Las Melosas**	**1.73**	**137**	⇓*i* P	**Pb**	**17 33 11.0**	**-1.6**
LMEL				*i* S	**Sb**	**17 33 32.7**	**-1.3**
LMEL				IAML		17 33 37.6	
	comp=N,7μm,0.5s						
CO03	**El Pedregal**	**1.93**	**25**	Pn	**Pn**	**17 33 15.0**	**+2.7**
RTLS	**Leoncito**	**2.13**	**69**	*i* P	**Pb**	**17 33 19.4**	**-0.1**
RTLS				IAML		17 34 00.5	
	comp=Z,1μm,0.7s						
BO02	**Sierra Bellavi**	**2.30**	**162**	Pn	**Pn**	**17 33 18.7**	**+1.3**
GO05	**Huala**	**2.42**	**186**		**Pn**	**17 33 19.2**	**+0.2**
GO04	**Tololo Observa**	**2.52**	**17**	⇑*i* P	**Pn**	**17 33 22.4**	**+1.9**
GO04				*i* S	**Sb**	**17 33 57.8**	**+1.1**
GO04	**Tololo Observa**	**2.52**	**17**		**Pn**	**17 33 22.4**	**+1.9**
ZON	**Zonda**	**2.71**	**68**		**Pb**	**17 33 27.6**	**-1.7**
ZON	**Zonda**	**2.71**	**68**	*i* P	**Pb**	**17 33 27.5**	**-1.8**
ZON				IAML		17 34 15.8	
	comp=Z,872nm,0.5s						
RTCV	**Cerro Valdivia**	**2.72**	**75**	*i* P	**Pb**	**17 33 27.4**	**-2.0**
RTCV				IAML		17 34 16.8	
	comp=Z,740nm,1.4s						
CO01	**Juntas del Tor**	**2.92**	**27**	*eP*	**Pn**	**17 33 29.2**	**+3.1**
CO01	**Juntas del Tor**	**2.92**	**27**		**Pn**	**17 33 28.9**	**+2.8**
RTLL	**Cerro Villicun**	**2.96**	**66**	*i* P	**Pn**	**17 33 30.9**	**+4.4**
RTLL				IAML		17 34 16.4	
	comp=Z,1μm,0.4s						
CFA	**Coronel Fontan**	**3.04**	**72**	Pg	**Pn**	**17 33 30.9**	**+3.3**
	comp=Z,47nm,0.3s,baz=249,slow=13,SNR=146						
CFA				Lg	Lg	17 34 11.3	
	comp=Z,74nm,0.3s,baz=167,slow=19,SNR=2.9						
CFA				LR	LR	17 34 34.4	
	comp=Z,304nm,19.7s,baz=250,slow=40						
CFA	**Coronel Fontan**	**3.04**	**72**	*i* P	**Pn**	**17 33 31.4**	**+3.8**
CFA				IAML		17 34 26.1	
	comp=Z,448nm,0.7s						
ACAN	**Cantantal**	**3.77**	**86**	*i* P	**Pn**	**17 33 40.9**	**+3.4**
ACAN				IAML		17 34 33.1	
	comp=Z,299nm,0.6s						
AC05	**El Transito**	**3.92**	**18**	⇑*i* P	**Pn**	**17 33 42.2**	**+2.4**
AC05	**El Transito**	**3.92**	**18**		**Pn**	**17 33 41.9**	**+2.1**
BI02	**San Fabin de**	**4.07**	**176**	Pn	**Pn**	**17 33 42.8**	**+1.0**
BI03	**Tigo**	**4.39**	**195**		**Pn**	**17 33 45.7**	**-0.3**
AC04	**Llanos de Chal**	**4.40**	**6**	*eP*	**Pn**	**17 33 47.0**	**+0.8**
AC04	**Llanos de Chal**	**4.40**	**6**		**Pn**	**17 33 47.0**	**+0.8**
VCA	**Vinchina**	**4.85**	**38**	*i* P	Pn	17 33 58.1	+5.6
VCA				IAML		17 35 09.7	
	comp=Z,1μm,0.4s						
MRA	**San Martin**	**5.00**	**90**	*i* P	**Pn**	**17 33 56.5**	**+2.0**
MRA				IAML		17 35 01.4	
	comp=Z,549nm,0.7s						
GO03	**Copiap**	**5.13**	**14**		**Pn**	**17 33 57.5**	**+1.2**
TCA	**Tanti**	**6.11**	**80**	*i* P	**Pn**	**17 34 11.5**	**+1.7**
TCA				IAML		17 35 28.4	
	comp=Z,351nm,0.9s						
VA04	**Juan Fernndez**	**6.13**	**258**	Pn	**Pn**	**17 34 10.9**	**+0.9**
AC02	**Maricunga**	**6.14**	**21**	Pn	**Pn**	**17 34 10.7**	**+0.2**
H03N1	**Juan Fernandez**	**6.17**	**260**	Pn	**Pn**	**17 34 11.6**	**+1.3**
	baz=120,slow=19,SNR=21						
H03N1				T	T	17 40 48.2	
	baz=87,slow=73,SNR=2415						
H03N3	**Juan Fernandez**	**6.19**	**260**	Pn	**Pn**	**17 34 12.0**	**+1.5**
	baz=120,slow=19,SNR=18						
H03N3				T	T	17 40 48.3	
	baz=87,slow=73,SNR=3762						
H03N2	**Juan Fernandez**	**6.19**	**260**	Pn	**Pn**	**17 34 12.0**	**+1.5**
	baz=120,slow=19,SNR=12						
H03N2				T	T	17 40 49.6	
	baz=87,slow=73,SNR=2823						
H03S1	**Juan Fernandez**	**6.22**	**256**	Pn	**Pn**	**17 34 11.2**	**+0.2**
	baz=53,slow=17,SNR=17						
H03S1				T	T	17 40 34.9	
	baz=82,slow=75,SNR=400						
H03S3	**Juan Fernandez**	**6.22**	**257**	Pn	**Pn**	**17 34 11.5**	**+0.5**
	baz=53,slow=17,SNR=24						
H03S3				T	T	17 40 36.3	
	baz=82,slow=75,SNR=583						
H03S2	**Juan Fernandez**	**6.24**	**257**	Pn	**Pn**	**17 34 11.4**	**+0.2**
	baz=53,slow=17,SNR=16						
H03S2				T	T	17 40 38.0	
	baz=82,slow=75,SNR=671						
LC01	**Cunco**	**6.29**	**182**	Pn	**Pn**	**17 34 12.4**	**+0.2**
AC01	**Pan de Azucar**	**6.49**	**8**	Pn	**Pn**	**17 34 14.0**	**-1.0**
CYA	**Choya**	**6.51**	**52**	*i* P	**Pn**	**17 34 16.6**	**+1.3**
CYA				IAML		17 35 42.4	
	comp=Z,136nm,1.1s						
GO02	**Mina Guanaco**	**7.62**	**14**		**Pn**	**17 34 30.2**	**-0.5**
PLCA	**Paso Flores**	**8.17**	**174**	Pn	**Pn**	**17 34 38.9**	**+0.9**
	comp=Z,0.9nm,0.3s,baz=333,slow=13,SNR=15						
PLCA				Sn	Sn	17 36 20.9	+12
	comp=Z,0.2nm,0.3s,baz=294,slow=8.6,SNR=2.1						
PLCA	**Paso Flores**	**8.17**	**174**	Pn	**Pn**	**17 34 39.2**	**+1.3**
PB10	**IPOC Station P**	**9.10**	**6**	Pn	**Pn**	**17 34 52.0**	**+1.2**
PB15	**IPOC Station P**	**9.54**	**12**	Pn	**Pn**	**17 34 55.3**	**-1.7**
LL01	**San Ignacio de**	**9.79**	**183**	Pn	**Pn**	**17 34 58.9**	**-1.2**
PB06	**IPOC Station P**	**10.02**	**11**	Pn	**Pn**	**17 35 00.4**	**-3.2**
LVC	**Limon Verde**	**10.23**	**14**	Pn	**Pn**	**17 35 04.0**	**-2.6**
	comp=Z,0.3nm,0.3s,baz=332,slow=15,SNR=1.4						
LVC				Sn	Sn	17 37 11.3	+11
	baz=32,slow=21,SNR=1.3						
LVC				LR	LR	17 39 43.4	
	comp=Z,180nm,18.7s,baz=220,slow=42						
LVC	**Limon Verde**	**10.23**	**14**		**Pn**	**17 35 05.1**	**-1.5**
PB04	**IPOC Station P**	**10.31**	**8**	Pn	**Pn**	**17 35 06.2**	**-1.2**
PB07	**IPOC Station P**	**10.94**	**9**	Pn	**Pn**	**17 35 13.8**	**-2.3**
PB09	**IPOC Station P**	**10.96**	**12**	Pn	**Pn**	**17 35 14.4**	**-2.0**
PB01	**IPOC Station P**	**11.66**	**10**	Pn	Pn	17 35 21.6	-4.4
CPUP	**Villa Florida**	**13.93**	**67**	Pn	**Pn**	**17 35 55.4**	**-1.4**
	comp=Z,2.0nm,0.3s,baz=240,slow=14,SNR=2.9						
CPUP				Sn	**Sn**	**17 38 24.6**	**-5.9**
	comp=Z,0.3nm,0.3s,baz=132,slow=8.7,SNR=1.7						
CPUP				Lg	Lg	17 39 37.1	
	comp=Z,0.7nm,0.3s,baz=120,slow=4.2,SNR=3.7						
CPUP	**Villa Florida**	**13.93**	**67**	*eP*	**Pn**	**17 35 58.3**	**+1.5**
CPUP	**Villa Florida**	**13.93**	**67**	*eP*	**Pn**	**17 35 58.3**	**+1.5**
LPAZ	**La Paz**	**16.54**	**12**	Pn	**Pn**	**17 36 31.6**	**-0.4**
	comp=Z,0.5nm,0.3s,baz=166,slow=7.3,SNR=9.4						
LPAZ	**La Paz**	**16.54**	**12**	P	**Pn**	**17 36 32.1**	**+0.2**
AQDB	**Aquidauana**	**18.65**	**54**	*eP*	**P**	**17 36 56.2**	**-0.7**
AQDB	**Aquidauana**	**18.65**	**54**	*eP*	**P**	**17 36 56.2**	**-0.7**
PTGB	**Pitanga**	**18.86**	**70**	*eP*	**Pn**	**17 37 00.6**	**+0.6**
PTGB	**Pitanga**	**18.86**	**70**	*eP*	**Pn**	**17 37 00.6**	**+0.6**
SIV	**San Ignacio**	**19.11**	**33**	P	**P**	**17 37 00.8**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=229,slow=10,SNR=17						
TRCB	**Terra Rica**	**19.42**	**65**	*eP*	**Pn**	**17 37 07.8**	**+1.1**
TRCB	**Terra Rica**	**19.42**	**65**	*eP*	**Pn**	**17 37 07.8**	**+1.1**
PTLB	**Pontes e Lacer**	**20.50**	**37**	*eP*	**P**	**17 37 18.0**	**+0.9**
PTLB	**Pontes e Lacer**	**20.50**	**37**	*eP*	**P**	**17 37 18.0**	**+0.9**
TIJ01	**Guaruva-PR**	**21.06**	**76**	*eP*	**P**	**17 37 25.0**	**+1.8**
TIJ01	**Guaruva-PR**	**21.06**	**76**	*eP*	**P**	**17 37 25.0**	**+1.8**
EFI	**East Falkland**	**21.49**	**157**	P	**P**	**17 37 25.9**	**-1.6**
FRTB	**Fartura**	**21.52**	**70**	*eP*	**P**	**17 37 28.5**	**+0.3**
FRTB	**Fartura**	**21.52**	**70**	*eP*	**P**	**17 37 28.5**	**+0.3**
SALV	**Santo Antonio**	**22.03**	**45**	*eP*	**P**	**17 37 33.1**	**-0.5**
SALV	**Santo Antonio**	**22.03**	**45**	*eP*	**P**	**17 37 33.1**	**-0.5**
VILB	**Vilhena**	**22.18**	**31**	*eP*	**P**	**17 37 34.7**	**-0.5**
VILB	**Vilhena**	**22.18**	**31**	*eP*	**P**	**17 37 34.7**	**-0.5**
PET01	**Itanhaem-SP**	**22.92**	**75**	*eP*	**P**	**17 37 43.5**	**+0.5**
PET01	**Itanhaem-SP**	**22.92**	**75**	*eP*	**P**	**17 37 43.5**	**+0.5**
ITRB	**Iturama**	**22.95**	**61**	*eP*	**P**	**17 37 43.6**	**+0.2**
ITRB	**Iturama**	**22.95**	**61**	*eP*	**P**	**17 37 43.6**	**+0.2**
SPB	**Sao Paulo**	**23.11**	**73**	*eP*	**P**	**17 37 45.2**	**+0.2**
SPB	**Sao Paulo**	**23.11**	**73**	*eP*	**P**	**17 37 45.2**	**+0.2**
BB19B	**Bebedouro**	**23.54**	**67**	*eP*	**P**	**17 37 48.4**	**-1.0**
BB19B	**Bebedouro**	**23.54**	**67**	*eP*	**P**	**17 37 48.4**	**-1.0**
VAO	**Valinhos**	**23.77**	**73**	*eP*	**P**	**17 37 50.1**	**-1.4**
VAO	**Valinhos**	**23.77**	**73**	*eP*	**P**	**17 37 50.1**	**-1.4**
ARAG	**Araguaiana, MT**	**24.62**	**52**	*eP*	**P**	**17 37 59.1**	**-0.2**
ARAG	**Araguaiana, MT**	**24.62**	**52**	*eP*	**P**	**17 37 59.1**	**-0.2**
SAML	**Samuel**	**24.80**	**20**		**P**	**17 38 01.3**	**+0.4**
SAML	**Samuel**	**24.80**	**20**	P	**P**	**17 38 00.7**	**-0.2**
SAML				IAmb	IAmb	17 38 04.0	
	comp=Z,6.7nm,0.9s						
SAML	**Samuel**	**24.80**	**20**	*eP*	**P**	**17 38

ZALV				PKPab	**pPKPbc**	**17 52 45.6**	**+1.0**
	comp=Z,4.1nm,0.6s,baz=295,slow=3.1,SNR=8.6							
ZALV	**Zalesovo Beam**	**152.85**	**31**		**PKPbc**	**17 52 34.8**	**-0.2**
ZALV					**pPKPbc**	**17 52 45.6**	**+1.0**
MKAR	**Makanchi Array**	**155.57**	**47**	PKP	**PKPdf**	**17 52 31.6**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=63,slow=0.8,SNR=3.6							
MKAR				PKPbc	PKPbc	17 52 41.1		
	comp=Z,0.6nm,0.7s,baz=316,slow=3.3,SNR=5.6							
MKAR				PKPab	**PKPab**	**17 52 58.2**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=292,slow=2.9,SNR=13							
MKAR	**Makanchi Array**	**155.57**	**47**		**PKPdf**	**17 52 31.1**	**-0.9**
MKAR					**pPKPdf**	**17 52 40.8**	**-0.8**
MKAR					**PKPab**	**17 52 58.0**	**-0.1**
SONM	**Songino Array**	**164.71**	**5**	PKP	**PKPdf**	**17 52 40.9**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=188,slow=3.9,SNR=2.7							
SONM	**Songino Array**	**164.71**	**5**		**PKPdf**	**17 52 41.2**	**-1.0**

*IDC **24** 17:33:51.3±5.5, 8.°90S×124.°18E, h75km±65km, mb3.1/1, mb1 3.2/4, mb1mx3.1/41, mbtmp3.3/4, ML3.3/3, Error ellipse: s-maj=67.0km s-min=34.3km az=34.0*
*DJA **24** 17:33:56.4±1.1, 9.°S×6.°×12.°4E±.°, h37km±26km, M2.9/7, MLv2.9/7*
ISC 24 17:33:51.9±1.3, 8.°9S±0.°1×123.°9E±0.°1, h74km, n10, σ2s00/13, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.91**	**155**	P		**Pn**		**17 34 13.4**	**+3.7**
BATI	**Baumata**	**1.28**	**189**	P		**Pn**		**17 34 16.1**	**+1.8**
	76nm,0.3s,baz=27,slow=4.5,SNR=87								
BATI				S		**Sn**		**17 34 32.8**	**+1.8**
	30nm,0.3s,baz=348,slow=23,SNR=8.2								
BATI	**Baumata**	**1.28**	**189**	P		**Pn**		**17 34 15.5**	**+1.2**
MMRI	**Maumere**	**1.64**	**280**	P		**Pn**		**17 34 20.8**	**+1.9**
MMRI				S		**Sn**		**17 34 40.3**	**+0.9**
EDFI	**Ende, Flores**	**2.16**	**275**	P		**Pn**		**17 34 27.3**	**+1.3**
EDFI				S		**Sn**		**17 34 51.7**	**-0.3**
WBSI	**Waikabubak, Su**	**4.48**	**261**	P		**Pn**		**17 34 56.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**9.27**	**170**	P		**Pn**		**17 36 00.7**	**-2.2**
	0.4nm,0.3s,baz=357,slow=12,SNR=23								
FITZ				S		Sn		17 37 34.7	-11
	0.8nm,0.3s,baz=285,slow=13,SNR=13								
WRA	**Warramunga Arr**	**14.91**	**138**	P		**Pn**		**17 37 16.8**	**-2.0**
	0.1nm,0.3s,baz=326,slow=14,SNR=7.9								
WRA				S		Sn		17 39 51.8	-11
	0.3nm,0.3s,baz=315,slow=24,SNR=2.5								
ASAR	**Alice Springs**	**17.52**	**148**	P		**Pn**		**17 37 50.0**	**-1.4**
	0.1nm,0.3s,baz=320,slow=12,SNR=6.5								
MKAR	**Makanchi Array**	**66.69**	**330**	P		**P**		**17 44 34.8**	**-0.2**
	0.2nm,0.5s,baz=118,slow=6.3,SNR=3.0								

*JMA **24** 17:34:30.0±0.1, 23.°24N×121.°50E, h1km±1km, M3.1*
*TAP **24** 17:34:31.8, 23.°26N×121.°37E, h15km, ML3.5, C*
ISC 24 17:34:31.6±0.8, 23.°24N±0.°02×121.°45E±0.°02, h17km±5km, n101, σ0s88/169, 18C-2D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FULB	**Fuli**	**0.14**	**254**	⇑ *i*	P		**Pb**	**17 34 35.5**	**-0.3**
	baz=219								
FULB				*e*	S		**Sg**	**17 34 38.7**	**+0.2**
	baz=219								
CHKT	**Chengkung**	**0.16**	**208**	P			**Pg**	**17 34 36.6**	**+0.8**
	baz=168								
CHKT				S			**Sg**	**17 34 40.2**	**+1.5**
	baz=168								
TWF1	**Yuli**	**0.18**	**310**	*i*	P		**Pb**	**17 34 35.5**	**-0.9**
	baz=318								
TWF1				*e*	S		**Sb**	**17 34 38.3**	**-1.3**
	baz=318								
YULB	**Yu-li**	**0.20**	**319**	⇓ *i*	P		**Pb**	**17 34 36.0**	**-0.9**
	baz=327								
YULB				*e*	S		**Sb**	**17 34 38.8**	**-1.7**
	baz=327								
HGSD	**Ruisui**	**0.25**	**356**	⇑ *i*	P		**Pg**	**17 34 37.7**	**+0.4**
	baz=24								
HGSD				*e*	S		**Sb**	**17 34 42.2**	**+0.3**
	baz=24								
EHY	**Hungye**	**0.29**	**337**	⇓ *i*	P		**Pg**	**17 34 37.8**	**-0.1**
	baz=346								
EHY				*e*	S		**Sg**	**17 34 41.9**	**-0.3**
	baz=346								
ELDTW	**Lidau**	**0.40**	**263**	⇑ *i*	P		**Pg**	**17 34 38.7**	**-1.1**
	baz=256								
ELDTW				*e*	S		**Sg**	**17 34 43.2**	**-2.1**
	baz=256								
EGFH	**Guangfu**	**0.43**	**358**	*i*	P		**Pg**	**17 34 40.5**	**+0.1**
	baz=357								
EGFH				*e*	S		**Sg**	**17 34 46.0**	**-0.3**
	baz=357								
TWGBT	**Beinan**	**0.54**	**219**	⇑ *i*	P		**Pg**	**17 34 41.7**	**-0.6**
	baz=207								
TWGBT				*e*	S		**Sg**	**17 34 49.1**	**-0.5**
	baz=207								
TWG	**Pinlang**	**0.54**	**220**	⇑ *i*	P		**Pg**	**17 34 41.7**	**-0.6**
	baz=207								
TWG				*e*	S		**Sg**	**17 34 49.5**	**-0.1**
	baz=207								
TTN	**Taitung**	**0.55**	**210**	*e*	P		**Pb**	**17 34 43.2**	**+0.4**
	baz=197								
TTN				*e*	S		**Sb**	**17 34 51.6**	**+1.2**
	baz=197								
ESL	**Shilin**	**0.57**	**359**	⇑ *i*	P		**Pg**	**17 34 42.4**	**-0.6**
	baz=1.0								
ESL				*e*	S		**Sg**	**17 34 50.5**	**-0.2**
	baz=1.0								
VWDT	**VWDT**	**0.58**	**332**	P			**Pb**	**17 34 42.8**	**-0.6**
	baz=339								
VWDT				*e*	S		**Sg**	**17 34 50.1**	**-0.9**
	baz=339								
STYT	**Tauyuan**	**0.64**	**263**	⇑ *i*	P		**Pb**	**17 34 43.2**	**-1.1**
	baz=257								
STYT				*e*	S		**Sb**	**17 34 50.9**	**-2.1**
	baz=257								
ALS	**Alishan**	**0.65**	**295**	⇑ *i*	P		**Pb**	**17 34 43.8**	**-0.8**
	baz=286								
ALS				*e*	S		**Sg**	**17 34 52.0**	**-1.2**
	baz=286								
SSLB	**Suanglung**	**0.71**	**321**	P			**Pb**	**17 34 44.5**	**-1.0**
	baz=325								
SSLB				*e*	S		**Sb**	**17 34 52.5**	**-2.5**
	baz=325								
WHYT	**Xinyi Township**	**0.71**	**310**	*e*	P		**Pb**	**17 34 45.0**	**-0.5**
	baz=318								
WHYT				*e*	S		**Sb**	**17 34 53.8**	**-1.2**
	baz=318								
HWA	**Hwalien**	**0.75**	**11**	*e*	P		**Pn**	**17 34 47.1**	**-0.3**
	baz=3.0								
TPUB	**Ta-pu**	**0.75**	**275**	⇑ *i*	P		**Pb**	**17 34 45.7**	**-0.5**
	baz=271								
TPUB				*e*	S		**Sb**	**17 34 55.0**	**-1.2**
	baz=271								
OWD	**Renai**	**0.76**	**341**	*e*	P		**Pb**	**17 34 45.8**	**-0.5**
	baz=346								
WTP	**Ta-pu**	**0.76**	**271**	⇑ *i*	P		**Pb**	**17 34 46.0**	**-0.4**
	baz=266								
WTP				*e*	S		**Sb**	**17 34 56.1**	**-0.5**
	baz=266								
SLGT	**Liugui**	**0.77**	**252**	⇑ *i*	P		**Pb**	**17 34 45.9**	**-0.7**
	baz=246								
SLGT				S			**Sb**	**17 34 55.6**	**-1.3**
	baz=246								
ECL	**Taimali**	**0.78**	**215**	P			**Pb**	**17 34 45.0**	**-1.7**
	baz=206								
ECL				*e*	S		**Sb**	**17 34 56.2**	**-0.8**
	baz=206								
CHN5	**Tsauling**	**0.79**	**297**	⇑ *i*	P		**Pb**	**17 34 46.6**	**-0.3**
	baz=296								
CHN5				*e*	S		**Sb**	**17 34 56.9**	**-0.5**
	baz=296								
CHN4	**Tsaushan**	**0.79**	**278**	⇑ *i*	P		**Pb**	**17 34 46.6**	**-0.3**
	baz=275								
CHN4				*e*	S		**Sb**	**17 34 57.1**	**-0.2**
	baz=275								
SGST	**Jiashian**	**0.81**	**259**	⇑ *i*	P		**Pb**	**17 34 46.0**	**-1.2**
	baz=253								
SGST				*e*	S		**Sb**	**17 34 57.0**	**-0.8**
	baz=253								
SMLT	**Sun Moon Lake**	**0.81**	**322**	⇑ *i*	P		**Pb**	**17 34 46.7**	**-0.6**
	baz=334								
SMLT				*e*	S		**Sb**	**17 34 57.1**	**-1.0**
	baz=334								
CHN1	**Nanshi**	**0.84**	**267**	⇑ *i*	P		**Pb**	**17 34 47.8**	**0.0**
	baz=257								
CHN1				*e*	S		**Sg**	**17 34 59.6**	**+0.3**
	baz=257								
TWD	**Chiawan**	**0.85**	**9**	*e*	P		**Pb**	**17 34 47.0**	**-0.9**
	baz=7.0								
TWD				*e*	S		**Sg**	**17 34 59.6**	**+0.2**
	baz=7.0								
CHGB	**Renai**	**0.85**	**343**	⇑ *i*	P		**Pb**	**17 34 47.5**	**-0.6**
	baz=351								
CHGB				*e*	S		**Sb**	**17 34 59.0**	**-0.3**
	baz=351								
SNST	**Tainan City**	**0.87**	**269**	*e*	P		**Pb**	**17 34 48.0**	**-0.3**
	baz=264								
SNST				*e*	S		**Sb**	**17 35 00.1**	**+0.4**
	baz=264								
WJS	**Zhushan**	**0.88**	**312**	P			**Pg**	**17 34 48.9**	**+0.2**
	baz=325								
WJS				*e*	S		**Sg**	**17 35 01.1**	**+0.8**
	baz=325								
TWK	**Hsinying**	**0.88**	**272**	P			**Pb**	**17 34 48.2**	**-0.2**
	baz=267								
TWK				*e*	S		**Sb**	**17 35 00.2**	**+0.3**
	baz=267								
SSD	**Sandimen**	**0.90**	**237**	*e*	P		**Pb**	**17 34 47.2**	**-1.4**
	baz=225								
SSD				*e*	S		**Sb**	**17 34 58.1**	**-2.2**
	baz=225								
WHF	**Hehuan Shan**	**0.92**	**350**	*e*	P		**Pb**	**17 34 48.5**	**-0.8**
	baz=358								
WHF				*e*	S		**Sb**	**17 35 01.1**	**-0.3**
	baz=358								
DPDB	**Guoxing**	**0.92**	**329**	P			**Pb**	**17 34 48.8**	**-0.3**
	baz=344								
DPDB				*e*	S		**Sb**	**17 35 00.1**	**-1.1**
	baz=344								
WGK	**Gukeng**	**0.93**	**299**	*e*	P		**Pb**	**17 34 49.6**	**+0.4**
	baz=297								
WGK				*e*	S		**Sn**	**17 35 03.1**	**+0.5**
	baz=297								
CHN2	**Minshiung**	**0.94**	**288**	*e*	P		**Pb**	**17 34 49.6**	**+0.3**
	baz=285								
CHN2				*e*	S		**Sn**	**17 35 03.1**	**+0.1**
	baz=285								
NACB	**Ninganchiao**	**0.94**	**8**	*e*	P		**Pb**	**17 34 48.1**	**-1.3**
	baz=17								
NACB				*e*	S		**Sb**	**17 35 00.5**	**-1.2**
	baz=17								
WNT	**Mingjian**	**0.94**	**313**	*e*	P		**Pn**	**17 34 50.0**	**0.0**
	baz=314								
WNT				*e*	S		**Sn**	**17 35 03.3**	**+0.1**
	baz=314								
WDLH	**Douliu**	**0.95**	**299**	*e*	P		**Pb**	**17 34 49.8**	**+0.3**
	baz=296								
WDLH				*e*	S		**Sg**	**17 35 02.9**	**+0.4**
	baz=296								
ETLH	**Xiulin Townshi**	**0.96**	**2**	*e*	P		**Pb**	**17 34 48.6**	**-1.3**
	baz=11								
ETLH				*e*	S		**Sb**	**17 35 02.2**	**-0.2**
	baz=11								
CHY	**Chiayi**	**0.97**	**286**	*e*	P		**Pb**	**17 34 50.2**	**+0.3**
	baz=271								
CHY				*e*	S		**Sg**	**17 35 03.8**	**+0.5**
	baz=271								
MASBT	**Mashibuluo**	**0.97**	**230**	*i*	P		**Pb**	**17 34 48.8**	**-1.2**
	baz=217								
CHN3	**Shinhua**	**1.01**	**261**	*e*	P		**Pg**	**17 34 52.2**	**+1.1**
	baz=267								
CHN3				*e*	S		**Sn**	**17 35 05.6**	**+0.9**
	baz=267								
TAW	**Tawu**	**1.01**	**210**	*e*	P		**Pb**	**17 34 48.9**	**-1.7**
	baz=206								
EAST	**Anshuo**	**1.01**	**213**	*e*	P		**Pb**	**17 34 49.1**	**-1.6**
	baz=204								
EAST				*e*	S		**Sb**	**17 35 02.5**	**-1.2**
	baz=204								
SGLT	**Jiouru**	**1.02**	**240**	*e*	P		**Pg**	**17 34 51.7**	**+0.4**
	baz=233								
TWM1	**Shoushan**	**1.03**	**247**	*e*	P		**Pg**	**17 34 52.2**	**+0.6**
	baz=242								
TWT	**Tachien**	**1.04**	**346**	*e*	P		**Pb**	**17 34 50.8**	**-0.4**
	baz=343								
TWT				*e*	S		**Sb**	**17 35 03.8**	**-0.9**
	baz=343								
TDCB	**Techi**	**1.04**	**345**	⇑ *i*	P		**Pb**	**17 34 50.7**	**-0.6**
	baz=353								
TDCB				*e*	S		**Sb**	**17 35 04.1**	**-0.6**
	baz=353								
WLGB	**Puzi**	**1.08**	**283**	*e*	P		**Pb**	**17 34 50.5**	**-1.3**
	baz=281								
SSPT	**Xinbi**	**1.10**	**227**	*e*	P		**Pn**	**17 34 51.8**	**-0.4**
	baz=216								
SNJT	**Kaohsiung City**	**1.13**	**245**	*e*	P		**Pg**	**17 34 54.7**	**+1.2**
	baz=238								
SNJT				*e*	S		**Sg**	**17 35 12.3**	**+4.0**
	baz=238								
WHP	**Taichung City**	**1.13**	**336**	*e*	P		**Pb**	**17 34 53.2**	**+0.4**
	baz=356								
WHP				*e*	S		**Sg**	**17 35 09.7**	**+1.3**
	baz=356								
CHN8	**Yiju**	**1.14**	**276**	*e*	P		**Pb**	**17 34 53.1**	**+0.3**
	baz=270								
CHN8				*e*	S		**Sg**	**17 35 10.1**	**+1.6**
	baz=270								
TCU	**Taichung**	**1.15**	**322**	*e*	P		**Pb**	**17 34 53.6**	**+0.6**
	baz=324								
TCU				*e*	S		**Sg**	**17 35 09.8**	**+1.0**
	baz=324								
SCZT	**Fangliau**	**1.15**	**222**	*e*	P		**Pn**	**17 34 52.1**	**-0.7**
	baz=207								
SCZT				*e*	S		**Sb**	**17 35 07.9**	**+0.3**
	baz=207								
SCLT	**Jiali**	**1.15**	**267**	*e*	P		**Pb**	**17 34 53.7**	**+0.6**
	baz=262								
SCLT				*e*	S		**Sg**	**17 35 10.1**	**+1.1**
	baz=262								
WCHH	**Zhanghua**	**1.17**	**316**	*e*	P		**Pb**	**17 34 53.6**	**+0.3**
	baz=317								
WCHH				*e*	S		**Sb**	**17 35 08.4**	**+0.2**
	baz=317								
NNSB	**Datong**	**1.19**	**357**	*e*	P		**Pn**	**17 34 52.7**	**-0.8**
	baz=14								
NNSH	**Datong**	**1.19**	**357**	*e*	P		**Pn**	**17 34 52.6**	**-0.9**
	baz=18								
NNSH				*e*	S		**Sn**	**17 35 09.6**	**+0.2**
	baz=18								
RLNB	**Erlin**	**1.19**	**303**	*e*	P		**Pn**	**17 34 53.1**	**-0.3**
	baz=303								
WSF	**Szhu**	**1.19**	**290**	*e*	P		**Pn**	**17 34 53.8**	**+0.3**
	baz=289								
LAY	**Lan-yu**	**1.20**	**175**	*e*	P		**Pn**	**17 34 52.0**	**-1.5**
	baz=160								
NNS	**Nan Shan**	**1.20**	**357**	*e*	P		**Pn**	**17 34 53.0**	**-0.7**
	baz=19								
NNS				*e*	S		**Sb**	**17 35 09.2**	**+0.1**
	baz=19								
ENA	**Nanau**	**1.22**	**13**	*e*	P		**Pn**	**17 34 52.8**	**-1.0**
	baz=10.0								
ENA				*e*	S		**Sb**	**17 35 09.4**	**-0.1**
	baz=10.0								
TWQ1	**Liyutan**	**1.27**	**331**	*e*	P		**Pg**	**17 34 55.9**	**-0.2**
	baz=335								
TWQ1				*e*	S		**Sg**	**17 35 13.8**	**+1.2**
	baz=335								
WLCH	**Liuqiu**	**1.32**	**228**	*e*	P		**Pg**	**17 34 58.5**	**+1.4**
	baz=217								
WDJ	**Dajia District**	**1.33**	**326**	*e*	P		**Pg**	**17 34 57.1**	**-0.1**
	baz=345								
WDJ				*e*	S		**Sg**	**17 35 15.5**	**+0.9**
	baz=345								
NSY	**Sanyi**	**1.33**	**332**	*e*	P		**Pg**	**17 34 57.4**	**+0.1**
	baz=336								
NSY				*e*	S		**Sg**	**17 35 16.0**	**+1.3**
	baz=336								
NDT	**Datong Townshi**	**1.36**	**3**	*e*	P		**Pn**	**17 34 55.5**	**-0.3**
	baz=18								
PTSB	**Yuanli**	**1.38**	**331**	*e*	P		**Pb**	**17 34 56.9**	**-0.1**
	baz=331								
HEN	**Hengchun**	**1.39**	**208**	*e*	P		**Pn**	**17 34 56.4**	**+0.2**
	baz=197								
ENTT	**Nioudou**	**1.40**	**5**	*e*	P		**Pn**	**17 34 56.2**	**-0.1**
	baz=9.0								
TWC	**Suao**	**1.41**	**15**	*e*	P		**Pb**	**17 34 57.4**	**-0.1**
	baz=5.0								
TWKBT	**Hengchun**	**1.42**	**204**	*e*	P		**Pb**	**17 34 57.8**	**+0.2**
	baz=192								
TWK1	**Hengchun**	**1.42**	**205**	*e*	P		**Pn**	**17 34 56.5**	**0.0**
	baz=192								
NMLH	**Miaoli**	**1.43**	**335**	*e*	P		**Pg**	**17 34 58.9**	**-0.1**
	baz=336								
YHNB	**Yeheng**	**1.43**	**357**	*e*	P		**Pn**	**17 34 57.2**	**+0.4**
	baz=21								
YHNB				*e*	S		**Sb**	**17 35 16.6**	**+1.0**
	baz=21								
NSK	**Sanguang**	**1.43**	**357**	*e*	P		**Pn**	**17 34 57.3**	**+0.4**
	baz=21								
NSK				*e*	S		**Sn**	**17 35 15.5**	**+0.1**
	baz=21								
NSTT	**Nanjuang**	**1.45**	**344**	*e*	P		**Pb**	**17 34 58.4**	**+0.3**
	baz=346								
LIOB	**Emei**	**1.46**	**344**	*e*	P		**Pb**	**17 34 58.6**	**+0.4**
	baz=346								
TWE	**Neicheng**	**1.49**	**8**	P			**Pn**	**17 34 57.9**	**+0.3**
	baz=11								
NWLT	**Wulai**	**1.53**	**2**	*e*	P		**Pn**	**17 34 58.6**	**+0.4**
	baz=20								
WLTB	**Daxi**	**1.62**	**354**	*e*	P		**Pb**	**17 35 00.6**	**-0.3**
	baz=8.0								
WDGT	**Dungji**	**1.64**	**271**	*e*	P		**Pn**	**17 34 59.6**	**0.0**
	baz=269								
PHUB	**P'eng-hu**	**1.74**	**279**	*e*	P		**Pn**	**17 35 01.0**	**0.0**
	baz=278								
TIPB	**Shuangxi**	**1.76**	**11**	*e*	P		**Pn**	**17 35 01.8**	**+0.5**
	baz=14								
PNG	**Penghu**	**1.77**	**281**	P			**Pn**	**17 35 01.7**	**+0.3**
	baz=280								
JYNG	**Yonagunijimaku**	**1.83**	**48**	P			**Pn**	**17 35 02.8**	**+0.6**
JYNG				S			**Sb**	**17 35 26.7**	**-0.5**
TWB1	**Santiao Chiao**	**1.83**	**16**	*e*	P		**Pb**	**17 35 04.2**	**-0.4**
	baz=6.0								
NWF	**Wu-fen Shan**	**1.85**	**9**	*e*	P		**Pb**	**17 35 04.8**	**-0.2**
	baz=10.0								
WFSB	**Wu-fen Shan**	**1.85**	**9**	*e*	P		**Pn**	**17 35 03.5**	**+0.9**
	baz=10.0								
YOJ	**Yonaguni jima**	**1.88**	**49**	P			**Pn**	**17 35 03.5**	**+0.6**
YOJ				S			**Sn**	**17 35 26.8**	**+0.5**
HATJ	**Hateruma jima**	**2.31**	**69**	P			**Pn**	**17 35 09.1**	**+0.2**
HATJ				*e*	S		**Sn**	**17 35 37.2**	**+0.3**
IRIF	**Iriomote-Funau**	**2.36**	**62**	P			**Pn**	**17 35 10.1**	**+0.6**
IRIF				S			**Sn**	**17 35 39.2**	**+1.1**
JKRS	**Kuro-shima**	**2.55**	**67**	P			**Pn**	**17 35 12.9**	**+0.7**
JKRS				*e*	S		**Sn**	**17 35 43.3**	**+0.6**
JIJ	**Ishigaki jima**	**2.71**	**65**	P			**Pn**	**17 35 14.7**	**+0.3**
JIJ				S			**Sn**	**17 35 46.1**	**-0.7**
JISG	**Ishigakijimahi**	**2.95**	**62**	P			**Pn**	**17 35 17.5**	**-0.1**
JISG				S			**Sn**	**17 35 51.9**	**-0.7**
JTJ	**Tarama**	**3.29**	**64**	P			**Pn**	**17 35 22.7**	**+0.4**
JTJ				S			**Sn**	**17 36 01.5**	**+0.4**

WEL 24 17:37:48.7, 40.°4S±0.°9×17.°6E±.°, h70km±2km, M3.5/42, ML3.8/41, MLv3.5/42, Error ellipse: s-maj=0.0km s-min=0.0km az=88.2, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DVHZ	**Dannevirke**	**0.06**	**351**	P			Pn	17 37 58.4	-0.5
DVHZ				S			Sn	17 38 04.5	-1.7
ANWZ	**Angora Road**	**0.25**	**115**	P			Pn	17 38 00.4	+0.9
ANWZ				S			Sn	17 38 08.6	+1.3
PRWZ	**Pori Road**	**0.26**	**218**	P			Pn	17 38 00.1	+0.6
PRWZ				S			Sn	17 38 07.9	+0.4
POWZ	**Post Office Ro**	**0.32**	**263**	P			Pn	17 37 59.8	-0.1
BFZ	**Birch Farm**	**0.33**	**171**	P			Pn	17 38 01.0	+1.0
BFZ				S			Sn	17 38 09.7	+1.3
TSZ	**Takapari Road**	**0.34**	**331**	P			Pn	17 37 59.4	-0.7
TSZ				S			Sn	17 38 06.2	-2.3
WPHZ	**Waipukurau**	**0.35**	**35**	P			Pn	17 38 00.2	0.0
WPHZ				S			Sn	17 38 07.9	-0.7
PRHZ	**Porangahau**	**0.36**	**76**	P			Pn	17 38 00.9	+0.7
PRHZ				S			Sn	17 38 09.5	+0.7
PNHZ	**Pukenui**	**0.44**	**2**	P			Pn	17 38 00.4	-0.5
PNHZ				S			Sn	17 38 08.1	-1.8
TIWZ	**Tintock**	**0.48**	**208**	P			Pn	17 38 02.3	+1.0
TIWZ				S			Sn	17 38 11.4	+0.9
MRZ	**Mangatainoka R**	**0.55**	**236**	P			Pn	17 38 02.3	+0.4
MRZ				S			Sn	17 38 11.4	-0.3
CPWZ	**Castlepoint**	**0.56**	**178**	P			Pn	17 38 04.0	+2.0
CPWZ				S			Sn	17 38 14.7	+2.9
PXZ	**Pawanui**	**0.62**	**59**	P			Pn	17 38 03.2	+0.6
PXZ				S			Sn	17 38 13.8	+1.0
OHWZ	**Ohakea**	**0.68**	**282**	P			Pn	17 38 04.0	+0.8
OHWZ				S			Sn	17 38 14.7	+0.7
KRHZ	**Kereru**	**0.72**	**12**	P			Pn	17 38 03.7	-0.2
KRHZ				S			Sn	17 38 14.1	-1.0
HOWZ	**Holdsworth Sta**	**0.74**	**223**	P			Pn	17 38 04.6	+0.6
HOWZ				S			Sn	17 38 15.7	+0.3
KAHZ	**Kahuranaki**	**0.78**	**44**	P			Pn	17 38 05.1	+0.6
KAHZ				S			Sn	17 38 17.4	+1.3
TMWZ	**Te Maipa**	**0.78**	**196**	P			Pn	17 38 05.7	+1.2
BHHZ	**Black Hill Sta**	**0.87**	**354**	P			Pn	17 38 05.6	0.0
BHHZ				S			Sn	17 38 16.6	-1.5
OGWZ	**Otaki Gorge**	**0.90**	**239**	P			Pn	17 38 06.4	+0.6
OGWZ				S			Sn	17 38 18.5	0.0
KWHZ	**Kaweka Forest**	**0.95**	**12**	P			Pn	17 38 06.5	0.0
KWHZ				S			Sn	17 38 19.1	-0.7
MTW	**Mount Morrison**	**0.95**	**212**	P			Pn	17 38 07.1	+0.6
CKHZ	**Cape Kidnapper**	**0.98**	**45**	P			Pn	17 38 07.3	+0.4
CKHZ				S			Sn	17 38 21.1	+0.7
MCHZ	**McNeill Hill**	**0.99**	**24**	P			Pn	17 38 07.5	+0.4
MCHZ				S			Sn	17 38 21.4	+0.7
MOVZ	**Moawhango**	**1.00**	**341**	P			Pn	17 38 07.4	+0.1
MOVZ				S			Sn	17 38 19.6	-1.4
KIW	**Kapiti Island**	**1.09**	**242**	P			Pn	17 38 09.0	+0.8
KIW				S			Sn	17 38 23.0	+0.1
WAZ	**Wanganui**	**1.09**	**303**	P			Pn	17 38 09.6	+1.3
WAZ				S			Sn	17 38 23.6	+0.6
TRWZ	**Traveller**	**1.11**	**199**	P			Pn	17 38 09.5	+1.0
TRWZ			

HIZ	**Hauiti**	**2.10**	**330**	P	Pn	17 38 22.0 +0.3
HLRZ	**Highlands Stat**	**2.10**	**4**	P	Pn	17 38 22.4 +0.7
TARZ	**Mount Tarawera**	**2.13**	**7**	P	Pn	17 38 21.9 -0.2
BSWZ	**Blackbirch Sta**	**2.21**	**231**	P	Pn	17 38 23.0 -0.1
URZ	**Urewera**	**2.21**	**19**	P	Pn	17 38 22.1 -1.1
OMRZ	**Omania**	**2.25**	**4**	P	Pn	17 38 23.4 -0.3
MWZ	**Matawai**	**2.27**	**28**	P	Pn	17 38 23.2 -0.8
NNZ	**Nelson**	**2.29**	**247**	P	Pn	17 38 24.6 +0.4
TKGZ	**Te Karaka**	**2.31**	**35**	P	Pn	17 38 23.8 -0.7
CNGZ	**Carnagh Statio**	**2.44**	**41**	P	Pn	17 38 25.7 -0.5
OPRZ	**Ohinepanea**	**2.52**	**7**	P	Pn	17 38 26.5 -0.9
WHRZ	**Whale Island**	**2.57**	**14**	P	Pn	17 38 27.7 -0.3
RUGZ	**Raukumara Rang**	**2.66**	**27**	P	Pn	17 38 28.3 -0.9
PUZ	**Puketiti**	**2.79**	**36**	P	Pn	17 38 29.9 -1.2
QRZ	**Quartz Range**	**2.82**	**259**	P	Pn	17 38 31.1 -0.2
THZ	**Tophouse**	**2.85**	**239**	P	Pn	17 38 31.4 -0.4
KHZ	**Kahutara**	**2.86**	**223**	P	Pn	17 38 31.0 -0.9
PKGZ	**Pakihiroa**	**2.87**	**32**	P	Pn	17 38 31.2 -0.9
HAZ	**Te Kaha**	**2.88**	**26**	P	Pn	17 38 30.5 -1.7
WMGZ	**Waiomatatini S**	**3.07**	**35**	P	Pn	17 38 33.7 -1.2
MXZ	**Matakaoa Point**	**3.24**	**31**	P	Pn	17 38 36.4 -0.7
MKAZ	**Moumakai**	**3.34**	**346**	P	Pn	17 38 39.2 +0.7
KBAZ	**Karaka Road Bo**	**3.41**	**342**	P	Pn	17 38 38.8 -0.6
AWAZ	**Awhitu Peninsu**	**3.50**	**339**	P	Pn	17 38 41.8 +1.2
GVZ	**Greta Valley S**	**3.52**	**221**	P	Pn	17 38 39.7 -1.2
ETAZ	**East Tamaki Re**	**3.53**	**344**	P	Pn	17 38 40.8 -0.3
RVAZ	**Riverhead Bore**	**3.79**	**340**	P	Pn	17 38 45.2 +0.6
LTZ	**Lake Taylor**	**3.80**	**229**	P	Pn	17 38 43.8 -1.0
AMCZ	**Amberley**	**3.86**	**222**	P	Pn	17 38 45.5 -0.1
OKCZ	**Okains Bay**	**4.09**	**214**	P	Pn	17 38 47.6 -1.1
MQZ	**McQueen's Vall**	**4.25**	**217**	P	Pn	17 38 49.1 -1.8
AKCZ	**Akaroa Harbour**	**4.27**	**214**	P	Pn	17 38 50.0 -1.2
OXZ	**Oxford**	**4.29**	**225**	P	Pn	17 38 49.8 -1.5
WCZ	**Waipu Caves**	**4.64**	**341**	P	Pn	17 38 57.0 +0.8
LBZ	**Lake Benmore**	**5.99**	**226**	P	Pn	17 39 14.3 -0.4
ODZ	**Otahua Downs**	**6.21**	**219**	P	Pn	17 39 16.1 -1.6
CTZ	**Chatham Island**	**6.34**	**125**	P	Pn	17 39 21.6 +2.2
SYZ	**Scrubby Hill**	**8.02**	**217**	P	Pn	17 39 42.8 +0.4

*IDC **24** 17:48:48.7±6.4,8.7E×118.95E, h88^{km}±62^{km}, mb2.8/2, mb1 3.2/5, mb1mx3.0/33, mbtmp3.4/5, ML3.3/3, Error ellipse: s-maj=103.8km s-min=37.1km az=59.0*
*DJA **24** 17:48:52.2±1.3,9°S×6°×11°9E±°, h14^{km}±9^{km}, M3.6/6, MLv3.3/6*
ISC 24 17:48:52.2±1.1,**8°68S**±0°09×**119°37E**±0°05,**h100^{km}, n12, σ1°62/17, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WBSI	**Waikabubak, Su**	**0.95**	**179**	P	**Pn**	**17 49 13.1**	**+0.9**
WBSI				S	**Sn**	**17 49 28.3**	**+1.1**
WSI	**Waingapu**	**1.34**	**137**	P	**Pn**	**17 49 18.0**	**+1.4**
PLAI	**Plampang**	**1.58**	**265**	P	**Pn**	**17 49 21.4**	**+1.9**
PLAI				S	**Sn**	**17 49 42.1**	**+1.8**
BASI	**Baing, Sumba**	**1.94**	**142**	P	**Pn**	**17 49 24.8**	**+0.8**
EDFI	**Ende, Flores**	**2.29**	**92**	P	**Pn**	**17 49 29.8**	**+1.1**
EDFI				S	**Sn**	**17 49 58.7**	**+2.0**
MMRI	**Maumere**	**2.83**	**89**	P	**Pn**	**17 49 37.2**	**+1.4**
MMRI				S	**Sn**	**17 50 11.4**	**+2.1**
BATI	**Baumata**	**4.50**	**110**	P	**Pn**	**17 49 59.5**	**+1.3**
	6.3nm,0.3s,baz=282,slow=9.3,SNR=3.0						
BATI				S	**Sn**	**17 50 49.1**	**-0.3**
	3.4nm,0.3s,baz=272,slow=19,SNR=1.8						
BATI	**Baumata**	**4.50**	**110**	P	**Pn**	**17 49 59.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**11.17**	**148**	P	**Pn**	**17 51 27.3**	**-1.6**
	0.1nm,0.3s,baz=326,slow=11,SNR=1.1						
FITZ				S	Sn	17 53 21.9	-10
	0.1nm,0.3s,baz=283,slow=22,SNR=1.5						
WRA	**Warramunga Arr**	**18.30**	**129**	P	**P**	**17 52 58.5**	**-0.1**
	0.1nm,0.3s,baz=305,slow=14,SNR=1.7						
ASAR	**Alice Springs**	**20.39**	**139**	P	**P**	**17 53 21.0**	**-0.3**
	0.4nm,0.8s,baz=312,slow=11,SNR=1.9						
MKAR	**Makanchi Array**	**64.34**	**333**	P	**P**	**17 59 14.4**	**-3.0**
	0.3nm,0.6s,baz=131,slow=6.5,SNR=2.2						

*IDC **24** 17:52:37.9±2.2,29°98S×177°29W, h0^{km}, mb3.6/3, mb1 3.8/3, mb1mx3.6/33, mbtmp3.6/3, Error ellipse: s-maj=60.5km s-min=20.1km az=62.0*
*NEIC **24** 17:52:39.1±1.1,29°9S±0°1×177°1W±0°1, h17^{km}±7^{km}, mb4.4/6, Error ellipse: s-maj=19.0km s-min=9.2km az=224.0*
ISC 24 17:52:40.4±1.0,**29°88S**±0°08×**177°1W**±0°1,**h24^{km}, n18, σ0°58/19, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.96**	**310**	Pn	**Pn**	**17 52 58.7**	**+0.4**
	169nm,0.3s,baz=65,slow=22,SNR=3.3						
RAO				Sn	**Sn**	**17 53 11.2**	**-0.1**
	676nm,0.3s,baz=203,slow=23,SNR=12						
RAO	**Raoul Island**	**0.96**	**310**		**Pn**	**17 52 58.5**	**+0.2**
NIUE	**Niue**	**12.56**	**33**		**Pn**	**17 55 37.0**	**-0.7**
MSVF	**Nonsavu**	**12.88**	**339**	Pn	**Pn**	**17 55 42.4**	**+0.3**
THZ	**Tophouse**	**14.37**	**212**	Pn	**Pn**	**17 56 02.1**	**-0.2**
KHZ	**Kahutara**	**14.62**	**209**	Pn	**Pn**	**17 56 05.1**	**-0.5**
AS31	**Alice Springs**	**43.94**	**266**	P	**P**	**18 00 45.4**	**-0.3**
AS31				IAmb	IAmb	18 01 10.1	
	comp=Z,1.8nm,1.2s						
ASAR	**Alice Springs**	**43.94**	**266**	P	**P**	**18 00 45.0**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=106,slow=7.4,SNR=5.7						
ASAR	**Alice Springs**	**43.94**	**266**	P	**P**	**18 00 44.7**	**-1.0**
WR0	**Warramunga Arr**	**44.70**	**271**	P	**P**	**18 00 51.6**	**-0.1**
WB2	**Warramunga Arr**	**44.87**	**271**	P	**P**	**18 00 52.7**	**-0.4**
WB2				IAmb	IAmb	18 01 17.7	
	comp=Z,9.9nm,1.2s						
WRA	**Warramunga Arr**	**44.88**	**271**	P	**P**	**18 00 53.2**	**0.0**
	comp=Z,0.4nm,0.3s,baz=111,slow=8.1,SNR=8.2						
WRA	**Warramunga Arr**	**44.88**	**271**	P	**P**	**18 00 52.5**	**-0.7**
WB0	**Warramunga Arr**	**44.90**	**271**	P	**P**	**18 00 52.8**	**-0.6**
QSPA	**South Pole Qui**	**60.23**	**180**	P	**P**	**18 02 47.0**	**+0.6**
	comp=Z,1.1nm,0.9s,baz=268,slow=1.4,SNR=6.2						
QSPA	**South Pole Qui**	**60.23**	**180**	P	**P**	**18 02 47.0**	**+0.6**
QSPA				IAmb	IAmb	18 03 07.8	
	comp=Z,4.9nm,1.1s						
FINES	**FINESS Array B**	**144.92**	**341**	PKP	**PKPdf**	**18 12 15.3**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=67,slow=2.9,SNR=7.2						
FINES	**FINESS Array B**	**144.92**	**341**		**PKPdf**	**18 12 15.5**	**+0.8**

*IDC **24** 17:54:16.4±0.9,29°95S×177°26W, h0^{km}, mb4.1/6, mb1 4.3/6, mb1mx3.9/34, mbtmp4.1/6, MS3.6/6, Ms1 3.6/6, ms1mx3.1/35, Error ellipse: s-maj=27.8km s-min=23.9km az=55.0*
*NEIC **24** 17:54:17.7±2.0,30°03S±0°07×177°3W±0°1, h10^{km}±1^{km}, mb4.7/18, Error ellipse: s-maj=17.4km s-min=10.1km az=58.0*
ISC 24 17:54:17.7±0.6,**30°04S**±0°07×**177°3W**±0°1,**h10^{km}, n49, σ1°01/44, mb4.2/8, MS3.6/5, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.96**	**324**	Pn	**Pg**	**17 54 35.8**	**-0.5**
	304nm,0.3s,baz=259,slow=21,SNR=3.1						
RAO				Sn	**Sg**	**17 54 47.5**	**-1.3**
	590nm,0.3s,baz=54,slow=21,SNR=4.6						
RAO	**Raoul Island**	**0.96**	**324**		**Pg**	**17 54 36.1**	**-0.2**
MXZ	**Matakaoa Point**	**8.35**	**205**	Pn	**Pn**	**17 56 18.3**	**-0.6**
OUZ	**Omahuta**	**9.27**	**234**	Pn	**Pn**	**17 56 32.0**	**+0.6**
BKZ	**Black Stump Fm**	**10.45**	**208**	Pn	**Pn**	**17 56 47.0**	**-0.6**
HIZ	**Hauiti**	**10.66**	**215**	Pn	**Pn**	**17 56 52.7**	**+2.2**
BFZ	**Birch Farm**	**11.86**	**205**	Pn	**Pn**	**17 57 06.3**	**-0.6**
THZ	**Tophouse**	**14.13**	**212**	Pn	**Pn**	**17 57 40.0**	**+2.0**
KHZ	**Kahutara**	**14.39**	**208**	Pn	**Pn**	**17 57 41.6**	**+0.2**
LTZ	**Lake Taylor**	**15.23**	**211**	P	**P**	**17 57 57.4**	**-0.5**
OXZ	**Oxford**	**15.77**	**210**		**P**	**17 58 02.6**	**-1.1**
OXZ				IAmb	IAmb	17 58 24.1	
	comp=Z,87nm,1.6s						
DZM	**Mont Dzumac**	**16.63**	**295**	LR	LR	18 03 19.0	
	comp=Z,114nm,19.3s,baz=158,slow=33						
MLZ	**Mavora Lakes**	**19.13**	**213**		**Pn**	**17 58 42.5**	**+0.8**
MLZ				IAmb	IAmb	17 58 43.0	
	comp=Z,40nm,1.2s						
TARA	**Tarawa**	**32.59**	**342**	P	**P**	**18 00 52.5**	**+3.1**
STKA	**Stephens Creek**	**35.17**	**256**	P	**P**	**18 01 12.6**	**+0.7**
	comp=Z,2.0nm,0.8s,baz=103,slow=12,SNR=1.4						
STKA	**Stephens Creek**	**35.17**	**256**	P	**P**	**18 01 12.1**	**+0.2**
AS31	**Alice Springs**	**43.76**	**266**	P	**P**	**18 02 23.6**	**-0.1**
ASAR	**Alice Springs**	**43.76**	**266**	P	**P**	**18 02 24.0**	**+0.3**
	comp=Z,1.4nm,0.6s,baz=107,slow=7.5,SNR=11						
ASAR	**Alice Springs**	**43.76**	**266**	P	**P**	**18 02 23.9**	**+0.3**
WR0	**Warramunga Arr**	**44.53**	**271**	P	**P**	**18 02 30.2**	**+0.3**
WB2	**Warramunga Arr**	**44.70**	**271**	P	**P**	**18 02 31.4**	**+0.1**
WRA	**Warramunga Arr**	**44.71**	**271**	P	**P**	**18 02 31.8**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=98,slow=8.2,SNR=37						
WRA	**Warramunga Arr**	**44.71**	**271**		**P**	**18 02 30.8**	**-0.6**
WB0	**Warramunga Arr**	**44.73**	**272**	P	**P**	**18 02 32.0**	**+0.6**
JAY	**Jayapura**	**48.30**	**296**	LR	LR	18 21 16.1	
	comp=Z,166nm,18.4s,baz=168,slow=34						
CASY	**Casey**	**55.75**	**208**	P	**P**	**18 03 54.7**	**+0.4**
CASY				IAmb	IAmb	18 04 15.2	
	comp=Z,11nm,1.2s						
GUMO	**Guam**	**56.67**	**314**	LR	LR	18 23 59.8	
	comp=Z,47nm,22.0s,baz=167,slow=32						
SIJI	**Sorong**	**56.79**	**291**	LR	LR	18 28 07.0	
	comp=Z,46nm,18.9s,baz=70,slow=36						
QSPA	**South Pole Qui**	**60.07**	**180**	P	**P**	**18 04 25.3**	**+0.5**
	comp=Z,2.3nm,0.9s,baz=81,slow=0.9,SNR=6.9						
QSPA	**South Pole Qui**	**60.07**	**180**	P	**P**	**18 04 24.9**	**+0.1**
GIRL	**Giralia**	**61.03**	**259**	P	**P**	**18 04 29.8**	**-2.1**
TGY	**Tsgaytay City**	**73.91**	**297**	LR	LR	18 35 31.1	
	comp=Z,38nm,18.7s,baz=137,slow=34						
SNAA	**Sanae**	**78.50**	**178**	P	**P**	**18 06 18.0**	**-0.7**
SNAA				IAmb	IAmb	18 06 52.6	
	comp=Z,7.2nm,1.5s						
KSRS	**Korea Array**	**84.48**	**319**	LR	LR	18 42 06.5	
	comp=Z,13nm,18.7s,baz=140,slow=34						
MT02	**Curacav**	**85.99**	**126**	P	**P**	**18 07 00.2**	**+1.6**
ROC1	**El Roble**	**86.23**	**126**	P	**P**	**18 06 58.5**	**-1.6**
214A	**Organ Pipe Nat**	**86.82**	**50**	P	**P**	**18 07 02.1**	**-0.5**
NVAR	**Mina Array Bea**	**87.55**	**42**	P	**P**	**18 07 06.8**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=224,slow=7.6,SNR=5.6						
NVAR	**Mina Array Bea**	**87.55**	**42**	P	**P**	**18 07 06.6**	**+0.4**
KLR	**Kul'dur**	**91.04**	**329**	P	**P**	**18 07 22.4**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=64,slow=4.1,SNR=5.2						
FINES	**FINESS Array B**	**145.02**	**341**	PKP	**PKPbc**	**18 13 53.3**	**-0.6**
	comp=Z,3.1nm,0.6s,baz=90,slow=5.7,SNR=10						
FINES	**FINESS Array B**	**145.02**	**341**		**PKPbc**	**18 13 52.9**	**-1.0**
NOA	**NORSAR Array B**	**148.49**	**352**	PKPbc	**PKPbc**	**18 14 03.6**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=16,slow=4.5,SNR=3.2						
AKASG	**Malin Array Be**	**151.39**	**324**	PKPbc	**PKPbc**	**18 14 10.9**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=52,slow=3.1,SNR=5.8						
AKASG	**Malin Array Be**	**151.39**	**324**		**PKPbc**	**18 14 11.1**	**-0.3**
GERES	**GERESS Array B**	**159.44**	**339**	PKPab	**PKPab**	**18 14 53.5**	**-0.6**
	comp=Z,0.3nm,0.8s,baz=108,slow=4.3,SNR=4.0						
GERES	**GERESS Array B**	**159.44**	**339**		**PKPab**	**18 14 52.6**	**-1.5**
TORD	**Torodi Ar. Bea**	**163.16**	**177**	PKPab	**PKPab**	**18 15 11.4**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=197,slow=2.5,SNR=2.2						
TORD	**Torodi Ar. Bea**	**163.16**	**177**		**PKPab**	**18 15 11.6**	**+0.6**

*IDC **24** 17:55:27.7±2.7,24°35S×179°99E, h500^{km}±24^{km}, mb3.6/6, mb1 3.8/7, mb1mx3.2/37, mbtmp4.5/7, Error ellipse: s-maj=42.0km s-min=24.1km az=170.0*
*NEIC **24** 17:55:28.4±1.4,24°35S±0°09×179°9W±0°2, h519^{km}±9^{km}, mb4.8/32, Error ellipse: s-maj=22.7km s-min=9.0km az=118.0*
ISC 24 17:55:27.2±0.7,**24°31S**±0°10×**179°9W**±0°1,**h500^{km}, n51, σ1°08/55, mb4.6/19, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.81**	**343**	P	**P**	**17 57 13.3**	**+1.6**
OUZ	**Omahuta**	**12.24**	**206**	P	**P**	**17 58 09.6**	**+1.4**
DZM	**Mont Dzumac**	**12.75**	**277**	P	**P**	**17 58 14.5**	**+0.7**
	0.2nm,0.3s,baz=99,slow=20,SNR=1.9						
HIZ	**Hauiti**	**14.85**	**196**	P	**P**	**17 58 39.8**	**+4.3**
BKZ	**Black Stump Fm**	**15.12**	**191**	P	**P**	**17 58 39.4**	**+0.9**
BKZ				IAmb	IAmb	17 58 54.0	
	comp=Z,54nm,1.7s						
BFZ	**Birch Farm**	**16.64**	**190**	P	**P**	**17 58 53.5**	**-0.9**
SNZO	**South Karori**	**17.54**	**194**	P	**P**	**17 59 03.2**	**+0.1**
BHW	**Baring Head**	**17.60**	**193**	P	**P**	**17 59 03.9**	**+0.2**
QRZ	**Quartz Range**	**17.65**	**199**	P	**P**	**17 59 04.6**	**+0.5**
PLWZ	**Palliser**	**17.68**	**192**	P	**P**	**17 59 04.0**	**-0.5**
TUWZ	**Tuamarina**	**17.83**	**195**	P	**P**	**17 59 05.5**	**-0.3**
BSWZ	**Blackbirch Sta**	**18.11**	**195**	P	**P**	**17 59 07.9**	**-0.5**
THZ	**Tophouse**	**18.41**	**197**	P	**P**	**17 59 11.3**	**+0.1**
THZ				IAmb	IAmb	17 59 26.7	
	comp=Z,40nm,1.2s						
KHZ	**Kahutara**	**18.86**	**195**	P	**P**	**17 59 15.1**	**0.0**
OXZ	**Oxford**	**20.09**	**197**	P	**P**	**17 59 25.6**	**-0.9**
MQZ	**McQueen's Vall**	**20.29**	**196**	P	**P**	**17 59 28.1**	**-0.1**
MQZ				IAmb	IAmb	17 59 29.4	
	comp=Z,38nm,1.1s						
EIDS	**Eidsvold**	**26.33**	**262**	P	**P**	**18 00 23.5**	**+1.0**
CAN	**Canberra**	**29.01**	**241**	P	**P**	**18 00 46.7**	**+0.7**
CAN				IAmb	IAmb	18 01 01.5	
	comp=Z,46nm,1.4s						
CTA	**Charters Tower**	**31.56**	**271**	P	**P**	**18 01 08.7**	**+0.5**
	comp=Z,20nm,0.5s,baz=94,slow=11,SNR=60						
CTAO	**Charters Tower**	**31.56**	**271**	P	**P**	**18 01 08.6**	**+0.5**
CTAO				IAmb	IAmb	18 01 09.3	
	comp=Z,18nm,0.5s						
TOO	**Toolangi**	**32.30**	**238**	P	**P**	**18 01 15.5**	**+1.3**
TOO				IAmb	IAmb	18 01 26.3	
	comp=Z,35nm,1.4s						
STKA	**Stephens Creek**	**34.65**	**249**	P	**P**	**18 01 34.1**	**-0.1**
	comp=Z,1.5nm,0.5s,baz=87,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**34.65**	**249**	P	**P**	**18 01 34.4**	**+0.2**
PMG	**Port Moresby**	**34.70**	**290**	P	**P**	**18 01 35.1**	**+0.3**
PMG				IAmb	IAmb	18 01 50.1	
	comp=Z,22nm,1.2s						
BBOO	**Buckleboo**	**39.36**	**247**	P	**P**	**18 02 12.5**	**-0.5**
BBOO				IAmb	IAmb	18 02 26.8	
	comp=Z,59nm,1.4s						
JOHN	**Johnston Islan**	**42.03**	**15**	P	**P**	**18 02 35.6**	**+1.2**
AS31	**Alice Springs**	**42.05**	**261**	P	**P**	**18 02 34.7**	**0.0**
ASAR	**Alice Springs**	**42.05**	**261**	P	**P**	**18 02 34.4**	**-0.3**
	comp=Z,2.5nm,0.5s,baz=94,slow=7.1,SNR=25						
ASAR				ScP	**ScP**	**18 07 20.9**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=105,slow=4.3,SNR=6.8						
ASAR	**Alice Springs**	**42.05**	**261**	P	**P**	**18 02 34.2**	**-0.5**
WR0	**Warramunga Arr**	**42.27**	**267**	P	**P**	**18 02 35.0**	**-1.4**
WR0				IAmb	IAmb	18 02 36.2	
	comp=Z,4.7nm,0.8s						
WB2	**Warramunga Arr**	**42.45**	**267**	P	**P**	**18 02 37.1**	**-0.7**
WB2				IAmb	IAmb	18 02 37.3	
	comp=Z,11nm,1.1s						
WB0	**Warramunga Arr**	**42.46**	**267**	P	**P**	**18 02 37.2**	**-0.7**
WB0				IAmb	IAmb	18 02 37.7	
	comp=Z,8.8nm,0.7s						
WRA	**Warramunga Arr**	**42.46**	**267**	P	**P**	**18 02 36.8**	**-1.1**
	comp=Z,5.8nm,0.5s,baz=107,slow=7.9,SNR=16						
WRA				ScP	**ScP**	**18 07 22.8**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=115,slow=3.9,SNR=5.7						
WRA	**Warramunga Arr**	**42.46**	**267**	P	**P**	**18 02 36.4**	**-1.5**
WRA				IAmb	IAmb	18 02 37.6	
	comp=Z,0.4nm,0.7s						
JAY	**Jayapura**	**43.75**	**294**	P	**P**	**18 02 47.0**	**-1.1**
	comp=Z,6.0nm,0.7s,baz=130,slow=7.9,SNR=5.6						
FORT	**Forrest**	**46.25**	**250**	P	**P**	**18 03 06.2**	**-0.9**
FORT				IAmb	IAmb	18 03 07.5	
	comp=Z,82nm,1.8s						
MTN	**Manton Dam**	**47.57**	**275**	P	**P**	**18 03 16.0**	**-1.2**
MTN				IAmb	IAmb	18 03 27.4	
	comp=Z,40nm,1.4s						
KNRA	**Kununurra**	**48.77**	**270**	P	**P**	**18 03 25.6**	**-0.6**
KNRA				IAmb	IAmb	18 03 40.0	
	comp=Z,75nm,1.8s						
AIN	**Ainahou**	**49.52**	**31**	P	**P**	**18 03 30.3**	**-1.5**
FAKI	**Fak Fak**	**50.78**	**287**	P	**P**	**18 03 39.7**	**-1.3**
FAKI				IAmb	IAmb	18 03 42.1	
	comp=Z,56nm,1.2s						
FITZ	**Fitzroy Crossi**	**50.88**	**266**	P	**P**	**18 03 40.6**	**-1.1**
PSA00	**Pilbara Seismi**	**55.17**	**260**	P	**P**	**18 04 11.8**	**-0.5**
PSA00				IAmb	IAmb	18 04 21.3	
	comp=Z,62nm,1.8s						
MORW	**Morawa**	**56.81**	**250**	P	**P**	**18 04 23.2**	**-0.5**
MORW				IAmb	IAmb	18 04 33.7	
	comp=Z,36nm,1.6s						
MMRI	**Maumere**	**57.24**	**275**	P	**P**	**18 04 26.6**	**-0.2**
MMRI				IAmb	IAmb	18 04 39.2	
	comp=Z,31nm,1.1s						
KKM	**Kota Kinabalu**	**69.10**	**287**	P	**P**	**18 05 43.2**	**0.0**
JOW	**Kunigami**	**71.32**	**312**	P	**P**	**18 05 56.0**	**-0.1**
JOW				IAmb	IAmb	18 06 07.2	
	comp=Z,36nm,1.2s						
TXAR	**Lajitas Array**	**90.58**	**58**	P	**P**	**18 07 37.5**	**+1.5**
	comp=Z,0.9nm,0.7s,baz=224,slow=6.5,SNR=7.9						
TXAR	**Lajitas Array**	**90.58**	**58**	P	**P**	**18 07 37.2**	**+1.3**
CLL	**Collm**	**151.27**	**343**	PKPbc	**PKPbc**	**18 14 23.5**	**0.0**
TORD	**Torodi Ar. Bea**	**168.80**	**188**	PKP	**PKPdf**	**18 14 35.7**	**-1.5**
	comp=Z,1.9nm,1.3s,baz=175,slow=1.1,SNR=2.4						
TORD				PKPab	**PKPab**	**18 15 50.4**	**-0.5**
	comp=Z,0.9nm,1.0s,baz=187,slow=3.8,SNR=3.0						
TORD	**Torodi Ar. Bea**	**168.80**	**188**		**PKPdf**	**18 14 35.2**	**-2.0**
TORD					**PKPab**	**18 15 49.7**	**-1.2**

IDC 24 18:07:01.7±3.6,**30.05S**×**177.72W**,**h0^{km}, mb3.5/2, mb1 3.7/2, mb1mx3.4/25, mbtmp3.5/2, MS3.7/2, Ms1 3.7/2, ms1mx3.0/16, Error ellipse: s-maj=73.9km s-min=23.4km az=100.0, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.82**	**348**	Pn	**Pn**	**18 07 21.3**	**+0.8**
	82nm,0.3s,baz=93,slow=22,SNR=1.4						
RAO				Sn	**Sn**	**18 07 33.1**	**-0.3**
	444nm,0.3s,baz=34,slow=21,SNR=6.9						
STKA	**Stephens Creek**	**34.80**	**256**	LR	LR	18 25 43.1	
	comp=Z,123nm,18.9s,baz=25,slow=32						
KRVT	**Keravat (AS076**	**38.37**	**306**	LR	LR	18 26 41.5	
	comp=Z,92nm,18.3s,baz=114,slow=31						
ASAR	**Alice Springs**	**43.37**	**266**	P	P	18 15 05.3	-0.8
	0.5nm,0.9s,baz=104,slow=7.5,SNR=5.7						
WRA	**Warramunga Arr**	**44.33**	**272**	P	P	18 15 14.5	+0.6
	0.9nm,0.7s,baz=110,slow=8.1,SNR=4.9						
FINES	**FINESS Array B**	**144.90**	**340**	PKP	PKPab	18 26 38.9	-0.3
	0.9nm,0.7s,baz=27,slow=4.7,SNR=1.4						

IDC 24 18:07:57.9±7.5,**7.65S**×**155.21E**,**h0^{km}, mb3.7/3, mb1 3.9/3, mb1mx3.4/31, mbtmp3.7/3, MS3.9/1, Ms1 3.9/1, ms1mx2.8/37, Error ellipse: s-maj=126.7km s-min=90.8km az=11.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.63**	**237**	P	P	18 13 10.2	-0.7
	1.2nm,0.9s,baz=64,slow=9.9,SNR=4.9						
ASAR	**Alice Springs**	**25.91**	**230**	P	P	18 13 32.3	+0.4
	0.4nm,0.7s,baz=60,slow=8.6,SNR=4.6						
STKA	**Stephens Creek**	**27.24**	**206**	P	P	18 13 44.0	+0.2
	4.7nm,1.1s,baz=31,slow=12,SNR=2.3						
RPZ	**Rata Peaks**	**38.51**	**161**	LR	LR	18 31 58.7	
	comp=Z,169nm,18.1s,baz=282,slow=37						

TAP 24 18:20:07.7, 23°26N×121°37E, h18^{km}, ML2.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FULB	**Fuli**	**0.09**	**229**	P	Pg	18 20 11.9	+0.5
	baz=228						
FULB				S	Sg	18 20 15.0	+1.1
	baz=228						
TWF1	**Yuli**	**0.11**	**325**	P	Pg	18 20 11.9	+0.3
	baz=327						
TWF1				eS	Sg	18 20 14.4	+0.1
	baz=327						
YULB	**Yu-li**	**0.15**	**334**	eP	Pg	18 20 12.3	+0.3
	baz=333						
YULB				eS	Sg	18 20 15.4	+0.5
	baz=333						
CHKT	**Chengkung**	**0.16**	**181**	P	Pg	18 20 13.0	+0.9
	baz=178						
CHKT				S	Sg	18 20 15.8	+0.8
	baz=178						
HGSD	**Ruisui**	**0.24**	**12**	P	Pg	18 20 13.9	+0.6
	baz=12						
HGSD				eS	Sg	18 20 18.3	+1.3
	baz=12						
EHY	**Hungye**	**0.25**	**350

	baz=332								
WDLH	**Douliu**	**0.87**	**299**	*e*P		Pn	18 20 25.3	+0.2	
	baz=299								
WDLH				*e*S		Sn	18 20 37.9	+0.6	
	baz=299								
WNT	**Mingjian**	**0.88**	**315**	*e*P		Pn	18 20 26.4	+1.2	
	baz=314								
WNT				*e*S		Sn	18 20 39.5	+2.1	
	baz=314								
WHF	**Hehuan Shan**	**0.89**	**354**	*e*P		Pg	18 20 25.1	-0.1	
	baz=354								
WHF				*e*S		Sb	18 20 36.2	-0.3	
	baz=354								
NACB	**Ninganchiao**	**0.93**	**13**	*e*P		Pb	18 20 25.2	-0.1	
	baz=12								
NACB				*e*S		Sn	18 20 40.5	+1.7	
	baz=12								
MASBT	**Mashibuluo**	**0.94**	**227**	*e*P		Pb	18 20 25.2	-0.2	
	baz=226								
ETLH	**Xiulin Townshi**	**0.95**	**6**	*e*P		Pb	18 20 25.5	-0.2	
	baz=6.0								
ETLH				*e*S		Sg	18 20 38.9	+0.1	
	baz=6.0								
EAST	**Anshuo**	**0.99**	**209**	*e*P		Pn	18 20 26.8	0.0	
	baz=208								
EAST				*e*S		Sb	18 20 39.7	+0.5	
	baz=208								
TDCB	**Techi**	**1.01**	**349**	*e*P		Pb	18 20 26.3	-0.4	
	baz=348								
TDCB				*e*S		Sg	18 20 40.5	-0.1	
	baz=348								
WHP	**Taichung City**	**1.08**	**339**	*e*P		Pg	18 20 30.9	+2.1	
	baz=339								
WHP				*e*S		Sg	18 20 43.0	-0.1	
	baz=339								
NNSB	**Datong**	**1.16**	**1**	*e*P		Pn	18 20 29.2	0.0	
NNSB				*e*S		Sb	18 20 44.2	0.0	
NNSH	**Datong**	**1.16**	**1**	*e*P		Pb	18 20 29.5	+0.2	
NNSH				*e*S		Sb	18 20 44.1	-0.1	
NNS	**Nan Shan**	**1.18**	**0**	*e*S		Sn	18 20 45.1	+0.1	
NSY	**Sanyi**	**1.28**	**334**	*e*P		Pn	18 20 30.4	-0.2	
	baz=334								
NSY				*e*S		Sb	18 20 47.6	+0.2	
	baz=334								
YHNB	**Yeheng**	**1.40**	**0**	*e*P		Pb	18 20 33.1	-0.4	
YHNB				*e*S		Sn	18 20 50.7	+0.2	

TAP 24 18:20:22.9, 23°.03N × 120°.83E, h13 km, ML1.6, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.15**	**333**	*e*P	Pb	18 20 27.3	-0.3
	baz=334						
STYT				S	Sb	18 20 30.2	-0.6
	baz=334						
STYT	**Tauyuan**	**0.15**	**333**	*e*S	Pb	18 20 27.2	-0.5
	baz=259						
SLGT	**Liugui**	**0.17**	**258**	P	Pb	18 20 28.2	+0.2
	baz=258						
SLGT				S	Sg	18 20 30.6	+0.8
	baz=258						
ELDTW	**Lidau**	**0.23**	**47**	*e*P	Pb	18 20 28.8	-0.3
	baz=48						
ELDTW				*e*S	Sg	18 20 31.9	+0.4
	baz=48						
SGST	**Jiashian**	**0.23**	**283**	*e*P	Pb	18 20 29.2	+0.1
	baz=283						
SGST				*e*S	Sb	18 20 32.5	-0.7
	baz=283						
SGST	**Jiashian**	**0.23**	**283**	*e*S	Sb	18 20 32.6	-0.6
	baz=256						
WTP	**Ta-pu**	**0.29**	**317**	*e*P	Pb	18 20 29.7	-0.5
	baz=317						
WTP				*e*S	Sb	18 20 34.9	-0.1
	baz=317						
TWG	**Pinlang**	**0.30**	**133**	*e*P	Pg	18 20 29.7	+0.5
	baz=132						
TWG				*e*S	Sb	18 20 35.4	+0.3
	baz=132						
TWGBT	**Beinan**	**0.31**	**133**	*e*P	Pg	18 20 29.8	+0.5
	baz=132						
TWGBT				*e*S	Sb	18 20 35.2	-0.1
	baz=132						
CHN1	**Nanshi**	**0.32**	**299**	*e*P	Pb	18 20 30.4	-0.2
	baz=299						
CHN1				*e*S	Sb	18 20 35.9	+0.2
	baz=299						
CHN1	**Nanshi**	**0.32**	**299**	*e*S	Sb	18 20 35.7	+0.1
	baz=264						
TPUB	**Ta-pu**	**0.33**	**325**	*e*P	Pb	18 20 31.9	+1.2
	baz=325						
TPUB				*e*S	Sg	18 20 34.8	+0.7
	baz=325						
TPUB	**Ta-pu**	**0.33**	**325**	*e*S	Pb	18 20 31.5	+0.9
	baz=273						
SSD	**Sandimen**	**0.34**	**213**	P	Pb	18 20 30.7	-0.1
	baz=212						
SSD				*e*S	Sb	18 20 36.1	0.0
	baz=212						
SNST	**Tainan City**	**0.36**	**302**	*e*P	Pb	18 20 32.1	+0.9
	baz=301						
SNST				*e*S	Sb	18 20 36.8	0.0
	baz=301						
SNST	**Tainan City**	**0.36**	**302**	*e*S	Sb	18 20 36.6	-0.3
	baz=267						
TWK	**Hsinying**	**0.40**	**307**	*e*P	Pg	18 20 31.2	+0.3
	baz=307						
TWK				*e*S	Sb	18 20 37.5	-0.3
	baz=307						
TTN	**Taitung**	**0.40**	**133**	*e*P	Pb	18 20 31.9	0.0
	baz=132						
TTN				*e*S	Sb	18 20 37.7	-0.2
	baz=132						
ECL	**Taimali**	**0.44**	**165**	*e*P	Pb	18 20 32.4	-0.2
	baz=164						
ECL				*e*S	Sb	18 20 39.2	+0.1
	baz=164						
MASBT	**Mashibuluo**	**0.45**	**204**	*e*P	Pg	18 20 32.2	+0.3
	baz=203						
MASBT				*e*S	Sg	18 20 38.5	+0.5
	baz=203						
MASBT	**Mashibuluo**	**0.45**	**204**	*e*S	Sg	18 20 38.6	+0.6
	baz=226						
FULB	**Fuli**	**0.46**	**68**	*e*P	Pb	18 20 33.0	+0.1
	baz=68						
FULB				*e*S	Sb	18 20 40.4	+0.8
	baz=68						
CHKT	**Chengkung**	**0.50**	**82**	*e*P	Pb	18 20 33.5	-0.1
	baz=82						
CHKT				*e*S	Sb	18 20 42.0	+1.3
	baz=82						
TWF1	**Yuli**	**0.54**	**53**	*e*P	Pb	18 20 34.0	-0.3
	baz=53						
TWF1				*e*S	Sb	18 20 42.2	+0.3
	baz=53						
YULB	**Yu-li**	**0.56**	**50**	*e*P	Pb	18 20 34.4	-0.2
	baz=49						
YULB				*e*S	Sb	18 20 42.6	+0.1
	baz=49						
CHN5	**Tsauling**	**0.58**	**346**	*e*P	Pg	18 20 34.5	+0.1
	baz=345						
CHN5				*e*S	Sb	18 20 43.0	-0.3
	baz=345						
EAST	**Anshuo**	**0.64**	**179**	*e*P	Pg	18 20 35.7	+0.2
	baz=178						
EAST				*e*S	Sb	18 20 45.8	+0.8
	baz=178						
EHY	**Hungye**	**0.66**	**43**	*e*P	Pb	18 20 36.0	-0.2
	baz=44						
EHY				*e*S	Sb	18 20 45.9	+0.6
	baz=44						
WHYT	**Xinyi Township**	**0.66**	**2**	*e*P	Pb	18 20 37.1	+0.7
	baz=1.0						
WHYT				*e*S	Sb	18 20 46.6	+1.0
	baz=1.0						
TAW	**Tawu**	**0.67**	**175**	*e*P	Pb	18 20 36.8	+0.3
	baz=174						
WGK	**Gukeng**	**0.70**	**339**	*e*P	Pb	18 20 36.9	-0.1
	baz=339						
WGK				*e*S	Sb	18 20 46.9	+0.3
	baz=339						
HGSD	**Ruisui**	**0.71**	**50**	*e*P	Pn	18 20 39.7	+1.0
	baz=49						
HGSD				*e*S	Sn	18 20 48.6	-1.0
	baz=49						
SSLB	**Suanglung**	**0.76**	**8**	*e*P	Pb	18 20 38.2	+0.1
	baz=8.0						
VWDT	**VWDT**	**0.78**	**21**	*e*P	Pb	18 20 38.6	+0.3
	baz=21						

*NEIC **24** 18:21:26.0±1.8, 30°.05S±0°.09 × 177°.4W±0°.2, h10 km±6 km, mb4.7/14, Error ellipse: s-maj=33.0km s-min=5.3km az=69.0*
*IDC **24** 18:21:30.4±2.8, 29°.99S × 177°.45W, h41 km±22 km, mb3.7/6, mb1 3.9/7, mb1mx3.7/37, mbtmp4.0/7, ML4.3/1, Error ellipse: s-maj=33.6km s-min=24.5km az=81.0*
ISC 24 18:21:29.3±1.0, 30.03S±0°.10 × 177.4W±0°.2, h35 km, n32, σ1°32/35, mb4.4/10, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.92**	**328**	P	**Pn**	**18 21 45.1**	**-0.5**
	844nm,0.3s,baz=166,slow=24,SNR=26						
RAO				S	**Sn**	**18 21 58.1**	**+0.6**
	863nm,0.3s,baz=249,slow=24,SNR=7.3						
RAO	**Raoul Island**	**0.92**	**328**		**Pn**	**18 21 45.3**	**-0.3**
RPZ	**Rata Peaks**	**16.49**	**211**	P	**P**	**18 25 19.6**	**-0.5**
	1.1nm,0.3s,baz=33,slow=18,SNR=2.1						
RPZ	**Rata Peaks**	**16.49**	**211**	P	**P**	**18 25 19.4**	**-0.7**
RPZ				IAmb	IAmb	18 25 47.9	
	comp=Z,136nm,1.7s						
DZM	**Mont Dzumac**	**16.56**	**295**	P	**P**	**18 25 26.1**	**+5.0**
	comp=Z,0.2nm,0.3s,baz=46,slow=19,SNR=3.3						
CTA	**Charters Tower**	**34.29**	**278**	P	**P**	**18 28 11.1**	**-1.3**
	comp=Z,1.8nm,0.5s,baz=72,slow=14,SNR=2.0						
CTAO	**Charters Tower**	**34.29**	**278**	P	**P**	**18 28 10.1**	**-2.4**
CTAO				IAmb	IAmb	18 28 25.4	
	comp=Z,10nm,1.1s						
STKA	**Stephens Creek**	**35.10**	**256**	P	**P**	**18 28 18.2**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=96,slow=16,SNR=3.1						
STKA	**Stephens Creek**	**35.10**	**256**	P	**P**	**18 28 18.4**	**-0.9**
BBOO	**Buckleboo**	**39.61**	**254**	P	**P**	**18 28 58.1**	**+0.6**
BBOO				IAmb	IAmb	18 29 20.9	
	comp=Z,47nm,1.6s						
AS31	**Alice Springs**	**43.69**	**266**	P	**P**	**18 29 31.7**	**+0.7**
ASAR	**Alice Springs**	**43.69**	**266**	P	**P**	**18 29 31.0**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=104,slow=7.5,SNR=20						
ASAR				PcP	**PcP**	**18 31 17.9**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=109,slow=4.0,SNR=2.5						
ASAR	**Alice Springs**	**43.69**	**266**	P	**P**	**18 29 30.7**	**-0.4**
WR0	**Warramunga Arr**	**44.46**	**272**	P	**P**	**18 29 38.5**	**+1.3**
WR0				IAmb	IAmb	18 29 44.4	
	comp=Z,17nm,1.5s						
WB2	**Warramunga Arr**	**44.63**	**271**	P	**P**	**18 29 38.3**	**-0.3**
WB2				IAmb	IAmb	18 29 55.1	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**44.64**	**271**	P	**P**	**18 29 38.6**	**-0.1**
	comp=Z,1.9nm,0.5s,baz=111,slow=7.9,SNR=21						
WRA				PcP	**PcP**	**18 31 20.9**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=112,slow=2.8,SNR=1.2						
WRA	**Warramunga Arr**	**44.64**	**271**	P	**P**	**18 29 39.8**	**+1.1**
WB0	**Warramunga Arr**	**44.66**	**272**	P	**P**	**18 29 38.5**	**-0.4**
WB0				IAmb	IAmb	18 30 06.3	
	comp=Z,12nm,1.5s						
FORT	**Forrest**	**46.68**	**255**	P	**P**	**18 29 55.0**	**+0.4**
KNRA	**Kununurra**	**51.23**	**274**	P	**P**	**18 30 29.7**	**0.0**
MORW	**Morawa**	**57.17**	**253**	P	**P**	**18 31 11.9**	**-1.0**
QSPA	**South Pole Qui**	**60.08**	**180**	P	**P**	**18 31 34.2**	**+1.5**
	comp=Z,1.3nm,1.0s,baz=16,slow=6.9,SNR=2.2						
QSPA	**South Pole Qui**	**60.08**	**180**	P	**P**	**18 31 34.1**	**+1.4**
QSPA				IAmb	IAmb	18 31 49.0	
	comp=Z,7.1nm,1.5s						
SNAA	**Sanae**	**78.51**	**178**	P	**P**	**18 33 27.3**	**+0.8**
KSRS	**Korea Array**	**84.43**	**319**	P	**P**	**18 33 58.8**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=129,slow=4.6,SNR=1.2						
BOSA	**Boshof**	**117.82**	**202**	PKP	**PKiKP**	**18 40 12.7**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=253,slow=1.7,SNR=5.3						
BOSA	**Boshof**	**117.82**	**202**		**PKiKP**	**18 40 13.4**	**+0.9**
FINES	**FINESS Array B**	**144.98**	**341**	PKP	**PKPab**	**18 41 00.6**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=90,slow=3.8,SNR=14						
FINES	**FINESS Array B**	**144.98**	**341**		**PKPab**	**18 41 01.0**	**-0.4**
AKASG	**Malin Array Be**	**151.34**	**324**	PKPbc	**PKPbc**	**18 41 18.6**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=58,slow=3.0,SNR=1.9						
AKASG	**Malin Array Be**	**151.34**	**324**		**PKPbc**	**18 41 16.6**	**-2.2**
CLL	**Collm**	**157.38**	**343**	*e*PKPab	**PKPab**	**18 41 51.0**	**-1.6**

*NEIC **24** 18:23:04.6±1.6, 51°.72N±0°.07 × 178°.47E±0°.08, h120 km±3km, Error ellipse: s-maj=9.7km s-min=7.5km az=175.0*
AEIC 24 18:23:06±1.0, 51°.8N±0°.1 × 178°.48E±0°.09, h112 km±4 km, mb4.0/15(NEIC), Error ellipse: s-maj=15.3km s-min=8.4km az=185.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.11**	**11**		Pn	18 23 21.0	-0.5
LSPA	**Little Sitkin**	**0.13**	**27**		Pn	18 23 21.1	-0.4
LSPA					Sn	18 23 33.5	+0.4
LSNW	**Little Sitkin**	**0.13**	**11**		Pn	18 23 21.0	-0.5
LSNW					Sn	18 23 33.6	+0.4
CESW	**Semis' Southwe**	**0.68**	**85**		Pn	18 23 23.6	-0.7
AMKA	**Amchitka**	**0.69**	**132**		Pn	18 23 24.0	-0.5
AMKA					Sn	18 23 37.1	-1.3
CEAP	**Semis' Anvil P**	**0.70**	**76**		Pn	18 23 24.2	-0.3
CERAA	**Semis' Rag'd T**	**0.75**	**85**		Pn	18 23 24.4	-0.6
CERAA					Sn	18 23 39.2	-0.1
TASE	**Tanaga Southea**	**2.16**	**89**		Pn	18 23 40.6	-0.5
TAFP	**Tanaga Falls P**	**2.19**	**87**		Pn	18 23 40.6	-0.9
TAFP					Sn	18 24 07.0	-1.7
TAPA	**Tanaga Point A**	**2.30**	**89**		Pn	18 23 42.1	-0.8
KIMD	**Kanaga Island**	**2.66**	**90**		Pn	18 23 46.7	-0.9
KICM	**Kanaga Island**	**2.68**	**87**		Pn	18 23 47.0	-0.8
KIKV	**Kanaga Island**	**2.70**	**88**		Pn	18 23 47.2	-0.8
KIWB	**Kanaga Island**	**2.71**	**88**	Pn	Pn	18 23 46.7	-1.5
SMY	**Shemya**	**2.83**	**290**		Pn	18 23 48.8	-0.9
SMY					Sn	18 24 23.2	-0.2
ADK	**Adak**	**3.00**	**87**		Pn	18 23 50.6	-1.3
ADK	**Adak**	**3.00**	**87**	Sn	Sn	18 24 25.6	-1.8
GSTD	**Great Sitkin T**	**3.33**	**84**		Pn	18 23 54.9	-1.6
GSTR	**Great Sitkin T**	**3.39**	**84**		Pn	18 23 56.1	-1.1
GSMY	**Great Sitkin M**	**3.39**	**84**		Pn	18 23 55.8	-1.3
ATKA	**Atka Island**	**4.54**	**83**	Pn	Pn	18 24 12.1	-0.4
NIKH	**Nikolski High**	**7.83**	**77**	Pn	Pn	18 24 56.6	-0.4
SPIA	**Saint Paul Isl**	**8.45**	**46**	Pn	Pn	18 25 06.7	+1.3
AKUT	**Akutan**	**9.77**	**70**	Pn	Pn	18 25 24.0	+0.7
FALS	**False Pass**	**11.23**	**67**	Pn	Pn	18 25 43.1	+0.2
CNBA	**Chernabura Isl**	**13.43**	**69**	Pn	Pn	18 26 08.2	-3.6
CHIR	**Chirikof Islan**	**15.76**	**65**	Pn	Pn	18 26 39.2	-2.2
SII	**Sitkinak Islan**	**16.62**	**63**	Pn	Pn	18 26 49.0	-2.9
SII				IAmb	IAmb	18 26 58.5	
	comp=Z,5.9nm,0.9s						
SVW2	**Sparrevohn**	**16.95**	**47**	Pn	Pn	18 26 52.4	-3.5
BILL	**Bilibino**	**17.30**	**344**	P	P	18 26 59.0	-0.8
CNPM	**China Poot**	**18.59**	**54**	P	P	18 27 13.6	-0.5
BRLK	**Bradley Lake**	**18.81**	**53**	P	P	18 27 15.6	-1.0
BRLK				IAmb	IAmb	18 27 34.9	
	comp=Z,9.9nm,1.2s						
SEW	**Seward**	**19.58**	**53**	P	P	18 27 24.8	-0.1
SEW				IAmb	IAmb	18 27 39.7	
	comp=Z,16nm,1.2s						
GLI	**Glacier Island**	**20.87**	**51**	P	P	18 27 38.2	-0.5
GLI				IAmb	IAmb	18 27 39.0	
	comp=Z,4.1nm,0.7s						
SCM	**Sheep Creek Mo**	**20.95**	**48**	P	P	18 27 39.1	-0.5
SCM				IAmb	IAmb	18 27 42.9	
	comp=Z,8.1nm,1.3s						
HIN	**Hinchinbrook I**	**21.08**	**52**	P	P	18 27 40.2	-0.8
FID	**Port Fidalgo**	**21.15**	**51**	P	P	18 27 40.5	-1.2
FID				IAmb	IAmb	18 27 59.7	
	comp=Z,8.4nm,1.3s						
DHY	**Denali Highway**	**21.24**	**45**	P	P	18 27 42.4	-0.4
DHY				IAmb	IAmb	18 27 47.4	
	comp=Z,3.7nm,1.2s						
GLB	**Gilahina Butte**	**22.53**	**50**	P	P	18 27 56.1	-0.1
CTGM	**Chitina Glacie**	**23.67**	**52**	P	P	18 28 08.0	+0.8
CTGM				IAmb	IAmb	18 28 20.9	
	comp=Z,8.4nm,1.3s						
BCAR	**Beaver Creek A**	**23.72**	**46**	P	P	18 28 06.9	-0.6
TABL	**Table Mountain**	**23.73**	**53**	P	P	18 28 07.8	+0.1
TABL				IAmb	IAmb	18 28 08.9	
	comp=Z,7.4nm,0.8s						
BMAR	**Burnt Mountain**	**23.80**	**35**	P	P	18 28 08.1	0.0

TAP 24 18:23:15.2, 23°.01N × 120°.86E, h4 km, ML1.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STYT	**Tauyuan**	**0.18**	**330**	P	Pg	18 23 19.8	+0.9
	baz=331						
STYT				*e*S	Sg	18 23 22.4	+1.1
	baz=331						
SLGT	**Liugui**	**0.20**	**266**	P	Pg	18 23 20.4	+1.3
	baz=266						
SLGT				*e*S	Sg	18 23 23.0	+1.4
	baz=266						
ELDTW	**Lidau**	**0.23**	**39**	P	Pg	18 23 21.0	+1.2
	baz=40						
ELDTW				*e*S	Sg	18 23 23.9	+0.9
	baz=40						
SGST	**Jiashian**	**0.26**	**287**	*e*P	Pg	18 23 20.9	+0.5
	baz=286						
TWG	**Pinlang**	**0.27**	**133**	*e*P	Pb	18 23 22.5	-0.1
	baz=132						
TWGBT	**Beinan**	**0.28**	**132**	*e*P	Pb	18 23 22.9	+0.1
	baz=132						
WTP	**Ta-pu**	**0.33**	**317**	*e*P	Pb	18 23 23.4	-0.3
	baz=317						
WTP				*e*S	Sb	18 23 28.6	-0.8
	baz=317						
SSD	**Sandimen**	**0.33**	**219**	P	Pb	18 23 23.0	-0.7
	baz=217						
CHN1	**Nanshi**	**0.35**	**301**	*e*P	Pb	18 23 24.7	+0.6
	baz=300						
CHN1				*e*S	Sb	18 23 29.8	-0.2
	baz=300						
TPUB	**Ta-pu**	**0.36**	**325**	P	Pb	18 23 24.0	-0.2
	baz=324						
TTN	**Taitung**	**0.37**	**133**	*e*P	Pb	18 23 23.8	-0.5
	baz=132						
TTN				*e*S	Sb	18 23 29.5	-0.8
	baz=132						
SNST	**Tainan City**	**0.39**	**303**	*e*P	Pg	18 23 23.1	+0.3
	baz=302						
SNST				*e*S	Sb	18 23 30.5	-0.7
	baz=302						
ECL	**Taimali**	**0.42**	**168**	*e*P	Pb	18 23 25.1	0.0
	baz=166						
ECL				*e*S	Sb	18 23 31.4	-0.4
	baz=166						
TWK	**Hsinying**	**0.43**	**307**	*e*P	Pb	18 23 25.8	+0.4
	baz=308						
TWK				*e*S	Sb	18 23 31.7	-0.5
	baz=308						
SGLT	**Jiouru**	**0.44**	**230**	*e*P	Pb	18 23 24.9	-0.6
	baz=229						
SGLT				*e*S	Sb	18 23 31.0	-1.4
	baz=229						
TWM1	**Shoushan**	**0.44**	**246**	*e*P	Pb	18 23 26.0	+0.4
	baz=245						
TWM1				*e*S	Sb	18 23 31.1	-1.5
	baz=245						
MASBT	**Mashibuluo**	**0.44**	**208**	P	Pb	18 23 25.0	-0.6
	baz=207						
MASBT				*e*S	Sb	18 23 32.6	+0.1
	baz=207						
FULB	**Fuli**	**0.45**	**64**	P	Pb	18 23 25.8	+0.1
	baz=64						
FULB				*e*S	Sb	18 23 32.2	-0.4
	baz=64						
CHKT	**Chengkung**	**0.48**	**79**	*e*P	Pb	18 23 25.8	-0.4
	baz=79						
CHKT				*e*S	Sb	18 23 33.3	-0.2
	baz=79						
ALS	**Alishan**	**0.50**	**355**	*e*P	Pb	18 23 26.4	-0.4
	baz=355						
ALS				*e*S	Sb	18 23 34.2	-0.5
	baz=355						
TWF1	**Yuli**	**0.53**	**50**	P	Pb	18 23 26.6	-0.6
	baz=50						
TWF1				*e*S	Sb	18 23 34.1	-1.0
	baz=50						
YULB	**Yu-li**	**0.56**	**46**	P	Pg	18 23 26.7	+0.7
	baz=46						
YULB				*e*S	Sb	18 23 35.7	-0.2
	baz=46						
TAI1	**Yung-k'ang**	**0.58**	**273**	*e*P	Pb	18 23 27.2	-0.7
	baz=273						
SSPT	**Xinbi**	**0.58**	**207**	*e*P	Pb	18 23 28.1	+0.1
	baz=207						
SSPT				*e*S	Sb	18 23 37.9	+1.3
	baz=207						
CHN5	**Tsauling**	**0.61**	**344**	*e*P	Pb	18 23 29.1	+0.6
	baz=344						
CHN5				*e*S	Sb	18 23 39.2	+1.6
	baz=344						
EAST	**Anshuo**	**0.62**	**181**	*e*P	Pb	18 23 28.7	+0.1
	baz=180						
EAST				*e*S	Sn	18 23 39.5	-1.7
	baz=180						
CHN2	**Minshiung**	**0.63**	**326**	*e*S	Sb	18 23 38.0	0.0
	baz=326						
CHY	**Chiayi**	**0.63**	**321**	*e*P	Pb	18 23 28.3	-0.5
	baz=321						
CHY				*e*S	Sb	18 23 38.3	+0.3
	baz=321						
EHY	**Hungye**	**0.66**	**41**	*e*P	Pb	18 23 29.6	+0.4
	baz=41						
EHY				*e*S	Sb	18 23 39.0	+0.3
	baz=41						
WHYT	**Xinyi Township**	**0.69**	**360**	P	Pb	18 23 29.7	-0.1
	baz=359						
WHYT				*e*S	Sn	18 23 41.6	-1.3
	baz=359						
WLGB	**Puzi**	**0.69**	**313**	*e*P	Pb	18 23 30.8	+0.9
	baz=312						
WLGB				*e*S	Sb	18 23 40.9	+1.1
	baz=312						
HGSD	**Ruisui**	**0.71**	**47**	*e*P	Pb	18 23 31.0	+0.8
	baz=47						
HGSD				*e*S	Sb	18 23 41.8	+1.4
	baz=47						
WGK	**Gukeng**	**0.73**	**338**	*e*P	Pb	18 23 30.8	+0.3
	baz=338						
WGK				*e*S	Sn	18 23 42.5	-1.4
	baz=338						
SSLB	**Suanglung**	**0.78**	**7**	*e*P	Pb	18 23 31.9	+0.4
	baz=6.0						
SSLB				*e*S	Sn	18 23 44.5	-0.8
	baz=6.0						
VWDT	**VWDT**	**0.79**	**19**	*e*P	Pb	18 23 32.0	+0.5
	baz=19						
VWDT				*e*S	Sb	18 23 43.3	+0.8
	baz=19						
TWP	**Hsiaoliuchiu**	**0.80**	**215**	*e*P	Pb	18 23 32.3	+0.6
	baz=214						
TWP				*e*S	Sn	18 23 44.8	-0.8
	baz=214						
TYC	**Yuchr**	**0.89**	**0**	*e*P	Pb	18 23 33.2	-0.1
TYC				*e*S	Sn	18 23 48.2	+0.3
ESL	**Shilin**	**0.96**	**33**	*e*P	Pn	18 23 35.3	-0.3
	baz=33						
ESL				*e*S	Sn	18 23 49.5	-0.2
	baz=33						
CHGB	**Renai**	**1.09**	**15**	*e*P	Pn	18 23 39.1	+1.6
	baz=15						
WHF	**Hehuan Shan**	**1.19**	**18**	*e*P	Pn	18 23 39.0	-0.1
	baz=18						
WHF				*e*S	Sn	18 23 56.1	+0.2
	baz=18						
WHP	**Taichung City**	**1.27**	**4**	*e*P	Pn	18 23 40.1	+0.3
	baz=3.0						
WHP				*e*S	Sn	18 23 57.8	+0.5
	baz=3.0						
NACB	**Ninganchiao**	**1.34**	**30**	*e*S	Sn	18 23 59.6	+0.5
	baz=30						
NNSH	**Datong**	**1.

	baz=41								
SGST	**Jiashian**	**0.26**	**288**	*e*P		Pg	18 23 25.4	+0.9	
	baz=288								
SGST				*e*S		Sg	18 23 29.1	+1.2	
	baz=288								
SGST	**Jiashian**	**0.26**	**288**	*e*S		Pg	18 23 25.1	+0.6	
	baz=286								
TWG	**Pinlang**	**0.28**	**131**	*e*P		Pb	18 23 26.7	-0.2	
	baz=130								
TWG				S		Sb	18 23 31.3	-0.5	
	baz=130								
TWG	**Pinlang**	**0.28**	**131**	*e*S		Pb	18 23 26.8	-0.1	
	baz=132								
TWGBT	**Beinan**	**0.28**	**130**	*e*P		Pb	18 23 26.7	-0.3	
	baz=130								
TWGBT				S		Sb	18 23 30.8	-1.2	
	baz=130								
TWGBT	**Beinan**	**0.28**	**130**	*e*S		Pb	18 23 26.7	-0.3	
	baz=132								
SSD	**Sandimen**	**0.32**	**218**	*e*P		Pb	18 23 27.0	-0.7	
	baz=216								
SSD				*e*S		Sg	18 23 31.1	+1.1	
	baz=216								
SSD	**Sandimen**	**0.32**	**218**	S		Pb	18 23 26.9	-0.8	
	baz=217								
WTP	**Ta-pu**	**0.32**	**319**	*e*P		Pb	18 23 27.7	0.0	
	baz=319								
WTP				*e*S		Sb	18 23 33.6	+0.3	
	baz=319								
CHN1	**Nanshi**	**0.34**	**302**	*e*P		Pg	18 23 26.7	+0.5	
	baz=301								
CHN1				S		Sb	18 23 35.5	+1.6	
	baz=301								
TPUB	**Ta-pu**	**0.36**	**326**	*e*P		Pb	18 23 28.3	0.0	
	baz=326								
TPUB				*e*S		Sb	18 23 33.3	-0.9	
	baz=326								
TPUB	**Ta-pu**	**0.36**	**326**	S		Pb	18 23 28.3	0.0	
	baz=324								
TTN	**Taitung**	**0.37**	**132**	*e*P		Pb	18 23 28.0	-0.5	
	baz=131								
TTN				*e*S		Sb	18 23 35.2	+0.7	
	baz=131								
SNST	**Tainan City**	**0.39**	**304**	*e*P		Pb	18 23 28.2	-0.6	
	baz=303								
SNST				*e*S		Sb	18 23 35.3	+0.3	
	baz=303								
ECL	**Taimali**	**0.41**	**166**	*e*P		Pb	18 23 28.8	-0.4	
	baz=165								
ECL				*e*S		Sb	18 23 35.4	-0.4	
	baz=165								
TWK	**Hsinying**	**0.42**	**309**	*e*P		Pg	18 23 28.3	+0.6	
	baz=309								
TWK				*e*S		Sb	18 23 36.1	0.0	
	baz=309								
SGLT	**Jiouru**	**0.43**	**230**	*e*P		Pb	18 23 28.9	-0.6	
	baz=229								
SGLT				*e*S		Sb	18 23 35.4	-0.7	
	baz=229								
MASBT	**Mashibuluo**	**0.43**	**207**	*e*P		Pb	18 23 29.3	-0.3	
	baz=206								
MASBT				*e*S		Sb	18 23 39.2	+2.8	
	baz=206								
CHN3	**Shinhua**	**0.45**	**280**	*e*P		Pb	18 23 29.6	-0.2	
	baz=279								
CHN3				*e*S		Sb	18 23 36.3	-0.5	
	baz=279								
FULB	**Fuli**	**0.46**	**65**	P		Pb	18 23 30.4	+0.4	
	baz=64								
FULB				S		Sb	18 23 36.6	-0.5	
	baz=64								
CHKT	**Chengkung**	**0.49**	**78**	*e*S		Sb	18 23 39.3	+1.4	
	baz=78								
ALS	**Alishan**	**0.51**	**356**	*e*P		Pb	18 23 30.9	-0.1	
	baz=356								
ALS				*e*S		Sb	18 23 39.1	+0.3	
	baz=356								
TWF1	**Yuli**	**0.54**	**50**	P		Pb	18 23 30.9	-0.6	
	baz=50								
TWF1				*e*S		Sb	18 23 39.1	-0.4	
	baz=50								
YULB	**Yu-li**	**0.57**	**47**	*e*P		Pb	18 23 32.1	+0.2	
	baz=46								
YULB				*e*S		Sb	18 23 40.3	0.0	
	baz=46								
SSPT	**Xinbi**	**0.58**	**206**	*e*P		Pb	18 23 32.7	+0.7	
	baz=206								
SSPT				*e*S		Sn	18 23 42.6	-1.4	
	baz=206								
CHN5	**Tsauling**	**0.61**	**345**	*e*P		Pb	18 23 32.7	0.0	
	baz=345								
CHN5				*e*S		Sb	18 23 42.1	+0.5	
	baz=345								
EAST	**Anshuo**	**0.62**	**180**	*e*P		Pb	18 23 33.4	+0.6	
	baz=179								
EAST				*e*S		Sb	18 23 42.0	+0.3	
	baz=179								
CHY	**Chiayi**	**0.63**	**322**	*e*P		Pb	18 23 32.6	-0.2	
	baz=322								
CHY				*e*S		Sb	18 23 42.5	+0.5	
	baz=322								
KAU	**Kaohsiung**	**0.66**	**229**	*e*P		Pg	18 23 32.6	+0.5	
	baz=228								
KAU				*e*S		Sb	18 23 43.6	+0.8	
	baz=228								
EHY	**Hungye**	**0.67**	**41**	*e*P		Pb	18 23 33.2	-0.3	
	baz=41								
EHY				*e*S		Sb	18 23 44.1	+1.0	
	baz=41								
CHN8	**Yiju**	**0.68**	**300**	*e*P		Pb	18 23 33.9	+0.2	
	baz=300								
CHN8				*e*S		Sb	18 23 43.0	-0.3	
	baz=300								
WHYT	**Xinyi Township**	**0.69**	**1**	*e*P		Pb	18 23 34.2	+0.2	
WHYT				*e*S		Sb	18 23 44.4	+0.6	
HGSD	**Ruisui**	**0.72**	**47**	*e*P		Pb	18 23 35.1	+0.6	
	baz=47								
HGSD				*e*S		Sb	18 23 45.7	+1.1	
	baz=47								
WDLH	**Douliu**	**0.74**	**338**	*e*P		Pb	18 23 34.8	0.0	
	baz=337								
WDLH				*e*S		Sb	18 23 45.8	+0.6	
	baz=337								
WLCH	**Liuqiu**	**0.78**	**214**	*e*P		Pb	18 23 35.4	0.0	
	baz=213								
WLCH				*e*S		Sb	18 23 47.2	+1.0	
	baz=213								
VWDT	**VWDT**	**0.80**	**20**	*e*P		Pb	18 23 36.0	+0.3	
	baz=19								
VWDT				*e*S		Sb	18 23 47.8	+1.0	
	baz=19								
ESL	**Shilin**	**0.97**	**34**	*e*P		Pb	18 23 39.1	+0.3	
	baz=34								
ESL				*e*S		Sb	18 23 52.7	+0.8	
	baz=34								

NEIC ***24*** *18:32:27.8±2.7, 52.°1N±0.°1×178.°37E±0.°07, h125km±4km, Error ellipse: s-maj=17.9km s-min=4.6km az=195.0*

AEIC ***24*** *18:32:27±2.3, 51.°9N±0.°1×178.°28E±0.°07, h132km±4km, ML3.4, mb4.1/34(NEIC), Error ellipse: s-maj=19.4km s-min=6.5km az=183.0*

IDC ***24*** *18:32:30.3±4.3, 52.°22N×178.°46E, h154km±39km, mb3.2/10, mb1 3.5/12, mb1mx3.3/47, mbtmp3.8/12, Error ellipse: s-maj=29.0km s-min=13.9km az=166.0*

ISC 24 18:32:27.3±0.7, 52.°0N±0.°1×178.°34E±0.°05, h126km±6km, n97, σ1°25/93, mb3.8/19, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSNW	**Little Sitkin**	**0.12**	**112**		**Pn**	**18 32 44.6**	**+0.1**
LSSA	**Little Sitkin**	**0.13**	**121**		**Pn**	**18 32 44.7**	**+0.1**
LSPA	**Little Sitkin**	**0.16**	**111**		**Pn**	**18 32 44.8**	**+0.2**
LSSE	**Little Sitkin**	**0.17**	**120**		**Pn**	**18 32 44.6**	**0.0**
CETU	**Semis' Tuman**	**0.72**	**93**		**Pn**	**18 32 48.0**	**+0.6**
CEAP	**Semis' Anvil P**	**0.77**	**90**		**Pn**	**18 32 48.5**	**+0.7**
CERAA	**Semis' Rag'd T**	**0.84**	**97**		**Pn**	**18 32 48.8**	**+0.4**
CERAA					**Sn**	**18 33 05.6**	**+1.3**
AMKA	**Amchitka**	**0.88**	**136**		**Pn**	**18 32 48.6**	**-0.1**
AMKA					**Sn**	**18 33 04.1**	**-0.7**
GAEA	**Gareloi East**	**1.82**	**96**		**Pn**	**18 32 58.9**	**0.0**
TASE	**Tanaga Southea**	**2.25**	**93**		**Pn**	**18 33 04.1**	**-0.1**
TAFP	**Tanaga Falls P**	**2.28**	**91**		**Pn**	**18 33 04.5**	**-0.1**
TAFP					**Sn**	**18 33 33.0**	**-0.1**
TAPA	**Tanaga Point A**	**2.39**	**93**		**Pn**	**18 33 05.9**	**-0.1**
SMY	**Shemya**	**2.69**	**287**	Pn	**Pn**	**18 33 09.4**	**-0.4**
SMY					**Sn**	**18 33 42.4**	**-0.1**
KIMD	**Kanaga Island**	**2.75**	**94**		**Pn**	**18 33 10.4**	**-0.1**
KICM	**Kanaga Island**	**2.77**	**90**		**Pn**	**18 33 10.9**	**+0.2**
KIKV	**Kanaga Island**	**2.78**	**91**		**Pn**	**18 33 11.0**	**+0.1**
ADK	**Adak**	**3.08**	**90**		**Pn**	**18 33 14.4**	**-0.4**
ADK	**Adak**	**3.08**	**90**		**Pn**	**18 33 14.5**	**-0.3**
GSTD	**Great Sitkin T**	**3.41**	**87**		**Pn**	**18 33 18.5**	**-0.7**
GSTR	**Great Sitkin T**	**3.46**	**86**		**Pn**	**18 33 19.9**	**+0.1**
GSMY	**Great Sitkin M**	**3.46**	**87**		**Pn**	**18 33 19.4**	**-0.5**
ATKA	**Atka Island**	**4.61**	**85**	Pn	**Pn**	**18 33 35.3**	**+0.3**
KOFP	**Korovin Flat P**	**4.67**	**84**		**Pn**	**18 33 36.1**	**+0.2**
NIKH	**Nikolski High**	**7.88**	**78**	Pn	**Pn**	**18 34 20.7**	**+1.7**
SPIA	**Saint Paul Isl**	**8.40**	**48**	Pn	**Pn**	**18 34 29.3**	**+3.3**
UNV	**Unalaska Valle**	**9.34**	**73**	Pn	**Pn**	**18 34 40.1**	**+1.5**
AKUT	**Akutan**	**9.80**	**71**	Pn	**Pn**	**18 34 47.0**	**+2.2**
PET	**Petropavlovsk**	**12.03**	**283**	Pn	**Pn**	**18 35 15.1**	**+0.6**
PETK	**Petropavlovsk-**	**12.60**	**283**	P	**Pn**	**18 35 24.8**	**+2.8**
	1.9nm,0.3s,baz=92,slow=18,SNR=8.2						
CNBA	**Chernabura Isl**	**13.45**	**69**	Pn	**Pn**	**18 35 30.4**	**-2.5**
CHIR	**Chirikof Islan**	**15.77**	**66**	Pn	**Pn**	**18 35 59.3**	**-2.8**
SII	**Sitkinak Islan**	**16.62**	**63**	P	**Pn**	**18 36 10.2**	**-2.3**
SVW2	**Sparrevohn**	**16.90**	**47**		**Pn**	**18 36 18.2**	**+2.3**
OHAK	**Old Harbor**	**17.16**	**61**	P	**P**	**18 36 16.9**	**-1.9**
TTA	**Tatalina**	**17.46**	**41**		**Pn**	**18 36 23.4**	**+0.6**
KDAK	**Kodiak Island**	**17.60**	**59**	P	**P**	**18 36 22.2**	**-1.4**
	1.9nm,0.3s,baz=277,slow=6.6,SNR=28						
KDAK	**Kodiak Island**	**17.60**	**59**	P	**P**	**18 36 22.2**	**-1.4**
RSO	**Redoubt South**	**18.02**	**51**	P	**P**	**18 36 27.8**	**-0.7**
CNPM	**China Poot**	**18.56**	**54**	P	**P**	**18 36 34.6**	**+0.5**
BRLK	**Bradley Lake**	**18.78**	**54**	P	**P**	**18 36 36.6**	**+0.1**
PPLA	**Purkeypile**	**19.04**	**44**	P	**Pn**	**18 36 41.0**	**-0.6**
PPLA				IAmb	IAmb	18 36 55.8	
	comp=Z,5.3nm,0.8s						
SEW	**Seward**	**19.55**	**53**	P	**P**	**18 36 44.9**	**+0.1**
SEW				IAmb	IAmb	18 36 48.6	
	comp=Z,13nm,1.0s						
BPAW	**Bear Paw Mtn.**	**19.99**	**41**	P	**P**	**18 36 50.7**	**+1.1**
TRF	**Thorofare Moun**	**20.04**	**43**	P	Pn	18 36 53.3	0.0
TRF				IAmb	IAmb	18 36 54.2	
	comp=Z,6.0nm,0.9s						
GHO	**Glory Hole Cre**	**20.15**	**48**	P	Pn	18 36 53.8	-0.7
GHO				IAmb	IAmb	18 36 54.6	
	comp=Z,5.1nm,0.8s						
SML	**Sawmill**	**20.43**	**48**	P	Pn	18 36 56.3	-1.5
SML				IAmb	IAmb	18 36 57.6	
	comp=Z,6.7nm,0.7s						
GLI	**Glacier Island**	**20.83**	**51**	P	**P**	**18 36 57.6**	**-1.0**
GLI				IAmb	IAmb	18 36 59.3	
	comp=Z,5.2nm,0.6s						
SCM	**Sheep Creek Mo**	**20.91**	**49**	P	**P**	**18 37 00.5**	**+1.0**
SCM				IAmb	IAmb	18 37 01.8	
	comp=Z,12nm,1.2s						
HIN	**Hinchinbrook I**	**21.05**	**53**	P	**P**	**18 37 00.9**	**-0.1**
FID	**Port Fidalgo**	**21.11**	**52**	P	**P**	**18 37 00.7**	**-0.9**
FID				IAmb	IAmb	18 37 07.2	
	comp=Z,6.8nm,0.8s						
DHY	**Denali Highway**	**21.18**	**45**	P	**P**	**18 37 03.2**	**+0.7**
DHY				IAmb	IAmb	18 37 05.3	
	comp=Z,5.0nm,0.6s						
CCB	**Clear Creek Bu**	**21.48**	**41**	P	**P**	**18 37 06.9**	**+1.4**
ILAR	**Eielson Array**	**21.90**	**41**	P	**P**	**18 37 08.7**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=236,slow=7.2,SNR=7.0						
ILAR	**Eielson Array**	**21.90**	**41**	P	**P**	**18 37 10.2**	**+0.3**
RAGM	**Ragged Mountai**	**21.95**	**53**	P	**P**	**18 37 11.5**	**+1.0**
RIDG	**Independent Ri**	**22.45**	**44**	P	**P**	**18 37 14.7**	**-0.9**
RIDG					**P**	**18 37 15.5**	**-0.1**
GLB	**Gilahina Butte**	**22.49**	**50**	P	**P**	**18 37 16.4**	**+0.4**
GLB				IAmb	IAmb	18 37 20.2	
	comp=Z,4.6nm,0.8s						
VRDI	**Verde Repeater**	**22.64**	**51**	P	**P**	**18 37 18.0**	**+0.4**
DOT	**Dot Lake**	**22.77**	**45**	P	**P**	**18 37 18.4**	**-0.3**
MENT	**Mentasta**	**22.78**	**47**	P	**P**	**18 37 18.6**	**-0.1**
MENT				IAmb	IAmb	18 37 25.6	
	comp=Z,5.6nm,0.8s						
SCRK	**Sand Creek**	**22.88**	**44**	P	**P**	**18 37 18.4**	**-1.4**
YAH	**Yahtse**	**23.40**	**53**	P	**P**	**18 37 23.8**	**-1.0**
BARN	**Barnard Glacie**	**23.48**	**52**	P	**P**	**18 37 28.1**	**+2.6**
BARN				IAmb	IAmb	18 37 28.4	
	comp=Z,10nm,1.1s						
CTGM	**Chitina Glacie**	**23.64**	**52**	P	**P**	**18 37 29.4**	**+2.5**
CTGM				IAmb	IAmb	18 37 32.0	
	comp=Z,3.4nm,0.7s						
BCAR	**Beaver Creek A**	**23.67**	**47**	P	**P**	**18 37 27.9**	**+0.9**
BMAR	**Burnt Mountain**	**23.72**	**35**	P	**P**	**18 37 28.5**	**+1.1**
PCA	**Pinnacle**	**24.13**	**54**	P	**P**	**18 37 33.8**	**+2.6**
PCA				IAmb	IAmb	18 37 42.7	
	comp=Z,8.5nm,1.0s						
DAWY	**Dawson**	**24.88**	**45**	P	**P**	**18 37 39.6**	**+1.6**
DAWY				IAmb	IAmb	18 37 41.5	
	comp=Z,3.8nm,0.7s						
HYT	**Haines Junctio**	**25.50**	**52**	P	**P**	**18 37 47.5**	**+3.8**
HYT				IAmb	IAmb	18 37 48.1	
	comp=Z,4.8nm,0.6s						
KLR	**Kul'dur**	**29.30**	**283**	P	**P**	**18 38 18.2**	**+0.7**
	comp=Z,0.4nm,0.4s,baz=95,slow=12,SNR=1.8						
H11N2	**WAKE ISLAND Hy**	**33.44**	**200**	T	T	19 14 42.4	
	baz=11,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**33.45**	**200**	T	T	19 14 36.4	
	baz=11,slow=76,SNR=19						
H11N1	**WAKE ISLAND Hy**	**33.46**	**200**	T	T	19 14 43.8	
	baz=11,slow=76,SNR=19						
H11S1	**WAKE ISLAND Hy**	**34.67**	**200**	T	T	19 16 07.8	
	baz=9.3						
H11S3	**WAKE ISLAND Hy**	**34.68**	**200**	T	T	19 16 13.2	
	baz=9.3						
H11S2	**WAKE ISLAND Hy**	**34.69**	**200**	T	T	19 16 07.6	
	baz=9.3						
YKA	**Yellowknife Ar**	**36.09**	**47**	P	**P**	**18 39 15.5**	**-0.9**
	comp=Z,0.8nm,0.6s,baz=280,slow=8.3,SNR=4.2						
KSRS	**Korea Array**	**37.86**	**268**	P	**P**	**18 39 33.0**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=64,slow=8.3,SNR=2.4						
KSRS	**Korea Array**	**37.86**	**268**	P	**P**	**18 39 33.0**	**+1.3**
NVAR	**Mina Array Bea**	**45.23**	**81**	P	**P**	**18 40 31.4**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=294,slow=7.4,SNR=4.8						
NVAR	**Mina Array Bea**	**45.23**	**81**	P	**P**	**18 40 31.2**	**-0.8**
PDAR	**Pinedale Array**	**47.80**	**71**	P	**P**	**18 40 50.3**	**-1.7**
	comp=Z,0.4nm,0.6s,baz=289,slow=6.0,SNR=4.1						
ZALV	**Zalesovo Beam**	**52.29**	**2**	PcP	**PcP**	**18 42 35.8**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=60,slow=3.5,SNR=2.6						
MKAR	**Makanchi Array**	**58.23**	**307**	P	**P**	**18 42 07.5**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=45,slow=6.5,SNR=8.2						
MKAR	**Makanchi Array**	**58.23**	**307**	P	**P**	**18 42 07.7**	**-0.4**
AKASG	**Malin Array Be**	**74.37**	**340**	P	**P**	**18 43 49.4**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=25,slow=7.1,SNR=2.4						
AKASG	**Malin Array Be**	**74.37**	**340**	P	**P**	**18 43 50.9**	**+0.1**
WRA	**Warramunga Arr**	**81.28**	**221**	P	**P**	**18 44 29.6**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=32,slow=6.0,SNR=6.3						
WRA	**Warramunga Arr**	**81.28**	**221**	P	**P**	**18 44 29.9**	**+0.7**
ASAR	**Alice Springs**	**84.79**	**220**	P	**P**	**18 44 48.0**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=19,slow=4.4,SNR=9.5						
ASAR	**Alice Springs**	**84.79**	**220**	P	**P**	**18 44 48.5**	**+1.1**
TORD	**Torodi Ar. Bea**	**115.04**	**356**	PKP	**PKiKP**	**18 50 52.6**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=9.2,slow=1.8,SNR=1.9						
TORD	**Torodi Ar. Bea**	**115.04**	**356**		**PKiKP**	**18 50 52.8**	**-0.8**
MAW	**Mawson**	**145.89**	**218**	PKPbc	**PKPab**	**18 51 51.5**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=62,slow=14,SNR=2.1						
MAW	**Mawson**	**145.89**	**218**		**PKPab**	**18 51 51.3**	**+0.1**
BOSA	**Boshof**	**149.21**	**309**	PKPbc	**PKPbc**	**18 51 59.5**	**-1.3**
	comp=Z,1.7nm,0.5s,baz=27,slow=4.5,SNR=8.6						
BOSA	**Boshof**	**149.21**	**309**		**PKPbc**	**18 51 59.8**	**-1.1**

INET ***24*** *18:41:44.4, 12.°50N×87.°95W, h15km, ML3.5*

SNET 24 18:41:48.1±0.7, 12.°47N×87.°93W, h23km±5km, ML3.4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.81**	**7**	*e*P	Pb	18 42 02.9	-0.6
CNCH				*e*P	Pn	18 42 03.0	-1.2
CNCH				*e*S	Sn	18 42 14.9	-0.6
LCND	**La Caada**	**0.83**	**3**	*e*P	Pb	18 42 03.4	-0.6
LCND				*e*S	Sn	18 42 15.6	-0.5
LCND				IAML		18 42 17.9	
	comp=Z,1μm,0.4s						
JUCU	**Jucuarán**	**0.84**	**338**	*e*P	Pb	18 42 03.8	-0.2
JUCU				*e*S	Sn	18 42 16.0	-0.2
JUCU				IAML		18 42 20.7	
	comp=Z,1μm,0.4s						
BLLM	**Bellamira**	**1.01**	**343**	*e*P	Pn	18 42 06.7	-0.3
RANC	**El Ranchito**	**1.02**	**340**	*e*P	Pn	18 42 07.0	-0.2
RANC				*e*S	Sn	18 42 21.7	+0.8
RANC				IAML		18 42 23.7	
	comp=Z,1μm,0.1s						
ALJI	**Alcalda de J**	**1.05**	**324**	*e*S	Sn	18 42 21.5	0.0
ALJI				IAML		18 42 22.9	
	comp=Z,866nm,0.1s						
COEB	**Comit de Eme**	**1.18**	**330**	*e*P	Pn	18 42 09.2	-0.1
COEB				*e*S	Sb	18 42 25.4	+0.7
COEB				IAML		18 42 27.9	
	comp=Z,496nm,0.3s						
LFRS	**El Faro**	**1.59**	**316**	*e*P	Pn	18 42 15.2	+0.2
JAYA	**Jayaque - finc**	**1.89**	**309**	*e*S	Sn	18 42 42.8	+0.4
JAYA				IAML		18 42 44.1	
	comp=Z,416nm,0.2s						

IDC 24 18:54:11.2±2.1, 9.°72S×154.°38E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/21, mbtmp3.5/4, Error ellipse: s-maj=56.1km s-min=37.6km az=100.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.85**	**240**	P	P	18 59 06.3	+0.6
	0.9nm,0.8s,baz=64,slow=10,SNR=2.6						
ASAR	**Alice Springs**	**23.97**	**232**	P	P	18 59 27.2	-0.4
	1.2nm,0.9s,baz=47,slow=10,SNR=5.7						
VNDA	**Vanda**	**67.90**	**178**	P	P	19 05 11.2	0.0
	0.2nm,0.5s,baz=345,slow=4.4,SNR=1.6						
SONM	**Songino Array**	**71.30**	**328**	P	P	19 05 32.8	0.0
	0.9nm,1.0s,baz=134,slow=6.2,SNR=3.7						

JMA 24 18:58:24.1±0.2, 24.°89N×123.°42E, h20km, M1.7, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.57**	**221**	P	Pb	18 58 35.0	-0.3
YOJ				S	Sb	18 58 42.5	-0.5
JYNG	**Yonagunijimaku**	**0.61**	**225**	P	Pb	18 58 35.8	-0.4
JYNG				S	Sb	18 58 43.6	-0.8
IRIF	**Iriomote-Funau**	**0.62**	**153**	P	Pb	18 58 36.0	-0.3
IRIF				S	Sb	18 58 44.5	-0.1
JIJ	**Ishigaki jima**	**0.84**	**128**	P	Pb	18 58 39.3	-0.7
JIJ				S	Sb	18 58 49.8	-1.1
JKRS	**Kuro-shima**	**0.84**	**140**	P	Pb	18 58 39.7	-0.3
JKRS				S	Sb	18 58 51.0	+0.1
JISG	**Ishigakijimahi**	**0.86**	**110**	P	Pb	18 58 40.0	-0.4
JISG				S	Sb	18 58 51.1	-0.5
HATJ	**Hateruma jima**	**0.90**	**157**	P	Pb	18 58 40.8	-0.2
JTJ	**Tarama**	**1.19**	**102**	P	Pb	18 58 46.7	+0.7
JTJ				S	Sb	18 59 01.1	+0.1

TAP 24 18:58:46.4, 24.°45N×121.°97E, h12km, ML2.2, 1C, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.20**	**325**	*i* P	Pg	18 58 50.9	+0.1
	baz=327						
TWC				*i* S	Sg	18 58 53.7	-0.1
	baz=327						
ENA	**Nanau**	**0.21**	**265**	*i* P	Pg	18 58 51.2	+0.2
	baz=271						
ENA				*i* S	Sg	18 58 54.3	+0.1
	baz=271						
TWE	**Neicheng**	**0.39**	**314**	*i* P	Pg	18 58 54.6	+0.3
	baz=318						
TWE				*i* S	Sg	18 58 59.7	+0.3
	baz=318						
ENTT	**Nioudou**	**0.42**	**298**	*i* P	Pg	18 58 55.1	+0.4
	baz=297						
ENTT				*i* S	Sg	18 59 00.8	+0.5
	baz=297						
NTC	**Toucheng**	**0.43**	**342**	*i* P	Pb	18 58 55.5	-0.4
	baz=340						
NTC				*i* S	Sb	18 59 03.1	+0.9
	baz=340						
NACB	**Ninganchiao**	**0.44**	**232**	P	Pg	18 58 55.0	-0.1
	baz=233						
NACB				S	Sg	18 59 01.7	+0.8
	baz=233						
NDT	**Datong Townshi**	**0.45**	**290**	*i* P	Pb	18 58 56.0	-0.3
	baz=290						
NDT				*i* S	Sg	18 59 01.6	+0.3
	baz=290						
TWD	**Chiawan**	**0.50**	**224**	*i* P	Pg	18 58 56.0	-0.2
	baz=229						
TWD				S	Sg	18 59 03.4	+0.5
	baz=229						
ETLH	**Xiulin Townshi**	**0.51**	**242**	P	Pg	18 58 56.3	-0.1
	baz=242						
ETLH				S	Sb	18 59 04.0	-0.7
	baz=242						
NNSB	**Datong**	**0.54**	**268**	P	Pg	18 58 57.2	+0.3
	baz=268						
NNSB				S	Sg	18 59 03.5	-0.7
	baz=268						
NNSH	**Datong**	**0.54**	**268**	*i* P	Pg	18 58 57.2	+0.2
	baz=268						
NNSH				S	Sg	18 59 04.2	0.0
	baz=268						
NWLT	**Wulai**	**0.54**	**308**	*i* P	Pb	18 58 57.9	+0.1
	baz=299						
NWLT				*i* S	Sg	18 59 04.9	+0.6
	baz=299						
TIPB	**Shuangxi**	**0.54**	**346**	P	Pg	18 58 57.3	+0.3
	baz=343						
TIPB				*e*S	Sg	18 59 04.4	+0.2
	baz=343						
NNS	**Nan Shan**	**0.55**	**269**	*i* P	Pg	18 58 57.3	+0.1
	baz=269						
NNS				*i* S	Sg	18 59 04.6	+0.2
	baz=269						
YHNB	**Yeheng**	**0.59**	**292**	P	Pb	18 58 58.4	-0.2
	baz=292					

NSTT				S	Sb	18 59 16.3	+0.3	
	baz=281							
EGFH	**Guangfu**	**0.92 213**	*eP*	Pb		18 59 04.6	+0.4	
	baz=226							
WHP	**Taichung City**	**0.95 260**	*i P*	Pb		18 59 05.2	+0.4	
	baz=260							
WHP			*i* S	Sb		18 59 18.0	+0.6	
	baz=260							
VWDT	**VWDT**	**1.03 228**	P	Pb		18 59 05.9	-0.2	
	baz=233							
VWDT				S	Sg	18 59 19.5	0.0	
	baz=233							
DPDB	**Guoxing**	**1.04 247**	P	Pn		18 59 07.2	+0.4	
	baz=247							
DPDB				S	Sg	18 59 20.2	+0.2	
	baz=247							
HGSD	**Ruisui**	**1.07 208**	*eP*	Pb		18 59 06.8	-0.1	
	baz=207							
SMLT	**Sun Moon Lake**	**1.13 240**	*i* P	Pg		18 59 08.1	0.0	
	baz=240							
SSLB	**Suanglung**	**1.14 235**	P	Pn		18 59 08.1	0.0	
	baz=244							
SSLB				S	Sb	18 59 22.5	-0.2	
	baz=244							
TYC	**Yuchr**	**1.15 242**	*eP*	Pg		18 59 08.5	-0.1	
	baz=242							
YULB	**Yu-li**	**1.22 211**	*eP*	Pn		18 59 07.9	-1.3	
	baz=210							
TWF1	**Yuli**	**1.25 210**	*eP*	Pg		18 59 10.4	0.0	
	baz=225							
WHYT	**Xinyi Township**	**1.27 234**	P	Pb		18 59 10.4	+0.2	
	baz=241							
WHYT				*e*S	Sg	18 59 27.2	-0.1	
	baz=241							
CHN5	**Tsauling**	**1.46 235**	P	Pg		18 59 15.1	+0.7	
	baz=238							
CHN5				*e*S	Sg	18 59 35.4	+2.1	
	baz=238							
TPUB	**Ta-pu**	**1.68 227**	*eP*	Pb		18 59 17.5	+0.3	
	baz=229							

IDC 24 19:01:25.3±24.0, 8.38S×155.08E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.5/32, mbtmp3.8/3, MS3.4/7, Ms1 3.4/7, ms1mx3.1/24, Error ellipse: s-maj=391.7km s-min=103.3km az=31.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**7.89 262**		LR	LR	19 06 25.6	
	comp=Z,403nm,18.4s,baz=97,slow=38						
DZM	**Mont Dzumac**	**17.46 142**		LR	LR	19 10 57.9	
	comp=Z,325nm,18.8s,baz=308,slow=33						
WRA	**Warramunga Arr**	**23.13 238**		P	P	19 06 33.1	-0.3
	1.1nm,0.6s,baz=63,slow=10.0,SNR=2.2						
ASAR	**Alice Springs**	**25.35 231**		P	P	19 06 54.6	+0.4
	1.0nm,0.9s,baz=60,slow=10.0,SNR=4.9						
ASAR				LR	LR	19 14 38.8	
	comp=Z,64nm,21.4s,baz=18,slow=31						
STKA	**Stephens Creek**	**26.54 206**		P	P	19 07 04.7	-0.2
	3.8nm,0.8s,baz=7.0,slow=8.1,SNR=4.3						
STKA				LR	LR	19 16 52.9	
	comp=Z,104nm,18.3s,baz=25,slow=35						
FITZ	**Fitzroy Crossi**	**30.20 248**		LR	LR	19 19 03.6	
	comp=Z,67nm,19.3s,baz=128,slow=35						
MJAR	**Matsushiro Arr**	**47.41 341**		LR	LR	19 29 00.1	
	comp=Z,6.8nm,20.7s,baz=125,slow=35						
KSRS	**Korea Array**	**52.19 333**		LR	LR	19 30 53.0	
	comp=Z,40nm,18.9s,baz=248,slow=34						

IDC 24 19:29:18.1±1.3, 30.15S×177.51W, h0km, mb4.1/4, mb1 4.3/5, mb1mx3.9/24, mbtmp4.2/5, ML4.4/1, MS3.2/2, Ms1 3.2/2, ms1mx2.8/23, Error ellipse: s-maj=34.9km s-min=17.8km az=81.0
NEIC 24 19:29:19.4±1.4, 30.22S±0.06×177.7W±0.2, h10km±6km, mb4.7/17, Error ellipse: s-maj=19.4km s-min=8.4km az=94.0

ISC 24 19:29:22.3±1.1, 30.27S±0.08×177.6W±0.2, h35km, n39, σ1§47/36, mb4.4/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.05 346**		Pn	**Pn**	**19 29 39.4**	**-1.1**
	471nm,0.3s,baz=21,slow=22,SNR=10						
RAO				Sn	**Sn**	**19 29 53.9**	**0.0**
	2μm,0.3s,baz=102,slow=21,SNR=13						
OUZ	**Omahuta**	**8.89 234**		Pn	**Pn**	**19 31 28.4**	**+0.2**
BKZ	**Black Stump Fm**	**10.11 207**		Pn	**Pn**	**19 31 44.0**	**-0.9**
BFZ	**Birch Farm**	**11.52 204**		Pn	**Pn**	**19 32 02.6**	**-1.6**
BSWZ	**Blackbirch Sta**	**13.32 209**		Pn	**Pn**	**19 32 29.4**	**+0.6**
THZ	**Tophouse**	**13.78 211**		Pn	**Pn**	**19 32 34.7**	**-0.4**
KHZ	**Kahutara**	**14.04 208**		Pn	**Pn**	**19 32 34.4**	**-4.3**
OXZ	**Oxford**	**15.42 210**		Pn	**Pn**	**19 32 54.6**	**-2.5**
OXZ				IAmb	IAmb	19 33 23.5	
	comp=Z,44nm,1.2s						
MQZ	**McQueen's Vall**	**15.48 207**		Pn	**Pn**	**19 32 57.0**	**-0.9**
MQZ				IAmb	IAmb	19 33 13.0	
	comp=Z,97nm,1.6s						
RPZ	**Rata Peaks**	**16.16 211**		Pn	**Pn**	**19 33 07.1**	**+0.5**
	comp=Z,1.4nm,0.3s,baz=108,slow=20,SNR=1.1						
RPZ	**Rata Peaks**	**16.16 211**			**P**	**19 33 07.8**	**-1.8**
RPZ				IAmb	IAmb	19 33 42.3	
	comp=Z,56nm,1.2s						
LBZ	**Lake Benmore**	**17.07 211**		Pn	**Pn**	**19 33 18.0**	**-0.2**
LBZ				IAmb	IAmb	19 33 45.3	
	comp=Z,86nm,1.4s						
ODZ	**Otahua Downs**	**17.40 209**		Pn	**Pn**	**19 33 21.1**	**-1.1**
RAR	**Rarotonga**	**18.42 65**		LR	LR	19 40 27.3	
	comp=Z,59nm,19.3s,baz=226,slow=37						
CTAO	**Charters Tower**	**34.10 279**		P	**P**	**19 36 04.0**	**+0.2**
STKA	**Stephens Creek**	**34.83 257**		P	**P**	**19 36 13.8**	**+3.8**
	comp=Z,2.0nm,0.6s,baz=101,slow=14,SNR=4.9						
STKA	**Stephens Creek**	**34.83 257**		P	**P**	**19 36 10.4**	**+0.5**
BBOO	**Buckleboo**	**39.32 254**		P	**P**	**19 36 48.0**	**-0.1**
AS31	**Alice Springs**	**43.44 267**		P	**P**	**19 37 24.1**	**+2.0**
ASAR	**Alice Springs**	**43.44 267**		P	**P**	**19 37 23.9**	**+1.9**
	comp=Z,0.6nm,0.4s,baz=104,slow=7.5,SNR=20						
ASAR	**Alice Springs**	**43.44 267**		P	**P**	**19 37 23.1**	**+1.0**
WR0	**Warramunga Arr**	**44.24 272**		P	**P**	**19 37 29.0**	**+0.5**
WR0				IAmb	IAmb	19 37 38.9	
	comp=Z,13nm,1.6s						
WB2	**Warramunga Arr**	**44.41 272**		P	**P**	**19 37 30.5**	**+0.6**
WB2				IAmb	IAmb	19 37 59.3	
	comp=Z,23nm,1.6s						
WRA	**Warramunga Arr**	**44.42 272**		P	**P**	**19 37 30.4**	**+0.4**
	comp=Z,1.8nm,0.3s,baz=110,slow=8.1,SNR=35						
WRA	**Warramunga Arr**	**44.42 272**		P	**P**	**19 37 30.5**	**+0.5**
WB0	**Warramunga Arr**	**44.44 272**		P	**P**	**19 37 30.6**	**+0.5**
WB0				IAmb	IAmb	19 37 40.6	
	comp=Z,21nm,1.6s						
KNRA	**Kununurra**	**51.02 274**		P	**P**	**19 38 21.8**	**+0.7**
FITZ	**Fitzroy Crossi**	**52.69 270**		P	**P**	**19 38 32.9**	**-0.6**
FITZ				IAmb	IAmb	19 38 49.9	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**59.84 180**		P	**P**	**19 39 26.4**	**+2.4**
	comp=Z,2.1nm,0.8s,baz=143,slow=0.9,SNR=8.5						
QSPA	**South Pole Qui**	**59.84 180**		P	**P**	**19 39 25.4**	**+1.3**
KAPI	**Kappang**	**63.91 280**		P	**P**	**19 39 50.6**	**-1.4**
H03S2	**Juan Fernandez**	**80.26 123**		T	T	21 11 01.8	
	baz=237,slow=74						
H03S1	**Juan Fernandez**	**80.27 123**		T	T	21 10 57.1	
	baz=237,slow=74						
H03S3	**Juan Fernandez**	**80.28 123**		T	T	21 10 51.4	
	baz=237						
LPIG	**La Paz**	**84.19 58**		LR	LR	20 15 05.9	
	comp=Z,13nm,18.3s,baz=194,slow=33						
FINES	**FINESS Array B**	**145.14 340**		PKPbc	**PKPbc**	**19 48 54.8**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=57,slow=5.1,SNR=8.7						
FINES	**FINESS Array B**	**145.14 340**			**PKPdf**	**19 48 55.0**	**-0.3**
HFS	**Hagfors**	**149.18 349**		PKPbc	**PKiKP**	**19 49 07.8**	**+0.2**
	comp=Z,1.8nm,0.8s,baz=15,slow=6.0,SNR=1.9						
MMAI	**Mount Meron Ar**	**151.81 284**		PKPbc	**PKiKP**	**19 49 14.6**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=96,slow=6.8,SNR=5.6						
MMAI				PKPab	**pPKPbc**	**19 49 23.2**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=96,slow=7.6,SNR=4.2						

MOS 24 19:39:51.7±1.6, 43.79N×24.53E, h15km, mb4.2/2, Error ellipse: s-maj=6.4km s-min=4.4km az=97.3
BEO 24 19:39:52.0±0.4, 43.84N×24.50E, h0km, ML4.2/18
IDC 24 19:39:52.4±0.8, 43.78N×24.64E, h0km, mb3.6/8, mb1 3.6/17, mb1mx3.5/39, mbtmp3.6/17, ML3.2/9, MS3.0/7, Ms1 3.0/7, ms1mx2.6/43, Error ellipse: s-maj=13.8km s-min=10.7km az=32.0
NEIC 24 19:39:53.8±2.2, 43.81N±0.02×24.49E±0.03, h22km±7km, Error ellipse: s-maj=3.7km s-min=2.6km az=210.0
NEIC 24 19:39:53.1, 43.81N×24.47E, h20km, Moment Tensor Solution. Moment tensor: Scale 10^15Nm; Mrr=0.11; Mθθ-0.32; Mφφ0.21; Mrθ-0.19; Mrφ-1.46; Mθφ-0.46; Fault plane solution: M0 1.57000×10^15 NP1:φs4.90000°, δ87.11000°, λ-17.18000°. NP2:φs95.79000°, δ72.84000°, λ-176.97000°. Principal axes: T 1.4689, Plg10.0000°, Azm52.0000°; N 0.1806, Plg73.0000°, Azm176.0000°; P -1.6495, Plg14.0000°, Azm319.0000°;
SOF 24 19:39:53.3, 43.85N×24.51E, h28km, MD4.0
MED_RC 24 19:39:53.0±0.6, 43.88N×24.61E, h14km±4km, MW4.1/10, Moment Tensor Solution. Mantle waves: s10,c14; Duration: f§0 Moment tensor: Scale 10^15Nm; Mrr0.32±.25; Mθθ1.31±.18; Mφφ-1.63±.23; Mrθ-0.09±.25; Mθφ-0.34±.12; Mθr0.58±.29; Best double couple: M0 1.60000×10^15 NP1:φs233.00000°, δ73.00000°, λ-176.00000°. NP2:φs141.00000°, δ86.00000°, λ-17.00000°. Principal axes: T 1.3800, Plg9.0000°, Azm188.0000°; N 0.4400, Plg72.0000°, Azm310.0000°; P -1.8200, Plg15.0000°, Azm96.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.
PDG 24 19:39:53.7±0.3, 43.80N×24.52E, h24km, ML3.8/13 Error ellipse: s-maj=0.3km s-min=0.4km az=0.0
BUC 24 19:39:53.5±0.2, 43.78N×24.44E, h10km±1km, ml4.4/63, Error ellipse: s-maj=1.6km s-min=1.0km az=8.0
PRU 24 19:40:00.3±0.0, 44.13N×24.27E, h0km, M4.3

ISC 24 19:39:53.8±0.7, 43.80N±0.01×24.49E±0.01, h12km±4km, n385, σ1§40/545, mb3.6/10, 152C-127D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLAD	**Vladila**	**0.21**	**343**	⇑P	**Pg**	**19 39 58.4**	**+0.1**
VLAD				⇑S	**Sg**	**19 40 01.8**	**+0.4**
VLAD	**Vladila**	**0.21**	**343**	⇑P	**Pg**	**19 39 58.4**	**+0.1**
VLAD				⇑S	**Sg**	**19 40 01.8**	**+0.4**
VLAD	**Vladila**	**0.21**	**343**		**Pg**	**19 39 58.4**	**+0.1**
VLAD					**Sb**	**19 40 02.7**	**+1.3**
PLVB	**Pleven**	**0.42**	**167**	⇑P	**Pb**	**19 40 02.7**	**-0.4**
PLVB				⇓S	**Sg**	**19 40 08.1**	**+0.4**
PLVB	**Pleven**	**0.42**	**167**	⇑P	**Pb**	**19 40 02.7**	**-0.4**
PLVB				⇓S	**Sg**	**19 40 08.1**	**+0.4**
PLVB	**Pleven**	**0.42**	**167**		**Pb**	**19 40 02.7**	**-0.4**
PLVB					**Sb**	**19 40 09.1**	**-0.4**
COPA	**Copaceanca**	**0.62**	**57**	⇑P	**Pg**	**19 40 05.5**	**-0.4**
COPA				⇑S	**Sb**	**19 40 15.3**	**0.0**
COPA	**Copaceanca**	**0.62**	**57**	⇑P	**Pg**	**19 40 05.5**	**-0.4**
COPA				⇑S	**Sb**	**19 40 15.3**	**0.0**
COPA	**Copaceanca**	**0.62**	**57**		**Pg**	**19 40 05.5**	**-0.4**
COPA					**Sb**	**19 40 15.3**	**0.0**
ZIMR		**0.65**	**102**	⇓P	**Pb**	**19 40 06.6**	**-0.4**
ZIMR				⇑S	**Sb**	**19 40 16.4**	**+0.3**
ZIMR		**0.65**	**102**	⇓P	**Pb**	**19 40 06.6**	**-0.4**
ZIMR				⇑S	**Sb**	**19 40 16.4**	**+0.3**
ZIMR		**0.65**	**102**		**Pb**	**19 40 06.6**	**-0.4**
ZIMR					**Sb**	**19 40 16.6**	**+0.6**
HUMR	**Humele**	**0.81**	**26**	⇑P	**Pg**	**19 40 09.2**	**-0.2**
HUMR				⇑S	**Sb**	**19 40 21.3**	**+0.6**
HUMR	**Humele**	**0.81**	**26**	⇑P	**Pg**	**19 40 09.2**	**-0.2**
HUMR				⇑S	**Sb**	**19 40 21.3**	**+0.6**
HUMR	**Humele**	**0.81**	**26**		**Pg**	**19 40 09.2**	**-0.2**
HUMR					**Sb**	**19 40 21.3**	**+0.6**
PVL	**Pavlikeni**	**0.85**	**133**	*i* P	**Pb**	**19 40 10.0**	**-0.4**
PVL	**Pavlikeni**	**0.85**	**133**	P	**Pb**	**19 40 10.0**	**-0.4**
PVL				SN	**Sb**	**19 40 22.0**	**+0.3**
BAIL	**Bailesti**	**0.85**	**285**	⇑P	**Pg**	**19 40 10.3**	**0.0**
BAIL				⇑S	**Sg**	**19 40 21.4**	**0.0**
BAIL	**Bailesti**	**0.85**	**285**	⇑P	**Pg**	**19 40 10.3**	**0.0**
BAIL				⇑S	**Sg**	**19 40 21.4**	**0.0**
BAIL	**Bailesti**	**0.85**	**285**		**Pg**	**19 40 10.9**	**+0.4**
BAIL					**Sb**	**19 40 21.9**	**0.0**
GOLR		**1.10**	**18**	⇓P	**Pg**	**19 40 15.3**	**+0.4**
GOLR				⇑S	**Sn**	**19 40 31.0**	**+1.0**
GOLR		**1.10**	**18**	⇓P	**Pg**	**19 40 15.3**	**+0.4**
GOLR				⇑S	**Sn**	**19 40 31.0**	**+1.0**
SGRR	**Singureni**	**1.15**	**68**	⇑P	**Pn**	**19 40 15.3**	**-0.4**
SGRR				⇑S	**Sn**	**19 40 32.0**	**+0.6**
SGRR	**Singureni**	**1.15**	**68**	⇑P	**Pn**	**19 40 15.3**	**-0.4**
SGRR				⇑S	**Sn**	**19 40 32.0**	**+0.6**
SGRR	**Singureni**	**1.15**	**68**		**Pb**	**19 40 15.1**	**-0.5**
SGRR					**Sn**	**19 40 31.2**	**-0.2**
SZH	**Strazhica**	**1.18**	**116**	*i* P	**Pn**	**19 40 15.7**	**-0.3**
PUNG	**Punghina**	**1.22**	**294**	⇓P	**Pn**	**19 40 15.5**	**-1.1**
PUNG				⇓S	**Sn**	**19 40 32.7**	**-0.3**
PUNG	**Punghina**	**1.22**	**294**	⇓P	**Pn**	**19 40 15.5**	**-1.1**
PUNG				⇓S	**Sn**	**19 40 32.7**	**-0.3**
PUNG	**Punghina**	**1.22**	**294**		**Pn**	**19 40 15.5**	**-1.1**
PUNG					**Sn**	**19 40 32.7**	**-0.3**
BUC1	**Bucharest**	**1.24**	**63**	⇑P	**Pn**	**19 40 16.5**	**-0.3**
BUC1				⇑S	**Sg**	**19 40 34.6**	**+0.9**
BUC1	**Bucharest**	**1.24**	**63**	⇑P	**Pn**	**19 40 16.5**	**-0.3**
BUC1				⇑S	**Sg**	**19 40 34.6**	**+0.9**
SRE	**Strehaia**	**1.26**	**314**	⇓P	**Pn**	**19 40 16.7**	**-0.6**
SRE				⇓S	**Sn**	**19 40 34.2**	**+0.1**
SRE	**Strehaia**	**1.26**	**314**	⇓P	**Pn**	**19 40 16.7**	**-0.6**
SRE				⇓S	**Sn**	**19 40 34.2**	**+0.1**
SRE	**Strehaia**	**1.26**	**314**		**Pn**	**19 40 16.7**	**-0.6**
SRE					**Sn**	**19 40 34.2**	**+0.1**
PGB	**Panagyurishte**	**1.27**	**191**	*i* P	**Pg**	**19 40 17.9**	**-0.3**
BLKB	**Belogradchik**	**1.33**	**263**	⇑S	**Sb**	**19 40 35.1**	**-0.4**
BLKB	**Belogradchik**	**1.33**	**263**	⇑S	**Sb**	**19 40 35.1**	**-0.4**
ELND	**Elena**	**1.33**	**130**	⇑P	**Pg**	**19 40 18.9**	**-0.4**
ELND				⇓S	**Sg**	**19 40 37.1**	**+0.3**
ELND	**Elena**	**1.33**	**130**	⇑P	**Pg**	**19 40 18.9**	**-0.4**
ELND				⇓S	**Sg**	**19 40 37.1**	**+0.3**
INCR	**INCERC-Sediu C**	**1.37**	**61**	⇑P	**Pg**	**19 40 18.7**	**-0.6**
INCR				⇓S	**Sg**	**19 40 38.7**	**+1.0**
INCR	**INCERC-Sediu C**	**1.37**	**61**	⇑P	**Pb**	**19 40 18.7**	**-0.6**
INCR				⇓S	**Sg**	**19 40 38.7**	**+1.0**
ZAPS	**Zavoj**	**1.45**	**249**	*e*Pg	**Pn**	**19 40 19.5**	**-0.3**
ZAPS				*e*Sg	**Sn**	**19 40 38.4**	**-0.3**
RAZG	**Razgrad**	**1.48**	**98**	⇓P	**Pn**	**19 40 19.6**	**-0.6**
RAZG				⇓S	**Sg**	**19 40 40.8**	**-0.7**
RAZG	**Razgrad**	**1.48**	**98**	⇓P	**Pn**	**19 40 19.6**	**-0.6**
RAZG				⇓S	**Sg**	**19 40 40.8**	**-0.7**
MTUR	**Matau**	**1.49**	**16**	⇓P	**Pb**	**19 40 20.7**	**-0.7**
MTUR	**Matau**	**1.49**	**16**	⇓P	**Pb**	**19 40 20.7**	**-0.7**
VTS	**Vitosha**	**1.49**	**218**	*e*Pg	**Pb**	**19 40 20.9**	**-0.6**
VTS				*e*Sg	**Sg**	**19 40 41.7**	**-0.1**
VTS	**Vitosha**	**1.49**	**218**	⇑P	**Pn**	**19 40 20.8**	**+0.2**
VTS	**Vitosha**	**1.49**	**218**	⇑P	**Pn**	**19 40 20.8**	**+0.2**
VTS	**Vitosha**	**1.49**	**218**	*i* P	**Pn**	**19 40 20.7**	**+0.2**
VTS	**Vitosha**	**1.49**	**218**	*e*P	**Pb**	**19 40 20.9**	**-0.6**
VTS				*e*SG	**Sg**	**19 40 41.7**	**-0.1**
VTS	**Vitosha**	**1.49**	**218**		**Pb**	**19 40 21.1**	**-0.4**
SULR		**1.55**	**55**	⇓P	**Pn**	**19 40 21.2**	**+0.1**
SULR				⇓S	**Sg**	**19 40 42.8**	**-0.7**
SULR		**1.55**	**55**	⇓P	**Pn**	**19 40 21.2**	**+0.1**
SULR				⇓S	**Sg**	**19 40 42.8**	**-0.7**
PLAR	**PLOIESTI**	**1.57**	**44**	⇑P	**Pb**	**19 40 22.8**	**+0.1**
PLAR				⇓S	**Sg**	**19 40 44.4**	**+0.2**
PLAR	**PLOIESTI**	**1.57**	**44**	⇑P	**Pb**	**19 40 22.8**	**+0.1**
PLAR				⇓S	**Sg**	**19 40 44.4**	**+0.2**
ARR	**Arges**	**1.57**	**4**	⇓P	**Pn**	**19 40 20.8**	**-0.8**
ARR				⇓S	**Sg**	**19 40 44.1**	**-0.3**
ARR	**Arges**	**1.57**	**4**	⇓P	**Pn**	**19 40 20.8**	**-0.8**
ARR				⇓S	**Sg**	**19 40 44.1**	**-0.3**
ZAGS	**Zajecar**	**1.63**	**271**	*e*Pn	**Pn**	**19 40 21.8**	**-0.5**
ZAGS				*e*Sn	**Sb**	**19 40 44.0**	**-0.3**
DJES	**Djerdap**	**1.66**	**302**	*e*Pn	**Pn**	**19 40 20.8**	**-1.9**
DJES				*e*Sg	**Sb**	**19 40 44.8**	**-0.3**
SECR		**1.68**	**42**	⇑P	**Pn**	**19 40 23.1**	**+0.2**
SECR				⇑S	**Sg**	**19 40 46.4**	**-1.3**
SECR		**1.68**	**42**	⇑P	**Pn**	**19 40 23.1**	**+0.2**
SECR				⇑S	**Sg**	**19 40 46.4**	**-1.3**
VOIR		**1.69**	**14**	⇓P	**Pn**	**19 40 22.5**	**-0.7**
VOIR		**1.69**	**14**	⇓P	**Pn**	**19 40 22.5**	**-0.7**
VOIR		**1.69**	**14**	P	**Pn**	**19 40 22.9**	**-0.2**
PLD	**Plovdiv**	**1.70**	**175**	*i* P	**Pn**	**19 40 22.2**	**-1.0**
PLD	**Plovdiv**	**1.70**	**175**	*e*P	**Pn**	**19 40 22.2**	**-1.0**
LOT	**Lotru**	**1.73**	**343**	⇓P	**Pn**	**19 40 22.9**	**-0.8**
LOT				⇓S	**Sb**	**19 40 46.6**	**-0.6**
LOT	**Lotru**	**1.73**	**343**	⇓P	**Pn**	**19 40 22.9**	**-0.8**
LOT				⇓S	**Sb**	**19 40 46.6**	**-0.6**
LOT	**Lotru**	**1.73**	**343**		**Pn**	**19 40 22.9**	**-0.8**
LOT					**Sn**	**19 40 45.0**	**-0.8**
LEHL	**Lehliu**	**1.81**	**67**	⇑P	**Pn**	**19 40 24.6**	**-0.1**
LEHL				⇑S	**Sg**	**19 40 50.6**	**-1.4**
LEHL	**Lehliu**	**1.81**	**67**	⇑P	**Pn**	**19 40 24.6**	**-0.1**
LEHL				⇑S	**Sg**	**19 40 50.6**	**-1.4**
HERR	**Herculane**	**1.84**	**307**	⇓P	**Pn**	**19 40 24.1**	**-1.1**
HERR				⇑S	**Sb**	**19 40 49.8**	**-0.5**
HERR	**Herculane**	**1.84**	**307**	⇓P	**Pn**	**19 40 24.1**	**-1.1**
HERR				⇑S	**Sb**	**19 40 49.8**	**-0.5**
HERR	**Herculane**	**1.84**	**307**		**Pn**	**19 40 23.8**	**-1.3**
HERR					**Sn**	**19 40 46.3**	**-2.0**
DIM	**Dimitrovgrad**	**1.91**	**156**	*i* P	**Pb**	**19 40 27.2**	**-1.3**
BOSS	**Bosilegrad**	**1.96**	**229**	*e*Pn	**Pn**	**19 40 27.4**	**+0.6**
BOSS				*e*Sn	**Sn**	**19 40 52.1**	**+0.7**
RASA	**Rasa**	**1.97**	**77**	⇓P	**Pn**	**19 40 27.3**	**+0.4**
RASA				⇑S	**Sb**	**19 40 54.3**	**+0.5**
RASA	**Rasa**	**1.97**	**77**	⇓P	**Pn**	**19 40 27.3**	**+0.4**
RASA				⇑S	**Sb**	**19 40 54.3**	**+0.5**
ISR	**Istrita**	**1.98**	**47**	⇑P	**Pn**	**19 40 27.7**	**+0.6**
ISR				⇓S	**Sb**	**19 40 54.1**	**-0.3**
ISR	**Istrita**	**1.98**	**47**	⇑P	**Pn**	**19 40 27.7**	**+0.6**
ISR				⇓S	**Sb**	**19 40 54.1**	**-0.3**
ISR	**Istrita**	**1.98**	**47**	P	**Pn**	**19 40 27.9**	**+0.8**
MLR	**Muntele Rosu**	**1.99**	**31**	Pn	**Pn**	**19 40 27.8**	**+0.5**
	14nm,0.3s,baz=193,slow=8.1,SNR=33						
MLR				Sn	**Sg**	**19 40 58.4**	**+0.8**
	101nm,0.3s,baz=328,slow=24,SNR=17						
MLR				LR	LR	19 41 05.2	
	comp=Z,40nm,18.2s,baz=160,slow=37						
MLR	**Muntele Rosu**	**1.99**	**31**	⇑P	**Pn**	**19 40 27.8**	**+0.5**
MLR				⇑S	**Sb**	**19 40 55.0**	**+0.4**
MLR	**Muntele Rosu**	**1.99**	**31**	⇑P	**Pn**	**19 40 27.8**	**+0.5**
MLR				⇑S	**Sb**	**19 40 55.0**	**+0.4**
MLR	**Muntele Rosu**	**1.99**	**31**	P	**Pn**	**19 40 27.4**	**+0.1**
MLR	**Muntele Rosu**	**1.99**	**31**		**Pn**	**19 40 27.4**	**+0.1**
BOVS	**Bovan**	**2.02**	**266**	*e*Pn	**Pn**	**19 40 27.2**	**-0.5**
BOVS				*e*Sn	**Sn**	**19 40 53.5**	**+0.7**
JMB	**Yambol**	**2.03**	**130**	*i* P	**Pn**	**19 40 26.8**	**-1.0**
NEHR	**Nehoiu**	**2.08**	**38**	⇑P	**Pn**	**19 40 29.1**	**+0.7**
NEHR	**Nehoiu**	**2.08**	**38**	⇑P	**Pn**	**19 40 29.1**	**+0.7**
PGOR	**Pogoanele**	**2.11**	**57**	⇓P	**Pn**	**19 40 29.1**	**+0.3**
PGOR				⇑S	**Sb**	**19 40 57.9**	**0.0**
PGOR	**Pogoanele**	**2.11**	**57**	⇓P	**Pn**	**19 40 29.1**	**+0.3**
PGOR				⇑S	**Sb**	**19 40 57.9**	**0.0**
RZN	**Rozhen**	**2.12**	**175**	*i* P	**Pn**	**19 40 28.8**	**-0.3**
KUBS	**Kucevo**	**2.12**	**288**	*e*Pn	**Pn**	**19 40 28.3**	**-0.7**
KUBS				*e*Sg	**Sb**	**19 40 58.1**	**-0.2**
BARS	**Barje**	**2.18**	**244**	*e*Pn	Pn	19 40 24.3	-5.6
BARS	**Barje**	**2.18**	**244**	*e*Pn	**Pn**	**19 40 30.1**	**+0.2**
BARS				*e*Sn	**Sn**	**19 40 48.3**	**-8.5**
BARS				*e*Sn	**Sb**	**19 40 57.7**	**-2.5**
KKB	**Krupnik**	**2.19**	**209**	*i* P	**Pn**	**19 40 30.8**	**+0.8**
PRD	**Provadia**	**2.20**	**105**	*i* P	**Pn**	**19 40 29.9**	**-0.2**
AMRR	**Amara**	**2.20**	**67**	⇓P	**Pn**	**19 40 30.0**	**-0.1**
AMRR				⇑S	**Sn**	**19 40 58.2**	**+1.0**
AMRR	**Amara**	**2.20**	**67**	⇓P	**Pn**	**19 40 30.0**	**-0.1**
AMRR				⇑S	**Sn**	**19 40 58.2**	**+1.0**
MDVR	**Moldovita**	**2.22**	**297**	⇑P	**Pn**	**19 40 29.5**	**-0.9**
MDVR				⇓S	**Sn**	**19 40 57.1**	**-0.7**
MDVR	**Moldovita**	**2.22**	**297**	⇑P	**Pn**	**19 40 29.5**	**-0.9**
MDVR				⇓S	**Sn**	**19 40 57.1**	**-0.7**
KDZ	**Kurdzhali**	**2.25**	**162**	*e*P	**Pn**	**19 40 30.4**	**-0.4**
DOPR	**Dopca**	**2.26**	**16**	⇑P	**Pn**	**19 40 31.0**	**0.0**
DOPR				⇑S	**Sb**	**19 41 00.7**	**-1.7**
DOPR	**Dopca**	**2.26**	**16**	⇑P	**Pn**	**19 40 31.0**	**0.0**
DOPR				⇑S	**Sb

TOPG	Topolog	2.99	68	⇓P	Pn	19 40 41.0	+0.1
TOPG	Topolog	2.99	68	⇓P	Pn	19 40 41.0	+0.1
JOSR	Joseni	3.00	14	⇓P	Pn	19 40 40.4	-0.7
JOSR	Joseni	3.00	14	⇓P	Pn	19 40 40.4	-0.7
TIM	Timisoara	3.03	311	⇑P	Pn	19 40 41.6	+0.2
TIM				⇑S	Sn	19 41 18.9	+1.3
TIM	Timisoara	3.03	311	⇑P	Pn	19 40 41.6	+0.2
TIM				⇑S	Sn	19 41 18.9	+1.3
GISR	Galati	3.03	56	⇓P	Pn	19 40 42.6	+1.1
GISR				⇓S	Sn	19 41 19.8	+2.1
GISR	Galati	3.03	56	⇓P	Pn	19 40 42.6	+1.1
GISR				⇓S	Sn	19 41 19.8	+2.1
TSCT	Constanta Port	3.03	82	⇓S	Sn	19 41 19.4	+1.6
TSCT	Constanta Port	3.03	82	⇓S	Sn	19 41 19.4	+1.6
GHRR		3.07	42	⇑P	Pn	19 40 42.5	+0.4
GHRR				⇑S	Sn	19 41 20.4	+1.7
GHRR		3.07	42	⇑P	Pn	19 40 42.5	+0.4
GHRR				⇑S	Sn	19 41 20.4	+1.7
PHSR	Pinarhisar	3.12	133	eP	Pn	19 40 43.1	+0.4
TESR	Tescani	3.12	29	⇑P	Pn	19 40 42.8	+0.2
TESR	Tescani	3.12	29	⇑P	Pn	19 40 42.8	+0.2
ALN	Alexandroupoli	3.12	158	eP	Pn	19 40 42.2	-0.5
ALN	Alexandroupoli	3.12	158	i P	Pn	19 40 42.6	-0.1
ALN				i S	Sn	19 41 18.2	-1.7
ALN	Alexandroupoli	3.12	158	Pn	Pn	19 40 42.9	+0.1
GIUM	Giurgiulesti	3.15	56	⇑P	Pn	19 40 44.3	+1.3
GIUM	Giurgiulesti	3.15	56	⇑P	Pn	19 40 44.3	+1.3
IVAS	Ivanjica	3.15	267	ePn	Pn	19 40 42.0	-1.2
SIRR	Siria	3.18	322	⇑P	Pn	19 40 43.1	-0.5
SIRR				⇓S	Sn	19 41 21.3	-0.1
SIRR	Siria	3.18	322	⇑P	Pn	19 40 43.1	-0.5
SIRR				⇓S	Sn	19 41 21.3	-0.1
GRG	Griva	3.23	209	eP	Pn	19 40 44.3	0.0
DRGR		3.25	338	ePn	Pn	19 40 44.1	-0.5
DRGR		3.25	338	⇓P	Pn	19 40 44.1	-0.5
DRGR		3.25	338	⇓P	Pn	19 40 44.1	-0.5
DRGR		3.25	338	P	Pn	19 40 44.0	-0.5
DIVS	Divibare	3.26	277	ePn	Pn	19 40 43.7	-1.1
ARCR	ARCALIA	3.29	358	⇑P	Pn	19 40 45.3	+0.2
ARCR	ARCALIA	3.29	358	⇑P	Pn	19 40 45.3	+0.2
ENEZ	Enez	3.30	157	eP	Pn	19 40 45.2	0.0
BIR	Birlad	3.32	41	⇑P	Pn	19 40 45.4	-0.1
BIR	Birlad	3.32	41	⇑P	Pn	19 40 45.4	-0.1
SJES	Sjenica	3.33	262	ePn	Pn	19 40 45.3	-0.4
SJES				eSn	Sn	19 41 25.2	0.0
BIZ	Bicaz	3.34	19	⇓P	Pn	19 40 46.8	+1.0
BIZ	Bicaz	3.34	19	⇓P	Pn	19 40 46.8	+1.0
HORT	Hortiatis	3.36	198	eP	Pn	19 40 46.3	+0.2
TLCR		3.39	64	⇑P	Pn	19 40 47.0	+0.6
TLCR				⇑S	Sn	19 41 28.0	+1.4
TLCR		3.39	64	⇑P	Pn	19 40 47.0	+0.6
TLCR				⇑S	Sn	19 41 28.0	+1.4
GIRR	Girov	3.46	23	⇓P	Pn	19 40 48.3	+0.9
GIRR	Girov	3.46	23	⇓P	Pn	19 40 48.3	+0.9
ERIK	Erikli-Kesan	3.47	154	eP	Pn	19 40 46.8	-0.7
IVA	Berane	3.48	256	⇑i Pn	Pn	19 40 47.8	+0.1
IVA				i Sn	Sn	19 41 29.1	+0.2
OUR	Ouranopolis	3.48	186	eP	Pn	19 40 47.8	+0.1
PVY	Plav	3.52	252	⇓i Pn	Pn	19 40 48.1	-0.3
PVY				i Sn	Sn	19 41 30.1	+0.1
CRLT	Corlu	3.59	137	eP	Pn	19 40 49.8	+0.6
FRGS	Fruska Gora	3.61	294	ePn	Pn	19 40 49.2	-0.3
FRGS	Fruska Gora	3.61	294	ePn	Pn	19 40 48.1	-1.4
CTYL	Yalikoy Yolu	3.64	128	eP	Pn	19 40 49.6	-0.3
TEKS	Tekeris	3.65	284	ePn	Pn	19 40 49.3	-0.7
TEKS	Tekeris	3.65	284	ePn	Pn	19 40 48.9	-1.1
BBLS	Lazići	3.68	273	ePn	Pn	19 40 49.8	-0.6
BBLS	Lazići	3.68	273	ePn	Pn	19 40 49.8	-0.7
VASR	Vaslui	3.68	38	⇑P	Pn	19 40 50.2	-0.2
VASR				⇓S	Sn	19 41 36.2	+2.5
VASR	Vaslui	3.68	38	⇑P	Pn	19 40 50.2	-0.2
VASR				⇓S	Sn	19 41 36.2	+2.5
RKY	Sarkoy-Tekirda	3.69	146	eP	Pn	19 40 50.8	+0.1
GELI	Tayfur-Gelibol	3.71	156	eP	Pn	19 40 50.6	-0.2
RUDO	Rudo	3.71	269	ePn	Pn	19 40 49.4	-1.5
PLE	Pljevlja	3.73	265	⇑i Pn	Pn	19 40 51.2	-0.1
PLE				i Sn	Sn	19 41 34.9	-0.4
KOME	Kolasin	3.75	257	⇑i Pn	Pn	19 40 51.8	+0.3
KOME				i Sn	Sn	19 41 35.7	+0.1
GADA	Gvkgeada	3.75	163	eP	Pn	19 40 51.2	-0.3
SLVT	Silivri	3.76	132	eP	Pn	19 40 51.7	+0.1
LEOM	Leova	3.77	44	⇑P	Pn	19 40 51.9	+0.3
LEOM				⇓S	Sn	19 41 36.7	+0.7
LEOM	Leova	3.77	44	⇑P	Pn	19 40 51.9	+0.3
LEOM				⇓S	Sn	19 41 36.7	+0.7
LPK	Lapseki	3.82	153	eP	Pn	19 40 52.3	0.0
BURAR	Bucovina Array	3.85	7	Pn	Pn	19 40 52.9	0.0
BUR08	Bucovina Ar. S	3.88	7	Pn	Pn	19 40 53.5	+0.2
CTKS	Kestanelik-??a	3.92	129	eP	Pn	19 40 53.3	-0.4
BMR	Baia Mare	3.94	350	⇑P	Pn	19 40 54.0	+0.1
BMR	Baia Mare	3.94	350	⇑P	Pn	19 40 54.0	+0.1
MRMT	Marmara Adasi	3.94	143	eP	Pn	19 40 52.9	-1.2
HAPS	Han Pijesak,BI	4.01	276	ePn	Pn	19 40 53.1	-2.0
HAPS	Han Pijesak,BI	4.01	276	ePn	Pn	19 40 53.2	-1.9
PDG	Podgorica	4.07	252	⇑P	Pn	19 40 55.7	0.0
PDG	Podgorica	4.07	252	⇑P	Pn	19 40 55.7	0.0
PDG	Podgorica	4.07	252		Pn	19 40 57.2	+1.5
PDG	Podgorica	4.07	252	ePn	Pn	19 40 56.0	+0.2
TTG	Podgorica	4.07	252	⇑i Pn	Pn	19 40 55.9	+0.2
TTG				i Sn	Sn	19 41 43.4	+0.2
UPM	Unac-Piva	4.10	264	⇑i Pn	Pn	19 40 56.4	0.0
UPM				i Sn	Sn	19 41 44.2	-0.3
UPM	Unac-Piva	4.10	264	ePn	Pn	19 40 57.1	+0.7
BOZC	Bozcaada	4.12	163	eP	Pn	19 40 55.7	-0.8
NKY	Niksic	4.13	258	⇑i Pn	Pn	19 40 57.0	+0.3
NKY				i Sn	Sn	19 41 44.7	-0.3
NKME	Niksic	4.17	258	⇑i Pn	Pn	19 40 57.5	+0.3
NKME				i Sn	Sn	19 41 45.8	-0.1
DRME	Dracevica, Mon	4.21	249	⇓i Pn	Pn	19 40 58.1	+0.4
DRME				i Sn	Sn	19 41 46.8	0.0
DRME	Dracevica, Mon	4.21	249	ePn	Pn	19 40 59.8	+2.1
CEME	Cevo	4.26	255	⇑i Pn	Pn	19 40 58.8	+0.3
CEME				i Sn	Sn	19 41 48.0	-0.2
ULC	Ulcinj	4.27	246	⇑i Pn	Pn	19 40 59.0	+0.5
ULC				i Sn	Sn	19 41 48.0	-0.2
MILM	Milestii Mici	4.36	43	⇑P	Pn	19 40 59.7	-0.1
MILM	Milestii Mici	4.36	43	⇑P	Pn	19 40 59.7	-0.1
BUM	Brajici-Budva	4.36	252	⇑i Pn	Pn	19 41 00.3	+0.4
BUM				i Sn	Sn	19 41 50.4	-0.3
BRY	Bratogost	4.43	260	⇓i Pn	Pn	19 41 01.4	+0.2
BRY				i Sn	Sn	19 41 52.0	-0.4
BRY	Bratogost	4.43	260	ePn	Pn	19 41 01.4	+0.5
TRPA	Tarpa	4.54	343	⇑P	Pn	19 41 01.0	-1.2
TRPA	Tarpa	4.54	343	⇑P	Pn	19 41 01.0	-1.2
HCY	Herceg Novi	4.59	255	⇑i Pn	Pn	19 41 03.2	+0.3
HCY				i Sn	Sn	19 41 55.9	-0.3
HCY	Herceg Novi	4.59	255	ePn	Pn	19 41 04.3	+1.4
TREB	Trebinje	4.61	259	ePn	Pn	19 41 03.5	+0.3
TREB	Trebinje	4.61	259	ePn	Pn	19 41 05.1	+1.9
AOS	Alonnisos	4.65	186	eP	Pn	19 41 03.1	-0.6
SIGR	SIGRI	4.70	167	eP	Pn	19 41 03.8	-0.6
DBRK	Dubrovnik	4.77	258	ePn	Pn	19 41 07.5	+2.1
DBRK				Sn	Sn	19 42 02.4	+1.8
MORH	Mrgy, Hungar	4.80	302	ePn	Pn	19 41 04.8	-0.9
STON	Ston	5.04	262	ePn	Pn	19 41 10.4	+1.4
STON				Sn	Sn	19 42 07.7	+0.5
STON	Ston	5.04	262	ePn	Pn	19 41 09.9	+0.9
AGG	Agios Georgios	5.04	199	P	Pn	19 41 09.1	0.0
AGG	Agios Georgios	5.04	199	Pn	Pn	19 41 09.1	0.0
UZH	Uzhgorod	5.07	343	eP	Pn	19 41 08.4	-1.1
UZH				eS	Sn	19 42 05.9	-2.0
UZH	comp=N,33nm,1.0s			smax	smax		
UZH	comp=E,55nm,1.0s			smax	smax		
SORM	Soroca	5.11	30	⇓P	Pn	19 41 09.0	-1.0
SORM	Soroca	5.11	30	⇓P	Pn	19 41 09.0	-1.0
PSZ	Piszkesteto	5.22	324	⇑P	Pn	19 41 11.1	-0.6
PSZ	Piszkesteto	5.22	324	⇑P	Pn	19 41 11.1	-0.6
PSZ	Piszkesteto	5.22	324	P	Pn	19 41 10.2	-1.5
PSZ	Piszkesteto	5.22	324	Pn	Pn	19 41 10.2	-1.5
BLY	Banja Luka	5.33	283	ePn	Pn	19 41 12.0	-1.1
RICI	Ricice	5.34	269	ePn	Pn	19 41 16.1	+1.7
RICI				Sn	Sn	19 42 14.0	-0.8
KOLS	Kolonicke sedl	5.36	344	eSG	Sg	19 42 43.2	-2.5
MGRS	Mrkonjic Grad	5.37	279	ePn	Pn	19 41 13.6	0.0
KECS	Kecovo	5.45	331	eP	Pn	19 41 14.5	-0.2
KECS	Kecovo	5.45	331	ePN	Pn	19 41 14.5	-0.2
CRVS	Cervenica-Dubn	5.52	339	eP	Pn	19 41 15.4	-0.3
CRVS	Cervenica-Dubn	5.52	339	ePN	Pn	19 41 15.4	-0.3
KIJV	Kijevo	5.84	275	ePn	Pn	19 41 21.3	+1.1
KWP	Kalwaria Pacla	5.96	349	P	Pn	19 41 20.4	-1.4
KWP	Kalwaria Pacla	5.96	349		Pn	19 41 20.4	-1.4
MDUB	Mudurnu	5.99	121	Pn	Pn	19 41 22.4	0.0
LVV	L'vov	6.03	357	eP	Pn	19 41 23.4	+0.7
LVV				eS	Sn	19 42 31.0	-0.6
VYHS	Vyhne	6.12	322	eP	Pn	19 41 22.7	-1.3
VYHS	Vyhne	6.12	322	ePN	Pn	19 41 22.7	-1.3
MORI	Morici	6.35	274	ePn	Pn	19 41 28.1	+1.0
MORI				Sn	Sn	19 42 37.7	-1.8
ZIRJ	Zirje	6.41	272	ePn	Pn	19 41 28.1	+0.2
ZIRJ				Sn	Sn	19 42 40.1	-0.8
SEV	Sevastopol'	6.64	80	⇓eP	Pn	19 41 28.4	-2.7
SEV				eS	Sn	19 42 41.0	-5.7
CRES	Cresnjev	6.74	291	ePn	Pn	19 41 30.7	-1.7
SGRT	San Giovanni R	6.75	255		Pn	19 41 34.4	+1.7
ITM	Ithomi	6.89	197	Pn	Pn	19 41 35.8	+1.2
JAVC	Velka Javorina	6.92	319	ePN	Pn	19 41 35.2	+0.2
JAVC				eSN	Sn	19 43 00.1	+6.5
NVLJ	Novalja	6.96	280	ePn	Pn	19 41 36.1	+0.7
NVLJ				Sn	Sn	19 42 52.2	-2.2
YAL	Yalta	6.99	81	⇓eP	Pn	19 41 33.2	-2.7
YAL				eS	Sn	19 42 50.1	-5.1
SIM	Simferopol'	7.00	77	⇓i P	Pn	19 41 34.2	-1.8
SIM				eS	Sn	19 42 49.6	-5.8
ALU	Alushta	7.18	79	⇓i P	Pn	19 41 37.1	-1.3
ALU				eS	Sn	19 42 55.8	-4.0
OJC	Ojcow	7.18	335	P	Pn	19 41 38.5	0.0
OJC	Ojcow	7.18	335	Pn	Pn	19 41 38.5	0.0
ARSA	Arzberg	7.18	302	ePn	Pn	19 41 35.9	-2.6
	comp=E,0.9nm,0.3s						
SOKA	Soboth	7.27	297	ePn	Pn	19 41 40.8	+1.0
SOKA	comp=E,0.5nm,0.2s			eSn	Sn	19 42 58.5	-3.8
	comp=E,5.5nm,0.3s						
CONA	Conrad Observa	7.30	307	ePn	Pn	19 41 41.6	+1.4
	comp=E,0.3nm,0.2s						
ILGA	Ilgaz	7.36	109	Pn	Pn	19 41 39.8	-1.4
TIP	Timpagrande	7.41	234	⇓P	Pn	19 41 42.3	+0.5
TIP	Timpagrande	7.41	234	⇓P	Pn	19 41 42.3	+0.5
TIP	Timpagrande	7.41	234	Pn	Pn	19 41 43.2	+1.4
CEY	Cerknica	7.42	289	ePn	Pn	19 41 41.2	-0.6
OBKA	Obir	7.53	295	ePn	Pn	19 41 47.8	+4.4
	comp=E,1.7nm,0.4s						
SUDU	Sudak	7.62	78	⇓i P	Pn	19 41 43.6	-0.9
SUDU				eS	Sn	19 43 07.6	-3.0
AKASG	Malin Array Be	7.62	23	Pn	Pn	19 41 43.2	-1.2
	comp=E,2.1nm,0.3s,baz=207,slow=13,SNR=2.0						
AKASG				Sn	Sn	19 43 04.5	-6.1
	comp=E,2.5nm,0.3s,baz=207,slow=22,SNR=5.3						
AKASG				Lg	Lg	19 43 56.8	
	baz=193,slow=37,SNR=1.3						
AKBB	Malin Array Si	7.62	23	⇑eP	Pn	19 41 45.6	+1.1
MORC	Moravsky Berou	7.64	324	ePN	Pn	19 41 48.9	+4.0
MORC				eSN	Sn	19 43 12.0	+0.6
MORC	Moravsky Berou	7.64	324	P	Pn	19 41 46.9	+2.0
MORC	Moravsky Berou	7.64	324	Pn	Pn	19 41 46.9	+2.0
KRUC	Moravsky	7.68	316	ePN	Pn	19 41 44.7	-0.6
KRUC				eSN	Sn	19 43 10.2	-1.9
VRAC	Vranov	7.74	318	Pn	Pn	19 41 46.9	+0.7
	comp=E,0.2nm,0.3s,baz=78,slow=19,SNR=1.4						
VRAC				Sn	Sn	19 43 10.1	-3.6
	comp=E,0.5nm,0.3s,baz=152,slow=11,SNR=3.5						
VRAC	Vranov	7.74	318	ePN	Pn	19 41 47.0	+0.8
VRAC				eSN	Sn	19 43 09.1	-4.7
BRJN	Brijuni	7.78	282	ePn	Pn	19 41 46.7	0.0
PAOL	Paolisi	7.84	253	Pn	Pn	19 41 48.3	+0.6
TRI	Trieste	7.87	288	P	Pn	19 41 48.9	+1.0
TRI	Trieste	7.87	288	Pn	Pn	19 41 48.9	+1.0
BR131	Keskin Array S	7.96	118	c i P	Pn	19 41 48.5	-0.8
BR131	Keskin Array S	7.96	118		Pn	19 41 48.7	-0.6
BRTR	Keskin Array B	7.96	118	Pn	Pn	19 41 48.6	-0.8
	comp=E,0.8nm,0.3s,baz=293,slow=13,SNR=19						
BRTR				LR	LR	19 45 13.8	
	comp=E,54nm,19.3s,baz=317,slow=41						
BRTR	Keskin Array B	7.96	118	Pn	Pn	19 41 48.5	-0.8
INTR	Introdacqua	7.97	261	Pn	Pn	19 41 50.9	+1.4
MYKA	Terra Mystica	8.16	294	ePn	Pn	19 41 54.8	+2.8
	comp=E,0.7nm,0.3s						
MYKA				eSn	Sn	19 43 17.2	-7.0
	comp=E,2.0nm,0.5s						
PRED	Cave del Predi	8.16	293	Pn	Pn	19 41 51.0	-1.1
MOA	Molln	8.21	303	Pn	Pn	19 41 54.5	+1.9
	comp=E,1.1nm,0.5s						
MOA				eSn	Sn	19 43 24.1	-1.1
	comp=E,6.0nm,0.5s						
AQU	L'Aquila	8.24	264	P	Pn	19 41 51.0	-2.1
AQU	L'Aquila	8.24	264	Pn	Pn	19 41 51.0	-2.1
TREC	Trest	8.29	315	AMS	AMS	19 46 40.0	
	comp=E,200nm,9.5s						
NRCA	Norcia	8.35	267	Pn	Pn	19 41 53.5	-1.1
IDI	Anoyia	8.51	178	Pn	Pn	19 41 57.3	+0.5
	comp=E,0.3nm,0.3s,baz=327,slow=8.2,SNR=4.6						
IDI				LR	LR	19 45 53.8	
	comp=E,62nm,18.4s,baz=59,slow=43						
IDI	Anoyia	8.51	178	Pn	Pn	19 41 57.1	+0.4
DPC	Dobruska-Polom	8.60	323	AMS	AMS	19 46 00.0	
	comp=E,100nm,9.8s						
MURB	Monte Urbino	8.71	271	Pn	Pn	19 41 60.0	+0.4
OSTC	Ostas	8.80	323	AMS	AMS	19 46 40.0	
	comp=E,200nm,8.5s						
UPC	Upice	8.85	322	AMS	AMS	19 46 10.0	
	comp=E,200nm,9.6s						
CHVC	Chvalec	8.89	323	AMS	AMS	19 46 10.0	
	comp=E,100nm,13.1s						
ABTA	Abfaltersbach	8.94	293	ePn	Pn	19 41 59.3	-3.5
	comp=E,2.8nm,0.7s						
GERES	GERESS Array B	9.01	308	Pn	Pn	19 42 07.6	+4.0
	comp=E,0.4nm,0.3s,baz=110,slow=15,SNR=4.8						
GERES	GERESS Array B	9.01	308	Pn	Pn	19 42 03.9	+0.3
GOPC	GO Pecny, Ondr	9.03	316	AMS	AMS	19 46 20.0	
	comp=E,200nm,12.3s						
PRU	Pruhonice	9.20	316	AMS	AMS	19 46 20.0	
	comp=E,100nm,9.1s						
KHC	Kasperske Hory	9.22	309	ePN	Pn	19 42 14.6	+8.1
KHC				eSN	Sn	19 43 45.6	-4.6
KHC				AMS	AMS	19 45 50.0	
	comp=E,100nm,11.5s						
KHC	Kasperske Hory	9.22	309	P	Pn	19 42 08.1	+1.6
KHC	Kasperske Hory	9.22	309	Pn	Pn	19 42 08.1	+1.6
PRA	Prague	9.30	316	AMS	AMS	19 46 20.0	
	comp=E,100nm,10.6s						
CTI	Castel Tesino	9.38	288	P	Pn	19 42 09.0	+0.2
CTI	Castel Tesino	9.38	288	Pn	Pn	19 42 09.0	+0.2
PVCC	Panska Ves	9.53	318	AMS	AMS	19 46 20.0	
	comp=E,100nm,11.1s						
CORL	Corleone	10.32	239	Pn	Pn	19 42 17.7	-3.9
NKC	Novy Kostel	10.43	312	AMS	AMS	19 47 10.0	
	comp=E,200nm,8.1s						
DAVOX	Davos/Dischmat	10.72	291	Pn	Pn	19 42 27.5	+0.4
	comp=E,0.3nm,0.3s,baz=352,slow=12,SNR=2.4						
DAVOX				LR	LR	19 47 01.0	
	comp=E,61nm,18.6s,baz=94,slow=40						
SOC	Sochi	11.03	86	eP	Pn	19 42 28.9	-2.4
SOC				e		19 44 35.4	
SOC				pmax	pmax		
	comp=Z,13nm,0.5s						
KIV	Kislovodsk	13.13	83	eP	Pn	19 42 59.3	-0.8
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,35nm,12.0s						
OBN	Obninsk	13.76	30	⇑eP	Pn	19 43 09.5	+1.1
OBN				pmax	pmax		
	comp=Z,4.0nm,0.5s						
OBN				MLR	MLR		
	comp=Z,41nm,17.0s						
HFS	Hagfors	17.62	342	P	P	19 44 00.8	+1.0
	comp=Z,0.1nm,0.3s,baz=145,slow=20,SNR=3.2						
HFS				LR	LR	19 50 58.4	
	comp=Z,37nm,19.1s,baz=164,slow=38						
FINES	FINESS Array B	17.70	3	P	Pn	19 43 58.4	-1.4
	comp=Z,0.1nm,0.3s,baz=172,slow=20,SNR=2.3						
FINES				LR	LR	19 51 44.6	
	comp=Z,32nm,18.3s,baz=195,slow=40						
NOA	NORSAR Array B	19.00	340	P	Pn	19 44 16.0	+0.2
	comp=Z,0.0nm,0.3s,baz=160,slow=10,SNR=2.5						
NOA				LR	LR	19 52 40.5	
	comp=Z,43nm,18.3s,baz=150,slow=40						
NOA	NORSAR Array B	19.00	340	P	Pn	19 44 16.0	+0.2
EKA	Eskdalemuir Ar	21.17	313	P	P	19 44 38.2	-0.4
	comp=Z,1.6nm,0.7s,baz=111,slow=11,SNR=5.9						
ESDC	Sonseca Array	21.58	269	P	P	19 44 45.9	+2.7
	comp=Z,0.6nm,0.8s,baz=51,slow=12,SNR=2.0						
ABKAR	Akbulak array	24.84	65	P	P	19 45 13.9	-1.8
ARU	Arti	24.95	48	P	P	19 45 16.7	+0.1
	comp=Z,1.0nm,0.5s,baz=259,slow=8.9,SNR=6.7						
ARU	Arti	24.95	48	d i P	P	19 45 16.5	-0.2
ARU						19 45 50.8	
ARU				S	S	19 49 44.0	+4.2
ARU				SS	SnSn	19 50 33.0	+5.2
ARU				pmax	pmax		
	comp=Z,2.0nm,0.6s						
ARU	Arti	24.95	48	P	P	19 45 15.4	-1.3
ARU				lAmb	lAmb	19 45 20.6	
	comp=Z,3.0nm,0.6s						
ARCES	ARCESS Array B	25.81	1	P	P	19 45 25.7	+1.4
	comp=Z,2.2nm,0.9s,baz=182,slow=10,SNR=1.9						
BRVK	Borovoye	31.28	56	P	P	19 46 14.9	+1.6
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.4s						
BRVK	Borovoye	31.28	56	P	P	19 46 14.9	+1.6
BRVK				lAmb	lAmb	19 46 21.9	
	comp=Z,3.3nm,1.4s						
TORD	Torodi Ar. Bea	36.28	220	P	P	19 46 57.3	+0.2
	comp=Z,1.1nm,1.0s,baz=27,slow=9.3,SNR=4.3						
ZALV	Zalesovo Beam	39.81	53	P	P	19 47 25.0	-1.5
	comp=Z,0.4nm,0.3s,baz=279,slow=9.8,SNR=2.1						
ZALV	Zalesovo Beam	39.81	53	P	P	19 47 25.0	-1.5
ZALV	Zalesovo Beam	39.81	53	P	P	19 47 24.3	-2.1
MKAR	Makanchi Array	39.98	65	P	P	19 47 28.1	0.0
	comp=Z,0.3nm,0.5s,baz=272,slow=8.7,SNR=6.4						
MKAR	Makanchi Array	39.98	65	P	P	19 47 28.0	-0.1
ILULI	Ilulissat	44.88	331	P	P	19 48 05.7	-1.8
ILULI	Ilulissat	44.88	331	P	P	19 48 05.7	-1.8
ILULI				lAmb	lAmb	19 48 15.9	
	comp=Z,29nm,1.4s						
SONM	Songino Array	54.67	55	P	P	19 49 24.1	+1.7
	comp=Z,0.3nm,0.5s,baz=282,slow=6.9,SNR=3.0						
CMAR	Chiang Mai Arr	66.34	87	i P	P	19 50 42.5	0.0
SADO	Sadowa	68.74	312	LR	LR	20 20 42.9	
	comp=Z,27nm,18.2s,baz=65,slow=36						

*IDC **24** 19:56:26.9±2.1, 30.°10S×177.°41W, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.7/29, mbtmp3.7/3, Error ellipse: s-maj=53.1km s-min=23.8km az=76.0*
*NEIC **24** 19:56:28.0±1.6, 30.°00S±0.°09×177.°4W±0.°2, h10km±2km, mb4.2/7, Error ellipse: s-maj=29.0km s-min=4.4km az=57.0*

ISC 24 19:56:31.3±1.9, 30.°0S±0.°1×177.°4W±0.°3, h35km, n15, σ0s68/15, mb4.0/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.88	328	Pn	Pn	19 56 47.5	+0.2
	270nm,0.3s,baz=56,slow=11,SNR=10						
RAO				Sn	Sn	19 56 58.9	0.0
	910nm,0.3s,baz=225,slow=23,SNR=17						
THZ	Tophouse	14.12	211	Pn	Pn	19 59 49.9	+1.1
KHZ	Kahutara	14.38	208	Pn	Pn	19 59 52.0	-0.2
STKA	Stephens Creek	35.09	256	P	P	20 03 19.8	-1.5
STKA				lAmb	lAmb	20 03 36.3	
	comp=Z,3.3nm,1.4s						
ASAR	Alice Springs	43.67	266	P	P	20 04 33.4	+0.5
	comp=Z,0.4nm,0.5s,baz=105,slow=7.4,SNR=17						
ASAR	Alice Springs	43.67	266	P	P	20 04 33.5	+0.6
WR0	Warramunga Arr	44.44	272	P	P	20 04 39.6	+0.5
WR0				lAmb	lAmb	20 04 51.1	
	comp=Z,10nm,1.5s						
WB2	Warramunga Arr	44.61	271	P	P	20 04 40.5	0.0
WRA	Warramunga Arr	44.62	271	P	P

I56US NEWPORT INFRAS 7.61 338 *i* 20 51 25.0
baz=159,slow=316,SNR=3.7

I57US PINON FLAT INF 8.14 201 *i* 20 56 50.0
baz=18,slow=318,SNR=1.6

BJI ***24*** *20:07:49.8±0.0,30.03S×176.97W,h5km,mB5.5/15, mb5.3/20,Ms4.8/4,Ms7 4.5/4*
IDC ***24*** *20:07:51.7±0.5,30.19S×177.49W,h0km,mb4.6/14, mb1 4.8/16,mb1mx4.7/27,mbtmp4.6/16,ML4.2/2,MS4.1/12, Ms1 4.1/12,ms1mx3.8/29,Error ellipse: s-maj=18.5km s-min=14.4km az=91.0*
NEIC ***24*** *20:07:52.5±1.5,30.27S±0.05×177.45W±0.08,h12km±3km, mb5.0/40,Error ellipse: s-maj=14.7km s-min=7.7km az=87.0*
MOS ***24*** *20:07:53.6±0.9,30.22S×177.43W,h21km,mb4.9/12, Error ellipse: s-maj=11.7km s-min=11.1km az=115.1*
ISC 24 20:07:55.3±0.8,30.32S±0.05×177.45W±0.08,h26km±5km, h26km:pP-P,n332,σ1:51/338,mb4.9/45,MS4.1/16, 12C-12D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.13**	**339**	**P**		**Pn**	**20 08 13.4**	**-2.1**
GLKZ				S		Sn	**20 08 26.8**	**-3.3**
RAO	**Raoul Island**	**1.14**	**339**	Pn		**Pn**	**20 08 13.6**	**-2.0**
	2μm,0.3s,baz=171,slow=2.1,SNR=53							
RAO				LR		LR	20 08 28.9	
	comp=Z,3μm,18.1s,baz=341,slow=37							
RAO				Sn		**Sn**	**20 08 29.3**	**-1.1**
	6μm,0.3s,baz=90,slow=20,SNR=10							
RAO	**Raoul Island**	**1.14**	**339**			**Pn**	**20 08 13.5**	**-2.1**
RIZ	**Raoul Island**	**1.15**	**339**	P		**Pn**	**20 08 13.7**	**-2.0**
RIZ				S		**Sn**	**20 08 28.4**	**-2.2**
MXZ	**Matakaoa Point**	**8.04**	**205**	P		**Pn**	**20 09 47.0**	**-3.4**
MXZ				S		**Sn**	**20 11 19.1**	**-1.3**
MXZ	**Matakaoa Point**	**8.04**	**205**	Pn		**Pn**	**20 09 50.2**	**-0.1**
WMGZ	**Waiomatatini S**	**8.23**	**204**	P		**Pn**	**20 09 52.3**	**-0.7**
WMGZ				S		**Sn**	**20 11 20.8**	**-4.3**
HAZ	**Te Kaha**	**8.40**	**207**	P		**Pn**	**20 09 55.0**	**-0.4**
HAZ				S		**Sn**	**20 11 31.1**	**+1.7**
PKGZ	**Pakihiroa**	**8.41**	**205**	P		**Pn**	**20 09 52.3**	**-3.2**
PKGZ				S		**Sn**	**20 11 25.5**	**-4.2**
PUZ	**Puketiti**	**8.51**	**204**	P		**Pn**	**20 09 55.1**	**-1.7**
PUZ				S		**Sn**	**20 11 28.2**	**-3.9**
RUGZ	**Raukumara Rang**	**8.63**	**207**	P		**Pn**	**20 09 57.1**	**-1.4**
RUGZ				S		**Sn**	**20 11 32.5**	**-2.6**
WCZ	**Waipu Caves**	**8.87**	**229**	P		Pn	20 10 10.4	+8.6
CNGZ	**Carnagh Statio**	**8.90**	**203**	P		**Pn**	**20 10 00.0**	**-2.1**
CNGZ				S		**Sn**	**20 11 42.0**	**+0.4**
TKGZ	**Te Karaka**	**8.98**	**204**	P		**Pn**	**20 10 01.9**	**-1.4**
TKGZ				S		**Sn**	**20 11 43.1**	**-0.5**
OUZ	**Omahuta**	**8.98**	**235**	P		Pn	20 10 09.8	+6.4
OUZ	**Omahuta**	**8.98**	**235**			Pn	20 10 10.8	+7.5
MWZ	**Matawai**	**9.01**	**206**	P		**Pn**	**20 10 02.1**	**-1.6**
MWZ				S		**Sn**	**20 11 41.3**	**-3.0**
URZ	**Urewera**	**9.11**	**208**	P		**Pn**	**20 10 03.3**	**-1.7**
URZ				S		**Sn**	**20 11 45.0**	**-1.7**
MUGZ	**Murupara**	**9.43**	**209**	P		**Pn**	**20 10 07.8**	**-1.7**
SNGZ	**Shannon Statio**	**9.47**	**206**	P		**Pn**	**20 10 09.1**	**-0.9**
BKZ	**Black Stump Fm**	**10.13**	**208**	P		**Pn**	**20 10 17.5**	**-1.7**
BKZ	**Black Stump Fm**	**10.13**	**208**	Pn		**Pn**	**20 10 17.4**	**-1.7**
HIZ	**Hauiti**	**10.35**	**216**	Pn		**Pn**	**20 10 24.4**	**+2.4**
BHHZ	**Black Hill Sta**	**10.58**	**208**	P		**Pn**	**20 10 23.9**	**-1.4**
PNHZ	**Pukenui**	**10.89**	**207**	P		**Pn**	**20 10 26.3**	**-3.2**
BFZ	**Birch Farm**	**11.54**	**205**	P		**Pn**	**20 10 33.9**	**-4.4**
BFZ	**Birch Farm**	**11.54**	**205**	Pn		**Pn**	**20 10 34.4**	**-4.0**
CPWZ	**Castlepoint**	**11.76**	**204**	P		Pn	20 10 36.6	-4.7
MRZ	**Mangatainoka R**	**11.77**	**207**	P		Pn	20 10 36.8	-4.8
HOWZ	**Holdsworth Sta**	**12.00**	**207**	P		**Pn**	**20 10 42.5**	**-2.2**
OGWZ	**Otaki Gorge**	**12.07**	**208**	P		**Pn**	**20 10 48.0**	**+2.4**
SNZO	**South Karori**	**12.67**	**208**	Pn		**Pn**	**20 10 52.9**	**-4.9**
PLWZ	**Palliser**	**12.68**	**206**	Pn		**Pn**	**20 10 54.3**	**+0.4**
BHW	**Baring Head**	**12.69**	**207**	Pn		**Pn**	**20 10 53.5**	**-0.6**
TCW	**Tory Channel**	**12.77**	**209**	P		**Pn**	**20 10 54.2**	**-0.9**
TUWZ	**Tuamarina**	**13.09**	**210**	P		**Pn**	**20 11 02.8**	**+3.3**
NIUE	**Niue**	**13.11**	**33**	Pn		Pn	20 10 54.6	-5.3
NNZ	**Nelson**	**13.17**	**212**	P		P	20 11 05.4	-5.0
MSVF	**Nonsavu**	**13.19**	**341**	*ce*P		**Pn**	**20 11 04.6**	**+3.6**
THZ	**Tophouse**	**13.82**	**212**	P		**Pn**	**20 11 09.5**	**0.0**
THZ	**Tophouse**	**13.82**	**212**	Pn		**Pn**	**20 11 08.8**	**-0.7**
KHZ	**Kahutara**	**14.07**	**208**	P		**Pn**	**20 11 10.1**	**-2.8**
KHZ	**Kahutara**	**14.07**	**208**	Pn		Pn	20 11 07.4	-5.5
GVZ	**Greta Valley S**	**14.74**	**208**	P		**Pn**	**20 11 22.3**	**+0.3**
LTZ	**Lake Taylor**	**14.91**	**211**	P		**Pn**	**20 11 23.5**	**-0.9**
INZ	**Inchbonnie**	**15.24**	**213**	P		**Pn**	**20 11 29.7**	**+0.9**
OXZ	**Oxford**	**15.45**	**210**	P		**Pn**	**20 11 29.9**	**-1.6**
OXZ	**Oxford**	**15.45**	**210**			**Pn**	**20 11 28.6**	**-2.9**
OXZ				IAmb		IAmb	20 11 39.8	
	comp=Z,58nm,0.5s							
MQZ	**McQueen's Vall**	**15.51**	**208**	Pn		**Pn**	**20 11 30.8**	**-1.4**
MQZ				IAmb		IAmb	20 11 53.4	
	comp=Z,225nm,1.9s							
RPZ	**Rata Peaks**	**16.20**	**211**	Pn		**Pn**	**20 11 42.2**	**+1.1**
	comp=Z,3.9nm,0.3s,baz=283,slow=4.7,SNR=8.6							
RPZ				Sn		Sn	20 14 24.4	-16
	comp=Z,0.8nm,0.3s,baz=148,slow=1.5,SNR=3.6							
RPZ	**Rata Peaks**	**16.20**	**211**	P		**P**	**20 11 42.9**	**-1.1**
RPZ	**Rata Peaks**	**16.20**	**211**	Pn		**Pn**	**20 11 39.6**	**-1.5**
RPZ				IAmb		IAmb	20 12 03.9	
	comp=Z,118nm,1.5s							
RPZ				Sn		Sn	20 14 25.4	-14
DZM	**Mont Dzumac**	**16.62**	**296**	Pn		**P**	**20 11 52.1**	**+3.2**
	comp=Z,0.4nm,0.3s,baz=168,slow=23,SNR=7.6							
DZM				LR		LR	20 16 38.4	
	comp=Z,435nm,20.6s,baz=121,slow=32							
FOZ	**Fox Glacier**	**16.63**	**214**	Pn		**Pn**	**20 11 40.5**	**-6.0**
FOZ				IAmb		IAmb	20 12 21.2	
	comp=Z,208nm,1.3s							
LBZ	**Lake Benmore**	**17.11**	**211**	Pn		**Pn**	**20 11 48.2**	**-4.4**
ODZ	**Otahua Downs**	**17.43**	**209**	P		**Pn**	**20 11 53.2**	**-3.3**
RAR	**Rarotonga**	**18.30**	**64**	P		**P**	**20 12 06.9**	**-0.5**
	comp=Z,2.1nm,0.3s,baz=180,slow=10,SNR=2.0							
RAR	**Rarotonga**	**18.30**	**64**	P		**P**	**20 12 06.7**	**-0.7**
RAR				pmax		pmax		
	comp=Z,120nm,1.3s							
RAR	**Rarotonga**	**18.30**	**64**			**P**	**20 12 06.7**	**-0.7**
RAR				IAmb		IAmb	20 12 30.9	
	comp=Z,120nm,1.2s							
MLZ	**Mavora Lakes**	**18.81**	**213**	P		**P**	**20 12 09.9**	**-3.0**
TBI	**Tubuai**	**25.88**	**81**	*e*LQ		LQ	20 18 26.8	
	comp=Z,575nm,25.5s							
TBI				*e*LR		LR	20 19 53.9	
	comp=Z,581nm,26.5s,baz=253							
TBI	**Tubuai**	**25.88**	**81**	*e*T		T	20 40 16.0	
	comp=Z,16nm,0.3s							
RIV	**Riverview**	**26.78**	**254**	P		**P**	**20 13 36.2**	**+3.1**
RIV				pmax		pmax		
	comp=Z,124nm,1.7s							
PAE	**Paea**	**28.32**	**70**	*e*T		T	20 43 09.0	
	comp=Z,6.9nm,0.3s							
PPT2	**Papeete2**	**28.36**	**70**	*e*LQ		LQ	20 19 34.2	
	comp=Z,273nm,22.8s							
PPT2				*e*LR		LR	20 20 58.0	
	comp=Z,510nm,25.5s,baz=237							
PPT	**Papeete**	**28.37**	**70**	LR		LR	20 21 52.2	
	comp=Z,181nm,21.9s,baz=199,slow=30							
CAN	**Canberra**	**28.55**	**251**	P		**P**	**20 13 48.6**	**-0.5**
CAN				pmax		pmax		
	comp=Z,92nm,1.8s							
CAN	**Canberra**	**28.55**	**251**	P		**P**	**20 13 48.6**	**-0.5**
TOO	**Toolangi**	**31.43**	**247**	P		**P**	**20 14 16.4**	**+1.8**
TOO				pmax		pmax		
	comp=Z,133nm,1.9s							
TOO	**Toolangi**	**31.43**	**247**	P		**P**	**20 14 16.4**	**+1.8**
CTAO	**Charters Tower**	**34.26**	**279**	P		**P**	**20 14 41.5**	**+2.1**
CTAO				pmax		pmax		
	comp=Z,20nm,0.6s							
CTAO	**Charters Tower**	**34.26**	**279**	P		**P**	**20 14 41.5**	**+2.1**
STKA	**Stephens Creek**	**34.96**	**257**	P		**P**	**20 14 47.0**	**+1.7**
	comp=Z,11nm,0.4s,baz=98,slow=11,SNR=45							
STKA				LR		LR	20 27 32.4	
	comp=Z,352nm,20.3s,baz=52,slow=34							
STKA	**Stephens Creek**	**34.96**	**257**	P		**P**	**20 14 47.1**	**+1.7**
STKA				pmax		pmax		
	comp=Z,3.0nm,0.8s							
STKA	**Stephens Creek**	**34.96**	**257**	P		**P**	**20 14 47.1**	**+1.7**
RKT	**Rikitea**	**38.44**	**90**	*e*LR		LR	20 25 38.7	
	comp=Z,408nm,25.0s							
BBOO	**Buckleboo**	**39.45**	**254**	P		**P**	**20 15 24.4**	**+0.9**
AS31	**Alice Springs**	**43.59**	**267**	P		**P**	**20 15 57.3**	**-0.3**
ASAR	**Alice Springs**	**43.59**	**267**	P		**P**	**20 15 57.2**	**-0.3**
	comp=Z,8.5nm,0.7s,baz=103,slow=7.6,SNR=74							
ASAR				PcP		**PcP**	**20 17 44.5**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=117,slow=3.5,SNR=4.9							
ASAR				ScP		**ScP**	**20 21 36.4**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=112,slow=4.2,SNR=3.4							
ASAR				LR		LR	20 34 01.3	
	comp=Z,457nm,18.2s,baz=112,slow=36							
ASAR	**Alice Springs**	**43.59**	**267**	P		**P**	**20 15 56.5**	**-1.1**
WR0	**Warramunga Arr**	**44.39**	**272**	P		**P**	**20 16 03.5**	**-0.4**
WR0				IAmb		IAmb	20 16 06.1	
	comp=Z,14nm,0.6s							
WB2	**Warramunga Arr**	**44.56**	**272**	P		**P**	**20 16 04.9**	**-0.5**
WRAB	**Tennant Creek**	**44.57**	**272**	*de*P		**P**	**20 16 05.8**	**+0.4**
WRAB				pmax		pmax		
	comp=Z,19nm,0.7s							
WRAB	**Tennant Creek**	**44.57**	**272**	P		**P**	**20 16 04.8**	**-0.6**
WRAB				IAmb		IAmb	20 16 10.1	
	comp=Z,20nm,0.7s							
WRA	**Warramunga Arr**	**44.57**	**272**	P		**P**	**20 16 04.9**	**-0.6**
	comp=Z,18nm,0.4s,baz=110,slow=8.1,SNR=106							
WRA				ScP		**ScP**	**20 21 41.4**	**+2.6**
	comp=Z,0.5nm,0.7s,baz=114,slow=3.8,SNR=2.0							
WRA	**Warramunga Arr**	**44.57**	**272**	P		**P**	**20 16 04.4**	**-1.0**
WRA				pmax		pmax		
	comp=Z,1.0nm,0.7s							
WRA	**Warramunga Arr**	**44.57**	**272**	P		**P**	**20 16 04.4**	**-1.0**
WB0	**Warramunga Arr**	**44.59**	**272**	P		**P**	**20 16 03.7**	**-1.9**
WB0				IAmb		IAmb	20 16 07.7	
	comp=Z,24nm,0.7s							
VNDA	**Vanda**	**48.22**	**186**	P		**P**	**20 16 37.0**	**+3.7**
	comp=Z,2.1nm,0.7s,baz=12,slow=6.6,SNR=12							
VNDA				LR		LR	20 33 10.3	
	comp=Z,100nm,21.6s,baz=342,slow=31							
VNDA	**Vanda**	**48.22**	**186**	P		**P**	**20 16 36.4**	**+3.1**
VNDA				pmax		pmax		
	comp=Z,32nm,2.0s							
VNDA	**Vanda**	**48.22**	**186**	P		**P**	**20 16 36.4**	**+3.1**
VNDA				IAmb		IAmb	20 16 50.9	
	comp=Z,32nm,2.0s							
FITZ	**Fitzroy Crossi**	**52.84**	**270**	LR		LR	20 38 13.3	
	comp=Z,179nm,19.9s,baz=123,slow=34							
NWAO	**Narrogin (SRO)**	**54.87**	**249**	LR		LR	20 39 30.1	
	comp=Z,201nm,19.3s,baz=117,slow=35							
CASY	**Casey**	**55.43**	**208**	P		**P**	**20 17 27.8**	**+0.6**
BATI	**Baumata**	**58.12**	**277**	LR		LR	20 43 06.2	
	comp=Z,691nm,18.4s,baz=141,slow=36							
QSPA	**South Pole Qui**	**59.79**	**180**	P		**P**	**20 18 00.9**	**+2.9**
	comp=Z,25nm,0.9s,baz=32,slow=4.1,SNR=53							
QSPA	**South Pole Qui**	**59.79**	**180**	P		**P**	**20 18 00.4**	**+2.4**
MPSI	**Mapaga**	**66.78**	**285**	P		**P**	**20 18 42.7**	**-2.2**
	comp=Z,6.2nm,0.9s							
MAW	**Mawson**	**72.55**	**200**	P		**P**	**20 19 20.0**	**+0.4**
	comp=Z,8.9nm,0.8s,baz=144,slow=6.1,SNR=12							
MAW				LR		LR	20 50 12.1	
	comp=Z,147nm,19.9s,baz=176,slow=35							
MAW	**Mawson**	**72.55**	**200**	P		**P**	**20 19 20.2**	**+0.6**
MAW				pmax		pmax		
	comp=Z,5.0nm,1.2s							
MAW	**Mawson**	**72.55**	**200**	P		**P**	**20 19 20.2**	**+0.6**
SBUM	**Sibu**	**74.37**	**282**	P		**P**	**20 19 30.2**	**-1.0**
SYO	**Syowa Base**	**77.30**	**193**	*i*P		**P**	**20 19 47.0**	**0.0**
SYO	**Syowa Base**	**77.30**	**193**	*i*,*ip*P		**P**	**20 19 49.4**	**+2.4**
SYO	**Syowa Base**	**77.30**	**193**	*i*,*is*P		P	20 19 52.0	+5.0
MDSI	**Maura Dua**	**77.72**	**272**	P		**P**	**20 19 46.6**	**-3.7**
	comp=Z,8.3nm,0.7s							
SNAA	**Sanae**	**78.22**	**178**	*ce*P		**P**	**20 19 54.0**	**+1.7**
SNAA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
SNAA	**Sanae**	**78.22**	**178**	P		**P**	**20 19 53.2**	**+1.0**
SNAA				IAmb		IAmb	20 19 54.7	
	comp=Z,12nm,1.1s							
MJAR	**Matsushiro Arr**	**78.45**	**325**	P		**P**	**20 19 52.4**	**-1.4**
	comp=Z,2.6nm,1.0s,baz=161,slow=4.7,SNR=6.6							
MJAR	**Matsushiro Arr**	**78.45**	**325**	P		**P**	**20 19 53.0**	**-0.9**
MJAR				pmax		pmax		
	comp=Z,3.0nm,1.2s							
MJAR	**Matsushiro Arr**	**78.45**	**325**	P		**P**	**20 19 53.0**	**-0.9**
MAJO	**Matsushiro**	**78.45**	**325**	*ie*P		**P**	**20 19 54.5**	**+0.6**
MAJO				pmax		pmax		
	comp=Z,5.0nm,1.0s							
MAT	**Matsushiro**	**78.45**	**325**	P		**P**	**20 19 53.4**	**-0.5**
H03S2	**Juan Fernandez**	**80.11**	**123**	T		T	21 49 25.6	
	baz=238,slow=74,SNR=24							
H03S1	**Juan Fernandez**	**80.12**	**123**	T		T	21 49 27.7	
	baz=238,slow=74,SNR=27							
H03S3	**Juan Fernandez**	**80.13**	**123**	T		T	21 49 27.2	
	baz=238,slow=74,SNR=34							
TJN	**Taejon**	**84.16**	**318**	*ie*P		**P**	**20 20 24.7**	**+0.6**
KSRS	**Korea Array**	**84.60**	**319**	P		**P**	**20 20 26.9**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=133,slow=4.5,SNR=7.1							
KSAR	**Wonju Array Be**	**84.61**	**319**	P		**P**	**20 20 25.3**	**-1.1**
KSAR	**Wonju Array Be**	**84.61**	**319**	P		**P**	**20 20 25.3**	**-1.1**
YSS	**Yuzh-Sakhalins**	**84.89**	**334**	*ie*P		**P**	**20 20 28.9**	**+1.4**
YSS				*e*			20 20 34.3	
YSS				*e*			20 20 42.2	
YSS				pmax		pmax		
	comp=Z,30nm,0.9s							
YSS	**Yuzh-Sakhalins**	**84.89**	**334**	P		**P**	**20 20 26.4**	**-1.1**
PFO	**Pinyon Flats O**	**85.80**	**47**	*ie*P		**P**	**20 20 34.3**	**+1.7**
PFO				pmax		pmax		
	comp=Z,4.0nm,0.9s							
PEA0B	**Petropavlovsk-**	**85.86**	**345**	*de*P		**P**	**20 20 32.7**	**+0.5**
PETK	**Petropavlovsk-**	**85.86**	**345**	P		**P**	**20 20 32.6**	**+0.4**
	comp=Z,15nm,0.8s,baz=134,slow=8.5,SNR=24							
PETK	**Petropavlovsk-**	**85.86**	**345**	P		**P**	**20 20 31.8**	**-0.4**
PETK	**Petropavlovsk-**	**85.86**	**345**	P		**P**	**20 20 31.8**	**-0.4**
NJ2	**Nanjing**	**86.56**	**310**	*ie*P		**P**	**20 20 36.6**	**+0.4**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
MSHR	**Mys Shultsa**	**86.57**	**325**	*ie*P		**P**	**20 20 36.2**	**+0.2**
MSHR				pmax		pmax		
	comp=Z,9.0nm,1.2s							
USA0B	**Ussuriysk Arra**	**87.36**	**326**	*de*P		**P**	**20 20 40.5**	**+0.7**
USRK	**Ussuriysk Ar.**	**87.36**	**326**	P		**P**	**20 20 40.6**	**+0.8**
	comp=Z,6.1nm,1.0s,baz=169,slow=5.7,SNR=8.9							
USRK	**Ussuriysk Ar.**	**87.36**	**326**	P		**P**	**20 20 39.0**	**-0.8**
USRK	**Ussuriysk Ar.**	**87.36**	**326**	P		**P**	**20 20 39.0**	**-0.8**
PNTR	**Pine Nut**	**87.55**	**41**	P		**P**	**20 20 40.3**	**-0.9**
PNTR				IAmb		IAmb	20 20 42.9	
	comp=Z,6.9nm,0.9s							
NVAR	**Mina Array Bea**	**87.86**	**42**	P		**P**	**20 20 44.0**	**+1.4**
	comp=Z,3.2nm,0.9s,baz=222,slow=8.2,SNR=14							
NVAR				LR		LR	20 56 17.9	
	comp=Z,88nm,18.2s,baz=254,slow=33							
NVAR	**Mina Array Bea**	**87.86**	**42**	P		**P**	**20 20 41.6**	**-1.1**
NV11	**Mina Array Sit**	**87.94**	**43**	P		**P**	**20 20 43.3**	**+0.3**
NV11				IAmb		IAmb	20 20 45.3	
	comp=Z,5.2nm,1.1s							
TPNV	**Topopah Spring**	**88.10**	**45**	P		**P**	**20 20 43.2**	**-0.6**
TPNV				pmax		pmax		
	comp=Z,7.0nm,1.2s							
TPNV	**Topopah Spring**	**88.10**	**45**	P		**P**	**20 20 43.2**	**-0.6**
TPNV				IAmb		IAmb	20 21 01.4	
	comp=Z,7.2nm,1.2s							
KVN	**Kaiserville**	**88.39**	**42**	P		**P**	**20 20 45.1**	**0.0**
KVN				pmax		pmax		
	comp=Z,4.0nm,1.1s							
KVN	**Kaiserville**	**88.39**	**42**	P		**P**	**20 20 45.1**	**0.0**
H04A	**Detroit Lake**	**90.03**	**36**	P		**P**	**20 20 51.5**	**-1.0**
H04A				IAmb		IAmb	20 20 54.8	
	comp=Z,9.8nm,1.1s							
PINE	**Pine Mountain**	**90.05**	**37**	P		**P**	**20 20 53.0**	**+0.2**
PINE				IAmb		IAmb	20 20 55.9	
	comp=Z,11nm,1.3s							
WUAZ	**Wupatki**	**90.25**	**48**	P		**P**	**20 20 53.7**	**-0.2**
WUAZ				IAmb		IAmb	20 20 57.0	
	comp=Z,6.6nm,1.0s							
KNB	**Kanab**	**90.26**	**46**	P		**P**	**20 20 53.4**	**-0.6**
KNB				pmax		pmax		
	comp=Z,6.0nm,1.1s							
KNB	**Kanab**	**90.26**	**46**	P		**P**	**20 20 53.4**	**-0.6**
CN2	**Changchun**	**90.37**	**323**	*e*P		**P**	**20 20 54.4**	**+0.4**
GRNR	**Gornyy**	**90.43**	**333**	*i*P		**P**	**20 20 55.3**	**+1.1**
GRNR				pmax		pmax		
	comp=Z,5.0nm,1.1s							
GRNR				MLR		MLR		
	comp=E,100nm,16.0s							
GRNR				MLR		MLR		
	comp=N,30nm,17.0s							
GRNR				MLR		MLR		
	comp=Z,60nm,13.0s							
I07A	**Izee**	**91.00**	**38**	P		**P**	**20 20 56.5**	**-0.6**
KLR	**Kul'dur**	**91.21**	**329**	*ce*P		**P**	**20 20 58.4**	**+0.6**
KLR				pmax		pmax		
	comp=Z,5.0nm,0.9s							

TXAR	**Lajitas Array**	**91.94**	**57**	P		**P**	**20 21 02.1**	**+0.2**
	comp=Z,1.1nm,1.1s,baz=220,slow=7.5,SNR=5.5							
TXAR	**Lajitas Array**	**91.94**	**57**	P		**P**	**20 21 01.3**	**-0.6**
TXAR	**Lajitas Array**	**91.94**	**57**	P		**P**	**20 21 01.2**	**-0.6**
ENH	**Enshi**	**91.95**	**304**	P		**P**	**20 21 01.6**	**-0.2**
ENH				IAmb		IAmb	20 21 26.6	
	comp=Z,7.4nm,1.0s							
MFID	**Camas Ranch**	**92.55**	**40**	P		**P**	**20 21 02.5**	**-1.8**
MFID				IAmb		IAmb	20 21 06.3	
	comp=Z,5.9nm,1.3s							
NNA	**Nana**	**92.98**	**106**	*ie*P		**P**	**20 21 06.3**	**-0.7**
ANMO	**Albuquerque**	**93.16**	**51**	*ie*P		**P**	**20 21 09.0**	**+1.6**
ANMO				pmax		pmax		
	comp=Z,3.0nm,1.7s							
HLID	**Hailey**	**93.43**	**40**	P		**P**	**20 21 08.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**93.83**	**289**	P		**P**	**20 21 11.3**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=148,slow=3.4,SNR=4.8							
CMAR	**Chiang Mai Arr**	**93.83**	**289**	P		**P**	**20 21 09.7**	**-1.0**
CMAR	**Chiang Mai Arr**	**93.83**	**289**	P		**P**	**20 21 09.7**	**-1.0**
PDAR	**Pinedale Array**	**95.75**	**43**	P		**P**	**20 21 19.5**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=194,slow=6.5,SNR=2.8							
PDAR				LR		LR	21 01 48.6	
	comp=Z,64nm,18.1s,baz=288,slow=34							
PDAR	**Pinedale Array**	**95.75**	**43**	P		**P**	**20 21 17.9**	**-1.3**
CD2	**Chengdu**	**96.45**	**302**	P		**P**	**20 21 22.4**	**0.0**
CD2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**96.52**	**314**	*e*P		**P**	**20 21 24.0**	**+1.4**
HHC				pmax		pmax		
	comp=Z,7.0nm,1.1s							
HHC				pmax		pmax		
	comp=Z,39nm,6.5s							
ILAR	**Eielson Array**	**97.74**	**13**	P		**P**	**20 21 26.6**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=218,slow=7.1,SNR=5.3							
ILAR	**Eielson Array**	**97.74**	**13**	P		**P**	**20 21 25.8**	**-1.6**
ILAR	**Eielson Array**	**97.74**	**13**	P		**P**	**20 21 25.8**	**-1.6**
LZH	**Lanzhou**	**99.06**	**306**	*e*P		**Pdif**	**20 21 36.3**	**+2.1**
LZH				pP		pP	20 21 42.0	+0.8
LZH				sP		pwP	20 21 45.4	-1.3
LZH				pmax		pmax		
	comp=Z,19nm,1.3s							
CPUP	**Villa Florida**	**99.66**	**128**	LR		LR	20 58 52.1	
	comp=Z,62nm,20.8s,baz=211,slow=31							
WMQ	**Urumqi**	**113.55**	**308**	*e*PKP		**PKiKP**	**20 26 30.8**	**-0.3**
WMQ				LR		LR		
	comp=Z,130nm,19.9s							
WMQ				LR		LR		
	comp=Z,210nm,22.1s							
WMQ				LR		LR		
	comp=Z,100nm,23.5s							
BOSA	**Boshof**	**117.52**	**202**	PKP		**PKPdf**	**20 26 39.4**	**0.0**
	comp=Z,2.3nm,0.9s,baz=180,slow=2.0,SNR=3.3							
BOSA	**Boshof**	**117.52**	**202**	PKIKP		**PKPdf**	**20 26 38.2**	**-1.2**
BOSA	**Boshof**	**117.52**	**202**			**PKPdf**	**20 26 38.1**	**-1.2**
MK31	**Makanchi Array**	**118.09**	**310**	PKIKP		**PKPdf**	**20 26 38.0**	**-1.7**
MK31	**Makanchi Array**	**118.09**	**310**			**PKPdf**	**20 26 38.0**	**-1.7**
MKAR	**Makanchi Array**	**118.09**	**310**	PKP		**PKPdf**	**20 26 38.5**	**-1.2**
	comp=Z,0.7nm,0.7s,baz=88,slow=1.9,SNR=5.9							
ZALV	**Zalesovo Beam**	**118.29**	**318**	PKP		**PKPdf**	**20 26 38.5**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=113,slow=3.7,SNR=2.3							
ZALV	**Zalesovo Beam**	**118.29**	**318**	PKIKP		**PKPdf**	**20 26 38.4**	**-1.3**
ZALV	**Zalesovo Beam**	**118.29**	**318**			**PKPdf**	**20 26 38.4**	**-1.3**
MAKZ	**Makanchi**	**118.30**	**310**	PKIKP		**PKPdf**	**20 26 38

RSDY	**Resadiye-TOKAT**	**150.08**	**299**	*e*P		**PKPbc**	**20 27 44.0**	**+0.3**
DARE	**Darende-Malaty**	**150.18**	**296**	*e*P		**PKiKP**	**20 27 45.4**	**+0.5**
KONO	**Kongsberg**	**150.29**	**353**		PKIKP	**PKPdf**	**20 27 40.5**	**+2.2**
KONO	**Kongsberg**	**150.29**	**353**			**PKPdf**	**20 27 40.5**	**+2.2**
SVSK	**Karacayir**	**150.40**	**298**	*e*P		**PKiKP**	**20 27 45.8**	**+0.7**
GAZ	**Gaziantep**	**150.50**	**293**	*e*P		**PKiKP**	**20 27 45.8**	**+0.2**
GAZ	**Gaziantep**	**150.50**	**293**			**PKPdf**	**20 27 41.3**	**+1.8**
PABE	**Paberze**	**150.58**	**335**	*e*P		**PKPbc**	**20 27 44.7**	**+0.4**
PBUR	**Paburge**	**150.88**	**337**	*e*P		**PKPbc**	**20 27 44.8**	**-0.2**
KVT	**Kavak**	**150.92**	**301**	*e*P		**PKiKP**	**20 27 46.6**	**+0.3**
SARI	**SarD1z-Kayseri**	**151.03**	**295**	*e*P		**PKiKP**	**20 27 47.1**	**+0.3**
BNN	**Bunyan**	**151.42**	**296**	*e*P		**PKiKP**	**20 27 47.6**	**+0.1**
AKASG	**Malin Array Be**	**151.53**	**323**	PKPbc		**PKPbc**	**20 27 46.2**	**-0.4**
	comp=Z,6.5nm,0.7s,baz=50,slow=2.4,SNR=18							
AKASG	**Malin Array Be**	**151.53**	**323**		PKIKP	**PKPbc**	**20 27 45.9**	**-0.7**
AKASG	**Malin Array Be**	**151.53**	**323**			**PKPbc**	**20 27 45.9**	**-0.7**
AKBB	**Malin Array Si**	**151.53**	**323**		PKIKP	**PKPbc**	**20 27 46.1**	**-0.6**
AKBB	**Malin Array Si**	**151.53**	**323**			**PKPbc**	**20 27 46.1**	**-0.6**
YURE	**YUREGIR**	**151.78**	**292**	*e*P		**PKiKP**	**20 27 48.6**	**+0.4**
SUW	**Suwalki**	**152.02**	**334**		PKIKP	**PKPbc**	**20 27 45.7**	**-2.0**
SUW	**Suwalki**	**152.02**	**334**			**PKPbc**	**20 27 45.7**	**-2.0**
ILGA	**Ilgaz**	**152.65**	**302**			**PKPbc**	**20 27 49.6**	**-0.2**
BR131	**Keskin Array S**	**152.98**	**299**		PKIKP	**PKPbc**	**20 27 49.9**	**-0.6**
BR131	**Keskin Array S**	**152.98**	**299**			**PKPbc**	**20 27 49.9**	**-0.6**
BRTR	**Keskin Array B**	**152.98**	**299**		PKPbc	**PKPbc**	**20 27 50.2**	**-0.3**
	comp=Z,5.9nm,0.8s,baz=125,slow=3.5,SNR=22							
BRTR					PKPab	**PKPab**	**20 28 02.7**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=152,slow=4.0,SNR=6.3							
BRTR	**Keskin Array B**	**152.98**	**299**		PKIKP	**PKPdf**	**20 27 43.3**	**+0.1**
BRTR	**Keskin Array B**	**152.98**	**299**		PKPdf	**PKPdf**	**20 27 43.3**	**+0.1**
BRTR						**pPKPdf**	**20 27 49.6**	**-0.8**
BRTR						**PKPab**	**20 28 02.1**	**+0.2**
ANTO	**Ankara**	**153.59**	**299**		PKIKP	**PKPbc**	**20 27 50.7**	**-1.0**
ANTO	**Ankara**	**153.59**	**299**			**PKPbc**	**20 27 50.7**	**-1.0**
CSS	**Mathiatis**	**153.73**	**288**			**PKPbc**	**20 27 50.4**	**-1.7**
KWP	**Kalwaria Pacla**	**155.43**	**327**	*e*PKP		**PKPab**	**20 28 11.8**	**+0.1**
KOLS	**Kolonicke sedl**	**156.12**	**327**	*e*PKP2		**PKPab**	**20 28 15.0**	**+0.3**
KOLS	**Kolonicke sedl**	**156.12**	**327**	*e*PKP		**PKPab**	**20 28 15.0**	**+0.3**
UZH	**Uzhgorod**	**156.32**	**326**	*e*PKIKP		**PKPdf**	**20 27 49.0**	**+1.7**
UZH				*e*			20 27 59.3	
UZH				*i*			20 28 14.3	
CRVS	**Cervenica-Dubn**	**156.52**	**328**	*e*PKP2		**PKPab**	**20 28 17.0**	**+0.5**
CRVS	**Cervenica-Dubn**	**156.52**	**328**	*e*PKP		**PKPab**	**20 28 17.0**	**+0.5**
KSP	**Ksiaz**	**157.07**	**337**	*e*PKP		**PKPab**	**20 28 19.3**	**+0.6**
OSTC	**Ostas**	**157.34**	**337**	*e*PKPAB		**PKPab**	**20 28 20.4**	**+0.5**
CHVC	**Chvalec**	**157.37**	**337**	*e*PKPAB		**PKPab**	**20 28 20.2**	**+0.2**
CHVC				*ex*		x	20 28 25.7	
UPC	**Upice**	**157.45**	**337**	*e*PKPAB		**PKPab**	**20 28 20.8**	**+0.4**
UPC				*ex*		x	20 28 26.5	
UPC	**Upice**	**157.45**	**337**	*e*PKP2		**PKPab**	**20 28 20.8**	**+0.4**
DPC	**Dobruska-Polom**	**157.48**	**337**	*e*PKPAB		**PKPab**	**20 28 20.8**	**+0.2**
DPC				*ex*		x	20 28 26.6	
DPC	**Dobruska-Polom**	**157.48**	**337**	*e*PKP2		**PKPab**	**20 28 20.8**	**+0.2**
MORC	**Moravsky Berou**	**157.51**	**334**	*e*PKP		**PKPab**	**20 28 20.5**	**-0.2**
CLL	**Collm**	**157.64**	**343**	*ep*PKPdf		**PKPdf**	**20 27 53.0**	**+4.1**
CLL				*e*PKPdiff		**sPKPdf**	**20 28 02.0**	**+3.4**
CLL				*i* PKPab		**PKPab**	**20 28 20.6**	**-0.5**
	comp=Z,6.0nm,0.9s							
CLL				*i* sPKPdf		**pPKPab**	**20 28 26.3**	**-1.8**
	comp=Z,11nm,1.1s							
CLL				*e*			20 28 33.0	
CLL				LmV			21 35 00.0	
	comp=Z,100nm,20.1s							
CLL	**Collm**	**157.64**	**343**	*e*PKIKP		**PKPdf**	**20 27 53.0**	**+4.1**
CLL				*e*			20 28 02.0	
CLL	**Collm**	**157.64**	**343**	PKPdf		**PKPdf**	**20 27 51.7**	**+2.8**
CLL				PKPab		**PKPab**	**20 28 20.0**	**-1.1**
BRG	**Berggiesshubel**	**157.77**	**341**	*i* PKP		**PKPab**	**20 28 21.9**	**+0.2**
	comp=Z,6.9nm,1.0s							
BRG				*i*			20 28 27.6	
	comp=Z,9.2nm,1.1s							
BRG	**Berggiesshubel**	**157.77**	**341**	*i* PKP2		**PKPab**	**20 28 21.9**	**+0.2**
BRG				pmax		pmax		
	comp=Z,7.0nm,1.0s							
PVCC	**Panska Ves**	**157.89**	**339**	*e*PKPAB		**PKPab**	**20 28 23.2**	**+0.9**
PVCC				*ep*PKP		**pPKPab**	**20 28 28.6**	**-0.7**
PVCC	**Panska Ves**	**157.89**	**339**	*e*PKP2		**PKPab**	**20 28 23.2**	**+0.9**
JAVC	**Velka Javorina**	**158.20**	**332**	*e*PKP		**PKPab**	**20 28 24.7**	**+1.0**
VRAC	**Vranov**	**158.25**	**335**	*e*PKP		**PKPab**	**20 28 24.2**	**+0.3**
PRU	**Pruhonice**	**158.38**	**339**	*e*PKPAB		**PKPab**	**20 28 24.8**	**+0.4**
PRU	**Pruhonice**	**158.38**	**339**	*e*PKP2		**PKPab**	**20 28 24.8**	**+0.4**
KRUC	**Moravsky**	**158.53**	**335**	*e*PKP		**PKPab**	**20 28 25.1**	**0.0**
NKC	**Novy Kostel**	**158.76**	**342**	*e*PKP2		**PKPab**	**20 28 32.4**	**+6.3**
VTS	**Vitosha**	**159.39**	**312**	PKP2		**PKPab**	**20 28 28.6**	**-0.7**
VTS	**Vitosha**	**159.39**	**312**	PKPdf		**PKPdf**	**20 27 50.7**	**-0.9**
VTS				PKPab		**PKPab**	**20 28 28.6**	**-0.7**
KHC	**Kasperske Hory**	**159.43**	**339**	*e*PKPAB		**PKPab**	**20 28 29.6**	**+0.6**
KHC				*ep*PKP		**pPKPab**	**20 28 34.9**	**-1.1**
KHC	**Kasperske Hory**	**159.43**	**339**	PKIKP		**PKPdf**	**20 27 50.1**	**-1.1**
KHC							20 28 28.6	
KHC	**Kasperske Hory**	**159.43**	**339**	PKPdf		**PKPdf**	**20 27 50.1**	**-1.1**
KHC						**PKPab**	**20 28 28.6**	**-0.5**
GEC2	**GERESS Array S**	**159.64**	**338**	PKPdf		**PKPdf**	**20 27 51.1**	**-0.4**
GEC2				PKPab		**PKPab**	**20 28 29.6**	**-0.4**
GERES	**GERESS Array B**	**159.64**	**338**	PKPab		**PKPab**	**20 28 30.0**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=44,slow=4.4,SNR=13							
GERES	**GERESS Array B**	**159.64**	**338**	PKIKP		**PKPdf**	**20 27 50.5**	**-1.1**
GERES							20 28 29.2	
GERES	**GERESS Array B**	**159.64**	**338**	PKPdf		**PKPdf**	**20 27 50.5**	**-1.1**
GERES				PKPab		**PKPab**	**20 28 29.2**	**-0.8**
CONA	**Conrad Observa**	**159.66**	**334**	*e*PKPab		**PKPab**	**20 28 30.3**	**+0.2**
	comp=Z,6.5nm,1.1s							
BCLA	**Clavier**	**159.82**	**355**	PKPab		**PKPab**	**20 28 30.4**	**-0.2**
SOKA	**Soboth**	**161.01**	**333**	*e*PKPab		**PKPab**	**20 28 35.1**	**-1.0**
	comp=Z,2.1nm,0.7s							
OBKA	**Obir**	**161.34**	**333**	*e*PKPab		**PKPab**	**20 28 35.3**	**-2.2**
	comp=Z,1.7nm,0.5s							
MYKA	**Terra Mystica**	**161.58**	**335**	*e*PKPab		**PKPab**	**20 28 37.5**	**-1.1**
	comp=Z,3.8nm,0.7s							
WATA	**Walderalm**	**161.64**	**340**	*e*PKPab		**PKPab**	**20 28 39.1**	**+0.3**
	comp=Z,9.2nm,1.2s							
WTTA	**Wattenberg**	**161.68**	**340**	*i* PKPab		**PKPab**	**20 28 39.4**	**+0.3**
	comp=Z,5.4nm,0.8s							
RETA	**Reutte**	**161.73**	**342**	*e*PKPab		**PKPab**	**20 28 39.4**	**+0.3**
	comp=Z,8.9nm,1.1s,SNR=7.4							
MOTA	**Moosalm**	**161.76**	**341**	*e*PKPab		**PKPab**	**20 28 39.3**	**-0.1**
	comp=Z,11nm,1.1s							
PRED	**Cave del Predi**	**161.77**	**335**	PKPab		**PKPab**	**20 28 37.3**	**-2.1**
SQTA	**Sankt Quirin**	**161.85**	**341**	*e*PKPab		**PKPab**	**20 28 39.7**	**0.0**
	comp=Z,9.6nm,1.0s							
ABTA	**Abfaltersbach**	**161.87**	**338**	*e*PKPab		**PKPab**	**20 28 38.9**	**-0.9**
	comp=Z,3.6nm,0.7s							
DAVA	**Damuels**	**162.14**	**344**	*e*PKPab		**PKPab**	**20 28 41.2**	**+0.2**
	comp=Z,1.4nm,0.7s							
FETA	**Feichten**	**162.16**	**341**	*e*PKPab		**PKPab**	**20 28 41.2**	**+0.1**
	comp=Z,4.2nm,1.1s							
FUORN	**Ofenpass-Fuorn**	**162.66**	**342**	PKPdf		**PKPdf**	**20 27 54.4**	**-0.7**
FUORN				PKPab		**PKPab**	**20 28 43.4**	**-0.1**
TORD	**Torodi Ar. Bea**	**162.89**	**177**	PKP		**PKPdf**	**20 27 56.2**	**+0.3**
	comp=Z,1.5nm,1.1s,baz=147,slow=1.7,SNR=4.4							
TORD				PKPab		**PKPab**	**20 28 45.5**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=176,slow=3.5,SNR=5.8							
TORD	**Torodi Ar. Bea**	**162.89**	**177**			**PKPdf**	**20 27 55.6**	**-0.2**
TORD				PKPab		**PKPab**	**20 28 45.5**	**+0.7**
ESDC	**Sonseca Array**	**169.25**	**28**	PKPab		**PKPab**	**20 29 12.0**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=336,slow=3.3,SNR=4.2							
ESDC	**Sonseca Array**	**169.25**	**28**	PKPdf		**PKPdf**	**20 28 01.1**	**+0.8**
ESDC						**PKPab**	**20 29 11.3**	**-1.2**

NEIC ***24*** *20:43:18.9±1.4,51.9°N±0.2°×178.8°E±0.09,h127km±3km, Error ellipse: s-maj=27.1km s-min=8.4km az=179.0*
AEIC ***24*** *20:43:19±1.6,51.89°N±0.07°×178.33°E±0.10,h126km±5km, mb3.9/30(NEIC), Error ellipse: s-maj=12.4km s-min=4.9km az=220.0*
IDC ***24*** *20:43:19.7±6.0,52.02°N×178.40°E,h122km±56km,mb3.2/8, mb1 3.4/10,mb1mx3.2/46,mbtmp3.7/10,MS3.0/1, Ms1 3.1/1,ms1mx2.5/22, Error ellipse: s-maj=60.2km s-min=14.7km az=174.0*

ISC 24 20:43:19.0±0.7,51.9N±0.1°×178.37E±0.05,h125km±6km, n73,σ1s11/79,mb3.7/15,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.11**	**50**		**Pn**	**20 43 36.0**	**-0.1**
LSNW	**Little Sitkin**	**0.13**	**44**		**Pn**	**20 43 35.8**	**-0.3**
LSPA	**Little Sitkin**	**0.15**	**57**		**Pn**	**20 43 35.9**	**-0.2**
LSPA					**Sn**	**20 43 50.8**	**+1.7**
CETU	**Semis' Tuman**	**0.70**	**82**		**Pn**	**20 43 39.0**	**+0.2**
CETU					**Sn**	**20 43 54.4**	**+0.5**
CESW	**Semis' Southwe**	**0.74**	**88**		**Pn**	**20 43 38.8**	**-0.3**
CEAP	**Semis' Anvil P**	**0.76**	**80**		**Pn**	**20 43 39.5**	**+0.2**
AMKA	**Amchitka**	**0.77**	**130**		**Pn**	**20 43 39.4**	**+0.1**
AMKA					**Sn**	**20 43 54.5**	**-0.2**
CERAA	**Semis' Rag'd T**	**0.81**	**87**		**Pn**	**20 43 39.7**	**0.0**
CERAA					**Sn**	**20 43 55.4**	**-0.1**
GAEA	**Gareloi East**	**1.79**	**92**		**Pn**	**20 43 50.1**	**-0.1**
TASE	**Tanaga Southea**	**2.23**	**90**		**Pn**	**20 43 55.3**	**-0.3**
TAFP	**Tanaga Falls P**	**2.26**	**88**		**Pn**	**20 43 55.6**	**-0.3**
TAFP					**Sn**	**20 44 23.7**	**-0.5**
TAPA	**Tanaga Point A**	**2.37**	**90**		**Pn**	**20 43 57.1**	**-0.2**
KIMD	**Kanaga Island**	**2.73**	**91**		**Pn**	**20 44 01.6**	**-0.3**
KICM	**Kanaga Island**	**2.75**	**87**		**Pn**	**20 44 02.1**	**0.0**
SMY	**Shemya**	**2.76**	**290**		**Pn**	**20 44 00.5**	**-1.7**
SMY	**Shemya**	**2.76**	**290**		**Sn**	**20 44 34.5**	**-1.1**
KIKV	**Kanaga Island**	**2.76**	**88**		**Pn**	**20 44 02.2**	**-0.2**
ADK	**Adak**	**3.06**	**88**		**Pn**	**20 44 05.5**	**-0.7**
ADAG	**Mount Adagdak**	**3.11**	**86**		**Pn**	**20 44 06.3**	**-0.6**
GSTD	**Great Sitkin T**	**3.40**	**85**		**Pn**	**20 44 09.8**	**-0.8**
GSTD					**Sn**	**20 44 49.1**	**-1.5**
GSTR	**Great Sitkin T**	**3.45**	**84**		**Pn**	**20 44 10.8**	**-0.5**
GSMY	**Great Sitkin M**	**3.45**	**85**		**Pn**	**20 44 10.7**	**-0.7**
ATKA	**Atka Island**	**4.60**	**83**	Pn	**Pn**	**20 44 26.2**	**-0.3**
NIKH	**Nikolski High**	**7.89**	**77**	Pn	**Pn**	**20 45 11.2**	**+0.4**
SPIA	**Saint Paul Isl**	**8.48**	**47**	Pn	**Pn**	**20 45 20.0**	**+1.3**
AKUT	**Akutan**	**9.82**	**70**	Pn	**Pn**	**20 45 39.4**	**+2.5**
PETK	**Petropavlovsk-**	**12.66**	**284**	P	**Pn**	**20 46 16.4**	**+1.9**
	0.2nm,0.3s,baz=100,slow=18,SNR=1.7						
CNBA	**Chernabura Isl**	**13.48**	**69**	Pn	**Pn**	**20 46 22.4**	**-2.6**
CHIR	**Chirikof Islan**	**15.80**	**65**	Pn	**Pn**	**20 46 51.3**	**-3.0**
SVW2	**Sparrevohn**	**16.98**	**47**		**P**	**20 47 10.1**	**+1.6**
OHAK	**Old Harbor**	**17.21**	**61**	P	**P**	**20 47 06.8**	**-4.3**
OHAK				IAmb	IAmb	20 47 13.8	
	comp=Z,14nm,1.4s						
TTA	**Tatalina**	**17.55**	**41**	P	**P**	**20 47 16.1**	**+1.3**
KDAK	**Kodiak Island**	**17.65**	**59**	P	**P**	**20 47 14.3**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=157,slow=2.3,SNR=16						
KDAK	**Kodiak Island**	**17.65**	**59**	P	**P**	**20 47 14.2**	**-1.8**
KDAK				IAmb	IAmb	20 47 21.7	
	comp=Z,27nm,1.5s						
CNPM	**China Poot**	**18.62**	**54**	P	**P**	**20 47 26.7**	**+0.1**
BRLK	**Bradley Lake**	**18.84**	**53**	P	**P**	**20 47 28.3**	**-0.7**
BRLK				IAmb	IAmb	20 47 29.8	
	comp=Z,8.7nm,0.8s						
PPLA	**Purkeypile**	**19.12**	**43**	P	**P**	**20 47 33.2**	**+1.0**
PPLA				IAmb	IAmb	20 47 58.8	
	comp=Z,8.2nm,1.3s						
SEW	**Seward**	**19.61**	**53**	P	**P**	**20 47 37.6**	**+0.3**
BPAW	**Bear Paw Mtn.**	**20.08**	**41**	P	**P**	**20 47 42.6**	**+0.2**
TRF	**Thorofare Moun**	**20.13**	**43**	P	**P**	**20 47 43.7**	**+0.7**
TRF				IAmb	IAmb	20 47 46.5	
	comp=Z,3.4nm,0.8s						
GHO	**Glory Hole Cre**	**20.23**	**48**	P	**P**	**20 47 43.4**	**-0.6**
GHO				IAmb	IAmb	20 48 17.7	
	comp=Z,13nm,1.5s						
GLI	**Glacier Island**	**20.90**	**51**	P	**P**	**20 47 50.5**	**-0.6**
GLI				IAmb	IAmb	20 47 52.7	
	comp=Z,3.7nm,0.7s						
SCM	**Sheep Creek Mo**	**20.98**	**48**	P	**P**	**20 47 52.3**	**+0.2**
SCM				IAmb	IAmb	20 47 54.6	
	comp=Z,5.1nm,0.9s						
HIN	**Hinchinbrook I**	**21.11**	**52**	P	**P**	**20 47 51.3**	**-2.1**
DHY	**Denali Highway**	**21.27**	**45**	P	**P**	**20 47 54.8**	**-0.4**
DHY				IAmb	IAmb	20 47 57.1	
	comp=Z,3.5nm,0.8s						
CCB	**Clear Creek Bu**	**21.57**	**41**	P	**P**	**20 47 59.1**	**+0.8**
ILAR	**Eielson Array**	**21.99**	**41**	P	**P**	**20 48 02.1**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=246,slow=8.4,SNR=5.3						
ILAR				LR	LR	20 57 15.8	
	comp=Z,45nm,20.9s,baz=182,slow=38						
RAGM	**Ragged Mountai**	**22.01**	**53**	P	**P**	**20 48 04.9**	**+1.9**
RAGM				IAmb	IAmb	20 48 06.5	
	comp=Z,6.2nm,0.8s						
RIDG	**Independent Ri**	**22.54**	**44**	P	**P**	**20 48 07.7**	**-0.6**
GLB	**Gilahina Butte**	**22.56**	**50**	P	**P**	**20 48 08.6**	**+0.1**
VRDI	**Verde Repeater**	**22.71**	**51**	P	**P**	**20 48 10.5**	**+0.4**
VRDI				IAmb	IAmb	20 48 32.2	
	comp=Z,4.9nm,1.2s						
ISLE	**Juniper Island**	**23.18**	**53**	P	**P**	**20 48 13.8**	**-0.7**
ISLE				IAmb	IAmb	20 48 25.8	
	comp=Z,7.7nm,1.2s						
BARN	**Barnard Glacie**	**23.55**	**51**	P	**P**	**20 48 17.9**	**-0.1**
BARN				IAmb	IAmb	20 48 28.9	
	comp=Z,6.9nm,1.3s						
BCAR	**Beaver Creek A**	**23.75**	**46**	P	**P**	**20 48 19.4**	**-0.1**
BMAR	**Burnt Mountain**	**23.82**	**35**	P	**P**	**20 48 20.1**	**0.0**
EGAK	**Eagle**	**24.35**	**42**	P	**P**	**20 48 24.6**	**-0.2**
JKA	**Kamikawa-asahi**	**24.96**	**266**	P	**P**	**20 48 29.4**	**-1.2**
DAWY	**Dawson**	**24.97**	**44**	P	**P**	**20 48 31.0**	**+0.4**
DAWY				IAmb	IAmb	20 48 33.8	
	comp=Z,2.7nm,0.9s						
ERM	**Erimo**	**25.75**	**261**	P	**P**	**20 48 38.9**	**+1.1**
KLR	**Kul'dur**	**29.35**	**284**	P	**P**	**20 49 10.4**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=57,slow=9.9,SNR=4.7						
USRK	**Ussuriysk Ar.**	**31.49**	**275**	P	**P**	**20 49 28.7**	**0.0**
	comp=Z,0.8nm,0.6s,baz=63,slow=6.6,SNR=1.8						
YKA	**Yellowknife Ar**	**36.16**	**46**	P	**P**	**20 50 09.5**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=287,slow=4.5,SNR=3.7						
SONM	**Songino Array**	**44.84**	**295**	P	**P**	**20 51 21.9**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=82,slow=7.1,SNR=3.6						
SONM	**Songino Array**	**44.84**	**295**	P	**P**	**20 51 19.7**	**-0.8**
NVAR	**Mina Array Bea**	**45.23**	**81**	P	**P**	**20 51 25.1**	**+1.3**
	comp=Z,0.5nm,0.5s,baz=290,slow=7.3,SNR=5.3						
NVAR	**Mina Array Bea**	**45.23**	**81**	P	**P**	**20 51 24.5**	**+0.7**
ELK	**Elko**	**45.67**	**77**	P	**P**	**20 51 27.2**	**0.0**
R11A	**Troy Canyon, C**	**46.94**	**80**	P	**P**	**20 51 37.7**	**+0.6**
PDAR	**Pinedale Array**	**47.82**	**71**	P	**P**	**20 51 43.9**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=320,slow=4.1,SNR=3.0						
PDAR	**Pinedale Array**	**47.82**	**71**	P	**P**	**20 51 43.7**	**-0.3**
MK31	**Makanchi Array**	**58.33**	**307**	P	**P**	**20 53 00.9**	**+0.3**
MK31				IAmb	IAmb	20 53 23.0	
	comp=Z,1.7nm,1.2s						
MKAR	**Makanchi Array**	**58.33**	**307**	P	**P**	**20 53 00.8**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=51,slow=6.2,SNR=6.5						
MKAR	**Makanchi Array**	**58.33**	**307**	P	**P**	**20 53 00.6**	**-0.1**

NEIC ***24*** *20:44:26.0±1.9,10.56S±0.05°×161.48E±0.03,h55km±6km, mb4.9/59, Error ellipse: s-maj=8.4km s-min=0.7km az=146.0*
IDC ***24*** *20:44:27.9±2.2,10.54S×161.40E,h65km±17km,mb4.1/22, mb1 4.2/26,mb1mx4.2/37,mbtmp4.4/26,MS3.9/20, Ms1 3.9/20,ms1mx3.8/32, Error ellipse: s-maj=19.0km s-min=11.5km az=86.0*

ISC 24 20:44:26.7±0.4,10.56S±0.06°×161.51E±0.07,h61km,n131, σ1s05/123,mb4.7/53,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.90**	**306**	P	**Pn**	**20 44 55.1**	**-1.8**
	533nm,0.3s,baz=144,slow=3.5,SNR=98						
HNR				S	**Sn**	**20 45 19.3**	**-0.5**
	1μm,0.3s,baz=161,slow=21,SNR=18						
HNR				LR	LR	20 45 46.6	
	comp=Z,4μm,18.8s,baz=159,slow=44						
HNR	**Honiara**	**1.90**	**306**	Pn	**Pn**	**20 44 54.8**	**-2.1**
SANVU	**Saraoutou**	**7.37**	**132**		**Pn**	**20 46 10.6**	**-1.2**
SANVU				Sn	**Sn**	**20 47 31.2**	**-2.8**
KRVT	**Keravat (AS076**	**11.27**	**303**	P	**Pn**	**20 47 04.5**	**-0.6**
	3.8nm,0.3s,baz=188,slow=19,SNR=1.5						
KRVT				LR	LR	20 51 54.1	
	comp=Z,1μm,20.2s,baz=124,slow=40						
DZM	**Mont Dzumac**	**12.38**	**158**	P	**Pn**	**20 47 21.2**	**+0.9**
	1.5nm,0.3s,baz=306,slow=13,SNR=15						
DZM				S	**Sn**	**20 49 34.1**	**-2.6**
	0.6nm,0.3s,baz=317,slow=23,SNR=1.6						
PMG	**Port Moresby**	**14.18**	**273**	P	**Pn**	**20 47 45.3**	**+0.8**
	0.3nm,0.3s,baz=103,slow=8.0,SNR=5.9						
PMG				LR	LR	20 52 04.2	
	comp=Z,309nm,20.5s,baz=116,slow=32						
PMG	**Port Moresby**	**14.18**	**273**	Pn	**Pn**	**20 47 44.6**	**+0.1**
CTA	**Charters Tower**	**17.48**	**235**	P	**P**	**20 48 27.9**	**+1.0**
	1.0nm,0.3s,baz=66,slow=14,SNR=21						
CTAO	**Charters Tower**	**17.48**	**235**		**P**	**20 48 27.9**	**+1.0**
CTAO				IAmb	IAmb	20 48 32.0	
	comp=Z,90nm,1.2s						
PATS	**Pohnpei**	**17.58**	**349**	P	**Pn**	**20 48 27.5**	**-0.1**
PATS				IAmb	IAmb	20 48 39.4	
	comp=Z,60nm,1.0s						
COEN	**Coen**	**18.23**	**257**		**Pn**	**20 48 35.7**	**+0.1**
ARMA	**Armidale**	**21.79**	**204**	P	**P**	**20 49 13.5**	**-0.3**
JAY	**Jayapura**	**22.14**	**290**	P	**P**	**20 49 18.7**	**+1.0**
	comp=Z,10nm,1.0s,baz=126,slow=19,SNR=2.0						
SMPI	**Sarmi**	**24.19**	**289**	P	**P**	**20 49 37.3**	**-0.4**
	comp=Z,43nm,1.0s						
WR0	**Warramunga Arr**	**27.60**	**247**	P	**P**	**20 50 07.8**	**-0.7**
WR0				IAmb	IAmb	20 50 35.3	
	comp=Z,45nm,1.6s						
WB0	**Warramunga Arr**	**27.69**	**247**	P	**P**	**20 50 09.1**	**-0.2**
WB2	**Warramunga Arr**	**27.77**	**247**	P	**P**	**20 50 09.1**	**-0.9**
WRA	**Warramunga Arr**	**27.78**	**247**	P	**P**	**20 50 10.0**	**-0.1**
	comp=Z,2.7nm,0.8s,baz=77,slow=9.0,SNR=10						
WRA	**Warramunga Arr**	**27.78**	**247**	P	**P**	**20 50 09.6**	**-0.6**
STKA	**Stephens Creek**	**28.09**	**218**	P	**P**	**20 50 13.2**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=65,slow=16,SNR=4.5						
STKA				LR	LR	21 01 29.2	
	comp=Z,683nm,18.2s,baz=35,slow=36						
STKA	**Stephens Creek**	**28.09**	**218**	P	**P**	**20 50 09.8**	**-2.9**
H11S2	**WAKE ISLAND Hy**	**29.32**	**10**	T	T	21 21 12.0	
	baz=189,slow=76,SNR=80						
H11S3	**WAKE ISLAND Hy**	**29.32**	**10**	T	T	21 21 19.4	
	baz=189,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy**	**29.34**	**10**	T	T	21 21 38.3	
	baz=189,slow=76,SNR=11						
ASAR	**Alice Springs**	**29.35**	**240**	P	**P**	**20 50 23.2**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=65,slow=9.9,SNR=8.4						
ASAR				LR	LR	21 02 06.1	
	comp=Z,695nm,18.4s,baz=70,slow=36						
ASAR	**Alice Springs**	**29.35**	**240**	P	**P**	**20 50 23.0**	**-1.1**
TOO	**Toolangi**	**30.51**	**206**	P	**P**	**20 50 35.7**	**+1.5**
TOO				IAmb	IAmb	20 51 34.1	
	comp=Z,54nm,1.5s						
H11N1	**WAKE ISLAND Hy**	**30.55**	**10**	T	T	21 22 47.4	
	baz=189,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**30.56**	**10**	T	T	21 23 00.8	
	baz=189,slow=76,SNR=10.0						
H11N2	**WAKE ISLAND Hy**	**30.57**	**10**	T	T	21 22 52.8	
	baz=189,slow=76,SNR=8.9						
BKZ	**Black Stump Fm**	**31.46**	**157**	P	**P**	**20 50 44.2**	**+1.6**
BKZ				IAmb	IAmb	20 51 33.6	
	comp=Z,40nm,1.5s			

DHY	**Denali Highway**	**83.18**	**21**	P	**P**	**20 56 46.2**	**+0.1**
CRQM	**Cirque**	**83.35**	**24**	P	**P**	**20 56 47.9**	**+0.8**
CRQM				IAmb	IAmb	20 56 51.4	
	comp=Z,8.7nm,0.8s						
GLB	**Gilahina Butte**	**83.49**	**23**	P	**P**	**20 56 47.7**	**+0.1**
VRDI	**Verde Repeater**	**83.50**	**24**	P	**P**	**20 56 48.4**	**+0.6**
MAW	**Mawson**	**83.59**	**202**	P	**P**	**20 56 49.0**	**+1.0**
	comp=Z,13nm,0.9s,baz=76,slow=4.8,SNR=12						
MAW	**Mawson**	**83.59**	**202**	P	**P**	**20 56 48.5**	**+0.5**
BALM	**Baldy**	**83.83**	**24**	P	**P**	**20 56 49.9**	**+0.4**
BALM				IAmb	IAmb	20 57 02.8	
	comp=Z,6.9nm,0.9s						
WRH	**Wood River Hil**	**83.83**	**20**	P	**P**	**20 56 49.2**	**0.0**
CCB	**Clear Creek Bu**	**84.04**	**20**	P	**P**	**20 56 50.2**	**0.0**
BARN	**Barnard Glacie**	**84.12**	**24**	P	**P**	**20 56 52.3**	**+1.3**
BARN				IAmb	IAmb	20 57 03.6	
	comp=Z,7.8nm,1.0s						
HDA	**Harding Lake**	**84.17**	**20**	P	**P**	**20 56 50.9**	**0.0**
HDA				IAmb	IAmb	20 57 02.2	
	comp=Z,22nm,1.6s						
ILAR	**Eielson Array**	**84.42**	**20**	P	**P**	**20 56 52.6**	**+0.4**
	comp=Z,2.0nm,0.9s,baz=250,slow=4.5,SNR=14						
ILAR	**Eielson Array**	**84.42**	**20**	P	**P**	**20 56 51.9**	**-0.3**
RIDG	**Independent Ri**	**84.48**	**21**	P	**P**	**20 56 52.9**	**+0.3**
BCAR	**Beaver Creek A**	**85.20**	**22**	P	**P**	**20 56 56.5**	**+0.3**
HYT	**Haines Junctio**	**85.71**	**25**	P	**P**	**20 56 58.9**	**0.0**
HYT				IAmb	IAmb	20 57 11.5	
	comp=Z,5.7nm,1.0s						
WMQ	**Urumqi**	**85.83**	**316**	*e*P	**P**	**20 57 01.3**	**+1.5**
WMQ				LR	LR		
	comp=N,260nm,23.9s						
WMQ				LR	LR		
	comp=Z,81nm,23.9s						
EGAK	**Eagle**	**86.40**	**21**	P	**P**	**20 57 01.8**	**-0.3**
YBH	**Yreka Blue Hor**	**86.56**	**47**	LR	LR	21 28 05.8	
	comp=Z,60nm,20.4s,baz=258,slow=30						
BBB	**Bella Bella**	**86.57**	**36**	LR	LR	21 27 51.6	
	comp=Z,36nm,21.3s,baz=248,slow=30						
DAWY	**Dawson**	**86.65**	**22**	P	**P**	**20 57 04.6**	**+1.3**
DAWY				IAmb	IAmb	20 57 16.7	
	comp=Z,14nm,1.2s						
MOD	**Modoc Plateau**	**88.34**	**47**		**P**	**20 57 12.2**	**+0.1**
MOD				IAmb	IAmb	20 57 24.9	
	comp=Z,7.3nm,1.2s						
EPYK	**Eagle Plains**	**88.81**	**21**	P	**P**	**20 57 14.0**	**+0.4**
EPYK				IAmb	IAmb	20 57 17.3	
	comp=Z,7.4nm,0.9s						
NVAR	**Mina Array Bea**	**88.92**	**51**	P	**P**	**20 57 17.1**	**+2.1**
	comp=Z,1.2nm,0.8s,baz=239,slow=7.4,SNR=8.4						
NVAR				LR	LR	21 31 28.0	
	comp=Z,47nm,20.1s,baz=268,slow=32						
NVAR	**Mina Array Bea**	**88.92**	**51**	P	**P**	**20 57 16.1**	**+1.0**
NV11	**Mina Array Sit**	**89.03**	**51**	P	**P**	**20 57 16.9**	**+1.4**
KVN	**Kaiserville**	**89.23**	**50**	P	**P**	**20 57 16.5**	**+0.1**
I07A	**Izee**	**89.48**	**45**	P	**P**	**20 57 18.1**	**+0.7**
WVOR	**Wild Horse Val**	**89.67**	**47**	P	**P**	**20 57 19.6**	**+1.2**
TPNV	**Topopah Spring**	**90.16**	**53**	P	**P**	**20 57 20.9**	**+0.1**
TPNV				IAmb	IAmb	20 57 33.7	
	comp=Z,9.3nm,1.0s						
MKAR	**Makanchi Array**	**90.34**	**318**	P	**P**	**20 57 20.4**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=88,slow=7.1,SNR=12						
MKAR				LR	LR	21 37 57.0	
	comp=Z,34nm,21.4s,baz=116,slow=36						
MKAR	**Makanchi Array**	**90.34**	**318**	P	**P**	**20 57 19.5**	**-1.8**
ZALV	**Zalesovo Beam**	**90.75**	**325**	P	**P**	**20 57 21.4**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=126,slow=7.7,SNR=3.6						
ZALV				LR	LR	21 36 57.8	
	comp=Z,36nm,21.8s,baz=92,slow=35						
ZALV	**Zalesovo Beam**	**90.75**	**325**	P	**P**	**20 57 20.4**	**-2.5**
SHPR	**Sheep Range**	**90.91**	**53**	P	**P**	**20 57 23.7**	**-0.6**
R11A	**Troy Canyon, C**	**90.98**	**51**	P	**P**	**20 57 24.0**	**-0.6**
R11A				IAmb	IAmb	20 57 37.5	
	comp=Z,8.8nm,1.2s						
F10A	**Beach Ranch, E**	**91.51**	**44**	P	**P**	**20 57 26.5**	**-0.3**
F10A				IAmb	IAmb	20 57 39.8	
	comp=Z,6.4nm,0.9s						
MFID	**Camas Ranch**	**91.91**	**46**		**P**	**20 57 30.9**	**+2.2**
MFID				IAmb	IAmb	20 57 41.7	
	comp=Z,5.5nm,1.1s						
NRIK	**Noril'sk**	**94.23**	**340**	LR	LR	21 38 29.4	
	comp=Z,89nm,21.8s,baz=121,slow=34						
PDAR	**Pinedale Array**	**96.30**	**48**	P	**P**	**20 57 50.9**	**+1.8**
	comp=Z,0.4nm,0.8s,baz=251,slow=2.8,SNR=2.1						
PDAR	**Pinedale Array**	**96.30**	**48**	P	**P**	**20 57 49.4**	**+0.4**
YKA	**Yellowknife Ar**	**96.47**	**28**	P	**P**	**20 57 48.7**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=239,slow=5.4,SNR=3.9						
YKA				LR	LR	21 34 11.3	
	comp=Z,45nm,21.9s,baz=0.0,slow=31						
TXAR	**Lajitas Array**	**99.27**	**62**	LR	LR	21 34 05.2	
	comp=Z,67nm,21.6s,baz=0.0,slow=30						
AKASG	**Malin Array Be**	**124.14**	**325**	PKP	**PKiKP**	**21 03 19.2**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=75,slow=1.1,SNR=1.4						
AKASG	**Malin Array Be**	**124.14**	**325**		**PKiKP**	**21 03 20.1**	**+1.5**
ESDC	**Sonseca Array**	**148.26**	**338**	PKPbc	**PKPbc**	**21 04 07.1**	**+0.7**
	comp=Z,0.5nm,1.0s,baz=8.1,slow=2.1,SNR=4.0						
ESDC	**Sonseca Array**	**148.26**	**338**		**PKPbc**	**21 04 05.6**	**-0.8**
TORD	**Torodi Ar. Bea**	**160.08**	**279**	PKP	**PKPdf**	**21 04 19.9**	**-0.2**
	comp=Z,0.7nm,0.9s,baz=116,slow=6.6,SNR=3.4						
TORD				PKPab	**PKPab**	**21 04 59.2**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=68,slow=9.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**160.08**	**279**		**PKPdf**	**21 04 18.6**	**-1.5**
TORD					**PKPab**	**21 04 58.7**	**-1.5**

NEIC ***24*** *20:55:14.3±2.1,30°.23S±0°.07×177°.2W±0°.1, h4km±4km, mb4.9/22, Error ellipse: s-maj=15.6km s-min=9.1km az=72.0*
IDC ***24*** *20:55:15.4±0.6,30°.07S×177°.27W, h0km, mb4.2/12, mb1 4.4/12, mb1mx4.3/28, mbtmp4.2/12, MS3.7/6, Ms1 3.7/6, ms1mx3.3/31, Error ellipse: s-maj=22.1km s-min=15.5km az=66.0*

ISC 24 20:55:15.9±0.5, 30°.19S±0°.07×177°.3W±0°.1, h10km, n78, σ1§50/68, mb4.5/20, MS3.5/5, 1C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.07**	**330**	Pn	**Pn**	**20 55 36.6**	**-0.4**
	1μm,0.3s,baz=99,slow=4.4,SNR=46						
RAO				Sn	**Sn**	**20 55 53.0**	**+1.0**
	2μm,0.3s,baz=111,slow=21,SNR=7.9						
RAO				LR	LR	20 56 01.7	
	comp=Z,2μm,20.6s,baz=293,slow=47						
OUZ	**Omahuta**	**9.16**	**234**		Pn	20 57 38.6	+11
BKZ	**Black Stump Fm**	**10.30**	**208**		**Pn**	**20 57 43.8**	**-0.2**
BFZ	**Birch Farm**	**11.71**	**205**	Pn	Pn	20 57 57.9	-5.2
PLWZ	**Palliser**	**12.85**	**206**	Pn	**Pn**	**20 58 16.4**	**-2.4**
TUWZ	**Tuamarina**	**13.27**	**210**	Pn	**Pn**	**20 58 22.2**	**-2.1**
THZ	**Tophouse**	**13.99**	**212**	Pn	**Pn**	**20 58 32.7**	**-1.6**
KHZ	**Kahutara**	**14.25**	**209**	Pn	**Pn**	**20 58 36.6**	**-1.1**
MQZ	**McQueen's Vall**	**15.68**	**208**	Pn	**Pn**	**20 58 54.0**	**-2.9**
MQZ				IAmb	IAmb	20 59 29.4	
	comp=Z,166nm,1.8s						
RPZ	**Rata Peaks**	**16.37**	**211**	Pn	**Pn**	**20 59 03.2**	**-2.6**
	comp=Z,1.1nm,0.3s,baz=44,slow=15,SNR=1.5						
RPZ	**Rata Peaks**	**16.37**	**211**		**Pn**	**20 59 02.9**	**-2.9**
RPZ				IAmb	IAmb	20 59 30.3	
	comp=Z,115nm,1.5s						
DZM	**Mont Dzumac**	**16.67**	**295**	Pn	**P**	**20 59 16.3**	**+4.1**
	comp=Z,0.2nm,0.3s,baz=121,slow=9.1,SNR=3.3						
DZM				LR	LR	21 04 24.0	
	comp=Z,309nm,18.7s,baz=136,slow=33						
DZM	**Mont Dzumac**	**16.67**	**295**	P	**P**	**20 59 12.4**	**+0.2**
LBZ	**Lake Benmore**	**17.29**	**211**	Pn	**P**	**20 59 16.8**	**-2.0**
ODZ	**Otahua Downs**	**17.61**	**209**		**P**	**20 59 20.7**	**-1.7**
ODZ				IAmb	IAmb	21 00 05.7	
	comp=Z,141nm,1.9s						
HNR	**Honiara**	**29.62**	**309**	LR	LR	21 12 38.3	
	comp=Z,103nm,18.2s,baz=190,slow=35						
CTAO	**Charters Tower**	**34.36**	**278**	P	**P**	**21 02 02.4**	**-0.8**
CTAO				IAmb	IAmb	21 02 19.1	
	comp=Z,25nm,1.3s						
STKA	**Stephens Creek**	**35.11**	**256**	LR	LR	21 15 47.4	
	comp=Z,122nm,19.3s,baz=22,slow=35						
STKA	**Stephens Creek**	**35.11**	**256**	P	**P**	**21 02 07.8**	**-1.8**
BBOO	**Buckleboo**	**39.60**	**254**	P	**P**	**21 02 48.1**	**+0.4**
ASAR	**Alice Springs**	**43.72**	**266**	P	**P**	**21 03 22.8**	**+1.2**
	comp=Z,1.0nm,0.3s,baz=106,slow=7.7,SNR=16						
ASAR				LR	LR	21 21 10.9	
	comp=Z,173nm,18.1s,baz=90,slow=36						
ASAR	**Alice Springs**	**43.72**	**266**	P	**P**	**21 03 22.5**	**+0.9**
WR0	**Warramunga Arr**	**44.51**	**272**	P	**P**	**21 03 28.2**	**+0.3**
WR0				IAmb	IAmb	21 03 44.7	
	comp=Z,20nm,1.4s						
WB2	**Warramunga Arr**	**44.68**	**272**		**P**	**21 03 30.1**	**+0.9**
WB2				IAmb	IAmb	21 03 32.1	
	comp=Z,13nm,1.1s						
WRA	**Warramunga Arr**	**44.69**	**272**	P	**P**	**21 03 29.9**	**+0.5**
	comp=Z,1.7nm,0.3s,baz=110,slow=8.1,SNR=30						
WRA	**Warramunga Arr**	**44.69**	**272**	P	**P**	**21 03 29.7**	**+0.4**
WB0	**Warramunga Arr**	**44.71**	**272**	P	**P**	**21 03 30.3**	**+0.8**
VNDA	**Vanda**	**48.37**	**186**	P	**P**	**21 03 59.4**	**+2.0**
	comp=Z,1.1nm,1.1s,baz=4.8,slow=6.3,SNR=2.9						
KNRA	**Kununurra**	**51.29**	**274**	P	**P**	**21 04 19.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**52.96**	**269**	P	**P**	**21 04 34.4**	**+1.5**
FITZ				IAmb	IAmb	21 04 59.9	
	comp=Z,33nm,1.5s						
GUMO	**Guam**	**56.75**	**315**	LR	LR	21 26 12.9	
	comp=Z,37nm,19.3s,baz=131,slow=33						
QSPA	**South Pole Qui**	**59.92**	**180**	P	**P**	**21 05 24.3**	**+2.3**
	comp=Z,4.7nm,0.9s,baz=35,slow=3.8,SNR=11						
QSPA	**South Pole Qui**	**59.92**	**180**	P	**P**	**21 05 24.0**	**+2.0**
QSPA				IAmb	IAmb	21 05 46.5	
	comp=Z,5.4nm,0.7s						
MAW	**Mawson**	**72.72**	**200**	P	**P**	**21 06 46.0**	**+2.2**
	comp=Z,3.3nm,0.9s,baz=146,slow=11,SNR=3.0						
SYO	**Syowa Base**	**77.46**	**193**	*e*PcP	**PcP**	**21 07 20.4**	**-1.0**
SNAA	**Sanae**	**78.35**	**178**	P	**P**	**21 07 17.4**	**+1.3**
MJAR	**Matsushiro Arr**	**78.41**	**325**	P	**P**	**21 07 17.3**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=162,slow=4.0,SNR=4.3						
MJAR	**Matsushiro Arr**	**78.41**	**325**	P	**P**	**21 07 17.2**	**+0.5**
VNA3	**Neumayer Olymp**	**78.48**	**176**	P	**P**	**21 07 17.8**	**+1.0**
H03S2	**Juan Fernandez**	**80.08**	**123**	T	T	22 37 01.0	
	baz=238,slow=74,SNR=4.6						
H03S1	**Juan Fernandez**	**80.09**	**123**	T	T	22 37 10.8	
	baz=238,slow=74,SNR=4.3						
H03S3	**Juan Fernandez**	**80.10**	**123**	T	T	22 36 54.3	
	baz=238,slow=74,SNR=4.6						
LPIG	**La Paz**	**83.92**	**58**	P	**P**	**21 07 46.0**	**-0.3**
	comp=Z,24nm,0.3s,baz=85,slow=11,SNR=1.6						
KSRS	**Korea Array**	**84.57**	**319**	P	**P**	**21 07 50.8**	**+1.5**
	comp=Z,0.8nm,0.9s,baz=128,slow=3.7,SNR=4.1						
PETK	**Petropavlovsk-**	**85.76**	**345**	P	**P**	**21 07 56.1**	**+1.2**
	comp=Z,4.2nm,0.9s,baz=157,slow=4.1,SNR=2.3						
PETK				LR	LR	21 44 17.9	
	comp=Z,21nm,19.2s,baz=226,slow=34						
PETK	**Petropavlovsk-**	**85.76**	**345**	P	**P**	**21 07 54.4**	**-0.5**
CMB	**Columbia Colle**	**86.20**	**42**	P	**P**	**21 07 56.1**	**-1.5**
USRK	**Ussuriysk Ar.**	**87.31**	**326**	P	**P**	**21 08 04.0**	**+1.2**
	comp=Z,2.2nm,0.9s,baz=151,slow=4.4,SNR=6.4						
USRK	**Ussuriysk Ar.**	**87.31**	**326**	P	**P**	**21 08 02.5**	**-0.3**
NVAR	**Mina Array Bea**	**87.68**	**42**	P	**P**	**21 08 06.0**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=216,slow=8.0,SNR=7.9						
NVAR	**Mina Array Bea**	**87.68**	**42**	P	**P**	**21 08 05.0**	**0.0**
KVN	**Kaiserville**	**88.21**	**42**	P	**P**	**21 08 07.3**	**-0.2**
KVN				IAmb	IAmb	21 08 26.8	
	comp=Z,9.0nm,1.0s						
PINE	**Pine Mountain**	**89.87**	**37**	P	**P**	**21 08 12.6**	**-2.5**
PINE				IAmb	IAmb	21 08 17.4	
	comp=Z,6.8nm,1.1s						
U15A	**North Rim**	**90.05**	**47**		**P**	**21 08 16.2**	**-0.1**
U15A				IAmb	IAmb	21 09 26.8	
	comp=Z,5.4nm,0.8s						
CCUT	**Cedar City**	**90.08**	**46**	P	**P**	**21 08 14.9**	**-1.4**
TXAR	**Lajitas Array**	**91.77**	**57**	P	**P**	**21 08 24.8**	**+0.6**
	comp=Z,1.1nm,1.1s,baz=250,slow=2.6,SNR=4.9						
TXAR	**Lajitas Array**	**91.77**	**57**	P	**P**	**21 08 24.4**	**+0.1**
ANMO	**Albuquerque**	**92.98**	**51**	P	**P**	**21 08 30.8**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=149,slow=4.4,SNR=3.7						
ANMO	**Albuquerque**	**92.98**	**51**	P	**P**	**21 08 29.3**	**-0.5**
HLID	**Hailey**	**93.25**	**40**	P	**P**	**21 08 28.3**	**-2.5**
MKAR	**Makanchi Array**	**118.09**	**310**	PKP	**PKiKP**	**21 14 03.9**	**+1.0**
	comp=Z,0.3nm,0.8s,baz=143,slow=0.9,SNR=2.1						
H10N3	**ASCENSION HYDR**	**138.74**	**154**	T	T	23 51 29.3	
	baz=205						
H10N1	**ASCENSION HYDR**	**138.75**	**154**	T	T	23 51 24.8	
	baz=205						
H10N2	**ASCENSION HYDR**	**138.76**	**154**	T	T	23 51 33.9	
	baz=205						
FINES	**FINESS Array B**	**145.15**	**341**	PKPbc	**PKPdf**	**21 14 52.1**	**-0.9**
	comp=Z,12nm,0.9s,baz=44,slow=4.3,SNR=24						
FINES	**FINESS Array B**	**145.15**	**341**		**PKPbc**	**21 14 49.6**	**-3.0**
AKH	**Akhalkalaki**	**145.35**	**300**		**PKPab**	**21 14 53.9**	**-0.4**
KBZ	**Khabaz**	**145.49**	**304**	PKPbc	**PKPab**	**21 14 54.3**	**-0.1**
	comp=Z,2.9nm,1.1s,baz=63,slow=4.5,SNR=4.1						
NB2	**NORSAR Subarra**	**148.63**	**352**	PKP	**PKiKP**	**21 15 02.1**	**-2.0**
	comp=Z,3.6nm,1.1s,baz=30,slow=2.6						
NOA	**NORSAR Array B**	**148.63**	**352**	PKPbc	**PKiKP**	**21 15 02.5**	**-1.7**
	comp=Z,2.4nm,0.9s,baz=14,slow=4.2,SNR=5.0						
AKASG	**Malin Array Be**	**151.49**	**323**	PKPbc	**PKiKP**	**21 15 09.4**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=53,slow=2.6,SNR=5.7						
AKASG	**Malin Array Be**	**151.49**	**323**		**PKiKP**	**21 15 08.6**	**-1.6**
CLL	**Collm**	**157.54**	**343**	*e*PKPab	**PKPab**	**21 15 45.0**	**+1.1**
KHC	**Kasperske Hory**	**159.35**	**339**	*e*PKPAB	**PKPab**	**21 15 53.0**	**+1.1**
KHC				*ex*	x	21 15 57.5	
KHC				*ex*	x	21 16 03.5	
KHC	**Kasperske Hory**	**159.35**	**339**		**PKPab**	**21 15 51.7**	**-0.1**
GERES	**GERESS Array B**	**159.56**	**339**	PKPab	**PKPab**	**21 15 53.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=146,slow=1.0,SNR=4.7						
GERES	**GERESS Array B**	**159.56**	**339**		**PKPab**	**21 15 52.4**	**-0.5**
TORD	**Torodi Ar. Bea**	**163.02**	**177**	PKPab	**PKPab**	**21 16 09.4**	**+0.8**
	comp=Z,0.5nm,0.9s,baz=224,slow=4.0,SNR=2.1						

NEIC ***24*** *21:08:31.4±2.0, 17°.5S±0°.2×179°.0W±0°.2, h540km±10km, mb4.1/22, Error ellipse: s-maj=25.7km s-min=19.6km az=150.0*
IDC ***24*** *21:08:32.0±5.4, 17°.49S×178°.99W, h542km±64km, mb3.4/11, mb1 3.6/12, mb1mx3.3/37, mbtmp4.3/12, Error ellipse: s-maj=28.4km s-min=21.7km az=135.0*

ISC 24 21:08:31.4±0.7, 17°.5S±0°.2×178°.9W±0°.1, h539km, n38, σ1§03/35, mb4.1/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**2.92**	**265**		**P**	**21 09 47.0**	**+1.8**
AFI	**Afiamalu**	**7.74**	**63**	P	**P**	**21 10 24.6**	**-1.7**
SANVU	**Saravatou**	**13.49**	**277**	P	**P**	**21 11 25.8**	**+0.3**
DZM	**Mont Dzumac**	**14.52**	**249**	P	**P**	**21 11 35.7**	**-0.5**
	1.8nm,0.3s,baz=128,slow=14,SNR=12						
COEN	**Coen**	**36.64**	**270**	P	**P**	**21 14 52.0**	**-0.7**
STKA	**Stephens Creek**	**38.41**	**241**	P	**P**	**21 15 07.2**	**+0.2**
	8.7nm,0.4s,baz=87,slow=9.9,SNR=70						
STKA	**Stephens Creek**	**38.41**	**241**	P	**P**	**21 15 07.4**	**+0.4**
STKA				IAmb	IAmb	21 15 08.1	
	comp=Z,5.2nm,1.1s						
JAY	**Jayapura**	**42.35**	**286**	P	**P**	**21 15 39.3**	**+0.6**
	comp=Z,5.1nm,0.4s,baz=120,slow=8.6,SNR=11						
WB0	**Warramunga Arr**	**44.23**	**259**	P	**P**	**21 15 51.7**	**-1.4**
WB2	**Warramunga Arr**	**44.23**	**259**	P	**P**	**21 15 51.9**	**-1.4**
WRA	**Warramunga Arr**	**44.25**	**259**	P	**P**	**21 15 51.9**	**-1.4**
	comp=Z,3.6nm,0.2s,baz=95,slow=7.8,SNR=118						
WRA	**Warramunga Arr**	**44.25**	**259**	P	**P**	**21 15 51.8**	**-1.6**
AS31	**Alice Springs**	**44.45**	**254**	P	**P**	**21 15 53.6**	**-1.4**
ASAR	**Alice Springs**	**44.45**	**254**	P	**P**	**21 15 54.4**	**-0.6**
	comp=Z,29nm,0.4s,baz=88,slow=8.1,SNR=468						
ASAR	**Alice Springs**	**44.45**	**254**	P	**P**	**21 15 53.8**	**-1.1**
FORT	**Forrest**	**49.76**	**244**	P	**P**	**21 16 32.9**	**-1.8**
MJAR	**Matsushiro Arr**	**67.31**	**324**	P	**P**	**21 18 32.6**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=156,slow=6.7,SNR=2.7						
QSPA	**South Pole Qui**	**72.54**	**180**	P	**P**	**21 19 04.2**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=47,slow=1.4,SNR=1.2						
KDAK	**Kodiak Island**	**78.13**	**14**	P	**P**	**21 19 34.7**	**+0.2**
	comp=Z,2.6nm,0.8s,baz=233,slow=4.9,SNR=4.1						
YBH	**Yreka Blue Hor**	**78.52**	**39**	P	**P**	**21 19 37.3**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=345,slow=4.5,SNR=4.1						
YBH	**Yreka Blue Hor**	**78.52**	**39**	IAmb	IAmb	21 22 09.9	
	comp=Z,14nm,1.9s						
NVAR	**Mina Array Bea**	**79.47**	**44**	P	**P**	**21 19 43.3**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=225,slow=8.6,SNR=7.6						
NVAR	**Mina Array Bea**	**79.47**	**44**		**P**	**21 19 43.1**	**+0.7**
WVOR	**Wild Horse Val**	**81.41**	**41**	P	**P**	**21 19 53.4**	**+1.1**
GHO	**Glory Hole Cre**	**82.54**	**14**	P	**P**	**21 19 57.4**	**-0.1**
GHO				IAmb	IAmb	21 19 57.8	
	comp=Z,8.4nm,1.0s						
U15A	**North Rim**	**82.60**	**48**		**P**	**21 19 58.0**	**-0.7**
TGL	**Tana Glacier**	**83.21**	**17**	P	**P**	**21 20 00.2**	**-0.7**
TGL				IAmb	IAmb	21 22 51.1	
	comp=Z,5.5nm,0.9s						
ISLE	**Juniper Island**	**83.22**	**17**	P	**P**	**21 20 00.0**	**-1.0**
ISLE				IAmb	IAmb	21 20 56.6	
	comp=Z,5.4nm,0.7s						
BALM	**Baldy**	**83.58**	**17**	P	**P**	**21 20 01.5**	**-1.2**
TRF	**Thorofare Moun**	**83.73**	**13**	P	**P**	**21 20 02.8**	**-0.8**
TRF				IAmb	IAmb	21 20 03.1	
	comp=Z,5.2nm,0.9s						
RND	**Reindeer**	**83.99**	**13**	IAmb	IAmb	21 20 05.0	
	comp=Z,4.8nm,0.8s						
WRH	**Wood River Hil**	**85.09**	**13**	IAmb	IAmb	21 20 10.1	
	comp=Z,6.9nm,1.4s						
CCB	**Clear Creek Bu**	**85.31**	**13**	P	**P**	**21 20 11.5**	**+0.5**
IL31		**85.61**	**13**	P	**P**	**21 20 11.6**	**-0.8**
IL31				IAmb	IAmb	21 23 28.5	
	comp=Z,9.9nm,1.9s						
ILAR	**Eielson Array**	**85.61**	**13**	P	**P**	**21 20 11.7**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=225,slow=5.3,SNR=6.0						
TXAR	**Lajitas Array**	**86.18**	**58**	P	**P**	**21 20 17.8**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=212,slow=4.4,SNR=7.1						
PDAR	**Pinedale Array**	**87.39**	**44**	P	**P**	**21 20 21.6**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=224,slow=4.6,SNR=6.8						
GERES	**GERESS Array B**	**147.11**	**345**	PKPbc	**PKPbc**	**21 27 14.2**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=103,slow=2.9,SNR=5.3						

IDC 24 21:12:47.6±3.9, 28°.46S×177°.84W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/42, mbtmp3.6/2, Error ellipse: s-maj=81.1km s-min=21.0km az=73.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.79**	**185**	Pn	Pn	21 13 06.4	+0.4
	688nm,0.3s,baz=110,slow=4.4,SNR=24						
RAO				Sn	Sn	21 13 18.8	+0.3
	661nm,0.3s,baz=210,slow=21,SNR=9.0						
ASAR	**Alice Springs**	**43.39**	**265**	P	P	21 20 50.2	-1.9
	0.4nm,0.6s,baz=97,slow=7.6,SNR=2.0						
WRA	**Warramunga Arr**	**44.20**	**270**	P	P	21 20 59.8	+1.1
	0.4nm,0.3s,baz=110,slow=8.0,SNR=6.6						
FINES	**FINESS Array B**	**143.37**	**341**	PKP	PKPbc	21 32 21.8	+1.4
	2.3nm,0.9s,baz=58,slow=3.4,SNR=8.7						

IDC 24 21:16:42.9±2.6, 28°.48S×177°.63W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/38, mbtmp3.5/2, MS3.5/1, Ms1 3.5/1, ms1mx2.7/15, Error ellipse: s-maj=41.4km s-min=22.9km az=77.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.81**	**198**	Pn	Pn	21 17 02.0	+0.5
	96nm,0.3s,baz=22,slow=19,SNR=7.1						
RAO				Sn	Sn	21 17 14.6	+0.4
	124nm,0.3s,baz=140,slow=15,SNR=5.7						
STKA	**Stephens Creek**	**35.26**	**254**	LR	LR	21 36 52.4	
	comp=Z,76nm,18.4s,baz=43,slow=34						
ASAR	**Alice Springs**	**43.57**	**265**	P	P	21 24 46.9	-2.0
	0.2nm,0.3s,baz=109,slow=8.0,SNR=1.7						
WRA	**Warramunga Arr**	**44.38**	**270**	P	P	21 24 56.0	+0.6
	0.8nm,0.9s,baz=110,slow=8.0,SNR=8.4						
FINES	**FINESS Array B**	**143.45**	**341**	PKP	PKPdf	21 36 18.9	+0.2
	0.3nm,0.4s,baz=58,slow=5.2,SNR=4.2						

AEIC ***24*** *21:22:44±1.7, 51°.89N±0°.09×178°.33E±0°.09, h116km±4km, ML3.4, mb4.0/12(NEIC), Error ellipse: s-maj=13.2km s-min=7.9km az=178.0*
NEIC ***24*** *21:22:44.3±1.6, 51°.87N±0°.10×178°.41E±0°.09, h115km±5km, Error ellipse: s-maj=13.9km s-min=7.9km az=178.0

comp=Z,1.0nm,0.7s,baz=28,slow=6.1,SNR=5.0
WRA Warramunga Arr 81.26 221 IAmb IAmb 21 34 48.9
comp=Z,0.1nm,0.9s
ASAR Alice Springs 84.78 220 P **P** **21 35 06.2 +0.7**
comp=Z,0.5nm,0.7s,baz=12,slow=9.0,SNR=4.9
BOSA Boshof 149.23 309 PKPbc **PKiKP** **21 42 19.9 -0.4**
comp=Z,1.7nm,0.6s,baz=47,slow=1.7,SNR=7.9

*ATH **24** 21:27:44.7,37.74N×26.84E,h23km±2km, ML2.9/6, Error ellipse: s-maj=6.0km s-min=1.4km az=115.0*
*ISK **24** 21:27:45.7,37.78N×26.82E,h11km, ML3.0/14*
*DDA **24** 21:27:46.8,37.83N×26.89E,h8km±3km, ML2.8*
*THE **24** 21:27:46.6,37.80N×26.83E,h7km±1km, ML3.0/6, Error ellipse: s-maj=1.5km s-min=0.5km az=94.0*
ISC 24 21:27:46.0±0.8,37.78N±0.02×26.84E±0.02,h16km±5km, n54,σ0°78/89, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
SMG	**Samos**	**0.07**	**182**	P		**Pg**		**21 27 49.0**	**-0.1**
SMG				S		**Sg**		**21 27 51.0**	**-0.1**
	12μm,0.1s								
SMG	**Samos**	**0.07**	**182**	P		**Pg**		**21 27 49.0**	**-0.1**
SMG				S		**Sg**		**21 27 51.0**	**-0.1**
SMG				AML		AML		21 27 51.2	
	comp=N,24935μm,0.2s								
SMG				AML		AML		21 27 51.2	
	comp=E,23198μm,0.1s								
DGB	**zmir**	**0.27**	**7**	*i* P		**Pg**		**21 27 52.0**	**+0.2**
DGB				*i* S		**Sg**		**21 27 55.2**	**-0.7**
GCAM	**G?zelcaml?**	**0.32**	**104**	PG		**Pg**		**21 27 53.2**	**+0.5**
GCAM				SG		**Sb**		**21 27 58.5**	**+0.2**
GCAM	**G?zelcaml?**	**0.32**	**104**	*i* P		**Pg**		**21 27 53.2**	**+0.5**
GCAM				*i* S		**Sg**		**21 27 57.5**	**+0.3**
URLA	**Izmir**	**0.61**	**342**	PG		**Pg**		**21 27 57.8**	**-0.2**
URLA				SG		**Sb**		**21 28 07.0**	**+0.3**
URLA	**Izmir**	**0.61**	**342**	*i* P		**Pg**		**21 27 57.9**	**-0.2**
URLA				*i* S		**Sg**		**21 28 05.3**	**-0.8**
BLCB	**Balcova**	**0.62**	**15**	P		**Pg**		**21 27 58.4**	**+0.2**
BLCB				S		**Sg**		**21 28 06.9**	**+0.3**
BLCB	**Balcova**	**0.62**	**15**	PG		**Pg**		**21 27 58.5**	**+0.2**
BLCB				SG		**Sb**		**21 28 07.5**	**+0.4**
BODT	**Bodrum**	**0.81**	**152**	P		**Pb**		**21 28 02.1**	**+0.4**
BODT				S		**Sn**		**21 28 14.8**	**+0.4**
BODT	**Bodrum**	**0.81**	**152**	PG		**Pb**		**21 28 02.1**	**+0.4**
BODT				SG		**Sb**		**21 28 13.4**	**+1.1**
KRBN	**Karaburun**	**0.84**	**345**	PG		**Pb**		**21 28 01.7**	**-0.5**
AYDB	**Zeytinkoy-Aydi**	**0.85**	**78**	PG		**Pb**		**21 28 02.7**	**+0.3**
AYDB				SG		**Sb**		**21 28 14.5**	**+0.9**
BDRM	**Kayabasi**	**0.86**	**146**	*i* P		**Pn**		**21 28 03.5**	**+0.1**
BDRM				*i* S		**Sb**		**21 28 13.5**	**-0.4**
BDRM				IAML				21 28 17.0	
	comp=N,329nm,0.5s								
CHOS	**Chios island**	**0.87**	**315**	P		**Pg**		**21 28 02.9**	**+0.1**
CHOS				S		**Sb**		**21 28 14.4**	**+0.3**
	comp=N,740nm,0.5s								
CHOS	**Chios island**	**0.87**	**315**	P		**Pb**		**21 28 02.8**	**+0.1**
CHOS				AML		AML		21 28 17.7	
	comp=N,1108μm,0.4s								
CHOS				AML		AML		21 28 17.7	
	comp=E,1660μm,0.4s								
CHOS	**Chios island**	**0.87**	**315**	PG		**Pg**		**21 28 03.0**	**+0.1**
CHOS				SG		**Sb**		**21 28 14.7**	**+0.6**
KOSK	**Kos Island**	**1.03**	**174**	PG		**Pb**		**21 28 05.8**	**+0.3**
ZEDA	**zmir-Bergama**	**1.20**	**9**	*i* P		**Pn**		**21 28 08.0**	**-0.1**
ZEDA				*i* S		**Sb**		**21 28 21.9**	**-1.7**
DAT	**Datca**	**1.20**	**151**	PN		**Pn**		**21 28 08.6**	**+0.3**
DAT	**Datca**	**1.20**	**151**	*i* P		**Pn**		**21 28 08.5**	**+0.3**
DAT				*i* S		**Sb**		**21 28 22.4**	**-1.4**
AMGA	**Amorgos Island**	**1.21**	**219**	P		**Pn**		**21 28 08.2**	**-0.1**
AMGA				S		**Sg**		**21 28 25.7**	**+0.6**
	comp=E,500nm,0.5s								
AMGA	**Amorgos Island**	**1.21**	**219**	P		**Pn**		**21 28 07.9**	**-0.3**
AMGA				S		**Sb**		**21 28 23.4**	**-0.5**
AMGA				AML		AML		21 28 27.9	
	comp=E,1191μm,0.4s								
AMGA				AML		AML		21 28 31.6	
	comp=N,699μm,0.5s								
GOMA	**Golmarmara-Man**	**1.25**	**42**	PN		**Pg**		**21 28 10.1**	**-0.1**
PSRA	**Psara**	**1.26**	**307**	P		**Pn**		**21 28 09.2**	**+0.2**
APE	**Apeiranthos**	**1.26**	**236**	P		**Pn**		**21 28 08.4**	**-0.6**
APE				S		**Sg**		**21 28 27.9**	**+1.1**
	comp=N,180nm,0.6s								
APE	**Apeiranthos**	**1.26**	**236**	P		**Pn**		**21 28 08.0**	**-1.0**
APE				AML		AML		21 28 30.4	
	comp=E,382μm,0.4s								
APE				AML		AML		21 28 31.6	
	comp=N,274μm,0.4s								
APE	**Apeiranthos**	**1.26**	**236**	PN		**Pn**		**21 28 08.4**	**-0.6**
DKL	**Dikili**	**1.29**	**2**	PN		**Pb**		**21 28 10.2**	**+0.3**
YER	**Yerkesik**	**1.32**	**119**	P		**Pb**		**21 28 10.4**	**+0.1**
YER	**Yerkesik**	**1.32**	**119**	PN		**Pb**		**21 28 10.5**	**+0.1**
AKHS	**Akhisar**	**1.34**	**35**	*i* P		**Pb**		**21 28 11.2**	**+0.5**
AKHS				*i* S		**Sn**		**21 28 27.5**	**0.0**
MANT	**Manisa**	**1.53**	**62**	*i* P		**Pg**		**21 28 15.3**	**-0.1**
MANT				*i* S		**Sn**		**21 28 30.6**	**-1.9**
AYVA	**Ayvalik**	**1.53**	**356**	*i* P		**Pg**		**21 28 15.4**	**0.0**
AYVA				*i* S		**Sb**		**21 28 33.6**	**+0.5**
AYVA				IAML				21 28 37.0	
	comp=E,132nm,0.7s								
AYVA				IAML				21 28 39.0	
	comp=N,184nm,0.8s								
PRK	**Paraskevi**	**1.53**	**343**	P		**Pn**		**21 28 13.4**	**+0.7**
PRK				S		**Sb**		**21 28 33.2**	**+0.1**
	comp=N,615nm,0.5s								
PRK	**Paraskevi**	**1.53**	**343**	P		**Pn**		**21 28 13.3**	**+0.7**
PRK				AML		AML		21 28 39.5	
	comp=N,1291μm,0.5s								
PRK				AML		AML		21 28 41.9	
	comp=E,1184μm,0.5s								
KULA	**Kula-Manisa**	**1.61**	**62**	PN		**Pb**		**21 28 15.4**	**0.0**
SIGR	**SIGRI**	**1.62**	**332**	P		**Pn**		**21 28 13.7**	**-0.2**
SIGR	**SIGRI**	**1.62**	**332**	P		**Pn**		**21 28 13.7**	**-0.2**
IOSP	**Ios island**	**1.63**	**230**	P		**Pn**		**21 28 14.6**	**+0.6**
IOSP				S		**Sb**		**21 28 36.9**	**+1.0**
	comp=E,318nm,0.4s								
IOSP	**Ios island**	**1.63**	**230**	P		**Pn**		**21 28 14.2**	**+0.2**
IOSP				AML		AML		21 28 42.1	
	comp=E,659μm,0.4s								
IOSP				AML		AML		21 28 42.4	
	comp=N,586μm,0.4s								
TURN	**Turunc**	**1.67**	**122**	PN		**Pn**		**21 28 13.2**	**-1.4**
TURN	**Turunc**	**1.67**	**122**	*i* P		**Pn**		**21 28 12.5**	**-2.1**
TURN				*i* S		**Sn**		**21 28 32.5**	**-3.1**
TAVA	**DENIZLI_Tavas**	**1.68**	**100**	*i* P		**Pb**		**21 28 17.5**	**+1.0**
TAVA				*i* S		**Sg**		**21 28 41.0**	**+1.0**
STEP	**BALIKESIR_Sava**	**1.74**	**23**	*i* P		**Pb**		**21 28 17.0**	**-0.5**
STEP				*i* S		**Sb**		**21 28 40.5**	**+1.4**
STEP				IAML				21 28 51.0	
	comp=N,102nm,0.8s								
DEMI	**Demirci**	**1.94**	**49**	*i* P		**Pg**		**21 28 23.0**	**-0.2**
DEMI				*i* S		**Sn**		**21 28 42.9**	**+0.5**
USAK	**Uak-Merkez**	**1.95**	**61**	*i* P		**Pg**		**21 28 23.3**	**-0.2**
USAK				*i* S		**Sb**		**21 28 44.5**	**-0.8**
BAYC	**CANAKKALE_Bayr**	**1.97**	**353**	*i* P		**Pn**		**21 28 19.2**	**+0.5**
BAYC				*i* S		**Sn**		**21 28 42.6**	**-0.5**
BALY	**Balya**	**2.05**	**17**	*i* P		**Pg**		**21 28 24.5**	**-0.8**
BALY				*i* S		**Sb**		**21 28 48.0**	**-0.1**
BALY				IAML				21 28 57.0	
	comp=N,82nm,0.4s								
FETY	**Fethiye**	**2.12**	**122**	*i* P		**Pn**		**21 28 22.3**	**+1.4**
FETY				*i* S		**Sn**		**21 28 45.1**	**-1.8**
KHAL	**Karahalli**	**2.17**	**73**	*i* P		**Pg**		**21 28 27.7**	**+0.1**
KHAL				*i* S		**Sb**		**21 28 52.2**	**+0.5**
DURS	**Dursunbey**	**2.22**	**35**	*i* P		**Pb**		**21 28 26.6**	**+0.8**
DURS				*i* S		**Sn**		**21 28 50.9**	**+1.4**
DION	**Dionisos Attik**	**2.32**	**278**	P		**Pn**		**21 28 23.6**	**+0.1**
DION	**Dionisos Attik**	**2.32**	**278**	P		**Pn**		**21 28 23.5**	**0.0**

*IDC **24** 21:40:21.5±1.1,28.55N×96.05E,h0km, mb3.5/5, mb1 3.7/5,mb1mx3.3/42,mbtmp3.6/5, Error ellipse: s-maj=99.0km s-min=21.2km az=55.0*
*BJI **24** 21:40:27.3±0.0,28.90N×96.55E,h7km, ML3.5/5*
ISC 24 21:40:23.3±1.2,28.5N±0.2×96.1E±0.1,h10km,n7,σ0°89/8, mb3.8/5, Eastern Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
LSA	**Lhasa**	**4.46**	**287**	Pn		**Pb**		**21 41 41.9**	**-0.1**
LSA				Sn		**Sb**		**21 42 36.4**	**+0.4**
LSA					smax	smax			
	comp=N,80nm,0.6s								
LSA					smax	smax			
	comp=E,96nm,0.6s								
WMQ	**Urumqi**	**16.70**	**339**	*e*P		**P**		**21 44 21.0**	**+1.2**
MKAR	**Makanchi Array**	**21.22**	**333**	P		**P**		**21 45 07.9**	**-1.3**
	0.5nm,0.7s,baz=146,slow=11,SNR=7.2								
KURBB	**Kurchatov Arra**	**25.78**	**334**	P		**P**		**21 45 53.7**	**-0.5**
	0.7nm,0.6s,baz=139,slow=10,SNR=12								
WRA	**Warramunga Arr**	**60.72**	**138**	P		**P**		**21 50 35.1**	**-0.2**
	0.8nm,0.6s,baz=323,slow=8.1,SNR=9.7								
ASAR	**Alice Springs**	**63.39**	**141**	P		**P**		**21 50 53.7**	**+0.5**
	0.3nm,0.5s,baz=332,slow=7.7,SNR=4.8								
TORD	**Torodi Ar. Bea**	**87.59**	**284**	P		**P**		**21 53 12.0**	**-0.3**
	0.5nm,0.9s,baz=59,slow=3.3,SNR=2.2								

IDC 24 21:43:00.6±3.1,29.82S×177.19W,h0km,mb3.5/2, mb1 3.8/2,mb1mx3.5/28,mbtmp3.5/2, Error ellipse: s-maj=73.6km s-min=29.0km az=54.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
RAO	**Raoul Island**	**0.85**	**311**	Pn		Pn		21 43 20.7	+1.0
	252nm,0.3s,baz=77,slow=22,SNR=6.2								
RAO				Sn		Sn		21 43 31.9	-1.0
	756nm,0.3s,baz=57,slow=20,SNR=20								
ASAR	**Alice Springs**	**43.85**	**266**	P		P		21 51 08.7	-0.1
	0.5nm,0.6s,baz=104,slow=7.7,SNR=3.0								
WRA	**Warramunga Arr**	**44.78**	**271**	P		P		21 51 15.9	-0.4
	0.4nm,0.3s,baz=113,slow=6.4,SNR=7.0								
FINES	**FINESS Array B**	**144.84**	**341**	PKP		PKPab		22 02 37.8	0.0
	5.6nm,1.1s,baz=50,slow=4.3,SNR=4.1								

*NEIC **24** 21:52:28.4±1.1,41.09N±0.04×112.83W±0.05,h8km±9km, ML2.0/32, Error ellipse: s-maj=6.3km s-min=4.5km az=134.0*
*IDC **24** 21:52:31.8±1.3,41.34N×113.01W,h0km,mb1 2.9/1, mb1mx2.8/43,mbtmp2.4/1,ML3.5/1, Error ellipse: s-maj=92.8km s-min=8.3km az=148.0*
ISC 24 21:52:28.0±1.0,41.10N±0.04×112.84W±0.05,h0km,n23, σ0°92/22, Utah

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
BGU	**Big Grassy Mou**	**0.23**	**219**	Pg		**Pg**		**21 52 33.8**	**+1.4**
HVU	**Hansel Valley**	**0.68**	**4**			**Pg**		**21 52 41.7**	**+0.6**
DUG	**Dugway, Tooele**	**0.91**	**179**	Pn		**Pb**		**21 52 47.1**	**+0.3**
DUG				IAML				21 53 05.0	
	29nm,0.5s								
DUG				IAML				21 53 07.8	
	55nm,0.5s								
CTU	**Camp Tracy**	**0.93**	**116**	Pn		**Pb**		**21 52 47.2**	**+0.1**
TCUT	**Tooele Canyon**	**1.08**	**89**	Pn		**Pb**		**21 52 49.8**	**-0.1**
HWUT	**Hardware Ranch**	**1.09**	**62**	Pn		**Pb**		**21 52 49.9**	**0.0**
JLU	**Jordanelle**	**1.17**	**115**	Pn		**Pn**		**21 52 52.0**	**+0.1**
ELK	**Elko**	**1.85**	**260**	Pn		**Pn**		**21 53 01.0**	**-0.2**
AHID	**Auburn Hatcher**	**2.11**	**37**	Pn		**Pn**		**21 53 04.2**	**-0.7**
AHID				IAML				21 53 41.0	
	comp=E,19nm,0.7s								
AHID				IAML				21 53 43.0	
	comp=N,17nm,0.4s								
TMUT	**Trail Mountain**	**2.20**	**145**	Pn		**Pn**		**21 53 05.6**	**-0.5**
MSU	**Marysvale**	**2.64**	**169**	Pn		**Pn**		**21 53 11.3**	**-0.7**
PSUT	**Pine Spring**	**2.68**	**197**	Pn		**Pn**		**21 53 11.7**	**-0.9**
REDW	**Red Top Meadow**	**2.70**	**33**	Pn		**Pn**		**21 53 11.9**	**-1.0**
REDW				IAML				21 53 47.4	
	comp=N,5.4nm,3.4s								
REDW				IAML				21 54 06.3	
	comp=N,6.4nm,1.1s								
HLID	**Hailey**	**2.72**	**335**	Pn		**Pn**		**21 53 12.6**	**-0.6**
HLID				IAML				21 54 00.2	
	comp=N,4.5nm,0.5s								
HLID				IAML				21 54 04.8	
	comp=N,3.4nm,1.6s								
BW06	**Boulder Array**	**2.96**	**55**	Pn		**Pn**		**21 53 16.6**	**0.0**
BW06				IAML				21 54 12.7	
	comp=N,4.6nm,0.6s								
BW06				IAML				21 54 14.2	
	comp=E,4.0nm,0.6s								
PD31	**Pinedale Array**	**2.96**	**55**	Pn		**Pn**		**21 53 16.6**	**0.0**
PDAR	**Pinedale Array**	**2.96**	**55**	Pn		**Pb**		**21 53 21.4**	**-0.5**
	comp=E,0.8nm,0.3s,baz=229,slow=14,SNR=7.6								
PDAR				Lg		Lg		21 54 04.2	
	comp=E,0.7nm,0.3s,baz=226,slow=25,SNR=2.5								
PDAR	**Pinedale Array**	**2.96**	**55**	Pn		**Pn**		**21 53 16.1**	**-0.5**
FLWY	**Flagg Ranch**	**3.37**	**27**	Pn		**Pn**		**21 53 22.6**	**+0.4**
PV09	**Paradox Valley**	**3.86**	**131**	Pn		**Pn**		**21 53 27.7**	**-1.3**
NVAR	**Mina Array Bea**	**4.98**	**239**	Pg		**Pg**		**21 54 01.6**	**-1.9**
	comp=E,0.2nm,0.3s,baz=57,slow=15,SNR=2.8								
NVAR				Sn		**Sn**		**21 54 44.7**	**+2.0**
	comp=E,0.3nm,0.3s,baz=335,slow=31,SNR=1.4								
NVAR				Lg		Lg		21 55 09.1	
	comp=E,0.3nm,0.3s,baz=59,slow=34,SNR=2.3								
I56US	**NEWPORT INFRAS**	**7.78**	**338**	*i*				22 36 45.0	
	baz=159,slow=315,SNR=3.8								
I57US	**PINON FLAT INF**	**8.01**	**202**	*i*				22 42 00.0	
	baz=17,slow=316,SNR=0.5								

*IDC **24** 21:52:30.5±0.8,30.02S×177.27W,h0km,mb4.3/11, mb1 4.4/11,mb1mx4.2/36,mbtmp4.3/11,MS3.7/5, Ms1 3.7/5,ms1mx3.3/31,Error ellipse: s-maj=24.2km s-min=20.5km az=66.0*
*NEIC **24** 21:52:31.3±1.4,30.01S±0.08×177.2W±0.1,h7km±4km, mb4.5/11,Error ellipse: s-maj=15.4km s-min=9.8km az=67.0*
ISC 24 21:52:34.5±0.6,30.01S±0.08×177.24W±0.10,h24km,n54, σ2°08/44,mb4.3/11,MS3.8/5,1C-1D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
RAO	**Raoul Island**	**0.96**	**322**	Pn		**Pn**		**21 52 51.2**	**-1.3**
	2μm,0.3s,baz=126,slow=1.9,SNR=41								
RAO				Sn		**Sb**		**21 53 04.8**	**0.0**
	3μm,0.3s,baz=62,slow=22,SNR=13								
NIUE	**Niue**	**12.76**	**33**	Pn		**Pn**		**21 55 32.8**	**-1.6**
RPZ	**Rata Peaks**	**16.55**	**211**	Pn		**Pn**		**21 56 19.9**	**-5.0**
	0.7nm,0.3s,baz=142,slow=17,SNR=1.5								
RPZ				Sn		Sn		21 59 08.4	-20
	0.5nm,0.3s,baz=288,slow=20,SNR=1.4								
RPZ	**Rata Peaks**	**16.55**	**211**			**Pn**		**21 56 24.3**	**-0.7**
RPZ				IAmb		IAmb		21 56 40.5	
	comp=Z,82nm,1.3s								
DZM	**Mont Dzumac**	**16.65**	**295**	Pn		**P**		**21 56 31.8**	**+3.1**
	comp=Z,0.3nm,0.3s,baz=124,slow=15,SNR=8.0								
PPT	**Papeete**	**28.10**	**70**	LR		LR		22 06 28.6	
	comp=Z,54nm,21.8s,baz=174,slow=30								
CTA	**Charters Tower**	**34.39**	**278**	P		**P**		**21 59 20.6**	**+0.6**
	comp=Z,8.0nm,0.7s,baz=117,slow=9.1,SNR=7.4								
STKA	**Stephens Creek**	**35.21**	**256**	P		**P**		**21 59 27.1**	**+0.2**
	comp=Z,5.3nm,1.0s,baz=106,slow=12,SNR=5.8								
STKA				LR		LR		22 12 10.7	
	comp=Z,151nm,18.9s,baz=44,slow=34								
STKA	**Stephens Creek**	**35.21**	**256**	IAmb		IAmb		22 00 22.2	
	comp=Z,8.8nm,1.8s								
AS31	**Alice Springs**	**43.79**	**266**	P		**P**		**22 00 38.5**	**0.0**
ASAR	**Alice Springs**	**43.79**	**266**	P		**P**		**22 00 37.4**	**-1.2**
	comp=Z,1.5nm,0.5s,baz=102,slow=7.8,SNR=19								
ASAR				LR		LR		22 18 21.7	
	comp=Z,251nm,18.3s,baz=121,slow=35								
WB2	**Warramunga Arr**	**44.73**	**271**	P		**P**		**22 00 46.1**	**0.0**
WRA	**Warramunga Arr**	**44.74**	**271**	P		**P**		**22 00 44.8**	**-1.4**
	comp=Z,4.0nm,0.5s,baz=111,slow=7.8,SNR=39								
WRA	**Warramunga Arr**	**44.74**	**271**	P		**P**		**22 00 45.2**	**-1.0**
WB0	**Warramunga Arr**	**44.77**	**272**	P		**P**		**22 00 45.0**	**-1.3**
NWAO	**Narrogin (SRO)**	**55.15**	**249**	P		**P**		**22 02 05.0**	**-0.1**
SOEI	**Soe**	**57.95**	**277**	P		**P**		**22 02 24.6**	**-0.8**
RPN	**Rapa Nui**	**58.90**	**105**	LR		LR		22 23 56.9	
	comp=Z,45nm,18.3s,baz=33,slow=32								
QSPA	**South Pole Qui**	**60.09**	**180**	P		**P**		**22 02 40.5**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=35,slow=0.6,SNR=8.1								
QSPA	**South Pole Qui**	**60.09**	**180**	P		**P**		**22 02 38.9**	**-0.6**
SYO	**Syowa Base**	**77.64**	**193**	*e*P		P		22 04 33.0	+4.6
SYO	**Syowa Base**	**77.64**	**193**	*e*P		P		22 04 39.8	+11
MJAR	**Matsushiro Arr**	**78.30**	**325**	P		**P**		**22 04 31.9**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=117,slow=6.8,SNR=2.0								
MJAR	**Matsushiro Arr**	**78.30**	**325**	IAmb		IAmb		22 04 39.0	
	comp=Z,1.1nm,0.8s								
SNAA	**Sanae**	**78.52**	**178**	P		**P**		**22 04 34.7**	**+1.4**
VNA3	**Neumayer Olymp**	**78.64**	**176**	P		**P**		**22 04 37.7**	**+3.8**
VNA2	**Neumayer--Watz**	**79.09**	**177**	P		**P**		**22 04 36.1**	**-0.3**
	baz=170,slow=3.5								
H03S2	**Juan Fernandez**	**80.13**	**123**	T		T		23 34 20.9	
	baz=239,slow=74,SNR=4.1								
H03S1	**Juan Fernandez**	**80.14**	**123**	T		T		23 34 23.4	
	baz=239,slow=74,SNR=5.5								
H03S3	**Juan Fernandez**	**80.14**	**123**	T		T		23 34 21.4	
	baz=239,slow=74,SNR=9.2								
KSRS	**Korea Array**	**84.48**	**319**	P		**P**		**22 05 05.2**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=115,slow=5.5,SNR=1.2								
PETK	**Petropavlovsk-**	**85.61**	**345**	P		**P**		**22 05 10.5**	**0.0**
	comp=Z,2.7nm,0.9s,baz=168,slow=7.4,SNR=2.8								
USRK	**Ussuriysk Ar.**	**87.21**	**326**	P		**P**		**22 05 19.3**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=94,slow=5.8,SNR=6.2								
NVAR	**Mina Array Bea**	**87.51**	**42**	P		**P**		**22 05 20.1**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=220,slow=8.7,SNR=6.4								
NVAR	**Mina Array Bea**	**87.51**	**42**	P		**P**		**22 05 19.7**	**-0.8**
KLR	**Kul'dur**	**91.04**	**329**	P		**P**		**22 05 36.7**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=327,slow=4.6,SNR=5.3								
HLID	**Hailey**	**93.08**	**40**	P		**P**		**22 05 45.8**	**-0.5**
PDAR	**Pinedale Array**	**95.40**	**43**	LR		LR		22 43 39.8	
	comp=Z,30nm,18.5s,baz=140,slow=32								
MKAR	**Makanchi Array**	**118.03**	**310**	PKP		**PKiKP**		**22 11 26.0**	**+7.0**
	comp=Z,0.3nm,0.5s,baz=70,slow=3.6,SNR=4.4								
ZALV	**Zalesovo Beam**	**118.18**	**318**	PKP		PKiKP		22 11 27.1	+8.1
	comp=Z,0.7nm,0.7s,baz=90,slow=4.3,SNR=2.1								
FIA1	**FINESS Array S**	**145.00**	**341**			**PKPab**		**22 12 08.0**	**-0.3**
FINES	**FINESS Array B**	**145.00**	**341**	PKPbc		**PKPbc**		**22 12 06.7**	**-1.6**
	comp=Z,3.0nm,0.5s,baz=49,slow=4.2,SNR=25								
FINES	**FINESS Array B**	**145.00**	**341**			**PKPbc**		**22 12 06.9**	**-1.4**
KBZ	**Khabaz**	**145.44**	**305**	PKPbc		**PKPab**		**22 12 10.3**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=124,slow=3.6,SNR=3.1								
NB2	**NORSAR Subarra**	**148.47**	**352**	PKP		**PKPbc**		**22 12 17.0**	**-1.4**
	comp=Z,1.3nm,0.8s,baz=33,slow=4.0								
NOA	**NORSAR Array B**	**148.47**	**352**	PKPbc		**PKPbc**		**22 12 17.1**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=15,slow=4.4,SNR=1.6								
AKASG	**Malin Array Be**	**151.39**	**324**	PKPbc		**PKPbc**		**22 12 24.5**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=45,slow=2.4,SNR=4.0								
AKASG				PKPab		**PKPab**		**22 12 33.0**	**-1.0**
	comp=Z,10nm,0.7s,baz=50,slow=2.9,SNR=17								
AKASG	**Malin Array Be**	**151.39**	**324**			**PKPbc**		**22 12 24.7**	**-1.1**
BRTR	**Keskin Array B**	**152.99**	**299**	PKPab		**PKPab**		**22 12 37.6**	**-3.8**
	comp=Z,1.5nm,0.8s,baz=85,slow=5.2,SNR=6.7								
BRTR	**Keskin Array B**	**152.99**	**299**			**PKiKP**		**22 12 32.4**	**+2.2**
DPC	**Dobruska-Polom**	**157.27**	**337**	*e*PKPAB		PKPab		22 13 06.5	+7.4
KHC	**Kasperske Hory**	**159.21**	**340**	*e*PKPAB		**PKPab**		**22 13 11.0**	**+3.5**
KHC				*ex*		x		22 13 13.5	
GERES	**GERESS Array B**	**159.42**	**339**	PKPab		**PKPab**		**22 13 12.6**	**+4.1**
	comp=Z,0.9nm,0.7s,baz=22,slow=4.3,SNR=7.0								
TORD	**Torodi Ar. Bea**	**163.19**	**176**	PKPab		**PKPab**		**22 13 24.5**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=188,slow=3.9,SNR=5.1								

*NEIC **24** 22:12:27.5±1.9,30.15S±0.10×177.5W±0.2,h10km±2km, mb4.0/5,Error ellipse: s-maj=36.8km s-min=11.0km az=69.0*
*IDC **24** 22:12:27.3±1.7,30.09S×177.49W,h0km,mb4.0/4, mb1 4.1/4,mb1mx3.8/30,mbtmp4.0/4,MS3.0/1,Ms1 3.0/1, ms1mx2.7/28,Error ellipse: s-maj=41.5km s-min=18.3km az=78.0*
ISC 24 22:12:31.6±1.8,30.0S±0.1×177.4W±0.3,h35km,n12, σ1°65/11,mb4.1/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
RAO	**Raoul Island**	**0.90**	**330**	Pn		**Pn**		**22 12 48.2**	**+0.5**
	618nm,0.3s,baz=260,slow=23,SNR=43								
RAO				Sn		**Sn**		**22 13 00.8**	**+1.2**
	1μm,0.3s,baz=105,slow=20,SNR=11								
RAO	**Raoul Island**	**0.90**	**330**			**Pn**		**22 12 46.6**	**-1.2**
DZM	**Mont Dzumac**	**16.53**	**295**	LR

NSK					*e*S	Sn	22 19 41.4	-1.0
	baz=293								
TWD	**Chiawan**	**0.46**	**206**		*e*P	Pb	22 19 34.2	+0.3
	baz=204								
TIPB	**Shuangxi**	**0.47**	**1**		*e*P	Pb	22 19 34.5	+0.4
	baz=1.0								
TIPB					*e*S	Sb	22 19 41.4	+0.6
	baz=1.0								

IDC ***24*** *22:23:22.7±1.2,51˚.67N×178˚.49E, h0km, mb3.7/9, mb1 4.0/9, mb1mx3.6/71, mbtmp3.8/9, Error ellipse: s-maj=35.1km s-min=20.7km az=4.0*
NEIC ***24*** *22:23:34.7±0.8,51˚.71N±0˚.08×178˚.54E±0˚.07, h99km±4km, Error ellipse: s-maj=12.2km s-min=5.1km az=196.0*
AEIC ***24*** *22:23:34±1.2,51˚.57N±0˚.07×178˚.41E±0˚.07, h98km±4km, ML3.2, mb3.7/12(NEIC), Error ellipse: s-maj=11.1km s-min=4.7km az=159.0*

ISC 24 22:23:34.7±0.8, 51˚.7N±0˚.1×178˚.52E±0˚.05, h100km, n44, σ0§60/44, mb3.7/10, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.21**	**358**			**Pn**	**22 23 48.9**	**-0.1**
LSPA	**Little Sitkin**	**0.22**	**8**			**Pn**	**22 23 49.2**	**+0.1**
LSNW	**Little Sitkin**	**0.23**	**359**			**Pn**	**22 23 48.9**	**-0.2**
AMKA	**Amchitka**	**0.61**	**126**			**Pn**	**22 23 51.2**	**-0.1**
AMKA						**Sn**	**22 24 02.7**	**-1.0**
CETU	**Semis' Tuman**	**0.64**	**69**			**Pn**	**22 23 51.7**	**0.0**
CESW	**Semis' Southwe**	**0.67**	**76**			**Pn**	**22 23 51.5**	**-0.3**
CERAA	**Semis' Rag'd T**	**0.74**	**76**			**Pn**	**22 23 52.4**	**-0.2**
CERAA						**Sn**	**22 24 05.3**	**-0.5**
GAEA	**Gareloi East**	**1.70**	**87**			**Pn**	**22 24 03.3**	**-0.1**
TASE	**Tanaga Southea**	**2.14**	**86**			**Pn**	**22 24 08.9**	**-0.2**
TAFP	**Tanaga Falls P**	**2.17**	**84**			**Pn**	**22 24 09.2**	**-0.3**
TAFP						**Sn**	**22 24 34.9**	**-1.3**
TAPA	**Tanaga Point A**	**2.28**	**87**			**Pn**	**22 24 10.7**	**-0.2**
KIMD	**Kanaga Island**	**2.64**	**88**			**Pn**	**22 24 15.5**	**-0.1**
KICM	**Kanaga Island**	**2.66**	**84**			**Pn**	**22 24 16.0**	**+0.1**
KIKV	**Kanaga Island**	**2.68**	**85**			**Pn**	**22 24 16.2**	**0.0**
SMY	**Shemya**	**2.90**	**292**			**Sn**	**22 24 51.8**	**-1.3**
SMY	**Shemya**	**2.90**	**292**		Pn	**Pn**	**22 24 18.5**	**-0.5**
ADK	**Adak**	**2.98**	**85**			**Pn**	**22 24 20.0**	**-0.2**
GSMY	**Great Sitkin M**	**3.37**	**83**			**Pn**	**22 24 24.9**	**-0.5**
GSTR	**Great Sitkin T**	**3.37**	**82**		Pn	**Pn**	**22 24 24.8**	**-0.6**
ATKA	**Atka Island**	**4.53**	**81**		Pn	**Pn**	**22 24 40.7**	**-0.3**
TTA	**Tatalina**	**17.59**	**41**			**Pn**	**22 27 34.3**	**+1.1**
TTA						IAmb	22 27 40.1	
	comp=Z,10nm,1.8s							
CNPM	**China Poot**	**18.63**	**53**	P		**P**	**22 27 44.4**	**+0.2**
PPLA	**Purkeypile**	**19.16**	**43**	P		**P**	**22 27 50.5**	**+0.4**
SUA	**Susitna One**	**19.33**	**48**	P		**P**	**22 27 52.4**	**+0.5**
SUA						IAmb	22 27 55.1	
	comp=Z,3.6nm,0.9s							
BPAW	**Bear Paw Mtn.**	**20.13**	**40**	P		**P**	**22 28 00.9**	**+0.4**
TRF	**Thorofare Moun**	**20.17**	**42**	P		**P**	**22 28 01.8**	**+0.8**
TRF						IAmb	22 28 04.5	
	comp=Z,3.6nm,0.7s							
DHY	**Denali Highway**	**21.30**	**45**	P		**P**	**22 28 13.9**	**+0.7**
ILAR	**Eielson Array**	**22.03**	**40**	P		**P**	**22 28 19.9**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=248,slow=9.6,SNR=4.2							
RIDG	**Independent Ri**	**22.57**	**44**	P		**P**	**22 28 25.3**	**-1.1**
RIDG						IAmb	22 28 30.6	
	comp=Z,5.5nm,1.3s							
BARN	**Barnard Glacie**	**23.57**	**51**	P		**P**	**22 28 36.1**	**0.0**
BCAR	**Beaver Creek A**	**23.77**	**46**	P		**P**	**22 28 38.2**	**+0.4**
BMAR	**Burnt Mountain**	**23.88**	**35**	P		**P**	**22 28 38.9**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**33.22**	**200**	T		T	23 05 34.6	
	baz=11,slow=76,SNR=3.6							
H11N3	**WAKE ISLAND Hy**	**33.23**	**200**	T		T	23 05 32.5	
	baz=11,slow=76,SNR=4.2							
H11N1	**WAKE ISLAND Hy**	**33.24**	**200**	T		T	23 05 30.1	
	baz=11,slow=76,SNR=4.6							
YKA	**Yellowknife Ar**	**36.19**	**46**	P		**P**	**22 30 26.6**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=278,slow=7.9,SNR=1.4							
NVAR	**Mina Array Bea**	**45.16**	**81**	P		**P**	**22 31 42.4**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=289,slow=8.2,SNR=5.8							
PDAR	**Pinedale Array**	**47.78**	**71**	P		**P**	**22 32 01.3**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=300,slow=4.0,SNR=8.2							
SPITS	**Spitsbergen Ar**	**49.89**	**355**	P		**P**	**22 32 16.9**	**-0.4**
	comp=Z,3.4nm,0.9s,baz=43,slow=6.2,SNR=5.7							
KURK	**Kurchatov**	**57.55**	**312**	P		**P**	**22 33 14.2**	**+0.8**
KURBB	**Kurchatov Arra**	**57.66**	**312**	P		**P**	**22 33 14.2**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=41,slow=6.6,SNR=9.4							
BVAR	**Borovoye Array**	**59.52**	**318**	P		**P**	**22 33 27.9**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=61,slow=5.5,SNR=9.1							
TXAR	**Lajitas Array**	**60.24**	**79**	P		**P**	**22 33 32.4**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=290,slow=4.7,SNR=9.3							
WRA	**Warramunga Arr**	**81.14**	**222**	P		**P**	**22 35 39.6**	**+0.6**
	comp=Z,0.7nm,1.1s,baz=32,slow=5.6,SNR=1.7							

ROM ***24*** *22:43:24.7±0.2,46˚.239N±0˚.007×13˚.73E±0˚.01, h7km±1km, ML2.6/5, Error ellipse: s-maj=0.8km s-min=0.7km az=242.0*
VIE ***24*** *22:43:25.0±0.2,46˚.24N×13˚.77E, h12km±3km, mb2.4/12, ml3.0/13, Error ellipse: s-maj=1.5km s-min=1.2km az=0.0 6 km SSE of Camporosso*
LJU ***24*** *22:43:25.1,46˚.25N×13˚.76E, h8km, ML2.6*
RHSSO ***24*** *22:43:25.3±0.8,46˚.27N×13˚.71E, h4km,2km, ML3.1/12*
PRU ***24*** *22:43:26.6±0.0,46˚.25N×13˚.81E, h1km*
BGR ***24*** *22:43:29.1±0.5,46˚.30N×13˚.84E, h10km, ML2.9/16, Error ellipse: s-maj=10.0km s-min=5.6km az=9.0*

ISC 24 22:43:25.3±0.9, 46˚.24N±0˚.01×13˚.77E±0˚.01, h3km±6km, n144, σ1§27/247, 11C-12D, Austria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CADS	**Cadrg**	**0.03**	**236**	⇓	*i* Pg	**Pg**	**22 43 26.1**	**0.0**
CADS					*i* Sg	**Sg**	**22 43 26.5**	**-0.1**
	comp=Z,69μm,0.1s							
DRE	**Drenchia**	**0.11**	**231**	⇓	*e*Pg	**Pg**	**22 43 27.7**	**+0.2**
DRE					*e*Sg	**Sg**	**22 43 29.5**	**+0.5**
GORS	**Gorjuse**	**0.17**	**65**	⇑	*i* Pg	**Pg**	**22 43 29.1**	**+0.5**
GORS					*e*Sg	**Sg**	**22 43 32.3**	**+1.3**
	comp=Z,705nm,0.1s							
ROBS	**Robic**	**0.18**	**271**	⇑	*i* Pg	**Pg**	**22 43 28.8**	**0.0**
	comp=Z,233nm,0.2s							
VOJS	**Vojsko**	**0.23**	**159**	⇓	*i* Pg	**Pg**	**22 43 30.1**	**+0.4**
VOJS					*e*Sg	**Sg**	**22 43 34.2**	**+1.6**
	comp=Z,361nm,0.2s							
PRED	**Cave del Predi**	**0.24**	**325**	⇓	*e*Pg	**Pg**	**22 43 29.9**	**-0.1**
PRED					*e*Sg	**Sg**	**22 43 33.9**	**+0.7**
SABO	**M.te Sabotino**	**0.29**	**204**	⇓	*e*Pg	**Pg**	**22 43 30.8**	**0.0**
SABO					*e*Sg	**Sg**	**22 43 35.0**	**+0.4**
SABO	**M.te Sabotino**	**0.29**	**204**		P	**Pg**	**22 43 30.6**	**-0.2**
SABO					S	**Sg**	**22 43 35.5**	**+0.9**
SABO					AML	AML		
	comp=N,5850μm,1.3s							
SABO					AML	AML		
	comp=E,5550μm,0.5s							
SABO					AML	AML		
	comp=N,5855μm,1.3s							
COLI	**Coloredo**	**0.29**	**248**	⇑	*e*Pg	**Pg**	**22 43 31.4**	**+0.4**
COLI					*e*Sg	**Sg**	**22 43 35.8**	**+1.1**
PTCC	**Patocco-Chiusa**	**0.33**	**300**		P	**Pg**	**22 43 31.3**	**-0.3**
PTCC					S	**Sg**	**22 43 36.9**	**+0.9**
PTCC					AML	AML		
	comp=N,1045μm,0.4s							
PTCC					AML	AML		
	comp=E,1014μm,0.3s							
VINO	**Villanova**	**0.34**	**272**	⇑	*e*Pg	**Pg**	**22 43 31.6**	**-0.2**
BAD	**Bernadia**	**0.36**	**269**	⇓	*e*Pg	**Pg**	**22 43 32.4**	**0.0**
BAD					*e*Sg	**Sg**	**22 43 37.8**	**+0.8**
CRNS	**Crni Vrh**	**0.38**	**115**		*i* Pg	**Pg**	**22 43 32.9**	**+0.3**
CRNS					*e*Sg	**Sg**	**22 43 39.0**	**+1.5**
	comp=Z,553nm,0.2s							
MYKA	**Terra Mystica**	**0.40**	**347**		*i* Pg	**Pg**	**22 43 32.9**	**0.0**
	comp=Z,8.8nm,0.2s,SNR=42							
MYKA					*i* Sg	**Sg**	**22 43 39.1**	**+1.0**
	comp=Z,196nm,0.3s							
JAVS	**Javornik**	**0.41**	**149**	⇓	*i* Pg	**Pg**	**22 43 33.1**	**0.0**
JAVS					*i* Sg	**Sg**	**22 43 40.0**	**+1.6**
	comp=Z,339nm,0.2s							
MOZS	**Mozjanca**	**0.47**	**84**	⇑	*i* Pg	**Pg**	**22 43 34.9**	**+0.6**
	comp=Z,102nm,0.1s							
PLRO	**Paularo**	**0.53**	**306**	⇑	*e*Pg	**Pg**	**22 43 35.5**	**+0.1**
TRI	**Trieste**	**0.53**	**180**	⇑	*e*Pg	**Pg**	**22 43 35.3**	**-0.2**
TRI					*e*Sg	**Sg**	**22 43 43.2**	**+0.8**
TRI	**Trieste**	**0.53**	**180**		P	**Pg**	**22 43 35.0**	**-0.5**
TRI					S	**Sg**	**22 43 43.4**	**+1.0**
TRI					AML	AML		
	comp=E,738μm,1.1s							
TRI					AML	AML		
	comp=E,737μm,1.1s							
TRI					AML	AML		
	comp=N,349μm,0.3s							
GBAS	**Gorenja Brezov**	**0.56**	**123**		*i* Pg	**Pg**	**22 43 35.9**	**-0.1**
GBAS					*e*Sg	**Sg**	**22 43 44.5**	**+1.1**
	comp=Z,96nm,0.1s							
LJU	**Ljubljana**	**0.56**	**110**		*e*Sg	**Sb**	**22 43 45.3**	**-1.0**
	comp=Z,120nm,0.1s							
LJU	**Ljubljana**	**0.56**	**110**		P	**Pg**	**22 43 36.4**	**+0.3**
LJU					S	**Sb**	**22 43 45.1**	**-1.2**
LJU	**Ljubljana**	**0.56**	**110**	⇑	*i* Pg	**Pg**	**22 43 36.4**	**+0.3**
LJU					*e*Sg	**Sb**	**22 43 45.0**	**-1.3**
TLI	**Talmassons**	**0.56**	**236**		*e*Pg	**Pg**	**22 43 36.2**	**+0.1**
DST2	**Trieste**	**0.59**	**270**		*e*Pg	**Pg**	**22 43 36.2**	**-0.3**
OBKA	**Obir**	**0.60**	**63**		*e*Pg	**Pg**	**22 43 36.8**	**-0.1**
OBKA					*e*Sg	**Sb**	**22 43 47.0**	**-0.5**
OBKA	**Obir**	**0.60**	**63**		*i* Pg	**Pg**	**22 43 36.7**	**-0.1**
	comp=Z,6.6nm,0.2s,SNR=21							
OBKA					*i* Sg	**Sb**	**22 43 46.9**	**-0.6**
	comp=Z,74nm,0.3s							
CLUD	**Cludinico**	**0.65**	**289**		*e*Pg	**Pg**	**22 43 37.8**	**0.0**
VNDS	**Vrh nad Dolski**	**0.66**	**102**	⇑	*i* Pg	**Pg**	**22 43 38.4**	**+0.4**
VNDS					*e*Sg	**Sb**	**22 43 48.2**	**-1.0**
	comp=Z,127nm,0.2s							
CEY	**Cerknica**	**0.68**	**137**	⇑	*i* Pg	**Pg**	**22 43 38.1**	**-0.3**
CEY					*e*Sg	**Sb**	**22 43 48.7**	**-1.1**
	comp=Z,374nm,0.3s							
CEY	**Cerknica**	**0.68**	**137**	⇑	*i* Pg	**Pg**	**22 43 37.8**	**-0.5**
CEY					*e*Sg	**Sb**	**22 43 48.6**	**-1.1**
SKDS	**Skadanscina**	**0.72**	**166**	⇓	*i* Pg	**Pg**	**22 43 38.2**	**-0.8**
	comp=Z,43nm,0.1s							
STAL	**STALIGIAL**	**0.73**	**272**		P	**Pg**	**22 43 38.3**	**-1.1**
STAL					AML	AML		
	comp=N,492μm,1.3s							
FVI	**Forni Avoltri**	**0.77**	**298**		P	**Pg**	**22 43 39.6**	**-0.4**
FVI					S	**Sg**	**22 43 50.4**	**+0.4**
FVI					AML	AML		
	comp=E,305μm,0.6s							
FVI					AML	AML		
	comp=N,388μm,0.4s							
MLNI	**Malnisio**	**0.81**	**264**		*e*Pg	**Pg**	**22 43 41.0**	**+0.1**
KNDS	**Knezji Dol**	**0.83**	**149**		*i* Pg	**Pg**	**22 43 40.4**	**-0.8**
KNDS					*e*Sg	**Sb**	**22 43 53.8**	**-0.3**
	comp=Z,127nm,0.3s							
VISS	**Visnje**	**0.87**	**120**		*i* Pg	**Pg**	**22 43 41.8**	**-0.1**
VISS					*e*Sg	**Sn**	**22 43 55.6**	**-2.0**
	comp=Z,184nm,0.3s							
PDKS	**Podkum**	**0.87**	**102**		*i* Pg	**Pg**	**22 43 42.4**	**+0.3**
PDKS					*e*Sg	**Sb**	**22 43 55.0**	**-0.2**
	comp=Z,228nm,0.3s							
KBA	**Koelnbreinsper**	**0.89**	**341**		*e*Pg	**Pg**	**22 43 42.3**	**0.0**
KBA					*e*Sg	**Sb**	**22 43 55.4**	**-0.4**
KBA	**Koelnbreinsper**	**0.89**	**341**		*i* Pg	**Pg**	**22 43 42.2**	**0.0**
	comp=Z,11nm,0.2s,SNR=20							
KBA					*e*Sg	**Sb**	**22 43 55.5**	**-0.3**
	comp=Z,31nm,0.4s							
POLC	**Polcenigo**	**0.91**	**257**		P	**Pg**	**22 43 42.2**	**-0.5**
POLC					AML	AML		
	comp=N,834μm,0.6s							
POLC					AML	AML		
	comp=E,550μm,0.4s							
SOKA	**Soboth**	**0.98**	**63**		*e*Pg	**Pg**	**22 43 43.8**	**-0.2**
	comp=E,6.5nm,0.2s,SNR=42							
SOKA					*i* Sg	**Sb**	**22 43 57.3**	**-0.9**
	comp=E,39nm,0.3s							
ABTA	**Abfaltersbach**	**1.00**	**301**		*i* Pg	**Pg**	**22 43 44.1**	**-0.5**
	comp=E,6.0nm,0.3s,SNR=21							
ABTA					*i* Sg	**Sb**	**22 43 58.8**	**-0.3**
	comp=E,25nm,0.3s							
PERS	**Pernice**	**1.01**	**67**		*i* Pg	**Pg**	**22 43 44.3**	**-0.4**
	comp=Z,63nm,0.2s							
GBRS	**Gornja Briga**	**1.02**	**134**		*e*Pg	**Pb**	**22 43 45.4**	**-0.2**
GBRS					*e*Sg	**Sn**	**22 44 00.4**	**-1.0**
	comp=Z,133nm,0.3s							
BISS	**Bistriski jare**	**1.02**	**66**		*i* Pg	**Pg**	**22 43 44.6**	**-0.3**
	comp=Z,51nm,0.1s							
RIY	**Rijeka**	**1.04**	**151**		*e*Pg	**Pn**	**22 43 46.1**	**-0.7**
RIY					Sg	**Sn**	**22 44 00.4**	**-1.6**
RIY	**Rijeka**	**1.04**	**151**	⇓	*i* Pg	**Pg**	**22 43 43.9**	**-1.4**
RIY					*e*Sg	**Sn**	**22 44 00.6**	**-1.4**
LEGS	**Legarje**	**1.12**	**105**		*i* Pg	**Pb**	**22 43 46.9**	**-0.4**
LEGS					Sg	**Sn**	**22 44 02.7**	**-1.1**
DOBS	**Dobrina**	**1.19**	**94**		*i* Pg	**Pb**	**22 43 47.5**	**-0.9**
DOBS					*e*Sg	**Sn**	**22 44 06.6**	**+1.1**
	comp=Z,56nm,0.2s							
CESS	**Cesta pri Krsk**	**1.21**	**102**		*i* Pg	**Pg**	**22 43 48.6**	**+0.2**
CESS					*e*Sg	**Sn**	**22 44 07.0**	**+0.9**
	comp=Z,163nm,0.3s							
CRES	**Cresnjev**	**1.25**	**109**		*i* Pg	**Pn**	**22 43 49.1**	**-0.6**
	comp=Z,205nm,0.5s							
CRES	**Cresnjev**	**1.25**	**109**		*e*Pg	**Pn**	**22 43 49.0**	**-0.6**
CRES					*e*Sg	**Sn**	**22 44 06.6**	**-0.4**
BOJS	**Bojanci**	**1.27**	**125**		*e*Pg	**Pn**	**22 43 49.2**	**-0.8**
BOJS					*e*Sg	**Sn**	**22 44 07.7**	**+0.1**
	comp=Z,108nm,0.2s							
BOJS	**Bojanci**	**1.27**	**125**		P	**Pn**	**22 43 49.3**	**-0.8**
BOJS					AML	AML		
	comp=N,682μm,1.1s							
BOJS					AML	AML		
	comp=E,730μm,0.7s							
GOLS	**Golise**	**1.31**	**100**		*i* Pg	**Pb**	**22 43 50.2**	**-0.4**
GOLS					Sg	**Sn**	**22 44 10.3**	**+1.7**
	comp=Z,182nm,0.5s							
BRJN	**Brijuni**	**1.34**	**181**		*e*Pg	**Pb**	**22 43 50.5**	**-0.5**
BRJN					Sg	**Sg**	**22 44 10.2**	**+2.0**
OZLJ	**Ozalj**	**1.34**	**117**		*e*Pg	**Pg**	**22 43 51.1**	**+0.1**
OZLJ					Sg	**Sg**	**22 44 10.4**	**+2.1**
GCIS	**Gornji Cirnik**	**1.35**	**106**		*i* Pg	**Pb**	**22 43 50.9**	**-0.3**
GCIS					*e*Sg	**Sg**	**22 44 10.6**	**+2.1**
	comp=Z,156nm,0.5s							
RISI	**Rein**	**1.36**	**302**		AML	AML		
	comp=E,699μm,0.5s							
RISI					AML	AML		
	comp=N,669μm,0.5s							
CGRP	**Cima Grappa**	**1.42**	**256**		AML	AML		
	comp=N,653μm,0.8s							
CGRP					AML	AML		
	comp=E,700μm,0.9s							
CGRP					AML	AML		
	comp=E,700μm,0.9s							
PTJ	**Puntijarka**	**1.57**	**102**		*e*Pn	**Pb**	**22 43 54.9**	**-0.1**
PTJ					Sn	**Sg**	**22 44 16.9**	**+1.3**
ARSA	**Arzberg**	**1.57**	**49**		*e*Pn	**Pb**	**22 43 54.8**	**-0.2**
ARSA					*e*Sg	**Sg**	**22 44 16.0**	**+0.2**
ARSA	**Arzberg**	**1.57**	**49**		*e*Pg	**Pb**	**22 43 54.8**	**-0.2**
	comp=E,7.6nm,0.2s,SNR=21							
ARSA					*e*Sg	**Sg**	**22 44 15.4**	**-0.4**
	comp=E,24nm,0.4s							
ARSA	**Arzberg**	**1.57**	**49**		P	**Pb**	**22 43 54.5**	**-0.5**
ARSA					S	**Sg**	**22 44 15.3**	**-0.4**
ZAG	**Zagreb**	**1.60**	**104**		*e*Pn	**Pb**	**22 43 55.0**	**-0.4**
ZAG					Sn	**Sg**	**22 44 17.7**	**+1.0**
ZAG	**Zagreb**	**1.60**	**104**		*e*Pn	**Pb**	**22 43 55.1**	**-0.4**
ZAG					*e*Sn	**Sg**	**22 44 17.2**	**+0.5**
RJOB	**Jochberg**	**1.64**	**336**		*e*Pn	**Pb**	**22 43 56.0**	**-0.2**
RJOB					*e*Sg	**Sg**	**22 44 18.5**	**+0.7**
MOA	**Molln**	**1.64**	**12**		*e*Pn	**Pg**	**22 43 57.3**	**+0.5**
MOA					*e*Sg	**Sg**	**22 44 20.7**	**+2.6**
MOA	**Molln**	**1.64**	**12**		*i* Pg	**Pg**	**22 43 57.3**	**+0.5**
	comp=E,12nm,0.4s,SNR=21							
MOA					*e*Sg	**Sg**	**22 44 20.4**	**+2.3**
	comp=E,97nm,0.5s							
KOSI	**Kohlern**	**1.67**	**278**		AML	AML		
	comp=N,366μm,0.5s							
KOSI					AML	AML		
	comp=E,338μm,1.2s							
KOGS	**Kog**	**1.73**	**82**		*i* Pg	**Pn**	**22 43 56.4**	**+0.1**
	comp=Z,76nm,0.5s							
KOGS	**Kog**	**1.73**	**82**		P	**Pn**	**22 43 56.1**	**-0.2**
KOGS					AML	AML		
	comp=E,704μm,0.8s							
KOGS					AML	AML		
	comp=N,712μm,0.4s							
ABSI	**Aberstueckl**	**1.76**	**287**		AML	AML		
	comp=E,582μm,0.6s							
ABSI					AML	AML		
	comp=N,770μm,0.4s							
WTTA	**Wattenberg**	**1.79**	**306**		*e*Pn	**Pb**	**22 43 58.9**	**0.0**
WTTA					*e*Sg	**Sg**	**22 44 24.6**	**+1.9**
WTTA	**Wattenberg**	**1.79**	**306**		*e*Pg	**Pb**	**22 43 58.8**	**0.0**
	comp=N,9.3nm,0.2s,SNR=12							
WTTA					Sg	**Sg**	**22 44 23.8**	**+1.1**
	comp=N,59nm,0.9s							
NVLJ	**Novalja**	**1.85**	**155**		*e*Pn	**Pb**	**22 43 58.9**	**-0.9**
NVLJ					Sn	**Sg**	**22 44 24.8**	**+0.1**
WATA	**Walderalm**	**1.86**	**307**		*e*Pg	**Pg**	**22 44 00.3**	**-0.6**
	comp=N,8.8nm,0.2s,SNR=9.6							
WATA					Sg	**Sg**	**22 44 27.0**	**+1.9**
	comp=N,31nm,0.4s							
KALN	**Kalnik**	**1.87**	**92**		*e*Pn	**Pn**	**22 43 57.9**	**-0.4**
KALN					Sn	**Sb**	**22 44 23.4**	**-0.5**
SQTA	**Sankt Quirin**	**2.01**	**300**		Pg	**Pb**	**22 44 02.8**	**+0.2**
	comp=N,11nm,0.3s,SNR=10							
SQTA					Sg	**Sg**	**22 44 32.6**	**+2.6**
	comp=N,22nm,0.4s							
MOTA	**Moosalm**	**2.14**	**302**		Pg	**Pb**	**22 44 04.7**	**-0.1**
	comp=N,9.1nm,0.4s,SNR=15							
MOTA					Sg	**Sg**	**22 44 36.8**	**+2.9**
	comp=N,22nm,0.6s							
CONA	**Conrad Observa**	**2.21**	**40**		*e*Pg	**Pb**	**22 44 04.4**	**-1.5**
	comp=N,5.8nm,0.5s,SNR=12							
CONA					Sn	**Sb**	**22 44 32.7**	**-1.0**
	comp=N,20nm,0.6s							
FETA	**Feichten**	**2.23**	**291**		P	**Pb**	**22 44 06.0**	**-0.4**
	comp=N,1.9nm,0.2s,SNR=7.8							
FETA					Sg	**Sg**	**22 44 37.8**	**+0.7**
	comp=N,5.4nm,0.4s							
RETA	**Reutte**	**2.41**	**302**		*e*Pn	**Pb**	**22 44 08.2**	**-1.1**
	comp=N,1.7nm,0.2s							
RETA					Sg	**Sg**	**22 44 43.3**	**+0.7**
	comp=N,8.5nm,0.4s							
PRIJ	**Prijedor**	**2.42**	**120**		*e*Sn	**Sn**	**22 44 36.6**	**+0.6**
DUGI	**Dugi Otok**	**2.43**	**157**		*e*Pn	**Pn**	**22 44 06.9**	**+1.0**
DUGI					Sn	**Sb**	**22 44 38.6**	**-1.3**
FUS	**Furstenfeldbru**	**2.57**	**319**		*e*Sg	**Sg**	**22 44 48.7**	**+1.0**
GEC2	**GERESS Array S**	**2.60**	**359**		*e*Pn	**Pn**	**22 44 09.8**	**+1.4**
GEC2					*e*Sg	**Sg**	**22 44 47.8**	**-1.1**
FSSB	**Fossombrone**	**2.65**	**196**		P	**Pn**	**22 44 09.7**	**+0.8**
FSSB					AML	AML		
	comp=N,186μm,0.5s							
FSSB					AML	AML		
	comp=E,124μm,0.4s							
CPGN	**Carpegna, Ital**	**2.65**	**203**		P	**Pb**	**22 44 12.3**	**-1.2**
CPGN					S	**Sg**	**22 44 50.0**	**-0.4**
MORI	**Morici**	**2.75**	**149**		*e*Pn	**Pn**	**22 44 11.7**	**+1.5**
MORI					Sn	**Sb**	**22 44 46.2**	**-2.8**
FRON	**Frontone**	**2.82**	**196**		P	**Pn**	**22 44 11.3**	**-0.1**
BLY	**Banja Luka**	**2.83**	**121**	⇓	*i* Pn	**Pn**	**22 44 11.3**	**-0.1**
BLY					*e*Sn	**Sb**	**22 44 46.8**	**+0.8**
DAVA	**Damuels**	**2.87**	**293**		*e*Pn	**Pb**	**22 44 16.0**	**-1.2**
DAVA	**Damuels**	**2.87**	**293**		Pn	**Pb**	**22 44 15.3**	**-2.0**
	comp=E,1.3nm,0.2s							
DAVA					Sg	**Sg**	**22 44 57.8**	**+0.4**
	comp=E,9.0nm,0.4s							
UBR	**Ueberruh**	**2.89**	**301**		*e*Pn	**Pb**	**22 44 14.4**	**-3.1**
KHC	**Kasperske Hory**	**2.89**	**358**		*e*PN	**Pn**	**22 44 13.7**	**+1.4**
KHC					*e*PG	**Pg**	**22 44 19.3**	**-1.4**
KHC					*e*SG	**Sg**	**22 44 59.0**	**+0.8**
	comp=E,36nm,0.9s							
ZIRJ	**Zirje**	**2.91**	**152**		*e*Pn	**Pn**	**22 44 14.0**	**+1.5**
ZIRJ					Sn	**Sn**	**22 44 49.5**	**+1.5**
SSP9	**Sansepolcro**	**2.91**	**204**		P	**Pn**	**22 44 09.0**	**-3.5**
KIJV	**Kijevo**	**2.91**	**139**		*e*Pn	**Pb**	**22 44 15.1**	**-2.8**
KIJV					Sn	**Sb**	**22 44 50.4**	**-3.5**
WET	**Wettzell**	**2.96**	**349**		*e*Pn	**Pn**	**22 44 14.4**	**+1.1**
WET					*e*Sn	**Sn**	**22 44 49.6**	**+0.2**
MGRS	**Mrkonjic Grad**	**2.97**	**127**	⇓	*i* Pn	**Pn**	**22 44 14.2**	**+0.9**
MGRS					*e*Sn	**Sn**	**22 44 50.2**	**+0.8**
ZST	**Bratislava**	**3.00**	**48**		*e*PN	**Pn**	**22 44 13.7**	**0.0**
ZST					*e*SG	**Sg**	**22 45 03.0**	**+1.5**

NEIC ***24*** *22:45:13.0±1.3,28°.30S±0°.03×178°.0W±0°.2, h10km±2km, mb4.2/3, Error ellipse: s-maj=37.0km s-min=4.3km az=85.0*

IDC ***24*** *22:45:13.2±3.7,28°.44S×178°.04W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/32, mbtmp4.1/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/22, Error ellipse: s-maj=76.3km s-min=18.3km az=59.0*

ISC 24 22:45:13.6±2.6, 28°.3S±0°.2×178°.0W±0°.3, h10km, n10, σ1§10/9, mb4.2/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.93**	**174**	Pn	**Pb**	**22 45 31.9**	**0.0**
	518nm,0.3s,baz=91,slow=10,SNR=16						
RAO				Sn	**Sn**	**22 45 46.2**	**-0.1**
	1µm,0.3s,baz=35,slow=22,SNR=11						
RAO	**Raoul Island**	**0.93**	**174**		**Pb**	**22 45 32.1**	**+0.1**
DZM	**Mont Dzumac**	**15.36**	**290**	LR	LR	22 53 32.0	
	comp=Z,73nm,19.2s,baz=265,slow=32						
STKA	**Stephens Creek**	**34.97**	**254**	P	**P**	**22 52 05.8**	**-0.2**
	1.7nm,0.5s,baz=119,slow=13,SNR=5.0						
STKA	**Stephens Creek**	**34.97**	**254**	IAmb	IAmb	22 53 22.4	
	comp=Z,6.9nm,1.7s						
ASAR	**Alice Springs**	**43.23**	**265**	P	**P**	**22 53 15.6**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=103,slow=7.6,SNR=6.9						
WRAB	**Tennant Creek**	**44.03**	**270**	P	**P**	**22 53 20.9**	**-0.8**
WRA	**Warramunga Arr**	**44.03**	**270**	P	**P**	**22 53 24.1**	**+2.3**
	comp=Z,1.8nm,0.4s,baz=111,slow=8.0,SNR=14						
WRA	**Warramunga Arr**	**44.03**	**270**	P	**P**	**22 53 20.8**	**-1.0**
FINES	**FINESS Array B**	**143.18**	**341**	PKP	**PKPdf**	**23 04 47.2**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=59,slow=3.2,SNR=15						

IDC 24 22:57:10.3±2.0, 7°.31S×128°.78E, h0km, mb3.5/1, mb1 4.2/5, mb1mx3.7/32, mbtmp4.0/5, ML4.1/4, Error ellipse: s-maj=49.7km s-min=28.0km az=79.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**5.82**	**240**	Pn	Pn	22 58 39.3	+1.4
	6.1nm,0.3s,baz=21,slow=14,SNR=1.7						
BATI				Sn	Sn	22 59 37.9	-7.6
	4.0nm,0.3s,baz=328,slow=22,SNR=1.5						
FITZ	**Fitzroy Crossi**	**11.15**	**196**	Pn	Pn	22 59 49.5	-1.6
	1.1nm,0.3s,baz=317,slow=14,SNR=11						
FITZ				Sn	Sn	23 01 40.4	-16
	1.6nm,0.3s,baz=307,slow=19,SNR=5.1						
WRA	**Warramunga Arr**	**13.66**	**157**	Pn	Pn	23 00 26.5	+1.0
	1.3nm,0.3s,baz=336,slow=12,SNR=13						
WRA				Sn	Sn	23 02 47.0	-11
	1.5nm,0.3s,baz=332,slow=22,SNR=7.6						
ASAR	**Alice Springs**	**16.99**	**164**	Pn	Pn	23 01 09.6	0.0
	0.5nm,0.3s,baz=335,slow=9.6,SNR=19						
ASAR				Sn	Sn	23 04 06.3	-13
	0.4nm,0.3s,baz=325,slow=17,SNR=5.1						
MKAR	**Makanchi Array**	**67.83**	**327**	P	P	23 08 10.2	-0.1
	0.2nm,0.5s,baz=120,slow=7.3,SNR=5.5						

IDC 24 22:59:57.7±5.2, 23°.67S×178°.40W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.9/28, mbtmp4.4/3, Error ellipse: s-maj=255.9km s-min=63.2km az=158.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**32.94**	**269**	P	P	23 06 36.0	+1.8
	5.8nm,0.3s,baz=95,slow=11,SNR=13						
ASAR	**Alice Springs**	**43.52**	**260**	P	P	23 08 02.7	-0.6
	1.5nm,0.7s,baz=96,slow=7.9,SNR=11						
WRA	**Warramunga Arr**	**43.88**	**265**	P	P	23 08 05.0	-1.2
	3.4nm,0.7s,baz=99,slow=7.9,SNR=18						
BRTR	**Keeskin Array B**	**148.60**	**308**	PKPbc	PKPbc	23 19 46.5	-0.5
	1.0nm,0.7s,baz=76,slow=5.2,SNR=4.5						
BRG	**Berggiesshubel**	**151.21**	**344**	*i* PKP	PKPbc	23 19 52.6	-0.2
	3.1nm,0.6s						

IDC ***24*** *23:03:32.4±0.8, 36°.49N×137°.17E, h255km±16km, mb3.1/4, mb1 3.3/4, mb1mx2.9/35, mbtmp3.7/4, Error ellipse: s-maj=67.7km s-min=22.5km az=78.0*

JMA ***24*** *23:03:32.9±0.2, 36°.54N×137°.31E, h264km±2km, M3.0*

ISC 24 23:03:32.9±0.9, 36°.58N±0°.07×137°.27E±0°.08, h259km±7km, n19, σ0§46/27, mb3.3/4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JGN	**Niukaw**	**0.35**	**174**	P	**Pn**	**23 04 07.0**	**+0.3**
JGN				S	**S**	**23 04 33.5**	**+0.2**
MAT	**Matsushiro**	**0.76**	**92**	P	**Pn**	**23 04 08.1**	**+0.3**
MAT				S	**S**	**23 04 35.1**	**-0.1**
MAT	**Matsushiro**	**0.76**	**92**	P	**Pn**	**23 04 08.1**	**+0.3**
MJAR	**Matsushiro Arr**	**0.76**	**92**	P	**Pn**	**23 04 08.0**	**+0.2**
	0.8nm,0.3s,baz=258,slow=13,SNR=55						
MJAR				S	**S**	**23 04 35.0**	**-0.2**
	0.1nm,0.3s,baz=355,slow=32,SNR=9.0						
JKG	**Kaga**	**0.81**	**249**	P	**Pn**	**23 04 08.7**	**+0.7**
JYTA	**Yamagatataniai**	**1.07**	**204**	P	**Pn**	**23 04 09.5**	**+0.1**
JRY	**Ryogami san**	**1.43**	**112**	P	**Pn**	**23 04 12.0**	**+0.3**
JRY				S	**S**	**23 04 41.7**	**-0.5**
JYN	**Shimob**	**1.49**	**136**	P	**Pn**	**23 04 12.0**	**-0.2**
JSD	**Sado**	**1.66**	**28**	P	**Pn**	**23 04 13.9**	**+0.7**
JSD				S	**S**	**23 04 44.7**	**-0.5**
JAG	**Ashikaga**	**1.77**	**94**	P	**Pn**	**23 04 13.8**	**-0.4**
JOD2	**Odawara 2**	**1.97**	**131**	P	**Pn**	**23 04 16.2**	**+0.2**
JOD2				S	**S**	**23 04 50.2**	**+0.2**
JWT	**Wachi**	**1.99**	**230**	P	**Pn**	**23 04 16.2**	**+0.1**
JWT				S	**S**	**23 04 49.5**	**-0.7**
JIE	**Ise**	**2.23**	**192**	P	**Pn**	**23 04 19.0**	**+0.7**
JIE				S	**S**	**23 04 54.0**	**-0.2**
JFT	**Otama**	**2.63**	**68**	P	**Pn**	**23 04 22.8**	**+0.7**
TK02	**Tokai 2**	**2.65**	**171**	P	**Pn**	**23 04 23.1**	**+0.9**
MKAR	**Makanchi Array**	**41.54**	**302**	P	**P**	**23 10 55.0**	**-0.1**
	0.4nm,0.5s,baz=91,slow=8.6,SNR=4.4						
WRA	**Warramunga Arr**	**56.28**	**183**	P	**P**	**23 12 46.6**	**-0.2**
	0.5nm,0.5s,baz=359,slow=7.7,SNR=1.8						
FINES	**FINESS Array B**	**67.64**	**331**	P	**P**	**23 14 01.4**	**-0.2**
	0.7nm,0.4s,baz=69,slow=7.3,SNR=11						
NOA	**NORSAR Array B**	**73.28**	**336**	P	**P**	**23 14 35.9**	**+0.2**
	0.4nm,0.7s,baz=46,slow=9.6,SNR=2.2						

IDC 24 23:21:47.7±2.8, 28°.59S×177°.38W, h0km, mb4.0/2, mb1 4.2/2, mb1mx3.7/19, mbtmp4.0/2, MS3.3/1, Ms1 3.3/1, ms1mx2.8/30, Error ellipse: s-maj=69.0km s-min=22.8km az=112.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.82**	**216**	Pn	Pn	23 22 06.7	+0.3
	180nm,0.3s,baz=53,slow=22,SNR=12						
RAO				Sn	Sn	23 22 19.5	+0.2
	328nm,0.3s,baz=104,slow=22,SNR=8.5						
DZM	**Mont Dzumac**	**16.00**	**290**	LR	LR	23 30 48.7	
	comp=Z,100nm,18.9s,baz=13,slow=34						
ASAR	**Alice Springs**	**43.78**	**265**	P	P	23 29 54.7	-0.7
	1.1nm,0.8s,baz=109,slow=7.6,SNR=9.5						
WRA	**Warramunga Arr**	**44.61**	**270**	P	P	23 30 02.6	+0.5
	2.0nm,0.8s,baz=107,slow=7.7,SNR=6.1						
FINES	**FINESS Array B**	**143.62**	**341**	PKP	PKPbc	23 41 21.1	-0.1
	2.6nm,0.8s,baz=40,slow=2.7,SNR=6.0						
AKASG	**Malin Array Be**	**150.16**	**325**	PKPbc	PKPbc	23 41 40.4	+0.2
	0.8nm,0.5s,baz=52,slow=2.6,SNR=1.9						

IDC ***24*** *23:31:12.6±3.0, 39°.51N×110°.52E, h0km, mb3.5/2, mb1 3.7/4, mb1mx3.4/46, mbtmp3.7/4, ML3.5/2, Error ellipse: s-maj=52.8km s-min=34.3km az=36.0*

NEIC ***24*** *23:31:16.6±1.9, 39°.4N±0°.1×109°.8E±0°.1, h10km±2km, mb4.0/7, Error ellipse: s-maj=19.3km s-min=13.2km az=1.0*

ISC 24 23:31:15.7±0.9, 39°.52N±0°.09×110°.0E±0°.1, h10km, n19, σ1§75/18, mb3.9/6, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJT	**Baijiatuau**	**4.80**	**82**		**Pn**	**23 32 30.6**	**+2.6**
XAN	**Xi'an**	**5.54**	**189**	Pn	Pn	**23 32 41.2**	**+3.0**
ULN	**Ulaanbaatar**	**8.61**	**347**	Pn	**Pn**	**23 33 18.7**	**-1.6**
SONM	**Songino Array**	**8.70**	**344**	Pn	**Pn**	**23 33 21.6**	**-0.2**
	0.2nm,0.3s,baz=158,slow=13,SNR=21						
SONM				Lg	Lg	23 35 53.0	
	0.2nm,0.3s,baz=160,slow=30,SNR=2.4						
SONM	**Songino Array**	**8.70**	**344**	Pn	**Pn**	**23 33 20.9**	**-0.9**
ENH	**Enshi**	**9.24**	**183**	Pn	**Pn**	**23 33 27.6**	**-1.3**
KSRS	**Korea Array**	**14.21**	**93**	Pn	Pn	23 34 28.6	-8.3
	0.5nm,0.3s,baz=276,slow=12,SNR=4.4						
LSA	**Lhasa**	**18.30**	**243**	P	**P**	**23 35 29.3**	**-1.0**
LSA				IAmb	IAmb	23 35 48.3	
	comp=Z,14nm,1.6s						
MK31	**Makanchi Array**	**21.39**	**299**	P	**P**	**23 36 04.7**	**+1.3**
MK31				IAmb	IAmb	23 36 05.8	
	comp=Z,4.0nm,0.9s						
MKAR	**Makanchi Array**	**21.39**	**299**	P	**P**	**23 36 05.2**	**+1.8**
	comp=Z,3.2nm,0.8s,baz=100,slow=12,SNR=28						
MKAR	**Makanchi Array**	**21.39**	**299**	P	**P**	**23 36 05.0**	**+1.7**
MAKZ	**Makanchi**	**21.60**	**299**	P	**P**	**23 36 06.8**	**+1.1**
MAKZ				IAmb	IAmb	23 36 08.3	
	comp=Z,7.7nm,0.9s						
ZAA0	**Zalesovo Array**	**22.32**	**319**	P	**P**	**23 36 12.8**	**-0.4**
ZALV	**Zalesovo Beam**	**22.32**	**319**	P	**P**	**23 36 15.7**	**+2.5**
	comp=Z,0.8nm,0.6s,baz=100,slow=12,SNR=2.3						
ZALV	**Zalesovo Beam**	**22.32**	**319**	P	**P**	**23 36 14.4**	**+1.1**
CMAR	**Chiang Mai Arr**	**23.06**	**208**	P	**P**	**23 36 19.1**	**-2.2**
TARG	**Taragay, Kyrgy**	**24.44**	**286**	P	**P**	**23 36 35.8**	**+0.8**
TARG				IAmb	IAmb	23 36 38.2	
	comp=Z,6.7nm,1.0s						
KURK	**Kurchatov**	**24.61**	**307**	P	**P**	**23 36 37.3**	**+1.4**
KURK				IAmb	IAmb	23 36 38.6	
	comp=Z,4.5nm,1.0s						
KKAR	**Karatay Array**	**29.67**	**290**	P	**P**	**23 37 21.4**	**-0.1**

UPP ***24*** *23:41:44.3±0.0, 67°.19N×20°.68E, h1km, ML2.0, Explosion*
NAO ***24*** *23:41:44.1±0.7, 67°.23N×20°.78E, ML3.1*
HEL ***24*** *23:41:45.1, 67°.21N×20°.88E, h0km, ML2.4, Explosion*
IDC ***24*** *23:41:45.0±0.9, 67°.14N×20°.98E, h0km, mb1 3.1/4, mb1mx3.0/39, mbtmp3.1/4, ML2.7/4, Error ellipse: s-maj=14.1km s-min=7.4km az=117.0*
BER ***24*** *23:41:46.3±3.4, 67°.16N×20°.92E, h0km, ML2.6, Suspected explosion*

ISC 24 23:41:43.3±0.6, 67°.18N±0°.02×20°.61E±0°.02, h0km, n64, σ1§43/117, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DUNU	**Dundret**	**0.06**	**196**	P	**Pg**	**23 41 46.2**	**+1.7**
DUNU				S	**Sg**	**23 41 47.3**	**+2.1**
DUNU	**Dundret**	**0.06**	**196**	*i* P	**Pg**	**23 41 46.2**	**+1.7**
DUNU				*i* S	**Sg**	**23 41 47.3**	**+2.1**
MASU	**Masugnsbyn**	**0.61**	**62**	P	**Pg**	**23 41 55.4**	**+0.5**
MASU				S	**Sg**	**23 42 03.5**	**+0.8**
MASU	**Masugnsbyn**	**0.61**	**62**	*i* P	**Pg**	**23 41 55.4**	**+0.5**
MASU				*i* S	**Sg**	**23 42 03.5**	**+0.8**
RATU	**Laukkuluspa**	**0.76**	**329**	P	**Pb**	**23 41 58.6**	**-0.8**
RATU				S	**Sb**	**23 42 09.1**	**-1.2**
RATU	**Laukkuluspa**	**0.76**	**329**	*i* P	**Pb**	**23 41 58.6**	**-0.8**
RATU				*i* S	**Sb**	**23 42 09.1**	**-1.2**
KUA	**Kurravaara**	**0.79**	**352**	P	**Pg**	**23 41 58.8**	**+0.4**
KUA				S	**Sg**	**23 42 09.3**	**+0.8**
KUA	**Kurravaara**	**0.79**	**352**	*i* P	**Pg**	**23 41 58.8**	**+0.4**
KUA				*i* S	**Sg**	**23 42 09.3**	**+0.8**
ERTU	**Ertsjaerv**	**0.89**	**135**	P	**Pg**	**23 42 00.2**	**0.0**
ERTU				S	**Sg**	**23 42 11.7**	**0.0**
ERTU	**Ertsjaerv**	**0.89**	**135**	*e*P	**Pg**	**23 41 59.9**	**-0.3**
	baz=323						
ERTU				*e*SB	**Sg**	**23 42 12.2**	**+0.6**
NIKU	**Nikkaluokta**	**0.92**	**319**	P	**Pb**	**23 42 01.7**	**-0.4**
NIKU				S	**Sb**	**23 42 14.3**	**-0.6**
NIKU	**Nikkaluokta**	**0.92**	**319**	*e*P	**Pb**	**23 42 01.7**	**-0.4**
NIKU				*e*S	**Sb**	**23 42 14.3**	**-0.6**
PAJU	**Pajala**	**0.99**	**98**	P	**Pg**	**23 42 02.0**	**-0.2**
PAJU	**Pajala**	**0.99**	**98**	*e*P	**Pg**	**23 42 02.0**	**-0.2**
LANU	**Lannavaara**	**1.02**	**30**	P	**Pg**	**23 42 02.7**	**-0.1**
LANU	**Lannavaara**	**1.02**	**30**	*e*P	**Pg**	**23 42 02.5**	**-0.4**
	baz=208						
KOVU	**Salmi**	**1.06**	**351**	P	**Pg**	**23 42 03.7**	**0.0**
KOVU				S	**Sb**	**23 42 18.3**	**-0.7**
KOVU	**Salmi**	**1.06**	**351**	*e*P	**Pg**	**23 42 03.7**	**0.0**
KOVU				*e*S	**Sb**	**23 42 18.3**	**-0.7**
HEF	**Hetta**	**1.69**	**42**	Pn	**Pn**	**23 42 14.1**	**0.0**
HEF				Sn	**Sn**	**23 42 36.2**	**-0.3**
HEF	**Hetta**	**1.69**	**42**	*e*P	**Pn**	**23 42 14.2**	**0.0**
	baz=225						
HEF				MSG		23 42 33.0	
	comp=Z,24nm,0.2s						
HEF				*e*SG	**Sn**	**23 42 36.3**	**-0.1**
HEF	**Hetta**	**1.69**	**42**	Pn	**Pn**	**23 42 14.1**	**0.0**
HEF				Sn	**Sn**	**23 42 36.2**	**-0.3**
KIF	**Kilpisjarvi**	**1.83**	**2**	Pn	**Pb**	**23 42 17.8**	**+0.1**
KIF				Sn	**Sg**	**23 42 42.6**	**+0.5**
KIF	**Kilpisjarvi**	**1.83**	**2**	*e*P	**Pb**	**23 42 17.6**	**-0.1**
	baz=176						
KIF				MSG		23 42 40.0	
	comp=Z,25nm,0.2s						
KIF				*e*SG	**Sg**	**23 42 43.0**	**+0.8**
KIF	**Kilpisjarvi**	**1.83**	**2**	Pn	**Pb**	**23 42 17.8**	**+0.1**
KIF				Sn	**Sg**	**23 42 42.6**	**+0.5**
TOF	**Tornio**	**1.85**	**125**	*e*PN	**Pn**	**23 42 17.0**	**+0.8**
TOF				MSG		23 42 38.2	
	comp=Z,44nm,0.2s						
TOF				*e*SN	**Sb**	**23 42 41.5**	**0.0**
N2IH	**Innhavet**	**1.96**	**296**	*e*P	**Pg**	**23 42 20.4**	**-0.4**
N2IH				IAML		23 42 49.6	
	comp=Z,229nm,0.5s						
FAUS	**Fauske**	**2.08**	**278**	*e*P	**Pb**	**23 42 22.0**	**+0.2**
KTK1	**Kautokeino**	**2.09**	**27**	Pn	**Pb**	**23 42 21.3**	**-0.7**
KTK1				Sn	**Sn**	**23 42 47.0**	**+0.9**
KTK1	**Kautokeino**	**2.09**	**27**	*e*P	**Pb**	**23 42 21.6**	**-0.4**
KTK1				IAML		23 42 49.9	
	comp=Z,104nm,0.5s						
STEI	**Steigen**	**2.19**	**293**	*e*P	**Pb**	**23 42 24.3**	**+0.5**
STEI				IAML		23 42 58.2	
	comp=Z,62nm,0.5s						
RNF	**Rovaniemi**	**2.21**	**103**	*e*PB	**Pn**	**23 42 22.3**	**+1.2**
RNF				*e*SG	**Sb**	**23 42 51.5**	**-0.3**
SGF	**Sodankyl**	**2.31**	**81**	*e*P	**Pn**	**23 42 23.7**	**+1.2**
	baz=263						
SGF				*e*SG	**Sb**	**23 42 54.3**	**-0.5**
BURU	**Burvik**	**2.63**	**173**	*e*P	**Pn**	**23 42 28.6**	**+1.7**
BURU				*e*SG	**Sg**	**23 43 06.6**	**-0.9**
MOR8	**Moi Rana**	**2.66**	**250**	*e*P	**Pn**	**23 42 29.4**	**+2.1**
MOR8				IAML		23 43 09.2	
	comp=Z,38nm,0.6s						
ARA0	**ARCESS Array S**	**2.98**	**35**	Pn	**Pn**	**23 42 32.6**	**+0.8**
	baz=212,slow=14						
ARA0				Sn	**Sn**	**23 43 07.4**	**-0.8**
	baz=215,slow=22						
ARA0				Lg	Lg	23 43 13.7	
	baz=219,slow=37						
ARA0	**ARCESS Array S**	**2.98**	**35**	Pn	**Pn**	**23 42 32.6**	**+0.8**
	baz=212,slow=14						
ARA0				Sn	**Sn**	**23 43 07.4**	**-0.8**
	baz=215,slow=22						
ARA0				Sg	**Sb**	**23 43 13.7**	**-0.4**
	baz=219,slow=37						
ARCES	**ARCESS Array B**	**2.98**	**35**	Pn	**Pn**	**23 42 32.8**	**+1.0**
	comp=Z,2.6nm,0.3s,baz=213,slow=12,SNR=54						
ARCES				Sn	**Sn**	**23 43 09.6**	**+1.4**
	comp=Z,3.5nm,0.3s,baz=220,slow=19,SNR=8.3						
ARE0	**ARCESS Array S**	**2.98**	**35**	*e*P	**Pn**	**23 42 32.6**	**+0.8**
	baz=217						
ARE0				*e*SB	**Sb**	**23 43 11.7**	**-2.4**
ARE0	**ARCESS Array S**	**2.98**	**35**	*e*P	**Pn**	**23 42 33.3**	**+1.5**
ARE0				IAML		23 43 15.5	
	comp=Z,21nm,0.6s						
OUL	**Oulu**	**3.01**	**132**	*e*SG	**Sb**	**23 43 15.9**	**+1.1**
OBF0	**Syolatti, Pyha**	**3.08**	**149**	*e*PG	**Pb**	**23 42 39.3**	**+0.5**
OUF	**Merijarvi**	**3.29**	**147**	*e*P	**Pn**	**23 42 37.3**	**+1.2**
	baz=337						
UMAU	**Umeaa**	**3.31**	**179**	*e*P	**Pn**	**23 42 37.8**	**+1.5**
UMAU				*e*S	**Sn**	**23 43 18.4**	**+2.2**
VRF	**Varrio**	**3.51**	**77**	*e*P	**Pn**	**23 42 39.8**	**+0.8**
	baz=263						
VRF				*e*SG	**Sb**	**23 43 30.6**	**+1.2**
MSF	**Maaselka**	**3.60**	**107**	*e*P	**Pn**	**23 42 41.5**	**+1.2**
	baz=298						
KU6	**Riekki**	**3.88**	**103**	*e*P	**Pn**	**23 42 44.9**	**+0.9**
KU6				*e*SG	**Sb**	**23 43 42.9**	**+3.0**
HUSU	**Husum**	**3.90**	**189**	*e*P	**Pn**	**23 42 46.3**	**+2.0**
HUSU				*e*S	**Sn**	**23 43 31.0**	**+0.3**
VAF	**Ylistaro**	**4.25**	**167**	*e*P	**Pn**	**23 42 50.4**	**+1.3**
	baz=348						
VAF				*e*SG	**Sg**	**23 43 56.9**	**-2.6**
HEMU	**Hemsoen**	**4.65**	**195**	*e*P	**Pn**	**23 42 56.5**	**+1.8**
HEMU				*e*S	**Sn**	**23 43 50.9**	**+1.6**
APA0	**Apatity Array**	**4.80**	**79**	Pn	**Pn**	**23 42 56.4**	**-0.3**
	baz=277,slow=11						
APA0				Sn	**Sn**	**23 43 50.7**	**-2.2**
	baz=273,slow=22						
APA0				Lg	Lg	23 44 08.9	
	baz=269,slow=28						
APA0	**Apatity Array**	**4.80**	**79**	Pn	**Pn**	**23 42 56.4**	**-0.3**
	baz=277,slow=11						
APA0				Sn	**Sn**	**23 43 50.7**	**-2.2**
	baz=273,slow=22						
APA0				Sg	**Sb**	**23 44 08.9**	**+2.6**
	baz=269,slow=28						
FIA0	**FINESS Array S**	**6.23**	**155**	Pn	**Pn**	**23 43 18.0**	**+1.7**
	baz=345,slow=16						
FIA0				Sn	**Sn**	**23 44 26.8**	**-1.3**
	baz=341,slow=28						
FIA0				Lg	Lg	23 44 57.7	
	baz=343,slow=37						
FIA0	**FINESS Array S**	**6.23**	**155**	Pn	**Pn**	**23 43 18.0**	**+1.7**
	baz=345,slow=16						
FIA0				Sn	**Sn**	**23 44 26.8**	**-1.3**
	baz=341,slow=28						
FIA0				Sg	**Sg**	**23 44 57.7**	**-5.4**
	baz=343,slow=37						
FINES	**FINESS Array B**	**6.23**	**155**	Pn	**Pn**	**23 43 18.1**	**+1.8**
	comp=Z,0.5nm,0.3s,baz=347,slow=14,SNR=22						
FINES				Sn	**Sn**	**23 44 26.4**	**-1.7**
	comp=Z,0.8nm,0.3s,baz=345,slow=22,SNR=9.0						
FINES				Lg	Lg	23 44 56.9	
	comp=Z,1.4nm,0.3s,baz=348,slow=27,SNR=12						
NB2	**NORSAR Subarra**	**7.40**	**218**	Pn	**Pn**	**23 43 33.9**	**+1.5**
	baz=37,slow=14						
NB2				Sn	**Sn**	**23 44 55.2**	**-1.9**
NB2				Lg	Lg	23 45 37.6	
NB2	**NORSAR Subarra**	**7.40**	**218**	Pn	**Pn**	**23 43 33.9**	**+1.5**
	baz=37,slow=14						
NB2				Sn	**Sn**	**23 44 55.2**	**-1.9**
NB2				Sg	**Sg**	**23 45 37.6**	**-3.0**
NOA	**NORSAR Array B**	**7.40**	**218**	Pn	**Pn**	**23 43 33.8**	**+1.4**
	comp=Z,0.0nm,0.3s,baz=27,slow=11,SNR=9.0						
NOA				Sn	**Sn**	**23 44 56.0**	**-1.0**
	comp=Z,0.0nm,0.3s,baz=318,slow=21,SNR=4.5						
NOA				Lg	Lg	23 45 39.6	
	comp=Z,0.1nm,0.3s,baz=282,slow=12,SNR=5.0						
NRA0	**NORESS Array S**	**7.59**	**216**	Pn	**Pn**	**23 43 36.2**	**+1.1**
	baz=31,slow=14						
NRA0				Sn	**Sn**	**23 44 59.0**	**-2.6**
	baz=27,slow=22						
NRA0				Lg	Lg	23 45 43.4	
	baz=26,slow=28						
NRA0	**NORESS Array S**	**7.59**	**216**	Pn	**Pn**	**23 43 36.2**	**+1.1**
	baz=31,slow=14						
NRA0				Sn	**Sn**	**23 44 59.0**	**-2.6**
	baz=27,slow=22						
NRA0				Sg	**Sg**	**23 45 43.4**	**-3.5**
	baz=26,slow=28						
HFS	**Hagfors**	**7.71**	**207**	Pn	**Pn**	**23 43 36.7**	**0.0**
	baz=12,slow=12						
HFS				Sn	**Sn**	**23 45 01.9**	**-2.6**
	baz=35,slow=28						
HFS	**Hagfors**	**7.71**	**207**	Pn	**Pn**	**23 43 36.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=20,slow=13,SNR=11						
HFS				Sn	**Sn**	**23 45 01.5**	**-3.0**
	comp=Z,0.5nm,0.3s,baz=33,slow=23,SNR=6.3						
HFS				Lg	Lg	23 45 42.0	
	comp=Z,0.5nm,0.3s,baz=39,slow=31,SNR=4.2						
HFS	**Hagfors**	**7.71**	**207**	Pn	**Pn**	**23 43 36.7**	**0.0**
	baz=12,slow=12						
HFS				Sn	**Sn**	**23 45 01.9**	**-2.6**
	baz=35,slow=28						
SPA0	**Spitsbergen Ar**	**11.12**	**355**	Pn	**Pn**	**23 44 23.7**	**+0.3**
	baz=163,slow=12						
SPA0	**Spitsbergen Ar**	**11.12**	**355**	Pn	**Pn**	**23 44 23.7**	**+0.3**
	baz=163,slow=12						

IDC ***24*** *23:44:12.7±1.7, 28°.56S×178°.06W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.8/22, mbtmp4.0/3, MS3.4/3, Ms1 3.4/3, ms1mx3.0/27, Error ellipse: s-maj=41.3km s-min=16.4km az=64.0*

ISC 24 23:44:12.6±1.6, 28°.4S±0°.1×177°.9W±0°.3, h10km, n14, σ0§66/8, mb3.9/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.81**	**182**	Pn	**Pn**	**23 44 30.2**	**+0.1**
	243nm,0.3s,baz=25,slow=16,SNR=14						
RAO				Sn	**Sn**	**23 44 42.1**	**0.0**
	2µm,0.3s,baz=105,slow=19,SNR=14						
RAO				LR	LR	23 44 52.2	
	comp=Z,160nm,19.5s,baz=108,slow=56						
DZM	**Mont Dzumac**	**15.52**	**291**	LR	LR	23 52 58.2	
	comp=Z,86nm,18.4s,baz=78,slow=34						
STKA	**Stephens Creek**	**35.06**	**254**	P	**P**	**23 51 04.9**	**-0.9**
	1.2nm,0.7s,baz=119,slow=13,SNR=2.9						
ASAR	**Alice Springs**	**43.34**	**265**	P	**P**	**23 52 15.7**	**+0.4**
	0.8nm,0.6s,baz=102,slow=7.5,SNR=9.2						
WRA	**Warramunga Arr**	**44.16**	**270**	P	**P

SHGR	**Shooshtar-Gavs**	**1.90**	**165**	*e*Pn		**Pg**	**00 02 08.6**	**-0.3**
IRAZ	**Razeghan**	**2.02**	**44**	*e*Pn		**Pb**	**00 02 08.9**	**-0.1**
QABG	**Abgarm-Qazvin**	**2.08**	**32**	*e*Pn		**Pb**	**00 02 09.7**	**-0.3**
IQOM	**Qom**	**2.52**	**68**	*e*Pn		**Pb**	**00 02 15.8**	**-1.6**
IQOM				*e*			00 02 22.6	
IPIR	**Pirpir**	**2.56**	**119**	*e*Pn		**Pb**	**00 02 17.2**	**-1.1**
GHVR	**GHOM**	**2.60**	**77**	*e*Pn		**Pn**	**00 02 15.6**	**+1.7**
GHVR	**GHOM**	**2.60**	**77**	*e*Pn		**Pn**	**00 02 15.6**	**+1.7**
JHBN	**Jahan bin**	**2.67**	**129**	*e*Pn		**Pb**	**00 02 19.0**	**-1.1**
JHBN				*e*			00 02 30.0	
ROKH	**ROKH**	**2.85**	**123**	*e*Pn		**Pb**	**00 02 21.2**	**-1.9**
IKLH	**Kolahrood**	**2.87**	**102**	*e*Pn		**Pb**	**00 02 21.7**	**-1.7**
IVRN	**Varamin**	**3.08**	**69**	*e*Pn		**Pb**	**00 02 24.0**	**-2.9**
QALM	**Alamut, Qazvin**	**3.17**	**38**	*e*Pn		**Pn**	**00 02 23.6**	**+1.6**
IGAR	**Gharneh**	**3.55**	**115**	*e*Pn		**Pn**	**00 02 30.0**	**+2.8**
IZEF	**Zefreh**	**3.59**	**106**	*e*Pn		**Pn**	**00 02 31.2**	**+3.5**
KLNJ	**Kolanjah**	**4.09**	**135**	*e*Pn		**Pn**	**00 02 37.1**	**+2.5**
IRAM	**Ramesheh**	**4.10**	**120**	*e*Pn		**Pn**	**00 02 37.7**	**+3.0**
ISHM	**Shahmirzad**	**4.56**	**65**	*e*Pn		**Pn**	**00 02 44.8**	**+3.7**
ISAD	**Sadrabad**	**5.02**	**112**	*e*Pn		**Pn**	**00 02 50.3**	**+2.9**
IMEH	**Mehriz**	**5.96**	**114**	*e*Pn		**Pn**	**00 03 02.9**	**+2.6**
NGRK	**Negar Kerman**	**8.41**	**118**	*e*Pn		**Pn**	**00 03 37.9**	**+3.8**
SHME	**Shamm**	**10.44**	**137**	P		**Pn**	**00 04 02.0**	**+0.5**
BANOM	**Banah** SNR=36	**10.63**	**137**	*i* P		**Pn**	**00 04 04.6**	**+0.4**
BANOM	**Banah**	**10.63**	**137**	P		**Pn**	**00 04 04.7**	**+0.6**
MSFE	**Esma-Masafi** SNR=6.2	**10.99**	**139**	*i* P		**Pn**	**00 04 09.1**	**0.0**
AJN	**Ajban**	**11.06**	**146**	P		**Pn**	**00 04 11.2**	**+1.3**
MDH	**Madha** SNR=6.2	**11.11**	**139**	*i* P		**Pn**	**00 04 10.6**	**-0.2**
MDH	**Madha**	**11.11**	**139**	P		**Pn**	**00 04 10.8**	**0.0**
UOSS	**Minazif**	**11.35**	**140**	P		**Pn**	**00 04 13.7**	**-0.2**
UOSS	**Minazif**	**11.35**	**140**	P		**Pn**	**00 04 14.4**	**+0.5**
HATD	**Hatta, Dubai**	**11.40**	**141**	P		**Pn**	**00 04 15.3**	**+0.5**
HATD	**Hatta, Dubai**	**11.40**	**141**	P		**Pn**	**00 04 15.1**	**+0.3**
ASHO	**Ashiyiah** SNR=18	**11.48**	**141**	*i* P		**Pn**	**00 04 15.8**	**0.0**
ASHO				S		**Sn**	**00 06 18.1**	**-5.7**
ASHO	**Ashiyiah**	**11.48**	**141**	P		**Pn**	**00 04 16.4**	**+0.5**
ALNE	**Al Ain**	**11.85**	**144**	P		**Pn**	**00 04 21.2**	**+0.4**
SOHO	**SOHO**	**12.18**	**141**	P		**Pn**	**00 04 24.4**	**-0.9**
SOHO	**SOHO**	**12.18**	**141**	P		**Pn**	**00 04 25.1**	**-0.2**
ARQ	**Araqi**	**12.83**	**143**	P		**Pn**	**00 04 34.6**	**+0.3**
BRTR	**Keskin Array B** comp=E,0.1nm,0.3s,baz=110,slow=12,SNR=3.9	**13.02**	**300**	Pn		**Pn**	**00 04 40.0**	**+3.1**
HOQ	**Hoqain**	**13.04**	**140**	P		**Pn**	**00 04 36.5**	**-0.6**
BIDO	**Bidbid**	**13.53**	**138**	P		**Pn**	**00 04 42.8**	**-1.0**
BSY	**Bisya**	**13.67**	**142**	P		**Pn**	**00 04 44.7**	**-1.0**
SMDO	**Samad**	**13.86**	**139**	P		**Pn**	**00 04 47.6**	**-0.8**
WSAR	**Wadi Sarin** comp=E,1.3nm,0.3s,baz=330,slow=11,SNR=21	**14.04**	**137**	Pn		**Pn**	**00 04 49.7**	**-1.0**
WSAR	**Wadi Sarin**	**14.04**	**137**	P		**Pn**	**00 04 49.5**	**-1.2**
JMDO	**Jabal Madar**	**14.44**	**140**	P		**Pn**	**00 04 55.0**	**-1.3**
WBK	**Wadi Bani Khal**	**14.72**	**137**	P		**Pn**	**00 04 58.6**	**-1.6**
MHTO	**MHTO**	**15.53**	**144**	P		**Pn**	**00 05 10.5**	**-0.3**
WHFO	**Wadi Hawf**	**16.72**	**161**	P		**Pn**	**00 05 24.0**	**-2.1**
ABTO	**Aybut**	**17.14**	**163**	P		**Pn**	**00 05 30.1**	**-1.3**
RBK	**Rabkut**	**17.23**	**160**	P		**Pn**	**00 05 31.5**	**-1.1**
DMTO	**DMTO**	**17.25**	**158**	P		**Pn**	**00 05 31.7**	**-1.0**
AKTO	**Aktyubinsk** comp=E,0.2nm,0.3s,baz=216,slow=12,SNR=5.2	**17.97**	**21**	P		**P**	**00 05 42.0**	**0.0**
AKASG	**Malin Array Be** comp=E,0.3nm,0.3s,baz=136,slow=12,SNR=1.3	**21.75**	**326**	P		**P**	**00 06 24.0**	**+0.9**
MKAR	**Makanchi Array** comp=E,0.4nm,0.9s,baz=247,slow=11,SNR=4.4	**28.72**	**53**	P		**P**	**00 07 29.1**	**+0.2**
FINES	**FINESS Array B** comp=E,1.3nm,0.8s,baz=139,slow=10,SNR=5.3	**30.97**	**339**	P		**P**	**00 07 49.1**	**+0.6**
TORD	**Torodi Ar. Bea** comp=E,0.5nm,0.6s,baz=59,slow=6.5,SNR=7.3	**46.94**	**255**	P		**P**	**00 10 03.4**	**+0.7**

BJI ***25*** *00:03:02.1±0.0,52.˙12N×178.˙38E, h102km, mB5.0/47, mb5.4/71*

AEIC ***25*** *00:03:03.3±2.2, 51.˙85N±0.˙08×178.˙45E±0.˙09, h122km±3km, ML4.7/37, mb5.2/506(NEIC), Error ellipse: s-maj=11.9km s-min=7.8km az=181.0*

MOS ***25*** *00:03:04.6±1.0, 51.˙98N×178.˙50E, h122km, mb5.1/74, Error ellipse: s-maj=6.9km s-min=4.6km az=115.0*

NEIC ***25*** *00:03:05.5±1.3, 51.˙97N±0.˙08×178.˙47E±0.˙09, h117km±3km, Error ellipse: s-maj=11.6km s-min=7.8km az=179.0*

UNK ***25*** *00:03:05.4, 51.˙97N×178.˙46E, h113km*

IDC ***25*** *00:03:06.6±0.5, 52.˙09N×178.˙51E, h123km±4km, mb4.7/40, mb1 4.8/43, mb1mx4.8/52, mbtmp5.1/43, MS3.5/26, Ms1 3.5/26, ms1mx3.4/50, Error ellipse: s-maj=9.3km s-min=6.6km az=161.0*

GCMT ***25*** *00:03:07.0±0.2, 51.˙88N±0.˙02×178.˙68E±0.˙02, h106km±2km, MW5.1/119, Moment Tensor Solution. s42,c52; s119,c185; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.09±.17; $M_{\theta\theta}$-2.03±.20; $M_{\phi\phi}$4.12±.17; $M_{r\theta}$1.70±.13; $M_{\theta\phi}$1.89±.15; $M_{\phi r}$-2.99±.10; Best double couple: $M_0$5.29100×10^{16} NP1:$\phi_0$233.00000°, δ43.00000°, λ-23.00000°. NP2:$\phi_0$341.00000°, δ75.00000°, λ-131.00000°. Principal axes: T 5.0050, Plg19.0000°, Azm100.0000°; N -0.4280, Plg39.0000°, Azm353.0000°; P -5.0770, Plg45.0000°, Azm210.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

KEA ***25*** *00:03:08.8±0.0, 52.˙90N×176.˙50E, h33km, mB5.5/1, MS4.1/1*

BGR ***25*** *00:03:27.7±0.0, 51.˙51N×178.˙86E, h33km, mb4.7*

ISC 25 00:03:05.4±0.3, 51.˙97N±0.˙05×178.˙50E±0.˙03, h116km±2km, h117km:pP-P,n1153,σ1§17/1073, mb5.2/348,**52C-56D, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.01**	**100**			**Pn**	**00 03 20.9**	**-0.3**
LSSA	**Little Sitkin**	**0.02**	**166**			**Pn**	**00 03 21.1**	**-0.2**
LSPA	**Little Sitkin**	**0.05**	**109**			**Pn**	**00 03 21.0**	**-0.3**
CETU	**Semis' Tuman**	**0.61**	**90**			**Pn**	**00 03 24.1**	**+0.4**
CEAP	**Semis' Anvil P**	**0.67**	**87**			**Pn**	**00 03 24.4**	**+0.4**
CERAA	**Semis' Rag'd T**	**0.73**	**95**			**Pn**	**00 03 24.7**	**+0.1**
AMKA	**Amchitka**	**0.78**	**140**			**Pn**	**00 03 24.5**	**-0.5**
AMKA						**Sn**	**00 03 39.3**	**-0.4**
GAEA	**Gareloi East**	**1.71**	**95**			**Pn**	**00 03 35.5**	**+0.4**
TANO	**Tanaga North**	**2.09**	**90**			**Pn**	**00 03 40.3**	**+0.6**
TANO						**Sn**	**00 04 07.1**	**+1.1**
TASE	**Tanaga Southea**	**2.15**	**92**			**Pn**	**00 03 40.7**	**+0.3**
TAFP	**Tanaga Falls P**	**2.18**	**91**			**Pn**	**00 03 40.9**	**+0.1**
TAFP						**Sn**	**00 04 08.8**	**+0.9**
TAPA	**Tanaga Point A**	**2.29**	**92**			**Pn**	**00 03 42.5**	**+0.2**
KIMD	**Kanaga Island**	**2.65**	**93**			**Pn**	**00 03 46.9**	**0.0**
KIMD						**Sn**	**00 04 19.6**	**+0.8**
KICM	**Kanaga Island**	**2.66**	**89**			**Pn**	**00 03 47.4**	**+0.4**
KIKV	**Kanaga Island**	**2.68**	**90**			**Pn**	**00 03 47.4**	**+0.2**
SMY	**Shemya**	**2.81**	**287**	P		**Pn**	**00 03 47.8**	**-1.1**
SMY							00 04 21.5	
SMY	**Shemya**	**2.81**	**287**			**Pn**	**00 03 47.8**	**-1.1**
SMY						**Sn**	**00 04 21.4**	**-1.0**
ADK	**Adak**	**2.98**	**90**	P		**Pn**	**00 03 50.7**	**-0.5**
ADK	**Adak**	**2.98**	**90**	Pn		**Pn**	**00 03 50.7**	**-0.5**
GSTD	**Great Sitkin T**	**3.31**	**86**			**Pn**	**00 03 55.3**	**-0.3**
GSTR	**Great Sitkin T**	**3.36**	**86**			**Pn**	**00 03 56.3**	**+0.1**
GSMY	**Great Sitkin M**	**3.36**	**87**			**Pn**	**00 03 56.3**	**0.0**
ATKA	**Atka Island**	**4.51**	**84**			**Pn**	**00 04 11.5**	**0.0**
ATKA						**Sn**	**00 05 02.7**	**-0.2**
KOFP	**Korovin Flat P**	**4.57**	**83**			**Pn**	**00 04 12.8**	**+0.4**
KOSE	**Korovin Southe**	**4.60**	**82**			**Pn**	**00 04 13.2**	**+0.4**
NIKH	**Nikolski High**	**7.79**	**78**			**Pn**	**00 04 56.6**	**+0.8**
OKSP	**Okmok Steeple**	**8.14**	**76**			**Pn**	**00 05 01.7**	**+1.1**
SPIA	**Saint Paul Isl**	**8.36**	**47**	Pn		**Pn**	**00 05 05.8**	**+2.4**
MSW	**Makushin Switc**	**9.10**	**72**			**Pn**	**00 05 15.4**	**+1.9**
MREP	**Makushin Rep't**	**9.11**	**73**			**Pn**	**00 05 14.9**	**+1.2**
MNAT	**Makushin Natee**	**9.15**	**72**			**Pn**	**00 05 16.0**	**+1.8**
UNV	**Unalaska Valle**	**9.25**	**72**			**Pn**	**00 05 17.0**	**+1.5**
AKUT	**Akutan**	**9.71**	**71**	Pn		**Pn**	**00 05 23.8**	**+2.0**
FALS	**False Pass**	**11.17**	**68**			**Pn**	**00 05 42.2**	**+0.8**
PET	**Petropavlovsk**	**12.14**	**283**	*c* *i*P		**Pn**	**00 05 53.8**	**-0.5**
PET					*e*S	Sn	00 07 58.6	-9.1
PET	comp=Z,500nm,5.1s				pmax	pmax		
PET	comp=Z,100nm,1.1s				pmax	pmax		
PET	comp=Z,200nm,5.5s				pmax	pmax		
PET					MLR	MLR		
PET	comp=Z,100nm,14.0s				MLR	MLR		
PET	**Petropavlovsk** comp=Z,200nm,13.0s	**12.14**	**283**			**Pn**	**00 05 53.0**	**-1.3**
PEA0B	**Petropavlovsk-**	**12.71**	**283**	*d* *i*P		**Pn**	**00 06 02.9**	**+1.1**
PEA0B	**Petropavlovsk-**	**12.71**	**283**	Pn		**Pn**	**00 06 01.9**	**+0.1**
PETK	**Petropavlovsk-** comp=E,3.0nm,0.3s,baz=94,slow=16,SNR=106	**12.71**	**283**	P		**Pn**	**00 06 01.6**	**-0.1**
PETK					S	**Sn**	**00 08 13.5**	**-8.0**
PETK	comp=Z,1.4nm,0.3s,baz=98,slow=31,SNR=6.6				LR	LR	00 10 34.2	
PETK	comp=Z,187nm,21.7s,baz=73,slow=35				PcP	**PcP**	**00 11 28.9**	**+0.6**
PETK	comp=Z,0.7nm,0.3s,baz=157,slow=4.7,SNR=4.5				ScP	**ScP**	**00 14 50.7**	**+0.2**
SDPT	**Sand Point** comp=Z,0.3nm,0.3s,baz=124,slow=2.6,SNR=8.9	**12.90**	**67**	Pn		**Pn**	**00 06 03.2**	**-1.0**
GAMB	**Gambell**	**12.91**	**20**	Pn		**Pn**	**00 06 04.0**	**-0.2**
CNBA	**Chernabura Isl**	**13.37**	**69**	Pn		**Pn**	**00 06 08.1**	**-2.1**
SKR	**Severo-Kuril's**	**14.05**	**274**	*e*P		**Pn**	**00 06 18.4**	**-0.6**
SKR					*e*S	Sn	00 08 44.3	-9.5
SKR	comp=Z,400nm,3.2s				pmax	pmax		
SKR	comp=Z,364nm,0.9s				pmax	pmax		
SKR	comp=Z,600nm,20.0s				MLR	MLR		
SKR	comp=Z,600nm,18.0s				MLR	MLR		
CHIR	**Chirikof Islan**	**15.69**	**66**			**Pn**	**00 06 37.8**	**-1.9**
SII	**Sitkinak Islan** comp=Z,138nm,0.9s	**16.54**	**63**	IAmb		IAmb	00 07 13.4	
OHAK	**Old Harbor** comp=Z,149nm,1.2s	**17.09**	**61**	IAmb		IAmb	00 06 57.5	
BILL	**Bilibino**	**17.18**	**344**	*d* *i*P		**Pn**	**00 06 59.0**	**+1.2**
BILL	comp=Z,73nm,1.0s				pmax	pmax		
BILL	comp=Z,203nm,17.0s				MLR	MLR		
BILL	**Bilibino**	**17.18**	**344**	P		**Pn**	**00 06 58.7**	**+0.9**
MA2	**Magadan** comp=Z,1.0nm,0.3s,baz=98,slow=10,SNR=12	**17.26**	**307**	P		**P**	**00 06 57.7**	**-0.8**
MA2	comp=Z,1.1nm,0.3s,baz=99,slow=5.7,SNR=6.8				ScP	**ScP**	**00 14 57.7**	**-0.9**
MA2	**Magadan**	**17.26**	**307**	P		**Pn**	**00 06 59.1**	**+0.3**
TTA	**Tatalina** comp=Z,90nm,0.8s	**17.42**	**41**	IAmb		IAmb	00 07 04.1	
KDAK	**Kodiak Island** comp=Z,21nm,0.3s,baz=270,slow=5.8,SNR=117	**17.54**	**59**	P		**P**	**00 06 60.0**	**-1.6**
KDAK					S	**Sn**	**00 10 07.2**	**-10**
KDAK	comp=Z,0.2nm,0.3s,baz=156,slow=21,SNR=1.1				ScP	**ScP**	**00 14 57.9**	**-1.2**
KDAK	**Kodiak Island** comp=Z,0.5nm,0.3s,baz=187,slow=3.4,SNR=8.3	**17.54**	**59**	P		**P**	**00 07 00.0**	**-1.6**
KDAK	**Kodiak Island**	**17.54**	**59**	P		**P**	**00 06 59.5**	**-2.0**
KDAK	comp=Z,109nm,0.5s				IAmb	IAmb	00 07 03.5	
RDOG	**Red Dog Mine**	**18.47**	**22**	P		**P**	**00 07 11.8**	**0.0**
BRLK	**Bradley Lake**	**18.72**	**53**	P		**P**	**00 07 14.7**	**+0.1**
CAPN	**Captain Cook N** baz=256	**18.81**	**50**	P		**P**	**00 07 15.7**	**+0.2**
O22K	**Cooper Landing** baz=258	**19.43**	**52**	P		**P**	**00 07 23.2**	**+0.9**
BPAW	**Bear Paw Mtn.**	**19.96**	**41**	P		**P**	**00 07 28.7**	**+0.8**
BPAW	comp=Z,100nm,0.9s				IAmb	IAmb	00 07 31.1	
PMR	**Palmer** comp=Z,51nm,0.6s	**19.96**	**49**	IAmb		IAmb	00 07 32.2	
SML	**Sawmill** comp=Z,113nm,0.7s	**20.39**	**48**	IAmb		IAmb	00 07 36.3	
RND	**Reindeer** comp=Z,47nm,0.6s	**20.60**	**44**	IAmb		IAmb	00 07 38.9	
MCK	**McKinley** comp=Z,130nm,1.0s	**20.67**	**43**	IAmb		IAmb	00 07 39.3	
NEA2	**Nenana** baz=248,SNR=96	**20.92**	**40**	P		**P**	**00 07 39.1**	**+0.8**
MID	**Middleton Isla**	**20.96**	**55**	P		**P**	**00 07 39.4**	**+0.7**
MID	comp=Z,423nm,0.8s				pmax	pmax		
MID	**Middleton Isla**	**20.96**	**55**	P		**P**	**00 07 39.4**	**+0.7**
KUR	**Kuril'sk**	**21.24**	**264**	*i* P		**P**	**00 07 42.8**	**+1.0**
KUR					*e*S	**S**	**00 11 33.2**	**+2.1**
KUR	comp=Z,257nm,1.8s				pmax	pmax		
TCOL	**CIGO, UAF Yank** baz=249	**21.50**	**40**	P		**P**	**00 07 45.1**	**+0.6**
COLA	**College**	**21.51**	**40**	P		**P**	**00 07 45.1**	**+0.6**
COLA	comp=Z,84nm,0.8s				pmax	pmax		
COLA	**College**	**21.51**	**40**	P		**P**	**00 07 45.0**	**+0.6**
COLA	comp=Z,84nm,0.8s				IAmb	IAmb	00 07 48.1	
COLD	**Coldfoot** baz=241,SNR=22	**21.64**	**33**	P		**P**	**00 07 46.6**	**+0.6**
COLD	**Coldfoot**	**21.64**	**33**	P		**P**	**00 07 45.9**	**0.0**
HDA	**Harding Lake** baz=252,SNR=53	**21.72**	**42**	P		**P**	**00 07 46.6**	**-0.1**
POKR	**Poker Flat Res** baz=249,SNR=29	**21.76**	**40**	P		**P**	**00 07 48.1**	**+0.9**
ILAR	**Eielson Array** comp=Z,12nm,0.7s,baz=239,slow=9.6,SNR=89	**21.86**	**41**	P		**P**	**00 07 46.8**	**-1.5**
ILAR	comp=Z,1.5nm,0.7s,baz=269,slow=3.2,SNR=4.4				PcP	**PcP**	**00 11 41.4**	**-1.4**
ILAR	comp=Z,5.8nm,0.6s,baz=282,slow=3.6,SNR=24				ScP	**ScP**	**00 15 06.1**	**-3.0**
ILAR	comp=Z,120nm,20.3s,baz=266,slow=37				LR	LR	00 16 28.6	
ILAR	comp=Z,0.8nm,1.0s,baz=63,slow=2.6,SNR=6.1				P3KPbc		00 41 33.1	
ILAR	**Eielson Array**	**21.86**	**41**	P		**P**	**00 07 48.3**	**0.0**
TYV	**Tymovskoe**	**22.25**	**281**	*e*P		**P**	**00 07 53.6**	**+1.2**
TYV	comp=Z,38nm,0.7s				pmax	pmax		
RIDG	**Independent Ri** comp=Z,55nm,0.5s	**22.41**	**44**	IAmb		IAmb	00 07 56.9	
GLB	**Gilahina Butte** comp=Z,143nm,0.9s	**22.44**	**50**	IAmb		IAmb	00 07 58.3	
TOLK	**Toolik Lake Re** baz=238,SNR=27	**22.57**	**30**	P		**P**	**00 07 56.4**	**+0.9**
TOLK	**Toolik Lake Re** comp=Z,92nm,0.7s	**22.57**	**30**	IAmb		IAmb	00 07 59.0	
PRP	**Porcupine Dome** comp=Z,54nm,0.6s	**22.65**	**39**	IAmb		IAmb	00 07 58.8	
MENT	**Mentasta** comp=Z,89nm,0.6s	**22.73**	**46**	IAmb		IAmb	00 08 02.3	
ISLE	**Juniper Island** comp=Z,182nm,1.1s	**23.06**	**53**	IAmb		IAmb	00 08 03.1	
YUK	**Yuzh-Kuril'sk**	**23.08**	**263**	*e*P		**P**	**00 07 59.3**	**-1.3**
YUK					*e*S	**S**	**00 12 03.3**	**+0.8**
YUK	comp=Z,451nm,1.1s				pmax	pmax		
YUK	comp=N,171nm,1.0s				pmax	pmax		
YUK	comp=Z,403nm,1.0s				pmax	pmax		
YUK	comp=Z,79nm,13.0s				MLR	MLR		
YUK	comp=N,128nm,11.0s				MLR	MLR		
BALM	**Baldy** comp=Z,94nm,0.8s	**23.10**	**52**	IAmb		IAmb	00 08 03.5	
FYU	**Fort Yukon** comp=Z,109nm,0.9s	**23.13**	**37**	IAmb		IAmb	00 08 04.3	
YSS	**Yuzh-Sakhalins**	**23.61**	**272**	*i* P		**P**	**00 08 06.7**	**+1.3**
YSS					*e**PP	**pP**	**00 08 29.3**	**+0.5**
YSS					*e**SP	**sP**	**00 08 41.5**	**-1.4**
YSS					*e*S	**S**	**00 12 10.2**	**-0.7**
YSS					*e*SS	**SnSn**	**00 13 12.4**	**+11**
YSS	comp=Z,400nm,3.5s				pmax	pmax		
YSS	comp=Z,130nm,0.7s				pmax	pmax		
YSS	comp=Z,200nm,15.0s				MLR	MLR		
YSS	comp=E,200nm,16.0s				MLR	MLR		
YSS	**Yuzh-Sakhalins**	**23.61**	**272**	P		**P**	**00 08 05.7**	**+0.3**
YSS	comp=Z,138nm,1.0s				IAmb	IAmb	00 08 08.8	
BCAR	**Beaver Creek A**	**23.62**	**47**	P		**P**	**00 08 05.4**	**-0.1**
BMAR	**Burnt Mountain**	**23.69**	**35**	P		**P**	**00 08 06.8**	**+0.7**
JKA	**Kamikawa-asahi** comp=Z,88nm,0.9s	**25.05**	**266**	IAmb		IAmb	00 08 20.7	
ASAJ	**Asahikawa** comp=Z,72nm,0.9s,baz=58,slow=7.1,SNR=36	**25.05**	**266**	P		**P**	**00 08 19.2**	**+0.7**
ERM	**Erimo**	**25.85**	**261**	*d* *i*P		**P**	**00 08 26.5**	**+0.8**
ERM	comp=Z,60nm,0.8s				pmax	pmax		
ERM	**Erimo**	**25.85**	**261**	P		**P**	**00 08 25.6**	**-0.1**
ERM	comp=Z,53nm,0.8s				IAmb	IAmb	00 08 27.8	
GRNR	**Gornyy**	**26.04**	**284**	↓ *i*P		**P**	**00 08 27.9**	**+0.5**
GRNR				*e*			00 08 51.5	
GRNR				*e*S		**S**	**00 12 54.1**	**+4.5**
GRNR	comp=E,20nm,1.1s				pmax	pmax		
GRNR	comp=N,7.0nm,1.0s				pmax	pmax		
GRNR	comp=Z,50nm,1.2s				pmax	pmax		
GRNR	comp=N,4.0nm,0.5s				smax	smax		
GRNR	comp=E,130nm,17.0s				MLR	MLR		
GRNR	comp=N,90nm,18.0s				MLR	MLR		
GRNR	comp=Z,130nm,16.0s				MLR	MLR		
EPYK	**Eagle Plains** baz=259,SNR=49	**26.36**	**40**	P		**P**	**00 08 30.1**	**0.0**
EPYK	**Eagle Plains** comp=Z,69nm,0.8s	**26.36**	**40**	IAmb		IAmb	00 08 31.9	
SIT	**Sitka** comp=Z,43nm,0.8s	**26.86**	**61**	IAmb		IAmb	00 08 36.4	
BESE	**Bessie Mountai** comp=Z,48nm,1.0s	**26.91**	**57**	IAmb		IAmb	00 08 36.8	
JIS	**Juneau Island** comp=Z,64nm,0.9s	**27.19**	**58**	IAmb		IAmb	00 08 39.4	
YAK	**Yakutsk** comp=Z,14nm,0.5s,baz=122,slow=2.8,SNR=1.4	**27.76**	**310**	P		**P**	**00 08 41.8**	**-0.8**
YAK	comp=Z,134nm,20.3s,baz=252,slow=39				LR	LR	00 21 00.2	
YAK	**Yakutsk**	**27.76**	**310**	*e*P		**P**	**00 08 40.1**	**-2.5**
YAK				*e**PP		**pP**	**00 09 02.4**	**-4.3**
YAK				*e*			00 11 55.8	
YAK				*e*S		**S**	**00 13 13.3**	**-3.1**
YAK				*e*			00 19 15.2	
YAK	comp=Z,25nm,1.1s				pmax	pmax		
YAK	comp=E,12nm,1.1s				pmax	pmax		
YAK	comp=N,7.0nm,1.1s				pmax	pmax		
YAK	comp=N,106nm,2.5s				smax	smax		
YAK	comp=E,51nm,2.2s				smax	smax		
YAK	**Yakutsk** comp=Z,32nm,0.8s	**27.76**	**310**	IAmb		IAmb	00 09 11.1	
INK	**Inuvik** comp=Z,12nm,0.5s,baz=264,slow=6.0,SNR=20	**27.95**	**36**	P		**P**	**00 08 45.2**	**+1.0**
INK	comp=Z,13nm,0.9s,baz=234,slow=2.9,SNR=11				ScP	**ScP**	**00 15 23.7**	**-2.4**
INK	**Inuvik**	**27.95**	**36**	P		**P**	**00 08 44.4**	**+0.1**
INK					ScP	**ScP**	**00 15 26.1**	**0.0**
TIXI	**Tiksi** comp=Z,2.9nm,0.4s,baz=122,slow=13,SNR=11	**29.29**	**330**	P		**P**	**00 08 55.7**	**-0.4**
TIXI	comp=Z,3.2nm,0.4s,baz=98,slow=3.1,SNR=5.9				PcP	**PcP**	**00 11 59.2**	**-0.4**
TIXI	**Tiksi**	**29.29**	**330**	*ce*P		**P**	**00 08 56.2**	**+0.1**
TIXI	comp=Z,8.0nm,1.1s				pmax	pmax		
TIXI	**Tiksi**	**29.29**	**330**	P		**P**	**00 08 56.0**	**-0.1**
KLR	**Kul'dur** comp=Z,68nm,0.7s,baz=66,slow=8.4,SNR=228	**29.41**	**283**	P		**P**	**00 08 57.6**	**+0.2**
KLR	comp=Z,73nm,18.4s,baz=16,slow=37				LR	LR	00 21 04.1	
KLR	**Kul'dur**	**29.41**	**283**	*d* *i*P		**P**	**00 08 57.4**	**0.0**
KLR	comp=Z,84nm,0.8s				pmax	pmax		
DLBC	**Dease Lake** comp=Z,25nm,0.8s,baz=284,slow=8.1,SNR=37	**29.43**	**57**	P		**P**	**00 08 59.4**	**+1.7**
DLBC	**Dease Lake** comp=Z,30nm,0.8s	**29.43**	**57**	IAmb		IAmb	00 09 00.4	
ZEA	**Zeya**	**30.45**	**294**	*e*P		**P**	**00 09 05.8**	**-0.8**
ZEA				*e*			00 13 56.0	
ZEA	comp=Z,64nm,1.0s				pmax	pmax		
A36M	**Sachs Harbour** baz=261,SNR=22	**31.39**	**30**	P		**P**	**00 09 16.7**	**+2.1**
USA0B	**Ussuriysk Arra**	**31.56**	**274**	P		**P**	**00 09 16.3**	**-0.1**
USA0B							00 12 06.7	
USA0B	comp=Z,24nm,0.8s				pmax	pmax		
USA0B	**Ussuriysk Arra**	**31.56**	**274**	P		**P**	**00 09 16.3**	**-0.1**
USA0B	comp=Z,24nm,0.8s				IAmb	IAmb	00 09 17.2	
USA0B					PcP	**PcP**	**00 12 06.7**	**+0.6**
USRK	**Ussuriysk Ar.** comp=Z,28nm,0.8s,baz=55,slow=7.5,SNR=50	**31.56**	**274**	P		**P**	**00 09 16.2**	**-0.2**
USRK	comp=Z,12nm,0.7s,baz=63,slow=1.6,SNR=21				PcP	**PcP**	**00 12 07.0**	**+0.9**
USRK	comp=Z,0.9nm,0.4s,baz=29,slow=4.4,SNR=8.0				ScP	**ScP**	**00 15 38.2**	**-0.1**
USRK	**Ussuriysk Ar.**	**31.56**	**274**	P		**P**	**00 09 15.8**	**-0.7**
USRK					PcP	**PcP**	**00 12 06.4**	**+0.4**
USRK					ScP	**ScP**	**00 15 40.0**	**+1.8**
VLA	**Vladivostok**	**32.20**	**273**	*de*P		**P**	**00 09 22.6**	**+0.6**
VLA	comp=Z,47nm,1.0s				pmax	pmax		
MJAR	**Matsushiro Arr** comp=Z,12nm,0.8s,baz=50,slow=7.2,SNR=38	**32.25**	**257**	P		**P**	**00 09 23.5**	**+0.9**
MJAR	comp=Z,3.4nm,0.6s,baz=91,slow=1.2,SNR=7.2				PcP	**PcP**	**00 12 08.5**	**+0.4**
MJAR	comp=Z,25nm,21.7s,baz=75,slow=32				LR	LR	00 20 10.4	
MJAR	**Matsushiro Arr**	**32.25**	**257**	P		**P**	**00 09 22.9**	**+0.3**
MJAR					PcP	**PcP**	**00 12 08.0**	**-0.1**
MAJO	**Matsushiro**	**32.25

YKA LR LR 00 25 39.5
comp=Z,121nm,19.6s,baz=0.0,slow=38
BOD Bodaibo 36.27 305 *e*P **P 00 09 56.0 -1.0**
BOD pmax pmax
comp=Z,26nm,1.2s
LLLB Lillooet 36.40 68 P **P 00 09 58.2 0.0**
HIA Hailar 36.51 290 *d i*P **P 00 09 58.4 -0.7**
HIA pmax pmax
comp=Z,20nm,0.8s
HIA Hailar 36.51 290 P **P 00 09 58.8 -0.3**
HHU Hamhung 36.70 271 P **P 00 10 01.2 +0.4**
NLWA Neilton Lookou 36.72 74 IAmb IAmb 00 10 03.2
comp=Z,29nm,0.8s
A04D Lummi Island 36.77 71 P **P 00 10 01.9 +0.6**
baz=298,SNR=7.5
D03D Eldon 37.12 73 P **P 00 10 05.2 +0.9**
baz=299,SNR=31
WOSN Wonsan 37.22 271 P **P 00 10 06.5 +1.3**
E03A Lebam 37.32 75 IAmb IAmb 00 10 08.6
comp=Z,47nm,0.9s
B05A Bryant 37.35 71 P **P 00 10 06.5 +0.3**
baz=299,SNR=20
D04E Lakebay 37.48 73 P **P 00 10 08.3 +1.1**
baz=300
B06A Marblemount 37.58 71 P **P 00 10 07.2 -0.9**
B06A IAmb IAmb 00 10 09.9
comp=Z,35nm,1.4s
F03A Seaside 37.64 76 IAmb IAmb 00 10 10.3
comp=Z,31nm,0.8s
F04D Rainier, OR 37.89 75 P **P 00 10 11.2 +0.4**
baz=301
E04D Cinebar 37.91 74 P **P 00 10 12.1 +1.1**
baz=300,SNR=20
D05A Enumclaw 37.94 73 IAmb IAmb 00 10 13.4
comp=Z,59nm,1.1s
KSRS Korea Array 37.97 268 P **P 00 10 12.9 +1.4**
comp=Z,23nm,0.9s,baz=59,slow=8.3,SNR=97
KSRS PcP **PcP 00 12 25.9 +1.2**
comp=Z,7.1nm,0.7s,baz=46,slow=3.0,SNR=20
KS19 Wonju Array Si 37.97 268 P **P 00 10 12.7 +1.1**
KS19 IAmb IAmb 00 10 14.0
comp=Z,32nm,0.9s
KS19 PcP **PcP 00 12 25.7 +0.9**
KSAR Wonju Array Be 38.00 268 P **P 00 10 11.6 -0.2**
KSAR 00 12 25.5
KSAR Wonju Array Be 38.00 268 P **P 00 10 11.6 -0.2**
KSAR PcP **PcP 00 12 25.5 +0.7**
SNY Shenyang 38.03 277 ⇓ *i*P **P 00 10 12.8 +0.8**
SNY PcP **PcP 00 12 26.0 +1.1**
SNY S **S 00 15 55.4 -0.1**
SNY pmax pmax
comp=Z,33nm,1.2s
SNY LR LR
comp=Z,120nm,9.8s
SNY LR LR
comp=Z,92nm,5.5s
SNY LR LR
comp=Z,300nm,30.6s
PYS Pyongsong 38.14 272 P **P 00 10 13.5 +0.6**
G03D McMinnville, O 38.19 76 P **P 00 10 14.3 +1.0**
baz=302
PYAG Pyongyang 38.32 272 P **P 00 10 15.3 +0.9**
PYAG S **S 00 15 55.8 -4.2**
F04A Amboy 38.32 75 IAmb IAmb 00 10 15.8
comp=Z,68nm,1.2s
I02D Swisshome 38.43 78 P **P 00 10 16.5 +1.2**
baz=303,SNR=5.9
SUJ Sinuiju 38.47 274 P **P 00 10 15.9 +0.2**
SUJ S **S 00 16 04.0 +1.8**
COR Corvallis 38.50 77 P **P 00 10 16.2 +0.3**
COR pmax pmax
comp=Z,34nm,0.7s
COR Corvallis 38.50 77 P **P 00 10 16.2 +0.3**
COR IAmb IAmb 00 10 17.9
comp=Z,34nm,0.7s
INCN Inchon 38.74 269 P **P 00 10 19.0 +0.9**
INCN pmax pmax
comp=Z,77nm,0.9s
INCN Inchon 38.74 269 P **P 00 10 19.0 +0.9**
H04D Lebanon 38.87 77 P **P 00 10 20.2 +1.1**
baz=303,SNR=7.6
J01E Myrtle Point 38.89 80 P **P 00 10 20.6 +1.4**
baz=304,SNR=6.0
B08A Colville Reser 38.91 70 IAmb IAmb 00 10 20.5
comp=Z,36nm,1.1s
F05D White Salmon 38.92 74 P **P 00 10 20.0 +0.6**
baz=302
I03D Drain, OR 38.95 79 P **P 00 10 21.1 +1.4**
baz=303,SNR=14
HJU Haeju 38.96 270 P **P 00 10 21.5 +1.7**
TJN Taejon 39.00 267 *d i*P **P 00 10 21.0 +0.9**
JNU Nakatsue 39.00 260 P **P 00 10 21.5 +1.3**
comp=Z,41nm,0.9s,baz=48,slow=7.0,SNR=21
JNU PcP **PcP 00 12 27.9 -0.3**
comp=Z,8.0nm,0.7s,baz=31,slow=4.1,SNR=9.4
JNU LR LR 00 26 19.9
comp=Z,37nm,21.1s,baz=51,slow=36
JNU Nakatsue 39.00 260 P **P 00 10 21.3 +1.0**
JNU IAmb IAmb 00 10 22.7
comp=Z,62nm,1.0s
H04A Detroit Lake 39.12 76 IAmb IAmb 00 10 22.9
comp=Z,35nm,0.8s
K02D Willamette Mer 39.32 80 P **P 00 10 24.3 +1.5**
baz=304,SNR=21
G05D Wamic, OR 39.34 75 P **P 00 10 23.7 +0.7**
baz=302,SNR=8.7
I04A Tendick Farm, 39.47 78 P **P 00 10 25.0 +0.9**
baz=304,SNR=20
HAWA Hanford 39.80 73 IAmb IAmb 00 10 28.0
comp=Z,55nm,1.1s
C09A Chrisman Ranch 39.81 70 IAmb IAmb 00 10 27.6
comp=Z,43nm,1.1s
D08A Wollman Farm, 39.81 71 IAmb IAmb 00 10 27.6
comp=Z,32nm,1.2s
I05D Terrebonne, OR 39.81 76 P **P 00 10 27.5 +0.6**
baz=303,SNR=8.6
F07A Phinny Hill Vi 39.82 74 IAmb IAmb 00 10 28.3
comp=Z,41nm,0.9s
KRMB Red Mountain 39.84 82 P **P 00 10 27.6 +0.4**
KRMB IAmb IAmb 00 10 29.6
comp=Z,27nm,0.6s
J04D Umpqua Nationa 39.96 78 P **P 00 10 29.4 +1.2**
baz=304,SNR=11
E08A Dider Farm, El 40.02 72 IAmb IAmb 00 10 29.5
comp=Z,40nm,1.0s
NEW Newport 40.24 69 P **P 00 10 30.2 -0.2**
baz=300
NEW Newport 40.24 69 IAmb IAmb 00 10 31.1
comp=Z,62nm,1.1s
KHMM Horse Mountain 40.32 82 P **P 00 10 32.7 +1.4**
PINE Pine Mountain 40.35 77 P **P 00 10 31.6 0.0**
L04D Klamath Falls 40.42 80 P **P 00 10 33.3 +1.3**
baz=305,SNR=40
YBH Yreka Blue Hor 40.45 81 P **P 00 10 32.9 +0.7**
YBH pmax pmax
comp=Z,48nm,0.9s
YBH Yreka Blue Hor 40.45 81 P **P 00 10 32.9 +0.7**
YBH IAmb IAmb 00 10 35.1
comp=Z,48nm,0.8s
J05D Fort Rock, OR 40.46 78 P **P 00 10 33.8 +1.4**
baz=304,SNR=31
K04D Chiloquin, OR 40.52 79 P **P 00 10 33.8 +0.9**
baz=305
E09A Wood Farm, Sta 40.55 72 IAmb IAmb 00 10 34.4
comp=Z,35nm,1.0s
M02C Callahan 40.56 81 P **P 00 10 34.7 +1.6**
baz=306,SNR=27
N02D Trinity Center 40.89 82 P **P 00 10 37.7 +1.9**
baz=306,SNR=23
M04C Macdoel 40.95 80 P **P 00 10 37.8 +1.4**
baz=306,SNR=35
DL2 Dalian 40.96 275 P **P 00 10 36.6 +0.3**
DL2 ScP **ScP 00 16 19.0 +6.1**
DL2 S **S 00 16 39.3 -0.1**
DL2 pmax pmax
comp=Z,55nm,0.8s
DL2 pmax pmax
comp=Z,34nm,4.7s
K05A Summer Lake 40.98 78 P **P 00 10 37.3 +0.6**
I07A Izee 41.06 76 IAmb IAmb 00 10 38.7
comp=Z,32nm,0.9s
KCPM Cahto Peak 41.12 84 P **P 00 10 38.7 +0.9**
WDC Whiskeytown Da 41.23 82 IAmb IAmb 00 10 41.1
comp=Z,45nm,0.9s
O02D Mt. Diablo Mer 41.32 83 P **P 00 10 41.3 +1.9**
baz=307,SNR=23

MOD Modoc Plateau 41.81 79 IAmb IAmb 00 10 46.1
comp=Z,43nm,0.6s
O03E Paynes Creek 41.85 82 P **P 00 10 44.5 +0.8**
baz=307,SNR=68
J08A Circle Bar Ran 42.08 76 IAmb IAmb 00 10 46.6
comp=Z,18nm,0.6s
JTMT Jette 42.14 68 IAmb IAmb 00 10 47.0
comp=Z,46nm,1.3s
ORV Orrville 42.48 82 IAmb IAmb 00 10 50.2
comp=Z,38nm,0.8s
WVOR Wild Horse Val 42.51 77 IAmb IAmb 00 10 50.3
comp=Z,24nm,0.6s
MSO Missoula 42.83 69 P **P 00 10 51.0 -0.6**
baz=303
MSO Missoula 42.83 69 IAmb IAmb 00 10 52.1
comp=Z,46nm,1.1s
NRIK Noril'sk 43.04 329 P **P 00 10 53.1 +0.3**
comp=Z,13nm,0.8s,baz=84,slow=10,SNR=17
NRIK ScP **ScP 00 16 20.1 -0.7**
comp=Z,8.1nm,1.1s,baz=98,slow=5.7,SNR=5.8
NRIK LR LR 00 29 49.2
comp=Z,96nm,19.9s,baz=56,slow=37
AFDM Forest Hills D 43.18 83 P **P 00 10 54.9 +0.5**
AFDM PcP **PcP 00 12 40.7 -1.0**
BJI Beijing 43.61 280 P **P 00 10 58.8 +1.0**
BJI PcP **PcP 00 12 42.9 -0.2**
BJI S **S 00 17 19.8 +1.5**
BJI pmax pmax
comp=Z,36nm,1.0s
BJI LR LR
comp=Z,79nm,14.1s
BJI LR LR
comp=Z,120nm,11.6s
PAHR Pah Rah Range 43.68 81 IAmb IAmb 00 11 00.6
comp=Z,70nm,1.2s
VCNR Virginia City 43.77 81 IAmb IAmb 00 11 01.7
comp=Z,76nm,1.1s
CMB Columbia Colle 44.10 83 IAmb IAmb 00 11 04.2
comp=Z,49nm,1.2s
YERR Yerington 44.21 82 IAmb IAmb 00 11 05.0
comp=Z,69nm,1.1s
TLY Talaya 44.32 301 P **P 00 11 03.9 +0.5**
comp=Z,9.8nm,0.6s,baz=41,slow=3.4,SNR=7.9
TLY PcP **PcP 00 12 45.9 +0.5**
comp=Z,4.5nm,0.6s,baz=90,slow=1.0,SNR=3.6
TLY ScP **ScP 00 16 25.9 -0.4**
comp=Z,4.0nm,0.7s,baz=88,slow=1.7,SNR=4.7
TLY Talaya 44.32 301 *d i*P **P 00 11 03.7 +0.3**
TLY pmax pmax
comp=Z,36nm,0.9s
TLY Talaya 44.32 301 P **P 00 11 03.4 0.0**
HLID Hailey 44.38 73 P **P 00 11 04.0 -0.2**
baz=306
HLID Hailey 44.38 73 P **P 00 11 04.1 -0.1**
ULN Ulaanbaatar 44.49 294 *d i*P **P 00 11 05.3 +0.4**
ULN pmax pmax
comp=Z,31nm,0.9s
ULN Ulaanbaatar 44.49 294 P **P 00 11 05.6 +0.7**
ULN IAmb IAmb 00 11 06.4
comp=Z,28nm,0.9s
EGMT Eagleton 44.56 65 P **P 00 11 04.7 -0.7**
baz=303
EGMT Eagleton 44.56 65 IAmb IAmb 00 11 06.9
comp=Z,32nm,0.9s
BOZ Bozeman (W) 44.85 69 P **P 00 11 07.4 -0.4**
baz=305
BOZ Bozeman (W) 44.85 69 IAmb IAmb 00 11 08.2
comp=Z,49nm,0.8s
KVN Kaiserville 44.87 81 IAmb IAmb 00 11 10.2
comp=Z,78nm,1.4s
RYN Ryan 44.88 81 IAmb IAmb 00 11 10.0
comp=Z,89nm,1.2s
SONM Songino Array 44.88 295 P **P 00 11 08.7 +0.8**
comp=Z,21nm,0.6s,baz=59,slow=9.4,SNR=100
SONM PcP **PcP 00 12 47.9 +0.4**
comp=Z,8.2nm,0.6s,baz=64,slow=2.7,SNR=12
SONM ScP **ScP 00 16 28.5 -0.3**
comp=Z,9.2nm,0.9s,baz=51,slow=2.7,SNR=25
SONM LR LR 00 29 59.5
comp=Z,44nm,21.9s,baz=74,slow=36
SONM Songino Array 44.88 295 P **P 00 11 08.0 +0.1**
SONM pmax pmax
comp=Z,17nm,0.7s
SONM Songino Array 44.88 295 P **P 00 11 08.0 +0.1**
SONM ScP **ScP 00 16 28.9 +0.1**
PMPB Monarch Peak 45.01 86 IAmb IAmb 00 11 26.2
comp=Z,62nm,1.1s
JOW Kugami 45.06 256 P **P 00 11 10.5 +1.0**
comp=Z,5.8nm,0.9s,baz=73,slow=24,SNR=7.5
NVAR Mina Array Bea 45.13 82 P **P 00 11 11.2 +1.0**
comp=Z,23nm,0.5s,baz=296,slow=7.6,SNR=195
NVAR pP **pP 00 11 38.2 +1.2**
comp=Z,8.5nm,0.8s,baz=304,slow=7.9,SNR=3.4
NVAR ScP **ScP 00 16 29.1 -1.1**
comp=Z,3.6nm,0.6s,baz=310,slow=4.5,SNR=15
NVAR LR LR 00 28 58.8
comp=Z,53nm,18.3s,baz=278,slow=34
NVAR Mina Array Bea 45.13 82 P **P 00 11 10.9 +0.7**
FFC Flin Flon 45.15 54 P **P 00 11 09.4 -0.4**
FFC pmax pmax
comp=Z,12nm,0.8s
FFC Flin Flon 45.15 54 P **P 00 11 09.4 -0.4**
ZAK Zakamensk 45.20 299 *e*P **P 00 11 10.4 -0.1**
ZAK *e* 00 12 46.2
ZAK pmax pmax
comp=Z,16nm,1.4s
OMMB Old Mammoth Mi 45.22 83 IAmb IAmb 00 11 13.4
comp=Z,69nm,1.3s
NV11 Mina Array Sit 45.22 81 IAmb IAmb 00 11 12.8
comp=Z,46nm,1.2s
TIA Tai'an 45.43 275 P **P 00 11 12.9 +0.6**
TIA pmax pmax
comp=Z,120nm,0.7s
ELK Elko 45.57 77 IAmb IAmb 00 11 15.0
comp=Z,23nm,0.6s
PAGB Antelope Grade 45.66 86 IAmb IAmb 00 11 16.5
comp=Z,56nm,0.7s
MOY Mondy 45.73 302 *e*P **P 00 11 14.9 +0.3**
MOY pmax pmax
comp=Z,31nm,1.4s
VOG Valley Oaks Go 45.81 85 P **P 00 11 16.1 +0.8**
baz=310
HHC Hu-ho-hao-te 45.91 284 *e*P **P 00 11 18.3 +2.1**
HHC PP **PP 00 13 07.6 +1.8**
HHC S **S 00 17 53.6 +1.8**
HHC SS **SS 00 21 13.3 -4.2**
HHC pmax pmax
comp=Z,30nm,1.4s
HHC pmax pmax
comp=Z,72nm,6.4s
HHC LR LR
comp=Z,74nm,14.5s
HHC LR LR
comp=Z,66nm,12.9s
HHC LR LR
comp=Z,45nm,15.2s
TIN Tinemaha, Big 46.05 83 P **P 00 11 18.7 +1.4**
baz=310
SMMC Simmler 46.09 86 P **P 00 11 18.8 +1.2**
baz=311
H17A Grant Village 46.15 70 P **P 00 11 19.1 +0.9**
baz=306
H17A Grant Village 46.15 70 IAmb IAmb 00 11 20.3
comp=Z,34nm,0.9s
FLWY Flagg Ranch 46.26 70 IAmb IAmb 00 11 20.3
comp=Z,32nm,0.7s
VES Vestal, Richgr 46.31 85 P **P 00 11 19.8 +0.7**
baz=311
SSE Sheshan 46.34 266 P **P 00 11 20.3 +0.8**
NOR Nord 46.42 3 *i*P **P 00 11 19.9 +0.4**
NOR Nord 46.42 3 *i*P **P 00 11 19.9 +0.4**
PKM Mcpherson Peak 46.48 86 P **P 00 11 22.3 +1.5**
baz=311
RLMT Red Lodge 46.48 68 P **P 00 11 20.7 0.0**
baz=306
RLMT Red Lodge 46.48 68 IAmb IAmb 00 11 22.3
comp=Z,48nm,1.0s
CWC Cottonwood Cre 46.54 83 P **P 00 11 22.2 +1.0**
baz=310
GRAC Grapevine Rang 46.62 82 P **P 00 11 23.0 +1.4**
baz=310
FCC Fort Churchill 46.75 46 P **P 00 11 21.9 -0.4**
FCC pmax pmax
comp=Z,20nm,0.9s
FCC Fort Churchill 46.75 46 P **P 00 11 21.9 -0.4**
ISA Isabella, Lake 46.80 85 P **P 00 11 23.3 +0.2**
baz=311

GUMO Guam 46.82 228 P **P 00 11 21.9 -1.5**
comp=Z,62nm,0.6s,baz=158,slow=10,SNR=4.2
GUMO Guam 46.82 228 P **P 00 11 21.9 -1.5**
GUMO pmax pmax
comp=Z,163nm,1.4s
R11A Troy Canyon, C 46.84 80 P **P 00 11 23.9 +0.3**
baz=309,SNR=90
R11A Troy Canyon, C 46.84 80 IAmb IAmb 00 11 24.5
comp=Z,27nm,0.6s
ARVC Arvin 46.93 85 P **P 00 11 24.3 +0.2**
baz=311
BTO Baotou 46.99 284 P **P 00 11 25.8 +1.2**
NJ2 Nanjing 47.13 269 *e*P **P 00 11 25.4 -0.2**
NJ2 pmax pmax
comp=Z,48nm,0.9s
MPMC Manual Prospec 47.15 83 P **P 00 11 26.8 +0.8**
baz=311
SCZ2 Santa Cruz Isl 47.18 87 P **P 00 11 25.9 -0.2**
baz=312
FURC Furnace Creek, 47.27 83 P **P 00 11 27.6 +1.0**
baz=311
LAO LASA Array 47.30 65 P **P 00 11 26.9 0.0**
baz=306
LAO LASA Array 47.30 65 IAmb IAmb 00 11 27.8
comp=Z,44nm,1.1s
TPNV Topopah Spring 47.33 82 P **P 00 11 28.3 +0.9**
baz=310
OSI Osito Audit: C 47.33 86 P **P 00 11 28.3 +1.0**
baz=312
OSI Osito Audit: C 47.33 86 IAmb IAmb 00 11 29.3
comp=Z,34nm,0.9s
TIY Taiyuan 47.34 280 *e*P **P 00 11 28.6 +1.3**
TIY sP **sP 00 12 01.5 -5.9**
TIY PP **PP 00 13 23.3 +4.1**
TIY S **S 00 18 12.0 -0.2**
TIY sS **sS 00 18 59.8 +1.2**
TIY pmax pmax
comp=Z,54nm,0.7s
TIY pmax pmax
comp=Z,110nm,3.6s
DUG Dugway, Tooele 47.36 76 P **P 00 11 28.1 +0.5**
baz=309
DUG Dugway, Tooele 47.36 76 IAmb IAmb 00 11 28.9
comp=Z,32nm,0.7s
DGMT Dagmar 47.39 62 P **P 00 11 26.9 -0.6**
baz=305
DGMT Dagmar 47.39 62 IAmb IAmb 00 11 27.8
comp=Z,34nm,1.1s
KRAR Krasnoyarsk 47.42 310 ⇑ *e*P **P 00 11 27.9 +0.3**
EDW2 Edwards Air Fo 47.61 85 P **P 00 11 30.0 +0.7**
baz=312
BW06 Boulder Array 47.72 71 P **P 00 11 30.0 -0.3**
baz=308
BW06 Boulder Array 47.72 71 IAmb IAmb 00 11 30.9
comp=Z,34nm,0.9s
PD31 Pinedale Array 47.72 71 IAmb IAmb 00 11 30.9
comp=Z,32nm,0.9s
PDAR Pinedale Array 47.72 71 P **P 00 11 29.9 -0.4**
comp=Z,25nm,0.7s,baz=304,slow=4.1,SNR=167
PDAR ScP **ScP 00 16 38.4 -2.5**
comp=Z,2.1nm,0.8s,baz=299,slow=1.5,SNR=8.9
PDAR Pinedale Array 47.72 71 P **P 00 11 29.7 -0.6**
SNCC San Nicolas Is 47.75 88 P **P 00 11 31.4 +1.0**
baz=313
DECC Green Verdugo 47.81 86 P **P 00 11 31.8 +0.9**
baz=312
PASC Pasadena Art C 47.96 86 IAmb IAmb 00 11 33.8
comp=Z,34nm,0.9s
SHOC Shoshone, Teco 48.00 83 P **P 00 11 33.3 +1.0**
baz=311
GSC Goldstone, Bar 48.06 84 P **P 00 11 33.8 +0.9**
baz=311
FMP Fort Macarthur 48.20 86 P **P 00 11 34.6 +0.7**
baz=312
RRX Edison Barstow 48.23 84 P **P 00 11 34.9 +0.8**
baz=312
BFSC Mount Baldy Ra 48.24 85 P **P 00 11 35.1 +0.8**
baz=312
CIS Catalina Islan 48.33 87 P **P 00 11 35.6 +0.7**
baz=312
KULLO Kullorsuaq 48.41 17 *i*P **P 00 11 35.8 +0.9**
comp=Z,8.4nm,0.6s
KULLO Kullorsuaq 48.41 17 *e*P **P 00 11 35.8 +0.9**
KULLO pmax pmax
comp=Z,8.0nm,0.6s
TUQ Turquoise Moun 48.52 83 P **P 00 11 37.2 +0.7**
baz=311
HEC Hector,Ludlow 48.66 84 P **P 00 11 38.3 +0.8**
baz=312
BBRC Big Bear Solar 48.68 85 P **P 00 11 38.7 +0.9**
baz=312
MURC Murrieta 48.95 86 P **P 00 11 40.4 +0.7**
baz=312
GMRC Granite Mounta 49.11 83 P **P 00 11 41.7 +0.7**
baz=312
KBS Kingsbay 49.11 357 ⇓ *e*P **P 00 11 40.6 +0.3**
KBS pmax pmax
comp=Z,16nm,0.8s
KBS Kingsbay 49.11 357 P **P 00 11 40.7 +0.5**
KBS Kingsbay 49.11 357 *e*P **P 00 11 39.0 -1.2**
PFO Pinyon Flats O 49.40 85 P **P 00 11 43.7 +0.5**
baz=312
PFO Pinyon Flats O 49.40 85 *c i*P **P 00 11 43.6 +0.5**
PFO pmax pmax
comp=Z,19nm,0.9s
PFO Pinyon Flats O 49.40 85 P **P 00 11 43.7 +0.5**
XPFO Pion Flat 49.40 85 P **P 00 11 43.7 +0.5**
BELC Belle Mtn. Jos 49.42 84 P **P 00 11 43.7 +0.3**
baz=312
109C Camp Elliot, M 49.49 86 P **P 00 11 44.4 +0.7**
baz=313,SNR=6.6
K22A Casper 49.55 69 P **P 00 11 43.2 -1.1**
baz=308,SNR=13
K22A Casper 49.55 69 IAmb IAmb 00 11 44.5
comp=Z,18nm,0.8s
SPA0 Spitsbergen Ar 49.65 355 P **P 00 11 44.6 +0.2**
SPA0 IAmb IAmb 00 11 45.3
comp=Z,27nm,0.9s
SPA0 Spitsbergen Ar 49.65 355 *e*P **P 00 11 44.3 -0.1**
NEE2 Needles Airpor 49.76 83 P **P 00 11 46.2 +0.5**
baz=312
IRM Iron Mountain 49.84 84 P **P 00 11 47.0 +0.5**
baz=312
BAR Barrett 49.90 86 IAmb IAmb 00 11 48.6
comp=Z,42nm,0.8s
MONP2 Monument Peak 49.91 86 P **P 00 11 47.9 +0.7**
baz=313
W13A Hualapai Mount 49.99 82 IAmb IAmb 00 11 49.2
comp=Z,19nm,0.7s
BC3 Big Chuckawall 49.99 84 P **P 00 11 47.8 +0.1**
baz=313
RSSD Black Hills 50.07 66 P **P 00 11 47.2 -1.0**
baz=308
RSSD Black Hills 50.07 66 P **P 00 11 47.3 -1.0**
RSSD pmax pmax
comp=Z,10.0nm,0.7s
RSSD Black Hills 50.07 66 P **P 00 11 47.3 -1.0**
O20A White River Ci 50.13 73 P **P 00 11 48.3 -0.4**
baz=310,SNR=26
O20A White River Ci 50.13 73 IAmb IAmb 00 11 49.2
comp=Z,32nm,0.7s
MDND Maddock 50.25 60 P **P 00 11 49.1 -0.2**
baz=307,SNR=13
SWSC Sam W. Stewart 50.26 85 P **P 00 11 49.9 +0.4**
baz=313
IKP In-Ko-Pah, Jac 50.27 86 P **P 00 11 50.4 +0.7**
baz=313
PDMCI Parker Dam,Lak 50.36 83 P **P 00 11 50.8 +0.5**
baz=312
E28A Huff 50.43 62 IAmb IAmb 00 11 51.3
comp=Z,23nm,1.0s
Y12C Blythe 50.50 84 P **P 00 11 51.6 +0.3**
baz=313,SNR=18
Y12C Blythe 50.50 84 IAmb IAmb 00 11 53.0
comp=Z,45nm,0.9s
HOPEN Hopen 50.67 352 *e*P **P 00 11 52.6 +0.6**
PV21 Cone Mtn., Par 50.70 75 IAmb IAmb 00 11 56.4
comp=Z,16nm,0.6s
PV23 Carpenter Ridg 50.75 75 IAmb IAmb 00 11 57.5
comp=Z,24nm,0.6s
ULM Lac du Bonnet 50.75 56 P **P 00 11 52.5 -0.5**
comp=Z,16nm,0.6s,baz=300,slow=8.4,SNR=12
ULM LR LR 00 33 59.4
comp=Z,82nm,20.0s,baz=301,slow=37
ULM Lac du Bonnet 50.75 56 *c i*P **P 00 11 52.3 -0.7**
ULM Lac du Bonnet 50.75 56 IAmb IAmb 00 11 53.4
comp=Z,40nm,1.2s

GLA	Glamis		50.78	84	P	P	00 11 54.3	+0.7		
	baz=313									
PV14	Lion Creek, Pa		50.79	75	IAmb	IAmb	00 11 54.4			
	comp=Z,26nm,0.6s									
HSPB	Hornsund (broa		50.84	355	*e*P	P	00 11 53.4	+0.1		
HSPB	Hornsund (broa		50.84	355	*e*P	P	00 11 53.5	+0.2		
WHN	Wuhan		50.95	271	⇓*i*P	P	00 11 55.0	+0.2		
WHN					PcP	PcP	00 13 10.3	+0.9		
N23A	Red Feather La		50.99	71	P	P	00 11 55.1	-0.2		
	baz=310,SNR=12									
DAG	Danmarks Havn		51.06	5	⇓*i*P	P	00 11 54.7	-0.3		
	comp=Z,4.0nm,0.7s									
DAG	Danmarks Havn		51.06	5	⇓*i*P	P	00 11 54.7	-0.3		
DAG					pmax	pmax				
	comp=Z,4.0nm,0.7s									
PV01	Paradox Valley		51.22	75	IAmb	IAmb	00 11 57.8			
	comp=Z,26nm,1.0s									
WUAZ	Wupatki		51.24	80	P	P	00 11 57.9	+0.8		
	baz=312									
WUAZ	Wupatki		51.24	80	IAmb	IAmb	00 11 58.5			
	comp=Z,23nm,0.6s									
Y14A	Wickenburg		51.30	82	IAmb	IAmb	00 11 59.1			
	comp=Z,38nm,1.3s									
SSLB	Suanglung		51.74	260	P	P	00 12 01.1	+0.3		
YULB	Yu-li		51.83	259	P	P	00 12 01.4	0.0		
MVCO	Mesa Verde		51.86	76	P	P	00 12 01.7	-0.1		
	baz=311									
ISCO	Idaho Springs		51.89	72	P	P	00 12 02.2	+0.1		
	baz=310									
XAN	Xi'an		51.90	279	P	P	00 12 01.8	-0.1		
XAN					pP	pP	00 12 27.0	-2.3		
XAN					sP	sP	00 12 38.9	-3.3		
XAN					PcP	PcP	00 13 13.5	+0.5		
XAN					PcS	PcS	00 17 13.1	+1.8		
XAN					SS	SS	00 22 50.3	-3.2		
XAN					pmax	pmax				
	comp=Z,42nm,1.1s									
XAN					LR	LR				
	comp=Z,200nm,18.4s									
XAN					LR	LR				
	comp=Z,220nm,21.7s									
XAN	Xi'an		51.90	279	P	P	00 12 02.0	+0.1		
XAN					pmax	pmax				
	comp=Z,62nm,1.3s									
XAN	Xi'an		51.90	279	P	P	00 12 02.0	+0.1		
XAN					IAmb	IAmb	00 12 02.9			
	comp=Z,62nm,1.3s									
AGMN	Agassiz Nation		51.95	58	P	P	00 12 01.3	-0.7		
	baz=308									
AGMN	Agassiz Nation		51.95	58	IAmb	IAmb	00 12 02.3			
	comp=Z,39nm,1.1s									
TPUB	Ta-pu		52.30	260	P	P	00 12 05.3	+0.4		
QZH	Quanzhou		52.33	263	⇑*i*P	P	00 12 06.3	+1.2		
QZH					pmax	pmax				
	comp=Z,57nm,0.9s									
ZAA0	Zalesovo Array		52.39	312	P	P	00 12 04.2	-1.0		
ZAA0					PcP	PcP	00 13 14.7	+0.3		
ZAA0					IAmb	IAmb	00 13 16.0			
	comp=Z,17nm,0.8s									
ZALV	Zalesovo Beam		52.39	312	P	P	00 12 04.5	-0.6		
	comp=Z,4.0nm,0.6s,baz=48,slow=6.6,SNR=17									
ZALV					PcP	PcP	00 13 15.0	+0.6		
	comp=Z,16nm,0.7s,baz=28,slow=4.0,SNR=19									
ZALV					ScP	ScP	00 17 00.4	-0.1		
	comp=Z,4.2nm,0.7s,baz=34,slow=4.8,SNR=12									
ZALV					LR	LR	00 37 01.6			
	comp=Z,48nm,19.2s,baz=7.5,slow=39									
ZALV	Zalesovo Beam		52.39	312	P	P	00 12 04.4	-0.7		
ZALV					PcP	PcP	00 13 14.5	+0.1		
W18A	Petrified Fore		52.51	79	P	P	00 12 07.2	+0.7		
	baz=312									
S22A	4UR Ranch, Cre		52.51	74	P	P	00 12 07.2	+0.5		
	baz=311,SNR=35									
Q24A	Divide		52.71	72	P	P	00 12 08.1	0.0		
	baz=311									
SUSD	Miller		52.72	63	P	P	00 12 06.6	-1.2		
	baz=310									
214A	Organ Pipe Nat		52.77	84	P	P	00 12 08.8	+0.5		
	baz=314,SNR=15									
214A	Organ Pipe Nat		52.77	84	IAmb	IAmb	00 12 09.9			
	comp=Z,28nm,0.9s									
B35A	Bob, Littlefor		53.02	57	IAmb	IAmb	00 12 10.2			
	comp=Z,32nm,0.9s									
SUMG	Summit		53.11	13	⇓*i*P	P	00 12 11.3	+0.6		
	comp=Z,48nm,1.0s									
SUMG					*i*		00 12 41.9			
SUMG	Summit		53.11	13	⇓*i*P	P	00 12 11.3	+0.6		
SUMG					*i*		00 12 41.9			
SUMG					pmax	pmax				
	comp=Z,48nm,1.0s									
SUMG	Summit		53.11	13	P	P	00 12 11.0	+0.4		
SUMG					IAmb	IAmb	00 12 43.5			
	comp=Z,29nm,1.0s									
F33A	5 Mile Ranch,		53.27	60	IAmb	IAmb	00 12 11.5			
	comp=Z,18nm,0.9s									
SDCO	Great Sand Dun		53.30	74	P	P	00 12 12.9	+0.4		
	baz=312									
SDCO	Great Sand Dun		53.30	74	IAmb	IAmb	00 12 13.9			
	comp=Z,30nm,1.2s									
LZH	Lanzhou		53.61	284	⇓P	P	00 12 15.8	+1.3		
LZH					pP	pP	00 12 43.8	+1.8		
LZH					sP	sP	00 12 51.6	-3.2		
LZH					SS	SS	00 23 19.8	-0.7		
LZH					pmax	pmax				
	comp=Z,68nm,1.0s									
LZH					pmax	pmax				
	comp=Z,180nm,5.5s									
LZH					LR	LR				
	comp=Z,200nm,15.4s									
LZH					LR	LR				
	comp=Z,190nm,15.2s									
LZH					LR	LR				
	comp=Z,270nm,17.3s									
BBP	Basco		53.66	256	*e*P	P	00 12 14.3	-0.5		
TUC	Tucson		53.77	82	P	P	00 12 16.4	+0.7		
	baz=314									
TUC	Tucson		53.77	82	P	P	00 12 16.5	+0.8		
TUC					pmax	pmax				
	comp=Z,31nm,1.1s									
TUC	Tucson		53.77	82	P	P	00 12 16.5	+0.8		
TUC					IAmb	IAmb	00 12 17.5			
	comp=Z,31nm,1.1s									
GTA	Gaotai		53.79	290	⇓P	P	00 12 16.5	+0.7		
GTA					pP	pP	00 12 42.6	-0.2		
GTA					sP	sP	00 12 55.8	+0.3		
GTA					S	S	00 19 42.3	+1.0		
GTA					sS	sS	00 20 25.8	-2.3		
GTA					pmax	pmax				
	comp=Z,64nm,1.0s									
GTA					pmax	pmax				
	comp=Z,100nm,10.0s									
GTA					LR	LR				
	comp=Z,99nm,16.1s									
GTA					LR	LR				
	comp=Z,110nm,15.5s									
GTA					LR	LR				
	comp=Z,120nm,15.8s									
DGZ	Jazzator, Alta		53.84	306	*d*iP	P	00 12 16.5	+0.5		
DGZ					pmax	pmax				
	comp=Z,24nm,1.1s									
KSCO	Kaye Shedlock'		54.15	71	P	P	00 12 18.7	+0.2		
	baz=312									
KSCO	Kaye Shedlock'		54.15	71	IAmb	IAmb	00 12 19.7			
	comp=Z,42nm,0.9s									
T25A	Trinidad		54.35	73	P	P	00 12 20.2	+0.2		
	baz=312,SNR=27									
T25A	Trinidad		54.35	73	IAmb	IAmb	00 12 21.5			
	comp=Z,57nm,1.2s									
EYMN	Ely		54.44	56	P	P	00 12 19.7	-0.5		
	baz=311									
ECSD	EROS Data Cent		54.46	63	P	P	00 12 19.2	-1.2		
	baz=311									
ANMO	Albuquerque		54.60	77	P	P	00 12 22.0	+0.2		
	baz=313									
ANMO	Albuquerque		54.60	77	P	P	00 12 22.1	+0.2		
ANMO					pmax	pmax				
	comp=Z,11nm,1.1s									
ANMO	Albuquerque		54.60	77	P	P	00 12 22.1	+0.2		
Y22D	IRIS PASSCAL I		54.92	78	P	P	00 12 25.3	+1.2		
	baz=313									
BGNE	Belgrade		55.14	66	P	P	00 12 24.7	-0.6		
	baz=312									
SGCP	Mt. Cagua		55.30	254	*e*P	P	00 12 26.2	-0.5		
121A	Cookes Peak, D		55.45	80	P	P	00 12 28.6	+0.7		
	baz=314,SNR=17									
121A	Cookes Peak, D		55.45	80	IAmb	IAmb	00 12 29.7			
	comp=Z,15nm,0.7s									
SPMN	Marine on St.		55.54	59	P	P	00 12 27.5	-0.7		
	baz=312,SNR=6.5									
SPMN	Marine on St.		55.54	59	IAmb	IAmb	00 12 28.9			
	comp=Z,45nm,1.2s									
CBKS	Cedar Bluff		55.96	69	P	P	00 12 31.4	+0.1		
	baz=312									
HSIG			55.97	85	IAmb	IAmb	00 12 33.0			
	comp=Z,31nm,0.9s									
I37A	Lemond, Waseca		56.02	60	IAmb	IAmb	00 12 32.5			
	comp=Z,34nm,0.8s									
APYP	Conner		56.07	255	*e*P	P	00 12 32.0	-0.2		
ABRA	Dolores		56.55	255	*e*P	P	00 12 44.3	+8.6		
ZSN	Zaisan		56.61	306	⇓*i*P	P	00 12 36.2	+0.5		
	comp=Z,22nm,1.3s,baz=306									
ZSN					*e*S	S	00 20 19.9	+1.5		
	baz=306									
ZSN	Zaisan		56.61	306	*d*iP	P	00 12 36.2	+0.5		
ZSN					*e*S	S	00 20 19.9	+1.5		
ZSN					pmax	pmax				
	comp=Z,22nm,1.3s									
SEM	Semipalatinsk		56.84	311	*e*P	P	00 12 37.0	-0.7		
	comp=Z,3.7nm,0.6s,baz=311									
SEM					*e*S	S	00 20 23.2	+1.4		
	baz=311									
SEM	Semipalatinsk		56.84	311	*e*P	P	00 12 36.9	-0.7		
SEM					*e*S	S	00 20 23.1	+1.3		
SEM					pmax	pmax				
	comp=Z,4.0nm,0.6s									
COWI	Conover		56.87	56	IAmb	IAmb	00 12 37.6			
	comp=Z,15nm,0.7s									
G40A	Rib Lake		56.88	57	IAmb	IAmb	00 12 38.2			
	comp=Z,31nm,1.1s									
ARCES	ARCESS Array B		57.20	349	P	P	00 12 39.1	-0.5		
	comp=Z,5.9nm,0.6s,baz=29,slow=7.9,SNR=25									
ARCES					LR	LR	00 41 55.2			
	comp=Z,36nm,18.0s,baz=347,slow=41									
ARE0	ARCESS Array S		57.20	349	*e*P	P	00 12 38.9	-0.7		
CD2	Chengdu		57.21	279	P	P	00 12 40.4	+0.1		
CD2					pmax	pmax				
	comp=Z,60nm,0.7s									
K38A	Parkersburg		57.28	61	IAmb	IAmb	00 12 40.9			
	comp=Z,37nm,1.1s									
KURK	Kurchatov		57.38	312	P	P	00 12 41.3	+0.2		
KURK					pmax	pmax				
	comp=Z,49nm,0.6s									
KURK	Kurchatov		57.38	312	P	P	00 12 41.3	+0.2		
MSTX	Muleshoe		57.49	75	P	P	00 12 42.1	-0.1		
	baz=314									
MSTX	Muleshoe		57.49	75	IAmb	IAmb	00 12 43.4			
	comp=Z,20nm,0.7s									
KURBB	Kurchatov Arra		57.49	312	P	P	00 12 42.0	+0.1		
	comp=Z,36nm,0.6s,baz=42,slow=6.6,SNR=450									
KURBB					PcP	PcP	00 13 34.5	+0.4		
	comp=Z,11nm,0.7s,baz=43,slow=3.2,SNR=11									
KURBB					ScP	ScP	00 17 22.4	-0.4		
	comp=Z,2.7nm,0.7s,baz=46,slow=4.1,SNR=12									
KURBB					S	S	00 20 23.9	-6.0		
	comp=Z,3.1nm,1.2s,baz=53,slow=13,SNR=12									
KURBB	Kurchatov Arra		57.49	312	P	P	00 12 41.5	-0.4		
MNTX	Cornudas Mount		57.49	79	P	P	00 12 43.0	+0.8		
	baz=315									
MNTX	Cornudas Mount		57.49	79	IAmb	IAmb	00 12 43.9			
	comp=Z,24nm,0.7s									
AMTX	Amarillo		57.50	74	P	P	00 12 42.5	+0.1		
	baz=314									
AMTX	Amarillo		57.50	74	IAmb	IAmb	00 12 42.9			
	comp=Z,22nm,0.6s									
BALP	Baler		57.53	253	*e*P	P	00 12 42.6	+0.1		
SCIA	State Center		57.54	62	P	P	00 12 42.2	-0.2		
	baz=313									
KSU1	Kansas State U		57.56	67	P	P	00 12 41.6	-1.0		
	baz=313									
KSU1	Kansas State U		57.56	67	IAmb	IAmb	00 12 42.5			
	comp=Z,34nm,0.8s									
WMQ	Urumqi		57.60	301	*e*P	P	00 12 45.3	+2.4		
WMQ					LR	LR				
	comp=Z,75nm,12.1s									
WMQ					LR	LR				
	comp=Z,130nm,19.9s									
WMQ					LR	LR				
	comp=Z,82nm,25.1s									
PVCP	Virac		57.72	249	*e*P	P	00 12 44.0	+0.2		
SMPP	San Manuel, Pa		57.74	254	*e*P	P	00 12 42.4	-1.6		
TRO	Tromso		57.79	352	*e*P	P	00 12 44.4	+0.8		
KTK1	Kautokeino		57.96	350	*e*P	P	00 12 44.5	-0.4		
BOLP	Bolinao		58.02	255	*e*P	P	00 12 44.7	-1.2		
POLP	Polilio Island		58.11	252	*e*P	P	00 12 47.3	+0.7		
CNP	Catarman		58.29	248	*e*P	P	00 12 48.7	+0.8		
MK31	Makanchi Array		58.34	307	*i*P	P	00 12 47.2	-0.7		
MK31	Makanchi Array		58.34	307	IAmb	IAmb	00 12 48.4			
	comp=Z,15nm,0.7s									
MKAR	Makanchi Array		58.34	307	P	P	00 12 47.5	-0.4		
	comp=Z,20nm,0.7s,baz=50,slow=6.0,SNR=177									
MKAR					PcP	PcP	00 13 38.1	+0.5		
	comp=Z,4.8nm,0.8s,baz=69,slow=5.2,SNR=3.7									
MKAR					ScP	ScP	00 17 26.0	-0.8		
	comp=Z,1.1nm,0.8s,baz=46,slow=5.4,SNR=3.5									
MKAR					S	S	00 20 39.8	-1.4		
	comp=Z,0.9nm,0.9s,baz=71,slow=14,SNR=4.2									
MKAR					LR	LR	00 37 47.5			
	comp=Z,78nm,20.7s,baz=60,slow=36									
JFWS	Jewell Farm		58.46	60	P	P	00 12 47.7	-1.0		
	baz=314									
MAKZ	Makanchi		58.48	307	P	P	00 12 48.5	-0.4		
MAKZ					pmax	pmax				
	comp=Z,26nm,0.7s									
MAKZ	Makanchi		58.48	307	P	P	00 12 48.5	-0.4		
MAKZ					IAmb	IAmb	00 12 49.4			
	comp=Z,26nm,0.7s									
L40A	Anamosa		58.52	61	IAmb	IAmb	00 12 49.1			
	comp=Z,32nm,0.8s									
GYA	Guiyang		58.60	274	⇓P	P	00 12 50.1	0.0		
GYA					S	S	00 20 42.8	-2.4		
GYA					pmax	pmax				
	comp=Z,32nm,1.0s									
D46A	Sault St. Mari		58.89	53	P	P	00 12 51.5	-0.2		
	baz=314,SNR=7.9									
F45A	CMU Biological		58.99	54	P	P	00 12 52.3	-0.1		
	baz=314									
BOAC	Boc		59.17	251	*e*P	P	00 12 54.9	+1.0		
TGY	Tagaytay City		59.19	252	P	P	00 12 55.9	+1.7		
	comp=Z,206nm,0.5s,baz=279,slow=6.8,SNR=5.4									
D47A	Chapleau		59.23	52	P	P	00 12 53.6	-0.4		
	baz=315,SNR=17									
WMOK	Wichita Mounta		59.32	72	P	P	00 12 54.9	0.0		
	baz=315									
WMOK	Wichita Mounta		59.32	72	IAmb	IAmb	00 12 55.8			
	comp=Z,17nm,0.8s									
BVA0	Borovoye Array		59.34	318	*i*P	P	00 12 54.9	+0.2		
BRVK	Borovoye		59.36	318	P	P	00 12 55.4	+0.6		
BRVK					pmax	pmax				
	comp=Z,39nm,0.6s									
BRVK	Borovoye		59.36	318	P	P	00 12 55.4	+0.6		
G45A	Suttons Bay		59.37	55	P	P	00 12 54.6	-0.4		
	baz=314									
L42A	Oliver, Polo		59.40	60	IAmb	IAmb	00 12 55.1			
	comp=Z,49nm,1.4s									
H45A	Beulah		59.47	56	P	P	00 12 55.3	-0.3		
	baz=314									
E47A	Iron Bridge		59.57	53	P	P	00 12 56.0	-0.4		
	baz=315,SNR=12									
G46A	Petoskey		59.58	54	P	P	00 12 56.3	-0.1		
	baz=315									
STEI	Steigen		59.77	353	*e*P	P	00 12 57.3	0.0		
D48A	Paudash Townsh		59.77	51	P	P	00 12 57.0	-0.8		
	baz=315,SNR=6.6									
I45A	Fountain		59.78	56	P	P	00 12 57.7	-0.1		
	baz=315									
D49A	Beulah Townshi		59.92	51	P	P	00 12 58.1	-0.6		
	baz=315,SNR=6.2									
H46A	Fife Lake		59.95	55	P	P	00 12 58.8	-0.2		
	baz=315,SNR=6.1									
X34A	Smith Ranch, M		59.97	71	P	P	00 12 59.5	+0.2		
X34A					IAmb	IAmb	00 13 00.8			
	comp=Z,22nm,0.6s									
E48A	Lockeyer		60.09	52	P	P	00 12 59.7	-0.2		
	baz=315,SNR=11									
MSLP	Maasin		60.10	246	*e*P	P	00 13 00.1	-0.2		
J45A	Montague		60.12	57	P	P	00 12 59.7	-0.5		
	baz=315									
SVE	Sverdlovsk		60.17	326	*c*iP	P	00 13 01.8	+1.5		
SVE					pmax	pmax				
	comp=Z,76nm,1.2s									
G47A	Hillman		60.19	54	P	P	00 13 00.4	-0.2		
	baz=315									
TMCR	Tamitsa		60.19	341	*e*P	P	00 12 58.8	-1.4		
TMCR					pmax	pmax				
	comp=Z,25nm,0.8s									
L44A	Lake County Fo		60.21	59	P	P	00 13 00.3	-0.5		
	baz=315,SNR=5.8									
TX32	Lajitas Array		60.21	80	IAmb	IAmb	00 13 02.4			
	comp=Z,24nm,0.7s									
TXAR	Lajitas Array		60.21	80	P	P	00 13 01.4	+0.3		
	comp=Z,18nm,0.6s,baz=303,slow=4.8,SNR=313									
TXAR					ScP	ScP	00 17 34.1	-1.3		
	comp=Z,2.2nm,0.7s,baz=286,slow=3.3,SNR=9.3									
TXAR					LR	LR	00 38 33.3			
	comp=Z,37nm,18.0s,baz=0.0,slow=35									
TXAR					PKP2bc		00 42 34.1			
	comp=Z,0.5nm,0.9s,baz=131,slow=2.5,SNR=3.6									
TUL1	Leonard		60.24	69	P	P	00 13 00.3	-0.8		
	baz=315,SNR=8.7									
TUL1	Leonard		60.24	69	IAmb	IAmb	00 13 01.6			
	comp=Z,26nm,0.8s									
I46A	Reed City		60.25	56	P	P	00 13 00.9	-0.1		
	baz=315,SNR=5.4									
ABTX	Abilene, Hawle		60.29	74	P	P	00 13 01.7	+0.2		
	baz=315,SNR=12									
FAUS	Fauske		60.30	353	*e*P	P	00 13 01.3	+0.3		
F48A	Evansville		60.33	53	P	P	00 13 01.4	-0.2		
	baz=315,SNR=9.1									
H47A	Mio		60.41	55	P	P	00 13 02.0	-0.2		
	baz=315									
SLBS	Sierra La Lagu		60.44	89	P	P	00 13 03.3	+0.6		
SCHQ	Schefferville		60.56	37	P	P	00 13 03.1	+0.1		
	comp=Z,12nm,0.6s,baz=316,slow=6.3,SNR=21									
SCHQ					pP	pwP	00 13 32.2	-0.5		
	comp=Z,13nm,0.9s,baz=333,slow=9.0,SNR=4.9									
SCHQ					LR	LR	00 42 22.0			
	comp=Z,71nm,18.9s,baz=10,slow=39									
SCHQ	Schefferville		60.56	37	P	P	00 13 03.5	+0.5		
SCHQ					IAmb	IAmb	00 13 04.1			
	comp=Z,36nm,1.1s									
BRZS	Berezniki		60.59	315	⇓*i*P	P	00 13 03.3	0.0		
	comp=Z,33nm,1.2s,baz=314									
BRZS	Berezniki		60.59	315	*d*iP	P	00 13 03.2	0.0		
BRZS					pmax	pmax				
	comp=Z,33nm,1.2s									
HDIL	Hopedale		60.61	61	P	P	00 13 02.9	-0.6		
	baz=315									
F49A	Sandfield		60.66	52	P	P	00 13 03.6	-0.2		
	baz=316,SNR=13									
I47A	Gladwin		60.67	55	P	P	00 13 03.9	0.0		
	baz=315									
U38A	Gravette		60.67	67	IAmb	IAmb	00 13 03.7			
	comp=Z,19nm,0.9s									
LSQQ	Lebel-sur-Quev		60.67	47	P	P	00 13 02.8	-1.0		
	baz=317									
HPIG			60.71	83	P	P	00 13 05.0	+0.3		
HPIG					IAmb	IAmb	00 13 06.2			
	comp=Z,19nm,0.9s									
D50A	G1974 Best Tow		60.72	50	P	P	00 13 03.3	-0.8		
	baz=316,SNR=10									
E50A	Wahnapitae		60.82	51	P	P	00 13 04.2	-0.7		
	baz=316,SNR=5.1									
D51A	Lot 18 Range I		60.99	50	P	P	00 13 05.0	-1.1		
	baz=316,SNR=8.7									
GUIM	Jordan		61.00	249	*e*P	P	00 13 05.8	-0.7		
HHAR	Hobbs		61.04	67	IAmb	IAmb	00 13 06.0			
	comp=Z,17nm,0.8s									
VLDQ	Val d'Or		61.15	48	IAmb	IAmb	00 13 05.8			
	comp=Z,37nm,1.1s									
ARU	Arti		61.20	327	*d*iP	P	00 13 08.1	+0.8		
ARU					pmax	pmax				
	comp=Z,122nm,1.2s									
ARU	Arti		61.20	327	P	P	00 13 07.4	+0.1		
CHGQ	Chibougamau		61.21	45	P	P	00 13 06.3	-1.1		
	baz=318									
BUSP	Coron		61.29	252	*e*P	P	00 13 08.3	-0.1		
CCM	Cathedral Cave		61.30	64	P	P	00 13 06.8	-1.4		
	baz=315									
CCM	Cathedral Cave		61.30	64	P	P	00 13 06.9	-1.4		
CCM					pmax	pmax				
	comp=Z,9.0nm,0.6s									
CCM	Cathedral Cave		61.30	64	P	P	00 13 06.9	-1.4		
E51A	G1948 Merrick		61.34	50	P	P	00 13 07.5	-0.8		
	baz=316,SNR=9.2									
X37A	Clayton		61.41	70	IAmb	IAmb	00 13 09.9			
	comp=Z,19nm,0.8s									
TDK	Taldyqorghan		61.52	307	*i* P	P	00 13 10.1	+0.4		
	comp=Z,37nm,0.8s,baz=307									
TDK	Taldyqorghan		61.52	307	*i* P	P	00 13 10.1	+0.4		
TDK					pmax	pmax				
	comp=Z,37nm,0.8s									
D52A	ZEK Kipawa Sen		61.53	49	P	P	00 13 08.8	-0.9		
	baz=317,SNR=10.0									
J48A	Bridge Port		61.55	55	P	P	00 13 09.4	-0.4		
	baz=316									
F51A	Arnstein		61.58	51	P	P	00 13 09.0	-1.0		
	baz=317									
I49A	Point Hope		61.58	54	P	P	00 13 09.9	-0.1		
	baz=316									
U40A	Yellville		61.60	67	P	P	00 13 08.9	-1.4		
	baz=316,SNR=23									
U40A	Yellville		61.60	67	IAmb	IAmb	00 13 10.5			
	comp=Z,25nm,0.8s									
CNOP	Candoni, Negro		61.62	248	*e*P	P	00 13 08.5	-2.1		
JCT	Junction City		61.73	76	P	P	00 13 10.9	-0.3		
	baz=316									
JCT	Junction City		61.73	76	IAmb	IAmb	00 13 12.0			
	comp=Z,29nm,1.2s									
CUYO	Cuyo Island		61.73	250	*e*P	P	00 13 11.6	+0.2		
D53A	Lac Vacive, Po		61.79	49	P	P	00 13 10.4	-0.9		
	baz=317,SNR=12									
D53A	L

KCP **Kidapawan** 62.53 244⇑ *i*P P 00 13 18.0 +1.2
UZB **Uzynbulak** 62.56 306⇓ *i*P P 00 13 17.1 +0.2
comp=Z,12nm,0.9s,baz=306
UZB **Uzynbulak** 62.56 306 *d i*P P 00 13 17.0 +0.2
UZB pmax pmax
comp=Z,12nm,0.9s
I51A **Listowel** 62.58 53 P P 00 13 17.0 +0.3
baz=317,SNR=12
BORG **Borgarnes** 62.60 9 LR LR 00 44 05.5
comp=Z,20nm,19.2s,baz=342,slow=39
WHAR **Wooly Hollow** 62.69 67 P P 00 13 16.6 -1.0
WHAR IAmb IAmb 00 13 17.6
comp=Z,36nm,1.3s
G53A **Haliburton** 62.79 51 P P 00 13 17.4 -0.6
baz=317,SNR=26
W41B **Gary Mavity, V** 62.79 67 P P 00 13 17.3 -0.9
baz=316,SNR=19
W41B **Gary Mavity, V** 62.79 67 IAmb IAmb 00 13 17.8
comp=Z,16nm,0.6s
PAGZ **Pagadian** 62.80 246 *e*P P 00 13 16.6 -2.0
KLMR **Klimovskoe** 62.83 339 *e*P P 00 13 17.4 -0.7
KLMR pmax pmax
comp=Z,19nm,1.2s
KLMR **Klimovskoe** 62.83 339 *e*P P 00 13 17.4 -0.7
KLMR AMP 00 13 20.3
comp=Z,19nm,1.2s
435B **Jarrell** 62.83 74 P P 00 13 19.0 +0.4
baz=316
435B **Jarrell** 62.83 74 IAmb IAmb 00 13 19.9
comp=Z,34nm,0.8s
G54A **Lake Saint Pet** 62.84 50 P P 00 13 17.4 -1.0
baz=318,SNR=6.3
D55A **Sainte-Anne-du** 62.86 48 P P 00 13 17.4 -1.1
baz=318,SNR=28
SATY **Saty** 62.93 306⇓ *i*P P 00 13 19.9 +0.7
comp=Z,18nm,1.5s,baz=306
SATY **Saty** 62.93 306 *d i*P P 00 13 19.9 +0.7
SATY pmax pmax
comp=Z,17nm,1.5s
X40A **Basin Creek Fa** 62.95 68 P P 00 13 18.7 -0.6
baz=316,SNR=11
X40A **Basin Creek Fa** 62.95 68 IAmb IAmb 00 13 19.8
comp=Z,22nm,1.1s
L50A **Kingsville** 62.96 56 P P 00 13 18.7 -0.5
baz=317
JAY **Jayapura** 62.99 223 P P 00 13 20.5 +0.7
comp=Z,22nm,0.9s,baz=360,slow=2.7,SNR=7.6
237A **Washetta, Mont** 63.01 72 IAmb IAmb 00 13 20.6
comp=Z,29nm,0.8s
E55A **Montcerf-Lytto** 63.01 48 P P 00 13 18.1 -1.4
baz=318
O48A **Farmland** 63.03 59 P P 00 13 18.5 -1.3
baz=316,SNR=13
CHKK **Chushkaly** 63.06 307⇓ *i*P P 00 13 19.2 -0.7
baz=307
CHKK **Chushkaly** 63.06 307⇓ *i*P P 00 13 19.2 -0.7
N49A **Columbus Grove** 63.06 57 IAmb IAmb 00 13 20.3
comp=Z,45nm,1.3s
BLO **Bloomington** 63.09 60 IAmb IAmb 00 13 20.3
comp=Z,76nm,1.6s
K51A **Iona Station** 63.12 54 P P 00 13 20.3 0.0
baz=317
D56A **ZEC Mazanza, M** 63.16 47 P P 00 13 19.2 -1.3
baz=318,SNR=15
H53A **Bobcaygeon** 63.21 51 P P 00 13 20.3 -0.6
baz=316,SNR=9.6
J52A **Paris** 63.26 53 P P 00 13 21.2 0.0
baz=317
I53A **Kortright Cn E** 63.27 52 P P 00 13 21.2 -0.1
baz=317
F55A **Otter Lake** 63.34 49 P P 00 13 20.2 -1.4
baz=318
KUU **Kurty** 63.35 308⇓ *i*P P 00 13 21.4 -0.5
comp=Z,24nm,1.2s,baz=308
KUU **Kurty** 63.35 308 *d i*P P 00 13 21.3 -0.5
KUU pmax pmax
comp=Z,24nm,1.2s
NSS **Namsos** 63.36 354 *e*P P 00 13 21.6 +0.1
WLAR **White Oak Lake** 63.36 69 IAmb IAmb 00 13 22.9
comp=Z,51nm,1.1s
E56A **St. Veronique** 63.41 48 P P 00 13 20.9 -1.3
baz=319,SNR=12
833A **Chaparral WMA,** 63.53 77 P P 00 13 23.5 +0.3
baz=317
833A **Chaparral WMA,** 63.53 77 IAmb IAmb 00 13 24.7
comp=Z,19nm,0.7s
MDOK **Medeo** 63.53 307 *i* P P 00 13 23.6 +0.4
baz=307
MDOK **Medeo** 63.53 307 *i* P P 00 13 23.6 +0.4
AAA **Alma-Ata** 63.57 307⇓ *i*P P 00 13 23.8 +0.5
comp=Z,23nm,0.9s,baz=307
AAA **Alma-Ata** 63.57 307⇓ *i*P P 00 13 23.8 +0.5
AAA pmax pmax
comp=Z,23nm,0.9s
D57A **Chemin Vers le** 63.58 47 P P 00 13 22.1 -1.2
baz=319,SNR=16
G55A **Calabogie** 63.59 50 P P 00 13 22.3 -1.1
baz=318,SNR=9.4
BTLS **Baital** 63.60 310⇓ *i*P P 00 13 23.7 +0.2
comp=Z,11nm,0.9s,baz=310
BTLS **Baital** 63.60 310 *d i*P P 00 13 23.6 +0.2
BTLS pmax pmax
comp=Z,11nm,0.9s
TNSS **Tian-Shan** 63.68 307⇓ *i*P P 00 13 24.9 +0.4
baz=307
TNSS **Tian-Shan** 63.68 307 *d i*P P 00 13 24.8 +0.4
DELO **Deloro Mine** 63.71 51 IAmb IAmb 00 13 24.7
comp=Z,28nm,1.3s
P49A **Miami Univ. Ec** 63.79 59 P P 00 13 23.8 -0.9
baz=317
LATQ **La Tuque** 63.80 46 P P 00 13 24.0 -0.7
baz=319
M51A **Elyria** 63.80 56 P P 00 13 24.0 -0.7
baz=317
NATX **Nacogdoches** 63.85 71 P P 00 13 25.6 +0.3
baz=317
MTBS **Maitube** 63.87 307 *i* P P 00 13 25.7 +0.4
baz=307
MTBS **Maitube** 63.87 307 *i* P P 00 13 25.7 +0.4
WCI **Wyandotte Cave** 63.90 61 P P 00 13 24.6 -0.9
baz=317
WCI **Wyandotte Cave** 63.90 61 P P 00 13 25.2 -0.3
WCI pmax pmax
comp=Z,12nm,0.8s
WCI **Wyandotte Cave** 63.90 61 P P 00 13 25.2 -0.3
H55A **Tweed** 63.90 50 P P 00 13 24.7 -0.7
baz=318,SNR=7.6
I55A **Frankford** 63.91 51 P P 00 13 24.9 -0.6
baz=318,SNR=6.0
E57A **Chemin Saint G** 63.92 47 P P 00 13 24.2 -1.4
baz=319,SNR=26
D58A **Chemin du LacG** 63.97 46 P P 00 13 24.6 -1.2
baz=319,SNR=18
N51A **Ashland** 64.00 56 P P 00 13 25.3 -0.8
baz=317
N51A **Ashland** 64.00 56 IAmb IAmb 00 13 26.4
comp=Z,23nm,1.0s
ORIO **Orleans, Innes** 64.01 49 P P 00 13 24.8 -1.3
baz=319
SLVN **Son La** 64.07 272 IAmb IAmb 00 13 28.9
comp=Z,23nm,1.0s
M52A **Chesterland** 64.07 55 P P 00 13 26.1 -0.4
baz=318
F57A **Harrington** 64.12 48 P P 00 13 25.3 -1.5
baz=319
J54A **Appleton** 64.14 52 P P 00 13 26.8 -0.2
baz=318
TARG **Taragay, Kyrgy** 64.21 305 P P 00 13 28.1 +0.1
TARG IAmb IAmb 00 13 29.9
comp=Z,10nm,0.5s
KDJ **Kajisay** 64.23 306 P P 00 13 26.7 -1.1
KDJ pmax pmax
comp=Z,39nm,1.0s
KDJ **Kajisay** 64.23 306 P P 00 13 26.7 -1.1
KDJ IAmb IAmb 00 13 29.5
comp=Z,39nm,0.9s
H56A **Elgin** 64.31 50 P P 00 13 27.0 -1.0
baz=319,SNR=6.2
L53A **Girard** 64.32 54 P P 00 13 27.8 -0.4
baz=318
ERPA **Erie** 64.33 54 P P 00 13 28.3 0.0
baz=318
E58A **La Victoria** 64.34 47 P P 00 13 26.8 -1.4
baz=319,SNR=13
TKM2 **Tokmak 2** 64.43 307 P P 00 13 29.8 +0.6
SNR=19
TKM2 **Tokmak 2** 64.43 307 P P 00 13 29.1 -0.1

N52A **McGinn's Farm,** 64.43 56 P P 00 13 28.2 -0.8
baz=318
PECO **Prince Edward** 64.45 51 IAmb IAmb 00 13 30.0
comp=Z,20nm,0.9s
O51A **Pataskala** 64.45 57 P P 00 13 28.4 -0.6
baz=318,SNR=11
HKT **Hockley** 64.48 74 P P 00 13 29.5 +0.2
HKT pmax pmax
comp=Z,76nm,1.9s
HKT **Hockley** 64.48 74 P P 00 13 29.5 +0.2
HKT IAmb IAmb 00 13 31.3
comp=Z,76nm,1.9s
M53A **WI Miller and** 64.49 55 P P 00 13 28.8 -0.5
baz=318
M53A **WI Miller and** 64.49 55 IAmb IAmb 00 13 30.0
comp=Z,54nm,1.5s
D59A **Saint-Raymond** 64.50 46 P P 00 13 28.4 -0.8
baz=320
SGDS **Sogindy** 64.51 308⇓ *i*P P 00 13 30.1 +0.6
comp=Z,27nm,1.7s,baz=308
SGDS **Sogindy** 64.51 308 *d i*P P 00 13 30.1 +0.6
SGDS pmax pmax
comp=Z,27nm,1.7s
G57A **Newington** 64.52 49 P P 00 13 28.0 -1.4
baz=319,SNR=5.1
W45A **Hickory Valley** 64.53 65 IAmb IAmb 00 13 29.8
comp=Z,28nm,0.7s
J55A **Hilton** 64.55 52 P P 00 13 29.5 -0.1
baz=318,SNR=5.9
J55A **Hilton** 64.55 52 IAmb IAmb 00 13 30.3
comp=Z,26nm,0.7s
L54A **Sinclairville** 64.58 53 P P 00 13 29.9 0.0
baz=318,SNR=5.6
BOOM **Boomskoye usch** 64.58 307 IAmb IAmb 00 13 31.5
comp=Z,21nm,0.7s
WVT **Waverly** 64.58 63 P P 00 13 29.5 -0.5
baz=319
WVT **Waverly** 64.58 63 P P 00 13 29.7 -0.3
WVT pmax pmax
comp=Z,11nm,0.6s
WVT **Waverly** 64.58 63 P P 00 13 29.7 -0.3
ALLY **Alegheny Colle** 64.60 54 IAmb IAmb 00 13 30.9
comp=Z,33nm,1.1s
K54A **Basiliko Farm,** 64.61 53 P P 00 13 30.1 0.0
baz=318,SNR=7.3
ULHL **Ulahol** 64.61 307 P P 00 13 31.2 +0.8
SNR=3
P51A **Williamsport** 64.70 58 P P 00 13 29.8 -0.9
baz=318
P51A **Williamsport** 64.70 58 IAmb IAmb 00 13 30.6
comp=Z,12nm,0.6s
USP **Ospenovka** 64.71 308 P P 00 13 31.7 +0.9
SNR=45
CHMS **Chumysh** 64.79 308 P P 00 13 32.1 +0.9
SNR=16
WVNY **West Valley, N** 64.81 53 IAmb IAmb 00 13 32.2
comp=Z,31nm,0.8s
H57A **Richville** 64.81 49 P P 00 13 30.3 -1.0
baz=319,SNR=6.0
FINES **FINESS Array B** 64.81 346 P P 00 13 30.3 -0.8
comp=Z,1.9nm,0.3s,baz=16,slow=7.1,SNR=48
FINES pP pwP 00 14 01.5 +0.1
comp=Z,8.9nm,1.0s,baz=43,slow=6.3,SNR=4.6
FINES LR LR 00 45 50.8
comp=Z,45nm,18.2s,baz=26,slow=40
K55A **Perry** 64.83 52 P P 00 13 31.2 -0.3
baz=318,SNR=6.0
O52A **Adamsville** 64.87 57 P P 00 13 31.2 -0.6
baz=318,SNR=8.6
O52A **Adamsville** 64.87 57 IAmb IAmb 00 13 32.1
comp=Z,23nm,0.8s
N53A **Lisbon** 64.87 55 P P 00 13 30.9 -0.9
baz=318
OXF **Oxford** 64.88 66 P P 00 13 31.5 -0.4
baz=317
MMNY **Mt. Morris Dam** 64.91 52 IAmb IAmb 00 13 32.5
comp=Z,30nm,0.8s
KBK **Karagaybulak** 64.94 308 P P 00 13 33.4 +0.9
SNR=13
M54A **Oil Creek Stat** 64.95 54 P P 00 13 31.7 -0.6
baz=318
F59A **Saint Guilaume** 64.96 47 P P 00 13 31.3 -0.9
baz=320,SNR=12
D60A **Saint Jean D'O** 64.98 45 P P 00 13 31.4 -0.9
baz=320,SNR=15
J56A **Wolcott** 65.01 51 P P 00 13 32.0 -0.6
baz=319,SNR=7.2
J56A **Wolcott** 65.01 51 IAmb IAmb 00 13 32.9
comp=Z,26nm,0.8s
L55A **Hinsdale** 65.05 53 P P 00 13 32.8 -0.2
baz=318,SNR=8.5
LONY **Lake Ozonia** 65.07 49 P P 00 13 31.7 -1.4
baz=319
P52A **Corning** 65.07 57 P P 00 13 32.1 -1.0
baz=318
D61A **St Aubert, Com** 65.08 44 P P 00 13 32.4 -0.6
baz=321,SNR=8.5
I57A **Carthage** 65.08 50 P P 00 13 31.8 -1.3
baz=319
O53A **New Philadelph** 65.09 56 P P 00 13 32.1 -1.1
baz=318
E60A **Ste Agathe de** 65.17 46 P P 00 13 32.6 -1.0
baz=320,SNR=7.7
AAK **Ala-Archa** 65.18 308 P P 00 13 34.4 +0.5
comp=Z,14nm,0.4s,baz=100,slow=3.8,SNR=38
AAK **Ala-Archa** 65.18 308 P P 00 13 34.5 +0.5
SNR=11
AAK **Ala-Archa** 65.18 308 *d i*P P 00 13 34.5 +0.5
AAK pmax pmax
comp=Z,23nm,0.7s
AAK **Ala-Archa** 65.18 308 P P 00 13 34.4 +0.5
AAK IAmb IAmb 00 13 35.3
comp=Z,23nm,0.7s
N54A **Moraine State** 65.19 55 P P 00 13 33.3 -0.6
baz=318,SNR=5.2
K56A **Middlesex** 65.22 52 P P 00 13 34.0 -0.1
baz=319,SNR=22
KZA **Kyzart** 65.23 307 P P 00 13 35.2 +0.6
SNR=15
F60A **Warwick** 65.25 46 P P 00 13 32.9 -1.2
baz=320,SNR=5.4
BATP **Bataraza** 65.26 252 *e*P P 00 13 34.6 0.0
PLAL **Pickwick Lake** 65.28 64 IAmb IAmb 00 13 34.5
comp=Z,18nm,0.6s
J57A **Williamstown** 65.32 51 P P 00 13 33.8 -0.8
baz=319
J57A **Williamstown** 65.32 51 IAmb IAmb 00 13 35.1
comp=Z,32nm,1.4s
H58A **Gabriels** 65.41 49 P P 00 13 34.0 -1.3
baz=320,SNR=5.0
M55A **Ridgway** 65.42 54 P P 00 13 35.2 -0.2
baz=319,SNR=9.3
M55A **Ridgway** 65.42 54 IAmb IAmb 00 13 35.8
comp=Z,17nm,0.8s
U49A **Red Boiling Sp** 65.43 62 IAmb IAmb 00 13 35.7
comp=Z,18nm,0.5s
CLTN **Cedars of Leba** 65.44 62 IAmb IAmb 00 13 36.2
comp=Z,28nm,0.8s
H59A **Cadyville** 65.47 48 P P 00 13 34.1 -1.5
baz=320,SNR=5.6
UCH **Uchtor** 65.48 308 P P 00 13 37.1 +0.9
SNR=11
Q52A **Bidwell** 65.50 58 P P 00 13 35.1 -0.8
baz=318
EKS2 **Erkin-Say** 65.51 308 P P 00 13 37.2 +1.1
SNR=28
L56A **Greenwood** 65.52 52 P P 00 13 36.0 0.0
baz=319,SNR=37
E61A **Lac Etchemin** 65.54 45 P P 00 13 34.7 -1.4
baz=321
T50A **Nancy** 65.57 61 IAmb IAmb 00 13 36.5
comp=Z,16nm,0.6s
P53A **Whipple** 65.57 57 P P 00 13 35.3 -1.0
baz=318
O54A **Avella** 65.57 56 P P 00 13 35.4 -0.9
baz=318
K57A **Scipio Center** 65.58 51 P P 00 13 35.8 -0.6
baz=319,SNR=12
I58A **Old Forge** 65.59 50 P P 00 13 35.3 -1.2
baz=320,SNR=5.4
D62A **Allapoint, All** 65.66 44 P P 00 13 36.3 -0.4
baz=321
D62A **Allapoint, All** 65.66 44 IAmb IAmb 00 13 37.3
comp=Z,25nm,1.1s
LSA **Lhasa** 65.66 287 P P 00 13 39.3 +1.7
LSA pmax pmax
comp=Z,200nm,0.9s
F61A **St Evariste** 65.67 46 P P 00 13 36.3 -0.5
baz=321,SNR=7.7
ZAIG **Zacatecas** 65.67 84 P P 00 13 37.5 0.0
ZAIG IAmb IAmb 00 13 39.6
comp=Z,29nm,1.0s
J58A **Remsen** 65.70 50 P P 00 13 36.3 -0.8
baz=319,SNR=7.2
J58A **Remsen** 65.70 50 IAmb IAmb 00 13 37.4
comp=Z,35nm,1.3s
M56A **Emporium** 65.70 53 P P 00 13 36.9 -0.3
baz=319,SNR=12
M56A **Emporium** 65.70 53 IAmb IAmb 00 13 37.4
comp=Z,16nm,0.7s
G60A **Masonville** 65.74 47 P P 00 13 36.2 -1.2
baz=320
E62A **Clayton Lake** 65.81 44 P P 00 13 37.0 -0.8
baz=321,SNR=9.1
E62A **Clayton Lake** 65.81 44 IAmb IAmb 00 13 38.0
comp=Z,51nm,1.4s
N55A **Marion Center** 65.83 54 P P 00 13 37.3 -0.7
baz=319
SIJI **Sorong** 65.91 234 P P 00 13 39.3 +0.6
comp=Z,148nm,0.7s,baz=358,slow=5.0,SNR=29
VBMS **Vicksburg** 65.92 68 P P 00 13 38.3 -0.4
baz=318
P54A **Burton** 65.95 56 P P 00 13 38.2 -0.6
baz=318
AML **Almayashu** 65.95 308 P P 00 13 40.4 +1.1
SNR=24
Q53A **Leroy** 65.96 57 P P 00 13 38.6 -0.3
baz=318,SNR=11
G61A **St-Isidore-de-** 65.97 47 P P 00 13 38.0 -0.8
baz=321,SNR=5.7
L57A **Andrews Acres** 65.97 52 P P 00 13 38.5 -0.4
baz=319,SNR=15
K58A **Earlville** 65.98 51 P P 00 13 38.3 -0.6
baz=320,SNR=6.5
K58A **Earlville** 65.98 51 IAmb IAmb 00 13 39.5
comp=Z,27nm,1.2s
J59A **Piesco** 65.99 50 P P 00 13 37.8 -1.1
baz=320,SNR=12
J59A **Piesco** 65.99 50 IAmb IAmb 00 13 38.7
comp=Z,13nm,0.6s
H60A **Morristown** 65.99 48 P P 00 13 37.7 -1.2
baz=320
DOMB **Dombas** 66.02 355 *e*P P 00 13 38.3 -0.6
I59A **Olmsteadville** 66.03 49 P P 00 13 38.2 -1.0
baz=320,SNR=12
N56A **West Decatur** 66.07 54 P P 00 13 39.1 -0.5
baz=319,SNR=5.4
D63A **Stockholm** 66.10 43 P P 00 13 38.9 -0.7
baz=322,SNR=6.5
O55A **Ligonier** 66.10 55 P P 00 13 38.9 -0.9
baz=319
R53A **Hurricane** 66.13 58 P P 00 13 39.6 -0.3
baz=318
F62A **Pittston Farm,** 66.18 45 P P 00 13 39.5 -0.7
baz=321,SNR=9.1
AKTO **Aktyubinsk** 66.21 323 LR LR 00 44 04.3
comp=Z,53nm,20.2s,baz=34,slow=37
AKTO **Aktyubinsk** 66.21 323 P P 00 13 40.6 +0.3
Q54A **Coxs Mills** 66.23 57 P P 00 13 39.8 -0.8
baz=318
MCWV **Mont Chateau** 66.23 56 P P 00 13 40.0 -0.6
baz=319
BINY **Binghamton** 66.24 51 P P 00 13 40.1 -0.5
baz=320
BINY **Binghamton** 66.24 51 IAmb IAmb 00 13 41.4
comp=Z,73nm,1.4s
X48A **Hartselle** 66.25 64 IAmb IAmb 00 13 40.7
comp=Z,10nm,0.5s
I60A **Shoreham** 66.27 49 P P 00 13 39.3 -1.4
baz=320
SWET **Sewanee** 66.30 63 IAmb IAmb 00 13 40.9
comp=Z,17nm,0.5s
M57A **Sunshine Farm,** 66.33 53 P P 00 13 41.0 -0.2
baz=319,SNR=15
M57A **Sunshine Farm,** 66.33 53 IAmb IAmb 00 13 42.1
comp=Z,35nm,1.0s
K59A **Cooperstown** 66.35 50 P P 00 13 40.6 -0.7
baz=320,SNR=6.5
P55A **Reedsville** 66.36 56 P P 00 13 40.6 -0.8
baz=319
H61A **Lyndonville** 66.36 47 P P 00 13 40.5 -0.8
baz=321,SNR=6.4
L58A **Harry Jones Me** 66.42 51 P P 00 13 41.5 -0.3
baz=320,SNR=8.6
O56A **Blue Knob Stat** 66.42 54 P P 00 13 41.2 -0.7
baz=319
ABKAR **Akbulak array** 66.44 321 P P 00 13 41.7 0.0
E63A **Oxbow** 66.44 44 P P 00 13 40.8 -1.0
baz=322
E63A **Oxbow** 66.44 44 IAmb IAmb 00 13 41.7
comp=Z,28nm,1.1s
G62A **West of Eustis** 66.46 46 P P 00 13 41.4 -0.5
baz=321,SNR=7.9
G62A **West of Eustis** 66.46 46 IAmb IAmb 00 13 42.3
comp=Z,19nm,0.9s
SSPA **Standing Stone** 66.49 54 P P 00 13 41.9 -0.3
SSPA IAmb IAmb 00 13 42.7
comp=Z,19nm,0.7s
TNTI **Ternate** 66.51 238 P P 00 13 42.7 +0.2
TNTI IAmb IAmb 00 13 45.3
comp=Z,34nm,0.8s
DZA **Taraz** 66.51 310 *e*P P 00 13 42.6 +0.3
comp=Z,6.0nm,0.9s,baz=310
DZA **Taraz** 66.51 310 *e*P P 00 13 42.6 +0.3
DZA pmax pmax
comp=Z,6.0nm,0.9s
S53A **Williamson** 66.53 59 P P 00 13 42.0 -0.5
baz=318
N57A **Milroy** 66.57 53 P P 00 13 42.3 -0.4
baz=319,SNR=8.6
LBNH **Lisbon** 66.59 48 P P 00 13 42.1 -0.6
baz=321
LBNH **Lisbon** 66.59 48 IAmb IAmb 00 13 43.0
comp=Z,26nm,1.1s
Q55A **Buckhannon** 66.61 56 P P 00 13 42.6 -0.4
baz=319,SNR=5.2
TZTN **Tazewell** 66.61 60 P P 00 13 42.8 -0.3
baz=318
M58A **Price's Panora** 66.64 52 P P 00 13 42.8 -0.4
baz=320,SNR=9.3
J60A **Lant Hill Farm** 66.67 49 P P 00 13 42.5 -0.7
baz=320,SNR=13
NC204 **NORSAR Array S** 66.68 354 IAmb IAmb 00 14 16.7
comp=Z,27nm,0.9s
H62A **Milan** 66.68 47 P P 00 13 42.7 -0.6
baz=321,SNR=12
H62A **Milan** 66.68 47 IAmb IAmb 00 13 43.6
comp=Z,34nm,0.7s
I61A **Oroboro, Fairl** 66.70 48 P P 00 13 42.7 -0.7
baz=321
E64A **Bridgewater** 66.70 44 P P 00 13 42.6 -0.8
baz=322,SNR=8.6
L59A **Walton** 66.70 51 P P 00 13 42.9 -0.7
baz=320,SNR=6.8
L59A **Walton** 66.70 51 IAmb IAmb 00 13 44.0
comp=Z,26nm,1.1s
F63A **Nahmakanta, Br** 66.71 45 P P 00 13 42.9 -0.6
baz=322
F63A **Nahmakanta, Br** 66.71 45 IAmb IAmb 00 13 43.9
comp=Z,35nm,1.3s
V51A **Loudon** 66.73 61 IAmb IAmb 00 13 43.6
comp=Z,12nm,0.6s
KK31 **Karatay Array** 66.73 311 P P 00 13 43.9 +0.1
KK31 pmax pmax
comp=Z,25nm,0.7s
KK31 **Karatay Array** 66.73 311 P P 00 13 43.9 +0.1
KK31 IAmb IAmb 00 13 45.1
comp=Z,25nm,0.7s
KKAR **Karatay Array** 66.73 311 P P 00 13 43.6 -0.1
KKAR **Karatay Array** 66.73 311 P P 00 13 43.6 -0.1
R54A **Victor** 66.75 57 P P 00 13 43.4 -0.5
baz=319,SNR=6.8
KSH **Kashi** 66.79 305 P P 00 13 48.5 +4.2
KSH pmax pmax
comp=Z,71nm,0.6s
PMG **Port Moresby** 66.81 214 P P 00 13 46.1 +1.7
comp=Z,16nm,0.8s,baz=163,slow=4.6,SNR=3.6
PMG **Port Moresby** 66.81 214 P P 00 13 43.1 -1.3
PMG pmax pmax
comp=Z,28nm,1.0s
PMG **Port Moresby** 66.81 214 P P 00 13 43.1 -1.3
PMG IAmb IAmb 00 13 49.0
comp=Z,28nm,0.9s
T53A **Wise** 66.83 59 P P 00 13 44.4 -0.1
baz=318
P56A **Dayton Farm, R** 66.86 55 P P 00 13 44.2 -0.4

baz=319,SNR=6.0
NB201 NORSAR Array S 66.86 353 IAmb IAmb 00 14 17.9
comp=Z,43nm,1.1s
S54A Dingess, Beckl 66.87 58 P **P** **00 13 44.1 -0.6**
baz=319
NB2 NORSAR Subarra 66.88 353 P **P** **00 13 43.7 -0.6**
comp=Z,1.3nm,0.5s,baz=9.7,slow=6.5
NB2 NORSAR Subarra 66.88 353 P **P** **00 13 43.7 -0.6**
baz=9.7,slow=6.5
NOA NORSAR Array B 66.88 353 P **P** **00 13 43.8 -0.6**
comp=Z,3.6nm,0.8s,baz=3.1,slow=5.0,SNR=23
NOA pP **pwP** **00 14 14.3 -0.5**
comp=Z,9.0nm,1.0s,baz=7.7,slow=6.4,SNR=7.6
F64A Sherman 66.91 44 P **P** **00 13 44.2 -0.6**
baz=322,SNR=11
F64A Sherman 66.91 44 IAmb IAmb 00 13 45.0
comp=Z,25nm,0.8s
N58A Sunbury 66.92 53 P **P** **00 13 44.5 -0.4**
baz=320,SNR=9.8
N58A Sunbury 66.92 53 IAmb IAmb 00 13 45.6
comp=Z,33nm,1.0s
O57A Amberson 66.94 54 P **P** **00 13 44.7 -0.3**
baz=319,SNR=8.2
G63A Kingsbury 66.95 46 P **P** **00 13 44.3 -0.7**
baz=322
PKME Peaks-Kenny Pk 66.97 45 P **P** **00 13 44.4 -0.7**
baz=322
FPAL Fort Paine 66.98 63 IAmb IAmb 00 13 45.0
comp=Z,19nm,0.6s
J61A Chester 66.99 49 P **P** **00 13 44.5 -0.8**
baz=321,SNR=6.2
M59A Waymart 67.01 52 P **P** **00 13 45.0 -0.5**
baz=320,SNR=10
Q56A Snyder Ridge, 67.03 56 P **P** **00 13 44.8 -0.8**
baz=319
R55A Marlinton 67.12 57 P **P** **00 13 45.9 -0.5**
baz=319
I62A Tamworth 67.14 47 P **P** **00 13 45.4 -0.8**
baz=321
NC602 NORSAR Array S 67.16 353 *e*P **P** **00 13 45.7 -0.3**
K61A Williamstown 67.18 49 P **P** **00 13 46.0 -0.5**
baz=320
FAKI Fak Fak 67.20 232 P **P** **00 13 48.0 +1.0**
FAKI Fak Fak 67.20 232 P **P** **00 13 46.4 -0.6**
G64A Maxfield 67.22 45 P **P** **00 13 46.0 -0.7**
baz=322
L60A Shokan 67.25 51 P **P** **00 13 46.4 -0.6**
baz=320
T54A Tazewell 67.28 59 P **P** **00 13 47.2 -0.1**
baz=319,SNR=14
P57A Homestead Farm 67.30 55 P **P** **00 13 46.8 -0.5**
baz=319
S55A Lewisburg 67.31 57 P **P** **00 13 47.1 -0.4**
baz=319
N59A State Game Lan 67.32 52 P **P** **00 13 47.3 -0.2**
baz=320,SNR=14
N59A State Game Lan 67.32 52 IAmb IAmb 00 13 48.2
comp=Z,28nm,0.8s
LRAL Lakeview Retre 67.32 65 P **P** **00 13 46.2 -1.4**
baz=318
I63A Otisfield 67.35 47 P **P** **00 13 47.2 -0.4**
baz=321
I63A Otisfield 67.35 47 IAmb IAmb 00 13 48.1
comp=Z,29nm,1.1s
O58A Lewisberry 67.36 54 P **P** **00 13 47.2 -0.5**
baz=320
R56A Bull Pasture M 67.40 56 P **P** **00 13 47.3 -0.8**
baz=319
L61A Hillsdale 1, H 67.41 50 P **P** **00 13 47.3 -0.7**
baz=320
J62A Henniker 67.42 48 P **P** **00 13 47.5 -0.6**
baz=321
Q57A Strasburg 67.43 55 P **P** **00 13 47.3 -0.9**
baz=319
W52A Murphy 67.49 62 IAmb IAmb 00 13 49.0
comp=Z,40nm,1.6s
H64A Troy 67.49 46 P **P** **00 13 47.7 -0.7**
baz=322
U54A Nelsons Funny 67.56 59 P **P** **00 13 48.8 -0.2**
baz=319
M60A Port Jervis 67.56 51 P **P** **00 13 48.3 -0.6**
baz=320,SNR=5.8
O59A Robesonia 67.58 53 P **P** **00 13 48.6 -0.5**
baz=320
L61B Northampton 67.62 49 P **P** **00 13 48.3 -1.0**
baz=321
P58A Pank, Wackersv 67.65 54 P **P** **00 13 48.9 -0.6**
baz=320
T55A Pulaski 67.66 58 P **P** **00 13 49.2 -0.4**
baz=319
K62A Royalston 67.67 49 P **P** **00 13 48.9 -0.7**
baz=321
N60A Cedar Hill Far 67.68 52 P **P** **00 13 49.3 -0.4**
baz=320,SNR=11
J63A Strafford 67.72 48 P **P** **00 13 49.3 -0.6**
baz=321
CHM Chimkent 67.77 311 *e*P **P** **00 13 50.8 +0.6**
comp=Z,23nm,1.1s,baz=311
CHM Chimkent 67.77 311 *e*P **P** **00 13 50.8 +0.6**
CHM pmax pmax
comp=Z,23nm,1.1s
G65A Princeton 67.78 44 P **P** **00 13 49.8 -0.4**
baz=322
S56A Natural Bridge 67.87 57 P **P** **00 13 50.5 -0.4**
baz=319
I64A Boothbay 67.87 46 P **P** **00 13 50.0 -0.8**
baz=322
Q58A Fox Den Farm, 67.88 55 P **P** **00 13 50.3 -0.6**
baz=320,SNR=7.7
H65A Eastbrook 67.88 45 P **P** **00 13 50.2 -0.6**
baz=322
MOS Moscow 67.88 337 *e*P **P** **00 13 50.9 +0.2**
MOS *e* 00 14 30.2
R57A Stanardsville 67.94 56 P **P** **00 13 51.0 -0.3**
baz=320,SNR=6.8
L62A Suffield 67.95 50 P **P** **00 13 50.7 -0.7**
baz=321
O60A Telford 67.96 52 P **P** **00 13 51.1 -0.3**
baz=320,SNR=5.1
K63A Dunstable 67.97 48 P **P** **00 13 50.9 -0.5**
baz=321,SNR=5.2
U55A TA2, Sparta 67.98 59 P **P** **00 13 51.3 -0.5**
baz=319,SNR=7.6
M61A Granite Spring 67.99 51 P **P** **00 13 50.8 -0.8**
baz=321
P59A Jarrettsville 67.99 54 P **P** **00 13 51.2 -0.5**
baz=320
OSL Oslo 68.01 353 *e*P **P** **00 13 51.5 +0.1**
V54A Nebo 68.05 60 P **P** **00 13 51.8 -0.3**
baz=319,SNR=9.4
HRV Adam Dziewonsk 68.10 49 P **P** **00 13 51.5 -0.8**
baz=321
T56A Rocky Mt 68.12 58 P **P** **00 13 51.8 -0.7**
baz=319
S57A Dark Hollow, R 68.12 56 P **P** **00 13 52.0 -0.6**
baz=320
PAL Palisades 68.16 51 P **P** **00 13 52.1 -0.6**
baz=321
N61A South Mountain 68.16 51 P **P** **00 13 52.2 -0.5**
baz=321
R58A Rapidan 68.20 55 P **P** **00 13 52.4 -0.6**
baz=320
EMMW East Machias 68.21 45 IAmb IAmb 00 13 53.2
comp=Z,31nm,0.7s
H66A Whiting 68.21 44 P **P** **00 13 52.4 -0.5**
baz=323
P60A Greenville 68.23 53 P **P** **00 13 52.5 -0.7**
baz=320
WES Weston 68.31 48 IAmb IAmb 00 13 53.8
comp=Z,21nm,0.7s
Y52A Lilburn 68.33 63 IAmb IAmb 00 13 54.1
comp=Z,15nm,0.6s
KONO Kongsberg 68.37 354 *e*P **P** **00 13 53.7 0.0**
V55A Taylorsville 68.38 59 P **P** **00 13 53.8 -0.4**
baz=319,SNR=6.5
KKM Kota Kinabalu 68.39 251 P **P** **00 13 52.6 -2.0**
KKM IAmb IAmb 00 13 56.4
comp=Z,32nm,1.2s
W54A Cherokee Point 68.44 60 P **P** **00 13 54.1 -0.4**
baz=319,SNR=8.3
U56A King 68.45 58 P **P** **00 13 54.1 -0.5**
baz=319
R58B Mineral 68.52 56 P **P** **00 13 54.6 -0.4**
baz=320
250A Grady 68.52 65 IAmb IAmb 00 13 55.2
comp=Z,26nm,0.6s
T57A Hurt 68.54 57 P **P** **00 13 54.6 -0.6**
baz=320,SNR=5.7

O61A Allentown 68.55 52 P **P** **00 13 54.5 -0.6**
baz=321
BRYW Bryant College 68.57 49 IAmb IAmb 00 13 55.3
comp=Z,52nm,1.4s
L63A North Scituate 68.58 49 P **P** **00 13 54.3 -1.0**
baz=321
TAS Tashkent 68.68 310 P **P** **00 13 55.8 -0.2**
TAS pmax pmax
comp=Z,45nm,0.5s
TAS Tashkent 68.68 310 P **P** **00 13 55.8 -0.2**
S58A Poland Farm, P 68.70 56 P **P** **00 13 55.5 -0.6**
baz=320
OBN Obninsk 68.70 338 *de*P **P** **00 13 55.6 -0.1**
OBN *e* 00 14 34.8
OBN pmax pmax
comp=Z,33nm,1.3s
OBN Obninsk 68.70 338 P **P** **00 13 55.7 -0.1**
OBN IAmb IAmb 00 13 57.3
comp=Z,42nm,1.3s
M63A Gales Ferry 68.73 50 P **P** **00 13 55.3 -0.9**
baz=321
X54A Belton 68.74 61 P **P** **00 13 56.1 -0.3**
baz=319,SNR=10.0
V56A Mocksville 68.79 59 P **P** **00 13 56.1 -0.6**
baz=320,SNR=5.6
MOIG Morelia 68.83 85 P **P** **00 13 58.2 +0.8**
N63A Mattituck 68.83 50 P **P** **00 13 56.2 -0.6**
baz=321
KMSC Kings Mountain 68.85 60 P **P** **00 13 56.5 -0.6**
baz=319,SNR=9.9
KMSC Kings Mountain 68.85 60 IAmb IAmb 00 13 57.1
comp=Z,19nm,0.5s
L64A Middleborough 68.88 48 P **P** **00 13 56.4 -0.8**
baz=322
U57A Blanch 68.93 58 P **P** **00 13 57.1 -0.4**
baz=320,SNR=5.9
T58A Grand View Acr 68.96 57 P **P** **00 13 56.9 -0.8**
baz=320
GOGA Godfrey 69.00 63 P **P** **00 13 57.0 -1.0**
baz=319
M64A Tiverton 69.01 49 P **P** **00 13 56.8 -1.1**
baz=322
CHTO Chiang Mai 69.02 274 P **P** **00 13 58.4 0.0**
CHTO pmax pmax
comp=Z,20nm,0.8s
CHTO Chiang Mai 69.02 274 P **P** **00 13 58.4 0.0**
CHTO IAmb IAmb 00 13 59.5
comp=Z,20nm,0.8s
HODGE Hodges 69.04 61 IAmb IAmb 00 13 58.6
comp=Z,20nm,0.6s
V57A Coltrane Farms 69.11 58 P **P** **00 13 57.8 -0.9**
baz=320
X55A Gracelyn & Ava 69.20 61 P **P** **00 13 58.8 -0.4**
baz=319,SNR=20
W56A Indian Trail 69.26 59 P **P** **00 13 58.8 -0.8**
baz=320
CM31 Chiang Mai Arr 69.29 274 IAmb IAmb 00 14 01.6
comp=Z,33nm,1.1s
CMAR Chiang Mai Arr 69.29 274 P **P** **00 13 59.9 -0.1**
comp=Z,15nm,0.8s,baz=26,slow=7.1,SNR=53
CMAR LR LR 00 44 04.3
comp=Z,29nm,21.5s,baz=184,slow=36
CMAR Chiang Mai Arr 69.29 274 P **P** **00 13 59.9 -0.1**
MSVF Nonsavu 69.41 180 ⇑*e*P **P** **00 14 02.2 +1.6**
MSVF pmax pmax
comp=Z,15nm,1.1s
MSVF Nonsavu 69.41 180 P **P** **00 14 01.1 +0.5**
MSVF IAmb IAmb 00 14 03.9
comp=Z,44nm,1.4s
TAPN Taplejung 69.42 288 *e*P **P** **00 14 02.0 +0.9**
comp=Z,202nm,0.8s
T59A Double "B" Far 69.44 56 P **P** **00 14 00.3 -0.4**
baz=320
Y55A Saluda 69.48 61 P **P** **00 14 00.7 -0.3**
baz=320,SNR=13
X56A White Oak 69.51 60 P **P** **00 14 00.6 -0.5**
baz=320,SNR=9.3
R61A Willards 69.52 54 P **P** **00 14 00.5 -0.6**
baz=321
V58A Windy Hill, Pi 69.53 58 P **P** **00 14 00.7 -0.5**
baz=320,SNR=5.4
W57A Gilead 69.56 59 P **P** **00 14 00.7 -0.7**
baz=320,SNR=5.8
MRSI Marisa 69.67 243 P **P** **00 14 01.6 -0.7**
comp=Z,1µmcomp=Z,119nm,1.0s
U59A Littleton 69.79 57 P **P** **00 14 02.4 -0.4**
baz=320
ODAN Odare 69.98 288 *e*P **P** **00 14 05.1 +0.7**
comp=Z,47nm,0.5s
V59A Middlesex 70.01 57 P **P** **00 14 03.9 -0.3**
baz=320,SNR=6.9
U60A Pendleton 70.03 56 P **P** **00 14 03.9 -0.4**
baz=320
X57A Johnson Farm, 70.03 60 P **P** **00 14 04.0 -0.3**
baz=320
W58A Raeford 70.06 59 P **P** **00 14 03.9 -0.6**
baz=320,SNR=5.3
GUN Gumba 70.08 290 *e*P **P** **00 14 06.2 +1.0**
comp=Z,263nm,0.5s
JIRN Jiri 70.08 289 *e*P **P** **00 14 06.3 +1.1**
comp=Z,410nm,0.8s
Y57A Sumter 70.21 60 P **P** **00 14 05.0 -0.4**
baz=320
Z56A Williston 70.21 61 P **P** **00 14 05.1 -0.3**
baz=320
RAMN Ramite 70.38 289 *e*P **P** **00 14 07.6 +0.7**
comp=Z,390nm,0.9s
LPSR Galich'ya Gora 70.40 335 *e*P **P** **00 14 06.2 -0.1**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
TIGA Tifton 70.42 64 P **P** **00 14 06.0 -0.8**
baz=320
LUWI Luwuk 70.48 241 P **P** **00 14 06.5 -0.8**
KKN Kakani 70.51 290 *e*P **P** **00 14 08.5 +0.8**
comp=Z,192nm,0.7s
Z57A Bowman 70.59 61 P **P** **00 14 07.6 -0.2**
baz=320
PKI Pulchoki 70.60 290 *e*P **P** **00 14 09.0 +0.6**
comp=Z,181nm,0.6s
PKIN Phulchoki 70.61 290 *e*P **P** **00 14 08.9 +0.6**
comp=Z,173nm,0.5s
Y58A Scranton 70.68 60 P **P** **00 14 08.0 -0.3**
baz=320
GKN Gorkha 70.73 291 *e*P **P** **00 14 09.7 +0.8**
comp=Z,188nm,0.6s
DMN Daman 70.75 290 *e*P **P** **00 14 10.2 +1.0**
comp=Z,159nm,0.9s
CHGR Chuyangaron 70.83 309 P **P** **00 14 10.1 +0.8**
V61A Roper 70.85 56 P **P** **00 14 09.0 -0.3**
baz=321
VRH Novokhopyorsk 70.91 333 *e*P **P** **00 14 08.9 -0.5**
VRH pmax pmax
comp=Z,30nm,0.6s
DANN Dangsing 70.97 292 *e*P **P** **00 14 11.3 +0.8**
comp=Z,368nm,0.8s
Z58A St. Stephen 71.04 60 P **P** **00 14 10.2 -0.3**
baz=320
X60A Albert Glenn T 71.06 58 P **P** **00 14 10.2 -0.4**
baz=321
Y60A Bolivia 71.38 59 P **P** **00 14 11.9 -0.6**
baz=321
KOLN Koldanda 71.50 291 *e*P **P** **00 14 14.3 +0.7**
comp=Z,164nm,0.9s
VSR Storozhevoye 71.60 334 *e*P **P** **00 14 13.7 +0.2**
VSR pmax pmax
comp=Z,20nm,1.1s
PYUN Piuthan 71.60 292 *e*P **P** **00 14 14.9 +0.7**
comp=Z,296nm,0.9s
VORD Divnogorie 71.79 334 *e*P **P** **00 14 13.1 -1.6**
VORD pmax pmax
comp=Z,10.0nm,0.6s
NIL Nilore 72.69 303 P **P** **00 14 20.5 +0.1**
NIL pmax pmax
comp=Z,95nm,1.1s
NIL Nilore 72.69 303 P **P** **00 14 20.5 +0.1**
NIL **P** **00 14 21.4 +1.1**
SBUM Sibu 73.62 252 P **P** **00 14 26.3 +0.2**
SBUM Sibu 73.62 252 P **P** **00 14 27.0 +1.0**
TTSI Tana Toraja 73.76 243 P **P** **00 14 26.5 -0.3**
comp=Z,1µmcomp=Z,56nm,1.0s
KBL Kabul 74.14 306 P **P** **00 14 28.8 -0.3**
KBL pmax pmax
comp=Z,64nm,0.9s
KBL Kabul 74.14 306 P **P** **00 14 28.8 -0.3**
DWPF Disney Wildern 74.17 65 P **P** **00 14 29.6 +0.5**
DWPF IAmb IAmb 00 14 30.1
comp=Z,22nm,0.7s

AKASG Malin Array Be 74.44 340 P **P** **00 14 29.4 -0.9**
comp=Z,2.6nm,0.3s,baz=25,slow=6.2,SNR=14
AKASG pP **pP** **00 15 00.4 +1.5**
comp=Z,11nm,0.7s,baz=24,slow=6.3,SNR=5.8
AKASG LR LR 00 53 38.6
comp=Z,22nm,18.1s,baz=55,slow=41
AKASG Malin Array Be 74.44 340 P **P** **00 14 30.0 -0.3**
AKASG pmax pmax
comp=Z,6.0nm,1.4s
AKASG Malin Array Be 74.44 340 P **P** **00 14 30.0 -0.3**
AKBB Malin Array Si 74.44 340 *d*P **P** **00 14 29.7 -0.6**
DZM Mont Dzumac 74.48 192 P **P** **00 14 32.4 +1.6**
comp=Z,14nm,1.0s,baz=42,slow=11,SNR=5.0
SPSI Sidrap Palu 74.55 242 P **P** **00 14 30.9 -0.5**
comp=Z,31nm,0.8s
KAPI Kappang 75.44 242 P **P** **00 14 36.7 +0.2**
KAPI pmax pmax
comp=Z,25nm,0.9s
KAPI Kappang 75.44 242 P **P** **00 14 36.7 +0.2**
KAPI **P** **00 14 37.4 +0.9**
KAPI IAmb IAmb 00 14 37.6
comp=Z,25nm,0.9s
KSM Kuching 75.54 253 P **P** **00 14 37.0 -0.1**
KSM IAmb IAmb 00 14 38.4
comp=Z,32nm,0.6s
KSM Kuching 75.54 253 P **P** **00 14 38.0 +0.9**
GOF Gofitskoye 76.01 329 ⇑*e*P **P** **00 14 39.5 +0.1**
GOF pmax pmax
comp=Z,109nm,0.9s
CLL Collm 76.37 351 *e*P **P** **00 14 42.0 +0.7**
CLL *i* pP **pP** **00 15 14.5 +4.4**
CLL Collm 76.37 351 *e*P **P** **00 14 42.0 +0.7**
CLL *i* 00 15 14.5
ASHT Ashkhabad 76.37 315 P **P** **00 14 42.9 +1.4**
ASHT pmax pmax
comp=Z,72nm,1.0s
ASHT Ashkhabad 76.37 315 P **P** **00 14 42.9 +1.4**
MTN Manton Dam 76.41 228 P **P** **00 14 42.0 +0.1**
GEYT Alibeck 76.50 315 P **P** **00 14 43.3 +1.0**
comp=Z,16nm,0.9s,baz=354,slow=4.5,SNR=44
GEYT PP **PP** **00 17 35.5 +0.4**
comp=Z,3.4nm,1.0s,baz=10,slow=8.8,SNR=4.0
GEYT LR LR 00 50 16.9
comp=Z,60nm,20.4s,baz=355,slow=37
GEYT Alibeck 76.50 315 P **P** **00 14 43.3 +1.0**
GYA0 ALIBECK ARRAY 76.50 315 P **P** **00 14 42.9 +0.6**
GYA0B ALIBECK ARRAY 76.50 315 P **P** **00 14 42.8 +0.5**
GYA0B IAmb IAmb 00 14 44.5
comp=Z,34nm,1.1s
BRG Berggiesshubel 76.70 350 *e*P pP 00 15 14.8 +2.8
comp=Z,18nm,1.9s
KWP Kalwaria Pacla 76.70 344 *e*P **P** **00 14 43.6 +0.4**
KWP Kalwaria Pacla 76.70 344 P **P** **00 14 43.8 +0.6**
KWP pmax pmax
comp=Z,49nm,1.2s
KWP Kalwaria Pacla 76.70 344 P **P** **00 14 43.8 +0.6**
KWP IAmb IAmb 00 14 46.4
comp=Z,49nm,1.2s
GROC Groznyy 76.75 326 *e*P **P** **00 14 44.4 +0.8**
GROC *e* 00 14 54.0
GROC *e**SP **pwP** **00 15 18.5 +4.0**
GROC *e*S **S** **00 24 28.0 +7.1**
GROC *e* 00 24 50.7
GROC pmax pmax
comp=Z,29nm,0.8s
DPC Dobruska-Polom 76.94 348 *e*P **P** **00 14 47.1 +2.5**
DPC epP **pP** **00 15 18.3 +4.8**
DPC Dobruska-Polom 76.94 348 *e*P **P** **00 14 47.1 +2.5**
DPC *e* 00 15 18.3
SORM Soroca 77.06 340 ⇑P **P** **00 14 45.2 0.0**
SORM Soroca 77.06 340 ⇑P **P** **00 14 45.2 0.0**
CTA Charters Tower 77.09 211 P **P** **00 14 46.0 +0.4**
comp=Z,22nm,1.0s,baz=13,slow=7.0,SNR=9.4
CTAO Charters Tower 77.09 211 P **P** **00 14 45.3 -0.3**
CTAO pmax pmax
comp=Z,29nm,1.0s
CTAO Charters Tower 77.09 211 P **P** **00 14 45.3 -0.3**
CTAO IAmb IAmb 00 14 47.2
comp=Z,29nm,1.0s
KIV Kislovodsk 77.11 329 ⇑P **P** **00 14 46.7 +1.0**
KIV Kislovodsk 77.11 329 *e*P **P** **00 14 46.1 +0.4**
KIV pmax pmax
comp=Z,59nm,1.0s
KIV Kislovodsk 77.11 329 P **P** **00 14 45.8 0.0**
KBZ Khabaz 77.25 329 P **P** **00 14 46.7 +0.4**
comp=Z,14nm,0.8s,baz=76,slow=3.4,SNR=34
KBZ Khabaz 77.25 329 *de*P **P** **00 14 47.1 +0.8**
KBZ pmax pmax
comp=Z,21nm,0.9s
MORC Moravsky Berou 77.34 347 *e*P **P** **00 14 47.1 +0.2**
KOLS Kolonicke sedl 77.45 344 *e*P **P** **00 14 48.1 +0.7**
KOLS pmax pmax
comp=Z,6.0nm,0.6s
KOLS Kolonicke sedl 77.45 344 *e*P **P** **00 14 48.1 +0.7**
AKT Akhty 77.59 324 *e*P **P** **00 14 49.6 +1.1**
AKT *e* 00 14 58.8
AKT pmax pmax
comp=Z,38nm,0.8s
CRVS Cervenica-Dubn 77.61 345 *e*P **P** **00 14 49.0 +0.7**
CRVS pmax pmax
comp=Z,10.0nm,0.9s
CRVS Cervenica-Dubn 77.61 345 *e*P **P** **00 14 49.0 +0.7**
UZH Uzhgorod 77.74 344 *e*P **P** **00 14 53.7 +4.7**
UZH *i* 00 15 03.0
ZEI Tsey 77.76 328 *e*P **P** **00 14 46.9 -2.6**
ZEI pmax pmax
comp=Z,43nm,0.8s
ZKTA Zakatala 77.85 325 P **P** **00 14 50.6 +0.8**
VRAC Vranov 77.93 348 *e*P **P** **00 14 50.1 0.0**
SEKA Sheki 78.02 325 P **P** **00 14 50.7 -0.1**
ONI Oni 78.08 328 P **P** **00 14 55.5 +4.4**
GRF Grafenberg Arr 78.14 352 *e*P pP 00 15 24.6 +4.4
comp=Z,8.6nm,1.2s,baz=11,slow=5.0
TRPA Tarpa 78.18 344 ⇓P **P** **00 14 52.3 +0.8**
BURAR Bucovina Array 78.19 342 ⇑P **P** **00 14 52.3 +0.7**
BURAR Bucovina Array 78.19 342 P **P** **00 14 54.9 +3.2**
BURAR Bucovina Array 78.19 342 P **P** **00 14 51.0 -0.6**
KRUC Moravsky 78.19 348 *e*P **P** **00 14 51.1 -0.4**
JAVC Velka Javorina 78.22 347 *e*P **P** **00 14 52.9 +1.1**
KULM Kulim 78.37 264 P **P** **00 14 53.0 0.0**
VYHS Vyhne 78.42 346 *e*P **P** **00 14 52.7 -0.1**
VYHS pmax pmax
comp=Z,4.0nm,1.2s
VYHS Vyhne 78.42 346 *e*P **P** **00 14 52.7 -0.1**
TBLG Delisi 78.42 327 P **P** **00 14 53.5 +0.6**
TBLG pmax pmax
comp=Z,49nm,0.8s
TBLG Delisi 78.42 327 P **P** **00 14 53.5 +0.6**
TBLG IAmb IAmb 00 14 55.4
comp=Z,49nm,0.8s
MNGR Mingechevir, A 78.44 324 P **P** **00 14 53.9 +0.9**
KHC Kasperske Hory 78.46 350 *e*P **P** **00 14 53.4 +0.4**
KHC *ex* x 00 15 26.4
KHC Kasperske Hory 78.46 350 ⇑*e*P **P** **00 14 54.4 +1.4**
KHC pmax pmax
comp=Z,15nm,1.5s
WLF Walferdange 78.53 355 P **P** **00 14 53.1 -0.3**
BIZ Bicaz 78.66 341 ⇑P **P** **00 14 55.0 +0.9**
GERES GERESS Array B 78.73 350 P **P** **00 14 53.7 -0.9**
comp=Z,0.7nm,0.6s,baz=27,slow=5.6,SNR=8.2
GERES LR LR 00 54 07.1
comp=Z,30nm,18.4s,baz=86,slow=39
GERES GERESS Array B 78.73 350 P **P** **00 14 53.2 -1.4**
IPM Ipoh 78.78 263 P **P** **00 14 55.0 -0.2**
GANJ Ganja 78.83 325 P **P** **00 14 56.4 +1.2**
ARCR ARCALIA 78.86 342 ⇑P **P** **00 14 56.4 +1.1**
TESR Tescani 78.96 341 ⇑P **P** **00 14 56.0 +0.2**
AKH Akhalkalaki 79.13 327 ⇑P **P** **00 14 58.6 +1.6**
AKH Akhalkalaki 79.13 327 P **P** **00 14 58.6 +1.6**
CONA Conrad Observa 79.38 348 *e*PcP **P** **00 14 59.4 +1.3**
comp=Z,2.3nm,0.6s
DRGR 79.44 343 ⇑P **P** **00 14 59.0 +0.5**
DRGR 79.44 343 ⇑P **P** **00 14 59.0 +0.5**
OZUR 79.53 341 ⇑P **P** **00 14 59.9 +1.0**
BATM Batumi 79.55 329 ⇑P **P** **00 14 59.4 +0.4**
BATM Batumi 79.55 329 ⇑P **P** **00 14 59.4 +0.4**
VRI Vrincioaia 79.56 340 ⇑P **P** **00 15 00.7 +1.6**
VRI Vrincioaia 79.56 340 ⇑P **P** **00 15 00.7 +1.6**
PLOR Plostina 79.59 340 ⇑P **P** **00 15 00.6 +1.3**
PLOR Plostina 79.59 340 ⇑P **P** **00 15 00.6 +1.3**
LKRN Lenkeran, Azer 79.63 322 P **P** **00 15 00.4 +0.9**
BCA Borcka 79.71 329 ⇑P **P** **00 14 59.9 0.0**
DOPR Dopca 79.73 341 ⇑P **P** **00 15 01.2 +1.2**

TLCR		**79.76 339**	⇑P		**P**	**00 15 00.3 +0.3**	
TLCR		**79.76 339**	P		**P**	**00 15 02.1 +2.0**	
CFR	**Carcaliu**	**79.92 339**	⇑P		**P**	**00 15 02.2 +1.3**	
CFR	**Carcaliu**	**79.92 339**	⇑P		**P**	**00 15 02.2 +1.3**	
ECH	**Echery**	**79.92 354**	P		**P**	**00 14 59.9 -1.0**	
ECH			pmax	pmax			
	comp=Z,8.0nm,1.3s						
ECH	**Echery**	**79.92 354**	P		**P**	**00 14 59.9 -1.0**	
KNRA	**Kununurra**	**79.97 228**	P		**P**	**00 15 00.8 -0.7**	
KNRA			IAmb	IAmb		00 15 02.7	
	comp=Z,53nm,1.0s						
MLR	**Muntele Rosu**	**80.08 341**	⇑P		**P**	**00 15 03.3 +1.3**	
MLR	**Muntele Rosu**	**80.08 341**	⇑P		**P**	**00 15 03.3 +1.3**	
ARSA	**Arzberg**	**80.08 348**	*e*PcP		**P**	**00 15 01.9 0.0**	
	comp=Z,1.2nm,0.6s						
SIRR	**Siria**	**80.14 344**	⇑P		**P**	**00 15 02.8 +0.6**	
VOIR		**80.31 341**	⇑P		**P**	**00 15 04.2 +1.0**	
VOIR		**80.31 341**	⇑P		**P**	**00 15 04.2 +1.0**	
HARR	**Harsova**	**80.42 339**	⇑P		**P**	**00 15 04.7 +1.0**	
HARR	**Harsova**	**80.42 339**	⇑P		**P**	**00 15 04.7 +1.0**	
NAX	**Nakhchivan**	**80.43 325**	P		**P**	**00 15 04.7 +0.8**	
ARR	**Arges**	**80.46 342**	⇑P		**P**	**00 15 05.1 +1.2**	
MOTA	**Moosalm**	**80.47 351**	*e*PcP		**P**	**00 15 03.7 -0.4**	
	comp=Z,6.1nm,1.3s						
WTTA	**Wattenberg**	**80.50 351**	*e*PcP		**P**	**00 15 04.0 -0.3**	
	comp=Z,3.8nm,0.6s						
KBA	**Koelnbreinsper**	**80.51 350**	*e*PcP		**P**	**00 15 04.5 +0.2**	
	comp=Z,5.8nm,0.7s						
SQTA	**Sankt Quirin**	**80.59 351**	*e*PcP		**P**	**00 15 05.7 +1.0**	
	comp=Z,3.3nm,0.6s						
EIDS	**Eidsvold**	**80.68 205**	P		**P**	**00 15 04.8 -0.2**	
SOKA	**Soboth**	**80.71 349**	*e*PcP		**P**	**00 15 06.0 +0.7**	
	comp=Z,7.5nm,0.8s						
KTUT	**Trabzon**	**80.72 330**	⇑P		**P**	**00 15 06.4 +1.1**	
PVM	**Polavaram**	**80.75 286**	*e*P		**P**	**00 15 06.2 +0.4**	
PVM			IVmB_BB			00 15 06.7	
	comp=Z,287nm,1.1s						
BZS	**Buzias**	**80.77 344**	⇑P		**P**	**00 15 05.7 +0.2**	
BZS	**Buzias**	**80.77 344**	⇑P		**P**	**00 15 05.7 +0.2**	
RPR	**Rampur**	**80.87 289**	*e*P		**P**	**00 15 07.1 +0.6**	
RPR			IVmBBB			00 15 07.1	
	comp=Z,180nm,0.6s						
ABTA	**Abfaltersbach**	**80.93 350**	*e*PcP		**P**	**00 15 06.8 +0.3**	
	comp=Z,6.9nm,0.8s						
OBKA	**Obir**	**80.93 349**	*e*PcP		**P**	**00 15 06.9 +0.4**	
	comp=Z,5.2nm,0.6s						
WB0	**Warramunga Arr**	**81.13 222**	P		**P**	**00 15 07.2 -0.4**	
WB0			IAmb	IAmb		00 15 08.1	
	comp=Z,29nm,0.8s						
WR0	**Warramunga Arr**	**81.24 221**	IAmb	IAmb		00 15 09.0	
	comp=Z,26nm,0.7s						
WRAB	**Tennant Creek**	**81.30 222**	*d i*P		**P**	**00 15 08.2 -0.3**	
WRAB			pmax	pmax			
	comp=Z,34nm,0.9s						
WRAB	**Tennant Creek**	**81.30 222**	P		**P**	**00 15 08.9 +0.4**	
WRAB			IAmb	IAmb		00 15 09.4	
	comp=Z,35nm,0.8s						
WB2	**Warramunga Arr**	**81.31 222**	IAmb	IAmb		00 15 09.5	
	comp=Z,41nm,0.9s						
WRA	**Warramunga Arr**	**81.31 222**	P		**P**	**00 15 08.5 -0.1**	
	comp=Z,22nm,0.7s,baz=34,slow=6.2,SNR=40						
WRA	**Warramunga Arr**	**81.31 222**	P		**P**	**00 15 08.0 -0.6**	
WRA			pmax	pmax			
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**81.31 222**	P		**P**	**00 15 08.0 -0.6**	
HERR	**Herculane**	**81.34 343**	⇑P		**P**	**00 15 08.5 -0.1**	
SRSP	**Sriramsagar**	**81.37 290**	*e*P		**P**	**00 15 08.7 -0.5**	
SRSP			IVmBBB			00 15 09.2	
	comp=Z,167nm,0.6s						
PSI	**Prapat**	**81.38 264**	P		**P**	**00 15 09.3 0.0**	
	comp=Z,30nm,0.8s,baz=360,slow=5.4,SNR=11						
RPSI	**Rantau Prapat**	**81.46 263**	IAmb	IAmb		00 15 10.2	
	comp=Z,36nm,0.8s						
MDVR	**Moldovita**	**81.57 344**	⇑P		**P**	**00 15 10.1 +0.2**	
VLAD	**Vladila**	**81.82 341**	⇓P		**P**	**00 15 10.7 -0.4**	
PLVB	**Pleven**	**82.36 341**	⇑P		**P**	**00 15 14.4 +0.5**	
HYBB	**Hyderabad (bro**	**82.43 288**	*eP*		**P**	**00 15 14.6 -0.1**	
HYBB			IVmB_BB			00 15 15.1	
	comp=Z,387nm,0.8s						
HYB	**Hyderabad**	**82.43 288**	*i* P		**P**	**00 15 14.0 -0.7**	
MNSI	**Mandailing Nat**	**82.55 262**	P		**P**	**00 15 11.5 -3.8**	
	comp=Z,2µmcomp=Z,400nm,0.6s						
SDSI	**Sungai Dareh**	**82.78 259**	P		**P**	**00 15 16.4 -0.1**	
ADKI	**Addanki**	**82.83 286**	*eP*		**P**	**00 15 16.6 -0.1**	
ADKI			IVmBBB			00 15 18.4	
	comp=Z,158nm,1.7s						
KLRI	**Killari**	**83.06 290**	*eP*		**P**	**00 15 17.7 -0.3**	
KLRI			IVmB_BB			00 15 18.1	
	comp=Z,410nm,0.5s						
SRLM	**Srisailam**	**83.27 287**	*eP*		**P**	**00 15 19.0 -0.1**	
SRLM			IVmBBB			00 15 22.6	
	comp=Z,172nm,3.7s						
VTS	**Vitosha**	**83.38 342**	⇑P		**P**	**00 15 19.6 +0.2**	
VTS	**Vitosha**	**83.38 342**	⇑P		**P**	**00 15 19.6 +0.2**	
FITZ	**Fitzroy Crossi**	**83.53 230**	IAmb	IAmb		00 15 21.8	
	comp=Z,46nm,0.9s						
BR131	**Keskin Array S**	**83.69 333**	*d i*P		**P**	**00 15 21.6 +0.6**	
BRTR	**Keskin Array B**	**83.69 333**	P		**P**	**00 15 21.4 +0.3**	
	comp=Z,4.4nm,0.6s,baz=40,slow=2.6,SNR=21						
BRTR			PP		**PP**	**00 18 36.2 +1.8**	
	comp=Z,0.8nm,0.7s,baz=15,slow=3.2,SNR=3.6						
BRTR			LR	LR		00 56 14.5	
	comp=Z,16nm,18.6s,baz=34,slow=38						
SKHT	**Srikalahasti**	**84.63 285**	*eP*		**P**	**00 15 26.6 +0.7**	
AS31	**Alice Springs**	**84.82 220**	P		**P**	**00 15 26.5 -0.1**	
ASAR	**Alice Springs**	**84.82 220**	P		**P**	**00 15 27.1 +0.5**	
	comp=Z,14nm,0.8s,baz=25,slow=5.1,SNR=39						
ASAR			PKiKP		**PKiKP**	**00 20 38.3 -0.2**	
	comp=Z,0.5nm,0.9s,baz=5.7,slow=0.9,SNR=4.2						
ASAR	**Alice Springs**	**84.82 220**	P		**P**	**00 15 26.8 +0.2**	
URV	**Uravakonda**	**85.14 288**	*eP*		**P**	**00 15 28.1 -0.4**	
URV			IVmBBB			00 15 29.5	
	comp=Z,138nm,1.4s						
ESDC	**Sonseca Array**	**88.70 2**	P		**P**	**00 15 43.7 -1.8**	
	comp=Z,0.7nm,0.8s,baz=355,slow=3.5,SNR=4.7						
ESDC			LR	LR		00 58 31.1	
	comp=Z,25nm,19.0s,baz=10.0,slow=38						
STKA	**Stephens Creek**	**89.55 211**	P		**P**	**00 15 50.5 +1.3**	
	comp=Z,22nm,0.6s,baz=350,slow=5.9,SNR=30						
STKA			LR	LR		00 53 31.0	
	comp=Z,32nm,21.7s,baz=215,slow=34						
STKA	**Stephens Creek**	**89.55 211**	P		**P**	**00 15 49.5 +0.4**	
STKA			pmax	pmax			
	comp=Z,27nm,1.6s						
STKA	**Stephens Creek**	**89.55 211**	P		**P**	**00 15 49.5 +0.4**	
STKA			IAmb	IAmb		00 15 51.4	
	comp=Z,27nm,1.6s						
RAYN	**Ar Rayn**	**94.33 318**	P		**P**	**00 16 11.6 -0.2**	
RAYN			pmax	pmax			
	comp=Z,9.0nm,1.0s						
RAYN	**Ar Rayn**	**94.33 318**	P		**P**	**00 16 11.6 -0.2**	
RAYN			IAmb	IAmb		00 16 12.6	
	comp=Z,9.5nm,1.0s						
TORD	**Torodi Ar. Bea**	**115.09 357**	PKP		**PKiKP**	**00 21 31.9 -1.0**	
	comp=Z,2.8nm,0.4s,baz=351,slow=2.3,SNR=66						
TORD			PKKPbc		**PKKPbc**	**00 32 07.4 +1.0**	
	comp=Z,0.9nm,0.6s,baz=167,slow=2.8,SNR=10						
TORD			PKKPab		**PKKPab**	**00 32 14.2 -3.1**	
	comp=Z,1.2nm,0.7s,baz=184,slow=3.1,SNR=7.3						
KMBO	**Kilima Mbogo**	**119.85 314**	PKP		**PKiKP**	**00 21 44.1 +1.7**	
	comp=Z,3.2nm,0.7s,baz=234,slow=5.9,SNR=7.8						
DBIC	**Dimbokro**	**121.52 4**	PKP		**PKPdf**	**00 21 44.1 -1.1**	
	comp=Z,3.4nm,0.4s,baz=344,slow=3.2,SNR=16						
BDFB	**Brasilia**	**128.36 63**	PKP		**PKPdf**	**00 21 57.2 -1.1**	
	comp=Z,1.6nm,0.6s,baz=45,slow=22,SNR=2.2						
VNDA	**Vanda**	**129.64 185**	PKP		**PKiKP**	**00 21 59.5 0.0**	
	comp=Z,1.0nm,0.7s,baz=293,slow=4.8,SNR=6.7						
VNDA			SKPbc	SKPbc		00 25 10.8 +0.7	
	comp=Z,4.6nm,0.8s,baz=355,slow=4.3,SNR=17						
VNDA	**Vanda**	**129.64 185**	PKPdf		**PKPdf**	**00 21 59.0 +0.2**	
CPUP	**Villa Florida**	**131.18 81**	PKP		**PKPdf**	**00 22 03.3 +0.1**	
	comp=Z,1.0nm,0.5s,baz=4.9,slow=1.5,SNR=4.3						
CPUP			SKPbc		**SKPbc**	**00 25 15.9 -1.2**	
	comp=Z,12nm,0.6s,baz=323,slow=3.9,SNR=42						
PLCA	**Paso Flores**	**132.75 105**	PKP		**PKiKP**	**00 22 06.7 -0.4**	
	comp=Z,1.8nm,0.7s,baz=299,slow=2.0,SNR=4.6						
PLCA			pPKP		**pPKPdf**	**00 22 38.8 +1.7**	
	comp=Z,2.4nm,0.8s,baz=334,slow=3.9,SNR=3.3						
PLCA			SKPbc		**SKPbc**	**00 25 21.4 -1.0**	
	comp=Z,12nm,0.8s,baz=300,slow=4.6,SNR=19						
QSPA	**South Pole Qui**	**141.72 180**	PKiKP		**PKPdf**	**00 22 16.3 -5.2**	
	comp=Z,10nm,0.8s,baz=302,slow=0.5,SNR=22						
QSPA			SKPbc		**SKPbc**	**00 25 47.6 -0.3**	
	comp=Z,2.3nm,0.5s,baz=6.1,slow=3.7,SNR=5.9						
QSPA	**South Pole Qui**	**141.72 180**	PKPdf		**PKPdf**	**00 22 17.6 -4.0**	
TSUM	**Tsumeb**	**144.03 328**	PKPdf	PKPbc		00 22 26.1 +0.7	
MAW	**Mawson**	**145.92 218**	PKPbc		**PKPbc**	**00 22 30.0 +0.3**	
	comp=Z,27nm,0.6s,baz=78,slow=3.6,SNR=43						
MAW			SKPbc		**SKPbc**	**00 25 57.8 +0.1**	
	comp=Z,1.7nm,0.5s,baz=72,slow=3.2,SNR=2.6						
MAW	**Mawson**	**145.92 218**	PKPdf		**PKPdf**	**00 22 29.1 +0.3**	
LBTB	**Lobatse**	**146.11 312**	PKP2		**PKPbc**	**00 22 31.2 -0.5**	
LBTB	**Lobatse**	**146.11 312**	PKPbc		**PKPbc**	**00 22 31.2 -0.5**	
BOSA	**Boshof**	**149.32 309**	PKPbc		**PKiKP**	**00 22 40.9 -0.4**	
	comp=Z,31nm,0.6s,baz=34,slow=2.3,SNR=122						
BOSA	**Boshof**	**149.32 309**	PKP2		**PKiKP**	**00 22 41.0 -0.4**	
BOSA	**Boshof**	**149.32 309**			**PKiKP**	**00 22 41.0 -0.4**	
SYO	**Syowa Base**	**154.28 213**	⇓*e*PKPbc		**PKPbc**	**00 22 48.6 -1.5**	
SYO	**Syowa Base**	**154.28 213**	⇓*e*PKiKP		**PKiKP**	**00 22 50.5 +0.4**	
SYO	**Syowa Base**	**154.28 213**	⇓*i*PKPab		**PKPab**	**00 23 03.4 -1.4**	
SNAA	**Sanae**	**160.22 179**	PKPab		**PKPab**	**00 23 30.1 -0.4**	
SNAA	**Sanae**	**160.22 179**	PKIKP		**PKPdf**	**00 22 48.3 -1.0**	
SNAA			PKP		**PKPab**	**00 23 30.1 -0.4**	
SNAA	**Sanae**	**160.22 179**	PKPdf		**PKPdf**	**00 22 48.3 -1.0**	
SNAA					**PKPab**	**00 23 30.1 -0.4**	
VNA3	**Neumayer Olymp**	**160.31 172**	PKPab		**PKPab**	**00 23 31.0 +0.2**	

*BJI **25** 00:03:13.7±0.0,27.92N×101.42E,h11km,ML3.6/13*
*IDC **25** 00:03:14.2±1.7,28.01N×101.29E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.3/54,mbtmp3.6/4,ML3.9/1,MS2.6/1, Ms1 2.8/1,ms1mx2.4/50,Error ellipse: s-maj=38.4km s-min=25.9km az=92.0*
*NEIC **25** 00:03:15.4±1.4,27.99N±0.06×101.4E±0.2,h10km±2km, mb4.1/2,Error ellipse: s-maj=26.0km s-min=4.3km az=292.0*

ISC 25 00:03:15.0±0.9,27.90N±0.07×101.61E±0.09,h10km,n16, σ2.252/18,mb3.7/5,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.94**	**160**	Pg		**Pn**		**00 04 04.1**	**+2.1**
KMI				Sg		**Sg**		**00 04 48.5**	**-1.0**
KMI				smax	smax				
	comp=N,190nm,1.0s								
KMI				smax	smax				
	comp=E,250nm,0.8s								
KMI	**Kunming**	**2.94**	**160**			**Pn**		**00 04 04.5**	**+2.5**
GYA	**Guiyang**	**4.73**	**106**	Pn		**Pn**		**00 04 31.1**	**+4.6**
GYA				Pg		**Pg**		**00 04 44.3**	**-1.3**
GYA				Sn		**Sn**		**00 05 17.0**	**-4.4**
GYA				smax	smax				
	comp=N,45nm,0.7s								
GYA				smax	smax				
	comp=E,48nm,0.7s								
SLVN	**Son La**	**6.86**	**162**	Pn		**Pn**		**00 04 57.3**	**+1.5**
ENH	**Enshi**	**7.29**	**69**			**Pn**		**00 05 03.9**	**+2.2**
XAN	**Xi'an**	**8.77**	**44**	P		**Pn**		**00 05 23.8**	**+1.9**
XAN				smax	smax				
	comp=N,42nm,1.1s								
XAN				smax	smax				
	comp=E,42nm,1.1s								
XAN	**Xi'an**	**8.77**	**44**	Pn		**Pn**		**00 05 23.1**	**+1.2**
CMAR	**Chiang Mai Arr**	**9.71**	**195**	Pn		**Pn**		**00 05 36.5**	**+1.7**
	0.3nm,0.3s,baz=0.9,slow=17,SNR=2.3								
CMAR				Pg				00 06 16.1	
	0.3nm,0.3s,baz=357,slow=16,SNR=4.3								
CMAR				Lg		Lg		00 08 22.6	
	baz=22,slow=29,SNR=1.5								
CMAR				LR		LR		00 08 55.2	
	comp=Z,34nm,20.5s,baz=172,slow=35								
WMQ	**Urumqi**	**19.44**	**328**	*eP*		**P**		**00 07 39.4**	**-2.3**
KSRS	**Korea Array**	**24.05**	**60**	P		**P**		**00 08 32.3**	**+2.0**
	0.7nm,0.3s,baz=243,slow=11,SNR=2.0								
MK31	**Makanchi Array**	**24.21**	**326**	P		**P**		**00 08 28.9**	**-2.9**
MK31						IAmb	IAmb	00 08 36.3	
	comp=Z,2.0nm,0.8s								
MKAR	**Makanchi Array**	**24.21**	**326**	P		**P**		**00 08 30.5**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=136,slow=10,SNR=11								
KURBB	**Kurchatov Arra**	**28.66**	**329**	P		**P**		**00 09 10.2**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=144,slow=7.1,SNR=3.7								
KURK	**Kurchatov**	**28.69**	**329**	P		**P**		**00 09 10.2**	**-1.8**
KURK	**Kurchatov**	**28.69**	**329**			IAmb	IAmb	00 09 15.9	
	comp=Z,13nm,1.9s								
PETK	**Petropavlovsk-**	**48.01**	**42**	P		**P**		**00 11 55.2**	**+1.2**

NNC 25 00:05:16.7±3.9,37.59N×71.56E,h0km,mb3.9,mpv3.5, 1C-5D,Error ellipse: s-maj=32.8km s-min=27.0km az=144.0,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.52**	**23**	⇓P		Pn		00 06 40.4	+0.2
	2.6nm,0.3s								
AAK				⇑S		Sn		00 07 46.7	+2.2
	2.6nm,0.6s								
KK31	**Karatay Array**	**5.56**	**352**	⇓P		Pn		00 06 41.1	+0.3
	1.4nm,0.5s,baz=179,slow=13,SNR=14								
KK31				⇓S		Sn		00 07 46.0	+0.6
	1.4nm,0.3s,baz=166,slow=21,SNR=10								
TKM2	**Tokmak 2**	**6.15**	**29**	⇓P		Pn		00 06 48.6	-0.4
	2.6nm,0.5s								
TKM2				⇓S		Sn		00 08 00.3	+0.2
	1.8nm,0.8s								

*NEIC **25** 00:06:33.7±2.3,15.72S±0.07×167.8E±0.1,h146km±5km, mb4.7/34,Error ellipse: s-maj=17.6km s-min=7.5km az=67.0*
*BJI **25** 00:06:34.0±0.0,15.86S×167.29E,h141km,mB4.8/10, mb4.8/15*
*IDC **25** 00:06:36.6±2.9,15.85S×167.66E,h152km±23km, mb4.3/10,mb1 4.5/12,mb1mx4.0/39,mbtmp4.9/12,MS3.5/3, Ms1 3.5/3,ms1mx2.9/35,Error ellipse: s-maj=26.5km s-min=12.9km az=65.0*

ISC 25 00:06:34.7±0.6,15.77S±0.06×167.84E±0.09,h150km,n62, σ1.849/63,mb4.7/21,1C,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**0.69**	**297**	Pn		**Pn**		**00 09 56.0**	**-1.1**
DZM	**Mont Dzumac**	**6.41**	**192**	P		**Pn**		**00 08 07.7**	**+0.8**
	64nm,0.3s,baz=45,slow=18,SNR=163								
DZM				S		**Sn**		**00 09 18.1**	**-1.0**
	14nm,0.3s,baz=307,slow=22,SNR=6.3								
DZM				LR		LR		00 10 21.1	
	comp=Z,160nm,18.6s,baz=60,slow=36								
HNR	**Honiara**	**9.95**	**308**	P		**Pn**		**00 08 53.8**	**-0.2**
	8.9nm,0.3s,baz=181,slow=6.8,SNR=1.6								
HNR				S		**Sn**		**00 10 45.8**	**+1.5**
	18nm,0.3s,baz=181,slow=18,SNR=1.3								
HNR	**Honiara**	**9.95**	**308**	Pn		**Pn**		**00 08 53.0**	**-1.1**
EIDS	**Eidsvold**	**18.35**	**236**	P		**Pn**		**00 10 38.5**	**-1.2**
ARMA	**Armidale**	**20.82**	**223**	P		**P**		**00 11 04.7**	**+0.2**
CTA	**Charters Tower**	**20.98**	**255**	P		**P**		**00 11 06.8**	**+0.6**
	38nm,0.7s,baz=84,slow=12,SNR=41								
CTAO	**Charters Tower**	**20.98**	**255**	P		**P**		**00 11 06.3**	**+0.1**
PMG	**Port Moresby**	**21.14**	**285**	LR		LR		00 17 45.6	
	comp=Z,146nm,20.6s,baz=68,slow=32								
COEN	**Coen**	**23.90**	**271**	P		**P**		**00 11 34.6**	**-0.2**
BKZ	**Black Stump Fm**	**24.52**	**164**	P		**P**		**00 11 41.3**	**+1.1**
LTZ	**Lake Taylor**	**27.19**	**173**	P		**P**		**00 12 04.3**	**0.0**
OXZ	**Oxford**	**27.70**	**173**	P		**P**		**00 12 09.3**	**+0.6**
RPZ	**Rata Peaks**	**27.99**	**175**	P		**P**		**00 12 12.8**	**+1.5**
	23nm,0.7s,baz=302,slow=2.1,SNR=11								
RPZ	**Rata Peaks**	**27.99**	**175**	P		IAmb	IAmb	00 12 15.4	
	comp=Z,77nm,1.3s								
STKA	**Stephens Creek**	**28.76**	**231**	P		**P**		**00 12 19.4**	**+1.1**
	comp=Z,38nm,0.6s,baz=37,slow=7.9,SNR=82								
STKA	**Stephens Creek**	**28.76**	**231**	P		**P**		**00 12 18.2**	**-0.1**
STKA						IAmb	IAmb	00 12 20.3	
	comp=Z,8.6nm,0.7s								
WR0	**Warramunga Arr**	**31.93**	**258**	P		**P**		**00 12 44.5**	**-1.9**
WR0						IAmb	IAmb	00 12 46.0	
	comp=Z,11nm,0.9s								
WB0	**Warramunga Arr**	**32.07**	**258**	P		**P**		**00 12 45.4**	**-2.2**
WB2	**Warramunga Arr**	**32.11**	**258**	P		**P**		**00 12 46.4**	**-1.6**
WB2						IAmb	IAmb	00 12 48.3	
	comp=Z,20nm,1.1s								
WRAB	**Tennant Creek**	**32.11**	**258**	P		**P**		**00 12 45.0**	**-3.0**
WRA	**Warramunga Arr**	**32.12**	**258**	P		**P**		**00 12 47.0**	**-1.1**
	comp=Z,12nm,0.8s,baz=87,slow=8.7,SNR=26								
WRA	**Warramunga Arr**	**32.12**	**258**	P		**P**		**00 12 45.9**	**-2.2**
AS31	**Alice Springs**	**32.83**	**251**	P		**P**		**00 12 53.3**	**-0.9**
AS31						IAmb	IAmb	00 12 54.7	
	comp=Z,8.6nm,0.7s								
ASAR	**Alice Springs**	**32.84**	**251**	P		**P**		**00 12 53.8**	**-0.5**
	comp=Z,24nm,0.7s,baz=80,slow=8.7,SNR=194								
ASAR	**Alice Springs**	**32.84**	**251**	P		**P**		**00 12 52.8**	**-1.5**
BBOO	**Buckleboo**	**33.40**	**234**	P		**P**		**00 12 58.5**	**-0.5**
KNRA	**Kununurra**	**37.58**	**265**	P		**P**		**00 13 33.7**	**-1.2**
FORT	**Forrest**	**39.26**	**240**	P		**P**		**00 13 48.1**	**-0.7**
FITZ	**Fitzroy Crossi**	**40.38**	**260**	P		**P**		**00 13 58.2**	**0.0**
SKMP	**Bagumbayan, Su**	**48.25**	**294**	*eP*		**P**		**00 15 00.0**	**-0.8**
NWAO	**Narrogin (SRO)**	**48.70**	**240**	P		**P**		**00 15 03.0**	**-1.0**
NWAO	**Narrogin (SRO)**	**48.70**	**240**	P		**P**		**00 15 03.5**	**-0.5**
NWAO				IAmb		IAmb		00 15 05.0	
	comp=Z,34nm,0.9s								
MORW	**Morawa**	**49.32**	**245**	P		**P**		**00 15 08.0**	**-0.8**
VNDA	**Vanda**	**61.84**	**181**	P		**P**		**00 16 38.5**	**+1.1**
	comp=Z,1.7nm,0.7s,baz=11,slow=5.5,SNR=12								
VNDA	**Vanda**	**61.84**	**181**	P		**P**		**00 16 37.4**	**0.0**
NJ2	**Nanjing**	**66.80**	**316**	*eP*		**P**		**00 17 10.6**	**+0.3**
NJ2				pmax	pmax				
	comp=Z,11nm,0.5s								
USRK	**Ussuriysk Ar.**	**68.05**	**333**	P		**P**		**00 17 20.0**	**+2.1**
	comp=Z,2.2nm,0.6s,baz=114,slow=10,SNR=5.0								
QSPA	**South Pole Qui**	**74.27**	**180**	P		**P**		**00 17 56.1**	**+0.9**
	comp=Z,9.5nm,0.8s,baz=13,slow=1.8,SNR=7.4								
QSPA	**South Pole Qui**	**74.27**	**180**	P		**P**		**00 17 55.5**	**+0.2**
QSPA				IAmb		IAmb		00 17 57.3	
	comp=Z,18nm,1.1s								
CMAR	**Chiang Mai Arr**	**75.87**	**294**	P		**P**		**00 18 06.8**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=130,slow=5.0,SNR=6.9								
CD2	**Chengdu**	**77.07**	**308**	P		**P**		**00 18 11.0**	**-0.6**
CD2				pmax	pmax				
	comp=Z,10.0nm,0.5s								
LZH	**Lanzhou**	**79.42**	**312**	⇑P		**P**		**00 18 27.0**	**+2.4**
LZH				sP		sP		00 19 19.8	+2.5
LZH				PP		**PP**		**00 21 31.3**	**+4.2**
LZH				pmax	pmax				
	comp=Z,25nm,1.3s								
LZH				pmax	pmax				
	comp=Z,130nm,6.0s								
SONM	**Songino Array**	**83.65**	**323**	P		**P**		**00 18 47.7**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=133,slow=6.3,SNR=5.5								
SONM	**Songino Array**	**83.65**	**323**	P		**P**		**00 18 46.5**	**0.0**
SONM						**PcP**		**00 18 47.8**	**-2.6**
SUA	**Susitna One**	**83.69**	**19**	P		**P**		**00 18 43.4**	**-3.0**
SUA				IAmb		IAmb		00 18 45.7	
	comp=Z,16nm,0.9s								
KCPM	**Cahto Peak**	**84.28**	**46**	P		**P**		**00 18 48.5**	**-1.4**
KNK	**Knik Glacier**	**84.37**	**20**	P		**P**		**00 18 50.7**	**+1.0**
KNK				IAmb		IAmb		00 18 53.6	
	comp=Z,10nm,1.2s								
CRQM	**Cirque**	**85.71**	**22**	P		**P**		**00 18 55.1**	**-1.4**
CRQM				IAmb		IAmb		00 18 58.0	
	comp=Z,6.7nm,0.5s								
DHY	**Denali Highway**	**85.95**	**19**	P		**P**		**00 18 55.1**	**-2.6**
GLB	**Gilahina Butte**	**85.95**	**21**	P		**P**		**00 18 56.0**	**-1.6**
BALM	**Baldy**	**86.19**	**22**	P		**P**		**00 18 59.0**	**+0.1**
IL31		**87.34**	**18**	P		**P**		**00 19 00.4**	**-3.7**
IL31				IAmb		IAmb		00 19 02.2	
	comp=Z,6.1nm,1.2s								
DLBC	**Dease Lake**	**89.59**	**28**	LR		LR		00 51 16.7	
	comp=Z,41nm,20.1s,baz=322,slow=30								
SNAA	**Sanae**	**92.55**	**183**	P		**P**		**00 19 28.4**	**-0.2**
SNAA	**Sanae**	**92.55**	**183**	P		**P**		**00 19 27.6**	**-1.1**
SNAA				IAmb		IAmb		00 19 29.6	
	comp=Z,2.8nm,0.7s								
VNA3	**Neumayer Olymp**	**93.19**	**181**	P		**P**		**00 19 31.4**	**-0.1**
WMQ	**Urumqi**	**93.84**	**314**	*eP*		**P**		**00 19 34.

GOPC	**GO Pecny, Ondr**	**1.90**	**209**	*e*PG		**Pn**	**00 27 45.1**	**+1.1**
GOPC				*e*SG		**Sn**	**00 28 08.9**	**+0.3**
	comp=Z,38nm,0.4s							
PRU	**Pruhonice**	**1.92**	**214**	*e*PG		**Pb**	**00 27 45.7**	**-0.4**
PRU				*e*SG		**Sb**	**00 28 10.2**	**-0.3**
	comp=Z,97nm,0.5s							
FBE	**Freiberg**	**1.92**	**251**	*e*Pn		**Pb**	**00 27 46.8**	**+0.7**
FBE				*e*Sg		**Sb**	**00 28 11.3**	**+0.8**
MORC	**Moravsky Berou**	**1.99**	**154**	*e*Pn		**Pn**	**00 27 45.5**	**+0.3**
MORC	**Moravsky Berou**	**1.99**	**154**	⇑P		**Pn**	**00 27 45.7**	**+0.4**
MORC	**Moravsky Berou**	**1.99**	**154**	*e*PN		**Pn**	**00 27 45.5**	**+0.3**
MORC				*e*SG		**Sb**	**00 28 12.5**	**-0.2**
CLL	**Collm**	**2.03**	**264**	*e*Pn		**Pn**	**00 27 47.1**	**+1.3**
CLL				*e*Sg		**Sg**	**00 28 15.3**	**-0.2**
CLL	**Collm**	**2.03**	**264**	*e*Pn		**Pn**	**00 27 46.0**	**+0.2**
CLL				*e*Pg		**Pg**	**00 27 50.0**	**+0.8**
CLL				*e*			00 27 53.0	
CLL				*e*Sg		**Sb**	**00 28 15.0**	**+1.1**
	comp=Z,46nm,0.5s							
OKC	**Ostrava-Krasne**	**2.13**	**144**	*e*PN		**Pn**	**00 27 47.7**	**+0.6**
OKC				*e*PG		**Pb**	**00 27 50.1**	**+0.3**
OKC				*e*SG		**Sb**	**00 28 17.6**	**+0.9**
	comp=Z,75nm,0.6s							
OKC	**Ostrava-Krasne**	**2.13**	**144**	*e*Pn		**Pn**	**00 27 47.4**	**+0.2**
VRAC	**Vranov**	**2.29**	**174**	Pn		**Pn**	**00 27 49.8**	**+0.5**
	comp=Z,4.0nm,0.3s,baz=356,slow=16,SNR=18							
VRAC				Pg		**Pg**	**00 27 54.6**	**+0.5**
	comp=Z,4.3nm,0.3s,baz=346,slow=16,SNR=13							
VRAC				Lg		Lg	00 28 20.7	
	comp=Z,5.6nm,0.3s,baz=278,slow=22,SNR=7.2							
VRAC	**Vranov**	**2.29**	**174**	⇑P		**Pn**	**00 27 50.5**	**+1.2**
VRAC	**Vranov**	**2.29**	**174**	*e*PN		**Pn**	**00 27 50.3**	**+1.0**
VRAC				*e*SG		**Sb**	**00 28 20.3**	**-0.9**
TREC	**Trest**	**2.33**	**192**	*e*PN		**Pn**	**00 27 51.2**	**+1.2**
TREC				*e*PG		**Pb**	**00 27 53.6**	**+0.4**
TREC				*e*SG		**Sb**	**00 28 23.1**	**+0.5**
	comp=Z,27nm,0.3s							
PBCC	**Pribram**	**2.37**	**218**	*e*PG		**Pb**	**00 27 54.6**	**+0.8**
PBCC				*e*SG		**Sb**	**00 28 24.4**	**+0.9**
KRUC	**Moravsky**	**2.52**	**177**	*e*PN		**Pn**	**00 27 53.4**	**+0.9**
KRUC				*e*PG		**Pb**	**00 27 57.0**	**+0.6**
KRUC				*e*SG		**Sb**	**00 28 28.1**	**+0.1**
OJC	**Ojcow**	**2.64**	**120**	*e*Pn		**Pn**	**00 27 54.0**	**-0.2**
OJC				*e*Sg		**Sg**	**00 28 36.8**	**+1.7**
OJC	**Ojcow**	**2.64**	**120**	*e*Pn		**Pn**	**00 27 53.7**	**-0.5**
OJC				*e*Pg		**Pg**	**00 28 01.2**	**+0.3**
OJC				*e*Sg		**Sg**	**00 28 36.5**	**+1.3**
TANN	**Tannenbergstha**	**2.64**	**245**	*e*Pn		**Pn**	**00 27 54.7**	**+0.5**
TANN				*e*Sg		**Sb**	**00 28 33.2**	**+1.6**
NKC	**Novy Kostel**	**2.74**	**242**	*e*PN		**Pn**	**00 27 56.3**	**+0.7**
NKC				*e*PG		**Pb**	**00 28 01.9**	**+1.7**
NKC				*e*SG		**Sg**	**00 28 38.8**	**+0.5**
	comp=Z,94nm,0.5s							
JAVC	**Velka Javorina**	**2.88**	**161**	*e*PN		**Pn**	**00 27 58.8**	**+1.3**
KHC	**Kasperske Hory**	**2.98**	**216**	*e*PN		**Pn**	**00 27 59.5**	**+0.7**
KHC				*e*PG		**Pb**	**00 28 04.8**	**+0.6**
KHC				*e*SN		**Sn**	**00 28 34.1**	**-1.1**
KHC				*e*SG		**Sb**	**00 28 43.9**	**+2.8**
	comp=Z,36nm,0.6s							
MOX	**Moxa**	**3.05**	**254**	*e*Sg		**Sg**	**00 28 47.4**	**-0.8**
MANZ	**Manzenberg**	**3.06**	**240**	*e*Pn		**Pn**	**00 28 00.7**	**+0.8**
MANZ				*e*Sg		**Sg**	**00 28 46.6**	**-1.9**
ROTZ	**Rotzenmuhle**	**3.13**	**236**	*e*Pn		**Pn**	**00 28 01.4**	**+0.5**
SMOL	**Smolenice**	**3.17**	**165**	*e*PG		**Pg**	**00 28 11.3**	**+0.4**
SMOL				*e*SG		**Sg**	**00 28 52.6**	**+0.7**
SMOL				*e*LG		Lg	00 29 02.1	
GEC2	**GERESS Array S**	**3.18**	**212**	*e*Pn		**Pn**	**00 28 02.8**	**+1.2**
GEC2				*e*Sg		**Sg**	**00 28 50.2**	**-2.1**
GERES	**GERESS Array B**	**3.18**	**212**	Pn		**Pn**	**00 28 01.9**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=29,slow=12,SNR=13							
GERES				Pg		**Pb**	**00 28 08.9**	**+1.2**
	comp=Z,3.2nm,0.3s,baz=30,slow=18,SNR=27							
GERES				Lg		Lg	00 28 49.8	
	comp=Z,5.3nm,0.3s,baz=30,slow=29,SNR=13							
LANS	**Liptovska Anna**	**3.20**	**138**	*e*PN		**Pn**	**00 28 03.2**	**+1.3**
LANS				*e*PG		**Pg**	**00 28 12.5**	**+0.9**
LANS				*e*SG		**Sg**	**00 28 54.7**	**+1.7**
LANS				*e*LG		Lg	00 29 07.8	
WET	**Wettzell**	**3.24**	**223**	*e*Pn		**Pn**	**00 28 02.7**	**+0.3**
MODS	**Modra-Piesok**	**3.28**	**168**	*e*PN		**Pn**	**00 28 03.6**	**+0.6**
MODS				*e*PG		**Pg**	**00 28 11.9**	**-1.2**
MODS				*e*SG		**Sg**	**00 28 54.0**	**-1.6**
MODS				*e*LG		Lg	00 29 04.5	
NIE	**Niedzica**	**3.38**	**128**	*e*P		**Pg**	**00 28 15.2**	**0.0**
NIE				*e*S		**Sg**	**00 28 59.8**	**+0.8**
ZST	**Bratislava**	**3.43**	**170**	*e*SG		**Sg**	**00 28 58.5**	**-2.1**
ZST				*e*LG		Lg	00 29 03.7	
VYHS	**Vyhne**	**3.52**	**150**	*e*PN		**Pn**	**00 28 06.5**	**+0.3**
VYHS				*e*PG		**Pg**	**00 28 18.0**	**+0.3**
BSD	**Bornholm Skovb**	**3.63**	**348**	*i* P		**Pn**	**00 28 08.7**	**+1.0**
BSD				*i* S		**Sn**	**00 28 51.1**	**0.0**
CLZ	**Clausthal**	**3.65**	**276**	*e*Sg		**Sg**	**00 29 08.2**	**+0.8**
CONA	**Conrad Observa**	**3.66**	**184**	*i* Pn		**Pn**	**00 28 09.4**	**+1.2**
	comp=Z,1.6nm,0.3s,SNR=7.8							
CONA				Sg		**Sg**	**00 29 05.0**	**-2.8**
	comp=Z,8.6nm,0.3s							
GRF	**Grafenberg Arr**	**3.70**	**241**	*e*Pn		**Pn**	**00 28 08.9**	**+0.2**
GRF				*e*Sg		**Sg**	**00 29 08.0**	**-1.1**
MOA	**Molln**	**3.94**	**200**	*i* Pn		**Pn**	**00 28 12.7**	**+0.6**
	comp=Z,1.3nm,0.2s,SNR=5.2							
MOA				Sg		**Sg**	**00 29 15.5**	**-1.4**
	comp=Z,11nm,0.4s							
ARSA	**Arzberg**	**4.36**	**186**	*e*Pn		**Pn**	**00 28 19.9**	**+2.2**
	comp=Z,1.3nm,0.2s							
LUNU	**Lund**	**4.38**	**339**	P		**Pn**	**00 28 18.7**	**+0.6**
LUNU				S		**Sn**	**00 29 10.3**	**+0.5**
KOLS	**Kolonicke sedl**	**4.70**	**122**	*e*PN		**Pn**	**00 28 23.0**	**+0.5**
BLEU	**Blekinge**	**4.74**	**357**	P		**Pn**	**00 28 24.4**	**+1.5**
BLEU				S		**Sn**	**00 29 16.7**	**-1.9**
BJUU	**Bjuv**	**4.89**	**338**	P		**Pn**	**00 28 25.3**	**+0.3**
BJUU				S		**Sn**	**00 29 21.2**	**-1.0**
DEL	**Delary**	**5.09**	**345**	P		**Pn**	**00 28 28.8**	**+1.0**
TRPA	**Tarpa**	**5.35**	**128**	⇑P		**Pn**	**00 28 31.5**	**+0.2**
VXJU	**Vaexsjoe**	**5.41**	**353**	P		**Pn**	**00 28 33.7**	**+1.6**
VXJU				S		**Sn**	**00 29 33.4**	**-1.6**
FABU	**Falkenberg**	**5.81**	**341**	P		**Pn**	**00 28 39.0**	**+1.4**
GNOU	**Gnosjoe**	**5.90**	**347**	P		**Pn**	**00 28 40.3**	**+1.4**
DRGR		**6.41**	**136**	⇑P		**Pn**	**00 28 46.5**	**+0.5**
SIRR	**Siria**	**6.41**	**144**	⇑P		**Pn**	**00 28 46.7**	**+0.8**
BZS	**Buzias**	**6.96**	**147**	⇑P		**Pn**	**00 28 54.4**	**+1.0**
ARCR	**ARCALIA**	**6.96**	**127**	⇑P		**Pn**	**00 28 53.0**	**-0.5**
BURAR	**Bucovina Array**	**7.06**	**121**	⇓P		**Pn**	**00 28 54.0**	**-1.0**
AKASG	**Malin Array Be**	**8.23**	**91**	Pn		**Pn**	**00 29 11.1**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=283,slow=11,SNR=2.5							
HFS	**Hagfors**	**8.69**	**352**	Pn		**Pn**	**00 29 17.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=156,slow=14,SNR=1.8							
FINES	**FINESS Array B**	**11.27**	**25**	Pn		**Pn**	**00 29 52.0**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=196,slow=14,SNR=5.5							
EKA	**Eskdalemuir Ar**	**12.14**	**296**	Pn		**Pn**	**00 30 02.0**	**-2.3**
	baz=101,slow=14,SNR=3.5							

IDC ***25*** *00:36:40.0±1.7,29°.90S×177°.35W,h0km,mb4.1/4, mb1 4.2/4,mb1mx3.8/45,mbtmp4.1/4,MS3.4/1,Ms1 3.4/1, ms1mx2.7/32,Error ellipse: s-maj=41.4km s-min=19.3km az=65.0*

NEIC ***25*** *00:36:43.6±1.5,29°.9S±0°.2×177°.2W±0°.2,h35km±2km, mb4.3/6,Error ellipse: s-maj=45.7km s-min=11.2km az=45.0*

ISC 25 00:36:44.3±1.6,29°.9S±0°.2×177°.2W±0°.2,h35km,n15, σ2s05/13,mb4.2/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**0.87**	**313**	**Pn**		**Pn**	**00 36 59.5**	**-0.6**
	1μm,0.3s,baz=267,slow=1.1,SNR=38							
RAO				Sn		**Sn**	**00 37 11.6**	**0.0**
	815nm,0.3s,baz=77,slow=20,SNR=5.9							
DZM	**Mont Dzumac**	**16.62**	**294**	Pn		**P**	**00 40 41.3**	**+4.4**
	0.2nm,0.3s,baz=131,slow=18,SNR=2.0							
HNR	**Honiara**	**29.49**	**309**	LR		LR	00 51 46.1	
	comp=Z,72nm,19.9s,baz=294,slow=31							
STKA	**Stephens Creek**	**35.29**	**256**	P		**P**	**00 43 36.6**	**+0.7**
	0.9nm,0.4s,baz=127,slow=5.1,SNR=3.7							
STKA	**Stephens Creek**	**35.29**	**256**	P		**P**	**00 43 34.2**	**-1.8**
STKA				IAmb		IAmb	00 44 14.3	
	comp=Z,5.2nm,1.6s							
AS31	**Alice Springs**	**43.84**	**266**	P		**P**	**00 44 46.2**	**-1.1**
AS31				IAmb		IAmb	00 46 08.8	
	comp=Z,5.6nm,1.8s							
ASAR	**Alice Springs**	**43.84**	**266**	P		**P**	**00 44 46.9**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=104,slow=7.0,SNR=11							
WB2	**Warramunga Arr**	**44.77**	**271**	P		**P**	**00 44 51.6**	**-3.2**
WRAB	**Tennant Creek**	**44.78**	**271**	P		**P**	**00 44 52.9**	**-2.0**
WRA	**Warramunga Arr**	**44.78**	**271**	P		**P**	**00 44 53.5**	**-1.3**
	comp=Z,1.9nm,0.3s,baz=114,slow=5.8,SNR=16							
WRA	**Warramunga Arr**	**44.78**	**271**	IAmb		IAmb	00 44 55.9	
	comp=Z,0.6nm,1.4s							
QSPA	**South Pole Qui**	**60.26**	**180**	P		**P**	**00 46 50.0**	**+1.1**
	comp=Z,1.3nm,1.0s,baz=347,slow=7.6,SNR=2.7							
QSPA	**South Pole Qui**	**60.26**	**180**	IAmb		IAmb	00 47 01.6	
	comp=Z,9.1nm,1.6s							
FINES	**FINESS Array B**	**144.87**	**341**	PKP		**PKPdf**	**00 56 16.6**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=54,slow=4.3,SNR=24							
NOA	**NORSAR Array B**	**148.31**	**352**	PKPbc		**PKiKP**	**00 56 27.4**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=21,slow=2.6,SNR=2.0							

NEIC ***25*** *00:39:19.1±1.7,21°.3S±0°.1×179°.3W±0°.2,h619km±7km, mb4.3/47,Error ellipse: s-maj=23.6km s-min=17.9km az=85.0*

IDC ***25*** *00:39:19.7±0.6,21°.24S×179°.24W,h616km±7km,mb3.7/27, mb1 3.8/27,mb1mx3.7/51,mbtmp4.7/27,Error ellipse: s-maj=11.4km s-min=9.3km az=91.0*

ISC 25 00:39:19.5±0.5,21°.32S±0°.07×179°.32W±0°.08, h618km±5km,h619km;pP-P,n131,σ0s96/144,mb4.3/46, 20C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.35**	**325**	P		**P**	**00 40 49.1**	**+0.3**
RAO	**Raoul Island**	**8.00**	**171**	P		**P**	**00 41 18.2**	**-1.0**
	220nm,0.3s,baz=55,slow=9.3,SNR=7.9							
RAO				S		**S**	**00 42 54.9**	**-2.6**
	100nm,0.3s,baz=80,slow=23,SNR=2.4							
DZM	**Mont Dzumac**	**13.26**	**264**	P		**P**	**00 42 09.7**	**-1.0**
	0.1nm,0.3s,baz=119,slow=18,SNR=1.6							
RPZ	**Rata Peaks**	**23.72**	**198**	P		**P**	**00 43 45.3**	**0.0**
	18nm,0.8s,baz=29,slow=16,SNR=2.6							
PMG	**Port Moresby**	**34.34**	**285**	P		**P**	**00 45 17.9**	**+0.8**
	21nm,0.6s,baz=124,slow=5.1,SNR=6.0							
STKA	**Stephens Creek**	**36.32**	**245**	P		**P**	**00 45 35.0**	**+1.8**
	4.0nm,0.4s,baz=88,slow=11,SNR=13							
ASAR	**Alice Springs**	**43.13**	**258**	P		**P**	**00 46 28.4**	**+0.7**
	2.0nm,0.5s,baz=94,slow=8.2,SNR=15							
ASAR				PcP		**PcP**	**00 48 03.1**	**+0.2**
	1.3nm,0.7s,baz=96,slow=4.8,SNR=5.4							
ASAR				ScP		**ScP**	**00 50 58.5**	**+2.3**
	1.1nm,0.6s,baz=105,slow=3.9,SNR=5.6							
ASAR				S		**S**	**00 52 09.7**	**-1.2**
	2.8nm,0.7s,baz=94,slow=16,SNR=16							
JAY	**Jayapura**	**43.15**	**290**	P		**P**	**00 46 28.6**	**+0.8**
	39nm,0.6s,baz=132,slow=4.4,SNR=26							
WB2	**Warramunga Arr**	**43.26**	**263**	P		**P**	**00 46 28.2**	**-0.4**
WB2				IAmb		IAmb	00 46 33.7	
	comp=Z,13nm,1.5s							
WRA	**Warramunga Arr**	**43.27**	**263**	P		**P**	**00 46 29.0**	**+0.3**
	comp=Z,1.0nm,0.3s,baz=96,slow=7.6,SNR=6.5							
WRA				S		**S**	**00 52 08.6**	**-4.3**
	comp=Z,2.2nm,0.7s,baz=95,slow=14,SNR=6.4							
VNDA	**Vanda**	**56.99**	**185**	P		**P**	**00 48 09.4**	**+2.1**
	comp=Z,4.4nm,0.5s,baz=27,slow=6.3,SNR=12							
VNDA				ScP		**ScP**	**00 51 55.6**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=29,slow=5.0,SNR=2.6							
VNDA	**Vanda**	**56.99**	**185**	P		**P**	**00 48 07.8**	**+0.5**
CASY	**Casey**	**62.70**	**205**	P		**P**	**00 48 45.0**	**-0.1**
CASY				IAmb		IAmb	00 48 47.2	
	comp=Z,33nm,1.3s							
QSPA	**South Pole Qui**	**68.75**	**180**	P		**P**	**00 49 24.2**	**+1.4**
	comp=Z,18nm,0.6s,baz=288,slow=0.4,SNR=117							
QSPA	**South Pole Qui**	**68.75**	**180**	P		**P**	**00 49 23.5**	**+0.6**
MJAR	**Matsushiro Arr**	**70.15**	**325**	P		**P**	**00 49 31.4**	**-0.1**
	comp=Z,6.5nm,0.6s,baz=147,slow=5.4,SNR=15							
MJAR	**Matsushiro Arr**	**70.15**	**325**	P		**P**	**00 49 30.8**	**-0.6**
MAJO	**Matsushiro**	**70.15**	**325**	P		**P**	**00 49 30.5**	**-1.0**
MAJO				IAmb		IAmb	00 49 31.8	
	comp=Z,8.2nm,0.6s							
MAT	**Matsushiro**	**70.15**	**325**	P		**P**	**00 49 31.2**	**-0.3**
MJB9	**Matsu-Tunnel**	**70.16**	**325**	P		**P**	**00 49 30.5**	**-1.0**
MJB9				IAmb		IAmb	00 49 31.7	
	comp=Z,8.1nm,0.6s							
SBUM	**Sibu**	**70.94**	**280**	P		**P**	**00 49 34.9**	**-1.7**
JNU	**Nakatsue**	**72.04**	**318**	P		**P**	**00 49 42.2**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=102,slow=5.2,SNR=4.0							
ASAJ	**Asahikawa**	**73.87**	**332**	P		**P**	**00 49 54.3**	**+1.6**
	comp=Z,8.8nm,0.4s,baz=17,slow=22,SNR=4.3							
KSRS	**Korea Array**	**76.70**	**319**	P		**P**	**00 50 08.4**	**0.0**
	comp=Z,1.4nm,0.6s,baz=135,slow=6.8,SNR=5.6							
KSAR	**Wonju Array Be**	**76.71**	**319**	P		**P**	**00 50 09.4**	**+0.8**
PETK	**Petropavlovsk-**	**76.76**	**346**	P		**P**	**00 50 07.8**	**-0.7**
	comp=Z,11nm,0.7s,baz=132,slow=8.6,SNR=6.9							
USA0B	**Ussuriysk Arra**	**78.96**	**327**	P		**P**	**00 50 20.9**	**+0.5**
USA0B				IAmb		IAmb	00 50 22.4	
	comp=Z,9.0nm,0.9s							
USRK	**Ussuriysk Ar.**	**78.96**	**327**	P		**P**	**00 50 21.7**	**+1.3**
	comp=Z,4.6nm,0.6s,baz=120,slow=2.9,SNR=13							
USRK	**Ussuriysk Ar.**	**78.96**	**327**	P		**P**	**00 50 21.2**	**+0.8**
MAW	**Mawson**	**80.37**	**200**	P		**P**	**00 50 28.5**	**+1.0**
	comp=Z,7.6nm,0.5s,baz=170,slow=5.8,SNR=4.9							
PMSA	**Palmer Station**	**81.02**	**157**	P		**P**	**00 50 31.8**	**+0.9**
	comp=Z,39nm,1.1s,baz=258,slow=23,SNR=1.7							
YBH	**Yreka Blue Hor**	**81.70**	**39**	P		**P**	**00 50 35.5**	**+0.7**
	comp=Z,3.1nm,0.6s,baz=221,slow=1.6,SNR=13							
YBH	**Yreka Blue Hor**	**81.70**	**39**	P		**P**	**00 50 35.1**	**+0.3**
KDAK	**Kodiak Island**	**81.91**	**14**	P		**P**	**00 50 34.9**	**-0.4**
	comp=Z,2.4nm,0.5s,baz=267,slow=7.4,SNR=4.8							
NVAR	**Mina Array Bea**	**82.47**	**44**	P		**P**	**00 50 39.3**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=226,slow=8.0,SNR=8.4							
KLR	**Kul'dur**	**82.61**	**330**	P		**P**	**00 50 40.0**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=103,slow=2.8,SNR=9.1							
KVN	**Kaiserville**	**82.95**	**43**	P		**P**	**00 50 40.3**	**-1.0**
K05A	**Summer Lake**	**83.38**	**39**	P		**P**	**00 50 43.8**	**+0.4**
K05A				IAmb		IAmb	00 50 44.9	
	comp=Z,5.5nm,0.7s							
MA2	**Magadan**	**84.25**	**345**	P		**P**	**00 50 46.3**	**-0.7**
	comp=Z,3.8nm,0.5s,baz=222,slow=16,SNR=4.1							
U15A	**North Rim**	**85.43**	**48**	P		**P**	**00 50 53.4**	**-0.1**
ENH	**Enshi**	**85.49**	**305**	P		**P**	**00 50 54.0**	**+0.3**
ENH				IAmb		IAmb	00 50 55.6	
	comp=Z,12nm,1.1s							
SUA	**Susitna One**	**85.64**	**13**	P		**P**	**00 50 51.5**	**-2.2**
SYO	**Syowa Base**	**85.65**	**193**	*e*P		**P**	**00 50 52.2**	**-1.5**
SYO	**Syowa Base**	**85.65**	**193**	*e*P		**P**	**00 50 55.0**	**+1.3**
GLI	**Glacier Island**	**85.96**	**15**	P		**P**	**00 50 54.2**	**-0.9**
WAX	**Waxell Ridge**	**86.69**	**17**	P		**P**	**00 50 58.9**	**+0.2**
D08A	**Wollman Farm,**	**87.07**	**37**	P		**P**	**00 50 59.7**	**-1.0**
D08A				IAmb		IAmb	00 51 01.8	
	comp=Z,5.1nm,0.8s							
VRDI	**Verde Repeater**	**87.18**	**16**	P		**P**	**00 51 00.9**	**-0.3**
VRDI				IAmb		IAmb	00 51 01.0	
	comp=Z,3.1nm,0.6s							
SNAA	**Sanae**	**87.22**	**179**	P		**P**	**00 51 00.4**	**-0.8**
SNAA	**Sanae**	**87.22**	**179**	P		**P**	**00 51 00.7**	**-0.5**
	comp=Z,2.3nm,0.5s,baz=207,slow=9.2,SNR=67							
SNAA	**Sanae**	**87.22**	**179**	P		**P**	**00 51 00.7**	**-0.5**
SNAA				IAmb		IAmb	00 51 01.1	
	comp=Z,2.9nm,0.6s							
GLB	**Gilahina Butte**	**87.27**	**16**	P		**P**	**00 51 01.1**	**-0.2**
GLB				IAmb		IAmb	00 51 01.6	
	comp=Z,5.5nm,0.6s							
VNA3	**Neumayer Olymp**	**87.40**	**177**	P		**P**	**00 51 01.5**	**-0.5**
BARN	**Barnard Glacie**	**87.53**	**17**	P		**P**	**00 51 02.5**	**-0.2**
B08A	**Colville Reser**	**87.61**	**35**	P		**P**	**00 51 03.2**	**0.0**
B08A				IAmb		IAmb	00 51 03.6	
	comp=Z,3.9nm,0.6s							
XAN	**Xi'an**	**87.66**	**308**	P		**P**	**00 51 05.3**	**+1.5**
XAN				pmax		pmax		
	comp=Z,5.0nm,0.5s							
HLID	**Hailey**	**87.75**	**41**	P		**P**	**00 51 03.7**	**-0.6**
VNA1	**Neumayer--Stat**	**88.06**	**177**	P		**P**	**00 51 04.9**	**-0.1**
TX31	**Lajitas Ar. Si**	**88.53**	**58**	P		**P**	**00 51 07.9**	**-0.2**
TX31				IAmb		IAmb	00 51 10.3	
	comp=Z,3.6nm,0.8s							
TXAR	**Lajitas Array**	**88.53**	**58**	P		**P**	**00 51 09.0**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=225,slow=5.1,SNR=15							
TXAR				pP		**pP**	**00 53 20.0**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=223,slow=6.2,SNR=1.7							
TXAR	**Lajitas Array**	**88.53**	**58**	P		**P**	**00 51 07.6**	**-0.5**
RIDG	**Independent Ri**	**88.96**	**15**	P		**P**	**00 51 08.7**	**-0.5**
RIDG				IAmb		IAmb	00 51 09.3	
	comp=Z,4.9nm,0.8s							
BCAR	**Beaver Creek A**	**89.15**	**16**	P		**P**	**00 51 09.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**89.23**	**290**	P		**P**	**00 51 13.8**	**+2.4**
	comp=Z,1.9nm,0.8s,baz=139,slow=3.3,SNR=7.3							
CMAR	**Chiang Mai Arr**	**89.23**	**290**	P		**P**	**00 51 11.4**	**0.0**
COLA	**College**	**89.28**	**13**	P		**P**	**00 51 08.8**	**-1.7**
SCRK	**Sand Creek**	**89.36**	**15**	IAmb		IAmb	00 51 12.2	
	comp=Z,2.6nm,0.8s							
IL31		**89.39**	**13**	P		**P**	**00 51 09.9**	**-1.1**
IL31				IAmb		IAmb	00 51 11.2	
	comp=Z,7.4nm,1.4s							
ILAR	**Eielson Array**	**89.39**	**13**	P		**P**	**00 51 09.7**	**-1.4**
	comp=Z,1.7nm,0.4s,baz=225,slow=5.5,SNR=14							
ILAR				pP		**pP**	**00 53 22.3**	**-1.3**
	comp=Z,0.5nm,1.0s,baz=214,slow=3.1,SNR=2.1							
ILAR	**Eielson Array**	**89.39**	**13**	P		**P**	**00 51 09.4**	**-1.7**
PLCA	**Paso Flores**	**89.60**	**134**	P		**P**	**00 51 13.6**	**+0.7**
	comp=Z,22nm,1.4s,baz=230,slow=5.8,SNR=6.1							
BILL	**Bilibino**	**89.73**	**355**	P		**P**	**00 51 12.4**	**-0.2**
BILL				IAmb		IAmb	00 51 13.2	
	comp=Z,5.7nm,1.0s							
PDAR	**Pinedale Array**	**90.40**	**44**	P		**P**	**00 51 16.2**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=198,slow=4.2,SNR=5.4							
EGAK	**Eagle**	**90.72**	**15**	IAmb		IAmb	00 51 17.3	
	comp=Z,5.7nm,1.1s							
COLD	**Coldfoot**	**90.91**	**11**	IAmb		IAmb	00 51 18.8	
	comp=Z,4.4nm,1.2s							
BI02	**San Fabin de**	**90.99**	**130**	P		**P**	**00 51 19.2**	**-0.2**
MKAR	**Makanchi Array**	**110.86**	**313**	PKKPbc		PKKPbc	01 07 43.0	-1.0
	comp=Z,0.2nm,0.6s,baz=260,slow=4.8,SNR=3.9							
KURBB	**Kurchatov Arra**	**113.81**	**317**	PKiKP		**PKiKP**	**00 56 48.1**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=93,slow=2.0,SNR=1.7							
BVAR	**Borovoye Array**	**118.91**	**320**	PKP		**PKPdf**	**00 56 57.8**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=91,slow=1.6,SNR=5.9							
SPITS	**Spitsbergen Ar**	**122.50**	**356**	PKP		**PKPdf**	**00 57 04.5**	**-0.7**
	comp=Z,3.2nm,0.7s,baz=64,slow=3.4,SNR=1.9							
BOSA	**Boshof**	**124.98**	**207**	PKP		**PKPdf**	**00 57 11.3**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=148,slow=2.1,SNR=3.2							
ARCES	**ARCESS Array B**	**129.50**	**349**	PKP		**PKPdf**	**00 57 18.0**	**-0.5**
	comp=Z,1.7nm,0.6s,baz=333,slow=1.4,SNR=6.3							
FINES	**FINESS Array B**	**136.20**	**343**	SKPbc		**SKPbc**	**01 00 06.7**	**+0.3**
	comp=Z,3.6nm,0.7s,baz=73,slow=3.6,SNR=11							
NB2	**NORSAR Subarra**	**139.63**	**352**	PKP		PKPdf	00 57 29.6	-8.1
	comp=Z,

NIKH	Nikolski High	7.92	77	Pn		Pn	00 48 45.6 +0.5
SPIA	Saint Paul Isl	8.49	47			Pn	00 48 53.9 +1.2
MREP	Makushin Rep't	9.24	72			Pn	00 49 04.6 +1.6
UNV	Unalaska Valle	9.39	72	Pn		Pn	00 49 05.9 +1.0
PET	Petropavlovsk	12.04	283	Pn		Pn	00 49 41.2 +0.9
PEA0B	Petropavlovsk-	12.61	284	Pn		Pn	00 49 49.3 +1.4
PETK	Petropavlovsk-	12.61	284	P		Pn	00 49 49.1 +1.2
	3.5nm,0.3s,baz=97,slow=18,SNR=84						
PETK				S		Sn	00 52 01.8 -4.7
	0.3nm,0.3s,baz=303,slow=46,SNR=1.3						
PETK				LR		LR	00 54 54.2
	comp=Z,21nm,19.8s,baz=64,slow=38						
PETK	Petropavlovsk-	12.61	284	Pn		Pn	00 49 48.5 +0.7
CNBA	Chernabura Isl	13.51	69	Pn		Pn	00 49 56.5 -3.0
CHIR	Chirikof Islan	15.83	65	Pn		Pn	00 50 26.9 -2.0
SVW2	Sparrevohn	16.98	47	P		Pn	00 50 42.2 -0.9
MA2	Magadan	17.19	307	P		P	00 50 45.1 -0.3
OHAK	Old Harbor	17.23	61	P		P	00 50 44.2 -1.6
KDAK	Kodiak Island	17.67	59	P		P	00 50 48.3 -2.3
	5.9nm,0.3s,baz=238,slow=3.1,SNR=62						
KDAK	Kodiak Island	17.67	59			P	00 50 50.4 -0.2
KDAK				IAmb		IAmb	00 50 51.8
	comp=Z,17nm,0.9s						
RSO	Redoubt South	18.11	51	P		Pn	00 50 56.8 +0.1
CNPM	China Poot	18.64	54	P		P	00 51 01.7 +0.5
SKT	Skwentna	19.11	46	P		Pn	00 51 08.0 -0.5
PPLA	Purkeypile	19.13	44	P		Pn	00 51 09.1 +0.3
SUA	Susitna One	19.32	48	P		P	00 51 09.1 +0.4
BPAW	Bear Paw Mtn.	20.09	41	P		Pn	00 51 19.0 -0.8
BPAW				IAmb		IAmb	00 51 54.7
	comp=Z,15nm,1.6s						
KNK	Knik Glacier	20.37	49	P		P	00 51 21.6 +1.6
KNK				IAmb		IAmb	00 51 23.0
	comp=Z,8.5nm,0.7s						
SML	Sawmill	20.52	48	IAmb		IAmb	00 51 23.9
	comp=Z,7.0nm,0.9s						
GLI	Glacier Island	20.91	51	P		P	00 51 25.6 -0.2
FID	Port Fidalgo	21.19	52	P		P	00 51 29.2 +0.4
FID				IAmb		IAmb	00 51 30.7
	comp=Z,10nm,0.8s						
DHY	Denali Highway	21.27	45	P		P	00 51 31.2 +1.4
DHY				IAmb		IAmb	00 51 59.4
	comp=Z,8.7nm,0.6s						
ILAR	Eielson Array	21.99	41	P		P	00 51 37.1 -0.1
	comp=Z,0.8nm,0.7s,baz=246,slow=8.1,SNR=5.2						
ILAR				ScP		ScP	00 58 54.9 -2.3
	comp=Z,0.5nm,0.7s,baz=181,slow=3.7,SNR=4.1						
RIDG	Independent Ri	22.55	44	P		P	00 51 44.0 +1.1
VRDI	Verde Repeater	22.72	51	P		P	00 51 45.5 +0.6
CRQM	Cirque	22.82	52	IAmb		IAmb	00 51 48.1
	comp=Z,15nm,1.0s						
MCARA	McCarthy VSAT	22.94	51	P		P	00 51 47.4 +0.6
MCARA				IAmb		IAmb	00 51 48.5
	comp=Z,7.4nm,0.7s						
BALM	Baldy	23.23	51	IAmb		IAmb	00 51 52.2
	comp=Z,9.9nm,1.3s						
BARN	Barnard Glacie	23.57	51	IAmb		IAmb	00 51 55.3
	comp=Z,19nm,1.5s						
BCAR	Beaver Creek A	23.75	46	P		P	00 51 55.0 +0.7
EGAK	Eagle	24.35	42	IAmb		IAmb	00 52 00.9
	comp=Z,7.1nm,0.7s						
HYT	Haines Junctio	25.58	52	P		P	00 52 12.9 +2.0
HYT				IAmb		IAmb	00 52 15.0
	comp=Z,8.5nm,0.9s						
EPYK	Eagle Plains	26.48	40	P		P	00 52 19.1 +0.2
EPYK				IAmb		IAmb	00 52 47.0
	comp=Z,9.7nm,1.1s						
KLR	Kul'dur	29.30	283	P		P	00 52 44.6 +0.5
	comp=Z,1.0nm,0.5s,baz=89,slow=6.5,SNR=4.2						
H11N2	WAKE ISLAND Hy	33.34	200	T		T	01 29 00.2
	baz=11,slow=76,SNR=64						
H11N3	WAKE ISLAND Hy	33.35	200	T		T	01 29 03.9
	baz=11,slow=76,SNR=50						
H11N1	WAKE ISLAND Hy	33.35	200	T		T	01 29 04.4
	baz=11,slow=76,SNR=44						
H11S1	WAKE ISLAND Hy	34.56	200	T		T	01 30 20.2
	baz=11,slow=76,SNR=16						
H11S2	WAKE ISLAND Hy	34.58	200	T		T	01 30 36.1
	baz=11,slow=76,SNR=4.7						
H11S3	WAKE ISLAND Hy	34.58	200	T		T	01 30 35.9
	baz=11,slow=76,SNR=18						
YKA	Yellowknife Ar	36.17	46	P		P	00 53 44.1 +0.4
	comp=Z,0.5nm,0.6s,baz=284,slow=8.6,SNR=5.0						
KSRS	Korea Array	37.84	268	P		P	00 53 58.0 -0.1
	comp=Z,0.8nm,0.4s,baz=60,slow=9.9,SNR=1.9						
NEW	Newport	40.38	69	P		P	00 54 18.2 -1.0
	comp=Z,2.3nm,0.5s,baz=310,slow=7.9,SNR=5.8						
NEW	Newport	40.38	69	P		P	00 54 18.7 -0.5
NEW				IAmb		IAmb	00 54 19.1
	comp=Z,3.1nm,0.6s						
YBH	Yreka Blue Hor	40.58	80	P		P	00 54 22.2 +1.3
	comp=Z,2.0nm,0.7s,baz=310,slow=6.0,SNR=6.8						
YBH	Yreka Blue Hor	40.58	80	IAmb		IAmb	00 54 25.9
	comp=Z,8.7nm,1.6s						
SONM	Songino Array	44.79	295	P		P	00 54 56.2 +1.3
	comp=Z,0.5nm,0.4s,baz=72,slow=6.7,SNR=3.0						
SONM				PcP		PcP	00 56 35.1 +0.2
	comp=Z,0.7nm,0.5s,baz=39,slow=0.7,SNR=3.9						
NVAR	Mina Array Bea	45.27	81	P		P	00 54 59.6 +0.7
	comp=Z,1.2nm,0.6s,baz=297,slow=7.7,SNR=7.7						
NVAR	Mina Array Bea	45.27	81	P		P	00 54 58.2 -0.7
ELK	Elko	45.70	77	P		P	00 55 01.7 -0.6
TPNV	Topopah Spring	47.46	81	P		P	00 55 16.1 +0.1
TPNV				IAmb		IAmb	00 55 17.6
	comp=Z,3.3nm,0.8s						
PDAR	Pinedale Array	47.85	71	P		P	00 55 18.4 -0.7
	comp=Z,0.9nm,0.5s,baz=314,slow=3.9,SNR=7.4						
PDAR	Pinedale Array	47.85	71	P		P	00 55 18.0 -1.0
LCMT	Little Creek M	49.26	79	P		P	00 55 29.4 -0.3
SPITS	Spitsbergen Ar	49.70	355	P		P	00 55 32.1 -0.3
	comp=Z,0.6nm,0.3s,baz=45,slow=7.2,SNR=11						
ZALV	Zalesovo Beam	52.34	312	P		P	00 55 52.3 -0.1
	comp=Z,0.3nm,0.3s,baz=44,slow=8.3,SNR=1.3						
ZALV				PcP		PcP	00 57 02.9 +1.1
	comp=Z,0.4nm,0.3s,baz=57,slow=5.3,SNR=2.5						
ARCES	ARCESS Array B	57.24	349	P		P	00 56 28.5 +1.0
	comp=Z,2.0nm,0.9s,baz=32,slow=8.6,SNR=1.1						
KURK	Kurchatov	57.33	312	P		P	00 56 29.6 +1.2
KURK	Kurchatov	57.33	312	IAmb		IAmb	00 57 22.4
	comp=Z,3.1nm,1.1s						
KURBB	Kurchatov Arra	57.44	312	P		P	00 56 29.6 +0.5
	comp=Z,1.6nm,0.5s,baz=42,slow=6.6,SNR=19						
WMQ	Urumqi	57.53	301	eP		P	00 56 32.4 +2.4
MK31	Makanchi Array	58.28	307	P		P	00 56 33.5 -1.6
MK31				IAmb		IAmb	00 58 21.3
	comp=Z,5.1nm,1.6s						
MKAR	Makanchi Array	58.28	307	P		P	00 56 35.1 0.0
	comp=Z,0.6nm,0.3s,baz=43,slow=6.6,SNR=11						
MKAR				PcP		PcP	00 57 25.9 +0.9
	comp=Z,0.3nm,0.5s,baz=30,slow=4.7,SNR=2.1						
MKAR	Makanchi Array	58.28	307	P		P	00 56 34.7 -0.4
BVAR	Borovoye Array	59.30	318	P		P	00 56 42.7 +0.6
	comp=Z,1.2nm,0.4s,baz=47,slow=6.8,SNR=14						
BVAR				PcP		PcP	00 57 29.5 +0.6
	comp=Z,1.3nm,0.5s,baz=60,slow=3.5,SNR=5.1						
TXAR	Lajitas Array	60.34	79	P		P	00 56 49.5 -0.1
	comp=Z,0.5nm,0.5s,baz=310,slow=5.5,SNR=9.6						
TXAR	Lajitas Array	60.34	79	P		P	00 56 50.3 +0.7
ARU	Arti	61.18	327	P		P	00 56 55.6 +0.8
	comp=Z,0.9nm,0.5s,baz=354,slow=9.4,SNR=5.3						
ARU	Arti	61.18	327	IAmb		IAmb	00 56 56.5
	comp=Z,3.3nm,0.8s						
FINES	FINESS Array B	64.84	346	P		P	00 57 18.1 -0.8
	comp=Z,1.0nm,0.6s,baz=1.9,slow=4.2,SNR=1.1						
AKTO	Aktyubinsk	66.19	323	P		P	00 57 27.7 0.0
	comp=Z,1.7nm,0.6s,baz=20,slow=6.5,SNR=7.0						
KKAR	Karatay Array	66.68	311	P		P	00 57 31.5 +0.5
CMAR	Chiang Mai Arr	69.17	274	P		P	00 57 47.6 +0.7
	comp=Z,0.8nm,0.4s,baz=15,slow=7.5,SNR=5.1						
AKASG	Malin Array Be	74.46	340	P		P	00 58 17.4 -0.6
	comp=Z,0.6nm,0.3s,baz=18,slow=5.7,SNR=2.2						
WRA	Warramunga Arr	81.18	221	P		P	00 58 55.2 -0.4
	comp=Z,2.2nm,0.6s,baz=32,slow=6.0,SNR=8.0						
ASAR	Alice Springs	84.69	220	P		P	00 59 14.3 +0.7
	comp=Z,1.2nm,0.6s,baz=23,slow=4.6,SNR=9.8						
STKA	Stephens Creek	89.43	211	P		P	00 59 36.0 -0.3
	comp=Z,2.2nm,0.7s,baz=351,slow=6.1,SNR=4.8						
TORD	Torodi Ar. Bea	115.15	356	PKP		PKiKP	01 05 19.5 -1.1
	comp=Z,0.4nm,0.5s,baz=4.4,slow=1.8,SNR=11						
DBIC	Dimbokro	121.59	4	PKP		PKPdf	01 05 32.4 -0.6
	comp=Z,0.9nm,0.5s,baz=338,slow=5.4,SNR=0.9						
BOSA	Boshof	149.26	309	PKPbc		PKPbc	01 06 28.2 +0.4
	comp=Z,1.2nm,0.4s,baz=33,slow=2.4,SNR=10						

IDC 25 00:58:16.7±10.0, 13°03S×166°98E, h239km±110km,
mb3.2/4, mb1 3.4/5, mb1mx3.1/28, mbtmp3.7/5, Error ellipse: s-maj=108.4km s-min=30.5km az=158.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	9.01	183	P	Pn	01 00 23.2	+0.3
	0.2nm,0.3s,baz=342,slow=20,SNR=1.7						
WRA	Warramunga Arr	32.00	253	P	P	01 04 20.7	-0.4
	0.4nm,0.5s,baz=85,slow=9.9,SNR=1.9						
ASAR	Alice Springs	33.05	247	P	P	01 04 29.9	-0.2
	0.6nm,0.6s,baz=74,slow=9.0,SNR=10						
ILAR	Eielson Array	85.01	18	P	P	01 10 24.3	-0.6
	0.5nm,0.5s,baz=239,slow=4.8,SNR=7.1						
MKAR	Makanchi Array	95.79	317	P	P	01 11 16.8	+1.0
	0.3nm,0.6s,baz=120,slow=5.0,SNR=2.4						
ARCES	ARCESS Array B	118.55	346	PKP	PKPdf	01 16 35.5	0.0
	3.0nm,1.0s,baz=90,slow=1.8,SNR=6.9						

*SCEDC **25** 00:58:29.4±0.4, 35°.86N×119°.83W, M3.0*
*NEIC **25** 00:58:29.1±1.4, 35°.87N±0°.01×119°.78W±0°.02, h4km±8km, Error ellipse: s-maj=1.9km s-min=1.5km az=125.0*
*ANF **25** 00:58:29.9±0.3, 35°.81N×119°.73W, h6km±2km, ML2.9/19, Error ellipse: s-maj=2.6km s-min=1.3km az=124.0*
*PAS **25** 00:58:29.3±1.9, 35°.86N±0°.01×119°.83W±0°.02, h0km±7km, Error ellipse: s-maj=2.1km s-min=1.6km az=143.0*
*NCEDC **25** 00:58:29.2±1.2, 35°.84N±0°.01×119°.80W±0°.02, h8km±6km, Md3.0/94, Error ellipse: s-maj=2.2km s-min=1.8km az=160.0*
ISC 25 00:58:29.4±0.9, 35°.88N±0°.02×119°.80W±0°.01, h15km±8km, n145, σ1§06/165, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKEM	Kettleman Hill	0.31	306		Pb	00 58 37.4	+0.7
PMRM	Maxey Ranch	0.36	255		Pg	00 58 36.5	-0.4
PBPM	Bitterwater Pu	0.37	217		Pg	00 58 36.5	-0.5
THIS	South End of C	0.38	246		Pg	00 58 36.6	-0.5
THIS					Sg	00 58 43.1	+0.8
PSRM	Scobie Ranch	0.39	267		Pg	00 58 37.3	0.0
PAGB	Antelope Grade	0.39	248		Pg	00 58 36.8	-0.5
PAGB					Sb	00 58 44.0	0.0
PTRM	Twissleman Ran	0.40	236		Pg	00 58 37.0	-0.5
PSNM	Stone Corral	0.41	257		Pg	00 58 37.2	-0.5
PSNM					Sg	00 58 44.1	+0.8
TRAM	Private Proper	0.43	242		Pg	00 58 37.6	-0.5
TRAM					Sg	00 58 44.6	+0.7
CTM	Castle Mountai	0.44	277		Pb	00 58 39.0	+0.1
PKLM	Kerr Lake	0.45	257		Pg	00 58 38.0	-0.3
GHC	Gold Hill	0.45	264		Pg	00 58 38.0	-0.4
YEG	Yeguas Mountai	0.46	196		Pg	00 58 38.1	-0.4
YEG	Yeguas Mountai	0.46	196		Sb	00 58 47.0	+1.1
PHFM	Heflinger Ranc	0.49	271		Pg	00 58 38.9	-0.1
PMCM	McMillan Canyo	0.49	252		Pg	00 58 38.7	-0.3
PCMM	Cholame Hills	0.50	262		Pg	00 58 39.1	-0.2
TCHL	Shandon	0.52	249		Pg	00 58 39.4	-0.3
TCHL					Sb	00 58 48.0	+0.3
TSCN	Private Proper	0.56	233		Pg	00 58 39.8	-0.6
VOG	Valley Oaks Go	0.56	37	P	Pb	00 58 40.9	0.0
	baz=216,SNR=10.0						
VOG				S	Sb	00 58 49.1	+0.5
	baz=216						
VOG	Valley Oaks Go	0.56	37		Sb	00 58 49.2	+0.6
CARC	Carrizo Plain	0.57	184		Pg	00 58 40.4	-0.2
PARM	Anticline Ridg	0.57	310		Pb	00 58 41.8	+0.6
PSTM	Stockdale Moun	0.58	275		Pg	00 58 40.6	-0.2
PWKM	Work Ranch	0.58	264		Pg	00 58 40.6	-0.2
VES	Vestal, Richgr	0.58	93	P	Pg	00 58 40.7	-0.1
	baz=270,SNR=49						
VES				S	Sg	00 58 48.4	-0.2
	baz=270						
VES	Vestal, Richgr	0.58	93		Pg	00 58 40.7	-0.1
SMMC	Simmler	0.58	196	P	Pg	00 58 40.4	-0.5
	baz=16,SNR=16						
SMMC				S	Sg	00 58 48.9	+0.2
	baz=16						
SMMC	Simmler	0.58	196		Pg	00 58 40.4	-0.5
SMMC					Sb	00 58 49.6	+0.1
PVCM	Vineyard Canyo	0.60	274		Pg	00 58 40.9	-0.3
PKD	Bear Valley Ra	0.60	277		Pg	00 58 40.9	-0.4
RCTC	Rector, Farmer	0.62	47		Pb	00 58 42.0	0.0
PHPM	Hope Ranch	0.66	279		Pg	00 58 42.0	-0.4
PPO	Portuguese Can	0.66	269		Pg	00 58 42.3	-0.1
PSMM	Smith Mountain	0.67	287		Pb	00 58 43.0	+0.1
MRHM	Rocky Hill	0.71	55		Pb	00 58 43.2	-0.3
BCH	Branch Mountai	0.73	199		Pg	00 58 42.5	-1.1
PMPB	Monarch Peak	0.88	293		Pg	00 58 46.0	-0.4
PTAM	Tassajara Cree	0.88	237		Pg	00 58 45.4	-1.1
PSAM	San Ardo	0.89	280		Pg	00 58 45.9	-0.8
SPG2	Springville 2	0.90	69		Pg	00 58 46.1	-0.7
RAMR	Ramage Ranch	0.90	255		Pg	00 58 46.0	-0.9
PANM	San Antonio Re	0.90	264		Pg	00 58 46.1	-0.8
EFD	Emergency Oper	0.94	234		Pg	00 58 46.2	-1.3
WOFM	Oak Flat	0.95	111		Pg	00 58 46.5	-1.3
PHRM	Hernandez Vall	0.96	301		Pg	00 58 46.9	-1.1
BLDC	Black Mountain	0.96	249		Pg	00 58 46.6	-1.4
BLDC	Black Mountain	0.96	249		Pg	00 58 46.6	-1.4
PKM	Mcpherson Peak	0.99	181	P	Pg	00 58 46.6	-1.8
	baz=0.5,SNR=8.8						
PKM				S	Sg	00 59 00.2	-1.3
	baz=0.5						
PKM	Mcpherson Peak	0.99	181		Pg	00 58 46.7	-1.8
BCW	Bitter Crk WRg	0.99	161		Pg	00 58 46.4	-2.1
PBWM	Bitterwater Cr	1.01	296		Pg	00 58 48.5	-0.4
HELL	Mitchell Peak,	1.02	38		Pg	00 58 48.1	-1.0
DPD	Davis Peak	1.03	231		Pg	00 58 48.3	-0.9
LSDC	Los Osos Digit	1.03	236		Pg	00 58 48.2	-1.0
ARDC	Alexander Ranc	1.04	247		Pg	00 58 48.8	-0.8
LRC	Lone Oak Road	1.07	290		Pg	00 58 48.6	-1.4
PCBM	Cambria	1.09	251		Pg	00 58 49.7	-0.6
ARVC	Arvin	1.09	133	P	Pg	00 58 49.0	-1.4
	baz=312,SNR=10						
ARVC				S	Sg	00 59 03.0	-1.7
	baz=312						
ARVC	Arvin	1.09	133		Pg	00 58 49.1	-1.4
ISA	Isabella, Lake	1.10	101	P	Pg	00 58 49.2	-1.4
	baz=280,SNR=20						
ISA				S	Sg	00 59 03.9	-1.1
	baz=280						
ISA	Isabella, Lake	1.10	101		Pg	00 58 49.2	-1.4
ISA	Isabella, Lake	1.10	101	Pg	Pg	00 58 49.1	-1.4
TEJ	El Tejon	1.11	125		Pg	00 58 48.6	-2.3
PHCM	Hearst Castle	1.12	260		Pg	00 58 49.1	-1.8
BMSM	Mercy Hot Spri	1.12	314		Pg	00 58 49.9	-1.0
PCCM	Crazy Canyon	1.12	281		Pg	00 58 49.1	-2.0
ABL	Mount Abel	1.13	155		Pg	00 58 49.4	-1.8
FIGC	Figueroa Mtn.	1.16	188		Pg	00 58 50.0	-1.7
MHDM	Hidden Dam	1.24	357		Pg	00 58 51.6	-1.7
BAVM	Antelope Valle	1.25	308		Pg	00 58 51.8	-1.8
BRMM	Rolling Bench	1.26	319		Pg	00 58 51.7	-1.9
BPIM	Pinnacles	1.26	299		Pg	00 58 51.5	-2.2
PAPM	Alder Peak	1.27	272		Pg	00 58 50.7	-3.1
WORM	Onyx Ranch	1.28	98		Pg	00 58 52.5	-1.5
BSGM	Shirttail Gulc	1.29	295		Pn	00 58 51.9	-1.1
BVL	Bear Valley	1.32	302		Pn	00 58 52.8	-0.5
WCHM	Chimney Peak	1.40	89		Pn	00 58 55.3	+0.6
BSMM	Soledad Missio	1.41	291		Pn	00 58 53.1	-1.5
SBC	Santa Barbara	1.44	177	P	Pn	00 58 55.6	+0.7
	baz=357						
SBC				S	Sb	00 59 14.7	+0.7
	baz=357						
BJCM	Johnson Can.	1.45	298		Pn	00 58 54.0	-1.1
SCZ	Santa Cruz	1.48	299		Pn	00 58 54.6	-1.0
CWC	Cottonwood Cre	1.50	68	P	Pn	00 58 56.9	+0.9
	baz=247						
CWC				S	Sg	00 59 17.1	-0.7
	baz=247						
CWC	Cottonwood Cre	1.50	68		Pn	00 58 57.0	+1.1
HAST	Hastings Reser	1.50	290		Pn	00 58 54.3	-1.6
BAPM	Anderson Peak	1.52	282		Pn	00 58 54.3	-1.9
MMIM	Miami Mountain	1.54	2		Pn	00 58 56.6	+0.2
OSI	Osito Audit: C	1.54	145	S	Sn	00 59 16.3	+0.1
	baz=325						
OSI	Osito Audit: C	1.54	145	Pn	Pn	00 58 56.4	0.0
RVCM	Rose Valley Ce	1.56	85		Pb	00 58 57.9	-0.1
PYR	Pyramid	1.57	146		Pn	00 58 56.2	-0.7
MYLM	Yosemite Lake	1.58	342		Pn	00 58 57.1	+0.2
MFS	McCloud Flat S	1.60	81		Pb	00 58 58.6	-0.1
SAO	San Andreas Ge	1.60	304	Pn	Pn	00 58 56.5	-0.6
SAO	San Andreas Ge	1.60	304		Pn	00 58 56.8	-0.3
FRP	Fremont Peak	1.62	303		Pn	00 58 57.0	-0.5
HPCM	Pacheco Lake	1.67	315		Pn	00 58 57.8	-0.4
TIN	Tinemaha, Big	1.73	47	P	Pb	00 59 01.0	+0.1
	baz=227,SNR=14						
TIN				S	Sg	00 59 24.6	-0.4
	baz=227						
SCHCA	Scheelite	1.73	31		Pn	00 59 00.5	+1.3
LRMC	Laurel Mtn Rad	1.77	102	S	Sn	00 59 23.6	+1.6
	baz=282						
MTUM	Tungsten Hills	1.78	34		Pb	00 59 01.6	-0.3
EDW2	Edwards Air Fo	1.78	123	P	Pn	00 59 00.3	+0.6
	baz=304,SNR=12						
EDW2				Sb	Sb	00 59 24.7	+0.7
	baz=304						
MRDM	Red Cones	1.82	19		Pn	00 59 02.0	+1.5
RCCR	Rock Creek Can	1.82	28		Pn	00 59 02.2	+1.7
MMPM	Mammoth Pass	1.84	20		Pn	00 59 02.3	+1.6
MDPB	Devils Postpil	1.84	18		Pn	00 59 02.2	+1.4
OMMB	Old Mammoth Mi	1.85	20		Pn	00 59 02.5	+1.6
MLCM	Laurel Creek C	1.87	22		Pn	00 59 03.0	+1.8
MCVM	Convict Lake	1.88	24		Pn	00 59 03.1	-0.4
MCMM	Convict Lake	1.88	23		Pb	00 59 03.2	-0.4
MPMC	Manual Prospec	1.88	84	P	Pn	00 59 02.1	+0.9
	baz=264,SNR=26						
MPMC				Sb	Sg	00 59 28.9	-1.1
	baz=264						
MGPM	Gravel Pit	1.89	22		Pb	00 59 03.5	-0.3
MFBM	Five Bridges	1.90	35		Pn	00 59 04.0	+0.2
MCBM	Casa Benchmark	1.91	22		Pn	00 59 03.9	-0.2
MCSM	Casa Diablo Ho	1.91	22		Pn	00 59 03.9	-0.3
POCCA	Poleta Canyon	1.92	39		Pn	00 59 04.2	-0.1
MLHM	Little Hot Cre	1.96	23		Pn	00 59 05.0	0.0
ORC	Owens River	1.98	27		Pb	00 59 05.1	-0.2
PASC	Pasadena Art C	2.16	142	Pn	Pn	00 59 04.7	-0.2
MWC	Mount Wilson	2.18	139		Pn	00 59 05.6	+0.2
CMB	Columbia Colle	2.20	348		Pn	00 59 07.3	+1.8
XTL	Crystal Lake,	2.24	134		Pn	00 59 06.0	-0.2
GRAC	Grapevine Rang	2.26	60	Pb	Pg	00 59 11.3	-1.4
	baz=240						
GRAC				Sb	Sg	00 59 41.2	-0.8
	baz=240						
BFSC	Mount Baldy Ra	2.40	132	P	Pn	00 59 07.9	-0.4
	baz=313						
FURC	Furnace Creek,	2.45	75	Sb	Sg	00 59 46.6	-1.5
	baz=256						
SBI	Santa Barbara	2.48	165		Pn	00 59 10.8	+1.6
SBI					Pb	00 59 14.9	+1.4
GSC	Goldstone, Bar	2.51	102	P	Pn	00 59 10.5	+0.7
	baz=283,SNR=11						
GSC				S	Sn	00 59 41.2	+1.1
	baz=283						
GSC	Goldstone, Bar	2.51	102	Pn	Pn	00 59 10.4	+0.7
WAKR	Walker	2.64	6	Pn	Pn	00 59 13.4	+1.8
NVAR	Mina Array Bea	2.81	25	Pn	Pn	00 59 15.6	+1.5
SHOC	Shoshone, Teco	2.86	89	S	Sn	00 59 50.5	+1.7
	baz=270						
NV11	Mina Array Sit	2.87	27	Pn	Pn	00 59 16.1	+1.3
RYN	Ryan	2.93	20	Pn	Pn	00 59 16.1	+0.5
TPNV	Topopah Spring	3.06	69	P	Pn	00 59 19.1	+1.7
	baz=250,SNR=8.1						
TPNV	Topopah Spring	3.06	69	Pn	Pn	00 59 18.4	+1.0
RUBR	Rubicon Trail	3.18	355	Pn	Pn	00 59 18.6	-0.6
AFDM	Forest Hills D	3.20	343	Pn	Pn	00 59 20.1	+0.9
PNTR	Pine Nut	3.21	3	Pn	Pn	00 59 20.5	+1.0
KVN	Kaiserville	3.44	23	Pn	Pn	00 59 24.2	+1.5
PFO	Pinyon Flats O	3.56	128	Pn	Pn	00 59 25.9	+1.7
XPFO	Pion Flat	3.56	128	Pn	Pn	00 59 24.9	+0.6
SHPR	Sheep Range	3.81	79		Pn	00 59 28.4	+0.7
PAHR	Pah Rah Range	3.84	5	Pn	Pn	00 59 29.2	+1.1
R11A	Troy Canyon, C	4.17	53	Pn	Pn	00 59 33.4	+0.6
LCMM	Colby Mountain	4.47	343		Pb	00 59 47.4	-0.3

*UNK **25** 01:18:37.6, 9°.43S×75°.18W, h92km*
*LIM **25** 01:18:39.0, 9°.51S×75°.45W, h126km, MB4.8(NEIC), MB4.8(NEIC), MB4.8(NEIC)*
*NEIC **25** 01:18:39.2±1.3, 9

PTLB Pontes e Lacer 16.81 112 *eP* **Pn 01 22 28.3 +0.7**
ZARC Zaragoza, Cauc 16.87 1 *eP* **Pn 01 22 28.7 +0.3**
PAMC Pamplona, Colo 16.90 9 *eP* **P 01 22 33.6 +4.0**
UREC San Jos de Ur 17.12 359 *eP* **P 01 22 34.4 +2.7**
PTGA Pitinga 17.52 61 P **P 01 22 36.1 +0.1**
10nm,0.3s,baz=258,slow=17,SNR=56
PTGA S **Sn 01 25 43.6 -7.9**
0.5nm,0.3s,baz=159,slow=22,SNR=2.0
PTGA Pitinga 17.52 61 P 01 22 36.5 +0.5
PTGA IAmb IAmb 01 22 39.5
comp=Z,30nm,0.7s
PTGA Pitinga 17.52 61 *eP* **Pn 01 22 38.2 +1.9**
PTGA Pitinga 17.52 61 *eP* **Pn 01 22 38.2 +1.9**
OCAC Ocana 17.71 6 *eP* **Pn 01 22 40.0 +1.3**
SMLC San Martn de 18.20 4 *eP* **P 01 22 44.8 +1.3**
SDV Santo Domingo 18.82 14 P **P 01 22 52.0 +1.5**
comp=Z,4.3nm,0.3s,baz=204,slow=12,SNR=4.2
SDV Santo Domingo 18.82 14 Pn **Pn 01 22 52.5 +0.5**
SDV IAmb IAmb 01 22 55.7
comp=Z,33nm,0.8s
CLDB Colider 19.20 96 *eP* **P 01 22 54.4 0.0**
CLDB Colider 19.20 96 *eP* **P 01 22 54.4 0.0**
ARGC Ariguani, Magd 19.24 3 *eP* **Pn 01 22 57.7 +0.9**
SJCC San Jacinto, C 19.25 0 *eP* **Pn 01 22 58.1 +1.1**
AC05 El Transito 19.81 167 P **P 01 23 01.3 +0.2**
NPGB Novo Progresso 19.83 84 *eP* **P 01 23 01.9 +0.6**
NPGB Novo Progresso 19.83 84 *eP* **P 01 23 01.9 +0.6**
ITTB Itaituba 20.02 77 *eP* **P 01 23 04.4 +1.1**
ITTB Itaituba 20.02 77 *eP* **P 01 23 04.4 +1.1**
SALV Santo Antonio 20.11 110 *eP* **P 01 23 05.5 +1.3**
SALV Santo Antonio 20.11 110 *eP* **P 01 23 05.5 +1.3**
SMRC Santa Marta, M 20.54 3 *eP* **P 01 23 10.3 +1.4**
URIC Uribia, Colomb 21.29 9 P **P 01 23 16.3 -0.6**
CO03 El Pedregal 21.67 169 P **P 01 23 20.3 -0.7**
JTS Las Juntas de 21.89 334 P **P 01 23 24.5 +1.1**
comp=Z,4.5nm,0.6s,baz=228,slow=9.6,SNR=3.7
JTS Las Juntas de 21.89 334 P **P 01 23 21.2 -2.2**
MALB Monte Alegre 22.20 71 *eP* **P 01 23 28.1 +1.4**
MALB Monte Alegre 22.20 71 *eP* **P 01 23 28.1 +1.4**
PCRV Puerto La Cruz 22.20 29 P **P 01 23 28.7 +2.0**
comp=Z,21nm,0.9s,baz=175,slow=12,SNR=2.5
PLCV Puerto La Cruz 22.21 29 P **P 01 23 28.7 +1.9**
CFA Coronel Fontan 22.95 165 P **P 01 23 35.0 +0.8**
comp=Z,1.5nm,0.4s,baz=342,slow=8.5,SNR=5.0
C2SB Chapadao do Su 23.59 115 *eP* **P 01 23 41.2 +1.1**
C2SB Chapadao do Su 23.59 115 *eP* **P 01 23 41.2 +1.1**
ARAG Araguaiana, MT 23.68 107 *eP* **P 01 23 41.9 +0.9**
ARAG Araguaiana, MT 23.68 107 *eP* **P 01 23 41.9 +0.9**
ROC1 El Roble 23.70 171 P **P 01 23 41.0 -0.4**
CPUP Villa Florida 23.85 137 P **P 01 23 43.1 +0.6**
comp=Z,18nm,0.9s,baz=320,slow=11,SNR=37
CPUP LR LR 01 34 55.6
comp=Z,118nm,19.1s,baz=190,slow=41
CPUP Villa Florida 23.85 137 P **P 01 23 41.8 -0.7**
CPUP IAmb IAmb 01 23 44.5
comp=Z,22nm,0.9s
PRPB Paraupebas 25.41 84 *eP* **P 01 23 57.0 +0.3**
PRPB Paraupebas 25.41 84 *eP* **P 01 23 57.0 +0.3**
PCMB Pacaembu 26.02 120 *eP* **P 01 24 02.5 +0.4**
PCMB Pacaembu 26.02 120 *eP* **P 01 24 02.5 +0.4**
ITRB Iturama 26.10 116 *eP* **P 01 24 03.8 +0.8**
ITRB Iturama 26.10 116 *eP* **P 01 24 03.8 +0.8**
PEXB Peixe 26.59 98 *eP* **P 01 24 07.6 +0.2**
PEXB Peixe 26.59 98 *eP* **P 01 24 07.6 +0.2**
PTGB Pitanga 26.77 127 *eP* **P 01 24 08.3 +0.2**
PTGB Pitanga 26.77 127 *eP* **P 01 24 09.3 +0.2**
MDP Montagnes des 26.79 58 P **P 01 24 10.2 +1.1**
comp=Z,13nm,0.8s,baz=239,slow=8.3,SNR=11
BDFB Brasilia 27.26 106 P **P 01 24 14.6 +1.1**
comp=Z,14nm,0.8s,baz=273,slow=10,SNR=26
BDFB Brasilia 27.26 106 P **P 01 24 13.3 -0.2**
BDFB IAmb IAmb 01 24 15.7
comp=Z,19nm,0.9s
SMTB Santa Maria do 27.31 91 *eP* **P 01 24 15.2 +1.4**
SMTB Santa Maria do 27.31 91 *eP* **P 01 24 15.2 +1.4**
MTO3 Montecristo 27.55 329 P **P 01 24 15.2 -1.0**
MTO3 IAmb IAmb 01 24 19.1
comp=Z,22nm,1.1s
IPMB Ipameri, GO 27.56 111 *eP* **P 01 24 16.4 +0.3**
IPMB Ipameri, GO 27.56 111 *eP* **P 01 24 16.4 +0.3**
FRTB Fartura 28.16 122 *eP* **P 01 24 20.9 -0.5**
FRTB Fartura 28.16 122 *eP* **P 01 24 20.9 -0.5**
OBIP Obispado Ponce 28.65 17 P **P 01 24 25.0 -0.7**
PDPR Patillas Dam, 28.80 18 P **P 01 24 27.3 +0.3**
PDPR IAmb IAmb 01 24 29.4
comp=Z,30nm,0.8s
SJG San Juan 28.85 18 P **P 01 24 28.9 +1.5**
comp=Z,18nm,0.7s,baz=324,slow=2.5,SNR=6.6
AOPR Arecibo Observ 28.90 17 P **P 01 24 27.1 -0.7**
HUMP Col San Antoni 28.98 19 P **P 01 24 28.8 +0.2**
HUMP IAmb IAmb 01 24 34.0
comp=Z,18nm,0.9s
CBYP Canovanas 29.09 19 P **P 01 24 29.5 -0.2**
CBYP IAmb IAmb 01 24 31.9
comp=Z,20nm,0.8s
CUPR Culebra, Puert 29.31 20 P **P 01 24 31.5 -0.1**
PLTB Pedras Altas 29.91 141 *eP* **P 01 24 36.7 -0.1**
PLTB Pedras Altas 29.91 141 *eP* **P 01 24 36.7 -0.1**
SPB Sao Paulo 30.05 121 P **P 01 24 37.3 -0.7**
SPB IAmb IAmb 01 24 38.4
comp=Z,9.3nm,0.7s
JANB Januaria 30.71 103 *eP* **P 01 24 44.8 +0.7**
JANB Januaria 30.71 103 *eP* **P 01 24 44.8 +0.7**
ROSB Rosrio 31.61 80 *eP* **P 01 24 52.8 +0.9**
ROSB Rosrio 31.61 80 *eP* **P 01 24 52.8 +0.9**
TEIG Tepich 32.19 337 P **P 01 24 55.9 -0.9**
SJMB Sao Joao De Ma 34.23 109 *eP* **P 01 25 14.3 -0.4**
SJMB Sao Joao De Ma 34.23 109 *eP* **P 01 25 14.3 -0.4**
BSFB Barra de Sao F 34.57 109 *eP* **P 01 25 17.7 +0.1**
BSFB Barra de Sao F 34.57 109 *eP* **P 01 25 17.7 +0.1**
RIB01 Linhares ES 35.08 110 *eP* **P 01 25 22.2 +0.1**
RIB01 Linhares ES 35.08 110 *eP* **P 01 25 22.2 +0.1**
GDU01 Guandu, BA 35.17 100 *eP* **P 01 25 23.9 +1.0**
GDU01 Guandu, BA 35.17 100 *eP* **P 01 25 23.9 +1.0**
DWPF Disney Wildern 37.85 351 P **P 01 25 46.1 +0.8**
baz=170
RCBR Riachuelo 39.15 88 P **P 01 25 57.3 +0.7**
RCBR IAmb IAmb 01 25 58.6
comp=Z,17nm,0.8s
TIGA Tifton 41.47 349 P **P 01 26 15.2 -0.1**
baz=168
157A Early Branch 42.28 353 P **P 01 26 22.7 +0.7**
baz=172
Z57A Bowman 42.86 353 P **P 01 26 27.3 +0.6**
baz=172
152A Waverly Hall 42.88 348 P **P 01 26 26.4 -0.4**
Y60A Bolivia 43.34 356 P **P 01 26 31.3 +0.8**
baz=176
Y58A Scranton 43.35 355 P **P 01 26 32.0 +1.4**
baz=174
GOGA Godfrey 43.37 350 P **P 01 26 31.2 +0.4**
baz=168
GOGA Godfrey 43.37 350 P **P 01 26 29.7 -1.0**
Y57A Sumter 43.53 354 P **P 01 26 32.7 +0.7**
baz=173
Y57A Sumter 43.53 354 P **P 01 26 31.5 -0.6**
Y57A IAmb IAmb 01 26 33.9
comp=Z,22nm,0.7s
Y55A Saluda 43.63 352 P **P 01 26 33.6 +0.7**
baz=170,SNR=11
LRAL Lakeview Retre 43.74 346 P **P 01 26 33.7 0.0**
baz=163,SNR=10.0
LRAL Lakeview Retre 43.74 346 P **P 01 26 33.0 -0.7**
LRAL IAmb IAmb 01 26 34.8
comp=Z,15nm,1.1s
342A Flagon Creek P 43.80 339 P **P 01 26 33.8 -0.5**
X60A Albert Glenn T 43.90 357 P **P 01 26 35.4 +0.4**
baz=176
JSC Jenkinsville 43.90 353 P **P 01 26 34.9 -0.1**
HKT Hockley 43.93 334 P **P 01 26 35.7 +0.5**
HKT IAmb IAmb 01 26 37.4
comp=Z,17nm,1.1s
X59A McDuffie Farm, 43.93 356 P **P 01 26 35.1 -0.1**
baz=175
X57A Johnson Farm, 43.95 354 P **P 01 26 35.8 +0.4**
baz=173
VBMS Vicksburg 43.96 341 P **P 01 26 35.7 +0.2**
baz=158
X58A Rowland 43.97 355 P **P 01 26 36.0 +0.5**
baz=174
X56A White Oak 44.08 353 P **P 01 26 37.2 +0.9**
baz=172,SNR=5.7
X55A Gracelyn & Ava 44.13 352 P **P 01 26 37.5 +0.7**
baz=171,SNR=6.0

BIRD Birdtown, Kers 44.16 354 P **P 01 26 37.2 +0.1**
BIRD IAmb IAmb 01 26 38.9
comp=Z,12nm,0.9s
833A Chaparral WMA, 44.24 329 P **P 01 26 38.7 +0.8**
baz=145
X54A Belton 44.31 352 P **P 01 26 38.9 +0.6**
baz=170,SNR=6.1
W60A Pink Hill 44.35 357 P **P 01 26 39.3 +0.7**
baz=176
W58A Raeford 44.42 355 P **P 01 26 40.1 +1.0**
baz=174,SNR=19
W61A Ground Anchor 44.45 358 P **P 01 26 40.9 +1.6**
baz=178
PAULI Pauline 44.50 352 P **P 01 26 39.9 +0.1**
PAULI IAmb IAmb 01 26 41.5
comp=Z,12nm,0.8s
W59A Clinton 44.51 356 P **P 01 26 40.7 +0.9**
baz=175
CNNC Cliffs of the 44.55 357 P **P 01 26 41.0 +0.9**
baz=176
W57A Gilead 44.62 354 P **P 01 26 41.4 +0.7**
baz=173,SNR=14
W56A Indian Trail 44.66 354 P **P 01 26 41.6 +0.6**
baz=172
KMSC Kings Mountain 44.75 353 P **P 01 26 42.6 +0.8**
baz=171,SNR=9.0
KMSC Kings Mountain 44.75 353 P **P 01 26 42.1 +0.3**
KMSC IAmb IAmb 01 26 43.5
comp=Z,17nm,0.8s
W54A Cherokee Point 44.81 352 P **P 01 26 43.2 +0.9**
baz=170,SNR=6.3
FPAL Fort Paine 44.87 348 P **P 01 26 42.4 -0.4**
NATX Nacogdoches 45.02 336 P **P 01 26 45.3 +1.3**
baz=152
V60A Jim Taylor Roa 45.04 358 P **P 01 26 45.0 +0.9**
baz=177
V61A Roper 45.05 358 P **P 01 26 45.2 +1.1**
baz=178
W52A Murphy 45.09 350 P **P 01 26 44.4 -0.1**
V59A Middlesex 45.09 357 P **P 01 26 45.5 +1.1**
baz=176,SNR=11
X48A Hartselle 45.10 346 P **P 01 26 43.7 -0.8**
V58A Windy Hill, Pi 45.18 356 P **P 01 26 46.0 +0.8**
baz=174
V58A Windy Hill, Pi 45.18 356 P **P 01 26 45.4 +0.2**
V58A IAmb IAmb 01 26 47.0
comp=Z,22nm,0.8s
V56A Mocksville 45.32 354 P **P 01 26 47.2 +0.9**
baz=173,SNR=9.9
V57A Coltrane Farms 45.33 355 P **P 01 26 46.9 +0.6**
baz=174,SNR=9.1
435B Jarrell 45.42 333 P **P 01 26 47.3 +0.2**
baz=148
V55A Taylorsville 45.44 353 P **P 01 26 47.8 +0.6**
baz=172
W50A Signal Mountai 45.45 348 P **P 01 26 46.8 -0.5**
V54A Nebo 45.46 352 P **P 01 26 48.1 +0.7**
baz=171,SNR=6.7
CPCT Cooper Cave 45.54 349 P **P 01 26 47.6 -0.4**
SWET Sewanee 45.59 348 P **P 01 26 47.7 -0.8**
TKL Tuckaleechee C 45.61 350 P **P 01 26 48.2 -0.4**
Z41A Richland Creek 45.67 339 P **P 01 26 49.5 +0.4**
baz=155
U58A Oxford 45.74 356 P **P 01 26 50.5 +0.9**
baz=175,SNR=7.7
U60A Pendleton 45.74 358 P **P 01 26 50.6 +1.0**
baz=177
V52A Sevierville 45.76 351 P **P 01 26 49.7 0.0**
V52A IAmb IAmb 01 26 50.8
comp=Z,15nm,0.8s
OXF Oxford 45.77 344 P **P 01 26 49.8 0.0**
baz=160
U57A Blanch 45.83 355 P **P 01 26 51.1 +0.8**
baz=174,SNR=12
U56A King 45.84 354 P **P 01 26 51.6 +1.2**
baz=173,SNR=9.3
V51A Loudon 45.85 350 P **P 01 26 50.0 -0.4**
PLAL Pickwick Lake 45.86 345 P **P 01 26 49.4 -1.1**
U55A TA2, Sparta 46.06 354 P **P 01 26 52.9 +0.7**
baz=172,SNR=5.9
WLAR White Oak Lake 46.17 339 P **P 01 26 53.5 +0.5**
U54A Nelsons Funny 46.17 353 P **P 01 26 53.5 +0.4**
baz=171,SNR=6.8
X43A Marvell 46.20 342 P **P 01 26 53.4 +0.2**
baz=158
JCT Junction City 46.21 330 P **P 01 26 54.2 +0.8**
baz=145
JCT Junction City 46.21 330 P **P 01 26 53.5 0.0**
T59A Double "B" Far 46.26 357 P **P 01 26 54.2 +0.6**
baz=177
T58A Grand View Acr 46.28 356 P **P 01 26 54.8 +1.0**
baz=175,SNR=16
V48A Smith Brothers 46.29 347 P **P 01 26 53.3 -0.6**
V48A IAmb IAmb 01 26 54.0
comp=Z,13nm,0.8s
W45A Hickory Valley 46.31 344 P **P 01 26 53.4 -0.7**
W45A IAmb IAmb 01 26 54.3
comp=Z,26nm,0.8s
T57A Hurt 46.39 356 P **P 01 26 55.6 +1.0**
baz=174,SNR=36
WHTX Lake Whitney, 46.39 334 P **P 01 26 55.8 +1.0**
baz=149
WHTX Lake Whitney, 46.39 334 P **P 01 26 54.5 -0.2**
WHTX IAmb IAmb 01 26 56.9
comp=Z,24nm,1.0s
TZTN Tazewell 46.44 351 P **P 01 26 55.1 0.0**
baz=169,SNR=6.4
T56A Rocky Mt 46.48 355 P **P 01 26 56.6 +1.2**
baz=173,SNR=9.5
CLTN Cedars of Leba 46.52 348 P **P 01 26 55.4 -0.3**
T55A Pulaski 46.64 354 P **P 01 26 57.8 +1.1**
baz=172,SNR=11
T54A Tazewell 46.68 353 P **P 01 26 57.3 +0.3**
baz=171,SNR=8.4
HPIG 46.71 322 P **P 01 26 57.6 0.0**
T53A Wise 46.72 352 P **P 01 26 57.5 +0.2**
baz=170,SNR=5.3
X40A Basin Creek Fa 46.80 340 P **P 01 26 58.6 +0.7**
baz=156,SNR=7.1
WVT Waverly 46.89 346 P **P 01 26 57.1 -1.5**
UALR University of 46.90 341 P **P 01 26 58.8 +0.1**
S58A Poland Farm, P 46.92 357 P **P 01 26 59.7 +0.9**
baz=176,SNR=7.5
S58A Poland Farm, P 46.92 357 P **P 01 26 59.4 +0.6**
S58A IAmb IAmb 01 27 00.8
comp=Z,16nm,0.8s
LPAR Lepanto 47.04 343 P **P 01 26 59.5 -0.2**
MIAR Mount Ida 47.11 339 P **P 01 27 00.7 +0.4**
baz=155,SNR=13
MIAR Mount Ida 47.11 339 P **P 01 27 00.3 0.0**
MIAR IAmb IAmb 01 27 01.7
comp=Z,14nm,0.9s
S57A Dark Hollow, R 47.12 356 P **P 01 27 01.4 +1.0**
baz=175,SNR=20
S57A Dark Hollow, R 47.12 356 P **P 01 27 00.9 +0.6**
W41B Gary Mavity, V 47.23 341 P **P 01 27 01.2 -0.1**
baz=157,SNR=18
W41B Gary Mavity, V 47.23 341 P **P 01 27 01.0 -0.3**
W41B IAmb IAmb 01 27 02.3
comp=Z,19nm,0.8s
R58B Mineral 47.26 357 P **P 01 27 02.6 +1.2**
baz=176,SNR=5.2
S55A Lewisburg 47.26 354 P **P 01 27 02.5 +1.0**
baz=173,SNR=24
TXAR Lajitas Array 47.33 326 P **P 01 27 02.9 +0.6**
comp=Z,7.3nm,0.8s,baz=148,slow=8.9,SNR=66
TXAR PcP **PcP 01 28 31.8 +0.1**
comp=Z,1.2nm,0.7s,baz=141,slow=8.1,SNR=4.9
TXAR Lajitas Array 47.33 326 P **P 01 27 02.3 +0.1**
TX31 Lajitas Ar. Si 47.33 326 P **P 01 27 02.8 +0.5**
TX31 IAmb IAmb 01 27 03.9
comp=Z,28nm,0.9s
WHAR Wooly Hollow 47.35 341 P **P 01 27 01.7 -0.5**
WHAR IAmb IAmb 01 27 03.2
comp=Z,26nm,1.0s
S53A Williamson 47.36 353 P **P 01 27 02.3 +0.1**
baz=171
S54A Dingess, Beckl 47.38 353 P **P 01 27 02.9 +0.5**
baz=172,SNR=5.5
Z35A Perchaven, San 47.45 335 P **P 01 27 03.3 +0.3**
R59A King George, V 47.47 358 P **P 01 27 04.0 +1.0**
baz=177
CBN Corbin Frederi 47.48 358 P **P 01 27 04.5 +1.4**
baz=177
S51A Beattyville 47.52 351 P **P 01 27 03.1 -0.3**
R61A Willards 47.56 360 P **P 01 27 04.5 +0.7**
baz=180

R58A Rapidan 47.60 357 P **P 01 27 05.4 +1.3**
baz=176,SNR=8.1
R57A Stanardsville 47.63 357 P **P 01 27 05.4 +1.1**
baz=176,SNR=7.8
R54A Victor 47.72 354 P **P 01 27 05.6 +0.6**
baz=172,SNR=8.4
LCAR Lake Charles 47.73 343 P **P 01 27 04.4 -0.6**
LCAR IAmb IAmb 01 27 05.6
comp=Z,17nm,1.0s
R55A Marlinton 47.73 355 P **P 01 27 06.4 +1.2**
baz=173,SNR=14
W39A Magazine 47.77 339 P **P 01 27 06.2 +0.8**
baz=155,SNR=11
R56A Bull Pasture M 47.80 356 P **P 01 27 06.9 +1.2**
baz=174,SNR=5.1
FCAR Ozark Folk Cen 47.85 341 P **P 01 27 05.2 -0.8**
FCAR IAmb IAmb 01 27 06.5
comp=Z,14nm,0.7s
ABTX Abilene, Hawle 47.91 332 P **P 01 27 07.5 +0.9**
baz=147,SNR=24
ABTX Abilene, Hawle 47.91 332 P **P 01 27 06.9 +0.3**
R53A Hurricane 47.98 353 P **P 01 27 07.5 +0.5**
baz=171
Q61A Milford 48.11 360 P **P 01 27 09.8 +1.8**
baz=180
PBMO Poplar Bluff 48.18 344 P **P 01 27 07.7 -0.8**
PBMO IAmb IAmb 01 27 08.8
comp=Z,16nm,0.8s
Q58A Fox Den Farm, 48.23 357 P **P 01 27 10.0 +1.1**
baz=177,SNR=5.5
R50A Paris 48.27 350 P **P 01 27 09.0 -0.2**
R50A IAmb IAmb 01 27 10.1
comp=Z,9.3nm,0.8s
Q57A Strasburg 48.36 357 P **P 01 27 11.2 +1.3**
baz=176,SNR=8.3
Q56A Snyder Ridge, 48.41 356 P **P 01 27 11.7 +1.4**
baz=175,SNR=13
Q56A Snyder Ridge, 48.41 356 P **P 01 27 09.5 -0.8**
Q55A Buckannon 48.44 355 P **P 01 27 11.8 +1.3**
baz=174,SNR=5.1
Q53A Leroy 48.45 353 P **P 01 27 11.0 +0.4**
baz=172,SNR=6.5
Q54A Coxs Mills 48.50 354 P **P 01 27 11.3 +0.3**
baz=173,SNR=17
U40A Yellville 48.51 341 P **P 01 27 11.0 -0.2**
baz=156,SNR=13
U40A Yellville 48.51 341 P **P 01 27 10.5 -0.7**
U40A IAmb IAmb 01 27 12.1
comp=Z,12nm,0.7s
WCI Wyandotte Cave 48.57 348 P **P 01 27 11.9 +0.4**
baz=165
Q52A Bidwell 48.64 353 P **P 01 27 12.1 +0.1**
baz=171,SNR=5.4
S44A Carbondale 48.73 345 P **P 01 27 11.8 -0.9**
S44A IAmb IAmb 01 27 13.0
comp=Z,16nm,0.8s
P58A Pank, Wackersv 48.76 358 P **P 01 27 14.0 +1.0**
baz=177
P57A Homestead Farm 48.78 357 P **P 01 27 14.3 +1.2**
baz=176
HHAR Hobbs 48.80 340 P **P 01 27 12.6 -0.8**
HHAR IAmb IAmb 01 27 14.5
comp=Z,19nm,0.9s
P56A Dayton Farm, R 48.85 356 P **P 01 27 15.1 +1.4**
baz=175,SNR=6.4
P59A Jarrettsville 48.85 359 P **P 01 27 16.0 +2.4**
baz=178
W35A Tecumseh 48.88 336 P **P 01 27 13.1 -0.9**
P55A Reedsville 48.93 355 P **P 01 27 15.2 +0.9**
baz=174,SNR=5.4
P60A Greenville 49.05 360 P **P 01 27 15.6 +0.5**
baz=179
P53A Whipple 49.05 354 P **P 01 27 15.5 +0.3**
baz=172,SNR=12
P54A Burton 49.08 355 P **P 01 27 16.0 +0.6**
baz=173
MCWV Mont Chateau 49.08 355 P **P 01 27 16.0 +0.7**
baz=174
TUL1 Leonard 49.13 338 P **P 01 27 16.3 +0.4**
baz=153,SNR=10
TUL1 Leonard 49.13 338 P **P 01 27 16.0 +0.1**
MVL Millersville 49.24 359 P **P 01 27 16.6 0.0**
MVL IAmb IAmb 01 27 19.2
comp=Z,9.6nm,0.9s
P51A Williamsport 49.25 352 P **P 01 27 16.4 -0.3**
baz=170,SNR=5.4
P51A Williamsport 49.25 352 P **P 01 27 16.3 -0.3**
P51A IAmb IAmb 01 27 17.4
comp=Z,17nm,0.8s
P52A Corning 49.28 353 P **P 01 27 16.6 -0.4**
baz=171,SNR=6.3
P52A Corning 49.28 353 P **P 01 27 16.6 -0.4**
WMOK Wichita Mounta 49.31 334 P **P 01 27 17.2 -0.1**
baz=149,SNR=8.7
O61A Allentown 49.33 1 P **P 01 27 18.3 +1.0**
baz=181
O58A Lewisberry 49.38 358 P **P 01 27 18.8 +1.1**
baz=178
OLIL Olney 49.44 347 P **P 01 27 17.4 -0.8**
OLIL IAmb IAmb 01 27 18.4
comp=Z,12nm,0.6s
O57A Amberson 49.49 358 P **P 01 27 19.9 +1.3**
baz=177,SNR=6.7
BLO Bloomington 49.53 348 P **P 01 27 18.0 -0.8**
BLO IAmb IAmb 01 27 18.8
comp=Z,15nm,0.9s
O60A Telford 49.55 360 P **P 01 27 20.1 +1.2**
baz=180
O59A Robesonia 49.55 359 P **P 01 27 19.8 +0.8**
baz=179
P49A Miami Univ. Ec 49.55 350 P **P 01 27 18.1 -0.9**
baz=168,SNR=8.2
P49A Miami Univ. Ec 49.55 350 P **P 01 27 18.1 -0.9**
P49A IAmb IAmb 01 27 19.2
comp=Z,23nm,1.1s
O55A Ligonier 49.58 356 P **P 01 27 20.1 +0.9**
baz=175,SNR=5.3
O56A Blue Knob Stat 49.59 357 P **P 01 27 20.5 +1.1**
baz=176,SNR=5.9
CCM Cathedral Cave 49.60 343 P **P 01 27 18.8 -0.6**
baz=159
CCM Cathedral Cave 49.60 343 P **P 01 27 18.5 -0.8**
P48A Milroy 49.60 350 P **P 01 27 18.4 -1.0**
P48A IAmb IAmb 01 27 19.4
comp=Z,17nm,0.9s
O54A Avella 49.64 355 P **P 01 27 19.7 +0.1**
baz=173
O52A Adamsville 49.72 353 P **P 01 27 20.2 -0.1**
baz=171,SNR=7.8
O52A Adamsville 49.72 353 P **P 01 27 20.3 0.0**
O53A New Philadelph 49.79 354 P **P 01 27 20.9 +0.1**
baz=172
Q44A Meyer Farm, Va 49.82 346 P **P 01 27 20.3 -0.7**
O51A Pataskala 49.85 353 P **P 01 27 21.0 -0.3**
baz=170,SNR=6.7
S39A Bolivar 49.88 341 P **P 01 27 21.0 -0.6**
S39A IAmb IAmb 01 27 21.7
comp=Z,9.2nm,0.9s
SSPA Standing Stone 49.93 357 P **P 01 27 22.4 +0.6**
ACSO Alum Creek Sta 49.98 352 P **P 01 27 22.1 -0.2**
baz=170,SNR=9.2
ACSO Alum Creek Sta 49.98 352 P **P 01 27 21.4 -0.8**
N61A South Mountain 49.99 1 P **P 01 27 23.2 +0.9**
baz=181
N57A Milroy 50.03 358 P **P 01 27 23.6 +1.0**
baz=177
MNTX Cornudas Mount 50.09 326 P **P 01 27 23.1 -0.1**
baz=140,SNR=16
N58A Sunbury 50.09 359 P **P 01 27 24.2 +1.2**
baz=178
P46A Rosedale 50.10 348 P **P 01 27 22.3 -0.8**
N60A Cedar Hill Far 50.10 0 P **P 01 27 24.1 +1.0**
baz=180
R40A Maddies Statio 50.11 343 P **P 01 27 22.3 -0.9**
R40A IAmb IAmb 01 27 24.2
comp=Z,6.1nm,0.7s
N55A Marion Center 50.13 356 P **P 01 27 24.3 +0.9**
baz=175,SNR=9.5
O49A Covington 50.13 351 P **P 01 27 22.1 -1.3**
N59A State Game Lan 50.15 359 P **P 01 27 24.9 +1.3**
baz=179,SNR=5.0
N56A West Decatur 50.23 357 P **P 01 27 25.2 +1.1**
baz=176
PAL Palisades 50.25 1 P **P 01 27 25.2 +1.0**
baz=182
T35A Sooner Cattle 50.29 338 P **P 01 27 24.0 -0.7**
N53A Lisbon 50.30 354 P **P 01 27 24.7 +0.1**

baz=173,SNR=5.1
N53A Lisbon 50.30 354 P P 01 27 24.4 -0.2
N53A IAmb IAmb 01 27 25.8
comp=Z,15nm,0.9s
O48A Farmland 50.33 350 P P 01 27 24.3 -0.6
baz=167,SNR=13
N54A Moraine State 50.38 355 P P 01 27 25.8 +0.6
baz=174,SNR=6.3
N54A Moraine State 50.38 355 P P 01 27 25.6 +0.3
N54A IAmb IAmb 01 27 27.0
comp=Z,20nm,0.9s
N52A McGinn's Farm, 50.40 354 P P 01 27 25.1 -0.3
baz=172
MSTX Muleshoe 50.51 330 P P 01 27 26.7 +0.2
baz=144,SNR=5.3
MSTX Muleshoe 50.51 330 P P 01 27 26.1 -0.4
MSTX IAmb IAmb 01 27 27.6
comp=Z,18nm,0.8s
N51A Ashland 50.58 353 P P 01 27 26.2 -0.5
baz=171
M57A Sunshine Farm, 50.60 358 P P 01 27 28.2 +1.3
baz=178,SNR=5.8
M58A Price's Panora 50.62 359 P P 01 27 28.4 +1.4
baz=178
P43A Skaggs, Pawnee 50.64 346 P P 01 27 26.6 -0.5
M62A Hamden 50.72 2 P P 01 27 28.9 +1.2
baz=183
M63A Gales Ferry 50.72 3 P P 01 27 28.6 +0.9
baz=184
AMTX Amarillo 50.73 332 P P 01 27 27.2 -0.8
AMTX IAmb IAmb 01 27 33.2
comp=Z,13nm,1.1s
M59A Waymart 50.77 360 P P 01 27 29.3 +1.1
baz=180
M56A Emporium 50.79 357 P P 01 27 28.9 +0.6
baz=176,SNR=8.5
M56A Emporium 50.79 357 P P 01 27 28.1 -0.2
M56A IAmb IAmb 01 27 30.1
comp=Z,15nm,0.8s
M55A Ridgway 50.80 357 P P 01 27 29.0 +0.6
baz=175
M55A Ridgway 50.80 357 P P 01 27 28.7 +0.2
M55A IAmb IAmb 01 27 30.1
comp=Z,12nm,0.8s
SFIN Lafayette 50.81 348 P P 01 27 27.3 -1.1
baz=165,SNR=13
SFIN Lafayette 50.81 348 P P 01 27 27.1 -1.4
N49A Columbus Grove 50.83 351 P P 01 27 28.1 -0.5
O44A Mansfield 50.88 347 P P 01 27 28.4 -0.6
M54A Oil Creek Stat 50.90 356 P P 01 27 29.4 +0.3
baz=174,SNR=9.5
M54A Oil Creek Stat 50.90 356 P P 01 27 29.3 +0.1
M53A WI Miller and 50.92 355 P P 01 27 28.8 -0.4
baz=173
N47A Urbana 51.03 350 P P 01 27 29.4 -0.7
L60A Shokan 51.23 1 P P 01 27 32.7 +1.2
baz=181
L57A Andrews Acres 51.25 358 P P 01 27 32.8 +1.0
baz=178
L58A Harry Jones Me 51.28 359 P P 01 27 33.1 +1.2
baz=179,SNR=5.3
L64A Middleborough 51.33 4 P P 01 27 33.0 +0.7
baz=186
L56A Greenwood 51.41 358 P P 01 27 33.8 +0.8
baz=177,SNR=6.3
L56A Greenwood 51.41 358 P P 01 27 33.6 +0.6
L56A IAmb IAmb 01 27 34.8
comp=Z,16nm,0.9s
L59A Walton 51.42 0 P P 01 27 34.4 +1.4
baz=180,SNR=7.5
L59A Walton 51.42 0 P P 01 27 33.8 +0.7
L59A IAmb IAmb 01 27 35.5
comp=Z,18nm,0.8s
BINY Binghamton 51.43 359 P P 01 27 34.4 +1.2
baz=179
L61A Hillsdale 1, H 51.45 2 P P 01 27 33.9 +0.7
baz=182
HDIL Hopedale 51.45 346 P P 01 27 32.8 -0.5
baz=162
HDIL Hopedale 51.45 346 P P 01 27 32.3 -0.9
L55A Hinsdale 51.50 357 P P 01 27 34.3 +0.7
baz=176,SNR=8.6
ERPA Erie 51.53 355 P P 01 27 33.9 0.0
baz=174
ERPA Erie 51.53 355 P P 01 27 33.6 -0.3
L54A Sinclairville 51.60 356 P P 01 27 34.8 +0.5
baz=175,SNR=6.1
P38A Dawn 51.72 342 P P 01 27 34.8 -0.5
WVNY West Valley, N 51.73 357 P P 01 27 35.8 +0.4
HRV Adam Dziewonsk 51.85 3 P P 01 27 37.1 +0.9
baz=184
L48A N Adams 51.87 351 P P 01 27 35.4 -0.9
K54A Basiliko Farm, 51.94 357 P P 01 27 37.8 +0.9
baz=176
K56A Middlesex 51.96 358 P P 01 27 37.9 +0.8
baz=177
K57A Scipio Center 51.97 359 P P 01 27 37.9 +0.7
baz=178,SNR=5.4
K58A Earlville 51.99 360 P P 01 27 38.4 +1.1
baz=179,SNR=5.4
K59A Cooperstown 52.01 0 P P 01 27 38.6 +1.2
baz=180,SNR=5.5
K55A Perry 52.02 357 P P 01 27 38.0 +0.5
baz=176
K63A Dunstable 52.03 3 P P 01 27 38.2 +0.8
baz=185
121A Cookes Peak, D 52.05 325 P P 01 27 39.3 +1.2
baz=138,SNR=15
K52A Tillsonburg 52.25 355 P P 01 27 38.8 -0.4
baz=173
KSU1 Kansas State U 52.26 339 P P 01 27 39.3 0.0
baz=153
KSU1 Kansas State U 52.26 339 P P 01 27 39.0 -0.3
KSU1 IAmb IAmb 01 27 41.1
comp=Z,13nm,0.6s
K50A Casco 52.44 353 P P 01 27 39.6 -1.0
baz=171
J60A Lant Hill Farm 52.50 2 P P 01 27 42.2 +1.2
baz=182
J56A Wolcott 52.53 359 P P 01 27 41.6 +0.4
baz=178,SNR=5.4
J56A Wolcott 52.53 359 P P 01 27 41.0 -0.1
J56A IAmb IAmb 01 27 42.7
comp=Z,19nm,1.1s
J55A Hilton 52.55 358 P P 01 27 41.6 +0.3
baz=177,SNR=5.1
J55A Hilton 52.55 358 P P 01 27 41.4 +0.1
J61A Chester 52.63 2 P P 01 27 43.6 +1.6
baz=183
J57A Williamstown 52.64 359 P P 01 27 42.8 +0.7
baz=179
J52A Paris 52.69 355 P P 01 27 42.2 -0.2
baz=173,SNR=6.4
J59A Piesco 52.70 1 P P 01 27 43.5 +1.0
baz=181,SNR=7.2
L42A Oliver, Polo 52.92 347 P P 01 27 43.0 -1.1
L42A IAmb IAmb 01 27 43.4
comp=Z,15nm,1.0s
I58A Old Forge 52.92 0 P P 01 27 44.9 +0.8
baz=180
I59A Olmsteadville 53.04 1 P P 01 27 46.1 +1.1
baz=182
J49A Marlette 53.08 353 P P 01 27 44.4 -0.9
baz=170
J48A Bridge Port 53.10 352 P P 01 27 45.0 -0.4
baz=169
ANMO Albuquerque 53.15 328 P P 01 27 46.8 +0.6
baz=140
ANMO Albuquerque 53.15 328 P P 01 27 46.1 -0.1
ANMO IAmb IAmb 01 27 47.8
comp=Z,10nm,0.9s
I57A Carthage 53.17 360 P P 01 27 46.4 +0.5
baz=179
CBKS Cedar Bluff 53.19 336 P P 01 27 46.7 +0.5
baz=149,SNR=5.3
I51A Listowel 53.29 355 P P 01 27 46.4 -0.5
baz=173
I55A Frankford 53.49 358 P P 01 27 48.4 +0.2
baz=177,SNR=5.3
LBNH Lisbon 53.55 3 P P 01 27 50.1 +1.4
baz=184
I49A Point Hope 53.61 353 P P 01 27 47.8 -1.3
baz=171
TUC Tucson 53.65 322 P P 01 27 50.2 +0.4
baz=135
TUC Tucson 53.65 322 P P 01 27 49.7 -0.1
H58A Gabriels 53.66 1 P P 01 27 50.2 +0.7
baz=181
H57A Richville 53.69 360 P P 01 27 50.2 +0.6
baz=180,SNR=5.5
SCIA State Center 53.73 343 P P 01 27 49.3 -0.8
baz=158
DELO Deloro Mine 53.79 358 P P 01 27 50.5 +0.1
DELO IAmb IAmb 01 27 51.6
comp=Z,15nm,0.8s
H55A Tweed 53.81 358 P P 01 27 50.8 +0.3
baz=178,SNR=6.5
H56A Elgin 53.83 359 P P 01 27 51.4 +0.7
baz=179,SNR=5.9
H60A Morristown 53.84 2 P P 01 27 52.1 +1.3
baz=183
T25A Trinidad 53.84 331 P P 01 27 52.1 +0.8
baz=144,SNR=32
T25A Trinidad 53.84 331 P P 01 27 51.2 -0.1
H61A Lyndonville 53.85 3 P P 01 27 53.1 +2.2
baz=184
LONY Lake Ozonia 53.85 1 P P 01 27 51.7 +0.8
baz=181
H53A Bobcaygeon 53.89 357 P P 01 27 51.0 -0.2
baz=176,SNR=5.2
I47A Gladwin 53.91 352 P P 01 27 50.2 -1.1
baz=169
I47A Gladwin 53.91 352 P P 01 27 50.3 -1.1
I47A IAmb IAmb 01 27 51.3
comp=Z,21nm,1.1s
JFWS Jewell Farm 53.91 346 P P 01 27 51.0 -0.4
baz=162
I46A Reed City 53.97 351 P P 01 27 50.2 -1.6
baz=168
N33A J Bar K, Exete 54.01 339 P P 01 27 51.8 -0.4
H63A New Sharon 54.10 5 P P 01 27 54.6 +1.9
baz=186
H64A Troy 54.15 5 P P 01 27 54.4 +1.4
baz=187
PLVO Plevna 54.29 358 P P 01 27 54.4 +0.3
PLVO IAmb IAmb 01 27 55.5
comp=Z,10nm,0.9s
G58A Ormstown 54.39 1 P P 01 27 55.6 +0.9
baz=181
H47A Mio 54.44 352 P P 01 27 54.3 -0.8
baz=169
G53A Haliburton 54.44 357 P P 01 27 55.5 +0.4
baz=176
H66A Whiting 54.49 7 P P 01 27 56.6 +1.1
baz=190
G55A Calabogie 54.50 359 P P 01 27 55.8 +0.3
baz=178,SNR=7.2
H46A Fife Lake 54.52 351 P P 01 27 55.3 -0.4
baz=168,SNR=7.2
G63A Kingsbury 54.58 5 P P 01 27 57.6 +1.5
baz=187
G62A West of Eustis 54.61 4 P P 01 27 57.7 +1.3
baz=186
G62A West of Eustis 54.61 4 P P 01 27 56.5 +0.1
G62A IAmb IAmb 01 27 59.2
comp=Z,16nm,1.0s
G61A St-Isidore-de- 54.62 3 P P 01 27 58.1 +1.7
baz=184,SNR=5.1
214A Organ Pipe Nat 54.66 321 P P 01 27 57.8 +0.8
baz=132,SNR=8.3
ORIO Orleans, Innes 54.68 360 P P 01 27 57.3 +0.5
baz=180
G54A Lake Saint Pet 54.69 358 P P 01 27 56.9 -0.1
baz=176,SNR=5.6
H45A Beulah 54.73 351 P P 01 27 56.3 -1.0
baz=167,SNR=5.1
PKME Peaks-Kenny Pk 54.76 5 P P 01 27 58.6 +1.2
baz=187
PKME Peaks-Kenny Pk 54.76 5 P P 01 27 58.8 +1.4
PKME IAmb IAmb 01 27 59.7
comp=Z,15nm,0.8s
G64A Maxfield 54.80 6 P P 01 27 58.9 +1.2
baz=188
SDCO Great Sand Dun 54.85 331 P P 01 27 59.4 +0.7
baz=143,SNR=37
BGNE Belgrade 54.85 339 P P 01 27 57.9 -0.3
baz=152
G65A Princeton 54.87 7 P P 01 27 59.6 +1.4
baz=189
G65A Princeton 54.87 7 P P 01 27 59.6 +1.4
I40A Norwalk 54.93 346 P P 01 27 58.0 -0.7
G47A Hillman 54.95 353 P P 01 27 58.0 -0.9
baz=170
W18A Petrified Fore 55.05 326 P P 01 28 00.8 +0.8
baz=137,SNR=12
G45A Suttons Bay 55.08 351 P P 01 27 58.8 -1.0
baz=167
G46A Petoskey 55.23 352 P P 01 28 00.1 -0.7
baz=168
ALGO Algonquin Park 55.24 358 P P 01 28 01.0 +0.1
baz=177
F60A Wawick 55.28 3 P P 01 28 01.9 +0.8
baz=184
F51A Arnstein 55.32 356 P P 01 28 01.0 -0.4
baz=174
F49A Sandfield 55.33 354 P P 01 28 00.5 -1.0
baz=172
F64A Sherman 55.44 6 P P 01 28 03.5 +1.2
baz=188
F64A Sherman 55.44 6 P P 01 28 03.7 +1.4
F64A IAmb IAmb 01 28 04.7
comp=Z,15nm,0.9s
F48A Evansville 55.45 354 P P 01 28 01.2 -1.2
baz=171,SNR=5.9
S22A 4UR Ranch, Cre 55.50 330 P P 01 28 03.8 +0.5
baz=141,SNR=11
E52A Mattawa 55.60 357 P P 01 28 03.1 -0.4
baz=176
E58A La Victoria 55.63 2 P P 01 28 04.6 +0.9
baz=182
E53A Dumoine, Ponti 55.65 358 P P 01 28 03.8 0.0
baz=177
E57A Chemin Saint G 55.65 1 P P 01 28 04.6 +0.7
baz=181,SNR=6.8
Q24A Divide 55.65 332 P P 01 28 04.7 +0.3
baz=143
F45A CMU Biological 55.69 351 P P 01 28 03.2 -0.9
baz=168,SNR=6.8
E54A Lac Daplat, Po 55.69 358 P P 01 28 04.3 +0.1
baz=178
E56A St. Veronique 55.77 0 P P 01 28 05.4 +0.7
baz=180,SNR=7.1
113A Mohawk Valley, 55.80 321 P P 01 28 05.4 +0.2
E61A Lac Etchemin 55.82 4 P P 01 28 06.5 +1.4
baz=186
E50A Wahnapitae 55.87 355 P P 01 28 05.0 -0.3
baz=173
E51A G1948 Merrick 55.89 356 P P 01 28 05.4 -0.2
baz=175,SNR=8.2
MVCO Mesa Verde 55.94 328 P P 01 28 06.7 +0.3
baz=139,SNR=6.5
MVCO Mesa Verde 55.94 328 P P 01 28 06.3 -0.1
E63A Oxbow 55.99 6 P P 01 28 07.4 +1.2
baz=188
E64A Bridgewater 56.04 6 P P 01 28 07.8 +1.2
baz=189
E48A Lockeyer 56.05 354 P P 01 28 05.9 -0.9
baz=172,SNR=7.3
E62A Clayton Lake 56.08 5 P P 01 28 08.2 +1.3
baz=187
E62A Clayton Lake 56.08 5 P P 01 28 08.4 +1.5
E62A IAmb IAmb 01 28 09.6
comp=Z,10nm,1.1s
G40A Rib Lake 56.14 347 P P 01 28 07.1 -0.3
G40A IAmb IAmb 01 28 07.3
comp=Z,7.5nm,0.8s
E47A Iron Bridge 56.15 353 P P 01 28 06.4 -1.0
baz=170,SNR=8.8
E46A Sault Ste Mari 56.19 352 P P 01 28 06.5 -1.2
D55A Sainte-Anne-du 56.25 360 P P 01 28 08.5 +0.4
baz=180,SNR=5.7
D57A Chemin Vers le 56.26 1 P P 01 28 09.0 +0.8
baz=182,SNR=7.0
WUAZ Wupatki 56.26 325 P P 01 28 09.6 +1.0
baz=136,SNR=16
WUAZ Wupatki 56.26 325 P P 01 28 09.3 +0.7
D52A ZEK Kipawa Sen 56.28 357 P P 01 28 08.3 0.0
baz=176
D56A ZEC Mazanza, M 56.28 0 P P 01 28 08.8 +0.5
baz=180
D53A Lac Vacive, Po 56.35 358 P P 01 28 08.9 +0.1
baz=177
D58A Chemin du LacG 56.36 2 P P 01 28 09.9 +1.0
baz=183,SNR=7.5
D54A Lac Fusel, La 56.40 359 P P 01 28 09.1 0.0
baz=178
ECSD EROS Data Cent 56.41 342 P P 01 28 08.8 -0.6
baz=154,SNR=16
ECSD EROS Data Cent 56.41 342 P P 01 28 08.6 -0.8
ECSD IAmb IAmb 01 28 09.9
comp=Z,15nm,0.9s
D51A Lot 18 Range I 56.44 357 P P 01 28 09.8 +0.3
baz=175
ISCO Idaho Springs 56.54 332 P P 01 28 11.2 +0.5
baz=143,SNR=8.9
ISCO Idaho Springs 56.54 332 P P 01 28 10.4 -0.3
D50A G1974 Best Tow 56.55 356 P P 01 28 09.8 -0.4
baz=174
D62A Allapoint, All 56.58 5 P P 01 28 11.7 +1.3
baz=187
D62A Allapoint, All 56.58 5 P P 01 28 11.4 +1.0
D62A IAmb IAmb 01 28 12.9
comp=Z,15nm,0.9s
D61A St Aubert, Com 56.61 4 P P 01 28 12.1 +1.4
baz=186
D63A Stockholm 56.63 6 P P 01 28 12.1 +1.3
baz=188,SNR=5.9
D46A Sault St. Mari 56.67 353 P P 01 28 09.7 -1.4
baz=170,SNR=5.2
SPMN Marine on St. 56.71 345 P P 01 28 10.7 -0.7
D47A Chapleau 56.72 354 P P 01 28 10.2 -1.3
baz=171,SNR=5.1
D49A Beulah Townshi 56.76 355 P P 01 28 11.2 -0.6
baz=173
Y12C Blythe 56.92 321 P P 01 28 14.0 +0.8
baz=132
Y12C Blythe 56.92 321 P P 01 28 13.6 +0.4
Y12C IAmb IAmb 01 28 15.2
comp=Z,12nm,1.0s
PDMCI Parker Dam,Lak 57.06 322 P P 01 28 15.0 +0.9
baz=132
SWSC Sam W. Stewart 57.20 319 P P 01 28 16.0 +0.9
baz=130
IKP In-Ko-Pah, Jac 57.21 319 P P 01 28 16.1 +0.8
baz=130
VLDQ Val d'Or 57.38 358 P P 01 28 16.4 +0.4
VLDQ IAmb IAmb 01 28 17.4
comp=Z,15nm,1.1s
BC3 Big Chuckawall 57.44 320 P P 01 28 17.7 +0.7
baz=131,SNR=5.8
F36A Milaca 57.49 345 P P 01 28 16.0 -0.9
F36A IAmb IAmb 01 28 17.4
comp=Z,18nm,1.0s
N23A Red Feather La 57.57 333 P P 01 28 18.0 +0.1
baz=143
MONP2 Monument Peak 57.57 319 P P 01 28 18.6 +0.6
baz=130
IRM Iron Mountain 57.58 321 P P 01 28 18.8 +1.0
baz=132,SNR=8.2
SUSD Miller 57.81 340 P P 01 28 18.8 -0.4
baz=152
SUSD Miller 57.81 340 P P 01 28 18.8 -0.4
BELC Belle Mtn. Jos 58.01 320 P P 01 28 21.7 +0.7
baz=131
O20A White River Ci 58.05 331 P P 01 28 21.7 +0.5
baz=141,SNR=12
XPFO Pion Flat 58.05 320 P P 01 28 21.8 +0.5
PFO Pinyon Flats O 58.05 320 P P 01 28 22.1 +0.8
baz=130
PFO Pinyon Flats O 58.05 320 P P 01 28 21.7 +0.4
LSQQ Lebel-sur-Quev 58.31 359 P P 01 28 23.2 +0.6
baz=178
GMRC Granite Mounta 58.31 321 P P 01 28 23.9 +0.8
baz=131,SNR=9.0
MURC Murrieta 58.52 319 P P 01 28 25.3 +0.9
baz=129
Q16A Castle Valley 58.62 328 P P 01 28 24.9 -0.2
HEC Hector,Ludlow 58.76 321 P P 01 28 27.8 +1.7
baz=131
RWWY Rawlins 58.77 332 P P 01 28 26.1 -0.1
RWWY IAmb IAmb 01 28 28.7
comp=Z,13nm,0.9s
CHGQ Chibougamau 59.15 1 P P 01 28 28.7 +0.3
baz=181,SNR=5.7
SHPR Sheep Range 59.16 323 P P 01 28 29.1 +0.2
BFSC Mount Baldy Ra 59.22 319 P P 01 28 29.8 +0.4
baz=129
K22A Casper 59.23 334 P P 01 28 29.7 +0.4
baz=143,SNR=6.5
K22A Casper 59.23 334 P P 01 28 29.2 -0.1
K22A IAmb IAmb 01 28 30.7
comp=Z,14nm,1.1s
GSC Goldstone, Bar 59.36 321 P P 01 28 30.9 +0.7
baz=130
GSC Goldstone, Bar 59.36 321 P P 01 28 30.6 +0.3
RSSD Black Hills 59.40 336 P P 01 28 30.9 +0.5
baz=146
RSSD Black Hills 59.40 336 P P 01 28 30.7 +0.2
RSSD IAmb IAmb 01 28 32.8
comp=Z,10nm,1.0s
B35A Bob, Littlefor 59.87 346 P P 01 28 32.6 -0.7
B35A IAmb IAmb 01 28 33.5
comp=Z,13nm,1.0s
TPNV Topopah Spring 60.10 323 P P 01 28 36.3 +0.9
baz=132,SNR=5.2
TPNV Topopah Spring 60.10 323 P P 01 28 35.7 +0.3
TPNV IAmb IAmb 01 28 37.5
comp=Z,8.0nm,1.1s
FURC Furnace Creek, 60.16 322 P P 01 28 36.6 +1.1
baz=131,SNR=6.1
E28A Huff 60.26 340 P P 01 28 36.5 +0.3
MPMC Manual Prospec 60.27 321 P P 01 28 37.0 +0.4
baz=130
AGMN Agassiz Nation 60.35 344 P P 01 28 36.3 -0.3
baz=156,SNR=11
AGMN Agassiz Nation 60.35 344 P P 01 28 36.0 -0.6
DUG Dugway, Tooele 60.41 328 P P 01 28 38.4 +0.9
baz=136,SNR=21
DUG Dugway, Tooele 60.41 328 P P 01 28 37.7 +0.3
DRLN Deer Lake 60.53 13 P P 01 28 38.9 +1.0
ISA Isabella, Lake 60.64 320 P P 01 28 39.8 +0.8
baz=129,SNR=5.1
ISA Isabella, Lake 60.64 320 P P 01 28 39.0 +0.1
ISA IAmb IAmb 01 28 40.7
comp=Z,6.8nm,0.8s
R11A Troy Canyon, C 60.65 324 P P 01 28 40.1 +0.9
baz=133,SNR=12
PD31 Pinedale Array 60.70 332 P P 01 28 38.9 -0.6
PDAR Pinedale Array 60.70 332 P P 01 28 39.2 -0.2
comp=Z,3.2nm,0.7s,baz=145,slow=8.3,SNR=26
PDAR Pinedale Array 60.70 332 P P 01 28 38.7 -0.8
CWC Cottonwood Cre 60.88 321 P P 01 28 41.3 +0.6
baz=130
PKM Mcpherson Peak 61.02 319 P P 01 28 42.3 +0.7
baz=128
MDND Maddock 61.03 341 P P 01 28 41.6 +0.3
baz=152,SNR=8.2
MDND Maddock 61.03 341 P P 01 28 41.8 +0.5
SPUT South Promonto 61.03 329 P P 01 28 41.7 +0.1
AHID Auburn Hatcher 61.44 331 P P 01 28 44.3 -0.1
AHID IAmb IAmb 01 28 45.3
comp=Z,13nm,0.8s
SNOW Snow King Moun 61.80 331 P P 01 28 46.5 -0.4
SNOW IAmb IAmb 01 28 47.6
comp=Z,5.2nm,0.7s
TPAW Teton Pass 61.91 331 P P 01 28 47.4 -0.3
FXWY Fox Creek 62.06 331 P P 01 28 48.5 -0.1
ELK Elko 62.11 326 P P 01 28 48.7 -0.2
ULM Lac du Bonnet 62.15 345 P P 01 28 48.3 -0.4
comp=Z,25nm,0.8s,baz=160,slow=6.7,SNR=16
ULM Lac du Bonnet 62.15 345 P P 01 28 47.7 -1.0
OMMB Old Mammoth Mi 62.20 322 P P 01 28 49.6 -0.1
OMMB IAmb IAmb 01 28 51.5
comp=Z,14nm,1.0s
NV11 Mina Array Sit 62.22 323 P P 01 28 50.0 +0.4
NVAR Mina Array Bea 62.30 323 P P 01 28 50.8 +0.5
comp=Z,2.3nm,0.8s,baz=143,slow=7.0,SNR=12
NVAR PcP **sP 01 29 27.9 +1.6**
comp=Z,0.7nm,0.7s,baz=152,slow=4.1,SNR=2.8
NVAR Mina Array Bea 62.30 323 P P 01 28 50.6 +0.3
LAO LASA Array 62.38 336 P P 01 28 50.8 +0.3
baz=145
RLMT Red Lodge 62.40 333 P P 01 28 51.0 +0.2
baz=142,SNR=6.9
KVN Kaiserville 62.59 323 P P 01 28 52.1 0.0
YNE Yellowstone No 62.64 333 P P 01 28 52.8 +0.4
WAKR Walker 63.03 322 P P 01 28 55.6 +0.5
GCMT Greycliff 63.10 334 P P 01 28 55.9 +0.6
DGMT Dagmar 63.11 339 P P 01 28 55.7 +0.5
baz=148
DGMT Dagmar 63.11 339 P P 01 28 56.0 +0.8

VCNR	**Virginia City**	**63.66**	**323**	P	**P**	**01 28 59.6**	**+0.3**
VCNR				IAmb	IAmb	01 29 01.4		
	comp=Z,12nm,1.0s							
HLID	**Hailey**	**63.67**	**329**	P	**P**	**01 28 59.8**	**+0.6**
	baz=136,SNR=14							
HLID	**Hailey**	**63.67**	**329**	P	**P**	**01 28 59.4**	**+0.2**
PAHR	**Pah Rah Range**	**63.77**	**323**	P	**P**	**01 29 00.2**	**+0.4**
PAHR				IAmb	IAmb	01 29 02.0		
	comp=Z,14nm,1.0s							
BOZ	**Bozeman (W)**	**63.83**	**332**	P	**P**	**01 29 00.5**	**+0.4**
	baz=139,SNR=24							
BOZ	**Bozeman (W)**	**63.83**	**332**	P	**P**	**01 29 00.3**	**+0.2**
BOZ				IAmb	IAmb	01 29 01.7		
	comp=Z,14nm,1.1s							
AFDM	**Forest Hills D**	**64.24**	**322**	P	**P**	**01 29 02.9**	**+0.1**
MFID	**Camas Ranch**	**64.29**	**328**	P	**P**	**01 29 03.6**	**+0.4**
LRM	**Limekiln Ridge**	**64.38**	**332**	P	**P**	**01 29 03.6**	**-0.2**
SCHQ	**Schefferville**	**64.46**	**5**	P	**P**	**01 29 04.1**	**+0.2**
	comp=Z,6.7nm,0.9s,baz=202,slow=9.2,SNR=4.9							
SCHQ				PcP	**PcP**	**01 29 37.4**	**+0.1**	
	comp=Z,5.8nm,0.8s,baz=190,slow=1.8,SNR=4.8							
SCHQ	**Schefferville**	**64.46**	**5**	P	**P**	**01 29 04.4**	**+0.5**
SCHQ				IAmb	IAmb	01 29 04.8		
	comp=Z,7.5nm,0.9s							
EGMT	**Eagleton**	**64.89**	**335**	P	**P**	**01 29 07.1**	**+0.2**
	baz=142,SNR=7.6							
EGMT	**Eagleton**	**64.89**	**335**	P	**P**	**01 29 07.1**	**+0.2**
EGMT				IAmb	IAmb	01 29 08.8		
	comp=Z,14nm,1.1s							
ORV	**Oroville**	**64.94**	**322**	P	**P**	**01 29 08.1**	**+0.8**
WVOR	**Wild Horse Val**	**65.12**	**326**	P	**P**	**01 29 08.6**	**-0.1**
O03E	**Paynes Creek**	**65.58**	**322**	P	**P**	**01 29 11.3**	**-0.3**
	baz=128							
MOD	**Modoc Plateau**	**65.71**	**325**	P	**P**	**01 29 12.0**	**-0.4**
MOD				IAmb	IAmb	01 29 14.0		
	comp=Z,12nm,0.9s							
MSO	**Missoula**	**65.82**	**332**	P	**P**	**01 29 13.6**	**+0.6**
	baz=138,SNR=20							
O02D	**Mt. Diablo Mer**	**66.11**	**322**	P	**P**	**01 29 15.2**	**+0.2**
	baz=127							
M04C	**Macdoel**	**66.53**	**324**	P	**P**	**01 29 18.1**	**+0.5**
	baz=129,SNR=5.5							
N02D	**Trinity Center**	**66.54**	**323**	P	**P**	**01 29 17.1**	**-0.6**
	baz=128							
M02C	**Callahan**	**66.88**	**323**	P	**P**	**01 29 19.4**	**-0.5**
	baz=128							
L04D	**Klamath Falls**	**67.07**	**324**	P	**P**	**01 29 21.1**	**0.0**
	baz=128,SNR=6.2							
J05D	**Fort Rock, OR**	**67.12**	**325**	P	**P**	**01 29 22.1**	**+0.6**
	baz=130,SNR=7.0							
PINE	**Pine Mountain**	**67.29**	**326**	P	**P**	**01 29 23.2**	**+0.7**
PINE				IAmb	IAmb	01 29 25.6		
	comp=Z,15nm,0.9s							
J04D	**Umpqua Nationa**	**67.59**	**325**	P	**P**	**01 29 25.3**	**+0.8**
	baz=129							
KRMB	**Red Mountain**	**67.59**	**322**	P	**P**	**01 29 25.1**	**+0.7**
KRMB				IAmb	IAmb	01 29 26.4		
	comp=Z,13nm,1.0s							
FFC	**Flin Flon**	**67.80**	**344**	P	**P**	**01 29 24.8**	**-0.5**
I05D	**Terrebonne, OR**	**67.86**	**326**	P	**P**	**01 29 27.0**	**+1.0**
	baz=130,SNR=5.5							
I04A	**Tendick Farm,**	**68.11**	**325**	P	**P**	**01 29 27.2**	**-0.3**
	baz=129							
K02D	**Willamette Mer**	**68.16**	**324**	P	**P**	**01 29 28.5**	**+0.7**
	baz=127,SNR=10							
NEW	**Newport**	**68.34**	**331**	P	**P**	**01 29 29.1**	**+0.3**
	baz=135,SNR=6.3							
NEW	**Newport**	**68.34**	**331**	P	**P**	**01 29 28.9**	**0.0**
G05D	**Wamic, OR**	**68.43**	**327**	P	**P**	**01 29 30.4**	**+1.0**
	baz=130							
H04A	**Detroit Lake**	**68.54**	**326**	P	**P**	**01 29 29.8**	**-0.4**
H04A				IAmb	IAmb	01 29 31.2		
	comp=Z,11nm,0.8s							
I03D	**Drain, OR**	**68.58**	**325**	P	**P**	**01 29 31.3**	**+0.9**
	baz=128							
J01E	**Myrtle Point**	**68.59**	**324**	P	**P**	**01 29 31.7**	**+1.2**
	baz=127							
F04A	**Amboy**	**69.46**	**327**	P	**P**	**01 29 36.0**	**+0.3**
B08A	**Colville Reser**	**69.47**	**330**	P	**P**	**01 29 36.0**	**+0.2**
B08A				IAmb	IAmb	01 29 37.1		
	comp=Z,8.4nm,0.8s							
E04D	**Cinebar**	**69.94**	**327**	P	**P**	**01 29 39.8**	**+1.1**
	baz=130							
D05A	**Enumclaw**	**70.04**	**328**	P	**P**	**01 29 39.9**	**+0.6**
D05A				IAmb	IAmb	01 29 40.8		
	comp=Z,21nm,0.8s							
B05A	**Bryant**	**70.79**	**329**	P	**P**	**01 29 43.7**	**-0.1**
	baz=130,SNR=7.1							
D03D	**Eldon**	**70.84**	**328**	P	**P**	**01 29 44.9**	**+0.8**
	baz=129							
A04D	**Lummi Island**	**71.39**	**329**	P	**P**	**01 29 48.3**	**+0.8**
	baz=130,SNR=5.5							
LIC	**Lamto**	**71.68**	**80**	*e*P	**P**	**01 29 48.5**	**-1.5**
	comp=Z,33nm,1.2s							
TIC	**Toumodi**	**71.78**	**80**	*e*P	**P**	**01 29 51.6**	**+1.0**
DBIC	**Dimbokro**	**71.94**	**80**	P	**P**	**01 29 52.2**	**+0.7**
	comp=Z,5.9nm,0.5s,baz=242,slow=5.5,SNR=14							
DBIC	**Dimbokro**	**71.94**	**80**	P	**P**	**01 29 52.0**	**+0.5**
KIC	**Kosan Boka**	**71.99**	**80**	*e*P	**P**	**01 29 52.1**	**+0.3**
	comp=Z,16nm,0.6s							
LLLB	**Lillooet**	**72.22**	**331**	P	**P**	**01 29 52.2**	**-0.2**
SNAA	**Sanae**	**75.55**	**162**	P	**P**	**01 30 11.1**	**-0.5**
YKA	**Yellowknife Ar**	**77.93**	**342**	P	**P**	**01 30 24.5**	**-0.4**
	comp=Z,3.1nm,0.6s,baz=140,slow=6.5,SNR=28							
TOA0	**Torodi Ar. Sit**	**79.62**	**75**	P	**P**	**01 30 35.0**	**-0.2**
TORD	**Torodi Ar. Bea**	**79.62**	**75**	P	**P**	**01 30 35.5**	**+0.3**
	comp=Z,2.3nm,0.6s,baz=242,slow=4.6,SNR=16							
TORD	**Torodi Ar. Bea**	**79.62**	**75**	P	**P**	**01 30 35.6**	**+0.3**
QSPA	**South Pole Qui**	**80.63**	**180**	P	**P**	**01 30 39.5**	**-0.4**
ESDC	**Sonseca Array**	**81.94**	**48**	P	**P**	**01 30 47.0**	**-0.2**
	comp=Z,2.4nm,1.1s,baz=246,slow=6.3,SNR=6.9							
ESDC	**Sonseca Array**	**81.94**	**48**	P	**P**	**01 30 47.3**	**+0.1**
RES	**Resolute Bay**	**84.89**	**355**		**P**	**01 31 01.1**	**-0.3**
SUMG	**Summit**	**85.30**	**10**	*i*P	**P**	**01 31 04.7**	**+0.7**
	comp=Z,46nm,1.0s							
SUMG	**Summit**	**85.30**	**10**	P	**P**	**01 31 03.6**	**-0.4**
SUMG				IAmb	IAmb	01 31 05.8		
	comp=Z,19nm,1.0s							
TULEG	**Thule**	**85.95**	**2**	P	**P**	**01 31 06.6**	**-0.1**
TULEG				IAmb	IAmb	01 31 07.9		
	comp=Z,8.8nm,0.8s							
TABL	**Table Mountain**	**86.70**	**333**	P	**P**	**01 31 10.5**	**-0.4**
TABL				IAmb	IAmb	01 31 12.4		
	comp=Z,12nm,0.9s							
CTGM	**Chitina Glacie**	**87.01**	**333**	P	**P**	**01 31 12.4**	**+0.1**
CTGM				IAmb	IAmb	01 31 14.0		
	comp=Z,7.4nm,0.8s							
BARN	**Barnard Glacie**	**87.19**	**333**	P	**P**	**01 31 13.6**	**+0.3**
BARN				IAmb	IAmb	01 31 15.0		
	comp=Z,13nm,1.2s							
BALM	**Baldy**	**87.48**	**333**	P	**P**	**01 31 14.5**	**-0.1**
DAWY	**Dawson**	**87.58**	**337**	P	**P**	**01 31 14.3**	**-0.6**
DAWY				IAmb	IAmb	01 31 15.8		
	comp=Z,10nm,1.1s							
TGL	**Tana Glacier**	**87.58**	**333**	P	**P**	**01 31 14.5**	**-0.6**
TGL				IAmb	IAmb	01 31 16.4		
	comp=Z,18nm,1.1s							
A36M	**Sachs Harbour**	**87.61**	**346**	P	**P**	**01 31 14.2**	**-0.6**
	baz=131							
INK	**Inuvik**	**87.66**	**342**	P	**P**	**01 31 14.8**	**-0.2**
EPYK	**Eagle Plains**	**87.70**	**339**	P	**P**	**01 31 15.4**	**-0.1**
	baz=120							
EPYK	**Eagle Plains**	**87.70**	**339**	P	**P**	**01 31 14.8**	**-0.6**
EPYK				IAmb	IAmb	01 31 16.4		
	comp=Z,8.9nm,0.8s							
CRQM	**Cirque**	**87.72**	**333**	P	**P**	**01 31 15.4**	**-0.5**
CRQM				IAmb	IAmb	01 31 17.0		
	comp=Z,15nm,1.0s							
MCARA	**McCarthy VSAT**	**87.93**	**334**	P	**P**	**01 31 16.2**	**-0.3**
MCARA				IAmb	IAmb	01 31 18.1		
	comp=Z,13nm,0.8s							
VRDI	**Verde Repeater**	**88.05**	**333**	P	**P**	**01 31 16.9**	**-0.5**
VRDI				IAmb	IAmb	01 31 18.5		
	comp=Z,12nm,0.9s							
BCAR	**Beaver Creek A**	**88.10**	**335**	P	**P**	**01 31 17.1**	**-0.3**
GLB	**Gilahina Butte**	**88.30**	**333**	P	**P**	**01 31 17.8**	**-0.6**
EGAK	**Eagle**	**88.59**	**337**	P	**P**	**01 31 19.3**	**-0.3**
RIDG	**Independent Ri**	**89.64**	**335**	P	**P**	**01 31 23.9**	**-0.7**
RIDG				IAmb	IAmb	01 31 25.5		
	comp=Z,7.7nm,1.0s							
SML	**Sawmill**	**90.44**	**333**	P	**P**	**01 31 27.6**	**-0.8**
HDA	**Harding Lake**	**90.74**	**336**	P	**P**	**01 31 29.4**	**-0.3**
	baz=110							
IL31		**90.84**	**336**	P	**P**	**01 31 29.2**	**-0.8**
ILAR	**Eielson Array**	**90.84**	**336**	P	**P**	**01 31 29.9**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=148,slow=2.6,SNR=21							
ILAR				PP	**PP**	**01 35 05.5**	**-1.8**	
	comp=Z,0.9nm,1.0s,baz=114,slow=6.8,SNR=6.3							
ILAR	**Eielson Array**	**90.84**	**336**	P	**P**	**01 31 29.2**	**-1.0**
BMAR	**Burnt Mountain**	**90.95**	**339**	P	**P**	**01 31 30.2**	**-0.4**
CCB	**Clear Creek Bu**	**91.17**	**336**	P	**P**	**01 31 31.4**	**-0.2**
CCB				IAmb	IAmb	01 31 32.2		
	comp=Z,4.3nm,0.8s							
POKR	**Poker Plat Res**	**91.18**	**336**	P	**P**	**01 31 31.8**	**+0.1**
	baz=110							
RND	**Reindeer**	**91.19**	**334**	P	**P**	**01 31 31.8**	**-0.1**
RND				IAmb	IAmb	01 31 33.6		
	comp=Z,6.8nm,0.9s							
WRH	**Wood River Hil**	**91.23**	**336**	P	**P**	**01 31 31.4**	**-0.6**
WRH				IAmb	IAmb	01 31 32.6		
	comp=Z,4.2nm,0.8s							
TCOL	**CIGO, UAF Yank**	**91.27**	**336**	P	**P**	**01 31 32.4**	**+0.3**
	baz=110							
SUA	**Susitna One**	**91.43**	**332**	P	**P**	**01 31 32.4**	**-0.7**
SUA				IAmb	IAmb	01 31 34.0		
	comp=Z,5.2nm,0.8s							
NEA2	**Nenana**	**91.67**	**336**	P	**P**	**01 31 33.9**	**0.0**
	baz=108							
TRF	**Thorofare Moun**	**91.82**	**334**	P	**P**	**01 31 33.9**	**-1.0**
TRF				IAmb	IAmb	01 31 35.3		
	comp=Z,3.9nm,0.7s							
SKT	**Skwentna**	**91.94**	**333**	P	**P**	**01 31 34.9**	**-0.4**
DAG	**Danmarks Havn**	**91.96**	**11**	*i*P	**P**	**01 31 34.6**	**-0.5**
	comp=Z,6.5nm,0.9s							
RSO	**Redoubt South**	**92.09**	**331**	P	**P**	**01 31 35.7**	**-0.6**
BPAW	**Bear Paw Mtn.**	**92.31**	**335**	P	**P**	**01 31 36.2**	**-0.8**
BPAW				IAmb	IAmb	01 31 37.4		
	comp=Z,7.8nm,1.0s							
PPLA	**Purkeypile**	**92.49**	**333**	P	**P**	**01 31 37.4**	**-0.6**
PPLA				IAmb	IAmb	01 31 38.4		
	comp=Z,9.0nm,1.0s							
COLD	**Coldfoot**	**92.93**	**338**	P	**P**	**01 31 39.8**	**+0.1**
	baz=107							
GERES	**GERESS Array B**	**96.37**	**42**	P	**P**	**01 31 55.7**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=189,slow=5.0,SNR=3.6							
GERES	**GERESS Array B**	**96.37**	**42**	P	**P**	**01 31 54.9**	**-1.2**
NOA	**NORSAR Array B**	**96.51**	**29**	P	**P**	**01 31 56.5**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=260,slow=4.6,SNR=4.0							
ABKAR	**Akbulak array**	**125.61**	**35**	PKPdf	**PKPdf**	**01 37 28.0**	**+0.1**
STKA	**Stephens Creek**	**125.85**	**219**	PKP	**PKPdf**	**01 37 28.7**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=147,slow=1.6,SNR=4.0							
ZAA0	**Zalesovo Array**	**132.86**	**16**	PKPdf	**PKPdf**	**01 37 41.5**	**-0.1**
ZALV	**Zalesovo Beam**	**132.86**	**16**	PKP	**PKPdf**	**01 37 41.7**	**0.0**
	comp=Z,4.0nm,0.7s,baz=274,slow=2.2,SNR=15							
ZALV	**Zalesovo Beam**	**132.86**	**16**	PKPdf	**PKPdf**	**01 37 41.4**	**-0.3**
KURK	**Kurchatov**	**133.58**	**23**	PKPdf	**PKPdf**	**01 37 43.1**	**0.0**
ASAR	**Alice Springs**	**136.44**	**220**	PKP	**PKPdf**	**01 37 47.1**	**-2.2**
	comp=Z,3.2nm,0.8s,baz=129,slow=2.1,SNR=18							
ASAR				PP	**PP**	**01 40 31.4**	**+1.0**	
	comp=Z,0.3nm,0.8s,baz=222,slow=3.4,SNR=4.1							
ASAR	**Alice Springs**	**136.44**	**220**	PKPdf	**PKPdf**	**01 37 48.4**	**-1.0**
USRK	**Ussuriysk Ar.**	**138.12**	**330**	PKP	**PKPdf**	**01 37 51.2**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=52,slow=9.3,SNR=4.2							
USRK	**Ussuriysk Ar.**	**138.12**	**330**		**PKPdf**	**01 37 50.7**	**-1.0**
MKAR	**Makanchi Array**	**138.19**	**23**	PKP	**PKPdf**	**01 37 50.8**	**-1.1**
	comp=Z,1.1nm,0.8s,baz=333,slow=1.4,SNR=6.4							
MKAR	**Makanchi Array**	**138.19**	**23**	PKPdf	**PKPdf**	**01 37 51.5**	**-0.4**
WRA	**Warramunga Arr**	**138.73**	**225**	PKP	**PKPdf**	**01 37 53.0**	**-0.6**
	comp=Z,3.5nm,0.7s,baz=126,slow=1.9,SNR=9.1							
WRA	**Warramunga Arr**	**138.73**	**225**	PKPdf	**PKPdf**	**01 37 52.2**	**-1.4**
SONM	**Songino Array**	**141.75**	**358**	PKhKP	**PKPdf**	**01 37 52.9**	**-5.5**
	comp=Z,0.9nm,0.7s,baz=314,slow=1.7,SNR=5.2							
SONM	**Songino Array**	**141.75**	**358**		**PKPdf**	**01 37 54.7**	**-3.7**
KS19	**Wonju Array Si**	**145.17**	**327**		**PKPbc**	**01 38 03.7**	**-0.6**
KSRS	**Korea Array**	**145.17**	**327**	PKPbc	**PKPbc**	**01 38 04.0**	**-0.3**
	comp=Z,11nm,0.8s,baz=49,slow=3.6,SNR=42							
KSAR	**Wonju Array Be**	**145.20**	**327**		**PKPbc**	**01 38 03.4**	**-1.0**
FITZ	**Fitzroy Crossi**	**145.70**	**217**	PKPdf	**PKPdf**	**01 38 05.0**	**-1.0**
JNU	**Nakatsue**	**146.34**	**318**	PKPbc	**PKPdf**	**01 38 06.4**	**-0.3**
	comp=Z,9.8nm,0.8s,baz=58,slow=4.7,SNR=6.0							
JNU	**Nakatsue**	**146.34**	**318**	PKPdf	**PKPdf**	**01 38 06.3**	**-0.4**
LZH	**Lanzhou**	**153.50**	**2**	*e*PKPbc	**PKPdf**	**01 38 16.4**	**-1.7**
LZH				PKPbc	**PKPab**	**01 38 36.5**	**-1.8**
LZH				pPKP	pPKPdf	01 38 41.0	-4.8	
LZH				sPKP		01 38 50.6		
LZH				LR	LR			
	comp=N,92nm,18.3s							
LZH				LR	LR			
	comp=E,85nm,18.1s							
LZH				LR	LR			
	comp=Z,100nm,20.0s							
CD2	**Chengdu**	**158.66**	**2**	PKP	**PKPdf**	**01 38 22.8**	**-2.1**
CMAR	**Chiang Mai Arr**	**169.45**	**32**	PKPab	**PKPab**	**01 39 49.1**	**+1.0**
	comp=Z,2.9nm,0.6s,baz=317,slow=5.4,SNR=8.8							
CMAR	**Chiang Mai Arr**	**169.45**	**32**		**PKPab**	**01 39 48.6**	**+0.5**

*IDC **25** 01:23:23.6±12.0, 30°.27S×177°.07W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/23, mbtmp3.6/2, Error ellipse: s-maj=556.0km s-min=56.4km az=155.0*
*NEIC **25** 01:23:25±0.7, 30°.09S±0°.09×177°.0W±0°.2, h10km±1km, mb4.5/5, Error ellipse: s-maj=26.8km s-min=9.6km az=63.0*

ISC 25 01:23:27.5±1.9, **30°.2S**±0°.1×**177°.2W**±0°.3, **h24**km, **n11**, σ1§**22**/12, **mb3.9**/3, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.11**	**323**		**Pn**	**01 23 46.9**	**-0.6**
RAO				Sg	**Sn**	**01 24 02.1**	**+0.1**
BKZ	**Black Stump Fm**	**10.40**	**208**	Pn	**Pn**	**01 25 55.3**	**+0.1**
KHZ	**Kahutara**	**14.35**	**209**	Pn	**Pn**	**01 26 49.4**	**+0.4**
OXZ	**Oxford**	**15.73**	**210**	Pn	**P**	**01 27 08.5**	**-2.7**
OXZ				IAmb	IAmb	01 27 13.1		
	comp=Z,50nm,1.3s							
STKA	**Stephens Creek**	**35.24**	**256**	P	**P**	**01 30 20.9**	**+0.7**
ASAR	**Alice Springs**	**43.85**	**266**	P	**P**	**01 31 32.8**	**+0.7**
	comp=Z,1.1nm,1.0s,baz=99,slow=7.8,SNR=4.4							
WB2	**Warramunga Arr**	**44.81**	**271**	P	**P**	**01 31 39.9**	**+0.2**
WRA	**Warramunga Arr**	**44.82**	**271**	P	**P**	**01 31 39.6**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=116,slow=6.9,SNR=4.7							
WRA	**Warramunga Arr**	**44.82**	**271**	P	**P**	**01 31 41.5**	**+1.7**
QSPA	**South Pole Qui**	**59.96**	**180**	P	**P**	**01 33 32.6**	**+0.9**
QSPA				IAmb	IAmb	01 33 38.5		
	comp=Z,5.8nm,1.5s							
FINES	**FINESS Array B**	**145.15**	**341**	PKPbc	**PKPdf**	**01 43 01.5**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=47,slow=4.8,SNR=12							

*IDC **25** 01:38:44.2±1.0, 26°.89N×142°.46E, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.8/53, mbtmp3.8/11, ML2.5/1, MS3.0/2, Ms1 3.0/2, ms1mx2.5/44, Error ellipse: s-maj=40.2km s-min=19.9km az=79.0*
*NEIC **25** 01:38:50.3±0.8, 26°.9N±0°.1×142°.5E±0°.1, h42km±7km, mb4.4/10, Error ellipse: s-maj=21.0km s-min=13.9km az=55.0*

ISC 25 01:38:49.2±0.9, **26°.9N**±0°.1×**142°.5E**±0°.2, **h33**km, **n27**, σ0§**87**/25, **mb4.0**/14, **Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**0.38**	**305**	Pn	**Pn**	**01 38 59.4**	**+1.0**
MJAR	**Matsushiro Arr**	**10.31**	**340**	Pn	**Pn**	**01 41 14.8**	**0.0**
JNU	**Nakatsue**	**11.86**	**304**	LR	LR	01 45 56.7	
	comp=Z,74nm,18.4s,baz=58,slow=37						
KSRS	**Korea Array**	**16.23**	**314**	LR	LR	01 48 32.4	
	comp=Z,46nm,19.5s,baz=250,slow=36						
USA0B	**Ussuriysk Arra**	**19.27**	**336**		**Pn**	**01 43 12.7**	**+0.6**
USRK	**Ussuriysk Ar.**	**19.27**	**336**	P	**P**	**01 43 10.3**	**-0.6**
	baz=138,slow=11,SNR=2.9						
SSLB	**Suanglung**	**19.75**	**266**	P	**P**	**01 43 15.9**	**-0.5**
KLR	**Kul'dur**	**23.83**	**342**	P	**P**	**01 43 59.4**	**+0.2**
	1.5nm,0.6s,baz=152,slow=8.0,SNR=5.8						
SONM	**Songino Array**	**35.08**	**316**	P	**P**	**01 45 37.1**	**-2.3**
	0.2nm,0.4s,baz=115,slow=6.8,SNR=1.7						
SONM	**Songino Array**	**35.08**	**316**	P	**P**	**01 45 39.7**	**+0.4**
WB0	**Warramunga Arr**	**47.04**	**190**	P	**P**	**01 47 17.7**	**0.0**
WB0				IAmb	IAmb	01 47 22.0		
	comp=Z,3.5nm,0.8s						
WB2	**Warramunga Arr**	**47.22**	**191**	P	**P**	**01 47 19.1**	**+0.1**
WRA	**Warramunga Arr**	**47.22**	**191**	P	**P**	**01 47 19.3**	**+0.1**
	comp=Z,3.0nm,0.6s,baz=11,slow=8.7,SNR=12						
WRA	**Warramunga Arr**	**47.22**	**191**	P	**P**	**01 47 19.2**	**+0.1**
FITZ	**Fitzroy Crossi**	**47.62**	**202**	P	**P**	**01 47 23.1**	**+0.9**
ASAR	**Alice Springs**	**50.94**	**190**	P	**P**	**01 47 46.6**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=15,slow=7.1,SNR=1.6						
KURBB	**Kurchatov Arra**	**53.41**	**315**	P	**P**	**01 48 04.9**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=94,slow=7.5,SNR=6.6						
BVAR	**Borovoye Array**	**58.41**	**318**	P	**P**	**01 48 41.9**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=90,slow=6.8,SNR=12						
BRVK	**Borovoye**	**58.47**	**318**	P	**P**	**01 48 42.1**	**+0.3**
BRVK				IAmb	IAmb	01 48 43.0	
	comp=Z,2.2nm,0.8s						
KKAR	**Karatay Array**	**59.46**	**306**	P	**P**	**01 48 48.9**	**-0.1**
KKAR				IAmb	IAmb	01 48 50.1	
	comp=Z,2.3nm,0.7s						
ARU	**Arti**	**64.78**	**322**	P	**P**	**01 49 24.2**	**-0.1**
ARU				IAmb	IAmb	01 49 25.6	
	comp=Z,3.3nm,0.8s						
YKA	**Yellowknife Ar**	**72.18**	**28**	P	**P**	**01 50 08.9**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=289,slow=5.8,SNR=2.0						
FIA1	**FINESS Array S**	**78.28**	**334**	P	**P**	**01 50 45.8**	**+0.3**
FINES	**FINESS Array B**	**78.28**	**334**	P	**P**	**01 50 46.1**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=72,slow=6.2,SNR=7.6						
FINES	**FINESS Array B**	**78.28**	**334**	P	**P**	**01 50 46.0**	**+0.5**
KBZ	**Khabaz**	**78.38**	**313**	P	**P**	**01 50 45.8**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=346,slow=5.2,SNR=2.1						
TXAR	**Lajitas Array**	**95.48**	**53**	P	**P**	**01 52 13.0**	**+1.7**
	comp=Z,0.3nm,0.8s,baz=328,slow=3.2,SNR=3.6						

*MOS **25** 01:44:35.4±1.2, 28°.88N×52°.27E, h17km, mb4.3/17, Error ellipse: s-maj=8.4km s-min=6.0km az=87.6*
*NEIC **25** 01:44:36.5±1.2, 28°.84N±0°.06×52°.28E±0°.06, h10km±1km, Error ellipse: s-maj=11.1km s-min=7.7km az=225.0*
*TEH **25** 01:44:38.6, 28°.99N×52°.39E, h17km, ML3.9*
*THR **25** 01:44:38.0±0.8, 28°.75N×52°.46E, h46km±5km, ML4.1*
*IDC **25** 01:44:40.4±3.2, 28°.84N×52°.33E, h39km±30km, mb3.7/20, mb1 3.8/24, mb1mx3.7/61, mbtmp3.9/24, ML3.5/4, MS3.1/2, Ms1 3.1/2, ms1mx2.4/46, Error ellipse: s-maj=22.9km s-min=14.3km az=165.0*
*OMAN **25** 01:44:41.1±0.8, 28°.93N×52°.64E, h172km, mb4.2/3, ml3.6/7, Error ellipse: s-maj=8.8km s-min=4.4km az=67.0*

ISC 25 01:44:37.0±0.4, **28°.96N**±0°.03×**52°.33E**±0°.04, **h12**km, **n165**, σ1§**56**/170, **mb4.2**/40, **7C-4D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHI	**Shiraz**	**0.70**	**13**	P	**Pg**	**01 44 51.0**	**+0.4**
SHI	**Shiraz**	**0.70**	**13**	*e*Pg	**Pg**	**01 44 51.0**	**+0.4**
SHI	**Shiraz**	**0.70**	**13**	Pg	**Pg**	**01 44 51.0**	**+0.4**
AHBU	**AHRAM**	**0.91**	**264**	*e*Pg	**Pn**	**01 44 58.0**	**+2.4**
JHRM	**Jahrom**	**1.18**	**112**	*e*Pg	**Pg**	**01 45 01.2**	**+1.4**
JHRM				*e*		01 45 21.2	
JHRM	**Jahrom**	**1.18**	**112**		**Pg**	**01 45 01.2**	**+1.4**
LMD1	**Lamerd**	**1.77**	**155**	*e*Pg	**Pb**	**01 45 10.6**	**+1.1**
LMD1				*e*		01 45 51.9	
LMD1	**Lamerd**	**1.77**	**155**	Pg	**Pb**	**01 45 10.5**	**+1.1**
KLNJ	**Kolanjah**	**2.14**	**343**	*e*Pn	**Pn**	**01 45 15.1**	**+2.2**
KLNJ				*e*		01 45 56.1	
KLNJ	**Kolanjah**	**2.14**	**343**	Pn	**Pn**	**01 45 15.1**	**+2.2**
LAR1	**LAR**	**2.21**	**125**	*e*Pn	**Pb**	**01 45 16.1**	**-0.9**
IRAM	**Ramesheh**	**2.84**	**1**	*e*Pn	**Pn**	**01 45 24.9**	**+2.5**
IRAM	**Ramesheh**	**2.84**	**1**	Pn	**Pn**	**01 45 24.9**	**+2.5**
IMEH	**Mehriz**	**3.13**	**39**	*e*Pn	**Pb**	**01 45 30.0**	**-2.7**
IMEH	**Mehriz**	**3.13**	**39**	Pn	**Pb**	**01 45 29.9**	**-2.7**
ISAD	**Sadrabad**	**3.17**	**21**	*e*Pn	**Pn**	**01 45 29.8**	**+2.8**
ISAD	**Sadrabad**	**3.17**	**21**	Pn	**Pn**	**01 45 29.7**	**+2.8**
ROKH	**ROKH**	**3.56**	**342**	*e*

BTK	**Batken**	**18.80**	**49**	P	**P**	**01 48 56.9**	**+0.5**
BTK				pmax	pmax			
	comp=Z,9.0nm,1.4s							
BTK	**Batken**	**18.80**	**49**	P	**P**	**01 48 56.9**	**+0.5**
KK31	**Karatay Array**	**20.32**	**41**	P	**P**	**01 49 13.9**	**+0.9**
KK31				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KK31	**Karatay Array**	**20.32**	**41**	P	**P**	**01 49 13.9**	**+0.9**
ARSB	**Arslanbob**	**20.86**	**48**	P	**P**	**01 49 18.4**	**-0.5**
ARSB				pmax	pmax			
	comp=Z,8.0nm,0.5s							
ARSB	**Arslanbob**	**20.86**	**48**	P	**P**	**01 49 18.4**	**-0.5**
ARSB				IAmb	IAmb	01 49 36.8		
	comp=Z,7.7nm,0.5s							
ABKAR	**Akbulak array**	**21.09**	**14**	P	**P**	**01 49 22.3**	**+1.2**
AKTO	**Aktyubinsk**	**21.88**	**10**	P	**P**	**01 49 30.9**	**+1.2**
	comp=Z,1.5nm,0.5s,baz=186,slow=9.2,SNR=6.7							
AAK	**Ala-Archa**	**22.49**	**47**	P	**P**	**01 49 38.3**	**+1.9**
	comp=Z,1.1nm,0.3s,baz=269,slow=10,SNR=1.7							
AAK	**Ala-Archa**	**22.49**	**47**⇑	*eP*	**P**	**01 49 38.9**	**+2.5**
AAK				pmax	pmax			
	comp=Z,7.0nm,1.9s							
AAK	**Ala-Archa**	**22.49**	**47**	P	**P**	**01 49 37.6**	**+1.2**
IDI	**Anoyia**	**24.04**	**292**	P	**P**	**01 49 53.1**	**+1.1**
	comp=Z,5.7nm,0.7s,baz=70,slow=12,SNR=2.9							
IDI	**Anoyia**	**24.04**	**292**	P	**P**	**01 49 52.2**	**+0.2**
IDI				IAmb	IAmb	01 50 01.7		
	comp=Z,8.3nm,0.8s							
MLR	**Muntele Rosu**	**26.55**	**316**	P	**P**	**01 50 16.7**	**+2.0**
	comp=Z,2.2nm,0.8s,baz=150,slow=8.1,SNR=3.4							
MLR	**Muntele Rosu**	**26.55**	**316**	P	**P**	**01 50 16.1**	**+1.3**
MLR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MLR	**Muntele Rosu**	**26.55**	**316**	P	**P**	**01 50 16.1**	**+1.3**
MLR				IAmb	IAmb	01 50 19.3		
	comp=Z,3.6nm,0.9s							
ITM	**Ithomi**	**26.68**	**296**	P	**P**	**01 50 16.2**	**+0.3**
ITM				IAmb	IAmb	01 50 25.9		
	comp=Z,7.9nm,1.2s							
BVAR	**Borovoye Array**	**27.48**	**24**	P	**P**	**01 50 24.0**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=226,slow=8.0,SNR=3.8							
ARU	**Arti**	**27.81**	**7**	LR	LR	02 03 53.8		
	comp=Z,45nm,18.1s,baz=62,slow=41							
AKASG	**Malin Array Be**	**27.83**	**328**	P	**P**	**01 50 25.9**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=132,slow=7.4,SNR=2.0							
AKBB	**Malin Array Si**	**27.83**	**328**⇑	*eP*	**P**	**01 50 26.5**	**+0.4**
OBN	**Obninsk**	**28.50**	**341**	*eP*	**P**	**01 50 28.3**	**-3.7**
OBN				pmax	pmax			
	comp=Z,7.0nm,0.9s							
MAKZ	**Makanchi**	**29.17**	**44**	P	**P**	**01 50 39.0**	**+0.9**
MAKZ				pmax	pmax			
	comp=Z,3.0nm,1.0s							
MAKZ	**Makanchi**	**29.17**	**44**	P	**P**	**01 50 39.0**	**+0.9**
MAKZ				IAmb	IAmb	01 50 39.5		
	comp=Z,2.7nm,1.0s							
KURBB	**Kurchatov Arra**	**29.29**	**35**	P	**P**	**01 50 40.3**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=234,slow=9.3,SNR=14							
MKAR	**Makanchi Array**	**29.35**	**44**	P	**P**	**01 50 40.3**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=228,slow=7.8,SNR=6.8							
MKAR	**Makanchi Array**	**29.35**	**44**	*ceP*	**P**	**01 50 40.9**	**+1.2**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.5s							
MKAR	**Makanchi Array**	**29.35**	**44**	P	**P**	**01 50 40.6**	**+0.9**
KURK	**Kurchatov**	**29.39**	**35**	P	**P**	**01 50 41.3**	**+1.3**
KURK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
KURK	**Kurchatov**	**29.39**	**35**	P	**P**	**01 50 41.3**	**+1.3**
KWP	**Kalwaria Pacla**	**30.54**	**321**	P	**P**	**01 50 49.5**	**-0.6**
KWP				pmax	pmax			
	comp=Z,9.0nm,1.5s							
KWP	**Kalwaria Pacla**	**30.54**	**321**	P	**P**	**01 50 49.5**	**-0.6**
KWP				IAmb	IAmb	01 50 55.5		
	comp=Z,9.3nm,1.5s							
PSZ	**Piszkesteto**	**31.36**	**316**	P	**P**	**01 50 57.8**	**+0.3**
PSZ				pmax	pmax			
	comp=Z,3.0nm,0.8s							
PSZ	**Piszkesteto**	**31.36**	**316**	P	**P**	**01 50 57.8**	**+0.3**
PSZ				IAmb	IAmb	01 50 58.7		
	comp=Z,3.2nm,0.8s							
DGZ	**Jazzator, Alta**	**33.71**	**42**⇓	*eP*	**P**	**01 51 19.2**	**+1.0**
DGZ				pmax	pmax			
	comp=Z,1.0nm,0.8s							
AQU	**L'Aquila**	**34.04**	**304**	P	**P**	**01 51 20.9**	**-0.1**
AQU				pmax	pmax			
	comp=Z,9.0nm,1.0s							
AQU	**L'Aquila**	**34.04**	**304**	P	**P**	**01 51 20.9**	**-0.1**
NRCA	**Norcia**	**34.34**	**304**	P	**P**	**01 51 24.4**	**+0.8**
ZAA0	**Zalesovo Array**	**34.37**	**34**	P	**P**	**01 51 23.5**	**-0.1**
ZAA0				IAmb	IAmb	01 51 27.2		
	comp=Z,3.2nm,0.8s							
ZALV	**Zalesovo Beam**	**34.37**	**34**	P	**P**	**01 51 24.3**	**+0.7**
	comp=Z,3.4nm,0.4s,baz=240,slow=9.0,SNR=13							
ZALV	**Zalesovo Beam**	**34.37**	**34**	P	**P**	**01 51 23.9**	**+0.3**
GEC2	**GERESS Array S**	**35.52**	**315**	P	**P**	**01 51 33.9**	**+0.2**
GEC2				IAmb	IAmb	01 51 42.2		
	comp=Z,2.4nm,1.1s							
GERES	**GERESS Array B**	**35.52**	**315**	P	**P**	**01 51 34.0**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=109,slow=8.6,SNR=2.9							
GERES	**GERESS Array B**	**35.52**	**315**	P	**P**	**01 51 34.0**	**+0.2**
GERES	**GERESS Array B**	**35.52**	**315**	P	**P**	**01 51 34.0**	**+0.2**
KHC	**Kasperske Hory**	**35.70**	**315**	P	**P**	**01 51 35.2**	**0.0**
KHC				pmax	pmax			
	comp=Z,1.0nm,0.6s							
KHC	**Kasperske Hory**	**35.70**	**315**	P	**P**	**01 51 35.2**	**0.0**
TMCR	**Tamitsa**	**36.38**	**349**	*eP*	**P**	**01 51 39.5**	**-1.3**
TMCR				pmax	pmax			
	comp=Z,24nm,0.8s							
FIA1	**FINESS Array S**	**36.86**	**339**	P	**P**	**01 51 45.4**	**+0.4**
FINES	**FINESS Array B**	**36.86**	**339**	P	**P**	**01 51 45.3**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=144,slow=9.8,SNR=18							
BNI	**Bardonecchia**	**39.29**	**307**	P	**P**	**01 52 05.7**	**-0.1**
BNI				pmax	pmax			
	comp=Z,8.0nm,1.3s							
BNI	**Bardonecchia**	**39.29**	**307**	P	**P**	**01 52 05.7**	**-0.1**
BNI				IAmb	IAmb	01 52 08.9		
	comp=Z,8.4nm,1.3s							
GTA	**Gaotai**	**40.24**	**62**	*eP*	**P**	**01 52 13.3**	**-0.5**
GTA				pP	pP	01 52 17.3	-0.8	
GTA				sP	sP	01 52 20.8	+1.0	
GTA				pmax	pmax			
	comp=Z,5.0nm,0.4s							
NC405	**NORSAR Array S**	**41.92**	**332**	P	**P**	**01 52 26.9**	**-0.3**
NC405				IAmb	IAmb	01 52 42.1		
	comp=Z,9.1nm,1.0s							
NB2	**NORSAR Subarra**	**42.09**	**331**	P	**P**	**01 52 27.7**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=120,slow=8.6							
NOA	**NORSAR Array B**	**42.09**	**331**	P	**P**	**01 52 28.3**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=123,slow=8.5,SNR=4.7							
KEV	**Kevo**	**43.34**	**347**	P	**P**	**01 52 40.3**	**+1.7**
KEV				pmax	pmax			
	comp=Z,11nm,0.9s							
KEV	**Kevo**	**43.34**	**347**	P	**P**	**01 52 40.3**	**+1.7**
ARCES	**ARCESS Array B**	**43.45**	**347**	P	**P**	**01 52 39.9**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=133,slow=7.8,SNR=4.3							
ULN	**Ulaanbaatar**	**45.82**	**50**⇓	*eP*	**P**	**01 52 59.8**	**+0.9**
ULN				pmax	pmax			
	comp=Z,2.0nm,1.1s							
DSB	**Dublin**	**48.81**	**317**	P	**P**	**01 53 21.8**	**0.0**
TOA0	**Torodi Ar. Sit**	**49.43**	**262**	P	**P**	**01 53 26.5**	**-0.7**
TOA0				IAmb	IAmb	01 53 42.1		
	comp=Z,1.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**49.43**	**262**	P	**P**	**01 53 26.8**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=58,slow=8.2,SNR=17							
TORD	**Torodi Ar. Bea**	**49.43**	**262**	P	**P**	**01 53 26.9**	**-0.3**
BOD	**Bodaibo**	**50.99**	**37**	*eP*	**P**	**01 53 38.6**	**+0.2**
BOD				pmax	pmax			
	comp=Z,6.0nm,1.4s							
SPA0	**Spitsbergen Ar**	**51.86**	**351**	P	**P**	**01 53 45.3**	**+0.6**
DBIC	**Dimbokro**	**58.18**	**259**	P	**P**	**01 54 30.6**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=63,slow=3.9,SNR=4.9							
DBIC	**Dimbokro**	**58.18**	**259**	P	**P**	**01 54 30.5**	**-0.6**
DBIC				pmax	pmax			
	comp=Z,16nm,1.4s							
DBIC	**Dimbokro**	**58.18**	**259**	P	**P**	**01 54 30.5**	**-0.6**
KLR	**Kul'dur**	**62.02**	**47**	P	**P**	**01 54 56.6**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=277,slow=7.2,SNR=2.4							
KLR	**Kul'dur**	**62.02**	**47**⇓	*eP*	**P**	**01 54 56.5**	**-0.6**
KLR				pmax	pmax			
	comp=Z,2.0nm,1.0s							
KSRS	**Korea Array**	**62.28**	**61**	P	**P**	**01 54 58.5**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=292,slow=5.4,SNR=2.9							
BILL	**Bilibino**	**71.79**	**21**	*eP*	**P**	**01 55 59.3**	**+0.4**
BILL				*e*		01 56 19.6		
BILL				*e*		01 58 39.2		
BILL				pmax	pmax			

	comp=Z,1.0nm,0.9s							
SKR	**Severo-Kuril's**	**76.19**	**40**	*ce*P	**P**	**01 56 23.7**	**-1.2**
SCHQ	**Schefferville**	**81.62**	**329**	P	**P**	**01 56 55.0**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=11,slow=5.2,SNR=1.9							
ILAR	**Eielson Array**	**85.38**	**8**	P	**P**	**01 57 13.5**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=338,slow=5.2,SNR=4.2							
BPAW	**Bear Paw Mtn.**	**85.45**	**10**	P	**P**	**01 57 14.7**	**+0.5**
BPAW				IAmb	IAmb	01 57 15.5		
	comp=Z,1.7nm,0.8s							
YKA	**Yellowknife Ar**	**88.27**	**354**	P	**P**	**01 57 27.7**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=12,slow=5.6,SNR=6.4							

*NEIC **25** 01:50:23.5±0.8,51.81N±0.08×178.61E±0.06, h108km±3km, Error ellipse: s-maj=12.3km s-min=5.2km az=186.0*

AEIC 25 01:50:24.8±1.8, 51.85N±0.08×178.64E±0.04, h101km±3km, mb3.7/9(NEIC), Error ellipse: s-maj=11.5km s-min=3.9km az=182.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.10**	**333**		Pn	01 50 38.6	-0.2
LSPA	**Little Sitkin**	**0.12**	**339**		Pn	01 50 38.4	-0.5
LSPA					Sn	01 50 49.9	+0.4
LSSA	**Little Sitkin**	**0.13**	**323**		Pn	01 50 38.6	-0.4
LSSA					Sn	01 50 51.0	+1.5
LSNW	**Little Sitkin**	**0.15**	**328**		Pn	01 50 38.3	-0.7
CETU	**Semis' Tuman**	**0.54**	**77**		Pn	01 50 40.4	-0.6
CETU					Sn	01 50 53.5	+0.4
CESW	**Semis' Southwe**	**0.57**	**84**		Pn	01 50 40.4	-0.8
CEAP	**Semis' Anvil P**	**0.60**	**75**		Pn	01 50 41.0	-0.5
AMKA	**Amchitka**	**0.62**	**138**		Pn	01 50 44.3	+2.7
AMKA					Sn	01 50 55.4	+1.2
CERAA	**Semis' Rag'd T**	**0.65**	**84**		Pn	01 50 41.1	-0.7
GAEA	**Gareloi East**	**1.62**	**91**		Pn	01 50 51.8	-0.8
TASE	**Tanaga Southea**	**2.06**	**89**		Pn	01 50 57.3	-0.9
TAFP	**Tanaga Falls P**	**2.09**	**87**		Pn	01 50 57.4	-1.2
TAFP					Sn	01 51 23.3	-1.1
TAPA	**Tanaga Point A**	**2.20**	**89**		Pn	01 50 59.3	-0.7
KIMD	**Kanaga Island**	**2.56**	**90**		Pn	01 51 03.6	-1.1
KICM	**Kanaga Island**	**2.58**	**87**		Pn	01 51 04.3	-0.7
KINC	**Kanaga Island**	**2.62**	**86**		Pn	01 51 04.5	-1.0
ADK	**Adak**	**2.90**	**87**	Pn	Pn	01 51 07.7	-1.4
SMY	**Shemya**	**2.93**	**289**		Pn	01 51 07.6	-1.9
ADAG	**Mount Adagdak**	**2.95**	**86**		Pn	01 51 08.5	-1.3
GSTD	**Great Sitkin T**	**3.23**	**84**		Pn	01 51 12.3	-1.4
GSTR	**Great Sitkin T**	**3.29**	**84**		Pn	01 51 13.2	-1.2
GSMY	**Great Sitkin M**	**3.29**	**84**		Pn	01 51 13.1	-1.3
ATKA	**Atka Island**	**4.44**	**83**		Pn	01 51 29.2	-0.7
SPIA	**Saint Paul Isl**	**8.38**	**46**	Pn	Pn	01 52 23.4	+0.1
SVW2	**Sparrevohn**	**16.88**	**47**		P	01 54 15.1	+0.2
SVW2				IAmb	IAmb	01 54 27.5	
	comp=Z,5.6nm,1.5s						
KDAK	**Kodiak Island**	**17.53**	**59**	P	P	01 54 19.9	-2.2
CNPM	**China Poot**	**18.51**	**54**	P	P	01 54 31.5	-1.3
SUA	**Susitna One**	**19.20**	**48**	P	P	01 54 39.8	-0.7
SUA				IAmb	IAmb	01 54 54.9	
	comp=Z,4.2nm,1.3s						
BPAW	**Bear Paw Mtn.**	**20.00**	**40**	P	P	01 54 48.5	-0.5
GLI	**Glacier Island**	**20.79**	**51**	P	P	01 54 56.0	-1.6
GLI				IAmb	IAmb	01 54 57.9	
	comp=Z,4.0nm,0.8s						
SCM	**Sheep Creek Mo**	**20.88**	**48**	P	P	01 54 57.1	-1.4
SCM				IAmb	IAmb	01 55 00.9	
	comp=Z,7.3nm,1.3s						
DHY	**Denali Highway**	**21.17**	**45**	P	P	01 55 00.1	-1.6
BCAR	**Beaver Creek A**	**23.65**	**46**	P	P	01 55 25.8	-0.9
HYT	**Haines Junctio**	**25.46**	**52**	P	P	01 55 43.3	+0.2
HYT				IAmb	IAmb	01 55 56.3	
	comp=Z,3.8nm,1.4s						

*IDC **25** 01:52:23.5±0.8,2.47N×128.18E, h0km, mb4.1/9, mb1 4.3/9, mb1mx3.8/46, mbtmp4.2/9, Error ellipse: s-maj=59.0km s-min=14.3km az=74.0*

*NEIC **25** 01:52:39.9±1.2,2.4N±0.1×128.2E±0.1, h150km±9km, mb4.2/16, Error ellipse: s-maj=19.7km s-min=14.6km az=73.0*

ISC 25 01:52:40.2±0.6, 2.42N±0.08×128.2E±0.1, h150km, n31, σ0s99/31, mb4.2/16, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.85**	**208**		**Pn**	**01 53 14.3**	**+0.7**
LUWI	**Luwuk**	**6.45**	**238**	Pn	**Pn**	**01 54 14.5**	**+1.6**
FAKI	**Fak Fak**	**6.65**	**143**		**Pn**	**01 54 17.7**	**+2.1**
KNRA	**Kununurra**	**17.99**	**178**	P	**P**	**01 56 38.7**	**-0.7**
FITZ	**Fitzroy Crossi**	**20.55**	**187**	P	**P**	**01 57 05.0**	**-2.0**
	3.0nm,0.8s,baz=8.5,slow=9.7,SNR=21						
FITZ	**Fitzroy Crossi**	**20.55**	**187**	P	**P**	**01 57 04.9**	**-2.2**
WB0	**Warramunga Arr**	**22.86**	**165**	P	**P**	**01 57 29.8**	**-1.0**
WB0				IAmb	IAmb	01 57 44.5	
	comp=Z,13nm,1.2s						
WRA	**Warramunga Arr**	**23.02**	**165**	P	**P**	**01 57 31.4**	**-0.8**
	comp=Z,3.6nm,0.3s,baz=345,slow=11,SNR=26						
WB2	**Warramunga Ar**	**23.02**	**165**	P	**P**	**01 57 31.3**	**-0.9**
WB2				IAmb	IAmb	01 57 32.5	
	comp=Z,6.6nm,0.7s						
PSAC2	**Pilbara Seismi**	**25.19**	**198**	P	**P**	**01 57 51.0**	**-1.0**
AS31	**Alice Springs**	**26.51**	**168**	P	**P**	**01 58 03.1**	**-0.8**
ASAR	**Alice Springs**	**26.51**	**168**	P	**P**	**01 58 03.1**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=355,slow=8.6,SNR=12						
MAJO	**Matsushiro**	**35.19**	**14**	P	**P**	**01 59 18.6**	**-1.2**
MAJO				IAmb	IAmb	01 59 25.6	
	comp=Z,4.6nm,0.9s						
MJAR	**Matsushiro Arr**	**35.19**	**14**	P	**P**	**01 59 19.1**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=193,slow=9.7,SNR=2.0						
BBOO	**Buckleboo**	**35.81**	**169**	P	**P**	**01 59 24.3**	**-0.9**
STKA	**Stephens Creek**	**36.39**	**161**	P	**P**	**01 59 29.9**	**-0.3**
	comp=Z,4.9nm,0.4s,baz=346,slow=7.6,SNR=20						
STKA	**Stephens Creek**	**36.39**	**161**	P	**P**	**01 59 29.6**	**-0.6**
STKA				IAmb	IAmb	01 59 30.4	
	comp=Z,1.4nm,0.6s						
ARMA	**Armidale**	**39.56**	**147**	P	**P**	**01 59 56.4**	**-0.4**
ARMA				IAmb	IAmb	02 00 09.4	
	comp=Z,17nm,1.3s						
USA0B	**Ussuriysk Arra**	**41.74**	**4**	P	**P**	**02 00 14.1**	**-0.3**
ULN	**Ulaanbaatar**	**48.83**	**341**	P	**P**	**02 01 11.1**	**+0.7**
ULN				IAmb	IAmb	02 01 12.6	
	comp=Z,2.8nm,0.8s						
SONM	**Songino Array**	**49.02**	**341**	P	**P**	**02 01 12.5**	**+0.6**
	comp=Z,1.1nm,0.5s,baz=155,slow=9.3,SNR=6.0						
SONM	**Songino Array**	**49.02**	**341**	P	**P**	**02 01 11.8**	**0.0**
MKAR	**Makanchi Array**	**59.48**	**325**	P	**P**	**02 02 27.9**	**+0.5**
	comp=Z,2.2nm,0.6s,baz=122,slow=8.7,SNR=13						
MKAR	**Makanchi Array**	**59.48**	**325**	P	**P**	**02 02 28.1**	**+0.6**
MAKZ	**Makanchi**	**59.67**	**325**	P	**P**	**02 02 28.8**	**+0.1**
MAKZ				IAmb	IAmb	02 02 29.9	
	comp=Z,2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**63.65**	**327**	P	**P**	**02 02 55.9**	**+0.6**
	comp=Z,2.4nm,0.6s,baz=127,slow=6.1,SNR=17						
KURK	**Kurchatov**	**63.65**	**327**	P	**P**	**02 02 55.8**	**+0.5**
KURK				IAmb	IAmb	02 02 56.5	
	comp=Z,2.6nm,0.8s						
KKAR	**Karatay Array**	**65.21**	**317**	P	**P**	**02 03 05.8**	**+0.2**
BVAR	**Borovoye Array**	**69.23**	**327**	P	**P**	**02 03 31.2**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=120,slow=8.7,SNR=9.0						
BRVK	**Borovoye**	**69.30**	**327**	P	**P**	**02 03 31.4**	**+0.2**
BRVK				IAmb	IAmb	02 03 32.2	
	comp=Z,2.0nm,0.7s						
ABKAR	**Akbulak array**	**74.11**	**321**	P	**P**	**02 03 60.0**	**0.0**

*NEIC **25** 01:54:55.5±1.2,29.81S±0.08×177.77W±0.05, h41km±12km, mb4.3/5, Error ellipse: s-maj=11.9km s-min=6.7km az=174.0*

*IDC **25** 01:54:56.8±3.7,29.68S×177.72W, h50km±34km, mb3.5/3, mb1 3.7/3, mb1mx3.3/32, mbtmp3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.7/28, Error ellipse: s-maj=70.6km s-min=24.6km az=170.0*

ISC 25 01:54:55.1±0.9, 29.85S±0.07×177.7W±0.1, h35km, n16, σ0s94/17, mb4.1/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.63**	**341**	P	**Pn**	**01 55 08.2**	**+0.7**
	201nm,0.3s,baz=215,slow=23,SNR=7.8			S			
RAO					**Sn**	**01 55 17.8**	**+1.4**
	227nm,0.3s,baz=98,slow=12,SNR=8.0						
RAO	**Raoul Island**	**0.63**	**341**		**Pn**	**01 55 08.1**	**+0.5**
RAO					**Sn**	**01 55 15.6**	**-0.8**

BKZ	**Black Stump Fm**	**10.46**	**206**	Pn	**Pn**	**01 57 22.6**	**+0.1**
KHZ	**Kahutara**	**14.39**	**207**	Pn	**Pn**	**01 58 17.3**	**+1.1**
LTZ	**Lake Taylor**	**15.22**	**209**	Pn	**Pn**	**01 58 26.8**	**-0.5**
PPT	**Papeete**	**28.41**	**71**	P	**P**	**02 00 47.2**	**+0.7**
	28nm,0.6s,baz=246,slow=20,SNR=4.3						
HNR	**Honiara**	**29.16**	**310**	LR	LR	02 10 40.8	
	comp=Z,81nm,20.2s,baz=134,slow=32						
STKA	**Stephens Creek**	**34.87**	**256**	P	**P**	**02 01 43.9**	**+0.7**
	1.2nm,0.4s,baz=79,slow=11,SNR=3.3						
STKA	**Stephens Creek**	**34.87**	**256**	P	**P**	**02 01 43.8**	**+0.7**
ASAR	**Alice Springs**	**43.41**	**266**	P	**P**	**02 02 54.8**	**+0.1**
	0.4nm,0.6s,baz=98,slow=6.7,SNR=5.0						
ASAR	**Alice Springs**	**43.41**	**266**	P	**P**	**02 02 53.8**	**-0.9**
WB2	**Warramunga Arr**	**44.34**	**271**	P	**P**	**02 03 01.8**	**-0.3**
WB2				IAmb	IAmb	02 03 04.4	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**44.35**	**271**	P	**P**	**02 03 02.2**	**0.0**
	comp=Z,0.5nm,0.4s,baz=111,slow=8.1,SNR=1.8						
QSPA	**South Pole Qui**	**60.26**	**180**	P	**P**	**02 04 59.6**	**-0.1**
QSPA				IAmb	IAmb	02 05 16.8	
	comp=Z,1.1nm,0.8s						
MJAR	**Matsushiro Arr**	**77.95**	**325**	P	**P**	**02 06 48.2**	**-1.3**
FINES	**FINESS Array B**	**144.72**	**340**	PKP	**PKPab**	**02 14 24.4**	**-1.9**
	comp=Z,1.6nm,0.8s,baz=58,slow=3.4,SNR=5.3						

*NEIC **25** 01:55:35.5±1.3,53.70N±0.06×164.42W±0.03, h14km±7km, Error ellipse: s-maj=8.8km s-min=1.4km az=163.0*

*AEIC **25** 01:55:37.2±1.7,53.73N±0.07×164.40W±0.07, h41km±9km, ML3.2/32, Error ellipse: s-maj=10.5km s-min=5.2km az=157.0*

*IDC **25** 01:55:38.2±5.1,53.61N×163.25W, h0km, mb3.4/2, mb1 3.7/4, mb1mx3.3/50, mbtmp3.3/4, ML3.2/2, MS2.9/1, Ms1 2.9/1, ms1mx2.3/29, Error ellipse: s-maj=91.8km s-min=40.7km az=98.0*

ISC 25 01:55:36.8±2.8, 53.67N±0.10×164.29W±0.05, h28km±21km, n67, σ1s35/65, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.82**	**348**		**Pn**	**01 55 51.8**	**-0.8**
WESP	**Westdahl Peak**	**0.86**	**343**		**Pn**	**01 55 52.3**	**-0.9**
WESP					**Sb**	**01 56 04.0**	**-0.5**
AKSA	**Akutan Strait**	**0.95**	**300**		**Pn**	**01 55 53.1**	**-1.1**
AKSA					**Sn**	**01 56 05.6**	**-1.3**
AKSA	**Akutan Strait**	**0.95**	**300**		**Pn**	**01 55 53.2**	**-1.1**
AKSA					**Sn**	**01 56 05.7**	**-1.2**
WEBT	**Westdahl Beart**	**0.96**	**344**		**Pn**	**01 55 54.3**	**-0.1**
AKUT	**Akutan**	**0.99**	**298**		**Pn**	**01 55 53.9**	**-0.9**
AKUT					**Sn**	**01 56 06.1**	**-1.8**
HSB	**Akutan Spr's B**	**1.09**	**299**		**Pn**	**01 55 55.2**	**-1.0**
AKLV	**Akutan Long Va**	**1.10**	**297**		**Pn**	**01 55 55.4**	**-1.0**
AKLV					**Sn**	**01 56 09.4**	**-1.2**
AKMO	**Akutan Morgan**	**1.10**	**293**		**Pn**	**01 55 55.5**	**-0.8**
SSBA	**Shishaldin**	**1.11**	**5**		**Pn**	**01 55 56.0**	**-0.5**
SSBA					**Sn**	**01 56 10.9**	**0.0**
AKGG	**Akutan Green G**	**1.14**	**298**		**Pn**	**01 55 56.1**	**-0.8**
AKGG					**Sn**	**01 56 10.8**	**-0.7**
AKRB	**Akutan Reef Bi**	**1.15**	**294**		**Pn**	**01 55 56.2**	**-0.7**
FALS	**False Pass**	**1.29**	**23**		**Pn**	**01 55 58.0**	**-0.1**
FALS	**False Pass**	**1.29**	**23**		**Sn**	**01 56 16.2**	**-0.9**
UNV	**Unalaska Valle**	**1.32**	**278**		**Pn**	**01 55 58.3**	**-1.1**
MNAT	**Makushin Natee**	**1.44**	**279**		**Pn**	**01 55 60.0**	**-1.0**
MREP	**Makushin Rep't**	**1.46**	**276**		**Pn**	**01 56 00.9**	**-0.5**
MSW	**Makushin Switc**	**1.50**	**280**		**Pn**	**01 56 01.1**	**-0.7**
HAG	**Hague Volcano**	**2.16**	**39**		**Pn**	**01 56 11.4**	**+0.5**
PS4A	**Pavlof South-4**	**2.20**	**39**		**Pn**	**01 56 12.3**	**+0.9**
SDPT	**Sand Point**	**2.79**	**51**		**Pn**	**01 56 20.4**	**+0.9**
CNBA	**Chernabura Isl**	**2.99**	**65**	Pn	**Pn**	**01 56 22.4**	**+0.1**
VNWF	**Veniaminof 8**	**3.69**	**46**		**Pn**	**01 56 34.0**	**+2.0**
CHIR	**Chirikof Islan**	**5.46**	**63**	Pn	**Pn**	**01

	comp=E,582nm,0.2s								
PB06	**IPOC Station P**	**1.40**	**223**	*i* P		**Pn**	**02 03 17.3**	**0.0**	
PB06				*i* S		**Sn**	**02 03 38.6**	**+0.5**	
PB06				IAML			02 03 40.8		
	comp=N,484nm,0.2s								
PB04	**IPOC Station P**	**1.64**	**246**	*e*P		**Pn**	**02 03 19.8**	**-0.1**	
PB04				*i* S		**Sn**	**02 03 43.0**	**+0.2**	
PB04				IAML			02 03 44.6		
	comp=N,313nm,0.2s								
PB08	**IPOC Station P**	**1.64**	**339**	⇑*i* P		**Pn**	**02 03 20.6**	**+0.4**	
PB08				*i* S		**Sn**	**02 03 43.8**	**+0.5**	
PB08				IAML			02 03 49.0		
	comp=N,94nm,0.1s								
PB15	**IPOC Station P**	**1.75**	**210**	⇑*i* P		**Pn**	**02 03 21.3**	**0.0**	
PB15				*i* S		**Sn**	**02 03 46.1**	**+0.8**	
TA01	**Diego Aracena**	**1.90**	**306**	⇑*i* P		**Pn**	**02 03 22.6**	**-0.2**	
TA01				*i* S		**Sn**	**02 03 47.9**	**-0.2**	
TA01				IAML			02 03 49.8		
	comp=E,167nm,0.2s								
PB05	**IPOC Station P**	**1.94**	**233**	⇑*i* P		**Pn**	**02 03 23.4**	**+0.1**	
PB05				*i* S		**Sn**	**02 03 48.7**	**-0.3**	
PB05				IAML			02 03 55.6		
	comp=E,158nm,0.3s								
GO01	**Chusmiza**	**2.10**	**343**	*e*P		**Pn**	**02 03 26.1**	**+0.3**	
GO01				*i* S		**Sn**	**02 03 54.4**	**+1.2**	
GO01				IAML			02 03 56.6		
	comp=N,168nm,0.1s								
PB11	**IPOC Station P**	**2.19**	**331**	*e*P		**Pn**	**02 03 26.0**	**-0.5**	
PB11				*i* S		**Sn**	**02 03 54.0**	**-0.4**	
PB11				IAML			02 03 56.0		
	comp=E,180nm,0.1s								
PSGC	**Pisagua**	**2.56**	**324**	⇑*i* P		**Pn**	**02 03 29.9**	**-1.1**	
PSGC				*i* S		**Sn**	**02 04 01.5**	**-1.2**	
LPAZ	**La Paz**	**5.38**	**4**	Pn		**Pn**	**02 04 08.9**	**+0.2**	
	comp=E,0.3nm,0.3s,baz=186,slow=6.5,SNR=5.0								
TORD	**Torodi Ar. Bea**	**77.08**	**70**	P		**P**	**02 14 27.6**	**-1.3**	
	comp=E,0.3nm,0.5s,baz=251,slow=4.4,SNR=6.0								
YKA	**Yellowknife Ar**	**91.48**	**340**	P		**P**	**02 15 42.0**	**+1.4**	
	comp=E,0.4nm,0.7s,baz=128,slow=4.7,SNR=3.4								

NEIC ***25*** *02:07:53.8±0.9,51°.80N±0°.09×178°.42E±0°.06, h121km±4km, mb3.8/8, Error ellipse: s-maj=14.1km s-min=2.7km az=198.0*

AEIC 25 02:07:55.4±1.6, 51°.86N±0°.08×178°.42E±0°.08, h111km±3km, Error ellipse: s-maj=11.3km s-min=6.7km az=198.0, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.11**	**33**		Pn	02 08 10.2	-0.6
LSSA					Sn	02 08 22.8	+0.5
LSSE	**Little Sitkin**	**0.12**	**51**		Pn	02 08 10.7	0.0
LSNW	**Little Sitkin**	**0.13**	**28**		Pn	02 08 10.2	-0.6
LSPA	**Little Sitkin**	**0.14**	**44**		Pn	02 08 10.1	-0.6
LSPA					Sn	02 08 23.3	+1.0
CETU	**Semis' Tuman**	**0.68**	**80**		Pn	02 08 13.1	-0.6
CESW	**Semis' Southwe**	**0.71**	**86**		Pn	02 08 13.0	-0.9
AMKA	**Amchitka**	**0.73**	**131**		Pn	02 08 18.4	+4.3
AMKA					Sn	02 08 28.0	-0.2
CEAP	**Semis' Anvil P**	**0.73**	**78**		Pn	02 08 13.6	-0.5
CERB	**Semis' Cerberu**	**0.75**	**84**		Pn	02 08 13.8	-0.5
CERAA	**Semis' Rag'd T**	**0.79**	**86**		Pn	02 08 13.8	-0.8
CERAA					Sn	02 08 29.0	-0.1
GAEA	**Gareloi East**	**1.76**	**91**		Pn	02 08 25.3	-0.1
TASE	**Tanaga Southea**	**2.20**	**89**		Pn	02 08 30.3	-0.7
TAFP	**Tanaga Falls P**	**2.23**	**88**		Pn	02 08 30.4	-1.0
TAFP					Sn	02 08 57.5	-1.4
TAPA	**Tanaga Point A**	**2.34**	**90**		Pn	02 08 31.6	-1.1
KIMD	**Kanaga Island**	**2.70**	**90**		Pn	02 08 36.3	-1.1
KICM	**Kanaga Island**	**2.72**	**87**		Pn	02 08 36.7	-1.0
KINC	**Kanaga Island**	**2.76**	**87**		Pn	02 08 37.0	-1.2
SMY	**Shemya**	**2.79**	**290**		Pn	02 08 36.9	-1.7
SMY					Sn	02 09 11.2	-0.7
ADK	**Adak**	**3.04**	**88**		Pn	02 08 40.2	-1.6
GSTD	**Great Sitkin T**	**3.37**	**85**		Pn	02 08 44.5	-1.8
GSTR	**Great Sitkin T**	**3.42**	**84**	Pn	Pn	02 08 45.8	-1.3
ATKA	**Atka Island**	**4.57**	**83**		Pn	02 09 00.9	-1.5
SPIA	**Saint Paul Isl**	**8.47**	**47**	Pn	Pn	02 09 55.4	+0.3
PET	**Petropavlovsk**	**12.12**	**283**	Pn	Pn	02 10 44.8	+0.6
KDAK	**Kodiak Island**	**17.64**	**59**	P	P	02 11 50.4	-2.8
CNPM	**China Poot**	**18.61**	**54**	P	P	02 12 01.7	-2.2
SKT	**Skwentna**	**19.09**	**46**	P	P	02 12 07.9	-1.2
SKT				IAmb	IAmb	02 12 09.3	
	comp=Z,5.1nm,1.2s						
SUA	**Susitna One**	**19.30**	**48**	P	P	02 12 09.8	-1.7
SCM	**Sheep Creek Mo**	**20.97**	**48**	P	P	02 12 27.0	-2.4
SCM				IAmb	IAmb	02 12 37.3	
	comp=Z,6.9nm,1.3s						
RAGM	**Ragged Mountai**	**22.00**	**53**	P	P	02 12 39.9	-0.4
RAGM				IAmb	IAmb	02 12 56.6	
	comp=Z,6.0nm,1.1s						
GLB	**Gilahina Butte**	**22.55**	**50**	P	P	02 12 45.0	-1.0
GLB				IAmb	IAmb	02 12 45.1	
	comp=Z,3.1nm,1.2s						
VRDI	**Verde Repeater**	**22.70**	**51**	P	P	02 12 46.6	-1.0

NNC 25 02:19:08.7±11.0, 36°.74N×70°.62E, h0km, mb3.8, mpv3.4, 3D, Error ellipse: s-maj=91.7km s-min=83.5km az=93.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.35**	**359**	P	Pn	02 20 46.8	+3.2
	0.3nm,0.3s,baz=177,slow=12,SNR=8.8						
KK31				⇓S	Sn	02 21 57.8	+0.9
	2.2nm,0.4s,baz=186,slow=27,SNR=19						
AAK	**Ala-Archa**	**6.60**	**26**	P	Pn	02 20 47.3	+0.1
	1.7nm,0.3s						
AAK				S	Sn	02 22 01.1	-2.1
	2.1nm,0.6s						
TKM2	**Tokmak 2**	**7.26**	**30**	⇓P	Pn	02 20 54.2	-2.1
	2.5nm,0.5s						
TKM2				⇓S	Sn	02 22 25.0	+5.5
	1.7nm,0.7s						

IDC ***25*** *02:29:26.3±10.0, 51°.67N×177°.02E, h0km, mb3.2/3, mb1 3.8/4, mb1mx3.4/62, mbtmp3.5/4, ML4.0/1, Error ellipse: s-maj=198.6km s-min=72.3km az=96.0*

NEIC ***25*** *02:29:46.8±2.0, 51°.9N±0°.2×178°.34E±0°.09, h126km±7km, mb3.8/31, Error ellipse: s-maj=26.6km s-min=7.9km az=185.0*

AEIC ***25*** *02:29:47.8±1.8, 51°.9N±0°.2×178°.4E±0°.1, h120km±5km, Error ellipse: s-maj=33.2km s-min=7.8km az=188.0*

ISC 25 02:29:47.6±0.9, 52°.2N±0°.1×178°.39E±0°.05, h119km±8km, n65, σ1§18/65, mb3.7/11, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSNW	**Little Sitkin**	**0.21**	**159**		Pn	02 30 03.5	-0.5
LSSA	**Little Sitkin**	**0.23**	**161**		Pn	02 30 03.7	-0.4
LSPA	**Little Sitkin**	**0.24**	**152**		Pn	02 30 03.8	-0.3
LSPA					Sn	02 30 17.3	+0.8
LSSE	**Little Sitkin**	**0.26**	**155**		Pn	02 30 03.9	-0.2
CETU	**Semis' Tuman**	**0.71**	**106**		Pn	02 30 06.8	0.0
CETU					Sn	02 30 21.6	+0.3
CEAP	**Semis' Anvil P**	**0.75**	**102**		Pn	02 30 07.2	+0.1
CESW	**Semis' Southwe**	**0.77**	**110**		Pn	02 30 06.7	-0.6
CERAA	**Semis' Rag'd T**	**0.84**	**107**		Pn	02 30 07.5	-0.4
AMKA	**Amchitka**	**0.97**	**144**		Pn	02 30 11.1	+1.9
AMKA					Sn	02 30 24.0	-1.4
GAEA	**Gareloi East**	**1.81**	**101**		Pn	02 30 18.1	-0.4
TASE	**Tanaga Southea**	**2.23**	**97**		Pn	02 30 23.4	-0.5
TAFP	**Tanaga Falls P**	**2.25**	**95**		Pn	02 30 23.7	-0.4
TAFP					Sn	02 30 52.3	+0.2
SMY	**Shemya**	**2.69**	**284**		Pn	02 30 29.1	-0.5
SMY				Sn	Sn	02 31 00.5	-1.5
KIMD	**Kanaga Island**	**2.73**	**97**		Pn	02 30 29.4	-0.8
KICM	**Kanaga Island**	**2.73**	**93**		Pn	02 30 30.0	-0.3
KINC	**Kanaga Island**	**2.77**	**93**		Pn	02 30 30.4	-0.4
ADK	**Adak**	**3.05**	**93**		Pn	02 30 33.6	-0.8
ADK				Sn	Sn	02 31 09.4	-1.1
GSTD	**Great Sitkin T**	**3.37**	**90**		Pn	02 30 37.9	-0.8
GSTR	**Great Sitkin T**	**3.42**	**89**	Pn	Pn	02 30 38.8	-0.5
ATKA	**Atka Island**	**4.56**	**87**	Pn	Pn	02 30 54.3	-0.1
CNBA	**Chernabura Isl**	**13.36**	**70**	Pn	Pn	02 32 51.3	-1.0
SVW2	**Sparrevohn**	**16.77**	**48**	Pn	Pn	02 33 37.8	+2.8
OHAK	**Old Harbor**	**17.06**	**62**	P	P	02 33 38.0	-0.5
OHAK				IAmb	IAmb	02 33 41.0	
	comp=Z,13nm,1.4s						
TTA	**Tatalina**	**17.32**	**42**	Pn	Pn	02 33 43.8	+2.1
TTA				IAmb	IAmb	02 33 46.7	
	comp=Z,4.7nm,1.2s						
KDAK	**Kodiak Island**	**17.50**	**60**	P	P	02 33 42.9	-0.3
	comp=Z,0.5nm,0.3s,baz=284,slow=4.8,SNR=14						
KDAK	**Kodiak Island**	**17.50**	**60**	P	P	02 33 42.0	-1.2
CNPM	**China Poot**	**18.44**	**55**	P	P	02 33 54.4	+0.8
BRLK	**Bradley Lake**	**18.66**	**54**	P	P	02 33 56.0	+0.1
SKT	**Skwentna**	**18.89**	**47**	P	P	02 34 00.9	+2.4
SKT				IAmb	IAmb	02 34 07.2	
	comp=Z,3.3nm,1.0s						
SUA	**Susitna One**	**19.11**	**49**	P	P	02 34 02.1	+1.2
SUA				IAmb	IAmb	02 34 07.1	
	comp=Z,3.3nm,1.0s						
SEW	**Seward**	**19.43**	**53**	P	P	02 34 05.1	+0.8
GHO	**Glory Hole Cre**	**20.03**	**49**	P	P	02 34 13.0	+2.2
GHO				IAmb	IAmb	02 34 22.0	
	comp=Z,8.2nm,1.4s						
SML	**Sawmill**	**20.31**	**49**	P	P	02 34 15.4	+1.6
SML				IAmb	IAmb	02 34 17.9	
	comp=Z,3.2nm,0.9s						
RND	**Reindeer**	**20.51**	**44**	P	P	02 34 18.0	+2.0
MCK	**McKinley**	**20.58**	**43**	P	P	02 34 16.7	+0.1
MCK				IAmb	IAmb	02 34 19.9	
	comp=Z,2.5nm,0.5s						
GLI	**Glacier Island**	**20.71**	**52**	P	P	02 34 17.7	-0.3
GLI				IAmb	IAmb	02 34 18.8	
	comp=Z,4.4nm,0.7s						
SCM	**Sheep Creek Mo**	**20.78**	**49**	P	P	02 34 19.1	+0.2
SCM				IAmb	IAmb	02 34 19.9	
	comp=Z,7.5nm,1.4s						
FID	**Port Fidalgo**	**20.99**	**52**	P	P	02 34 20.0	-1.1
DHY	**Denali Highway**	**21.05**	**45**	P	P	02 34 21.2	-0.7
DHY				IAmb	IAmb	02 34 24.8	
	comp=Z,3.0nm,0.8s						
WRH	**Wood River Hil**	**21.17**	**41**	P	P	02 34 22.1	-0.9
MDM	**Murphy Dome**	**21.29**	**40**	P	P	02 34 25.7	+1.4
CCB	**Clear Creek Bu**	**21.35**	**41**	P	P	02 34 26.4	+1.6
ILAR	**Eielson Array**	**21.76**	**41**	P	P	02 34 29.3	+0.1
	comp=Z,0.2nm,0.4s,baz=247,slow=7.5,SNR=4.7						
RAGM	**Ragged Mountai**	**21.83**	**53**	P	P	02 34 32.2	+2.2
RAGM				IAmb	IAmb	02 34 33.2	
	comp=Z,4.8nm,0.7s						
RIDG	**Independent Ri**	**22.32**	**44**	P	P	02 34 35.1	0.0
RIDG				IAmb	IAmb	02 34 52.4	
	comp=Z,6.0nm,1.3s						
GLB	**Gilahina Butte**	**22.37**	**51**	P	P	02 34 36.2	+0.6
GLB				IAmb	IAmb	02 34 54.4	
	comp=Z,7.7nm,1.5s						
TOLK	**Toolik Lake Re**	**22.44**	**31**	P	P	02 34 37.7	+1.5
VRDI	**Verde Repeater**	**22.52**	**51**	P	P	02 34 37.8	+0.6
VRDI				IAmb	IAmb	02 34 46.9	
	comp=Z,4.0nm,1.4s						
PRP	**Porcupine Dome**	**22.55**	**40**	P	P	02 34 38.0	+0.6
BARN	**Barnard Glacie**	**23.36**	**52**	P	P	02 34 47.1	+1.7
BARN				IAmb	IAmb	02 34 47.3	
	comp=Z,2.8nm,1.0s						
BCAR	**Beaver Creek A**	**23.54**	**47**	P	P	02 34 47.8	+1.0
BMAR	**Burnt Mountain**	**23.57**	**36**	P	P	02 34 48.2	+1.2
PCA	**Pinnacle**	**24.02**	**54**	P	P	02 34 52.8	+1.7
EGAK	**Eagle**	**24.13**	**43**	P	P	02 34 52.5	+0.6
EGAK				IAmb	IAmb	02 34 53.5	
	comp=Z,3.3nm,0.9s						
DAWY	**Dawson**	**24.75**	**45**	P	P	02 34 59.0	+1.3
HYT	**Haines Junctio**	**25.38**	**53**	P	P	02 35 06.5	+3.0
HYT				IAmb	IAmb	02 35 08.3	
	comp=Z,2.3nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**33.59**	**200**	T	T	03 12 06.4	
	baz=11,slow=76,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**33.60**	**200**	T	T	03 12 07.5	
	baz=11,slow=76,SNR=8.8						
H11N1	**WAKE ISLAND Hy**	**33.61**	**200**	T	T	03 12 08.1	
	baz=11,slow=76,SNR=9.2						
H11S1	**WAKE ISLAND Hy**	**34.82**	**200**	T	T	03 13 38.6	
	baz=10,slow=74,SNR=3.4						
H11S2	**WAKE ISLAND Hy**	**34.84**	**200**	T	T	03 13 39.9	
	baz=10						
H11S3	**WAKE ISLAND Hy**	**34.84**	**200**	T	T	03 13 40.2	
	baz=10,slow=74						
NVAR	**Mina Array Bea**	**45.17**	**82**	P	P	02 37 52.1	-0.4
	comp=Z,0.2nm,0.3s,baz=306,slow=7.7,SNR=1.8						
TXAR	**Lajitas Array**	**60.24**	**80**	P	P	02 39 42.6	-0.7
	comp=Z,0.3nm,0.6s,baz=300,slow=4.7,SNR=4.1						
TXAR	**Lajitas Array**	**60.24**	**80**	P	P	02 39 42.3	-1.0

IDC ***25*** *02:32:34.9±2.0, 5°.48S×148°.49E, h113km±19km, mb3.9/5, mb1 4.1/8, mb1mx3.6/41, mbtmp4.3/8, Error ellipse: s-maj=29.4km s-min=14.2km az=134.0*

NEIC ***25*** *02:32:36.5±1.8, 5°.7S±0°.1×148°.50E±0°.07, h129km±11km, mb4.1/10, Error ellipse: s-maj=16.4km s-min=9.7km az=161.0*

ISC 25 02:32:33.7±0.9, 5°.5S±0°.1×148°.4E±0°.1, h100km, n25, σ1§64/30, mb4.0/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.84**	**72**	P	Pn	02 33 31.7	+1.0
	33nm,0.3s,baz=226,slow=3.6,SNR=18						
RABL	**Rabaul**	**4.01**	**71**	Pn	Pn	02 33 35.2	+2.2
PMG	**Port Moresby**	**4.04**	**197**	P	Pn	02 33 35.2	+1.7
	9.2nm,0.3s,baz=59,slow=5.2,SNR=14						
PMG				S	Sn	02 34 19.0	-0.7
	28nm,0.3s,baz=158,slow=22,SNR=9.3						
PMG	**Port Moresby**	**4.04**	**197**		Pn	02 33 35.0	+1.5
PMG				Sn	Sn	02 34 18.8	-1.0
COEN	**Coen**	**9.82**	**211**	Pn	Pn	02 34 53.7	+1.7
COEN				Sn	Sn	02 36 36.0	-4.5
CTA	**Charters Tower**	**14.62**	**188**	P	P	02 35 59.5	+0.2
	0.2nm,0.3s,baz=357,slow=14,SNR=4.1						
CTAO	**Charters Tower**	**14.62**	**188**		Pn	02 35 57.2	+1.4
WR0	**Warramunga Arr**	**19.67**	**222**	P	P	02 36 56.2	+1.3
WRA	**Warramunga Arr**	**19.79**	**222**	P	P	02 36 57.4	+1.1
	2.0nm,0.3s,baz=48,slow=11,SNR=20						
WRA				S	S	02 40 36.2	+2.2
	0.1nm,0.3s,baz=42,slow=27,SNR=2.2						
EIDS	**Eidsvold**	**19.91**	**173**	P	P	02 36 56.9	-0.5
EIDS				IAmb	IAmb	02 37 01.1	
	comp=Z,9.6nm,0.9s						
KNRA	**Kununurra**	**21.73**	**241**	P	P	02 37 16.0	-1.1
KNRA				IAmb	IAmb	02 37 20.5	
	comp=Z,6.6nm,0.7s						
AS31	**Alice Springs**	**22.79**	**216**	P	P	02 37 28.8	+0.7
AS31				IAmb	IAmb	02 37 29.7	
	comp=Z,3.7nm,0.6s						
ASAR	**Alice Springs**	**22.79**	**216**	P	P	02 37 28.9	+0.8
	comp=Z,8.8nm,0.7s,baz=50,slow=9.4,SNR=78						
ASAR				S	S	02 41 31.8	+2.0
	comp=Z,2.1nm,0.9s,baz=35,slow=23,SNR=8.3						
ASAR	**Alice Springs**	**22.79**	**216**	P	P	02 37 28.3	+0.1
DZM	**Mont Dzumac**	**24.01**	**135**	P	P	02 37 37.6	-1.9
	comp=Z,2.5nm,0.5s,baz=301,slow=12,SNR=9.6						
ARMA	**Armidale**	**24.95**	**173**	P	P	02 37 47.1	-0.9
ARMA				IAmb	IAmb	02 37 49.4	
	comp=Z,4.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**25.47**	**239**	P	P	02 37 53.6	+0.9
	comp=Z,5.7nm,0.5s,baz=50,slow=7.9,SNR=27						
FITZ	**Fitzroy Crossi**	**25.47**	**239**	P	P	02 37 53.5	+0.8
FITZ				IAmb	IAmb	02 37 59.5	
	comp=Z,10nm,1.1s						
STKA	**Stephens Creek**	**26.98**	**193**	P	P	02 38 08.6	+2.5
	comp=Z,1.8nm,0.5s,baz=8.5,slow=7.6,SNR=4.6						
STKA	**Stephens Creek**	**26.98**	**193**	P	P	02 38 07.7	+1.6
MORW	**Morawa**	**38.50**	**229**	P	P	02 39 46.3	-0.1
VNDA	**Vanda**	**72.31**	**177**	P	P	02 43 46.5	-1.5
QSPA	**South Pole Qui**	**84.44**	**180**	P	P	02 44 53.4	-1.7
QSPA				IAmb	IAmb	02 44 57.1	
	comp=Z,2.3nm,1.1s						
ILAR	**Eielson Array**	**84.51**	**23**	P	P	02 44 54.0	-1.2
	comp=Z,0.4nm,0.7s,baz=249,slow=6.2,SNR=4.9						
TORD	**Torodi Ar. Bea**	**146.28**	**285**	PKPbc	**PKPdf**	02 52 03.2	+0.7
	comp=Z,0.7nm,1.0s,baz=57,slow=3.4,SNR=3.3						

BEO ***25*** *02:40:16.7±0.3, 41°.59N×20°.53E, h15km±3km, ML1.8/6*
SKO ***25*** *02:40:16.3, 41°.56N×20°.48E, h23km*
TIR ***25*** *02:40:17.0, 41°.63N×20°.34E, h10km, Md2.7/3*

ISC 25 02:40:16.2±0.9, 41°.61N±0°.04×20°.49E±0°.02, h12km±6km, n19, σ0§93/30, Albania

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHP	**Peshkopia**	**0.09**	**334**	*i* PG	**Pg**	**02 40 19.4**	**+0.3**
PHP				*i* SG	**Sg**	**02 40 21.2**	**+0.1**
TIR	**Tirane**	**0.54**	**241**	*e*Pg	**Pg**	**02 40 26.7**	**0.0**
TIR				*e*Sg	**Sb**	**02 40 36.3**	**+1.1**
TIR	**Tirane**	**0.54**	**241**	*i* PG	**Pg**	**02 40 27.0**	**+0.3**
TIR				*i* SG	**Sn**	**02 40 40.3**	**+1.7**
OHR	**Ohrid**	**0.55**	**155**	*i* Pg	**Pg**	**02 40 27.0**	**+0.1**
OHR				*i* Sg	**Sb**	**02 40 35.5**	**0.0**
OHR				*e*Lg	Lg	02 40 35.8	
	comp=N,96nm,0.3s						
OHR				*e*Lg	Lg	02 40 36.2	
	comp=E,52nm,0.3s						
PUK	**Puka**	**0.62**	**314**	*i* PG	**Sn**	**02 40 40.3**	**-0.7**
SKO	**Skopje**	**0.80**	**62**	*e*Pg	**Pg**	**02 40 31.2**	**-0.5**
SKO				*e*Sg	**Sb**	**02 40 42.5**	**-0.3**
SKO	**Skopje**	**0.80**	**62**	*i* Pg	**Pn**	**02 40 32.8**	**-0.5**
SKO				*i* Sg	**Sb**	**02 40 43.3**	**+0.5**
SKO				*e*Lg	Lg	02 40 43.8	
	comp=N,6.2nm,0.3s						
SKO				*e*Lg	Lg	02 40 43.8	
	comp=E,6.8nm,0.4s						
PDG	**Podgorica**	**1.23**	**312**	*e*Pg	**Pn**	**02 40 38.8**	**-0.5**
PDG				*e*Sg	**Sg**	**02 40 57.3**	**+1.2**
STIP	**Stip**	**1.27**	**85**	*i* Pg	**Pg**	**02 40 43.2**	**+2.4**
BARS	**Barje**	**1.56**	**39**	*e*Pg	**Pb**	**02 40 44.6**	**-0.4**
BARS				*e*Sg	**Sg**	**02 41 06.6**	**+0.2**
VAY	**Valandovo**	**1.59**	**100**	*e*Pg	**Pn**	**02 40 43.6**	**-0.5**
VAY				*e*Sg	**Sg**	**02 41 06.6**	**-0.7**
SELS	**Selova**	**1.68**	**16**	*e*Pn	**Pn**	**02 40 45.6**	**+0.2**
SJES	**Sjenica**	**1.70**	**347**	*e*Pn	**Pn**	**02 40 45.5**	**-0.3**
SJES				*e*Sn	**Sn**	**02 41 07.3**	**-0.2**
BOSS	**Bosilegrad**	**1.73**	**58**	*e*Pn	**Pn**	**02 40 46.1**	**0.0**
TREB	**Trebinje**	**1.94**	**306**	*e*Pn	**Pb**	**02 40 50.4**	**-1.1**
IVAS	**Ivanjica**	**1.98**	**353**	*e*Pn	**Pn**	**02 40 50.5**	**+0.8**
DBRK	**Dubrovnik**	**2.04**	**302**	Sn	**Sg**	**02 41 23.3**	**+1.4**
STON	**Ston**	**2.43**	**302**	Sn	**Sg**	**02 41 34.2**	**0.0**
RICI	**Ricice**	**3.12**	**308**	*e*Pn	**Pb**	**02 41 09.5**	**-2.0**
RICI				Sn	**Sb**	**02 41 49.9**	**+0.4**

ATH ***25*** *02:59:16.8, 38°.04N×20°.21E, h14km±3km, ML2.2/6, Error ellipse: s-maj=3.5km s-min=1.4km az=41.0*

THE ***25*** *02:59:17.0, 38°.07N×20°.17E, h7km±1km, ML2.5/8, Error ellipse: s-maj=1.5km s-min=0.7km az=78.0*

ISC 25 02:59:17.3±2.0, 38°.06N±0°.04×20°.20E±0°.10, h12km±7km, n24, σ0§49/43, Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KEF3	**Kipouria, Keph**	**0.18**	**39**	P	**Pg**	**02 59 21.3**	**-0.1**
KEF3				S	**Sg**	**02 59 24.4**	**+0.3**
ARGA	**Argostoli. Kep**	**0.25**	**62**	P	**Pg**	**02 59 22.4**	**-0.1**
ARGA				S	**Sg**	**02 59 26.1**	**+0.2**
ARG2	**Argostoli**	**0.26**	**62**	P	**Pg**	**02 59 22.5**	**-0.1**
ARG2				S	**Sg**	**02 59 26.2**	**+0.1**
	3μm,0.2s						
KEF4	**Livadi, Kephal**	**0.27**	**41**	P	**Pg**	**02 59 22.7**	**-0.1**
KEF4				S	**Sg**	**02 59 26.8**	**+0.3**
KEF5	**Kardakata, Kep**	**0.30**	**44**	P	**Pg**	**02 59 23.3**	**-0.2**
KEF5				S	**Sg**	**02 59 27.5**	**-0.1**
VLS	**Valsamata**	**0.33**	**69**	P	**Pg**	**02 59 23.5**	**-0.5**
VLS				S	**Sg**	**02 59 28.3**	**-0.1**
	612nm,0.2s						
VLS	**Valsamata**	**0.33**	**69**	P	**Pg**	**02 59 23.5**	**-0.5**
VLS				S	**Sg**	**02 59 28.3**	**-0.1**
VLS				AML	AML	02 59 28.6	
	comp=N,1266μm,0.2s						
VLS				AML	AML	02 59 30.8	
	comp=E,1082μm,0.2s						
VSK1	**VASILIKIADES**	**0.45**	**39**	P	**Pg**	**02 59 25.9**	**-0.3**
VSK1				S	**Sg**	**02 59 32.8**	**+0.6**
	comp=E,2μm,0.3s						
FSK	**Fiskardo**	**0.49**	**35**	P	**Pg**	**02 59 26.5**	**-0.5**
FSK				S	**Sg**	**02 59 34.0**	**+0.5**
	comp=E,780nm,0.5s						
FSK	**Fiskardo**	**0.49**	**35**	P	**Pg**	**02 59 26.4**	**-0.5**
FSK				S	**Sg**	**02 59 33.9**	**+0.5**
FSK				AML	AML	02 59 34.8	
	comp=E,1647μm,0.2s						
FSK				AML	AML	02 59 35.1	
	comp=N,634μm,0.4s						
KRI1	**kERI**	**0.63**	**129**	P	**Pg**	**02 59 29.1**	**-0.4**
KRI1				S	**Sb**	**02 59 39.5**	**+0.5**
	comp=N,965nm,0.3s						
EVGI	**Lefkada island**	**0.67**	**32**	P	**Pg**	**02 59 29.6**	**-0.6**
EVGI				S	**Sb**	**02 59 39.9**	**-0.2**
EVGI	**Lefkada island**	**0.67**	**32**	P	**Pg**	**02 59 29.6**	**-0.6**
EVGI				S	**Sg**	**02 59 39.3**	**+0.3**
MGNA	**Meganis**	**0.76**	**38**	P	**Pg**	**02

	22nm,0.3s,baz=302,slow=14,SNR=1117						
ILAR				Sn	Sn	03 05 42.9	-1.5
	1.8nm,0.3s,baz=301,slow=26,SNR=3.7						
ILAR	**Eielson Array**	**6.77**	**109**	Pn	**Pn**	03 04 27.1	-0.2
PRP	**Porcupine Dome**	**6.90**	**101**		**Pn**	03 04 29.4	+0.1
PS08	**TAPS Pump Stn8**	**6.92**	**111**		**Pn**	03 04 30.0	+0.6
HDA	**Harding Lake**	**6.96**	**112**		**Pn**	03 04 29.6	-0.2
RND	**Reindeer**	**6.96**	**123**		**Pn**	03 04 30.0	0.0
SVW2	**Sparrevohn**	**7.22**	**155**		**Pn**	03 04 32.5	-1.0
SKT	**Skwentna**	**7.29**	**138**		**Pn**	03 04 34.6	+0.2
WAT2	**Susitna Watana**	**7.38**	**124**		**Pn**	03 04 36.5	+1.1
WAT1	**Susitna Watana**	**7.47**	**125**		**Pn**	03 04 37.9	+1.0
SPNN	**North Nagishla**	**7.54**	**144**		**Pn**	03 04 38.5	+0.6
DHY	**Denali Highway**	**7.67**	**121**		**Pn**	03 04 40.0	+0.2
WAT6	**Susitna Watana**	**7.91**	**124**		**Pn**	03 04 43.6	+0.6
SUA	**Susitna One**	**7.93**	**137**		**Pn**	03 04 44.5	+1.3
RIDG	**Independent Ri**	**8.10**	**112**	Pn	**Pn**	03 04 46.9	+1.4
GHO	**Glory Hole Cre**	**8.17**	**131**		**Pn**	03 04 47.7	+1.2
PMR	**Palmer**	**8.26**	**132**	Pn	**Pn**	03 04 48.5	+0.9
SCRK	**Sand Creek**	**8.27**	**109**	Pn	**Pn**	03 04 49.0	+1.1
SML	**Sawmill**	**8.31**	**129**		**Pn**	03 04 48.4	-0.1
RSO	**Redoubt South**	**8.34**	**147**		**Pn**	03 04 49.1	+0.1
PAX	**Paxson**	**8.38**	**117**		**Pn**	03 04 50.4	+1.0
DOT	**Dot Lake**	**8.43**	**111**		**Pn**	03 04 50.9	+0.8
SCM	**Sheep Creek Mo**	**8.60**	**127**		**Pn**	03 04 52.9	+0.5
ILW	**Iliamna West**	**8.63**	**149**		**Pn**	03 04 52.0	-1.0
IVE	**Iliamna Volcan**	**8.70**	**149**		**Pn**	03 04 52.1	-1.6
EGAK	**Eagle**	**8.88**	**100**		**Pn**	03 04 56.7	+0.5
MENT	**Mentasta**	**9.00**	**114**	Pn	**Pn**	03 04 58.1	+0.3
GLI	**Glacier Island**	**9.42**	**130**	Pn	**Pn**	03 05 04.5	+1.0
CNPM	**China Poot**	**9.51**	**145**	Pn	**Pn**	03 05 05.8	+0.9
BC03		**9.60**	**110**		**Pn**	03 05 05.6	-0.5
BCAR	**Beaver Creek A**	**9.60**	**110**	Pn	**Pn**	03 05 06.3	+0.2
FID	**Port Fidalgo**	**9.70**	**129**	Pn	**Pn**	03 05 07.6	+0.1
DAWY	**Dawson**	**9.91**	**101**		**Pn**	03 05 10.7	+0.5
EPYK	**Eagle Plains**	**9.92**	**86**		**Pn**	03 05 11.7	+1.2
GLB	**Gilahina Butte**	**10.01**	**121**	Pn	**Pn**	03 05 12.4	+0.7
VRDI	**Verde Repeater**	**10.28**	**121**	Pn	**Pn**	03 05 16.2	+0.7
INK	**Inuvik**	**10.62**	**74**	Pn	**Pn**	03 05 20.6	+0.6
	0.8nm,0.3s,baz=305,slow=14,SNR=14						
INK				Sn	**Sn**	03 07 13.8	-4.9
	0.8nm,0.3s,baz=122,slow=13,SNR=3.6						
KDAK	**Kodiak Island**	**10.87**	**152**	Pn	**Pn**	03 05 24.6	+1.3
	0.5nm,0.3s,baz=10,slow=11,SNR=6.8						
KDAK	**Kodiak Island**	**10.87**	**152**		**Pn**	03 05 24.1	+0.7
OHAK	**Old Harbor**	**11.28**	**155**	Pn	**Pn**	03 05 27.0	-2.1
BILL	**Bilibino**	**11.89**	**286**		**Pn**	03 05 35.8	-1.6
WHY	**Whitehorse**	**13.66**	**108**	Pn	**Pn**	03 06 03.5	+1.9
YKA	**Yellowknife Ar**	**20.16**	**82**	P	Pn	03 07 23.2	-0.7
	1.3nm,0.6s,baz=300,slow=10,SNR=10.0						
RES	**Resolute Bay**	**21.43**	**42**	P	**P**	03 07 39.3	+3.6
	0.6nm,0.7s,baz=301,slow=5.9,SNR=0.9						
RES				S	**S**	03 11 27.1	-5.9
	1.7nm,0.6s,baz=330,slow=9.6,SNR=4.4						
RES	**Resolute Bay**	**21.43**	**42**	P	**P**	03 07 37.8	+2.1
TIXI	**Tiksi**	**23.09**	**311**	LR	LR	03 17 09.9	
	2.5nm,21.5s,baz=158,slow=38						
SUMG	**Summit**	**35.08**	**26**	P	**P**	03 09 41.0	0.0
SUMG				IAmb	IAmb	03 09 49.5	
	comp=Z,2.4nm,0.8s						
NRIK	**Noril'sk**	**35.20**	**325**	LR	LR	03 26 44.0	
	comp=Z,42nm,18.6s,baz=301,slow=41						
PDAR	**Pinedale Array**	**37.19**	**105**	P	**P**	03 10 01.2	+2.1
	comp=Z,0.3nm,0.6s,baz=335,slow=6.6,SNR=4.6						
PDAR	**Pinedale Array**	**37.19**	**105**	P	**P**	03 09 59.3	+0.1
NVAR	**Mina Array Bea**	**37.93**	**118**	P	**P**	03 10 07.8	+2.3
	comp=Z,0.8nm,0.6s,baz=305,slow=8.0,SNR=3.6						
NVAR	**Mina Array Bea**	**37.93**	**118**	P	**P**	03 10 04.2	-1.3
KSRS	**Korea Array**	**48.47**	**268**	P	**P**	03 11 32.9	+2.5
	comp=Z,0.6nm,0.5s,baz=18,slow=8.5,SNR=4.1						
ZALV	**Zalesovo Beam**	**48.92**	**314**	P	**P**	03 11 34.0	+0.4
	comp=Z,0.6nm,0.3s,baz=32,slow=8.7,SNR=3.8						
ZALV	**Zalesovo Beam**	**48.92**	**314**	P	**P**	03 11 32.6	-1.0
FINES	**FINESS Array B**	**50.97**	**355**	P	**P**	03 11 49.7	+0.6
	comp=Z,0.9nm,0.7s,baz=28,slow=8.6,SNR=4.8						
FINES	**FINESS Array B**	**50.97**	**355**	P	**P**	03 11 48.4	-0.6
TX31	**Lajitas Ar. Si**	**51.28**	**108**	P	**P**	03 11 50.7	-1.3
TX32	**Lajitas Array**	**51.28**	**108**	P	**P**	03 11 50.7	-1.2
TX32				IAmb	IAmb	03 11 54.4	
	comp=Z,2.7nm,1.1s						
TXAR	**Lajitas Array**	**51.28**	**108**	P	**P**	03 11 53.2	+1.3
	comp=Z,1.2nm,0.8s,baz=334,slow=5.9,SNR=11						
TXAR	**Lajitas Array**	**51.28**	**108**	P	**P**	03 11 50.8	-1.2
MKAR	**Makanchi Array**	**56.07**	**312**	P	**P**	03 12 27.6	+0.9
	comp=Z,0.2nm,0.5s,baz=25,slow=7.9,SNR=3.0						
MKAR	**Makanchi Array**	**56.07**	**312**	P	**P**	03 12 25.5	-1.2
ABKAR	**Akbulak array**	**59.15**	**329**	P	**P**	03 12 47.8	-0.5
AKASG	**Malin Array Be**	**61.58**	**352**	P	**P**	03 13 06.0	+1.2
	comp=Z,0.3nm,0.4s,baz=5.9,slow=6.1,SNR=1.8						

*IDC **25** 03:05:53.1±2.5,24.˝66S×115.˚59W, h0km, mb3.7/5, mb1 4.1/5,mb1mx3.9/24,mbtmp3.7/5,MS3.9/17, Ms1 3.9/17,ms1mx3.9/24,Error ellipse: s-maj=76.3km s-min=41.2km az=36.0*

*GCMT **25** 03:05:59.0±0.3,24.˝38S±0.˝02×115.˚72W±0.˚02, h24km±1km, MW5.0/89,Moment Tensor Solution. s23,c25; s89,c121; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.35±.19; Mθθ=2.51±.14; Mφφ=2.86±.15; Mrθ=-1.18±.24; Mrφ=2.31±.12; Mθφ=0.53±.20; Best double couple: M0=3.78100×10^16^ NP1:φs=64.00000°,δ75.00000°,λ=-14.00000°. NP2: φs=157.00000°,δ77.00000°,λ=-164.00000°. Principal axes: T 3.7190, Plg1.0000°, Azm290.0000°; N 0.1250, Plg70.0000°, Azm197.0000°; P -3.8440, Plg20.0000°, Azm21.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 25 03:05:55.8±3.2,24.˝4S±0.˝6×116.˚4W±0.˚3, h10km, n33, σ0§58/7, mb3.8/5, MS4.0/19, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**6.95**	**115**	LR	LR	03 09 15.8	
	comp=Z,2μm,20.5s,baz=273,slow=33						
RKT	**Rikitea**	**17.03**	**271**	*e*LQ	LQ	03 13 12.2	
	2μm,26.8s						
RKT				*e*LR	LR	03 13 58.0	
	comp=Z,2μm,26.0s						
RKT	**Rikitea**	**17.03**	**271**	*e*T	T	03 27 44.0	
	3.4nm,0.2s						
TAOE	**Nuku Hiva Isla**	**27.41**	**300**	*e*LR	LR	03 18 32.9	
	comp=Z,1μm,27.1s						
TBI	**Tubuai**	**30.19**	**265**	*e*LQ	LQ	03 18 47.4	
	238nm,40.0s						
TBI				*e*LR	LR	03 20 02.6	
	comp=Z,557nm,28.0s,baz=94						
PPT2	**Papeete2**	**31.63**	**276**	*e*S	**S**	**03 17 28.6**	**-0.1**
	118nm,24.2s						
PPT2				*e*LQ	LQ	03 19 20.2	
	474nm,25.8s						
PPT2				*e*LR	LR	03 20 37.6	
	comp=Z,756nm,28.8s,baz=104						
PPT	**Papeete**	**31.64**	**276**	LR	LR	03 20 40.2	
	comp=Z,75nm,20.8s,baz=128,slow=27						
H03N2	**Juan Fernandez**	**33.88**	**114**	T	T	03 47 51.7	
	baz=280,slow=75,SNR=230						
H03N3	**Juan Fernandez**	**33.89**	**114**	T	T	03 47 52.9	
	baz=280,slow=75,SNR=242						
H03N1	**Juan Fernandez**	**33.90**	**114**	T	T	03 47 52.8	
	baz=280,slow=75,SNR=349						
RAR	**Rarotonga**	**39.97**	**266**	LR	LR	03 24 45.5	
	comp=Z,160nm,20.3s,baz=104,slow=28						
PLCA	**Paso Flores**	**41.46**	**125**	LR	LR	03 26 15.7	
	comp=Z,476nm,20.3s,baz=250,slow=30						
LPAZ	**La Paz**	**45.81**	**89**	P	P	03 14 11.6	-7.3
	1.2nm,0.8s,baz=258,slow=6.3,SNR=5.3						
LPAZ				LR	LR	03 29 05.3	
	comp=Z,165nm,18.6s,baz=248,slow=31						
JTS	**Las Juntas de**	**46.18**	**45**	LR	LR	03 27 58.0	
	comp=Z,103nm,21.3s,baz=186,slow=29						
CMIG	**Matias Romero**	**46.28**	**29**	LR	LR	03 29 22.3	
	comp=Z,94nm,22.0s,baz=192,slow=30						
ROSC	**El Rosal**	**50.24**	**60**	LR	LR	03 30 15.9	
	comp=Z,99nm,21.1s,baz=178,slow=29						
TEIG	**Tepich**	**52.14**	**34**	LR	LR	03 33 41.8	
	comp=Z,86nm,19.4s,baz=228,slow=32						
CPUP	**Villa Florida**	**53.03**	**105**	LR	LR	03 33 05.4	
	comp=Z,189nm,20.9s,baz=226,slow=31						
TXAR	**Lajitas Array**	**54.81**	**14**	P	**P**	**03 15 25.8**	**-0.4**
	0.5nm,0.9s,baz=195,slow=6.5,SNR=2.6						
TXAR				LR	LR	03 34 33.2	
	comp=Z,57nm,19.2s,baz=0.0,slow=31						
NVAR	**Mina Array Bea**	**62.52**	**358**	P	**P**	**03 16 20.4**	**+0.6**
	0.4nm,0.7s,baz=205,slow=6.6,SNR=3.7						
NVAR				LR	LR	03 36 56.6	
	comp=Z,63nm,18.6s,baz=194,slow=30						
BDFB	**Brasilia**	**64.33**	**96**	LR	LR	03 40 41.7	
	comp=Z,150nm,18.9s,baz=239,slow=33						
VNDA	**Vanda**	**64.56**	**194**	LR	LR	03 37 30.8	
	comp=Z,109nm,18.4s,baz=127,slow=29						
PDAR	**Pinedale Array**	**67.13**	**5**	P	**P**	**03 16 50.5**	**+0.6**
	0.4nm,0.6s,baz=192,slow=4.2,SNR=4.1						
PDAR				LR	LR	03 40 19.0	
	comp=Z,69nm,20.0s,baz=248,slow=31						
H11S2	**WAKE ISLAND Hy 86.15**	**292**		T	T	04 54 30.0	
	baz=118,slow=75,SNR=100						
H11S1	**WAKE ISLAND Hy 86.17**	**292**		T	T	04 54 21.4	
	baz=118,slow=75,SNR=81						
H11S3	**WAKE ISLAND Hy 86.17**	**292**		T	T	04 54 31.3	
	baz=118,slow=75,SNR=58						
H11N3	**WAKE ISLAND Hy 86.54**	**293**		T	T	04 55 01.7	
	baz=116,slow=74,SNR=6.5						
H11N1	**WAKE ISLAND Hy 86.55**	**293**		T	T	04 54 48.5	
	baz=116,slow=74,SNR=5.3						
H11N2	**WAKE ISLAND Hy 86.56**	**293**		T	T	04 54 57.8	
	baz=116,slow=74,SNR=13						
YKA	**Yellowknife Ar**	**86.60**	**1**	P	**P**	**03 18 38.4**	**-0.5**
	0.8nm,0.8s,baz=177,slow=5.3,SNR=4.0						
YKA				LR	LR	03 53 22.3	
	comp=Z,54nm,18.1s,baz=0.0,slow=33						
MAW	**Mawson**	**88.28**	**180**	LR	LR	03 53 40.5	
	comp=Z,197nm,18.7s,baz=224,slow=33						
ZALV	**Zalesovo Beam**	**146.47**	**337**	PKPbc	**PKPbc**	**03 25 36.6**	**-0.3**
	0.7nm,0.4s,baz=20,slow=4.6,SNR=1.6						
MKAR	**Makanchi Array**	**153.10**	**331**	PKPbc	**PKiKP**	**03 25 54.3**	**+0.5**
	0.3nm,0.7s,baz=233,slow=3.3,SNR=2.2						

*IDC **25** 03:17:43.2±3.1,29.˝96S×177.˚38W, h0km, mb3.7/2, mb1 4.0/2,mb1mx3.5/28,mbtmp3.7/2, Error ellipse: s-maj=64.5km s-min=25.8km az=75.0*

*NEIC **25** 03:17:49.3±0.8,29.˝9S±0.˚2×177.˚5W±0.˚2, h43km±14km, mb4.1/0, Error ellipse: s-maj=36.2km s-min=8.1km az=47.0*

ISC 25 03:17:48.8±1.4,30.˝0S±0.˚1×177.˚5W±0.˚2, h35km, n15, σ0§64/17, mb4.3/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.78**	**335**	Pn	**Pn**	**03 18 03.3**	**+0.1**
	139nm,0.3s,baz=75,slow=20,SNR=8.6						
RAO				Sn	**Sn**	**03 18 14.3**	**+0.6**
	802nm,0.3s,baz=112,slow=21,SNR=14						
RAO	**Raoul Island**	**0.78**	**335**		**Pn**	**03 18 03.1**	**-0.1**
RAO					**Sn**	**03 18 13.6**	**-0.1**
CTAO	**Charters Tower**	**34.12**	**278**	P	**P**	**03 24 30.7**	**+0.2**
CTAO				IAmb	IAmb	03 24 46.7	
	comp=Z,6.9nm,1.1s						
STKA	**Stephens Creek**	**34.97**	**256**	P	**P**	**03 24 38.0**	**+0.4**
BBOO	**Buckleboo**	**39.47**	**254**	P	**P**	**03 25 15.6**	**-0.3**
ASAR	**Alice Springs**	**43.53**	**266**	P	**P**	**03 25 49.9**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=108,slow=6.9,SNR=2.5						
WB2	**Warramunga Arr**	**44.47**	**271**	P	**P**	**03 25 56.8**	**0.0**
WB2				IAmb	IAmb	03 25 59.2	
	comp=Z,5.6nm,1.1s						
WRA	**Warramunga Arr**	**44.48**	**271**	P	**P**	**03 25 57.4**	**+0.5**
	comp=Z,0.7nm,0.3s,baz=110,slow=8.1,SNR=14						
WRA	**Warramunga Arr**	**44.48**	**271**	P	**P**	**03 25 57.1**	**+0.2**
WB0	**Warramunga Arr**	**44.50**	**272**	P	**P**	**03 25 56.3**	**-0.8**
WB0				IAmb	IAmb	03 26 05.3	
	comp=Z,14nm,1.4s						
KNRA	**Kununurra**	**51.07**	**274**	P	**P**	**03 26 48.0**	**0.0**
CASY	**Casey**	**55.71**	**208**	P	**P**	**03 27 20.4**	**-1.0**
CASY				IAmb	IAmb	03 27 34.2	
	comp=Z,15nm,1.5s						
QSPA	**South Pole Qui**	**60.15**	**180**	P	**P**	**03 27 53.0**	**+0.3**
SNAA	**Sanae**	**78.58**	**178**	P	**P**	**03 29 47.5**	**+1.1**
SNAA				IAmb	IAmb	03 30 06.5	
	comp=Z,2.8nm,1.5s						
FINES	**FINESS Array B**	**144.87**	**340**	PKP	**PKPdf**	**03 37 20.0**	**-1.3**
	comp=Z,1.9nm,0.6s,baz=43,slow=2.9,SNR=7.5						

*MEX **25** 03:20:10.8±0.5,27.˝75N×111.˚74W, h10km±6km, MD4.5*
*ECX **25** 03:20:10.1±0.6,27.˝76N×111.˚72W, h12km±8km, MD3.4, ML3.4*

*IDC **25** 03:20:10.7±4.2,27.˝53N×111.˚55W, h0km, mb3.2/1, mb1 3.7/4,mb1mx3.5/35,mbtmp3.2/4,ML3.7/3,MS2.9/4, Ms1 2.9/4,ms1mx2.8/15,Error ellipse: s-maj=60.5km s-min=20.5km az=13.0*

ISC 25 03:20:09.2±1.8,27.˝80N±0.˝09×111.˚76W±0.˚06, h7km±18km, n19, σ2§04/16, 1C-4D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.64**	**222**	↓*e*P	**Pg**	**03 21 21.2**	**-0.3**
SRIG				*e*S	**Sb**	**03 20 30.3**	**-1.6**
SRIG	**Santa Rosalia**	**0.64**	**222**	*e*P	**Pg**	**03 20 21.3**	**-0.3**
SRIG				*i* S	**Sg**	**03 20 30.1**	**+0.1**
HSIG		**1.41**	**30**	↑*e*P	**Pn**	**03 20 34.8**	**-0.6**
HSIG				*e*S	**Sn**	**03 20 53.5**	**-0.7**
HSIG		**1.41**	**30**	*e*P	**Pn**	**03 20 34.0**	**-1.4**
HSIG				*i* S	**Sn**	**03 20 50.7**	**-3.4**
NE80	**Navojoa**	**2.41**	**111**	↓*e*P	**Pb**	**03 20 53.0**	**0.0**
NE80				*e*S	**Sg**	**03 21 26.3**	**-0.4**
BAHB	**Baha de los**	**2.66**	**324**	*e*P	Pn	03 20 43.0	-10
BAHB				*e*S	Sn	03 21 10.1	-15
NZIG	**Nacozari, Sono**	**3.21**	**36**	*e*P	**Pn**	**03 20 60.0**	**-0.3**
NZIG				*i* S	**Sn**	**03 21 36.7**	**-2.1**
LPIG	**La Paz**	**3.90**	**160**	LR	LR	03 22 33.0	
	comp=Z,165nm,21.6s,baz=314,slow=40						
SQX	**San Quintin**	**4.54**	**309**	*e*		03 22 41.0	
SQX				IAML		03 22 41.0	
	comp=E,37nm,1.3s						
SQX				↓*e*		03 22 46.6	
SQX				IAML		03 22 46.6	
	comp=N,51nm,1.1s						
SPX	**San Pedro Mart**	**4.57**	**316**	↓*e*		03 22 44.9	
SPX				IAML		03 22 44.9	
	comp=E,23nm,1.7s						
TUC	**Tucson**	**4.58**	**10**	*e*P	**Pn**	**03 21 19.1**	**+0.1**
TUC				*e*S	**Sn**	**03 22 11.4**	**-1.0**
PFO	**Pinyon Flats O**	**7.07**	**326**	Lg	Lg	03 24 04.2	
	comp=E,0.1nm,0.3s,baz=58,slow=5.3,SNR=7.1						
PFO				LR	LR	03 24 29.5	
	comp=E,124nm,20.3s,baz=162,slow=35						
TXAR	**Lajitas Array**	**7.28**	**76**	Pn	**Pn**	**03 21 57.3**	**+1.3**
	comp=E,0.2nm,0.3s,baz=252,slow=13,SNR=5.8						
TXAR				Lg	Lg	03 23 57.3	
	comp=E,0.2nm,0.3s,baz=257,slow=29,SNR=3.1						
ANMO	**Albuquerque**	**8.44**	**31**	Lg	Lg	03 24 37.2	
	comp=E,0.2nm,0.3s,baz=285,slow=24,SNR=9.3						
NVAR	**Mina Array Bea**	**11.93**	**334**	Pn	Pn	03 23 08.8	+8.8
	comp=E,0.1nm,0.3s,baz=161,slow=14,SNR=2.2						
PDAR	**Pinedale Array**	**15.04**	**6**	Pn	**P**	**03 23 52.9**	**+5.0**
	comp=E,0.1nm,0.3s,baz=181,slow=12,SNR=9.8						
NEW	**Newport**	**20.86**	**350**	LR	LR	03 32 46.3	
	comp=E,27nm,21.5s,baz=170,slow=36						
TKL	**Tuckaleechee C**	**25.00**	**65**	LR	LR	03 35 38.7	
	comp=E,33nm,19.9s,baz=267,slow=37						
ILAR	**Eielson Array**	**43.14**	**339**	P	P	03 28 15.0	+4.9
	comp=E,0.5nm,1.1s,baz=148,slow=7.0,SNR=4.6						

*NEIC **25** 03:41:29.1±2.5, 17.˚36N±0.˚03×101.˚47W±0.˚07, h1km±3km, Error ellipse: s-maj=9.6km s-min=3.6km az=82.0*

*MEX **25** 03:41:30.4±1.0, 17.˚40N×101.˚48W, h5km, MD4.2*

ISC 25 03:41:27.3±1.3, 17.˚32N±0.˚05×101.˚56W±0.˚04, h13km±8km, n27, σ1§75/45, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.30**	**16**		**Pg**	**03 41 33.8**	**+0.2**
ZIIG					**Sg**	**03 41 37.3**	**-0.5**
ZIIG	**Zihuatanejo**	**0.30**	**16**	↓*i*P	**Pg**	**03 41 33.8**	**+0.2**
	baz=184,slow=12						
ZIIG				*i* S	**Sg**	**03 41 37.3**	**-0.5**
CAIG	**El Cayaco**	**1.26**	**102**		**Pb**	**03 41 49.9**	**-1.0**
CAIG					**Sb**	**03 42 05.8**	**-1.2**
CAIG	**El Cayaco**	**1.26**	**102**	*e*P	**Pb**	**03 41 49.9**	**-1.0**
CAIG				*e*S	**Sb**	**03 42 05.8**	**-1.2**
ARIG	**Puente Sto Nin**	**1.50**	**50**		**Pn**	**03 41 53.4**	**-0.5**
ARIG					**Sn**	**03 42 10.3**	**-3.0**
ARIG	**Puente Sto Nin**	**1.50**	**50**	*e*P	**Pn**	**03 41 53.4**	**-0.5**
ARIG				*e*S	**Sn**	**03 42 10.3**	**-3.0**
ACP2	**Acapulco**	**1.66**	**105**		**Pn**	**03 41 57.2**	**+1.1**
ACP2					**Sg**	**03 42 20.6**	**-0.1**
ACP2	**Acapulco**	**1.66**	**105**	*e*P	**Pn**	**03 41 57.2**	**+1.1**
ACP2				*e*S	**Sn**	**03 42 17.2**	**+0.1**
MEIG	**Mezcala**	**1.94**	**71**		**Pn**	**03 42 01.2**	**+1.1**
MEIG					**Sn**	**03 42 21.8**	**-2.6**
MEIG	**Mezcala**	**1.94**	**71**	*e*P	**Pn**	**03 42 00.8**	**+0.7**
MEIG				*i* S	**Sn**	**03 42 23.7**	**-0.7**
MMIG	**Aquila**	**1.96**	**300**		**Pn**	**03 41 59.1**	**-1.2**
MMIG					**Sn**	**03 42 22.3**	**-2.4**
MMIG	**Aquila**	**1.96**	**300**	*e*P	**Pn**	**03 41 59.1**	**-1.2**
MMIG				*i* S	**Sn**	**03 42 23.3**	**-1.4**
MOIG	**Morelia**	**2.38**	**8**		**Pn**	**03 42 07.7**	**+1.5**
MOIG				Sn	**Sn**	**03 42 37.8**	**+2.4**
YAIG	**Yautepec**	**2.82**	**57**		**Pn**	**03 42 13.5**	**+1.2**
YAIG					**Sn**	**03 42 41.8**	**-4.5**
YAIG	**Yautepec**	**2.82**	**57**	*e*P	**Pn**	**03 42 11.9**	**-0.3**
YAIG				*e*S	**Sn**	**03 42 45.1**	**-1.1**
TLIG	**Tlapa**	**2.86**	**85**		**Pn**	**03 42 14.9**	**+2.1**
TLIG				Sn	**Sb**	**03 42 51.4**	**-1.9**
HMTT	**Tlapaneco**	**2.90**	**80**	*i* P	**Pb**	**03 42 18.1**	**-0.8**
HMTT				*i* S	**Sb**	**03 42 51.8**	**-2.5**
UNM	**Universidad Na**	**3.02**	**48**	Pn	**Pn**	**03 42 17.4**	**+2.4**
HLIG	**Huajuapan de L**	**3.62**	**81**	*i* P	**Pn**	**03 42 24.3**	**+1.1**
HLIG				*i* S	**Sn**	**03 43 05.1**	**-0.8**
TXIG	**Tlaxiaco**	**3.62**	**90**	*e*P	**Pn**	**03 42 23.9**	**+0.5**
TXIG				*i* S	**Sn**	**03 43 05.4**	**-0.7**
YOIG	**Yosondua**	**3.86**	**96**	*e*P	**Pn**	**03 42 27.5**	**+0.8**
YOIG				*i* S	**Sn**	**03 43 12.1**	**0.0**
ZAIG	**Zacatecas**	**5.51**	**350**		**Pn**	**03 42 53.2**	**+3.8**
CRIN	**San Cristobal**	**14.74**	**106**	Pn	**Pn**	**03 44 57.4**	**+1.7**
X37A	**Clayton**	**18.07**	**17**		**P**	**03 45 40.5**	**+2.0**
HHAR	**Hobbs**	**20.06**	**18**	P	**P**	**03 46 02.0**	**+1.7**
U40A	**Yellville**	**20.47**	**20**	P	Pn	03 46 07.5	+0.6
LCAR	**Lake Charles**	**20.84**	**24**	P	Pn	03 46 12.8	+1.6

*ANF **25** 03:56:51.5±0.3, 35.˚80N×119.˚76W, h8km±1km, ML3.1/22, Error ellipse: s-maj=2.5km s-min=1.5km az=120.0*

*NEIC **25** 03:56:51.2±1.5, 35.˚82N±0.˚02×119.˚75W±0.˚01, h4km±7km, Error ellipse: s-maj=2.6km s-min=1.6km az=168.0*

*NCEDC **25** 03:56:51.2±2.1, 35.˚85N±0.˚02×119.˚81W±0.˚01, h9km±6km, ML3.1/18, Error ellipse: s-maj=2.5km s-min=1.6km az=173.0*

*SCEDC **25** 03:56:51.3±0.3, 35.˚86N×119.˚83W, h1km, M3.2*

ISC 25 03:56:51.4±0.9, 35.˚85N±0.˚02×119.˚79W±0.˚02, h18km±7km, n192, σ1§16/217, Central California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PKEM	**Kettleman Hill**	**0.33**	**310**		**Pb**	**03 56 59.4**	**+0.5**
PBPM	**Bitterwater Pu**	**0.36**	**221**		**Pg**	**03 56 58.6**	**-0.3**
THIS	**South End of C**	**0.38**	**251**		**Pg**	**03 56 58.8**	**-0.5**
THIS					**Sg**	**03 57 05.1**	**+0.4**
PAGB	**Antelope Grade**	**0.39**	**252**		**Pg**	**03 56 58.9**	**-0.7**
PAGB					**Sg**	**03 57 05.1**	**+0.1**
PTRM	**Twissleman Ran**	**0.39**	**240**		**Pg**	**03 56 59.0**	**-0.6**
PSRM	**Scobie Ranch**	**0.40**	**271**		**Pg**	**03 56 59.3**	**-0.4**
PSNM	**Stone Corral**	**0.41**	**262**		**Pg**	**03 56 59.2**	**-0.7**
TRAM	**Private Proper**	**0.42**	**246**		**Pg**	**03 56 59.6**	**-0.6**
TRAM					**Sg**	**03 57 06.9**	**+0.8**
YEG	**Yeguas Mountai**	**0.43**	**198**		**Pg**	**03 57 00.4**	**0.0**
CTM	**Castle Mountai**	**0.45**	**281**		**Pg**	**03 57 01.0**	**+0.3**
PKLM	**Kerr Lake**	**0.45**	**260**		**Pg**	**03 57 00.1**	**-0.6**
GHC	**Gold Hill**	**0.46**	**268**		**Pg**	**03 57 00.1**	**-0.6**
PMCM	**McMillan Canyo**	**0.49**	**255**		**Pg**	**03 57 00.7**	**-0.6**
PHFM	**Heflinger Ranc**	**0.49**	**274**		**Pg**	**03 57 01.1**	**-0.3**

BSGM	**Shirttail Gulc**	**1.31**	**296**			**Pn**	**03 57 13.7**	**-1.2**
BEMM	**Emmet**	**1.33**	**308**			**Pn**	**03 57 14.8**	**-0.4**
BVL	**Bear Valley**	**1.34**	**303**			**Pn**	**03 57 14.9**	**-0.5**
BEHM	**Elkhorn Ranch**	**1.38**	**306**			**Pn**	**03 57 15.9**	**+0.1**
WCHM	**Chimney Peak**	**1.40**	**88**			**Pn**	**03 57 17.0**	**+0.7**
SBC	**Santa Barbara**	**1.41**	**177**		Pb	**Pn**	**03 57 17.3**	**+1.1**
	baz=357							
SBC	**Santa Barbara**	**1.41**	**177**			**Pn**	**03 57 17.3**	**+1.1**
BSMM	**Soledad Missio**	**1.43**	**292**			**Pn**	**03 57 15.3**	**-1.3**
BLRM	**Lewis Ranch**	**1.45**	**305**			**Pn**	**03 57 16.8**	**0.0**
BJOM	**Mount Johnson**	**1.45**	**303**			**Pn**	**03 57 16.6**	**-0.3**
BJCM	**Johnson Can.**	**1.47**	**299**			**Pn**	**03 57 16.1**	**-1.0**
SCZ	**Santa Cruz**	**1.50**	**300**			**Pn**	**03 57 16.9**	**-0.6**
CWC	**Cottonwood Cre**	**1.51**	**66**	P		**Pb**	**03 57 18.8**	**-0.2**
	baz=248							
CWC				S		**Sg**	**03 57 39.0**	**-1.2**
	baz=248							
CWC	**Cottonwood Cre**	**1.51**	**66**			**Pb**	**03 57 18.8**	**-0.2**
BCWM	**Chews Ridge**	**1.51**	**288**			**Pn**	**03 57 16.4**	**-1.4**
OSI	**Osito Audit: C**	**1.51**	**144**	P		**Pn**	**03 57 18.2**	**+0.5**
	baz=325							
OSI				S		**Sn**	**03 57 37.5**	**+0.5**
	baz=325							
OSI	**Osito Audit: C**	**1.51**	**144**			**Pn**	**03 57 18.3**	**+0.6**
OSI				Sn		**Sn**	**03 57 38.3**	**+1.3**
BCGM	**Cienega Road**	**1.52**	**305**			**Pn**	**03 57 17.8**	**+0.1**
KCC	**Kaiser Creek**	**1.52**	**14**			**Pn**	**03 57 18.0**	**+0.2**
HAST	**Hastings Reser**	**1.52**	**291**			**Pn**	**03 57 16.2**	**-1.6**
BAPM	**Anderson Peak**	**1.54**	**283**			**Pn**	**03 57 16.4**	**-1.7**
PYR	**Pyramid**	**1.54**	**146**			**Pn**	**03 57 17.6**	**-0.6**
MMIM	**Miami Mountain**	**1.57**	**1**			**Pn**	**03 57 18.6**	**0.0**
BVYM	**Vineyard**	**1.59**	**305**			**Pn**	**03 57 18.4**	**-0.4**
MYLM	**Yosemite Lake**	**1.61**	**342**			**Pn**	**03 57 19.1**	**+0.1**
BSRM	**Salinas Radio**	**1.62**	**301**			**Pn**	**03 57 18.6**	**-0.5**
SAO	**San Andreas Ge**	**1.62**	**305**	Pn		**Pn**	**03 57 18.9**	**-0.2**
FRP	**Fremont Peak**	**1.64**	**304**			**Pn**	**03 57 19.2**	**-0.2**
BPOM	**Post Ranch**	**1.64**	**284**			**Pn**	**03 57 17.8**	**-1.7**
BPCNC	**Pine Canyon**	**1.65**	**296**			**Pn**	**03 57 18.9**	**-0.7**
SLD	**San Luis Dam**	**1.68**	**317**			**Pn**	**03 57 19.2**	**-0.8**
HPCM	**Pacheco Lake**	**1.70**	**316**			**Pn**	**03 57 19.8**	**-0.4**
HJGM	**San Juan Grade**	**1.72**	**304**			**Pn**	**03 57 20.0**	**-0.5**
TIN	**Tinemaha, Big**	**1.74**	**46**	P		**Pb**	**03 57 22.7**	**-0.3**
	baz=227,SNR=40							
TIN				S		**Sg**	**03 57 46.0**	**-1.6**
	baz=227							
TIN	**Tinemaha, Big**	**1.74**	**46**			**Pb**	**03 57 22.9**	**0.0**
RCWM	**Renegade Canyo**	**1.75**	**86**			**Pn**	**03 57 20.2**	**-0.8**
SCHCA	**Scheelite**	**1.75**	**30**			**Pn**	**03 57 22.4**	**+1.3**
LRMC	**Laurel Mtn Rad**	**1.76**	**102**	Pb		**Pb**	**03 57 23.3**	**0.0**
	baz=283							
LRMC				S		**Sb**	**03 57 45.6**	**+0.5**
	baz=283							
EDW2	**Edwards Air Fo**	**1.76**	**123**	Pb		**Pb**	**03 57 23.1**	**-0.1**
	baz=304,SNR=15							
EDW2				Sb		**Sg**	**03 57 46.8**	**-1.4**
	baz=304							
HTUM	**Tustin Road**	**1.78**	**304**			**Pn**	**03 57 20.9**	**-0.5**
MTUM	**Tungsten Hills**	**1.80**	**33**			**Pb**	**03 57 23.6**	**-0.4**
GHS	**Gilroy Hot Spr**	**1.82**	**313**			**Pn**	**03 57 21.4**	**-0.6**
MRDM	**Red Cones**	**1.84**	**18**			**Pn**	**03 57 23.8**	**+1.3**
RCCR	**Rock Creek Can**	**1.85**	**27**			**Pn**	**03 57 24.2**	**+1.7**
HCOM	**Corn Cob Canyo**	**1.86**	**304**			**Pn**	**03 57 21.5**	**-0.9**
MMPM	**Mammoth Pass**	**1.86**	**19**			**Pn**	**03 57 24.2**	**+1.4**
MDPB	**Devils Postpil**	**1.87**	**18**			**Pn**	**03 57 24.0**	**+1.1**
OMMB	**Old Mammoth Mi**	**1.87**	**20**			**Pn**	**03 57 24.0**	**+1.1**
HMOM	**Monterey**	**1.88**	**294**			**Pn**	**03 57 21.8**	**-0.8**
MMSM	**Mammoth Summit**	**1.88**	**19**			**Pn**	**03 57 24.8**	**+1.7**
MPMC	**Manual Prospec**	**1.88**	**83**	Pb		**Pb**	**03 57 25.6**	**+0.2**
	baz=264,SNR=38							
MPMC				Sb		**Sg**	**03 57 50.8**	**-1.3**
	baz=264							
MINS	**Minaret Summit**	**1.89**	**18**			**Pn**	**03 57 24.8**	**+1.5**
MLCM	**Laurel Creek C**	**1.90**	**22**			**Pn**	**03 57 24.8**	**+1.6**
MCVM	**Convict Lake**	**1.90**	**24**			**Pn**	**03 57 25.0**	**+1.7**
MCMM	**Convict Lake**	**1.91**	**23**			**Pn**	**03 57 25.1**	**+1.8**
MDYM	**Dry Creek**	**1.91**	**19**			**Pn**	**03 57 25.3**	**+1.8**
MGPM	**Gravel Pit**	**1.91**	**22**			**Pn**	**03 57 25.2**	**+1.8**
MMLB	**Mammoth Lakes**	**1.92**	**20**			**Pb**	**03 57 25.6**	**-0.6**
MFBM	**Five Bridges**	**1.92**	**34**			**Pb**	**03 57 26.0**	**-0.1**
MCBM	**Casa Benchmark**	**1.93**	**22**			**Pb**	**03 57 25.6**	**-0.7**
MCSM	**Casa Diablo Ho**	**1.94**	**21**			**Pb**	**03 57 25.9**	**-0.6**
POCCA	**Poleta Canyon**	**1.94**	**38**			**Pb**	**03 57 26.2**	**-0.2**
MDRNC	**Doe Ridge**	**1.94**	**23**			**Pb**	**03 57 25.9**	**-0.6**
MDCM	**Deadman Creek**	**1.95**	**18**			**Pn**	**03 57 25.5**	**+1.5**
SBB	**Saddle Back Bu**	**1.98**	**125**			**Pn**	**03 57 24.5**	**+0.3**
MLHM	**Little Hot Cre**	**1.99**	**23**			**Pb**	**03 57 26.8**	**-0.5**
DECC	**Green Verdugo**	**1.99**	**143**	S		**Sn**	**03 57 49.9**	**+1.1**
	baz=323							
ORC	**Owens River**	**2.00**	**27**			**Pb**	**03 57 26.7**	**-0.8**
MCDM	**Chidago Canyon**	**2.01**	**32**			**Pb**	**03 57 27.6**	**0.0**
MRCM	**Red Rock Canyo**	**2.09**	**29**			**Pn**	**03 57 28.0**	**+2.1**
MLNR	**Milner Canyon**	**2.09**	**33**			**Pb**	**03 57 28.8**	**-0.3**
CHFC	**Chilao Flat St**	**2.10**	**136**			**Pn**	**03 57 28.0**	**+2.1**
BEN	**Benton**	**2.10**	**27**			**Pb**	**03 57 28.6**	**-1.0**
PASC	**Pasadena Art C**	**2.13**	**141**			**Pn**	**03 57 26.8**	**+0.6**
MWC	**Mount Wilson**	**2.16**	**138**			**Pn**	**03 57 27.2**	**+0.4**
MCA	**Marble Canyon**	**2.18**	**68**			**Pb**	**03 57 29.5**	**-0.9**
XTL	**Crystal Lake,**	**2.22**	**134**			**Pn**	**03 57 28.1**	**+0.5**
CMB	**Columbia Colle**	**2.23**	**348**			**Pn**	**03 57 28.6**	**+1.0**
GRAC	**Grapevine Rang**	**2.27**	**59**	P		**Pn**	**03 57 30.1**	**+2.0**
	baz=240,SNR=28							
GRAC				Sb		**Sg**	**03 58 03.2**	**-1.1**
	baz=240							
BFSC	**Mount Baldy Ra**	**2.38**	**132**	P		**Pn**	**03 57 29.9**	**+0.2**
	baz=313,SNR=6.3							
BFSC				S		**Sn**	**03 57 59.8**	**+1.3**
	baz=313							
FURC	**Furnace Creek,**	**2.45**	**75**	Sb		**Sg**	**03 58 08.3**	**-1.9**
	baz=256							
GSC	**Goldstone, Bar**	**2.50**	**102**	P		**Pn**	**03 57 32.1**	**+0.9**
	baz=284,SNR=18							
GSC				S		**Sn**	**03 58 03.6**	**+2.2**
	baz=284							
GSC	**Goldstone, Bar**	**2.50**	**102**	Pn		**Pn**	**03 57 32.2**	**+1.0**
WAKR	**Walker**	**2.67**	**6**			**Pn**	**03 57 35.7**	**+2.0**
NVAR	**Mina Array Bea**	**2.84**	**24**	Pn		**Pn**	**03 57 38.3**	**+2.2**
NV11	**Mina Array Sit**	**2.89**	**26**			**Pn**	**03 57 38.8**	**+2.0**
NLHM	**Lake Herman**	**2.95**	**321**			**Pb**	**03 57 42.2**	**-1.3**
RYN	**Ryan**	**2.95**	**20**			**Pn**	**03 57 40.2**	**+2.6**
TPNV	**Topopah Spring**	**3.06**	**68**	P		**Pn**	**03 57 41.0**	**+1.9**
	baz=250							
TPNV	**Topopah Spring**	**3.06**	**68**	Pn		**Pn**	**03 57 41.2**	**+2.0**
YERR	**Yerington**	**3.16**	**8**	Pn		**Pn**	**03 57 43.6**	**+3.1**
RUBR	**Rubicon Trail**	**3.21**	**355**			**Pn**	**03 57 42.5**	**+1.2**
AFDM	**Forest Hills D**	**3.23**	**343**			**Pn**	**03 57 42.3**	**+0.9**
PNTR	**Pine Nut**	**3.24**	**3**			**Pn**	**03 57 43.4**	**+1.8**
VCNR	**Virginia City**	**3.44**	**2**			**Pn**	**03 57 46.0**	**+1.6**
KVN	**Kaiserville**	**3.47**	**22**	Pn		**Pn**	**03 57 47.3**	**+2.5**
PFO	**Pinyon Flats O**	**3.54**	**128**	P		**Pn**	**03 57 46.3**	**+0.7**
	baz=310							
PFO	**Pinyon Flats O**	**3.54**	**128**	Pn		**Pn**	**03 57 46.4**	**+0.8**
XPFO	**Pion Flat**	**3.54**	**128**			**Pn**	**03 57 46.5**	**+0.8**
GMRC	**Granite Mounta**	**3.54**	**106**	P		**Pn**	**03 57 46.1**	**+0.4**
	baz=289							
TPFO	**Pinon Flats**	**3.54**	**128**	P		**Pn**	**03 57 46.6**	**+0.8**
	baz=310							
SHPR	**Sheep Range**	**3.80**	**79**			**Pn**	**03 57 51.3**	**+1.9**
ORV	**Oroville**	**3.94**	**340**			**Pn**	**03 57 53.5**	**+2.5**
BAR	**Barrett**	**4.08**	**140**	Pn		**Pn**	**03 57 54.4**	**+1.3**
W13A	**Hualapai Mount**	**4.88**	**97**	Pn		**Pn**	**03 58 07.0**	**+2.9**
GLA	**Glamis**	**4.96**	**123**	Pn		**Pn**	**03 58 05.8**	**+0.7**
U15A	**North Rim**	**6.10**	**82**			**Pn**	**03 58 22.6**	**+1.6**

IDC ***25*** *04:02:22.6±1.0, 51°.63N×178°.61E, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.7/47, mbtmp3.6/9, ML3.9/1, Error ellipse: s-maj=40.5km s-min=21.1km az=157.0*

AEIC ***25*** *04:02:34.2±1.6, 51°.7N±0°.1×178°.57E±0°.10, h89km±4km, Error ellipse: s-maj=18.8km s-min=8.4km az=183.0*

NEIC ***25*** *04:02:34.6±1.8, 51°.8N±0°.2×178°.76E±0°.10, h91km±5km, mb3.9/39, ML3.3/25(AEIC), Error ellipse: s-maj=24.1km s-min=8.5km az=184.0*

ISC 25 04:02:35.0±0.7, 51°.9N±0°.1×178°.70E±0°.06, h100km, n80, σ1^{9}17/81, mb3.8/21, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSSE	**Little Sitkin**	**0.11**	**315**		**Pn**	**04 02 47.0**	**-1.9**
LSPA	**Little Sitkin**	**0.13**	**323**		**Pn**	**04 02 46.9**	**-2.0**
LSSA	**Little Sitkin**	**0.15**	**310**		**Pn**	**04 02 47.1**	**-2.0**
LSNW	**Little Sitkin**	**0.16**	**316**		**Pn**	**04 02 46.9**	**-2.1**
CETU	**Semis' Tuman**	**0.51**	**77**		**Pn**	**04 02 49.3**	**-1.5**
CESW	**Semis' Southwe**	**0.54**	**85**		**Pn**	**04 02 49.1**	**-1.9**
CEAP	**Semis' Anvil P**	**0.56**	**74**		**Pn**	**04 02 49.8**	**-1.4**
CEAP					**Sn**	**04 03 01.2**	**-2.2**
CERB	**Semis' Cerberu**	**0.58**	**82**		**Sn**	**04 03 02.7**	**-1.0**
AMKA	**Amchitka**	**0.60**	**142**		**Pn**	**04 02 52.8**	**+1.3**
AMKA					**Sn**	**04 03 01.2**	**-2.8**
CERAA	**Semis' Rag'd T**	**0.61**	**85**		**Pn**	**04 02 49.7**	**-1.9**
GAEA	**Gareloi East**	**1.59**	**92**		**Pn**	**04 03 01.4**	**-0.9**
TASE	**Tanaga Southea**	**2.02**	**89**		**Pn**	**04 03 06.9**	**-1.0**
TAFP	**Tanaga Falls P**	**2.06**	**87**		**Pn**	**04 03 07.3**	**-0.9**
TAFP					**Sn**	**04 03 31.7**	**-2.0**
TAPA	**Tanaga Point A**	**2.16**	**90**		**Pn**	**04 03 08.9**	**-0.8**
TAPA					**Sn**	**04 03 35.6**	**-0.6**
KIMD	**Kanaga Island**	**2.52**	**90**		**Pn**	**04 03 13.3**	**-1.0**
KICM	**Kanaga Island**	**2.54**	**87**		**Pn**	**04 03 14.3**	**-0.3**
KINC	**Kanaga Island**	**2.59**	**87**		**Pn**	**04 03 14.3**	**-0.8**
ADK	**Adak**	**2.86**	**88**		**Pn**	**04 03 17.7**	**-1.1**
SMY	**Shemya**	**2.96**	**289**	Pn	**Pn**	**04 03 21.2**	**+1.1**
GSTD	**Great Sitkin T**	**3.20**	**84**		**Pn**	**04 03 22.4**	**-0.9**
GSTR	**Great Sitkin T**	**3.25**	**84**		**Pn**	**04 03 23.2**	**-0.8**
ATKA	**Atka Island**	**4.40**	**83**		**Pn**	**04 03 39.6**	**+0.1**
SPIA	**Saint Paul Isl**	**8.35**	**46**	Pn	**Pn**	**04 04 35.6**	**+2.6**
UNV	**Unalaska Valle**	**9.17**	**72**	Pn	**Pn**	**04 04 45.4**	**+1.1**
SII	**Sitkinak Islan**	**16.49**	**63**		**Pn**	**04 06 20.1**	**+0.1**
SVW2	**Sparrevohn**	**16.84**	**47**		**P**	**04 06 26.7**	**+1.9**
OHAK	**Old Harbor**	**17.05**	**61**	Pn	**Pn**	**04 06 25.5**	**-1.3**
OHAK				IAmb	IAmb	04 06 28.4	
	comp=Z,16nm,1.4s						
TTA	**Tatalina**	**17.43**	**41**	P	**Pn**	**04 06 32.7**	**+1.2**
KDAK	**Kodiak Island**	**17.49**	**59**	P	**P**	**04 06 29.8**	**-2.1**
	comp=Z,0.4nm,0.3s,baz=258,slow=9.3,SNR=7.1						
KDAK	**Kodiak Island**	**17.49**	**59**	P	**P**	**04 06 30.8**	**-1.1**
CNPM	**China Poot**	**18.47**	**54**	P	**P**	**04 06 43.3**	**+0.5**
SKT	**Skwentna**	**18.97**	**46**	P	**P**	**04 06 49.5**	**+1.4**
SKT				IAmb	IAmb	04 06 54.2	
	comp=Z,6.4nm,0.8s						
SUA	**Susitna One**	**19.17**	**48**	P	**P**	**04 06 51.3**	**+0.9**
SUA				IAmb	IAmb	04 06 56.2	
	comp=Z,7.7nm,1.3s						
SEW	**Seward**	**19.47**	**52**	P	**P**	**04 06 54.1**	**+0.6**
SEW				IAmb	IAmb	04 06 59.7	
	comp=Z,9.1nm,1.0s						
BPAW	**Bear Paw Mtn.**	**19.97**	**40**	P	**P**	**04 06 59.3**	**+0.4**
TRF	**Thorofare Moun**	**20.01**	**43**	P	**P**	**04 07 01.3**	**+1.8**
TRF				IAmb	IAmb	04 07 06.4	
	comp=Z,4.0nm,0.9s						
GHO	**Glory Hole Cre**	**20.09**	**48**	P	**P**	**04 07 01.1**	**+0.8**
RND	**Reindeer**	**20.60**	**43**		**P**	**04 07 06.9**	**+1.1**
GLI	**Glacier Island**	**20.76**	**51**	P	**P**	**04 07 07.2**	**-0.3**
GLI				IAmb	IAmb	04 07 07.9	
	comp=Z,6.0nm,0.7s						
SCM	**Sheep Creek Mo**	**20.84**	**48**	P	**P**	**04 07 08.4**	**-0.1**
SCM				IAmb	IAmb	04 07 13.6	
	comp=Z,5.4nm,1.0s						
HIN	**Hinchinbrook I**	**20.97**	**52**	P	**P**	**04 07 10.6**	**+0.9**
FID	**Port Fidalgo**	**21.04**	**51**	P	**P**	**04 07 10.8**	**+0.4**
FID				IAmb	IAmb	04 07 11.8	
	comp=Z,11nm,1.2s						
DHY	**Denali Highway**	**21.14**	**45**	P	**P**	**04 07 12.2**	**+0.5**
WRH	**Wood River Hil**	**21.28**	**41**	P	**P**	**04 07 13.7**	**+0.7**
MDM	**Murphy Dome**	**21.40**	**40**	P	**P**	**04 07 15.7**	**+1.4**
MDM				IAmb	IAmb	04 07 17.1	
	comp=Z,3.6nm,0.4s						
CCB	**Clear Creek Bu**	**21.46**	**41**	P	**P**	**04 07 15.8**	**+0.9**
RAGM	**Ragged Mountai**	**21.87**	**53**	P	**P**	**04 07 19.6**	**+0.3**
ILAR	**Eielson Array**	**21.87**	**41**	P	**P**	**04 07 19.7**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=245,slow=7.9,SNR=5.5						
PAX	**Paxson**	**21.95**	**46**	P	**P**	**04 07 21.0**	**+0.8**
PAX				IAmb	IAmb	04 07 22.6	
	comp=Z,11nm,1.4s						
RIDG	**Independent Ri**	**22.41**	**44**	P	**P**	**04 07 24.6**	**-0.5**
GLB	**Gilahina Butte**	**22.42**	**50**	P	**P**	**04 07 25.2**	**+0.1**
GLB				IAmb	IAmb	04 07 27.5	
	comp=Z,4.1nm,1.0s						
VRDI	**Verde Repeater**	**22.56**	**51**	P	**P**	**04 07 26.6**	**-0.1**
VRDI				IAmb	IAmb	04 07 28.2	
	comp=Z,7.1nm,1.3s						
TOLK	**Toolik Lake Re**	**22.61**	**30**	P	**P**	**04 07 27.4**	**+0.4**
TOLK				IAmb	IAmb	04 07 29.1	
	comp=Z,8.7nm,1.1s						
BCAR	**Beaver Creek A**	**23.61**	**46**	P	**P**	**04 07 37.5**	**+0.9**
TABL	**Table Mountain**	**23.62**	**53**	P	**P**	**04 07 36.5**	**-0.3**
TABL				IAmb	IAmb	04 07 38.6	
	comp=Z,4.4nm,0.6s						
EGAK	**Eagle**	**24.23**	**42**	P	**P**	**04 07 42.1**	**+0.1**
EGAK				IAmb	IAmb	04 07 43.0	
	comp=Z,4.4nm,1.1s						
DAWY	**Dawson**	**24.84**	**44**	P	**P**	**04 07 49.2**	**+1.6**
DAWY				IAmb	IAmb	04 07 50.8	
	comp=Z,2.4nm,0.7s						
HYT	**Haines Junctio**	**25.42**	**52**	P	**P**	**04 07 54.1**	**+1.1**
HYT				IAmb	IAmb	04 07 57.6	
	comp=Z,2.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**33.37**	**201**	T	T	04 44 31.4	
	baz=10						
H11N3	**WAKE ISLAND Hy**	**33.38**	**200**	T	T	04 44 32.6	
	baz=10,slow=74,SNR=4.5						
H11N1	**WAKE ISLAND Hy**	**33.38**	**201**	T	T	04 44 31.4	
	baz=10,slow=74,SNR=4.0						
YKA	**Yellowknife Ar**	**36.03**	**46**	P	**P**	**04 09 27.0**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=300,slow=8.0,SNR=2.5						
K05A	**Summer Lake**	**40.89**	**78**	P	**P**	**04 10 08.5**	**+1.3**
PNTR	**Pine Nut**	**43.83**	**82**	P	**P**	**04 10 33.1**	**+2.0**
BOZ	**Bozeman (W)**	**44.78**	**69**	P	**P**	**04 10 37.5**	**-1.0**
BOZ				IAmb	IAmb	04 10 38.7	
	comp=Z,1.3nm,0.6s						
NVAR	**Mina Array Bea**	**45.03**	**82**	P	**P**	**04 10 40.9**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=297,slow=6.5,SNR=4.7						
NVAR	**Mina Array Bea**	**45.03**	**82**	P	**P**	**04 10 41.2**	**+0.5**
DUG	**Dugway, Tooele**	**47.27**	**76**	P	**P**	**04 10 58.0**	**-0.2**
DUG				IAmb	IAmb	04 10 59.1	
	comp=Z,1.1nm,0.6s						
PDAR	**Pinedale Array**	**47.64**	**71**	P	**P**	**04 11 00.8**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=302,slow=3.4,SNR=10						
PDAR	**Pinedale Array**	**47.64**	**71**	P	**P**	**04 11 00.5**	**-0.5**
SRU	**San Rafael Swe**	**49.33**	**76**	P	**P**	**04 11 14.9**	**+0.9**
SPA0	**Spitsbergen Ar**	**49.78**	**355**	P	**P**	**04 11 16.7**	**0.0**
U15A	**North Rim**	**49.99**	**79**	P	**P**	**04 11 20.1**	**+1.0**
U15A				IAmb	IAmb	04 11 21.0	
	comp=Z,1.8nm,1.0s						
MKAR	**Makanchi Array**	**58.51**	**307**	P	**P**	**04 12 20.4**	**0.0**
	comp=Z,0.3nm,0.5s,baz=46,slow=4.8,SNR=5.4						
MKAR	**Makanchi Array**	**58.51**	**307**	P	**P**	**04 12 21.1**	**+0.7**
TX32	**Lajitas Array**	**60.11**	**80**	P	**P**	**04 12 32.3**	**+0.5**
TXAR	**Lajitas Array**	**60.11**	**80**	P	**P**	**04 12 32.0**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=312,slow=6.1,SNR=7.3						
TXAR	**Lajitas Array**	**60.11**	**80**	P	**P**	**04 12 31.6**	**-0.2**
WRA	**Warramunga Arr**	**81.30**	**222**	P	**P**	**04 14 39.6**	**-0.5**
	comp=Z,1.1nm,0.9s,baz=30,slow=6.0,SNR=1.0						
ASAR	**Alice Springs**	**84.81**	**220**	P	**P**	**04 14 58.2**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=22,slow=5.3,SNR=2.1						

IDC ***25*** *04:04:01.7±1.0, 8°.65S×157°.61E, h0km, mb4.0/6, mb1 4.2/7, mb1mx3.9/36, mbtmp4.0/7, ML4.2/1, Error ellipse: s-maj=31.1km s-min=20.7km az=158.0*

NEIC ***25*** *04:04:02.6±2.4, 8°.90S±0°.07×157°.75E±0°.07, h10km±1km, mb4.4/8, Error ellipse: s-maj=15.8km s-min=5.2km az=139.0*

ISC 25 04:04:03.7±0.7, 8°.9S±0°.1×157°.76E±0°.06, h17km, n20, σ1^{9}21/22, mb4.2/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**2.23**	**105**	Pn	**Pb**	**04 04 42.2**	**-1.3**
	54nm,0.3s,baz=263,slow=3.8,SNR=6.7						
HNR				Sn	**Sg**	**04 05 15.3**	**-0.1**
	238nm,0.3s,baz=352,slow=18,SNR=16						
HNR	**Honiara**	**2.23**	**105**		**Pn**	**04 04 39.5**	**-0.3**
HNR				Sn	**Sn**	**04 05 06.7**	**-0.3**
SANVU	**Saraoutou**	**11.30**	**126**	Pn	**Pn**	**04 06 45.6**	**+1.1**
COEN	**Coen**	**15.16**	**249**	Pn	**Pn**	**04 07 36.7**	**-0.6**
COEN				IAmb	IAmb	04 07 53.4	
	comp=Z,9.4nm,1.1s						
PATS	**Pohnpei**	**15.62**	**2**	Pn	**Pn**	**04 07 42.7**	**-0.4**
CTA	**Charters Tower**	**15.75**	**224**	Pn	**P**	**04 07 48.9**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=34,slow=15,SNR=2.3						
CTAO	**Charters Tower**	**15.75**	**224**	Pn	**P**	**04 07 46.3**	**-2.5**
WB0	**Warramunga Arr**	**25.06**	**242**	P	**P**	**04 09 26.2**	**-1.3**
WB0				IAmb	IAmb	04 09 33.2	
	comp=Z,9.9nm,0.9s						
WB2	**Warramunga Arr**	**25.17**	**242**	P	**P**	**04 09 28.6**	**+0.2**
WB2				IAmb	IAmb	04 09 34.6	
	comp=Z,13nm,1.1s						
WRA	**Warramunga Arr**	**25.18**	**242**	P	**P**	**04 09 29.1**	**+0.6**
	comp=Z,3.3nm,1.0s,baz=67,slow=9.4,SNR=4.7						
ASAR	**Alice Springs**	**27.15**	**234**	P	**P**	**04 09 46.2**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=72,slow=9.5,SNR=5.0						
STKA	**Stephens Creek**	**27.38**	**211**	P	**P**	**04 09 50.6**	**+2.3**
	comp=Z,3.8nm,0.8s,baz=42,slow=12,SNR=7.4						
STKA	**Stephens Creek**	**27.38**	**211**	P	**P**	**04 09 46.8**	**-1.5**
CAN	**Canberra**	**27.52**	**196**	P	**P**	**04 09 51.1**	**+1.5**
QSPA	**South Pole Qui**	**81.11**	**180**	P	**P**	**04 16 18.6**	**+0.6**
QSPA				IAmb	IAmb	04 16 38.6	
	comp=Z,5.5nm,1.3s						
ILAR	**Eielson Array**	**84.13**	**21**	P	**P**	**04 16 33.0**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=256,slow=4.6,SNR=6.7						
MKAR	**Makanchi Array**	**86.62**	**318**	P	**P**	**04 16 46.4**	**0.0**
	comp=Z,0.2nm,0.5s,baz=149,slow=3.4,SNR=2.8						
NVAR	**Mina Array Bea**	**90.73**	**51**	P	**P**	**04 17 07.8**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=246,slow=6.9,SNR=6.5						
NVAR	**Mina Array Bea**	**90.73**	**51**	P	**P**	**04 17 08.1**	**+1.7**
BDFB	**Brasilia**	**144.71**	**134**	PKP	**PKPdf**	**04 23 40.6**	**-0.2**
	comp=Z,4.4nm,0.8s,baz=212,slow=4.7,SNR=8.5						

INET ***25*** *04:15:47.3, 11°.07N×87°.25W, h14km, ML3.1*

SNET 25 04:15:55.8±0.7, 11°.59N×87°.42W, h32km±76km, ML3.0, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**1.77**	**345**	*e*P	Pn	04 16 23.9	-0.2
LCND				*e*S	Sn	04 16 46.6	+1.0
LCND				IAML		04 17 02.0	
	comp=Z,216nm,0.3s						
JUCU	**Jucuarįn**	**1.84**	**334**	*e*P	Pn	04 16 25.6	+0.4
JUCU				IAML		04 17 06.7	
	comp=Z,174nm,0.4s						
COEB	**Comit de Eme**	**2.18**	**330**	*e*P	Pn	04 16 29.8	-0.2
FAGO	**Alcalda de S**	**2.19**	**342**	*e*P	Pn	04 16 30.1	0.0
TGUH	**Tegucigalpa,Un**	**2.45**	**3**	*e*P	Pn	04 16 33.6	-0.1
PAVA	**Las Pavas**	**2.58**	**325**	*e*P	Pn	04 16 36.2	+0.8
LFRS	**El Faro**	**2.58**	**322**	*e*P	Pn	04 16 36.0	+0.5
LFRS				*e*S	Sn	04 17 06.8	+1.1
TACO	**Tacachico**	**3.03**	**322**	*e*P	Pn	04 16 42.1	+0.6
NUBE	**Las Nubes**	**3.25**	**315**	*e*

WCZ Waipu Caves 16.99 204 P P 04 29 49.8 -1.1
KUZ Kuaotunu 17.23 200 P Pn 04 29 56.7 -0.2
WMGZ Waiomatatini S 17.57 192 P P 04 29 56.9 -0.3
WMGZ S S 04 32 58.4 -4.6
HAZ Te Kaha 17.64 193 P P 04 29 57.1 -0.8
HAZ S S 04 33 00.3 -4.0
PKGZ Pakihiroa 17.71 192 P P 04 29 56.2 -2.5
PKGZ S S 04 33 01.2 -4.6
PUZ Puketiti 17.85 192 P P 04 29 59.6 -0.5
PUZ S S 04 33 01.2 -7.3
URZ Urewera 18.27 194 P P 04 30 02.0 -2.6
URZ S S 04 33 14.8 -2.0
TKGZ Te Karaka 18.29 193 P P 04 30 04.9 +0.1
KNTN Kanton 18.51 17 P P 04 30 04.6 -2.7
RIGZ Rimuhau 18.56 193 P P 04 30 06.9 -0.9
RIGZ S S 04 33 18.8 -3.7
TLZ Tolley Road 18.75 198 P P 04 30 12.1 +2.3
KNZ Kokohu 18.88 192 P P 04 30 09.4 -1.7
MHGZ Mahia Peninsul 18.96 192 P P 04 30 13.1 +1.1
NMHZ Naumai 19.14 194 P P 04 30 11.7 -2.3
ARHZ Aropaoanui 19.26 194 P P 04 30 14.7 -0.5
BKZ Black Stump Fm 19.28 195 P P 04 30 14.6 -0.9
MCHZ McNeill Hill 19.50 194 P P 04 30 18.2 +0.5
KWHZ Kaweka Forest 19.55 195 P P 04 30 17.0 -1.3
FWVZ Far West T-bar 19.61 197 P P 04 30 16.4 -2.7
CKHZ Cape Kidnapper 19.62 193 P P 04 30 19.6 +0.6
WHVZ Whangaehu Hut 19.63 197 P P 04 30 17.3 -2.0
VRZ Vera Road 19.72 199 P P 04 30 21.8 +1.8
KAHZ Kahuranaki 19.79 194 P P 04 30 20.0 -0.8
PXZ Pawanui 20.02 193 P P 04 30 22.5 -0.7
BFZ Birch Farm 20.78 194 P P 04 30 28.6 -1.9
BFZ IAmb IAmb 04 30 30.2
comp=Z,80nm,0.7s
QRZ Quartz Range 21.98 201 P P 04 30 41.2 -0.3
TUWZ Tuamarina 22.08 198 P P 04 30 42.3 -0.1
TARA Tarawa 23.88 335 P P 04 30 57.8 -1.2
RPZ Rata Peaks 25.05 200 P P 04 31 08.8 -0.5
comp=Z,31nm,0.7s,baz=231,slow=2.1,SNR=8.0
RPZ Rata Peaks 25.05 200 P P 04 31 09.0 -0.3
RPZ IAmb IAmb 04 31 18.6
comp=Z,60nm,1.2s
EIDS Eidsvold 29.56 255 P P 04 31 49.6 +0.1
baz=30,SNR=7.1
EIDS Eidsvold 29.56 255 P P 04 31 49.4 0.0
EIDS IAmb IAmb 04 31 50.6
comp=Z,44nm,0.8s
XMAS Kiritimati 29.68 43 P P 04 31 50.1 -0.5
ARMA Armidale 29.71 244 P P 04 31 51.5 +0.6
baz=30,SNR=13
ARMA Armidale 29.71 244 P P 04 31 51.3 +0.4
MGCD Mangrove Creek 30.81 239 P P 04 32 01.2 +0.8
baz=31,SNR=12
RMQ Roma 31.70 253 P P 04 32 09.2 +1.0
baz=32,SNR=38
CNB Canberra Magne 32.80 236 P P 04 32 18.1 +0.4
baz=33,SNR=31
KWAJ Kwajalein Atol 32.83 331 P P 04 32 17.4 -0.6
KWAJ pmax pmax
comp=Z,187nm,0.7s
KWAJ Kwajalein Atol 32.83 331 P P 04 32 17.4 -0.6
CAN Canberra 33.09 236 P P 04 32 20.5 +0.4
CAN pmax pmax
comp=Z,88nm,1.0s
CAN Canberra 33.09 236 P P 04 32 20.5 +0.4
CAN IAmb IAmb 04 32 21.8
comp=Z,88nm,1.0s
YNG Young 33.28 239 P P 04 32 22.3 +0.5
baz=34,SNR=9.7
CTAO Charters Tower 34.24 264 P P 04 32 30.5 +0.4
CTAO pmax pmax
comp=Z,121nm,1.1s
CTAO Charters Tower 34.24 264 P P 04 32 30.5 +0.4
CMSA Cobar Meteorol 34.93 244 P P 04 32 35.5 -0.3
baz=35,SNR=24
QLP Quilpie 35.76 253 P P 04 32 42.7 -0.2
baz=36,SNR=7.0
PMG Port Moresby 36.11 283 P P 04 32 45.8 -0.2
PMG pmax pmax
comp=Z,76nm,0.9s
PMG Port Moresby 36.11 283 P P 04 32 45.8 -0.2
PMG IAmb IAmb 04 32 47.0
comp=Z,76nm,0.9s
MTSU Mount Surprise 36.35 267 P P 04 32 48.2 +0.2
baz=37,SNR=28
PATS Pohnpei 36.38 316 P P 04 32 47.9 -0.4
baz=37
PATS Pohnpei 36.38 316 P P 04 32 47.1 -1.1
TOO Toolangi 36.45 234 P P 04 32 49.3 +0.7
baz=37,SNR=48
TOO Toolangi 36.45 234 P P 04 32 49.4 +0.7
TOO pmax pmax
comp=Z,81nm,0.7s
TOO Toolangi 36.45 234 P P 04 32 49.4 +0.7
TAU Tasmania Unive 37.09 225 P P 04 32 54.5 +0.6
TAU pmax pmax
comp=Z,46nm,0.8s
TAU Tasmania Unive 37.09 225 P P 04 32 54.5 +0.6
TAU IAmb IAmb 04 32 55.3
comp=Z,46nm,0.8s
COEN Coen 38.35 273 P P 04 33 04.9 +0.1
baz=39,SNR=20
COEN Coen 38.35 273 P P 04 33 05.1 +0.4
COEN IAmb IAmb 04 33 06.1
comp=Z,54nm,0.9s
STKA Stephens Creek 38.43 244 P P 04 33 04.9 -0.3
baz=39,SNR=32
STKA Stephens Creek 38.43 244 P P 04 33 04.9 -0.3
comp=Z,41nm,0.9s,baz=94,slow=10.0,SNR=36
STKA Stephens Creek 38.43 244 P P 04 33 05.2 0.0
STKA pmax pmax
comp=Z,9.0nm,0.9s
STKA Stephens Creek 38.43 244 P P 04 33 05.2 0.0
ARPS Mount Arapiles 39.07 237 P P 04 33 10.7 +0.4
baz=39,SNR=11
QIS Mount Isa 40.36 262 P P 04 33 21.0 -0.2
baz=41,SNR=3.2
HTT Hallett 40.85 242 P P 04 33 24.6 -0.4
baz=41,SNR=14
WAKE Wake Island 42.69 337 P P 04 33 38.9 -0.9
WAKE IAmb IAmb 04 33 41.9
comp=Z,108nm,0.8s
BBOO Buckleboo 43.19 244 P P 04 33 42.9 -0.8
baz=44,SNR=25
BBOO Buckleboo 43.19 244 P P 04 33 43.0 -0.8
BBOO IAmb IAmb 04 33 44.8
comp=Z,71nm,0.9s
JAY Jayapura 44.80 288 P P 04 33 56.2 -0.5
comp=Z,26nm,0.8s,baz=134,slow=4.7,SNR=15
JAY Jayapura 44.80 288 P P 04 33 57.0 +0.3
comp=Z,20nm,0.8s
KHU Kahuku 44.89 29 P P 04 33 57.2 -0.3
KHU pmax pmax
comp=Z,103nm,0.9s
KHU Kahuku 44.89 29 P P 04 33 57.1 -0.3
KHU IAmb IAmb 04 34 03.9
comp=Z,103nm,0.9s
KHLU Kahalu`u 45.06 29 P P 04 33 58.4 -0.2
WR0 Warramunga Arr 45.15 262 P P 04 33 58.2 -1.2
HUH Hualalai 45.17 29 P P 04 33 59.3 -0.4
PUH Pauahi 45.18 30 P P 04 33 59.2 -0.4
PUH IAmb IAmb 04 34 00.4
comp=Z,102nm,0.8s
AS31 Alice Springs 45.24 257 P P 04 33 59.6 -0.4
ASAR Alice Springs 45.24 257 P P 04 33 59.5 -0.6
comp=Z,105nm,0.8s,baz=88,slow=8.3,SNR=426
ASAR ScP ScP 04 38 57.0 +1.1
comp=Z,1.6nm,0.8s,baz=89,slow=3.9,SNR=4.4
ASAR S S 04 40 13.2 -2.6
comp=Z,3.1nm,0.9s,baz=95,slow=16,SNR=12
ASAR Alice Springs 45.24 257 P P 04 33 59.1 -0.9
HMH Humu'ula Sheep 45.26 29 P P 04 34 00.4 0.0
WB0 Warramunga Arr 45.32 262 P P 04 33 59.8 -0.9
WB0 IAmb IAmb 04 34 00.6
comp=Z,66nm,0.8s
WB2 Warramunga Arr 45.33 262 P P 04 33 59.8 -1.0
baz=46
WB2 Warramunga Arr 45.33 262 P P 04 33 59.6 -1.2
WB2 IAmb IAmb 04 34 00.8
comp=Z,84nm,0.9s
WRAB Tennant Creek 45.33 262 c i P P 04 33 59.7 -1.1
WRAB pmax pmax
comp=Z,84nm,1.0s
WRA Warramunga Arr 45.34 262 P P 04 34 00.0 -0.9
comp=Z,42nm,0.7s,baz=96,slow=7.4,SNR=114
WRA PP PP 04 35 53.5 +1.0
comp=Z,7.6nm,1.0s,baz=94,slow=9.1,SNR=5.6
WRA S S 04 40 14.2 -3.1
comp=Z,3.0nm,0.9s,baz=126,slow=17,SNR=7.1
POHA Pohakuloa 45.37 29 P P 04 34 00.9 -0.3
POHA IAmb IAmb 04 34 10.8
comp=Z,97nm,0.8s
HPAH Hawaii Prepara 45.53 29 P P 04 34 01.8 -0.5
KIP Kipapa 45.78 25 c i P P 04 34 04.3 +0.2
KIP pmax pmax
comp=Z,167nm,1.2s
KIP Kipapa 45.78 25 P P 04 34 03.7 -0.4
KIP IAmb IAmb 04 34 05.6
comp=Z,135nm,1.1s
HLK Haleakala 45.93 28 P P 04 34 05.3 -0.3
HLK IAmb IAmb 04 34 06.5
comp=Z,152nm,1.0s
KHLH Kahului Airpor 45.97 27 P P 04 34 05.5 0.0
SMPI Sarmi 46.82 287 P P 04 34 12.2 -0.1
comp=Z,731nmcomp=Z,17nm,1.6s
KDU Kakadu 48.72 271 P P 04 34 26.1 -0.7
baz=49,SNR=14
MTN Manton Dam 49.93 270 P P 04 34 35.1 -0.8
baz=50,SNR=4.7
MTN Manton Dam 49.93 270 P P 04 34 35.0 -0.8
MTN IAmb IAmb 04 34 35.9
comp=Z,56nm,1.0s
FORT Forrest 49.95 247 P P 04 34 34.8 -1.1
baz=50,SNR=16
FORT Forrest 49.95 247 P P 04 34 34.9 -0.9
FORT IAmb IAmb 04 34 37.1
comp=Z,71nm,0.9s
WRKA Warakurna 50.17 254 P P 04 34 36.8 -0.8
baz=50,SNR=99
KNRA Kununurra 51.41 266 P P 04 34 46.5 -0.4
baz=52,SNR=25
KNRA Kununurra 51.41 266 P P 04 34 46.5 -0.4
FAKI Fak Fak 52.27 283 P P 04 34 52.9 -0.3
FITZ Fitzroy Crossi 53.77 262 P P 04 35 03.8 -0.1
baz=54,SNR=12
FITZ Fitzroy Crossi 53.77 262 P P 04 35 03.9 -0.1
NLAI Namlea 56.87 280 P P 04 35 26.3 +0.3
comp=Z,69nm,1.1s
SOEI Soe 57.27 272 P P 04 35 30.0 +1.1
comp=Z,2µmcomp=Z,244nm,0.9s
SOEI Soe 57.27 272 P P 04 35 29.6 +0.7
VNDA Vanda 57.88 185 P P 04 35 33.9 +1.9
comp=Z,9.6nm,1.0s,baz=358,slow=7.5,SNR=41
VNDA ScP ScP 04 39 51.4 +1.9
comp=Z,4.2nm,0.8s,baz=351,slow=4.0,SNR=11
VNDA Vanda 57.88 185 P P 04 35 33.1 +1.2
VNDA pmax pmax
comp=Z,14nm,1.2s
VNDA Vanda 57.88 185 P P 04 35 33.1 +1.2
TNTI Ternate 58.23 284 P P 04 35 35.6 +0.2
comp=Z,70nm,1.0s
TNTI Ternate 58.23 284 P P 04 35 35.0 -0.4
TNTI IAmb IAmb 04 35 36.5
comp=Z,50nm,0.8s
PSA00 Pilbara Seismi 58.39 257 P P 04 35 35.7 -0.8
PSA00 IAmb IAmb 04 35 36.6
comp=Z,44nm,0.9s
MEEK Meekatharra 58.61 251 P P 04 35 36.7 -1.2
baz=59,SNR=6.4
KLBR Kellerberrin 58.70 245 P P 04 35 37.9 -0.6
baz=59,SNR=8.1
NWAO Narrogin (SRO) 59.01 243 P P 04 35 41.0 +0.5
NWAO pmax pmax
comp=Z,25nm,1.1s
NWAO Narrogin (SRO) 59.01 243 P P 04 35 41.0 +0.5
MMRI Maumere 59.52 272 P P 04 35 44.7 +0.4
comp=Z,5µmcomp=Z,135nm,0.7s
MMRI Maumere 59.52 272 P P 04 35 44.2 -0.1
BLDU Ballidu 59.71 246 P P 04 35 44.5 -0.8
baz=60,SNR=6.5
MORW Morawa 60.49 248 P P 04 35 50.0 -0.7
baz=61,SNR=3.7
MORW Morawa 60.49 248 P P 04 35 49.9 -0.7
LUWI Luwuk 61.70 280 P P 04 35 58.9 0.0
BNSI Bone 62.94 276 P P 04 36 08.2 +1.2
comp=Z,55nm,1.1s
KCP Kidapawan 62.99 290 i P P 04 36 07.8 +0.4
KAPI Kappang 63.05 275 P P 04 36 07.3 -0.5
KAPI pmax pmax
comp=Z,16nm,0.9s
KAPI Kappang 63.05 275 P P 04 36 07.3 -0.5
MRSI Marisa 63.06 282 P P 04 36 08.6 +0.8
comp=Z,38nm,0.6s
SPSI Sidrap Palu 63.41 276 P P 04 36 09.7 -0.4
comp=Z,34nm,0.8s
PLAI Plampang 63.64 270 P P 04 36 11.9 +0.3
comp=Z,103nm,0.9s
CASY Casey 64.20 205 P P 04 36 14.4 +0.1
CASY IAmb IAmb 04 36 17.6
comp=Z,41nm,0.9s
MPSI Mapaga 64.89 280 P P 04 36 19.6 0.0
comp=Z,4µmcomp=Z,56nm,1.0s
JHJ2 Mitsune 67.37 322 P P 04 36 34.5 -0.3
QSPA South Pole Qui 69.46 180 P P 04 36 48.8 +1.3
comp=Z,38nm,0.9s,baz=27,slow=1.2,SNR=153
QSPA South Pole Qui 69.46 180 P P 04 36 48.5 +1.0
QSPA IAmb IAmb 04 36 49.9
comp=Z,40nm,0.9s
KKM Kota Kinabalu 70.53 285 P P 04 36 55.1 +0.4
KKM IAmb IAmb 04 36 56.7
comp=Z,18nm,0.5s
MJAR Matsushiro Arr 70.75 323 P P 04 36 55.0 -0.6
comp=Z,11nm,0.6s,baz=162,slow=6.3,SNR=37
MJAR Matsushiro Arr 70.75 323 P P 04 36 54.9 -0.6
MJAR pmax pmax
comp=Z,7.0nm,0.6s
MJAR Matsushiro Arr 70.75 323 P P 04 36 54.9 -0.6
MAJO Matsushiro 70.75 323 P P 04 36 55.4 -0.1
MAJO pmax pmax
comp=Z,17nm,0.7s
MAJO Matsushiro 70.75 323 P P 04 36 55.4 -0.1
MAJO IAmb IAmb 04 36 56.0
comp=Z,17nm,0.7s
MAT Matsushiro 70.75 323 P P 04 36 55.0 -0.5
MAT S S 04 45 44.2 +0.5
MJB9 Matsu-Tunnel 70.75 323 P P 04 36 55.2 -0.3
MJB9 IAmb IAmb 04 36 55.9
comp=Z,17nm,0.7s
ADK Adak 72.18 0 P P 04 37 02.2 -1.3
ADK pmax pmax
comp=Z,28nm,0.9s
ADK Adak 72.18 0 P P 04 37 02.2 -1.3
ADK IAmb IAmb 04 37 06.3
comp=Z,28nm,0.9s
ATKA Atka Island 72.54 2 P P 04 37 04.2 -1.5
ATKA IAmb IAmb 04 37 04.9
comp=Z,39nm,1.0s
JNU Nakatsue 72.88 316 P P 04 37 08.8 +0.6
JKA Kamikawa-asahi 74.18 331 P P 04 37 16.2 +0.8
KSM Kuching 74.18 278 P P 04 37 16.3 +0.2
KSM IAmb IAmb 04 37 17.8
comp=Z,37nm,1.1s
KSM Kuching 74.18 278 P P 04 37 17.0 +0.9
ASAJ Asahikawa 74.19 331 P P 04 37 16.2 +0.8
ASAJ pmax pmax
comp=Z,45nm,0.8s
UNV Unalaska Valle 74.71 7 P P 04 37 16.8 -1.4
AKUT Akutan 75.08 7 P P 04 37 19.4 -0.8
YSS Yuzh-Sakhalins 76.33 333 i P P 04 37 28.3 +0.8
YSS pmax pmax
comp=Z,70nm,1.2s
YSS Yuzh-Sakhalins 76.33 333 P P 04 37 28.1 +0.7
PEA0B Petropavlovsk- 76.57 345 P P 04 37 27.9 -0.8
PEA0B pmax pmax
comp=Z,17nm,0.8s
PEA0B Petropavlovsk- 76.57 345 P P 04 37 27.9 -0.8
PEA0B IAmb IAmb 04 37 28.4
comp=Z,17nm,0.8s
PETK Petropavlovsk- 76.57 345 P P 04 37 28.1 -0.5
comp=Z,12nm,0.6s,baz=140,slow=7.8,SNR=14
PETK Petropavlovsk- 76.57 345 P P 04 37 28.0 -0.7
PPBI Pangkal Pinang 76.77 273 P P 04 37 31.6 +0.8
SCZ2 Santa Cruz Isl 77.12 46 P P 04 37 33.2 +1.0
baz=234
SBC Santa Barbara 77.33 46 P P 04 37 34.9 +1.6
baz=234
KSRS Korea Array 77.47 318 P P 04 37 34.3 +0.2
comp=Z,1.2nm,0.6s,baz=143,slow=6.3,SNR=6.0
KSAR Wonju Array Be 77.49 318 P P 04 37 34.3 +0.2
KSAR Wonju Array Be 77.49 318 P P 04 37 34.3 +0.2
PKM Mcpherson Peak 77.52 45 P P 04 37 35.9 +1.2
baz=234
SAO San Andreas Ge 77.58 43 P P 04 37 35.7 +1.0
SAO pmax pmax
comp=Z,42nm,0.9s
SAO San Andreas Ge 77.58 43 P P 04 37 35.6 +1.0
CIS Catalina Islan 77.61 47 P P 04 37 35.8 +0.8
baz=235
SMMC Simmler 77.65 45 P P 04 37 36.8 +1.7
baz=234
PMPB Monarch Peak 77.67 44 P P 04 37 36.5 +1.3
PMPB IAmb IAmb 04 37 37.4
comp=Z,34nm,0.8s
MDSI Maura Dua 77.81 270 P P 04 37 37.0 +0.5
comp=Z,21nm,1.1s
HOPS Hopland Field 77.95 40 P P 04 37 37.2 +0.5
HOPS IAmb IAmb 04 37 39.0
comp=Z,51nm,1.1s
OSI Osito Audit: C 78.09 46 P P 04 37 39.0 +1.4
baz=234
DECC Green Verdugo 78.15 46 P P 04 37 38.7 +0.8
baz=235
109C Camp Elliot, M 78.22 48 P P 04 37 39.4 +1.1
baz=236
CHIR Chirikof Islan 78.30 12 P P 04 37 37.5 -0.6
ARVC Arvin 78.32 45 P P 04 37 39.8 +1.1
baz=234
MWC Mount Wilson 78.32 47 P P 04 37 40.1 +1.1
MWC pmax pmax
comp=Z,23nm,0.8s
MWC Mount Wilson 78.32 47 P P 04 37 40.1 +1.1
MWC IAmb IAmb 04 37 40.5
comp=Z,23nm,0.8s
KMRM Mail Ridge 78.35 39 P P 04 37 40.3 +1.4
JCC Jacoby Creek, 78.55 38 P P 04 37 40.8 +1.0
JCC IAmb IAmb 04 37 42.4
comp=Z,33nm,1.1s
MURC Murrieta 78.56 48 P P 04 37 41.2 +1.0
baz=236,SNR=8.9
VES Vestal, Richgr 78.56 45 P P 04 37 41.0 +1.0
baz=234,SNR=13
BFSC Mount Baldy Ra 78.60 47 P P 04 37 41.4 +1.0
baz=235,SNR=8.9
VOG Valley Oaks Go 78.65 44 P P 04 37 41.2 +0.7
baz=234
MONP2 Monument Peak 78.70 48 P P 04 37 42.5 +1.3
baz=236,SNR=15
EDW2 Edwards Air Fo 78.74 46 P P 04 37 42.4 +1.3
baz=235,SNR=22
IKP In-Ko-Pah, Jac 78.79 49 P P 04 37 42.7 +1.2
baz=237,SNR=7.8
MSHR Mys Shultsa 78.85 324 i P P 04 37 42.4 +1.0
MSHR pmax pmax
comp=Z,16nm,1.0s
ISA Isabella, Lake 78.86 45 P P 04 37 43.0 +1.2
baz=234,SNR=27
ISA Isabella, Lake 78.86 45 P P 04 37 42.8 +1.0
ISA pmax pmax
comp=Z,40nm,0.9s
ISA Isabella, Lake 78.86 45 P P 04 37 42.8 +1.0
O02D Mt. Diablo Mer 78.87 39 P P 04 37 43.4 +1.6
baz=231,SNR=20
SLBS Sierra La Lagu 78.90 59 P P 04 37 43.0 +0.7
CMB Columbia Colle 79.02 42 P P 04 37 43.7 +1.1
CMB pmax pmax
comp=Z,33nm,0.9s
CMB Columbia Colle 79.02 42 P P 04 37 43.7 +1.1
CMB IAmb IAmb 04 37 44.6
comp=Z,33nm,0.8s
KRMB Red Mountain 79.07 38 P P 04 37 44.1 +1.3
PFO Pinyon Flats O 79.07 48 P P 04 37 44.2 +1.1
baz=236,SNR=11
PFO Pinyon Flats O 79.07 48 P P 04 37 43.1 +0.1
comp=Z,14nm,0.9s,baz=264,slow=4.1,SNR=14
PFO Pinyon Flats O 79.07 48 P P 04 37 43.9 +0.8
PFO pmax pmax
comp=Z,22nm,1.1s
PFO Pinyon Flats O 79.07 48 P P 04 37 43.9 +0.8
PFO IAmb IAmb 04 37 45.4
comp=Z,22nm,1.1s
BBRC Big Bear Solar 79.12 47 P P 04 37 44.6 +1.2
baz=236
SWSC Sam W. Stewart 79.17 49 P P 04 37 44.7 +1.3
baz=237
SII Sitkinak Islan 79.28 13 P P 04 37 43.3 -0.1
RRX Edison Barstow 79.41 47 P P 04 37 45.7 +1.0
baz=236
N02D Trinity Center 79.42 39 P P 04 37 46.2 +1.5
baz=231,SNR=27
TYV Tymovskoe 79.45 335 e P P 04 37 44.1 -0.4
TYV pmax pmax
comp=Z,22nm,1.3s
USA0B Ussuriysk Arra 79.48 325 c i P P 04 37 45.7 +0.9
USRK Ussuriysk Ar. 79.48 325 P P 04 37 45.2 +0.4
comp=Z,14nm,0.8s,baz=126,slow=3.3,SNR=28
USRK Ussuriysk Ar. 79.48 325 P P 04 37 45.4 +0.6
USRK Ussuriysk Ar. 79.48 325 P P 04 37 45.4 +0.6
O03E Paynes Creek 79.53 40 P P 04 37 46.1 +0.8
baz=232,SNR=22
CWC Cottonwood Cre 79.57 45 P P 04 37 46.7 +1.0
baz=235
M02C Callahan 79.60 38 P P 04 37 47.3 +1.7
baz=231,SNR=29
BELC Belle Mtn. Jos 79.61 48 P P 04 37 47.3 +1.4
baz=236,SNR=20
MDPB Devils Postpil 79.61 43 P P 04 37 47.1 +1.1
MDPB IAmb IAmb 04 37 48.2
comp=Z,30nm,0.9s
MPMC Manual Prospec 79.75 45 P P 04 37 47.8 +1.1
baz=235,SNR=15
GSC Goldstone, Bar 79.78 46 P P 04 37 47.9 +1.2
baz=236,SNR=11
GSC Goldstone, Bar 79.78 46 P P 04 37 46.9 +0.2
GSC pmax pmax
comp=Z,24nm,1.1s
GSC Goldstone, Bar 79.78 46 P P 04 37 46.9 +0.2
GSC IAmb IAmb 04 37 49.0
comp=Z,24nm,1.1s
RUBR Rubicon Trail 79.78 42 P P 04 37 47.5 +0.7
RUBR IAmb IAmb 04 37 54.4
comp=Z,24nm,0.8s
BC3 Big Chuckawall 79.80 48 P P 04 37 48.4 +1.5
baz=237,SNR=6.3
TIN Tinemaha, Big 79.83 44 P P 04 37 48.4 +1.4
baz=234
HEC Hector,Ludlow 79.83 47 P P 04 37 48.1 +1.0
baz=236,SNR=10
YBH Yreka Blue Hor 79.90 38 P P 04 37 48.7 +1.5
comp=Z,27nm,0.7s,baz=201,slow=0.8,SNR=122
YBH Yreka Blue Hor 79.90 38 P P 04 37 48.2 +1.0
YBH pmax pmax
comp=Z,31nm,0.8s
YBH Yreka Blue Hor 79.90 38 P P 04 37 48.2 +1.0
YBH IAmb IAmb 04 37 49.7
comp=Z,31nm,0.8s
WAKR Walker 79.90 42 P P 04 37 48.5 +1.1
GLA Glamis 79.91 49 P P 04 37 49.2 +1.7
baz=237
K02D Willamette Mer 79.96 37 P P 04 37 48.8 +1.2
baz=230,SNR=7.6
OHAK Old Harbor 80.08 13 P P 04 37 47.4 -0.2
OHAK IAmb IAmb 04 37 48.3
comp=Z,31nm,1.0s
J01E Myrtle Point 80.12 37 P P 04 37 49.5 +1.3
baz=230
PNTR Pine Nut 80.15 42 P P 04 37 50.1 +1.3
VCNR Virginia City 80.24 42 P P 04 37 50.5 +1.2
VCNR IAmb IAmb 04 37 51.5
comp=Z,28nm,0.8s
GMRC Granite Mounta 80.27 47 P P 04 37 50.6 +1.1
baz=236,SNR=12
IRM Iron Mountain 80.29 48 P P 04 37 50.9 +1.5
baz=237,SNR=9.0
MYKOM Kota Tinggi 80.31 276 P P 04 37 51.0 +1.1
YERR Yerington 80.31 42 P P 04 37 50.6 +1.0
GRAC Grapevine Rang 80.36 45 P P 04 37 51.2 +1.4
baz=235,SNR=15
FURC Furnace Creek, 80.39 45 P P 04 37 50.9 +1.1
baz=236,SNR=8.4
M04C Macdoel 80.44 39 P P 04 37 51.3 +1.2
baz=231,SNR=20
L04D Klamath Falls 80.44 38 P P 04 37 51.3 +1.1
baz=231,SNR=24
TUQ Turquoise Moun 80.45 47 P P 04 37 51.3 +0.9
baz=236
SHOC Shoshone, Teco 80.47 46 P P 04 37 51.3 +1.0

baz=236
Y12C Blythe 80.50 49 P P 04 37 51.9 +1.4
baz=237,SNR=12
Y12C Blythe 80.50 49 P P 04 37 51.8 +1.4
Y12C IAmb IAmb 04 37 53.2
comp=Z,29nm,0.8s
113A Mohawk Valley, 80.52 50 P P 04 37 51.7 +1.2
113A IAmb IAmb 04 37 53.2
comp=Z,27nm,1.0s
NJ2 Nanjing 80.54 309 *e*P **P 04 37 51.3 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
RYN Ryan 80.55 43 P P 04 37 51.8 +0.9
NVAR Mina Array Bea 80.58 43 P P 04 37 52.2 +1.1
comp=Z,15nm,0.8s,baz=224,slow=8.7,SNR=73
NVAR pP **pP 04 39 05.0 +1.2**
comp=Z,4.8nm,0.9s,baz=225,slow=7.5,SNR=2.5
NVAR Mina Array Bea 80.58 43 P P 04 37 51.9 +0.8
PAHR Pah Rah Range 80.65 41 P P 04 37 52.3 +1.0
PAHR IAmb IAmb 04 37 53.5
comp=Z,25nm,0.9s
NV11 Mina Array Sit 80.67 43 P P 04 37 52.5 +1.0
NV11 IAmb IAmb 04 37 53.7
comp=Z,31nm,1.1s
KDAK Kodiak Island 80.74 13 P P 04 37 51.1 -0.1
comp=Z,18nm,0.9s,baz=189,slow=4.8,SNR=12
KDAK Kodiak Island 80.74 13 P P 04 37 50.9 -0.3
KDAK pmax pmax
comp=Z,27nm,1.1s
KDAK Kodiak Island 80.74 13 P P 04 37 50.9 -0.3
KDAK IAmb IAmb 04 37 52.7
comp=Z,27nm,1.1s
I02D Swisshome 80.78 36 P P 04 37 53.0 +1.4
baz=229
214A Organ Pipe Nat 80.78 51 P P 04 37 53.6 +1.5
baz=239,SNR=10
I03D Drain, OR 80.79 36 P P 04 37 52.9 +1.2
baz=230
NEE2 Needles Airpor 80.98 48 P P 04 37 54.4 +1.4
baz=237
K04D Chiloquin, OR 81.01 38 P P 04 37 54.1 +1.0
baz=231
MDJ Mudanjiang 81.05 325 P P 04 37 53.7 +0.6
MDJ IAmb IAmb 04 37 54.9
comp=Z,22nm,0.9s
PDMCI Parker Dam,Lak 81.07 48 P P 04 37 54.9 +1.5
baz=238,SNR=22
KVN Kaiserville 81.07 43 P P 04 37 54.0 +0.4
KVN pmax pmax
comp=Z,27nm,1.1s
KVN Kaiserville 81.07 43 P P 04 37 54.0 +0.4
KVN IAmb IAmb 04 37 55.6
comp=Z,27nm,1.1s
TPNV Topopah Spring 81.07 45 P P 04 37 54.9 +1.2
baz=236,SNR=14
TPNV Topopah Spring 81.07 45 P P 04 37 54.3 +0.7
TPNV pmax pmax
comp=Z,17nm,1.2s
TPNV Topopah Spring 81.07 45 P P 04 37 54.3 +0.7
J04D Umpqua Nationa 81.19 37 P P 04 37 55.5 +1.3
baz=231,SNR=12
I04A Tendick Farm, 81.37 37 P P 04 37 55.6 +0.7
baz=231,SNR=10
MOD Modoc Plateau 81.41 39 P P 04 37 56.1 +0.8
MOD IAmb IAmb 04 37 57.4
comp=Z,44nm,1.1s
K05A Summer Lake 81.57 38 P P 04 37 57.4 +1.3
H04D Lebanon 81.65 36 P P 04 37 57.4 +1.1
baz=230,SNR=12
W13A Hualapai Mount 81.67 48 P P 04 37 57.9 +1.1
W13A IAmb IAmb 04 37 59.5
comp=Z,18nm,1.0s
J05D Fort Rock, OR 81.72 38 P P 04 37 58.2 +1.3
baz=232,SNR=74
MAW Mawson 81.72 200 P P 04 37 56.5 +0.2
baz=82,SNR=8.6
MAW Mawson 81.72 200 P P 04 37 57.0 +0.6
comp=Z,11nm,0.7s,baz=128,slow=6.0,SNR=15
MAW Mawson 81.72 200 P **P 04 37 56.9 +0.6**
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 81.72 200 P P 04 37 56.9 +0.6
G03D McMinnville, O 81.81 35 P P 04 37 58.3 +1.3
baz=230,SNR=7.7
GRNR Gornyy 81.95 332 ⇓*i*P **P 04 37 58.0 +0.3**
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=E,90nm,18.0s
GRNR MLR MLR
comp=N,150nm,17.0s
GRNR MLR MLR
comp=Z,40nm,11.0s
H04A Detroit Lake 82.06 36 P P 04 37 58.9 +0.5
H04A IAmb IAmb 04 38 00.2
comp=Z,39nm,0.9s
PINE Pine Mountain 82.20 37 P P 04 38 00.7 +1.3
R11A Troy Canyon, C 82.29 44 P P 04 38 00.6 +0.7
baz=236,SNR=18
R11A Troy Canyon, C 82.29 44 P P 04 38 00.5 +0.5
I05D Terrebonne, OR 82.31 37 P P 04 38 00.9 +1.1
baz=231,SNR=16
TUC Tucson 82.44 52 P P 04 38 02.8 +2.0
baz=240
TUC Tucson 82.44 52 P P 04 38 02.4 +1.6
TUC pmax pmax
comp=Z,43nm,1.0s
TUC Tucson 82.44 52 P P 04 38 02.4 +1.6
F04D Rainier, OR 82.50 35 P P 04 38 02.0 +1.4
baz=230
F04A Amboy 82.72 35 P P 04 38 02.4 +0.7
F04A IAmb IAmb 04 38 03.2
comp=Z,26nm,0.8s
G05D Wamic, OR 82.89 36 P P 04 38 03.7 +1.1
baz=231,SNR=9.2
NLWA Neilton Lookou 82.90 33 P P 04 38 03.9 +1.2
NLWA IAmb IAmb 04 38 05.0
comp=Z,41nm,0.9s
KLR Kul'dur 83.01 329 *d i*P **P 04 38 03.3 +0.2**
KLR pmax pmax
comp=Z,9.0nm,1.0s
E04D Cinebar 83.04 35 P P 04 38 04.7 +1.3
baz=230,SNR=18
DIB Dawson Inlet, 83.05 25 P P 04 38 03.6 +0.4
DIB IAmb IAmb 04 38 04.7
comp=Z,28nm,0.8s
I07A Izee 83.20 38 P P 04 38 05.6 +1.2
F05D White Salmon 83.21 36 P P 04 38 05.2 +1.0
baz=231,SNR=7.6
SVW2 Sparrevohn 83.26 10 P P 04 38 03.4 -0.8
G06A Carlson Farm, 83.26 36 P P 04 38 04.9 +0.3
G06A IAmb IAmb 04 38 06.6
comp=Z,42nm,1.0s
D04E Lakebay 83.33 34 P P 04 38 06.6 +1.9
baz=230
D03D Eldon 83.40 34 P P 04 38 05.9 +0.7
baz=230,SNR=14
U15A North Rim 83.47 47 P P 04 38 07.9 +1.8
WUAZ Wupatki 83.64 48 P P 04 38 08.3 +1.5
baz=239
WUAZ Wupatki 83.64 48 P **P 04 38 08.1 +1.2**
WUAZ IAmb IAmb 04 38 09.7
comp=Z,31nm,1.1s
ELK Elko 83.84 42 P P 04 38 08.7 +0.8
ELK pmax pmax
comp=Z,26nm,1.1s
ELK Elko 83.84 42 P P 04 38 08.7 +0.8
ELK IAmb IAmb 04 38 09.8
comp=Z,26nm,1.1s
PGC Sidney 83.94 33 P P 04 38 08.6 +0.8
MNSI Mandailing Nat 83.94 273 P P 04 38 08.2 -0.5
comp=Z,7µmcomp=Z,41nm,0.8s
BBB Bella Bella 84.14 28 P P 04 38 09.5 +0.8
comp=Z,19nm,0.6s,baz=283,slow=4.1,SNR=17
BBB Bella Bella 84.14 28 P P 04 38 09.4 +0.7
BBB IAmb IAmb 04 38 10.4
comp=Z,27nm,0.9s
GAMB Gambell 84.21 2 P P 04 38 08.8 0.0
GAMB IAmb IAmb 04 38 09.9
comp=Z,20nm,0.9s
A04D Lummi Island 84.36 33 P P 04 38 11.0 +1.2
baz=230,SNR=40
B05A Bryant 84.38 33 P P 04 38 11.0 +1.0
baz=230,SNR=12
LTY Liberty 84.50 35 P P 04 38 11.2 +0.4
LTY IAmb IAmb 04 38 12.5
comp=Z,29nm,1.1s
SUA Susitna One 84.50 12 P P 04 38 09.6 -0.8
E07A Sunnyside 84.51 36 P P 04 38 11.5 +0.7
KULM Kulim 84.54 278 P P 04 38 13.0 +1.3
ZAIG Zacatecas 84.56 63 P P 04 38 12.4 +0.5
HAWA Hanford 84.58 36 P P 04 38 11.9 +0.8
W18A Petrified Fore 84.60 50 P P 04 38 12.9 +1.2
baz=240
W18A Petrified Fore 84.60 50 P P 04 38 12.6 +0.9
121A Cookes Peak, D 84.77 53 P P 04 38 14.4 +1.8
baz=242,SNR=12
121A Cookes Peak, D 84.77 53 P P 04 38 13.7 +1.1
121A IAmb IAmb 04 38 15.7
comp=Z,23nm,0.9s
C06D Leavenworth 84.79 34 P P 04 38 12.2 +0.1
baz=231
RAGM Ragged Mountai 84.91 16 P P 04 38 12.2 -0.2
RAGM IAmb IAmb 04 38 13.8
comp=Z,21nm,1.0s
TTA Tatalina 84.92 10 P P 04 38 12.1 -0.4
TTA pmax pmax
comp=Z,17nm,1.2s
TTA Tatalina 84.92 10 P P 04 38 12.1 -0.4
BMO Blue Mountains 84.92 38 P P 04 38 13.2 +0.2
BMO pmax pmax
comp=Z,16nm,1.0s
BMO Blue Mountains 84.92 38 P P 04 38 13.2 +0.2
KNK Knik Glacier 84.93 13 P P 04 38 11.6 -0.9
KNK IAmb IAmb 04 38 12.9
comp=Z,20nm,0.8s
PMR Palmer 84.94 13 P P 04 38 11.9 -0.6
PMR pmax pmax
comp=Z,14nm,0.5s
PMR Palmer 84.94 13 P P 04 38 11.9 -0.6
PMR IAmb IAmb 04 38 12.2
comp=Z,14nm,0.5s
MFID Camas Ranch 84.97 40 P P 04 38 13.8 +0.5
MFID IAmb IAmb 04 38 15.3
comp=Z,25nm,1.1s
DUG Dugway, Tooele 85.10 44 P P 04 38 14.2 +0.2
baz=238
DUG Dugway, Tooele 85.10 44 P P 04 38 14.4 +0.4
DUG pmax pmax
comp=Z,3.0nm,0.8s
DUG Dugway, Tooele 85.10 44 P P 04 38 14.4 +0.4
GHO Glory Hole Cre 85.15 13 P P 04 38 13.1 -0.6
RPSI Rantau Prapat 85.23 275 P P 04 38 15.6 +0.6
RPSI IAmb IAmb 04 38 16.7
comp=Z,15nm,0.8s
PSI Prapat 85.26 275 P P 04 38 15.6 +0.2
PSI pmax pmax
comp=Z,15nm,0.8s
WAX Waxell Ridge 85.43 16 P P 04 38 15.2 +0.1
MESA MESA 85.44 17 P P 04 38 15.6 +0.3
WRAK Wrangell Islan 85.51 23 P P 04 38 16.1 +0.7
WRAK IAmb IAmb 04 38 17.2
comp=Z,37nm,0.9s
CRQM Cirque 85.62 16 P P 04 38 15.9 -0.2
CRQM IAmb IAmb 04 38 17.0
comp=Z,37nm,1.0s
F10A Beach Ranch, E 85.62 37 P P 04 38 16.8 +0.4
YAH Yahtse 85.66 17 P P 04 38 16.6 +0.2
PCA Pinnacle 85.84 18 P P 04 38 17.0 0.0
PCA IAmb IAmb 04 38 18.0
comp=Z,21nm,1.0s
TABL Table Mountain 85.88 17 P P 04 38 17.1 -0.3
TLIG Tlapa 85.90 70 P P 04 38 18.2 -0.2
HLID Hailey 85.91 40 P P 04 38 18.9 +1.0
baz=236
HLID Hailey 85.91 40 P P 04 38 18.7 +0.8
SPUT South Promonto 85.92 43 P P 04 38 18.5 +0.5
VRDI Verde Repeater 85.94 16 P P 04 38 17.4 -0.3
VRDI IAmb IAmb 04 38 17.9
comp=Z,15nm,0.8s
LLLB Lillooet 85.98 32 P P 04 38 18.5 +0.5
LLLB IAmb IAmb 04 38 19.6
comp=Z,35nm,1.1s
GSI Gunungsitoli 86.00 273 P P 04 38 19.9 +1.0
comp=Z,215nm,0.8s
GSI Gunungsitoli 86.00 273 P P 04 38 20.2 +1.4
GLB Gilahina Butte 86.04 15 P P 04 38 17.7 -0.3
GLB IAmb IAmb 04 38 18.6
comp=Z,21nm,0.8s
Y22D IRIS PASSCAL I 86.13 52 P P 04 38 20.5 +1.3
baz=242
MNTX Cornudas Mount 86.19 54 P P 04 38 20.5 +1.1
baz=243,SNR=47
MNTX Cornudas Mount 86.19 54 P P 04 38 20.2 +0.8
MNTX IAmb IAmb 04 38 22.0
comp=Z,30nm,1.0s
BNM Barren Site 86.38 52 P P 04 38 20.9 +0.4
TRF Thorofare Moun 86.39 12 P P 04 38 18.5 -1.3
TRF IAmb IAmb 04 38 19.6
comp=Z,26nm,1.0s
TX32 Lajitas Array 86.47 57 P P 04 38 21.6 +0.7
TX32 IAmb IAmb 04 38 23.6
comp=Z,22nm,0.9s
TXAR Lajitas Array 86.47 57 P P 04 38 22.3 +1.4
comp=Z,19nm,0.9s,baz=218,slow=6.8,SNR=190
TXAR pP **pP 04 39 34.1 -0.6**
comp=Z,2.3nm,1.0s,baz=202,slow=6.8,SNR=2.2
TXAR PKKPbc **PKKPbc 04 56 18.1 +1.8**
comp=Z,0.3nm,0.7s,baz=74,slow=4.6,SNR=4.6
TXAR Lajitas Array 86.47 57 P P 04 38 21.7 +0.8
MVCO Mesa Verde 86.49 48 P P 04 38 21.4 +0.4
baz=241
RND Reindeer 86.63 12 P P 04 38 20.3 -0.6
RND pmax pmax
comp=Z,40nm,1.0s
RND Reindeer 86.63 12 P P 04 38 20.2 -0.6
HWUT Hardware Ranch 86.64 43 P P 04 38 21.8 +0.2
PV17 East Wray Mesa 86.69 47 P P 04 38 22.0 +0.1
ENH Enshi 86.73 304 P P 04 38 22.6 +0.5
ENH IAmb IAmb 04 38 23.7
comp=Z,19nm,1.1s
SYO Syowa Base 86.79 192 ⇓*e*P **P 04 38 19.8 -1.8**
SYO Syowa Base 86.79 192 ⇓*i*PcP **P 04 38 21.2 -0.4**
SYO Syowa Base 86.79 192 ⇓*e*pP pP 04 39 35.4 0.0
BPAW Bear Paw Mtn. 86.86 11 P P 04 38 21.6 -0.2
ANMO Albuquerque 86.87 51 P P 04 38 23.8 +1.0
baz=242
ANMO Albuquerque 86.87 51 P P 04 38 23.9 +1.1
comp=Z,8.6nm,0.7s,baz=222,slow=5.0,SNR=57
ANMO pP **pP 04 39 37.4 +0.6**
comp=Z,5.4nm,1.1s,baz=214,slow=6.8,SNR=5.0
ANMO Albuquerque 86.87 51 *d i*P **P 04 38 23.8 +1.0**
ANMO *i* *PP **pP 04 39 36.0 -0.7**
ANMO pmax pmax
comp=Z,11nm,0.8s
ANMO Albuquerque 86.87 51 P P 04 38 23.6 +0.8
ANMO IAmb IAmb 04 38 24.9
comp=Z,11nm,0.8s
PAX Paxson 86.97 14 P P 04 38 21.3 -1.1
PAX pmax pmax
comp=Z,10.0nm,1.2s
PAX Paxson 86.97 14 P P 04 38 21.3 -1.1
NEW Newport 87.01 35 P P 04 38 23.1 +0.2
baz=234,SNR=8.4
NEW Newport 87.01 35 P P 04 38 23.3 +0.3
comp=Z,8.4nm,0.8s,baz=226,slow=5.2,SNR=14
NEW Newport 87.01 35 P **P 04 38 22.8 -0.2**
NEW pmax pmax
comp=Z,10.0nm,0.8s
NEW Newport 87.01 35 P P 04 38 22.8 -0.2
HYT Haines Junctio 87.23 18 P P 04 38 24.1 +0.3
HYT IAmb IAmb 04 38 25.3
comp=Z,16nm,1.0s
GYA Guiyang 87.37 299 ⇑P **P 04 38 25.6 +0.3**
GYA pP pP 04 39 39.6 -0.3
GYA S **S 04 48 39.6 +1.0**
GYA pmax pmax
comp=Z,7.0nm,1.4s
AHID Auburn Hatcher 87.54 42 P P 04 38 26.1 +0.4
MCMT McKenzie Canyo 87.54 40 P P 04 38 26.8 +1.0
WRH Wood River Hil 87.74 12 P P 04 38 24.9 -1.1
WRH IAmb IAmb 04 38 26.1
comp=Z,24nm,1.1s
RIDG Independent Ri 87.78 14 P P 04 38 25.9 -0.3
DLBC Dease Lake 87.85 23 P P 04 38 27.4 +0.8
comp=Z,12nm,0.7s,baz=204,slow=4.0,SNR=19
DLBC Dease Lake 87.85 23 P P 04 38 27.3 +0.6
DLBC IAmb IAmb 04 38 28.4
comp=Z,15nm,0.8s
SNAA Sanae 87.88 178 P P 04 38 26.5 -0.3
SNAA Sanae 87.88 178 P P 04 38 26.5 -0.3
SNAA pmax pmax
comp=Z,5.0nm,1.0s
SNAA Sanae 87.88 178 P P 04 38 26.5 -0.3
S22A 4UR Ranch, Cre 87.91 48 P P 04 38 28.6 +0.8
baz=242,SNR=27
HDA Harding Lake 87.92 13 P P 04 38 26.1 -0.7
baz=208
HDA Harding Lake 87.92 13 P P 04 38 25.9 -0.9
HDA IAmb IAmb 04 38 26.4
comp=Z,10nm,0.6s
BCAR Beaver Creek A 87.92 15 P P 04 38 26.5 -0.4
CCB Clear Creek Bu 87.95 12 P P 04 38 25.8 -1.1
CCB IAmb IAmb 04 38 26.3
comp=Z,14nm,0.6s
DLMT Dillon 87.98 40 P P 04 38 28.3 +0.5
DLMT IAmb IAmb 04 38 29.9
comp=Z,28nm,1.1s
MSO Missoula 87.98 38 P P 04 38 27.9 +0.2
baz=237,SNR=13
MSO Missoula 87.98 38 P P 04 38 27.4 -0.3
VNA3 Neumayer Olymp 87.99 176 P P 04 38 27.2 0.0
O20A White River Ci 88.08 46 P P 04 38 29.0 +0.6
baz=241,SNR=11
TCOL CIGO, UAF Yank 88.14 12 P P 04 38 25.9 -1.9
baz=207
COLA College 88.15 12 *d i*P **P 04 38 26.7 -1.1**
COLA *i* *PP **pP 04 39 39.6 -2.4**
COLA pmax pmax
comp=Z,12nm,0.8s
COLA College 88.15 12 P P 04 38 26.9 -0.9
COLA IAmb IAmb 04 38 27.7
comp=Z,21nm,0.7s
IL31 88.25 12 P P 04 38 27.1 -1.2
ILAR Eielson Array 88.25 12 P P 04 38 27.3 -1.0
comp=Z,4.6nm,0.7s,baz=225,slow=5.2,SNR=54
ILAR pP **pP 04 39 41.8 -0.7**
comp=Z,3.3nm,1.2s,baz=235,slow=4.6,SNR=2.2
ILAR PP **PP 04 41 57.7 -3.4**
comp=Z,5.6nm,1.1s,baz=222,slow=7.4,SNR=7.5
ILAR Eielson Array 88.25 12 P P 04 38 27.2 -1.2
JTMT Jette 88.29 37 P P 04 38 29.0 -0.1
JTMT IAmb IAmb 04 38 30.1
comp=Z,12nm,0.8s
POKR Poker Plat Res 88.45 12 P P 04 38 27.7 -1.6
baz=208
YHB Horse Butte 88.50 41 P P 04 38 31.5 +1.2
BW06 Boulder Array 88.52 43 P P 04 38 30.5 +0.1
baz=240,SNR=10
PD31 Pinedale Array 88.52 43 P P 04 38 30.7 +0.2
PDAR Pinedale Array 88.52 43 P P 04 38 30.9 +0.5
comp=Z,4.5nm,0.8s,baz=207,slow=3.0,SNR=38
PDAR pP **pP 04 39 45.2 +0.4**
comp=Z,1.5nm,0.8s,baz=216,slow=4.5,SNR=1.1
PDAR Pinedale Array 88.52 43 P P 04 38 30.5 +0.1
YHL Hebgen Lake 88.56 41 P P 04 38 32.0 +1.3
NVL N'lazarevskaya 88.66 183 ⇓*i*P **P 04 38 30.1 -0.2**
NVL *e*S **SKSac 04 48 23.3 -5.1**
NVL pmax pmax
comp=Z,6.0nm,0.6s
VNA1 Neumayer--Stat 88.66 176 P P 04 38 30.7 +0.4
BOZ Bozeman (W) 88.68 40 P P 04 38 32.3 +1.3
baz=238,SNR=50
BOZ Bozeman (W) 88.68 40 P P 04 38 31.5 +0.5
BOZ pmax pmax
comp=Z,26nm,0.9s
BOZ Bozeman (W) 88.68 40 P P 04 38 31.5 +0.5
BOZ IAmb IAmb 04 38 33.3
comp=Z,26nm,0.9s
H17A Grant Village 88.70 41 P P 04 38 33.2 +1.9
baz=239
H17A Grant Village 88.70 41 P P 04 38 33.0 +1.7
H17A IAmb IAmb 04 38 34.5
comp=Z,13nm,0.8s
XAN Xi'an 88.80 307 P P 04 38 32.4 +0.7
XAN pmax pmax
comp=Z,18nm,1.0s
XAN Xi'an 88.80 307 P P 04 38 32.5 +0.7
XAN pmax pmax
comp=Z,12nm,0.8s
XAN Xi'an 88.80 307 P P 04 38 32.5 +0.7
XAN IAmb IAmb 04 38 33.3
comp=Z,12nm,0.8s
SDCO Great Sand Dun 88.85 49 P P 04 38 32.6 +0.5
baz=243
SDCO Great Sand Dun 88.85 49 P P 04 38 32.4 +0.2
CMIG Matias Romero 88.98 71 P P 04 38 33.9 +1.1
comp=Z,9.0nm,0.8s,baz=256,slow=5.1,SNR=16
MSTX Muleshoe 89.16 53 P P 04 38 34.0 +0.5
baz=244
MSTX Muleshoe 89.16 53 P P 04 38 34.2 +0.7
MSTX IAmb IAmb 04 38 35.3
comp=Z,25nm,1.0s
WALA Waterton Lakes 89.22 36 P P 04 38 33.8 +0.4
WALA IAmb IAmb 04 38 35.2
comp=Z,25nm,1.1s
BILL Bilibino 89.22 354 *e*P **P 04 38 33.4 +0.6**
BILL *e**PP **pP 04 39 47.8 +0.6**
BILL *e**SP **sP 04 40 20.9 +1.0**
BILL *e* 04 42 11.2
BILL *e*PPP PPP 04 44 11.4
BILL pmax pmax
comp=Z,7.0nm,0.9s
BILL Bilibino 89.22 354 P P 04 38 32.9 +0.1
HIA Hailar 89.22 324 P P 04 38 33.4 +0.1
HIA pmax pmax
comp=Z,5.0nm,0.4s
HIA Hailar 89.22 324 P P 04 38 33.4 +0.1
T25A Trinidad 89.35 50 P P 04 38 34.6 +0.2
baz=243
T25A Trinidad 89.35 50 P P 04 38 34.3 -0.1
DAWY Dawson 89.35 16 P P 04 38 33.3 -0.2
DAWY IAmb IAmb 04 38 34.7
comp=Z,20nm,1.1s
833A Chaparral WMA, 89.45 60 P P 04 38 35.5 +0.7
baz=246
EGAK Eagle 89.51 15 P P 04 38 33.9 -0.3
EGAK IAmb IAmb 04 38 35.1
comp=Z,16nm,0.9s
Q24A Divide 89.65 48 P P 04 38 36.4 +0.5
baz=243
ISCO Idaho Springs 89.71 47 P P 04 38 36.8 +0.7
baz=243
ISCO Idaho Springs 89.71 47 P P 04 38 36.2 0.0
ISCO pmax pmax
comp=Z,3.0nm,1.0s
ISCO Idaho Springs 89.71 47 P P 04 38 36.2 0.0
RLMT Red Lodge 89.87 41 P P 04 38 37.9 +1.2
baz=240
N23A Red Feather La 89.99 46 P P 04 38 37.7 +0.4
baz=242,SNR=7.2
N23A Red Feather La 89.99 46 P P 04 38 37.8 +0.4
JCT Junction City 89.99 57 P P 04 38 37.6 +0.2
baz=246
JCT Junction City 89.99 57 P **P 04 38 37.2 -0.2**
JCT pmax pmax
comp=Z,8.0nm,0.7s
JCT Junction City 89.99 57 P P 04 38 37.1 -0.2
KMI Kunming 90.08 297 P P 04 38 39.9 +1.8
KMI pmax pmax
comp=Z,11nm,0.6s
AMTX Amarillo 90.37 53 P P 04 38 39.2 +0.1
baz=245
AMTX Amarillo 90.37 53 P P 04 38 39.4 +0.3
AMTX IAmb IAmb 04 38 40.6
comp=Z,16nm,0.8s
K22A Casper 90.42 44 P P 04 38 39.6 +0.5
baz=242,SNR=10
K22A Casper 90.42 44 P P 04 38 39.7 +0.5
K22A IAmb IAmb 04 38 40.9
comp=Z,18nm,1.0s
CMAR Chiang Mai Arr 90.87 289 P P 04 38 43.0 +1.3
comp=Z,4.6nm,0.9s,baz=114,slow=3.1,SNR=17
CMAR Chiang Mai Arr 90.87 289 *ce*P **P 04 38 43.5 +1.9**
CMAR pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 90.87 289 P P 04 38 42.6 +1.0
ABTX Abilene, Hawle 90.98 55 P P 04 38 42.7 +0.8
baz=246
ABTX Abilene, Hawle 90.98 55 P P 04 38 42.2 +0.3
ABTX IAmb IAmb 04 38 43.6
comp=Z,26nm,0.9s
CHTO Chiang Mai 91.00 290 P P 04 38 43.3 +1.1
CHTO pmax pmax
comp=Z,7.0nm,0.6s
CHTO Chiang Mai 91.00 290 P P 04 38 43.3 +1.1

EGMT	**Eagleton**	**91.03**	**38**	P	**P**	**04 38 41.6**	**-0.1**		
	baz=240								
EGMT	**Eagleton**	**91.03**	**38**	P	**P**	**04 38 42.1**	**+0.3**		
EGMT				IAmb	IAmb	04 38 43.7			
	comp=Z,18nm,1.1s								
BMAR	**Burnt Mountain**	**91.04**	**12**	P	**P**	**04 38 41.4**	**0.0**		
TOLK	**Toolik Lake Re**	**91.23**	**10**	P	**P**	**04 38 41.8**	**-0.4**		
	baz=206								
TOLK	**Toolik Lake Re**	**91.23**	**10**	P	**P**	**04 38 42.3**	**+0.1**		
KSCO	**Kaye Shedlock'**	**91.43**	**49**	P	**P**	**04 38 44.2**	**+0.3**		
	baz=244								
KSCO	**Kaye Shedlock'**	**91.43**	**49**	P	**P**	**04 38 44.8**	**+0.8**		
KSCO				IAmb	IAmb	04 38 46.6			
	comp=Z,28nm,1.1s								
CD2	**Chengdu**	**91.49**	**302**	P	**P**	**04 38 43.9**	**-0.4**		
435B	**Jarrell**	**91.87**	**58**	P	**P**	**04 38 46.6**	**+0.6**		
	baz=247								
435B	**Jarrell**	**91.87**	**58**	P	**P**	**04 38 46.8**	**+0.8**		
435B				IAmb	IAmb	04 38 47.7			
	comp=Z,23nm,0.9s								
EPYK	**Eagle Plains**	**91.88**	**15**	P	**P**	**04 38 44.8**	**-0.4**		
	baz=217								
EPYK	**Eagle Plains**	**91.88**	**15**	P	**P**	**04 38 44.9**	**-0.4**		
EPYK				IAmb	IAmb	04 38 46.0			
	comp=Z,20nm,1.1s								
WMOK	**Wichita Mounta**	**92.48**	**54**	P	**P**	**04 38 48.6**	**-0.1**		
	baz=247								
WMOK	**Wichita Mounta**	**92.48**	**54**	P	**P**	**04 38 48.7**	**-0.1**		
WMOK				pmax	pmax				
	comp=Z,3.0nm,1.0s								
WMOK	**Wichita Mounta**	**92.48**	**54**	P	**P**	**04 38 48.7**	**-0.1**		
LAO	**LASA Array**	**92.49**	**41**	P	**P**	**04 38 49.2**	**+0.7**		
	baz=242								
LAO	**LASA Array**	**92.49**	**41**	P	**P**	**04 38 48.5**	**0.0**		
LAO				IAmb	IAmb	04 38 51.1			
	comp=Z,22nm,0.8s								
RSSD	**Black Hills**	**92.70**	**44**	P	**P**	**04 38 50.0**	**+0.2**		
	baz=244								
RSSD	**Black Hills**	**92.70**	**44**	P	**P**	**04 38 50.0**	**+0.2**		
RSSD				pmax	pmax				
	comp=Z,39nm,1.0s								
RSSD	**Black Hills**	**92.70**	**44**	P	**P**	**04 38 50.0**	**+0.2**		
Z35A	**Perchaven, San**	**93.11**	**56**	P	**P**	**04 38 51.9**	**+0.3**		
Z35A				IAmb	IAmb	04 38 53.0			
	comp=Z,15nm,0.8s								
CBKS	**Cedar Bluff**	**93.40**	**50**	P	**P**	**04 38 53.3**	**+0.4**		
	baz=246								
LZH	**Lanzhou**	**93.44**	**307**	⇓P	**P**	**04 38 53.4**	**+0.1**		
LZH				pP	pP	04 40 06.3	-1.9		
LZH				sP	sP	04 40 37.5	-3.5		
LZH				PP	**PP**	**04 42 45.6**	**+2.8**		
LZH				pmax	pmax				
	comp=Z,23nm,1.4s								
LZH				pmax	pmax				
	comp=Z,110nm,6.4s								
INK	**Inuvik**	**94.17**	**15**	P	**P**	**04 38 54.8**	**-0.8**		
	comp=Z,3.8nm,0.6s,baz=161,slow=4.2,SNR=7.3								
INK	**Inuvik**	**94.17**	**15**	P	**P**	**04 38 54.9**	**-0.8**		
INK				pmax	pmax				
	comp=Z,4.0nm,0.7s								
INK	**Inuvik**	**94.17**	**15**	P	**P**	**04 38 54.9**	**-0.8**		
DGMT	**Dagmar**	**94.52**	**40**	P	**P**	**04 38 58.7**	**+1.0**		
	baz=244								
DGMT	**Dagmar**	**94.52**	**40**	P	**P**	**04 38 58.6**	**+0.8**		
BGNE	**Belgrade**	**95.54**	**48**	P	**P**	**04 39 03.4**	**+0.8**		
	baz=247								
K31A	**O'Neill**	**95.59**	**47**	P	**P**	**04 39 03.6**	**+0.8**		
KSU1	**Kansas State U**	**95.76**	**50**	P	**P**	**04 39 04.6**	**+1.0**		
	baz=248								
YKA	**Yellowknife Ar**	**96.29**	**24**	P	**P**	**04 39 05.2**	**-0.1**		
	comp=Z,3.8nm,0.8s,baz=232,slow=4.8,SNR=21								
YKA				PP	**PP**	**04 43 03.0**	**-0.9**		
	comp=Z,1.0nm,0.9s,baz=239,slow=8.5,SNR=4.4								
MIAR	**Mount Ida**	**96.39**	**56**	P	**P**	**04 39 07.7**	**+1.1**		
	baz=249								
ECSD	**EROS Data Cent**	**97.45**	**46**	P	**P**	**04 39 11.3**	**+0.1**		
	baz=249								
U40A	**Yellville**	**97.57**	**54**	P	Pdif	04 39 12.2	+0.3		
	baz=250								
ZALV	**Zalesovo Beam**	**111.05**	**321**	PKiKP	**PKiKP**	**04 44 07.3**	**-1.4**		
	comp=Z,0.8nm,0.5s,baz=11,slow=1.5,SNR=2.1								
ZALV				PP	**PP**	**04 44 51.7**	**-1.5**		
	comp=Z,0.8nm,0.4s,baz=114,slow=7.2,SNR=5.0								
MKAR	**Makanchi Array**	**111.83**	**313**	PKiKP	**PKiKP**	**04 44 09.3**	**-1.2**		
	comp=Z,0.6nm,0.6s,baz=110,slow=0.9,SNR=5.7								
MKAR				PP	**PP**	**04 44 58.0**	**-1.0**		
	comp=Z,0.6nm,0.9s,baz=116,slow=5.5,SNR=3.5								
BRVK	**Borovoye**	**119.71**	**320**	⇑*i* PKiKP	**PKiKP**	**04 44 27.1**	**+1.7**		
BRVK				pmax	pmax				
	comp=Z,7.0nm,2.5s								
ARU	**Arti**	**125.72**	**326**	*i* PKiKP	**PKiKP**	**04 44 39.8**	**+2.6**		
ARU						04 46 35.0			
ARU						04 51 20.8			
ARU				SS	SS	05 03 05.9	-1.9		
ARCES	**ARCESS Array B**	**129.16**	**350**	PKP	**PKPdf**	**04 44 42.8**	**-0.2**		
	comp=Z,3.1nm,0.7s,baz=35,slow=3.0,SNR=9.6								
KIRV	**Kirov**	**129.43**	**330**	*e*PKiKP	**PKiKP**	**04 44 46.8**	**+2.3**		
GEYT	**Alibeck**	**129.48**	**303**	SKPbc	SKPbc	04 47 37.3	+1.3		
	comp=Z,2.6nm,0.8s,baz=128,slow=2.4,SNR=4.4								
FINES	**FINESS Array B**	**136.09**	**344**	PKhKP	PKPpre	04 44 53.0			
	comp=Z,2.0nm,0.7s,baz=64,slow=3.2,SNR=2.3								
FINES				SKPbc	**SKPbc**	**04 47 58.9**	**+1.2**		
	comp=Z,1.8nm,0.7s,baz=48,slow=2.8,SNR=4.9								
FINES	**FINESS Array B**	**136.09**	**344**	PKiKP	**PKiKP**	**04 44 57.8**	**-0.2**		
FINES	**FINESS Array B**	**136.09**	**344**		**PKiKP**	**04 44 57.8**	**-0.2**		
OBN	**Obninsk**	**137.21**	**332**	*e*PKiKP	**PKiKP**	**04 44 59.6**	**-0.8**		
OBN				*e*		04 46 17.9			
OBN				*e*		04 47 48.3			
OBN				*e*PPP	PPP	04 50 50.9			
OBN				pmax	pmax				
	comp=Z,18nm,0.4s								
NB2	**NORSAR Subarra**	**139.17**	**354**	PKP	PKPdf	04 44 52.6	-9.4		
	comp=Z,0.7nm,0.9s,baz=17,slow=2.6								
NOA	**NORSAR Array B**	**139.17**	**354**	PKhKP	PKPdf	04 44 51.8	-10		
	comp=Z,0.6nm,0.7s,baz=340,slow=3.8,SNR=4.1								
NOA				PKP	**PKiKP**	**04 45 02.7**	**-1.7**		
	comp=Z,0.5nm,0.6s,baz=13,slow=4.0,SNR=5.1								
AKASG	**Malin Array Be**	**143.47**	**332**	PKhKP	PKPab	04 45 06.4	-0.7		
	comp=Z,7.3nm,0.6s,baz=43,slow=4.7,SNR=21								
MUD	**Monsted U'grnd**	**143.89**	**354**	*i* P	PKPab	04 45 08.2	-0.3		
MUD	**Monsted U'grnd**	**143.89**	**354**	*i* PKiKP	PKPab	04 45 08.2	-0.3		
BSD	**Bornholm Skovb**	**144.35**	**348**	⇓*i* P	**PKPab**	**04 45 09.2**	**-1.2**		
	comp=Z,20nm,0.8s								
BSD	**Bornholm Skovb**	**144.35**	**348**	⇓*i* PKiKP	**PKPab**	**04 45 09.2**	**-1.2**		
BSD				pmax	pmax				
	comp=Z,20nm,0.8s								
ESK	**Eskdalemuir**	**145.04**	**6**	PKiKP	**PKPdf**	**04 45 12.2**	**-0.3**		
ESK	**Eskdalemuir**	**145.04**	**6**	PKPdf	**PKPdf**	**04 45 12.2**	**-0.3**		
MBAR	**Mbarara**	**145.49**	**236**	⇑*e*PKP2	**PKPdf**	**04 45 15.4**	**+0.6**		
SORM	**Soroca**	**145.69**	**329**	⇑P	**PKPdf**	**04 45 13.3**	**-0.5**		
SORM	**Soroca**	**145.69**	**329**	⇑PKiKP	**PKPdf**	**04 45 13.3**	**-0.5**		
BSEG	**Bad Segeberg**	**146.23**	**352**	*e*PKPbc	**PKPbc**	**04 45 15.7**	**-0.6**		
	baz=15,slow=2.5								
LVV	**L'vov**	**146.33**	**335**	*e*PKiKP	**PKPdf**	**04 45 15.7**	**+0.8**		
DSB	**Dublin**	**146.66**	**10**	PKPdf	**PKPbc**	**04 45 16.9**	**-0.6**		
BR131	**Keskin Array S**	**147.47**	**313**	⇓*e*PKiKP	**PKPdf**	**04 45 18.7**	**+1.4**		
BRTR	**Keskin Array B**	**147.47**	**313**	PKPbc	**PKPbc**	**04 45 19.9**	**-0.4**		
	comp=Z,2.0nm,0.6s,baz=124,slow=2.7,SNR=9.6								
BRTR	**Keskin Array B**	**147.47**	**313**	PKPdf	**PKPbc**	**04 45 19.0**	**-1.3**		
CALA	**Caldeira**	**147.48**	**50**	*e*PKP	**PKPbc**	**04 45 20.6**	**+0.3**		
BUR08	**Bucovina Ar. S**	**147.51**	**331**		**PKPbc**	**04 45 20.1**	**0.0**		
BURAR	**Bucovina Array**	**147.52**	**331**	⇓P	**PKPbc**	**04 45 20.4**	**+0.2**		
BURAR	**Bucovina Array**	**147.52**	**331**	⇓PKP2	**PKPbc**	**04 45 20.4**	**+0.2**		
BURAR	**Bucovina Array**	**147.52**	**331**		**PKPbc**	**04 45 20.2**	**0.0**		
OJC	**Ojcow**	**147.53**	**340**	*e*PKPbc	**PKPbc**	**04 45 19.5**	**-0.4**		
OJC	**Ojcow**	**147.53**	**340**	PKP2	**PKPbc**	**04 45 19.3**	**-0.7**		
OJC	**Ojcow**	**147.53**	**340**		**PKPbc**	**04 45 19.3**	**-0.7**		
BIZ	**Bicaz**	**147.61**	**330**	⇑P	**PKPbc**	**04 45 20.1**	**-0.2**		
NRDL	**Niedersach Rie**	**147.67**	**352**	*e*PKPbc	**PKPbc**	**04 45 19.9**	**-0.3**		
	baz=15,slow=2.5								
PCAN	**Candelaria**	**147.68**	**50**	*e*PKP	**PKPbc**	**04 45 21.1**	**+0.3**		
KOLS	**Kolonicke sedl**	**147.72**	**336**	*e*PKP2	**PKPbc**	**04 45 20.8**	**+0.3**		
KOLS	**Kolonicke sedl**	**147.72**	**336**	*e*PKP	**PKPbc**	**04 45 20.8**	**+0.3**		
KOLS				*e*		04 45 23.9			
ROSA	**Rosais**	**147.75**	**49**	*e*PKP	**PKPbc**	**04 45 20.9**	**-0.1**		
ROSA	**Rosais**	**147.75**	**49**		**PKPbc**	**04 45 20.9**	**-0.1**		
PGRA	**Graciosa**	**147.80**	**48**	*e*PKP	**PKPbc**	**04 45 21.1**	**+0.1**		
TOPG	**Topolog**	**147.87**	**325**	⇓P	**PKPbc**	**04 45 19.7**	**-1.3**		
PMAN	**Manadas**	**147.89**	**49**	*e*PKP	**PKPbc**	**04 45 21.1**	**-0.2**		
ASSE	**Asse, Remlinge**	**147.94**	**351**	*e*PKPbc	**PKPbc**	**04 45 20.5**	**-0.4**		
	baz=15,slow=2.5								
UZH	**Uzhgorod**	**147.96**	**335**	*e*PKiKP	**PKPdf**	**04 45 17.4**	**-0.2**		
UZH				*i*		04 45 24.3			
UZH				*e*		04 46 30.6			
UZH				*e*		04 47 03.4			
KSP	**Ksiaz**	**148.01**	**344**	*e*PKPbc	**PKPbc**	**04 45 21.2**	**+0.1**		
KSP				*e*PKPab	**PKPab**	**04 45 25.0**	**+0.1**		
NIE	**Niedzica**	**148.04**	**338**	*e*PKPbc	**PKPbc**	**04 45 21.7**	**+0.3**		
NIE				*e*PKPab	**PKPab**	**04 45 25.5**	**+0.3**		
VRI	**Vrincioaia**	**148.07**	**328**	⇑P	**PKPdf**	**04 45 18.8**	**+0.9**		
VRI	**Vrincioaia**	**148.07**	**328**	⇑PKiKP	**PKPdf**	**04 45 18.8**	**+0.9**		
IBBN	**Ibbenburen**	**148.12**	**354**	*e*PKPab	**PKPab**	**04 45 24.7**	**-0.5**		
	baz=14,slow=4.1								
TRPA	**Tarpa**	**148.27**	**335**	⇓P	**PKPbc**	**04 45 21.5**	**-0.4**		
CLZ	**Clausthal**	**148.27**	**351**	*e*PKPbc	**PKPbc**	**04 45 21.9**	**0.0**		
	baz=15,slow=2.5								
OSTC	**Ostas**	**148.29**	**344**	⇑*e*PKP	**PKPbc**	**04 45 22.1**	**+0.1**		
CHVC	**Chvalec**	**148.30**	**344**	⇑*e*PKP	**PKPbc**	**04 45 22.2**	**+0.2**		
CHVC				*e*PKPAB	**PKPab**	**04 45 29.3**	**+3.2**		
CLL	**Collm**	**148.33**	**348**	⇓*i* PKPbc	**PKPbc**	**04 45 21.7**	**-0.3**		
	comp=Z,26nm,0.8s								
CLL				*i* PKPab	**PKPab**	**04 45 25.0**	**-1.1**		
	comp=Z,15nm,0.9s								
CLL				*e*SSS	SSS	05 13 36.0			
CLL				*e*		05 18 06.0			
CLL				Lm	MLR	05 48 00.0			
	comp=N,100nm,20.6s								
CLL				Lm	MLR	05 48 00.0			
	comp=E,200nm,20.0s								
CLL				Lm	MLR	05 48 00.0			
	comp=Z,200nm,20.0s								
CLL	**Collm**	**148.33**	**348**	⇓*i* PKP2	**PKPbc**	**04 45 21.7**	**-0.3**		
CLL				pmax	pmax				
	comp=Z,26nm,0.8s								
CLL	**Collm**	**148.33**	**348**		**PKPbc**	**04 45 21.7**	**-0.3**		
CLL				PKPab	**PKPab**	**04 45 25.1**	**-1.0**		
CLL	**Collm**	**148.33**	**348**	*e*PKPbc	**PKPbc**	**04 45 21.8**	**-0.3**		
	baz=15,slow=2.5								
UPC	**Upice**	**148.39**	**344**	⇑*e*PKP	**PKPbc**	**04 45 22.2**	**0.0**		
UPC				*e*PKPAB	**PKPab**	**04 45 26.5**	**+0.1**		
UPC	**Upice**	**148.39**	**344**	*e*PKP2	**PKPbc**	**04 45 22.2**	**0.0**		
DPC	**Dobruska-Polom**	**148.45**	**343**	⇑*e*PKP	**PKPbc**	**04 45 22.6**	**+0.2**		
DPC				*e*PKPAB	**PKPab**	**04 45 26.7**	**0.0**		
DPC	**Dobruska-Polom**	**148.45**	**343**	*e*PKP2	**PKPbc**	**04 45 22.6**	**+0.2**		
ADH	**Angra Heroismo**	**148.49**	**49**	*e*PKP	**PKiKP**	**04 45 23.8**	**-0.3**		
BRG	**Berggiesshubel**	**148.55**	**346**	*e*PKP	**PKPdf**	**04 45 19.2**	**+0.7**		
	comp=Z,2.6nm,0.8s								
BRG	**Berggiesshubel**	**148.55**	**346**	*i* PKP	**PKPbc**	**04 45 22.3**	**-0.2**		
	comp=Z,12nm,0.7s								
BRG	**Berggiesshubel**	**148.55**	**346**	*i* PKP	**PKPab**	**04 45 26.4**	**-0.6**		
	comp=Z,8.5nm,0.8s								
BRG				*e*pPKP	**pPKPdf**	**04 46 38.8**	**+1.7**		
	comp=Z,2.0nm,0.5s								
	comp=N,79nm,14.5s								
	comp=E,189nm,23.1s								
	comp=Z,231nm,18.2s								
BRG	**Berggiesshubel**	**148.55**	**346**	*e*PKPbc	**PKPbc**	**04 45 22.4**	**-0.1**		
	baz=15,slow=2.5								
PSCM	**Serra do Cume**	**148.55**	**48**	*e*PKP	**PKPbc**	**04 45 22.6**	**-0.4**		
LANS	**Liptovska Anna**	**148.56**	**339**	*e*PKP2	**PKPbc**	**04 45 23.4**	**+0.7**		
LANS	**Liptovska Anna**	**148.56**	**339**	*e*PKP	**PKPbc**	**04 45 23.4**	**+0.7**		
GTTG	**Gottingen**	**148.62**	**351**	*e*PKPbc	**PKPbc**	**04 45 22.8**	**+0.1**		
	baz=15,slow=2.5								
MORC	**Moravsky Berou**	**148.62**	**342**	*e*PKP	**PKPbc**	**04 45 22.5**	**-0.4**		
MORC	**Moravsky Berou**	**148.62**	**342**	PKP2	**PKPbc**	**04 45 22.7**	**-0.1**		
MORC	**Moravsky Berou**	**148.62**	**342**		**PKPbc**	**04 45 22.7**	**-0.1**		
FBE	**Freiberg**	**148.63**	**347**	*e*PKPbc	**PKPbc**	**04 45 22.8**	**0.0**		
	baz=15,slow=2.5								
FBE				*e*PKPab	**PKPab**	**04 45 27.0**	**-0.3**		
	baz=14,slow=4.1								
DOPR	**Dopca**	**148.66**	**329**	⇓P	**PKPbc**	**04 45 22.8**	**-0.2**		
NEUB	**Neuenburg**	**148.66**	**349**	*e*PKPbc	**PKPbc**	**04 45 22.7**	**-0.1**		
	baz=15,slow=2.5								
MLR	**Muntele Rosu**	**148.72**	**328**	⇑P	**PKPbc**	**04 45 22.4**	**-1.0**		
PVCC	**Panska Ves**	**148.73**	**345**	⇑*e*PKP	**PKPbc**	**04 45 23.3**	**+0.3**		
PVCC	**Panska Ves**	**148.73**	**345**	*e*PKP2	**PKPbc**	**04 45 23.3**	**+0.3**		
BUG	**Bochum--Univer**	**149.03**	**355**	*e*PKPbc	**PKPbc**	**04 45 23.5**	**-0.2**		
	baz=15,slow=2.5								
VOIR		**149.20**	**329**	⇓P	**PKPbc**	**04 45 24.6**	**+0.1**		
VOIR		**149.20**	**329**	⇓PKP2	**PKPbc**	**04 45 24.6**	**+0.1**		
MOX	**Moxa**	**149.23**	**349**	*e*PKPbc	**PKPbc**	**04 45 24.1**	**-0.2**		
	baz=15,slow=2.5								
PRU	**Pruhonice**	**149.24**	**345**	⇑*e*PKP	**PKPbc**	**04 45 24.1**	**-0.2**		
PRU	**Pruhonice**	**149.24**	**345**	*e*PKP2	**PKPbc**	**04 45 24.1**	**-0.2**		
GOPC	**GO Pecny, Ondr**	**149.25**	**345**	⇑*e*PKP	**PKPbc**	**04 45 23.9**	**-0.5**		
GOPC				*e*PKPAB	**PKPab**	**04 45 29.8**	**-0.2**		
DRGR		**149.25**	**333**	⇑P	**PKPbc**	**04 45 23.0**	**-1.6**		
PLN	**Plauen**	**149.28**	**348**	*e*PKPbc	**PKPbc**	**04 45 24.3**	**-0.1**		
	baz=15,slow=2.5								
TANN	**Tannenbergstha**	**149.29**	**348**	*e*PKPbc	**PKPbc**	**04 45 24.2**	**-0.3**		
	baz=15,slow=2.5								
VRAC	**Vranov**	**149.32**	**342**	*e*PKP	**PKPbc**	**04 45 24.5**	**0.0**		
VRAC				*e*		04 45 29.9			
UBBA	**Unterbreizbach**	**149.32**	**351**	*e*PKPbc	**PKPbc**	**04 45 24.2**	**-0.1**		
	baz=15,slow=2.5								
VYHS	**Vyhne**	**149.34**	**339**	*e*PKP2	**PKPbc**	**04 45 24.8**	**+0.2**		
VYHS	**Vyhne**	**149.34**	**339**	*e*PKP	**PKPbc**	**04 45 24.8**	**+0.2**		
VYHS				*e*		04 45 30.8			
GUNZ	**Gunzen**	**149.36**	**348**	*e*PKPbc	**PKPbc**	**04 45 24.6**	**-0.1**		
	baz=15,slow=2.5								
JAVC	**Velka Javorina**	**149.40**	**341**	*e*PKP	**PKiKP**	**04 45 25.6**	**-0.2**		
WERN	**Wernitzgruen**	**149.43**	**348**	*e*PKPbc	**PKPbc**	**04 45 24.9**	**+0.1**		
	baz=15,slow=2.5								
WERN				*e*PKPab	**PKPab**	**04 45 30.3**	**-0.5**		
	baz=14,slow=4.1								
ARR	**Arges**	**149.46**	**329**	⇑P	**PKPbc**	**04 45 25.6**	**+0.5**		
PSZ	**Piszkesteto**	**149.46**	**337**	⇑P	**PKPbc**	**04 45 24.6**	**-0.4**		
NKC	**Novy Kostel**	**149.46**	**348**	⇑*e*PKP	**PKPbc**	**04 45 24.6**	**-0.3**		
NKC				*e*PKPAB	**PKPab**	**04 45 30.5**	**-0.4**		
KRUC	**Moravsky**	**149.60**	**342**	*e*PKP	**PKPbc**	**04 45 25.0**	**-0.2**		
KRUC				*e*		04 45 31.1			
PBCC	**Pribram**	**149.65**	**346**	⇑*e*PKP	**PKPbc**	**04 45 25.3**	**0.0**		
PBCC				*e*PKPAB	**PKPab**	**04 45 31.4**	**-0.2**		
MANZ	**Manzenberg**	**149.77**	**348**	*e*PKPbc	**PKPbc**	**04 45 25.5**	**-0.1**		
	baz=15,slow=2.5								
AHRW	**Bad Neuenahr-A**	**149.94**	**355**	*e*PKPbc	**PKPbc**	**04 45 26.2**	**+0.3**		
	baz=15,slow=2.5								
MODS	**Modra-Piesok**	**149.95**	**341**	*e*PKP	**PKPbc**	**04 45 25.7**	**-0.4**		
MEM	**Membach**	**149.95**	**356**	PKiKP	**PKPbc**	**04 45 25.8**	**-0.2**		
MEM				PKPab	**PKPab**	**04 45 30.7**	**-2.1**		
ROTZ	**Rotzenmuhle**	**149.96**	**348**	*e*PKPbc	**PKPbc**	**04 45 26.0**	**0.0**		
	baz=15,slow=2.5								
BSTI	**Sart Tilman**	**150.00**	**356**	PKiKP	**PKPbc**	**04 45 26.1**	**0.0**		
TNS	**Taunus Mts**	**150.11**	**353**	*e*PKPbc	**PKPbc**	**04 45 26.5**	**0.0**		
	baz=15,slow=2.5								
TNS				*e*PKPab	**PKPab**	**04 45 32.8**	**-0.7**		
	baz=14,slow=4.1								
GRF	**Grafenberg Arr**	**150.21**	**349**	*e*PKPbc	**PKPbc**	**04 45 26.4**	**-0.3**		
	baz=15,slow=2.5								
GRF				*e*PKPab	**PKPab**	**04 45 33.4**	**-0.5**		
	baz=14,slow=4.1								
KHC	**Kasperske Hory**	**150.26**	**346**	⇑*e*PKP	**PKPbc**	**04 45 26.9**	**0.0**		
KHC				*e*PKPAB	**PKPab**	**04 45 34.0**	**-0.2**		
KHC	**Kasperske Hory**	**150.26**	**346**	*e*PKIKP	**PKPbc**	**04 45 26.9**	**0.0**		
KHC				*e*		04 45 34.0			
KHC	**Kasperske Hory**	**150.26**	**346**		**PKPbc**	**04 45 26.6**	**-0.2**		
KHC				PKPab	**PKPab**	**04 45 33.8**	**-0.4**		
BMRD	**Maredsous**	**150.32**	**357**	PKPdf	**PKPdf**	**04 45 20.6**	**-0.8**		
BMRD				PKiKP	**PKPbc**	**04 45 26.3**	**-0.5**		
BMRD				PKPab	**PKPab**	**04 45 33.3**	**-1.0**		
BART	**Pico Bartolome**	**150.33**	**49**	*e*PKP	**PKPdf**	**04 45 21.4**	**-0.5**		
WET	**Wettzell**	**150.41**	**347**	*e*PKPbc	**PKPbc**	**04 45 26.9**	**-0.3**		
	baz=15,slow=2.5								
WET				*e*PKPab	**PKPab**	**04 45 34.3**	**-0.5**		
	baz=14,slow=4.1								
GEC2	**GERESS Array S**	**150.50**	**345**		**PKPbc**	**04 45 27.2**	**-0.4**		
GEC2	**GERESS Array S**	**150.50**	**345**	*e*PKPbc	**PKPbc**	**04 45 27.1**	**-0.4**		
	baz=15,slow=2.5								
GERES	**GERESS Array B**	**150.50**	**345**	PKPbc	**PKPbc**	**04 45 27.3**	**-0.2**		
	comp=Z,6.7nm,0.8s,baz=36,slow=2.5,SNR=52								
GERES	**GERESS Array B**	**150.50**	**345**		**PKPbc**	**04 45 26.7**	**-0.8**		
DOU	**Dourbes**	**150.54**	**358**	PKiKP	**PKPbc**	**04 45 27.1**	**-0.3**		
DOU				PKPab	**PKPab**	**04 45 34.2**	**-1.0**		
BZS	**Buzias**	**150.65**	**333**	⇑P	**PKPbc**	**04 45 26.3**	**-1.5**		
BZS	**Buzias**	**150.65**	**333**	⇑PKiKP	**PKPbc**	**04 45 26.3**	**-1.5**		
CONA	**Conrad Observa**	**150.77**	**342**	*e*PKPbc	**PKPbc**	**04 45 27.9**	**-0.2**		
	comp=Z,8.0nm,0.8s								
HERR	**Herculane**	**150.86**	**331**	⇑P	**PKPbc**	**04 45 27.6**	**-0.8**		
WLF	**Walferdange**	**150.88**	**356**	PKiKP	**PKPbc**	**04 45 28.3**	**+0.1**		
WLF				PKPab	**PKPab**	**04 45 36.0**	**-0.7**		
WLF	**Walferdange**	**150.88**	**356**	PKIKP	**PKPbc**	**04 45 28.5**	**+0.3**		
WLF	**Walferdange**	**150.88**	**356**		**PKPbc**	**04 45 28.5**	**+0.3**		
WLF	**Walferdange**	**150.88**	**356**	*e*PKPbc	**PKiKP**	**04 45 28.6**	**-0.1**		
	baz=15,slow=2.5								
MDVR	**Moldovita**	**151.26**	**331**	⇑P	**PKPbc**	**04 45 28.4**	**-1.0**		
MOA	**Molln**	**151.28**	**344**	*i* PKPbc	**PKPbc**	**04 45 28.6**	**-0.6**		
	comp=Z,4.4nm,0.9s								
STU	**Stuttgart**	**151.43**	**351**	*e*PKPbc	**PKPbc**	**04 45 29.5**	**0.0**		
	baz=15,slow=2.5								
FUR	**Furstenfeldbru**	**151.67**	**348**	*e*PKPbc	**PKPbc**	**04 45 29.7**	**-0.4**		
	baz=15,slow=2.5								
RJOB	**Jochberg**	**151.75**	**346**	*e*PKPab	**PKPab**	**04 45 39.6**	**-0.9**		
	baz=14,slow=4.1								
BFO	**Black Forest**	**151.98**	**352**	PKIKP	**PKPdf**	**04 45 23.6**	**-0.4**		
BFO				PKP	**PKPab**	**04 45 40.8**	**-0.6**		
BFO	**Black Forest**	**151.98**	**352**	PKPdf	**PKPdf**	**04 45 23.6**	**-0.4**		
BFO					**PKPbc**	**04 45 30.4**	**-0.5**		
BFO				PKPab	**PKPab**	**04 45 40.8**	**-0.6**		
BFO	**Black Forest**	**151.98**	**352**	*e*PKPbc	**PKPbc**	**04 45 30.3**	**-0.5**		
	baz=15,slow=2.5								
BFO				*e*PKPab	**PKPab**	**04 45 40.4**	**-1.0**		
	baz=14,slow=4.1								
SOKA	**Soboth**	**152.14**	**342**	*e*PKPbc	**PKPbc**	**04 45 30.3**	**-1.0**		
	comp=Z,2.6nm,0.7s								
UBR	**Ueberruh**	**152.35**	**349**	*e*PKPbc	**PKPbc**	**04 45 30.9**	**-0.8**		
	baz=15,slow=2.5								
WTTA	**Wattenberg**	**152.46**	**347**	*e*PKPbc	**PKPbc**	**04 45 31.3**	**-0.8**		
	comp=Z,5.4nm,0.6s								
MOTA	**Moosalm**	**152.49**	**348**	*e*PKPbc	**

CPUP	**Villa Florida**	**30.75**	**71**	P	**P**	**04 41 38.1**	**+0.5**	
	comp=Z,2.6nm,1.0s,baz=209,slow=13,SNR=4.3							
CPUP				LR	LR	04 52 54.5		
	comp=Z,2μm,19.2s,baz=242,slow=34							
CPUP	**Villa Florida**	**30.75**	**71**	P	**P**	**04 41 37.6**	**-0.1**	
LPAZ	**La Paz**	**31.25**	**44**	P	**P**	**04 41 43.1**	**+0.2**	
	comp=Z,1.8nm,0.8s,baz=242,slow=5.2,SNR=5.2							
LPAZ				LR	LR	04 51 36.7		
	comp=Z,2μm,18.5s,baz=206,slow=31							
LPAZ	**La Paz**	**31.25**	**44**	P	**P**	**04 41 42.6**	**-0.2**	
LPAZ				lAmb	lAmb	04 41 59.4		
	comp=Z,9.0nm,1.1s							
SIV	**San Ignacio**	**35.47**	**53**	P	**P**	**04 42 18.5**	**-0.5**	
	comp=Z,2.3nm,1.0s,baz=248,slow=10,SNR=6.4							
ATAH	**Atahualpa**	**35.55**	**20**	P	**P**	**04 42 20.2**	**+0.1**	
	comp=Z,5.8nm,0.8s,baz=78,slow=9.3,SNR=3.2							
HOPE	**Hope Point**	**37.30**	**129**	P	**P**	**04 42 34.1**	**-0.1**	
SAML	**Samuel**	**39.99**	**44**	P	**P**	**04 42 56.7**	**-0.5**	
BDFB	**Brasilia**	**44.28**	**67**	P	**P**	**04 43 33.1**	**+0.8**	
	comp=Z,0.8nm,0.4s,baz=222,slow=14,SNR=1.6							
BDFB				LR	LR	05 01 19.2		
	comp=Z,2μm,19.2s,baz=233,slow=35							
BDFB	**Brasilia**	**44.28**	**67**	P	**P**	**04 43 32.8**	**+0.4**	
ROSC	**El Rosal**	**48.10**	**21**	P	**P**	**04 44 03.1**	**+0.5**	
	comp=Z,3.4nm,0.4s,baz=168,slow=5.9,SNR=4.7							
ROSC				LR	LR	05 02 23.4		
	comp=Z,761nm,18.0s,baz=190,slow=34							
ROSC	**El Rosal**	**48.10**	**21**	P	**P**	**04 44 03.1**	**+0.5**	
VNA3	**Neumayer Olymp**	**48.46**	**155**	P	**P**	**04 44 05.3**	**+0.8**	
QSPA	**South Pole Qui**	**48.94**	**180**	P	**P**	**04 44 08.6**	**+0.2**	
	comp=Z,1.1nm,0.7s,baz=150,slow=4.5,SNR=5.7							
QSPA	**South Pole Qui**	**48.94**	**180**	P	**P**	**04 44 07.5**	**-0.9**	
VNA1	**Neumayer--Stat**	**49.00**	**154**	P	**P**	**04 44 10.0**	**+1.5**	
RUSC	**La Rusia**	**49.45**	**22**	P	**P**	**04 44 12.2**	**-0.9**	
SNAA	**Sanae**	**50.54**	**156**	P	**P**	**04 44 19.9**	**-0.4**	
SNAA	**Sanae**	**50.54**	**156**	P	**P**	**04 44 20.0**	**-0.4**	
SNAA				lAmb	lAmb	04 44 30.5		
	comp=Z,12nm,1.1s							
TBI	**Tubuai**	**52.36**	**271**	*e*S	**S**	**04 51 57.1**	**-3.1**	
	comp=Z,284nm,26.5s							
TBI				eLQ	LQ	04 57 18.8		
	comp=Z,378nm,29.5s							
TBI				eLR	LR	04 59 09.4		
	comp=Z,644nm,27.5s							
VNDA	**Vanda**	**53.80**	**195**	P	**P**	**04 44 44.9**	**+0.5**	
	comp=Z,0.6nm,0.7s,baz=120,slow=8.0,SNR=2.8							
VNDA				LR	LR	05 02 28.9		
	comp=Z,504nm,21.6s,baz=112,slow=30							
VNDA	**Vanda**	**53.80**	**195**	P	**P**	**04 44 45.7**	**+1.3**	
MTO3	**Montecristo**	**55.42**	**1**	P	**P**	**04 44 56.8**	**-0.2**	
CMIG	**Matias Romero**	**58.27**	**354**	LR	LR	05 03 52.0		
	comp=Z,149nm,21.9s,baz=175,slow=29							
SYO	**Syowa Base**	**63.87**	**162**	*e*P	**P**	**04 45 53.6**	**-0.9**	
SYO	**Syowa Base**	**63.87**	**162**	*e*pP	**P**	**04 45 55.6**	**+1.1**	
MAW	**Mawson**	**69.49**	**169**	P	**P**	**04 46 31.1**	**+0.8**	
	comp=Z,2.9nm,0.9s,baz=212,slow=9.5,SNR=2.1							
MAW				LR	LR	05 14 46.7		
	comp=Z,402nm,21.0s,baz=215,slow=34							
MAW	**Mawson**	**69.49**	**169**	P	**P**	**04 46 31.6**	**+1.2**	
HKT	**Hockley**	**71.10**	**355**	P	**P**	**04 46 42.0**	**+1.6**	
TXAR	**Lajitas Array**	**71.41**	**347**	P	**P**	**04 46 42.5**	**-0.1**	
	comp=Z,1.3nm,0.8s,baz=183,slow=7.5,SNR=4.6							
TXAR				LR	LR	05 12 05.9		
	comp=Z,115nm,20.6s,baz=0.0,slow=31							
TXAR	**Lajitas Array**	**71.41**	**347**	P	**P**	**04 46 43.1**	**+0.5**	
TX32	**Lajitas Array**	**71.41**	**347**	P	**P**	**04 46 43.2**	**+0.7**	
JCT	**Junction City**	**71.99**	**351**	P	**P**	**04 46 46.9**	**+0.9**	
JCT				lAmb	lAmb	04 47 03.6		
	comp=Z,12nm,1.3s							
435B	**Jarrell**	**72.06**	**353**	P	**P**	**04 46 47.9**	**+1.5**	
NATX	**Nacogdoches**	**72.82**	**356**	P	**P**	**04 46 52.5**	**+1.7**	
WHTX	**Lake Whitney,**	**73.25**	**353**	P	**P**	**04 46 54.5**	**+1.1**	
143A	**Socs Landing,**	**73.65**	**359**	P	**P**	**04 46 56.4**	**+0.7**	
152A	**Waverly Hall**	**73.76**	**5**	P	**P**	**04 46 56.8**	**+0.4**	
152A				lAmb	lAmb	04 47 10.6		
	comp=Z,5.7nm,1.0s							
LRAL	**Lakeview Retre**	**74.02**	**3**	P	**P**	**04 46 58.9**	**+1.1**	
LRAL				lAmb	lAmb	04 47 08.1		
	comp=Z,22nm,1.9s							
ABTX	**Abilene, Hawle**	**74.09**	**352**	P	**P**	**04 46 58.9**	**+0.5**	
GOGA	**Godfrey**	**74.58**	**6**	P	**P**	**04 47 02.2**	**+1.1**	
GOGA				lAmb	lAmb	04 47 18.2		
	comp=Z,14nm,1.6s							
X48A	**Hartselle**	**75.43**	**3**	P	**P**	**04 47 06.7**	**+0.7**	
X48A				lAmb	lAmb	04 47 22.8		
	comp=Z,9.2nm,1.4s							
TUC	**Tucson**	**75.72**	**342**	P	**P**	**04 47 10.0**	**+2.2**	
MSTX	**Muleshoe**	**75.82**	**349**	P	**P**	**04 47 10.8**	**+2.3**	
MSTX				lAmb	lAmb	04 47 18.4		
	comp=Z,8.1nm,0.9s							
WMOK	**Wichita Mounta**	**76.10**	**353**	P	**P**	**04 47 11.0**	**+1.2**	
BG3	**Lake Jocassee**	**76.19**	**6**	P	**P**	**04 47 11.3**	**+0.9**	
BG3				lAmb	lAmb	04 47 21.0		
	comp=Z,9.8nm,1.3s							
SWET	**Sewanee**	**76.23**	**3**	P	**P**	**04 47 10.7**	**+0.1**	
AMTX	**Amarillo**	**76.57**	**350**	P	**P**	**04 47 13.4**	**+0.8**	
AMTX				lAmb	lAmb	04 47 21.3		
	comp=Z,6.0nm,0.8s							
FCAR	**Ozark Folk Cen**	**76.84**	**358**	P	**P**	**04 47 15.3**	**+1.3**	
FCAR				lAmb	lAmb	04 47 17.4		
	comp=Z,13nm,1.6s							
V53A	**Saluda**	**76.88**	**6**	P	**P**	**04 47 15.4**	**+1.1**	
TUL1	**Leonard**	**77.02**	**355**	P	**P**	**04 47 15.7**	**+0.7**	
TUL1				lAmb	lAmb	04 47 23.5		
	comp=Z,5.6nm,0.8s							
ANMO	**Albuquerque**	**77.37**	**346**	P	**P**	**04 47 18.0**	**+0.8**	
	comp=Z,1.0nm,0.6s,baz=172,slow=9.6,SNR=3.6							
ANMO	**Albuquerque**	**77.37**	**346**	P	**P**	**04 47 16.9**	**-0.3**	
U49A	**Red Boiling Sp**	**77.53**	**3**	P	**P**	**04 47 18.7**	**+0.8**	
U49A				lAmb	lAmb	04 47 27.1		
	comp=Z,5.8nm,0.8s							
S39A	**Bolivar**	**78.67**	**357**	P	**P**	**04 47 23.4**	**-0.8**	
S51A	**Beattyville**	**78.78**	**5**	P	**P**	**04 47 24.6**	**-0.1**	
S51A				lAmb	lAmb	04 47 37.0		
	comp=Z,11nm,1.0s							
WUAZ	**Wupatki**	**78.93**	**342**	P	**P**	**04 47 25.8**	**0.0**	
CCM	**Cathedral Cave**	**78.98**	**359**	P	**P**	**04 47 25.7**	**-0.2**	
CCM				lAmb	lAmb	04 47 43.2		
	comp=Z,7.4nm,1.0s							
T25A	**Trinidad**	**79.17**	**348**	P	**P**	**04 47 27.2**	**-0.1**	
T25A				lAmb	lAmb	04 47 45.1		
	comp=Z,7.3nm,1.3s							
S22A	**4UR Ranch, Cre**	**80.16**	**347**	P	**P**	**04 47 33.8**	**+1.1**	
P40A	**Paris**	**80.47**	**358**	P	**P**	**04 47 34.8**	**+0.8**	
P43A	**Skaggs, Pawnee**	**80.56**	**0**	P	**P**	**04 47 35.2**	**+0.8**	
P49A	**Miami Univ. Ec**	**80.59**	**4**	P	**P**	**04 47 35.8**	**+1.2**	
P49A				lAmb	lAmb	04 47 44.6		
	comp=Z,17nm,1.4s							
P38A	**Dawn**	**80.61**	**357**	P	**P**	**04 47 35.4**	**+0.7**	
P38A				lAmb	lAmb	04 47 42.5		
	comp=Z,5.5nm,0.8s							
P52A	**Corning**	**80.87**	**6**	P	**P**	**04 47 36.2**	**+0.1**	
P52A				lAmb	lAmb	04 47 47.5		
	comp=Z,9.6nm,0.9s							
PV13	**Radium Mtn., P**	**80.93**	**345**	P	**P**	**04 47 37.2**	**+0.4**	
PV13				lAmb	lAmb	04 47 54.3		
	comp=Z,17nm,1.7s							
CCUT	**Cedar City**	**81.33**	**341**	P	**P**	**04 47 40.3**	**+1.4**	
Q16A	**Castle Valley**	**82.14**	**343**	P	**P**	**04 47 43.5**	**+0.4**	
TMUT	**Trail Mountain**	**82.52**	**344**	P	**P**	**04 47 45.7**	**+0.6**	
MPU	**Maple Canyon**	**83.30**	**343**	P	**P**	**04 47 50.2**	**+1.1**	
PHWY	**Pilot Hill**	**83.41**	**348**	P	**P**	**04 47 49.6**	**-0.1**	
PHWY				lAmb	lAmb	04 47 50.4		
	comp=Z,4.5nm,1.1s							
NVAR	**Mina Array Bea**	**83.46**	**338**	P	**P**	**04 47 50.9**	**+1.0**	
	comp=Z,0.5nm,0.7s,baz=152,slow=5.8,SNR=2.9							
NVAR				LR	LR	05 18 26.8		
	comp=Z,86nm,18.7s,baz=149,slow=31							
NVAR	**Mina Array Bea**	**83.46**	**338**	P	**P**	**04 47 50.0**	**+0.1**	
DUG	**Dugway, Tooele**	**83.73**	**343**	P	**P**	**04 47 51.1**	**-0.1**	
DUG				lAmb	lAmb	04 48 07.6		
	comp=Z,5.4nm,1.1s							
ECSD	**EROS Data Cent**	**84.86**	**355**	P	**P**	**04 47 56.7**	**0.0**	
ECSD				lAmb	lAmb	04 48 06.5		
	comp=Z,7.1nm,1.1s							
K22A	**Casper**	**84.89**	**348**	P	**P**	**04 47 59.0**	**+1.9**	
K22A				lAmb	lAmb	04 48 13.4		
	comp=Z,6.2nm,0.9s							
PDAR	**Pinedale Array**	**85.53**	**346**	P	**P**	**04 48 01.1**	**+0.8**	
	comp=Z,0.8nm,0.9s,baz=159,slow=4.6,SNR=8.7							
PDAR	**Pinedale Array**	**85.53**	**346**	P	**P**	**04 48 00.5**	**+0.1**	
BW06	**Boulder Array**	**85.53**	**346**	P	**P**	**04 48 01.6**	**+1.3**	
BW06				lAmb	lAmb	04 48 05.2		
	comp=Z,4.8nm,1.2s							
REDW	**Red Top Meadow**	**86.35**	**345**	P	**P**	**04 48 04.7**	**+0.2**	
REDW				lAmb	lAmb	04 48 22.8		
	comp=Z,7.8nm,1.2s							
BOSA	**Boshof**	**88.23**	**127**	LR	LR	05 22 11.3		
	comp=Z,230nm,20.3s,baz=232,slow=32							
DBIC	**Dimbokro**	**90.70**	**82**	LR	LR	05 28 23.5		
	comp=Z,167nm,18.3s,baz=208,slow=35							
ULM	**Lac du Bonnet**	**91.31**	**356**	LR	LR	05 24 54.6		
	comp=Z,131nm,21.9s,baz=154,slow=33							
STKA	**Stephens Creek**	**93.03**	**222**	LR	LR	05 23 51.7		
	comp=Z,157nm,18.2s,baz=179,slow=31							
SCHQ	**Schefferville**	**97.78**	**13**	LR	LR	05 31 25.2		
	comp=Z,145nm,20.2s,baz=124,slow=34							
HNR	**Honiara**	**98.52**	**250**	LR	LR	05 25 12.6		
	comp=Z,85nm,21.0s,baz=134,slow=30							
TORD	**Torodi Ar. Bea**	**99.79**	**81**	LR	LR	05 30 32.8		
	comp=Z,109nm,20.6s,baz=165,slow=33							
KSRS	**Korea Array**	**150.61**	**275**	PKPbc	**PKiKP**	**04 55 15.3**	**+0.5**	
	comp=Z,0.6nm,0.3s,baz=97,slow=2.2,SNR=5.4							
ZALV	**Zalesovo Beam**	**166.87**	**14**	PKP	**PKPdf**	**04 55 26.4**	**-0.9**	
	comp=Z,0.5nm,0.4s,baz=302,slow=2.7,SNR=5.3							
ZALV	**Zalesovo Beam**	**166.87**	**14**		**PKPdf**	**04 55 25.0**	**-2.3**	
LZH	**Lanzhou**	**168.02**	**249**	*e*PKP	**PKPdf**	**04 55 26.0**	**-3.0**	
LZH				pPKP	pPKPdf	04 55 30.8	-0.2	
LZH				sPKP		04 55 32.5		
LZH				PKP	**PKPab**	**04 56 36.4**	**-0.3**	
LZH				LR	LR			
	comp=N,67nm,17.9s							
LZH				LR	LR			
	comp=E,71nm,18.3s							
LZH				LR	LR			
	comp=Z,86nm,20.1s							
MKAR	**Makanchi Array**	**172.18**	**43**	PKP	**PKPdf**	**04 55 30.8**	**-0.1**	
	comp=Z,0.1nm,0.4s,baz=79,slow=0.7,SNR=3.8							
MKAR	**Makanchi Array**	**172.18**	**43**		**PKPdf**	**04 55 29.2**	**-1.6**	

IDC ***25*** *04:39:43.8±1.6,51°.84N×178°.19E, h0km, mb3.8/9, mb1 4.1/10, mb1mx3.7/52, mbtmp3.8/10, ML4.3/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/34, Error ellipse: s-maj=48.7km s-min=28.4km az=134.0*

NEIC ***25*** *04:39:57.8±1.5, 51°.9N±0°.2×178°.43E±0°.05, h116km±5km, mb4.0/51, Error ellipse: s-maj=24.0km s-min=2.0km az=190.0*

AEIC ***25*** *04:39:58.7±1.9, 51°.8N±0°.2×178°.42E±0°.05, h109km±4km, Error ellipse: s-maj=24.1km s-min=1.1km az=189.0*

ISC 25 04:39:58.2±0.7, 52°.0N±0°.1×178°.47E±0°.05, h114km±5km, n95, σ0.86/98, mb3.9/22, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.03**	**94**		**Pn**	**04 40 13.4**	**-0.4**
LSSA					**Sn**	**04 40 25.5**	**-0.1**
LSNW	**Little Sitkin**	**0.04**	**57**		**Pn**	**04 40 13.3**	**-0.5**
LSPA	**Little Sitkin**	**0.06**	**85**		**Pn**	**04 40 13.2**	**-0.6**
LSPA					**Sn**	**04 40 25.7**	**+0.1**
LSSE	**Little Sitkin**	**0.06**	**107**		**Pn**	**04 40 13.5**	**-0.3**
CETU	**Semis' Tuman**	**0.63**	**88**		**Pn**	**04 40 16.1**	**-0.3**
CESW	**Semis' Southwe**	**0.68**	**94**		**Pn**	**04 40 16.0**	**-0.7**
CEAP	**Semis' Anvil P**	**0.69**	**85**		**Pn**	**04 40 16.6**	**-0.2**
CEAP					**Sn**	**04 40 30.8**	**-0.1**
CERAA	**Semis' Rag'd T**	**0.75**	**93**		**Pn**	**04 40 16.8**	**-0.6**
CERAA					**Sn**	**04 40 31.4**	**-0.4**
AMKA	**Amchitka**	**0.77**	**138**		**Pn**	**04 40 19.1**	**+1.5**
AMKA					**Sn**	**04 40 31.4**	**-0.7**
GALAA	**Gareloi Lava P**	**1.72**	**95**		**Pn**	**04 40 27.8**	**-0.1**
GAEA	**Gareloi East**	**1.72**	**94**		**Pn**	**04 40 28.0**	**0.0**
TASE	**Tanaga Southea**	**2.17**	**92**		**Pn**	**04 40 33.4**	**-0.2**
TAFP	**Tanaga Falls P**	**2.20**	**90**		**Pn**	**04 40 33.8**	**0.0**
TAFP					**Sn**	**04 41 01.0**	**-0.1**
KIMD	**Kanaga Island**	**2.67**	**92**		**Pn**	**04 40 39.5**	**-0.5**
KICM	**Kanaga Island**	**2.68**	**89**		**Pn**	**04 40 39.9**	**-0.2**
SMY	**Shemya**	**2.79**	**288**		**Pn**	**04 40 39.4**	**-2.1**
SMY					**Sn**	**04 41 13.7**	**-1.2**
ADK	**Adak**	**3.00**	**89**		**Pn**	**04 40 43.6**	**-0.7**
ADK				Sn	**Sn**	**04 41 18.8**	**-1.0**
GSTD	**Great Sitkin T**	**3.33**	**86**		**Pn**	**04 40 47.7**	**-1.0**
GSTR	**Great Sitkin T**	**3.38**	**85**	Pn	**Pn**	**04 40 48.8**	**-0.6**
ATKA	**Atka Island**	**4.53**	**84**		**Pn**	**04 41 03.8**	**-0.9**
SPIA	**Saint Paul Isl**	**8.38**	**47**	Pn	**Pn**	**04 41 59.1**	**+2.4**
UNV	**Unalaska Valle**	**9.28**	**72**	Pn	**Pn**	**04 42 09.9**	**+1.1**
SVW2	**Sparrevohn**	**16.88**	**47**	P	**P**	**04 43 49.4**	**+1.9**
OHAK	**Old Harbor**	**17.12**	**61**	P	**P**	**04 43 48.0**	**-2.1**
MA2	**Magadan**	**17.25**	**307**	LR	LR	04 50 03.2	
	comp=Z,49nm,18.6s,baz=290,slow=36						
TTA	**Tatalina**	**17.45**	**41**	P	**Pn**	**04 43 55.3**	**+1.1**
KDAK	**Kodiak Island**	**17.56**	**59**	P	**P**	**04 43 52.8**	**-2.1**
	1.0nm,0.3s,baz=176,slow=1.5,SNR=34						
KDAK	**Kodiak Island**	**17.56**	**59**	P	**P**	**04 43 52.8**	**-2.1**
KDAK				lAmb	lAmb	04 44 07.7	
	comp=Z,21nm,1.4s						
CNPM	**China Poot**	**18.53**	**54**	P	**P**	**04 44 05.6**	**+0.1**
CNPM				lAmb	lAmb	04 44 07.0	
	comp=Z,9.2nm,0.6s						
BRLK	**Bradley Lake**	**18.75**	**53**	P	**P**	**04 44 07.8**	**-0.1**
BRLK				lAmb	lAmb	04 44 11.6	
	comp=Z,9.7nm,0.9s						
SKT	**Skwentna**	**19.00**	**46**	P	**Pn**	**04 44 12.1**	**-0.6**
SKT				lAmb	lAmb	04 44 18.3	
	comp=Z,4.7nm,0.8s						
PPLA	**Purkeypile**	**19.03**	**43**	P	**Pn**	**04 44 13.1**	**0.0**
PPLA				lAmb	lAmb	04 44 16.4	
	comp=Z,5.4nm,1.0s						
SUA	**Susitna One**	**19.21**	**48**	P	**Pn**	**04 44 14.6**	**-0.6**
SUA				lAmb	lAmb	04 44 21.3	
	comp=Z,8.4nm,1.2s						
SEW	**Seward**	**19.52**	**53**	P	**P**	**04 44 16.4**	**+0.1**
BPAW	**Bear Paw Mtn.**	**19.99**	**41**	P	**P**	**04 44 22.5**	**+1.1**
TRF	**Thorofare Moun**	**20.03**	**43**	P	Pn	04 44 24.0	-0.8
TRF				lAmb	lAmb	04 44 25.6	
	comp=Z,3.8nm,0.6s						
SML	**Sawmill**	**20.41**	**48**	P	**P**	**04 44 27.4**	**+1.5**
SML				lAmb	lAmb	04 44 29.8	
	comp=Z,4.0nm,0.7s						
GLI	**Glacier Island**	**20.81**	**51**	P	**P**	**04 44 29.6**	**-0.5**
GLI				lAmb	lAmb	04 44 31.2	
	comp=Z,7.8nm,0.8s						
SCM	**Sheep Creek Mo**	**20.89**	**48**	P	**P**	**04 44 30.8**	**-0.2**
SCM				lAmb	lAmb	04 44 41.2	
	comp=Z,7.9nm,1.1s						
HIN	**Hinchinbrook I**	**21.02**	**53**	P	**P**	**04 44 32.7**	**+0.2**
FID	**Port Fidalgo**	**21.09**	**52**	P	**P**	**04 44 32.8**	**-0.4**
FID				lAmb	lAmb	04 44 34.6	
	comp=Z,7.7nm,0.8s						
DHY	**Denali Highway**	**21.17**	**45**	P	**P**	**04 44 34.2**	**+0.1**
DHY				lAmb	lAmb	04 44 36.3	
	comp=Z,4.6nm,0.7s						
WRH	**Wood River Hil**	**21.30**	**41**	P	**P**	**04 44 35.9**	**+0.5**
MDM	**Murphy Dome**	**21.42**	**40**	P	**P**	**04 44 37.8**	**+1.2**
MDM				lAmb	lAmb	04 44 52.3	
	comp=Z,2.5nm,0.6s						
CCB	**Clear Creek Bu**	**21.48**	**41**	P	**P**	**04 44 37.0**	**-0.2**
HDA	**Harding Lake**	**21.75**	**42**	P	**P**	**04 44 40.0**	**-0.1**
IL31		**21.89**	**41**	P	**P**	**04 44 41.8**	**+0.2**
ILAR	**Eielson Array**	**21.89**	**41**	P	**P**	**04 44 40.3**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=259,slow=11,SNR=11						
ILAR	**Eielson Array**	**21.89**	**41**	P	**P**	**04 44 42.5**	**+0.8**
RAGM	**Ragged Mountai**	**21.92**	**53**	P	**P**	**04 44 43.2**	**+1.2**
PAX	**Paxson**	**21.98**	**46**	P	**P**	**04 44 43.4**	**+0.6**
RIDG	**Independent Ri**	**22.44**	**44**	P	**P**	**04 44 47.6**	**+0.2**
RIDG				lAmb	lAmb	04 44 49.6	
	comp=Z,2.7nm,0.4s						
GLB	**Gilahina Butte**	**22.47**	**50**	P	**P**	**04 44 47.7**	**0.0**
TOLK	**Toolik Lake Re**	**22.60**	**30**	P	**P**	**04 44 49.6**	**+0.7**
TOLK				lAmb	lAmb	04 44 51.5	
	comp=Z,5.1nm,0.7s						
PRP	**Porcupine Dome**	**22.68**	**39**	P	**P**	**04 44 50.8**	**+0.9**
CRQM	**Cirque**	**22.71**	**52**	P	**P**	**04 44 50.7**	**+0.4**
CRQM				lAmb	lAmb	04 44 52.9	
	comp=Z,13nm,1.0s						
SCRK	**Sand Creek**	**22.87**	**44**	P	**P**	**04 44 52.1**	**+0.4**
SCRK				lAmb	lAmb	04 44 52.8	
	comp=Z,2.6nm,0.4s						
BARN	**Barnard Glacie**	**23.46**	**52**	P	**P**	**04 44 58.0**	**+0.6**
BARN				lAmb	lAmb	04 44 59.8	
	comp=Z,6.3nm,0.7s						
BCAR	**Beaver Creek A**	**23.65**	**47**	P	**P**	**04 44 59.2**	**+0.3**
BMAR	**Burnt Mountain**	**23.72**	**35**	P	**P**	**04 45 00.2**	**+0.8**
EGAK	**Eagle**	**24.25**	**43**	P	**P**	**04 45 04.2**	**0.0**
EGAK				lAmb	lAmb	04 45 05.4	
	comp=Z,5.5nm,0.8s						
DAWY	**Dawson**	**24.87**	**45**	P	**P**	**04 45 10.0**	**+0.1**
INK	**Inuvik**	**27.98**	**36**	P	**P**	**04 45 38.5**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=253,slow=7.2,SNR=7.0						
INK	**Inuvik**	**27.98**	**36**	P	**P**	**04 45 38.2**	**+0.6**
INK				lAmb	lAmb	04 45 45.8	
	comp=Z,2.6nm,1.1s						
USA0B	**Ussuriysk Arra**	**31.55**	**274**	P	**P**	**04 46 10.1**	**+0.7**
USA0B				lAmb	lAmb	04 46 13.1	
	comp=Z,2.8nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**33.41**	**200**	T	T	05 22 01.2	
	baz=11						
H11N3	**WAKE ISLAND Hy**	**33.42**	**200**	T	T	05 21 53.7	
	baz=11						
H11N1	**WAKE ISLAND Hy**	**33.43**	**200**	T	T	05 21 54.9	
	baz=11						
YKA	**Yellowknife Ar**	**36.07**	**47**	P	**P**	**04 46 48.5**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=280,slow=8.1,SNR=4.6						
KRMB	**Red Mountain**	**39.86**	**82**	P	**P**	**04 47 21.1**	**+0.5**
YBH	**Yreka Blue Hor**	**40.47**	**81**	P	**P**	**04 47 26.7**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=306,slow=3.6,SNR=5.1						
YBH	**Yreka Blue Hor**	**40.47**	**81**	P	**P**	**04 47 26.2**	**+0.6**
YBH				lAmb	lAmb	04 47 38.6	
	comp=Z,3.1nm,1.4s						
K05A	**Summer Lake**	**41.01**	**78**	P	**P**	**04 47 31.0**	**+1.0**
K05A				lAmb	lAmb	04 47 31.3	
	comp=Z,1.6nm,0.7s						
I07A	**Izee**	**41.08**	**76**	P	**P**	**04 47 30.2**	**-0.3**
PNTR	**Pine Nut**	**43.95**	**82**	P	**P**	**04 47 54.7**	**+0.7**
WAKR	**Walker**	**44.42**	**82**	P	**P**	**04 47 58.5**	**+0.8**
NVAR	**Mina Array Bea**	**45.16**	**81**	P	**P**	**04 48 04.0**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=297,slow=7.1,SNR=6.5						
NV11	**Mina Array Sit**	**45.25**	**81**	P	**P**	**04 48 04.5**	**+0.3**
NV11				lAmb	lAmb	04 48 04.9	
	comp=Z,3.5nm,1.4s						
ELK	**Elko**	**45.59**	**77**	P	**P**	**04 48 06.8**	**-0.2**
R11A	**Troy Canyon, C**	**46.87**	**80**	P	**P**	**04 48 16.8**	**-0.1**
R11A				lAmb	lAmb	04 48 18.2	
	comp=Z,2.8nm,1.1s						
PD31	**Pinedale Array**	**47.74**	**71**	P	**P**	**04 48 23.0**	**-0.6**
PD31				lAmb	lAmb	04 48 28.9	
	comp=Z,3.7nm,1.4s						
PDAR	**Pinedale Array**	**47.74**	**71**	P	**P**	**04 48 22.9**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=292,slow=4.8,SNR=2.5						
MKAR	**Makanchi Array**	**58.34**	**307**	P	**P**	**04 49 41.5**	**+0.4**
W35A	**Tecumseh**	**60.17**	**70**	P	**P**	**04 49 53.1**	**-0.7**
TX32	**Lajitas Array**	**60.23**	**80**	P	**P**	**04 49 54.0**	**-0.4**
TXAR	**Lajitas Array**	**60.23**	**80**	P	**P**	**04 49 54.3**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=305,slow=5.3,SNR=9.4						
TXAR	**Lajitas Array**	**60.23**	**80**	P	**P**	**04 49 54.1**	**-0.3**
SCHQ	**Schefferville**	**60.59**	**37**	P	**P**	**04 49 56.0**	**-0.3**
	comp=Z,2.6nm,0.9s,baz=276,slow=7.4,SNR=5.5						
SCHQ	**Schefferville**	**60.59**	**37**	P	**P**	**04 49 56.0**	**-0.3**
FCAR	**Ozark Folk Cen**	**62.38**	**66**	P	**P**	**04 50 06.9**	**-1.7**
OXF	**Oxford**	**64.91**	**66**	P	**P**	**04 50 24.5**	**-0.7**
ABKAR	**Akbulak array**	**66.44**	**321**	P	**P**	**04 50 35.5**	**+0.7**
G65A	**Princeton**	**67.81**	**44**	P	**P**	**04 50 42.8**	**-0.7**
BURAR	**Bucovina Array**	**78.20**	**342**	P	**P**	**04 51 46.2**	**+1.3**
WRA	**Warramunga Arr**	**81.28**	**222**	P	**P**	**04 52 01.0**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=31,slow=5.7,SNR=1.5						

**KRSC 25 05:12:17.5±1.7, 48°.10N×156°.81E, h17km±33km, ML4.1,

	1.0nm,0.3s,baz=77,slow=14,SNR=19								
ZALV					Lg	Lg	06 10 04.8		
	1.0nm,0.3s,baz=74,slow=26,SNR=7.9								
KURK	**Kurchatov**	**6.20**	**239**	⇑Pn	**Pn**	**06 10 54.3**	**0.0**		
	2.5nm,1.0s								
KURK				⇑Sn	**Sn**	**06 12 06.0**	**+0.3**		
	2.4nm,0.9s								
KURK				⇑Lg	Lg	06 12 42.6			
	11nm,1.3s								
KURBB	**Kurchatov Arra**	**6.30**	**239**	Pn	**Pn**	**06 10 56.4**	**+0.7**		
	0.1nm,0.3s,baz=55,slow=14,SNR=13								
KURBB				Sn	**Sn**	**06 12 08.1**	**-0.3**		
	0.0nm,0.3s,baz=50,slow=29,SNR=3.3								
KURBB				Lg	Lg	06 12 41.8			
	0.0nm,0.3s,baz=55,slow=31,SNR=6.5								
KURBB	**Kurchatov Arra**	**6.30**	**239**	⇑Pn	**Pn**	**06 10 56.8**	**+1.1**		
	1.2nm,0.5s								
KURBB				⇑Sn	**Sn**	**06 12 10.3**	**+2.0**		
	4.2nm,0.6s								
KURBB				⇑Lg	Lg	06 12 43.4			
	7.5nm,0.7s								
MK31	**Makanchi Array**	**8.01**	**204**	⇓Pn	**Pn**	**06 11 19.8**	**+0.7**		
	0.5nm,0.6s,baz=27,slow=14,SNR=14								
MK31				Sn	**Sn**	**06 12 50.2**	**0.0**		
	1.3nm,0.7s,baz=23,slow=25,SNR=12								
MK31				⇓Lg	Lg	06 13 33.8			
	5.3nm,1.1s,baz=26,slow=30,SNR=4.0								
MKAR	**Makanchi Array**	**8.01**	**204**	Pn	**Pn**	**06 11 19.5**	**+0.5**		
	0.1nm,0.3s,baz=25,slow=14,SNR=9.0								
MKAR				Sn	**Sn**	**06 12 49.2**	**-1.0**		
	0.3nm,0.3s,baz=25,slow=28,SNR=12								
MKAR				Lg	Lg	06 13 35.2			
	0.1nm,0.3s,baz=21,slow=28,SNR=2.4								

IDC 25 06:13:38.6±3.3, 10°.98S×119°.79E, h0km, mb3.7/2, mb1 3.7/4, mb1mx3.4/35, mbtmp3.6/4, ML3.3/2, Error ellipse: s-maj=187.1km s-min=29.5km az=52.0, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.60**	**124**	Pn	Pn	06 17 30.9	-2.0
	0.1nm,0.3s,baz=298,slow=12,SNR=2.3						
WRA				Sn		06 20 21.1	-17
	0.1nm,0.3s,baz=291,slow=25,SNR=2.0						
ASAR	**Alice Springs**	**18.43**	**135**	P	P	06 17 56.8	+1.0
	0.1nm,0.3s,baz=310,slow=12,SNR=7.0						
ASAR				S	Sn	06 21 08.4	-14
	0.1nm,0.3s,baz=315,slow=24,SNR=2.8						
SONM	**Songino Array**	**59.75**	**350**	P	P	06 23 45.6	+0.3
	0.3nm,0.4s,baz=157,slow=7.8,SNR=4.6						
MKAR	**Makanchi Array**	**66.56**	**333**	P	P	06 24 30.2	-0.4
	0.1nm,0.6s,baz=138,slow=5.6,SNR=1.7						

IDC 25 06:20:29.8±3.2, 54°.19N×87°.29E, h0km, mb1 2.8/2, mb1mx2.8/44, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=28.4km s-min=19.2km az=47.0

KRAR 25 06:20:23.7±0.1, 54°.20N×86°.40E, M1.8, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.96**	**256**	*i*		06 29 20.0	
	baz=78,slow=317,SNR=1.4						
ZALV	**Zalesovo Beam**	**0.96**	**255**	Pg	Pn	06 20 56.0	+12
	1.9nm,0.3s,baz=83,slow=13,SNR=11						
ZALV				Lg	Lg	06 21 16.6	
	1.3nm,0.3s,baz=81,slow=24,SNR=5.7						
KURBB	**Kurchatov Arra**	**6.00**	**237**	Pn	Pb	06 22 06.8	-2.2
	0.1nm,0.3s,baz=55,slow=14,SNR=3.1						
KURBB				Lg	Lg	06 23 54.5	
	0.0nm,0.3s,baz=55,slow=35,SNR=2.1						
MKAR	**Makanchi Array**	**7.86**	**201**	Pn	Pn	06 22 29.2	+10
	0.1nm,0.3s,baz=26,slow=15,SNR=6.0						

IDC 25 06:26:44.7±4.2, 28°.37S×177°.58W, h0km, mb3.8/2, mb1 4.0/2, mb1mx3.6/27, mbtmp3.8/2, MS3.5/2, Ms1 3.5/2, ms1mx2.8/27, Error ellipse: s-maj=83.5km s-min=24.4km az=86.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.93**	**199**	Pn	Pn	06 27 05.2	+0.1
	211nm,0.3s,baz=36,slow=20,SNR=15						
RAO				Sn	Sn	06 27 20.4	+1.2
	532nm,0.3s,baz=50,slow=21,SNR=10						
RAR	**Rarotonga**	**17.65**	**70**	LR	LR	06 38 40.1	
	comp=Z,56nm,18.2s,baz=162,slow=40						
ASAR	**Alice Springs**	**43.63**	**265**	P	P	06 34 50.4	-0.9
	0.4nm,0.5s,baz=104,slow=7.8,SNR=6.8						
WRA	**Warramunga Arr**	**44.43**	**270**	P	P	06 34 58.3	+0.6
	0.6nm,0.3s,baz=111,slow=8.1,SNR=4.8						
CFA	**Coronel Fontan**	**90.15**	**126**	LR	LR	07 15 56.0	
	comp=Z,47nm,18.1s,baz=148,slow=33						
FINES	**FINESS Array B**	**143.36**	**341**	PKP	PKPdf	06 46 19.7	-0.8
	1.9nm,0.6s,baz=46,slow=6.1,SNR=6.7						

IDC 25 06:27:30.2±3.2, 55°.51N×86°.23E, h0km, mb1 3.2/2, mb1mx3.1/46, mbtmp3.2/2, ML2.8/2, Error ellipse: s-maj=26.0km s-min=24.3km az=48.0

ASRS 25 06:27:26.0, 55°.54N×86°.27E, M1.8, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014), Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**208**	*i*		06 39 14.7	
	baz=20,slow=320,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.81**	**208**	Pg	Pg	06 28 00.8	+0.2
	6.6nm,0.3s,baz=31,slow=17,SNR=46						
ZALV				Lg	Lg	06 28 27.0	
	6.3nm,0.3s,baz=31,slow=27,SNR=13						
KURBB	**Kurchatov Arra**	**6.78**	**227**	Pn	Pn	06 29 10.8	+4.1
	0.2nm,0.3s,baz=42,slow=14,SNR=8.4						
KURBB				Lg	Lg	06 31 05.1	
	0.0nm,0.3s,baz=42,slow=30,SNR=4.2						
MKAR	**Makanchi Array**	**9.11**	**198**	Pn	Pn	06 29 42.3	+3.7
	0.1nm,0.3s,baz=21,slow=13,SNR=5.4						
MKAR				Lg	Lg	06 32 16.3	
	0.1nm,0.3s,baz=22,slow=33,SNR=6.2						

NNC 25 06:30:37.8±2.8, 38°.86N×68°.03E, h0km, mb3.8, mpv3.4, 4C-4D, Error ellipse: s-maj=22.1km s-min=18.6km az=127.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**3.62**	**24**	Pg	Pb	06 31 44.6	+1.8
	4.2nm,0.2s						
IUG				Lg	Lg	06 32 35.1	
	63nm,0.6s						
KK31	**Karatay Array**	**4.63**	**23**	⇓Pg	Pb	06 32 02.3	+2.3
	1.7nm,0.4s,baz=208,slow=19,SNR=13						
KK31				⇑Sn	Sn	06 32 41.8	-1.8
	1.4nm,0.3s,baz=33,slow=27,SNR=4.4						
KK31				⇑Lg	Lg	06 33 04.9	
	15nm,0.6s,baz=213,slow=32,SNR=4.8						
MRKS	**Merke**	**5.53**	**44**	Pg	Pb	06 32 17.5	+2.2
	5.6nm,0.8s						
MRKS				Lg	Lg	06 33 31.7	
	7.3nm,0.7s						
AAK	**Ala-Archa**	**6.19**	**50**	⇓Pn	Pn	06 32 11.0	+0.3
	1.7nm,0.5s						
AAK				⇑Sn	Sn	06 33 23.7	+1.5
	2.9nm,0.5s						
AAK				⇑Lg	Lg	06 33 53.9	
	6.4nm,0.8s						
SGDS	**Sogindy**	**6.77**	**45**	Pg	Pb	06 32 39.1	+2.7
	2.9nm,0.7s						
SGDS				Lg	Lg	06 34 08.8	
	2.9nm,0.8s						
TKM2	**Tokmak 2**	**7.02**	**52**	⇓Pg	Pb	06 32 43.6	+2.9
	1.5nm,0.6s						
TKM2				⇓Lg	Lg	06 34 22.2	
	5.5nm,0.9s						
DGS	**Degeres**	**7.31**	**51**	Pg	Pg	06 32 52.0	-5.8
	1.0nm,0.5s						
DGS				Lg	Lg	06 34 30.9	
	6.4nm,0.6s						
KST	**Kastek**	**7.32**	**53**	Pg	Pg	06 32 53.7	-4.3
	3.2nm,0.9s						
KST				Lg	Lg	06 34 33.3	
	5.5nm,0.7s						
BTLS	**Baital**	**7.63**	**34**	Pg	Pg	06 32 57.8	-6.1
BTLS				Lg	Lg	06 34 41.2	

IDC 25 06:40:11.6±1.0, 29°.94S×177°.43W, h0km, mb4.1/6, mb1 4.3/7, mb1mx4.0/28, mbtmp4.1/7, ML3.6/1, MS3.5/5, Ms1 3.5/5, ms1mx3.2/24, Error ellipse: s-maj=27.7km s-min=17.2km az=64.0

NEIC 25 06:40:15.4±1.8, 29°.97S±0°.06×177°.5W±0°.1, h27km±5km, mb4.5/9, Error ellipse: s-maj=18.4km s-min=8.1km az=79.0

ISC 25 06:40:16.7±0.8, 29°.99S±0°.08×177°.5W±0°.1, h35km, n36, σ1°27/29, mb4.3/8, MS3.6/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.83**	**332**	Pn	**Pn**	**06 40 30.3**	**-1.6**
	651nm,0.3s,baz=99,slow=6.3,SNR=35						
RAO				Sn	**Sn**	**06 40 41.8**	**-1.1**
	2µm,0.3s,baz=233,slow=20,SNR=10						
RAO	**Raoul Island**	**0.83**	**332**		**Pn**	**06 40 30.8**	**-1.1**
MXZ	**Matakaoa Point**	**8.33**	**204**	Pn	**Pn**	**06 42 12.3**	**-2.6**
OUZ	**Omahuta**	**9.16**	**233**	Pn	**Pn**	**06 42 25.5**	**-0.8**
URZ	**Urewera**	**9.39**	**207**	Pn	**Pn**	**06 42 28.2**	**-1.3**
BKZ	**Black Stump Fm**	**10.41**	**207**	Pn	**Pn**	**06 42 43.5**	**0.0**
THZ	**Tophouse**	**14.09**	**211**	Pn	**Pn**	**06 43 33.1**	**-0.7**
KHZ	**Kahutara**	**14.36**	**208**	Pn	**Pn**	**06 43 35.0**	**-2.3**
LTZ	**Lake Taylor**	**15.19**	**210**	Pn	**Pn**	**06 43 46.5**	**-2.0**
LTZ				IAmb	IAmb	06 43 47.8	
	comp=Z,26nm,1.2s						
DZM	**Mont Dzumac**	**16.45**	**295**	Pn	**Pn**	**06 44 05.9**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=94,slow=16,SNR=2.7						
DZM				LR	LR	06 48 02.2	
	comp=Z,54nm,21.7s,baz=168,slow=29						
PPT	**Papeete**	**28.28**	**70**	LR	LR	06 53 51.8	
	comp=Z,66nm,20.3s,baz=196,slow=29						
CTAO	**Charters Tower**	**34.19**	**278**	P	**P**	**06 46 59.8**	**+0.8**
STKA	**Stephens Creek**	**35.02**	**256**	P	**P**	**06 47 07.2**	**+1.3**
	comp=Z,2.8nm,0.7s,baz=85,slow=11,SNR=3.7						
STKA				LR	LR	06 59 57.5	
	comp=Z,86nm,19.5s,baz=183,slow=34						
STKA	**Stephens Creek**	**35.02**	**256**	IAmb	IAmb	06 47 07.3	
	comp=Z,2.2nm,1.2s						
AS31	**Alice Springs**	**43.59**	**266**	P	**P**	**06 48 18.1**	**+0.5**
ASAR	**Alice Springs**	**43.59**	**266**	P	**P**	**06 48 17.4**	**-0.2**
	comp=Z,2.5nm,0.7s,baz=104,slow=7.2,SNR=25						
ASAR				PcP	**PcP**	**06 50 07.5**	**+2.6**
	comp=Z,0.3nm,0.5s,baz=106,slow=3.8,SNR=1.8						
ASAR				LR	LR	07 05 57.3	
	comp=Z,110nm,18.7s,baz=197,slow=35						
WR0	**Warramunga Arr**	**44.36**	**272**	P	**P**	**06 48 23.8**	**-0.1**
WR0				IAmb	IAmb	06 48 34.3	
	comp=Z,11nm,1.3s						
WB2	**Warramunga Arr**	**44.53**	**271**	P	**P**	**06 48 25.0**	**-0.2**
WRA	**Warramunga Arr**	**44.54**	**271**	P	**P**	**06 48 25.4**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=110,slow=8.1,SNR=16						
WRA	**Warramunga Arr**	**44.54**	**271**	P	**P**	**06 48 25.5**	**+0.2**
WB0	**Warramunga Arr**	**44.56**	**272**	P	**P**	**06 48 25.5**	**0.0**
WB0				IAmb	IAmb	06 48 40.0	
	comp=Z,9.5nm,1.2s						
QSPA	**South Pole Qui**	**60.12**	**180**	P	**P**	**06 50 20.5**	**+0.2**
	comp=Z,1.7nm,1.0s,baz=33,slow=1.6,SNR=3.3						
QSPA	**South Pole Qui**	**60.12**	**180**	IAmb	IAmb	06 50 36.1	
	comp=Z,3.4nm,0.8s						
H03S2	**Juan Fernandez**	**80.31**	**123**	T	T	08 21 46.9	
	baz=239,slow=74,SNR=8.9						
H03S1	**Juan Fernandez**	**80.32**	**123**	T	T	08 21 46.3	
	baz=239,slow=74,SNR=8.4						
H03S3	**Juan Fernandez**	**80.33**	**123**	T	T	08 21 47.7	
	baz=239,slow=74,SNR=10						
PETK	**Petropavlovsk-**	**85.53**	**345**	P	**P**	**06 52 51.0**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=128,slow=6.4,SNR=1.7						
NVAR	**Mina Array Bea**	**87.63**	**42**	P	**P**	**06 53 02.5**	**+0.9**
	comp=Z,0.5nm,0.7s,baz=221,slow=9.5,SNR=2.7						
NVAR				LR	LR	07 22 33.9	
	comp=Z,43nm,21.6s,baz=275,slow=29						
MKAR	**Makanchi Array**	**117.86**	**310**	PKP	**PKiKP**	**06 59 00.9**	**+1.6**
	comp=Z,0.2nm,0.6s,baz=96,slow=1.4,SNR=2.5						
H10N3	**ASCENSION HYDR**	**138.98**	**154**	T	T	09 35 54.6	
	baz=203,slow=75,SNR=7.2						
H10N1	**ASCENSION HYDR**	**138.98**	**154**	T	T	09 35 57.5	
	baz=203,slow=75,SNR=6.3						
H10N2	**ASCENSION HYDR**	**139.00**	**154**	T	T	09 35 56.3	
	baz=203,slow=75,SNR=7.3						
FINES	**FINESS Array B**	**144.34**	**340**	PKP	**PKPab**	**06 59 47.1**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=37,slow=4.8,SNR=8.6						
NOA	**NORSAR Array B**	**148.41**	**352**	PKPbc	**PKiKP**	**06 59 59.6**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=15,slow=4.4,SNR=2.3						
AKASG	**Malin Array Be**	**151.25**	**324**	PKPbc	**PKPbc**	**07 00 05.4**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=46,slow=2.9,SNR=1.4						
TORD	**Torodi Ar. Bea**	**163.22**	**177**	PKPab	**PKPab**	**07 01 05.0**	**-1.3**
	comp=Z,0.4nm,0.8s,baz=163,slow=2.7,SNR=1.7						

IDC 25 06:47:20.8±1.6, 30°.99N×41°.36W, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.6/48, mbtmp3.6/7, MS3.6/3, Ms1 3.6/3, ms1mx2.9/41, Error ellipse: s-maj=54.8km s-min=23.1km az=8.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**43.36**	**104**	P	P	06 55 25.1	0.0
	1.3nm,0.9s,baz=305,slow=8.0,SNR=5.5						
GERES	**GERESS Array B**	**44.81**	**50**	P	P	06 55 36.0	-0.4
	0.3nm,0.4s,baz=267,slow=9.7,SNR=4.1						
H10N2	**ASCENSION HYDR**	**146.40**	**142**	T	T	07 45 09.7	
	baz=328,slow=75,SNR=188						
H10N3	**ASCENSION HYDR**	**146.40**	**142**	T	T	07 45 11.4	
	baz=328,slow=75,SNR=158						
H10N1	**ASCENSION HYDR**	**146.41**	**142**	T	T	07 45 12.5	
	baz=328,slow=75,SNR=117						
H10S3	**ASCENSION HYDR**	**147.25**	**143**	T	T	07 46 15.4	
	baz=327,slow=74,SNR=178						
H10S2	**ASCENSION HYDR**	**147.27**	**143**	T	T	07 46 16.7	
	baz=253,slow=74,SNR=63						
FINES	**FINESS Array B**	**52.58**	**34**	P	P	06 56 35.1	-0.8
	0.8nm,0.6s,baz=270,slow=5.4,SNR=1.5						
TXAR	**Lajitas Array**	**53.26**	**285**	P	P	06 56 40.7	-0.8
	0.2nm,0.7s,baz=58,slow=5.4,SNR=2.6						
PDAR	**Pinedale Array**	**54.44**	**303**	P	P	06 56 50.1	0.0
	0.6nm,0.6s,baz=88,slow=6.6,SNR=6.9						
PDAR				LR	LR	07 19 35.7	
	comp=Z,43nm,19.4s,baz=118,slow=36						
BRTR	**Keskin Array B**	**60.16**	**59**	P	P	06 57 30.8	+0.3
	1.2nm,0.8s,baz=260,slow=5.7,SNR=4.3						
ILAR	**Eielson Array**	**68.63**	**334**	P	P	06 58 26.1	+0.7
	0.9nm,1.1s,baz=58,slow=3.5,SNR=4.6						
ILAR				LR	LR	07 27 24.0	
	comp=Z,39nm,19.8s,baz=46,slow=35						
KMBO	**Kilima Mbogo**	**80.82**	**97**	LR	LR	07 33 38.4	
	comp=Z,50nm,20.1s,baz=105,slow=34						

IDC 25 06:58:22.6±1.5, 20°.29S×70°.47W, h0km, mb3.7/3, mb1 3.7/6, mb1mx3.6/24, mbtmp3.6/6, ML3.4/3, MS2.5/1, Ms1 2.6/1, ms1mx2.3/33, Error ellipse: s-maj=38.7km s-min=22.2km az=74.0

GUC 25 06:58:24.3±0.5, 20°.46S×70°.60W, h33km±2km, ML3.5

ISC 25 06:58:24.7±1.5, 20°.46S±0°.03×70°.58W±0°.07, h20km±6km, n22, σ1°08/35, 2C, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TA01	**Diego Aracena**	**0.39**	**105**	*e*P	**Pg**	**06 58 32.8**	**0.0**
TA01				*i* S	**Sb**	**06 58 39.0**	**+0.5**
TA01				IAML		06 58 39.3	
	comp=N,9µm,0.2s						
TA02	**Huaiquique**	**0.46**	**65**	*e*P	**Pg**	**06 58 34.2**	**0.0**
TA02				*i* S	**Sb**	**06 58 41.2**	**+0.5**
TA02				IAML		06 58 41.8	
	comp=E,13µm,0.3s						
PSGC	**Pisagua**	**0.96**	**26**	*e*P	**Pb**	**06 58 41.6**	**-1.2**
PSGC				*i* S	**Sb**	**06 58 54.8**	**-0.3**
PSGC				IAML		06 58 56.4	
	comp=E,955nm,0.4s						
PB02	**IPOC Station P**	**1.06**	**143**	*e*P	**Pb**	**06 58 43.8**	**-0.8**
PB02				*i* S	**Sb**	**06 58 58.2**	**+0.1**
PB02				IAML		06 58 59.4	
	comp=E,5µm,0.1s						
PB11	**IPOC Station P**	**1.11**	**51**	*e*P	**Pn**	**06 58 44.5**	**-0.8**
PB11				*i* S	**Sb**	**06 58 59.8**	**+0.3**
PB11				IAML		06 59 02.6	
	comp=N,3µm,0.4s						
PB01	**IPOC Station P**	**1.17**	**120**	*e*P	**Pn**	**06 58 45.6**	**-0.5**
PB01				*i* S	**Sb**	**06 59 01.2**	**0.0**
PB01				IAML		06 59 02.2	
	comp=N,2µm,0.4s						
PB08	**IPOC Station P**	**1.38**	**77**	*e*P	**Pn**	**06 58 49.2**	**+0.1**
PB08				*i* S	**Sb**	**06 59 07.9**	**+0.6**
PB08				IAML		06 59 12.4	
	comp=N,627nm,0.3s						
PB07	**IPOC Station P**	**1.41**	**153**	*e*P	**Pn**	**06 58 49.3**	**-0.2**
PB07				*i* S	**Sn**	**06 59 08.2**	**+0.5**
PB07				IAML		06 59 12.9	
	comp=E,755nm,0.7s						
GO01	**Chusmiza**	**1.52**	**59**	*e*P	**Pn**	**06 58 51.5**	**+0.3**
GO01				*i* S	**Sb**	**06 59 12.3**	**+0.6**
MNMC	**Minye Minye**	**1.62**	**35**	*e*P	**Pn**	**06 58 52.6**	**+0.2**
MNMC				*i* S	**Sb**	**06 59 14.7**	**+0.6**
MNMC				IAML		06 59 15.9	
	comp=N,2µm,0.4s						
PB03	**IPOC Station P**	**1.75**	**154**	*e*P	**Pn**	**06 58 54.6**	**+0.4**
PB03				*i* S	**Sb**	**06 59 18.1**	**0.0**
PB03				IAML		06 59 21.4	
	comp=E,358nm,0.4s						
PB12	**IPOC Station P**	**1.85**	**7**	⇑*i*P	**Pn**	**06 58 55.7**	**+0.2**
PB12				*i* S	**Sb**	**06 59 19.8**	**-1.0**
PB12				IAML		06 59 27.6	
	comp=N,350nm,0.6s						
PB04	**IPOC Station P**	**1.90**	**168**	⇑*i*P	**Pn**	**06 58 55.9**	**-0.4**
LVC	**Limon Verde**	**2.64**	**144**	Pn	**Pn**	**06 59 09.2**	**+2.6**
	comp=N,11nm,0.3s,baz=326,slow=9.5,SNR=97						
LVC				Sn	**Sb**	**06 59 42.2**	**-1.6**
	comp=N,23nm,0.3s,baz=299,slow=14,SNR=10						
PB15	**IPOC Station P**	**2.92**	**160**	*i* P	**Pn**	**06 59 10.2**	**-0.1**
LPAZ	**La Paz**	**4.76**	**30**	Pn	**Pn**	**06 59 39.6**	**+3.7**
	comp=N,0.7nm,0.3s,baz=207,slow=6.0,SNR=37						
LPAZ				Lg	Lg	07 00 52.7	
	comp=N,0.2nm,0.3s,baz=83,slow=25,SNR=0.7						
LPAZ				LR	LR	07 01 00.3	
	comp=N,55nm,19.8s,baz=219,slow=35						
SIV	**San Ignacio**	**10.07**	**65**	Pn	**Pn**	**07 00 47.2**	**-1.2**
	comp=N,0.3nm,0.3s,baz=264,slow=9.0,SNR=14						
CFA	**Coronel Fontan**	**11.29**	**170**	Pn	**Pn**	**07 01 06.7**	**+1.7**
	comp=N,0.2nm,0.3s,baz=348,slow=19,SNR=1.8						
PTGA	**Pitinga**	**22.19**	**29**	P	**P**	**07 03 18.8**	**-1.1**
	comp=N,4.2nm,0.5s,baz=207,slow=12,SNR=15						
TXAR	**Lajitas Array**	**58.90**	**326**	P	**P**	**07 08 22.9**	**+0.3**
	comp=N,0.3nm,0.9s,baz=146,slow=6.6,SNR=2.0						
TORD	**Torodi Ar. Bea**	**78.49**	**71**	P	**P**	**07 10 24.0**	**-1.0**
	comp=N,0.7nm,0.8s,baz=243,slow=6.0,SNR=5.4						
MKAR	**Makanchi Array**	**145.68**	**34**	PKPbc	**PKPab**	**07 18 03.1**	**+0.6**
	comp=N,0.6nm,0.6s,baz=316,slow=5.1,SNR=4.8						

NNC 25 07:21:47.2±0.5, 49°.99N×78°.69E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=4.5km s-min=2.3km az=69.0, Suspected Mining explosion.

ISC 25 07:21:48.2±1.0, 50°.13N±0°.04×78°.76E±0°.05, h0km, n20, σ0°74/32, 18C-5D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.48**	**342**	⇓P	**Pb**	**07 21 59.2**	**-0.4**
KUR07				⇑S	**Sb**	**07 22 08.0**	**+0.8**
KUR06	**Kurchatov Arra**	**0.50**	**343**	⇓P	**Pb**	**07 21 59.5**	**-0.3**
KUR06				⇑S	**Sb**	**07 22 08.3**	**+0.5**
KUR14	**Kurchatov Arra**	**0.50**	**348**	⇑P	**Pb**	**07 21 59.3**	**-0.6**
KUR14				⇑S	**Sb**	**07 22 08.3**	**+0.5**
KUR15	**Kurchatov Arra**	**0.51**	**346**	⇑P	**Pb**	**07 21 59.6**	**-0.5**
KUR15				⇑S	**Sb**	**07 22 08.7**	**+0.7**
KURBB	**Kurchatov Arra**	**0.52**	**344**	⇑P	**Pb**	**07 21 59.8**	**-0.4**
	24nm,0.4s						
KURBB				⇑S	**Sb**	**07 22 08.8**	**+0.6**
	130nm,0.5s						
KUR16	**Kurchatov Arra**	**0.53**	**342**	⇑P	**Pb**	**07 22 00.1**	**-0.2**
KUR16				⇑S	**Sb**	**07 22 08.9**	**+0.4**
KUR05	**Kurchatov Arra**	**0.54**	**345**	⇑P	**Pb**	**07 22 00.1**	**-0.4**
KUR05				⇑S	**Sb**	**07 22 09.1**	**+0.3**
KUR17	**Kurchatov Arra**	**0.54**	**340**	⇑P	**Pb**	**07 22 00.4**	**-0.2**
KUR17				⇑S	**Sb**	**07 22 09.7**	**+0.9**
KUR04	**Kurchatov Arra**	**0.56**	**346**	⇓P	**Pb**	**07 22 00.5**	**-0.3**
KUR04				⇑S	**Sb**	**07 22 09.9**	**+0.6**
KURK	**Kurchatov**	**0.60**	**352**	⇓P	**Pb**	**07 22 01.1**	**-0.5**
	12nm,0.5s						
KURK				⇑S	**Sb**	**07 22 11.3**	**+0.8**
	25nm,0.6s						
SEM	**Semipalatinsk**	**1.00**	**73**	P	**Pg**	**07 22 07.0**	**-0.4**
	8.0nm,0.2s						
SEM				S	**Sb**	**07 22 22.8**	**+0.5**
	25nm,0.4s						
BRZS	**Berezniki**	**3.92**	**270**	Pg	**Pb**	**07 22 57.5**	**-0.7**
	9.1nm,0.3s						
BRZS				Lg	Lg	07 23 50.1	
	22nm,0.8s						
MAKZ	**Makanchi**	**3.95**	**146**	⇓Pg	**Pb**	**07 22 58.8**	**+0.1**
	1.6nm,0.6s						
MAKZ				⇑Lg	Lg	07 23 48.7	
	6.8nm,0.6s						
MK31	**Makanchi Array**	**4.08**	**143**	Pn	**Pn**	**07 22 51.7**	**-0.1**
	0.1nm,0.2s,baz=111,slow=32,SNR=23						
MK31				Pg	**Pb**	**07 22 58.5**	**-2.4**
	0.8nm,0.3s,baz=320,slow=13,SNR=17						
MK31		

FITZ	**Fitzroy Crossi**	**11.55**	**141**	Pn	**Pn**	**07 27 28.8**	**-0.6**
	0.2nm,0.3s,baz=49,slow=3.7,SNR=3.7						
FITZ				Sn	Sn	07 29 30.9	-7.6
	0.3nm,0.3s,baz=342,slow=20,SNR=2.7						
WRA	**Warramunga Arr**	**19.08**	**126**	P	**P**	**07 29 07.9**	**+0.7**
	0.2nm,0.3s,baz=305,slow=14,SNR=2.3						
WRA				S	Sn	07 32 28.7	-13
	0.1nm,0.3s,baz=305,slow=28,SNR=2.7						
ASAR	**Alice Springs**	**20.95**	**135**	P	**P**	**07 29 28.9**	**+1.5**
	1.1nm,0.6s,baz=311,slow=9.4,SNR=11						
USRK	**Ussuriysk Ar.**	**54.69**	**12**	P	**P**	**07 34 11.6**	**-1.9**
	0.8nm,0.5s,baz=173,slow=5.7,SNR=4.3						
SONM	**Songino Array**	**57.74**	**351**	P	**P**	**07 34 33.4**	**-2.0**
	0.5nm,0.5s,baz=179,slow=7.2,SNR=2.9						
KLR	**Kul'dur**	**59.47**	**10**	LR	LR	08 03 08.5	
	comp=Z,24nm,18.3s,baz=192,slow=39						
MKAR	**Makanchi Array**	**64.20**	**334**	P	**P**	**07 35 16.5**	**-2.7**
	0.3nm,0.4s,baz=150,slow=6.1,SNR=8.1						
CPUP	**Villa Florida**	**144.35**	**187**	PKP	**PKPab**	**07 44 20.1**	**+0.7**
	1.1nm,0.8s,baz=155,slow=1.2,SNR=3.8						
TKL	**Tuckaleechee C**	**147.08**	**34**	PKPbc	**PKPdf**	**07 44 26.2**	**+0.3**
	2.6nm,0.4s,baz=262,slow=0.9,SNR=10						

*IDC **25** 07:27:35.8±0.6,3.°95N×71.°49W,h0km,mb4.2/15, mb1 4.4/20,mb1mx4.2/38,mbtmp4.2/20,ML3.8/5,MS3.6/24, Ms1 3.6/24,ms1mx3.5/42,Error ellipse: s-maj=16.4km s-min=13.3km az=73.0*

*RSNC **25** 07:27:39.6±1.3,3.°92N×71.°51W,h4km±6km,ML4.4,Mw4.4*

*VAO **25** 07:27:40.3±0.7,3.°94N×71.°42W,h10km,mb4.4*

*NEIC **25** 07:27:40.4±2.1,3.°89N±0.°05×71.°46W±0.°05,h32km±4km, mb4.6/138,Error ellipse: s-maj=9.8km s-min=1.7km az=138.0*

*UNK **25** 07:27:44.9,4.°05N×71.°67W,h57km*

ISC 25 07:27:37.5±1.4,**4.°04N**±0.°03×**71.°50W**±0.°03,**h5**km±8km, **n434,**σ**t958**/432,**mb4.5**/79,**MS3.6**/18,**1C-8D,Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PTGC	**Puerto Gaitan,**	**0.65**	**284**	↑*i*	*P*	**Pg**	**07 27 50.9**	**+0.8**
PTGC				*e*	*Sg*	**Sg**	**07 28 00.9**	**+2.3**
PTGC				*i*			07 28 19.3	
	comp=Z,12μm,0.4s							
GUVC	**San Jose del G**	**1.87**	**217**	*e*	*P*	**Pn**	**07 28 08.8**	**-1.3**
GUVC				*e*	*S*	**Sn**	**07 28 32.7**	**-1.3**
GUVC				*i*			07 28 38.2	
	comp=Z,5μm,0.3s							
VILC	**Villavicencio,**	**2.19**	**272**	*e*	*P*	**Pn**	**07 28 15.8**	**+1.2**
VILC				*e*	*S*	**Sn**	**07 28 43.4**	**+1.2**
CHIC	**Chingaza**	**2.30**	**285**	↓*e*	*P*	**Pn**	**07 28 17.9**	**+1.5**
CHIC				*e*	*S*	**Sb**	**07 28 49.0**	**+0.4**
CHIC				*i*			07 28 54.2	
	comp=Z,3μm,0.4s							
TAMC	**Tame, Arauca**	**2.39**	**353**	*e*	*P*	**Pb**	**07 28 20.4**	**-0.7**
TAMC				*e*	*S*	**Sg**	**07 28 52.5**	**-2.0**
TAMC				*i*			07 29 04.6	
	comp=Z,2μm,0.5s							
RUSC	**La Rusia**	**2.42**	**319**	↓*e*	*P*	**Pb**	**07 28 20.7**	**-1.1**
RUSC				*e*	*S*	**Sb**	**07 28 51.6**	**-0.6**
RUSC				*i*			07 29 13.5	
	comp=Z,1μm,0.5s							
RUSC	**La Rusia**	**2.42**	**319**			**Pb**	**07 28 20.9**	**-0.9**
ROSC	**El Rosal**	**2.92**	**286**	Pn	Pn	**Pn**	**07 28 27.9**	**+2.9**
	comp=Z,43nm,0.3s,baz=120,slow=6.1,SNR=83							
ROSC				Sn		**Sn**	**07 29 02.8**	**+2.1**
	comp=Z,146nm,0.3s,baz=37,slow=12,SNR=4.5							
ROSC				Lg	Lg		07 29 13.3	
	comp=Z,171nm,0.3s,baz=114,slow=20,SNR=3.1							
ROSC				LR	LR		07 29 59.1	
	comp=Z,556nm,18.7s,baz=150,slow=48							
ROSC	**El Rosal**	**2.92**	**286**	↓*i*	*P*	**Pn**	**07 28 27.9**	**+2.9**
ROSC				*e*	*S*	**Sn**	**07 29 00.5**	**-0.1**
ROSC				*i*			07 29 33.6	
	comp=Z,996nm,0.6s							
ROSC	**El Rosal**	**2.92**	**286**			**Pn**	**07 28 27.5**	**+2.6**
MACC	**Macarena, Meta**	**3.01**	**231**	*e*	*P*	**Pn**	**07 28 25.6**	**-0.3**
MACC				*e*	*S*	**Sn**	**07 29 06.1**	**+3.8**
MACC				*i*			07 29 18.2	
	comp=Z,2μm,0.6s							
SPBC	**San Pablo de B**	**3.02**	**302**	↓*e*	*P*	**Pn**	**07 28 27.8**	**+1.7**
SPBC				*e*	*S*	**Sn**	**07 29 05.2**	**+2.5**
SPBC				*i*			07 29 18.7	
	comp=Z,949nm,0.4s							
BARC	**Barichara**	**3.04**	**327**	*e*	*P*	**Pn**	**07 28 28.5**	**+2.1**
BARC				*e*	*S*	**Sb**	**07 29 06.7**	**-2.9**
BARC				*i*			07 29 32.3	
	comp=Z,1μm,0.6s							
PRAC	**Prado**	**3.40**	**265**	↓*i*	*P*	**Pn**	**07 28 32.9**	**+1.7**
PRAC				*e*	*S*	**Sn**	**07 29 11.4**	**-0.5**
PRAC				*i*			07 29 45.7	
	comp=Z,869nm,0.5s							
PAMC	**Pamplona, Colo**	**3.48**	**340**	*e*	*P*	**Pn**	**07 28 35.1**	**+2.3**
PAMC				*e*	*S*	**Sb**	**07 29 17.7**	**-5.1**
PAMC				*i*			07 29 44.7	
	comp=Z,506nm,0.4s							
NORC	**Norcasia**	**3.68**	**294**	*e*	*P*	**Pn**	**07 28 36.1**	**+1.0**
NORC				*e*	*S*	**Sn**	**07 29 14.9**	**-4.0**
NORC				*i*			07 29 39.4	
	comp=Z,444nm,0.5s							
ORTC	**Ortega, Tolima**	**3.74**	**268**	↓*e*	*P*	**Pn**	**07 28 37.3**	**+1.4**
ORTC				*e*	*S*	**Sn**	**07 29 18.7**	**-1.7**
ORTC				*i*			07 29 50.7	
	comp=Z,1μm,0.5s							
TOLC	**Tolima**	**3.85**	**278**	*e*	*P*	**Pn**	**07 28 38.7**	**+1.1**
TOLC				*e*	*S*	**Sn**	**07 29 24.6**	**+1.1**
PTBC	**PUERTO BERRIO,**	**3.85**	**310**	*e*	*P*	**Pn**	**07 28 37.9**	**+0.5**
PTBC				*e*	*S*	**Sn**	**07 29 19.9**	**-3.1**
PTBC				*i*			07 29 44.2	
	comp=Z,481nm,0.4s							
ANIL	**Santa Ana**	**3.92**	**277**	*e*	*P*	**Pn**	**07 28 40.0**	**+1.4**
ANIL				*e*	*S*	**Sn**	**07 29 27.1**	**+1.9**
ANIL				*i*			07 29 52.4	
	comp=Z,2μm,0.4s							
RREF	**El Recreo**	**3.93**	**283**	*e*	*P*	**Pn**	**07 28 40.5**	**+1.4**
RREF				*e*	*S*	**Sn**	**07 29 27.9**	**+2.0**
RREF				*i*			07 29 54.3	
	comp=Z,588nm,0.6s							
GUY2C	**Guyana, Caldas**	**4.03**	**287**	↓*e*	*P*	**Pn**	**07 28 42.0**	**+1.7**
GUY2C				*e*	*S*	**Sn**	**07 29 20.6**	**-7.5**
GUY2C				*i*			07 29 49.9	
	comp=Z,766nm,0.5s							
BETC	**Betania**	**4.16**	**251**	*e*	*P*	**Pn**	**07 28 42.2**	**+0.5**
BETC				*e*	*S*	**Sb**	**07 29 40.8**	**-1.2**
GARC	**Garzon, Huila**	**4.40**	**245**	*e*	*P*	**Pn**	**07 28 45.5**	**+0.4**
GARC				*e*	*S*	**Sn**	**07 29 37.5**	**+0.7**
GARC				*i*			07 29 56.8	
	comp=Z,1μm,0.3s							
OCAC	**Ocana**	**4.54**	**337**	*e*	*P*	**Pn**	**07 28 48.9**	**+1.9**
OCAC				*e*	*S*	**Sn**	**07 29 44.2**	**+3.9**
OCAC				*i*			07 30 16.8	
	comp=Z,446nm,0.5s							
HELC	**Santa Helena**	**4.55**	**298**	*e*	*P*	**Pn**	**07 28 47.6**	**+0.3**
HELC				*e*	*S*	**Sn**	**07 29 45.1**	**+4.4**
HELC				*i*			07 30 11.8	
	comp=Z,198nm,0.5s							
MARP	**Paez Belalcaza**	**4.61**	**255**	*e*	*P*	**Pn**	**07 28 48.3**	**+0.3**
MARP				*e*	*S*	**Sn**	**07 29 43.9**	**+1.8**
MARP				*i*			07 30 07.3	
	comp=Z,306nm,0.5s							
ZARC	**Zaragoza, Cauc**	**4.79**	**316**	*e*	*P*	**Pn**	**07 28 51.6**	**+1.3**
ZARC				*e*	*S*	**Sn**	**07 29 45.0**	**-1.2**
ZARC				*i*			07 30 15.5	
	comp=Z,166nm,0.5s							
YOTC	**Yotoco, Valle**	**4.84**	**269**	↓*e*	*P*	**Pn**	**07 28 51.6**	**+0.6**
YOTC				*e*	*S*	**Sn**	**07 29 54.8**	**+7.2**
YOTC				*i*			07 30 10.7	
	comp=Z,147nm,0.5s							
CBOC	**Ciudad Bolivar**	**4.85**	**292**	*e*	*P*	**Pn**	**07 28 53.0**	**+1.7**
CBOC				*e*	*S*	**Sn**	**07 29 52.5**	**+4.6**
SDV	**Santo Domingo**	**4.89**	**10**	Pn		**Pn**	**07 28 53.7**	**+1.9**
	comp=Z,13nm,0.3s,baz=230,slow=14,SNR=4.1							
SDV				Sn		**Sn**	**07 29 51.9**	**+3.0**
	comp=Z,48nm,0.3s,baz=53,slow=22,SNR=6.5							
SDV				Lg	Lg		07 30 13.3	
	comp=Z,32nm,0.3s,baz=123,slow=16,SNR=5.9							
SDV	**Santo Domingo**	**4.89**	**10**			Pn	07 28 57.1	+5.3
SDV						**Pb**	**07 29 04.2**	**+0.5**
SDV	**Santo Domingo**	**4.89**	**10**	*e*	*S*	**Sn**	**07 29 53.5**	**+4.7**
SDV	**Santo Domingo**	**4.89**	**10**	*e*	*S*	**Sn**	**07 29 53.5**	**+4.7**
PCON	**Cinco Dias**	**5.18**	**251**	*e*	*P*	**Pn**	**07 28 57.0**	**+0.8**
PCON				*e*	*S*	**Sn**	**07 30 03.5**	**+6.9**
PCON				*i*			07 30 29.4	
	comp=Z,688nm,0.6s							
SMLC	**San Martn de**	**5.37**	**332**	*e*	*P*	**Pn**	**07 28 58.9**	**+0.6**
SMLC				*e*	*S*	**Sn**	**07 30 01.4**	**+0.8**
SMLC				*i*			07 30 48.6	
	comp=Z,150nm,0.6s							
SOTA	**Rioblanco**	**5.44**	**250**	*e*	*P*	**Pn**	**07 29 01.6**	**+1.9**
SOTA				*e*	*S*	Sn	07 30 12.2	+9.2
SOTA				*i*			07 30 31.3	
	comp=Z,316nm,0.6s							
UREC	**San Jos de Ur**	**5.45**	**313**	*e*	*P*	**Pn**	**07 29 00.8**	**+1.4**
UREC				*i*			07 30 09.2	
	comp=Z,100nm,0.6s							
DBBC	**Dabeiba**	**5.54**	**302**	*e*	*P*	**Pn**	**07 29 03.5**	**+2.7**
DBBC				*e*	*S*	**Sn**	**07 30 03.6**	**-1.3**
MALC	**Bahia Malaga**	**5.82**	**270**	*e*	*P*	**Pn**	**07 29 06.4**	**+1.9**
MALC				*e*	*S*	**Sn**	**07 30 11.7**	**-0.1**
MALC				*i*			07 30 58.3	
	comp=Z,115nm,0.7s							
BBAC	**Balboa, Cauca**	**6.08**	**251**	*e*	*S*	Sn	07 30 28.8	+10
BBAC				*i*			07 31 02.9	
	comp=Z,106nm,0.5s							
PUAC	**Puerto Asis, P**	**6.14**	**236**	*e*	*P*	Pn	07 29 17.9	+9.0
PUAC				*i*			07 31 05.2	
	comp=Z,529nm,0.6s							
ARGC	**Ariguani, Magd**	**6.39**	**335**	*e*	*P*	**Pn**	**07 29 14.6**	**+2.4**
GCUF	**Volcan Galeras**	**6.48**	**245**	*e*	*P*	**Pn**	**07 29 14.2**	**+0.3**
GCUF				*e*	*S*	Sb	07 30 42.2	-6.8
GCUF				*i*			07 31 19.4	
	comp=Z,174nm,0.6s							
SJCC	**San Jacinto, C**	**6.87**	**328**	*e*	*P*	**Pn**	**07 29 20.5**	**+1.6**
SJCC				*e*	*S*	**Sn**	**07 30 35.0**	**-2.5**
SJCC				*i*			07 30 55.0	
	comp=Z,60nm,0.3s							
URIC	**Uribia, Colomb**	**7.62**	**356**	Pn		**Pn**	**07 29 33.1**	**+3.8**
PCRV	**Puerto La Cruz**	**9.13**	**48**	Pn		**Pn**	**07 29 50.0**	**0.0**
	comp=Z,3.5nm,0.3s,baz=210,slow=8.7,SNR=18							
PCRV				Lg	Lg		07 32 28.4	
	comp=Z,2.6nm,0.3s,baz=198,slow=20,SNR=2.0							
PLCV	**Puerto La Cruz**	**9.16**	**48**			**Pn**	**07 29 50.0**	**-0.4**
BCIP	**Isla Barro Col**	**9.72**	**302**	Pn		**Pn**	**07 29 57.0**	**-1.1**
PTGA	**Pitinga**	**12.46**	**112**	Pn		**Pn**	**07 30 34.6**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=322,slow=16,SNR=2.8							
PTGA				Lg	Lg		07 34 01.6	
	comp=Z,2.2nm,0.3s,baz=331,slow=7.3,SNR=6.8							
PTGA				LR		LR	07 35 34.6	
	comp=Z,228nm,18.3s,baz=294,slow=38							
ATAH	**Atahualpa**	**13.07**	**212**	Pn		**Pn**	**07 30 43.3**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=16,slow=7.9,SNR=8.9							
ATAH				LR		LR	07 36 42.1	
	comp=Z,264nm,18.1s,baz=34,slow=42							
JTS	**Las Juntas de**	**14.72**	**296**	LR		LR	07 37 16.4	
	comp=Z,93nm,19.5s,baz=164,slow=39							
SDDR	**Presa de Saban**	**14.85**	**1**	Pn		**Pn**	**07 31 09.9**	**+1.7**
SJG	**San Juan**	**14.93**	**20**	LR		LR	07 37 42.8	
	comp=Z,116nm,19.8s,baz=246,slow=40							
SAML	**Samuel**	**15.34**	**147**			**Pn**	**07 31 11.7**	**-3.0**
NNA	**Nana**	**16.79**	**198**	LR		LR	07 38 40.2	
	comp=Z,242nm,18.2s,baz=14,slow=40							
MDP	**Montagnes des**	**18.82**	**86**	P		**P**	**07 31 58.2**	**0.0**
	comp=Z,0.4nm,0.3s,baz=260,slow=12,SNR=2.0							
MDP				Lg		Lg	07 37 26.2	
	comp=Z,0.4nm,0.3s,baz=179,slow=22,SNR=5.0							
MDP				LR		LR	07 38 30.3	
	comp=Z,83nm,19.1s,baz=266,slow=35							
NPGB	**Novo Progresso**	**19.52**	**124**	*e*	*P*		**07 32 06.1**	**+0.3**
NPGB				*e*	*S*		**07 35 45.3**	**-1.2**
NPGB	**Novo Progresso**	**19.52**	**124**	*e*	*P*		**07 32 06.1**	**+0.3**
NPGB				*e*	*S*		**07 35 45.3**	**-1.2**
VILB	**Vilhena**	**20.27**	**147**	*e*	*P*		**07 32 15.7**	**+1.6**
VILB				*e*	*S*		**07 36 02.5**	**+0.4**
VILB	**Vilhena**	**20.27**	**147**	*e*	*P*		**07 32 15.7**	**+1.6**
VILB				*e*	*S*		**07 36 02.5**	**+0.4**
LPAZ	**La Paz**	**20.47**	**171**	P		**P**	**07 32 16.8**	**-0.1**
	comp=Z,7.9nm,0.7s,baz=351,slow=9.8,SNR=35							
LPAZ				Lg		Lg	07 38 19.6	
	comp=Z,9.3nm,0.9s,baz=170,slow=16,SNR=2.3							
LPAZ				LR		LR	07 40 28.5	
	comp=Z,458nm,19.0s,baz=335,slow=38							
LPAZ	**La Paz**	**20.47**	**171**			**P**	**07 32 18.0**	**+1.2**
CLDB	**Colider**	**21.54**	**134**	*e*	*P*		**07 32 27.8**	**0.0**
CLDB	**Colider**	**21.54**	**134**	*e*	*P*		**07 32 27.8**	**0.0**
SIV	**San Ignacio**	**22.42**	**153**	P		**P**	**07 32 37.3**	**+0.1**
	comp=Z,6.6nm,0.9s,baz=346,slow=9.8,SNR=23							
SIV				Lg		Lg	07 39 21.8	
	comp=Z,34nm,1.1s,baz=257,slow=19,SNR=9.1							
SIV				LR		LR	07 41 24.9	
	comp=Z,520nm,18.3s,baz=320,slow=37							
PTLB	**Pontes e Lacer**	**22.91**	**148**	*e*	*P*		**07 32 42.3**	**-0.1**
PTLB				*e*	*S*		**07 36 52.9**	**0.0**
PTLB	**Pontes e Lacer**	**22.91**	**148**	*e*	*P*		**07 32 42.3**	**-0.1**
PTLB				*e*	*S*		**07 36 52.9**	**0.0**
TEIG	**Tepich**	**22.93**	**316**	P		**P**	**07 32 43.4**	**+0.8**
	comp=Z,12nm,0.8s,baz=139,slow=14,SNR=3.2							
TEIG				LR		LR	07 42 21.3	
	comp=Z,84nm,21.2s,baz=229,slow=38							
TEIG	**Tepich**	**22.93**	**316**	P		**P**	**07 32 42.2**	**-0.4**
MNMC	**Minye Minye**	**23.11**	**175**	P		**P**	**07 32 42.7**	**-2.0**
GO01	**Chusmiza**	**23.67**	**175**	P		**P**	**07 32 49.9**	**-0.7**
PB11	**IPOC Station P**	**23.73**	**176**	P		**P**	**07 32 48.6**	**-2.2**
PB11					IAmb	IAmb	07 32 55.0	
	comp=Z,12nm,0.8s							
SALV	**Santo Antonio**	**25.24**	**142**	*e*	*P*	**P**	**07 33 06.1**	**+1.5**
SALV	**Santo Antonio**	**25.24**	**142**	*e*	*P*	**P**	**07 33 06.1**	**+1.5**
DWPF	**Disney Wildern**	**25.74**	**339**	P		**P**	**07 33 10.7**	**+1.7**
	baz=157							
CMIG	**Matias Romero**	**26.35**	**301**	LR		LR	07 45 21.7	
	comp=Z,55nm,20.3s,baz=112,slow=40							
LVC	**Limon Verde**	**26.61**	**175**	LR		LR	07 45 07.5	
	comp=Z,176nm,21.8s,baz=294,slow=40							
SMTB	**Santa Maria do**	**27.07**	**118**	*e*	*P*		**07 33 22.3**	**+1.1**
SMTB				*e*	*S*		**07 38 01.9**	**+2.0**
SMTB	**Santa Maria do**	**27.07**	**118**	*e*	*P*		**07 33 22.3**	**+1.1**
SMTB				*e*	*S*		**07 38 01.9**	**+2.0**
AQDB	**Aquidauana**	**28.89**	**148**	*e*	*P*		**07 33 38.0**	**+0.6**
AQDB				*e*	*S*		**07 38 29.6**	**+1.4**
AQDB	**Aquidauana**	**28.89**	**148**	*e*	*P*		**07 33 38.0**	**+0.6**
AQDB				*e*	*S*		**07 38 29.6**	**+1.4**
Z57A	**Bowman**	**30.35**	**345**	P		**P**	**07 33 51.7**	**+1.5**
	baz=162							
BDFB	**Brasilia**	**30.38**	**131**	LR		LR	07 46 08.4	
	comp=Z,138nm,20.4s,baz=278,slow=37							
Z56A	**Williston**	**30.55**	**344**	P		**P**	**07 33 53.3**	**+1.3**
	baz=161							
152A	**Waverly Hall**	**31.05**	**338**	P		**P**	**07 33 57.6**	**+1.2**
152A					IAmb	IAmb	07 33 59.4	
	comp=Z,10nm,0.8s							
Y55A	**Saluda**	**31.27**	**343**	P		**P**	**07 34 00.1**	**+1.8**
	baz=160,SNR=7.7							
GOGA	**Godfrey**	**31.28**	**340**	P		**P**	**07 33 60.0**	**+1.6**
	baz=157							
W60A	**Pink Hill**	**31.39**	**350**	P		**P**	**07 34 00.8**	**+1.5**
	baz=168							
HODGE	**Hodges**	**31.66**	**343**	P		**P**	**07 34 03.6**	**+1.9**
HODGE					IAmb	IAmb	07 34 04.6	
	comp=Z,9.9nm,1.1s							
X54A	**Belton**	**31.99**	**343**	P		**P**	**07 34 05.6**	**+1.0**
	baz=160							
V60A	**Jim Taylor Roa**	**32.01**	**351**	P		**P**	**07 34 05.8**	**+1.0**
	baz=170							
W56A	**Indian Trail**	**32.06**	**346**	P		**P**	**07 34 06.4**	**+1.1**
	baz=163							
KMSC	**Kings Mountain**	**32.26**	**345**	P		**P**	**07 34 08.5**	**+1.5**
	baz=162							
LRAL	**Lakeview Retre**	**32.28**	**335**	P		**P**	**07 34 07.9**	**+0.7**
	baz=150,SNR=6.1							
V58A	**Windy Hill, Pi**	**32.37**	**348**	P		**P**	**07 34 09.1**	**+1.2**
	baz=166							
W54A	**Cherokee Point**	**32.44**	**344**	P		**P**	**07 34 09.7**	**+1.1**
	baz=160							
V57A	**Coltrane Farms**	**32.60**	**347**	P		**P**	**07 34 10.9**	**+0.9**
	baz=165							
V56A	**Mocksville**	**32.69**	**346**	P		**P**	**07 34 12.1**	**+1.3**
	baz=164							
U60A	**Pendleton**	**32.69**	**352**	P		**P**	**07 34 11.5**	**+0.8**
	baz=170							
Y49A	**Blount Mountai**	**32.76**	**337**	P		**P**	**07 34 11.1**	**-0.3**
Y49A					IAmb	IAmb	07 34 14.1	
	comp=Z,11nm,1.1s							
U58A	**Oxford**	**32.84**	**349**	P		**P**	**07 34 13.1**	**+1.0**
	baz=167							
V54A	**Nebo**	**33.02**	**344**	P		**P**	**07 34 15.3**	**+1.5**
	baz=161							
V53A	**Saluda**	**33.16**	**343**	P		**P**	**07 34 16.3**	**+1.3**
CPUP	**Villa Florida**	**33.17**	**156**	LR		LR	07 48 36.0	
	comp=Z,271nm,21.1s,baz=345,slow=38							
T59A	**Double "B" Far**	**33.24**	**351**	P		**P**	**07 34 17.4**	**+1.9**
	baz=169							
T58A	**Grand View Acr**	**33.38**	**350**	P		**P**	**07 34 17.9**	**+1.1**
	baz=168							
TKL	**Tuckaleechee C**	**33.44**	**342**	P		**P**	**07 34 19.1**	**+1.7**
	comp=Z,7.0nm,1.2s,baz=170,slow=2.8,SNR=3.9							
U55A	**TA2, Sparta**	**33.48**	**346**	P		**P**	**07 34 19.7**	**+2.0**
	baz=163							
CPCT	**Cooper Cave**	**33.49**	**341**	P		**P**	**07 34 20.4**	**+2.5**
CPCT					IAmb	IAmb	07 34 20.8	
	comp=Z,6.0nm,0.9s							
X48A	**Hartselle**	**33.53**	**336**	P		**P**	**07 34 19.5**	**+1.4**
W50A	**Signal Mountai**	**33.54**	**339**	P		**P**	**07 34 19.9**	**+1.7**
W50A					IAmb	IAmb	07 34 21.1	
	comp=Z,5.3nm,0.8s							
V52A	**Sevierville**	**33.56**	**342**	P		**P**	**07 34 19.9**	**+1.6**
V52A					IAmb	IAmb	07 34 21.1	
	comp=Z,5.7nm,0.9s							
T57A	**Hurt**	**33.56**	**349**	P		**P**	**07 34 19.6**	**+1.2**
	baz=166							
T57A	**Hurt**	**33.56**	**349**	P		**P**	**07 34 18.9**	**+0.6**
T57A					IAmb	IAmb	07 34 20.7	
	comp=Z,7.3nm,1.0s							
U54A	**Nelsons Funny**	**33.69**	**345**	P		**P**	**07 34 21.2**	**+1.6**
	baz=162							
U54A	**Nelsons Funny**	**33.69**	**345**	P		**P**	**07 34 21.7**	**+2.1**
U54A					IAmb	IAmb	07 34 22.5	
	comp=Z,10nm,0.9s							
V51A	**Loudon**	**33.76**	**341**	P		**P**	**07 34 21.0**	**+0.9**
V51A					IAmb	IAmb	07 34 23.1	
	comp=Z,11nm,0.9s							
S59A	**Mechanicsville**	**33.98**	**352**	P		**P**	**07 34 23.4**	**+1.4**
	baz=170							
T54A	**Tazewell**	**34.14**	**346**	P		**P**	**07 34 25.1**	**+1.6**
	baz=162							
TZTN	**Tazewell**	**34.19**	**343**	P		**P**	**07 34 25.0**	**+1.1**
	baz=159							
S57A	**Dark Hollow, R**	**34.24**	**349**	P		**P**	**07 34 26.1**	**+1.8**
	baz=167							
S57A	**Dark Hollow, R**	**34.24**	**349**	P		**P**	**07 34 24.7**	**+0.4**
S57A					IAmb	IAmb	07 34 26.7	
	comp=Z,6.8nm,1.0s							
R61A	**Willards**	**34.31**	**355**	P		**P**	**07 34 26.5**	**+1.7**
	baz=174							
T53A	**Wise**	**34.31**	**344**	P		**P**	**07 34 26.3**	**+1.3**
	baz=161							
R59A	**King George, V**	**34.38**	**352**	P		**P**	**07 34 27.0**	**+1.5**
	baz=170							
PLAL	**Pickwick Lake**	**34.41**	**336**	P		**P**	**07 34 26.9**	**+1.1**
CBN	**Corbin Frederi**	**34.42**	**352**	P		**P**	**07 34 27.3**	**+1.5**
	baz=170							
S55A	**Lewisburg**	**34.56**	**347**	P		**P**	**07 34 28.6**	**+1.5**
	baz=164							
V48A	**Smith Brothers**	**34.57**	**338**	P		**P**	**07 34 27.8**	**+0.6**
OXF	**Oxford**	**34.58**	**333**	P		**P**	**07 34 27.6**	**+0.4**
	baz=148							
R58A	**Rapidan**	**34.61**	**351**	P		**P**	**07 34 29.1**	**+1.7**
	baz=169							
R57A	**Stanardsville**	**34.69**	**350**	P		**P**	**07 34 29.9**	**+1.8**
	baz=168							
CLTN	**Cedars of Leba**	**34.70**	**339**	P		**P**	**07 34 28.8**	**+0.5**
CLTN					IAmb	IAmb	07 34 30.9	
	comp=Z,15nm,1.4s							
S54A	**Dingess, Beckl**	**34.78**	**346**	P		**P**	**07 34 30.4**	**+1.5**
	baz=163							
R56A	**Bull Pasture M**	**34.95**	**349**	P		**P**	**07 34 32.0**	**+1.4**
	baz=166							
R55A	**Marlinton**	**34.98**	**348**	P		**P**	**07 34 32.2**	**+1.5**
	baz=165							
W45A	**Hickory Valley**	**35.03**	**334**	P		**P**	**07 34 31.8**	**+0.7**
T50A	**Nancy**	**35.03**	**341**	P		**P**	**07 34 31.6**	**+0.5**
T50A					IAmb	IAmb	07 34 34.0	
	comp=Z,6.8nm,1.1s							
R54A	**Victor**	**35.06**	**347**	P		**P**	**07 34 33.1**	**+1.7**
	baz=164							
NATX	**Nacogdoches**	**35.12**	**324**	P		**P**	**07 34 32.1**	**+0.1**
Q58A	**Fox Den Farm,**	**35.19**	**352**	P		**P**	**07 34 34.4**	**+1.9**
	baz=170							
CCAR	**Cane Creek**	**35.21**	**330**	P		**P**	**07 34 32.9**	**+0.1**

	baz=169,SNR=5.3						
M60A	**Port Jervis**	**37.23**	**356**	P	**P**	**07 34 52.1**	**+2.3**
	baz=175						
W39A	**Magazine**	**37.23**	**329**	P	**P**	**07 34 50.3**	**+0.2**
	baz=142,SNR=5.5						
W39A	**Magazine**	**37.23**	**329**	IAmb	IAmb	07 34 51.4	
	comp=Z,8.5nm,0.8s						
M58A	**Price's Panora**	**37.43**	**354**	P	**P**	**07 34 53.3**	**+1.7**
	baz=172						
M57A	**Sunshine Farm,**	**37.47**	**353**	P	**P**	**07 34 53.8**	**+1.8**
	baz=171						
M57A	**Sunshine Farm,**	**37.47**	**353**	IAmb	IAmb	07 34 54.9	
	comp=Z,8.3nm,0.9s						
JCT	**Junction City**	**37.48**	**318**	P	**P**	**07 34 52.1**	**-0.2**
	baz=129						
ACSO	**Alum Creek Sta**	**37.49**	**345**	P	**P**	**07 34 53.7**	**+1.5**
	baz=161						
M59A	**Waymart**	**37.50**	**355**	P	**P**	**07 34 54.2**	**+2.0**
	baz=174						
N54A	**Moraine State**	**37.54**	**349**	P	**P**	**07 34 53.8**	**+1.2**
	baz=166						
N54A	**Moraine State**	**37.54**	**349**	IAmb	IAmb	07 34 55.4	
	comp=Z,8.8nm,0.8s						
KSPA	**Keystone Colle**	**37.55**	**355**	IAmb	IAmb	07 34 55.1	
	comp=Z,9.0nm,0.8s						
U40A	**Yellville**	**37.69**	**331**	P	**P**	**07 34 54.1**	**+0.2**
	baz=144,SNR=16						
N52A	**McGinn's Farm,**	**37.74**	**347**	P	**P**	**07 34 55.6**	**+1.4**
	baz=164						
M56A	**Emporium**	**37.76**	**352**	P	**P**	**07 34 56.0**	**+1.6**
	baz=169						
M56A	**Emporium**	**37.76**	**352**	P	**P**	**07 34 55.3**	**+0.9**
M56A				IAmb	IAmb	07 34 56.5	
	comp=Z,9.1nm,0.6s						
M55A	**Ridgway**	**37.83**	**351**	P	**P**	**07 34 55.9**	**+0.9**
	baz=168						
M55A	**Ridgway**	**37.83**	**351**	IAmb	IAmb	07 34 57.4	
	comp=Z,7.5nm,0.8s						
L60A	**Shokan**	**37.86**	**357**	P	**P**	**07 34 57.1**	**+1.9**
	baz=176						
M54A	**Oil Creek Stat**	**38.01**	**350**	P	**P**	**07 34 57.7**	**+1.1**
	baz=167						
M54A	**Oil Creek Stat**	**38.01**	**350**	IAmb	IAmb	07 34 59.2	
	comp=Z,14nm,1.1s						
L61A	**Hillsdale 1, H**	**38.03**	**358**	P	**P**	**07 34 58.7**	**+2.1**
	baz=177						
L58A	**Harry Jones Me**	**38.04**	**355**	P	**P**	**07 34 58.4**	**+1.6**
	baz=173						
L57A	**Andrews Acres**	**38.09**	**354**	P	**P**	**07 34 59.4**	**+2.1**
	baz=172						
O48A	**Farmland**	**38.10**	**343**	P	**P**	**07 34 58.7**	**+1.4**
	baz=158						
L59A	**Walton**	**38.11**	**356**	P	**P**	**07 34 59.5**	**+2.1**
	baz=175						
M53A	**Wl Miller and**	**38.13**	**349**	P	**P**	**07 34 59.5**	**+2.0**
	baz=165						
P46A	**Rosedale**	**38.17**	**340**	IAmb	IAmb	07 34 59.9	
	comp=Z,20nm,1.2s						
Q44A	**Meyer Farm, Va**	**38.18**	**338**	IAmb	IAmb	07 34 59.8	
	comp=Z,10.0nm,1.1s						
BINY	**Binghamton**	**38.20**	**355**	P	**P**	**07 34 60.0**	**+1.8**
	baz=173						
L61B	**Northampton**	**38.26**	**359**	P	**P**	**07 34 59.7**	**+1.2**
	baz=178						
HRV	**Adam Dziewonsk**	**38.30**	**360**	P	**P**	**07 35 01.1**	**+2.3**
	baz=180						
L56A	**Greenwood**	**38.31**	**353**	P	**P**	**07 35 00.1**	**+1.0**
	baz=170,SNR=5.1						
L56A	**Greenwood**	**38.31**	**353**	IAmb	IAmb	07 35 01.6	
	comp=Z,11nm,0.8s						
CCM	**Cathedral Cave**	**38.36**	**335**	P	**P**	**07 34 59.8**	**+0.4**
	baz=148						
CCM	**Cathedral Cave**	**38.36**	**335**	P	**P**	**07 34 59.1**	**-0.4**
L55A	**Hinsdale**	**38.48**	**352**	P	**P**	**07 35 02.0**	**+1.5**
	baz=169						
K63A	**Dunstable**	**38.48**	**360**	P	**P**	**07 35 02.3**	**+1.9**
	baz=180						
L53A	**Girard**	**38.55**	**349**	P	**P**	**07 35 03.4**	**+2.4**
	baz=166						
L54A	**Sinclairville**	**38.66**	**351**	P	**P**	**07 35 03.4**	**+1.4**
	baz=168						
WVNY	**West Valley, N**	**38.72**	**352**	IAmb	IAmb	07 35 05.0	
	comp=Z,10nm,0.8s						
K58A	**Earlville**	**38.73**	**355**	P	**P**	**07 35 03.6**	**+1.0**
	baz=174						
ABTX	**Abilene, Hawle**	**38.75**	**321**	P	**P**	**07 35 03.5**	**+0.5**
	baz=132						
K57A	**Scipio Center**	**38.78**	**354**	P	**P**	**07 35 04.2**	**+1.2**
	baz=172						
SFIN	**Lafayette**	**38.81**	**341**	P	**P**	**07 35 04.3**	**+1.0**
	baz=155						
TUL1	**Leonard**	**38.83**	**328**	P	**P**	**07 35 03.1**	**-0.4**
	baz=140						
TUL1	**Leonard**	**38.83**	**328**	IAmb	IAmb	07 35 04.0	
	comp=Z,6.3nm,0.7s						
K56A	**Middlesex**	**38.84**	**353**	P	**P**	**07 35 05.0**	**+1.5**
	baz=171						
K54A	**Basiliko Farm,**	**38.93**	**352**	P	**P**	**07 35 05.9**	**+1.6**
	baz=169						
S39A	**Bolivar**	**38.99**	**332**	IAmb	IAmb	07 35 06.2	
	comp=Z,13nm,1.4s						
J60A	**Lant Hill Farm**	**39.07**	**358**	P	**P**	**07 35 07.0**	**+1.6**
	baz=177						
J61A	**Chester**	**39.15**	**359**	P	**P**	**07 35 07.9**	**+1.9**
	baz=179						
L50A	**Kingsville**	**39.16**	**347**	P	**P**	**07 35 07.9**	**+1.7**
	baz=162						
J58A	**Remsen**	**39.30**	**356**	P	**P**	**07 35 08.5**	**+1.2**
	baz=174						
J58A	**Remsen**	**39.30**	**356**	IAmb	IAmb	07 35 09.7	
	comp=Z,8.4nm,0.9s						
J59A	**Piesco**	**39.35**	**357**	P	**P**	**07 35 09.2**	**+1.5**
	baz=176						
J56A	**Wolcott**	**39.36**	**354**	P	**P**	**07 35 09.1**	**+1.4**
	baz=172						
J56A	**Wolcott**	**39.36**	**354**	IAmb	IAmb	07 35 10.3	
	comp=Z,9.4nm,0.9s						
J57A	**Williamstown**	**39.40**	**355**	P	**P**	**07 35 09.1**	**+1.0**
	baz=173,SNR=7.3						
J57A	**Williamstown**	**39.40**	**355**	IAmb	IAmb	07 35 10.3	
	comp=Z,14nm,0.9s						
J55A	**Hilton**	**39.46**	**353**	P	**P**	**07 35 09.6**	**+1.0**
	baz=170						
J55A	**Hilton**	**39.46**	**353**	IAmb	IAmb	07 35 10.7	
	comp=Z,10nm,0.8s						
TX31	**Lajitas Ar. Si**	**39.52**	**313**	P	**P**	**07 35 08.3**	**-1.2**
TX31				IAmb	IAmb	07 35 10.9	
	comp=Z,15nm,0.8s						
TXAR	**Lajitas Array**	**39.52**	**313**	P	**P**	**07 35 09.9**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=128,slow=9.0,SNR=54						
TXAR	**Lajitas Array**	**39.52**	**313**	P	**P**	**07 35 08.7**	**-0.7**
I58A	**Old Forge**	**39.60**	**356**	P	**P**	**07 35 11.0**	**+1.1**
	baz=175						
WMOK	**Wichita Mounta**	**39.66**	**324**	P	**P**	**07 35 10.0**	**-0.5**
	baz=135,SNR=9.7						
I61A	**Oroboro, Fairl**	**39.73**	**359**	P	**P**	**07 35 12.2**	**+1.3**
	baz=179						
I64A	**Boothbay**	**39.74**	**2**	P	**P**	**07 35 12.6**	**+1.6**
	baz=183						
HPIG		**39.79**	**308**	P	**P**	**07 35 11.0**	**-0.9**
HPIG				IAmb	IAmb	07 35 13.6	
	comp=Z,13nm,1.0s						
K50A	**Casco**	**39.82**	**347**	P	**P**	**07 35 13.3**	**+1.7**
	baz=163						
I57A	**Carthage**	**39.90**	**355**	P	**P**	**07 35 13.8**	**+1.5**
	baz=174						
P40A	**Paris**	**39.93**	**335**	P	**P**	**07 35 12.3**	**-0.4**
P40A				IAmb	IAmb	07 35 13.5	
	comp=Z,9.7nm,0.8s						
T35A	**Sooner Cattle**	**39.97**	**328**	P	**P**	**07 35 12.5**	**-0.6**
K49A	**Clarkson**	**40.02**	**346**	P	**P**	**07 35 13.8**	**+0.5**
	baz=162						
LBNH	**Lisbon**	**40.03**	**360**	P	**P**	**07 35 15.4**	**+2.0**
	baz=180						
L46A	**Eue Claire**	**40.05**	**343**	P	**P**	**07 35 14.3**	**+0.7**
H58A	**Gabriels**	**40.28**	**357**	P	**P**	**07 35 17.1**	**+1.6**
	baz=176						
H60A	**Morristown**	**40.37**	**359**	P	**P**	**07 35 18.0**	**+1.8**
	baz=178						
H62A	**Milan**	**40.37**	**0**	P	**P**	**07 35 17.9**	**+1.7**
	baz=181						
I55A	**Frankford**	**40.38**	**353**	P	**P**	**07 35 17.4**	**+1.1**
	baz=171						
H57A	**Richville**	**40.40**	**356**	P	**P**	**07 35 17.4**	**+1.0**
	baz=174						
I51A	**Listowel**	**40.48**	**349**	P	**P**	**07 35 18.4**	**+1.3**
	baz=166						
H59A	**Cadyville**	**40.48**	**358**	P	**P**	**07 35 18.1**	**+1.0**
	baz=177						
J49A	**Marlette**	**40.49**	**347**	P	**P**	**07 35 18.4**	**+1.2**
	baz=162						
LONY	**Lake Ozonia**	**40.50**	**357**	P	**P**	**07 35 18.4**	**+1.1**
	baz=176						
J48A	**Bridge Port**	**40.58**	**346**	P	**P**	**07 35 18.8**	**+0.8**
	baz=161						
H56A	**Elgin**	**40.60**	**355**	P	**P**	**07 35 19.4**	**+1.3**
	baz=173						
H55A	**Tweed**	**40.65**	**354**	P	**P**	**07 35 19.6**	**+1.1**
	baz=172						
P38A	**Dawn**	**40.65**	**334**	P	**P**	**07 35 18.4**	**-0.3**
P38A				IAmb	IAmb	07 35 19.3	
	comp=Z,11nm,0.8s						
H53A	**Bobcaygeon**	**40.84**	**352**	P	**P**	**07 35 21.0**	**+0.9**
	baz=170						
G60A	**Masonville**	**40.90**	**359**	P	**P**	**07 35 21.9**	**+1.4**
	baz=179						
G58A	**Ormstown**	**41.00**	**357**	P	**P**	**07 35 22.5**	**+1.1**
	baz=176						
G57A	**Newington**	**41.01**	**356**	P	**P**	**07 35 22.9**	**+1.4**
	baz=175						
G62A	**West of Eustis**	**41.02**	**1**	P	**P**	**07 35 23.6**	**+2.1**
	baz=182						
G61A	**St-Isidore-de-**	**41.07**	**360**	P	**P**	**07 35 24.1**	**+2.1**
	baz=180						
H52A	**Wyevale**	**41.10**	**351**	P	**P**	**07 35 23.1**	**+0.9**
	baz=168						
SADO	**Sadowa**	**41.11**	**352**	IAmb	IAmb	07 35 24.1	
	comp=Z,7.2nm,0.8s						
PLVO	**Plevna**	**41.12**	**354**	IAmb	IAmb	07 35 24.8	
	comp=Z,8.0nm,1.0s						
G55A	**Calabogie**	**41.30**	**354**	P	**P**	**07 35 24.7**	**+0.9**
	baz=172						
G53A	**Haliburton**	**41.39**	**352**	P	**P**	**07 35 26.0**	**+1.4**
	baz=170						
ORIO	**Orleans, Innes**	**41.39**	**356**	P	**P**	**07 35 26.1**	**+1.5**
	baz=174						
I47A	**Gladwin**	**41.44**	**346**	P	**P**	**07 35 26.5**	**+1.5**
	baz=160						
AMTX	**Amarillo**	**41.52**	**321**	P	**P**	**07 35 25.5**	**-0.4**
	baz=131						
AMTX	**Amarillo**	**41.52**	**321**	P	**P**	**07 35 25.4**	**-0.5**
AMTX				IAmb	IAmb	07 35 26.9	
	comp=Z,9.7nm,0.9s						
G54A	**Lake Saint Pet**	**41.59**	**353**	P	**P**	**07 35 27.1**	**+0.8**
	baz=170						
MSTX	**Muleshoe**	**41.62**	**319**	P	**P**	**07 35 26.7**	**-0.2**
	baz=129						
MSTX	**Muleshoe**	**41.62**	**319**	P	**P**	**07 35 26.3**	**-0.6**
MSTX				IAmb	IAmb	07 35 28.5	
	comp=Z,7.0nm,0.8s						
KSU1	**Kansas State U**	**41.68**	**330**	P	**P**	**07 35 26.6**	**-0.5**
	baz=141						
F60A	**Warwick**	**41.76**	**360**	P	**P**	**07 35 29.2**	**+1.6**
	baz=180						
H47A	**Mio**	**41.91**	**346**	P	**P**	**07 35 29.9**	**+1.0**
	baz=161						
MNTX	**Cornudas Mount**	**42.05**	**315**	P	**P**	**07 35 30.6**	**+0.3**
	baz=124,SNR=33						
ALGO	**Algonquin Park**	**42.13**	**353**	P	**P**	**07 35 31.5**	**+0.8**
	baz=170						
F52A	**Sundridge**	**42.14**	**352**	P	**P**	**07 35 31.9**	**+1.1**
	baz=169						
E60A	**Ste Agathe de**	**42.16**	**0**	P	**P**	**07 35 32.1**	**+1.3**
	baz=180						
E58A	**La Victoria**	**42.19**	**358**	P	**P**	**07 35 32.3**	**+1.2**
	baz=178						
E61A	**Lac Etchemin**	**42.23**	**1**	P	**P**	**07 35 32.5**	**+1.0**
	baz=182						
R32A	**Long Quarter,**	**42.25**	**328**	IAmb	IAmb	07 35 32.1	
	comp=Z,7.6nm,0.9s						
E57A	**Chemin Saint G**	**42.27**	**357**	P	**P**	**07 35 32.9**	**+1.1**
	baz=176,SNR=8.5						
E64A	**Bridgewater**	**42.33**	**4**	P	**P**	**07 35 33.5**	**+1.2**
	baz=186						
G47A	**Hillman**	**42.37**	**347**	P	**P**	**07 35 33.2**	**+0.6**
	baz=162						
SCIA	**State Center**	**42.41**	**336**	P	**P**	**07 35 32.7**	**-0.2**
	baz=147						
E55A	**Montcerf-Lytto**	**42.43**	**355**	P	**P**	**07 35 34.7**	**+1.6**
	baz=174						
E62A	**Clayton Lake**	**42.45**	**2**	P	**P**	**07 35 34.7**	**+1.5**
	baz=183						
E56A	**St. Veronique**	**42.45**	**356**	P	**P**	**07 35 34.1**	**+0.9**
	baz=175						
E53A	**Dumoine, Ponti**	**42.51**	**354**	P	**P**	**07 35 34.3**	**+0.6**
	baz=171						
E54A	**Lac Daplat, Po**	**42.51**	**354**	P	**P**	**07 35 35.2**	**+1.4**
	baz=172						
E52A	**Mattawa**	**42.53**	**353**	P	**P**	**07 35 34.9**	**+0.9**
	baz=170						
F49A	**Sandfield**	**42.56**	**349**	P	**P**	**07 35 34.6**	**+0.5**
	baz=165						
D57A	**Chemin Vers le**	**42.86**	**358**	P	**P**	**07 35 37.8**	**+1.3**
	baz=177						
E51A	**G1948 Merrick**	**42.89**	**352**	P	**P**	**07 35 38.1**	**+1.2**
	baz=168						
D58A	**Chemin du LacG**	**42.90**	**359**	P	**P**	**07 35 37.7**	**+0.7**
	baz=178						
D62A	**Allaqint, All**	**42.92**	**2**	P	**P**	**07 35 38.7**	**+1.6**
	baz=184						
D63A	**Stockholm**	**42.93**	**3**	P	**P**	**07 35 38.9**	**+1.8**
	baz=185						
D56A	**ZEC Mazanza, M**	**42.93**	**357**	P	**P**	**07 35 37.7**	**+0.6**
	baz=176						
D55A	**Sainte-Anne-du**	**42.95**	**356**	P	**P**	**07 35 38.8**	**+1.5**
	baz=174						
D61A	**St Aubert, Com**	**43.01**	**1**	P	**P**	**07 35 39.1**	**+1.4**
	baz=182						
CBKS	**Cedar Bluff**	**43.09**	**327**	P	**P**	**07 35 38.4**	**-0.3**
	baz=137						
CBKS	**Cedar Bluff**	**43.09**	**327**	IAmb	IAmb	07 35 39.0	
	comp=Z,8.2nm,0.8s						
D54A	**Lac Fusel, La**	**43.17**	**355**	P	**P**	**07 35 40.0**	**+0.8**
	baz=173						
D52A	**ZEK Kipawa Sen**	**43.19**	**353**	P	**P**	**07 35 40.4**	**+1.1**
	baz=170,SNR=7.1						
LATQ	**La Tuque**	**43.19**	**359**	P	**P**	**07 35 40.8**	**+1.6**
	baz=178						
D53A	**Lac Vacive, Po**	**43.20**	**354**	P	**P**	**07 35 40.5**	**+1.2**
	baz=171						
D53A	**Lac Vacive, Po**	**43.20**	**354**	IAmb	IAmb	07 35 41.4	
	comp=Z,9.7nm,1.0s						
E48A	**Lockeyer**	**43.28**	**349**	P	**P**	**07 35 40.9**	**+0.9**
	baz=165						
D51A	**Lot 18 Range I**	**43.42**	**352**	P	**P**	**07 35 42.7**	**+1.6**
	baz=169						
D50A	**G1974 Best Tow**	**43.56**	**352**	P	**P**	**07 35 43.8**	**+1.5**
	baz=168						
D48A	**Paudash Townsh**	**43.88**	**350**	P	**P**	**07 35 45.7**	**+0.9**
	baz=165						
D49A	**Beulah Townshi**	**43.90**	**350**	P	**P**	**07 35 45.9**	**+0.9**
	baz=166						
121A	**Cookes Peak, D**	**44.22**	**314**	IAmb	IAmb	07 35 50.3	
	comp=Z,9.4nm,1.2s						
ANMO	**Albuquerque**	**44.64**	**318**	P	**P**	**07 35 51.0**	**-0.4**
	baz=126						
ANMO	**Albuquerque**	**44.64**	**318**	P	**P**	**07 35 52.1**	**+0.7**
	comp=Z,3.2nm,1.0s,baz=166,slow=8.0,SNR=12						
ANMO	**Albuquerque**	**44.64**	**318**	P	**P**	**07 35 51.7**	**+0.4**
T25A	**Trinidad**	**44.66**	**322**	P	**P**	**07 35 51.5**	**0.0**
	baz=130,SNR=5.6						
KSCO	**Kaye Shedlock'**	**44.83**	**325**	P	**P**	**07 35 52.8**	**0.0**
	baz=133						
KSCO	**Kaye Shedlock'**	**44.83**	**325**	P	**P**	**07 35 52.9**	**+0.2**
KSCO				IAmb	IAmb	07 35 53.9	
	comp=Z,10.0nm,0.9s						
LSQQ	**Lebel-sur-Quev**	**45.09**	**355**	P	**P**	**07 35 55.4**	**+0.9**
	baz=172						
ECSD	**EROS Data Cent**	**45.33**	**334**	P	**P**	**07 35 56.5**	**0.0**
	baz=144						
SDCO	**Great Sand Dun**	**45.71**	**322**	P	**P**	**07 35 59.7**	**-0.2**
	baz=129						
CHGQ	**Chibougamau**	**45.77**	**357**	P	**P**	**07 36 01.2**	**+1.3**
	baz=176						
TUC	**Tucson**	**46.29**	**312**	P	**P**	**07 36 04.7**	**+0.3**
	baz=119						
TUC	**Tucson**	**46.29**	**312**	P	**P**	**07 36 04.9**	**+0.6**
TUC				IAmb	IAmb	07 36 06.0	
	comp=Z,4.9nm,1.0s						
S22A	**4UR Ranch, Cre**	**46.54**	**321**	P	**P**	**07 36 06.9**	**+0.3**
	baz=128,SNR=6.9						
S22A	**4UR Ranch, Cre**	**46.54**	**321**	P	**P**	**07 36 06.7**	**+0.2**
ISCO	**Idaho Springs**	**47.09**	**324**	P	**P**	**07 36 11.2**	**+0.4**
	baz=130,SNR=6.7						
ISCO	**Idaho Springs**	**47.09**	**324**	P	**P**	**07 36 11.4**	**+0.6**
ISCO				IAmb	IAmb	07 36 14.8	
	comp=Z,4.1nm,0.9s						
MVCO	**Mesa Verde**	**47.30**	**319**	P	**P**	**07 36 12.7**	**+0.4**
	baz=126						
MVCO	**Mesa Verde**	**47.30**	**319**	P	**P**	**07 36 12.6**	**+0.2**
MVCO				IAmb	IAmb	07 36 13.7	
	comp=Z,8.9nm,1.2s						
214A	**Organ Pipe Nat**	**47.64**	**311**	P	**P**	**07 36 15.0**	**+0.2**
	baz=117						
214A	**Organ Pipe Nat**	**47.64**	**311**	IAmb	IAmb	07 36 16.8	
	comp=Z,5.0nm,0.9s						
N23A	**Red Feather La**	**47.99**	**325**	P	**P**	**07 36 18.2**	**+0.5**
	baz=131						
N23A	**Red Feather La**	**47.99**	**325**	IAmb	IAmb	07 36 21.6	
	comp=Z,12nm,1.3s						
PV13	**Radium Mtn., P**	**48.05**	**320**	IAmb	IAmb	07 36 19.7	
	comp=Z,7.1nm,0.8s						
PV03	**Paradox Valley**	**48.13**	**320**	IAmb	IAmb	07 36 20.1	
	comp=Z,4.2nm,1.0s						
PV12	**Saucer Basin,**	**48.13**	**320**	IAmb	IAmb	07 36 20.4	
	comp=Z,6.9nm,1.0s						
PV18	**Skein Mesa, Pa**	**48.16**	**320**	P	**P**	**07 36 19.0**	**0.0**
PV18				IAmb	IAmb	07 36 22.5	
	comp=Z,5.6nm,0.9s						
PV22	**Blue Mesa, Par**	**48.25**	**320**	IAmb	IAmb	07 36 21.0	
	comp=Z,4.1nm,0.8s						
WUAZ	**Wupatki**	**48.31**	**316**	P	**P**	**07 36 20.5**	**+0.2**
	baz=121						
O20A	**White River Ci**	**48.87**	**322**	P	**P**	**07 36 24.6**	**+0.2**
	baz=128						
RSSD	**Black Hills**	**49.14**	**329**	P	**P**	**07 36 26.6**	**+0.2**
	baz=135						
K22A	**Casper**	**49.46**	**326**	P	**P**	**07 36 29.5**	**+0.6**
	baz=131						
IRM	**Iron Mountain**	**50.38**	**312**	P	**P**	**07 36 36.4**	**+0.5**
	baz=117						
BC3	**Big Chuckawall**	**50.39**	**311**	P	**P**	**07 36 36.2**	**+0.2**
	baz=116						
ULM	**Lac du Bonnet**	**50.43**	**340**	LR	LR	07 58 36.2	
	comp=Z,100nm,21.1s,baz=162,slow=37						
SCHQ	**Schefferville**	**50.77**	**3**	P	**P**	**07 36 38.9**	**+0.4**
	comp=Z,6.9nm,0.7s,baz=196,slow=7.1,SNR=13						
SCHQ				LR	LR	07 57 18.7	
	comp=Z,36nm,21.2s,baz=57,slow=35						
SCHQ	**Schefferville**	**50.77**	**3**	P	**P**	**07 36 39.5**	**+1.0**
SCHQ				IAmb	IAmb	07 36 40.1	
	comp=Z,8.6nm,0.8s						
BW06	**Boulder Array**	**51.26**	**324**	P	**P**	**07 36 41.8**	**-0.8**
	baz=128,SNR=5.7						
BW06	**Boulder Array**	**51.26**	**324**	P	**P**	**07 36 41.5**	**-1.1**
PD31	**Pinedale Array**	**51.26**	**324**	P	**P**	**07 36 41.3**	**-1.3**
PDAR	**Pinedale Array**	**51.26**	**324**	P	**P**	**07 36 41.7**	**-0.9**
	comp=Z,1.7nm,0.9s,baz=124,slow=8.0,SNR=11						
PDAR				LR	LR	08 02 56.5	
	comp=Z,23nm,18.8s,baz=122,slow=41						
PDAR	**Pinedale Array**	**51.26**	**324**	P	**P**	**07 36 41.9**	**-0.7**
DGMT	**Dagmar**	**52.34**	**333**	P	**P**	**07 36 50.6**	**+0.3**
	baz=137						
REDW	**Red Top Meadow**	**52.38**	**324**	IAmb	IAmb	07 36 53.4	
	comp=Z,6.8nm,0.9s						
TPNV	**Topopah Spring**	**52.45**	**315**	P	**P**	**07 36 52.0**	**+0.5**
	baz=118						
SCI2	**San Clemente I**	**52.47**	**309**	P	**P**	**07 36 51.7**	**+0.2**
	baz=113						
R11A	**Troy Canyon, C**	**52.65**	**317**	P	**P**	**07 36 53.2**	**+0.2**
	baz=119						
BOZ	**Bozeman (W)**	**54.17**	**326**	P	**P**	**07 37 03.8**	**-0.2**
	baz=128,SNR=5.4						
NVAR	**Mina Array Bea**	**54.58**	**315**	P	**P**	**07 37 06.6**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=117,slow=7.4,SNR=4.5						
NVAR	**Mina Array Bea**	**54.58**	**315**	P	**P**	**07 37 06.3**	**-0.9**
HLID	**Hailey**	**54.61**	**323**	P	**P**	**07 37 07.4**	**+0.2**
	baz=124						
HLID	**Hailey**	**54.61**	**323**	P	**P**	**07 37 07.5**	**+0.2**
EGMT	**Eagleton**	**54.71**	**329**	P	**P**	**07 37 08.3**	**+0.6**
	baz=131						
MSO	**Missoula**	**56.20**	**326**	P	**P**	**07 37 18.8**	**+0.2**
	baz=126						
J05D	**Fort Rock, OR**	**58.76**	**319**	P	**P**	**07 37 37.2**	**+0.5**
	baz=117						
PINE	**Pine Mountain**	**58.80**	**320**	IAmb	IAmb	07 37 38.5	
	comp=Z,4.6nm,1.1s						
J04D	**Umpqua Nationa**	**59.31**	**319**	P	**P**	**07 37 40.7**	**+0.1**
	baz=116						
I04A	**Tendick Farm,**	**59.75**	**319**	P	**P**	**07 37 43.3**	**-0.2**
	baz=116						
K02D	**Willamette Mer**	**60.11**	**318**	P	**P**	**07 37 45.7**	**-0.3**
	baz=115						
D03D	**Eldon**	**61.87**	**323**	P	**P**	**07 37 57.6**	**-0.2**
	baz=118						
SFJD	**Kangerlussuaq**	**64.48**	**9**	LR	LR	08 04 37.6	
	comp=Z,38nm,21.1s,baz=208,slow=34						
YKA	**Yellowknife Ar**	**66.41**	**340**	P	**P**	**07 38 26.1**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=137,slow=6.3,SNR=13						
YKA				LR	LR	08 08 02.7	
	comp=Z,59nm,20.3s,baz=0.0,slow=36						
ESDC	**Sonseca Array**	**70.20**	**49**	P	**P**	**07 38 52.0**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=275,slow=5.4,SNR=6.6						
SUMG	**Summit**	**71.41**	**10**	*i* P	**P**	**07 38 58.9**	**+0.1**
	comp=Z,28nm,1.0s						
SUMG	**Summit**	**71.41**	**10**	P	**P**	**07 38 58.9**	**+0.1**
RES	**Resolute Bay**	**71.89**	**354**	LR	LR	08 12 19.5	
	comp=Z,30nm,18.4s,baz=229,slow=37						
TORD	**Torodi Ar. Bea**	**72.73**	**78**	P	**P**	**07 39 05.7**	**-1.6**
	comp=Z,5.5nm,0.5s,baz=286,slow=5.6,SNR=7.1						
BCAR	**Beaver Creek A**	**77.55**	**334**	P	**P**	**07 39 33.6**	**-0.6**
DOT	**Dot Lake**	**78.69**	**334**	P	**P**	**07 39 39.3**	**-1.2**
DOT				IAmb	IAmb	07 39 40.8	
	comp=Z,5.1nm,1.0s						
ECH	**Echery**	**79.44**	**42**	P	**P**	**07 39 42.9**	**-2.0**
ECH				IAmb	IAmb	07 39 47.4	
	comp=Z,5.0nm,1.0s						
HDA	**Harding Lake**	**80.10**	**335**	P	**P**	**07 39 48.6**	**+0.4**
	baz=102						
ILAR	**Eielson Array**	**80.15**	**335**	P	**P**	**07 39 45.6**	**-2.8**
	comp=Z,0.4nm,0.8s,baz=117,slow=5.8,SNR=3.8						
ILAR				LR	LR	08 18 59.9	
	comp=Z,33nm,18.6s,baz=116,slow=38						
ILAR	**Eielson Array**	**80.15**	**335**	P	**P**	**07 39 47.5**	**-0.9**
COLD	**Coldfoot**	**81.92**	**337**	P	**P**	**07 39 58.5**	**+0.7**
	baz=99						
NOA	**NORSAR Array B**	**82.95**	**29**	P	**P**	**07 40 02.7**	**-0.6**
	comp=Z,2.2nm,1.0s,baz=266,slow=5.3,SNR=4.4						
NOA				LR	LR	08 13 27.7	
	comp=Z,12nm,19.9s,baz=260,slow=33						
GERES	**GERESS Array B**	**83.81**	**41**	P	**P**	**07 40 08.0**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=270,slow=2.7,SNR=12						
GERES	**GERESS Array B**	**83.81**	**41**	P	**P**	**07 40 07.3**	**-0.9**
VNA3	**Neumayer Olymp**	**85.06**	**163**	P	**P**	**07 40 14.3**	**+

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**1.30**	**311**	*e*Pg	Pg	07 43 02.8	-0.2
KLNJ	**Kolanjah**	**1.63**	**71**	*e*		07 43 42.3	
KLNJ				*e*Pg	Pb	07 43 08.6	+0.3
SHGR	**Shooshtar-Gavs**	**1.83**	**332**	*e*Pn	Pb	07 43 11.4	-0.1
SHGR				*e*Sg	Sg	07 43 38.7	+1.9
SHGR	comp=N,120nm,0.3s			IAML		07 43 40.5	
SHGR	comp=E,139nm,0.7s			IAML		07 43 48.6	
SHGR	**Shooshtar-Gavs**	**1.83**	**332**	*e*Pn	Pb	07 43 11.4	-0.1
JHBN	**Jahan bin**	**1.89**	**23**	*e*Pg	Pb	07 43 13.3	+0.6
JHBN				*e*		07 43 48.9	
AHBU	**AHRAM**	**2.07**	**141**	*e*Pn	Pb	07 43 14.2	-1.4
ROKH	**ROKH**	**2.13**	**29**	*e*Pn	Pb	07 43 17.1	+0.3
SHI	**Shiraz**	**2.50**	**109**	*e*Pn	Pb	07 43 22.3	-0.7
SHI				*e*		07 44 10.6	
IRAM	**Ramesheh**	**2.58**	**59**	*e*Pn	Pb	07 43 22.3	-2.1
IGAR	**Gharneh**	**2.71**	**44**	*e*Pn	Pn	07 43 23.5	+1.8
IGAR				*e*		07 44 18.9	
IKLH	**Kolahrood**	**3.21**	**28**	*e*Pn	Pn	07 43 31.0	+2.4
IZEF	**Zefreh**	**3.23**	**41**	*e*Pn	Pn	07 43 31.9	+3.0
IDOB	**Doab**	**3.57**	**338**	*e*Pn	Pn	07 43 36.6	+3.0
ISAD	**Sadrabad**	**3.62**	**66**	*e*Pn	Pn	07 43 37.3	+3.0
HSAM	**Samen**	**3.85**	**345**	*e*Pn	Pn	07 43 39.9	+2.4
IMEH	**Mehriz**	**4.23**	**76**	*e*Pn	Pn	07 43 44.8	+2.1
ANAR	**Anarak**	**4.29**	**50**	*e*Pn	Pn	07 43 45.9	+2.4
SNGE	**Sanandaj**	**5.04**	**336**	*e*Pn	Pn	07 43 52.9	-0.9
BNDS	**Bandar-Abbas**	**6.37**	**117**	*e*Pn	Pn	07 44 06.6	-5.4

IDC ***25*** *07:45:20.2±1.5,29°.96S×177°.51W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.8/28,mbtmp4.0/3,MS3.3/2,Ms1 3.3/2, ms1mx2.8/21,Error ellipse: s-maj=43.6km s-min=18.5km az=73.0*

ISC 25 07:45:25.5±1.4,29°.9S±0°.1×177°.5W±0°.3,h35km,n14, σ0s70/8,mb4.0/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.76**	**333**	Pn	**Pn**	**07 45 40.0**	**+0.3**
	424nm,0.3s,baz=87,slow=6.5,SNR=27						
RAO				Sn	**Sn**	**07 45 50.3**	**+0.3**
	799nm,0.3s,baz=82,slow=21,SNR=10						
DZM	**Mont Dzumac**	**16.39**	**295**	LR	LR	07 54 19.4	
	comp=Z,74nm,18.1s,baz=213,slow=33						
ASAR	**Alice Springs**	**43.54**	**266**	P	**P**	**07 53 26.4**	**+0.2**
	2.0nm,0.6s,baz=104,slow=7.4,SNR=4.4						
ASAR				LR	LR	08 10 59.6	
	comp=Z,57nm,18.9s,baz=235,slow=35						
WRA	**Warramunga Arr**	**44.49**	**271**	P	**P**	**07 53 33.0**	**-0.7**
	1.2nm,0.4s,baz=111,slow=8.0,SNR=11						
QSPA	**South Pole Qui**	**60.17**	**180**	P	**P**	**07 55 30.3**	**+0.7**
	0.8nm,0.8s,baz=100,slow=16,SNR=1.7						
H03S2	**Juan Fernandez**	**80.38**	**123**	T	T	09 27 01.7	
	baz=239,slow=74,SNR=5.3						
H03S1	**Juan Fernandez**	**80.39**	**123**	T	T	09 27 01.5	
	baz=239,slow=74,SNR=4.6						
H03S3	**Juan Fernandez**	**80.40**	**123**	T	T	09 27 02.5	
	baz=239,slow=74,SNR=6.0						
H10N3	**ASCENSION HYDR**	**39.05**	**154**	T	T	10 40 28.9	
	baz=206						
H10N1	**ASCENSION HYDR**	**39.06**	**154**	T	T	10 40 30.1	
	baz=206,slow=74						
H10N2	**ASCENSION HYDR**	**39.07**	**154**	T	T	10 40 32.0	
	baz=206,slow=74						
FINES	**FINESS Array B**	**144.85**	**340**	PKP	**PKPab**	**08 04 57.2**	**0.0**
	2.4nm,0.6s,baz=29,slow=4.4,SNR=12						
HFS	**Hagfors**	**148.87**	**349**	PKPbc	**PKPbc**	**08 05 08.6**	**-0.3**
	1.2nm,0.7s,baz=29,slow=3.3,SNR=1.8						
AKASG	**Malin Array Be**	**151.17**	**324**	PKPbc	**PKPbc**	**08 05 13.6**	**-1.1**
	0.3nm,0.3s,baz=53,slow=2.6,SNR=1.4						

ATH ***25*** *07:50:07.7,38°.05N×20°.21E,h17km±2km,ML2.9/5,Error ellipse: s-maj=3.4km s-min=1.5km az=32.0*
THE ***25*** *07:50:08.2,38°.09N×20°.18E,h0km±3km,ML3.2/7,Error ellipse: s-maj=4.3km s-min=0.9km az=259.0*

ISC 25 07:50:06.8±1.8,38°.00N±0°.06×20°.19E±0°.06,h14km±9km, n35,σ0s84/53,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF3	**Kipouria, Keph**	**0.24**	**31**	P	**Pb**	**07 50 12.3**	**-0.6**
KEF3				S	**Sg**	**07 50 15.6**	**0.0**
ARGA	**Argostoli. Kep**	**0.29**	**52**	P	**Pb**	**07 50 13.3**	**-0.4**
ARGA				S	**Sg**	**07 50 17.5**	**+0.5**
ARG2	**Argostoli**	**0.30**	**52**	P	**Pb**	**07 50 13.4**	**-0.4**
ARG2				S	**Sg**	**07 50 17.4**	**+0.2**
	22μm,0.4s						
KEF4	**Livadi, Kephal**	**0.32**	**35**	P	**Pb**	**07 50 13.6**	**-0.6**
KEF4				S	**Sg**	**07 50 18.0**	**+0.2**
KEF5	**Kardakata, Kep**	**0.36**	**38**	P	**Pb**	**07 50 14.3**	**-0.6**
KEF5				S	**Sg**	**07 50 18.7**	**-0.3**
VLS	**Valsamata**	**0.36**	**60**	P	**Pb**	**07 50 14.5**	**-0.5**
VLS				S	**Sg**	**07 50 19.4**	**+0.1**
	5μm,0.3s						
VLS	**Valsamata**	**0.36**	**60**	P	**Pb**	**07 50 14.5**	**-0.5**
VLS				S	**Sg**	**07 50 19.3**	**+0.1**
VLS	comp=E,7362μm,0.1s			AML	AML	07 50 20.2	
VLS	comp=N,11042μm,0.3s			AML	AML	07 50 20.3	
VSK1	**VASILIKIADES**	**0.51**	**36**	P	**Pg**	**07 50 16.5**	**-0.3**
VSK1				S	**Sg**	**07 50 23.6**	**0.0**
	comp=N,6μm,0.5s						
FSK	**Fiskardo**	**0.55**	**32**	P	**Pg**	**07 50 17.4**	**-0.1**
FSK				S	**Sg**	**07 50 24.6**	**-0.2**
	comp=N,3μm,0.6s						
FSK	**Fiskardo**	**0.55**	**32**	P	**Pg**	**07 50 17.4**	**-0.1**
FSK				S	**Sg**	**07 50 24.6**	**-0.2**
FSK	comp=E,6994μm,0.4s			AML	AML	07 50 26.0	
FSK	comp=N,2778μm,0.4s			AML	AML	07 50 26.3	
KRI1	**kERI**	**0.60**	**124**	P	**Pn**	**07 50 20.3**	**-0.5**
KRI1				S	**Sn**	**07 50 30.0**	**-0.3**
	comp=N,6μm,0.2s						
VTN	**Vitineika**	**0.79**	**95**	P	**Pn**	**07 50 23.6**	**+0.2**
VTN				S	**Sn**	**07 50 36.6**	**+1.6**
MGNA	**Meganis**	**0.81**	**36**	P	**Pg**	**07 50 22.2**	**-0.3**
LKD2	**Lefkada island**	**0.87**	**25**	P	**Pb**	**07 50 23.4**	**-0.3**
LKD2				S	**Sg**	**07 50 34.9**	**-0.2**
	comp=N,868nm,0.6s						
LKD2	**Lefkada island**	**0.87**	**25**	P	**Pb**	**07 50 23.3**	**-0.3**
LKD2				AML	AML	07 50 43.7	
LKD2	comp=E,1338μm,0.6s			AML	AML	07 50 45.7	
	comp=N,1888μm,0.5s						
AST1	**Astakos**	**0.89**	**52**	P	**Pn**	**07 50 24.0**	**-0.8**
TSLK	**Tsoukalades, L**	**0.90**	**24**	P	**Pb**	**07 50 24.1**	**-0.1**
TSLK	**Tsoukalades, L**	**0.90**	**24**	P	**Pb**	**07 50 24.1**	**-0.1**
TSLK				AML	AML	07 50 44.7	
TSLK	comp=N,1994μm,0.7s			AML	AML	07 50 45.0	
	comp=E,1156μm,0.7s						
RLS	**Riolos of Patr**	**1.01**	**86**	P	**Pn**	**07 50 27.8**	**+1.3**
DRO	**Drossia**	**1.20**	**92**	P	**Pg**	**07 50 30.1**	**+0.1**
DRO	**Drossia**	**1.20**	**92**	P	**Pg**	**07 50 30.0**	**+0.1**
DRO				AML	AML	07 50 58.4	
DRO	comp=N,1332μm,0.5s			AML	AML	07 51 02.8	
	comp=E,525μm,0.6s						
PVO	**Paravola**	**1.22**	**59**	P	**Pg**	**07 50 30.2**	**-0.1**
PVO				S	**Sn**	**07 50 47.1**	**+1.5**
	comp=E,552nm,0.5s						
PVO	**Paravola**	**1.22**	**59**	P	**Pg**	**07 50 30.1**	**-0.2**
AMT	**Artemida-Makis**	**1.29**	**111**	P	Pg	07 50 34.1	+2.5
ANX	**Ano Chora**	**1.49**	**66**	P	**Pg**	**07 50 35.3**	**-0.1**
ANX	**Ano Chora**	**1.49**	**66**	P	**Pg**	**07 50 34.8**	**-0.6**
KLV	**Kalavryta, Ach**	**1.55**	**88**	P	**Pg**	**07 50 36.1**	**-0.4**
KLV	**Kalavryta, Ach**	**1.55**	**88**	P	**Pg**	**07 50 36.0**	**-0.6**
GUR	**Goura**	**1.70**	**91**	P	**Pg**	**07 50 38.8**	**-0.7**
GUR	**Goura**	**1.70**	**91**	P	**Pg**	**07 50 39.0**	**-0.5**
STON	**Ston**	**5.23**	**339**	*e*Pn	**Pn**	**07 51 25.8**	**+1.4**
STON				Sn	**Sn**	**07 52 22.9**	**-1.5**
RICI	**Ricice**	**5.96**	**338**	*e*Pn	**Pn**	**07 51 35.4**	**+0.9**
RICI				Sn	**Sn**	**07 52 42.0**	**-0.6**
ZIRJ	**Zirje**	**6.62**	**330**	*e*Pn	**Pn**	**07 51 45.6**	**+2.1**
ZIRJ				Sn	**Sn**	**07 52 57.4**	**-1.3**
KIJV	**Kijevo**	**6.65**	**336**	*e*Pn	**Pn**	**07 51 45.5**	**+1.6**
KIJV				Sn	**Sn**	**07 52 59.2**	**-0.3**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUGI	**Dugi Otok**	**7.13**	**329**	*e*Pn	**Pn**	**07 51 52.7**	**+2.1**
DUGI				Sn	**Sn**	**07 53 09.3**	**-2.1**

IDC ***25*** *08:22:44.5±0.8,29°.93S×177°.12W,h0km,mb4.1/8, mb1 4.2/9,mb1mx4.1/21,mbtmp4.1/9,ML3.7/1,MS3.5/6, Ms1 3.5/6,ms1mx3.2/21,Error ellipse: s-maj=25.8km s-min=18.8km az=46.0*
NEIC ***25*** *08:22:48.0±2.0,29°.99S±0°.06×177°.23W±0°.07,h21km±3km, mb4.6/17,Error ellipse: s-maj=9.4km s-min=8.9km az=46.0*

ISC 25 08:22:48.3±0.6,29°.99S±0°.07×177°.2W±0°.1,h24km,n51, σ1s10/43,mb4.4/12,MS3.6/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.94**	**320**	Pn	**Pn**	**08 23 06.3**	**+0.3**
	2μm,0.3s,baz=105,slow=16,SNR=106						
RAO				Sn	**Sn**	**08 23 18.8**	**0.0**
	2μm,0.3s,baz=214,slow=23,SNR=5.9						
RAO	comp=Z,799nm,20.1s,baz=118,slow=49			LR	LR	08 23 32.0	
RAO	**Raoul Island**	**0.94**	**320**		**Pn**	**08 23 06.1**	**+0.1**
URZ	**Urewera**	**9.49**	**208**	Pn	**Pn**	**08 25 03.0**	**-0.4**
BKZ	**Black Stump Fm**	**10.52**	**208**	Pn	**Pn**	**08 25 18.8**	**+1.2**
THZ	**Tophouse**	**14.20**	**211**	Pn	**Pn**	**08 26 08.9**	**+1.0**
LTZ	**Lake Taylor**	**15.30**	**211**	Pn	**Pn**	**08 26 21.8**	**-0.9**
OXZ	**Oxford**	**15.84**	**210**	Pn	**Pn**	**08 26 27.2**	**-2.4**
OXZ				IAmb	IAmb	08 26 32.1	
	comp=Z,69nm,1.5s						
DZM	**Mont Dzumac**	**16.64**	**294**	Pn	**P**	**08 26 41.1**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=115,slow=15,SNR=2.8						
DZM				LR	LR	08 32 05.9	
	comp=Z,234nm,18.5s,baz=213,slow=34						
ODZ	**Otahua Downs**	**17.81**	**209**		**Pn**	**08 26 54.3**	**-0.2**
MLZ	**Mavora Lakes**	**19.19**	**213**	P	**P**	**08 27 07.6**	**-2.7**
MLZ				IAmb	IAmb	08 27 20.2	
	comp=Z,53nm,1.4s						
WHZ	**Wether Hill Ro**	**19.67**	**212**	P	**P**	**08 27 13.0**	**-2.4**
WHZ				IAmb	IAmb	08 27 15.8	
	comp=Z,49nm,1.3s						
PPT	**Papeete**	**28.08**	**70**	LR	LR	08 36 32.9	
	comp=Z,39nm,19.5s,baz=180,slow=30						
STKA	**Stephens Creek**	**35.22**	**256**	P	**P**	**08 29 42.4**	**+1.6**
	comp=Z,2.8nm,0.5s,baz=99,slow=13,SNR=6.8						
STKA				LR	LR	08 43 04.1	
	comp=Z,93nm,18.1s,baz=194,slow=34						
STKA	**Stephens Creek**	**35.22**	**256**	IAmb	IAmb	08 29 49.5	
	comp=Z,2.0nm,1.1s						
BBOO	**Buckleboo**	**39.72**	**254**	P	**P**	**08 30 19.2**	**+0.2**
ASAR	**Alice Springs**	**43.80**	**266**	P	**P**	**08 30 52.5**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=104,slow=7.6,SNR=20						
ASAR				PcP	**PcP**	**08 32 38.7**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=118,slow=4.3,SNR=2.5						
ASAR				LR	LR	08 48 26.1	
	comp=Z,143nm,18.7s,baz=166,slow=35						
WR0	**Warramunga Arr**	**44.57**	**271**	P	**P**	**08 30 59.5**	**+0.8**
WR0				IAmb	IAmb	08 31 07.5	
	comp=Z,5.3nm,0.8s						
WB2	**Warramunga Arr**	**44.74**	**271**	P	**P**	**08 31 00.4**	**+0.4**
WB2				IAmb	IAmb	08 31 00.6	
	comp=Z,7.6nm,0.9s						
WRA	**Warramunga Arr**	**44.75**	**271**	P	**P**	**08 31 00.1**	**0.0**
	comp=Z,1.9nm,0.4s,baz=111,slow=8.0,SNR=30						
WRA	**Warramunga Arr**	**44.75**	**271**	P	**P**	**08 31 00.2**	**+0.1**
WB0	**Warramunga Arr**	**44.77**	**272**	P	**P**	**08 31 00.8**	**+0.5**
WB0				IAmb	IAmb	08 31 03.0	
	comp=Z,18nm,1.4s						
VNDA	**Vanda**	**48.58**	**186**	P	**P**	**08 31 30.1**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=21,slow=5.0,SNR=2.4						
KNRA	**Kununurra**	**51.34**	**274**	P	**P**	**08 31 53.2**	**+2.1**
QSPA	**South Pole Qui**	**60.12**	**180**	P	**P**	**08 32 55.2**	**+1.6**
QSPA				IAmb	IAmb	08 33 05.7	
	comp=Z,3.6nm,0.6s						
MJAR	**Matsushiro Arr**	**78.28**	**325**	P	**P**	**08 34 46.1**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=157,slow=3.9,SNR=2.6						
SNAA	**Sanae**	**78.55**	**178**	P	**P**	**08 34 47.3**	**0.0**
VNA3	**Neumayer Olymp**	**78.67**	**176**	P	**P**	**08 34 47.8**	**-0.2**
VNA2	**Neumayer--Watz**	**79.11**	**177**	P	**P**	**08 34 50.8**	**+0.5**
	baz=195,slow=4.7						
H03S2	**Juan Fernandez**	**80.14**	**123**	T	T	10 04 25.2	
	baz=238,slow=74,SNR=5.2						
H03S1	**Juan Fernandez**	**80.15**	**123**	T	T	10 04 25.7	
	baz=238,slow=74,SNR=4.9						
H03S3	**Juan Fernandez**	**80.15**	**123**	T	T	10 04 26.3	
	baz=238,slow=74,SNR=5.1						
PETK	**Petropavlovsk-**	**85.58**	**345**	P	**P**	**08 35 24.8**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=127,slow=7.9,SNR=2.7						
USRK	**Ussuriysk Ar.**	**87.19**	**326**	P	**P**	**08 35 32.3**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=151,slow=4.4,SNR=4.5						
USRK	**Ussuriysk Ar.**	**87.19**	**326**	P	**P**	**08 35 33.7**	**+1.4**
YERR	**Yerington**	**87.31**	**41**	P	**P**	**08 35 34.2**	**+1.0**
NVAR	**Mina Array Bea**	**87.48**	**42**	P	**P**	**08 35 34.3**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=209,slow=7.4,SNR=3.8						
NVAR				LR	LR	09 13 30.3	
	comp=Z,26nm,18.3s,baz=164,slow=35						
TXAR	**Lajitas Array**	**91.60**	**57**	LR	LR	09 11 59.8	
	comp=Z,11nm,18.6s,baz=0.0,slow=32						
DLBC	**Dease Lake**	**96.48**	**23**	P	**P**	**08 36 12.9**	**-2.3**
PHWY	**Pilot Hill**	**97.03**	**46**	P	**P**	**08 36 18.8**	**+0.4**
MKAR	**Makanchi Array**	**118.02**	**310**	PKP	**PKPdf**	**08 41 31.8**	**-1.0**
	comp=Z,0.2nm,0.4s,baz=153,slow=1.6,SNR=3.0						
H10N3	**ASCENSION HYDR**	**138.89**	**153**	T	T	11 18 32.6	
	baz=203,slow=75,SNR=2.9						
H10N1	**ASCENSION HYDR**	**138.89**	**153**	T	T	11 18 32.1	
	baz=203,slow=75,SNR=3.0						
H10N2	**ASCENSION HYDR**	**138.91**	**153**	T	T	11 18 32.6	
	baz=203,slow=75,SNR=3.4						
FINES	**FINESS Array B**	**144.98**	**341**	PKP	PKPbc	08 42 21.6	-0.4
	comp=Z,6.1nm,0.5s,baz=48,slow=3.6,SNR=46						
NB2	**NORSAR Subarra**	**148.44**	**352**	PKP	**PKPbc**	**08 42 32.0**	**-0.2**
	comp=Z,4.6nm,1.4s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.44**	**352**	PKPbc	**PKPbc**	**08 42 32.0**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=16,slow=4.3,SNR=3.6						
HFS	**Hagfors**	**148.97**	**349**	PKPbc	**PKPbc**	**08 42 32.7**	**-0.8**
	comp=Z,1.0nm,0.5s,baz=282,slow=1.4,SNR=4.0						
AKASG	**Malin Array Be**	**151.37**	**324**	PKPbc	**PKiKP**	**08 42 39.2**	**-0.9**
	comp=Z,1.1nm,0.4s,baz=45,slow=2.7,SNR=4.8						
AKASG	**Malin Array Be**	**151.37**	**324**		**PKiKP**	**08 42 39.5**	**-0.5**
MMAI	**Mont Meron Ar**	**152.67**	**285**	PKPab	**PKPab**	**08 42 51.8**	**+0.3**
	comp=Z,1.8nm,0.4s,baz=88,slow=6.8,SNR=4.0						
TORD	**Torodi Ar. Bea**	**163.22**	**176**	PKPab	**PKPab**	**08 43 39.0**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=188,slow=3.6,SNR=4.3						

IDC 25 08:35:28.1±3.1,30°.02S×177°.30W,h0km,mb3.6/2, mb1 3.8/2,mb1mx3.5/19,mbtmp3.6/2,Error ellipse: s-maj=65.3km s-min=28.7km az=72.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.94**	**325**	Pn	Pn	08 35 49.5	+1.0
	97nm,0.3s,baz=46,slow=22,SNR=2.4						
RAO				Sn	Sn	08 36 02.2	-0.5
	329nm,0.3s,baz=178,slow=23,SNR=6.9						
ASAR	**Alice Springs**	**43.74**	**266**	P	P	08 43 34.8	-0.6
	0.3nm,0.7s,baz=101,slow=7.4,SNR=4.1						
WRA	**Warramunga Arr**	**44.69**	**271**	P	P	08 43 43.4	+0.3
	1.2nm,0.7s,baz=111,slow=8.1,SNR=7.2						
FINES	**FINESS Array B**	**145.00**	**341**	PKP	PKPbc	08 55 05.5	-0.4
	1.2nm,0.6s,baz=61,slow=4.2,SNR=6.5						

IDC ***25*** *09:06:45.4±10.0,11°.62N×87°.40W,h0km,mb3.6/4, mb1 3.9/4,mb1mx3.6/28,mbtmp3.6/4,Error ellipse: s-maj=202.0km s-min=59.2km az=3.0*
NEIC ***25*** *09:07:02.8±1.2,12°.58N±0°.06×87°.83W±0°.05,h76km±8km, mb4.0/13,Md4.0(SNET),Error ellipse: s-maj=9.6km s-min=5.9km az=204.0*
GCG ***25*** *09:07:02.1±0.3,12°.23N×87°.98W,h34km,MD4.5*
UCR ***25*** *09:07:03.0±1.8,12°.53N×87°.88W,h36km±254km,ML3.9, mb4.0(NEIC)*
INET ***25*** *09:07:03.1,12°.54N×87°.84W,h45km,ML4.2*
SNET ***25*** *09:07:03.1±0.7,12°.55N×87°.91W,h32km±4km,ML4.0*

ISC 25 09:07:02.8±0.9,12°.60N±0°.06×87°.82W±0°.04,h69km±7km, n108,σ0s94/127,mb3.9/10,3D,Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.68**	**359**	*e*P	**Pn**	**09 07 17.2**	**-0.3**
CNCH				*e*S	**Sn**	**09 07 28.2**	**0.0**
CNCH	**Conchagua**	**0.68**	**359**	*e*P	**Pn**	**09 07 17.2**	**-0.3**
CNCH				*e*S	**Sn**	**09 07 28.2**	**0.0**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.71**	**354**	*e*P	**Pn**	**09 07 17.6**	**-0.1**
LCND				*e*S	**Sn**	**09 07 28.6**	**-0.1**
LCND				IAML		09 07 33.8	
	comp=Z,8μm,0.3s						
LCND	**La Caada**	**0.71**	**354**	*e*P	**Pn**	**09 07 17.6**	**-0.1**
LCND				*e*S	**Sn**	**09 07 28.6**	**-0.1**
LCND				IAML		09 07 33.8	
	comp=Z,8μm,0.3s						
CRIN	**San Cristobal**	**0.76**	**82**		**Pn**	**09 07 18.3**	**0.0**
CRIN				Sn	**Sn**	**09 07 31.2**	**+1.4**
JUCU	**Jucuarn**	**0.78**	**327**	*e*P	**Pn**	**09 07 17.8**	**-0.8**
JUCU				*e*S	**Sn**	**09 07 29.7**	**-0.5**
JUCU				IAML		09 07 31.8	
	comp=Z,5μm,0.2s						
JUCU	**Jucuarn**	**0.78**	**327**	*e*P	**Pn**	**09 07 17.8**	**-0.8**
JUCU				*e*S	**Sn**	**09 07 29.7**	**-0.5**
JUCU				IAML		09 07 31.8	
	comp=Z,5μm,0.2s						
BLLM	**Bellamira**	**0.94**	**334**	*e*P	**Pn**	**09 07 20.4**	**-0.1**
BLLM	**Bellamira**	**0.94**	**334**	*e*P	**Pn**	**09 07 20.4**	**-0.1**
LCY	**Lacayo**	**0.94**	**331**	*e*P	**Pn**	**09 07 20.6**	**-0.1**
LCY				*e*S	**Sn**	**09 07 34.1**	**+0.2**
LCY	**Lacayo**	**0.94**	**331**	*e*P	**Pn**	**09 07 20.6**	**-0.1**
LCY				*e*S	**Sn**	**09 07 34.1**	**+0.2**
ALJI	**Alcalda de J**	**1.03**	**315**	*e*P	**Pn**	**09 07 21.1**	**-0.5**
ALJI				*e*S	**Sn**	**09 07 34.2**	**-1.5**
ALJI				IAML		09 07 37.9	
	comp=Z,4μm,0.2s						
ALJI	**Alcalda de J**	**1.03**	**315**	*e*P	**Pn**	**09 07 21.1**	**-0.5**
ALJI				*e*S	**Sn**	**09 07 34.2**	**-1.5**
ALJI				IAML		09 07 37.9	
	comp=Z,4μm,0.2s						
TECA	**Tecapa**	**1.11**	**323**	*e*P	**Pn**	**09 07 22.7**	**-0.1**
TECA	**Tecapa**	**1.11**	**323**	*e*P	**Pn**	**09 07 22.7**	**-0.1**
FAGO	**Alcalda de S**	**1.13**	**346**	*e*P	**Pn**	**09 07 22.8**	**-0.1**
FAGO				IAML		09 07 40.2	
	comp=Z,2μm,0.4s						
FAGO	**Alcalda de S**	**1.13**	**346**	*e*P	**Pn**	**09 07 22.8**	**-0.1**
FAGO				IAML		09 07 40.2	
	comp=Z,2μm,0.4s						
COEB	**Comit de Eme**	**1.13**	**322**	*e*P	**Pn**	**09 07 22.6**	**-0.4**
COEB				IAML		09 07 41.1	
	comp=Z,3μm,0.3s						
COEB	**Comit de Eme**	**1.13**	**322**	*e*P	**Pn**	**09 07 22.6**	**-0.4**
COEB				IAML		09 07 41.1	
	comp=Z,3μm,0.3s						
TGUH	**Tegucigalpa,Un**	**1.55**	**20**		**Pn**	**09 07 29.1**	**+0.7**
TGUH				Sn	**Sn**	**09 07 48.2**	**+0.4**
PAVA	**Las Pavas**	**1.56**	**316**	*e*P	**Pn**	**09 07 28.7**	**+0.1**
PAVA	**Las Pavas**	**1.56**	**316**	*e*P	**Pn**	**09 07 28.7**	**+0.1**
LFRS	**El Faro**	**1.58**	**310**	*e*P	**Pn**	**09 07 28.7**	**-0.3**
LFRS	**El Faro**	**1.58**	**310**	*e*P	**Pn**	**09 07 28.7**	**-0.3**
LBRS	**Las Brisas**	**1.65**	**314**	*e*P	**Pn**	**09 07 30.2**	**+0.5**
LBRS	**Las Brisas**	**1.65**	**314**	*e*P	**Pn**	**09 07 30.2**	**+0.5**
LALI	**Alcalda de L**	**1.71**	**301**	*e*P	**Pn**	**09 07 29.9**	**-0.6**
LALI				IAML		09 07 52.6	
	comp=Z,551nm,0.3s						
LALI	**Alcalda de L**	**1.71**	**301**	*e*P	**Pn**	**09 07 29.9**	**-0.6**
LALI				IAML		09 07 52.6	
	comp=Z,551nm,0.3s						
OPAM	**Oficina de Pla**	**1.74**	**310**	*e*P	**Pn**	**09 07 31.1**	**+0.1**
OPAM				IAML		09 07 57.0	
	comp=Z,2μm,0.2s						
OPAM	**Oficina de Pla**	**1.74**	**310**	*e*P	**Pn**	**09 07 31.1**	**+0.1**
OPAM				IAML		09 07 57.0	
	comp=Z,2μm,0.2s						
SNET	**Serv Nac Est T**	**1.75**	**308**	*e*P	**Pn**	**09 07 31.0**	**-0.1**
SNET				IAML		09 07 58.4	
	comp=Z,1μm,0.3s						
SNET	**Serv Nac Est T**	**1.75**	**308**		**Pn**	**09 07 31.4**	**+0.2**
SNET				Sn	**Sn**	**09 07 52.0**	**-0.7**
SNET	**Serv Nac Est T**	**1.75**	**308**	*e*P	**Pn**	**09 07 31.0**	**-0.1**
SNET				IAML		09 07 58.4	
	comp=Z,1μm,0.3s						
UEES	**Universidad Ev**	**1.78**	**309**	*e*P	**Pn**	**09 07 31.5**	**0.0**
UEES	**Universidad Ev**	**1.78**	**309**	*e*P	**Pn**	**09 07 31.5**	**0.0**
BOQS	**Boqueron**	**1.82**	**309**	*e*P	**Pn**	**09 07 32.5**	**+0.3**
BOQS				*e*S	**Sn**	**09 07 55.5**	**+1.0**
BOQS	**Boqueron**	**1.82**	**309**	*e*P	**Pn**	**09 07 32.5**

TX31	**Lajitas Ar. Si**	**22.23**	**321**	P	**P**	**09 11 53.2**	**-0.8**
TX31				IAmb	IAmb	09 11 56.7	
	comp=Z,5.4nm,0.7s						
TX32	**Lajitas Array**	**22.23**	**321**	P	**P**	**09 11 53.4**	**-0.7**
TKL	**Tuckaleechee C**	**23.25**	**8**	P	**P**	**09 12 04.5**	**+0.2**
TKL				IAmb	IAmb	09 12 05.8	
	comp=Z,3.5nm,0.9s						
PBMO	**Poplar Bluff**	**24.19**	**355**	P	**P**	**09 12 12.4**	**-0.4**
PDAR	**Pinedale Array**	**35.48**	**332**	P	**P**	**09 13 53.2**	**+0.3**
	comp=Z,0.3nm,0.5s,baz=138,slow=12,SNR=2.7						
REDW	**Red Top Meadow**	**36.54**	**331**	P	**P**	**09 14 01.4**	**-0.6**
REDW				IAmb	IAmb	09 14 03.7	
	comp=Z,5.2nm,1.4s						
SNOW	**Snow King Moun**	**36.57**	**332**	P	**P**	**09 14 03.2**	**+0.9**
SNOW				IAmb	IAmb	09 14 04.7	
	comp=Z,4.0nm,1.1s						
MCMT	**McKenzie Canyo**	**38.59**	**331**	P	**P**	**09 14 21.9**	**+2.6**
BATG	**Bathurst New B**	**39.10**	**24**	P	**P**	**09 14 23.1**	**-0.1**
SCHQ	**Schefferville**	**45.24**	**17**	P	P	09 15 10.6	-2.6
	comp=Z,2.4nm,0.7s,baz=236,slow=7.3,SNR=4.9						
SCHQ	**Schefferville**	**45.24**	**17**	P	**P**	**09 15 11.2**	**-1.9**
RES	**Resolute Bay**	**62.20**	**358**	P	**P**	**09 17 15.1**	**-1.6**
ILAR	**Eielson Array**	**65.74**	**336**	P	**P**	**09 17 38.5**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=144,slow=5.6,SNR=2.5						

NIED ***25*** *09:07:00,39.˚10N×142.˚10E,h38km,Mw3.5 Best double couple: M₀1.77000×10¹⁴ NP1:φ₀28.00000°,δ76.00000°, λ98.00000°. NP2:φ₀179.00000°,δ16.00000°,λ62.00000°.*

JMA ***25*** *09:07:39.1±0.1,39.˚11N×142.˚12E,h46km±1km,M3.7*

JMA Felt I J1.

IDC ***25*** *09:07:42.5±11.0,39.˚08N×142.˚14E,h82km±70km,mb3.3/2, mb1 3.3/4,mb1mx3.1/46,mbtmp3.4/4,ML2.2/2,MS3.1/1, Ms1 3.1/1,ms1mx2.3/24,Error ellipse: s-maj=145.0km s-min=31.7km az=73.0*

ISC 25 09:07:38.0±1.7, 39.07N±0.06×142.3E±0.2, h39km±5km, n22,σ1$26/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.45**	**271**	P	**Pn**	**09 07 48.4**	**+0.5**
OFUJ				S	**Sn**	**09 07 54.9**	**-0.1**
MIYJ	**Miyakonagasawa**	**0.60**	**327**	P	**Pn**	**09 07 50.2**	**+0.1**
MIYJ				S	**Sn**	**09 07 57.9**	**-0.8**
JKMT	**Kesennumamotoy**	**0.66**	**247**	P	**Pn**	**09 07 51.0**	**+0.2**
JKMT				S	**Sn**	**09 07 59.3**	**-0.6**
JMK	**Ichinoseki**	**0.81**	**262**	P	**Pn**	**09 07 52.9**	**+0.1**
JMK				S	**Sn**	**09 08 02.8**	**-0.9**
JOM	**Ohasama**	**0.84**	**299**	P	**Pn**	**09 07 53.3**	**0.0**
JOM				S	**Sn**	**09 08 03.4**	**-1.1**
JTH	**Tanohata**	**0.92**	**341**	P	**Pn**	**09 07 54.5**	**+0.2**
JIO	**Ouri**	**0.94**	**229**	P	**Pn**	**09 07 54.9**	**+0.3**
JIO				S	**Sn**	**09 08 05.8**	**-0.9**
JRG	**Rokugo**	**1.29**	**285**	P	**Pn**	**09 07 59.6**	**+0.1**
JANG	**Nango**	**1.42**	**337**	P	**Pn**	**09 08 01.5**	**+0.3**
JANG				S	**Sn**	**09 08 18.5**	**-0.1**
JOU	**Okura**	**1.43**	**241**	P	**Pn**	**09 08 01.5**	**+0.2**
JYK	**Kaneyama**	**1.48**	**265**	P	**Pn**	**09 08 02.3**	**+0.3**
MJAR	**Matsushiro Arr**	**4.08**	**233**	P	**Pn**	**09 08 41.3**	**+3.6**
	0.2nm,0.3s,baz=35,slow=12,SNR=13						
USRK	**Usuriysk Ar.**	**9.22**	**307**	P	**Pn**	**09 09 51.8**	**+3.3**
	baz=112,slow=14,SNR=4.7						
SONM	**Songino Array**	**27.26**	**300**	LR	LR	09 23 28.1	
	comp=Z,34nm,18.6s,baz=36,slow=35						
H11N2	**WAKE ISLAND Hy**	**28.70**	**125**	T	T	09 43 55.4	
	baz=317,slow=75,SNR=173						
H11N1	**WAKE ISLAND Hy**	**28.71**	**125**	T	T	09 43 55.9	
	baz=317,slow=75,SNR=204						
H11N3	**WAKE ISLAND Hy**	**28.72**	**125**	T	T	09 43 56.6	
	baz=317,slow=75,SNR=201						
H11S1	**WAKE ISLAND Hy**	**29.49**	**127**	T	T	09 44 54.9	
	baz=319,slow=76,SNR=50						
H11S3	**WAKE ISLAND Hy**	**29.49**	**127**	T	T	09 44 55.0	
	baz=319,slow=76,SNR=69						
H11S2	**WAKE ISLAND Hy**	**29.50**	**127**	T	T	09 44 55.4	
	baz=319,slow=76,SNR=59						
MKAR	**Makanchi Array**	**43.62**	**300**	P	**P**	**09 15 38.1**	**-0.3**
	0.6nm,0.6s,baz=87,slow=8.8,SNR=3.0						
WRA	**Warramunga Arr**	**59.17**	**189**	P	**P**	**09 17 34.5**	**-0.4**
	0.6nm,0.8s,baz=5.7,slow=7.1,SNR=1.8						

TIR ***25*** *09:21:34.5,38.˚11N×21.˚99E,h1km,Md4.6/7*

IDC ***25*** *09:21:40.6±0.7,38.˚39N×21.˚78E,h0km,mb4.0/19, mb1 4.1/25,mb1mx4.0/47,mbtmp4.0/25,ML4.0/6,MS3.1/9, Ms1 3.1/9,ms1mx2.8/49,Error ellipse: s-maj=14.5km s-min=13.9km az=141.0*

ATH ***25*** *09:21:41.6,38.˚36N×21.˚74E,h22km±1km,ML4.2/23,Error ellipse: s-maj=1.1km s-min=0.5km az=75.0*

THE ***25*** *09:21:42.4,38.˚34N×21.˚74E,h5km±1km,ML4.2/15,Error ellipse: s-maj=1.2km s-min=0.3km az=300.0*

PDG ***25*** *09:21:42.3±0.6,38.˚36N×21.˚75E,h10km,ML4.2/13,Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*

NEIC ***25*** *09:21:42.7±1.7,38.˚36N±0.˚05×21.˚73E±0.˚04,h9km±4km, Error ellipse: s-maj=7.4km s-min=4.8km az=162.0*

MED_RC ***25*** *09:21:42.0±0.5,38.˚34N×21.˚75E,h21km±2km,MW4.2/13, Moment Tensor Solution.Mantle waves: s13,c17; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr-1.07±.48; Mθθ 1.92±.33; Mφφ-0.86±.24; Mrθ-1.26±.27; Mθφ 1.86±.23; Mφr 0.20±.24; Best double couple: M₀2.72000×10¹⁵ NP1:φ₀201.00000°,δ54.00000°, λ-163.00000°. NP2:φ₀101.00000°,δ76.00000°, λ-37.00000°. Principal axes: T 3.1200, Plg14.0000°, Azm156.0000°; N -0.8000, Plg51.0000°, Azm264.0000°; P -2.3200, Plg35.0000°, Azm55.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

MOS ***25*** *09:21:42.0±1.0,38.˚41N×21.˚75E,h16km,mb4.5/26 Error ellipse: s-maj=6.1km s-min=4.3km az=68.5*

NEIC ***25*** *09:21:43.9,38.˚35N×21.˚76E,h13km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-0.09; Mθθ 0.87; Mφφ-0.78; Mrθ-0.57; Mθφ 0.64; Mφr 0.08; Fault plane solution: M₀1.20000×10¹⁵ NP1:φ₀204.59000°, δ62.74000°,λ176.91000°. NP2:φ₀296.01000°,δ87.26000°, λ27.30000°. Principal axes: T 1.2884, Plg21.0000°, Azm164.0000°; N -0.2100, Plg63.0000°, Azm301.0000°; P -1.0784, Plg17.0000°, Azm67.0000°;*

ISC 25 09:21:42.5±0.8, 38.36N±0.01×21.73E±0.01, h10km±5km, n441,σ1$20/508, mb4.3/64, MS3.1/6, 34C-30D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAKA	**Lakka**	**0.23**	**120**	P	**Pg**	**09 21 46.9**	**-0.3**
SERG	**Sergoula**	**0.27**	**77**	P	**Pg**	**09 21 47.6**	**-0.3**
SERG				S	**Sg**	**09 21 51.8**	**+0.2**
	138μm,0.3s						
SERG	**Sergoula**	**0.27**	**77**	P	**Pg**	**09 21 47.6**	**-0.3**
SERG				S	**Sg**	**09 21 52.0**	**+0.4**
SERG				AML	AML	09 21 52.3	
SERG				AML	AML	09 21 52.8	
SERG	**Sergoula**	**0.27**	**77**		**Pg**	**09 21 47.6**	**-0.3**
SERG					**Sg**	**09 21 51.8**	**+0.2**
TRIZ	**Trizonia**	**0.27**	**88**	P	**Pg**	**09 21 47.8**	**-0.2**
TRIZ				S	**Sg**	**09 21 52.0**	**+0.3**
	118μm,0.3s						
TRIZ	**Trizonia**	**0.27**	**88**	P	**Pg**	**09 21 47.9**	**-0.2**
TRIZ				S	**Sg**	**09 21 52.2**	**+0.5**
TRIZ	**Trizonia**	**0.27**	**88**		**Pg**	**09 21 47.8**	**-0.2**
TRIZ					**Sg**	**09 21 52.0**	**+0.3**
ANX	**Ano Chora**	**0.28**	**33**	P	**Pg**	**09 21 48.0**	**-0.3**
ANX				S	**Sg**	**09 21 52.3**	**+0.1**
	77μm,0.5s						
ANX	**Ano Chora**	**0.28**	**33**	P	**Pg**	**09 21 48.1**	**-0.3**
ANX				S	**Sg**	**09 21 52.0**	**-0.2**
ANX				AML	AML	09 21 55.5	
ANX				AML	AML	09 21 55.9	
ANX	**Ano Chora**	**0.28**	**33**		**Pg**	**09 21 48.0**	**-0.3**
PVO	**Paravola**	**0.30**	**329**	P	**Pg**	**09 21 48.5**	**-0.1**
PVO				S	**Sg**	**09 21 53.6**	**+0.9**
	42μm,0.3s						
PVO	**Paravola**	**0.30**	**329**	P	**Pg**	**09 21 48.5**	**-0.1**
PVO				S	**Sb**	**09 21 54.6**	**-0.6**
PVO				AML	AML	09 21 58.0	
	comp=N,74454μm,0.3s						
PVO				AML	AML	09 21 58.5	
	comp=E,90976μm,0.3s						
PVO	**Paravola**	**0.30**	**329**		**Pg**	**09 21 48.5**	**-0.1**
ALIK	**Aliki, Aigiali**	**0.32**	**107**	P	**Pg**	**09 21 48.7**	**-0.2**
ALIK	**Aliki, Aigiali**	**0.32**	**107**		**Pg**	**09 21 48.7**	**-0.2**
KALE	**Kalithea**	**0.33**	**84**	P	**Pg**	**09 21 48.6**	**-0.4**
KALE				S	**Sg**	**09 21 53.5**	**0.0**
	comp=E,40μm,0.4s						
KALE	**Kalithea**	**0.33**	**84**	P	**Pg**	**09 21 48.7**	**-0.4**
KALE				S	**Sg**	**09 21 53.3**	**-0.1**
KALE				AML	AML	09 21 55.8	
	comp=E,50569μm,0.2s						
KALE				AML	AML	09 21 56.0	
RLS	**Riolos of Patr**	**0.36**	**215**	P	**Pg**	**09 21 49.7**	**+0.1**
RLS				S	**Sg**	**09 21 55.0**	**+0.6**
	comp=E,56μm,0.3s						
RLS	**Riolos of Patr**	**0.36**	**215**	P	**Pg**	**09 21 49.7**	**+0.1**
RLS				S	**Sb**	**09 21 55.8**	**-0.8**
RLS				AML	AML	09 21 57.2	
RLS				AML	AML	09 21 57.2	
DRO	**Drossia**	**0.40**	**182**	P	**Pg**	**09 21 50.1**	**-0.3**
DRO				S	**Sg**	**09 21 55.8**	**+0.1**
	comp=E,111μm,0.4s						
DRO	**Drossia**	**0.40**	**182**	P	**Pg**	**09 21 50.1**	**-0.3**
DRO				S	**Sg**	**09 21 56.7**	**+0.9**
DRO				AML	AML	09 21 57.1	
DRO				AML	AML	09 21 57.2	
KLV	**Kalavryta, Ach**	**0.46**	**133**	P	**Pg**	**09 21 50.8**	**-0.6**
KLV				S	**Sg**	**09 21 56.7**	**-0.8**
KLV	**Kalavryta, Ach**	**0.46**	**133**	P	**Pg**	**09 21 50.8**	**-0.6**
KLV				S	**Sg**	**09 21 57.1**	**-0.4**
KLV				AML	AML	09 22 00.7	
	comp=N,28633μm,0.4s						
KLV				AML	AML	09 22 02.3	
	comp=E,32103μm,0.2s						
AST1	**Astakos**	**0.53**	**291**	P	**Pg**	**09 21 52.7**	**-0.2**
EVR	**Evrytania**	**0.56**	**7**	P	**Pg**	**09 21 52.9**	**-0.6**
EVR				S	**Sb**	**09 22 02.4**	**-0.3**
	comp=E,13μm,0.6s						
EVR	**Evrytania**	**0.56**	**7**	P	**Pg**	**09 21 52.9**	**-0.6**
EVR				S	**Sg**	**09 22 01.5**	**+0.5**
EVR				AML	AML	09 22 07.3	
	comp=E,23262μm,0.6s						
EVR				AML	AML	09 22 10.7	
	comp=N,30632μm,0.7s						
VTN	**Vitineika**	**0.61**	**224**	P	**Pg**	**09 21 54.3**	**0.0**
DLFA	**Delphi**	**0.62**	**78**	P	**Pg**	**09 21 53.4**	**-1.1**
DLFA				S	**Sg**	**09 22 02.5**	**-0.1**
DLFA				AML	AML	09 22 04.5	
	comp=N,21508μm,0.6s						
DLFA				AML	AML	09 22 04.7	
	comp=E,13616μm,0.5s						
GUR	**Goura**	**0.64**	**130**	P	**Pg**	**09 21 54.0**	**-0.9**
GUR				S	**Sg**	**09 22 02.9**	**-0.5**
	comp=E,49μm,0.4s						
GUR	**Goura**	**0.64**	**130**	P	**Pg**	**09 21 53.9**	**-1.1**
GUR				S	**Sg**	**09 22 03.2**	**-0.2**
GUR				AML	AML	09 22 04.4	
	comp=E,65448μm,0.3s						
GUR				AML	AML	09 22 06.8	
MAKR	**Makrakomi, Fth**	**0.73**	**26**	P	**Pg**	**09 21 56.1**	**-0.5**
MAKR				S	**Sg**	**09 22 06.8**	**+0.6**
	comp=E,23μm,0.5s						
MAKR	**Makrakomi, Fth**	**0.73**	**26**	P	**Pg**	**09 21 56.1**	**-0.5**
MAKR				S	**Sg**	**09 22 05.0**	**-1.2**
MAKR				AML	AML	09 22 09.2	
	comp=E,50647μm,0.3s						
MAKR				AML	AML	09 22 10.2	
	comp=N,40108μm,0.8s						
MGNA	**Meganis**	**0.79**	**293**	P	**Pg**	**09 21 57.2**	**-0.6**
MGNA				S	**Sb**	**09 22 09.2**	**+0.1**
MGNA				AML	AML	09 22 13.4	
	comp=N,46387μm,0.7s						
MGNA				AML	AML	09 22 13.8	
	comp=E,33106μm,0.6s						
AGG	**Agios Georgios**	**0.82**	**35**	P	**Pg**	**09 21 57.0**	**-1.3**
AGG				S	**Sb**	**09 22 10.4**	**+0.5**
	comp=E,8μm,0.5s						
AGG	**Agios Georgios**	**0.82**	**35**	P	**Pg**	**09 21 56.9**	**-1.3**
AGG				S	**Sg**	**09 22 09.1**	**+0.1**
AGG				AML	AML	09 22 11.8	
	comp=N,19660μm,0.5s						
AGG				AML	AML	09 22 12.2	
	comp=E,13850μm,0.4s						
AGG	**Agios Georgios**	**0.82**	**35**	*i* P	**Pg**	**09 21 57.1**	**-1.3**
AGG				*i* S	**Sg**	**09 22 09.2**	**+0.2**
AGG	**Agios Georgios**	**0.82**	**35**	P	**Pg**	**09 21 57.5**	**-0.8**
AGG	**Agios Georgios**	**0.82**	**35**	Pg	**Pg**	**09 21 57.5**	**-0.8**
AMT	**Artemida-Makis**	**0.82**	**181**	P	**Pg**	**09 21 57.7**	**-0.6**
AMT				S	**Sb**	**09 22 09.8**	**-0.2**
	comp=E,43μm,0.5s						
AMT	**Artemida-Makis**	**0.82**	**181**	P	**Pg**	**09 21 57.7**	**-0.6**
AMT				S	**Sg**	**09 22 09.2**	**+0.2**
AMT				AML	AML	09 22 14.9	
	comp=E,92170μm,0.6s						
AMT				AML	AML	09 22 15.6	
	comp=N,72922μm,0.4s						
ZAK2	**Zakynthos**	**0.86**	**229**	P	**Pg**	**09 21 59.1**	**0.0**
VLS	**Valsamata**	**0.91**	**259**	P	**Pg**	**09 21 59.0**	**-1.0**
VLS				S	**Sb**	**09 22 13.6**	**+1.0**
VLS	**Valsamata**	**0.91**	**259**	P	**Pg**	**09 21 59.0**	**-1.0**
VLS				AML	AML	09 22 14.7	
	comp=N,30572μm,0.3s						
VLS				AML	AML	09 22 15.1	
	comp=E,35266μm,0.2s						
VLS	**Valsamata**	**0.91**	**259**	P	**Pg**	**09 21 59.0**	**-1.0**
VLS				S	**Sb**	**09 22 13.6**	**+1.0**
VSK1	**VASILIKIADES**	**0.91**	**274**	P	**Pg**	**09 21 59.1**	**-1.0**
VSK1				S	**Sn**	**09 22 14.0**	**-0.6**
FSK	**Fiskardo**	**0.92**	**277**	P	**Pg**	**09 21 59.4**	**-0.8**
FSK				S	**Sn**	**09 22 14.3**	**-0.4**
FSK	**Fiskardo**	**0.92**	**277**	P	**Pg**	**09 21 59.3**	**-0.8**
FSK				AML	AML	09 22 16.1	
	comp=E,26398μm,0.2s						
FSK				AML	AML	09 22 18.8	
	comp=N,19515μm,0.4s						
PROD	**Prodromos**	**0.93**	**96**	P	**Pg**	**09 21 59.4**	**-1.0**
PROD	**Prodromos**	**0.93**	**96**	P	**Pg**	**09 21 59.4**	**-1.0**
PROD				S	**Sg**	**09 22 11.6**	**-0.9**
PROD				AML	AML	09 22 16.8	
	comp=E,48601μm,0.5s						
PROD				AML	AML	09 22 16.8	
	comp=N,73304μm,0.6s						
TRIP	**Tripoli**	**0.93**	**152**	P	**Pg**	**09 21 59.2**	**-1.3**
TRIP				S	**Sb**	**09 22 13.1**	**-0.1**
	comp=N,13μm,0.7s						
TRIP	**Tripoli**	**0.93**	**152**	P	**Pg**	**09 21 59.2**	**-1.3**
TRIP				AML	AML	09 22 16.4	
	comp=N,24633μm,0.5s						
TRIP				AML	AML	09 22 16.4	
	comp=E,26112μm,0.4s						
LKD2	**Lefkada island**	**0.94**	**298**	P	**Pg**	**09 21 59.8**	**-0.8**
LKD2	**Lefkada island**	**0.94**	**298**	*i* PN	**Pg**	**09 21 59.6**	**-1.0**
LKD2				*i* SN	Sn	09 22 28.1	+13
LKD2	**Lefkada island**	**0.94**	**298**	P	**Pg**	**09 21 59.8**	**-0.8**
LKD2				S	**Sg**	**09 22 12.4**	**-0.5**
LKD2				AML	AML	09 22 21.2	
	comp=N,26814μm,0.5s						
LKD2				AML	AML	09 22 23.0	
	comp=E,32533μm,0.4s						
TSLK	**Tsoukalades, L**	**0.96**	**300**	P	**Pg**	**09 22 00.1**	**-0.9**
TSLK	**Tsoukalades, L**	**0.96**	**300**	P	**Pg**	**09 22 00.1**	**-0.9**
ARG2	**Argostoli**	**0.99**	**260**	P	**Pg**	**09 22 00.5**	**-1.0**
KEF5	**Kardakata, Kep**	**0.99**	**266**	P	**Pg**	**09 22 00.3**	**-1.2**
KRI1	**kERI**	**1.00**	**226**	P	**Pg**	**09 22 00.7**	**-1.0**
ARGA	**Argostoli. Kep**	**1.00**	**260**	P	**Pg**	**09 22 00.6**	**-1.1**
KEF4	**Livadi, Kephal**	**1.03**	**265**	P	**Pg**	**09 22 01.1**	**-1.2**
LTK	**Loutraki**	**1.03**	**108**	P	**Pg**	**09 22 01.4**	**-1.0**
LTK	**Loutraki**	**1.03**	**108**	P	**Pg**	**09 22 01.3**	**-1.0**
LTK				S	**Sb**	**09 22 16.0**	**-0.1**
LTK				AML	AML	09 22 18.4	
	comp=E,27546μm,0.5s						
LTK				AML	AML	09 22 18.5	
	comp=N,17543μm,0.6s						
LKR	**Lokris**	**1.04**	**73**	P	**Pg**	**09 22 01.0**	**-1.6**
LKR	**Lokris**	**1.04**	**73**	P	**Pg**	**09 22 00.9**	**-1.6**
LKR				S	**Sb**	**09 22 16.5**	**+0.1**
LOUT	**Loutraki**	**1.05**	**110**	P	**Pg**	**09 22 01.5**	**-1.2**
LOUT	**Loutraki**	**1.05**	**110**	P	**Pg**	**09 22 01.6**	**-1.1**
LOUT				AML	AML	09 22 25.4	
	comp=E,3926μm,0.5s						
LOUT				AML	AML	09 22 25.6	
	comp=N,3209μm,0.5s						
KEF3	**Kipouria, Keph**	**1.09**	**262**	P	**Pb**	**09 22 02.1**	**-1.4**
VLX	**Vlachokerasia**	**1.11**	**152**	P	**Pb**	**09 22 02.3**	**-1.6**
VLX				S	**Sb**	**09 22 18.4**	**0.0**
	comp=N,12μm,0.5s						
VLX	**Vlachokerasia**	**1.11**	**152**	P	**Pb**	**09 22 02.6**	**-1.2**
VLX				S	**Sg**	**09 22 17.6**	**-0.7**
VLX				AML	AML	09 22 26.2	
	comp=E,27471μm,0.4s						
VLX				AML	AML	09 22 26.2	
	comp=N,21991μm,0.5s						
ITM	**Ithomi**	**1.18**	**172**	P	**Pb**	**09 22 04.0**	**-1.1**
ITM	**Ithomi**	**1.18**	**172**	P	**Pb**	**09 22 04.0**	**-1.1**
ITM	**Ithomi**	**1.18**	**172**	P	**Pb**	**09 22 03.9**	**-1.1**
ITM				S	**Sn**	**09 22 23.5**	**+2.2**
ITM	**Ithomi**	**1.18**	**172**	Pg	**Pb**	**09 22 04.5**	**-0.6**
VIL2	**Platees**	**1.22**	**96**	P	**Pg**	**09 22 05.9**	**-0.1**
VIL2				AML	AML	09 22 28.4	
	comp=N,17515μm,0.7s						
VIL2				AML	AML	09 22 30.6	
	comp=E,31404μm,0.6s						
THL	**Klokotos Trika**	**1.23**	**10**	P	**Pn**	**09 22 05.0**	**-0.7**
THL	**Klokotos Trika**	**1.23**	**10**	P	**Pn**	**09 22 05.7**	**-0.1**
VILL	**Villia**	**1.26**	**98**	P	**Pn**	**09 22 05.7**	**-0.6**
PYL	**PYLOS**	**1.46**	**179**	P	**Pn**	**09 22 08.6**	**-0.3**
PYL	**PYLOS**	**1.46**	**179**	P	**Pn**	**09 22 08.6**	**-0.3**
DID	**Didima**	**1.47**	**125**	P	**Pn**	**09 22 08.8**	**-0.2**
DID	**Didima**	**1.47**	**125**	P	**Pn**	**09 22 08.4**	**-0.7**
JAN	**Janina**	**1.47**	**333**	P	**Pn**	**09 22 09.6**	**+0.5**
JAN	**Janina**	**1.47**	**333**	P	**Pg**	**09 22 11.1**	**+0.4**
KRND	**KRANIDI**	**1.49**	**130**	P	**Pn**	**09 22 08.9**	**-0.4**
KRND				S	**Sb**	**09 22 29.4**	**+0.2**
	comp=E,8μm,0.7s						
KRND	**KRANIDI**	**1.49**	**130**	P	**Pn**	**09 22 08.9**	**-0.4**
MRKA	**Markates**	**1.50**	**76**	P	**Pn**	**09 22 08.5**	**-1.0**
MRKA	**Markates**	**1.50**	**76**	P	**Pn**	**09 22 09.2**	**-0.3**
NEO	**Neokhori**	**1.51**	**50**	P	**Pn**	**09 22 09.5**	**-0.1**
NEO	**Neokhori**	**1.51**	**50**	P	**Pn**	**09 22 09.6**	**0.0**
XOR	**Xorichti**	**1.53**	**48**	P	**Pn**	**09 22 09.7**	**-0.2**
SKIA	**Skiathos**	**1.58**	**59**	P	**Pn**	**09 22 10.3**	**-0.3**
SKIA	**Skiathos**	**1.58**	**59**	P	**Pn**	**09 22 10.5**	**-0.2**
ATH	**Athens Observa**	**1.62**	**103**	P	**Pn**	**09 22 11.2**	**+0.1**
ATH	**Athens Observa**	**1.62**	**103**	P	**Pn**	**09 22 11.1**	**+0.1**
ATHU	**Athens Univers**	**1.67**	**103**	P	**Pn**	**09 22 11.8**	**0.0**
ATHU	**Athens Univers**	**1.67**	**103**	P	**Pn**	**09 22 11.8**	**0.0**
VLY	**Voula,Athens**	**1.71**	**106**	P	**Pn**	**09 22 12.1**	**-0.2**
VLY	**Voula,Athens**	**1.71**	**106**	P	**Pn**	**09 22 12.1**	**-0.2**
DION	**Dionisos Attik**	**1.76**	**98**	P	**Pn**	**09 22 13.1**	**0.0**
DION	**Dionisos Attik**	**1.76**	**98**	P	**Pn**	**09 22 13.4**	**+0.3**
AOS	**Alonnisos**	**1.87**	**64**	P	**Pn**	**09 22 13.9**	**-0.7**
AOS	**Alonnisos**	**1.87**	**64**	P	**Pn**	**09 22 13.7**	**-0.8**
AOS	**Alonnisos**	**1.87**	**64**	P	**Pn**	**09 22 13.9**	**-0.7**
KYMI	**Kymi, Euboea I**	**1.88**	**81**	P	**Pn**	**09 22 14.4**	**-0.4**
KYMI	**Kymi, Euboea I**	**1.88**	**81**	P	**Pn**	**09 22 14.4**	**-0.4**
VLI	**Veliai**	**1.90**	**149**	P	**Pn**	**09 22 14.9**	**0.0**
KZN	**Kozani**	**1.95**	**1**	P	**Pn**	**09 22 15.4**	**-0.3**
KARY	**Karystos**	**2.16**	**98**	P	**Pn**	**09 22 18.8**	**+0.2**
PAIG	**Paliouri**	**2.19**	**43**	P	**Pn**	**09 22 18.0**	**-0.9**
KTHA	**Kythira Island**	**2.35**	**153**	P	**Pn**	**09 22 22.1**	**+0.9**
KTHA	**Kythira Island**	**2.35**	**153**	P	**Pn**	**09 22 22.5**	**+1.3**
HORT	**Hortiatis**	**2.48**	**25**	P	**Pn**	**09 22 24.1**	**+1.1**
OUR	**Ouranopolis**	**2.64**	**41**	P	**Pn**	**09 22 25.1**	**0.0**
GRG	**Griva**	**2.65**	**11**	P	**Pn**	**09 22 27.8**	**+2.5**
OHR	**Ohrid**	**2.84**	**346**	*i* Pn	**Pb**	**09 22 31.4**	**-2.0**
KNR	**Kendrikon**	**2.95**	**18**	P	**Pn**	**09 22 30.1**	**+1.5**
VAY	**Valandovo**	**3.03**	**12**	*i* Pn	**Pn**	**09 22 32.1**	**+1.6**
SCTE	**Santa Cesarea**	**3.06**	**305**	Pn	**Pn**	**09 22 31.6**	**+0.7**
RODP	**Rodopos**	**3.23**	**149**	*e*P	**Pn**	**09 22 35.5**	**+2.2**
APE	**Apeiranthos**	**3.28**	**112**	⇓P	**Pn**	**09 22 34.2**	**+0.3**
APE				⇑S	**Sn**	**09 23 11.8**	**-1.2**
APE	**Apeiranthos**	**3.28**	**112**	*e*P	**Pn**	**09 22 33.8**	**-0.2**
APE	**Apeiranthos**	**3.28**	**112**	*d* P	**Pn**	**09 22 34.1**	**+0.1**
APE				pmax	pmax		
	comp=Z,30nm,0.9s						
TIR	**Tirane**	**3.31**	**335**	⇓P	**Pn**	**09 22 37.8**	**+3.4**
TIR				⇑S	**Sb**	**09 23 20.8**	**-0.9**
TIR	**Tirane**	**3.31**	**335**	P	**Pn**	**09 22 35.7**	**+1.3**
TIR	**Tirane**	**3.31**	**335**		**Pn**	**09 22 35.7**	**+1.3**
SIGR	**SIGRI**	**3.34**	**74**	*e*P	**Pn**	**09 22 34.5**	**-0.2**
STIP	**Stip**	**3.35**	**6**	*i* Pn	**Pn**	**09 22 37.8**	**+2.8**
CHOS	**Chios island**	**3.40**	**88**	*e*P	**Pn**	**09 22 35.3**	**-0.4**
IMMV	**Iera Moni Meta**	**3.41**	**147**	*e*P	**Pn**	**09 22 37.4**	**+1.7**
SANT	**Santorini**	**3.57**	**123**	⇑P	**Pn**	**09 22 37.4**	**-0.6**
SANT	**Santorini**	**3.57**	**123**	Pn	**Pn**	**09 22 38.2**	**+0.2**
BOZC	**Bozcaada**	**3.68**	**65**	*e*P	**Pn**	**09 22 39.2**	**-0.2**
GADA	**Gvkgeada**	**3.72**	**59**	*e*P	**Pn**	**09 22 40.0**	**0.0**
URLA	**Izmir**	**3.83**	**88**	*e*P	**Pn**	**09 22 41.9**	**+0.4**
TIP	**Timpagrande**	**3.97**	**284**	⇓P	**Pn**	**09 22 45.9**	**+2.4**
TIP	**Timpagrande**	**3.97**	**284**	Pn	**Pn**	**09 22 44.6**

MDVR Moldovita 6.42 360 ⇑P Pn 09 23 19.6 +2.5
HERR Herculane 6.54 4 ⇑P Pn 09 23 21.1 +2.4
CORL Corleone 6.66 269 Pn Pn 09 23 19.6 -0.8
ELL Elmali 6.70 101 P Pn 09 23 20.2 -0.8
ELL Elmali 6.70 101 Pn 09 23 20.2 -0.8
CLTB Caltabellotta 6.77 266 Pn Pn 09 23 22.6 +0.7
KIJV Kijevo 6.92 326 *e*Pn Pn 09 23 23.7 -0.3
KIJV Sn Sn 09 24 40.8 -2.1
FRGS Fruska Gora 6.95 349 ⇑*i*Pn Pn 09 23 25.5 +1.2
ISP Isparta 6.96 92 P Pn 09 23 26.7 +2.1
ISP Isparta 6.96 92 Pn 09 23 26.7 +2.1
MGRS Mrkonjic Grad 6.99 332 *e*Pn Pn 09 23 25.7 +0.8
ZIRJ Zirje 7.01 321 *e*Pn Pn 09 23 24.8 -0.4
ZIRJ Sn Sn 09 24 42.3 -2.6
INTR Introdacqua 7.01 304 Pn 09 23 27.5 +2.2
MORI Morici 7.14 322 *e*Pn Pn 09 23 27.4 +0.5
MORI Sn Sn 09 24 45.2 -2.8
BLY Banja Luka 7.24 333 *e*Pn Pn 09 23 28.4 +0.1
LOT Lotru 7.25 11 ⇓P Pn 09 23 30.1 +1.5
BZS Buzias 7.26 359 ⇓P Pn 09 23 31.8 +3.2
ARR Arges 7.33 16 ⇑P Pn 09 23 31.1 +1.4
VOIR 7.50 18 P Pn 09 23 33.7 +1.8
AQU L'Aquila 7.51 305 P Pn 09 23 33.3 +1.2
AQU L'Aquila 7.51 305 Pn Pn 09 23 33.2 +1.2
DUGI Dugi Otok 7.55 320 *e*Pn Pn 09 23 32.8 +0.2
DUGI Sn Sn 09 24 56.7 -1.5
MDUB Mudurnu 7.63 71 Pn 09 23 33.3 -0.5
MLR Muntele Rosu 7.79 22 Pn Pn 09 23 37.6 +1.6
comp=Z,0.7nm,0.3s,baz=188,slow=7.5,SNR=15
MLR LR LR 09 27 03.6
comp=Z,180nm,18.3s,baz=290,slow=42
MLR Muntele Rosu 7.79 22 ⇓P Pn 09 23 38.1 +2.0
MLR Muntele Rosu 7.79 22 P Pn 09 23 36.3 +0.3
MLR Muntele Rosu 7.79 22 Pn 09 23 36.3 +0.3
NEHR Nehoiu 7.84 24 ⇓P Pn 09 23 39.2 +2.6
HARR Harsova 7.86 34 ⇑P Pn 09 23 37.6 +0.8
TIRR Tirgusor 7.90 37 ⇓P Pn 09 23 39.2 +1.8
TIRR Tirgusor 7.90 37 ⇓P Pn 09 23 39.2 +1.8
TIRR Tirgusor 7.90 37 P Pn 09 23 38.0 +0.7
TIRR Tirgusor 7.90 37 Pn Pn 09 23 38.0 +0.7
NRCA Norcia 7.93 307 Pn 09 23 39.4 +1.5
NVLJ Novalja 8.06 323 *e*Pn Pn 09 23 38.6 -0.9
NVLJ Sn Sn 09 25 08.2 -2.4
DOPR Dopca 8.08 18 ⇑P Pn 09 23 41.8 +1.9
MORH Mrgy, Hungar 8.18 345 *e*Pn Pn 09 23 40.6 -0.6
TOPG Topolog 8.29 35 ⇑P Pn 09 23 42.9 +1.4
PLOR Plostina 8.34 24 ⇑P Pn 09 23 46.3 +2.9
VRI Vrincioaia 8.37 25 ⇓P Pn 09 23 46.6 +2.6
VRI Vrincioaia 8.37 25 P Pn 09 23 46.5 +2.6
OZLJ Ozalj 8.62 329 *e*Pn Pn 09 23 46.5 -0.7
KALN Kalnik 8.70 335 *e*Pn Pn 09 23 48.3 0.0
KALN Sn Sn 09 25 23.9 -2.5
CRES Cresnjev 8.80 330 *e*Pn Pn 09 23 48.4 -1.3
RIY Rijeka 8.81 325 *e*Pn Pn 09 23 47.7 -2.2
GBRS Gornja Briga 8.83 327 *i* Pn Pn 09 23 49.8 -0.3
BRJN Brijuni 8.86 320 *e*Pn Pn 09 23 50.8 +0.4
BRJN Sn Sn 09 25 27.9 -2.4
CEY Cerknica 9.16 326 *e*Pn Pn 09 23 53.7 -1.0
CEY Cerknica 9.16 326 ⇑*i*Pn Pn 09 23 53.4 -1.2
BIZ Bicaz 9.16 19 ⇑P Pn 09 23 57.7 +3.0
LJU Ljubljana 9.35 328 ⇑*i*Pn Pn 09 23 56.7 -0.6
BR131 Keskin Array S 9.37 78 *c i*P Pn 09 23 59.5 +1.8
BR131 Keskin Array S 9.37 78 Pn 09 23 59.9 +2.1
BRTR Keskin Array B 9.37 78 Pn Pn 09 23 59.8 +2.1
comp=Z,3.5nm,0.3s,baz=260,slow=13,SNR=42
BRTR LR LR 09 27 39.7
comp=Z,91nm,18.5s,baz=242,slow=38
BRTR Keskin Array B 9.37 78 *i* P Pn 09 23 59.7 +2.1
BRTR pmax pmax
comp=Z,11nm,0.4s
BRTR Keskin Array B 9.37 78 Pn 09 23 59.9 +2.2
TRI Trieste 9.43 324 P Pn 09 23 57.4 -1.0
TRI Trieste 9.43 324 Pn Pn 09 23 57.4 -1.0
BURAR Bucovina Array 9.60 14 ⇑P Pn 09 24 02.9 +2.1
BURAR Bucovina Array 9.60 14 Pn Pn 09 23 57.0 -3.8
BUR08 Bucovina Ar. S 9.63 14 Pn 09 24 03.7 +2.6
PSZ Piszkesteto 9.65 353 ⇑P Pn 09 24 04.7 +3.3
PSZ Piszkesteto 9.65 353 P Pn 09 24 01.9 +0.4
PSZ Piszkesteto 9.65 353 Pn 09 24 01.9 +0.4
SOKA Soboth 9.67 331 *e*Pn Pn 09 24 01.4 -0.3
comp=Z,3.8nm,0.3s
OBKA Obir 9.72 329 *e*Pn Pn 09 24 02.5 +0.1
comp=Z,5.4nm,0.5s
ARSA Arzberg 9.99 335 Pn Pn 09 24 06.1 +0.1
comp=Z,2.8nm,0.5s
VYHS Vyhne 10.35 349 *e*P Pn 09 24 15.3 +4.3
VYHS Vyhne 10.35 349 *e*PN Pn 09 24 15.3 +4.3
ZOU Zoufplan 10.43 325 Pn Pn 09 24 12.1 -0.2
CTI Castel Tesino 10.71 319 P Pn 09 24 15.2 -0.8
CTI Castel Tesino 10.71 319 Pn 09 24 15.2 -0.8
ABTA Abfaltersbach 10.79 324 *e*Pn Pn 09 24 16.3 -0.8
comp=Z,5.0nm,0.6s
MOA Molln 10.94 333 *e*Pn Pn 09 24 19.3 +0.3
comp=Z,2.3nm,0.4s
SALO Salr 11.04 315 Pn Pn 09 24 20.3 -0.2
VRAC Vranov 11.56 343 LR LR 09 29 32.2
comp=Z,67nm,20.6s,baz=172,slow=41
WTTA Wattenberg 11.57 324 *e*Pn Pn 09 24 27.1 -0.7
comp=Z,8.0nm,0.6s
WTTA *e*Sn Sn 09 26 35.7 -1.5
comp=Z,14nm,0.6s
OKC Ostrava-Krasne 11.76 349 AMS AMS 09 29 30.0
comp=Z,100nm,10.9s
FUORN Ofenpass-Fuorn 11.81 318 Pn Pn 09 24 31.9 +0.7
TREC Trest 11.82 340 AMS AMS 09 29 20.0
comp=Z,200nm,10.7s
MOTA Moosalm 11.88 323 *e*Pn Pn 09 24 31.3 -0.8
comp=Z,7.6nm,0.6s,SNR=6.4
MOTA Sn Sn 09 26 42.1 -2.7
comp=Z,14nm,0.7s
GERES GERESS Array B 11.98 334 Pn Pn 09 24 34.2 +0.8
comp=Z,0.3nm,0.3s,baz=156,slow=14,SNR=6.9
GERES Sn Sn 09 26 42.8 -4.3
comp=Z,0.3nm,0.3s,baz=151,slow=20,SNR=1.8
GERES LR LR 09 30 51.2
comp=Z,46nm,19.6s,baz=155,slow=46
GERES GERESS Array B 11.98 334 Pn 09 24 33.9 +0.6
DAVOX Davos/Dischmat 12.12 318 Pn Pn 09 24 37.5 +2.2
comp=Z,0.6nm,0.3s,baz=167,slow=18,SNR=2.6
DAVOX Sn Sn 09 26 46.6 -4.0
comp=Z,0.2nm,0.3s,baz=342,slow=19,SNR=2.9
TUE Stuetta 12.21 316 Pn Pn 09 24 36.8 +0.2
KHC Kasperske Hory 12.27 334 *e*PN Pn 09 24 37.6 +0.4
KHC *e*SN Sn 09 26 53.9 -0.1
KHC AMS AMS 09 30 00.0
comp=Z,200nm,13.0s
KHC Kasperske Hory 12.27 334 *e*P Pn 09 24 37.6 +0.4
KHC *e* 09 26 53.9
KHC MLR MLR
comp=Z,200nm,13.0s
GOPC GO Pecny, Ondr 12.58 339 AMS AMS 09 29 50.0
comp=Z,200nm,9.9s
DPC Dobruska-Polom 12.60 344 AMS AMS 09 30 50.0
comp=Z,100nm,9.4s
PRU Pruhonice 12.71 338 AMS AMS 09 29 50.0
comp=Z,200nm,10.0s
UPC Upice 12.81 343 AMS AMS 09 31 00.0
comp=Z,200nm,8.8s
OSTC Ostas 12.81 344 AMS AMS 09 30 50.0
comp=Z,100nm,6.8s
PRA Prague 12.82 338 AMS AMS 09 30 00.0
comp=Z,100nm,9.7s
CHVC Chvalec 12.88 344 AMS AMS 09 31 00.0
comp=Z,100nm,10.9s
PVCC Panska Ves 13.19 340 AMS AMS 09 30 10.0
comp=Z,200nm,10.5s
SENIN Lac Senin/Sane 13.32 312 Pn Pn 09 24 52.4 +0.6
AKASG Malin Array Be 13.44 21 Pn Pn 09 24 51.5 -1.7
comp=Z,0.6nm,0.3s,baz=207,slow=12,SNR=2.4
AKBB Malin Array Si 13.44 21 P Pn 09 24 52.7 -0.5
AKBB Malin Array Si 13.44 21 Pn Pn 09 24 52.7 -0.5
NKC Novy Kostel 13.59 334 AMS AMS 09 31 00.0
comp=Z,200nm,10.3s
BRG Berggiesshubel 13.68 339 SG Sn 09 26 50.8 -38
comp=Z,8.5nm,1.1s
EIL Elat 13.96 124 Pn Pn 09 24 59.3 -1.1
comp=Z,0.3nm,0.3s,baz=12,slow=14,SNR=0.9
EIL Sn Sn 09 27 24.5 -11
comp=Z,0.5nm,0.3s,baz=0.9,slow=16,SNR=2.3
CLL Collm 14.34 337 *e*(P) P 09 25 11.0 -1.6
CLL Collm 14.34 337 *e*P P 09 25 11.0 -1.6
SOC Sochi 14.55 63 *e*P Pn 09 25 08.5 +0.1
SOC *e* 09 27 49.9
SOC pmax pmax
comp=Z,7.0nm,0.3s
SOC MLR MLR
comp=Z,139nm,21.0s
KLNR Kaliningrad 16.29 357 ⇑*i*P P 09 25 33.8 -0.3
KLNR pmax pmax
comp=Z,61nm,0.9s
KIV Kislovodsk 16.73 64 *e*P Pn 09 25 37.8 +0.8
KIV pmax pmax
comp=Z,15nm,1.0s
KIV MLR MLR
comp=Z,50nm,13.0s
KBZ Khabaz 16.84 65 Pn P 09 25 43.4 +3.1
comp=Z,0.1nm,0.3s,baz=277,slow=14,SNR=4.9
OBN Obninsk 19.54 26 *e*P Pn 09 26 10.7 -0.5
OBN pmax pmax
comp=Z,14nm,0.6s
OBN MLR MLR
comp=Z,79nm,17.0s
ESBB Sonseca Array 19.99 282 P P 09 26 15.5 +0.4
ESDC Sonseca Array 19.99 282 P Pn 09 26 16.4 -0.5
comp=Z,2.5nm,0.8s,baz=74,slow=11,SNR=14
ESDC Sonseca Array 19.99 282 P P 09 26 15.4 +0.3
PAB San Pablo 20.30 282 P P 09 26 19.3 +0.8
PAB pmax pmax
comp=Z,9.0nm,1.2s
PAB San Pablo 20.30 282 P P 09 26 19.3 +0.8
VSU Vasula 20.38 8 ⇑*i*P P 09 26 19.4 +0.3
VSU pmax pmax
comp=Z,51nm,0.7s
MOS Moscow 20.40 26 *e*P Pn 09 26 26.8 +5.3
HFS Hagfors 22.39 349 P P 09 26 39.1 -1.6
comp=Z,1.5nm,0.4s,baz=154,slow=11,SNR=14
HFS LR LR 09 35 57.7
comp=Z,38nm,21.2s,baz=166,slow=38
KONO Kongsberg 22.68 344 ⇑*i*P P 09 26 44.0 +0.2
KONO pmax pmax
comp=Z,7.0nm,1.0s
FINES FINESS Array B 23.27 5 P P 09 26 48.0 -1.9
comp=Z,0.7nm,0.3s,baz=176,slow=8.7,SNR=9.0
FINES LR LR 09 36 25.4
comp=Z,64nm,18.7s,baz=146,slow=38
FINES FINESS Array B 23.27 5 P P 09 26 48.2 -1.8
FINES FINESS Array B 23.27 5 P P 09 26 48.2 -1.8
NC602 NORSAR Array S 23.30 347 P P 09 26 49.5 -0.8
NAO01 NORSAR Array S 23.52 347 P P 09 26 51.9 -0.5
NAO01 IAmb IAmb 09 26 58.1
comp=Z,23nm,1.1s
NC405 NORSAR Array S 23.63 348 P P 09 26 53.1 -0.4
NC405 IAmb IAmb 09 26 56.4
comp=Z,11nm,0.8s
NB201 NORSAR Array S 23.64 347 P P 09 26 52.8 -0.9
NB2 NORSAR Subarra 23.64 347 P P 09 26 52.6 -1.2
comp=Z,3.9nm,0.8s,baz=153,slow=10
NOA NORSAR Array B 23.64 347 P P 09 26 52.5 -1.2
comp=Z,0.9nm,0.6s,baz=154,slow=9.3,SNR=14
NOA LR LR 09 36 33.1
comp=Z,16nm,20.0s,baz=180,slow=38
NC303 NORSAR Array S 23.79 348 P P 09 26 54.9 -0.2
NC303 IAmb IAmb 09 27 00.2
comp=Z,13nm,0.9s
EKA Eskdalemuir Ar 23.84 323 P P 09 26 55.2 -0.4
comp=Z,3.4nm,0.6s,baz=122,slow=10,SNR=9.6
ESK Eskdalemuir 23.85 323 P P 09 26 56.4 +0.7
ESK pmax pmax
comp=Z,9.0nm,0.8s
ESK Eskdalemuir 23.85 323 P P 09 26 56.4 +0.7
ESK IAmb IAmb 09 26 57.0
comp=Z,8.5nm,0.8s
EKB Eskdalemuir 23.86 323 P P 09 26 55.5 -0.3
EKB IAmb IAmb 09 26 57.1
comp=Z,11nm,0.9s
NC204 NORSAR Array S 23.94 347 P P 09 26 56.2 -0.4
NC204 IAmb IAmb 09 27 04.4
comp=Z,12nm,0.8s
SUF Sumiainen 24.54 5 P P 09 27 01.3 -0.7
SUF pmax pmax
comp=Z,8.0nm,1.0s
KLMR Klimovskoe 25.13 21 *e*P P 09 27 06.9 -0.5
KLMR pmax pmax
comp=Z,22nm,1.4s
KLMR Klimovskoe 25.13 21 *e*P P 09 27 06.9 -0.5
KLMR AMP 09 27 10.0
comp=Z,22nm,1.4s
KIRV Kirov 26.99 32 *i* P P 09 27 23.6 -0.6
AKTO Aktyubinsk 28.32 53 P P 09 27 35.5 -0.8
comp=Z,1.4nm,0.3s,baz=269,slow=9.5,SNR=8.2
AB31 Akbulak array 29.36 56 P P 09 27 44.9 -0.6
ABKAR Akbulak array 29.36 56 P P 09 27 45.4 -0.1
ABKAR Akbulak array 29.36 56 P P 09 27 45.3 -0.1
TOA0 Torodi Ar. Sit 30.77 221 P P 09 27 58.8 +0.5
TOA0 IAmb IAmb 09 28 08.5
comp=Z,4.3nm,0.9s
TORD Torodi Ar. Bea 30.77 221 P P 09 27 58.3 +0.1
comp=Z,1.8nm,0.7s,baz=31,slow=9.4,SNR=8.4
TORD Torodi Ar. Bea 30.77 221 P P 09 27 58.5 +0.3
ARCES ARCESS Array B 31.31 3 P P 09 28 01.3 -1.2
comp=Z,1.6nm,0.6s,baz=178,slow=11,SNR=4.9
ARCES LR LR 09 43 15.9
comp=Z,38nm,18.6s,baz=41,slow=41
ARCES ARCESS Array B 31.31 3 P P 09 28 01.6 -0.9
ARCES ARCESS Array B 31.31 3 P P 09 28 01.6 -0.9
UOSS Minazif 32.06 104 P P 09 28 09.6 +0.1
BRVK Borovoye 36.22 50 ⇑*i*P P 09 28 45.5 +0.2
BRVK pmax pmax
comp=Z,2.0nm,0.8s
IUG Iuzhnay 36.67 68 ⇓*i*P P 09 28 49.0 -0.6
comp=Z,0.8nm,0.6s,baz=68
IUG *e*S S 09 34 32.4 -0.4
baz=68
IUG Iuzhnay 36.67 68 ⇓*i*P P 09 28 48.9 -0.6
IUG *e*S S 09 34 32.3 -0.4
IUG pmax pmax
comp=Z,1.0nm,0.6s
KK31 Karatay Array 36.86 67 P P 09 28 51.4 +0.5
KK31 pmax pmax
comp=Z,16nm,0.5s
KK31 Karatay Array 36.86 67 P P 09 28 51.4 +0.5
KKAR Karatay Array 36.86 67 P P 09 28 51.4 +0.5
KKAR pmax pmax
comp=Z,16nm,0.5s
KKAR Karatay Array 36.86 67 P P 09 28 51.4 +0.5
KKAR Karatay Array 36.86 67 P P 09 28 51.2 +0.3
JBG Jabagly 37.00 68 *i* P P 09 28 51.1 -1.2
JBG pmax pmax
comp=Z,3.0nm,0.6s
GAR Garm 37.58 73 P P 09 28 58.3 +1.1
GAR IAmb IAmb 09 28 59.0
comp=Z,13nm,1.0s
BRZS Berezniki 37.66 55 *e*P P 09 28 56.4 -1.3
comp=Z,1.7nm,0.7s,baz=55
BRZS Berezniki 37.66 55 *e*P P 09 28 56.3 -1.3
BRZS pmax pmax
comp=Z,2.0nm,0.7s
SOCY Socotra 38.77 124 P P 09 29 05.0 -2.4
ARSB Arslanbob 39.01 69 P P 09 29 10.5 +1.3
ARSB pmax pmax
comp=Z,9.0nm,0.9s
ARSB Arslanbob 39.01 69 P P 09 29 10.5 +1.3
ARSB IAmb IAmb 09 29 16.1
comp=Z,8.7nm,0.8s
BTLS Baital 39.06 63 ⇑*i*P P 09 29 09.6 +0.2
comp=Z,1.0nm,0.6s,baz=63
BTLS Baital 39.06 63 ⇑*i*P P 09 29 09.6 +0.2
BTLS pmax pmax
comp=Z,1.0nm,0.6s
DBIC Dimbokro 39.67 224 P P 09 29 14.9 +0.1
comp=Z,2.8nm,0.9s,baz=5.2,slow=11,SNR=1.3
DBIC Dimbokro 39.67 224 P P 09 29 15.4 +0.6
DBIC pmax pmax
comp=Z,13nm,1.3s
DBIC Dimbokro 39.67 224 P P 09 29 15.3 +0.6
DBIC IAmb IAmb 09 29 29.4
comp=Z,13nm,1.3s
SGDS Sogindy 39.75 65 ⇓*e*P P 09 29 14.7 -0.7
comp=Z,1.1nm,0.6s,baz=65
SGDS Sogindy 39.75 65 ⇓*e*P P 09 29 14.7 -0.7
SGDS pmax pmax
comp=Z,1.0nm,0.6s
AAK Ala-Archa 39.82 67 ⇑*i*P P 09 29 16.8 +0.8
AAK pmax pmax
comp=Z,6.0nm,1.2s
AAK Ala-Archa 39.82 67 P P 09 29 16.5 +0.4
SPA0 Spitsbergen Ar 40.00 358 P P 09 29 16.9 +0.1
KBS Kingsbay 40.88 357 ⇑*i*P P 09 29 26.7 +2.6
KBS pmax pmax
comp=Z,15nm,1.0s
KUU Kurty 40.88 64 *e*P P 09 29 24.6 -0.1
comp=Z,3.3nm,0.6s,baz=64
KUU Kurty 40.88 64 *e*P P 09 29 24.5 -0.1
KUU pmax pmax
comp=Z,3.0nm,0.6s
BOOM Boomskoye usch 40.89 66 P P 09 29 26.4 +1.5
BOOM pmax pmax
comp=Z,8.0nm,0.6s
BOOM Boomskoye usch 40.89 66 P P 09 29 26.4 +1.5
BOOM IAmb IAmb 09 29 27.1
comp=Z,7.9nm,0.6s
KURBB Kurchatov Arra 41.36 54 P P 09 29 27.9 -0.5
KURK Kurchatov 41.41 54 ⇓*i*P P 09 29 28.5 -0.3
KURK pmax pmax
comp=Z,9.0nm,1.3s
KURK Kurchatov 41.41 54 P P 09 29 28.8 0.0
KURK IAmb IAmb 09 29 29.2
comp=Z,9.3nm,1.2s
TNSS Tian-Shan 41.49 65 *e*P P 09 29 30.2 0.0
baz=65
TNSS Tian-Shan 41.49 65 *e*P P 09 29 30.1 0.0
MDOK Medeo 41.54 65 *e*P P 09 29 29.7 -0.5
baz=65
MDOK Medeo 41.54 65 *e*P P 09 29 29.7 -0.5
KDJ Kajisay 41.87 67 P P 09 29 34.6 +1.6
KDJ pmax pmax
comp=Z,8.0nm,1.5s
KDJ Kajisay 41.87 67 P P 09 29 34.6 +1.6
TDK Taldyqorghan 42.11 62 *e*P P 09 29 34.6 -0.1
comp=Z,12nm,0.5s,baz=62
TDK Taldyqorghan 42.11 62 *e*P P 09 29 34.6 -0.1
TDK pmax pmax
comp=Z,12nm,0.5s
TARG Taragay, Kyrgy 42.42 67 P P 09 29 39.2 +1.5
SEM Semipalatinsk 42.48 54 *e*P P 09 29 37.2 -0.6
comp=Z,2.3nm,1.2s,baz=54
SEM Semipalatinsk 42.48 54 *e*P P 09 29 37.2 -0.6
SEM pmax pmax
comp=Z,2.0nm,1.2s
SATY Saty 42.53 65 *e*P P 09 29 38.0 -0.3
comp=Z,0.9nm,0.6s,baz=65
SATY Saty 42.53 65 *e*P P 09 29 38.0 -0.3
SATY pmax pmax
comp=Z,1.0nm,0.6s
KPKS Kokpek 42.63 64 *e*P P 09 29 38.9 -0.2
comp=Z,0.7nm,0.5s,baz=64
KPKS Kokpek 42.63 64 *e*P P 09 29 38.9 -0.2
KPKS pmax pmax
comp=Z,1.0nm,0.5s
UZB Uzynbulak 42.95 65 *e*P P 09 29 41.0 -0.7
baz=64
UZB Uzynbulak 42.95 65 *e*P P 09 29 41.0 -0.7
MAKZ Makanchi 44.19 59 P P 09 29 51.3 -0.2
MAKZ pmax pmax
comp=Z,8.0nm,0.8s
MAKZ Makanchi 44.19 59 P P 09 29 51.3 -0.2
MAKZ IAmb IAmb 09 29 52.0
comp=Z,7.7nm,0.8s
MK31 Makanchi Array 44.40 59 P P 09 29 53.2 0.0
MK31 pmax pmax
comp=Z,15nm,0.6s
MK31 Makanchi Array 44.40 59 P P 09 29 53.2 0.0
MKAR Makanchi Array 44.40 59 P P 09 29 53.0 -0.3
comp=Z,20nm,0.5s,baz=277,slow=7.1,SNR=211
MKAR PcP PP 09 31 36.5 -0.1
comp=Z,0.8nm,0.6s,baz=273,slow=3.0,SNR=2.7
MKAR Makanchi Array 44.40 59 P P 09 29 53.2 0.0
ZAA0 Zalesovo Array 44.87 48 P P 09 29 56.5 -0.3
ZALV Zalesovo Beam 44.87 48 P P 09 29 56.1 -0.7
comp=Z,10nm,0.5s,baz=277,slow=8.5,SNR=30
ZALV Zalesovo Beam 44.87 48 P P 09 29 56.4 -0.4
NRIK Nerif'sk 46.21 27 LR LR 09 51 14.8
comp=Z,42nm,19.1s,baz=177,slow=38
DGZ Jazzator, Alta 47.16 54 ⇓*i*P P 09 30 14.6 -0.5
DGZ pmax pmax
comp=Z,5.0nm,0.6s
WMQ Urumqi 48.84 61 *e*P P 09 30 31.0 +2.9
SCHQ Schefferville 58.97 318 P P 09 31 42.0 +0.1
comp=Z,2.6nm,0.8s,baz=58,slow=7.8,SNR=2.4
SCHQ Schefferville 58.97 318 P P 09 31 42.3 +0.4
SCHQ IAmb IAmb 09 31 49.9
comp=Z,4.6nm,0.8s
SONM Songino Array 59.61 51 P P 09 31 45.9 -0.8
comp=Z,0.9nm,0.6s,baz=288,slow=9.3,SNR=5.0
SONM Songino Array 59.61 51 P P 09 31 45.8 -0.8
SONM pmax pmax
comp=Z,2.0nm,1.3s
SONM Songino Array 59.61 51 P P 09 31 45.8 -0.8
ULN Ulaanbaatar 60.00 51 ⇓*i*P P 09 31 49.3 0.0
ULN pmax pmax
comp=Z,1.0nm,0.4s
LZH Lanzhou 63.27 64 *e*P P 09 32 12.5 +0.9
LZH pP sP 09 32 16.0 -0.2
LZH sP pP 09 32 17.5 +2.6
LZH *e*PP PP 09 34 32.8 +2.3
LZH pmax pmax
comp=Z,20nm,1.3s
LZH pmax pmax
comp=Z,110nm,5.5s
LZH LR LR
comp=N,130nm,15.0s
LZH LR LR
comp=E,140nm,14.9s
LZH LR LR
comp=Z,180nm,18.0s
BILL Bilibino 70.63 13 *e*P P 09 32 59.7 +2.1
BILL *e* 09 33 22.5
BILL *e* 09 35 30.1
BILL *e*PPP PPP 09 37 17.5
BILL pmax pmax
comp=Z,2.0nm,1.0s
KLR Kul'dur 73.13 40 ⇑*i*P P 09 33 12.3 -0.7
KLR pmax pmax
comp=Z,2.0nm,0.7s
MA2 Magadan 73.75 24 ⇑*i*P P 09 33 17.1 +0.7
MA2 pmax pmax
comp=Z,21nm,1.4s
BMAR Burnt Mountain 74.03 355 P 09 33 19.1 +1.1
NJ2 Nanjing 75.91 60 *e*P P 09 33 29.3 -0.1
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
ULM Lac du Bonnet 76.11 324 P P 09 33 30.1 -0.2
comp=Z,2.4nm,0.5s,baz=65,slow=1.3,SNR=2.1
ULM Lac du Bonnet 76.11 324 P P 09 33 30.5 +0.2
ULM pmax pmax
comp=Z,4.0nm,0.7s
ULM Lac du Bonnet 76.11 324 P P 09 33 30.5 +0.2
N49A Columbus Grove 76.12 311 P P 09 33 30.7 +0.2
N49A IAmb IAmb 09 33 31.1
comp=Z,3.5nm,0.8s
USRK Ussuriysk Ar. 76.50 44 P P 09 33 31.1 -1.4
comp=Z,2.0nm,0.7s,baz=310,slow=4.5,SNR=7.7
USRK Ussuriysk Ar. 76.50 44 P P 09 33 30.8 -1.7
ILAR Eielson Array 76.82 355 P P 09 33 34.2 +0.2
comp=Z,0.5nm,0.8s,baz=352,slow=3.7,SNR=6.2
ILAR Eielson Array 76.82 355 P P 09 33 33.7 -0.4
DAWY Dawson 76.83 352 P P 09 33 34.9 +0.8
DAWY IAmb IAmb 09 33 35.5
comp=Z,2.4nm,0.8s
HDA Harding Lake 77.18 355 P P 09 33 36.5 +0.4
HDA IAmb IAmb 09 33 41.5
comp=Z,4.2nm,1.2s
WRH Wood River Hil 77.20 355 P P 09 33 36.6 +0.5
WRH IAmb IAmb 09 33 37.8
comp=Z,2.8nm,0.8s
RIDG Independent Ri 77.69 354 P P 09 33 40.9 +1.9
RIDG IAmb IAmb 09 33 50.6
comp=Z,3.2nm,1.2s
BPAW Bear Paw Mtn. A 77.72 357 P P 09 33 39.7 +0.5
BCAR Beaver Creek A 78.06 352 P P 09 33 42.7 +1.6
KSAR Wonju Array Be 78.47 51 P P 09 33 43.2 -0.5
KSAR Wonju Array Be 78.47 51 P P 09 33 43.2 -0.5
KSRS Korea Array 78.48 51 P P 09 33 42.8 -1.0
comp=Z,1.7nm,0.6s,baz=311,slow=4.9,SNR=9.9
PPLA Purkeypile 78.97 357 P P 09 33 47.0 +0.8
PPLA IAmb IAmb 09 34 00.9
comp=Z,5.5nm,1.2s
HYT Haines Junctio 79.72 350 P P 09 33 51.2 +0.9
SKT Skwentna 79.86 357 P P 09 33 50.5 -0.4
SVW2 Sparrevohn 80.87 359 P P 09 33 57.1 +0.7
MJAR Matsushiro Arr 85.18 46 P P 09 34 18.2 -0.9
comp=Z,0.6nm,0.5s,baz=312,slow=6.4,SNR=2.3
PDAR Pinedale Array 87.93 326 P P 09 34 32.7 -0.1

comp=Z,0.3nm,0.5s,baz=73,slow=5.0,SNR=4.3
TXAR Lajitas Array 95.53 314 P **P** 09 35 08.9 +0.9
comp=Z,0.4nm,0.9s,baz=89,slow=3.7,SNR=2.8
TXAR Lajitas Array 95.53 314 P **P** 09 35 09.0 +0.9
WRA Warramunga Arr 119.60 93 *i* PKIKP **PKiKP** 09 40 34.0 +1.0
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 121.25 97 PKP **PKPdf** 09 40 35.1 -0.9
comp=Z,0.5nm,0.9s,baz=294,slow=2.3,SNR=3.0

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*IDC **25** 09:29:53.1±0.5, 46˚.96S×33˚.70E, h0km, mb4.6/20, mb1 4.7/21, mb1mx4.6/40, mbtmp4.6/21, ML4.3/1, MS4.3/23, Ms1 4.2/23, ms1mx4.2/33, Error ellipse: s-maj=18.2km s-min=11.9km az=66.0*
*BJI **25** 09:29:54.2±0.0, 46˚.91S×33˚.56E, h8km, mB5.6/3, mb5.6/4, Ms5.3/1*
*NEIC **25** 09:29:55.0±1.9, 46˚.98S±0˚.10×33˚.5E±0˚.2, h10km±1km, mb5.0/53, Error ellipse: s-maj=17.4km s-min=16.5km az=78.0*
*GCMT **25** 09:29:56.0±0.3, 46˚.91S±0˚.02×33˚.55E±0˚.03, h25km±1km, MW5.2/94, Moment Tensor Solution. s36,c40; s94,c127; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁶Nm; M_{rr}-2.50±.34; $M_{\theta\theta}$6.22±.28; $M_{\phi\phi}$-3.72±.24; $M_{r\theta}$4.29±.48; $M_{\theta\phi}$4.18±.17; $M_{\phi r}$-1.04±.53; Best double couple: $M_0$7.95500×10¹⁶ NP1:ϕ_s27.0000˚, δ52.00000˚, λ-167.00000˚. NP2:ϕ_s289.00000˚, δ80.00000˚, λ-39.00000˚. Principal axes: T 8.9660, Plg18.0000˚, Azm343.0000˚; N -2.0230, Plg50.0000˚, Azm96.0000˚; P -6.9430, Plg34.0000˚, Azm240.0000˚; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 09:29:54.9±0.3, 46˚.99S±0˚.06×33˚.56E±0˚.07, h10km, n150, σ1ᵗ13/153, mb4.9/47, MS4.3/22, 3D, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**17.55**	**322**	P		**Pn**	**09 33 56.1**	**-3.6**
	0.7nm,0.3s,baz=137,slow=10,SNR=14							
SUR				S		Sn	09 37 02.4	-13
	0.4nm,0.3s,baz=150,slow=20,SNR=1.3							
SUR				LR		LR	09 39 28.3	
	comp=Z,2μm,20.7s,baz=153,slow=33							
SUR	**Sutherland**	**17.55**	**322**	P		**Pn**	**09 33 56.6**	**-3.1**
BOSA	**Boshof**	**19.46**	**338**	P		**P**	**09 34 21.5**	**-0.3**
	0.6nm,0.3s,baz=166,slow=10.0,SNR=25							
BOSA				LR		LR	09 40 38.3	
	comp=Z,1μm,20.3s,baz=159,slow=33							
BOSA	**Boshof**	**19.46**	**338**			**P**	**09 34 22.0**	**+0.2**
SYO	**Syowa Base**	**22.29**	**174**	⇓*i*P		**P**	**09 34 50.6**	**-1.3**
SYO	**Syowa Base**	**22.29**	**174**	⇓*e*P		**P**	**09 34 52.2**	**+0.3**
SYO	**Syowa Base**	**22.29**	**174**	⇓*i*sP		sP	09 34 55.1	+1.0
LBTB	**Lobatse**	**22.83**	**341**	P		**P**	**09 34 56.5**	**-1.7**
	33nm,0.8s,baz=164,slow=10,SNR=36							
LBTB				LR		LR	09 42 40.6	
	comp=Z,1μm,18.8s,baz=168,slow=34							
LBTB	**Lobatse**	**22.83**	**341**	P		**P**	**09 34 57.6**	**-0.5**
LBTB				IAmb		IAmb	09 34 59.6	
	comp=Z,49nm,1.0s							
FOMA	**Nahampoana Res**	**24.44**	**31**	P		**P**	**09 35 13.7**	**0.0**
FOMA				IAmb		IAmb	09 35 14.5	
	comp=Z,27nm,0.8s							
MAW	**Mawson**	**25.57**	**154**	P		**P**	**09 35 24.0**	**+0.4**
	comp=Z,29nm,0.9s,baz=303,slow=9.4,SNR=16							
MAW				LR		LR	09 42 52.6	
	comp=Z,554nm,20.8s,baz=315,slow=30							
MAW	**Mawson**	**25.57**	**154**	P		**P**	**09 35 24.9**	**+1.4**
MATP	**Matopo**	**26.82**	**349**	P		**P**	**09 35 33.7**	**-1.7**
	comp=Z,10nm,1.0s,baz=176,slow=9.4,SNR=9.4							
MATP				LR		LR	09 44 38.6	
	comp=Z,783nm,19.6s,baz=172,slow=33							
SNAA	**Sanae**	**30.02**	**202**	P		**P**	**09 36 03.5**	**0.0**
SNAA	**Sanae**	**30.02**	**202**	P		**P**	**09 36 03.5**	**0.0**
	comp=Z,3.7nm,0.6s,baz=77,slow=6.9,SNR=48							
SNAA				LR		LR	09 46 51.9	
	comp=Z,238nm,18.0s,baz=18,slow=34							
SNAA	**Sanae**	**30.02**	**202**	P		**P**	**09 36 03.9**	**+0.4**
SNAA				IAmb		IAmb	09 36 14.3	
	comp=Z,20nm,1.1s							
ABPO	**Ambohimpanom**	**30.07**	**26**	P		**P**	**09 36 04.1**	**-0.3**
ABPO				IAmb		IAmb	09 36 08.6	
	comp=Z,38nm,1.6s							
TSUM	**Tsumeb**	**30.65**	**329**	P		**P**	**09 36 09.3**	**-0.2**
	comp=Z,6.8nm,0.9s,baz=145,slow=9.7,SNR=12							
TSUM				LR		LR	09 47 49.1	
	comp=Z,1μm,18.6s,baz=146,slow=35							
TSUM	**Tsumeb**	**30.65**	**329**	P		**P**	**09 36 09.6**	**0.0**
VNA2	**Neumayer--Watz**	**30.86**	**205**	P		**P**	**09 36 11.5**	**+0.7**
	baz=51,slow=9.9							
VNA1	**Neumayer--Stat**	**30.98**	**206**	P		**P**	**09 36 13.0**	**+1.2**
RER	**Riviere de l'E**	**31.43**	**43**	P		**P**	**09 36 16.1**	**-0.3**
VNA3	**Neumayer Olymp**	**31.67**	**205**	P		**P**	**09 36 18.0**	**+0.1**
LSZ	**Lusaka**	**31.94**	**350**	P		**P**	**09 36 20.4**	**-0.5**
LSZ				IAmb		IAmb	09 36 23.7	
	comp=Z,21nm,1.4s							
AIS	**Amsterdam Isla**	**33.39**	**90**	P		**P**	**09 36 32.1**	**-1.3**
RODM	**Citronelle, R**	**36.54**	**52**	P		**P**	**09 37 00.7**	**0.0**
CASY	**Casey**	**43.19**	**145**	P		**P**	**09 37 56.4**	**+0.9**
QSPA	**South Pole Qui**	**43.23**	**180**	P		**P**	**09 37 54.8**	**-1.1**
	comp=Z,22nm,0.8s,baz=253,slow=3.2,SNR=60							
QSPA	**South Pole Qui**	**43.23**	**180**	P		**P**	**09 37 55.8**	**-0.2**
KMBO	**Kilima Mbogo**	**45.79**	**5**	LR		LR	09 56 34.8	
	comp=Z,311nm,18.2s,baz=221,slow=35							
MSEY	**Mahe Island**	**46.21**	**31**	P		**P**	**09 38 20.0**	**-0.1**
VNDA	**Vanda**	**51.74**	**167**	P		**P**	**09 39 01.7**	**0.0**
	comp=Z,16nm,0.8s,baz=247,slow=7.5,SNR=62							
VNDA	**Vanda**	**51.74**	**167**	P		**P**	**09 39 01.9**	**+0.1**
VNDA				IAmb		IAmb	09 39 05.0	
	comp=Z,21nm,0.9s							
NWAO	**Narrogin (SRO)**	**62.76**	**110**	P		**P**	**09 40 18.8**	**-1.5**
	comp=Z,6.4nm,0.7s,baz=221,slow=10,SNR=2.4							
NWAO	**Narrogin (SRO)**	**62.76**	**110**	P		**P**	**09 40 19.4**	**-0.8**
KIC	**Kosan Boka**	**63.02**	**316**	*e*P		**P**	**09 40 21.8**	**-0.3**
	comp=Z,38nm,1.3s							
LIC	**Lamto**	**63.03**	**316**	*e*P		**P**	**09 40 21.7**	**-0.5**
	comp=Z,19nm,0.9s							
DBIC	**Dimbokro**	**63.34**	**316**	P		**P**	**09 40 24.4**	**+0.2**
	comp=Z,9.5nm,0.9s,baz=125,slow=8.3,SNR=6.6							
DBIC				LR		LR	10 05 54.2	
	comp=Z,108nm,18.1s,baz=134,slow=34							
DBIC	**Dimbokro**	**63.34**	**316**	P		**P**	**09 40 24.4**	**+0.2**
DBIC				IAmb		IAmb	09 40 37.2	
	comp=Z,12nm,0.9s							
TIC	**Toumodi**	**63.40**	**316**	*e*P		**P**	**09 40 24.7**	**+0.1**
MORW	**Morawa**	**64.48**	**106**	P		**P**	**09 40 32.2**	**+0.5**
TOA0	**Torodi Ar. Sit**	**66.32**	**326**	P		**P**	**09 40 43.9**	**+0.4**
TOA0				IAmb		IAmb	09 40 56.3	
	comp=Z,20nm,1.3s							
TORD	**Torodi Ar. Bea**	**66.32**	**326**	P		**P**	**09 40 43.6**	**+0.1**
	comp=Z,6.9nm,0.9s,baz=160,slow=6.5,SNR=18							
TORD				LR		LR	10 09 29.5	
	comp=Z,135nm,18.3s,baz=160,slow=36							
TORD	**Torodi Ar. Bea**	**66.32**	**326**	P		**P**	**09 40 44.2**	**+0.6**
PLCA	**Paso Flores**	**69.70**	**232**	P		**P**	**09 41 04.3**	**-0.4**
	comp=Z,2.2nm,0.9s,baz=128,slow=8.8,SNR=3.7							
PLCA				LR		LR	10 08 37.0	
	comp=Z,142nm,19.0s,baz=213,slow=33							
PLCA	**Paso Flores**	**69.70**	**232**	P		**P**	**09 41 04.6**	**-0.2**
RAYN	**Ar Rayn**	**71.01**	**12**	P		**P**	**09 41 13.2**	**+0.6**
FORT	**Forrest**	**71.04**	**115**	P		**P**	**09 41 11.3**	**-1.7**
LC01	**Cunco**	**71.72**	**232**	P		**P**	**09 41 13.3**	**-3.7**
LC01				IAmb		IAmb	09 41 19.1	
	comp=Z,21nm,1.2s							
CPUP	**Villa Florida**	**71.82**	**251**	P		**P**	**09 41 18.0**	**+0.3**
	comp=Z,6.2nm,0.8s,baz=122,slow=4.8,SNR=10.0							
CPUP				LR		LR	10 06 26.8	
	comp=Z,87nm,21.2s,baz=156,slow=30							
CPUP	**Villa Florida**	**71.82**	**251**	P		**P**	**09 41 18.1**	**+0.3**
CPUP				IAmb		IAmb	09 41 21.5	
	comp=Z,14nm,1.3s							
BDFB	**Brasilia**	**73.03**	**265**	P		**P**	**09 41 27.0**	**+1.8**
	comp=Z,4.0nm,0.8s,baz=144,slow=4.9,SNR=4.1							
BDFB				LR		LR	10 05 54.1	
	comp=Z,173nm,21.2s,baz=139,slow=30							
BDFB	**Brasilia**	**73.03**	**265**	P		**P**	**09 41 24.6**	**-0.6**
BDFB				IAmb		IAmb	09 41 28.8	
	comp=Z,31nm,1.6s							
MDSI	**Maura Dua**	**73.55**	**79**	P		**P**	**09 41 30.1**	**+1.9**
	comp=Z,13nm,1.5s							
TAM	**Tamanrasset**	**73.93**	**333**	P		**P**	**09 41 32.1**	**+1.8**
PEL	**Peldehue**	**75.21**	**237**	P		**P**	**09 41 36.4**	**-1.3**
PEL				IAmb		IAmb	09 41 40.1	
	comp=Z,27nm,1.0s							
MT02	**Curacav**	**75.38**	**237**	P		**P**	**09 41 38.8**	**+0.2**
MT02				IAmb		IAmb	09 41 49.8	
	comp=Z,25nm,1.2s							
VA03	**San Esteban**	**75.40**	**238**	P		**P**	**09 41 39.1**	**+0.2**
VA03				IAmb		IAmb	09 41 55.9	
	comp=Z,20nm,1.0s							
CO03	**El Pedregal**	**76.89**	**239**	P		**P**	**09 41 46.7**	**-0.7**
CO03				IAmb		IAmb	09 41 59.0	
	comp=Z,15nm,0.8s							
CO01	**Juntas del Tor**	**77.16**	**240**	P		**P**	**09 41 49.5**	**+0.4**
STKA	**Stephens Creek**	**78.30**	**124**	P		**P**	**09 41 55.0**	**-0.2**
	comp=Z,13nm,1.2s,baz=271,slow=9.8,SNR=4.7							
STKA				LR		LR	10 09 44.1	
	comp=Z,140nm,18.2s,baz=210,slow=31							
FITZ	**Fitzroy Crossi**	**78.38**	**104**	P		**P**	**09 41 56.2**	**+0.6**
	comp=Z,5.3nm,0.9s,baz=183,slow=13,SNR=3.6							
FITZ				LR		LR	10 10 09.3	
	comp=Z,118nm,20.9s,baz=235,slow=31							
FITZ	**Fitzroy Crossi**	**78.38**	**104**	P		**P**	**09 41 55.2**	**-0.5**
ASAR	**Alice Springs**	**79.73**	**114**	P		**P**	**09 42 02.5**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=223,slow=5.0,SNR=18							
ASAR				LR		LR	10 10 11.1	
	comp=Z,132nm,19.2s,baz=221,slow=30							
AS31	**Alice Springs**	**79.73**	**114**	P		**P**	**09 42 02.1**	**-1.0**
WSI	**Waingapu**	**80.79**	**94**	P		**P**	09 42 22.2	+13
CSS	**Mathiatis**	**81.58**	**360**	P		**P**	**09 42 12.1**	**-0.3**
CSS				IAmb		IAmb	09 42 26.0	
	comp=Z,21nm,1.3s							
PB15	**IPOC Station P**	**81.74**	**245**	P		**P**	**09 42 13.5**	**-0.7**
LVC	**Limon Verde**	**81.83**	**246**	P		**P**	**09 42 14.2**	**-0.6**
LVC				IAmb		IAmb	09 42 24.9	
	comp=Z,10nm,1.0s							
KSM	**Kuching**	**82.05**	**79**	P		**P**	**09 42 16.0**	**+0.5**
RPZ	**Rata Peaks**	**82.18**	**150**	LR		LR	10 18 42.3	
	comp=Z,124nm,18.4s,baz=208,slow=36							
EDFI	**Ende, Flores**	**82.40**	**95**	P		**P**	**09 42 19.1**	**+1.6**
	comp=Z,331nmcomp=Z,20nm,1.2s							
WRA	**Warramunga Arr**	**82.72**	**111**	P		**P**	**09 42 17.7**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=219,slow=4.0,SNR=6.9							
WRA	**Warramunga Arr**	**82.72**	**111**	P		**P**	**09 42 16.6**	**-2.5**
WRAB	**Tennant Creek**	**82.73**	**111**	P		**P**	**09 42 17.8**	**-1.3**
WRAB				IAmb		IAmb	09 42 26.1	
	comp=Z,5.9nm,0.7s							
PB08	**IPOC Station P**	**83.80**	**247**	P		**P**	**09 42 22.6**	**-2.4**
PB08				IAmb		IAmb	09 42 40.4	
	comp=Z,9.5nm,1.1s							
SBUM	**Sibu**	**84.06**	**80**	P		**P**	**09 42 26.1**	**+0.2**
TA01	**Diego Aracena**	**84.13**	**246**	P		**P**	**09 42 26.1**	**-0.1**
GO01	**Chusmiza**	**84.18**	**248**	P		**P**	**09 42 26.5**	**-0.6**
GO01				IAmb		IAmb	09 42 39.5	
	comp=Z,7.0nm,0.8s							
PB11	**IPOC Station P**	**84.40**	**247**	P		**P**	**09 42 27.1**	**-0.8**
SPSI	**Sidrap Palu**	**84.54**	**90**	P		**P**	**09 42 27.8**	**-0.6**
	comp=Z,21nm,1.0s							
HRA	**Herat**	**85.02**	**23**	P		**P**	**09 42 30.3**	**-0.2**
HRA				IAmb		IAmb	09 42 31.8	
	comp=Z,7.4nm,0.8s							
KEST	**Kesra**	**85.17**	**340**	LR		LR	10 22 35.0	
	comp=Z,505nm,18.4s,baz=138,slow=37							
LPAZ	**La Paz**	**85.99**	**251**	P		**P**	**09 42 38.0**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=87,slow=5.1,SNR=5.6							
LPAZ				LR		LR	10 17 41.2	
	comp=Z,142nm,18.8s,baz=141,slow=33							
LPAZ	**La Paz**	**85.99**	**251**	P		**P**	**09 42 35.5**	**-0.8**
LPAZ				IAmb		IAmb	09 42 49.2	
	comp=Z,28nm,2.0s							
BRTR	**Keskin Array B**	**86.33**	**0**	P		**P**	**09 42 38.0**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=203,slow=9.2,SNR=4.1							
BRTR	**Keskin Array B**	**86.33**	**0**	P		**P**	**09 42 36.7**	**-0.1**
GEYT	**Alibeck**	**87.36**	**19**	P		**P**	**09 42 41.8**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=224,slow=8.1,SNR=5.5							
GEYT				LR		LR	10 23 36.8	
	comp=Z,57nm,18.0s,baz=135,slow=37							
GEYT	**Alibeck**	**87.36**	**19**	P		**P**	**09 42 41.8**	**+0.1**
GYA0B	**ALIBECK ARRAY**	**87.36**	**19**	P		**P**	**09 42 41.7**	**0.0**
GYA0B				IAmb		IAmb	09 42 47.4	
	comp=Z,14nm,1.4s							
CMAR	**Chiang Mai Arr**	**87.64**	**60**	P		**P**	**09 42 43.3**	**-0.2**
	comp=Z,12nm,0.3s,baz=236,slow=4.1,SNR=4.1							
CMAR				LR		LR	10 18 26.0	
	comp=Z,117nm,18.3s,baz=222,slow=33							
CMAR	**Chiang Mai Arr**	**87.64**	**60**	P		**P**	**09 42 43.9**	**+0.5**
NIL	**Nilore**	**87.86**	**32**	P		**P**	**09 42 43.7**	**-0.5**
NIL				IAmb		IAmb	09 42 58.3	
	comp=Z,12nm,1.2s							
CHTO	**Chiang Mai**	**87.91**	**60**	P		**P**	**09 42 44.3**	**-0.5**
CHTO				IAmb		IAmb	09 42 55.5	
	comp=Z,7.7nm,1.1s							
SAML	**Samuel**	**88.09**	**259**	P		**P**	**09 42 45.1**	**-0.8**
EIDS	**Eidsvold**	**88.60**	**127**	P		**P**	**09 42 47.0**	**-1.2**
EIDS				IAmb		IAmb	09 43 04.0	
	comp=Z,11nm,1.2s							
KBZ	**Khabaz**	**90.71**	**7**	P		**P**	**09 43 01.7**	**+4.5**
	comp=Z,2.0nm,0.9s,baz=258,slow=3.2,SNR=4.6							
KBZ				LR		LR	10 23 29.4	
	comp=Z,109nm,20.8s,baz=174,slow=36							
ESDC	**Sonseca Array**	**92.55**	**332**	P		**P**	**09 43 08.3**	**+2.3**
	comp=Z,2.2nm,1.2s,baz=178,slow=4.5,SNR=5.3							
GERES	**GERESS Array B**	**97.00**	**347**	LR		LR	10 32 21.5	
	comp=Z,134nm,18.1s,baz=194,slow=39							
CD2	**Chengdu**	**99.98**	**55**	P		**Pdif**	**09 43 42.0**	**+2.0**
WMQ	**Urumqi**	**102.28**	**37**	*e*P		**Pdif**	**09 43 51.5**	**+1.6**
WMQ				LR		LR		
	comp=Z,450nm,28.9s							
WMQ				LR		LR		
	comp=Z,730nm,29.2s							
TXAR	**Lajitas Array**	**142.57**	**257**	PKhKP		PKPpre	09 49 24.1	
	comp=Z,1.6nm,0.8s,baz=144,slow=5.6,SNR=14							
F36A	**Milaca**	**144.09**	**288**	PKPdf		PKPbc	09 49 28.4	+0.3
PETK	**Petropavlovsk-**	**144.41**	**59**	PKP		PKPbc	09 49 29.2	+0.3
	comp=Z,3.8nm,1.0s,baz=203,slow=2.2,SNR=2.9							
RES	**Resolute Bay**	**144.68**	**339**	PKPdf		**PKPdf**	**09 49 30.8**	**+0.6**
MNTX	**Cornudas Mount**	**145.20**	**259**			**PKPbc**	**09 49 31.4**	**-0.7**
ECSD	**EROS Data Cent**	**145.31**	**283**			**PKPab**	**09 49 32.3**	**+0.3**
BGNE	**Belgrade**	**145.38**	**279**			**PKPbc**	**09 49 32.0**	**-0.5**
F33A	**5 Mile Ranch,**	**145.88**	**287**			**PKPdf**	**09 49 32.1**	**-1.0**
AGMN	**Agassiz Nation**	**146.40**	**291**			**PKPdf**	**09 49 34.1**	**+0.1**
ULM	**Lac du Bonnet**	**146.94**	**295**	PKPbc		**PKPbc**	**09 49 36.2**	**-0.5**
	comp=Z,4.9nm,0.7s,baz=33,slow=3.0,SNR=4.9							
121A	**Cookes Peak, D**	**147.32**	**258**			**PKPab**	**09 49 39.9**	**-0.6**
BNM	**Barren Site**	**147.50**	**261**			**PKPab**	**09 49 40.4**	**-0.9**
ANMO	**Albuquerque**	**147.84**	**263**			**PKiKP**	**09 49 41.2**	**-0.8**
BILL	**Bilibino**	**148.22**	**32**			**PKiKP**	**09 49 40.9**	**-0.5**
SDCO	**Great Sand Dun**	**148.68**	**268**			**PKPdf**	**09 49 38.7**	**+0.2**
SDCO				PKPbc		**PKPbc**	**09 49 45.0**	**+2.8**
E28A	**Huff**	**149.01**	**286**			**PKiKP**	**09 49 44.9**	**+1.1**
TUC	**Tucson**	**149.18**	**254**	PKPdf		**PKPdf**	**09 49 39.8**	**+0.6**
TUC				PKPbc		**PKPbc**	**09 49 45.3**	**+1.9**
S22A	**4UR Ranch, Cre**	**149.59**	**267**	PKPdf		**PKPdf**	**09 49 40.6**	**+0.6**
ISCO	**Idaho Springs**	**149.75**	**271**	PKPdf		**PKPdf**	**09 49 40.1**	**0.0**
RSSD	**Black Hills**	**150.43**	**280**	PKPdf		**PKPdf**	**09 49 41.4**	**+0.4**
RSSD				PKPbc		**PKPbc**	**09 49 46.6**	**+0.3**
N23A	**Red Feather La**	**150.46**	**273**	PKPdf		**PKPdf**	**09 49 41.3**	**+0.1**
N23A				PKPbc		**PKPbc**	**09 49 49.1**	**+2.6**
PV01	**Paradox Valley**	**150.97**	**266**			**PKPdf**	**09 49 42.1**	**0.0**
PV07	**Paradox Valley**	**151.18**	**267**			**PKPdf**	**09 49 42.4**	**+0.1**
PV07				PKPab		**PKPab**	**09 49 57.0**	**+0.9**
PV03	**Paradox Valley**	**151.22**	**266**	PKPdf		**PKPdf**	**09 49 40.7**	**-1.7**
PV12	**Saucer Basin,**	**151.22**	**266**			**PKPdf**	**09 49 42.5**	**+0.1**
PV12				PKPab		**PKPab**	**09 49 57.3**	**+0.9**
PV11	**David Mesa, Pa**	**151.26**	**266**	PKPab		**PKPab**	**09 49 57.2**	**+0.7**
PV02	**Blue Mesa, Par**	**151.32**	**267**	PKPab		**PKPab**	**09 49 57.8**	**+1.1**
PV04	**Paradox Valley**	**151.33**	**266**	PKPdf		**PKPdf**	**09 49 41.0**	**-1.5**
PV04				PKPab		**PKPab**	**09 49 57.8**	**+1.1**
PV20	**West Nyswonger**	**151.35**	**266**	PKPdf		**PKPdf**	**09 49 41.4**	**-1.1**
PV20				PKPab		**PKPab**	**09 49 57.9**	**+1.1**
113A	**Mohawk Valley,**	**151.42**	**252**	PKPbc		**PKiKP**	**09 49 49.6**	**+0.5**
PV23	**Carpenter Ridg**	**151.43**	**266**	PKPbc		**PKiKP**	**09 49 49.6**	**+0.3**
PV21	**Cone Mtn., Par**	**151.46**	**267**	PKPbc		**PKiKP**	**09 49 49.7**	**+0.3**
K22A	**Casper**	**151.58**	**276**	PKPdf		**PKPdf**	**09 49 42.4**	**-0.3**
Y14A	**Wickenburg**	**151.65**	**255**	PKPdf		**PKPdf**	**09 49 42.7**	**-0.3**
Y14A				PKPab		**PKPab**	**09 49 58.0**	**+0.1**
Y12C	**Blythe**	**152.53**	**253**	PKPdf		**PKPdf**	**09 49 42.2**	**-2.0**
LAO	**LASA Array**	**152.70**	**284**			**PKPdf**	**09 49 41.6**	**-2.5**
LAO				PKPab		**PKPab**	**09 50 02.9**	**+0.8**
RDMU	**Red Mountain**	**152.80**	**270**			**PKPdf**	**09 49 43.0**	**-1.7**
RDMU				PKPab		**PKPab**	**09 50 02.9**	**0.0**
W13A	**Hualapai Mount**	**152.92**	**256**	PKPdf		**PKPdf**	**09 49 43.9**	**-1.1**
MTPU	**Mount Pierson**	**153.39**	**263**			**PKPdf**	**09 49 46.4**	**+0.6**
PDAR	**Pinedale Array**	**153.69**	**274**	PKPbc		**PKPbc**	**09 49 52.7**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=103,slow=3.9,SNR=3.6							
PDAR	**Pinedale Array**	**153.69**	**274**			**PKPdf**	**09 49 45.4**	**-0.5**
CCUT	**Cedar City**	**153.94**	**261**	PKPdf		**PKPdf**	**09 49 47.1**	**+0.7**
SHPR	**Sheep Range**	**154.58**	**257**			**PKiKP**	**09 49 56.8**	**+1.1**
YKA	**Yellowknife Ar**	**156.30**	**322**	PKP		**PKPdf**	**09 49 48.9**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=35,slow=2.3,SNR=2.2							
YKA				PKPbc		PKPbc	09 50 00.2	
	comp=Z,0.9nm,0.9s,baz=46,slow=1.6,SNR=3.9							
INK	**Inuvik**	**157.63**	**347**	PKPab		**PKPab**	**09 50 22.6**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=39,slow=6.5,SNR=3.5							
NVAR	**Mina Array Bea**	**157.72**	**258**	PKP		**PKPdf**	**09 49 51.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=93,slow=3.6,SNR=1.8							
NVAR				PKPab		**PKPab**	**09 50 24.7**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=87,slow=6.5,SNR=5.6							
J08A	**Circle Bar Ran**	**160.00**	**270**			**PKPdf**	**09 49 54.0**	**+0.2**
ILAR	**Eielson Array**	**162.18**	**1**	PKPab		**PKPab**	**09 50 42.0**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=354,slow=2.9,SNR=4.8							
BCAR	**Beaver Creek A**	**163.68**	**352**			**PKPdf**	**09 49 56.3**	**-0.6**

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*JMA **25** 09:31:59.0±0.2, 23˚.77N×120˚.97E, h0km, M3.4*
*TAP **25** 09:31:59.8, 23˚.74N×120˚.99E, h28km, ML3.7, B*

ISC 25 09:32:00.4±0.8, 23˚.75N±0˚.01×120˚.99E±0˚.02, h28km±4km, n92, σ0ˢ48/171, 9C-25D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SSLB	**Suanglung**	**0.05**	**321**	⇑*i*P		**Pb**	**09 32 04.8**	**-0.5**
	baz=323							
SSLB				*e*S		Sb	09 32 08.1	-0.6
	baz=323							
WHYT	**Xinyi Township**	**0.13**	**246**	⇑*i*P		**Pb**	**09 32 05.6**	**-0.2**
	baz=249							
WHYT				*e*S		Sb	09 32 09.4	-0.1
	baz=249							
VWDT	**VWDT**	**0.14**	**88**	⇓*i*P		**Pb**	**09 32 06.0**	**+0.1**
	baz=86							
VWDT				*e*S		Sb	09 32 09.4	-0.1
	baz=86							
SMLT	**Sun Moon Lake**	**0.15**	**329**	⇑*i*P		**Pb**	**09 32 05.8**	**-0.3**
	baz=339							
SMLT				*e*S		Sb	09 32 10.2	+0.3
	baz=339							
TYC	**Yuchr**	**0.19**	**322**	⇑*i*P		**Pb**	**09 32 06.2**	**-0.2**
	baz=332							
TYC				*e*S		Sb	09 32 10.7	+0.2
	baz=332							
WJS	**Zhushan**	**0.25**	**287**	⇓P		**Pb**	**09 32 07.0**	**0.0**
	baz=279							
WJS				*e*S		Sb	09 32 12.1	+0.6
	baz=279							
OWD	**Renai**	**0.27**	**40**	⇓*i*P		**Pb**	**09 32 07.3**	**-0.2**
	baz=34							
OWD				*e*S		Sb	09 32 11.9	-0.3
	baz=34							
DPDB	**Guoxing**	**0.29**	**349**	⇑*i*P		**Pb**	**09 32 07.3**	**-0.3**
	baz=353							
DPDB				*e*S		Sb	09 32 11.9	-0.7
	baz=353							
ALS	**Alishan**	**0.29**	**215**	⇑*i*P		**Pb**	**09 32 07.6**	**-0.3**
	baz=215							
ALS				S	

TWQ1	**Liyutan** baz=342	**0.63**	**342**	⇓*iP*	**Pb**	09 32 13.2	+0.3		
TWQ1	baz=342			*eS*	**Sn**	09 32 23.1	+0.5		
ETLH	**Xiulin Townshi** baz=51	**0.64**	**45**	P	**Pb**	09 32 12.5	-0.7		
ETLH	baz=51			*eS*	**Sb**	09 32 21.2	-0.7		
TWD	**Chiawan** baz=59	**0.65**	**59**	⇓*iP*	**Pb**	09 32 12.6	-0.7		
TWD	baz=59			*eS*	**Sb**	09 32 21.8	-0.1		
WTCT	**Ta-ch'eng** baz=271	**0.66**	**280**	*eP*	**Pb**	09 32 13.2	-0.1		
WTCT	baz=271			*eS*	**Sb**	09 32 21.4	-0.8		
TWK	**Hsinying** baz=223	**0.66**	**224**	P	**Pb**	09 32 12.8	-0.8		
TWK	baz=223			*eS*	**Sn**	09 32 23.2	-0.4		
WDJ	**Dajia District** baz=321	**0.67**	**332**	⇓*iP*	**Pn**	09 32 14.2	0.0		
WDJ	baz=321			*eS*	**Sn**	09 32 24.7	+0.9		
WLGB	**Puzi** baz=257	**0.69**	**247**	*eP*	**Pb**	09 32 13.8	0.0		
WLGB	baz=257			*eS*	**Sn**	09 32 24.6	+0.6		
SNST	**Tainan City** baz=221	**0.69**	**221**	*eP*	**Pb**	09 32 13.9	-0.1		
SNST	baz=221			*eS*	**Sn**	09 32 24.2	0.0		
NSY	**Sanyi** baz=343	**0.69**	**343**	⇓*iP*	**Pn**	09 32 14.6	+0.1		
NSY	baz=343			*eS*	**Sn**	09 32 25.4	+1.2		
NACB	**Ninganchiao** baz=52	**0.70**	**53**	⇓*iP*	**Pb**	09 32 13.2	-0.9		
NACB	baz=52			*eS*	**Sb**	09 32 23.3	-0.1		
CHN1	**Nanshi** baz=218	**0.70**	**217**	*eP*	**Pb**	09 32 13.7	-0.5		
CHN1	baz=218			*eS*	**Sn**	09 32 24.4	-0.1		
CHKT	**Chengkung** baz=138	**0.73**	**152**	*eP*	**Pb**	09 32 14.7	0.0		
CHKT	baz=138			*eS*	**Sn**	09 32 25.9	+0.7		
PTSB	**Yuanli** baz=339	**0.74**	**340**	P	**Pn**	09 32 15.3	+0.2		
PTSB	baz=339			*eS*	**Sn**	09 32 26.4	+1.0		
SGST	**Jiashian** baz=210	**0.76**	**209**	P	**Pb**	09 32 14.5	-0.7		
SGST	baz=210			*eS*	**Sn**	09 32 25.9	0.0		
NNSB	**Datong** baz=27	**0.77**	**28**	P	**Pb**	09 32 14.8	-0.5		
NNSB	baz=27			*eS*	**Sb**	09 32 25.6	+0.1		
NNSH	**Datong** baz=26	**0.77**	**28**	P	**Pb**	09 32 14.8	-0.5		
NNSH	baz=26			*eS*	**Sb**	09 32 25.2	-0.2		
NNS	**Nan Shan** baz=27	**0.77**	**27**	P	**Pb**	09 32 15.4	-0.1		
NNS	baz=27			*eS*	**Sn**	09 32 26.1	-0.3		
NMLH	**Miaoli** baz=346	**0.80**	**347**	P	**Pn**	09 32 16.0	+0.1		
NMLH	baz=346			*eS*	**Sb**	09 32 26.1	-0.3		
SLGT	**Liugui** baz=212	**0.81**	**203**	P	**Pb**	09 32 15.7	-0.4		
CHN8	**Yiju** baz=240	**0.82**	**241**	P	**Pb**	09 32 15.9	-0.2		
CHN8	baz=240			*eS*	**Sn**	09 32 27.2	-0.1		
NSTT	**Nanjuang** baz=347	**0.88**	**1**	P	**Pb**	09 32 17.1	-0.1		
NSTT	baz=347			*eS*	**Sn**	09 32 29.2	+0.4		
CHN3	**Shinhua** baz=221	**0.88**	**221**	P	**Pn**	09 32 17.9	+1.0		
CHN3	baz=221			*eS*	**Sn**	09 32 29.5	+0.6		
LIOB	**Emei** baz=348	**0.89**	**2**	P	**Pb**	09 32 17.3	-0.1		
TWG	**Pinlang** baz=170	**0.93**	**175**	P	**Pb**	09 32 17.9	-0.1		
TWG	baz=170			*eS*	**Sn**	09 32 30.5	+0.5		
TWGBT	**Beinan** baz=167	**0.93**	**175**	P	**Pb**	09 32 17.9	-0.2		
ENA	**Nanau** baz=45	**0.96**	**45**	P	**Pn**	09 32 18.1	-0.1		
ENA	baz=45			*eS*	**Sn**	09 32 31.3	+0.4		
NDT	**Datong Townshi** baz=20	**0.97**	**29**	P	**Pb**	09 32 18.9	+0.1		
NSK	**Sanguang** baz=15	**0.98**	**20**	*eP*	**Pn**	09 32 18.4	-0.1		
NSK	baz=15			*eS*	**Sn**	09 32 31.9	+0.4		
YHNB	**Yeheng** baz=15	**0.98**	**21**	P	**Pn**	09 32 18.6	+0.1		
ENTT	**Nioudou** baz=25	**1.03**	**31**	P	**Pb**	09 32 20.0	+0.3		
SBCB	**Hsinchu** baz=359	**1.04**	**360**	*eP*	**Pn**	09 32 19.2	+0.1		
SSD	**Sandimen** baz=200	**1.05**	**198**	P	**Pn**	09 32 19.6	+0.3		
SSD	baz=200			*eS*	**Sn**	09 32 33.7	+0.7		
TWM1	**Shoushan** baz=210	**1.06**	**209**	*eP*	**Pn**	09 32 19.6	+0.1		
TWM1	baz=210			*eS*	**Sn**	09 32 33.9	+0.7		
NWLT	**Wulai** baz=23	**1.13**	**25**	*eP*	**Pn**	09 32 20.4	0.0		
NWLT	baz=23			*eS*	**Sb**	09 32 35.7	+0.1		
ECL	**Taimali** baz=169	**1.15**	**182**	P	**Pb**	09 32 21.4	-0.2		
ECL	baz=169			*eS*	**Sb**	09 32 36.0	-0.1		
TWE	**Neicheng** baz=32	**1.15**	**33**	*eP*	**Pn**	09 32 20.8	+0.1		
TWE	baz=32			*eS*	**Sb**	09 32 36.1	-0.1		
TWC	**Suao** baz=32	**1.16**	**42**	*eP*	**Pn**	09 32 21.0	+0.1		
TWC	baz=32			*eS*	**Sb**	09 32 36.4	-0.2		
MASBT	**Mashibuluo** baz=199	**1.18**	**196**	*eP*	**Pb**	09 32 21.9	-0.3		
PHUB	**P'eng-hu** baz=274	**1.32**	**260**	P	**Pn**	09 32 22.7	-0.3		
PNG	**Penghu** baz=261	**1.32**	**262**	P	**Pn**	09 32 22.7	-0.4		
PNG	baz=261			*eS*	**Sn**	09 32 40.6	+0.8		
TWA	**Mucha** baz=10.0	**1.34**	**24**	*eP*	**Pn**	09 32 23.5	+0.2		
TWA	baz=10.0			*eS*	**Sn**	09 32 40.8	+0.5		
EAST	**Anshuo** baz=188	**1.37**	**185**	*eP*	**Pn**	09 32 23.9	+0.2		
EAST	baz=188			*eS*	**Sb**	09 32 41.9	-0.6		
SCZT	**Fangliau** baz=197	**1.41**	**194**	*eP*	**Pn**	09 32 24.6	+0.3		
SCZT	baz=197			*eS*	**Sn**	09 32 42.6	+0.7		
TIPB	**Shuangxi** baz=15	**1.44**	**32**	*eP*	**Pn**	09 32 24.9	+0.2		
TIPB	baz=15			S	**Sn**	09 32 43.4	+0.8		
YM04	**YM04** baz=1.0	**1.48**	**20**	*eP*	**Pn**	09 32 25.6	+0.3		
YM04	baz=1.0			*eS*	**Sn**	09 32 44.5	+0.6		
YM01	**YM01** baz=19	**1.49**	**21**	*eP*	**Pn**	09 32 25.6	+0.3		
YM10	**YM10** baz=19	**1.49**	**20**	*eP*	**Pn**	09 32 25.7	+0.2		
YM10	baz=19			*eS*	**Sn**	09 32 44.6	+0.5		
WFSB	**Wu-fen Shan** baz=10.0	**1.50**	**29**	*eP*	**Pb**	09 32 26.8	-0.9		
YM05	**YM05** baz=18	**1.50**	**20**	*eP*	**Pn**	09 32 25.9	+0.2		
JYNG	**Yonaguni jima**	**1.92**	**68**	P	**Pn**	09 32 31.7	+0.4		
JYNG				*eS*	**Sn**	09 32 55.5	+1.0		
YOJ	**Yonaguni jima**	**1.98**	**69**	P	**Pn**	09 32 32.5	+0.4		
IRIF	**Iriomote-Funau**	**2.58**	**76**	P	**Pn**	09 32 40.8	+0.5		
IRIF				*eS*	**Sn**	09 33 11.3	+0.6		
HATJ	**Hateruma jima**	**2.60**	**83**	P	**Pn**	09 32 40.9	+0.3		
HATJ				*eS*	**Sn**	09 33 11.7	+0.5		
JKRS	**Kuro-shima**	**2.81**	**79**	P	**Pn**	09 32 44.4	+0.9		
JKRS				*eS*	**Sn**	09 33 18.1	+1.7		
JIJ	**Ishigaki jima**	**2.95**	**77**	P	**Pn**	09 32 45.5	+0.1		
JIJ				S	**Sn**	09 33 19.1	-0.8		
JISG	**Ishigakijimahi**	**3.15**	**74**	P	**Pn**	09 32 48.3	+0.1		
JISG				*eS*	**Sn**	09 33 23.8	-1.0		

*IDC **25** 09:38:38.0±1.1,29.97S×177.40W,h0km,mb4.2/6, mb1 4.4/6,mb1mx4.0/34,mbtmp4.2/6,MS3.7/2,Ms1 3.7/2, ms1mx3.0/33,Error ellipse: s-maj=26.6km s-min=25.8km az=167.0*

*NEIC **25** 09:38:43.6±1.7,29.78S±0.09×177.4W±0.2,h34km±6km, mb4.6/11,Error ellipse: s-maj=26.2km s-min=5.1km az=61.0*

ISC 25 09:38:43.7±0.8,**29.86S**±0.10×**177.4W**±0.1,**h35**km,**n35**, σ0**83**/28,**mb4.4**/12,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 844nm,0.3s,baz=87,slow=19,SNR=21	**0.73**	**325**	Pn		**Pn**	**Pn**	**09 38 57.4**	**-0.2**
RAO	3µm,0.3s,baz=90,slow=20,SNR=20			Sn			**Sn**	**09 39 08.1**	**+0.6**
RAO	**Raoul Island**	**0.73**	**325**				**Pn**	**09 38 57.3**	**-0.2**
RAO							**Sn**	**09 39 06.8**	**-0.7**
DZM	**Mont Dzumac** comp=Z,66nm,18.8s,baz=54,slow=33	**16.43**	**294**	LR		LR	LR	09 47 38.7	
CTA	**Charters Tower** 4.5nm,0.8s,baz=106,slow=11,SNR=7.7	**34.20**	**278**	P		**P**	**P**	**09 45 26.3**	**+0.3**
CTAO	**Charters Tower**	**34.20**	**278**	P		**P**	**P**	**09 45 26.3**	**+0.3**
STKA	**Stephens Creek** 1.8nm,0.6s,baz=97,slow=13,SNR=6.3	**35.07**	**256**	P		**P**	**P**	**09 45 34.5**	**+1.1**
STKA	**Stephens Creek**	**35.07**	**256**	P		**P**	**P**	**09 45 35.4**	**+1.9**
BBOO	**Buckleboo**	**39.58**	**253**	P		**P**	**P**	**09 46 10.7**	**-0.9**
ASAR	**Alice Springs** 1.8nm,0.6s,baz=102,slow=7.5,SNR=11	**43.62**	**266**	P		**P**	**P**	**09 46 44.0**	**-0.9**
WR0	**Warramunga Arr**	**44.38**	**271**	P		**P**	**P**	**09 46 51.8**	**+0.8**
WR0	comp=Z,6.3nm,1.1s			IAmb		IAmb	IAmb	09 47 04.9	
WB2	**Warramunga Arr**	**44.55**	**271**	P		**P**	**P**	**09 46 52.6**	**+0.3**
WB2	comp=Z,9.6nm,1.1s			IAmb		IAmb	IAmb	09 46 55.1	
WRAB	**Tennant Creek**	**44.56**	**271**	P		**P**	**P**	**09 46 52.6**	**+0.2**
WRAB	comp=Z,12nm,1.4s			IAmb		IAmb	IAmb	09 47 10.7	
WRA	**Warramunga Arr** comp=Z,2.6nm,0.6s,baz=111,slow=7.7,SNR=8.6	**44.56**	**271**	P		**P**	**P**	**09 46 51.6**	**-0.9**
WRA	**Warramunga Arr**	**44.56**	**271**	P		**P**	**P**	**09 46 52.9**	**+0.4**
WB0	**Warramunga Arr**	**44.59**	**272**	P		**P**	**P**	**09 46 52.1**	**-0.6**
WB0	comp=Z,7.8nm,1.1s			IAmb		IAmb	IAmb	09 46 53.8	
CASY	**Casey**	**55.84**	**208**	P		**P**	**P**	**09 48 16.6**	**-0.6**
CASY	comp=Z,5.7nm,0.7s			IAmb		IAmb	IAmb	09 48 16.8	
BATI	**Baumata** comp=Z,182nm,18.1s,baz=152,slow=35	**58.06**	**277**	LR		LR	LR	10 12 54.0	
QSPA	**South Pole Qui** comp=Z,7.6nm,1.4s	**60.25**	**180**	P		**P**	**P**	**09 48 49.4**	**+1.1**
QSPA				IAmb		IAmb	IAmb	09 49 07.2	
SNAA	**Sanae**	**78.68**	**178**	P		**P**	**P**	**09 50 41.5**	**-0.4**
H03S2	**Juan Fernandez** baz=239,slow=74,SNR=8.7	**80.36**	**123**	T		T	T	11 20 19.0	
H03S1	**Juan Fernandez** baz=239,slow=74,SNR=9.1	**80.37**	**123**	T		T	T	11 20 44.3	
H03S3	**Juan Fernandez** baz=239,slow=74,SNR=9.5	**80.38**	**123**	T		T	T	11 20 45.3	
PETK	**Petropavlovsk-** comp=Z,2.7nm,0.9s,baz=125,slow=6.5,SNR=4.7	**85.41**	**345**	P		**P**	**P**	**09 51 17.7**	**+0.7**
NVAR	**Mina Array Bea** comp=Z,1.2nm,0.8s,baz=220,slow=8.3,SNR=5.1	**87.52**	**42**	P		**P**	**P**	**09 51 28.2**	**+0.2**
NVAR	**Mina Array Bea**	**87.52**	**42**	P		**P**	**P**	**09 51 28.2**	**+0.2**
H10N3	**ASCENSION HYDR** baz=203,slow=75,SNR=4.6	**89.08**	**154**	T		T	T	12 34 51.7	
H10N1	**ASCENSION HYDR** baz=203,slow=75,SNR=4.7	**89.09**	**154**	T		T	T	12 34 52.1	
H10N2	**ASCENSION HYDR** baz=203,slow=75,SNR=4.7	**89.10**	**154**	T		T	T	12 34 53.1	
FINES	**FINESS Array B** comp=Z,3.0nm,0.4s,baz=48,slow=4.5,SNR=22	**144.80**	**341**	PKP		PKPbc	PKPbc	09 58 14.5	-0.7
FINES	**FINESS Array B**	**144.80**	**341**				**PKPdf**	**09 58 14.8**	**-1.4**
NB2	**NORSAR Subarra** comp=Z,3.5nm,1.2s,baz=11,slow=3.1	**148.29**	**352**	PKP			**PKPbc**	**09 58 25.3**	**-0.2**
NOA	**NORSAR Array B** comp=Z,0.6nm,0.6s,baz=15,slow=4.0,SNR=2.5	**148.29**	**352**	PKPbc			**PKPbc**	**09 58 24.8**	**-0.7**
AKASG	**Malin Array Be** comp=Z,0.7nm,0.4s,baz=47,slow=2.8,SNR=4.1	**151.16**	**324**	PKPbc			**PKPbc**	**09 58 32.0**	**-0.8**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.7s,baz=186,slow=2.8,SNR=1.6	**163.35**	**177**	PKPab			**PKPab**	**09 59 33.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**163.35**	**177**				**PKPab**	**09 59 33.5**	**-0.3**

*IDC **25** 09:41:55.7±10.0,7.30S×127.57E,h118km±103km, mb3.5/2,mb1 3.8/5,mb1mx3.3/32,mbtmp4.1/5,ML4.2/3, Error ellipse: s-maj=132.7km s-min=20.7km az=49.0*

*NEIC **25** 09:42:00.8±1.4,7.72S±0.09×127.22E±0.07,h175km±11km, mb4.0/3,Error ellipse: s-maj=12.9km s-min=10.1km az=165.0*

ISC 25 09:42:01.8±0.8,**7.86S**±0.06×**127.25E**±0.06,**h200**km,**n20**, σ2**88**/28,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.50**	**237**	Pn		**Pn**	**Pn**	**09 42 57.2**	**-0.4**
SOEI							**Sn**	**09 43 37.9**	**-3.4**
BATI	**Baumata** 40nm,0.3s,baz=100,slow=5.0,SNR=16	**4.25**	**236**	P		**P**	**Pn**	**09 43 06.2**	**-0.5**
BATI	14nm,0.3s,baz=120,slow=20,SNR=3.6			S			**Sn**	**09 43 55.4**	**-2.3**
MTN	**Manton Dam**	**6.26**	**143**				**Pn**	**09 43 34.0**	**+1.6**
MTN				Sn			**Sn**	**09 44 44.0**	**-0.1**
FAKI	**Fak Fak**	**6.98**	**46**	Pn			**Pn**	**09 43 39.7**	**-2.2**
FAKI				Sn			**Sn**	**09 44 57.4**	**-3.9**
KNRA	**Kununurra**	**7.91**	**169**				**Pn**	**09 43 54.9**	**+1.0**
KNRA							**Sn**	**09 45 21.5**	**-1.7**
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=15,slow=9.6,SNR=8.5	**10.30**	**189**	P		**P**	**Pn**	**09 44 25.2**	**+0.3**
FITZ	1.0nm,0.3s,baz=330,slow=19,SNR=6.8			S			**Sn**	**09 46 14.6**	**-5.5**
FITZ	**Fitzroy Crossi**	**10.30**	**189**				**Pn**	**09 44 26.1**	**+1.1**
WB0	**Warramunga Arr**	**13.72**	**150**	Pn			**P**	**09 45 10.3**	**-0.2**
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=328,slow=14,SNR=24	**13.84**	**151**	P			**Pn**	**09 45 10.8**	**+1.0**
WRA	1.1nm,0.3s,baz=330,slow=22,SNR=3.3			S			**S**	**09 47 37.8**	**-6.2**
WRA	**Warramunga Arr**	**13.84**	**151**				**Pn**	**09 45 10.9**	**+1.1**
WB2	**Warramunga Arr**	**13.85**	**151**	Pn			**Pn**	**09 45 11.3**	**+1.4**
WR0	**Warramunga Arr**	**13.95**	**150**	Pn			**Pn**	**09 45 11.9**	**+0.8**
COEN	**Coen**	**16.76**	**113**				**Pn**	**09 45 46.2**	**+0.8**
COEN	comp=Z,28nm,1.5s			IAmb		IAmb	IAmb	09 45 51.2	
AS31	**Alice Springs**	**16.97**	**159**	P		**P**	**Pn**	**09 45 51.2**	**+3.4**
AS31	comp=Z,3.3nm,0.6s			IAmb		IAmb	IAmb	09 45 54.0	
ASAR	**Alice Springs** comp=Z,1.1nm,0.3s,baz=336,slow=12,SNR=87	**16.97**	**159**	P		**P**	**Pn**	**09 45 51.3**	**+3.5**
ASAR	comp=Z,0.3nm,0.3s,baz=333,slow=23,SNR=2.7			S			**S**	**09 48 54.0**	**+0.8**
ASAR	**Alice Springs**	**16.97**	**159**	P		**P**	**Pn**	**09 45 52.1**	**+4.4**
STKA	**Stephens Creek** comp=Z,2.0nm,0.5s,baz=333,slow=11,SNR=4.8	**27.38**	**153**	P		**P**	**P**	**09 47 33.0**	**+4.4**
STKA	**Stephens Creek**	**27.38**	**153**	P		**P**	**P**	**09 47 33.4**	**+4.8**
STKA	comp=Z,2.7nm,1.4s			IAmb		IAmb	IAmb	09 47 41.4	
CMAR	**Chiang Mai Arr** comp=Z,14nm,0.3s,baz=142,slow=7.3,SNR=6.9	**38.26**	**313**	P		**P**	**P**	**09 49 03.5**	**+0.6**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.6s,baz=120,slow=7.5,SNR=2.7	**67.48**	**328**	P		**P**	**P**	**09 52 36.9**	**+0.8**

*NEIC **25** 09:55:02.8±2.7,15.86N±0.09×98.76W±0.03,h11km±10km, mb4.3/1,Md4.1/29(MEX),Error ellipse: s-maj=14.2km s-min=3.1km az=194.0*

*MEX **25** 09:55:06.2±0.7,15.96N×98.69W,h7km±13km,MD4.2*

ISC 25 09:55:04.2±1.4,**15.94N**±0.06×**98.70W**±0.04,**h22**km±8km, **n25**,σ1**12**/45,**Off coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YOIG	**Yosondua**	**1.43**	**50**	*eP*			**Pn**	**09 55 28.7**	**-0.4**
YOIG				*i* S			**Sn**	**09 55 46.9**	**-0.6**
PEIG	**Puerto Escondi**	**1.49**	**88**	*eP*			**Pn**	**09 55 29.9**	**+0.2**
PEIG				*i* S			**Sn**	**09 55 47.7**	**-0.9**
TXIG	**Tlaxiaco**	**1.58**	**34**	*eP*			**Pn**	**09 55 30.7**	**-0.5**
TXIG				*i* S			**Sn**	**09 55 50.4**	**-0.7**
TLIG	**Tlapa**	**1.62**	**4**				**Pn**	**09 55 31.3**	**-0.3**
TLIG							**Sb**	**09 55 54.9**	**+1.4**
TLIG	**Tlapa**	**1.62**	**4**	*eP*			**Pn**	**09 55 31.1**	**-0.4**
TLIG				*eS*			**Sn**	**09 55 50.6**	**-1.2**
CAIG	**El Cayaco**	**1.86**	**306**				**Pn**	**09 55 35.1**	**+0.2**
CAIG							**Sn**	**09 55 58.1**	**+0.3**
CAIG	**El Cayaco**	**1.86**	**306**	*eP*			**Pn**	**09 55 35.1**	**+0.2**
CAIG				*i* S			**Sn**	**09 55 58.1**	**+0.3**
FTIG	**Fresnillo de T**	**2.03**	**15**	*eP*			**Pn**	**09 55 37.7**	**+0.5**
FTIG				*i* S			**Sn**	**09 56 01.7**	**-0.3**
HLIG	**Huajuapan de L**	**2.06**	**24**	*eP*			**Pn**	**09 55 37.9**	**+0.1**
HLIG				*i* S			**Sn**	**09 56 02.7**	**-0.3**
MEIG	**Mezcala**	**2.16**	**336**				**Pn**	**09 55 39.6**	**+0.6**
MEIG							**Sn**	**09 56 04.3**	**-0.9**
MEIG	**Mezcala**	**2.16**	**336**	*eP*			**Pn**	**09 55 39.6**	**+0.6**
MEIG				*i* S			**Sn**	**09 56 04.3**	**-0.9**
OXBJ	**Oaxaca**	**2.20**	**59**	*i* P			**Pn**	**09 55 40.3**	**+0.6**
OXBJ				*eS*			**Sn**	**09 56 05.9**	**-0.5**
HUIG	**Huatulco**	**2.50**	**94**				**Pn**	**09 55 44.4**	**+0.8**
HUIG							**Sn**	**09 56 13.2**	**-0.2**
HUIG	**Huatulco**	**2.50**	**94**	*eP*			**Pn**	**09 55 44.4**	**+0.8**
HUIG				*i* S			**Sn**	**09 56 13.2**	**-0.2**
TOIG	**Toxpalan**	**2.65**	**36**	*eP*			**Pn**	**09 55 46.0**	**+0.1**
TOIG				*i* S			**Sn**	**09 56 18.4**	**+1.0**
TPIG	**Tehuac#an**	**2.78**	**27**				**Pn**	**09 55 49.2**	**+1.6**
TPIG	**Tehuac#an**	**2.78**	**27**	*i* P			**Pn**	**09 55 48.7**	**+1.2**
TPIG				*i* S			**Sn**	**09 56 21.0**	**+0.5**
ARIG	**Puente Sto Nin**	**2.81**	**326**				**Pn**	**09 55 49.6**	**+1.7**
ARIG							**Sn**	**09 56 16.5**	**-4.7**
ARIG	**Puente Sto Nin**	**2.81**	**326**	*eP*			**Pn**	**09 55 48.6**	**+0.7**
ARIG				*i* S			**Sn**	**09 56 21.7**	**+0.5**
MAVM	**Malinalco, Edo**	**3.09**	**346**				**Pb**	**09 55 59.1**	**+0.4**
MAVM	**Malinalco, Edo**	**3.09**	**346**	*eP*			**Pn**	**09 55 53.4**	**+1.4**
MAVM				*i* S			**Sn**	**09 56 29.4**	**+1.0**
PPM	**Popocatepetl**	**3.11**	**1**	*eP*			**Pn**	**09 55 53.5**	**+1.0**
PPM				*i* S			**Sn**	**09 56 28.9**	**-0.3**
TOVM	**TOLUCA**	**3.45**	**344**				**Pb**	**09 56 02.8**	**-2.1**
TOVM	**TOLUCA**	**3.45**	**344**	*eP*			**Pn**	**09 55 57.8**	**+0.8**
TOVM				*eS*			**Sn**	**09 56 38.2**	**+0.8**
TIGA	**Tifton** comp=Z,24nm,1.5s	**20.68**	**39**	P			Pn	09 59 45.6	+0.4
TIGA							IAmb	IAmb	10 00 03.5	

*IDC **25** 10:08:56.2±1.3,30.01S×177.22W,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.9/34,mbtmp4.0/4,MS4.3/2,Ms1 4.3/2, ms1mx3.1/43,Error ellipse: s-maj=38.1km s-min=22.7km az=61.0*

*NEIC **25** 10:08:57.8±0.8,30.05S±0.2×177.1W±0.2,h14km±7km, mb4.3/11,Error ellipse: s-maj=36.9km s-min=9.9km az=53.0*

ISC 25 10:08:59.0±1.4,**29.95S**±0.2×**177.0W**±0.2,**h24**km,**n22**, σ0**74**/24,**mb4.3**/7,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 247nm,0.3s,baz=75,slow=20,SNR=10	**1.04**	**311**	Pn			**Pb**	**10 09 17.6**	**-0.7**
RAO	733nm,0.3s,baz=111,slow=23,SNR=7.8			Sn			**Sn**	**10 09 32.9**	**+1.0**
RAO	**Raoul Island**	**1.04**	**311**				**Pb**	**10 09 17.8**	**-0.5**
RAO							**Sn**	**10 09 32.5**	**+0.6**
CTAO	**Charters Tower**	**34.57**	**278**	P			**P**	**10 15 45.6**	**-0.4**
STKA	**Stephens Creek** 5.0nm,0.9s,baz=100,slow=11,SNR=4.5	**35.41**	**256**	P			**P**	**10 15 53.8**	**+0.7**
STKA	**Stephens Creek**	**35.41**	**256**	P			**P**	**10 15 54.0**	**+0.8**
BBOO	**Buckleboo**	**39.92**	**253**	P			**P**	**10 16 31.6**	**+0.4**
ASAR	**Alice Springs** 1.4nm,1.0s,baz=108,slow=7.8,SNR=8.4	**43.99**	**266**	P			**P**	**10 17 03.0**	**-1.6**
ASAR	comp=Z,110nm,18.1s,baz=251,slow=35			LR			LR	10 34 45.9	
ASAR	**Alice Springs**	**43.99**	**266**	P			**P**	**10 17 04.3**	**-0.4**
WR0	**Warramunga Arr**	**44.76**	**271**	P			**P**	**10 17 11.0**	**+0.2**
WR0	comp=Z,10nm,1.4s			IAmb			IAmb	10 17 12.4	
WB2	**Warramunga Arr**	**44.93**	**271**	P			**P**	**10 17 11.3**	**-0.9**
WB2	comp=Z,4.3nm,1.0s			IAmb			IAmb	10 17 12.8	
WRAB	**Tennant Creek**	**44.93**	**271**	P			**P**	**10 17 12.9**	**+0.7**
WRA	**Warramunga Arr** comp=Z,1.5nm,0.6s,baz=110,slow=7.9,SNR=9.8	**44.94**	**271**	P			**P**	**10 17 11.1**	**-1.2**
WRA	**Warramunga Arr**	**44.94**	**271**	P			**P**	**10 17 12.1**	**-0.2**
WB0	**Warramunga Arr**	**44.96**	**271**	P			**P**	**10 17 12.1**	**-0.3**
WB0	comp=Z,6.3nm,1.1s			IAmb			IAmb	10 17 21.6	
CASY	**Casey**	**55.95**	**208**	P			**P**	**10 18 34.7**	**-0.1**
QSPA	**South Pole Qui** comp=Z,1.0nm,0.7s,baz=350,slow=1.2,SNR=7.2	**60.17**	**180**	P			**P**	**10 19 05.4**	**+0.8**
QSPA	**South Pole Qui**	**60.17**	**180**	P			**P**	**10 19 04.9**	**+0.3**
QSPA	comp=Z,1.2nm,0.8s			IAmb			IAmb	10 19 19.2	
SNAA	**Sanae**	**78.59**	**178**	P			**P**	**10 20 57.6**	**-0.7**
CMIG	**Matias Romero** comp=Z,469nm,21.1s,baz=128,slow=28	**91.80**	**71**	LR		LR	LR	10 52 30.5	
FINES	**FINESS Array B** comp=Z,2.1nm,0.5s,baz=52,slow=4.3,SNR=14	**145.00**	**341**	PKPbc			**PKPdf**	**10 28 33.1**	**-0.3**
AKASG	**Malin Array Be** comp=Z,0.3nm,0.3s,baz=64,slow=2.2,SNR=4.2	**151.44**	**324**	PKPbc			**PKiKP**	**10 28 50.9**	**0.0**
AKASG	comp=Z,0.4nm,0.3s,baz=45,slow=2.2,SNR=2.3			PKPab			**sPKPbc**	**10 28 59.9**	**+0.9**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.6s,baz=170,slow=3.2,SNR=1.9	**163.25**	**176**	PKPab			**PKPab**	**10 29 50.9**	**+0.5**

*NCEDC **25** 10:12:22.9±1.4,35.84N±0.01×119.80W±0.01,h9km±5km, ML3.1/17, Error ellipse: s-maj=1.8km s-min=1.7km az=169.0*

*SCEDC **25** 10:12:23.4±0.4,35.85N×119.83W,h5km,M3.3*

*ANF **25** 10:12:23.5±0.3,35.78N×119.73W,h9km±2km,ML3.4/28, Error ellipse: s-maj=2.9km s-min=1.6km az=110.0*

*NEIC **25** 10:12:23.2±2.3,35.83N±0.02×119.77W±0.02,h16km±3km, Error ellipse: s-maj=3.0km s-min=2.3km az=126.0*

*PAS **25** 10:12:23.4±1.9,35.85N±0.01×119.83W±0.01,h5km±5km

PSTM	Stockdale Moun	0.57	281			Pg	10 12 34.2	-0.5
VES	Vestal, Richgr	0.59	88	P		Pg	10 12 34.2	-0.8
	baz=270,SNR=244							
VES				S		Sg	10 12 42.5	-0.4
	baz=270							
VES	Vestal, Richgr	0.59	88			Pg	10 12 34.2	-0.8
PVCM	Vineyard Canyo	0.59	280			Pg	10 12 34.6	-0.6
PARM	Anticline Ridg	0.60	315			Pg	10 12 35.4	+0.2
PKD	Bear Valley Ra	0.60	282			Pg	10 12 34.5	-0.8
VOG	Valley Oaks Go	0.60	35	P		Pg	10 12 34.4	-0.8
	baz=215,SNR=15							
VOG				S		Sg	10 12 42.4	-0.9
	baz=215							
VOG	Valley Oaks Go	0.60	35			Pg	10 12 34.5	-0.8
VOG						Sg	10 12 42.8	-0.6
PPO	Portuguese Can	0.66	274			Pg	10 12 35.9	-0.3
PHPM	Hope Ranch	0.66	284			Pg	10 12 35.5	-0.8
RCTC	Rector, Farmer	0.66	44			Pg	10 12 35.3	-1.1
BCH	Branch Mountai	0.68	199			Pg	10 12 36.2	-0.4
PSMM	Smith Mountain	0.68	291			Pg	10 12 36.6	-0.1
PWMM	Westland Maint	0.69	332			Pg	10 12 36.7	-0.1
MRHM	Rocky Hill	0.75	52			Pg	10 12 36.7	-1.2
MRHM						Sg	10 12 46.8	-1.0
BAKC	Calstate	0.75	130			Pg	10 12 37.4	-0.5
BAKC						Sb	10 12 48.6	+0.8
PTAM	Tassajara Cree	0.85	240			Pg	10 12 39.0	-0.9
RAMR	Ramage Ranch	0.88	258			Pg	10 12 39.5	-0.9
PANM	San Antonio Re	0.89	267			Pg	10 12 39.7	-1.0
PMPB	Monarch Peak	0.89	296			Pg	10 12 39.3	-1.3
PSAM	San Ardo	0.90	283			Pg	10 12 39.2	-1.5
EFD	Emergency Oper	0.90	236			Pg	10 12 39.8	-1.0
SPG2	Springville 2	0.93	66			Pg	10 12 39.7	-1.6
PKM	Mcpherson Peak	0.94	180	P		Pg	10 12 40.4	-1.1
	baz=0.8,SNR=15							
PKM				S		Sg	10 12 53.4	-0.5
	baz=0.8							
PKM	Mcpherson Peak	0.94	180			Pg	10 12 40.4	-1.1
BLDC	Black Mountain	0.94	252			Pg	10 12 40.2	-1.3
BLDC	Black Mountain	0.94	252			Pg	10 12 40.4	-1.1
WOFM	Oak Flat	0.94	108			Pg	10 12 40.0	-1.5
BCW	Bitter Crk WRg	0.94	160			Pg	10 12 40.0	-1.6
PHRM	Hernandez Vall	0.98	304			Pg	10 12 40.8	-1.6
DPD	Davis Peak	0.99	234			Pg	10 12 41.8	-0.7
LSDC	Los Osos Digit	0.99	238			Pg	10 12 41.6	-1.0
ARDC	Alexander Ranc	1.02	250			Pg	10 12 41.5	-1.5
PBWM	Bitterwater Cr	1.03	299			Pg	10 12 41.4	-1.8
DCD	Diablo Creek	1.04	234			Pg	10 12 42.4	-1.1
VPDC	Valencia Peak	1.04	236			Pg	10 12 42.1	-1.4
ARVC	Arvin	1.06	131	P		Pg	10 12 41.8	-2.1
	baz=313,SNR=40							
ARVC				S		Sg	10 12 55.8	-2.0
	baz=313							
ARVC	Arvin	1.06	131			Pg	10 12 42.7	-1.1
PCBM	Cambria	1.06	254			Pg	10 12 42.0	-1.9
HELL	Mitchell Peak,	1.06	37			Pg	10 12 41.6	-2.3
LRC	Lone Oak Road	1.08	293			Pg	10 12 42.1	-2.1
ABL	Mount Abel	1.09	153			Pg	10 12 42.0	-2.3
TEJ	El Tejon	1.09	123			Pg	10 12 42.5	-2.0
ISA	Isabella, Lake	1.10	98	P		Pg	10 12 42.6	-2.0
	baz=280,SNR=56							
ISA				S		Sg	10 12 57.6	-1.4
	baz=280							
ISA	Isabella, Lake	1.10	98	Pg		Pg	10 12 42.8	-1.8
ISA						Pb	10 12 43.1	-0.8
ISA				Sg		Sg	10 12 57.8	-1.3
PHCM	Hearst Castle	1.10	263			Pg	10 12 42.7	-1.9
FIGC	Figueroa Mtn.	1.10	188			Pg	10 12 43.7	-1.0
PCCM	Crazy Canyon	1.13	284			Pg	10 12 42.9	-2.2
TJR	Tejon Ranch	1.18	132			Pb	10 12 43.8	-1.5
BBGB	Big Mountain B	1.25	307			Pn	10 12 45.0	-1.0
PAPM	Alder Peak	1.26	274			Pn	10 12 44.4	-1.8
BAVM	Antelope Valle	1.28	310			Pn	10 12 45.4	-1.0
BPIM	Pinnacles	1.28	302			Pn	10 12 45.0	-1.3
WORM	Onyx Ranch	1.28	95			Pn	10 12 46.0	-0.4
MHDM	Hidden Dam	1.29	357			Pn	10 12 45.0	-1.5
SYP	Santa Ynez Pea	1.30	186			Pn	10 12 46.9	+0.1
BEMM	Emmet	1.33	309			Pn	10 12 46.4	-0.7
BVL	Bear Valley	1.34	304			Pn	10 12 46.5	-0.7
BEHM	Elkhorn Ranch	1.38	308			Pn	10 12 46.5	-1.3
WCHM	Chimney Peak	1.41	87			Pn	10 12 48.5	+0.1
BSMM	Soledad Missio	1.42	294			Pn	10 12 46.7	-1.7
BLRM	Lewis Ranch	1.45	306			Pn	10 12 48.6	-0.1
BJCM	Johnson Can.	1.47	300			Pn	10 12 47.6	-1.3
BCWM	Chews Ridge	1.50	289			Pn	10 12 47.8	-1.7
SCZ	Santa Cruz	1.50	301			Pn	10 12 48.6	-0.8
OSI	Osito Audit: C	1.50	143	P		Pn	10 12 49.7	+0.3
	baz=325							
OSI				S		Sn	10 13 09.2	+0.6
	baz=325							
OSI	Osito Audit: C	1.50	143			Pn	10 12 50.0	+0.5
HAST	Hastings Reser	1.52	292			Pn	10 12 47.9	-1.8
BCGM	Cienega Road	1.52	306			Pn	10 12 49.7	+0.1
BAPM	Anderson Peak	1.52	284			Pn	10 12 48.0	-1.9
CWC	Cottonwood Cre	1.53	66	P		Pn	10 12 50.4	+0.5
	baz=247							
CWC				S		Sn	10 13 10.5	+1.0
	baz=247							
CWC	Cottonwood Cre	1.53	66			Pn	10 12 50.4	+0.5
PYR	Pyramid	1.53	145			Pn	10 12 49.3	-0.7
KCC	Kaiser Creek	1.55	15			Pn	10 12 49.9	-0.2
HJSM	John Smith Roa	1.56	310			Pn	10 12 49.9	-0.3
BSLM	Silva Ranch	1.56	308			Pn	10 12 50.6	+0.4
BVYM	Vineyard	1.59	306			Pn	10 12 50.0	-0.7
MMIM	Miami Mountain	1.59	2			Pn	10 12 50.2	-0.6
MFS	McCloud Flat S	1.61	79			Pn	10 12 52.1	+1.0
BSRM	Salinas Radio	1.61	302			Pn	10 12 49.9	-1.1
SAO	San Andreas Ge	1.62	306			Pn	10 12 50.2	-0.9
SAO	San Andreas Ge	1.62	306			Pn	10 12 50.6	-0.4
MYLM	Yosemite Lake	1.63	343			Pn	10 12 50.6	-0.5
BPOM	Post Ranch	1.64	285			Pn	10 12 49.3	-1.9
FRP	Fremont Peak	1.64	305			Pn	10 12 50.4	-1.0
BPCNC	Pine Canyon	1.65	297			Pn	10 12 50.2	-0.5
HPCM	Pacheco Lake	1.71	317			Pn	10 12 51.3	-1.0
HJGM	San Juan Grade	1.72	305			Pn	10 12 51.6	-0.9
EDW2	Edwards Air Fo	1.76	122	P		Pn	10 12 53.6	+0.6
	baz=304,SNR=21							
EDW2				S		Sn	10 13 15.7	+0.7
	baz=304							
RCWM	Renegade Canyo	1.76	85			Pn	10 12 51.2	-1.9
LRMC	Laurel Mtn Rad	1.77	101	P		Pn	10 12 54.1	+0.9
	baz=283,SNR=66							
LRMC				S		Sn	10 13 16.9	+1.5
	baz=283							
TIN	Tinemaha, Big	1.77	46	P		Pn	10 12 54.4	+1.2
	baz=227,SNR=20							
TIN				S		Sb	10 13 17.9	+0.6
	baz=227							
TIN	Tinemaha, Big	1.77	46			Pn	10 12 54.6	+1.4
SCHCA	Scheelite	1.78	30			Pn	10 12 54.0	+0.5
CGO	Cerro Gordo	1.78	65			Pn	10 12 55.2	+1.6
HERM	Elkhorn Road	1.81	303			Pn	10 12 53.0	-0.7
MTUM	Tungsten Hills	1.83	33			Pn	10 12 55.0	+1.0
GHS	Gilroy Hot Spr	1.83	314			Pn	10 12 53.0	-1.0
HCOM	Corn Cob Canyo	1.86	305			Pn	10 12 53.3	-1.0
MRDM	Red Cones	1.87	19			Pn	10 12 55.4	+0.6
HMOM	Monterey	1.87	295			Pn	10 12 53.3	-1.2
RCCM	Rock Creek Can	1.88	28			Pn	10 12 55.8	+1.0
MMPM	Mammoth Pass	1.89	19			Pn	10 12 55.7	+0.7
MDPB	Devils Postpil	1.90	18			Pn	10 12 56.1	+1.0
MDPB					Sn	Sn	10 13 20.6	+1.9
MPMC	Manual Prospec	1.90	82	P		Pn	10 12 55.4	+0.4
	baz=264,SNR=71							
MPMC				Sb		Sb	10 13 22.2	+1.2
	baz=264							
OMMB	Old Mammoth Mi	1.90	20			Pn	10 12 55.9	+0.7
OMMB						Sb	10 13 21.4	+0.1
MMSM	Mammoth Summit	1.91	19			Pn	10 12 56.3	+1.0
MINS	Minaret Summit	1.92	18			Pn	10 12 56.1	+0.6
MLCM	Laurel Creek C	1.92	22			Pn	10 12 56.4	+0.9
MCVM	Convict Lake	1.93	24			Pn	10 12 56.5	+0.9
MCMM	Convict Lake	1.93	23			Pn	10 12 56.6	+1.0
MDYM	Dry Creek	1.94	19			Pn	10 12 56.8	+1.1
MGPM	Gravel Pit	1.94	22			Pn	10 12 56.8	+1.1
MMLB	Mammoth Lakes	1.95	20			Pn	10 12 57.0	+1.2
MFBM	Five Bridges	1.95	34			Pn	10 12 57.5	+1.8
MCBM	Casa Benchmark	1.96	22			Pn	10 12 57.3	+1.4
MCSM	Casa Diablo Ho	1.96	21			Pn	10 12 57.2	+1.1
POCCA	Poleta Canyon	1.97	38			Pn	10 12 57.8	+1.8
MDRNC	Doe Ridge	1.97	23			Pn	10 12 57.4	+1.3
MDCM	Deadman Creek	1.98	18			Pn	10 12 57.1	+0.9
DECC	Green Verdugo	1.98	142	S		Sn	10 13 22.1	+1.7
	baz=323							
SBB	Saddle Back Bu	1.98	124			Pn	10 12 55.9	-0.2
MLHM	Little Hot Cre	2.02	23			Pn	10 12 58.5	+1.8
ORC	Owens River	2.03	27			Pn	10 12 58.3	+1.4
MCDM	Chidago Canyon	2.04	32			Pb	10 12 59.1	-0.8
MRCM	Red Rock Canyo	2.12	29			Pn	10 13 00.1	+2.0
MLNR	Milner Canyon	2.12	33			Pn	10 13 00.3	+2.2
PASC	Pasadena Art C	2.12	141			Pn	10 12 58.3	+0.4
BENR	Benton	2.13	27			Pn	10 13 00.0	+1.7
MWC	Mount Wilson	2.15	137			Pn	10 12 58.9	+0.4
MCUB	Copperopolis B	2.24	343			Pn	10 12 59.5	-0.1
CMB	Columbia Colle	2.25	348			Pn	10 13 00.1	+0.3
GRAC	Grapevine Rang	2.29	59	P		Pn	10 13 01.7	+1.3
	baz=240,SNR=44							
GRAC				Sb		Sg	10 13 34.9	-2.1
	baz=240							
SSK	Sunset Peak	2.37	132			Pn	10 13 01.9	+0.3
BFSC	Mount Baldy Ra	2.37	131	P		Pn	10 13 01.5	0.0
	baz=313,SNR=11							
BFSC				S		Sn	10 13 31.2	+1.0
	baz=313							
BONR	Boundary Peak	2.45	29			Pn	10 12 55.8	-6.8
FURC	Furnace Creek,	2.47	74	Pb		Pb	10 13 07.7	+0.5
	baz=256,SNR=40							
FURC				Sb		Sg	10 13 40.3	-2.4
	baz=256							
GSC	Goldstone, Bar	2.51	101	P		Pn	10 13 03.8	+0.5
	baz=283,SNR=32							
GSC				S		Sn	10 13 35.0	+1.6
	baz=283							
GSC	Goldstone, Bar	2.51	101	Pn		Pn	10 13 04.0	+0.7
CIS	Catalina Islan	2.68	154	P		Pn	10 13 05.4	-0.2
	baz=335							
WAKR	Walker	2.69	6			Pn	10 13 08.5	+2.6
BBRC	Big Bear Solar	2.84	122	S		Sn	10 13 42.9	+1.0
	baz=305							
CYBM	Yerba Buena Is	2.85	315			Pb	10 13 14.2	+0.6
NVAR	Mina Array Bea	2.87	24			Pn	10 13 10.4	+2.0
SHOC	Shoshone, Teco	2.87	87	P		Pn	10 13 08.7	+0.4
	baz=270,SNR=8.1							
SHOC				S		Sn	10 13 44.1	+1.6
	baz=270							
NV11	Mina Array Sit	2.92	26			Pn	10 13 10.8	+1.8
RYN	Ryan	2.98	20			Pn	10 13 12.4	+2.5
HEC	Hector,Ludlow	3.01	108	S		Sn	10 13 47.8	+1.9
	baz=291							
TPNV	Topopah Spring	3.08	68	P		Pn	10 13 12.5	+1.2
	baz=250,SNR=47							
TPNV	Topopah Spring	3.08	68	Pn		Pn	10 13 12.8	+1.4
YERR	Yerington	3.19	8			Pn	10 13 12.2	-0.6
TUQ	Turquoise Moun	3.19	96	S		Sn	10 13 51.2	+0.8
	baz=278							
AFDM	Forest Hills D	3.25	344			Pn	10 13 15.3	+1.8
PNTR	Pine Nut	3.26	3			Pn	10 13 16.9	+3.1
KVN	Kaiserville	3.50	22			Pb	10 13 23.1	-1.6
PFO	Pinyon Flats O	3.54	128	P		Pn	10 13 17.9	+0.4
	baz=310							
PFO	Pinyon Flats O	3.54	128			Pn	10 13 18.3	+0.8
XPFO	Pion Flat	3.54	128			Pn	10 13 18.3	+0.8
TPFO	Pinon Flats	3.54	128	S		Sn	10 13 59.9	+0.8
	baz=310							
GMRC	Granite Mounta	3.55	106	P		Pn	10 13 17.7	0.0
	baz=289							
GMRC				S		Sn	10 13 59.3	0.0
	baz=289							
BELC	Belle Mtn. Jos	3.62	119	P		Pn	10 13 18.7	0.0
	baz=302							
SHPR	Sheep Range	3.82	78			Pn	10 13 23.4	+1.9
BAR	Barrett	4.08	139	Pn		Pn	10 13 25.6	+0.8
HOPS	Hopland Field	4.09	322	Pn		Pn	10 13 25.1	+0.1
R11A	Troy Canyon, C	4.21	52	Pb		Pb	10 13 38.3	+1.2
	baz=235							
W13A	Hualapai Mount	4.89	97	Pn		Pn	10 13 37.3	+1.1
GLA	Glamis	4.96	122	Pn		Pn	10 13 37.8	+0.8
CCUT	Cedar City	5.46	70	Pn		Pn	10 13 45.1	+1.1

*NEIC **25** 10:19:51.7±1.5,51.9N±0.1×178.33E±0.09,h122km±5km, Error ellipse: s-maj=18.4km s-min=7.5km az=188.0*
*AEIC **25** 10:19:52.7±1.3,51.9N±0.1×178.33E±0.09,h116km±5km, ML3.4/29,mb3.8/8(NEIC),Error ellipse: s-maj=17.7km s-min=7.3km az=187.0*
*IDC **25** 10:19:54.3±6.2,52.13N×178.34E,h141km±59km,mb3.0/7, mb1 3.4/9,mb1mx3.2/46,mbtmp3.6/9,Error ellipse: s-maj=47.9km s-min=17.9km az=167.0*

ISC 25 10:19:52.0±0.7,52.0N±0.1×178.32E±0.04,h119km±6km, n44,σ1835/50,mb3.5/8,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	Little Sitkin	0.13	105		Pn	10 20 08.0	-0.4
LSSA	Little Sitkin	0.13	114		Pn	10 20 08.2	-0.2
LSPA	Little Sitkin	0.16	107		Pn	10 20 08.4	-0.1
LSPA					Sn	10 20 21.4	+0.6
CETU	Semis' Tuman	0.73	93		Pn	10 20 11.5	0.0
CESW	Semis' Southwe	0.78	97		Pn	10 20 11.2	-0.7
CEAP	Semis' Anvil P	0.78	90		Pn	10 20 11.9	0.0
CERB	Semis' Cerberu	0.81	95		Pn	10 20 12.3	+0.1
CERB					Sn	10 20 28.2	+0.7
CERAA	Semis' Rag'd T	0.85	96		Pn	10 20 12.1	-0.5
AMKA	Amchitka	0.88	135		Pn	10 20 13.3	+0.6
AMKA					Sn	10 20 27.6	-0.8
GALAA	Gareloi Lava P	1.82	97		Pn	10 20 23.0	-0.2
GAEA	Gareloi East	1.83	96		Pn	10 20 23.1	-0.2
TASE	Tanaga Southea	2.26	93		Pn	10 20 28.3	-0.4
TAFP	Tanaga Falls P	2.29	91		Pn	10 20 28.4	-0.7
TAFP					Sn	10 20 56.4	-1.1
SMY	Shemya	2.69	287		Pn	10 20 34.0	-0.1
SMY					Sn	10 21 07.1	+0.6
KIMD	Kanaga Island	2.77	93		Pn	10 20 34.4	-0.8
KICM	Kanaga Island	2.78	90		Pn	10 20 35.1	-0.2
KIKV	Kanaga Island	2.79	91		Pn	10 20 35.3	-0.2
KINC	Kanaga Island	2.82	90		Pn	10 20 35.6	-0.2
ADK	Adak	3.09	90	Pn	Pn	10 20 38.3	-1.1
ADK					Sn	10 21 15.3	-0.7
GSTD	Great Sitkin T	3.42	87		Pn	10 20 42.9	-0.9
GSTR	Great Sitkin T	3.47	86		Pn	10 20 43.6	-0.9
GSMY	Great Sitkin M	3.47	87		Pn	10 20 44.2	-0.3
KOKL	Mount Kliuchef	4.62	83		Pn	10 20 59.7	-0.1
ATKA	Atka Island	4.62	85		Pn	10 20 58.7	-1.0
PEA0B	Petropavlovsk-	12.60	283	Pn	Pn	10 22 49.3	+2.5
PETK	Petropavlovsk-	12.60	283	P	Pn	10 22 48.6	+1.8
	0.4nm,0.3s,baz=101,slow=17,SNR=6.5						
PETK				S	Sn	10 24 59.5	-5.9
	0.1nm,0.3s,baz=84,slow=16,SNR=0.9						
PETK	Petropavlovsk-	12.60	283		Pn	10 22 47.5	+0.7
SVW2	Sparrevohn	16.91	47	P	P	10 23 43.9	+2.6
SVW2				IAmb	IAmb	10 23 45.3	
	comp=Z,4.0nm,1.2s						
TTA	Tatalina	17.47	41	P	Pn	10 23 49.3	+1.3
KDAK	Kodiak Island	17.62	59	P	P	10 23 47.1	-1.8
	comp=Z,1.3nm,0.3s,baz=284,slow=6.9,SNR=36						
CNPM	China Poot	18.57	54	P	Pn	10 24 00.7	-0.4
SKT	Skwentna	19.04	47	P	P	10 24 05.5	+1.0
SKT				IAmb	IAmb	10 24 12.9	
	comp=Z,3.1nm,0.7s						
TRF	Thorofare Moun	20.06	43	P	Pn	10 24 19.5	+1.0
TRF				IAmb	IAmb	10 24 26.7	
	comp=Z,3.7nm,1.1s						
FID	Port Fidalgo	21.12	52	P	P	10 24 27.8	+0.8
FID				IAmb	IAmb	10 24 45.4	
	comp=Z,14nm,1.2s						
CCB	Clear Creek Bu	21.50	41	P	P	10 24 32.3	+1.5
ILAR	Eielson Array	21.91	41	P	P	10 24 35.6	+0.3
	comp=Z,0.1nm,0.3s,baz=260,slow=12,SNR=2.3						
ISLE	Juniper Island	23.13	53	P	P	10 24 50.3	+2.7
BCAR	Beaver Creek A	23.68	47	P	P	10 24 54.4	+2.0
NVAR	Mina Array Bea	45.24	81	P	P	10 27 57.9	+0.4
	comp=Z,0.4nm,0.5s,baz=295,slow=7.6,SNR=5.0						
PDAR	Pinedale Array	47.81	71	P	P	10 28 16.5	-1.0
	comp=Z,0.3nm,0.5s,baz=308,slow=4.4,SNR=4.1						
MKAR	Makanchi Array	58.23	307	P	P	10 29 32.9	-0.7
	comp=Z,0.4nm,0.5s,baz=34,slow=7.0,SNR=3.3						
TXAR	Lajitas Array	60.31	79	P	P	10 29 48.2	0.0
	comp=Z,0.2nm,0.6s,baz=290,slow=5.3,SNR=4.4						
WRA	Warramunga Arr	81.26	221	P	P	10 31 54.6	-0.1
	comp=Z,0.6nm,0.6s,baz=32,slow=5.9,SNR=2.7						
ASAR	Alice Springs	84.77	220	P	P	10 32 13.4	+0.6
	comp=Z,0.5nm,0.8s,baz=27,slow=6.5,SNR=2.1						

IDC 25 10:29:07.9±3.2,30.06S×177.24W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.7/49,mbtmp3.8/3,Error ellipse: s-maj=60.6km s-min=39.6km az=91.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.00	324	P	Pn	10 29 29.1	-0.1
	101nm,0.3s,baz=81,slow=19,SNR=8.3						
RAO				Sn	Sg	10 29 39.9	-0.2
	476nm,0.3s,baz=74,slow=21,SNR=17						
CTA	Charters Tower	34.40	278	P	P	10 35 58.2	+1.2
	2.1nm,0.8s,baz=90,slow=13,SNR=1.5						
ASAR	Alice Springs	43.78	266	P	P	10 37 14.6	-1.0
	0.3nm,0.5s,baz=103,slow=7.3,SNR=1.6						
WRA	Warramunga Arr	44.74	271	P	P	10 37 23.1	-0.2
	0.7nm,0.3s,baz=110,slow=8.1,SNR=16						
FINES	FINESS Array B	145.05	341	PKPbc	PKPbc	10 48 45.1	-0.8
	1.6nm,0.7s,baz=51,slow=3.3,SNR=4.6						

*KRNET **25** 10:33:50.9±0.1,40.63N×77.67E,mb2.2*
*SOME **25** 10:33:50.4,40.55N×77.47E,h5km*
*NNC **25** 10:33:51.2±3.8,40.58N×77.66E,h0km,mb3.0,mpv2.7, Error ellipse: s-maj=25.9km s-min=23.6km az=35.0*

ISC 25 10:33:49.1±2.9,40.5N±0.1×77.59E±0.05,h10km±14km, n25,σ1911/41,14C,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.22	8	⇑*i*P	Pg	10 34 12.1	-0.5
	baz=5.0						
TARG				⇑*i*S	Sn	10 34 27.8	-1.5
	baz=5.0						
KDJ	Kajisay	1.64	349	⇑*e*P	Pg	10 34 20.3	-0.3
	baz=47						
KDJ				⇑*i*S	Sg	10 34 41.3	-0.5
	baz=47						
KZA	Kyzart	2.35	312	⇑*i*P	Pb	10 34 32.6	+0.8
	baz=9.0						
KZA				⇑*i*S	Sb	10 35 03.6	+2.6
	baz=9.0						
TNSS	Tian-Shan	2.56	349	*e*P	Pg	10 34 37.7	-0.5
	2.7nm,0.4s						
TNSS				*e*S	Sg	10 35 11.6	+0.2
	6.6nm,0.5s						
TNSS	Tian-Shan	2.56	349	Pg	Pg	10 34 37.5	-0.8
	3.2nm,0.8s						
TNSS				Lg	Lg	10 35 11.6	
	6.6nm,0.7s						
SATY	Saty	2.61	13	*e*P	Pg	10 34 39.3	+0.2
	1.1nm,0.2s						
SATY				*e*S	Sg	10 35 14.4	+1.5
	4.2nm,0.3s						
SATY	Saty	2.61	13	Pg	Pg	10 34 39.3	+0.2
	1.1nm,0.3s						
SATY				Lg	Lg	10 35 14.5	
	4.2nm,0.3s						
IZV	Izvestkoviy	2.62	344	*e*P	Pg	10 34 38.9	-0.4
	1.5nm,0.2s						
IZV				*e*S	Sg	10 35 13.9	+0.7
	6.4nm,0.2s						
IZV	Izvestkoviy	2.62	344	Pg	Pg	10 34 39.0	-0.4
	1.5nm,0.2s						
IZV				Lg	Lg	10 35 13.9	
	7.9nm,0.4s						
MDOK	Medeo	2.67	351	*e*P	Pg	10 34 40.1	-0.2
	2.4nm,0.3s						
MDOK				*e*S	Sg	10 35 15.7	+0.8
	7.8nm,0.5s						
MDOK	Medeo	2.67	351	Pg	Pb	10 34 37.4	+0.3
	2.3nm,0.2s						
MDOK				Lg	Lg	10 35 11.6	
	7.4nm,0.2s						
KOTS	Kotyrbulak	2.73	353	*e*P	Pg	10 34 41.3	-0.2
	6.3nm,0.3s						
KOTS				*e*S	Sg	10 35 18.1	+1.1
	17nm,0.4s						
KOTS	Kotyrbulak	2.73	353	Pg	Pg	10 34 41.3	-0.2
	6.3nm,0.3s						
KOTS				Lg	Lg	10 35 17.9	
	17nm,0.6s						
KST	Kastek	2.80	335	*e*P	Pg	10 34 41.8	-1.0
	1.3nm,0.2s						
KST				*e*S	Sg	10 35 18.8	-0.2
	2.6nm,0.3s						
ARLS	Aral	2.80	300	⇑*i*P	Pb	10 34 39.5	+0.1
	baz=97						
ARLS				⇑*i*S	Sb	10 35 15.0	+1.2
	baz=97						
TKM2	Tokmak 2	2.82	329	⇑*i*P	Pb	10 34 38.9	-0.8
	baz=27						
TKM2				⇑*i*S	Sb	10 35 13.9	-0.5
	baz=27						
UZB	Uzynbulak	2.83	22	*e*P	Pg	10 34 43.7	+0.2
	1.0nm,0.4s						
UZB				*e*S	Sg	10 35 22.1	+1.9
	1.7nm,0.5s						
UCH	Uchtor	2.87	307	⇑*i*P	Pb

WRA	**Warramunga Arr**	**13.74**	**160**	P		**Pn**	**10 38 04.9**	**-1.1**
	1.5nm,0.3s,baz=339,slow=14,SNR=22							
WRA				S		Sn	10 40 28.5	-9.5
	1.4nm,0.3s,baz=329,slow=23,SNR=7.3							
WRA	**Warramunga Arr**	**13.74**	**160**			**Pn**	**10 38 05.5**	**-0.4**
WB2	**Warramunga Arr**	**13.75**	**160**			**Pn**	**10 38 05.6**	**-0.4**
WR0	**Warramunga Arr**	**13.83**	**159**			**Pn**	**10 38 06.5**	**-0.5**
AS31	**Alice Springs**	**17.14**	**166**			**Pn**	**10 38 49.9**	**+1.9**
ASAR	**Alice Springs**	**17.14**	**166**	P		**Pn**	**10 38 49.5**	**+1.5**
	2.3nm,0.3s,baz=343,slow=10,SNR=134							
ASAR				S		**S**	**10 41 51.3**	**-7.9**
	0.2nm,0.3s,baz=356,slow=24,SNR=2.0							
ASAR				ScP		**ScP**	**10 46 42.5**	**-4.0**
	0.0nm,0.3s,baz=351,slow=0.9,SNR=2.3							
ASAR	**Alice Springs**	**17.14**	**166**			**Pn**	**10 38 50.3**	**+2.3**
PSAC2	**Pilbara Seismi**	**17.17**	**211**	P		**Pn**	**10 38 50.1**	**+1.8**
PSAD2	**Pilbara Seismi**	**17.18**	**211**	P		**Pn**	**10 38 49.3**	**+0.8**
PSAD2				IAmb	IAmb		10 38 50.8	
	comp=Z,14nm,1.1s							
PSAB2	**Pilbara Seismi**	**17.18**	**212**	P		**Pn**	**10 38 49.2**	**+0.7**
PSAB2				IAmb	IAmb		10 38 50.7	
	comp=Z,26nm,1.4s							
PSAC1	**Pilbara Seismi**	**17.19**	**212**	P		**Pn**	**10 38 49.3**	**+0.7**
PSAC1				IAmb	IAmb		10 38 50.3	
	comp=Z,14nm,1.2s							
PSAA2	**Pilbara Seismi**	**17.19**	**212**	P		**Pn**	**10 38 50.0**	**+1.4**
PSAA2				IAmb	IAmb		10 39 06.5	
	comp=Z,20nm,1.2s							
PSA00	**Pilbara Seismi**	**17.20**	**212**	P		**Pn**	**10 38 50.0**	**+1.2**
PSA00				IAmb	IAmb		10 38 56.2	
	comp=Z,20nm,1.4s							
PSAA3	**Pilbara Seismi**	**17.20**	**212**	P		**Pn**	**10 38 50.1**	**+1.3**
PSAA1	**Pilbara Seismi**	**17.21**	**212**	P		**Pn**	**10 38 50.2**	**+1.3**
PSAA1				IAmb	IAmb		10 38 56.2	
	comp=Z,19nm,1.4s							
PSAB3	**Pilbara Seismi**	**17.21**	**211**	P		**Pn**	**10 38 50.2**	**+1.3**
PSAB3				IAmb	IAmb		10 38 56.0	
	comp=Z,26nm,1.5s							
PSAC3	**Pilbara Seismi**	**17.25**	**212**	P		**Pn**	**10 38 50.5**	**+1.2**
PSAD3	**Pilbara Seismi**	**17.30**	**212**	P		**P**	**10 38 50.4**	**+1.3**
FORT	**Forrest**	**23.71**	**183**	P		**P**	**10 39 57.7**	**+1.7**
MKAR	**Makanchi Array**	**67.89**	**327**	P		**P**	**10 45 40.8**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=126,slow=7.1,SNR=2.7							

*IDC **25** 10:38:01.6±0.6, 11°.40N×85°.47W, h181km±6km, mb3.6/10, mb1 3.8/10, mb1mx3.4/51, mbtmp4.1/10, MS3.7/1, Ms1 3.6/1, ms1mx2.6/29, Error ellipse: s-maj=23.8km s-min=12.3km az=58.0*

*NEIC **25** 10:38:02.3±1.2, 11°.31N±0°.07×85°.53W±0°.09, h188km±6km, mb4.3/54, Error ellipse: s-maj=15.4km s-min=6.9km az=56.0*

*INET **25** 10:38:04.0, 11°.46N×85°.61W, h183km, ML3.6*

*UCR **25** 10:38:04.2±1.7, 11°.14N×85°.57W, h180km±4km, MD4.0, mb4.3(NEIC)*

ISC 25 10:38:02.2±0.6, 11°.32N±0°.06×85°.56W±0°.06, h187km±5km, n110, σ0°81/129, mb4.3/33, 5C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BUAI	**Buenos Aires**	**0.49**	**153**	*i*	P		**Pn**	**10 38 28.7**	**+0.9**
GB1A	**Borinquen Arri**	**0.52**	**162**	*i*	P		**Pn**	**10 38 28.6**	**+0.6**
GB1A					eS		**Sn**	**10 38 48.5**	**+0.6**
BUEV	**Buena Vista**	**0.54**	**164**	⇑*i*	P		**Pn**	**10 38 28.4**	**+0.3**
BUEV				*i*	S		**Sn**	**10 38 48.3**	**+0.3**
GBS3	**Finca Las Img**	**0.54**	**169**	*i*	P		**Pn**	**10 38 28.1**	**+0.1**
GBS3				*i*	S		**Sn**	**10 38 47.9**	**0.0**
LAPC	**Finca la Perla**	**0.56**	**167**	*i*	P		**Pn**	**10 38 28.1**	**0.0**
GPS1	**Guardaparques**	**0.58**	**159**	*i*	P		**Pn**	**10 38 28.9**	**+0.7**
GPS3	**Bodega del ICE**	**0.59**	**161**	*i*	P		**Pn**	**10 38 28.5**	**+0.3**
GPS2	**Hotel Rincn d**	**0.60**	**160**	*i*	P		**Pn**	**10 38 28.5**	**+0.2**
NY14	**Universidad de**	**0.66**	**178**	*i*	P		**Pn**	**10 38 28.8**	**+0.3**
NY14				*i*	S		**Sn**	**10 38 48.1**	**-0.8**
LIM1	**Limonal**	**0.69**	**154**	*i*	P		**Pn**	**10 38 29.2**	**+0.5**
LIM1				*i*	S		**Sn**	**10 38 49.1**	**-0.1**
GUAB	**Guayabo de Bag**	**0.69**	**152**	*i*	P		**Pn**	**10 38 29.2**	**+0.5**
GUAB				*i*	S		**Sn**	**10 38 48.9**	**-0.3**
HORNC	**Hornillas**	**0.71**	**148**	*i*	P		**Pn**	**10 38 30.1**	**+1.2**
COLC	**Colonia**	**0.74**	**151**	*i*	P		**Pn**	**10 38 29.6**	**+0.6**
ACON	**Acoyapa**	**0.75**	**30**				**Pn**	**10 38 29.4**	**+0.4**
ACON						Sn	**Sn**	**10 38 48.8**	**-0.9**
CUI	**Cuipilapa**	**0.76**	**149**	*i*	P		**Pn**	**10 38 29.9**	**+0.8**
CUI				*i*	S		**Sn**	**10 38 49.9**	**0.0**
PTEN	**Parque Tenorio**	**0.82**	**137**	*i*	P		**Pn**	**10 38 30.5**	**+1.0**
ACAL	**Aguas Claras**	**0.85**	**143**	*i*	P		**Pn**	**10 38 30.4**	**+0.7**
GUAI	**GUAI**	**1.04**	**177**	*i*	P		**Pn**	**10 38 31.3**	**+0.4**
GUAI				*i*	S		**Sn**	**10 38 52.8**	**-0.3**
BOAB	**BOACO BROADBAN**	**1.13**	**355**				**Pn**	**10 38 32.7**	**+0.6**
CEDE	**Laguna Cedeo**	**1.18**	**134**	⇑*i*	P		**Pn**	**10 38 33.2**	**+1.2**
CEDE				*i*	S		**Sn**	**10 38 54.7**	**-0.4**
JTS	**Las Juntas de**	**1.18**	**150**		P		**Pn**	**10 38 32.3**	**+0.3**
	250nm,0.3s,baz=32,slow=16,SNR=491								
JTS					S		**Sn**	**10 38 53.9**	**-1.2**
	470nm,0.3s,baz=253,slow=19,SNR=54								
JTS	**Las Juntas de**	**1.18**	**150**	⇑*i*	P		**Pn**	**10 38 32.4**	**+0.4**
JTS				*eS*			**Sn**	**10 38 54.0**	**-1.2**
JTS	**Las Juntas de**	**1.18**	**150**		Pn		**Pn**	**10 38 32.5**	**+0.4**
JTS					Sn		**Sn**	**10 38 54.3**	**-0.8**
ARE1	**Arenal 1**	**1.19**	**136**	⇑*i*	P		**Pn**	**10 38 33.4**	**+1.4**
CASO	**Castillo**	**1.20**	**137**	*i*	P		**Pn**	**10 38 33.2**	**+1.1**
CASO				*i*	S		**Sn**	**10 38 56.2**	**+0.9**
FORC	**Fortuna**	**1.22**	**134**	*i*	P		**Pn**	**10 38 33.4**	**+1.1**
ESPN	**Las Esperanzas**	**1.51**	**55**				**Pn**	**10 38 35.9**	**+1.1**
SRA1	**San Ramn**	**1.62**	**139**	*eP*			**Pn**	**10 38 37.1**	**+1.1**
MATN	**Matagalpa**	**1.64**	**348**		Pn		**Pn**	**10 38 36.9**	**+0.7**
HDC	**Heredia**	**1.93**	**132**				**Pn**	**10 38 38.7**	**-0.5**
HDC						Sn	**Sn**	**10 39 08.1**	**+0.3**
CRIN	**San Cristobal**	**2.00**	**314**		Pn		**Pn**	**10 38 39.5**	**-0.3**
CRIN						Sn	**Sn**	**10 39 10.3**	**+1.2**
LCR2	**La Lucha 2**	**2.19**	**135**	⇑*i*	P		**Pn**	**10 38 42.9**	**+0.9**
EDDO	**Dominical**	**2.64**	**141**	*eP*			**Pn**	**10 38 49.7**	**+2.8**
EDDO				*eS*			**Sn**	**10 39 21.6**	**-0.3**
EDLM	**Las Mercedes**	**2.80**	**136**	*eP*			**Pn**	**10 38 50.3**	**+1.4**
DRK0	**Durika**	**3.06**	**132**	*eP*			**Pn**	**10 38 53.3**	**+1.3**
TGUH	**Tegucigalpa,Un**	**3.20**	**329**		Pn		**Pn**	**10 38 53.6**	**0.0**
SNET	**Serv Nac Est T**	**4.29**	**304**		Pn		**Pn**	**10 39 08.0**	**+0.7**
SNET					Sn		**Sn**	**10 39 58.8**	**+0.5**
MTO3	**Montecristo**	**4.81**	**310**		Pn		**Pn**	**10 39 15.4**	**+1.4**
CMIG	**Matias Romero**	**10.71**	**303**		P		Pn	10 40 25.8	-5.1
	0.6nm,0.3s,baz=131,slow=11,SNR=10								
CMIG					S		Sn	10 42 22.7	-7.4
	0.1nm,0.3s,baz=15,slow=20,SNR=1.5								
PCRV	**Puerto La Cruz**	**20.59**	**91**		P		**P**	**10 42 28.1**	**+1.1**
	14nm,0.5s,baz=245,slow=4.2,SNR=9.3								
PLCV	**Puerto La Cruz**	**20.64**	**91**		P		**P**	**10 42 28.1**	**+0.6**
152A	**Waverly Hall**	**21.27**	**2**		P		**P**	**10 42 35.5**	**+1.6**
146A	**Union**	**21.46**	**352**		P		**P**	**10 42 36.6**	**+0.6**
LRAL	**Lakeview Retre**	**21.66**	**357**		P		**P**	**10 42 38.9**	**+0.9**
LRAL						IAmb	IAmb	10 42 40.3	
	comp=Z,7.6nm,0.7s								
Y49A	**Blount Mountai**	**22.45**	**358**		P		**P**	**10 42 45.5**	**-0.2**
Y52A	**Lilburn**	**22.49**	**3**		P		**P**	**10 42 45.8**	**-0.2**
Y52A						IAmb	IAmb	10 42 48.3	
	comp=Z,8.0nm,0.8s								
HODGE	**Hodges**	**23.01**	**7**		P		**P**	**10 42 51.4**	**+0.6**
HODGE						IAmb	IAmb	10 42 52.1	
	comp=Z,10nm,0.9s								
X48A	**Hartselle**	**23.07**	**357**		P		**P**	**10 42 51.1**	**-0.2**
X48A						IAmb	IAmb	10 42 52.0	
	comp=Z,5.8nm,1.0s								
X51A	**Calhoun**	**23.15**	**1**		P		**P**	**10 42 51.8**	**-0.2**
X51A						IAmb	IAmb	10 42 53.1	
	comp=Z,7.4nm,0.8s								
JSC	**Jenkinsville**	**23.20**	**9**		P		**P**	**10 42 52.3**	**-0.1**
JSC						IAmb	IAmb	10 42 53.9	
	comp=Z,4.4nm,0.7s								
OXF	**Oxford**	**23.36**	**352**		P		**P**	**10 42 53.6**	**-0.3**
PAULI	**Pauline**	**23.65**	**8**		P		**P**	**10 42 56.8**	**+0.3**
PAULI						IAmb	IAmb	10 42 58.0	
	comp=Z,8.6nm,1.0s								
PLAL	**Pickwick Lake**	**23.67**	**355**		P		**P**	**10 42 56.1**	**-0.6**
BG3	**Lake Jocassee**	**23.69**	**5**		P		**P**	**10 42 57.4**	**+0.4**
BG3						IAmb	IAmb	10 42 58.6	
	comp=Z,8.9nm,1.1s								
W50A	**Signal Mountai**	**23.78**	**1**		P		**P**	**10 42 57.6**	**-0.1**
W50A						IAmb	IAmb	10 43 00.1	
	comp=Z,4.6nm,0.7s								
SWET	**Sewanee**	**23.80**	**359**		P		**P**	**10 42 58.3**	**+0.4**
SWET						IAmb	IAmb	10 42 58.6	
	comp=Z,7.4nm,0.7s								
KMSC	**Kings Mountain**	**24.03**	**9**		P		**P**	**10 42 60.0**	**0.0**
KMSC						IAmb	IAmb	10 43 01.5	
	comp=Z,9.9nm,0.9s								
MIAR	**Mount Ida**	**24.25**	**344**		P		**P**	**10 43 01.9**	**-0.1**
MIAR						IAmb	IAmb	10 43 03.5	
	comp=Z,5.6nm,0.7s								
W57A	**Gilead**	**24.27**	**11**		P		**P**	**10 43 02.1**	**0.0**
TKL	**Tuckaleechee C**	**24.29**	**4**		P		**P**	**10 43 02.3**	**-0.1**
	comp=Z,5.9nm,0.9s,baz=178,slow=12,SNR=6.6								
TKL	**Tuckaleechee C**	**24.29**	**4**		P		**P**	**10 43 02.5**	**+0.1**
TKL						IAmb	IAmb	10 43 05.9	
	comp=Z,5.3nm,0.8s								
V48A	**Smith Brothers**	**24.34**	**358**		P		**P**	**10 43 03.0**	**+0.2**
V48A						IAmb	IAmb	10 43 03.6	
	comp=Z,7.6nm,0.8s								
V53A	**Saluda**	**24.37**	**5**		P		**P**	**10 43 03.7**	**+0.5**
V51A	**Loudon**	**24.40**	**2**		P		**P**	**10 43 04.0**	**+0.6**
V51A						IAmb	IAmb	10 43 04.3	
	comp=Z,5.2nm,0.7s								
TXAR	**Lajitas Array**	**24.63**	**319**		P		**P**	**10 43 05.6**	**0.0**
	comp=Z,1.1nm,0.7s,baz=141,slow=10,SNR=16								
TXAR					PcP		**PcP**	**10 46 38.4**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=131,slow=4.1,SNR=3.8								
TX31	**Lajitas Ar. Si**	**24.63**	**319**		P		**P**	**10 43 08.1**	**+2.4**
WHAR	**Wooly Hollow**	**24.64**	**347**		P		**P**	**10 43 05.1**	**-0.4**
CLTN	**Cedars of Leba**	**24.68**	**359**		P		**P**	**10 43 06.1**	**+0.2**
CLTN						IAmb	IAmb	10 43 06.8	
	comp=Z,15nm,1.4s								
WVT	**Waverly**	**24.79**	**356**		P		**P**	**10 43 06.4**	**-0.5**
WVT						IAmb	IAmb	10 43 06.9	
	comp=Z,3.4nm,0.7s								
X37A	**Clayton**	**24.83**	**340**		P		**P**	**10 43 07.5**	**+0.2**
V58A	**Windy Hill, Pi**	**25.06**	**12**		P		**P**	**10 43 09.7**	**+0.4**
U49A	**Red Boiling Sp**	**25.09**	**360**		P		**P**	**10 43 09.8**	**+0.2**
U49A						IAmb	IAmb	10 43 10.3	
	comp=Z,4.5nm,0.7s								
LCAR	**Lake Charles**	**25.16**	**349**		P		**P**	**10 43 10.1**	**-0.1**
PARMO	**Parma**	**25.52**	**352**		P		**P**	**10 43 13.6**	**+0.1**
T47A	**Sharon Grove**	**25.60**	**357**		P		**P**	**10 43 13.7**	**-0.5**
T50A	**Nancy**	**25.60**	**1**		P		**P**	**10 43 12.1**	**-2.2**
CCM	**Cathedral Cave**	**27.11**	**350**		P		**P**	**10 43 27.6**	**-0.1**
CCM						IAmb	IAmb	10 43 27.9	
	comp=Z,5.0nm,0.8s								
R40A	**Maddies Statio**	**27.52**	**349**		P		**P**	**10 43 31.0**	**-0.4**
Q51A	**Peebles**	**27.67**	**4**		P		**P**	**10 43 32.4**	**-0.2**
SSPA	**Standing Stone**	**29.98**	**12**		P		**P**	**10 43 53.5**	**+0.4**
SSPA						IAmb	IAmb	10 44 11.3	
	comp=Z,6.3nm,1.1s								
SAML	**Samuel**	**30.01**	**131**		P		**P**	**10 43 52.5**	**-1.2**
LPAZ	**La Paz**	**32.40**	**148**		P		**P**	**10 44 15.6**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=338,slow=5.4,SNR=2.4								
LPAZ	**La Paz**	**32.40**	**148**		P		**P**	**10 44 13.8**	**-1.5**
I42A	**Draeger Farm,**	**32.59**	**355**		P		**P**	**10 44 15.1**	**-0.8**
I42A						IAmb	IAmb	10 44 30.7	
	comp=Z,5.6nm,1.1s								
PV17	**East Wray Mesa**	**34.03**	**326**		P		**P**	**10 44 29.3**	**+0.5**
E43A	**Lone Tree Farm**	**34.96**	**358**		P		**P**	**10 44 35.6**	**-0.8**
SRU	**San Rafael Swe**	**35.48**	**326**		P		**P**	**10 44 41.8**	**+0.6**
G62A	**West of Eustis**	**36.16**	**18**		P		**P**	**10 44 47.1**	**+0.5**
D53A	**Lac Vacive, Po**	**36.26**	**9**		P		**P**	**10 44 47.0**	**-0.5**
D53A						IAmb	IAmb	10 44 47.4	
	comp=Z,5.3nm,1.0s								
SIV	**San Ignacio**	**36.38**	**138**		P		**P**	**10 44 48.4**	**-0.4**
	comp=Z,12nm,0.7s,baz=318,slow=8.0,SNR=56								
F62A	**Pittston Farm,**	**36.94**	**18**		P		**P**	**10 44 53.0**	**-0.1**
E62A	**Clayton Lake**	**37.72**	**18**		P		**P**	**10 45 00.1**	**+0.3**
E62A						IAmb	IAmb	10 45 04.8	
	comp=Z,12nm,1.4s								
PQI	**Presque Isle**	**38.25**	**20**		P		**P**	**10 45 04.1**	**0.0**
PQI						IAmb	IAmb	10 45 08.8	
	comp=Z,6.2nm,1.0s								
MDND	**Maddock**	**38.28**	**345**		P		**P**	**10 45 04.2**	**-0.2**
MDND						IAmb	IAmb	10 45 07.8	
	comp=Z,8.9nm,1.0s								
LMN	**Caledonia Moun**	**38.70**	**23**		P		**P**	**10 45 08.0**	**+0.1**
NVAR	**Mina Array Bea**	**39.77**	**318**		P		**P**	**10 45 18.1**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=124,slow=6.9,SNR=7.8								
NVAR					PcP		**PcP**	**10 47 19.5**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=134,slow=4.6,SNR=6.1								
NVAR	**Mina Array Bea**	**39.77**	**318**		P		**P**	**10 45 18.4**	**+1.2**
KVN	**Kaiserville**	**39.99**	**319**		P		**P**	**10 45 19.9**	**+1.0**
KRMB	**Red Mountain**	**45.06**	**319**		P		**P**	**10 45 59.4**	**-0.3**
SCHQ	**Schefferville**	**45.86**	**15**		P		**P**	**10 46 03.9**	**-1.7**
	comp=Z,8.3nm,0.6s,baz=218,slow=6.2,SNR=21								
SCHQ	**Schefferville**	**45.86**	**15**		P		**P**	**10 46 04.1**	**-1.5**
SCHQ						IAmb	IAmb	10 46 04.6	
	comp=Z,8.0nm,0.7s								
PLCA	**Paso Flores**	**53.62**	**166**		P		**P**	**10 47 04.4**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=325,slow=12,SNR=3.0								
PLCA	**Paso Flores**	**53.62**	**166**		P		**P**	**10 47 04.0**	**-0.3**
PLCA						IAmb	IAmb	10 47 15.1	
	comp=Z,10nm,1.4s								
YKA	**Yellowknife Ar**	**55.20**	**344**		P		**P**	**10 47 13.4**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=135,slow=8.5,SNR=4.4								
YKA					LR		LR	11 12 14.5	
	comp=Z,64nm,20.6s,baz=0.0,slow=37								
ESDC	**Sonseca Array**	**76.43**	**52**		P		**P**	**10 49 30.2**	**-1.3**
	comp=Z,0.5nm,0.6s,baz=282,slow=7.8,SNR=3.0								
LZH	**Lanzhou**	**132.03**	**350**	⇓	PKP		**PKiKP**	**10 56 57.0**	**+1.7**
LZH					pPKP		pPKPdf	10 57 32.0	-11
LZH					sPKP			10 57 41.3	
ASAR	**Alice Springs**	**140.54**	**246**		PKhKP		PKPpre	10 57 02.0	
	comp=Z,0.3nm,0.5s,baz=116,slow=3.4,SNR=5.1								
ASAR					PKP		**PKPdf**	**10 57 09.6**	**-0.5**
	comp=Z,0.5nm,0.4s,baz=102,slow=2.1,SNR=8.9								
ASAR	**Alice Springs**	**140.54**	**246**				**PKPdf**	**10 57 10.2**	**+0.1**
WRA	**Warramunga Arr**	**140.71**	**252**		PKhKP		PKPpre	10 57 03.4	
	comp=Z,0.8nm,0.9s,baz=101,slow=3.3,SNR=1.1								
WRA					PKP		**PKPdf**	**10 57 10.3**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=93,slow=2.5,SNR=7.3								
WRA	**Warramunga Arr**	**140.71**	**252**				**PKPdf**	**10 57 10.8**	**+0.3**

*IDC **25** 10:41:44.5±4.4, 68°.14N×163°.43W, h0km, mb3.0/3, mb1 3.7/5, mb1mx3.3/67, mbtmp3.4/5, ML3.7/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/16, Error ellipse: s-maj=62.4km s-min=57.8km az=12.0*

*AEIC **25** 10:41:49.5±1.1, 67°.79N±0°.06×162°.5W±0°.2, h19km±7km, ML3.1/26, Error ellipse: s-maj=14.7km s-min=3.4km az=124.0*

*NEIC **25** 10:41:49.8±1.2, 67°.80N±0°.05×162°.7W±0°.2, h29km±7km, Error ellipse: s-maj=11.8km s-min=5.9km az=109.0*

ISC 25 10:41:49.0±0.9, 67°.78N±0°.06×162°.39W±0°.06, h10km, n34, σ0°92/42, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RDOG	**Red Dog Mine**	**0.34**	**325**				**Pb**	**10 41 56.8**	**-0.4**
RDOG							**Sb**	**10 42 01.4**	**-1.2**
ANM	**Nome**	**3.45**	**202**				**Pn**	**10 42 41.1**	**-1.7**
ANM						Sn	**Sn**	**10 43 24.5**	**+0.9**
IM05	**Indian Mountai**	**3.87**	**114**				**Pn**	**10 42 48.7**	**+0.2**
IM05							**Sn**	**10 43 34.0**	**+0.1**
COLD	**Coldfoot**	**4.71**	**91**				**Pn**	**10 43 00.5**	**+0.4**
TOLK	**Toolik Lake Re**	**4.85**	**74**				**Pn**	**10 43 02.3**	**+0.2**
TOLK						Sn	**Sn**	**10 44 00.7**	**+2.4**
TTA	**Tatalina**	**5.55**	**148**				**Pn**	**10 43 11.2**	**-0.4**
TT01	**Tatalina**	**5.57**	**148**				**Pn**	**10 43 12.0**	**+0.1**
BPAW	**Bear Paw Mtn.**	**5.94**	**123**				**Pn**	**10 43 17.2**	**+0.2**
MDM	**Murphy Dome**	**6.35**	**110**		Pn		**Pn**	**10 43 23.2**	**+0.6**
PPLA	**Purkeypile**	**6.49**	**134**		Pn		**Pn**	**10 43 24.6**	**-0.1**
TCOL	**CIGO, UAF Yank**	**6.53**	**110**				**Pn**	**10 43 25.9**	**+0.9**
COLA	**College**	**6.53**	**110**				**Pn**	**10 43 25.8**	**+0.7**
COLA						Sn	**Sn**	**10 44 39.4**	**-0.1**
TRF	**Thorofare Moun**	**6.62**	**125**				**Pn**	**10 43 27.1**	**+0.7**
CCB	**Clear Creek Bu**	**6.68**	**111**				**Pn**	**10 43 25.9**	**-1.1**
CCB						Sn	**Sn**	**10 44 40.7**	**-2.3**
WRH	**Wood River Hil**	**6.68**	**113**				**Pn**	**10 43 27.6**	**+0.6**
WRH							**Sn**	**10 44 41.0**	**-2.1**
FYU	**Fort Yukon**	**6.78**	**92**				**Pn**	**10 43 28.9**	**+0.5**
BM03	**Burnt Mountain**	**6.80**	**85**				**Pn**	**10 43 29.5**	**+0.7**
BMAR	**Burnt Mountain**	**6.81**	**85**				**Pn**	**10 43 29.3**	**+0.4**
MCK	**McKinley**	**6.86**	**120**				**Pn**	**10 43 30.0**	**+0.4**
IL31		**6.94**	**108**				**Pn**	**10 43 30.8**	**+0.3**
IL31							**Sn**	**10 44 48.3**	**-1.1**
ILAR	**Eielson Array**	**6.94**	**108**		Pn		**Pn**	**10 43 31.1**	**+0.5**
	1.5nm,0.3s,baz=303,slow=14,SNR=150								
ILAR					Sn		**Sn**	**10 44 48.1**	**-1.4**
	0.5nm,0.3s,baz=305,slow=25,SNR=7.8								
HDA	**Harding Lake**	**7.12**	**111**				**Pn**	**10 43 32.9**	**-0.2**
WAT2	**Susitna Watana**	**7.51**	**123**				**Pn**	**10 43 39.4**	**+0.8**
BC03		**9.77**	**109**				**Pn**	**10 44 09.4**	**+0.1**
BCAR	**Beaver Creek A**	**9.77**	**109**				**Pn**	**10 44 09.1**	**-0.3**
FID	**Port Fidalgo**	**9.85**	**128**		Pn		**Pn**	**10 44 10.3**	**-0.2**
DAWY	**Dawson**	**10.07**	**101**		Pn		**Pn**	**10 44 13.7**	**+0.1**
EPYK	**Eagle Plains**	**10.08**	**86**				**Pn**	**10 44 13.9**	**+0.2**
INK	**Inuvik**	**10.77**	**74**		Pn		**Pn**	**10 44 21.9**	**-1.1**
	0.3nm,0.3s,baz=285,slow=8.2,SNR=18								
INK					Sn		**Sn**	**10 46 16.1**	**-7.3**
	0.1nm,0.3s,baz=155,slow=19,SNR=1.8								
INK	**Inuvik**	**10.77**	**74**				**Pn**	**10 44 22.3**	**-0.6**
YKA	**Yellowknife Ar**	**20.32**	**82**		P		**P**	**10 46 25.2**	**+0.4**
	0.3nm,0.6s,baz=304,slow=11,SNR=2.2								
BBB	**Bella Bella**	**22.74**	**116**		LR		LR	10 56 06.4	
	comp=Z,58nm,19.9s,baz=5.5,slow=37								
PDAR	**Pinedale Array**	**37.35**	**105**		P		**P**	**10 49 02.2**	**+0.6**
	0.1nm,0.4s,baz=325,slow=5.9,SNR=1.7								
NVAR	**Mina Array Bea**	**38.09**	**118**		P		**P**	**10 49 08.6**	**+0.7**
	0.2nm,0.6s,baz=340,slow=7.8,SNR=2.8								

*IDC **25** 10:44:18.8±0.9, 11°.64N×86°.82W, h0km, mb4.1/12, mb1 4.3/13, mb1mx4.0/48, mbtmp4.1/13, ML3.4/2, MS3.6/13, Ms1 3.6/13, ms1mx3.4/40, Error ellipse: s-maj=38.5km s-min=15.2km az=51.0*

*UCR **25** 10:44:22.0±2.2, 11°.33N×87°.15W, h35km±729km, mb4.5(NEIC)*

*INET **25** 10:44:22.8, 11°.31N×87°.12W, h57km, ML4.2*

*NEIC **25** 10:44:23.4±1.3, 11°.35N±0°.07×87°.09W±0°.05, h45km±8km, mb4.5/173, Error ellipse: s-maj=12.0km s-min=1.9km az=216.0*

*UNK **25** 10:44:25.1, 11°.41N×87°.01W, h50km*

ISC 25 10:44:23.9±0.5, 11°.34N±0°.06×87°.10W±0°.06, h49km, n436, σ0°81/426, mb4.5/84, MS3.7/11, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.35**	**2**				**Pn**	**10 44 45.7**	**-0.8**
NY14	**Universidad de**	**1.68**	**114**		*eP*		**Pn**	**10 44 48.7**	**-2.2**
GBS3	**Finca Las Img**	**1.71**	**109**		*eP*		**Pn**	**10 44 49.4**	**-1.8**
GBS3					*eS*		**Sn**	**10 45 11.8**	**-0.2**
LAPC	**Finca la Perla**	**1.73**	**109**		*eP*		**Pn**	**10 44 49.5**	**-2.1**
BUEV	**Buena Vista**	**1.75**	**108**		*eP*		**Pn**	**10 44 49.9**	**-1.9**
BUEV					*eS*		**Sn**	**10 45 12.9**	**-0.1**
GB1A	**Borinquen Arri**	**1.75**	**107**		*eP*		**Pn**	**10 44 49.6**	**-2.3**
BOAB	**BOACO BROADBAN**	**1.78**	**52**

Y55A	**Saluda**	**22.99**	**11**	P	**P**	**10 49 24.6**	**+0.1**
	baz=193							
X48A	**Hartselle**	**23.00**	**0**	P	**P**	**10 49 24.0**	**-0.6**
FPAL	**Fort Paine**	**23.13**	**3**	P	**P**	**10 49 25.4**	**-0.5**
OXF	**Oxford**	**23.16**	**355**	P	**P**	**10 49 26.1**	**-0.1**
	baz=174							
OXF	**Oxford**	**23.16**	**355**	P	**P**	**10 49 25.9**	**-0.2**
X51A	**Calhoun**	**23.21**	**5**	P	**P**	**10 49 25.8**	**-0.9**
HODGE	**Hodges**	**23.21**	**10**	P	**P**	**10 49 26.1**	**-0.5**
X43A	**Marvell**	**23.32**	**352**	P	**P**	**10 49 28.4**	**+0.6**
HPIG		**23.36**	**314**	P	**P**	**10 49 27.1**	**-1.4**
JSC	**Jenkinsville**	**23.45**	**12**	P	**P**	**10 49 29.8**	**+0.9**
X54A	**Belton**	**23.50**	**10**	P	**P**	**10 49 29.7**	**+0.3**
	baz=191							
PLAL	**Pickwick Lake**	**23.55**	**358**	P	**P**	**10 49 29.6**	**-0.3**
X55A	**Gracelyn & Ava**	**23.55**	**11**	P	**P**	**10 49 30.2**	**+0.3**
	baz=193							
X40A	**Basin Creek Fa**	**23.62**	**348**	P	**P**	**10 49 30.2**	**-0.4**
	baz=166							
X40A	**Basin Creek Fa**	**23.62**	**348**	P	**P**	**10 49 30.2**	**-0.4**
X40A				IAmb	IAmb	10 49 31.5		
	comp=Z,18nm,1.5s							
TX31	**Lajitas Ar. Si**	**23.65**	**322**	P	**P**	**10 49 31.0**	**0.0**
TX31				IAmb	IAmb	10 49 45.3		
	comp=Z,20nm,0.9s							
TX32	**Lajitas Array**	**23.65**	**322**	P	**P**	**10 49 31.0**	**0.0**
TXAR	**Lajitas Array**	**23.65**	**322**	P	**P**	**10 49 31.8**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=134,slow=10,SNR=28							
TXAR				PcP	**PcP**	**10 53 16.4**	**+1.7**	
	comp=Z,1.8nm,0.9s,baz=134,slow=3.6,SNR=9.3							
TXAR	**Lajitas Array**	**23.65**	**322**	P	**P**	**10 49 30.7**	**-0.3**
X56A	**White Oak**	**23.70**	**13**	P	**P**	**10 49 31.6**	**+0.3**
	baz=195							
W45A	**Hickory Valley**	**23.78**	**356**	P	**P**	**10 49 31.3**	**-0.7**
W45A				IAmb	IAmb	10 49 41.4		
	comp=Z,25nm,1.2s							
Z35A	**Perchaven, San**	**23.78**	**339**	P	**P**	**10 49 31.5**	**-0.6**
Z35A				IAmb	IAmb	10 49 51.1		
	comp=Z,13nm,0.9s							
SWET	**Sewanee**	**23.79**	**2**	P	**P**	**10 49 32.0**	**-0.2**
SWET				IAmb	IAmb	10 49 33.7		
	comp=Z,21nm,1.1s							
W50A	**Signal Mountai**	**23.80**	**4**	P	**P**	**10 49 32.0**	**-0.3**
W50A				IAmb	IAmb	10 49 34.6		
	comp=Z,17nm,0.9s							
UALR	**University of**	**23.81**	**349**	P	**P**	**10 49 32.2**	**-0.1**
UALR				IAmb	IAmb	10 49 40.5		
	comp=Z,14nm,1.0s							
W52A	**Murphy**	**23.82**	**6**	P	**P**	**10 49 32.5**	**+0.1**
W52A				IAmb	IAmb	10 49 35.4		
	comp=Z,12nm,0.9s							
MIAR	**Mount Ida**	**23.84**	**347**	P	**P**	**10 49 32.5**	**-0.1**
	baz=164,SNR=7.0							
MIAR	**Mount Ida**	**23.84**	**347**	P	**P**	**10 49 31.9**	**-0.7**
BG3	**Lake Jocassee**	**23.84**	**8**	P	**P**	**10 49 34.1**	**+1.4**
PAULI	**Pauline**	**23.86**	**11**	P	**P**	**10 49 32.6**	**-0.2**
W54A	**Cherokee Point**	**24.05**	**10**	P	**P**	**10 49 35.4**	**+0.8**
	baz=192							
CPCT	**Cooper Cave**	**24.11**	**5**	P	**P**	**10 49 35.2**	**+0.1**
CPCT				IAmb	IAmb	10 49 44.6		
	comp=Z,17nm,0.9s							
ABTX	**Abilene, Hawle**	**24.12**	**333**	P	**P**	**10 49 35.0**	**-0.2**
	baz=148							
ABTX	**Abilene, Hawle**	**24.12**	**333**	P	**P**	**10 49 34.5**	**-0.8**
H06E1	**SOCORRO T-PHAS**	**24.15**	**291**	T	T	11 14 28.9		
	SNR=5.8							
X58A	**Rowland**	**24.16**	**16**	P	**P**	**10 49 35.6**	**0.0**
	baz=199							
W41B	**Gary Mavity, V**	**24.18**	**350**	P	**P**	**10 49 35.8**	**+0.1**
	baz=167							
W41B	**Gary Mavity, V**	**24.18**	**350**	P	**P**	**10 49 34.9**	**-0.8**
W41B				IAmb	IAmb	10 49 43.9		
	comp=Z,15nm,1.3s							
KMSC	**Kings Mountain**	**24.26**	**12**	P	**P**	**10 49 36.4**	**-0.1**
KMSC				IAmb	IAmb	10 49 46.8		
	comp=Z,11nm,1.0s							
V48A	**Smith Brothers**	**24.29**	**1**	P	**P**	**10 49 36.7**	**0.0**
WHAR	**Wooly Hollow**	**24.30**	**350**	P	**P**	**10 49 36.4**	**-0.4**
X37A	**Clayton**	**24.34**	**343**	P	**P**	**10 49 38.0**	**+0.8**
TKL	**Tuckaleechee C**	**24.39**	**7**	P	**P**	**10 49 37.8**	**+0.1**
	comp=Z,14nm,0.8s,baz=178,slow=13,SNR=16							
TKL				LR	LR	11 00 24.0		
	comp=Z,122nm,19.0s,baz=113,slow=40							
TKL	**Tuckaleechee C**	**24.39**	**7**	P	**P**	**10 49 37.5**	**-0.2**
TKL				IAmb	IAmb	10 49 48.7		
	comp=Z,28nm,1.1s							
W56A	**Indian Trail**	**24.41**	**13**	P	**P**	**10 49 38.5**	**+0.6**
	baz=195							
V51A	**Loudon**	**24.48**	**5**	P	**P**	**10 49 38.5**	**+0.1**
V51A				IAmb	IAmb	10 49 41.6		
	comp=Z,14nm,0.9s							
W39A	**Magazine**	**24.51**	**347**	P	**P**	**10 49 39.4**	**+0.6**
	baz=164							
W39A	**Magazine**	**24.51**	**347**	P	**P**	**10 49 38.7**	**0.0**
V53A	**Saluda**	**24.53**	**8**	P	**P**	**10 49 39.8**	**+0.9**
V53A				IAmb	IAmb	10 49 50.2		
	comp=Z,14nm,0.9s							
W57A	**Gilead**	**24.57**	**14**	P	**P**	**10 49 39.5**	**+0.3**
	baz=197							
W57A	**Gilead**	**24.57**	**14**	P	**P**	**10 49 39.2**	**-0.1**
V52A	**Sevierville**	**24.59**	**7**	P	**P**	**10 49 39.3**	**-0.2**
W58A	**Raeford**	**24.63**	**16**	P	**P**	**10 49 40.0**	**+0.1**
	baz=199							
CLTN	**Cedars of Leba**	**24.65**	**1**	P	**P**	**10 49 40.1**	**+0.2**
CLTN				IAmb	IAmb	10 49 49.1		
	comp=Z,13nm,0.8s							
GNAR	**Gosnell**	**24.65**	**354**	P	**P**	**10 49 39.4**	**-0.6**
GNAR				IAmb	IAmb	10 49 47.8		
	comp=Z,17nm,0.8s							
WVT	**Waverly**	**24.68**	**359**	P	**P**	**10 49 40.6**	**+0.3**
	baz=178							
WVT	**Waverly**	**24.68**	**359**		**P**	**10 49 40.1**	**-0.2**
V54A	**Nebo**	**24.77**	**10**	P	**P**	**10 49 41.9**	**+0.8**
	baz=192,SNR=5.4							
FCAR	**Ozark Folk Cen**	**24.86**	**350**	P	**P**	**10 49 41.2**	**-0.7**
V56A	**Mocksville**	**25.08**	**13**	P	**P**	**10 49 44.7**	**+0.8**
	baz=195							
U49A	**Red Boiling Sp**	**25.09**	**3**	P	**P**	**10 49 43.8**	**-0.1**
U49A				IAmb	IAmb	10 49 46.8		
	comp=Z,11nm,0.9s							
X34A	**Smith Ranch, M**	**25.13**	**339**	P	**P**	**10 49 44.7**	**+0.2**
HICK	**Hickman**	**25.16**	**356**	P	**P**	**10 49 44.7**	**+0.1**
TZTN	**Tazewell**	**25.29**	**7**	P	**P**	**10 49 46.2**	**+0.3**
	baz=188							
TZTN	**Tazewell**	**25.29**	**7**	P	**P**	**10 49 45.5**	**-0.3**
NNA	**Nana**	**25.32**	**156**	LR	LR	10 58 26.2		
	comp=Z,68nm,20.4s,baz=342,slow=33							
V57A	**Coltrane Farms**	**25.32**	**14**	P	**P**	**10 49 46.4**	**+0.3**
	baz=197							
PARMO	**Parma**	**25.32**	**355**	P	**P**	**10 49 45.4**	**-0.7**
V58A	**Windy Hill, Pi**	**25.39**	**15**	P	**P**	**10 49 47.2**	**+0.4**
	baz=198,SNR=5.2							
V58A	**Windy Hill, Pi**	**25.39**	**15**	P	**P**	**10 49 46.7**	**0.0**
V58A				IAmb	IAmb	10 49 48.3		
	comp=Z,17nm,1.1s							
LPIG	**La Paz**	**25.44**	**303**	LR	LR	10 59 31.9		
	comp=Z,88nm,20.5s,baz=100,slow=36							
U40A	**Yellville**	**25.44**	**349**	P	**P**	**10 49 47.1**	**-0.1**
	baz=167							
U40A	**Yellville**	**25.44**	**349**	P	**P**	**10 49 46.1**	**-1.1**
U40A				IAmb	IAmb	10 49 56.3		
	comp=Z,15nm,1.3s							
PBMO	**Poplar Bluff**	**25.50**	**354**	P	**P**	**10 49 47.1**	**-0.6**
U54A	**Nelsons Funny**	**25.52**	**10**	P	**P**	**10 49 48.5**	**+0.5**
	baz=192							
U54A	**Nelsons Funny**	**25.52**	**10**	P	**P**	**10 49 47.1**	**-0.8**
U54A				IAmb	IAmb	10 49 52.0		
	comp=Z,11nm,0.7s							
T47A	**Sharon Grove**	**25.53**	**360**	P	**P**	**10 49 47.2**	**-0.8**
T47A				IAmb	IAmb	10 49 48.3		
	comp=Z,9.1nm,0.8s							
T45A	**Paducah**	**25.60**	**357**	P	**P**	**10 49 48.4**	**-0.2**
V59A	**Middlesex**	**25.60**	**17**	P	**P**	**10 49 49.0**	**+0.4**
	baz=200							
WMOK	**Wichita Mounta**	**25.61**	**337**	P	**P**	**10 49 49.5**	**+0.8**
	baz=152,SNR=8.2							
WMOK	**Wichita Mounta**	**25.61**	**337**	P	**P**	**10 49 49.0**	**+0.3**
WMOK				IAmb	IAmb	10 50 00.6		
	comp=Z,28nm,1.3s							
U56A	**King**	**25.62**	**13**	P	**P**	**10 49 49.6**	**+0.8**
U56A				IAmb	IAmb	10 49 59.8		
	comp=Z,16nm,1.1s							
U55A	**TA2, Sparta**	**25.64**	**11**	P	**P**	**10 49 49.5**	**+0.5**
	baz=194							
TUL1	**Leonard**	**25.69**	**344**	P	**P**	**10 49 50.5**	**+1.0**
	baz=160							
TUL1	**Leonard**	**25.69**	**344**	P	**P**	**10 49 47.3**	**-2.2**
TUL1				IAmb	IAmb	10 50 00.4		
	comp=Z,23nm,1.1s							
U38A	**Gravette**	**25.84**	**346**	P	**P**	**10 49 50.2**	**-0.6**
U57A	**Blanch**	**25.94**	**14**	P	**P**	**10 49 52.1**	**+0.4**
	baz=197							
T54A	**Tazewell**	**26.08**	**10**	P	**P**	**10 49 52.9**	**-0.2**
	baz=192							
U58A	**Oxford**	**26.11**	**16**	P	**P**	**10 49 53.5**	**+0.3**
	baz=199							
U59A	**Littleton**	**26.28**	**17**	P	**P**	**10 49 55.5**	**+0.7**
	baz=201							
T55A	**Pulaski**	**26.28**	**11**	P	**P**	**10 49 55.6**	**+0.8**
	baz=194							
S44A	**Carbondale**	**26.31**	**356**	P	**P**	**10 49 54.8**	**-0.2**
T56A	**Rocky Mt**	**26.35**	**13**	P	**P**	**10 49 56.2**	**+0.8**
	baz=196							
MNTX	**Cornudas Mount**	**26.37**	**323**	P	**P**	**10 49 56.2**	**+0.5**
	baz=136							
MNTX	**Cornudas Mount**	**26.37**	**323**	P	**P**	**10 49 54.5**	**-1.2**
T57A	**Hurt**	**26.50**	**14**	P	**P**	**10 49 57.2**	**+0.4**
	baz=197							
T57A	**Hurt**	**26.50**	**14**	P	**P**	**10 49 56.5**	**-0.3**
T57A				IAmb	IAmb	10 49 58.5		
	comp=Z,13nm,1.2s							
T58A	**Grand View Acr**	**26.63**	**15**	P	**P**	**10 49 58.2**	**+0.3**
	baz=199							
MSTX	**Muleshoe**	**26.69**	**330**	P	**P**	**10 49 59.0**	**+0.3**
	baz=144							
MSTX	**Muleshoe**	**26.69**	**330**	P	**P**	**10 49 58.1**	**-0.5**
MSTX				IAmb	IAmb	10 50 11.8		
	comp=Z,19nm,1.1s							
WCI	**Wyandotte Cave**	**26.78**	**1**	P	**P**	**10 49 59.5**	**+0.2**
	baz=182							
CCM	**Cathedral Cave**	**26.86**	**353**	P	**P**	**10 49 59.7**	**-0.3**
	baz=171							
CCM	**Cathedral Cave**	**26.86**	**353**	P	**P**	**10 49 59.2**	**-0.8**
T59A	**Double "B" Far**	**26.93**	**17**	P	**P**	**10 50 01.0**	**+0.4**
	baz=201							
AMTX	**Amarillo**	**26.93**	**333**	P	**P**	**10 50 01.3**	**+0.6**
AMTX				IAmb	IAmb	10 50 17.5		
	comp=Z,12nm,1.1s							
S55A	**Lewisburg**	**26.97**	**12**	P	**P**	**10 50 01.5**	**+0.4**
	baz=194							
S56A	**Natural Bridge**	**27.08**	**13**	P	**P**	**10 50 02.7**	**+0.8**
	baz=196							
R40A	**Maddies Statio**	**27.23**	**351**	P	**P**	**10 50 01.9**	**-1.4**
R53A	**Hurricane**	**27.27**	**9**	P	**P**	**10 50 04.5**	**+0.9**
	baz=191							
R54A	**Victor**	**27.28**	**11**	P	**P**	**10 50 04.6**	**+0.8**
	baz=193							
S57A	**Dark Hollow, R**	**27.30**	**14**	P	**P**	**10 50 04.3**	**+0.3**
	baz=197							
T60A	**Surry**	**27.32**	**18**	P	**P**	**10 50 04.3**	**+0.1**
	baz=202							
S58A	**Poland Farm, P**	**27.39**	**16**	P	**P**	**10 50 05.0**	**+0.3**
	baz=199							
R55A	**Marlinton**	**27.54**	**12**	P	**P**	**10 50 07.3**	**+1.1**
	baz=195							
R58B	**Mineral**	**27.76**	**16**	P	**P**	**10 50 08.8**	**+0.8**
	baz=200							
Q51A	**Peebles**	**27.77**	**6**	P	**P**	**10 50 08.0**	**-0.1**
R56A	**Bull Pasture M**	**27.81**	**13**	P	**P**	**10 50 09.3**	**+0.7**
	baz=196							
Q52A	**Bidwell**	**27.84**	**8**	P	**P**	**10 50 09.4**	**+0.7**
	baz=190							
Q53A	**Leroy**	**27.85**	**9**	P	**P**	**10 50 09.1**	**+0.3**
	baz=192							
R57A	**Stanardsville**	**27.91**	**15**	P	**P**	**10 50 09.6**	**+0.2**
	baz=198,SNR=6.1							
P48A	**Milroy**	**28.04**	**3**	P	**P**	**10 50 09.8**	**-0.8**
P48A				IAmb	IAmb	10 50 17.6		
	comp=Z,5.2nm,0.6s							
R58A	**Rapidan**	**28.05**	**15**	P	**P**	**10 50 11.3**	**+0.7**
	baz=199							
Q54A	**Coxs Mills**	**28.09**	**10**	P	**P**	**10 50 11.4**	**+0.4**
	baz=193							
Q54A	**Coxs Mills**	**28.09**	**10**	P	**P**	**10 50 11.1**	**+0.1**
Q54A				IAmb	IAmb	10 50 19.8		
	comp=Z,22nm,1.4s							
R59A	**King George, V**	**28.20**	**17**	P	**P**	**10 50 12.7**	**+0.8**
	baz=201							
Q55A	**Buckhannon**	**28.24**	**12**	P	**P**	**10 50 12.7**	**+0.3**
	baz=194							
Q56A	**Snyder Ridge,**	**28.47**	**13**	P	**P**	**10 50 15.2**	**+0.8**
	baz=196							
Q56A	**Snyder Ridge,**	**28.47**	**13**	P	**P**	**10 50 13.4**	**-1.0**
Q56A				IAmb	IAmb	10 50 16.6		
	comp=Z,9.8nm,0.8s							
P53A	**Whipple**	**28.48**	**9**	P	**P**	**10 50 14.7**	**+0.2**
	baz=192,SNR=5.1							
P53A	**Whipple**	**28.48**	**9**	P	**P**	**10 50 14.4**	**-0.1**
P52A	**Corning**	**28.52**	**8**	P	**P**	**10 50 15.2**	**+0.5**
	baz=190							
P52A	**Corning**	**28.52**	**8**	P	**P**	**10 50 13.2**	**-1.6**
P52A				IAmb	IAmb	10 50 15.8		
	comp=Z,17nm,1.1s							
Q57A	**Strasburg**	**28.64**	**14**	P	**P**	**10 50 16.6**	**+0.7**
	baz=198							
Q58A	**Fox Den Farm,**	**28.74**	**15**	P	**P**	**10 50 17.0**	**+0.3**
	baz=199							
P38A	**Dawn**	**28.74**	**350**	P	**P**	**10 50 15.8**	**-0.9**
P38A				IAmb	IAmb	10 50 16.6		
	comp=Z,17nm,1.5s							
P54A	**Burton**	**28.75**	**11**	P	**P**	**10 50 17.4**	**+0.5**
	baz=193							
P55A	**Reedsville**	**28.78**	**12**	P	**P**	**10 50 17.9**	**+0.7**
	baz=195							
R61A	**Willards**	**28.86**	**19**	P	**P**	**10 50 17.8**	**0.0**
	baz=204							
R61A	**Willards**	**28.86**	**19**	P	**P**	**10 50 17.6**	**-0.2**
O51A	**Pataskala**	**28.96**	**7**	P	**P**	**10 50 18.9**	**+0.1**
	baz=189							
P56A	**Dayton Farm, R**	**28.99**	**13**	P	**P**	**10 50 19.6**	**+0.6**
	baz=197							
ACSO	**Alum Creek Sta**	**29.00**	**7**	P	**P**	**10 50 19.5**	**+0.4**
	baz=188							
ACSO	**Alum Creek Sta**	**29.00**	**7**	P	**P**	**10 50 19.1**	**0.0**
ACSO				IAmb	IAmb	10 50 20.1		
	comp=Z,25nm,1.4s							
O52A	**Adamsville**	**29.03**	**8**	P	**P**	**10 50 19.9**	**+0.6**
	baz=190							
O52A	**Adamsville**	**29.03**	**8**	P	**P**	**10 50 19.4**	**0.0**
O52A				IAmb	IAmb	10 50 27.3		
	comp=Z,11nm,0.9s							
HDIL	**Hopedale**	**29.16**	**357**	P	**P**	**10 50 19.9**	**-0.6**
HDIL				IAmb	IAmb	10 50 20.6		
	comp=Z,10nm,0.7s							
P57A	**Homestead Farm**	**29.16**	**15**	P	**P**	**10 50 21.3**	**+0.7**
	baz=198,SNR=5.3							
P57A	**Homestead Farm**	**29.16**	**15**	P	**P**	**10 50 21.6**	**+1.1**
P57A				IAmb	IAmb	10 50 22.8		
	comp=Z,14nm,0.9s							
O53A	**New Philadelph**	**29.26**	**9**	P	**P**	**10 50 21.6**	**+0.2**
	baz=192							
O53A	**New Philadelph**	**29.26**	**9**	P	**P**	**10 50 21.5**	**+0.2**
O53A				IAmb	IAmb	10 50 22.5		
	comp=Z,13nm,0.9s							
P58A	**Pank, Wackersv**	**29.35**	**16**	P	**P**	**10 50 22.6**	**+0.5**
	baz=200							
ANMO	**Albuquerque**	**29.36**	**326**	P	**P**	**10 50 23.0**	**+0.4**
	baz=138							
SDMD	**Soldier's Deli**	**29.40**	**16**	P	**P**	**10 50 21.0**	**-1.7**
SDMD				IAmb	IAmb	10 50 24.7		
	comp=Z,5.9nm,0.7s							
PTGA	**Pitinga**	**29.51**	**112**	P	**P**	**10 50 26.5**	**+2.6**
	comp=Z,4.3nm,1.0s,baz=284,slow=19,SNR=2.5							
O55A	**Ligonier**	**29.56**	**12**	P	**P**	**10 50 24.2**	**+0.1**
	baz=195							
N49A	**Columbus Grove**	**29.57**	**4**	P	**P**	**10 50 23.4**	**-0.7**
P59A	**Jarrettsville**	**29.70**	**17**	P	**P**	**10 50 25.9**	**+0.7**
	baz=201							
N52A	**McGinn's Farm,**	**29.74**	**8**	P	**P**	**10 50 26.0**	**+0.4**
	baz=191							
O56A	**Blue Knob Stat**	**29.78**	**13**	P	**P**	**10 50 26.6**	**+0.5**
	baz=197							
N53A	**Lisbon**	**29.86**	**10**	P	**P**	**10 50 27.4**	**+0.7**
	baz=192							
O57A	**Amberson**	**29.95**	**15**	P	**P**	**10 50 27.9**	**+0.5**
	baz=199,SNR=5.3							
O58A	**Lewisberry**	**30.05**	**16**	P	**P**	**10 50 29.3**	**+1.0**
	baz=200							
MVL	**Millersville**	**30.09**	**17**	P	**P**	**10 50 29.1**	**+0.4**
MVL				IAmb	IAmb	10 50 30.7		
	comp=Z,10nm,1.0s							
M50A	**Fremont**	**30.15**	**6**	P	**P**	**10 50 28.5**	**-0.8**
M50A				IAmb	IAmb	10 50 31.0		
	comp=Z,10.0nm,0.9s							
N54A	**Moraine State**	**30.16**	**11**	P	**P**	**10 50 29.7**	**+0.4**
	baz=194							
N54A	**Moraine State**	**30.16**	**11**	P	**P**	**10 50 29.2**	**-0.1**
N54A				IAmb	IAmb	10 50 30.4		
	comp=Z,16nm,1.3s							
PAGS	**Pennsylvania G**	**30.20**	**16**	P	**P**	**10 50 28.7**	**-0.9**
SSPA	**Standing Stone**	**30.29**	**14**	P	**P**	**10 50 30.3**	**-0.1**
O59A	**Robesonia**	**30.42**	**17**	P	**P**	**10 50 32.8**	**+1.1**
	baz=201							
N56A	**West Decatur**	**30.46**	**13**	P	**P**	**10 50 32.7**	**+0.7**
	baz=197							
N57A	**Milroy**	**30.48**	**14**	P	**P**	**10 50 33.1**	**+0.9**
	baz=198							
M53A	**WI Miller and**	**30.50**	**10**	P	**P**	**10 50 32.8**	**+0.5**
	baz=192							
M53A	**WI Miller and**	**30.50**	**10**	P	**P**	**10 50 32.7**	**+0.3**
M54A	**Oil Creek Stat**	**30.75**	**11**	P	**P**	**10 50 34.5**	**-0.1**
	baz=194							
M54A	**Oil Creek Stat**	**30.75**	**11**	P	**P**	**10 50 34.4**	**-0.1**
M54A				IAmb	IAmb	10 50 35.4		
	comp=Z,7.9nm,0.7s							
N58A	**Sunbury**	**30.77**	**16**	P	**P**	**10 50 35.7**	**+1.0**
	baz=200							
ALLY	**Alegheny Colle**	**30.80**	**10**	P	**P**	**10 50 34.2**	**-0.8**
L40A	**Anamosa**	**30.81**	**354**	P	**P**	**10 50 34.0**	**-1.1**
L40A				IAmb	IAmb	10 50 41.7		
	comp=Z,8.4nm,1.1s							
M56A	**Emporium**	**31.03**	**13**	P	**P**	**10 50 37.1**	**+0.1**
	baz=197,SNR=5.4							
M56A	**Emporium**	**31.03**	**13**	P	**P**	**10 50 37.0**	**0.0**
SDCO	**Great Sand Dun**	**31.04**	**331**	P	**P**	**10 50 38.1**	**+0.6**
	baz=143							
SDCO	**Great Sand Dun**	**31.04**	**331**	P	**P**	**10 50 37.9**	**+0.4**
L53A	**Girard**	**31.07**	**10**	P	**P**	**10 50 37.0**	**-0.4**
	baz=193,SNR=5.1							
N59A	**State Game Lan**	**31.10**	**17**	P	**P**	**10 50 37.9**	**+0.2**
	baz=202,SNR=6.1							
N59A	**State Game Lan**	**31.10**	**17**	P	**P**	**10 50 37.8**	**+0.1**
M57A	**Sunshine Farm,**	**31.14**	**15**	P	**P**	**10 50 38.4**	**+0.5**
	baz=199,SNR=7.6							
M57A	**Sunshine Farm,**	**31.14**	**15**	P	**P**	**10 50 37.7**	**-0.3**
ERPA	**Erie**	**31.28**	**10**	P	**P**	**10 50 39.3**	**+0.1**
	baz=193							
ERPA	**Erie**	**31.28**	**10**	P	**P**	**10 50 39.1**	**-0.1**
M58A	**Price's Panora**	**31.34**	**15**	P	**P**	**10 50 40.2**	**+0.4**
	baz=200							
L55A	**Hinsdale**	**31.64**	**12**	P	**P**	**10 50 41.6**	**-0.8**
	baz=196							
M59A	**Waymart**	**31.77**	**17**	P	**P**	**10 50 43.9**	**+0.3**
	baz=202,SNR=5.6							
L56A	**Greenwood**	**31.79**	**14**	P	**P**	**10 50 43.7**	**-0.1**
	baz=198,SNR=5.6							
L56A	**Greenwood**	**31.79**	**14**	P	**P**	**10 50 43.6**	**-0.1**
M60A	**Port Jervis**	**31.81**	**18**	P	**P**	**10 50 43.9**	**0.0**
	baz=204							
L57A	**Andrews Acres**	**31.83**	**15**	P	**P**	**10 50 44.5**	**+0.4**
	baz=199							
J47A	**Sumner**	**31.84**	**3**	P	**P**	**10 50 42.8**	**-1.3**
J48A	**Bridge Port**	**31.97**	**5**	P	**P**	**10 50 44.5**	**-0.7**
	baz=186							
J48A	**Bridge Port**	**31.97**	**5**	P	**P**	**10 50 44.8**	**-0.4**
K54A	**Basiliko Farm,**	**32.00**	**12**	P	**P**	**10 50 45.6**	**0.0**
	baz=196							
M61A	**Granite Spring**	**32.07**	**19**	P	**P**	**10 50 46.8**	**+0.7**
	baz=205							
J49A	**Marlette**	**32.08**	**5**	P	**P**	**10 50 46.9**	**+0.7**
	baz=187							
L58A	**Harry Jones Me**	**32.13**	**16**	P	**P**	**10 50 46.8**	**+0.1**
	baz=201,SNR=5.4							
MVCO	**Mesa Verde**	**32.15**	**327**	P	**P**	**10 50 47.7**	**+0.5**
	baz=138							
BINY	**Binghamton**	**32.24**	**16**	P	**P**	**10 50 47.8**	**+0.2**
	baz=201,SNR=5.4							
BINY	**Binghamton**	**32.24**	**16**	P	**P**	**10 50 48.3**	**+0.7**
K55A	**Perry**	**32.24**	**13**	P	**P**	**10 50 48.0**	**+0.4**
	baz=197							
J52A	**Paris**	**32.30**	**9**	P	**P**	**10 50 47.6**	**-0.4**
	baz=192							
K56A	**Middlesex**	**32.38**	**14**	P	**P**	**10 50 48.3**	**-0.6**
	baz=198,SNR=7.1							
I42A	**Draeger Farm,**	**32.47**	**358**	P	**P**	**10 50 48.6**	**-0.9**
I42A				IAmb	IAmb	10 50 49.4		
	comp=Z,16nm,1.4s							
L59A	**Walton**	**32.48**	**17**	P	**P**	**10 50 49.9**	**0.0**
	baz=202,SNR=5.3							
L59A	**Walton**	**32.48**	**17**	P	**P**	**10 50 50.2**	**+0.4**
L60A	**Shokan**	**32.54**	**18**	P	**P**	**10 50 50.9**	**+0.6**
	baz=204							
K57A	**Scipio Center**	**32.60**	**15**	P	**P**	**10 50 50.8**	**0.0**
	baz=199							
I47A	**Gladwin**	**32.63**	**3**	P	**P**	**10 50 50.7**	**-0.3**
	baz=184							
I47A	**Gladwin**	**32.63**	**3**	P	**P**	**10 50 50.1**	**-1.0**
J54A	**Appleton**	**32.65**	**11**	P	**P**	**10 50 50.8**	**-0.4**
	baz=195							
M63A	**Gales Ferry**	**32.73**	**21**	P	**P**	**10 50 52.0**	**+0.1**
	baz=208							
I51A	**Listowel**	**32.77**	**8**	P	**P**	**10 50 51.8**	**-0.4**
	baz=191							
J55A	**Hilton**	**32.81**	**13**	P	**P**	**10 50 52.6**	**+0.1**
	baz=197							
K58A	**Earlville**	**32.85**	**16**	P	**P**	**10 50 53.2**	**+0.2**

O20A	**White River Ci**	**34.23**	**331**	P		**P**	**10 51 06.9**	**+1.6**
	baz=141								
O20A	**White River Ci**	**34.23**	**331**	P		**P**	**10 51 06.1**	**+0.8**
O20A				IAmb		IAmb	10 51 18.9		
	comp=Z,5.3nm,1.0s								
J61A	**Chester**	**34.29**	**19**	P		**P**	**10 51 05.8**	**+0.3**
	baz=206								
NCB	**Newcomb**	**34.36**	**17**	P		**P**	**10 51 06.4**	**+0.3**
H56A	**Elgin**	**34.42**	**14**	P		**P**	**10 51 06.0**	**-0.6**
	baz=199,SNR=6.6								
J62A	**Henniker**	**34.42**	**20**	P		**P**	**10 51 07.3**	**+0.6**
	baz=207								
G53A	**Haliburton**	**34.44**	**11**	P		**P**	**10 51 06.2**	**-0.5**
	baz=195								
KNB	**Kanab**	**34.48**	**322**	P		**P**	**10 51 06.0**	**-1.5**
H57A	**Richville**	**34.51**	**15**	P		**P**	**10 51 06.2**	**-1.1**
	baz=200								
I60A	**Shoreham**	**34.51**	**18**	P		**P**	**10 51 05.9**	**-1.4**
	baz=204								
SUSD	**Miller**	**34.53**	**345**	P		**P**	**10 51 06.8**	**-0.7**
F48A	**Evansville**	**34.58**	**6**	P		**P**	**10 51 06.6**	**-1.3**
	baz=188								
SRU	**San Rafael Swe**	**34.62**	**327**	P		**P**	**10 51 08.3**	**-0.4**
PLVO	**Plevna**	**34.66**	**13**	P		**P**	**10 51 08.2**	**-0.5**
PLVO				IAmb		IAmb	10 51 15.9		
	comp=Z,8.7nm,1.0s								
COWI	**Conover**	**34.68**	**358**	P		**P**	**10 51 07.4**	**-1.5**
COWI				IAmb		IAmb	10 51 08.1		
	comp=Z,7.1nm,0.8s								
H58A	**Gabriels**	**34.78**	**16**	P		**P**	**10 51 09.3**	**-0.5**
	baz=202								
G54A	**Lake Saint Pet**	**34.80**	**11**	P		**P**	**10 51 08.9**	**-1.0**
	baz=195,SNR=8.2								
F36A	**Milaca**	**34.83**	**352**	P		**P**	**10 51 08.5**	**-1.7**
F36A				IAmb		IAmb	10 51 09.4		
	comp=Z,4.6nm,0.8s								
LONY	**Lake Ozonia**	**34.86**	**16**	P		**P**	**10 51 10.2**	**-0.2**
	baz=202								
LONY	**Lake Ozonia**	**34.86**	**16**	P		**P**	**10 51 09.9**	**-0.5**
G55A	**Calabogie**	**34.94**	**13**	P		**P**	**10 51 10.4**	**-0.7**
	baz=198,SNR=8.2								
F52A	**Sundridge**	**34.97**	**10**	P		**P**	**10 51 10.0**	**-1.3**
	baz=193								
PSGCX	**Pisagua**	**35.00**	**151**	P		**P**	**10 51 11.5**	**-0.4**
P17A	**Butcher Ranch,**	**35.00**	**327**	P		**P**	**10 51 13.2**	**+1.2**
E47A	**Iron Bridge**	**35.14**	**5**	P		**P**	**10 51 11.7**	**-1.1**
	baz=186,SNR=8.0								
F33A	**5 Mile Ranch,**	**35.26**	**349**	P		**P**	**10 51 12.7**	**-1.1**
E48A	**Lockeyer**	**35.27**	**6**	P		**P**	**10 51 13.5**	**-0.4**
	baz=188								
ALGO	**Algonquin Park**	**35.34**	**11**	P		**P**	**10 51 14.0**	**-0.5**
	baz=195								
E38A	**The Farm, Brul**	**35.35**	**355**	P		**P**	**10 51 13.0**	**-1.6**
E38A				IAmb		IAmb	10 51 14.1		
	comp=Z,7.4nm,0.8s								
ORIO	**Orleans, Innes**	**35.41**	**14**	P		**P**	**10 51 14.8**	**-0.2**
	baz=200								
ORIO	**Orleans, Innes**	**35.41**	**14**	P		**P**	**10 51 14.6**	**-0.4**
D46A	**Sault St. Mari**	**35.52**	**4**	P		**P**	**10 51 15.0**	**-1.1**
	baz=185								
E52A	**Mattawa**	**35.55**	**10**	P		**P**	**10 51 16.0**	**-0.4**
	baz=194								
I63A	**Otisfield**	**35.57**	**21**	P		**P**	**10 51 15.5**	**-1.0**
	baz=208								
F55A	**Otter Lake**	**35.57**	**13**	P		**P**	**10 51 16.2**	**-0.3**
	baz=198								
E51A	**G1948 Merrick**	**35.66**	**9**	P		**P**	**10 51 16.4**	**-0.9**
	baz=193,SNR=5.1								
D47A	**Chapleau**	**35.75**	**5**	P		**P**	**10 51 16.8**	**-1.2**
	baz=187								
E53A	**Dumoine, Ponti**	**35.83**	**11**	P		**P**	**10 51 17.9**	**-0.8**
	baz=196								
G60A	**Masonville**	**35.94**	**18**	P		**P**	**10 51 18.4**	**-1.3**
	baz=205								
E54A	**Lac Daplat, Po**	**35.97**	**12**	P		**P**	**10 51 19.3**	**-0.6**
	baz=196								
D48A	**Paudash Townsh**	**35.99**	**6**	P		**P**	**10 51 18.8**	**-1.3**
	baz=189,SNR=5.9								
D49A	**Beulah Townshi**	**36.14**	**7**	P		**P**	**10 51 20.1**	**-1.2**
	baz=189,SNR=8.3								
D51A	**Lot 18 Range I**	**36.22**	**9**	P		**P**	**10 51 21.3**	**-0.7**
	baz=193								
E55A	**Montcerf-Lytto**	**36.23**	**13**	P		**P**	**10 51 21.3**	**-0.8**
	baz=198								
D50A	**G1974 Best Tow**	**36.23**	**8**	P		**P**	**10 51 21.2**	**-0.9**
	baz=192								
D52A	**ZEK Kipawa Sen**	**36.27**	**10**	P		**P**	**10 51 22.2**	**-0.3**
	baz=194								
TRQ	**Mont Tremblant**	**36.36**	**15**	P		**P**	**10 51 22.6**	**-0.7**
D53A	**Lac Vacive, Po**	**36.49**	**11**	P		**P**	**10 51 23.4**	**-0.9**
	baz=195,SNR=5.7								
D53A	**Lac Vacive, Po**	**36.49**	**11**	P		**P**	**10 51 24.4**	**0.0**
E56A	**St. Veronique**	**36.55**	**14**	P		**P**	**10 51 24.4**	**-0.4**
	baz=200								
G62A	**West of Eustis**	**36.62**	**20**	P		**P**	**10 51 25.5**	**0.0**
	baz=208								
D54A	**Lac Fusel, La**	**36.76**	**12**	P		**P**	**10 51 25.7**	**-1.0**
	baz=197,SNR=5.5								
E58A	**La Victoria**	**36.83**	**16**	P		**P**	**10 51 26.7**	**-0.5**
	baz=203								
F60A	**Warwick**	**36.84**	**18**	P		**P**	**10 51 26.8**	**-0.6**
	baz=205								
D55A	**Sainte-Anne-du**	**36.89**	**13**	P		**P**	**10 51 26.8**	**-1.0**
	baz=199,SNR=8.8								
PDAR	**Pinedale Array**	**36.91**	**332**	P		**P**	**10 51 28.1**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=128,slow=9.6,SNR=6.4								
PDAR				PcP		**PcP**	**10 53 50.1**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=181,slow=4.1,SNR=2.8								
PDAR	**Pinedale Array**	**36.91**	**332**	P		**P**	**10 51 27.7**	**-0.5**
HWUT	**Hardware Ranch**	**36.99**	**329**	P		**P**	**10 51 29.0**	**0.0**
HWUT				IAmb		IAmb	10 51 48.3		
	comp=Z,5.8nm,0.9s								
PKME	**Peaks-Kenny Pk**	**37.08**	**21**	P		**P**	**10 51 29.6**	**+0.3**
	baz=210								
D56A	**ZEC Mazanza, M**	**37.09**	**14**	P		**P**	**10 51 29.1**	**-0.3**
	baz=200								
D57A	**Chemin Vers le**	**37.27**	**15**	P		**P**	**10 51 30.7**	**-0.3**
	baz=202								
SIV	**San Ignacio**	**37.43**	**136**	P		**P**	**10 51 35.0**	**+2.3**
	comp=Z,2.8nm,0.6s,baz=295,slow=13,SNR=3.5								
AGMN	**Agassiz Nation**	**37.56**	**350**	P		**P**	**10 51 32.8**	**-0.6**
	baz=166								
AGMN	**Agassiz Nation**	**37.56**	**350**	P		**P**	**10 51 32.3**	**-1.1**
AGMN				IAmb		IAmb	10 51 33.0		
	comp=Z,10nm,1.2s								
D58A	**Chemin du LacG**	**37.60**	**16**	P		**P**	**10 51 33.6**	**-0.2**
	baz=203								
AHID	**Auburn Hatcher**	**37.63**	**331**	P		**P**	**10 51 34.2**	**-0.2**
AHID				IAmb		IAmb	10 51 50.4		
	comp=Z,4.8nm,0.9s								
MDND	**Maddock**	**37.87**	**346**	P		**P**	**10 51 35.7**	**-0.4**
	baz=160								
MDND	**Maddock**	**37.87**	**346**	P		**P**	**10 51 36.0**	**-0.1**
LATQ	**La Tuque**	**37.90**	**16**	P		**P**	**10 51 35.8**	**-0.4**
	baz=203								
LATQ	**La Tuque**	**37.90**	**16**	P		**P**	**10 51 35.7**	**-0.6**
F64A	**Sherman**	**37.93**	**21**	P		**P**	**10 51 36.7**	**+0.1**
	baz=211								
SNOW	**Snow King Moun**	**38.00**	**332**	P		**P**	**10 51 37.7**	**+0.2**
SNOW				IAmb		IAmb	10 51 53.0		
	comp=Z,9.6nm,1.1s								
TPAW	**Teton Pass**	**38.11**	**332**	P		**P**	**10 51 38.2**	**-0.2**
TPAW				IAmb		IAmb	10 51 54.7		
	comp=Z,6.0nm,0.9s								
E62A	**Clayton Lake**	**38.19**	**20**	P		**P**	**10 51 38.3**	**-0.4**
	baz=208								
SMMC	**Simmler**	**38.20**	**314**	P		**P**	**10 51 39.5**	**+0.4**
	baz=120								
LSQQ	**Lebel-sur-Quev**	**38.53**	**11**	P		**P**	**10 51 40.7**	**-0.9**
	baz=196								
D62A	**Allapoint, All**	**38.75**	**20**	P		**P**	**10 51 43.7**	**+0.3**
	baz=209								
NVAR	**Mina Array Bea**	**38.76**	**319**	P		**P**	**10 51 46.3**	**+2.3**
	comp=Z,1.1nm,0.8s,baz=135,slow=7.3,SNR=13								
NVAR	**Mina Array Bea**	**38.76**	**319**	P		**P**	**10 51 43.3**	**-0.7**
ULM	**Lac du Bonnet**	**39.46**	**351**	P		**P**	**10 51 48.0**	**-1.3**
	comp=Z,4.3nm,0.7s,baz=149,slow=5.9,SNR=3.3								
ULM	**Lac du Bonnet**	**39.46**	**351**	P		**P**	**10 51 48.3**	**-1.0**
HLID	**Hailey**	**39.86**	**329**	P		**P**	**10 51 52.9**	**-0.1**
MCMT	**McKenzie Canyo**	**40.02**	**331**	P		**P**	**10 51 54.2**	**-0.2**
LRM	**Limekiln Ridge**	**40.58**	**333**	P		**P**	**10 51 58.3**	**-0.7**
BMO	**Blue Mountains**	**42.25**	**328**	P		**P**	**10 52 12.0**	**-0.5**
FFC	**Flin Flon**	**44.84**	**348**	P		**P**	**10 52 32.6**	**-0.5**
H03N2	**Juan Fernandez**	**45.21**	**170**	T		T	11 40 55.7		
	baz=348,slow=76,SNR=7.2								
H03N1	**Juan Fernandez**	**45.21**	**170**	T		T	11 40 54.2		
	baz=348,slow=76,SNR=7.6								
H03N3	**Juan Fernandez**	**45.23**	**170**	T		T	11 40 58.0		
	baz=348,slow=76,SNR=6.5								
SCHQ	**Schefferville**	**46.23**	**16**	P		**P**	**10 52 42.3**	**-1.9**
	comp=Z,2.2nm,0.6s,baz=230,slow=9.5,SNR=5.2								
SCHQ				LR		LR	11 11 44.0		
	comp=Z,130nm,20.5s,baz=232,slow=36								
SCHQ	**Schefferville**	**46.23**	**16**	P		**P**	**10 52 42.8**	**-1.4**
D03D	**Eldon**	**47.05**	**327**	P		**P**	**10 52 50.9**	**+0.3**
	baz=128								
BDFB	**Brasilia**	**47.07**	**124**	P		**P**	**10 52 51.9**	**+0.5**
	comp=Z,6.8nm,0.8s,baz=312,slow=13,SNR=5.1								
BDFB	**Brasilia**	**47.07**	**124**	P		**P**	**10 52 51.6**	**+0.3**
BDFB				IAmb		IAmb	10 52 53.2		
	comp=Z,6.7nm,0.8s								
YKA	**Yellowknife Ar**	**54.76**	**345**	P		**P**	**10 53 48.2**	**-0.1**
	comp=Z,0.9nm,0.8s,baz=140,slow=7.7,SNR=6.0								
DLBC	**Dease Lake**	**57.05**	**335**	P		**P**	**10 54 06.2**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=149,slow=5.9,SNR=3.2								
RES	**Resolute Bay**	**63.47**	**358**	P		**P**	**10 54 47.2**	**-1.2**
	comp=Z,2.7nm,1.0s,baz=180,slow=19,SNR=2.6								
RES	**Resolute Bay**	**63.47**	**358**	P		**P**	**10 54 47.6**	**-0.8**
RES				IAmb		IAmb	10 55 03.9		
	comp=Z,7.6nm,1.4s								
BCAR	**Beaver Creek A**	**64.40**	**336**	P		**P**	**10 54 55.2**	**+0.4**
ILAR	**Eielson Array**	**67.17**	**336**	P		**P**	**10 55 12.2**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=140,slow=4.4,SNR=7.7								
ILAR	**Eielson Array**	**67.17**	**336**	P		**P**	**10 55 13.0**	**+0.5**
MDT	**Midelt**	**77.68**	**55**	LR		LR	11 24 04.3		
	comp=Z,72nm,21.5s,baz=340,slow=31								
NOA	**NORSAR Array B**	**84.16**	**29**	LR		LR	11 31 35.8		
	comp=Z,30nm,20.6s,baz=290,slow=34								
ARCES	**ARCESS Array B**	**87.11**	**19**	LR		LR	11 34 37.9		
	comp=Z,34nm,19.2s,baz=288,slow=35								
VAE	**Valguarnera**	**92.14**	**51**	LR		LR	11 37 33.9		
	comp=Z,56nm,18.5s,baz=320,slow=35								
KSRS	**Korea Array**	**121.39**	**328**	PKP		**PKiKP**	**11 03 14.2**	**+1.8**
	comp=Z,0.8nm,0.7s,baz=27,slow=1.4,SNR=5.4								
LZH	**Lanzhou**	**131.71**	**348**	*e*PKP		**PKPdf**	**11 03 32.0**	**-0.2**
LZH				pPKP		sPKPdf	11 03 53.5	+1.3	
LZH				sPKP			11 04 02.8		
LZH				LR		LR			
	comp=N,45nm,17.8s								
LZH				LR		LR			
	comp=E,51nm,18.0s								
LZH				LR		LR			
	comp=Z,70nm,20.1s								
ASAR	**Alice Springs**	**139.17**	**247**	PKP		**PKiKP**	**11 03 47.6**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=118,slow=2.9,SNR=6.4								
ASAR	**Alice Springs**	**139.17**	**247**			**PKiKP**	**11 03 47.5**	**-1.0**
WRA	**Warramunga Arr**	**139.28**	**253**	PKP		**PKiKP**	**11 03 48.2**	**-0.6**
	comp=Z,1.6nm,1.0s,baz=100,slow=1.9,SNR=2.7								
CMAR	**Chiang Mai Arr**	**149.79**	**349**	PKPbc		**PKiKP**	**11 04 10.9**	**+0.4**
	comp=Z,3.9nm,0.8s,baz=349,slow=3.6,SNR=17								

SJA ***25*** *10:45:28.6±0.9,28.7°S×65.9°W,h21km±17km,ML4.3, MW4.1*
NEIC ***25*** *10:45:30.2±1.5,28.1°S±0.6°×65.8°W±0.8,h27km±4km, mb4.6/36,Md4.4(SJA),Error ellipse: s-maj=10.8km s-min=9.2km az=105.0*
IDC ***25*** *10:45:31.4±3.5,28.1°S×65.7°W,h33km±27km,mb3.7/6, mb1 3.9/12,mb1mx3.8/42,mbtmp3.8/12,ML3.8/5,MS3.1/4, Ms1 3.2/4,ms1mx2.9/28,Error ellipse: s-maj=24.1km s-min=22.3km az=123.0*
VAO ***25*** *10:45:36.8±0.7,28.5°S×65.4°W,h129km±5km,mb4.1*
ISC 25 10:45:31.0±0.4,28.13°S±0.04°×65.66°W±0.04°,h35km,n164, σ1°92/176,**mb4.6**/22,**Santiago del Estero Province**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CYA	**Choya**	**0.34**	**203**	*i* P		**Pn**	**10 45 36.2**	**-3.3**
CYA				*i* S		**Sn**	**10 45 40.5**	**-4.7**
CYA				IAML			10 45 41.1	
	comp=Z,20μm,0.2s							
VCA	**Vinchina**	**2.33**	**254**	*i* P		**Pn**	**10 46 07.0**	**+0.1**
VCA				IAML			10 46 36.2	
	comp=Z,2μm,0.2s							
AC02	**Maricunga**	**3.34**	**292**			**Pn**	**10 46 19.6**	**-1.6**
ACDV	**Cuesta del Vie**	**3.65**	**235**	*i* P		**Pn**	**10 46 23.9**	**-1.2**
ACDV				IAML			10 47 22.8	
	comp=Z,293nm,0.8s							
ACCO	**Cerro Coronel**	**3.85**	**230**	*i* P		**Pn**	**10 46 27.3**	**-0.8**
ACCO				IAML			10 47 28.6	
	comp=Z,294nm,0.5s							
AROD	**Rodeo**	**3.91**	**238**	*i* P		**Pn**	**10 46 28.5**	**-0.3**
RTLL	**Cerro Villicun**	**4.02**	**217**	*i* P		**Pn**	**10 46 29.9**	**-0.2**
RTLL				IAML			10 47 38.4	
	comp=Z,615nm,0.4s							
GO03	**Copiap**	**4.09**	**276**			**Pn**	**10 46 29.8**	**-1.3**
GO03	**Copiap**	**4.09**	**276**	*i* P		**Pn**	**10 46 29.5**	**-1.6**
CFA	**Coronel Fontan**	**4.12**	**212**	Pn		**Pn**	**10 46 30.6**	**-0.9**
	comp=Z,7.8nm,0.3s,baz=50,slow=16,SNR=56							
CFA				Sn		**Sn**	**10 47 18.4**	**-0.2**
	comp=Z,67nm,0.3s,baz=347,slow=19,SNR=4.5							
CFA				Lg		Lg	10 47 31.0	
	comp=Z,194nm,0.3s,baz=84,slow=22,SNR=14							
CFA				LR		LR	10 48 16.3	
	comp=Z,488nm,21.5s,baz=42,slow=41							
AC05	**El Transito**	**4.13**	**259**			**Pn**	**10 46 30.1**	**-1.6**
ZON	**Zonda**	**4.30**	**217**			**Pn**	**10 46 33.3**	**-0.7**
ZON	**Zonda**	**4.30**	**217**	*i* P		**Pn**	**10 46 34.5**	**+0.5**
ZON				IAML			10 47 49.2	
	comp=Z,430nm,0.6s							
CO01	**Juntas del Tor**	**4.30**	**244**			**Pn**	**10 46 32.4**	**-1.7**
RTCV	**Cerro Valdivia**	**4.48**	**213**	*i* P		**Pn**	**10 46 36.7**	**+0.3**
RTCV				IAML			10 47 51.6	
	comp=Z,787nm,0.9s							
GO02	**Mina Guanaco**	**4.60**	**309**	Pn		**Pn**	**10 46 37.5**	**-0.8**
AC04	**Llanos de Chal**	**4.79**	**268**			**Pn**	**10 46 37.7**	**-2.9**
AC01	**Pan de Azucar**	**4.83**	**293**	Pn		**Pn**	**10 46 39.9**	**-1.3**
HJA	**Humahuaca**	**4.91**	**3**	*i* P		**Pn**	**10 46 46.4**	**+3.8**
HJA				IAML			10 48 23.0	
	comp=Z,160nm,0.7s							
GO04	**Tololo Observa**	**4.94**	**244**			**Pn**	**10 46 41.7**	**-1.2**
CO03	**El Pedregal**	**5.15**	**237**			**Pn**	**10 46 44.7**	**-1.0**
CO02	**Combarbal**	**5.57**	**235**			**Pn**	**10 46 49.7**	**-1.7**
PB15	**IPOC Station P**	**5.99**	**324**			**Pn**	**10 46 55.1**	**-2.2**
LVC	**Limon Verde**	**6.24**	**331**	Pn		**Pn**	**10 47 00.6**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=117,slow=4.5,SNR=2.3							
LVC				LR		LR	10 49 31.1	
	comp=Z,101nm,19.1s,baz=172,slow=38							
LVC	**Limon Verde**	**6.24**	**331**			**Pn**	**10 46 59.5**	**-1.4**
VA03	**San Esteban**	**6.26**	**221**			**Pn**	**10 46 59.2**	**-1.7**
PB06	**IPOC Station P**	**6.46**	**326**			**Pn**	**10 47 03.4**	**-0.4**
PEL	**Peldehue**	**6.61**	**220**			**Pn**	**10 47 05.0**	**-0.7**
ROC1	**El Roble**	**6.68**	**222**			**Pn**	**10 47 05.5**	**-1.4**
MT05	**Renca**	**6.83**	**219**			**Pn**	**10 47 07.3**	**-1.4**
MT02	**Curacav**	**6.96**	**221**			**Pn**	**10 47 08.0**	**-2.4**
PB07	**IPOC Station P**	**7.44**	**328**			**Pn**	**10 47 17.6**	**+0.4**
CPUP	**Villa Florida**	**7.62**	**78**	Pn		**Pn**	**10 47 22.8**	**+3.2**
	comp=Z,1.5nm,0.3s,baz=263,slow=11,SNR=26							
CPUP				Sn		**Sn**	**10 48 50.6**	**+5.8**
	comp=Z,5.3nm,0.3s,baz=262,slow=12,SNR=3.6							
CPUP				Lg		Lg	10 49 30.4	
	comp=Z,4.8nm,0.3s,baz=342,slow=20,SNR=1.6							
CPUP				LR		LR	10 50 02.7	
	comp=Z,92nm,21.4s,baz=258,slow=35							
CPUP	**Villa Florida**	**7.62**	**78**			**Pn**	**10 47 21.4**	**+1.8**
CPUP	**Villa Florida**	**7.62**	**78**	*e*P		**Pn**	**10 47 22.8**	**+3.2**
CPUP				*e*S		**Sn**	**10 48 49.4**	**+4.6**
CPUP	**Villa Florida**	**7.62**	**78**	*e*P		**Pn**	**10 47 22.8**	**+3.2**
CPUP				*e*S		**Sn**	**10 48 49.4**	**+4.6**
BO02	**Sierra Bellavi**	**7.95**	**212**	Pn		**Pn**	**10 47 22.3**	**-1.9**
PB08	**IPOC Station P**	**8.57**	**337**	Pn		**Pn**	**10 47 32.6**	**-0.4**
GO05	**Huala**	**8.70**	**216**			**Pn**	**10 47 30.2**	**-4.1**
GO01	**Chusmiza**	**9.02**	**338**	Pn		**Pn**	**10 47 39.1**	**-0.2**
CPSB	**Cacapava Do Su**	**10.90**	**105**	*e*P		**Pn**	**10 48 04.4**	**-0.2**
CPSB				*e*S		**Sn**	**10 50 03.5**	**-1.8**
CPSB	**Cacapava Do Su**	**10.90**	**105**	*e*P		**Pn**	**10 48 04.4**	**-0.2**
CPSB				*e*S		**Sn**	**10 50 03.5**	**-1.8**
PLTB	**Pedras Altas**	**11.06**	**112**	*e*P		**Pn**	**10 48 08.7**	**+2.0**
PLTB				*e*S		**Sn**	**10 50 04.5**	**-4.6**
PLTB	**Pedras Altas**	**11.06**	**112**	*e*P		**Pn**	**10 48 08.7**	**+2.0**
PLTB				*e*S		**Sn**	**10 50 04.5**	**-4.6**
AQDB	**Aquidauana**	**11.85**	**52**	*e*P		Pn	10 48 22.6	+5.2
AQDB	**Aquidauana**	**11.85**	**52**	*e*P		Pn	10 48 22.6	+5.2
LPAZ	**La Paz**	**12.01**	**348**	Pn		**Pn**	**10 48 22.1**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=192,slow=14,SNR=2.2							
LPAZ				LR		LR	10 53 51.9	
	comp=Z,142nm,19.6s,baz=199,slow=42							
LPAZ	**La Paz**	**12.01**	**348**			**Pn**	**10 48 20.5**	**+0.3**
LPAZ	**La Paz**	**12.01**	**348**	*e*P		**P**	**10 48 29.7**	**-3.2**
LPAZ	**La Paz**	**12.01**	**348**	*e*P		**P**	**10 48 29.7**	**-3.2**

PTGB	**Pitanga**	**12.64**	**78**	*e*P		Pn	10 48 33.0	+4.5	
PTGB	**Pitanga**	**12.64**	**78**	*e*P		Pn	10 48 33.0	+4.5	
SIV	**San Ignacio**	**12.80**	**20**	Pn		**Pn**	**10 48 33.1**	**+2.5**	
	comp=Z,0.5nm,0.3s,baz=220,slow=9.9,SNR=6.2								
CNLB	**Canela**	**13.05**	**99**	*e*P		**Pn**	**10 48 34.4**	**+0.5**	
CNLB				*e*S		**Sn**	**10 50 55.1**	**-2.7**	
CNLB	**Canela**	**13.05**	**99**	*e*P		**Pn**	**10 48 34.4**	**+0.5**	
CNLB				*e*S		**Sn**	**10 50 55.1**	**-2.7**	
PLCA	**Paso Flores**	**13.20**	**196**	Pn		**Pn**	**10 48 35.4**	**-0.6**	
	comp=Z,0.1nm,0.3s,baz=23,slow=21,SNR=3.0								
PLCA				Lg		Lg	10 52 24.8		
	comp=Z,0.2nm,0.3s,baz=317,slow=18,SNR=5.1								
PLCA	**Paso Flores**	**13.20**	**196**			**Pn**	**10 48 33.8**	**-2.1**	
PTLB	**Pontes e Lacer**	**13.99**	**27**	*e*P		**P**	**10 48 53.9**	**-0.3**	
PTLB	**Pontes e Lacer**	**13.99**	**27**	*e*P		**P**	**10 48 53.9**	**-0.3**	
C2SB	**Chapadao do Su**	**14.99**	**54**	*e*P		**P**	**10 49 05.9**	**+0.5**	
C2SB	**Chapadao do Su**	**14.99**	**54**	*e*P		**P**	**10 49 05.9**	**+0.5**	
FRTB	**Fartura**	**15.26**	**75**	*e*P		**Pn**	**10 49 05.0**	**+1.1**	
FRTB	**Fartura**	**15.26**	**75**	*e*P		**Pn**	**10 49 05.0**	**+1.1**	
SALV	**Santo Antonio**	**15.27**	**39**	*e*P		**P**	**10 49 08.0**	**-0.4**	
SALV	**Santo Antonio**	**15.27**	**39**	*e*P		**P**	**10 49 08.0**	**-0.4**	
VILB	**Vilhena**	**15.94**	**20**	*e*P		**P**	**10 49 18.7**	**+2.8**	
VILB				*e*S		**S**	**10 52 20.2**	**-1.3**	
VILB	**Vilhena**	**15.94**	**20**	*e*P		**P**	**10 49 18.7**	**+2.8**	
VILB				*e*S		**S**	**10 52 20.2**	**-1.3**	
ITRB	**Iturama**	**16.30**	**62**	*e*P		**Pn**	**10 49 19.6**	**+2.4**	
ITRB	**Iturama**	**16.30**	**62**	*e*P		**Pn**	**10 49 19.6**	**+2.4**	
PET01	**Itanhaem-SP**	**16.93**	**81**	*e*P		**Pn**	**10 49 24.6**	**-0.6**	
PET01	**Itanhaem-SP**	**16.93**	**81**	*e*P		**Pn**	**10 49 24.6**	**-0.6**	
SPB	**Sao Paulo**	**17.01**	**79**	*e*P		**Pn**	**10 49 25.1**	**-1.1**	
SPB	**Sao Paulo**	**17.01**	**79**	*e*P		**Pn**	**10 49 25.1**	**-1.1**	
BB19B	**Bebedouro**	**17.08**	**69**	*e*P		**Pn**	**10 49 28.1**	**+0.9**	
BB19B	**Bebedouro**	**17.08**	**69**	*e*P		**Pn**	**10 49 28.1**	**+0.9**	
VAO	**Valinhos**	**17.61**	**77**	*e*P		**Pn**	**10 49 31.0**	**-2.8**	
VAO	**Valinhos**	**17.61**	**77**	*e*P		**Pn**	**10 49 31.0**	**-2.8**	
ARAG	**Araguaiana, MT**	**17.81**	**49**	*e*P		**P**	**10 49 38.2**	**+1.6**	
ARAG	**Araguaiana, MT**	**17.81**	**49**	*e*P		**P**	**10 49 38.2**	**+1.6**	
PARB	**Paraibuna**	**18.66**	**80**	*e*P		**P**	**10 49 43.9**	**-2.2**	
PARB	**Paraibuna**	**18.66**	**80**	*e*P		**P**	**10 49 43.9**	**-2.2**	
IPMB	**Ipameri, GO**	**18.94**	**62**	*e*P		**P**	**10 49 47.1**	**-2.0**	
IPMB				*e*S		**Sn**	**10 53 18.0**	**-3.2**	
IPMB	**Ipameri, GO**	**18.94**	**62**	*e*P		**P**	**10 49 47.1**	**-2.0**	
IPMB				*e*S		**Sn**	**10 53 18.0**	**-3.2**	
SAML	**Samuel**	**19.22**	**7**	P		**P**	**10 49 52.8**	**+0.6**	
SAML	**Samuel**	**19.22**	**7**	*e*P		**Pn**	**10 49 54.5**	**+1.2**	
SAML	**Samuel**	**19.22**	**7**	*e*P		**Pn**	**10 49 54.5**	**+1.2**	
CLDB	**Colider**	**19.50**	**30**	*e*P		**Pn**	**10 49 57.6**	**+1.0**	
**

comp=Z,2.2nm,0.7s,baz=297,slow=2.4,SNR=14

MKAR	**Makanchi Array**	**148.77**	**45**		**PKPbc**	**11 05 15.8**	**+1.2**
MKAR				PKPab	**PKPab**	**11 05 20.0**	**+1.6**
SONM	**Songino Array**	**159.38**	**15**	PKPab	**PKPab**	**11 06 05.0**	**+1.7**
	comp=Z,0.5nm,0.6s,baz=25,slow=3.8,SNR=2.2						
SONM	**Songino Array**	**159.38**	**15**		**PKPab**	**11 06 04.8**	**+1.5**
LZH	**Lanzhou**	**168.08**	**46**	*e*PKP	**PKPdf**	**11 05 34.0**	**-0.1**
LZH				pPKP	pPKPdf	11 05 44.5	-1.4
LZH				sPKP		11 05 48.5	
LZH				PKP	**PKPab**	**11 06 45.3**	**+3.3**
LZH				LR	LR		
	comp=N,67nm,18.0s						
LZH				LR	LR		
	comp=E,73nm,18.2s						
LZH				LR	LR		
	comp=Z,100nm,20.1s						

*IDC **25** 11:16:50.6±1.7, 10°.66S×120°.14E, h0km, mb3.8/3, mb1 3.7/7, mb1mx3.5/40, mbtmp3.6/7, ML3.2/4, Error ellipse: s-maj=62.1km s-min=22.6km az=49.0*
*DJA **25** 11:16:54.4±1.9, 11°.5±13°×12°.0E±°, h10km±10km, M3.3/5, MLv3.3/5*
ISC 25 11:16:54.8±0.9, 10°.76S±0°.07×120°.36E±0°.07, h30km, n13, σ3°.04/17, mb4.0/3, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**0.57**	**22**	P	**Pb**	**11 17 04.5**	**-1.9**
BASI				S	**Sb**	**11 17 14.2**	**-0.2**
WSI	**Waingapu**	**1.08**	**357**	P	**Pn**	**11 17 14.7**	**+0.8**
WBSI	**Waikabubak, Su**	**1.46**	**319**	P	**Pn**	**11 17 19.5**	**+0.3**
EDFI	**Ende, Flores**	**2.38**	**33**	P	**Pn**	**11 17 32.2**	**+0.3**
PLAI	**Plampang**	**3.19**	**307**	P	**Pn**	**11 17 44.0**	**+1.1**
BATI	**Baumata**	**3.29**	**81**	Pn	**Pn**	**11 17 46.4**	**+2.0**
	7.1nm,0.3s,baz=164,slow=21,SNR=2.4						
BATI				Sn	**Sn**	**11 18 26.1**	**+3.5**
	1.0nm,0.3s,baz=190,slow=18,SNR=1.6						
BATI	**Baumata**	**3.29**	**81**	P	**Pn**	**11 17 47.0**	**+2.6**
FITZ	**Fitzroy Crossi**	**8.91**	**146**	Pn	**Pn**	**11 19 03.3**	**+1.8**
	0.2nm,0.3s,baz=326,slow=8.9,SNR=12						
FITZ				Sn	**Sn**	**11 20 38.0**	**-2.9**
	0.5nm,0.3s,baz=193,slow=20,SNR=7.3						
WRA	**Warramunga Arr**	**16.27**	**126**	Pn	**Pn**	**11 20 43.0**	**+1.7**
	0.1nm,0.3s,baz=302,slow=13,SNR=2.3						
WRA				Sn	**Sn**	**11 23 32.3**	**-8.7**
	0.1nm,0.3s,baz=293,slow=23,SNR=2.1						
ASAR	**Alice Springs**	**18.20**	**137**	P	**P**	**11 21 08.2**	**+2.7**
	0.1nm,0.3s,baz=315,slow=12,SNR=5.9						
SONM	**Songino Array**	**59.64**	**349**	P	**P**	**11 26 56.2**	**0.0**
	0.6nm,0.5s,baz=170,slow=8.8,SNR=1.8						
MKAR	**Makanchi Array**	**66.62**	**333**	P	**P**	**11 27 42.0**	**-0.4**
	0.3nm,0.6s,baz=132,slow=7.3,SNR=1.4						
ZALV	**Zalesovo Beam**	**71.15**	**339**	P	**P**	**11 28 09.0**	**-1.4**
	0.6nm,0.4s,baz=138,slow=6.3,SNR=1.7						

IDC 25 11:21:25.7±3.3, 30°.43S×177°.18W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/33, mbtmp3.7/3, Error ellipse: s-maj=66.6km s-min=36.4km az=103.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.33**	**331**	Pn	Pb	11 21 51.9	+0.3
	175nm,0.3s,baz=100,slow=14,SNR=8.3						
RAO				Sn	Sg	11 22 05.5	-3.1
	238nm,0.3s,baz=154,slow=16,SNR=5.0						
STKA	**Stephens Creek**	**35.16**	**257**	P	P	11 28 23.1	+1.8
	2.3nm,0.8s,baz=90,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**43.81**	**267**	P	P	11 29 32.5	-1.1
	0.2nm,0.4s,baz=107,slow=6.7,SNR=2.1						
WRA	**Warramunga Arr**	**44.81**	**272**	P	P	11 29 40.4	-1.2
	0.4nm,0.3s,baz=110,slow=8.1,SNR=5.1						
FINES	**FINESS Array B**	**145.41**	**340**	PKPbc	PKPbc	11 41 04.0	-0.8
	1.4nm,0.7s,baz=60,slow=3.7,SNR=4.7						

*IDC **25** 11:32:48.1±2.4, 51°.19N×179°.25W, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.7/71, mbtmp3.9/11, ML4.1/1, Error ellipse: s-maj=55.5km s-min=23.8km az=7.0*
*AEIC **25** 11:32:50.8±2.8, 50°.87N±0°.10×179°.14W±0°.07, h13km±6km, ML3.5/34, mb3.8/24(NEIC), Error ellipse: s-maj=13.8km s-min=6.1km az=180.0*
*NEIC **25** 11:32:53.6±2.0, 50°.98N±0°.08×179°.04W±0°.08, h41km±10km, Error ellipse: s-maj=12.3km s-min=6.9km az=175.0*
ISC 25 11:32:55.0±1.8, 51°.1N±0°.1×179°.13W±0°.04, h55km±13km, n72, σ1°.44/70, mb3.7/17, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.70**	**19**		**Pn**	**11 33 07.9**	**-1.1**
GAEA	**Gareloi East**	**0.72**	**19**		**Pn**	**11 33 08.3**	**-1.0**
TASE	**Tanaga Southea**	**1.00**	**43**		**Pn**	**11 33 11.8**	**-1.2**
AMKA	**Amchitka**	**1.02**	**286**		**Pn**	**11 33 12.1**	**-1.1**
AMKA					Pn	11 33 14.4	+1.2
TAFP	**Tanaga Falls P**	**1.07**	**41**		**Pn**	**11 33 12.8**	**-1.1**
TAFP					**Sn**	**11 33 30.9**	**+3.1**
TAPA	**Tanaga Point A**	**1.09**	**49**		**Pn**	**11 33 13.0**	**-1.1**
CERAA	**Semis' Rag'd T**	**1.09**	**318**		**Pn**	**11 33 13.2**	**-0.9**
CESW	**Semis' Southwe**	**1.14**	**315**		**Pn**	**11 33 13.7**	**-1.1**
CEAP	**Semis' Anvil P**	**1.21**	**319**		**Pn**	**11 33 15.4**	**-0.3**
CETU	**Semis' Tuman**	**1.22**	**316**		**Pn**	**11 33 15.7**	**-0.1**
KIMD	**Kanaga Island**	**1.36**	**60**		**Pn**	**11 33 16.3**	**-1.3**
KIKV	**Kanaga Island**	**1.45**	**57**		**Pn**	**11 33 17.9**	**-1.1**
KIKV					**Sn**	**11 33 39.0**	**+2.1**
KICM	**Kanaga Island**	**1.46**	**55**		**Pn**	**11 33 18.3**	**-0.7**
KICM					**Sn**	**11 33 39.9**	**+2.9**
LSPA	**Little Sitkin**	**1.67**	**302**		**Pn**	**11 33 21.5**	**-0.4**
LSSA	**Little Sitkin**	**1.70**	**301**		**Pn**	**11 33 21.5**	**-0.8**
LSNW	**Little Sitkin**	**1.71**	**302**		**Pn**	**11 33 21.7**	**-0.7**
ADK	**Adak**	**1.72**	**62**		**Pn**	**11 33 21.4**	**-1.1**
ADK				Sn	**Sn**	**11 33 44.0**	**+0.7**
GSTD	**Great Sitkin T**	**2.09**	**62**		**Pn**	**11 33 27.5**	**-0.3**
GSTD					**Sn**	**11 33 55.6**	**+3.0**
GSMY	**Great Sitkin M**	**2.14**	**63**		**Pn**	**11 33 28.3**	**+0.1**
GSTR	**Great Sitkin T**	**2.16**	**61**		**Pn**	**11 33 28.9**	**+0.3**
ATKA	**Atka Island**	**3.27**	**68**		**Pn**	**11 33 43.1**	**-0.6**
ATKA	**Atka Island**	**3.27**	**68**		**Sn**	**11 34 23.8**	**+2.6**
KOFP	**Korovin Flat P**	**3.34**	**68**		**Pn**	**11 33 45.1**	**+0.3**
SMY	**Shemya**	**4.50**	**294**		**Pn**	**11 34 02.0**	**+1.5**
NIKH	**Nikolski High**	**6.61**	**70**	Pn	**Pn**	**11 34 27.6**	**-1.9**
UNV	**Unalaska Valle**	**8.18**	**65**	Pn	**Pn**	**11 34 53.1**	**+2.1**
OHAK	**Old Harbor**	**16.26**	**58**	Pn	**P**	**11 36 40.1**	**-1.6**
OHAK				IAmb	IAmb	11 36 54.5	
	comp=Z,15nm,1.4s						
KDAK	**Kodiak Island**	**16.75**	**56**	Pn	**Pn**	**11 36 41.5**	**-4.0**
	comp=Z,0.6nm,0.3s,baz=216,slow=4.5,SNR=16						
KDAK				Sn	**Sn**	**11 39 44.9**	**-5.6**
	comp=Z,0.1nm,0.3s,baz=194,slow=19,SNR=1.8						
TTA	**Tatalina**	**17.16**	**38**	P	**P**	**11 36 52.9**	**+1.2**
CNPM	**China Poot**	**17.86**	**51**	P	**Pn**	**11 36 58.4**	**-0.9**
CNPM				IAmb	IAmb	11 37 00.4	
	comp=Z,17nm,1.5s						
SKT	**Skwentna**	**18.55**	**43**	P	**Pn**	**11 37 08.3**	**+0.6**
SKT				IAmb	IAmb	11 37 11.0	
	comp=Z,5.6nm,1.0s						
SEW	**Seward**	**18.88**	**50**	P	**P**	**11 37 09.9**	**-0.6**
SEW				IAmb	IAmb	11 37 21.0	
	comp=Z,4.9nm,0.8s						
TRF	**Thorofare Moun**	**19.68**	**40**	P	**P**	**11 37 19.8**	**+0.4**
TRF				IAmb	IAmb	11 37 32.8	
	comp=Z,5.6nm,1.2s						
BPAW	**Bear Paw Mtn.**	**19.70**	**38**	P	**Pn**	**11 37 20.2**	**-1.1**
RND	**Reindeer**	**20.25**	**41**	P	**P**	**11 37 26.1**	**+0.6**
RND				IAmb	IAmb	11 37 30.2	
	comp=Z,3.4nm,0.8s						
WRH	**Wood River Hil**	**20.99**	**39**	P	**P**	**11 37 34.5**	**+1.1**
CCB	**Clear Creek Bu**	**21.18**	**38**	P	**P**	**11 37 35.1**	**-0.3**
HDA	**Harding Lake**	**21.42**	**39**	P	**P**	**11 37 38.0**	**0.0**
HDA				IAmb	IAmb	11 37 40.1	
	comp=Z,2.2nm,0.6s						
IL31		**21.59**	**38**	P	**P**	**11 37 40.5**	**+0.8**
ILAR	**Eielson Array**	**21.59**	**38**	P	**P**	**11 37 39.1**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=239,slow=8.8,SNR=12						
ILAR	**Eielson Array**	**21.59**	**38**	P	**P**	**11 37 40.8**	**+1.0**
COLD	**Coldfoot**	**21.60**	**31**	P	**P**	**11 37 41.0**	**+1.2**
COLD				IAmb	IAmb	11 37 51.7	
	comp=Z,4.7nm,1.4s						
GLB	**Gilahina Butte**	**21.89**	**48**	P	**P**	**11 37 42.3**	**-0.8**
GLB				IAmb	IAmb	11 37 48.1	
	comp=Z,2.8nm,0.6s						

VRDI	**Verde Repeater**	**22.01**	**49**	P	**P**	**11 37 44.7**	**+0.2**
VRDI				IAmb	IAmb	11 37 46.5	
	comp=Z,3.5nm,1.1s						
DOT	**Dot Lake**	**22.34**	**42**	P	**P**	**11 37 47.5**	**-0.5**
DOT				IAmb	IAmb	11 37 52.1	
	comp=Z,2.9nm,0.7s						
TOLK	**Toolik Lake Re**	**22.61**	**28**	P	**P**	**11 37 51.1**	**+0.4**
TOLK				IAmb	IAmb	11 37 52.1	
	comp=Z,1.6nm,0.8s						
FYU	**Fort Yukon**	**22.97**	**35**	P	**P**	**11 37 53.6**	**-0.8**
BCAR	**Beaver Creek A**	**23.18**	**45**	P	**P**	**11 37 55.3**	**-1.3**
BMAR	**Burnt Mountain**	**23.58**	**33**	P	**P**	**11 38 00.5**	**+0.1**
EGAK	**Eagle**	**23.89**	**41**	P	**P**	**11 38 03.3**	**+0.1**
DAWY	**Dawson**	**24.45**	**43**	P	**P**	**11 38 08.2**	**-0.1**
DAWY				IAmb	IAmb	11 38 12.3	
	comp=Z,1.3nm,0.6s						
EPYK	**Eagle Plains**	**26.11**	**38**	P	**P**	**11 38 22.7**	**-0.6**
BESE	**Bessie Mountai**	**26.15**	**56**	P	**P**	**11 38 24.4**	**+0.6**
INK	**Inuvik**	**27.80**	**35**	P	**P**	**11 38 39.0**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=260,slow=11,SNR=5.2						
H11N2	**WAKE ISLAND Hy**	**33.19**	**205**	T	T	12 14 44.3	
	baz=17,slow=76,SNR=4.8						
H11N3	**WAKE ISLAND Hy**	**33.20**	**205**	T	T	12 14 40.9	
	baz=17,slow=76,SNR=4.6						
H11N1	**WAKE ISLAND Hy**	**33.21**	**205**	T	T	12 14 44.5	
	baz=17,slow=76,SNR=5.2						
YKA	**Yellowknife Ar**	**35.57**	**46**	P	**P**	**11 39 46.7**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=294,slow=10.0,SNR=5.5						
PDAR	**Pinedale Array**	**46.59**	**72**	P	**P**	**11 41 19.3**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=305,slow=5.2,SNR=8.3						
PDAR	**Pinedale Array**	**46.59**	**72**	P	**P**	**11 41 18.8**	**+1.3**
SPITS	**Spitsbergen Ar**	**50.63**	**356**	P	**P**	**11 41 47.8**	**0.0**
	comp=Z,6.4nm,0.9s,baz=26,slow=8.0,SNR=7.8						
TXAR	**Lajitas Array**	**58.90**	**81**	P	**P**	**11 42 48.3**	**0.0**
	comp=Z,0.1nm,0.3s,baz=294,slow=4.4,SNR=2.5						
KURK	**Kurchatov**	**59.06**	**314**	P	**P**	**11 42 50.6**	**+1.6**
KURK	**Kurchatov**	**59.06**	**314**	IAmb	IAmb	11 42 51.7	
	comp=Z,3.6nm,1.2s						
KURBB	**Kurchatov Arra**	**59.17**	**314**	P	**P**	**11 42 50.6**	**+0.8**
	comp=Z,2.4nm,0.2s,baz=43,slow=6.8,SNR=4.3						
FINES	**FINESS Array B**	**66.01**	**347**	P	**P**	**11 43 34.5**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=359,slow=8.3,SNR=1.3						
HFS	**Hagfors**	**68.64**	**353**	P	**P**	**11 43 51.7**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=20,slow=4.6,SNR=1.4						
AKASG	**Malin Array Be**	**75.75**	**342**	P	**P**	**11 44 33.5**	**-0.8**
	comp=Z,1.0nm,0.3s,baz=20,slow=6.6,SNR=5.8						
AKASG	**Malin Array Be**	**75.75**	**342**	IAmb	IAmb	11 44 35.6	
	comp=Z,0.7nm,0.6s						
H03N2	**Juan Fernandez**	**121.27**	**106**	T	T	14 04 53.2	
	baz=317						
H03N1	**Juan Fernandez**	**121.28**	**106**	T	T	14 04 48.6	
	baz=317						
H03N3	**Juan Fernandez**	**121.29**	**106**	T	T	14 04 46.2	
	baz=317						

*NEIC **25** 11:34:47.1±1.4, 4°.50S±0°.06×144°.79E±0°.08, h120km±9km, mb4.2/10, Error ellipse: s-maj=11.2km s-min=8.9km az=79.0*
*IDC **25** 11:34:47.9±2.4, 4°.51S×144°.72E, h126km±24km, mb3.5/5, mb1 3.6/8, mb1mx3.3/41, mbtmp3.9/8, Error ellipse: s-maj=24.0km s-min=20.7km az=79.0*
ISC 25 11:34:48.7±0.9, 4°.56S±0°.08×144°.75E±0°.09, h150km, n22, σ2°.15/26, mb3.9/7, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.52**	**297**	P	**Pn**	**11 35 54.9**	**-1.0**
	2.2nm,0.3s,baz=125,slow=16,SNR=8.2						
JAY				S	**Sn**	**11 36 45.0**	**-3.1**
	2.4nm,0.3s,baz=153,slow=18,SNR=1.8						
PMG	**Port Moresby**	**5.38**	**154**	P	**Pn**	**11 36 05.6**	**-1.5**
	8.5nm,0.3s,baz=325,slow=12,SNR=22						
PMG				S	**Sn**	**11 37 02.6**	**-5.8**
	1.5nm,0.3s,baz=135,slow=19,SNR=1.2						
PMG	**Port Moresby**	**5.38**	**154**		**Pn**	**11 36 05.6**	**-1.5**
PMG					**Sn**	**11 37 06.3**	**-2.1**
COEN	**Coen**	**9.47**	**189**	Pn	**Pn**	**11 37 03.2**	**+1.5**
COEN				Sn	**Sn**	**11 38 44.5**	**-2.2**
WB0	**Warramunga Arr**	**18.17**	**213**	P	**Pn**	**11 38 51.3**	**-0.4**
WR0	**Warramunga Arr**	**18.25**	**212**	P	**Pn**	**11 38 52.6**	**0.0**
WR0				IAmb	IAmb	11 38 54.1	
	comp=Z,25nm,1.4s						
WRAB	**Tennant Creek**	**18.33**	**213**	P	**Pn**	**11 38 53.9**	**+0.4**
WB2	**Warramunga Arr**	**18.34**	**213**	P	**Pn**	**11 38 53.2**	**-0.4**
WB2				IAmb	IAmb	11 38 55.8	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**18.35**	**213**	P	**Pn**	**11 38 52.7**	**-1.0**
	comp=Z,4.4nm,0.3s,baz=31,slow=11,SNR=24						
WRA	**Warramunga Arr**	**18.35**	**213**	P	**Pn**	**11 38 52.6**	**-1.1**
KNRA	**Kununurra**	**19.21**	**234**	P	**Pn**	**11 39 02.7**	**-1.1**
ASAR	**Alice Springs**	**21.69**	**208**	P	**P**	**11 39 29.9**	**+2.0**
	comp=Z,0.4nm,0.4s,baz=30,slow=12,SNR=10.0						
ASAR	**Alice Springs**	**21.69**	**208**	P	**P**	**11 39 29.4**	**+1.6**
FITZ	**Fitzroy Crossi**	**23.03**	**233**	P	**P**	**11 39 41.9**	**+1.0**
	comp=Z,2.5nm,1.0s,baz=59,slow=7.7,SNR=8.6						
FITZ	**Fitzroy Crossi**	**23.03**	**233**	P	**P**	**11 39 42.5**	**+1.6**
FITZ				IAmb	IAmb	11 39 54.5	
	comp=Z,8.4nm,1.1s						
DZM	**Mont Dzumac**	**27.29**	**132**	P	**P**	**11 40 21.4**	**+1.9**
	comp=Z,4.1nm,0.8s,baz=284,slow=12,SNR=1.6						
STKA	**Stephens Creek**	**27.34**	**186**	P	**P**	**11 40 22.0**	**+2.4**
	comp=Z,1.4nm,0.7s,baz=4.0,slow=10,SNR=3.0						
TOO	**Toolangi**	**32.86**	**179**	P	**P**	**11 41 10.7**	**+2.3**
MAKZ	**Makanchi**	**75.17**	**321**	P	**P**	**11 46 12.1**	**-2.6**
MAKZ				IAmb	IAmb	11 46 13.9	
	comp=Z,3.0nm,0.6s						
CCB	**Clear Creek Bu**	**84.64**	**24**	P	**P**	**11 47 06.9**	**+1.8**
CCB				IAmb	IAmb	11 47 07.8	
	comp=Z,1.7nm,0.6s						
ILAR	**Eielson Array**	**85.06**	**24**	P	**P**	**11 47 08.9**	**+1.7**
	comp=Z,1.1nm,0.6s,baz=256,slow=4.8,SNR=17						
ILAR	**Eielson Array**	**85.06**	**24**	P	**P**	**11 47 09.3**	**+2.1**

*MEX **25** 11:40:28.9±0.5, 14°.77N×93°.13W, h20km±58km, MD3.6*
*GCG **25** 11:40:30.7±0.7, 15°.62N×92°.47W, h21km±999km, MD3.7*
ISC 25 11:40:26.4±3.0, 14°.8N±0°.1×93°.1W±0°.1, h17km±12km, n7, σ1°.20/12, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.82**	**81**	*i* P	**Pg**	**11 40 42.5**	**+0.1**
THIG				*i* S	**Sg**	**11 40 53.2**	**-0.1**
PCIG		**0.93**	**353**	*i* P	**Pb**	**11 40 43.5**	**-0.5**
PCIG				*e*S	**Sb**	**11 40 54.8**	**-1.4**
STG3	**Santiaguito 3,**	**1.49**	**92**	*e*P	**Pn**	**11 40 53.1**	**+0.5**
STG3				*e*S	**Sn**	**11 41 11.4**	**-0.3**
CCIG	**Comitan**	**1.76**	**32**	*e*P	**Pn**	**11 40 57.7**	**+1.3**
CCIG				*e*S	**Sn**	**11 41 19.6**	**+1.0**
FUG	**Fuego 3**	**2.21**	**98**	*e*P	**Pn**	**11 41 03.0**	**+0.4**
FUG				*e*S	**Sn**	**11 41 28.2**	**-1.5**
PCG	**Pacaya**	**2.45**	**99**	*e*P	**Pn**	**11 41 06.6**	**+0.7**
IXG	**Ixpaco**	**2.65**	**103**	*e*P	**Pn**	**11 41 10.4**	**+1.8**

*JMA **25** 11:43:38.8±0.1, 24°.84N×122°.12E, h103km±2km, M1.9*
*TAP **25** 11:43:39.5, 24°.85N×122°.15E, h97km, ML2.8, C*
ISC 25 11:43:40.3±1.6, 24°.83N±0°.05×122°.17E±0°.03, h93km±8km, n61, σ0°.70/111, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.25**	**318**	*i* P	**Pn**	**11 43 53.7**	**-0.1**
	baz=309						
TWB1				S	**Sn**	**11 44 03.1**	**-0.7**
	baz=309						
NTC	**Toucheng**	**0.31**	**275**	*i* P	**Pn**	**11 43 53.9**	**-0.1**
	baz=266						
NTC				*i* S	**Sn**	**11 44 04.8**	**+0.5**
	baz=266						
TIPB	**Shuangxi**	**0.35**	**295**	*i* P	**Pn**	**11 43 54.2**	**-0.1**
	baz=281						
TIPB				*e*S	**Sn**	**11 44 04.4**	**-0.4**
	baz=281						
TWC	**Suao**	**0.36**	**234**	*i* P	**Pn**	**11 43 54.4**	**0.0**
	baz=229						
TWC				*i* S	**Sn**	**11 44 04.9**	**+0.1**
	baz=229						
NWF	**Wu-fen Shan**	**0.43**	**305**	*i* P	**Pn**	**11 43 54.8**	**-0.1**
	baz=295						
NWF				*e*S	**Sn**	**11 44 05.8**	**0.0**
	baz=295						
WFSB	**Wu-fen Shan**	**0.43**	**305**	P	**Pn**	**11 43 54.8**	**0.0**
	baz=295						
WFSB				*e*S	**Sn**	**11 44 05.6**	**0.0**
	baz=295						
TWE	**Neicheng**	**0.47**	**257**	*i* P	**Pn**	**11 43 55.0**	**-0.1**
	baz=255						
TWE				*e*S	**Sn**	**11 44 06.7**	**+0.6**
	baz=255						
TWA	**Mucha**	**0.56**	**286**	P	**Pn**	**11 43 55.1**	**-0.7**
	baz=284						
TWA				*e*S	**Sn**	**11 44 06.6**	**-0.7**
	baz=284						
ENA	**Nanau**	**0.56**	**225**	*i* P	**Pn**	**11 43 56.0**	**+0.2**
	baz=213						
ENA				*i* S	**Sn**	**11 44 08.0**	**+0.7**
	baz=213						
ENTT	**Nioudou**	**0.58**	**252**	*i* P	**Pn**	**11 43 56.0**	**0.0**
	baz=246						
ENTT				*e*S	**Sn**	**11 44 08.2**	**+0.5**
	baz=246						
NHDH	**Xindian Distri**	**0.60**	**283**	*i* P	**Pn**	**11 43 55.6**	**-0.5**
	baz=286						
NHDH				*e*S	**Sn**	**11 44 07.2**	**-0.7**
	baz=286						
NWLT	**Wulai**	**0.61**	**266**	*i* P	**Pn**	**11 43 55.7**	**-0.5**
	baz=267						
NWLT				*i* S	**Sn**	**11 44 08.4**	**+0.3**
	baz=267						
NDT	**Datong Townshi**	**0.64**	**250**	*i* P	**Pn**	**11 43 56.9**	**+0.4**
	baz=245						
NDT				*i* S	**Sn**	**11 44 09.8**	**+1.2**
	baz=245						
TWS1	**Kuangyinshan**	**0.74**	**292**	*i* P	**Pn**	**11 43 57.0**	**-0.4**
	baz=291						
TWS1				*e*S	**Sn**	**11 44 10.2**	**0.0**
	baz=291						
YHNB	**Yeheng**	**0.74**	**258**	P	**Pn**	**11 43 57.3**	**-0.2**
	baz=255						
YHNB				*i* S	**Sn**	**11 44 10.2**	**-0.2**
	baz=255						
NSK	**Sanguang**	**0.76**	**259**	*i* P	**Pn**	**11 43 57.2**	**-0.4**
	baz=256						
NSK				*i* S	**Sn**	**11 44 10.2**	**-0.4**
	baz=256						
JYNG	**Yonagunijimaku**	**0.80**	**118**	P	**Pn**	**11 43 58.1**	**+0.1**
JYNG					S	**Sn**	**11 44 12.3**	**+1.1**
NNSB	**Datong**	**0.82**	**241**	P	**Pn**	**11 43 58.5**	**+0.1**
	baz=244						
NNSB				*i* S	**Sn**	**11 44 12.2**	**+0.4**
	baz=244						
NNSH	**Datong**	**0.82**	**241**	*i* P	**Pn**	**11 43 58.5**	**+0.1**
	baz=245						
NNSH					S	**Sn**	**11 44 12.3**	**+0.4**
	baz=245						
NNS	**Nan Shan**	**0.82**	**242**	*i* P	**Pn**	**11 43 58.7**	**+0.3**
	baz=245						
NNS				*i* S	**Sn**	**11 44 12.6**	**+0.7**
	baz=245						
NACB	**Ninganchiao**	**0.83**	**219**	P	**Pn**	**11 43 57.8**	**-0.6**
	baz=207						
NACB				S	**Sn**	**11 44 12.0**	**+0.1**
	baz=207						
WLTB	**Daxi**	**0.84**	**272**	P	**Pn**	**11 43 58.4**	**0.0**
	baz=270						
WLTB				*i* S	**Sn**	**11 44 12.5**	**+0.6**
	baz=270						
YOJ	**Yonaguni jima**	**0.84**	**115**	*e*S	**Sn**	**11 44 12.4**	**+0.3**
	baz=122						
YOJ	**Yonaguni jima**	**0.84**	**115**	P	**Pn**	**11 43 58.6**	**+0.1**
ETLH	**Xiulin Townshi**	**0.88**	**226**	P	**Pn**	**11 43 58.6**	**-0.4**
	baz=231						
ETLH				*i* S	**Sn**	**11 44 12.7**	**-0.2**
	baz=231						
NCU	**National Centr**	**0.91**	**279**	*e*P	**Pn**	**11 43 59.1**	**0.0**
	baz=284						
NCU				S	**Sn**	**11 44 14.4**	**+1.1**
	baz=284						
NCUH	**Zhongli**	**0.91**	**279**	*e*P	**Pn**	**11 43 59.0**	**-0.2**
	baz=278						
LIOB	**Emei**	**1.07**	**261**	*i* P	**Pn**	**11 44 00.6**	**-0.3**
	baz=259						
LIOB				*i* S	**Sn**	**11 44 16.1**	**-0.3**
	baz=259						
WHF	**Hehuan Shan**	**1.07**	**231**	*i* P	**Pn**	**11 44 01.0**	**-0.4**
	baz=222						
WHF				*i* S	**Sn**	**11 44 17.2**	**0.0**
	baz=222						
TWT	**Tachien**	**1.07**	**238**	*i* P	**Pn**	**11 44 01.7**	**+0.5**
	baz=227						
TWT				*i* S	**Sn**	**11 44 17.5**	**+0.7**
	baz=227						
SBCB	**Hsinchu**	**1.08**	**269**	S	**Sn**	**11 44 16.8**	**+0.1**
	baz=258						
NSTT	**Nanjuang**	**1.08**	**260**	*i* P	**Pn**	**11 44 00.7**	**-0.4**
	baz=258						
NSTT				*i* S	**Sn**	**11 44 16.1**	**-0.7**
	baz=258						
TDCB	**Techi**	**1.08**	**239**	P	**Pn**	**11 44 01.6**	**+0.3**
	baz=227						
TDCB				S	**Sn**	**11 44 17.2**	**+0.2**
	baz=227						
CHGB	**Renai**	**1.19**	**230**	P	**Pn**	**11 44 02.6**	**0.0**
	baz=226						
CHGB				S	**Sn**	**11 44 19.0**	**-0.3**
	baz=226						
ESL	**Shilin**	**1.21**

CHN5 *i* S **Sn** **11 44 33.3 -0.2**
baz=226
JIJ **Ishigaki jima** **1.85 104** P **Pn** **11 44 10.3 -0.4**
JIJ S **Sn** **11 44 33.1 -0.7**
ELDTW **Lidau** **1.94 213** *e*S **Sn** **11 44 35.1 -1.0**
baz=202
JISG **Ishigakijimahi** **1.96 97** P **Pn** **11 44 12.2 +0.2**
JISG S **Sn** **11 44 37.1 +0.8**
CHN4 **Tsaushan** **2.06 225** P **Pn** **11 44 14.1 +0.8**
baz=222
CHN4 *i* S **Sn** **11 44 40.0 +1.3**
baz=222
TPUB **Ta-pu** **2.07 223** *e*P **Pn** **11 44 13.7 +0.1**
baz=229
TPUB S **Sn** **11 44 39.3 +0.3**
baz=229
WTP **Ta-pu** **2.12 223** *e*S **Sn** **11 44 40.7 +0.6**
baz=229
CHN1 **Nanshi** **2.22 223** *e*S **Sn** **11 44 42.2 -0.3**
baz=229
SLGT **Liugui** **2.30 218** *e*S **Sn** **11 44 45.5 +1.3**
baz=213
VWUC **VWUC** **2.48 274** *e*S **Sn** **11 44 46.9 -1.6**
baz=273

SGS ***25*** *11:44:59.3*$_{\pm}$*0.5*, *30.82*$^{\circ}$*N*$\times$*49.85*$^{\circ}$*E*, *h15km*, *Ml4.8*
TEH ***25*** *11:45:00.4*, *30.45*$^{\circ}$*N*$\times$*49.80*$^{\circ}$*E*, *h13km*, *ML4.1*
THR ***25*** *11:45:00.7*$_{\pm}$*0.3*, *30.44*$^{\circ}$*N*$\times$*49.85*$^{\circ}$*E*, *h18km*$_{\pm}$*7km*, *ML4.1*
NEIC ***25*** *11:45:02.2*$_{\pm}$*1.5*, *30.56*$^{\circ}$*N*$_{\pm}$*0.04*$^{\circ}$$\times$*49.81*$^{\circ}$*E*$_{\pm}$*0.05*, *h25km*$_{\pm}$*7km*, *Error ellipse: s-maj=6.8km s-min=4.0km az=127.0*
IDC ***25*** *11:45:03.3*$_{\pm}$*3.1*, *30.28*$^{\circ}$*N*$\times$*49.73*$^{\circ}$*E*, *h40km*$_{\pm}$*31km*, *mb3.7/12, mb1 3.8/16,mb1mx3.6/67, mbtmp3.9/16, ML3.8/4, MS3.3/1, Ms1 3.3/1, ms1mx2.6/41, Error ellipse: s-maj=22.1km s-min=15.6km az=157.0*

ISC 25 11:44:59.5$_{\pm}$**0.5, 30.41**$^{\circ}$**N**$_{\pm}$**0.04**$^{\circ}$**$\times$49.77**$^{\circ}$**E**$_{\pm}$**0.04, h10km, n93, σ1^{s}80/98, mb4.0/14, Western Iran**

Code	Station Name	Δ°	AZ$^{\circ}$	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AHWZ	**Ahwaz**	**1.33**	**314**	*e*Pg		**Pg**	**11 45 25.8**	**+0.7**
AHWZ	**Ahwaz**	**1.33**	**314**			**Pg**	**11 45 25.9**	**+0.8**
KLNJ	**Kolanjah**	**1.68**	**69**	*e*Pg		**Pb**	**11 45 30.7**	**-0.1**
KLNJ				*e*			11 46 03.7	
KLNJ	**Kolanjah**	**1.68**	**69**			**Pn**	**11 45 30.3**	**+1.0**
SHGR	**Shooshtar-Gavs**	**1.88**	**334**	*e*Pn		**Pb**	**11 45 34.0**	**0.0**
SHGR				*e*Sg		**Sg**	**11 46 00.2**	**+0.1**
SHGR	**Shooshtar-Gavs**	**1.88**	**334**	*e*Pn		**Pb**	**11 45 34.0**	**0.0**
IBRJ	**Brojen**	**1.97**	**40**	*e*Pn		**Pb**	**11 45 35.0**	**-0.6**
JHBN	**Jahan bin**	**1.97**	**23**	*e*Pn		**Pb**	**11 45 35.3**	**-0.5**
JHBN	**Jahan bin**	**1.97**	**23**	Pg		**Pb**	**11 45 35.2**	**-0.5**
ROKH	**ROKH**	**2.21**	**29**	*e*Pn		**Pb**	**11 45 38.7**	**-1.1**
SHI	**Shiraz**	**2.50**	**107**	*e*Pn		**Pn**	**11 45 43.0**	**+2.5**
SHI				*e*			11 46 39.1	
SHI	**Shiraz**	**2.50**	**107**	Pn		**Pb**	**11 45 44.9**	**+0.2**
IRAM	**Rameseh**	**2.64**	**57**	*e*Pn		**Pn**	**11 45 46.9**	**+2.5**
IGAR	**Gharneh**	**2.78**	**44**	*e*Pn		**Pn**	**11 45 48.7**	**+2.4**
IKLH	**Kolahrood**	**3.28**	**28**	*e*Pn		**Pn**	**11 45 53.9**	**+2.6**
IZEF	**Zefreh**	**3.30**	**41**	*e*Pn		**Pn**	**11 45 54.0**	**+2.4**
IKMR	**Kamar-syah**	**3.31**	**340**	*e*Pn		**Pn**	**11 45 53.2**	**+1.8**
IKMR				*e*			11 46 56.4	
KHMZ	**Khomeyn**	**3.32**	**3**	*e*Pn		**Pn**	**11 45 53.6**	**+1.8**
KHMZ	**Khomeyn**	**3.32**	**3**	*e*Pn		**Pn**	**11 45 53.6**	**+1.8**
BMDN	**Meydan**	**3.35**	**346**	*e*Pn		**Pn**	**11 45 52.8**	**+0.7**
IKFM	**Kafar-mosalman**	**3.51**	**333**	*e*Pn		**Pn**	**11 45 55.5**	**+1.4**
IKFM				*e*			11 47 11.2	
QYSM	**Um Kedad**	**3.59**	**226**	P		**Pn**	**11 45 57.8**	**+2.5**
QYSM				S		**Sn**	**11 46 41.5**	**+3.7**
ISAD	**Sadrabad**	**3.68**	**65**	*e*Pn		**Pn**	**11 45 58.8**	**+2.1**
HSAM	**Samen**	**3.92**	**346**	*e*Pn		**Pn**	**11 46 02.2**	**+2.2**
ASAO	**Ashtian**	**4.13**	**3**	*e*Pn		**Pn**	**11 46 04.8**	**+1.9**
ASAO	**Ashtian**	**4.13**	**3**	*e*Pn		**Pn**	**11 46 04.8**	**+1.9**
GHVR	**GHOM**	**4.26**	**17**	*e*Pn		**Pn**	**11 46 06.1**	**+1.6**
GHVR	**GHOM**	**4.26**	**17**	*e*Pn		**Pn**	**11 46 06.1**	**+1.6**
IMEH	**Mehriz**	**4.28**	**76**	*e*Pn		**Pn**	**11 46 07.0**	**+2.0**
ANAR	**Anarak**	**4.37**	**50**	*e*Pn		**Pn**	**11 46 07.8**	**+1.8**
ICHK	**Chekchek**	**4.37**	**64**	*e*Pn		**Pn**	**11 46 07.6**	**+1.4**
HAGD	**Aghdareh**	**4.43**	**353**	*e*Pn		**Pn**	**11 46 08.8**	**+1.8**
SMAN	**Sihmah**	**4.48**	**200**	P		**Pn**	**11 46 09.5**	**+2.1**
RQBS	**RQBS**	**4.53**	**228**	P		**Pn**	**11 46 10.0**	**+1.8**
YZKH	**Yazd**	**4.57**	**63**	*e*Pn		**Pn**	**11 46 10.3**	**+1.4**
YZKH	**Yazd**	**4.57**	**63**	*e*Pn		**Pn**	**11 46 10.3**	**+1.4**
IALM	**Almabolaq**	**4.64**	**344**	*e*Pn		**Pn**	**11 46 11.2**	**+1.3**
IRAZ	**Razeghan**	**4.98**	**2**	*e*Pn		**Pn**	**11 46 17.0**	**+2.4**
ILIN	**Lien**	**5.08**	**333**	*e*Pn		**Pn**	**11 46 16.9**	**+0.9**
SNGE	**Sanandaj**	**5.09**	**337**	*e*Pn		**Pn**	**11 46 18.6**	**+2.5**
SNGE	**Sanandaj**	**5.09**	**337**	*e*Pn		**Pn**	**11 46 18.6**	**+2.5**
QABG	**Abgarm-Qazvin**	**5.29**	**358**	*e*Pn		**Pn**	**11 46 19.1**	**+0.3**
IDMV	**Damavand**	**5.49**	**20**	*e*Pn		**Pn**	**11 46 22.9**	**+1.2**
NHRD	**Haradh**	**5.71**	**187**	P		**Pn**	**11 46 26.9**	**+2.5**
KHGB	**Koh Gabri**	**5.80**	**89**	*e*Pn		**Pn**	**11 46 27.9**	**+2.1**
KRBR	**Kerman**	**6.07**	**92**	IAML			11 48 09.7	
	comp=E,29nm,0.7s							
TVBK	**TV Kerman**	**6.07**	**92**	*e*Pn		**Pn**	**11 46 32.2**	**+2.5**
TVBK				*e*			11 47 56.0	
IANJ	**Anjilo**	**6.13**	**34**	*e*Pn		**Pn**	**11 46 31.4**	**+1.0**
ISHM	**Shahmirzad**	**6.14**	**28**	*e*Pn		**Pn**	**11 46 33.0**	**+2.4**
GENO	**Geno**	**6.37**	**117**	*e*Pn		**Pn**	**11 46 35.3**	**+1.7**
BTHS		**6.41**	**171**	P		**Pn**	**11 46 35.8**	**+1.8**
TNSJ	**Nastanj**	**6.79**	**57**	*e*Pn		**Pn**	**11 46 40.6**	**+1.2**
TKDS	**Koohdasht(Taba**	**7.01**	**61**	*e*Pn		**Pn**	**11 46 43.6**	**+1.2**
TABS	**Tabas**	**7.03**	**61**	*e*Pn		**Pn**	**11 46 44.2**	**+1.6**
TABS	**Tabas**	**7.03**	**61**	*e*Pn		**Pn**	**11 46 44.2**	**+1.6**
RAYN	**Ar Rayn**	**7.84**	**210**			**Pn**	**11 46 55.2**	**+1.5**
RAYN				Sn		**Sn**	**11 48 22.3**	**-0.4**
UOSS	**Minazif**	**7.89**	**132**	Pn		**Pn**	**11 46 55.6**	**+1.3**
UOSS				Sn		**Sn**	**11 48 23.7**	**+0.1**
GEYT	**Alibeck**	**10.20**	**40**	Pn		**Pn**	**11 47 29.5**	**+3.5**
	comp=E,1.0nm,0.3s,baz=247,slow=15,SNR=4.7							
GEYT				Lg		Lg	11 50 25.4	
	comp=E,0.3nm,0.3s,baz=223,slow=30,SNR=1.2							
GEYT	**Alibeck**	**10.20**	**40**			**Pn**	**11 47 24.8**	**-1.2**
WSAR	**Wadi Sarin**	**10.66**	**130**	Pn		**Pn**	**11 47 32.4**	**+0.1**
	comp=E,1.0nm,0.3s,baz=326,slow=19,SNR=7.2							
WSAR				Sn		**Sn**	**11 49 25.4**	**-6.4**
	comp=E,0.8nm,0.3s,baz=233,slow=20,SNR=4.5							
WSAR				LR		LR	11 52 16.2	
	comp=E,145nm,19.8s,baz=302,slow=41							
ASF	**Jabal al Asfar**	**11.15**	**282**	Pn		**Pn**	**11 47 39.0**	**-0.1**
	comp=E,0.6nm,0.3s,baz=26,slow=11,SNR=2.9							
ASF				Sn		**Sn**	**11 49 37.4**	**-6.5**
	comp=E,0.3nm,0.3s,baz=112,slow=19,SNR=1.7							
ASF				Lg		Lg	11 50 54.9	
	comp=E,0.2nm,0.3s,baz=211,slow=20,SNR=2.5							
BRTR	**Keskin Array B**	**16.12**	**310**	Pn		**Pn**	**11 48 48.5**	**+2.1**
	comp=E,0.2nm,0.3s,baz=131,slow=15,SNR=7.2							
BRTR	**Keskin Array B**	**16.12**	**310**			**Pn**	**11 48 46.2**	**-0.2**
MANT	**Manisa**	**19.23**	**300**	P		**P**	**11 49 21.4**	**-2.7**
BTK	**Batken**	**19.67**	**55**	P		**P**	**11 49 28.2**	**-0.5**
BTK				IAmb		IAmb	11 49 47.3	
	comp=Z,8.0nm,1.3s							
ABKAR	**Akbulak array**	**20.34**	**19**	P		**P**	**11 49 35.2**	**-0.7**
ABKAR	**Akbulak array**	**20.34**	**19**	P		**P**	**11 49 35.5**	**-0.4**
ABKAR				IAmb		IAmb	11 49 39.3	
	comp=Z,7.3nm,1.4s							
KK31	**Karatay Array**	**20.83**	**47**	P		**P**	**11 49 40.6**	**-0.6**
KKAR	**Karatay Array**	**20.83**	**47**	P		**P**	**11 49 41.3**	**+0.1**
KKAR	**Karatay Array**	**20.83**	**47**	P		**P**	**11 49 40.6**	**-0.6**
KKAR				IAmb		IAmb	11 49 49.2	
	comp=Z,2.1nm,0.7s							
AKTO	**Aktyubinsk**	**20.94**	**15**	P		**P**	**11 49 43.8**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=186,slow=9.2,SNR=2.8							
IDI	**Anoyia**	**21.44**	**290**	P		**P**	**11 49 49.1**	**+1.1**
	comp=Z,16nm,0.7s,baz=93,slow=9.1,SNR=11							
IDI	**Anoyia**	**21.44**	**290**	P		**P**	**11 49 48.2**	**+0.3**
IDI				IAmb		IAmb	11 49 50.2	
	comp=Z,16nm,0.8s							
AKASG	**Malin Array Be**	**25.43**	**329**	P		**P**	**11 50 27.5**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=125,slow=7.4,SNR=1.8							
AKASG	**Malin Array Be**	**25.43**	**329**	P		**P**	**11 50 27.6**	**+0.4**
BURAR	**Bucovina Array**	**25.50**	**319**	P		**P**	**11 50 27.2**	**-0.9**
BUR08	**Bucovina Ar. S**	**25.53**	**319**	P		**P**	**11 50 27.6**	**-0.7**
BUR08				IAmb		IAmb	11 50 34.9	
	comp=Z,4.2nm,1.1s							
BVAR	**Borovoye Array**	**27.15**	**28**	P		**P**	**11 50 45.5**	**+2.7**
	comp=Z,0.9nm,0.4s,baz=224,slow=10.0,SNR=4.1							
KURBB	**Kurchatov Arra**	**29.47**	**39**	P		**P**	**11 51 04.6**	**+1.1**
	comp=Z,0.8nm,0.2s,baz=240,slow=10,SNR=4.5							
KURK	**Kurchatov**	**29.56**	**38**	P		**P**	**11 51 03.3**	**-1.0**
KURK				IAmb		IAmb	11 51 08.4	
	comp=Z,3.4nm,1.1s							
MK31	**Makanchi Array**	**29.95**	**48**	P		**P**	**11 51 08.6**	**+0.7**
MK31				IAmb		IAmb	11 51 11.1	
	comp=Z,2.8nm,1.4s							
MKAR	**Makanchi Array**	**29.95**	**48**	P		**P**	**11 51 08.2**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=236,slow=9.9,SNR=4.8							
MKAR	**Makanchi Array**	**29.95**	**48**	P		**P**	**11 51 07.0**	**-0.9**
ZALV	**Zalesovo Beam**	**34.48**	**37**	P		**P**	**11 51 47.8**	**+0.4**
	comp=Z,1.7nm,0.5s,baz=235,slow=7.0,SNR=5.0							
FINES	**FINESS Array B**	**34.73**	**340**	P		**P**	**11 51 49.7**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=144,slow=12,SNR=1.6							
FINES	**FINESS Array B**	**34.73**	**340**	P		**P**	**11 51 50.0**	**+0.5**
EKA	**Eskdalemuir Ar**	**44.69**	**320**	P		**P**	**11 53 12.1**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=102,slow=9.8,SNR=1.8							
TOA0	**Torodi Ar. Sit**	**47.46**	**260**	P		**P**	**11 53 34.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**47.46**	**260**	P		**P**	**11 53 34.3**	**-0.4**
	comp=Z,3.6nm,1.0s,baz=58,slow=7.4,SNR=14							
TORD	**Torodi Ar. Bea**	**47.46**	**260**			**P**	**11 53 34.8**	**+0.1**
BOSA	**Boshof**	**63.18**	**204**	P		**P**	**11 55 26.3**	**-1.7**
	comp=Z,4.0nm,1.0s,baz=25,slow=7.0,SNR=4.1							
BOSA	**Boshof**	**63.18**	**204**	P		**P**	**11 55 29.7**	**+1.7**
KSRS	**Korea Array**	**63.51**	**60**	P		**P**	**11 55 29.4**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=282,slow=6.8,SNR=4.6							

UCR ***25*** *11:45:41.1*$_{\pm}$*1.8*, *9.65*$^{\circ}$*N*$\times$*84.87*$^{\circ}$*W*, *h11km*$_{\pm}$*8km*, *MD3.9, mb4.3(NEIC)*
NEIC ***25*** *11:45:43.2*$_{\pm}$*2.1*, *9.78*$^{\circ}$*N*$_{\pm}$*0.1*$^{\circ}$$\times$*84.76*$^{\circ}$*W*$_{\pm}$*0.1*$^{\circ}$, *h37km*$_{\pm}$*6km, mb4.3/22, Md4.5(HDC), Error ellipse: s-maj=20.2km s-min=9.2km az=45.0*
IDC ***25*** *11:45:48.1*$_{\pm}$*22.0*, *11.33*$^{\circ}$*N*$\times$*84.72*$^{\circ}$*W*, *h0km*, *mb3.9/4, mb1 4.3/4, mb1mx3.8/29, mbtmp3.9/4, MS3.4/1, Ms1 3.6/1, ms1mx2.7/38, Error ellipse: s-maj=448.2km s-min=52.0km az=171.0*
INET ***25*** *11:45:51.2, 10.25*$^{\circ}$*N*$\times$*85.01*$^{\circ}$*W, h6km, ML4.0*

ISC 25 11:45:40.4$_{\pm}$**0.9, 9.62N**$_{\pm}$**0.06**$^{\circ}$**$\times$84.88W**$_{\pm}$**0.04, h22km**$_{\pm}$**6km, n66, σ1^{s}01/74, mb4.3/15, 3C-8D, Costa Rica**

Code	Station Name	Δ°	AZ$^{\circ}$	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SRA1	**San Ramn**	**0.60**	**41**	*i*P		**Pb**	**11 45 52.3**	**-0.1**
JTS	**Las Juntas de**	**0.67**	**354**	⇓*e*P		**Pb**	**11 45 53.2**	**-0.2**
JTS				*e*S		**Sb**	**11 46 00.7**	**-1.5**
JTS	**Las Juntas de**	**0.67**	**354**			**Pb**	**11 45 53.2**	**-0.2**
JTS						**Sb**	**11 46 00.5**	**-1.8**
CASO	**Castillo**	**0.82**	**10**	*i* P		**Pb**	**11 45 56.1**	**+0.2**
HDC	**Heredia**	**0.84**	**63**	⇓*i*P		**Pb**	**11 45 56.7**	**+0.3**
HDC				*e*S		**Sn**	**11 46 08.9**	**+0.1**
HDC	**Heredia**	**0.84**	**63**			**Pb**	**11 45 56.5**	**+0.1**
ARE1	**Arenal 1**	**0.85**	**11**	⇓*e*P		**Pb**	**11 45 56.9**	**+0.5**
PLVR	**Palo Verde**	**0.86**	**327**	*e*P		**Pb**	**11 45 56.7**	**0.0**
PLVR				*e*S		**Sb**	**11 46 08.7**	**+0.8**
FORC	**Fortuna**	**0.86**	**14**	*i*P		**Pb**	**11 45 56.9**	**+0.2**
FORC				*i* S		**Sb**	**11 46 08.4**	**+0.6**
LCR2	**La Lucha 2**	**0.87**	**82**	⇓*i*P		**Pb**	**11 45 56.6**	**-0.3**
LCR2				*e*S		**Sb**	**11 46 08.8**	**+0.5**
SJS	**Escuela Geolog**	**0.87**	**69**	⇓*i*P		**Pb**	**11 45 57.0**	**+0.1**
CEDE	**Laguna Cedeo**	**0.87**	**11**	⇓*e*P		**Pb**	**11 45 57.4**	**+0.5**
CEDE				*i* P		**Pb**	**11 45 57.4**	**+0.5**
GUAI	**GUAI**	**0.90**	**316**	*i* P		**Pb**	**11 45 57.2**	**0.0**
GUAI				*i* S		**Sn**	**11 46 10.4**	**+0.4**
ACAL	**Aguas Claras**	**1.01**	**351**	*i* P		**Pn**	**11 45 59.3**	**-0.1**
ACAL				*i* S		**Sn**	**11 46 13.9**	**+0.9**
CUI	**Cuipilapa**	**1.06**	**345**	*i* P		**Pn**	**11 45 60.0**	**-0.1**
EDDO	**Dominical**	**1.07**	**110**	⇑*e*P		**Pn**	**11 45 59.6**	**-0.4**
EDDO				*e*S		**Sn**	**11 46 15.7**	**+1.5**
COLC	**Colonia**	**1.08**	**343**	*i* P		**Pn**	**11 46 00.2**	**-0.1**
HORNC	**Hornillas**	**1.12**	**345**	*i* P		**Pn**	**11 46 01.2**	**+0.3**
LIM1	**Limonal**	**1.13**	**341**	*i* P		**Pn**	**11 46 00.9**	**0.0**
GUAB	**Guayabo de Bag**	**1.13**	**342**	*i* P		**Pn**	**11 46 01.1**	**+0.1**
NY14	**Universidad de**	**1.21**	**328**	*i* P		**Pb**	**11 46 02.7**	**+0.2**
GBS3	**Finca Las Img**	**1.28**	**334**	*i* P		**Pn**	**11 46 03.4**	**+0.4**
GB1A	**Borinquen Arri**	**1.29**	**337**	*e*P		**Pn**	**11 46 03.6**	**+0.4**
EDLM	**Las Mercedes**	**1.32**	**105**	*e*P		**Pn**	**11 46 03.6**	**+0.1**
BUAI	**Buenos Aires**	**1.32**	**340**	*i* P		**Pn**	**11 46 04.0**	**+0.4**
DRK0	**Durika**	**1.65**	**102**	⇓*i*P		**Pn**	**11 46 08.9**	**+0.7**
BRU2	**Volcan**	**2.31**	**111**	*e*P		**Pb**	**11 46 21.1**	**-0.4**
ACON	**Acoyapa**	**2.35**	**353**	⇑*i*P		**Pn**	**11 46 18.7**	**+1.1**
ACON	**Acoyapa**	**2.35**	**353**			**Pn**	**11 46 18.6**	**+1.0**
ESPN	**Las Esperanzas**	**2.62**	**12**	⇑*e*P		**Pn**	**11 46 22.8**	**+1.3**
ESPN	**Las Esperanzas**	**2.62**	**12**			**Pn**	**11 46 22.6**	**+1.3**
BOAB	**BOCAS BROADBAN**	**2.91**	**345**			**Pn**	**11 46 26.2**	**+0.8**
MATN	**Matagalpa**	**3.44**	**343**			**Pn**	**11 46 34.0**	**+1.2**
CRIN	**San Cristobal**	**3.73**	**325**			**Pn**	**11 46 35.3**	**-1.4**
TGUH	**Tegucigalpa,Un**	**4.99**	**332**			**Pn**	**11 46 55.9**	**+1.8**
CBCY	**The Bluff, Cay**	**11.21**	**26**	Pn		**Pn**	**11 48 15.5**	**-3.9**
VBMS	**Vicksburg**	**23.08**	**348**	P		**P**	**11 50 45.0**	**+0.5**
VBMS				IAmb		IAmb	11 51 00.0	
	comp=Z,15nm,0.9s							
LRAL	**Lakeview Retre**	**23.38**	**356**	P		**P**	**11 50 48.3**	**+0.8**
LRAL				IAmb		IAmb	11 50 49.0	
	comp=Z,6.3nm,0.7s							
GOGA	**Godfrey**	**23.71**	**3**	P		**P**	**11 50 51.5**	**+0.8**
GOGA				IAmb		IAmb	11 50 52.0	
	comp=Z,4.9nm,0.8s							
MCLT	**Moule a Chique**	**23.79**	**78**	P		**P**	**11 50 53.6**	**+1.9**
Y52A	**Lilburn**	**24.14**	**2**	P		**P**	**11 50 55.1**	**+0.2**
Y52A				IAmb		IAmb	11 50 57.7	
	comp=Z,8.0nm,0.8s							
435B	**Jarrell**	**24.15**	**332**	P		**P**	**11 50 55.1**	**+0.1**
435B				IAmb		IAmb	11 50 57.8	
	comp=Z,12nm,0.7s							
Y58A	**Scranton**	**24.64**	**10**	P		**P**	**11 50 58.9**	**-0.4**
MIAR	**Mount Ida**	**26.05**	**343**	P		**P**	**11 51 12.0**	**-0.2**
MIAR				IAmb		IAmb	11 51 14.1	
	comp=Z,6.2nm,0.7s							
TXAR	**Lajitas Array**	**26.35**	**321**	P		**P**	**11 51 15.4**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=137,slow=11,SNR=5.4							
TXAR	**Lajitas Array**	**26.35**	**321**	P		**P**	**11 51 14.9**	**-0.2**
TX31	**Lajitas Ar. Si**	**26.35**	**321**	P		**P**	**11 51 15.7**	**+0.6**
TX31				IAmb		IAmb	11 51 18.5	
	comp=Z,12nm,1.4s							
TX32	**Lajitas Array**	**26.35**	**321**	P		**P**	**11 51 15.5**	**+0.5**
LCAR	**Lake Charles**	**26.94**	**349**	P		**P**	**11 51 19.3**	**-0.9**
WMOK	**Wichita Mounta**	**28.05**	**335**	P		**P**	**11 51 27.9**	**-2.3**
Q51A	**Peebles**	**29.31**	**2**	P		**P**	**11 51 41.4**	**+0.1**
BLO	**Bloomington**	**29.46**	**357**	P		**P**	**11 51 41.3**	**-1.3**
LPAZ	**La Paz**	**30.62**	**147**	LR		LR	12 05 10.7	
	comp=Z,68nm,18.9s,baz=69,slow=36							
PV13	**Radium Mtn., P**	**35.64**	**327**	P		**P**	**11 52 37.9**	**+0.8**
PV13				IAmb		IAmb	11 52 40.1	
	comp=Z,1.7nm,0.6s							
PV18	**Skein Mesa, Pa**	**35.75**	**327**	P		**P**	**11 52 38.6**	**+0.6**
PV18				IAmb		IAmb	11 52 38.7	
	comp=Z,5.3nm,0.6s							
PV17	**East Wray Mesa**	**35.81**	**327**	P		**P**	**11 52 38.6**	**+0.2**
PV17				IAmb		IAmb	11 52 39.4	
	comp=Z,5.2nm,0.6s							
SRU	**San Rafael Swe**	**37.25**	**326**	P		**P**	**11 52 51.1**	**+0.3**
PSUT	**Pine Spring**	**38.77**	**323**	P		**P**	**11 53 05.0**	**+1.3**
PDAR	**Pinedale Array**	**39.45**	**331**	P		**P**	**11 53 08.3**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=131,slow=11,SNR=6.7							
NV11	**Mina Array Sit**	**41.38**	**319**	P		**P**	**11 53 27.1**	**+1.9**
NVAR	**Mina Array Bea**	**41.48**	**319**	P		**P**	**11 53 27.7**	**+1.6**
	comp=Z,1.5nm,0.6s,baz=129,slow=7.1,SNR=16							
NVAR	**Mina Array Bea**	**41.48**	**319**	P		**P**	**11 53 27.5**	**+1.4**
WVOR	**Wild Horse Val**	**44.06**	**324**	P		**P**	**11 53 47.4**	**+0.5**
WVOR				IAmb		IAmb	11 53 47.6	
	comp=Z,2.3nm,0.7s							
SCHQ	**Schefferville**	**47.32**	**14**	P		**P**	**11 54 10.2**	**-2.1**
	comp=Z,3.2nm,0.5s,baz=230,slow=12,SNR=8.4							
SCHQ	**Schefferville**	**47.32**	**14**	IAmb		IAmb	11 54 16.2	
	comp=Z,4.8nm,1.1s							
D05A	**Enumclaw**	**48.87**	**327**			**PcP**	**11 55 48.5**	**-0.2**

IDC ***25*** *11:46:13.9*$_{\pm}$*0.8*, *0.22*$^{\circ}$*N*$\times$*125.86*$^{\circ}$*E*, *h0km*, *mb3.9/7, mb1 4.0/7, mb1mx3.7/45, mbtmp3.9/7, MS4.5/1, Ms1 4.5/1, ms1mx3.0/36, Error ellipse: s-maj=62.7km s-min=17.7km az=71.0*
DJA ***25*** *11:46:18.2*$_{\pm}$*0.3*, *0.7*$^{\circ}$*N*$_{\pm}$*4.2*$^{\circ}$$\times$*12.6E*$_{\pm}$*°, h10km, M3.6/9, MLv3.6/9, MLv3.6/2*
NEIC ***25*** *11:46:19.2*$_{\pm}$*0.7*, *0.21N*$_{\pm}$*0.09*$^{\circ}$$\times$*126.00E*$_{\pm}$*0.06*$^{\circ}$, *h42km*$_{\pm}$*8km, mb4.3/5, Error ellipse: s-maj=13.4km s-min=8.8km az=184.0*

ISC 25 11:46:19.8$_{\pm}$**0.7, 0.25N**$_{\pm}$**0.06**$^{\circ}$**$\times$125.98E**$_{\pm}$**0.06**$^{\circ}$**, h44km, n27, σ0^{s}84/24, mb4.1/8, Northern Molucca Sea**

Code	Station Name	Δ°	AZ$^{\circ}$	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TNTI	**Ternate**	**1.48**	**70**	P		**Pn**	**11 46 44.5**	**+0.5**
TNTI	**Ternate**	**1.48**	**70**			**Pn**	**11 46 43.3**	**-0.7**
LBMI	**Labuha**	**1.76**	**120**	P		**Pn**	**11 46 48.5**	**+0.7**
KMSI	**Cibinong**	**2.03**	**279**	P		**Pn**	**11 46 52.8**	**+1.3**
SANI	**Sanana**	**2.29**	**180**	P		**Pn**	**11 46 55.1**	**0.0**
LUWI	**Luwuk**	**3.46**	**248**	P		**Pn**	11 47 16.3	+5.1
LUWI	**Luwuk**	**3.46**	**248**			**Pn**	**11 47 10.4**	**-0.8**
NLAI	**Namlea**	**3.65**	**162**	P		**Pn**	**11 47 14.3**	**+0.5**
AAI	**Ambon**	**4.50**	**151**	P		**Pn**	**11 47 26.3**	**+0.8**
CISI	**Cisompet, Garu**	**19.71**	**246**	P		**P**	**11 50 45.6**	**-0.2**
CISI				IAmb		IAmb	11 51 03.9	
	comp=Z,93nm,1.4s							
WB0	**Warramunga Arr**	**21.54**	**158**	P		**P**	**11 51 03.8**	**-1.7**
WB0				IAmb		IAmb	11 51 09.8	
	comp=Z,8.9nm,0.8s							
WRA	**Warramunga Arr**	**21.68**	**158**	P		**P**	**11 51 06.2**	**-0.8**
	comp=Z,5.6nm,0.7s,baz=337,slow=12,SNR=17							
WRA	**Warramunga Arr**	**21.68**	**158**	P		**P**	**11 51 06.0**	**-1.0**
ASAR	**Alice Springs**	**24.99**	**163**	P		**P**	**11 51 40.0**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=343,slow=10,SNR=19							
ASAR				PcP		**PcP**	**11 55 14.6**	**+0.4**
	comp=Z,0.2nm,0.8s,baz=334,slow=1.4,SNR=4.6							
ASAR	**Alice Springs**	**24.99**	**163**	P		**P**	**11 51 39.7**	**0.0**
JNU	**Nakatsue**	**33.02**	**8**	LR		LR	12 06 03.0	
	comp=Z,923nm,21.5s,baz=220,slow=36							
STKA	**Stephens Creek**	**35.21**	**157**	P		**P**	**11 53 10

λ8.00000°. NP2:φ₀79.00000°,δ83.00000°,λ148.00000°. Principal axes: T 2.0050, Plg27.0000°, Azm31.0000°; N -0.2030, Plg58.0000°, Azm247.0000°; P -1.8030, Plg16.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

DJA **25** 11:52:03.2±0.3, 14°N±2°×12°1E±°, h58km±3km, M5.4/80, mB5.9/64, mb5.5/80, Mw(mB)5.5/64, Mwp5.4/18

NEIC **25** 11:52:03, 13.65N×120.50E, h47km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.10; $M_{\theta\theta}$=0.51; $M_{\phi\phi}$=-0.61; $M_{r\theta}$=1.09; $M_{\theta\phi}$=-1.61; $M_{\phi r}$=-0.08; Fault plane solution: M_0=2.03000×10^{17} NP1:φ₀175.00000°, δ59.00000°, λ7.00000°. NP2:φ₀79.00000°, δ84.00000°, λ148.00000°. Principal axes: T 2.1099, Plg26.0000°, Azm31.0000°; N -0.1761, Plg58.0000°, Azm250.0000°; P -1.9338, Plg17.0000°, Azm130.0000°;

NEIC **25** 11:52:03.8, 13.60N×120.71E, h53km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.30; $M_{\theta\theta}$=0.20; $M_{\phi\phi}$=-0.50; $M_{r\theta}$=1.19; $M_{\theta\phi}$=-1.37; $M_{\phi r}$=0.04; Fault plane solution: M_0=1.86000×10^{17} NP1:φ₀175.89000°, δ49.56000°, λ9.32000°. NP2:φ₀79.81000°, δ82.92000°, λ139.18000°. Principal axes: T 1.8634, Plg33.0000°, Azm30.0000°; N 0.0029, Plg49.0000°, Azm252.0000°; P -1.8662, Plg22.0000°, Azm135.0000°;

KLM **25** 11:52:06.0, 13.64N×120.77E, h99km, mb5.3

NEIC **25** 11:52:11, 13.58N×120.28E, h46km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.21; $M_{\theta\theta}$=0.09; $M_{\phi\phi}$=-0.30; $M_{r\theta}$=0.66; $M_{\theta\phi}$=-1.45; $M_{\phi r}$=-0.13; Fault plane solution: M_0=1.62000×10^{17} NP1:φ₀178.00000°, δ65.00000°, λ9.00000°. NP2:φ₀84.00000°, δ82.00000°, λ155.00000°. Principal axes: T 1.6107, Plg23.0000°, Azm39.0000°; N 0.0220, Plg64.0000°, Azm247.0000°; P -1.6327, Plg11.0000°, Azm133.0000°;

ISC 25 11:52:02.8±0.2, 13.57N±0.02×120.58E±0.03, h71km±1km, h71km:pP-P, n862, σ1°63/1068, mb5.4/266, 113C-13B, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.37**	**297**	*e*P	**Pn**	**11 52 12.2**	**-2.5**
LUBP				*e*S	**Sn**	**11 52 20.1**	**-3.2**
PGP	**Puerto Galera**	**0.37**	**100**↑	*e*P	**Pn**	**11 52 12.7**	**-2.0**
PGP				*e*S	**Sn**	**11 52 21.8**	**-1.6**
TGY	**Tagaytay City**	**0.63**	**33**	P	**Pn**	**11 52 17.1**	**-0.1**
	11μm,0.3s,baz=202,slow=4.6,SNR=1757						
TGY				S	**Sn**	**11 52 27.2**	**-0.6**
	54μm,0.3s,baz=343,slow=20,SNR=15						
TGY	**Tagaytay City**	**0.63**	**33**↑	*i*P	**Pn**	**11 52 17.4**	**+0.2**
TGY				*i* S	**Sn**	**11 52 32.0**	**+4.2**
LQP	**Lukban**	**1.07**	**60**↑	*i*P	**Pn**	**11 52 22.8**	**+0.2**
LQP				*i* S	**Sn**	**11 52 40.8**	**+3.6**
SJMP	**San Jose**	**1.22**	**155**	*e*P	**Pn**	**11 52 24.5**	**+0.3**
SJMP				*e*S	**Sn**	**11 52 40.8**	**+0.6**
BOAC	**Boac**	**1.23**	**95**	*e*P	**Pn**	**11 52 24.3**	**-0.1**
BOAC				*e*S	**Sn**	**11 52 40.6**	**+0.2**
BUSP	**Coron**	**1.60**	**194**	*e*P	**Pn**	**11 52 28.1**	**-1.1**
BUSP				*e*S	**Sn**	**11 52 47.4**	**-1.8**
POLP	**Polilio Island**	**1.75**	**49**	*e*P	**Pn**	**11 52 31.6**	**+0.5**
POLP				*e*S	**Sn**	**11 52 53.6**	**+1.0**
GQP	**Guinayangan**	**1.84**	**79**↓	*i*P	**Pn**	**11 52 33.6**	**+1.2**
GQP				*i* S	**Sn**	**11 52 57.8**	**+2.9**
OTRP	**Odiongan**	**1.84**	**130**	*e*P	**Pn**	**11 52 32.9**	**+0.4**
OTRP				*e*S	**Sn**	**11 52 52.0**	**-3.0**
PCPH	**Palayan**	**2.04**	**14**↑	*i*P	**Pn**	**11 52 34.5**	**-0.6**
PCPH				*i* S	**Sn**	**11 52 59.2**	**-0.5**
BALP	**Baler**	**2.36**	**24**	*e*P	**Pn**	**11 52 40.3**	**+0.9**
BALP				*e*S	**Sn**	**11 53 10.1**	**+2.7**
KALP	**Kalibo**	**2.54**	**137**↓	*e*P	**Pn**	**11 52 42.9**	**+1.0**
SMPP	**San Manuel, Pa**	**2.57**	**2**	*e*P	**Pn**	**11 52 41.8**	**-0.5**
SMPP				*e*S	**Sn**	**11 53 11.5**	**-0.9**
ENPP	**El Nido**	**2.61**	**206**	*e*P	**Pn**	**11 52 41.6**	**-1.1**
CUYO	**Cuyo Island**	**2.74**	**171**	*e*P	**Pn**	**11 52 43.6**	**-0.9**
CUYO				*e*S	**Sn**	**11 53 13.7**	**-2.9**
BOLP	**Bolinao**	**2.87**	**347**	*e*P	**Pn**	**11 52 46.0**	**-0.3**
BOLP				*e*S	**Sn**	**11 53 22.3**	**+2.6**
RCP	**Roxas**	**2.91**	**133**↓	*e*P	**Pn**	**11 52 48.6**	**+1.8**
JAP	**San Jose, Anti**	**3.10**	**154**↑	*i*P	**Pn**	**11 52 50.2**	**+0.7**
MMPH	**Masbate**	**3.20**	**112**↑	*i*P	**Pn**	**11 52 52.5**	**+1.7**
MMPH				*i* S	**Sn**	**11 53 28.9**	**+1.0**
GUIM	**Jordan**	**3.52**	**146**	*e*P	**Pn**	**11 52 56.3**	**+1.1**
GUIM				*e*S	Sn	11 53 25.9	-10
CAUP	**Cauayan**	**3.56**	**19**	*e*P	**Pn**	**11 52 57.1**	**+1.3**
CAUP				*e*S	**Sn**	**11 53 36.2**	**-0.4**
ABRA	**Dolores**	**4.06**	**2**	*e*P	**Pn**	**11 53 02.0**	**-0.5**
ABRA				*e*S	**Sn**	**11 53 55.4**	**+6.6**
CNOP	**Candoni, Negro**	**4.23**	**151**	*e*P	**Pn**	**11 53 05.4**	**+0.5**
CNOP				*e*S	**Sn**	**11 53 52.2**	**-0.8**
APYP	**Conner**	**4.32**	**8**	*e*P	**Pn**	**11 53 07.3**	**+1.3**
SIPP	**Brgy, Tapao**	**4.33**	**358**↑	*i*P	**Pn**	**11 53 09.3**	**+3.1**
SIPP				*i* S	Sn	11 54 14.3	+19
LLP	**Lapu-Lapu**	**4.63**	**134**↑	*e*P	**Pn**	**11 53 12.2**	**+1.9**
LLP				*e*S	**Sn**	**11 54 10.0**	**+7.2**
SNPH	**Sibulan**	**4.94**	**148**↑	*i*P	**Pn**	**11 53 17.0**	**+2.4**
SNPH				*i* S	**Sn**	**11 54 12.0**	**+1.4**
TBP	**Tagbilaran**	**5.02**	**140**	*e*P	**Pn**	**11 53 18.4**	**+2.7**
BATP	**Bataraza**	**5.47**	**210**	*e*P	**Pn**	**11 53 19.4**	**-2.4**
BATP				*e*S	**Sn**	**11 54 19.8**	**-3.7**
DCPH	**Dipolog City**	**5.65**	**151**↑	*e*P	**Pn**	**11 53 26.1**	**+1.8**
CGP	**Cagayan de Oro**	**6.49**	**141**↓	*e*P	**Pn**	**11 53 38.5**	**+2.7**
KCP	**Kidapawan**	**7.88**	**145**↑	*i*P	**Pn**	**11 53 51.0**	**-4.0**
KKM	**Kota Kinabalu**	**8.63**	**210**	Pn	**Pn**	**11 54 06.1**	**+1.0**
TWG	**Pinlang**	**9.21**	**3**		**Pn**	**11 54 13.2**	**+0.2**
TPUB	**Ta-pu**	**9.68**	**0**		**Pn**	**11 54 20.2**	**+0.9**
SPMM	**Sapulut**	**9.70**	**205**	P	**Pn**	**11 54 22.0**	**+2.3**
YULB	**Yu-li**	**9.79**	**4**		**Pn**	**11 54 20.6**	**-0.3**
SSLB	**Suanglung**	**10.17**	**2**		**Pn**	**11 54 26.9**	**+0.8**
NACB	**Ninganchiao**	**10.59**	**5**		**Pn**	**11 54 31.2**	**-0.6**
HKPS	**Hong Kong Po S**	**10.61**	**326**	Pn	**Pn**	**11 54 32.9**	**+0.8**
KNMB	**Chin-men Tao**	**11.03**	**349**	Pn	**Pn**	**11 54 38.2**	**+0.4**
YHNB	**Yeheng**	**11.07**	**4**		**Pn**	**11 54 39.0**	**+0.7**
YOJ	**Yonaguni jima**	**11.07**	**12**	P	**Pn**	**11 54 37.8**	**-0.6**
YOJ	**Yonaguni jima**	**11.07**	**12**		**Pn**	**11 54 37.8**	**-0.6**
TATO	**Taipei**	**11.38**	**4**	Pn	**Pn**	**11 54 43.2**	**+0.6**
QZH	**Quanzhou**	**11.47**	**351**↑	*i*P	**Pn**	**11 54 44.0**	**+0.2**
QZH				sP		11 55 06.0	
QZH				S	**Sn**	**11 56 55.5**	**+5.3**
QZH				LR	LR		
	comp=N,3μm,15.6s						
QZH				LR	LR		
	comp=E,1μm,10.9s						
QZH				LR	LR		
	comp=Z,3μm,14.5s						
QIZ	**Qiongzhong**	**11.65**	**299**	P	**Pn**	**11 54 46.3**	**0.0**
QIZ				sP		11 55 06.8	
QIZ				S	**Sn**	**11 56 57.0**	**+2.3**
QIZ				SS	**SnSn**	**11 57 15.5**	**+8.0**
QIZ				pmax	pmax		
	comp=Z,130nm,0.8s						
QIZ				LR	LR		
	comp=N,3μm,13.7s						
QIZ				LR	LR		
	comp=E,2μm,18.6s						
QIZ				LR	LR		
	comp=Z,3μm,24.5s						
QIZ	**Qiongzhong**	**11.65**	**299**	Pn	**Pn**	**11 54 45.6**	**-0.7**
DLV	**T Lat**	**11.91**	**264**	Pn	**Pn**	**11 54 52.5**	**+2.5**
MRSI	**Marisa**	**13.08**	**174**	P	**Pn**	**11 55 09.3**	**+3.6**
	4μm3μm194nm,1.1s						
MPSI	**Mapaga**	**13.16**	**183**	P	**Pn**	**11 55 09.1**	**+2.2**
	6μm2μm112nm,1.6s						
KMSI	**Cibinong**	**13.34**	**165**	P	**Pn**	**11 55 12.2**	**+2.9**
	5μm632nm,0.8s						
SBUM	**Sibu**	**13.80**	**218**	Pn	**Pn**	**11 55 16.7**	**+1.4**
SBUM	**Sibu**	**13.80**	**218**	P	**Pn**	**11 55 17.0**	**+1.7**
TNTI	**Ternate**	**14.38**	**152**	P	**Pn**	**11 55 22.8**	**-0.1**
	2μm4μm362nm,0.9s						
TNTI	**Ternate**	**14.38**	**152**	Pn	**Pn**	**11 55 22.4**	**-0.5**
LUWI	**Luwuk**	**14.68**	**171**	P	**P**	**11 55 29.6**	**-1.6**
	5μm10μm1μm,1.0s						
LUWI	**Luwuk**	**14.68**	**171**		**Pn**	**11 55 29.0**	**+2.2**
JOW	**Kunigami**	**15.03**	**27**	Pn	**Pn**	**11 55 31.6**	**+0.3**
BKB	**Balikpapan**	**15.18**	**194**	P	**P**	**11 55 42.4**	**+5.6**
LBMI	**Labuha**	**15.69**	**154**	P	**P**	**11 55 42.5**	**0.0**
	7μm585nm,1.1s						
KSM	**Kuching**	**15.74**	**221**	Pn	**Pn**	**11 55 41.5**	**+1.1**
KSM	**Kuching**	**15.74**	**221**	P	**P**	**11 55 43.0**	**0.0**
SANI	**Sanana**	**16.42**	**161**	P	**Pn**	**11 55 47.5**	**-1.4**
	6μm443nm,1.4s						
TTSI	**Tana Toraja**	**16.52**	**183**	P	**P**	**11 55 53.4**	**+1.7**
	4μm99nm,1.5s						
SPSI	**Sidrap Palu**	**17.44**	**183**	P	**P**	**11 56 05.0**	**+3.2**
	4μm66nm,0.6s						
SSE	**Sheshan**	**17.45**	**2**	P	**Pn**	**11 56 01.5**	**-0.1**
SSE				S	**Sn**	**11 59 16.0**	**+0.7**
SSE				pmax	pmax		
	comp=Z,16nm,1.4s						
SSE				pmax	pmax		
	comp=Z,810nm,4.4s						
SSE				LR	LR		
	comp=N,710nm,19.3s						
SSE				LR	LR		
	comp=E,930nm,20.8s						
SSE	**Sheshan**	**17.45**	**2**		**Pn**	**11 56 01.4**	**-0.1**
SLVN	**Son La**	**17.68**	**298**		**Pn**	**11 56 05.9**	**+1.5**
SLVN				IAmb	IAmb	11 56 15.0	
	comp=Z,350nm,1.7s						
SIJI	**Sorong**	**17.83**	**143**	P	**Pn**	**11 56 07.6**	**+1.3**
	comp=Z,3.6nm,0.3s,baz=328,slow=12,SNR=17						
WHN	**Wuhan**	**17.85**	**342**↑	P	**Pn**	**11 56 08.0**	**+1.7**
WHN				sP	**sP**	**11 56 31.8**	**+2.2**
WHN				S	**S**	**11 59 29.0**	**+2.3**
WHN				pmax	pmax		
	comp=Z,3μm,6.6s						
WHN				LR	LR		
	comp=Z,3μm,11.8s						
WHN				LR	LR		
	comp=Z,3μm,14.9s						
BNSI	**Bone**	**17.86**	**182**	P	**Pn**	**11 56 11.4**	**+4.8**
	comp=Z,3μmcomp=Z,100nm,1.0s						
NLAI	**Namlea**	**17.91**	**158**	P	**P**	**11 56 04.1**	**-2.8**
	comp=Z,3μmcomp=Z,284nm,0.8s						
GYA	**Guiyang**	**18.29**	**317**↓	P	**Pn**	**11 56 13.8**	**+1.8**
GYA				pP	pwP	11 56 27.3	+1.6
GYA				sP	sP	11 56 34.5	-0.2
GYA				S	**S**	**11 59 36.3**	**+0.1**
GYA				sS	sS	11 59 54.8	-5.9
GYA				pmax	pmax		
	comp=Z,54nm,1.0s						
GYA				pmax	pmax		
	comp=Z,300nm,3.9s						
GYA				LR	LR		
	comp=Z,1μm,12.3s						
GYA				LR	LR		
	comp=Z,2μm,13.3s						
GYA				LR	LR		
	comp=Z,2μm,13.8s						
PBKI	**Pangkalan Bun**	**18.43**	**209**	P	Pn	11 56 21.1	+7.6
NJ2	**Nanjing**	**18.46**	**355**↑	*i*P	**Pn**	**11 56 14.3**	**+0.5**
NJ2				pP	**pP**	**11 56 28.8**	**+1.3**
NJ2				sP	**sP**	**11 56 39.3**	**+2.8**
NJ2				S	**Sn**	**11 59 39.5**	**-0.2**
NJ2				pmax	pmax		
	comp=Z,62nm,1.0s						
NJ2				pmax	pmax		
	comp=Z,2μm,5.2s						
NJ2				LR	LR		
	comp=Z,2μm,15.6s						
NJ2				LR	LR		
	comp=Z,1μm,17.1s						
NJ2				LR	LR		
	comp=Z,2μm,17.0s						
KAPI	**Kappang**	**18.48**	**183**	P	**Pn**	**11 56 14.5**	**+0.4**
	comp=Z,2.5nm,0.3s,baz=352,slow=9.1,SNR=16						
KAPI				LR	LR	12 04 23.5	
	comp=Z,520nm,21.7s,baz=14,slow=40						
KAPI	**Kappang**	**18.48**	**183**	P	**Pn**	**11 56 15.7**	**+1.5**
KAPI				pmax	pmax		
	comp=Z,231nm,1.3s						
KAPI	**Kappang**	**18.48**	**183**		**Pn**	**11 56 15.7**	**+1.5**
KAPI				IAmb	IAmb	11 56 32.9	
	comp=Z,231nm,1.2s						
AAI	**Ambon**	**18.73**	**156**	P	**Pn**	**11 56 18.0**	**+0.8**
	comp=Z,7μmcomp=Z,472nm,1.0s						
MSAI	**Masohi**	**18.73**	**153**	P	**Pn**	**11 56 19.4**	**+2.2**
	comp=Z,4μmcomp=Z,268nm,1.0s						
BBSI	**Bau Bau**	**19.04**	**174**	P	**Pn**	**11 56 22.9**	**+2.1**
	comp=Z,291nmcomp=Z,32nm,1.1s						
PBKT	**Sadao Pong**	**19.17**	**281**	Pn	**Pn**	**11 56 23.9**	**+1.5**
PBKT				IAmb	IAmb	11 56 46.6	
	comp=Z,194nm,1.3s						
ENH	**Enshi**	**19.53**	**330**	IAmb	IAmb	11 57 03.9	
	comp=Z,581nm,2.0s						
FAKI	**Fak Fak**	**20.06**	**144**	P	**P**	**11 56 31.5**	**+1.0**
	comp=Z,3μmcomp=Z,4μmcomp=Z,307nm,1.0s						
FAKI	**Fak Fak**	**20.06**	**144**	P	**P**	**11 56 31.3**	**+0.8**
FAKI				IAmb	IAmb	11 56 53.8	
	comp=Z,304nm,1.0s						
BNDI	**Bandanaira**	**20.22**	**152**	P	Pn	11 56 34.3	-0.4
	comp=Z,22μmcomp=Z,2μm,1.3s						
TPRI	**Tanjung Pinang**	**20.27**	**233**	P	Pn	11 56 45.6	+10
MYKOM	**Kota Tinggi**	**20.27**	**236**	P	Pn	11 56 35.4	0.0
MYKOM				IAmb	IAmb	11 57 08.6	
	comp=Z,290nm,1.6s						
MYKOM	**Kota Tinggi**	**20.27**	**236**	P	Pn	11 56 38.0	+2.6
KMI	**Kunming**	**20.36**	**307**	P	Pn	11 56 37.8	+1.3
KMI				pP	sP	11 56 55.0	-2.4
KMI				S	**S**	**12 00 19.8**	**+1.5**
KMI				pmax	pmax		
	comp=Z,46nm,0.7s						
KMI				pmax	pmax		
	comp=Z,430nm,5.5s						
KMI				LR	LR		
	comp=Z,2μm,15.3s						
KMI				LR	LR		
	comp=Z,1μm,12.5s						
KMI				LR	LR		
	comp=Z,2μm,27.2s						
TPI	**Tanjungpandan**	**20.68**	**219**	P	Pn	11 56 43.4	+3.2
	comp=Z,2μmcomp=Z,96nm,0.9s						
PPBI	**Pangkal Pinang**	**21.20**	**224**	P	P	11 56 55.8	+13
KULM	**Kulim**	**21.30**	**249**	P	**P**	**11 56 45.1**	**+1.2**
KULM				IAmb	IAmb	11 57 15.3	
	comp=Z,232nm,1.4s						
KULM	**Kulim**	**21.30**	**249**	P	P	11 56 53.0	+9.1
IPM	**Ipoh**	**21.30**	**247**	P	**P**	**11 56 45.5**	**+1.5**
IPM				IAmb	IAmb	11 57 12.8	
	comp=Z,259nm,1.6s						
IPM	**Ipoh**	**21.30**	**247**	P	**P**	**11 56 47.0**	**+3.1**
CM31	**Chiang Mai Arr**	**21.35**	**286**	P	**P**	**11 56 47.3**	**+2.8**
CMAR	**Chiang Mai Arr**	**21.35**	**286**	P	**P**	**11 56 47.2**	**+2.8**
	comp=Z,26nm,0.4s,baz=98,slow=8.5,SNR=134						
CMAR				PcP	**PcP**	**12 00 46.8**	**+0.5**
	comp=Z,3.9nm,0.8s,baz=56,slow=0.5,SNR=6.5						
CMAR				ScP	**ScP**	**12 04 15.8**	**-1.3**
	comp=Z,4.8nm,0.9s,baz=68,slow=1.2,SNR=13						
CHTO	**Chiang Mai**	**21.42**	**287**	P	**P**	**11 56 46.5**	**+1.4**
CHTO				pmax	pmax		
	comp=Z,70nm,1.0s						
CHTO	**Chiang Mai**	**21.42**	**287**	P	**P**	**11 56 46.5**	**+1.4**
KMMI	**Kalianget**	**21.51**	**198**	P	P	11 56 53.3	+7.2
	comp=Z,4μmcomp=Z,180nm,1.0s						
JNU	**Nakatsue**	**21.61**	**24**	P	**P**	**11 56 46.6**	**-0.5**
	comp=Z,74nm,1.0s,baz=172,slow=4.4,SNR=21						
JNU	**Nakatsue**	**21.61**	**24**	P	**P**	**11 56 47.2**	**+0.1**
JNU				IAmb	IAmb	11 57 15.1	
	comp=Z,129nm,1.1s						
MMRI	**Maumere**	**22.12**	**176**	P	**P**	**11 56 55.5**	**+2.9**
	comp=Z,3μmcomp=Z,8μmcomp=Z,561nm,0.8s						
MMRI	**Maumere**	**22.12**	**176**	P	**P**	**11 56 53.6**	**+1.0**
EDFI	**Ende, Flores**	**22.20**	**177**	P	**P**	**11 56 54.7**	**+1.1**
	comp=Z,6μmcomp=Z,419nm,0.8s						
PLAI	**Plampang**	**22.43**	**187**	P	**P**	**11 56 57.9**	**+2.0**
	comp=Z,5μmcomp=Z,10μmcomp=Z,701nm,0.9s						
NGJI	**Ngawi**	**22.69**	**204**	P	**P**	**11 57 03.2**	**+4.5**
	comp=Z,318nm,1.4s						
TIA	**Tai'an**	**22.76**	**353**	P	**P**	**11 56 58.5**	**-0.8**
TIA				sP	**sP**	**11 57 23.5**	**+0.4**
TIA				S	**S**	**12 01 02.0**	**-0.8**
TIA				pmax	pmax		
	comp=Z,57nm,0.8s						
TIA				pmax	pmax		
	comp=Z,780nm,3.8s						
TIA				LR	LR		
	comp=Z,1μm,13.7s						
TIA				LR	LR		
	comp=Z,770nm,14.3s						
TIA				LR	LR		
	comp=Z,2μm,14.2s						
JAGI	**Jajag, Banyuwa**	**22.81**	**197**	P	**P**	**11 57 04.9**	**+4.9**
	comp=Z,5μmcomp=Z,8μmcomp=Z,438nm,1.6s						
JAGI	**Jajag, Banyuwa**	**22.81**	**197**	P	**P**	**11 57 01.6**	**+1.6**
XAN	**Xi'an**	**22.97**	**335**	P	**P**	**11 57 00.5**	**-1.0**
XAN				pP	pP	11 57 15.0	-1.5
XAN				sP	sP	11 57 23.0	-2.4
XAN				S	**S**	**12 01 02.0**	**-4.3**
XAN				pmax	pmax		
	comp=Z,77nm,0.9s						
XAN				pmax	pmax		
	comp=Z,690nm,5.3s						
XAN				LR	LR		
	comp=Z,3μm,11.8s						
XAN				LR	LR		
	comp=Z,3μm,16.3s						
XAN	**Xi'an**	**22.97**	**335**	IAmb	IAmb	11 57 25.6	
	comp=Z,245nm,1.4s						
WSI	**Waingapu**	**23.09**	**181**	P	**P**	**11 57 05.9**	**+3.2**
	comp=Z,23μmcomp=Z,895nm,0.9s						
WBSI	**Waikabubak, Su**	**23.09**	**183**	P	**P**	**11 57 04.0**	**+1.2**
	comp=Z,5μmcomp=Z,380nm,0.9s						
CD2	**Chengdu**	**23.19**	**321**↓	*i*P	**P**	**11 57 04.0**	**+0.3**
CD2				pP	pP	11 57 19.8	+0.8
CD2				PP	**PnPn**	**11 57 39.8**	**+7.3**
CD2				S	**S**	**12 01 11.3**	**+1.3**
CD2				sS	sS	12 01 37.3	-0.7
CD2				SS	**SnSn**	**12 01 59.0**	**+8.3**
CD2				pmax	pmax		
	comp=Z,470nm,0.7s						
CD2				pmax	pmax		
	comp=Z,720nm,5.1s						
CD2				LR	LR		
	comp=Z,3μm,13.7s						
CD2				LR	LR		
	comp=Z,3μm,12.9s						
WOJI	**Wonogiri, Jawa**	**23.33**	**205**	P	**P**	**11 57 07.6**	**+2.6**
	comp=Z,4μmcomp=Z,274nm,1.5s						
SOEI	**Soe**	**23.46**	**171**	P	**P**	**11 57 07.3**	**+0.9**
	comp=Z,5μmcomp=Z,539nm,0.9s						
SOEI	**Soe**	**23.46**	**171**	P	**P**	**11 57 06.7**	**+0.3**
TJN	**Taejon**	**23.51**	**14***c*	*i*P	**P**	**11 57 04.9**	**-1.6**
GUMO	**Guam**	**23.61**	**87**	P	**P**	**11 57 09.0**	**+1.4**
	comp=Z,134nm,0.9s,baz=198,slow=20,SNR=6.6						
GUMO				LR	LR	12 04 56.5	
	comp=Z,460nm,21.1s,baz=254,slow=33						
GUMO	**Guam**	**23.61**	**87**	P	**P**	**11 57 08.1**	**+0.5**
GUMO				pmax	pmax		
	comp=Z,505nm,1.5s						
GUMO	**Guam**	**23.61**	**87**	P	**P**	**11 57 08.1**	**+0.5**
GUMO				IAmb	IAmb	11 57 32.0	
	comp=Z,505nm,1.5s						
BASI	**Baing, Sumba**	**23.63**	**180**	P	**P**	**11 57 10.5**	**+2.7**
	comp=Z,2μmcomp=Z,6μmcomp=Z,578nm,1.4s						
SMPI	**Sarmi**	**23.71**	**129**	P	**P**	**11 57 10.0**	**+1.5**
	comp=Z,5μmcomp=Z,366nm,1.5s						
BATI	**Baumata**	**23.82**	**172**	P	**P**	**11 57 09.8**	**+0.3**
	comp=Z,3μm,0.7s,baz=305,slow=0.9,SNR=223						
BATI	**Baumata**	**23.82**	**172**	P	**P**	**11 57 09.8**	**+0.3**
	comp=Z,18μmcomp=Z,2μm,0.7s						
SDSI	**Sungai Dareh**	**23.83**	**234**	P	**P**	**11 57 12.1**	**+2.5**
SAUI	**Saumlaki**	**23.91**	**153**	P	**P**	**11 57 09.9**	**-0.4**
PSI	**Prapat**	**23.93**	**245**	P	**P**	**11 57 12.8**	**+2.1**
	comp=Z,26nm,0.9s,baz=0.4,slow=4.4,SNR=15						
PSI				LR	LR	12 07 10.4	
	comp=Z,621nm,19.5s,baz=90,slow=38						
PSI	**Prapat**	**23.93**	**245**	P	**P**	**11 57 13.1**	**+2.4**
PSI				pmax	pmax		
	comp=Z,125nm,1.3s						
TSI	**Tuntungan**	**23.94**	**247**	P	**P**	**11 57 15.1**	**+4.5**
	comp=Z,387nm,1.4s						
RPSI	**Rantau Prapat**	**23.98**	**245**	P	**P**	**11 57 13.1**	**+2.1**
RPSI				IAmb	IAmb	11 57 37.5	
	comp=Z,125nm,1.3s						
LEM	**Lembang**	**24.01**	**213**	LR	LR	12 07 48.5	
	comp=Z,976nm,19.9s,baz=32,slow=39						
LHSI	**Lahat**	**24.20**	**226**	P	**P**	**11 57 17.7**	**+4.8**
	comp=Z,4μmcomp=Z,188nm,1.7s						
MDSI	**Maura Dua**	**24.23**	**223**	P	**P**	**11 57 16.1**	**+2.9**
	comp=Z,2μmcomp=Z,60nm,1.6s						
JCJ	**Chichijima**	**24.27**	**53**	P	**P**	**11 57 12.8**	**-0.7**
MNSI	**Mandailing Nat**	**24.36**	**240**	P	**P**	**11 57 17.6**	**+3.2**
	comp=Z,88nm,0.8s						
INCN	**Inchon**	**24.42**	**12**	P	**P**	**11 57 14.5**	**-0.2**
INCN				pmax	pmax		
	comp=Z,92nm,1.3s						
INCN	**Inchon**	**24.42**	**12**	P	**P**	**11 57 14.5**	**-0.2**
CISI	**Cisompet, Garu**	**24.52**	**212**	P	**P**	**11 57 20.2**	**+4.3**
	comp=Z,3μmcomp=Z,4μmcomp=Z,125nm,1.3s						
CISI	**Cisompet, Garu**	**24.52**	**212**	P	**P**	**11 57 16.2**	**+0.3**
CISI				IAmb	IAmb	11 57 51.8	
	comp=Z,292nm,1.3s						
KRJI	**Kerinci**	**24.53**	**232**	P	P	11 57 24.8	+8.7
MASI	**Maura Aman, Be**	**24.64**	**229**	P	P	11 57 27.6	+11
KCSI	**Kotacane, Aceh**	**24.64**	**248**	P	**P**	**11 57 20.9**	**+3.9**
	comp=Z,90nm,1.2s						
KSAR	**Wonju Array Be**	**24.65**	**14**	P	**P**	**11 57 16.1**	**-0.7**
KSAR	**Wonju Array Be**	**24.65**	**14**	P	**P**	**11 57 16.1**	**-0.7**
CNJI	**Cibinong**	**24.67**	**214**	P	**P**	**11 57 23.3**	**+6.1**
	comp=Z,μmcomp=Z,151nm,1.0s						
KSRS	**Korea Array**	**24.67**	**14**	P	**P**	**11 57 15.8**	**-1.2**
	comp=Z,9.9nm,0.8s,baz=193,slow=10,SNR=36						
KSRS				ScP	**ScP**	**12 04 24.2**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=191,slow=3.2,SNR=5.4						
LWLI	**Liwa**	**24.70**	**223**	P	**P**	**11 57 20.8**	**+3.2**
	comp=Z,304n

LZH LR LR
comp=Z,3μm,13.0s
LZH LR LR
comp=Z,4μm,16.3s
MAJO Matsushiro 27.80 32 P **P 11 57 44.1 -1.2**
MAJO pmax pmax
comp=Z,39nm,1.2s
MAJO Matsushiro 27.80 32 P **P 11 57 44.1 -1.2**
MAT Matsushiro 27.80 32 P **P 11 57 43.6 -1.7**
MAT S **S 12 02 21.4 -1.8**
MJAR Matsushiro Arr 27.80 32 P **P 11 57 42.9 -2.4**
comp=Z,6.3nm,0.7s,baz=213,slow=8.6,SNR=15
MJAR Matsushiro Arr 27.80 32 P **P 11 57 43.6 -1.7**
MJAR pmax pmax
comp=Z,5.0nm,0.8s
MJAR Matsushiro Arr 27.80 32 P **P 11 57 43.5 -1.7**
BTO Baotou 28.48 343 *e*P **P 11 57 52.0 +0.6**
ZIRO ZIRO 28.54 303 *e*P **P 11 57 53.1 +0.9**
SHL Shillong 29.49 298 *e*P **P 11 58 01.2 +0.6**
SHL IAmb IAmb 11 58 04.8
comp=Z,52nm,0.6s
SHL Shillong 29.49 298 P **P 11 58 01.7 +1.1**
SHL pmax pmax
comp=Z,125nm,0.9s
SHL Shillong 29.49 298 P **P 11 58 01.7 +1.1**
SHL IAmb IAmb 11 58 02.7
comp=Z,126nm,0.9s
KNRA Kununurra 30.16 164 P **P 11 58 06.2 -0.1**
KNRA IAmb IAmb 11 58 24.2
comp=Z,161nm,1.5s
CN2 Changchun 30.42 7 *e*P **P 11 58 07.8 -0.6**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
GTA Gaotai 31.59 328 P **P 11 58 19.8 +0.9**
GTA pP pP 11 58 37.5 +1.6
GTA sP sP 11 58 47.3 +3.1
GTA S **S 12 03 22.8 0.0**
GTA sS sS 12 03 53.0 +1.0
GTA SS **SnSn 12 05 21.0 +5.9**
GTA pmax pmax
comp=Z,47nm,1.2s
GTA pmax pmax
comp=Z,290nm,8.2s
GTA LR LR
comp=Z,2μm,17.5s
GTA LR LR
comp=Z,2μm,22.7s
GTA LR LR
comp=Z,3μm,22.7s
LSA Lhasa 31.59 305 P **P 11 58 21.5 +2.0**
LSA S **S 12 03 22.0 -1.7**
LSA pmax pmax
comp=Z,160nm,1.0s
LSA LR LR
comp=Z,1μm,17.8s
LSA LR LR
comp=Z,2μm,21.4s
LSA LR LR
comp=Z,4μm,19.9s
LSA Lhasa 31.59 305 *i* P **P 11 58 21.9 +2.4**
SNR=8.4
LSA Lhasa 31.59 305 P **P 11 58 20.8 +1.3**
LSA pmax pmax
comp=Z,37nm,0.8s
LSA Lhasa 31.59 305 P **P 11 58 20.8 +1.3**
LSA IAmb IAmb 11 58 24.6
comp=Z,37nm,0.8s
FITZ Fitzroy Crossi 31.86 171 P **P 11 58 21.2 -0.1**
comp=Z,37nm,0.7s,baz=20,slow=5.4,SNR=20
FITZ Fitzroy Crossi 31.86 171 P **P 11 58 22.2 +0.9**
FITZ IAmb IAmb 11 58 22.7
comp=Z,52nm,0.9s
MDJ Mudanjiang 31.88 12 P **P 11 58 21.0 -0.3**
MDJ S **S 12 03 28.3 +1.3**
MDJ pmax pmax
comp=Z,26nm,1.1s
MDJ pmax pmax
comp=Z,280nm,3.4s
MDJ LR LR
comp=Z,1μm,17.8s
MDJ LR LR
comp=Z,760nm,14.5s
MDJ LR LR
comp=Z,1μm,18.5s
MDJ Mudanjiang 31.88 12 IAmb IAmb 11 58 52.5
comp=Z,62nm,1.3s
USA0B Ussuriysk Arra 32.05 16 P **P 11 58 23.4 +0.7**
USA0B pmax pmax
comp=Z,40nm,1.2s
USA0B Ussuriysk Arra 32.05 16 P **P 11 58 23.4 +0.7**
USRK Ussuriysk Ar. 32.05 16 P **P 11 58 22.1 -0.6**
comp=Z,9.4nm,0.7s,baz=204,slow=9.5,SNR=20
USRK Ussuriysk Ar. 32.05 16 P **P 11 58 22.8 +0.1**
USRK Ussuriysk Ar. 32.05 16 P **P 11 58 22.8 +0.1**
GTK Tadong 32.83 300 *e*P **P 11 58 31.5 +1.6**
GTK IAmb IAmb 11 58 33.7
comp=Z,56nm,0.8s
TAPN Taplejung 33.59 299 *e*P **P 11 58 38.2 +1.4**
ODAN Odare 33.72 298 *e*P **P 11 58 39.2 +1.3**
comp=Z,297nm,0.7s
TEY Ternei 34.20 20‖ *e*P **P 11 58 41.5 +0.1**
TEY pmax pmax
comp=N,10.0nm,1.0s
TEY pmax pmax
comp=E,20nm,0.8s
TEY pmax pmax
comp=Z,20nm,0.7s
BOK Bokaro 34.32 292 *e*P **P 11 58 44.6 +1.8**
BOK IAmb IAmb 11 58 45.5
comp=Z,30nm,1.0s
RAMN Ramite 34.42 298 *e*P **P 11 58 45.5 +1.5**
comp=Z,225nm,0.8s
ERM Erimo 34.45 30 P **P 11 58 44.9 +1.2**
ERM pmax pmax
comp=Z,26nm,0.9s
ERM Erimo 34.45 30 P **P 11 58 44.9 +1.2**
ERM IAmb IAmb 11 58 59.6
comp=Z,26nm,0.8s
MBWA Marble Bar 34.52 181 P **P 11 58 44.8 +0.4**
PSAD1 Pilbara Seismi 34.81 181 P **P 11 58 47.5 +0.5**
PMG Port Moresby 34.88 129 P **P 11 58 46.3 -1.4**
comp=Z,15nm,0.8s,baz=310,slow=17,SNR=2.7
PMG Port Moresby 34.88 129 P **P 11 58 46.9 -0.8**
PMG pmax pmax
comp=Z,52nm,1.0s
PMG Port Moresby 34.88 129 P **P 11 58 46.9 -0.8**
PMG IAmb IAmb 11 59 07.9
comp=Z,52nm,0.9s
PSAC1 Pilbara Seismi 34.89 181 P **P 11 58 48.3 +0.6**
PSA00 Pilbara Seismi 34.93 181 P **P 11 58 48.5 +0.5**
PSA00 Pilbara Seismi 34.93 181 P **P 11 58 48.4 +0.4**
PSA00 IAmb IAmb 11 58 49.8
comp=Z,193nm,1.1s
JIRN Jiri 34.97 299 *e*P **P 11 58 50.3 +1.5**
comp=Z,484nm,0.8s
GUN Gumba 35.31 299 *e*P **P 11 58 53.1 +1.4**
comp=Z,465nm,0.7s
PKI Pulchoki 35.61 299 *e*P **P 11 58 55.1 +0.8**
comp=Z,158nm,0.7s
PKIN Phulchoki 35.63 299 *e*P **P 11 58 55.1 +0.8**
comp=Z,132nm,0.5s
KKN Kakani 35.78 299 *e*P **P 11 58 56.5 +0.9**
comp=Z,211nm,0.8s
ASAJ Asahikawa 35.80 27 P **P 11 58 55.2 0.0**
comp=Z,34nm,0.8s,baz=217,slow=8.2,SNR=27
ASAJ Asahikawa 35.80 27 P **P 11 58 55.7 +0.5**
ASAJ pmax pmax
comp=Z,45nm,0.9s
JKA Kamikawa-asahi 35.80 27 P **P 11 58 55.7 +0.4**
JKA IAmb IAmb 11 58 57.6
comp=Z,45nm,0.9s
WB0 Warramunga Arr 35.81 157 P **P 11 58 54.7 -0.8**
DMN Daman 35.88 299 *e*P **P 11 58 57.4 +0.9**
comp=Z,260nm,0.9s
KRVT Keravat (AS076 35.91 118 P **P 11 58 57.1 +0.5**
comp=Z,41nm,0.9s,baz=287,slow=14,SNR=3.4
KRVT LR LR 12 12 10.6
comp=Z,221nm,21.4s,baz=307,slow=34
WRAB Tennant Creek 35.94 158 P **P 11 58 56.5 -0.2**
WRAB pmax pmax
comp=Z,191nm,0.8s
WRAB Tennant Creek 35.94 158 P **P 11 58 56.5 -0.2**
WRA Warramunga Arr 35.95 158 P **P 11 58 55.2 -1.6**
comp=Z,78nm,0.6s,baz=336,slow=9.5,SNR=81
WRA pP **pP 11 59 13.9 -0.2**
comp=Z,158nm,0.8s,baz=334,slow=9.8,SNR=16

WRA S **S 12 04 25.1 -5.1**
comp=Z,14nm,0.9s,baz=343,slow=15,SNR=6.2
WRA LR LR 12 18 11.4
comp=Z,219nm,18.6s,baz=325,slow=44
WRA Warramunga Arr 35.95 158 P **P 11 58 55.9 -0.9**
WRA pmax pmax
comp=Z,6.0nm,0.9s
WRA Warramunga Arr 35.95 158 P **P 11 58 55.9 -0.9**
WB2 Warramunga Arr 35.95 158 P **P 11 58 56.2 -0.6**
RABL Rabaul 35.97 117 P **P 11 58 57.1 0.0**
RABL IAmb IAmb 11 59 49.2
comp=Z,78nm,1.1s
ULN Ulaanbaatar 36.00 344*c i*P **P 11 58 57.2 +0.1**
ULN pmax pmax
comp=Z,64nm,1.0s
ULN Ulaanbaatar 36.00 344 P **P 11 58 57.8 +0.7**
ULN IAmb IAmb 11 59 22.9
comp=Z,102nm,1.1s
WR0 Warramunga Arr 36.04 157 P **P 11 58 57.7 +0.1**
SONM Songino Array 36.15 344 P **P 11 58 58.4 +0.1**
comp=Z,67nm,0.7s,baz=161,slow=9.6,SNR=188
SONM ScP **ScP 12 05 00.1 -2.9**
comp=Z,1.5nm,0.7s,baz=163,slow=3.7,SNR=3.6
SONM LR LR 12 13 54.0
comp=Z,1μm,21.9s,baz=154,slow=36
SONM Songino Array 36.15 344 P **P 11 58 59.1 +0.7**
SONM pmax pmax
comp=Z,53nm,0.8s
SONM Songino Array 36.15 344 P **P 11 58 59.1 +0.7**
GKN Gorkha 36.39 299 *e*P **P 11 59 01.3 +0.6**
comp=Z,193nm,0.8s
KLR Kul'dur 36.73 12 P **P 11 59 01.9 -1.2**
comp=Z,26nm,0.9s,baz=216,slow=6.6,SNR=52
KLR ScP **ScP 12 05 01.9 -3.0**
comp=Z,1.5nm,0.7s,baz=261,slow=4.2,SNR=2.4
KLR Kul'dur 36.73 12*c i*P **P 11 59 02.5 -0.6**
KLR pmax pmax
comp=Z,36nm,1.2s
KOLN Koldanda 37.21 298 *e*P **P 11 59 08.6 +0.8**
comp=Z,160nm,0.8s
DANN Dangsing 37.23 299 *e*P **P 11 59 08.8 +0.8**
comp=Z,362nm,0.7s
PATS Pohnpei 37.69 96 P **P 11 59 12.7 +1.0**
PVM Polavaram 37.69 281 *e*P **P 11 59 14.0 +2.3**
PVM IVmB_BB 11 59 37.1
comp=Z,721nm,3.1s
PYUN Piuthan 37.82 298 *e*P **P 11 59 14.0 +1.1**
comp=Z,408nm,0.8s
YSS Yuzh-Sakhalins 38.12 25*ce*P **P 11 59 14.7 -0.2**
YSS *e**PP **pP 11 59 33.0 +0.8**
YSS *e**SP **sP 11 59 42.5 +2.0**
YSS *e*PPP PPP 12 01 10.4
YSS *e*S **S 12 05 00.0 -2.7**
YSS pmax pmax
comp=Z,400nm,7.5s
YSS pmax pmax
comp=Z,30nm,1.1s
YSS smax smax
comp=N,200nm,7.9s
YSS smax smax
comp=E,200nm,7.7s
YSS MLR MLR
comp=Z,500nm,15.0s
YSS MLR MLR
comp=N,300nm,17.0s
YSS MLR MLR
comp=E,300nm,17.0s
YSS Yuzh-Sakhalins 38.12 25 P **P 11 59 14.8 0.0**
YSS IAmb IAmb 11 59 34.9
comp=Z,42nm,1.1s
CIT Chita 38.77 353 *e*P **P 11 59 20.3 0.0**
CIT *e* 11 59 38.0
CIT *e* 12 00 53.3
KUR Kuril'sk 39.14 31*d i*P **P 11 59 24.9 +1.5**
KUR pmax pmax
comp=Z,237nm,1.1s
AS31 Alice Springs 39.23 160 P **P 11 59 24.4 -0.1**
AS31 IAmb IAmb 11 59 42.8
comp=Z,48nm,0.8s
ASAR Alice Springs 39.23 160 P **P 11 59 23.9 -0.7**
comp=Z,30nm,0.5s,baz=337,slow=6.8,SNR=125
ASAR PcP **PcP 12 01 31.7 -0.7**
comp=Z,3.6nm,0.6s,baz=344,slow=3.1,SNR=1.4
ASAR ScP **ScP 12 05 11.8 -3.0**
comp=Z,2.3nm,0.8s,baz=350,slow=3.9,SNR=4.5
ASAR Alice Springs 39.23 160 P **P 11 59 24.4 -0.1**
GRNR Gornyy 39.27 16‖ *i*P **P 11 59 24.1 -0.4**
GRNR *e*S **S 12 05 20.8 +0.8**
GRNR pmax pmax
comp=Z,10.0nm,1.2s
GRNR smax smax
comp=E,3.0nm,0.9s
GRNR MLR MLR
comp=E,170nm,13.0s
GRNR MLR MLR
comp=N,150nm,16.0s
ADKI Addanki 39.31 278 *e*P **P 11 59 27.3 +2.1**
ADKI IVmB_BB 11 59 51.0
comp=Z,639nm,2.8s
ZAK Zakamensk 39.33 343 *e*P **P 11 59 24.5 -0.6**
ZAK pmax pmax
comp=Z,23nm,1.1s
SKHT Srikalahasti 39.69 275 *e*P **P 11 59 29.9 +1.5**
SKHT IVmB_BB 11 59 53.9
comp=Z,558nm,3.5s
NJS Nagarjunasagar 39.92 280 *e*P **P 11 59 32.6 +2.2**
NJS IVmB_BB 11 59 55.5
comp=Z,588nm,3.5s
RPR Rampur 39.93 283 *e*P **P 11 59 32.3 +1.9**
RPR IVmB_BB 11 59 55.5
comp=Z,598nm,2.7s
NGP Nagpur 40.26 287 *e*P **P 11 59 34.6 +1.5**
NGP IAmb IAmb 11 59 39.0
comp=Z,17nm,0.4s
SRLM Srisailam 40.33 279 *e*P **P 11 59 35.6 +1.7**
SRLM IVmB_BB 11 59 58.8
comp=Z,520nm,3.3s
TLY Talaya 40.39 344 P **P 11 59 33.9 +0.1**
comp=Z,15nm,0.4s,baz=182,slow=8.3,SNR=14
TLY Talaya 40.39 344*c i*P **P 11 59 33.9 +0.1**
TLY *e* 11 59 51.0
TLY *e*S **S 12 05 37.3 +0.5**
TLY pmax pmax
comp=Z,27nm,0.6s
TLY MLR MLR
comp=Z,2μm,16.0s
TLY Talaya 40.39 344 P **P 11 59 34.5 +0.6**
TLY IAmb IAmb 12 00 00.9
comp=Z,105nm,1.2s
ZEA Zeya 40.42 6 *e*P **P 11 59 33.2 -0.7**
ZEA *e*PPP PPP 12 01 35.0
ZEA *e*S **S 12 05 36.0 -1.0**
ZEA *e* 12 06 11.0
ZEA pmax pmax
comp=Z,29nm,1.0s
ZEA pmax pmax
comp=Z,300nm,8.0s
ZEA smax smax
comp=E,200nm,13.0s
HYB Hyderabad 40.63 281 *i* P **P 11 59 37.0 +0.8**
HYB Hyderabad 40.63 281 *e*P **P 11 59 38.1 +1.9**
HYB IAmb IAmb 11 59 41.5
comp=Z,20nm,0.5s
HYBB Hyderabad (bro 40.63 281 *e*P **P 11 59 37.4 +1.1**
HYBB IVmBBB 12 00 01.6
comp=Z,668nm,3.0s
IRK Irkutsk 40.74 345 *e*P **P 11 59 35.4 -1.2**
IRK *e* 12 01 40.4
IRK pmax pmax
comp=Z,277nm,2.7s
MOY Mondy 41.15 341 *e*P **P 11 59 40.6 +0.4**
WMQ Urumqi 41.24 323 *e*P **P 11 59 41.5 +0.5**
WMQ S **S 12 05 52.3 +2.6**
WMQ sS sS 12 06 18.8 -0.8
WMQ SS **SS 12 08 53.0 -2.4**
WMQ pmax pmax
comp=Z,72nm,0.9s
WMQ pmax pmax
comp=Z,330nm,3.9s
WMQ LR LR
comp=Z,2μm,14.3s
WMQ LR LR
comp=Z,1μm,14.5s
WMQ LR LR
comp=Z,2μm,26.3s

CTA Charters Tower 41.91 142 P **P 11 59 46.0 -0.6**
comp=Z,8.3nm,0.6s,baz=321,slow=9.5,SNR=12
CTAO Charters Tower 41.91 142 P **P 11 59 46.4 -0.2**
CTAO pmax pmax
comp=Z,40nm,1.0s
CTAO Charters Tower 41.91 142 P **P 11 59 46.4 -0.2**
CTAO IAmb IAmb 12 00 17.1
comp=Z,40nm,1.0s
BHPL Bhopal 41.93 290 *e*P **P 11 59 47.4 +0.5**
BHPL IAmb IAmb 11 59 48.4
comp=Z,24nm,0.8s
URV Uravakonda 41.96 277 *e*P **P 11 59 48.8 +1.6**
URV IVmBBB 12 00 13.7
comp=Z,484nm,3.4s
KLRI Killari 42.48 282 *e*P **P 11 59 53.0 +1.6**
KLRI IVmB_BB 12 00 16.3
comp=Z,923nm,3.2s
DDI Dehra Dun 42.54 300 *e*P **P 11 59 52.4 +0.6**
DDI IAmb IAmb 11 59 54.3
comp=Z,39nm,0.6s
NKL Nikolayevsk 42.60 18 *e*P **P 11 59 50.7 -1.0**
NKL *e* 12 01 30.4
NKL *e*S **S 12 06 03.4 -5.8**
NKL pmax pmax
comp=Z,49nm,5.5s
MORW Morawa 42.61 186 P **P 11 59 52.5 +0.3**
MORW IAmb IAmb 11 59 59.8
comp=Z,55nm,0.8s
SMLA Simla 43.48 301 *e*P **P 11 59 60.0 +0.7**
SMLA *i* pP **pP 12 00 16.0 -0.9**
BHK Bhakra 44.17 301 *e*P **P 12 00 08.6 +3.8**
BHK *e*pP **pP 12 00 25.0 +2.5**
BOD Bodaibo 44.45 355 *e*P **P 12 00 05.3 -1.2**
BOD pmax pmax
comp=Z,31nm,1.5s
FORT Forrest 44.67 171 P **P 12 00 08.5 -0.2**
ZSN Zaisan 45.00 326⇑ *i*P **P 12 00 12.2 +1.0**
comp=Z,99nm,3.3s,baz=326
ZSN *i* pP **pP 12 00 28.5 -0.4**
baz=326
ZSN *i* sP **sP 12 00 36.3 -0.8**
baz=326
ZSN *i* S **S 12 06 45.4 +0.8**
baz=326
ZSN Zaisan 45.00 326*c i*P **P 12 00 12.1 +0.9**
ZSN *i* *PP **pP 12 00 28.5 -0.4**
ZSN *i* *SP **sP 12 00 36.2 -0.8**
ZSN *i* S **S 12 06 45.3 +0.8**
ZSN pmax pmax
comp=Z,99nm,3.3s
POO Poona 45.09 283 *ex* pP 12 00 27.0 -2.4
DGZ Jazzator, Alta 45.09 330*c i*P **P 12 00 13.0 +0.9**
DGZ pmax pmax
comp=Z,30nm,0.9s
HNR Honiara 45.26 118 LR LR 12 16 53.5
comp=Z,514nm,21.8s,baz=294,slow=33
SHLS Shalkode 45.98 318⇑ *i*P **P 12 00 18.6 -0.5**
comp=Z,46nm,0.7s,baz=318
SHLS *i* pP **pP 12 00 35.0 -1.9**
baz=318
SHLS *i* sP **sP 12 00 42.6 -2.5**
baz=318
SHLS *i* S **S 12 06 56.2 -2.8**
baz=318
SHLS LR LR 12 20 23.8
comp=Z,98nm,11.7s,baz=318
SHLS Shalkode 45.98 318*c i*P **P 12 00 18.6 -0.5**
SHLS *i* *PP **pP 12 00 35.0 -1.9**
SHLS *i* *SP **sP 12 00 42.5 -2.5**
SHLS *i* S **S 12 06 56.1 -2.8**
SHLS pmax pmax
comp=Z,46nm,0.7s
SHLS MLR MLR
comp=Z,98nm,12.0s
PDGK Podgornoye 46.04 318 P **P 12 00 20.5 +0.9**
MK31 Makanchi Array 46.07 324 *e*P **P 12 00 20.2 +0.5**
MK31 Makanchi Array 46.07 324 IAmb IAmb 12 00 21.8
comp=Z,53nm,0.8s
MKAR Makanchi Array 46.07 324 P **P 12 00 20.5 +0.9**
comp=Z,61nm,0.7s,baz=130,slow=8.8,SNR=373
MKAR pP **pP 12 00 37.4 0.0**
comp=Z,26nm,0.8s,baz=123,slow=8.1,SNR=5.4
MKAR ScP **ScP 12 05 40.1 -1.9**
comp=Z,6.2nm,0.9s,baz=104,slow=5.6,SNR=5.7
MKAR S **S 12 07 00.3 +0.4**
comp=Z,2.8nm,0.9s,baz=96,slow=13,SNR=3.9
MKAR Makanchi Array 46.07 324 P **P 12 00 20.7 +1.1**
MAKZ Makanchi 46.26 324 P **P 12 00 22.2 +1.1**
MAKZ pmax pmax
comp=Z,326nm,1.7s
MAKZ Makanchi 46.26 324 P **P 12 00 22.2 +1.1**
UZB Uzynbulak 46.26 318⇑ *i*P **P 12 00 22.8 +1.4**
comp=Z,39nm,0.7s,baz=317
UZB *i* pP **pP 12 00 39.0 -0.1**
baz=317
UZB *i* sP **sP 12 00 47.2 -0.2**
baz=317
UZB *i* S **S 12 07 03.8 +0.7**
baz=317
UZB Uzynbulak 46.26 318*c i*P **P 12 00 22.7 +1.4**
UZB *i* *PP **pP 12 00 39.0 -0.1**
UZB *i* *SP **sP 12 00 47.1 -0.2**
UZB *i* S **S 12 07 03.8 +0.7**
UZB pmax pmax
comp=Z,39nm,0.7s
NWAO Narrogin (SRO) 46.34 184 P **P 12 00 22.1 +0.3**
comp=Z,45nm,0.5s,baz=13,slow=7.7,SNR=58
NWAO Narrogin (SRO) 46.34 184 P **P 12 00 22.9 +1.0**
NWAO pmax pmax
comp=Z,299nm,1.7s
NWAO Narrogin (SRO) 46.34 184 P **P 12 00 22.9 +1.0**
NWAO Narrogin (SRO) 46.34 184 P **P 12 00 22.9 +1.0**
NWAO IAmb IAmb 12 00 39.9
comp=Z,299nm,1.7s
TARG Taragay, Kyrgy 46.46 315 P **P 12 00 26.1 +2.8**
KPKS Kokpek 46.62 318⇑ *i*P **P 12 00 25.3 +1.1**
comp=Z,43nm,0.7s,baz=318
KPKS *i* pP **pP 12 00 41.8 -0.2**
baz=318
KPKS *i* sP **sP 12 00 49.3 -0.8**
baz=318
KPKS *i* S **S 12 07 09.2 +1.1**
baz=318
KPKS LR LR 12 22 17.2
comp=Z,170nm,12.1s,baz=318
KPKS Kokpek 46.62 318*c i*P **P 12 00 25.2 +1.1**
KPKS *i* *PP **pP 12 00 41.7 -0.2**
KPKS *i* *SP **sP 12 00 49.2 -0.8**
KPKS *i* S **S 12 07 09.2 +1.1**
KPKS pmax pmax
comp=Z,43nm,0.7s
SATY Saty 46.62 317⇑ *i*P **P 12 00 25.7 +1.5**
comp=Z,30nm,1.0s,baz=317
SATY *i* pP **pP 12 00 42.0 -0.1**
baz=317
SATY *i* sP **sP 12 00 49.7 -0.4**
baz=317
SATY *i* S **S 12 07 09.1 +0.9**
baz=317
SATY *i* sS **sS 12 07 39.6 +1.0**
baz=317
SATY LR LR 12 20 57.5
comp=Z,82nm,12.0s,baz=317
SATY Saty 46.62 317*c i*P **P 12 00 25.7 +1.5**
SATY *i* *PP **pP 12 00 41.9 -0.1**
SATY *i* *SP **sP 12 00 49.7 -0.4**
SATY *i* S **S 12 07 09.1 +0.9**
SATY *i* *SS **sS 12 07 39.6 +1.0**
SATY pmax pmax
comp=Z,30nm,1.0s
SATY MLR MLR
comp=Z,82nm,12.0s
SKR Severo-Kuril's 46.90 30 *e*P **P 12 00 23.2 -2.8**
SKR *e*S **S 12 07 05.4 -6.2**
SKR pmax pmax
comp=Z,200nm,4.2s
SKR pmax pmax
comp=Z,67nm,0.9s
SKR MLR MLR
comp=Z,200nm,19.0s
SKR MLR MLR
comp=Z,200nm,18.0s
KSH Kashi 46.90 312 P **P 12 00 29.5 +3.1**
KSH S **S 12 07 14.8 +2.5**
KSH pmax pmax

KSH comp=Z,69nm,1.1s pmax pmax
KSH comp=Z,620nm,4.1s LR LR
KSH comp=Z,1μm,13.3s LR LR
KSH comp=Z,500nm,11.6s
KDJ Kajisay 47.05 316 P **P** **12 00 29.7 +2.1**
KDJ pmax pmax
comp=Z,164nm,1.4s
KDJ Kajisay 47.05 316 P **P** **12 00 29.7 +2.1**
NIL Nilore 47.28 303 P **P** **12 00 30.4 +1.0**
NIL pmax pmax
comp=Z,148nm,1.1s
NIL Nilore 47.28 303 P **P** **12 00 30.4 +1.0**
TDK Taldyqorghan 47.50 320 *i* P **P** **12 00 32.5 +1.6**
comp=Z,194nm,0.7s,baz=319
TDK *i* pP **pP** **12 00 48.9 +0.2**
baz=319
TDK *i* sP **sP** **12 00 56.7 -0.2**
baz=319
TDK *i* S **S** **12 07 21.6 +1.1**
baz=319
TDK LR LR 12 20 51.7
comp=Z,563nm,14.9s,baz=319
TDK Taldyqorghan 47.50 320 *i* P **P** **12 00 32.4 +1.6**
TDK *i* *PP **pP** **12 00 48.9 +0.2**
TDK *i* *SP **sP** **12 00 56.6 -0.2**
TDK *i* S **S** **12 07 21.6 +1.1**
TDK pmax pmax
comp=Z,194nm,0.7s
TDK MLR MLR
comp=Z,563nm,15.0s
MDOK Medeo 47.57 317 *i* P **P** **12 00 33.2 +1.6**
baz=317
MDOK *i* pP **pP** **12 00 49.6 +0.1**
baz=317
MDOK *i* sP **sP** **12 00 57.5 -0.1**
baz=317
MDOK *i* S **S** **12 07 22.1 +0.4**
baz=317
MDOK *i* sS **sS** **12 07 53.3 +1.1**
baz=317
MDOK Medeo 47.57 317 *i* P **P** **12 00 33.1 +1.6**
MDOK *i* *PP **pP** **12 00 49.5 +0.1**
MDOK *i* *SP **sP** **12 00 57.4 -0.1**
MDOK *i* S **S** **12 07 22.9 +1.2**
MDOK *i* *SS **sS** **12 07 53.2 +1.1**
TNSS Tian-Shan 47.58 317⇑ *i* P **P** **12 00 33.7 +1.7**
baz=316
TNSS *i* pP **pP** **12 00 50.2 +0.4**
baz=316
TNSS *i* sP **sP** **12 00 56.3 -1.7**
baz=316
TNSS *i* S **S** **12 07 23.4 +1.0**
baz=316
TNSS Tian-Shan 47.58 317*c* *i* P **P** **12 00 33.7 +1.7**
TNSS *i* *SP **sP** **12 00 56.3 -1.7**
TNSS *i* S **S** **12 07 23.4 +1.0**
AAA Alma-Ata 47.67 317⇑ *e* P **P** **12 00 34.0 +1.7**
comp=Z,35nm,0.6s,baz=317
AAA *i* S **S** **12 07 24.2 +1.2**
baz=317
AAA *i* sS **sS** **12 07 54.4 +0.9**
baz=317
AAA Alma-Ata 47.67 317 *e* P **P** **12 00 34.2 +1.9**
AAA *e* S **S** **12 07 19.0 -4.1**
AAA pmax pmax
comp=Z,100nm,1.5s
AAA smax smax
comp=N,200nm,3.2s
AAA MLR MLR
comp=Z,400nm,14.0s
ULHL Ulahol 47.73 315 P **P** **12 00 34.7 +1.7**
SNR=55
CHKK Chushkaly 47.90 318⇑ *i* P **P** **12 00 34.6 +0.6**
comp=Z,163nm,0.8s,baz=318
CHKK *i* S **S** **12 07 26.3 +0.2**
baz=318
CHKK Chushkaly 47.90 318⇑ *i* P **P** **12 00 34.5 +0.6**
CHKK *i* S **S** **12 07 26.3 +0.2**
CHKK pmax pmax
comp=Z,163nm,0.8s
MTBS Maitube 47.97 317⇑ *i* P **P** **12 00 35.8 +1.2**
baz=316
MTBS Maitube 47.97 317⇑ *i* P **P** **12 00 35.8 +1.2**
BOOM Boomskoye usch 48.04 316 P **P** **12 00 36.8 +1.6**
BOOM pmax pmax
comp=Z,92nm,1.3s
BOOM Boomskoye usch 48.04 316 P **P** **12 00 36.8 +1.6**
BOOM IAmb IAmb 12 01 02.6
comp=Z,92nm,1.2s
KUU Kurty 48.34 318⇑ *i* P **P** **12 00 38.8 +1.4**
comp=Z,218nm,0.7s,baz=317
KUU *i* pP **pP** **12 00 55.3 0.0**
baz=317
KUU *i* sP **sP** **12 01 02.8 -0.6**
baz=317
KUU *i* S **S** **12 07 33.4 +1.0**
baz=317
KUU Kurty 48.34 318*c* *i* P **P** **12 00 38.7 +1.4**
KUU *i* *PP **pP** **12 00 55.3 0.0**
KUU *i* *SP **sP** **12 01 02.8 -0.6**
KUU *i* S **S** **12 07 33.4 +1.0**
KZA Kyzart 48.35 315 P **P** **12 00 40.0 +2.1**
SNR=96
BBOO Buckleboo 48.43 163 P **P** **12 00 37.1 -1.0**
BBOO IAmb IAmb 12 00 55.8
comp=Z,87nm,0.8s
TKM2 Tokmak 2 48.44 316 P **P** **12 00 39.6 +1.2**
SNR=52
KBK Karagaybulak 48.78 315 P **P** **12 00 42.9 +1.9**
SNR=58
EIDS Eidsvold 48.80 142 P **P** **12 00 40.3 -0.8**
EIDS IAmb IAmb 12 01 00.8
comp=Z,46nm,1.1s
YAK Yakutsk 48.83 6 P **P** **12 00 39.4 -1.3**
comp=Z,14nm,0.5s,baz=268,slow=0.6,SNR=7.1
YAK Yakutsk 48.83 6 *e* P **P** **12 00 39.4 -1.3**
YAK *e* AP **sP** **12 01 03.7 -3.1**
YAK *e* PP **PP** **12 02 32.6 -1.9**
YAK *e* S **S** **12 07 36.2 -2.4**
YAK pmax pmax
comp=Z,31nm,0.9s
YAK Yakutsk 48.83 6 P **P** **12 00 40.5 -0.3**
YAK IAmb IAmb 12 00 40.6
comp=Z,38nm,0.9s
UCH Uchtor 48.91 315 P **P** **12 00 44.0 +1.7**
SNR=141
CHMS Chumysh 49.04 316 P **P** **12 00 44.0 +1.3**
SNR=20
AAK Ala-Archa 49.08 315 P **P** **12 00 44.6 +1.4**
comp=Z,23nm,0.8s,baz=101,slow=5.0,SNR=35
AAK Ala-Archa 49.08 315 P **P** **12 00 44.9 +1.6**
SNR=17
AAK Ala-Archa 49.08 315 *i* P **P** **12 00 44.8 +1.6**
SNR=8.5
AAK Ala-Archa 49.08 315 P **P** **12 00 45.0 +1.8**
AAK pmax pmax
comp=Z,254nm,1.7s
AAK Ala-Archa 49.08 315 P **P** **12 00 45.0 +1.8**
ZAA0 Zalesovo Array 49.12 333 P **P** **12 00 43.2 +0.1**
ZAA0 IAmb IAmb 12 01 09.6
comp=Z,77nm,1.1s
ZALV Zalesovo Beam 49.12 333 P **P** **12 00 42.6 -0.5**
comp=Z,27nm,0.6s,baz=120,slow=6.4,SNR=84
ZALV Zalesovo Beam 49.12 333 *i* P **P** **12 00 42.9 -0.2**
ZALV pmax pmax
comp=Z,27nm,0.6s
ZALV Zalesovo Beam 49.12 333 P **P** **12 00 43.2 +0.1**
PEA0B Petropavlovsk- 49.19 29 P **P** **12 00 44.2 +0.5**
PEA0B pmax pmax
comp=Z,91nm,1.6s
PEA0B Petropavlovsk- 49.19 29 P **P** **12 00 44.2 +0.5**
PEA0B IAmb IAmb 12 01 07.4
comp=Z,91nm,1.6s
PETK Petropavlovsk- 49.19 29 P **P** **12 00 43.5 -0.2**
comp=Z,14nm,0.7s,baz=204,slow=3.9,SNR=22
PETK Petropavlovsk- 49.19 29 P **P** **12 00 44.4 +0.7**
SEM Semipalatinsk 49.20 327 *i* P **P** **12 00 44.2 +0.2**
comp=Z,25nm,0.7s,baz=327
SEM *i* pP **pP** **12 01 01.0 -1.0**
baz=327
SEM *i* sP **sP** **12 01 08.8 -1.3**
baz=327
SEM *i* S **S** **12 07 44.2 -0.4**
baz=327
SEM Semipalatinsk 49.20 327 *i* P **P** **12 00 44.2 +0.2**
SEM *i* *PP **pP** **12 01 00.9 -1.0**
SEM *i* *SP **sP** **12 01 08.8 -1.3**
SEM *i* S **S** **12 07 44.2 -0.4**
SEM pmax pmax
comp=Z,25nm,0.7s
SGDS Sogindy 49.30 316⇑ *i* P **P** **12 00 45.6 +0.8**
comp=Z,7.4nm,0.7s,baz=316
SGDS *i* pP **pP** **12 01 02.0 -0.7**
baz=316
SGDS *i* sP **sP** **12 01 09.5 -1.4**
baz=316
SGDS *i* S **S** **12 07 46.3 +0.4**
baz=316
SGDS *i* sS **sS** **12 08 16.9 +0.3**
baz=316
SGDS Sogindy 49.30 316*c* *i* P **P** **12 00 45.5 +0.8**
SGDS *i* *PP **pP** **12 01 02.0 -0.7**
SGDS *i* *SP **sP** **12 01 09.4 -1.4**
SGDS *i* S **S** **12 07 46.3 +0.4**
SGDS *i* *SS **sS** **12 08 16.8 +0.3**
SGDS pmax pmax
comp=Z,7.0nm,0.7s
USP Ospenovka 49.31 316 P **P** **12 00 46.1 +1.3**
SNR=50
AML Almayashu 49.45 314 P **P** **12 00 48.1 +1.8**
SNR=55
STKA Stephens Creek 49.47 156 P **P** **12 00 44.7 -1.4**
comp=Z,3.6nm,0.4s,baz=341,slow=8.5,SNR=13
STKA LR LR 12 26 12.7
comp=Z,165nm,19.0s,baz=335,slow=41
STKA Stephens Creek 49.47 156 P **P** **12 00 45.4 -0.7**
STKA pmax pmax
comp=Z,32nm,1.8s
STKA Stephens Creek 49.47 156 P **P** **12 00 45.4 -0.7**
EKS2 Erkin-Say 49.58 315 P **P** **12 00 48.7 +1.7**
SNR=48
PET Petropavlovsk 49.59 29*c* *i* P **P** **12 00 47.1 +0.4**
PET *e* *SP **sP** **12 01 12.3 -0.4**
PET *e* 12 02 42.2
PET *e* S **S** **12 07 46.5 -3.0**
PET pmax pmax
comp=Z,30nm,1.1s
PET pmax pmax
comp=Z,200nm,16.5s
PET MLR MLR
comp=Z,300nm,17.0s
KURBB Kurchatov Arra 50.23 326 P **P** **12 00 52.3 +0.6**
comp=Z,156nm,0.8s,baz=124,slow=7.4,SNR=728
KURBB pP **pP** **12 01 09.2 -0.4**
comp=Z,77nm,1.1s,baz=124,slow=7.7,SNR=4.6
KURK Kurchatov 50.23 326*c* *i* P **P** **12 00 52.5 +0.9**
KURK Kurchatov 50.23 326 P **P** **12 00 52.9 +1.3**
BTLS Baital 50.31 318⇑ *i* P **P** **12 00 53.1 +0.7**
comp=Z,24nm,0.6s,baz=318
BTLS *i* S **S** **12 08 00.2 +0.4**
baz=318
BTLS LR LR 12 23 42.6
comp=Z,133nm,13.9s,baz=318
BTLS Baital 50.31 318*c* *i* P **P** **12 00 53.0 +0.7**
BTLS *i* S **S** **12 08 00.1 +0.3**
BTLS pmax pmax
comp=Z,24nm,0.6s
BTLS MLR MLR
comp=Z,133nm,14.0s
BTK Batken 50.84 311 P **P** **12 00 57.9 +1.4**
BTK pmax pmax
comp=Z,264nm,1.6s
BTK Batken 50.84 311 P **P** **12 00 57.9 +1.4**
KBL Kabul 50.89 304 P **P** **12 00 58.1 +1.0**
KBL pmax pmax
comp=Z,42nm,1.0s
KBL Kabul 50.89 304 P **P** **12 00 58.1 +1.0**
KBL IAmb IAmb 12 01 33.3
comp=Z,42nm,0.9s
GAR Garm 50.91 309 P **P** **12 00 58.5 +1.4**
MA2 Magadan 51.06 19 P **P** **12 00 56.2 -1.5**
comp=Z,14nm,0.8s,baz=200,slow=7.1,SNR=6.3
MA2 Magadan 51.06 19 P **P** **12 00 56.7 -1.0**
MA2 pmax pmax
comp=Z,82nm,1.6s
MA2 Magadan 51.06 19 P **P** **12 00 56.7 -1.0**
MA2 IAmb IAmb 12 01 30.4
comp=Z,82nm,1.6s
DZA Taraz 51.35 315⇑ *i* P **P** **12 01 01.2 +1.0**
comp=Z,29nm,0.7s,baz=314
DZA *i* S **S** **12 08 15.1 +0.7**
baz=314
DZA Taraz 51.35 315*c* *i* P **P** **12 01 01.2 +1.0**
DZA *i* S **S** **12 08 15.0 +0.7**
DZA pmax pmax
comp=Z,29nm,0.7s
CHGR Chuyangaron 51.70 309 P **P** **12 01 04.0 +1.0**
JBG Jabagly 51.75 314*c* *i* P **P** **12 01 04.7 +1.4**
JBG *i* *PP **pP** **12 01 21.3 -0.1**
JBG *i* *SP **sP** **12 01 29.1 -0.4**
JBG pmax pmax
comp=Z,23nm,1.0s
KK31 Karatay Array 51.99 315 P **P** **12 01 06.2 +1.2**
KK31 pmax pmax
comp=Z,131nm,1.1s
KK31 Karatay Array 51.99 315 P **P** **12 01 06.2 +1.2**
KKAR Karatay Array 51.99 315 P **P** **12 01 06.2 +1.2**
KKAR pmax pmax
comp=Z,131nm,1.1s
KKAR Karatay Array 51.99 315 P **P** **12 01 06.2 +1.2**
IUG luzhnay 52.02 313⇑ *i* P **P** **12 01 06.8 +1.4**
comp=Z,7.3nm,0.6s,baz=313
IUG *i* pP **pP** **12 01 23.2 -0.3**
baz=313
IUG *i* sP **sP** **12 01 30.6 -1.0**
baz=313
IUG *i* S **S** **12 08 24.8 +0.9**
baz=313
IUG luzhnay 52.02 313*c* *i* P **P** **12 01 06.7 +1.4**
IUG *i* *PP **pP** **12 01 23.2 -0.3**
IUG *i* S **S** **12 08 24.7 +0.9**
IUG pmax pmax
comp=Z,7.0nm,0.6s
CHM Chimkent 52.38 313 *e* P **P** **12 01 08.7 +0.8**
comp=Z,18nm,0.8s,baz=313
CHM *i* S **S** **12 08 29.1 +0.6**
baz=313
CHM Chimkent 52.38 313 *e* P **P** **12 01 08.7 +0.8**
CHM *i* S **S** **12 08 29.0 +0.6**
CHM pmax pmax
comp=Z,18nm,0.8s
ARMA Armidale 52.97 146 P **P** **12 01 13.0 +0.6**
ARMA IAmb IAmb 12 01 33.0
comp=Z,150nm,1.8s
BRZS Berezniki 53.21 323⇑ *i* P **P** **12 01 14.9 +1.0**
comp=Z,109nm,0.7s,baz=323
BRZS *i* pP **pP** **12 01 31.6 -0.4**
baz=323
BRZS *i* sP **sP** **12 01 39.6 -0.4**
baz=323
BRZS *i* S **S** **12 08 40.2 +0.6**
baz=323
BRZS Berezniki 53.21 323*c* *i* P **P** **12 01 14.8 +1.0**
BRZS *i* *PP **pP** **12 01 31.5 -0.4**
BRZS *i* *SP **sP** **12 01 39.6 -0.4**
BRZS *i* S **S** **12 08 40.1 +0.6**
BRZS pmax pmax
comp=Z,109nm,0.7s
CAN Canberra 55.58 152 P **P** **12 01 31.4 +0.1**
CAN pmax pmax
comp=Z,92nm,1.4s
CAN Canberra 55.58 152 P **P** **12 01 31.4 +0.1**
CAN IAmb IAmb 12 02 01.9
comp=Z,92nm,1.4s
BVA0 Borovoye Array 55.82 326 P **P** **12 01 32.2 -0.5**
BVAR Borovoye Array 55.82 326 P **P** **12 01 33.1 +0.4**
comp=Z,64nm,0.7s,baz=121,slow=11,SNR=222
BVAR S **S** **12 09 13.7 -0.7**
comp=Z,0.7nm,0.4s,baz=122,slow=16,SNR=2.7
BRVK Borovoye 55.89 326 P **P** **12 01 34.3 +1.1**
BRVK pmax pmax
comp=Z,176nm,0.9s
BRVK Borovoye 55.89 326 P **P** **12 01 34.3 +1.1**
TOO Toolangi 56.00 156 P **P** **12 01 33.7 -0.4**
TOO pmax pmax
comp=Z,38nm,1.1s
TOO Toolangi 56.00 156 P **P** **12 01 33.7 -0.4**
TOO IAmb IAmb 12 01 59.6
comp=Z,38nm,1.1s
HRA Herat 56.41 302 P **P** **12 01 37.4 -0.2**
HRA IAmb IAmb 12 01 40.4
comp=Z,28nm,0.9s
DZM Mont Dzumac 57.24 128 P **P** **12 01 42.9 -0.5**
comp=Z,9.0nm,0.5s,baz=266,slow=10,SNR=28
DZM LR LR 12 24 02.3
comp=Z,177nm,21.3s,baz=316,slow=34
SMY Shemya 57.54 35 P **P** **12 01 45.9 +1.1**
SMY pmax pmax
comp=Z,74nm,1.0s
SMY Shemya 57.54 35 P **P** **12 01 45.9 +1.1**
TIXI Tiksi 58.27 3 P **P** **12 01 47.9 -1.8**
comp=Z,10nm,0.4s,baz=159,slow=5.1,SNR=25
TIXI Tiksi 58.27 3*c* *i* P **P** **12 01 48.1 -1.5**
TIXI pmax pmax
comp=Z,24nm,0.9s
TIXI Tiksi 58.27 3 P **P** **12 01 48.5 -1.2**
TIXI IAmb IAmb 12 02 22.9
comp=Z,26nm,1.0s
WSAR Wadi Sarin 59.20 289 P **P** **12 01 56.5 -0.5**
comp=Z,22nm,0.8s,baz=116,slow=10,SNR=10
NRIK Noril'sk 59.52 347 P **P** **12 01 57.6 -0.8**
comp=Z,38nm,0.7s,baz=128,slow=6.0,SNR=44
NRIK LR LR 12 30 01.2
comp=Z,670nm,18.6s,baz=148,slow=38
GEYT Alibeck 60.12 306 P **P** **12 02 04.7 +1.5**
comp=Z,54nm,0.8s,baz=153,slow=4.3,SNR=103
GEYT pP **pP** **12 02 21.5 -0.1**
comp=Z,59nm,1.0s,baz=116,slow=3.4,SNR=7.9
GEYT Alibeck 60.12 306 P **P** **12 02 04.8 +1.6**
GYA0B ALIBECK ARRAY 60.12 306 P **P** **12 02 04.8 +1.6**
AB31 Akbulak array 60.76 319 *i* P **P** **12 02 07.4 +0.2**
ABKAR Akbulak array 60.76 319 P **P** **12 02 07.9 +0.7**
SOHO SOHO 61.08 290 P **P** **12 02 10.1 +0.3**
BANOM Banah 61.23 292 *i* P **P** **12 02 12.1 +1.3**
SNR=6.0
SHME Shamm 61.37 292 P **P** **12 02 12.7 +0.9**
HATD Hatta, Dubai 61.42 291 P **P** **12 02 12.8 +0.7**
ASHO Ashiyiah 61.49 291 P **P** **12 02 12.7 0.0**
BILL Bilibino 61.87 18*c* *i* P **P** **12 02 13.8 -0.5**
BILL *e* *PP **pP** **12 02 32.4 -0.5**
BILL *e* *SP **sP** **12 02 40.1 -0.8**
BILL *e* 12 02 51.3
BILL *e* 12 04 29.5
BILL *e* PPP PPP 12 05 56.9
BILL *e* S **S** **12 10 32.6 +0.3**
BILL pmax pmax
comp=Z,39nm,0.9s
BILL Bilibino 61.87 18 P **P** **12 02 14.3 -0.1**
BILL IAmb IAmb 12 02 14.9
comp=Z,29nm,0.8s
AKTO Aktyubinsk 62.24 320 P **P** **12 02 17.2 +0.1**
comp=Z,41nm,0.7s,baz=97,slow=8.4,SNR=136
AKTO LR LR 12 31 06.0
comp=Z,997nm,20.7s,baz=92,slow=38
SVE Sverdlovsk 62.45 328*d* *i* P **P** **12 02 18.7 +0.2**
SVE pmax pmax
comp=Z,109nm,0.9s
ADK Adak 62.67 38 P **P** **12 02 21.3 +1.3**
ADK pmax pmax
comp=Z,33nm,0.8s
ADK Adak 62.67 38 P **P** **12 02 21.2 +1.3**
ADK IAmb IAmb 12 02 22.5
comp=Z,32nm,0.8s
ARU Arti 63.43 327 P **P** **12 02 23.8 -1.2**
comp=Z,17nm,0.5s,baz=108,slow=4.1,SNR=60
ARU Arti 63.43 327*c* *i* P **P** **12 02 24.4 -0.5**
ARU PP **PP** **12 04 43.7 -1.3**
ARU S **S** **12 10 53.0 +0.7**
ARU pmax pmax
comp=Z,49nm,0.7s
ARU Arti 63.43 327 P **P** **12 02 24.8 -0.1**
ARU IAmb IAmb 12 02 25.4
comp=Z,52nm,0.7s
ATKA Atka Island 64.24 38 P **P** **12 02 30.4 +0.1**
ATKA IAmb IAmb 12 02 32.8
comp=Z,67nm,1.1s
LKRN Lenkeran, Azer 67.49 306 P **P** **12 02 52.8 +1.3**
AKT Akhty 68.33 309 *e* P **P** **12 02 57.3 +0.4**
AKT *e* *SP **PcP** **12 03 21.6 -0.4**
AKT *e* 12 03 22.8
AKT pmax pmax
comp=Z,49nm,0.6s
MAK Makhachkala 68.53 311 *e* P **P** **12 02 55.7 -2.2**
MAK *e* *PP **pP** **12 03 14.4 -2.3**
MAK *e* *SP **PcP** **12 03 22.7 +0.1**
MAK *e* S **S** **12 11 52.6 -2.1**
MAK *e* *SS **sS** **12 12 24.8 -0.6**
MAK pmax pmax
comp=Z,181nm,1.2s
KIRV Kirov 68.71 328 P **P** **12 02 57.7 -1.0**
comp=Z,88nm,0.7s,baz=24,slow=0.4,SNR=33
SEKA Sheki 68.73 309 P **P** **12 03 00.0 +0.7**
MNGR Mingechevir, A 68.81 309 P **P** **12 03 00.8 +1.1**
ZKTA Zakatala 69.16 310 P **P** **12 03 02.8 +0.9**
GANJ Ganja 69.39 309 P **P** **12 03 04.2 +0.8**
BTLR Botlikh 69.47 311*c* *i* P **P** **12 03 04.5 +0.6**
BTLR pmax pmax
comp=Z,80nm,0.7s
DDFL Dedoflistskaro 69.54 309 P **P** **12 03 07.1 +2.8**
GROC Groznyy 69.78 311 *e* P **P** **12 03 06.3 +0.6**
GROC *e* 12 03 29.4
GROC *e* *PP **sP** **12 03 31.0 -1.4**
GROC *e* *SP PcP 12 03 40.4 +12
GROC *e* S **S** **12 12 10.0 +0.5**
GROC pmax pmax
comp=Z,38nm,0.6s
NAX Nakhchivan 70.05 307 P **P** **12 03 08.5 +1.0**
TBLG Delisi 70.57 310 P **P** **12 03 11.2 +0.6**
TBLG Delisi 70.57 310 P **P** **12 03 11.2 +0.6**
KZRT Kazreti 70.83 309 P **P** **12 03 13.1 +0.9**
ZEI Tsey 71.17 311 *e* P **P** **12 03 12.7 -1.8**
ZEI pmax pmax
comp=Z,52nm,0.9s
ONI Oni 71.51 311 P **P** **12 03 17.7 +1.4**
AKH Akhalkalaki 71.52 309⇑ P **P** **12 03 17.3 +0.7**
AKH Akhalkalaki 71.52 309 P **P** **12 03 17.2 +0.7**
AKH Akhalkalaki 71.52 309 IAmb IAmb 12 03 18.9
comp=Z,53nm,0.8s
GOF Gofitskoye 71.75 313⇑ *e* P **P** **12 03 17.4 -0.2**
KBZ Khabaz 71.88 312 P **P** **12 03 18.6 +0.2**
comp=Z,30nm,0.9s,baz=112,slow=3.6,SNR=56
KVAR Kislovodsk Arr 72.02 312 P **P** **12 03 20.3 +0.9**
comp=Z,26nm,0.7s,baz=90,slow=20,SNR=11
KIV Kislovodsk 72.03 312⇑ P **P** **12 03 20.0 +0.6**
KIV Kislovodsk 72.03 312 *i* P **P** **12 03 19.7 +0.2**
SNR=17
KIV Kislovodsk 72.03 312 *e* P **P** **12 03 19.7 +0.2**
KIV *e* *PP **PcP** **12 03 37.6 0.0**
KIV *e* *SP **sP** **12 03 46.1 -0.2**
KIV *e* S **S** **12 12 35.7 -0.1**
KIV pmax pmax
comp=Z,319nm,1.0s
KIV pmax pmax
comp=Z,163nm,5.0s
KIV MLR MLR
comp=Z,784nm,18.0s
KIV Kislovodsk 72.03 312 P **P** **12 03 19.8 +0.4**
KIV IAmb IAmb 12 03 21.3
comp=Z,79nm,0.7s
RDOG Red Dog Mine 72.46 23 P **P** **12 03 21.7 +0.2**
VRH Novokhopyorsk 72.58 320 *e* P **P** **12 03 21.5 -0.9**
VRH *e* 12 03 39.3
VRH pmax pmax
comp=Z,130nm,0.8s
KLMR Klimovskoe 73.91 330 *e* P **P** **12 03 27.9 -2.1**
KLMR *e* 12 06 14.7
KLMR pmax pmax
comp=Z,69nm,1.1s
KLMR Klimovskoe 73.91 330 *e* P **P** **12 03 27.9 -2.1**
KLMR AMP 12 03 30.1
comp=Z,69nm,1.1s
KLMR *e* PP **PP** **12 06 14.8 -0.7**
KLMR LR LR 12 34 32.1
VORD Divnogorie 74.11 319 *e* P **P** **12 03 30.5 -0.9**
VORD *e* 12 03 48.5
VORD pmax pmax
comp=Z,40nm,0.7s
VSR Storozhevoye 74.19 320 *e* P **P** **12 03 30.8 -1.1**
VSR *e* 12 03 49.0
VSR pmax pmax
comp=Z,50nm,0.6s
SOC Sochi 74.20 312 *e* P **P** **12 03 31.5 -0.6**

SOC *e**PP **pP** 12 03 50.0 -1.1
SOC *e*S **SKiKP** 12 12 52.8 -0.4
SOC *e* 12 13 33.2
SOC *e*SS **SS** 12 17 40.8 -5.8
SOC pmax pmax
comp=Z,62nm,0.7s
SOC MLR MLR
comp=Z,611nm,26.0s
LPSR Galich'ya Gora 74.29 321 *e*P **P** **12 03 31.6 -0.8**
LPSR pmax pmax
comp=Z,100nm,0.8s
TMCR Tamitsa 74.64 333 *e*P **P** **12 03 33.8 -0.4**
TMCR pmax pmax
comp=Z,37nm,0.7s
MOS Moscow 74.95 324 *e*P **P** **12 03 32.9 -3.3**
MOS *e**PP **PcP** **12 03 52.3 +2.6**
MOS *e**SP **sP** **12 04 00.5 -2.4**
MOS *e* 12 06 25.2
MOS *e*S **S** **12 13 01.5 -6.5**
MOS *e**SS **pS** **12 13 33.6 +2.6**
MOS pmax pmax
comp=Z,76nm,0.8s
TTA Tatalina 75.03 28 P **P** **12 03 36.3 -0.3**
TTA pmax pmax
comp=Z,17nm,0.9s
TTA Tatalina 75.03 28 P **P** **12 03 36.3 -0.3**
SVW2 Sparrevohn 75.26 30 P **P** **12 03 36.6 -1.3**
OBN Obninsk 75.58 324 P **P** **12 03 38.9 -0.9**
comp=Z,5.5nm,0.3s,baz=80,slow=8.8,SNR=10
OBN Obninsk 75.58 324*c i*P **P** **12 03 38.8 -0.9**
OBN *e* 12 03 50.6
OBN *e**PP **pP** **12 03 56.8 -2.0**
OBN *e**SP **sP** **12 04 04.6 -1.9**
OBN *e* 12 06 29.4
OBN *e*PPP PPP 12 08 13.6
OBN *e*S S **12 13 11.9 -3.1**
OBN *e*SSS SSS 12 21 19.8
OBN pmax pmax
comp=Z,52nm,0.8s
OBN MLR MLR
comp=Z,626nm,20.0s
OBN Obninsk 75.58 324 P **P** **12 03 38.9 -0.9**
OBN IAmb IAmb 12 03 39.9
comp=Z,53nm,0.8s
ATD Arta Tunnel 75.60 279 P **P** **12 03 39.6 -1.1**
MALT Malatya 75.62 306 P **P** **12 03 42.0 +1.4**
ANN Anapa 75.74 313 *e*P **P** **12 03 38.0 -2.9**
ANN *e**PP **PcP** **12 03 56.1 +2.7**
ANN *e* 12 06 29.3
ANN *e*S **S** **12 13 13.8 -3.4**
ANN pmax pmax
comp=Z,55nm,0.8s
APA Apatity 76.49 337⇑ *i*P **P** **12 03 43.0 -1.7**
APA *i* 12 04 02.5
APA pmax pmax
comp=Z,11nm,1.1s
APA MLR MLR
comp=Z,1μm,17.0s
OHAK Old Harbor 76.62 34 P **P** **12 03 44.8 -0.8**
RSO Redoubt South 76.67 31 P **P** **12 03 46.0 -0.2**
GAZ Gaziantep 76.71 305 P **P** **12 03 47.3 +0.6**
GAZ IAmb IAmb 12 03 48.9
comp=Z,67nm,0.9s
PPLA Purkeypile 76.78 28 P **P** **12 03 46.2 -0.5**
PPLA IAmb IAmb 12 04 11.8
comp=Z,46nm,1.4s
KDAK Kodiak Island 76.96 33 P **P** **12 03 47.3 -0.2**
comp=Z,7.5nm,0.4s,baz=266,slow=2.1,SNR=32
KDAK Kodiak Island 76.96 33 P **P** **12 03 47.1 -0.5**
KDAK pmax pmax
comp=Z,45nm,1.4s
KDAK Kodiak Island 76.96 33 P **P** **12 03 47.1 -0.5**
KDAK IAmb IAmb 12 04 14.8
comp=Z,45nm,1.4s
SKT Skwentna 77.15 29 P **P** **12 03 47.7 -0.9**
BPAW Bear Paw Mtn. 77.22 27 P **P** **12 03 48.8 -0.2**
BPAW IAmb IAmb 12 03 52.1
comp=Z,41nm,0.8s
KIP Kipapa 77.28 71⇑ *i*P **P** **12 03 52.3 +2.2**
KIP pmax pmax
comp=Z,50nm,0.9s
CNPM China Poot 77.51 31 P **P** **12 03 49.8 -0.9**
SUA Susitna One 77.56 29 IAmb IAmb 12 04 18.5
comp=Z,40nm,1.0s
TRF Thorofare Moun 77.59 27 P **P** **12 03 50.6 -0.7**
TRF IAmb IAmb 12 04 17.6
comp=Z,93nm,1.8s
DIKM Dikmen 77.66 310⇑P **P** **12 03 51.7 -0.2**
BRLK Bradley Lake 77.66 31 IAmb IAmb 12 03 53.2
comp=Z,25nm,0.7s
JOF Joensuu 77.70 332 P **P** **12 03 51.0 -0.6**
JOF pmax pmax
comp=Z,15nm,0.6s
MCK McKinley 78.16 27 IAmb IAmb 12 03 56.5
comp=Z,48nm,0.7s
RND Reindeer 78.24 27 P **P** **12 03 53.6 -1.1**
RND pmax pmax
comp=Z,24nm,1.0s
RND Reindeer 78.24 27 P **P** **12 03 53.6 -1.1**
PMR Palmer 78.32 29 P **P** **12 03 53.4 -1.7**
PMR pmax pmax
comp=Z,23nm,1.0s
PMR Palmer 78.32 29 P **P** **12 03 53.4 -1.7**
SEW Seward 78.34 31 IAmb IAmb 12 03 57.3
comp=Z,32nm,0.9s
COLA College 78.49 26⇓ *i*P **P** **12 03 55.3 -0.7**
COLA pmax pmax
comp=Z,24nm,1.1s
COLA College 78.49 26 P **P** **12 03 54.9 -1.1**
CCB Clear Creek Bu 78.54 26 P **P** **12 03 54.9 -1.3**
BZK Bozkurt 78.55 311⇑P **P** **12 03 55.9 -0.8**
KNK Knik Glacier 78.66 29 P **P** **12 03 56.4 -0.7**
SML Sawmill 78.67 29 P **P** **12 03 56.0 -1.1**
SML IAmb IAmb 12 03 59.5
comp=Z,35nm,0.9s
MMAI Mount Meron Ar 78.75 301 LR LR 12 44 38.0
comp=Z,110nm,19.5s,baz=170,slow=40
ILGA Ilgaz 78.89 310 P **P** **12 03 59.2 +0.3**
ILGA IAmb IAmb 12 04 27.5
comp=Z,75nm,1.5s
IL31 78.92 26 P **P** **12 03 56.9 -1.4**
ILAR Eielson Array 78.92 26 P **P** **12 03 56.4 -1.9**
comp=Z,3.3nm,0.6s,baz=246,slow=4.9,SNR=34
ILAR LR LR 12 41 45.1
comp=Z,72nm,18.3s,baz=306,slow=38
ILAR Eielson Array 78.92 26 P **P** **12 03 56.6 -1.8**
ILAR Eielson Array 78.92 26 P **P** **12 03 56.6 -1.8**
HDA Harding Lake 78.94 26 P **P** **12 03 57.3 -1.2**
BR131 Keskin Array S 79.14 308 P **P** **12 03 59.8 -0.5**
BR131 pmax pmax
comp=Z,21nm,0.8s
BR131 Keskin Array S 79.14 308 P **P** **12 03 59.8 -0.5**
BRTR Keskin Array B 79.14 308 P **P** **12 04 00.0 -0.3**
comp=Z,16nm,0.8s,baz=120,slow=5.2,SNR=47
BRTR PP **PP** **12 06 56.6 -3.7**
comp=Z,1.9nm,1.0s,baz=89,slow=7.9,SNR=2.2
BRTR Keskin Array B 79.14 308 P **P** **12 03 59.5 -0.8**
ABPO Ambohimpanom 79.16 247 P **P** **12 04 01.9 +1.2**
ABPO pmax pmax
comp=Z,26nm,1.1s
ABPO Ambohimpanom 79.16 247 P **P** **12 04 01.9 +1.2**
ARCES ARCESS Array B 79.17 339 P **P** **12 03 59.0 -0.6**
comp=Z,6.8nm,0.5s,baz=74,slow=6.9,SNR=64
ARCES ARCESS Array B 79.17 339 P **P** **12 03 59.0 -0.6**
ARCES ARCESS Array B 79.17 339 P **P** **12 03 58.8 -0.8**
ARE0 ARCESS Array S 79.17 339 *e*P **P** **12 03 58.4 -1.2**
BMAR Burnt Mountain 79.43 23 P **P** **12 04 01.7 +0.6**
HAMF Hammerfest 79.58 340 *e*P **P** **12 04 01.6 -0.2**
SPA0 Spitsbergen Ar 79.69 348 P **P** **12 04 01.8 -0.6**
SPA0 IAmb IAmb 12 04 31.5
comp=Z,108nm,1.3s
SPA0 Spitsbergen Ar 79.69 348 *e*P **P** **12 04 01.4 -0.9**
SPITS Spitsbergen Ar 79.69 348 P **P** **12 04 01.8 -0.6**
comp=Z,6.7nm,0.4s,baz=93,slow=8.5,SNR=35
ANTO Ankara 79.76 309⇑P **P** **12 04 02.9 -0.7**
ANTO Ankara 79.76 309 P **P** **12 04 03.6 0.0**
ANTO pmax pmax
comp=Z,24nm,0.8s
ANTO Ankara 79.76 309 P **P** **12 04 03.6 0.0**
ANTO IAmb IAmb 12 04 04.6
comp=Z,24nm,0.8s
BR231 Keskin MP Arra 79.78 309 P **P** **12 04 03.8 +0.1**
BR231 IAmb IAmb 12 04 31.0
comp=Z,46nm,1.2s

CASY Casey 79.97 184 P **P** **12 04 03.4 -0.4**
CASY IAmb IAmb 12 04 22.4
comp=Z,140nm,1.4s
KTK1 Kautokeino 80.06 339 *e*P **P** **12 04 03.8 -0.7**
SUF Sumiainen 80.08 332 P **P** **12 04 03.7 -1.0**
SUF pmax pmax
comp=Z,39nm,1.6s
CSS Mathiatis 80.14 304 P **P** **12 04 06.0 +0.4**
CSS IAmb IAmb 12 04 07.3
comp=Z,89nm,0.8s
HSPB Hornsund (broa 80.22 347 *e*P **P** **12 04 04.6 -0.6**
HSPB *e*L L 12 43 43.1
comp=Z,757nm,21.1s
HSPB Hornsund (broa 80.22 347 *e*P **P** **12 04 03.8 -1.3**
FIA1 FINESS Array S 80.34 331 P **P** **12 04 05.2 -0.9**
FIA1 IAmb IAmb 12 04 32.9
comp=Z,36nm,1.1s
FINES FINESS Array B 80.34 331 P **P** **12 04 04.6 -1.5**
comp=Z,7.2nm,0.5s,baz=58,slow=5.5,SNR=32
FINES FINESS Array B 80.34 331 *i*P **P** **12 04 05.0 -1.0**
FINES pmax pmax
comp=Z,7.0nm,0.5s
FINES FINESS Array B 80.34 331 P **P** **12 04 05.1 -1.0**
AKASG Malin Array Be 80.49 320 P **P** **12 04 05.7 -1.4**
comp=Z,12nm,0.8s,baz=67,slow=5.4,SNR=19
AKASG Malin Array Be 80.49 320 P **P** **12 04 06.0 -1.1**
AKBB Malin Array Si 80.49 320*c i*P **P** **12 04 05.8 -1.3**
AKBB Malin Array Si 80.49 320 IAmb IAmb 12 04 33.5
comp=Z,74nm,1.7s
VSU Vasula 80.56 328 *e*P **P** **12 04 06.6 -0.7**
VSU Vasula 80.56 328*c i*P **P** **12 04 06.6 -0.7**
VSU pmax pmax
comp=Z,178nm,0.9s
MENT Mentasta 80.61 27 P **P** **12 04 07.4 -0.2**
MICGM Minsk 80.64 324 *e* **P** **12 04 08.0 +0.2**
MNK Minsk 80.64 324 *e*P **P** **12 04 08.0 +0.2**
MDUB Mudurnu 80.87 309 P **P** **12 04 09.1 -0.4**
VRDI Verde Repeater 81.08 29 P **P** **12 04 09.7 -0.6**
NACGM Naroch 81.19 324 *e*P **P** **12 04 09.0 -1.8**
NACGM *e*P **P** **12 04 09.0 -1.8**
NACGM *e*PcP **sP** **12 04 36.0 -1.7**
NACGM *e*S **S** **12 14 09.0 -6.2**
NACGM *e*PS PnS 12 15 30.0 +19
NACGM *e*SS SS 12 19 18.0 -13
NACGM *e*SSS SSS 12 23 40.0
NACGM *e*LQ LQ 12 37 19.0
NACGM *e*LR LR 12 40 22.0
NACGM LRM MLR 12 41 50.0
comp=Z,1.4nm,18.0s
MCARA McCarthy VSAT 81.25 29 P **P** **12 04 11.3 +0.3**
CRQM Cirque 81.32 30 P **P** **12 04 11.0 -0.6**
EGAK Eagle 81.33 25 IAmb IAmb 12 04 15.8
comp=Z,24nm,0.7s
IZAR Zarasai 81.33 325 *e*P **P** **12 04 10.7 -0.8**
TRO Tromso 81.40 340 *e*P **P** **12 04 11.0 -0.5**
KIS Kishinev 81.40 316 *e*P P 12 04 29.0 +17
comp=Z,160nm,6.3s
KIS *i* pP sP 12 04 47.0 +7.9
KIS Kishinev 81.40 316 *i* PP PP 12 07 43.0 +24
comp=Z,120nm,4.7s
IIGN Ignalina 81.42 325 *e*P **P** **12 04 10.2 -1.7**
ISAL Salakas 81.43 325 *e*P **P** **12 04 10.7 -1.3**
BCAR Beaver Creek A 81.45 27 P **P** **12 04 12.2 +0.2**
TGL Tana Glacier 81.47 30 P **P** **12 04 11.5 -0.8**
TGL IAmb IAmb 12 04 28.4
comp=Z,40nm,0.5s
SORM Soroca 81.50 317⇑P **P** **12 04 11.8 -0.8**
WAX Waxell Ridge 81.53 30 P **P** **12 04 12.5 -0.1**
BALM Baldy 81.64 29 P **P** **12 04 12.7 -0.5**
ISLE Juniper Island 81.74 30 P **P** **12 04 12.7 -1.1**
TLCR 81.74 314⇑P **P** **12 04 13.6 -0.2**
ISP Isparta 81.86 307 P **P** **12 04 14.2 -0.6**
ISP pmax pmax
comp=Z,55nm,0.8s
ISP Isparta 81.86 307 P **P** **12 04 14.2 -0.6**
ISP IAmb IAmb 12 04 15.2
comp=Z,54nm,0.8s
BARN Barnard Glacie 81.96 29 P **P** **12 04 14.8 -0.2**
YAH Yahtse 82.08 30 P **P** **12 04 16.4 +0.7**
TOPG Topolog 82.11 314⇑P **P** **12 04 15.5 -0.3**
CTGM Chitina Glacie 82.14 29 IAmb IAmb 12 04 19.4
comp=Z,26nm,0.7s
TIRR Tirgusor 82.16 314⇑P **P** **12 04 15.8 -0.3**
VASR Vaslui 82.16 316⇑P **P** **12 04 16.1 0.0**
CFR Carcaliu 82.22 315⇑P **P** **12 04 15.4 -0.9**
TABL Table Mountain 82.35 30 IAmb IAmb 12 04 55.0
comp=Z,38nm,1.2s
HARR Harsova 82.45 314⇑P **P** **12 04 17.6 0.0**
ELL Elmali 82.55 306 P **P** **12 04 18.8 +0.3**
ELL pmax pmax
comp=Z,133nm,0.7s
ELL Elmali 82.55 306 P **P** **12 04 18.8 +0.3**
PABE Paberze 82.65 325 *e*P **P** **12 04 16.8 -1.6**
ICOR Ion Corvin 82.66 314⇑P **P** **12 04 18.1 -0.6**
EPYK Eagle Plains 82.69 23 P **P** **12 04 18.1 -0.4**
EPYK IAmb IAmb 12 04 20.8
comp=Z,24nm,0.7s
NOR Nord 82.79 354 *i*P **P** **12 04 17.2 -1.5**
comp=Z,6.9nm,0.8s
NOR Nord 82.79 354 *i*P **P** **12 04 17.2 -1.5**
NOR pmax pmax
comp=Z,7.0nm,0.8s
PCA Pinnacle 82.87 30 P **P** **12 04 19.4 -0.2**
PCA IAmb IAmb 12 04 45.9
comp=Z,48nm,1.1s
N2IH Innhavet 82.93 338 *e*P **P** **12 04 18.4 -1.2**
TESR Tescani 82.96 316⇑P **P** **12 04 20.1 -0.1**
VRI Vrincioaia 83.05 315⇑P **P** **12 04 21.2 +0.5**
VRI Vrincioaia 83.05 315 P **P** **12 04 21.2 +0.5**
VRI pmax pmax
comp=Z,91nm,1.7s
PRAR RASCA 83.06 317⇑P **P** **12 04 20.5 -0.2**
PLOR Plostina 83.10 315⇑P **P** **12 04 21.3 +0.3**
PRD Provadia 83.14 313 *e*P **P** **12 04 20.7 -0.5**
STEI Steigen 83.19 338 *e*P **P** **12 04 19.6 -1.3**
NEF NEVSHA 83.21 313 *e*P **P** **12 04 21.6 0.0**
BIZ Bicaz 83.24 317⇑P **P** **12 04 21.8 +0.1**
MANT Manisa 83.25 308 P **P** **12 04 21.9 -0.2**
N2ST Straumen 83.25 338 *e*P **P** **12 04 19.5 -1.8**
INK Inuvik 83.26 21 P **P** **12 04 20.9 -0.4**
INK pmax pmax
comp=Z,19nm,0.9s
INK Inuvik 83.26 21 P **P** **12 04 20.9 -0.4**
ISR Istrita 83.33 315⇑P **P** **12 04 22.4 +0.1**
N2TV TVrnvik 83.35 338 *e*P **P** **12 04 20.6 -1.1**
FAUS Fauske 83.35 338 *e*P **P** **12 04 20.4 -1.4**
NEHR Nehoiu 83.44 315⇑P **P** **12 04 23.5 +0.8**
SUW Suwalki 83.44 324 P **P** **12 04 21.7 -0.8**
SUW pmax pmax
comp=Z,66nm,1.0s
SUW Suwalki 83.44 324 P **P** **12 04 21.7 -0.8**
SUW IAmb IAmb 12 04 44.5
comp=Z,66nm,1.0s
NBB08 Skaug oppvekst 83.59 338 *e*P **P** **12 04 21.9 -1.1**
PBUR Paburge 83.64 326 *e*P **P** **12 04 22.4 -1.1**
MLR Muntele Rosu 83.66 315⇑P **P** **12 04 24.2 +0.1**
MLR Muntele Rosu 83.66 315 P **P** **12 04 24.1 +0.1**
MLR pmax pmax
comp=Z,340nm,2.0s
MLR Muntele Rosu 83.66 315 P **P** **12 04 24.1 +0.1**
BURAR Bucovina Array 83.68 317⇑P **P** **12 04 24.2 +0.2**
BURAR Bucovina Array 83.68 317 P **P** **12 04 24.6 +0.6**
BUR08 Bucovina Ar. S 83.68 317 IAmb IAmb 12 04 26.7
comp=Z,34nm,0.9s
RAZG Razgrad 83.69 313⇑P **P** **12 04 24.1 +0.1**
KMBO Kilima Mbogo 83.78 267 P **P** **12 04 28.8 +3.4**
comp=Z,13nm,0.8s,baz=46,slow=7.2,SNR=22
KMBO Kilima Mbogo 83.78 267 *i*P **P** **12 04 27.1 +1.8**
SNR=8.7
KMBO Kilima Mbogo 83.78 267 P **P** **12 04 26.5 +1.1**
KMBO pmax pmax
comp=Z,22nm,1.0s
KMBO Kilima Mbogo 83.78 267 P **P** **12 04 26.5 +1.1**
JMB Yambol 83.88 312 *e*P **P** **12 04 24.8 -0.2**
LVV L'vov 83.93 320 *e*P **P** **12 04 24.4 -0.7**
LVV *e* 12 07 34.0
LVV *e*S **SKSac** **12 14 39.6 -2.5**
LVV MLR MLR
comp=Z,1μm,18.0s
DOPR Dopca 83.94 316⇑P **P** **12 04 25.3 +0.1**
HYT Haines Junctio 83.98 29 P **P** **12 04 25.5 +0.2**
NBB30 Finnes 84.06 338 *e*P **P** **12 04 23.9 -1.6**
MOR8 Moi Rana 84.08 337 *e*P **P** **12 04 22.6 -3.0**

SZH Strazhica 84.17 313 *e*P **P** **12 04 26.1 -0.4**
VOIR 84.29 315⇑P **P** **12 04 26.5 -0.6**
ARCR ARCALIA 84.37 317⇑P **P** **12 04 27.7 +0.3**
N2RO R_st 84.45 338 *e*P **P** **12 04 26.8 -0.6**
KONS Konsvik 84.46 337 *e*P **P** **12 04 25.6 -1.9**
HUMR Humele 84.55 314⇑P **P** **12 04 28.1 -0.3**
ARR Arges 84.59 315⇑P **P** **12 04 28.2 -0.5**
ALN Alexandroupoli 84.62 311 P **P** **12 04 27.9 -0.9**
ALN pmax pmax
comp=Z,29nm,0.9s
ALN Alexandroupoli 84.62 311 P **P** **12 04 27.9 -0.9**
ALN IAmb IAmb 12 04 29.2
comp=Z,29nm,0.9s
DIM Dimitrovgrad 84.73 312 *e*P **P** **12 04 29.1 -0.2**
KWP Kalwaria Pacla 84.81 320 *e*P **P** **12 04 29.6 0.0**
KWP *e*L L 12 43 25.8
comp=Z,327nm,25.0s
KWP Kalwaria Pacla 84.81 320 P **P** **12 04 29.6 0.0**
KWP pmax pmax
comp=Z,298nm,1.7s
KWP Kalwaria Pacla 84.81 320 P **P** **12 04 29.6 0.0**
CJR Cluj-Napoca 84.96 317⇑P **P** **12 04 30.5 0.0**
KARP Karpathos 84.97 305 P **P** **12 04 30.7 -0.1**
PLVB Pleven 85.07 313⇑P **P** **12 04 31.2 +0.1**
VLAD Vladila 85.08 314⇑P **P** **12 04 30.8 +0.3**
LOT Lotru 85.16 315⇓P **P** **12 04 31.7 +0.1**
WHY Whitehorse 85.26 29 P **P** **12 04 31.8 +0.1**
WHY IAmb IAmb 12 05 06.7
comp=Z,25nm,1.1s
TRPA Tarpa 85.30 318⇑P **P** **12 04 31.8 -0.2**
PLD Plovdiv 85.32 312 *e*P **P** **12 04 31.6 -0.7**
UZH Uzhgorod 85.33 319*c i*P **P** **12 04 32.3 +0.1**
UZH *e**PP **pP** **12 04 52.4 +0.9**
UZH *e*S **SKSac** **12 14 53.0 +2.0**
UZH pmax pmax
comp=Z,20nm,1.0s
RZN Rozhen 85.41 312 *e*P **P** **12 04 32.3 -0.7**
SKAG Skagway 85.44 30 P **P** **12 04 32.7 +0.2**
SKAG IAmb IAmb 12 04 60.0
comp=Z,36nm,1.2s
DRGR 85.53 317⇑P **P** **12 04 33.4 +0.1**
PGB Panagyurishte 85.60 313 *e*P **P** **12 04 33.2 -0.6**
NSS Namsos 85.64 336 *e*P **P** **12 04 32.1 -1.3**
CRVS Cervenica-Dubn 85.79 319 *e*P **P** **12 04 35.0 +0.5**
CRVS pmax pmax
comp=Z,81nm,1.0s
CRVS Cervenica-Dubn 85.79 319 *e*P **P** **12 04 35.0 +0.5**
APE Apeiranthos 85.90 307⇑P **P** **12 04 33.9 -1.5**
APE Apeiranthos 85.90 307*c i*P **P** **12 04 33.8 -1.5**
APE pmax pmax
comp=Z,27nm,1.0s
SANT Santorini 86.13 306⇑P **P** **12 04 35.3 -1.2**
MMB Musomiste 86.15 312 *e*P **P** **12 04 35.3 -1.2**
VTS Vitosha 86.25 313⇑P **P** **12 04 37.0 -0.1**
VTS Vitosha 86.25 313 *e*P **P** **12 04 36.7 -0.4**
SIRR Siria 86.37 317⇑P **P** **12 04 37.1 -0.4**
NIE Niedzica 86.38 320 *e*P **P** **12 04 37.9 +0.5**
NIE *e*L L 12 43 14.9
comp=Z,150nm,24.7s
OJC Ojcow 86.46 321 *e*P **P** **12 04 37.7 -0.1**
OJC *e*L L 12 43 10.5
comp=Z,260nm,22.2s
KKB Krupnik 86.55 312 *e*P **P** **12 04 37.4 -1.0**
BZS Buzias 86.58 316⇑P **P** **12 04 37.9 -0.6**
MDVR Moldovita 86.74 315⇑P **P** **12 04 38.7 -0.6**
IDI Anoyia 86.84 305⇑P **P** **12 04 38.2 -1.8**
IDI Anoyia 86.84 305 IAmb IAmb 12 05 07.2
comp=Z,58nm,1.4s
TBLU Trondheim 86.84 335 *e*P **P** **12 04 37.9 -1.5**
VAY Valandovo 87.06 312 *i*P **P** **12 04 39.8 -1.1**
PSZ Piszkesteto 87.07 319⇑P **P** **12 04 40.7 -0.2**
STIP Stip 87.24 312 *i*P **P** **12 04 40.0 -1.7**
NC602 NORSAR Array S 87.30 332 *e*P **P** **12 04 40.4 -1.2**
NB2 NORSAR Subarra 87.32 333 P **P** **12 04 39.9 -1.9**
comp=Z,48nm,1.0s,baz=69,slow=4.6
NB2 NORSAR Subarra 87.32 333 P **P** **12 04 39.9 -1.9**
baz=69,slow=4.6
NOA NORSAR Array B 87.32 333 P **P** **12 04 40.0 -1.7**
comp=Z,9.1nm,0.7s,baz=68,slow=4.6,SNR=42
NOA PP **PP** **12 08 04.0 -2.4**
comp=Z,1.8nm,0.7s,baz=77,slow=8.6,SNR=5.3
NOA LR LR 12 45 27.5
comp=Z,370nm,21.6s,baz=70,slow=37
NC204 NORSAR Array S 87.43 333 IAmb IAmb 12 05 01.2
comp=Z,73nm,1.1s
NAO01 NORSAR Array S 87.55 333 IAmb IAmb 12 05 01.4
comp=Z,64nm,1.0s
VYHS Vyhne 87.57 319 *e*P **P** **12 04 43.1 -0.1**
VYHS pmax pmax
comp=Z,7.0nm,1.1s
VYHS Vyhne 87.57 319 *e*P **P** **12 04 43.1 -0.1**
OKC Ostrava-Krasne 87.59 321 *e*S **SKSac** **12 15 10.4 +5.4**
OKC AMS AMS 12 49 10.0
comp=Z,300nm,21.5s
SKO Skopje 87.70 313 *i*P **P** **12 04 44.1 +0.1**
BSD Bornholm Skovb 87.71 326 *i*P sP 12 05 10.1 -0.7
comp=Z,31nm,0.9s
DOMB Dombas 87.85 334 *e*P **P** **12 04 43.0 -1.2**
AGG Agios Georgios 87.85 310 P **P** **12 04 42.9 -1.9**
AGG pmax pmax
comp=Z,41nm,1.3s
AGG Agios Georgios 87.85 310 P **P** **12 04 42.9 -1.9**
AGG IAmb IAmb 12 05 09.9
comp=Z,41nm,1.3s
MORC Moravsky Berou 87.98 321⇑P **P** **12 04 44.9 -0.3**
MORC Moravsky Berou 87.98 321 *e*P **P** **12 04 44.6 -0.6**
MORC Moravsky Berou 87.98 321 IAmb IAmb 12 05 14.0
comp=Z,59nm,1.5s
OSL Oslo 87.99 332 *e*P **P** **12 04 45.0 +0.1**
JAVC Velka Javorina 88.19 320 *e*P **P** **12 04 47.0 +0.8**
JAVC *e* 12 05 05.9
MOL Molde 88.26 335 *e*P **P** **12 04 43.7 -2.4**
OSTC Ostas 88.53 322 *e*P **pP** **12 05 05.2 -2.0**
OSTC *e*S **SKSac** **12 15 17.1 +6.4**
OSTC AMS AMS 12 46 10.0
comp=Z,400nm,19.8s
DPC Dobruska-Polom 88.54 322 *e*P **P** **12 04 47.7 -0.1**
DPC *e*S **S** **12 15 26.2 -2.1**
DPC AMS AMS 12 46 00.0
comp=Z,400nm,21.3s
DPC Dobruska-Polom 88.54 322 *e*P **P** **12 04 47.7 -0.1**
DPC *e*S **S** **12 15 26.2 -2.1**
DPC MLR MLR
comp=Z,400nm,21.3s
CHVC Chvalec 88.62 322 AMS AMS 12 46 20.0
comp=Z,500nm,20.6s
KONO Kongsberg 88.63 332 *e*P **P** **12 04 47.8 -0.1**
ITM Ithomi 88.66 308 P **P** **12 04 47.3 -1.3**
UPC Upice 88.67 322 *e*P P 12 04 43.5 -4.9
UPC *e*S **SKKSac** **12 15 25.7 +2.9**
UPC AMS AMS 12 46 20.0
comp=Z,500nm,19.5s
UPC Upice 88.67 322 *e*P P 12 04 43.5 -4.9
UPC *e*S **SKKSac** **12 15 25.7 +2.9**
UPC MLR MLR
comp=Z,500nm,19.5s
VRAC Vranov 88.72 321⇑P **P** **12 04 48.2 -0.4**
VRAC Vranov 88.72 321 *e*P **P** **12 04 48.3 -0.3**
VRAC *e* 12 05 07.1
SKAR Skarslia 88.77 333 *e*P **P** **12 04 48.1 -0.6**
KRUC Moravsky 88.92 320 *e*P **P** **12 04 49.2 -0.4**
KRUC *e* 12 05 08.5
PDG Podgorica 89.12 313⇑P **P** **12 04 49.4 -1.2**
RES Resolute Bay 89.18 9 P **P** **12 04 49.3 -0.9**
RES pmax pmax
comp=Z,13nm,0.8s
RES Resolute Bay 89.18 9 P **P** **12 04 49.3 -0.9**
RES IAmb IAmb 12 04 52.4
comp=Z,13nm,0.8s
RUE Ruedersdorf 89.28 324 *e*P **P** **12 04 50.6 -0.5**
comp=Z,26nm,0.6s,baz=67,slow=4.6
TREC Trest 89.40 321 AMS AMS 12 46 20.0
comp=Z,400nm,32.1s
PVCC Panska Ves 89.53 322 AMS AMS 12 47 00.0
comp=Z,300nm,18.0s
GOPC GO Pecny, Ondr 89.61 322 *e*P **P** **12 04 53.6 +0.8**
GOPC *e*S **SKKSac** **12 15 31.3 +1.4**
GOPC AMS AMS 12 46 50.0
comp=Z,400nm,18.1s
GOPC GO Pecny, Ondr 89.61 322 *e*P **P** **12 04 53.6 +0.8**
GOPC *e*S **SKKSac** **12 15 31.3 +1.4**
GOPC MLR MLR
comp=Z,400nm,18.1s

PRU	**Pruhonice**	**89.74 322**	*e*P	**P**	**12 04 53.2**	**-0.1**
PRU			*e*S	**S**	**12 15 42.4**	**+3.0**
PRU			AMS	AMS	12 47 00.0	
	comp=Z,500nm,19.5s					
PRU	**Pruhonice**	**89.74 322**	*e*P	**P**	**12 04 53.2**	**-0.1**
PRU			*e*S	**S**	**12 15 42.4**	**+3.0**
PRU			MLR	MLR		
	comp=Z,500nm,19.5s					
PRA	**Prague**	**89.77 322**	AMS	AMS	12 47 00.0	
	comp=Z,200nm,20.5s					
BRG	**Berggiesshubel**	**89.78 323**	*e*P	**P**	**12 04 52.8**	**-0.7**
	comp=Z,12nm,0.9s					
BRG			*e*pP	**pP**	**12 05 12.0**	**-1.0**
	comp=Z,19nm,1.2s					
BRG			sP	**sP**	**12 05 21.0**	**+0.3**
BRG			*e*PP	**PP**	**12 08 24.0**	**-2.2**
	comp=Z,6.8nm,1.1s					
BRG			S	**S**	**12 15 38.0**	**-1.7**
	comp=N,238nm,20.2s					
	comp=E,308nm,21.8s					
	comp=Z,423nm,20.6s					
BRG	**Berggiesshubel**	**89.78 323**	*e*P	**P**	**12 04 52.8**	**-0.7**
	comp=Z,172nm,2.4s,baz=67,slow=4.6					
BRG			*e*pP	**pP**	**12 05 12.0**	**-1.0**
	baz=67,slow=4.7					
MBAR	**Mbarara**	**89.99 269**	*d* iP	**P**	**12 04 57.1**	**+1.6**
MBAR			pmax	pmax		
	comp=Z,21nm,0.9s					
MBAR	**Mbarara**	**89.99 269**	P	**P**	**12 04 56.4**	**+1.0**
MBAR			IAmb	IAmb	12 04 57.8	
	comp=Z,18nm,0.8s					
FBE	**Freiberg**	**90.10 323**	*e*P	**P**	**12 04 54.5**	**-0.5**
	comp=Z,279nm,2.6s,baz=67,slow=4.6					
FBE			*e*pP	**pP**	**12 05 13.8**	**-0.8**
	baz=67,slow=4.7					
BLS5	**Blasjo**	**90.16 332**	*e*P	**P**	**12 04 55.4**	**+0.2**
CLL	**Collm**	**90.17 323**	*e*P	**P**	**12 04 55.0**	**-0.3**
	comp=Z,8.0nm,0.9s					
CLL			*i* pP	**pP**	**12 05 13.3**	**-1.5**
CLL			*i* sP	**sP**	**12 05 21.3**	**-1.2**
	comp=Z,123nm,2.4s					
CLL			*e*		12 05 28.0	
CLL			*e*PP	**PP**	**12 08 27.0**	**-2.3**
CLL			*e*pPP		12 08 48.0	
CLL			*e*sPP		12 09 00.0	
CLL			*e*S	**S**	**12 15 43.0**	**-0.3**
CLL			*e*sS	sS	12 16 27.0	+10
CLL			*e*PS	**PnS**	**12 17 02.0**	**+3.3**
CLL			*e*PPS	PPS	12 17 28.0	
CLL			*e*SS	**SS**	**12 21 48.0**	**+5.0**
CLL			*e*(sSS)		12 22 44.0	
CLL			*e*SSSS		12 28 36.0	
CLL	**Collm**	**90.17 323**	*e*P	**P**	**12 04 55.0**	**-0.3**
CLL			*i* *PP	**pP**	**12 05 13.3**	**-1.5**
CLL			*i* *SP	**sP**	**12 05 21.3**	**-1.2**
CLL			*e*S	**S**	**12 15 43.0**	**-0.3**
CLL			pmax	pmax		
	comp=Z,8.0nm,0.9s					
CLL	**Collm**	**90.17 323**	*e*P	**P**	**12 04 54.9**	**-0.4**
	comp=Z,42nm,1.7s,baz=67,slow=4.6					
CLL			*e*sP	**sP**	**12 05 20.9**	**-1.7**
SOKA	**Soboth**	**90.60 318**	*e*P	**P**	**12 04 56.5**	**-1.1**
	comp=Z,7.5nm,1.0s					
KHC	**Kasperske Hory**	**90.63 321**	*e*P	**P**	**12 04 57.2**	**-0.4**
KHC			*e*x	x	12 05 12.5	
KHC			*e*sP	**sP**	**12 05 23.7**	**-1.1**
KHC			*e*S	**SKKSac**	**12 15 40.0**	**+2.4**
KHC			AMS	AMS	12 48 50.0	
	comp=Z,300nm,15.7s					
KHC	**Kasperske Hory**	**90.63 321**	*e*P	**P**	**12 04 57.2**	**-0.4**
KHC			*e*		12 05 23.7	
KHC			*e*S	**SKKSac**	**12 15 40.0**	**+2.4**
KHC			MLR	MLR		
	comp=Z,300nm,15.7s					
KHC	**Kasperske Hory**	**90.63 321**	P	**P**	**12 04 57.4**	**-0.2**
BSEG	**Bad Segeberg**	**90.64 326**	*e*P	**P**	**12 04 56.5**	**-0.9**
	comp=Z,13nm,0.8s,baz=67,slow=4.6					
GEC2	**GERESS Array S**	**90.66 321**	P	**P**	**12 04 57.2**	**-0.6**
GEC2			IAmb	IAmb	12 05 26.3	
	comp=Z,27nm,1.2s					
GEC2	**GERESS Array S**	**90.66 321**	*e*P	**P**	**12 04 57.0**	**-0.8**
	comp=Z,103nm,2.1s,baz=67,slow=4.6					
GEC2			*e*pP	**pP**	**12 05 16.4**	**-0.9**
	baz=67,slow=4.7					
GEC2			*e*sP	**sP**	**12 05 23.6**	**-1.4**
GERES	**GERESS Array B**	**90.66 321**	P	**P**	**12 04 57.1**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=60,slow=5.4,SNR=27					
GERES			PP	**PP**	**12 08 28.5**	**-5.0**
	comp=Z,0.3nm,0.3s,baz=64,slow=9.1,SNR=1.7					
GERES			LR	LR	12 47 57.7	
	comp=Z,333nm,20.8s,baz=65,slow=37					
GERES	**GERESS Array B**	**90.66 321**	P	**P**	**12 04 57.5**	**-0.3**
GERES	**GERESS Array B**	**90.66 321**	P	**P**	**12 04 57.5**	**-0.3**
MOA	**Molln**	**90.67 320**	*e*PcP	**P**	**12 04 57.7**	**-0.1**
	comp=Z,20nm,1.1s,SNR=7.5					
TANN	**Tannenbergstha**	**90.82 323**	*e*P	**P**	**12 04 57.6**	**-0.9**
	comp=Z,104nm,2.4s,baz=67,slow=4.6					
TANN			*e*pP	**pP**	**12 05 17.1**	**-0.9**
	baz=67,slow=4.7					
NKC	**Novy Kostel**	**90.90 322**	AMS	AMS	12 47 50.0	
	comp=Z,400nm,19.5s					
NEUB	**Neuenburg**	**90.92 323**	*e*P	**P**	**12 04 58.0**	**-0.8**
	comp=Z,21nm,0.6s,baz=67,slow=4.6					
GUNZ	**Gunzen**	**90.92 323**	*e*P	**P**	**12 04 58.1**	**-0.8**
	comp=Z,44nm,1.4s,baz=67,slow=4.6					
GUNZ			*e*pP	**pP**	**12 05 17.4**	**-1.0**
	baz=67,slow=4.7					
GUNZ			*e*sP	**sP**	**12 05 25.1**	**-1.0**
WERN	**Wernitzgruen**	**90.92 322**	*e*P	**P**	**12 04 58.2**	**-0.7**
	comp=Z,98nm,2.2s,baz=67,slow=4.6					
WERN			*e*sP	**sP**	**12 05 25.2**	**-0.9**
MAW	**Mawson**	**90.93 199**	P	**P**	**12 04 59.0**	**+0.7**
	comp=Z,3.0nm,0.6s,baz=48,slow=12,SNR=2.3					
MAW			LR	LR	12 44 52.5	
	comp=Z,117nm,18.0s,baz=54,slow=35					
MAW	**Mawson**	**90.93 199**	P	**P**	**12 04 59.0**	**+0.7**
MAW	**Mawson**	**90.93 199**	IAmb	IAmb	12 05 18.4	
	comp=Z,15nm,1.2s					
PLN	**Plauen**	**90.97 323**	*e*P	**P**	**12 04 58.4**	**-0.8**
	comp=Z,115nm,2.4s,baz=67,slow=4.6					
PLN			*e*pP	**pP**	**12 05 17.8**	**-0.9**
	baz=67,slow=4.7					
WET	**Wettzell**	**91.05 321**	*e*P	**P**	**12 04 59.0**	**-0.5**
	comp=Z,76nm,2.0s,baz=67,slow=4.6					
WET			*e*pP	**pP**	**12 05 18.6**	**-0.4**
	baz=67,slow=4.7					
WET			*e*sP	**sP**	**12 05 25.7**	**-1.0**
ASSE	**Asse, Remlinge**	**91.18 325**	*e*pP	pP	12 05 18.7	-0.8
	baz=67,slow=4.7					
MANZ	**Manzenberg**	**91.19 322**	*e*P	**P**	**12 04 59.7**	**-0.5**
	comp=Z,88nm,2.0s,baz=67,slow=4.6					
MANZ			*e*pP	**pP**	**12 05 19.3**	**-0.4**
	baz=67,slow=4.7					
MANZ			*e*sP	**sP**	**12 05 26.4**	**-1.0**
ROTZ	**Rotzenmuhle**	**91.22 322**	*e*P	**P**	**12 04 59.9**	**-0.4**
	comp=Z,130nm,2.1s,baz=67,slow=4.6					
ROTZ			*e*pP	**pP**	**12 05 19.5**	**-0.3**
	baz=67,slow=4.7					
ROTZ			*e*sP	**sP**	**12 05 26.6**	**-0.9**
MOX	**Moxa**	**91.23 323**	*e*P	**P**	**12 04 59.6**	**-0.7**
	comp=Z,97nm,2.3s,baz=67,slow=4.6					
MOX			*e*pP	**pP**	**12 05 19.3**	**-0.5**
	baz=67,slow=4.7					
MOX			*e*sP	**sP**	**12 05 26.2**	**-1.3**
NRDL	**Niedersach Rie**	**91.35 325**	*e*P	**P**	**12 05 00.4**	**-0.3**
	comp=Z,84nm,1.9s,baz=67,slow=4.6					
NRDL			*e*pP	**pP**	**12 05 20.1**	**-0.1**
	baz=67,slow=4.7					
NRDL			*e*sP	**sP**	**12 05 27.2**	**-0.7**
CLZ	**Clausthal**	**91.47 324**	*e*P	**P**	**12 05 00.8**	**-0.6**
	comp=Z,65nm,1.6s,baz=67,slow=4.6					

KBA	**Koelnbreinsper**	**91.53 319**	*e*P	**P**	**12 05 00.8**	**-1.2**
	comp=Z,9.0nm,0.8s						
PRED	**Cave del Predi**	**91.63 319**	P	**P**	**12 05 01.9**	**-0.4**
PRED			IAmb	IAmb	12 05 28.9		
	comp=Z,41nm,1.6s						
RJOB	**Jochberg**	**91.63 320**	*e*P	**P**	**12 05 00.8**	**-1.6**
	comp=Z,11nm,0.8s,baz=67,slow=4.6						
GRF	**Grafenberg Arr**	**91.84 322**	*e*P	**P**	**12 05 01.5**	**-1.7**
	comp=Z,107nm,2.0s,baz=67,slow=4.6						
GRF			*e*pP	**pP**	**12 05 22.3**	**-0.3**
	baz=67,slow=4.7						
TIP	**Timpagrande**	**91.94 311**	⇑P	**P**	**12 05 03.8**	**-0.1**
TIP	**Timpagrande**	**91.94 311**	P	**P**	**12 05 03.5**	**-0.4**
UBBA	**Unterbreizbach**	**92.10 324**	*e*pP	**pP**	**12 05 23.5**	**-0.3**
	baz=67,slow=4.7						
UBBA			*e*sP	sP	12 05 30.5	-0.9	
ABTA	**Abfaltersbach**	**92.19 319**	*e*P	**P**	**12 05 03.5**	**-1.4**
	comp=Z,12nm,1.0s						
STAL	**STALIGIAL**	**92.25 319**	P	**P**	**12 05 03.5**	**-1.6**
WTTA	**Wattenberg**	**92.54 320**	*e*P	**P**	**12 05 05.8**	**-0.9**
	comp=Z,27nm,1.0s,SNR=6.9						
WATA	**Walderalm**	**92.55 320**	*e*P	**P**	**12 05 05.7**	**-1.0**
	comp=Z,15nm,1.2s						
SQTA	**Sankt Quirin**	**92.83 320**	*e*P	**P**	**12 05 07.0**	**-0.9**
	comp=Z,17nm,0.7s,SNR=6.5						
MOTA	**Moosalm**	**92.84 320**	*e*P	**P**	**12 05 06.9**	**-1.1**
	comp=Z,23nm,1.1s,SNR=7.8						
SUMG	**Summit**	**92.94 354**	*i* P	P	12 05 13.0	+4.7	
SUMG	**Summit**	**92.94 354**	*e*P	P	12 05 13.0	+4.7	
YKA	**Yellowknife Ar**	**92.94 22**	P	**P**	**12 05 06.8**	**-1.1**
	comp=Z,4.7nm,0.8s,baz=304,slow=4.4,SNR=24						
YKA			PKKP	**PKKPdf**	**12 22 15.7**	**-1.2**	
	comp=Z,0.7nm,0.5s,baz=134,slow=3.1,SNR=8.7						
YKA			LR	LR	12 50 56.3		
	comp=Z,98nm,20.2s,baz=0.0,slow=38						
FETA	**Feichten**	**93.21 320**	*e*PcP	**P**	**12 05 08.9**	**-0.8**
	comp=Z,18nm,1.0s,SNR=7.6						
TNS	**Taunus Mts**	**93.25 323**	*e*P	**P**	**12 05 08.9**	**-0.9**
	comp=Z,24nm,0.9s,baz=67,slow=4.6						
UBR	**Ueberruh**	**93.33 321**	*e*P	**P**	**12 05 09.1**	**-1.0**
	comp=Z,41nm,1.4s,baz=67,slow=4.6						
UBR			*e*pP	**pP**	**12 05 28.9**	**-0.8**
	baz=67,slow=4.7						
UBR			*e*sP	**sP**	**12 05 35.8**	**-1.5**
FUORN	**Ofenpass-Fuorn**	**93.66 320**	P	**P**	**12 05 11.5**	**-0.4**
DAVOX	**Davos/Dischmat**	**93.84 320**	LR	LR	12 51 05.8		
	comp=Z,288nm,19.5s,baz=82,slow=38						
PPT	**Papeete**	**93.86 107**	LR	LR	12 40 21.9		
	comp=Z,82nm,21.2s,baz=240,slow=31						
PPT2	**Papeete2**	**93.87 107**	*e*LQ	LQ	12 31 30.1		
	comp=Z,7μm,36.5s						
PPT2			*e*LR	LR	12 35 34.0		
	comp=Z,392nm,26.8s						
VNDA	**Vanda**	**93.93 172**	P	**P**	**12 05 11.2**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=312,slow=7.4,SNR=8.2						
VNDA	**Vanda**	**93.93 172**	P	**P**	**12 05 12.5**	**+0.5**
VNDA			pmax	pmax			
	comp=Z,4.0nm,0.9s						
VNDA	**Vanda**	**93.93 172**	P	**P**	**12 05 12.5**	**+0.5**
BFO	**Black Forest**	**94.14 322**	*e*P	**P**	**12 05 13.1**	**-0.7**
	comp=Z,23nm,1.5s,baz=67,slow=4.6						
BFO			*e*pP	**pP**	**12 05 32.3**	**-1.0**
	baz=67,slow=4.7						
WLF	**Walferdange**	**94.83 324**	*e*P	**P**	**12 05 15.6**	**-1.3**
	comp=Z,38nm,1.3s,baz=67,slow=4.6						
TBI	**Tubuai**	**95.23 113**	*e*S	**S**	**12 16 34.3**	**+5.0**
	comp=Z,284nm,28.2s						
TBI	**Tubuai**	**95.23 113**	*e*LQ	LQ	12 32 02.9		
	comp=Z,308nm,31.2s						
TBI			*e*LR	LR	12 36 11.4		
	comp=Z,338nm,30.5s						
LSZ	**Lusaka**	**95.75 256**	P	**P**	**12 05 21.5**	**-0.4**
LSZ			pmax	pmax			
	comp=Z,18nm,1.3s						
LSZ	**Lusaka**	**95.75 256**	P	**P**	**12 05 21.5**	**-0.4**
LSZ			IAmb	IAmb	12 05 23.6		
	comp=Z,18nm,1.2s						
KEST	**Kesra**	**98.69 310**	LR	LR	12 56 48.6		
	comp=Z,167nm,20.0s,baz=13,slow=39						
SYO	**Syowa Base**	**99.36 201**	⇑*e*Pdiff	**Pdif**	**12 05 39.0**	**+2.3**
SYO	**Syowa Base**	**99.36 201**	⇓*i*X	pP	12 05 54.0	-2.6
SFJD	**Kangerlussuaq**	**99.40 357**	LR	LR	12 52 49.3		
	comp=Z,86nm,20.9s,baz=11,slow=37						
NEW	**Newport**	**100.00 35**	P	**Pdif**	**12 05 39.1**	**-1.3**
	comp=Z,1.7nm,0.6s,baz=225,slow=5.7,SNR=2.4						
BOSA	**Boshof**	**100.98 243**	P	**Pdif**	**12 05 45.1**	**0.0**
	comp=Z,3.2nm,0.9s,baz=44,slow=2.1,SNR=3.3						
QSPA	**South Pole Qui**	**103.42 180**	PP	**PP**	**12 10 16.7**	**+5.3**
	comp=Z,4.8nm,1.0s,baz=6.2,slow=8.2,SNR=3.9						
NVAR	**Mina Array Bea**	**104.50 44**	Pdiff	**Pdif**	**12 05 59.3**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=306,slow=4.0,SNR=4.7						
NVAR			PP	**PP**	**12 10 22.6**	**+2.7**
	comp=Z,0.9nm,0.8s,baz=269,slow=6.4,SNR=4.5						
NVAR			PKKPbc	**PKKPbc**	**12 21 45.0**	**-2.2**
	comp=Z,0.3nm,0.6s,baz=147,slow=3.6,SNR=3.9						
ESDC	**Sonseca Array**	**106.10 319**	PP	**PP**	**12 10 27.8**	**-3.7**
	comp=Z,2.2nm,1.0s,baz=46,slow=6.8,SNR=6.6						
MVO	**Moncorvo**	**107.17 321**	*i* LQ	LQ	12 10 56.0		
MVO	**Moncorvo**	**107.17 321**	*e*LR	LR	12 45 13.2		
	comp=Z,221nm,18.0s						
PGAV	**Gavieira, Arco**	**107.44 323**	*e*PP	**PP**	**12 10 44.4**	**+3.2**
PGAV	**Gavieira, Arco**	**107.44 323**	*e*LR	LR	12 44 04.7		
	comp=Z,206nm,22.0s						
PCAB	**Cabril**	**107.45 322**	*i* LQ	LQ	12 11 06.5		
PDAR	**Pinedale Array**	**107.53 36**	PP	**PP**	**12 10 39.9**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=294,slow=8.7,SNR=2.3						
PDAR			PKKPbc	**PKKPbc**	**12 21 35.9**	**-2.2**
	comp=Z,0.2nm,0.6s,baz=131,slow=4.5,SNR=3.7						
PDAR			PKKP	**PKKPdf**	**12 21 51.5**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=120,slow=4.9,SNR=9.3						
PCBR	**Castelo Branco**	**108.23 320**	*i* LQ	LQ	12 11 12.8		
RKT	**Rikitea**	**108.32 110**	*e*LR	LR	12 42 13.4		
	comp=Z,430nm,28.5s						
PMRV	**Marv??o**	**108.42 320**	*i* LQ	LQ	12 11 04.1		
COI	**Coimbra**	**108.59 321**	*e*PP	**PP**	**12 10 51.5**	**+2.0**
PCAS	**Casmilo, Conde**	**108.73 321**	*e*PP	**PP**	**12 10 51.7**	**+1.1**
PMTG	**Montargil**	**109.15 320**	*e*PP	**PP**	**12 10 57.5**	**+3.8**
PSBE	**So Bento**	**109.24 321**	*e*PP	**PP**	**12 10 57.8**	**+3.5**
EVO	**Evora**	**109.34 319**	*i* LQ	LQ	12 11 19.2		
PBEJ	**Beja**	**109.54 319**	*i* LQ	LQ	12 11 22.3		
PVAQ	**Vaqueiros**	**109.81 318**	*i* LQ	LQ	12 11 23.6		
PVAQ	**Vaqueiros**	**109.81 318**	*e*LR	LR	12 45 50.3		
	comp=Z,146nm,20.0s						
MESJ	**Messejana**	**109.88 319**	*e*PP	**PP**	**12 11 02.9**	**+4.0**
PMAFR	**Mafra**	**109.88 320**	*e*PP	**PP**	**12 11 01.9**	**+3.0**
PCVE	**Castro Verde**	**109.89 319**	*e*PP	**PP**	**12 11 02.9**	**+3.9**
PNCL	**Nicolau / Gran**	**109.91 319**	*i* LQ	LQ	12 11 25.2		
PBDV	**Barranco-do-Ve**	**110.05 318**	*i* LQ	LQ	12 11 18.0		
PFVI	**Vila Bisbo**	**110.69 319**	*e*PP	**PP**	**12 11 06.6**	**+1.8**
SNAA	**Sanae**	**112.99 197**	PKiKP	**PKiKP**	**12 10 29.9**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=146,slow=2.1,SNR=7.8						
TORD	**Torodi Ar. Bea**	**113.89 291**	PKiKP	**PKiKP**	**12 10 33.5**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=63,slow=2.7,SNR=9.9						
TORD			PP	**PP**	**12 11 25.1**	**-3.6**
	comp=Z,1.7nm,0.7s,baz=45,slow=6.9,SNR=4.5						
TORD			PKKPab	**PKKPab**	**12 21 24.6**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=231,slow=2.8,SNR=4.2						
ANMO	**Albuquerque**	**114.30 41**	PKP	PKPdf	12 10 35.0	-0.1	
	comp=Z,0.5nm,0.6s,baz=326,slow=3.6,SNR=3.9						
ANMO	**Albuquerque**	**114.30 41**	⇑*i*PKIKP	PKPdf	12 10 35.7	+0.6	
MNTX	**Cornudas Mount**	**117.02 43**	PKPdf	**PKPdf**	**12 10 39.3**	**-0.9**	
PMOZ	**Porto Moniz, M**	**118.72 320**	*e*PP	PP	12 12 19.4	+18	
WMOK	**Wichita Mounta**	**119.14 37**	PKIKP	**PKPdf**	**12 10 42.5**	**-1.7**	
WMOK	**Wichita Mounta**	**119.14 37**		**PKPdf**	**12 10 42.5**	**-1.7**	
SADO	**Sadowa**	**119.24 16**	PKP	**PKPdf**	**12 10 43.0**	**-1.1**	
	comp=Z,2.6nm,0.6s,baz=342,slow=3.2,SNR=2.4						
TX31	**Lajitas Ar. Si**	**119.64 45**		**PKPdf**	**12 10 44.8**	**-0.7**	
TX32	**Lajitas Array**	**119.64 45**		**PKPdf**	**12 10 44.8**	**-0.7**	
TXAR	**Lajitas Array**	**119.64 45**	PKP	**PKPdf**	**12 10 45.0**	**-0.4**	
	comp=Z,3.0nm,0.8s,baz=186,slow=1.3,SNR=21						
TXAR			PKKPab	**PKKPab**	**12 20 59.4**	**-0.1**	
	comp=Z,0.5nm,0.7s,baz=132,slow=6.9,SNR=4.7						
TXAR	**Lajitas Array**	**119.64 45**	PKPdf	**PKPdf**	**12 10 44.8**	**-0.7**	
S39A	**Bolivar**	**119.89 31**	PKPdf	**PKPdf**	**12 10 43.9**	**-1.6**	
R40A	**Maddies Statio**	**119.93 30**	PKPdf	**PKPdf**	**12 10 43.7**	**-1.9**	
U40A	**Yellville**	**121.16 31**	PKPdf	**PKPdf**	**12 10 46.6**	**-1.5**	
T42A	**Van Buren**	**121.50 30**		**PKPdf**	**12 10 47.2**	**-1.5**	
J58A	**Remsen**	**121.52 14**		**PKPdf**	**12 10 47.4**	**-1.1**	
J59A	**Piesso**	**121.59 13**		**PKPdf**	**12 10 47.3**	**-1.4**	
FCAR	**Ozark Folk Cen**	**121.89 31**		**PKPdf**	**12 10 47.8**	**-1.7**	
M54A	**Oil Creek Stat**	**122.09 18**		**PKPdf**	**12 10 48.2**	**-1.5**	
MIAR	**Mount Ida**	**122.18 33**	PKIKP	**PKPdf**	**12 10 49.1**	**-0.9**	
MIAR	**Mount Ida**	**122.18 33**		**PKPdf**	**12 10 49.1**	**-0.9**	
DBIC	**Dimbokro**	**122.22 287**	PKP	**PKPdf**	**12 10 49.8**	**-0.8**	
	comp=Z,1.6nm,0.6s,baz=62,slow=1.7,SNR=3.4						

KIC	**Kosan Boka**	**122.22 287**	*e*PKIKP	**PKPdf**	**12 10 50.3**	**-0.3**	
	comp=Z,34nm,1.2s						
TIC	**Toumodi**	**122.38 287**	*e*PKIKP	**PKPdf**	**12 10 50.4**	**-0.6**	
LIC	**Lamto**	**122.54 287**	*e*PKIKP	**PKPdf**	**12 10 50.5**	**-0.7**	
	comp=Z,18nm,0.8s						
P52A	**Corning**	**123.00 21**		**PKPdf**	**12 10 50.5**	**-1.0**	
833A	**Chaparral WMA,**	**123.16 43**		**PKPdf**	**12 10 51.4**	**-0.7**	
SSPA	**Standing Stone**	**123.41 17**		**PKPdf**	**12 10 51.3**	**-1.0**	
WVT	**Waverly**	**123.75 28**	PKIKP	**PKPdf**	**12 10 52.0**	**-1.0**	
WVT	**Waverly**	**123.75 28**	PKPdf	**PKPdf**	**12 10 52.0**	**-1.0**	
TKL	**Tuckaleechee C**	**125.88 24**	PKP	**PKPdf**	**12 10 55.7**	**-1.5**	
	comp=Z,5.2nm,0.7s,baz=34,slow=2.9,SNR=9.7						
W52A	**Murphy**	**126.31 25**		**PKPdf**	**12 10 57.1**	**-0.9**	
JTS	**Las Juntas de**	**145.30 48**	PKIKP	**PKPbc**	**12 11 31.7**	**-1.7**	
JTS	**Las Juntas de**	**145.30 48**		**PKPbc**	**12 11 31.7**	**-1.7**	
SDDR	**Presa de Saban**	**145.60 20**		**PKPdf**	**12 11 33.5**	**-0.5**	
DR12	**Loma Pena Alta**	**146.38 17**		**PKPdf**	**12 11 34.2**	**-1.2**	
PLCA	**Paso Flores**	**151.24 162**	PKP	**PKPdf**	**12 11 42.3**	**-0.3**	
	comp=Z,1.8nm,0.8s,baz=164,slow=2.9,SNR=2.9						
PLCA			PKPbc	**PKPbc**	**12 11 48.5**	**0.0**	
	comp=Z,5.8nm,0.8s,baz=192,slow=5.2,SNR=11						
PLCA	**Paso Flores**	**151.24 162**		**PKiKP**	**12 11 49.0**	**-0.1**	
CPUP	**Villa Florida**	**167.15 188**	PKP	**PKPdf**	**12 11 59.1**	**-2.1**	
	comp=Z,1.6nm,0.6s,baz=135,slow=1.2,SNR=4.6						
CPUP	**Villa Florida**	**167.15 188**	PKIKP	**PKPdf**	**12 11 59.9**	**-1.3**	
CPUP	**Villa Florida**	**167.15 188**		**PKPdf**	**12 11 59.9**	**-1.3**	
PB12	**IPOC Station P**	**168.38 117**		**PKPdf**	**12 12 00.8**	**-1.6**	
BDFB	**Brasilia**	**168.77 258**	PKP	**PKPdf**	**12 12 01.1**	**-1.6**	
	comp=Z,4.0nm,0.8s,baz=186,slow=4.7,SNR=4.7						
BDFB			PKPab	**PKPab**	**12 13 13.9**	**+0.4**	
	comp=Z,13nm,0.8s,baz=116,slow=5.5,SNR=12						
LPAZ	**La Paz**	**171.16 109**	PKP	**PKPdf**	**12 12 04.2**	**-0.5**	
	comp=Z,1.6nm,0.7s,baz=315,slow=2.0,SNR=7.0						
LPAZ	**La Paz**	**171.16 109**		**PKPdf**	**12 12 02.4**	**-2.3**	

UCR 25 11:52:59.6±1.4, 9.62N×84.87W, h23km±4km, MD3.7, 1C-2D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CASO	**Castillo**	**0.81**	**9**	*i* P	Pb	11 53 14.3	-0.9
ARE1	**Arenal 1**	**0.84**	**10**	⇓*i* P	Pb	11 53 15.2	-0.4
ARE1				*e*S	Sb	11 53 27.2	+0.6
LCR2	**La Lucha 2**	**0.86**	**82**	⇓*e*P	Pb	11 53 14.9	-1.1
LCR2				*e*S	Sb	11 53 27.2	-0.1
PLVR	**Palo Verde**	**0.86**	**327**	⇑*i* P	Pb	11 53 15.4	-0.6
PLVR				*e*S	Sb	11 53 27.2	-0.1
CEDE	**Laguna Cedeo**	**0.87**	**11**	*i* P	Pb	11 53 15.5	-0.6
CEDE				*e*S	Sn	11 53 28.1	-0.6
GUAI	**GUAI**	**0.90**	**315**	*i* P	Pb	11 53 15.5	-1.1
GUAI				*i* S	Sn	11 53 28.8	-0.4
ACAL	**Aguas Claras**	**1.02**	**351**	*i* P	Pn	11 53 18.4	-0.2
CUI	**Cuipilapa**	**1.07**	**344**	*i* P	Pn	11 53 19.1	-0.1
CUI				*e*S	Sb	11 53 33.0	0.0
HORNC	**Hornillas**	**1.12**	**344**	*i* P	Pn	11 53 19.7	-0.4
LIM1	**Limonal**	**1.13**	**341**	*i* P	Pn	11 53 19.6	-0.6
GUAB	**Guayabo de Bag**	**1.13**	**342**	*i* P	Pn	11 53 20.0	-0.2
LAPC	**Finca la Perla**	**1.27**	**334**	*i* P	Pn	11 53 22.9	+0.1
LAPC				*i* S	Sb	11 53 38.6	0.0
BUEV	**Buena Vista**	**1.28**	**336**	*i* P	Pn	11 53 21.9	-0.3
GBS3	**Finca Las Img**	**1.29**	**333**	*i* P	Pn	11 53 21.9	-0.3
GB1A	**Borinquen Arri**	**1.30**	**336**	*i* P	Pn	11 53 22.2	-0.2
BUAI	**Buenos Aires**	**1.33**	**340**	*i* P	Pn	11 53 22.6	-0.2
BUAI				*i* S	Sb	11 53 40.2	-0.3

*IDC **25** 12:00:20.6±1.9, 30.11S×177.21W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.8/44, mbtmp4.1/3, Error ellipse: s-maj=42.5km s-min=28.1km az=67.0*
*NEIC **25** 12:00:22.7±1.1, 30.04S±0.06×177.0W±0.2, h27km±12km, mb4.5/6, Error ellipse: s-maj=22.1km s-min=8.7km az=86.0*

**ISC 25 12:00:23.6±2.0, 30.1S

TKGZ				S		S	12 10 46.1	-3.1
URZ	**Urewera**	**9.85**	**199**	P		**Pn**	**12 08 58.5**	**+0.3**
URZ				S		**S**	**12 10 46.4**	**-3.3**
RIGZ	**Rimuhau**	**10.10**	**195**	P		Pn	12 08 58.1	-3.2
RRRZ	**Republican Roa**	**10.10**	**201**	P		**P**	**12 09 04.4**	**+1.7**
MUGZ	**Murupara**	**10.15**	**200**	P		**Pn**	**12 09 03.4**	**+1.6**
HSRZ	**Hossack Road**	**10.16**	**203**	P		**P**	**12 09 06.2**	**+2.8**
HRRZ	**Handcock Road**	**10.22**	**202**	P		**P**	**12 09 05.7**	**+1.6**
GRRZ	**Galatos Road**	**10.24**	**203**	P		**P**	**12 09 06.5**	**+2.2**
SNGZ	**Shannon Statio**	**10.27**	**197**	P		**Pn**	**12 09 02.6**	**-0.7**
PRGZ	**Paritu Road**	**10.28**	**195**	P		**P**	**12 09 06.2**	**+1.5**
PRRZ	**Plateau Road**	**10.28**	**201**	P		**Pn**	**12 09 05.3**	**+1.8**
ALRZ	**Allen Road**	**10.36**	**202**	P		**Pn**	**12 09 06.0**	**+1.6**
WPRZ	**Whakapapatarin**	**10.38**	**202**	P		**P**	**12 09 07.0**	**+1.1**
KNZ	**Kokohu**	**10.42**	**195**	P		**Pn**	**12 09 02.9**	**-2.2**
TLZ	**Tolley Road**	**10.43**	**205**	P		**P**	**12 09 09.3**	**+2.9**
RAHZ	**Arahi**	**10.46**	**198**	P		**Pn**	**12 09 06.1**	**+0.4**
KUTZ	**Kaahu Road**	**10.47**	**204**	P		**P**	**12 09 08.7**	**+1.9**
MTHZ	**Maungataniwha**	**10.47**	**199**	P		**Pn**	**12 09 07.2**	**+1.4**
MHGZ	**Mahia Peninsul**	**10.49**	**194**	P		**Pn**	**12 09 08.0**	**+2.0**
WHHZ	**Waihua**	**10.58**	**197**	P		**Pn**	**12 09 04.9**	**-2.0**
MRHZ	**Matea Rd**	**10.58**	**201**	P		**Pn**	**12 09 07.6**	**+0.5**
WATZ	**Wairara**	**10.69**	**204**	P		**P**	**12 09 11.6**	**+2.3**
NMHZ	**Naumai**	**10.71**	**199**	P		**Pn**	**12 09 07.9**	**-0.8**
ARHZ	**Aropaoanui**	**10.81**	**198**	P		**Pn**	**12 09 08.1**	**-1.7**
BKZ	**Black Stump Fm**	**10.87**	**200**	P		**Pn**	**12 09 10.0**	**-0.5**
RITZ	**Rihia Road**	**10.89**	**202**	P		**P**	**12 09 12.9**	**+1.4**
KATZ	**Kakaramea**	**10.95**	**203**	P		**P**	**12 09 13.7**	**+1.4**
MCHZ	**McNeill Hill**	**11.06**	**198**	P		**Pn**	**12 09 12.4**	**-0.4**
KRVZ	**Karewarewa**	**11.07**	**203**	P		**Pn**	**12 09 13.6**	**+0.6**
WTVZ	**West Tongariro**	**11.11**	**203**	P		**Pn**	**12 09 14.4**	**+0.9**
KWHZ	**Kaweka Forest**	**11.12**	**199**	P		**Pn**	**12 09 12.5**	**-1.0**
CKHZ	**Cape Kidnapper**	**11.17**	**197**	P		**Pn**	**12 09 14.8**	**+0.8**
BHHZ	**Black Hill Sta**	**11.29**	**201**	P		**Pn**	**12 09 13.5**	**-2.1**
MOVZ	**Moawhango**	**11.31**	**202**	P		**Pn**	**12 09 15.5**	**-0.3**
KRHZ	**Kereru**	**11.34**	**199**	P		**Pn**	**12 09 15.4**	**-0.7**
KAHZ	**Kahuranaki**	**11.35**	**197**	P		**Pn**	**12 09 15.7**	**-0.5**
MSVF	**Nonsavu**	**11.56**	**345**	P		**P**	**12 09 16.8**	**-2.5**
PXZ	**Pawanui**	**11.57**	**197**	P		**Pn**	**12 09 16.5**	**-2.3**
PNHZ	**Pukenui**	**11.64**	**199**	P		**Pn**	**12 09 17.5**	**-2.2**
KHZ	**Kahutara**	**14.75**	**203**			**S**	**12 12 31.2**	**-1.8**
DZM	**Mont Dzumac**	**14.97**	**294**	P		**Pn**	**12 09 57.4**	**-1.5**
	3.3nm,0.3s,baz=111,slow=14,SNR=42							
AFI	**Afiamalu**	**16.37**	**25**	P		**P**	**12 10 09.8**	**-2.2**
KNTN	**Kanton**	**26.93**	**16**	P		**P**	**12 11 52.2**	**-0.7**
CTA	**Charters Tower**	**32.88**	**278**	P		**P**	**12 12 45.0**	**0.0**
	6.3nm,0.5s,baz=99,slow=9,SNR=14							
ASAR	**Alice Springs**	**42.48**	**266**	P		**P**	**12 14 05.2**	**+0.7**
	2.2nm,0.5s,baz=96,slow=6.9,SNR=34							
WR0	**Warramunga Arr**	**43.16**	**271**	P		**P**	**12 14 10.0**	**+0.1**
WB2	**Warramunga Arr**	**43.33**	**271**	P		**P**	**12 14 11.4**	**+0.1**
WB2				IAmb		IAmb	12 14 12.1	
	comp=Z,4.1nm,0.6s							
WRA	**Warramunga Arr**	**43.34**	**271**	P		**P**	**12 14 09.9**	**-1.5**
	comp=Z,3.9nm,0.7s,baz=109,slow=7.6,SNR=12							
WRA	**Warramunga Arr**	**43.34**	**271**	P		**P**	**12 14 11.5**	**+0.1**
WB0	**Warramunga Arr**	**43.35**	**271**	P		**P**	**12 14 11.7**	**+0.2**
WB0				IAmb		IAmb	12 14 12.8	
	comp=Z,5.5nm,0.8s							
FORT	**Forrest**	**45.73**	**254**	P		**P**	**12 14 30.4**	**+0.5**
FORT				IAmb		IAmb	12 14 30.9	
	comp=Z,25nm,0.8s							
MTN	**Manton Dam**	**49.06**	**278**	P		**P**	**12 14 56.2**	**+0.7**
KNRA	**Kununurra**	**49.89**	**274**	P		**P**	**12 15 02.7**	**+1.0**
KNRA				IAmb		IAmb	12 15 04.7	
	comp=Z,32nm,1.5s							
FITZ	**Fitzroy Crossi**	**51.65**	**269**	P		**P**	**12 15 15.6**	**+0.9**
FITZ				IAmb		IAmb	12 15 16.2	
	comp=Z,8.0nm,1.1s							
CASY	**Casey**	**56.05**	**207**	P		**P**	**12 15 47.5**	**+2.1**
MORW	**Morawa**	**56.25**	**253**	P		**P**	**12 15 46.9**	**-0.7**
MORW				IAmb		IAmb	12 15 54.6	
	comp=Z,7.2nm,1.3s							
QSPA	**South Pole Qui**	**61.12**	**180**	P		**P**	**12 16 24.2**	**+3.9**
	comp=Z,1.2nm,0.7s,baz=188,slow=0.8,SNR=10							
QSPA	**South Pole Qui**	**61.12**	**180**	P		**P**	**12 16 25.0**	**+4.7**
PEA0B	**Petropavlovsk-**	**84.27**	**346**	P		**P**	**12 18 36.3**	**+1.3**
PETK	**Petropavlovsk-**	**84.27**	**346**	P		**P**	**12 18 35.6**	**+0.6**
	comp=Z,3.9nm,0.6s,baz=126,slow=8.5,SNR=15							
PETK	**Petropavlovsk-**	**84.27**	**346**	P		**P**	**12 18 36.5**	**+1.5**
NVAR	**Mina Array Bea**	**87.70**	**43**	P		**P**	**12 18 54.8**	**+2.5**
	comp=Z,1.0nm,0.8s,baz=233,slow=7.7,SNR=6.6							
FINES	**FINESS Array B**	**143.58**	**340**	PKP		**PKPdf**	**12 25 34.0**	**-1.1**
	comp=Z,2.5nm,0.5s,baz=62,slow=2.8,SNR=14							
NC303	**NORSAR Array S**	**147.05**	**351**			**PKiKP**	**12 25 45.2**	**-0.5**
NB2	**NORSAR Subarra**	**147.25**	**351**	PKP		**PKiKP**	**12 25 45.2**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=14,slow=3.0							
NOA	**NORSAR Array B**	**147.25**	**351**	PKPbc		**PKPbc**	**12 25 44.4**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=19,slow=2.7,SNR=5.1							
HFS	**Hagfors**	**147.72**	**349**	PKPbc		**PKiKP**	**12 25 45.8**	**-1.3**
	comp=Z,1.8nm,0.5s,baz=56,slow=5.6,SNR=9.2							
AKASG	**Malin Array Be**	**149.74**	**324**	PKPbc		**PKiKP**	**12 25 51.3**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=47,slow=2.7,SNR=5.9							
AKASG	**Malin Array Be**	**149.74**	**324**			**PKiKP**	**12 25 51.9**	**+0.3**

*IDC **25** 12:57:12.5±2.1,5.4°40S×131.4°4E, h0km, mb3.6/2, mb1 3.6/6, mb1mx3.5/46, mbtmp3.5/6, ML3.2/4, Error ellipse: s-maj=98.7km s-min=24.7km az=84.0*

ISC 25 12:57:16.0±1.0,**5.4°49S**±0.6°×**131.5°E**±0.2°,**h54**km,**n6,** σ4.8**12**/10,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**4.60**	**357**	Pn	**Pn**	**12 58 22.5**	**-0.5**
	1.6nm,0.3s,baz=164,slow=19,SNR=13						
SIJI				Sn	**Sn**	**12 59 09.2**	**-5.9**
	4.4nm,0.3s,baz=224,slow=23,SNR=12						
FITZ	**Fitzroy Crossi**	**13.78**	**204**	Pn	**Pn**	**13 00 30.1**	**+1.4**
	0.1nm,0.3s,baz=20,slow=8.3,SNR=7.2						
FITZ				Sn	**Sn**	**13 02 55.5**	**-4.7**
	0.1nm,0.3s,baz=0.0,slow=20,SNR=1.6						
WRA	**Warramunga Arr**	**14.63**	**169**	Pn	**Pn**	**13 00 41.4**	**+1.4**
	0.1nm,0.3s,baz=353,slow=13,SNR=6.8						
WRA				Sn	**Sn**	**13 03 16.5**	**-4.3**
	0.4nm,0.3s,baz=360,slow=24,SNR=7.5						
ASAR	**Alice Springs**	**18.22**	**173**	P	**Pn**	**13 01 29.1**	**+3.9**
	0.1nm,0.3s,baz=350,slow=12,SNR=2.2						
ASAR				S	**Sn**	**13 04 46.4**	**-1.5**
	0.1nm,0.3s,baz=2.0,slow=28,SNR=4.1						
MKAR	**Makanchi Array**	**67.81**	**326**	P	**P**	**13 08 11.7**	**+3.3**
	0.5nm,0.6s,baz=125,slow=9.4,SNR=1.4						
KURBB	**Kurchatov Arra**	**72.03**	**328**	P	**P**	**13 08 37.3**	**+3.1**
	0.3nm,0.6s,baz=125,slow=5.4,SNR=1.9						

*IDC **25** 12:58:29.4±1.2, 1.°64N×96.°88E, h0km, mb4.0/14, mb1 4.1/15, mb1mx3.8/54, mbtmp4.0/15, ML4.4/1, Error ellipse: s-maj=34.0km s-min=19.9km az=46.0*
*DJA **25** 12:58:31.4±1.5, 2.°N±6.°×9.°7E±.°, h15km±9km, M4.1/9, MLv4.0/9, MLv4.3/2*
*NEIC **25** 12:58:34.0±0.9, 1.°67N±0.°03×96.°9E±0.°1, h30km±5km, mb4.2/11, Error ellipse: s-maj=16.3km s-min=3.3km az=77.0*

ISC 25 12:58:33.9±0.7,**1.°71N**±0.°06×**96.°85E**±0.°09,**h28**km,**n47,** σ0.**83**/39,**mb4.0**/15,**Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.83**	**119**	P	**Pb**	**12 58 49.7**	**-0.1**
GSI	**Gunungsitoli**	**0.83**	**119**	Pn	**Pb**	**12 58 49.8**	**-0.1**
TPTI		**1.57**	**12**	P	**Pn**	**12 58 59.1**	**-0.9**
KCSI	**Kotacane, Aceh**	**2.02**	**27**	P	**Pn**	**12 59 06.9**	**+0.7**
PBSI	**Pulau Batu**	**2.26**	**141**	P	**Pn**	**12 59 09.8**	**+0.3**
RPSI	**Rantau Prapat**	**2.29**	**65**	Pn	**Pn**	**12 59 11.0**	**+1.2**
RPSI	**Rantau Prapat**	**2.29**	**65**		**Pn**	**12 59 08.7**	**-1.2**
PSI	**Prapat**	**2.34**	**62**	Pn	**Pn**	**12 59 08.7**	**-2.0**
	1.8nm,0.3s,baz=359,slow=5.1,SNR=6.0						
TSI	**Tuntungan**	**2.47**	**44**	P	**Pn**	**12 59 12.7**	**+0.4**
MLSI	**Meulaboh, Aceh**	**2.58**	**350**	P	**Pn**	**12 59 12.4**	**-1.4**
MLSI				S	**Sn**	**12 59 45.1**	**+0.9**
MNSI	**Mandailing Nat**	**2.88**	**108**	P	**Pn**	**12 59 18.0**	**+0.1**
LHMI	**Lhok Sumawe**	**3.49**	**2**	Pn	**Pn**	**12 59 26.6**	**+0.1**
IPM	**Ipoh**	**4.99**	**57**	Pn	**Pn**	**12 59 47.2**	**+0.1**
KULM	**Kulim**	**5.20**	**47**	Pn	**Pn**	**12 59 50.2**	**+0.4**
MNAI	**Manna**	**8.58**	**135**	Pn	**Pn**	**13 00 35.9**	**-0.4**
CMAR	**Chiang Mai Arr**	**16.77**	**7**	Pn	**Pn**	**13 02 26.4**	**-0.5**
	0.5nm,0.3s,baz=208,slow=10,SNR=4.3						
SLVN	**Son La**	**20.68**	**19**	P	**P**	**13 03 11.9**	**0.0**
SHL	**Shillong**	**24.19**	**349**	P	**P**	**13 03 47.9**	**-0.5**
H08S2	**Diego Garcia H**	**26.02**	**249**	T	T	13 30 56.9	
	baz=70,slow=75,SNR=258						
H08S3	**Diego Garcia H**	**26.02**	**249**	T	T	13 31 00.6	
	baz=70,slow=75,SNR=234						
H08S1	**Diego Garcia H**	**26.03**	**249**	T	T	13 31 01.8	
	baz=70,slow=75,SNR=289						
H01W3	**Cape Leeuwin H**	**39.85**	**158**	T	T	13 48 25.0	
	baz=334,slow=76,SNR=16						
H01W2	**Cape Leeuwin H**	**39.86**	**158**	T	T	13 48 30.8	
	baz=334,slow=76,SNR=4.0						
H01W1	**Cape Leeuwin H**	**39.86**	**158**	T	T	13 48 26.4	
	baz=334,slow=76,SNR=15						
WRA	**Warramunga Arr**	**42.60**	**122**	P	**P**	**13 06 27.3**	**-0.7**
	1.0nm,0.7s,baz=303,slow=9.0,SNR=2.7						
WRA	**Warramunga Arr**	**42.60**	**122**	IAmb	IAmb	13 06 36.0	
	comp=Z,0.1nm,0.9s						
ASAR	**Alice Springs**	**43.98**	**127**	P	**P**	**13 06 38.4**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=304,slow=7.9,SNR=4.7						
KSRS	**Korea Array**	**45.63**	**35**	P	**P**	**13 06 51.4**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=240,slow=8.2,SNR=5.5						
MK31	**Makanchi Array**	**46.66**	**346**	P	**P**	**13 07 00.9**	**+0.8**
MK31				IAmb	IAmb	13 07 01.3	
	comp=Z,2.2nm,0.9s						
MKAR	**Makanchi Array**	**46.66**	**346**	P	**P**	**13 07 00.6**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=160,slow=8.0,SNR=13						
MKAR	**Makanchi Array**	**46.66**	**346**	P	**P**	**13 07 00.3**	**+0.2**
SONM	**Songino Array**	**46.68**		P	**P**	**13 07 00.1**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=182,slow=9.1,SNR=5.0						
TLY	**Talaya**	**50.12**	**6**	P	**P**	**13 07 27.9**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=253,slow=8.3,SNR=3.2						
TLY	**Talaya**	**50.12**	**6**	IAmb	IAmb	13 07 29.2	
	comp=Z,1.6nm,0.6s						
KURBB	**Kurchatov Arra**	**51.15**	**345**	P	**P**	**13 07 34.9**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=166,slow=7.0,SNR=18						
KURK	**Kurchatov**	**51.21**	**345**	P	**P**	**13 07 34.9**	**+0.1**
ZAA0	**Zalesovo Array**	**53.00**	**351**	P	**P**	**13 07 48.7**	**+0.7**
ZALV	**Zalesovo Beam**	**53.00**	**351**	P	**P**	**13 07 48.6**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=181,slow=6.5,SNR=32						
ZALV	**Zalesovo Beam**	**53.00**	**351**	P	**P**	**13 07 48.3**	**+0.3**
BVAR	**Borovoye Array**	**55.66**	**341**	P	**P**	**13 08 07.5**	**0.0**
	comp=Z,1.3nm,0.7s,baz=147,slow=8.3,SNR=8.6						
ABKAR	**Akbulak array**	**56.90**	**332**	P	**P**	**13 08 16.0**	**-0.3**
TIXI	**Tiksi**	**72.75**	**10**	P	**P**	**13 09 58.8**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=262,slow=4.4,SNR=4.3						
TIXI	**Tiksi**	**72.75**	**10**	IAmb	IAmb	13 10 00.6	
	comp=Z,2.0nm,0.8s						
AKASG	**Malin Array Be**	**74.64**	**322**	P	**P**	**13 10 13.1**	**+2.4**
	comp=Z,0.3nm,0.2s,baz=91,slow=3.8,SNR=1.3						
FINES	**FINESS Array B**	**79.39**	**333**	P	**P**	**13 10 36.7**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=90,slow=3.8,SNR=4.7						
ARCES	**ARCESS Array B**	**81.94**	**340**	P	**P**	**13 10 50.8**	**+0.1**
	comp=Z,2.4nm,1.0s,baz=76,slow=6.5,SNR=4.0						
GERES	**GERESS Array B**	**84.20**	**319**	P	**P**	**13 11 01.9**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=111,slow=4.3,SNR=2.6						

*IDC **25** 13:16:47.7±1.7, 29.°90S×177.°23W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/23, mbtmp4.0/4, MS3.3/1, Ms1 3.3/1, ms1mx2.9/19, Error ellipse: s-maj=42.2km s-min=20.1km az=59.0*
*NEIC **25** 13:16:51.7±1.4, 29.°90S±0.°08×177.°2W±0.°1, h29km±3km, mb4.7/10, Error ellipse: s-maj=15.0km s-min=8.9km az=47.0*

ISC 25 13:16:50.4±1.1,**29.°92S**±0.°09×**177.°1W**±0.°1,**h24**km,**n23,** σ0.**73**/22,**mb4.2/6,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.95**	**314**	Pn	**Pb**	**13 17 07.9**	**-0.3**
	787nm,0.3s,baz=157,slow=1.2,SNR=20						
RAO				Sn	**Sb**	**13 17 20.2**	**-0.1**
	2µm,0.3s,baz=85,slow=21,SNR=11						
RAO	**Raoul Island**	**0.95**	**314**		**Pn**	**13 17 08.6**	**+0.4**
BKZ	**Black Stump Fm**	**10.61**	**208**	Pn	**Pn**	**13 19 20.4**	**-0.5**
MSWZ	**Moikau Station**	**13.02**	**206**	Pn	**Pn**	**13 19 52.2**	**-1.8**
TUWZ	**Tuamarina**	**13.57**	**210**	Pn	**Pn**	**13 20 01.7**	**+0.4**
THZ	**Tophouse**	**14.30**	**212**	Pn	**Pn**	**13 20 11.1**	**-0.2**
DZM	**Mont Dzumac**	**16.68**	**294**	LR	LR	13 25 55.4	
	comp=Z,104nm,18.8s,baz=154,slow=33						
CTAO	**Charters Tower**	**34.46**	**278**	P	**P**	**13 23 35.7**	**-0.8**
STKA	**Stephens Creek**	**35.31**	**256**	P	**P**	**13 23 43.9**	**+0.1**
	1.7nm,0.6s,baz=121,slow=10,SNR=4.5						
STKA	**Stephens Creek**	**35.31**	**256**	IAmb	IAmb	13 24 16.4	
	comp=Z,7.4nm,1.6s						
AS31	**Alice Springs**	**43.88**	**266**	P	**P**	**13 24 56.3**	**+1.1**
ASAR	**Alice Springs**	**43.88**	**266**	P	**P**	**13 24 55.6**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=105,slow=7.1,SNR=19						
ASAR	**Alice Springs**	**43.88**	**266**	P	**P**	**13 24 55.5**	**+0.2**
WR0	**Warramunga Arr**	**44.64**	**271**	P	**P**	**13 25 02.1**	**+0.7**
WR0				IAmb	IAmb	13 26 26.5	
	comp=Z,26nm,1.7s						
WB2	**Warramunga Arr**	**44.81**	**271**	P	**P**	**13 25 02.5**	**-0.2**
WRAB	**Tennant Creek**	**44.82**	**271**	P	**P**	**13 25 02.7**	**-0.1**
WRAB				IAmb	IAmb	13 26 13.2	
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**44.82**	**271**	P	**P**	**13 25 02.9**	**+0.1**
	comp=Z,1.0nm,0.3s,baz=110,slow=8.0,SNR=17						
WRA	**Warramunga Arr**	**44.82**	**271**	P	**P**	**13 25 03.2**	**+0.4**
WB0	**Warramunga Arr**	**44.84**	**271**	P	**P**	**13 25 04.0**	**+1.0**
WRMHI	**West Rim**	**53.37**	**26**	P	**P**	**13 26 07.3**	**-0.9**
QSPA	**South Pole Qui**	**60.19**	**180**	P	**P**	**13 26 56.9**	**+0.7**
	comp=Z,1.6nm,1.1s,baz=294,slow=10.0,SNR=2.5						
FINES	**FINESS Array B**	**144.94**	**341**	PKP	**PKPdf**	**13 36 25.8**	**+1.0**
	comp=Z,1.2nm,0.5s,baz=61,slow=4.1,SNR=8.5						
NOA	**NORSAR Array B**	**148.38**	**352**	PKPbc	**PKPbc**	**13 36 34.4**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=21,slow=3.8,SNR=1.0						

MAN 25 13:18:56.6,13.°61N×120.°57E,h37km,mb3.8,ML2.6, MS2.1,1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.34**	**291**	*eP*	Pn	13 19 06.1	+1.2
LUBP				*eS*	Sn	13 19 13.8	+2.1
PGP	**Puerto Galera**	**0.39**	**106**	*eP*	Pn	13 19 07.4	+1.9
PGP				*eS*	Sn	13 19 14.7	+2.4
SJMP	**San Jose**	**1.26**	**155**	*eP*	Pn	13 19 18.4	+0.7
SJMP				*eS*	Sn	13 19 34.2	+0.8

*IDC **25** 13:27:27.3±5.1, 30.°33S×178.°69W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.5/19, mbtmp3.4/2, Error ellipse: s-maj=309.9km s-min=70.2km az=167.0*

ISC 25 13:27:29.2±1.9,**30.°32S**±0.°09×**178.°9W**±0.°2,**h10**km,**n45,** σ2.**9**40/17,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**7.58**	**197**	P	Pg	13 29 59.1	+4.6
WMGZ	**Waiomatatini S**	**7.80**	**196**	P	**Pg**	**13 30 01.0**	**+2.4**
WMGZ				S	**Sb**	**13 31 20.3**	**+2.8**
HAZ	**Te Kaha**	**7.91**	**199**	P	**Pg**	**13 29 58.0**	**-0.6**
HAZ				S	**Sb**	**13 31 21.9**	**+1.3**
PKGZ	**Pakihiroa**	**7.95**	**197**	P	**Pg**	**13 30 00.5**	**-0.9**
PKGZ				S	Sb	13 31 24.5	+2.6
WCZ	**Waipu Caves**	**7.95**	**223**	P	**Pg**	**13 30 01.0**	**-0.5**
OUZ	**Omahuta**	**7.97**	**230**	P	**Pg**	**13 30 00.1**	**-1.7**
PUZ	**Puketiti**	**8.08**	**196**	P	**Pg**	**13 30 03.8**	**-0.1**
PUZ				S	Sb	13 31 27.0	+1.4
RUGZ	**Raukumara Rang**	**8.13**	**199**	P	**Pg**	**13 30 03.9**	**-1.0**
WIAZ	**Waiheke Island**	**8.14**	**216**	P	**Pg**	**13 30 04.4**	**-0.7**
OPRZ	**Ohinepanea**	**8.39**	**205**	P	**Pg**	**13 30 07.5**	**-2.3**
CNGZ	**Carnagh Station**	**8.48**	**195**	P	**Pg**	**13 30 07.2**	**-4.4**
MWZ	**Matawai**	**8.52**	**199**	P	**Pg**	**13 30 08.5**	**-3.8**
MWZ				S	Sn	13 31 34.7	+26
TKGZ	**Te Karaka**	**8.53**	**197**	P	Pg	13 30 06.5	-5.9
URZ	**Urewera**	**8.57**	**201**	P	Pg	13 30 06.8	-6.5
KARZ	**Kaharoa**	**8.66**	**206**	P	**Pg**	**13 30 10.9**	**-4.1**
RAGZ	**Rawiri**	**8.70**	**199**	P	Pg	13 30 10.5	-5.3
RIGZ	**Rimuhau**	**8.80**	**197**	P	Pg	13 30 08.8	-8.9
RRRZ	**Republican Roa**	**8.85**	**204**	P	Pg	13 30 11.7	-6.8
HSRZ	**Hossack Road**	**8.92**	**205**	P	Pg	13 30 13.6	-6.4
HRRZ	**Handcock Road**	**8.97**	**205**	P	Pn	13 30 12.6	+34
PRGZ	**Paritu Road**	**8.98**	**196**	P	Pn	13 30 14.2	+35
SNGZ	**Shannon Statio**	**8.99**	**199**	P	Pn	13 30 12.5	+33
GRRZ	**Galatos Road**	**9.00**	**206**	P	Pn	13 30 13.9	+35
PRRZ	**Plateau Road**	**9.03**	**204**	P	Pn	13 30 13.0	+33
KNZ	**Kokohu**	**9.12**	**197**	P	Pn	13 30 14.4	+33
WPRZ	**Whakapapatarin**	**9.13**	**205**	P	Pn	13 30 14.9	+34
RAHZ	**Arahi**	**9.19**	**200**	P	Pn	13 30 15.1	+33
MHGZ	**Mahia Peninsul**	**9.19**	**196**	P	Pn	13 30 16.6	+35
MTHZ	**Maungataniwha**	**9.20**	**201**	P	Pn	13 30 15.0	+33
KUTZ	**Kaahu Road**	**9.23**	**207**	P	Pn	13 30 16.7	+34
WHHZ	**Waihua**	**9.29**	**199**	P	Pn	13 30 16.5	+33
MRHZ	**Matea Rd**	**9.32**	**203**	P	Pn	13 30 14.7	+31
NMHZ	**Naumai**	**9.44**	**201**	P	Pn	13 30 17.2	+32
WATZ	**Wairara**	**9.46**	**206**	P	Pn	13 30 18.3	+33
ARHZ	**Aropaoanui**	**9.53**	**199**	P	Pn	13 30 17.6	+31
BKZ	**Black Stump Fm**	**9.60**	**202**	P	Pn	13 30 18.6	+31
MCHZ	**McNeill Hill**	**9.79**	**200**	P	Pn	13 30 21.3	+31
KAHZ	**Kahuranaki**	**10.06**	**199**	P	Pn	13 30 24.5	+31
MOVZ	**Moawhango**	**10.06**	**204**	P	Pn	13 30 23.4	+30
PXZ	**Pawanui**	**10.29**	**198**	P	Pn	13 30 26.0	+29
WPHZ	**Waipukurau**	**10.44**	**200**	P	Pn	13 30 27.8	+29
PRHZ	**Porangahau**	**10.57**	**199**	P	Pn	13 30 30.2	+30
ASAR	**Alice Springs**	**42.31**	**267**	P	**P**	**13 35 24.1**	**+0.6**
	0.3nm,0.6s,baz=105,slow=7.0,SNR=4.7						
WRA	**Warramunga Arr**	**43.30**	**273**	P	**P**	**13 35 32.9**	**+1.4**
	0.3nm,0.3s,baz=110,slow=8.0,SNR=8.3						
FINES	**FINESS Array B**	**144.79**	**339**	PKP	**PKPdf**	**13 47 05.1**	**-0.6**
	0.6nm,0.6s,baz=56,slow=3.4,SNR=5.9						

MAN 25 13:58:55.8,13.°62N×120.°55E,h44km,mb3.6,ML2.3, MS1.7,1C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LUBP	**Lubang**	**0.32**	**291**	*eP*	Pn	13 59 06.1	+1.5
LUBP				*eS*	Sn	13 59 13.8	+3.0
PGP	**Puerto Galera**	**0.41**	**107**	*eP*	Pn	13 59 07.2	+1.6
PGP				*eS*	Sn	13 59 15.7	+3.1
SJMP	**San Jose**	**1.28**	**154**	*eP*	Pn	13 59 18.1	+0.9
SJMP				*eS*	Sn	13 59 34.2	+1.0

*THR **25** 14:20:11.1±0.5, 27.°76N×57.°62E, h14km±8km, ML3.6*
*TEH **25** 14:20:18.9, 28.°03N×57.°57E, h12km, ML3.5*
*OMAN **25** 14:20:21.0±2.2, 27.°73N×57.°92E, h25km, ml3.2/6, Error ellipse: s-maj=85.6km s-min=11.7km az=292.0*

ISC 25 14:20:14.0±1.0,**27.°94N**±0.°04×**58.°09E**±0.°06,**h10**km,**n18,** σ2.**39**/24,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.34**	**272**	*e*Pg	**Pb**	**14 20 22.8**	**+0.7**
GENO	**Geno**	**1.78**	**253**	*e*Pg	**Pn**	**14 20 44.6**	**-0.4**
GENO				*e*Sg	**Sn**	**14 21 05.1**	**-2.7**
GENO				*e*		14 21 07.6	

DPD	Davis Peak	0.98	233			Pb		14 35 14.9	-0.2
LSDC	Los Osos Digit	0.99	238			Pb		14 35 15.0	-0.1
ARDC	Alexander Ranc	1.01	249			Pb		14 35 14.6	-0.9
PBWM	Bitterwater Cr	1.02	299			Pb		14 35 14.9	-0.8
WASM	Alta Sierra Ca	1.03	94			Pb		14 35 14.7	-1.2
DCD	Diablo Creek	1.03	234			Pb		14 35 15.4	-0.5
VPDC	Valencia Peak	1.04	236			Pb		14 35 15.7	-0.3
PCBM	Cambria	1.06	254			Pb		14 35 15.3	-1.0
ARVC	Arvin	1.06	131	P		Pb		14 35 15.6	-0.9
	baz=313,SNR=12								
ARVC				S		Sb		14 35 29.1	-1.1
	baz=313								
ARVC	Arvin	1.06	131			Pb		14 35 16.6	+0.1
HELL	Mitchell Peak,	1.07	37			Pb		14 35 15.0	-1.6
LRC	Lone Oak Road	1.08	293			Pb		14 35 15.3	-1.4
ABL	Mount Abel	1.09	153			Pb		14 35 15.5	-1.5
PHCM	Hearst Castle	1.09	263			Pb		14 35 16.1	-0.8
TEJ	El Tejon	1.09	122			Pb		14 35 15.7	-1.3
FIGC	Figueroa Mtn.	1.10	187			Pb		14 35 17.2	0.0
ISA	Isabella, Lake	1.10	98	P		Pb		14 35 16.1	-1.0
	baz=280,SNR=46								
ISA				S		Sb		14 35 30.4	-1.1
	baz=280								
ISA	Isabella, Lake	1.10	98			Pb		14 35 16.2	-1.0
ISA	Isabella, Lake	1.10	98			Sb		14 35 30.9	-0.6
ISA	Isabella, Lake	1.10	98	Pg		Pb		14 35 15.9	-1.2
PCCM	Crazy Canyon	1.12	284			Pb		14 35 16.1	-1.3
PMLM	Mount Lospe	1.13	215			Pb		14 35 16.9	-0.7
LRV	Little Rabbit	1.14	302			Pb		14 35 16.9	-0.9
BMSM	Mercy Hot Spri	1.15	317			Pb		14 35 16.9	-1.0
MPI	Mount Pinos, F	1.15	151			Sb		14 35 32.4	-0.6
TJR	Tejon Ranch	1.19	132			Pn		14 35 17.4	-1.0
TJR	Tejon Ranch	1.19	132			Sb		14 35 33.5	-0.2
WHFM	Hanning Flat	1.20	96			Pn		14 35 18.4	-0.2
WHFM						Sb		14 35 34.2	0.0
BBGB	Big Mountain B	1.24	308			Pn		14 35 18.5	-0.8
PAPM	Alder Peak	1.26	274			Pn		14 35 17.8	-1.7
BAVM	Antelope Valle	1.28	310			Pn		14 35 18.7	-1.0
BPIM	Pinnacles	1.28	302			Pn		14 35 18.5	-1.1
WORM	Onyx Ranch	1.29	95			Pn		14 35 19.3	-0.6
MHDM	Hidden Dam	1.29	357			Pn		14 35 18.4	-1.5
BRMM	Rolling Bench	1.29	321			Pn		14 35 19.1	-0.8
SYP	Santa Ynez Pea	1.30	186			Pb		14 35 20.5	-0.1
BEMM	Emmet	1.33	309			Pn		14 35 19.8	-0.6
BVL	Bear Valley	1.34	304			Pn		14 35 19.6	-1.0
BEHM	Elkhorn Ranch	1.38	308			Pn		14 35 20.7	-0.4
GATR	Gnd/Air Tx Cnt	1.39	204			Pn		14 35 21.6	+0.4
WBSM	Bird Springs	1.40	101			Sb		14 35 40.7	+0.8
WCHM	Chimney Peak	1.42	87			Pn		14 35 21.9	0.0
BSMM	Soledad Missio	1.42	294			Pn		14 35 20.2	-1.4
BJOM	Mount Johnson	1.45	304			Pn		14 35 21.3	-0.7
BJCM	Johnson Can.	1.46	300			Pn		14 35 21.0	-1.2
BCWM	Chews Ridge	1.50	289			Pn		14 35 21.2	-1.6
SCZ	Santa Cruz	1.50	302			Pn		14 35 21.5	-1.1
OSI	Osito Audit: C	1.50	143	P		Pn		14 35 23.0	+0.1
	baz=325,SNR=11								
OSI				S		Sn		14 35 42.1	-0.1
	baz=325								
OSI	Osito Audit: C	1.50	143			Pb		14 35 24.1	+0.2
HAST	Hastings Reser	1.51	292			Pn		14 35 21.3	-1.7
BCGM	Cienega Road	1.52	306			Pn		14 35 22.6	-0.4
BAPM	Anderson Peak	1.52	284			Pn		14 35 21.3	-1.8
PYR	Pyramid	1.53	145			Pn		14 35 23.3	0.0
CWC	Cottonwood Cre	1.54	66	P		Pn		14 35 23.8	+0.5
	baz=247								
CWC				S		Sb		14 35 44.0	0.0
	baz=247								
CWC	Cottonwood Cre	1.54	66			Pn		14 35 23.9	+0.5
CWC	Cottonwood Cre	1.54	66			Sb		14 35 44.9	+0.9
KCC	Kaiser Creek	1.55	15			Pn		14 35 22.8	-0.6
HJSM	John Smith Roa	1.55	310			Pn		14 35 23.3	-0.2
BVYM	Vineyard	1.58	306			Pn		14 35 23.2	-0.7
MMIM	Miami Mountain	1.59	2			Pn		14 35 23.5	-0.6
BSRM	Salinas Radio	1.61	302			Pn		14 35 23.1	-1.1
SAO	San Andreas Ge	1.62	306	Pn		Pn		14 35 23.4	-0.9
MFS	McCloud Flat S	1.62	79			Pn		14 35 25.4	+0.9
MYLM	Yosemite Lake	1.63	343			Pn		14 35 24.0	-0.5
BPOM	Post Ranch	1.63	285			Pn		14 35 23.0	-1.6
JRC2	Joshua Ridge	1.64	84			Pn		14 35 25.7	+0.9
JRC2						Sb		14 35 47.4	+0.5
FRP	Fremont Peak	1.64	305			Pn		14 35 23.6	-1.1
BPCNC	Pine Canyon	1.64	298			Pn		14 35 24.3	-0.4
SLD	San Luis Dam	1.68	318			Pn		14 35 24.0	-1.3
DTP	Desert Tortois	1.70	108			Pb		14 35 27.7	+0.4
HPCM	Pacheco Lake	1.70	317			Pn		14 35 24.5	-1.0
HJGM	San Juan Grade	1.72	305			Pn		14 35 24.7	-1.0
EDW2	Edwards Air Fo	1.76	122	P		Pn		14 35 27.1	+0.7
	baz=304,SNR=17								
EDW2				S		Sn		14 35 49.6	+1.0
	baz=304								
RCWM	Renegade Canyo	1.77	85			Pn		14 35 24.9	-1.5
LRMC	Laurel Mtn Rad	1.77	101	S		Sb		14 35 50.4	-0.3
	baz=283								
TIN	Tinemaha, Big	1.77	46	P		Pn		14 35 27.7	+1.1
	baz=227,SNR=23								
TIN				S		Sb		14 35 51.4	+0.7
	baz=227								
TIN	Tinemaha, Big	1.77	46			Pb		14 35 27.9	-0.7
HTUM	Tustin Road	1.78	305			Pn		14 35 25.7	-0.9
SCHCA	Scheelite	1.78	30			Pn		14 35 27.3	+0.5
CGO	Cerro Gordo	1.78	65			Pn		14 35 28.0	+1.0
CLC	China Lake	1.80	90			Pn		14 35 27.7	+0.7
BHPR	Bishop	1.82	36			Pn		14 35 28.4	+1.1
GHS	Gilroy Hot Spr	1.83	314			Pn		14 35 26.4	-0.8
MTUM	Tungsten Hills	1.83	33			Pn		14 35 28.5	+1.0
BSM	San Miguel Isl	1.84	194			Pb		14 35 29.9	+0.3
HMOM	Monterey	1.87	295			Pn		14 35 26.7	-1.1
MRDM	Red Cones	1.87	19			Pn		14 35 28.7	+0.6
RCCR	Rock Creek Can	1.88	28			Pn		14 35 29.2	+0.9
MMPM	Mammoth Pass	1.89	19			Pn		14 35 29.1	+0.6
MDPB	Devils Postpil	1.90	18			Pn		14 35 28.9	+0.4
OMMB	Old Mammoth Mi	1.90	20			Pn		14 35 29.2	+0.6
MPMC	Manual Prospec	1.90	82	P		Pn		14 35 29.0	+0.5
	baz=264,SNR=78								
MPMC				Sb		Sb		14 35 55.3	+0.8
	baz=264								
MPMC	Manual Prospec	1.90	82			Pb		14 35 30.6	-0.3
MMSM	Mammoth Summit	1.91	19			Pn		14 35 29.7	+1.0
MLCM	Laurel Creek C	1.93	22			Pn		14 35 29.7	+0.9
MCVM	Convict Lake	1.93	24			Pn		14 35 29.8	+0.9
MCMM	Convict Lake	1.94	23			Pn		14 35 29.9	+1.0
MDYM	Dry Creek	1.94	19			Pn		14 35 30.1	+1.0
MGPM	Gravel Pit	1.94	22			Pn		14 35 30.2	+1.1
MMLB	Mammoth Lakes	1.95	20			Pn		14 35 30.3	+1.1
MFBM	Five Bridges	1.95	34			Pb		14 35 30.9	-0.8
MCBM	Casa Benchmark	1.96	22			Pn		14 35 30.6	+1.2
MCSM	Casa Diablo Ho	1.97	22			Pn		14 35 30.5	+1.1
POCCA	Poleta Canyon	1.97	38			Pb		14 35 31.3	-0.7
MDRNC	Doe Ridge	1.97	23			Pn		14 35 30.8	+1.4
MDCM	Deadman Creek	1.98	18			Pn		14 35 30.4	+0.8
SBB	Saddle Back Bu	1.99	124			Pn		14 35 27.3	-2.2
MLHM	Little Hot Cre	2.02	23			Pb		14 35 31.9	-0.9
ORC	Owens River	2.03	27			Pn		14 35 31.6	+1.3
MCDM	Chidago Canyon	2.04	32			Pb		14 35 32.2	-1.1
JSTM	Santa Teresa H	2.11	311			Pn		14 35 30.0	-1.1
MRCM	Red Rock Canyo	2.12	29			Pb		14 35 33.5	-1.2
PASC	Pasadena Art C	2.12	140	Pn		Pn		14 35 32.0	+0.7
MLNR	Milner Canyon	2.13	33			Pb		14 35 33.7	-0.9
BENR	Benton	2.13	28			Pn		14 35 33.5	+1.7
MWC	Mount Wilson	2.15	137			Pn		14 35 31.9	0.0
XTL	Crystal Lake,	2.21	133			Pn		14 35 32.9	+0.2
MCUB	Copperopolis B	2.24	344			Pn		14 35 32.8	-0.1
CMB	Columbia Colle	2.25	348			Pn		14 35 34.1	+0.9
CMB	Columbia Colle	2.25	348	Pn		Pn		14 35 33.6	+0.5
GRAC	Grapevine Rang	2.30	59	P		Pn		14 35 35.0	+1.3
	baz=240,SNR=72								
GRAC				Sb		Sb		14 36 08.0	+2.2
	baz=240								
SSK	Sunset Peak	2.37	132			Pn		14 35 35.7	+0.8
BFSC	Mount Baldy Ra	2.38	131	P		Pn		14 35 35.5	+0.6
	baz=313								
BONR	Boundary Peak	2.45	29			Pn		14 35 38.0	+2.0
MNHB	New Hogan Dam	2.45	341			Pn		14 35 36.2	+0.5
HCK	Huntoon Valley	2.45	23			Pn		14 35 37.8	+2.0
FURC	Furnace Creek,	2.48	74	Pb		Pb		14 35 40.8	+0.3
	baz=256,SNR=23								
CNIC	Niles Canyon	2.48	317			Pb		14 35 40.9	+0.3
GSC	Goldstone, Bar	2.51	101	P		Pn		14 35 35.8	-0.9
	baz=284								
GSC				S		Sn		14 36 07.7	+0.5
	baz=284								
GSC	Goldstone, Bar	2.51	101	Pn		Pn		14 35 35.4	-1.3
LHV	Little Huntoon	2.64	23			Pn		14 35 40.3	+2.0
WAKR	Walker	2.69	6			Pn		14 35 40.0	+0.7
NVAR	Mina Array Bea	2.87	25	Pn		Pn		14 35 42.4	+0.7
NV11	Mina Array Sit	2.92	27	Pn		Pn		14 35 42.2	-0.2
RYN	Ryan	2.98	20	Pn		Pn		14 35 43.7	+0.4
HEC	Hector,Ludlow	3.02	108	P		Pn		14 35 43.7	+0.1
	baz=291								
TPNV	Topopah Spring	3.09	68	P		Pn		14 35 45.8	+1.1
	baz=250,SNR=58								
TPNV	Topopah Spring	3.09	68	Pn		Pn		14 35 45.7	+1.0
YERR	Yerington	3.19	8	Pn		Pn		14 35 47.0	+0.9
TUQ	Turquoise Moun	3.20	96	S		Sn		14 36 24.2	+0.1
	baz=279								
RUBR	Rubicon Trail	3.23	355	Pn		Pn		14 35 47.9	+1.1
AFDM	Forest Hills D	3.25	344	Pn		Pn		14 35 48.2	+1.3
PNTR	Pine Nut	3.26	3			Pn		14 35 48.6	+1.4
XPFO	Pion Flat	3.54	128	Pn		Pn		14 35 51.4	+0.4
TPFO	Pinon Flats	3.55	128	P		Pn		14 35 51.3	+0.3
	baz=310								
GMRC	Granite Mounta	3.56	106	P		Pn		14 35 51.6	+0.4
	baz=289								
BELC	Belle Mtn. Jos	3.63	119	P		Pn		14 35 52.9	+0.8
	baz=302								
SHPR	Sheep Range	3.83	78	Pn		Pn		14 35 55.5	+0.6
PAHR	Pah Rah Range	3.89	5	Pn		Pn		14 35 56.0	+0.3
ORV	Oroville	3.96	341	Pn		Pn		14 35 56.9	+0.4
MONP2	Monument Peak	4.05	135	P		Pn		14 35 58.7	+0.7
	baz=318								
R11A	Troy Canyon, C	4.22	52	Pb		Pb		14 36 11.4	+1.1
	baz=235								
W13A	Hualapai Mount	4.90	97	Pn		Pn		14 36 10.4	+0.8
GLA	Glamis	4.96	122	Pn		Pn		14 36 11.3	+0.9
ELK	Elko	6.09	35	Pn		Pn		14 36 26.2	+0.2

NEIC ***25*** *14:42:29.4±1.1,51°.88N±0°.10×178°.35E±0°.07, h113km±4km, mb4.2/25, ML3.6/35(AEIC), Error ellipse: s-maj=13.8km s-min=6.4km az=179.0*

AEIC ***25*** *14:42:30.3±1.5,51°.82N±0°.10×178°.36E±0°.07, h110km±4km, Error ellipse: s-maj=13.8km s-min=6.5km az=181.0*

IDC ***25*** *14:42:30.7±4.6,51°.98N×178°.45E, h124km±43km, mb3.5/13, mb1 3.6/15, mb1mx3.4/45, mbtmp3.9/15, MS3.2/3, Ms1 3.2/3, ms1mx2.5/42, Error ellipse: s-maj=25.1km s-min=14.9km az=168.0*

ISC 25 14:42:29.8±0.6, 51°.8N±0°.1×178°.40E±0°.04, h114km±5km, n80, σ0°98/87, mb4.0/19, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	Little Sitkin	0.13	34		Pn	14 42 45.1	-0.5
LSSE	Little Sitkin	0.14	49		Pn	14 42 45.1	-0.4
LSNW	Little Sitkin	0.15	30		Pn	14 42 45.0	-0.5
LSNW					Sn	14 42 57.2	-0.3
LSPA	Little Sitkin	0.16	43		Pn	14 42 45.1	-0.5
LSPA					Sn	14 42 57.8	+0.3
CETU	Semis' Tuman	0.69	79		Pn	14 42 48.1	-0.4
CESW	Semis' Southwe	0.72	85		Pn	14 42 48.1	-0.6
AMKA	Amchitka	0.73	129		Pn	14 42 48.3	-0.5
AMKA					Sn	14 43 02.6	-0.5
CEAP	Semis' Anvil P	0.75	77		Pn	14 42 48.4	-0.1
CEAP					Sn	14 43 01.6	-1.8
CERB	Semis' Cerberu	0.77	83		Pn	14 42 49.2	0.0
CERB					Sn	14 43 03.6	-0.1
CERAA	Semis' Rag'd T	0.80	85		Pn	14 42 49.0	-0.4
CERAA					Sn	14 43 03.6	-0.5
GAEA	Gareloi East	1.77	91		Pn	14 42 59.9	-0.2
TASE	Tanaga Southea	2.21	89		Pn	14 43 05.3	-0.4
TAFP	Tanaga Falls P	2.24	87		Pn	14 43 05.6	-0.4
TAFP					Sn	14 43 33.5	-0.3
KIMD	Kanaga Island	2.71	90		Pn	14 43 11.5	-0.6
KICM	Kanaga Island	2.73	87		Pn	14 43 12.3	0.0
KIKV	Kanaga Island	2.75	88		Pn	14 43 12.3	-0.2
KINC	Kanaga Island	2.77	86		Pn	14 43 12.6	-0.3
SMY	Shemya	2.79	290		Pn	14 43 11.9	-1.0
SMY					Sn	14 43 45.1	-1.2
ADK	Adak	3.05	87		Pn	14 43 15.8	-0.7
ADAG	Mount Adagdak	3.10	85		Pn	14 43 16.6	-0.6
GSTD	Great Sitkin T	3.38	84		Pn	14 43 20.3	-0.7
GSTD					Sn	14 43 59.3	-1.3
GSMY	Great Sitkin M	3.44	84		Pn	14 43 21.3	-0.4
GSTR	Great Sitkin T	3.44	84	Pn	Pn	14 43 20.7	-0.9
ATKA	Atka Island	4.59	83		Pn	14 43 36.4	-0.6
KOFP	Korovin Flat P	4.65	82		Pn	14 43 38.2	+0.2
NIKH	Nikolski High	7.88	77		Pn	14 44 21.7	+0.2
SPIA	Saint Paul Isl	8.49	47	Pn	Pn	14 44 31.3	+1.5
UNV	Unalaska Valle	9.36	72	Pn	Pn	14 44 42.3	+0.9
PEA0B	Petropavlovsk-	12.68	284	Pn	Pn	14 45 28.4	+2.5
PETK	Petropavlovsk-	12.68	284	P	Pn	14 45 28.4	+2.5
	0.3nm,0.3s,baz=97,slow=19,SNR=8.8						
PETK				S	Sn	14 47 42.5	-2.8
	0.3nm,0.3s,baz=110,slow=22,SNR=5.0						
OHAK	Old Harbor	17.21	61	P	P	14 46 19.4	-3.3
BILL	Bilibino	17.28	345	P	Pn	14 46 25.1	+1.5
BILL				IAmb	IAmb	14 46 25.7	
	comp=Z,8.9nm,0.9s						
TTA	Tatalina	17.56	41	P	P	14 46 25.4	-1.1
KDAK	Kodiak Island	17.66	59	P	P	14 46 24.8	-2.8
	comp=Z,1.2nm,0.3s,baz=249,slow=5.0,SNR=27						
KDAK				LR	LR	14 53 50.6	
	comp=Z,22nm,18.1s,baz=160,slow=39						
KDAK	Kodiak Island	17.66	59	IAmb	IAmb	14 47 12.4	
	comp=Z,43nm,1.8s						
CNPM	China Poot	18.63	54	P	P	14 46 37.8	-0.4
CNPM				IAmb	IAmb	14 47 24.6	
	comp=Z,15nm,1.2s						
BRLK	Bradley Lake	18.85	53	P	P	14 46 40.1	-0.6
BRLK				IAmb	IAmb	14 46 47.6	
	comp=Z,26nm,1.6s						
SKT	Skwentna	19.11	46	P	P	14 46 44.2	+0.7
SKT				IAmb	IAmb	14 46 49.9	
	comp=Z,6.9nm,0.8s						
SEW	Seward	19.62	53	P	P	14 46 48.6	-0.4
SEW				IAmb	IAmb	14 47 23.6	
	comp=Z,13nm,1.3s						
SCM	Sheep Creek Mo	20.99	48	P	P	14 47 03.5	-0.2
SCM				IAmb	IAmb	14 47 07.1	
	comp=Z,42nm,2.0s						
FID	Port Fidalgo	21.19	51	P	P	14 47 04.8	-1.0
FID				IAmb	IAmb	14 47 44.6	
	comp=Z,16nm,1.4s						
ILAR	Eielson Array	22.00	41	P	P	14 47 12.7	-1.6
	comp=Z,0.3nm,0.7s,baz=260,slow=9.9,SNR=2.9						
RAGM	Ragged Mountai	22.02	53	P	P	14 47 15.8	+1.1
RAGM				IAmb	IAmb	14 47 20.7	
	comp=Z,22nm,1.2s						
VRDI	Verde Repeater	22.72	51	P	P	14 47 21.7	-0.1
BARN	Barnard Glacie	23.56	51	P	P	14 47 31.3	+1.5
BCAR	Beaver Creek A	23.76	46	P	P	14 47 31.2	-0.2
BMAR	Burnt Mountain	23.84	35	P	P	14 47 32.9	+0.8
EGAK	Eagle	24.36	42	P	P	14 47 36.9	+0.1
JKA	Kamikawa-asahi	24.98	266	P	P	14 47 42.4	-0.1
ASAJ	Asahikawa	24.98	266	P	P	14 47 42.4	-0.1
	comp=Z,6.1nm,0.9s,baz=111,slow=16,SNR=3.8						
KLR	Kul'dur	29.37	284	P	P	14 48 21.8	0.0
	comp=Z,2.8nm,0.6s,baz=84,slow=7.6,SNR=11						
SONM	Songino Array	44.87	295	P	P	14 50 32.1	-0.5
	comp=Z,1.4nm,0.5s,baz=52,slow=8.5,SNR=7.3						
SONM	Songino Array	44.87	295	IAmb	IAmb	14 50 33.3	
	comp=Z,1.2nm,0.7s						
NVAR	Mina Array Bea	45.22	81	P	P	14 50 35.5	-0.1
	comp=Z,0.3nm,0.6s,baz=294,slow=6.8,SNR=2.8						
NVAR				pP	pP	14 51 03.4	+1.5
	comp=Z,0.6nm,0.6s,baz=297,slow=6.7,SNR=4.3						
GUMO	Guam	46.69	228	LR	LR	15 08 06.2	
	comp=Z,106nm,20.0s,baz=357,slow=33						
PDAR	Pinedale Array	47.82	71	pP	pP	14 51 22.1	-0.2
	comp=Z,0.5nm,0.6s,baz=309,slow=4.5,SNR=4.0						
ZALV	Zalesovo Beam	52.43	312	PcP	PcP	14 52 39.6	+0.4
	comp=Z,0.5nm,0.3s,baz=39,slow=3.1,SNR=3.7						
ARCES	ARCESS Array B	57.32	349	P	P	14 52 04.6	-0.5
	comp=Z,2.6nm,1.0s,baz=26,slow=9.0,SNR=1.1						
KURK	Kurchatov	57.42	312	P	P	14 52 05.8	-0.3
MK31	Makanchi Array	58.37	307	P	P	14 52 11.8	-1.0
MKAR	Makanchi Array	58.37	307	P	P	14 52 11.8	-0.9
	comp=Z,1.4nm,0.7s,baz=48,slow=6.4,SNR=17						
MAKZ	Makanchi	58.51	307	P	P	14 52 12.7	-1.1
MAKZ				IAmb	IAmb	14 53 01.9	
	comp=Z,6.2nm,1.6s						
BRVK	Borovoye	59.41	318	P	P	14 52 19.5	-0.3
TXAR	Lajitas Array	60.30	79	P	P	14 52 26.7	+0.3
	comp=Z,0.2nm,0.5s,baz=290,slow=8.5,SNR=2.1						
ARU	Arti	61.27	327	P	P	14 52 32.9	+0.4
FINES	FINESS Array B	64.92	346	P	P	14 52 55.4	-1.0
	comp=Z,0.9nm,0.6s,baz=12,slow=7.1,SNR=6.1						
ABKAR	Akbulak array	66.50	321	P	P	14 53 06.8	+0.1
ABKAR				IAmb	IAmb	14 55 27.7	
	comp=Z,5.5nm,1.8s						
O56A	Blue Knob Stat	66.55	54	P	P	14 53 07.3	0.0
KK31	Karatay Array	66.77	311	P	P	14 53 08.1	-0.5
KK31				IAmb	IAmb	14 53 09.3	
	comp=Z,1.8nm,0.7s						
KKAR	Karatay Array	66.77	311	P	P	14 53 07.9	-0.7
CMAR	Chiang Mai Arr	69.23	274	P	P	14 53 25.2	+0.8
	comp=Z,0.5nm,0.5s,baz=28,slow=6.6,SNR=2.1						
GUN	Gumba	70.06	290	eP	P	14 53 30.5	+0.8
	comp=Z,20nm,0.4s						
JIRN	Jiri	70.06	289	eP	P	14 53 30.8	+1.0
RAMN	Ramite	70.36	289	eP	P	14 53 31.8	+0.3
	comp=Z,12nm,0.5s						
PKI	Pulchoki	70.59	290	eP	P	14 53 33.2	+0.2
	comp=Z,5.7nm,0.5s						
PKIN	Phulchoki	70.59	290	eP	P	14 53 33.2	+0.3
	comp=Z,9.3nm,0.5s						
DANN	Dangsing	70.96	292	eP	P	14 53 35.8	+0.7
	comp=Z,17nm,0.7s						
AKASG	Malin Array Be	74.54	340	P	P	14 53 54.9	-0.7
	comp=Z,0.8nm,0.4s,baz=18,slow=5.9,SNR=2.7						
AKASG				LR	LR	15 29 33.1	
	comp=Z,10nm,20.5s,baz=255,slow=38						
WRA	Warramunga Arr	81.17	221	P	P	14 54 32.4	-0.2
	comp=Z,1.6nm,0.9s,baz=33,slow=5.7,SNR=6.9						
ASAR	Alice Springs	84.68	220	P	P	14 54 51.3	+0.7
	comp=Z,0.5nm,0.9s,baz=27,slow=6.3,SNR=5.3						

IDC 25 14:43:14.9±3.4, 30°.02S×177°.29W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/25, mbtmp3.5/2, Error ellipse: s-maj=66.7km s-min=36.8km az=88.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.94	324	Pn	Pb	14 43 34.8	+0.6
	380nm,0.3s,baz=91,slow=8.7,SNR=22						
RAO				Sn	Sb	14 43 48.3	+1.0
	578nm,0.3s,baz=23,slow=23,SNR=9.9						
ASAR	Alice Springs	43.75	266	P	P	14 51 22.6	+0.2
	0.2nm,0.4s,baz=107,slow=7.3,SNR=7.2						
WRA	Warramunga Arr	44.70	271	P	P	14 51 29.9	-0.1
	1.3nm,0.8s,baz=110,slow=8.1,SNR=7.9						
FINES	FINESS Array B	145.00	341	PKPbc	PKPbc	15 02 52.3	-0.4
	1.0nm,0.7s,baz=36,slow=5.2,SNR=2.1						

DDA ***25*** *14:54:28.6, 38°.59N×39°.64E, h7km±2km, ML2.0*

ISK ***25*** *14:54:29.4, 38°.60N×39°.56E, h15km, ML2.5/6*

ISC 25 14:54:28.2±1.3, 38°.62N±0°.04×39°.60E±0°.05, h10km±15km, n11, σ0°54/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	Pertek	0.32	330	PG	Pb	14 54 36.4	+0.2
PTK				SG	Sb	14 54 41.7	+0.2
SVRC	Sivrice-ELAZID	0.33	224	PG	Pb	14 54 36.3	0.0
SVRC				SG	Sb	14 54 40.7	-1.1
ELZG	Elazig	0.49	256	*i* P	Pb	14 54 39.0	-0.1
ELZG				*i* S	Sb	14 54 47.3	+0.8
ELZG				IAML		14 54 50.0	
	comp=E,140nm,0.3s						
TNCL	Tunceli-Merkez	0.50	355	*i* P	Pb	14 54 39.0	-0.2
TNCL				*i* S	Sb	14 54 46.6	+0.1
TNCL				IAML		14 54 48.0	
	comp=N,225nm,0.5s						
TN

	SNR=6.4								
DGS	**Degeres**	**3.98**	**14**	*e*P		**Pb**	**14 56 20.7**	**-1.4**	
	1.6nm,0.4s								
DGS				*e*S		**Sb**	**14 57 13.3**	**+3.0**	
	4.1nm,0.5s								
DGS	**Degeres**	**3.98**	**14**	Pg		**Pb**	**14 56 20.7**	**-1.4**	
	11nm,0.8s								
DGS				Lg		Lg	14 57 13.2		
	7.6nm,0.5s								
IZV	**Izvestkoviy**	**3.99**	**23**	*e*P		**Pb**	**14 56 19.9**	**-2.5**	
	2.5nm,0.5s								
IZV				*e*S		**Sb**	**14 57 11.8**	**+1.0**	
	7.9nm,0.8s								
IZV	**Izvestkoviy**	**3.99**	**23**	Pg		**Pb**	**14 56 19.9**	**-2.5**	
	2.5nm,0.5s								
IZV				Lg		Lg	14 57 11.8		
	7.9nm,0.8s								
TNSS	**Tian-Shan**	**4.10**	**27**	*e*P		**Pb**	**14 56 22.2**	**-2.3**	
	3.4nm,0.7s								
TNSS				*e*S		**Sb**	**14 57 15.8**	**+1.5**	
	5.5nm,0.6s								
TNSS	**Tian-Shan**	**4.10**	**27**	Pg		**Pb**	**14 56 21.5**	**-2.9**	
	3.4nm,0.7s								
TNSS				Lg		Lg	14 57 15.8		
	5.6nm,0.7s								
MDOK	**Medeo**	**4.25**	**27**	*e*P		**Pb**	**14 56 23.3**	**-3.5**	
	3.3nm,0.4s								
MDOK				*e*S		**Sb**	**14 57 18.1**	**-0.1**	
	5.0nm,0.5s								
MDOK	**Medeo**	**4.25**	**27**	Pg		**Pb**	**14 56 23.3**	**-3.5**	
	3.3nm,1.0s								
MDOK				Lg		Lg	14 57 18.1		
	7.8nm,1.3s								
KOTS	**Kotyrbulak**	**4.33**	**27**	*e*P		**Pb**	**14 56 25.5**	**-2.7**	
	8.5nm,0.4s								
KOTS				*e*S		**Sb**	**14 57 21.4**	**+0.8**	
	22nm,0.5s								
KOTS	**Kotyrbulak**	**4.33**	**27**	Pg		**Pb**	**14 56 25.4**	**-2.7**	
	6.7nm,0.5s								
KOTS				Lg		Lg	14 57 21.4		
	22nm,0.7s								
IUG	**luzhnay**	**4.34**	**311**	*e*P		**Pb**	**14 56 25.7**	**-2.6**	
	1.3nm,0.3s								
IUG				*e*S		**Sb**	**14 57 21.5**	**+0.9**	
	4.9nm,0.4s								
IUG	**luzhnay**	**4.34**	**311**	Pg		**Pn**	**14 56 21.1**	**+3.2**	
	1.1nm,0.3s								
IUG				Lg		Lg	14 57 13.9		
	5.8nm,0.4s								
KRBS	**Karabastau**	**4.40**	**12**	*e*P		**Pb**	**14 56 27.7**	**-1.6**	
	3.5nm,0.5s								
KRBS				*e*S		**Sb**	**14 57 25.5**	**+3.1**	
	3.6nm,0.7s								
KRBS	**Karabastau**	**4.40**	**12**	Pg		**Pb**	**14 56 27.7**	**-1.6**	
	3.5nm,0.5s								
KRBS				Lg		Lg	14 57 25.5		
	3.6nm,0.7s								
KTBS	**Karatobe**	**4.63**	**21**	*e*P		**Pb**	**14 56 31.8**	**-1.5**	
	3.4nm,0.9s								
KTBS				*e*S		**Sb**	**14 57 31.9**	**+2.8**	
	6.1nm,0.4s								
KTBS	**Karatobe**	**4.63**	**21**	Pg		**Pb**	**14 56 31.8**	**-1.5**	
	3.4nm,0.9s								
KTBS				Lg		Lg	14 57 31.9		
	6.1nm,0.4s								
UZB	**Uzynbulak**	**5.10**	**41**	*e*P		**Pb**	**14 56 37.2**	**-4.0**	
	2.2nm,1.1s								
UZB				*e*S		**Sb**	**14 57 42.2**	**-0.4**	
	3.1nm,1.0s								
UZB	**Uzynbulak**	**5.10**	**41**	Pg		**Pb**	**14 56 37.2**	**-4.0**	
	2.2nm,1.1s								
UZB				Lg		Lg	14 57 42.2		
	3.1nm,1.0s								
MNBS	**Baschi**	**5.54**	**31**	*e*P		**Pb**	**14 56 46.5**	**-2.2**	
	1.8nm,0.7s								
MNBS				*e*S		**Sb**	**14 57 58.6**	**+3.4**	
	3.3nm,0.8s								
MNBS	**Baschi**	**5.54**	**31**	Pg		**Pb**	**14 56 46.5**	**-2.2**	
	1.8nm,0.7s								
MNBS				Lg		Lg	14 57 58.7		
	3.3nm,0.8s								
KTMS	**Ketmen**	**6.01**	**46**	*e*P		**Pb**	**14 56 54.1**	**-2.7**	
	0.1nm,0.1s								
KTMS				*e*S		**Sb**	**14 58 10.9**	**+2.1**	
	1.4nm,0.2s								
KTMS	**Ketmen**	**6.01**	**46**	Pg		**Pb**	**14 56 54.1**	**-2.7**	
	0.1nm,0.1s								
KTMS				Lg		Lg	14 58 10.9		
	1.4nm,0.2s								

*PRU **25** 15:05:56.9±0.0,51°.43N×16°.17E, h0km*
*IPEC **25** 15:05:56.0±0.4,51°.47N×16°.31E, h0km±2km, ML1.9/3, Error ellipse: s-maj=3.7km s-min=1.7km az=59.0*
*VIE **25** 15:06:02.2,51°.38N×16°.44E, h0km, ML2.8/1 51 km NW of Wroclaw Suspected Mining induced.*

ISC 25 15:05:55.7±1.3, 51°.48N±0°.05×16°.19E±0°.03, h0km, n23, σ0s55/46, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSP	**Ksiaz**	**0.64**	**174**	*e*Pg	**Pg**	**15 06 08.1**	**+0.1**
KSP				*e*Sg	**Sg**	**15 06 15.9**	**-0.4**
CHVC	**Chvalec**	**0.90**	**186**	*e*PG	**Pg**	**15 06 13.2**	**+0.3**
CHVC				*e*SG	**Sg**	**15 06 24.9**	**+0.3**
	comp=Z,17nm,0.6s						
OSTC	**Ostas**	**0.93**	**179**	*e*PG	**Pg**	**15 06 13.9**	**+0.4**
OSTC				*e*SG	**Sg**	**15 06 25.6**	**+0.1**
	comp=Z,26nm,0.4s						
UPC	**Upice**	**0.98**	**187**	*e*PG	**Pg**	**15 06 14.4**	**-0.1**
UPC				*e*SG	**Sg**	**15 06 26.9**	**-0.3**
	comp=Z,47nm,0.2s						
DPC	**Dobruska-Polom**	**1.14**	**176**	*e*PG	**Pg**	**15 06 16.5**	**-1.0**
DPC				*e*SG	**Sg**	**15 06 31.5**	**-0.7**
	comp=Z,27nm,0.7s						
PVCC	**Panska Ves**	**1.40**	**228**	*e*PG	**Pb**	**15 06 22.7**	**0.0**
PVCC				*e*SG	**Sg**	**15 06 40.7**	**0.0**
	comp=Z,51nm,0.2s						
BRG	**Berggiesshubel**	**1.54**	**248**	PG	**Pg**	**15 06 25.4**	**+0.2**
BRG				SG	**Sg**	**15 06 45.4**	**+0.3**
	17nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.81**	**210**	*e*PG	**Pb**	**15 06 29.5**	**-0.1**
GOPC				*e*SG	**Sb**	**15 06 52.4**	**-0.4**
	comp=Z,14nm,0.6s						
PRU	**Pruhonice**	**1.83**	**216**	*e*PG	**Pb**	**15 06 29.6**	**-0.4**
PRU				*e*SG	**Sb**	**15 06 53.1**	**-0.3**
	comp=Z,12nm,0.3s						
MORC	**Moravsky Berou**	**1.91**	**153**	*e*PN	**Pn**	**15 06 29.0**	**-0.6**
MORC				*e*SG	**Sn**	**15 06 54.6**	**+0.2**
MORC	**Moravsky Berou**	**1.91**	**153**	*e*Pn	**Pn**	**15 06 29.0**	**-0.6**
	baz=336						
MORC				*e*Sg	**Sn**	**15 06 54.6**	**+0.2**
	11nm,0.4s,baz=336						
CLL	**Collm**	**2.00**	**266**	*e*Pg	**Pg**	**15 06 34.0**	**-0.1**
CLL				*e*Sg	**Sg**	**15 07 00.0**	**-0.1**
	comp=Z,11nm,0.5s						
OKC	**Ostrava-Krasne**	**2.06**	**142**	*e*PG	**Pb**	**15 06 34.3**	**+0.3**
OKC				*e*SG	**Sb**	**15 07 00.4**	**+0.2**
	comp=Z,13nm,0.5s						
VRAC	**Vranov**	**2.19**	**173**	*e*PN	**Pn**	**15 06 33.4**	**0.0**
VRAC				*e*SG	**Sb**	**15 07 03.9**	**0.0**
VRAC	**Vranov**	**2.19**	**173**	*e*Pn	**Pn**	**15 06 33.4**	**0.0**
	baz=355						
VRAC				*e*Sg	**Sb**	**15 07 03.8**	**-0.1**
	comp=Z,7.7nm,0.2s,baz=355						
TREC	**Trest**	**2.24**	**192**	*e*PG	**Pb**	**15 06 37.4**	**+0.4**
TREC				*e*SG	**Sb**	**15 07 06.2**	**+1.0**
	comp=Z,9.7nm,0.4s						
KRUC	**Moravsky**	**2.43**	**177**	*e*PN	**Pn**	**15 06 36.7**	**+0.1**
KRUC				*e*SG	**Sb**	**15 07 11.4**	**+0.7**
KRUC	**Moravsky**	**2.43**	**177**	*e*Pn	**Pn**	**15 06 36.7**	**+0.1**
	baz=359						
KRUC				*e*Sg	**Sb**	**15 07 11.4**	**+0.7**
	comp=Z,4.6nm,0.4s,baz=359						
OJC	**Ojcow**	**2.61**	**118**	*e*Pg	**Pg**	**15 06 45.1**	**-0.7**
OJC				*e*Sg	**Sg**	**15 07 20.2**	**+0.6**
NKC	**Novy Kostel**	**2.68**	**244**	*e*SG	**Sg**	**15 07 21.3**	**-0.5**
	comp=Z,13nm,0.4s						
KHC	**Kasperske Hory**	**2.89**	**216**	*e*PN	**Pn**	**15 06 43.8**	**+0.8**
KHC				*e*PG	**Pb**	**15 06 49.0**	**+0.9**
KHC				*e*SN	**Sn**	**15 07 17.5**	**-0.9**
KHC				*e*SG	**Sg**	**15 07 26.6**	**-1.9**
	comp=Z,7.3nm,0.5s						
CONA	**Conrad Observa**	**3.56**	**184**	*i* Pn	**Pg**	**15 07 04.0**	**0.0**
	comp=Z,0.8nm,0.2s						
CONA				*e*Sg	**Sg**	**15 07 50.1**	**-0.1**
	comp=Z,7.1nm,0.4s						
ARSA	**Arzberg**	**4.26**	**186**	*e*Sg	**Sg**	**15 08 12.5**	**+0.1**
	comp=Z,2.5nm,0.4s						

IDC 25 15:22:21.1±2.5, 29°.97S×177°.10W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/27, mbtmp3.7/2, MS3.2/2, Ms1 3.2/2, ms1mx2.8/32, Error ellipse: s-maj=55.6km s-min=30.1km az=59.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.01**	**315**	Pn	Pn	15 22 42.8	+0.4
	134nm,0.3s,baz=26,slow=20,SNR=7.1						
RAO				Sn	Sn	15 22 57.7	+0.5
	182nm,0.3s,baz=105,slow=23,SNR=9.7						
DZM	**Mont Dzumac**	**16.74**	**294**	LR	LR	15 30 34.3	
	comp=Z,39nm,21.1s,baz=220,slow=30						
PMG	**Port Moresby**	**39.13**	**294**	LR	LR	15 43 18.3	
	comp=Z,82nm,18.6s,baz=247,slow=32						
ASAR	**Alice Springs**	**43.91**	**266**	P	P	15 30 29.8	0.0
	0.5nm,0.6s,baz=104,slow=7.7,SNR=12						
WRA	**Warramunga Arr**	**44.86**	**271**	P	P	15 30 37.1	-0.3
	1.0nm,0.7s,baz=111,slow=7.8,SNR=6.1						
FINES	**FINESS Array B**	**145.00**	**341**	PKPbc	PKPbc	15 41 57.9	-0.9
	1.6nm,0.7s,baz=29,slow=3.2,SNR=6.6						

IDC 25 15:27:48.8±2.3, 6°.71S×129°.75E, h0km, mb3.6/1, mb1 3.6/3, mb1mx3.4/25, mbtmp3.4/3, ML3.5/2, Error ellipse: s-maj=150.7km s-min=31.7km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.89**	**162**	Pn	Pn	15 31 07.9	+0.7
	0.3nm,0.3s,baz=345,slow=13,SNR=7.7						
WRA				Sn	Sn	15 33 28.9	-13
	1.1nm,0.3s,baz=336,slow=23,SNR=10						
ASAR	**Alice Springs**	**17.33**	**167**	P	Pn	15 31 51.8	-0.6
	0.1nm,0.3s,baz=337,slow=9.6,SNR=9.5						
ASAR				S	Sn	15 34 49.4	-17
	0.1nm,0.3s,baz=353,slow=30,SNR=4.4						
MKAR	**Makanchi Array**	**67.85**	**327**	P	P	15 38 49.0	0.0
	0.3nm,0.5s,baz=126,slow=6.2,SNR=6.4						

*NIED **25** 15:41:00,36°.10N×139°.90E,h44km,Mw3.9 Best double couple: M07.51000×10^14 NP1:ϕs40.00000°,δ70.00000°, λ76.00000°. NP2:ϕs256.00000°,δ24.00000°,λ123.00000°.*
*NEIC **25** 15:41:47.0±1.5,36°.04N±0°.06×139°.87E±0°.09,h50km±8km, mb4.5/11, Error ellipse: s-maj=11.2km s-min=7.8km az=58.0*
*JMA **25** 15:41:47.5±0.1,36°.07N×139°.88E,h45km±1km,M3.5 Broadband fault plane solution: P waves. NP1: ϕs237.00000°,δ16.00000°,λ99.00000°. NP2:ϕs48.00000°, δ74.00000°,λ87.00000°. Principal axes: T Plg61.0000°, Azm314.0000°; N Plg3.0000°, Azm49.0000°; P Plg29.0000°, Azm140.0000°;*
JMA Felt II J1.
*IDC **25** 15:41:47.7±1.7,35°.99N×139°.84E,h56km±15km,mb3.6/9, mb1 3.7/13,mb1mx3.5/35,mbtmp3.8/13,MS2.7/6, Ms1 2.7/6,ms1mx2.6/43 Error ellipse: s-maj=21.6km s-min=8.3km az=64.0*

ISC 25 15:41:47.2±0.8, 36°.05N±0°.04×139°.89E±0°.05, h52km±7km, n47, σ0s75/52, mb3.9/13, 1C-7D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.30**	**54**	↑P	**Pn**	**15 41 56.3**	**-0.3**
JYT				S	**Sn**	**15 42 02.5**	**-0.8**
JAG	**Ashikaga**	**0.52**	**317**	↓P	**Pn**	**15 41 58.5**	**-0.3**
JAG				S	**Sn**	**15 42 06.4**	**-0.8**
JRY	**Ryogami san**	**0.80**	**268**	↓P	**Pn**	**15 42 02.2**	**-0.2**
JRY				*e*S	**Sn**	**15 42 12.7**	**-0.8**
JKT	**Katashina**	**0.89**	**324**	↓P	**Pn**	**15 42 03.2**	**-0.4**
JKT				*e*S	**Sn**	**15 42 14.7**	**-0.9**
JOD2	**Odawara 2**	**1.02**	**220**	P	**Pn**	**15 42 06.0**	**+0.7**
JOD2				*e*S	**Sn**	**15 42 19.4**	**+0.8**
JYN	**Shimob**	**1.23**	**244**	↓P	**Pn**	**15 42 09.2**	**+1.1**
BSO3	**Boso 3**	**1.34**	**158**	P	**Pn**	**15 42 09.5**	**+0.1**
JFY	**Yanaizu**	**1.36**	**354**	↓P	**Pn**	**15 42 10.2**	**+0.2**
JIM2	**Oshima 2**	**1.38**	**196**	↓P	**Pn**	**15 42 09.9**	**-0.3**
JIM2				*e*S	**Sn**	**15 42 26.9**	**-0.4**
JHK	**Hiroka**	**1.39**	**330**	↓P	**Pn**	**15 42 10.4**	**+0.1**
MJAR	**Matsushiro Arr**	**1.45**	**290**	P	**Pn**	**15 42 10.5**	**-0.6**
	8.7nm,0.3s,baz=92,slow=9.4,SNR=497						
MJAR				S	**Sn**	**15 42 28.2**	**-0.7**
	5.2nm,0.3s,baz=95,slow=15,SNR=4.0						
MJAR				LR	LR	15 42 48.0	
	comp=Z,195nm,18.3s,baz=110,slow=43						
MJAR	**Matsushiro Arr**	**1.45**	**290**		**Pn**	**15 42 09.9**	**-1.1**
MAJO	**Matsushiro**	**1.45**	**290**		**Pn**	**15 42 11.5**	**+0.4**
MAT	**Matsushiro**	**1.45**	**290**	P	**Pn**	**15 42 11.6**	**+0.5**
MAT				S	**Sn**	**15 42 28.0**	**-1.0**
MJB9	**Matsu-Tunnel**	**1.45**	**291**		**Pn**	**15 42 11.4**	**+0.3**
INU	**Inuyama**	**2.44**	**254**		**Pn**	**15 42 25.1**	**+0.5**
JHJ	**Hachijo jima 2**	**2.92**	**182**	P	**Pn**	**15 42 31.4**	**+0.1**
	18nm,0.3s,baz=326,slow=22,SNR=29						
JHJ				S	**Sn**	**15 43 04.4**	**-0.7**
	21nm,0.3s,baz=228,slow=23,SNR=6.0						
JHJ				LR	LR	15 44 01.0	
	comp=Z,121nm,18.5s,baz=72,slow=46						
JHJ2	**Mitsune**	**2.93**	**181**		**Pn**	**15 42 31.4**	**+0.1**
ERM	**Erimo**	**6.48**	**22**	Pn	**Pn**	**15 43 20.1**	**+0.2**
JNU	**Nakatsue**	**7.98**	**251**	LR	LR	15 46 57.7	
	comp=Z,43nm,21.0s,baz=63,slow=39						
ASAJ	**Asahikawa**	**8.32**	**14**	P	**Pn**	**15 43 46.4**	**+1.2**
	0.6nm,0.3s,baz=181,slow=13,SNR=7.6						
ASAJ				LR	LR	15 47 11.5	
	comp=Z,34nm,21.2s,baz=132,slow=39						
JKA	**Kamikawa-asahi**	**8.32**	**14**		**Pn**	**15 43 46.4**	**+1.3**
KSRS	**Korea Array**	**9.71**	**282**	P	**Pn**	**15 44 05.5**	**+1.3**
	0.1nm,0.3s,baz=93,slow=14,SNR=3.9						
KSRS				LR	LR	15 47 45.4	
	comp=Z,49nm,21.5s,baz=120,slow=37						
USRK	**Ussuriysk Ar.**	**10.14**	**326**	P	**Pn**	**15 44 12.2**	**+2.1**
	baz=138,slow=14,SNR=8.6						
KLR	**Kul'dur**	**14.46**	**338**	LR	LR	15 50 43.1	
	comp=Z,29nm,18.9s,baz=134,slow=37						
PETK	**Petropavlovsk-**	**21.16**	**31**	LR	LR	15 56 08.9	
	comp=Z,25nm,18.9s,baz=238,slow=41						
SONM	**Songino Array**	**27.34**	**306**	P	**P**	**15 47 28.9**	**+1.6**
	0.4nm,0.5s,baz=96,slow=8.8,SNR=2.2						
ZAA0	**Zalesovo Array**	**41.68**	**313**	P	**P**	**15 49 30.1**	**-0.5**
ZAA0				IAmb	IAmb	15 49 31.1	
	comp=Z,3.8nm,0.7s						
ZALV	**Zalesovo Beam**	**41.68**	**313**	P	**P**	**15 49 30.4**	**-0.1**
	comp=Z,3.4nm,0.5s,baz=97,slow=7.2,SNR=13						
ZALV	**Zalesovo Beam**	**41.68**	**313**	P	**P**	**15 49 29.9**	**-0.6**
MK31	**Makanchi Array**	**43.61**	**303**	P	**P**	**15 49 45.5**	**-0.8**
MKAR	**Makanchi Array**	**43.61**	**303**	P	**P**	**15 49 46.0**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=87,slow=9.0,SNR=12						
MKAR	**Makanchi Array**	**43.61**	**303**	P	**P**	**15 49 45.6**	**-0.7**
KURK	**Kurchatov**	**45.58**	**309**	P	**P**	**15 50 01.0**	**-0.9**
KURK				IAmb	IAmb	15 50 02.8	
	comp=Z,12nm,1.3s						
TARG	**Taragay, Kyrgy**	**47.74**	**297**	P	**P**	**15 50 19.6**	**+0.1**
TARG				IAmb	IAmb	15 50 20.8	
	comp=Z,3.4nm,0.7s						
ILAR	**Eielson Array**	**50.98**	**32**	P	**P**	**15 50 44.0**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=266,slow=5.3,SNR=5.3						
KKAR	**Karatay Array**	**52.56**	**300**	P	**P**	**15 50 54.9**	**-0.6**
WB2	**Warramunga Arr**	**55.93**	**186**	P	**P**	**15 51 19.8**	**-0.2**
WR0	**Warramunga Arr**	**55.93**	**186**	P	**P**	**15 51 19.9**	**-0.1**
WRA	**Warramunga Arr**	**55.93**	**186**	P	**P**	**15 51 20.0**	**0.0**
	comp=Z,0.8nm,0.7s,baz=0.8,slow=7.5,SNR=8.5						
ARU	**Arti**	**56.29**	**319**	P	**P**	**15 51 22.3**	**+0.1**
ARU				IAmb	IAmb	15 52 03.9	
	comp=Z,22nm,2.0s						
ABKAR	**Akbulak array**	**57.64**	**310**	P	**P**	**15 51 31.7**	**-0.2**
ASAR	**Alice Springs**	**59.66**	**186**	P	**P**	**15 51 46.2**	**0.0**
	comp=Z,0.2nm,0.5s,baz=18,slow=12,SNR=1.4						
ARCES	**ARCESS Array B**	**64.48**	**339**	P	**P**	**15 52 17.8**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=46,slow=7.8,SNR=2.4						
FINES	**FINESS Array B**	**69.11**	**332**	P	**P**	**15 52 46.7**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=69,slow=10,SNR=4.5						
AKASG	**Malin Array Be**	**74.32**	**322**	P	**P**	**15 53 18.5**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=56,slow=5.2,SNR=4.2						
AKASG	**Malin Array Be**	**74.32**	**322**	IAmb	IAmb	15 53 19.3	
	comp=Z,1.0nm,1.1s						

*DJA **25** 15:58:43.6±0.4,2°.N±2°.×9°.9E±°, h137km±4km, M3.5/12, mb3.7/1, MLv3.4/12*
*IDC **25** 15:58:43.0±1.2,2°.39N×.99°.17E, h139km±9km, mb3.2/6, mb1 3.3/7, mb1mx3.0/49, mbtmp3.6/7, Error ellipse: s-maj=93.0km s-min=16.6km az=59.0*

ISC 25 15:58:43.2±0.8, 2°.33N±0°.06×98°.99E±0°.09, h150km, n18, σ0s75/19, mb3.4/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**0.47**	**352**	P	**Pn**	**15 59 03.9**	**-0.7**
	9.9nm,0.3s,baz=360,slow=13,SNR=43						
PSI				S	**Sn**	**15 59 19.1**	**-1.8**
	8.9nm,0.3s,baz=179,slow=2.0,SNR=40						
TSI	**Tuntungan**	**1.24**	**340**	P	**Pn**	**15 59 10.6**	**+0.5**
MNSI	**Mandailing Nat**	**1.64**	**159**	P	**Pn**	**15 59 14.1**	**-0.2**
MNSI				S	**Sn**	**15 59 37.5**	**-0.6**
KCSI	**Kotacane, Aceh**	**1.70**	**314**	P	**Pn**	**15 59 14.8**	**-0.1**
KCSI				S	**Sn**	**15 59 38.2**	**-1.0**
GSI	**Gunungsitoli**	**1.74**	**234**	P	**Pn**	**15 59 15.3**	**-0.1**
GSI				S	**Sn**	**15 59 39.6**	**-0.5**
MLSI	**Meulaboh, Aceh**	**3.22**	**307**	P	**Pn**	**15 59 33.2**	**-0.2**
LHMI	**Lhok Sumawe**	**3.53**	**325**	P	**Pn**	**15 59 37.1**	**-0.2**
SISI	**Saibi**	**3.63**	**178**	P	**Pn**	**15 59 38.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**16.03**	**360**	P	**P**	**16 02 21.8**	**+0.9**
	0.2nm,0.3s,baz=191,slow=11,SNR=10						
H08S2	**Diego Garcia H**	**28.23**	**249**	T	T	16 31 48.5	
	baz=72,slow=76,SNR=3.2						
H08S3	**Diego Garcia H**	**28.23**	**249**	T	T	16 31 50.6	
	baz=72,slow=76,SNR=4.9						
H08S1	**Diego Carcia H**	**28.25**	**249**	T	T	16 32 02.7	
	baz=72,slow=76,SNR=5.1						
WRA	**Warramunga Arr**	**41.15**	**124**	P	**P**	**16 06 12.2**	**-0.9**
	0.6nm,0.5s,baz=320,slow=11,SNR=5.8						
ASAR	**Alice Springs**	**42.69**	**129**	P	**P**	**16 06 26.0**	**+0.5**
	0.2nm,0.7s,baz=304,slow=7.8,SNR=6.5						
SONM	**Songino Array**	**45.78**	**7**	P	**P**	**16 06 50.0**	**+0.1**
	0.4nm,0.4s,baz=201,slow=6.2,SNR=2.6						
MKAR	**Makanchi Array**	**46.61**	**344**	P	**P**	**16 06 57.2**	**+1.0**
	0.5nm,0.5s,baz=151,slow=8.6,SNR=9.2						
KURBB	**Kurchatov Arra**	**51.14**	**343**	P	**P**	**16 07 31.2**	**+0.6**
	0.2nm,0.4s,baz=170,slow=6.5,SNR=5.0						
ZALV	**Zalesovo Beam**	**52.75**	**350**	P	**P**	**16 07 42.8**	**+0.2**
	1.0nm,0.4s,baz=172,slow=8.9,SNR=5.2						

IDC 25 16:00:47.6±8.0, 17°.67S×173°.74W, h0km, mb3.8/3, mb1 4.2/3, mb1mx3.6/35, mbtmp3.8/3, Error ellipse: s-maj=352.0km s-min=37.4km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.04**	**259**	P	P	16 09 35.9	-0.9
	0.6nm,0.7s,baz=97,slow=7.7,SNR=5.0						
ASAR	**Alice Springs**	**49.13**	**254**	P	P	16 09 37.9	+0.5
	1.8nm,0.5s,baz=90,slow=7.6,SNR=76						
ILAR	**Eielson Array**	**84.72**	**11**	P	P	16 13 23.0	0.0
	0.3nm,0.4s,baz=211,slow=5.5,SNR=6.6						

*IDC **25** 16:12:19.1±2.1, 16°.32S×168°.19E, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.7/31, mbtmp4.0/4, ML3.6/1, Error ellipse: s-maj=60.3km s-min=33.6km az=128.0*
*NEIC **25** 16:12:39.8±1.1, 18°.7S±0°.1×169°.4E±0°.1, h243km±11km, mb4.6/9, Error ellipse: s-maj=16.7km s-min=14.5km az=56.0*

ISC 25 16:12:39.5±1.8, 18°.7S±0°.1×169°.3E±0°.2, h240km, n17, σ0s87/17, mb4.4/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**3.79**	**327**	Pn	**Pn**	**16 13 41.1**	**+0.7**
DZM	**Mont Dzumac**	**4.33**	**218**	Pn	**Pn**	**16 13 47.6**	**+0.7**
	1.7nm,0.3s,baz=16,slow=22,SNR=30						
DZM	**Mont Dzumac**	**4.33**	**218**		**Pn**	**16 13 47.6**	**+0.7**
EIDS	**Eidsvold**	**18.17**	**245**		**P**	**16 16 33.5**	**-1.2**
EIDS				IAmb	IAmb	16 16 38.9	
	comp=Z,40nm,1.9s						
WR0	**Warramunga Arr**	**32.82**	**262**	P	**P**	**16 18 50.7**	**-0.1**
WR0				IAmb	IAmb	16 19 54.6	
	comp=Z,24nm,1.6s						
WB0	**Warramunga Arr**	**32.97**	**262**	P	**P**	**16 18 52.0**	**-0.2**
WB0				IAmb	IAmb	16 18 56.4	
	comp=Z,27nm,1.8s						
WB2	**Warramunga Arr**	**33.00**	**262**	P	**P**	**16 18 52.0**	**-0.4**
WRAB	**Tennant Creek**	**33.00**	**262**	P	**P**	**16 18 52.6**	**+0.2**
WRAB				IAmb	IAmb	16 19 31.6	
	comp=Z,14nm,0.7s						
WRA	**Warramunga Arr**	**33.01**	**262**	P	**P**	**16 18 50.5**	**-2.0**
	comp=Z,1.3nm,0.8s,baz=84,slow=8.2,SNR=1.2						
WRA	**Warramunga Arr**	**33.01**	**262**	P	**P**	**16 18 51.8**	**-0.6**
AS31	**Alice Springs**	**33.34**	**255**	P	**P**	**16 18 55.8**	**+0.4**
ASAR	**Alice Springs**	**33.35**	**255**	P	**P**	**16 18 56.0**	**+0.6**
	comp=Z,3.8nm,0.5s,baz=81,slow=8.8,SNR=133						
ASAR	**Alice Springs**	**33.35**	**255**	P	**P**

JHJ2	**Mitsune**	**2.01**	**256**	P	**Pb**	16 16 19.7	-1.7
JHJ2				*eS*	**Sn**	16 16 43.5	-0.9
BSO4	**Boso 4**	**2.02**	**313**	P	**Pb**	16 16 20.7	-0.8
JHJ	**Hachijo jima 2**	**2.04**	**256**	Pn	**Pn**	16 16 19.7	+0.4
	68nm,0.3s,baz=109,slow=22,SNR=159						
JHJ				Sn	**Sn**	16 16 42.0	-3.1
	137nm,0.3s,baz=140,slow=22,SNR=14						
JHCJ	**Hachijojimakas**	**2.04**	**255**	P	**Pn**	16 16 19.3	0.0
JMKN	**Mikurajimanish**	**2.14**	**278**	P	**Pn**	16 16 21.2	+0.5
JMKN				*eS*	**Sn**	16 16 46.1	-1.6
KTR	**Katsuura**	**2.14**	**316**	P	**Pn**	16 16 22.2	-1.4
JAOM	**Aogashimamukai**	**2.31**	**241**	P	**Pn**	16 16 23.2	+0.2
JIZS	**Izushimoda**	**2.92**	**293**	P	**Pn**	16 16 31.9	+0.5
JOD2	**Odawara 2**	**3.01**	**304**	P	**Pn**	16 16 32.9	+0.2
JOD2				*eS*	**Sn**	16 17 06.4	-2.7
JYN	**Shimob**	**3.51**	**303**	P	**Pn**	16 16 40.5	+0.9
JAG	**Ashikaga**	**3.56**	**323**	P	**Pn**	16 16 41.2	+0.9
JRY	**Ryogami san**	**3.58**	**313**	P	**Pn**	16 16 41.9	+1.4
JRY				*eS*	**Sn**	16 17 23.5	+0.3
JFT	**Otama**	**4.16**	**340**	P	**Pn**	16 16 49.2	+0.7
JFT				*eS*	**Sn**	16 17 34.5	-3.0
MJAR	**Matsushiro Arr**	**4.34**	**313**	Pn	**Pn**	16 16 51.9	+0.9
	0.4nm,0.3s,baz=263,slow=12,SNR=24						
MJAR				Sn	**Sn**	16 17 41.6	-0.5
	0.6nm,0.3s,baz=351,slow=29,SNR=7.4						
MAT	**Matsushiro**	**4.35**	**313**	P	**Pn**	16 16 53.1	+2.0
MAT				S	**Sn**	16 17 40.9	-1.3
MAT	**Matsushiro**	**4.35**	**313**	P	**Pn**	16 16 53.2	+2.1
JNU	**Nakatsue**	**9.43**	**270**	LR	LR	16 21 27.8	
	comp=Z,35nm,20.8s,baz=42,slow=36						
ASAJ	**Asahikawa**	**10.49**	**2**	Pn	**Pn**	16 18 15.8	+0.5
	0.2nm,0.3s,baz=151,slow=19,SNR=2.0						
ASAJ				Sn	**Sn**	16 20 07.1	-6.0
	0.3nm,0.3s,baz=150,slow=24,SNR=2.2						
ASAJ				LR	LR	16 22 33.0	
	comp=Z,21nm,21.6s,baz=188,slow=39						
KSRS	**Korea Array**	**12.20**	**292**	Pn	**Pn**	16 18 42.2	+3.5
	0.1nm,0.3s,baz=113,slow=14,SNR=3.4						
SONM	**Songino Array**	**30.28**	**309**	P	**P**	16 21 58.9	+2.4
	0.7nm,0.6s,baz=112,slow=8.9,SNR=5.5						
MKAR	**Makanchi Array**	**46.50**	**305**	P	**P**	16 24 13.1	+0.5
	0.6nm,0.7s,baz=92,slow=10,SNR=6.0						
WRA	**Warramunga Arr**	**53.78**	**189**	P	**P**	16 25 07.4	-0.5
	0.9nm,0.7s,baz=5.9,slow=7.5,SNR=1.9						
ASAR	**Alice Springs**	**57.51**	**189**	P	**P**	16 25 34.2	-0.4
	0.4nm,0.9s,baz=16,slow=13,SNR=2.0						
NOA	**NORSAR Array B**	**77.56**	**338**	P	**P**	16 27 41.3	+0.3
	0.9nm,0.8s,baz=40,slow=5.7,SNR=3.5						

*IDC **25** 16:28:21.2±1.8,30°.29S×177°.57W,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.6/24,mbtmp3.7/4,MS3.6/1,Ms1 3.6/1, ms1mx2.8/21,Error ellipse: s-maj=44.0km s-min=20.6km az=87.0*

*NEIC **25** 16:28:25.7±1.2,30°.18S±0°.09×177°.6W±0°.2,h35km±2km, mb4.7/6,Error ellipse: s-maj=26.8km s-min=11.5km az=63.0*

ISC 25 16:28:25.4±1.5,30°.24S±0°.09×177°.5W±0°.3,h35km,n12, σ1§09/11,mb4.0/6,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.06**	**338**	Pn	**Pn**	16 28 44.7	+0.9
	211nm,0.3s,baz=236,slow=22,SNR=6.8						
RAO				Sn	**Sn**	16 28 58.9	+1.6
	360nm,0.3s,baz=79,slow=22,SNR=5.3						
RAO	**Raoul Island**	**1.06**	**338**	Sn	**Sn**	16 28 55.6	-1.8
WHZ	**Wether Hill Ro**	**19.34**	**212**	P	**P**	16 32 47.5	-0.3
STKA	**Stephens Creek**	**34.96**	**257**	P	**P**	16 35 14.8	+0.5
	2.0nm,0.7s,baz=127,slow=10,SNR=2.0						
STKA	**Stephens Creek**	**34.96**	**257**	IAmb	IAmb	16 35 23.9	
	comp=Z,13nm,1.9s						
ASAR	**Alice Springs**	**43.58**	**267**	P	**P**	16 36 26.1	-0.2
	comp=Z,0.3nm,0.5s,baz=104,slow=7.1,SNR=12						
WRA	**Warramunga Arr**	**44.55**	**272**	P	**P**	16 36 33.8	-0.4
	comp=Z,0.7nm,0.6s,baz=110,slow=7.9,SNR=2.4						
RPN	**Rapa Nui**	**59.03**	**105**	LR	LR	16 57 15.1	
	comp=Z,56nm,22.0s,baz=62,slow=29						
QSPA	**South Pole Qui**	**59.87**	**180**	P	**P**	16 38 28.0	+0.6
	comp=Z,0.5nm,0.8s,baz=28,slow=1.9,SNR=1.2						
MAJO	**Matsushiro**	**78.38**	**325**	P	**P**	16 40 21.2	-1.0
MAJO				IAmb	IAmb	16 40 41.6	
	comp=Z,18nm,1.9s						
MJB9	**Matsu-Tunnel**	**78.38**	**325**	P	**P**	16 40 21.1	-1.2
MJB9				IAmb	IAmb	16 40 41.6	
	comp=Z,17nm,1.9s						
FINES	**FINESS Array B**	**145.15**	**340**	PKPbc	**PKPdf**	16 47 58.4	-0.1
	comp=Z,1.5nm,0.6s,baz=46,slow=5.5,SNR=7.0						

IDC 25 16:29:34.6±2.0,30°.28S×177°.51W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.6/24,mbtmp3.7/3,Error ellipse: s-maj=52.4km s-min=22.2km az=80.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.09**	**341**	Pn	Pn	16 29 57.3	+0.2
	150nm,0.3s,baz=73,slow=23,SNR=1.3						
RAO				Sn	Sn	16 30 14.7	+1.8
	388nm,0.3s,baz=88,slow=22,SNR=2.9						
ASAR	**Alice Springs**	**43.54**	**267**	P	P	16 37 40.0	-0.3
	0.3nm,0.5s,baz=106,slow=7.3,SNR=5.3						
WRA	**Warramunga Arr**	**44.52**	**272**	P	P	16 37 48.0	-0.2
	1.0nm,0.7s,baz=110,slow=8.0,SNR=2.2						
QSPA	**South Pole Qui**	**59.83**	**180**	P	P	16 39 41.9	+0.3
	0.3nm,0.6s,baz=90,slow=2.0,SNR=0.9						
FINES	**FINESS Array B**	**145.18**	**340**	PKPbc	PKPbc	16 49 11.7	-1.3
	2.7nm,0.9s,baz=54,slow=3.3,SNR=4.0						

*MEX **25** 16:32:53.1±0.6,15°.91N×98°.73W,h5km,MD4.3*

*NEIC **25** 16:32:53.3±1.4,15°.98N±0°.08×98°.70W±0°.07,h10km±2km, mb4.3/20,Md4.1/21(MEX),Error ellipse: s-maj=14.6km s-min=11.6km az=199.0*

ISC 25 16:32:50.2±2.1,15°.91N±0°.07×98°.74W±0°.04,h3km±14km, n45,σ1§64/58,mb4.4/9,Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ACP2	**Acapulco**	**1.46**	**311**	*i* P	**Pn**	16 33 16.8	-0.8
ACP2				*i* S	**Sn**	16 33 35.0	-2.2
YOIG	**Yosondua**	**1.49**	**50**	*eP*	**Pn**	16 33 16.7	-1.5
YOIG				*eS*	**Sn**	16 33 35.8	-2.4
PEIG	**Puerto Escondi**	**1.54**	**86**	*eP*	**Pn**	16 33 17.7	-0.9
PEIG				*i* S	**Sn**	16 33 35.5	-3.6
TXIG	**Tlaxiaco**	**1.63**	**35**	*i* P	**Pn**	16 33 18.8	-1.4
TLIG	**Tlapa**	**1.66**	**6**		**Pn**	16 33 19.4	-0.9
TLIG	**Tlapa**	**1.66**	**6**	*eP*	**Pn**	16 33 19.4	-0.9
CAIG	**El Cayaco**	**1.85**	**308**		**Pn**	16 33 23.4	-1.3
CAIG					**Sn**	16 33 43.9	-2.9
CAIG	**El Cayaco**	**1.85**	**308**	*eP*	**Pn**	16 33 21.4	-1.6
CAIG				*i* S	**Sn**	16 33 43.9	-2.9
HMTT	**Tlapaneco**	**1.89**	**5**	*i* P	**Pg**	16 33 25.9	-0.6
HMTT				*i* S	**Sb**	16 33 48.6	-0.9
FTIG	**Fresnillo de T**	**2.07**	**16**	*eP*	**Pn**	16 33 25.5	-0.6
HLIG	**Huajuapan de L**	**2.11**	**25**	*eP*	**Pn**	16 33 25.8	-0.9
HLIG				*i* S	**Sn**	16 33 50.5	-3.1
VHO	**Vista Hermosa**	**2.25**	**59**	*eP*	**Pn**	16 33 27.9	-0.6
VHO				*i* S	**Sn**	16 33 54.7	-2.2
OXBJ	**Oaxaca**	**2.25**	**59**	*i* P	**Pn**	16 33 27.6	-1.0
HUIG	**Huatulco**	**2.54**	**93**		**Pn**	16 33 32.1	-0.2
HUIG	**Huatulco**	**2.54**	**93**	*eP*	**Pn**	16 33 32.1	-0.2
TOIG	**Toxpalan**	**2.70**	**36**	*eP*	**Pn**	16 33 33.9	-0.9
TOIG				*i* S	**Sn**	16 34 06.4	-1.6
TPIG	**Tehuac#an**	**2.83**	**28**		**Pn**	16 33 36.2	-0.3
TPIG					**Sn**	16 34 11.0	-0.1
TPIG	**Tehuac#an**	**2.83**	**28**	*eP*	**Pn**	16 33 36.2	-0.3
TPIG				*i* S	**Sn**	16 34 09.5	-1.7
PPM	**Popocatepetl**	**3.15**	**2**	*eP*	**Pn**	16 33 41.5	+0.4
PPM				*i* S	**Sn**	16 34 17.7	-1.8
CMIG	**Matias Romero**	**3.88**	**72**		**Pn**	16 33 50.1	-0.7
CMIG	**Matias Romero**	**3.88**	**72**	*eP*	**Pn**	16 33 50.1	-0.7
CMIG				*i* S	**Sn**	16 34 36.0	-1.0
TEIG	**Tepich**	**10.84**	**65**	Pn	**Pn**	16 35 25.1	-1.3
833A	**Chaparral WMA,**	**12.37**	**357**	Pn	**Pn**	16 35 49.7	+2.3
ETX02	**Prairie Street**	**16.41**	**13**	P	**P**	16 36 47.1	+2.6
ABTX	**Abilene, Hawle**	**16.66**	**357**	P	**P**	16 36 49.7	+2.3
ABTX				IAmb	IAmb	16 36 50.8	
	comp=Z,14nm,1.1s						
MNTX	**Cornudas Mount**	**16.85**	**340**	P	**P**	16 36 52.5	+3.2
MIAR	**Mount Ida**	**19.13**	**13**	P	**Pn**	16 37 15.8	+0.4
250A	**Grady**	**19.62**	**33**	P	**Pn**	16 37 21.1	-0.1
W39A	**Magazine**	**19.72**	**12**	P	**Pn**	16 37 21.7	-0.6
U40A	**Yellville**	**21.03**	**13**	P	**P**	16 37 36.5	+1.3
U40A				IAmb	IAmb	16 37 41.2	
	comp=Z,6.4nm,0.8s						
T42A	**Van Buren**	**22.11**	**16**	P	**P**	16 37 49.0	+2.2
S39A	**Bolivar**	**22.22**	**11**	P	**P**	16 37 49.3	+1.2
WVT	**Waverly**	**22.37**	**24**	P	**P**	16 37 50.6	+1.1
WVT				IAmb	IAmb	16 37 52.5	
	comp=Z,8.9nm,0.9s						
MVCO	**Mesa Verde**	**22.91**	**340**	P	**P**	16 37 58.4	+2.7
MVCO				IAmb	IAmb	16 38 00.2	
	comp=Z,5.3nm,1.0s						
R40A	**Maddies Statio**	**23.02**	**13**	P	**P**	16 37 57.9	+1.5
R40A				IAmb	IAmb	16 37 59.4	
	comp=Z,12nm,0.9s						
S44A	**Carbondale**	**23.27**	**19**	P	**P**	16 37 58.8	-0.2
S44A				IAmb	IAmb	16 38 11.3	
	comp=Z,8.6nm,0.7s						
T47A	**Sharon Grove**	**23.40**	**24**	P	**P**	16 38 01.6	+1.2
U49A	**Red Boiling Sp**	**23.54**	**27**	P	**P**	16 38 03.0	+1.2
U49A				IAmb	IAmb	16 38 04.2	
	comp=Z,9.5nm,1.2s						
P38A	**Dawn**	**24.07**	**10**	P	**P**	16 38 06.0	-0.8
P40A	**Paris**	**24.25**	**13**	P	**P**	16 38 09.5	+1.0
P40A				IAmb	IAmb	16 38 10.1	
	comp=Z,8.4nm,0.8s						
SMCO	**Snowmass**	**24.28**	**344**	P	**P**	16 38 10.8	+1.5
N38A	**Joes South For**	**25.25**	**10**	P	**P**	16 38 19.3	+1.7
S51A	**Beattyville**	**25.45**	**29**	P	**P**	16 38 20.2	+0.8
S51A				IAmb	IAmb	16 38 21.8	
	comp=Z,8.3nm,0.8s						
P49A	**Miami Univ. Ec**	**26.54**	**25**	P	**P**	16 38 30.2	+0.9
AGMN	**Agassiz Nation**	**32.39**	**4**	P	**P**	16 39 22.7	+1.6
AGMN				IAmb	IAmb	16 39 23.2	
	comp=Z,3.5nm,0.8s						

*NEIC **25** 16:52:16.9±2.5,16°.06N±0°.07×98°.45W±0°.07,h5km±2km, mb4.4/68,Md4.5/23(MEX),Error ellipse: s-maj=15.6km s-min=6.3km az=222.0*

*IDC **25** 16:52:16.2±4.0,15°.96N×98°.43W,h0km,mb4.1/8, mb1 4.3/11,mb1mx4.0/42,mbtmp4.1/11,ML4.1/2,MS3.3/8, Ms1 3.3/8,ms1mx3.1/28,Error ellipse: s-maj=78.6km s-min=24.7km az=11.0*

*MEX **25** 16:52:17.9±0.6,15°.95N×98°.68W,h5km±10km,MD4.4*

ISC 25 16:52:15.6±1.7,16°.02N±0°.05×98°.53W±0°.04,h5km±10km, n112,σ2§34/115,mb4.4/29,MS3.2/7,Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
YOIG	**Yosondua**	**1.26**	**49**	*eP*	**Pn**	16 52 40.6	+0.4
YOIG				*eS*	**Sn**	16 52 58.4	+0.7
PEIG	**Puerto Escondi**	**1.33**	**91**	*i* P	**Pg**	16 52 41.7	+0.5
PEIG				*i* S	**Sn**	16 52 59.3	+0.3
TXIG	**Tlaxiaco**	**1.43**	**31**	*eP*	**Pb**	16 52 42.6	-0.3
TXIG				*eS*	**Sg**	16 53 03.0	+1.3
TLIG	**Tlapa**	**1.54**	**359**	Pn	**Pn**	16 52 43.3	-0.5
TLIG				Sn	**Sn**	16 53 04.8	-0.2
TLIG	**Tlapa**	**1.54**	**359**	*i* P	**Pn**	16 52 43.4	-0.5
TLIG				*eS*	**Sn**	16 53 03.7	-0.5
CAIG	**El Cayaco**	**1.95**	**302**	*eP*	**Pn**	16 52 47.0	-2.4
CAIG					**Sb**	16 53 18.5	+2.1
CAIG	**El Cayaco**	**1.95**	**302**	*eP*	**Pn**	16 52 47.0	-2.4
CAIG				*i* S	**Sn**	16 53 10.2	-4.2
VHO	**Vista Hermosa**	**2.02**	**58**	*i* P	**Pb**	16 52 51.8	-1.1
VHO				*eP*	**Pb**	16 52 51.9	-1.1
VHO				*eS*	**Sg**	16 53 18.0	-2.5
MEIG	**Mezcala**	**2.16**	**331**		**Pn**	16 52 51.9	-0.5
MEIG					**Sn**	16 53 20.0	+0.3
MEIG	**Mezcala**	**2.16**	**331**	*eP*	**Pn**	16 52 51.9	-0.5
MEIG				*eS*	**Sn**	16 53 18.0	-1.7
HUIG	**Huatulco**	**2.35**	**96**		**Pn**	16 52 56.2	+1.4
HUIG					**Sn**	16 53 22.8	-1.3
HUIG	**Huatulco**	**2.35**	**96**	*eP*	**Pn**	16 52 56.2	+1.4
HUIG				*i* S	**Sb**	16 53 25.4	-2.3
TOIG	**Toxpalan**	**2.50**	**34**	*eP*	**Pn**	16 52 58.2	+1.2
TOIG				*eS*	**Sb**	16 53 29.7	-2.5
TPIG	**Tehuac#an**	**2.64**	**25**		**Pb**	16 53 03.3	-0.2
TPIG					LR	16 53 37.8	
TPIG	**Tehuac#an**	**2.64**	**25**	*eP*	**Pn**	16 53 00.3	+1.3
TPIG				*i* S	**Sb**	16 53 32.8	-3.5
YAIG	**Yautepec**	**2.87**	**350**		**Pn**	16 53 03.0	+0.7
YAIG					**Sn**	16 53 37.0	-0.4
YAIG	**Yautepec**	**2.87**	**350**	*i* P	**Pn**	16 53 03.0	+0.7
YAIG				*i* S	**Sn**	16 53 37.0	-0.4
UNM	**Universidad Na**	**3.35**	**350**		**Pn**	16 53 09.9	+0.9
CMIG	**Matias Romero**	**3.66**	**73**	Pn	**Pn**	16 53 14.0	+1.1
	15nm,0.3s,baz=258,slow=11,SNR=181						
CMIG				Lg	Lg	16 54 16.1	
	140nm,0.3s,baz=208,slow=13,SNR=17						
MOIG	**Morelia**	**4.43**	**326**		**Pn**	16 53 23.9	+0.2
CCIG	**Comitan**	**6.15**	**87**	Pn	**Pn**	16 53 48.3	+0.9
TEIG	**Tepich**	**10.61**	**65**	Pn	**Pn**	16 54 48.5	+0.1
	1.8nm,0.3s,baz=319,slow=2.2,SNR=6.0						
TEIG				LR	LR	16 59 37.1	
	comp=Z,124nm,19.7s,baz=49,slow=42						
H06E1	**SOCORRO T-PHASE SNR=182**	**12.14**	**285**	T	T	17 07 18.7	
TXAR	**Lajitas Array**	**14.07**	**341**	Pn	**Pn**	16 55 38.2	+2.4
	baz=162,slow=17,SNR=5.1						
TXAR				Lg	Lg	16 59 49.3	
	baz=170,slow=28,SNR=3.4						
JCT	**Junction City**	**14.44**	**356**	Pn	**Pn**	16 55 42.4	+1.5
WHTX	**Lake Whitney,**	**15.93**	**3**	P	**P**	16 56 04.2	-0.1
WHTX				IAmb	IAmb	16 56 06.8	
	comp=Z,23nm,0.8s						
ABTX	**Abilene, Hawle**	**16.56**	**357**	P	**P**	16 56 13.2	+1.9
ABTX				IAmb	IAmb	16 56 14.5	
	comp=Z,25nm,0.9s						
MNTX	**Cornudas Mount**	**16.81**	**339**	P	**Pn**	16 56 12.8	+0.9
GDL2	**Guadalupe Moun**	**16.96**	**343**	P	**P**	16 56 17.5	+1.7
MSTX	**Muleshoe**	**18.28**	**349**		**Pn**	16 56 30.5	+0.3
121A	**Cookes Peak, D**	**18.46**	**335**	P	**Pn**	16 56 34.0	+1.5
WMOK	**Wichita Mounta**	**18.64**	**359**	P	**Pn**	16 56 36.3	+1.7
X37A	**Clayton**	**18.71**	**8**	P	**Pn**	16 56 36.2	+0.8
MIAR	**Mount Ida**	**18.98**	**13**	P	**Pn**	16 56 38.8	+0.1
AMTX	**Amarillo**	**19.00**	**352**		**Pn**	16 56 39.2	+0.2
AMTX				IAmb	IAmb	16 56 41.5	
	comp=Z,11nm,0.6s						
X40A	**Basin Creek Fa**	**19.09**	**15**	P	**Pn**	16 56 39.7	-0.3
W35A	**Tecumseh**	**19.11**	**4**	P	**P**	16 56 39.6	+0.2
OKCSW	**OKLAHOMA CITY**	**19.33**	**3**	P	**Pn**	16 56 42.8	-0.1
BNM	**Barren Site**	**19.47**	**339**		**Pn**	16 56 45.9	+1.1
Y22D	**IRIS PASSCAL I**	**19.50**	**339**	P	**Pn**	16 56 45.9	+0.9
W39A	**Magazine**	**19.57**	**12**		**Pn**	16 56 45.4	-0.2
W39A				IAmb	IAmb	16 56 48.4	
	comp=Z,11nm,0.8s						
LENM	**Lemitar**	**19.60**	**339**	P	**P**	16 56 45.2	+0.2
TUC	**Tucson**	**19.67**	**328**	P	**P**	16 56 46.0	+0.4
LRAL	**Lakeview Retre**	**19.90**	**30**		**P**	16 56 45.3	-2.7
TUL1	**Leonard**	**19.96**	**7**	P	**P**	16 56 48.9	+0.1
TUL1				IAmb	IAmb	16 56 49.4	
	comp=Z,11nm,0.7s						
WHAR	**Wooly Hollow**	**19.99**	**15**		**P**	16 56 49.4	+0.4
ANMO	**Albuquerque**	**20.14**	**341**	P	Pn	16 56 52.6	-0.2
	comp=Z,4.5nm,0.8s,baz=142,slow=13,SNR=9.1						
ANMO				LR	LR	17 04 28.2	
	comp=Z,70nm,19.3s,baz=148,slow=36						
ANMO	**Albuquerque**	**20.14**	**341**		Pn	16 56 52.9	+0.2
U32A	**Winter Ranch,**	**20.28**	**359**	P	**P**	16 56 53.3	+1.0
U32A				IAmb	IAmb	16 56 54.3	
	comp=Z,21nm,0.9s						
HHAR	**Hobbs**	**20.59**	**11**	P	**P**	16 56 55.4	-0.2
FCAR	**Ozark Folk Cen**	**20.60**	**15**	P	**P**	16 56 54.0	-1.6
Y49A	**Blount Mountai**	**20.86**	**29**	P	**P**	16 56 54.4	-4.1
Y49A				IAmb	IAmb	16 57 00.2	
	comp=Z,11nm,0.7s						
U40A	**Yellville**	**20.88**	**13**	P	**P**	16 56 58.6	0.0
U40A				IAmb	IAmb	16 57 05.1	
	comp=Z,19nm,0.8s						
T35A	**Sooner Cattle**	**20.89**	**5**	P	**P**	16 56 58.7	-0.2
T35A				IAmb	IAmb	16 56 59.7	
	comp=Z,21nm,0.9s						
LCAR	**Lake Charles**	**21.03**	**17**	P	**P**	16 56 59.5	-0.8
LCAR				IAmb	IAmb	16 57 05.7	
	comp=Z,7.4nm,0.7s						
PLAL	**Pickwick Lake**	**21.09**	**24**	P	**P**	16 56 58.0	-2.9
PLAL				IAmb	IAmb	16 57 12.8	
	comp=Z,16nm,1.1s						
T25A	**Trinidad**	**21.67**	**347**	P	**P**	16 57 08.0	+0.6
T25A				IAmb	IAmb	16 57 13.7	
	comp=Z,22nm,1.3s						
PBMO	**Poplar Bluff**	**21.89**	**18**	P	**P**	16 57 09.2	-0.4
S39A	**Bolivar**	**22.07**	**11**	P	**P**	16 57 10.8	-0.7
S39A				IAmb	IAmb	16 57 15.4	
	comp=Z,15nm,0.8s						
X51A	**Calhoun**	**22.18**	**31**	P	**P**	16 57 08.3	-4.4
WVT	**Waverly**	**22.18**	**23**	P	**P**	16 57 10.4	-2.3
SWET	**Sewanee**	**22.20**	**28**	P	**P**	16 57 09.2	-3.8
SWET				IAmb	IAmb	16 57 14.0	
	comp=Z,14nm,0.8s						
S22A	**4UR Ranch, Cre**	**22.85**	**343**	P	**P**	16 57 18.5	-1.7
CCM	**Cathedral Cave**	**22.88**	**15**	P	**P**	16 57 17.7	-2.4
CCM				IAmb	IAmb	16 57 26.2	
	comp=Z,16nm,1.2s						
U49A	**Red Boiling Sp**	**23.35**	**27**	P	**P**	16 57 20.7	-4.3
U49A				IAmb	IAmb	16 57 27.5	
	comp=Z,17nm,1.1s						
BG3	**Lake Jocassee**	**23.51**	**34**	P	**P**	16 57 19.9	-6.6
BG3				IAmb	IAmb	16 57 43.7	
	comp=Z,5.6nm,0.7s						
TKL	**Tuckaleechee C**	**23.59**	**31**	P	**P**	16 57 30.0	+2.6
	comp=Z,4.5nm,0.5s,baz=119,slow=18,SNR=9.0						
TKL	**Tuckaleechee C**	**23.59**	**31**	IAmb	IAmb	16 57 39.9	
	comp=Z,9.1nm,0.7s						
PV01	**Paradox Valley**	**23.74**	**340**	P	**P**	16 57 25.2	-3.9
PV01				IAmb	IAmb	16 57 31.9	
	comp=Z,7.0nm,0.9s						
V52A	**Sevierville**	**23.82**	**31**	P	**P**	16 57 22.8	-6.8
PFO	**Pinyon Flats O**	**23.84**	**321**	LR	LR	17 06 09.5	
	comp=Z,65nm,18.5s,baz=142,slow=35						
PV13	**Radium Mtn., P**	**23.85**	**340**	P	**P**	16 57 26.5	-3.6
PV13				IAmb	IAmb	16 57 33.1	
	comp=Z,6.9nm,0.8s						
PV02	**Paradox Valley**	**23.86**	**340**	P	**P**	16 57 26.8	-3.5
PV02				IAmb	IAmb	16 57 32.9	
	comp=Z,7.3nm,0.9s						
PV18	**Skein Mesa, Pa**	**23.95**	**340**	P	**P**	16 57 28.8	-2.3
PV18				IAmb	IAmb	16 57 34.0	
	comp=Z,7.3nm,0.8s						
PV11	**David Mesa, Pa**	**23.99**	**340**	P	**P**	16 57 28.5	-3.0
PV11				IAmb	IAmb	16 57 34.4	
	comp=Z,7.1nm,0.7s						
PV07	**Paradox Valley**	**24.04**	**340**	P	**P**	16 57 30.2	-1.8
PV07				IAmb	IAmb	16 57 35.5	
	comp=Z,7.8nm,1.0s						
V53A	**Saluda**	**24.09**	**33**	P	P	16 57 19.7	-12
V53A				IAmb	IAmb	16 57 35.8	
	comp=Z,9.6nm,0.8s						
PV23	**Carpenter Ridg**	**24.18**	**340**	P	**P**	16 57 31.1	-2.1
PV23				IAmb	IAmb	16 57 40.5	
	comp=Z,7.7nm,0.8s						
T50A	**Nancy**	**24.19**	**28**	P	P	16 57 24.9	-8.1
N38A	**Joes South For**	**25.11**	**10**	P	**P**	16 57 38.4	-3.0
R49A	**Shelbyville**	**25.11**	**25**	P	P	16 57 33.3	-8.1
S51A	**Beattyville**	**25.26**	**29**	P	**P**	16 57 44.0	+1.2
W57A	**Gilead**	**25.27**	**38**	P	**P**	16 57 43.7	+0.9
SRU	**San Rafael Swe**	**25.29**	**338**	P	**P**	16 57 39.6	-3.6
Q16A	**Castle Valley**	**25.36**	**337**	P	**P**	16 57 39.1	-4.9
MSU	**Marysvale**	**25.42**	**334**	P	**P**	16 57 40.9	-3.6
O20A	**White River Ci**	**25.47**	**343**	P	**P**	16 57 41.6	-3.3
O20A				IAmb	IAmb	16 57 50.1	
	comp=Z,10nm,0.9s						
N41A	**Harden Midland**	**25.49**	**14**	P	**P**	16 57 41.0	-3.8
N23A	**Red Feather La**	**25.61**	**347**	P	**P**	16 57 44.5	-1.7
N23A				IAmb	IAmb	16 57 50.5	
	comp=Z,8.8nm,0.9s						
PSUT	**Pine Spring**	**26.16**	**332**	P	**P**	16 57 54.5	+3.3
V58A	**Windy Hill, Pi**	**26.23**	**38**	P	P	16 57 43.9	-7.7
Q51A	**Peebles**	**26.51**	**27**	P	**P**	16 57 47.1	-7.0
ECSD	**EROS Data Cent**	**27.67**	**3**	P	**P**	16 58 01.7	-2.8
ECSD				IAmb	IAmb	16 58 10.6	
	comp=Z,7.0nm,1.1s						
N49A	**Colum

	baz=289,SNR=10							
O02D				S	Sb	17 01 02.6	-0.3	
	baz=289							
O02D	**Mt. Diablo Mer**	**1.22**	**108**		**Pn**	**17 00 45.6**	**-0.2**	
N02D	**Trinity Center**	**1.28**	**70**	P	**Pn**	**17 00 46.4**	**-0.2**	
	baz=251,SNR=46							
N02D				S	**Sn**	**17 01 02.1**	**-0.7**	
	baz=251							
N02D	**Trinity Center**	**1.28**	**70**		**Pn**	**17 00 46.5**	**-0.2**	
GTC	**Three Chop Rid**	**1.29**	**153**		**Pn**	**17 00 46.4**	**-0.3**	
KSXB	**Camp Six Broad**	**1.31**	**14**		**Pn**	**17 00 46.9**	**-0.2**	
WDC	**Whiskeytown Da**	**1.34**	**88**	Pn	**Pn**	**17 00 47.4**	**-0.1**	
LBKM	**Bonanza King**	**1.35**	**66**		**Pn**	**17 00 47.5**	**-0.2**	
M02C	**Callahan**	**1.38**	**52**	P	**Pn**	**17 00 47.9**	**-0.1**	
	baz=232,SNR=55							
M02C				S	**Sn**	**17 01 04.5**	**-0.7**	
	baz=232							
M02C	**Callahan**	**1.38**	**52**		**Pn**	**17 00 48.0**	**-0.1**	
GROM	**Round Mountain**	**1.40**	**117**		**Pn**	**17 00 48.7**	**+0.3**	
GASB	**Alder Springs**	**1.51**	**126**		**Pn**	**17 00 50.2**	**+0.3**	
KTRM	**Thompson Ridge**	**1.52**	**27**		**Pn**	**17 00 50.0**	**0.0**	
GHOM	**Hamilton Openi**	**1.62**	**159**		**Pn**	**17 00 50.9**	**-0.4**	
YBH	**Yreka Blue Hor**	**1.68**	**45**		**Pn**	**17 00 52.4**	**+0.2**	
YBH	**Yreka Blue Hor**	**1.68**	**45**	Pn	**Pn**	**17 00 52.3**	**+0.1**	
LTCM	**Tuscan Springs**	**1.70**	**101**		**Pn**	**17 00 53.4**	**+1.1**	
GCK	**Clark Valley**	**1.75**	**125**		**Pn**	**17 00 54.7**	**+1.7**	
LGBM	**Gray Butte**	**1.78**	**63**		**Pn**	**17 00 54.7**	**+1.0**	
M03C	**McCloud**	**1.80**	**66**		**Pn**	**17 00 54.8**	**+0.9**	
GTSM	**Trough Springs**	**1.80**	**133**		**Pn**	**17 00 53.4**	**-0.4**	
GHLM	**Highland Sprin**	**1.81**	**146**		**Pn**	**17 00 54.0**	**+0.1**	
LHEM	**Herd Peak**	**1.90**	**55**		**Pn**	**17 00 56.7**	**+1.3**	
B040	**Montague**	**1.91**	**47**		**Pn**	**17 00 56.1**	**+0.9**	
LDBM	**Digger Butte**	**1.92**	**93**		**Pn**	**17 00 55.6**	**0.0**	
LBFM	**Black Fox Moun**	**1.99**	**66**		**Pn**	**17 00 57.8**	**+1.3**	
LMEM	**Manzanita Entr**	**2.08**	**90**		**Pn**	**17 00 59.3**	**+1.5**	
LGMM	**Garner Mountai**	**2.14**	**60**		**Pn**	**17 00 59.5**	**+1.0**	
LCMM	**Colby Mountain**	**2.16**	**100**		**Pn**	**17 00 59.8**	**+0.9**	
HATC	**Hat Creek Radi**	**2.17**	**82**		**Pn**	**17 00 60.0**	**+1.0**	
K02D	**Willamette Mer**	**2.19**	**12**	P	**Pn**	**17 00 59.8**	**+0.6**	
	baz=192,SNR=23							
K02D				S	**Sn**	**17 01 24.6**	**-0.6**	
	baz=192							
M04C	**Macdoel**	**2.23**	**56**	P	**Pn**	**17 01 00.7**	**+0.9**	
	baz=237							
M04C				S	**Sn**	**17 01 26.7**	**+0.5**	
	baz=237							
M04C	**Macdoel**	**2.23**	**56**		**Pn**	**17 01 00.8**	**+1.1**	
L04D	**Klamath Falls**	**2.24**	**41**	P	**Pn**	**17 01 01.8**	**+1.9**	
	baz=222							
L04D				S	**Sn**	**17 01 29.1**	**+2.6**	
	baz=222							
L04D	**Klamath Falls**	**2.24**	**41**		**Pn**	**17 01 02.0**	**+2.1**	
LBCM	**Butte Creek Ri**	**2.26**	**82**		**Pn**	**17 01 00.8**	**+0.6**	
ORV	**Oroville**	**2.37**	**114**		**Pn**	**17 01 02.0**	**+0.4**	
J01E	**Myrtle Point**	**2.62**	**6**	P	**Pn**	**17 01 05.4**	**+0.4**	
	baz=185							
J01E				S	**Sn**	**17 01 34.7**	**-0.9**	
	baz=185							
BMRR	**Black Mountain**	**3.10**	**97**		**Pn**	**17 01 12.2**	**+0.4**	
I03D	**Drain, OR**	**3.22**	**12**	P	**Pn**	**17 01 14.2**	**+1.0**	
	baz=192							
CMCM	**Mills College**	**3.23**	**149**		**Pb**	**17 01 20.1**	**-1.4**	
MOD	**Modoc Plateau**	**3.30**	**65**	Pn	**Pn**	**17 01 12.5**	**-2.0**	
K05A	**Summer Lake**	**3.35**	**49**	Pn	**Pn**	**17 01 16.5**	**+1.3**	
I04A	**Tendick Farm,**	**3.53**	**23**	S	**Sn**	**17 01 59.0**	**+0.8**	
	baz=204							
J05D	**Fort Rock, OR**	**3.56**	**39**	P	**Pn**	**17 01 19.4**	**+1.3**	
	baz=220							
J05D				S	**Sn**	**17 01 59.4**	**+0.3**	
	baz=220							
PAHR	**Pah Rah Range**	**3.86**	**101**	Pn	**Pn**	**17 01 22.8**	**+0.5**	
PINE	**Pine Mountain**	**4.09**	**37**	Pn	**Pn**	**17 01 27.3**	**+1.9**	
H04D	**Lebanon**	**4.13**	**16**	S	**Sn**	**17 02 13.3**	**+0.4**	
	baz=196							
YERR	**Yerington**	**4.20**	**110**	Pn	**Pn**	**17 01 28.7**	**+1.7**	
KVN	**Kaiserville**	**5.01**	**105**	Pn	**Pn**	**17 01 39.1**	**+1.1**	
PBPM	**Bitterwater Pu**	**5.98**	**145**		**Sn**	**17 02 59.5**	**+0.9**	

*ANF **25** 17:02:52.3±0.4, 35°.82N×119°.76W, h7^{km}±2^{km}, ML3.1/15, Error ellipse: s-maj=2.6km s-min=2.0km az=83.0*
*NEIC **25** 17:02:52.2±1.9, 35°.85N±0°.02×119°.80W±0°.01, h20^{km}±3^{km}, Error ellipse: s-maj=3.5km s-min=1.6km az=175.0*
*NCEDC **25** 17:02:52.8±2.4, 35°.83N±0°.01×119°.85W±0°.01, h10^{km}±4^{km}, ML3.0/23, Error ellipse: s-maj=1.7km s-min=1.5km az=106.0*
*SCEDC **25** 17:02:52.7±0.4, 35°.85N×119°.82W, h4^{km}, M3.1*

ISC 25 17:02:52.3±1.0, 35°.83N±0°.02×119°.82W±0°.02, h12^{km}±8^{km}, n187, σ1§09/199, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKEM	**Kettleman Hill**	**0.33**	**315**		**Pb**	**17 03 00.3**	**+0.1**
PMRM	**Maxey Ranch**	**0.34**	**263**		**Pg**	**17 02 59.5**	**+0.3**
THIS	**South End of C**	**0.35**	**253**		**Pg**	**17 02 59.8**	**+0.5**
THIS					**Sb**	**17 03 06.1**	**+0.1**
PTRM	**Twissleman Ran**	**0.36**	**242**		**Pg**	**17 02 60.0**	**+0.4**
PAGB	**Antelope Grade**	**0.36**	**255**		**Pg**	**17 02 59.9**	**+0.3**
PSRM	**Scobie Ranch**	**0.38**	**275**		**Pg**	**17 03 00.3**	**+0.5**
PSNM	**Stone Corral**	**0.39**	**264**		**Pg**	**17 03 00.3**	**+0.2**
TRAM	**Private Proper**	**0.40**	**248**		**Pg**	**17 03 00.6**	**+0.4**
YEG	**Yeguas Mountai**	**0.41**	**196**		**Pg**	**17 03 01.2**	**+0.8**
PKLM	**Kerr Lake**	**0.43**	**263**		**Pg**	**17 03 01.2**	**+0.4**
CTM	**Castle Mountai**	**0.43**	**284**		**Pg**	**17 03 01.9**	**+1.0**
GHC	**Gold Hill**	**0.43**	**271**		**Pg**	**17 03 01.0**	**+0.1**
PMCM	**McMillan Canyo**	**0.46**	**257**		**Pg**	**17 03 01.8**	**+0.3**
PHFM	**Heflinger Ranc**	**0.48**	**277**		**Pg**	**17 03 02.0**	**+0.3**
PCMM	**Cholame Hills**	**0.48**	**268**		**Pg**	**17 03 02.4**	**+0.6**
TCHL	**Shandon**	**0.49**	**254**		**Pg**	**17 03 02.5**	**+0.5**
TSCN	**Private Proper**	**0.52**	**237**		**Pg**	**17 03 02.7**	**+0.3**
CARC	**Carrizo Plain**	**0.52**	**183**		**Pg**	**17 03 03.5**	**+1.0**
CARC	**Carrizo Plain**	**0.52**	**183**		**Sb**	**17 03 12.6**	**+1.7**
SMMC	**Simmler**	**0.53**	**196**	P	**Pg**	**17 03 03.3**	**+0.6**
	baz=13,SNR=86						
SMMC				S	**Sg**	**17 03 11.6**	**+1.8**
	baz=13						
SMMC	**Simmler**	**0.53**	**196**		**Pg**	**17 03 03.3**	**+0.6**
SMMC	**Simmler**	**0.53**	**196**		**Sb**	**17 03 12.4**	**+1.2**
PWKM	**Work Ranch**	**0.56**	**269**		**Pg**	**17 03 03.6**	**+0.3**
PSTM	**Stockdale Moun**	**0.57**	**281**		**Pg**	**17 03 03.5**	**+0.1**
PVCM	**Vineyard Canyo**	**0.59**	**280**		**Pg**	**17 03 03.9**	**0.0**
VES	**Vestal, Richgr**	**0.60**	**88**	S	**Sg**	**17 03 11.7**	**-0.1**
	baz=269						
VES	**Vestal, Richgr**	**0.60**	**88**		**Pg**	**17 03 04.3**	**+0.4**
PARM	**Anticline Ridg**	**0.60**	**315**		**Pb**	**17 03 04.8**	**+0.1**
PKD	**Bear Valley Ra**	**0.60**	**282**		**Pg**	**17 03 03.9**	**-0.2**
VOG	**Valley Oaks Go**	**0.61**	**35**	P	**Pg**	**17 03 03.6**	**-0.5**
	baz=217						
VOG				S	**Sg**	**17 03 11.9**	**-0.3**
	baz=217						
VOG	**Valley Oaks Go**	**0.61**	**35**		**Pg**	**17 03 03.8**	**-0.4**
PPO	**Portuguese Can**	**0.65**	**274**		**Pg**	**17 03 05.2**	**+0.2**
PHPM	**Hope Ranch**	**0.66**	**284**		**Pg**	**17 03 04.9**	**-0.3**
RCTC	**Rector, Farmer**	**0.67**	**44**		**Pg**	**17 03 04.8**	**-0.5**
BCH	**Branch Mountai**	**0.68**	**199**		**Pg**	**17 03 05.4**	**-0.1**
PSMM	**Smith Mountain**	**0.68**	**291**		**Pg**	**17 03 05.9**	**+0.4**
PWMM	**Westland Maint**	**0.68**	**332**		**Pg**	**17 03 06.0**	**+0.4**
MRHM	**Rocky Hill**	**0.75**	**52**		**Pg**	**17 03 06.0**	**-0.9**
PTAM	**Tassajara Cree**	**0.84**	**239**		**Pg**	**17 03 08.3**	**-0.3**
RAMR	**Ramage Ranch**	**0.88**	**258**		**Pg**	**17 03 09.1**	**-0.1**
PANM	**San Antonio Re**	**0.89**	**267**		**Pg**	**17 03 09.1**	**-0.4**
PMPB	**Monarch Peak**	**0.89**	**296**		**Pg**	**17 03 08.7**	**-0.8**
PSAM	**San Ardo**	**0.89**	**283**		**Pg**	**17 03 08.7**	**-0.8**
EFD	**Emergency Oper**	**0.90**	**236**		**Pg**	**17 03 09.4**	**-0.2**
SPG2	**Springville 2**	**0.93**	**66**		**Sg**	**17 03 21.5**	**-0.9**
SPG2	**Springville 2**	**0.93**	**66**		**Pg**	**17 03 08.9**	**-1.4**
BLDC	**Black Mountain**	**0.93**	**252**		**Pg**	**17 03 09.6**	**-0.7**
BLDC	**Black Mountain**	**0.93**	**252**		**Pg**	**17 03 09.6**	**-0.7**
PKM	**Mcpherson Peak**	**0.94**	**180**	P	**Pg**	**17 03 09.7**	**-0.8**
	baz=358,SNR=15						
PKM				S	**Sg**	**17 03 23.1**	**+0.5**
	baz=358						
PKM	**Mcpherson Peak**	**0.94**	**180**		**Pg**	**17 03 09.6**	**-0.8**
BCW	**Bitter Crk WRg**	**0.94**	**159**		**Pg**	**17 03 09.3**	**-1.2**
WOFM	**Oak Flat**	**0.94**	**108**		**Pg**	**17 03 09.2**	**-1.4**
PHRM	**Hernandez Vall**	**0.98**	**304**		**Pg**	**17 03 10.1**	**-1.1**
DPD	**Davis Peak**	**0.98**	**233**		**Pg**	**17 03 10.7**	**-0.6**
LSDC	**Los Osos Digit**	**0.99**	**238**		**Pg**	**17 03 10.9**	**-0.5**
ARDC	**Alexander Ranc**	**1.01**	**249**		**Pg**	**17 03 10.4**	**-1.4**
PBWM	**Bitterwater Cr**	**1.02**	**299**		**Pg**	**17 03 10.9**	**-1.1**
WASM	**Alta Sierra Ca**	**1.03**	**95**		**Pg**	**17 03 10.7**	**-1.5**
DCD	**Diablo Creek**	**1.03**	**234**		**Pg**	**17 03 11.6**	**-0.7**
VPDC	**Valencia Peak**	**1.04**	**236**		**Pg**	**17 03 11.9**	**-0.4**
PCBM	**Cambria**	**1.06**	**253**		**Pb**	**17 03 11.2**	**-1.4**
ARVC	**Arvin**	**1.07**	**131**	P	**Pb**	**17 03 11.6**	**-1.1**
	baz=310,SNR=12						
ARVC				S	**Sg**	**17 03 26.5**	**-0.3**
	baz=310						
ARVC	**Arvin**	**1.07**	**131**		**Pb**	**17 03 12.1**	**-0.7**
HELL	**Mitchell Peak,**	**1.07**	**37**		**Pg**	**17 03 11.0**	**-1.9**
LRC	**Lone Oak Road**	**1.08**	**293**		**Pb**	**17 03 11.6**	**-1.4**
ABL	**Mount Abel**	**1.09**	**153**		**Pg**	**17 03 12.3**	**-1.0**
PHCM	**Hearst Castle**	**1.09**	**263**		**Pb**	**17 03 12.0**	**-1.2**
TEJ	**El Tejon**	**1.10**	**123**		**Pb**	**17 03 11.7**	**-1.6**
FIGC	**Figueroa Mtn.**	**1.10**	**187**		**Pb**	**17 03 13.1**	**-0.4**
ISA	**Isabella, Lake**	**1.10**	**98**	P	**Pb**	**17 03 12.1**	**-1.4**
	baz=279,SNR=36						
ISA				S	**Sg**	**17 03 26.7**	**-1.3**
	baz=279						
ISA	**Isabella, Lake**	**1.10**	**98**		**Pb**	**17 03 12.1**	**-1.4**
PCCM	**Crazy Canyon**	**1.12**	**284**		**Pb**	**17 03 12.2**	**-1.5**
PMLM	**Mount Lospe**	**1.13**	**215**		**Pb**	**17 03 12.8**	**-1.0**
LRV	**Little Rabbit**	**1.14**	**302**		**Pb**	**17 03 12.9**	**-1.1**
BMSM	**Mercy Hot Spri**	**1.15**	**317**		**Pb**	**17 03 12.8**	**-1.3**
TJR	**Tejon Ranch**	**1.19**	**132**		**Pb**	**17 03 13.8**	**-1.0**
WHFM	**Hanning Flat**	**1.20**	**96**		**Pb**	**17 03 13.8**	**-1.3**
BBGB	**Big Mountain B**	**1.24**	**308**		**Pn**	**17 03 14.3**	**-1.3**
PAPM	**Alder Peak**	**1.26**	**274**		**Pn**	**17 03 13.7**	**-2.1**
BAVM	**Antelope Valle**	**1.28**	**310**		**Pn**	**17 03 14.8**	**-1.3**
BPIM	**Pinnacles**	**1.28**	**302**		**Pn**	**17 03 14.4**	**-1.6**
WORM	**Onyx Ranch**	**1.29**	**95**		**Pn**	**17 03 15.3**	**-0.9**
MHDM	**Hidden Dam**	**1.29**	**357**		**Pn**	**17 03 14.4**	**-1.8**
BRMM	**Rolling Bench**	**1.29**	**321**		**Pn**	**17 03 15.2**	**-1.1**
BEMM	**Emmet**	**1.33**	**309**		**Pn**	**17 03 15.7**	**-1.0**
BVL	**Bear Valley**	**1.34**	**304**		**Pn**	**17 03 15.8**	**-1.1**
BEHM	**Elkhorn Ranch**	**1.38**	**308**		**Pn**	**17 03 16.5**	**-1.0**
BSMM	**Soledad Missio**	**1.42**	**294**		**Pn**	**17 03 16.2**	**-1.8**
WCHM	**Chimney Peak**	**1.42**	**87**		**Pn**	**17 03 18.1**	**-0.1**
BLRM	**Lewis Ranch**	**1.44**	**306**		**Pb**	**17 03 19.8**	**+0.6**
BJCM	**Johnson Can.**	**1.46**	**300**		**Pn**	**17 03 16.9**	**-1.7**
BCWM	**Chews Ridge**	**1.50**	**289**		**Pn**	**17 03 17.0**	**-2.2**
SCZ	**Santa Cruz**	**1.50**	**301**		**Pn**	**17 03 17.8**	**-1.2**
OSI	**Osito Audit: C**	**1.50**	**143**	P	**Pn**	**17 03 18.8**	**-0.4**
	baz=323,SNR=8.3						
OSI				S	**Sn**	**17 03 39.6**	**+0.8**
	baz=323						
OSI	**Osito Audit: C**	**1.50**	**143**		**Pn**	**17 03 19.2**	**0.0**
HAST	**Hastings Reser**	**1.51**	**292**		**Pn**	**17 03 17.2**	**-2.1**
BCGM	**Cienega Road**	**1.52**	**306**		**Pn**	**17 03 18.3**	**-1.0**
BAPM	**Anderson Peak**	**1.52**	**284**		**Pn**	**17 03 17.2**	**-2.3**
CWC	**Cottonwood Cre**	**1.53**	**66**	P	**Pn**	**17 03 19.7**	**0.0**
	baz=247						
CWC				S	**Sb**	**17 03 40.1**	**-0.2**
	baz=247						
CWC	**Cottonwood Cre**	**1.53**	**66**		**Pn**	**17 03 19.7**	**0.0**
PYR	**Pyramid**	**1.53**	**145**		**Pn**	**17 03 19.1**	**-0.5**
KCC	**Kaiser Creek**	**1.55**	**15**		**Pn**	**17 03 18.9**	**-1.0**
BVYM	**Vineyard**	**1.58**	**306**		**Pn**	**17 03 19.2**	**-1.1**
MMIM	**Miami Mountain**	**1.59**	**2**		**Pn**	**17 03 19.5**	**-1.0**
BSRM	**Salinas Radio**	**1.61**	**302**		**Pn**	**17 03 19.0**	**-1.6**
SAO	**San Andreas Ge**	**1.61**	**306**		**Pn**	**17 03 19.9**	**-0.7**
MFS	**McCloud Flat S**	**1.62**	**79**		**Pn**	**17 03 21.4**	**+0.5**
MYLM	**Yosemite Lake**	**1.63**	**343**		**Pn**	**17 03 20.0**	**-0.9**
BPOM	**Post Ranch**	**1.63**	**285**		**Pn**	**17 03 18.7**	**-2.2**
FRP	**Fremont Peak**	**1.64**	**305**		**Pn**	**17 03 19.4**	**-1.6**
JRC2	**Joshua Ridge**	**1.64**	**84**		**Pn**	**17 03 21.6**	**+0.5**
BPCNC	**Pine Canyon**	**1.64**	**298**		**Pn**	**17 03 19.6**	**-1.4**
SLD	**San Luis Dam**	**1.68**	**318**		**Pn**	**17 03 21.0**	**-0.6**
HPCM	**Pacheco Lake**	**1.70**	**317**		**Pn**	**17 03 20.3**	**-1.6**
HJGM	**San Juan Grade**	**1.72**	**305**		**Pn**	**17 03 20.9**	**-1.2**
HFEM	**San Felipe**	**1.72**	**313**		**Pn**	**17 03 21.1**	**-1.1**
EDW2	**Edwards Air Fo**	**1.76**	**122**	P	**Pn**	**17 03 22.8**	**0.0**
	baz=302,SNR=14						
EDW2				Sb	**Sb**	**17 03 47.6**	**+0.8**
	baz=302						
RCWM	**Renegade Canyo**	**1.77**	**85**		**Pn**	**17 03 20.1**	**-2.7**
TIN	**Tinemaha, Big**	**1.77**	**46**	P	**Pn**	**17 03 23.6**	**+0.6**
	baz=227,SNR=10						
TIN				S	**Sb**	**17 03 46.7**	**-0.4**
	baz=227						
TIN	**Tinemaha, Big**	**1.77**	**46**		**Pn**	**17 03 23.8**	**+0.8**
LRMC	**Laurel Mtn Rad**	**1.77**	**101**	P	**Pn**	**17 03 22.9**	**-0.1**
	baz=282,SNR=43						
LRMC				S	**Sn**	**17 03 46.2**	**+0.6**
	baz=282						
SCHCA	**Scheelite**	**1.78**	**30**		**Pn**	**17 03 23.3**	**+0.1**
HTUM	**Tustin Road**	**1.78**	**305**		**Pn**	**17 03 21.8**	**-1.1**
CGO	**Cerro Gordo**	**1.78**	**66**		**Pb**	**17 03 24.5**	**-0.7**
BHPR	**Bishop**	**1.82**	**36**		**Pn**	**17 03 24.4**	**+0.7**
GHS	**Gilroy Hot Spr**	**1.82**	**314**		**Pn**	**17 03 22.4**	**-1.3**
MTUM	**Tungsten Hills**	**1.83**	**33**		**Pn**	**17 03 24.5**	**+0.7**
HMOM	**Monterey**	**1.87**	**295**		**Pn**	**17 03 22.7**	**-1.4**
MRDM	**Red Cones**	**1.87**	**19**		**Pn**	**17 03 24.7**	**+0.2**
RCCR	**Rock Creek Can**	**1.88**	**28**		**Pn**	**17 03 25.2**	**+0.6**
MMPM	**Mammoth Pass**	**1.89**	**19**		**Pn**	**17 03 25.2**	**+0.4**
MDPD	**Devils Postpil**	**1.90**	**18**		**Pn**	**17 03 25.1**	**+0.2**
OMMB	**Old Mammoth Mi**	**1.90**	**20**		**Pn**	**17 03 25.3**	**+0.4**
MPMC	**Manual Prospec**	**1.90**	**82**	Pb	**Pn**	**17 03 26.1**	**+1.2**
	baz=264,SNR=40						
MINS	**Minaret Summit**	**1.92**	**18**		**Pn**	**17 03 25.3**	**+0.1**
MLCM	**Laurel Creek C**	**1.92**	**22**		**Pn**	**17 03 25.7**	**+0.5**
MCVM	**Convict Lake**	**1.93**	**24**		**Pn**	**17 03 25.9**	**+0.5**
MCMM	**Convict Lake**	**1.94**	**23**		**Pn**	**17 03 25.9**	**+0.6**
MDYM	**Dry Creek**	**1.94**	**19**		**Pn**	**17 03 26.2**	**+0.8**
MGPM	**Gravel Pit**	**1.94**	**22**		**Pn**	**17 03 26.1**	**+0.7**
MMLB	**Mammoth Lakes**	**1.95**	**20**		**Pn**	**17 03 26.4**	**+0.8**
MFBM	**Five Bridges**	**1.95**	**35**		**Pb**	**17 03 27.0**	**-0.9**
MCBM	**Casa Benchmark**	**1.96**	**22**		**Pn**	**17 03 26.5**	**+0.8**
MCSM	**Casa Diablo Ho**	**1.97**	**22**		**Pn**	**17 03 26.6**	**+0.8**
MEMM	**East Mammoth H**	**1.97**	**21**		**Pn**	**17 03 26.6**	**+0.8**
POCCA	**Poleta Canyon**	**1.97**	**38**		**Pn**	**17 03 27.1**	**+1.4**
MDRNC	**Doe Ridge**	**1.97**	**23**		**Pn**	**17 03 26.8**	**+1.0**
MDCM	**Deadman Creek**	**1.98**	**18**		**Pn**	**17 03 26.6**	**+0.7**
MLHM	**Little Hot Cre**	**2.02**	**23**		**Pn**	**17 03 27.8**	**+1.4**
ORC	**Owens River**	**2.03**	**27**		**Pn**	**17 03 27.9**	**+1.2**
JLAB	**Laurel Hill**	**2.04**	**311**		**Pn**	**17 03 25.1**	**-1.4**
MCDM	**Chidago Canyon**	**2.04**	**32**		**Pb**	**17 03 28.4**	**-1.1**
MOBB	**Monterey Bay O**	**2.08**	**295**		**Pn**	**17 03 26.6**	**-0.4**
JSTM	**Santa Teresa H**	**2.11**	**311**		**Pn**	**17 03 26.1**	**-1.4**
MHC	**Mount Hamilton**	**2.11**	**316**		**Pn**	**17 03 26.8**	**-0.8**
MRCM	**Red Rock Canyo**	**2.12**	**29**		**Pn**	**17 03 26.1**	**-1.8**
MLNR	**Milner Canyon**	**2.12**	**33**		**Pb**	**17 03 29.6**	**-1.3**
BENR	**Benton**	**2.13**	**28**		**Pn**	**17 03 29.1**	**+1.0**
MWC	**Mount Wilson**	**2.15**	**137**		**Pn**	**17 03 30.1**	**+1.8**
MGNR	**McGee Canyon**	**2.18**	**24**		**Pb**	**17 03 30.8**	**-1.0**
MCUB	**Copperopolis B**	**2.24**	**344**		**Pn**	**17 03 28.9**	**-0.4**
CMB	**Columbia Colle**	**2.25**	**348**		**Pn**	**17 03 30.2**	**+0.8**
GRAC	**Grapevine Rang**	**2.30**	**59**	Pb	**Pb**	**17 03 33.6**	**-0.1**
	baz=240,SNR=11						
SSK	**Sunset Peak**	**2.38**	**132**		**Pn**	**17 03 30.8**	**-0.5**
BONR	**Boundary Peak**	**2.45**	**29**		**Pb**	**17 03 35.1**	**-1.4**
MNHB	**New Hogan Dam**	**2.45**	**341**		**Pg**	**17 03 42.5**	**+3.2**
HCK	**Huntoon Valley**	**2.45**	**23**		**Pb**	**17 03 35.1**	**-1.2**
GSC	**Goldstone, Bar**	**2.51**	**101**	P	**Pn**	**17 03 33.1**	**+0.1**
	baz=283,SNR=14						
GSC	**Goldstone, Bar**	**2.51**	**101**		**Pn**	**17 03 33.4**	**+0.3**
LHV	**Little Huntoon**	**2.64**	**23**		**Pn**	**17 03 34.7**	**0.0**
WAKR	**Walker**	**2.69**	**6**		**Pn**	**17 03 38.0**	**+2.4**
CYBM	**Yerba Buena Is**	**2.84**	**315**		**Pb**	**17 03 41.9**	**-1.2**
RYN	**Ryan**	**2.98**	**20**		**Pb**	**17 03 45.3**	**-0.2**
TPNV	**Topopah Spring**	**3.09**	**68**	P	**Pn**	**17 03 41.8**	**+0.7**
	baz=250,SNR=22						
TPNV	**Topopah Spring**	**3.09**	**68**		**Pn**	**17 03 41.9**	**+0.7**
YERR	**Yerington**	**3.19**	**8**		**Pb**	**17 03 50.4**	**+1.4**
AFDM	**Forest Hills D**	**3.25**	**344**		**Pb**	**17 03 50.0**	**0.0**
PNTR	**Pine Nut**	**3.26**	**3**		**Pb**	**17 03 52.1**	**+1.8**
KVN	**Kaiserville**	**3.50**	**23**		**Pb**	**17 03 52.3**	**-2.0**
PFO	**Pinyon Flats O**	**3.54**	**128**		**Pb**	**17 03 54.8**	**-0.2**
XPFO	**Pion Flat**	**3.54**	**128**		**Pb**	**17 03 54.8**	**-0.2**
PAHR	**Pah Rah Range**	**3.89**	**5**		**Pb**	**17 04 02.8**	**+1.8**
ORV	**Oroville**	**3.95**	**341**		**Pb**	**17 04 00.8**	**-1.2**
MONP2	**Monument Peak**	**4.06**	**135**		**Sn**	**17 04 42.7**	**+0.7**
MONP2					**Sb**	**17 04 54.0**	**+1.1**
BAR	**Barrett**	**4.08**	**139**		**Sn**	**17 04 45.8**	**+3.5**
BC3	**Big Chuckawall**	**4.20**	**120**		**Sn**	**17 04 43.3**	**-2.0**
R11A	**Troy Canyon, C**	**4.22**	**52**		**Pb**	**17 04 08.5**	**+1.9**

*UPP **25** 17:04:24.4±0.1, 67°.06N×20°.90E, h0^{km}, ML2.1, Explosion*
*HEL **25** 17:04:25.9±0.2, 67°.11N×20°.94E, h0^{km}, ML2.2, ML2.1(UPP), Explosion*
*IDC **25** 17:04:26.6±1.3, 67°.08N×21°.22E, h0^{km}, mb1 2.8/3, mb1mx2.7/37, mbtmp2.6/3, ML2.0/3, Error ellipse: s-maj=23.4km s-min=9.6km az=102.0*
*KOLA **25** 17:04:27.3, 67°.57N×21°.01E, h0^{km}*

ISC 25 17:04:24.6±0.8, 67°.11N±0°.02×21°.04E±0°.03, h0^{km}, n42, σ1§27/57, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MASU	**Masugnsbyn**	**0.51**	**47**	P	**Pb**	**17 04 35.7**	**-0.8**
MASU				S	**Sb**	**17 04 43.5**	**-1.0**
MASU	**Masugnsbyn**	**0.51**	**47**	*i* P	**Pb**	**17 04 35.7**	**-0.8**
MASU				*i* S	**Sb**	**17 04 43.5**	**-1.0**
ERTU	**Ertsjaerv**	**0.72**	**140**	P	**Pg**	**17 04 37.9**	**-0.4**
ERTU	**Ertsjaerv**	**0.72**	**140**	*e*P	**Pg**	**17 04 38.3**	**-0.1**
ERTU				*e*S	**Sg**	**17 04 48.1**	**+0.5**
PAJU	**Pajala**	**0.82**	**95**	P	**Pg**	**17 04 40.3**	**+0.1**
PAJU	**Pajala**	**0.82**	**95**	*i* P	**Pg**	**17 04 40.3**	**+0.1**
KUA	**Kurravaara**	**0.89**	**343**	P	**Pb**	**17 04 42.0**	**-0.9**
KUA	**Kurravaara**	**0.89**	**343**	*e*P	**Pb**	**17 04 42.0**	**-0.9**
RATU	**Laukkuluspa**	**0.91**	**323**	P	**Pg**	**17 04 41.3**	**-0.6**
RATU	**Laukkuluspa**	**0.91**	**323**	*e*P	**Pg**	**17 04 41.3**	**-0.6**
HARU	**Harads**	**0.95**	**181**	P	**Pg**	**17 04 41.4**	**-1.4**
HARU	**Harads**	**0.95**	**181**	*e*P	**Pg**	**17 04 41.4**	**-1.4**
LANU	**Lannavaara**	**1.01**	**21**	P	**Pb**	**17 04 44.5**	**-0.5**
LANU	**Lannavaara**	**1.01**	**21**	*e*P	**Pg**	**17 04 43.6**	**-0.4**
NIKU	**Nikkaluokta**	**1.08**	**316**	P	**Pg**	**17 04 44.7**	**-0.6**
NIKU	**Nikkaluokta**	**1.08**	**316**	*e*P	**Pg**	**17 04 44.7**	**-0.6**
SJUU	**Sjulsmark**	**1.62**	**172**	P	**

LSZ			*i* S		**Sn**	**17 09 50.1**	**-6.6**
KOMG	**Komaggas**	**11.39**	**242**	*e*P	**Pn**	**17 08 36.1**	**+4.3**
KOMG				*e*S	**Sn**	**17 10 36.4**	**-2.9**
KOMG				AML	AML	17 10 37.5	
	comp=Z,3.5nm,0.5s						

WEL 25 17:10:34.6±0.8,**32°S**±15″×**18°0E**±3″0,**h439**km±19km,
M4.6/10,**mB4.4/1,ML4.8**/9,**MLv4.6**/10,**Mw(mB)3.6/1,**
South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**5.86**	**192**	S	S	17 13 24.0	+1.6
PUZ	**Puketiti**	**6.14**	**193**	P	P	17 12 10.9	+1.2
PUZ				S	S	17 13 26.4	-1.2
MWZ	**Matawai**	**6.55**	**197**	P	P	17 12 15.2	+1.0
MWZ				S	S	17 13 36.9	+1.3
URZ	**Urewera**	**6.59**	**200**	P	P	17 12 15.0	+0.4
URZ				S	S	17 13 35.2	-1.1
RAGZ	**Rawiri**	**6.73**	**198**	P	P	17 12 13.8	-2.4
MUGZ	**Murupara**	**6.89**	**202**	P	P	17 12 18.6	+0.7
MUGZ				S	S	17 13 43.0	+0.7
BKZ	**Black Stump Fm**	**7.61**	**201**	P	P	17 12 25.1	-0.5
BKZ				S	S	17 13 58.9	+2.3
KWHZ	**Kaweka Forest**	**7.87**	**201**	P	P	17 12 28.5	+0.1
BHHZ	**Black Hill Sta**	**8.04**	**202**	P	P	17 12 30.3	+0.1
BHHZ				S	S	17 14 05.9	+0.6
KAHZ	**Kahuranaki**	**8.09**	**197**	P	P	17 12 31.9	+1.2
PXZ	**Pawanui**	**8.32**	**197**	P	P	17 12 33.7	+0.6
PXZ				S	S	17 14 10.9	+0.3
PNHZ	**Pukenui**	**8.39**	**200**	P	P	17 12 33.8	-0.2
TSZ	**Takapari Road**	**8.59**	**201**	P	P	17 12 35.6	-0.6

*IDC **25** 17:17:22.6±5.3,29°.57S×177°.09W,h0km,mb3.5/2,*
mb1 3.8/2,mb1mx3.5/28,mbtmp3.5/2,MS4.0/2,Ms1 4.0/2,
ms1mx3.3/10,Error ellipse: s-maj=302.6km s-min=76.3km
az=165.0
*NEIC **25** 17:17:23.6±1.2,30°.6S±0°.2×176°.7W±0°.3,h25km±15km,*
mb4.3/6,Error ellipse: s-maj=38.4km s-min=23.2km
az=67.0.
ISC 25 17:17:21.5±2.9,**30°.7S**±0°.2×**176°.8W**±0°.4,**h10**km,**n11,**
σ0**8**82/9,**mb4.2/5,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.75**	**325**		**Pn**	**17 17 51.4**	**-0.5**
WHZ	**Wether Hill Ro**	**19.28**	**214**	P	**P**	**17 21 45.3**	**-1.0**
DCZ	**Deep Cove**	**19.37**	**216**	P	P	17 21 41.0	-6.2
ASAR	**Alice Springs**	**44.15**	**267**	P	**P**	**17 25 31.8**	**+1.2**
	0.7nm,1.0s,baz=103,slow=7.6,SNR=6.4						
ASAR				LR	LR	17 42 02.5	
	comp=Z,114nm,19.1s,baz=260,slow=34						
WR0	**Warramunga Arr**	**44.98**	**272**	P	**P**	**17 25 38.1**	**+0.9**
WR0				IAmb	IAmb	17 25 44.6	
	comp=Z,5.4nm,1.1s						
WB2	**Warramunga Arr**	**45.16**	**272**	P	**P**	**17 25 38.8**	**+0.2**
WB2				IAmb	IAmb	17 25 45.4	
	comp=Z,5.1nm,1.1s						
WRA	**Warramunga Arr**	**45.16**	**272**	P	**P**	**17 25 38.8**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=110,slow=8.1,SNR=5.9						
WB0	**Warramunga Arr**	**45.19**	**272**	P	**P**	**17 25 39.2**	**+0.4**
WB0				IAmb	IAmb	17 25 48.2	
	comp=Z,3.0nm,0.9s						
NWAO	**Narrogin (SRO)**	**55.28**	**249**	P	**P**	**17 26 55.2**	**0.0**
ASAJ	**Asahikawa**	**83.20**	**332**	LR	LR	18 02 10.2	
	comp=Z,137nm,19.0s,baz=196,slow=33						
FINES	**FINESS Array B**	**145.78**	**341**	PKP	**PKPdf**	**17 36 59.9**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=69,slow=4.6,SNR=3.9						

*NEIC **25** 17:48:24.6±1.6,52°.1N±0°.1×178°.40E±0°.08,h121km±4km,*
Error ellipse: s-maj=17.0km s-min=6.9km az=188.0
*IDC **25** 17:48:24.5±0.9,52°.15N×178°.47E,h117km±8km,mb3.5/14,*
mb1 3.8/16,mb1mx3.6/45,mbtmp4.0/16,MS2.5/1,
Ms1 2.5/1,ms1mx2.1/44,Error ellipse: s-maj=22.1km
s-min=12.8km az=174.0
*AEIC **25** 17:48:24.7±1.7,51°.9N±0°.1×178°.33E±0°.08,h122km±4km,*
ML3.7/39,mb4.2/25(NEIC),Error ellipse: s-maj=18.3km
s-min=7.0km az=185.0
ISC 25 17:48:24.8±0.6,**52°.12N**±0°.09×**178°.42E**±0°.04,**h118**km±5km,
n101, σ0**9**4/103,**mb3.9**/20,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.16**	**157**		**Pn**	**17 48 40.7**	**-0.4**
LSSA	**Little Sitkin**	**0.18**	**160**		**Pn**	**17 48 40.8**	**-0.4**
LSPA	**Little Sitkin**	**0.19**	**149**		**Pn**	**17 48 40.7**	**-0.5**
LSPA					**Sn**	**17 48 54.2**	**+0.7**
LSSE	**Little Sitkin**	**0.21**	**153**		**Pn**	**17 48 40.9**	**-0.3**
CETU	**Semis' Tuman**	**0.68**	**103**		**Pn**	**17 48 43.8**	**0.0**
CEAP	**Semis' Anvil P**	**0.73**	**99**		**Pn**	**17 48 44.3**	**+0.2**
CEAP					**Sn**	**17 48 59.7**	**+1.0**
CESW	**Semis' Southwe**	**0.74**	**107**		**Pn**	**17 48 43.7**	**-0.6**
CERB	**Semis' Cerberu**	**0.77**	**104**		**Pn**	**17 48 44.7**	**+0.2**
CERB					**Sn**	**17 49 00.0**	**+0.6**
CERAA	**Semis' Rag'd T**	**0.81**	**105**		**Pn**	**17 48 44.6**	**-0.2**
AMKA	**Amchitka**	**0.93**	**143**	Pn	**Pn**	**17 48 48.4**	**+2.5**
AMKA					**Sn**	**17 49 00.9**	**-0.9**
GALAA	**Gareloi Lava P**	**1.78**	**101**		**Pn**	**17 48 54.9**	**-0.4**
GAEA	**Gareloi East**	**1.79**	**100**		**Pn**	**17 48 55.3**	**-0.2**
TASE	**Tanaga Southea**	**2.21**	**96**		**Pn**	**17 49 00.4**	**-0.4**
TAFP	**Tanaga Falls P**	**2.24**	**94**		**Pn**	**17 49 00.6**	**-0.5**
TAFP					**Sn**	**17 49 28.6**	**-0.3**
TAPA	**Tanaga Point A**	**2.35**	**96**		**Pn**	**17 49 02.3**	**-0.3**
SMY	**Shemya**	**2.71**	**285**	Pn	**Pn**	**17 49 06.1**	**-1.0**
SMY	**Shemya**	**2.71**	**285**		**Sn**	**17 49 39.2**	**-0.6**
KIMD	**Kanaga Island**	**2.72**	**96**		**Pn**	**17 49 06.5**	**-0.7**
KICM	**Kanaga Island**	**2.72**	**93**		**Pn**	**17 49 07.0**	**-0.3**
KIKV	**Kanaga Island**	**2.74**	**93**		**Pn**	**17 49 07.4**	**-0.1**
KINC	**Kanaga Island**	**2.76**	**92**		**Pn**	**17 49 07.7**	**-0.1**
ADK	**Adak**	**3.04**	**93**		**Pn**	**17 49 10.6**	**-0.9**
ADK	**Adak**	**3.04**	**93**		**Sn**	**17 49 47.8**	**+0.4**
GSTD	**Great Sitkin T**	**3.36**	**89**		**Pn**	**17 49 14.7**	**-1.0**
GSTR	**Great Sitkin T**	**3.41**	**88**		**Pn**	**17 49 15.8**	**-0.5**
GSMY	**Great Sitkin M**	**3.41**	**89**		**Pn**	**17 49 15.7**	**-0.7**
ATKA	**Atka Island**	**4.55**	**86**		**Pn**	**17 49 31.5**	**0.0**
KOFP	**Korovin Flat P**	**4.61**	**85**		**Pn**	**17 49 32.4**	**0.0**
KOSE	**Korovin Southe**	**4.64**	**84**		**Pn**	**17 49 33.1**	**+0.3**
NIKH	**Nikolski High**	**7.81**	**79**	Pn	**Pn**	**17 50 17.1**	**+1.5**
SPIA	**Saint Paul Isl**	**8.29**	**48**	Pn	**Pn**	**17 50 24.5**	**+2.5**
MSW	**Makushin Switc**	**9.10**	**73**		**Pn**	**17 50 33.8**	**+0.8**
MNAT	**Makushin Natee**	**9.16**	**73**		**Pn**	**17 50 33.5**	**-0.2**
UNV	**Unalaska Valle**	**9.26**	**73**	Pn	**Pn**	**17 50 36.1**	**+1.0**
AKUT	**Akutan**	**9.72**	**72**	Pn	**Pn**	**17 50 43.5**	**+2.2**
FALS	**False Pass**	**11.16**	**69**	Pn	**Pn**	**17 51 02.5**	**+1.8**
PET	**Petropavlovsk**	**12.06**	**282**	Pn	**Pn**	**17 51 12.8**	**+0.3**
PETK	**Petropavlovsk-**	**12.63**	**283**	P	**Pn**	**17 51 20.6**	**+0.6**
	0.6nm,0.3s,baz=98,slow=18,SNR=14						
PETK				LR	LR	17 55 34.9	
	comp=Z,24nm,20.6s,baz=64,slow=34						
CNBA	**Chernabura Isl**	**13.37**	**70**	Pn	**Pn**	**17 51 28.3**	**-1.3**
SVW2	**Sparrevohn**	**16.79**	**48**	P	**P**	**17 52 13.3**	**+0.5**
OHAK	**Old Harbor**	**17.07**	**61**		**P**	**17 52 14.3**	**-1.5**
TTA	**Tatalina**	**17.35**	**41**	P	**Pn**	**17 52 20.1**	**+0.8**
KDAK	**Kodiak Island**	**17.51**	**60**	P	**P**	**17 52 18.4**	**-2.1**
	1.9nm,0.3s,baz=270,slow=3.9,SNR=27						
KDAK	**Kodiak Island**	**17.51**	**60**	P	**P**	**17 52 18.9**	**-1.6**
KDAK				IAmb	IAmb	17 52 29.0	
	comp=Z,15nm,1.2s						
RSO	**Redoubt South**	**17.92**	**51**	P	**Pn**	**17 52 26.6**	**+0.3**
CNPM	**China Poot**	**18.46**	**54**	P	**P**	**17 52 31.7**	**+0.6**
BRLK	**Bradley Lake**	**18.68**	**54**	P	**P**	**17 52 33.2**	**-0.2**
BRLK				IAmb	IAmb	17 52 34.6	
	comp=Z,10nm,0.7s						
SKT	**Skwentna**	**18.91**	**47**	P	**Pn**	**17 52 37.6**	**-0.3**
SKT				IAmb	IAmb	17 52 44.0	
	comp=Z,9.3nm,0.9s						
SEW	**Seward**	**19.45**	**53**	P	**P**	**17 52 42.7**	**+1.0**
SEW				IAmb	IAmb	17 52 43.0	
	comp=Z,7.7nm,0.9s						
BPAW	**Bear Paw Mtn.**	**19.88**	**41**	P	**P**	**17 52 46.9**	**+0.5**
BPAW				IAmb	IAmb	17 53 25.4	
	comp=Z,16nm,1.9s						
TRF	**Thorofare Moun**	**19.93**	**43**	P	**P**	**17 52 47.7**	**+0.5**
TRF				IAmb	IAmb	17 52 55.5	
	comp=Z,8.4nm,1.3s						
GLI	**Glacier Island**	**20.73**	**51**	P	**P**	**17 52 55.9**	**+0.4**
GLI				IAmb	IAmb	17 52 59.2	
	comp=Z,12nm,0.9s						

SCM	**Sheep Creek Mo**	**20.80**	**49**	P	**P**	**17 52 57.8**	**+1.5**
SCM				IAmb	IAmb	17 53 05.5	
	comp=Z,23nm,1.5s						
FID	**Port Fidalgo**	**21.01**	**52**	P	**P**	**17 52 58.6**	**+0.1**
FID				IAmb	IAmb	17 53 01.0	
	comp=Z,10.0nm,1.0s						
WRH	**Wood River Hil**	**21.20**	**41**	P	**P**	**17 53 02.2**	**+1.7**
ILAR	**Eielson Array**	**21.79**	**41**	P	**P**	**17 53 05.2**	**-1.5**
	comp=Z,0.4nm,0.5s,baz=240,slow=8.7,SNR=5.8						
GLB	**Gilahina Butte**	**22.39**	**51**	P	**P**	**17 53 14.6**	**+1.5**
VRDI	**Verde Repeater**	**22.53**	**51**	P	**P**	**17 53 15.9**	**+1.2**
VRDI				IAmb	IAmb	17 53 22.2	
	comp=Z,15nm,1.6s						
CRQM	**Cirque**	**22.64**	**52**	P	**P**	**17 53 16.8**	**+1.1**
CRQM				IAmb	IAmb	17 53 18.5	
	comp=Z,15nm,1.0s						
DOT	**Dot Lake**	**22.66**	**45**	P	**P**	**17 53 16.1**	**+0.3**
BARN	**Barnard Glacie**	**23.38**	**52**	P	**P**	**17 53 23.8**	**+1.1**
BARN				IAmb	IAmb	17 53 26.2	
	comp=Z,15nm,1.4s						
EGAK	**Eagle**	**24.15**	**43**	P	**P**	**17 53 29.3**	**-0.1**
DAWY	**Dawson**	**24.77**	**45**	P	**P**	**17 53 36.5**	**+1.3**
KLR	**Kul'dur**	**29.32**	**283**	P	**P**	**17 54 16.2**	**+0.3**
	comp=Z,0.8nm,0.3s,baz=61,slow=8.4,SNR=5.4						
H11N2	**WAKE ISLAND Hy**	**33.56**	**200**	T	T	18 30 33.0	
	baz=11,slow=76,SNR=20						
H11N3	**WAKE ISLAND Hy**	**33.57**	**200**	T	T	18 30 36.8	
	baz=11,slow=76,SNR=23						
H11N1	**WAKE ISLAND Hy**	**33.57**	**200**	T	T	18 30 37.5	
	baz=11,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**34.78**	**200**	T	T	18 32 11.1	
	baz=11,slow=76,SNR=3.7						
H11S3	**WAKE ISLAND Hy**	**34.80**	**200**	T	T	18 32 06.5	
	baz=11,slow=76,SNR=3.2						
H11S2	**WAKE ISLAND Hy**	**34.80**	**200**	T	T	18 32 09.5	
	baz=11,slow=76,SNR=4.3						
KSRS	**Korea Array**	**37.92**	**268**	P	**P**	**17 55 31.1**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=61,slow=8.1,SNR=2.9						
SONM	**Songino Array**	**44.76**	**294**	P	**P**	**17 56 27.3**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=73,slow=6.3,SNR=3.8						
NVAR	**Mina Array Bea**	**45.17**	**82**	P	**P**	**17 56 29.9**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=298,slow=7.4,SNR=4.8						
NVAR				pP	**pP**	**17 56 57.8**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=288,slow=8.0,SNR=3.4						
PDAR	**Pinedale Array**	**47.72**	**71**	P	**P**	**17 56 48.8**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=336,slow=3.3,SNR=3.7						
PDAR				pP	**pP**	**17 57 16.2**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=336,slow=3.3,SNR=2.1						
PV19	**Morning Glory**	**50.87**	**75**	P	**P**	**17 57 12.1**	**-1.5**
ZALV	**Zalesovo Beam**	**52.25**	**312**	PcP	**PcP**	**17 58 33.4**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=60,slow=3.4,SNR=4.6						
ARCES	**ARCESS Array B**	**57.05**	**349**	P	**P**	**17 57 57.5**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=19,slow=9.0,SNR=1.6						
WMQ	**Urumqi**	**57.48**	**301**	*e*P	**P**	**17 58 03.3**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.6s						
WMQ				pmax	pmax		
	comp=Z,72nm,4.3s						
WMQ				LR	LR		
	comp=N,79nm,13.1s						
WMQ				LR	LR		
	comp=E,150nm,29.1s						
WMQ				LR	LR		
	comp=Z,140nm,29.2s						
MKAR	**Makanchi Array**	**58.21**	**307**	P	**P**	**17 58 06.0**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=51,slow=6.3,SNR=16						
MAKZ	**Makanchi**	**58.35**	**307**	P	**P**	**17 58 06.6**	**-0.6**
MAKZ				IAmb	IAmb	17 58 07.6	
	comp=Z,1.4nm,0.6s						
BRVK	**Borovoye**	**59.21**	**318**	P	**P**	**17 58 13.2**	**+0.2**
TXAR	**Lajitas Array**	**60.24**	**80**	P	**P**	**17 58 20.4**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=316,slow=6.9,SNR=5.5						
ARU	**Arti**	**61.05**	**327**	P	**P**	**17 58 24.9**	**-0.6**
CMAR	**Chiang Mai Arr**	**69.22**	**274**	P	**P**	**17 59 19.2**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=23,slow=6.4,SNR=6.5						
ODAN	**Odare**	**69.88**	**288**	*e*P	**P**	**17 59 24.2**	**+1.1**
GUN	**Gumba**	**69.97**	**290**	*e*P	**P**	**17 59 24.6**	**+0.8**
	comp=Z,17nm,0.4s						
JIRN	**Jiri**	**69.98**	**289**	*e*P	**P**	**17 59 24.9**	**+1.1**
RAMN	**Ramite**	**70.28**	**289**	*e*P	**P**	**17 59 26.1**	**+0.6**
	comp=Z,9.0nm,0.5s						
PKI	**Pulchoki**	**70.50**	**290**	*e*P	**P**	**17 59 27.4**	**+0.4**
	comp=Z,8.1nm,0.5s						
PKIN	**Phulchoki**	**70.50**	**290**	*e*P	**P**	**17 59 27.3**	**+0.4**
	comp=Z,11nm,0.5s						
GKN	**Gorkha**	**70.62**	**291**	*e*P	**P**	**17 59 28.0**	**+0.5**
	comp=Z,18nm,0.8s						
DMN	**Daman**	**70.65**	**290**	*e*P	**P**	**17 59 28.8**	**+1.0**
	comp=Z,5.4nm,0.7s						
DANN	**Dangsing**	**70.86**	**292**	*e*P	**P**	**17 59 29.9**	**+0.8**
	comp=Z,9.7nm,0.5s						
PYUN	**Piuthan**	**71.50**	**292**	*e*P	**P**	**17 59 32.8**	**0.0**
	comp=Z,11nm,0.5s						
AKASG	**Malin Array Be**	**74.29**	**340**	P	**P**	**17 59 47.8**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=20,slow=6.3,SNR=3.6						
AKASG				pP	**pP**	**18 00 16.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=20,slow=5.9,SNR=1.8						
WRA	**Warramunga Arr**	**81.39**	**221**	P	**P**	**18 00 26.9**	**-1.3**
	comp=Z,0.7nm,0.6s,baz=35,slow=5.9,SNR=6.1						
ASAR	**Alice Springs**	**84.90**	**220**	P	**P**	**18 00 45.9**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=20,slow=4.7,SNR=14						
STKA	**Stephens Creek**	**89.65**	**211**	P	**P**	**18 01 08.8**	**0.0**
	comp=Z,4.7nm,0.9s,baz=354,slow=4.3,SNR=6.0						
STKA	**Stephens Creek**	**89.65**	**211**	P	**P**	**18 01 07.4**	**-1.4**
TORD	**Torodi Ar. Bea**	**114.94**	**356**	PKP	**PKiKP**	**18 06 50.7**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=334,slow=3.3,SNR=2.9						
BOSA	**Boshof**	**149.18**	**309**	PKPbc	**PKPbc**	**18 07 59.1**	**-0.1**
	comp=Z,3.8nm,0.6s,baz=36,slow=2.7,SNR=15						

*NEIC **25** 18:02:26.7±2.2,6°.7S±0°.1×156°.3E±0°.1,h195km±9km,*
mb4.6/9,Error ellipse: s-maj=18.1km s-min=13.1km
az=141.0
*IDC **25** 18:02:29.3±1.8,6°.69S×156°.15E,h220km±17km,mb3.3/5,*
mb1 3.5/9,mb1mx3.2/45,mbtmp4.0/9,Error ellipse:
s-maj=20.7km s-min=16.8km az=26.0
ISC 25 18:02:27.5±1.1,**6°.8S**±0°.1×**156°.2E**±0°.1,**h200**km,**n20,**
σ1**9**41/22,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**4.75**	**302**	Pn	**Pn**	**18 03 37.5**	**-1.3**
KRVT	**Keravat (AS076**	**4.81**	**300**	P	**Pn**	**18 03 41.8**	**+2.2**
	2.4nm,0.3s,baz=203,slow=5.8,SNR=6.1						
KRVT				S	**Sn**	**18 04 37.1**	**+0.9**
	2.0nm,0.3s,baz=356,slow=3.8,SNR=3.7						
JAY	**Jayapura**	**16.00**	**285**	P	**Pn**	**18 06 02.5**	**+0.4**
	0.7nm,0.3s,baz=179,slow=22,SNR=5.7						
CTA	**Charters Tower**	**16.40**	**215**	P	**Pn**	**18 06 08.1**	**+1.3**
	0.5nm,0.3s,baz=36,slow=14,SNR=6.7						
CTAO	**Charters Tower**	**16.40**	**215**		**Pn**	**18 06 08.0**	**+1.3**
DZM	**Mont Dzumac**	**18.16**	**148**	P	**P**	**18 06 26.0**	**+0.7**
	0.9nm,0.3s,baz=298,slow=8.2,SNR=16						
WR0	**Warramunga Arr**	**24.78**	**236**	P	**P**	**18 07 31.8**	**+0.5**
WR0				IAmb	IAmb	18 08 11.8	
	comp=Z,42nm,1.9s						
WB0	**Warramunga Arr**	**24.81**	**236**	P	**P**	**18 07 32.6**	**+1.1**
WB0				IAmb	IAmb	18 07 41.2	
	comp=Z,9.4nm,1.2s						
WRAB	**Tennant Creek**	**24.93**	**236**	P	**P**	**18 07 33.8**	**+1.2**
WRAB				IAmb	IAmb	18 08 28.1	
	comp=Z,29nm,1.6s						
WB2	**Warramunga Arr**	**24.93**	**236**	P	**P**	**18 07 33.5**	**+0.9**
WB2				IAmb	IAmb	18 08 01.7	
	comp=Z,27nm,1.6s						
WRA	**Warramunga Arr**	**24.94**	**236**	P	**P**	**18 07 32.5**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=62,slow=9.1,SNR=12						
AS31	**Alice Springs**	**27.23**	**229**	P	**P**	**18 07 53.3**	**+0.1**
ASAR	**Alice Springs**	**27.23**	**229**	P	**P**	**18 07 53.2**	**0.0**
	comp=Z,1.0nm,0.3s,baz=58,slow=9.5,SNR=48						
KNRA	**Kununurra**	**28.30**	**249**	P	**P**	**18 07 58.9**	**-3.9**
FITZ	**Fitzroy Crossi**	**31.84**	**246**	P	**P**	**18 08 34.3**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=59,slow=9.2,SNR=5.9						
FITZ				S	**S**	**18 13 27.9**	**-1.7**
	comp=Z,1.2nm,0.9s,baz=246,slow=16,SNR=0.9						
FITZ	**Fitzroy Crossi**	**31.84**	**246**	P	**P**	**18 08 33.4**	**-0.4**
FITZ				IAmb	IAmb	18 09 36.3	
	comp=Z,13nm,1.3s						
FORT	**Forrest**	**35.59**	**224**	P	**P**	**18 09 05.4**	**-0.7**
ILAR	**Eielson Array**	**82.71**	**21**	P	**P**	**18 14 27.4**	**-1.1**
	comp=Z,0.3nm,0.6s,baz=242,slow=5.4,SNR=2.4						
MKAR	**Makanchi Array**	**84.01**	**318**	P	**P**	**18 14 35.7**	**+0.1**
	comp=Z,0.5nm,0.9s,baz=105,slow=6.2,SNR=2.6						
CLL	**Collm**	**126.16**	**332**	*e*PKPdf	**PKiKP**	**18 21 08.0**	**+1.5**

*IDC **25** 18:04:59.8±3.8,51°.05N×153°.83E,h436km±68km,mb2.9/2,*
mb1 2.8/4,mb1mx2.5/56,mbtmp3.6/4,Error ellipse:
s-maj=173.5km s-min=31.4km az=132.0
*KRSC **25** 18:05:02.4±1.8,50°.96N×154°.11E,h413km±34km,ML3.8*
ISC 25 18:04:58.9±1.1,**50°.8N**±0°.2×**154°.2E**±0°.1,**h450**km,**n16,**
σ2**3**38/19,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.20**	**94**	*e*P	**P**	**18 05 56.5**	**+0.8**
MIPR	**Malaya Ipel'ka**	**2.17**	**46**	*e*P	**P**	**18 05 59.0**	**-1.2**
KDTR	**Khodutka, Kamc**	**2.62**	**66**	*e*P	**P**	**18 06 04.7**	**+1.6**
KDTR				*e*S	**S**	**18 06 52.1**	**-3.2**
RUS	**Russkaya**	**3.13**	**57**	*e*S	**S**	**18 07 00.1**	**-2.0**
PETK	**Petropavlovsk-**	**3.16**	**41**	P	**P**	**18 06 06.5**	**-0.5**
	0.1nm,0.3s,baz=270,slow=12,SNR=2.1						
DALK	**Dalny**	**3.58**	**50**	*e*P	**P**	**18 06 13.0**	**+2.7**
DALK				*e*S	**S**	**18 07 07.3**	**-1.3**
KOK	**Koryaka**	**3.69**	**46**	*e*P	**P**	**18 06 14.6**	**+3.2**
AVH	**Avacha**	**3.72**	**47**	*e*P	**P**	**18 06 13.8**	**+2.2**
SMAR	**Somma**	**3.75**	**47**	*e*P	**P**	**18 06 15.0**	**+3.0**
SDLR	**Sedlovina**	**3.80**	**47**	*e*P	**P**	**18 06 15.3**	**+3.0**
SPN	**Mys Shipunski**	**4.26**	**55**	*e*P	**P**	**18 06 18.6**	**+2.4**
SPN				*e*S	**S**	**18 07 16.1**	**-3.2**
KZV	**Kizimen**	**5.67**	**38**	*e*P	**P**	**18 06 31.8**	**+2.0**
TUMR	**Tumrok**	**5.74**	**36**	*e*P	**P**	**18 06 33.0**	**+2.5**
ASAJ	**Asahikawa**	**10.32**	**234**	P	**P**	**18 07 20.8**	**+1.2**
	0.6nm,0.3s,baz=65,slow=13,SNR=7.5						
MKAR	**Makanchi Array**	**45.84**	**294**	P	**P**	**18 12 37.7**	**-1.3**
	0.2nm,0.3s,baz=61,slow=6.5,SNR=8.4						
FINES	**FINESS Array B**	**60.71**	**334**	P	**P**	**18 14 24.9**	**+0.1**
	1.3nm,0.9s,baz=32,slow=7.6,SNR=6.5						

*NEIC **25** 18:07:38.5±0.8,51°.8N±0°.1×178°.29E±0°.06,h135km±3km,*
Error ellipse: s-maj=16.1km s-min=5.2km az=186.0
AEIC 25 18:07:40.8±1.0,**51°.92N**±0°.09×**178°.33E**±0°.09,**h120**km±3km,
mb4.0/2(NEIC),**Error ellipse: s-maj=12.5km**
s-min=8.3km az=191.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.12**	**77**		**Pn**	18 07 56.6	-0.8
LSSA					Sn	18 08 10.9	+1.0
LSNW	**Little Sitkin**	**0.12**	**68**		**Pn**	18 07 56.6	-0.7
LSSE	**Little Sitkin**	**0.15**	**86**		**Pn**	18 07 56.9	-0.5
LSPA	**Little Sitkin**	**0.15**	**77**		**Pn**	18 07 56.7	-0.7
LSPA					Sn	18 08 11.1	+1.2
CETU	**Semis' Tuman**	**0.72**	**86**		**Pn**	18 07 60.0	-0.4
CESW	**Semis' Southwe**	**0.76**	**91**		**Pn**	18 07 59.9	-0.8
CEAP	**Semis' Anvil P**	**0.78**	**84**		**Pn**	18 08 00.4	-0.4
CERB	**Semis' Cerberu**	**0.81**	**89**		**Pn**	18 08 01.2	+0.1
CERB					Sn	18 08 17.4	+1.1
AMKA	**Amchitka**	**0.81**	**132**		**Pn**	18 08 00.6	-0.6
AMKA					Sn	18 08 16.1	-0.3
CERAA	**Semis' Rag'd T**	**0.84**	**91**		**Pn**	18 08 00.7	-0.7
GAEA	**Gareloi East**	**1.82**	**93**		**Pn**	18 08 11.2	-0.8
TASE	**Tanaga Southea**	**2.25**	**91**		**Pn**	18 08 16.4	-1.1
TAFP	**Tanaga Falls P**	**2.28**	**89**		**Pn**	18 08 16.4	-1.4
TAFP					Sn	18 08 45.7	-0.5
SMY	**Shemya**	**2.72**	**289**		**Pn**	18 08 22.6	-0.7
SMY					Sn	18 08 54.9	-1.2
KICM	**Kanaga Island**	**2.77**	**88**		**Pn**	18 08 23.3	-0.8
KIKV	**Kanaga Island**	**2.79**	**89**		**Pn**	18 08 23.2	-1.1

mb4.1/3,Error ellipse: s-maj=38.8km s-min=10.1km az=99.0

ISC 25 18:41:23.2$_{\pm 2.5}$**,28°5S**$_{\pm 0.1}$×**177°8W**$_{\pm 0.4}$**,h35**^{km}**,n9,** $_{\sigma 0}$**§48/9,mb4.0/5,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.72**	**187**	Pn	**Pn**	**18 41 36.4**	**-0.5**
	186nm,0.3s,baz=14,slow=19,SNR=7.5						
RAO				Sn	**Sn**	**18 41 47.4**	**+0.6**
	439nm,0.3s,baz=253,slow=20,SNR=5.9						
RAO	**Raoul Island**	**0.72**	**187**		**Pn**	**18 41 36.6**	**-0.3**
STKA	**Stephens Creek**	**35.09**	**254**	P	**P**	**18 48 13.0**	**-0.2**
	1.0nm,0.5s,baz=105,slow=9.8,SNR=4.3						
STKA	**Stephens Creek**	**35.09**	**254**	IAmb	IAmb	18 48 23.4	
	comp=Z,0.8nm,1.1s						
ASAR	**Alice Springs**	**43.40**	**265**	P	**P**	**18 49 22.9**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=105,slow=7.2,SNR=24						
WR0	**Warramunga Arr**	**44.03**	**270**	P	**P**	**18 49 27.3**	**-0.4**
WR0				IAmb	IAmb	18 49 28.2	
	comp=Z,4.2nm,1.1s						
WB2	**Warramunga Arr**	**44.20**	**270**	P	**P**	**18 49 29.3**	**+0.2**
WB2				IAmb	IAmb	18 49 44.9	
	comp=Z,5.4nm,0.9s						
WRA	**Warramunga Arr**	**44.22**	**270**	P	**P**	**18 49 29.7**	**+0.5**
	comp=Z,1.2nm,0.4s,baz=111,slow=8.0,SNR=16						
FINES	**FINESS Array B**	**143.44**	**341**	PKP	**PKPdf**	**19 00 53.6**	**+0.4**
	comp=Z,3.3nm,0.6s,baz=58,slow=3.4,SNR=18						

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*IDC **25** 18:41:28.6$_{\pm 0.4}$,18°.75N×62°.77W,h0^{km},mb4.3/30, mb1 4.5/34,mb1mx4.3/65,mbtmp4.3/34,ML4.1/4,MS4.0/30, Ms1 4.0/30,ms1mx3.9/39,Error ellipse: s-maj=11.5km s-min=10.5km az=150.0*

*OSPL **25** 18:41:29.9$_{\pm 1.8}$,17°.98N×62°.70W,h0^{km}$_{\pm 221}$^{km},ML4.7*

*TRN **25** 18:41:31.3,18°.76N×62°.85W,h17^{km},MD4.9*

*NEIC **25** 18:41:26.6$_{\pm 1.8}$,18°.80N$_{\pm 0.0}$×62°.78W$_{\pm 0.0}$,h26^{km}$_{\pm 4}$^{km}, mb4.6/115,Mwr4.6/50,Error ellipse: s-maj=8.0km s-min=6.0km az=83.0*

*UNK **25** 18:41:32.1,18°.85N×62°.80W,h17^{km}*

*NEIC **25** 18:41:32.5,18°.83N×62°.78W,h25^{km},Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.28; $M_{\theta\theta}$-0.69; $M_{\phi\phi}$0.41; $M_{r\theta}$-0.29; $M_{\theta\phi}$0.38; $M_{r\phi}$0.68; Fault plane solution: $M_0$1.03000×10^{16} NP1:ϕ_s326.34000°, δ79.37000°,λ130.59000°. NP2:ϕ_s68.49000°,δ41.72000°, λ16.09000°. Principal axes: T 1.0389, Plg41.0000°, Azm274.0000°; N -0.0188, Plg40.0000°, Azm127.0000°; P -1.0201, Plg23.0000°, Azm26.0000°;*

ISC 25 18:41:30.9$_{\pm 0.6}$**,18°81N**$_{\pm 0.0}$×**62°80W**$_{\pm 0.0}$**3,h14**^{km}$_{\pm 3}$^{km}**, n396,**$_{\sigma 1}$**§26/399,mb4.6/76,MS4.1/39,Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMRT	**St. Maarten**	**0.80**	**199**	*eP*	**Pn**	**18 41 47.9**	**+0.1**
SMRT				*eS*	**Sn**	**18 41 59.8**	**+0.3**
SMRT	**St. Maarten**	**0.80**	**199**		**Pn**	**18 41 47.8**	**0.0**
SMRT				Sg	**Sb**	**18 41 58.1**	**+0.8**
SABA	**Saba**	**1.25**	**200**	*eP*	**Pg**	**18 41 55.4**	**+0.3**
SABA				*eS*	**Sg**	**18 42 15.8**	**+4.3**
SABA	**Saba**	**1.25**	**200**		**Pg**	**18 41 55.4**	**+0.3**
SEUS	**St. Eustatius**	**1.32**	**187**	*eP*	**Pb**	**18 41 56.2**	**+0.7**
SEUS				*eS*	**Sb**	**18 42 13.6**	**+1.3**
SEUS	**St. Eustatius**	**1.32**	**187**		**Pb**	**18 41 56.2**	**+0.7**
SEUS				Sg	**Sb**	**18 42 13.7**	**+1.3**
SKI	**Saint Kitts**	**1.47**	**178**	*eP*	**Pb**	**18 41 58.4**	**+0.3**
SKI				*eS*	**Sg**	**18 42 19.0**	**+0.6**
SKI	**Saint Kitts**	**1.47**	**178**		**Pb**	**18 41 58.3**	**+0.3**
ANWB	**Willy Bob**	**1.49**	**139**	*eP*	**Pb**	**18 41 59.0**	**+0.6**
ANWB				*eS*	**Sn**	**18 42 15.7**	**-0.9**
ANWB	**Willy Bob**	**1.49**	**139**		**Pn**	**18 41 56.6**	**-0.7**
NVDO	**Nevis, Disaste**	**1.69**	**174**	*eP*	**Pn**	**18 42 01.1**	**+1.0**
STVI	**Saint Thomas**	**2.09**	**258**		**Pn**	**18 42 06.6**	**+1.0**
CDVI	**St. Croix**	**2.14**	**241**	*eP*	**Pb**	**18 42 08.2**	**-1.4**
CDVI				*eS*	**Sb**	**18 42 37.6**	**+1.6**
CDVI	**St. Croix**	**2.14**	**241**		**Pn**	**18 42 06.7**	**+0.4**
MLYT	**Lee's Yard**	**2.16**	**164**	*eP*	**Pn**	**18 42 08.1**	**+1.6**
MLYT				*eS*	**Sg**	**18 42 39.8**	**-0.5**
CUPR	**Culebra, Puert**	**2.41**	**258**		**Pn**	**18 42 10.8**	**+0.8**
ABD	**La Joyeuse, An**	**2.64**	**151**	*eP*	**Pn**	**18 42 14.8**	**+1.7**
ABD				*eS*	**Sn**	**18 42 46.3**	**+1.4**
MTP	**Monte Pirata**	**2.71**	**255**		**Pn**	**18 42 15.4**	**+1.3**
CBYP	**Canovanas**	**2.95**	**260**		**Pn**	**18 42 17.7**	**+0.3**
CBE	**Ff, Capester**	**2.95**	**157**	*eP*	**Pn**	**18 42 19.0**	**+1.5**
CBE				*eS*	**Sn**	**18 42 53.4**	**+0.6**
HUMP	**Col San Antoni**	**2.97**	**258**		**Pn**	**18 42 18.6**	**+0.9**
TDBA	**Terre de Bas,**	**3.15**	**159**	*eP*	**Pn**	**18 42 21.2**	**+1.0**
TDBA				*eS*	**Sn**	**18 42 59.4**	**+1.8**
PDPR	**Patillas Dam,**	**3.16**	**256**		**Pn**	**18 42 21.7**	**+1.4**
MAGL	**Barre de l'ile**	**3.19**	**153**	*eP*	**Pn**	**18 42 22.2**	**+1.5**
MAGL				*eS*	**Sn**	**18 42 56.7**	**-2.0**
MAGL	**Barre de l'ile**	**3.19**	**153**		**Pn**	**18 42 21.4**	**+0.6**
IGPR	**InterUniversit**	**3.25**	**256**		**Pn**	**18 42 23.0**	**+1.5**
SJG	**San Juan**	**3.25**	**258**	Pn	**Pn**	**18 42 22.4**	**+0.9**
	37nm,0.3s,baz=75,slow=11,SNR=48						
SJG				Sn	**Sn**	**18 43 01.6**	**+1.4**
	62nm,0.3s,baz=74,slow=16,SNR=4.7						
SJG				LR	LR	18 43 53.6	
	comp=Z,3μm,19.0s,baz=60,slow=44						
SJG	**San Juan**	**3.25**	**258**	*eP*	**Pn**	**18 42 22.5**	**+0.9**
MDVC	**Dominica, Viel**	**3.45**	**157**	*eP*	**Pb**	**18 42 29.2**	**-2.6**
MDVC				*eS*	**Sn**	**18 43 06.7**	**+1.8**
MDPO	**Dominica; Chan**	**3.46**	**158**	*eP*	**Pn**	**18 42 26.3**	**+1.8**
MDPO				*eS*	**Sn**	**18 43 07.0**	**+1.7**
EMPR	**Esperanza - Ma**	**3.55**	**265**		**Pn**	**18 42 25.6**	**-0.1**
ICMP	**Isla Caja de M**	**3.66**	**256**		**Pn**	**18 42 29.4**	**+2.3**
OBIP	**Obispado Ponce**	**3.69**	**259**	Pn	**Pn**	**18 42 28.9**	**+1.3**
MDN	**Morne-Daniel**	**3.72**	**159**	*eP*	**Pn**	**18 42 30.7**	**+2.6**
DLPL	**La Plaine**	**3.76**	**157**	*eP*	**Pn**	**18 42 31.1**	**+2.5**
DLPL	**La Plaine**	**3.76**	**157**	*eS*	**Sg**	**18 43 28.3**	**-3.6**
AOPR	**Arecibo Observ**	**3.78**	**264**	*eP*	**Pn**	**18 42 28.9**	**0.0**
AOPR	**Arecibo Observ**	**3.78**	**264**		**Pn**	**18 42 29.0**	**+0.2**
AGPR	**Aguadilla, PR**	**4.10**	**266**		**Pn**	**18 42 33.5**	**+0.2**
AGPR	**Aguadilla, PR**	**4.10**	**266**	*i* P	**Pn**	**18 42 33.1**	**-0.1**
AGPR				*eS*	**Sn**	**18 43 19.9**	**-1.2**
AGPR				IAML		18 43 43.2	
	comp=Z,289nm,0.7s						
MLPR	**Magueyes Islan**	**4.12**	**259**		**Pn**	**18 42 34.6**	**+1.2**
MPR	**Mayaguez**	**4.16**	**262**		**Pn**	**18 42 34.7**	**+0.6**
CRPR	**Cabo Rojo, PR**	**4.17**	**260**		**Pn**	**18 42 35.7**	**+1.5**
FDF	**Fort de France**	**4.35**	**158**	*eP*	**Pn**	**18 42 41.1**	**+4.4**
FDF	**Fort de France**	**4.35**	**158**	*eS*	**Sn**	**18 43 27.8**	**+0.5**
FDF	**Fort de France**	**4.35**	**158**	Pn	**Pn**	**18 42 37.7**	**+0.9**
ILAM	**Ilet Lapin Mar**	**4.42**	**155**	*eP*	**Pn**	**18 42 37.8**	**+0.2**
ILAM	**Ilet Lapin Mar**	**4.42**	**155**	*eS*	**Sn**	**18 43 27.7**	**-1.2**
BIM	**Bigot**	**4.58**	**159**	*eP*	**Pn**	**18 42 42.3**	**+2.4**
BIM	**Bigot**	**4.58**	**159**	*eS*	**Sn**	**18 43 34.5**	**+1.5**
MPOM	**Morne Pois Mar**	**4.72**	**156**	*eP*	**Pn**	**18 42 43.6**	**+1.8**
MPOM	**Morne Pois Mar**	**4.72**	**156**	*eS*	**Sn**	**18 43 36.3**	**-0.2**
SLBI	**Saint Lucia, B**	**5.07**	**160**	*eP*	**Pn**	**18 42 48.3**	**+1.7**
SLBI	**Saint Lucia, B**	**5.07**	**160**	*eS*	**Sn**	**18 43 45.5**	**+0.4**
SLAC	**Saint Lucia, A**	**5.22**	**159**	*eP*	**Pn**	**18 42 50.2**	**+1.6**
SLAC	**Saint Lucia, A**	**5.22**	**159**	*eS*	**Sn**	**18 43 47.7**	**-0.9**
SLPA	**Patience**	**5.25**	**160**	*eP*	**Pn**	**18 42 50.8**	**+1.7**
PCDR	**Punta Cana, DR**	**5.30**	**268**	Pn	**Pn**	**18 42 50.2**	**+0.5**
PCDR	**Punta Cana, DR**	**5.30**	**268**	*i* P	**Pn**	**18 42 50.2**	**+0.5**
PCDR				IAML		18 44 16.9	
	comp=Z,242nm,3.0s						
MCLT	**Moule a Chique**	**5.38**	**160**	*eP*	**Pn**	**18 42 53.3**	**+2.5**
MCLT	**Moule a Chique**	**5.38**	**160**	Pn	**Pn**	**18 42 53.5**	**+2.7**
SVB	**Belmont**	**5.70**	**165**	*eP*	**Pn**	**18 42 58.9**	**+3.6**
SVB	**Belmont**	**5.70**	**165**	Pn	**Pn**	**18 42 58.0**	**+2.7**
SVCV	**St. Vincent, C**	**5.73**	**164**	*eP*	**Pn**	**18 42 58.4**	**+2.7**
DR12	**Loma Pena Alta**	**6.23**	**271**		**Pn**	**18 43 02.1**	**-0.6**
GCMP	**Grenada, Carri**	**6.42**	**168**	*eP*	**Pn**	**18 43 06.3**	**+1.1**
BBGH	**Gun Hill**	**6.44**	**151**	Pn	**Pn**	**18 43 06.0**	**+0.5**
GRGR	**Grenville**	**6.73**	**170**	*eP*	**Pn**	**18 43 07.5**	**-2.0**
SC01	**Santiago de lo**	**7.52**	**276**		**Pn**	**18 43 20.3**	**0.0**
SC01	**Santiago de lo**	**7.52**	**276**	*i* P	**Pn**	**18 43 20.1**	**-0.1**
SC01				IAML		18 45 29.1	
	comp=Z,165nm,1.4s						
TOSP	**Speyside**	**7.78**	**163**	*eP*	**Pn**	**18 43 27.4**	**+3.5**
SDDR	**Presa de Saban**	**8.04**	**273**	*eP*	**Pn**	**18 43 27.7**	**+0.3**
SDDR	**Presa de Saban**	**8.04**	**273**	*eS*	**Sn**	**18 44 55.9**	**-2.3**
SDDR	**Presa de Saban**	**8.04**	**273**	Pn	**Pn**	**18 43 27.6**	**+0.2**
SDDR	**Presa de Saban**	**8.04**	**273**	*i* P	**Pn**	**18 43 27.5**	**+0.1**
SDDR				*eS*	**Sn**	**18 44 54.3**	**-3.9**
SDDR				IAML		18 45 06.7	
	comp=Z,110nm,0.6s						
TRN	**Trinidad (W)**	**8.23**	**170**	*eP*	**Pn**	**18 43 32.8**	**+2.9**
GRTK	**Grand Turk**	**8.28**	**290**	Pn	**Pn**	**18 43 27.6**	**-3.0**
PCRV	**Puerto La Cruz**	**8.77**	**192**	Pn	**Pn**	**18 43 37.6**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=350,slow=15,SNR=3.0						
PCRV				LR	LR	18 47 38.4	
	comp=Z,1μm,19.0s,slow=42						
PLCV	**Puerto La Cruz**	**8.77**	**192**		**Pn**	**18 43 37.6**	**+0.2**
JAKH	**Jacmel**	**9.24**	**268**	Pn	**Pn**	**18 43 43.4**	**-0.4**
LGNH	**Logne**	**9.30**	**270**		**Pn**	**18 43 44.8**	**+0.1**
BBSR	**BB Station**	**13.61**	**353**	Pn	Pn	18 44 37.6	-6.0
OCAC	**Ocana**	**14.65**	**226**	*eP*	**P**	**18 45 03.7**	**-0.7**
SMLC	**San Martn de**	**14.78**	**229**	*eP*	**Pn**	**18 44 59.5**	**-0.2**
SJCC	**San Jacinto, C**	**14.90**	**235**	*eP*	**Pn**	**18 45 03.9**	**+2.5**
PAMC	**Pamplona, Colo**	**14.92**	**221**	*eP*	**Pn**	**18 45 03.4**	**+1.3**
BRRC	**Barranca, Sant**	**15.75**	**224**	*eP*	**Pn**	**18 45 13.3**	**+0.8**
BARC	**Barichara**	**15.80**	**221**	*eP*	**Pn**	**18 45 14.2**	**+0.8**
ZARC	**Zaragoza, Cauc**	**16.25**	**228**	*eP*	**Pn**	**18 45 18.6**	**-0.3**
RUSC	**La Rusia**	**16.29**	**219**	*eP*	**Pn**	**18 45 20.4**	**+0.5**
RUSC	**La Rusia**	**16.29**	**219**	P	**Pn**	**18 45 19.2**	**-0.7**
URCC	**San Jos de Ur**	**16.55**	**230**	*eP*	**Pn**	**18 45 23.2**	**+0.4**
PTBC	**PUERTO BERRIO,**	**16.66**	**224**	*eP*	**Pn**	**18 45 24.1**	**-0.1**
MDP	**Montagnes des**	**16.85**	**143**	Pn	**Pn**	**18 45 21.6**	**-5.0**
	comp=Z,0.5nm,0.3s,baz=9.5,slow=12,SNR=1.7						
MDP				Sn	Sn	18 48 16.0	-18
	comp=Z,0.4nm,0.3s,baz=45,slow=4.3,SNR=1.3						
MDP				LR	LR	18 52 15.1	
	comp=Z,238nm,18.9s,baz=318,slow=38						
SPBC	**San Pablo de B**	**17.08**	**221**	*eP*	**Pn**	**18 45 29.3**	**-0.3**
DBBC	**Dabeiba**	**17.54**	**230**	*eP*	**Pn**	**18 45 35.7**	**+0.4**
HELC	**Santa Helena**	**17.64**	**226**	*eP*	**Pn**	**18 45 37.4**	**+0.6**
NORC	**Norcasia**	**17.66**	**223**	*eP*	**Pn**	**18 45 37.0**	**+0.2**
CHIC	**Chingaza**	**17.68**	**218**	*eP*	**Pn**	**18 45 35.2**	**-2.2**
ROSC	**El Rosal**	**17.87**	**220**	P	**Pn**	**18 45 40.0**	**+0.3**
	comp=Z,6.5nm,0.3s,baz=61,slow=6.9,SNR=18						
ROSC				S	**Sn**	**18 49 01.8**	**+2.8**
	comp=Z,3.0nm,0.3s,baz=198,slow=20,SNR=2.5						
ROSC				LR	LR	18 53 43.1	
	comp=Z,2μm,19.8s,baz=30,slow=41						
ROSC	**El Rosal**	**17.87**	**220**	*eP*	**P**	**18 45 40.8**	**+0.5**
ROSC	**El Rosal**	**17.87**	**220**	P	**Pn**	**18 45 39.8**	**+0.1**
VILC	**Villavicencio,**	**18.07**	**217**	*eP*	**P**	**18 45 43.1**	**+0.7**
CBOC	**Ciudad Bolivar**	**18.20**	**227**	*eP*	**Pn**	**18 45 42.4**	**-1.3**
GUY2C	**Guyana, Caldas**	**18.24**	**224**	*eP*	**Pn**	**18 45 42.3**	**-2.0**
RREF	**El Recreo**	**18.47**	**223**	*eP*	**P**	**18 45 46.4**	**-0.8**
PLMC	**San Jos del P**	**19.08**	**225**	*eP*	**Pn**	**18 45 54.1**	**-0.1**
BCIP	**Isla Barro Col**	**19.09**	**242**	P	**P**	**18 45 53.8**	**+0.4**
BCIP				IAmb	IAmb	18 46 06.5	
	comp=Z,71nm,1.1s						
PRAC	**Prado**	**19.10**	**220**	*eP*	**P**	**18 45 52.3**	**-1.2**
ORTC	**Ortega, Tolima**	**19.17**	**221**	*eP*	**P**	**18 45 54.2**	**-0.1**
PTGA	**Pitinga**	**19.62**	**172**	P	**P**	**18 45 59.0**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=351,slow=14,SNR=15						
PTGA				LR	LR	18 53 50.2	
	comp=Z,272nm,20.0s,baz=344,slow=38						
PTGA	**Pitinga**	**19.62**	**172**		**P**	**18 45 59.2**	**+0.1**
PTGA	**Pitinga**	**19.62**	**172**	*eP*	**P**	**18 45 59.5**	**+0.3**
MACC	**Macarena, Meta**	**19.78**	**214**	*eP*	**P**	**18 45 59.5**	**-1.5**
YOTC	**Yotoco, Valle**	**19.81**	**224**	*eP*	**P**	**18 46 00.1**	**-1.2**
MARP	**Paez Belalcaza**	**20.43**	**221**	*eP*	**P**	**18 46 07.3**	**-1.0**
MALC	**Bahia Malaga**	**20.45**	**226**	*eP*	**P**	**18 46 09.4**	**+1.2**
GARC	**Garzon, Huila**	**20.68**	**218**	*eP*	**P**	**18 46 08.2**	**-2.7**
SOTA	**Rioblanco**	**21.39**	**221**	*eP*	**P**	**18 46 19.2**	**+0.3**
GR1C	**Gorgona, Isla**	**21.75**	**226**	*eP*	P	18 46 34.4	+12
BBAC	**Balboa, Cauca**	**21.88**	**222**	*eP*	**P**	**18 46 22.1**	**-1.8**
BIRD	**Birdtown, Kers**	**22.25**	**319**	P	**P**	**18 46 27.0**	**-0.5**
W57A	**Gilead**	**22.30**	**320**	P	**P**	**18 46 28.2**	**+0.2**
W57A				IAmb	IAmb	18 46 47.1	
	comp=Z,17nm,0.5s						
ACON	**Acoyapa**	**22.60**	**256**	P	**P**	**18 46 32.1**	**+0.7**
W56A	**Indian Trail**	**22.65**	**319**	P	**P**	**18 46 31.4**	**-0.3**
	baz=131						
V57A	**Coltrane Farms**	**22.67**	**322**	P	**P**	**18 46 31.7**	**-0.3**
	baz=134						
Y55A	**Saluda**	**22.71**	**315**	P	**P**	**18 46 32.9**	**+0.5**
	baz=127						
T58A	**Grand View Acr**	**22.74**	**326**	P	**P**	**18 46 33.0**	**+0.3**
	baz=138						
MATN	**Matagalpa**	**22.99**	**259**	P	**P**	**18 46 35.5**	**0.0**
JTS	**Las Juntas de**	**23.03**	**252**	P	**P**	**18 46 35.9**	**-0.1**
	comp=Z,17nm,1.1s,baz=100,slow=4.2,SNR=4.9						
JTS				LR	LR	18 54 53.6	
	comp=Z,230nm,19.7s,baz=131,slow=35						
JTS	**Las Juntas de**	**23.03**	**252**	P	**P**	**18 46 34.8**	**-1.2**
JTS				IAmb	IAmb	18 46 43.1	
	comp=Z,17nm,0.8s						
R58A	**Rapidan**	**23.50**	**329**	P	**P**	**18 46 40.1**	**-0.4**
	baz=142						
V55A	**Taylorsville**	**23.51**	**320**	P	**P**	**18 46 40.2**	**-0.4**
	baz=132						
GOGA	**Godfrey**	**23.51**	**312**	P	**P**	**18 46 40.4**	**-0.2**
	baz=123						
GOGA	**Godfrey**	**23.51**	**312**	P	**P**	**18 46 40.3**	**-0.2**
GOGA				IAmb	IAmb	18 46 59.6	
	comp=Z,21nm,1.5s						
S57A	**Dark Hollow, R**	**23.57**	**327**	P	**P**	**18 46 40.4**	**-0.8**
	baz=139						
T56A	**Rocky Mt**	**23.62**	**324**	P	**P**	**18 46 41.9**	**+0.2**
	baz=136						
PSUB	**Penn St. - Bra**	**23.71**	**335**	P	**P**	**18 46 41.3**	**-1.1**
R57A	**Stanardsville**	**23.76**	**328**	P	**P**	**18 46 42.8**	**-0.2**
	baz=140						
SDMD	**Soldier's Deli**	**23.86**	**332**	P	**P**	**18 46 44.3**	**+0.4**
Q58A	**Fox Den Farm,**	**23.86**	**330**	P	**P**	**18 46 43.9**	**0.0**
	baz=143						
TEIG	**Tepich**	**24.05**	**278**	P	**P**	**18 46 46.9**	**+1.0**
	comp=Z,7.6nm,0.4s,baz=137,slow=0.2,SNR=12						
TEIG	**Tepich**	**24.05**	**278**	P	**P**	**18 46 47.1**	**+1.2**
TEIG				IAmb	IAmb	18 46 51.7	
	comp=Z,21nm,0.8s						
MVL	**Millersville**	**24.13**	**334**	P	**P**	**18 46 46.7**	**+0.3**
Q57A	**Strasburg**	**24.28**	**329**	P	**P**	**18 46 48.2**	**+0.3**
	baz=142						
R56A	**Bull Pasture M**	**24.29**	**327**	P	**P**	**18 46 48.3**	**+0.3**
	baz=139						
M61A	**Granite Spring**	**24.31**	**340**	P	**P**	**18 46 48.4**	**+0.3**
	baz=154						
Q56A	**Smyder Ridge,**	**24.66**	**328**	P	**P**	**18 46 51.7**	**+0.3**
	baz=140						
R54A	**Victor**	**24.98**	**324**	P	**P**	**18 46 54.9**	**+0.7**
	baz=136						
TKL	**Tuckaleechee C**	**25.00**	**316**	P	**P**	**18 46 54.7**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=111,slow=6.2,SNR=3.8						
TKL				LR	LR	18 56 07.1	
	comp=Z,164nm,19.6s,baz=147,slow=35						
L60A	**Shokan**	**25.07**	**340**	P	**P**	**18 46 54.7**	**-0.2**
	baz=154						
Q55A	**Buckhannon**	**25.08**	**327**	P	**P**	**18 46 56.3**	**+1.1**
	baz=138						
SSPA	**Standing Stone**	**25.32**	**332**	P	**P**	**18 46 58.5**	**+1.2**
O56A	**Blue Knob Stat**	**25.33**	**331**	P	**P**	**18 46 57.6**	**+0.2**
	baz=143						
M58A	**Price's Panora**	**25.34**	**335**	P	**P**	**18 46 57.8**	**+0.3**
	baz=149						
CPCT	**Cooper Cave**	**25.37**	**315**	P	**P**	**18 46 58.3**	**+0.5**
V51A	**Loudon**	**25.47**	**316**	P	**P**	**18 46 59.6**	**+1.0**
Q54A	**Coxs Mills**	**25.47**	**326**	P	**P**	**18 46 59.7**	**+1.1**
	baz=137						
M56A	**Emporium**	**26.14**	**333**	P	**P**	**18 47 06.7**	**+1.9**
	baz=145						
M55A	**Ridgway**	**26.38**	**332**	P	**P**	**18 47 07.8**	**+0.9**
	baz=144						
L56A	**Greenwood**	**26.42**	**335**	P	**P**	**18 47 08.4**	**+1.1**
	baz=147						
T50A	**Nancy**	**26.51**	**318**	P	**P**	**18 47 08.3**	**+0.2**
NPGB	**Novo Progresso**	**26.72**	**163**	*eP*	**P**	**18 47 12.8**	**+2.6**
O52A	**Adamsville**	**26.82**	**326**	P	**P**	**18 47 13.2**	**+2.3**
	baz=137						
G64A	**Maxfield**	**26.83**	**351**	P	**P**	**18 47 12.8**	**+2.0**
	baz=168						
G63A	**Kingsbury**	**26.84**	**349**	P	**P**	**18 47 12.9**	**+2.0**
	baz=166						
WVNY	**West Valley, N**	**27.08**	**334**	P	**P**	**18 47 13.7**	**+0.5**
WVNY				IAmb	IAmb	18 47 16.7	
	comp=Z,9.7nm,0.6s						
J56A	**Wolcott**	**27.12**	**337**	P	**P**	**18 47 16.2**	**+2.7**
	baz=150						
SAML	**Samuel**	**27.59**	**181**	P	**P**	**18 47 16.4**	**-1.4**
SAML	**Samuel**	**27.59**	**181**	*eP*	**P**	**18 47 17.4**	**-0.5**
E61A	**Lac Etchemin**	**28.27**	**349**	P	**P**	**18 47 24.1**	**+0.4**
	baz=164						
SADO	**Sadowa**	**29.26**	**336**	LR	LR	18 59 51.9	
	comp=Z,246nm,18.3s,baz=146,slow=38						
D58A	**Chemin du LacG**	**29.40**	**346**	P	**P**	**18 47 34.7**	**+0.9**
	baz=160						
G54A	**Lake Saint Pet**	**29.40**	**338**	P	**P**	**18 47 34.5**	**+0.7**
	baz=150						
D57A	**Chemin Vers le**	**29.57**	**345**	P	**P**	**18 47 36.3**	**+1.0**
	baz=158						
E54A	**Lac Daplat, Po**	**30.00**	**340**	P	**P**	**18 47 39.9**	**+0.8**
	baz=152						
ATAH	**Atahualpa**	**30.02**	**212**	P	**P**	**18 47 39.5**	**-0.6**
	comp=Z,5.7nm,0.7s,baz=301,slow=2.4,SNR=3.9						
E53A	**Dumoine, Ponti**	**30.10**	**339**	P	**P**	**18 47 40.4**	**+0.4**
	baz=151						
CLDB	**Colider**	**30.29**	**166**	*eP*	**P**	**18 47 41.7**	**-0.3**
CLDB				*epP*	**pP**	**18 47 45.6**	**+0.1**
CMIG	**Matias Romero**	**30.55**	**272**	LR	LR	18 59 18.6	
	comp=Z,172nm,20.9s,baz=74,slow=35						
FCAR	**Ozark Folk Cen**	**30.94**	**309**	P	**P**	**18 47 46.4**	**-1.2**
P43A	**Skaggs, Pawnee**	**31.02**	**318**	P	**P**	**18 47 49.0**	**+0.8**
SMTB	**Santa Maria do**	**31.32**	**150**	*eP*	**P**	**18 47 52.5**	**+1.4**
SMTB				*epP*	**sP**	**18 47 56.5**	**+1.5**
F48A	**Evansville**	**31.55**	**333**	P	**P**	**18 47 53.2**	**+0.4**
	baz=142						
G47A	**Hillman**	**31.59**	**331**	P	**P**	**18 47 53.7**	**+0.5**
	baz=140						
E48A	**Lockeyer**	**31.88**	**334**	P	**P**	**18 47 56.5**	**+0.8**
	baz=144						
W39A	**Magazine**	**31.90**	**307**	P	**P**	**18 47 56.7**	**+0.7**
	baz=113						
E47A	**Iron Bridge**	**32.32**	**333**	P	**P**	**18 48 00.2**	**+0.6**
	baz=142						
E46A	**Sault Ste Mari**	**32.70**	**332**	P	**P**	**18 48 03.8**	**+0.8**
E46A				IAmb	IAmb	18 48 04.7	
	comp=Z,10nm,0.8s						
D46A	**Sault St. Mari**	**32.99**	**333**	P	**P**	**18 48 05.7**	**+0.2**
	baz=141						
NNA	**Nana**	**33.59**	**205**	P	**P**	**18 48 10.1**	**-0.9**
WHTX	**Lake Whitney,**	**33.79**	**300**	P	**P**	**18 48 12.7**	**+0.1**
	baz=104						
PTLB	**Pontes e Lacer**	**34.23**	**174**	*eP*	**P**	**18 48 15.9**	**-0.6**
PTLB				*epP*	**pP**	**18 48 18.8**	**-1.2**
T35A	**Sooner Cattle**	**34.59**	**308**	P	**P**	**18 48 19.6**	**0.0**
T35A				IAmb	IAmb	18 48 32.7	
	comp=Z,9.4nm,0.8s						
SALV	**Santo Antonio**	**35.20**	**168**	*eP*	**P**	**18 48 25.3**	**+0.5**
LPAZ	**La Paz**	**35.27**	**189**	P	**P**	**18 48 24.6**	**-1.5**
	comp=Z,3.9nm,0.7s,baz=7.8,slow=8.6,SNR=12						
LPAZ				LR	LR	19 03 58.6	
	comp=Z,521nm,18.4s,baz=1.5,slow=38						
LPAZ	**La Paz**	**35.27**	**189**	P	**P**	**18 48 24.7**	**-1.5**
LPAZ				IAmb	IAmb	18 48 38.6	
	comp=Z,15nm,1.1s						
JCT	**Junction City**

TUC					IAmb	IAmb	18 49 48.9		
	comp=Z,9.7nm,1.0s								
CPUP	**Villa Florida**	**45.18**	**173**	P		**P**	**18 49 45.7**	**-1.9**	
	comp=Z,3.8nm,0.5s,baz=356,slow=8.1,SNR=14								
CPUP					LR	LR	19 10 03.7		
	comp=Z,216nm,18.3s,baz=346,slow=38								
CPUP	**Villa Florida**	**45.18**	**173**	P		**P**	**18 49 45.6**	**-1.9**	
CPUP					IAmb	IAmb	18 49 46.1		
	comp=Z,5.9nm,0.8s								
WUAZ	**Wupatki**	**45.84**	**302**	P		**P**	**18 49 54.0**	**+1.0**	
	baz=98,SNR=6.1								
WUAZ	**Wupatki**	**45.84**	**302**	P		**P**	**18 49 53.9**	**+0.9**	
WUAZ					IAmb	IAmb	18 49 55.5		
	comp=Z,9.1nm,1.1s								
BW06	**Boulder Array**	**46.00**	**312**	P		**P**	**18 49 54.4**	**+0.2**	
	baz=106,SNR=10								
BW06	**Boulder Array**	**46.00**	**312**	P		**P**	**18 49 54.2**	**0.0**	
BW06					IAmb	IAmb	18 49 55.6		
	comp=Z,5.5nm,0.8s								
PDAR	**Pinedale Array**	**46.00**	**312**	P		**P**	**18 49 54.6**	**+0.4**	
	comp=Z,3.9nm,0.7s,baz=108,slow=9.5,SNR=24								
PDAR					LR	LR	19 10 37.8		
	comp=Z,126nm,19.6s,baz=118,slow=38								
P17A	**Butcher Ranch,**	**46.05**	**307**	P		**P**	**18 49 54.4**	**-0.2**	
TMUT	**Trail Mountain**	**46.36**	**307**	P		**P**	**18 49 57.4**	**+0.2**	
RLMT	**Red Lodge**	**46.51**	**315**	P		**P**	**18 49 58.6**	**+0.4**	
	baz=109								
MTPU	**Mount Pierson**	**46.88**	**305**	P		**P**	**18 50 02.0**	**+0.7**	
MSU	**Marysvale**	**46.95**	**305**	P		**P**	**18 50 01.1**	**-0.7**	
Y14A	**Wickenburg**	**46.99**	**299**	P		**P**	**18 50 03.3**	**+1.4**	
Y14A					IAmb	IAmb	18 50 04.0		
	comp=Z,8.3nm,0.9s								
CTU	**Camp Tracy**	**47.06**	**308**	P		**P**	**18 50 03.1**	**+0.5**	
AHID	**Auburn Hatcher**	**47.09**	**311**	P		**P**	**18 50 02.7**	**-0.1**	
AHID					IAmb	IAmb	18 50 04.4		
	comp=Z,14nm,1.4s								
HWUT	**Hardware Ranch**	**47.14**	**310**	P		**P**	**18 50 03.1**	**-0.1**	
HWUT					IAmb	IAmb	18 50 08.0		
	comp=Z,5.3nm,0.7s								
TPAW	**Teton Pass**	**47.18**	**312**	P		**P**	**18 50 03.7**	**+0.2**	
TPAW					IAmb	IAmb	18 50 05.1		
	comp=Z,4.6nm,0.8s								
KNB	**Kanab**	**47.21**	**303**	P		**P**	**18 50 03.2**	**-0.6**	
FXWY	**Fox Creek**	**47.27**	**313**	P		**P**	**18 50 04.5**	**+0.3**	
IMW	**Indian Meadow**	**47.28**	**313**	P		**P**	**18 50 04.8**	**+0.4**	
IMW					IAmb	IAmb	18 50 17.7		
	comp=Z,9.8nm,1.4s								
LCMT	**Little Creek M**	**47.55**	**303**	P		**P**	**18 50 06.7**	**+0.4**	
YHB	**Horse Butte**	**47.70**	**314**	P		**P**	**18 50 09.6**	**+2.1**	
YHL	**Hebgen Lake**	**47.72**	**314**	P		**P**	**18 50 09.0**	**+1.3**	
DUG	**Dugway, Tooele**	**47.76**	**308**	P		**P**	**18 50 08.4**	**+0.5**	
	baz=101								
DUG	**Dugway, Tooele**	**47.76**	**308**	P		**P**	**18 50 08.1**	**+0.2**	
DUG					IAmb	IAmb	18 50 09.4		
	comp=Z,5.2nm,1.1s								
QLMT	**Earthquake Lak**	**47.88**	**314**	P		**P**	**18 50 10.6**	**+1.7**	
BGU	**Big Grassy Mou**	**48.06**	**308**	P		**P**	**18 50 10.8**	**+0.5**	
BOZ	**Bozeman (W)**	**48.24**	**315**	P		**P**	**18 50 12.4**	**+0.8**	
	baz=107								
BOZ	**Bozeman (W)**	**48.24**	**315**	P		**P**	**18 50 11.7**	**+0.2**	
BOZ					IAmb	IAmb	18 50 13.0		
	comp=Z,5.1nm,1.0s								
PSUT	**Pine Spring**	**48.26**	**305**	P		**P**	**18 50 13.5**	**+1.6**	
GLA	**Glamis**	**48.44**	**298**	P		**P**	**18 50 14.7**	**+1.6**	
	baz=94								
IRM	**Iron Mountain**	**48.78**	**299**	P		**P**	**18 50 17.3**	**+1.5**	
	baz=94,SNR=6.6								
DLMT	**Dillon**	**48.82**	**314**	P		**P**	**18 50 16.8**	**+0.8**	
DLMT					IAmb	IAmb	18 50 17.9		
	comp=Z,5.5nm,0.8s								
MCMT	**McKenzie Canyo**	**48.85**	**314**	P		**P**	**18 50 17.6**	**+1.2**	
BC3	**Big Chuckawall**	**49.00**	**299**	P		**P**	**18 50 18.8**	**+1.3**	
	baz=94								
APLL	**PUNTA DE LOS L**	**49.05**	**184**	*i* P		P	18 50 09.1	-8.7	
AROD	**Rodeo**	**49.12**	**188**	*i* P		**P**	**18 50 17.9**	**-0.6**	
GMRC	**Granite Mounta**	**49.25**	**300**	P		**P**	**18 50 20.6**	**+1.1**	
	baz=95								
BELC	**Belle Mtn. Jos**	**49.47**	**299**	P		**P**	**18 50 22.7**	**+1.5**	
	baz=94								
ACCO	**Cerro Coronel**	**49.48**	**187**	*i* P		**P**	**18 50 20.3**	**-1.1**	
TUQ	**Turquoise Moun**	**49.52**	**301**	P		**P**	**18 50 23.0**	**+1.5**	
	baz=95								
R11A	**Troy Canyon, C**	**49.57**	**305**	P		**P**	**18 50 23.1**	**+1.1**	
	baz=98,SNR=5.0								
R11A	**Troy Canyon, C**	**49.57**	**305**	P		**P**	**18 50 22.6**	**+0.6**	
HLID	**Hailey**	**49.63**	**312**	P		**P**	**18 50 23.3**	**+1.0**	
	baz=103,SNR=7.7								
HLID	**Hailey**	**49.63**	**312**	P		**P**	**18 50 23.4**	**+1.0**	
ELK	**Elko**	**49.67**	**308**	P		**P**	**18 50 23.6**	**+0.8**	
AMOG	**MOGNA**	**49.76**	**186**	*i* P		**P**	**18 50 21.4**	**-1.8**	
MONP2	**Monument Peak**	**49.77**	**297**	P		**P**	**18 50 24.6**	**+1.1**	
	baz=92								
TPNV	**Topopah Spring**	**49.93**	**303**	P		**P**	**18 50 26.2**	**+1.5**	
	baz=96,SNR=10								
TPNV	**Topopah Spring**	**49.93**	**303**	P		**P**	**18 50 26.2**	**+1.5**	
TPNV					IAmb	IAmb	18 50 27.6		
	comp=Z,7.4nm,0.9s								
CO03	**El Pedregal**	**49.94**	**189**	P		**P**	**18 50 22.8**	**-1.8**	
GSC	**Goldstone, Bar**	**50.23**	**301**	P		**P**	**18 50 28.0**	**+1.2**	
	baz=94								
FURC	**Furnace Creek,**	**50.37**	**302**	P		**P**	**18 50 29.0**	**+1.2**	
	baz=95								
ZON	**Zonda**	**50.38**	**187**	P		**P**	**18 50 26.1**	**-1.8**	
ZON					IAmb	IAmb	18 50 38.7		
	comp=Z,5.4nm,0.8s								
MFID	**Camas Ranch**	**50.61**	**311**	P		**P**	**18 50 29.9**	**+0.3**	
RTLS	**Leoncito**	**50.70**	**187**	*i* P		**P**	**18 50 29.8**	**-0.8**	
MPMC	**Manual Prospec**	**50.84**	**301**	P		**P**	**18 50 32.5**	**+0.9**	
	baz=94								
BFSC	**Mount Baldy Ra**	**50.86**	**299**	P		**P**	**18 50 32.4**	**+0.7**	
	baz=93								
AUSP	**Uspallata**	**51.13**	**187**	*i* P		**P**	**18 50 33.1**	**-0.7**	
EDW2	**Edwards Air Fo**	**51.17**	**300**	P		**P**	**18 50 35.3**	**+1.3**	
	baz=93								
NVAR	**Mina Array Bea**	**51.70**	**304**	P		**P**	**18 50 38.8**	**+0.7**	
	comp=Z,3.8nm,1.0s,baz=102,slow=6.6,SNR=13								
NVAR					LR	LR	19 13 19.6		
	comp=Z,193nm,20.8s,baz=120,slow=37								
BMO	**Blue Mountains**	**51.94**	**313**	P		**P**	**18 50 39.1**	**-0.5**	
OMMB	**Old Mammoth Mi**	**52.17**	**303**	P		**P**	**18 50 43.0**	**+1.3**	
OMMB					IAmb	IAmb	18 50 44.2		
	comp=Z,5.3nm,1.0s								
NEW	**Newport**	**52.58**	**317**	P		**P**	**18 50 44.6**	**+0.3**	
	baz=104								
NEW	**Newport**	**52.58**	**317**	P		**P**	**18 50 44.3**	**0.0**	
NEW					IAmb	IAmb	18 50 45.3		
	comp=Z,8.0nm,0.8s								
WAKR	**Walker**	**52.60**	**304**	P		**P**	**18 50 44.8**	**+0.1**	
WAKR					IAmb	IAmb	18 50 51.5		
	comp=Z,12nm,1.4s								
I07A	**Izee**	**53.35**	**311**	P		**P**	**18 50 49.8**	**-0.3**	
I07A					IAmb	IAmb	18 50 51.1		
	comp=Z,4.4nm,0.8s								
MDT	**Midelt**	**53.61**	**63**	P		**P**	**18 50 52.2**	**+0.1**	
	comp=Z,1.6nm,0.7s,baz=306,slow=8.0,SNR=3.9								
ORV	**Oroville**	**54.29**	**306**	P		**P**	**18 50 57.9**	**+1.0**	
ORV					IAmb	IAmb	18 50 58.9		
	comp=Z,7.5nm,1.1s								
ESDC	**Sonseca Array**	**54.40**	**54**	P		**P**	**18 50 57.9**	**+0.1**	
	comp=Z,1.1nm,0.9s,baz=258,slow=6.6,SNR=5.2								
ESDC					LR	LR	19 09 59.3		
	comp=Z,92nm,19.8s,baz=260,slow=31								
J05D	**Fort Rock, OR**	**54.48**	**310**	P		**P**	**18 50 59.1**	**+0.8**	
	baz=97								
H10N3	**ASCENSION HYDR**	**54.49**	**115**	T		T	19 49 29.4		
	baz=299,slow=75,SNR=28								
H10N2	**ASCENSION HYDR**	**54.49**	**115**	T		T	19 49 23.9		
	baz=299,slow=75,SNR=21								
H10N1	**ASCENSION HYDR**	**54.51**	**115**	T		T	19 49 24.9		
	baz=299,slow=75,SNR=19								
O03E	**Paynes Creek**	**54.58**	**306**	P		**P**	**18 50 60.0**	**+0.9**	
	baz=95								
L04D	**Klamath Falls**	**55.13**	**309**	P		**P**	**18 51 03.1**	**0.0**	
	baz=96								
N02D	**Trinity Center**	**55.32**	**307**	P		**P**	**18 51 04.2**	**-0.3**	
	baz=95								
O02D	**Mt. Diablo Mer**	**55.32**	**306**	P		**P**	**18 51 03.9**	**-0.6**	
	baz=94								
H04A	**Detroit Lake**	**55.34**	**312**	P		**P**	**18 51 04.3**	**-0.2**	
H04A					IAmb	IAmb	18 51 22.8		
	comp=Z,5.8nm,0.9s								
YBH	**Yreka Blue Hor**	**55.39**	**308**	P		**P**	**18 51 04.1**	**-0.9**	
M02C	**Callahan**	**55.47**	**308**	P		**P**	**18 51 05.1**	**-0.4**	
	baz=95								
SUMG	**Summit**	**55.56**	**9**	*i* P		**P**	**18 51 07.8**	**+1.8**	
SUMG	**Summit**	**55.56**	**9**	P		**P**	**18 51 06.1**	**+0.2**	

B05A	**Bryant**	**55.83**	**316**	P		**P**	**18 51 07.2**	**-0.6**	
	baz=100								
LLLB	**Lillooet**	**56.14**	**319**	P		**P**	**18 51 10.4**	**+0.3**	
YKA	**Yellowknife Ar**	**56.23**	**334**	P		**P**	**18 51 10.2**	**-0.3**	
	comp=Z,3.7nm,0.6s,baz=109,slow=7.6,SNR=18								
YKA					LR	LR	19 16 04.0		
	comp=Z,160nm,18.8s,baz=0.0,slow=37								
TIC	**Toumodi**	**57.42**	**94**	*eP*		**P**	**18 51 18.0**	**-1.7**	
LIC	**Lamto**	**57.54**	**95**	*eP*		**P**	**18 51 20.0**	**-0.5**	
	comp=Z,10nm,0.7s								
EKA	**Eskdalemuir Ar**	**57.55**	**36**	P		**P**	**18 51 20.4**	**+0.5**	
	comp=Z,1.6nm,0.7s,baz=282,slow=4.1,SNR=8.7								
DBIC	**Dimbokro**	**57.56**	**94**	P		**P**	**18 51 20.0**	**-0.7**	
	comp=Z,6.5nm,0.6s,baz=273,slow=7.5,SNR=15								
DBIC					LR	LR	19 14 44.9		
	comp=Z,173nm,18.6s,baz=252,slow=35								
DBIC	**Dimbokro**	**57.56**	**94**	IAmb		IAmb	18 51 21.2		
	comp=Z,9.4nm,0.8s								
KIC	**Kosan Boka**	**57.77**	**94**	*eP*		**P**	**18 51 21.1**	**-1.1**	
	comp=Z,11nm,0.7s								
PLCA	**Paso Flores**	**59.67**	**187**	P		**P**	**18 51 34.4**	**-0.5**	
	comp=Z,2.1nm,0.7s,baz=2.1,slow=8.6,SNR=6.4								
PLCA					LR	LR	19 21 35.7		
	comp=Z,223nm,19.1s,baz=326,slow=40								
TORD	**Torodi Ar. Bea**	**61.98**	**85**	P		**P**	**18 51 50.2**	**-0.9**	
	comp=Z,2.6nm,0.7s,baz=292,slow=6.4,SNR=14								
TORD					LR		19 15 35.4		
	comp=Z,234nm,20.0s,baz=275,slow=33								
DLBC	**Dease Lake**	**62.26**	**327**	P		**P**	**18 51 53.2**	**+0.8**	
DLBC					IAmb	IAmb	18 51 54.1		
	comp=Z,4.2nm,0.7s								
RPN	**Rapa Nui**	**64.19**	**226**	LR		LR	19 16 01.5		
	comp=Z,150nm,18.5s,baz=42,slow=32								
KEST	**Kesra**	**65.00**	**59**	P		**P**	**18 52 11.8**	**+0.9**	
	comp=Z,3.3nm,0.6s,baz=112,slow=3.6,SNR=5.8								
KEST					LR	LR	19 17 55.0		
	comp=Z,104nm,19.4s,baz=232,slow=34								
FETA	**Feichten**	**65.32**	**46**	*i* P		**P**	**18 52 14.3**	**+1.3**	
	comp=Z,5.4nm,1.0s								
INK	**Inuvik**	**65.56**	**337**	P		**P**	**18 52 13.7**	**-0.1**	
NB2	**NORSAR Subarra**	**65.99**	**31**	P		**P**	**18 52 17.8**	**+1.0**	
	comp=Z,0.6nm,0.7s,baz=264,slow=6.5								
NOA	**NORSAR Array B**	**65.99**	**31**	P		**P**	**18 52 17.8**	**+1.0**	
	comp=Z,1.1nm,0.8s,baz=265,slow=6.6,SNR=4.1								
NOA					LR	LR	19 18 32.1		
	comp=Z,142nm,18.9s,baz=270,slow=34								
NKC	**Novy Kostel**	**66.39**	**43**	AMS		AMS	19 19 50.0		
	comp=Z,200nm,19.7s								
CLL	**Collm**	**66.72**	**41**	*eP*		**P**	**18 52 22.0**	**+0.5**	
CLL				*ePP*		**PP**	**18 54 51.0**	**+2.7**	
KHC	**Kasperske Hory**	**67.16**	**44**	AMS		AMS	19 18 00.0		
	comp=Z,100nm,18.7s								
GERES	**GERESS Array B**	**67.25**	**44**	P		**P**	**18 52 24.6**	**-0.6**	
	comp=Z,0.6nm,0.6s,baz=276,slow=5.2,SNR=7.8								
GERES					LR	LR	19 18 35.6		
	comp=Z,115nm,19.6s,baz=256,slow=33								
BRG	**Bergqjesshubel**	**67.32**	**42**	*eP*		**P**	**18 52 26.0**	**+0.5**	
	comp=Z,3.7nm,0.8s								
DAWY	**Dawson**	**67.39**	**332**	P		**P**	**18 52 26.0**	**+0.3**	
DAWY					IAmb	IAmb	18 52 42.3		
	comp=Z,5.6nm,1.1s								
PRA	**Prague**	**67.67**	**43**	AMS		AMS	19 18 40.0		
	comp=Z,100nm,16.2s								
PVCC	**Panska Ves**	**67.73**	**42**	AMS		AMS	19 18 20.0		
	comp=Z,200nm,21.3s								
PRU	**Pruhonice**	**67.74**	**43**	AMS		AMS	19 22 10.0		
	comp=Z,200nm,21.3s								
GOPC	**GO Pecny, Ondr**	**67.91**	**43**	AMS		AMS	19 18 00.0		
	comp=Z,200nm,19.7s								
EGAK	**Eagle**	**68.19**	**333**	P		**P**	**18 52 29.7**	**-1.0**	
EGAK					IAmb	IAmb	18 52 47.2		
	comp=Z,5.5nm,0.7s								
TREC	**Trest**	**68.40**	**44**	AMS		AMS	19 18 50.0		
	comp=Z,100nm,19.8s								
UPC	**Upice**	**68.65**	**42**	AMS		AMS	19 23 00.0		
	comp=Z,200nm,13.9s								
CHVC	**Chvalec**	**68.68**	**42**	AMS		AMS	19 19 50.0		
	comp=Z,200nm,21.2s								
OSTC	**Ostas**	**68.78**	**42**	AMS		AMS	19 23 20.0		
	comp=Z,200nm,20.0s								
DPC	**Dobruska-Polom**	**68.86**	**42**	AMS		AMS	19 21 30.0		
	comp=Z,200nm,24.1s								
MENT	**Mentasta**	**69.31**	**331**	P		**P**	**18 52 38.7**	**+1.0**	
DOT	**Dot Lake**	**69.45**	**332**	P		**P**	**18 52 39.5**	**+1.0**	
DOT					IAmb	IAmb	18 52 54.6		
	comp=Z,5.4nm,0.9s								
OKC	**Ostrava-Krasne**	**70.08**	**43**	AMS		AMS	19 22 00.0		
	comp=Z,100nm,23.2s								
ILAR	**Eielson Array**	**70.65**	**333**	P		**P**	**18 52 45.6**	**-0.3**	
	comp=Z,1.8nm,0.9s,baz=98,slow=4.5,SNR=12								
ILAR					LR	LR	19 25 38.5		
	comp=Z,136nm,18.8s,baz=95,slow=38								
CCB	**Clear Creek Bu**	**71.05**	**333**	P		**P**	**18 52 47.3**	**-0.9**	
CCB					IAmb	IAmb	18 53 02.8		
	comp=Z,3.9nm,1.0s								
NEA2	**Nenana**	**71.59**	**333**	P		**P**	**18 52 52.0**	**+0.3**	
	baz=85								
RND	**Reindeer**	**71.61**	**332**	P		**P**	**18 52 49.7**	**-2.1**	
RND					IAmb	IAmb	18 53 08.6		
	comp=Z,5.8nm,0.8s								
ARCES	**ARCESS Array B**	**71.95**	**22**	P		**P**	**18 52 54.1**	**+0.5**	
	comp=Z,1.6nm,0.8s,baz=290,slow=5.7,SNR=4.6								
TRF	**Thorofare Moun**	**72.24**	**332**	P		**P**	**18 52 56.0**	**+0.2**	
BPAW	**Bear Paw Mtn.**	**72.48**	**333**	P		**P**	**18 52 56.9**	**-0.1**	
BPAW					IAmb	IAmb	18 52 59.7		
	comp=Z,6.5nm,0.9s								
FINES	**FINESS Array B**	**73.14**	**30**	P		**P**	**18 53 01.4**	**+0.5**	
	comp=Z,1.0nm,0.6s,baz=245,slow=4.0,SNR=7.5								
FINES					LR	LR	19 22 55.1		
	comp=Z,124nm,19.1s,baz=274,slow=34								
MLR	**Muntele Rosu**	**75.97**	**46**	P		**P**	**18 53 18.6**	**+0.8**	
	comp=Z,3.5nm,0.9s,baz=195,slow=7.0,SNR=5.3								
MLR	**Muntele Rosu**	**75.97**	**46**	P		**P**	**18 53 17.6**	**-0.2**	
MLR					IAmb	IAmb	18 53 27.0		
	comp=Z,12nm,1.3s								
AKASG	**Malin Array Be**	**76.94**	**41**	P		**P**	**18 53 23.1**	**+0.1**	
	comp=Z,0.4nm,0.4s,baz=284,slow=4.7,SNR=2.9								
AKASG					LR	LR	19 26 40.3		
	comp=Z,151nm,18.5s,baz=290,slow=35								
IDI	**Anoyia**	**77.55**	**57**	P		**P**	**18 53 26.0**	**-0.8**	
	comp=Z,5.8nm,0.9s,baz=304,slow=5.4,SNR=5.3								
BRTR	**Keskin Array B**	**82.99**	**51**	P		**P**	**18 53 56.4**	**+0.2**	
	comp=Z,2.3nm,1.1s,baz=293,slow=4.1,SNR=2.2								
BRTR					LR	LR	19 30 33.1		
	comp=Z,27nm,18.3s,baz=256,slow=36								
KBZ	**Khabaz**	**88.00**	**44**	LR		LR	19 32 43.0		
	comp=Z,34nm,19.8s,baz=309,slow=35								
NRIK	**Noril'sk**	**89.57**	**10**	LR		LR	19 35 07.8		
	comp=Z,55nm,20.6s,baz=22,slow=36								
WMQ	**Urumqi**	**112.06**	**23**	*eP*		**PKiKP**	**19 00 06.5**	**+0.2**	
WMQ					pmax	pmax			
	comp=Z,12nm,5.9s								
WMQ					LR	LR			
	comp=N,380nm,29.3s								
WMQ					LR	LR			
	comp=E,940nm,29.2s								
WMQ					LR	LR			
	comp=Z,95nm,28.9s								
LZH	**Lanzhou**	**123.96**	**13**	*e*PKP		**PKiKP**	**19 00 29.8**	**0.0**	
LZH				pPKP		sPKPdf	19 00 35.5	+1.6	
LZH				sPKP			19 00 37.3		
LZH				LR		LR			
	comp=N,59nm,18.3s								
LZH				LR		LR			
	comp=E,63nm,18.1s								
LZH				LR		LR			
	comp=Z,86nm,20.4s								
ASAR	**Alice Springs**	**163.70**	**250**	PKP		**PKPdf**	**19 01 33.0**	**-1.4**	
	comp=Z,0.9nm,1.0s,baz=36,slow=2.4,SNR=4.9								
ASAR				PKPab		**PKPab**	**19 02 25.4**	**-1.0**	
	comp=Z,1.5nm,0.7s,baz=112,slow=4.2,SNR=15								
WRA	**Warramunga Arr**	**163.79**	**263**	PKPab		**PKPab**	**19 02 26.1**	**-0.7**	
	comp=Z,1.0nm,0.7s,baz=82,slow=4.2,SNR=4.9								

IDC ***25*** *18:44:27.7±3.2, 30.°52S×177.°41W, h0km, mb4.1/5, mb1 4.3/5, mb1mx3.8/47, mbtmp4.1/5, Error ellipse: s-maj=67.0km s-min=33.4km az=117.0*

NEIC ***25*** *18:44:31.9±0.4, 30.°29S±0.°06×177.°9W±0.°2, h10km±2km, mb4.1/7, Error ellipse: s-maj=32.4km s-min=9.5km az=90.0*

ISC 25 18:44:33.4±3.0, 30.°29S±0.°09×177.°6W±0.°4, h33km, n15, σ0s80/16, mb4.1/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
RAO	**Raoul Island**	**1.07**	**344**	Pn	**Pb**	**18**	**44**	**53.9**	**+0.4**
	74nm,0.3s,baz=106,slow=19,SNR=1.7								
RAO				Sn	**Sb**	**18**	**45**	**06.9**	**-0.1**
	580nm,0.3s,baz=86,slow=19,SNR=9.2								
RAO	**Raoul Island**	**1.07**	**344**		**Pb**	**18**	**44**	**53.8**	**+0.4**
RAO					**Sn**	**18**	**45**	**05.4**	**-0.4**
CTA	**Charters Tower**	**34.13**	**279**	P	**P**	**18**	**51**	**16.9**	**+1.5**
	2.9nm,0.5s,baz=99,slow=11,SNR=6.1								
CTAO	**Charters Tower**	**34.13**	**279**	P	**P**	**18**	**51**	**14.8**	**-0.7**
CTAO				IAmb	IAmb	18	51	26.3	
	comp=Z,6.1nm,1.1s								
STKA	**Stephens Creek**	**34.85**	**257**	P	**P**	**18**	**51**	**22.8**	**+1.2**
	comp=Z,4.4nm,1.0s,baz=112,slow=11,SNR=5.9								
STKA	**Stephens Creek**	**34.85**	**257**	P	**P**	**18**	**51**	**20.9**	**-0.7**
STKA				IAmb	IAmb	18	51	38.5	
	comp=Z,1.3nm,1.1s								
ASAR	**Alice Springs**	**43.47**	**267**	P	**P**	**18**	**52**	**32.8**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=104,slow=7.6,SNR=12								
WR0	**Warramunga Arr**	**44.27**	**272**	P	**P**	**18**	**52**	**39.5**	**-0.6**
WR0				IAmb	IAmb	18	52	59.1	
	comp=Z,2.1nm,0.9s								
WB2	**Warramunga Arr**	**44.44**	**272**	P	**P**	**18**	**52**	**41.0**	**-0.5**
WB2				IAmb	IAmb	18	52	41.6	
	comp=Z,2.5nm,0.5s								
WRA	**Warramunga Arr**	**44.45**	**272**	P	**P**	**18**	**52**	**40.7**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=111,slow=8.1,SNR=14								
WB0	**Warramunga Arr**	**44.47**	**272**	P	**P**	**18**	**52**	**41.2**	**-0.6**
KNRA	**Kununurra**	**51.05**	**274**	P	**P**	**18**	**53**	**32.3**	**-0.5**
FITZ	**Fitzroy Crossi**	**52.72**	**270**	P	**P**	**18**	**53**	**45.8**	**+0.7**
	comp=Z,1.8nm,0.9s,baz=100,slow=12,SNR=1.1								
FITZ	**Fitzroy Crossi**	**52.72**	**270**	IAmb	IAmb	18	54	00.6	
	comp=Z,2.6nm,1.1s								
FINES	**FINESS Array B**	**145.16**	**340**	PKPbc	**PKPbc**	**19**	**04**	**06.0**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=61,slow=3.8,SNR=8.2								

NIED ***25*** *18:50:00, 38.°20N×142.°20E, h35km, Mw3.6 Best double couple: M0 3.14000×10^14 NP1:φs179.00000°, δ67.00000°, λ-113.00000°. NP2:φs46.00000°, δ32.00000°, λ-47.00000°.*

IDC ***25*** *18:50:01.7±2.1, 38.°35N×142.°23E, h0km, mb3.5/3, mb1 3.6/6, mb1mx3.3/69, mbtmp3.6/6, ML3.1/3, MS2.5/3, Ms1 2.5/3, ms1mx2.3/34, Error ellipse: s-maj=43.1km s-min=21.7km az=124.0*

JMA ***25*** *18:50:04.6±0.1, 38.°25N×142.°17E, h39km±1km, M3.6*

ISC 25 18:50:05.1±2.8, 38.°26N±0.°04×142.°15E±0.°10, h27km±18km, n22, σ1s58/34, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
JIKH	**Ishinomakikobu**	**0.54**	**275**	P	**Pn**	**18**	**50**	**16.0**	**-1.1**
JIKH				S	**Sb**	**18**	**50**	**23.6**	**+0.1**
JIO	**Ouri**	**0.66**	**287**	P	**Pn**	**18**	**50**	**17.8**	**-0.9**
JIO				*eS*	**Sn**	**18**	**50**	**27.0**	**-1.2**
JKMT	**Kesennumamotoy**	**0.77**	**316**	P	**Pn**	**18**	**50**	**19.4**	**-0.7**
JKMT				S	**Sn**	**18**	**50**	**29.7**	**-1.1**
OFUJ	**Ofunato**	**0.90**	**335**	P	**Pn**	**18**	**50**	**21.0**	**-1.0**
JMK	**Ichinoseki**	**1.01**	**314**	P	**Pn**	**18**	**50**	**22.9**	**-0.5**
JMK				*eS*	**Sn**	**18**	**50**	**36.5**	**-0.2**
JMM	**Marumori**	**1.14**	**250**	P	**Pn**	**18**	**50**	**24.1**	**-1.2**
JMM				*eS*	**Sn**	**18**	**50**	**38.3**	**-1.8**
JOU	**Okura**	**1.18**	**276**	P	**Pn**	**18**	**50**	**25.6**	**-0.2**
JOU				*eS*	**Sn**	**18**	**50**	**40.8**	**-0.2**
JFK	**Kawauchi**	**1.35**	**229**	P	**Pn**

*IDC **25** 18:51:40.4±0.8, 1.56N×122.66E, h0km, mb3.7/8, mb1 3.9/10, mb1mx3.6/50, mbtmp3.8/10, ML4.0/2, MS3.3/7, Ms1 3.3/7, ms1mx3.0/37, Error ellipse: s-maj=44.7km s-min=15.6km az=75.0*

*NEIC **25** 18:51:41.4±1.4, 1.57N±0.07×122.5E±0.1, h10km±1km, mb4.3/6, Error ellipse: s-maj=24.5km s-min=4.0km az=64.0*

*DJA **25** 18:51:42.8±0.4, 2.7N±4.4×12.2E±.°, h10km, M4.7/9, mB5.1/4, mb5.0/5, MLv4.6/9, Mw(mB)4.4/4*

ISC 25 18:51:41.6±0.6, 1.58N±0.05×122.46E±0.09, h10km, n39, σ1§75/38, mb3.9/11, MS3.1/4, 2C, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MRSI	**Marisa**	**1.21**	**205**	P		**Pb**	**18 52 04.1**	**-0.6**
MRSI				S		**Sb**	**18 52 18.7**	**-1.7**
KMSI	**Cibinong**	**1.82**	**123**	P		**Pn**	**18 52 15.0**	**+1.9**
LUWI	**Luwuk**	**2.63**	**173**	P		**Pn**	**18 52 26.8**	**+2.7**
LUWI	**Luwuk**	**2.63**	**173**			**Pn**	**18 52 26.1**	**+2.0**
MPSI	**Mapaga**	**2.84**	**244**	P		**Pn**	**18 52 26.2**	**-0.9**
GSPH	**General Santos**	**5.12**	**29**	*eP*		**Pn**	**18 53 01.9**	**+3.3**
GSPH				*eS*		**Sn**	**18 53 55.7**	**-2.1**
TTSI	**Tana Toraja**	**5.30**	**210**	P		**Pn**	**18 53 02.7**	**+1.8**
	0.9nm1µm272nm, 0.7s							
SKMP	**Bagumbayan, Su**	**5.33**	**23**	*eP*		**Pn**	**18 53 01.1**	**-0.1**
SKMP				*eS*		**Sn**	**18 53 59.1**	**-3.7**
DDMP	**Don Marcelino,**	**5.54**	**36**	*eP*		**Pn**	**18 53 07.0**	**+2.8**
DDMP				*eS*		**Sn**	**18 54 05.3**	**-2.8**
KCP	**Kidapawan**	**6.00**	**26**	*eP*		Pn	18 53 16.4	+5.9
KCP				*i* S		**Sn**	**18 54 18.0**	**-1.3**
SPSI	**Sidrap Palu**	**6.13**	**206**	P		**Pn**	**18 53 14.4**	**+2.1**
	0.5nm1µm121nm, 0.7s							
BKB	**Balikpapan**	**6.24**	**243**	Pn		**Pn**	**18 53 12.6**	**-1.1**
BNSI	**Bone**	**6.39**	**202**	P		**Pn**	**18 53 18.7**	**+2.8**
	0.7nm2µm188nm, 0.9s							
MATI	**Mati**	**6.54**	**35**	*eP*		**Pn**	**18 53 18.8**	**+0.9**
BUKP	**Musuan**	**6.77**	**22**	*eP*		**Pn**	**18 53 23.2**	**+2.0**
KAPI	**Kappang**	**7.09**	**202**	Pn		**Pn**	**18 53 26.5**	**+1.0**
	6.2nm, 0.3s, baz=106, slow=15, SNR=5.8							
KAPI				LR		LR	18 56 32.6	
	comp=Z, 270nm, 19.3s, baz=58, slow=41							
KAPI	**Kappang**	**7.09**	**202**			**Pn**	**18 53 25.7**	**+0.2**
KKM	**Kota Kinabalu**	**7.64**	**306**			**Pn**	**18 53 35.0**	**+1.8**
TGY	**Tagaytay City**	**12.53**	**353**	LR		LR	18 59 44.6	
	comp=Z, 107nm, 20.8s, baz=360, slow=38							
LEM	**Lembang**	**17.00**	**240**	LR		LR	19 03 52.9	
	comp=Z, 90nm, 21.7s, baz=216, slow=43							
FITZ	**Fitzroy Crossi**	**19.81**	**171**	P		**P**	**18 56 11.4**	**-1.0**
	0.2nm, 0.3s, baz=27, slow=10, SNR=11							
FITZ	**Fitzroy Crossi**	**19.81**	**171**	P		**P**	**18 56 11.6**	**-0.9**
FITZ					IAmb	IAmb	18 56 24.5	
	comp=Z, 7.3nm, 1.1s							
WRA	**Warramunga Arr**	**24.36**	**152**	P		**P**	**18 56 59.1**	**-1.0**
	comp=Z, 1.5nm, 0.9s, baz=331, slow=10, SNR=7.7							
WB2	**Warramunga Arr**	**24.37**	**152**	P		**P**	**18 56 59.0**	**-1.1**
WB2					IAmb	IAmb	18 57 01.9	
	comp=Z, 11nm, 1.1s							
WR0	**Warramunga Arr**	**24.47**	**152**	P		**P**	**18 57 00.0**	**-1.1**
WR0					IAmb	IAmb	18 57 10.5	
	comp=Z, 6.1nm, 0.8s							
GSI	**Gunungsitoli**	**24.87**	**270**	P		**P**	**18 57 04.9**	**+0.1**
ASAR	**Alice Springs**	**27.46**	**157**	P		**P**	**18 57 27.9**	**-0.2**
	comp=Z, 0.2nm, 0.5s, baz=341, slow=14, SNR=4.0							
CMAR	**Chiang Mai Arr**	**28.52**	**308**	LR		LR	19 10 58.0	
	comp=Z, 31nm, 18.5s, baz=165, slow=40							
KSRS	**Korea Array**	**36.05**	**7**	LR		LR	19 14 02.9	
	comp=Z, 46nm, 19.3s, baz=232, slow=37							
MJAR	**Matsushiro Arr**	**37.72**	**21**	P		**P**	**18 58 57.3**	**-0.3**
	comp=Z, 1.2nm, 0.7s, baz=197, slow=9.9, SNR=4.4							
MJAR				LR		LR	19 12 52.0	
	comp=Z, 27nm, 21.8s, baz=180, slow=34							
STKA	**Stephens Creek**	**37.91**	**153**	P		**P**	**18 58 59.1**	**-0.1**
	comp=Z, 1.3nm, 0.6s, baz=305, slow=7.0, SNR=3.0							
STKA	**Stephens Creek**	**37.91**	**153**	P		**P**	**18 58 57.6**	**-1.6**
SONM	**Songino Array**	**48.13**	**346**	P		**P**	**19 00 22.8**	**+0.8**
	comp=Z, 1.0nm, 0.7s, baz=165, slow=7.3, SNR=6.7							
MKAR	**Makanchi Array**	**56.99**	**328**	P		**P**	**19 01 28.9**	**+1.4**
	comp=Z, 0.7nm, 0.4s, baz=127, slow=8.2, SNR=14							
KURK	**Kurchatov**	**61.34**	**330**	P		**P**	**19 01 57.9**	**+0.4**
KURK					IAmb	IAmb	19 01 59.3	
	comp=Z, 2.4nm, 0.7s							
BVAR	**Borovoye Array**	**66.86**	**329**	P		**P**	**19 02 33.8**	**0.0**
	comp=Z, 0.4nm, 0.7s, baz=132, slow=8.4, SNR=2.8							
GEYT	**Alibeck**	**68.95**	**310**	LR		LR	19 38 29.6	
	comp=Z, 55nm, 19.8s, baz=185, slow=41							
VNDA	**Vanda**	**81.88**	**172**	P		**P**	**19 04 00.3**	**-0.4**
	comp=Z, 0.6nm, 0.7s, baz=302, slow=6.8, SNR=5.6							
TORD	**Torodi Ar. Bea**	**119.46**	**286**	PKP		**PKiKP**	**19 10 34.8**	**+2.1**
	comp=Z, 0.3nm, 0.6s, baz=42, slow=1.4, SNR=2.0							

IDC 25 19:05:33.9±32.0, 30.98S×179.79E, h473km±295km, mb3.4/5, mb1 3.5/5, mb1mx3.1/27, mbtmp4.3/5, Error ellipse: s-maj=224.3km s-min=42.5km az=109.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.03**	**282**	P		P	19 11 20.9	+0.3
	2.3nm, 0.5s, baz=102, slow=13							
STKA	**Stephens Creek**	**32.50**	**258**	P		P	19 11 24.2	-0.2
	1.3nm, 0.5s, baz=133, slow=3.2, SNR=3.2							
KRVT	**Keravat (AS076**	**37.24**	**310**	P		P	19 12 04.2	-0.2
	21nm, 0.6s, baz=197, slow=0.3, SNR=9.4							
ASAR	**Alice Springs**	**41.19**	**269**	P		P	19 12 36.1	-0.2
	0.5nm, 0.4s, baz=106, slow=7.3, SNR=24							
WRA	**Warramunga Arr**	**42.23**	**274**	P		P	19 12 44.3	-0.3
	1.1nm, 0.3s, baz=111, slow=8.1, SNR=9.6							
FINES	**FINESS Array B**	**145.00**	**338**	PKPbc		PKPdf	19 24 15.5	-0.3
	1.8nm, 0.4s, baz=46, slow=4.0, SNR=25							

IDC 25 19:12:21.1±3.7, 11.58S×162.73E, h42km±28km, mb3.6/3, mb1 3.7/5, mb1mx3.5/28, mbtmp3.9/5, ML4.0/2, MS2.9/3, Ms1 2.9/3, ms1mx2.7/26, Error ellipse: s-maj=48.7km s-min=19.5km az=57.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.47**	**308**	P		Pn	19 13 13.6	+0.9
	38nm, 0.3s, baz=131, slow=20, SNR=21							
HNR				S		Sn	19 13 52.7	+0.1
	31nm, 0.3s, baz=149, slow=6.4, SNR=5.6							
HNR				LR		LR	19 14 05.8	
	comp=Z, 34nm, 19.6s, baz=110, slow=30							
DZM	**Mont Dzumac**	**11.02**	**162**	P		Pn	19 14 55.6	-0.7
	0.5nm, 0.3s, baz=333, slow=16, SNR=7.4							
DZM				LR		LR	19 18 35.1	
	comp=Z, 80nm, 19.2s, baz=21, slow=34							
STKA	**Stephens Creek**	**28.06**	**221**	LR		LR	19 27 41.4	
	comp=Z, 78nm, 20.0s, baz=219, slow=33							
ASAR	**Alice Springs**	**29.92**	**242**	P		P	19 18 25.6	+0.1
	0.5nm, 0.8s, baz=63, slow=10, SNR=8.2							
SONM	**Songino Array**	**77.38**	**325**	P		P	19 24 12.4	+0.5
	1.3nm, 0.8s, baz=137, slow=6.0, SNR=7.2							
MKAR	**Makanchi Array**	**91.90**	**317**	P		P	19 25 24.2	-1.0
	0.3nm, 0.6s, baz=106, slow=5.1, SNR=5.0							

*IDC **25** 19:39:26.7±1.4, 3.49S×145.48E, h0km, mb3.8/6, mb1 4.0/9, mb1mx3.8/39, mbtmp3.9/9, ML3.7/3, MS3.1/1, Ms1 3.1/1, ms1mx2.5/31, Error ellipse: s-maj=30.1km s-min=24.1km az=104.0*

*NEIC **25** 19:39:32.7±0.9, 3.5S±0.2×145.36E±0.06, h36km±12km, mb4.1/6, Error ellipse: s-maj=28.3km s-min=6.1km az=192.0*

ISC 25 19:39:30.0±0.9, 3.5S±0.1×145.5E±0.1, h23km, n15, σ0§70/15, mb3.7/6, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.90**	**282**	Pn		**Pn**	**19 40 42.1**	**-0.3**
	0.4nm, 0.3s, baz=222, slow=12, SNR=1.6							
JAY				LR		LR	19 42 24.6	
	comp=Z, 202nm, 18.1s, baz=274, slow=36							
KRVT	**Keravat (AS076**	**6.55**	**97**	Pn		**Pn**	**19 41 04.9**	**-0.1**
	2.3nm, 0.3s, baz=198, slow=20, SNR=2.2							
WB0	**Warramunga Arr**	**19.44**	**213**	P		**P**	**19 43 55.5**	**+0.4**
WB0					IAmb	IAmb	19 43 59.3	
	comp=Z, 8.0nm, 0.9s							
WR0	**Warramunga Arr**	**19.52**	**212**	P		**P**	**19 43 56.3**	**+0.4**
WR0					IAmb	IAmb	19 44 09.6	
	comp=Z, 12nm, 0.9s							
WB2	**Warramunga Arr**	**19.61**	**213**	P		**Pn**	**19 43 57.6**	**-0.7**
WB2					IAmb	IAmb	19 44 13.5	
	comp=Z, 15nm, 1.1s							
WRA	**Warramunga Arr**	**19.61**	**213**	P		**P**	**19 43 57.4**	**+0.4**
	comp=Z, 0.5nm, 0.3s, baz=34, slow=10, SNR=22							
KNRA	**Kununurra**	**20.42**	**233**	P		**P**	**19 44 05.5**	**-0.2**
BATI	**Baumata**	**22.66**	**252**	P		**P**	**19 44 29.5**	**-0.5**
	comp=Z, 34nm, 1.0s, baz=63, slow=6.8, SNR=2.9							
AS31	**Alice Springs**	**22.94**	**208**	P		**P**	**19 44 33.7**	**+0.9**
ASAR	**Alice Springs**	**22.94**	**208**	P		**P**	**19 44 33.6**	**+0.9**
	comp=Z, 1.2nm, 0.6s, baz=30, slow=12, SNR=26							
FITZ	**Fitzroy Crossi**	**24.25**	**232**	P		**P**	**19 44 44.6**	**-0.9**
	comp=Z, 3.9nm, 0.6s, baz=54, slow=11, SNR=15							
FITZ	**Fitzroy Crossi**	**24.25**	**232**	P		**P**	**19 44 44.8**	**-0.7**
FITZ					IAmb	IAmb	19 44 45.3	
	comp=Z, 6.4nm, 1.1s							
CMAR	**Chiang Mai Arr**	**50.79**	**297**	P		**P**	**19 48 30.2**	**+1.2**
	comp=Z, 0.7nm, 1.0s, baz=108, slow=4.8, SNR=2.7							
SONM	**Songino Array**	**61.54**	**331**	P		**P**	**19 49 45.2**	**-0.3**
	comp=Z, 0.3nm, 0.4s, baz=142, slow=7.7, SNR=3.5							
MKAR	**Makanchi Array**	**74.66**	**321**	P		**P**	**19 51 07.4**	**-0.3**
	comp=Z, 0.1nm, 0.4s, baz=97, slow=9.4, SNR=1.9							

IDC 25 19:39:55.8±3.0, 30.41S×177.12W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/31, mbtmp3.8/2, Error ellipse: s-maj=61.5km s-min=41.4km az=102.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.34**	**329**	Pn		Pn	19 40 21.7	-0.1
	174nm, 0.3s, baz=53, slow=18, SNR=5.1							
RAO				Sn		Sg	19 40 33.1	-5.9
	217nm, 0.3s, baz=83, slow=19, SNR=5.7							
ASAR	**Alice Springs**	**43.86**	**267**	P		P	19 48 04.2	0.0
	0.7nm, 0.7s, baz=108, slow=7.3, SNR=9.8							
WRA	**Warramunga Arr**	**44.85**	**272**	P		P	19 48 11.8	-0.3
	1.9nm, 0.7s, baz=111, slow=8.1, SNR=7.9							
FINES	**FINESS Array B**	**145.41**	**341**	PKPbc		PKPbc	19 59 34.1	-0.8
	2.7nm, 0.6s, baz=42, slow=3.2, SNR=8.9							

*IDC **25** 19:43:16.5±2.5, 51.23N×179.18W, h0km, mb3.8/10, mb1 4.0/11, mb1mx3.7/49, mbtmp3.9/11, ML4.3/1, MS3.2/3, Ms1 3.2/3, ms1mx2.8/36, Error ellipse: s-maj=61.3km s-min=20.2km az=174.0*

*AEIC **25** 19:43:18.2±2.2, 50.90N±0.06×179.17W±0.05, h5km±5km, ML3.6/30, mb4.0/7(NEIC), Error ellipse: s-maj=8.5km s-min=4.3km az=171.0*

*NEIC **25** 19:43:22.4±1.7, 51.07N±0.03×179.13W±0.06, h50km±8km, Error ellipse: s-maj=6.0km s-min=2.9km az=125.0*

ISC 25 19:43:22.6±1.0, 51.2N±0.1×179.15W±0.04, h45km, n53, σ1§97/50, mb4.0/10, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.64**	**22**			**Pn**	**19 43 36.0**	**+0.6**
GAEA	**Gareloi East**	**0.67**	**22**			**Pn**	**19 43 36.4**	**+0.6**
TASE	**Tanaga Southea**	**0.96**	**46**			**Pn**	**19 43 39.9**	**+0.1**
AMKA	**Amchitka**	**0.99**	**283**			**Pn**	**19 43 41.1**	**+1.0**
AMKA	**Amchitka**	**0.99**	**283**			**Sn**	**19 43 54.9**	**+1.9**
TAFP	**Tanaga Falls P**	**1.03**	**44**			**Pn**	**19 43 41.3**	**+0.6**
TAFP						**Sn**	**19 43 59.6**	**+5.6**
CERAA	**Semis' Rag'd T**	**1.04**	**316**			**Pn**	**19 43 41.3**	**+0.5**
TAPA	**Tanaga Point A**	**1.06**	**52**			**Pn**	**19 43 41.4**	**+0.3**
CESW	**Semis' Southwe**	**1.09**	**313**			**Pn**	**19 43 41.8**	**+0.4**
CEAP	**Semis' Anvil P**	**1.15**	**317**			**Pn**	**19 43 43.3**	**+1.0**
KIMD	**Kanaga Island**	**1.34**	**63**			**Pn**	**19 43 44.9**	**+0.2**
KIKV	**Kanaga Island**	**1.43**	**59**			**Pn**	**19 43 46.3**	**+0.3**
KIKV						**Sn**	**19 44 07.5**	**+3.9**
KICM	**Kanaga Island**	**1.43**	**58**			**Pn**	**19 43 46.4**	**+0.3**
LSPA	**Little Sitkin**	**1.63**	**300**			**Pn**	**19 43 49.4**	**+0.6**
LSSA	**Little Sitkin**	**1.66**	**299**			**Pn**	**19 43 49.7**	**+0.5**
LSNW	**Little Sitkin**	**1.66**	**300**			**Pn**	**19 43 49.6**	**+0.3**
ADK	**Adak**	**1.70**	**64**			**Pn**	**19 43 49.7**	**0.0**
GSTD	**Great Sitkin T**	**2.07**	**63**			**Pn**	**19 43 55.8**	**+0.9**
GSTD						**Sn**	**19 44 23.6**	**+4.0**
GSMY	**Great Sitkin M**	**2.12**	**64**			**Pn**	**19 43 56.5**	**+1.0**
GSTR	**Great Sitkin T**	**2.14**	**63**			**Pn**	**19 43 56.7**	**+0.9**
ATKA	**Atka Island**	**3.25**	**69**			**Pn**	**19 44 11.1**	**+0.1**
KOFP	**Korovin Flat P**	**3.33**	**69**			**Pn**	**19 44 13.0**	**+0.8**
SMY	**Shemya**	**4.46**	**293**			**Pn**	**19 44 30.3**	**+2.7**
NIKH	**Nikolski High**	**6.60**	**70**			**Pn**	**19 44 57.8**	**+0.8**
MNAT	**Makushin Natee**	**8.07**	**65**			**Pn**	**19 45 18.6**	**+1.5**
SDPT	**Sand Point**	**11.93**	**62**			**Pn**	**19 46 11.0**	**+1.2**
PETK	**Petropavlovsk-**	**14.34**	**287**	LR		LR	19 50 59.1	
	comp=Z, 61nm, 20.7s, baz=61, slow=32							
SVW2	**Sparrevohn**	**16.38**	**44**	P		**P**	**19 47 13.2**	**+2.0**
KDAK	**Kodiak Island**	**16.72**	**56**	Pn		**Pn**	**19 47 10.0**	**-3.4**
	1.2nm, 0.3s, baz=286, slow=6.1, SNR=13							
KDAK						Sn	**19 50 14.2**	**-3.7**
	0.1nm, 0.3s, baz=15, slow=20, SNR=1.6							
KDAK	**Kodiak Island**	**16.72**	**56**			**Pn**	**19 47 12.0**	**-1.3**
KDAK					IAmb	IAmb	19 47 19.4	
	comp=Z, 11nm, 1.0s							
CNPM	**China Poot**	**17.82**	**51**	Pn		**Pn**	**19 47 27.6**	**+0.5**
CNPM					IAmb	IAmb	19 47 42.0	
	comp=Z, 26nm, 1.4s							
SKT	**Skwentna**	**18.51**	**44**	P		**P**	**19 47 35.0**	**+0.2**
SKT					IAmb	IAmb	19 47 40.1	
	comp=Z, 5.7nm, 0.5s							
PPLA	**Purkeypile**	**18.62**	**41**	P		**Pn**	**19 47 37.4**	**+0.7**
TRF	**Thorofare Moun**	**19.64**	**40**	P		**P**	**19 47 48.3**	**+1.1**
TRF					IAmb	IAmb	19 48 12.6	
	comp=Z, 5.2nm, 0.9s							
BPAW	**Bear Paw Mtn.**	**19.65**	**38**	P		**P**	**19 47 48.1**	**+0.8**
FID	**Port Fidalgo**	**20.44**	**49**	P		**P**	**19 47 55.5**	**-0.3**
FID					IAmb	IAmb	19 47 59.9	
	comp=Z, 5.8nm, 0.8s							
ILAR	**Eielson Array**	**21.55**	**39**	P		**P**	**19 48 06.0**	**-1.7**
	comp=Z, 0.6nm, 0.3s, baz=233, slow=8.5, SNR=11							
ILAR				S		**S**	**19 51 56.1**	**-7.6**
	comp=Z, 0.9nm, 0.9s, baz=259, slow=5.3, SNR=5.5							
H11N2	**WAKE ISLAND Hy**	**33.25**	**204**	T		T	20 25 11.8	
	baz=16, slow=76							
H11N3	**WAKE ISLAND Hy**	**33.26**	**204**	T		T	20 25 09.7	
	baz=16, slow=76							
H11N1	**WAKE ISLAND Hy**	**33.27**	**204**	T		T	20 25 15.1	
	baz=16, slow=76							
H11S1	**WAKE ISLAND Hy**	**34.47**	**204**	T		T	20 26 44.3	
	baz=16, slow=76							
H11S2	**WAKE ISLAND Hy**	**34.48**	**204**	T		T	20 26 44.6	
	baz=16, slow=76							
H11S3	**WAKE ISLAND Hy**	**34.48**	**204**	T		T	20 26 43.0	
	baz=16, slow=76							
YKA	**Yellowknife Ar**	**35.54**	**46**	P		**P**	**19 50 13.8**	**-1.0**
	comp=Z, 0.7nm, 0.6s, baz=277, slow=9.4, SNR=2.9							
TLY	**Talaya**	**45.99**	**302**	LR		LR	20 14 07.2	
	comp=Z, 37nm, 18.4s, baz=86, slow=40							
SONM	**Songino Array**	**46.54**	**297**	P		**P**	**19 51 45.9**	**+0.3**
	comp=Z, 0.2nm, 0.3s, baz=56, slow=7.7, SNR=2.7							
PDAR	**Pinedale Array**	**46.58**	**72**	P		**P**	**19 51 46.5**	**+0.4**
	comp=Z, 0.7nm, 0.4s, baz=260, slow=4.4, SNR=7.4							
SPITS	**Spitsbergen Ar**	**50.57**	**356**	P		**P**	**19 52 15.9**	**0.0**
	comp=Z, 0.6nm, 0.3s, baz=48, slow=8.6, SNR=8.9							
ARCES	**ARCESS Array B**	**58.26**	**350**	P		**P**	**19 53 12.4**	**+0.5**
	comp=Z, 3.3nm, 0.8s, baz=32, slow=8.7, SNR=3.6							
ARCES					LR	LR	20 19 16.0	
	comp=Z, 24nm, 20.2s, baz=162, slow=37							
MKAR	**Makanchi Array**	**59.99**	**308**	P		**P**	**19 53 23.9**	**-0.4**
	comp=Z, 0.4nm, 0.4s, baz=47, slow=6.9, SNR=8.9							
FINES	**FINESS Array B**	**65.94**	**347**	P		**P**	**19 54 02.7**	**-0.7**
	comp=Z, 1.8nm, 0.8s, baz=40, slow=6.3, SNR=6.6							
NOA	**NORSAR Array B**	**67.83**	**355**	P		**P**	**19 54 15.7**	**+0.2**
	comp=Z, 0.3nm, 0.7s, baz=12, slow=5.1, SNR=1.8							
AKASG	**Malin Array Be**	**75.68**	**342**	P		**P**	**19 55 02.5**	**-0.1**
	comp=Z, 1.7nm, 0.3s, baz=20, slow=6.2, SNR=8.1							

*IDC **25** 19:46:21.1±0.7, 40.47S×175.91E, h0km, mb4.4/11, mb1 4.6/12, mb1mx4.4/25, mbtmp4.4/12, ML3.7/1, MS3.7/16, Ms1 3.7/16, ms1mx3.6/25, Error ellipse: s-maj=23.6km s-min=16.9km az=51.0*

*NEIC **25** 19:46:25.8±2.0, 40.68S±0.04×175.82E±0.05, h32km±3km, Error ellipse: s-maj=8.2km s-min=2.4km az=134.0*

*WEL **25** 19:46:26.3, 40.7S±0.7×17.6E±.°, h31km±1km, M4.8/100, ML5.2/13, MLv4.9/12, MLv4.8/100, Error ellipse: s-maj=0.0km s-min=0.0km az=106.3*

*NEIC **25** 19:46:26, 40.74S×175.83E, h34km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-2.28; $M_{\theta\theta}$-0.26; $M_{\phi\phi}$2.54; $M_{r\theta}$1.66; $M_{r\phi}$0.93; $M_{\theta\phi}$4.68; Fault plane solution: $M_0$5.60000×10^{15} NP1:ϕ_s13.09000°, δ13.64000°, λ-96.10000° NP2:ϕ_s199.37000°, δ76.44000°, λ-88.52000°. Principal axes: T 5.8509, Plg31.0000°, Azm288.0000°; N -0.5333, Plg1.0000°, Azm19.0000°; P -5.3176, Plg59.0000°, Azm111.0000°;*

ISC 25 19:46:26.4±0.7, 40.66S±0.02×175.83E±0.02, h34km±4km, n189, σ1§13/194, mb4.8/18, MS3.6/15, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op		ISC		
TIWZ	**Tintock**	**0.12**	**159**	P		**Pb**	**19 46 32.3**	**-0.3**
TIWZ				S		**Sb**	**19 46 36.7**	**0.0**
PRWZ	**Pori Road**	**0.15**	**46**	P		**Pn**	**19 46 32.5**	**+2.3**
PRWZ				S		**Sb**	**19 46 37.4**	**+0.4**
MRZ	**Mangatainoka R**	**0.19**	**270**	P		**Pn**	**19 46 32.7**	**+1.2**
MRZ				S		**Sb**	**19 46 37.6**	**+0.1**
POWZ	**Post Office Ro**	**0.27**	**350**	P		**Pn**	**19 46 33.8**	**+0.1**
BFZ	**Birch Farm**	**0.32**	**94**	P		**Pn**	**19 46 34.4**	**-0.2**
BFZ				S		**Sn**	**19 46 40.4**	**+0.9**
BFZ	**Birch Farm**	**0.32**	**94**			**Pb**	**19 46 34.2**	**-0.3**
BFZ					Sg	**Sn**	**19 46 40.5**	**+0.9**
HOWZ	**Holdsworth Sta**	**0.34**	**225**	P		**Pn**	**19 46 35.0**	**0.0**
CPWZ	**Castlepoint**	**0.38**	**131**	P		**Pn**	**19 46 36.0**	**+0.4**
DVHZ	**Dannevirke**	**0.44**	**36**	P		**Pn**	**19 46 35.8**	**-0.4**
TMWZ	**Te Maipa**	**0.45**	**174**	P		**Pn**	**19 46 36.7**	**+0.1**
TMWZ				S		**Sn**	**19 46 45.0**	**+1.6**
OGWZ	**Otaki Gorge**	**0.52**	**252**	P		**Pn**	**19 46 37.7**	**+0.3**
ANWZ	**Angora Road**	**0.53**	**68**	P		**Pn**	**19 46 37.5**	**0.0**
MTW	**Mount Morrison**	**0.56**	**206**	P		**Pn**	**19 46 38.1**	**+0.2**
OHWZ	**Ohakea**	**0.60**	**319**	P		**Pn**	**19 46 39.3**	**+1.1**
TSZ	**Tokapari Road**	**0.61**	**10**	P		**Pb**	**19 46 38.5**	**-0.4**
KIW	**Kapiti Island**	**0.72**	**254**	P		**Pb**	**19 46 41.0**	**+0.3**
CAW	**Cannon Point**	**0.73**	**232**	P		**Pb**	**19 46 40.7**	**-0.1**
PRHZ	**Porangahau**	**0.73**	**58**	P		**Pn**	**19 46 40.2**	**-0.2**
TRWZ	**Traveller**	**0.74**	**188**	P		**Pn**	**19 46 40.5**	**-0.1**
WPHZ	**Waipukurau**	**0.76**	**38**	P		**Pb**	**19 46 41.0**	**-0.2**
PNHZ	**Pukenui**	**0.80**	**21**	P		**Pb**	**19 46 41.6**	**-0.4**
MSWZ	**Moikau Station**	**0.87**	**210**	P		**Pn**	**19 46 42.1**	**-0.2**
MSWZ	**Moikau Station**	**0.87**	**210**			**Pn**	**19 46 42.0**	**-0.2**
PLWZ	**Palliser**	**1.01**	**205**	P		**Pn**	**19 46 43.8**	**-0.4**
PLWZ	**Palliser**	**1.01**	**205**	Pn		**Pn**	**19 46 43.5**	**-0.7**
PLWZ					Sg	**Sn**	**19 46 57.4**	**+0.2**
PXZ	**Pawanui**	**1.01**	**52**	P		**Pn**	**19 46 43.8**	**-0.4**
WEL	**Wellington**	**1.02**	**232**	P		**Pn**	**19 46 44.6**	**+0.3**
BHW	**Baring Head**	**1.04**	**224**	P		**Pn**	**19 46 44.6**	**0.0**
BHW	**Baring Head**	**1.04**	**224**			**Pn**	**19 46 44.5**	**0.0**
BHW					Sg	**Sn**	**19 46 58.5**	**+0.5**
SNZO	**South Karori**	**1.07**	**232**			**Pn**	**19 46 45.2**	**+0.2**
SNZO					Sg	**Sb**	**19 46 59.6**	**-0.5**
KRHZ	**Kereru**	**1.10**	**22**	P		**Pn**	**19 46 45.6**	**+0.2**
WAZ	**Wanganui**	**1.11**	**324**	P		**Pb**	**19 46 47.4**	**+0.2**
KAHZ	**Kahuranaki**	**1.18**	**43**	P		**Pn**	**19 46 46.5**	**-0.1**
BHHZ	**Black Hill Sta**	**1.18**	**9**	P		**Pn**	**19 46 47.2**	**+0.6**
MOVZ	**Moawhango**	**1.25**	**357**	P		**Pn**	**19 46 48.3**	**+0.7**
TCW	**Tory Channel**	**1.30**	**244**	P		**Pn**	**19 46 48.3**	**+0.2**
MTVZ	**Mangateitei**	**1.30**	**348**	P		**Pb**	**19 46 49.8**	**-0.6**
KWHZ	**Kaweka Forest**	**1.32**	**21**	P		**Pn**	**19 46 48

FOZ	**Fox Glacier**	**5.31**	**235**	Pn	**Pn**	**19 47 42.0**	**-1.3**
LBZ	**Lake Benmore**	**5.59**	**226**	Pn	**Pn**	**19 47 44.8**	**-2.3**
OUZ	**Omahuta**	**5.71**	**341**	Pn	**Pn**	**19 47 49.3**	**+0.5**
ODZ	**Otahua Downs**	**5.80**	**219**		**Pn**	**19 47 49.4**	**-0.6**
WKZ	**Wanaka**	**6.52**	**228**	Pn	**Pn**	**19 47 58.1**	**-1.8**
MLZ	**Mavora Lakes**	**7.35**	**228**	Pn	**Pn**	**19 48 09.4**	**-1.9**
PYZ	**Puysegur Point**	**8.63**	**227**	Pn	**Pn**	**19 48 27.2**	**-1.7**
DZM	**Mont Dzumac**	**20.16**	**334**	LR	LR	19 57 57.1	
	comp=Z,298nm,21.1s,baz=204,slow=35						
CAN	**Canberra**	**21.77**	**276**	P	**P**	**19 51 13.1**	**-2.1**
TOO	**Toolangi**	**23.68**	**268**	P	**P**	**19 51 32.1**	**-2.8**
TOO				IAmb	IAmb	19 51 46.0	
	comp=Z,49nm,1.3s						
EIDS	**Eidsvold**	**25.63**	**299**	P	**P**	**19 51 51.7**	**-1.2**
RAR	**Rarotonga**	**28.37**	**54**	LR	LR	20 00 09.2	
	comp=Z,91nm,20.9s,baz=206,slow=29						
STKA	**Stephens Creek**	**28.81**	**277**	P	**P**	**19 52 21.8**	**+0.4**
	comp=Z,4.2nm,1.0s,baz=98,slow=10,SNR=5.7						
STKA				LR	LR	20 03 28.3	
	comp=Z,212nm,18.8s,baz=153,slow=36						
CTA	**Charters Tower**	**32.49**	**300**	P	**P**	**19 52 53.7**	**-0.2**
	comp=Z,4.4nm,0.8s,baz=149,slow=5.9,SNR=2.1						
CTAO	**Charters Tower**	**32.49**	**300**	P	**P**	**19 52 53.4**	**-0.5**
CTAO				IAmb	IAmb	19 53 02.4	
	comp=Z,20nm,1.4s						
BBOO	**Buckleboo**	**32.60**	**271**	P	**P**	**19 52 53.9**	**-0.9**
HNR	**Honiara**	**34.15**	**331**	LR	LR	20 07 19.5	
	comp=Z,94nm,18.2s,baz=178,slow=37						
VNDA	**Vanda**	**37.43**	**185**	P	**P**	**19 53 37.1**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=349,slow=8.0,SNR=7.6						
VNDA				LR	LR	20 07 14.9	
	comp=Z,81nm,18.4s,baz=340,slow=33						
PPT	**Papeete**	**37.62**	**63**	LR	LR	20 06 45.6	
	comp=Z,74nm,20.3s,baz=211,slow=33						
ASAR	**Alice Springs**	**38.92**	**283**	P	**P**	**19 53 48.5**	**-0.5**
	comp=Z,7.1nm,0.4s,baz=122,slow=6.7,SNR=286						
ASAR				LR	LR	20 09 33.4	
	comp=Z,206nm,19.9s,baz=173,slow=36						
FORT	**Forrest**	**39.60**	**269**	P	**P**	**19 53 54.3**	**-0.2**
PMG	**Port Moresby**	**40.18**	**313**	P	**P**	**19 54 01.1**	**+1.6**
WRAB	**Tennant Creek**	**40.87**	**288**	P	**P**	**19 54 02.9**	**-2.3**
WRA	**Warramunga Arr**	**40.87**	**288**	P	**P**	**19 54 04.8**	**-0.5**
	comp=Z,16nm,0.5s,baz=126,slow=8.2,SNR=118						
KRVT	**Keravat (AS076**	**42.05**	**323**	LR	LR	20 11 12.9	
	comp=Z,52nm,21.4s,baz=116,slow=36						
CASY	**Casey**	**43.76**	**212**	P	**P**	**19 54 26.9**	**-1.3**
KNRA	**Kununurra**	**47.66**	**287**	P	**P**	**19 54 59.5**	**-0.1**
FITZ	**Fitzroy Crossi**	**48.42**	**282**	P	**P**	**19 55 05.3**	**-0.1**
	comp=Z,5.9nm,0.5s,baz=128,slow=4.8,SNR=33						
FITZ	**Fitzroy Crossi**	**48.42**	**282**	P	**P**	**19 55 05.3**	**-0.1**
FITZ				IAmb	IAmb	19 55 10.9	
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**49.47**	**180**	P	**P**	**19 55 15.0**	**+1.9**
	comp=Z,3.4nm,0.9s,baz=203,slow=1.2,SNR=18						
QSPA				LR	LR	20 12 19.4	
	comp=Z,59nm,20.3s,baz=46,slow=31						
QSPA	**South Pole Qui**	**49.47**	**180**	P	**P**	**19 55 15.5**	**+2.4**
QSPA				IAmb	IAmb	19 55 16.4	
	comp=Z,14nm,1.4s						
PSAB3	**Pilbara Seismi**	**50.68**	**274**	P	**P**	**19 55 21.8**	**-0.9**
PSAB3				IAmb	IAmb	19 55 37.6	
	comp=Z,18nm,1.2s						
PSAA3	**Pilbara Seismi**	**50.69**	**274**	P	**P**	**19 55 21.6**	**-1.2**
PSAA3				IAmb	IAmb	19 55 36.6	
	comp=Z,13nm,1.1s						
PSA00	**Pilbara Seismi**	**50.70**	**274**	P	**P**	**19 55 21.5**	**-1.3**
PSA00				IAmb	IAmb	19 55 39.3	
	comp=Z,11nm,1.1s						
PSAA1	**Pilbara Seismi**	**50.70**	**274**	P	**P**	**19 55 21.8**	**-1.1**
PSAA1				IAmb	IAmb	19 55 39.4	
	comp=Z,12nm,1.1s						
PSAA2	**Pilbara Seismi**	**50.70**	**274**	P	**P**	**19 55 21.9**	**-0.9**
PSAA2				IAmb	IAmb	19 55 39.2	
	comp=Z,14nm,1.2s						
PSAB1	**Pilbara Seismi**	**50.72**	**274**	P	**P**	**19 55 21.9**	**-1.1**
PSAB1				IAmb	IAmb	19 55 33.7	
	comp=Z,16nm,1.1s						
MAW	**Mawson**	**60.94**	**204**	LR	LR	20 22 30.4	
	comp=Z,97nm,18.0s,baz=58,slow=36						
GUMO	**Guam**	**61.13**	**325**	LR	LR	20 19 41.0	
	comp=Z,20nm,20.1s,baz=178,slow=33						
VNA3	**Neumayer Olymp**	**68.33**	**178**	P	**P**	**19 57 24.7**	**+0.9**
VNA2	**Neumayer--Watz**	**68.70**	**179**	P	**P**	**19 57 27.4**	**+1.4**
VNA1	**Neumayer--Stat**	**68.96**	**179**	P	**P**	**19 57 28.9**	**+1.3**
PLCA	**Paso Flores**	**79.03**	**135**	P	**P**	**19 58 28.1**	**+1.1**
	comp=Z,3.4nm,0.7s,baz=262,slow=3.5,SNR=8.1						
PLCA				LR	LR	20 27 25.4	
	comp=Z,188nm,18.1s,baz=273,slow=31						
PLCA	**Paso Flores**	**79.03**	**135**	IAmb	IAmb	19 58 29.9	
	comp=Z,3.6nm,0.8s						
MJAR	**Matsushiro Arr**	**84.23**	**330**	P	**P**	**19 58 54.2**	**0.0**
	comp=Z,1.3nm,0.8s,baz=140,slow=3.6,SNR=4.0						
MJAR				LR	LR	20 33 54.9	
	comp=Z,15nm,20.4s,baz=260,slow=34						
KSRS	**Korea Array**	**89.27**	**324**	P	**P**	**19 59 19.1**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=144,slow=5.5,SNR=10						
KSRS				LR	LR	20 35 19.3	
	comp=Z,29nm,19.8s,baz=220,slow=33						
CMAR	**Chiang Mai Arr**	**92.31**	**292**	P	**P**	**19 59 33.8**	**+0.5**
	comp=Z,1.1nm,1.1s,baz=155,slow=3.0,SNR=4.5						
PETK	**Petropavlovsk-**	**94.70**	**349**	LR	LR	20 35 50.1	
	comp=Z,29nm,21.4s,baz=117,slow=31						
LZH	**Lanzhou**	**100.95**	**308**	*e*P	**Pdif**	**20 00 13.5**	**+1.2**
LZH				pP	pP	20 00 24.3	+1.0
LZH				sP	sP	20 00 28.0	+0.8
LZH				*e*PP	**PP**	**20 04 24.5**	**+3.3**
LZH				pmax	pmax		
	comp=Z,15nm,1.3s						
LZH				pmax	pmax		
	comp=Z,56nm,9.2s						
YKA	**Yellowknife Ar**	**116.84**	**29**	PKP	**PKPdf**	**20 05 05.2**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=259,slow=1.3,SNR=2.8						
MKAR	**Makanchi Array**	**120.25**	**307**	PKP	**PKPdf**	**20 05 11.9**	**-1.4**
	comp=Z,0.7nm,0.9s,baz=66,slow=1.7,SNR=5.5						
KBZ	**Khabaz**	**145.36**	**291**	PKPbc	**PKPbc**	**20 05 59.7**	**-0.4**
	comp=Z,5.4nm,0.9s,baz=160,slow=2.8,SNR=12						
LIC	**Lamto**	**145.71**	**178**	*e*PKP1	**PKPab**	**20 06 02.7**	**+0.3**
	comp=Z,47nm,0.8s						
KIC	**Kosan Boka**	**145.84**	**179**	*e*PKP1	**PKPbc**	**20 06 02.4**	**-0.1**
	comp=Z,18nm,0.8s						
TIC	**Toumodi**	**146.12**	**178**	*e*PKP1	**PKPbc**	**20 06 03.6**	**+0.2**
DBIC	**Dimbokro**	**146.15**	**179**	PKPbc	**PKPab**	**20 06 04.3**	**+0.2**
	comp=Z,7.6nm,1.0s,baz=132,slow=2.4,SNR=5.4						
ARCES	**ARCESS Array B**	**147.14**	**341**	PKPbc	**PKPbc**	**20 06 03.8**	**-0.9**
	comp=Z,4.7nm,0.8s,baz=82,slow=1.0,SNR=13						
BRTR	**Keskin Array B**	**151.24**	**281**	PKPbc	**PKPbc**	**20 06 14.9**	**-1.2**
	comp=Z,2.1nm,0.9s,baz=122,slow=4.5,SNR=6.8						
TORD	**Torodi Ar. Bea**	**152.11**	**192**	PKPbc	**PKPbc**	**20 06 18.3**	**-0.4**
	comp=Z,1.1nm,0.5s,baz=162,slow=3.4,SNR=14						
TORD				PKPab	**PKPab**	**20 06 28.3**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=161,slow=3.0,SNR=11						
FINES	**FINESS Array B**	**152.25**	**329**	PKPbc	**PKPbc**	**20 06 16.4**	**-1.1**
	comp=Z,3.6nm,0.8s,baz=116,slow=6.6,SNR=9.3						

*NEIC **25** 19:59:18.0±2.0, 32°.36S±0°.09×178°.5W±0°.1, h10km±1km, mb4.3/6, Error ellipse: s-maj=22.9km s-min=10.0km az=123.0*
*IDC **25** 19:59:25.9±5.7, 32°.26S×178°.61W, h66km±51km, mb4.0/4, mb1 4.2/5, mb1mx3.6/36, mbtmp4.4/5, ML4.6/1, Error ellipse: s-maj=45.0km s-min=24.6km az=165.0*

ISC 25 19:59:21.5±0.9, 32°.40S±0°.08×178°.4W±0°.1, h33km, n21, σ1§62/23, mb4.3/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.17**	**8**	P	**Pb**	**20 00 13.8**	**-3.4**
	84nm,0.3s,baz=74,slow=20,SNR=2.2						
RAO				S	**Sn**	**20 00 47.6**	**+1.8**
	199nm,0.3s,baz=77,slow=22,SNR=4.4						
RAO	**Raoul Island**	**3.17**	**8**		**Pn**	**20 00 11.5**	**+2.5**
RAO					**Sn**	**20 00 45.1**	**-0.7**
URZ	**Urewera**	**6.89**	**211**	Pn	**Pn**	**20 01 01.5**	**+1.4**
OUZ	**Omahuta**	**7.21**	**245**	Pn	**Pn**	**20 01 06.4**	**+1.8**
BKZ	**Black Stump Fm**	**7.91**	**210**	Pn	**Pn**	**20 01 15.8**	**+1.6**
HIZ	**Hauiti**	**8.20**	**220**	Pn	**Pn**	**20 01 18.6**	**+0.5**
THZ	**Tophouse**	**11.62**	**214**	Pn	**Pn**	**20 02 03.2**	**-1.8**
KHZ	**Kahutara**	**11.86**	**210**	Pn	**Pn**	**20 02 06.2**	**-2.0**
RAR	**Rarotonga**	**20.00**	**61**	P	**P**	**20 03 52.6**	**+1.3**
	9.9nm,0.3s,baz=183,slow=19,SNR=1.6						
CTA	**Charters Tower**	**33.82**	**282**	P	**P**	**20 06 01.6**	**+0.8**
	1.6nm,0.5s,baz=121,slow=6.5,SNR=1.5						
AS31	**Alice Springs**	**42.68**	**269**	P	**P**	**20 07 14.3**	**-1.1**
ASAR	**Alice Springs**	**42.68**	**269**	P	**P**	**20 07 14.3**	**-1.0**
	1.1nm,0.8s,baz=105,slow=7.3,SNR=20						

WR0	**Warramunga Arr**	**43.67**	**275**	P	**P**	**20 07 22.3**	**-1.1**
WR0				IAmb	IAmb	20 07 24.1	
	comp=Z,4.6nm,1.1s						
WB2	**Warramunga Arr**	**43.84**	**274**	P	**P**	**20 07 23.6**	**-1.1**
WB2				IAmb	IAmb	20 07 24.4	
	comp=Z,6.2nm,1.1s						
WRAB	**Tennant Creek**	**43.85**	**274**	P	**P**	**20 07 22.7**	**-2.1**
WRA	**Warramunga Arr**	**43.85**	**274**	P	**P**	**20 07 23.7**	**-1.1**
	comp=Z,2.0nm,0.3s,baz=112,slow=8.1,SNR=22						
WB0	**Warramunga Arr**	**43.88**	**275**	P	**P**	**20 07 23.7**	**-1.4**
WB0				IAmb	IAmb	20 07 24.5	
	comp=Z,5.5nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.02**	**272**	P	**P**	**20 08 27.5**	**-0.6**
FITZ				IAmb	IAmb	20 08 47.4	
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**146.88**	**339**	PKPbc	**PKPbc**	**20 18 59.4**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=26,slow=4.3,SNR=14						
NB2	**NORSAR Subarra**	**150.67**	**350**	PKP	**PKPbc**	**20 19 09.0**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=17,slow=2.5						
TORD	**Torodi Ar. Bea**	**160.83**	**180**	PKPab	**PKPab**	**20 20 01.9**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=186,slow=4.6,SNR=3.6						

*KEA **25** 20:05:49.5±0.0, 40°.60N×122°.27E, h0km, ML4.1/1*
*IDC **25** 20:05:50.4±1.7, 40°.57N×122°.32E, h0km, mb3.5/3, mb1 3.7/6, mb1mx3.4/42, mbtmp3.5/6, ML3.0/3, MS2.9/5, Ms1 2.9/5, ms1mx2.6/34, Error ellipse: s-maj=35.6km s-min=19.2km az=19.0*
*BJI **25** 20:05:51.9±0.0, 40°.40N×122°.30E, h8km, ML4.3/19*

ISC 25 20:05:51.8±0.7, 40°.43N±0°.03×122°.34E±0°.03, h10km, n25, σ2§52/36, mb3.8/3, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DL2	**Dalian**	**1.62**	**200**	Pn	**Pn**	**20 06 20.5**	**+0.1**
DL2				Pg	**Pg**	**20 06 22.0**	**-0.9**
DL2				Sg	**Sg**	**20 06 43.5**	**-0.4**
DL2				smax	smax		
	comp=N,2μm,0.8s						
DL2				smax	smax		
	comp=E,3μm,0.8s						
SNY	**Shenyang**	**1.68**	**33**	*i*Pg	**Pb**	**20 06 22.8**	**0.0**
SNY				Sg	**Sn**	**20 06 44.3**	**+1.5**
SNY				smax	smax		
	comp=N,940nm,0.6s						
SNY				smax	smax		
	comp=E,580nm,0.4s						
SUJ	**Sinuiju**	**1.68**	**101**	Pg	**Pb**	**20 06 22.9**	**+0.1**
SUJ				Sg	**Sb**	**20 06 45.6**	**+1.6**
PYS	**Pyongsong**	**2.95**	**112**	Pg	**Pb**	**20 06 46.2**	**+1.7**
PYS				Sg	**Sg**	**20 07 24.2**	**-2.5**
PYAG	**Pyongyang**	**2.98**	**117**	Pn	**Pn**	**20 06 40.9**	**+1.8**
PYAG				Pg	**Pb**	**20 06 46.9**	**+2.0**
PYAG				Sg	**Sg**	**20 07 25.8**	**-1.6**
KGE	**Kanggye**	**3.29**	**80**	Pn	**Pn**	**20 06 42.1**	**-1.3**
KGE				Pg	**Pb**	**20 06 51.1**	**+0.8**
KGE				Sg	**Sb**	**20 07 34.5**	**+4.1**
HJU	**Haeju**	**3.55**	**131**	Pg	**Pb**	**20 06 57.3**	**+2.6**
HJU				Sg	**Sg**	**20 07 42.9**	**-2.9**
HHU	**Hamhung**	**4.01**	**96**	Pg	**Pb**	**20 07 05.3**	**+2.8**
HHU				Sg	**Sb**	**20 07 56.3**	**+5.3**
CN2	**Changchun**	**4.08**	**33**	*e*Pg	**Pb**	**20 07 05.3**	**+1.5**
CN2				Sg	**Sb**	**20 07 57.8**	**+4.6**
CN2				smax	smax		
	comp=N,2μm,1.0s						
CN2				smax	smax		
	comp=E,2μm,1.0s						
WOSN	**Wonsan**	**4.11**	**106**	Pg	**Pg**	**20 07 08.5**	**-2.1**
WOSN				Sg	**Sg**	**20 08 00.0**	**-3.9**
BJI	**Beijing**	**4.73**	**267**	Pn	**Pn**	**20 07 04.5**	**+1.2**
BJI				Sg	**Sg**	**20 08 21.5**	**-2.3**
BJI				smax	smax		
	comp=N,290nm,0.5s						
BJI				smax	smax		
	comp=E,650nm,0.6s						
KSRS	**Korea Array**	**5.27**	**123**	Pn	**Pn**	**20 07 10.7**	**+0.1**
	0.7nm,0.3s,baz=306,slow=14,SNR=20						
KSRS				Pg	**Pg**	**20 07 28.8**	**-4.0**
	2.8nm,0.3s,baz=309,slow=17,SNR=19						
KSRS				Lg	Lg	20 08 34.8	
	8.2nm,0.3s,baz=307,slow=28,SNR=9.5						
KSRS				LR	LR	20 08 38.0	
	comp=Z,20nm,20.6s,baz=190,slow=31						
TIA	**Tai'an**	**5.88**	**226**	Pn	Pn	20 07 23.5	+4.5
TIA				Sg	**Sg**	**20 08 58.3**	**-2.2**
TIA				smax	smax		
	comp=N,58nm,1.1s						
TIA				smax	smax		
	comp=E,41nm,0.9s						
MDJ	**Mudanjiang**	**6.79**	**50**	Pg	**Pb**	**20 07 54.5**	**+4.5**
MDJ				Sg	**Sg**	**20 09 25.8**	**-4.1**
MDJ				smax	smax		
	comp=N,180nm,1.0s						
MDJ				smax	smax		
	comp=E,120nm,0.9s						
USRK	**Usuriysk Ar.**	**8.08**	**59**	Pn	**Pn**	**20 07 49.3**	**+0.1**
	baz=246,slow=13,SNR=5.7						
USRK				Pg	Pb	20 08 17.8	+6.0
	baz=240,slow=14,SNR=9.1						
USRK				Lg	Lg	20 10 03.5	
	baz=246,slow=28,SNR=12						
JNU	**Nakatsue**	**10.00**	**134**	Lg	Lg	20 11 04.6	
	0.2nm,0.3s,baz=193,slow=21,SNR=3.2						
KLR	**Kul'dur**	**11.04**	**34**	Lg	Lg	20 11 37.1	
	0.1nm,0.3s,baz=160,slow=19,SNR=3.6						
MJAR	**Matsushiro Arr**	**13.02**	**102**	LR	LR	20 13 14.7	
	comp=Z,47nm,19.9s,baz=270,slow=34						
SONM	**Songino Array**	**13.62**	**308**	Pn	**Pn**	**20 09 04.7**	**-0.4**
	0.2nm,0.3s,baz=119,slow=12,SNR=5.8						
SONM				Lg	Lg	20 13 00.8	
	0.2nm,0.3s,baz=116,slow=26,SNR=3.3						
SONM				LR	LR	20 14 03.0	
	comp=Z,70nm,18.4s,baz=116,slow=36						
ASAJ	**Asahikawa**	**15.44**	**70**	LR	LR	20 15 08.0	
	comp=Z,29nm,19.2s,baz=195,slow=36						
WMQ	**Urumqi**	**25.80**	**289**	*e*P	**P**	**20 11 24.8**	**+1.7**
ILAR	**Eielson Array**	**54.60**	**32**	P	**P**	**20 15 19.0**	**-1.0**
	0.4nm,0.8s,baz=289,slow=8.3,SNR=4.3						
FINES	**FINESS Array B**	**58.23**	**326**	P	**P**	**20 15 45.1**	**-0.8**
	0.9nm,0.9s,baz=55,slow=5.8,SNR=5.3						
NOA	**NORSAR Array B**	**64.50**	**330**	P	**P**	**20 16 27.3**	**-1.1**
	0.6nm,0.7s,baz=52,slow=5.8,SNR=2.1						
YKA	**Yellowknife Ar**	**67.74**	**25**	LR	LR	20 48 41.4	
	comp=Z,31nm,19.3s,baz=0.0,slow=38						

MAN 25 20:11:36.7, 13°.68N×120°.50E, h128km, mb4.1, ML2.8, MS2.5, 1C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.26**	**282**	*e*P	Pn	20 11 55.7	+1.3
LUBP				*e*S	Sn	20 12 09.9	+2.1
PGP	**Puerto Galera**	**0.47**	**112**	*i*P	Pn	20 11 56.7	+1.3
PGP				*e*S	Sn	20 12 12.4	+2.9
SJMP	**San Jose**	**1.35**	**154**	*e*P	Pn	20 12 03.9	+0.9
SJMP				*e*S	Sn	20 12 24.4	+1.4

JMA 25 20:43:31.3±0.2, 22°.79N×123°.04E, h57km, M2.6, Southeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**1.44**	**29**	P	Pn	20 43 55.8	+0.6
HATJ				S	Sn	20 44 13.6	+0.5
IRIF	**Iriomote-Funau**	**1.66**	**22**	P	Pn	20 43 59.1	+1.0
IRIF				S	Sn	20 44 19.1	+0.7
YOJ	**Yonaguni jima**	**1.66**	**359**	P	Pn	20 43 59.3	+1.1
YOJ				S	Sn	20 44 19.9	+1.5
JKRS	**Kuro-shima**	**1.69**	**32**	P	Pn	20 43 59.4	+0.9
JKRS				*e*S	Sn	20 44 19.4	+0.3
JIJ	**Ishigaki jima**	**1.86**	**33**	P	Pn	20 44 01.3	+0.4
JIJ				S	Sn	20 44 23.0	-0.3
JISG	**Ishigakijimahi**	**2.13**	**33**	P	Pn	20 44 05.1	+0.5
JISG				*e*S	Sn	20 44 30.2	+0.3
JTJ	**Tarama**	**2.39**	**39**	P	Pn	20 44 08.8	+0.8
JTJ				S	Sn	20 44 36.4	+0.2
JIRB	**Irabujima**	**2.82**	**43**	*e*S	Sn	20 44 46.8	+0.2
JMJ2	**Miyako jima3**	**2.86**	**47**	*e*S	Sn	20 44 48.3	+0.7

TAP 25 20:44:04.7, 23°.73N×121°.88E, h28km±1km, ML2.0, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.41**	**281**	*e*S	Sb	20 44 20.4	+0.6
	baz=281						
EGFH	**Guangfu**	**0.42**	**261**	*e*P	Pn	20 44 15.1	+0.3
	baz=261						
EGFH				S	Sn	20 44 21.2	-0.4
	baz=261						
TWD	**Chiawan**	**0.43**	**323**	S	Sn	20 44 21.4	-0.5
	baz=324						
HGSD	**Ruisui**	**0.48**	**240**	*e*P	Pn	20 44 15.9	+0.2
	baz=239						
NACB	**Ninganchiao**	**0.51**	**330**	*e*P	Pn	20 44 17.1	+1.0
	baz=329						
NACB				*e*S	Sn	20 44 23.8	-0.2
	baz=329						
ETLH	**Xiulin Townshi**	**0.59**	**323**	*e*S	Sn	20 44 26.5	+0.3
	baz=322						
YULB	**Yu-li**	**0.63**	**237**	*e*P	Pb	20 44 17.1	-0.1
	baz=237						
VWDT	**VWDT**	**0.67**	**272**	*e*P	Pn	20 44 18.4	+0.1
	baz=271						
VWDT				*e*S	Sb	20 44 27.1	+0.2
	baz=271						
WHF	**Hehuan Shan**	**0.69**	**306**	*e*P	Pb	20 44 18.4	-0.1
	baz=306						
WHF				*e*S	Sn	20 44 29.6	+0.5
	baz=306						
ENA	**Nanau**	**0.70**	**350**	*e*S	Sb	20 44 27.9	+0.1
	baz=350						
CHGB	**Renai**	**0.72**	**297**	*e*P	Pb	20 44 18.9	0.0
	baz=296						
CHGB				*e*S	Sn	20 44 29.3	-0.2
	baz=296						
FULB	**Fuli**	**0.76**	**225**	*e*P	Pb	20 44 17.6	-1.7
	baz=225						
NNSB	**Datong**	**0.82**	**327**	*e*P	Pb	20 44 19.7	-0.9
	baz=326						
NNSB				*e*S	Sn	20 44 32.7	+0.8
	baz=326						
NNSH	**Datong**	**0.82**	**327**	*e*S	Sn	20 44 32.6	+0.6
	baz=326						
TDCB	**Techi**	**0.83**	**308**	*e*S	Sn	20 44 32.7	+0.5
	baz=308						
NNS	**Nan Shan**	**0.84**	**327**	*e*S	Sn	20 44 33.3	+1.0
	baz=327						
SSLB	**Suanglung**	**0.85**	**274**	*e*S	Sb	20 44 32.0	+0.2
	baz=273						
SMLT	**Sun Moon Lake**	**0.91**	**280**	*e*P	Pn	20 44 21.1	-0.6
	baz=279						
NDT	**Datong Townshi**	**0.93**	**339**	*e*S	Sn	20 44 34.6	+0.4
	baz=338						
ENTT	**Nioudou**	**0.94**	**343**	*e*S	Sn	20 44 34.8	0.0
	baz=342						
TWE	**Neicheng**	**1.00**	**349**	*e*S	Sn	20 44 35.6	-0.4
	baz=349						
WHP	**Taichung City**	**1.01**	**303**	*e*S	Sb	20 44 38.1	+1.6
	baz=302						
YHNB	**Yeheng**	**1.04**	**334**	*e*S	Sb	20 44 37.4	0.0
	baz=333						
NSK	**Sanguang**	**1.05**	**333**	*e*S	Sn	20 44 37.9	+0.2
	baz=333						
NWLT	**Wulai**	**1.09**	**342**	*e*S	Sb	20 44 38.7	-0.2
	baz=341						
CHN5	**Tsauling**	**1.11**	**263**	*e*S	Sn	20 44 38.8	-0.1
	baz=262						
LIOB	**Emei**	**1.20**	**319**	*e*S	Sb	20 44 43.3	+1.3
	baz=319						
TIPB	**Shuangxi**	**1.23**	**358**	*e*P	Pn	20 44 26.4	+0.3
	baz=357						
TIPB				*e*S	Sn	20 44 39.3	-2.6
	baz=357						

*IDC **25** 20:53:49.9±1.1, 34°.73N×24°.95E, h0km, mb3.5/7, mb1 3.7/12, mb1mx3.5/40, mbtmp3.6/12, ML3.8/5, Error ellipse: s-maj=20.0km s-min=10.0km az=81.0*
*ATH **25** 20:53:50.7, 34°.79N×24°.90E, h17km±1km, ML3.4/12, Error ellipse: s-maj=2.0km s-min=1.0km az=356.0*
*THE **25** 20:53:50.8, 34°.80N×24°.90E, h0km±1km, ML3.5/6, Error ellipse: s-maj=1.9km s-min=0.6km az=172.0*
*ISK **25** 20:53:50.8, 34°.79N×24°.90E, h8km, ML3.6/7*
*GII **25** 20:53:54.7±0.0, 34°.39N×25°.39E, h2km*
*DDA **25** 20:54:10.5, 36°.02N×25°.61E, h35km±3km, MW3.5*

ISC 25 20:53:49.9±1.2, 34°.73N±0°.04×24°.96E±0°.02, h8km±8km, n94, σ1§59/127, mb3.6/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.32**	**337**	P	**Pg**	**20 53 56.3**	**+0.1**
SIVA				S	**Sg**	**20 53 59.9**	**-0.4**
	66μm,0.5s						
SIVA	**Sivas**	**0.32**	**337**	P	**Pg**	**20 53 56.2**	**+0.1**
SIVA				S	**Sg**	**20 53 59.8**	**-0.5**
SIVA				AML	AML	20 54 01.1	
SIVA				AML	AML	20 54 01.9	
TMBK	**Timbaki Herakl**	**0.38**	**335**	P	**Pg**	**20 53 57.7**	**+0.4**
TMBK				S	**Sg**	**20 54 02.0**	**-0.3**
	14μm,0.4s						
IDI	**Anoyia**	**0.56**	**354**	P	**Pg**	**20 54 00.5**	**-0.4**
IDI				S	**Sg**	**20 54 07.9**	**-0.3**
	8μm

IMMV					AML	AML	20 54 26.4	
	comp=E,4941µm,0.3s							
IMMV	**lera Moni Meta**	**1.09**	**313**	PG	**Pg**	**Pb**	**20 54 10.3**	**-0.5**
IMMV				SG	**Sg**	**Pb**	**20 54 24.8**	**-0.5**
ZKR	**Zakros**	**1.10**	**69**	P	**Pb**	**Pb**	**20 54 12.0**	**+0.7**
ZKR	**Zakros**	**1.10**	**69**	P	**Pb**	**Pb**	**20 54 12.1**	**+0.7**
ZKR				S	**Sn**	**Pb**	**20 54 29.0**	**+1.8**
ZKR				AML	AML		20 54 34.2	
	comp=E,2485µm,0.4s							
ZKR				AML	AML		20 54 36.3	
	comp=N,1051µm,0.5s							
ZKR	**Zakros**	**1.10**	**69**	PN	**Pn**	**Pb**	**20 54 12.8**	**+1.1**
ZKR				SN	**Sn**	**Pb**	**20 54 29.3**	**+2.1**
KNDR	**Palaiochora Ch**	**1.16**	**296**	P	**Pg**	**Pb**	**20 54 11.8**	**-0.4**
KNDR	**Palaiochora Ch**	**1.16**	**296**	PN	**Pn**	**Pb**	**20 54 12.8**	**+0.3**
KNDR				SN	**Sn**	**Pb**	**20 54 28.9**	**+0.3**
RODP	**Rodopos**	**1.29**	**311**	P	**Pn**	**Pb**	**20 54 13.4**	**-0.9**
RODP	**Rodopos**	**1.29**	**311**	PN	**Pn**	**Pb**	**20 54 13.6**	**-0.7**
RODP				SN	**Sn**	**Pb**	**20 54 31.8**	**0.0**
SAP1	**Santorini-Akro**	**1.67**	**12**	P	**Pb**	**Pb**	**20 54 20.5**	**-0.3**
SANT	**Santorini**	**1.69**	**14**	P	**Pb**	**Pb**	**20 54 20.4**	**-0.9**
SANT	**Santorini**	**1.69**	**14**	PN	**Pb**	**Pb**	**20 54 20.8**	**-0.5**
SANT				SN	**Sg**	**Pb**	**20 54 43.0**	**-1.3**
SANT	**Santorini**	**1.69**	**14**	*i* P	**Pb**	**Pb**	**20 54 20.4**	**-0.9**
SANT				*i* S	**Sg**	**Pb**	**20 54 42.9**	**-1.4**
SAP3	**Santorini-Thir**	**1.73**	**10**	P	**Pb**	**Pb**	**20 54 21.4**	**-0.6**
ANAF	**Anafi Island**	**1.76**	**22**	P	**Pb**	**Pb**	**20 54 21.6**	**-0.8**
ANAF	**Anafi Island**	**1.76**	**22**	P	**Pb**	**Pb**	**20 54 21.7**	**-0.8**
ANAF				AML	AML		20 54 49.3	
	comp=N,6639µm,0.4s							
ANAF				AML	AML		20 54 49.4	
	comp=E,4424µm,0.3s							
ANKY	**Antikythira Is**	**1.77**	**310**	P	**Pb**	**Pb**	**20 54 22.0**	**-0.7**
ANKY				AML	AML		20 54 51.0	
	comp=N,1214µm,0.5s							
ANKY				AML	AML		20 54 53.9	
	comp=E,1844µm,0.6s							
CMBO	**Columbo, Santo**	**1.78**	**12**	P	**Pb**	**Pb**	**20 54 22.5**	**-0.2**
IOSP	**Ios island**	**2.01**	**8**	P	**Pn**	**Pb**	**20 54 25.0**	**+0.7**
IOSP				AML	AML		20 54 52.5	
	comp=E,1501µm,0.5s							
IOSP				AML	AML		20 54 58.1	
	comp=N,1374µm,0.4s							
MHLO	**Agia Marina, M**	**2.01**	**347**	P	**Pb**	**Pb**	**20 54 25.7**	**-1.1**
KTHA	**Kythira Island**	**2.17**	**315**	P	**Pb**	**Pb**	**20 54 29.2**	**-0.3**
APE	**Apeiranthos**	**2.38**	**11**	P	**Pn**	**Pb**	**20 54 30.1**	**+0.7**
APE	**Apeiranthos**	**2.38**	**11**	P	**Pn**	**Pb**	**20 54 30.2**	**+0.8**
APE				AML	AML		20 55 09.5	
	comp=E,394µm,0.6s							
APE				AML	AML		20 55 15.8	
	comp=N,323µm,0.6s							
APE	**Apeiranthos**	**2.38**	**11**	PN	**Pn**	**Pb**	**20 54 30.5**	**+1.1**
APE	**Apeiranthos**	**2.38**	**11**	*i* P	**Pn**	**Pb**	**20 54 29.4**	**0.0**
SERI	**Serifos**	**2.46**	**351**	P	**Pn**	**Pb**	**20 54 31.0**	**+0.6**
SERI	**Serifos**	**2.46**	**351**	P	**Pn**	**Pb**	**20 54 31.6**	**+1.2**
VLI	**Veliai**	**2.58**	**321**	P	**Pn**	**Pb**	**20 54 33.5**	**+1.5**
KOSK	**Kos Island**	**2.60**	**39**	PN	**Pn**	**Pb**	**20 54 33.7**	**+1.4**
DAT	**Datca**	**2.92**	**46**	PN	**Pn**	**Pb**	**20 54 38.4**	**+1.6**
BODT	**Bodrum**	**3.01**	**39**	PN	**Pn**	**Pb**	**20 54 39.6**	**+1.6**
BDRM	**Kayabasi**	**3.09**	**40**	*i* P	**Pb**	**Pb**	**20 54 42.5**	**-2.6**
DID	**Didima**	**3.10**	**334**	P	**Pn**	**Pb**	**20 54 40.5**	**+1.2**
DION	**Dionisos Attik**	**3.45**	**346**	P	**Pn**	**Pb**	**20 54 46.1**	**+2.2**
TRIP	**Tripoli**	**3.54**	**323**	P	**Pn**	**Pb**	**20 54 47.8**	**+2.5**
TURN	**Turunc**	**3.66**	**53**	*i* P	**Pn**	**Pb**	**20 54 43.4**	**-3.4**
DGB	**zmir**	**3.66**	**25**	*i* P	**Pn**	**Pb**	**20 54 48.0**	**+1.1**
AYDN	**Tasoluk**	**3.76**	**38**	*i* P	**Pn**	**Pb**	**20 54 51.5**	**+3.1**
GUR	**Goura**	**3.84**	**327**	P	**Pn**	**Pb**	**20 54 50.8**	**+1.4**
KLV	**Kalavryta, Ach**	**4.01**	**326**	P	**Pn**	**Pb**	**20 54 53.6**	**+1.8**
AKAS	**Kas**	**4.08**	**67**	*i* P	**Pn**	**Pb**	**20 54 55.2**	**+2.4**
TAVA	**DENIZLI_Tavas**	**4.21**	**48**	*i* P	**Pn**	**Pb**	**20 54 57.5**	**+3.0**
GOLH	**Golhisar**	**4.50**	**55**	*i* P	**Pn**	**Pb**	**20 55 00.0**	**+1.6**
BRDR	**BURDUR-Merkez**	**5.08**	**53**	*i* P	Pn	Pb	20 55 11.7	+5.3
USAK	**Uak-Merkez**	**5.14**	**38**	*i* P	**Pn**	**Pb**	**20 55 10.1**	**+2.8**
KHAL	**Karahalli**	**5.15**	**44**	*i* P	**Pn**	**Pb**	**20 55 09.7**	**+2.2**
KEPZ	**Antalya-Kepez**	**5.82**	**66**	*i* P	**Pn**	**Pb**	**20 55 17.9**	**+1.2**
KEPZ				*i* S	**Sn**	**Pb**	**20 56 22.0**	**-1.6**
CSS	**Mathiatis**	**6.89**	**86**	Pn	**Pn**	**Pb**	**20 55 31.8**	**+0.5**
SLTI	**Sal'it**	**8.78**	**104**	Pn	**Pn**	**Pb**	**20 55 57.5**	**+0.3**
KZIT	**Kziot**	**8.81**	**113**	Pn	**Pn**	**Pb**	**20 55 57.1**	**-0.5**
MMAI	**Mount Meron Ar**	**8.85**	**98**	Pn	**Pn**	**Pb**	**20 55 57.7**	**-0.6**
	comp=N,1.0nm,0.3s,baz=263,slow=12,SNR=7.8							
MMAI				Sn	**Sn**		**20 57 35.1**	**-3.2**
	comp=N,1.1nm,0.3s,baz=301,slow=20,SNR=2.5							
AMAZ	**Amatzia**	**8.94**	**108**	Pn	**Pn**	**Pb**	**20 55 59.1**	**-0.3**
AMAZ				Sn	**Sn**	**Pb**	**20 57 36.8**	**-3.5**
NATI	**Neve Ativ**	**9.07**	**96**	Pn	**Pn**	**Pb**	**20 56 02.1**	**+1.0**
NATI				Sn	**Sn**	**Pb**	**20 57 40.9**	**-2.5**
HMDT	**Nahal Hemdat**	**9.16**	**103**	Pn	**Pn**	**Pb**	**20 56 02.9**	**+0.4**
DSI	**Dead Sea**	**9.29**	**107**	Pn	**Pn**	**Pb**	**20 56 03.5**	**-0.7**
PRNI	**Paran**	**9.53**	**114**	Pn	**Pn**	**Pb**	**20 56 07.5**	**-0.1**
GHAJ	**Ghor Haditha**	**9.54**	**108**	Pn	**Pn**	**Pb**	**20 56 08.3**	**+0.7**
GHAJ				Sn	**Sn**	**Pb**	**20 57 50.5**	**-4.5**
HRFI	**Mount Harif**	**9.72**	**116**	Pn	**Pn**	**Pb**	**20 56 09.4**	**-0.7**
MBRI	**Mt Berech**	**9.76**	**118**	Pn	**Pn**	**Pb**	**20 56 09.6**	**-1.1**
MBRI				Sn	**Sn**	**Pb**	**20 57 56.3**	**-4.2**
EIL	**Elat**	**9.85**	**118**	Pn	**Pn**	**Pb**	**20 56 11.4**	**-0.5**
	comp=N,0.5nm,0.3s,baz=347,slow=19,SNR=1.9							
EIL				Sn	**Sn**		**20 57 56.8**	**-6.0**
	comp=N,0.4nm,0.3s,baz=42,slow=22,SNR=1.9							
EIL	**Elat**	**9.85**	**118**	Pn	**Pn**	**Pb**	**20 56 11.1**	**-0.8**
EIL				Sn	**Sn**	**Pb**	**20 57 56.7**	**-6.0**
AKASG	**Malin Array Be**	**16.27**	**10**	Pn	**P**	**Pb**	**20 57 40.6**	**-1.1**
	comp=N,1.3nm,0.3s,baz=204,slow=10,SNR=3.0							
GERES	**GERESS Array B**	**16.39**	**333**	Pn	**P**		**20 57 42.9**	**-0.3**
	comp=N,0.1nm,0.3s,baz=119,slow=10,SNR=5.5							
KBZ	**Khabaz**	**16.53**	**52**	Pn	**P**		**20 57 47.8**	**+3.1**
	comp=N,0.1nm,0.3s,baz=236,slow=10,SNR=9.5							
ESDC	**Sonseca Array**	**23.51**	**291**	P	**P**		**20 59 03.0**	**+2.6**
	comp=N,0.3nm,0.5s,baz=77,slow=9.8,SNR=2.8							
FINES	**FINESS Array B**	**26.75**	**1**	P	**P**		**20 59 30.0**	**+0.2**
	comp=N,1.0nm,0.8s,baz=183,slow=9.2,SNR=2.4							
EKA	**Eskdalemuir Ar**	**28.30**	**325**	P	**P**		**20 59 44.7**	**+0.9**
	comp=N,0.1nm,0.4s,baz=127,slow=11,SNR=1.5							
TORD	**Torodi Ar. Bea**	**30.08**	**230**	P	**P**		**21 00 00.0**	**0.0**
	comp=N,0.5nm,0.5s,baz=34,slow=8.6,SNR=5.2							
ARCES	**ARCESS Array B**	**34.86**	**0**	P	**P**		**21 00 42.2**	**+0.9**
	comp=N,0.7nm,0.6s,baz=164,slow=10,SNR=1.3							
MKAR	**Makanchi Array**	**44.15**	**56**	P	**P**		**21 01 59.6**	**+0.5**
	comp=N,0.4nm,0.5s,baz=263,slow=7.9,SNR=8.5							
ZALV	**Zalesovo Beam**	**45.42**	**46**	P	**P**		**21 02 11.9**	**+2.9**
	comp=N,0.6nm,0.4s,baz=287,slow=9.7,SNR=2.9							

*NIC **25** 20:59:00.3±0.0, 34°.17N×26°.29E, h18km±3km, Ml3.3/1*
*IDC **25** 20:59:00.8±1.2, 34°.57N×26°.65E, h0km, mb3.5/7, mb1 3.6/11, mb1mx3.5/37, mbtmp3.5/11, ML3.4/4, Error ellipse: s-maj=24.5km s-min=12.9km az=18.0*
*ATH **25** 20:59:04.1, 34°.55N×26°.46E, h23km±3km, ML2.8/6, Error ellipse: s-maj=7.3km s-min=2.3km az=351.0*
*THE **25** 20:59:05.0, 34°.58N×26°.41E, h0km±4km, ML2.9/4, Error ellipse: s-maj=6.8km s-min=1.7km az=133.0*

ISC 25 20:59:02.6±1.6, 34°.42N±0°.06×26°.44E±0°.04, h12km±9km, n50, σ1°.17/60, mb3.4/7, Crete

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZKR	**Zakros**	**0.72**	**345**	P		**Pg**	**20 59 15.5**	**-1.0**
ZKR				S		**Sg**	**20 59 25.3**	**-0.7**
	2µm,0.4s							
ZKR	**Zakros**	**0.72**	**345**	P		**Pg**	**20 59 15.4**	**-1.1**
ZKR				S		**Sg**	**20 59 25.2**	**-0.7**
ZKR				AML		AML	20 59 27.5	
	comp=E,3963µm,0.4s							
ZKR				AML		AML	20 59 27.8	
	comp=N,2784µm,0.4s							
ZKR	**Zakros**	**0.72**	**345**	P		**Pg**	**20 59 15.6**	**-1.0**
ZKR				S		**Sg**	**20 59 26.4**	**+0.4**
ZKR				AML		AML	20 59 26.9	
	comp=N,4.0nm,0.4s							
ZKR				AML		AML	20 59 26.9	
	comp=N,4.0nm,0.4s							
ZKR				AML		AML	20 59 27.4	
	comp=N,2.8nm,0.4s							
ZKR				AML		AML	20 59 27.4	
	comp=N,2.8nm,0.4s							
STIA	**Sitia Lasithi**	**0.83**	**340**	P		**Pb**	**20 59 17.8**	**-1.1**
STIA				S		**Sb**	**20 59 30.1**	**0.0**
NPS	**Neapolis**	**1.08**	**321**	P		**Pn**	**20 59 23.8**	**+0.2**
NPS				S		**Sn**	**20 59 38.7**	**+0.2**
	comp=N,608nm,0.3s							
NPS	**Neapolis**	**1.08**	**321**	P		**Pn**	**20 59 23.7**	**+0.2**
NPS				AML		AML	20 59 41.2	
	comp=E,1331µm,0.4s							
NPS				AML		AML	20 59 44.5	
	comp=N,972µm,0.4s							
LAST	**Lasithi**	**1.08**	**313**	P		**Pb**	**20 59 23.1**	**-0.2**
LAST				S		**Sn**	**20 59 38.6**	**0.0**
	comp=N,408nm,0.4s							
LAST	**Lasithi**	**1.08**	**313**	P		**Pb**	**20 59 22.6**	**-0.7**
LAST				S		**Sb**	**20 59 38.0**	**+0.6**
LAST				AML		AML	20 59 39.9	
	comp=E,884µm,0.6s							
LAST				AML		AML	20 59 41.9	
	comp=N,777µm,0.3s							
KARP	**Karpathos**	**1.27**	**28**	P		**Pg**	**20 59 27.6**	**+0.6**
KARP	**Karpathos**	**1.27**	**28**	P		**Pb**	**20 59 26.9**	**+0.4**
KARP	**Karpathos**	**1.27**	**28**	P		**Pb**	**20 59 26.7**	**+0.2**
KARP				S		**Sg**	**20 59 47.5**	**+3.9**
SIVA	**Sivas**	**1.47**	**294**	P		**Pb**	**20 59 30.9**	**+1.1**
SIVA	**Sivas**	**1.47**	**294**	P		**Pb**	**20 59 30.7**	**+0.9**
SIVA				AML		AML	20 59 58.0	
	comp=E,1551µm,0.3s							
SIVA				AML		AML	20 59 58.9	
	comp=N,1007µm,0.3s							
IDI	**Anoyia**	**1.54**	**305**	P		**Pb**	**20 59 31.0**	**-0.1**
IDI	**Anoyia**	**1.54**	**305**	Pg		**Pb**	**20 59 31.2**	**+0.1**
	comp=N,3.1nm,0.3s,baz=127,slow=13,SNR=32							
IDI				Lg		Lg	20 59 52.8	
	comp=N,17nm,0.3s,baz=252,slow=6.7,SNR=8.0							
IDI	**Anoyia**	**1.54**	**305**	P		**Pb**	**20 59 31.0**	**-0.1**
IDI				AML		AML	20 59 58.5	
	comp=N,314µm,0.3s							
IDI				AML		AML	20 59 58.6	
	comp=E,270µm,0.6s							
VAM	**Vamos**	**2.09**	**299**	P		**Pb**	**20 59 40.5**	**+0.1**
SANT	**Santorini**	**2.11**	**338**	P		**Pn**	**20 59 38.5**	**+0.8**
ARG	**Arkhangelos**	**2.26**	**37**	P		**Pn**	**20 59 41.2**	**+1.4**
ARG	**Arkhangelos**	**2.26**	**37**	P		**Pn**	**20 59 41.0**	**+1.3**
IMMV	**lera Moni Meta**	**2.27**	**298**	P		**Pb**	**20 59 43.3**	**-0.2**
IOSP	**Ios island**	**2.48**	**338**	P		**Pn**	**20 59 43.6**	**+0.8**
APE	**Apeiranthos**	**2.75**	**345**	P		**Pn**	**20 59 47.1**	**+0.6**
APE				AML		AML	21 00 26.9	
	comp=E,43µm,0.4s							
APE				AML		AML	21 00 28.1	
	comp=N,65µm,0.3s							
APE	**Apeiranthos**	**2.75**	**345**	P		**Pn**	**20 59 46.5**	**0.0**
APE				S		**Sb**	**21 00 23.0**	**-2.2**
MHLO	**Agia Marina, M**	**2.81**	**324**	P		**Pn**	**20 59 49.1**	**+1.8**
KSL	**Kastellorizon**	**3.10**	**55**	P		**Pn**	**20 59 51.8**	**+0.6**
KSL	**Kastellorizon**	**3.10**	**55**	P		**Pn**	**20 59 51.4**	**+0.2**
SERI	**Serifos**	**3.16**	**330**	P		**Pn**	**20 59 53.5**	**+1.3**
KTHA	**Kythira Island**	**3.31**	**305**	P		**Pn**	**20 59 56.4**	**+2.1**
ELL	**Elmali**	**3.66**	**50**	P		**Pn**	**21 00 00.2**	**+1.1**
VLI	**Veliai**	**3.66**	**310**	P		**Pn**	**20 59 59.9**	**+0.9**
DID	**Didima**	**4.03**	**321**	P		**Pn**	**21 00 05.4**	**+1.3**
OSC1	**CSNet OBS 1**	**4.12**	**101**	P		**Pn**	**21 00 04.0**	**-1.3**
AKMS	**Akamas**	**4.89**	**81**	P		**Pn**	**21 00 16.1**	**+0.2**
NATA	**Nata**	**5.07**	**84**	P		**Pn**	**21 00 18.5**	**+0.1**
ALFC	**Alefka**	**5.12**	**80**	P		**Pn**	**21 00 19.5**	**+0.4**
SZAC	**Souni**	**5.32**	**85**	P		**Pn**	**21 00 22.8**	**+0.9**
MVOU	**Mavrovouni**	**5.95**	**82**	P		**Pn**	**21 00 31.0**	**+0.5**
MMAI	**Mount Meron Ar**	**7.60**	**98**	Pn		**Pn**	**21 00 51.2**	**-1.9**
	comp=N,1.0nm,0.3s,baz=262,slow=12,SNR=8.8							
EIL	**Elat**	**8.64**	**121**	Pn		**Pn**	**21 01 05.9**	**-1.5**
	comp=N,0.3nm,0.3s,baz=326,slow=4.7,SNR=11							
EIL				Sn		Sn	21 02 33.3	-11
	comp=N,0.2nm,0.3s,baz=73,slow=18,SNR=1.5							
VAE	**Valguarnera**	**10.22**	**291**	Pn		**Pn**	**21 01 28.7**	**-0.4**
	comp=N,0.6nm,0.3s,baz=166,slow=20,SNR=6.1							
VAE				Sn		**Sn**	**21 03 24.0**	**+0.5**
	comp=N,0.8nm,0.3s,baz=6.9,slow=19,SNR=1.7							
AKASG	**Malin Array Be**	**16.40**	**6**	Pn		**Pn**	**21 02 53.7**	**+1.3**
	comp=N,0.9nm,0.3s,baz=191,slow=11,SNR=4.8							
GERES	**GERESS Array B**	**17.24**	**331**	P		**Pn**	**21 03 04.1**	**+1.0**
	comp=N,0.1nm,0.3s,baz=141,slow=12,SNR=7.4							
ESDC	**Sonseca Array**	**24.76**	**291**	P		**P**	**21 04 24.1**	**0.0**
	comp=N,0.6nm,0.8s,baz=79,slow=8.9,SNR=2.9							
HFS	**Hagfors**	**27.04**	**346**	P		**P**	**21 04 42.7**	**-1.7**
	comp=N,0.9nm,0.6s,baz=146,slow=10,SNR=1.7							
FINES	**FINESS Array B**	**27.04**	**360**	P		**P**	**21 04 42.8**	**-1.6**
	comp=N,0.9nm,0.6s,baz=172,slow=11,SNR=6.1							
EKA	**Eskdalemuir Ar**	**29.25**	**325**	P		**P**	**21 05 04.3**	**+0.2**
	comp=N,0.2nm,0.4s,baz=121,slow=9.2,SNR=2.4							
TORD	**Torodi Ar. Bea**	**30.85**	**233**	P		**P**	**21 05 20.9**	**+2.2**
	comp=N,0.3nm,0.3s,baz=32,slow=8.7,SNR=7.4							
ARCES	**ARCESS Array B**	**35.17**	**359**	P		**P**	**21 05 53.4**	**-2.5**
	comp=N,0.2nm,0.3s,baz=178,slow=8.5,SNR=8.9							
MKAR	**Makanchi Array**	**43.31**	**56**	P		**P**	**21 07 04.1**	**-0.1**
	comp=N,0.3nm,0.7s,baz=265,slow=7.9,SNR=5.3							

*SJA **25** 21:12:21.0±1.1, 22°.56S×67°.33W, h182km±10km, ML3.4, MW3.8*
*GUC **25** 21:12:22.8±0.7, 22°.51S×67°.61W, h204km±6km, ML3.8*
*IDC **25** 21:12:26.3±10.0, 22°.17S×66°.83W, h193km±76km, mb3.8/1, mb1 3.4/2, mb1mx3.1/20, mbtmp3.9/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/20, Error ellipse: s-maj=123.1km s-min=79.4km az=48.0*

ISC 25 21:12:21.2±1.0, 22°.55S±0°.04×67°.39W±0°.04, h187km±9km, n31, σ1°.33/57, 12C-3D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**1.40**	**267**	*e*P		**Pn**	**21 12 54.1**	**+0.7**
LVC				*i* S		**Sn**	**21 13 18.0**	**-0.2**
YJA	**Yavi**	**1.78**	**78**	*e*P		**Pn**	**21 12 57.4**	**+0.4**
YJA				*e*S		**Sn**	**21 13 23.0**	**-1.7**
YJA				IAML			21 13 25.6	
	comp=Z,40nm,0.7s							
PB09	**IPOC Station P**	**1.87**	**293**	⇑*i* P		**Pn**	**21 12 58.7**	**+1.1**
PB09				*i* S		**Sn**	**21 13 25.9**	**+0.1**
PB09	**IPOC Station P**	**1.87**	**293**	*i* P		**Pn**	**21 12 58.8**	**+1.1**
PB09				*i* S		**Sn**	**21 13 25.9**	**+0.1**
PB09				IAML			21 13 28.0	
	comp=Z,175nm,0.6s							
PB06	**IPOC Station P**	**2.02**	**265**	⇓*i* P		**Pn**	**21 13 00.0**	**+0.8**
PB06				*e*S		**Sn**	**21 13 28.4**	**-0.3**
PB06				IAML			21 13 31.9	
	comp=E,245nm,0.3s							
PB06	**IPOC Station P**	**2.02**	**265**	*i* P		**Pn**	**21 13 00.1**	**+0.8**
PB06				*e*S		**Sn**	**21 13 28.8**	**+0.1**
PB06				IAML			21 13 29.8	
	comp=Z,234nm,0.4s							
PB15	**IPOC Station P**	**2.03**	**251**	⇑*i* P		**Pn**	**21 13 00.3**	**+1.0**
PB15				*i* S		**Sn**	**21 13 28.7**	**-0.2**
PB15	**IPOC Station P**	**2.03**	**251**	*i* P		**Pn**	**21 13 00.4**	**+1.0**
PB15				*e*S		**Sn**	**21 13 29.0**	**+0.1**
PB15				IAML			21 13 32.8	
	comp=Z,738nm,0.3s							
PB03	**IPOC Station P**	**2.24**	**282**	⇑*i* P		**Pn**	**21 13 02.0**	**+0.3**
PB03				*i* S		**Sn**	**21 13 31.8**	**-1.1**
PB03				IAML			21 13 34.5	
	comp=E,478nm,0.2s							
PB07	**IPOC Station P**	**2.45**	**289**	⇑*i* P		**Pn**	**21 13 04.5**	**+0.5**
PB07				*i* S		**Sn**	**21 13 35.8**	**-1.4**
PB07				IAML			21 13 36.4	
	comp=N,546nm,0.5s							
PB01	**IPOC Station P**	**2.45**	**307**	⇑*i* P		**Pn**	**21 13 04.3**	**+0.3**
PB01				*i* S		**Sn**	**21 13 36.4**	**-0.8**
PB01				IAML			21 13 37.8	
	comp=N,287nm,0.3s							
PB04	**IPOC Station P**	**2.56**	**274**	⇑*i* P		**Pn**	**21 13 05.6**	**+0.3**
PB04				*i* S		**Sn**	**21 13 38.2**	**-1.2**
PB04				IAML			21 13 40.6	
	comp=N,471nm,0.4s							
PB04	**IPOC Station P**	**2.56**	**274**	*i* P		**Pn**	**21 13 05.7**	**+0.5**
PB04				*e*S		**Sn**	**21 13 38.9**	**-0.5**
PB04				IAML			21 13 40.5	
	comp=Z,277nm,0.5s							
PB05	**IPOC Station P**	**2.61**	**263**	⇑*i* P		**Pn**	**21 13 06.1**	**+0.3**
PB05				*i* S		**Sn**	**21 13 38.5**	**-1.9**
PB05				IAML			21 13 40.3	
	comp=E,139nm,0.5s							
PB05	**IPOC Station P**	**2.61**	**263**	*i* P		**Pn**	**21 13 06.3**	**+0.5**
PB05				*i* S		**Sn**	**21 13 39.2**	**-1.2**
PB05				IAML			21 13 40.4	
	comp=Z,155nm,0.6s							
PB02	**IPOC Station P**	**2.62**	**297**	⇑*i* P		**Pn**	**21 13 06.1**	**+0.2**
PB02				*i* S		**Sn**	**21 13 38.6**	**-2.1**
PB02				IAML			21 13 39.5	
	comp=N,615nm,0.2s							
AZAP	**Zapla**	**2.71**	**128**	*i* P		**Pn**	**21 13 07.1**	**0.0**
AZAP				*i* S		**Sn**	**21 13 40.8**	**-2.1**
AZAP				IAML			21 13 44.6	
	comp=Z,34nm,0.5s							
PB08	**IPOC Station P**	**2.90**	**325**	⇑*i* P		**Pn**	**21 13 10.7**	**+1.2**
PB08				*i* S		**Sn**	**21 13 47.1**	**0.0**
PB08				IAML			21 13 50.7	
	comp=N,85nm,0.1s							
PB10	**IPOC Station P**	**3.07**	**251**	⇑*i* P		**Pn**	**21 13 11.3**	**+0.3**
PB10				*i* S		**Sn**	**21 13 47.5**	**-2.4**
PB10				IAML			21 13 50.4	
	comp=N,77nm,0.5s							
PB10	**IPOC Station P**	**3.07**	**251**	*i* P		**Pn**	**21 13 11.4**	**+0.3**
TA01	**Diego Aracena**	**3.26**	**307**	*e*P		**Pn**	**21 13 13.0**	**-0.4**
TA01				*i* S		**Sn**	**21 13 51.3**	**-2.8**
TA01				IAML			21 13 53.2	
	comp=E,198nm,0.3s							
GO02	**Mina Guanaco**	**3.29**	**217**	⇑*i* P		**Pn**	**21 13 14.9**	**+0.8**
GO02				*i* S		**Sn**	**21 13 54.8**	**-0.6**
GO01	**Chusmiza**	**3.32**	**329**	⇑*i* P		**Pn**	**21 13 15.3**	**+0.7**
GO01				*e*S		**Sn**	**21 13 55.8**	**-0.5**
PB11	**IPOC Station P**	**3.48**	**322**	*e*P		**Pn**	**21 13 16.0**	**-0.4**
PB11				*i* S		**Sn**	**21 13 56.9**	**-2.5**
PSGC	**Pisagua**	**3.89**	**319**	*e*P		**Pn**	**21 13 20.1**	**-1.2**
PSGC				*i* S		**Sn**	**21 14 04.4**	**-3.9**
MNMC	**Minye Minye**	**3.97**	**328**	⇓*i* P		**Pn**	**21 13 22.9**	**+0.3**
MNMC				*i* S		**Sn**	**21 14 09.0**	**-1.6**
AC01	**Pan de Azucar**	**4.63**	**219**	⇓*i* P		**Pn**	**21 13 29.9**	**-0.6**
AC01				*i* S		**Sn**	**21 14 21.2**	**-3.9**
LPAZ	**La Paz**	**6.26**	**354**	P		**Pn**	**21 13 53.9**	**+1.4**
	comp=E,0.9nm,0.3s,baz=172,slow=6.4,SNR=8.7							
LPAZ				S		**Sn**	**21 15 03.3**	**-1.0**
	comp=E,0.1nm,0.3s,baz=345,slow=16,SNR=1.4							
ROSC	**El Rosal**	**28.05**	**345**	LR		LR	21 29 44.7	
	comp=E,56nm,20.9s,baz=53,slow=37							
TORD	**Torodi Ar. Bea**	**76.39**	**69**	P		**P**	**21 23 51.4**	**+1.0**
	comp=E,1.4nm,0.5s,baz=253,slow=5.6,SNR=19							
MKAR	**Makanchi Array**	**145.62**	**38**	PKPbc		**PKPab**	**21 31 39.5**	**+1.2**
	comp=E,0.5nm,0.7s,baz=330,slow=3.5,SNR=4.4							

*NIC **25** 21:24:51.9±0.0, 34°.39N×25°.71E, h0km±7km, Ml3.3/4*
*IDC **25** 21:24:55.8±1.9, 34°.88N×25°.74E, h35km±15km, mb3.4/8, mb1 3.5/11, mb1mx3.4/54, mbtmp3.6/11, ML3.6/3, MS2.6/2, Ms1 2.7/2, ms1mx2.2/27, Error ellipse: s-maj=23.4km s-min=17.1km az=19.0*
*THE **25** 21:24:56.8, 34°.78N×25°.63E, h0km±1km, ML3.0/6, Error ellipse: s-maj=2.1km s-min=0.7km az=167.0*
*ISK **25** 21:24:57.5, 34°.83N×25°.71E, h27km, ML3.3/12*
*ATH **25** 21:24:57.4, 34°.93N×25°.61E, h33km±1km, ML3.0/5, Error ellipse: s-maj=3.2km s-min=1.2km az=352.0*
*DDA **25** 21:25:07.7, 35°.63N×26°.53E, h14km±2km, MW3.5*

**ISC 25 21:24:55.8±1.1,

BDRM					IAML			21 26 26.0	
	comp=N,17nm,0.6s								
BDRM					IAML			21 26 33.0	
	comp=E,13nm,0.9s								
VLI	**Veliai**	**2.98**	**312**		P		**Pn**	**21 25 40.8**	**+0.3**
SMG	**Samos**	**3.12**	**17**		P		**Pn**	**21 25 43.5**	**+1.1**
DALY	**Dalyan (Mula)**	**3.19**	**49**		PN		**Pn**	**21 25 46.1**	**+2.6**
YER	**Yerkesik**	**3.20**	**41**		PN		**Pn**	**21 25 46.2**	**+2.6**
TURN	**Turunc**	**3.20**	**47**		PN		**Pn**	**21 25 42.2**	**-1.4**
TURN	**Turunc**	**3.20**	**47**	*i*	P		**Pn**	**21 25 41.2**	**-2.3**
TURN					IAML			21 26 07.0	
	comp=N,23nm,0.8s								
TURN					IAML			21 26 40.0	
	comp=E,24nm,0.5s								
KRND	**KRANIDI**	**3.34**	**323**		P		**Pn**	**21 25 46.5**	**+1.1**
DID	**Didima**	**3.40**	**325**		P		**Pn**	**21 25 46.8**	**+0.5**
AYDN	**Tasoluk**	**3.42**	**31**	*i*	P		**Pn**	**21 25 48.9**	**+2.2**
AYDN					IAML			21 26 56.0	
	comp=E,11nm,0.8s								
AYDN					IAML			21 27 15.0	
	comp=N,13nm,1.4s								
DGB	**zmir**	**3.45**	**16**	*i*	P		**Pn**	**21 25 50.0**	**+3.0**
DGB					IAML			21 26 37.0	
	comp=E,9.1nm,1.0s								
DGB					IAML			21 26 48.0	
	comp=N,8.6nm,1.0s								
KSL	**Kastellorizon**	**3.49**	**65**		P		**Pn**	**21 25 49.0**	**+1.4**
KSL					AML	AML		21 26 09.4	
	comp=N,0.1nm,1.2s								
KSL					AML	AML		21 26 44.2	
	comp=N,0.2nm,1.5s								
AKAS	**Kas**	**3.54**	**64**	*i*	P		**Pn**	**21 25 49.6**	**+1.2**
AKAS					IAML			21 26 32.0	
	comp=N,27nm,0.5s								
AKAS					IAML			21 26 36.0	
	comp=E,16nm,0.9s								
TAVA	**DENIZLI_Tavas**	**3.79**	**43**	*i*	P		**Pn**	**21 25 53.7**	**+1.9**
TAVA					IAML			21 27 03.0	
	comp=N,18nm,1.7s								
TAVA					IAML			21 27 09.0	
	comp=E,11nm,0.8s								
ELL	**Elmali**	**3.99**	**59**		P		**Pn**	**21 25 56.9**	**+2.3**
GOLH	**Golhisar**	**4.03**	**51**	*i*	P		**Pn**	**21 25 56.4**	**+1.4**
AKHS	**Akhisar**	**4.48**	**22**	*i*	P		**Pn**	**21 26 02.7**	**+1.5**
AKHS					IAML			21 27 27.0	
	comp=E,2.9nm,0.9s								
KHAL	**Karahalli**	**4.76**	**39**	*i*	P		**Pn**	**21 26 05.8**	**+0.7**
KHAL					IAML			21 27 13.0	
	comp=E,3.8nm,0.9s								
KHAL					IAML			21 27 58.0	
	comp=N,3.0nm,0.8s								
USAK	**Uak-Merkez**	**4.80**	**33**	*i*	P		**Pn**	**21 26 06.8**	**+1.2**
OSC1	**CSNet OBS 1**	**4.81**	**103**		P		**Pn**	**21 26 05.2**	**-0.5**
OSC1					S		**Sn**	**21 27 01.7**	**+1.5**
AGG	**Agios Georgios**	**5.05**	**329**	*i*	P		**Pn**	**21 26 12.0**	**+3.0**
AKMS	**Akamas**	**5.49**	**85**		P		**Pn**	**21 26 15.7**	**+0.6**
AKMS					AML	AML		21 27 16.8	
	comp=N,0.2nm,1.1s								
AKMS					AML	AML		21 27 17.2	
	comp=N,0.3nm,0.4s								
ALFC	**Alefka**	**5.71**	**84**		P		**Pn**	**21 26 19.2**	**+1.1**
SZAC	**Souni**	**5.94**	**88**		P		**Pn**	**21 26 21.6**	**+0.4**
ASGA	**Asgata**	**6.24**	**87**		P		**Pn**	**21 26 26.4**	**+1.0**
CSS	**Mathiatis**	**6.30**	**86**		P		**Pn**	**21 26 27.5**	**+1.2**
MVOU	**Mavrovouni**	**6.55**	**85**		P		**Pn**	**21 26 30.6**	**+1.0**
MMAI	**Mount Meron Ar**	**8.28**	**99**		Pn		**Pn**	**21 26 52.1**	**-1.3**
	comp=N,0.5nm,0.3s,baz=292,slow=12,SNR=2.3								
MMAI					Sn		**Sn**	**21 28 22.0**	**-3.7**
	comp=N,1.5nm,0.3s,baz=285,slow=27,SNR=3.1								
EIL	**Elat**	**9.34**	**120**		Pn		**Pn**	**21 27 07.7**	**-0.3**
	comp=N,0.5nm,0.3s,baz=204,slow=5.7,SNR=5.4								
EIL					Sn		**Sn**	**21 28 45.1**	**-6.7**
	comp=N,1.3nm,0.3s,baz=122,slow=6.3,SNR=6.3								
MLR	**Muntele Rosu**	**10.75**	**1**		LR		LR	21 31 53.1	
	comp=N,44nm,21.5s,baz=120,slow=39								
KBZ	**Khabaz**	**16.07**	**51**		Pn		**P**	**21 28 44.1**	**+2.1**
	comp=N,0.2nm,0.3s,baz=250,slow=8.1,SNR=13								
AKASG	**Malin Array Be**	**16.17**	**8**		Pn		**Pn**	**21 28 41.4**	**+1.2**
	comp=N,1.7nm,0.3s,baz=199,slow=11,SNR=4.4								
GERES	**GERESS Array B**	**16.66**	**331**		Pn		**Pn**	**21 28 46.5**	**+0.1**
	comp=N,0.1nm,0.3s,baz=150,slow=10,SNR=2.4								
ESDC	**Sonseca Array**	**24.05**	**291**		P		**P**	**21 30 07.1**	**-0.7**
	comp=N,0.2nm,0.5s,baz=88,slow=9.0,SNR=4.0								
FINES	**FINESS Array B**	**26.73**	**0**		P		**P**	**21 30 28.6**	**-3.1**
	comp=N,1.8nm,0.8s,baz=161,slow=14,SNR=7.5								
NOA	**NORSAR Array B**	**27.92**	**345**		P		**P**	**21 30 41.6**	**-0.8**
	comp=N,0.5nm,0.8s,baz=300,slow=12,SNR=3.3								
NOA					LR		LR	21 42 21.1	
	comp=N,10nm,19.0s,baz=255,slow=38								
EKA	**Eskdalemuir Ar**	**28.63**	**325**		P		**P**	**21 30 47.1**	**-1.6**
	comp=N,0.2nm,0.3s,baz=122,slow=9.1,SNR=4.0								
TORD	**Torodi Ar. Bea**	**30.54**	**231**		P		**P**	**21 31 07.2**	**+1.1**
	comp=N,0.2nm,0.3s,baz=26,slow=8.9,SNR=5.7								
ARCES	**ARCESS Array B**	**34.85**	**360**		P		**P**	**21 31 40.7**	**-2.5**
	comp=N,3.5nm,1.0s,baz=179,slow=8.5,SNR=6.6								
MKAR	**Makanchi Array**	**43.66**	**56**		P		**P**	**21 32 57.5**	**+0.5**
	comp=N,0.7nm,0.5s,baz=266,slow=7.9,SNR=13								
ZALV	**Zalesovo Beam**	**45.00**	**46**		P		**P**	**21 33 07.1**	**-0.5**
	comp=N,1.1nm,0.4s,baz=274,slow=9.1,SNR=5.0								

NEIC ***25*** *21:29:44.0±1.1,2.58S±0.04×76.4W±0.1,h143km±8km, mb4.2/22,ML3.9(IGQ),Error ellipse: s-maj=20.3km s-min=3.9km az=79.0*

IDC ***25*** *21:29:55.6±8.3,2.93S×76.64W,h263km±83km,mb3.3/5, mb1 3.4/6,mb1mx3.2/31,mbtmp3.8/6,Error ellipse: s-maj=54.3km s-min=23.7km az=28.0*

ISC 25 21:29:44.2±0.6,2.59S±0.07×76.5W±0.1,h150km,n45,
σ1§24/43,mb4.0/11,2C,Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUAC	**Puerto Asis, P**	**3.12**	**358**	*e*P		**Pn**	**21 30 30.8**	**-2.4**
BBAC	**Balboa, Cauca**	**4.65**	**351**	*e*P		**Pn**	**21 30 50.6**	**-2.6**
SOTA	**Rioblanco**	**4.70**	**359**	*e*P		**Pn**	**21 30 53.0**	**-1.1**
GARC	**Garzon, Huila**	**4.85**	**12**	*e*P		**Pn**	**21 30 53.8**	**-2.1**
GARC				*e*S		Sn	21 32 01.0	+9.1
BETC	**Betania**	**5.34**	**11**	*e*P		Pn	21 31 10.5	+8.2
MACC	**Macarena, Meta**	**5.40**	**29**	*e*P		**Pn**	**21 31 01.4**	**-1.6**
VILC	**Villavicencio,**	**7.22**	**23**	*e*P		**Pn**	**21 31 26.8**	**-0.6**
ROSC	**El Rosal**	**7.69**	**16**	Pn		**Pn**	**21 31 33.0**	**-0.9**
GUY2C	**Guyana, Caldas**	**7.84**	**8**	*e*P		**Pn**	**21 31 37.7**	**+1.7**
RUSC	**La Rusia**	**9.09**	**22**			**Pn**	**21 31 52.8**	**+0.2**
NNA	**Nana**	**9.34**	**182**	Pn		**Pn**	**21 31 55.6**	**0.0**
SAML	**Samuel**	**14.66**	**116**			**Pn**	**21 33 04.2**	**-0.3**
LPAZ	**La Paz**	**15.90**	**149**	P		**P**	**21 33 23.3**	**+2.2**
	0.1nm,0.3s,baz=336,slow=10.0,SNR=2.0							
LPAZ	**La Paz**	**15.90**	**149**	P		**P**	**21 33 21.4**	**+0.3**
HATO	**Hato, Curacao**	**16.47**	**27**			**Pn**	**21 33 25.9**	**-0.9**
PTGA	**Pitinga**	**16.62**	**84**	P		**P**	**21 33 27.6**	**-0.9**
PB12	**IPOC Station P**	**17.03**	**160**			**Pn**	**21 33 34.0**	**+0.4**
PB12					IAmb	IAmb	21 33 47.9	
	comp=Z,18nm,1.3s							
MNMC	**Minye Minye**	**17.77**	**158**	P		**Pn**	**21 33 42.0**	**-0.7**
PSGCX	**Pisagua**	**18.01**	**160**	P		**P**	**21 33 44.2**	**+0.4**
PSGCX					IAmb	IAmb	21 34 03.3	
	comp=Z,12nm,1.1s							
PB11	**IPOC Station P**	**18.32**	**159**	P		**P**	**21 33 47.6**	**+0.4**
PB11					IAmb	IAmb	21 33 54.5	
	comp=Z,19nm,1.2s							
GO01	**Chusmiza**	**18.41**	**158**	P		**P**	**21 33 48.3**	**-0.3**
PB08	**IPOC Station P**	**18.86**	**158**	P		**P**	**21 33 53.5**	**+0.2**
PB08					IAmb	IAmb	21 34 09.7	
	comp=Z,5.2nm,0.7s							
PB09	**IPOC Station P**	**20.35**	**160**	P		**P**	**21 34 10.1**	**+0.9**
PB09					IAmb	IAmb	21 34 17.4	
	comp=Z,15nm,1.3s							
LVC	**Limon Verde**	**21.21**	**160**	P		**P**	**21 34 18.7**	**0.0**
WCI	**Wyandotte Cave**	**41.62**	**348**	P		**P**	**21 37 18.4**	**+0.9**
WCI					IAmb	IAmb	21 37 26.3	
	comp=Z,4.4nm,1.0s							
ANMO	**Albuquerque**	**46.74**	**326**	P		**P**	**21 37 59.2**	**+0.6**
E62A	**Clayton Lake**	**49.39**	**6**	P		**P**	**21 38 19.5**	**+1.0**
E62A					IAmb	IAmb	21 38 19.8	
	comp=Z,4.4nm,1.0s							
NVAR	**Mina Array Bea**	**56.16**	**321**	P		**P**	**21 39 09.5**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=128,slow=6.9,SNR=5.7							
NVAR	**Mina Array Bea**	**56.16**	**321**	P		**P**	**21 39 09.0**	**+0.3**
I07A	**Izee**	**60.31**	**326**	P		**P**	**21 39 37.9**	**+0.6**
I07A					IAmb	IAmb	21 39 39.1	
	comp=Z,1.8nm,0.9s							
DBIC	**Dimbokro**	**72.09**	**82**	P		**P**	**21 40 53.6**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=267,slow=5.5,SNR=5.7							
DBIC	**Dimbokro**	**72.09**	**82**	P		**P**	**21 40 53.4**	**+0.6**

ESDC	**Sonseca Array**	**78.29**	**49**		P		**P**	**21 41 28.3**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=261,slow=6.0,SNR=2.7								
TOA0	**Torodi Ar. Sit**	**79.10**	**76**		P		**P**	**21 41 32.7**	**0.0**
TOA0					IAmb		IAmb	21 41 34.1	
	comp=Z,5.2nm,1.4s								
TORD	**Torodi Ar. Bea**	**79.10**	**76**		P		**P**	**21 41 32.9**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=278,slow=5.7,SNR=25								
TORD	**Torodi Ar. Bea**	**79.10**	**76**		P		**P**	**21 41 32.8**	**+0.1**
BCAR	**Beaver Creek A**	**81.37**	**335**		P		**P**	**21 41 44.6**	**+0.6**
SNAA	**Sanae**	**82.44**	**162**		P		**P**	**21 41 47.5**	**-2.0**
SNAA					IAmb		IAmb	21 41 56.5	
	comp=Z,7.1nm,1.3s								
ILAR	**Eielson Array**	**84.09**	**336**		P		**P**	**21 41 58.7**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=101,slow=4.7,SNR=3.3								
SKT	**Skwentna**	**85.29**	**333**		P		**P**	**21 42 04.3**	**+0.3**
PPLA	**Purkeypile**	**85.81**	**334**		P		**P**	**21 42 06.8**	**+0.2**
PPLA					IAmb		IAmb	21 42 08.6	
	comp=Z,4.1nm,1.0s								
QSPA	**South Pole Qui**	**87.48**	**180**		P		**P**	**21 42 16.6**	**+1.9**
MKAR	**Makanchi Array**	**132.26**	**20**		PKP		**PKPdf**	**21 48 40.0**	**-0.6**
	comp=Z,0.2nm,0.8s,baz=318,slow=2.5,SNR=1.8								
ASAR	**Alice Springs**	**140.55**	**227**		PKhKP		PKPpre	21 48 49.4	
	comp=Z,0.4nm,0.9s,baz=123,slow=3.6,SNR=2.2								
WRA	**Warramunga Arr**	**142.35**	**232**		PKP		**PKPdf**	**21 48 56.2**	**-3.8**
	comp=Z,0.9nm,0.6s,baz=116,slow=2.8,SNR=5.0								

ANF ***25*** *22:01:35.9±0.2,35.80N×119.75W,h9km±1km,ML3.5/27, Error ellipse: s-maj=2.3km s-min=1.2km az=121.0*

NCEDC ***25*** *22:01:36.5±1.9,35.82N±0.02×119.88W±0.02,h9km±6km, Mwr3.4/4,Error ellipse: s-maj=2.8km s-min=2.4km az=225.0*

NEIC ***25*** *22:01:36.8±1.7,35.80N±0.03×119.93W±0.04,h21km±2km, Error ellipse: s-maj=4.8km s-min=3.7km az=71.0*

NEIC ***25*** *22:01:36.5,35.82N×119.88W,h11km,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr0.95; Mθθ-0.27; Mϕϕ-0.68; Mrθ-0.92; Mθϕ0.64; Mrϕ0.31; Fault plane solution: M₀1.43000×10¹⁴ NP1:ϕs166.57000°, δ30.61000°,λ131.39000°. NP2:ϕs300.89000°,δ67.54000°, λ68.63000°. Principal axes: T 1.4406, Plg61.0000°, Azm178.0000°; N -0.0129, Plg20.0000°, Azm309.0000°; P -1.4278, Plg20.0000°, Azm47.0000°;*

ISC 25 22:01:34.8±1.2,35.80N±0.02×119.85W±0.01,h7km±10km,
n202,σ1§01/229,Central California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMRM	**Maxey Ranch**	**0.32**	**268**		**Pb**	**22 01 42.8**	**0.0**
THIS	**South End of C**	**0.32**	**257**		**Pb**	**22 01 42.9**	**+0.1**
THIS					**Sb**	**22 01 49.2**	**+0.9**
PTRM	**Twissleman Ran**	**0.33**	**244**		**Pb**	**22 01 43.2**	**+0.2**
PAGB	**Antelope Grade**	**0.33**	**259**		**Pb**	**22 01 43.0**	**-0.1**
PKEM	**Kettleman Hill**	**0.34**	**322**		**Pb**	**22 01 43.4**	**+0.2**
PSRM	**Scobie Ranch**	**0.35**	**280**		**Pb**	**22 01 43.6**	**0.0**
PSNM	**Stone Corral**	**0.36**	**269**		**Pb**	**22 01 43.4**	**-0.2**
TRAM	**Private Proper**	**0.36**	**251**		**Pb**	**22 01 43.8**	**+0.1**
TRAM					**Sb**	**22 01 51.1**	**+1.5**
YEG	**Yeguas Mountai**	**0.37**	**194**		**Pn**	**22 01 44.8**	**-2.0**
PKLM	**Kerr Lake**	**0.40**	**267**		**Pb**	**22 01 44.3**	**0.0**
GHC	**Gold Hill**	**0.41**	**275**		**Pb**	**22 01 44.3**	**-0.2**
CTM	**Castle Mountai**	**0.42**	**289**		**Pn**	**22 01 45.4**	**-2.1**
PMCM	**McMillan Canyo**	**0.43**	**261**		**Pb**	**22 01 44.9**	**+0.1**
PCMM	**Cholame Hills**	**0.46**	**271**		**Pb**	**22 01 45.4**	**+0.2**
PHFM	**Heflinger Ranc**	**0.46**	**281**		**Pb**	**22 01 45.2**	**0.0**
PHFM					**Sb**	**22 01 53.3**	**+1.0**
TCHL	**Shandon**	**0.46**	**257**		**Pn**	**22 01 45.7**	**-2.2**
TCHL					**Sb**	**22 01 53.9**	**+1.5**
TSCN	**Private Proper**	**0.48**	**238**		**Pn**	**22 01 46.2**	**-2.0**
CARC	**Carrizo Plain**	**0.49**	**180**		**Pn**	**22 01 46.9**	**-1.4**
CARC					**Sb**	**22 01 55.8**	**+2.6**
SMMC	**Simmler**	**0.49**	**194**	P	**Pn**	**22 01 46.8**	**-1.7**
	baz=11,SNR=67						
SMMC				S	**Sb**	**22 01 54.5**	**+1.1**
	baz=11						
SMMC	**Simmler**	**0.49**	**194**		**Pn**	**22 01 46.8**	**-1.7**
SMMC					**Sb**	**22 01 56.0**	**+2.7**
PWKM	**Work Ranch**	**0.54**	**272**		**Pb**	**22 01 46.7**	**0.0**
PSTM	**Stockdale Moun**	**0.55**	**284**		**Pb**	**22 01 46.9**	**0.0**
PVCM	**Vineyard Canyo**	**0.57**	**283**		**Pb**	**22 01 47.1**	**-0.1**
PKD	**Bear Valley Ra**	**0.58**	**285**		**Pb**	**22 01 47.1**	**-0.3**
PARM	**Anticline Ridg**	**0.60**	**319**		**Pb**	**22 01 48.0**	**+0.3**
VES	**Vestal, Richgr**	**0.62**	**86**	P	**Pg**	**22 01 46.9**	**+0.1**
	baz=268,SNR=67						
VES				S	**Sg**	**22 01 54.6**	**-0.3**
	baz=268						
VES	**Vestal, Richgr**	**0.62**	**86**		**Pg**	**22 01 47.6**	**+0.8**
PPO	**Portuguese Can**	**0.63**	**277**		**Pn**	**22 01 48.5**	**-1.7**
BCH	**Branch Mountai**	**0.64**	**198**		**Pn**	**22 01 48.8**	**-1.7**
PHPM	**Hope Ranch**	**0.64**	**287**		**Pb**	**22 01 48.5**	**0.0**
VOG	**Valley Oaks Go**	**0.65**	**36**	P	**Pg**	**22 01 47.3**	**0.0**
	baz=219,SNR=10						
VOG				S	**Sg**	**22 01 55.6**	**-0.1**
	baz=219						
PSMM	**Smith Mountain**	**0.66**	**295**		**Pn**	**22 01 49.2**	**-1.6**
PWMM	**Westland Maint**	**0.70**	**335**		**Pb**	**22 01 49.4**	**0.0**
RCTC	**Rector, Farmer**	**0.71**	**44**		**Pg**	**22 01 48.4**	**0.0**
BAKC	**Calstate**	**0.76**	**126**		**Pn**	**22 01 50.9**	**-1.0**
MRHM	**Rocky Hill**	**0.79**	**51**		**Pg**	**22 01 49.5**	**-0.5**
PTAM	**Tassajara Cree**	**0.81**	**240**		**Pn**	**22 01 51.7**	**-1.0**
RAMR	**Ramage Ranch**	**0.85**	**259**		**Pn**	**22 01 52.2**	**-1.0**
EFD	**Emergency Oper**	**0.86**	**237**		**Pn**	**22 01 52.6**	**-0.7**
PANM	**San Antonio Re**	**0.86**	**269**		**Pn**	**22 01 52.4**	**-1.1**
MAGC	**SCE Magundon P**	**0.87**	**120**		**Pn**	**22 01 53.2**	**-0.3**
PMPB	**Monarch Peak**	**0.88**	**299**		**Pb**	**22 01 52.4**	**-0.1**
PMPB				Sg	**Sb**	**22 02 04.0**	**-0.5**
BLDC	**Black Mountain**	**0.90**	**253**		**Pn**	**22 01 52.8**	**-1.2**
BLDC	**Black Mountain**	**0.90**	**253**		**Pn**	**22 01 53.0**	**-1.0**
PKM	**Mcpherson Peak**	**0.91**	**178**	P	**Pn**	**22 01 53.0**	**-1.2**
	baz=357,SNR=38						
PKM				S	**Sn**	**22 02 06.3**	**-1.4**
	baz=357						
PKM	**Mcpherson Peak**	**0.91**	**178**		**Pn**	**22 01 53.2**	**-1.0**
BCW	**Bitter Crk WRg**	**0.93**	**157**		**Pb**	**22 01 52.8**	**-0.5**
DPD	**Davis Peak**	**0.95**	**234**		**Pn**	**22 01 54.2**	**-0.4**
LSDC	**Los Osos Digit**	**0.95**	**239**		**Pn**	**22 01 54.1**	**-0.5**
WOFM	**Oak Flat**	**0.96**	**105**		**Pg**	**22 01 52.8**	**-0.4**
SPG2	**Springville 2**	**0.97**	**65**		**Pb**	**22 01 52.5**	**-1.4**
PHRM	**Hernandez Vall**	**0.97**	**307**		**Pg**	**22 01 53.2**	**-0.3**
ARDC	**Alexander Ranc**	**0.98**	**250**		**Pn**	**22 01 54.1**	**-0.9**
DCD	**Diablo Creek**	**1.00**	**235**		**Pn**	**22 01 54.7**	**-0.6**
VPDC	**Valencia Peak**	**1.00**	**237**		**Pn**	**22 01 54.9**	**-0.4**
PBWM	**Bitterwater Cr**	**1.02**	**301**		**Pg**	**22 01 54.4**	**0.0**
PCBM	**Cambria**	**1.02**	**255**		**Pn**	**22 01 54.8**	**-0.9**
ARVC	**Arvin**	**1.07**	**128**	P	**Pb**	**22 01 55.0**	**-0.6**
	baz=309,SNR=20						
ARVC				S	**Sb**	**22 02 08.9**	**-0.9**
	baz=309						
ARVC	**Arvin**	**1.07**	**128**		**Pb**	**22 01 55.4**	**-0.2**
LRC	**Lone Oak Road**	**1.07**	**295**		**Pg**	**22 01 55.2**	**-0.1**
PHCM	**Hearst Castle**	**1.07**	**264**		**Pn**	**22 01 55.5**	**-0.8**
FIGC	**Figueroa Mtn.**	**1.07**	**186**		**Pn**	**22 01 56.5**	**+0.2**
ABL	**Mount Abel**	**1.07**	**151**		**Pb**	**22 01 54.9**	**-1.0**
PMLM	**Mount Lospe**	**1.09**	**215**		**Pn**	**22 01 56.2**	**-0.4**
TEJ	**El Tejon**	**1.10**	**120**		**Pb**	**22 01 55.0**	**-1.2**
PCCM	**Crazy Canyon**	**1.11**	**286**		**Pg**	**22 01 55.8**	**-0.2**
HELL	**Mitchell Peak,**	**1.11**	**37**		**Pb**	**22 01 54.4**	**-2.0**
ISA	**Isabella, Lake**	**1.13**	**96**	P	**Pb**	**22 01 55.5**	**-1.1**
	baz=278,SNR=92						
ISA				S	**Sb**	**22 02 10.3**	**-1.3**
	baz=278						
ISA	**Isabella, Lake**	**1.13**	**96**		**Pb**	**22 01 55.6**	**-1.1**
ISA				Sg	**Sb**	**22 02 10.3**	**-1.3**
LRV	**Little Rabbit**	**1.14**	**304**		**Pb**	**22 01 56.1**	**-0.8**
BMSM	**Mercy Hot Spri**	**1.15**	**319**		**Pb**	**22 01 56.0**	**-1.2**
TJR	**Tejon Ranch**	**1.19**	**130**		**Pn**	**22 01 57.1**	**-0.8**
RYS	**Reyes Peak**	**1.22**	**160**		**Pg**	**22 01 58.2**	**0.0**
PAPM	**Alder Peak**	**1.23**	**276**		**Pn**	**22 01 57.0**	**-1.7**
BBGB	**Big Mountain B**	**1.24**	**309**		**Pn**	**22 01 57.5**	**-1.2**
SYP	**Santa Ynez Pea**	**1.27**	**185**		**Pg**	**22 01 59.6**	**+0.4**
BPIM	**Pinnacles**	**1.27**	**303**		**Pn**	**22 01 57.9**	**-1.1**
BAVM	**Antelope Valle**	**1.28**	**312**		**Pn**	**22 01 58.0**	**-1.2**
BSGM	**Shirttail Gulc**	**1.29**	**299**		**Pn**	**22 01 58.0**	**-1.4**
BRMM	**Rolling Bench**	**1.30**	**323**		**Pn**	**22 01 58.5**	**-1.0**
WORM	**Onyx Ranch**	**1.31**	**94**		**Pn**	**22 01 59.0**	**-0.7**
MHDM	**Hidden Dam**	**1.32**	**358**		**Pn**	**22 01 57.8**	**-1.9**
BEMM	**Emmet**	**1.33**	**311**		**Pb**	**22 01 59.6**	**-0.5**
BVL	**Bear Valley**	**1.33**	**306**		**Pn**	**22 01 59.1**	**-0.8**
GATR	**Gnd/Air Tx Cnt**	**1.35**	**204**		**Pg**	**22 02 02.8**	**+2.1**
SBC	**Santa Barbara**	**1.36**	**175**	P	**Pg**	**22 02 00.7**	**-0.1**
	baz=354,SNR=5.0						

BEHM	**Elkhorn Ranch**	**1.38**	**309**				**Pn**	**22 02 00.1**	**-0.5**
BSMM	**Soledad Missio**	**1.41**	**295**				**Pn**	**22 01 59.5**	**-1.4**
BLRM	**Lewis Ranch**	**1.44**	**307**				**Pb**	**22 02 01.7**	**-0.3**
WCHM	**Chimney Peak**	**1.44**	**86**				**Pn**	**22 02 01.3**	**-0.4**
BJOM	**Mount Johnson**	**1.45**	**305**				**Pn**	**22 02 00.8**	**-0.6**
BJCM	**Johnson Can.**	**1.46**	**301**				**Pn**	**22 02 00.4**	**-1.2**
BCWM	**Chews Ridge**	**1.48**	**291**				**Pn**	**22 02 00.6**	**-1.5**
SCZ	**Santa Cruz**	**1.49**	**303**				**Pn**	**22 02 01.1**	**-1.0**
OSI	**Osito Audit: C**	**1.50**	**142**		P		**Pn**	**22 02 02.0**	**-0.2**
	baz=322								
OSI					S		**Sb**	**22 02 21.8**	**-0.5**
	baz=322								
OSI	**Osito Audit: C**	**1.50**	**142**				**Pb**	**22 02 03.0**	**0.0**
OSI					Sn		**Sb**	**22 02 21.8**	**-0.5**
HAST	**Hastings Reser**	**1.50**	**294**				**Pn**	**22 02 00.5**	**-1.7**
BAPM	**Anderson Peak**	**1.50**	**285**				**Pn**	**22 02 00.8**	**-1.6**
PYR	**Pyramid**	**1.52**	**143**				**Pn**	**22 02 02.6**	**0.0**
HJSM	**John Smith Roa**	**1.55**	**311**				**Pb**	**22 02 03.0**	**-0.9**
BSLM	**Silva Ranch**	**1.56**	**309**				**Pn**	**22 02 02.5**	**-0.5**
CWC	**Cottonwood Cre**	**1.57**	**65**		P		**Pn**	**22 02 03.1**	**-0.3**
	baz=247								
CWC					S		**Sn**	**22 02 23.6**	**-0.5**
	baz=247								
CWC	**Cottonwood Cre**	**1.57**	**65**				**Pn**	**22 02 03.3**	**0.0**
BVYM	**Vineyard**	**1.58**	**307**					**22 02 02.8**	**-0.6**
KCC	**Kaiser Creek**	**1.58**	**15**				**Pn**	**22 02 02.4**	**-1.1**
BSRM	**Salinas Radio**	**1.60**	**303**				**Pn**	**22 02 03.0**	**-0.7**
SAO	**San Andreas Ge**	**1.61**	**307**					**22 02 03.2**	**-0.6**
SAO	**San Andreas Ge**	**1.61**	**307**		Pn		**Pn**	**22 02 03.0**	**-0.7**
BPOM	**Post Ranch**	**1.61**	**286**				**Pn**	**22 02 02.4**	**-1.4**
MMIM	**Miami Mountain**	**1.62**	**3**				**Pn**	**22 02 02.9**	**-1.1**
BPCNC	**Pine Canyon**	**1.63**	**299**				**Pn**	**22 02 03.0**	**-1.0**
MYLM	**Yosemite Lake**	**1.65**	**344**				**Pn**	**22 02 03.5**	**-0.7**
JRC2	**Joshua Ridge**	**1.67**	**83**				**Pn**	**22 02 05.2**	**+0.5**
SLD	**San Luis Dam**	**1.69**	**319**				**Pn**	**22 02 03.6**	**-1.2**
HPCM	**Pacheco Lake**	**1.71**	**318**				**Pn**	**22 02 04.3**	**-0.8**
HJGM	**San Juan Grade**	**1.71**	**306**				**Pn**	**22 02 04.1**	**-1.0**
HFEM	**San Felipe**	**1.72**	**314**				**Pn**	**22 02 04.5**	**-0.8**

*AEIC **25** 22:04:59.9±2.1,51°.9N±0°.1×171°.22W±0°.07,h28km±6km, Error ellipse: s-maj=15.7km s-min=5.5km az=168.0*
*NEIC **25** 22:05:01.6±1.7,52°.0N±0°.2×171°.26W±0°.09,h48km±8km, mb3.7/11,ML3.3/26(AEIC),Error ellipse: s-maj=23.5km s-min=6.4km az=167.0*
*IDC **25** 22:05:07.6±7.9,52°.68N×170°.92W,h80km±69km,mb3.4/7, mb1 3.7/9,mb1mx3.4/51,mbtmp3.7/9,ML3.4/2,MS3.1/4, Ms1 3.1/4,ms1mx2.7/31,Error ellipse: s-maj=64.3km s-min=19.8km az=14.0*

ISC 25 22:05:01.7±1.0,52°.0N±0°.2×171°.25W±0°.05,h42km,n58, σ1§20/52,mb3.8/8,MS3.1/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOSE	**Korovin Southe**	**1.77**	**284**		**Pn**	**22 05 29.9**	**0.0**
NIKH	**Nikolski High**	**1.78**	**54**		**Pn**	**22 05 28.7**	**-1.3**
NIKH	**Nikolski High**	**1.78**	**54**		**Sn**	**22 05 52.8**	**+1.3**
KOFP	**Korovin Flat P**	**1.79**	**282**		**Pn**	**22 05 29.6**	**-0.5**
ATKA	**Atka Island**	**1.84**	**279**		**Pn**	**22 05 29.8**	**-0.9**
ATKA	**Atka Island**	**1.84**	**279**		**Sn**	**22 05 52.0**	**-0.7**
OKSP	**Okmok Steeple**	**2.22**	**53**		**Pn**	**22 05 35.9**	**-0.2**
OKCE	**Okmok Cone E**	**2.39**	**51**		**Pn**	**22 05 39.0**	**+0.6**
OKNC	**Okmok New Cone**	**2.42**	**50**		**Pn**	**22 05 40.0**	**+1.1**
OKFG	**Magazine Ridge**	**2.50**	**53**		**Pn**	**22 05 40.2**	**+0.3**
GSMY	**Great Sitkin M**	**2.97**	**274**		**Pn**	**22 05 46.3**	**-0.1**
GSTR	**Great Sitkin T**	**2.98**	**275**		**Pn**	**22 05 45.6**	**-0.8**
GSTD	**Great Sitkin T**	**3.03**	**274**		**Pn**	**22 05 46.4**	**-0.8**
GSTD					**Sn**	**22 06 23.5**	**+1.3**
MREP	**Makushin Rep't**	**3.30**	**54**		**Pn**	**22 05 50.9**	**0.0**
MSW	**Makushin Switc**	**3.34**	**52**		**Pn**	**22 05 52.0**	**+0.6**
ADK	**Adak**	**3.37**	**271**		**Pn**	**22 05 51.0**	**-0.8**
MNAT	**Makushin Natee**	**3.37**	**53**		**Pn**	**22 05 52.3**	**+0.5**
UNV	**Unalaska Valle**	**3.44**	**55**		**Pn**	**22 05 52.4**	**-0.4**
KICM	**Kanaga Island**	**3.68**	**272**		**Pn**	**22 05 55.6**	**-0.5**
AKRB	**Akutan Reef Bi**	**3.81**	**53**		**Pn**	**22 05 58.6**	**+0.7**
AHB	**Akutan Harbor**	**3.93**	**54**		**Pn**	**22 05 59.4**	**-0.1**
AKUT	**Akutan**	**3.96**	**54**	Pn	**Pn**	**22 06 00.2**	**+0.3**
FALS	**False Pass**	**5.51**	**55**		**Pn**	**22 06 21.7**	**+0.6**
SDPT	**Sand Point**	**7.25**	**58**	Pn	**Pn**	**22 06 45.0**	**0.0**
CNBA	**Chernabura Isl**	**7.54**	**63**	Pn	**Pn**	**22 06 48.5**	**-0.5**
KDAK	**Kodiak Island**	**12.21**	**54**	P	**Pn**	**22 07 49.7**	**-3.1**
	0.5nm,0.3s,baz=255,slow=8.6,SNR=5.3						
KDAK	**Kodiak Island**	**12.21**	**54**		**Pn**	**22 07 50.4**	**-2.5**
SVW2	**Sparrevohn**	**12.56**	**37**	Pn	**Pn**	**22 07 59.3**	**+1.6**
PPLA	**Purkeypile**	**14.94**	**35**	Pn	**Pn**	**22 08 30.0**	**0.0**
GHO	**Glory Hole Cre**	**15.59**	**42**	Pn	**Pn**	**22 08 38.6**	**+0.3**
GHO				IAmb	IAmb	22 08 43.0	
	comp=Z,3.8nm,0.9s						
TRF	**Thorofare Moun**	**15.97**	**36**	Pn	**Pn**	**22 08 43.5**	**+0.2**
TRF				IAmb	IAmb	22 08 56.2	
	comp=Z,3.4nm,1.0s						
HIN	**Hinchinbrook I**	**16.08**	**49**	Pn	**Pn**	**22 08 42.5**	**-2.0**
BPAW	**Bear Paw Mtn.**	**16.12**	**33**		**Pn**	**22 08 44.6**	**-0.5**
FID	**Port Fidalgo**	**16.21**	**47**	Pn	**Pn**	**22 08 44.3**	**-2.0**
FID				IAmb	IAmb	22 09 01.1	
	comp=Z,7.0nm,1.0s						
SCM	**Sheep Creek Mo**	**16.29**	**43**	P	**Pn**	**22 08 46.1**	**-1.1**
SCM				IAmb	IAmb	22 08 59.9	
	comp=Z,6.1nm,1.0s						
VRDI	**Verde Repeater**	**17.77**	**48**	Pn	**Pn**	**22 09 03.6**	**-2.2**
WAX	**Waxell Ridge**	**17.81**	**50**		**P**	**22 09 05.6**	**-0.9**
WAX				IAmb	IAmb	22 09 12.4	
	comp=Z,7.0nm,0.7s						
ILAR	**Eielson Array**	**17.95**	**35**	P	**Pn**	**22 09 04.8**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=240,slow=9.0,SNR=4.2						
ILAR				LR	LR	22 16 43.4	
	comp=Z,40nm,18.8s,baz=274,slow=40						
BALM	**Baldy**	**18.22**	**49**	P	**Pn**	**22 09 11.4**	**+0.2**
BALM				IAmb	IAmb	22 09 16.0	
	comp=Z,4.5nm,0.8s						
MA2	**Magadan**	**22.42**	**305**	LR	LR	22 18 45.8	
	comp=Z,46nm,18.1s,baz=42,slow=37						
DLBC	**Dease Lake**	**24.09**	**58**	P	**P**	**22 10 15.4**	**+2.3**
	comp=Z,2.3nm,0.6s,baz=263,slow=6.3,SNR=3.8						
YKA	**Yellowknife Ar**	**31.38**	**48**	LR	LR	22 24 18.5	
	comp=Z,36nm,19.2s,baz=0.0,slow=37						
H11N2	**WAKE ISLAND Hy**	**36.42**	**216**	T	T	22 51 00.2	
	baz=23						
H11N3	**WAKE ISLAND Hy**	**36.43**	**216**	T	T	22 50 44.9	
	baz=23						
H11N1	**WAKE ISLAND Hy**	**36.44**	**216**	T	T	22 50 50.1	
	baz=23						
NVAR	**Mina Array Bea**	**38.82**	**89**	P	**P**	**22 12 23.2**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=291,slow=8.3,SNR=7.0						
NVAR	**Mina Array Bea**	**38.82**	**89**	P	**P**	**22 12 23.1**	**+0.5**
PD31	**Pinedale Array**	**41.62**	**77**	P	**P**	**22 12 44.9**	**-0.9**
PD31				IAmb	IAmb	22 12 45.8	
	comp=Z,1.9nm,1.1s						
PDAR	**Pinedale Array**	**41.62**	**77**	P	**P**	**22 12 45.2**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=343,slow=2.8,SNR=4.2						
PDAR	**Pinedale Array**	**41.62**	**77**	P	**P**	**22 12 45.0**	**-0.8**
KSRS	**Korea Array**	**44.32**	**276**	LR	LR	22 28 53.4	
	comp=Z,41nm,20.7s,baz=216,slow=32						
SONM	**Songino Array**	**50.51**	**300**	P	**P**	**22 13 55.5**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=64,slow=6.6,SNR=2.0						
TX32	**Lajitas Array**	**53.92**	**87**	P	**P**	**22 14 20.3**	**-0.7**
TXAR	**Lajitas Array**	**53.92**	**87**	P	**P**	**22 14 20.4**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=298,slow=5.5,SNR=9.9						
TXAR	**Lajitas Array**	**53.92**	**87**	P	**P**	**22 14 20.3**	**-0.7**
MKAR	**Makanchi Array**	**63.24**	**312**	P	**P**	**22 15 24.8**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=46,slow=6.1,SNR=5.8						
CMAR	**Chiang Mai Arr**	**75.57**	**281**	P	**P**	**22 16 44.5**	**+2.4**
	comp=Z,0.6nm,0.3s,baz=35,slow=6.2,SNR=1.7						
ASAR	**Alice Springs**	**89.25**	**229**	P	P	22 17 57.8	+4.8
	comp=Z,0.4nm,0.8s,baz=12,slow=4.9,SNR=2.2						

*CRAAG **25** 22:22:22.7,36°.33N×2°.20E,Ml3.8*
*MDD **25** 22:22:25.0±0.5,36°.52N×2°.09E,h0km,mb4.2/37,Error ellipse: s-maj=6.1km s-min=4.0km az=129.0,PRXIMO*
*LDG **25** 22:22:25.4±0.2,36°.40N×2°.16E,h10km,Ml3.1/23,Error ellipse: s-maj=3.9km s-min=2.4km az=148.0*

ISC 25 22:22:24.5±0.6,36°.56N±0°.03×2°.14E±0°.03,h20km,n131, σ2§09/187,1C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EBNR	**Beni Rached**	**0.56**	**242**	P	**Pb**	**22 22 35.0**	**-0.6**
ECHA	**Ech Chlef**	**0.74**	**237**	P	**Pb**	**22 22 38.7**	**0.0**
ECHF	**Ech Chlef**	**0.76**	**238**	P	**Pb**	**22 22 38.7**	**-0.3**
ABA	**Alger-Bouzarea**	**0.76**	**71**	P	**Pb**	**22 22 40.0**	**+0.9**
ABA	**Alger-Bouzarea**	**0.76**	**71**	P	**Pb**	**22 22 40.0**	**+0.9**
EANR	**'Ain N'Sour**	**1.03**	**235**	P	**Pb**	**22 22 43.0**	**-0.7**
EANR	**'Ain N'Sour**	**1.03**	**235**	P	**Pb**	**22 22 43.0**	**-0.7**
ADJB	**Djebel Djouab**	**1.12**	**110**	P	**Pb**	**22 22 44.0**	**-1.3**
ADJB	**Djebel Djouab**	**1.12**	**110**	P	**Pb**	**22 22 44.0**	**-1.3**
OKGL	**Djebel Kef Gue**	**1.31**	**247**	P	**Pb**	**22 22 51.0**	**+2.5**
OKGL	**Djebel Kef Gue**	**1.31**	**247**	P	**Pb**	**22 22 51.0**	**+2.5**
ETRT	**Tiaret**	**1.35**	**211**	P	**Pn**	**22 22 48.0**	**-0.3**
ETRT	**Tiaret**	**1.35**	**211**	P	**Pn**	**22 22 48.0**	**-0.3**
OJGS	**Djebel Guires**	**1.54**	**227**	P	**Pn**	**22 22 50.0**	**-0.9**
OJGS	**Djebel Guires**	**1.54**	**227**	P	**Pn**	**22 22 50.0**	**-0.9**
ODJA	**Bouhanifia**	**2.22**	**237**	P	**Pb**	**22 22 04.0**	**0.0**
ODJA	**Bouhanifia**	**2.22**	**237**	P	**Pb**	**22 22 04.0**	**0.0**
EIBI	**Ibiza**	**2.55**	**346**	⇑P	**Pn**	**22 23 06.7**	**+2.0**
	31nm,0.2s,SNR=18						
EIBI				S	**Sn**	**22 23 35.2**	**+0.1**
	114nm,0.2s,SNR=9.8						
SET	**Setif**	**2.66**	**97**	P	**Pb**	**22 23 16.0**	**+4.5**
SET	**Setif**	**2.66**	**97**	P	**Pb**	**22 23 16.0**	**+4.5**
CART	**Cartagena**	**2.71**	**293**	S	**Sn**	**22 23 37.2**	**-2.0**
CART	**Cartagena**	**2.71**	**293**	*e*S	**Sn**	**22 23 37.2**	**-2.0**
ETRV	**Los Montesinos**	**2.74**	**303**	P	**Pn**	**22 23 10.3**	**+3.0**
	5.1nm,0.1s,SNR=7.9						
ETRV				S	**Sn**	**22 23 40.3**	**+0.5**
	33nm,0.2s,SNR=7.9						
EBEN2	**Beniarda presa**	**2.81**	**320**	P	**Pn**	**22 23 09.7**	**+1.3**
	17nm,0.1s,SNR=7.9						
EBEN2				S	**Sn**	**22 23 41.7**	**+0.1**
	27nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**2.99**	**296**	P	**Pn**	**22 23 10.9**	**+0.1**
	3.6nm,0.3s,SNR=9.5						
EMUR				S	**Sn**	**22 23 45.0**	**-1.0**
	9.7nm,0.3s,SNR=6.1						
AFON	**Font Roja**	**2.99**	**316**	P	**Pn**	**22 23 13.1**	**+2.2**
	3.5nm,0.1s,SNR=11						
AFON				S	**Sn**	**22 23 46.5**	**+0.3**
	34nm,0.4s,SNR=5.9						
ETOS	**Mallorca**	**3.25**	**9**	P	**Pn**	**22 23 15.5**	**+1.1**
	31nm,0.3s,SNR=65						
ETOS				S	**Sn**	**22 23 51.6**	**-0.9**
	11nm,0.2s,SNR=5.8						
ENIJ	**Nijar**	**3.51**	**278**	P	**Pn**	**22 23 17.6**	**-0.4**
	3.8nm,0.2s,SNR=7.9						
ENIJ				S	**Sn**	**22 23 56.5**	**-2.5**
	15nm,0.3s,SNR=7.9						
ETOB	**Tobarra**	**3.59**	**307**	P	**Pn**	**22 23 21.0**	**+1.8**
	4.0nm,0.1s,SNR=54						
ETOB				S	**Sn**	**22 24 03.1**	**+2.1**
	14nm,0.2s,SNR=6.6						
MAHO	**Mahon**	**3.73**	**26**	P	**Pn**	**22 23 20.6**	**-0.4**
MAHO				S	**Sn**	**22 24 03.0**	**-1.3**
MAHO	**Mahon**	**3.73**	**26**	*e*P	**Pn**	**22 23 20.6**	**-0.4**
MAHO				*e*S	**Sn**	**22 24 03.0**	**-1.3**
MAHO				*e*Cod		22 26 51.9	
ECHE	**Chera**	**3.90**	**322**	S	**Sn**	**22 24 07.9**	**-0.5**
	3.7nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**4.04**	**294**	P	**Pn**	**22 23 27.5**	**+2.0**
	6.9nm,0.2s,SNR=7.9						
SESP				S	**Sn**	**22 24 13.5**	**+1.2**
	16nm,0.2s,SNR=7.9						
SESP	**Santiago Espad**	**4.04**	**294**	P	**Pn**	**22 23 27.2**	**+1.7**
SESP				S	**Sn**	**22 24 16.6**	**+4.3**
EBER	**Berja**	**4.05**	**276**	P	**Pn**	**22 23 25.9**	**+0.3**
	4.8nm,0.2s,SNR=30						
EBER				S	**Sn**	**22 24 11.2**	**-1.3**
	8.0nm,0.3s						
GORA	**Gorafe**	**4.25**	**284**	P	Pn	22 23 35.6	+7.5
	4.1nm,0.2s,SNR=4.0						
GORA				S	**Sn**	**22 24 19.5**	**+2.4**
	13nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.32**	**332**	P	**Pn**	**22 23 31.7**	**+2.4**
	6.0nm,0.1s,SNR=64						
EMOS				S	**Sn**	**22 24 18.0**	**-1.1**
	15nm,0.2s,SNR=12						
EQES	**Quesada**	**4.34**	**288**	P	**Pn**	**22 23 31.3**	**+1.8**
	3.2nm,0.2s,SNR=20						
EQES				S	**Sn**	**22 24 21.5**	**+2.0**
	16nm,0.3s,SNR=5.4						
EQUE	**Quentar**	**4.52**	**280**	P	**Pn**	**22 23 32.4**	**+0.6**
	3.3nm,0.2s,SNR=14						
EQUE				S	**Sn**	**22 24 24.4**	**+0.5**
	7.8nm,0.3s						
ERTA	**Horta de San J**	**4.62**	**343**	P	**Pn**	**22 23 35.0**	**+1.8**
	2.0nm,0.1s,SNR=18						
ERTA				S	**Sn**	**22 24 25.3**	**-0.9**
	7.6nm,0.3s						
ELGU	**Los Guajares,**	**4.64**	**276**	P	**Pn**	**22 23 33.2**	**-0.4**
	4.8nm,0.2s,SNR=7.9						
ELGU				S	**Sn**	**22 24 26.2**	**-0.7**
	7.3nm,0.3s,SNR=7.9						
EPOB	**Poblet**	**4.86**	**351**	P	**Pn**	**22 23 39.5**	**+2.9**
	2.7nm,0.2s,SNR=8.6						
EPOB				S	**Sn**	**22 24 31.5**	**-0.8**
	2.3nm,0.2s						
TDRA	**Tendrara**	**4.90**	**226**	P	**Pn**	**22 23 37.3**	**0.0**
TDRA				S	**Sb**	**22 24 53.4**	**+5.0**
EGOR	**Sierra Gorda,**	**5.04**	**278**	P	**Pn**	**22 23 41.2**	**+2.1**
	1.6nm,0.2s,SNR=7.9						
EGOR				S	**Sn**	**22 24 38.2**	**+1.4**
	8.1nm,0.4s,SNR=7.9						
CFON	**Fontmartina**	**5.21**	**2**	P	**Pn**	**22 23 42.8**	**+1.5**
	3.0nm,0.2s,SNR=9.4						
CFON				S	**Sn**	**22 24 38.5**	**-2.3**
	4.2nm,0.2s,SNR=7.9						
AKLM	**AKL**	**5.30**	**249**	P	**Pn**	**22 23 43.4**	**+0.8**
EMIR	**Miracle**	**5.37**	**355**	P	**Pn**	**22 23 47.4**	**+3.8**
	19nm,0.4s,SNR=5.7						
EMIR				S	**Sn**	**22 24 45.8**	**+0.9**
	15nm,0.3s						
ETOR	**Torete**	**5.37**	**324**	P	**Pn**	**22 23 48.0**	**+4.3**
	6.8nm,0.3s,SNR=13						
ETOR				S	**Sn**	**22 24 47.1**	**+2.2**
	4.0nm,0.2s						
ESAC	**San Caprasio**	**5.54**	**339**	P	**Pn**	**22 23 49.3**	**+3.4**
	7.1nm,0.3s,SNR=4.0						
ESAC				S	**Sn**	**22 24 50.8**	**+1.8**
	21nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**5.56**	**272**	P	**Pn**	**22 23 44.6**	**-1.5**
	1.5nm,0.2s,SNR=12						
EMIJ				S	**Sn**	**22 24 44.3**	**-5.2**
	1.3nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**5.58**	**289**	P	**Pn**	**22 23 46.6**	**+0.1**
	1.0nm,0.2s,SNR=7.9						
EADA				S	**Sn**	**22 24 50.4**	**+0.3**
	1.3nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**5.73**	**305**	P	**Pn**	**22 23 50.1**	**+1.7**
	0.9nm,0.1s,baz=116,slow=13,SNR=12						
ESDC				S	**Sn**	**22 24 53.5**	**-0.2**
	1.4nm,0.3s,baz=117,slow=23,SNR=7.6						
CSOR	**Sort**	**5.87**	**353**	P	**Pn**	**22 23 52.9**	**+2.5**
	1.4nm,0.2s,SNR=8.9						
CSOR				S	**Sn**	**22 24 56.5**	**-0.6**
	2.7nm,0.2s,SNR=7.9						
CLLI	**Llivia**	**5.92**	**359**	P	**Pn**	**22 23 55.4**	**+4.3**
	0.8nm,0.2s,SNR=7.2						
CLLI				S	**Sn**	**22 24 57.3**	**-1.1**
	1.2nm,0.2s,SNR=7.9						
PAB	**San Pablo**	**5.92**	**302**	P	**Pn**	**22 23 52.2**	**+1.0**
	0.8nm,0.1s,SNR=7.9						
PAB				S	**Sn**	**22 24 56.7**	**-1.8**
	0.6nm,0.2s,SNR=7.9						
SJAF	**Saint Jean de**	**5.95**	**5**	S	**Sn**	**22 24 57.8**	**-1.2**
	2.9nm,0.4s,SNR=7.9						
ECAB	**El Cabril**	**6.21**	**286**	P	**Pn**	**22 23 54.9**	**-0.1**
	0.6nm,0.2s,SNR=9.0						
ECAB				S	**Sn**	**22 25 03.6**	**-1.9**
	0.9nm,0.2s,SNR=7.9						
GUD	**Guadarrama**	**6.40**	**312**	P	**Pn**	**22 23 59.9**	**+2.2**
	0.6nm,0.2s,SNR=7.9						
GUD				S	**Sn**	**22 25 09.8**	**-0.5**
	1.1nm,0.3s,SNR=7.9						
EPF	**Esparros**	**6.61**	**348**	*e*Pn	**Pn**	**22 24 04.0**	**+3.4**
EPF				*e*Sn	**Sn**	**22 25 13.3**	**-2.1**
	3.3nm,0.3s						
EPF	**Esparros**	**6.61**	**348**	P	**Pn**	**22 24 04.0**	**+3.4**
EPF				S	**Sn**	**22 25 13.3**	**-2.1**
	1.7nm,0.3s						
ETSF	**Etsaut**	**6.67**	**343**	*e*Pn	**Pn**	**22 24 04.1**	**+2.7**
ETSF				*e*Sn	**Sn**	**22 25 15.5**	**-1.3**
	2.8nm,0.4s						
ETSF	**Etsaut**	**6.67**	**343**	P	**Pn**	**22 24 04.1**	**+2.7**
ETSF				S	**Sn**	**22 25 15.5**	**-1.3**
	1.4nm,0.4s						
IFR	**Ifrane**	**6.68**	**245**	*e*P	**Pn**	**22 24 03.2**	**+1.4**
IFR				*e*S	**Sn**	**22 25 21.4**	**+4.0**
MDT	**Midelt**	**6.69**	**238**	P	**Pn**	**22 24 02.2**	**+0.5**
MDT				S	**Sb**	**22 25 34.6**	**-5.2**
MD31	**MD31**	**6.76**	**239**	P	**Pn**	**22 24 03.4**	**+0.6**
MTLF	**Montolieu**	**6.78**	**0**	*e*Pn	**Pn**	**22 24 05.2**	**+2.4**
MTLF	**Montolieu**	**6.78**	**0**	*e*P	Pn	22 24 09.9	+7.1
MTLF				*e*Sn	**Sn**	**22 25 18.3**	**-1.1**
	0.9nm,0.3s						
MTLF	**Montolieu**	**6.78**	**0**	P	**Pn**	**22 24 05.2**	**+2.4**
MTLF				S	**Sn**	**22 25 18.3**	**-1.1**
	0.4nm,0.3s						
EORO	**Oroz-Betelu**	**6.86**	**338**	S	**Sn**	**22 25 21.1**	**-0.5**
	1.0nm,0.1s,SNR=7.9						
CZD	**Col de Zad**	**6.87**	**241**	P	**Pn**	**22 24 05.7**	**+1.3**
ATE	**Arette**	**6.88**	**342**	P	**Pn**	**22 24 07.5**	**+3.3**
	2.7nm,0.3s,SNR=7.9						
ATE				S	**Sn**	**22 25 21.2**	**-0.7**
	3.0nm,0.2s,SNR=7.9						
SJPF	**Ste Jean**	**7.04**	**339**	*e*Pn	**Pn**	**22 24 08.7**	**+2.2**
SJPF				*e*Sn	**Sn**	**22 25 24.3**	**-1.6**
	1.7nm,0.3s						
SJPF	**Ste Jean**	**7.04**	**339**	P	**Pn**	**22 24 08.7**	**+2.2**
SJPF				S	**Sn**	**22 25 24.3**	**-1.6**
	0.9nm,0.3s						
EMIN	**Mina Concepcio**	**7.14**	**282**	P	**Pn**	**22 24 08.1**	**+0.4**
	0.4nm,0.1s,SNR=7.9						
EMIN				S	**Sn**	**22 25 25.8**	**-2.5**
	0.7nm,0.3s,SNR=7.9						
EALK	**Alkurruntz**	**7.22**	**338**	P	**Pn**	**22 24 13.1**	**+4.1**
	0.8nm,0.1s,SNR=4.5						
EALK				S	**Sn**	**22 25 29.1**	**-1.3**
	3.1nm,0.3s,SNR=7.9						
ARF	**Arif**	**7.34**	**228**	P	**Pn**	**22 24 10.2**	**-0.6**
EPLA	**Plasencia**	**7.35**	**301**	P	**Pn**	**22 24 12.7**	**+2.0**
	0.4nm,0.2s,SNR=7.9						
EPLA				S	**Sn**	**22 25 32.2**	**-1.3**
	0.7nm,0.3s,SNR=7.9						
LMR	**La Mourre**	**7.56**	**25**	*e*Pn	**Pn**	**22 24 15.6**	**+2.1**
LMR				*e*Sn	**Sn**	**22 25 36.4**	**-2.1**
	1.5nm,0.2s						
LMR	**La Mourre**	**7.56**	**25**	P	**Pn**	**22 24 15.6**	**+2.1**
LMR				S	**Sn**	**22 25 36.4**	**-2.1**
	0.8nm,0.2s						
EBAD	**Badajoz**	**7.58**	**290**	P	**Pn**	**22 24 14.7**	**+0.8**
	0.3nm,0.1s,SNR=4.0						
EBAD				S	**Sn**	**22 25 36.9**	**-2.3**
	0.8nm,0.2s,SNR=4.0						
LASF	**Ste Croix**	**7.63**	**9**	*e*Pn	**Pn**	**22 24 16.7**	**+2.2**
LASF				*e*Sn	Sn	22 25 36.4	-3.9
	1.3nm,0.3s						
LASF	**Ste Croix**	**7.63**	**9**	P	**Pn**	**22 24 16.7**	**+2.2**
LASF				S	Sn	22 25 36.4	-3.9
	0.6nm,0.3s						
FRF	**La Foret Royal**	**7.80**	**25**	*e*Pn	**Pn**	**22 24 19.0**	**+2.1**
FRF				*e*Sn	**Sn**	**22 25 42.5**	**-2.1**
	11nm,0.6s						
FRF	**La Foret Royal**	**7.80**	**25**	P	**Pn**	**22 24 19.0**	**+2.1**
FRF				S	**Sn**	**22 25 42.5**	**-2.1**
	5.4nm,0.6s						
SMRF	**Simiane la Rot**	**7.86**	**18**	*e*Pn	**Pn**	**22 24 19.5**	**+1.7**
SMRF	**Simiane la Rot**	**7.86**	**18**	*e*P	Pn	22 24 25.3	+7.5
SMRF				*e*Sn	**Sn**	**22 25 43.8**	**-2.4**
	0.6nm,0.4s						
SMRF	**Simiane la Rot**	**7.86**	**18**	P	**Pn**	**22 24 19.5**	**+1.7**
SMRF				S	**Sn**	**22 25 43.8**	**-2.4**
	0.6nm,0.4s						
ELAN	**Lanestosa**	**7.92**	**329**	P	**Pn**	**22 24 22.4**	**+3.8**
	2.8nm,0.2s,SNR=28						
ELAN				S	**Sn**	**22 25 46.1**	**-1.5**
	0.9nm,0.4s,SNR=7.9						
PGF	**Pioggiola**	**7.99**	**39**	*e*Pn	**Pn**	**22 24 21.9**	**+2.3**
PGF				*e*Sn	**Sn**	**22 25 45.5**	**-3.9**
	2.0nm,0.4s						
PGF	**Pioggiola**	**7.99**	**39**	P	**Pn**	**22 24 21.9**	**+2.3**
PGF				S	**Sn**	**22 25 45.5**	**-3.9**
	1.0nm,0.4s						
SBF	**Sospel**	**8.35**	**27**	*e*Pn	**Pn**	**22 24 25.9**	**+1.5**
SBF	**Sospel**	**8.35**	**27**	*e*P	Pn	22 24 31.4	+7.0
SBF				*e*Sn	**Sn**	**22 25 56.5**	**-1.6**
	2.1nm,0.2s						
SBF	**Sospel**	**8.35**	**27**	P	**Pn**	**22 24 25.9**	**+1.5**
SBF				S	**Sn**	**22 25 56.5**	**-1.6**
	1.1nm,0.2s						
CAF	**Calviac**	**8.36**	**360**	*e*Pn	**Pn**	**22 24 26.9**	**+2.3**
CAF	**Calviac**	**8.36**	**360**	*e*P	Pn	22 24 32.2	+7.6
CAF				*e*Sn	**Sn**	**22 25 56.2**	**-2.2**
	0.7nm,0.4s						
CAF	**Calviac**	**8.36**	**360**	P	**Pn**	**22 24 26.9**	**+2.3**
CAF				S	**Sn**	**22 25 56.2**	**-2.2**
	0.3nm,0.4s						
LFF	**La Frestale**	**8.44**	**353**	*e*P	**Pn**	**22 24 27.4**	**+1.8**
LFF				*e*Sn	**Sn**	**22 25 58.0**	**-2.3**
	1.0nm,0.3s						
LFF	**La Frestale**	**8.44**	**353**	P	**Pn**	**22 24 27.4**	**+1.8**
LFF				S	**Sn**	**22 25 58.0**	**-2.3**
	0.0nm,0.3s						
VIVF	**Saint-Julien-l**	**8.51**	**12**	*e*Pn	**Pn**	**22 24 29.1**	**+2.5**
VIVF				*e*Sn	Sn	22 25 58.1	-4.0
	0.6nm,0.2s						
VIVF	**Saint-Julien-l**	**8.51**	**12**	P	**Pn**	**22 24 29.1**	**+2.5**
VIVF				S	Sn	22 25 58.1	-4.0
	0.3nm,0.2s						
TZRR	**Tazzarine**	**8.62**	**230**	P	**Pn**	**22 24 28.1**	**-0.1**
ECAL	**Calabor**	**8.73**	**311**	P	**Pn**	**22 24 31.9**	**+2.1**
	4.5nm,0.3s,SNR=18						
ECAL				S	**Sn**	**22 26 05.4**	**-2.2**
	1.3nm,0.4s,SNR=4.0						
RJF	**Les Rejaudoux**	**8.75**	**357**	*e*P	**Pn**	**22 24 32.0**	**+2.1**
RJF	**Les Rejaudoux**	**8.75**	**357**	P	**Pn**	**22 24 32.0**	**+2.1**
EARI	**Arriondas**	**8.79**	**322**	P	**Pn**	**22 24 34.1**	**+3.7**
	3.2nm,0.4s,SNR=15						
EARI				S	**Sn**	**22 26 08.7**	**-0.1**
	0.3nm,0.2s,SNR=4.0						
ORIF	**Oris-en-Rattie**	**8.82**	**18**	*e*Pn	**Pn**	**22 24 33.5**	**+2.5**
ORIF				*e*Sn	Sn	22 26 05.8	-4.0

IDC ***25*** *22:39:02.1±0.7,30.°04S×177.°44W,h0km,mb4.3/8, mb1 4.5/8,mb1mx4.2/39,mbtmp4.3/8,Error ellipse: s-maj=24.2km s-min=15.6km az=71.0*

NEIC ***25*** *22:39:04.0±1.5,30.°14S±0.°06×177.°5W±0.°2,h17km±4km, mb4.7/18,Error ellipse: s-maj=21.0km s-min=7.9km az=82.0*

ISC 25 22:39:07.1±0.6,30.°15S±0.°06×177.°5W±0.°1,h35km,n69, σ1ᵍ79/64,mb4.6/15,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.96**	**338**	Pn	**Pn**	**22 39 22.9**	**-1.2**
	2μm,0.3s,baz=101,slow=9.8,SNR=108						
RAO				Sn	**Sn**	**22 39 36.0**	**-0.5**
	2μm,0.3s,baz=119,slow=23,SNR=8.5						
MXZ	**Matakaoa Point**	**8.17**	**204**	Pn	**Pn**	**22 41 02.2**	**-1.0**
BKZ	**Black Stump Fm**	**10.26**	**207**	Pn	**Pn**	**22 41 30.0**	**-1.8**
RPZ	**Rata Peaks**	**16.32**	**211**	Pn	**Pn**	**22 42 51.1**	**-2.4**
	1.3nm,0.3s,baz=114,slow=23,SNR=2.1						
RPZ	**Rata Peaks**	**16.32**	**211**		**Pn**	**22 42 51.5**	**-2.0**
DZM	**Mont Dzumac**	**16.49**	**295**	Pn	**P**	**22 43 03.0**	**+4.7**
	0.2nm,0.3s,baz=127,slow=14,SNR=5.0						
LHI	**Lord Howe Isla**	**20.16**	**260**	P	**P**	**22 43 37.2**	**-1.2**
EIDS	**Eidsvold**	**28.15**	**272**	P	**P**	**22 44 57.1**	**+1.0**
EIDS				IAmb	IAmb	22 45 02.9	
	comp=Z,18nm,1.5s						
TOO	**Toolangi**	**31.45**	**246**	P	**P**	**22 45 25.5**	**+0.1**
CTA	**Charters Tower**	**34.18**	**279**	P	**P**	**22 45 51.1**	**+1.8**
	comp=Z,3.3nm,0.4s,baz=83,slow=11,SNR=6.1						
CTAO	**Charters Tower**	**34.18**	**279**	P	**P**	**22 45 49.2**	**-0.1**
STKA	**Stephens Creek**	**34.95**	**256**	P	**P**	**22 45 58.0**	**+2.1**
	comp=Z,4.6nm,0.7s,baz=100,slow=12,SNR=7.1						
STKA	**Stephens Creek**	**34.95**	**256**	P	**P**	**22 45 56.4**	**+0.6**
BBOO	**Buckleboo**	**39.45**	**254**	P	**P**	**22 46 33.4**	**-0.6**
BBOO				IAmb	IAmb	22 46 47.1	
	comp=Z,14nm,1.0s						
AS31	**Alice Springs**	**43.55**	**266**	P	**P**	**22 47 07.8**	**+0.1**
ASAR	**Alice Springs**	**43.55**	**266**	P	**P**	**22 47 07.1**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=110,slow=7.9,SNR=15						
ASAR				PcP	**PcP**	**22 48 54.4**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=128,slow=3.7,SNR=3.0						
ASAR	**Alice Springs**	**43.55**	**266**	P	**P**	**22 47 07.7**	**-0.1**
WR0	**Warramunga Arr**	**44.33**	**272**	P	**P**	**22 47 14.4**	**+0.3**
WR0				IAmb	IAmb	22 47 26.1	
	comp=Z,17nm,1.4s						
WB2	**Warramunga Arr**	**44.50**	**272**	P	**P**	**22 47 14.6**	**-0.8**
WB2				IAmb	IAmb	22 47 31.2	
	comp=Z,8.4nm,0.9s						
WRA	**Warramunga Arr**	**44.51**	**272**	P	**P**	**22 47 15.3**	**-0.2**
	comp=Z,4.0nm,0.4s,baz=110,slow=8.1,SNR=37						
WRA	**Warramunga Arr**	**44.51**	**272**	P	**P**	**22 47 15.1**	**-0.4**
WB0	**Warramunga Arr**	**44.53**	**272**	P	**P**	**22 47 15.2**	**-0.5**
WB0				IAmb	IAmb	22 47 16.6	
	comp=Z,8.2nm,0.8s						
VNDA	**Vanda**	**48.39**	**186**	P	**P**	**22 47 47.4**	**+2.2**
	comp=Z,0.6nm,0.9s,baz=353,slow=9.1,SNR=2.6						
VNDA	**Vanda**	**48.39**	**186**	P	**P**	**22 47 45.7**	**+0.6**
CASY	**Casey**	**55.56**	**208**	P	**P**	**22 48 37.5**	**-1.1**
CASY				IAmb	IAmb	22 48 39.0	
	comp=Z,11nm,0.9s						
MORW	**Morawa**	**57.01**	**253**	P	**P**	**22 48 48.7**	**-0.9**
QSPA	**South Pole Qui**	**59.96**	**180**	P	**P**	**22 49 11.1**	**+1.4**
	comp=Z,4.3nm,0.9s,baz=55,slow=2.9,SNR=13						
QSPA	**South Pole Qui**	**59.96**	**180**	P	**P**	**22 49 10.2**	**+0.4**
QSPA				IAmb	IAmb	22 49 22.3	
	comp=Z,7.1nm,1.0s						
MJAR	**Matsushiro Arr**	**78.28**	**325**	P	**P**	**22 51 03.5**	**+0.1**
SNAA	**Sanae**	**78.39**	**178**	P	**P**	**22 51 03.6**	**-0.1**
SNAA				IAmb	IAmb	22 51 14.7	
	comp=Z,6.4nm,1.4s						
H03S2	**Juan Fernandez**	**80.25**	**123**	T	T	00 20 37.9	
	baz=238,slow=74,SNR=5.2						
H03S1	**Juan Fernandez**	**80.26**	**123**	T	T	00 20 38.6	
	baz=238,slow=74,SNR=6.1						
H03S3	**Juan Fernandez**	**80.27**	**123**	T	T	00 20 40.7	
	baz=238,slow=74,SNR=7.3						
H03N3	**Juan Fernandez**	**80.44**	**123**	T	T	00 20 51.4	
	baz=231,slow=77,SNR=3.4						
H03N2	**Juan Fernandez**	**80.44**	**123**	T	T	00 20 49.4	
	baz=231,slow=77,SNR=3.0						
H03N1	**Juan Fernandez**	**80.45**	**123**	T	T	00 20 43.9	
	baz=231,slow=77,SNR=3.5						
PETK	**Petropavlovsk-**	**85.68**	**345**	P	**P**	**22 51 42.4**	**+0.6**
	comp=Z,3.9nm,0.8s,baz=107,slow=7.9,SNR=5.9						
PETK	**Petropavlovsk-**	**85.68**	**345**	P	**P**	**22 51 42.2**	**+0.4**
NVAR	**Mina Array Bea**	**87.77**	**42**	P	**P**	**22 51 53.6**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=229,slow=8.7,SNR=4.9						
NVAR	**Mina Array Bea**	**87.77**	**42**	P	**P**	**22 51 53.0**	**+0.4**
MKAR	**Makanchi Array**	**117.94**	**310**	PKP	**PKPdf**	**22 57 48.5**	**-1.3**
	comp=Z,0.2nm,0.5s,baz=73,slow=1.5,SNR=2.3						
MKAR	**Makanchi Array**	**117.94**	**310**		**PKPdf**	**22 57 48.2**	**-1.5**
KKAR	**Karatay Array**	**125.29**	**304**		**PKPdf**	**22 58 03.3**	**-0.8**
GEYT	**Alibeck**	**133.84**	**295**	PKP	**PKiKP**	**22 58 21.6**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=0.0,slow=4.4,SNR=3.8						
ARCES	**ARCESS Array B**	**138.43**	**348**	PKP	**PKiKP**	**22 58 30.4**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=65,slow=4.3,SNR=2.5						
H10N3	**ASCENSION HYDR**	**138.85**	**154**	T	T	01 35 19.8	
	baz=203,slow=75,SNR=13						
H10N1	**ASCENSION HYDR**	**138.86**	**154**	T	T	01 35 07.3	
	baz=203,slow=75,SNR=15						
H10N2	**ASCENSION HYDR**	**138.87**	**154**	T	T	01 35 10.3	
	baz=203,slow=75,SNR=10						
FIA1	**FINESS Array S**	**145.05**	**340**		**PKPbc**	**22 58 39.0**	**-0.5**
FINES	**FINESS Array B**	**145.05**	**340**	PKP	**PKPbc**	**22 58 39.0**	**-0.5**
	comp=Z,6.1nm,0.6s,baz=53,slow=3.9,SNR=48						
FINES	**FINESS Array B**	**145.05**	**340**		**PKPbc**	**22 58 38.9**	**-0.5**
AKH	**Akhalkalaki**	**145.18**	**300**		**PKPbc**	**22 58 40.7**	**-0.1**
KBZ	**Khabaz**	**145.32**	**304**	PKPbc	**PKPbc**	**22 58 40.4**	**-0.5**
	comp=Z,5.4nm,1.1s,baz=258,slow=4.9,SNR=5.9						
NC303	**NORSAR Array S**	**148.37**	**352**		**PKPbc**	**22 58 48.5**	**-0.6**
NB2	**NORSAR Subarra**	**148.56**	**352**	PKP	**PKPbc**	**22 58 48.8**	**-0.8**
	comp=Z,3.6nm,1.2s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.56**	**352**	PKPbc	**PKPbc**	**22 58 48.9**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=16,slow=4.4,SNR=8.9						
AKASG	**Malin Array Be**	**151.35**	**323**	PKPbc	**PKPbc**	**22 58 56.1**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=49,slow=2.8,SNR=7.3						
AKASG	**Malin Array Be**	**151.35**	**323**		**PKPbc**	**22 58 55.7**	**-1.0**
BRTR	**Keskin Array B**	**152.85**	**299**	PKPbc	**PKPbc**	**22 59 00.1**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=143,slow=2.6,SNR=6.9						
BRTR	**Keskin Array B**	**152.85**	**299**		**PKPbc**	**22 58 59.0**	**-1.7**
DPC	**Dobruska-Polom**	**157.30**	**337**	*e*PKPAB	**PKPab**	**22 59 35.3**	**+5.1**
CLL	**Collm**	**157.46**	**343**	*i* PKPab	**PKPab**	**22 59 30.6**	**-0.2**
	comp=Z,3.0nm,1.0s						
CLL				*i* pPKPab	**pPKPab**	**22 59 36.1**	**-4.6**
	comp=Z,6.0nm,0.8s						
CLL	**Collm**	**157.46**	**343**		**PKPab**	**22 59 30.4**	**-0.4**
BRG	**Berggiesshubel**	**157.59**	**341**	*e*PKP	**PKPab**	**22 59 37.3**	**+5.9**
	comp=Z,3.5nm,0.8s						
NKC	**Novy Kostel**	**158.58**	**342**	*e*PKPAB	**PKPab**	**22 59 41.8**	**+6.1**
KHC	**Kasperske Hory**	**159.25**	**339**	*e*PKPAB	**PKPab**	**22 59 39.5**	**+0.8**
KHC				*ex*	x	22 59 44.5	
GERES	**GERESS Array B**	**159.46**	**339**	PKPab	**PKPab**	**22 59 39.7**	**0.0**
	comp=Z,0.2nm,0.4s,baz=61,slow=8.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**163.07**	**177**	PKPab	**PKPab**	**22 59 57.3**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=203,slow=3.6,SNR=2.6						
TORD	**Torodi Ar. Bea**	**163.07**	**177**	PKPdf	**PKPdf**	**22 59 06.9**	**+0.4**
TORD					**PKPab**	**22 59 55.6**	**-0.5**

DJA ***25*** *22:45:17.2±0.4,8.°S±6.°×10.°9E±.°,h10km,M4.5/9,mb4.8/1, MLv4.4/9*

NEIC ***25*** *22:45:18.6±2.6,8.°52S±0.°06×108.°85E±0.°05,h67km±8km, mb4.2/13,Error ellipse: s-maj=9.0km s-min=6.0km az=204.0*

IDC ***25*** *22:45:23.7±1.6,8.°02S×109.°11E,h98km±17km,mb3.7/10, mb1 3.7/10,mb1mx3.6/44,mbtmp4.0/10,Error ellipse: s-maj=49.3km s-min=13.6km az=48.0*

ISC 25 22:45:18.5±1.0,8.°51S±0.°06×108.°86E±0.°04,h65km±10km, n50,σ1ᵍ70/53,mb4.2/14,Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**1.41**	**313**	P	**Pn**	**22 45 42.5**	**+0.4**
CISI				S	**Sn**	**22 45 59.8**	**0.0**
CISI	**Cisompet, Garu**	**1.41**	**313**		**Pn**	**22 45 42.1**	**0.0**
CISI				Sn	**Sn**	**22 45 59.1**	**-0.7**
UGM	**Wanagama**	**1.75**	**70**	P	**Pn**	**22 45 46.6**	**-0.1**
UGM				S	**Sn**	**22 46 06.5**	**-1.6**
UGM	**Wanagama**	**1.75**	**70**		**Pn**	**22 45 46.6**	**-0.1**
UGM				Sn	**Sn**	**22 46 06.3**	**-1.8**
LEM	**Lembang**	**2.08**	**324**	P	**Pn**	**22 45 53.2**	**+1.9**
	35nm,0.3s,baz=275,slow=5.7,SNR=14						
LEM				LR	LR	22 46 12.6	
	comp=Z,93nm,21.3s,baz=228,slow=26						
LEM				S	**Sn**	**22 46 19.5**	**+3.3**
	49nm,0.3s,baz=329,slow=24,SNR=9.4						
LEM	**Lembang**	**2.08**	**324**	P	**Pn**	**22 45 54.5**	**+3.2**
CNJI	**Cibinong**	**2.09**	**305**	P	**Pn**	**22 45 52.0**	**+0.7**
CNJI				S	**Sn**	**22 46 15.3**	**-1.0**
SMRI	**Semarang**	**2.14**	**47**	P	**Pn**	**22 45 53.4**	**+1.5**
SMRI	**Semarang**	**2.14**	**47**		**Pn**	**22 45 53.0**	**+1.0**
WOJI	**Wonogiri, Jawa**	**2.15**	**72**	P	**Pn**	**22 45 51.2**	**-0.8**
NGJI	**Ngawi**	**2.82**	**66**	P	**Pn**	**22 46 04.0**	**+2.9**
XMIS	**Christmas Isla**	**3.72**	**238**	Pn	**Pn**	**22 46 14.4**	**+0.9**
XMIS				Sn	**Sn**	**22 46 52.2**	**-3.9**
GRJI	**Gresik**	**3.92**	**66**	P	**Pn**	**22 46 17.4**	**+1.2**
JAGI	**Jajag, Banyuwa**	**5.23**	**90**	P	**Pn**	**22 46 35.2**	**+1.0**
JAGI	**Jajag, Banyuwa**	**5.23**	**90**	Pn	**Pn**	**22 46 35.4**	**+1.1**
MNAI	**Manna**	**7.17**	**305**	Pn	**Pn**	**22 47 03.0**	**+2.2**
KSM	**Kuching**	**10.03**	**8**	Pn	**Pn**	**22 47 41.0**	**+1.2**
GSI	**Gunungsitoli**	**14.89**	**310**	Pn	**Pn**	**22 48 41.6**	**-3.8**
GIRL	**Giralia**	**14.97**	**160**	Pn	**Pn**	**22 48 45.3**	**-1.1**
PSA00	**Pilbara Seismi**	**16.75**	**142**	Pn	**Pn**	**22 49 09.1**	**+0.1**
PSA00				IAmb	IAmb	22 49 11.7	
	comp=Z,13nm,1.2s						
KNRA	**Kununurra**	**20.71**	**112**	P	**P**	**22 49 54.7**	**+1.1**
KNRA				IAmb	IAmb	22 49 55.1	
	comp=Z,44nm,1.5s						
MTN	**Manton Dam**	**22.30**	**103**	P	**P**	**22 50 11.4**	**+0.6**
WB0	**Warramunga Arr**	**27.12**	**117**	P	**P**	**22 50 57.2**	**+1.5**
WB0				IAmb	IAmb	22 51 09.5	
	comp=Z,17nm,1.5s						
WRA	**Warramunga Arr**	**27.14**	**117**	P	**P**	**22 50 58.4**	**+2.6**
	comp=Z,0.9nm,0.7s,baz=290,slow=12,SNR=6.1						
WRA	**Warramunga Arr**	**27.14**	**117**	P	**P**	**22 50 56.7**	**+0.8**
WB2	**Warramunga Arr**	**27.15**	**117**	P	**P**	**22 50 56.9**	**+1.0**
WB2				IAmb	IAmb	22 51 10.2	
	comp=Z,11nm,1.2s						
ASAR	**Alice Springs**	**28.32**	**125**	P	**P**	**22 51 09.0**	**+2.7**
	comp=Z,0.8nm,0.7s,baz=305,slow=8.9,SNR=5.3						
COEN	**Coen**	**34.06**	**102**	P	**P**	**22 51 57.7**	**+0.7**
H08S2	**Diego Garcia H**	**36.01**	**269**	T	T	23 30 25.0	
	baz=93,slow=76,SNR=170						
H08S3	**Diego Garcia H**	**36.02**	**269**	T	T	23 30 17.0	
	baz=93,slow=76,SNR=169						
H08S1	**Diego Carcia H**	**36.03**	**269**	T	T	23 30 17.7	
	baz=93,slow=76,SNR=216						
STKA	**Stephens Creek**	**38.26**	**132**	P	**P**	**22 52 36.3**	**+3.7**
	comp=Z,1.6nm,0.4s,baz=308,slow=11,SNR=6.1						
STKA	**Stephens Creek**	**38.26**	**132**	P	**P**	**22 52 34.9**	**+2.3**
SONM	**Songino Array**	**56.14**	**358**	P	**P**	**22 54 50.5**	**-1.0**
	comp=Z,0.6nm,0.5s,baz=170,slow=9.0,SNR=5.5						
SONM	**Songino Array**	**56.14**	**358**	P	**P**	**22 54 50.6**	**-0.9**
KDJ	**Kajisay**	**58.14**	**333**	P	**P**	**22 55 05.3**	**-0.5**
KDJ				IAmb	IAmb	22 55 06.4	
	comp=Z,1.2nm,0.7s						
MK31	**Makanchi Array**	**59.94**	**339**	P	**P**	**22 55 17.5**	**-0.4**
MKAR	**Makanchi Array**	**59.94**	**339**	P	**P**	**22 55 16.5**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=150,slow=8.5,SNR=14						
MKAR	**Makanchi Array**	**59.94**	**339**	P	**P**	**22 55 16.3**	**-1.6**
KLR	**Kul'dur**	**60.90**	**17**	P	**P**	**22 55 22.4**	**-2.0**
	comp=Z,0.8nm,0.4s,baz=184,slow=7.1,SNR=5.3						
ZAA0	**Zalesovo Array**	**65.46**	**345**	P	**P**	**22 55 53.7**	**-0.8**
ZAA0				IAmb	IAmb	22 56 08.2	
	comp=Z,2.7nm,1.2s						
ZALV	**Zalesovo Beam**	**65.46**	**345**	P	**P**	**22 55 53.5**	**-1.0**
	comp=Z,0.9nm,0.3s,baz=149,slow=6.9,SNR=8.1						
ZALV	**Zalesovo Beam**	**65.46**	**345**	P	**P**	**22 55 53.8**	**-0.7**
GEYT	**Alibeck**	**66.11**	**318**	P	**P**	**22 55 59.4**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=145,slow=8.1,SNR=5.5						
GEYT	**Alibeck**	**66.11**	**318**	P	**P**	**22 55 59.3**	**+0.3**
ABKAR	**Akbulak array**	**71.65**	**329**	P	**P**	**22 56 32.8**	**-0.4**
TIXI	**Tiksi**	**81.09**	**6**	P	**P**	**22 57 24.7**	**-1.4**
	comp=Z,1.6nm,0.6s,baz=169,slow=3.6,SNR=4.0						
BRTR	**Keskin Array B**	**84.20**	**311**	P	**P**	**22 57 44.3**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=120,slow=6.5,SNR=3.4						
BRTR	**Keskin Array B**	**84.20**	**311**	P	**P**	**22 57 43.6**	**+0.4**
TXAR	**Lajitas Array**	**143.12**	**51**	PKP	PKPbc	23 04 43.6	+0.7
	comp=Z,0.1nm,0.5s,baz=212,slow=1.2,SNR=1.7						

BJI ***25*** *22:46:39.0±0.0,30.°50S×177.°30W,h5km,mB5.7/34, mb5.3/39,Ms5.1/38,Ms7 4.9/37*

IDC ***25*** *22:46:40.3±0.4,30.°11S×177.°55W,h0km,mb5.0/26, mb1 5.1/26,mb1mx5.1/36,mbtmp5.0/26,MS4.9/24, Ms1 4.9/24,ms1mx4.9/25,Error ellipse: s-maj=15.3km s-min=12.4km az=62.0*

UNK ***25*** *22:46:41.9,30.°17S×177.°49W,h10km*

NEIC ***25*** *22:46:41.7,30.°12S×177.°52W,h20km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.65; Mθθ0.17; Mθφ-0.81; Mrθ-0.06; Mφφ-0.64; Mφr0.59; Fault plane solution: M₀1.15000×10¹⁷ NP1:φ₁238.57000°, δ39.84000°, λ141.84000°. NP2:φ₂359.68000°, δ66.98000°, λ56.73000°. Principal axes: T 0.9732, Plg55.0000°, Azm227.0000°; N 0.2895, Plg30.0000°, Azm14.0000°; P -1.2627, Plg15.0000°, Azm113.0000°;*

MOS ***25*** *22:46:42.2±0.7,30.°19S×177.°60W,h21km,mb5.6/15, MS5.1/44 Error ellipse: s-maj=9.5km s-min=7.7km az=114.2*

NEIC ***25*** *22:46:43.1±1.4,30.°25S±0.°06×177.°54W±0.°08,h20km±3km, mb5.5/155,Ms_20 5.2/665,Mwb5.3/51,Mwc5.6(GCMT), Error ellipse: s-maj=9.7km s-min=8.5km az=89.0*

NEIC ***25*** *22:46:45,30.°25S×177.°32W,h27km,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.12; Mθθ0.48; Mφφ-1.59; Mrθ0.33; Mθφ-2.03; Mφr1.73; Fault plane solution: M₀3.04000×10¹⁷ NP1:φ₁254.00000°, δ44.00000°, λ161.00000°. NP2:φ₂358.00000°, δ77.00000°, λ48.00000°. Principal axes: T 2.3049, Plg42.0000°, Azm228.0000°; N 1.1375, Plg41.0000°, Azm10.0000°; P -3.4425, Plg20.0000°, Azm119.0000°;*

GCMT ***25*** *22:46:47.1±0.1,30.°23S±0.°01×177.°34W±0.°01,h30km, MW5.6/159,Moment Tensor Solution. s135,c247; s159,c299; Duration: 1ˢ5 Moment tensor: Scale 10¹⁷ Nm; Mrr1.28±.03; Mθθ0.37±.03; Mφφ-1.64±.03; Mrθ0.12±.05; Mθφ-2.01±.02; Mφr1.36±.05; Best double couple: M₀2.71300×10¹⁷ NP1:φ₁252.00000°, δ48.00000°, λ156.00000°. NP2:φ₂358.00000°, δ73.00000°, λ45.00000°. Principal axes: T 2.2070, Plg43.0000°, Azm225.0000°; N 1.0170, Plg43.0000°, Azm15.0000°; P -3.2190, Plg15.0000°, Azm120.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 22:46:43.5±0.3,30.°38S±0.°02×177.°45W±0.°03,h26km±2km, h26km:pP-P,n1229,σ1ᵍ65/915,mb5.4/123,MS5.2/395, 55C-9D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.19**	**340**	P	Pn	22 46 59.9	-4.4
GLKZ				S	**Sn**	**22 47 14.2**	**-5.5**
RAO	**Raoul Island**	**1.20**	**340**	Pn	**Pn**	**22 47 01.1**	**-3.4**
	16μm,0.3s,baz=184,slow=2.3,SNR=298						
RAO				Sn	**Sn**	**22 47 15.6**	**-4.3**
	32μm,0.3s,baz=314,slow=23,SNR=13						
RAO				LR	LR	22 47 17.5	
	comp=Z,23μm,18.7s,baz=20,slow=41						
RAO	**Raoul Island**	**1.20**	**340**	Pn	**Pn**	**22 47 00.9**	**-3.6**
RIZ	**Raoul Island**	**1.21**	**340**	P	**Pn**	**22 47 01.2**	**-3.4**
RIZ				S	**Sn**	**22 47 14.4**	**-5.7**
MXZ	**Matakaoa Point**	**7.98**	**205**	P	**Pn**	**22 48 38.8**	**+1.0**
MXZ				S	**Sn**	**22 50 06.3**	**-0.8**
MXZ	**Matakaoa Point**	**7.98**	**205**	Pn	**Pn**	**22 48 36.0**	**-1.7**
WMGZ	**Waiomatatini S**	**8.17**	**204**	P	**Pn**	**22 48 39.7**	**-0.6**
WMGZ				S	**Sn**	**22 50 11.0**	**-0.8**
GRZ	**Great Barrier**	**8.33**	**224**	P	Pn	22 48 48.0	+5.5
HAZ	**Te Kaha**	**8.35**	**207**	P	**Pn**	**22 48 41.4**	**-1.4**
HAZ				S	**Sn**	**22 50 17.1**	**+0.9**
PKGZ	**Pakihiroa**	**8.35**	**205**	P	**Pn**	**22 48 40.8**	**-2.1**
PKGZ				S	**Sn**	**22 50 19.4**	**+3.0**
PUZ	**Puketiti**	**8.45**	**204**	P	**Pn**	**22 48 42.3**	**-2.0**
PUZ				S	**Sn**	**22 50 17.1**	**-1.7**
KUZ	**Kuaotunu**	**8.53**	**220**	P	**Pn**	**22 48 45.3**	**+0.1**
RUGZ	**Raukumara Rang**	**8.57**	**207**	P	**Pn**	**22 48 45.1**	**-0.9**
RUGZ				S	**Sn**	**22 50 25.8**	**+3.9**
TWGZ	**Tauwhareparae**	**8.64**	**205**	P	**Pn**	**22 48 44.1**	**-2.8**
CNGZ	**Carnagh Station**	**8.84**	**203**	P	**Pn**	**22 48 47.1**	**-2.4**
WIAZ	**Waiheke Island**	**8.89**	**222**	P	**Pn**	**22 48 53.3**	**+3.1**
TKGZ	**Te Karaka**	**8.93**	**205**	P	**Pn**	**22 48 48.1**	**-2.6**
OUZ	**Omahuta**	**8.95**	**235**	P	Pn	22 48 58.3	+7.4
OPRZ	**Ohinepanea**	**8.95**	**212**	P	**Pn**	**22 48 51.3**	**+0.3**
MWZ	**Matawai**	**8.95**	**206**	P	**Pn**	**22 48 48.8**	**-2.3**
MWZ				S	**Sn**	**22 50 31.1**	**0.0**
MARZ	**Manawahe**	**9.01**	**211**	P	**Pn**	**22 48 52.6**	**+0.7**
URZ	**Urewera**	**9.05**	**208**	P	**Pn**	**22 48 49.5**	**-2.9**
URZ				S	**Sn**	**22 50 31.8**	**-1.6**
RIGZ	**Rimuhau**	**9.19**	**204**	P	**Pn**	**22 48 52.5**	**-1.8**
KMRZ	**Kaimai**	**9.24**	**215**	P	**Pn**	**22 48 58.2**	**+3.1**
OMRZ	**Omania**	**9.24**	**212**	P	**Pn**	**22 48 54.5**	**-0.6**
PRGZ	**Paritu Road**	**9.35**	**203**	P	**Pn**	**22 48 53.8**	**-2.6**
AWAZ	**Awhitu Peninsu**	**9.37**	**223**	P	Pn	22 49 09.2	+12
MUGZ	**Murupara**	**9.38**	**209**	P	**Pn**	**22 48 54.2**	**-2.7**
RTZ	**Ruatahuna**	**9.41**	**208**	P	**Pn**	**22 48 55.7**	**-1.7**
SNGZ	**Shannon Statio**	**9.41**	**206**	P	**Pn**	**22 48 55.7**	**-1.7**
KNZ	**Kokohu**	**9.51**	**204**	P	Pn	22 48 55.0	-3.6
MHGZ	**Mahia Peninsul**	**9.54**	**202**	P	Pn	22 48 55.6	-3.6
RAHZ	**Arahi**	**9.63**	**206**	P	**Pn**	**22 48 59.8**	**-0.5**
MTHZ	**Maungataniwha**	**9.67**	**208**	P	**Pn**	**22 48 59.6**	**-1.3**
WHHZ	**Waihua**	**9.71**	**205**	P	**Pn**	**22 49 04.1**	**+2.6**
TLZ	**Tolley Road**	**9.82**	**214**	P	Pn	22 49 09.3	+6.3
MRHZ	**Matea Rd**	**9.83**	**209**	P	**Pn**	**22 49 00.3**	**-2.8**
ARHZ	**Aropaoanui**	**9.96**	**206**	P	**Pn**	**22 49 02.1**	**-2.8**
BKZ	**Black Stump Fm**	**10.08**	**208**	P	Pn	22 49 03.1	-3.3
BKZ	**Black Stump Fm**	**10.08**	**208**	Pn	Pn	22 49 03.2	-3.3
MCHZ	**McNeill Hill**	**10.24**	**206**	P	**Pn**	**22 49 06.2**	**-2.5**
CKHZ	**Cape Kidnapper**	**10.28**	**204**	P	**Pn**	**22 49 06.5**	**-2.7**
HIZ	**Hauiti**	**10.30**	**216**	P	**Pn**	**22 49 12.7**	**+3.2**
KWHZ	**Kaweka Forest**	**10.32**	**207**	P	Pn	22 49 06.2	-3.7
KRVZ	**Karewarewa**	**10.38**	**211**	P	**Pn**	**22 49 13.0**	**+2.3**
WTVZ	**West Tongariro**	**10.42**	**211**	P	Pn	22 49 16.6	+5.3
TWVZ	**Taurewa**	**10.45**	**212**	P	**Pn**	**22 49 13.6**	**+1.9**
KAHZ	**Kahuranaki**	**10.47**	**205**	P	Pn	22 49 07.8	-4.2
BHHZ	**Black Hill Sta**	**10.53**	**209**	P	**Pn**	**22 49 10.6**	**-2.1**
KRHZ	**Kereru**	**10.53**	**207**	P	Pn	22 49 09.4	-3.4
MOVZ	**Moawhango**	**10.59**	**210**	P	**Pn**	**22 49 11.7**	**-1.8**
PXZ	**Pawanui**	**10.69**	**204**	P	**Pn**	**22 49 13.9**	**-0.9**
PNHZ	**Pukenui**	**10.83**	**207**	P	Pn	22 49 12.3	-4.5
PRHZ	**Porangahau**	**10.98**	**204**	P	Pn	22 49 14.6	-4.2
TSZ	**Takapari Road**	**11.05**	**207**	P	Pn	22 49 15.3	-4.6
WAZ	**Wanganui**	**11.21**	**211**	P	**Pn**	**22 49 21.5**	**-0.6**
KHEZ	**Kahui Hut**	**11.32**	**216**	P	Pn	22 49 29.4	+5.8
POWZ	**Post Office Ro**	**11.41**	**207**	P	**Pn**	**22 49 25.4**	**+0.6**
BFZ	**Birch Farm**	**11.48**	**205**	P	Pn	22 49 20.6	-5.2
HOWZ	**Holdsworth Sta**	**11.95**	**207**	P	Pn	22 49 28.0	-4.1
TMWZ	**Te Maipa**	**11.99**	**205**	P	Pn	22 49 27.4	-5.2
OGWZ	**Otaki Gorge**	**12.01**	**208**	P	Pn	22 49 28.4	-4.5
KIW	**Kapiti Island**	**12.16**	**209**	P	Pn	22 49 31.0	-3.9
MTW	**Mount Morrison**	**12.18**	**206**	P	Pn	22 49 30.2	-5.0
CAW	**Cannon Point**	**12.30**	**208**	P	Pn	22 49 32.5	-4.4
TRWZ

RMQ	Roma	29.90	269	P		P		22 52 51.1	+1.9
	baz=30,SNR=24								
TAU	Tasmania Unive	30.68	236	P		P		22 52 57.2	+1.3
TAU				pmax		pmax			
	comp=Z,91nm,1.2s								
TAU	Tasmania Unive	30.68	236	P		P		22 52 57.2	+1.3
TAU				IAmb		IAmb		22 53 06.9	
	comp=Z,91nm,1.1s								
TOO	Toolangi	31.41	247	P		P		22 53 04.4	+2.0
	baz=31,SNR=14								
TOO	Toolangi	31.41	247	P		P		22 53 04.7	+2.3
TOO				pmax		pmax			
	comp=Z,69nm,1.0s								
TOO				MLR		MLR			
	comp=Z,5μm,20.0s								
TOO	Toolangi	31.41	247	P		P		22 53 04.7	+2.3
TOO				IAmb		IAmb		22 53 15.0	
	comp=Z,69nm,1.0s								
TOO				IAMs_20		IAMs_20		23 02 52.3	
	comp=Z,5μm,20.0s								
TARA	Tarawa	32.87	342	IAMs_20		IAMs_20		23 05 07.9	
	comp=Z,4μm,19.0s								
QLP	Quilpie	33.78	267	P		P		22 53 25.7	+2.4
	baz=34,SNR=14								
CTA	Charters Tower	34.26	279	P		P		22 53 28.2	+0.7
	comp=Z,80nm,0.7s,baz=99,slow=11,SNR=49								
CTA				LR		LR		23 06 14.3	
	comp=Z,5μm,18.2s,baz=113,slow=34								
CTAO	Charters Tower	34.26	279	P		P		22 53 28.2	+0.7
CTAO				pmax		pmax			
	comp=Z,107nm,0.9s								
CTAO				MLR		MLR			
	comp=Z,6μm,18.0s								
CTAO	Charters Tower	34.26	279	P		P		22 53 28.2	+0.7
CTAO	Charters Tower	34.26	279	IAMs_20		IAMs_20		23 06 10.9	
	comp=Z,6μm,18.0s								
ARPS	Mount Arapiles	34.32	248	P		P		22 53 30.4	+2.6
	baz=34,SNR=11								
STKA	Stephens Creek	34.95	257	P		P		22 53 34.9	+1.6
	comp=Z,58nm,0.6s,baz=98,slow=11,SNR=70								
STKA				LR		LR		23 06 50.0	
	comp=Z,4μm,18.6s,baz=92,slow=35								
STKA	Stephens Creek	34.95	257	P		P		22 53 35.0	+1.6
STKA				pmax		pmax			
	comp=Z,28nm,0.9s								
STKA				MLR		MLR			
	comp=Z,1μm,18.0s								
STKA	Stephens Creek	34.95	257	P		P		22 53 35.0	+1.6
MTSU	Mount Surprise	36.76	280	P		P		22 53 51.0	+2.0
	baz=37,SNR=30								
HTT	Hallett	36.96	254	P		P		22 53 52.5	+1.9
	baz=37,SNR=67								
RKT	Rikitea	38.44	90	*e*S		S		22 59 49.9	-7.0
	comp=Z,784nm,29.2s								
RKT				*e*LQ		LQ		23 02 20.6	
	comp=Z,1μm,23.0s								
RKT				*e*LR		LR		23 04 15.2	
	comp=Z,6μm,28.2s								
RKT	Rikitea	38.44	90	*e*T		T		23 34 39.4	
	comp=Z,3.8nm,0.3s								
PMG	Port Moresby	39.03	295	P		P		22 54 09.1	+0.9
	comp=Z,32nm,1.0s,baz=132,slow=15,SNR=3.8								
PMG				LR		LR		23 07 38.8	
	comp=Z,2μm,20.3s,baz=140,slow=32								
PMG	Port Moresby	39.03	295	P		P		22 54 07.8	-0.4
PMG				pmax		pmax			
	comp=Z,26nm,0.9s								
PMG				MLR		MLR			
	comp=Z,2μm,22.0s								
PMG	Port Moresby	39.03	295	P		P		22 54 07.8	-0.4
BBOO	Buckleboo	39.43	254	P		P		22 54 12.1	+0.7
	baz=39,SNR=51								
BBOO	Buckleboo	39.43	254	P		P		22 54 12.3	+0.9
BBOO				IAmb		IAmb		22 54 13.4	
	comp=Z,73nm,0.7s								
BBOO				IAMs_20		IAMs_20		23 07 27.4	
	comp=Z,4μm,20.0s								
COEN	Coen	39.72	285	P		P		22 54 15.5	+1.5
	baz=40,SNR=6.0								
COEN	Coen	39.72	285	P		P		22 54 14.5	+0.5
QIS	Mount Isa	39.78	274	P		P		22 54 15.3	+0.8
	baz=40,SNR=19								
AS31	Alice Springs	43.58	267	P		P		22 54 45.7	+0.1
ASAR	Alice Springs	43.58	267	P		P		22 54 45.0	-0.6
	comp=Z,25nm,0.5s,baz=107,slow=7.6,SNR=102								
ASAR				PcP		PcP		22 56 34.6	+1.7
	comp=Z,8.7nm,0.7s,baz=125,slow=4.1,SNR=4.6								
ASAR				ScP		ScP		23 00 23.7	+0.9
	comp=Z,3.8nm,0.8s,baz=118,slow=4.7,SNR=4.7								
ASAR				LR		LR		23 12 31.8	
	comp=Z,7μm,18.3s,baz=114,slow=36								
ASAR	Alice Springs	43.58	267	P		P		22 54 45.8	+0.2
PATS	Pohnpei	43.70	324	P		P		22 54 46.9	+0.4
WR0	Warramunga Arr	44.39	272	P		P		22 54 51.8	-0.2
WR0				IAmb		IAmb		22 54 57.5	
	comp=Z,99nm,1.1s								
WR8	Warramunga Arr	44.43	272	IAMs_20		IAMs_20		23 12 33.8	
	comp=Z,3μm,18.0s								
WR6	Warramunga Arr	44.47	272	IAMs_20		IAMs_20		23 12 36.9	
	comp=Z,4μm,18.0s								
WR4	Warramunga Arr	44.51	272	IAMs_20		IAMs_20		23 12 37.0	
	comp=Z,3μm,18.0s								
WC3	Warramunga Arr	44.54	272	IAMs_20		IAMs_20		23 12 28.7	
	comp=Z,4μm,18.0s								
WR2	Warramunga Arr	44.55	272	IAMs_20		IAMs_20		23 12 31.1	
	comp=Z,3μm,18.0s								
WC2	Warramunga Arr	44.55	272	IAMs_20		IAMs_20		23 13 28.2	
	comp=Z,4μm,18.0s								
WB2	Warramunga Arr	44.56	272	P		P		22 54 53.2	-0.2
WB2				IAMs_20		IAMs_20		23 12 29.4	
	comp=Z,3μm,18.0s								
WRAB	Tennant Creek	44.56	272	P		P		22 54 53.3	-0.2
WRAB				pmax		pmax			
	comp=Z,98nm,0.7s								
WRAB				MLR		MLR			
	comp=Z,3μm,18.0s								
WRAB	Tennant Creek	44.56	272	P		P		22 54 53.3	-0.2
WRAB	Tennant Creek	44.56	272	IAMs_20		IAMs_20		23 12 29.2	
	comp=Z,3μm,18.0s								
WB4	Warramunga Arr	44.57	272	IAMs_20		IAMs_20		23 10 53.6	
	comp=Z,3μm,20.0s								
WRA	Warramunga Arr	44.57	272	P		P		22 54 52.5	-1.0
	comp=Z,41nm,0.3s,baz=111,slow=8.1,SNR=236								
WRA				ScP		ScP		23 00 27.6	+0.8
	comp=Z,5.2nm,0.9s,baz=113,slow=4.1,SNR=5.3								
WRA				LR		LR		23 12 32.1	
	comp=Z,3μm,18.1s,baz=115,slow=35								
WB5	Warramunga Arr	44.57	272	IAMs_20		IAMs_20		23 12 30.7	
	comp=Z,4μm,22.0s								
WC1	Warramunga Arr	44.58	272	IAMs_20		IAMs_20		23 12 39.8	
	comp=Z,3μm,18.0s								
WB9	Warramunga Arr	44.59	272	IAMs_20		IAMs_20		23 07 22.4	
	comp=Z,3μm,22.0s								
WB0	Warramunga Arr	44.59	272	P		P		22 54 52.7	-1.0
WB0				IAMs_20		IAMs_20		23 12 21.2	
	comp=Z,3μm,19.0s								
FORT	Forrest	46.51	255	P		P		22 55 08.5	-0.2
	baz=46,SNR=22								
FORT	Forrest	46.51	255	P		P		22 55 08.5	-0.2
FORT				IAMs_20		IAMs_20		23 13 15.8	
	comp=Z,3μm,18.0s								
WRKA	Warakurna	47.95	262	P		P		22 55 19.2	-0.9
	baz=48,SNR=15								
VNDA	Vanda	48.16	186	P		P		22 55 24.8	+3.8
	comp=Z,6.0nm,0.6s,baz=14,slow=6.9,SNR=72								
VNDA				LR		LR		23 13 35.1	
	comp=Z,494nm,19.4s,baz=24,slow=33								
VNDA	Vanda	48.16	186	P		P		22 55 24.6	+3.7
VNDA				pmax		pmax			
	comp=Z,14nm,0.9s								
VNDA	Vanda	48.16	186	P		P		22 55 24.6	+3.7
JAY	Jayapura	48.31	297	P		P		22 55 22.1	-0.9
	comp=Z,12nm,0.7s,baz=149,slow=7.5,SNR=4.5								
KDU	Kakadu	49.38	280	P		P		22 55 30.4	-0.7
	baz=49,SNR=9.5								
MTN	Manton Dam	50.45	279	P		P		22 55 38.8	-0.4
MTN				IAmb		IAmb		22 56 55.3	
	comp=Z,154nm,1.9s								
KNRA	Kununurra	51.18	274	P		P		22 55 44.9	+0.2
	baz=51,SNR=20								
KNRA	Kununurra	51.18	274	P		P		22 55 44.9	+0.2
KNRA				IAmb		IAmb		22 56 00.2	
	comp=Z,50nm,0.8s								
KNRA				IAMs_20		IAMs_20		23 15 57.8	
	comp=Z,3μm,20.0s								
WAKE	Wake Island	51.69	341	P		P		22 55 47.7	-0.6
FITZ	Fitzroy Crossi	52.83	270	P		P		22 55 56.7	-0.3
	baz=53,SNR=26								
FITZ	Fitzroy Crossi	52.83	270	P		P		22 55 56.2	-0.8
	comp=Z,13nm,0.6s,baz=154,slow=4.3,SNR=16								
FITZ	Fitzroy Crossi	52.83	270	P		P		22 55 56.4	-0.6
FITZ				IAmb		IAmb		22 56 11.0	
	comp=Z,91nm,1.4s								
FITZ				IAMs_20		IAMs_20		23 16 40.6	
	comp=Z,2μm,20.0s								
FAKI	Fak Fak	54.78	290	P		P		22 56 10.6	-0.7
FAKI				IAmb		IAmb		22 56 23.3	
	comp=Z,107nm,1.5s								
KLBR	Kellerberrin	54.80	251	P		P		22 56 10.1	-1.2
	baz=55,SNR=13								
NWAO	Narrogin (SRO)	54.85	249	P		P		22 56 10.5	-1.1
NWAO				pmax		pmax			
	comp=Z,235nm,2.0s								
NWAO	Narrogin (SRO)	54.85	249	P		P		22 56 10.5	-1.1
CASY	Casey	55.38	208	P		P		22 56 15.8	+1.0
MEEK	Meekatharra	55.65	257	P		P		22 56 17.1	-0.5
	baz=56,SNR=12								
PSA00	Pilbara Seismi	56.44	263	P		P		22 56 22.2	-1.0
PSA00				IAmb		IAmb		22 56 38.5	
	comp=Z,48nm,1.4s								
SIJI	Sorong	56.77	291	P		P		22 56 25.4	-0.2
	comp=Z,34nm,1.0s,baz=66,slow=8.3,SNR=5.8								
GUMO	Guam	56.80	315	P		P		22 56 24.2	-1.5
GUMO				pmax		pmax			
	comp=Z,168nm,1.2s								
GUMO				MLR		MLR			
	comp=Z,1μm,21.0s								
GUMO	Guam	56.80	315	P		P		22 56 24.2	-1.5
MORW	Morawa	56.99	253	P		P		22 56 26.0	-1.1
	baz=57,SNR=14								
MORW	Morawa	56.99	253	P		P		22 56 26.5	-0.5
MORW				IAmb		IAmb		22 56 39.1	
	comp=Z,55nm,1.4s								
SOEI	Soe	57.82	278	P		P		22 56 38.1	+4.9
	comp=Z,85nm,0.9s								
QSPA	South Pole Qui	59.73	180	P		P		22 56 49.2	+3.5
	comp=Z,60nm,1.0s,baz=37,slow=2.0,SNR=157								
QSPA	South Pole Qui	59.73	180	P		P		22 56 48.3	+2.6
QSPA	South Pole Qui	59.73	180	IAMs_20		IAMs_20		23 19 53.6	
	comp=Z,2μm,20.0s								
GIRL	Giralia	60.82	260	P		P		22 56 54.5	+0.9
	baz=61,SNR=6.3								
GIRL	Giralia	60.82	260	P		P		22 56 53.2	-0.5
TNTI	Ternate	60.88	290	P		P		22 56 53.8	-0.3
TNTI				IAmb		IAmb		22 57 24.8	
	comp=Z,77nm,1.3s								
LUWI	Luwuk	63.64	285	P		P		22 57 12.7	0.0
KAPI	Kappang	64.07	280	P		P		22 57 17.0	+1.4
	comp=Z,5.0nm,0.2s,baz=101,slow=16,SNR=1.7								
KAPI	Kappang	64.07	280	P		P		22 57 15.9	+0.4
KAPI				pmax		pmax			
	comp=Z,27nm,1.1s								
KAPI	Kappang	64.07	280	P		P		22 57 15.9	+0.4
KAPI				IAmb		IAmb		22 57 38.9	
	comp=Z,27nm,1.1s								
KCP	Kidapawan	66.40	294⇑	*e*P		P		22 57 30.3	-0.3
SKMP	Bagumbayan, Su	66.54	293	*e*P		P		22 57 28.8	-2.7
BUKP	Musuan	66.94	295	*e*P		P		22 57 33.1	-1.0
JAGI	Jajag, Banyuwa	67.15	274	P		P		22 57 35.0	-0.4
PAGZ	Pagadian	68.25	294	*e*P		P		22 57 40.6	-1.6
JCJ	Chichijima	68.96	322	P		P		22 57 46.7	+0.2
CNOP	Candoni, Negro	70.02	295	*e*P		P		22 57 51.3	-1.9
UGM	Wanagama	70.55	272	P		P		22 57 56.2	-0.5
PVCP	Virac	71.17	299	*e*P		P		22 58 11.3	+11
CUYO	Cuyo Island	71.91	295	*e*P		P		22 58 04.3	-0.4
MAW	Mawson	72.49	200	LR		LR		23 29 03.1	
	comp=Z,2μm,20.1s,baz=114,slow=35								
KKM	Kota Kinabalu	73.00	288	P		P		22 58 10.8	-0.6
KKM				IAmb		IAmb		22 58 23.8	
	comp=Z,40nm,0.9s								
CISI	Cisompet, Garu	73.06	271	P		P		22 58 11.2	-0.5
CISI				IAMs_20		IAMs_20		23 31 23.6	
	comp=Z,2μm,20.0s								
SBUM	Sibu	74.38	282	P		P		22 58 19.3	-0.1
SBUM	Sibu	74.38	282	P		P		22 58 20.0	+0.6
JHJ2	Mitsune	74.98	324	P		P		22 58 21.8	-0.6
JHJ	Hachijo jima 2	75.00	324	P		P		22 58 23.8	+1.3
	comp=Z,149nm,1.0s,baz=87,slow=1.5,SNR=3.6								
KSM	Kuching	75.48	280	P		P		22 58 25.5	-0.3
KSM				IAmb		IAmb		22 58 38.9	
	comp=Z,35nm,0.9s								
KSM	Kuching	75.48	280	P		P		22 58 29.0	+3.2
SYO	Syowa Base	77.24	193	*i*P		P		22 58 34.8	0.0
SYO	Syowa Base	77.24	193	*i*pP		pP		22 58 41.2	-0.6
SYO	Syowa Base	77.24	193	*i*PcP		PcP		22 58 47.2	+1.8
SYO	Syowa Base	77.24	193	*e*SH		S		23 08 21.0	-1.4
PMBI	Palembang	77.98	274	IAMs_20		IAMs_20		23 33 18.7	
	comp=Z,2μm,19.0s								
SNAA	Sanae	78.16	178	P		P		22 58 41.6	+1.6
SNAA	Sanae	78.16	178	P		P		22 58 41.6	+1.6
SNAA				pmax		pmax			
	comp=Z,39nm,0.9s								
SNAA				MLR		MLR			
	comp=Z,900nm,20.0s								
SNAA	Sanae	78.16	178	P		P		22 58 41.6	+1.6
SNAA				IAmb		IAmb		22 58 53.6	
	comp=Z,39nm,0.9s								
SNAA				IAMs_20		IAMs_20		23 30 50.6	
	comp=Z,945nm,20.0s								
INU	Inuyama	78.17	323	P		P		22 58 39.7	-0.7
INU				IAmb		IAmb		22 58 46.4	
	comp=Z,43nm,0.9s								
VNA3	Neumayer Olymp	78.29	176	P		P		22 58 42.1	+1.4
MJAR	Matsushiro Arr	78.50	325	P		P		22 58 40.7	-1.5
	comp=Z,5.0nm,0.6s,baz=167,slow=5.9,SNR=14								
MJAR				LR		LR		23 27 59.9	
	comp=Z,266nm,21.2s,baz=135,slow=32								
MJAR	Matsushiro Arr	78.50	325	P		P		22 58 41.3	-0.9
MJAR				pmax		pmax			
	comp=Z,19nm,0.9s								
MJAR	Matsushiro Arr	78.50	325	P		P		22 58 41.3	-0.9
MAJO	Matsushiro	78.50	325	*d*P		P		22 58 42.7	+0.5
MAJO				pmax		pmax			
	comp=Z,33nm,0.7s								
MAJO	Matsushiro	78.50	325	P		P		22 58 41.6	-0.6
MAJO				IAmb		IAmb		22 58 48.1	
	comp=Z,50nm,0.9s								
MAT	Matsushiro	78.50	325	P		P		22 58 41.0	-1.2
MAT				S		S		23 08 32.4	-4.4
MJB9	Matsu-Tunnel	78.50	325	P		P		22 58 41.7	-0.5
MJB9				IAmb		IAmb		22 58 48.1	
	comp=Z,53nm,1.0s								
COYC	Coyhaique	78.62	136	P		P		22 58 44.7	+1.8
COYC				IAmb		IAmb		22 58 58.9	
	comp=Z,38nm,0.8s								
VNA2	Neumayer--Watz	78.73	177	P		P		22 58 45.2	+2.1
NVL	N'lazarevskaya	78.92	183	*e*P		P		22 58 45.2	+1.1
NVL				*e*				23 01 45.6	
NVL				*e*PPP		PPP		23 03 35.5	
NVL				*e*S		S		23 08 44.1	+3.6
NVL				pmax		pmax			
	comp=Z,26nm,0.8s								
VNA1	Neumayer--Stat	78.96	176	P		P		22 58 46.1	+1.8
NACB	Ninganchiao	79.73	306	P		P		22 58 48.0	-1.2
JNU	Nakatsue	79.86	318	P		P		22 58 49.0	-0.8
	comp=Z,33nm,1.1s,baz=91,slow=5.4,SNR=4.5								
JNU	Nakatsue	79.86	318	P		P		22 58 49.0	-0.8
JNU				IAmb		IAmb		22 58 55.8	
	comp=Z,69nm,1.3s								
SSLB	Suanglung	79.94	305	P		P		22 58 49.0	-1.4
SSLB				IAmb		IAmb		22 59 02.1	
	comp=Z,55nm,1.7s								
H03S2	Juan Fernandez	80.08	123	T		T		00 28 19.0	
	baz=238,slow=74,SNR=53								
H03S1	Juan Fernandez	80.09	123	T		T		00 28 24.2	
	baz=238,slow=74,SNR=54								
H03S3	Juan Fernandez	80.10	123	T		T		00 28 17.8	
	baz=238,slow=74,SNR=54								
H03N3	Juan Fernandez	80.27	123	T		T		00 28 24.2	
	baz=250,slow=71,SNR=24								
H03N2	Juan Fernandez	80.27	123	T		T		00 28 20.5	
	baz=250,slow=71,SNR=25								
H03N1	Juan Fernandez	80.28	123	T		T		00 28 27.9	
	baz=250,slow=71,SNR=24								
ERM	Erimo	80.67	331	P		P		22 58 53.0	-0.8
ERM				pmax		pmax			
	comp=Z,43nm,0.8s								
ERM				MLR		MLR			
	comp=Z,1μm,20.0s								
ERM	Erimo	80.67	331	P		P		22 58 53.0	-0.8
ERM				IAmb		IAmb		22 59 03.4	
	comp=Z,43nm,0.8s								
ERM	Erimo	80.67	331	IAMs_20		IAMs_20		23 30 06.3	
	comp=Z,1μm,20.0s								
MYKOM	Kota Tinggi	81.16	277	P		P		22 58 56.7	-0.5
MYKOM				IAMs_20		IAMs_20		23 40 29.8	
	comp=Z,916nm,19.0s								
YUK	Yuzh-Kuril'sk	81.30	334	*e*P		P		22 58 56.7	-0.4
YUK				*e*				22 59 01.2	
YUK				*e*				23 01 59.8	
YUK				*e*PPP		PPP		23 03 51.5	
YUK				*e*S		S		23 09 07.6	+1.7
YUK				*e*SS		SS		23 14 21.1	-1.7
YUK				*e*SSS		SSS		23 17 48.3	
YUK				pmax		pmax			
	comp=Z,93nm,1.0s								
AMKA	Amchitka	81.45	358	P		P		22 58 57.5	-0.3
KUR	Kuril'sk	81.60	336	*e*P		P		22 59 02.7	+4.0
KUR				S		S		23 09 18.0	+9.0
KUR				MLR		MLR			
	comp=Z,420nm,20.0s								
ADK	Adak	81.91	0	P		P		22 59 00.0	-0.2
ADK				pmax		pmax			
	comp=Z,118nm,1.1s								
ADK				MLR		MLR			
	comp=Z,1μm,20.0s								
ADK	Adak	81.91	0	P		P		22 58 60.0	-0.2
ADK	Adak	81.91	0	IAMs_20		IAMs_20		23 29 51.0	
	comp=Z,1μm,20.0s								
PLCA	Paso Flores	82.17	133	P		P		22 59 05.2	+3.0
	comp=Z,11nm,1.1s,baz=232,slow=5.0,SNR=12								
PLCA				LR		LR		23 27 20.4	
	comp=Z,673nm,20.5s,baz=262,slow=30								
PLCA	Paso Flores	82.17	133	P		P		22 59 03.7	+1.5
PLCA				pmax		pmax			
	comp=Z,54nm,1.6s								
PLCA	Paso Flores	82.17	133	P		P		22 59 03.7	+1.5
PLCA				IAmb		IAmb		22 59 19.0	
	comp=Z,54nm,1.6s								
ATKA	Atka Island	82.28	2	IAMs_20		IAMs_20		23 29 50.7	
	comp=Z,1μm,20.0s								
LC01	Cunco	82.32	131	P		P		22 59 05.6	+2.6
QZH	Quanzhou	82.34	305	*e*P		P		22 59 03.0	-0.1
QZH				S		S		23 09 11.0	-6.5
QZH				LR		LR			
	comp=Z,260nm,14.2s								
QZH				LR		LR			
	comp=Z,230nm,20.3s								
EFI	East Falkland	82.55	147⇑	*i*P		P		22 59 01.2	-2.7
EFI				pmax		pmax			
	comp=Z,210nm,3.1s								
DLV	T Lat	82.60	288	P		P		22 59 04.6	-0.4
JKA	Kamikawa-asahi	82.64	332	P		P		22 59 04.4	+0.2
ASAJ	Asahikawa	82.64	332	P		P		22 59 05.0	+0.8
	comp=Z,7.2nm,0.6s,baz=221,slow=6.1,SNR=12								
ASAJ	Asahikawa	82.64	332	P		P		22 59 04.4	+0.2
ASAJ				pmax		pmax			
	comp=Z,73nm,0.9s								
SMY	Shemya	83.09	355	IAMs_20		IAMs_20		23 33 60.0	
	comp=Z,998nm,19.0s								
SNCC	San Nicolas Is	83.69	46	IAMs_20		IAMs_20		23 32 00.6	
	comp=Z,1μm,18.0s								
BI02	San Fabin de	83.94	129	P		P		22 59 12.4	+0.9
SKR	Severo-Kuril's	84.03	343	*e*P		P		22 59 08.1	-3.1
SKR				*e*S		SKSac		23 09 27.7	-4.5
SKR				MLR		MLR			
	comp=Z,200nm,19.0s								
SLBS	Sierra La Lagu	84.14	58	IAMs_20		IAMs_20		23 26 24.7	
	comp=Z,1μm,21.0s								
TJN	Taejon	84.20	318	*i*P		P		22 59 12.8	+0.4
PKM	Mcpherson Peak	84.62	44	P		P		22 59 16.0	+1.1
	baz=227								
KSRS	Korea Array	84.64	319	P		P		22 59 15.2	+0.6
	comp=Z,2.7nm,0.8s,baz=142,slow=5.5,SNR=11								
KSRS				LR		LR		23 34 40.5	
	comp=Z,249nm,19.3s,baz=126,slow=34								
KSAR	Wonju Array Be	84.66	319	P		P		22 59 14.2	-0.5
KSAR	Wonju Array Be	84.66	319	P		P		22 59 14.2	-0.5
SRIG	Santa Rosalia	84.68	54	IAMs_20		IAMs_20		23 33 37.7	
	comp=Z,1μm,18.0s								
KS19	Wonju Array Si	84.71	319	P		P		22 59 15.2	+0.2
KS19				IAmb		IAmb		22 59 21.4	
	comp=Z,27nm,1.1s								
AKUT	Akutan	84.77	7	P		P		22 59 14.3	-0.5
YSS	Yuzh-Sakhalins	84.94	334⇑	*e*P		P		22 59 16.2	+0.3
YSS				*e**SP		pP		22 59 21.9	-1.1
YSS				*e*S		S		23 09 42.9	+0.2
YSS				pmax		pmax			
	comp=Z,70nm,0.9s								
YSS	Yuzh-Sakhalins	84.94	334	P		P		22 59 15.9	0.0
YSS				IAMs_20		IAMs_20		23 32 42.2	
	comp=Z,1μm,20.0s								
IPM	Ipoh	84.95	278	P		P		22 59 17.2	+0.4
IPM				IAmb		IAmb		22 59 34.8	
	comp=Z,20nm,0.8s								
IPM				IAMs_20		IAMs_20		23 38 03.2	
	comp=Z,919nm,21.0s								
IPM	Ipoh	84.95	278	P		P		22 59 18.0	+1.2
109C	Camp Elliot, M	84.96	47	IAMs_20		IAMs_20		23 29 43.6	
	comp=Z,872nm,19.0s								
PASC	Pasadena Art C	85.13	46	IAMs_20		IAMs_20		23 32 16.9	
	comp=Z,1μm,18.0s								
MWC	Mount Wilson	85.25	46	IAMs_20		IAMs_20		23 32 20.9	
	comp=Z,1μm,19.0s								
BO02	Sierra Bellavi	85.31	128	P		P		22 59 20.0	+1.6
BO02				IAmb		I

baz=230
PFO Pinyon Flats O 85.84 47 P **P** **22 59 21.8 +0.8**
baz=229,SNR=6.3
PFO Pinyon Flats O 85.84 47 P **P** **22 59 21.5 +0.6**
PFO pmax pmax
comp=Z,14nm,1.0s
PFO MLR MLR
comp=Z,1µm,20.0s
PFO Pinyon Flats O 85.84 47 P **P** **22 59 21.5 +0.6**
PFO Pinyon Flats O 85.84 47 IAms_20 IAms_20 23 30 26.9
comp=Z,1µm,20.0s
XPFO Pion Flat 85.85 47 P **P** **22 59 21.9 +0.9**
XPFO Pion Flat 85.85 47 IAms_20 IAms_20 23 30 26.9
comp=Z,1µm,20.0s
RPSI Rantau Prapat 85.85 276 P **P** **22 59 20.9 -0.4**
PSI Prapat 85.91 276 P **P** **22 59 20.9 -0.8**
PSI pmax pmax
comp=Z,21nm,1.1s
PSI MLR MLR
comp=Z,2µm,21.0s
PEA0B Petropavlovsk- 85.91 345 P **P** **22 59 20.7 +0.1**
PEA0B pmax pmax
comp=Z,91nm,1.0s
PEA0B MLR MLR
comp=Z,800nm,20.0s
PEA0B Petropavlovsk- 85.91 345 P **P** **22 59 20.7 +0.1**
PETK Petropavlovsk- 85.91 345 P **P** **22 59 20.7 +0.1**
comp=Z,30nm,0.8s,baz=140,slow=7.7,SNR=23
PETK LR LR 23 31 23.0
comp=Z,626nm,21.9s,baz=165,slow=31
PETK Petropavlovsk- 85.91 345 P **P** **22 59 20.5 -0.1**
ISA Isabella, Lake 85.95 44 P **P** **22 59 22.7 +1.3**
baz=228,SNR=7.0
ISA Isabella, Lake 85.95 44 P **P** **22 59 21.9 +0.5**
ISA pmax pmax
comp=Z,43nm,1.3s
ISA MLR MLR
comp=Z,1µm,19.0s
ISA Isabella, Lake 85.95 44 P **P** **22 59 21.9 +0.5**
ISA IAmb IAmb 22 59 24.4
comp=Z,43nm,1.3s
ISA IAms_20 IAms_20 23 34 33.5
comp=Z,1µm,19.0s
MT05 Renca 86.11 127 P **P** **22 59 23.4 +0.9**
KMRM Mail Ridge 86.12 38 P **P** **22 59 22.4 +0.4**
KMRM IAmb IAmb 22 59 38.6
comp=Z,37nm,0.9s
CNBA Chernabura Isl 86.24 10 IAms_20 IAms_20 23 32 57.9
comp=Z,1µm,20.0s
PEL Peldehue 86.29 126 P **P** **22 59 24.4 +1.1**
PEL pmax pmax
comp=Z,64nm,1.2s
PEL Peldehue 86.29 126 P **P** **22 59 24.4 +1.1**
LRMC Laurel Mtn Rad 86.31 45 P **P** **22 59 24.7 +1.5**
baz=228
GSI Gunungsitoli 86.31 274 P **P** **22 59 24.0 +0.4**
RRX Edison Barstow 86.33 46 P **P** **22 59 24.7 +1.5**
baz=229
JCC Jacoby Creek, 86.38 38 IAms_20 IAms_20 23 35 02.1
comp=Z,949nm,19.0s
BELC Belle Mtn. Jos 86.39 47 P **P** **22 59 25.0 +1.4**
baz=230,SNR=9.0
CMB Columbia Colle 86.43 42 P **P** **22 59 24.4 +0.8**
CMB pmax pmax
comp=Z,28nm,1.1s
CMB MLR MLR
comp=Z,2µm,18.0s
CMB Columbia Colle 86.43 42 P **P** **22 59 24.4 +0.8**
CMB IAmb IAmb 22 59 39.4
comp=Z,28nm,1.1s
BC3 Big Chuckawall 86.51 48 P **P** **22 59 25.7 +1.5**
baz=230,SNR=10
GLA Glamis 86.53 48 P **P** **22 59 26.2 +2.0**
baz=230
GLA Glamis 86.53 48 P **P** **22 59 24.9 +0.7**
GLA pmax pmax
comp=Z,41nm,1.4s
GLA MLR MLR
comp=Z,700nm,22.0s
GLA Glamis 86.53 48 P **P** **22 59 24.9 +0.7**
GLA IAmb IAmb 22 59 27.7
comp=Z,41nm,1.4s
KHMM Horse Mountain 86.58 38 P **P** **22 59 25.5 +1.1**
KHMM IAmb IAmb 22 59 40.8
comp=Z,34nm,1.1s
KHMM IAMs_20 IAMs_20 23 40 25.3
comp=Z,949nm,18.0s
O02D Mt. Diablo Mer 86.58 39 P **P** **22 59 25.8 +1.4**
baz=225,SNR=13
NJ2 Nanjing 86.59 310 *e*P **P** **22 59 26.0 +1.5**
NJ2 pmax pmax
comp=Z,19nm,1.3s
NJ2 LR LR
comp=Z,390nm,18.5s
NJ2 LR LR
comp=Z,290nm,21.3s
NJ2 LR LR
comp=Z,560nm,21.8s
HSIG 86.62 54 IAMs_20 IAMs_20 23 35 36.0
comp=Z,742nm,18.0s
CWC Cottonwood Cre 86.71 44 P **P** **22 59 26.4 +1.2**
baz=228
HEC Hector,Ludlow 86.72 46 P **P** **22 59 26.5 +1.4**
baz=229,SNR=9.3
AFDM Forest Hills D 86.73 41 P **P** **22 59 25.8 +0.7**
AFDM IAmb IAmb 22 59 46.8
comp=Z,24nm,1.2s
GSC Goldstone, Bar 86.73 46 P **P** **22 59 26.5 +1.3**
baz=229,SNR=10
GSC Goldstone, Bar 86.73 46 P **P** **22 59 26.0 +0.8**
GSC pmax pmax
comp=Z,19nm,1.0s
GSC MLR MLR
comp=Z,1µm,19.0s
GSC Goldstone, Bar 86.73 46 P **P** **22 59 26.0 +0.8**
GSC IAmb IAmb 22 59 48.8
comp=Z,19nm,0.9s
GSC IAMs_20 IAMs_20 23 33 46.2
comp=Z,1µm,19.0s
MPMC Manual Prospec 86.81 45 P **P** **22 59 27.1 +1.4**
baz=229,SNR=15
ORV Oroville 86.85 40 P **P** **22 59 26.3 +0.7**
ORV pmax pmax
comp=Z,37nm,1.6s
ORV Oroville 86.85 40 P **P** **22 59 26.3 +0.7**
ORV IAmb IAmb 22 59 48.7
comp=Z,37nm,1.6s
ORV IAMs_20 IAMs_20 23 33 59.9
comp=Z,1µm,19.0s
KRMB Red Mountain 86.95 37 IAMs_20 IAMs_20 23 33 59.1
comp=Z,824nm,19.0s
OMMB Old Mammoth Mi 86.95 43 P **P** **22 59 27.3 +0.8**
WDC Whiskeytown Da 87.00 39 P **P** **22 59 27.1 +0.8**
WDC pmax pmax
comp=Z,33nm,1.3s
WDC MLR MLR
comp=Z,1µm,19.0s
WDC Whiskeytown Da 87.00 39 P **P** **22 59 27.1 +0.8**
WDC IAmb IAmb 22 59 29.0
comp=Z,33nm,1.3s
WDC IAMs_20 IAMs_20 23 34 41.7
comp=Z,1µm,19.0s
TIN Tinemaha, Big 87.03 43 P **P** **22 59 28.1 +1.5**
baz=228
IRM Iron Mountain 87.03 47 P **P** **22 59 28.6 +2.0**
baz=230,SNR=10
113A Mohawk Valley, 87.04 49 IAMs_20 IAMs_20 23 36 49.6
comp=Z,729nm,18.0s
GMRC Granite Mounta 87.11 47 P **P** **22 59 28.6 +1.5**
baz=230,SNR=6.8
214A Organ Pipe Nat 87.16 50 P **P** **22 59 29.1 +1.8**
baz=232
214A Organ Pipe Nat 87.16 50 P **P** **22 59 28.2 +0.9**
214A IAMs_20 IAMs_20 23 39 18.9
comp=Z,835nm,18.0s
Y12C Blythe 87.17 48 P **P** **22 59 29.0 +1.7**
baz=230
N02D Trinity Center 87.19 38 P **P** **22 59 28.6 +1.3**
baz=225,SNR=10
O03E Paynes Creek 87.20 39 P **P** **22 59 28.5 +1.1**
baz=226
WAKR Walker 87.30 42 P **P** **22 59 29.0 +1.0**
TUQ Turquoise Moun 87.36 46 P **P** **22 59 29.7 +1.3**
baz=230
USA0B Ussuriysk Arra 87.41 326 P **P** **22 59 28.2 +0.1**
USA0B pmax pmax
comp=Z,40nm,1.0s
USA0B MLR MLR
comp=Z,700nm,20.0s
USA0B Ussuriysk Arra 87.41 326 P **P** **22 59 28.2 +0.1**
USA0B IAmb IAmb 22 59 35.3
comp=Z,40nm,0.9s
USRK Ussuriysk Ar. 87.41 326 P **P** **22 59 28.4 +0.3**
comp=Z,6.5nm,0.9s,baz=146,slow=4.5,SNR=12
USRK LR LR 23 33 51.4
comp=Z,669nm,21.3s,baz=128,slow=32
USRK Ussuriysk Ar. 87.41 326 P **P** **22 59 27.8 -0.3**
M02C Callahan 87.41 38 P **P** **22 59 29.8 +1.5**
baz=225,SNR=7.9
SPIA Saint Paul Isl 87.43 4 IAMs_20 IAMs_20 23 33 28.9
comp=Z,964nm,20.0s
SHOC Shoshone, Teco 87.45 45 P **P** **22 59 29.9 +1.3**
baz=229
FURC Furnace Creek, 87.46 45 P **P** **22 59 30.2 +1.6**
baz=229
GRAC Grapevine Rang 87.50 44 P **P** **22 59 30.7 +1.8**
baz=229
CO03 El Pedregal 87.57 124 P **P** **22 59 30.7 +1.0**
CO03 IAmb IAmb 22 59 45.3
comp=Z,32nm,1.1s
PNTR Pine Nut 87.60 41 P **P** **22 59 30.3 +0.7**
PNTR IAmb IAmb 22 59 45.4
comp=Z,20nm,1.0s
YBH Yreka Blue Hor 87.73 38 P **P** **22 59 30.2 +0.3**
YBH pmax pmax
comp=Z,13nm,1.0s
YBH MLR MLR
comp=Z,900nm,22.0s
YBH Yreka Blue Hor 87.73 38 P **P** **22 59 30.1 +0.3**
YBH IAMs_20 IAMs_20 23 29 17.8
comp=Z,868nm,22.0s
PDMCI Parker Dam,Lak 87.76 48 P **P** **22 59 32.0 +1.9**
baz=231,SNR=5.9
NVAR Mina Array Bea 87.90 42 P **P** **22 59 32.2 +1.2**
comp=Z,10nm,1.0s,baz=220,slow=7.4,SNR=35
NVAR LR LR 23 35 33.0
comp=Z,2µm,18.0s,baz=223,slow=33
NVAR Mina Array Bea 87.90 42 P **P** **22 59 31.8 +0.8**
RYN Ryan 87.91 42 P **P** **22 59 31.5 +0.6**
K02D Willamette Mer 87.91 37 P **P** **22 59 32.3 +1.6**
baz=224
NV11 Mina Array Sit 87.99 43 P **P** **22 59 32.0 +0.7**
NV11 IAmb IAmb 22 59 47.2
comp=Z,22nm,1.1s
J01E Myrtle Point 88.11 36 P **P** **22 59 32.9 +1.4**
baz=224
TPNV Topopah Spring 88.15 45 P **P** **22 59 33.8 +1.7**
baz=229,SNR=9.8
TPNV Topopah Spring 88.15 45 P **P** **22 59 33.1 +1.0**
TPNV pmax pmax
comp=Z,14nm,0.9s
TPNV MLR MLR
comp=Z,1µm,18.0s
TPNV Topopah Spring 88.15 45 P **P** **22 59 33.1 +1.0**
TPNV IAmb IAmb 22 59 50.2
comp=Z,14nm,0.8s
TPNV IAMs_20 IAMs_20 23 36 03.6
comp=Z,1µm,18.0s
M04C Macdoel 88.22 38 P **P** **22 59 33.6 +1.3**
baz=226
Y14A Wickenburg 88.27 49 P **P** **22 59 33.4 +0.8**
Y14A IAmb IAmb 22 59 35.8
comp=Z,25nm,1.2s
Y14A IAMs_20 IAMs_20 23 28 36.1
comp=Z,844nm,22.0s
L04D Klamath Falls 88.28 38 P **P** **22 59 33.7 +1.1**
baz=225,SNR=5.4
SHPR Sheep Range 88.53 46 IAMs_20 IAMs_20 23 34 52.8
comp=Z,921nm,19.0s
ZON Zonda 88.59 126 P **P** **22 59 35.6 +1.2**
ZON pmax pmax
comp=Z,32nm,1.3s
ZON Zonda 88.59 126 P **P** **22 59 35.6 +1.2**
ZON IAmb IAmb 22 59 37.8
comp=Z,32nm,1.3s
TUC Tucson 88.73 51 P **P** **22 59 36.7 +1.8**
baz=233
TUC Tucson 88.73 51 P **P** **22 59 36.6 +1.8**
TUC pmax pmax
comp=Z,46nm,1.5s
TUC MLR MLR
comp=Z,600nm,22.0s
TUC Tucson 88.73 51 P **P** **22 59 36.6 +1.8**
TUC IAmb IAmb 22 59 38.6
comp=Z,46nm,1.5s
I03D Drain, OR 88.79 36 P **P** **22 59 36.0 +1.3**
baz=224
I02D Swisshome 88.83 35 P **P** **22 59 36.2 +1.3**
baz=224
K04D Chiloquin, OR 88.86 38 P **P** **22 59 36.4 +1.1**
baz=226
MDJ Mudanjiang 88.88 325 P **P** **22 59 36.0 +0.9**
MDJ IAmb IAmb 22 59 42.4
comp=Z,21nm,0.8s
AC05 El Transito 88.99 123 P **P** **22 59 37.5 +1.0**
AC05 IAmb IAmb 23 00 01.8
comp=Z,17nm,1.0s
J04D Umpqua Nationa 89.11 37 P **P** **22 59 37.6 +1.1**
baz=225
MOD Modoc Plateau 89.13 39 P **P** **22 59 37.2 +0.6**
MOD IAmb IAmb 22 59 58.2
comp=Z,24nm,1.2s
ZAIG Zacatecas 89.18 63 P **P** **22 59 38.4 +1.0**
DL2 Dalian 89.26 317 P **P** **22 59 41.5 +4.5**
DL2 SKS **SKSac** **23 10 02.5 -2.7**
DL2 S **ScS** **23 10 35.3 +5.7**
DL2 pmax pmax
comp=Z,190nm,8.6s
DL2 LR LR
comp=Z,290nm,18.8s
DL2 LR LR
comp=Z,230nm,19.4s
DL2 LR LR
comp=Z,350nm,20.2s
I04A Tendick Farm, 89.34 36 P **P** **22 59 38.2 +0.8**
baz=225,SNR=5.9
K05A Summer Lake 89.39 38 P **P** **22 59 38.6 +0.8**
K05A IAmb IAmb 22 59 40.5
comp=Z,36nm,1.3s
K05A IAMs_20 IAMs_20 23 30 11.7
comp=Z,916nm,22.0s
COR Corvallis 89.45 35 IAMs_20 IAMs_20 23 36 29.1
comp=Z,1µm,18.0s
R11A Troy Canyon, C 89.46 44 P **P** **22 59 39.3 +1.1**
baz=230
R11A Troy Canyon, C 89.46 44 P **P** **22 59 38.8 +0.5**
TLIG Tlapa 89.54 69 P **P** **22 59 39.3 +0.2**
TLIG IAmb IAmb 22 59 43.0
comp=Z,29nm,1.3s
X16A Lo Mia Camp, P 89.58 49 P **P** **22 59 40.5 +1.6**
X16A IAmb IAmb 22 59 42.5
comp=Z,23nm,1.1s
J05D Fort Rock, OR 89.59 37 P **P** **22 59 39.7 +1.0**
baz=226,SNR=12
H04D Lebanon 89.69 36 P **P** **22 59 40.3 +1.4**
baz=225
G03D McMinnville, O 89.92 35 P **P** **22 59 41.6 +1.7**
baz=224
LCMT Little Creek M 90.04 46 P **P** **22 59 42.0 +1.0**
H04A Detroit Lake 90.08 36 P **P** **22 59 41.4 +0.5**
H04A IAmb IAmb 23 00 03.9
comp=Z,22nm,0.9s
H04A IAMs_20 IAMs_20 23 36 42.9
comp=Z,981nm,19.0s
U15A North Rim 90.27 47 P **P** **22 59 43.5 +1.3**
U15A IAmb IAmb 23 00 00.0
comp=Z,78nm,1.8s
I05D Tenebonne, OR 90.27 37 P **P** **22 59 43.0 +1.3**
baz=226
KDAK Kodiak Island 90.28 13 IAMs_20 IAMs_20 23 35 48.7
comp=Z,1µm,20.0s
F03A Seaside 90.28 34 IAMs_20 IAMs_20 23 30 08.2
comp=Z,910nm,22.0s
WUAZ Wupatki 90.30 48 P **P** **22 59 44.2 +2.0**
baz=232
WUAZ Wupatki 90.30 48 P **P** **22 59 43.0 +0.7**
WUAZ IAmb IAmb 23 00 06.3
comp=Z,25nm,1.1s
KNB Kanab 90.30 46 P **P** **22 59 42.4 +0.2**
KNB pmax pmax
comp=Z,57nm,1.6s
KNB Kanab 90.30 46 P **P** **22 59 42.4 +0.2**
TIA Tai'an 90.31 313 P **P** **22 59 42.5 +0.5**
TIA pmax pmax
comp=Z,8.0nm,0.5s
TIA pmax pmax
comp=Z,280nm,6.7s
TIA LR LR
comp=Z,160nm,19.2s
TIA LR LR
comp=Z,240nm,15.5s
TIA LR LR
comp=Z,340nm,20.3s
WVOR Wild Horse Val 90.40 39 P **P** **22 59 43.6 +1.1**
WVOR pmax pmax
comp=Z,21nm,1.2s
WVOR MLR MLR
comp=Z,2µm,19.0s
WVOR Wild Horse Val 90.40 39 P **P** **22 59 43.6 +1.1**
CN2 Changchun 90.42 323 *e*P **P** **22 59 41.8 -0.5**
CN2 pP pP 22 59 46.8 -2.6
CN2 sP sP 22 59 48.0 -4.0
CN2 PP **PP** **23 03 19.8 +2.4**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,260nm,5.1s
GRNR Gornyy 90.48 333 ⇑*i*P **P** **22 59 43.2 +0.7**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
F04D Rainier, OR 90.66 34 P **P** **22 59 45.3 +1.9**
baz=225
E03A Lebam 90.72 34 P **P** **22 59 44.7 +1.1**
E03A IAMs_20 IAMs_20 23 34 44.7
comp=Z,861nm,19.0s
F04A Amboy 90.84 35 IAMs_20 IAMs_20 23 31 03.0
comp=Z,911nm,22.0s
121A Cookes Peak, D 90.90 52 P **P** **22 59 46.9 +1.8**
baz=234
121A Cookes Peak, D 90.90 52 P **P** **22 59 45.9 +0.8**
121A IAMs_20 IAMs_20 23 38 30.1
comp=Z,859nm,18.0s
G05D Wamic, OR 90.91 36 P **P** **22 59 46.1 +1.5**
baz=226
I07A Izee 91.05 38 IAMs_20 IAMs_20 23 37 32.8
comp=Z,765nm,19.0s
W18A Petrified Fore 91.12 49 P **P** **22 59 47.7 +1.6**
baz=233
NLWA Neilton Lookou 91.18 33 P **P** **22 59 46.9 +1.0**
NLWA IAmb IAmb 23 00 07.3
comp=Z,19nm,1.0s
NLWA IAMs_20 IAMs_20 23 35 56.8
comp=Z,954nm,19.0s
ELK Elko 91.21 42 P **P** **22 59 47.1 +0.6**
ELK pmax pmax
comp=Z,8.0nm,1.1s
ELK MLR MLR
comp=Z,2µm,18.0s
ELK Elko 91.21 42 P **P** **22 59 47.0 +0.6**
E04D Cinebar 91.21 34 P **P** **22 59 47.6 +1.7**
baz=225
G06A Carlson Farm, 91.25 36 IAMs_20 IAMs_20 23 37 31.0
comp=Z,712nm,19.0s
KLR Kul'dur 91.26 329 P **P** **22 59 46.7 +0.6**
comp=Z,6.6nm,0.7s,baz=139,slow=2.7,SNR=29
KLR Kul'dur 91.26 329 ⇑*i*P **P** **22 59 46.3 +0.2**
KLR pmax pmax
comp=Z,8.0nm,0.7s
F05D White Salmon 91.29 35 P **P** **22 59 48.2 +1.8**
baz=226
EPT El Paso 91.34 54 IAMs_20 IAMs_20 23 38 45.9
comp=Z,827nm,18.0s
D04E Lakebay 91.56 34 P **P** **22 59 49.0 +1.5**
baz=225
D03D Eldon 91.66 33 P **P** **22 59 49.6 +1.6**
baz=225
LON Longmire 91.72 35 IAMs_20 IAMs_20 23 31 18.2
comp=Z,837nm,22.0s
D05A Enumclaw 91.94 34 ⇑P **P** **22 59 50.7 +1.4**
GYA Guiyang 91.95 300 ⇑P P 22 59 55.0 +4.9
GYA pP sP 23 00 00.8 +1.1
GYA PP **PP** **23 03 29.5 -0.6**
GYA SKS **SKSac** **23 10 23.0 +1.4**
GYA S **ScS** **23 10 53.5 +0.6**
GYA sS sS 23 11 05.0 +2.6
GYA SS **SS** **23 17 00.5 +0.6**
GYA pmax pmax
comp=Z,12nm,1.2s
GYA pmax pmax
comp=Z,77nm,3.5s
GYA LR LR
comp=Z,240nm,17.9s
GYA LR LR
comp=Z,230nm,15.6s
GYA LR LR
comp=Z,290nm,20.4s
TX31 Lajitas Ar. Si 91.98 57 P **P** **22 59 50.7 +0.6**
TXAR Lajitas Array 91.98 57 P **P** **22 59 51.8 +1.7**
comp=Z,3.0nm,1.0s,baz=216,slow=6.2,SNR=20
TXAR PKKP **PKKPdf** **23 17 06.0 +0.8**
comp=Z,0.3nm,0.7s,baz=92,slow=6.3,SNR=3.7
TXAR LR LR 23 31 47.9
comp=Z,526nm,21.7s,baz=0.0,slow=30
TXAR Lajitas Array 91.98 57 P **P** **22 59 50.7 +0.6**
ENH Enshi 91.98 304 P **P** **22 59 50.1 +0.1**
F07A Phinny Hill Vi 92.07 36 IAMs_20 IAMs_20 23 38 13.6
comp=Z,991nm,18.0s
MNTX Cornudas Mount 92.08 54 P **P** **22 59 51.5 +1.1**
baz=235
MNTX Cornudas Mount 92.08 54 P **P** **22 59 51.1 +0.7**
CNPM China Poot 92.17 13 IAMs_20 IAMs_20 23 41 45.5
comp=Z,1µm,19.0s
HOM Homer 92.21 13 IAMs_20 IAMs_20 23 36 21.6
comp=Z,957nm,20.0s
DUG Dugway, Tooele 92.29 44 P **P** **22 59 52.5 +1.2**
baz=232
DUG Dugway, Tooele 92.29 44 IAMs_20 IAMs_20 23 37 19.2
comp=Z,1µm,19.0s
BRLK Bradley Lake 92.46 13 IAMs_20 IAMs_20 23 41 43.8
comp=Z,904nm,19.0s
MFID Camas Ranch 92.60 40 P **P** **22 59 53.6 +1.0**
MFID IAmb IAmb 23 00 14.9
comp=Z,18nm,1.1s
MFID IAMs_20 IAMs_20 23 37 44.0
comp=Z,985nm,19.0s
HAWA Hanford 92.61 36 P **P** **22 59 53.6 +1.1**
HAWA IAMs_20 IAMs_20 23 35 46.8
comp=Z,934nm,20.0s
BNM Barren Site 92.62 52 P **P** **22 59 53.6 +0.5**
LTY Liberty 92.63 35 IAMs_20 IAMs_20 23 31 47.4
comp=Z,1µm,22.0s
B05A Bryant 92.64 33 P **P** **22 59 53.6 +1.1**
baz=225
BMO Blue Mountains 92.74 38 P **P** **22 59 53.4 +0.2**
BMO pmax pmax
comp=Z,14nm,1.4s
BMO MLR MLR
comp=Z,900nm,19.0s
BMO Blue Mountains 92.74 38 P **P** **22 59 53.4 +0.2**
BMO IAMs_20 IAMs_20 23 38 02.4
comp=Z,932nm,19.0s
BBB Bella Bella 92.86 28 IAMs_20 IAMs_20 23 37 06.6
comp=Z,858nm,19.0s
E08A Dider Farm, El 92.92 36 IAMs_20 IAMs_20 23 38 51.0
comp=Z,1µm,19.0s
NNA Nana 92.97 106 ⇑*i*P **P** **22 59 52.4 -2.6**
SRU San Rafael Swe 93.02 46 P **P** **22 59 55.5 +0.7**
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU San Rafael Swe 93.02 46 P **P** **22 59 55.5 +0.7**
SEW Seward 93.06 14 IAMs_20 IAMs_20 23 42 07.1
comp=Z,817nm,18.0s
B06A Marblemount 93.11 33 IAMs_20 IAMs_20 23 36 51.9
comp=Z,800nm,20.0s
MID Middleton Isla 93.11 15 IAMs_20 IAMs_20 23 41 33.7
comp=Z,899nm,19.0s
MVCO Mesa Verde 93.17 48 P **P** **22 59 56.2 +0.6**
baz=234
ANMO Albuquerque 93.20 51 P **P** **22 59 57.0 +1.3**
baz=235
ANMO Albuquerque 93.20 51 P **P** **22 59 56.1 +0.4**
ANMO pmax pmax
comp=Z,8.0nm,1.1s
ANMO MLR MLR
comp=Z,700nm,19.0s
ANMO Albuquerque 93.20 51 P **P** **22 59 56.1 +0.4**
ANMO Albuquerque 93.20 51 IAMs_20 IAMs_20 23 40 40.9
comp=Z,678nm,19.0s
BJI Beijing 93.24 315 P **P** **22 59 57.5 +2.0**

BJI				S	**S**	**23 11 03.0 +2.0**				
BJI				SS	**SS**	**23 17 23.0 +5.3**				
BJI				pmax	pmax					
	comp=Z,13nm,1.2s									
BJI				LR	LR					
	comp=Z,720nm,41.2s									
BJI				LR	LR					
	comp=Z,440nm,36.8s									
PV05	**Paradox Valley**	**93.30**	**47**	IAMs_20	IAMs_20	23 32 23.4				
	comp=Z,910nm,20.0s									
D08A	**Wollman Farm,**	**93.37**	**36**	P	**P**	**22 59 56.7 +0.7**				
D08A				IAmb	IAmb	23 00 18.4				
	comp=Z,18nm,1.1s									
D08A				IAMs_20	IAMs_20	23 39 11.9				
	comp=Z,994nm,19.0s									
E09A	**Wood Farm, Sta**	**93.40**	**37**	P	**P**	**22 59 56.8 +0.7**				
E09A				IAmb	IAmb	23 00 18.0				
	comp=Z,25nm,1.2s									
HLID	**Hailey**	**93.48**	**40**	P	**P**	**22 59 58.5 +1.7**				
	baz=231									
HLID	**Hailey**	**93.48**	**40**	P	**P**	**22 59 57.5 +0.7**				
HLID				IAmb	IAmb	23 00 18.7				
	comp=Z,18nm,1.3s									
HLID				IAMs_20	IAMs_20	23 37 43.4				
	comp=Z,858nm,19.0s									
PV18	**Skein Mesa, Pa**	**93.52**	**47**	IAMs_20	IAMs_20	23 31 38.9				
	comp=Z,769nm,22.0s									
F10A	**Beach Ranch, E**	**93.52**	**37**	IAMs_20	IAMs_20	23 38 48.0				
	comp=Z,777nm,19.0s									
LVC	**Limon Verde**	**93.53**	**119**	P	**P**	**22 59 59.2 +1.3**				
LVC				pmax	pmax					
	comp=Z,20nm,1.3s									
LVC	**Limon Verde**	**93.53**	**119**	P	**P**	**22 59 59.2 +1.3**				
LVC				IAmb	IAmb	23 00 18.5				
	comp=Z,20nm,1.2s									
PV11	**David Mesa, Pa**	**93.57**	**47**	IAMs_20	IAMs_20	23 34 01.4				
	comp=Z,1µm,22.0s									
PV23	**Carpenter Ridg**	**93.57**	**47**	IAMs_20	IAMs_20	23 35 28.4				
	comp=Z,1µm,22.0s									
PV04	**Paradox Valley**	**93.61**	**47**	IAMs_20	IAMs_20	23 34 00.3				
	comp=Z,763nm,19.0s									
CMAR	**Chiang Mai Arr**	**93.84**	**289**	P	**P**	**22 59 59.8 +0.9**				
	comp=Z,1.3nm,0.7s,baz=304,slow=31,SNR=5.0									
CMAR				PP	**PP**	**23 03 47.5 +2.6**				
	comp=Z,0.8nm,0.3s,baz=130,slow=5.1,SNR=4.6									
CMAR				LR	LR	23 46 22.3				
	comp=Z,153nm,18.0s,baz=199,slow=38									
CMAR	**Chiang Mai Arr**	**93.84**	**289**	P	**P**	**22 59 59.1 +0.3**				
HIN	**Hinchinbrook I**	**93.95**	**15**	IAMs_20	IAMs_20	23 37 09.7				
	comp=Z,798nm,20.0s									
SUA	**Susitna One**	**94.05**	**12**	IAMs_20	IAMs_20	23 37 42.9				
	comp=Z,1µm,21.0s									
C09A	**Chrisman Ranch**	**94.19**	**35**	IAMs_20	IAMs_20	23 37 11.7				
	comp=Z,1µm,19.0s									
TIY	**Taiyuan**	**94.21**	**312**	*e*P	P	23 00 07.5 +7.3				
TIY				pmax	pmax					
	comp=Z,16nm,0.5s									
KMI	**Kunming**	**94.24**	**297**	*e*P	**P**	**23 00 02.5 +1.7**				
KMI				sP	pP	23 00 06.8 -1.2				
KMI				PP	**PP**	**23 03 50.5 +2.4**				
KMI				SKS	**SKSac**	**23 10 37.5 +3.0**				
KMI				S	**ScS**	**23 11 13.8 +1.6**				
KMI				SS	**SS**	**23 17 36.0 +3.1**				
KMI				pmax	pmax					
	comp=Z,8.0nm,0.9s									
KMI				pmax	pmax					
	comp=Z,140nm,10.8s									
KMI				LR	LR					
	comp=Z,360nm,18.7s									
KMI				LR	LR					
	comp=Z,260nm,19.1s									
KMI				LR	LR					
	comp=Z,390nm,21.6s									
EYAK	**Cordova Ski Ar**	**94.25**	**15**	IAMs_20	IAMs_20	23 36 57.8				
	comp=Z,842nm,20.0s									
GLI	**Glacier Island**	**94.25**	**14**	IAMs_20	IAMs_20	23 37 43.8				
	comp=Z,702nm,20.0s									
FID	**Port Fidalgo**	**94.27**	**15**	IAMs_20	IAMs_20	23 37 31.0				
	comp=Z,886nm,20.0s									
SKT	**Skwentna**	**94.39**	**12**	IAMs_20	IAMs_20	23 38 04.3				
	comp=Z,1µm,21.0s									
LLLB	**Lillooet**	**94.39**	**32**	IAMs_20	IAMs_20	23 37 26.5				
	comp=Z,772nm,19.0s									
XAN	**Xi'an**	**94.48**	**307**	P	P	23 00 07.3 +5.8				
XAN				SKS	**SKSac**	**23 10 32.0 -3.0**				
XAN				S	**S**	**23 11 13.0 +0.7**				
XAN				pmax	pmax					
	comp=Z,8.0nm,1.1s									
XAN				pmax	pmax					
	comp=Z,200nm,10.3s									
XAN				LR	LR					
	comp=Z,170nm,14.1s									
XAN				LR	LR					
	comp=Z,420nm,19.5s									
XAN				LR	LR					
	comp=Z,570nm,18.1s									
S22A	**4UR Ranch, Cre**	**94.56**	**49**	P	**P**	**23 00 02.9 +0.8**				
	baz=235									
S22A	**4UR Ranch, Cre**	**94.56**	**49**	P	**P**	**23 00 01.3 -0.8**				
TTA	**Tatalina**	**94.56**	**10**	P	**P**	**23 00 02.0 +0.8**				
TTA				pmax	pmax					
	comp=Z,9.0nm,1.0s									
TTA	**Tatalina**	**94.56**	**10**	P	**P**	**23 00 01.9 +0.8**				
PB11	**IPOC Station P**	**94.56**	**116**	P	**P**	**23 00 03.9 +1.4**				
PB11				IAmb	IAmb	23 00 21.0				
	comp=Z,25nm,1.1s									
833A	**Chaparral WMA,**	**94.58**	**60**	P	**P**	**23 00 03.0 +1.0**				
	baz=238									
833A	**Chaparral WMA,**	**94.58**	**60**	IAMs_20	IAMs_20	23 40 08.3				
	comp=Z,633nm,18.0s									
GHO	**Glory Hole Cre**	**94.69**	**13**	P	**P**	**23 00 01.7 -0.1**				
GHO				IAmb	IAmb	23 00 15.6				
	comp=Z,15nm,0.8s									
MESA	**MESA**	**94.83**	**17**	IAMs_20	IAMs_20	23 37 31.2				
	comp=Z,1µm,20.0s									
WAX	**Waxell Ridge**	**94.84**	**16**	IAMs_20	IAMs_20	23 36 52.4				
	comp=Z,1µm,20.0s									
AHID	**Auburn Hatcher**	**94.89**	**43**	P	**P**	**23 00 04.1 +0.8**				
MNMC	**Minye Minye**	**94.97**	**115**	P	**P**	**23 00 06.3 +1.9**				
MNMC				IAmb	IAmb	23 00 07.7				
	comp=Z,21nm,1.2s									
CRQM	**Cirque**	**95.04**	**16**	IAMs_20	IAMs_20	23 37 29.6				
	comp=Z,1µm,21.0s									
YAH	**Yahtse**	**95.04**	**17**	IAMs_20	IAMs_20	23 41 57.6				
	comp=Z,1µm,20.0s									
O20A	**White River Ci**	**95.05**	**46**	P	**P**	**23 00 04.8 +0.7**				
	baz=234									
SCM	**Sheep Creek Mo**	**95.06**	**14**	P	**P**	**23 00 03.7 +0.2**				
SCM				pmax	pmax					
	comp=Z,18nm,1.0s									
SCM				MLR	MLR					
	comp=Z,500nm,20.0s									
SCM	**Sheep Creek Mo**	**95.06**	**14**	P	**P**	**23 00 03.6 +0.2**				
SCM				IAmb	IAmb	23 00 16.0				
	comp=Z,18nm,1.0s									
NEW	**Newport**	**95.08**	**36**	IAMs_20	IAMs_20	23 37 39.2				
	comp=Z,1µm,19.0s									
ISLE	**Juniper Island**	**95.10**	**17**	IAMs_20	IAMs_20	23 37 32.3				
	comp=Z,1µm,20.0s									
TGL	**Tana Glacier**	**95.12**	**16**	IAMs_20	IAMs_20	23 37 10.7				
	comp=Z,1µm,20.0s									
PPLA	**Purkeypile**	**95.13**	**11**	IAMs_20	IAMs_20	23 38 59.7				
	comp=Z,905nm,20.0s									
MCMT	**McKenzie Canyo**	**95.15**	**40**	P	**P**	**23 00 05.3 +0.8**				
MSTX	**Muleshoe**	**95.17**	**54**	P	**P**	**23 00 05.5 +0.8**				
	baz=237									
PCA	**Pinnacle**	**95.20**	**18**	IAMs_20	IAMs_20	23 36 52.6				
	comp=Z,921nm,20.0s									
TABL	**Table Mountain**	**95.26**	**17**	IAMs_20	IAMs_20	23 37 15.2				
	comp=Z,1µm,20.0s									
SNET	**Serv Nac Est T**	**95.29**	**77**	IAMs_20	IAMs_20	23 31 53.3				
	comp=Z,1µm,22.0s									
KVTX	**Kingsville**	**95.30**	**61**	IAMs_20	IAMs_20	23 40 42.6				
	comp=Z,817nm,19.0s									
VRDI	**Verde Repeater**	**95.38**	**16**	IAMs_20	IAMs_20	23 37 51.3				
	comp=Z,811nm,20.0s									
REDW	**Red Top Meadow**	**95.39**	**42**	P	**P**	**23 00 06.3 +0.7**				
REDW				IAmb	IAmb	23 00 27.9				
	comp=Z,15nm,1.1s									
REDW				IAMs_20	IAMs_20	23 38 39.1				
	comp=Z,1µm,19.0s									
TPAW	**Teton Pass**	**95.41**	**42**	P	**P**	**23 00 06.2 +0.5**				
TPAW				IAmb	IAmb	23 00 27.5				
	comp=Z,17nm,1.4s									
JCT	**Junction City**	**95.42**	**58**	IAMs_20	IAMs_20	23 38 48.3				
	comp=Z,935nm,19.0s									
SDCO	**Great Sand Dun**	**95.42**	**49**	P	**P**	**23 00 07.0 +1.0**				
	baz=236									
SDCO	**Great Sand Dun**	**95.42**	**49**	P	**P**	**23 00 06.4 +0.4**				
FXWY	**Fox Creek**	**95.46**	**42**	P	**P**	**23 00 07.0 +1.1**				
BALM	**Baldy**	**95.48**	**16**	IAMs_20	IAMs_20	23 37 54.3				
	comp=Z,1µm,21.0s									
MCARA	**McCarthy VSAT**	**95.62**	**16**	IAMs_20	IAMs_20	23 37 37.9				
	comp=Z,756nm,20.0s									
DLMT	**Dillon**	**95.62**	**40**	P	**P**	**23 00 07.4 +0.9**				
DLMT				IAMs_20	IAMs_20	23 39 44.0				
	comp=Z,1µm,20.0s									
IMW	**Indian Meadow**	**95.67**	**42**	P	**P**	**23 00 06.5 -0.5**				
CTGM	**Chitina Glacie**	**95.67**	**17**	IAMs_20	IAMs_20	23 37 49.2				
	comp=Z,772nm,20.0s									
BARN	**Barnard Glacie**	**95.67**	**17**	IAMs_20	IAMs_20	23 37 38.2				
	comp=Z,916nm,21.0s									
BW06	**Boulder Array**	**95.80**	**43**	P	**P**	**23 00 08.5 +1.0**				
	baz=234									
PDAR	**Pinedale Array**	**95.80**	**43**	P	**P**	**23 00 08.0 +0.4**				
	comp=Z,0.4nm,0.4s,baz=197,slow=3.1,SNR=6.8									
PDAR				PKKP	**PKKPbc**	**23 16 57.8 -0.1**				
	comp=Z,0.8nm,0.6s,baz=95,slow=3.8,SNR=6.0									
PDAR				LR	LR	23 40 10.0				
	comp=Z,985nm,18.1s,baz=236,slow=34									
T25A	**Trinidad**	**95.80**	**50**	P	**P**	**23 00 08.5 +0.9**				
	baz=236									
QLMT	**Earthquake Lak**	**95.95**	**41**	P	**P**	**23 00 09.1 +1.0**				
TRF	**Thorofare Moun**	**95.97**	**12**	P	**P**	**23 00 08.2 +0.5**				
735A	**Kenedy**	**96.05**	**60**	IAMs_20	IAMs_20	23 40 57.2				
	comp=Z,631nm,18.0s									
YHL	**Hebgen Lake**	**96.10**	**41**	P	**P**	**23 00 09.5 +0.6**				
DHY	**Denali Highway**	**96.18**	**13**	IAMs_20	IAMs_20	23 44 02.6				
	comp=Z,647nm,19.0s									
RND	**Reindeer**	**96.19**	**13**	IAMs_20	IAMs_20	23 39 19.9				
	comp=Z,984nm,21.0s									
JTMT	**Jette**	**96.21**	**37**	IAMs_20	IAMs_20	23 40 39.1				
	comp=Z,871nm,19.0s									
BOZ	**Bozeman (W)**	**96.31**	**40**	P	**P**	**23 00 10.5 +0.9**				
	baz=233									
BOZ	**Bozeman (W)**	**96.31**	**40**	P	**P**	**23 00 10.6 +0.9**				
BOZ				pmax	pmax					
	comp=Z,17nm,1.4s									
BOZ				MLR	MLR					
	comp=Z,800nm,19.0s									
BOZ	**Bozeman (W)**	**96.31**	**40**	P	**P**	**23 00 10.6 +0.9**				
BOZ				IAmb	IAmb	23 00 32.0				
	comp=Z,17nm,1.4s									
BOZ				IAMs_20	IAMs_20	23 39 45.1				
	comp=Z,824nm,19.0s									
Q24A	**Divide**	**96.33**	**48**	IAMs_20	IAMs_20	23 42 24.7				
	comp=Z,743nm,18.0s									
AMTX	**Amarillo**	**96.42**	**53**	IAMs_20	IAMs_20	23 41 57.5				
	comp=Z,708nm,18.0s									
BPAW	**Bear Paw Mtn.**	**96.45**	**11**	IAMs_20	IAMs_20	23 39 41.7				
	comp=Z,778nm,20.0s									
ZEA	**Zeya**	**96.46**	**331**	*e*P	P	23 00 15.6 +5.7				
ZEA				*e*S	**SKSac**	**23 10 43.0 -1.5**				
ZEA				pmax	pmax					
	comp=Z,29nm,1.0s									
ZEA				smax	smax					
	comp=E,200nm,9.0s									
MCK	**McKinley**	**96.48**	**12**	IAMs_20	IAMs_20	23 39 09.4				
	comp=Z,1µm,20.0s									
CD2	**Chengdu**	**96.48**	**302**	P	**P**	**23 00 10.5 -0.2**				
CD2				pmax	pmax					
	comp=Z,10.0nm,0.5s									
ISCO	**Idaho Springs**	**96.51**	**47**	IAMs_20	IAMs_20	23 34 09.1				
	comp=Z,799nm,22.0s									
HYT	**Haines Junctio**	**96.55**	**18**	IAMs_20	IAMs_20	23 40 05.4				
	comp=Z,746nm,19.0s									
RWWY	**Rawlins**	**96.58**	**45**	IAMs_20	IAMs_20	23 36 49.9				
	comp=Z,834nm,21.0s									
ABTX	**Abilene, Hawle**	**96.66**	**56**	IAMs_20	IAMs_20	23 41 00.1				
	comp=Z,887nm,18.0s									
TGUH	**Tegucigalpa,Un**	**97.13**	**78**	IAMs_20	IAMs_20	23 32 39.0				
	comp=Z,1µm,22.0s									
435B	**Jarrell**	**97.20**	**59**	IAMs_20	IAMs_20	23 37 05.7				
	comp=Z,825nm,20.0s									
JTS	**Las Juntas de**	**97.26**	**82**	IAMs_20	IAMs_20	23 35 13.7				
	comp=Z,856nm,18.0s									
WRH	**Wood River Hil**	**97.31**	**12**	IAMs_20	IAMs_20	23 40 16.4				
	comp=Z,811nm,20.0s									
HDA	**Harding Lake**	**97.47**	**13**	P	**P**	**23 00 13.4 -0.8**				
HDA				IAMs_20	IAMs_20	23 44 21.6				
	comp=Z,670nm,19.0s									
CCB	**Clear Creek Bu**	**97.52**	**12**	P	**P**	**23 00 13.9 -0.6**				
CCB				IAMs_20	IAMs_20	23 40 22.9				
	comp=Z,828nm,21.0s									
K22A	**Casper**	**97.55**	**45**	P	Pdif	23 00 16.0 +0.6				
	baz=236									
COLA	**College**	**97.72**	**12**	IAMs_20	IAMs_20	23 40 29.1				
	comp=Z,915nm,20.0s									
LPAZ	**La Paz**	**97.72**	**114**	P	Pdif	23 00 19.8 +2.3				
	comp=Z,0.7nm,0.6s,baz=226,slow=1.6,SNR=3.5									
LPAZ				LR	LR	23 35 32.3				
	comp=Z,172nm,21.5s,baz=222,slow=30									
LPAZ	**La Paz**	**97.72**	**114**	P	Pdif	23 00 18.1 +0.7				
LPAZ				pmax	pmax					
	comp=Z,13nm,1.9s									
LPAZ	**La Paz**	**97.72**	**114**	P	Pdif	23 00 18.1 +0.7				
ILAR	**Eielson Array**	**97.80**	**13**	P	**P**	**23 00 14.0 -0.9**				
	comp=Z,0.9nm,0.8s,baz=219,slow=6.5,SNR=6.9									
ILAR				PP	**PP**	**23 04 12.6 -2.1**				
	comp=Z,0.3nm,0.6s,baz=212,slow=9.4,SNR=1.9									
ILAR				PKKPbc	**PKKPdf**	**23 16 58.7 +2.6**				
	comp=Z,0.4nm,0.6s,baz=352,slow=3.1,SNR=6.0									
ILAR				LR	LR	23 37 18.0				
	comp=Z,256nm,21.5s,baz=206,slow=31									
ILAR	**Eielson Array**	**97.80**	**13**	P	**P**	**23 00 14.0 -1.8**				
WHTX	**Lake Whitney,**	**97.92**	**58**	IAMs_20	IAMs_20	23 40 52.5				
	comp=Z,1µm,18.0s									
HKT	**Hockley**	**98.08**	**60**	IAMs_20	IAMs_20	23 37 29.2				
	comp=Z,653nm,20.0s									
PRP	**Porcupine Dome**	**98.73**	**13**		**P**	**23 00 19.9 -0.2**				
RDOG	**Red Dog Mine**	**98.74**	**5**	IAMs_20	IAMs_20	23 40 46.9				
	comp=Z,677nm,20.0s									
Z35A	**Perchaven, San**	**98.75**	**57**	IAMs_20	IAMs_20	23 42 06.3				
	comp=Z,937nm,18.0s									
DAWY	**Dawson**	**98.79**	**16**	IAMs_20	IAMs_20	23 44 39.7				
	comp=Z,899nm,19.0s									
BILL	**Bilibino**	**98.87**	**354**	||*i*P	Pdif	23 00 21.5 +1.0				
BILL				*e*		23 04 24.5				
BILL				*e*PPP	PPP	23 06 29.3				
BILL				pmax	pmax					
	comp=Z,8.0nm,1.9s									
BILL				MLR	MLR					
	comp=Z,1µm,19.0s									
EGAK	**Eagle**	**98.99**	**15**	IAMs_20	IAMs_20	23 40 21.0				
	comp=Z,688nm,20.0s									
U32A	**Winter Ranch,**	**99.06**	**53**	IAMs_20	IAMs_20	23 43 32.4				
	comp=Z,802nm,18.0s									
LZH	**Lanzhou**	**99.09**	**306**	*e*P	**Pdif**	**23 00 21.5 -1.0**				
LZH				pP	pP	23 00 24.8 -4.9				
LZH				SS	SS	23 18 43.0 +1.9				
LZH				pmax	pmax					
	comp=Z,23nm,1.0s									
LZH				pmax	pmax					
	comp=Z,120nm,9.5s									
LZH				LR	LR					
	comp=Z,250nm,16.3s									
LZH				LR	LR					
	comp=Z,310nm,17.0s									
LZH				LR	LR					
	comp=Z,400nm,19.7s									
237A	**Washetta, Mont**	**99.13**	**58**	IAMs_20	IAMs_20	23 41 47.7				
	comp=Z,737nm,18.0s									
CPUP	**Villa Florida**	**99.62**	**128**	LR	LR	23 37 07.8				
	comp=Z,404nm,21.3s,baz=240,slow=30									
CBKS	**Cedar Bluff**	**99.81**	**51**	IAMs_20	IAMs_20	23 43 30.1				
	comp=Z,660nm,18.0s									
NATX	**Nacogdoches**	**99.86**	**59**	IAMs_20	IAMs_20	23 39 09.0				
	comp=Z,685nm,19.0s									
LAO	**LASA Array**	**100.00**	**41**	IAMs_20	IAMs_20	23 43 30.8				
	comp=Z,925nm,19.0s									
R32A	**Long Quarter,**	**100.31**	**52**	IAMs_20	IAMs_20	23 44 23.1				
	comp=Z,648nm,18.0s									
TOLK	**Toolik Lake Re**	**100.86**	**10**	IAMs_20	IAMs_20	23 45 03.2				
	comp=Z,707nm,19.0s									
TUL1	**Leonard**	**101.07**	**55**	IAMs_20	IAMs_20	23 43 30.8				
	comp=Z,647nm,19.0s									
EPYK	**Eagle Plains**	**101.34**	**16**	IAMs_20	IAMs_20	23 45 27.1				
	comp=Z,664nm,19.0s									
WLAR	**White Oak Lake**	**101.93**	**58**	IAMs_20	IAMs_20	23 44 05.8				
	comp=Z,899nm,18.0s									
Z41A	**Richland Creek**	**101.95**	**59**	IAMs_20	IAMs_20	23 43 31.5				
	comp=Z,574nm,19.0s									
DGMT	**Dagmar**	**102.12**	**41**	IAMs_20	IAMs_20	23 38 44.9				
	comp=Z,810nm,22.0s									
N33A	**J Bar K, Exete**	**102.31**	**50**	IAMs_20	IAMs_20	23 42 58.9				
	comp=Z,581nm,19.0s									
U38A	**Gravette**	**102.33**	**55**	IAMs_20	IAMs_20	23 45 46.9				
	comp=Z,727nm,18.0s									
K31A	**O'Neill**	**102.39**	**48**	IAMs_20	IAMs_20	23 40 00.8				
	comp=Z,602nm,20.0s									
X40A	**Basin Creek Fa**	**102.51**	**57**	IAMs_20	IAMs_20	23 45 30.2				
	comp=Z,592nm,18.0s									
143A	**Socs Landing,**	**102.73**	**60**	IAMs_20	IAMs_20	23 44 08.1				
	comp=Z,581nm,19.0s									
UALR	**University of**	**103.01**	**57**	IAMs_20	IAMs_20	23 45 19.2				
	comp=Z,689nm,18.0s									
E28A	**Huff**	**103.17**	**44**	IAMs_20	IAMs_20	23 47 03.9				
	comp=Z,848nm,18.0s									
W41B	**Gary Mavity, V**	**103.26**	**57**	IAMs_20	IAMs_20	23 45 11.9				
	comp=Z,679nm,18.0s									
WHAR	**Wooly Hollow**	**103.28**	**57**	IAMs_20	IAMs_20	23 45 03.6				
	comp=Z,678nm,18.0s									
U40A	**Yellville**	**103.38**	**56**	IAMs_20	IAMs_20	23 44 53.8				
	comp=Z,909nm,18.0s									
SONM	**Songino Array**	**103.45**	**318**	Pdiff	**Pdif**	**23 00 45.3 +3.9**				
	comp=Z,0.4nm,0.6s,baz=141,slow=3.0,SNR=2.3									
SONM				PP	**PP**	**23 04 55.5 -2.5**				
	comp=Z,0.9nm,0.9s,baz=116,slow=6.8,SNR=3.6									
SONM				PKKPbc	**PKKPbc**	**23 16 37.0 +1.0**				
	comp=Z,0.3nm,0.5s,baz=282,slow=2.8,SNR=4.0									
N35A	**Tabor**	**103.57**	**51**	IAMs_20	IAMs_20	23 46 56.3				
	comp=Z,825nm,18.0s									
INK	**Inuvik**	**103.64**	**15**	IAMs_20	IAMs_20	23 46 58.9				
	comp=Z,809nm,19.0s									
S39A	**Bolivar**	**103.67**	**54**	IAMs_20	IAMs_20	23 46 20.3				
	comp=Z,683nm,18.0s									
X43A	**Marvell**	**103.95**	**58**	IAMs_20	IAMs_20	23 44 52.4				
	comp=Z,970nm,19.0s									
ECSD	**EROS Data Cent**	**104.29**	**48**	IAMs_20	IAMs_20	23 42 01.3				
	comp=Z,582nm,20.0s									
P38A	**Dawn**	**104.42**	**52**	IAMs_20	IAMs_20	23 46 59.0				
	comp=Z,571nm,18.0s									
MDND	**Maddock**	**104.44**	**43**	IAMs_20	IAMs_20	23 46 13.7				
	comp=Z,753nm,19.0s									
R40A	**Maddies Statio**	**104.68**	**54**	IAMs_20	IAMs_20	23 46 44.2				
	comp=Z,690nm,18.0s									
LPAR	**Lepanto**	**104.87**	**57**	IAMs_20	IAMs_20	23 47 31.6				
	comp=Z,633nm,18.0s									
MET	**Memphis–Engin**	**104.92**	**58**	IAMs_20	IAMs_20	23 46 39.1				
	comp=Z,830nm,18.0s									
OXF	**Oxford**	**105.04**	**59**	IAMs_20	IAMs_20	23 42 43.1				
	comp=Z,708nm,20.0s									
N38A	**Joes South For**	**105.15**	**51**	IAMs_20	IAMs_20	23 47 07.4				
	comp=Z,816nm,18.0s									
YKA	**Yellowknife Ar**	**105.22**	**25**	PKKP	**PKKPdf**	**23 16 38.2 -3.7**				
	comp=Z,1.6nm,0.8s,baz=42,slow=3.4,SNR=4.9									
GNAR	**Gosnell**	**105.24**	**57**	IAMs_20	IAMs_20	23 42 40.3				
	comp=Z,659nm,20.0s									
CCM	**Cathedral Cave**	**105.29**	**55**	IAMs_20	IAMs_20	23 47 20.5				
	comp=Z,733nm,18.0s									
F33A	**5 Mile Ranch,**	**105.48**	**46**	IAMs_20	IAMs_20	23 47 11.5				
	comp=Z,756nm,18.0s									
LNXT	**Lenox**	**105.68**	**57**	IAMs_20	IAMs_20	23 46 01.0				
	comp=Z,690nm,19.0s									
K38A	**Parkersburg**	**106.29**	**50**	IAMs_20	IAMs_20	23 47 50.5				
	comp=Z,606nm,18.0s									
I37A	**Lemond, Waseca**	**106.49**	**48**	IAMs_20	IAMs_20	23 43 01.4				
	comp=Z,583nm,20.0s									
FFC	**Flin Flon**	**106.51**	**36**	IAMs_20	IAMs_20	23 44 44.5				
	comp=Z,726nm,19.0s									
S44A	**Carbondale**	**106.55**	**56**	IAMs_20	IAMs_20	23 46 51.8				
	comp=Z,800nm,18.0s									
N41A	**Harden Midland**	**106.73**	**52**	IAMs_20	IAMs_20	23 43 46.4				
	comp=Z,576nm,20.0s									
WVT	**Waverly**

Q54A	**Coxs Mills**	**113.14**	**57**	IAMs_20	IAMs_20	23 50 21.4		
	comp=Z,719nm,19.0s							
K50A	**Casco**	**113.21**	**53**	IAMs_20	IAMs_20	23 56 13.8		
	comp=Z,654nm,18.0s							
V58A	**Windy Hill, Pi**	**113.26**	**61**	P	**PKiKP**	**23 05 19.7**	**+1.0**	
	baz=249							
V58A	**Windy Hill, Pi**	**113.26**	**61**	IAMs_20	IAMs_20	23 50 42.0		
	comp=Z,684nm,19.0s							
O53A	**New Philadelph**	**113.31**	**56**	IAMs_20	IAMs_20	23 47 20.9		
	comp=Z,862nm,20.0s							
I49A	**Point Hope**	**113.47**	**52**	P	**PKiKP**	**23 05 20.6**	**+1.7**	
	baz=250							
I49A	**Point Hope**	**113.47**	**52**	IAMs_20	IAMs_20	23 52 11.6		
	comp=Z,668nm,19.0s							
WMQ	**Urumqi**	**113.59**	**308**	*e*PKP	**PKiKP**	**23 05 20.3**	**+1.0**	
WMQ				LR	LR			
	comp=Z,95nm,11.5s							
WMQ				LR	LR			
	comp=Z,110nm,21.5s							
WMQ				LR	LR			
	comp=Z,110nm,18.5s							
T57A	**Hurt**	**113.59**	**60**	IAMs_20	IAMs_20	23 51 09.6		
	comp=Z,747nm,18.0s							
SC01	**Santiago de lo**	**113.64**	**81**	IAMs_20	IAMs_20	23 40 29.8		
	comp=Z,610nm,21.0s							
M52A	**Chesterland**	**113.66**	**55**	IAMs_20	IAMs_20	23 51 20.9		
	comp=Z,762nm,18.0s							
O54A	**Avella**	**113.89**	**56**	IAMs_20	IAMs_20	23 47 38.1		
	comp=Z,834nm,20.0s							
S57A	**Dark Hollow, R**	**114.08**	**59**	IAMs_20	IAMs_20	23 45 19.6		
	comp=Z,681nm,18.0s							
MCWV	**Mont Chateau**	**114.09**	**57**	IAMs_20	IAMs_20	23 51 17.6		
	comp=Z,467nm,18.0s							
Q56A	**Snyder Ridge,**	**114.36**	**58**	IAMs_20	IAMs_20	23 51 17.7		
	comp=Z,590nm,19.0s							
U59A	**Littleton**	**114.46**	**61**	IAMs_20	IAMs_20	23 51 51.8		
	comp=Z,722nm,18.0s							
ALLY	**Alegheny Colle**	**114.55**	**55**	IAMs_20	IAMs_20	23 51 49.6		
	comp=Z,765nm,18.0s							
V60A	**Jim Taylor Roa**	**114.65**	**62**	IAMs_20	IAMs_20	23 52 47.0		
	comp=Z,613nm,18.0s							
S58A	**Poland Farm, P**	**114.70**	**60**	IAMs_20	IAMs_20	23 52 16.1		
	comp=Z,729nm,18.0s							
ERPA	**Erie**	**114.82**	**54**	IAMs_20	IAMs_20	23 53 38.5		
	comp=Z,712nm,18.0s							
T59A	**Double "B" Far**	**114.85**	**60**	IAMs_20	IAMs_20	23 51 34.2		
	comp=Z,754nm,18.0s							
R58B	**Mineral**	**114.95**	**59**	IAMs_20	IAMs_20	23 52 14.6		
	comp=Z,644nm,18.0s							
V61A	**Roper**	**115.18**	**62**	IAMs_20	IAMs_20	23 52 12.1		
	comp=Z,654nm,20.0s							
O56A	**Blue Knob Stat**	**115.22**	**57**	IAMs_20	IAMs_20	23 48 40.5		
	comp=Z,770nm,19.0s							
P57A	**Homestead Farm**	**115.36**	**58**	IAMs_20	IAMs_20	23 51 40.4		
	comp=Z,591nm,19.0s							
CBN	**Corbin Frederi**	**115.41**	**59**	IAMs_20	IAMs_20	23 53 43.7		
	comp=Z,653nm,18.0s							
U61A	**Possum Corner**	**115.47**	**61**	IAMs_20	IAMs_20	23 53 09.6		
	comp=Z,784nm,19.0s							
T60A	**Surry**	**115.53**	**60**	IAMs_20	IAMs_20	23 52 56.0		
	comp=Z,784nm,18.0s							
DGZ	**Jazzator, Alta**	**115.64**	**314**	⇑*i*PKIKP	**PKiKP**	**23 05 23.8**	**+0.7**	
SSPA	**Standing Stone**	**115.83**	**56**	IAMs_20	IAMs_20	23 49 08.6		
	comp=Z,799nm,20.0s							
WVNY	**West Valley, N**	**115.88**	**54**	IAMs_20	IAMs_20	23 48 26.8		
	comp=Z,566nm,20.0s							
J54A	**Appleton**	**116.13**	**54**	IAMs_20	IAMs_20	23 55 03.2		
	comp=Z,692nm,18.0s							
SADO	**Sadowa**	**116.24**	**52**	IAMs_20	IAMs_20	23 57 39.9		
	comp=Z,459nm,18.0s							
S61A	**Accomac**	**116.50**	**60**	IAMs_20	IAMs_20	23 53 58.8		
	comp=Z,759nm,19.0s							
ZSN	**Zaisan**	**116.61**	**311**	*e*PKP	**PKPdf**	**23 05 24.0**	**-0.9**	
	baz=311							
ZSN	**Zaisan**	**116.61**	**311**	*e*PKIKP	**PKPdf**	**23 05 24.0**	**-0.9**	
J55A	**Hilton**	**116.70**	**54**	IAMs_20	IAMs_20	23 54 55.3		
	comp=Z,729nm,18.0s							
N58A	**Sunbury**	**116.74**	**57**	IAMs_20	IAMs_20	23 49 26.7		
	comp=Z,757nm,20.0s							
MVL	**Millersville**	**116.74**	**58**	IAMs_20	IAMs_20	23 52 51.9		
	comp=Z,663nm,18.0s							
RES	**Resolute Bay**	**117.09**	**17**	IAMs_20	IAMs_20	23 51 55.1		
	comp=Z,795nm,20.0s							
P60A	**Greenville**	**117.21**	**58**	IAMs_20	IAMs_20	23 52 57.2		
	comp=Z,560nm,19.0s							
J56A	**Wolcott**	**117.37**	**54**	IAMs_20	IAMs_20	23 55 25.1		
	comp=Z,704nm,18.0s							
PSUB	**Penn St. - Bra**	**117.38**	**58**	IAMs_20	IAMs_20	23 52 59.7		
	comp=Z,607nm,19.0s							
N59A	**State Game Lan**	**117.45**	**57**	IAMs_20	IAMs_20	23 49 58.4		
	comp=Z,712nm,19.0s							
BOSA	**Boshof**	**117.46**	**202**	PKP	**PKiKP**	**23 05 29.3**	**+1.9**	
	comp=Z,3.1nm,0.8s,baz=115,slow=3.5,SNR=3.8							
PECO	**Prince Edward**	**117.47**	**53**	IAMs_20	IAMs_20	23 55 16.5		
	comp=Z,694nm,19.0s							
BINY	**Binghamton**	**117.67**	**55**	IAMs_20	IAMs_20	23 54 02.2		
	comp=Z,658nm,18.0s							
PLVO	**Plevna**	**117.72**	**52**	IAMs_20	IAMs_20	23 55 15.2		
	comp=Z,617nm,19.0s							
J57A	**Williamstown**	**118.01**	**54**	IAMs_20	IAMs_20	23 55 45.0		
	comp=Z,544nm,18.0s							
MK31	**Makanchi Array**	**118.12**	**310**	PKIKP	**PKPdf**	**23 05 26.7**	**-1.1**	
MK31	**Makanchi Array**	**118.12**	**310**		**PKPdf**	**23 05 26.7**	**-1.1**	
MKAR	**Makanchi Array**	**118.12**	**310**	PKP	**PKPdf**	**23 05 26.9**	**-1.0**	
	comp=Z,1.7nm,0.6s,baz=219,slow=2.0,SNR=15							
MKAR				PKKPbc	**PKKPab**	**23 15 48.8**	**+0.4**	
	comp=Z,0.6nm,0.7s,baz=264,slow=3.5,SNR=4.5							
MKAR	**Makanchi Array**	**118.12**	**310**	PKPdf	**PKPdf**	**23 05 26.5**	**-1.4**	
VLDQ	**Val d'Or**	**118.30**	**49**	IAMs_20	IAMs_20	23 53 36.2		
	comp=Z,704nm,19.0s							
ZAA0	**Zalesovo Array**	**118.33**	**318**	IAMs_20	IAMs_20	23 54 34.3		
	comp=Z,492nm,20.0s							
ZALV	**Zalesovo Beam**	**118.33**	**318**	PKP	**PKPdf**	**23 05 27.0**	**-0.9**	
	comp=Z,1.6nm,0.7s,baz=123,slow=1.5,SNR=8.2							
ZALV	**Zalesovo Beam**	**118.33**	**318**	PKIKP	**PKPdf**	**23 05 27.0**	**-0.9**	
ZALV	**Zalesovo Beam**	**118.33**	**318**	PKPdf	**PKPdf**	**23 05 26.5**	**-1.4**	
ODNJ	**Ogdensburg**	**118.34**	**57**	IAMs_20	IAMs_20	23 50 18.0		
	comp=Z,767nm,20.0s							
J58A	**Remsen**	**118.50**	**54**	IAMs_20	IAMs_20	23 55 35.9		
	comp=Z,713nm,18.0s							
PAL	**Palisades**	**118.82**	**57**	IAMs_20	IAMs_20	23 50 41.8		
	comp=Z,807nm,20.0s							
J59A	**Piesco**	**119.07**	**54**	IAMs_20	IAMs_20	23 53 27.1		
	comp=Z,600nm,19.0s							
SHLS	**Shalkode**	**119.09**	**305**	*e*PKP	**PKPdf**	**23 05 28.4**	**-1.6**	
	baz=305							
SHLS	**Shalkode**	**119.09**	**305**	*e*PKIKP	**PKPdf**	**23 05 28.3**	**-1.6**	
WSPT	**Westport, CT**	**119.29**	**57**	IAMs_20	IAMs_20	23 51 06.2		
	comp=Z,804nm,20.0s							
SABA	**Saba**	**119.30**	**86**	IAMs_20	IAMs_20	23 46 31.8		
	comp=Z,684nm,21.0s							
LONY	**Lake Ozonia**	**119.32**	**53**	IAMs_20	IAMs_20	23 56 34.5		
	comp=Z,646nm,18.0s							
UZB	**Uzynbulak**	**119.40**	**305**	*e*PKP	**PKPdf**	**23 05 29.7**	**-0.9**	
	baz=305							
UZB	**Uzynbulak**	**119.40**	**305**	*e*PKIKP	**PKPdf**	**23 05 29.6**	**-0.9**	
SMRT	**St. Maarten**	**119.62**	**85**	IAMs_20	IAMs_20	23 49 54.5		
	comp=Z,539nm,20.0s							
KPKS	**Kokpek**	**119.72**	**306**	*e*PKP	**PKPdf**	**23 05 30.2**	**-0.9**	
	baz=305							
KPKS	**Kokpek**	**119.72**	**306**	*e*PKIKP	**PKPdf**	**23 05 30.2**	**-0.9**	
SATY	**Saty**	**119.81**	**305**	*e*PKP	**PKPdf**	**23 05 30.6**	**-0.7**	
	baz=305							
SATY	**Saty**	**119.81**	**305**	*e*PKIKP	**PKPdf**	**23 05 30.6**	**-0.7**	
NRIK	**Noril'sk**	**119.81**	**336**	PKP	**PKPdf**	**23 05 30.2**	**-0.2**	
	comp=Z,3.2nm,0.7s,baz=106,slow=3.5,SNR=5.1							
TARG	**Taragay, Kyrgy**	**119.89**	**303**	PKPdf	**PKPdf**	**23 05 31.8**	**-0.1**	
FRNY	**Flat Rock**	**120.06**	**53**	IAMs_20	IAMs_20	23 56 48.1		
	comp=Z,657nm,18.0s							
TDK	**Taldyqorghan**	**120.30**	**307**	LR	LR	00 00 18.3		
	comp=Z,156nm,14.4s,baz=307							
SEM	**Semipalatinsk**	**120.30**	**314**	*e*PKP	**PKPdf**	**23 05 31.4**	**-0.8**	
	baz=314							
SEM	**Semipalatinsk**	**120.30**	**314**	*e*PKIKP	**PKPdf**	**23 05 31.3**	**-0.8**	
KDJ	**Kajisay**	**120.44**	**304**	PKIKP	**PKPdf**	**23 05 32.2**	**-0.5**	
KDJ				MLR	MLR			
	comp=Z,400nm,21.0s							
KDJ	**Kajisay**	**120.44**	**304**		**PKPdf**	**23 05 32.1**	**-0.5**	
KSH	**Kashi**	**120.64**	**300**	*e*PKP	**PKiKP**	**23 05 33.5**	**+0.4**	
HNH	**Hanover**	**120.69**	**54**	IAMs_20	IAMs_20	23 57 26.0		
	comp=Z,704nm,18.0s							
MDOK	**Medeo**	**120.80**	**305**	*e*PKP	**PKPdf**	**23 05 32.3**	**-1.0**	
	baz=305							
MDOK				*e*PP	**PP**	**23 07 04.0**	**+1.8**	
	baz=305							
MDOK				LR	LR	00 02 15.3		
	comp=Z,111nm,17.4s,baz=305							
MDOK	**Medeo**	**120.80**	**305**	*e*PKIKP	**PKPdf**	**23 05 32.3**	**-1.0**	
MDOK				*e*		23 07 04.0		
TNSS	**Tian-Shan**	**120.84**	**305**	*e*PKP	**PKPdf**	**23 05 32.5**	**-1.2**	
	baz=305							
TNSS	**Tian-Shan**	**120.84**	**305**	*e*PKIKP	**PKPdf**	**23 05 32.4**	**-1.2**	
AAA	**Alma-Ata**	**120.90**	**305**	*e*PKP	**PKPdf**	**23 05 32.7**	**-0.6**	
	baz=305							
AAA	**Alma-Ata**	**120.90**	**305**	*e*PKIKP	**PKPdf**	**23 05 32.7**	**-0.6**	
NIL	**Nilore**	**121.05**	**293**	PKIKP	**PKPdf**	**23 05 32.7**	**-1.2**	
NIL	**Nilore**	**121.05**	**293**	PKPdf	**PKPdf**	**23 05 32.7**	**-1.2**	
LBNH	**Lisbon**	**121.07**	**54**	IAMs_20	IAMs_20	23 55 13.0		
	comp=Z,538nm,19.0s							
ULHL	**Ulahol**	**121.15**	**304**	P	**PKPdf**	**23 05 34.0**	**0.0**	
	SNR=12							
KURK	**Kurchatov**	**121.38**	**314**	PKIKP	**PKPdf**	**23 05 32.9**	**-1.0**	
KURK				MLR	MLR			
	comp=Z,400nm,20.0s							
KURK	**Kurchatov**	**121.38**	**314**	PKPdf	**PKPdf**	**23 05 32.9**	**-1.0**	
I62A	**Tamworth**	**121.40**	**54**	IAMs_20	IAMs_20	23 57 56.8		
	comp=Z,652nm,18.0s							
KURBB	**Kurchatov Arra**	**121.42**	**314**	PKKPbc	PKKPbc	23 15 36.0	+0.6	
	comp=Z,0.7nm,0.9s,baz=292,slow=4.9,SNR=5.0							
BOOM	**Boomskoye usch**	**121.42**	**304**	PKIKP	**PKPdf**	**23 05 34.4**	**-0.1**	
BOOM	**Boomskoye usch**	**121.42**	**304**	PKPdf	**PKPdf**	**23 05 34.4**	**-0.1**	
KUU	**Kurty**	**121.47**	**306**	*e*PKP	**PKPdf**	**23 05 33.6**	**-0.7**	
	baz=306							
KUU				*i* PP	**PP**	**23 07 05.6**	**-1.1**	
	baz=306							
KUU	**Kurty**	**121.47**	**306**	*e*PKIKP	**PKPdf**	**23 05 33.6**	**-0.7**	
KUU				*i*		23 07 05.5		
KZA	**Kyzart**	**121.82**	**303**	P	**PKPdf**	**23 05 35.6**	**0.0**	
	SNR=13							
I63A	**Otisfield**	**121.97**	**54**	IAMs_20	IAMs_20	23 57 16.9		
	comp=Z,622nm,18.0s							
KBK	**Karagaybulak**	**122.18**	**304**	P	**PKPdf**	**23 05 35.6**	**-0.4**	
	SNR=7.4							
G62A	**West of Eustis**	**122.26**	**53**	IAMs_20	IAMs_20	23 57 34.3		
	comp=Z,480nm,18.0s							
UCH	**Uchtor**	**122.39**	**303**	P	**PKPdf**	**23 05 36.9**	**+0.1**	
	SNR=19							
CHMS	**Chumysh**	**122.39**	**304**	P	**PKPdf**	**23 05 35.7**	**-0.5**	
	SNR=8.1							
AAK	**Ala-Archa**	**122.50**	**304**	PKIKP	**PKPdf**	**23 05 36.2**	**-0.4**	
AAK	**Ala-Archa**	**122.50**	**304**	PKPdf	**PKPdf**	**23 05 36.2**	**-0.4**	
SGDS	**Sogindy**	**122.58**	**305**	*e*PKP	**PKPdf**	**23 05 35.8**	**-0.8**	
	baz=305							
SGDS	**Sogindy**	**122.58**	**305**	*e*PKIKP	**PKPdf**	**23 05 35.7**	**-0.8**	
USP	**Ospenovka**	**122.63**	**304**	P	**PKPdf**	**23 05 36.1**	**-0.5**	
	SNR=8.1							
F62A	**Pittston Farm,**	**122.78**	**52**	IAMs_20	IAMs_20	23 52 12.1		
	comp=Z,586nm,20.0s							
AML	**Almayashu**	**122.96**	**303**	P	**PKPdf**	**23 05 37.7**	**-0.1**	
	SNR=17							
EKS2	**Erkin-Say**	**123.02**	**304**	P	**PKPdf**	**23 05 37.7**	**+0.2**	
	SNR=6.5							
PKME	**Peaks-Kenny Pk**	**123.12**	**53**	IAMs_20	IAMs_20	23 58 10.2		
	comp=Z,635nm,18.0s							
ALE	**Alert**	**123.16**	**8**	IAMs_20	IAMs_20	23 57 56.3		
	comp=Z,531nm,20.0s							
E62A	**Clayton Lake**	**123.22**	**52**	IAMs_20	IAMs_20	23 54 12.7		
	comp=Z,664nm,20.0s							
ARSB	**Arslanbob**	**123.30**	**302**	PKIKP	**PKPdf**	**23 05 37.3**	**-0.8**	
ARSB				MLR	MLR			
	comp=Z,1μm,21.0s							
ARSB	**Arslanbob**	**123.30**	**302**		**PKPdf**	**23 05 37.3**	**-0.8**	
BTLS	**Baital**	**123.32**	**306**	⇑*i*PKP	**PKPdf**	**23 05 37.2**	**-0.6**	
	baz=306							
BTLS	**Baital**	**123.32**	**306**	⇑*i*PKIKP	**PKPdf**	**23 05 37.2**	**-0.6**	
F63A	**Nahmakanta, Br**	**123.34**	**53**	P	**PKiKP**	**23 05 38.8**	**+0.7**	
	baz=259							
TULEG	**Thule**	**123.63**	**15**	IAMs_20	IAMs_20	23 58 17.2		
	comp=Z,703nm,20.0s							
E63A	**Oxbow**	**123.94**	**52**	IAMs_20	IAMs_20	23 54 33.6		
	comp=Z,645nm,20.0s							
G65A	**Princeton**	**124.31**	**54**	P	**PKiKP**	**23 05 40.1**	**+0.2**	
	baz=260							
G65A	**Princeton**	**124.31**	**54**	IAMs_20	IAMs_20	23 57 05.7		
	comp=Z,470nm,18.0s							
E64A	**Bridgewater**	**124.34**	**52**	P	**PKPdf**	**23 05 39.9**	**+0.1**	
	baz=260							
H66A	**Whiting**	**124.41**	**54**	P	**PKiKP**	**23 05 40.3**	**+0.1**	
	baz=260							
BTK	**Batken**	**124.62**	**300**	PKIKP	**PKPdf**	**23 05 40.0**	**-0.6**	
BTK	**Batken**	**124.62**	**300**		**PKPdf**	**23 05 40.0**	**-0.6**	
GAR	**Garm**	**124.76**	**299**	PKPdf	**PKPdf**	**23 05 41.2**	**+0.3**	
GGN	**Saint George**	**124.80**	**54**	IAMs_20	IAMs_20	23 59 19.0		
	comp=Z,627nm,18.0s							
DZA	**Taraz**	**124.83**	**303**	*e*PKP	**PKPdf**	**23 05 40.0**	**-0.8**	
	baz=303							
DZA				*e*PP	**PP**	**23 07 28.9**	**-0.5**	
	baz=303							
DZA	**Taraz**	**124.83**	**303**	*e*PKIKP	**PKPdf**	**23 05 40.0**	**-0.8**	
DZA				*e*		23 07 28.9		
BRZS	**Berezniki**	**125.03**	**312**	*e*PKP	**PKPdf**	**23 05 40.1**	**-0.9**	
	baz=312							
BRZS	**Berezniki**	**125.03**	**312**	*e*PKIKP	**PKPdf**	**23 05 40.0**	**-0.9**	
JBG	**Jabagly**	**125.31**	**303**	*i* PKIKP	**PKPdf**	**23 05 41.5**	**-0.4**	
KK31	**Karatay Array**	**125.46**	**304**	PKIKP	**PKPdf**	**23 05 41.6**	**-0.4**	
KK31	**Karatay Array**	**125.46**	**304**	PKPdf	**PKPdf**	**23 05 41.6**	**-0.4**	
KKAR	**Karatay Array**	**125.46**	**304**	PKIKP	**PKPdf**	**23 05 41.7**	**-0.3**	
KKAR	**Karatay Array**	**125.46**	**304**	PKPdf	**PKPdf**	**23 05 41.5**	**-0.5**	
KKAR	**Karatay Array**	**125.46**	**304**		**PKPdf**	**23 05 41.7**	**-0.3**	
CHGR	**Chuyangaron**	**125.57**	**298**	PKPdf	**PKPdf**	**23 05 42.4**	**-0.1**	
CHGR				IAMs_20	IAMs_20	00 10 15.7		
	comp=Z,628nm,20.0s							
IUG	**Iuzhnay**	**125.63**	**302**	*e*PKP	**PKPdf**	**23 05 41.8**	**-0.7**	
	baz=302							
IUG	**Iuzhnay**	**125.63**	**302**	*e*PKIKP	**PKPdf**	**23 05 41.8**	**-0.7**	
CHM	**Chimkent**	**125.97**	**302**	*e*PKP	**PKPdf**	**23 05 42.8**	**-0.2**	
	baz=302							
CHM	**Chimkent**	**125.97**	**302**	*e*PKIKP	**PKPdf**	**23 05 42.8**	**-0.2**	
BRVK	**Borovoye**	**126.79**	**316**	PKIKP	**PKPdf**	**23 05 43.5**	**-0.7**	
BRVK				MLR	MLR			
	comp=Z,400nm,21.0s							
BRVK	**Borovoye**	**126.79**	**316**	PKPdf	**PKPdf**	**23 05 43.5**	**-0.7**	
LSZ	**Lusaka**	**128.33**	**212**	PKIKP	**PKiKP**	**23 05 49.9**	**+0.7**	
LSZ	**Lusaka**	**128.33**	**212**	PKPdf	**PKiKP**	**23 05 49.9**	**+0.7**	
SPA0	**Spitsbergen Ar**	**131.72**	**356**	*e*PKPdf	**PKiKP**	**23 05 54.2**	**+0.2**	
SVE	**Sverdlovsk**	**132.18**	**321**	*i* PKIKP	**PKiKP**	**23 05 59.1**	**+3.7**	
SVE				pmax	pmax			
	comp=Z,12nm,1.0s							
SVE				MLR	MLR			
	comp=Z,666nm,21.0s							
DAG	**Danmarks Havn**	**132.47**	**6**	*i* P	**PKiKP**	**23 05 55.6**	**+0.1**	
DAG	**Danmarks Havn**	**132.47**	**6**	*e*PKIKP	**PKiKP**	**23 05 55.6**	**+0.1**	
UOSS	**Minazif**	**132.53**	**277**	PKPdf	**PKPdf**	**23 05 55.8**	**-0.2**	
SUMG	**Summit**	**132.56**	**16**	*i* P	PKPpre	23 05 46.8		
SUMG	**Summit**	**132.56**	**16**	*e*PKIKP	PKPpre	23 05 46.8		
SUMG	**Summit**	**132.56**	**16**	IAMs_20	IAMs_20	23 58 18.0		
	comp=Z,617nm,22.0s							
HSPB	**Hornsund (broa**	**132.90**	**356**	*e*PKPdf	**PKiKP**	**23 05 56.1**	**-0.2**	
ARU	**Arti**	**133.38**	**321**	PKIKP	**PKPdf**	**23 05 55.8**	**-0.8**	
ARU				MLR	MLR			
	comp=Z,800nm,21.0s							
ARU	**Arti**	**133.38**	**321**	PKPdf	**PKPdf**	**23 05 55.8**	**-0.8**	
GEYT	**Alibeck**	**133.98**	**295**	PKP	**PKPdf**	**23 05 58.4**	**0.0**	
	comp=Z,10nm,0.8s,baz=234,slow=1.3,SNR=24							
GEYT				SKPbc	**SKPbc**	**23 09 26.4**	**+0.5**	
	comp=Z,6.4nm,0.9s,baz=217,slow=1.4,SNR=8.2							
GEYT	**Alibeck**	**133.98**	**295**		**PKPdf**	**23 05 57.8**	**-0.6**	
GYA0B	**ALIBECK ARRAY**	**133.98**	**295**	PKPdf	**PKPdf**	**23 05 58.5**	**+0.1**	
GYA0B				IAMs_20	IAMs_20	00 06 08.8		
	comp=Z,489nm,22.0s							
KMBO	**Kilima Mbogo**	**134.47**	**233**	PKhKP	**PKPdf**	**23 05 58.2**	**-2.2**	
	comp=Z,1.0nm,0.4s,baz=178,slow=4.7,SNR=4.4							
KMBO	**Kilima Mbogo**	**134.47**	**233**	IAMs_20	IAMs_20	00 00 24.7		
	comp=Z,584nm,20.0s							
BJO1	**Bjornoya**	**135.03**	**354**	*e*PKPdf	**PKiKP**	**23 06 00.5**	**-0.1**	
SCO	**Scoresbysund**	**137.58**	**12**	IAMs_20	IAMs_20	00 04 01.5		
	comp=Z,488nm,20.0s							
HAMF	**Hammerfest**	**138.00**	**350**	*e*PKPdf	**PKPdf**	**23 06 05.9**	**+1.1**	
KEV	**Kevo**	**138.21**	**348**	IAMs_20	IAMs_20	00 04 13.6		
	comp=Z,546nm,21.0s							
DAMY	**Dhamar**	**138.52**	**257**	IAMs_20	IAMs_20	23 58 50.5		
	comp=Z,682nm,22.0s							
H10N3	**ASCENSION HYDR**	**138.62**	**154**	T	T	01 42 59.9		
	baz=205,slow=74							
H10N1	**ASCENSION HYDR**	**138.62**	**154**	T	T	01 42 34.9		
	baz=205							
H10N2	**ASCENSION HYDR**	**138.64**	**154**	T	T	01 42 41.3		
	baz=205,slow=74							
ARCES	**ARCESS Array B**	**138.67**	**348**	PKhKP	PKPpre	23 05 58.7		
	comp=Z,2.1nm,0.7s,baz=74,slow=3.1,SNR=8.4							
ARCES				PKP	**PKPdf**	**23 06 07.2**	**+1.1**	
	comp=Z,6.2nm,0.7s,baz=90,slow=0.9,SNR=8.0							
ARCES				SKPbc	**SKPbc**	**23 09 39.8**	**+0.8**	
	comp=Z,2.8nm,0.8s,baz=15,slow=3.9,SNR=3.8							
KTK1	**Kautokeino**	**139.53**	**349**	*e*PKPdf	**PKPdf**	**23 06 08.8**	**+1.1**	
TRO	**Tromso**	**139.61**	**351**	*e*pPKPdf	**PKiKP**	**23 06 09.6**	**-0.5**	
KLMR	**Klimovskoe**	**140.97**	**332**	*e*PKIKP	**PKPdf**	**23 06 09.9**	**-0.6**	
KLMR				*e*		23 09 11.9		
KLMR				pmax	pmax			
	comp=Z,19nm,0.8s							
KLMR	**Klimovskoe**	**140.97**	**332**	*e*PKPdf	**PKPdf**	**23 06 09.9**	**-0.6**	
KLMR				AMP		23 06 18.8		
	comp=Z,19nm,0.8s							
KLMR				*e*PP	**PP**	**23 09 11.9**	**+0.2**	
KLMR				LQ	LQ	00 01 22.9		
KLMR				LQ	LQ	00 01 22.9		
KLMR				LR	LR	00 01 44.5		
LOF	**Lofoten**	**141.66**	**353**	*e*PKPdf	**PKPdf**	**23 06 12.7**	**+1.2**	
MAK	**Makhachkala**	**142.25**	**302**	*e*P	**Pdif**	**23 03 28.4**	**-5.5**	
MAK				*i*		23 06 12.0		
MAK				pmax	pmax			
	comp=Z,46nm,1.1s							
KONS	**Konsvik**	**143.29**	**353**	*e*PKPdf	**PKPdf**	**23 06 15.2**	**+0.8**	
GROC	**Groznyy**	**143.47**	**303**	*e*PKIKP	**PKiKP**	**23 06 17.7**	**-1.2**	
GROC				pmax	pmax			
	comp=Z,18nm,0.7s							
VRH	**Novokhopyorsk**	**144.35**	**317**	*i* PKIKP	**PKPab**	**23 06 14.9**	**0.0**	
VRH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
TBLG	**Delisi**	**144.39**	**300**	PKIKP	PKPbc	23 06 16.1	+0.4	
TBLG	**Delisi**	**144.39**	**300**	PKPdf	PKPbc	23 06 16.1	+0.4	
MOS	**Moscow**	**144.59**	**326**	*e*PKIKP	**PKPab**	**23 06 15.1**	**-0.5**	
MOS				*e*		23 09 31.4		
MOS				pmax	pmax			
	comp=Z,41nm,0.9s							
TASB	**TASBURUN-IGDIR**	**144.88**	**297**	*e*P	PKPbc	23 06 17.7	+0.3	
ZEI	**Tsey**	**144.90**	**302**	*e*PKIKP	**PKPab**	**23 06 16.9**	**-0.6**	
ZEI				*i*		23 06 22.8		
ZEI				pmax	pmax			
	comp=Z,30nm,0.8s							
GOF	**Gofitskoye**	**145.16**	**306**	⇑*i*PKIKP	**PKPbc**	**23 06 17.9**	**-0.1**	
GOF				pmax	pmax			
	comp=Z,54nm,0.7s							
FIA1	**FINESS Array S**	**145.29**	**340**		**PKPbc**	**23 06 17.1**	**-0.8**	
FINES	**FINESS Array B**	**145.29**	**340**	PKPbc	**PKPbc**	**23 06 17.0**	**-0.9**	
	comp=Z,55nm,0.8s,baz=60,slow=4.6,SNR=156							
FINES	**FINESS Array B**	**145.29**	**340**	PKIKP	**PKPbc**	**23 06 17.0**	**-0.9**	
NSS	**Namsos

SNOP	Sinop	151.37 303	eP	PKiKP	23 06 35.6	+0.4	
TAHT	Tahtakopru-Hat	151.38 291	eP	PKiKP	23 06 36.0	+0.6	
DIKM	Dikmen	151.41 302	↑P	PKPbc	23 06 35.2	+0.3	
DIKM	Dikmen	151.41 302	eP	PKiKP	23 06 35.6	+0.3	
BNN	Bunyan	151.45 296	eP	PKPbc	23 06 35.5	+0.3	
AKASG	Malin Array Be	151.57 323	PKPbc	PKPbc	23 06 34.2	-0.6	
	comp=Z,5.0nm,0.4s,baz=47,slow=2.7,SNR=34						
AKASG	Malin Array Be	151.57 323	PKPdf	PKPdf	23 06 27.9	-0.8	
AKASG			PKPbc	PKPbc	23 06 34.3	-0.6	
AKBB	Malin Array Si	151.57 323	c iPKIKP	PKPbc	23 06 34.1	-0.8	
AKBB	Malin Array Si	151.57 323		PKPbc	23 06 34.2	-0.6	
KOZT	Kozan	151.60 293	eP	PKiKP	23 06 36.1	+0.3	
RCY	Rachaya	151.65 285	eP	PKiKP	23 06 36.9	+0.6	
CEYT	Ceyhan	151.70 292	eP	PKiKP	23 06 36.4	+0.4	
QRWL	Qaraoun	151.78 285	eP	PKiKP	23 06 36.8	+0.4	
YURE	YUREGIR	151.80 292	eP	PKiKP	23 06 35.8	-0.1	
HOMB	Homborsund	151.81 353	ePKPbc	PKPbc	23 06 35.4	+0.3	
BHL	Bhannes	151.82 286	eP	PKiKP	23 06 36.7	+0.1	
SNART	Snartemo	151.86 355	ePKPbc	PKPbc	23 06 35.2	-0.1	
DQRL	Deir Qamar	151.88 285	eP	PKiKP	23 06 37.2	+0.6	
SUW	Suwalki	152.07 334	PKIKP	PKPbc	23 06 35.7	-0.2	
SUW	Suwalki	152.07 334		PKPbc	23 06 35.6	-0.2	
SUW			IAMs_20	IAMs_20	00 15 31.0		
	comp=Z,398nm,21.0s						
CORM	Corum	152.18 299	eP	PKiKP	23 06 37.5	+0.4	
BZK	Bozkurt	152.25 303	↑P	PKPbc	23 06 36.7	0.0	
BZK	Bozkurt	152.25 303	eP	PKiKP	23 06 37.9	+0.9	
ILGA	Ilgaz	152.68 301		PKPbc	23 06 38.3	+0.3	
ILGA			IAMs_20	IAMs_20	00 21 48.8		
	comp=Z,477nm,21.0s						
MERS	Mersin	152.69 292	eP	PKiKP	23 06 40.9	+2.7	
CANT	Cankiri	152.85 301	eP	PKiKP	23 06 39.3	+0.9	
BR131	Keskin Array S	153.01 299	PKIKP	PKPbc	23 06 38.1	-0.6	
BR131	Keskin Array S	153.01 299		PKPbc	23 06 38.1	-0.6	
BRTR	Keskin Array B	153.01 299	PKPbc	PKPbc	23 06 38.1	-0.6	
	comp=Z,14nm,0.8s,baz=121,slow=3.4,SNR=44						
BRTR	Keskin Array B	153.01 299	PKIKP	PKPbc	23 06 37.9	-0.8	
BRTR	Keskin Array B	153.01 299		PKPbc	23 06 37.9	-0.8	
YAYX	Yaylak	153.01 297	eP	PKPbc	23 06 38.3	-0.4	
SERE	Sereflikochisa	153.20 297	eP	PKiKP	23 06 39.7	+0.5	
SILI	Silifke-Mersin	153.20 291	eP	PKPbc	23 06 38.3	-0.7	
YESY	Yesilyurt	153.22 294	eP	PKiKP	23 06 41.1	+1.8	
SULT	Sultanhani-AKS	153.34 295	eP	PKiKP	23 06 42.9	+3.4	
SORM	Soroca	153.48 319	↑P	PKPbc	23 06 38.6	-0.7	
SORM	Soroca	153.48 319	↑PKIKP	PKPbc	23 06 38.6	-0.6	
AFSR	Afar-Bala (An	153.49 298	eP	PKPdf	23 06 32.6	+0.6	
AKKU	Akkuyu-Mersin	153.51 291	eP	PKPbc	23 06 39.1	-0.6	
MUD	Monsted U'grnd	153.52 352	i P	PKPab	23 06 46.3	-5.1	
LFK	Lefkose	153.57 289	eP	PKiKP	23 06 40.9	+0.9	
TEVE	Tevekalti-Mers	153.58 291	eP	PKiKP	23 06 40.5	+0.4	
ANTO	Ankara	153.62 299	↓P	PKPbc	23 06 39.8	-0.1	
ANTO	Ankara	153.62 299	↓PKIKP	PKPbc	23 06 39.8	-0.1	
ANTO	Ankara	153.62 299		PKPbc	23 06 40.0	+0.1	
LOD	Lodumlu	153.64 299	eP	PKPbc	23 06 39.9	-0.1	
BR231	Keskin MP Arra	153.64 299		PKPbc	23 06 40.3	+0.3	
CSS	Mathiatis	153.75 288		PKPbc	23 06 39.7	-0.6	
BSD	Bornholm Skovb	153.75 344	i P	PKiKP	23 06 40.0	+0.4	
BERE	Bereket-Mersin	153.77 291	eP	PKPbc	23 06 40.5	+0.1	
MILM	Milestii Mici	153.84 317	↑P	PKPbc	23 06 39.8	-0.2	
TEKE	Tekeli-Mersin	153.87 291	eP	PKPbc	23 06 39.5	-1.0	
LEF	Lefka	154.10 289	↑P	PKPbc	23 06 41.0	0.0	
LEF	Lefka	154.10 289	eP	PKiKP	23 06 41.3	+0.3	
LADK	Ladik-KONYA	154.24 296	eP	PKPbc	23 06 40.6	-0.8	
LEOM	Leova	154.41 316	↑P	PKiKP	23 06 47.1	+5.8	
KIZT	Kizilcal	154.50 297	eP	PKPbc	23 06 41.9	0.0	
VASR	Vaslui	154.59 317	↑P	PKiKP	23 06 48.5	+6.8	
RGN	Rugen	154.63 345	IAMs_20	IAMs_20	00 18 02.0		
	comp=Z,376nm,20.0s						
TLCR		154.66 313	↑P	PKiKP	23 06 47.5	+5.7	
SVRH	Sivrihisar-ESK	154.66 299	eP	PKPbc	23 06 41.3	-0.9	
MDUB	Mudurnu	154.68 301	eP	PKiKP	23 06 42.7	+0.5	
MDUB	Mudurnu	154.68 301		PKPbc	23 06 42.0	-0.2	
CIFT	Cifteler, Eski	155.03 299	eP	PKPdf	23 06 42.8	+8.7	
TOPG	Topolog	155.08 313	↑P	PKPab	23 06 49.7	-8.9	
CFR	Carcaliu	155.09 314	↑P	PKPab	23 06 47.9	-11	
PRAR	RASCA	155.10 320	↓P	PKPab	23 06 49.9	-8.6	
SKMB	Sankelmark Bun	155.18 350	ePKPab	PKPab	23 06 58.9	+0.4	
	baz=22,slow=4.1						
TIRR	Tirgusor	155.24 312	↑P	PKPab	23 06 49.0	-10	
PETR	Petresti	155.39 315	↑P	PKPab	23 06 50.8	-9.0	
DBIC	Dimbokro	155.41 162	PKP	PKPdf	23 06 35.0	-0.3	
	comp=Z,3.4nm,0.8s,baz=143,slow=4.5,SNR=3.9						
DBIC	Dimbokro	155.41 162		PKPdf	23 06 35.8	+0.5	
BIZ	Bicaz	155.41 319	↑P	PKPdf	23 06 43.9	+10	
HARR	Harsova	155.45 313	↑P	PKPab	23 06 49.6	-10	
KWP	Kalwaria Pacla	155.48 327	IAMs_20	IAMs_20	00 16 02.7		
	comp=Z,477nm,21.0s						
ODBI	Odobesti	155.48 316	↑P	PKPab	23 06 51.5	-8.7	
BURAR	Bucovina Array	155.51 321	↑P	PKPab	23 06 49.8	-11	
ISP	Isparta	155.74 295	IAMs_20	IAMs_20	00 18 58.9		
	comp=Z,463nm,20.0s						
BSEG	Bad Segeberg	155.80 349	ePKPab	PKPab	23 07 01.0	-0.2	
	baz=22,slow=4.1						
OZUR		156.06 317	↑P	PKPab	23 06 56.2	-6.6	
ISR	Istrita	156.11 315	↑P	PKPab	23 06 59.5	-3.5	
ISR	Istrita	156.11 315	↑PKP2	PKPab	23 06 59.5	-3.5	
MLR	Muntele Rosu	156.29 316	↑P	PKPab	23 06 51.1	-13	
ARCR	ARCALIA	156.30 321	↑P	PKPab	23 06 52.0	-12	
DOPR	Dopca	156.36 318	↑P	PKPdf	23 06 49.8	+14	
RUE	Ruedersdorf	156.43 343	eP	PKPab	23 07 07.6	+3.7	
RUE	Ruedersdorf	156.43 343	ePKPab	PKPab	23 07 03.6	-0.3	
	baz=22,slow=4.1						
PRD	Provadia	156.44 310	eP	PKPab	23 07 10.4	+6.0	
NEF	NEVSHA	156.50 310	eP	PKPab	23 07 10.5	+5.8	
TRPA	Tarpa	156.59 325	↑P	PKPab	23 06 51.1	-14	
VOIR		156.85 317	↑P	PKPdf	23 06 41.1	+4.8	
VOIR		156.85 317	↑PKIKP	PKPdf	23 06 41.1	+4.8	
ARR	Arges	157.13 317	↑P	PKPdf	23 06 47.6	+11	
NRDL	Niedersach Rie	157.22 348	ePKPab	PKPab	23 07 06.9	-0.3	
	baz=22,slow=4.1						
LANS	Liptovska Anna	157.28 330	ePKP2	PKPab	23 07 08.2	+0.4	
LANS	Liptovska Anna	157.28 330	ePKP	PKPab	23 07 08.2	+0.4	
OKC	Ostrava-Krasne	157.28 333	ePKPDF	PKPdf	23 06 37.5	+0.9	
OKC			ex	x	23 07 20.1		
OKC			AMS	AMS	00 14 10.0		
	comp=Z,300nm,23.5s						
OKC	Ostrava-Krasne	157.28 333	ePKIKP	PKPdf	23 06 37.5	+0.9	
OKC			MLR	MLR			
	comp=Z,300nm,23.5s						
HUMR	Humele	157.37 315	↑P	PKPab	23 06 54.2	-14	
OSTC	Ostas	157.39 337	ePKPDF	PKPdf	23 06 34.7	-2.1	
OSTC			ePKPAB	PKPab	23 07 08.8	+0.5	
OSTC			ex	x	23 07 15.2		
OSTC			AMS	AMS	00 14 20.0		
	comp=Z,400nm,24.1s						
CHVC	Chvalec	157.42 337	ePKPAB	PKPab	23 07 07.7	-0.7	
CHVC			ex	x	23 07 14.4		
CHVC			AMS	AMS	00 18 30.0		
	comp=Z,400nm,22.3s						
COPA	Copaceanca	157.42 314	↑P	PKPab	23 06 57.2	-11	
ASSE	Asse, Remlinge	157.46 347	ePKPab	PKPab	23 07 08.1	-0.2	
	baz=22,slow=4.1						
UPC	Upice	157.50 337	ePKPAB	PKPab	23 07 08.7	0.0	
UPC			epPKP	pPKPab	23 07 14.7	-1.2	
UPC			AMS	AMS	00 14 30.0		
	comp=Z,500nm,29.5s						
UPC	Upice	157.50 337	ePKP2	PKPab	23 07 08.7	0.0	
UPC			MLR	MLR			
	comp=Z,500nm,29.5s						
DPC	Dobruska-Polom	157.53 336	ePKPDF	PKPdf	23 06 33.3	-3.7	
DPC			ePKPAB	PKPab	23 07 09.2	+0.3	
DPC			epPKP	pPKPab	23 07 15.1	-1.0	
DPC			ex	x	23 07 22.2		
DPC			AMS	AMS	00 14 40.0		
	comp=Z,400nm,25.0s						
DPC	Dobruska-Polom	157.53 336	ePKIKP	PKPdf	23 06 33.3	-3.7	
DPC			MLR	MLR			
	comp=Z,400nm,25.0s						
MORC	Moravsky Berou	157.56 334	ePKP	PKPdf	23 06 38.1	+1.0	
MORC	Moravsky Berou	157.56 334	eP	PKPab	23 07 04.7	-4.4	
MORC	Moravsky Berou	157.56 334	IAMs_20	IAMs_20	00 19 31.2		
	comp=Z,373nm,20.0s						
CLL	Collm	157.69 343	ePKPdf	PKPdf	23 06 38.0	+0.9	
CLL			epPKPdf	pPKPdf	23 06 45.0	+0.5	
CLL			ePKPdiff	sPKPdf	23 06 54.0	+7.0	
CLL			i PKPab	PKPab	23 07 08.7	-0.8	
	comp=Z,14nm,0.9s						
CLL			i pPKPab	pPKPab	23 07 14.1	-2.6	
	comp=Z,48nm,1.0s						
CLL			i		23 07 21.7		
CLL			ePP	PP	23 10 51.0	+2.6	
CLL			ePSKS		23 21 06.0		
CLL			ePPS	PPS	23 24 07.0		
CLL			eSS	SS	23 30 47.0	+3.6	
CLL			e		23 32 54.0		
CLL			eSSS	SSS	23 36 49.0		
CLL			eSSSS		23 40 55.0		
CLL	Collm	157.69 343	ePKIKP	PKPdf	23 06 38.0	+0.9	
CLL			pmax	pmax			
	comp=Z,14nm,0.9s						
CLL	Collm	157.69 343	IAMs_20	IAMs_20	00 17 55.0		
	comp=Z,427nm,22.0s						
IBBN	Ibbenburen	157.76 352	ePKPab	PKPab	23 07 09.5	-0.2	
	baz=22,slow=4.1						
CLZ	Clausthal	157.79 347	ePKPab	PKPab	23 07 09.8	-0.2	
	baz=22,slow=4.1						
BRG	Berggiesshubel	157.83 341	ePKP	PKPdf	23 06 45.9	+8.6	
	comp=Z,3.1nm,1.0s						
BRG	Berggiesshubel	157.83 341	i PKP	PKPab	23 07 15.3	+5.2	
BRG			SS	SS	23 30 44.0	-0.9	
BRG	Berggiesshubel	157.83 341	ePKIKP	PKPdf	23 06 45.9	+8.6	
BRG			pmax	pmax			
	comp=Z,3.0nm,1.0s						
BRG	Berggiesshubel	157.83 341	ePKPab	PKPab	23 07 09.7	-0.4	
	baz=22,slow=4.1						
PVCC	Panska Ves	157.95 339	ePKPAB	PKPab	23 07 10.5	-0.1	
PVCC			epPKP	pPKPab	23 07 16.8	-1.0	
PVCC			ex	x	23 07 32.8		
PVCC			AMS	AMS	00 14 50.0		
	comp=Z,500nm,22.6s						
PVCC	Panska Ves	157.95 339	ePKP2	PKPab	23 07 10.5	-0.1	
PVCC			MLR	MLR			
	comp=Z,500nm,22.6s						
FBE	Freiberg	157.95 342	ePKPab	PKPab	23 07 10.5	-0.1	
	baz=22,slow=4.1						
PSZ	Piszkesteto	158.00 328	↑P	PKPab	23 07 10.0	-1.1	
PSZ	Piszkesteto	158.00 328	PKP2	PKPab	23 07 10.9	-0.2	
PSZ	Piszkesteto	158.00 328	PKPab	PKPab	23 07 10.9	-0.2	
PSZ			IAMs_20	IAMs_20	00 17 37.5		
	comp=Z,462nm,22.0s						
VYHS	Vyhne	158.05 330	ePKP2	PKPab	23 07 11.2	0.0	
VYHS	Vyhne	158.05 330	ePKP	PKPab	23 07 11.2	0.0	
NEUB	Neuenburg	158.09 344	ePKPab	PKPab	23 07 10.7	-0.4	
	baz=22,slow=4.1						
GTTG	Gottingen	158.15 347	ePKPab	PKPab	23 07 11.2	-0.3	
	baz=22,slow=4.1						
PLVB	Pleven	158.17 313	↑P	PKPab	23 07 11.4	-0.5	
JAVC	Velka Javorina	158.25 332	ePKP	PKPdf	23 06 39.5	+1.5	
JAVC	Velka Javorina	158.25 332	eP	PKPab	23 07 13.0	+0.9	
VRAC	Vranov	158.30 335	↑P	PKPab	23 07 12.2	0.0	
VRAC	Vranov	158.30 335	ePKP	PKPdf	23 06 40.6	+2.6	
VRAC	Vranov	158.30 335	eP	PKPab	23 07 12.4	+0.2	
VRAC	Vranov	158.30 335	↑PKP2	PKPab	23 07 12.2	0.0	
PRA	Prague	158.39 339	ePKPAB	PKPab	23 07 12.7	+0.2	
PRA			AMS	AMS	00 17 00.0		
	comp=Z,300nm,22.7s						
PRA	Prague	158.39 339	ePKP2	PKPab	23 07 12.7	+0.2	
PRA			MLR	MLR			
	comp=Z,300nm,22.7s						
GOPC	GO Pecny, Ondr	158.42 338	ePKPDF	PKPdf	23 06 36.1	-2.0	
GOPC			epPKP	pPKPab	23 07 18.6	-1.3	
GOPC			ex	x	23 07 25.5		
GOPC	GO Pecny, Ondr	158.42 338	ePKIKP	PKPdf	23 06 36.1	-2.0	
PRU	Pruhonice	158.43 339	ePKPDF	PKPdf	23 06 36.1	-2.0	
PRU			ePKPAB	PKPab	23 07 12.6	-0.1	
PRU			ex	x	23 07 25.7		
PRU			AMS	AMS	00 17 20.0		
	comp=Z,600nm,23.5s						
PRU	Pruhonice	158.43 339	ePKIKP	PKPdf	23 06 36.1	-2.0	
PRU			e		23 07 12.6		
PRU			MLR	MLR			
	comp=Z,600nm,23.5s						
KRUC	Moravsky	158.58 334	ePKP	PKPdf	23 06 40.8	+2.5	
KRUC	Moravsky	158.58 334	eP	PKPab	23 07 13.3	-0.1	
SMOL	Smolenice	158.62 332	ePKP2	PKPab	23 07 14.0	+0.4	
SMOL	Smolenice	158.62 332	ePKP	PKPab	23 07 14.0	+0.4	
MOX	Moxa	158.65 344	ePKPab	PKPab	23 07 13.2	-0.4	
	baz=22,slow=4.1						
TANN	Tannenbergstha	158.65 342	ePKPab	PKPab	23 07 13.5	-0.2	
	baz=22,slow=4.1						
PLN	Plauen	158.66 343	ePKPab	PKPab	23 07 13.4	-0.3	
	baz=22,slow=4.1						
BUG	Bochum--Univer	158.67 352	ePKPab	PKPab	23 07 13.9	+0.3	
	baz=22,slow=4.1						
TREC	Trest	158.71 336	AMS	AMS	00 21 00.0		
	comp=Z,400nm,22.6s						
GUNZ	Gunzen	158.73 343	ePKPab	PKPab	23 07 13.9	-0.1	
	baz=22,slow=4.1						
KARP	Karpathos	158.74 291	IAMs_20	IAMs_20	00 25 37.9		
	comp=Z,533nm,22.0s						
WERN	Wernitzgruen	158.79 342	ePKPab	PKPab	23 07 14.3	0.0	
	baz=22,slow=4.1						
MODS	Modra-Piesok	158.79 332	ePKP2	PKPab	23 07 14.6	+0.2	
MODS	Modra-Piesok	158.79 332	ePKP	PKPab	23 07 14.6	+0.2	
NKC	Novy Kostel	158.82 342	ePKPAB	PKPab	23 07 14.4	0.0	
NKC			epPKP	pPKPab	23 07 19.5	-2.1	
NKC			ex	x	23 07 28.8		
NKC			AMS	AMS	00 22 00.0		
	comp=Z,400nm,19.8s						
NKC	Novy Kostel	158.82 342	ePKIKP	PKPdf	23 06 33.3	-5.3	
NKC			e		23 07 14.4		
NKC			MLR	MLR			
	comp=Z,400nm,19.8s						
UBBA	Unterbreizbach	158.84 347	ePKPab	PKPab	23 07 13.8	-0.5	
	baz=22,slow=4.1						
MANZ	Manzenberg	159.13 342	ePKPab	PKPab	23 07 15.6	-0.2	
	baz=22,slow=4.1						
MDVR	Moldovita	159.16 319	↑P	PKPab	23 07 10.2	-6.0	
ROTZ	Rotzenmuhle	159.31 342	ePKPab	PKPab	23 07 16.6	+0.1	
	baz=22,slow=4.1						
VTS	Vitosha	159.43 312	↑P	PKPab	23 07 08.8	-8.7	
VTS	Vitosha	159.43 312	eP	PKPab	23 07 21.7	+4.1	
VTS	Vitosha	159.43 312	PKP2	PKPab	23 07 17.9	+0.3	
VTS	Vitosha	159.43 312	PKPab	PKPab	23 07 17.9	+0.3	
KHC	Kasperske Hory	159.49 339	ePKPDF	PKPdf	23 06 38.9	-0.5	
KHC			ePKPAB	PKPab	23 07 16.5	-0.9	
KHC			epPKP	pPKPab	23 07 23.3	-1.3	
KHC			ex	x	23 07 30.7		
KHC			AMS	AMS	00 18 50.0		
	comp=Z,600nm,23.5s						
KHC	Kasperske Hory	159.49 339	ePKIKP	PKPdf	23 06 38.9	-0.5	
KHC			e		23 07 16.5		
KHC			MLR	MLR			
	comp=Z,600nm,23.5s						
UCC	Uccle	159.56 357	IAMs_20	IAMs_20	00 23 48.0		
	comp=Z,403nm,20.0s						
AHRW	Bad Neuenahr-A	159.58 352	ePKPab	PKPab	23 07 17.4	-0.2	
	baz=22,slow=4.1						
GRA1	Grafenberg Arr	159.63 344		PKPab	23 07 17.9	0.0	
GRA1			IAMs_20	IAMs_20	00 18 44.2		
	comp=Z,427nm,21.0s						
GRF	Grafenberg Arr	159.63 344	PKP2	PKPab	23 07 17.9	0.0	
GRF	Grafenberg Arr	159.63 344	ePKPab	PKPab	23 07 18.0	+0.1	
	baz=22,slow=4.1						
WET	Wettzell	159.68 340	ePKPab	PKPab	23 07 18.2	0.0	
	baz=22,slow=4.1						
TNS	Taunus Mts	159.69 349	ePKPab	PKPab	23 07 17.8	-0.5	
	baz=22,slow=4.1						
BSTI	Sart Tilman	159.69 354	PKPab	PKPab	23 07 17.6	-0.5	
GEC2	GERESS Array S	159.70 338	PKPdf	PKPdf	23 06 41.0	+1.3	
GEC2			PKPab	PKPab	23 07 17.9	-0.5	
GEC2			IAMs_20	IAMs_20	00 19 45.3		
	comp=Z,550nm,22.0s						
GERES	GERESS Array B	159.70 338	PKP	PKPdf	23 06 38.4	-1.3	
	comp=Z,0.9nm,0.9s,baz=54,slow=2.3,SNR=5.4						
GERES			PKPab	PKPab	23 07 16.6	-1.8	
	comp=Z,3.5nm,0.8s,baz=45,slow=4.0,SNR=9.1						
GERES	GERESS Array B	159.70 338	PKIKP	PKPdf	23 06 39.4	-0.3	
GERES					23 07 17.1		
GERES	GERESS Array B	159.70 338	PKPdf	PKPdf	23 06 39.4	-0.3	
GERES				PKPab	23 07 17.1	-1.3	
BCLA	Clavier	159.88 355	PKPab	PKPab	23 07 19.0	+0.1	
BHOU	Houvegnez	159.88 354	PKPab	PKPab	23 07 19.1	+0.1	
BGES	Gesves	159.93 355	PKPab	PKPab	23 07 19.0	-0.1	
SANT	Santorini	159.98 293	IAMs_20	IAMs_20	00 24 54.2		
	comp=Z,407nm,21.0s						
BMRD	Maredsous	160.03 356	PKPab	PKPab	23 07 20.5	+0.9	
DOU	Dourbes	160.25 356	PKPab	PKPab	23 07 21.1	+0.6	
MOA	Molln	160.37 336	i PKPab	PKPab	23 07 21.4	+0.2	
	comp=Z,22nm,1.2s						
ARSA	Arzberg	160.40 333	i PKPab	PKPab	23 07 21.5	+0.1	
	comp=Z,16nm,1.4s						
WLF	Walferdange	160.55 353	PKPab	PKPab	23 07 22.5	+0.6	
WLF	Walferdange	160.55 353	ePKPab	PKPab	23 07 22.0	+0.1	
	baz=22,slow=4.1						
STU	Stuttgart	160.95 346	ePKPab	PKPab	23 07 24.2	+0.6	
	baz=22,slow=4.1						
RJOB	Jochberg	160.96 338	ePKPab	PKPab	23 07 22.8	-1.0	
	baz=22,slow=4.1						
FUR	Furstenfeldbru	161.02 342	ePKPab	PKPab	23 07 24.0	0.0	
	baz=22,slow=4.1						
SOKA	Soboth	161.06 333	i PKPab	PKPab	23 07 24.2	-0.2	
	comp=Z,20nm,1.2s,SNR=4.8						
KBA	Koelnbreinsper	161.35 336	i PKPab	PKPab	23 07 27.8	+2.0	
	comp=Z,16nm,0.7s						
BFO	Black Forest	161.54 348	PKP2	PKPab	23 07 26.1	-0.2	
BFO	Black Forest	161.54 348	PKPab	PKPab	23 07 26.1	-0.2	
BFO	Black Forest	161.54 348	ePKPab	PKPab	23 07 25.7	-0.6	
	baz=22,slow=4.1						
MYKA	Terra Mystica	161.63 335	i PKPab	PKPab	23 07 26.1	-0.8	
	comp=Z,19nm,0.8s						
WATA	Walderalm	161.69 340	i PKPab	PKPab	23 07 27.3	+0.2	
	comp=Z,31nm,0.9s,SNR=5.7						
WTTA	Wattenberg	161.74 340	i PKPab	PKPab	23 07 27.3	-0.1	
	comp=Z,25nm,0.8s,SNR=5.5						
UBR	Ueberruh	161.77 343	ePKPab	PKPab	23 07 27.0	-0.4	
	baz=22,slow=4.1						
RETA	Reutte	161.78 342	i PKPab	PKPab	23 07 27.8	+0.3	
	comp=Z,39nm,1.0s,SNR=6.1						
MOTA	Moosalm	161.82 341	i PKPab	PKPab	23 07 27.2	-0.5	
	comp=Z,54nm,0.9s,SNR=7.6						
PRED	Cave del Predi	161.82 335	PKPab	PKPab	23 07 26.2	-1.4	
SQTA	Sankt Quirin	161.90 341	i PKPab	PKPab	23 07 28.5	+0.4	
	comp=Z,41nm,1.0s						
ABTA	Abfaltersbach	161.92 337	i PKPab	PKPab	23 07 27.5	-0.6	
	comp=Z,38nm,1.2s						
ZOU	Zoufplan	161.93 336		PKPab	23 07 27.4	-0.9	
DAVA	Damuels	162.19 343	i PKPab	PKPab	23 07 29.5	+0.1	
	comp=Z,54nm,1.2s,SNR=4.8						
FETA	Feichten	162.22 341	i PKPab	PKPab	23 07 30.8	+1.3	
	comp=Z,30nm,0.9s,SNR=4.3						
FUORN	Ofenpass-Fuorn	162.71 342	PKPab	PKPab	23 07 31.9	+0.1	
CTI	Castel Tesino	162.82 338	PKP2	PKPab	23 07 30.5	-1.6	
CTI	Castel Tesino	162.82 338	PKPab	PKPab	23 07 30.5	-1.6	
TOA0	Torodi Ar. Sit	162.83 177	PKPdf	PKPdf	23 06 44.0	+0.1	
TOA0			PKPab	PKPab	23 07 34.3	+1.6	
TORD	Torodi Ar. Bea	162.83 177	PKP	PKPdf	23 06 44.2	+0.3	
	comp=Z,2.3nm,1.0s,baz=36,slow=0.6,SNR=7.5						
TORD			PKPab	PKPab	23 07 35.3	+2.7	
	comp=Z,4.9nm,0.7s,baz=191,slow=2.9,SNR=7.9						
PMOZ	Porto Moniz, M	163.00 77	eLR	LR	00 01 11.7		
	comp=Z,391nm,18.0s						
TUE	Stuetta	163.09 344		PKPab	23 07 33.1	-0.2	
SALO	Salr	163.56 340	PKPab	PKPab	23 07 34.5	-0.8	
OSSC	Osservatorio P	165.17 335		PKPab	23 07 42.2	-0.2	
TIP	Timpagrande	165.41 311	↑P	PKPab	23 07 48.9	+5.1	
PGAV	Gavieira, Arco	165.53 34	eSS	SS	23 32 20.3	+14	
PGAV	Gavieira, Arco	165.53 34	eLR	LR	00 03 54.0		
	comp=Z,537nm,18.0s						
PCAB	Cabit	165.84 34	ePKP	PKPdf	23 06 52.9	+7.0	
PVIS	Viseu	166.65 37	ePKP	PKPdf	23 06 54.9	+8.3	
COI	Coimbra	166.74 39	eSS	SS	23 32 34.2	+16	
MVO	Moncorvo	166.74 33	ePKP	PKPdf	23 06 55.6	+9.0	
MVO	Moncorvo	166.74 33	eSS	SS	23 32 26.0	+7.6	
MVO	Moncorvo	166.74 33	eLR	LR	00 04 24.5		
	comp=Z,516nm,20.0s						
PCAS	Casmilo, Conde	166.79 40	eSS	SS	23 32 35.8	+17	
PMAFR	Mafra	167.05 46	eSS	SS	23 32 34.5	+12	
LIS	Lisbon	167.28 46	ePKPdf	PKPdf	23 06 47.3	+0.3	
PCBR	Castelo Branco	167.50 38	ePKP	PKPdf	23 06 55.9	+8.8	
PMTG	Montargil	167.61 43	ePKP	PKPdf	23 06 57.3	+10	
PMRV	Marv??o	167.84 39	eLR	LR	00 00 42.9		
	comp=Z,566nm,20.0s						
PNCL	Nicolau / Gran	168.03 47	eSS	SS	23 32 57.4	+25	
MESJ	Messejana	168.39 47	ePKPdf	PKPdf	23 06 48.3	+0.5	
MORF	Marmelete	168.41 50	ePKPdf	PKPdf	23 06 48.2	+0.3	
PBEJ	Beja	168.50 46	eP

LIA	**Limnos Island**	**0.29**	**162**	P	Pg	23 04 13.9	+0.2
LIA				S	Sg	23 04 18.0	0.0
LIA				AML	AML	23 04 18.4	
	comp=N,253μm,0.1s						
LIA				AML	AML	23 04 18.4	
	comp=E,481μm,0.2s						
SMTH	**Samothraki Isl**	**0.46**	**50**	P	Pg	23 04 16.5	-0.2
SMTH				S	Sg	23 04 22.9	-0.1
THAS	**Thassos island**	**0.50**	**329**	P	Pb	23 04 17.7	-0.2
THAS				S	Sg	23 04 24.2	0.0
THAS				AML	AML	23 04 25.7	
	comp=N,80μm,0.1s						
THAS				AML	AML	23 04 25.9	
	comp=E,74μm,0.1s						
KAVA	**Kavala**	**0.92**	**333**	P	Pn	23 04 25.6	-0.1
KAVA				S	Sg	23 04 37.5	+0.1
RDO	**Rodhopi**	**1.03**	**20**	P	Pb	23 04 26.7	-0.2
ALN	**Alexandroupoli**	**1.04**	**46**	P	Pb	23 04 27.1	+0.1
ALN				S	Sn	23 04 41.7	+0.2
SIGR	**SIGRI**	**1.14**	**147**	P	Pb	23 04 28.9	+0.1
PLG	**Polygyros**	**1.25**	**280**	P	Pn	23 04 30.5	+0.2

*IDC **25** 23:43:49.7±1.0, 30.′05S×177.′32W, h0km, mb4.3/5, mb1 4.5/6, mb1mx4.1/31, mbtmp4.4/6, ML4.5/1, MS3.8/3, Ms1 3.8/3, ms1mx3.3/24, Error ellipse: s-maj=30.2km s-min=16.0km az=69.0*

*NEIC **25** 23:43:51.2±1.5, 30.′13S±0.′05×177.′3W±0.′2, h15km±5km, mb4.6/14, Error ellipse: s-maj=19.5km s-min=6.0km az=81.0*

ISC 25 23:43:54.7±0.6, 30.′22S±0.′06×177.′4W±0.′1, h35km, n72, σ1s77/66, mb4.7/11, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.06**	**335**	Pn	**Pn**	**23 44 11.2**	**-1.9**
	927nm,0.3s,baz=185,slow=9.5,SNR=24						
RAO				Sn	**Sn**	**23 44 25.4**	**-1.1**
	4μm,0.3s,baz=153,slow=22,SNR=15						
RAO				LR	LR	23 44 37.5	
	comp=Z,992nm,18.1s,baz=128,slow=50						
RAO	**Raoul Island**	**1.06**	**335**		**Pn**	**23 44 11.1**	**-1.9**
RAO				Sn	**Sn**	**23 44 24.6**	**-2.0**
PKGZ	**Pakihiroa**	**8.52**	**205**	P	**Sn**	**23 47 26.2**	**-4.3**
BKZ	**Black Stump Fm**	**10.24**	**208**	Pn	**Pn**	**23 46 18.0**	**-1.2**
DVHZ	**Dannevirke**	**11.34**	**206**	P	Pn	23 46 41.3	+7.0
POWZ	**Post Office Ro**	**11.58**	**207**	P	**Pn**	**23 46 39.8**	**+2.3**
PRWZ	**Pori Road**	**11.64**	**206**	P	**Pn**	**23 46 38.2**	**-0.1**
BFZ	**Birch Farm**	**11.65**	**205**	P	**Pn**	**23 46 39.5**	**+1.1**
TIWZ	**Tintock**	**11.86**	**206**	P	**Pn**	**23 46 39.1**	**-2.3**
CPWZ	**Castlepoint**	**11.87**	**204**	P	**Pn**	**23 46 41.7**	**+0.4**
MRZ	**Mangatainoka R**	**11.88**	**207**	P	**Pn**	**23 46 39.9**	**-1.7**
HOWZ	**Holdsworth Sta**	**12.11**	**206**	P	**Pn**	**23 46 42.1**	**-2.6**
TMWZ	**Te Maipa**	**12.15**	**205**	P	**Pn**	**23 46 43.2**	**-2.1**
OGWZ	**Otaki Gorge**	**12.18**	**208**	P	**Pn**	**23 46 45.1**	**-0.5**
MTW	**Mount Morrison**	**12.34**	**206**	P	**Pn**	**23 46 45.0**	**-2.8**
CAW	**Cannon Point**	**12.46**	**207**	P	**Pn**	**23 46 47.8**	**-1.8**
TRWZ	**Traveller**	**12.48**	**205**	P	**Pn**	**23 46 47.4**	**-2.4**
PAWZ	**Paruwai Farm**	**12.56**	**206**	P	**Pn**	**23 46 48.7**	**-2.2**
MSWZ	**Moikau Station**	**12.66**	**206**	P	**Pn**	**23 46 49.0**	**-3.2**
PLWZ	**Palliser**	**12.79**	**206**	P	**Pn**	**23 46 50.8**	**-3.2**
TCW	**Tory Channel**	**12.88**	**209**	P	**Pn**	**23 46 55.8**	**+0.7**
TUWZ	**Tuamarina**	**13.20**	**210**	P	**Pn**	**23 46 60.0**	**+0.4**
GVZ	**Greta Valley S**	**14.85**	**208**	P	**Pn**	**23 47 20.2**	**-1.9**
LTZ	**Lake Taylor**	**15.02**	**211**	P	**Pn**	**23 47 25.3**	**+0.9**
OXZ	**Oxford**	**15.56**	**210**	P	**Pn**	**23 47 28.5**	**-2.9**
RPZ	**Rata Peaks**	**16.30**	**211**	Pn	**Pn**	**23 47 40.1**	**-0.8**
	1.9nm,0.3s,baz=234,slow=21,SNR=2.0						
RPZ				Sn	Sn	23 50 27.1	-14
	0.7nm,0.3s,baz=35,slow=9.9,SNR=2.6						
RPZ	**Rata Peaks**	**16.30**	**211**	P	**Pn**	**23 47 40.2**	**-0.8**
RPZ	**Rata Peaks**	**16.30**	**211**		**Pn**	**23 47 40.0**	**-1.0**
RPZ				IAmb	IAmb	23 47 46.8	
	comp=Z,28nm,1.1s						
DZM	**Mont Dzumac**	**16.60**	**295**	Pn	**P**	**23 47 49.9**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=96,slow=14,SNR=5.1						
DZM				LR	LR	23 52 26.4	
	comp=Z,271nm,18.8s,baz=34,slow=31						
RAR	**Rarotonga**	**18.23**	**65**	LR	LR	23 52 39.4	
	comp=Z,195nm,21.8s,baz=250,slow=29						
EIDS	**Eidsvold**	**28.24**	**272**	P	**P**	**23 49 44.8**	**+0.2**
EIDS				IAmb	IAmb	23 49 57.9	
	comp=Z,4.8nm,0.8s						
PPTF	**Pamatai, Papee**	**28.31**	**70**	P	**P**	**23 49 43.1**	**-2.1**
CTAO	**Charters Tower**	**34.27**	**279**	P	**P**	**23 50 38.6**	**+0.9**
STKA	**Stephens Creek**	**35.02**	**257**	P	**P**	**23 50 45.5**	**+1.5**
	comp=Z,3.0nm,0.3s,baz=82,slow=13,SNR=8.9						
STKA				LR	LR	00 03 43.3	
	comp=Z,227nm,18.3s,baz=192,slow=34						
STKA	**Stephens Creek**	**35.02**	**257**	P	**P**	**23 50 45.2**	**+1.1**
BBOO	**Buckleboo**	**39.51**	**254**	P	**P**	**23 51 22.2**	**+0.1**
BBOO				IAmb	IAmb	23 51 31.3	
	comp=Z,17nm,1.0s						
AS31	**Alice Springs**	**43.63**	**266**	P	**P**	**23 51 56.4**	**+0.3**
ASAR	**Alice Springs**	**43.63**	**266**	P	**P**	**23 51 56.2**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=105,slow=7.3,SNR=20						
ASAR	**Alice Springs**	**43.63**	**266**	P	**P**	**23 51 56.0**	**0.0**
WB2	**Warramunga Arr**	**44.59**	**272**	P	**P**	**23 52 03.1**	**-0.6**
WB2				IAmb	IAmb	23 52 07.4	
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**44.60**	**272**	P	**P**	**23 52 04.4**	**+0.6**
	comp=Z,5.2nm,0.3s,baz=110,slow=8.1,SNR=61						
WRA	**Warramunga Arr**	**44.60**	**272**	P	**P**	**23 52 03.3**	**-0.6**
WB0	**Warramunga Arr**	**44.62**	**272**	P	**P**	**23 52 04.2**	**+0.1**
WB0				IAmb	IAmb	23 52 16.1	
	comp=Z,9.7nm,0.8s						
VNDA	**Vanda**	**48.33**	**186**	P	**P**	**23 52 33.4**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=14,slow=5.2,SNR=2.4						
VNDA	**Vanda**	**48.33**	**186**	P	**P**	**23 52 33.2**	**+0.9**
FITZ	**Fitzroy Crossi**	**52.87**	**269**	P	**P**	**23 53 07.2**	**-0.1**
FITZ				IAmb	IAmb	23 53 16.6	
	comp=Z,16nm,1.4s						
CASY	**Casey**	**55.54**	**208**	P	**P**	**23 53 25.5**	**-0.6**
CASY				IAmb	IAmb	23 53 39.1	
	comp=Z,7.1nm,0.8s						
QSPA	**South Pole Qui**	**59.90**	**180**	P	**P**	**23 53 59.0**	**+2.1**
	comp=Z,6.5nm,1.0s,baz=16,slow=4.1,SNR=16						
QSPA	**South Pole Qui**	**59.90**	**180**	P	**P**	**23 53 58.1**	**+1.2**
SNAA	**Sanae**	**78.33**	**178**	P	**P**	**23 55 52.3**	**+1.3**
VNA3	**Neumayer Olymp**	**78.45**	**176**	P	**P**	**23 55 51.8**	**+0.2**
VNA2	**Neumayer--Watz**	**78.89**	**177**	P	**P**	**23 55 54.8**	**+0.8**
VNA1	**Neumayer--Stat**	**79.12**	**176**	P	**P**	**23 55 55.9**	**+0.7**
H03S2	**Juan Fernandez**	**80.14**	**123**	T	T	01 25 19.5	
	baz=238,slow=74,SNR=14						
H03S1	**Juan Fernandez**	**80.15**	**123**	T	T	01 25 20.0	
	baz=238,slow=74,SNR=14						
H03S3	**Juan Fernandez**	**80.16**	**123**	T	T	01 25 21.9	
	baz=238,slow=74,SNR=17						
H03N3	**Juan Fernandez**	**80.33**	**123**	T	T	01 25 29.6	
	baz=242,slow=72,SNR=12						
H03N2	**Juan Fernandez**	**80.33**	**123**	T	T	01 25 29.8	
	baz=242,slow=72,SNR=11						
H03N1	**Juan Fernandez**	**80.35**	**123**	T	T	01 25 34.8	
	baz=242,slow=72,SNR=16						
MKAR	**Makanchi Array**	**118.04**	**310**	PKP	**PKPdf**	**00 02 36.0**	**-1.6**
	comp=Z,0.1nm,0.4s,baz=132,slow=2.1,SNR=1.2						
MKAR	**Makanchi Array**	**118.04**	**310**		**PKPdf**	**00 02 35.7**	**-1.9**
FINES	**FINESS Array B**	**145.14**	**340**	PKPbc	**PKPbc**	**00 03 26.6**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=69,slow=7.6,SNR=23						
FINES	**FINESS Array B**	**145.14**	**340**		**PKPbc**	**00 03 26.8**	**-0.6**
KBZ	**Khabaz**	**145.43**	**304**	PKPbc	**PKPab**	**00 03 29.8**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=149,slow=11,SNR=1.8						
NB2	**NORSAR Subarra**	**148.64**	**352**	PKP	**PKPab**	**00 03 41.7**	**+0.6**
	comp=Z,4.1nm,1.4s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**148.64**	**352**	PKPbc	**PKPbc**	**00 03 37.1**	**-0.4**
	comp=Z,1.2nm,1.0s,baz=14,slow=4.2,SNR=3.2						
AKASG	**Malin Array Be**	**151.46**	**323**	PKPbc	**PKPbc**	**00 03 44.1**	**-0.5**
	comp=Z,2.4nm,0.5s,baz=49,slow=2.7,SNR=4.0						
AKASG	**Malin Array Be**	**151.46**	**323**		**PKPbc**	**00 03 44.3**	**-0.3**
BRTR	**Keskin Array B**	**152.96**	**299**	PKPbc	**PKiKP**	**00 03 49.3**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=272,slow=39,SNR=1.3						
BRG	**Berggiesshubel**	**157.68**	**341**	*e*PKP	**PKPab**	**00 04 25.6**	**+6.2**
	comp=Z,2.3nm,0.9s						
BRG				*i*		00 04 32.1	
	comp=Z,3.9nm,1.1s						
GERES	**GERESS Array B**	**159.56**	**339**	PKPab	**PKPab**	**00 04 26.7**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=24,slow=5.5,SNR=1.7						
TORD	**Torodi Ar. Bea**	**163.00**	**177**	PKPab	**PKPab**	**00 04 44.7**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=170,slow=3.9,SNR=1.5						

IDC 26 00:06:57.1±3.8, 6.′06S×154.′13E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/30, mbtmp3.5/3, Error ellipse: s-maj=139.0km s-min=40.0km az=116.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.67**	**232**	P	P	00 12 10.6	0.0
	0.6nm,0.5s,baz=56,slow=9.6,SNR=2.2						
ASAR	**Alice Springs**	**26.17**	**226**	P	P	00 12 33.3	-0.2
	0.4nm,0.7s,baz=57,slow=10,SNR=2.6						
MKAR	**Makanchi Array**	**82.14**	**319**	P	P	00 19 20.2	+0.3
	0.3nm,0.7s,baz=112,slow=5.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**151.94**	**287**	PKPbc	PKPbc	00 26 55.0	-0.3
	0.3nm,0.5s,baz=73,slow=2.5,SNR=6.0						

*MOS **26** 00:12:19.2±1.0, 9.′47S×118.′23E, h44km, mb5.3/64, Error ellipse: s-maj=8.5km s-min=4.3km az=117.3*

*BJI **26** 00:12:22.0±0.0, 9.′80S×118.′20E, h80km, mB5.1/40, mb5.2/64, Ms4.4/27, Ms7 4.2/28*

*UNK **26** 00:12:22.9, 9.′66S×118.′11E, h67km*

*IDC **26** 00:12:23.5±2.1, 9.′53S×118.′17E, h67km±19km, mb4.6/28, mb1 4.7/31, mb1mx4.7/37, mbtmp4.9/31, MS3.9/24, Ms1 3.9/24, ms1mx3.8/32, Error ellipse: s-maj=13.3km s-min=8.9km az=60.0*

*NEIC **26** 00:12:23.6±1.9, 9.′64S±0.′06×118.′15E±0.′05, h73km±4km, mb5.1/98, Error ellipse: s-maj=8.8km s-min=7.5km az=192.0*

*DJA **26** 00:12:24.6±0.2, 10.′S±2.′×11.′8E±.′, h71km±3km, M5.3/43, mb5.4/43, mB5.7/30, MLv5.5/18, Mw(mB)5.2/30, Mwp5.2/2*

*GCMT **26** 00:12:24.6±0.2, 9.′76S±0.′02×118.′20E±0.′02, h103km±2km, MW5.0/105, Moment Tensor Solution. s47,c63; s105,c163; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~1.63±.16; Mθθ3.60±.16; Mϕϕ~1.97±.18; Mrθ2.96±.08; Mθϕ0.30±.15; Mϕr0.33±.11; Best double couple: Mo3.97700×10^16 NP1:ϕ1=103.00000°, δ22.00000°, λ=69.00000°. NP2:ϕ2=260.00000°, δ70.00000°, λ=98.00000°. Principal axes: T 4.9580, Plg24.0000°, Azm356.0000°; N -1.9620, Plg8.0000°, Azm263.0000°; P -2.9960, Plg64.0000°, Azm156.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*KLM **26** 00:12:25.0, 9.′82S×118.′17E, h92km, mb5.3*

ISC 26 00:12:25.9±0.2, 9.′65S±0.′03×118.′26E±0.′04, h100km, n639, σ2s93/628, mb5.0/130, 11C-18D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.94**	**330**	P	**Pn**	**00 12 44.1**	**-1.6**
PLAI				S	**Sn**	**00 12 58.1**	**-2.5**
WBSI	**Waikabubak, Su**	**1.11**	**90**	P	**Pn**	**00 12 45.6**	**-2.0**
WBSI				S	**Sn**	**00 13 00.9**	**-3.1**
WSI	**Waingapu**	**2.01**	**91**	P	**Pn**	**00 12 56.8**	**-1.7**
BASI	**Baing, Sumba**	**2.35**	**104**	P	**Pn**	**00 13 02.2**	**-0.8**
SRBI	**Singaraja**	**3.39**	**297**	P	**Pn**	**00 13 15.7**	**-1.1**
EDFI	**Ende, Flores**	**3.50**	**76**	P	**Pn**	**00 13 18.0**	**-0.4**
MMRI	**Maumere**	**4.05**	**76**	P	**Pn**	**00 13 26.3**	**+0.5**
MMRI	**Maumere**	**4.05**	**76**	Pn	**Pn**	**00 13 25.6**	**-0.2**
MMRI				Sn	**Sn**	**00 14 12.3**	**0.0**
JAGI	**Jajag, Banyuwa**	**4.22**	**286**	P	**Pn**	**00 13 25.0**	**-3.1**
JAGI	**Jajag, Banyuwa**	**4.22**	**286**	Pn	**Pn**	**00 13 24.9**	**-3.1**
KAPI	**Kappang**	**4.83**	**18**	P	**Pn**	**00 13 38.1**	**+1.7**
	114nm,0.3s,baz=195,slow=3.0,SNR=202						
KAPI				S	**Sn**	**00 14 30.5**	**-0.7**
	444nm,0.3s,baz=96,slow=20,SNR=3.6						
KAPI				LR	LR	00 15 41.8	
	comp=Z,3μm,21.5s,baz=186,slow=42						
KAPI	**Kappang**	**4.83**	**18**		**Pn**	**00 13 38.0**	**+1.6**
KAPI				Sn	**Sn**	**00 14 30.7**	**-0.5**
KMMI	**Kalianget**	**4.97**	**301**	P	**Pn**	**00 13 36.1**	**-2.1**
	1.6nm4μm330nm,1.0s						
BATI	**Baumata**	**5.35**	**96**	P	**Pn**	**00 13 43.3**	**-0.1**
	255nm,0.3s,baz=78,slow=1.2,SNR=95						
BATI				S	**Sn**	**00 14 40.4**	**-3.4**
	416nm,0.3s,baz=42,slow=21,SNR=20						
BATI				LR	LR	00 15 50.6	
	comp=Z,2μm,21.5s,baz=316,slow=38						
BATI	**Baumata**	**5.35**	**96**	P	**Pn**	**00 13 43.0**	**-0.4**
	3.7nm8μm484nm,0.5s						
BNSI	**Bone**	**5.52**	**19**	P	Pn	00 13 48.8	+3.1
	6.6nm11μm952nm,0.7s						
SPSI	**Sidrap Palu**	**5.84**	**15**	P	**Pn**	**00 13 52.0**	**+2.0**
	3.7nm7μm522nm,0.5s						
SOEI	**Soe**	**5.92**	**92**	P	**Pn**	**00 13 51.0**	**-0.3**
	3.1nm6μm433nm,0.6s						
SOEI	**Soe**	**5.92**	**92**		**Pn**	**00 13 50.8**	**-0.4**
SOEI				Sn	**Sn**	**00 14 57.3**	**-0.6**
BBSI	**Bau Bau**	**5.94**	**46**	P	Pn	00 14 02.9	+11
GRJI	**Gresik**	**6.33**	**295**	P	**Pn**	**00 13 55.7**	**-1.0**
	1.3nm5μm261nm,0.6s						
KBKI	**Kotabaru**	**6.64**	**342**	P	**Pn**	**00 14 02.1**	**+1.2**
	1.9nm7μm439nm,0.4s						
TTSI	**Tana Toraja**	**6.74**	**13**	P	Pn	00 14 05.7	+3.5
	4.9nm15μm1μm,0.6s						
NGJI	**Ngawi**	**7.10**	**288**	P	Pn	00 14 19.0	+12
WOJI	**Wonogiri, Jawa**	**7.47**	**283**	P	Pn	00 14 21.3	+9.1
UGM	**Wanagama**	**7.84**	**282**	P	Pn	00 14 31.8	+15
UGM	**Wanagama**	**7.84**	**282**		**Pn**	**00 14 13.5**	**-3.8**
UGM				Sn	**Sn**	**00 15 38.5**	**-6.0**
SMRI	**Semarang**	**8.16**	**288**	P	Pn	00 14 36.3	+15
SMRI	**Semarang**	**8.16**	**288**	Pn	**Pn**	**00 14 21.6**	**+0.1**
BKB	**Balikpapan**	**8.44**	**351**	P	Pn	00 14 31.2	+5.8
	3μm245nm,0.6s						
BKB	**Balikpapan**	**8.44**	**351**	Pn	Pn	00 14 28.3	+2.9
SMKI	**Samarinda**	**9.20**	**353**	P	Pn	00 14 39.1	+3.4
	220nm,0.5s						
MTKI	**Muara Teweh, K**	**9.27**	**339**	P	Pn	00 14 39.1	+2.4
LUWI	**Luwuk**	**9.65**	**28**	Pn	**Pn**	**00 14 42.9**	**+1.0**
MPSI	**Mapaga**	**10.05**	**9**	P	Pn	00 14 50.9	+3.6
	4μm40nm,0.7s						
CISI	**Cisompet, Garu**	**10.54**	**281**	P	**Pn**	**00 14 49.8**	**-4.2**
	6μm225nm,0.5s						
CISI	**Cisompet, Garu**	**10.54**	**281**	Pn	**Pn**	**00 14 49.4**	**-4.6**
MRSI	**Marisa**	**10.70**	**20**	P	Pn	00 14 59.7	+3.5
	2μm86nm,1.2s						
NLAI	**Namlea**	**10.84**	**55**	P	Pn	00 15 14.3	+16
LEM	**Lembang**	**10.90**	**284**	P	**Pn**	**00 14 56.6**	**-2.5**
	5.6nm,0.3s,baz=334,slow=18,SNR=2.4						
LEM				S	**Sn**	**00 16 55.4**	**-3.7**
	5.2nm,0.3s,baz=175,slow=22,SNR=1.7						
FITZ	**Fitzroy Crossi**	**11.04**	**140**	P	**Pn**	**00 14 56.9**	**-3.8**
	baz=11,SNR=592						
FITZ	**Fitzroy Crossi**	**11.04**	**140**	P	**Pn**	**00 14 57.1**	**-3.6**
	40nm,0.3s,baz=330,slow=8.9,SNR=166						
FITZ				S	Sn	00 16 50.3	-12
	76nm,0.3s,baz=178,slow=16,SNR=12						
FITZ				LR	LR	00 19 42.0	
	comp=Z,377nm,20.0s,baz=314,slow=39						
FITZ	**Fitzroy Crossi**	**11.04**	**140**	Pn	**Pn**	**00 14 57.4**	**-3.3**
MBWA	**Marble Bar**	**11.53**	**173**	Pn	**Pn**	**00 15 03.3**	**-4.1**
KNRA	**Kununurra**	**11.87**	**121**	P	**Pn**	**00 15 09.5**	**-2.3**
	baz=12,SNR=70						
KNRA	**Kununurra**	**11.87**	**121**	Pn	**Pn**	**00 15 09.5**	**-2.3**
XMIS	**Christmas Isla**	**12.44**	**265**	Pn	**Pn**	**00 15 15.9**	**-3.6**
MTN	**Manton Dam**	**13.02**	**105**	P	**Pn**	**00 15 24.0**	**-3.1**
	baz=13,SNR=128						
MTN	**Manton Dam**	**13.02**	**105**	Pn	**Pn**	**00 15 23.6**	**-3.5**
SBUM	**Sibu**	**13.44**	**333**	Pn	**P**	**00 15 34.0**	**-4.3**
SBUM	**Sibu**	**13.44**	**333**	P	**P**	**00 15 35.0**	**-3.4**
GIRL	**Giralia**	**13.49**	**196**	P	**Pn**	**00 15 30.3**	**-2.8**
	baz=13,SNR=54						
GIRL	**Giralia**	**13.49**	**196**	Pn	**Pn**	**00 15 30.2**	**-3.0**
KSM	**Kuching**	**13.59**	**324**	P	**P**	**00 15 36.5**	**-3.5**
KSM	**Kuching**	**13.59**	**324**	P	**P**	**00 15 37.0**	**-3.1**
TNTI	**Ternate**	**13.76**	**42**	P	**P**	**00 15 44.0**	**+2.1**
	89nm,0.9s						
TNTI	**Ternate**	**13.76**	**42**		**P**	**00 15 39.9**	**-2.1**
PPBI	**Pangkal Pinang**	**14.16**	**301**	P	P	00 15 56.3	+10
KASI	**Kota Agung**	**14.24**	**286**	P	**P**	**00 15 48.0**	**+0.7**
KDU	**Kakadu**	**14.27**	**104**	P	**Pn**	**00 15 40.1**	**-3.3**
	baz=14,SNR=35						
LWLI	**Liwa**	**14.81**	**287**	P	**P**	**00 15 54.2**	**+0.4**
FAKI	**Fak Fak**	**15.42**	**65**		**Pn**	**00 15 57.5**	**-0.6**
SIJI	**Sorong**	**15.60**	**57**	P	**P**	**00 16 00.2**	**-2.2**
	7.1nm,0.3s,baz=260,slow=5.0,SNR=12						
SIJI				S	**Sn**	**00 18 42.4**	**-11**
	2.0nm,0.3s,baz=359,slow=23,SNR=1.3						
KKM	**Kota Kinabalu**	**15.72**	**352**		**P**	**00 16 02.3**	**-1.5**
KKM				IAmb	IAmb	00 16 07.4	
	comp=Z,110nm,0.6s						
LHSI	**Lahat**	**15.73**	**291**	P	**P**	**00 16 04.4**	**+0.6**
	comp=Z,326nm,1.2s						
MNAI	**Manna**	**16.07**	**288**	Pn	**Pn**	**00 16 02.7**	**-3.4**
MEEK	**Meekatharra**	**16.90**	**179**	P	**P**	**00 16 14.8**	**-1.9**
	baz=17,SNR=302						
TPRI	**Tanjung Pinang**	**17.24**	**307**	P	**P**	**00 16 22.7**	**+2.2**
WRKA	**Warakurna**	**18.04**	**149**	P	**Pn**	**00 16 29.9**	**-0.3**
	baz=18,SNR=394						
MYKOM	**Kota Tinggi**	**18.30**	**308**	P	**Pn**	**00 16 31.1**	**-2.3**
MYKOM	**Kota Tinggi**	**18.30**	**308**	P	**Pn**	**00 16 35.0**	**+1.6**
KRJI	**Kerinci**	**18.31**	**293**	P	**Pn**	**00 16 33.0**	**-0.5**
	comp=Z,11μmcomp=Z,1μm,0.7s						
WB0	**Warramunga Arr**	**18.55**	**125**	P	**Pn**	**00 16 35.3**	**-1.0**
WB0				IAmb	IAmb	00 16 41.2	
	comp=Z,52nm,0.6s						
WRA	**Warramunga Arr**	**18.59**	**125**	P	**Pn**	**00 16 36.1**	**-0.7**
	comp=Z,7.4nm,0.3s,baz=298,slow=14,SNR=58						
WRA				S	S	00 19 49.2	-13
	comp=Z,8.1nm,0.3s,baz=293,slow=22,SNR=10						
WRA	**Warramunga Arr**	**18.59**	**125**	P	**Pn**	**00 16 35.8**	**-1.0**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**18.59**	**125**	P	**Pn**	**00 16 35.8**	**-1.0**
WRAB	**Tennant Creek**	**18.60**	**125**	P	**Pn**	**00 16 35.7**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,62nm,0.9s						
WRAB	**Tennant Creek**	**18.60**	**125**	P	**Pn**	**00 16 35.7**	**-1.2**
WB2	**Warramunga Arr**	**18.61**	**125**	P	**Pn**	**00 16 36.1**	**-0.9**
WR0	**Warramunga Arr**	**18.77**	**125**	P	**Pn**	**00 16 37.8**	**-1.1**
SDSI	**Sungai Dareh**	**18.85**	**296**	P	**Pn**	**00 16 39.2**	**-0.7**
	comp=Z,151nm,1.1s						
MORW	**Morawa**	**19.43**	**186**	P	**Pn**	**00 16 44.3**	**-2.3**
	baz=19,SNR=195						
MORW	**Morawa**	**19.43**	**186**		**Pn**	**00 16 45.1**	**-1.5**
MORW				IAmb	IAmb	00 17 01.4	
	comp=Z,122nm,1.2s						
TBP	**Tagbilaran**	**20.00**	**16**	*e*P	Pn	00 16 55.8	+2.5
AS31	**Alice Springs**	**20.44**	**135**	P	Pn	00 16 56.1	-2.3
ASAR	**Alice Springs**	**20.44**	**135**	P	Pn	00 16 56.4	-2.0
	comp=Z,30nm,0.4s,baz=302,slow=9.9,SNR=165						
ASAR				S	**S**	**00 20 32.4**	**-6.5**
	comp=Z,12nm,0.5s,baz=302,slow=22,SNR=6.4						
ASAR				LR	LR	00 25 12.0	
	comp=Z,335nm,19.6s,baz=309,slow=37						
ASAR	**Alice Springs**	**20.44**	**135**	P	Pn	00 16 55.9	-2.5
ASAR	**Alice Springs**	**20.44**	**135**	P	Pn	00 16 55.9	-2.6
BLDU	**Ballidu**	**20.91**	**184**	P	**P**	**00 16 59.9**	**-0.6**
	baz=21,SNR=34						
RCP	**Roxas**	**21.53**	**12**	*e*P	**P**	**00 17 08.8**	**+1.6**
KLBR	**Kellerberrin**	**21.84**	**181**	P	**P**	**00 17 10.0**	**-0.3**
	baz=22,SNR=28						
KMBL	**Kambalda**	**21.87**	**172**	P	**P**	**00 17 10.5**	**-0.1**
	baz=22,SNR=7.0						
IPM	**Ipoh**	**22.18**	**309**	P	**P**	**00 17 13.5**	**-0.6**
IPM				IAmb	IAmb	00 17 15.4	
	comp=Z,86nm,1.3s						
IPM	**Ipoh**	**22.18**	**309**	P	**P**	**00 17 13.0**	**-1.0**
MUN	**Mundaring**	**22.30**	**185**	P	**P**	**00 17 13.8**	**-1.4**
	baz=22,SNR=3.4						
RPSI	**Rantau Prapat**	**22.83**	**302**	P	**P**	**00 17 20.4**	**-0.3**
PSI	**Prapat**	**22.89**	**302**	P	**P**	**00 17 20.3**	**-1.2**
	comp=Z,49nm,0.3s,baz=180,slow=7.8,SNR=46						
PSI				LR	LR	00 27 37.4	
	comp=Z,358nm,18.2s,baz=91,slow=40						
PSI	**Prapat**	**22.89**	**302**	P	**P**	**00 17 20.4**	**-1.1**
PSI				pmax	pmax		
	comp=Z,423nm,1.5s						
FORT	**Forrest**	**22.92**	**158**	P	**P**	**00 17 21.7**	**+0.3**
	baz=23,SNR=32						
FORT	**Forrest**	**22.92**	**158**	P	**P**	**00 17 21.3**	**-0.1**

comp=Z,37nm,1.4s
CMAR Chiang Mai Arr 33.81 326 P **P 00 18 58.4 -0.3**
comp=Z,4.5nm,0.4s,baz=153,slow=6.7,SNR=22
CMAR PcP **PcP 00 21 36.3 +0.6**
comp=Z,0.7nm,0.3s,baz=164,slow=3.6,SNR=1.4
CMAR LR LR 00 33 20.9
comp=Z,290nm,19.2s,baz=219,slow=37
CHTO Chiang Mai 34.10 326 P **P 00 19 01.3 +0.1**
CHTO pmax pmax
comp=Z,51nm,1.6s
CHTO Chiang Mai 34.10 326 P **P 00 19 01.3 +0.1**
CHTO IAmb IAmb 00 19 02.8
comp=Z,51nm,1.6s
YHNB Yeheng 34.24 5 P **P 00 19 02.8 +0.4**
ARPS Mount Arapiles 34.42 145 P **P 00 19 06.0 +2.2**
baz=34,SNR=28
EIDS Eidsvold 34.86 121 P **P 00 19 10.1 +2.4**
baz=35,SNR=3.4
EIDS Eidsvold 34.86 121 P **P 00 19 09.5 +1.8**
YNG Young 36.93 136 P **P 00 19 28.1 +2.8**
baz=37,SNR=6.8
TOO Toolangi 37.09 143 P **P 00 19 29.7 +3.1**
baz=37,SNR=15
TOO Toolangi 37.09 143 P **P 00 19 28.9 +2.3**
TOO pmax pmax
comp=Z,72nm,1.4s
TOO Toolangi 37.09 143 P **P 00 19 28.9 +2.3**
TOO IAmb IAmb 00 19 31.4
comp=Z,72nm,1.4s
ARMA Armidale 37.32 128 P **P 00 19 31.7 +2.9**
baz=37,SNR=10
ARMA Armidale 37.32 128 P **P 00 19 31.2 +2.4**
ARMA IAmb IAmb 00 20 40.7
comp=Z,74nm,1.8s
GYA Guiyang 37.62 343 ⇑P **P 00 19 32.0 +0.8**
GYA pP pP 00 19 48.0 -5.8
GYA pmax pmax
comp=Z,16nm,1.1s
GYA LR LR
comp=Z,220nm,27.6s
KMI Kunming 37.73 337 ⇑P **P 00 19 33.5 +1.2**
KMI pP pP 00 19 56.5 +1.6
KMI sP sP 00 20 07.0 +0.8
KMI pmax pmax
comp=Z,45nm,1.2s
KMI pmax pmax
comp=Z,110nm,3.5s
KMI LR LR
comp=Z,190nm,35.8s
KMI LR LR
comp=Z,170nm,28.0s
KMI LR LR
comp=Z,410nm,34.1s
KMI Kunming 37.73 337 P **P 00 19 33.4 +1.2**
KMI pmax pmax
comp=Z,82nm,1.3s
KMI Kunming 37.73 337 P **P 00 19 33.4 +1.1**
CAN Canberra 37.92 137 P **P 00 19 36.0 +2.3**
CAN pmax pmax
comp=Z,164nm,2.0s
CAN Canberra 37.92 137 P **P 00 19 36.0 +2.3**
ENH Enshi 40.57 348 P **P 00 19 56.0 +0.2**
NJ2 Nanjing 41.47 1 ⇑P **P 00 20 04.5 +1.6**
NJ2 sP **sP 00 20 29.5 -7.5**
NJ2 pmax pmax
comp=Z,32nm,0.5s
CD2 Chengdu 42.66 341 ⇓*i*P **P 00 20 13.3 +0.6**
CD2 PP **PP 00 21 54.3 +0.6**
CD2 S **S 00 26 33.3 +4.6**
CD2 pmax pmax
comp=Z,150nm,0.6s
CD2 pmax pmax
comp=Z,350nm,6.4s
CD2 LR LR
comp=Z,290nm,16.2s
CD2 LR LR
comp=Z,410nm,17.7s
CD2 LR LR
comp=Z,630nm,12.8s
JCJ Chichijima 43.27 32 P **P 00 20 17.1 -0.6**
SHL Shillong 43.41 324 P **P 00 20 18.8 -0.3**
SHL pmax pmax
comp=Z,68nm,1.3s
SHL Shillong 43.41 324 P **P 00 20 18.8 -0.3**
SHL IAmb IAmb 00 20 20.5
comp=Z,68nm,1.3s
JNU Nakatsue 44.20 15 P **P 00 20 25.1 0.0**
JNU IAmb IAmb 00 20 44.3
comp=Z,28nm,1.3s
XAN Xi'an 44.34 349 P **P 00 20 26.3 +0.1**
XAN S **S 00 26 49.0 -4.1**
XAN ScS **SS 00 30 19.0 +3.6**
XAN pmax pmax
comp=Z,33nm,0.7s
XAN LR LR
comp=Z,200nm,21.7s
XAN LR LR
comp=Z,170nm,18.4s
XAN LR LR
comp=Z,400nm,23.5s
XAN Xi'an 44.34 349 P **P 00 20 25.9 -0.3**
XAN pmax pmax
comp=Z,48nm,1.0s
XAN Xi'an 44.34 349 P **P 00 20 25.9 -0.3**
XAN IAmb IAmb 00 20 27.8
comp=Z,48nm,1.0s
H08S2 Diego Garcia H 45.27 269 T T 01 07 52.3
baz=95
H08S3 Diego Garcia H 45.28 269 T T 01 07 53.1
baz=95,slow=74
H08S1 Diego Garcia H 45.28 269 T T 01 07 53.7
baz=95,slow=74
TIA Tai'an 45.62 359 P **P 00 20 36.5 +0.2**
TIA pmax pmax
comp=Z,15nm,0.6s
TJN Taejon 46.57 10*d* *i*P **P 00 20 45.4 +1.7**
LSA Lhasa 47.03 327 P **P 00 20 48.8 +0.8**
LSA pmax pmax
comp=Z,91nm,1.7s
LSA Lhasa 47.03 327 P **P 00 20 47.7 -0.3**
LSA pmax pmax
comp=Z,47nm,1.4s
LSA Lhasa 47.03 327 P **P 00 20 47.7 -0.3**
LSA IAmb IAmb 00 20 50.7
comp=Z,47nm,1.4s
ODAN Odare 47.06 321 *e*P **P 00 20 48.1 +0.1**
TAPN Taplejung 47.22 322 *e*P **P 00 20 49.5 +0.2**
comp=Z,69nm,0.9s
LZH Lanzhou 47.47 344 *e*P **P 00 20 52.3 +1.4**
LZH pP pP 00 21 09.5 -4.7
LZH sP pwP 00 21 17.0 +0.8
LZH *e*PP **PP 00 22 44.3 +1.0**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,100nm,5.6s
LZH LR LR
comp=Z,380nm,14.0s
LZH LR LR
comp=Z,380nm,14.2s
LZH LR LR
comp=Z,470nm,17.0s
RAMN Ramite 47.61 321 *e*P **P 00 20 52.3 0.0**
comp=Z,37nm,0.5s
KSAR Wonju Array Be 47.70 10 P **P 00 20 53.2 +0.8**
KSAR Wonju Array Be 47.70 10 P **P 00 20 53.2 +0.8**
KSRS Korea Array 47.72 10 P **P 00 20 53.4 +0.9**
comp=Z,28nm,0.8s,baz=188,slow=7.8,SNR=92
KSRS LR LR 00 40 45.4
comp=Z,69nm,21.5s,baz=200,slow=36
KS19 Wonju Array Si 47.76 10 P **P 00 20 53.7 +0.8**
KS19 IAmb IAmb 00 20 55.0
comp=Z,25nm,0.8s
DZM Mont Dzumac 47.78 111 P **P 00 20 55.6 +2.1**
comp=Z,8.4nm,0.8s,baz=242,slow=6.8,SNR=9.2
SANVU Saraoutou 48.04 102 P **P 00 20 57.7 +2.2**
SANVU IAmb IAmb 00 20 59.2
comp=Z,35nm,0.7s
JIRN Jiri 48.37 321 *e*P **P 00 20 57.8 -0.5**
comp=Z,64nm,0.4s
GUN Gumba 48.74 321 *e*P **P 00 21 01.3 +0.2**
comp=Z,68nm,0.7s
PKI Pulchoki 48.80 320 *e*P **P 00 21 01.1 -0.4**
comp=Z,22nm,0.4s
PKIN Phulchoki 48.81 320 *e*P **P 00 21 01.0 -0.5**
comp=Z,23nm,0.4s

DMN Daman 49.02 320 *e*P **P 00 21 02.7 -0.4**
comp=Z,20nm,0.4s
BJT Baijiatuao 49.45 358 P **P 00 21 06.3 +0.5**
BJT pmax pmax
comp=Z,13nm,0.5s
BJT Baijiatuao 49.45 358 P **P 00 21 06.3 +0.5**
BJT IAmb IAmb 00 21 07.9
comp=Z,13nm,0.5s
BJI Beijing 49.47 358 P **P 00 21 06.5 +0.6**
BJI pmax pmax
comp=Z,12nm,0.8s
GKN Gorkha 49.59 320 *e*P **P 00 21 06.9 -0.4**
comp=Z,50nm,0.3s
MAJO Matsushiro 49.63 21 ⇓*i*P **P 00 21 06.9 -0.4**
MAJO pmax pmax
comp=Z,15nm,1.0s
MAJO Matsushiro 49.63 21 P **P 00 21 06.8 -0.5**
MAJO IAmb IAmb 00 21 09.3
comp=Z,13nm,0.9s
MAT Matsushiro 49.63 21 P **P 00 21 05.6 -1.7**
MAT S **S 00 28 07.6 -0.6**
MJAR Matsushiro Arr 49.63 21 P **P 00 21 06.9 -0.4**
comp=Z,9.5nm,0.8s,baz=201,slow=8.2,SNR=20
MJAR LR LR 00 39 42.0
comp=Z,53nm,21.7s,baz=190,slow=33
MJAR Matsushiro Arr 49.63 21 P **P 00 21 06.4 -0.9**
MJAR pmax pmax
comp=Z,4.0nm,1.1s
MJAR Matsushiro Arr 49.63 21 P **P 00 21 06.4 -0.9**
MJB9 Matsu-Tunnel 49.63 21 P **P 00 21 06.8 -0.5**
MJB9 IAmb IAmb 00 21 09.3
comp=Z,13nm,0.9s
KOLN Koldanda 50.09 319 *e*P **P 00 21 10.1 -1.1**
comp=Z,26nm,0.6s
DANN Dangsing 50.39 320 *e*P **P 00 21 12.3 -1.2**
comp=Z,56nm,0.4s
BTO Baotou 50.58 352 *e*P **P 00 21 13.5 -1.0**
HHC Hu-ho-hao-te 50.62 353 *e*P P 00 21 19.0 +4.2
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,86nm,6.9s
PYUN Piuthan 50.71 319 *e*P **P 00 21 14.8 -1.1**
comp=Z,52nm,0.4s
GTA Gaotai 51.73 342 ⇓P **P 00 21 24.5 +1.4**
GTA pmax pmax
comp=Z,21nm,1.2s
GTA pmax pmax
comp=Z,100nm,5.1s
GTA LR LR
comp=Z,130nm,20.6s
GTA LR LR
comp=Z,170nm,21.9s
GTA LR LR
comp=Z,190nm,21.9s
MSHR Mys Shultsa 53.30 12 ⇓*i*P **P 00 21 35.6 +1.2**
MSHR pmax pmax
comp=Z,33nm,1.2s
CN2 Changchun 53.59 6 *e*P **P 00 21 36.5 -0.1**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
VLA Vladivostok 53.96 12 ⇓*i*P **P 00 21 40.0 +0.7**
VLA pmax pmax
comp=Z,47nm,0.7s
MDJ Mudanjiang 54.97 10 P **P 00 21 47.6 +0.9**
MDJ IAmb IAmb 00 21 50.7
comp=Z,30nm,0.7s
USA0B Ussuriysk Arra 55.02 12 P **P 00 21 47.5 +0.6**
USA0B pmax pmax
comp=Z,35nm,0.5s
USA0B Ussuriysk Arra 55.02 12 P **P 00 21 47.5 +0.6**
USRK Ussuriysk Ar. 55.02 12 P **P 00 21 47.8 +0.8**
comp=Z,21nm,0.5s,baz=188,slow=6.8,SNR=86
USRK Ussuriysk Ar. 55.02 12 P **P 00 21 47.2 +0.3**
MLZ Mavora Lakes 55.51 139 P **P 00 21 52.5 +1.9**
ERM Erimo 56.25 22 P **P 00 21 56.9 +1.1**
ERM pmax pmax
comp=Z,17nm,1.3s
ERM Erimo 56.25 22 P **P 00 21 56.9 +1.1**
ERM IAmb IAmb 00 23 28.2
comp=Z,17nm,1.2s
CASY Casey 56.80 184 P **P 00 22 00.6 +1.2**
CASY IAmb IAmb 00 22 02.0
comp=Z,49nm,1.4s
RPZ Rata Peaks 56.84 136 P **P 00 22 02.3 +2.1**
comp=Z,28nm,0.5s,baz=282,slow=3.6,SNR=25
RPZ Rata Peaks 56.84 136 P **P 00 22 02.5 +2.3**
OXZ Oxford 57.38 136 P **P 00 22 05.5 +1.6**
THZ Tophouse 57.50 134 P **P 00 22 07.5 +2.6**
ULN Ulaanbaatar 58.12 351*c* *i*P **P 00 22 09.8 +0.8**
ULN pmax pmax
comp=Z,28nm,1.4s
ULN Ulaanbaatar 58.12 351 P **P 00 22 09.5 +0.5**
ULN IAmb IAmb 00 22 12.6
comp=Z,13nm,0.7s
SONM Songino Array 58.19 351 P **P 00 22 09.7 +0.2**
comp=Z,17nm,0.5s,baz=168,slow=8.3,SNR=102
SONM LR LR 00 48 31.1
comp=Z,139nm,21.8s,baz=217,slow=37
SONM Songino Array 58.19 351 P **P 00 22 09.8 +0.2**
MSVF Nonsavu 58.45 105 P **P 00 22 13.6 +1.7**
MSVF pmax pmax
comp=Z,55nm,1.5s
MSVF Nonsavu 58.45 105 P **P 00 22 13.6 +1.7**
SNZO South Karori 58.66 133 P **P 00 22 14.4 +1.6**
HIA Hailar 58.67 1 P **P 00 22 13.4 +0.7**
HIA pmax pmax
comp=Z,10.0nm,1.0s
HIA Hailar 58.67 1 P **P 00 22 13.4 +0.7**
BKZ Black Stump Fm 59.45 130 P **P 00 22 20.7 +2.2**
KLR Kul'dur 59.81 10 ⇓*i*P **P 00 22 21.0 +0.5**
KLR pmax pmax
comp=Z,22nm,1.4s
WMQ Urumqi 60.02 335 *e*P **P 00 22 23.8 +1.6**
WMQ pmax pmax
comp=Z,12nm,0.7s
WMQ pmax pmax
comp=Z,34nm,3.7s
WMQ LR LR
comp=Z,200nm,29.2s
WMQ LR LR
comp=Z,700nm,29.0s
WMQ LR LR
comp=Z,270nm,28.9s
WMQ Urumqi 60.02 335 P **P 00 22 23.1 +0.9**
WMQ pmax pmax
comp=Z,25nm,1.3s
WMQ Urumqi 60.02 335 P **P 00 22 23.1 +0.9**
WMQ IAmb IAmb 00 22 23.9
comp=Z,25nm,1.3s
YSS Yuzh-Sakhalins 60.44 19 *e*P **P 00 22 23.6 -1.2**
NIL Nilore 60.68 317 P **P 00 22 25.7 -1.2**
NIL pmax pmax
comp=Z,8.0nm,0.7s
NIL Nilore 60.68 317 P **P 00 22 25.7 -1.2**
NIL IAmb IAmb 00 22 27.5
comp=Z,8.1nm,0.7s
ZAK Zakamensk 61.19 349 *e*P **P 00 22 30.0 0.0**
ZAK pmax pmax
comp=Z,8.0nm,1.1s
GRNR Gornyy 62.20 13 ⇓*i*P **P 00 22 38.1 +1.4**
GRNR pmax pmax
comp=Z,6.0nm,1.0s
GRNR MLR MLR
comp=E,350nm,18.0s
GRNR MLR MLR
comp=N,150nm,16.0s
TLY Talaya 62.37 350 *e*P **P 00 22 39.0 +1.2**
TLY pmax pmax
comp=Z,22nm,0.8s
TLY MLR MLR
comp=Z,233nm,18.0s
TLY Talaya 62.37 350 P **P 00 22 39.0 +1.2**
TLY IAmb IAmb 00 22 54.8
comp=Z,11nm,0.9s
KSH Kashi 62.69 324 *e*P **P 00 22 40.0 -0.4**
KSH pmax pmax
comp=Z,14nm,0.5s
KSH pmax pmax
comp=Z,91nm,3.8s
MOY Mondy 62.86 348 *e*P **P 00 22 42.0 +0.8**
MOY pmax pmax
comp=Z,19nm,2.0s
TARG Taragay, Kyrgy 63.18 327 P **P 00 22 44.6 +0.8**
SHLS Shalkode 63.33 329 *i* P **P 00 22 43.1 -1.5**
comp=Z,22nm,1.3s,baz=329

SHLS Shalkode 63.33 329 *i* P **P 00 22 43.0 -1.5**
SHLS pmax pmax
comp=Z,22nm,1.3s
UZB Uzynbulak 63.54 329 *i* P **P 00 22 45.7 -0.2**
comp=Z,23nm,2.1s,baz=329
UZB Uzynbulak 63.54 329 *i* P **P 00 22 45.7 -0.2**
UZB pmax pmax
comp=Z,23nm,2.1s
KDJ Kajisay 63.79 327 P **P 00 22 48.0 +0.4**
KDJ pmax pmax
comp=Z,44nm,2.0s
KDJ Kajisay 63.79 327 P **P 00 22 48.0 +0.4**
KDJ IAmb IAmb 00 22 49.3
comp=Z,44nm,2.0s
SATY Saty 63.80 328 *i* P **P 00 22 47.6 0.0**
comp=Z,19nm,1.9s,baz=328
SATY Saty 63.80 328 *i* P **P 00 22 47.6 0.0**
SATY pmax pmax
comp=Z,19nm,1.9s
KPKS Kokpek 63.94 329 *i* P **P 00 22 48.4 -0.2**
comp=Z,25nm,1.9s,baz=329
KPKS Kokpek 63.94 329 *i* P **P 00 22 48.3 -0.2**
KPKS pmax pmax
comp=Z,25nm,1.9s
KBL Kabul 64.04 316 P **P 00 22 48.8 -0.7**
KBL pmax pmax
comp=Z,24nm,0.5s
KBL Kabul 64.04 316 P **P 00 22 48.8 -0.7**
KBL Kabul 64.04 316 P **P 00 22 48.8 -0.7**
KBL IAmb IAmb 00 22 50.3
comp=Z,24nm,0.5s
ZSN Zaisan 64.12 335 *e*P **P 00 22 48.7 -0.8**
comp=Z,2.0nm,1.0s,baz=335
ZSN Zaisan 64.12 335 *e*P **P 00 22 48.7 -0.8**
ZSN pmax pmax
comp=Z,2.0nm,1.0s
TNSS Tian-Shan 64.54 328 *e*P **P 00 22 52.0 -0.9**
baz=328
TNSS Tian-Shan 64.54 328 *e*P **P 00 22 51.9 -0.9**
MDOK Medeo 64.58 328 *i* P **P 00 22 52.7 0.0**
baz=328
MDOK Medeo 64.58 328 *i* P **P 00 22 52.7 0.0**
AAA Alma-Ata 64.68 328 *i* P **P 00 22 53.3 0.0**
comp=Z,7.0nm,0.7s,baz=328
AAA *e*S **S 00 31 26.8 +1.0**
baz=328
AAA Alma-Ata 64.68 328 *i* P **P 00 22 53.3 0.0**
AAA *e*S **S 00 31 26.7 +1.0**
AAA pmax pmax
comp=Z,7.0nm,0.7s
MK31 Makanchi Array 64.70 333 P **P 00 22 53.0 -0.3**
MK31 pmax pmax
comp=Z,9.0nm,1.1s
MK31 Makanchi Array 64.70 333 P **P 00 22 53.0 -0.3**
MKAR Makanchi Array 64.70 333 P **P 00 22 53.1 -0.2**
comp=Z,5.9nm,0.4s,baz=153,slow=6.6,SNR=86
MKAR LR LR 00 56 09.1
comp=Z,69nm,18.4s,baz=154,slow=41
MKAR Makanchi Array 64.70 333 P **P 00 22 52.8 -0.5**
BOOM Boomskoye usch 64.71 327 P **P 00 22 53.8 +0.2**
BOOM pmax pmax
comp=Z,29nm,1.4s
BOOM Boomskoye usch 64.71 327 P **P 00 22 53.8 +0.2**
BOOM IAmb IAmb 00 22 55.7
comp=Z,28nm,1.4s
KZA Kyzart 64.81 326 P **P 00 22 55.0 +0.4**
SNR=18
MAKZ Makanchi 64.85 333 P **P 00 22 53.8 -0.5**
MAKZ pmax pmax
comp=Z,8.0nm,1.2s
MAKZ Makanchi 64.85 333 P **P 00 22 53.8 -0.5**
MTBS Maitube 64.88 327 *e*P **P 00 22 54.5 -0.2**
baz=327
MTBS Maitube 64.88 327 *e*P **P 00 22 54.4 -0.2**
DGZ Jazzator, Alta 64.97 338 ⇓*i*P **P 00 22 55.8 +0.7**
DGZ pmax pmax
comp=Z,11nm,1.1s
CHKK Chushkaly 65.09 328 *e*P **P 00 22 55.1 -0.8**
baz=328
CHKK Chushkaly 65.09 328 *e*P **P 00 22 55.1 -0.8**
TDK Taldyqorghan 65.18 330 *i* P **P 00 22 56.1 -0.3**
comp=Z,23nm,1.2s,baz=330
TDK Taldyqorghan 65.18 330 *i* P **P 00 22 56.1 -0.3**
TDK pmax pmax
comp=Z,23nm,1.2s
TKM2 Tokmak 2 65.19 327 P **P 00 22 56.6 -0.1**
SNR=8.6
TKM2 Tokmak 2 65.19 327 P **P 00 22 56.9 +0.1**
UCH Uchtor 65.32 326 P **P 00 22 57.3 -0.6**
SNR=9.3
KUU Kurty 65.45 328 *i* P **P 00 22 57.7 -0.5**
comp=Z,30nm,1.2s,baz=328
KUU Kurty 65.45 328 *i* P **P 00 22 57.7 -0.5**
KUU pmax pmax
comp=Z,30nm,1.2s
AAK Ala-Archa 65.60 326 ⇓*i*P **P 00 22 59.8 +0.4**
AAK pmax pmax
comp=Z,13nm,1.0s
AAK Ala-Archa 65.60 326 P **P 00 22 59.3 0.0**
AAK IAmb IAmb 00 23 01.8
comp=Z,30nm,1.6s
ARSB Arslanbob 65.60 324 P **P 00 22 59.5 +0.1**
ARSB pmax pmax
comp=Z,154nm,1.7s
ARSB Arslanbob 65.60 324 P **P 00 22 59.5 +0.1**
FRU1 Bishkek 65.64 326 P **P 00 22 59.8 +0.3**
FRU1 pmax pmax
comp=Z,23nm,1.3s
FRU1 Bishkek 65.64 326 P **P 00 22 59.8 +0.3**
FRU1 IAmb IAmb 00 23 00.9
comp=Z,22nm,1.2s
AML Almayashu 65.71 325 P **P 00 23 00.6 +0.2**
SNR=14
GAR Garm 65.77 321 P **P 00 23 00.3 -0.2**
EKS2 Erkin-Say 66.01 326 P P 00 23 04.3 +2.4
SNR=8.8
USP Ospenovka 66.01 326 P **P 00 23 01.6 -0.2**
SNR=12
SGDS Sogindy 66.07 327 *i* P **P 00 23 01.7 -0.6**
comp=Z,17nm,1.5s,baz=327
SGDS Sogindy 66.07 327 *i* P **P 00 23 01.6 -0.6**
SGDS pmax pmax
comp=Z,17nm,1.5s
BTK Batken 66.10 322 P **P 00 23 02.7 +0.2**
BTK pmax pmax
comp=Z,36nm,1.4s
BTK Batken 66.10 322 P **P 00 23 02.7 +0.2**
BTK IAmb IAmb 00 23 04.9
comp=Z,36nm,1.4s
CHGR Chuyangaron 66.30 320 P **P 00 23 03.3 -0.5**
BOD Bodaibo 67.32 358 *e*P **P 00 23 10.3 +0.6**
BOD pmax pmax
comp=Z,16nm,1.4s
BTLS Baital 67.44 328 *i* P **P 00 23 09.9 -1.0**
comp=Z,9.0nm,2.2s,baz=328
BTLS Baital 67.44 328 *i* P **P 00 23 09.8 -1.0**
BTLS pmax pmax
comp=Z,9.0nm,2.2s
DZA Taraz 67.54 324 *e*P **P 00 23 11.1 -0.6**
baz=324
DZA Taraz 67.54 324 *e*P **P 00 23 11.0 -0.6**
JBG Jabagly 67.71 324 *e*P **P 00 23 12.6 -0.2**
JBG pmax pmax
comp=Z,26nm,1.3s
IUG luzhnay 67.84 323 *i* P **P 00 23 13.5 0.0**
comp=Z,1.5nm,0.5s,baz=323
IUG *e*S **S 00 32 05.5 +1.4**
baz=323
IUG luzhnay 67.84 323 *i* P **P 00 23 13.5 0.0**
IUG *e*S **S 00 32 05.5 +1.4**
IUG pmax pmax
comp=Z,1.0nm,0.5s
KK31 Karatay Array 68.15 324 P **P 00 23 15.4 +0.1**
KK31 pmax pmax
comp=Z,11nm,1.3s
KK31 Karatay Array 68.15 324 P **P 00 23 15.4 +0.1**
KKAR Karatay Array 68.15 324 P **P 00 23 15.2 -0.1**
KKAR Karatay Array 68.15 324 P **P 00 23 15.2 -0.1**
CHM Chimkent 68.20 323 *i* P **P 00 23 15.6 -0.1**
comp=Z,11nm,0.5s,baz=323
CHM Chimkent 68.20 323 *i* P **P 00 23 15.6 -0.1**
CHM pmax pmax
comp=Z,11nm,0.5s
SEM Semipalatinsk 68.33 335 *e*P **P 00 23 15.9 -0.7**
comp=Z,2.6nm,0.8s,baz=335
SEM Semipalatinsk 68.33 335 *e*P **P 00 23 15.9 -0.7**

SEM pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 68.39 200 P P 00 23 17.8 +1.5
comp=Z,8.8nm,0.5s,baz=60,slow=12,SNR=4.7
MAW LR LR 00 47 12.6
comp=Z,89nm,19.9s,baz=50,slow=30
MAW Mawson 68.39 200 P P 00 23 17.9 +1.5
KURBB Kurchatov Arra 69.22 334 P P 00 23 21.4 -0.4
KURK Kurchatov 69.25 334 ⇓ iP P 00 23 22.2 +0.2
KURK pmax pmax
comp=Z,13nm,1.1s
KURK Kurchatov 69.25 334 P P 00 23 21.9 -0.1
ZAA0 Zalesovo Array 69.39 340 P P 00 23 22.0 -0.7
ZAA0 IAmb IAmb 00 23 23.2
comp=Z,12nm,0.7s
ZALV Zalesovo Beam 69.39 340 P P 00 23 21.9 -0.8
comp=Z,13nm,0.5s,baz=143,slow=5.4,SNR=53
ZALV LR LR 00 57 03.9
comp=Z,118nm,20.6s,baz=251,slow=39
PEA0B Petropavlovsk- 70.95 24 P P 00 23 33.9 +1.5
PEA0B pmax pmax
comp=Z,17nm,0.8s
PEA0B Petropavlovsk- 70.95 24 P P 00 23 33.9 +1.5
PEA0B IAmb IAmb 00 23 35.1
comp=Z,17nm,0.8s
PETK Petropavlovsk- 70.95 24 P P 00 23 34.1 +1.7
comp=Z,11nm,0.7s,baz=205,slow=5.5,SNR=14
PETK LR LR 00 56 12.1
comp=Z,30nm,20.1s,baz=242,slow=37
PETK Petropavlovsk- 70.95 24 P P 00 23 33.9 +1.6
BRZS Berezniki 71.44 331 eP P 00 23 35.6 +0.2
comp=Z,26nm,1.5s,baz=331
BRZS Berezniki 71.44 331 eP P 00 23 35.5 +0.2
BRZS pmax pmax
comp=Z,26nm,1.5s
VNDA Vanda 71.47 171 P P 00 23 37.7 +2.6
comp=Z,12nm,0.4s,baz=314,slow=6.5,SNR=176
VNDA LR LR 00 52 22.3
comp=Z,100nm,21.1s,baz=324,slow=34
VNDA Vanda 71.47 171 P P 00 23 37.5 +2.4
VNDA pmax pmax
comp=Z,44nm,1.3s
VNDA Vanda 71.47 171 P P 00 23 37.5 +2.4
VNDA IAmb IAmb 00 23 38.9
comp=Z,44nm,1.2s
YAK Yakutsk 72.01 6 P P 00 23 39.7 +1.3
YAK pmax pmax
comp=Z,33nm,0.5s
YAK Yakutsk 72.01 6 P P 00 23 39.7 +1.3
GEYT Alibeck 73.36 314 P P 00 23 47.9 +0.8
comp=Z,2.1nm,0.4s,baz=186,slow=5.8,SNR=7.1
GEYT Alibeck 73.36 314 P P 00 23 47.0 -0.2
GYA0B ALIBECK ARRAY 73.36 314 P P 00 23 47.3 +0.1
BVA0 Borovoye Array 74.52 332 i P P 00 23 53.0 -0.5
BRVK Borovoye 74.59 332 c iP P 00 23 53.7 -0.2
BRVK pmax pmax
comp=Z,16nm,1.6s
BRVK Borovoye 74.59 332 P P 00 23 53.9 +0.1
SYO Syowa Base 76.99 201 ⇑ eP P 00 24 07.0 -0.3
SYO Syowa Base 76.99 201 ⇓ eX P 00 24 15.2 +7.9
SYO Syowa Base 76.99 201 ⇑ eX P 00 24 24.8 +18
AB31 Akbulak array 77.67 325 i P P 00 24 11.4 0.0
ABKAR Akbulak array 77.67 325 P P 00 24 11.4 0.0
ABKAR Akbulak array 77.67 325 P P 00 24 11.2 -0.2
ABKAR IAmb IAmb 00 24 14.0
comp=Z,7.4nm,0.7s
QSPA South Pole Qui 80.35 180 P P 00 24 28.1 +2.1
comp=Z,26nm,1.0s,baz=309,slow=1.3,SNR=62
QSPA South Pole Qui 80.35 180 P P 00 24 27.7 +1.7
QSPA IAmb IAmb 00 24 29.5
comp=Z,35nm,1.1s
KMBO Kilima Mbogo 80.95 270 P P 00 24 31.3 +1.0
comp=Z,1.4nm,0.4s,baz=49,slow=7.4,SNR=5.4
TIXI Tiksi 81.42 3 ⇓ iP P 00 24 31.3 0.0
TIXI pmax pmax
comp=Z,16nm,1.2s
TIXI Tiksi 81.42 3 P P 00 24 31.3 0.0
NRIK Noril'sk 81.65 349 P P 00 24 31.5 -1.0
comp=Z,2.3nm,0.5s,baz=120,slow=5.0,SNR=1.9
NRIK LR LR 01 06 39.4
comp=Z,124nm,18.3s,baz=246,slow=40
ARU Arti 82.07 331 c iP P 00 24 34.5 -0.5
ARU *PP pP 00 24 53.4 -6.9
ARU 00 27 41.2
ARU S S 00 34 44.5 +3.3
ARU SS SS 00 40 00.3 -2.6
ARU pmax pmax
comp=Z,7.0nm,1.1s
ARU Arti 82.07 331 P P 00 24 34.8 -0.2
AKT Akhty 82.12 314 eP P 00 24 36.3 +0.5
AKT e*PP pP 00 24 55.7 -5.4
AKT e 00 27 45.4
AKT pmax pmax
comp=Z,14nm,1.0s
MNGR Mingechevir, A 82.34 314 P P 00 24 38.7 +2.0
SEKA Sheki 82.40 314 P P 00 24 38.9 +1.7
GANJ Ganja 82.84 313 P P 00 24 41.9 +2.5
ZKTA Zakatala 82.96 314 P P 00 24 42.9 +2.9
NAX Nakhchivan 82.97 312 P P 00 24 42.9 +2.7
DDFL Dedoflistskaro 83.25 314 P P 00 24 46.0 +4.5
BTLR Botlikh 83.58 315 ⇓ iP P 00 24 44.6 +1.4
BTLR pmax pmax
comp=Z,21nm,0.9s
GROC Groznyy 84.05 315 eP P 00 24 47.1 +1.6
GROC e*PP pP 00 25 08.0 -2.9
GROC e 00 28 01.9
GROC pmax pmax
comp=Z,41nm,1.2s
TBLG Delisi 84.32 314 P P 00 24 48.3 +1.3
TBLG pmax pmax
comp=Z,24nm,1.0s
TBLG Delisi 84.32 314 P P 00 24 48.3 +1.3
TBLG IAmb IAmb 00 24 50.1
comp=Z,24nm,1.0s
KZRT Kazreti 84.46 313 P P 00 24 50.5 +2.8
BILL Bilibino 84.61 16 ⇓ iP P 00 24 49.1 +1.3
BILL e 00 28 03.6
BILL ePPP PPP 00 29 58.0
BILL pmax pmax
comp=Z,2.0nm,0.9s
AKH Akhalkalaki 85.11 313 P P 00 24 52.3 +1.1
AKH pmax pmax
comp=Z,29nm,1.2s
AKH Akhalkalaki 85.11 313 P P 00 24 52.3 +1.1
AKH IAmb IAmb 00 24 54.6
comp=Z,29nm,1.2s
ZEI Tsey 85.24 315 eP P 00 24 52.2 +0.4
ZEI pmax pmax
comp=Z,47nm,1.5s
ONI Oni 85.49 314 P P 00 24 56.2 +3.3
KBZ Khabaz 86.22 315 P P 00 24 57.2 +1.0
comp=Z,5.1nm,0.9s,baz=81,slow=1.0,SNR=11
KBZ Khabaz 86.22 315 ⇑ iP P 00 24 57.9 +1.6
NVL N'lazarevskaya 86.29 199 eP P 00 24 58.8 +2.6
NVL pmax pmax
comp=Z,8.0nm,0.6s
KIV Kislovodsk 86.43 316 eP P 00 24 59.0 +1.5
KIV pmax pmax
comp=Z,16nm,1.0s
KIV Kislovodsk 86.43 316 P P 00 24 58.4 +0.9
BATM Batumi 86.46 313 P P 00 25 00.7 +3.1
GOF Gofitskoye 86.51 317 ⇑ eP P 00 24 58.4 +0.7
GOF pmax pmax
comp=Z,51nm,1.5s
MBAR Mbarara 87.46 270 P P 00 25 04.1 +0.9
MBAR pmax pmax
comp=Z,21nm,1.3s
MBAR Mbarara 87.46 270 P P 00 25 04.1 +0.9
MBAR IAmb IAmb 00 25 13.3
comp=Z,21nm,1.2s
LSZ Lusaka 87.57 255 P P 00 25 04.5 +0.8
LSZ pmax pmax
comp=Z,14nm,0.7s
LSZ Lusaka 87.57 255 P P 00 25 04.5 +0.8
LSZ IAmb IAmb 00 25 07.2
comp=Z,14nm,0.7s
BOSA Boshof 88.06 241 P P 00 25 07.8 +2.0
comp=Z,3.8nm,0.4s,baz=116,slow=3.7,SNR=24
BOSA LR LR 01 02 10.1
comp=Z,79nm,18.6s,baz=3.0,slow=34
BOSA Boshof 88.06 241 P P 00 25 07.4 +1.6
BOSA pmax pmax
comp=Z,16nm,1.1s
BOSA Boshof 88.06 241 P P 00 25 07.4 +1.6
BOSA IAmb IAmb 00 25 08.9
comp=Z,16nm,1.1s
LBTB Lobatse 88.37 245 P P 00 25 08.9 +1.6
LBTB pmax pmax
comp=Z,29nm,1.4s
LBTB Lobatse 88.37 245 P P 00 25 08.9 +1.6
LBTB IAmb IAmb 00 25 10.9
comp=Z,29nm,1.4s
GAZ Gaziantep 88.72 308 P P 00 25 09.9 +1.4
GAZ IAmb IAmb 00 25 35.5
comp=Z,11nm,1.0s
VRH Novokhopyorsk 89.14 322 eP P 00 25 10.5 +0.4
VRH pmax pmax
comp=Z,20nm,1.3s
PPT Papeete 89.17 108 LR LR 01 01 13.8
comp=Z,47nm,21.2s,baz=226,slow=33
SNAA Sanae 90.19 196 P P 00 25 17.3 +2.5
SNAA Sanae 90.19 196 ⇓ iP P 00 25 17.4 +2.6
SNAA pmax pmax
comp=Z,17nm,1.3s
SNAA Sanae 90.19 196 P P 00 25 17.0 +2.2
SNAA IAmb IAmb 00 25 18.6
comp=Z,18nm,1.2s
VSR Storozhevoye 90.69 322 eP P 00 25 17.4 +0.1
VSR pmax pmax
comp=Z,5.0nm,0.5s
LPSR Galich'ya Gora 91.18 323 eP P 00 25 20.2 +0.7
LPSR pmax pmax
comp=Z,6.0nm,0.5s
VNA2 Neumayer--Watz 91.82 196 P P 00 25 25.0 +2.7
BRTR Keskin Array B 91.99 310 P P 00 25 24.6 +0.7
comp=Z,1.5nm,0.9s,baz=160,slow=3.9,SNR=5.9
BRTR Keskin Array B 91.99 310 P P 00 25 24.2 +0.3
VNA3 Neumayer Olymp 92.21 195 P P 00 25 26.3 +2.2
VNA1 Neumayer--Stat 92.22 196 P P 00 25 26.5 +2.4
KLMR Klimovskoe 92.92 331 eP P 00 25 26.3 -1.1
KLMR pmax pmax
comp=Z,7.0nm,1.1s
KLMR Klimovskoe 92.92 331 eP P 00 25 26.3 -1.1
KLMR AMP 00 25 27.9
comp=Z,7.0nm,1.1s
OBN Obninsk 93.12 325 eP P 00 25 29.4 +1.0
OBN e 00 29 12.2
OBN pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 96.77 320 P P 00 25 45.6 +0.3
comp=Z,0.2nm,0.3s,baz=86,slow=4.4,SNR=2.0
AKASG LR LR 01 16 03.8
comp=Z,26nm,18.2s,baz=180,slow=40
FINES FINESS Array B 99.44 331 P Pdif 00 25 57.3 +0.3
comp=Z,1.2nm,0.6s,baz=93,slow=3.8,SNR=7.0
FINES FINESS Array B 99.44 331 P Pdif 00 25 57.6 +0.6
FINES FINESS Array B 99.44 331 P Pdif 00 25 57.6 +0.6
ARCES ARCESS Array B 99.93 339 P Pdif 00 25 59.8 +0.7
comp=Z,2.4nm,0.9s,baz=90,slow=6.1,SNR=7.9
ILAR Eielson Array 100.73 26 P Pdif 00 26 03.4 +0.8
comp=Z,0.2nm,0.6s,baz=246,slow=4.6,SNR=2.2
YKA Yellowknife Ar 115.08 24 PKP PKPdf 00 30 56.3 +1.4
comp=Z,0.9nm,0.4s,baz=306,slow=1.7,SNR=13
I03D Drain, OR 117.04 46 P PKiKP 00 31 00.8 +1.5
baz=283
TORD Torodi Ar. Bea 117.85 280 PKP PKiKP 00 31 03.0 +1.3
comp=Z,1.4nm,0.5s,baz=40,slow=2.0,SNR=23
TORD Torodi Ar. Bea 117.85 280 PKPdf PKiKP 00 31 02.8 +1.1
G05D Wamic, OR 118.07 44 P PKiKP 00 31 02.9 +1.5
baz=286
N02D Trinity Center 118.11 49 P PKiKP 00 31 03.6 +2.0
baz=282
L04D Klamath Falls 118.12 47 P PKiKP 00 31 03.4 +1.8
baz=283
M04C Macdoel 118.56 48 P PKiKP 00 31 04.4 +1.9
baz=283
J05D Fort Rock, OR 118.64 46 P PKiKP 00 31 04.7 +2.1
baz=285
ESDC Sonseca Array 120.77 311 PKP PKiKP 00 31 07.1 +0.3
comp=Z,0.4nm,0.5s,baz=16,slow=3.1,SNR=4.9
NVAR Mina Array Bea 121.99 51 PKP PKiKP 00 31 10.7 +1.2
comp=Z,0.5nm,0.5s,baz=269,slow=1.7,SNR=4.2
NVAR Mina Array Bea 121.99 51 PKiKP 00 31 11.4 +1.9
MSO Missoula 122.41 40 P PKiKP 00 31 11.3 +1.4
baz=293
HLID Hailey 123.29 44 P PKiKP 00 31 14.1 +2.2
baz=290
HLID Hailey 123.29 44 PKPdf PKiKP 00 31 14.1 +2.2
DBIC Dimbokro 123.67 272 PKP PKiKP 00 31 14.2 +1.1
comp=Z,1.7nm,0.4s,baz=7.9,slow=3.1,SNR=6.3
DBIC Dimbokro 123.67 272 PKiKP 00 31 13.9 +0.7
R11A Troy Canyon, C 124.07 50 P PKiKP 00 31 15.8 +2.3
baz=286
BOZ Bozeman (W) 124.37 41 P PKiKP 00 31 16.1 +2.2
baz=294
EGMT Eagleton 124.48 37 P PKiKP 00 31 16.0 +2.1
baz=297
PFO Pinyon Flats O 124.54 56 P PKiKP 00 31 16.4 +1.9
baz=282
PDAR Pinedale Array 126.88 43 PKP PKiKP 00 31 20.6 +1.5
comp=Z,0.2nm,0.3s,baz=258,slow=2.7,SNR=1.8
ANMO Albuquerque 132.11 51 d iPKiKP PKiKP 00 31 29.8 0.0
MNTX Cornudas Mount 134.05 55 P PKiKP 00 31 34.8 +1.3
baz=289
ECSD EROS Data Cent 134.51 36 P PKiKP 00 31 35.3 +1.2
baz=308
SCHQ Schefferville 134.75 4 PKP PKiKP 00 31 33.9 -0.4
comp=Z,1.8nm,0.6s,baz=292,slow=5.4,SNR=2.6
JCT Junction City 138.96 54 P PKiKP 00 31 43.9 +0.3
baz=292
E50A Wahnapitae 139.92 20 P PKiKP 00 31 46.0 +0.9
baz=330
D52A ZEK Kipawa Sen 140.19 18 P PKiKP 00 31 46.3 +0.8
baz=334
D55A Sainte-Anne-du 140.97 15 P PKiKP 00 31 48.4 +1.2
baz=338
E56A St. Veronique 141.52 15 P PKiKP 00 31 49.2 +1.0
baz=339
D61A St Aubert, Com 141.89 9 P PKiKP 00 31 50.5 +1.5
baz=347
H55A Tweed 142.74 18 P PKiKP 00 31 51.8 +0.9
baz=335
F60A Warwick 142.76 12 P PKiKP 00 31 51.6 +0.8
baz=344
J55A Hilton 143.69 20 P PKiKP 00 31 53.2 +0.4
baz=333
CPUP Villa Florida 143.98 187 PKP PKiKP 00 31 50.2 -3.8
comp=Z,4.6nm,0.5s,baz=178,slow=1.6,SNR=19
CPUP Villa Florida 143.98 187 PKiKP PKiKP 00 31 50.6 -3.4
CPUP Villa Florida 143.98 187 PKPdf PKiKP 00 31 50.6 -3.4
WCI Wyandotte Cave 143.99 34 P PKiKP 00 31 49.8 -3.8
baz=316
J56A Wolcott 143.99 19 P PKiKP 00 31 49.8 -3.6
baz=334
L54A Sinclairville 144.05 22 P PKiKP 00 31 50.1 -3.6
baz=330
K55A Perry 144.08 21 P PKiKP 00 31 50.0 -3.7
baz=332
H61A Lyndonville 144.14 12 P PKiKP 00 31 50.4 -3.4
baz=343
J57A Williamstown 144.14 18 P PKiKP 00 31 50.9 -2.9
baz=336
ACSO Alum Creek Sta 144.16 28 P PKiKP 00 31 50.4 -3.6
baz=323
I58A Old Forge 144.18 16 P PKiKP 00 31 50.6 -3.3
baz=338
M53A WI Miller and 144.19 25 P PKiKP 00 31 50.5 -3.5
baz=327
G65A Princeton 144.22 7 P PKiKP 00 31 50.7 -3.1
baz=350
K56A Middlesex 144.36 20 P PKiKP 00 31 51.1 -3.2
baz=333
I59A Olmsteadville 144.38 15 P PKiKP 00 31 51.4 -2.9
baz=340
H63A New Sharon 144.38 10 P PKiKP 00 31 51.1 -3.1
baz=346
J58A Remsen 144.40 17 P PKiKP 00 31 51.4 -2.9
baz=337
T47A Sharon Grove 144.40 36 PKiKP 00 31 50.9 -3.7
O51A Pataskala 144.41 28 P PKiKP 00 31 51.3 -3.1
baz=323
LBNH Lisbon 144.42 13 P PKiKP 00 31 51.3 -3.0
baz=343
L55A Hinsdale 144.42 22 P PKiKP 00 31 51.4 -3.1
baz=331
I60A Shoreham 144.48 14 P PKiKP 00 31 51.6 -2.8
baz=340
J59A Piesco 144.52 16 P PKiKP 00 31 50.8 -3.8
baz=338
J59A Piesco 144.52 16 PKiKP 00 31 51.3 -3.3
H64A Troy 144.54 9 P PKiKP 00 31 51.9 -2.7
baz=348
M54A Oil Creek Stat 144.54 23 P PKiKP 00 31 51.1 -3.6
baz=329
R49A Shelbyville 144.55 33 PKiKP 00 31 51.5 -3.3
WVT Waverly 144.55 38 P PKiKP 00 31 51.4 -3.5
baz=312
WVT Waverly 144.55 38 PKIKP PKiKP 00 31 51.3 -3.5
WVT Waverly 144.55 38 PKPdf PKiKP 00 31 51.3 -3.6
GO02 Mina Guanaco 144.57 168 PKPdf PKiKP 00 31 52.5 -3.2
OXF Oxford 144.59 41 P PKiKP 00 31 51.6 -3.4
baz=308
OXF Oxford 144.59 41 PKIKP PKiKP 00 31 51.7 -3.2
OXF Oxford 144.59 41 PKPdf PKiKP 00 31 51.7 -3.2
K57A Scipio Center 144.59 19 P PKiKP 00 31 51.3 -3.4
baz=335
H65A Eastbrook 144.63 8 P PKiKP 00 31 51.3 -3.4
baz=349
I61A Oroboro, Fairl 144.65 13 P PKiKP 00 31 51.5 -3.3
baz=342
N53A Lisbon 144.65 25 P PKiKP 00 31 51.7 -3.2
baz=326
H66A Whiting 144.66 7 P PKiKP 00 31 51.5 -3.3
baz=351
P51A Williamsport 144.72 29 P PKiKP 00 31 51.3 -3.8
baz=322
L56A Greenwood 144.78 21 P PKiKP 00 31 51.7 -3.5
baz=333,SNR=8.1
O52A Adamsville 144.78 27 P PKiKP 00 31 51.8 -3.5
baz=324,SNR=9.4
O52A Adamsville 144.78 27 PKiKP 00 31 51.9 -3.3
K58A Earlville 144.83 18 P PKiKP 00 31 52.5 -2.7
baz=336
I63A Otisfield 144.87 11 P PKiKP 00 31 52.4 -2.8
baz=345
N54A Moraine State 144.88 24 P PKiKP 00 31 52.1 -3.3
baz=328,SNR=6.1
N54A Moraine State 144.88 24 PKiKP 00 31 52.1 -3.3
Y45A Yeager Farm, C 144.89 42 PKiKP 00 31 53.2 -2.4
I62A Tamworth 144.89 12 P PKiKP 00 31 52.5 -2.8
baz=344
M55A Ridgway 144.92 23 P PKiKP 00 31 52.2 -3.3
baz=330,SNR=11
M55A Ridgway 144.92 23 PKiKP 00 31 52.2 -3.3
Q51A Peebles 144.93 30 PKiKP 00 31 52.1 -3.5
O53A New Philadelph 144.95 26 P PKiKP 00 31 52.4 -3.2
baz=325
R50A Paris 145.00 32 PKiKP 00 31 52.4 -3.3
J60A Lant Hill Farm 145.01 15 P PKiKP 00 31 52.5 -3.1
baz=340
P52A Corning 145.03 28 P PKiKP 00 31 52.3 -3.4
baz=324,SNR=7.6
P52A Corning 145.03 28 PKiKP 00 31 52.5 -3.3
K59A Cooperstown 145.06 17 P PKiKP 00 31 52.6 -3.2
baz=337
M56A Emporium 145.13 22 P PKiKP 00 31 53.0 -2.9
baz=331,SNR=14
M56A Emporium 145.13 22 PKiKP 00 31 52.9 -2.9
J61A Chester 145.13 14 P PKiKP 00 31 52.8 -3.0
baz=341
L57A Andrews Acres 145.14 20 P PKiKP 00 31 53.1 -2.9
baz=334,SNR=5.9
PLAL Pickwick Lake 145.15 40 PKiKP 00 31 52.6 -3.5
VBMS Vicksburg 145.18 46 P PKiKP 00 31 54.1 -2.1
baz=304
BINY Binghamton 145.24 19 P PKiKP 00 31 53.3 -2.8
baz=335,SNR=7.5
BINY Binghamton 145.24 19 PKiKP 00 31 53.3 -2.8
O54A Avella 145.37 26 P PKiKP 00 31 54.0 -2.4
baz=327,SNR=9.4
O54A Avella 145.37 26 PKiKP 00 31 53.9 -2.5
J62A Henniker 145.41 13 P PKiKP 00 31 54.3 -2.1
baz=343
L58A Harry Jones Me 145.42 19 P PKiKP 00 31 54.0 -2.5
baz=335,SNR=10.0
N55A Marion Center 145.43 23 P PKiKP 00 31 53.7 -2.8
baz=329,SNR=6.0
CLTN Cedars of Leba 145.47 36 PKiKP 00 31 54.1 -2.7
P53A Whipple 145.49 27 P PKiKP 00 31 54.4 -2.3
baz=324,SNR=10
P53A Whipple 145.49 27 PKiKP 00 31 53.7 -2.9
Q52A Bidwell 145.50 29 P PKiKP 00 31 54.1 -2.7
baz=323
L59A Walton 145.54 18 P PKiKP 00 31 54.3 -2.5
baz=337,SNR=9.5
N56A West Decatur 145.58 22 P PKiKP 00 31 54.4 -2.5
baz=330,SNR=7.2
K61A Williamstown 145.59 15 P PKiKP 00 31 55.0 -1.8
baz=340
M57A Sunshine Farm, 145.63 21 P PKiKP 00 31 54.8 -2.1
baz=333,SNR=18
M57A Sunshine Farm, 145.63 21 PKiKP 00 31 54.8 -2.1
T50A Nancy 145.66 34 PKiKP 00 31 54.8 -2.4
O55A Ligonier 145.79 24 P PKiKP 00 31 55.0 -2.3
baz=328,SNR=6.5
P54A Burton 145.80 26 P PKiKP 00 31 55.4 -2.0
baz=326,SNR=18
M58A Price's Panora 145.83 20 P PKiKP 00 31 55.3 -2.0
baz=334,SNR=11
S51A Beattyville 145.87 32 PKiKP 00 31 55.3 -2.2
KSPA Keystone Colle 145.89 19 PKiKP 00 31 55.8 -1.7
Q53A Leroy 145.94 28 P PKiKP 00 31 55.6 -2.0
baz=324
L61B Northampton 145.94 15 P PKiKP 00 31 55.5 -2.0
baz=341
L61A Hillsdale 1, H 145.96 16 P PKiKP 00 31 56.1 -1.5
baz=339
SSPA Standing Stone 145.97 22 PKiKP 00 31 55.4 -2.2
K63A Dunstable 145.99 13 P PKiKP 00 31 55.7 -1.8
baz=343
N57A Milroy 145.99 22 P PKiKP 00 31 56.1 -1.6
baz=332
M59A Waymart 146.01 19 P PKiKP 00 31 55.7 -2.0
baz=336,SNR=7.0
MCWV Mont Chateau 146.03 25 P PKiKP 00 31 56.5 -1.2
baz=327
O56A Blue Knob Stat 146.03 23 P PKiKP 00 31 56.3 -1.5
baz=330
O56A Blue Knob Stat 146.03 23 PKiKP 00 31 55.7 -2.2
HRV Adam Dziewonsk 146.15 13 P PKiKP 00 31 56.7 -1.3
baz=343
Q54A Coxs Mills 146.15 27 P PKiKP 00 31 56.3 -1.8
baz=325,SNR=14
Q54A Coxs Mills 146.15 27 PKiKP 00 31 56.3 -1.8
R53A Hurricane 146.16 29 P PKiKP 00 31 56.7 -1.4
baz=323
P55A Reedsville 146.16 26 P PKiKP 00 31 56.4 -1.7
baz=327,SNR=9.0
N58A Sunbury 146.22 21 P PKiKP 00 31 56.6 -1.5
baz=333
O57A Amberson 146.44 22 P PKiKP 00 31 57.0 -1.6
baz=331
M60A Port Jervis 146.46 18 P PKiKP 00 31 57.1 -1.5
baz=337
N59A State Game Lan 146.47 19 P PKiKP 00 31 57.3 -1.3
baz=335,SNR=16
Q55A Buckhannon 146.48 26 P PKiKP 00 31 57.3 -1.4
baz=326,SNR=8.1
PB15 IPOC Station P 146.48 167 PKPbc 00 31 54.6 -2.0
P56A Dayton Farm, R 146.58 24 P PKiKP 00 31 57.4 -1.5
baz=329,SNR=8.1
S53A Williamson 146.58 30 P PKiKP 00 31 57.5 -1.5
baz=322
TZTN Tazewell 146.71 33 P PKiKP 00 31 58.2 -1.1
baz=318
TZTN Tazewell 146.71 33 PKiKP 00 31 58.1 -1.1
M61A Granite Spring 146.72 17 P PKiKP 00 31 58.0 -1.2
baz=338
N60A Cedar Hill Far 146.72 19 P PKiKP 00 31 58.3 -0.9
baz=336
R54A Victor 146.73 28 P PKiKP 00 31 58.4 -0.9
baz=324
L63A North Scituate 146.75 14 P PKiKP 00 31 58.2 -0.9
baz=342
O58A Lewisberry 146.78 22 P PKiKP 00 31 58.5 -0.8
baz=332
Q56A Snyder Ridge, 146.82 25 P PKiKP 00 31 58.2 -1.3
baz=328
O59A Robesonia 146.87 20 P PKiKP 00 31 58.2 -1.3
baz=334
S54A Dingess, Beckl 146.88 29 P PKiKP 00 31 58.4 -1.3
baz=323
T53A Wise 146.91 31 P PKiKP 00 31 59.0 -0.8
baz=320
Y49A Blount Mountai 146.92 40 PKiKP 00 31 58.5 -1.3
PAL Palisades 146.96 17 P PKiKP 00 31 59.1 -0.6
baz=338
R55A Marlinton 147.05 27 P PKiKP 00 31 59.6 -0.4

	baz=326						
LRAL	**Lakeview Retre**	**147.08**	**41**	P	**PKiKP**	**00 31 59.3**	**-0.8**
	baz=310						
LRAL	**Lakeview Retre**	**147.08**	**41**		**PKiKP**	**00 31 58.5**	**-1.7**
N61A	**South Mountain**	**147.08**	**18**	P	**PKiKP**	**00 31 59.5**	**-0.4**
	baz=337						
Q57A	**Strasburg**	**147.15**	**24**	P	**PKiKP**	**00 31 59.9**	**-0.2**
	baz=329						
LVC	**Limon Verde**	**147.18**	**168**	PKP2	**PKiKP**	**00 32 02.0**	**+0.9**
LVC	**Limon Verde**	**147.18**	**168**	PKPab	**PKiKP**	**00 32 02.0**	**+0.9**
P58A	**Pank, Wackersv**	**147.19**	**23**	P	**PKiKP**	**00 31 59.2**	**-0.9**
	baz=331						
V52A	**Sevierville**	**147.21**	**34**		**PKiKP**	**00 31 58.9**	**-1.5**
R56A	**Bull Pasture M**	**147.26**	**26**	P	**PKiKP**	**00 31 59.6**	**-0.8**
	baz=327						
S55A	**Lewisburg**	**147.29**	**28**	P	**PKiKP**	**00 31 59.0**	**-1.5**
	baz=324						
T54A	**Tazewell**	**147.34**	**30**	P	**PKiKP**	**00 31 59.7**	**-1.0**
	baz=322						
X51A	**Calhoun**	**147.40**	**37**		**PKPab**	**00 31 59.0**	**-1.6**
P59A	**Jarrettsville**	**147.41**	**21**	P	**PKiKP**	**00 32 00.2**	**-0.4**
	baz=333						
P60A	**Greenville**	**147.51**	**20**	P	**PKPab**	**00 32 00.1**	**-0.8**
	baz=334						
Q58A	**Fox Den Farm,**	**147.52**	**24**	P	**PKPab**	**00 32 00.3**	**-0.7**
	baz=330						
U54A	**Nelsons Funny**	**147.63**	**31**	P	**PKPab**	**00 32 00.7**	**-0.9**
	baz=321						
T55A	**Pulaski**	**147.68**	**29**	P	**PKPab**	**00 32 00.7**	**-1.1**
	baz=323						
R57A	**Stanardsville**	**147.73**	**25**	P	**PKPab**	**00 32 01.1**	**-0.8**
	baz=328						
S56A	**Natural Bridge**	**147.79**	**27**	P	**PKPab**	**00 32 01.2**	**-1.0**
	baz=326						
PB07	**IPOC Station P**	**147.81**	**166**		**PKPab**	**00 32 03.4**	**+0.6**
PB09	**IPOC Station P**	**147.90**	**167**		**PKPab**	**00 32 04.0**	**+0.9**
R58A	**Rapidan**	**147.94**	**25**	P	**PKPab**	**00 32 01.5**	**-1.2**
	baz=329						
S57A	**Dark Hollow, R**	**148.00**	**26**	P	**PKPab**	**00 32 02.0**	**-1.0**
	baz=327						
U55A	**TA2, Sparta**	**148.04**	**30**	P	**PKPab**	**00 32 02.1**	**-1.2**
	baz=322						
T56A	**Rocky Mt**	**148.11**	**28**	P	**PKPab**	**00 32 02.0**	**-1.4**
	baz=324						
V54A	**Nebo**	**148.14**	**32**	P	**PKPab**	**00 32 02.1**	**-1.5**
	baz=320						
V55A	**Taylorsville**	**148.46**	**31**	P	**PKPab**	**00 32 03.2**	**-1.7**
	baz=321						
U56A	**King**	**148.49**	**30**	P	**PKPab**	**00 32 03.4**	**-1.6**
	baz=323						
T57A	**Hurt**	**148.49**	**27**	P	**PKPab**	**00 32 03.2**	**-1.7**
	baz=326						
S58A	**Poland Farm, P**	**148.51**	**25**	P	**PKPab**	**00 32 03.2**	**-1.7**
	baz=328						
R60A	**Leonardtown, M**	**148.53**	**23**	P	**PKPab**	**00 32 03.4**	**-1.7**
	baz=331						
W54A	**Cherokee Point**	**148.54**	**33**	P	**PKPab**	**00 32 03.5**	**-1.8**
	baz=319						
S59A	**Mechanicsville**	**148.69**	**24**	P	**PKPab**	**00 32 03.5**	**-2.2**
	baz=330						
X54A	**Belton**	**148.83**	**34**	P	**PKPab**	**00 32 04.2**	**-2.3**
	baz=318						
V56A	**Mocksville**	**148.86**	**30**	P	**PKPab**	**00 32 04.1**	**-2.4**
	baz=323						
T58A	**Grand View Acr**	**148.86**	**27**	P	**PKPab**	**00 32 03.8**	**-2.6**
	baz=327						
U57A	**Blanch**	**148.92**	**28**	P	**PKPab**	**00 32 04.3**	**-2.4**
	baz=325						
KMSC	**Kings Mountain**	**148.95**	**32**	P	**PKPab**	**00 32 04.3**	**-2.5**
	baz=320						
GOGA	**Godfrey**	**149.03**	**37**	P	**PKPab**	**00 32 04.6**	**-2.6**
	baz=315						
GOGA	**Godfrey**	**149.03**	**37**	PKP2	**PKPab**	**00 32 04.8**	**-2.4**
GOGA	**Godfrey**	**149.03**	**37**		**PKPab**	**00 32 04.8**	**-2.4**
V57A	**Coltrane Farms**	**149.15**	**29**	P	**PKPab**	**00 32 04.5**	**-3.1**
	baz=324						
T59A	**Double "B" Far**	**149.26**	**25**	P	**PKPab**	**00 32 05.4**	**-2.7**
	baz=329						
X55A	**Gracelyn & Ava**	**149.30**	**33**	P	**PKPab**	**00 32 05.2**	**-3.1**
	baz=319						
U58A	**Oxford**	**149.31**	**27**	P	**PKPab**	**00 32 05.0**	**-3.3**
	baz=326						
W56A	**Indian Trail**	**149.34**	**31**	P	**PKPab**	**00 32 05.5**	**-2.9**
	baz=322						
T60A	**Surry**	**149.45**	**24**	P	**PKPab**	**00 32 05.4**	**-3.4**
	baz=330						
PB08	**IPOC Station P**	**149.51**	**166**	PKPab	**PKPab**	**00 32 08.7**	**-1.3**
V58A	**Windy Hill, Pi**	**149.54**	**29**	P	**PKPab**	**00 32 05.6**	**-3.6**
	baz=325						
Y55A	**Saluda**	**149.57**	**34**	P	**PKPab**	**00 32 06.0**	**-3.4**
	baz=318						
X56A	**White Oak**	**149.60**	**33**	P	**PKPab**	**00 32 06.1**	**-3.5**
	baz=320						
W57A	**Gilead**	**149.63**	**31**	P	**PKPab**	**00 32 05.9**	**-3.8**
	baz=323						
U59A	**Littleton**	**149.68**	**26**	P	**PKPab**	**00 32 06.0**	**-3.8**
	baz=328						
U60A	**Pendleton**	**149.85**	**25**	P	**PKPab**	**00 32 06.3**	**-4.2**
	baz=329						
V59A	**Middlesex**	**149.97**	**27**	P	**PKPab**	**00 32 06.6**	**-4.4**
	baz=326						
W58A	**Raeford**	**150.11**	**30**	P	**PKPab**	**00 32 07.1**	**-4.5**
	baz=324						
V60A	**Jim Taylor Roa**	**150.41**	**26**	P	**PKPab**	**00 32 07.7**	**-5.1**
	baz=328						
Z57A	**Bowman**	**150.69**	**34**	P	**PKiKP**	**00 32 08.4**	**+0.9**
	baz=320						
X59A	**McDuffie Farm,**	**150.78**	**29**	P	**PKiKP**	**00 32 08.4**	**+0.8**
	baz=324						
X60A	**Albert Glenn T**	**151.07**	**28**	P	**PKiKP**	**00 32 09.2**	**+0.9**
	baz=326						
158A	**Hollywood**	**151.39**	**34**	P	**PKiKP**	**00 32 09.3**	**+0.3**
	baz=320						
BDFB	**Brasilia**	**151.43**	**209**	PKPbc	**PKiKP**	**00 32 11.0**	**+1.3**
	comp=Z,4.9nm,0.4s,baz=223,slow=0.1,SNR=12						
BDFB	**Brasilia**	**151.43**	**209**	PKIKP	**PKiKP**	**00 32 11.3**	**+1.6**
BDFB	**Brasilia**	**151.43**	**209**		**PKiKP**	**00 32 11.3**	**+1.6**
LPAZ	**La Paz**	**153.47**	**166**	PKPbc	**PKiKP**	**00 32 17.2**	**+2.7**
	comp=Z,1.4nm,0.4s,baz=41,slow=3.2,SNR=15						
LPAZ	**La Paz**	**153.47**	**166**	PKIKP	**PKPbc**	**00 32 09.0**	**-5.4**
LPAZ	**La Paz**	**153.47**	**166**	PKPdf	**PKPbc**	**00 32 09.0**	**-5.4**

*NEIC **26** 01:04:38.8±1.4,51°.8N±0°.1×178°.40E±0°.08,h112km±5km, Error ellipse: s-maj=19.7km s-min=7.3km az=183.0*
*IDC **26** 01:04:38.5±2.8,51°.91N×178°.47E,h110km±24km, mb3.7/18,mb1 3.8/20,mb1mx3.6/44,mbtmp4.1/20,Error ellipse: s-maj=22.6km s-min=11.5km az=175.0*
*AEIC **26** 01:04:39.7±1.3,51°.8N±0°.1×178°.38E±0°.08,h108km±4km, ML3.6/29,mb4.2/44(NEIC),Error ellipse: s-maj=19.8km s-min=7.0km az=185.0*

ISC 26 01:04:39.1±0.7,**51°.92N**±0°.10×**178°.39E**±0°.04,**h113**km±5km, **n108,**σθ**98**/116,**mb4.1**/31,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.08**	**70**		**Pn**	**01 04 54.3**	**-0.4**
LSNW	**Little Sitkin**	**0.09**	**58**		**Pn**	**01 04 54.3**	**-0.4**
LSPA	**Little Sitkin**	**0.12**	**73**		**Pn**	**01 04 54.4**	**-0.3**
LSPA					**Sn**	**01 05 07.0**	**+0.6**
CETU	**Semis' Tuman**	**0.69**	**86**		**Pn**	**01 04 57.4**	**-0.3**
CESW	**Semis' Southwe**	**0.73**	**91**		**Pn**	**01 04 57.3**	**-0.7**
CEAP	**Semis' Anvil P**	**0.74**	**83**		**Pn**	**01 04 57.8**	**-0.3**
CEAP					**Sn**	**01 05 12.2**	**-0.1**
AMKA	**Amchitka**	**0.79**	**133**		**Pn**	**01 05 00.3**	**+1.8**
AMKA					**Sn**	**01 05 13.4**	**+0.3**
CERAA	**Semis' Rag'd T**	**0.80**	**91**		**Pn**	**01 04 58.2**	**-0.4**
CERAA					**Sn**	**01 05 13.4**	**0.0**
TASE	**Tanaga Southea**	**2.22**	**91**		**Pn**	**01 05 14.6**	**-0.4**
TASE					**Sn**	**01 05 41.3**	**-1.1**
TAFP	**Tanaga Falls P**	**2.25**	**89**		**Pn**	**01 05 15.0**	**-0.4**
TAFP					**Sn**	**01 05 42.2**	**-0.9**
KIMD	**Kanaga Island**	**2.72**	**92**		**Pn**	**01 05 20.8**	**-0.6**
KICM	**Kanaga Island**	**2.73**	**88**		**Pn**	**01 05 21.5**	**-0.1**
KIKV	**Kanaga Island**	**2.75**	**89**		**Pn**	**01 05 21.5**	**-0.4**
SMY	**Shemya**	**2.75**	**289**		**Pn**	**01 05 21.5**	**-0.4**
SMY	**Shemya**	**2.75**	**289**		**Sn**	**01 05 55.1**	**+0.3**
ADK	**Adak**	**3.05**	**89**		**Pn**	**01 05 24.9**	**-0.9**
ADK	**Adak**	**3.05**	**89**	Sn	**Sn**	**01 06 01.1**	**-0.7**
ADAG	**Mount Adagdak**	**3.10**	**87**		**Pn**	**01 05 26.0**	**-0.4**
GSTD	**Great Sitkin T**	**3.38**	**86**		**Pn**	**01 05 29.4**	**-0.9**
GSTR	**Great Sitkin T**	**3.44**	**85**		**Pn**	**01 05 30.4**	**-0.6**
GSMY	**Great Sitkin M**	**3.44**	**86**		**Pn**	**01 05 30.3**	**-0.6**
GSMY					**Sn**	**01 06 10.6**	**-0.4**
ATKA	**Atka Island**	**4.58**	**84**		**Pn**	**01 05 45.9**	**-0.4**

NIKH	**Nikolski High**	**7.87**	**77**	Pn	**Pn**	**01 06 30.8**	**+0.1**
SPIA	**Saint Paul Isl**	**8.44**	**47**	Pn	**Pn**	**01 06 40.2**	**+1.9**
UNV	**Unalaska Valle**	**9.34**	**72**	Pn	**Pn**	**01 06 52.2**	**+1.7**
AKUT	**Akutan**	**9.80**	**71**	Pn	**Pn**	**01 06 57.9**	**+1.2**
PETK	**Petropavlovsk-**	**12.66**	**284**	P	**Pn**	**01 07 36.0**	**+1.1**
	0.4nm,0.3s,baz=90,slow=14,SNR=3.1						
PETK				S	**Sn**	**01 09 49.6**	**-4.4**
	0.4nm,0.3s,baz=40,slow=16,SNR=2.6						
SVW2	**Sparrevohn**	**16.94**	**47**	P	**P**	**01 08 30.0**	**+1.0**
TTA	**Tatalina**	**17.51**	**41**	P	**Pn**	**01 08 36.6**	**+0.8**
KDAK	**Kodiak Island**	**17.62**	**59**	P	**P**	**01 08 34.4**	**-2.2**
	1.9nm,0.3s,baz=154,slow=2.5,SNR=33						
KDAK	**Kodiak Island**	**17.62**	**59**	P	**Pn**	**01 08 37.3**	**+0.1**
KDAK				IAmb	IAmb	01 08 37.4	
	comp=Z,6.0nm,0.4s						
RSO	**Redoubt South**	**18.06**	**50**	P	**Pn**	**01 08 43.5**	**+0.9**
SKT	**Skwentna**	**19.06**	**46**	P	**P**	**01 08 52.5**	**+0.2**
SKT				IAmb	IAmb	01 08 59.6	
	comp=Z,11nm,0.8s						
PPLA	**Purkeypile**	**19.09**	**43**	P	**Pn**	**01 08 55.6**	**+0.9**
PPLA				IAmb	IAmb	01 08 59.6	
	comp=Z,12nm,1.1s						
SUA	**Susitna One**	**19.27**	**48**	P	**Pn**	**01 08 56.5**	**-0.4**
SEW	**Seward**	**19.58**	**53**	P	**P**	**01 08 57.6**	**-0.2**
SEW				IAmb	IAmb	01 09 00.8	
	comp=Z,12nm,0.8s						
BPAW	**Bear Paw Mtn.**	**20.04**	**41**	P	**P**	**01 09 04.5**	**+1.6**
TRF	**Thorofare Moun**	**20.09**	**43**	P	**P**	**01 09 04.4**	**+0.8**
TRF				IAmb	IAmb	01 09 07.4	
	comp=Z,8.7nm,0.8s						
GHO	**Glory Hole Cre**	**20.19**	**48**	P	**P**	**01 09 06.4**	**+1.8**
GHO				IAmb	IAmb	01 09 08.1	
	comp=Z,6.4nm,0.7s						
KNK	**Knik Glacier**	**20.32**	**49**	P	**P**	**01 09 07.2**	**+1.3**
KNK				IAmb	IAmb	01 09 09.5	
	comp=Z,11nm,0.8s						
SML	**Sawmill**	**20.47**	**48**	P	**P**	**01 09 09.2**	**+1.6**
SML				IAmb	IAmb	01 09 23.8	
	comp=Z,7.1nm,0.8s						
GLI	**Glacier Island**	**20.86**	**51**	P	**P**	**01 09 12.0**	**+0.2**
GLI				IAmb	IAmb	01 09 12.6	
	comp=Z,11nm,0.7s						
SCM	**Sheep Creek Mo**	**20.94**	**48**	P	**P**	**01 09 13.7**	**+1.1**
FID	**Port Fidalgo**	**21.14**	**52**	P	**P**	**01 09 14.4**	**-0.4**
DHY	**Denali Highway**	**21.23**	**45**	P	**P**	**01 09 16.0**	**+0.3**
DHY				IAmb	IAmb	01 09 18.0	
	comp=Z,9.2nm,0.9s						
CCB	**Clear Creek Bu**	**21.53**	**41**	P	**P**	**01 09 20.4**	**+1.6**
ILAR	**Eielson Array**	**21.95**	**41**	P	**P**	**01 09 22.2**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=244,slow=9.4,SNR=10.0						
ILAR				ScP	**ScP**	**01 16 42.4**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=250,slow=1.2,SNR=4.5						
ILAR	**Eielson Array**	**21.95**	**41**	P	**P**	**01 09 23.6**	**+0.4**
GLB	**Gilahina Butte**	**22.53**	**50**	P	**P**	**01 09 29.1**	**-0.1**
GLB				IAmb	IAmb	01 09 32.6	
	comp=Z,5.6nm,0.7s						
VRDI	**Verde Repeater**	**22.67**	**51**	P	**P**	**01 09 31.3**	**+0.5**
VRDI				IAmb	IAmb	01 09 33.6	
	comp=Z,6.8nm,0.7s						
CRQM	**Cirque**	**22.77**	**52**	P	**P**	**01 09 32.7**	**+0.8**
DOT	**Dot Lake**	**22.82**	**45**	P	**P**	**01 09 32.7**	**+0.6**
MCARA	**McCarthy VSAT**	**22.89**	**51**	P	**P**	**01 09 30.3**	**-2.5**
MCARA				IAmb	IAmb	01 09 34.9	
	comp=Z,11nm,0.8s						
SCRK	**Sand Creek**	**22.93**	**44**	P	**P**	**01 09 32.3**	**-0.9**
FYU	**Fort Yukon**	**23.21**	**37**	P	**P**	**01 09 37.5**	**+1.8**
FYU				IAmb	IAmb	01 09 38.6	
	comp=Z,7.3nm,0.9s						
BCAR	**Beaver Creek A**	**23.71**	**47**	P	**P**	**01 09 41.8**	**+1.4**
TABL	**Table Mountain**	**23.73**	**53**	P	**P**	**01 09 42.0**	**+1.3**
BMAR	**Burnt Mountain**	**23.77**	**35**	P	**P**	**01 09 41.8**	**+0.9**
EGAK	**Eagle**	**24.31**	**42**	P	**P**	**01 09 46.3**	**+0.6**
EGAK				IAmb	IAmb	01 09 47.2	
	comp=Z,12nm,0.9s						
DAWY	**Dawson**	**24.93**	**45**	P	**P**	**01 09 51.8**	**+0.4**
DAWY				IAmb	IAmb	01 09 54.7	
	comp=Z,5.4nm,0.7s						
HYT	**Haines Junctio**	**25.53**	**52**	P	**P**	**01 10 00.4**	**+3.4**
KLR	**Kul'dur**	**29.35**	**283**	P	**P**	**01 10 31.6**	**+0.5**
	comp=Z,4.6nm,0.7s,baz=64,slow=6.9,SNR=18						
USRK	**Ussuriysk Ar.**	**31.50**	**274**	P	**P**	**01 10 49.9**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=73,slow=5.7,SNR=5.0						
USRK	**Ussuriysk Ar.**	**31.50**	**274**	P	**P**	**01 10 50.5**	**+0.5**
H11N2	**WAKE ISLAND Hy**	**33.37**	**200**	T	T	01 46 37.2	
	baz=11						
H11N3	**WAKE ISLAND Hy**	**33.38**	**200**	T	T	01 46 34.2	
	baz=11						
H11N1	**WAKE ISLAND Hy**	**33.38**	**200**	T	T	01 46 36.5	
	baz=11						
YKA	**Yellowknife Ar**	**36.13**	**46**	P	**P**	**01 11 29.6**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=283,slow=8.4,SNR=5.2						
SONM	**Songino Array**	**44.83**	**295**	P	**P**	**01 12 42.2**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=64,slow=8.8,SNR=6.3						
SONM				PcP	**PcP**	**01 14 21.7**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=55,slow=5.5,SNR=1.8						
SONM	**Songino Array**	**44.83**	**295**	P	**P**	**01 12 42.6**	**+0.9**
BOZ	**Bozeman (W)**	**44.93**	**69**	P	**P**	**01 12 41.6**	**-1.0**
KVN	**Kaiserville**	**44.95**	**81**	P	**P**	**01 12 43.4**	**+0.6**
KVN				IAmb	IAmb	01 12 43.8	
	comp=Z,2.1nm,0.7s						
RYN	**Ryan**	**44.95**	**81**	P	**P**	**01 12 43.4**	**+0.6**
NVAR	**Mina Array Bea**	**45.21**	**81**	P	**P**	**01 12 44.5**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=296,slow=7.6,SNR=8.7						
NVAR	**Mina Array Bea**	**45.21**	**81**	P	**P**	**01 12 45.0**	**+0.1**
NV11	**Mina Array Sit**	**45.30**	**81**	P	**P**	**01 12 46.2**	**+0.6**
R11A	**Troy Canyon, C**	**46.92**	**80**	P	**P**	**01 12 58.9**	**+0.6**
TPNV	**Topopah Spring**	**47.41**	**82**	P	**P**	**01 13 02.4**	**+0.3**
TPNV				IAmb	IAmb	01 13 03.5	
	comp=Z,3.5nm,0.8s						
DUG	**Dugway, Tooele**	**47.44**	**76**	P	**P**	**01 13 01.9**	**-0.4**
DUG				IAmb	IAmb	01 13 03.1	
	comp=Z,2.1nm,0.7s						
PDAR	**Pinedale Array**	**47.80**	**71**	P	**P**	**01 13 04.0**	**-1.1**
	comp=Z,3.3nm,0.7s,baz=308,slow=3.3,SNR=6.4						
PSUT	**Pine Spring**	**47.86**	**78**	P	**P**	**01 13 05.6**	**0.0**
NLU	**North Lily Min**	**48.04**	**76**	P	**P**	**01 13 06.5**	**-0.5**
PV13	**Radium Mtn., P**	**51.13**	**75**	P	**P**	**01 13 30.4**	**-0.1**
PV02	**Paradox Valley**	**51.15**	**75**	P	**P**	**01 13 30.2**	**-0.4**
ZALV	**Zalesovo Beam**	**52.37**	**312**	PcP	**PcP**	**01 14 49.0**	**+0.4**
	comp=Z,0.6nm,0.4s,baz=46,slow=4.2,SNR=3.7						
ARCES	**ARCESS Array B**	**57.24**	**349**	P	**P**	**01 14 13.4**	**-0.6**
	comp=Z,1.6nm,0.8s,baz=40,slow=8.5,SNR=1.4						
ARCES	**ARCESS Array B**	**57.24**	**349**	P	**P**	**01 14 14.6**	**+0.6**
KURK	**Kurchatov**	**57.37**	**312**	P	**P**	**01 14 15.8**	**+0.6**
KURBB	**Kurchatov Arra**	**57.47**	**312**	P	**P**	**01 14 15.9**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=41,slow=6.8,SNR=23						
KURBB				PcP	**PcP**	**01 15 07.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=41,slow=3.7,SNR=4.1						
MK31	**Makanchi Array**	**58.31**	**307**	P	**P**	**01 14 22.1**	**+0.2**
MK31				IAmb	IAmb	01 14 22.4	
	comp=Z,1.2nm,0.6s						
MKAR	**Makanchi Array**	**58.31**	**307**	P	**P**	**01 14 21.8**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=46,slow=6.2,SNR=13						
MAKZ	**Makanchi**	**58.46**	**307**	P	**P**	**01 14 23.5**	**+0.6**
MAKZ				IAmb	IAmb	01 14 23.5	
	comp=Z,1.9nm,0.8s						
BVAR	**Borovoye Array**	**59.33**	**318**	P	**P**	**01 14 29.0**	**+0.2**
	comp=Z,2.6nm,0.5s,baz=59,slow=6.0,SNR=18						
TXAR	**Lajitas Array**	**60.29**	**79**	P	**P**	**01 14 35.5**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=282,slow=5.3,SNR=3.0						
TXAR	**Lajitas Array**	**60.29**	**79**	P	**P**	**01 14 34.8**	**-1.0**
ARU	**Arti**	**61.20**	**327**	P	**P**	**01 14 42.3**	**+0.9**
FINES	**FINESS Array B**	**64.84**	**346**	P	**P**	**01 15 05.4**	**0.0**
	comp=Z,0.6nm,0.4s,baz=356,slow=5.7,SNR=5.8						
FINES	**FINESS Array B**	**64.84**	**346**	P	**P**	**01 15 06.3**	**+0.9**
AKTO	**Aktyubinsk**	**66.21**	**323**	P	**P**	**01 15 14.3**	**-0.1**
	comp=Z,3.6nm,0.6s,baz=48,slow=8.9,SNR=12						
NOA	**NORSAR Array B**	**66.92**	**353**	P	**P**	**01 15 18.1**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=7.5,slow=6.2,SNR=2.1						
CMAR	**Chiang Mai Arr**	**69.22**	**274**	P	**P**	**01 15 33.9**	**+0.1**
	comp=Z,0.9nm,0.3s,baz=24,slow=6.9,SNR=1.8						
AKASG	**Malin Array Be**	**74.47**	**340**	P	**P**	**01 16 05.1**	**+0.5**
	comp=Z,0.9nm,0.4s,baz=22,slow=6.5,SNR=2.5						
WRA	**Warramunga Arr**	**81.23**	**221**	P	**P**	**01 16 41.9**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=28,slow=6.1,SNR=3.7						
ASAR	**Alice Springs**	**84.74**	**220**	P	**P**	**01 16 59.9**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=23,slow=5.8,SNR=4.2						
ASAR	**Alice Springs**	**84.74**	**220**	P	**P**	**01 17 01.4**	**+1.0**
TORD	**Torodi Ar. Bea**	**115.14**	**356**	PKP	**PKiKP**	**01 23 06.1**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=341,slow=1.7,SNR=5.3						
BOSA	**Boshof**	**149.29**	**309**	PKPbc	**PKPbc**	**01 24 13.7**	**-0.8**
	comp=Z,1.1nm,0.4s,baz=31,slow=3.0,SNR=5.6						
BOSA	**Boshof**	**149.29**	**309**		**PKiKP**	**01 24 15.6**	**+0.1**

*IDC **26** 01:26:09.6±0.8,55°.67S×27°.18W,h0km,mb4.0/6, mb1 4.1/7,mb1mx3.9/27,mbtmp3.9/7,ML3.6/1,MS3.5/1, Ms1 3.5/1,ms1mx2.8/26,Error ellipse: s-maj=28.5km s-min=21.3km az=49.0*
*NEIC **26** 01:26:18.3±1.5,56°.0S±0°.2×27°.6W±0°.2,h81km±6km, mb4.6/16,Error ellipse: s-maj=23.6km s-min=15.5km az=198.0*

ISC 26 01:26:22.0±0.6,**55°.9S**±0°.1×**27°.8W**±0°.1,**h112**km,**n35,** σ1θ**44**/28,**mb4.3**/15,**1C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.25**	**284**	Pn	**Pn**	**01 27 35.1**	**-3.0**
EFI	**East Falkland**	**18.29**	**271**	P	**P**	**01 30 26.7**	**-0.2**
SNAA	**Sanae**	**19.02**	**156**	P	**P**	**01 30 33.1**	**-1.7**
	0.2nm,0.3s,baz=281,slow=8.2,SNR=14						
SNAA	**Sanae**	**19.02**	**156**	P	**P**	**01 30 32.6**	**-2.1**
PLCA	**Paso Flores**	**31.64**	**280**	LR	LR	01 46 31.1	
	comp=Z,85nm,19.4s,baz=120,slow=38						
BI02	**San Fabin de**	**34.92**	**285**	P	**P**	**01 33 02.8**	**-0.1**
BI02				IAmb	IAmb	01 33 20.6	
	comp=Z,8.4nm,1.1s						
CPUP	**Villa Florida**	**36.46**	**312**	P	**P**	**01 33 17.4**	**+1.4**
	comp=Z,1.3nm,0.5s,baz=166,slow=9.7,SNR=4.1						
CPUP	**Villa Florida**	**36.46**	**312**	P	**P**	**01 33 16.6**	**+0.7**
CFA	**Coronel Fontan**	**37.19**	**294**	P	**P**	**01 33 24.0**	**+1.8**
	comp=Z,1.1nm,0.4s,baz=190,slow=6.1,SNR=1.4						
CO03	**El Pedregal**	**39.07**	**292**	P	**P**	**01 33 37.4**	**-0.6**
CO03				IAmb	IAmb	01 33 50.7	
	comp=Z,5.3nm,1.1s						
AC01	**Pan de Azucar**	**42.81**	**296**	P	**P**	**01 34 08.9**	**+0.4**
GO02	**Mina Guanaco**	**43.12**	**298**	P	**P**	**01 34 12.9**	**+1.4**
GO02				IAmb	IAmb	01 34 15.4	
	comp=Z,5.9nm,0.6s						
LVC	**Limon Verde**	**44.93**	**301**	P	**P**	**01 34 26.9**	**+0.9**
PB10	**IPOC Station P**	**44.97**	**298**	P	**P**	**01 34 25.4**	**-0.5**
PB10				IAmb	IAmb	01 34 35.7	
	comp=Z,9.7nm,0.9s						
PB06	**IPOC Station P**	**45.17**	**300**	P	**P**	**01 34 29.0**	**+1.4**
PB06				IAmb	IAmb	01 34 36.4	
	comp=Z,9.3nm,0.7s						
VNDA	**Vanda**	**46.70**	**183**	P	**P**	**01 34 41.5**	**+2.7**
	comp=Z,0.7nm,0.6s,baz=191,slow=6.0,SNR=9.8						
GO01	**Chusmiza**	**47.58**	**302**	P	**P**	**01 34 47.7**	**+0.9**
GO01				IAmb	IAmb	01 34 54.5	
	comp=Z,4.9nm,0.8s						
PB11	**IPOC Station P**	**47.72**	**302**	P	**P**	**01 34 49.0**	**+1.5**
PB11				IAmb	IAmb	01 34 53.1	
	comp=Z,10.0nm,0.9s						
H10S2	**ASCENSION HYDR**	**47.96**	**18**	T	T	02 27 04.1	
	baz=189,slow=74,SNR=9.3						
H10S3	**ASCENSION HYDR**	**47.96**	**18**	T	T	02 27 09.0	
	baz=31,slow=74,SNR=19						
H10N1	**ASCENSION HYDR**	**49.08**	**18**	T	T	02 27 48.2	
	baz=188						
H10N3	**ASCENSION HYDR**	**49.08**	**18**	T	T	02 28 35.8	
	baz=188,slow=74						
H10N2	**ASCENSION HYDR**	**49.09**	**18**	T	T	02 28 37.2	
	baz=188,slow=74						
LPAZ	**La Paz**	**50.01**	**306**	P	**P**	**01 35 07.7**	**+2.1**
	comp=Z,1.9nm,0.6s,baz=162,slow=6.3,SNR=13						
MATP	**Matopo**	**54.57**	**73**	P	**P**	**01 35 37.1**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=129,slow=20,SNR=1.2						
DBIC	**Dimbokro**

H03S1	**Juan Fernandez**	**80.28**	**123**	T		T	03 19 29.4	
	baz=238,slow=74,SNR=4.5							
H03S3	**Juan Fernandez**	**80.28**	**123**	T		T	03 19 22.8	
	baz=238,slow=74,SNR=6.0							
H03N3	**Juan Fernandez**	**80.45**	**123**	T		T	03 19 31.5	
	baz=232							
H03N2	**Juan Fernandez**	**80.46**	**123**	T		T	03 19 26.6	
	baz=232							
H03N1	**Juan Fernandez**	**80.47**	**123**	T		T	03 19 25.5	
	baz=232							
MKAR	**Makanchi Array**	**117.91**	**310**	PKP		**PKiKP**	**01 56 27.8**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=116,slow=0.5,SNR=1.9							
MKAR	**Makanchi Array**	**117.91**	**310**			**PKiKP**	**01 56 27.3**	**+0.5**
FINES	**FINESS Array B**	**144.99**	**340**	PKP		**PKPdf**	**01 57 16.4**	**-0.5**
	comp=Z,2.8nm,0.5s,baz=59,slow=4.0,SNR=14							
NB2	**NORSAR Subarra1**	**48.49**	**352**	PKP		**PKiKP**	**01 57 27.0**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=16,slow=4.4							
NOA	**NORSAR Array B**	**148.49**	**352**	PKPbc		**PKiKP**	**01 57 26.9**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=14,slow=4.3,SNR=3.0							
AKASG	**Malin Array Be**	**151.31**	**323**	PKPbc		**PKiKP**	**01 57 34.8**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=43,slow=3.4,SNR=2.0							
AKASG	**Malin Array Be**	**151.31**	**323**	PKPdf		**PKPdf**	**01 57 27.8**	**+0.2**
BRTR	**Keskin Array B**	**152.84**	**299**	PKPbc		**PKiKP**	**01 57 38.3**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=90,slow=4.3,SNR=1.5							
BRTR				PKPab		**sPKPbc**	**01 57 50.2**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=69,slow=5.6,SNR=4.6							
BRTR	**Keskin Array B**	**152.84**	**299**			**PKPab**	**01 57 49.3**	**+0.5**
TORD	**Torodi Ar. Bea**	**163.15**	**177**	PKPab		**PKPab**	**01 58 34.1**	**+0.7**
	comp=Z,0.5nm,0.9s,baz=171,slow=4.2,SNR=1.9							

ISC 26 01:39:46.2±0.8, 50°13N±0.04×19°24E±0.03, h0km, n33, σ1.9 40/54, 6C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
OJC	**Ojcow**	**0.37**	**76**	*e*Pg		**Pb**		**01 39 55.8**	**+0.2**
OJC				*e*Sg		**Sb**		**01 40 02.0**	**+0.1**
OKC	**Ostrava-Krasne**	**0.76**	**248**	*e*PG		**Pg**		**01 40 01.1**	**+0.3**
OKC				*e*SG		**Sg**		**01 40 10.0**	**-0.7**
	comp=Z,38nm,0.8s								
NIE	**Niedzica**	**0.99**	**136**	*e*Pg		**Pn**		**01 40 07.4**	**0.0**
NIE				*e*Sg		**Sn**		**01 40 22.8**	**+0.7**
LANS	**Liptovska Anna**	**0.99**	**171**	*e*PG		**Pn**		**01 40 07.0**	**-0.4**
LANS				*e*SG		**Sn**		**01 40 21.1**	**-1.1**
LANS				*e*LG		Lg		01 40 23.8	
MORC	**Moravsky Berou**	**1.15**	**253**	⇑P		**Pg**		**01 40 07.9**	**-0.3**
MORC				⇑S		**Sg**		**01 40 22.9**	**-0.2**
MORC	**Moravsky Berou**	**1.15**	**253**	*e*PG		**Pg**		**01 40 07.5**	**-0.7**
MORC				*e*SG		**Sg**		**01 40 22.8**	**-0.4**
JAVC	**Velka Javorina**	**1.63**	**219**	*e*PN		**Pg**		**01 40 17.7**	**+0.2**
VYHS	**Vyhne**	**1.66**	**189**	*e*PN		**Pn**		**01 40 16.7**	**+0.1**
VYHS				*e*SN		**Sb**		**01 40 38.7**	**-0.4**
KECS	**Kecovo**	**1.84**	**153**	*e*PN		**Pb**		**01 40 20.1**	**-0.6**
KECS				*e*LG		Lg		01 40 51.3	
DPC	**Dobruska-Polom**	**1.89**	**278**	*e*PG		**Pn**		**01 40 20.5**	**+0.8**
DPC				*e*SG		**Sb**		**01 40 45.2**	**-0.4**
	comp=Z,35nm,0.6s								
VRAC	**Vranov**	**1.91**	**245**	⇓P		**Pn**		**01 40 19.4**	**-0.5**
VRAC				⇓S		**Sb**		**01 40 45.7**	**-0.4**
VRAC	**Vranov**	**1.91**	**245**	*e*PN		**Pn**		**01 40 20.0**	**+0.1**
VRAC				*e*SG		**Sb**		**01 40 45.3**	**-0.8**
OSTC	**Ostas**	**1.98**	**284**	*e*PG		**Pb**		**01 40 23.0**	**-0.2**
OSTC				*e*SG		**Sb**		**01 40 48.6**	**+0.2**
	comp=Z,21nm,0.5s								
KSP	**Ksiaz**	**2.01**	**292**	*e*Pg		**Pg**		**01 40 26.9**	**+2.1**
KSP				*e*Sg		**Sg**		**01 40 50.5**	**-0.3**
CHVC	**Chvalec**	**2.09**	**284**	*e*PN		**Pn**		**01 40 22.4**	**-0.1**
CHVC				*e*SG		**Sg**		**01 40 53.0**	**-0.3**
	comp=Z,9.2nm,0.4s								
UPC	**Upice**	**2.10**	**282**	*e*PG		**Pb**		**01 40 24.3**	**-0.9**
UPC				*e*SG		**Sg**		**01 40 53.0**	**-0.7**
	comp=Z,14nm,0.4s								
KRUC	**Moravsky**	**2.14**	**241**	*e*PN		**Pb**		**01 40 24.7**	**-1.1**
KRUC				*e*SG		**Sb**		**01 40 52.1**	**-0.7**
PSZ	**Piszkesteto**	**2.26**	**169**	⇑P		**Pn**		**01 40 25.7**	**+0.8**
GOPC	**GO Pecny, Ondr**	**2.88**	**267**	*e*PG		**Pb**		**01 40 38.2**	**-0.2**
GOPC				*e*SG		**Sg**		**01 41 16.8**	**-1.9**
	comp=Z,14nm,0.6s								
TRPA	**Tarpa**	**2.95**	**131**	⇑P		**Pn**		**01 40 34.3**	**+0.1**
PVCC	**Panska Ves**	**3.02**	**279**	*e*SG		**Sg**		**01 41 21.8**	**-1.3**
	comp=Z,18nm,0.3s								
PRU	**Pruhonice**	**3.03**	**269**	*e*PG		**Pb**		**01 40 41.9**	**+0.9**
PRU				*e*SG		**Sb**		**01 41 20.3**	**+1.8**
	comp=Z,6.3nm,0.4s								
PRA	**Prague**	**3.10**	**271**	*e*SG		**Sg**		**01 41 24.1**	**-1.5**
	comp=Z,5.3nm,0.5s								
CONA	**Conrad Observa**	**3.13**	**227**	*e*Pn		**Pn**		**01 40 37.6**	**+0.8**
	0.8nm,0.3s								
CONA				*i* Sn		**Sn**		**01 41 13.8**	**-1.1**
	2.8nm,0.3s								
BRG	**Berggiesshubel**	**3.46**	**284**	PG		**Pg**		**01 40 53.1**	**+0.6**
BRG				SG		**Sb**		**01 41 33.1**	**+2.2**
	5.0nm,0.5s								
KHC	**Kasperske Hory**	**3.81**	**257**	*e*PG		**Pb**		**01 40 56.5**	**+2.1**
KHC				*e*SG		**Sg**		**01 41 45.5**	**-3.1**
	comp=Z,9.2nm,0.4s								
CLL	**Collm**	**4.13**	**289**	*e*Pg		**Pg**		**01 41 05.0**	**-0.4**
CLL				*e*Sg		**Sg**		**01 41 57.0**	**-1.9**
	comp=Z,6.0nm,0.4s								
SIRR	**Siria**	**4.19**	**156**	⇓P		**Pn**		**01 40 51.8**	**+0.5**
NKC	**Novy Kostel**	**4.37**	**274**	*e*SG		**Sg**		**01 42 04.6**	**-1.8**
	comp=Z,5.9nm,0.5s								
BURAR	**Bucovina Array**	**4.68**	**120**	⇑P		**Pn**		**01 40 57.1**	**-1.1**
BZS	**Buzias**	**4.79**	**160**	⇑P		**Pn**		**01 41 00.4**	**+0.8**
KBA	**Koelnbreinsper**	**4.96**	**234**	Sg		**Sg**		**01 42 32.2**	**+6.6**
	comp=Z,2.1nm,0.4s								
HERR	**Herculane**	**5.68**	**157**	⇓P		**Pn**		**01 41 12.0**	**+0.3**

IDC 26 01:42:48.6±4.5, 28°53S×177°43W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/31, mbtmp3.5/2, Error ellipse: s-maj=92.5km s-min=27.6km az=102.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
RAO	**Raoul Island**	**0.84**	**211**	Pn		Pn		01 43 07.9	+0.3
	45nm,0.3s,baz=52,slow=19,SNR=1.6								
RAO				Sn		Sn		01 43 21.1	+0.4
	222nm,0.3s,baz=37,slow=22,SNR=6.8								
ASAR	**Alice Springs**	**43.74**	**265**	P		P		01 50 56.6	+0.6
	0.2nm,0.4s,baz=102,slow=7.7,SNR=1.5								
WRA	**Warramunga Arr**	**44.56**	**270**	P		P		01 51 01.6	-0.9
	0.7nm,0.6s,baz=110,slow=7.3,SNR=1.8								
FINES	**FINESS Array B**	**143.55**	**341**	PKP		PKPdf		02 02 24.0	-0.6
	0.8nm,0.8s,baz=55,slow=5.3,SNR=3.5								

*SJA **26** 01:50:35.7±0.8, 20°08S×71°27W, h10km, ML3.8, MW3.8*
*IDC **26** 01:50:42.9±1.7, 20°06S×70°43W, h0km, mb3.9/4, mb1 3.9/6, mb1mx3.7/34, mbtmp3.9/6, ML3.1/2, MS2.9/5, Ms1 3.0/5, ms1mx2.8/32, Error ellipse: s-maj=35.9km s-min=25.9km az=74.0*
*NEIC **26** 01:50:45.3±1.6, 20°35S±0°03×70°74W±0°07, h22km±6km, mb4.2/6, ML3.9(GUC), Error ellipse: s-maj=10.4km s-min=3.6km az=98.0*
*GUC **26** 01:50:46.5±0.7, 20°30S×70°63W, h31km±2km, ML3.9*

ISC 26 01:50:45.8±1.2, 20°31S±0°03×70°64W±0°06, h32km±9km, n77, σ1.9 38/87, mb4.1/5, 7C-6D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
TA02	**Huaiquique**	**0.48**	**85**	⇓*e*P		**Pb**		**01 50 56.2**	**+0.1**
TA02				*e*S		**Sb**		**01 51 02.7**	**-0.4**
TA01	**Diego Aracena**	**0.50**	**120**	⇓*e*P		**Pb**		**01 50 56.3**	**0.0**
TA01				*e*S		**Sb**		**01 51 03.6**	**0.0**
TA01	**Diego Aracena**	**0.50**	**120**			**Pb**		**01 50 56.4**	**0.0**
PSGC	**Pisagua**	**0.86**	**35**	⇓*e*P		**Pn**		**01 51 01.9**	**+0.2**
PSGC				*e*S		**Sn**		**01 51 13.4**	**+0.1**
PB11	**IPOC Station P**	**1.08**	**60**	⇓*e*P		**Pn**		**01 51 05.5**	**+0.8**
PB11				*e*S		**Sb**		**01 51 19.9**	**0.0**
PB11				IAML				01 51 25.1	
	comp=N,6μm,0.2s								
PB11	**IPOC Station P**	**1.08**	**60**	Pn		Pn		**01 51 05.7**	**+1.0**
PB02	**IPOC Station P**	**1.22**	**145**	*e*P		Pn		**01 51 07.7**	**+1.0**
PB02				*e*S		**Sb**		**01 51 23.9**	**-0.1**
PB02				IAML				01 51 28.8	
	comp=E,9μm,0.5s								
PB01	**IPOC Station P**	**1.30**	**124**	⇓*e*P		**Pn**		**01 51 08.9**	**+1.0**
PB01				*e*S		**Sb**		**01 51 26.1**	**-0.2**
PB01				IAML				01 51 29.1	
	comp=N,4μm,0.4s								
PB01	**IPOC Station P**	**1.30**	**124**			**Pn**		**01 51 09.0**	**+1.2**
PB08	**IPOC Station P**	**1.41**	**83**	*e*P		**Pb**		**01 51 11.4**	**-0.3**
PB08				*e*S		**Sb**		**01 51 30.5**	**+0.9**
PB08	**IPOC Station P**	**1.41**	**83**	Pn		**Pb**		**01 51 11.4**	**-0.3**
PB08				Sn		**Sb**		**01 51 30.6**	**+1.1**
GO01	**Chusmiza**	**1.51**	**65**	⇑*i*P		**Pb**		**01 51 12.8**	**-0.6**
GO01				⇓*e*S		**Sb**		**01 51 32.5**	**+0.1**
GO01				IAML				01 51 37.5	
	comp=N,4μm,0.3s								
GO01	**Chusmiza**	**1.51**	**65**			**Pb**		**01 51 12.7**	**-0.7**
MNMC	**Minye Minye**	**1.53**	**40**	⇑*i*P		**Pn**		**01 51 12.7**	**+1.5**
MNMC				*e*S		**Sb**		**01 51 32.9**	**-0.1**
MNMC				IAML				01 51 42.4	
	comp=N,5μm,0.3s								
MNMC	**Minye Minye**	**1.53**	**40**	Pn		**Pb**		**01 51 13.1**	**-0.7**
PB07	**IPOC Station P**	**1.58**	**153**	⇑*i*P		**Pn**		**01 51 12.6**	**+1.0**
PB07				*i* S		**Sb**		**01 51 33.5**	**-0.6**
PB07				IAML				01 51 50.7	
	comp=E,1μm,0.6s								
PB07	**IPOC Station P**	**1.58**	**153**	Pn		**Pn**		**01 51 12.4**	**+0.7**
PB12	**IPOC Station P**	**1.71**	**10**	⇑*i*P		**Pn**		**01 51 14.1**	**+0.6**
PB12				*i* S		**Sn**		**01 51 35.6**	**+1.2**
PB12				IAML				01 51 42.5	
	comp=E,2μm,0.4s								
PB12	**IPOC Station P**	**1.71**	**10**			**Pn**		**01 51 15.2**	**+1.7**
PB03	**IPOC Station P**	**1.92**	**154**	⇑*i*P		**Pn**		**01 51 17.3**	**+1.0**
PB03				*i* S		**Sb**		**01 51 45.0**	**+1.1**
AP01	**Chacalluta**	**1.95**	**8**	⇑*i*P		**Pn**		**01 51 19.2**	**+2.5**
AP01				*e*S		**Sb**		**01 51 44.2**	**-0.4**
AP01				IAML				01 51 54.8	
	comp=E,3μm,0.4s								
AP01	**Chacalluta**	**1.95**	**8**	Pn		**Pn**		**01 51 19.3**	**+2.7**
PB09	**IPOC Station P**	**1.97**	**139**	⇑*i*P		**Pb**		**01 51 19.9**	**-1.3**
PB09				*e*S		**Sb**		**01 51 45.3**	**-0.1**
PB09				IAML				01 51 52.2	
	comp=N,1μm,0.7s								
PB09	**IPOC Station P**	**1.97**	**139**			**Pn**		**01 51 18.8**	**+1.7**
PB09	**IPOC Station P**	**1.97**	**139**	*i* P		**Pb**		**01 51 19.9**	**-1.3**
PB09				*e*S		**Sb**		**01 51 48.4**	**+2.9**
PB09				IAML				01 51 55.4	
	comp=Z,1μm,0.4s								
PB04	**IPOC Station P**	**2.06**	**167**	*e*P		**Pn**		**01 51 18.7**	**+0.3**
PB04				*i* S		**Sb**		**01 51 50.1**	**+2.1**
PB04				IAML				01 52 00.6	
	comp=E,1μm,0.6s								
PB04	**IPOC Station P**	**2.06**	**167**			**Pn**		**01 51 18.6**	**+0.2**
PB04	**IPOC Station P**	**2.06**	**167**	*i* P		**Pn**		**01 51 18.8**	**+0.5**
PB04				*e*S		**Sb**		**01 51 49.1**	**+1.0**
PB04				IAML				01 51 59.0	
	comp=Z,687nm,0.6s								
PB05	**IPOC Station P**	**2.56**	**171**	*e*P		**Pn**		**01 51 25.0**	**-0.1**
PB05	**IPOC Station P**	**2.56**	**171**	*i* P		**Pn**		**01 51 25.2**	**0.0**
PB05				*e*S		**Sb**		**01 52 02.9**	**+0.6**
PB05				IAML				01 52 24.8	
	comp=Z,260nm,0.7s								
PB06	**IPOC Station P**	**2.58**	**157**			**Pn**		**01 51 26.1**	**+0.6**
PB06	**IPOC Station P**	**2.58**	**157**	*i* P		**Pn**		**01 51 26.0**	**+0.6**
PB06				*e*S		**Sb**		**01 52 04.8**	**+1.8**
PB06				IAML				01 52 08.3	
	comp=Z,428nm,0.8s								
LVC	**Limon Verde**	**2.80**	**145**	Pn		**Pn**		**01 51 30.9**	**+2.2**
	comp=Z,11nm,0.3s,baz=334,slow=12,SNR=105								
LVC				Sn		**Sb**		**01 52 08.0**	**-1.4**
	comp=Z,28nm,0.3s,baz=333,slow=13,SNR=5.4								
LVC				LR		LR		01 52 40.3	
	comp=Z,202nm,21.0s,baz=350,slow=40								
LVC	**Limon Verde**	**2.80**	**145**	*e*P		**Pn**		**01 51 31.4**	**+2.8**
LVC				*i* S		**Sb**		**01 52 11.2**	**+1.8**
LVC	**Limon Verde**	**2.80**	**145**			**Pn**		**01 51 30.4**	**+1.8**
LVC	**Limon Verde**	**2.80**	**145**	*i* P		**Pn**		**01 51 31.4**	**+2.8**
LVC				IAML				01 52 20.5	
	comp=Z,128nm,0.9s								
PB15	**IPOC Station P**	**3.08**	**160**			**Pn**		**01 51 32.8**	**+0.4**
PB15	**IPOC Station P**	**3.08**	**160**	*i* P		**Pn**		**01 51 32.9**	**+0.5**
PB15				IAML				01 52 29.8	
	comp=Z,642nm,0.6s								
PB10	**IPOC Station P**	**3.19**	**179**	*e*P		**Pn**		**01 51 32.9**	**-0.8**
PB10	**IPOC Station P**	**3.19**	**179**			**Pn**		**01 51 32.6**	**-1.1**
PB10	**IPOC Station P**	**3.19**	**179**	*i* P		**Pn**		**01 51 32.9**	**-0.8**
PB10				IAML				01 52 39.0	
	comp=Z,82nm,0.7s								
LPAZ	**La Paz**	**4.66**	**31**	Pn		**Pn**		**01 51 58.4**	**+3.9**
	comp=Z,1.4nm,0.3s,baz=198,slow=7.2,SNR=50								
LPAZ				LR		LR		01 54 02.9	
	comp=Z,222nm,20.2s,baz=248,slow=46								
LPAZ	**La Paz**	**4.66**	**31**			**Pn**		**01 51 57.0**	**+2.6**
GO02	**Mina Guanaco**	**4.92**	**169**			**Pn**		**01 51 58.1**	**+0.3**
YJA	**Yavi**	**5.13**	**112**	*i* P		Pb		01 52 09.8	-5.3
YJA				IAML				01 53 41.7	
	comp=Z,4.3nm,1.2s								
AC01	**Pan de Azucar**	**5.81**	**180**	Pn		**Pn**		**01 52 08.9**	**-0.8**
AC02	**Maricunga**	**6.64**	**168**	Pn		**Pn**		**01 52 22.6**	**+1.0**
GO03	**Copiap**	**7.26**	**177**	Pn		**Pn**		**01 52 29.6**	**-0.1**
AC04	**Llanos de Chal**	**7.87**	**183**	Pn		**Pn**		**01 52 36.2**	**-1.7**
AC05	**El Transito**	**8.49**	**178**	Pn		**Pn**		**01 52 46.5**	**-0.1**
CO01	**Juntas del Tor**	**9.64**	**177**	Pn		**Pn**		**01 53 02.8**	**+0.4**
GO04	**Tololo Observa**	**9.82**	**181**	Pn		**Pn**		**01 53 05.0**	**+0.1**
SIV	**San Ignacio**	**10.06**	**66**	Pn		**Pn**		**01 53 04.9**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=246,slow=12,SNR=1.6								
SIV				Sn		**Sn**		**01 54 55.8**	**-4.1**
	baz=290,slow=23,SNR=0.8								
SIV				LR		LR		01 57 16.2	
	comp=Z,111nm,20.6s,baz=268,slow=40								
NNA	**Nana**	**10.19**	**323**	LR		LR		01 56 54.7	
	comp=Z,49nm,21.3s,baz=91,slow=37								
CO03	**El Pedregal**	**10.48**	**180**	Pn		**Pn**		**01 53 14.4**	**+0.5**
CO02	**Combarbal**	**10.85**	**182**	Pn		**Pn**		**01 53 16.7**	**-2.3**
SAML	**Samuel**	**13.40**	**34**	Pn		**Pn**		**01 53 55.1**	**+1.3**
CPUP	**Villa Florida**	**13.62**	**119**	LR		LR		01 59 33.2	
	comp=Z,62nm,20.8s,baz=284,slow=39								
H03N1	**Juan Fernandez**	**15.01**	**208**	T		T		02 09 48.4	
	baz=32,slow=72,SNR=104								
H03N2	**Juan Fernandez**	**15.01**	**208**	T		T		02 09 43.7	
	baz=32,slow=72,SNR=101								
H03N3	**Juan Fernandez**	**15.02**	**208**	T		T		02 09 42.7	
	baz=32,slow=72,SNR=68								
BDFB	**Brasilia**	**22.01**	**82**	P		**P**		**01 55 36.7**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=236,slow=7.3,SNR=1.8								
BDFB	**Brasilia**	**22.01**	**82**	IAmb		IAmb		01 55 44.2	
	comp=Z,5.3nm,1.1s								
PTGA	**Pitinga**	**22.09**	**30**	P		**P**		**01 55 36.8**	**-1.5**
	comp=Z,3.7nm,0.4s,baz=205,slow=18,SNR=12								
PTGA	**Pitinga**	**22.09**	**30**	P		**P**		**01 55 38.0**	**-0.3**
PTGA				IAmb		IAmb		01 55 41.0	
	comp=Z,4.7nm,0.6s								
GO07	**Milladeo Hill,**	**22.88**	**186**	P		**P**		**01 55 45.6**	**-0.9**
GO07				IAmb		IAmb		01 55 55.2	
	comp=Z,29nm,0.7s								
RUSC	**La Rusia**	**26.15**	**354**	P		**P**		**01 56 18.7**	**+0.9**
TORD	**Torodi Ar. Bea**	**78.50**	**71**	P		**P**		**02 02 44.6**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=253,slow=5.2,SNR=16								
TORD	**Torodi Ar. Bea**	**78.50**	**71**	P		**P**		**02 02 44.8**	**+0.6**
YKA	**Yellowknife Ar**	**89.54**	**341**	P		**P**		**02 03 40.3**	**+1.0**
	comp=Z,0.4nm,0.6s,baz=144,slow=5.4,SNR=2.4								
H11S2	**WAKE ISLAND Hyl**	**26.11**	**278**	T		T		04 28 37.5	
	baz=102,slow=75,SNR=89								
H11S1	**WAKE ISLAND Hyl**	**26.12**	**279**	T		T		04 28 36.6	
	baz=102,slow=75,SNR=41								
H11S3	**WAKE ISLAND Hyl**	**26.13**	**278**	T		T		04 28 37.2	
	baz=102,slow=75,SNR=48								
H11N3	**WAKE ISLAND Hyl**	**26.17**	**280**	T		T		04 29 15.2	
	baz=101,slow=74,SNR=21								
H11N2	**WAKE ISLAND Hyl**	**26.18**	**280**	T		T		04 29 02.9	
	baz=101,slow=74,SNR=26								
H11N1	**WAKE ISLAND Hyl**	**26.18**	**280**	T		T		04 29 09.0	
	baz=101,slow=74,SNR=18								
MKAR	**Makanchi Array**	**145.59**	**34**	PKPbc		**PKPab**		**02 10 22.3**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=331,slow=3.3,SNR=14								

*IDC **26** 01:57:26.4±1.2, 30°09S×177°46W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/23, mbtmp3.8/3, Error ellipse: s-maj=45.6km s-min=23.0km az=73.0*
*NEIC **26** 01:57:29.8±2.7, 29°91S±0°04×177°3W±0°2, h35km±14km, mb4.2/7, Error ellipse: s-maj=21.2km s-min=4.4km az=76.0*

ISC 26 01:57:31.1±1.2, 29°99S±0°09×177°3W±0°2, h35km, n28, σ1.9 39/25, mb4.2/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
								h m s	ISC
RAO	**Raoul Island**	**0.89**	**325**	Pn		**Pn**		**01 57 46.8**	**-0.4**
	952nm,0.3s,baz=311,slow=1.9,SNR=64								
RAO				Sn		**Sn**		**01 57 56.2**	**-2.7**
	3μm,0.3s,baz=241,slow=24,SNR=20								
RAO	**Raoul Island**	**0.89**	**325**			**Pn**		**01 57 46.6**	**-0.6**
RAO						**Sn**		**01 57 56.7**	**-2.2**
MXZ	**Matakaoa Point**	**8.38**	**204**	Pn		**Pn**		**01 59 29.8**	**-0.3**
OUZ	**Omahuta**	**9.26**	**233**	Pn		**Pn**		**01 59 44.5**	**+2.3**
BKZ	**Black Stump Fm**	**10.47**	**207**	Pn		**Pn**		**01 59 58.0**	**-0.8**
BFZ	**Birch Farm**	**11.88**	**204**	Pn		**Pn**		**02 00 15.8**	**-2.3**
PLWZ	**Palliser**	**13.02**	**205**	Pn		**Pn**		**02 00 34.8**	**+1.2**
BHW	**Baring Head**	**13.03**	**207**	Pn		**Pn**		**02 00 32.5**	**-1.2**
THZ	**Tophouse**	**14.15**	**211**	Pn		**Pn**		**02 00 49.7**	**+0.6**
KHZ	**Kahutara**	**14.42**	**208**	Pn		**Pn**		**02 00 50.9**	**-1.7**
LTZ	**Lake Taylor**	**15.25**	**210**	Pn		**Pn**		**02 01 03.4**	**-0.5**
LTZ				IAmb		IAmb		02 01 06.5	
	comp=Z,11nm,1.1s								
OXZ	**Oxford**	**15.79**	**210**	Pn		**Pn**		**02 01 10.1**	**-0.7**
OXZ				IAmb		IAmb		02 01 22.4	
	comp=Z,12nm,0.6s								
ODZ	**Otahua Downs**	**17.77**	**209**			**Pn**		**02 01 35.5**	**-0.1**
ASAR	**Alice Springs**	**43.71**	**266**	P		**P**		**02 05 31.8**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=103,slow=7.7,SNR=1.7								
WR0	**Warramunga Arr**	**44.48**	**271**	P		P		02 05 34.2	-5.1
WR0				IAmb		IAmb		02 05 43.0	
	comp=Z,4.3nm,1.0s								
WB2	**Warramunga Arr**	**44.65**	**271**	P		**P**		**02 05 41.0**	**+0.3**
WRA	**Warramunga Arr**	**44.66**	**271**	P		**P**		**02 05 41.0**	**+0.2**
	comp=Z,3.1nm,0.8s,baz=113,slow=7.5,SNR=2.0								
WB0	**Warramunga Arr**	**44.68**	**272**	P		**P**		**02 05 40.5**	**-0.4**
WB0				IAmb		IAmb		02 05 55.1	
	comp=Z,2.9nm,0.5s								
QSPA	**South Pole Qui**	**60.12**	**180**	P		**P**		**02 07 35.0**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=35,slow=3.9,SNR=2.2								
QSPA	**South Pole Qui**	**60.12**	**180**	IAmb		IAmb		02 07 48.0	
	comp=Z,1.8nm,1.0s								
H03S2	**Juan Fernandez**	**80.21**	**123**	T		T		03 38 52.7	
	baz=238,slow=74,SNR=11								
H03S1	**Juan Fernandez**	**80.22**	**123**	T		T		03 39 04.6	
	baz=238,slow=74,SNR=12								
H03S3	**Juan Fernandez**	**80.23**	**123**	T		T		03 39 00.2	
	baz=238,slow=74,SNR=12								
FINES	**FINESS Array B**	**144.95**	**341**	PKPbc		**PKPab**		**02 17 02.4**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=53,slow=3.3,SNR=9.8								
NB2	**NORSAR Subarra1**	**48.43**	**352**	PKP		**PKPbc**		**02 17 15.7**	**+2.4**
	comp=Z,0.7nm,0.6s,baz=11,slow=2.9								
NOA	**NORSAR Array B**	**148.43**	**352**	PKPbc		**PKPbc**		**02 17 14.6**	**+1.3**
	comp=Z,0.9nm,0.7s,baz=10,slow=4.5,SNR=4.4								
AKASG	**Malin Array Be**	**151.32**	**324**	PKPbc		**PKPbc**		**02 17 21.9**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=46,slow=2.7,SNR=4.7								
TORD	**Torodi Ar. Bea**	**163.22**	**177**	PKPab		**PKPab**		**02 18 20.5**	**-0.3**

baz=263
WDLH Douliu 0.63 265 ⇑P Pb 02 05 53.8 +0.7
baz=263
WDLH eS Sb 02 06 03.2 +1.3
baz=263
CHKT Chengkung 0.66 169 eP Pb 02 05 53.4 -0.2
baz=166
NNSB Datong 0.69 12 ⇑iP Pg 02 05 53.0 -0.3
baz=13
NNSB eS Sb 02 06 02.9 -0.9
baz=13
WCHH Zhanghua 0.69 298 eP Pn 02 05 55.0 -0.7
baz=296
NNS Nan Shan 0.70 11 eP Pg 02 05 53.4 -0.1
baz=12
NNS eS Sg 02 06 02.9 +0.2
baz=12
TPUB Ta-pu 0.71 231 ⇑P Pb 02 05 54.0 -0.3
baz=234
TPUB eS Sb 02 06 05.4 +1.2
baz=234
TWQ1 Liyutan 0.72 325 eP Pn 02 05 56.4 +0.2
baz=335
TWQ1 eS Sn 02 06 05.8 -1.6
baz=335
WTP Ta-pu 0.75 228 iP Pb 02 05 55.0 -0.2
baz=233
WTP eS Sb 02 06 06.4 +0.8
baz=233
CHY Chiayi 0.78 251 P Pn 02 05 56.4 -0.6
baz=250
CHY eS Sn 02 06 08.0 -0.7
baz=250
RLNB Erlin 0.81 280 eP Pb 02 05 56.0 0.0
baz=280
ENA Nanau 0.82 35 P Pg 02 05 55.6 -0.2
baz=49
ENA eS Sb 02 06 07.1 -0.3
baz=49
TWK Hsinying 0.83 235⇓iP Pb 02 05 56.7 +0.2
baz=248
TWK eS Sn 02 06 10.2 +0.1
baz=248
PTSB Yuanli 0.84 326 eP Pn 02 05 59.0 +1.2
baz=330
SNST Tainan City 0.85 232 eP Pb 02 05 57.0 +0.1
baz=231
SNST eS Sn 02 06 09.4 -1.1
baz=231
CHN1 Nanshi 0.85 229⇓iP Pb 02 05 57.1 +0.2
baz=228
CHN1 eS Sn 02 06 09.4 -1.1
baz=228
NMLH Miaoli 0.88 333 eP Pn 02 05 59.8 +1.5
baz=337
NDT Datong Townshi 0.89 17 P Pg 02 05 56.9 -0.2
baz=27
NDT eS Sb 02 06 09.8 +0.5
baz=27
SGST Jiashian 0.89 222⇑iP Pg 02 05 56.6 -0.5
baz=206
NSTT Nanjuang 0.90 347 eP Pg 02 05 57.1 -0.2
baz=341
LIOB Emei 0.91 348 eP Pb 02 05 58.0 +0.1
baz=353
LIOB eS Sn 02 06 11.8 -0.3
baz=353
SLGT Liugui 0.92 215 P Pb 02 05 58.0 0.0
baz=221
YHNB Yeheng 0.92 8 P Pg 02 05 57.5 -0.3
baz=8.0
YHNB eS Sb 02 06 10.0 -0.5
baz=8.0
NSK Sanguang 0.93 7 P Pg 02 05 57.7 -0.2
baz=8.0
NSK eS Sb 02 06 11.2 +0.6
baz=8.0
ENTT Nioudou 0.94 19 P Pb 02 05 58.0 -0.3
baz=24
TWG Pinlang 0.94 189 eP Pg 02 05 57.3 -0.7
baz=193
TWG eS Sb 02 06 10.5 -0.2
baz=193
TWGBT Beinan 0.94 188 eP Pg 02 05 57.4 -0.6
baz=193
TWGBT eS Sb 02 06 10.9 +0.1
baz=193
CHN8 Yiju 1.01 247 eP Pn 02 06 00.3 +0.2
baz=250
TWC Suao 1.03 34 eP Pg 02 05 59.4 -0.3
baz=50
TWE Neicheng 1.05 23 eP Pn 02 06 00.4 -0.3
baz=26
TWE eS Sn 02 06 15.2 -0.1
baz=26
NWLT Wulai 1.05 14 eP Pn 02 06 00.4 -0.4
baz=352
WLTB Daxi 1.10 1 eP Pn 02 06 02.9 +1.6
baz=345
SSD Sandimen 1.14 209 eP Pb 02 06 01.4 -0.3
baz=211
ECL Taimali 1.18 192 eP Pb 02 06 01.6 -0.8
baz=178
TWM1 Shoushan 1.18 219 eP Pg 02 06 05.0 +2.3
baz=225
NCUH Zhongli 1.21 358 eP Pg 02 06 04.6 +1.3
baz=349
NTC Toucheng 1.23 26 eP Pg 02 06 03.6 0.0
baz=18
NHDH Xindian Distri 1.24 13 eP Pg 02 06 04.9 +1.2
baz=29
TATO Taipei 1.24 11 eP Pg 02 06 04.4 +0.6
baz=27
MASBT Mashibuluo 1.26 206 eP Pb 02 06 03.6 -0.1
baz=209
TWA Mucha 1.27 15 eP Pg 02 06 05.1 +0.8
baz=30
SNJT Kaohsiung City 1.29 220 eP Pg 02 06 05.8 +1.1
baz=227
TIPB Shuangxi 1.33 24 eP Pg 02 06 05.5 -0.1
baz=10.0
TWS1 Kuangyinshan 1.35 7 eP Pg 02 06 07.1 +1.1
baz=357
EAST Anshuo 1.41 194 eP Pb 02 06 06.3 0.0
baz=179
NWF Wu-fen Shan 1.41 21 eP Pg 02 06 07.3 +0.3
baz=27
WFSB Wu-fen Shan 1.41 21 eP Pg 02 06 07.7 +0.7
baz=27
TAW Tawu 1.42 192 P Pg 02 06 07.0 -0.2
baz=178
YM04 YM04 1.42 11 P Pg 02 06 07.8 +0.5
TWB1 Santiao Chiao 1.43 29 eP Pg 02 06 07.3 -0.1
baz=29
YM03 YM03 1.45 11 eP Pg 02 06 08.8 +1.0
ANP Anpu 1.45 11 eP Pg 02 06 08.3 +0.5
baz=360
YM08 YM08 1.47 13 eP Pg 02 06 08.4 +0.3
baz=28
SCZT Fangliau 1.48 202 eP Pg 02 06 08.8 +0.3
baz=190
WDGT Dungji 1.52 252 eP Pn 02 06 07.5 +0.4
baz=256
PHUB P'eng-hu 1.54 261 eP Pn 02 06 07.7 +0.3
baz=264
PNG Penghu 1.54 264 eP Pb 02 06 08.2 -0.4
baz=266
JYNG Yonagunijimaku 1.72 66 P Pb 02 06 10.8 -0.8
JYNG S Sn 02 06 32.0 +0.1
VCHM Qimei 1.74 252 eP Pn 02 06 10.1 0.0
baz=257
YOJ Yonaguni jima 1.78 66 eP Pn 02 06 11.5 +0.8
baz=71
YOJ Yonaguni jima 1.78 66 P Pb 02 06 12.0 -0.6
YOJ S Sb 02 06 34.3 -0.6
TWK1 Hengchun 1.84 192 eP Pb 02 06 13.8 +0.1
baz=179
TWKBT Hengchun 1.84 192 eP Pb 02 06 12.7 -1.0
baz=179
PCYT Pengchaiyu 2.02 22 eP Pb 02 06 15.5 -1.3
baz=45
VWUC VWUC 2.04 308 eP Pn 02 06 13.5 -0.8
baz=306
IRIF Iriomote-Funau 2.36 75 P Pn 02 06 20.1 +1.4
IRIF S Sn 02 06 49.4 +1.7
JISG Ishigakijimahi 2.94 73 P Pn 02 06 26.9 +0.3
JISG S Sn 02 07 02.0 0.0
AXDP Jialang 3.18 292 eP Pn 02 06 30.7 +0.7
baz=293
ZPLA Ao Xicun 3.19 274 eP Pn 02 06 30.3 +0.2
baz=277

*IDC **26** 02:05:46.6±8.2, 22°.97N×121°.56E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.4/34, mbtmp3.7/4, Error ellipse: s-maj=174.2km s-min=155.4km az=57.0*
*TAP **26** 02:05:54.3, 23°.75N×121°.21E, h10km, ML3.9, B*
ISC 26 02:05:54.4±0.8, 23°.74N±0°.02×121°.21E±0°.02, h11km±5km, n56, σ0°74/83, mb3.7/4, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VWDT	**VWDT**	**0.06**	**281**	**P**		**Pg**	**02 05 56.7**	**0.0**
	baz=271							
VWDT				S		Sg	02 05 58.0	-0.4
	baz=271							
EGFH	**Guangfu**	**0.21**	**110**	*i* P		**Pg**	**02 05 59.5**	**+0.5**
	baz=114							
EGFH				S		Sg	02 06 02.2	+0.2
	baz=114							
OWD	**Renai**	**0.21**	**352**	*i* P		**Pg**	**02 05 59.0**	**-0.1**
	baz=349							
OWD				eS		Sg	02 06 02.4	+0.1
	baz=349							
ESL	**Shilin**	**0.22**	**70**	*i* P		**Pg**	**02 05 59.3**	**+0.3**
	baz=82							
ESL				S		Sg	02 06 02.4	+0.3
	baz=82							
SSLB	**Suanglung**	**0.24**	**281**	*i* P		**Pg**	**02 05 59.6**	**+0.1**
	baz=287							
SSLB				*i* S		Sg	02 06 02.6	-0.2
	baz=287							
EHY	**Hungye**	**0.26**	**156**	P		**Pg**	**02 06 00.0**	**+0.3**
	baz=153							
EHY				eS		Sg	02 06 03.4	+0.2
	baz=153							
HGSD	**Ruisui**	**0.32**	**142**	eP		**Pg**	**02 06 01.0**	**+0.2**
	baz=148							
HGSD				eS		Sb	02 06 06.3	-0.9
	baz=148							
SMLT	**Sun Moon Lake**	**0.32**	**297**	eP		**Pg**	**02 06 01.1**	**+0.2**
	baz=294							
SMLT				eS		Sg	02 06 05.6	+0.4
	baz=294							
CHGB	**Renai**	**0.32**	**354**	eP		**Pg**	**02 06 01.0**	**0.0**
	baz=344							
CHGB				eS		Sg	02 06 05.8	+0.5
	baz=344							
WHYT	**Xinyi Township**	**0.33**	**262**	eP		**Pb**	**02 06 01.8**	**-0.6**
	baz=260							
WHYT				eS		Sg	02 06 05.9	+0.4
	baz=260							
YULB	**Yu-li**	**0.36**	**167**	P		**Pg**	**02 06 01.6**	**+0.1**
	baz=160							
YULB				eS		Sg	02 06 06.0	-0.3
	baz=160							
TYC	**Yuchr**	**0.36**	**297**	eP		**Pb**	**02 06 02.2**	**-0.7**
	baz=303							
TYC				eS		Sg	02 06 06.7	+0.2
	baz=303							
DPDB	**Guoxing**	**0.39**	**318**	P		**Pb**	**02 06 03.0**	**-0.4**
	baz=316							
DPDB				eS		Sg	02 06 07.7	+0.2
	baz=316							
TWF1	**Yuli**	**0.40**	**168**	P		**Pg**	**02 06 02.4**	**+0.1**
	baz=161							
TWF1				eS		Sg	02 06 07.6	+0.1
	baz=161							
WHF	**Hehuan Shan**	**0.41**	**7**	P		**Pg**	**02 06 02.5**	**-0.1**
	baz=7.0							
WHF				eS		Sb	02 06 09.3	-1.0
	baz=7.0							
HWA	**Hwalien**	**0.43**	**57**	eP		**Pg**	**02 06 02.8**	**-0.1**
	baz=61							
HWA				eS		Sg	02 06 08.9	+0.3
	baz=61							
ALS	**Alishan**	**0.44**	**238**	eP		**Pg**	**02 06 03.2**	**+0.1**
	baz=236							
ALS				eS		Sg	02 06 09.5	+0.6
	baz=236							
WJS	**Zhushan**	**0.45**	**280**	eS		**Sb**	**02 06 11.9**	**+0.8**
	baz=281							
TWD	**Chiawan**	**0.49**	**46**	eP		**Pg**	**02 06 04.1**	**+0.1**
	baz=58							
TWD				eS		Sg	02 06 10.4	-0.1
	baz=58							
WNT	**Mingjian**	**0.50**	**286**	eP		**Pb**	**02 06 06.1**	**+0.8**
	baz=287							
WNT				eS		Sb	02 06 13.7	+1.1
	baz=287							
CHN5	**Tsauling**	**0.51**	**254**	eP		**Pb**	**02 06 05.7**	**+0.3**
	baz=244							
CHN5				eS		Sb	02 06 13.1	+0.2
	baz=244							
TDCB	**Techi**	**0.51**	**355**	eP		**Pg**	**02 06 03.4**	**-1.1**
	baz=344							
TDCB				eS		Sg	02 06 10.6	-0.7
	baz=344							
ETLH	**Xiulin Townshi**	**0.53**	**28**	eP		**Pb**	**02 06 05.4**	**-0.4**
	baz=19							
ETLH				eS		Sg	02 06 11.3	-0.4
	baz=19							
FULB	**Fuli**	**0.55**	**172**	eP		**Pb**	**02 06 05.8**	**-0.3**
	baz=179							
FULB				eS		Sb	02 06 14.1	+0.2
	baz=179							
NACB	**Ninganchiao**	**0.56**	**39**	eP		**Pg**	**02 06 04.9**	**-0.4**
	baz=52							
NACB				eS		Sg	02 06 12.4	-0.2
	baz=52							
WHP	**Taichung City**	**0.59**	**336**	eS		**Sb**	**02 06 15.2**	**0.0**
	baz=334							
WGK	**Gukeng**	**0.60**	**265**	eP		**Pn**	**02 06 08.1**	**-0.8**
	baz=263							
WGK				eS		Sn	02 06 17.5	-1.1
	baz=263							
TCU	**Taichung**	**0.64**	**310**	eS		**Sn**	**02 06 18.6**	**-0.9**
	baz=313							
NNSB	**Datong**	**0.70**	**13**	eP		**Pg**	**02 06 07.6**	**-0.5**
	baz=12							
NNSB				eS		Sg	02 06 17.4	+0.1
	baz=12							
NNS	**Nan Shan**	**0.71**	**12**	eP		**Pg**	**02 06 08.1**	**-0.1**
	baz=12							
NNS				eS		Sb	02 06 17.9	-0.9
	baz=12							
CHY	**Chiayi**	**0.76**	**252**	eS		**Sn**	**02 06 22.1**	**-0.5**
	baz=250							
TWK	**Hsinying**	**0.81**	**235**	eS		**Sn**	**02 06 24.3**	**+0.3**
	baz=248							
ENA	**Nanau**	**0.84**	**35**	eP		**Pg**	**02 06 10.0**	**-0.6**
	baz=49							
ENA				eS		Sb	02 06 22.7	+0.3
	baz=49							
NDT	**Datong Townshi**	**0.90**	**18**	eP		**Pn**	**02 06 12.5**	**-0.6**
	baz=24							
NDT				eS		Sb	02 06 23.8	-0.4
	baz=24							
YHNB	**Yeheng**	**0.94**	**9**	eS		**Sb**	**02 06 25.6**	**+0.4**
	baz=8.0							
NSK	**Sanguang**	**0.94**	**8**	eS		**Sg**	**02 06 24.4**	**-0.5**
	baz=7.0							
ENTT	**Nioudou**	**0.95**	**20**	eP		**Pg**	**02 06 12.1**	**-0.7**
	baz=19							
ENTT				eS		Sb	02 06 25.5	-0.2
	baz=19							
TWC	**Suao**	**1.04**	**34**	eS		**Sb**	**02 06 28.3**	**+0.1**
	baz=45							
TWE	**Neicheng**	**1.06**	**23**	eS		**Sb**	**02 06 28.8**	**0.0**
	baz=23							
NWLT	**Wulai**	**1.07**	**14**	eS		**Sb**	**02 06 29.0**	**+0.1**
	baz=19							
NCUH	**Zhongli**	**1.22**	**359**	eS		**Sn**	**02 06 37.1**	**+3.1**
	baz=357							
NHDH	**Xindian Distri**	**1.25**	**13**	eS		**Sn**	**02 06 35.3**	**+0.6**
	baz=7.0							
TATO	**Taipei**	**1.25**	**12**	eS		**Sn**	**02 06 35.9**	**+1.1**
	baz=4.0							
TWA	**Mucha**	**1.28**	**15**	eS		**Sn**	**02 06 36.2**	**+0.8**
	baz=14							
TWS1	**Kuangyinshan**	**1.37**	**8**	eS		**Sg**	**02 06 41.1**	**+2.6**
	baz=348							
NWF	**Wu-fen Shan**	**1.42**	**21**	eS		**Sg**	**02 06 40.8**	**+0.5**
	baz=19							
YM04	**YM04**	**1.44**	**12**	eS		**Sg**	**02 06 42.1**	**+1.4**
	baz=27							
TWB1	**Santiao Chiao**	**1.45**	**29**	eS		**Sg**	**02 06 42.0**	**+0.9**
	baz=31							
ANP	**Anpu**	**1.47**	**11**	eS		**Sg**	**02 06 42.8**	**+1.1**
	baz=28							
SONM	**Songino Array**	**26.78**	**338**	P		**P**	**02 11 36.1**	**+1.6**
	0.3nm,0.3s,baz=153,slow=9.7,SNR=1.9							
MKAR	**Makanchi Array**	**38.67**	**316**	P		**P**	**02 13 18.8**	**+0.6**
	3.1nm,1.2s,baz=111,slow=8.8,SNR=4.7							
ZALV	**Zalesovo Beam**	**40.63**	**327**	P		**P**	**02 13 34.0**	**-0.3**
	0.9nm,0.7s,baz=140,slow=9.4,SNR=2.3							
H11S3	**WAKE ISLAND Hy**	**42.61**	**88**	T		T	02 58 52.9	
	baz=284							
H11S1	**WAKE ISLAND Hy**	**42.62**	**88**	T		T	02 58 50.5	
	baz=284							
H11S2	**WAKE ISLAND Hy**	**42.63**	**88**	T		T	02 58 59.6	
	baz=284							
FINES	**FINESS Array B**	**71.84**	**330**	P		**P**	**02 17 15.9**	**-1.1**
	0.9nm,0.5s,baz=66,slow=7.8,SNR=6.0							

*NEIC **26** 02:06:48.5±1.4, 17°.14N±0°.04×101°.32W±0°.04, h19km±5km, Error ellipse: s-maj=7.3km s-min=4.0km az=219.0*
*MEX **26** 02:06:52.6±1.8, 17°.38N×101°.16W, h18km, MD4.0*
ISC 26 02:06:49.8±1.2, 17°.25N±0°.05×101°.24W±0°.03, h26km±9km, n36, σ1§43/56, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.42**	**329**			**Pb**	**02 06 58.5**	**-0.2**
ZIIG				*i* S		Sb	02 07 04.8	0.0
ZIIG	**Zihuatanejo**	**0.42**	**329**	⇓*i*P		**Pb**	**02 06 58.5**	**-0.2**
	baz=128,slow=16							
CAIG	**El Cayaco**	**0.95**	**102**			**Pb**	**02 07 07.2**	**-0.5**
CAIG						Sn	02 07 20.3	0.0
CAIG	**El Cayaco**	**0.95**	**102**	eP		**Pb**	**02 07 07.2**	**-0.5**
CAIG				*i* S		Sb	02 07 18.4	-1.4
ARIG	**Puente Sto Nin**	**1.33**	**39**			**Pb**	**02 07 14.0**	**-0.2**
ARIG						Sb	02 07 32.1	+1.3
ARIG	**Puente Sto Nin**	**1.33**	**39**	eP		**Pb**	**02 07 14.0**	**-0.2**
ARIG				eS		Sb	02 07 32.1	+1.3
MEIG	**Mezcala**	**1.68**	**66**			**Pn**	**02 07 18.7**	**+1.0**
MEIG						Sb	02 07 41.0	0.0
MEIG	**Mezcala**	**1.68**	**66**	*i* P		**Pn**	**02 07 18.7**	**+1.0**
MEIG				*i* S		Sb	02 07 41.0	0.0
PLIG	**Platanillo**	**2.01**	**55**			**Pb**	**02 07 25.7**	**0.0**
PLIG						Sb	02 07 52.5	+2.2
PLIG	**Platanillo**	**2.01**	**55**	eP		**Pn**	**02 07 23.7**	**+1.5**
PLIG				*i* S		Sb	02 07 48.5	-1.8
MMIG	**Aquila**	**2.26**	**298**			**Pn**	**02 07 24.4**	**-1.1**
MMIG						Sn	02 07 52.9	+0.2
MMIG	**Aquila**	**2.26**	**298**	*i* P		**Pn**	**02 07 25.2**	**-0.3**
MMIG				eS		Sn	02 07 52.9	+0.2
MAVM	**Malinalco, Edo**	**2.38**	**44**			**Pb**	**02 07 31.1**	**-0.9**
MAVM						Sb	02 08 00.2	-0.8
MAVM	**Malinalco, Edo**	**2.38**	**44**	eP		**Pb**	**02 07 31.1**	**-0.9**
MAVM				eS		Sb	02 08 00.2	-0.8
MOIG	**Morelia**	**2.42**	**1**			**Pn**	**02 07 29.7**	**+1.7**
MOIG	**Morelia**	**2.42**	**1**	*i* P		**Pb**	**02 07 31.8**	**-1.0**
MOIG				eS		Sn	02 07 53.4	-3.5
TOVM	**TOLUCA**	**2.51**	**36**			**Pn**	**02 07 34.8**	**+0.4**
TOVM						Sb	02 08 05.1	+0.1
TOVM	**TOLUCA**	**2.51**	**36**	*i* P		**Pn**	**02 07 34.8**	**+0.4**
TOVM				*i* S		Sn	02 07 57.2	-2.0
TLIG	**Tlapa**	**2.57**	**83**			**Pn**	**02 07 31.9**	**+1.9**
TLIG	**Tlapa**	**2.57**	**83**	*i* P		**Pn**	**02 07 30.8**	**+0.9**
TLIG				eS		Sn	02 07 58.6	-1.8
YAIG	**Yautepec**	**2.62**	**52**			**Pn**	**02 07 28.6**	**-2.0**
YAIG						Sb	02 08 09.3	+1.4
YAIG	**Yautepec**	**2.62**	**52**	eP		**Pn**	**02 07 28.6**	**-2.0**
YAIG				*i* S		Sn	02 07 57.6	-4.1
UNM	**Universidad Na**	**2.85**	**43**	Pn		**Pn**	**02 07 36.3**	**+2.4**
PPM	**Popocatepetl**	**3.07**	**54**	eP		**Pn**	**02 07 38.2**	**+1.0**
PPM				*i* S		Sn	02 08 11.3	-2.1
ZUVM	**ZUMPANGO**	**3.28**	**38**			Pn	02 07 29.5	-10
ZUVM	**ZUMPANGO**	**3.28**	**38**	*i* P		**Pn**	**02 07 40.8**	**+0.9**
ZAIG	**Zacatecas**	**5.63**	**347**	Pn		**Pn**	**02 08 13.2**	**+1.0**
HPIG		**10.48**	**338**	Pn		**Pn**	**02 09 18.4**	**-0.3**
KVTX	**Kingsville**	**10.71**	**16**	Pn		**Pn**	**02 09 23.1**	**+1.6**
TX31	**Lajitas Ar. Si**	**12.23**	**350**	Pn		**Pn**	**02 09 42.7**	**+0.1**
WHTX	**Lake Whitney,**	**15.07**	**12**	Pn		**Pn**	**02 10 22.3**	**+1.1**
WHTX				IAmb		IAmb	02 10 29.6	
	comp=Z,5.5nm,0.8s							
GDL2	**Guadalupe Moun**	**15.15**	**350**	Pn		**Pn**	**02 10 23.0**	**+0.6**
344A	**Westbrook Farm**	**17.06**	**32**	Pn		**P**	**02 10 49.0**	**+0.8**
344A				IAmb		IAmb	02 10 53.2	
	comp=Z,19nm,1.2s							
214A	**Organ Pipe Nat**	**18.01**	**327**	Pn		**Pn**	**02 10 56.4**	**-2.1**
OMMB	**Old Mammoth Mi**	**25.61**	**326**	P		**P**	**02 12 16.7**	**-0.8**
OMMB				IAmb		IAmb	02 12 17.4	
	comp=Z,7.2nm,1.0s							
N49A	**Columbus Grove**	**27.80**	**28**			**P**	**02 12 39.4**	**+2.5**

*SJA **26** 02:17:53.7±1.1, 24°.82S×69°.32W, h108km±24km, ML3.9, MW3.9*
*NEIC **26** 02:17:54.5±2.5, 24°.79S±0°.04×69°.52W±0°.08, h116km±4km, Error ellipse: s-maj=11.0km s-min=6.0km az=90.0*
*GUC **26** 02:17:55.6±0.7, 24°.75S×69°.28W, h105km±5km, ML4.1*
*IDC **26** 02:17:56.1±1.1, 24°.82S×69°.08W, h111km±7km, mb3.8/3, mb1 3.8/6, mb1mx3.6/28, mbtmp4.2/6, Error ellipse: s-maj=38.8km s-min=20.6km az=93.0*
*VAO **26** 02:18:01.3±0.9, 24°.41S×68°.39W, h88km±7km, mb4.0*
ISC 26 02:17:54.2±0.6, 24°.79S±0°.03×69°.34W±0°.05, h110km±5km, n101, σ1§61/121, mb4.1/6, 3C-9D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GO02	**Mina Guanaco**	**0.44**	**211**	⇑*i*P		**Pn**	**02 18 12.2**	**+1.0**
GO02				eS		Sn	02 18 24.5	+0.7
GO02				IAML			02 18 26.4	
	comp=N,15μm,0.3s							
GO02	**Mina Guanaco**	**0.44**	**211**			**Pn**	**02 18 12.2**	**+1.0**
GO02				Sn		Sn	02 18 24.7	+0.9
PB15	**IPOC Station P**	**1.58**	**356**	⇓*i*P		**Pn**	**02 18 23.6**	**+1.4**
PB15				*i* S		Sn	02 18 44.0	+0.6
PB15	**IPOC Station P**	**1.58**	**356**			**Pn**	**02 18 23.7**	**+1.4**
PB15				Sn		Sn	02 18 44.8	+1.4
PB15	**IPOC Station P**	**1.58**	**356**	*i* P		**Pn**	**02 18 23.6**	**+1.4**
PB15				eS		Sn	02 18 44.9	+1.4
PB10	**IPOC Station P**	**1.69**	**319**	⇓eP		**Pn**	**02 18 24.7**	**+1.4**
PB10				eS		Sn	02 18 46.6	+1.1
PB10				IAML			02 18 49.0	
	comp=E,2μm,0.3s							
PB10	**IPOC Station P**	**1.69**	**319**	Pn		**Pn**	**02 18 23.0**	**-0.4**
PB10				Sn		Sn	02 18 46.0	+0.5
PB10	**IPOC Station P**	**1.69**	**319**	*i* P		**Pn**	**02 18 24.8**	**+1.5**
PB10				eS		Sn	02 18 46.1	+0.7
PB10				IAML			02 18 48.0	
	comp=Z,995nm,0.8s							
AC01	**Pan de Azucar**	**1.77**	**220**	⇑*i*P		**Pn**	**02 18 25.1**	**+0.8**
AC01				eS		Sn	02 18 48.0	+0.7
AC01	**Pan de Azucar**	**1.77**	**220**	Pn		**Pn**	**02 18 25.3**	**+0.9**
AC01				Sn		Sn	02 18 47.6	+0.3
AC02	**Maricunga**	**2.05**	**175**	⇑*i*P		**Pn**	**02 18 29.8**	**+1.4**
AC02				eS		Sn	02 18 56.6	+2.3
AC02				IAML			02 18 58.0	
	comp=E,1μm,0.3s							
AC02	**Maricunga**	**2.05**	**175**			**Pn**	**02 18 30.1**	**+1.8**
AC02				Sn		Sn	02 18 56.9	+2.6
PB05	**IPOC Station P**	**2.08**	**338**	⇓eP		**Pn**	**02 18 29.4**	**+0.9**
PB05				eS		Sn	02 18 55.6	+1.1
PB05				IAML			02 18 56.9	
	comp=E,1μm,0.3s							
PB05	**IPOC Station P**	**2.08**	**338**	*i* P		**Pn**	**02 18 29.5**	**+1.1**
PB05				IAML			02 19 03.5	
	comp=Z,630nm,0.4s							
PB06	**IPOC Station P**	**2.08**	**354**	⇓eP		**Pn**	**02 18 29.6**	**+1.1**
PB06				eS		Sn	02 18 55.2	+0.5
PB06				IAML			02 18 57.1	
	comp=N,2μm,0.3s							
PB06	**IPOC Station P**	**2.08**	**354**			**Pn**	**02 18 29.6**	**+1.1**
PB06				Sn		Sn	02 18 55.1	+0.5
PB06	**IPOC Station P**	**2.08**	**354**	*i* P		**Pn**	**02 18 29.5**	**+1.1**
PB06				IAML			02 19 07.5	
	comp=Z,801nm,0.3s							
LVC	**Limon Verde**	**2.20**	**10**	P		**Pn**	**02 18 31.1**	**+1.0**
	comp=Z,46nm,0.3s,baz=178,slow=9.0,SNR=319							
LVC				S		Sn	02 18 57.3	-0.4
	comp=Z,314nm,0.3s,baz=184,slow=14,SNR=25							
LVC	**Limon Verde**	**2.20**	**10**	eP		**Pn**	**02 18 31.2**	**+1.0**

LVC				*i* S		**Sn**	02 18 57.8	**+0.1**	
LVC	**Limon Verde**	**2.20**	**10**			**Pn**	02 18 31.0	**+0.8**	
LVC				Sn		**Sn**	02 18 56.7	**-1.0**	
LVC	**Limon Verde**	**2.20**	**10**	*i* P		**Pn**	02 18 31.2	**+1.0**	
LVC				*e*S		**Sn**	02 18 57.9	**+0.2**	
LVC				IAML			02 18 59.5		
	comp=Z,623nm,0.8s								
LVC	**Limon Verde**	**2.20**	**10**	*e*P		**Pn**	02 18 31.3	**+1.1**	
LVC	**Limon Verde**	**2.20**	**10**	*e*P		**Pn**	02 18 31.3	**+1.1**	
PB04	**IPOC Station P**	**2.55**	**343**	ǁ *i*P		**Pn**	02 18 34.9	**+0.4**	
PB04				*i* S		**Sn**	02 19 04.9	**-0.6**	
PB04	**IPOC Station P**	**2.55**	**343**	P		**Pn**	02 18 35.0	**+0.4**	
PB04	**IPOC Station P**	**2.55**	**343**	*i* P		**Pn**	02 18 35.0	**+0.4**	
PB04				IAML			02 19 12.3		
	comp=Z,798nm,0.2s								
PB03	**IPOC Station P**	**2.75**	**352**	ǁ *i*P		**Pn**	02 18 37.6	**+0.4**	
PB03				*i* S		**Sn**	02 19 08.8	**-1.4**	
GO03	**Copiap**	**2.91**	**196**	IAML			02 19 16.6		
	comp=N,613nm,0.5s								
GO03	**Copiap**	**2.91**	**196**			**Pn**	02 18 39.2	**+0.2**	
PB09	**IPOC Station P**	**2.98**	**2**	ǁ *i*P		**Pn**	02 18 41.2	**+1.1**	
PB09	**IPOC Station P**	**2.98**	**2**			**Pn**	02 18 41.2	**+1.1**	
PB09	**IPOC Station P**	**2.98**	**2**	*i* P		**Pn**	02 18 41.6	**+1.4**	
PB09				IAML			02 19 49.1		
	comp=Z,566nm,0.8s								
PB07	**IPOC Station P**	**3.09**	**351**			**Pn**	02 18 41.8	**+0.1**	
PB02	**IPOC Station P**	**3.49**	**351**	ǁ *i*P		**Pn**	02 18 46.8	**-0.1**	
PB01	**IPOC Station P**	**3.73**	**358**	ǁ *i*P		**Pn**	02 18 50.0	**-0.1**	
PB01	**IPOC Station P**	**3.73**	**358**			**Pn**	02 18 49.4	**-0.7**	
AC04	**Llanos de Chal**	**3.74**	**204**	Pn		**Pn**	02 18 48.8	**-1.3**	
AZAP	**Zapla**	**3.93**	**83**	*i* P		**Pn**	02 18 53.8	**+0.9**	
VCA	**Vinchina**	**4.06**	**166**	*i* P		**Pn**	02 18 56.7	**+2.1**	
VCA				IAML			02 19 51.0		
	comp=Z,50nm,0.5s								
AC05	**El Transito**	**4.12**	**191**	Pn		**Pn**	02 18 55.3	**0.0**	
TA01	**Diego Aracena**	**4.27**	**349**	Pn		**Pn**	02 18 56.1	**-1.2**	
YJA	**Yavi**	**4.37**	**54**	*i* P		**Pn**	02 19 00.6	**+1.7**	
PB08	**IPOC Station P**	**4.63**	**2**			**Pn**	02 19 02.2	**-0.2**	
AROD	**Rodeo**	**5.36**	**181**	*i* P		**Pn**	02 19 13.0	**+0.8**	
GO04	**Tololo Observa**	**5.52**	**193**	*i* P		**Pn**	02 19 12.9	**-1.5**	
ACCO	**Cerro Coronel**	**5.78**	**178**	*i* P		**Pn**	02 19 18.9	**+0.9**	
PB12	**IPOC Station P**	**6.21**	**351**	Pn		**Pn**	02 19 22.2	**-1.4**	
CO02	**Combarbal**	**6.56**	**193**	Pn		**Pn**	02 19 26.3	**-2.0**	
RTLL	**Cerro Villicun**	**6.56**	**174**	*i* P		**Pn**	02 19 28.0	**-0.3**	
RTLL				IAML			02 20 42.3		
	comp=Z,34nm,0.4s								
ZON	**Zonda**	**6.76**	**175**	Pn		**Pn**	02 19 30.6	**-0.3**	
CFA	**Coronel Fontan**	**6.86**	**172**	P		**Pn**	02 19 31.8	**-0.5**	
	comp=Z,5.1nm,0.3s,baz=348,slow=11,SNR=44								
CFA				S		**Sn**	02 20 42.8	**-6.1**	
	comp=Z,3.4nm,0.3s,baz=175,slow=17,SNR=10								
RTLS	**Leoncito**	**6.99**	**180**	*i* P		**Pn**	02 19 34.3	**+0.1**	
RTLS				IAML			02 22 00.7		
	comp=Z,18nm,1.1s								
RTCV	**Cerro Valdivia**	**7.08**	**174**	*i* P		**Pn**	02 19 34.9	**-0.4**	
RTCV				IAML			02 21 25.6		
	comp=Z,26nm,3.8s								
AUSP	**Uspallata**	**7.41**	**180**	*i* P		**Pn**	02 19 40.2	**+0.3**	
VA03	**San Esteban**	**8.02**	**187**	Pn		**Pn**	02 19 46.5	**-1.5**	
ROC1	**El Roble**	**8.29**	**190**	Pn		**Pn**	02 19 50.6	**-1.3**	
LPAZ	**La Paz**	**8.53**	**8**	P		**Pn**	02 19 55.8	**+0.2**	
	comp=Z,1.1nm,0.3s,baz=168,slow=8.8,SNR=24								
LPAZ				S		**Sn**	02 21 30.8	**+0.3**	
	comp=Z,0.2nm,0.3s,baz=260,slow=13,SNR=1.1								
LPAZ	**La Paz**	**8.53**	**8**	Pn		**Pn**	02 19 55.6	**+0.1**	
LPAZ	**La Paz**	**8.53**	**8**	*e*P		**Pn**	02 19 56.4	**+0.8**	
LPAZ	**La Paz**	**8.53**	**8**	*e*P		**Pn**	02 19 56.4	**+0.8**	
MT02	**Curacav**	**8.59**	**190**	Pn		**Pn**	02 19 52.5	**-3.1**	
SIV	**San Ignacio**	**11.69**	**43**	P		Pn	02 20 32.6	-5.0	
	comp=Z,5.4nm,0.3s,baz=253,slow=8.4,SNR=81								
SIV				S		Sn	02 22 35.7	-11	
	comp=Z,0.2nm,0.3s,baz=162,slow=21,SNR=1.6								
H03N1	**Juan Fernandez**	**12.01**	**222**	T		T	02 33 03.0		
	baz=42,slow=72,SNR=24								
H03N2	**Juan Fernandez**	**12.02**	**222**	T		T	02 33 08.6		
	baz=42,slow=72,SNR=22								
H03N3	**Juan Fernandez**	**12.03**	**222**	T		T	02 33 07.5		
	baz=42,slow=72,SNR=9.9								
PTLB	**Pontes e Lacer**	**13.34**	**48**	*e*P		**Pn**	02 20 55.0	**-4.3**	
PTLB				*e*S		Sn	02 23 13.0	-13	
PTLB	**Pontes e Lacer**	**13.34**	**48**	*e*P		**Pn**	02 20 55.0	**-4.3**	
PTLB				*e*S		Sn	02 23 13.0	-13	
VILB	**Vilhena**	**14.60**	**38**	*e*P		**Pn**	02 21 13.1	**-2.4**	
VILB	**Vilhena**	**14.60**	**38**	*e*P		**Pn**	02 21 13.1	**-2.4**	
SALV	**Santo Antonio**	**15.54**	**58**	*e*P		**Pn**	02 21 23.9	**-3.5**	
SALV	**Santo Antonio**	**15.54**	**58**	*e*P		**Pn**	02 21 23.9	**-3.5**	
SAML	**Samuel**	**16.81**	**21**			**Pn**	02 21 43.7	**+0.7**	
ARAG	**Araguaiana, MT**	**18.75**	**64**	*e*P		**P**	02 22 04.0	**-0.6**	
ARAG	**Araguaiana, MT**	**18.75**	**64**	*e*P		**P**	02 22 04.0	**-0.6**	
CLDB	**Colider**	**18.89**	**45**	*e*P		**P**	02 22 05.2	**-1.0**	
CLDB	**Colider**	**18.89**	**45**	*e*P		**P**	02 22 05.2	**-1.0**	
BDFB	**Brasilia**	**21.96**	**70**	P		**P**	02 22 38.5	**-0.8**	
	comp=Z,2.9nm,0.4s,baz=246,slow=15,SNR=4.9								
BDFB	**Brasilia**	**21.96**	**70**	P		**P**	02 22 39.5	**+0.2**	
BDFB				IAmb		IAmb	02 22 41.6		
	comp=Z,5.6nm,0.9s								
NPGB	**Novo Progresso**	**22.14**	**40**	*e*P		**P**	02 22 39.9	**-1.3**	
NPGB				*e*S		**S**	02 26 33.7	**-4.4**	
NPGB	**Novo Progresso**	**22.14**	**40**	*e*P		**P**	02 22 39.9	**-1.3**	
NPGB				*e*S		**S**	02 26 33.7	**-4.4**	
PEXB	**Peixe**	**23.57**	**61**	*e*P		**P**	02 22 55.2	**+0.3**	
PEXB	**Peixe**	**23.57**	**61**	*e*P		**P**	02 22 55.2	**+0.3**	
JANB	**Januaria**	**25.40**	**72**	*e*P		**P**	02 23 11.4	**-0.2**	
JANB	**Januaria**	**25.40**	**72**	*e*P		**P**	02 23 11.4	**-0.2**	
PTGA	**Pitinga**	**25.58**	**22**	P		**P**	02 23 15.6	**+2.5**	
	comp=Z,1.0nm,0.3s,baz=270,slow=20,SNR=2.7								
PTGA	**Pitinga**	**25.58**	**22**	P		**P**	02 23 14.5	**+1.4**	
PTGA				IAmb		IAmb	02 23 29.7		
	comp=Z,2.9nm,1.0s								
MALB	**Monte Alegre**	**27.05**	**35**	*e*P		**P**	02 23 29.5	**+3.1**	
MALB	**Monte Alegre**	**27.05**	**35**	*e*P		**P**	02 23 29.5	**+3.1**	
X40A	**Basin Creek Fa**	**63.03**	**338**	P		**P**	02 28 09.5	**0.0**	
TORD	**Torodi Ar. Bea**	**78.84**	**70**	P		**P**	02 29 46.3	**+0.8**	
	comp=Z,1.5nm,0.5s,baz=262,slow=5.0,SNR=22								
TORD				pP		**pP**	02 30 14.7	**0.0**	
	comp=Z,1.3nm,0.6s,baz=260,slow=5.3,SNR=4.7								
TORD	**Torodi Ar. Bea**	**78.84**	**70**	P		**P**	02 29 46.3	**+0.8**	
PAHR	**Pah Rah Range**	**79.34**	**323**	P		P	02 29 45.6	-2.3	
PAHR				IAmb		IAmb	02 29 47.3		
	comp=Z,7.4nm,0.8s								
TSUM	**Tsumeb**	**79.49**	**106**	P		**P**	02 29 49.9	**+0.6**	
TSUM				IAmb		IAmb	02 29 51.8		
	comp=Z,2.7nm,0.9s								
LBTB	**Lobatse**	**84.01**	**115**	P		**P**	02 30 12.7	**-0.2**	
LBTB				IAmb		IAmb	02 30 14.5		
	comp=Z,2.8nm,1.1s								
H11S2	**WAKE ISLAND Hy**	**127.82**	**275**	T		T	04 57 00.1		
	baz=108,slow=75,SNR=33								
H11S3	**WAKE ISLAND Hy**	**127.84**	**275**	T		T	04 57 00.9		
	baz=100,slow=75,SNR=14								
WRA	**Warramunga Arr**	**129.92**	**210**	PKP		**PKPdf**	02 36 53.2	**+1.5**	
	comp=Z,1.8nm,0.9s,baz=154,slow=1.7,SNR=3.5								
ZALV	**Zalesovo Beam**	**145.07**	**27**	PKP		**PKPbc**	02 37 19.8	**+1.9**	
	comp=Z,1.6nm,0.5s,baz=315,slow=4.0,SNR=6.2								
ZALV				pPKP		**pPKPdf**	02 37 49.5	**+0.1**	
	comp=Z,5.0nm,0.8s,baz=311,slow=4.7,SNR=8.7								
ZALV	**Zalesovo Beam**	**145.07**	**27**			**PKPdf**	02 37 20.2	**+2.0**	
MKAR	**Makanchi Array**	**148.48**	**39**	PKPbc		**PKPbc**	02 37 28.9	**+0.9**	
	comp=Z,0.6nm,0.4s,baz=307,slow=2.7,SNR=8.3								
MKAR				pPKPbc		**pPKPab**	02 37 59.3	**-2.5**	
	comp=Z,1.1nm,0.7s,baz=315,slow=3.1,SNR=7.8								
MKAR	**Makanchi Array**	**148.48**	**39**			**PKPbc**	02 37 29.9	**+2.0**	

*IDC **26** 02:24:28.2±0.8, 18°.05N×147°.37E, h0km, mb3.9/12, mb1 4.1/13, mb1mx3.9/50, mbtmp3.9/13, ML4.3/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/41, Error ellipse: s-maj=32.2km s-min=17.6km az=87.0*

*NEIC **26** 02:24:33.0±1.1, 17°.95N±0°.05×147°.4E±0°.1, h44km±8km, mb4.6/12, Error ellipse: s-maj=16.6km s-min=5.5km az=70.0*

ISC 26 02:24:34.1±0.6, 17°.92N±0°.06×147°.4E±0°.1, h53km, n43, σ1§04/43, mb4.1/14, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.93**	**210**	Pn	**Pn**	**02 25 46.2**	**+0.4**
	12nm,0.3s,baz=178,slow=18,SNR=2.9						
GUMO				Sn	**Sn**	**02 26 40.6**	**-0.9**
	19nm,0.3s,baz=188,slow=23,SNR=2.1						
GUMO				LR	LR	02 27 51.1	
	comp=Z,223nm,18.2s,baz=351,slow=40						
GUMO	**Guam**	**4.93**	**210**		**Pn**	**02 25 45.0**	**-0.7**

GUMO						**Sn**	02 26 41.7	**+0.1**	
PATS	**Pohnpei**	**15.34**	**135**	Pn		**Pn**	02 28 06.4	**-0.8**	
PATS				IAmb		IAmb	02 28 12.0		
	comp=Z,13nm,0.6s								
H11S3	**WAKE ISLAND Hy**	**18.36**	**85**	T		T	02 47 38.2		
	baz=263,slow=74								
H11S1	**WAKE ISLAND Hy**	**18.37**	**85**	T		T	02 47 45.0		
	baz=263,slow=74								
H11S2	**WAKE ISLAND Hy**	**18.38**	**85**	T		T	02 47 35.8		
	baz=263,slow=74								
H11N1	**WAKE ISLAND Hy**	**18.57**	**81**	T		T	02 47 44.3		
	baz=268,slow=74,SNR=35								
H11N2	**WAKE ISLAND Hy**	**18.57**	**81**	T		T	02 47 51.0		
	baz=268,slow=74,SNR=15								
H11N3	**WAKE ISLAND Hy**	**18.58**	**81**	T		T	02 47 45.6		
	baz=268,slow=74,SNR=23								
MJAR	**Matsushiro Arr**	**20.24**	**338**	P		**P**	**02 29 04.0**	**-0.9**	
	comp=Z,1.5nm,0.5s,baz=166,slow=9.9,SNR=2.3								
MJAR	**Matsushiro Arr**	**20.24**	**338**	P		**P**	02 29 04.3	**-0.6**	
MAJO	**Matsushiro**	**20.24**	**338**	P		**P**	02 29 03.7	**-1.3**	
MJB9	**Matsu-Tunnel**	**20.25**	**338**	P		**P**	02 29 03.4	**-1.7**	
MJB9				IAmb		IAmb	02 29 21.8		
	comp=Z,10nm,0.7s								
RABL	**Rabaul**	**22.47**	**167**	P		**P**	**02 29 28.5**	**-0.6**	
RABL				IAmb		IAmb	02 29 43.4		
	comp=Z,52nm,0.5s								
KSRS	**Korea Array**	**25.89**	**323**	P		**P**	**02 30 00.2**	**-0.8**	
	comp=Z,2.5nm,0.9s,baz=137,slow=9.2,SNR=9.5								
KSAR	**Wonju Array Be**	**25.91**	**323**	P		**P**	**02 29 59.1**	**-2.1**	
USRK	**Usuriysk Ar.**	**29.22**	**337**	P		**P**	**02 30 30.1**	**-0.7**	
	comp=Z,0.4nm,0.5s,baz=145,slow=8.8,SNR=1.9								
USRK	**Ussuriysk Ar.**	**29.22**	**337**	P		**P**	02 30 30.3	**-0.5**	
WB0	**Warramunga Arr**	**39.56**	**199**	P		**P**	02 32 00.1	**-0.2**	
WB2	**Warramunga Arr**	**39.74**	**199**	P		**P**	02 32 02.0	**+0.3**	
WB2				IAmb		IAmb	02 32 08.4		
	comp=Z,6.8nm,1.1s								
WRA	**Warramunga Arr**	**39.74**	**199**	P		**P**	**02 32 03.0**	**+1.2**	
	comp=Z,1.8nm,0.7s,baz=24,slow=9.0,SNR=0.9								
WRA				PcP		**PcP**	**02 34 10.0**	**+2.5**	
	comp=Z,0.7nm,0.7s,baz=15,slow=3.5,SNR=2.5								
WRA	**Warramunga Arr**	**39.74**	**199**	P		**P**	02 32 02.2	**+0.4**	
WRA						**PcP**	02 34 06.6	**-1.0**	
ASAR	**Alice Springs**	**43.37**	**198**	P		**P**	**02 32 32.5**	**+1.0**	
	comp=Z,0.6nm,0.7s,baz=20,slow=7.8,SNR=2.7								
ASAR				PcP		**PcP**	**02 34 22.2**	**+2.8**	
	comp=Z,0.2nm,0.3s,baz=9.3,slow=2.3,SNR=1.1								
ASAR	**Alice Springs**	**43.37**	**198**	P		**P**	02 32 31.0	**-0.5**	
ASAR						**PcP**	02 34 19.5	**+0.1**	
SONM	**Songino Array**	**44.74**	**321**	P		**P**	02 32 42.5	**+0.1**	
	comp=Z,0.9nm,0.6s,baz=134,slow=11,SNR=4.2								
SONM	**Songino Array**	**44.74**	**321**	P		**P**	02 32 41.7	**-0.7**	
ZALV	**Zalesovo Beam**	**59.60**	**323**	P		**P**	02 34 33.3	**+0.9**	
	comp=Z,0.8nm,0.4s,baz=79,slow=7.7,SNR=5.0								
ZALV	**Zalesovo Beam**	**59.60**	**323**	P		**P**	02 34 32.5	**+0.1**	
MKAR	**Makanchi Array**	**60.15**	**314**	P		**P**	02 34 37.3	**+1.0**	
	comp=Z,0.7nm,0.6s,baz=92,slow=9.2,SNR=7.8								
MKAR	**Makanchi Array**	**60.15**	**314**	P		**P**	02 34 36.6	**+0.3**	
PPLA	**Purkeypile**	**60.86**	**27**	P		**P**	02 34 41.1	**0.0**	
SKT	**Skwentna**	**60.87**	**28**	P		**P**	02 34 41.1	**+0.1**	
ILAR	**Eielson Array**	**63.65**	**26**	P		**P**	02 34 59.9	**+0.4**	
	comp=Z,3.2nm,1.4s,baz=246,slow=5.6,SNR=5.2								
ILAR	**Eielson Array**	**63.65**	**26**	P		**P**	02 34 58.8	**-0.7**	
KKAR	**Karatay Array**	**68.49**	**310**	P		**P**	02 35 31.4	**+0.4**	
ABKAR	**Akbulak Array**	**74.99**	**317**	P		**P**	02 36 09.5	**-0.4**	
YKA	**Yellowknife Ar**	**77.93**	**28**	P		**P**	**02 36 26.7**	**+0.5**	
	comp=Z,0.8nm,0.9s,baz=288,slow=4.1,SNR=2.6								
ARCES	**ARCESS Array B**	**83.72**	**343**	P		**P**	**02 36 59.2**	**+2.2**	
	comp=Z,1.6nm,0.7s,baz=74,slow=6.7,SNR=5.4								
ARCES	**ARCESS Array B**	**83.72**	**343**	P		**P**	02 36 57.5	**+0.5**	
FINES	**FINESS Array B**	**88.25**	**336**	P		**P**	**02 37 19.9**	**+0.4**	
	comp=Z,2.8nm,1.0s,baz=56,slow=4.8,SNR=9.1								
FINES	**FINESS Array B**	**88.25**	**336**	P		**P**	**02 37 19.4**	**0.0**	
PV15	**Paradox Valley**	**89.66**	**50**	P		**P**	**02 37 25.8**	**-1.1**	
PV15				IAmb		IAmb	02 37 27.7		
	comp=Z,4.0nm,0.6s								
LPAZ	**La Paz**	**146.06**	**93**	PKPbc		**PKPab**	**02 44 11.4**	**+0.9**	
	comp=Z,1.8nm,0.8s,baz=255,slow=3.8,SNR=6.1								

*IDC **26** 02:30:01.2±0.4, 29°.84S×177°.08W, h0km, mb4.7/18, mb1 4.8/19, mb1mx4.7/31, mbtmp4.6/19, ML3.3/1, MS4.6/24, Ms1 4.6/24, ms1mx4.5/31, Error ellipse: s-maj=16.7km s-min=13.3km az=44.0*

*MOS **26** 02:30:03.6±1.0, 30°.08S×177°.18W, h24km, mb5.1/32, MS4.5/4, Error ellipse: s-maj=10.4km s-min=8.5km az=96.8*

*BJI **26** 02:30:03.7±0.0, 29°.86S×176°.77W, h31km, mB5.6/18, mb5.4/29, Ms5.0/17, Ms7 4.7/16*

*NEIC **26** 02:30:06.2±1.8, 30°.10S±0°.06×177°.26W±0°.09, h35km±1km, mb5.0/131, Error ellipse: s-maj=12.7km s-min=9.2km az=73.0*

*GCMT **26** 02:30:07.2±0.2, 29°.90S±0°.02×176°.82W±0°.02, h25km, MW5.2/122, Moment Tensor Solution. s80,c112; s122,c188; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr0.56±.02; Mθθ-0.04±.01; Mϕϕ-0.52±.01; Mrθ0.02±.03; Mθϕ-0.21±.01; Mϕr0.61±.03; Best double couple: M0.84200×10^17 NP1:ϕ8214.00000°, δ24.00000°, λ114.00000°. NP2:ϕ87.00000°, δ68.00000°, λ80.00000°. Principal axes: T 0.8390, Plg65.0000°, Azm260.0000°; N 0.0070, Plg10.0000°, Azm11.0000°; P -0.8460, Plg23.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 02:30:05.1±0.5, 30°.09S±0°.04×177°.20W±0°.05, h26km±2km, h26km:pP-P, n516, σ1§54/533, mb5.0/90, MS4.5/32, 56C-9D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.03**	**323**	P	**Pn**	**02 30 23.1**	**-0.9**
GLKZ				S	**Sb**	**02 30 35.4**	**-2.1**
RAO	**Raoul Island**	**1.04**	**323**	Pn	**Pn**	**02 30 22.5**	**-1.5**
	4μm,0.3s,baz=106,slow=4.1,SNR=115						
RAO				Sn	**Sb**	**02 30 36.6**	**-1.1**
	18μm,0.3s,baz=101,slow=22,SNR=23						
RAO				LR	LR	02 30 48.5	
	comp=Z,26μm,18.9s,baz=66,slow=51						
RAO	**Raoul Island**	**1.04**	**323**	P	**Pn**	**02 30 23.1**	**-1.0**
RAO						02 30 37.6	
RAO	**Raoul Island**	**1.04**	**323**		**Pn**	**02 30 23.1**	**-1.0**
RAO					**Sn**	**02 30 37.6**	**-0.2**
RIZ	**Raoul Island**	**1.05**	**323**	P	**Pb**	**02 30 24.4**	**-0.2**
RIZ				S	**Sn**	**02 30 38.2**	**+0.1**
MXZ	**Matakaoa Point**	**8.34**	**205**	S	**Sn**	**02 33 40.1**	**+2.5**
WMGZ	**Waiomatatini S**	**8.52**	**204**	P	**Pn**	**02 32 04.1**	**-2.8**
WMGZ				S	**Sn**	**02 33 44.6**	**+2.4**
HAZ	**Te Kaha**	**8.71**	**207**	P	**Pn**	**02 32 08.7**	**-0.7**
HAZ				S	**Sn**	**02 33 47.4**	**+0.8**
PKGZ	**Pakihiroa**	**8.71**	**205**	P	**Pn**	**02 32 06.7**	**-2.8**
PKGZ				S	**Sn**	**02 33 46.3**	**-0.5**
PKGZ	**Pakihiroa**	**8.71**	**205**	P	**Sn**	**02 33 46.6**	**-0.2**
PUZ	**Puketiti**	**8.80**	**204**	P	**Pn**	**02 32 07.5**	**-3.3**
PUZ				S	**Sn**	**02 33 46.2**	**-3.0**
RUGZ	**Raukumara Rang**	**8.93**	**207**	P	**Pn**	**02 32 10.6**	**-2.0**
RUGZ				S	**Sn**	**02 33 53.0**	**+0.6**
TWGZ	**Tauwhareparae**	**9.00**	**205**	S	**Sn**	**02 33 52.4**	**-1.5**
WCZ	**Waipu Caves**	**9.18**	**228**	P	Pn	02 32 23.7	+7.8
TKGZ	**Te Karaka**	**9.28**	**205**	S	**Sn**	**02 34 04.3**	**+3.6**
OUZ	**Omahuta**	**9.29**	**234**	P	Pn	02 32 24.7	+7.3
OUZ	**Omahuta**	**9.29**	**234**		**Pn**	**02 32 15.4**	**-1.9**
MWZ	**Matawai**	**9.31**	**207**	P	**Pn**	**02 32 15.4**	**-2.3**
MWZ				S	**Sn**	**02 34 01.4**	**-0.1**
URZ	**Urewera**	**9.41**	**208**	P	**Pn**	**02 32 15.3**	**-3.7**
URZ				S	**Sn**	**02 34 00.4**	**-3.5**
MKAZ	**Moumakai**	**9.46**	**220**	P	**Pn**	**02 32 23.7**	**+4.1**
RIGZ	**Rimuhau**	**9.55**	**204**	P	**Pn**	**02 32 17.7**	**-3.2**
RIGZ				S	**Sn**	**02 34 05.6**	**-1.8**
RTZ	**Ruatahuna**	**9.77**	**208**	P	**Pn**	**02 32 20.8**	**-3.2**
SNGZ	**Shannon Statio**	**9.77**	**206**	P	**Pn**	**02 32 20.7**	**-3.3**
SNGZ				S	**Sn**	**02 34 10.4**	**-2.4**
MTHZ	**Maungataniwha**	**10.03**	**208**	P	**Pn**	**02 32 26.5**	**-1.0**
BKZ	**Black Stump Fm**	**10.43**	**208**		**Pn**	**02 32 30.6**	**-2.5**
HIZ	**Hauiti**	**10.66**	**216**	P	**Pn**	**02 32 38.2**	**+2.1**
HIZ	**Hauiti**	**10.66**	**216**	Pn	**Pn**	**02 32 35.1**	**-1.0**
KAHZ	**Kahuranaki**	**10.83**	**205**	P	**Pn**	**02 32 36.9**	**-1.6**
BHHZ	**Black Hill Sta**	**10.88**	**209**	P	**Pn**	**02 32 41.1**	**+1.9**
KRHZ	**Kereru**	**10.89**	**207**	P	**Pn**	**02 32 40.7**	**+1.3**
TSZ	**Takapari Road**	**11.41**	**208**	P	**Pn**	**02 32 45.9**	**-0.5**
BFZ	**Birch Farm**	**11.84**	**205**	P	**Pn**	**02 32 50.7**	**-1.6**
BFZ	**Birch Farm**	**11.84**	**205**	Pn	**Pn**	**02 32 50.8**	**-1.4**

MSVF	**Nonsavu**	**13.04**	**340**	*c i*P		**Pn**	**02 33 12.7**	**+3.8**	
MSVF	**Nonsavu**	**13.04**	**340**			**Pn**	**02 33 08.3**	**-0.6**	
AMCZ	**Amberley**	**15.37**	**209**	P		**Pn**	**02 33 42.3**	**+2.0**	
OXZ	**Oxford**	**15.76**	**210**	Pn		**Pn**	**02 33 41.9**	**-3.3**	
OXZ				IAmb		IAmb	02 33 56.4		
	comp=Z,74nm,0.7s								
MQZ	**McQueen's Vall**	**15.81**	**208**	Pn		**Pn**	**02 33 45.2**	**-0.7**	
RPZ	**Rata Peaks**	**16.50**	**211**	Pn		**Pn**	**02 33 52.5**	**-2.3**	
	comp=Z,0.7nm,0.3s,baz=99,slow=11,SNR=2.3								
RPZ				Sn		Sn	02 36 42.4	-15	
	comp=Z,1.0nm,0.3s,baz=62,slow=18,SNR=1.8								
RPZ	**Rata Peaks**	**16.50**	**211**	P		**P**	**02 33 56.5**	**-0.8**	
RPZ	**Rata Peaks**	**16.50**	**211**	Pn		**Pn**	**02 33 54.5**	**-0.3**	
DZM	**Mont Dzumac**	**16.71**	**295**	Pn		**Pn**	**02 33 58.0**	**+0.4**	
	comp=Z,0.1nm,0.3s,baz=111,slow=18,SNR=1.6								
DZM				LR		LR	02 39 22.8		
	comp=Z,6μm,18.2s,baz=122,slow=34								
AFI	**Afiamalu**	**16.86**	**18**	P		**Pn**	**02 33 59.6**	**0.0**	
AFI				pmax		pmax			
	comp=Z,46nm,0.9s								
AFI	**Afiamalu**	**16.86**	**18**	Pn		**Pn**	**02 33 59.6**	**0.0**	
FOZ	**Fox Glacier**	**16.94**	**214**	Pn		**Pn**	**02 33 59.9**	**-0.4**	
LBZ	**Lake Benmore**	**17.42**	**212**	Pn		**Pn**	**02 34 05.3**	**-1.0**	
ODZ	**Otahua Downs**	**17.73**	**209**			**Pn**	**02 34 07.2**	**-3.0**	
RAR	**Rarotonga**	**18.01**	**65**	LR		LR	02 39 18.3		
	comp=Z,1μm,20.2s,baz=248,slow=31								
RAR	**Rarotonga**	**18.01**	**65**	P		**Pn**	**02 34 13.1**	**-0.7**	
RAR				pmax		pmax			
	comp=Z,40nm,1.0s								
RAR	**Rarotonga**	**18.01**	**65**	Pn		**Pn**	**02 34 13.1**	**-0.7**	
WKZ	**Wanaka**	**18.29**	**213**	P		**P**	**02 34 14.6**	**-2.4**	
MLZ	**Mavora Lakes**	**19.12**	**213**	P		**P**	**02 34 24.7**	**-1.4**	
WHZ	**Wether Hill Ro**	**19.59**	**212**	P		**P**	**02 34 29.9**	**-1.3**	
PYZ	**Puysegur Point**	**20.39**	**214**	P		**P**	**02 34 39.4**	**-0.6**	
PYZ				IAmb		IAmb

comp=Z,8.0nm,1.1s
VNDA Vanda 48.47 186 P **P** 02 38 47.0 +1.9
KDU Kakadu 49.55 279 P **P** 02 38 53.8 -0.3
baz=50,SNR=3.5
MTN Manton Dam 50.62 278 P **P** 02 39 01.2 -1.1
MTN IAmb IAmb 02 39 02.2
comp=Z,20nm,0.8s
KNRA Kununurra 51.37 274 P **P** 02 39 08.4 +0.5
baz=52,SNR=3.8
FITZ Fitzroy Crossi 53.05 269 P **P** 02 39 20.4 0.0
baz=54,SNR=6.7
FITZ Fitzroy Crossi 53.05 269 P **P** 02 39 20.0 -0.3
FITZ IAmb IAmb 02 39 21.7
comp=Z,12nm,0.8s
KLBR Kellerberrin 55.10 251 P **P** 02 39 34.5 -0.8
baz=56,SNR=5.0
NWAO Narrogin (SRO) 55.15 249 P **P** 02 39 32.9 -2.7
NWAO pmax pmax
comp=Z,30nm,1.1s
NWAO Narrogin (SRO) 55.15 249 P **P** 02 39 32.9 -2.7
CASY Casey 55.73 208 P **P** 02 39 40.5 +1.4
MEEK Meekatharra 55.92 257 P **P** 02 39 41.2 -0.1
baz=56,SNR=4.4
PSA00 Pilbara Seismi 56.69 263 P **P** 02 39 45.8 -1.0
PSA00 IAmb IAmb 02 39 47.4
comp=Z,15nm,1.1s
SIJI Sorong 56.87 291 LR LR 03 02 44.4
comp=Z,261nm,19.9s,baz=20,slow=34
MORW Morawa 57.28 253 P **P** 02 39 50.3 -0.6
baz=58,SNR=3.9
MORW Morawa 57.28 253 P **P** 02 39 49.2 -1.7
MORW IAmb IAmb 02 40 06.0
comp=Z,15nm,1.1s
BATI Baumata 58.30 277 LR LR 03 05 32.4
comp=Z,3μm,18.1s,baz=132,slow=36
QSPA South Pole Qui 60.02 180 P **P** 02 40 11.6 +2.2
comp=Z,13nm,0.9s,baz=28,slow=2.8,SNR=22
QSPA South Pole Qui 60.02 180 P **P** 02 40 11.9 +2.4
KAPI Kappang 64.23 280 LR LR 03 09 06.4
comp=Z,321nm,18.2s,baz=128,slow=36
MAW Mawson 72.84 200 P **P** 02 41 33.7 +2.5
baz=73,SNR=8.2
MAW Mawson 72.84 200 P **P** 02 41 33.1 +1.9
comp=Z,13nm,1.1s,baz=111,slow=10.0,SNR=9.5
MAW LR LR 03 13 29.9
comp=Z,482nm,19.2s,baz=82,slow=36
MAW Mawson 72.84 200 P **P** 02 41 33.2 +2.0
MAW pmax pmax
comp=Z,4.0nm,1.1s
MAW Mawson 72.84 200 P **P** 02 41 33.2 +2.0
SBUM Sibu 74.53 282 P **P** 02 41 42.5 +0.5
SYO Syowa Base 77.57 193⇑ *iP* **P** 02 41 57.0 -1.4
SYO Syowa Base 77.57 193⇑ *i*PcP **PcP** 02 42 05.0 -3.6
SYO Syowa Base 77.57 193⇑ *i*sP sP 02 42 10.4 +3.0
MJAR Matsushiro Arr 78.39 325 P **P** 02 42 02.3 -1.0
comp=Z,6.2nm,0.7s,baz=162,slow=5.4,SNR=18
MJAR LR LR 03 11 22.5
comp=Z,146nm,21.8s,baz=170,slow=32
MJAR Matsushiro Arr 78.39 325 P **P** 02 42 03.6 +0.3
MJAR pmax pmax
comp=Z,4.0nm,0.9s
MJAR Matsushiro Arr 78.39 325 P **P** 02 42 03.6 +0.3
MAJO Matsushiro 78.39 325 *d iP* **P** 02 42 03.1 -0.2
MAJO pmax pmax
comp=Z,18nm,0.9s
MAJO Matsushiro 78.39 325 P **P** 02 42 03.7 +0.3
MAJO IAmb IAmb 02 42 03.8
comp=Z,15nm,0.8s
MAT Matsushiro 78.39 325 P **P** 02 42 01.7 -1.6
MAT S **S** 02 51 59.0 +1.6
MJB9 Matsu-Tunnel 78.39 325 P **P** 02 42 03.7 +0.3
MJB9 IAmb IAmb 02 42 03.8
comp=Z,16nm,0.9s
SNAA Sanae 78.44 178 P **P** 02 42 04.1 +0.8
SNAA Sanae 78.44 178⇑ *iP* **P** 02 42 04.1 +0.8
SNAA pmax pmax
comp=Z,15nm,1.2s
SNAA Sanae 78.44 178 P **P** 02 42 04.2 +0.9
SNAA IAmb IAmb 02 42 18.6
comp=Z,12nm,1.0s
VNA3 Neumayer Olymp 78.56 176 P **P** 02 42 04.6 +0.6
VNA2 Neumayer--Watz 79.01 177 P **P** 02 42 07.4 +1.0
baz=165,slow=4.9
VNA1 Neumayer--Stat 79.23 176 P **P** 02 42 08.7 +1.1
JNU Nakatsue 79.79 318 P **P** 02 42 10.4 -0.7
JNU IAmb IAmb 02 42 18.5
comp=Z,18nm,1.0s
H03S2 Juan Fernandez 80.06 123 T T 04 11 51.4
baz=239,slow=74,SNR=10
H03S1 Juan Fernandez 80.07 123 T T 04 11 55.0
baz=239,slow=74,SNR=8.8
H03S3 Juan Fernandez 80.08 123 T T 04 11 53.7
baz=239,slow=74,SNR=14
ERM Erimo 80.52 331⇑ *iP* **P** 02 42 16.9 +2.1
ERM pmax pmax
comp=Z,44nm,1.6s
ERM Erimo 80.52 331 P **P** 02 42 14.6 -0.2
ERM IAmb IAmb 02 42 26.5
comp=Z,17nm,0.9s
YUK Yuzh-Kuril'sk 81.14 334 *e*P **P** 02 42 14.9 -3.1
YUK *e* 02 42 24.2
YUK *e* 02 45 22.9
YUK *e*PPP PPP 02 47 13.4
YUK *e*S **S** 02 52 24.9 -1.1
YUK *e*SS **SS** 02 57 40.7 -1.5
YUK *e*SSS SSS 03 01 08.9
ATKA Atka Island 81.98 2 P **P** 02 42 20.5 -1.8
PLCA Paso Flores 82.21 133 P **P** 02 42 25.4 +1.2
comp=Z,2.6nm,0.8s,baz=246,slow=4.8,SNR=5.4
PLCA LR LR 03 10 14.1
comp=Z,208nm,21.6s,baz=289,slow=29
PLCA Paso Flores 82.21 133 P **P** 02 42 24.1 -0.1
PLCA pmax pmax
comp=Z,4.0nm,1.1s
PLCA Paso Flores 82.21 133 P **P** 02 42 24.1 -0.1
LC01 Cunco 82.34 131 P **P** 02 42 26.3 +1.4
LC01 IAmb IAmb 02 42 31.0
comp=Z,8.1nm,0.8s
JKA Kamikawa-asahi 82.49 332 P **P** 02 42 25.4 +0.3
ASAJ Asahikawa 82.49 332 P **P** 02 42 25.4 +0.2
ASAJ pmax pmax
comp=Z,49nm,1.1s
SKR Severo-Kuril's 83.81 343 *e*P **P** 02 42 31.5 -0.3
SKR *e*S **S** 02 52 55.9 +2.8
SKR pmax pmax
comp=Z,100nm,3.1s
TJN Taejon 84.13 318⇑ *iP* **P** 02 42 33.4 -0.4
KSRS Korea Array 84.56 319 P **P** 02 42 35.8 -0.1
comp=Z,6.8nm,1.0s,baz=143,slow=5.5,SNR=24
KSAR Wonju Array Be 84.58 319 P **P** 02 42 36.7 +0.6
KSAR Wonju Array Be 84.58 319 P **P** 02 42 36.7 +0.6
YSS Yuzh-Sakhalins 84.77 334⇓ *e*P **P** 02 42 36.3 -0.5
YSS *e* 02 42 39.8
YSS *e*S **S** 02 53 00.9 -2.0
YSS pmax pmax
comp=Z,400nm,4.3s
YSS pmax pmax
comp=Z,80nm,0.9s
YSS MLR MLR
comp=N,200nm,18.0s
YSS MLR MLR
comp=Z,300nm,18.0s
YSS Yuzh-Sakhalins 84.77 334 P **P** 02 42 36.5 -0.3
PET Petropavlovsk 85.40 346 *e*P **P** 02 42 40.9 +1.1
PET *e*S **S** 02 53 10.6 +1.8
PFO Pinyon Flats O 85.49 47 P **P** 02 42 40.0 -0.9
PFO pmax pmax
comp=Z,7.0nm,1.1s
PFO Pinyon Flats O 85.49 47 P **P** 02 42 40.0 -0.9
XPFO Pion Flat 85.49 47 P **P** 02 42 41.2 +0.3
ISA Isabella, Lake 85.59 44 P **P** 02 42 40.7 -0.7
ISA pmax pmax
comp=Z,10.0nm,1.0s
ISA Isabella, Lake 85.59 44 P **P** 02 42 40.6 -0.7
ISA IAmb IAmb 02 42 56.9
comp=Z,10nm,1.0s
PEA0B Petropavlovsk- 85.69 345 P **P** 02 42 39.9 -1.3
PEA0B pmax pmax
comp=Z,30nm,1.2s
PEA0B Petropavlovsk- 85.69 345 P **P** 02 42 39.9 -1.3
PETK Petropavlovsk- 85.69 345 P **P** 02 42 40.9 -0.4
comp=Z,12nm,0.9s,baz=142,slow=7.5,SNR=14
PETK LR LR 03 18 49.7
comp=Z,141nm,18.8s,baz=216,slow=34
PETK Petropavlovsk- 85.69 345 P **P** 02 42 40.1 -1.2
PETK Petropavlovsk- 85.69 345 P **P** 02 42 40.1 -1.2
KMRM Mail Ridge 85.76 38 P **P** 02 42 39.0 -3.1
TEY Ternei 85.78 329⇑ *e*P **P** 02 42 40.1 -1.8
TEY pmax pmax
comp=Z,10.0nm,1.0s
RPSI Rantau Prapat 86.04 275 P **P** 02 42 42.9 -1.1
RPSI IAmb IAmb 02 42 44.4
comp=Z,8.4nm,0.8s
CMB Columbia Colle 86.07 41 P **P** 02 42 44.1 +0.5
CMB pmax pmax
comp=Z,10.0nm,1.1s
CMB Columbia Colle 86.07 41 P **P** 02 42 44.1 +0.5
CMB IAmb IAmb 02 43 00.1
comp=Z,9.8nm,1.1s
PSI Prapat 86.09 275 P **P** 02 42 42.9 -1.5
PSI pmax pmax
comp=Z,8.0nm,0.8s
AFDM Forest Hills D 86.37 41 P **P** 02 42 45.2 +0.2
AFDM IAmb IAmb 02 42 50.7
comp=Z,8.9nm,1.0s
GSC Goldstone, Bar 86.38 45 P **P** 02 42 44.7 -0.6
GSC pmax pmax
comp=Z,17nm,1.2s
GSC Goldstone, Bar 86.38 45 P **P** 02 42 44.7 -0.6
GSC IAmb IAmb 02 43 00.6
comp=Z,17nm,1.1s
MSHR Mys Shultsa 86.50 325⇑ *iP* **P** 02 42 47.2 +1.7
GSI Gunungsitoli 86.51 274 P **P** 02 42 45.4 -0.9
WDC Whiskeytown Da 86.64 38 P **P** 02 42 46.4 +0.1
WDC pmax pmax
comp=Z,15nm,1.1s
WDC Whiskeytown Da 86.64 38 P **P** 02 42 46.4 +0.1
WDC IAmb IAmb 02 42 53.0
comp=Z,15nm,1.1s
113A Mohawk Valley, 86.69 49 P **P** 02 42 47.1 +0.4
Y12C Blythe 86.81 48 P **P** 02 42 47.7 +0.4
WAKR Walker 86.94 42 P **P** 02 42 49.4 +1.3
WAKR IAmb IAmb 02 42 54.3
comp=Z,18nm,1.2s
PAYG Puerto Ayora 86.99 89 P **P** 02 42 46.7 -2.1
PNTR Pine Nut 87.24 41 P **P** 02 42 49.9 +0.4
USA0B Ussuriysk Arra 87.29 326 P **P** 02 42 49.4 +0.1
USA0B pmax pmax
comp=Z,40nm,1.0s
USA0B Ussuriysk Arra 87.29 326 P **P** 02 42 49.4 +0.1
USRK Ussuriysk Ar. 87.29 326 P **P** 02 42 49.7 +0.4
comp=Z,23nm,0.8s,baz=137,slow=3.4,SNR=52
USRK LR LR 03 18 36.1
comp=Z,139nm,19.4s,baz=145,slow=34
VCNR Virginia City 87.35 41 P **P** 02 42 50.3 +0.3
VCNR IAmb IAmb 02 43 06.1
comp=Z,9.3nm,1.0s
YBH Yreka Blue Hor 87.37 38 P **P** 02 42 49.1 -0.8
comp=Z,2.9nm,0.9s,baz=270,slow=3.2,SNR=6.5
YBH Yreka Blue Hor 87.37 38 P **P** 02 42 49.8 -0.1
YBH pmax pmax
comp=Z,7.0nm,1.0s
YBH Yreka Blue Hor 87.37 38 P **P** 02 42 49.8 -0.1
NVAR Mina Array Bea 87.55 42 P **P** 02 42 50.0 -1.0
comp=Z,2.4nm,0.8s,baz=223,slow=7.4,SNR=4.7
NVAR LR LR 03 17 30.9
comp=Z,502nm,18.1s,baz=234,slow=33
NV11 Mina Array Sit 87.63 42 P **P** 02 42 50.6 -0.7
NV11 IAmb IAmb 02 42 57.2
comp=Z,9.5nm,1.1s
PAHR Pah Rah Range 87.78 41 P **P** 02 42 50.1 -1.9
PAHR IAmb IAmb 02 43 05.0
comp=Z,7.0nm,1.1s
TPNV Topopah Spring 87.79 44 P **P** 02 42 52.0 -0.2
TPNV pmax pmax
comp=Z,8.0nm,0.9s
TPNV Topopah Spring 87.79 44 P **P** 02 42 52.0 -0.2
TPNV IAmb IAmb 02 42 57.9
comp=Z,7.8nm,0.9s
Y14A Wickenburg 87.91 49 P **P** 02 42 52.7 0.0
Y14A IAmb IAmb 02 43 07.9
comp=Z,6.2nm,0.8s
KVN Kaiserville 88.08 42 P **P** 02 42 52.7 -0.8
KVN pmax pmax
comp=Z,8.0nm,1.1s
KVN Kaiserville 88.08 42 P **P** 02 42 52.7 -0.8
KVN IAmb IAmb 02 42 59.1
comp=Z,8.5nm,1.1s
SHPR Sheep Range 88.17 45 P **P** 02 42 54.5 +0.6
SHPR IAmb IAmb 02 43 00.6
comp=Z,7.5nm,1.2s
TUC Tucson 88.38 51 P **P** 02 42 55.4 +0.4
TUC pmax pmax
comp=Z,8.0nm,1.1s
TUC Tucson 88.38 51 P **P** 02 42 55.4 +0.4
TUC IAmb IAmb 02 43 01.2
comp=Z,7.9nm,1.1s
MDJ Mudanjiang 88.77 325 P **P** 02 42 55.5 -0.9
MOD Modoc Plateau 88.77 39 P **P** 02 42 56.1 -0.5
MOD IAmb IAmb 02 43 01.7
comp=Z,5.1nm,0.9s
K05A Summer Lake 89.02 38 P **P** 02 42 58.4 +0.5
K05A IAmb IAmb 02 43 11.5
comp=Z,12nm,1.1s
X16A Lo Mia Camp, P 89.23 49 IAmb IAmb 02 43 14.7
comp=Z,10nm,0.8s
LCMT Little Creek M 89.68 46 P **P** 02 43 01.9 +0.9
H04A Detroit Lake 89.72 36 P **P** 02 43 00.9 0.0
H04A IAmb IAmb 02 43 13.8
comp=Z,7.5nm,1.1s
PINE Pine Mountain 89.74 37 IAmb IAmb 02 43 08.1
comp=Z,13nm,1.1s
WUAZ Wupatki 89.94 48 P **P** 02 43 03.0 +0.7
CCUT Cedar City 89.94 46 P **P** 02 43 03.0 +0.6
WVOR Wild Horse Val 90.04 39 P **P** 02 43 03.4 +0.8
WVOR pmax pmax
comp=Z,7.0nm,0.7s
WVOR Wild Horse Val 90.04 39 P **P** 02 43 03.4 +0.8
WVOR IAmb IAmb 02 43 12.0
comp=Z,7.1nm,0.7s
SZCU Shurtz Canyon 90.14 46 P **P** 02 43 03.8 +0.5
TIA Tai'an 90.27 313 P **P** 02 43 04.3 +0.7
TIA pmax pmax
comp=Z,19nm,1.1s
GRNR Gornyy 90.33 333⇑ *iP* **P** 02 43 04.4 +0.9
GRNR pmax pmax
comp=Z,20nm,1.0s
GRNR MLR MLR
comp=E,140nm,17.0s
GRNR MLR MLR
comp=Z,130nm,18.0s
E03A Lebam 90.36 34 P **P** 02 43 03.1 -0.7
F04A Amboy 90.48 35 P **P** 02 43 04.4 0.0
121A Cookes Peak, D 90.55 52 P **P** 02 43 04.3 -1.0
121A IAmb IAmb 02 43 20.7
comp=Z,6.0nm,0.9s
I07A Izee 90.69 38 P **P** 02 43 05.5 0.0
I07A IAmb IAmb 02 43 09.4
comp=Z,7.6nm,1.2s
J08A Circle Bar Ran 90.75 39 P **P** 02 43 06.7 +0.9
J08A IAmb IAmb 02 43 12.3
comp=Z,10nm,1.2s
W18A Petrified Fore 90.77 49 P **P** 02 43 06.8 +0.6
W18A IAmb IAmb 02 43 13.4
comp=Z,10nm,1.0s
NLWA Neilton Lookou 90.82 33 P **P** 02 43 05.5 -0.5
NLWA IAmb IAmb 02 43 12.4
comp=Z,11nm,1.1s
ELK Elko 90.85 42 P **P** 02 43 06.1 -0.4
ELK pmax pmax
comp=Z,3.0nm,1.0s
ELK Elko 90.85 42 P **P** 02 43 06.1 -0.4
G06A Carlson Farm, 90.89 36 P **P** 02 43 06.0 -0.4
MTPU Mount Pierson 90.98 46 P **P** 02 43 08.4 +1.0
KLR Kul'dur 91.12 329 *c iP* **P** 02 43 07.7 +0.5
KLR pmax pmax
comp=Z,26nm,0.9s
MSU Marysvale 91.28 45 P **P** 02 43 07.9 -0.6
MSU Marysvale 91.28 45 P **P** 02 43 07.9 -0.6
SLVN Son La 91.42 294 P **P** 02 43 08.2 -1.2
SLVN IAmb IAmb 02 43 13.7
comp=Z,5.3nm,1.0s
D05A Enumclaw 91.58 34 P **P** 02 43 09.2 -0.2
TX31 Lajitas Ar. Si 91.64 57 P **P** 02 43 10.1 -0.2
TX31 IAmb IAmb 02 43 12.3
comp=Z,6.0nm,1.1s
TX32 Lajitas Array 91.64 57 P **P** 02 43 10.1 -0.2
TXAR Lajitas Array 91.64 57 P **P** 02 43 08.4 -1.9
comp=Z,0.8nm,1.0s,baz=223,slow=6.1,SNR=5.0
TXAR LR LR 03 19 04.4
comp=Z,189nm,18.0s,baz=0.0,slow=32
F07A Phinny Hill Vi 91.71 36 P **P** 02 43 09.9 -0.1
F07A IAmb IAmb 02 43 17.8
comp=Z,12nm,1.1s
MNTX Cornudas Mount 91.74 54 P **P** 02 43 10.1 -0.5
GYA Guiyang 92.00 299 *e*P **P** 02 43 12.8 +0.8
GYA pmax pmax
comp=Z,8.0nm,1.3s
ENH Enshi 92.00 304 P **P** 02 43 11.4 -0.5
MFID Camas Ranch 92.24 40 P **P** 02 43 12.7 -0.1
MFID IAmb IAmb 02 43 19.1
comp=Z,8.9nm,1.1s
HAWA Hanford 92.25 36 P **P** 02 43 12.1 -0.4
HAWA IAmb IAmb 02 43 18.5
comp=Z,7.7nm,0.9s
BGU Big Grassy Mou 92.26 43 P **P** 02 43 12.9 0.0
LTY Liberty 92.27 35 P **P** 02 43 12.5 -0.2
LTY IAmb IAmb 02 43 16.1
comp=Z,5.5nm,1.1s
BNM Barren Site 92.28 52 P **P** 02 43 12.7 -0.6
TMUT Trail Mountain 92.35 45 P **P** 02 43 14.2 +0.5
BMO Blue Mountains 92.38 38 P **P** 02 43 13.2 -0.1
BMO pmax pmax
comp=Z,3.0nm,1.1s
BMO Blue Mountains 92.38 38 P **P** 02 43 13.2 -0.1
SPUT South Promonto 92.84 43 P **P** 02 43 15.2 -0.5
ANMO Albuquerque 92.85 51⇓ *iP* **P** 02 43 16.9 +1.0
ANMO pmax pmax
comp=Z,5.0nm,1.1s
ANMO Albuquerque 92.85 51 P **P** 02 43 16.4 +0.6
D08A Wollman Farm, 93.01 36 P **P** 02 43 15.5 -0.6
D08A IAmb IAmb 02 43 31.1
comp=Z,6.6nm,1.0s
E09A Wood Farm, Sta 93.04 36 P **P** 02 43 16.2 0.0
E09A IAmb IAmb 02 43 29.0
comp=Z,9.4nm,1.1s
HLID Hailey 93.12 40 IAmb IAmb 02 43 22.9
comp=Z,6.5nm,1.1s
F10A Beach Ranch, E 93.16 37 P **P** 02 43 15.7 -1.2
F10A IAmb IAmb 02 43 21.8
comp=Z,9.0nm,0.9s
BJI Beijing 93.19 315 P **P** 02 43 18.0 +1.0
BJI S **S** 02 54 27.5 +5.2
BJI pmax pmax
comp=Z,10.0nm,1.0s
BJI LR LR
comp=Z,140nm,23.2s
BJI LR LR
comp=Z,160nm,20.7s
CMAR Chiang Mai Arr 93.95 289 P **P** 02 43 21.9 +0.8
comp=Z,0.6nm,0.3s,baz=154,slow=4.3,SNR=6.5
CMAR LR LR 03 28 35.8
comp=Z,97nm,18.3s,baz=219,slow=37
CMAR Chiang Mai Arr 93.95 289 *i* P **P** 02 43 22.6 +1.5
CMAR pmax pmax
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 93.95 289 P **P** 02 43 20.4 -0.7
REDW Red Top Meadow 95.03 42 IAmb IAmb 02 43 39.6
comp=Z,8.6nm,1.1s
FXWY Fox Creek 95.10 42 IAmb IAmb 02 43 32.6
comp=Z,5.8nm,1.1s
SNOW Snow King Moun 95.15 42 IAmb IAmb 02 43 32.7
comp=Z,9.0nm,1.0s
PDAR Pinedale Array 95.44 43 P **P** 02 43 27.3 -0.3
comp=Z,0.3nm,0.3s,baz=219,slow=4.2,SNR=2.0
PDAR LR LR 03 21 57.9
comp=Z,305nm,18.2s,baz=263,slow=33
BOZ Bozeman (W) 95.94 40 IAmb IAmb 02 43 36.2
comp=Z,5.6nm,1.1s
ZEA Zeya 96.32 330 *e*P **P** 02 43 30.6 -0.4
ZEA pmax pmax
comp=Z,29nm,1.0s
HHC Hu-ho-hao-te 96.52 314 *e*P **P** 02 43 34.8 +2.4
HHC SKS **SKSac** 02 54 07.5 0.0
HHC S **ScS** 02 54 52.8 +0.7
HHC SS **SS** 03 01 30.3 +3.9
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,36nm,6.2s
HHC LR LR
comp=Z,79nm,17.9s
HHC LR LR
comp=Z,100nm,17.9s
HHC LR LR
comp=Z,160nm,19.6s
ILAR Eielson Array 97.47 13 P **P** 02 43 35.0 -1.0
comp=Z,0.5nm,0.8s,baz=208,slow=5.8,SNR=3.5
ILAR PP **PP** 02 47 37.1 +3.3
comp=Z,0.7nm,1.0s,baz=217,slow=6.4,SNR=4.2
ILAR Eielson Array 97.47 13 P **P** 02 43 35.0 -1.0
LPAZ La Paz 97.64 114 LR LR 03 22 23.0
comp=Z,62nm,18.0s,baz=204,slow=32
BILL Bilibino 98.61 354 *e*P Pdif 02 43 41.5 +0.5
BILL *e* 02 47 41.0
BILL *e*PPP PPP 02 49 49.1
BILL pmax pmax
comp=Z,1.0nm,0.9s
LZH Lanzhou 99.09 306 *e*P **Pdif** 02 43 45.0 +0.8
LZH sP pwP 02 44 00.8 +3.9
LZH *e*PP **PP** 02 47 50.3 +3.2
LZH pmax pmax
comp=Z,19nm,1.4s
LZH pmax pmax
comp=Z,92nm,5.3s
LZH LR LR
comp=Z,180nm,17.0s
LZH LR LR
comp=Z,180nm,17.2s
LZH LR LR
comp=Z,280nm,19.7s
CPUP Villa Florida 99.63 128 LR LR 03 20 33.7
comp=Z,125nm,21.6s,baz=233,slow=30
SONM Songino Array 103.38 318 Pdiff **Pdif** 02 44 02.1 -0.8
comp=Z,0.2nm,0.3s,baz=108,slow=3.2,SNR=1.7
WMQ Urumqi 113.58 308 *e*PKP **PKiKP** 02 48 41.5 +0.5
WMQ LR LR
comp=Z,460nm,29.1s
WMQ LR LR
comp=Z,410nm,29.2s
WMQ LR LR
comp=Z,82nm,23.7s
MKAR Makanchi Array 118.10 310 PKP **PKPdf** 02 48 48.7 -0.8
comp=Z,1.2nm,0.7s,baz=77,slow=3.1,SNR=9.9
MKAR Makanchi Array 118.10 310 *c i*PKiKP **PKPdf** 02 48 48.4 -1.2
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 118.10 310 PKPdf **PKPdf** 02 48 48.3 -1.3
ZALV Zalesovo Beam 118.26 318 PKhKP PKPpre 02 48 44.9
comp=Z,0.5nm,0.3s,baz=147,slow=2.9,SNR=3.9
ZALV Zalesovo Beam 118.26 318 **PKPdf** 02 48 48.5 -1.1
ZALV Zalesovo Beam 118.26 318 **PKPdf** 02 48 48.5 -1.1
MAKZ Makanchi 118.31 310 PKiKP **PKPdf** 02 48 48.8 -1.2
MAKZ Makanchi 118.31 310 PKPdf **PKPdf** 02 48 48.8 -1.2
NRIK Noril'sk 119.64 336 *i* PKiKP **PKPdf** 02 48 50.8 -1.0
KURK Kurchatov 121.33 314⇓ *i*PKiKP **PKPdf** 02 48 54.9 -0.7
KURK Kurchatov 121.33 314 PKPdf **PKPdf** 02 48 54.8 -0.7
KURBB Kurchatov Arra 121.37 314 PKP **PKPdf** 02 48 54.6 -1.0
comp=Z,3.2nm,0.7s,baz=106,slow=2.1,SNR=4.1
AAK Ala-Archa 122.52 304 PKP **PKPdf** 02 48 57.8 -0.6
comp=Z,1.3nm,0.5s,baz=224,slow=8.5,SNR=1.3
AAK Ala-Archa 122.52 304⇓ *i*PKiKP **PKPdf** 02 48 58.3 -0.1
KKAR Karatay Array 125.48 304 PKiKP **PKPdf** 02 49 03.1 -0.7
KKAR Karatay Array 125.48 304 PKPdf **PKPdf** 02 49 03.1 -0.7
BVAR Borovoye Array 126.67 316 PKP **PKPdf** 02 49 05.5 -0.3
comp=Z,5.8nm,0.9s,baz=108,slow=3.3,SNR=21
BRVK Borovoye 126.73 316 *d i*PKiKP **PKPdf** 02 49 05.6 -0.3
BRVK Borovoye 126.73 316 PKPdf **PKPdf** 02 49 05.6 -0.3
ABKAR Akbulak array 133.23 311 PKPdf **PKPdf** 02 49 18.9 +0.6
ARU Arti 133.29 321 *i* PKiKP **PKPdf** 02 49 17.2 -1.0
GEYT Alibeck 134.05 295 PKP **PKPdf** 02 49 20.5 +0.1
comp=Z,1.9nm,0.7s,baz=190,slow=7.5,SNR=3.9
GEYT SKPbc **SKPab** 02 52 50.5 -0.3
comp=Z,1.4nm,0.7s,baz=90,slow=1.4,SNR=1.6
GEYT Alibeck 134.05 295 PKPdf **PKiKP** 02 49 21.1 -0.5
GEYT pPKPdf **sPKPdf** 02 49 30.8 +1.2
AKTO Aktyubinsk 134.40 313 PKP **PKPdf** 02 49 20.1 -0.3
comp=Z,3.0nm,0.9s,baz=85,slow=0.2,SNR=8.2
AKTO SKPbc **SKPab** 02 52 50.8 -1.0
comp=Z,2.4nm,0.9s,baz=200,slow=21,SNR=8.2
ARCES ARCESS Array B 138.43 348 PKhKP PKPpre 02 49 18.7
comp=Z,3.4nm,1.0s,baz=48,slow=1.8,SNR=4.2
H10N3 ASCENSION HYDR 138.78 153 T T 05 26 16.8
baz=203,slow=75,SNR=24
H10N1 ASCENSION HYDR 138.79 153 T T 05 26 19.7

baz=203,slow=75,SNR=18
H10N2 ASCENSION HYDR 138.80 153 T T 05 26 18.2
baz=203,slow=75,SNR=23
KLMR Klimovskoe 140.81 332 *e*PKIKP **PKPdf 02 49 29.9 -2.0**
KLMR pmax pmax
comp=Z,11nm,1.1s
KLMR Klimovskoe 140.81 332 *e*PKPdf **PKPdf 02 49 30.0 -2.0**
KLMR AMP 02 49 36.3
comp=Z,11nm,1.1s
VRH Novokhopyorsk 144.29 317 *e*PKIKP **PKPab 02 49 35.5 -0.9**
VRH pmax pmax
comp=Z,10.0nm,1.0s
MOS Moscow 144.47 326 *e*PKIKP **PKPab 02 49 35.8 -1.1**
ZEI Tsey 144.92 303 *e*PKIKP **PKPdf 02 49 39.9 -0.2**
ZEI pmax pmax
comp=Z,33nm,1.1s
FINES FINESS Array B 145.09 341 PKP **PKPbc 02 49 38.2 -0.8**
comp=Z,43nm,0.8s,baz=50,slow=4.0,SNR=189
FINES FINESS Array B 145.09 341 PKIKP **PKPbc 02 49 38.0 -1.0**
FINES FINESS Array B 145.09 341 **PKPbc 02 49 38.0 -1.0**
GOF Gofitskoye 145.16 307 ⇑*i*PKIKP **PKPbc 02 49 39.5 -0.3**
GOF pmax pmax
comp=Z,59nm,0.8s
OBN Obninsk 145.31 326*c i*PKIKP **PKPbc 02 49 39.1 -0.8**
OBN *i* 02 49 48.8
OBN *e* 02 52 56.6
OBN pmax pmax
comp=Z,165nm,1.4s
OBN Obninsk 145.31 326 **PKPbc 02 49 39.4 -0.4**
LPSR Galich'ya Gora 145.31 321 *e*PKIKP **PKPbc 02 49 38.9 -1.1**
LPSR pmax pmax
comp=Z,110nm,1.0s
AKH Akhalkalaki 145.38 300 ⇑P **PKPab 02 49 41.3 +0.2**
AKH Akhalkalaki 145.38 300 PKIKP **PKPab 02 49 41.7 +0.6**
AKH Akhalkalaki 145.38 300 **PKPab 02 49 41.6 +0.6**
KBZ Khabaz 145.51 304 PKPbc **PKPdf 02 49 40.2 -0.5**
comp=Z,19nm,1.1s,baz=100,slow=3.2,SNR=26
KIV Kislovodsk 145.62 305 ⇑P **PKPab 02 49 42.0 +0.3**
KIV Kislovodsk 145.62 305 *i* PKP2 **PKPbc 02 49 41.4 0.0**
KIV pmax pmax
comp=Z,69nm,1.1s
KIV MLR MLR
comp=Z,181nm,24.0s
KIV Kislovodsk 145.62 305 PKPdf **PKPab 02 49 41.7 0.0**
VSR Storozhevoye 145.77 318 *e*PKP2 **PKPdf 02 49 40.6 -0.4**
VSR pmax pmax
comp=Z,100nm,1.0s
VORD Divnogorie 145.79 318 *e*PKP2 **PKPdf 02 49 40.8 -0.2**
VORD pmax pmax
comp=Z,90nm,1.2s
BCA Borcka 146.78 301 ⇑P **PKPbc 02 49 44.9 0.0**
VSU Vasula 147.22 337 *e*P **PKPbc 02 49 45.2 -0.3**
SOC Sochi 147.80 305 *e*PKP2 **PKPbc 02 49 47.0 -0.6**
SOC pmax pmax
comp=Z,26nm,0.8s
SOC pmax pmax
comp=Z,26nm,0.6s
KTUT Trabzon 148.23 300 ⇑P **PKPbc 02 49 49.2 +0.4**
NB2 NORSAR Subarra1 148.54 352 PKP **PKPbc 02 49 48.2 -0.9**
comp=Z,35nm,1.1s,baz=15,slow=2.9
NB2 NORSAR Subarra1 148.54 352 PKP **PKPbc 02 49 48.2 -0.9**
baz=15,slow=2.9
NOA NORSAR Array B 148.54 352 PKPbc **PKPbc 02 49 48.1 -0.9**
comp=Z,12nm,1.0s,baz=16,slow=4.4,SNR=22
IZAR Zarasai 149.43 334 *e*P **PKPbc 02 49 51.7 +0.4**
ISAL Salakas 149.61 334 *e*P **PKPbc 02 49 52.0 +0.2**
MICGM Minsk 149.66 331 *e* **PKiKP 02 49 53.0 0.0**
MNK Minsk 149.66 331 *e*PKP2 **PKiKP 02 49 53.0 0.0**
IIGN Ignalina 149.73 333 *e*P **PKPbc 02 49 52.4 +0.2**
NACGM Naroch 149.83 332 *e* **PKPbc 02 49 51.0 -1.4**
KONO Kongsberg 150.09 353 PKIKP **PKPbc 02 49 52.7 -0.2**
KONO Kongsberg 150.09 353 **PKPbc 02 49 52.7 -0.2**
PABE Paberze 150.46 335 *e*P **PKPbc 02 49 54.0 +0.1**
PBUR Paburge 150.75 338 *e*P **PKPbc 02 49 54.3 -0.3**
AKASG Malin Array Be 151.47 324 PKPbc **PKPbc 02 49 55.9 -0.5**
comp=Z,7.3nm,0.5s,baz=46,slow=2.8,SNR=36
AKASG PKPab **PKPab 02 50 04.2 -0.6**
comp=Z,28nm,0.7s,baz=46,slow=3.1,SNR=21
AKASG Malin Array Be 151.47 324 **PKPbc 02 49 55.8 -0.6**
AKBB Malin Array Si 151.47 324 PKPab **PKPab 02 50 04.0 -0.8**
SHBL Chebaa 151.85 285 *e*P **PKiKP 02 49 58.8 +0.4**
SUW Suwalki 151.91 334 *e*PKPbc **PKiKP 02 49 57.6 -0.1**
SUW Suwalki 151.91 334 PKPab **PKPbc 02 50 05.7 -0.8**
BHL Bhannes 151.94 286 *e*P **PKPbc 02 49 58.4 +0.2**
BZK Bozkurt 152.27 304 ⇑P **PKPab 02 50 08.9 +0.4**
ILGA Ilgaz 152.71 302 PKPbc **PKiKP 02 50 00.0 0.0**
BRTR Keskin Array B 153.06 299 PKPbc **PKPbc 02 50 00.4 -0.1**
comp=Z,3.3nm,1.0s,baz=116,slow=3.4,SNR=10
BRTR PKPab **sPKPbc 02 50 10.2 +0.4**
comp=Z,7.1nm,0.9s,baz=165,slow=5.1,SNR=6.3
BRTR Keskin Array B 153.06 299 PKIKP **PKPbc 02 50 00.0 -0.5**
BRTR 02 50 10.2
BRTR Keskin Array B 153.06 299 **PKPbc 02 50 00.0 -0.5**
SORM Soroca 153.40 320 ⇑P **PKiKP 02 50 01.0 +0.1**
SORM Soroca 153.40 320 ⇑PKIKP **PKiKP 02 50 01.0 +0.1**
ANTO Ankara 153.66 300 ⇑P **PKPab 02 50 11.4 -3.2**
ANTO Ankara 153.66 300 PKIKP **PKiKP 02 50 02.3 +0.4**
ANTO 02 50 11.9
ANTO Ankara 153.66 300 **PKiKP 02 50 02.3 +0.4**
ANTO **sPKPbc 02 50 11.9 +0.8**
CSS Mathiatis 153.86 289 **PKiKP 02 50 02.6 +0.2**
CSS **sPKPbc 02 50 11.6 +0.2**
LEF Lefka 154.21 289 ⇑P **PKPab 02 50 11.9 -5.0**
LVV L'vov 154.60 327 *e*PKP2 **PKPab 02 50 17.2 -0.8**
TLCR 154.62 314 ⇑P **PKPab 02 50 14.0 -4.3**
TLCR 154.62 314 ⇑PKP2 **PKPab 02 50 14.0 -4.3**
SKMB Sankelmark Bun 154.93 351 *e*PKPab **PKPab 02 50 17.6 -1.6**
baz=22,slow=4.3
TOPG Topolog 155.04 313 ⇑P **PKPab 02 50 20.4 +0.2**
CFR Carcaliu 155.05 314 ⇑P **PKPab 02 50 14.2 -5.9**
CFR Carcaliu 155.05 314 ⇑PKP2 **PKPab 02 50 14.2 -5.9**
BIZ Bicaz 155.33 319 ⇑P PKPdf 02 50 05.3 +9.4
KWP Kalwaria Pacla 155.35 328 *e*PKPab **PKPab 02 50 21.5 +0.2**
HARR Harsova 155.41 313 ⇑P **PKPab 02 50 22.2 +0.5**
HARR Harsova 155.41 313 ⇑PKP2 **PKPab 02 50 22.2 +0.5**
BUR08 Bucovina Ar. S 155.41 322 PKPab **PKPab 02 50 22.1 +0.4**
BURAR Bucovina Array 155.42 322 ⇑P **PKPab 02 50 17.3 -4.5**
BURAR Bucovina Array 155.42 322 ⇑PKP2 **PKPab 02 50 17.3 -4.5**
BURAR Bucovina Array 155.42 322 PKPbc 02 50 06.1
BURAR PKPab **PKPab 02 50 22.3 +0.5**
BSEG Bad Segeberg 155.55 349 *e*PKPab **PKPab 02 50 21.1 -0.8**
baz=22,slow=4.3
VRI Vrincioaia 155.56 317 ⇑P **PKPab 02 50 21.6 -0.8**
VRI Vrincioaia 155.56 317 ⇑PKP2 **PKPab 02 50 21.6 -0.8**
OZUR 155.99 318 ⇑P **PKPab 02 50 24.7 +0.5**
KOLS Kolonicke sedl 156.04 327 *e*PKP2 **PKPab 02 50 24.6 +0.3**
KOLS Kolonicke sedl 156.04 327 *e*PKP **PKPab 02 50 24.6 +0.3**
OJC Ojcow 156.17 332 *e*PKPab **PKPab 02 50 24.7 -0.1**
OJC Ojcow 156.17 332 PKIKP **PKPdf 02 49 56.5 -0.5**
OJC Ojcow 156.17 332 PKPdf **PKPdf 02 49 56.5 -0.5**
ARCR ARCALIA 156.21 322 ⇑P **PKPab 02 50 25.1 +0.1**
RUE Ruedersdorf 156.21 343 *e*PKPab **PKPab 02 50 24.0 -0.7**
baz=22,slow=4.3
MLR Muntele Rosu 156.22 317 ⇑P **PKPab 02 50 24.9 -0.4**
MLR Muntele Rosu 156.22 317 ⇑PKP2 **PKPab 02 50 24.9 -0.4**
UZH Uzhgorod 156.24 327 *e*PKP2 **PKPab 02 50 24.5 -0.6**
DOPR Dopca 156.29 318 ⇑P **PKPab 02 50 25.5 +0.1**
TRPA Tarpa 156.47 325 ⇑P **PKPab 02 50 25.7 -0.4**
NIE Niedzica 156.57 330 *e*PKPab **PKPab 02 50 27.0 +0.4**
KSP Ksiaz 156.94 338 *e*PKPab **PKPab 02 50 28.4 +0.4**
NRDL Niedersach Rie 156.98 349 *e*PKPab **PKPab 02 50 27.0 -0.9**
baz=22,slow=4.3
ARR Arges 157.06 318 ⇑P **PKPab 02 50 28.8 0.0**
OKC Ostrava-Krasne 157.12 334 *e*PKPAB **PKPab 02 50 28.9 +0.1**
OKC *ep*PKP **sPKPab 02 50 40.1 +2.2**
OKC Ostrava-Krasne 157.12 334 *e*PKP2 **PKPab 02 50 28.9 +0.1**
LANS Liptovska Anna 157.13 331 *e*PKP2 **PKPab 02 50 29.9 +0.9**
LANS Liptovska Anna 157.13 331 *e*PKP **PKPab 02 50 29.9 +0.9**
KECS Kecovo 157.19 329 *e*PKP2 **PKPab 02 50 29.8 +0.6**
KECS Kecovo 157.19 329 *e*PKP **PKPab 02 50 29.8 +0.6**
OSTC Ostas 157.21 338 *e*PKPAB **PKPab 02 50 24.5 -4.7**
OSTC *ex* x 02 50 28.8
ASSE Asse, Remlinge 157.22 347 *e*PKPab **PKPab 02 50 28.2 -0.9**
baz=22,slow=4.3
CHVC Chvalec 157.24 338 *e*PKPAB **PKPab 02 50 29.0 -0.3**
CHVC *ex* x 02 50 38.1
UPC Upice 157.32 338 *e*PKPAB **PKPab 02 50 30.0 +0.3**
UPC *ep*PKP **sPKPab 02 50 39.1 +0.3**
UPC Upice 157.32 338 *e*PKP2 **PKPab 02 50 30.0 +0.3**
SZH Strazhica 157.35 312 *e*P **PKPab 02 50 29.6 -0.5**
DPC Dobruska-Polom 157.35 337 *e*PKPAB **PKPab 02 50 29.8 -0.1**
DPC *ep*PKP **sPKPab 02 50 38.3 -0.7**
DPC Dobruska-Polom 157.35 337 *e*PKP2 **PKPab 02 50 29.8 -0.4**
MORC Moravsky Berou 157.40 335 ⇑P **PKPab 02 50 30.5 +0.4**
MORC Moravsky Berou 157.40 335 *e*PKP **PKPab 02 50 30.0 -0.1**
MORC Moravsky Berou 157.40 335 ⇑PKP2 **PKPab 02 50 30.5 +0.4**
CLL Collm 157.48 343 *e*PKPdf **PKPdf 02 50 02.0 +3.4**
CLL *ep*PKPdiff **sPKPdf 02 50 10.0 +2.1**
CLL ⇓*i*PKPab **PKPab 02 50 29.7 -0.6**
comp=Z,25nm,1.7s
CLL *i* pPKPab **sPKPab 02 50 40.6 +1.2**
comp=Z,13nm,1.1s
CLL *e*PP **PP 02 54 07.0 -2.0**
CLL *e*SS SS 03 14 12.0 +9.1
CLL *e*SSS SSS 03 20 06.0
CLL *e*SSSS 03 24 18.0
CLL LmV 04 10 00.0
comp=Z,200nm,20.4s
CLL Collm 157.48 343⇓*e*PKIKP **PKPdf 02 50 02.0 +3.4**
IBBN Ibbenburen 157.50 352 *e*PKPab **PKPab 02 50 29.4 -0.9**
baz=22,slow=4.3
CLZ Clausthal 157.55 348 *e*PKPab **PKPab 02 50 29.9 -0.8**
baz=22,slow=4.3
BRG Berggiesshubel 157.62 341 *e*PKP PKPdf 02 50 09.9 +11
comp=Z,5.1nm,1.1s
BRG Berggiesshubel 157.62 341 *i* PKP **PKPab 02 50 29.7 -1.2**
comp=Z,20nm,1.6s
BRG *i* 02 50 41.3
comp=Z,16nm,1.0s
comp=N,130nm,22.8s
comp=E,84nm,20.6s
comp=Z,228nm,20.1s
BRG Berggiesshubel 157.62 341 *e*PKPab **PKPab 02 50 30.1 -0.8**
baz=22,slow=4.3
BRG *ep*PKPab **sPKPab 02 50 41.8 +1.7**
FBE Freiberg 157.74 342 *e*PKPab **PKPab 02 50 30.9 -0.5**
baz=22,slow=4.3
PVCC Panska Ves 157.75 340 *e*PKPAB **PKPab 02 50 37.4 +5.9**
PVCC *ep*PKP **sPKPab 02 50 41.3 +0.6**
PVCC Panska Ves 157.75 340 *e*PKP2 **PKPab 02 50 37.4 +5.9**
NEUB Neuenburg 157.87 345 *e*PKPab **PKPab 02 50 30.9 -1.0**
baz=22,slow=4.3
PSZ Piszkesteto 157.87 328 ⇑P **PKPab 02 50 32.7 +0.5**
PSZ Piszkesteto 157.87 328 ⇑PKP2 **PKPab 02 50 32.7 +0.5**
VYHS Vyhne 157.90 331 *e*PKP2 **PKPab 02 50 32.9 +0.6**
VYHS Vyhne 157.90 331 *e*PKP **PKPab 02 50 32.9 +0.6**
GTTG Gottingen 157.91 348 *e*PKPab **PKPab 02 50 31.4 -0.7**
baz=22,slow=4.3
VLAD Vladila 157.95 315 ⇑P **PKPab 02 50 31.8 -0.9**
JAVC Velka Javorina 158.09 333 *e*PKP **PKPab 02 50 34.1 +1.0**
PLVB Pleven 158.13 313 ⇑P **PKPab 02 50 34.4 +0.9**
VRAC Vranov 158.13 335 ⇑P **PKPab 02 50 34.1 +0.9**
VRAC Vranov 158.13 335 *e*PKP **PKPab 02 50 33.3 +0.1**
VRAC Vranov 158.13 335 ⇑PKP2 **PKPab 02 50 34.1 +0.9**
GOPC GO Pecny, Ondr 158.23 339 *e*PKPAB **PKPab 02 50 34.4 +0.8**
GOPC *ep*PKP **sPKPab 02 50 44.9 +2.1**
GOPC GO Pecny, Ondr 158.23 339 *e*PKP2 **PKPab 02 50 34.4 +0.8**
PRU Pruhonice 158.24 339 *e*PKPAB **PKPab 02 50 34.2 +0.6**
PRU *ep*PKP **sPKPab 02 50 42.2 -0.6**
PRU Pruhonice 158.24 339 *e*PKP2 **PKPab 02 50 34.2 +0.6**
KRUC Moravsky 158.41 335 *e*PKP **PKPab 02 50 34.4 0.0**
BUG Bochum--Univer 158.41 352 *e*PKPab **PKPab 02 50 33.6 -0.7**
baz=22,slow=4.3
MOX Moxa 158.43 345 *e*PKPab **PKPab 02 50 33.4 -1.0**
baz=22,slow=4.3
MOX *ep*PKPab **sPKPab 02 50 44.8 +1.2**
MOX *e*L L 04 12 26.1
comp=Z,145nm,19.6s
TANN Tannenbergstha 158.44 343 *e*PKPab **PKPab 02 50 33.9 -0.7**
baz=22,slow=4.3
PLN Plauen 158.45 344 *e*PKPab **PKPab 02 50 33.7 -0.8**
baz=22,slow=4.3
SMOL Smolenice 158.47 333 *e*PKP2 **PKPab 02 50 35.7 +1.0**
SMOL Smolenice 158.47 333 *e*PKP **PKPab 02 50 35.7 +1.0**
GUNZ Gunzen 158.52 343 *e*PKPab **PKPab 02 50 34.3 -0.6**
baz=22,slow=4.3
WERN Wernitzgruen 158.57 343 *e*PKPab **PKPab 02 50 34.6 -0.5**
baz=22,slow=4.3
UBBA Unterbreizbach 158.60 347 *e*PKPab **PKPab 02 50 34.1 -0.9**
baz=22,slow=4.3
NKC Novy Kostel 158.61 343 *ep*PKP **PKPab 02 50 42.5 +7.3**
NKC *ex* x 02 50 46.4
NKC Novy Kostel 158.61 343 *e*PKP2 **PKPab 02 50 42.5 +7.3**
BZS Buzias 158.61 322 ⇑P **PKPab 02 50 35.0 -0.4**
BZS Buzias 158.61 322 ⇑PKP2 **PKPab 02 50 35.0 -0.4**
HERR Herculane 158.62 319 ⇑P **PKPab 02 50 30.9 -4.6**
MODS Modra-Piesok 158.64 333 *e*PKP2 **PKPab 02 50 35.1 -0.4**
MODS Modra-Piesok 158.64 333 *e*PKP **PKPab 02 50 35.1 -0.4**
MANZ Manzenberg 158.92 343 *e*PKPab **PKPab 02 50 35.9 -0.7**
baz=22,slow=4.3
MDVR Moldovita 159.08 320 ⇑P **PKPab 02 50 37.1 -0.4**
ROTZ Rotzenmuhle 159.10 343 *e*PKPab **PKPab 02 50 37.0 -0.3**
baz=22,slow=4.3
KHC Kasperske Hory 159.29 340 *e*PKPAB **PKPab 02 50 37.6 -0.7**
KHC *ep*PKP **sPKPab 02 50 46.8 -0.6**
KHC Kasperske Hory 159.29 340 *e*PKP2 **PKPab 02 50 37.6 -0.7**
AHRW Bad Neuenahr-A 159.32 352 *e*PKPab **PKPab 02 50 37.2 -1.0**
baz=22,slow=4.3
MEM Membach 159.36 354 PKPab **PKPab 02 50 38.5 +0.1**
VTS Vitosha 159.39 313 ⇑P **PKPab 02 50 39.7 +0.5**
VTS Vitosha 159.39 313 *e*P **PKPab 02 50 39.6 +0.4**
VTS Vitosha 159.39 313 ⇑PKP2 **PKPab 02 50 39.7 +0.5**
GRF Grafenberg Arr 159.41 344 *e*PKPab **PKPab 02 50 38.2 -0.5**
baz=22,slow=4.3
GRF *ep*PKPab **sPKPab 02 50 49.3 +1.5**
GRF *e*L L 04 03 16.1
comp=Z,187nm,21.7s
BSTI Sart Tilman 159.42 355 PKPab **PKPab 02 50 38.1 -0.6**
TNS Taunus Mts 159.44 350 *e*PKPab **PKPab 02 50 37.8 -1.1**
baz=22,slow=4.3
WET Wettzell 159.48 341 *e*PKPab **PKPab 02 50 38.7 -0.3**
baz=22,slow=4.3
GEC2 GERESS Array S 159.50 339 *e*PKPab **PKPab 02 50 38.5 -0.7**
baz=22,slow=4.3
GERES GERESS Array B 159.50 339 PKPbc PKPbc 02 50 12.1
comp=Z,0.6nm,0.8s,baz=27,slow=2.4,SNR=4.4
GERES PKPab **PKPab 02 50 39.4 +0.1**
comp=Z,3.2nm,1.0s,baz=44,slow=4.1,SNR=16
GERES GERESS Array B 159.50 339 PKP2 **PKPab 02 50 39.1 -0.2**
GERES GERESS Array B 159.50 339 PKPab **PKPab 02 50 39.1 -0.2**
CONA Conrad Observa 159.55 334 *i* PKPab **PKPab 02 50 40.4 +0.8**
comp=Z,18nm,1.0s,SNR=10
MMB Musomiste 159.57 310 *e*P **PKPab 02 50 36.5 -3.3**
BCLA Clavier 159.61 355 PKPab **PKPab 02 50 38.7 -0.8**
BGES Gesves 159.66 356 PKPab **PKPab 02 50 39.0 -0.8**
BMRD Maredsous 159.76 356 PKPdf **PKPdf 02 50 01.1 -0.3**
BMRD PKPab **PKPab 02 50 39.4 -0.7**
BMRD pPKPab **sPKPab 02 50 49.4 +0.1**
MOA Molln 160.19 337 *i* PKPab **PKPab 02 50 42.6 +0.4**
comp=Z,19nm,1.5s,SNR=6.7
ARSA Arzberg 160.24 334 *i* PKPab **PKPab 02 50 42.7 +0.2**
comp=Z,11nm,1.6s
WLF Walferdange 160.28 354 PKPab **PKPab 02 50 41.2 -1.3**
WLF Walferdange 160.28 354 *e*PKPab **PKPab 02 50 41.5 -1.0**
baz=22,slow=4.3
VAY Valandovo 160.47 310 *i* P **PKPab 02 50 43.5 -0.2**
STIP Stip 160.53 312 *i* P **PKPab 02 50 43.2 -0.7**
STU Stuttgart 160.71 347 *e*PKPab **PKPab 02 50 43.2 -1.2**
baz=22,slow=4.3
RJOB Jochberg 160.77 339 *e*PKPab **PKPab 02 50 43.4 -1.4**
baz=22,slow=4.3
FUR Furstenfeldbru 160.81 343 *e*PKPab **PKPab 02 50 44.4 -0.5**
baz=22,slow=4.3
SKO Skopje 160.87 313 *i* P **PKPab 02 50 46.2 +0.8**
SOKA Soboth 160.90 334 *i* PKPab **PKPab 02 50 45.1 -0.3**
comp=Z,17nm,1.2s,SNR=8.6
KBA Koelnbreinsper 161.17 337 *e*PKPab **PKPab 02 50 45.9 -0.8**
comp=Z,4.7nm,0.7s
BFO Black Forest 161.30 348 *e*PKPab **PKPab 02 50 45.7 -1.3**
baz=22,slow=4.3
MYKA Terra Mystica 161.46 336 *i* PKPab **PKPab 02 50 47.3 -0.5**
comp=Z,9.9nm,0.8s
WATA Walderalm 161.49 341 *i* PKPab **PKPab 02 50 48.6 +0.5**
comp=Z,26nm,1.6s,SNR=7.1
WTTA Wattenberg 161.54 341 *i* PKPab **PKPab 02 50 48.8 +0.5**
comp=Z,25nm,1.5s,SNR=8.5
RETA Reutte 161.57 343 *i* PKPab **PKPab 02 50 48.7 +0.4**
comp=Z,11nm,1.3s
MOTA Moosalm 161.61 342 *i* PKPab **PKPab 02 50 48.9 +0.3**
comp=Z,8.1nm,0.7s
ABTA Abfaltersbach 161.74 338 *i* PKPab **PKPab 02 50 48.5 -0.6**
comp=Z,16nm,1.0s
DAVA Damuels 161.98 344 *i* PKPab **PKPab 02 50 49.3 -0.8**
comp=Z,11nm,1.4s
FETA Feichten 162.01 342 *i* PKPab **PKPab 02 50 50.2 -0.2**
comp=Z,9.1nm,1.3s
TORD Torodi Ar. Bea 163.11 176 PKP **PKPdf 02 50 06.2 +0.2**
comp=Z,2.7nm,1.1s,baz=150,slow=2.5,SNR=6.7
TORD PKPab **PKPab 02 50 56.6 +0.9**
comp=Z,2.3nm,0.8s,baz=186,slow=3.7,SNR=5.1
TORD Torodi Ar. Bea 163.11 176 **PKPdf 02 50 06.2 +0.2**
TORD PKPab **PKPab 02 50 57.4 +1.8**
ESDC Sonseca Array 168.95 28 PKP **PKPdf 02 50 09.8 -0.1**
comp=Z,1.7nm,1.2s,baz=315,slow=0.4,SNR=6.3
ESDC PKPab **PKPab 02 51 20.5 -0.5**
comp=Z,0.9nm,0.9s,baz=320,slow=4.1,SNR=5.2
ESDC Sonseca Array 168.95 28 **PKPdf 02 50 11.2 +1.2**
ESDC **PKPab 02 51 21.0 0.0**
KEST Kesra 172.13 317 PKPab **PKPab 02 51 35.2 -0.1**
comp=Z,8.8nm,1.1s,baz=259,slow=8.5,SNR=3.6
TAM Tamanrasset 172.33 199 PKIKP **PKPdf 02 50 13.7 +1.3**
TAM Tamanrasset 172.33 199 **PKPdf 02 50 13.7 +1.3**

WEL 26 02:32:31.1, 41°6.5S±0°.8×174°.3E±0°.7, h17km±2km, M2.8/11, ML3.0/11, MLv2.8/11, Error ellipse: s-maj=0.0km s-min=0.0km az=142.9, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.20**	**206**	P	Pg	02 32 36.2	+0.2
CMWZ				S	Sb	02 32 40.6	+0.6
TUWZ	**Tuamarina**	**0.32**	**295**	P	Pb	02 32 38.3	0.0
TUWZ				S	Sb	02 32 43.4	+0.1
TCW	**Tory Channel**	**0.36**	**353**	P	Pb	02 32 39.0	+0.1
BSWZ	**Blackbirch Sta**	**0.37**	**246**	P	Pg	02 32 38.9	+0.1
BSWZ				S	Sb	02 32 45.2	+0.4
WEL	**Wellington**	**0.43**	**50**	P	Pb	02 32 40.4	+0.2
BHW	**Baring Head**	**0.43**	**69**	P	Pb	02 32 40.2	0.0
PLWZ	**Palliser**	**0.69**	**91**	P	Pb	02 32 44.9	+0.2
MSWZ	**Moikau Station**	**0.70**	**78**	P	Pb	02 32 45.2	+0.2
NNZ	**Nelson**	**0.80**	**296**	P	Pg	02 32 46.7	+0.1
DUWZ	**D'Urville Isla**	**0.82**	**338**	P	Pb	02 32 47.0	0.0
DUWZ				S	Sn	02 32 59.0	-0.7
KIW	**Kapiti Island**	**0.83**	**32**	P	Pg	02 32 47.2	0.0
PAWZ	**Paruwai Farm**	**0.84**	**78**	P	Pg	02 32 47.6	+0.1
MTW	**Mount Morrison**	**0.97**	**66**	P	Pn	02 32 49.9	0.0
TRWZ	**Traveller**	**1.03**	**81**	P	Pb	02 32 50.4	-0.1
KHZ	**Kahutara**	**1.04**	**215**	P	Pb	02 32 50.7	+0.1
THZ	**Tophouse**	**1.09**	**259**	P	Pb	02 32 51.5	+0.1
HOWZ	**Holdsworth Sta**	**1.11**	**54**	P	Pb	02 32 50.1	-1.7
TMWZ	**Te Maipa**	**1.26**	**69**	P	Pn	02 32 53.6	-0.3
MRZ	**Mangatainoka R**	**1.30**	**47**	P	Pb	02 32 55.1	0.0
QRZ	**Quartz Range**	**1.55**	**298**	P	Pb	02 32 59.8	+0.6
POWZ	**Post Office Ro**	**1.60**	**43**	P	Pn	02 32 59.1	+0.5
PRWZ	**Pori Road**	**1.60**	**51**	P	Pn	02 32 58.8	+0.2
GVZ	**Greta Valley S**	**1.70**	**214**	P	Pn	02 32 59.5	-0.5
WAZ	**Wanganui**	**1.88**	**16**	P	Pg	02 33 06.1	-0.9
DSZ	**Dennistoun Nort**	**1.90**	**264**	P	Pb	02 33 05.2	-0.1
LTZ	**Lake Taylor**	**1.96**	**231**	P	Pn	02 33 03.5	0.0
LREZ	**Lake Rotokare**	**2.10**	**1**	P	Pg	02 33 10.1	-1.3
PREZ	**Palmer Road**	**2.22**	**357**	P	Pg	02 33 14.0	+0.3
KHEZ	**Kahui Hut**	**2.28**	**354**	P	Pg	02 33 14.3	-0.5
NBEZ	**Newall Road No**	**2.32**	**351**	P	Pb	02 33 13.4	+1.0
OKCZ	**Okains Bay**	**2.35**	**203**	P	Pn	02 33 07.4	-1.5
PKE	**Pukeiti**	**2.38**	**354**	P	Pg	02 33 15.7	-1.0
MOVZ	**Moawhango**	**2.41**	**27**	P	Pb	02 33 14.8	+0.7
INZ	**Inchbonnie**	**2.44**	**241**	P	Pb	02 33 13.7	-0.8
VRZ	**Vera Road**	**2.46**	**8**	P	Pb	02 33 14.2	-0.6
MQZ	**McQueen's Vall**	**2.47**	**209**	P	Pn	02 33 08.5	-2.1
FWVZ	**Far West T-bar**	**2.49**	**22**	P	Pb	02 33 16.7	+1.2
AKCZ	**Akaroa Harbour**	**2.53**	**204**	P	Pn	02 33 09.9	-1.5
WTVZ	**West Tongariro**	**2.63**	**22**	P	Pb	02 33 19.0	+1.2
KRVZ	**Karewarewa**	**2.66**	**23**	P	Pb	02 33 19.1	+0.7
KATZ	**Kakaramea**	**2.79**	**22**	P	Pb	02 33 22.0	+1.4
TLZ	**Tolley Road**	**3.36**	**16**	P	Pb	02 33 31.5	+1.3
MUGZ	**Murupara**	**3.61**	**32**	S	Sn	02 34 08.4	0.0
PUZ	**Puketiti**	**4.62**	**42**	P	Pb	02 33 47.9	-3.7
WMGZ	**Waiomatatini S**	**4.89**	**41**	P	Pn	02 33 46.4	+2.6

NEIC ***26*** *02:36:29.9±2.2, 10°.71S±0°.07×66°.1E±0°.1, h10km±1km, mb4.7/15, Error ellipse: s-maj=20.1km s-min=10.1km az=110.0*
IDC ***26*** *02:36:34.4±2.9, 10°.21S×66°.46E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.6/42, mbtmp3.8/7, MS3.5/1, Ms1 3.4/1, ms1mx2.8/51, Error ellipse: s-maj=97.2km s-min=27.6km az=57.0*
ISC 26 02:36:30.3±0.7, 10°.7S±0°.1×66°.0E±0°.1, h10km, n33, σ2s01/27, mb4.3/15, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**7.13**	**65**	T	T	02 45 02.9	
	baz=245,slow=75,SNR=198						
H08S3	**Diego Garcia H**	**7.15**	**65**	T	T	02 45 03.2	
	baz=245,slow=75,SNR=158						
H08S2	**Diego Garcia H**	**7.15**	**65**	T	T	02 45 04.1	
	baz=245,slow=75,SNR=197						
DGAR	**Diego Garcia**	**7.22**	**63**	Pn	**Pn**	**02 38 13.3**	**-2.6**
RODM	**Citronelle, R**	**9.23**	**195**	Pn	**Pn**	**02 38 44.5**	**+0.9**
FOMA	**Nahampoana Res**	**22.91**	**229**	P	**P**	**02 41 29.5**	**-5.0**
FOMA				IAmb	IAmb	02 41 46.2	
	comp=Z,28nm,1.2s						
KMBO	**Kilima Mbogo**	**30.07**	**287**	P	**P**	**02 42 40.8**	**+0.3**
DAMY	**Dhamar**	**33.01**	**319**	P	**P**	**02 43 05.8**	**-0.5**
DAMY				IAmb	IAmb	02 43 14.2	
	comp=Z,19nm,1.3s						
BOSA	**Boshof**	**41.99**	**239**	LR	LR	03 01 15.8	
	comp=Z,58nm,18.3s,baz=74,slow=35						
MAKZ	**Makanchi**	**59.05**	**13**	P	**P**	**02 46 29.8**	**-0.7**
MK31	**Makanchi Array**	**59.11**	**13**	P	**P**	**02 46 29.6**	**-1.4**
MKAR	**Makanchi Array**	**59.11**	**13**	P	**P**	**02 46 32.7**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=191,slow=6.8,SNR=2.8						
MKAR	**Makanchi Array**	**59.11**	**13**	P	**P**	**02 46 29.3**	**-1.7**
ABKAR	**Akbulak array**	**59.97**	**355**	P	**P**	**02 46 36.5**	**-0.3**
AKTO	**Aktyubinsk**	**61.31**	**354**	P	**P**	**02 46 47.6**	**+1.7**
	comp=Z,1.8nm,0.6s,baz=180,slow=4.0,SNR=3.7						
KURBB	**Kurchatov Arra**	**62.08**	**9**	P	**P**	**02 46 53.1**	**+2.1**
	comp=Z,1.1nm,0.9s,baz=205,slow=7.0,SNR=6.4						
KURK	**Kurchatov**	**62.18**	**9**	P	**P**	**02 46 52.2**	**+0.4**
KURK				IAmb	IAmb	02 47 06.4	
	comp=Z,2.6nm,1.2s						
ITM	**Ithomi**	**63.07**	**321**	P	**P**	**02 46 59.3**	**+1.3**
ITM				IAmb	IAmb	02 47 07.1	
	comp=Z,18nm,1.3s						
TPUB	**Ta-pu**	**63.28**	**57**	P	**P**	**02 46

YULB			*i* S	**Sg**	**02 59 48.4**	**+0.8**
	baz=262							
TWF1	**Yuli**	**0.22**	**261** ⇑ *i* P	**Pg**	**02 59 44.9**	**+0.2**
	baz=249							
TWF1			*eS*	**Sg**	**02 59 48.7**	**+1.0**
	baz=249							
EHY	**Hungye**	**0.23**	**302** *i* P	**Pg**	**02 59 44.8**	**-0.1**
	baz=299							
EHY			S	**Sg**	**02 59 48.3**	**+0.4**
	baz=299							
FULB	**Fuli**	**0.29**	**229** ⇑ *i* P	**Pb**	**02 59 47.0**	**-0.8**
	baz=220							
FULB			*eS*	**Sb**	**02 59 53.0**	**+0.2**
	baz=220							
EGFH	**Guangfu**	**0.30**	**341** *eP*	**Pb**	**02 59 47.3**	**-0.7**
	baz=346							
CHKT	**Chengkung**	**0.32**	**208** ⇑ *i* P	**Pb**	**02 59 48.2**	**-0.2**
	baz=199							
CHKT			*i* S	**Sb**	**02 59 54.4**	**+0.6**
	baz=199							
ESL	**Shilin**	**0.43**	**348** *i* P	**Pb**	**02 59 49.8**	**-0.5**
	baz=352							
ESL			*eS*	**Sb**	**02 59 57.1**	**0.0**
	baz=352							
VWDT	**VWDT**	**0.51**	**316** P	**Pb**	**02 59 50.8**	**-0.8**
	baz=315							
VWDT			*eS*	**Sb**	**02 59 59.0**	**-0.3**
	baz=315							
ELDTW	**Lidau**	**0.51**	**247** ⇑ *i* P	**Pg**	**02 59 50.5**	**+0.3**
	baz=242							
ELDTW			S	**Sb**	**02 59 59.1**	**-0.2**
	baz=242							
OWD	**Renai**	**0.65**	**330** *eP*	**Pb**	**02 59 54.1**	**0.0**
	baz=331							
SSLB	**Suanglung**	**0.66**	**307** *eP*	**Pg**	**02 59 53.0**	**-0.1**
	baz=306							
ALS	**Alishan**	**0.68**	**281** P	**Pb**	**02 59 53.9**	**-0.8**
	baz=278							
ALS			*eS*	**Sb**	**03 00 03.9**	**-0.4**
	baz=278							
TWD	**Chiawan**	**0.69**	**5** *eP*	**Pb**	**02 59 55.4**	**+0.7**
	baz=8.0							
WHYT	**Xinyi Township**	**0.69**	**297** P	**Pb**	**02 59 54.3**	**-0.4**
	baz=295							
TWGBT	**Beinan**	**0.70**	**216** *eP*	**Pg**	**02 59 54.1**	**+0.2**
	baz=212							
TWG	**Pinlang**	**0.70**	**217** *eP*	**Pg**	**02 59 54.1**	**+0.2**
	baz=212							
TTN	**Taitung**	**0.72**	**209** P	**Pb**	**02 59 55.8**	**+0.6**
	baz=205							
TTN			*eS*	**Sn**	**03 00 08.3**	**+0.2**
	baz=205							
STYT	**Tauyuan**	**0.74**	**253** *eP*	**Pb**	**02 59 55.2**	**-0.5**
	baz=249							
STYT			*eS*	**Sb**	**03 00 06.9**	**+0.9**
	baz=249							
CHGB	**Renai**	**0.75**	**334** *eP*	**Pb**	**02 59 55.3**	**-0.4**
	baz=335							
CHGB			*eS*	**Sn**	**03 00 07.5**	**-1.6**
	baz=335							
SMLT	**Sun Moon Lake**	**0.76**	**311** P	**Pb**	**02 59 55.4**	**-0.6**
	baz=310							
SMLT			*eS*	**Sb**	**03 00 06.7**	**+0.2**
	baz=310							
NACB	**Ninganchiao**	**0.79**	**4** *eP*	**Pb**	**02 59 56.2**	**-0.2**
	baz=6.0							
WHF	**Hehuan Shan**	**0.79**	**342** P	**Pb**	**02 59 56.3**	**-0.4**
	baz=344							
WHF			*eS*	**Sb**	**03 00 08.2**	**+0.4**
	baz=344							
CHN5	**Tsauling**	**0.81**	**285** *eP*	**Pb**	**02 59 57.1**	**+0.3**
	baz=283							
ETLH	**Xiulin Townshi**	**0.82**	**357** *eP*	**Pg**	**02 59 56.3**	**+0.1**
	baz=359							
TPUB	**Ta-pu**	**0.83**	**264** P	**Pb**	**02 59 57.2**	**0.0**
	baz=261							
DPDB	**Guoxing**	**0.85**	**319** *eP*	**Pn**	**02 59 58.0**	**-0.8**
	baz=319							
WJS	**Zhushan**	**0.85**	**301** *eP*	**Pn**	**02 59 58.8**	**+0.1**
	baz=299							
WTP	**Ta-pu**	**0.85**	**261** ⇑ P	**Pb**	**02 59 57.6**	**+0.1**
	baz=257							
WTP			*eS*	**Sb**	**03 00 09.4**	**+0.3**
	baz=257							
SLGT	**Liugui**	**0.90**	**244** P	**Pb**	**02 59 58.4**	**0.0**
	baz=241							
SLGT			*eS*	**Sn**	**03 00 12.5**	**-0.2**
	baz=241							
WNT	**Mingjian**	**0.92**	**302** *eP*	**Pn**	**02 59 59.8**	**+0.1**
	baz=301							
SGST	**Jiashian**	**0.92**	**251** P	**Pg**	**02 59 58.1**	**0.0**
	baz=248							
TDCB	**Techi**	**0.93**	**339** *eP*	**Pb**	**02 59 58.9**	**+0.1**
	baz=339							
TDCB			*eS*	**Sn**	**03 00 12.5**	**-1.0**
	baz=339							
CHN1	**Nanshi**	**0.94**	**258** P	**Pn**	**02 59 59.6**	**-0.4**
	baz=255							
CHN1			*eS*	**Sn**	**03 00 14.3**	**+0.6**
	baz=255							
WDLH	**Douliu**	**0.96**	**288** *eP*	**Pn**	**03 00 00.7**	**+0.5**
	baz=287							
CHY	**Chiayi**	**1.02**	**276** *eP*	**Pn**	**03 00 01.1**	**+0.1**
	baz=274							
CHY			*eS*	**Sn**	**03 00 14.8**	**-0.8**
	baz=274							
WHP	**Taichung City**	**1.04**	**329** *eP*	**Pn**	**03 00 01.7**	**+0.4**
	baz=329							
SSD	**Sandimen**	**1.04**	**233** *eP*	**Pg**	**03 00 00.2**	**-0.2**
	baz=229							
NNSB	**Datong**	**1.05**	**353** *eP*	**Pb**	**03 00 00.5**	**-0.3**
	baz=354							
NNSH	**Datong**	**1.05**	**353** *eP*	**Pg**	**03 00 00.5**	**0.0**
	baz=354							
NNSH			*eS*	**Sn**	**03 00 16.3**	**-0.1**
	baz=354							
ENA	**Nanau**	**1.05**	**10** *eP*	**Pg**	**03 00 00.4**	**-0.3**
	baz=13							
ENA			*eS*	**Sn**	**03 00 17.5**	**+1.1**
	baz=13							
NNS	**Nan Shan**	**1.06**	**352** *eP*	**Pn**	**03 00 01.5**	**-0.2**
	baz=354							
NNS			*eS*	**Sn**	**03 00 16.9**	**+0.2**
	baz=354							
TCU	**Taichung**	**1.09**	**314** *eP*	**Pn**	**03 00 03.2**	**+1.2**
	baz=314							
MASBT	**Mashibuluo**	**1.13**	**227** *eP*	**Pg**	**03 00 01.2**	**-0.9**
	baz=224							
TWM1	**Shoushan**	**1.16**	**241** *eP*	**Pn**	**03 00 05.3**	**+2.3**
	baz=238							
TAW	**Tawu**	**1.18**	**210** *eP*	**Pg**	**03 00 01.4**	**-1.7**
	baz=207							
EAST	**Anshuo**	**1.18**	**212** *eP*	**Pg**	**03 00 01.5**	**-1.5**
	baz=209							
NDT	**Datong Townshi**	**1.21**	**359** *eP*	**Pn**	**03 00 04.0**	**+0.4**
ENTT	**Nioudou**	**1.25**	**1** *eP*	**Pn**	**03 00 04.4**	**+0.2**
	baz=3.0							
YHNB	**Yeheng**	**1.28**	**354** *eP*	**Pn**	**03 00 05.0**	**+0.2**
	baz=354							
NSK	**Sanguang**	**1.29**	**353** P	**Pn**	**03 00 05.3**	**+0.5**
	baz=354							
NSK			*eS*	**Sn**	**03 00 24.1**	**+1.7**
	baz=354							
SCZT	**Fangliau**	**1.31**	**220** *eP*	**Pn**	**03 00 05.0**	**-0.1**
	baz=217							
NSTT	**Nanjuang**	**1.33**	**339** *eP*	**Pg**	**03 00 05.6**	**-0.3**
	baz=339							
LIOB	**Emei**	**1.34**	**340** *eP*	**Pg**	**03 00 06.7**	**+0.6**
	baz=340							
NWLT	**Wulai**	**1.39**	**359** *eP*	**Pg**	**03 00 06.9**	**0.0**
TWK1	**Hengchun**	**1.58**	**205** *eP*	**Pn**	**03 00 08.5**	**-0.3**
	baz=203							
TWKBT	**Hengchun**	**1.58**	**205** *eP*	**Pn**	**03 00 08.5**	**-0.3**
	baz=203							
TSEB	**Hengchuen, Pin**	**1.59**	**202** *eP*	**Pg**	**03 00 11.1**	**+0.2**
	baz=201							
TIPB	**Shuangxi**	**1.60**	**10** *eP*	**Pb**	**03 00 10.3**	**0.0**
	baz=11							
JYNG	**Yonagunijimaku**	**1.67**	**50** P	**Pn**	**03 00 09.9**	**-0.1**
JYNG			S	**Sn**	**03 00 31.7**	**0.0**
WDGT	**Dungji**	**1.72**	**266** *eP*	**Pn**	**03 00 11.3**	**+0.6**
	baz=264							
WDGT			*eS*	**Sg**	**03 00 34.7**	**-1.1**
	baz=264							
YOJ	**Yonaguni jima**	**1.73**	**51** *eP*	**Pn**	**03 00 10.8**	**0.0**
	baz=52							
YOJ	**Yonaguni jima**	**1.73**	**51** P	**Pn**	**03 00 10.7**	**0.0**
YOJ			S	**Sn**	**03 00 32.4**	**-0.6**
YM04	**YM04**	**1.76**	**0** *eP*	**Pb**	**03 00 12.2**	**-0.7**
	baz=1.0							
PNG	**Penghu**	**1.82**	**276** *eP*	**Pb**	**03 00 13.0**	**-1.0**
	baz=274							
HATJ	**Hateruma jima**	**2.19**	**72** S	**Sn**	**03 00 43.9**	**-0.5**
IRIF	**Iriomote-Funau**	**2.22**	**64** P	**Pn**	**03 00 17.9**	**+0.3**
IRIF			S	**Sn**	**03 00 45.9**	**+0.6**
JKRS	**Kuro-shima**	**2.42**	**69** P	**Pn**	**03 00 21.4**	**+1.1**
JKRS			*eS*	**Sn**	**03 00 50.6**	**+0.4**
VWUC	**VWUC**	**2.48**	**310** *eP*	**Pn**	**03 00 22.1**	**+1.0**
	baz=309							
JIJ	**Ishigaki jima**	**2.58**	**67** P	**Pn**	**03 00 22.7**	**+0.2**
JIJ			S	**Sn**	**03 00 53.1**	**-1.0**
PTMZ	**Houxiangcun**	**2.75**	**307** *eP*	**Pn**	**03 00 25.7**	**+0.9**
	baz=306							
JISG	**Ishigakijimahi**	**2.81**	**64** P	**Pn**	**03 00 25.7**	**+0.1**
JISG			*eS*	**Sn**	**03 00 59.5**	**-0.2**

*IDC **26** 03:08:45.2±0.7,3°.49S×145°.36E, h0km, mb4.2/15, mb1 4.4/18, mb1mx4.2/39, mbtmp4.3/18, ML4.2/2, MS3.9/17, Ms1 3.9/17, ms1mx3.7/32, Error ellipse: s-maj=23.4km s-min=14.2km az=87.0*
*DJA **26** 03:08:49.4±2.1,3°.5S±5°×14°.5E±°, h22km±16km, M4.3/12, mb4.5/12, mB5.0/2, MLv4.2/3, Mw(mB)4.4/2*
*NEIC **26** 03:09:06.9±1.6,4°.6S±0°.1×144°.4E±0°.1, h71km±14km, mb4.5/18, Error ellipse: s-maj=22.3km s-min=5.1km az=137.0*
ISC 26 03:08:49.3±0.6,3°.49S±0°.07×145°.24E±0°.09, h22km, n56, σ1s50/43, mb4.5/21, MS4.0/12, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**4.63**	**282**	Pn		**Pn**	**03 09 58.3**	**+0.3**
	0.3nm,0.3s,baz=125,slow=12,SNR=1.7							
JAY				LR		LR	03 11 35.0	
	comp=Z,1μm,20.7s,baz=45,slow=36							
JAY	**Jayapura**	**4.63**	**282**	P		**Pn**	**03 09 58.6**	**+0.6**
GENI	**Genyem**	**5.14**	**280**	P		**Pn**	**03 10 05.1**	**+0.1**
	0.4nm4μm34nm,1.2s							
PMG	**Port Moresby**	**6.18**	**162**	Pn		**Pn**	**03 10 19.0**	**-0.4**
	1.1nm,0.3s,baz=7.4,slow=18,SNR=1.9							
PMG	**Port Moresby**	**6.18**	**162**	Pn		Pn	03 10 25.1	+5.7
KRVT	**Keravat (AS076**	**6.82**	**97**	Pn		**Pn**	**03 10 26.7**	**-1.5**
	5.9nm,0.3s,baz=98,slow=11,SNR=8.1							
RABL	**Rabaul**	**6.95**	**96**	Pn		Pb	03 10 57.1	+7.6
COEN	**Coen**	**10.60**	**191**	Pn		**Pn**	**03 11 19.4**	**-0.6**
SIJI	**Sorong**	**14.20**	**280**	LR		LR	03 16 54.7	
	comp=Z,243nm,20.6s,baz=332,slow=34							
HNR	**Honiara**	**15.76**	**113**	LR		LR	03 17 27.8	
	comp=Z,319nm,21.7s,baz=279,slow=33							
MTN	**Manton Dam**	**16.76**	**236**	P		**Pn**	**03 12 40.1**	**-2.7**
MTN				IAmb		IAmb	03 12 51.4	
	comp=Z,30nm,1.1s							
GUMO	**Guam**		**16.97 359**	LR		LR	03 17 46.3	
	comp=Z,113nm,18.7s,baz=176,slow=32							
WB0	**Warramunga Arr**	**19.33**	**212**	P		**P**	**03 13 12.9**	**-0.5**
WB0				IAmb		IAmb	03 13 23.7	
	comp=Z,25nm,0.9s							
WR0	**Warramunga Arr**	**19.41**	**212**	P		**P**	**03 13 13.9**	**-0.4**
WR0				IAmb		IAmb	03 13 22.1	
	comp=Z,30nm,0.8s							
WRAB	**Tennant Creek**	**19.49**	**212**	P		**P**	**03 13 11.8**	**-3.3**
WB2	**Warramunga Arr**	**19.50**	**212**	P		**P**	**03 13 15.5**	**+0.4**
WB2				IAmb		IAmb	03 13 22.9	
	comp=Z,31nm,0.9s							
WRA	**Warramunga Arr**	**19.51**	**212**	P		**P**	**03 13 14.4**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=34,slow=10,SNR=23							
WRA				LR		LR	03 21 39.4	
	comp=Z,1μm,18.5s,baz=35,slow=40							
WRA	**Warramunga Arr**	**19.51**	**212**	P		**P**	**03 13 14.8**	**-0.4**
KNRA	**Kununurra**	**20.24**	**232**	P		**P**	**03 13 22.0**	**-1.2**
KNRA				IAmb		IAmb	03 13 31.1	
	comp=Z,22nm,0.9s							
SOEI	**Soe**	**21.73**	**252**	P		**P**	**03 13 39.7**	**+0.2**
	comp=Z,76nm,1.2s							
EIDS	**Eidsvold**	**22.47**	**166**	P		**P**	**03 13 51.7**	**+4.5**
AS31	**Alice Springs**	**22.85**	**208**	P		**P**	**03 13 49.3**	**-2.0**
ASAR	**Alice Springs**	**22.86**	**208**	P		**P**	**03 13 51.2**	**-0.1**
	comp=Z,32nm,1.2s,baz=33,slow=9.7,SNR=33							
ASAR				LR		LR	03 23 58.8	
	comp=Z,497nm,19.4s,baz=31,slow=40							
ASAR	**Alice Springs**	**22.86**	**208**	P		**P**	**03 13 49.5**	**-1.8**
FITZ	**Fitzroy Crossi**	**24.07**	**231**	P		**P**	**03 14 02.9**	**-0.4**
	comp=Z,12nm,0.8s,baz=56,slow=13,SNR=12							
FITZ	**Fitzroy Crossi**	**24.07**	**231**	P		**P**	**03 14 03.1**	**-0.2**
FITZ				IAmb		IAmb	03 14 07.6	
	comp=Z,24nm,1.1s							
TTSI	**Tana Toraja**	**25.38**	**270**	P		P	03 14 27.1	+12
STKA	**Stephens Creek**	**28.45**	**187**	P		**P**	**03 14 40.9**	**-1.8**
	comp=Z,3.2nm,1.0s,baz=354,slow=19,SNR=2.4							
STKA				LR		LR	03 26 55.4	
	comp=Z,356nm,19.4s,baz=14,slow=38							
STKA	**Stephens Creek**	**28.45**	**187**	P		**P**	**03 14 46.4**	**+3.7**
TGY	**Tagaytay City**	**29.77**	**306**	LR		LR	03 24 51.8	
	comp=Z,132nm,21.8s,baz=55,slow=32							
BBOO	**Buckleboo**	**30.41**	**195**	P		**P**	**03 15 00.9**	**+0.8**
PSAC2	**Pilbara Seismi**	**30.47**	**232**	P		**P**	**03 15 00.9**	**+0.1**
PSAC2				IAmb		IAmb	03 15 06.3	
	comp=Z,15nm,1.0s							
PSAB2	**Pilbara Seismi**	**30.50**	**232**	P		**P**	**03 15 01.4**	**+0.3**
PSAB2				IAmb		IAmb	03 15 08.4	
	comp=Z,6.7nm,0.8s							
PSAA2	**Pilbara Seismi**	**30.51**	**232**	P		**P**	**03 15 01.6**	**+0.4**
PSAA2				IAmb		IAmb	03 15 15.2	
	comp=Z,15nm,1.1s							
FORT	**Forrest**	**31.62**	**209**	P		**P**	**03 15 10.2**	**-0.6**
TOO	**Toolangi**	**33.92**	**180**	P		**P**	**03 15 32.4**	**+1.5**
KSRS	**Korea Array**	**43.80**	**340**	P		**P**	**03 16 53.4**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=157,slow=8.8,SNR=8.1							
KSRS				LR		LR	03 34 37.1	
	comp=Z,86nm,18.1s,baz=185,slow=35							
USRK	**Ussuriysk Ar.**	**48.94**	**347**	P		**P**	**03 17 32.8**	**-1.1**
	comp=Z,3.0nm,0.7s,baz=173,slow=8.5,SNR=8.1							
CMAR	**Chiang Mai Arr**	**50.53**	**297**	P		**P**	**03 17 46.7**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=121,slow=6.1,SNR=10							
CD2	**Chengdu**	**52.27**	**314** *eP*			**P**	**03 18 00.0**	**+0.6**
CD2				pmax		pmax		
	comp=Z,20nm,0.9s							
HHC	**Hu-ho-hao-te**	**53.78**	**329** *eP*			**P**	**03 18 13.0**	**+2.6**
HHC				pmax		pmax		
	comp=Z,6.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,31nm,6.8s							
PETK	**Petropavlovsk-**	**57.36**	**9**	LR		LR	03 39 55.5	
	comp=Z,73nm,21.1s,baz=237,slow=33							
SONM	**Songino Array**	**61.37**	**331**	P		**P**	**03 19 02.4**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=152,slow=6.5,SNR=1.6							
SONM				LR		LR	03 43 45.0	
	comp=Z,110nm,22.0s,baz=172,slow=34							
MKAR	**Makanchi Array**	**74.45**	**321**	P		**P**	**03 20 26.7**	**+0.7**
	comp=Z,2.2nm,1.1s,baz=108,slow=6.8,SNR=8.8							
VNDA	**Vanda**	**74.51**	**176**	P		**P**	**03 20 25.2**	**-0.6**
	comp=Z,1.5nm,1.1s,baz=310,slow=5.8,SNR=4.9							
ZALV	**Zalesovo Beam**	**75.96**	**328**	P		**P**	**03 20 34.9**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=106,slow=9.4,SNR=1.8							
ZALV				LR		LR	03 53 11.4	
	comp=Z,126nm,19.9s,baz=96,slow=35							
KURBB	**Kurchatov Arra**	**78.18**	**323**	P		**P**	**03 20 47.9**	**+0.9**
	comp=Z,1.5nm,1.0s,baz=109,slow=5.1,SNR=7.3							
NRIK	**Noril'sk**	**82.36**	**342**	P		**P**	**03 21 10.3**	**+1.1**
	comp=Z,3.3nm,0.7s,baz=310,slow=6.6,SNR=4.0							
BVAR	**Borovoye Array**	**83.72**	**324**	P		**P**	**03 21 16.3**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=103,slow=6.4,SNR=18							
MAW	**Mawson**	**83.88**	**202**	LR		LR	03 55 05.1	
	comp=Z,85nm,20.8s,baz=52,slow=33							
ILAR	**Eielson Array**	**83.89**	**24**	P		**P**	**03 21 14.9**	**-2.3**
	comp=Z,4.5nm,0.8s,baz=254,slow=5.1,SNR=50							
ILAR				LR		LR	03 57 50.5	
	comp=Z,48nm,18.4s,baz=286,slow=35							
QSPA	**South Pole Qui**	**86.46**	**180**	P		**P**	**03 21 30.1**	**-0.2**
	comp=Z,2.3nm,1.0s,baz=332,slow=1.8,SNR=5.2							
DIB	**Dawson Inlet,**	**88.15**	**37**	P		P	03 21 55.9	+17
OPO	**Ambohidratompo**	**96.51**	**251**	LR		LR	04 00 41.1	
	comp=Z,63nm,21.9s,baz=92,slow=32							
NVAR	**Mina Array Bea**	**97.22**	**52**	LR		LR	03 57 25.4	
	comp=Z,136nm,21.7s,baz=226,slow=30							
YKA	**Yellowknife Ar**	**97.77**	**27**	LR		LR	04 02 05.9	
	comp=Z,51nm,21.7s,baz=0.0,slow=33							

*ISK **26** 03:09:05.3, 36°.08N×29°.09E, h12km, ML2.4/8*
*DDA **26** 03:09:05.0, 36°.11N×29°.14E, h32km±1km, ML2.1*

*NIC **26** 03:09:06.7±0.0, 35°.96N×29°.27E, h28km, Ml2.8/2*
ISC 26 03:09:05.2±1.1, 36°.04N±0°.04×29°.13E±0°.03, h27km±11km, n26, σ0s84/39, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.38**	**74**	P		**Pb**	**03 09 13.9**	**+0.3**
KSL				S		**Sn**	**03 09 20.7**	**-0.7**
AKAS	**Kas**	**0.43**	**64**	PG		**Pb**	**03 09 14.4**	**0.0**
AKAS				SG		**Sn**	**03 09 21.4**	**-1.3**
AKAS	**Kas**	**0.43**	**64**	*i* P		**Pb**	**03 09 14.2**	**-0.3**
AKAS				*i* S		**Sb**	**03 09 21.0**	**+0.3**
AKAS				IAML			03 09 22.0	
	comp=E,198nm,0.3s							
AKAS				IAML			03 09 23.0	
	comp=N,191nm,0.6s							
FETY	**Fethiye**	**0.59**	**356**	PG		**Pb**	**03 09 16.6**	**-0.5**
FETY				SG		**Sb**	**03 09 24.8**	**-0.4**
FETY	**Fethiye**	**0.59**	**356**	*i* P		**Pb**	**03 09 16.3**	**-0.8**
FETY				*i* S		**Sb**	**03 09 24.7**	**-0.5**
ARG	**Arkhangelos**	**0.83**	**282**	PG		**Pn**	**03 09 21.1**	**-0.1**
DALY	**Dalyan (Mula)**	**0.86**	**334**	PG		**Pb**	**03 09 21.5**	**-0.1**
DALY				SG		**Sn**	**03 09 33.1**	**-0.2**
DALY	**Dalyan (Mula)**	**0.86**	**334**	*i* P		**Pn**	**03 09 20.6**	**-1.0**
DALY				*i* S		**Sb**	**03 09 32.0**	**-0.7**
DALY				IAML			03 09 37.0	
	comp=N,76nm,0.6s							
TURN	**Turunc**	**0.93**	**333**	PG		**Pb**	**03 09 24.5**	**+1.7**
TURN	**Turunc**	**0.93**	**333**	*i* P		**Pb**	**03 09 24.1**	**+1.4**
TURN				*i* S		**Sn**	**03 09 36.3**	**+1.3**
ELL	**Elmali**	**0.94**	**41**	PG		**Pb**	**03 09 23.7**	**+0.7**
ELL	**Elmali**	**0.94**	**41**	P		**Pb**	**03 09 23.5**	**+0.5**
ELL				S		**Sn**	**03 09 37.3**	**+1.9**
GOLH	**Golhisar**	**1.24**	**16**	*i* P		**Pb**	**03 09 28.1**	**0.0**
GOLH				*i* S		**Sb**	**03 09 45.0**	**+1.3**
GOLH				IAML			03 09 46.0	
	comp=N,34nm,0.9s							
YER	**Yerkesik**	**1.29**	**328**	PN		**Pb**	**03 09 28.9**	**+0.1**
DAT	**Datca**	**1.43**	**299**	PN		**Pb**	**03 09 31.0**	**-0.3**
DAT	**Datca**	**1.43**	**299**	*i* P		**Pb**	**03 09 30.5**	**-0.8**
DAT				*i* S		**Sb**	**03 09 48.7**	**-0.4**
TAVA	**DENIZLI_Tavas**	**1.43**	**353**	*i* P		**Pb**	**03 09 31.0**	**-0.3**
TAVA				*i* S		**Sb**	**03 09 48.7**	**-0.4**
TAVA				IAML			03 09 50.0	
	comp=E,48nm,0.3s							
KARP	**Karpathos**	**1.68**	**253**	P		**Pb**	**03 09 35.3**	**-0.2**
KARP				S		**Sb**	**03 09 57.6**	**+1.4**
BDRM	**Kayabasi**	**1.70**	**307**	*i* P		**Pb**	**03 09 37.0**	**+1.2**
KEPZ	**Antalya-Kepez**	**2.17**	**66**	*i* P		**Pn**	**03 09 40.2**	**+0.6**
KHAL	**Karahalli**	**2.34**	**7**	*i* P		**Pn**	**03 09 41.3**	**-0.7**
AKMS	**Akamas**	**2.80**	**110**	P		**Pn**	**03 09 48.1**	**-0.2**
AKMS				AML		AML	03 10 20.7	
	comp=E,0.1nm,0.5s							
AKMS				AML		AML	03 10 20.9	
	comp=E,0.1nm,0.3s							
ALFC	**Alefka**	**2.96**	**106**	P		**Pn**	**03 09 49.9**	**-0.5**
ALFC				AML		AML	03 10 24.9	
	comp=E,0.1nm,0.2s							
ALFC				AML		AML	03 10 26.0	
	comp=E,0.1nm,0.3s							
OSC1	**CSNet OBS 1**	**3.09**	**145**	S		**Sn**	**03 10 27.5**	**-0.7**
SZAC	**Souni**	**3.32**	**112**	P		**Pn**	**03 09 55.3**	**-0.1**
ASGA	**Asgata**	**3.59**	**109**	P		**Pn**	**03 09 59.1**	**0.0**

*IDC **26** 03:13:06.4±1.5, 37°.01S×178°.29E, h0km, mb4.1/3, mb1 4.3/4, mb1mx4.0/30, mbtmp4.2/4, ML4.3/1, Error ellipse: s-maj=43.6km s-min=37.9km az=156.0*
*NEIC **26** 03:13:22.3±1.6, 37°.52S±0°.07×177°.5E±0°.1, h103km±8km, mb4.3/7, ML4.1(WEL), Error ellipse: s-maj=12.1km s-min=10.2km az=96.0*
*WEL **26** 03:13:23.0, 37°.S±3°×17°8E±°, h102km±6km, M4.1/87, ML4.2/7, MLv4.1/87, Error ellipse: s-maj=0.0km s-min=0.0km az=172.6*
ISC 26 03:13:23.2±0.7, 37°.53S±0°.05×177°.72E±0°.05, h139km, n137, σ2s13/146, mb4.0/6, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.23**	**169**	P		**Pn**	**03 13 38.7**	**-3.5**
HAZ				S		**Sn**	**03 13 50.8**	**-5.9**
RUGZ	**Raukumara Rang**	**0.44**	**185**	P		**Pn**	**03 13 40.0**	**-3.1**
MXZ	**Matakaoa Point**	**0.46**	**95**	P		**Pn**	**03 13 39.5**	**-3.7**
MXZ				S		**Sn**	**03 13 52.6**	**-5.5**
MXZ	**Matakaoa Point**	**0.46**	**95**			**Pn**	**03 13 39.4**	**-3.7**
MXZ					Sn	**Sn**	**03 13 52.6**	**-5.5**
WMGZ	**Waiomatatini S**	**0.62**	**118**	P		**Pn**	**03 13 41.4**	**-2.5**
WMGZ				S		**Sn**	**03 13 55.8**	**-4.0**
WHRZ	**Whale Island**	**0.68**	**241**	P		**Pn**	**03 13 42.1**	**-2.3**
PUZ	**Puketiti**	**0.69**	**142**	P		**Pn**	**03 13 42.4**	**-2.1**
MWZ	**Matawai**	**0.82**	**191**	P		**Pn**	**03 13 44.2**	**-1.3**
URZ	**Urewera**	**0.88**	**213**	P		**Pn**	**03 13 44.4**	**-1.5**
TKGZ	**Te Karaka**	**0.92**	**174**	P		**Pn**	**03 13 45.4**	**-0.8**
MARZ	**Manawahe**	**0.95**	**241**	P		**Pn**	**03 13 44.6**	**-1.9**
EDRZ	**Edgecumbe**	**0.97**	**233**	P		**Pn**	**03 13 45.2**	**-1.5**
OPRZ	**Ohinepanea**	**0.98**	**251**	P		**Pn**	**03 13 44.5**	**-2.2**
RAGZ	**Rawi

AWAZ	**Awhitu Peninsu**	**2.50**	**280**	P	**Pn**	**03 14 03.1**	**-0.7**
MTVZ	**Mangateitei**	**2.56**	**223**	P	**Pn**	**03 14 04.7**	**0.0**
WTAZ	**Waiatarua**	**2.58**	**282**	P	**Pn**	**03 14 04.4**	**-0.5**
PXZ	**Pawanui**	**2.59**	**195**	P	**Pn**	**03 14 04.0**	**-0.9**
PNHZ	**Pukenui**	**2.67**	**206**	P	**Pn**	**03 14 05.0**	**-0.9**
WPHZ	**Waipukurau**	**2.73**	**201**	P	**Pn**	**03 14 05.8**	**-0.8**
VRZ	**Vera Road**	**2.83**	**235**	P	**Pn**	**03 14 08.8**	**+1.0**
PRHZ	**Porangahau**	**2.87**	**197**	P	**Pn**	**03 14 07.5**	**-0.9**
TSZ	**Takapari Road**	**2.88**	**208**	P	**Pn**	**03 14 07.5**	**-1.2**
WAZ	**Wanganui**	**3.09**	**223**	P	**Pn**	**03 14 11.7**	**+0.4**
WCZ	**Waipu Caves**	**3.14**	**299**	P	**Pn**	**03 14 09.5**	**-2.4**
POWZ	**Post Office Ro**	**3.24**	**207**	P	**Pn**	**03 14 12.0**	**-1.2**
LREZ	**Lake Rotokare**	**3.24**	**232**	P	**Pn**	**03 14 14.2**	**+0.9**
OHWZ	**Ohakea**	**3.27**	**214**	P	**Pn**	**03 14 14.3**	**+0.7**
PRWZ	**Pori Road**	**3.32**	**204**	P	**Pn**	**03 14 13.0**	**-1.2**
BFZ	**Birch Farm**	**3.35**	**200**	Pn	**Pn**	**03 14 13.3**	**-1.4**
PKE	**Pukeiti**	**3.38**	**239**	P	**Pn**	**03 14 17.7**	**+2.6**
KHEZ	**Kahui Hut**	**3.41**	**238**	P	**Pn**	**03 14 17.5**	**+2.0**
NBEZ	**Newall Road No**	**3.49**	**239**	P	**Pn**	**03 14 18.3**	**+1.8**
OUZ	**Omahuta**	**4.05**	**303**	Pn	**Pn**	**03 14 20.6**	**-3.2**
MSWZ	**Moikau Station**	**4.33**	**205**		**Pn**	**03 14 24.8**	**-2.7**
SNZO	**South Karori**	**4.44**	**211**	Pn	**Pn**	**03 14 26.4**	**-2.5**
BHW	**Baring Head**	**4.46**	**209**		**Pn**	**03 14 26.4**	**-2.8**
PLWZ	**Palliser**	**4.47**	**205**		**Pn**	**03 14 26.2**	**-3.1**
TUWZ	**Tuamarina**	**4.87**	**216**	Pn	**Pn**	**03 14 32.2**	**-2.5**
NNZ	**Nelson**	**4.99**	**221**	Pn	**Pn**	**03 14 34.0**	**-2.2**
NNZ					Sn	**03 15 31.1**	**-2.1**
CMWZ	**Cape Campbell**	**5.01**	**212**	Pn	**Pn**	**03 14 33.3**	**-3.3**
CMWZ					Sn	**03 15 30.3**	**-3.4**
BSWZ	**Blackbirch Sta**	**5.13**	**214**	Pn	**Pn**	**03 14 35.7**	**-2.5**
BSWZ					Sn	**03 15 35.1**	**-1.4**
QRZ	**Quartz Range**	**5.21**	**229**	Pn	**Pn**	**03 14 36.8**	**-2.4**
QRZ					Sn	**03 15 36.9**	**-1.5**
THZ	**Tophouse**	**5.63**	**220**	Pn	**Pn**	**03 14 42.8**	**-2.1**
THZ					Sn	**03 15 44.9**	**-3.8**
KHZ	**Kahutara**	**5.85**	**212**	Pn	**Pn**	**03 14 45.2**	**-2.5**
LTZ	**Lake Taylor**	**6.71**	**217**	Pn	**Pn**	**03 14 55.8**	**-3.5**
OXZ	**Oxford**	**7.24**	**215**	Pn	**Pn**	**03 15 03.2**	**-3.1**
OXZ					Sn	**03 16 22.0**	**-5.1**
MQZ	**McQueen's Vall**	**7.28**	**210**	Pn	**Pn**	**03 15 03.3**	**-3.6**
CTZ	**Chatham Island**	**7.55**	**147**	P	**Pn**	**03 15 14.3**	**+3.9**
RPZ	**Rata Peaks**	**7.99**	**217**	Pn	**Pn**	**03 15 13.4**	**-3.1**
	3.1nm,0.3s,baz=155,slow=2.8,SNR=11						
RPZ					Sn	**03 16 39.1**	**-6.3**
	4.6nm,0.3s,baz=5.4,slow=6.8,SNR=12						
RPZ	**Rata Peaks**	**7.99**	**217**		Pn	03 15 12.0	-4.5
RPZ					**Sn**	**03 16 40.8**	**-4.6**
FOZ	**Fox Glacier**	**8.50**	**223**	Pn	**Pn**	**03 15 22.7**	**-0.5**
LBZ	**Lake Benmore**	**8.91**	**217**	Pn	**Pn**	**03 15 25.8**	**-3.0**
ODZ	**Otahua Downs**	**9.21**	**213**	Pn	**Pn**	**03 15 29.2**	**-3.5**
WKZ	**Wanaka**	**9.81**	**219**	Pn	**Pn**	**03 15 39.7**	**-1.1**
MLZ	**Mavora Lakes**	**10.64**	**220**	Pn	**Pn**	**03 15 50.6**	**-1.2**
MSVF	**Nonsavu**	**19.72**	**1**	P	**Pn**	**03 17 44.0**	**-0.9**
MSVF				IAmb	IAmb	03 17 45.3	
	comp=Z,12nm,1.0s						
COEN	**Coen**	**38.64**	**298**	P	**P**	**03 20 33.7**	**+0.5**
ASAR	**Alice Springs**	**39.82**	**278**	P	**P**	**03 20 44.6**	**+1.6**
	comp=Z,1.2nm,0.5s,baz=123,slow=8.3,SNR=17						
ASAR				PcP	**PcP**	**03 22 47.6**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=118,slow=3.5,SNR=4.6						
WB2	**Warramunga Arr**	**41.47**	**283**	P	**P**	**03 20 58.0**	**+1.4**
WB2				IAmb	IAmb	03 21 14.0	
	comp=Z,7.8nm,1.1s						
WRA	**Warramunga Arr**	**41.48**	**283**	P	**P**	**03 20 58.0**	**+1.3**
	comp=Z,0.8nm,0.3s,baz=122,slow=8.0,SNR=9.6						
WB0	**Warramunga Arr**	**41.53**	**283**	P	**P**	**03 20 58.6**	**+1.5**
WB0				IAmb	IAmb	03 21 05.7	
	comp=Z,2.5nm,0.9s						
CASY	**Casey**	**47.20**	**211**	P	**P**	**03 21 45.4**	**+3.9**
CASY				IAmb	IAmb	03 21 46.4	
	comp=Z,5.8nm,1.1s						
FITZ	**Fitzroy Crossi**	**49.31**	**278**	P	**P**	**03 22 00.1**	**+1.8**
	comp=Z,4.3nm,1.0s,baz=122,slow=8.1,SNR=3.3						
FITZ	**Fitzroy Crossi**	**49.31**	**278**	P	**P**	**03 21 59.8**	**+1.5**
FITZ				IAmb	IAmb	03 22 19.4	
	comp=Z,8.4nm,1.1s						
QSPA	**South Pole Qui**	**52.60**	**180**	P	**P**	**03 22 26.1**	**+3.7**
H03N3	**Juan Fernandez**	**79.67**	**124**	T	T	04 52 06.7	
	baz=237						
H03N2	**Juan Fernandez**	**79.67**	**124**	T	T	04 52 10.8	
	baz=237						
H03N1	**Juan Fernandez**	**79.69**	**124**	T	T	04 52 14.3	
	baz=237						
ARCES	**ARCESS Array B**	**144.61**	**344**	PKP	**PKPdf**	**03 32 42.4**	**+0.3**
	comp=Z,3.0nm,0.7s,baz=33,slow=2.0,SNR=11						
FINES	**FINESS Array B**	**150.24**	**333**	PKPbc	**PKiKP**	**03 32 57.9**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=43,slow=5.1,SNR=16						
FINES				PKPab	**PKPab**	**03 33 03.5**	**-0.1**
	comp=Z,2.5nm,1.0s,baz=48,slow=2.8,SNR=3.6						
FINES	**FINESS Array B**	**150.24**	**333**		**PKPbc**	**03 32 56.6**	**-0.3**
TORD	**Torodi Ar. Bea**	**155.47**	**189**	PKPbc	PKPbc	03 33 13.6	
	comp=Z,0.2nm,0.3s,baz=160,slow=2.8,SNR=5.2						
TORD				PKPab	**PKPab**	**03 33 29.5**	**+2.7**
	comp=Z,0.3nm,0.4s,baz=160,slow=3.6,SNR=2.4						
TORD	**Torodi Ar. Bea**	**155.47**	**189**		**PKPab**	**03 33 30.2**	**+3.5**

*IDC **26** 03:25:57.0±2.5,29.98S×177.11W,h0km,mb3.9/2, mb1 4.2/2,mb1mx3.7/29,mbtmp3.9/2,MS3.3/1,Ms1 3.3/1, ms1mx2.9/29,Error ellipse: s-maj=56.3km s-min=29.6km az=58.0*

*NEIC **26** 03:25:57.2±2.3,29.5S±0.1×176.50W±0.08,h35km±2km, mb4.3/6,Error ellipse: s-maj=18.7km s-min=11.0km az=16.0*

ISC 26 03:25:55.7±1.2,29.5S±0.1×176.5W±0.1,h21km,n15, σ1ł63/17,mb4.3/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.27**	**280**	Pn	**Pb**	**03 26 19.1**	**+0.3**
	348nm,0.3s,baz=90,slow=11,SNR=20						
RAO				Sn	**Sn**	**03 26 32.6**	**-1.9**
	911nm,0.3s,baz=95,slow=23,SNR=13						
RAO				LR	LR	03 26 44.2	
	comp=Z,550nm,21.3s,baz=54,slow=47						
RAO	**Raoul Island**	**1.27**	**280**		**Pb**	**03 26 19.2**	**+0.4**
RAO					**Sn**	**03 26 32.9**	**-1.6**
MXZ	**Matakaoa Point**	**9.16**	**207**	Pn	**Pn**	**03 28 08.3**	**+1.7**
OUZ	**Omahuta**	**10.15**	**233**	Pn	**Pn**	**03 28 21.1**	**+0.9**
TUWZ	**Tuamarina**	**14.24**	**211**	Pn	**Pn**	**03 29 16.6**	**+0.6**
DZM	**Mont Dzumac**	**17.04**	**292**	Pn	**P**	**03 29 58.3**	**+3.8**
	0.2nm,0.3s,baz=79,slow=14,SNR=3.2						
DZM				LR	LR	03 35 01.3	
	comp=Z,108nm,18.7s,baz=212,slow=32						
FOZ	**Fox Glacier**	**17.80**	**214**	Pn	**Pn**	**03 29 58.9**	**-3.1**
FOZ				IAmb	IAmb	03 30 13.8	
	comp=Z,13nm,1.0s						
MLZ	**Mavora Lakes**	**19.97**	**213**	P	**P**	**03 30 26.0**	**-0.5**
MLZ				IAmb	IAmb	03 30 39.3	
	comp=Z,22nm,1.2s						
ASAR	**Alice Springs**	**44.48**	**265**	P	**P**	**03 34 05.7**	**0.0**
	comp=Z,0.6nm,0.5s,baz=107,slow=7.9,SNR=7.4						
WB2	**Warramunga Arr**	**45.38**	**270**	P	**P**	**03 34 12.4**	**-0.4**
WB2				IAmb	IAmb	03 34 25.7	
	comp=Z,6.5nm,1.1s						
WRA	**Warramunga Arr**	**45.39**	**270**	P	**P**	**03 34 13.0**	**0.0**
	comp=Z,2.5nm,0.9s,baz=114,slow=6.7,SNR=1.2						
WB0	**Warramunga Arr**	**45.41**	**271**	P	**P**	**03 34 11.8**	**-1.3**
CASY	**Casey**	**56.57**	**208**	P	**P**	**03 35 35.6**	**-0.7**
CASY				IAmb	IAmb	03 35 37.0	
	comp=Z,3.4nm,0.9s						
G06A	**Carlson Farm,**	**90.03**	**36**	P	**P**	**03 38 52.9**	**-0.7**
FINES	**FINESS Array B**	**144.71**	**341**	PKPbc	**PKiKP**	**03 45 33.8**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=28,slow=3.6,SNR=8.3						

IDC 26 03:28:13.3±4.3,28.43S×177.72W,h0km,mb3.8/2, mb1 4.1/2,mb1mx3.6/24,mbtmp3.8/2,Error ellipse: s-maj=84.5km s-min=22.8km az=80.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.83**	**192**	Pn	Pn	03 28 32.8	+0.4
	270nm,0.3s,baz=74,slow=24,SNR=3.8						
RAO				Sn	Sn	03 28 45.7	+0.3
	2µm,0.3s,baz=156,slow=22,SNR=16						
ASAR	**Alice Springs**	**43.49**	**265**	P	P	03 36 19.1	+0.4
	0.4nm,0.5s,baz=101,slow=7.3,SNR=6.5						
WRA	**Warramunga Arr**	**44.30**	**270**	P	P	03 36 24.8	-0.5
	1.8nm,0.7s,baz=110,slow=8.0,SNR=9.4						
FINES	**FINESS Array B**	**143.38**	**341**	PKP	PKPbc	03 47 47.5	+1.4
	0.4nm,0.4s,baz=51,slow=2.4,SNR=2.0						

IDC 26 03:35:19.8±48.0,30.15S×175.41W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.7/24,mbtmp3.9/3,Error ellipse: s-maj=898.7km s-min=194.4km az=98.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.71**	**256**	P	P	03 42 28.0	-0.7
	2.5nm,1.0s,baz=117,slow=14,SNR=4.1						
ASAR	**Alice Springs**	**45.36**	**266**	P	P	03 43 40.0	-0.1
	0.5nm,0.6s,baz=100,slow=7.7,SNR=5.1						
WRA	**Warramunga Arr**	**46.33**	**271**	P	P	03 43 48.0	+0.3
	1.2nm,0.5s,baz=112,slow=7.4,SNR=5.5						

*NEIC **26** 03:49:35.2±2.0,8.80S±0.09×67.81E±0.08,h10km±1km, mb4.7/16,Error ellipse: s-maj=17.1km s-min=10.9km az=326.0*

*IDC **26** 03:49:36.2±0.8,8.81S×67.92E,h0km,mb3.9/9,mb1 4.1/9, mb1mx3.8/46,mbtmp3.9/9,Error ellipse: s-maj=26.5km s-min=25.7km az=3.0*

ISC 26 03:49:35.8±0.5,8.84S±0.10×67.82E±0.06,h10km,n37, σ1ł41/36,mb4.3/15,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**4.76**	**76**	Pn	**Pn**	**03 50 47.5**	**+0.1**
H08S1				Sn	**Sn**	**03 51 40.9**	**-1.6**
H08S1				T	T	03 55 54.6	
	baz=255,slow=75						
H08S3	**Diego Garcia H**	**4.77**	**76**	Pn	**Pn**	**03 50 47.7**	**+0.1**
H08S3				Sn	**Sn**	**03 51 41.1**	**-1.8**
H08S3				T	T	03 56 03.0	
	baz=255,slow=75						
H08S2	**Diego Garcia H**	**4.78**	**76**	Pn	**Pn**	**03 50 47.7**	**+0.1**
H08S2				Sn	**Sn**	**03 51 41.1**	**-1.8**
H08S2				T	T	03 55 54.6	
	baz=255,slow=75						
RODM	**Citronelle, R**	**11.60**	**201**	Pn	**Pn**	**03 52 21.0**	**-0.5**
MSEY	**Mahe Island**	**12.93**	**288**	Pn	**Pn**	**03 52 38.3**	**-1.5**
RER	**Riviere de l'E**	**16.90**	**222**	Pn	**Pn**	**03 53 29.2**	**-3.4**
RER				IAmb	IAmb	03 53 38.2	
	comp=Z,118nm,1.3s						
SOCY	**Socotra**	**25.00**	**326**	P	**P**	**03 54 59.3**	**-0.8**
FOMA	**Nahampoana Res**	**25.53**	**229**	P	**P**	**03 55 03.8**	**-1.0**
FOMA				IAmb	IAmb	03 55 14.4	
	comp=Z,46nm,1.2s						
KMBO	**Kilima Mbogo**	**31.38**	**282**	P	**P**	**03 55 56.7**	**-0.7**
KMBO				IAmb	IAmb	03 55 59.0	
	comp=Z,12nm,1.4s						
KULM	**Kulim**	**35.61**	**68**	P	**P**	**03 56 32.9**	**-1.1**
KULM				IAmb	IAmb	03 56 37.6	
	comp=Z,12nm,0.9s						
LSZ	**Lusaka**	**39.24**	**257**	P	**P**	**03 57 07.5**	**+2.6**
	comp=Z,2.3nm,0.7s,baz=82,slow=5.0,SNR=4.0						
LSZ	**Lusaka**	**39.24**	**257**	P	**P**	**03 57 04.9**	**0.0**
LSZ				IAmb	IAmb	03 57 16.2	
	comp=Z,28nm,2.0s						
CMAR	**Chiang Mai Arr**	**40.97**	**48**	P	**P**	**03 57 21.1**	**+2.0**
	comp=Z,1.0nm,0.3s,baz=242,slow=9.4,SNR=5.5						
SHL	**Shillong**	**41.45**	**34**	P	**P**	**03 57 23.0**	**-0.2**
SHL				IAmb	IAmb	03 57 29.4	
	comp=Z,6.3nm,0.7s						
SBUM	**Sibu**	**45.66**	**78**	P	**P**	**03 57 55.0**	**-2.1**
H01W3	**Cape Leeuwin H**	**49.60**	**129**	T	T	04 52 06.6	
	baz=290,slow=75,SNR=28						
H01W2	**Cape Leeuwin H**	**49.61**	**129**	T	T	04 52 06.9	
	baz=290,slow=75,SNR=32						
H01W1	**Cape Leeuwin H**	**49.62**	**129**	T	T	04 52 04.8	
	baz=290,slow=75,SNR=26						
HKPS	**Hong Kong Po S**	**54.92**	**55**	P	**P**	**03 59 07.0**	**-0.1**
MAKZ	**Makanchi**	**56.82**	**12**	P	**P**	**03 59 19.5**	**-0.8**
MKAR	**Makanchi Array**	**56.87**	**12**	P	**P**	**03 59 20.6**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=185,slow=6.3,SNR=5.6						
ABKAR	**Akbulak array**	**58.26**	**354**	P	**P**	**03 59 30.2**	**-0.1**
ABKAR	**Akbulak array**	**58.26**	**354**	P	**P**	**03 59 30.0**	**-0.3**
ABKAR				IAmb	IAmb	03 59 42.8	
	comp=Z,3.8nm,0.9s						
KURK	**Kurchatov**	**60.04**	**8**	P	**P**	**03 59 42.5**	**-0.3**
KURK				IAmb	IAmb	04 00 05.7	
	comp=Z,8.1nm,1.8s						
SSLB	**Suanglung**	**61.19**	**57**	P	**P**	**03 59 50.1**	**-1.0**
SSLB				IAmb	IAmb	04 00 14.5	
	comp=Z,11nm,1.0s						
ASAR	**Alice Springs**	**64.64**	**112**	P	**P**	**04 00 15.7**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=279,slow=5.7,SNR=8.2						
WRA	**Warramunga Arr**	**65.03**	**108**	P	**P**	**04 00 18.4**	**+1.6**
	comp=Z,1.5nm,0.9s,baz=277,slow=6.3,SNR=1.1						
SONM	**Songino Array**	**65.94**	**27**	P	**P**	**04 00 23.6**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=234,slow=4.8,SNR=2.4						
SONM	**Songino Array**	**65.94**	**27**	P	**P**	**04 00 22.4**	**+0.2**
AKASG	**Malin Array Be**	**68.07**	**335**	P	**P**	**04 00 37.7**	**+2.2**
	comp=Z,0.8nm,0.6s,baz=141,slow=6.0,SNR=1.9						
MJAR	**Matsushiro Arr**	**79.83**	**50**	P	**P**	**04 01 45.5**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=267,slow=4.6,SNR=1.7						
QSPA	**South Pole Qui**	**81.20**	**180**	P	**P**	**04 01 53.2**	**+1.5**
	comp=Z,1.6nm,0.9s,baz=272,slow=8.3,SNR=3.4						
QSPA	**South Pole Qui**	**81.20**	**180**	IAmb	IAmb	04 04 43.6	
	comp=Z,27nm,1.9s						
PFVI	**Vila Bisbo**	**84.80**	**309**	P	**P**	**04 02 09.6**	**-1.1**
PDAR	**Pinedale Array**	**146.12**	**357**	PKPbc	**PKiKP**	**04 09 19.6**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=25,slow=3.0,SNR=2.3						
NVAR	**Mina Array Bea**	**150.02**	**10**	PKPbc	**PKiKP**	**04 09 30.4**	**+2.1**
	comp=Z,1.1nm,0.7s,baz=287,slow=1.5,SNR=8.8						
TXAR	**Lajitas Array**	**158.10**	**340**	PKPab	**PKPab**	**04 10 08.9**	**+1.7**
	comp=Z,0.0nm,0.3s,baz=6.9,slow=35,SNR=2.7						

*IDC **26** 03:59:34.2±0.9,39.92S×175.15E,h0km,mb4.4/5, mb1 4.5/6,mb1mx4.2/22,mbtmp4.3/6,ML4.0/1,Error ellipse: s-maj=32.6km s-min=25.5km az=61.0*

*WEL **26** 03:59:43.7,40˚S±1˚×17˚5E±˚,h65km±3km,M4.7/94, ML5.1/21,MLv4.7/94,Error ellipse: s-maj=0.0km s-min=0.0km az=74.4*

*NEIC **26** 03:59:44.2±1.5,40.25S±0.04×174.88E±0.07,h70km±7km, mb4.6/16,Error ellipse: s-maj=8.2km s-min=5.0km az=119.0*

ISC 26 03:59:44.4±0.7,40.26S±0.03×174.87E±0.03,h69km±6km, n162,σ1ł11/173,mb4.6/15,3C,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	**Ohakea**	**0.35**	**82**	P	**Pn**	**03 59 55.1**	**-0.7**
OHWZ				S	**Sn**	**04 00 03.4**	**-0.7**
WAZ	**Wanganui**	**0.51**	**10**	P	**Pn**	**03 59 56.4**	**-0.8**
KIW	**Kapiti Island**	**0.60**	**177**	P	**Pn**	**03 59 57.9**	**-0.3**
KIW				S	**Sn**	**04 00 07.5**	**-0.8**
OGWZ	**Otaki Gorge**	**0.60**	**158**	P	**Pn**	**03 59 58.1**	**0.0**
OGWZ				S	**Sn**	**04 00 08.4**	**+0.1**
MRZ	**Mangatainoka R**	**0.68**	**127**	P	**Pn**	**03 59 58.6**	**-0.3**
MRZ				S	**Sn**	**04 00 09.9**	**+0.2**
POWZ	**Post Office Ro**	**0.70**	**101**	P	**Pn**	**03 59 59.1**	**-0.2**
HOWZ	**Holdsworth Sta**	**0.81**	**142**	P	**Pn**	**04 00 01.0**	**+0.5**
CAW	**Cannon Point**	**0.86**	**170**	P	**Pn**	**04 00 01.6**	**+0.5**
TSZ	**Takapari Road**	**0.86**	**77**	P	**Pn**	**04 00 01.0**	**-0.1**
LREZ	**Lake Rotokare**	**0.87**	**336**	P	**Pn**	**04 00 00.8**	**-0.4**
PRWZ	**Pori Road**	**0.90**	**110**	P	**Pn**	**04 00 01.5**	**0.0**
DUWZ	**D'Urville Isla**	**0.90**	**233**	P	**Pn**	**04 00 00.8**	**-0.8**
TIWZ	**Tintock**	**0.93**	**124**	P	**Pn**	**04 00 01.5**	**-0.5**
MTVZ	**Mangateitei**	**0.99**	**28**	P	**Pn**	**04 00 02.0**	**-0.7**
DVHZ	**Dannevirke**	**1.00**	**93**	P	**Pn**	**04 00 02.2**	**-0.6**
WEL	**Wellington**	**1.03**	**184**	P	**Pn**	**04 00 03.5**	**+0.4**
PKVZ	**Pokaka**	**1.04**	**21**	P	**Pn**	**04 00 02.4**	**-0.9**
TCW	**Tory Channel**	**1.05**	**205**	P	**Pn**	**04 00 03.5**	**0.0**
SNZO	**South Karori**	**1.06**	**187**	Pn	**Pn**	**04 00 03.5**	**0.0**
SNZO				Sn	**Sn**	**04 00 17.0**	**-0.8**
PREZ	**Palmer Road**	**1.06**	**329**	P	**Pn**	**04 00 03.7**	**+0.1**
PNHZ	**Pukenui**	**1.08**	**72**	P	**Pn**	**04 00 03.6**	**-0.3**
MOVZ	**Moawhango**	**1.09**	**39**	P	**Pn**	**04 00 03.5**	**-0.5**
TRVZ	**Turoa**	**1.09**	**29**	P	**Pn**	**04 00 03.6**	**-0.6**
DRZ	**Dome Shelter**	**1.12**	**29**	P	**Pn**	**04 00 04.6**	**-0.1**
WHVZ	**Whangaehu Hut**	**1.12**	**30**	P	**Pn**	**04 00 04.1**	**-0.4**
BFZ	**Birch Farm**	**1.14**	**112**	P	**Pn**	**04 00 03.7**	**-0.9**
BFZ	**Birch Farm**	**1.14**	**112**	Pn	**Pn**	**04 00 03.6**	**-0.9**
BFZ				Sn	**Sn**	**04 00 19.1**	**-0.4**
VRZ	**Vera Road**	**1.14**	**356**	P	**Pn**	**04 00 04.1**	**-0.5**
NMEZ	**Namu Road**	**1.14**	**318**	P	**Pn**	**04 00 04.4**	**-0.1**
BHW	**Baring Head**	**1.15**	**180**	P	**Pn**	**04 00 04.5**	**-0.2**
BHW	**Baring Head**	**1.15**	**180**		**Pn**	**04 00 04.3**	**-0.3**
BHW				Sn	**Sn**	**04 00 21.2**	**+1.3**
TMWZ	**Te Maipa**	**1.15**	**138**	P	**Pn**	**04 00 04.9**	**+0.1**
TUVZ	**Tukino**	**1.16**	**32**	P	**Pn**	**04 00 05.0**	**0.0**
KHEZ	**Kahui Hut**	**1.16**	**325**	P	**Pn**	**04 00 04.9**	**0.0**
COVZ	**Chateau Observ**	**1.18**	**27**	P	**Pn**	**04 00 06.2**	**+1.0**
DREZ	**Durham Road**	**1.18**	**334**	P	**Pn**	**04 00 05.3**	**+0.2**
MSWZ	**Moikau Station**	**1.19**	**166**	P	**Pn**	**04 00 05.1**	**-0.1**
MSWZ	**Moikau Station**	**1.19**	**166**		**Pn**	**04 00 05.2**	**-0.1**
MSWZ				Sn	**Sn**	**04 00 24.1**	**+3.1**
BHHZ	**Black Hill Sta**	**1.20**	**51**	P	**Pn**	**04 00 05.1**	**-0.3**
CPWZ	**Castlepoint**	**1.21**	**123**	P	**Pn**	**04 00 05.2**	**-0.2**
WPHZ	**Waipukurau**	**1.22**	**81**	P	**Pn**	**04 00 05.4**	**-0.2**
MHEZ	**Mangahewa**	**1.25**	**340**	P	**Pn**	**04 00 06.4**	**+0.4**
NBEZ	**Newall Road No**	**1.25**	**322**	P	**Pn**	**04 00 05.8**	**-0.2**
PKE	**Pukeiti**	**1.26**	**327**	P	**Pn**	**04 00 06.1**	**-0.1**
TWVZ	**Taurewa**	**1.27**	**21**	P	**Pn**	**04 00 05.1**	**-1.2**
WTVZ	**West Tongariro**	**1.27**	**26**	P	**Pn**	**04 00 05.7**	**-0.7**
TRWZ	**Traveller**	**1.30**	**152**	P	**Pn**	**04 00 07.0**	**+0.4**
KRVZ	**Karewarewa**	**1.31**	**28**	P	**Pn**	**04 00 06.0**	**-0.9**
KRHZ	**Kereru**	**1.31**	**63**	P	**Pn**	**04 00 06.5**	**-0.3**
PLWZ	**Palliser**	**1.34**	**167**	P	**Pn**	**04 00 06.8**	**-0.5**
PLWZ	**Palliser**	**1.34**	**167**	Pn	**Pn**	**04 00 05.8**	**-1.5**
PLWZ				Sn	**Sn**	**04 00 23.6**	**-0.8**
PRHZ	**Porangahau**	**1.35**	**91**	P	**Pn**	**04 00 07.1**	**-0.2**
TUWZ	**Tuamarina**	**1.36**	**211**	P	**Pn**	**04 00 07.5**	**-0.1**
TUWZ	**Tuamarina**	**1.36**	**211**			**04 00 07.4**	**-0.1**
KATZ	**Kakaramea**	**1.43**	**27**	P	**Pn**	**04 00 08.3**	**-0.2**
KWHZ	**Kaweka Forest**	**1.46**	**56**	P	**Pn**	**04 00 08.6**	**-0.2**
NNZ	**Nelson**	**1.48**	**229**	P	**Pn**	**04 00 08.9**	**-0.1**
NNZ	**Nelson**	**1.48**	**229**		**Pn**	**04 00 09.4**	**+0.4**
RITZ	**Rihia Road**	**1.49**	**31**	P	**Pn**	**04 00 10.0**	**+0.8**
PXZ	**Pawanui**	**1.55**	**82**	P	**Pn**	**04 00 09.1**	**-0.8**
RATZ	**Rangitukua**	**1.56**	**27**	P	**Pn**	**04 00 10.6**	**+0.5**
CMWZ	**Cape Campbell**	**1.57**	**198**	P	**Pn**	**04 00 11.1**	**+0.8**
CMWZ	**Cape Campbell**	**1.57**	**198**		**Pn**	**04 00 11.0**	**+0.8**
KAHZ	**Kahuranaki**	**1.61**	**74**	P	**Pn**	**04 00 10.3**	**-0.5**
MCHZ	**McNeill Hill**	**1.63**	**61**	P	**Pn**	**04 00 10.8**	**-0.2**
BSWZ	**Blackbirch Sta**	**1.64**	**207**	P	**Pn**	**04 00 11.2**	**+0.1**
BSWZ	**Blackbirch Sta**	**1.64**	**207**		**Pn**	**04 00 11.0**	**-0.1**
HATZ	**Hinemaiaia**	**1.66**	**35**	P	**Pn**	**04 00 11.4**	**-0.1**
BKZ	**Black Stump Fm**	**1.66**	**50**	P	**Pn**	**04 00 11.2**	**-0.3**
BKZ	**Black Stump Fm**	**1.66**	**50**		**Pn**	**04 00 11.3**	**-0.3**
WATZ	**Wairara**	**1.69**	**24**	P	**Pn**	**04 00 12.7**	**+0.8**
HIZ	**Hauiti**	**1.74**	**360**		**Pn**	**04 00 12.4**	**-0.1**
WHTZ	**Whakaora**	**1.80**	**28**	P	**Pn**	**04 00 14.2**	**+0.9**
CKHZ	**Cape Kidnapper**	**1.80**	**71**	P	**Pn**	**04 00 12.6**	**-0.7**
MRHZ	**Matea Rd**	**1.86**	**41**	P	**Pn**	**04 00 13.4**	**-0.7**
QRZ	**Quartz Range**	**1.87**	**252**	P	**Pn**	**04 00 13.8**	**-0.4**
QRZ	**Quartz Range**	**1.87**	**252**		**Pn**	**04 00 13.9**	**-0.4**
NMHZ	**Naumai**	**1.89**	**53**	P	**Pn**	**04 00 14.3**	**-0.3**
KUTZ	**Kaahu Road**	**1.92**	**23**	P	**Pn**	**04 00 15.2**	**+0.

LZH			sP	sP	04 13 50.3	+1.3	
LZH			*e*PP	PP	04 17 33.5	+4.2	
LZH			pmax	pmax			
	comp=Z,16nm,1.4s						
LZH			pmax	pmax			
	comp=Z,67nm,5.2s						
LZH			LR	LR			
	comp=N,89nm,17.5s						
LZH			LR	LR			
	comp=E,93nm,17.2s						
LZH			LR	LR			
	comp=Z,130nm,19.8s						
MKAR	**Makanchi Array**	**119.43 308**	PKP	**PKPdf**	**04 18 23.1**	**-2.3**	
	comp=Z,0.2nm,0.5s,baz=160,slow=4.6,SNR=2.5						
ARCES	**ARCESS Array B**	**146.53 341**	PKPbc	**PKPdf**	**04 19 15.3**	**+0.3**	
	comp=Z,6.3nm,0.6s,baz=57,slow=3.3,SNR=18						
DBIC	**Dimbokro**	**146.56 181**	PKPbc	**PKPbc**	**04 19 18.2**	**-0.1**	
	comp=Z,3.9nm,0.6s,baz=192,slow=4.2,SNR=9.4						
BRTR	**Keskin Array B**	**150.45 282**	PKPbc	**PKPbc**	**04 19 26.6**	**-1.3**	
	comp=Z,0.7nm,0.5s,baz=134,slow=4.2,SNR=2.5						
FINES	**FINESS Array B**	**151.52 329**	PKPbc	**PKPbc**	**04 19 27.8**	**-1.7**	
	comp=Z,1.3nm,0.6s,baz=28,slow=6.3,SNR=7.5						
TORD	**Torodi Ar. Bea**	**152.34 194**	PKPbc	**PKPbc**	**04 19 32.7**	**-0.1**	
	comp=Z,1.7nm,0.5s,baz=164,slow=3.6,SNR=38						
TORD	**Torodi Ar. Bea**	**152.34 194**		**PKPbc**	**04 19 32.6**	**-0.1**	
TORD			PKPab	**PKPab**	**04 19 43.4**	**+0.6**	

NEIC ***26*** *05:07:35.9±2.2, 7.33S±0.07×128.47E±0.04, h168km±10km, mb4.0/6, Error ellipse: s-maj=10.8km s-min=5.5km az=188.0*

DJA ***26*** *05:07:35.2±0.7, 7.5S±5×12.8E±°, h220km±20km, M4.3/7, mB5.1/1, mb4.1/4, MLv4.4/7, Mw(mB)4.4/1*

IDC ***26*** *05:07:36.6±9.9, 7.36S×128.52E, h165km±97km, mb3.4/2, mb1 3.9/6, mb1mx3.4/34, mbtmp4.3/6, MS3.5/2, Ms1 3.5/2, ms1mx2.8/25, Error ellipse: s-maj=119.2km s-min=22.0km az=51.0*

ISC 26 05:07:37.0±0.7, 7.38S±0.06×128.52E±0.05, h200km, n25, σ3$42/32, mb3.9/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.82**	**103**	P	**Pn**	**Pn**	**05 08 24.2**	**-0.4**
SAUI	**Saumlaki**	**2.82**	**103**	Pn	**Pn**	**Pn**	**05 08 23.3**	**-1.3**
SAUI					**Sn**	**Sn**	**05 08 59.0**	**-2.6**
SOEI	**Soe**	**4.83**	**240**	P	**Pn**	**Pn**	**05 08 48.5**	**-0.9**
SOEI	**Soe**	**4.83**	**240**	Pn	**Pn**	**Pn**	**05 08 47.3**	**-2.0**
SOEI					**Sn**	**Sn**	**05 09 42.9**	**-3.4**
BATI	**Baumata**	**5.56**	**239**	P	**Pn**	**Pn**	**05 08 59.0**	**+0.3**
	31nm,0.3s,baz=89,slow=2.5,SNR=13							
BATI				S	**Sn**	**Sn**	**05 10 00.7**	**-2.6**
	35nm,0.3s,baz=105,slow=5.3,SNR=14							
BATI				LR	LR	LR	05 11 12.4	
	comp=Z,293nm,20.7s,baz=126,slow=39							
BATI	**Baumata**	**5.56**	**239**	P	**Pn**	**Pn**	**05 08 58.0**	**-0.7**
	0.3nm64nm,0.7s							
FAKI	**Fak Fak**	**5.78**	**40**	P	**Pn**	**Pn**	**05 08 59.8**	**-1.7**
	0.3nm46nm,1.6s							
FAKI	**Fak Fak**	**5.78**	**40**	Pn	**Pn**	**Pn**	**05 08 59.8**	**-1.7**
FAKI					**Sn**	**Sn**	**05 10 02.5**	**-5.8**
MTN	**Manton Dam**	**6.01**	**155**		**Pn**	**Pn**	**05 09 04.5**	**0.0**
MTN					**Sn**	**Sn**	**05 10 09.0**	**-4.7**
EDFI	**Ende, Flores**	**6.90**	**258**	P	**Pn**	**Pn**	**05 09 13.7**	**-2.4**
	0.1nm18nm,1.6s							
SIJI	**Sorong**	**7.02**	**23**	S	**Sn**	**Sn**	**05 10 32.4**	**-5.0**
	1.5nm,0.3s,baz=233,slow=20,SNR=1.6							
KNRA	**Kununurra**	**8.26**	**178**		**Pn**	**Pn**	**05 09 33.0**	**-0.6**
KNRA					**Sn**	**Sn**	**05 10 59.8**	**-6.8**
FITZ	**Fitzroy Crossi**	**11.02**	**194**	P	**Pn**	**Pn**	**05 10 08.2**	**-1.2**
	0.9nm,0.3s,baz=24,slow=10,SNR=59							
FITZ				S	Sn	Sn	05 12 03.0	-10
	1.4nm,0.3s,baz=101,slow=21,SNR=7.0							
WRA	**Warramunga Arr**	**13.71**	**156**	P	**Pn**	**Pn**	**05 10 42.9**	**-0.6**
	1.1nm,0.3s,baz=326,slow=13,SNR=12							
WRA				S	**S**	**S**	**05 13 07.7**	**-8.5**
	2.6nm,0.3s,baz=323,slow=24,SNR=13							
COEN	**Coen**	**15.81**	**116**	Pn	**Pn**	**Pn**	**05 11 12.2**	**+3.0**
COEN				IAmb	IAmb	IAmb	05 11 15.4	
	comp=Z,7.9nm,0.9s							
AS31	**Alice Springs**	**17.00**	**163**	P	**Pn**	**Pn**	**05 11 26.3**	**+2.9**
ASAR	**Alice Springs**	**17.00**	**163**	P	**Pn**	**Pn**	**05 11 25.9**	**+2.5**
	comp=Z,3.4nm,0.3s,baz=340,slow=10,SNR=221							
ASAR				S	**S**	**S**	**05 14 29.1**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=317,slow=16,SNR=5.4							
LEM	**Lembang**	**20.75**	**270**	LR	LR	LR	05 22 00.2	
	comp=Z,189nm,19.5s,baz=266,slow=42							
CTAO	**Charters Tower**	**21.33**	**128**	P	**P**	**P**	**05 12 12.9**	**+4.2**
CTAO					IAmb	IAmb	05 12 15.4	
	comp=Z,17nm,1.3s							
STKA	**Stephens Creek**	**27.26**	**155**	P	**P**	**P**	**05 13 06.0**	**+3.3**
	comp=Z,0.9nm,0.4s,baz=329,slow=12,SNR=4.4							
STKA	**Stephens Creek**	**27.26**	**155**	P	**P**	**P**	**05 13 06.5**	**+3.7**
STKA					IAmb	IAmb	05 13 09.3	
	comp=Z,3.7nm,1.5s							
MKAR	**Makanchi Array**	**67.74**	**328**	P	**P**	**P**	**05 18 16.1**	**+3.0**
	comp=Z,0.4nm,0.5s,baz=124,slow=7.2,SNR=7.4							
MKAR	**Makanchi Array**	**67.74**	**328**	P	**P**	**P**	**05 18 14.8**	**+1.7**
VNDA	**Vanda**	**72.26**	**173**	P	**P**	**P**	**05 18 41.6**	**+1.7**
QSPA	**South Pole Qui**	**82.61**	**180**	P	**P**	**P**	**05 19 41.3**	**+3.6**
QSPA					IAmb	IAmb	05 19 56.8	
	comp=Z,2.9nm,1.2s							

IDC ***26*** *05:17:27.9±7.2, 55.93S×27.81W, h75km±65km, mb3.8/8, mb1 3.9/9, mb1mx3.7/31, mbtmp4.1/9, ML4.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/20, Error ellipse: s-maj=32.4km s-min=15.9km az=56.0*

NEIC ***26*** *05:17:34.4±1.7, 56.0S±0.1×27.8W±0.2, h134km±7km, mb4.3/17, Error ellipse: s-maj=21.8km s-min=13.7km az=211.0*

ISC 26 05:17:32.7±0.6, 56.1S±0.1×27.6W±0.1, h121km, n39, σ1$43/41, mb4.3/14, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.38**	**286**	Pn	**Pn**	**Pn**	**05 18 51.5**	**+0.8**
HOPE				Sn	**Sn**	**Sn**	**05 19 50.5**	**-1.0**
VNA1	**Neumayer--Stat**	**16.85**	**158**	P	**P**	**P**	**05 21 21.8**	**+0.9**
VNA3	**Neumayer Olymp**	**17.04**	**160**	P	**P**	**P**	**05 21 23.3**	**+0.2**
VNA2	**Neumayer--Watz**	**17.25**	**157**	P	**P**	**P**	**05 21 26.0**	**+0.7**
	baz=315,slow=13							
SNAA	**Sanae**	**18.81**	**156**	P	**P**	**P**	**05 21 42.7**	**+0.2**
SNAA	**Sanae**	**18.81**	**156**	P	**P**	**P**	**05 21 42.6**	**+0.2**
	3.1nm,0.3s,baz=310,slow=9.9,SNR=219							
SNAA				S	**S**	**S**	**05 25 03.6**	**-6.2**
	0.0nm,0.3s,baz=7.3,slow=7.4,SNR=2.6							
SNAA	**Sanae**	**18.81**	**156**	P	**P**	**P**	**05 21 43.1**	**+0.7**
SNAA					IAmb	IAmb	05 21 46.1	
	comp=Z,9.1nm,0.7s							
PMSA	**Palmer Station**	**19.68**	**229**	P	**P**	**P**	**05 21 52.2**	**+0.4**
PLCA	**Paso Flores**	**31.76**	**281**	LR	LR	LR	05 34 12.9	
	comp=Z,54nm,21.1s,baz=240,slow=32							
QSPA	**South Pole Qui**	**34.16**	**180**	P	**P**	**P**	**05 24 06.9**	**+1.0**
	comp=Z,2.0nm,0.5s,baz=221,slow=1.3,SNR=21							
QSPA	**South Pole Qui**	**34.16**	**180**	P	**P**	**P**	**05 24 06.9**	**+1.0**
QSPA					IAmb	IAmb	05 24 08.1	
	comp=Z,2.2nm,0.5s							
CFA	**Coronel Fontan**	**37.35**	**294**	P	**P**	**P**	**05 24 31.4**	**-1.8**
	comp=Z,1.1nm,0.6s,baz=192,slow=7.1,SNR=8.0							
CO02	**Combarbal**	**39.09**	**291**	P	**P**	**P**	**05 24 47.0**	**-1.0**
AC05	**El Transito**	**40.61**	**294**	P	**P**	**P**	**05 25 00.1**	**-0.5**
AC05					IAmb	IAmb	05 25 01.8	
	comp=Z,20nm,1.5s							
GO02	**Mina Guanaco**	**43.29**	**298**	P	**P**	**P**	**05 25 21.4**	**-1.1**
GO02					IAmb	IAmb	05 25 32.8	
	comp=Z,15nm,1.4s							
LVC	**Limon Verde**	**45.10**	**301**	P	**P**	**P**	**05 25 36.3**	**-0.8**
	comp=Z,2.0nm,0.3s,baz=150,slow=4.2,SNR=5.6							
LVC	**Limon Verde**	**45.10**	**301**	P	**P**	**P**	**05 25 36.1**	**-1.0**
LVC					IAmb	IAmb	05 25 39.0	
	comp=Z,5.2nm,0.8s							
PB04	**IPOC Station P**	**45.94**	**299**	P	**P**	**P**	**05 25 43.3**	**-0.2**
VNDA	**Vanda**	**46.52**	**183**	P	**P**	**P**	**05 25 48.5**	**+1.4**
	comp=Z,1.6nm,0.7s,baz=182,slow=7.3,SNR=16							
VNDA	**Vanda**	**46.52**	**183**	P	**P**	**P**	**05 25 48.5**	**+1.4**
PB01	**IPOC Station P**	**46.72**	**301**	P	**P**	**P**	**05 25 49.9**	**+0.5**
PB01					IAmb	IAmb	05 25 56.5	
	comp=Z,15nm,1.5s							
SIV	**San Ignacio**	**47.42**	**314**	P	**P**	**P**	**05 25 53.6**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=306,slow=18,SNR=1.9							
GO01	**Chusmiza**	**47.75**	**302**	P	**P**	**P**	**05 25 58.6**	**+0.7**
GO01					IAmb	IAmb	05 26 09.6	
	comp=Z,6.2nm,1.4s							
MNMC	**Minye Minye**	**48.41**	**302**	P	**P**	**P**	**05 26 03.5**	**+0.8**
MNMC					IAmb	IAmb	05 26 19.2	
	comp=Z,5.7nm,1.0s							
LPAZ	**La Paz**	**50.20**	**306**	P	**P**	**P**	**05 26 13.9**	**-2.8**
	comp=Z,0.7nm,0.3s,baz=130,slow=3.9,SNR=15							
LPAZ	**La Paz**	**50.20**	**306**	P	**P**	**P**	**05 26 14.0**	**-2.8**
CASY	**Casey**	**53.95**	**161**	P	**P**	**P**	**05 26 43.5**	**+0.3**
CASY					IAmb	IAmb	05 26 46.6	
	comp=Z,4.7nm,1.1s							
TOA0	**Torodi Ar. Sit**	**73.21**	**30**	P	**P**	**P**	**05 28 50.4**	**+0.1**
TORD	**Torodi Ar. Bea**	**73.21**	**30**	P	**P**	**P**	**05 28 50.4**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=202,slow=6.7,SNR=13							
TORD	**Torodi Ar. Bea**	**73.21**	**30**	P	**P**	**P**	**05 28 50.5**	**+0.3**
TEIG	**Tepich**	**91.52**	**305**	P	**P**	**P**	**05 30 25.4**	**+0.1**
	comp=Z,15nm,1.1s,baz=319,slow=17,SNR=2.8							
TEIG	**Tepich**	**91.52**	**305**	P	**P**	**P**	**05 30 25.4**	**+0.1**
ASAR	**Alice Springs**	**99.03**	**163**	P	**Pdif**	**Pdif**	**05 31 00.4**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=177,slow=4.7,SNR=1.9							
FINES	**FINESS Array B**	**124.53**	**28**	PKP	**PKiKP**	**PKiKP**	**05 36 17.8**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=165,slow=5.8,SNR=2.7							
KURBB	**Kurchatov Arra**	**137.55**	**65**	PKP	**PKiKP**	**PKiKP**	**05 36 43.0**	**0.0**
	comp=Z,0.2nm,0.5s,baz=266,slow=2.7,SNR=4.0							
ILAR	**Eielson Array**	**149.96**	**312**	PKPbc	**PKPbc**	**PKPbc**	**05 37 06.6**	**-0.6**
	comp=Z,1.0nm,0.7s,baz=118,slow=1.4,SNR=8.9							
ILAR	**Eielson Array**	**149.96**	**312**		**PKiKP**	**PKiKP**	**05 37 08.9**	**+0.9**
ILAR				PKPab	**PKPab**	**PKPab**	**05 37 13.2**	**-0.3**
SONM	**Songino Array**	**150.98**	**87**	PKPbc	**PKPbc**	**PKPbc**	**05 37 09.7**	**-0.6**
	comp=Z,0.8nm,0.4s,baz=209,slow=2.8,SNR=5.9							
SONM	**Songino Array**	**150.98**	**87**		**PKPbc**	**PKPbc**	**05 37 09.9**	**-0.4**

IDC ***26*** *05:19:58.5±1.8, 30.12S×177.58W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/36, mbtmp4.0/3, MS3.5/2, Ms1 3.5/2, ms1mx3.0/29, Error ellipse: s-maj=42.4km s-min=22.4km az=95.0*

NEIC ***26*** *05:20:02.1±2.3, 30.11S±0.06×177.6W±0.2, h36km±13km, mb4.3/3, Error ellipse: s-maj=27.5km s-min=8.5km az=84.0*

ISC 26 05:20:02.6±1.1, 30.14S±0.07×177.5W±0.2, h35km, n17, σ1$32/17, mb4.2/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.96**	**337**	Pn	**Pn**	**Pn**	**05 20 19.0**	**-0.6**
	308nm,0.3s,baz=242,slow=24,SNR=8.7							
RAO				Sn	**Sn**	**Sn**	**05 20 32.5**	**+0.5**
	895nm,0.3s,baz=6.3,slow=22,SNR=8.8							
RAO	**Raoul Island**	**0.96**	**337**		**Pn**	**Pn**	**05 20 18.6**	**-1.0**
RAO					**Sn**	**Sn**	**05 20 31.5**	**-0.6**
RAO	**Raoul Island**	**0.96**	**337**	LR	LR	LR	05 20 18.7	
	comp=Z,154nm,19.4s,baz=92,slow=22							
BKZ	**Black Stump Fm**	**10.28**	**207**	Pn	**Pn**	**Pn**	**05 22 28.6**	**+1.1**
BKZ					**Sn**	**Sn**	**05 24 20.1**	**-1.4**
DZM	**Mont Dzumac**	**16.51**	**295**	LR	LR	LR	05 29 08.7	
	comp=Z,176nm,18.9s,baz=119,slow=34							
RAR	**Rarotonga**	**18.26**	**65**	LR	LR	LR	05 28 57.4	
	comp=Z,118nm,20.5s,baz=248,slow=29							
STKA	**Stephens Creek**	**34.97**	**256**	P	**P**	**P**	**05 26 52.3**	**+0.8**
	2.1nm,0.6s,baz=102,slow=14,SNR=4.3							
AS31	**Alice Springs**	**43.56**	**266**	P	**P**	**P**	**05 28 02.5**	**-1.0**
AS31					IAmb	IAmb	05 28 18.2	
	comp=Z,0.8nm,0.7s							
ASAR	**Alice Springs**	**43.57**	**266**	P	**P**	**P**	**05 28 02.5**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=102,slow=7.8,SNR=7.4							
WRA	**Warramunga Arr**	**44.53**	**272**	P	**P**	**P**	**05 28 12.8**	**+1.6**
	comp=Z,1.8nm,0.7s,baz=111,slow=7.6,SNR=1.4							
CASY	**Casey**	**55.58**	**208**	P	**P**	**P**	**05 29 34.4**	**+0.2**
CASY					IAmb	IAmb	05 29 47.2	
	comp=Z,3.1nm,0.8s							
QSPA	**South Pole Qui**	**59.97**	**180**	P	**P**	**P**	**05 30 04.3**	**-1.0**
QSPA					IAmb	IAmb	05 30 08.6	
	comp=Z,4.9nm,1.2s							
FINES	**FINESS Array B**	**145.05**	**340**	PKPbc	**PKPbc**	**PKPbc**	**05 39 34.2**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=50,slow=3.0,SNR=7.7							
FINES	**FINESS Array B**	**145.05**	**340**		**PKPdf**	**PKPdf**	**05 39 35.5**	**+0.1**
NB2	**NORSAR Subarra**	**148.56**	**352**	PKP	**PKPab**	**PKPab**	**05 39 52.2**	**+3.5**
	comp=Z,4.6nm,1.1s,baz=18,slow=4.6							
NOA	**NORSAR Array B**	**148.56**	**352**	PKPbc	**PKPab**	**PKPab**	**05 39 48.0**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=13,slow=4.1,SNR=1.7							
AKASG	**Malin Array Be**	**151.36**	**323**	PKPbc	**PKiKP**	**PKiKP**	**05 39 52.5**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=48,slow=2.8,SNR=2.6							

IDC ***26*** *05:26:40.8±1.0, 35.99N×97.27W, h0km, mb3.1/1, mb1 3.6/5, mb1mx3.4/54, mbtmp3.2/5, ML3.6/4, MS2.8/3, Ms1 2.8/3, ms1mx2.4/23, Error ellipse: s-maj=16.1km s-min=10.2km az=159.0*

TUL ***26*** *05:26:44.9±0.7, 35.772N±0.007×97.49W±0.02, h7km±3km, ML3.3, Mwr3.6/32(NEIC), Error ellipse: s-maj=2.4km s-min=0.9km az=75.0*

UNK ***26*** *05:26:45.6, 35.78N×97.49W, h5km*

NEIC ***26*** *05:26:45.5±1.0, 35.78N±0.02×97.49W±0.02, h3km±5km, Error ellipse: s-maj=3.0km s-min=1.9km az=137.0*

NEIC ***26*** *05:26:45.6, 35.78N×97.49W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr0.31; Mθθ2.03; Mϕϕ-2.35; Mrθ-0.72; Mθϕ 1.52; Mϕr-0.41; Fault plane solution: M0 2.80000×10^14 NP1:ϕs299.02000°, δ74.74000°, λ10.76000°. NP2:ϕs206.16000°, δ79.62000°, λ164.48000°. Principal axes: T 2.7755, Plg18.0000°, Azm162.0000°; N 0.0575, Plg71.0000°, Azm353.0000°; P -2.8329, Plg3.0000°, Azm253.0000°;*

ANF ***26*** *05:26:46.8±0.7, 35.80N×97.50W, h24km±6km, ML4.6/15 Error ellipse: s-maj=1.9km s-min=1.6km az=140.0*

ISC 26 05:26:44.9±1.0, 35.82N±0.04×97.48W±0.04, h11km±7km, n130, σ1$00/145, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.19**	**152**	Pg	**Pg**	**Pg**	**05 26 48.5**	**-0.5**
ADOK				Sg	**Sg**	**Sg**	**05 26 51.2**	**-0.6**
OK009	**Oakdale Elemen**	**0.24**	**169**		**Pg**	**Pg**	**05 26 49.2**	**-0.6**
OK009					**Pg**	**Pg**	**05 26 49.3**	**-0.6**
OK005	**Luther M Schoo**	**0.29**	**125**		**Pg**	**Pg**	**05 26 50.6**	**-0.1**
OK005				Sg	**Sg**	**Sg**	**05 26 54.8**	**+0.1**
OK001	**Jones High Sch**	**0.30**	**149**	Pg	**Pg**	**Pg**	**05 26 50.5**	**-0.5**
OKCFA	**Oklahoma City**	**0.40**	**177**		**Pg**	**Pg**	**05 26 52.2**	**-0.7**
OKCFA				Sg	**Sg**	**Sg**	**05 26 57.5**	**-0.8**
OKCSW	**OKLAHOMA CITY**	**0.41**	**175**		**Pg**	**Pg**	**05 26 52.4**	**-0.7**
OKCSW				Sg	**Sg**	**Sg**	**05 26 58.0**	**-0.6**
W35A	**Tecumseh**	**0.83**	**143**		**Pg**	**Pg**	**05 26 60.0**	**-0.9**
X34A	**Smith Ranch, M**	**1.25**	**193**	Pg	**Pn**	**Pn**	**05 27 07.8**	**-0.5**
T35A	**Sooner Cattle**	**1.35**	**35**		**Pb**	**Pb**	**05 27 10.3**	**+0.1**
U32A	**Winter Ranch,**	**1.35**	**295**		**Pn**	**Pn**	**05 27 09.8**	**+0.1**
TUL1	**Leonard**	**1.38**	**86**	P	**Pn**	**Pn**	**05 27 09.7**	**-0.3**
	baz=265,SNR=405							
TUL1				S	**Sn**	**Sn**	**05 27 28.6**	**+0.4**
	baz=265							
TUL1	**Leonard**	**1.38**	**86**		**Pn**	**Pn**	**05 27 09.8**	**-0.3**
WMOK	**Wichita Mounta**	**1.52**	**225**	P	**Pn**	**Pn**	**05 27 11.7**	**-0.3**
	baz=45,SNR=393							
WMOK				S	**Sn**	**Sn**	**05 27 31.4**	**-0.2**
	baz=45							
WMOK	**Wichita Mounta**	**1.52**	**225**		**Pn**	**Pn**	**05 27 12.1**	**+0.1**
Z35A	**Perchaven, San**	**2.49**	**176**	Pn	**Pn**	**Pn**	**05 27 26.1**	**+0.8**
U38A	**Gravette**	**2.58**	**75**	Pn	**Pn**	**Pn**	**05 27 28.1**	**+1.4**
R32A	**Long Quarter,**	**2.78**	**340**	Pn	**Pn**	**Pn**	**05 27 31.8**	**+2.5**
HHAR	**Hobbs**	**2.91**	**80**		**Pn**	**Pn**	**05 27 31.2**	**+0.1**
W39A	**Magazine**	**3.08**	**101**	P	**Pn**	**Pn**	**05 27 34.3**	**+0.9**
	baz=282,SNR=61							
W39A				S	**Sn**	**Sn**	**05 28 11.6**	**+1.3**
	baz=282							
W39A	**Magazine**	**3.08**	**101**	Pn	**Pn**	**Pn**	**05 27 34.1**	**+0.6**
Z38A	**Mt. Pleasant**	**3.28**	**140**	Pn	**Pn**	**Pn**	**05 27 36.2**	**0.0**
KSU1	**Kansas State U**	**3.35**	**12**	P	**Pn**	**Pn**	**05 27 38.1**	**+0.9**
	baz=192,SNR=10							
KSU1				S	**Sn**	**Sn**	**05 28 19.0**	**+2.1**
	baz=192							
KSU1	**Kansas State U**	**3.35**	**12**		**Pn**	**Pn**	**05 27 38.5**	**+1.3**
MIAR	**Mount Ida**	**3.44**	**111**	P	**Pn**	**Pn**	**05 27 39.3**	**+0.9**
	baz=292,SNR=40							
MIAR				S	**Sn**	**Sn**	**05 28 20.5**	**+1.3**
	baz=292							
MIAR	**Mount Ida**	**3.44**	**111**		**Pn**	**Pn**	**05 27 39.3**	**+0.9**
CBKS	**Cedar Bluff**	**3.49**	**330**	P	**Pn**	**Pn**	**05 27 40.1**	**+1.0**
	baz=149,SNR=21							
CBKS	**Cedar Bluff**	**3.49**	**330**	Pn	**Pn**	**Pn**	**05 27 40.9**	**+1.7**
ABTX	**Abilene, Hawle**	**3.66**	**210**	P	**Pn**	**Pn**	**05 27 41.8**	**+0.4**
	baz=29,SNR=33							
ABTX				S	**Sn**	**Sn**	**05 28 25.0**	**+0.4**
	baz=29							
ABTX	**Abilene, Hawle**	**3.66**	**210**	Pn	**Pn**	**Pn**	**05 27 42.0**	**+0.6**
U40A	**Yellville**	**3.79**	**81**	P	**Pn**	**Pn**	**05 27 43.8**	**+0.6**
	baz=263,SNR=44							
U40A	**Yellville**	**3.79**	**81**	Pn	**Pn**	**Pn**	**05 27 43.3**	**+0.2**
WHTX	**Lake Whitney,**	**3.82**	**180**	P	**Pn**	**Pn**	**05 27 43.8**	**+0.2**
	baz=360,SNR=8.7							
WHTX				S	**Sn**	**Sn**	**05 28 29.6**	**+1.1**
	baz=360							
WHTX	**Lake Whitney,**	**3.82**	**180**	Pn	**Pn**	**Pn**	**05 27 43.9**	**+0.2**
X40A	**Basin Creek Fa**	**4.03**	**108**	P	**Pn**	**Pn**	**05 27 47.5**	**+0.9**
	baz=290,SNR=14							
X40A				S	**Sn**	**Sn**	**05 28 35.1**	**+1.3**
	baz=290							
237A	**Washetta, Mont**	**4.05**	**159**		**Pn**	**Pn**	**05 27 46.4**	**-0.4**
W41B	**Gary Mavity, V**	**4.32**	**97**	P	**Pn**	**Pn**	**05 27 51.3**	**+0.8**
	baz=280,SNR=22							
W41B				S	**Sn**	**Sn**	**05 28 41.4**	**+0.6**
	baz=280							
W41B	**Gary Mavity, V**	**4.32**	**97**	Pn	**Pn**	**Pn**	**05 27 51.2**	**+0.7**
UALR	**University of**	**4.33**	**102**	Pn	**Pn**	**Pn**	**05 27 51.5**	**+0.9**
FCAR	**Ozark Folk Cen**	**4.35**	**88**		**Pn**	**Pn**	**05 27 51.5**	**+0.6**
Z41A	**Richland Creek**	**4.63**	**122**	P	**Pn**	**Pn**	**05 27 55.3**	**+0.5**
	baz=304							
Z41A				S	**Sn**	**Sn**	**05 28 47.6**	**-0.9**
	baz=304							
Z41A	**Richland Creek**	**4.63**	**122**		**Pn**	**Pn**	**05 27 54.9**	**+0.2**
NATX	**Nacogdoches**	**4.68**	**149**	S	**Sn**	**Sn**	**05 28 48.4**	**-1.4**
	baz=330							
MSTX	**Muleshoe**	**4.72**	**249**	P	**Pn**	**Pn**	**05 27 56.7**	**+0.6**
	baz=66,SNR=36							
MSTX				S	**Sn**	**Sn**	**05 28 51.9**	**+0.9**
	baz=66							
MSTX	**Muleshoe**	**4.72**	**249**	Pn	**Pn**	**Pn**	**05 27 57.0**	**+0.9**
P38A	**Dawn**	**4.92**	**38**		**Pn**	**Pn**	**05 27 59.9**	**+1.2**
435B	**Jarrell**	**5.02**	**181**	P	**Pn**	**Pn**	**05 28 00.7**	**+0.5**
	baz=0.9							
435B				Sb	**Sb**	**Sb**	**05 29 17.3**	**+4.1**
	baz=0.9							
CCAR	**Cane Creek**	**5.06**	**110**	Pn	**Pn**	**Pn**	**05 28 01.3**	**+0.6**
LCAR	**Lake Charles**	**5.14**	**85**		**Pn**	**Pn**	**05 28 01.7**	**-0.1**
CCM	**Cathedral Cave**	**5.47**	**64**	P	**Pn**	**Pn**	**05 28 06.8**	**+0.5**
	baz=247							
CCM	**Cathedral Cave**	**5.47**	**64**	Pn	**Pn**	**Pn**	**05 28 07.8**	**+1.5**
X43A	**Marvell**	**5.56**	**102**	P	**Pn**	**Pn**	**05 28 08.3**	**+0.7**
	baz=285							
BGNE	**Belgrade**	**5.61**	**355**	P	**Pn**	**Pn**	**05 28 08.9**	**+0.7**
	baz=174							
JCT	**Junction City**	**5.67**	**201**	P	**Pn**	**Pn**	**05 28 08.7**	**-0.4**
	baz=20							
JCT	**Junction City**	**5.67**	**201**	Pn	**Pn**	**Pn**	**05 28 08.7**	**-0.4**
T25A	**Trinidad**	**5.74**	**285**	P	**Pn**	**Pn**	**05 28 10.0**	**-0.2**
	baz=102							
T25A	**Trinidad**	**5.74**	**285**	Pn	**Pn**	**Pn**	**05 28 11.4**	**+1.2**
N38A	**Joes South For**	**5.98**	**33**		**Pn**	**Pn**	**05 28 14.4**	**+1.0**
SDCO	**Great Sand Dun**	**6.72**	**289**	P	**Pn**	**Pn**	**05 28 23.6**	**-0.1**
	baz=105,SNR=19							
SDCO	**Great Sand Dun**	**6.72**	**289**		**Pn**	**Pn**	**05 28 25.8**	**+2.1**
OXF	**O

comp=Z,27nm,18.4s,baz=49,slow=47
ILAR Eielson Array 41.14 330 P P 05 34 25.8 -2.9
0.2nm,0.5s,baz=114,slow=9.0,SNR=1.8

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*ASRS **26** 05:36:19.1, 55.80N×86.30E, M1.8, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

IDC 26 05:36:28.6±2.8, 55.41N×86.08E, h0km, mb1 3.1/3, mb1mx3.1/53, mbtmp3.1/3, ML3.0/3, Error ellipse: s-maj=25.7km s-min=16.2km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.64**	**207**	*i*		05 47 50.0	
	baz=20,slow=335,SNR=0.7						
ZALV	**Zalesovo Beam**	**1.64**	**207**	Pg	Pn	05 36 57.3	-1.3
	8.1nm,0.3s,baz=25,slow=16,SNR=57						
ZALV				Lg	Lg	05 37 22.2	
	7.1nm,0.3s,baz=26,slow=26,SNR=14						
KURBB	**Kurchatov Arra**	**6.61**	**227**	Pn	Pn	05 38 06.5	-0.4
	0.1nm,0.3s,baz=43,slow=14,SNR=9.1						
KURBB				Lg	Lg	05 40 00.5	
	0.1nm,0.3s,baz=41,slow=28,SNR=5.7						
MKAR	**Makanchi Array**	**8.95**	**197**	Pn	Pn	05 38 38.6	-0.4
	0.3nm,0.3s,baz=28,slow=13,SNR=2.3						
MKAR				Sn	Sn	05 40 16.8	-3.7
	0.2nm,0.3s,baz=24,slow=28,SNR=1.9						
MKAR				Lg	Lg	05 41 14.1	
	0.0nm,0.3s,baz=10,slow=25,SNR=4.1						
BVAR	**Borovoye Array**	**9.49**	**262**	Pn	Pn	05 38 46.5	+0.1
	0.3nm,0.3s,baz=69,slow=15,SNR=5.0						

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*TUL **26** 05:38:57.1±0.5, 35.77N×0.02×97.48W×0.03, h6km±3km, ML3.4, Mwr3.5/44(NEIC), Error ellipse: s-maj=3.0km s-min=2.4km az=99.0*

*UNK **26** 05:38:57.1, 35.77N×97.48W, h6km*

*NEIC **26** 05:38:57.9±0.4, 35.77N±0.02×97.48W±0.03, h6km±3km, Error ellipse: s-maj=3.1km s-min=2.4km az=98.0*

*NEIC **26** 05:38:57.4, 35.77N×97.48W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.15; $M_{\theta\theta}$2.00; $M_{\phi\phi}$-2.15; $M_{r\theta}$0.12; $M_{\theta\phi}$0.50; $M_{\phi r}$0.33; Fault plane solution: M_o2.17000×10^{14} NP1:ϕ_s218.36000°, δ88.08000°, λ-171.36000°. NP2:ϕ_s128.07000°, δ81.36000°, λ-1.94000°. Principal axes: T 2.0704, Plg5.0000°, Azm353.0000°; N 0.1828, Plg81.0000°, Azm231.0000°; P -2.2532, Plg7.0000°, Azm84.0000°;*

*ANF **26** 05:38:59.7±0.2, 35.81N×97.50W, h66km±15km, ML4.7/16 Error ellipse: s-maj=2.6km s-min=1.9km az=14.0*

*IDC **26** 05:39:00.2±0.9, 35.89N×98.04W, h0km, mb3.5/1, mb1 3.8/7, mb1mx3.5/53, mbtmp3.5/7, ML3.9/5, Error ellipse: s-maj=11.9km s-min=10.4km az=177.0*

ISC 26 05:38:57.1±1.0, 35.81N±0.04×97.51W±0.04, h11km±7km, n134, σ1$35/152, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.20**	**144**	Pg	**Pg**	**05 39 00.6**	**-0.7**
ADOK				Sg	**Sg**	**05 39 03.1**	**-1.0**
OK009	**Oakdale Elemen**	**0.24**	**162**		**Pg**	**05 39 01.4**	**-0.7**
OK005	**Luther M Schoo**	**0.30**	**121**		**Pg**	**05 39 02.8**	**-0.5**
OK001	**Jones High Sch**	**0.31**	**144**	Pg	**Pg**	**05 39 02.6**	**-0.7**
OK001				Sg	**Sg**	**05 39 06.8**	**-0.7**
OKCFA	**Oklahoma City**	**0.40**	**173**		**Pg**	**05 39 04.3**	**-0.7**
OKCFA				Sg	**Sg**	**05 39 09.6**	**-0.6**
OKCSW	**OKLAHOMA CITY**	**0.41**	**171**		**Pg**	**05 39 04.5**	**-0.7**
OKCSW				Sg	**Sg**	**05 39 10.1**	**-0.5**
W35A	**Tecumseh**	**0.84**	**141**		**Pg**	**05 39 12.1**	**-1.2**
W35A				Sg	**Sg**	**05 39 23.0**	**-1.2**
X34A	**Smith Ranch, M**	**1.23**	**192**	Pg	**Pn**	**05 39 20.0**	**-0.3**
U32A	**Winter Ranch,**	**1.33**	**296**		**Pn**	**05 39 22.1**	**+0.4**
T35A	**Sooner Cattle**	**1.37**	**36**		**Pn**	**05 39 22.6**	**+0.4**
TUL1	**Leonard**	**1.40**	**85**	P	**Pn**	**05 39 21.9**	**-0.7**
	baz=265,SNR=290						
TUL1				S	**Sn**	**05 39 40.7**	**-0.4**
	baz=265						
TUL1	**Leonard**	**1.40**	**85**		**Pn**	**05 39 22.0**	**-0.7**
WMOK	**Wichita Mounta**	**1.49**	**225**	P	**Pn**	**05 39 24.0**	**+0.2**
	baz=45,SNR=423						
WMOK				S	**Sb**	**05 39 43.6**	**-0.2**
	baz=45						
WMOK	**Wichita Mounta**	**1.49**	**225**		**Pn**	**05 39 24.1**	**+0.2**
X37A	**Clayton**	**2.13**	**124**		**Pn**	**05 39 32.9**	**+0.2**
Z35A	**Perchaven, San**	**2.48**	**175**	Pn	**Pn**	**05 39 38.0**	**+0.5**
U38A	**Gravette**	**2.61**	**75**		**Pn**	**05 39 39.8**	**+0.5**
R32A	**Long Quarter,**	**2.78**	**340**	Pn	**Pn**	**05 39 44.0**	**+2.4**
HHAR	**Hobbs**	**2.93**	**80**		**Pn**	**05 39 44.2**	**+0.5**
W39A	**Magazine**	**3.10**	**100**	P	**Pn**	**05 39 46.6**	**+0.6**
	baz=282,SNR=22						
W39A				S	**Sn**	**05 40 21.8**	**-1.2**
	baz=282						
W39A	**Magazine**	**3.10**	**100**	Pn	**Pn**	**05 39 46.5**	**+0.4**
Z38A	**Mt. Pleasant**	**3.29**	**140**		**Pn**	**05 39 48.6**	**0.0**
KSU1	**Kansas State U**	**3.36**	**12**	P	**Pn**	**05 39 50.6**	**+1.0**
	baz=192						
KSU1				S	**Sn**	**05 40 29.2**	**-0.3**
	baz=192						
KSU1	**Kansas State U**	**3.36**	**12**		**Pn**	**05 39 50.8**	**+1.2**
MIAR	**Mount Ida**	**3.46**	**110**	P	**Pn**	**05 39 51.8**	**+0.8**
	baz=292,SNR=30						
MIAR				S	**Sn**	**05 40 31.8**	**-0.1**
	baz=292						
MIAR	**Mount Ida**	**3.46**	**110**		**Pn**	**05 39 51.6**	**+0.6**
CBKS	**Cedar Bluff**	**3.48**	**330**	P	**Pn**	**05 39 53.1**	**+1.8**
	baz=149,SNR=15						
CBKS				S	**Sn**	**05 40 32.4**	**-0.1**
	baz=149						
CBKS	**Cedar Bluff**	**3.48**	**330**	Pn	**Pn**	**05 39 52.9**	**+1.6**
AMTX	**Amarillo**	**3.53**	**256**	P	**Pn**	**05 39 53.3**	**+1.4**
	baz=74						
AMTX	**Amarillo**	**3.53**	**256**	Pn	**Pn**	**05 39 53.6**	**+1.6**
ABTX	**Abilene, Hawle**	**3.64**	**210**	P	**Pn**	**05 39 53.5**	**+0.1**
	baz=29						
ABTX				S	**Sn**	**05 40 36.3**	**0.0**
	baz=29						
ABTX	**Abilene, Hawle**	**3.64**	**210**		**Pn**	**05 39 53.4**	**+0.1**
WHTX	**Lake Whitney,**	**3.81**	**179**	P	**Pn**	**05 39 55.9**	**+0.2**
	baz=360,SNR=8.7						
WHTX	**Lake Whitney,**	**3.81**	**179**	Pn	**Pn**	**05 39 55.7**	**0.0**
U40A	**Yellville**	**3.81**	**80**	P	**Pn**	**05 39 55.6**	**-0.2**
	baz=262,SNR=23						
U40A	**Yellville**	**3.81**	**80**	Pn	**Pn**	**05 39 56.0**	**+0.2**
237A	**Washetta, Mont**	**4.05**	**159**		**Pn**	**05 39 58.6**	**-0.5**
X40A	**Basin Creek Fa**	**4.05**	**108**	P	**Pn**	**05 39 59.1**	**+0.1**
	baz=290,SNR=9.4						
X40A				S	**Sn**	**05 40 46.2**	**-0.4**
	baz=290						
X40A	**Basin Creek Fa**	**4.05**	**108**		**Pn**	**05 39 59.6**	**+0.5**
WLAR	**White Oak Lake**	**4.20**	**119**	Pn	**Pn**	**05 40 01.1**	**+0.1**
WHAR	**Wooly Hollow**	**4.29**	**95**	Pn	**Pn**	**05 40 02.7**	**+0.4**
W41B	**Gary Mavity, V**	**4.34**	**97**	P	**Pn**	**05 40 03.4**	**+0.4**
	baz=279,SNR=17						
W41B				S	**Sn**	**05 40 53.2**	**-0.4**
	baz=279						
W41B	**Gary Mavity, V**	**4.34**	**97**		**Pn**	**05 40 03.1**	**+0.1**
UALR	**University of**	**4.35**	**102**	Pn	**Pn**	**05 40 03.6**	**+0.4**
FCAR	**Ozark Folk Cen**	**4.38**	**87**		**Pn**	**05 40 03.5**	**0.0**
Z41A	**Richland Creek**	**4.65**	**122**	P	**Pn**	**05 40 07.3**	**0.0**
	baz=304						
Z41A				S	**Sn**	**05 40 59.6**	**-1.6**
	baz=304						
Z41A	**Richland Creek**	**4.65**	**122**	Pn	**Pn**	**05 40 07.2**	**0.0**
MSTX	**Muleshoe**	**4.70**	**249**	P	**Pn**	**05 40 08.7**	**+0.7**
	baz=66,SNR=6.5						
MSTX	**Muleshoe**	**4.70**	**249**	Pn	**Pn**	**05 40 08.9**	**+0.8**
R40A	**Maddies Statio**	**4.87**	**58**	Pn	**Pn**	**05 40 10.6**	**+0.3**
N33A	**J Bar K, Exete**	**4.92**	**1**	Pn	**Pn**	**05 40 11.4**	**+0.4**
P38A	**Dawn**	**4.95**	**38**		**Pn**	**05 40 11.9**	**+0.6**
435B	**Jarrell**	**5.01**	**181**	P	**Pn**	**05 40 12.4**	**+0.1**
	baz=0.9						
435B	**Jarrell**	**5.01**	**181**		**Pn**	**05 40 12.2**	**-0.2**
CCAR	**Cane Creek**	**5.08**	**110**	Pn	**Pn**	**05 40 13.4**	**+0.2**
LCAR	**Lake Charles**	**5.17**	**85**		**Pn**	**05 40 13.8**	**-0.5**
KSCO	**Kaye Shedlock'**	**5.17**	**310**	S	**Sn**	**05 41 13.6**	**-0.8**
	baz=127						
N35A	**Tabor**	**5.25**	**16**		**Pn**	**05 40 16.6**	**+1.0**
CCM	**Cathedral Cave**	**5.50**	**64**	P	**Pn**	**05 40 18.9**	**0.0**
	baz=247						
CCM	**Cathedral Cave**	**5.50**	**64**		**Pn**	**05 40 19.8**	**+0.8**
X43A	**Marvell**	**5.58**	**101**	P	**Pn**	**05 40 20.2**	**+0.1**
	baz=285						
X43A	**Marvell**	**5.58**	**101**	Pn	**Pn**	**05 40 20.7**	**+0.6**
BGNE	**Belgrade**	**5.61**	**355**	P	**Pn**	**05 40 20.9**	**+0.4**
	baz=174						
BGNE	**Belgrade**	**5.61**	**355**		**Pn**	**05 40 21.1**	**+0.6**
JCT	**Junction City**	**5.65**	**201**	P	**Pn**	**05 40 21.4**	**+0.3**
	baz=20,SNR=13						
JCT	**Junction City**	**5.65**	**201**	Pn	**Pn**	**05 40 20.8**	**-0.3**
P40A	**Paris**	**5.71**	**48**		**Pn**	**05 40 22.0**	**+0.2**
T25A	**Trinidad**	**5.71**	**285**	P	**Pn**	**05 40 22.8**	**+0.7**
	baz=102						
T25A	**Trinidad**	**5.71**	**285**		**Pn**	**05 40 23.2**	**+1.1**
CPRX	**Cap Rock**	**5.94**	**244**	Pn	**Pn**	**05 40 26.1**	**+1.0**
SDCO	**Great Sand Dun**	**6.70**	**289**	P	**Pn**	**05 40 37.0**	**+1.3**
	baz=105,SNR=24						
SDCO	**Great Sand Dun**	**6.70**	**289**		**Pn**	**05 40 38.0**	**+2.3**
OXF	**Oxford**	**6.76**	**99**	P	**Pn**	**05 40 36.0**	**-0.3**
	baz=283						
OXF				S	**Sn**	**05 41 49.7**	**-3.6**
	baz=283						
OXF	**Oxford**	**6.76**	**99**	Pn	**Pn**	**05 40 36.1**	**-0.3**
W45A	**Hickory Valley**	**6.82**	**93**	Pn	**Pn**	**05 40 37.2**	**+0.1**
Q24A	**Divide**	**6.85**	**300**	S	**Sn**	**05 41 55.2**	**-0.7**
	baz=115						
Q24A	**Divide**	**6.85**	**300**	Pn	**Pn**	**05 40 37.6**	**-0.1**
S44A	**Carbondale**	**6.89**	**72**		**Pn**	**05 40 38.4**	**+0.3**
SCIA	**State Center**	**6.95**	**28**	S	**Sn**	**05 41 56.6**	**-1.3**
	baz=210						
ANMO	**Albuquerque**	**7.36**	**266**	Pn	**Pn**	**05 40 45.0**	**+0.3**
	0.1nm,0.3s,baz=82,slow=14,SNR=2.1						
ANMO				Pg	**Pb**	**05 41 05.9**	**+1.0**
	0.3nm,0.3s,baz=87,slow=13,SNR=9.9						
ANMO				Lg	Lg	05 42 42.5	
	2.1nm,0.3s,baz=349,slow=16,SNR=2.7						
ANMO	**Albuquerque**	**7.36**	**266**		**Pn**	**05 40 45.7**	**+1.1**
P43A	**Skaggs, Pawnee**	**7.40**	**56**	Pn	**Pn**	**05 40 45.2**	**+0.2**
ISCO	**Idaho Springs**	**7.55**	**304**	P	**Pn**	**05 40 47.1**	**-0.3**
	baz=120						
ISCO				S	**Sn**	**05 42 10.4**	**-2.6**
	baz=120						
ISCO	**Idaho Springs**	**7.55**	**304**	Pn	**Pn**	**05 40 48.5**	**+1.1**
833A	**Chaparral WMA,**	**7.63**	**193**	P	**Pn**	**05 40 48.9**	**+0.7**
	baz=12						
833A				S	**Sn**	**05 42 11.5**	**-3.3**
	baz=12						
833A	**Chaparral WMA,**	**7.63**	**193**	Pn	**Pn**	**05 40 49.0**	**+0.7**
BNM	**Barren Site**	**7.66**	**260**	Pn	**Pn**	**05 40 49.5**	**+0.5**
S22A	**4UR Ranch, Cre**	**7.72**	**287**	Pn	**Pn**	**05 40 50.5**	**+0.8**
MNTX	**Cornudas Mount**	**7.73**	**240**	P	**Pn**	**05 40 49.8**	**+0.1**
	baz=56,SNR=5.9						
MNTX	**Cornudas Mount**	**7.73**	**240**	Pn	**Pn**	**05 40 50.1**	**+0.5**
PLAL	**Pickwick Lake**	**7.75**	**93**	Pn	**Pn**	**05 40 50.2**	**+0.4**
L40A	**Anamosa**	**7.94**	**36**	Pn	**Pn**	**05 40 52.3**	**-0.1**
ECSD	**EROS Data Cent**	**7.94**	**5**	P	**Pn**	**05 40 52.0**	**-0.5**
	baz=185,SNR=10						
ECSD	**EROS Data Cent**	**7.94**	**5**	Pn	**Pn**	**05 40 52.1**	**-0.4**
HDIL	**Hopedale**	**8.02**	**51**	P	**Pn**	**05 40 52.9**	**-0.6**
	baz=236,SNR=11						
HDIL	**Hopedale**	**8.02**	**51**	Pn	**Pn**	**05 40 53.3**	**-0.3**
OLIL	**Olney**	**8.05**	**66**	Pn	**Pn**	**05 40 53.4**	**-0.6**
Z47A	**Carrollton**	**8.22**	**106**	Pn	**Pn**	**05 40 56.7**	**+0.4**
TX31	**Lajitas Ar. Si**	**8.29**	**221**	Pn	**Pn**	**05 40 55.4**	**-2.0**
TXAR	**Lajitas Array**	**8.29**	**221**	Pn	**Pn**	**05 40 57.4**	**+0.1**
	0.2nm,0.3s,baz=38,slow=11,SNR=10						
TXAR				Sn	**Sn**	**05 42 26.5**	**-4.5**
	0.9nm,0.3s,baz=46,slow=15,SNR=1.5						
TXAR				Lg	Lg	05 43 10.7	
	2.4nm,0.3s,baz=55,slow=11,SNR=4.2						
TXAR	**Lajitas Array**	**8.29**	**221**		**Pn**	**05 40 56.9**	**-0.5**
N23A	**Red Feather La**	**8.34**	**310**	Pn	**Pn**	**05 40 59.9**	**+1.6**
T47A	**Sharon Grove**	**8.47**	**79**	Pn	**Pn**	**05 40 59.3**	**-0.4**
L42A	**Oliver, Polo**	**8.69**	**42**	Pn	**Pn**	**05 41 02.9**	**+0.1**
JFWS	**Jewell Farm**	**9.05**	**36**	Pn	**Pn**	**05 41 08.6**	**+0.9**
LRAL	**Lakeview Retre**	**9.12**	**105**	Pn	**Pn**	**05 41 08.2**	**-0.4**
WCI	**Wyandotte Cave**	**9.29**	**72**	Pn	**Pn**	**05 41 12.3**	**+1.3**
BLO	**Bloomington**	**9.36**	**66**		**Pn**	**05 41 12.8**	**+0.9**
PV12	**Saucer Basin,**	**9.36**	**289**	Pn	**Pn**	**05 41 13.2**	**+1.0**
SFIN	**Lafayette**	**9.39**	**58**	Pn	**Pn**	**05 41 13.0**	**+0.6**
PV21	**Cone Mtn., Par**	**9.55**	**290**	Pn	**Pn**	**05 41 15.3**	**+0.6**
RWWY	**Rawlins**	**9.58**	**311**	Pn	**Pn**	**05 41 17.8**	**+2.6**
RSSD	**Black Hills**	**9.69**	**331**	Pn	**Pn**	**05 41 17.8**	**+1.2**
FPAL	**Fort Paine**	**9.82**	**94**	Pn	**Pn**	**05 41 18.3**	**-0.1**
K43A	**Burlington**	**9.90**	**43**	Pn	**Pn**	**05 41 18.3**	**-1.0**
250A	**Grady**	**10.10**	**109**	Pn	**Pn**	**05 41 21.3**	**-0.7**
I42A	**Draeger Farm,**	**10.43**	**37**	Pn	**Pn**	**05 41 25.8**	**-0.8**
F36A	**Milaca**	**10.48**	**15**	Pn	**Pn**	**05 41 27.7**	**+0.4**
TKL	**Tuckaleechee C**	**11.17**	**87**	Pn	Pn	05 41 46.4	+10
	0.4nm,0.3s,baz=214,slow=8.9,SNR=4.4						
TKL				Sn	Sn	05 43 53.4	+12
	0.6nm,0.3s,baz=158,slow=24,SNR=3.7						
TKL				Lg	Lg	05 44 47.3	
	3.2nm,0.3s,baz=49,slow=16,SNR=10						
S51A	**Beattyville**	**11.32**	**77**	Pn	**Pn**	**05 41 39.3**	**+0.5**
PDAR	**Pinedale Array**	**11.63**	**310**	Pn	**Pn**	**05 41 44.7**	**+1.5**
	0.3nm,0.3s,baz=124,slow=11,SNR=5.0						
PDAR				Sn	**Sn**	**05 43 47.3**	**-5.8**
	0.3nm,0.3s,baz=96,slow=13,SNR=1.7						
PDAR				Lg	Lg	05 44 47.6	
	0.5nm,0.3s,baz=115,slow=19,SNR=2.7						
PDAR	**Pinedale Array**	**11.63**	**310**		**Pn**	**05 41 42.0**	**-1.2**
BW06	**Boulder Array**	**11.63**	**310**	Pn	**Pn**	**05 41 46.1**	**+2.9**
L48A	**N Adams**	**11.88**	**55**	Pn	**Pn**	**05 41 45.9**	**-0.6**
COWI	**Conover**	**12.06**	**29**	Pn	**Pn**	**05 41 48.6**	**-0.3**
J47A	**Sunmer**	**12.28**	**49**	Pn	**Pn**	**05 41 50.6**	**-1.3**
EYMN	**Ely**	**12.92**	**18**	Pn	**Pn**	**05 41 57.7**	**-2.9**
D41A	**Chassel**	**13.08**	**28**	Pn	**Pn**	**05 42 00.3**	**-2.4**
E43A	**Lone Tree Farm**	**13.19**	**34**	Pn	**Pn**	**05 42 02.5**	**-1.8**
ULM	**Lac du Bonnet**	**14.48**	**4**	Sn	Sn	05 44 53.8	-8.5
	0.4nm,0.3s,baz=302,slow=15,SNR=1.8						
ULM				Lg	Lg	05 46 28.2	
	0.5nm,0.3s,baz=273,slow=20,SNR=4.1						
SADO	**Sadowa**	**16.60**	**52**	Lg	Lg	05 47 29.4	
	0.6nm,0.3s,baz=182,slow=22,SNR=3.2						
TEIG	**Tepich**	**17.52**	**150**	P	**P**	**05 43 09.0**	**+6.5**
	0.2nm,0.3s,baz=319,slow=9.3,SNR=2.3						
CMIG	**Matias Romero**	**18.79**	**172**	P	**Pn**	**05 43 22.1**	**+5.1**
	0.2nm,0.3s,baz=14,slow=8.3,SNR=3.0						
ILAR	**Eielson Array**	**41.14**	**330**	P	**P**	**05 46 42.6**	**+1.7**
	0.5nm,0.7s,baz=103,slow=6.6,SNR=5.0						

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*NIED **26** 05:47:00, 43.10N×145.60E, h50km, Mw4.6 Best double couple: M_o9.44000×10^{15} NP1:ϕ_s23.00000°, δ63.00000°, λ81.00000°. NP2:ϕ_s223.00000°, δ28.00000°, λ107.00000°.*

*BJI **26** 05:47:11.8±0.0, 43.13N×145.72E, h58km, mB4.8/47, mb4.9/69, Ms4.0/32, Ms7 3.8/31*

*BGR **26** 05:47:12.2±0.0, 42.59N×145.19E, h33km, mb4.8*

*MOS **26** 05:47:12.6±0.9, 43.04N×145.59E, h55km, mb5.0/58, Error ellipse: s-maj=5.4km s-min=4.2km az=105.6*

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

*JMA **26** 05:47:14.2±0.1, 43.10N×145.56E, h49km±1km, M4.8*

JMA Felt IV J1.

*UNK **26** 05:47:14.7, 43.09N×145.60E, h56km*

*NEIC **26** 05:47:14.4±1.2, 43.08N±0.07×145.60E±0.10, h55km±6km, mb4.8/174, Error ellipse: s-maj=11.3km s-min=9.0km az=121.0*

*SKHL **26** 05:47:14.3±0.6, 43.06N×145.59E, h63km±7km, mb5.1/2, Ms4.2/6*

SKHL Felt (II) at Yushno-Kuril'sk.

*IDC **26** 05:47:16.0±1.8, 43.11N×145.55E, h65km±15km, mb4.3/23, mb1 4.4/29, mb1mx4.3/37, mbtmp4.5/29, MS3.7/28, Ms1 3.7/28, ms1mx3.6/41, Error ellipse: s-maj=12.3km s-min=11.4km az=143.0*

ISC 26 05:47:13.9±0.5, 43.07N±0.04×145.62E±0.03, h49km±4km, h48km:pP-P, n72, σ1$00/728, mb4.8/172, MS3.9/29, 36C-14D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.31**	**17**	⇑P	**Pn**	**05 47 23.1**	**+0.2**
NEM2				*e*S	**Sn**	**05 47 28.5**	**-0.8**
NMR	**Nemuro--Hokkai**	**0.31**	**14**	*i* P	**Pn**	**05 47 23.2**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.31**	**14**	*i* PN	**Pn**	**05 47 23.4**	**+0.3**
NMR				*i* S	**Sn**	**05 47 28.8**	**-0.5**
JKHN	**Kushirohamanak**	**0.34**	**272**	⇓P	**Pn**	**05 47 23.4**	**+0.2**
JKHN				S	**Sn**	**05 47 30.0**	**+0.2**
AKK	**Akkeshi**	**0.57**	**265**	*e*P	**Pn**	**05 47 25.6**	**-0.3**
AKK				*e*S	**Sn**	**05 47 33.8**	**-0.8**
JAK	**Akkeshi**	**0.68**	**264**	⇓P	**Pn**	**05 47 26.9**	**-0.4**
JAK				S	**Sn**	**05 47 35.9**	**-1.1**
JNK	**Nakash**	**0.84**	**308**	⇓P	**Pn**	**05 47 28.8**	**-0.5**
JNK				S	**Sn**	**05 47 39.0**	**-1.6**
JNSB	**Nemuroshibetsu**	**0.84**	**328**	P	**Pn**	**05 47 29.1**	**-0.2**
GRPR	**Tuman**	**0.93**	**7**	*e*P	**Pn**	**05 47 30.5**	**-0.1**
GRPR				AMB	AMB	05 47 31.0	
	3μm,0.3s						
GRPR				*i* S	**Sn**	**05 47 42.0**	**-0.9**
GRPR				A	A	05 47 42.9	
	3μm,0.4s						
GRPR				A	A	05 47 42.9	
	7μm,0.4s						
GRPR	**Tuman**	**0.93**	**7**	*d* PN	**Pn**	**05 47 30.5**	**-0.1**
GRPR				*i* S	**Sn**	**05 47 41.9**	**-0.9**
GRPR				pmax	pmax		
	comp=E,991nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,3μm,0.2s						
GRPR				pmax	pmax		
	comp=N,368nm,0.1s						
GRPR				smax	smax		
	comp=E,70μm,0.3s						
GRPR				smax	smax		
	comp=N,29μm,0.2s						
JRA	**Rausu**	**0.94**	**337**	⇓P	**Pn**	**05 47 30.6**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**0.98**	**10**	*i* P	**Pn**	**05 47 31.2**	**0.0**
YUK				AMB	AMB	05 47 32.0	
	comp=N,240nm,0.3s						
YUK				AMB	AMB	05 47 32.0	
	comp=N,870nm,0.3s						
YUK				AMB	AMB	05 47 32.0	
	comp=N,3μm,0.3s						
YUK				*i* S	**Sn**	**05 47 43.8**	**-0.2**
YUK				A	A	05 47 46.6	
	comp=N,5μm,0.3s						
YUK				A	A	05 47 46.6	
	comp=N,4μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**0.98**	**10**	*c* PN	**Pn**	**05 47 31.0**	**-0.2**
YUK				*i* S	**Sn**	**05 47 43.3**	**-0.7**
YUK				pmax	pmax		
	comp=N,238nm,0.2s						
YUK				pmax	pmax		
	comp=E,873nm,0.2s						
YUK				pmax	pmax		
	comp=Z,3μm,0.2s						
YUK				smax	smax		
	comp=N,17μm,0.4s						
YUK				smax	smax		
	comp=E,29μm,0.4s						
LAGR	**Lagunnoye**	**0.99**	**7**	*i* P	**Pn**	**05 47 31.0**	**-0.4**
LAGR				AMB	AMB	05 47 33.0	
	comp=E,3μm,0.5s						
LAGR				*i* S	**Sn**	**05 47 43.5**	**-0.8**
LAGR				A	A	05 47 44.0	
	comp=E,5μm,0.4s						
LAGR				A	A	05 47 44.0	
	comp=E,4μm,0.4s						
LAGR	**Lagunnoye**	**0.99**	**7**	*d* PN	**Pn**	**05 47 31.0**	**-0.4**
LAGR				*i* S	**Sn**	**05 47 43.5**	**-0.8**
LAGR				pmax	pmax		
	comp=E,201nm,0.1s						
LAGR				pmax	pmax		
	comp=Z,3μm,0.1s						
LAGR				pmax	pmax		
	comp=N,495nm,0.2s						
LAGR				smax	smax		
	comp=N,51μm,0.2s						
LAGR				smax	smax		
	comp=E,35μm,0.4s						
JOB	**Onbets**	**1.32**	**263**	⇓P	**Pn**	**05 47 35.6**	**-0.3**
JAR	**Ashorobuto**	**1.37**	**280**	⇓P	**Pn**	**05 47 36.5**	**-0.1**
JTKR	**Abashiri--Toko**	**1.54**	**306**	⇓P	**Pn**	**05 47 39.3**	**+0.5**
ERM	**Erimo**	**2.10**	**241**	*c* PN	**Pn**	**05 47 45.2**	**-1.4**
ERM				pmax	pmax		
	comp=Z,1μm,1.0s						
ERM	**Erimo**	**2.10**	**241**	Pn	**Pn**	**05 47 47.9**	**+1.3**
ERM				Sn	**Sn**	**05 48 13.5**	**+2.0**
JKA	**Kamikawa-asahi**	**2.43**	**296**	*e*P	**Pn**	**05 47 52.5**	**+1.4**
JKA	**Kamikawa-asahi**	**2.43**	**296**		**Pn**	**05 47 52.3**	**+1.3**
ASAJ	**Asahikawa**	**2.43**	**296**	P	**Pn**	**05 47 52.5**	**+1.4**
	comp=Z,123nm,0.3s,baz=118,slow=12,SNR=293						
ASAJ				S	**Sn**	**05 48 21.9**	**+2.2**
	comp=Z,123nm,0.3s,baz=290,slow=14,SNR=4.3						
ASAJ				LR	LR	05 49 06.5	
	comp=Z,2μm,20.4s,baz=158,slow=47						
KUR	**Kuril'sk**	**2.70**	**36**	*i* P	**Pn**	**05 47 56.3**	**+1.6**
KUR				AMB	AMB	05 47 58.8	
	comp=Z,730nm,0.7s						
KUR				*i* S	**Sn**	**05 48 27.4**	**+1.3**
KUR				A	A	05 48 37.6	
	comp=Z,3μm,0.6s						
KUR				A	A	05 48 37.6	
	comp=Z,2μm,0.6s						
KUR	**Kuril'sk**	**2.70**	**36**	*c* PN	**Pn**	**05 47 56.4**	**+1.7**
KUR				*i* S	**Sn**	**05 48 27.6**	**+1.5**
KUR				pmax	pmax

TYV AMS AMS 05 51 44.0
comp=N,1µm,22.0s
TYV AMS AMS 05 51 44.0
comp=N,600nm,22.0s
TYV Tymovskoe 8.05 346 *e*PN **Pn 05 49 10.9 +2.8**
TYV *e*S **Sn 05 50 44.9 +7.2**
TYV pmax pmax
comp=Z,100nm,2.2s
TYV pmax pmax
comp=Z,30nm,0.9s
TYV smax smax
comp=E,8.0nm,0.3s
TYV MLR MLR
comp=Z,500nm,17.0s
MJB9 Matsu-Tunnel 8.66 224 Pn 05 49 15.7 -0.8
MAJO Matsushiro 8.66 224 PN **Pn 05 49 16.1 -0.4**
MAJO Matsushiro 8.66 224 Pn 05 49 16.1 -0.4
MAT Matsushiro 8.66 224 P **Pn 05 49 15.9 -0.6**
MAT S **Sn 05 50 57.4 +4.6**
MJAR Matsushiro Arr 8.66 224 P **Pn 05 49 15.6 -0.9**
comp=Z,1.2nm,0.3s,baz=26,slow=13,SNR=55
MJAR S **Sn 05 50 50.7 -2.1**
comp=Z,0.2nm,0.3s,baz=37,slow=14,SNR=1.5
MJAR LR LR 05 53 21.6
comp=Z,247nm,19.2s,baz=45,slow=42
MJAR Matsushiro Arr 8.66 224 PN **Pn 05 49 17.3 +0.8**
MJAR Matsushiro Arr 8.66 224 Pn 05 49 17.3 +0.8
GRNR Gornyy 9.94 324 *e*P **Pn 05 49 36.8 +2.9**
GRNR AMB AMB 05 49 38.4
GRNR AMS AMS 05 53 43.0
comp=Z,700nm,17.0s
GRNR AMS AMS 05 53 43.0
comp=Z,300nm,17.0s
GRNR Gornyy 9.94 324⇑ *i*PN **Pn 05 49 36.9 +3.0**
GRNR *e*S **Sn 05 51 31.7 +7.7**
GRNR pmax pmax
comp=E,20nm,0.6s
GRNR pmax pmax
comp=Z,20nm,0.8s
GRNR smax smax
comp=E,7.0nm,0.6s
GRNR MLR MLR
comp=N,70nm,16.0s
GRNR MLR MLR
comp=Z,250nm,18.0s
USRK Ussuriysk Ar. 9.95 281 P **Pn 05 49 36.4 +2.2**
baz=80,slow=15,SNR=21
USRK LR LR 05 53 17.0
comp=Z,429nm,20.8s,baz=89,slow=36
USRK Ussuriysk Ar. 9.95 281 Pn **Pn 05 49 34.7 +0.6**
USA0B Ussuriysk Arra 9.95 281 PN **Pn 05 49 35.5 +1.4**
USA0B Ussuriysk Arra 9.95 281 Pn 05 49 35.5 +1.4
VLA Vladivostok 10.05 275 *i* PN **Pn 05 49 35.5 0.0**
INU Inuyama 10.20 224 Pn **Pn 05 49 38.5 +1.0**
SKR Severo-Kuril's 10.46 40 *e*P **Pn 05 49 42.4 +1.4**
SKR AMB AMB 05 49 43.7
comp=Z,90nm,0.8s
SKR AMB AMB 05 49 46.0
comp=Z,300nm,5.0s
SKR *e*S **Sn 05 51 33.1 -3.5**
SKR AMS AMS 05 53 05.0
comp=Z,4µm,17.0s
SKR AMS AMS 05 53 05.0
comp=Z,2µm,17.0s
SKR AMS AMS 05 53 05.0
comp=Z,600nm,17.0s
SKR Severo-Kuril's 10.46 40 *e*PN **Pn 05 49 44.7 +3.7**
SKR pmax pmax
comp=Z,300nm,5.1s
SKR pmax pmax
comp=Z,259nm,0.8s
SKR MLR MLR
comp=Z,640nm,13.8s
SKR MLR MLR
comp=N,4µm,17.0s
SKR MLR MLR
comp=E,2µm,16.6s
NKL Nikolayevsk 10.61 344 *e*P **Pn 05 49 44.3 +1.3**
OKH Okha 10.64 351 *e*P **Pn 05 49 48.2 +4.8**
MSHR Mys Shultsa 10.64 272 *i* PN **Pn 05 49 43.7 +0.2**
JHJ2 Mitsune 10.94 207 Pn **Pn 05 49 47.7 0.0**
JHJ Hachijo jima 2 10.95 207 P **Pn 05 49 48.1 +0.3**
comp=E,20nm,0.3s,baz=97,slow=23,SNR=8.3
JHJ S Sn 05 51 38.8 -10
comp=E,62nm,0.3s,baz=59,slow=21,SNR=10
KLR Kul'dur 11.42 307 P **Pn 05 49 57.9 +3.8**
comp=E,0.7nm,0.3s,baz=114,slow=15,SNR=25
KLR LR LR 05 54 30.2
comp=E,334nm,21.9s,baz=144,slow=38
KLR Kul'dur 11.42 307 *e*P **Pn 05 49 55.9 +1.8**
KLR Kul'dur 11.42 307 *ce*PN **Pn 05 49 55.9 +1.8**
MDJ Mudanjiang 11.68 283 P **Pn 05 50 00.0 +2.2**
MDJ pmax pmax
comp=E,34nm,1.0s
MDJ pmax pmax
comp=E,92nm,4.5s
MDJ LR LR
comp=E,220nm,12.1s
MDJ LR LR
comp=E,370nm,21.4s
MDJ LR LR
comp=E,490nm,24.9s
MDJ Mudanjiang 11.68 283 Pn **Pn 05 49 59.0 +1.2**
PEA0B Petropavlovsk- 12.87 35 PN **Pn 05 50 14.9 +1.0**
PEA0B Petropavlovsk- 12.87 35 Pn **Pn 05 50 14.9 +1.0**
PETK Petropavlovsk- 12.87 35 P **Pn 05 50 15.8 +1.9**
comp=E,0.5nm,0.3s,baz=186,slow=12,SNR=4.0
PETK LR LR 05 56 00.3
comp=E,192nm,20.7s,baz=230,slow=41
PETK Petropavlovsk- 12.87 35 PN **Pn 05 50 14.6 +0.7**
PETK Petropavlovsk- 12.87 35 Pn **Pn 05 50 14.6 +0.7**
EKMR Ekimchan 13.09 324 *e*P **Pn 05 50 17.8 +0.9**
EKMR AMB AMB 05 50 26.0
comp=E,10.0nm,0.9s
KSRS Korea Array 14.62 253 P **Pn 05 50 37.2 -0.4**
comp=E,0.4nm,0.3s,baz=66,slow=13,SNR=11
KSRS LR LR 05 56 20.7
comp=E,61nm,19.0s,baz=70,slow=37
KS19 Wonju Array Si 14.64 254 Pn 05 50 38.3 +0.3
KSAR Wonju Array Be 14.66 253 *e*P **Pn 05 50 37.5 -0.6**
KSAR Wonju Array Be 14.66 253 P **Pn 05 50 37.5 -0.6**
KSAR Wonju Array Be 14.66 253 Pn 05 50 37.5 -0.6
CN2 Changchun 14.68 280 *e*P **Pn 05 50 38.5 +0.1**
CN2 *e*S **Sn 05 53 19.0 -0.6**
CN2 pmax pmax
comp=E,10.0nm,0.8s
CN2 LR LR
comp=E,370nm,14.0s
CN2 LR LR
comp=E,280nm,16.0s
CN2 LR LR
comp=E,550nm,20.0s
JNU Nakatsue 15.26 234 P **Pn 05 50 43.5 -2.6**
comp=E,0.3nm,0.3s,baz=9.5,slow=6.1,SNR=3.2
JNU LR LR 05 56 58.8
comp=E,243nm,19.6s,baz=52,slow=38
JNU Nakatsue 15.26 234 Pn **Pn 05 50 44.5 -1.5**
INCN Inchon 15.52 255 P **Pn 05 50 50.6 +1.2**
INCN pmax pmax
comp=Z,14nm,0.5s
INCN Inchon 15.52 255 Pn **Pn 05 50 50.6 +1.2**
TJN Taejon 15.54 251 *ce*P **Pn 05 50 49.1 -0.6**
BMKR Bomnak 15.99 323 *e*P **Pn 05 50 54.6 -0.7**
BMKR AMB AMB 05 50 57.8
comp=Z,7.0nm,0.4s
ZEA Zeya 16.16 318 *e*P **Pn 05 50 54.0 -3.4**
ZEA Zeya 16.16 318 *e*P **P 05 51 00.5 +0.6**
MA2 Magadan 16.83 9 P **Pn 05 51 05.5 -0.2**
comp=Z,0.4nm,0.3s,baz=41,slow=20,SNR=2.2
MA2 LR LR 05 57 33.4
comp=Z,101nm,19.3s,baz=176,slow=37
DL2 Dalian 18.57 265 P **Pn 05 51 27.0 -0.2**
DL2 pP **pP 05 51 39.0 +1.2**
DL2 *e*S **S 05 54 54.8 -0.9**
DL2 pmax pmax
comp=Z,53nm,0.7s
DL2 LR LR
comp=Z,130nm,16.5s
DL2 LR LR
comp=Z,180nm,16.3s
DL2 LR LR
comp=Z,160nm,15.5s
HIA Hailar 18.91 298 *i* P **Pn 05 51 31.1 -0.3**
HIA pmax pmax
comp=Z,6.0nm,1.0s
HIA Hailar 18.91 298 P **P 05 51 29.5 -0.9**
YAK Yakutsk 21.21 339 *e*P **P 05 51 55.6 +0.5**
YAK Yakutsk 21.21 339 *e*P **P 05 51 55.6 +0.5**
YAK pmax pmax
comp=Z,22nm,1.0s
JOW Kunigami 21.49 227 P **P 05 51 57.1 -1.3**
JOW IAmb IAmb 05 52 00.1
comp=Z,33nm,1.0s
BJI Beijing 22.19 272 P **P 05 52 05.0 -0.8**
BJI S **S 05 56 08.5 +1.3**
BJI pmax pmax
comp=Z,22nm,0.8s
BJI LR LR
comp=Z,80nm,13.6s
BJI LR LR
comp=Z,140nm,20.5s
BJT Baijiatuau 22.20 272 P **P 05 52 04.5 -1.5**
BJT pmax pmax
comp=Z,16nm,0.7s
BJT Baijiatuau 22.20 272 P **P 05 52 04.5 -1.5**
BJT IAmb IAmb 05 52 05.5
comp=Z,16nm,0.7s
TIA Tai'an 22.92 262 P **P 05 52 12.5 -1.1**
TIA pmax pmax
comp=Z,76nm,0.8s
NJ2 Nanjing 23.80 251 *e*P **P 05 52 22.8 +0.7**
NJ2 pP **pP 05 52 35.5 +1.1**
NJ2 pmax pmax
comp=Z,39nm,0.7s
AMKA Amchitka 24.16 58 P **P 05 52 24.4 -0.8**
HHC Hu-ho-hao-te 25.32 277 *e*P **P 05 52 35.8 -0.3**
HHC S **S 05 56 56.8 -2.0**
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,58nm,4.9s
HHC LR LR
comp=Z,80nm,14.5s
HHC LR LR
comp=Z,80nm,16.2s
HHC LR LR
comp=Z,120nm,16.2s
YOJ Yonaguni jima 26.28 232 P **P 05 52 44.3 -0.4**
YOJ pmax pmax
comp=Z,166nm,1.5s
YOJ Yonaguni jima 26.28 232 P **P 05 52 44.3 -0.4**
BTO Baotou 26.52 277 *e*P **P 05 52 45.8 -1.1**
ULN Ulaanbaatar 27.27 294 *e*P **P 05 52 52.7 -0.9**
ULN Ulaanbaatar 27.27 294 *ce*P **P 05 52 52.7 -0.9**
ULN pmax pmax
comp=Z,13nm,1.3s
ULN Ulaanbaatar 27.27 294 P **P 05 52 53.1 -0.5**
BILL Bilibino 27.33 17 *e*P **P 05 52 54.8 +1.1**
BILL Bilibino 27.33 17 *e*P **P 05 52 53.1 -0.6**
BILL pmax pmax
comp=Z,2.0nm,1.0s
SONM Songino Array 27.71 294 P **P 05 52 57.7 +0.2**
comp=Z,11nm,0.7s,baz=88,slow=8.7,SNR=47
SONM LR LR 06 05 06.2
comp=Z,360nm,18.2s,baz=109,slow=39
SONM Songino Array 27.71 294 P **P 05 52 57.3 -0.2**
SONM pmax pmax
comp=Z,9.0nm,0.8s
SONM Songino Array 27.71 294 P **P 05 52 57.3 -0.2**
WHN Wuhan 27.82 254⇑ P **P 05 52 59.3 +0.9**
WHN pmax pmax
comp=Z,84nm,0.8s
TPUB Ta-pu 28.57 234 P **P 05 53 06.4 +1.2**
TPUB IAmb IAmb 05 53 08.5
comp=Z,21nm,0.9s
KNMB Chin-men Tao 29.08 239 P **P 05 53 10.2 +0.5**
KNMB IAmb IAmb 05 53 23.1
comp=Z,35nm,0.8s
TLY Talaya 29.35 302 LR LR 06 05 59.5
comp=Z,250nm,19.2s,baz=105,slow=38
TLY Talaya 29.35 302 *e*P **P 05 53 12.8 +0.9**
TLY Talaya 29.35 302 *i* P **P 05 53 12.8 +0.9**
TLY pmax pmax
comp=Z,2.0nm,0.9s
TLY Talaya 29.35 302 P **P 05 53 09.6 -2.4**
H11N2 WAKE ISLAND Hy 29.35 136 T T 06 24 01.0
baz=328,slow=75,SNR=4424
H11N1 WAKE ISLAND Hy 29.36 136 T T 06 24 01.9
baz=328,slow=75,SNR=5701
H11N3 WAKE ISLAND Hy 29.37 136 T T 06 24 02.2
baz=328,slow=75,SNR=6046
GUMO Guam 29.39 181 LR LR 06 02 51.8
comp=Z,74nm,21.5s,baz=100,slow=32
ZAK Zakamensk 29.60 299 *e*P **P 05 53 14.0 -0.3**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
WAKE Wake Island 29.61 137 P **P 05 53 14.1 -0.3**
TIXI Tiksi 29.81 349 LR LR 06 05 54.9
comp=Z,129nm,21.1s,baz=186,slow=38
XAN Xi'an 29.89 265 P **P 05 53 17.0 +0.1**
XAN pP sP 05 53 33.8 -1.4
XAN pmax pmax
comp=Z,27nm,1.0s
XAN Xi'an 29.89 265 P **P 05 53 16.7 -0.2**
XAN pmax pmax
comp=Z,19nm,0.9s
XAN Xi'an 29.89 265 P **P 05 53 16.7 -0.2**
XAN IAmb IAmb 05 53 22.5
comp=Z,19nm,0.9s
H11S1 WAKE ISLAND Hy 30.28 137 T T 06 25 11.1
baz=329,slow=76
H11S3 WAKE ISLAND Hy 30.29 137 T T 06 25 12.1
baz=329,slow=76,SNR=7348
H11S2 WAKE ISLAND Hy 30.30 137 T T 06 25 13.8
baz=329,slow=76
ENH Enshi 31.43 258 P **P 05 53 30.1 -0.4**
ENH IAmb IAmb 05 53 31.4
comp=Z,17nm,0.7s
LZH Lanzhou 32.68 272 *e*P **P 05 53 42.0 +0.4**
LZH pP pP 05 53 56.3 +2.0
LZH sP sP 05 54 03.0 +3.0
LZH *e*PP **PnPn 05 54 52.5 +1.8**
LZH pmax pmax
comp=Z,24nm,1.1s
LZH pmax pmax
comp=Z,86nm,5.2s
LZH LR LR
comp=Z,400nm,12.9s
LZH LR LR
comp=Z,400nm,13.2s
LZH LR LR
comp=Z,570nm,16.5s
GTA Gaotai 34.31 280⇑ P **P 05 53 55.8 +0.1**
GTA pP pP 05 54 07.5 -0.9
GTA sP sP 05 54 13.0 -1.2
GTA PcP **PcP 05 56 32.3 +1.4**
GTA pmax pmax
comp=Z,8.0nm,1.1s
GTA pmax pmax
comp=Z,36nm,4.4s
GTA LR LR
comp=Z,73nm,19.4s
GTA LR LR
comp=Z,280nm,18.1s
GTA LR LR
comp=Z,140nm,18.7s
CD2 Chengdu 35.23 264 P **P 05 54 03.8 +0.2**
CD2 pP pP 05 54 18.3 +2.0
CD2 pmax pmax
comp=Z,100nm,0.8s
CD2 pmax pmax
comp=Z,280nm,10.8s
GYA Guiyang 35.67 255⇓ P **P 05 54 07.8 +0.3**
GYA pP sP 05 54 27.0 +1.0
GYA pmax pmax
comp=Z,18nm,0.8s
KMI Kunming 39.28 257⇑ P **P 05 54 39.0 +0.8**
KMI pP sP 05 54 55.5 -1.3
KMI sP pP 05 55 01.5 +10
KMI pmax pmax
comp=Z,32nm,0.8s
KMI pmax pmax
comp=Z,110nm,5.8s
KMI Kunming 39.28 257 P **P 05 54 37.7 -0.5**
KMI pmax pmax
comp=Z,31nm,1.0s
KMI Kunming 39.28 257 P **P 05 54 37.6 -0.5**
NRIK Noril'sk 39.31 332 PcP **PcP 05 56 45.2 -0.1**
comp=Z,2.5nm,0.6s,baz=48,slow=2.8,SNR=4.0
NRIK LR LR 06 12 07.5
comp=Z,86nm,18.5s,baz=97,slow=38
DGZ Jazzator, Alta 39.80 300 *i* P **P 05 54 42.2 0.0**
DGZ pmax pmax
comp=Z,5.0nm,1.0s
ZAA0 Zalesovo Array 40.52 307 P **P 05 54 47.1 -0.8**
ZALV Zalesovo Beam 40.52 307 P **P 05 54 47.5 -0.3**
comp=Z,4.2nm,0.7s,baz=88,slow=9.1,SNR=14
ZALV PcP **PcP 05 56 49.8 +0.3**
comp=Z,13nm,0.6s,baz=89,slow=3.4,SNR=24
ZALV LR LR 06 12 43.6
comp=Z,156nm,18.0s,baz=110,slow=38
ZALV Zalesovo Beam 40.52 307 P **P 05 54 46.8 -1.0**
KDAK Kodiak Island 40.52 47 P **P 05 54 47.7 -0.1**
KDAK pmax pmax
comp=Z,16nm,0.7s
KDAK Kodiak Island 40.52 47 P **P 05 54 47.7 -0.1**
KDAK IAmb IAmb 05 55 01.8
comp=Z,16nm,0.7s
SLVN Son La 40.88 251 P **P 05 54 51.4 +0.1**
SLVN IAmb IAmb 05 54 53.1
comp=Z,9.9nm,0.8s
BPAW Bear Paw Mtn. 40.93 37 P **P 05 54 50.9 -0.3**
TRF Thorofare Moun 41.26 38 P **P 05 54 54.2 +0.2**
WMQ Urumqi 41.31 292 *e*P **P 05 54 55.5 +0.9**
WMQ pP sP 05 55 11.0 -2.2
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,23nm,3.9s
WMQ LR LR
comp=Z,310nm,29.3s
WMQ LR LR
comp=Z,420nm,29.3s
WMQ LR LR
comp=Z,85nm,19.5s
WMQ Urumqi 41.31 292 P **P 05 54 54.7 +0.1**
WMQ pmax pmax
comp=Z,19nm,0.6s
WMQ Urumqi 41.31 292 P **P 05 54 54.6 +0.1**
COLD Coldfoot 41.32 32 P **P 05 54 54.9 +0.7**
baz=268
COLD Coldfoot 41.32 32 P **P 05 54 54.1 -0.2**
TOLK Toolik Lake Re 41.63 30 P **P 05 54 56.9 0.0**
baz=266
NEA2 Nenana 41.76 36 P **P 05 54 58.9 +1.0**
baz=272
MCK McKinley 41.85 37 P **P 05 54 57.6 -1.1**
MCK pmax pmax
comp=Z,6.0nm,0.7s
MCK McKinley 41.85 37 P **P 05 54 57.6 -1.1**
RND Reindeer 41.90 38 P **P 05 54 59.3 +0.1**
RND pmax pmax
comp=Z,7.0nm,0.7s
RND Reindeer 41.90 38 P **P 05 54 59.3 +0.1**
RND IAmb IAmb 05 55 14.7
comp=Z,6.9nm,0.7s
ZSN Zaisan 42.04 298 *e*P **P 05 54 59.6 -0.9**
comp=Z,1.4nm,0.6s,baz=298
ZSN Zaisan 42.04 298 *e*P **P 05 54 59.5 -0.9**
ZSN pmax pmax
comp=Z,1.0nm,0.6s
WRH Wood River Hil 42.19 36 P **P 05 55 00.5 -0.9**
KNK Knik Glacier 42.24 41 P **P 05 55 01.9 0.0**
KNK IAmb IAmb 05 55 15.6
comp=Z,8.6nm,0.6s
SML Sawmill 42.26 40 P **P 05 55 02.7 +0.6**
SML IAmb IAmb 05 55 21.7
comp=Z,15nm,0.7s
TCOL CIGO, UAF Yank 42.27 36 P **P 05 55 03.2 +1.2**
baz=272
COLA College 42.27 36 *i* P **P 05 55 01.6 -0.5**
COLA pmax pmax
comp=Z,13nm,0.7s
COLA College 42.27 36 P **P 05 55 02.1 +0.1**
COLA IAmb IAmb 05 55 04.6
comp=Z,18nm,0.7s
CCB Clear Creek Bu 42.30 36 P **P 05 55 02.6 +0.2**
POKR Poker Plat Res 42.44 35 P **P 05 55 04.5 +1.0**
baz=272
DHY Denali Highway 42.59 38 P **P 05 55 04.5 -0.4**
DHY IAmb IAmb 05 55 23.7
comp=Z,9.4nm,0.9s
HDA Harding Lake 42.69 36 P **P 05 55 05.8 +0.4**
baz=274
HDA Harding Lake 42.69 36 P **P 05 55 05.0 -0.5**
HDA IAmb IAmb 05 55 06.5
comp=Z,7.6nm,0.5s
IL31 42.69 36 IAmb IAmb 05 55 20.8
comp=Z,7.6nm,0.8s
ILAR Eielson Array 42.69 36 P **P 05 55 06.0 +0.5**
comp=Z,2.7nm,0.6s,baz=263,slow=5.6,SNR=49
ILAR Eielson Array 42.69 36 P **P 05 55 05.5 0.0**
ILAR Eielson Array 42.69 36 P **P 05 55 05.5 0.0**
PRP Porcupine Dome 43.22 35 IAmb IAmb 05 55 12.4
comp=Z,16nm,0.8s
FYU Fort Yukon 43.28 33 P **P 05 55 11.3 +1.1**
BMAR Burnt Mountain 43.50 32 P **P 05 55 12.9 +0.8**
MK31 Makanchi Array 43.91 298 IAmb IAmb 05 55 16.2
comp=Z,12nm,0.8s
MKAR Makanchi Array 43.91 298 P **P 05 55 15.3 -0.3**
comp=Z,13nm,0.8s,baz=79,slow=8.8,SNR=109
MKAR PcP **PcP 05 57 01.0 +0.1**
comp=Z,2.4nm,0.7s,baz=60,slow=3.8,SNR=4.2
MKAR LR LR 06 14 49.2
comp=Z,144nm,19.4s,baz=97,slow=38
MKAR Makanchi Array 43.91 298 P **P 05 55 15.2 -0.5**
SCRK Sand Creek 44.02 37 P **P 05 55 16.2 -0.1**
SEM Semipalatinsk 44.09 303 *e*P **P 05 55 15.4 -1.8**
comp=Z,3.8nm,0.9s,baz=303
SEM Semipalatinsk 44.09 303 *e*P **P 05 55 15.3 -1.8**
SEM pmax pmax
comp=Z,4.0nm,0.9s
MAKZ Makanchi 44.11 298 P **P 05 55 16.9 -0.3**
MAKZ pmax pmax
comp=Z,14nm,0.9s
MAKZ Makanchi 44.11 298 P **P 05 55 16.9 -0.3**
MAKZ IAmb IAmb 05 55 17.9
comp=Z,14nm,0.8s
KURK Kurchatov 44.99 304 *e*P **P 05 55 22.7 -1.4**
KURK Kurchatov 44.99 304 *ce*P **P 05 55 22.7 -1.4**
KURK pmax pmax
comp=Z,7.0nm,0.6s
KURK Kurchatov 44.99 304 P **P 05 55 23.1 -0.9**
KURK IAmb IAmb 05 55 24.4
comp=Z,9.8nm,0.7s
KURBB Kurchatov Arra 45.07 304 P **P 05 55 23.7 -1.0**
BCAR Beaver Creek A 45.12 38 P **P 05 55 26.1 +1.0**
EGAK Eagle 45.13 35 P **P 05 55 25.1 +0.1**
DAWY Dawson 46.00 36 P **P 05 55 32.7 +0.7**
CHTO Chiang Mai 46.02 253 P **P 05 55 33.5 +0.9**
CHTO pmax pmax
comp=Z,13nm,0.7s
CHTO Chiang Mai 46.02 253 P **P 05 55 33.5 +0.9**
CHTO IAmb IAmb 05 55 34.3
comp=Z,13nm,0.7s
CMAR Chiang Mai Arr 46.26 253 P **P 05 55 35.5 +1.0**
comp=Z,4.8nm,0.7s,baz=44,slow=7.3,SNR=22
CMAR LR LR 06 15 11.0
comp=Z,51nm,20.1s,baz=45,slow=36
CMAR Chiang Mai Arr 46.26 253 P **P 05 55 34.5 -0.1**
LBMI Labuha 46.46 205 P **P** 05 55 49.1 +13
EPYK Eagle Plains 46.70 33 P **P 05 55 38.5 +1.1**
baz=280
EPYK Eagle Plains 46.70 33 P **P 05 55 38.1 +0.7**
EPYK IAmb IAmb 05 55 39.6
comp=Z,18nm,0.8s
TDK Taldyqorghan 47.09 297 *e*P **P 05 55 40.4 -0.3**
comp=Z,21nm,0.6s,baz=297
TDK *e*S **S 06 02 29.6 +0.3**
baz=297
TDK Taldyqorghan 47.09 297 *e*P **P 05 55 40.4 -0.3**
TDK *e*S **S 06 02 29.5 +0.3**
TDK pmax pmax
comp=Z,21nm,0.6s
SHLS Shalkode 47.12 294 *e*P **P 05 55 38.5 -2.7**
comp=Z,19nm,1.3s,baz=294
SHLS Shalkode 47.12 294 *e*P **P 05 55 38.4 -2.7**
SHLS pmax pmax
comp=Z,19nm,1.3s
MRSI Marisa 47.41 213 P **P 05 55 45.0 +1.5**
comp=Z,50nm,0.7s
UZB Uzynbulak 47.42 294⇑ *i* P **P 05 55 43.0 -0.5**
comp=Z,2.4nm,0.7s,baz=294
UZB Uzynbulak 47.42 294 *c* P **P 05 55 43.0 -0.5**
UZB pmax pmax
comp=Z,2.0nm,0.7s

KPKS Kokpek 47.51 295⇑ *i*P P 05 55 44.1 0.0
comp=Z,10.0nm,0.5s,baz=294
KPKS Kokpek 47.51 295 *c i*P P 05 55 44.1 0.0
KPKS pmax pmax
comp=Z,10.0nm,0.5s
INK Inuvik 47.55 30 P P 05 55 43.8 -0.1
INK pmax pmax
comp=Z,6.0nm,0.7s
INK Inuvik 47.55 30 P P 05 55 43.8 -0.1
INK IAmb IAmb 05 55 46.0
comp=Z,6.1nm,0.7s
HYT Haines Junctio 47.57 40 P P 05 55 46.7 +2.3
SATY Saty 47.86 294 *eP* P 05 55 46.9 0.0
comp=Z,2.8nm,0.6s,baz=294
SATY Saty 47.86 294 *eP* P 05 55 46.9 0.0
SATY pmax pmax
comp=Z,3.0nm,0.6s
MPSI Mapaga 48.38 215 P P 05 55 51.7 +0.7
comp=Z,560nmcomp=Z,7.0nm,1.3s
CHKK Chushkaly 48.48 296 *eP* P 05 55 50.9 -0.6
baz=296
CHKK Chushkaly 48.48 296 *eP* P 05 55 50.9 -0.6
MDOK Medeo 48.73 295 *i* P P 05 55 53.8 +0.2
baz=295
MDOK LR LR 06 16 31.9
comp=Z,58nm,11.9s,baz=295
MDOK Medeo 48.73 295 *i* P P 05 55 53.8 +0.2
MDOK MLR MLR
comp=Z,58nm,12.0s
BRZS Berezniki 48.82 305⇑ *i*P P 05 55 53.8 -0.3
comp=Z,12nm,0.7s,baz=305
BRZS Berezniki 48.82 305 *c i*P P 05 55 53.7 -0.3
BRZS pmax pmax
comp=Z,12nm,0.7s
TARG Taragay, Kyrgy 48.83 293 P P 05 55 54.9 +0.2
TARG IAmb IAmb 05 55 58.8
comp=Z,7.0nm,0.8s
TNSS Tian-Shan 48.84 295 *eP* P 05 55 54.8 0.0
baz=295
TNSS Tian-Shan 48.84 295 *eP* P 05 55 54.8 0.0
TAPN Taplejung 48.91 271 *eP* P 05 55 55.1 -0.3
KDJ Kajisay 49.08 294 IAmb IAmb 05 55 57.2
comp=Z,8.4nm,0.8s
BRVK Borovoye 49.12 309 *eP* P 05 55 56.0 -0.3
BRVK Borovoye 49.12 309 P P 05 55 56.0 -0.3
BRVK pmax pmax
comp=Z,14nm,1.4s
BRVK Borovoye 49.12 309 P P 05 55 56.0 -0.3
BRVK IAmb IAmb 05 56 12.2
comp=Z,14nm,1.4s
MTBS Maitube 49.15 295 *eP* P 05 55 56.8 0.0
baz=295
MTBS Maitube 49.15 295 *eP* P 05 55 56.7 0.0
ODAN Odare 49.42 271 *eP* P 05 55 58.9 -0.3
comp=Z,20nm,0.8s
A36M Sachs Harbour 49.45 24 P P 05 55 59.0 +0.5
baz=285
JIRN Jiri 49.85 272 *eP* P 05 56 02.7 +0.1
GUN Gumba 49.94 273 *eP* P 05 56 03.3 0.0
comp=Z,54nm,0.7s
RAMN Ramite 49.95 271 *eP* P 05 56 03.1 -0.2
comp=Z,31nm,0.5s
SGDS Sogindy 50.20 296⇑ *i*P P 05 56 04.6 -0.1
comp=Z,9.9nm,1.0s,baz=296
SGDS *e*S S 06 03 13.4 +0.2
baz=296
SGDS Sogindy 50.20 296 *c i*P P 05 56 04.6 -0.1
SGDS *e*S S 06 03 13.4 +0.2
SGDS pmax pmax
comp=Z,10.0nm,1.0s
KKN Kakani 50.45 273 *eP* P 05 56 07.1 +0.2
PKI Pulchoki 50.47 273 *eP* P 05 56 06.7 -0.6
PKIN Phulchoki 50.48 273 *eP* P 05 56 06.6 -0.7
AAK Ala-Archa 50.64 295 *eP* P 05 56 07.0 -1.2
AAK Ala-Archa 50.64 295 P P 05 56 07.7 -0.5
AAK pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 50.64 295 P P 05 56 07.7 -0.5
AAK IAmb IAmb 05 56 08.8
comp=Z,5.8nm,0.6s
DMN Daman 50.67 273 *eP* P 05 56 08.6 -0.1
comp=Z,24nm,0.8s
GKN Gorkha 50.80 274 *eP* P 05 56 09.2 -0.3
KSH Kashi 51.07 291 *eP* P 05 56 15.0 +3.6
KSH pmax pmax
comp=Z,22nm,0.6s
KSH pmax pmax
comp=Z,84nm,4.2s
DANN Dangsing 51.24 275 *eP* P 05 56 13.3 +0.3
comp=Z,138nm,0.8s
KOLN Koldanda 51.69 274 *eP* P 05 56 16.4 +0.2
comp=Z,34nm,0.8s
MTKI Muara Teweh, K 51.78 221 P P 05 56 18.4 +1.7
DLBC Dease Lake 51.93 42 P P 05 56 18.6 +1.1
comp=Z,3.4nm,0.9s,baz=323,slow=5.5,SNR=5.2
DLBC Dease Lake 51.93 42 P P 05 56 18.0 +0.6
DLBC IAmb IAmb 05 56 33.1
comp=Z,9.0nm,1.2s
PYUN Piuthan 51.95 275 *eP* P 05 56 18.2 0.0
comp=Z,85nm,0.9s
PMG Port Moresby 52.24 178 P P 05 56 18.5 -1.6
PMG pmax pmax
comp=Z,23nm,1.0s
PMG Port Moresby 52.24 178 P P 05 56 18.4 -1.6
DZA Taraz 52.61 297 *eP* P 05 56 22.0 -0.8
comp=Z,8.4nm,0.7s,baz=297
DZA Taraz 52.61 297 *eP* P 05 56 21.9 -0.8
DZA pmax pmax
comp=Z,8.0nm,0.7s
KK31 Karatay Array 53.04 298 *i* P P 05 56 25.2 -0.7
KK31 Karatay Array 53.04 298 IAmb IAmb 05 56 26.4
comp=Z,9.0nm,0.8s
KKAR Karatay Array 53.04 298 P P 05 56 25.3 -0.6
KKAR Karatay Array 53.04 298 P P 05 56 25.3 -0.6
KKAR Karatay Array 53.04 298 IAmb IAmb 05 56 26.4
comp=Z,9.0nm,0.8s
KAPI Kappang 53.29 213 P P 05 56 27.8 0.0
KAPI pmax pmax
comp=Z,39nm,1.4s
KAPI Kappang 53.29 213 P P 05 56 27.8 0.0
JBG Jabagly 53.34 297 *eP* P 05 56 27.5 -0.7
JBG pmax pmax
comp=Z,3.0nm,0.7s
IUG Iuzhnay 53.81 297 *eP* P 05 56 30.9 -0.8
comp=Z,0.5nm,0.8s,baz=297
IUG Iuzhnay 53.81 297 *eP* P 05 56 30.8 -0.8
CHM Chimkent 54.00 297 *eP* P 05 56 32.9 0.0
comp=Z,11nm,1.0s,baz=297
CHM Chimkent 54.00 297 *eP* P 05 56 32.9 0.0
CHM pmax pmax
comp=Z,11nm,1.0s
ARU Arti 54.08 317 *c i*P P 05 56 31.9 -1.3
ARU *PP pP 05 56 43.5 -3.1
ARU 05 57 35.7
ARU S S 06 04 06.0 +0.2
ARU SS SKiKP 06 07 42.7 +2.2
ARU pmax pmax
comp=Z,7.0nm,0.7s
ARU Arti 54.08 317 P P 05 56 32.5 -0.7
ARU IAmb IAmb 05 56 34.6
comp=Z,8.0nm,0.8s
GAR Garm 55.16 293 P P 05 56 40.7 -0.8
NIL Nilore 55.91 286 P P 05 56 47.0 +0.1
NIL pmax pmax
comp=Z,25nm,0.6s
NIL Nilore 55.91 286 P P 05 56 47.0 +0.1
RES Resolute Bay 55.93 16 P P 05 56 45.7 -0.6
RES pmax pmax
comp=Z,26nm,0.9s
RES Resolute Bay 55.93 16 P P 05 56 45.7 -0.6
CHGR Chuyangaron 56.11 294 P P 05 56 47.3 -1.0
AB31 Akbulak array 56.62 309 *eP* P 05 56 51.2 -0.4
ABKAR Akbulak array 56.62 309 P P 05 56 51.3 -0.3
YKA Yellowknife Ar 56.98 33 P P 05 56 53.8 -0.2
comp=Z,3.8nm,0.8s,baz=298,slow=6.9,SNR=11
AKTO Aktyubinsk 57.13 310 P P 05 56 52.1 -3.1
KIRV Kirov 57.44 322 *eP* P 05 56 56.2 -1.0
ARCES ARCESS Array B 59.49 339 P P 05 57 11.0 -0.4
comp=Z,3.5nm,0.8s,baz=39,slow=7.9,SNR=8.6
ARCES LR LR 06 28 22.0
comp=Z,61nm,18.8s,baz=245,slow=42
ARCES ARCESS Array B 59.49 339 P P 05 57 11.0 -0.4
ARCES ARCESS Array B 59.49 339 P P 05 57 10.8 -0.6
MDSI Maura Dua 60.34 229 P P 05 57 19.3 +1.4
comp=Z,929nmcomp=Z,14nm,0.5s

B05A Bryant 60.87 50 P P 05 57 22.0 +0.9
baz=303
I05D Terrebonne, OR 63.51 53 P P 05 57 40.4 +1.5
baz=305
WRA Warramunga Arr 63.55 192 P P 05 57 38.8 -0.5
comp=Z,5.8nm,0.9s,baz=8.8,slow=6.0
J04D Umpqua Nationa 63.69 55 P P 05 57 42.0 +1.6
baz=305
GEYT Alibeck 63.78 298 P P 05 57 40.7 -0.2
comp=Z,5.4nm,0.6s,baz=32,slow=5.8,SNR=10.0
GEYT LR LR 06 27 48.6
comp=Z,174nm,19.0s,baz=160,slow=38
GEYT Alibeck 63.78 298 P P 05 57 41.0 +0.1
L04D Klamath Falls 64.16 56 P P 05 57 45.0 +1.6
baz=306
J05D Fort Rock, OR 64.18 54 P P 05 57 45.2 +1.7
baz=306
M02C Callahan 64.31 57 P P 05 57 46.2 +1.9
baz=306
SUMG Summit 64.62 1 *i* P P 05 57 46.0 -0.2
comp=Z,39nm,0.7s
SUMG Summit 64.62 1 *i* P P 05 57 46.0 -0.2
SUMG pmax pmax
comp=Z,39nm,0.7s
SUMG Summit 64.62 1 P P 05 57 46.6 +0.4
N02D Trinity Center 64.64 57 P P 05 57 48.3 +1.8
baz=306
FIA1 FINESS Array S 64.97 333 P P 05 57 47.5 -0.6
FIA1 IAmb IAmb 05 57 48.1
comp=Z,16nm,1.1s
FINES FINESS Array B 64.97 333 P P 05 57 47.5 -0.6
comp=Z,5.2nm,0.5s,baz=44,slow=7.3,SNR=47
FINES LR LR 06 28 36.1
comp=Z,79nm,20.7s,baz=26,slow=38
FINES FINESS Array B 64.97 333 P P 05 57 47.6 -0.5
O02D Mt. Diablo Mer 65.06 58 P P 05 57 50.7 +1.5
baz=306
OBN Obninsk 65.20 323 *eP* P 05 57 47.9 -1.8
OBN Obninsk 65.20 323 *eP* P 05 57 47.9 -1.8
OBN pmax pmax
comp=Z,9.0nm,1.1s
VSU Vasula 66.87 330 *eP* P 05 57 58.9 -1.4
ASAR Alice Springs 67.28 192 P P 05 58 04.0 +0.7
comp=Z,2.9nm,0.7s,baz=7.9,slow=5.4,SNR=32
ASAR Alice Springs 67.28 192 P P 05 58 04.5 +1.2
ASAR Alice Springs 67.28 192 P P 05 58 04.5 +1.2
PAHR Pah Rah Range 67.43 56 P P 05 58 03.8 -0.7
HLID Hailey 67.97 51 P P 05 58 09.2 +1.4
baz=309
BOZ Bozeman (W) 68.22 48 P P 05 58 10.3 +0.9
baz=310,SNR=10
BOZ Bozeman (W) 68.22 48 IAmb IAmb 05 58 11.3
comp=Z,3.8nm,0.8s
NVAR Mina Array Bea 68.88 57 P P 05 58 15.2 +1.5
comp=Z,2.7nm,0.7s,baz=290,slow=6.3,SNR=29
NVAR Mina Array Bea 68.88 57 P P 05 58 14.8 +1.1
IZAR Zarasai 69.02 328 *eP* P 05 58 15.4 +1.5
ISAL Salakas 69.20 328 *eP* P 05 58 15.7 +0.7
IIGN Ignalina 69.32 328 *eP* P 05 58 16.2 +0.4
KIV Kislovodsk 69.38 311⇑ P P 05 58 16.8 +0.3
KIV Kislovodsk 69.38 311 *eP* P 05 58 15.6 -0.9
KIV Kislovodsk 69.38 311 *eP* P 05 58 15.6 -0.9
KIV MLR MLR
comp=Z,108nm,17.0s
KIV Kislovodsk 69.38 311 P P 05 58 17.3 +0.8
KBZ Khabaz 69.41 311 P P 05 58 17.2 +0.7
comp=Z,19nm,0.8s,baz=64,slow=3.9,SNR=44
KBZ LR LR 06 32 30.0
comp=Z,44nm,20.7s,baz=35,slow=39
KBZ Khabaz 69.41 311 *eP* P 05 58 16.6 +0.1
KBZ Khabaz 69.41 311 *ceP* P 05 58 16.6 +0.1
ZEI Tsey 69.45 310 *eP* P 05 58 16.0 -1.1
ZEI pmax pmax
comp=Z,14nm,0.9s
H17A Grant Village 69.57 48 P P 05 58 19.8 +2.0
baz=311
H17A Grant Village 69.57 48 P P 05 58 20.9 +3.0
IMW Indian Meadow 69.69 49 P P 05 58 21.3 +2.6
NC204 NORSAR Array S 69.75 339 P P 05 58 18.1 -0.3
RLMT Red Lodge 69.80 47 P P 05 58 20.1 +0.9
baz=311
NEY Neytrino 69.82 311 *i* P P 05 58 19.7 +0.4
NEY pmax pmax
comp=Z,2.0nm,0.9s
NB2 NORSAR Subarra 69.83 338 P P 05 58 17.9 -1.0
comp=Z,9.7nm,0.7s,baz=33,slow=6.5
NOA NORSAR Array B 69.83 338 P P 05 58 18.2 -0.7
comp=Z,9.5nm,0.8s,baz=34,slow=6.1,SNR=44
NOA LR LR 06 33 38.6
comp=Z,61nm,20.3s,baz=10.0,slow=40
TPAW Teton Pass 69.95 49 P P 05 58 22.5 +2.2
NBO00 NORSAR Array S 69.95 338 P P 05 58 19.8 +0.1
PABE Paberze 70.07 329 *eP* P 05 58 20.1 -0.3
GRAC Grapevine Rang 70.36 58 P P 05 58 24.4 +1.8
baz=310
PBUR Paburge 70.44 330 *eP* P 05 58 22.1 -0.6
R11A Troy Canyon, C 70.59 55 P P 05 58 24.8 +0.7
baz=310
MPMC Manual Prospec 70.88 58 P P 05 58 27.0 +1.0
baz=310
DUG Dugway, Tooele 71.04 53 P P 05 58 28.3 +1.5
baz=311
TPNV Topopah Spring 71.08 57 P P 05 58 28.2 +1.1
baz=310
BW06 Boulder Array 71.19 49 P P 05 58 28.0 +0.2
baz=312,SNR=5.8
BW06 Boulder Array 71.19 49 P P 05 58 28.7 +0.9
PD31 Pinedale Array 71.20 49 P P 05 58 28.8 +1.0
PDAR Pinedale Array 71.20 49 P P 05 58 28.6 +0.7
comp=Z,2.0nm,0.6s,baz=268,slow=2.4,SNR=14
PDAR Pinedale Array 71.20 49 P P 05 58 29.0 +1.2
AKASG Malin Array Be 71.46 323 P P 05 58 28.3 -0.6
comp=Z,7.9nm,0.5s,baz=41,slow=6.2,SNR=26
AKASG LR LR 06 32 49.5
comp=Z,76nm,18.7s,baz=65,slow=38
AKASG Malin Array Be 71.46 323 P P 05 58 28.3 -0.6
AKBB Malin Array Si 71.46 323 P P 05 58 28.5 -0.4
AKBB pmax pmax
comp=Z,16nm,0.9s
AKBB Malin Array Si 71.46 323 P P 05 58 28.5 -0.4
AKBB IAmb IAmb 05 58 29.1
comp=Z,16nm,0.8s
BATM Batumi 71.47 310 P P 05 58 30.0 +0.8
BFSC Mount Baldy Ra 71.94 60 P P 05 58 33.4 +1.1
baz=310
SHPR Sheep Range 72.03 57 P P 05 58 34.3 +1.4
ULM Lac du Bonnet 72.71 36 P P 05 58 36.2 -0.2
comp=Z,1.5nm,0.5s,baz=308,slow=3.2,SNR=3.2
ULM Lac du Bonnet 72.71 36 IAmb IAmb 05 58 37.0
comp=Z,4.3nm,0.7s
GMRC Granite Mounta 72.84 58 P P 05 58 38.6 +0.9
baz=311
LCMT Little Creek M 72.87 55 P P 05 58 37.9 +0.1
K22A Casper 72.93 47 P P 05 58 38.8 +0.7
baz=313
SRU San Rafael Swe 73.08 52 P P 05 58 39.6 +0.5
SRU pmax pmax
comp=Z,3.0nm,0.5s
SRU San Rafael Swe 73.08 52 P P 05 58 39.6 +0.5
RSSD Black Hills 73.22 45 P P 05 58 40.0 +0.1
baz=314
RSSD Black Hills 73.22 45 P P 05 58 38.4 -1.5
RSSD pmax pmax
comp=Z,3.0nm,0.9s
RSSD Black Hills 73.22 45 P P 05 58 38.4 -1.5
BSD Bornholm Skovb 73.60 333 *i* P P 05 58 41.0 -0.6
comp=Z,19nm,0.9s
BSD Bornholm Skovb 73.60 333 *i* P P 05 58 41.0 -0.6
BSD pmax pmax
comp=Z,19nm,0.9s
SORM Soroca 73.72 322 ⇓P P 05 58 42.1 -0.3
U15A North Rim 73.83 55 P P 05 58 43.5 -0.1
PDMCI Parker Dam,Lak 74.10 58 P P 05 58 46.1 +1.2
baz=312
AGMN Agassiz Nation 74.16 38 P P 05 58 45.0 0.0
baz=318
PV21 Cone Mtn., Par 74.35 52 P P 05 58 45.9 -0.7
LVV L'vov 74.35 325 *eP* P 05 58 45.8 -0.3
GLA Glamis 74.50 59 P P 05 58 48.7 +1.4
baz=312
STKA Stephens Creek 74.67 184 P P 05 58 46.8 -1.1
comp=Z,1.8nm,0.7s,baz=348,slow=9.3,SNR=1.6
STKA Stephens Creek 74.67 184 P P 05 58 46.8 -1.1
STKA pmax pmax
comp=Z,4.0nm,1.4s
B35A Bob, Littlefor 75.06 36 IAmb IAmb 05 58 51.1
comp=Z,6.2nm,0.7s
ISCO Idaho Springs 75.39 49 P P 05 58 53.7 +1.0
baz=314
BUR08 Bucovina Ar. S 75.50 323 P P 05 58 52.6 -0.2
BUR08 IAmb IAmb 05 58 53.9
comp=Z,9.6nm,0.8s
BURAR Bucovina Array 75.52 323⇑ P P 05 58 53.1 +0.2
BURAR Bucovina Array 75.52 323 P P 05 58 53.0 0.0
MVCO Mesa Verde 75.54 52 P P 05 58 54.3 +0.8
baz=313
BIZ Bicaz 75.63 322⇑ P P 05 58 54.0 +0.5
X16A Lo Mia Camp, P 75.69 56 P P 05 58 56.3 +2.0
TESR Tescani 75.70 321⇑ P P 05 58 53.8 -0.1
OJC Ojcow 75.76 327 *eP* P 05 58 54.6 +0.4
OJC Ojcow 75.76 327 P P 05 58 53.9 -0.3
OJC pmax pmax
comp=Z,24nm,0.9s
OJC Ojcow 75.76 327 P P 05 58 53.9 -0.3
KOLS Kolonicke sedl 75.77 325 *eP* P 05 58 54.0 -0.3
KOLS pmax pmax
comp=Z,6.0nm,0.8s
KOLS Kolonicke sedl 75.77 325 *eP* P 05 58 53.9 -0.3
F33A 5 Mile Ranch, 75.80 40 P P 05 58 54.2 -0.3
F33A IAmb IAmb 05 58 55.5
comp=Z,6.4nm,1.1s
BBOO Buckleboo 76.02 188 P P 05 58 57.6 +1.9
BBOO IAmb IAmb 05 58 58.0
comp=Z,11nm,0.8s
BSEG Bad Segeberg 76.07 335 *eP* P 05 58 55.9 0.0
comp=Z,12nm,0.9s,baz=34,slow=5.8
S22A 4UR Ranch, Cre 76.13 51 P P 05 58 58.1 +1.2
baz=314
S22A 4UR Ranch, Cre 76.13 51 P P 05 58 57.1 +0.2
Q24A Divide 76.23 49 P P 05 58 57.9 +0.4
baz=315
TRPA Tarpa 76.28 325⇑ P P 05 58 58.2 +1.0
EYMN Ely 76.33 36 P P 05 58 57.6 +0.1
baz=321
EYMN Ely 76.33 36 P P 05 58 57.3 -0.3
EYMN IAmb IAmb 05 58 58.2
comp=Z,6.5nm,0.7s
OZUR 76.41 322⇑ P P 05 58 57.0 -1.0
KSP Ksiaz 76.60 330 *eP* P 05 58 59.1 +0.2
DOPR Dopca 76.69 322⇑ P P 05 59 00.2 +0.7
LANS Liptovska Anna 76.74 327 *eP* P 05 59 00.9 +1.1
LANS pmax pmax
comp=Z,8.0nm,0.9s
LANS Liptovska Anna 76.74 327 *eP* P 05 59 00.9 +1.1
KAC Achnashellach 76.88 344 *eP* P 05 59 00.1 -0.3
SDCO Great Sand Dun 76.89 50 P P 05 59 01.9 +0.7
baz=315
CHVC Chvalec 76.89 330 *eP* P 05 59 00.8 +0.1
UPC Upice 76.98 330 *eP* P 05 59 01.8 +0.7
UPC Upice 76.98 330 *eP* P 05 59 01.8 +0.7
DPC Dobruska-Polom 76.99 329 *eP* P 05 59 01.5 +0.3
DPC Dobruska-Polom 76.99 329 *eP* P 05 59 01.5 +0.3
MORC Moravsky Berou 76.99 328 *eP* P 05 59 01.3 +0.1
MORC Moravsky Berou 76.99 328 P P 05 59 01.0 -0.3
MORC pmax pmax
comp=Z,8.0nm,0.8s
MORC Moravsky Berou 76.99 328 P P 05 59 01.0 -0.3
MORC IAmb IAmb 05 59 02.6
comp=Z,7.7nm,0.8s
KPL Plockton 77.10 344 *eP* P 05 59 01.5 0.0
KPL IAmb IAmb 05 59 02.7
comp=Z,19nm,0.9s
BR131 Keskin Array S 77.20 313 P P 05 59 02.8 +0.1
BR131 pmax pmax
comp=Z,4.0nm,0.8s
BR131 Keskin Array S 77.20 313 P P 05 59 02.8 +0.1
BR131 IAmb IAmb 05 59 03.7
comp=Z,3.9nm,0.8s
BRTR Keskin Array B 77.20 313 P P 05 59 02.9 +0.1
comp=Z,3.5nm,0.8s,baz=75,slow=4.0,SNR=14
BRTR LR LR 06 37 36.7
comp=Z,42nm,20.1s,baz=78,slow=39
BRTR Keskin Array B 77.20 313 P P 05 59 02.4 -0.3
ECSD EROS Data Cent 77.21 41 P P 05 59 02.8 +0.3
baz=318
ECSD EROS Data Cent 77.21 41 P P 05 59 02.1 -0.5
VOIR 77.25 322⇑ P P 05 59 03.9 +1.1
E38A The Farm, Brul 77.35 36 P P 05 59 02.6 -0.7
E38A IAmb IAmb 05 59 03.7
comp=Z,5.1nm,0.8s
NRDL Niedersach Rie 77.36 334 *eP* P 05 59 02.9 -0.2
comp=Z,9.3nm,1.0s,baz=34,slow=5.8
CLL Collm 77.39 332⇑ *i*P P 05 59 03.1 -0.3
comp=Z,15nm,1.0s
CLL *i* pP pP 05 59 17.2 -0.2
CLL Lm MLR 06 35 00.0
comp=Z,100nm,21.8s
CLL Collm 77.39 332⇑ *i*P P 05 59 03.1 -0.3
CLL *i* *PP pP 05 59 17.2 -0.2
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 77.39 332 P P 05 59 03.1 -0.3
CLL IAmb IAmb 05 59 04.3
comp=Z,12nm,0.8s
CLL Collm 77.39 332 *eP* P 05 59 02.8 -0.6
comp=Z,15nm,1.0s,baz=34,slow=5.8
BRG Berggiesshubel 77.43 331 *eP* P 05 59 03.2 -0.4
comp=Z,4.6nm,0.9s
BRG *e* 06 04 22.7
comp=Z,3.6nm,0.9s
BRG Berggiesshubel 77.43 331 *eP* P 05 59 03.2 -0.4
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 77.43 331 *eP* P 05 59 03.1 -0.5
comp=Z,4.6nm,0.9s,baz=34,slow=5.8
ARR Arges 77.49 322⇑ P P 05 59 05.2 +1.1
VYHS Vyhne 77.52 327 *eP* P 05 59 04.2 0.0
VYHS pmax pmax
comp=Z,6.0nm,0.9s
VYHS Vyhne 77.52 327 *eP* P 05 59 04.2 0.0
TUC Tucson 77.52 57 P P 05 59 05.6 +1.1
baz=313
ANTO Ankara 77.55 313 P P 05 59 05.0 +0.5
ANTO pmax pmax
comp=Z,16nm,0.7s
ANTO Ankara 77.55 313 P P 05 59 05.0 +0.5
PSZ Piszkesteto 77.55 326 P P 05 59 04.8 +0.4
PSZ pmax pmax
comp=Z,9.0nm,0.9s
PSZ Piszkesteto 77.55 326 P P 05 59 04.8 +0.4
PSZ IAmb IAmb 05 59 05.9
comp=Z,9.0nm,0.9s
FBE Freiberg 77.59 331 *eP* P 05 59 04.3 -0.2
comp=Z,8.6nm,0.8s,baz=34,slow=5.8
INVG Invergeldie, C 77.62 343 *eP* P 05 59 04.2 -0.4
INVG IAmb IAmb 05 59 06.1
comp=Z,13nm,1.0s
JAVC Velka Javorina 77.68 328 *eP* P 05 59 06.5 +1.4
VRAC Vranov 77.73 329 *eP* P 05 59 05.6 +0.2
ESY Stoneypath 77.78 342 *eP* P 05 59 05.2 -0.3
CLZ Clausthal 77.83 333 *eP* P 05 59 06.0 +0.1
comp=Z,8.7nm,0.8s,baz=34,slow=5.8
GOPC GO Pecny, Ondr 77.91 330 *eP* P 05 59 06.6 +0.2
GOPC GO Pecny, Ondr 77.91 330 *eP* P 05 59 06.6 +0.2
PRU Pruhonice 77.94 330 *eP* P 05 59 06.5 0.0
PRU Pruhonice 77.94 330 *eP* P 05 59 06.5 0.0
MDUB Mudurnu 77.95 315 P P 05 59 06.4 -0.5
KRUC Moravsky 78.01 329 *eP* P 05 59 07.2 +0.3
GTTG Gottingen 78.22 334 *eP* P 05 59 08.4 +0.5
comp=Z,10nm,0.9s,baz=34,slow=5.8
IBBN Ibbenburen 78.26 335 *eP* P 05 59 08.8 +0.7
comp=Z,19nm,0.6s,baz=34,slow=5.8
PGBU Glenifferbraes 78.28 343 *eP* P 05 59 08.3 0.0
PGBU IAmb IAmb 05 59 09.2
comp=Z,19nm,0.7s
ANMO Albuquerque 78.30 53 P P 05 59 10.1 +1.1
baz=315
ANMO Albuquerque 78.30 53 *ceP* P 05 59 07.3 -1.7
ANMO pmax pmax
comp=Z,3.0nm,2.5s
GUNZ Gunzen 78.42 332 *eP* P 05 59 09.0 -0.2
comp=Z,4.0nm,0.8s,baz=34,slow=5.8
MOX Moxa 78.43 332 *eP* P 05 59 08.9 -0.3
comp=Z,3.6nm,0.8s,baz=34,slow=5.8
WERN Wernitzgruen 78.47 332 *eP* P 05 59 09.2 -0.2
comp=Z,4.9nm,0.7s,baz=34,slow=5.8
ESK Eskdalemuir 78.47 342 *eP* P 05 59 09.3 0.0
ESK Eskdalemuir 78.47 342 P P 05 59 08.5 -0.8
ESK pmax pmax
comp=Z,15nm,1.1s
ESK Eskdalemuir 78.47 342 P P 05 59 08.5 -0.8

ESK IAmb IAmb 05 59 11.2
comp=Z,15nm,1.1s
SCHQ Schefferville 78.62 18 P **P 05 59 08.3 -1.9**
comp=Z,4.1nm,0.6s,baz=6.6,slow=6.1,SNR=9.9
SCHQ LR LR 06 38 04.6
comp=Z,42nm,19.1s,baz=28,slow=39
SCHQ Schefferville 78.62 18 P **P 05 59 09.5 -0.7**
SCHQ IAmb IAmb 05 59 10.7
comp=Z,5.3nm,0.8s
EDMD Edmundbyers 78.63 342 *e*P **P 05 59 09.6 -0.6**
EDMD IAmb IAmb 05 59 10.9
comp=Z,11nm,1.0s
L34A Svendsen Farm, 78.65 42 P **P 05 59 10.4 -0.2**
L34A IAmb IAmb 05 59 11.5
comp=Z,11nm,0.6s
COWI Conover 78.78 35 P **P 05 59 10.8 -0.4**
ROTZ Rotzenmuhle 78.96 331 *e*P **P 05 59 12.3 +0.2**
comp=Z,2.4nm,0.8s,baz=34,slow=5.8
G40A Rib Lake 78.98 37 P **P 05 59 11.9 -0.4**
KHC Kasperske Hory 79.00 330 *e*P **P 05 59 12.3 -0.1**
KHC *e*pP **pP 05 59 25.9 -0.6**
KHC Kasperske Hory 79.00 330 *ce*P **P 05 59 11.7 -0.7**
KHC pmax pmax
comp=Z,17nm,0.6s
GEC2 GERESS Array S 79.20 330 *e*P **P 05 59 13.1 -0.4**
comp=Z,4.1nm,0.9s,baz=34,slow=5.8
GERES GERESS Array B 79.20 330 P **P 05 59 13.3 -0.2**
comp=Z,2.1nm,0.8s,baz=32,slow=6.3,SNR=13
GERES LR LR 06 37 36.0
comp=Z,141nm,20.5s,baz=29,slow=38
GERES GERESS Array B 79.20 330 P **P 05 59 13.1 -0.4**
GERES GERESS Array B 79.20 330 P **P 05 59 13.1 -0.4**
WET Wettzell 79.25 331 *e*P **P 05 59 13.9 +0.2**
comp=Z,7.3nm,0.9s,baz=34,slow=5.8
CBKS Cedar Bluff 79.28 46 P **P 05 59 13.7 -0.4**
baz=318
GRF Grafenberg Arr 79.37 332 *e*P **P 05 59 14.9 +0.5**
comp=Z,10nm,0.9s,baz=34,slow=5.8
E43A Lone Tree Farm 79.46 34 P **P 05 59 14.2 -0.7**
E43A IAmb IAmb 05 59 15.4
comp=Z,4.5nm,0.8s
N35A Tabor 79.85 43 P **P 05 59 17.4 +0.3**
N35A IAmb IAmb 05 59 18.4
comp=Z,8.8nm,0.7s
LBWR Ladybower, Pea 79.89 341 *e*P **P 05 59 16.9 -0.2**
LBWR IAmb IAmb 05 59 18.0
comp=Z,28nm,0.8s
D46A Sault St. Mari 80.22 32 P **P 05 59 18.3 -0.7**
baz=326
VTS Vitosha 80.25 321 ⇓P **P 05 59 20.2 +0.8**
VTS Vitosha 80.25 321 P **P 05 59 19.7 +0.2**
VTS pmax pmax
comp=Z,10.0nm,0.9s
VTS Vitosha 80.25 321 P **P 05 59 19.6 +0.2**
VTS IAmb IAmb 05 59 21.0
comp=Z,10nm,0.9s
D47A Chapleau 80.44 31 P **P 05 59 19.8 -0.4**
baz=326
RJOB Jochberg 80.46 330 *e*P **P 05 59 20.0 -0.3**
comp=Z,8.5nm,0.8s,baz=34,slow=5.8
PERS Pernice 80.49 328 *i* P **P 05 59 20.8 +0.3**
F45A CMU Biological 80.62 34 P **P 05 59 20.8 -0.3**
baz=325
FOEL Foel Wylfa 80.71 341 *e*P **P 05 59 21.8 +0.2**
FOEL IAmb IAmb 05 59 22.6
comp=Z,32nm,0.9s
MANT Manisa 80.79 315 P **P 05 59 22.1 -0.4**
CSS Mathiatis 80.80 310 P **P 05 59 22.2 -0.2**
KBA Koelnbreinsper 80.80 329 *e*P **P 05 59 22.4 +0.1**
baz=34,slow=5.8
JFWS Jewell Farm 80.82 38 P **P 05 59 22.1 -0.2**
baz=322
OBKA Obir 80.82 328 *e*P **P 05 59 22.1 -0.2**
baz=34,slow=5.8
D48A Paudash Townsh 80.83 31 P **P 05 59 21.4 -0.9**
baz=327
E47A Iron Bridge 80.88 32 P **P 05 59 21.8 -0.7**
baz=326
D49A Beulah Townshi 80.92 30 P **P 05 59 22.3 -0.4**
baz=327
LSQQ Lebel-sur-Quev 80.93 27 P **P 05 59 22.7 -0.1**
baz=330
CHGQ Chibougamau 81.02 25 P **P 05 59 22.7 -0.5**
baz=332,SNR=6.5
N38A Joes South For 81.08 41 P **P 05 59 23.9 +0.2**
N38A IAmb IAmb 05 59 24.5
comp=Z,10.0nm,0.6s
AMTX Amarillo 81.09 50 P **P 05 59 24.1 +0.2**
baz=317
G46A Petoskey 81.19 33 P **P 05 59 24.3 +0.1**
baz=325
MNTX Cornudas Mount 81.23 55 P **P 05 59 25.6 +0.9**
baz=316
MNTX Cornudas Mount 81.23 55 P **P 05 59 24.9 +0.2**
E48A Lockeyer 81.28 31 P **P 05 59 24.3 -0.4**
baz=327
WTTA Wattenberg 81.28 330 *e*P **P 05 59 24.9 0.0**
baz=34,slow=5.8
BOJS Bojanci 81.38 327 *e*P **P 05 59 25.0 -0.2**
MCH1 Michaelchurch 81.49 341 *e*P **P 05 59 25.1 -0.5**
MCH1 IAmb IAmb 05 59 26.7
comp=Z,16nm,0.9s
D50A G1974 Best Tow 81.56 29 P **P 05 59 24.9 -1.2**
baz=328
VLDQ Val d'Or 81.58 28 P **P 05 59 24.8 -1.4**
VLDQ IAmb IAmb 05 59 26.0
comp=Z,12nm,0.8s
F48A Evansville 81.65 32 P **P 05 59 25.8 -0.8**
baz=327
H46A Fife Lake 81.69 34 P **P 05 59 26.8 0.0**
baz=325
D51A Lot 18 Range I 81.79 29 P **P 05 59 26.9 -0.5**
baz=328
F49A Sandfield 81.93 32 P **P 05 59 27.6 -0.5**
baz=327
H47A Mio 82.04 33 P **P 05 59 28.8 +0.1**
baz=326
E51A G1948 Merrick 82.22 30 P **P 05 59 29.0 -0.6**
baz=328
D52A ZEK Kipawa Sen 82.23 29 P **P 05 59 29.0 -0.6**
baz=329
D53A Lac Vacive, Po 82.39 28 P **P 05 59 30.0 -0.5**
baz=330
D53A Lac Vacive, Po 82.39 28 P **P 05 59 29.8 -0.7**
D53A IAmb IAmb 05 59 30.9
comp=Z,6.0nm,0.9s
F51A Arnstein 82.59 30 P **P 05 59 31.2 -0.3**
baz=328
D54A Lac Fusel, La 82.69 28 P **P 05 59 31.2 -0.9**
baz=330
E52A Mattawa 82.74 29 P **P 05 59 31.5 -0.8**
baz=329
WMOK Wichita Mounta 82.81 48 P **P 05 59 33.0 +0.1**
baz=318
WMOK Wichita Mounta 82.81 48 P **P 05 59 30.8 -2.1**
WMOK pmax pmax
comp=Z,5.0nm,1.0s
WMOK Wichita Mounta 82.81 48 P **P 05 59 30.8 -2.1**
WMOK IAmb IAmb 05 59 31.6
comp=Z,5.3nm,0.9s
F52A Sundridge 82.92 30 P **P 05 59 32.7 -0.5**
baz=329
E53A Dumoine, Ponti 83.01 29 P **P 05 59 33.3 -0.4**
baz=330
HDIL Hopedale 83.12 39 P **P 05 59 34.3 -0.1**
baz=323
HDIL Hopedale 83.12 39 P **P 05 59 34.2 -0.2**
HDIL IAmb IAmb 05 59 35.3
comp=Z,11nm,0.7s
E54A Lac Daplat, Po 83.13 28 P **P 05 59 33.7 -0.6**
baz=330
D55A Sainte-Anne-du 83.20 27 P **P 05 59 34.3 -0.4**
baz=331
ALGO Algonquin Park 83.24 29 P **P 05 59 34.5 -0.4**
baz=330
J48A Bridge Port 83.29 34 P **P 05 59 35.3 +0.1**
baz=326
D56A ZEC Mazanza, M 83.41 26 P **P 05 59 35.3 -0.5**
baz=332,SNR=6.5
R40A Maddies Statio 83.49 42 P **P 05 59 35.9 -0.4**
R40A IAmb IAmb 05 59 37.0
comp=Z,3.7nm,0.8s
E55A Montcerf-Lytto 83.50 28 P **P 05 59 36.0 -0.2**
baz=331
TUL1 Leonard 83.53 46 P **P 05 59 36.4 -0.2**
baz=320,SNR=5.9
TUL1 Leonard 83.53 46 IAmb IAmb 05 59 37.8
comp=Z,8.2nm,0.7s
D57A Chemin Vers le 83.72 26 P **P 05 59 37.3 -0.1**
baz=332,SNR=10
LATQ La Tuque 83.74 25 P **P 05 59 36.8 -0.6**
baz=333
G53A Haliburton 83.75 30 P **P 05 59 36.8 -0.8**
baz=329
E56A St. Veronique 83.76 27 P **P 05 59 37.5 -0.1**
baz=331
K49A Clarkson 83.85 34 P **P 05 59 38.5 +0.4**
baz=326
TX31 Lajitas Ar. Si 83.95 55 IAmb IAmb 05 59 40.9
comp=Z,10nm,0.8s
TXAR Lajitas Array 83.95 55 P **P 05 59 39.8 +0.8**
comp=Z,3.3nm,0.7s,baz=297,slow=3.6,SNR=58
TXAR Lajitas Array 83.95 55 P **P 05 59 39.7 +0.7**
D58A Chemin du LacG 83.97 25 P **P 05 59 36.9 -1.7**
baz=333
E57A Chemin Saint G 84.17 26 P **P 05 59 39.6 -0.1**
baz=332,SNR=8.5
CCM Cathedral Cave 84.17 42 P **P 05 59 39.8 -0.1**
baz=322
CCM Cathedral Cave 84.17 42 P **P 05 59 39.6 -0.2**
CCM pmax pmax
comp=Z,5.0nm,0.8s
CCM Cathedral Cave 84.17 42 P **P 05 59 39.6 -0.2**
CCM IAmb IAmb 05 59 40.8
comp=Z,5.1nm,0.8s
K50A Casco 84.20 34 P **P 05 59 39.8 0.0**
baz=327
HHAR Hobbs 84.21 44 P **P 05 59 39.6 -0.5**
H53A Bobcaygeon 84.23 30 P **P 05 59 39.7 -0.3**
baz=329
G55A Calabogie 84.31 29 P **P 05 59 40.1 -0.3**
baz=330
PLVO Plevna 84.37 29 P **P 05 59 39.7 -1.0**
PLVO IAmb IAmb 05 59 41.4
comp=Z,6.0nm,0.8s
NRCA Norcia 84.45 327 IAmb IAmb 05 59 41.9
comp=Z,9.6nm,0.7s
E58A La Victoria 84.49 26 P **P 05 59 40.8 -0.4**
baz=333,SNR=5.4
ORIO Orleans, Innes 84.56 28 P **P 05 59 40.9 -0.7**
baz=331
ORIO Orleans, Innes 84.56 28 P **P 05 59 41.1 -0.5**
PPT Papeete 84.64 120 LR LR 06 29 21.1
comp=Z,57nm,21.7s,baz=340,slow=30
PPT2 Papete2 84.65 120 *e*LR LR 06 25 59.8
comp=Z,166nm,28.5s
PPT2 Papeete2 84.65 120 *e*T T 07 33 02.3
comp=Z,5.7nm,0.3s
J52A Paris 84.66 32 P **P 05 59 42.0 -0.2**
baz=328
Z35A Perchaven, San 84.70 48 P **P 05 59 42.1 -0.5**
U40A Yellville 84.70 44 P **P 05 59 42.4 -0.2**
baz=321,SNR=9.0
U40A Yellville 84.70 44 P **P 05 59 42.2 -0.3**
U40A IAmb IAmb 05 59 43.4
comp=Z,7.9nm,0.7s
L50A Kingsville 84.73 34 P **P 05 59 40.7 -1.8**
baz=327
D60A Saint Jean D'O 84.73 24 P **P 05 59 42.3 -0.2**
baz=334
H55A Tweed 84.76 29 P **P 05 59 42.1 -0.5**
baz=330
TIAR Tiarei 84.78 120 *e*T T 07 33 08.0
comp=Z,2.7nm,0.2s
P46A Rosedale 84.83 38 P **P 05 59 43.0 -0.1**
I55A Frankford 84.87 30 P **P 05 59 42.7 -0.5**
baz=330
K52A Tillsonburg 84.95 32 P **P 05 59 43.6 0.0**
baz=328
G57A Newington 85.04 28 P **P 05 59 43.7 -0.4**
baz=332
H56A Elgin 85.05 29 P **P 05 59 43.5 -0.6**
baz=331
E60A Ste Agathe de 85.06 25 P **P 05 59 43.8 -0.3**
baz=334
F59A Saint Guilaume 85.11 26 P **P 05 59 44.5 +0.2**
baz=333
W39A Magazine 85.12 45 P **P 05 59 44.7 0.0**
baz=321
IDI Anoyia 85.13 315 ⇓P **P 05 59 43.5 -1.2**
IDI Anoyia 85.13 315 P **P 05 59 43.2 -1.6**
D62A Allapoint, All 85.13 23 P **P 05 59 44.5 0.0**
baz=335
ITM Ithoni 85.14 318 P **P 05 59 43.8 -0.9**
O48A Farmland 85.22 37 P **P 05 59 44.8 -0.2**
baz=325
F60A Warwick 85.27 25 P **P 05 59 45.6 +0.5**
baz=334
E61A Lac Etchemin 85.30 24 P **P 05 59 45.5 +0.1**
baz=334
G58A Ormstown 85.31 27 P **P 05 59 45.4 0.0**
baz=332
JCT Junction City 85.39 52 P **P 05 59 46.6 +0.5**
baz=318
E62A Clayton Lake 85.41 23 P **P 05 59 45.6 -0.3**
baz=335
S44A Carbondale 85.42 41 P **P 05 59 45.7 -0.4**
FCAR Ozark Folk Cen 85.44 44 P **P 05 59 45.6 -0.6**
FCAR IAmb IAmb 05 59 46.9
comp=Z,5.9nm,0.7s
H57A Richville 85.47 28 P **P 05 59 45.4 -0.7**
baz=331
F61A St Evariste 85.56 25 P **P 05 59 46.8 +0.1**
baz=334
PBMO Poplar Bluff 85.58 42 P **P 05 59 46.5 -0.4**
PBMO IAmb IAmb 05 59 48.2
comp=Z,11nm,1.1s
WHTX Lake Whitney, 85.59 49 P **P 05 59 47.3 +0.3**
baz=319
J55A Hilton 85.64 30 P **P 05 59 47.1 +0.1**
baz=330
MIAR Mount Ida 85.73 45 P **P 05 59 48.2 +0.4**
baz=321,SNR=7.1
MIAR Mount Ida 85.73 45 P **P 05 59 47.5 -0.2**
MIAR pmax pmax
comp=Z,7.0nm,0.7s
MIAR Mount Ida 85.73 45 P **P 05 59 47.5 -0.2**
MIAR IAmb IAmb 05 59 49.2
comp=Z,6.5nm,0.7s
M52A Chesterland 85.74 33 P **P 05 59 47.7 +0.1**
baz=328
WHAR Wooly Hollow 85.82 44 P **P 05 59 47.8 -0.3**
MEH Mehetia 85.83 119 *e*T T 07 34 29.9
comp=Z,26nm,0.2s
H59A Cadyville 85.88 27 P **P 05 59 47.9 -0.3**
baz=332
H58A Gabriels 85.92 27 P **P 05 59 48.0 -0.5**
baz=332
W41B Gary Mavity, V 85.93 44 P **P 05 59 48.9 +0.2**
baz=322
W41B Gary Mavity, V 85.93 44 P **P 05 59 48.2 -0.4**
W41B IAmb IAmb 05 59 49.7
comp=Z,3.7nm,0.8s
F62A Pittston Farm, 85.94 24 P **P 05 59 48.5 0.0**
baz=335
J56A Wolcott 85.98 30 P **P 05 59 48.5 -0.3**
baz=330
P49A Miami Univ. Ec 86.00 37 P **P 05 59 48.8 -0.1**
baz=326
K55A Perry 86.01 31 P **P 05 59 48.8 -0.2**
baz=330
G61A St-Isidore-de- 86.01 25 P **P 05 59 48.9 0.0**
baz=334
E64A Bridgewater 86.08 22 P **P 05 59 49.2 0.0**
baz=336
M53A WI Miller and 86.10 33 P **P 05 59 49.4 -0.1**
baz=328
X40A Basin Creek Fa 86.17 45 P **P 05 59 50.1 +0.2**
baz=321
ACSO Alum Creek Sta 86.17 35 P **P 05 59 49.9 +0.1**
baz=327
N52A McGinn's Farm, 86.22 34 P **P 05 59 50.2 +0.2**
baz=328
H60A Morristown 86.28 26 P **P 05 59 50.0 -0.2**
baz=333
K56A Middlesex 86.31 30 P **P 05 59 50.4 -0.1**
baz=330
M54A Oil Creek Stat 86.44 32 P **P 05 59 51.0 -0.1**
baz=329
J58A Remsen 86.47 29 P **P 05 59 50.9 -0.3**
baz=331
CAF Calviac 86.55 335 *e*P **P 05 59 52.3 +0.7**
CAF pmax pmax
comp=Z,22nm,1.3s
N53A Lisbon 86.57 33 P **P 05 59 51.8 +0.1**
baz=328
K57A Scipio Center 86.58 30 P **P 05 59 51.7 -0.1**
baz=331
J59A Piesco 86.65 28 P **P 05 59 51.9 -0.2**
baz=332
L56A Greenwood 86.71 31 P **P 05 59 52.4 0.0**
baz=330
I60A Shoreham 86.72 27 P **P 05 59 52.8 +0.4**
baz=333
H62A Milan 86.76 25 P **P 05 59 52.5 -0.1**
baz=334
N54A Moraine State 86.78 33 P **P 05 59 52.5 -0.3**
baz=328
LBNH Lisbon 86.82 26 P **P 05 59 53.8 +0.9**
baz=334
M55A Ridgway 86.83 32 P **P 05 59 52.7 -0.3**
baz=329
K58A Earlville 86.86 29 P **P 05 59 53.4 +0.2**
baz=331
O53A New Philadelph 86.89 34 P **P 05 59 53.5 +0.2**
baz=328
I61A Oroboro, Fairl 87.00 26 P **P 05 59 53.6 -0.2**
baz=333
T47A Sharon Grove 87.00 40 P **P 05 59 53.6 -0.3**
P52A Corning 87.03 35 P **P 05 59 53.8 -0.1**
baz=327
K59A Cooperstown 87.13 29 P **P 05 59 54.4 -0.1**
baz=332
O54A Avella 87.29 33 P **P 05 59 55.9 +0.6**
baz=328
O54A Avella 87.29 33 IAmb IAmb 05 59 56.5
comp=Z,7.3nm,0.7s
N55A Marion Center 87.33 32 P **P 05 59 55.8 +0.4**
baz=329
WVT Waverly 87.35 41 P **P 05 59 56.2 +0.6**
baz=324
WVT Waverly 87.35 41 P **P 05 59 56.1 +0.5**
WVT pmax pmax
comp=Z,5.0nm,0.7s
WVT Waverly 87.35 41 P **P 05 59 56.1 +0.5**
WVT IAmb IAmb 05 59 56.4
comp=Z,4.5nm,0.7s
J61A Chester 87.41 27 P **P 05 59 56.0 +0.3**
baz=333
I63A Otisfield 87.42 25 P **P 05 59 56.6 +0.8**
baz=334
L58A Harry Jones Me 87.42 30 P **P 05 59 56.0 +0.1**
baz=331
P53A Whipple 87.46 35 P **P 05 59 56.4 +0.3**
baz=328
N56A West Decatur 87.48 32 P **P 05 59 56.4 +0.2**
baz=330
Q52A Bidwell 87.53 35 P **P 05 59 56.6 +0.2**
baz=327
M57A Sunshine Farm, 87.56 31 P **P 05 59 56.9 +0.4**
baz=330
M57A Sunshine Farm, 87.56 31 IAmb IAmb 05 59 59.5
comp=Z,5.1nm,0.8s
L59A Walton 87.58 29 P **P 05 59 57.0 +0.3**
baz=332
O55A Ligonier 87.70 33 P **P 05 59 57.4 +0.1**
baz=329
P54A Burton 87.74 34 P **P 05 59 57.6 +0.2**
baz=328
SSPA Standing Stone 87.88 32 P **P 05 59 58.6 +0.6**
SSPA IAmb IAmb 05 59 59.3
comp=Z,6.6nm,0.8s
N57A Milroy 87.91 31 P **P 05 59 58.4 +0.2**
baz=330,SNR=6.8
Q53A Leroy 87.93 35 P **P 05 59 58.8 +0.4**
baz=328
O56A Blue Knob Stat 87.93 32 P **P 05 59 58.8 +0.4**
baz=329,SNR=7.0
MCWV Mont Chateau 87.95 33 P **P 05 59 58.8 +0.4**
baz=329
P55A Reedsville 88.08 33 P **P 05 59 59.7 +0.6**
baz=329
CLTN Cedars of Leba 88.09 40 IAmb IAmb 06 00 00.8
comp=Z,5.5nm,0.7s
Q54A Coxs Mills 88.12 34 P **P 05 59 60.0 +0.8**
baz=328
Q54A Coxs Mills 88.12 34 IAmb IAmb 06 00 00.6
comp=Z,8.0nm,0.8s
V48A Smith Brothers 88.15 40 IAmb IAmb 06 00 00.4
comp=Z,4.2nm,0.8s
N58A Sunbury 88.15 31 P **P 05 59 59.7 +0.4**
baz=330
PLAL Pickwick Lake 88.16 41 IAmb IAmb 05 59 59.7
comp=Z,3.5nm,0.7s
K63A Dunstable 88.34 26 P **P 06 00 00.8 +0.6**
baz=334
O57A Ambxson 88.34 32 P **P 06 00 00.8 +0.5**
baz=330
Q55A Buckhannon 88.42 34 P **P 06 00 01.3 +0.6**
baz=328
N59A State Game Lan 88.43 30 P **P 06 00 01.3 +0.6**
baz=331
P56A Dayton Farm, R 88.48 33 P **P 06 00 01.4 +0.5**
baz=329,SNR=5.9
O58A Lewisberry 88.69 31 P **P 06 00 02.0 0.0**
baz=330
R54A Victor 88.73 35 P **P 06 00 02.3 +0.1**
baz=328
Q56A Snyder Ridge, 88.74 33 P **P 06 00 02.6 +0.4**
baz=329
M61A Granite Spring 88.81 29 P **P 06 00 02.7 +0.3**
baz=332
O59A Robesonia 88.81 31 P **P 06 00 02.6 +0.1**
baz=331
TZTN Tazewell 88.99 38 P **P 06 00 03.8 +0.4**
baz=326
TZTN Tazewell 88.99 38 P **P 06 00 04.0 +0.6**
TZTN IAmb IAmb 06 00 04.6
comp=Z,6.0nm,0.7s
SWET Sewanee 88.99 40 P **P 06 00 03.6 +0.1**
TBI Tubuai 89.00 124 *e*T T 07 38 28.3
comp=Z,11nm,0.2s
R55A Marlinton 89.01 34 P **P 06 00 03.6 +0.1**
baz=328
R55A Marlinton 89.01 34 P **P 06 00 04.3 +0.8**
R55A IAmb IAmb 06 00 05.6
comp=Z,6.1nm,0.7s
L63A North Scituate 89.05 27 P **P 06 00 04.1 +0.6**
baz=334
T53A Wise 89.08 37 P **P 06 00 04.4 +0.6**
baz=327
X48A Hartselle 89.09 41 IAmb IAmb 06 00 04.8
comp=Z,3.5nm,0.8s
O60A Telford 89.09 30 P **P 06 00 04.0 +0.3**
baz=331
P58A Pank, Wackersv 89.10 32 P **P 06 00 04.4 +0.6**
baz=330
N61A South Mountain 89.11 29 P **P 06 00 04.5 +0.6**
baz=332
P59A Jarrettsville 89.33 31 P **P 06 00 05.2 +0.3**
baz=331
RPZ Rata Peaks 89.35 162 LR LR 06 41 41.8
comp=Z,110nm,18.5s,baz=269,slow=36
T54A Tazewell 89.42 36 P **P 06 00 05.7 +0.2**
baz=328
P60A Greenville 89.45 31 P **P 06 00 05.6 +0.2**
baz=331
CPCT Cooper Cave 89.46 39 P **P 06 00 05.9 +0.3**
CPCT IAmb IAmb 06 00 07.0
comp=Z,4.2nm,0.9s
R57A Stanardsville 89.64 33 P **P 06 00 06.6 +0.2**
baz=329
T55A Pulaski 89.72 35 P **P 06 00 06.8 0.0**
baz=328
S57A Dark Hollow, R 89.93 34 P **P 06 00 08.3 +0.5**
baz=329
V54A Nebo 90.34 37 P **P 06 00 09.6 -0.2**
baz=327
T57A Hurt 90.46 34 P **P 06 00 10.2 -0.1**
baz=329
W54A Cherokee Point 90.82 37 P **P 06 00 12.2 +0.3**
baz=327
U58A Oxford 91.27 34 P **P 06 00 14.4 +0.4**
baz=329
X56A White Oak 91.83 37 P **P 06 00 17.7 +1.1**
baz=328
KEST Kesra 92.02 326 LR LR 06 45 20.3
comp=Z,82nm,18.8s,baz=290,slow=38
ESDC Sonseca Array 93.16 337 P **P 06 00 21.8 -0.9**
comp=Z,1.0nm,0.7s,baz=17,slow=3.8,SNR=7.2
ESDC Sonseca Array 93.16 337 P **P 06 00 22.2 -0.5**
TORD Torodi Ar. Bea 115.04 321 PKP **PKiKP 06 05 48.8 -1.1**

comp=Z,0.4nm,0.4s,baz=18,slow=2.3,SNR=7.7
VNDA Vanda 120.74 176 PKP **PKiKP 06 05 58.9 -0.1**
comp=Z,0.9nm,0.6s,baz=328,slow=5.3,SNR=11
DBIC Dimbokro 123.70 324 PKP **PKPdf 06 06 05.8 -0.7**
comp=Z,3.4nm,0.7s,baz=134,slow=4.9,SNR=2.1
MAW Mawson 126.38 208 PKP **PKiKP 06 06 10.8 +0.4**
comp=Z,1.1nm,0.3s,baz=182,slow=2.8,SNR=3.6
QSPA South Pole Qui 132.81 180 PKP **PKiKP 06 06 22.8 -0.6**
comp=Z,2.8nm,0.6s,baz=289,slow=1.3,SNR=18
LPAZ La Paz 140.79 58 PKP **PKPdf 06 06 39.1 -0.1**
comp=Z,1.2nm,0.7s,baz=198,slow=1.2,SNR=6.7
H03N2 Juan Fernandez 144.08 90 T T 08 47 45.7
baz=301,slow=76,SNR=24
H03N3 Juan Fernandez 144.09 90 T T 08 47 53.2
baz=301,slow=76,SNR=45
H03N1 Juan Fernandez 144.10 90 T T 08 47 51.5
baz=301,slow=76,SNR=41
SIV San Ignacio 144.68 48 PKP PKPbc 06 06 44.6 +0.2
comp=Z,7.9nm,0.7s,baz=311,slow=2.4,SNR=56
LVC Limon Verde 144.88 66 PKP **PKPdf 06 06 45.9 -0.1**
comp=Z,4.3nm,0.6s,baz=291,slow=6.0,SNR=3.6
SNAA Sanae 147.47 198 PKPbc **PKPbc 06 06 51.8 +0.6**
SNAA Sanae 147.47 198 PKPbc **PKPbc 06 06 52.0 +0.8**
comp=Z,7.6nm,0.8s,baz=178,slow=2.7,SNR=44
VNA2 Neumayer--Watz 149.02 197 PKPbc **PKiKP 06 06 56.3 -0.2**
VNA3 Neumayer Olymp 149.23 195 PKPbc **PKiKP 06 06 56.4 -0.5**
VNA1 Neumayer--Stat 149.41 197 PKPbc **PKiKP 06 06 57.2 0.0**
BDFB Brasilia 150.28 27 PKPbc **PKiKP 06 07 00.7 -0.1**
comp=Z,5.1nm,0.7s,baz=221,slow=2.0,SNR=10
CFA Coronel Fontan 150.94 78 PKPbc **PKPbc 06 07 01.1 0.0**
comp=Z,5.1nm,0.7s,baz=294,slow=4.5,SNR=12
PMSA Palmer Station 152.58 153 PKPbc **PKiKP 06 07 03.8 0.0**
comp=Z,20nm,0.8s,baz=81,slow=7.1,SNR=7.9
PLCA Paso Flores 153.10 97 PKPbc **PKiKP 06 07 06.5 +0.5**
comp=Z,1.4nm,0.6s,baz=225,slow=3.2,SNR=7.1
PLCA Paso Flores 153.10 97 PKIKP **PKiKP 06 07 06.6 +0.7**
PLCA Paso Flores 153.10 97 **PKiKP 06 07 06.6 +0.7**
CPUP Villa Florida 154.93 56 PKPbc **PKiKP 06 07 10.3 +0.3**
comp=Z,1.1nm,0.6s,baz=13,slow=3.9,SNR=3.1

IDC 26 05:58:54.0±3.1, 54°47N×86°95E, h0km, mb1 2.7/2, mb1mx2.7/38, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=24.3km s-min=17.0km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**248**	*i*		06 07 10.0	
	baz=66,slow=322,SNR=0.5						
ZALV	**Zalesovo Beam**	**1.36**	**248**	Pg	Pg	05 59 18.0	-1.9
	0.8nm,0.3s,baz=64,slow=17,SNR=10						
ZALV				Lg	Lg	05 59 37.8	
	1.5nm,0.3s,baz=68,slow=30,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.42**	**237**	Pn	Pn	06 00 30.4	+0.7
	0.1nm,0.3s,baz=54,slow=14,SNR=5.2						
KURBB				Sn	Sn	06 01 43.4	-0.2
	0.0nm,0.3s,baz=33,slow=26,SNR=1.8						
KURBB				Lg	Lg	06 02 16.8	
	0.0nm,0.3s,baz=17,slow=20,SNR=2.6						
MKAR	**Makanchi Array**	**8.23**	**203**	Pn	Pn	06 00 56.3	+1.6
	0.1nm,0.3s,baz=7.7,slow=9.3,SNR=2.0						
MKAR				Sn	Sn	06 02 27.2	-1.0
	0.1nm,0.3s,baz=21,slow=28,SNR=4.6						
MKAR				Lg	Lg	06 03 14.2	
	0.0nm,0.3s,baz=35,slow=30,SNR=2.2						
BVAR	**Borovoye Array**	**9.92**	**268**	Lg	Lg	06 04 13.2	
	0.3nm,0.3s,baz=229,slow=43,SNR=2.4						

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*KRAR **26** 06:02:05.7±0.1, 54°26N×86°11E, M2.1, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*NNC **26** 06:02:08.4±2.4, 54°10N×86°62E, h0km, mb3.1, mpv2.9, Error ellipse: s-maj=22.2km s-min=10.1km az=15.0, Suspected Mining explosion.*

IDC 26 06:02:10.8±2.5, 54°15N×86°47E, h0km, mb1 3.2/2, mb1mx3.0/37, mbtmp3.2/2, ML2.9/2, 10C-1D, Error ellipse: s-maj=19.2km s-min=12.0km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**259**	*i*		06 08 30.0	
	baz=77,slow=309,SNR=1.6						
ZAA0	**Zalesovo Array**	**0.99**	**259**	⇓P	Pg	06 02 28.5	-1.4
	0.4nm,0.6s						
ZAA0				⇑S	Sb	06 02 43.8	-0.7
	0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**0.99**	**259**	Pg	Pg	06 02 28.4	-1.4
	1.2nm,0.3s,baz=75,slow=16,SNR=6.6						
ZALV				Lg	Lg	06 02 43.6	
	2.8nm,0.3s,baz=76,slow=29,SNR=14						
ZALV				Rg	Rg	06 02 48.2	
	31nm,1.0s,baz=77,slow=25,SNR=10						
KURK	**Kurchatov**	**5.91**	**238**	⇑Pn	Pn	06 03 40.2	+0.8
	1.8nm,0.7s						
KURK				⇑Lg	Lg	06 05 16.5	
	6.7nm,1.1s						
KURBB	**Kurchatov Arra**	**6.01**	**237**	Pn	Pn	06 03 42.1	+1.2
	0.2nm,0.3s,baz=55,slow=14,SNR=11						
KURBB				Sn	Sn	06 04 50.8	+0.6
	baz=60,slow=30,SNR=1.5						
KURBB				Lg	Lg	06 05 21.6	
	0.0nm,0.3s,baz=55,slow=32,SNR=7.0						
KURBB	**Kurchatov Arra**	**6.01**	**237**	⇑Pn	Pn	06 03 40.6	-0.2
	2.8nm,0.7s						
KURBB				⇑Lg	Lg	06 05 21.8	
	7.8nm,0.8s						
MK31	**Makanchi Array**	**7.83**	**202**	Pn	Pn	06 04 07.0	+1.1
	0.5nm,0.5s,baz=23,slow=13,SNR=13						
MK31				⇑Sn	Sn	06 05 32.5	-2.7
	0.3nm,0.5s						
MK31				⇑Lg	Lg	06 06 16.1	
	2.1nm,0.8s,baz=29,slow=31,SNR=4.9						
MKAR	**Makanchi Array**	**7.83**	**202**	Pn	Pn	06 04 07.0	+1.1
	0.2nm,0.3s,baz=26,slow=14,SNR=8.8						
MKAR				Sn	Sn	06 05 33.3	-2.0
	0.1nm,0.3s,baz=25,slow=26,SNR=4.3						
MKAR				Lg	Lg	06 06 17.9	
	0.0nm,0.3s,baz=31,slow=33,SNR=6.3						
MAKZ	**Makanchi**	**7.89**	**203**	⇑Pn	Pn	06 04 01.0	-5.7
	1.2nm,0.7s						
MAKZ				⇑Sn	Sn	06 05 34.8	-1.8
	0.4nm,0.6s						
MAKZ				⇑Lg	Lg	06 06 17.0	
	5.0nm,1.4s						

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*UCR **26** 06:08:20.9±2.1, 11°18N×87°04W, h0km±8km, MD4.0, mb4.1(NEIC)*
*NEIC **26** 06:08:21.5±1.5, 11°59N±0°07×87°24W±0°07, h55km±14km, mb4.1/26, Error ellipse: s-maj=11.8km s-min=8.9km az=220.0*
*INET **26** 06:08:24.9, 11°76N×86°99W, h42km, ML3.0*

ISC 26 06:08:18.0±1.8, 11°49N±0°05×87°15W±0°08, h30km±14km, n52, σ1s77/62, mb4.2/13, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**1.21**	**5**	*eP*	**Sn**	**06 08 49.6**	**-4.8**
CRIN	**San Cristobal**	**1.21**	**5**	Pn	**Pb**	**06 08 40.4**	**0.0**
CRIN				Sn	**Sn**	**06 08 49.9**	**-4.5**
BOAB	**BOACO BROADBAN**	**1.74**	**57**		**Pb**	**06 08 48.5**	**-0.7**
BOAB				Sn	**Sb**	**06 09 10.3**	**-0.4**
GBS3	**Finca Las Img**	**1.81**	**113**	*i* P	**Pb**	**06 08 50.3**	**-0.1**
LAPC	**Finca la Perla**	**1.83**	**113**	*i* P	**Pb**	**06 08 49.4**	**-1.4**
LAPC				*i* S	**Sb**	**06 09 13.0**	**-0.5**
BUEV	**Buena Vista**	**1.84**	**112**	*eP*	**Pb**	**06 08 50.0**	**-1.2**
BUEV				*eS*	**Sb**	**06 09 14.6**	**+0.8**
GB1A	**Borinquen Arri**	**1.84**	**111**	*eP*	**Pb**	**06 08 50.6**	**-0.5**
GB1A				*eS*	**Sb**	**06 09 15.3**	**+1.5**
MATN	**Matagalpa**	**1.87**	**40**	Pn	**Pb**	**06 08 50.4**	**-1.2**
GPS2	**Hotel Rincn d**	**1.91**	**112**	*i* P	**Pb**	**06 08 51.0**	**-1.2**
ACON	**Acoyapa**	**1.99**	**76**	Pn	**Pb**	**06 08 53.8**	**+0.1**
ACON				Sn	**Sb**	**06 09 19.1**	**+1.1**
GUAI	**GUAI**	**2.01**	**127**	*i* P	**Pn**	**06 08 52.0**	**+2.1**
LIM1	**Limonal**	**2.02**	**113**	*i* S	**Sb**	**06 09 17.9**	**-1.0**
HORNC	**Hornillas**	**2.08**	**112**	*i* P	**Pb**	**06 08 53.8**	**-1.4**
HORNC				*i* S	**Sb**	**06 09 20.8**	**+0.1**
CUI	**Cuipilapa**	**2.12**	**113**	*eP*	**Pb**	**06 08 53.9**	**-1.9**
CUI				*eS*	**Sb**	**06 09 20.5**	**-1.2**
ACAL	**Aguas Claras**	**2.24**	**112**	*i* P	**Pb**	**06 08 56.2**	**-1.7**
ACAL				*i* S	**Sb**	**06 09 24.5**	**-0.8**
JTS	**Las Juntas de**	**2.46**	**119**	*eP*	**Pn**	**06 08 58.4**	**+2.2**
JTS	**Las Juntas de**	**2.46**	**119**	Pn	**Pb**	**06 08 59.7**	**-2.0**
TGUH	**Tegucigalpa,Un**	**2.56**	**357**		**Pn**	**06 08 59.4**	**+1.8**
CEDE	**Laguna Cedeo**	**2.60**	**112**	*eP*	**Pb**	**06 09 02.4**	**-1.6**
CEDE				*eS*	**Sb**	**06 09 33.5**	**-2.1**
ESPN	**Las Esperanzas**	**2.88**	**76**	*eP*	**Pb**	**06 09 07.3**	**-1.3**
ESPN	**Las Esperanzas**	**2.88**	**76**		**Pn**	**06 09 04.3**	**+2.5**
HDC	**Heredia**	**3.33**	**116**	Pn	**Pb**	**06 09 13.0**	**-3.5**
EDLM	**Las Mercedes**	**4.13**	**122**	*eP*	**Pn**	**06 09 22.8**	**+3.6**
DRK0	**Durika**	**4.43**	**120**	*eP*	**Pn**	**06 09 27.6**	**+4.2**
CCIG	**Comitan**	**6.79**	**315**	Pn	**Pn**	**06 09 56.8**	**+0.9**
BCIP	**Isla Barro Col**	**7.56**	**107**	Pn	**Pn**	**06 10 10.7**	**+4.5**
833A	**Chaparral WMA,**	**20.30**	**327**	P	**P**	**06 12 50.9**	**-0.6**
833A				IAmb	IAmb	06 12 57.1	
	comp=Z,6.6nm,0.7s						
152A	**Waverly Hall**	**21.20**	**6**	P	**P**	**06 13 02.2**	**+1.0**
152A				IAmb	IAmb	06 13 06.2	
	comp=Z,7.4nm,0.8s						
NATX	**Nacogdoches**	**21.33**	**342**	P	**P**	**06 13 03.7**	**+1.1**
NATX				IAmb	IAmb	06 13 10.2	
	comp=Z,11nm,0.8s						
LRAL	**Lakeview Retre**	**21.45**	**0**	P	**P**	**06 13 05.8**	**+2.0**
Z51A	**Franklin**	**21.80**	**4**	P	**P**	**06 13 08.5**	**+0.9**
Y49A	**Blount Mountai**	**22.28**	**2**	P	**P**	**06 13 14.0**	**+1.2**
Y49A				IAmb	IAmb	06 13 14.8	
	comp=Z,5.5nm,0.7s						
Y52A	**Lilburn**	**22.45**	**7**	P	**P**	**06 13 16.8**	**+2.2**
Y52A				IAmb	IAmb	06 13 17.8	
	comp=Z,7.4nm,0.8s						
WHTX	**Lake Whitney,**	**22.51**	**337**	P	**P**	**06 13 16.0**	**+0.8**
WHTX				IAmb	IAmb	06 13 22.7	
	comp=Z,4.4nm,0.7s						
X48A	**Hartselle**	**22.86**	**0**	P	**P**	**06 13 19.5**	**+0.6**
TXAR	**Lajitas Array**	**23.50**	**322**	P	**P**	**06 13 26.0**	**+0.4**
TX31	**Lajitas Ar. Si**	**23.50**	**321**	P	**P**	**06 13 26.0**	**+0.4**
TX31				IAmb	IAmb	06 13 31.9	
	comp=Z,8.3nm,1.1s						
TX32	**Lajitas Array**	**23.50**	**321**	P	**P**	**06 13 25.7**	**+0.1**
W50A	**Signal Mountai**	**23.66**	**4**	P	**P**	**06 13 27.0**	**0.0**
W50A				IAmb	IAmb	06 13 29.2	
	comp=Z,5.0nm,0.7s						
CPCT	**Cooper Cave**	**23.97**	**5**	P	**P**	**06 13 30.5**	**+0.7**
CPCT				IAmb	IAmb	06 13 32.6	
	comp=Z,12nm,1.3s						
HBAR	**Harrisburg**	**24.17**	**353**	P	**P**	**06 13 30.6**	**-1.1**
TKL	**Tuckaleechee C**	**24.26**	**7**	P	**P**	**06 13 33.1**	**+0.6**
V53A	**Saluda**	**24.39**	**9**	P	**P**	**06 13 33.9**	**+0.1**
V53A				IAmb	IAmb	06 13 37.4	
	comp=Z,4.4nm,0.8s						
CLTN	**Cedars of Leba**	**24.50**	**2**	P	**P**	**06 13 34.8**	**0.0**
PBMO	**Poplar Bluff**	**25.35**	**354**	P	**P**	**06 13 42.3**	**-0.1**
PBMO				IAmb	IAmb	06 13 44.0	
	comp=Z,4.0nm,0.7s						
T47A	**Sharon Grove**	**25.39**	**0**	P	**P**	**06 13 42.4**	**-0.4**
T47A				IAmb	IAmb	06 13 43.9	
	comp=Z,5.5nm,0.7s						
CCM	**Cathedral Cave**	**26.71**	**353**	P	**P**	**06 13 54.0**	**-0.6**
CCM				IAmb	IAmb	06 13 54.7	
	comp=Z,5.5nm,1.1s						
Q51A	**Peebles**	**27.63**	**6**	P	**P**	**06 14 03.1**	**+0.1**
COWI	**Conover**	**34.54**	**358**	P	**P**	**06 15 02.1**	**-1.6**
REDW	**Red Top Meadow**	**37.82**	**331**	P	**P**	**06 15 32.5**	**+0.4**
REDW				IAmb	IAmb	06 15 34.1	
	comp=Z,2.2nm,0.6s						
MDPB	**Devils Postpil**	**38.67**	**318**	P	**P**	**06 15 40.5**	**+1.1**
MCMT	**McKenzie Canyo**	**39.87**	**331**	P	**P**	**06 15 48.8**	**-0.4**

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*TUL **26** 06:13:30.1±0.8, 35°78N±0°02×97°49W±0°02, h6km±8km, ML3.3, Mwr3.3/19(SLM), Error ellipse: s-maj=2.3km s-min=2.2km az=215.0, Moment Tensor Solution. Moment tensor: Scale 10¹³Nm; Mrr0.56; Mθθ3.90; Mϕϕ-4.46; Mrθ-3.27; Mrϕ7.79; Mθϕ0.08;*
*UNK **26** 06:13:30.2, 35°79N×97°51W, h5km*
*NEIC **26** 06:13:30.3±1.4, 35°79N±0°01×97°49W±0°03, h7km±10km, Error ellipse: s-maj=4.1km s-min=1.5km az=85.0*
*ANF **26** 06:13:31.4±1.1, 35°77N×97°47W, h18km±8km, ML4.2/13, Error ellipse: s-maj=3.0km s-min=1.9km az=165.0*

ISC 26 06:13:30.5±1.2, 35°79N±0°04×97°50W±0°03, h8km±8km, n58, σ0s87/70, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ADOK	**Arcadia Dam**	**0.17**	**143**		**Pg**	**06 13 33.8**	**-0.2**
ADOK				Sg	**Sg**	**06 13 36.5**	**+0.1**
OK009	**Oakdale Elemen**	**0.21**	**164**		**Pg**	**06 13 34.5**	**-0.2**
OK001	**Jones High Sch**	**0.28**	**143**	Pg	**Pg**	**06 13 35.9**	**-0.2**
OK005	**Luther M Schoo**	**0.28**	**118**		**Pg**	**06 13 35.9**	**-0.1**
OK005				Sg	**Sg**	**06 13 40.1**	**+0.3**
OKCFA	**Oklahoma City**	**0.37**	**175**		**Pg**	**06 13 37.4**	**-0.4**
OKCSW	**OKLAHOMA CITY**	**0.38**	**173**		**Pg**	**06 13 37.6**	**-0.3**
W35A	**Tecumseh**	**0.81**	**141**		**Pg**	**06 13 45.1**	**-1.0**
X34A	**Smith Ranch, M**	**1.22**	**193**	Pg	**Pb**	**06 13 53.1**	**-0.7**
U32A	**Winter Ranch,**	**1.36**	**296**		**Pn**	**06 13 55.0**	**-0.8**
T35A	**Sooner Cattle**	**1.38**	**35**		**Pn**	**06 13 55.5**	**-0.6**
TUL1	**Leonard**	**1.39**	**84**	P	**Pn**	**06 13 55.1**	**-1.1**
	baz=266						
TUL1				S	**Sb**	**06 14 14.0**	**-0.6**
	baz=266						
TUL1	**Leonard**	**1.39**	**84**		**Pn**	**06 13 55.1**	**-1.1**
WMOK	**Wichita Mounta**	**1.48**	**226**	P	**Pn**	**06 13 57.0**	**-0.6**
	baz=44						
WMOK				S	**Sn**	**06 14 16.5**	**-0.7**
	baz=44						
WMOK	**Wichita Mounta**	**1.48**	**226**		**Pn**	**06 13 57.0**	**-0.6**
WMOK					**Sn**	**06 14 16.5**	**-0.7**
X37A	**Clayton**	**2.11**	**124**		**Pn**	**06 14 06.2**	**0.0**
Z35A	**Perchaven, San**	**2.46**	**175**		**Pn**	**06 14 11.9**	**+0.9**
U38A	**Gravette**	**2.60**	**75**		**Pn**	**06 14 13.6**	**+0.7**
R32A	**Long Quarter,**	**2.81**	**340**		**Pn**	**06 14 17.1**	**+1.4**
HHAR	**Hobbs**	**2.92**	**79**		**Pn**	**06 14 18.2**	**+0.8**
W39A	**Magazine**	**3.08**	**100**	P	**Pn**	**06 14 19.5**	**0.0**
	baz=282,SNR=12						
W39A	**Magazine**	**3.08**	**100**		**Pn**	**06 14 19.6**	**+0.1**
Z38A	**Mt. Pleasant**	**3.26**	**140**		**Pn**	**06 14 21.6**	**-0.4**
KSU1	**Kansas State U**	**3.38**	**12**	P	**Pn**	**06 14 23.9**	**+0.3**
	baz=192,SNR=8.8						
MIAR	**Mount Ida**	**3.44**	**110**	P	**Pn**	**06 14 24.7**	**+0.3**
	baz=292,SNR=30						
MIAR				S	**Sn**	**06 15 06.0**	**+0.6**
	baz=292						
MIAR	**Mount Ida**	**3.44**	**110**		**Pn**	**06 14 24.6**	**+0.2**
CBKS	**Cedar Bluff**	**3.51**	**330**	P	**Pn**	**06 14 25.8**	**+0.4**
	baz=149						
CBKS	**Cedar Bluff**	**3.51**	**330**	Pn	**Pn**	**06 14 26.2**	**+0.8**
AMTX	**Amarillo**	**3.54**	**256**	P	**Pn**	**06 14 25.7**	**-0.2**
	baz=74						
AMTX				Sb	**Sb**	**06 15 18.3**	**+1.7**
	baz=74						
AMTX	**Amarillo**	**3.54**	**256**	Pn	**Pn**	**06 14 25.7**	**-0.2**
ABTX	**Abilene, Hawle**	**3.62**	**210**	P	**Pn**	**06 14 26.7**	**-0.3**
	baz=28,SNR=11						
ABTX				S	**Sn**	**06 15 10.9**	**+1.0**
	baz=28						
ABTX	**Abilene, Hawle**	**3.62**	**210**		**Pn**	**06 14 26.7**	**-0.3**
WHTX	**Lake Whitney,**	**3.79**	**180**	P	**Pn**	**06 14 29.2**	**0.0**
	baz=359						
WHTX				Sb	**Sb**	**06 15 25.8**	**+2.2**
	baz=359						
WHTX	**Lake Whitney,**	**3.79**	**180**	Pn	**Pn**	**06 14 28.7**	**-0.5**
U40A	**Yellville**	**3.80**	**80**	P	**Pn**	**06 14 29.4**	**0.0**
	baz=263,SNR=9.3						
U40A				Sb	**Sb**	**06 15 27.8**	**+3.7**
	baz=263						
U40A	**Yellville**	**3.80**	**80**		**Pn**	**06 14 28.9**	**-0.5**
237A	**Washetta, Mont**	**4.03**	**159**	Pn	**Pn**	**06 14 31.6**	**-0.9**
X40A	**Basin Creek Fa**	**4.03**	**107**	P	**Pn**	**06 14 32.5**	**0.0**
	baz=290,SNR=8.4						
X40A	**Basin Creek Fa**	**4.03**	**107**		**Pn**	**06 14 32.8**	**+0.2**
WLAR	**White Oak Lake**	**4.17**	**119**	Pn	**Pn**	**06 14 34.1**	**-0.4**
WHAR	**Wooly Hollow**	**4.27**	**95**	Pn	**Pn**	**06 14 35.9**	**0.0**
W41B	**Gary Mavity, V**	**4.33**	**97**	P	**Pn**	**06 14 36.3**	**-0.2**
	baz=280,SNR=13						
W41B				S	**Sn**	**06 15 27.9**	**+0.7**
	baz=280						
W41B	**Gary Mavity, V**	**4.33**	**97**		**Pn**	**06 14 36.7**	**+0.1**
UALR	**University of**	**4.33**	**102**	Pn	**Pn**	**06 14 36.5**	**-0.2**
Z41A	**Richland Creek**	**4.62**	**122**	Pn	**Pn**	**06 14 40.1**	**-0.5**
R40A	**Maddies Statio**	**4.87**	**58**	Pn	**Pn**	**06 14 44.4**	**+0.3**
P38A	**Dawn**	**4.96**	**38**		**Pn**	**06 14 46.5**	**+1.3**
CCAR	**Cane Creek**	**5.06**	**110**	Pn	**Pn**	**06 14 46.4**	**-0.3**
LCAR	**Lake Charles**	**5.15**	**85**	Pn	**Pn**	**06 14 47.9**	**0.0**
KSCO	**Kaye Shedlock'**	**5.20**	**310**	S	**Sn**	**06 15 46.9**	**-2.1**
	baz=127						
JCT	**Junction City**	**5.63**	**201**	Pn	**Pn**	**06 14 53.4**	**-1.2**
SDCO	**Great Sand Dun**	**6.72**	**289**	P	**Pn**	**06 15 09.9**	**+0.1**
	baz=105						
OXF	**Oxford**	**6.75**	**99**	P	**Pn**	**06 15 09.5**	**-0.4**
	baz=283						
OXF				S	**Sn**	**06 16 25.6**	**-1.3**
	baz=283						
ISCO	**Idaho Springs**	**7.57**	**304**	P	**Pn**	**06 15 21.5**	**0.0**
	baz=120						
MNTX	**Cornudas Mount**	**7.73**	**240**	P	**Pn**	**06 15 22.5**	**-0.9**
	baz=56						
ECSD	**EROS Data Cent**	**7.97**	**5**	P	**Pn**	**06 15 25.6**	**-1.0**
	baz=185						
HDIL	**Hopedale**	**8.02**	**51**	P	**Pn**	**06 15 27.2**	**-0.1**
	baz=236,SNR=11						
JFWS	**Jewell Farm**	**9.06**	**36**	P	**Pn**	**06 15 41.3**	**-0.3**
	baz=221						
RSSD	**Black Hills**	**9.72**	**331**	P	**Pn**	**06 15 51.5**	**+0.7**
	baz=147						

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*IDC **26** 06:20:02.1±1.2, 4°09N×71°34W, h0km, mb3.3/4, mb1 3.7/7, mb1mx3.5/32, mbtmp3.6/7, ML2.9/3, MS3.1/1, Ms1 3.1/1, ms1mx2.4/20, Error ellipse: s-maj=19.3km s-min=16.2km az=39.0*
*RSNC **26** 06:20:05.2±1.0, 3°89N×71°59W, h4km±5km, ML3.3, Mw3.5*

ISC 26 06:20:01.9±1.6, 4°01N±0°03×71°41W±0°04, h10km±10km, n38, σ2s18/62, mb3.3/3, 1D, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PTGC	**Puerto Gaitan,**	**0.74**	**284**	⇓*i*Pg	**Pg**	**06 20 15.5**	**-0.7**
PTGC				*e*Sg	**Sg**	**06 20 24.3**	**-1.6**
PTGC				*i*		06 20 38.1	
	comp=Z,672nm,0.4s						
GUVC	**San Jose del G**	**1.90**	**220**	*eP*	**Pn**	**06 20 33.5**	**-0.9**
GUVC				*eS*	**Sn**	**06 20 56.4**	**-2.1**
GUVC				*i*		06 21 04.1	
	comp=Z,486nm,0.3s						
CHIC	**Chingaza**	**2.39**	**285**	*eP*	**Pn**	**06 20 42.7**	**+1.1**
CHIC				*eS*	**Sn**	**06 21 11.6**	**+0.4**
CHIC				*i*		06 21 17.3	
	comp=Z,185nm,0.4s						
TAMC	**Tame, Arauca**	**2.44**	**351**	*eP*	**Pb**	**06 20 45.9**	**0.0**
TAMC				*eS*	**Sb**	**06 21 17.5**	**+1.5**
TAMC				*i*		06 21 23.2	
	comp=Z,212nm,0.3s						
RUSC	**La Rusia**	**2.50**	**318**	*eP*	**Pb**	**06 20 45.9**	**-1.4**
RUSC				*eS*	**Sb**	**06 21 17.6**	**-0.7**
RUSC				*i*		06 21 34.7	
	comp=Z,104nm,0.6s						
ROSC	**El Rosal**	**3.01**	**286**	Pn	**Pn**	**06 20 52.9**	**+2.8**
	comp=Z,7.6nm,0.3s,baz=95,slow=18,SNR=6.8						
ROSC				Pg	**Pg**	**06 21 00.8**	**+1.1**
	comp=Z,25nm,0.3s,baz=95,slow=11,SNR=22						
ROSC				Sn	**Sb**	**06 21 30.6**	**-2.4**
	comp=Z,6.7nm,0.3s,baz=117,slow=22,SNR=3.8						
ROSC				Lg	Lg	06 21 41.0	
	comp=Z,12nm,0.3s,baz=324,slow=23,SNR=2.2						
ROSC	**El Rosal**	**3.01**	**286**	*eP*	**Pn**	**06 20 52.6**	**+2.5**
ROSC				*eS*	**Sn**	**06 21 27.2**	**+0.7**
ROSC				*i*		06 21 45.2	
	comp=Z,54nm,0.5s						
MACC	**Macarena, Meta**	**3.06**	**233**	*eP*	**Pn**	**06 20 52.2**	**+1.8**
MACC				*eS*	**Sn**	**06 21 27.8**	**+0.7**
MACC				*i*		06 21 41.9	
	comp=Z,297nm,0.5s						
BARC	**Barichara**	**3.11**	**326**	*eP*	**Pn**	**06 20 54.3**	**+3.0**
BARC				*eS*	**Sb**	**06 21 33.1**	**-2.5**
BARC				*i*		06 21 48.2	
	comp=Z,169nm,0.4s						
SPBC	**San Pablo de B**	**3.11**	**302**	*eP*	**Pn**	**06 20 52.4**	**+1.3**
SPBC				*eS*	**Sn**	**06 21 30.4**	**+1.9**
SPBC				*i*		06 21 42.4	
	comp=Z,57nm,0.4s						
PRAC	**Prado**	**3.48**	**265**	*eP*	**Pn**	**06 20 57.6**	**+1.4**
PRAC				*eS*	**Sn**	**06 21 38.6**	**+1.1**
PRAC				*i*		06 21 58.4	
	comp=Z,93nm,0.8s						
PAMC	**Pamplona, Colo**	**3.54**	**339**	*eP*	**Pn**	**06 20 60.0**	**+2.5**
PAMC				*eS*	**Sb**	**06 21 47.8**	**-0.6**
PAMC				*i*		06 22 06.7	
	comp=Z,87nm,0.3s						
NORC	**Norcasia**	**3.77**	**294**	*eP*	**Pn**	**06 21 02.1**	**+1.8**
NORC				*eS*	**Sn**	**06 21 45.8**	**+1.0**
NORC				*i*		06 22 02.6	
	comp=Z,29nm,0.6s						
ORTC	**Ortega, Tolima**	**3.83**	**269**	*eP*	**Pn**	**06 21 01.7**	**+0.7**
ORTC				*eS*	**Sn**	**06 21 45.4**	**-0.7**
ORTC				*i*		06 22 14.4	
	comp=Z,70nm,0.5s						
PTBC	**PUERTO BERRIO,**	**3.94**	**310**	*eP*	**Pn**	**06 21 02.6**	**+0.2**
PTBC				*eS*	**Sn**	**06 21 44.3**	**-4.5**
PTBC				*i*		06 22 05.6	
	comp=Z,30nm,0.4s						
TOLC	**Tolima**	**3.94**	**278**	*eP*

comp=Z,0.3nm,0.6s,baz=122,slow=8.6,SNR=5.3
TORD Torodi Ar. Bea 72.66 78 P P 06 31 32.4 +1.9
comp=Z,0.4nm,0.8s,baz=305,slow=5.1,SNR=2.1

TAP ***26*** *06:42:19.4, 24.25N× 121.74E, h12km, ML3.5, B*
NEIC ***26*** *06:42:19.6±0.5, 24.23N±0.02× 121.74E±0.05, h12km±4km, ML4.0(TAP), Error ellipse: s-maj=7.0km s-min=2.2km az=109.0*
JMA ***26*** *06:42:19.3, 24.22N× 121.68E, h15km± 1km, M2.9*
ISC 26 06:42:19.4±0.9, 24.26N±0.02×121.78E±0.02, h9km±7km, **n112**, σ0.55/168, **13D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.18**	**349**	⇓*i*P	**Pg**	**06 42 23.6**	**+0.5**
	baz=1.0						
ENA				*i* S	**Sg**	**06 42 26.6**	**+1.0**
	baz=1.0						
NACB	**Ninganchiao**	**0.18**	**244**	P	**Pg**	**06 42 23.1**	**-0.2**
	baz=234						
NACB				*i* S	**Sg**	**06 42 25.6**	**-0.3**
	baz=234						
NACB	**Ninganchiao**	**0.18**	**244**		**Pg**	**06 42 23.0**	**-0.3**
NACB				Sg	**Sg**	**06 42 25.5**	**-0.3**
TWD	**Chiawan**	**0.24**	**224**	*i* P	**Pg**	**06 42 24.2**	**0.0**
	baz=217						
TWD				S	**Sg**	**06 42 27.5**	**0.0**
	baz=217						
ETLH	**Xiulin Townshi**	**0.27**	**260**	P	**Pg**	**06 42 24.5**	**-0.4**
	baz=261						
ETLH				*e*S	**Sg**	**06 42 28.2**	**-0.4**
	baz=261						
TWC	**Suao**	**0.36**	**11**	⇓*i*P	**Pb**	**06 42 27.0**	**-1.0**
	baz=8.0						
TWC				*e*S	**Sb**	**06 42 32.3**	**-1.5**
	baz=8.0						
NNSB	**Datong**	**0.40**	**296**	⇓P	**Pg**	**06 42 27.3**	**0.0**
	baz=299						
NNSB				S	**Sg**	**06 42 32.3**	**-0.3**
	baz=299						
NNSH	**Datong**	**0.40**	**296**	⇓P	**Pg**	**06 42 27.2**	**0.0**
	baz=298						
NNSH				*e*S	**Sg**	**06 42 32.2**	**-0.3**
	baz=298						
NNS	**Nan Shan**	**0.41**	**297**	⇓*i*P	**Pg**	**06 42 27.5**	**0.0**
	baz=300						
NNS				S	**Sg**	**06 42 32.7**	**-0.3**
	baz=300						
NDT	**Datong Townshi**	**0.42**	**325**	⇓*i*P	**Pg**	**06 42 28.0**	**+0.3**
	baz=329						
NDT				S	**Sg**	**06 42 33.9**	**+0.6**
	baz=329						
ENTT	**Nioudou**	**0.43**	**333**	⇓*i*P	**Pb**	**06 42 28.1**	**-1.1**
	baz=338						
ENTT				*i* S	**Sg**	**06 42 34.1**	**+0.7**
	baz=338						
TWE	**Neicheng**	**0.47**	**348**	*i* P	**Pb**	**06 42 29.2**	**-0.8**
	baz=359						
TWE				*i* S	**Sb**	**06 42 35.7**	**-1.5**
	baz=359						
WHF	**Hehuan Shan**	**0.48**	**257**	*i* P	**Pg**	**06 42 28.4**	**-0.4**
	baz=257						
WHF				*e*S	**Sg**	**06 42 34.7**	**-0.5**
	baz=257						
ILA	**Ilan**	**0.51**	**357**	*e*S	**Sb**	**06 42 37.7**	**-0.5**
	baz=355						
ESL	**Shilin**	**0.54**	**216**	P	**Pg**	**06 42 29.4**	**-0.5**
	baz=221						
YHNB	**Yeheng**	**0.55**	**319**	⇓P	**Pg**	**06 42 30.3**	**+0.2**
	baz=321						
YHNB				*e*S	**Sg**	**06 42 37.9**	**+0.5**
	baz=321						
YHNB	**Yeheng**	**0.55**	**319**		**Pg**	**06 42 30.1**	**-0.1**
YHNB				Sg	**Sg**	**06 42 37.7**	**+0.3**
TDCB	**Techi**	**0.56**	**270**	⇓P	**Pg**	**06 42 30.3**	**-0.1**
	baz=271						
TDCB				*i* S	**Sg**	**06 42 37.2**	**-0.6**
	baz=271						
NSK	**Sanguang**	**0.57**	**318**	⇓*i*P	**Pg**	**06 42 30.5**	**+0.1**
	baz=321						
NSK				*e*S	**Sg**	**06 42 38.2**	**+0.3**
	baz=321						
NWLT	**Wulai**	**0.58**	**334**	P	**Pg**	**06 42 30.8**	**+0.1**
	baz=337						
NWLT				*i* S	**Sg**	**06 42 38.5**	**+0.3**
	baz=337						
CHGB	**Renai**	**0.58**	**251**	⇓P	**Pg**	**06 42 30.5**	**-0.3**
	baz=244						
CHGB				S	**Sg**	**06 42 38.6**	**+0.1**
	baz=244						
NTC	**Toucheng**	**0.60**	**5**	⇓P	**Pb**	**06 42 31.4**	**-0.7**
	baz=7.0						
NTC				*e*S	**Sg**	**06 42 39.3**	**+0.4**
	baz=7.0						
EGS		**0.60**	**13**	P	**Pb**	**06 42 31.9**	**-0.3**
	baz=24						
OWD	**Renai**	**0.62**	**242**	*e*P	**Pg**	**06 42 31.8**	**+0.2**
	baz=235						
EGFH	**Guangfu**	**0.67**	**209**	*e*P	**Pg**	**06 42 32.0**	**-0.3**
	baz=222						
TIPB	**Shuangxi**	**0.72**	**4**	⇓P	**Pb**	**06 42 33.5**	**-0.6**
	baz=5.0						
TIPB				*e*S	**Sg**	**06 42 42.6**	**0.0**
	baz=5.0						
NHDH	**Xindian Distri**	**0.74**	**342**	*e*P	**Pb**	**06 42 34.7**	**+0.2**
	baz=344						
NHDH				*e*S	**Sb**	**06 42 44.4**	**-0.5**
	baz=344						
TWA	**Mucha**	**0.74**	**346**	P	**Pb**	**06 42 34.2**	**-0.4**
	baz=349						
WHP	**Taichung City**	**0.76**	**272**	*e*P	**Pg**	**06 42 33.9**	**-0.1**
	baz=273						
WHP				*e*S	**Sg**	**06 42 43.7**	**-0.3**
	baz=273						
WLTB	**Daxi**	**0.76**	**321**	*e*P	**Pb**	**06 42 34.4**	**-0.5**
	baz=323						
TATO	**Taipei**	**0.76**	**340**	P	**Pb**	**06 42 34.2**	**-0.7**
	baz=342						
TATO				*e*S	**Sg**	**06 42 44.3**	**+0.2**
	baz=342						
TATO	**Taipei**	**0.76**	**340**		**Pb**	**06 42 34.6**	**-0.4**
VWDT	**VWDT**	**0.77**	**230**	*e*P	**Pg**	**06 42 33.7**	**-0.4**
	baz=229						
VWDT				*e*S	**Sg**	**06 42 44.4**	**+0.3**
	baz=229						
TWB1	**Santiao Chiao**	**0.78**	**14**	P	**Pb**	**06 42 34.7**	**-0.4**
	baz=16						
TWB1				*e*S	**Sb**	**06 42 45.0**	**-0.7**
	baz=16						
LIOB	**Emei**	**0.80**	**299**	P	**Pb**	**06 42 35.0**	**-0.5**
	baz=301						
LIOB				*e*S	**Sb**	**06 42 46.1**	**-0.3**
	baz=301						
NSTT	**Nanjuang**	**0.80**	**298**	P	**Pb**	**06 42 35.1**	**-0.5**
	baz=300						
NSTT				*e*S	**Sb**	**06 42 45.9**	**-0.6**
	baz=300						
DPDB	**Guoxing**	**0.81**	**254**	*e*P	**Pg**	**06 42 34.8**	**-0.1**
	baz=254						
NWF	**Wu-fen Shan**	**0.81**	**0**	P	**Pb**	**06 42 35.7**	**-0.1**
	baz=2.0						
WFSB	**Wu-fen Shan**	**0.81**	**0**	P	**Pb**	**06 42 35.8**	**0.0**
	baz=2.0						
TAP	**Taipei**	**0.82**	**343**	*e*S	**Sb**	**06 42 47.3**	**+0.2**
	baz=345						
HGSD	**Ruisui**	**0.82**	**203**	*e*P	**Pb**	**06 42 35.6**	**-0.3**
	baz=218						
EHY	**Hungye**	**0.85**	**209**	P	**Pg**	**06 42 35.4**	**-0.4**
	baz=220						
SMLT	**Sun Moon Lake**	**0.88**	**245**	P	**Pg**	**06 42 36.2**	**-0.2**
	baz=236						
SMLT				*e*S	**Sb**	**06 42 48.7**	**-0.3**
	baz=236						
SSLB	**Suanglung**	**0.89**	**238**	P	**Pg**	**06 42 35.7**	**-0.7**
	baz=238						
SSLB				*e*S	**Sg**	**06 42 47.1**	**-0.9**
	baz=238						
SSLB	**Suanglung**	**0.89**	**238**		**Pg**	**06 42 35.7**	**-0.7**
SSLB				Sg	**Sg**	**06 42 47.0**	**-0.9**
NCU	**National Centr**	**0.89**	**323**	*e*P	**Pb**	**06 42 37.7**	**+0.5**
	baz=325						
NCUH	**Zhongli**	**0.89**	**323**	*e*P	**Pb**	**06 42 37.3**	**+0.2**
	baz=324						
SBCB	**Hsinchu**	**0.90**	**307**	*e*P	**Pb**	**06 42 37.4**	**+0.2**
	baz=308						
TWS1	**Kuangyinshan**	**0.90**	**339**	*e*P	**Pn**	**06 42 37.8**	**-0.6**
	baz=341						
TYC	**Yuchr**	**0.91**	**248**	*e*P	**Pg**	**06 42 36.7**	**-0.3**
	baz=239						
TYC				*e*S	**Sb**	**06 42 49.5**	**-0.1**
	baz=239						
YM04	**YM04**	**0.92**	**346**	P	**Pb**	**06 42 37.6**	**0.0**
	baz=336						
YM05	**YM05**	**0.93**	**348**	P	**Pb**	**06 42 37.8**	**+0.1**
	baz=350						
NSY	**Sanyi**	**0.94**	**280**	P	**Pb**	**06 42 38.1**	**+0.1**
	baz=280						
NMLH	**Miaoli**	**0.94**	**288**	*e*P	**Pn**	**06 42 39.1**	**+0.2**
	baz=288						
YM08	**YM08**	**0.94**	**350**	*e*P	**Pb**	**06 42 38.0**	**0.0**
	baz=335						
YM03	**YM03**	**0.95**	**347**	P	**Pb**	**06 42 38.2**	**+0.1**
	baz=337						
NTST	**Danshui**	**0.95**	**342**	*e*P	**Pb**	**06 42 37.9**	**-0.3**
	baz=343						
YULB	**Yu-li**	**0.96**	**207**	*e*P	**Pg**	**06 42 37.7**	**-0.3**
	baz=216						
YULB				*e*S	**Sg**	**06 42 50.4**	**-0.1**
	baz=216						
YULB	**Yu-li**	**0.96**	**207**		**Pg**	**06 42 37.4**	**-0.6**
PTSB	**Yuanli**	**1.00**	**281**	*e*P	**Pb**	**06 42 39.2**	**+0.3**
	baz=282						
TWF1	**Yuli**	**1.00**	**206**	*e*P	**Pg**	**06 42 38.3**	**-0.4**
	baz=217						
TCU	**Taichung**	**1.01**	**264**	*e*P	**Pn**	**06 42 40.1**	**+0.3**
	baz=264						
WHYT	**Xinyi Township**	**1.01**	**237**	*e*P	**Pb**	**06 42 39.1**	**-0.1**
	baz=236						
TWY	**Chenhua**	**1.03**	**351**	*e*P	**Pn**	**06 42 41.0**	**+0.9**
	baz=337						
WDJ	**Dajia District**	**1.04**	**275**	*e*P	**Pn**	**06 42 40.3**	**0.0**
	baz=275						
WJS	**Zhushan**	**1.05**	**246**	*e*P	**Pb**	**06 42 40.2**	**+0.3**
	baz=242						
WJS				*e*S	**Sb**	**06 42 55.0**	**+1.2**
	baz=242						
WNT	**Mingjian**	**1.07**	**250**	*e*P	**Pn**	**06 42 40.6**	**0.0**
	baz=247						
WNT				*e*S	**Sn**	**06 42 55.6**	**0.0**
	baz=247						
JYNG	**Yonagunijimaku**	**1.08**	**79**	P	**Pn**	**06 42 40.7**	**-0.1**
JYNG				*e*S	**Sn**	**06 42 55.8**	**-0.2**
WCHH	**Zhanghua**	**1.13**	**261**	*e*P	**Pn**	**06 42 41.7**	**+0.3**
	baz=261						
FULB	**Fuli**	**1.14**	**203**	*e*P	**Pb**	**06 42 41.2**	**-0.1**
	baz=216						
YOJ	**Yonaguni jima**	**1.14**	**79**	P	**Pn**	**06 42 41.6**	**0.0**
	baz=68						
YOJ	**Yonaguni jima**	**1.14**	**79**	P	**Pn**	**06 42 41.7**	**0.0**
YOJ				*e*S	**Sn**	**06 42 58.5**	**+1.0**
YOJ	**Yonaguni jima**	**1.14**	**79**		**Pn**	**06 42 41.6**	**0.0**
ALS	**Alishan**	**1.16**	**230**	*e*P	**Pg**	**06 42 41.5**	**-0.1**
	baz=216						
CHN5	**Tsauling**	**1.20**	**237**	P	**Pb**	**06 42 42.4**	**0.0**
	baz=238						
CHN5				*e*S	**Sn**	**06 42 59.8**	**+0.8**
	baz=238						
WGK	**Gukeng**	**1.25**	**243**	*e*P	**Pn**	**06 42 43.5**	**+0.4**
	baz=226						
WDLH	**Douliu**	**1.27**	**244**	P	**Pn**	**06 42 43.8**	**+0.4**
	baz=245						
WDLH				*e*S	**Sn**	**06 43 01.0**	**+0.5**
	baz=245						
ELDTW	**Lidau**	**1.27**	**213**	*e*P	**Pg**	**06 42 42.6**	**-1.2**
	baz=213						
RLNB	**Erlin**	**1.34**	**255**	*e*P	**Pb**	**06 42 45.2**	**+0.4**
	baz=256						
RLNB				*e*S	**Sn**	**06 43 03.4**	**+0.9**
	baz=256						
PCYT	**Pengchaiyu**	**1.40**	**11**	P	**Pg**	**06 42 45.6**	**-0.6**
	baz=10.0						
CHN4	**Tsaushan**	**1.41**	**231**	P	**Pb**	**06 42 45.9**	**0.0**
	baz=232						
CHN4				*e*S	**Sn**	**06 43 05.8**	**+1.8**
	baz=232						
TPUB	**Ta-pu**	**1.42**	**228**	P	**Pn**	**06 42 45.6**	**+0.2**
	baz=229						
TPUB	**Ta-pu**	**1.42**	**228**		**Pn**	**06 42 45.5**	**0.0**
TPUB				Sn	**Sb**	**06 43 04.5**	**+0.2**
STYT	**Tauyuan**	**1.43**	**221**	*e*P	**Pn**	**06 42 45.8**	**+0.1**
	baz=221						
STYT				*e*S	**Sn**	**06 43 06.4**	**+1.6**
	baz=221						
CHY	**Chiayi**	**1.45**	**239**	*e*P	**Pb**	**06 42 46.8**	**+0.1**
	baz=240						
CHY				*e*S	**Sg**	**06 43 06.5**	**+0.4**
	baz=240						
WTP	**Ta-pu**	**1.46**	**227**	*e*P	**Pn**	**06 42 46.4**	**+0.3**
	baz=228						
WTP				*e*S	**Sg**	**06 43 06.7**	**+0.2**
	baz=228						
TWK	**Hsinying**	**1.54**	**230**	*e*P	**Pn**	**06 42 47.5**	**+0.3**
	baz=232						
TWK				*e*S	**Sg**	**06 43 08.5**	**-0.4**
	baz=232						
SNST	**Tainan City**	**1.56**	**229**	*e*P	**Pb**	**06 42 48.6**	**0.0**
	baz=230						
CHN1	**Nanshi**	**1.56**	**227**	*e*P	**Pb**	**06 42 48.5**	**0.0**
	baz=229						
CHN1				*e*S	**Sg**	**06 43 09.7**	**0.0**
	baz=229						
TWG	**Pinlang**	**1.57**	**205**	*e*P	**Pn**	**06 42 47.4**	**-0.1**
	baz=190						
TWG	**Pinlang**	**1.57**	**205**		**Pn**	**06 42 47.7**	**+0.2**
SGST	**Jiashian**	**1.60**	**223**	*e*P	**Pn**	**06 42 47.8**	**-0.1**
	baz=224						
SLGT	**Liugui**	**1.63**	**220**	*e*P	**Pn**	**06 42 48.8**	**+0.5**
	baz=222						
SLGT				*e*S	**Sg**	**06 43 11.2**	**-0.6**
	baz=222						
IRIF	**Iriomote-Funau**	**1.78**	**87**	P	**Pn**	**06 42 51.0**	**+0.5**
IRIF				*e*S	**Sn**	**06 43 14.2**	**+0.9**
SSD	**Sandimen**	**1.83**	**215**	*e*P	**Pb**	**06 42 52.9**	**-0.3**
	baz=229						
SSD				*e*S	**Sb**	**06 43 16.9**	**+0.6**
	baz=229						
HATJ	**Hateruma jima**	**1.86**	**96**	S	**Sn**	**06 43 16.2**	**+1.0**
MASBT	**Mashibuluo**	**1.94**	**213**	*e*P	**Pn**	**06 42 53.4**	**+0.7**
	baz=216						
JKRS	**Kuro-shima**	**2.04**	**90**	P	**Pn**	**06 42 54.9**	**+0.9**
JKRS				S	**Sb**	**06 43 21.4**	**-0.7**
PNG	**Penghu**	**2.15**	**252**	*e*P	**Pn**	**06 42 55.2**	**-0.3**
	baz=254						
PNG				*e*S	**Sn**	**06 43 22.4**	**+0.1**
	baz=254						
PHUB	**P'eng-hu**	**2.15**	**250**	*e*P	**Pn**	**06 42 56.2**	**+0.7**
	baz=252						
PHUB				*e*S	**Sn**	**06 43 22.7**	**+0.4**
	baz=252						
JIJ	**Ishigaki jima**	**2.16**	**87**	P	**Pn**	**06 42 55.8**	**+0.1**
JIJ				S	**Sn**	**06 43 23.1**	**+0.5**
WDGT	**Dungji**	**2.18**	**243**	*e*P	**Pn**	**06 42 56.1**	**+0.2**
	baz=244						
PTTC	**Pingtan**	**2.21**	**305**	*e*P	**Pn**	**06 42 56.4**	**+0.1**
	baz=305						
VWUC	**VWUC**	**2.24**	**290**	*e*P	**Pn**	**06 42 55.8**	**-1.0**
	baz=289						
JISG	**Ishigakijimahi**	**2.33**	**81**	P	**Pn**	**06 42 58.8**	**+0.8**
JISG				*e*S	**Sn**	**06 43 27.8**	**+0.9**
VCHM	**Qimei**	**2.39**	**245**	*e*P	**Pn**	**06 42 58.6**	**-0.2**
	baz=233						
VCHM				*e*S	**Sn**	**06 43 29.1**	**+0.8**
	baz=233						
MATB	**Ma-tsu**	**2.51**	**319**	*e*P	**Pn**	**06 43 00.3**	**-0.3**
	baz=319						
PTMZ	**Houxiangcun**	**2.54**	**288**	*e*P	**Pn**	**06 43 00.3**	**-0.6**
	baz=288						
KNMB	**Chin-men Tao**	**3.10**	**275**	*e*P	**Pn**	**06 43 07.4**	**-1.2**
	baz=273						
KNMB	**Chin-men Tao**	**3.10**	**275**	Pn	**Pn**	**06 43 07.4**	**-1.2**
AXDP	**Jialang**	**3.52**	**281**	*e*P	**Pn**	**06 43 14.9**	**+0.5**
	baz=280						
ZPLA	**Ao Xicun**	**3.69**	**266**	*e*P	**Pn**	**06 43 16.1**	**-0.7**
	baz=264						

IDC 26 07:00:02.2±2.3, 6.49N× 124.81E, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.5/34, mbtmp3.9/3, 1C, Error ellipse: s-maj=221.6km s-min=25.6km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PGP	**Puerto Galera**	**7.94**	**332**	⇑*e*P	Pg	07 02 35.8	+1.4
WRA	**Warramunga Arr**	**27.89**	**161**	P	P	07 05 54.4	+0.3
	1.5nm,0.4s,baz=341,slow=9.0,SNR=17						
ASAR	**Alice Springs**	**31.26**	**164**	P	P	07 06 23.5	-0.4
	0.6nm,0.3s,baz=340,slow=7.3,SNR=15						
MKAR	**Makanchi Array**	**54.22**	**325**	P	P	07 09 29.8	0.0
	0.4nm,0.4s,baz=124,slow=8.1,SNR=6.5						

NEIC ***26*** *07:05:42.9±0.6, 51.83N±0.08× 178.58E±0.05, h95km±2km, Error ellipse: s-maj=11.7km s-min=3.6km az=191.0*
AEIC 26 07:05:44.2±1.2, 51.73N±0.06×178.58E±0.08, h86km±4km, **mb3.4**/2(NEIC), **Error ellipse: s-maj=9.2km s-min=6.2km az=217.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSSE	**Little Sitkin**	**0.21**	**358**		Pn	07 05 56.5	-0.2
LSSE					Sn	07 06 05.9	0.0
LSSA	**Little Sitkin**	**0.23**	**349**		Pn	07 05 56.3	-0.5
LSSA					Sn	07 06 05.8	-0.3
LSPA	**Little Sitkin**	**0.23**	**359**		Pn	07 05 56.3	-0.5
LSPA					Sn	07 06 06.6	+0.5
LSNW	**Little Sitkin**	**0.25**	**350**		Pn	07 05 56.3	-0.6
AMKA	**Amchitka**	**0.57**	**128**		Pn	07 06 00.5	+1.5
AMKA					Sn	07 06 10.8	+0.7
CETU	**Semis' Tuman**	**0.61**	**67**		Pn	07 05 58.9	-0.6
CESW	**Semis' Southwe**	**0.63**	**74**		Pn	07 05 59.2	-0.4
CESW					Sn	07 06 10.3	-0.8
CEAP	**Semis' Anvil P**	**0.68**	**66**		Pn	07 05 59.4	-0.7
CERAA	**Semis' Rag'd T**	**0.71**	**75**		Pn	07 05 59.6	-0.8
TASE	**Tanaga Southea**	**2.10**	**86**		Pn	07 06 16.8	-0.7
TAFP	**Tanaga Falls P**	**2.14**	**84**		Pn	07 06 17.0	-1.0
KIKV	**Kanaga Island**	**2.64**	**85**		Pn	07 06 24.0	-0.7
SMY	**Shemya**	**2.93**	**292**	Pn	Pn	07 06 27.2	-1.4
ADK	**Adak**	**2.94**	**85**		Pn	07 06 27.6	-1.2
ADK	**Adak**	**2.94**	**85**	Sn	Sn	07 07 03.0	-0.1
GSMY	**Great Sitkin M**	**3.34**	**82**		Pn	07 06 32.9	-1.2
IL31		**22.02**	**40**	P	P	07 10 27.9	-3.1
IL31				IAmb	IAmb	07 10 40.8	
	comp=Z,2.0nm,0.9s						
BMAR	**Burnt Mountain**	**23.86**	**35**	P	P	07 10 47.4	-1.8
EGAK	**Eagle**	**24.37**	**42**	P	P	07 10 50.3	-3.5
EGAK				IAmb	IAmb	07 10 55.2	
	comp=Z,1.8nm,1.1s						

SOME ***26*** *07:36:59.6, 40.40N× 77.12E, h0km*
NNC ***26*** *07:37:04.7±1.6, 40.56N× 77.25E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=11.4km s-min=8.0km az=168.0*
KRNET ***26*** *07:37:04.1±0.1, 40.59N× 77.04E, h16km, mb2.9*
ISC 26 07:37:04.2±2.1, 40.57N±0.08× 77.12E±0.03, h2km±11km, **n57**, σ1.24/86, **24C-7D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.27**	**24**	⇑*i*P	**Pn**	**07 37 28.1**	**-1.3**
	baz=26						
TARG				⇑*i*S	**Sn**	**07 37 46.1**	**-1.1**
	baz=26						
KDJ	**Kajisay**	**1.56**	**2**	⇓*i*P	**Pb**	**07 37 33.2**	**-0.8**
	baz=4.0						
KDJ				⇓*i*S	**Sb**	**07 37 53.9**	**-0.4**
	baz=4.0						
ULHL	**Ulahol**	**1.80**	**339**	⇑*i*P	**Pb**	**07 37 36.9**	**-1.2**
	baz=40						
ULHL				⇑*i*S	**Sb**	**07 38 00.8**	**-0.5**
	baz=40						
ULHL	**Ulahol**	**1.80**	**339**	P	**Pb**	**07 37 37.9**	**-0.2**
	SNR=11						
KZA	**Kyzart**	**2.07**	**318**	⇑*e*P	**Pb**	**07 37 41.3**	**-1.4**
	baz=18						
KZA				⇑*i*S	**Sb**	**07 38 08.3**	**-0.7**
	baz=18						
KZA	**Kyzart**	**2.07**	**318**	P	**Pb**	**07 37 42.3**	**-0.4**
	SNR=14						
BOOM	**Boomskoye usch**	**2.12**	**336**	⇑*i*P	**Pb**	**07 37 42.0**	**-1.4**
	baz=37						
BOOM				⇑*i*S	**Sb**	**07 38 09.7**	**-0.5**
	baz=37						
PRZ	**Przheval'sk**	**2.14**	**26**	⇑*i*P	**Pb**	**07 37 43.1**	**-0.8**
	baz=28						
PRZ				⇑*i*S	**Sg**	**07 38 11.7**	**-1.4**
	baz=28						
ANVS	**Anan'yevo**	**2.25**	**10**	⇑*i*P	**Pb**	**07 37 44.4**	**-1.3**
	baz=12						
ANVS				⇑*i*S	**Sb**	**07 38 14.0**	**-0.1**
	baz=12						
TNSS	**Tian-Shan**	**2.47**	**357**	*e*P	**Pb**	**07 37 48.9**	**-0.7**
	12nm,0.7s						
TNSS				*e*S	**Sg**	**07 38 25.5**	**+1.8**
	30nm,0.5s						
TNSS	**Tian-Shan**	**2.47**	**357**	Pg	**Pb**	**07 37 48.9**	**-0.7**
	12nm,0.7s						
TNSS				Lg	Lg	07 38 25.5	
	30nm,0.5s						
ARLS	**Aral**	**2.48**	**302**	⇓*i*P	**Pn**	**07 37 46.7**	**+0.9**
	baz=3.0						
ARLS				⇓*i*S	**Sb**	**07 38 17.8**	**-2.8**
	baz=3.0						
UCH	**Uchtor**	**2.57**	**311**	⇑*e*P	**Pn**	**07 37 48.6**	**+1.3**
	baz=11						
UCH				⇑*i*S	**Sb**	**07 38 20.5**	**-3.1**
	baz=11						
UCH	**Uchtor**	**2.57**	**311**	P	**Pb**	**07 37 50.8**	**-0.5**
	SNR=9.9						
MDOK	**Medeo**	**2.59**	**359**	*e*P	**Pb**	**07 37 51.8**	**+0.2**
	6.0nm,0.7s						
MDOK				*e*S	**Sg**	**07 38 29.2**	**+1.5**
	17nm,0.6s						
MDOK	**Medeo**	**2.59**	**359**	Pg	**Pb**	**07 37 51.4**	**-0.2**
	11nm,1.1s						
MDOK				Lg	Lg	07 38 27.2	
	16nm,0.5s						
MDOK	**Medeo**	**2.59**	**359**	Pg	**Pb**	**07 37 51.8**	**+0.2**
	6.0nm,0.7s						
MDOK				Lg	Lg	07 38 29.2	
	17nm,0.6s						
TKM2	**Tokmak 2**	**2.62**	**335**	⇑*i*P	**Pn**	**07 37 48.7**	**+1.0**
	baz=36						
TKM2				⇑*i*S	**Sb**	**07 38 21.6**	**-3.0**
	baz=36						
TKM2	**Tokmak 2**	**2.62**	**335**	⇓Pg	**Pg**	**07 37 53.6**	**-0.8**
	1.3nm,0.3s						
TKM2				⇑Lg	Lg	07 38 27.7	
	7.9nm,0.5s						
KST	**Kastek**	**2.62**	**341**	*e*P	**Pb**	**07 37 51.9**	**-0.1**
	5.6nm,0.4s						
KST				*e*S	**Sg**	**07 38 29.5**	**+1.0**
	11nm,0.4s						
KST	**Kastek**	**2.62**	**341**	Pg	**Pb**	**07 37 51.9**	**-0.1**
	5.6nm,0.4s						
KST				Lg	Lg	07 38 29.5	
	11nm,0.4s						
KBK	**Karagaybulak**	**2.65**	**323**	⇑*e*P	**Pn**	**07 37 49.0**	**+0.9**
	baz=23						
KBK				⇑*i*S	**Sn**	**07 38 22.1**	**+1.2**
	baz=23						
KBK	**Karagaybulak**	**2.65**	**323**	P	**Pb**	**07 37 53.5**	**+0.9**
	SNR=5.6						
KOTS	**Kotyrbulak**	**2.67**	**360**	*e*P	**Pb**	**07 37 53.6**	**+0.8**
	17nm,0.3s						
KOTS				*e*S	**Sg**	**07 38 32.6**	**+2.7**
	100nm,0.6s						
KOTS	**Kotyrbulak**	**2.67**	**360**	Pg	**Pb**	**07 37 53.6**	**+0.8**
	17nm,0.3s						

DGS					*e*S	**Sg**	**07 38 37.4**	**+1.4**
	14nm,0.6s							
DGS	**Degeres**	**2.86**	**340**		Pg	**Pb**	**07 37 56.2**	**+0.2**
DGS	13nm,0.6s				Lg	Lg	07 38 37.4	
	14nm,0.6s							
AAK	**Ala-Archa**	**2.86**	**317**	⇑	*i*P	**Pn**	**07 37 52.0**	**+1.0**
AAK	baz=18			⇑	*i*S	**Sn**	**07 38 27.1**	**+1.0**
	baz=18							
AAK	**Ala-Archa**	**2.86**	**317**		P	**Pb**	**07 37 57.3**	**+1.3**
	SNR=7.9							
AAK	**Ala-Archa**	**2.86**	**317**		Pn	**Pb**	**07 37 57.2**	**+1.1**
AAK	5.9nm,0.5s				Lg	Lg	07 38 34.3	
	10.0nm,0.7s							
UZB	**Uzynbulak**	**2.94**	**28**		*e*P	**Pb**	**07 37 57.5**	**0.0**
UZB	4.0nm,0.3s				*e*S	**Sg**	**07 38 38.9**	**+0.1**
	9.1nm,0.5s							
UZB	**Uzynbulak**	**2.94**	**28**		Pg	**Pb**	**07 37 57.5**	**0.0**
UZB	4.0nm,0.3s				Lg	Lg	07 38 38.9	
	9.1nm,0.5s							
AML	**Almayashu**	**3.02**	**302**	⇓	*e*P	**Pn**	**07 37 54.3**	**+0.9**
AML	baz=2.0			⇓	*i*S	**Sn**	**07 38 31.3**	**+1.0**
	baz=2.0							
KURS	**Kuram**	**3.02**	**15**		*e*P	**Pb**	**07 37 59.3**	**+0.5**
KURS	5.3nm,0.7s				*e*S	**Sg**	**07 38 42.1**	**+0.8**
	9.9nm,0.6s							
KURS	**Kuram**	**3.02**	**15**		Pg	**Pb**	**07 37 59.3**	**+0.5**
KURS	5.3nm,0.7s				Lg	Lg	07 38 42.1	
	9.9nm,0.6s							
KPKS	**Kokpek**	**3.12**	**21**		*e*P	**Pb**	**07 38 00.7**	**+0.2**
KPKS	10nm,0.5s				*e*S	**Sg**	**07 38 44.6**	**+0.1**
	20nm,0.4s							
SHLS	**Shalkode**	**3.12**	**33**		*e*P	**Pg**	**07 38 03.5**	**-0.6**
SHLS	7.6nm,0.3s				*e*S	**Sg**	**07 38 49.6**	**+5.0**
	22nm,0.5s							
SHLS	**Shalkode**	**3.12**	**33**		Pg	**Pg**	**07 38 03.5**	**-0.6**
SHLS	7.6nm,0.3s				Lg	Lg	07 38 49.6	
	22nm,0.5s							
KTBS	**Karatobe**	**3.16**	**354**		*e*P	**Pb**	**07 38 01.6**	**+0.4**
KTBS	6.4nm,0.5s				*e*S	**Sg**	**07 38 46.1**	**+0.3**
	32nm,0.7s							
KTBS	**Karatobe**	**3.16**	**354**		Pg	**Pb**	**07 38 01.6**	**+0.4**
KTBS	6.4nm,0.5s				Lg	Lg	07 38 46.1	
	32nm,0.7s							
PDGK	**Podgornoye**	**3.28**	**32**		Pg	**Pb**	**07 38 03.3**	**+0.2**
PDGK	2.6nm,0.6s				Lg	Lg	07 38 49.0	
	6.3nm,0.7s							
PDGK	**Podgornoye**	**3.28**	**32**		Pg	**Pb**	**07 38 02.9**	**-0.2**
PDGK	4.6nm,0.7s			⇑	Lg	Lg	07 38 46.3	
	20nm,0.8s							
CHKK	**Chushkaly**	**3.29**	**358**		*e*P	**Pb**	**07 38 03.6**	**+0.4**
CHKK	5.8nm,0.4s				*e*S	**Sg**	**07 38 50.0**	**+0.2**
	12nm,0.3s							
CHKK	**Chushkaly**	**3.29**	**358**		Pg	**Pb**	**07 38 03.6**	**+0.4**
CHKK	5.8nm,0.4s				Lg	Lg	07 38 50.0	
	12nm,0.3s							
KRBS	**Karabastau**	**3.31**	**341**		*e*P	**Pb**	**07 38 04.2**	**+0.6**
KRBS	5.0nm,0.6s				*e*S	**Sg**	**07 38 51.4**	**+0.9**
	15nm,0.6s							
KRBS	**Karabastau**	**3.31**	**341**		Pg	**Pb**	**07 38 04.2**	**+0.6**
KRBS	5.0nm,0.6s				Lg	Lg	07 38 51.4	
	15nm,0.6s							
USP	**Ospenovka**	**3.33**	**325**		P	**Sg**	**07 38 50.6**	**-0.8**
	SNR=6.1							
SGDS	**Sogindy**	**3.43**	**328**		Pg	**Pb**	**07 38 06.3**	**+0.5**
SGDS	4.3nm,0.6s				Lg	Lg	07 38 54.0	
	4.6nm,0.3s							
DJR	**Jarkent**	**4.25**	**27**		*e*P	**Pb**	**07 38 21.0**	**+1.3**
DJR	1.5nm,0.4s				*e*S	**Sg**	**07 39 20.2**	**-0.5**
	5.4nm,0.5s							
DJR	**Jarkent**	**4.25**	**27**		Pg	**Pb**	**07 38 21.0**	**+1.3**
DJR	1.5nm,0.4s				Lg	Lg	07 39 20.2	
	5.4nm,0.5s							
KAPS	**Kapalarasan**	**4.99**	**18**		*e*P	**Pb**	**07 38 34.8**	**+2.5**
KAPS	1.5nm,0.6s				*e*S	**Sg**	**07 39 42.6**	**-2.0**
	2.5nm,0.4s							
KAPS	**Kapalarasan**	**4.99**	**18**		Pg	**Pb**	**07 38 34.8**	**+2.5**
KAPS	1.5nm,0.6s				Lg	Lg	07 39 42.6	
	2.5nm,0.4s							
KK31	**Karatay Array**	**5.55**	**299**	⇑	Pg	**Pg**	**07 38 49.9**	**-0.7**
KK31	0.9nm,0.7s,baz=127,slow=16,SNR=5.9			⇑	Lg	Lg	07 40 02.9	
	0.8nm,0.5s,baz=120,slow=28,SNR=4.4							

SOME ***26*** *07:42:01.5, 40.°42N×77.°07E, h0km*
KRNET ***26*** *07:42:06.3±0.1, 40.°61N×77.°12E, h21km, mb3.0*
NNC ***26*** *07:42:08.7±1.8, 40.°64N×77.°27E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=13.2km s-min=10.0km az=156.0*
ISC 26 07:42:04.8±2.3, 40.°52N±0.°09×77.°05E±0.°03, h9km±12km, n67, σ1s50/101, 23C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.34**	**25**	⇓	*i*P	**Pn**	**07 42 30.1**	**+0.1**
TARG	baz=25			⇓	*i*S	**Sn**	**07 42 47.3**	**-0.8**
	baz=25							
KDJ	**Kajisay**	**1.61**	**3**	⇑	*i*P	**Pg**	**07 42 35.2**	**-0.5**
KDJ	baz=2.0			⇑	*i*S	**Sg**	**07 42 56.0**	**-0.7**
	baz=2.0							
ULHL	**Ulahol**	**1.83**	**341**	⇑	*i*P	**Pb**	**07 42 39.3**	**+0.8**
ULHL	baz=38			⇑	*i*S	**Sg**	**07 43 03.2**	**-0.4**
	baz=38							
ULHL	**Ulahol**	**1.83**	**341**		P	**Pg**	**07 42 39.6**	**-0.2**
	SNR=11							
KZA	**Kyzart**	**2.07**	**320**	⇓	*i*P	**Pb**	**07 42 43.6**	**+0.9**
KZA	baz=17			⇓	*i*S	**Sg**	**07 43 11.2**	**0.0**
	baz=17							
KZA	**Kyzart**	**2.07**	**320**		P	**Pb**	**07 42 44.0**	**+1.3**
	SNR=23							
BOOM	**Boomskoye usch**	**2.14**	**337**	⇑	*e*P	**Pb**	**07 42 44.9**	**+1.1**
BOOM	baz=35			⇑	*i*S	**Sg**	**07 43 12.6**	**-0.9**
	baz=35							
PRZ	**Przheval'sk**	**2.21**	**27**	⇑	*i*P	**Pb**	**07 42 44.7**	**-0.3**
PRZ	baz=27			⇑	*i*S	**Sg**	**07 43 13.2**	**-2.6**
	baz=27							
ANVS	**Anan'yevo**	**2.31**	**11**	⇓	*i*P	**Pb**	**07 42 46.6**	**-0.1**
ANVS	baz=11			⇓	*i*S	**Sg**	**07 43 16.0**	**-3.0**
	baz=11							
ARLS	**Aral**	**2.46**	**304**	⇑	*e*P	**Pb**	**07 42 49.7**	**+0.5**
ARLS	baz=2.0			⇑	*i*S	**Sb**	**07 43 21.6**	**+2.0**
	baz=2.0							
TNSS	**Tian-Shan**	**2.52**	**358**		*e*P	**Pb**	**07 42 50.7**	**+0.4**
TNSS	19nm,0.5s				*e*S	**Sg**	**07 43 27.1**	**+1.4**
	37nm,0.6s							
TNSS	**Tian-Shan**	**2.52**	**358**		Pg	**Pb**	**07 42 50.7**	**+0.4**
TNSS	19nm,0.5s				Lg	Lg	07 43 27.1	
	37nm,0.6s							
UCH	**Uchtor**	**2.56**	**313**	⇑	*i*P	**Pb**	**07 42 50.8**	**-0.4**
	baz=10.0							
UCH	baz=10.0			⇑	*i*S	**Sb**	**07 43 24.0**	**+1.1**
UCH	**Uchtor**	**2.56**	**313**		P	**Pb**	**07 42 52.5**	**+1.4**
	SNR=12							
TKM2	**Tokmak 2**	**2.63**	**336**	⇓	*e*P	**Pb**	**07 42 51.4**	**-0.9**
TKM2	baz=34			⇓	*i*S	**Sb**	**07 43 24.9**	**+0.1**
	baz=34							
TKM2	**Tokmak 2**	**2.63**	**336**		P	**Pb**	**07 42 53.0**	**+0.7**
	SNR=6.5							
TKM2	**Tokmak 2**	**2.63**	**336**	⇓	Pn	**Pb**	**07 42 54.2**	**+1.9**
TKM2	1.7nm,0.3s			⇓	Lg	Lg	07 43 29.8	
	10.0nm,0.5s							
MDOK	**Medeo**	**2.64**	**360**		*e*P	**Pb**	**07 42 53.4**	**+1.1**
MDOK	10.0nm,0.6s				*e*S	**Sg**	**07 43 30.9**	**+1.2**
	29nm,0.5s							
MDOK	**Medeo**	**2.64**	**360**		Pn	**Pg**	**07 42 54.0**	**-1.4**
MDOK	12nm,0.8s				Lg	Lg	07 43 30.3	
	22nm,0.5s							
MDOK	**Medeo**	**2.64**	**360**		Pg	**Pb**	**07 42 53.4**	**+1.1**
MDOK	10.0nm,0.6s				Lg	Lg	07 43 30.9	
	29nm,0.5s							
KST	**Kastek**	**2.65**	**342**		*e*P	**Pb**	**07 42 53.7**	**+1.2**
KST	7.1nm,0.6s				*e*S	**Sg**	**07 43 31.5**	**+1.6**
	14nm,0.4s							
KST	**Kastek**	**2.65**	**342**		Pg	**Pb**	**07 42 53.7**	**+1.2**
KST	7.1nm,0.6s				Lg	Lg	07 43 31.5	
	14nm,0.4s							
MTBS	**Maitube**	**2.65**	**350**		*e*P	**Pb**	**07 42 53.3**	**+0.8**
MTBS	5.9nm,0.3s				*e*S	**Sg**	**07 43 30.6**	**+0.7**
	22nm,0.4s							
MTBS	**Maitube**	**2.65**	**350**		Pg	**Pb**	**07 42 53.3**	**+0.8**
MTBS	5.9nm,0.3s				Lg	Lg	07 43 30.6	
	22nm,0.4s							
KBK	**Karagaybulak**	**2.66**	**324**	⇓	*i*P	**Pb**	**07 42 51.9**	**-0.7**
KBK	baz=22			⇓	*i*S	**Sb**	**07 43 25.2**	**-0.1**
	baz=22							
KOTS	**Kotyrbulak**	**2.71**	**1**		*e*P	**Pb**	**07 42 54.9**	**+1.3**
KOTS	18nm,0.4s				*e*S	**Sg**	**07 43 33.5**	**+1.5**
	130nm,0.6s							
KOTS	**Kotyrbulak**	**2.71**	**1**		Pg	**Pb**	**07 42 54.9**	**+1.3**
KOTS	18nm,0.4s				Lg	Lg	07 43 33.5	
	130nm,0.6s							
SATY	**Saty**	**2.73**	**21**		*e*P	**Pb**	**07 42 54.5**	**+0.6**
SATY	13nm,0.4s				*e*S	**Sg**	**07 43 32.7**	**+0.1**
	28nm,0.4s							
SATY	**Saty**	**2.73**	**21**		Pg	**Pb**	**07 42 54.5**	**+0.6**
SATY	13nm,0.4s				Lg	Lg	07 43 32.7	
	28nm,0.4s							
ZHN	**Zhinishke**	**2.84**	**21**		*e*P	**Pb**	**07 42 56.5**	**+0.8**
ZHN	193nm,0.8s				*e*S	**Sg**	**07 43 36.0**	**0.0**
	18nm,0.3s							
ZHN	**Zhinishke**	**2.84**	**21**		Pg	**Pb**	**07 42 56.5**	**+0.8**
ZHN	193nm,0.8s				Lg	Lg	07 43 36.0	
	18nm,0.3s							
AAK	**Ala-Archa**	**2.86**	**319**	⇑	*e*P	**Pb**	**07 42 55.0**	**-1.0**
AAK	baz=17			⇑	*i*S	**Sb**	**07 43 30.5**	**-0.6**
	baz=17							
AAK	**Ala-Archa**	**2.86**	**319**		P	**Pb**	**07 42 58.3**	**+2.3**
	SNR=8.7							
AAK	**Ala-Archa**	**2.86**	**319**	⇓	Pn	**Pb**	**07 42 58.5**	**+2.5**
AAK	7.2nm,0.5s				Lg	Lg	07 43 36.1	
	13nm,0.7s							
DGS	**Degeres**	**2.88**	**341**		*e*P	**Pb**	**07 42 58.2**	**+1.7**
DGS	0.5nm,0.7s				*e*S	**Sg**	**07 43 39.3**	**+1.9**
	19nm,0.5s							
DGS	**Degeres**	**2.88**	**341**		Pg	**Pb**	**07 42 58.2**	**+1.7**
DGS	0.5nm,0.7s				Lg	Lg	07 43 39.3	
	19nm,0.5s							
AML	**Almayashu**	**3.00**	**304**	⇑	*i*P	**Pb**	**07 42 57.4**	**-1.2**
AML	baz=2.0			⇑	*i*S	**Sb**	**07 43 34.8**	**-0.6**
	baz=2.0							
UZB	**Uzynbulak**	**3.01**	**29**		*e*P	**Pb**	**07 42 59.1**	**+0.5**
UZB	6.1nm,0.3s				*e*S	**Sg**	**07 43 40.5**	**-0.9**
	12nm,0.5s							
UZB	**Uzynbulak**	**3.01**	**29**		Pg	**Pb**	**07 42 59.1**	**+0.5**
UZB	6.1nm,0.3s				Lg	Lg	07 43 40.5	
	12nm,0.5s							
CHMS	**Chumysh**	**3.02**	**326**	⇑	*i*P	**Pb**	**07 42 57.0**	**-1.7**
CHMS	baz=24			⇑	*i*S	**Sb**	**07 43 33.7**	**-1.9**
	baz=24							
KURS	**Kuram**	**3.08**	**15**		*e*P	**Pb**	**07 43 00.6**	**+0.8**
KURS	7.0nm,0.6s				*e*S	**Sg**	**07 43 43.2**	**-0.5**
	12nm,0.5s							
KURS	**Kuram**	**3.08**	**15**		Pg	**Pb**	**07 43 00.5**	**+0.8**
KURS	7.0nm,0.6s				Lg	Lg	07 43 43.3	
	12nm,0.5s							
KPKS	**Kokpek**	**3.19**	**22**		*e*P	**Pb**	**07 43 01.7**	**+0.2**
KPKS	13nm,0.4s				*e*S	**Sg**	**07 43 45.9**	**-1.2**
	394nm,0.3s							
SHLS	**Shalkode**	**3.19**	**34**		*e*P	**Pg**	**07 43 06.5**	**+0.6**
SHLS	8.5nm,0.4s				*e*S	**Sg**	**07 43 53.2**	**+5.9**
	27nm,0.4s							
SHLS	**Shalkode**	**3.19**	**34**		Pg	**Pg**	**07 43 06.5**	**+0.6**
SHLS	8.5nm,0.4s				Lg	Lg	07 43 53.2	
	27nm,0.4s							
KTBS	**Karatobe**	**3.20**	**355**		*e*P	**Pb**	**07 43 03.2**	**+1.3**
KTBS	8.1nm,0.5s				*e*S	**Sg**	**07 43 47.8**	**+0.1**
	41nm,0.6s							
KTBS	**Karatobe**	**3.20**	**355**		Pg	**Pb**	**07 43 03.2**	**+1.3**
KTBS	8.1nm,0.5s				Lg	Lg	07 43 47.8	
	41nm,0.6s							
EKS2	**Erkin-Say**	**3.26**	**312**	⇑	*i*P	**Pb**	**07 43 00.9**	**-1.9**
EKS2	baz=10.0			⇑	*i*S	**Sb**	**07 43 39.9**	**-2.7**
	baz=10.0							
CHKK	**Chushkaly**	**3.33**	**359**		*e*P	**Pb**	**07 43 05.5**	**+1.5**
CHKK	7.2nm,0.4s				*e*S	**Sg**	**07 43 52.0**	**+0.2**
	18nm,0.5s							
CHKK	**Chushkaly**	**3.33**	**359**		Pg	**Pb**	**07 43 05.6**	**+1.5**
CHKK	7.2nm,0.4s				Lg	Lg	07 43 52.0	
	18nm,0.5s							
KRBS	**Karabastau**	**3.34**	**343**		*e*P	**Pb**	**07 43 05.7**	**+1.5**
KRBS	5.5nm,0.5s				*e*S	**Sg**	**07 43 52.0**	**+0.1**
	18nm,0.5s							
KRBS	**Karabastau**	**3.34**	**343**		Pg	**Pb**	**07 43 05.6**	**+1.5**
KRBS	5.5nm,0.5s				Lg	Lg	07 43 52.0	
	18nm,0.5s							
USP	**Ospenovka**	**3.34**	**326**		P	**Sg**	**07 43 52.1**	**0.0**
	SNR=6.8							
PDGK	**Podgornoye**	**3.34**	**32**		Pg	**Pb**	**07 43 05.6**	**+1.3**
PDGK	3.4nm,0.5s				Lg	Lg	07 43 51.7	
	8.2nm,0.8s							
PDGK	**Podgornoye**	**3.34**	**32**	⇑	Pg	**Pb**	**07 43 05.2**	**+0.9**
PDGK	4.2nm,0.6s			⇑	Lg	Lg	07 43 51.2	
	26nm,0.8s							
SGDS	**Sogindy**	**3.44**	**329**		Pg	**Pb**	**07 43 07.5**	**+1.6**
SGDS	6.7nm,0.6s				Lg	Lg	07 43 55.0	
	4.3nm,0.6s							
MRKS	**Merke**	**3.63**	**309**		*e*P	**Pb**	**07 43 10.8**	**+1.7**
MRKS	2.2nm,0.3s				*e*S	**Sg**	**07 44 00.7**	**-0.6**
	4.1nm,0.3s							
MRKS	**Merke**	**3.63**	**309**		Pg	**Pb**	**07 43 10.8**	**+1.7**
	2.2nm,0.3s							
MRKS					Lg	Lg	07 44 00.7	
	4.1nm,0.3s							
MNBS	**Baschi**	**3.69**	**15**		*e*P	**Pb**	**07 43 11.9**	**+1.6**
MNBS	5.0nm,0.4s				*e*S	**Sg**	**07 44 02.5**	**-0.9**
	15nm,0.3s							
MNBS	**Baschi**	**3.69**	**15**		Pg	**Pb**	**07 43 11.9**	**+1.6**
MNBS	5.0nm,0.4s				Lg	Lg	07 44 02.5	
	15nm,0.3s							
ARXS	**Arharly**	**3.74**	**9**		*e*P	**Pb**	**07 43 11.6**	**+0.6**
ARXS	5.3nm,0.4s				*e*S	**Sg**	**07 44 02.5**	**-2.2**
	6.2nm,0.5s							
ARXS	**Arharly**	**3.74**	**9**		Pg	**Pb**	**07 43 11.6**	**+0.6**
ARXS	5.3nm,0.4s				Lg	Lg	07 44 02.5	
	6.2nm,0.5s							
DJR	**Jarkent**	**4.32**	**27**		*e*P	**Pb**	**07 43 21.1**	**+0.3**
DJR	1.9nm,0.3s				*e*S	**Sg**	**07 44 18.5**	**-4.8**
	6.5nm,0.6s							
DJR	**Jarkent**	**4.32**	**27**		Pg	**Pb**	**07 43 21.1**	**+0.3**
DJR	1.9nm,0.3s				Lg	Lg	07 44 18.5	
	6.5nm,0.6s							
KAPS	**Kapalarasan**	**5.05**	**19**		*e*P	**Pb**	**07 43 36.4**	**+3.0**
KAPS	1.7nm,0.5s				*e*S	**Sg**	**07 44 46.0**	**-1.0**
	1.9nm,0.5s							
KAPS	**Kapalarasan**	**5.05**	**19**		Pg	**Pb**	**07 43 36.4**	**+3.0**
KAPS	1.7nm,0.5s				Lg	Lg	07 44 46.0	
	1.9nm,0.5s							
KK31	**Karatay Array**	**5.53**	**300**	⇑	Pn	Pb	07 43 37.2	-4.2
	1.3nm,0.7s,baz=122,slow=15,SNR=7.3							
KK31				⇓	Lg	Lg	07 45 06.7	
	0.8nm,0.5s,baz=120,slow=29,SNR=5.4							

ASRS ***26*** *07:44:48.4, 53.°73N×91.°01E, M2.3, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
NNC ***26*** *07:44:59.6±3.4, 53.°48N×90.°56E, h11km±18km, mb3.7, mpv3.5, Error ellipse: s-maj=21.0km s-min=18.9km az=82.0, Suspected Mining explosion.*
IDC 26 07:44:54.1±3.4, 53.°56N×90.°81E, h0km, mb1 3.4/3, mb1mx3.2/46, mbtmp3.4/3, ML2.9/3, 8C-6D, Error ellipse: s-maj=32.9km s-min=22.6km az=36.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.58**	**279**	*i*		08 06 10.0	
	baz=89,slow=301,SNR=1.2						
ZAA0	**Zalesovo Array**	**3.58**	**279**	⇑	Pn	**Pn**	**07 45 54.4**	**+3.7**
ZAA0	1.6nm,0.5s			⇓	Lg	Lg	07 46 49.4	
	12nm,1.2s							
ZALV	**Zalesovo Beam**	**3.58**	**279**		Pn	**Pn**	**07 45 51.7**	**+1.0**
	1.6nm,0.3s,baz=106,slow=11,SNR=13							
ZALV					Pg	Pg	07 46 00.4	-2.2
	3.0nm,0.3s,baz=101,slow=15,SNR=17							
ZALV					Sn	Sn	07 46 27.4	-6.3
	2.0nm,0.3s,baz=96,slow=19,SNR=5.7							
ZALV					Lg	Lg	07 46 46.0	
	0.9nm,0.3s,baz=106,slow=24,SNR=2.0							
KURK	**Kurchatov**	**8.02**	**254**	⇑	Pn	**Pn**	**07 46 52.6**	**+0.8**
	3.1nm,0.9s							
KURK	13nm,1.3s			⇑	Sn	Sn	07 48 21.8	-1.3
KURK	21nm,0.9s			⇑	Lg	Lg	07 49 08.9	
TLY	**Talaya**	**8.04**	**98**		Lg	Lg	07 48 57.2	
	0.0nm,0.3s,baz=78,slow=0.8,SNR=6.8							
KURBB	**Kurchatov Arra**	**8.12**	**254**	⇑	Pn	**Pn**	**07 46 52.6**	**-0.4**
	0.2nm,0.3s,baz=65,slow=15,SNR=12							
KURBB					Sn	Sn	07 48 24.9	-0.5
	0.1nm,0.3s,baz=68,slow=26,SNR=9.6							
KURBB					Lg	Lg	07 49 08.4	
	0.0nm,0.3s,baz=69,slow=28,SNR=1.4							
KURBB	**Kurchatov Arra**	**8.12**	**254**	⇑	Pn	**Pn**	**07 46 53.2**	**+0.2**
	2.7nm,0.6s							
KURBB	18nm,0.7s			⇓	Sn	Sn	07 48 25.3	0.0
KURBB	69nm,0.9s			⇑	Lg	Lg	07 49 13.0	
MK31	**Makanchi Array**	**8.70**	**222**	⇑	Pn	**Pn**	**07 47 01.9**	**+0.8**
	0.6nm,0.5s,baz=38,slow=12,SNR=14							
MK31				⇓	Sn	Sn	07 48 43.3	+3.4
	4.0nm,0.8s,baz=41,slow=22,SNR=5.2							
MK31				⇓	Lg	Lg	07 49 32.3	
	12nm,0.8s,baz=37,slow=30,SNR=4.1							
MKAR	**Makanchi Array**	**8.70**	**222**		Pn	**Pn**	**07 47 01.7**	**+0.6**
	0.4nm,0.3s,baz=40,slow=14,SNR=18							
MKAR					Sn	Sn	07 48 43.3	+3.4
	0.2nm,0.3s,baz=26,slow=24,SNR=2.9							
MKAR					Lg	Lg	07 49 29.9	
	0.2nm,0.3s,baz=34,slow=32,SNR=5.5							
MAKZ	**Makanchi**	**8.82**	**223**	⇓	Pn	**Pn**	**07 47 04.0**	**+1.3**
	2.9nm,0.6s							
MAKZ	5.6nm,1.3s			⇑	Sn	Sn	07 48 43.6	+0.9
MAKZ	15nm,0.9s			⇓	Lg	Lg	07 49 35.0	
SONM	**Songino Array**	**11.42**	**114**		Lg	Lg	07 50 50.5	
	0.1nm,0.3s,baz=298,slow=28,SNR=12							

IDC ***26*** *07:48:34.2±31.0, 24.°24S×173.°79W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.7/30, mbtmp4.0/4, Error ellipse: s-maj=569.0km s-min=165.2km az=80.0*
NEIC ***26*** *07:48:40.8±1.8, 25.°48S±0.°07×174.°5W±0.°1, h10km±1km, mb4.5/5, Error ellipse: s-maj=21.2km s-min=10.2km az=113.0*
ISC 26 07:48:44.7±1.2, 25.°4S±0.°1×174.°5W±0.°1, h35km, n13, σ1s31/13, mb4.1/7, South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**7.53**	**35**		Pn	**Pn**	**07 50 32.4**	**+0.5**
MSVF	**Nonsavu**	**10.28**	**316**		Pn	**Pn**	**07 51 09.6**	**-0.3**
AFI	**Afiamalu**	**11.66**	**13**		Pn	**Pn**	**07 51 28.6**	**-0.1**
CTA	**Charters Tower**	**36.51**	**270**		P	**P**	**07 55 47.8**	**+0.9**
	2.6nm,0.6s,baz=94,slow=13,SNR=1.9							
STKA	**Stephens Creek**	**38.91**	**250**		P	**P**	**07 56 09.2**	**+2.1**
	2.5nm,0.9s,baz=95,slow=9.9,SNR=3.8							
STKA	**Stephens Creek**	**38.91**	**250**		P	**P**	**07 56 07.1**	**0.0**
ASAR	**Alice Springs**	**46.76**	**261**		P	**P**	**07 57 12.1**	**+1.2**
	0.8nm,0.8s,baz=97,slow=6.6,SNR=7.7							
ASAR	**Alice Springs**	**46.76**	**261**		P	**P**	**07 57 08.9**	**-2.0**
WR0	**Warramunga Arr**	**47.13**	**266**		P	**P**	**07 57 12.1**	**-1.7**
WR0					IAmb	IAmb	07 57 25.6	
	comp=Z,8.3nm,1.1s							
WB2	**Warramunga Art**	**47.31**	**266**		P	**P**	**07 57 13.9**	**-1.3**
WB2					IAmb	IAmb	07 57 19.3	
	comp=Z,7.7nm,1.2s							
WRA	**Warramunga Arr**	**47.32**	**266**		P	**P**	**07 57 15.0**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=103,slow=7.9,SNR=1.6							
WB0	**Warramunga Arr**	**47.32**	**266**		P	**P**	**07 57 14.2**	**-1.1**
QSPA	**South Pole Qui**	**64.75**	**180**		P	**P**	**07 59 18.6**	**-0.7**
QSPA					IAmb	IAmb	07 59 36.2	
	comp=Z,1.8nm,1.0s							

TAP ***26*** *07:49:16.5, 23.°99N×122.°48E, h24km, ML2.9, D*
JMA ***26*** *07:49:16.3±0.1, 24.°00N×122.°46E, h29km, M2.5*
ISC 26 07:49:15.9±1.1, 23.°97N±0.°03×122.°48E±0.°02, h24km±13km, n51, σ0s53/80, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonaguni jima**	**0.64**	**42**		P	**Pb**	**07 49 28.4**	**0.0**
JYNG					S	**Sb**	**07 49 36.6**	**-0.3**
YOJ	**Yonaguni jima**	**0.68**	**45**	*i*	P	**Pb**	**07 49 29.2**	**0.0**
YOJ	baz=45				S	**Sb**	**07 49 38.9**	**+0.6**
	baz=45							
YOJ	**Yonaguni jima**	**0.68**	**45**		P	**Pb**	**07 49 29.4**	**+0.2**
YOJ					*e*S	**Sb**	**07 49 38.9**	**+0.6**
ENA	**Nanau**	**0.81**	**304**		*e*P	**Pn**	**07 49 31.7**	**-0.2**
	baz=303							
**N

	baz=282							
TWC	**Suao**	**0.86**	**318**	*e*P		**Pb**	**07 49 31.9**	**-0.2**
	baz=317							
TWC				*e*S		**Sb**	**07 49 42.6**	**-0.7**
	baz=317							
ETLH	**Xiulin Townshi**	**0.94**	**284**	*e*P		**Pb**	**07 49 33.5**	**-0.2**
	baz=283							
ETLH				*e*S		**Sb**	**07 49 45.7**	**-0.1**
	baz=283							
TWE	**Neicheng**	**1.05**	**315**	*e*P		**Pb**	**07 49 35.7**	**+0.3**
	baz=315							
NTC	**Toucheng**	**1.06**	**326**	*e*P		**Pb**	**07 49 35.7**	**+0.2**
	baz=325							
NTC				*e*S		**Sn**	**07 49 49.4**	**+0.1**
	baz=325							
ENTT	**Nioudou**	**1.07**	**309**	*e*P		**Pb**	**07 49 35.8**	**0.0**
	baz=308							
ENTT				*e*S		**Sn**	**07 49 49.9**	**+0.4**
	baz=308							
HGSD	**Ruisui**	**1.08**	**244**	*e*P		**Pn**	**07 49 35.3**	**-0.3**
	baz=242							
NDT	**Datong Townshi**	**1.08**	**305**	*e*P		**Pb**	**07 49 36.1**	**+0.1**
	baz=304							
NDT				*i* S		**Sn**	**07 49 50.0**	**+0.1**
	baz=304							
NNSB	**Datong**	**1.10**	**294**	P		**Pn**	**07 49 36.0**	**+0.1**
	baz=293							
NNSB				*e*S		**Sb**	**07 49 49.7**	**-0.7**
	baz=293							
NNSH	**Datong**	**1.10**	**294**	P		**Pn**	**07 49 36.0**	**0.0**
	baz=293							
NNSH				*e*S		**Sb**	**07 49 49.9**	**-0.5**
	baz=293							
NNS	**Nan Shan**	**1.11**	**295**	*e*P		**Pb**	**07 49 37.3**	**+0.7**
	baz=294							
NNS				*e*S		**Sb**	**07 49 51.0**	**+0.2**
	baz=294							
WHF	**Hehuan Shan**	**1.13**	**279**	*e*P		**Pn**	**07 49 36.6**	**+0.1**
	baz=277							
WHF				S		**Sb**	**07 49 51.3**	**-0.1**
	baz=277							
TIPB	**Shuangxi**	**1.16**	**329**	P		**Pn**	**07 49 36.4**	**-0.3**
	baz=328							
TIPB				*i* S		**Sn**	**07 49 51.7**	**-0.1**
	baz=328							
EHY	**Hungye**	**1.16**	**247**	*e*P		**Pn**	**07 49 36.7**	**0.0**
	baz=245							
IRIF	**Iriomote-Funau**	**1.19**	**72**	P		**Pb**	**07 49 37.8**	**-0.1**
IRIF				S		**Sn**	**07 49 52.6**	**0.0**
CHGB	**Renai**	**1.20**	**274**	*e*P		**Pn**	**07 49 37.5**	**0.0**
	baz=273							
CHGB				*e*S		**Sn**	**07 49 52.7**	**-0.3**
	baz=273							
NWLT	**Wulai**	**1.20**	**312**	*e*P		**Pb**	**07 49 38.3**	**+0.3**
	baz=311							
NWLT				*i* S		**Sn**	**07 49 52.8**	**0.0**
	baz=311							
HATJ	**Hateruma jima**	**1.21**	**86**	P		**Pb**	**07 49 38.6**	**+0.4**
HATJ				*e*S		**Sb**	**07 49 53.6**	**+0.2**
YHNB	**Yeheng**	**1.23**	**305**	*e*P		**Pn**	**07 49 37.9**	**+0.2**
	baz=303							
YULB	**Yu-li**	**1.23**	**242**	*e*P		**Pn**	**07 49 37.8**	**+0.1**
	baz=241							
YULB				*e*S		**Sn**	**07 49 53.8**	**+0.2**
	baz=241							
NSK	**Sanguang**	**1.24**	**304**	*e*P		**Pn**	**07 49 37.9**	**+0.1**
	baz=303							
TDCB	**Techi**	**1.24**	**283**	*e*P		**Pb**	**07 49 38.5**	**-0.3**
	baz=282							
VWDT	**VWDT**	**1.25**	**260**	*i* P		**Pb**	**07 49 38.4**	**-0.3**
	baz=259							
VWDT				*e*S		**Sb**	**07 49 54.5**	**0.0**
	baz=259							
TWF1	**Yuli**	**1.25**	**241**	P		**Pn**	**07 49 38.3**	**+0.3**
	baz=239							
TWF1				*e*S		**Sb**	**07 49 54.9**	**+0.4**
	baz=239							
NWF	**Wu-fen Shan**	**1.27**	**330**	*e*P		**Pn**	**07 49 38.0**	**-0.2**
	baz=329							
WFSB	**Wu-fen Shan**	**1.27**	**330**	*e*P		**Pn**	**07 49 38.0**	**-0.1**
	baz=329							
FULB	**Fuli**	**1.34**	**235**	*e*P		**Pn**	**07 49 39.1**	**0.0**
	baz=234							
FULB				*e*S		**Sb**	**07 49 57.2**	**+0.2**
	baz=234							
SSLB	**Suanglung**	**1.41**	**263**	*e*P		**Pn**	**07 49 38.9**	**-1.3**
	baz=261							
SSLB				*e*S		**Sb**	**07 49 58.8**	**-0.4**
	baz=261							
JKRS	**Kuro-shima**	**1.42**	**79**	P		**Pb**	**07 49 41.2**	**-0.5**
JKRS				*e*S		**Sb**	**07 49 59.4**	**0.0**
WHP	**Taichung City**	**1.44**	**282**	*e*P		**Pb**	**07 49 42.8**	**+0.8**
	baz=281							
WHP				*e*S		**Sn**	**07 49 59.0**	**+0.3**
	baz=281							
TYC	**Yuchr**	**1.49**	**268**	*e*P		**Pb**	**07 49 43.5**	**+0.6**
	baz=266							
WHYT	**Xinyi Township**	**1.52**	**260**	*e*P		**Pb**	**07 49 42.6**	**-0.8**
	baz=258							
ELDTW	**Lidau**	**1.56**	**240**	*e*P		**Pn**	**07 49 42.4**	**+0.2**
	baz=239							
JIJ	**Ishigaki jima**	**1.56**	**75**	P		**Pn**	**07 49 42.2**	**0.0**
JIJ				S		**Sn**	**07 50 01.0**	**-0.7**
ALS	**Alishan**	**1.60**	**254**	*e*P		**Pb**	**07 49 44.2**	**-0.9**
	baz=252							
PCYT	**Pengchaiyu**	**1.69**	**347**	*e*P		**Pn**	**07 49 43.6**	**-0.4**
	baz=347							
JISG	**Ishigakijimahi**	**1.78**	**70**	P		**Pn**	**07 49 44.8**	**-0.3**
JISG				S		**Sn**	**07 50 06.3**	**-0.6**
STYT	**Tauyuan**	**1.78**	**243**	*e*P		**Pn**	**07 49 46.4**	**+1.2**
	baz=242							
TPUB	**Ta-pu**	**1.83**	**249**	*e*P		**Pb**	**07 49 47.6**	**-1.1**
	baz=247							
TPUB				*e*S		**Sb**	**07 50 11.1**	**0.0**
	baz=247							
CHN4	**Tsaushan**	**1.84**	**251**	*e*P		**Pb**	**07 49 48.4**	**-0.5**
	baz=249							
WTP	**Ta-pu**	**1.86**	**247**	*e*P		**Pb**	**07 49 48.4**	**-0.9**
	baz=246							
SLGT	**Liugui**	**1.95**	**240**	*e*P		**Pb**	**07 49 50.0**	**-0.7**
	baz=239							
CHN1	**Nanshi**	**1.96**	**247**	*e*P		**Pb**	**07 49 49.8**	**-1.1**
	baz=245							
TWK	**Hsinying**	**1.96**	**249**	*e*P		**Pb**	**07 49 50.1**	**-0.8**
	baz=248							
MASBT	**Mashibuluo**	**2.17**	**232**	*e*P		**Pn**	**07 49 52.0**	**+1.4**
	baz=231							
EAST	**Anshuo**	**2.18**	**224**	*e*P		**Pn**	**07 49 51.5**	**+0.7**
	baz=223							
PHUB	**P'eng-hu**	**2.71**	**261**	*e*P		**Pn**	**07 49 59.3**	**+1.3**
	baz=259							
PHUB				*e*S		**Sn**	**07 50 30.7**	**+0.8**
	baz=259							

*IDC **26** 07:49:19.4±2.1,30.°06S×176.°92W,h0km,mb3.8/2, mb1 4.0/2,mb1mx3.7/28,mbtmp3.8/2,Error ellipse: s-maj=53.6km s-min=33.5km az=47.0*

*NEIC **26** 07:49:20.7±2.7,30.°12S±0.°08×177.°01W±0.°08,h10km±2km, mb4.3/4,Error ellipse: s-maj=14.6km s-min=9.5km az=32.0*

ISC 26 07:49:22.3±1.3,**30.°19S**±0.°10×**177.°0W**±0.°2,**h24**km,**n16,** σ1§**34**/20,**mb4.0**/4,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.22**	**320**	Pn		**Pn**	**07 49 42.7**	**-1.2**
	46nm,0.3s,baz=260,slow=24,SNR=1.3							
RAO				Sn		**Sb**	**07 50 02.0**	**+2.1**
	161nm,0.3s,baz=97,slow=22,SNR=2.7							
RAO	**Raoul Island**	**1.22**	**320**			**Pn**	**07 49 42.0**	**-1.8**
RAO						**Sb**	**07 49 59.5**	**-0.5**
URZ	**Urewera**	**9.40**	**210**	Pn		**Pn**	**07 51 37.8**	**+1.5**
BKZ	**Black Stump Fm**	**10.43**	**209**	Pn		**Pn**	**07 51 48.7**	**-1.7**
THZ	**Tophouse**	**14.13**	**212**	Pn		**Pn**	**07 52 40.3**	**-0.6**
KHZ	**Kahutara**	**14.37**	**209**	Pn		**Pn**	**07 52 43.1**	**-1.0**
LTZ	**Lake Taylor**	**15.22**	**211**	Pn		**Pn**	**07 52 55.5**	**-0.1**
ASAR	**Alice Springs**	**43.97**	**266**	P		**P**	**07 57 29.1**	**+1.3**
	0.8nm,0.8s,baz=103,slow=7.9,SNR=4.6							
WR0	**Warramunga Arr**	**44.76**	**271**	P		**P**	**07 57 33.1**	**-1.0**
WB2	**Warramunga Arr**	**44.93**	**271**	P		**P**	**07 57 36.3**	**+0.8**
WB2					IAmb	IAmb	07 57 39.9	
	comp=Z,6.2nm,1.1s							
WRA	**Warramunga Arr**	**44.95**	**271**	P		**P**	**07 57 37.1**	**+1.5**
	comp=Z,1.1nm,0.6s,baz=110,slow=8.2,SNR=5.9							
WB0	**Warramunga Arr**	**44.97**	**272**	P		**P**	**07 57 37.1**	**+1.3**
WB0					IAmb	IAmb	07 57 40.1	
	comp=Z,1.7nm,0.6s							
FINES	**FINESS Array B**	**145.23**	**341**	PKPbc		**PKPdf**	**08 08 58.5**	**+1.3**
	comp=Z,1.2nm,0.7s,baz=57,slow=5.1,SNR=4.2							
FINES	**FINESS Array B**	**145.23**	**341**			**PKPdf**	**08 08 57.6**	**+0.4**
AKASG	**Malin Array Be**	**151.64**	**324**	PKPab		**PKPab**	**08 09 21.5**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=45,slow=1.4,SNR=4.4							
AKASG	**Malin Array Be**	**151.64**	**324**	PKPdf		**PKPdf**	**08 09 09.4**	**+1.5**
AKASG				PKPbc		**PKiKP**	**08 09 14.9**	**+0.4**
AKASG						**sPKPbc**	**08 09 21.4**	**-1.2**

*NEIC **26** 08:09:32.8±2.5,52.°1N±0.°1×175.°41E±0.°07,h18km±6km, Error ellipse: s-maj=21.7km s-min=4.6km az=191.0*

*AEIC **26** 08:09:32.7±3.0,52.°0N±0.°1×175.°45E±0.°06,h28km±5km, ML4.3/24,mb4.5/73(NEIC),Error ellipse: s-maj=17.7km s-min=5.0km az=185.0*

*IDC **26** 08:09:33.9±0.6,52.°40N×175.°76E,h0km,mb4.2/29, mb1 4.3/31,mb1mx4.3/45,mbtmp4.2/31,ML4.9/2,MS3.6/27, Ms1 3.6/27,ms1mx3.5/60,Error ellipse: s-maj=17.9km s-min=10.9km az=168.0*

*MOS **26** 08:09:35.3±1.4,52.°48N×175.°68E,h24km,mb4.5/27,Error ellipse: s-maj=9.2km s-min=7.6km az=102.4*

ISC 26 08:09:38.7±0.4,**52.°50N**±0.°08×**175.°72E**±0.°03,**h35**km,**n211,** σ1§**76**/200,**mb4.4**/82,**MS3.6**/30,**9C-3D, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.01**	**284**	P		**Pn**	**08 09 54.3**	**-2.0**
SMY							08 10 08.8	
SMY	**Shemya**	**1.01**	**284**			**Pn**	**08 09 54.3**	**-2.0**
SMY				Sn		**Sn**	**08 10 08.8**	**-0.5**
LSNW	**Little Sitkin**	**1.80**	**106**			**Pn**	**08 10 04.4**	**-2.8**
LSNW						**Sn**	**08 10 30.9**	**+2.1**
LSSA	**Little Sitkin**	**1.81**	**107**			**Pn**	**08 10 05.6**	**-1.6**
LSPA	**Little Sitkin**	**1.84**	**106**			**Pn**	**08 10 05.3**	**-2.4**
LSPA						**Sn**	**08 10 31.9**	**+2.1**
CETU	**Semis' Tuman**	**2.38**	**102**			**Pn**	**08 10 13.6**	**-1.0**
CEAP	**Semis' Anvil P**	**2.42**	**100**			**Pn**	**08 10 13.8**	**-2.0**
CESW	**Semis' Southwe**	**2.44**	**103**			**Pn**	**08 10 14.3**	**-1.7**
TASE	**Tanaga Southea**	**3.90**	**97**			**Pn**	**08 10 35.7**	**-0.4**
TAFP	**Tanaga Falls P**	**3.92**	**96**			**Pn**	**08 10 35.2**	**-1.1**
TAPA	**Tanaga Point A**	**4.04**	**97**			**Pn**	**08 10 37.2**	**-0.8**
KICM	**Kanaga Island**	**4.40**	**95**			**Pn**	**08 10 42.4**	**-0.5**
KIMD	**Kanaga Island**	**4.41**	**97**			**Pn**	**08 10 42.3**	**-0.6**
KIKV	**Kanaga Island**	**4.42**	**95**			**Pn**	**08 10 42.4**	**-0.8**
ADK	**Adak**	**4.72**	**95**	P		**Pn**	**08 10 45.9**	**-1.3**
ADK	**Adak**	**4.72**	**95**	Pn		**Pn**	**08 10 45.9**	**-1.3**
GSTD	**Great Sitkin T**	**5.02**	**92**			**Pn**	**08 10 50.0**	**-1.5**
GSTR	**Great Sitkin T**	**5.06**	**91**	Pn		**Pn**	**08 10 50.0**	**-2.0**
GSMY	**Great Sitkin M**	**5.07**	**92**			**Pn**	**08 10 50.9**	**-1.3**
ATKA	**Atka Island**	**6.19**	**89**	Pn		**Pn**	**08 11 05.9**	**-1.5**
KOFP	**Korovin Flat P**	**6.24**	**88**			**Pn**	**08 11 08.2**	**0.0**
PEA0B	**Petropavlovsk-**	**10.93**	**280**	*ce*P		**Pn**	**08 12 09.2**	**-3.2**
PEA0B	**Petropavlovsk-**	**10.93**	**280**	Pn		Pn	08 12 04.5	-7.9
PETK	**Petropavlovsk-**	**10.93**	**280**	Pn		**Pn**	**08 12 13.1**	**+0.7**
	1.7nm,0.3s,baz=100,slow=18,SNR=22							
PETK				Sn		**Sn**	**08 14 12.0**	**-1.2**
	1.1nm,0.3s,baz=196,slow=27,SNR=6.3							
PETK				LR		LR	08 16 46.9	
	comp=Z,151nm,18.8s,baz=101,slow=40							
PETK	**Petropavlovsk-**	**10.93**	**280**	Pn		Pn	08 12 05.7	-6.6
AKUT	**Akutan**	**11.19**	**74**	Pn		**Pn**	**08 12 15.4**	**-0.6**
SKR	**Severo-Kuril's**	**12.32**	**269**	*i* P		**Pn**	**08 12 29.3**	**-2.1**
MA2	**Magadan**	**15.57**	**307**	Pn		**P**	**08 13 17.8**	**-1.3**
	0.6nm,0.3s,baz=151,slow=22,SNR=1.9							
MA2				LR		LR	08 18 38.7	
	comp=Z,208nm,19.1s,baz=112,slow=35							
BILL	**Bilibino**	**16.24**	**347**	*d i* P		**Pn**	**08 13 23.1**	**-0.7**
BILL				pmax		pmax		
	comp=Z,27nm,1.2s							
BILL	**Bilibino**	**16.24**	**347**	Pn		**Pn**	**08 13 24.0**	**+0.3**
SVW2	**Sparrevohn**	**17.78**	**50**	P		**P**	**08 13 43.1**	**-0.6**
TTA	**Tatalina**	**18.19**	**44**	P		**P**	**08 13 47.3**	**-0.8**
TTA				pmax		pmax		
	comp=Z,8.0nm,1.0s							
TTA	**Tatalina**	**18.19**	**44**	P		**P**	**08 13 47.3**	**-0.8**
OHAK	**Old Harbor**	**18.36**	**63**	P		**P**	**08 13 49.2**	**-0.7**
OHAK				IAmb		IAmb	08 13 58.0	
	comp=Z,27nm,1.0s							
KDAK	**Kodiak Island**	**18.76**	**61**	P		**P**	**08 13 53.8**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=252,slow=4.5,SNR=24							
KDAK	**Kodiak Island**	**18.76**	**61**	P		**P**	**08 13 54.0**	**-0.3**
KDAK				IAmb		IAmb	08 14 00.8	
	comp=Z,19nm,0.8s							
RSO	**Redoubt South**	**18.99**	**53**	P		**P**	**08 13 55.9**	**-1.1**
SPU	**Mount Spurr**	**19.46**	**51**	P		**P**	**08 14 02.2**	**+0.1**
CNPM	**China Poot**	**19.60**	**56**	P		**P**	**08 14 02.6**	**-0.9**
BRLK	**Bradley Lake**	**19.80**	**55**	P		**Pn**	**08 14 07.3**	**-0.3**
PPLA	**Purkeypile**	**19.83**	**46**	P		**P**	**08 14 05.0**	**-1.2**
PPLA				IAmb		IAmb	08 14 23.9	
	comp=Z,25nm,1.0s							
SKT	**Skwentna**	**19.89**	**49**	P		**Pn**	**08 14 07.3**	**-1.1**
SKT				IAmb		IAmb	08 14 26.4	
	comp=Z,27nm,1.2s							
SUA	**Susitna One**	**20.14**	**50**	P		**P**	**08 14 08.9**	**-0.6**
SUA				IAmb		IAmb	08 14 19.1	
	comp=Z,25nm,0.8s							
SEW	**Seward**	**20.56**	**55**	P		**P**	**08 14 14.1**	**+0.2**
SEW				IAmb		IAmb	08 14 26.7	
	comp=Z,21nm,1.0s							
BPAW	**Bear Paw Mtn.**	**20.71**	**43**	P		Pn	08 14 17.2	-0.8
BPAW				IAmb		IAmb	08 14 23.6	
	comp=Z,15nm,0.9s							
TRF	**Thorofare Moun**	**20.81**	**45**	P		Pn	08 14 18.2	-1.2
TRF				IAmb		IAmb	08 14 23.6	
	comp=Z,26nm,0.8s							
PMR	**Palmer**	**20.92**	**50**	P		**P**	**08 14 17.8**	**0.0**
PMR				pmax		pmax		
	comp=Z,5.0nm,0.8s							
PMR	**Palmer**	**20.92**	**50**	P		**P**	**08 14 17.8**	**0.0**
KNK	**Knik Glacier**	**21.21**	**51**	P		**P**	**08 14 22.1**	**+1.1**
KNK				IAmb		IAmb	08 14 31.0	
	comp=Z,15nm,1.0s							
SML	**Sawmill**	**21.34**	**50**	P		**P**	**08 14 24.0**	**+1.7**
SML				IAmb		IAmb	08 14 36.1	
	comp=Z,19nm,1.0s							
RND	**Reindeer**	**21.43**	**46**	P		**P**	**08 14 24.1**	**+0.8**
RND				pmax		pmax		
	comp=Z,6.0nm,0.8s							
RND	**Reindeer**	**21.43**	**46**	P		**P**	**08 14 24.1**	**+0.8**
MCK	**McKinley**	**21.47**	**45**	P		**P**	**08 14 21.5**	**-2.3**
MCK				pmax		pmax		
	comp=Z,12nm,0.8s							
MCK	**McKinley**	**21.47**	**45**	P		**P**	**08 14 21.5**	**-2.3**
MCK				IAmb		IAmb	08 14 30.6	
	comp=Z,12nm,0.8s							
GLI	**Glacier Island**	**21.80**	**53**	P		**P**	**08 14 29.3**	**+2.0**
SCM	**Sheep Creek Mo**	**21.81**	**50**	P		**P**	**08 14 28.4**	**+0.9**
SCM				pmax		pmax		
	comp=Z,47nm,0.8s							
SCM	**Sheep Creek Mo**	**21.81**	**50**	P		**P**	**08 14 28.4**	**+0.9**
YSS	**Yuzh-Sakhalins**	**21.89**	**269**	‖*e*P		**P**	**08 14 31.9**	**+3.6**
YSS				*e*			08 14 45.6	
YSS				*e*S		Sn	08 18 33.0	-6.0
YSS				pmax		pmax		
	comp=Z,30nm,1.3s							
YSS				pmax		pmax		
	comp=Z,200nm,3.4s							
YSS				MLR		MLR		
	comp=Z,300nm,18.0s							
DHY	**Denali Highway**	**22.00**	**47**	P		**P**	**08 14 30.2**	**+0.6**
WRH	**Wood River Hil**	**22.03**	**43**	P		**P**	**08 14 29.9**	**+0.3**
WRH				IAmb		IAmb	08 14 48.2	
	comp=Z,16nm,1.2s							
FID	**Port Fidalgo**	**22.09**	**53**	P		**P**	**08 14 31.1**	**+0.7**
COLD	**Coldfoot**	**22.17**	**35**	P		**P**	**08 14 32.0**	**+0.8**
CCB	**Clear Creek Bu**	**22.19**	**43**	P		**P**	**08 14 30.8**	**-0.6**
HDA	**Harding Lake**	**22.49**	**44**	P		**P**	**08 14 35.3**	**+0.6**
IL31		**22.61**	**43**	P		**P**	**08 14 36.1**	**+0.3**
ILAR	**Eielson Array**	**22.61**	**43**	P		**P**	**08 14 36.7**	**+0.8**
	comp=Z,3.1nm,0.8s,baz=242,slow=9.7,SNR=24							
ILAR				LR		LR	08 23 39.4	
	comp=Z,149nm,18.4s,baz=258,slow=37							
ILAR	**Eielson Array**	**22.61**	**43**	P		**P**	**08 14 35.5**	**-0.4**
ILAR	**Eielson Array**	**22.61**	**43**	P		**P**	**08 14 35.5**	**-0.4**
RAGM	**Ragged Mountai**	**22.96**	**54**	P		**P**	**08 14 40.7**	**+1.1**
TOLK	**Toolik Lake Re**	**23.00**	**32**	P		**P**	**08 14 40.2**	**+0.2**
RIDG	**Independent Ri**	**23.25**	**46**	P		**P**	**08 14 42.0**	**-0.5**
RIDG					IAmb	IAmb	08 14 55.9	
	comp=Z,12nm,1.1s							
ASAJ	**Asahikawa**	**23.40**	**262**	P		**P**	**08 14 45.2**	**+1.0**
	comp=Z,9.7nm,0.6s,baz=39,slow=10,SNR=5.0							
ASAJ				LR		LR	08 23 29.1	
	comp=Z,97nm,18.9s,baz=26,slow=36							
GLB	**Gilahina Butte**	**23.44**	**52**	P		**P**	**08 14 42.9**	**-1.5**
GLB				IAmb		IAmb	08 14 49.4	
	comp=Z,11nm,1.0s							
DOT	**Dot Lake**	**23.58**	**46**	P		**P**	**08 14 44.5**	**-1.2**
VRDI	**Verde Repeater**	**23.60**	**52**	P		**P**	**08 14 46.9**	**+0.8**
VRDI				IAmb		IAmb	08 15 00.2	
	comp=Z,12nm,1.0s							
SCRK	**Sand Creek**	**23.67**	**45**	P		**P**	**08 14 46.2**	**-0.4**
SCRK				IAmb		IAmb	08 14 51.8	
	comp=Z,13nm,0.8s							
FYU	**Fort Yukon**	**23.77**	**39**	P		**P**	**08 14 48.2**	**+0.8**
FYU				IAmb		IAmb	08 14 53.1	
	comp=Z,9.9nm,0.8s							
ERM	**Erimo**	**24.26**	**257**	*ce*P		**P**	**08 14 51.7**	**-0.5**
ERM				pmax		pmax		
	comp=Z,20nm,1.0s							
BMAR	**Burnt Mountain**	**24.27**	**37**	P		**P**	**08 14 54.0**	**+1.8**
BCAR	**Beaver Creek A**	**24.52**	**48**	P		**P**	**08 14 54.4**	**-0.1**
CTGM	**Chitina Glacie**	**24.62**	**53**	P		**P**	**08 14 55.5**	**0.0**
CTGM				IAmb		IAmb	08 15 03.2	
	comp=Z,18nm,1.1s							
TABL	**Table Mountain**	**24.71**	**54**	P		**P**	**08 14 55.2**	**-1.2**
TABL				IAmb		IAmb	08 15 13.5	
	comp=Z,16nm,1.0s							
EGAK	**Eagle**	**25.01**	**44**	P		**P**	**08 14 59.7**	**+0.9**
EGAK				IAmb		IAmb	08 15 03.5	
	comp=Z,18nm,0.8s							
DAWY	**Dawson**	**25.68**	**46**	P		**P**	**08 15 04.3**	**-0.7**
DAWY				IAmb		IAmb	08 15 11.1	
	comp=Z,11nm,0.8s							
YAK	**Yakutsk**	**26.11**	**310**	P		**P**	**08 15 10.8**	**+2.1**
	comp=Z,8.2nm,0.3s,baz=144,slow=0.8,SNR=2.6							
YAK	**Yakutsk**	**26.11**	**310**	*e*P		**P**	**08 15 07.8**	**-0.9**
YAK				pmax		pmax		
	comp=Z,6.0nm,0.8s							
HYT	**Haines Junctio**	**26.49**	**53**	P		**P**	**08 15 09.8**	**-2.6**
HYT				IAmb		IAmb	08 15 25.6	
	comp=Z,10nm,0.9s							
EPYK	**Eagle Plains**	**27.06**	**41**	P		**P**	**08 15 16.5**	**-0.9**
EPYK				IAmb		IAmb	08 15 23.9	
	comp=Z,16nm,1.4s							
KLR	**Kul'dur**	**27.62**	**281**	P		**P**	**08 15 22.3**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=61,slow=8.5,SNR=7.8							
KLR				LR		LR	08 27 53.1	
	comp=Z,86nm,18.5s,baz=84,slow=40							
KLR	**Kul'dur**	**27.62**	**281**	*ce*P		**P**	**08 15 21.7**	**-0.8**
KLR				pmax		pmax		
	comp=Z,3.0nm,1.0s							
TIXI	**Tiksi**	**27.99**	**330**	P		**P**	**08 15 25.5**	**0.0**
	comp=Z,2.2nm,0.5s,baz=127,slow=10,SNR=4.4							
TIXI				LR		LR	08 27 10.9	
	comp=Z,101nm,18.1s,baz=92,slow=38							
TIXI	**Tiksi**	**27.99**	**330**	*i* P		**P**	**08 15 25.7**	**+0.2**
TIXI				pmax		pmax		
	comp=Z,3.0nm,1.1s							
TIXI	**Tiksi**	**27.99**	**330**	P		**P**	**08 15 23.2**	**-2.3**
INK	**Inuvik**	**28.55**	**37**	P		**P**	**08 15 31.0**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=276,slow=10,SNR=2.0							
INK				LR		LR	08 27 09.4	
	comp=Z,68nm,18.5s,baz=16,slow=37							
INK	**Inuvik**	**28.55**	**37**	P		**P**	**08 15 31.0**	**+0.5**
ZEA	**Zeya**	**28.67**	**292**	*e*P		**P**	**08 15 31.9**	**+0.1**
USRK	**Ussuriysk Ar.**	**29.82**	**272**	P		**P**	**08 15 41.5**	**-0.7**
	comp=Z,3.1nm,0.6s,baz=47,slow=11,SNR=12							
USRK				LR		LR	08 26 30.0	
	comp=Z,133nm,21.4s,baz=356,slow=34							
MAJO	**Matsushiro**	**30.72**	**254**	*i* P		**P**	**08 15 50.8**	**+0.7**
MAJO				pmax		pmax		
	comp=Z,7.0nm,0.8s							
MJAR	**Matsushiro Arr**	**30.72**	**254**	P		**P**	**08 15 50.4**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=56,slow=7.5,SNR=1.7							
MJAR				LR		LR	08 27 07.9	
	comp=Z,36nm,21.9s,baz=50,slow=34							
H11N2	**WAKE ISLAND Hy**	**33.42**	**195**	T		T	08 51 19.7	
	baz=10,slow=76,SNR=405							
H11N3	**WAKE ISLAND Hy**	**33.43**	**195**	T		T	08 51 30.6	
	baz=10,slow=76,SNR=456							
H11N1	**WAKE ISLAND Hy**	**33.44**	**195**	T		T	08 51 31.8	
	baz=10,slow=76,SNR=370							
BOD	**Bodaibo**	**34.56**	**304**	*e*P		**P**	**08 16 23.4**	**0.0**
BOD				pmax		pmax		
	comp=Z,8.0nm,0.9s							
H11S1	**WAKE ISLAND Hy**	**34.65**	**195**	T		T	08 53 02.5	
	baz=9.5,slow=76,SNR=89							
H11S3	**WAKE ISLAND Hy**	**34.67**	**195**	T		T	08 53 03.8	
	baz=9.5,slow=76,SNR=86							
H11S2	**WAKE ISLAND Hy**	**34.67**	**195**	T		T	08 53 04.1	
	baz=9.5,slow=76,SNR=36							
KSRS	**Korea Array**

comp=E,230nm,15.0s
LZH LR LR
comp=Z,330nm,17.2s
GTA Gaotai 51.99 288 *e*P **P 08 18 45.5 +1.1**
GTA pP pP 08 18 48.8 -5.5
GTA sP pwP 08 18 52.5 -3.9
GTA pmax pmax
comp=Z,11nm,0.8s
GTA pmax pmax
comp=Z,81nm,5.6s
GTA LR LR
comp=N,190nm,16.8s
GTA LR LR
comp=E,190nm,18.1s
GTA LR LR
comp=Z,110nm,18.4s
DGZ Jazzator, Alta 52.14 305 *i*P **P 08 18 44.5 -0.8**
DGZ pmax pmax
comp=Z,1.0nm,0.8s
KURK Kurchatov 55.74 310 *ce*P **P 08 19 12.0 +0.6**
KURK pmax pmax
comp=Z,12nm,0.8s
KURK Kurchatov 55.74 310 P **P 08 19 07.2 -4.2**
WMQ Urumqi 55.85 299 *e*P **P 08 19 15.5 +3.1**
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ pmax pmax
comp=Z,21nm,5.7s
WMQ LR LR
comp=N,170nm,21.1s
WMQ LR LR
comp=E,210nm,23.1s
WMQ LR LR
comp=Z,110nm,29.1s
ARCES ARCESS Array B 56.34 348 P **P 08 19 16.1 +0.7**
comp=Z,4.0nm,0.9s,baz=33,slow=8.5,SNR=8.2
ARCES LR LR 08 46 20.0
comp=Z,52nm,18.9s,baz=4.0,slow=39
ARCES ARCESS Array B 56.34 348 P **P 08 19 14.5 -0.9**
E38A The Farm, Brul 56.41 56 P **P 08 19 13.9 -2.4**
E38A IAmb IAmb 08 19 31.1
comp=Z,5.5nm,0.8s
MK31 Makanchi Array 56.64 305 P **P 08 19 16.4 -1.5**
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MK31 Makanchi Array 56.64 305 P **P 08 19 16.4 -1.5**
MKAR Makanchi Array 56.64 305 P **P 08 19 17.9 0.0**
comp=Z,1.7nm,0.4s,baz=51,slow=6.1,SNR=17
MKAR LR LR 08 44 24.7
comp=Z,98nm,19.1s,baz=47,slow=37
MKAR Makanchi Array 56.64 305 P **P 08 19 16.8 -1.1**
MKAR Makanchi Array 56.64 305 P **P 08 19 16.8 -1.1**
MAKZ Makanchi 56.79 305 P **P 08 19 17.5 -1.5**
MAKZ pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 56.79 305 P **P 08 19 17.5 -1.5**
MAKZ IAmb IAmb 08 19 23.1
comp=Z,3.5nm,0.8s
BRVK Borovoye 57.81 317 *ce*P **P 08 19 26.3 +0.3**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
E43A Lone Tree Farm 58.84 53 IAmb IAmb 08 19 56.0
comp=Z,6.7nm,1.0s
L40A Anamosa 59.74 59 P **P 08 19 36.0 -3.6**
L40A IAmb IAmb 08 19 42.6
comp=Z,4.3nm,0.7s
ARU Arti 59.80 325 LR LR 08 48 23.0
comp=Z,112nm,18.2s,baz=90,slow=39
ARU Arti 59.80 325 *d i*P **P 08 19 41.5 +1.7**
ARU 08 21 51.2
ARU S **S 08 27 55.0 +6.7**
ARU SS **SS 08 31 47.4 +3.7**
ARU pmax pmax
comp=Z,8.0nm,0.7s
QIZ Qiongzhong 60.47 263 P **P 08 19 43.5 -1.4**
QIZ S **S 08 27 59.0 +1.2**
QIZ LR LR
comp=N,210nm,19.1s
QIZ LR LR
comp=E,240nm,20.1s
QIZ LR LR
comp=Z,240nm,19.6s
KIRV Kirov 61.02 331 *i*P **P 08 19 49.9 +1.9**
P40A Paris 61.10 62 P **P 08 19 45.3 -3.6**
SCHQ Schefferville 61.15 36 P **P 08 19 49.6 +0.5**
comp=Z,7.1nm,0.7s,baz=347,slow=6.9,SNR=13
SCHQ Schefferville 61.15 36 P **P 08 19 50.5 +1.4**
KLMR Klimovskoe 61.70 337 *e*P **P 08 19 54.7 +2.1**
KLMR pmax pmax
comp=Z,18nm,1.5s
KLMR Klimovskoe 61.70 337 *e*P **P 08 19 54.7 +2.1**
KLMR AMP 08 19 59.0
comp=Z,18nm,1.5s
TXAR Lajitas Array 61.79 78 P **P 08 19 54.0 +0.2**
comp=Z,0.4nm,0.6s,baz=312,slow=6.1,SNR=6.3
TXAR Lajitas Array 61.79 78 P **P 08 19 52.8 -1.0**
HDIL Hopedale 61.83 59 P **P 08 19 52.3 -1.5**
BORG Borgarnes 62.34 8 LR LR 08 48 50.9
comp=Z,31nm,18.1s,baz=360,slow=38
KDJ Kajisay 62.52 304 IAmb IAmb 08 20 10.3
comp=Z,2.4nm,0.8s
AAK Ala-Archa 63.49 306 *ce*P **P 08 20 05.4 +0.3**
AAK pmax pmax
comp=Z,2.0nm,0.8s
FCAR Ozark Folk Cen 63.69 65 P **P 08 20 04.4 -1.9**
FINES FINESS Array B 63.86 344 P **P 08 20 07.4 +0.4**
comp=Z,2.3nm,0.8s,baz=23,slow=10,SNR=5.1
FINES LR LR 08 51 43.2
comp=Z,43nm,20.2s,baz=29,slow=40
FINES FINESS Array B 63.86 344 *i*P **P 08 20 08.6 +1.6**
FINES pmax pmax
comp=Z,2.0nm,0.8s
PBMO Poplar Bluff 63.97 63 IAmb IAmb 08 20 17.7
comp=Z,7.0nm,1.1s
ABKAR Akbulak array 64.93 319 P **P 08 20 09.9 -4.4**
KK31 Karatay Array 65.08 309 P **P 08 20 10.7 -4.6**
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KK31 Karatay Array 65.08 309 P **P 08 20 10.7 -4.6**
KK31 IAmb IAmb 08 20 19.5
comp=Z,2.0nm,0.8s
KKAR Karatay Array 65.08 309 P **P 08 20 11.8 -3.5**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 65.08 309 P **P 08 20 10.6 -4.7**
KKAR IAmb IAmb 08 20 19.5
comp=Z,2.0nm,0.8s
KKAR Karatay Array 65.08 309 P **P 08 20 11.8 -3.5**
NC204 NORSAR Array S 65.94 352 P **P 08 20 20.3 -0.3**
NC405 NORSAR Array S 66.02 352 P **P 08 20 17.6 -3.5**
NB2 NORSAR Subarra 66.13 352 P **P 08 20 22.8 +1.0**
comp=Z,1.9nm,0.7s,baz=11,slow=6.9
NOA NORSAR Array B 66.13 352 P **P 08 20 23.1 +1.3**
comp=Z,2.6nm,0.8s,baz=11,slow=6.5,SNR=7.5
NOA LR LR 08 51 04.2
comp=Z,28nm,19.4s,baz=345,slow=38
M55A Ridgway 66.47 52 P **P 08 20 21.3 -3.0**
CLTN Cedars of Leba 66.69 61 P **P 08 20 25.1 -0.6**
CLTN IAmb IAmb 08 20 30.9
comp=Z,5.0nm,0.7s
M56A Emporium 66.74 52 P **P 08 20 25.9 -0.1**
M56A IAmb IAmb 08 20 34.4
comp=Z,4.7nm,0.8s
HFS Hagfors 66.79 350 LR LR 08 51 35.9
comp=Z,34nm,19.7s,baz=28,slow=38
OBN Obninsk 67.54 336 *e*P **P 08 20 33.7 +2.9**
OBN *e* 08 21 01.5
OBN pmax pmax
comp=Z,10.0nm,1.1s
CMAR Chiang Mai Arr 67.56 271 P **P 08 20 32.5 +1.0**
comp=Z,3.8nm,0.7s,baz=25,slow=6.9,SNR=15
CMAR LR LR 08 51 39.0
comp=Z,48nm,19.4s,baz=190,slow=37
AKASG Malin Array Be 73.34 339 P **P 08 21 07.1 +0.8**
comp=Z,4.2nm,0.7s,baz=24,slow=6.2,SNR=4.7
AKASG LR LR 08 57 51.8
comp=Z,41nm,18.2s,baz=10.0,slow=40
AKASG Malin Array Be 73.34 339 P **P 08 21 05.0 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 73.34 339 P **P 08 21 05.0 -1.3**
AKBB Malin Array Si 73.34 339 P **P 08 21 07.5 +1.2**
AKBB pmax pmax
comp=Z,4.0nm,0.7s
AKBB Malin Array Si 73.34 339 P **P 08 21 07.5 +1.2**
AKBB IAmb IAmb 08 21 13.8
comp=Z,3.5nm,0.7s
GEYT Alibeck 74.90 313 P **P 08 21 17.1 +1.4**
comp=Z,1.1nm,0.4s,baz=332,slow=34,SNR=2.7
GEYT Alibeck 74.90 313 P **P 08 21 17.2 +1.5**
KIV Kislovodsk 75.75 327 *e*P **P 08 21 23.2 +2.7**
KIV pmax pmax
comp=Z,17nm,1.1s
KBZ Khabaz 75.88 327 P **P 08 21 24.0 +2.9**
comp=Z,2.6nm,0.9s,baz=67,slow=3.0,SNR=5.6
KBZ Khabaz 75.88 327 *ce*P **P 08 21 23.1 +2.0**
KBZ pmax pmax
comp=Z,3.0nm,1.0s
SHA1 Shidzhatmaz 75.95 327 *i*P **P 08 21 24.2 +2.3**
PPT Papeete 76.00 146 LR LR 08 48 30.1
comp=Z,68nm,19.5s,baz=254,slow=31
ZEI Tsey 76.37 326 *e*P **P 08 21 25.9 +1.7**
VRAC Vranov 77.03 346 LR LR 08 59 49.3
comp=Z,31nm,19.1s,baz=64,slow=39
BUR08 Bucovina Ar. S 77.10 340 P **P 08 21 26.8 -1.4**
BUR08 IAmb IAmb 08 21 35.5
comp=Z,4.3nm,0.9s
BURAR Bucovina Array 77.13 340 P **P 08 21 28.1 -0.2**
PSZ Piszkesteto 77.85 344 P **P 08 21 32.6 +0.3**
PSZ pmax pmax
comp=Z,13nm,1.0s
PSZ Piszkesteto 77.85 344 P **P 08 21 32.6 +0.3**
GERES GERESS Array B 77.88 348 LR LR 08 59 59.9
comp=Z,32nm,18.8s,baz=32,slow=39
WRA Warramunga Arr 80.61 219 P **P 08 21 46.3 -1.2**
comp=Z,6.2nm,0.8s,baz=82,slow=3.2,SNR=8.8
BRTR Keskin Array B 82.42 331 P **P 08 21 58.9 +1.7**
comp=Z,1.4nm,0.7s,baz=56,slow=3.8,SNR=6.1
BRTR Keskin Array B 82.42 331 P **P 08 21 54.9 -2.3**
BRTR Keskin Array B 82.42 331 P **P 08 21 54.9 -2.3**
ASAR Alice Springs 84.15 218 P **P 08 22 06.4 +0.5**
comp=Z,1.2nm,0.7s,baz=20,slow=5.7,SNR=12
ESDC Sonseca Array 88.20 360 P **P 08 22 28.7 +2.9**
comp=Z,0.3nm,0.5s,baz=347,slow=5.3,SNR=1.8
MAW Mawson 145.28 218 PKPbc **PKPdf 08 29 10.9 0.0**
comp=Z,1.7nm,0.5s,baz=125,slow=5.6,SNR=2.8
BOSA Boshof 147.63 306 PKPbc **PKiKP 08 29 20.3 -0.9**
comp=Z,2.9nm,0.7s,baz=36,slow=3.0,SNR=5.3

*IDC **26** 08:20:18.5±61.0, 16.°70S×173.°49W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/26, mbtmp4.1/3, Error ellipse: s-maj=1172.0km s-min=186.1km az=80.0*
*NEIC **26** 08:20:36.0±2.1, 19.°21S±0.°08×175.°2W±0.°1, h10km±2km, mb4.7/8, Error ellipse: s-maj=23.4km s-min=5.3km az=58.0*
ISC 26 08:20:36.0±1.6, 19.°3S±0.°2×175.°2W±0.°2, h10km, n15, σ1$00/12, mb4.6/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.54**	**282**	Pn	**Pn**	**08 22 12.0**	**-0.5**
RAO	**Raoul Island**	**10.25**	**193**	Pn	**Pn**	**08 23 02.8**	**-0.5**
STKA	**Stephens Creek**	**40.67**	**243**	P	P	08 28 22.5	+5.8
	1.0nm,0.3s,baz=99,slow=9.8,SNR=6.8						
STKA	**Stephens Creek**	**40.67**	**243**	P	P	08 28 22.6	+5.9
BBOO	**Buckleboo**	**45.43**	**243**	P	P	08 29 01.7	+6.4
WR0	**Warramunga Arr**	**47.17**	**260**	P	**P**	**08 29 09.5**	**+0.3**
WB0	**Warramunga Arr**	**47.33**	**261**	P	**P**	**08 29 10.3**	**-0.1**
WB0				IAmb	IAmb	08 29 22.3	
	comp=Z,8.3nm,1.5s						
AS31	**Alice Springs**	**47.34**	**255**	P	**P**	**08 29 12.3**	**+1.8**
AS31				IAmb	IAmb	08 29 12.4	
	comp=Z,2.1nm,0.3s						
ASAR	**Alice Springs**	**47.34**	**255**	P	**P**	**08 29 12.2**	**+1.7**
	comp=Z,5.9nm,0.5s,baz=89,slow=8.3,SNR=101						
ASAR	**Alice Springs**	**47.34**	**255**	P	**P**	**08 29 11.9**	**+1.4**
WB2	**Warramunga Arr**	**47.35**	**260**	P	**P**	**08 29 10.1**	**-0.4**
WB2				IAmb	IAmb	08 29 21.8	
	comp=Z,13nm,1.5s						
WRAB	**Tennant Creek**	**47.35**	**260**	P	**P**	**08 29 10.7**	**+0.1**
WRAB				IAmb	IAmb	08 29 22.8	
	comp=Z,11nm,1.5s						
WRA	**Warramunga Arr**	**47.36**	**260**	P	**P**	**08 29 10.8**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=89,slow=7.7,SNR=14						
WRA	**Warramunga Arr**	**47.36**	**260**	P	**P**	**08 29 10.8**	**+0.2**
CRQM	**Cirque**	**83.83**	**15**	P	**P**	**08 33 05.5**	**-0.2**

*SOME **26** 08:33:42.1, 40.°45N×77.°10E, h0km*
*NNC **26** 08:33:44.4±0.9, 40.°45N×77.°13E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=5.9km s-min=4.1km az=171.0*
*KRNET **26** 08:33:46.4±0.1, 40.°59N×77.°07E, h15km, mb2.8*
ISC 26 08:33:46.2±2.2, 40.°56N±0.°08×77.°03E±0.°03, h2km±15km, n55, σ1$26/87, 22C-10D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.30**	**27**	↑*i*P	**Pn**	**08 34 10.5**	**-1.4**
	baz=26						
TARG				↑*i*S	**Sb**	**08 34 28.1**	**-1.0**
	baz=26						
KDJ	**Kajisay**	**1.57**	**4**	↑*e*P	**Pn**	**08 34 15.4**	**+0.1**
	baz=4.0						
KDJ				↑*i*S	**Sb**	**08 34 36.5**	**0.0**
	baz=4.0						
ULHL	**Ulahol**	**1.78**	**341**	↑*i*P	**Pb**	**08 34 19.3**	**-0.4**
	baz=40						
ULHL				↑*e*S	**Sg**	**08 34 43.7**	**+0.3**
	baz=40						
KZA	**Kyzart**	**2.02**	**319**	↑*i*P	**Pb**	**08 34 23.7**	**-0.2**
	baz=18						
KZA				↑*i*S	**Sg**	**08 34 51.4**	**+0.3**
	baz=18						
BOOM	**Boomskoye usch**	**2.09**	**337**	↑*i*P	**Pb**	**08 34 24.6**	**-0.4**
	baz=36						
BOOM				↑*i*S	**Sb**	**08 34 52.6**	**+1.1**
	baz=36						
PRZ	**Przheval'sk**	**2.18**	**28**	↑*i*P	**Pb**	**08 34 25.6**	**-0.9**
	baz=28						
PRZ				↑*i*S	**Sb**	**08 34 54.4**	**+0.4**
	baz=28						
ANVS	**Anan'yevo**	**2.27**	**12**	↓*e*P	**Pb**	**08 34 26.8**	**-1.2**
	baz=11						
ANVS				↓*i*S	**Sb**	**08 34 56.4**	**-0.2**
	baz=11						
ARLS	**Aral**	**2.42**	**303**	↑*i*P	**Pb**	**08 34 29.6**	**-0.9**
	baz=3.0						
ARLS				↑*i*S	**Sb**	**08 35 01.1**	**+0.3**
	baz=3.0						
TNSS	**Tian-Shan**	**2.47**	**359**	*e*P	**Pb**	**08 34 31.1**	**-0.6**
	13nm,0.4s						
TNSS				*e*S	**Sg**	**08 35 07.5**	**+1.8**
	25nm,0.5s						
TNSS	**Tian-Shan**	**2.47**	**359**	Pg	**Pb**	**08 34 31.0**	**-0.6**
	13nm,0.4s						
TNSS				Lg	Lg	08 35 07.5	
	25nm,0.5s						
UCH	**Uchtor**	**2.52**	**312**	↓*e*P	**Pb**	**08 34 30.9**	**-1.5**
	baz=11						
UCH				↓*i*S	**Sb**	**08 35 03.2**	**-0.8**
	baz=11						
TKM2	**Tokmak 2**	**2.59**	**336**	↑*i*P	**Pb**	**08 34 31.4**	**-2.1**
	baz=35						
TKM2				↑*i*S	**Sb**	**08 35 04.3**	**-1.5**
	baz=35						
TKM2	**Tokmak 2**	**2.59**	**336**	↓Pg	**Pg**	**08 34 35.5**	**-0.3**
	1.2nm,0.3s						
TKM2				↓Lg	Lg	08 35 11.1	
	6.5nm,0.5s						
MDOK	**Medeo**	**2.60**	**0**	*e*P	**Pb**	**08 34 33.9**	**+0.2**
	6.2nm,0.6s						
MDOK				*e*S	**Sg**	**08 35 11.3**	**+1.6**
	18nm,0.5s						
MDOK	**Medeo**	**2.60**	**0**	Pg	**Pb**	**08 34 34.7**	**+1.1**
	5.5nm,0.6s						
MDOK				Lg	Lg	08 35 10.5	
	14nm,0.6s						
MDOK	**Medeo**	**2.60**	**0**	Pg	**Pb**	**08 34 33.9**	**+0.2**
	6.2nm,0.6s						
MDOK				Lg	Lg	08 35 11.3	
	18nm,0.5s						
KST	**Kastek**	**2.60**	**343**	*e*P	**Pb**	**08 34 33.6**	**-0.1**
	4.0nm,0.4s						
KST				*e*S	**Sg**	**08 35 10.9**	**+1.2**
	8.6nm,0.4s						
KST	**Kastek**	**2.60**	**343**	Pg	**Pb**	**08 34 33.6**	**-0.1**
	4.0nm,0.4s						
KST				Lg	Lg	08 35 10.9	
	8.6nm,0.4s						
MTBS	**Maitube**	**2.60**	**350**	*e*P	**Pb**	**08 34 33.9**	**+0.2**
	6.0nm,0.3s						
MTBS				*e*S	**Sg**	**08 35 11.3**	**+1.5**
	12nm,0.3s						
MTBS	**Maitube**	**2.60**	**350**	Pg	**Pb**	**08 34 33.9**	**+0.2**
	6.0nm,0.3s						
MTBS				Lg	Lg	08 35 11.3	
	12nm,0.3s						
KOTS	**Kotyrbulak**	**2.67**	**1**	*e*P	**Pb**	**08 34 35.0**	**+0.2**
	16nm,0.4s						
KOTS				*e*S	**Sg**	**08 35 13.6**	**+1.6**
	85nm,0.5s						
KOTS	**Kotyrbulak**	**2.67**	**1**	Pg	**Pb**	**08 34 35.0**	**+0.2**
	16nm,0.4s						
KOTS				Lg	Lg	08 35 13.6	
	85nm,0.5s						
SATY	**Saty**	**2.70**	**22**	*e*P	**Pb**	**08 34 35.2**	**-0.1**
	11nm,0.3s						
SATY				*e*S	**Sg**	**08 35 13.6**	**+0.7**
	16nm,0.3s						
SATY	**Saty**	**2.70**	**22**	Pg	**Pb**	**08 34 35.2**	**-0.1**
	11nm,0.3s						
SATY				Lg	Lg	08 35 13.6	
	16nm,0.3s						
ZHN	**Zhinishke**	**2.81**	**22**	*e*P	**Pb**	**08 34 35.9**	**-1.2**
	54nm,0.5s						
ZHN				*e*S	**Sg**	**08 35 14.7**	**-1.7**
	14nm,0.2s						
ZHN	**Zhinishke**	**2.81**	**22**	Pg	**Pb**	**08 34 35.9**	**-1.2**
	54nm,0.5s						
ZHN				Lg	Lg	08 35 14.7	
	14nm,0.2s						
AAK	**Ala-Archa**	**2.81**	**318**	↑*e*P	**Pb**	**08 34 34.8**	**-2.4**
	baz=17						
AAK				↑*i*S	**Sb**	**08 35 10.1**	**-2.1**
	baz=17						
AAK	**Ala-Archa**	**2.81**	**318**	↓Pg	**Pg**	**08 34 39.4**	**-0.6**
	5.5nm,0.5s						
AAK				↑Lg	Lg	08 35 16.9	
	7.5nm,0.6s						
AML	**Almayashu**	**2.96**	**303**	↑*i*P	**Pn**	**08 34 37.1**	**+2.5**
	baz=2.0						
AML				↑*i*S	**Sb**	**08 35 14.0**	**-2.6**
	baz=2.0						
CHMS	**Chumysh**	**2.97**	**326**	↓*e*P	**Pn**	**08 34 37.0**	**+2.6**
	baz=25						
CHMS				↓*i*S	**Sb**	**08 35 13.8**	**-2.8**
	baz=25						
UZB	**Uzynbulak**	**2.98**	**29**	*e*P	**Pb**	**08 34 40.5**	**+0.4**
	4.7nm,0.4s						
UZB				*e*S	**Sg**	**08 35 22.6**	**+0.6**
	6.6nm,0.5s						
UZB	**Uzynbulak**	**2.98**	**29**	Pg	**Pb**	**08 34 40.5**	**+0.4**
	4.7nm,0.4s						
UZB				Lg	Lg	08 35 22.6	
	6.6nm,0.5s						
KURS	**Kuram**	**3.04**	**16**	*e*P	**Pb**	**08 34 41.8**	**+0.6**
	4.5nm,0.6s						
KURS				*e*S	**Sg**	**08 35 24.9**	**+0.9**
	8.0nm,0.6s						
KURS	**Kuram**	**3.04**	**16**	Pg	**Pb**	**08 34 41.8**	**+0.6**
	4.5nm,0.6s						
KURS				Lg	Lg	08 35 24.9	
	8.0nm,0.6s						
KPKS	**Kokpek**	**3.15**	**23**	*e*P	**Pb**	**08 34 42.5**	**-0.5**
	10nm,0.4s						
KPKS				*e*S	**Sg**	**08 35 26.4**	**-1.1**
	18nm,0.5s						
KTBS	**Karatobe**	**3.16**	**355**	*e*P	**Pb**	**08 34 43.6**	**+0.6**
	5.7nm,0.5s						
KTBS				*e*S	**Sg**	**08 35 28.1**	**+0.5**
	28nm,0.6s						
KTBS	**Karatobe**	**3.16**	**355**	Pg	**Pb**	**08 34 43.6**	**+0.6**
	5.7nm,0.5s						
KTBS				Lg	Lg	08 35 28.1	
	28nm,0.6s						
SHLS	**Shalkode**	**3.17**	**34**	*e*P	**Pg**	**08 34 46.4**	**-0.4**
	6.1nm,0.3s						
SHLS				*e*S	**Sg**	**08 35 32.8**	**+4.9**
	16nm,0.5s						
SHLS	**Shalkode**	**3.17**	**34**	Pg	**Pg**	**08 34 46.4**	**-0.4**
	6.1nm,0.3s						
SHLS				Lg	Lg	08 35 32.8	
	16nm,0.5s						
KRBS	**Karabastau**	**3.29**	**343**	*e*P	**Pb**	**08 34 45.9**	**+0.6**
	3.8nm,0.5s						
KRBS				*e*S	**Sg**	**08 35 32.3**	**+0.5**
	9.0nm,0.6s						
KRBS	**Karabastau**	**3.29**	**343**	Pg	**Pb**	**08 34 45.9**	**+0.6**
	3.8nm,0.5s						
KRBS				Lg	Lg	08 35 32.3	
	9.0nm,0.6s						
CHKK	**Chushkaly**	**3.29**	**360**	*e*P	**Pb**	**08 34 45.4**	**+0.1**
	4.1nm,0.4s						
CHKK				*e*S	**Sg**	**08 35 31.6**	**-0.2**
	13nm,0.3s						
CHKK	**Chushkaly**	**3.29**	**360**	Pg	**Pb**	**08 34 45.4**	**+0.1**
	4.1nm,0.4s						
CHKK				Lg	Lg	08 35 31.6	
	13nm,0.3s						
PDGK	**Podgornoye**	**3.32**	**33**	Pg	**Pb**	**08 34 45.7**	**-0.2**
	1.8nm,0.5s						
PDGK				Lg	Lg	08 35 31.5	
	5.9nm,0.8s						
PDGK	**Podgornoye**	**3.32**	**33**	↑Pg	**Pb**	**08 34 46.1**	**+0.2**
	2.4nm,0.5s						
PDGK				↓Lg	Lg	08 35 30.5	
	20nm,0.9s						
MRKS	**Merke**	**3.58**	**309**	*e*P	**Pb**	**08 34 51.0**	**+0.7**
	2.8nm,0.3s						
MRKS				*e*S	**Sg**	**08 35 41.5**	**+0.2**
MRKS	**Merke**	**3.58**	**309**	Pg	**Pb**	**08 34 51.1**	**+0.7**
	2.8nm,0.3s						
MRKS				Lg	Lg	08 35 41.5	
MNBS	**Baschi**	**3.66**	**16**	*e*P	**Pb**	**08 34 52.1**	**+0.4**
	3.0nm,0.4s						
MNBS				*e*S	**Sg**	**08 35 42.6**	**-1.1**
	8.7nm,0.4s						
MNBS	**Baschi**	**3.66**	**16**	Pg	**Pb**	**08 34 52.1**	**+0.4**
	3.0nm,0.4s						
MNBS				Lg	Lg	08 35 42.6	
	8.7nm,0.4s						
ARXS	**Arharly**	**3.70**	**9**	*e*P	**Pb**	**08 34 52.4**	**+0.1**
	5.7nm,0.4s						
ARXS				*e*S	**Sg**	**08 35 43.7**	**-1.2**
	5.5nm,0.3s						
ARXS	**Arharly**	**3.70**	**9**	Pg	**Pb**	**08 34 52.4**	**+0.1**
	5.7nm,0.4s						
ARXS				Lg	Lg	08 35 43.7	
	5.5nm,0.3s						
DJR	**Jarkent**	**4.29**	**28**	*e*P	**Pb**	**08 35 02.6**	**+0.3**
	0.7nm,0.2s						
DJR				*e*S	**Sg**	**08 36 01.0**	**-2.8**
	3.9nm,0.5s						
DJR	**Jarkent**	**4.29**	**28**	Pg	**Pb**	**08 35 02.6**	**+0.3**
	0.7nm,0.2s						
DJR				Lg	Lg	08 36 01.0	
	3.9nm,0.5s						
KAPS	**Kapalarasan**	**5.02**	**19**	*e*P	**Pb**	**08 35 16.8**	**+2.0**
	1.5nm,0.6s						
KAPS				*e*S	**Sg**	**08 36 25.2**	**-2.2**
	1.0nm,0.4s						
KAPS	**Kapalarasan**	**5.02**	**19**	Pg	**Pb**	**08 35 16.8**	**+2.0**
	1.5nm,0.6s						
KAPS				Lg	Lg	08 36 25.2	
	1.0nm,0.4s						

IDC 26 08:45:25.9±5.8, 16.°02S×71.°42W, h163km±35km, mb3.6/2, mb1 3.6/3, mb1mx3.2/30, mbtmp3.8/3, Error ellipse: s-maj=132.7km s-min=47.0km az=17.0, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.17**	**95**	P	Pn	08 46 16.1	-0.4
	0.7nm,0.3s,baz=286,slow=8.8,SNR=31						
LPAZ				S	Sn	08 46 56.4	+0.6
	0.4nm,0.3s,baz=267,slow=17,SNR=14						
TORD	**Torodi Ar. Bea**	**77.87**	**72**	P	P	08 57 06.0	-0.1
	1.0nm,0.4s,baz=253,slow=4.4,SNR=6.5						
YKA	**Yellowknife Ar**	**85.26**	**341**	P	P	08 57 44.0	+0.3
	0.7nm,0.6s,baz=144,slow=6.2,SNR=3.7						

*IDC **26** 08:46:50.0±1.4, 7.°24S×128.°76E, h137km±13km, mb4.0/21, mb1 4.1/27, mb1mx4.0/57, mbtmp4.5/27, Error ellipse: s-maj=12.8km s-min=9.8km az=97.0*
*DJA **26** 08:46:50.3±0.2, 7.°5S±2.°×12.°9E±.°, h150km±6km, M4.8/23,*

mb4.7/23,mB5.3/12,MLv4.9/15,Mw(mB)4.8/12
*NEIC **26** 08:46:50.4±2.6, 7°.31S×0°.05×128°.83E±0°.06, h153km±6km, mb4.5/41, Error ellipse: s-maj=8.6km s-min=6.5km az=57.0*

ISC 26 08:46:50.3±0.3, 7°.38S±0°.04×128°.81E±0°.05, h150km, n132, σ1§88/142, mb4.4/37, 2C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.54**	**104**	P	**Pn**	**08 47 31.6**	**-0.2**
SAUI	**Saumlaki**	**2.54**	**104**		**Pn**	**08 47 32.7**	**+0.9**
BNDI	**Bandanaira**	**3.04**	**21**	P	**Pn**	**08 47 39.1**	**+0.9**
AAI	**Ambon**	**3.72**	**350**	P	**Pn**	**08 47 47.6**	**+0.6**
NLAI	**Namlea**	**4.46**	**337**	P	**Pn**	**08 47 58.8**	**+2.2**
SOEI	**Soe**	**5.08**	**242**	P	**Pn**	**08 48 05.7**	**+0.9**
	3.1nm6µm320nm,0.6s						
SOEI	**Soe**	**5.08**	**242**		**Pn**	**08 48 06.3**	**+1.5**
SOEI				Sn	**Sn**	**08 49 01.5**	**-1.5**
FAKI	**Fak Fak**	**5.60**	**38**	P	**Pn**	**08 48 09.8**	**-1.9**
	0.9nm2µm129nm,0.5s						
FAKI	**Fak Fak**	**5.60**	**38**	Pn	**Pn**	**08 48 09.9**	**-1.8**
FAKI				Sn	**Sn**	**08 49 08.9**	**-6.5**
BATI	**Baumata**	**5.81**	**241**	P	**Pn**	**08 48 15.4**	**+0.8**
	144nm,0.3s,baz=112,slow=4.5,SNR=35						
BATI				S	**Sn**	**08 49 19.2**	**-1.2**
	125nm,0.3s,baz=143,slow=23,SNR=13						
BATI	**Baumata**	**5.81**	**241**	P	**Pn**	**08 48 15.3**	**+0.8**
	1.3nm5µm331nm,0.8s						
MTN	**Manton Dam**	**5.89**	**157**	Pn	**Pn**	**08 48 15.7**	**+0.2**
MTN				Sn	**Sn**	**08 49 18.6**	**-3.5**
MMRI	**Maumere**	**6.63**	**259**	P	**Pn**	**08 48 26.7**	**+1.3**
	1.9nm19µm196nm,0.5s						
LBMI	**Labuha**	**6.83**	**349**	P	**Pn**	**08 48 28.7**	**+0.6**
	0.6nm2µm182nm,0.8s						
SIJI	**Sorong**	**6.92**	**21**	P	**Pn**	**08 48 28.8**	**-0.5**
	6.2nm,0.3s,baz=253,slow=23,SNR=16						
SIJI				S	**Sn**	**08 49 41.7**	**-5.3**
	12nm,0.3s,baz=182,slow=22,SNR=8.2						
EDFI	**Ende, Flores**	**7.18**	**259**	P	**Pn**	**08 48 34.3**	**+1.4**
	0.2nm586nm43nm,0.7s						
RKPI	**Ransiki, Papua**	**7.91**	**43**	P	**Pn**	**08 48 42.4**	**-0.2**
	1.7nm6µm249nm,1.1s						
KNRA	**Kunumurra**	**8.24**	**180**	Pn	**Pn**	**08 48 46.3**	**-0.6**
BASI	**Baing, Sumba**	**8.61**	**250**	P	**Pn**	**08 48 52.2**	**+0.3**
	156nm,1.0s						
WSI	**Waingapu**	**8.72**	**254**	P	**Pn**	**08 48 53.7**	**+0.3**
	33µm1µm,0.7s						
BNSI	**Bone**	**9.15**	**288**	P	**Pn**	**08 49 00.6**	**+1.5**
	52nm,1.0s						
KAPI	**Kappang**	**9.31**	**284**	P	**Pn**	**08 49 01.0**	**-0.2**
	0.9nm,0.3s,baz=124,slow=13,SNR=4.9						
WBSI	**Waikabubak, Su**	**9.58**	**256**	P	**Pn**	**08 49 04.3**	**-0.6**
	2µm175nm,0.6s						
SPSI	**Sidrap Palu**	**9.62**	**290**	P	**Pn**	**08 49 06.8**	**+1.5**
	36nm,1.0s						
TTSI	**Tana Toraja**	**9.94**	**295**	P	**Pn**	**08 49 13.2**	**+3.7**
WAMI	**Wamena**	**10.45**	**71**	P	**Pn**	**08 49 17.8**	**+1.6**
	6µm179nm,0.8s						
PLAI	**Plampang**	**11.02**	**262**	P	**Pn**	**08 49 24.3**	**+0.5**
	70nm,1.0s						
FITZ	**Fitzroy Crossi**	**11.09**	**196**	P	**Pn**	**08 49 22.5**	**-2.2**
	3.6nm,0.3s,baz=25,slow=9.5,SNR=44						
FITZ				S	**Sn**	**08 51 20.9**	**-6.4**
	8.8nm,0.3s,baz=66,slow=14,SNR=4.7						
FITZ	**Fitzroy Crossi**	**11.09**	**196**		**Pn**	**08 49 22.9**	**-1.8**
MPSI	**Mapaga**	**11.74**	**310**	P	**Pn**	**08 49 35.8**	**+2.5**
	7.4nm,1.0s						
JAY	**Jayapura**	**12.79**	**68**	P	**Pn**	**08 49 48.1**	**+1.1**
	3.6nm,0.3s,baz=224,slow=9.6,SNR=13						
WB0	**Warramunga Arr**	**13.45**	**157**	Pn	**Pn**	**08 49 53.3**	**-1.9**
WRAB	**Tennant Creek**	**13.58**	**157**	Pn	**Pn**	**08 49 55.2**	**-1.8**
WRA	**Warramunga Arr**	**13.59**	**157**	P	**Pn**	**08 49 54.5**	**-2.5**
	4.9nm,0.3s,baz=334,slow=11,SNR=60						
WRA				S	Sn	08 52 17.9	-10
	5.9nm,0.3s,baz=331,slow=24,SNR=8.3						
WB2	**Warramunga Arr**	**13.59**	**157**	Pn	**Pn**	**08 49 55.5**	**-1.5**
WR0	**Warramunga Arr**	**13.68**	**157**	Pn	**Pn**	**08 49 55.9**	**-2.3**
JAGI	**Jajag, Banyuwa**	**14.56**	**265**	Pn	**Pn**	**08 50 08.3**	**-1.0**
MTKI	**Muara Teweh, K**	**15.28**	**294**	P	**Pn**	**08 50 16.9**	**-1.4**
COEN	**Coen**	**15.55**	**116**	Pn	**Pn**	**08 50 20.2**	**-1.4**
COEN				IAmb	IAmb	08 50 37.3	
	comp=Z,27nm,1.2s						
PSAD1	**Pilbara Seismi**	**16.46**	**211**	P	**P**	**08 50 33.3**	**+0.6**
PSAD1				IAmb	IAmb	08 50 49.3	
	comp=Z,20nm,0.7s						
PSAC2	**Pilbara Seismi**	**16.52**	**210**		**Pn**	**08 50 34.0**	**+0.6**
PSAC2				IAmb	IAmb	08 50 49.5	
	comp=Z,24nm,1.1s						
PSAB2	**Pilbara Seismi**	**16.53**	**211**		**Pn**	**08 50 34.7**	**+1.1**
PSAB2				IAmb	IAmb	08 50 50.7	
	comp=Z,24nm,1.1s						
PSAC1	**Pilbara Seismi**	**16.54**	**211**	P	**Pn**	**08 50 33.9**	**+0.3**
PSAC1				IAmb	IAmb	08 50 49.8	
	comp=Z,19nm,0.8s						
PSAA2	**Pilbara Seismi**	**16.54**	**211**	P	**Pn**	**08 50 34.1**	**+0.4**
PSAA2				IAmb	IAmb	08 50 49.5	
	comp=Z,22nm,0.9s						
PSA00	**Pilbara Seismi**	**16.55**	**211**	P	**Pn**	**08 50 34.5**	**+0.7**
PSA00				IAmb	IAmb	08 50 36.5	
	comp=Z,18nm,0.7s						
PSA00	**Pilbara Seismi**	**16.55**	**211**	P	**Pn**	**08 50 34.4**	**+0.6**
PSA00				IAmb	IAmb	08 50 40.5	
	comp=Z,6.2nm,0.7s						
PSAA3	**Pilbara Seismi**	**16.55**	**211**	P	**Pn**	**08 50 35.1**	**+1.3**
PSAA3				IAmb	IAmb	08 50 36.5	
	comp=Z,23nm,0.7s						
PSAA1	**Pilbara Seismi**	**16.56**	**211**	P	**Pn**	**08 50 34.7**	**+0.8**
PSAA1				IAmb	IAmb	08 50 36.6	
	comp=Z,21nm,0.7s						
PSAB3	**Pilbara Seismi**	**16.56**	**211**	P	**Pn**	**08 50 34.9**	**+1.0**
PSAB3				IAmb	IAmb	08 50 36.6	
	comp=Z,26nm,0.7s						
PSAC3	**Pilbara Seismi**	**16.60**	**211**	P	**Pn**	**08 50 35.3**	**+0.9**
PSAC3				IAmb	IAmb	08 50 37.1	
	comp=Z,17nm,0.7s						
PSAD3	**Pilbara Seismi**	**16.64**	**211**	P	**Pn**	**08 50 35.3**	**+0.4**
PSAD3				IAmb	IAmb	08 50 50.7	
	comp=Z,24nm,0.8s						
AS31	**Alice Springs**	**16.91**	**164**	P	**Pn**	**08 50 37.5**	**-0.7**
ASAR	**Alice Springs**	**16.91**	**164**	P	**Pn**	**08 50 38.8**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=338,slow=9.3,SNR=40						
ASAR				S	**S**	**08 53 35.7**	**-11**
	comp=Z,1.0nm,0.3s,baz=332,slow=18,SNR=8.8						
ASAR	**Alice Springs**	**16.91**	**164**	P	**Pn**	**08 50 38.4**	**+0.2**
PMG	**Port Moresby**	**18.26**	**98**	P	**Pn**	**08 50 55.2**	**+0.9**
	comp=Z,1.1nm,0.3s,baz=253,slow=11,SNR=5.1						
PMG	**Port Moresby**	**18.26**	**98**	P	**Pn**	**08 50 55.5**	**+1.2**
SBUM	**Sibu**	**19.22**	**300**	P	**P**	**08 51 02.5**	**-0.5**
CTA	**Charters Tower**	**21.10**	**129**	P	**P**	**08 51 27.8**	**+4.6**
	comp=Z,2.0nm,0.5s,baz=309,slow=16,SNR=1.8						
CTA				S	**S**	**08 55 14.3**	**+4.7**
	comp=Z,2.5nm,0.7s,baz=280,slow=21,SNR=1.1						
STKA	**Stephens Creek**	**27.13**	**156**	P	**P**	**08 52 21.3**	**+1.9**
	comp=Z,3.5nm,1.0s,baz=121,slow=23,SNR=2.9						
NWAO	**Narrogin (SRO)**	**27.60**	**201**	P	**P**	**08 52 20.5**	**-3.1**
YOJ	**Yonaguni jima**	**32.15**	**350**	P	**P**	**08 53 02.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**39.09**	**311**	P	**P**	**08 54 03.4**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=147,slow=8.2,SNR=10.0						
CHTO	**Chiang Mai**	**39.31**	**312**	P	**P**	**08 54 03.4**	**-1.5**
CHTO				IAmb	IAmb	08 54 07.0	
	comp=Z,7.2nm,0.9s						
GYA	**Guiyang**	**39.92**	**328**	P	**P**	**08 54 11.0**	**+1.0**
GYA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
WHN	**Wuhan**	**40.18**	**340**	P	**P**	**08 54 11.5**	**-0.4**
JNU	**Nakatsue**	**40.33**	**3**	P	**P**	**08 54 11.4**	**-1.8**
JNU				IAmb	IAmb	08 54 14.3	
	comp=Z,10nm,1.1s						
NJ2	**Nanjing**	**40.35**	**347**	*eP*	**P**	**08 54 14.3**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,14nm,0.6s						
MAT	**Matsushiro**	**44.58**	**11**	P	**P**	**08 54 45.4**	**-2.0**
MJAR	**Matsushiro Arr**	**44.58**	**11**	P	**P**	**08 54 45.8**	**-1.6**
	comp=Z,3.3nm,0.9s,baz=190,slow=9.8,SNR=9.9						
MJAR	**Matsushiro Arr**	**44.58**	**11**	P	**P**	**08 54 45.7**	**-1.7**
KSAR	**Wonju Array Be**	**44.60**	**359**	P	**P**	**08 54 45.2**	**-2.3**
KSRS	**Korea Array**	**44.61**	**359**	P	**P**	**08 54 47.7**	**+0.1**
	comp=Z,2.9nm,0.6s,baz=178,slow=9.9,SNR=17						
KS19	**Wonju Array Si**	**44.66**	**359**	P	**P**	**08 54 45.1**	**-2.9**
XAN	**Xi'an**	**45.31**	**337**	P	**P**	**08 54 51.7**	**-1.6**
XAN				IAmb	IAmb	08 54 52.9	
	comp=Z,8.9nm,1.0s						
BJT	**Baijiatuau**	**48.59**	**347**	P	**P**	**08 55 18.3**	**-0.3**
BJT				IAmb	IAmb	08 55 18.9	
	comp=Z,8.6nm,0.8s						
BJI	**Beijing**	**48.61**	**347**	P	**P**	**08 55 18.3**	**-0.4**
BJI				pmax	pmax		
	comp=Z,11nm,0.8s						
LZH	**Lanzhou**	**49.20**	**333**	⇑P	**P**	**08 55 23.8**	**+0.3**
LZH				pP	pP	08 55 58.0	+1.8
LZH				sP	sP	08 56 15.3	+2.9
LZH				PP	**PP**	**08 57 21.0**	**+2.1**
LZH				pmax	pmax		
	comp=Z,21nm,1.3s						
LZH				pmax	pmax		
	comp=Z,75nm,5.9s						
HHC	**Hu-ho-hao-te**	**50.55**	**343**	*eP*	**P**	**08 55 34.5**	**+0.9**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,88nm,4.3s						
USA0B	**Ussuriysk Arra**	**51.42**	**3**	P	**P**	**08 55 37.5**	**-2.4**
USRK	**Ussuriysk Ar.**	**51.42**	**3**	P	**P**	**08 55 39.9**	**0.0**
	comp=Z,2.8nm,0.6s,baz=187,slow=6.3,SNR=17						
USRK	**Ussuriysk Ar.**	**51.42**	**3**	P	**P**	**08 55 38.8**	**-1.1**
RPZ	**Rata Peaks**	**51.66**	**142**	P	**P**	**08 55 44.4**	**+2.6**
	comp=Z,6.4nm,0.7s,baz=257,slow=19,SNR=1.9						
RPZ	**Rata Peaks**	**51.66**	**142**	P	**P**	**08 55 42.8**	**+1.0**
KHZ	**Kahutara**	**52.58**	**139**	P	**P**	**08 55 50.7**	**+2.2**
GTA	**Gaotai**	**53.75**	**332**	⇑P	**P**	**08 55 57.8**	**+0.5**
GTA				pmax	pmax		
	comp=Z,15nm,1.0s						
GTA				pmax	pmax		
	comp=Z,78nm,5.7s						
GTA				LR	LR		
	comp=N,430nm,14.3s						
GTA				LR	LR		
	comp=E,520nm,14.9s						
GTA				LR	LR		
	comp=Z,780nm,14.9s						
KLR	**Kul'dur**	**56.43**	**2**	P	**P**	**08 56 16.2**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=212,slow=8.9,SNR=3.6						
SONM	**Songino Array**	**58.44**	**342**	P	**P**	**08 56 31.2**	**+0.8**
	comp=Z,3.2nm,0.8s,baz=161,slow=7.3,SNR=15						
SONM	**Songino Array**	**58.44**	**342**	P	**P**	**08 56 30.1**	**-0.3**
WMQ	**Urumqi**	**63.08**	**328**	*eP*	**P**	**08 57 01.5**	**-0.3**
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,66nm,4.1s						
WMQ				LR	LR		
	comp=N,260nm,23.3s						
WMQ				LR	LR		
	comp=E,96nm,28.7s						
WMQ				LR	LR		
	comp=Z,220nm,23.3s						
PEA0B	**Petropavlovsk-**	**65.06**	**19**	P	**P**	**08 57 14.8**	**+0.4**
PETK	**Petropavlovsk-**	**65.06**	**19**	P	**P**	**08 57 15.0**	**+0.6**
	comp=Z,6.7nm,0.6s,baz=179,slow=4.4,SNR=20						
PETK	**Petropavlovsk-**	**65.06**	**19**	P	**P**	**08 57 15.4**	**+0.9**
MK31	**Makanchi Array**	**67.91**	**327**	P	**P**	**08 57 33.3**	**+0.6**
MK31				IAmb	IAmb	08 57 34.3	
	comp=Z,10nm,1.3s						
MKAR	**Makanchi Array**	**67.91**	**327**	P	**P**	**08 57 33.4**	**+0.7**
	comp=Z,4.3nm,0.4s,baz=123,slow=8.0,SNR=26						
MKAR	**Makanchi Array**	**67.91**	**327**	P	**P**	**08 57 33.2**	**+0.6**
MAKZ	**Makanchi**	**68.08**	**327**	P	**P**	**08 57 35.0**	**+1.2**
MAKZ				IAmb	IAmb	08 57 35.3	
	comp=Z,4.3nm,0.6s						
YAK	**Yakutsk**	**69.21**	**0**	P	**P**	**08 57 40.6**	**+0.2**
	comp=Z,14nm,0.4s,baz=218,slow=0.8,SNR=3.0						
YAK	**Yakutsk**	**69.21**	**0**	P	**P**	**08 57 40.5**	**+0.1**
AAK	**Ala-Archa**	**70.08**	**320**	P	**P**	**08 57 48.0**	**+1.6**
	comp=Z,2.0nm,0.5s,baz=110,slow=9.1,SNR=5.7						
AAK	**Ala-Archa**	**70.08**	**320**	P	**P**	**08 57 47.8**	**+1.4**
ARSB	**Arslanbob**	**70.39**	**319**	P	**P**	**08 57 45.7**	**-2.6**
ARSB				IAmb	IAmb	08 57 50.1	
	comp=Z,13nm,1.1s						
GAR	**Garm**	**71.11**	**315**	P	**P**	**08 57 53.2**	**+0.6**
ZAA0	**Zalesovo Array**	**71.41**	**334**	P	**P**	**08 57 51.5**	**-2.5**
ZALV	**Zalesovo Beam**	**71.41**	**334**	P	**P**	**08 57 53.5**	**-0.4**
	comp=Z,2.8nm,0.5s,baz=119,slow=5.0,SNR=15						
ZALV	**Zalesovo Beam**	**71.41**	**334**	P	**P**	**08 57 53.2**	**-0.8**
VNDA	**Vanda**	**72.21**	**173**	P	**P**	**08 58 00.4**	**+2.0**
	comp=Z,0.4nm,0.7s,baz=29,slow=2.3,SNR=1.7						
KURBB	**Kurchatov Arra**	**72.22**	**329**	P	**P**	**08 57 59.1**	**+0.2**
	comp=Z,8.1nm,0.7s,baz=130,slow=5.0,SNR=80						
KURK	**Kurchatov**	**72.23**	**329**	P	**P**	**08 57 59.1**	**+0.1**
KURK				IAmb	IAmb	08 58 01.2	
	comp=Z,12nm,1.0s						
KK31	**Karatay Array**	**72.86**	**319**	P	**P**	**08 58 03.2**	**+0.4**
KKAR	**Karatay Array**	**72.86**	**319**	P	**P**	**08 58 03.0**	**+0.2**
KKAR	**Karatay Array**	**72.86**	**319**	P	**P**	**08 58 03.2**	**+0.3**
KKAR				IAmb	IAmb	08 58 04.4	
	comp=Z,3.1nm,0.9s						
BVAR	**Borovoye Array**	**77.76**	**328**	P	**P**	**08 58 30.8**	**+0.2**
	comp=Z,3.3nm,0.8s,baz=130,slow=6.0,SNR=11						
BRVK	**Borovoye**	**77.83**	**328**	P	**P**	**08 58 30.4**	**-0.6**
TIXI	**Tiksi**	**78.87**	**0**	P	**P**	**08 58 35.9**	**-0.4**
	comp=Z,4.3nm,0.4s,baz=169,slow=6.2,SNR=11						
TIXI	**Tiksi**	**78.87**	**0**	P	**P**	**08 58 35.8**	**-0.5**
NRIK	**Noril'sk**	**81.65**	**346**	P	**P**	**08 58 51.6**	**+0.4**
	comp=Z,2.9nm,0.6s,baz=109,slow=5.6,SNR=3.0						
ABKAR	**Akbulak array**	**82.08**	**322**	P	**P**	**08 58 53.8**	**-0.1**
QSPA	**South Pole Qui**	**82.59**	**180**	P	**P**	**08 58 57.6**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=317,slow=3.3,SNR=2.7						
QSPA	**South Pole Qui**	**82.59**	**180**	P	**P**	**08 58 56.4**	**-0.1**
AKTO	**Aktyubinsk**	**83.66**	**323**	P	**P**	**08 59 02.1**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=121,slow=7.2,SNR=5.1						
ILAR	**Eielson Array**	**94.19**	**25**	P	**P**	**08 59 50.8**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=268,slow=3.5,SNR=4.4						
ILAR	**Eielson Array**	**94.19**	**25**	P	**P**	**08 59 50.7**	**-1.1**
PDAR	**Pinedale Array**	**118.00**	**45**	PKP	**PKiKP**	**09 05 20.9**	**+1.0**
	comp=Z,0.3nm,0.5s,baz=319,slow=3.6,SNR=1.9						
PDAR	**Pinedale Array**	**118.00**	**45**		**PKPdf**	**09 05 19.1**	**-0.7**
EKA	**Eskdalemuir Ar**	**118.93**	**331**	PKP	**PKiKP**	**09 05 21.4**	**+0.4**
	comp=Z,0.4nm,0.4s,baz=2.9,slow=2.8,SNR=3.9						
TXAR	**Lajitas Array**	**126.13**	**59**	PKP	**PKiKP**	**09 05 36.6**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=184,slow=3.6,SNR=7.2						
TORD	**Torodi Ar. Bea**	**127.73**	**281**	PKP	**PKPdf**	**09 05 39.1**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=58,slow=2.1,SNR=5.0						
TORD	**Torodi Ar. Bea**	**127.73**	**281**		**PKPdf**	**09 05 37.7**	**-1.2**
CPUP	**Villa Florida**	**145.96**	**170**	PKPbc	**PKPab**	**09 06 14.4**	**+0.7**
	comp=Z,2.1nm,0.5s,baz=204,slow=2.5,SNR=5.4						
CPUP	**Villa Florida**	**145.96**	**170**	PKPbc	**PKPab**	**09 06 14.5**	**+0.8**
LPAZ	**La Paz**	**151.11**	**145**	PKPbc	**PKiKP**	**09 06 28.9**	**+0.9**
	comp=Z,0.7nm,0.4s,baz=241,slow=0.1,SNR=6.4						
LPAZ				PKPab	**PKPab**	**09 06 37.4**	**+1.9**
	comp=Z,2.1nm,0.7s,baz=198,slow=3.5,SNR=9.5						
LPAZ	**La Paz**	**151.11**	**145**	PKPbc	**PKPbc**	**09 06 27.3**	**-0.2**

*IDC **26** 08:49:48.9±0.9, 14°.61N×55°.59E, h0km, mb4.0/17, mb1 4.1/18, mb1mx3.9/76, mbtmp4.0/18, ML3.3/1, MS3.7/22, Ms1 3.7/22, ms1mx3.5/52, Error ellipse: s-maj=21.9km s-min=18.7km az=146.0*
*NEIC **26** 08:49:49.4±2.5, 14°.62N±0°.08×55°.5E±0°.1, h10km±1km, mb4.5/29, Error ellipse: s-maj=22.3km s-min=9.0km az=116.0*

ISC 26 08:49:50.7±0.7, 14°.81N±0°.09×55°.52E±0°.10, h10km, n82, σ1§59/65, mb4.4/34, MS3.6/23, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**3.00**	**210**		**Pn**	**08 50 29.9**	**-8.5**
SOCY				Sn	Sn	08 50 57.2	-17
WSAR	**Wadi Sarin**	**8.89**	**19**	Pn	**Pn**	**08 51 58.8**	**-0.5**
	0.3nm,0.3s,baz=201,slow=14,SNR=1.6						
WSAR				Sn	**Sn**	**08 53 34.3**	**-5.4**
	0.3nm,0.3s,baz=135,slow=9.7,SNR=1.4						
WSAR				LR	LR	08 55 27.1	
	comp=Z,689nm,18.8s,baz=200,slow=37						
UOSS	**Minazif**	**10.11**	**4**	Pn	**Pn**	**08 52 17.7**	**+1.7**
ATD	**Arta Tunnel**	**12.76**	**257**	LR	LR	08 56 28.4	
	comp=Z,360nm,20.9s,baz=61,slow=31						
KBL	**Kabul**	**23.13**	**29**	P	**P**	**08 54 56.8**	**-0.6**
KBL	**Kabul**	**23.13**	**29**	P	**P**	**08 54 56.8**	**-0.6**
KBL				IAmb	IAmb	08 55 06.6	
	comp=Z,10nm,0.9s						
GEYT	**Alibeck**	**23.15**	**5**	P	**P**	**08 54 56.9**	**-0.4**
	comp=Z,8.1nm,0.9s,baz=193,slow=9.9,SNR=4.5						
GEYT				LR	LR	09 06 10.8	
	comp=Z,68nm,19.9s,baz=0.0,slow=42						
GEYT	**Alibeck**	**23.15**	**5**	P	**P**	**08 54 55.8**	**-1.5**
GYA0B	**ALIBECK ARRAY**	**23.15**	**5**	P	**P**	**08 54 55.5**	**-1.8**
GYA0B				IAmb	IAmb	08 55 04.4	
	comp=Z,14nm,1.0s						
KMBO	**Kilima Mbogo**	**24.02**	**230**	LR	LR	09 03 37.5	
	comp=Z,239nm,21.5s,baz=72,slow=35						
EIL	**Elat**	**24.05**	**311**	LR	LR	09 05 04.7	
	comp=Z,129nm,20.6s,baz=94,slow=38						
NIL	**Nilore**	**24.70**	**37**	P	**P**	**08 55 13.2**	**+1.1**
NIL				IAmb	IAmb	08 55 20.7	
	comp=Z,6.4nm,0.8s						
MMAI	**Mount Meron Ar**	**25.74**	**318**	LR	LR	09 06 30.9	
	comp=Z,96nm,19.1s,baz=0.0,slow=39						
CHGR	**Chuyangaron**	**26.64**	**24**	P	**P**	**08 55 28.9**	**-0.8**
CHGR				IAmb	IAmb	08 55 39.5	
	comp=Z,22nm,1.2s						
GAR	**Garm**	**27.40**	**26**	P	**P**	**08 55 35.9**	**-0.7**
GAR				IAmb	IAmb	08 55 49.8	
	comp=Z,9.5nm,1.0s						
BTK	**Batken**	**28.50**	**25**	P	**P**	**08 55 48.9**	**+2.5**
BTK				IAmb	IAmb	08 55 55.7	
	comp=Z,19nm,1.2s						
KSH	**Kashi**	**30.47**	**32**	*eP*	**P**	**08 56 06.5**	**+2.6**
KSH				pmax	pmax		
	comp=Z,17nm,0.8s						
KSH				pmax	pmax		
	comp=Z,120nm,5.1s						
KBZ	**Khabaz**	**30.78**	**342**	P	**P**	**08 56 06.4**	**0.0**
	comp=Z,1.0nm,0.6s,baz=298,slow=7.6,SNR=2.1						
KBZ				LR	LR	09 10 35.6	
	comp=Z,120nm,19.4s,baz=160,slow=40						
KK31	**Karatay Array**	**31.00**	**22**	P	**P**	**08 56 08.4**	**0.0**
KKAR	**Karatay Array**	**31.00**	**22**	P	**P**	**08 56 10.4**	**+2.0**
BRTR	**Keskin Array B**	**31.36**	**326**	LR	LR	09 10 29.1	
	comp=Z,63nm,19.3s,baz=114,slow=39						
AAK	**Ala-Archa**	**32.19**	**27**	LR	LR	09 11 48.5	
	comp=Z,112nm,20.2s,baz=183,slow=41						
KDJ	**Kajisay**	**33.03**	**30**	P	**P**	**08 56 26.5**	**0.0**
KDJ				IAmb	IAmb	08 56 34.8	
	comp=Z,5.3nm,0.9s						
TARG	**Taragay, Kyrgy**	**33.04**	**31**	P	**P**	**08 56 27.6**	**+0.8**
TARG				IAmb	IAmb	08 56 35.8	
	comp=Z,11nm,1.5s						
ABKAR	**Akbulak array**	**34.55**	**5**	P	**P**	**08 56 40.1**	**+0.9**
ABKAR	**Akbulak array**	**34.55**	**5**	P	**P**	**08 56 40.4**	**+1.1**
ABKAR				IAmb	IAmb	08 56 47.0	
	comp=Z,5.3nm,1.0s						
AKTO	**Aktyubinsk**	**35.59**	**3**	P	**P**	**08 56 50.5**	**+2.2**
	comp=Z,2.7nm,0.6s,baz=178,slow=8.7,SNR=4.3						
AKTO				LR	LR	09 13 46.8	
	comp=Z,94nm,20.6s,baz=165,slow=40						
ITM	**Ithomi**	**37.22**	**313**	P	**P**	**08 57 01.2**	**-1.2**
ITM				IAmb	IAmb	08 57 11.7	
	comp=Z,9.7nm,1.1s						
MK31	**Makanchi Array**	**38.94**	**30**	P	**P**	**08 57 17.2**	**+0.4**
MKAR	**Makanchi Array**	**38.94**	**30**	P	**P**	**08 57 18.1**	**+1.2**
	comp=Z,0.6nm,0.5s,baz=212,slow=9.6,SNR=9.7						
MKAR	**Makanchi Array**	**38.94**	**30**	P	**P**	**08 57 17.9**	**+1.1**
WMQ	**Urumqi**	**39.85**	**37**	*eP*	**P**	**08 57 28.3**	**+3.8**
WMQ				LR	LR		
	comp=N,300nm,27.7s						
WMQ				LR	LR		
	comp=E,840nm,29.0s						
WMQ				LR	LR		
	comp=Z,94nm,24.1s						
BVAR	**Borovoye Array**	**39.91**	**14**	P	**P**	**08 57 26.3**	**+1.5**
	comp=Z,2.0nm,0.7s,baz=201,slow=7.3,SNR=8.2						
BRVK	**Borovoye**	**39.92**	**14**	P	**P**	**08 57 25.5**	**+0.7**
KURBB	**Kurchatov Arra**	**40.29**	**23**	P	**P**	**08 57 28.8**	**+0.8**
	comp=Z,0.9nm,0.8s,baz=224,slow=8.1,SNR=12						
KURK	**Kurchatov**	**40.40**	**23**	P	**P**	**08 57 30.7**	**+1.9**
ARU	**Arti**	**41.61**	**3**	LR	LR	09 16 37.2	
	comp=Z,85nm,21.9s,baz=164,slow=38						
AKASG	**Malin Array Be**	**41.63**	**335**	P	**P**	**08 57 41.2**	**+2.1**
	comp=Z,0.3nm

	comp=Z,108nm,18.6s,baz=60,slow=31							
PETK	**Petropavlovsk-**	**85.44**	**36**	LR	LR	09 46 03.7		
	comp=Z,70nm,18.4s,baz=241,slow=39							
ASAR	**Alice Springs**	**85.58**	**116**	P	**P**	**09 02 27.9**	**-2.0**	
	comp=Z,0.8nm,0.7s,baz=291,slow=4.9,SNR=4.6							
PDAR	**Pinedale Array**	**121.09**	**347**	PKP	**PKiKP**	**09 08 44.2**	**-0.3**	
	comp=Z,0.2nm,0.6s,baz=70,slow=1.7,SNR=1.6							
PDAR	**Pinedale Array**	**121.09**	**347**		**PKiKP**	**09 08 43.9**	**-0.6**	
NVAR	**Mina Array Bea**	**126.73**	**354**	PKP	**PKiKP**	**09 08 56.0**	**+0.2**	
	comp=Z,0.7nm,0.8s,baz=294,slow=1.5,SNR=4.6							
NVAR	**Mina Array Bea**	**126.73**	**354**		**PKiKP**	**09 08 55.1**	**-0.6**	

*ATH **26** 08:50:18.7, 34˚.04N×25˚.15E, h26km±1km, ML2.9/6, Error ellipse: s-maj=2.9km s-min=1.7km az=352.0*
*THE **26** 08:50:19.5, 34˚.03N×25˚.06E, h2km±1km, ML2.8/7, Error ellipse: s-maj=2.9km s-min=1.2km az=182.0*
*GII **26** 08:50:23.5±0.0, 33˚.53N×25˚.80E, h1km*
ISC 26 08:50:17.1±1.6, 33˚.87N±0˚.07×25˚.14E±0˚.04, h32km±14km, n38, σ1§57/60, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIVA	**Sivas**	**1.18**	**347**	P	**Pb**	**08 50 38.2**	**-0.7**
SIVA				S	**Sn**	**08 50 53.1**	**+0.9**
	2µm,0.5s						
SIVA	**Sivas**	**1.18**	**347**	P	**Pb**	**08 50 38.2**	**-0.7**
SIVA				S	**Sn**	**08 50 52.3**	**+0.1**
SIVA				AML	AML	08 51 01.7	
	comp=N,3771µm,0.4s						
SIVA				AML	AML	08 51 02.1	
	comp=E,5796µm,0.5s						
TMBK	**Timbaki Herakl**	**1.24**	**346**	P	**Pb**	**08 50 39.5**	**-0.4**
GVD	**Gavdhos**	**1.30**	**318**	P	**Pb**	**08 50 41.4**	**+0.4**
GVD				S	**Sb**	**08 50 56.6**	**-0.8**
	comp=E,758nm,0.5s						
GVD	**Gavdhos**	**1.30**	**318**	P	**Pb**	**08 50 41.8**	**+0.8**
GVD				S	**Sb**	**08 50 57.6**	**+0.2**
GVD				AML	AML	08 51 13.9	
	comp=E,1338µm,0.4s						
GVD				AML	AML	08 51 16.6	
	comp=N,1563µm,0.5s						
LAST	**Lasithi**	**1.31**	**12**	P	**Pb**	**08 50 40.8**	**-0.5**
LAST				S	**Sb**	**08 50 59.0**	**+1.1**
	comp=N,300nm,0.5s						
LAST	**Lasithi**	**1.31**	**12**	P	**Pb**	**08 50 40.6**	**-0.7**
LAST				S	**Sb**	**08 50 56.9**	**-1.0**
LAST				AML	AML	08 51 03.2	
	comp=N,588µm,0.4s						
LAST				AML	AML	08 51 04.7	
	comp=E,610µm,0.6s						
IDI	**Anoyia**	**1.43**	**352**	P	**Pb**	**08 50 42.3**	**-0.9**
IDI				S	**Sb**	**08 51 00.5**	**-0.6**
IDI				AML	AML	08 51 08.6	
	comp=E,734µm,0.5s						
IDI				AML	AML	08 51 14.6	
	comp=N,608µm,0.6s						
KSTL	**Kastelli Herak**	**1.43**	**358**	P	**Pb**	**08 50 42.1**	**-1.1**
KSTL				S	**Sb**	**08 50 58.9**	**-2.1**
NPS	**Neapolis**	**1.44**	**15**	P	**Pb**	**08 50 43.0**	**-0.4**
NPS				S	**Sb**	**08 51 02.1**	**+0.7**
	comp=N,292nm,0.4s						
NPS	**Neapolis**	**1.44**	**15**	P	**Pb**	**08 50 43.0**	**-0.4**
NPS				S	**Sb**	**08 51 00.4**	**-1.0**
NPS				AML	AML	08 51 06.8	
	comp=E,594µm,0.5s						
NPS				AML	AML	08 51 11.4	
	comp=N,571µm,0.5s						
ZKR	**Zakros**	**1.52**	**35**	P	**Pb**	**08 50 45.1**	**+0.3**
ZKR				S	**Sb**	**08 51 05.0**	**+1.3**
	comp=N,210nm,0.4s						
ZKR	**Zakros**	**1.52**	**35**	P	**Pb**	**08 50 44.9**	**+0.1**
ZKR				S	**Sb**	**08 51 02.9**	**-0.9**
ZKR				AML	AML	08 51 10.7	
	comp=N,233µm,0.3s						
ZKR				AML	AML	08 51 11.5	
	comp=E,565µm,0.5s						
STIA	**Sitia Lasithi**	**1.54**	**30**	P	**Pb**	**08 50 45.4**	**+0.4**
STIA				S	**Sb**	**08 51 05.3**	**+1.1**
PRNS	**Prines Rethymn**	**1.58**	**341**	P	**Pb**	**08 50 45.0**	**-0.7**
PRNS				S	**Sb**	**08 51 03.8**	**-1.5**
VAM	**Vamos**	**1.72**	**333**	P	**Pb**	**08 50 46.9**	**-1.2**
VAM				S	**Sb**	**08 51 08.7**	**-0.6**
VAM	**Vamos**	**1.72**	**333**	P	**Pb**	**08 50 46.9**	**-1.2**
IMMV	**Iera Moni Meta**	**1.85**	**329**	P	**Pb**	**08 50 48.7**	**-1.6**
IMMV				S	**Sb**	**08 51 12.1**	**-1.0**
	comp=E,310nm,0.6s						
IMMV	**Iera Moni Meta**	**1.85**	**329**	P	**Pb**	**08 50 49.0**	**-1.4**
RODP	**Rodopos**	**2.03**	**326**	P	**Pb**	**08 50 51.6**	**-1.8**
RODP				S	**Sb**	**08 51 14.5**	**-3.9**
	comp=E,40nm,0.6s						
KARP	**Karpathos**	**2.36**	**44**	P	**Pb**	**08 50 57.1**	**-1.8**
KARP	**Karpathos**	**2.36**	**44**	P	**Pb**	**08 50 56.9**	**-2.0**
ANKY	**Antikythira Is**	**2.50**	**323**	P	**Pn**	**08 50 58.2**	**+2.7**
ANAF	**Anafi Island**	**2.53**	**12**	P	**Pn**	**08 50 57.4**	**+1.4**
ANAF	**Anafi Island**	**2.53**	**12**	P	**Pn**	**08 50 57.3**	**+1.4**
IOSP	**Ios island**	**2.85**	**2**	P	**Pn**	**08 51 01.0**	**+0.7**
KTHA	**Kythira Island**	**2.93**	**325**	P	**Pn**	**08 51 03.9**	**+2.5**
VLI	**Veliai**	**3.36**	**328**	P	**Pn**	**08 51 08.6**	**+1.2**
DID	**Didima**	**3.94**	**337**	P	**Pn**	**08 51 16.3**	**+0.9**
DION	**Dionisos Attik**	**4.31**	**347**	P	**Pn**	**08 51 21.4**	**+0.9**
KZIT	**Kziot**	**8.37**	**108**	Pn	**Pn**	**08 52 17.8**	**+1.7**
YTIR	**Yattir**	**8.78**	**104**	Pn	**Pn**	**08 52 23.9**	**+2.0**
YTIR				Sn	**Sn**	**08 53 57.4**	**-2.3**
HMDT	**Nahal Hemdat**	**8.86**	**98**	Pn	**Pn**	**08 52 24.6**	**+1.6**
HMDT				Sn	**Sn**	**08 53 59.9**	**-1.8**
PRNI	**Paran**	**9.07**	**110**	Pn	**Pn**	**08 52 27.6**	**+1.8**
PRNI				Sn	**Sn**	**08 54 03.5**	**-3.3**
GHAJ	**Ghor Haditha**	**9.16**	**103**	Pn	**Pn**	**08 52 28.9**	**+1.9**
GHAJ				Sn	**Sn**	**08 54 06.4**	**-2.6**
HRFI	**Mount Harif**	**9.23**	**112**	Pn	**Pn**	**08 52 30.6**	**+2.5**
MBRI	**Mt Berech**	**9.25**	**113**	Pn	**Pn**	**08 52 29.4**	**+1.0**
MBRI				Sn	**Sn**	**08 54 08.2**	**-3.2**
EIL	**Elat**	**9.34**	**114**	Pn	**Pn**	**08 52 30.3**	**+0.8**

*IDC **26** 09:00:56.3±0.5, 48˚.46N×157˚.09E, h0km, mb4.4/35, mb1 4.5/40, mb1mx4.5/65, mbtmp4.4/40, ML3.9/5, MS3.9/13, Ms1 3.9/13, ms1mx3.5/43, Error ellipse: s-maj=14.3km s-min=10.9km az=147.0*
*MOS **26** 09:00:58.7±1.0, 48˚.54N×157˚.12E, h28km, mb4.8/48, MS4.0/15, Error ellipse: s-maj=6.4km s-min=2.9km az=86.9*
*BJI **26** 09:00:58.5±0.0, 48˚.57N×156˚.50E, h7km, mB4.9/31, mb4.7/46, Ms4.4/27, Ms7 4.2/25*
*KRSC **26** 09:00:58.0±2.5, 48˚.62N×157˚.84E, h30km±28km, ML5.0*
*SKHL **26** 09:00:59.0±0.1, 48˚.45N×157˚.03E, h37km±7km, mb5.3/4, Ms4.3/9*
*NEIC **26** 09:00:59.5±2.3, 48˚.41N±0˚.05×157˚.2E±0˚.1, h24km±2km, mb4.9/218, Error ellipse: s-maj=12.1km s-min=7.6km az=105.0*
*UNK **26** 09:00:59.2, 48˚.44N×157˚.10E, h19km*
*GCMT **26** 09:01:02.5±0.3, 48˚.58N±0˚.02×157˚.28E±0˚.03, h20km±1km, MW4.9/96, Moment Tensor Solution. s28,c30; s96,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.83±.19; $M_{\theta\theta}$1.17±.12; $M_{\phi\phi}$1.67±.11; $M_{r\theta}$0.69±.25; $M_{r\phi}$1.43±.06; $M_{\theta\phi}$0.42±.17; Best double couple: $M_0$2.96200×10^{16} NP1:ϕ_{n}35.00000°, δ38.00000°, λ-98.00000°. NP2: ϕ_{n}225.00000°, δ53.00000°, λ-84.00000°. Principal axes: T 2.9730, Plg8.0000°, Azm311.0000°; N -0.0110, Plg5.0000°, Azm41.0000°; P -2.9520, Plg81.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BGR **26** 09:01:03.7±0.0, 48˚.51N×157˚.18E, h33km, mb4.9*
ISC 26 09:00:58.4±1.2, 48˚.45N±0˚.05×157˚.21E±0˚.04, h16km±7km, n701, σ1§34/685, mb4.9/169, MS4.1/25, 27C-3D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.35**	**343**	*e*P	**Pn**	**09 01 35.3**	**-0.9**
SKR				*e*S	**Sn**	**09 02 02.2**	**-2.4**
SKR	**Severo-Kuril's**	**2.35**	**343**	*e*P	**Pn**	**09 01 35.2**	**-0.9**
SKR				AMB	AMB	09 01 36.1	
	300nm,0.5s						
SKR				AMB	AMB	09 01 37.2	
	600nm,2.0s						
SKR				*e*S	**Sn**	**09 02 02.3**	**-2.4**
SKR				A	A	09 02 04.0	
	2µm,0.8s						
SKR				A	A	09 02 04.0	
	3µm,0.8s						
SKR				AMS	AMS	09 03 53.0	
	3µm,10.0s						
SKR				AMS	AMS	09 03 53.0	
	3µm,10.0s						
SKR				AMS	AMS	09 03 53.0	
	3µm,10.0s						
SKR	**Severo-Kuril's**	**2.35**	**343**	*e*PN	**Pn**	**09 01 35.3**	**-0.9**
SKR				*e*S	**Sn**	**09 02 02.9**	**-1.7**
SKR				pmax	pmax		
	comp=Z,304nm,0.5s						
SKR				pmax	pmax		
	comp=Z,400nm,1.4s						
SKR				smax	smax		
	comp=E,3µm,0.8s						
SKR				smax	smax		
	comp=N,2µm,0.8s						
SKR				MLR	MLR		
	comp=Z,2µm,14.0s						
ALID	**Alaid**	**2.65**	**337**	*e*P	**Pn**	**09 01 40.8**	**+0.2**
ALID				*e*S	**Sn**	**09 02 12.7**	**+0.3**
ALID	**Alaid**	**2.65**	**337**	PN	**Pn**	**09 01 40.8**	**+0.2**
ALID				S	**Sn**	**09 02 12.7**	**+0.3**
PAU	**Pauzhetka**	**3.03**	**355**	*e*P	**Pn**	**09 01 45.3**	**-0.3**
PAU				*e*S	**Sn**	**09 02 19.2**	**-2.4**
PAU	**Pauzhetka**	**3.03**	**355**	*e*P	**Pn**	**09 01 45.1**	**-0.5**
PAU				AMB	AMB	09 01 46.1	
	comp=Z,380nm,0.3s						
PAU				*e*S	**Sn**	**09 02 19.7**	**-1.9**
PAU				A	A	09 02 21.8	
	comp=Z,4µm,0.8s						
PAU				A	A	09 02 21.8	
	comp=Z,3µm,0.8s						
PAU	**Pauzhetka**	**3.03**	**355**	PN	**Pn**	**09 01 45.3**	**-0.3**
PAU				S	**Sn**	**09 02 19.2**	**-2.4**
MIPR	**Malaya Ipel'ka**	**3.84**	**356**	*e*P	**Pn**	**09 01 56.8**	**0.0**
MIPR	**Malaya Ipel'ka**	**3.84**	**356**	PN	**Pn**	**09 01 56.8**	**0.0**
ASAK	**Asacha**	**3.96**	**6**	*e*P	**Pn**	**09 01 57.8**	**-0.7**
ASAK				*e*S	**Sn**	**09 02 42.4**	**-2.3**
ASAK	**Asacha**	**3.96**	**6**	PN	**Pn**	**09 01 57.8**	**-0.7**
ASAK				S	**Sn**	**09 02 42.4**	**-2.3**
RUS	**Russkaya**	**4.08**	**11**	*e*P	**Pn**	**09 01 58.3**	**-1.7**
RUS				*e*S	**Sn**	**09 02 44.0**	**-3.2**
RUS	**Russkaya**	**4.08**	**11**	PN	**Pn**	**09 01 58.3**	**-1.7**
MTVR	**Mutnovka**	**4.09**	**8**	*e*P	**Pn**	**09 01 59.4**	**-0.9**
MTVR				*e*S	**Sn**	**09 02 45.3**	**-2.5**
MTVR	**Mutnovka**	**4.09**	**8**	PN	**Pn**	**09 01 59.4**	**-0.9**
GRL	**Gorelyy**	**4.14**	**7**	*e*P	**Pn**	**09 02 00.7**	**-0.4**
GRL				*e*S	**Sn**	**09 02 47.0**	**-2.2**
GRL	**Gorelyy**	**4.14**	**7**	PN	**Pn**	**09 02 00.7**	**-0.4**
GRL				S	**Sn**	**09 02 47.0**	**-2.2**
KRMR	**Karymshinskiy**	**4.42**	**7**	*e*P	**Pn**	**09 02 05.4**	**+0.6**
KRMR				*e*S	**Sn**	**09 02 56.3**	**+0.4**
KRMR	**Karymshinskiy**	**4.42**	**7**	PN	**Pn**	**09 02 05.4**	**+0.6**
KRMR				S	**Sn**	**09 02 56.3**	**+0.4**
APC	**Apacha**	**4.48**	**360**	*e*P	**Pn**	**09 02 05.7**	**+0.2**
APC	**Apacha**	**4.48**	**360**	PN	**Pn**	**09 02 05.7**	**+0.2**
PET	**Petropavlovsk**	**4.67**	**11**	*e*P	**Pn**	**09 02 07.6**	**-0.6**
PET				*e*S	**Sn**	**09 02 59.1**	**-2.8**
PET	**Petropavlovsk**	**4.67**	**11**	*e*P	**Pn**	**09 02 07.4**	**-0.7**
PET				AMB	AMB	09 02 08.4	
	comp=Z,150nm,0.4s						
PET				*e*S	**Sn**	**09 02 59.1**	**-2.8**
PET				A	A	09 02 59.9	
	comp=Z,400nm,0.5s						
PET				A	A	09 02 59.9	
	comp=Z,190nm,0.5s						
PET				AMS	AMS	09 04 12.8	
	comp=Z,2µm,11.0s						
PET				AMS	AMS	09 04 12.8	
	comp=Z,2µm,11.0s						
PET				AMS	AMS	09 04 12.8	
	comp=Z,2µm,11.0s						
PET	**Petropavlovsk**	**4.67**	**11**	α *i*PN	**Pn**	**09 02 07.3**	**-0.8**
PET				pmax	pmax		
	comp=Z,172nm,0.3s						
PET				MLR	MLR		
	comp=Z,2µm,12.0s						
PET				MLR	MLR		
	comp=Z,2µm,11.0s						
PET	**Petropavlovsk**	**4.67**	**11**		**Pn**	**09 02 07.0**	**-1.2**
PEA0B	**Petropavlovsk-**	**4.67**	**4**	*ce*PN	**Pn**	**09 02 07.6**	**-0.6**
PEA0B	**Petropavlovsk-**	**4.67**	**4**		**Pn**	**09 02 08.3**	**+0.1**
PETK	**Petropavlovsk-**	**4.67**	**4**	Pn	**Pn**	**09 02 08.3**	**+0.1**
	comp=Z,17nm,0.3s,baz=166,slow=16,SNR=232						
PETK				Sn	**Sn**	**09 03 04.1**	**+2.0**
	baz=134,slow=17,SNR=1.0						
DALK	**Dalny**	**4.69**	**11**	*e*P	**Pn**	**09 02 07.5**	**-0.9**
DALK				*e*S	**Sn**	**09 02 59.9**	**-2.5**
DALK	**Dalny**	**4.69**	**11**	PN	**Pn**	**09 02 07.5**	**-0.9**
UGLR	**Uglovaya**	**4.87**	**12**	*e*P	**Pn**	**09 02 10.7**	**-0.4**
UGLR	**Uglovaya**	**4.87**	**12**	PN	**Pn**	**09 02 10.7**	**-0.4**
AVH	**Avacha**	**4.92**	**11**	*e*P	**Pn**	**09 02 11.6**	**0.0**
AVH				*e*S	**Sn**	**09 03 06.6**	**-1.6**
AVH	**Avacha**	**4.92**	**11**	PN	**Pn**	**09 02 11.6**	**0.0**
NLC	**Nalytchevo**	**4.92**	**15**	*e*P	**Pn**	**09 02 09.3**	**-2.2**
NLC				*e*S	**Sn**	**09 03 03.2**	**-4.8**
NLC	**Nalytchevo**	**4.92**	**15**	PN	**Pn**	**09 02 09.3**	**-2.2**
SMAR	**Somma**	**4.92**	**11**	*e*P	**Pn**	**09 02 11.8**	**0.0**
SMAR	**Somma**	**4.92**	**11**	PN	**Pn**	**09 02 11.8**	**0.0**
KOK	**Koryaka**	**4.93**	**10**	*e*P	**Pn**	**09 02 12.1**	**+0.3**
KOK				*e*S	**Sn**	**09 03 07.6**	**-0.9**
KOK	**Koryaka**	**4.93**	**10**	*e*P	**Pn**	**09 02 12.1**	**+0.3**
KOK	**Koryaka**	**4.93**	**10**	PN	**Pn**	**09 02 12.1**	**+0.3**
SDLR	**Sedlovina**	**4.95**	**12**	*e*P	**Pn**	**09 02 11.1**	**-1.0**
SDLR	**Sedlovina**	**4.95**	**12**	PN	**Pn**	**09 02 11.1**	**-1.0**
KRER	**Koryakskii**	**4.96**	**11**	*e*P	**Pn**	**09 02 12.2**	**-0.1**
KRER				*e*S	**Sn**	**09 03 07.6**	**-1.7**
KRER	**Koryakskii**	**4.96**	**11**	PN	**Pn**	**09 02 12.2**	**-0.1**
SPN	**Mys Shipunski**	**4.99**	**20**	*e*P	**Pn**	**09 02 11.4**	**-1.1**
SPN				*e*S	**Sn**	**09 03 05.6**	**-4.1**
SPN	**Mys Shipunski**	**4.99**	**20**	PN	**Pn**	**09 02 11.4**	**-1.1**
KRX	**Arik**	**5.00**	**10**	*e*P	**Pn**	**09 02 12.8**	**0.0**
KRX				*e*S	**Sn**	**09 03 09.0**	**-1.3**
KRX	**Arik**	**5.00**	**10**	PN	**Pn**	**09 02 12.8**	**0.0**
KII	**Karymskiy**	**5.77**	**13**	*e*P	**Pn**	**09 02 23.9**	**+0.6**
KII	**Karymskiy**	**5.77**	**13**	PN	**Pn**	**09 02 23.9**	**+0.6**
KZV	**Kizimen**	**6.94**	**15**	*e*P	**Pn**	**09 02 39.3**	**-0.2**
KZV	**Kizimen**	**6.94**	**15**	PN	**Pn**	**09 02 39.3**	**-0.2**
TUMD	**Tumrok D**	**7.05**	**15**	*e*P	**Pn**	**09 02 40.4**	**-0.4**
TUMR	**Tumrok**	**7.08**	**14**	*e*P	**Pn**	**09 02 41.8**	**+0.5**
TUMR	**Tumrok**	**7.08**	**14**	PN	**Pn**	**09 02 40.4**	**-0.9**
KUR	**Kuril'sk**	**7.17**	**247**	*e*P	**Pn**	**09 02 42.2**	**-0.2**
KUR				AMB	AMB	09 02 47.0	
	comp=Z,80nm,0.5s						
KUR				*e*S	**Sn**	**09 03 59.5**	**-4.0**
KUR				A	A	09 04 03.0	
	comp=Z,1µm,3.0s						
KUR				A	A	09 04 03.0	
	comp=Z,800nm,3.0s						
KUR				AMS	AMS	09 05 40.0	
	comp=Z,3µm,14.0s						
KUR				AMS	AMS	09 05 40.0	
	comp=Z,1µm,14.0s						
KUR				AMS	AMS	09 05 40.0	
	comp=Z,2µm,14.0s						
KUR	**Kuril'sk**	**7.17**	**247**	*e*PN	**Pn**	**09 02 42.2**	**-0.2**
KUR				pmax	pmax		
	comp=Z,82nm,0.5s						
KUR				pmax	pmax		
	comp=N,56nm,0.3s						
KUR				pmax	pmax		
	comp=E,53nm,0.2s						
KUR				MLR	MLR		
	comp=N,3µm,14.0s						
KUR				MLR	MLR		
	comp=Z,2µm,14.0s						
KUR				MLR	MLR		
	comp=E,1µm,13.0s						
KMNR	**Kamenistaya**	**7.55**	**13**	*e*P	**Pn**	**09 02 48.4**	**+0.6**
KMNR	**Kamenistaya**	**7.55**	**13**	PN	**Pn**	**09 02 48.4**	**+0.6**
KPT	**Kopyto**	**7.75**	**13**	*e*P	**Pn**	**09 02 50.8**	**+0.3**
KPT	**Kopyto**	**7.75**	**13**	PN	**Pn**	**09 02 50.8**	**+0.3**
KIRR	**Kirishev**	**7.76**	**13**	*e*P	**Pn**	**09 02 51.6**	**+1.0**
KIRR	**Kirishev**	**7.76**	**13**	PN	**Pn**	**09 02 51.6**	**+1.0**
ZLN	**Zelenaya**	**7.89**	**15**	*e*P	**Pn**	**09 02 53.5**	**+1.0**
ZLN	**Zelenaya**	**7.89**	**15**	PN	**Pn**	**09 02 53.5**	**+1.0**
LGNR	**Loginova**	**7.94**	**14**	*e*P	**Pn**	**09 02 55.0**	**+1.8**
LGNR	**Loginova**	**7.94**	**14**	PN	**Pn**	**09 02 55.0**	**+1.8**
CIRR	**Tsirk**	**7.98**	**14**	*e*P	**Pn**	**09 02 55.0**	**+1.3**
CIRR	**Tsirk**	**7.98**	**14**	PN	**Pn**	**09 02 55.0**	**+1.3**
SRDR	**Sredinnyy**	**8.03**	**10**	*e*P	**Pn**	**09 02 56.0**	**+1.7**
SRDR	**Sredinnyy**	**8.03**	**10**	PN	**Pn**	**09 02 56.0**	**+1.7**
KRSR	**Krestovskiy**	**8.05**	**14**	*e*P	**Pn**	**09 02 55.1**	**+0.5**
KRSR	**Krestovskiy**	**8.05**	**14**	PN	**Pn**	**09 02 55.1**	**+0.5**
KLY	**Klyuchi**	**8.15**	**14**	*e*P	**Pn**	**09 02 57.1**	**+1.2**
KLY	**Klyuchi**	**8.15**	**14**	PN	**Pn**	**09 02 57.1**	**+1.2**
BDR	**Baidarnaya**	**8.49**	**15**	*e*P	**Pn**	**09 03 01.0**	**+0.4**
BDR	**Baidarnaya**	**8.49**	**15**	PN	**Pn**	**09 03 01.0**	**+0.4**
KBTR	**Krutoberegovo**	**8.49**	**22**	*e*P	**Pn**	**09 02 59.6**	**-1.0**
KBTR				*e*S	**Sn**	**09 04 30.7**	**-5.3**
KBTR	**Krutoberegovo**	**8.49**	**22**	PN	**Pn**	**09 02 59.6**	**-1.0**
SRKR	**Sorokina**	**8.56**	**15**	*e*P	**Pn**	**09 03 01.9**	**+0.3**
SRKR	**Sorokina**	**8.56**	**15**	PN	**Pn**	**09 03 01.9**	**+0.3**
BKI	**Bering**	**8.67**	**35**	*e*P	**Pn**	**09 03 01.3**	**-1.6**
BKI				*e*S	Sn	09 04 28.6	-12
BKI	**Bering**	**8.67**	**35**	PN	**Pn**	**09 03 01.3**	**-1.6**
YUK	**Yuzh-Kuril'sk**	**9.02**	**245**	*e*P	**Pn**	**09 03 06.7**	**-1.1**
YUK				AMB	AMB	09 03 09.0	
	comp=E,80nm,0.2s						
YUK				*e*S	**Sn**	**09 04 43.1**	**-5.8**
YUK				A	A	09 04 46.1	
	comp=E,300nm,1.0s						
YUK				A	A	09 04 46.1	
	comp=E,200nm,1.0s						
YUK				AMS	AMS	09 07 21.0	
	comp=E,400nm,14.0s						
YUK				AMS	AMS	09 07 21.0	
	comp=E,2µm,14.0s						
YUK				AMS	AMS	09 07 21.0	
	comp=E,2µm,14.0s						
YUK	**Yuzh-Kuril'sk**	**9.02**	**245**	*e*PN	**Pn**	**09 03 05.2**	**-2.6**
YUK				pmax	pmax		
	comp=E,20nm,0.2s						
YUK				pmax	pmax		
	comp=Z,81nm,0.2s						
YUK				pmax	pmax		
	comp=N,35nm,0.3s						
YUK				MLR	MLR		
	comp=Z,2µm,15.0s						
YUK				MLR	MLR		
	comp=E,2µm,12.0s						
YUK				MLR	MLR		
	comp=N,367nm,13.0s						
GRPR	**Tuman**	**9.09**	**245**	*e*P	**Pn**	**09 03 05.9**	**-2.9**
GRPR				AMB	AMB	09 03 09.0	
	comp=N,80nm,0.5s						
GRPR				*e*S	**Sn**	**09 04 44.2**	**-6.6**
GRPR	**Tuman**	**9.09**	**245**	*e*PN	**Pn**	**09 03 05.4**	**-3.4**
GRPR				pmax	pmax		
	comp=E,53nm,0.5s						
GRPR				pmax	pmax		
	comp=Z,83nm,0.5s						
GRPR				pmax	pmax		
	comp=N,49nm,0.4s						
NMR	**Nemuro--Hokkai**	**9.48**	**242**	*e*PN	**Pn**	**09 03 10.1**	**-4.0**
TYV	**Tymovskoe**	**9.74**	**290**	*e*P	**Pn**	**09 03 17.0**	**-0.7**
TYV				AMB	AMB	09 03 21.5	
	comp=N,20nm,0.5s						
TYV				AMB	AMB	09 03 22.2	
	comp=N,200nm,3.0s						
TYV				*e*S	**Sn**	**09 05 00.8**	**-5.9**
TYV				A	A	09 05 14.9	
	comp=N,10.0nm,0.4s						
TYV				AMS	AMS	09 09 03.7	
	comp=N,3µm,15.0s						
TYV				AMS	AMS	09 09 03.7	
	comp=N,4µm,15.0s						
TYV	**Tymovskoe**	**9.74**	**290**	*e*PN	**Pn**	**09 03 20.3**	**+2.6**
TYV				*e*S	**Sn**	**09 05 13.4**	**+6.7**
TYV				pmax	pmax		
	comp=Z,25nm,1.0s						
TYV				pmax	pmax		
	comp=Z,200nm,2.7s						
TYV				smax	smax		
	comp=E,7.0nm,0.4s						
TYV				MLR	MLR		
	comp=Z,4µm,16.0s						
TYV				MLR	MLR		
	comp=E,3µm,14.0s						
YSS	**Yuzh-Sakhalins**	**9.86**	**267**	*e*P	**Pn**	**09 03 18.7**	**-0.7**
YSS				AMB	AMB	09 03 28.3	
	comp=E,300nm,3.0s						
YSS				AMS	AMS	09 08 39.0	
	comp=E,400nm,17.0s						
YSS				AMS	AMS	09 08 39.0	
	comp=E,600nm,17.0s						
YSS				AMS	AMS	09 08 39.0	
	comp=E,1µm,17.0s						
YSS	**Yuzh-Sakhalins**	**9.86**	**267**	*e*PN	**Pn**	**09 03 20.2**	**+0.8**
YSS				*e*S	**Sn**	**09 05 16.2**	**+6.6**
YSS				pmax	pmax		
	comp=Z,40nm,1.3s						
YSS				pmax	pmax		
	comp=Z,300nm,2.9s						
YSS				MLR	MLR		
	comp=N,400nm,17.0s						
YSS				MLR	MLR		
	comp=E,600nm,17.0s						
YSS				MLR	MLR		
	comp=Z,1µm,17.0s						
OKH	**Okha**	**10.34**	**305**	*e*P	**Pn**	**09 03 26.4**	**+0.5**
OKH				AMB	AMB	09 03 30.7	
	comp=Z,300nm,3.0s						
OKH				AMS	AMS	09 10 30.2	
	comp=Z,1µm,13.0s						
OKH				AMS	AMS	09 10 30.2	
	comp=Z,600nm,13.0s						
OKH	**Okha**	**10.34**	**305**	*d i*PN	Pn	09 03 34.4	+8.5
OKH				pmax	pmax		
	comp=Z,100nm,9.5s						
OKH				MLR	MLR		
	comp=Z,600nm,12.0s						
OKH				MLR	MLR		
	comp=N,1µm,12.0s						
JKA	**Kamikawa-asahi**	**11.00**	**252**	*e*P	**Pn**	**09 03 35.4**	**+0.5**
JKA	**Kamikawa-asahi**	**11.00**	**252**		**Pn**	**09 03 35.4**	**+0.5**
ASAJ	**Asahikawa**	**11.00**	**252**	Pn	**Pn**

comp=Z,1µm,15.0s
EKMR Ekimchan 16.00 296 *e*P **Pn 09 04 40.0 -2.6**
EKMR AMB AMB 09 04 51.9
comp=Z,10.0nm,0.8s
KLR Kul'dur 16.76 282 Pn **P 09 04 53.2 -1.2**
comp=Z,1.8nm,0.3s,baz=76,slow=10,SNR=33
KLR LR LR 09 13 04.5
comp=Z,601nm,18.2s,baz=90,slow=44
KLR Kul'dur 16.76 282*ce*P **Pn 09 04 52.9 +0.7**
USRK Ussuriysk Ar. 17.90 266 P **Pn 09 05 04.3 -2.1**
baz=72,slow=11,SNR=18
USRK LR LR 09 12 00.3
comp=Z,248nm,18.2s,baz=72,slow=37
USRK Ussuriysk Ar. 17.90 266 P **Pn 09 05 04.7 -1.8**
USRK Ussuriysk Ar. 17.90 266 P **Pn 09 05 04.7 -1.8**
USA0B Ussuriysk Arra 17.90 266 P **Pn 09 05 05.4 -1.1**
USA0B pmax pmax
comp=Z,5.0nm,0.9s
USA0B Ussuriysk Arra 17.90 266 P **Pn 09 05 05.3 -1.1**
MAJO Matsushiro 18.32 237 P **Pn 09 05 10.2 -1.6**
MAJO pmax pmax
comp=Z,24nm,1.3s
MAJO Matsushiro 18.32 237 P **Pn 09 05 10.2 -1.6**
MAT Matsushiro 18.32 237 P **Pn 09 05 11.1 -0.7**
MAT *e*S **Sn 09 08 35.8 -0.2**
MJAR Matsushiro Arr 18.32 237 P **Pn 09 05 09.1 -2.7**
comp=Z,0.0nm,0.3s,baz=23,slow=12,SNR=9.0
MJAR Matsushiro Arr 18.32 237 **pP 09 05 15.0 +0.6**
MJAR IAmb IAmb 09 05 15.8
comp=Z,5.5nm,1.1s
MJB9 Matsu-Tunnel 18.32 237 P **Pn 09 05 11.1 -0.6**
BMKR Bomnak 18.63 300 *e*P **Pn 09 05 16.0 +0.7**
BMKR AMB AMB 09 05 20.8
comp=Z,10.0nm,0.4s
MSHR Mys Shultsa 19.13 262*ce*P **P 09 05 18.0 -2.5**
MSHR pmax pmax
comp=Z,16nm,1.7s
MDJ Mudanjiang 19.34 269 P **P 09 05 20.5 -2.3**
MDJ pmax pmax
comp=Z,21nm,0.8s
MDJ pmax pmax
comp=Z,200nm,14.1s
MDJ LR LR
comp=Z,510nm,15.7s
MDJ LR LR
comp=Z,130nm,17.8s
MDJ LR LR
comp=Z,770nm,14.2s
ZEA Zeya 19.46 297 *e*P **Pn 09 05 24.9 -0.4**
ZEA AMB AMB 09 05 28.0
comp=Z,100nm,2.0s
ZEA AMS AMS 09 15 32.0
comp=Z,400nm,13.0s
ZEA AMS AMS 09 15 32.0
comp=Z,600nm,13.0s
ZEA AMS AMS 09 15 32.0
comp=Z,800nm,13.0s
ZEA Zeya 19.46 297 *e*P **P 09 05 22.8 -1.3**
ZEA pmax pmax
comp=E,49nm,1.6s
ZEA pmax pmax
comp=Z,96nm,1.8s
ZEA MLR MLR
comp=Z,800nm,13.0s
ZEA MLR MLR
comp=E,600nm,14.0s
ZEA MLR MLR
comp=N,400nm,13.0s
KROS Kirovskiy 19.68 299 *e*P **Pn 09 05 26.9 -1.0**
KROS AMB AMB 09 05 29.0
comp=N,5.0nm,0.5s
BILL Bilibino 20.17 10 *e*P Pn 09 05 33.7 0.0
BILL *e* 09 05 49.5
BILL *e*S Sn 09 09 18.6 -1.5
BILL *e*SS **SnSn 09 09 36.7 +2.3**
BILL pmax pmax
comp=Z,43nm,1.3s
BILL MLR MLR
comp=Z,985nm,15.0s
BILL Bilibino 20.17 10 P Pn 09 05 33.8 +0.1
YAK Yakutsk 20.55 322 LR LR 09 15 30.5
comp=Z,302nm,18.2s,baz=106,slow=43
YAK Yakutsk 20.55 322 *e*P **P 09 05 31.5 -4.4**
YAK *e*S **S 09 09 19.3 -5.6**
YAK *e**SS Sn 09 09 29.2 0.0
YAK *e*SSS SSS 09 09 49.0
YAK pmax pmax
comp=Z,9.0nm,0.7s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.1s
YAK smax smax
comp=N,140nm,1.6s
YAK smax smax
comp=E,105nm,2.0s
YAK MLR MLR
comp=Z,495nm,14.0s
YAK MLR MLR
comp=E,306nm,15.0s
YAK MLR MLR
comp=N,323nm,15.0s
CN2 Changchun 22.40 270 *e*P **P 09 05 51.8 -4.2**
CN2 *es*P sP 09 06 00.3 +0.5
CN2 *e*S **S 09 10 00.3 -1.0**
CN2 pmax pmax
comp=N,10.0nm,1.2s
CN2 LR LR
comp=N,370nm,14.0s
CN2 LR LR
comp=N,390nm,14.0s
CN2 LR LR
comp=N,490nm,15.0s
GAMB Gambell 22.81 36 P **P 09 06 06.2 +6.1**
GAMB IAmb IAmb 09 06 08.0
comp=Z,40nm,1.0s
KSRS Korea Array 23.94 254 P **P 09 06 12.2 +0.7**
comp=Z,11nm,0.9s,baz=55,slow=10,SNR=28
KS19 Wonju Array Si 23.95 254 P **P 09 06 13.2 +1.5**
KSAR Wonju Array Be 23.98 254 *e*P **P 09 06 11.6 -0.3**
KSAR Wonju Array Be 23.98 254 P **P 09 06 11.6 -0.3**
KSAR Wonju Array Be 23.98 254 P **P 09 06 11.6 -0.3**
HIA Hailar 24.50 286 *i* P **P 09 06 15.0 -1.8**
HIA pmax pmax
comp=Z,12nm,1.0s
TJN Taejon 24.95 252*ce*P **P 09 06 20.1 -0.7**
JNU Nakatsue 24.97 242 P **P 09 06 20.4 -0.6**
comp=Z,15nm,1.0s,baz=55,slow=10.0,SNR=5.7
JNU Nakatsue 24.97 242 P **P 09 06 20.9 -0.2**
TIXI Tiksi 26.70 340 P **P 09 06 34.9 -1.5**
comp=Z,8.4nm,0.7s,baz=130,slow=9.9,SNR=11
TIXI LR LR 09 16 59.0
comp=Z,221nm,21.8s,baz=128,slow=36
TIXI Tiksi 26.70 340*ce*P **P 09 06 33.8 -2.6**
TIXI pmax pmax
comp=Z,21nm,1.3s
TIXI Tiksi 26.70 340 P **P 09 06 34.2 -2.1**
BJI Beijing 30.27 269 P **P 09 07 10.5 +2.1**
BJI S **S 09 12 09.8 +2.4**
BJI pmax pmax
comp=Z,7.0nm,0.7s
BJI LR LR
comp=Z,280nm,17.9s
BJI LR LR
comp=Z,150nm,19.5s
H11S1 WAKE ISLAND Hy 30.85 162 T T 09 40 48.2
baz=344,slow=76,SNR=32
H11S3 WAKE ISLAND Hy 30.86 162 T T 09 41 07.7
baz=344,slow=76,SNR=61
H11S2 WAKE ISLAND Hy 30.86 162 T T 09 41 05.0
baz=344,slow=76,SNR=32
COLD Coldfoot 32.35 35 P **P 09 07 26.0 -0.5**
baz=261
NEA2 Nenana 32.53 40 P **P 09 07 27.6 -0.5**
baz=266,SNR=24
TOLK Toolik Lake Re 32.83 33 P **P 09 07 30.3 -0.4**
baz=260
TOLK Toolik Lake Re 32.83 33 P **P 09 07 31.3 +0.6**
HHC Hu-ho-hao-te 32.94 274 *e*P **P 09 07 33.8 +1.7**
HHC pmax pmax
comp=Z,8.0nm,0.7s
HHC pmax pmax
comp=Z,49nm,5.9s
HHC LR LR
comp=Z,290nm,15.3s
HHC LR LR
comp=Z,180nm,17.0s
HHC LR LR
comp=Z,150nm,15.5s
WRH Wood River Hil 32.95 41 P **P 09 07 33.8 +2.1**
WRH IAmb IAmb 09 07 43.2
comp=Z,13nm,0.7s
ULN Ulaanbaatar 32.98 288 *e*P **P 09 07 30.8 -1.6**
ULN *e*P **P 09 07 30.8 -1.6**
ULN Ulaanbaatar 32.98 288 *i* P **P 09 07 30.8 -1.6**
ULN pmax pmax
comp=Z,2.0nm,0.9s
TCOL CIGO, UAF Yank 33.06 40 P **P 09 07 32.5 -0.3**
baz=267
COLA College 33.07 40 P **P 09 07 33.9 +1.2**
COLA pmax pmax
comp=Z,25nm,1.5s
COLA College 33.07 40 P **P 09 07 33.9 +1.2**
COLA IAmb IAmb 09 07 34.8
comp=Z,25nm,1.5s
CCB Clear Creek Bu 33.08 40 P **P 09 07 34.2 +1.4**
NJ2 Nanjing 33.13 255 *e*P **P 09 07 34.0 +0.3**
NJ2 pmax pmax
comp=Z,10.0nm,0.6s
POKR Poker Plat Res 33.26 39 P **P 09 07 34.0 -0.5**
baz=267
SONM Songino Array 33.41 288 P **P 09 07 35.3 -0.8**
comp=Z,0.5nm,0.4s,baz=85,slow=16,SNR=3.2
SONM Songino Array 33.41 288 IAmb IAmb 09 07 41.0
comp=Z,0.9nm,1.0s
HDA Harding Lake 33.44 41 P **P 09 07 35.4 -0.7**
baz=269,SNR=7.5
HDA Harding Lake 33.44 41 P **P 09 07 37.4 +1.3**
IL31 33.48 40 P **P 09 07 37.7 +1.4**
IL31 IAmb IAmb 09 07 47.0
comp=Z,7.0nm,0.5s
ILAR Eielson Array 33.48 40 P **P 09 07 37.5 +1.1**
comp=Z,1.1nm,0.7s,baz=247,slow=6.8,SNR=18
ILAR Eielson Array 33.48 40 P **P 09 07 35.5 -0.9**
ILAR Eielson Array 33.48 40 P **P 09 07 35.5 -0.9**
TLY Talaya 33.89 296 P **P 09 07 40.7 +0.5**
comp=Z,5.5nm,0.6s,baz=80,slow=12,SNR=4.4
TLY LR LR 09 21 52.3
comp=Z,228nm,18.8s,baz=60,slow=37
TLY Talaya 33.89 296 *e*P **P 09 07 38.7 -1.5**
TLY Talaya 33.89 296 *e*P **P 09 07 40.0 -0.2**
TLY pmax pmax
comp=Z,14nm,1.0s
TLY MLR MLR
comp=Z,2µm,14.0s
FYU Fort Yukon 34.24 37 P **P 09 07 44.4 +1.5**
RIDG Independent Ri 34.37 42 IAmb IAmb 09 07 54.4
comp=Z,19nm,1.0s
ZAK Zakamensk 34.50 294 *e*P **P 09 07 44.9 -0.6**
ZAK Zakamensk 34.50 294 *e*P **P 09 07 44.9 -0.6**
ZAK pmax pmax
comp=Z,4.0nm,1.1s
BMAR Burnt Mountain 34.54 35 P **P 09 07 47.5 +1.8**
SCRK Sand Creek 34.74 41 IAmb IAmb 09 07 57.3
comp=Z,10nm,0.5s
VRDI Verde Repeater 35.19 46 P **P 09 07 48.9 -2.5**
VRDI IAmb IAmb 09 07 56.0
comp=Z,11nm,0.6s
CRQM Cirque 35.40 47 P **P 09 07 50.2 -3.0**
BCAR Beaver Creek A 35.78 43 P **P 09 07 57.6 +1.3**
ISLE Juniper Island 35.81 47 P **P 09 07 55.9 -0.8**
ISLE IAmb IAmb 09 08 02.3
comp=Z,11nm,0.9s
EGAK Eagle 35.93 40 P **P 09 07 58.4 +0.8**
EGAK IAmb IAmb 09 08 07.8
comp=Z,12nm,0.9s
YAH Yahtse 36.13 48 IAmb IAmb 09 08 06.3
comp=Z,10.0nm,0.7s
CTGM Chitina Glacie 36.24 46 IAmb IAmb 09 08 04.4
comp=Z,16nm,1.0s
DAWY Dawson 36.75 41 P **P 09 08 05.7 +1.0**
EPYK Eagle Plains 37.66 37 P **P 09 08 11.8 -0.5**
baz=275,SNR=12
EPYK Eagle Plains 37.66 37 IAmb IAmb 09 08 14.8
comp=Z,42nm,1.4s
INK Inuvik 38.71 34 P **P 09 08 22.6 +1.6**
comp=Z,4.2nm,0.7s,baz=240,slow=2.7,SNR=8.8
INK Inuvik 38.71 34 P **P 09 08 22.6 +1.6**
INK pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 38.71 34 P **P 09 08 22.6 +1.6**
NRIK Noril'sk 38.76 328 *i* P **P 09 08 20.6 -0.9**
NRIK pmax pmax
comp=Z,6.0nm,1.5s
LZH Lanzhou 40.59 273 *e*P **P 09 08 38.5 +1.2**
LZH pP sP 09 08 44.3 +3.0
LZH sP pwP 09 08 47.0 -2.6
LZH *e*PP **PnPn 09 10 15.8 +1.1**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,92nm,6.2s
LZH LR LR
comp=Z,380nm,13.5s
LZH LR LR
comp=Z,400nm,14.0s
LZH LR LR
comp=Z,570nm,16.6s
A36M Sachs Harbour 41.08 28 P **P 09 08 40.7 0.0**
baz=278
GTA Gaotai 41.43 280 ⇑P **P 09 08 45.3 +1.1**
GTA pmax pmax
comp=Z,6.0nm,1.5s
GTA pmax pmax
comp=Z,91nm,6.3s
GTA LR LR
comp=Z,250nm,13.6s
GTA LR LR
comp=Z,250nm,14.3s
CD2 Chengdu 43.77 267 *e*P **P 09 09 04.3 +1.2**
CD2 pmax pmax
comp=Z,40nm,1.1s
ZALV Zalesovo Beam 43.87 306 P **P 09 09 02.6 -0.9**
comp=Z,1.6nm,0.5s,baz=64,slow=6.8,SNR=5.0
ZALV PcP **PcP 09 10 49.6 +0.1**
comp=Z,5.8nm,1.0s,baz=72,slow=4.8,SNR=7.6
ZALV LR LR 09 30 08.8
comp=Z,95nm,19.0s,baz=60,slow=40
ZALV Zalesovo Beam 43.87 306 *i* P **P 09 09 03.2 -0.4**
ZALV pmax pmax
comp=Z,2.0nm,0.5s
ZALV Zalesovo Beam 43.87 306 P **P 09 09 02.5 -1.1**
ZALV PcP **PcP 09 10 49.8 +0.2**
DGZ Jazzator, Alta 44.20 299 *i* P **P 09 09 06.8 +0.3**
DGZ pmax pmax
comp=Z,3.0nm,0.9s
GYA Guiyang 44.77 259 *e*P **P 09 09 11.5 +0.2**
GYA pmax pmax
comp=Z,8.0nm,1.3s
WMQ Urumqi 46.88 292 *e*P **P 09 09 29.5 +1.8**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,82nm,4.3s
WMQ LR LR
comp=Z,330nm,16.5s
WMQ LR LR
comp=Z,160nm,22.5s
WMQ LR LR
comp=Z,220nm,28.9s
YKA Yellowknife Ar 47.88 39 P **P 09 09 35.3 +0.2**
comp=Z,2.5nm,0.6s,baz=300,slow=7.9,SNR=12
SEM Semipalatinsk 47.97 303 ⇑*i*P **P 09 09 36.0 -0.2**
comp=Z,2.4nm,1.2s,baz=303
SEM Semipalatinsk 47.97 303*c i*P **P 09 09 36.0 -0.2**
SEM pmax pmax
comp=Z,2.0nm,1.2s
QIZ Qiongzhong 48.05 249 P **P 09 09 37.8 +0.8**
QIZ S **S 09 16 36.3 +1.7**
QIZ LR LR
comp=Z,320nm,16.2s
QIZ LR LR
comp=Z,300nm,14.2s
QIZ LR LR
comp=Z,290nm,16.7s
KMI Kunming 48.26 261 P **P 09 09 38.3 -0.5**
KMI pmax pmax
comp=Z,11nm,0.9s
MKAR Makanchi Array 48.61 298 P **P 09 09 40.8 -0.2**
comp=Z,3.7nm,0.8s,baz=64,slow=8.2,SNR=32
MKAR LR LR 09 33 43.5
comp=Z,240nm,19.4s,baz=45,slow=40
MKAR Makanchi Array 48.61 298 *e*P **P 09 09 40.7 -0.3**
MKAR Makanchi Array 48.61 298 *i* P **P 09 09 40.7 -0.3**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 48.61 298 P **P 09 09 39.7 -1.3**
KURK Kurchatov 48.72 304 *e*P **P 09 09 41.5 -0.2**
KURK Kurchatov 48.72 304 P **P 09 09 41.5 -0.2**
KURK 09 11 07.3
KURK pmax pmax
comp=Z,10.0nm,1.0s
KURK Kurchatov 48.72 304 P **P 09 09 41.5 -0.2**
KURK IAmb IAmb 09 09 44.8
comp=Z,9.9nm,1.0s
MAKZ Makanchi 48.79 298 P **P 09 09 41.5 -0.9**
MAKZ pmax pmax
comp=Z,3.0nm,0.8s
MAKZ Makanchi 48.79 298 P **P 09 09 41.5 -0.9**
KURBB Kurchatov Arra 48.82 304 P **P 09 09 42.2 -0.3**
comp=Z,5.8nm,0.6s,baz=66,slow=8.5,SNR=17
KURBB PcP **PcP 09 11 07.2 +0.3**
comp=Z,3.7nm,1.1s,baz=65,slow=3.9,SNR=8.6
SPITS Spitsbergen Ar 51.41 350 P **P 09 10 02.0 +0.1**
comp=Z,1.9nm,0.5s,baz=69,slow=9.2,SNR=5.3
TDK Taldyqorghan 51.86 298 ⇑*i*P **P 09 10 06.0 +0.3**
baz=298
TDK LR LR 09 33 01.8
comp=Z,660nm,14.4s,baz=298
TDK Taldyqorghan 51.86 298*c i*P **P 09 10 05.9 +0.3**
TDK MLR MLR
comp=Z,660nm,14.0s
BVAR Borovoye Array 51.91 310 P **P 09 10 06.3 +0.4**
comp=Z,3.6nm,0.6s,baz=69,slow=8.1,SNR=14
BVAR PcP **PcP 09 11 18.7 +0.4**
comp=Z,1.1nm,0.6s,baz=66,slow=3.7,SNR=4.3
BRVK Borovoye 51.94 310 *e*P **P 09 10 06.2 +0.1**
BRVK Borovoye 51.94 310*ce*P **P 09 10 06.2 +0.1**
BRVK pmax pmax
comp=Z,23nm,2.5s
BRVK Borovoye 51.94 310 P **P 09 10 06.7 +0.6**
SHLS Shalkode 52.27 295 ⇑*i*P **P 09 10 07.1 -1.7**
comp=Z,3.6nm,1.2s,baz=295
SHLS Shalkode 52.27 295*c i*P **P 09 10 07.1 -1.7**
SHLS pmax pmax
comp=Z,4.0nm,1.2s
BRZS Berezniki 52.35 306 *i* P **P 09 10 09.5 +0.3**
comp=Z,9.8nm,0.7s,baz=306
BRZS Berezniki 52.35 306 *i* P **P 09 10 09.5 +0.3**
BRZS pmax pmax
comp=Z,10.0nm,0.7s
UZB Uzynbulak 52.54 296 *e*P **P 09 10 10.7 -0.2**
comp=Z,3.8nm,1.3s,baz=295
UZB Uzynbulak 52.54 296 *e*P **P 09 10 10.7 -0.2**
UZB pmax pmax
comp=Z,4.0nm,1.3s
KPKS Kokpek 52.56 296 *e*P **P 09 10 11.2 +0.3**
comp=Z,4.9nm,1.0s,baz=296
KPKS Kokpek 52.56 296 *e*P **P 09 10 11.2 +0.3**
KPKS pmax pmax
comp=Z,5.0nm,1.0s
SATY Saty 52.96 296 *e*P **P 09 10 13.9 0.0**
comp=Z,4.3nm,1.2s,baz=296
SATY LR LR 09 34 59.6
comp=Z,62nm,13.2s,baz=296
SATY Saty 52.96 296 *e*P **P 09 10 13.9 0.0**
SATY pmax pmax
comp=Z,4.0nm,1.2s
SATY MLR MLR
comp=Z,62nm,13.0s
CHKK Chushkaly 53.35 297 *e*P **P 09 10 17.1 +0.5**
baz=297
CHKK Chushkaly 53.35 297 *e*P **P 09 10 17.1 +0.5**
MDOK Medeo 53.71 297 *i* P **P 09 10 19.5 0.0**
baz=296
MDOK LR LR 09 33 45.7
comp=Z,271nm,13.9s,baz=296
MDOK Medeo 53.71 297 *i* P **P 09 10 19.5 0.0**
MDOK MLR MLR
comp=Z,271nm,14.0s
F07A Phinny Hill Vi 53.72 59 IAmb IAmb 09 10 20.1
comp=Z,12nm,0.7s
TARG Taragay, Kyrgy 54.10 295 P **P 09 10 23.0 +0.4**
TARG IAmb IAmb 09 10 25.6
comp=Z,14nm,1.4s
KDJ Kajisay 54.24 295 IAmb IAmb 09 10 26.0
comp=Z,16nm,1.1s
BTLS Baital 54.38 300 *e*P **P 09 10 24.4 +0.2**
comp=Z,1.7nm,1.1s,baz=300
BTLS Baital 54.38 300 *e*P **P 09 10 24.3 +0.2**
BTLS pmax pmax
comp=Z,2.0nm,1.1s
SVE Sverdlovsk 54.45 318 *e*P **P 09 10 25.5 +1.0**
ULHL Ulahol 54.73 296 P **P 09 10 28.1 +1.1**
SNR=8.2
BOOM Boomskoye usch 54.77 296 IAmb IAmb 09 10 30.1
comp=Z,24nm,1.4s
SGDS Sogindy 54.97 298 ⇑*i*P **P 09 10 28.6 -0.1**
comp=Z,7.9nm,1.3s,baz=298
SGDS Sogindy 54.97 298*c i*P **P 09 10 28.5 -0.1**
SGDS pmax pmax
comp=Z,8.0nm,1.3s
K05A Summer Lake 55.00 63 P **P 09 10 27.8 -1.1**
K05A IAmb IAmb 09 10 32.1
comp=Z,17nm,1.0s
USP Ospenovka 55.16 298 P **P 09 10 31.7 +1.8**
SNR=15
SHL Shillong 55.16 270 P **P 09 10 32.3 +2.0**
SHL pmax pmax
comp=Z,17nm,1.2s
SHL Shillong 55.16 270 P **P 09 10 32.3 +2.0**
SHL IAmb IAmb 09 10 32.4
comp=Z,17nm,1.2s
CHTO Chiang Mai 55.19 259 P **P 09 10 31.2 +0.9**
CHTO pmax pmax
comp=Z,15nm,1.2s
CHTO Chiang Mai 55.19 259 P **P 09 10 31.2 +0.9**
CHTO IAmb IAmb 09 10 31.9
comp=Z,15nm,1.1s
WALA Waterton Lakes 55.21 53 P **P 09 10 30.4 +0.2**
WALA IAmb IAmb 09 10 32.2
comp=Z,13nm,1.1s
KBK Karagaybulak 55.26 297 P **P 09 10 31.9 +1.1**
SNR=6.2
WDC Whiskeytown Da 55.29 66 P **P 09 10 32.1 +1.3**
WDC pmax pmax
comp=Z,11nm,1.1s
WDC Whiskeytown Da 55.29 66 P **P 09 10 32.1 +1.3**
WDC IAmb IAmb 09 10 34.2
comp=Z,11nm,1.1s
KZA Kyzart 55.42 296 P **P 09 10 33.6 +1.3**
SNR=8.9
CMAR Chiang Mai Arr 55.45 259 P **P 09 10 32.8 +0.6**
comp=Z,2.5nm,0.7s,baz=30,slow=7.9,SNR=16
CMAR LR LR 09 34 34.6
comp=Z,134nm,20.3s,baz=224,slow=36
CMAR Chiang Mai Arr 55.45 259*c i*P **P 09 10 33.2 +1.0**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
AAK Ala-Archa 55.54 297 P **P 09 10 32.4 -0.4**
comp=Z,5.3nm,0.9s,baz=79,slow=4.5,SNR=14
AAK Ala-Archa 55.54 297 *e*P **P 09 10 33.0 +0.2**
AAK Ala-Archa 55.54 297*ce*P **P 09 10 33.0 +0.2**
AAK pmax pmax
comp=Z,15nm,1.3s
AAK Ala-Archa 55.54 297 P **P 09 10 33.9 +1.1**
AAK IAmb IAmb 09 10 34.6
comp=Z,12nm,1.1s
ARU Arti 55.61 318 P **P 09 10 32.6 -0.3**
comp=Z,3.0nm,0.3s,baz=45,slow=6.0,SNR=15
ARU Arti 55.61 318 *e*P **P 09 10 33.1 +0.1**
ARU Arti 55.61 318*d i*P **P 09 10 33.0 +0.1**
ARU 09 11 30.1
ARU 09 12 31.6
ARU S **S 09 18 19.1 +1.4**
ARU SS **SS 09 21 58.8 -3.3**
ARU pmax pmax
comp=Z,31nm,1.4s
ARU MLR MLR
comp=Z,159nm,16.0s
ARU Arti 55.61 318 P **P 09 10 33.0 +0.1**
JTMT Jette 55.78 55 P **P 09 10 34.6 +0.1**
EKS2 Erkin-Say 55.95 298 P **P 09 10 36.5 +0.8**
SNR=8.5
GDXM Geysers 56.22 68 IAmb IAmb 09 10 41.3
comp=Z,19nm,1.5s
MSO Missoula 56.52 55 P **P 09 10 37.9 -1.8**
baz=307

MSO **Missoula** 56.52 55 P P 09 10 40.2 +0.5
KSH **Kashi** 56.54 294 *e*P P 09 10 44.8 +4.8
KSH pmax pmax
comp=Z,27nm,0.6s
KSH pmax pmax
comp=Z,240nm,5.4s
ARCES **ARCESS Array B** 57.13 342 P P 09 10 42.8 -0.7
comp=Z,4.2nm,0.8s,baz=52,slow=7.9,SNR=5.7
ARSB **Arslanbob** 57.23 297 IAmb IAmb 09 10 47.1
comp=Z,12nm,0.8s
AFDM **Forest Hills D** 57.25 67 P P 09 10 46.2 +1.3
ODAN **Odare** 57.28 275 *e*P P 09 10 47.5 +2.0
JIRN **Jiri** 57.55 276 *e*P P 09 10 49.5 +2.0
KK31 **Karatay Array** 57.58 300 IAmb IAmb 09 10 48.6
comp=Z,18nm,1.2s
KKAR **Karatay Array** 57.58 300 P P 09 10 47.2 +0.1
KKAR pmax pmax
comp=Z,18nm,1.3s
KKAR **Karatay Array** 57.58 300 P P 09 10 47.2 +0.1
KKAR **Karatay Array** 57.58 300 P P 09 10 47.0 -0.2
KKAR IAmb IAmb 09 10 48.6
comp=Z,18nm,1.2s
GUN **Gumba** 57.59 277 *e*P P 09 10 49.5 +1.7
comp=Z,18nm,0.6s
HNR **Honiara** 57.68 177 LR LR 09 34 05.5
comp=Z,127nm,18.4s,baz=138,slow=34
PAHR **Pah Rah Range** 57.74 65 P P 09 10 49.1 +0.6
PAHR IAmb IAmb 09 10 50.7
comp=Z,16nm,1.1s
RAMN **Ramite** 57.75 275 *e*P P 09 10 50.5 +1.7
comp=Z,31nm,0.7s
VCNR **Virginia City** 57.84 66 IAmb IAmb 09 10 51.7
comp=Z,14nm,1.1s
JBG **Jabagly** 57.98 299 *e*P P 09 10 50.9 +0.8
JBG pmax pmax
comp=Z,18nm,1.5s
PNTR **Pine Nut** 57.99 66 P P 09 10 51.3 +0.9
PNTR IAmb IAmb 09 10 56.5
comp=Z,15nm,0.8s
EGMT **Eagleton** 58.04 52 P P 09 10 49.0 -1.4
baz=308,SNR=6.0
EGMT **Eagleton** 58.04 52 IAmb IAmb 09 10 52.2
comp=Z,18nm,0.9s
KIRV **Kirov** 58.06 324 P P 09 10 51.5 +1.4
comp=Z,7.7nm,0.5s,baz=48,slow=15,SNR=4.2
TMCR **Tamitsa** 58.09 333 *e*P P 09 10 50.9 +0.6
PKI **Pulchoki** 58.12 277 *e*P P 09 10 52.2 +0.7
comp=Z,34nm,1.0s
PKIN **Phulchoki** 58.12 277 *e*P P 09 10 53.2 +1.7
DMN **Daman** 58.30 277 *e*P P 09 10 53.4 +0.8
comp=Z,74nm,1.1s
GKN **Gorkha** 58.34 278 *e*P P 09 10 53.8 +0.9
IUG **Iuzhnay** 58.45 299 *e*P P 09 10 53.7 +0.4
comp=Z,3.0nm,1.2s,baz=299
IUG **Iuzhnay** 58.45 299 *e*P P 09 10 53.7 +0.4
IUG pmax pmax
comp=Z,3.0nm,1.2s
CHM **Chimkent** 58.59 300 *e*P P 09 10 55.2 +1.0
baz=300
CHM **Chimkent** 58.59 300 *e*P P 09 10 55.2 +1.0
DANN **Dangsing** 58.69 279 *e*P P 09 10 56.3 +0.9
comp=Z,60nm,0.6s
SUMG **Summit** 58.78 5 *i*P P 09 10 56.7 +1.2
comp=Z,44nm,1.1s
SUMG **Summit** 58.78 5 *i*P P 09 10 56.7 +1.2
SUMG pmax pmax
comp=Z,44nm,1.1s
SUMG **Summit** 58.78 5 P P 09 10 55.8 +0.3
SUMG IAmb IAmb 09 10 57.7
comp=Z,17nm,1.1s
KOLN **Koldanda** 59.18 278 *e*P P 09 10 59.8 +1.1
comp=Z,44nm,0.9s
NV11 **Mina Array Sit** 59.28 65 P P 09 10 59.3 +0.1
NV11 IAmb IAmb 09 11 01.1
comp=Z,13nm,1.4s
ABKAR **Akbulak array** 59.44 311 P P 09 10 60.0 +0.1
ELK **Elko** 59.55 62 P P 09 10 58.5 -2.7
ELK pmax pmax
comp=Z,15nm,0.6s
ELK **Elko** 59.55 62 P P 09 10 58.5 -2.7
AKTO **Aktyubinsk** 59.63 313 P P 09 11 01.7 +0.5
comp=Z,4.5nm,0.9s,baz=32,slow=10,SNR=14
LKWY **Lake** 59.87 56 P P 09 11 05.9 +2.5
LKWY pmax pmax
comp=Z,9.0nm,0.8s
LKWY **Lake** 59.87 56 P P 09 11 05.8 +2.5
LKWY IAmb IAmb 09 11 12.4
comp=Z,9.0nm,0.8s
KLMR **Klimovskoe** 60.05 330 *e*P P 09 11 02.5 -1.5
KLMR pmax pmax
comp=Z,29nm,1.1s
KLMR **Klimovskoe** 60.05 330 *e*P P 09 11 02.5 -1.5
KLMR AMP 09 11 05.5
comp=Z,29nm,1.1s
RLMT **Red Lodge** 60.13 55 P P 09 11 04.2 -0.8
baz=310,SNR=7.1
GAR **Garm** 60.28 296 P P 09 11 06.6 +0.6
VES **Vestal, Richgr** 60.38 68 P P 09 11 06.4 -0.2
baz=311
CWC **Cottonwood Cre** 60.61 67 P P 09 11 08.8 +0.4
baz=311
DGMT **Dagmar** 60.61 49 P P 09 11 07.6 -0.4
baz=311
DGMT **Dagmar** 60.61 49 P P 09 11 09.0 +0.9
GRAC **Grapevine Rang** 60.69 66 P P 09 11 09.6 +0.8
baz=311
LAO **LASA Array** 60.74 52 P P 09 11 09.6 +0.6
baz=311,SNR=13
LAO **LASA Array** 60.74 52 P P 09 11 10.3 +1.3
ISA **Isabella, Lake** 60.87 68 P P 09 11 09.7 -0.3
baz=311
R11A **Troy Canyon, C** 60.88 64 P P 09 11 09.6 -0.7
baz=311,SNR=11
CHGR **Chuyangaron** 61.19 297 P P 09 11 12.8 +0.6
MPMC **Manual Prospec** 61.22 67 P P 09 11 12.8 +0.2
baz=311,SNR=7.6
DUG **Dugway, Tooele** 61.32 61 P P 09 11 12.9 -0.3
baz=311,SNR=13
DUG **Dugway, Tooele** 61.32 61 P P 09 11 13.7 +0.5
DUG pmax pmax
comp=Z,23nm,1.2s
DUG **Dugway, Tooele** 61.32 61 P P 09 11 13.7 +0.5
FURC **Furnace Creek,** 61.34 66 P P 09 11 13.2 +0.1
baz=311
TPNV **Topopah Spring** 61.40 66 P P 09 11 13.8 +0.1
baz=311,SNR=9.1
TPNV **Topopah Spring** 61.40 66 IAmb IAmb 09 11 18.8
comp=Z,7.6nm,0.7s
LRMC **Laurel Mtn Rad** 61.48 68 P P 09 11 14.8 +0.5
baz=311
BW06 **Boulder Array** 61.50 57 P P 09 11 14.8 +0.4
baz=311,SNR=12
PD31 **Pinedale Array** 61.50 57 P P 09 11 14.9 +0.4
PDAR **Pinedale Array** 61.50 57 P P 09 11 15.3 +0.9
comp=Z,5.8nm,0.8s,baz=306,slow=3.1,SNR=32
PDAR **Pinedale Array** 61.50 57 P P 09 11 14.4 -0.1
TCUT **Toone Canyon** 61.53 59 P P 09 11 14.8 +0.1
EDW2 **Edwards Air Fo** 61.68 68 P P 09 11 16.1 +0.6
baz=311,SNR=5.4
JLU **Jordanelle** 61.84 60 P P 09 11 17.1 +0.3
NIL **Nilore** 61.97 290 P P 09 11 18.8 +1.3
NIL pmax pmax
comp=Z,50nm,1.2s
NIL **Nilore** 61.97 290 P P 09 11 18.8 +1.3
MWC **Mount Wilson** 62.07 69 P P 09 11 19.6 +1.2
MWC pmax pmax
comp=Z,21nm,1.3s
MWC **Mount Wilson** 62.07 69 P P 09 11 19.6 +1.2
GSC **Goldstone, Bar** 62.13 67 P P 09 11 19.3 +0.7
baz=311
GSC **Goldstone, Bar** 62.13 67 P P 09 11 19.8 +1.2
GSC pmax pmax
comp=Z,6.0nm,0.7s
GSC **Goldstone, Bar** 62.13 67 P P 09 11 19.8 +1.2
GSC IAmb IAmb 09 11 29.1
comp=Z,5.6nm,0.7s
BFSC **Mount Baldy Ra** 62.31 69 P P 09 11 20.3 +0.4
baz=312
SHPR **Sheep Range** 62.35 65 P P 09 11 20.7 +0.6
SHPR IAmb IAmb 09 11 22.4
comp=Z,8.9nm,1.2s
CIS **Catalina Islan** 62.39 70 P P 09 11 20.7 +0.4
baz=312
HEC **Hector,Ludlow** 62.74 67 P P 09 11 22.7 0.0
baz=312
BBRC **Big Bear Solar** 62.75 68 P P 09 11 23.7 +0.7
baz=312
MSU **Marysvale** 62.80 62 P P 09 11 24.7 +1.5
MSU **Marysvale** 62.80 62 P P 09 11 24.7 +1.5
P17A **Butcher Ranch,** 63.00 60 P P 09 11 25.7 +1.3
MURC **Murrieta** 63.02 69 P P 09 11 25.3 +0.8
baz=312
MTPU **Mount Pierson** 63.11 62 P P 09 11 27.0 +1.6
LCMT **Little Creek M** 63.16 64 P P 09 11 26.5 +1.0
GMRC **Granite Mounta** 63.18 67 P P 09 11 25.7 0.0
baz=312,SNR=5.0
K22A **Casper** 63.25 55 P P 09 11 25.5 -0.5
baz=312
K22A **Casper** 63.25 55 IAmb IAmb 09 11 28.0
comp=Z,20nm,1.4s
MDND **Maddock** 63.31 47 P P 09 11 26.6 +0.5
baz=314
ULM **Lac du Bonnet** 63.40 43 *i*P P 09 11 26.0 -0.7
PFO **Pinyon Flats O** 63.47 69 P P 09 11 28.1 +0.5
baz=312
BELC **Belle Mtn. Jos** 63.49 68 P P 09 11 28.5 +0.7
baz=312
RWWY **Rawlins** 63.52 56 IAmb IAmb 09 11 29.7
comp=Z,7.7nm,0.9s
109C **Camp Elliot, M** 63.55 70 P P 09 11 28.6 +0.6
baz=312
RSSD **Black Hills** 63.60 53 P P 09 11 28.1 -0.3
baz=313
RSSD **Black Hills** 63.60 53 P P 09 11 28.6 +0.2
RSSD pmax pmax
comp=Z,17nm,0.8s
RSSD **Black Hills** 63.60 53 P P 09 11 28.6 +0.2
FIA1 **FINESS Array S** 63.64 336 P P 09 11 29.1 +1.1
FINES **FINESS Array B** 63.65 336 P P 09 11 28.1 0.0
comp=Z,2.4nm,0.5s,baz=35,slow=8.4,SNR=17
FINES LR LR 09 42 53.2
comp=Z,96nm,19.2s,baz=26,slow=40
FINES **FINESS Array B** 63.65 336 *i*P P 09 11 28.3 +0.2
FINES pmax pmax
comp=Z,2.0nm,0.5s
IRM **Iron Mountain** 63.92 67 P P 09 11 30.0 -0.4
baz=312,SNR=6.5
KBL **Kabul** 63.98 293 P P 09 11 30.2 -0.8
KBL pmax pmax
comp=Z,20nm,1.3s
KBL **Kabul** 63.98 293 P P 09 11 30.3 -0.7
KBL IAmb IAmb 09 11 32.3
comp=Z,20nm,1.3s
KBL **Kabul** 63.98 293 P P 09 11 30.2 -0.8
KBL IAmb IAmb 09 11 32.3
comp=Z,20nm,1.3s
O20A **White River Ci** 63.99 58 P P 09 11 31.3 +0.3
baz=312,SNR=6.3
BC3 **Big Chuckawall** 64.06 68 P P 09 11 31.7 +0.2
baz=312
U15A **North Rim** 64.12 64 IAmb IAmb 09 11 41.2
comp=Z,11nm,0.9s
SWSC **Sam W. Stewart** 64.33 69 P P 09 11 32.9 -0.2
baz=313
IKP **In-Ko-Pah, Jac** 64.33 69 P P 09 11 32.8 -0.4
baz=313
PDMCI **Parker Dam,Lak** 64.43 67 P P 09 11 33.6 -0.1
baz=313
MOS **Moscow** 64.57 327 *e*P P 09 11 32.3 -1.9
MOS *e* 09 20 11.8
Y12C **Blythe** 64.57 67 P P 09 11 34.6 -0.1
baz=313
PV21 **Cone Mtn., Par** 64.63 60 IAmb IAmb 09 11 45.1
comp=Z,10.0nm,0.7s
PV23 **Carpenter Ridg** 64.68 60 IAmb IAmb 09 11 46.0
comp=Z,11nm,0.8s
PV22 **Blue Mesa, Par** 64.75 60 IAmb IAmb 09 11 46.6
comp=Z,11nm,0.9s
N23A **Red Feather La** 64.76 56 P P 09 11 36.1 -0.1
baz=313,SNR=6.3
N23A **Red Feather La** 64.76 56 IAmb IAmb 09 11 38.5
comp=Z,9.7nm,0.9s
AGMN **Agassiz Nation** 64.79 45 P P 09 11 35.4 -0.5
baz=315
AGMN **Agassiz Nation** 64.79 45 IAmb IAmb 09 11 37.2
comp=Z,19nm,1.4s
PV17 **East Wray Mesa** 64.83 60 P P 09 11 37.2 +0.7
GLA **Glamis** 64.86 68 P P 09 11 36.5 -0.1
baz=313
PV07 **Paradox Valley** 64.90 60 IAmb IAmb 09 11 47.6
comp=Z,8.2nm,0.6s
PV15 **Paradox Valley** 65.06 60 P P 09 11 39.3 +1.2
PV15 IAmb IAmb 09 11 48.4
comp=Z,12nm,1.1s
WUAZ **Wupatki** 65.28 64 P P 09 11 40.1 +0.6
baz=313
Y14A **Wickenburg** 65.37 66 IAmb IAmb 09 11 42.0
comp=Z,14nm,1.4s
OBN **Obninsk** 65.43 327 *e*P P 09 11 39.8 -0.1
OBN **Obninsk** 65.43 327 *e*P P 09 11 38.6 -1.3
OBN *e* 09 12 10.9
OBN *e* 09 14 05.0
OBN *e*PPP PPP 09 15 40.9
OBN pmax pmax
comp=Z,92nm,2.5s
OBN MLR MLR
comp=Z,78nm,17.0s
ISCO **Idaho Springs** 65.69 57 P P 09 11 42.6 +0.3
baz=314,SNR=13
ISCO **Idaho Springs** 65.69 57 IAmb IAmb 09 11 44.7
comp=Z,12nm,1.1s
B35A **Bob, Littlefor** 65.74 44 P P 09 11 41.6 -0.4
MVCO **Mesa Verde** 65.83 61 P P 09 11 43.2 +0.1
baz=313,SNR=6.0
MVCO **Mesa Verde** 65.83 61 IAmb IAmb 09 11 45.0
comp=Z,9.5nm,1.1s
F33A **5 Mile Ranch,** 66.34 47 IAmb IAmb 09 11 47.8
comp=Z,12nm,1.4s
S22A **4UR Ranch, Cre** 66.42 59 P P 09 11 47.1 +0.2
baz=314,SNR=15
S22A **4UR Ranch, Cre** 66.42 59 IAmb IAmb 09 11 49.5
comp=Z,9.6nm,1.1s
Q24A **Divide** 66.53 57 P P 09 11 48.2 +0.6
baz=314
W18A **Petrified Fore** 66.53 63 P P 09 11 48.2 +0.6
baz=314
214A **Organ Pipe Nat** 66.85 68 P P 09 11 50.0 +0.6
baz=314
214A **Organ Pipe Nat** 66.85 68 P P 09 11 49.2 -0.2
214A IAmb IAmb 09 11 52.2
comp=Z,14nm,1.3s
EYMN **Ely** 67.06 43 P P 09 11 50.1 -0.4
baz=318
SDCO **Great Sand Dun** 67.18 59 P P 09 11 52.2 +0.4
baz=314,SNR=9.2
NB2 **NORSAR Subarra** 67.47 343 P P 09 11 52.9 0.0
comp=Z,15nm,1.2s,baz=22,slow=6.5
NOA **NORSAR Array B** 67.47 343 P P 09 11 53.1 +0.2
comp=Z,4.7nm,0.9s,baz=23,slow=6.3,SNR=9.6
F36A **Milaca** 67.65 45 P P 09 11 54.1 -0.2
ECSD **EROS Data Cent** 67.69 49 P P 09 11 54.1 -0.5
baz=316
ECSD **EROS Data Cent** 67.69 49 IAmb IAmb 09 11 55.6
comp=Z,11nm,0.9s
HFS **Hagfors** 67.79 341 P P 09 11 54.8 0.0
comp=Z,7.7nm,1.0s,baz=0.0,slow=7.4,SNR=7.1
TUC **Tucson** 67.84 66 P P 09 11 55.8 0.0
baz=314
E38A **The Farm, Brul** 68.03 44 P P 09 11 55.9 -0.7
E38A IAmb IAmb 09 11 57.4
comp=Z,8.6nm,0.8s
GEYT **Alibeck** 68.07 303 P P 09 11 57.1 0.0
comp=Z,1.9nm,0.3s,baz=54,slow=3.8,SNR=5.8
GEYT **Alibeck** 68.07 303 P P 09 11 58.4 +1.4
T25A **Trinidad** 68.22 58 P P 09 11 58.2 -0.1
baz=315
T25A **Trinidad** 68.22 58 IAmb IAmb 09 12 01.1
comp=Z,17nm,1.1s
SPMN **Marine on St.** 68.46 46 P P 09 11 59.7 +0.4
baz=318
SPMN **Marine on St.** 68.46 46 IAmb IAmb 09 12 00.5
comp=Z,11nm,1.1s
ANMO **Albuquerque** 68.58 61 P P 09 12 00.6 0.0
baz=315
ANMO **Albuquerque** 68.58 61 *ce*P P 09 12 01.3 +0.8
ANMO pmax pmax
comp=Z,4.0nm,1.3s
ANMO **Albuquerque** 68.58 61 P P 09 12 01.4 +0.8
BGNE **Belgrade** 68.59 51 P P 09 12 00.1 -0.2
baz=316
121A **Cookes Peak, D** 69.50 64 P P 09 12 06.3 +0.1
baz=315
121A **Cookes Peak, D** 69.50 64 P P 09 12 06.7 +0.5
121A IAmb IAmb 09 12 07.9
comp=Z,12nm,1.4s
E43A **Lone Tree Farm** 70.26 41 IAmb IAmb 09 12 11.3
comp=Z,9.2nm,1.1s
I40A **Norwalk** 70.50 45 P P 09 12 11.8 -0.2
I40A IAmb IAmb 09 12 12.8
comp=Z,11nm,1.0s
GOF **Gofitskoye** 70.54 317 *e*P P 09 12 13.2 +1.0
SCHQ **Schefferville** 70.63 25 P P 09 12 13.1 +0.5
comp=Z,2.5nm,0.7s,baz=244,slow=8.1,SNR=4.7
SCIA **State Center** 70.73 48 P P 09 12 13.0 -0.4
baz=318
KSU1 **Kansas State U** 71.08 52 P P 09 12 14.5 -1.0
baz=318
WRAB **Tennant Creek** 71.08 203 *ce*P P 09 12 14.7 -0.9
WRAB pmax pmax
comp=Z,14nm,1.7s
WRA **Warramunga Arr** 71.09 203 P P 09 12 15.3 -0.3
comp=Z,7.5nm,0.9s,baz=21,slow=6.3,SNR=11
WRA **Warramunga Arr** 71.09 203 P P 09 12 15.3 -0.3
D46A **Sault St. Mari** 71.13 39 P P 09 12 14.9 -0.9
baz=322
I42A **Draeger Farm,** 71.30 44 P P 09 12 16.3 -0.5
I42A IAmb IAmb 09 12 17.1
comp=Z,12nm,1.3s
AMTX **Amarillo** 71.38 58 P P 09 12 17.1 -0.5
baz=317
AMTX **Amarillo** 71.38 58 IAmb IAmb 09 12 19.3
comp=Z,13nm,1.2s
D47A **Chapleau** 71.39 39 P P 09 12 16.6 -0.8
baz=322
MSTX **Muleshoe** 71.41 60 P P 09 12 17.5 -0.4
baz=316,SNR=6.7
MSTX **Muleshoe** 71.41 60 IAmb IAmb 09 12 20.0
comp=Z,13nm,1.1s
JFWS **Jewell Farm** 71.42 46 P P 09 12 17.0 -0.6
baz=320
F45A **CMU Biological** 71.44 41 P P 09 12 16.9 -0.7
baz=322
MNTX **Cornudas Mount** 71.52 63 P P 09 12 18.4 +0.1
baz=316
KIV **Kislovodsk** 71.55 316 *e*P P 09 12 19.3 +0.8
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,124nm,18.0s
L40A **Anamosa** 71.59 47 IAmb IAmb 09 12 19.1
comp=Z,7.7nm,0.8s
AKASG **Malin Array Be** 71.62 328 P P 09 12 17.6 -1.1
comp=Z,0.5nm,0.3s,baz=35,slow=6.3,SNR=8.6
AKASG LR LR 09 47 08.0
comp=Z,44nm,18.1s,baz=15,slow=39
AKASG **Malin Array Be** 71.62 328 *i*P P 09 12 18.2 -0.4
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKBB **Malin Array Si** 71.62 328 P P 09 12 18.2 -0.4
AKBB pmax pmax
comp=Z,11nm,1.3s
AKBB **Malin Array Si** 71.62 328 P P 09 12 18.2 -0.4
AKBB IAmb IAmb 09 12 19.4
comp=Z,11nm,1.2s
KBZ **Khabaz** 71.62 316 P P 09 12 18.9 +0.2
comp=Z,8.3nm,0.9s,baz=59,slow=12,SNR=13
KBZ **Khabaz** 71.62 316 *e*P P 09 12 19.3 +0.6
KBZ **Khabaz** 71.62 316 *ce*P P 09 12 19.3 +0.6
SHA1 **Shidzhatmaz** 71.73 316 *i*P P 09 12 19.9 +0.2
E47A **Iron Bridge** 71.80 39 P P 09 12 19.0 -0.7
baz=323
D48A **Paudash Townsh** 71.84 38 P P 09 12 19.0 -1.0
baz=323
ZEI **Tsey** 71.88 315 *e*P P 09 12 18.3 -2.3
ZEI pmax pmax
comp=Z,15nm,1.5s
D49A **Beulah Townshi** 71.94 38 P P 09 12 20.0 -0.7
baz=323
G46A **Petoskey** 72.02 41 P P 09 12 21.0 -0.2
baz=322
H45A **Beulah** 72.04 42 P P 09 12 20.9 -0.4
baz=322
NEY **Neytrino** 72.07 316 *i*P P 09 12 21.9 +0.2
NEY pmax pmax
comp=Z,1.0nm,1.0s
E48A **Lockeyer** 72.24 39 P P 09 12 21.1 -1.3
baz=323
L42A **Oliver, Polo** 72.39 46 P P 09 12 22.3 -1.1
L42A IAmb IAmb 09 12 23.8
comp=Z,14nm,1.1s
I45A **Fountain** 72.41 43 P P 09 12 22.3 -1.2
baz=322
CHGQ **Chibougamau** 72.44 32 P P 09 12 23.2 -0.4
baz=327
H46A **Fife Lake** 72.48 42 P P 09 12 23.2 -0.7
baz=322
G47A **Hillman** 72.57 40 P P 09 12 23.5 -1.0
baz=322
F48A **Evansville** 72.58 39 P P 09 12 23.5 -1.0
baz=323
D50A **G1974 Best Tow** 72.64 37 P P 09 12 23.9 -0.9
baz=324
VLDQ **Val d'Or** 72.80 35 P P 09 12 24.8 -0.9
VLDQ IAmb IAmb 09 12 25.1
comp=Z,14nm,1.3s
I46A **Reed City** 72.84 42 P P 09 12 24.8 -1.3
baz=322
F49A **Sandfield** 72.87 39 P P 09 12 24.9 -1.3
baz=323
H47A **Mio** 72.87 41 P P 09 12 25.4 -0.9
baz=322
E50A **Wahnapitae** 72.88 38 P P 09 12 24.6 -1.7
baz=324,SNR=5.3
D51A **Lot 18 Range I** 72.89 37 P P 09 12 25.6 -0.7
baz=325
L44A **Lake County Fo** 73.08 45 P P 09 12 27.1 -0.4
baz=321
P40A **Paris** 73.10 49 IAmb IAmb 09 12 28.6
comp=Z,16nm,0.9s
WMOK **Wichita Mounta** 73.11 57 P P 09 12 27.0 -0.9
baz=318,SNR=7.2
WMOK **Wichita Mounta** 73.11 57 P P 09 12 26.8 -1.1
WMOK pmax pmax
comp=Z,6.0nm,0.9s
WMOK **Wichita Mounta** 73.11 57 P P 09 12 26.8 -1.1
I47A **Gladwin** 73.19 42 P P 09 12 27.0 -1.2
baz=322
E51A **G1948 Merrick** 73.29 37 P P 09 12 27.9 -0.8
baz=325
D52A **ZEK Kipawa Sen** 73.36 36 P P 09 12 28.2 -0.9
baz=325
D53A **Lac Vacive, Po** 73.55 36 P P 09 12 29.4 -0.8
baz=326
D53A **Lac Vacive, Po** 73.55 36 P P 09 12 29.6 -0.6
D53A IAmb IAmb 09 12 29.9
comp=Z,13nm,1.4s
F51A **Arnstein** 73.61 38 P P 09 12 30.1 -0.5
baz=324
J47A **Sunmer** 73.67 42 P P 09 12 30.6 -0.4
HDIL **Hopedale** 73.68 47 P P 09 12 29.9 -1.2
baz=321
HDIL **Hopedale** 73.68 47 P P 09 12 30.1 -1.0
E52A **Mattawa** 73.83 37 P P 09 12 30.3 -1.6
baz=325
TUL1 **Leonard** 73.88 54 P P 09 12 30.9 -1.4
baz=319,SNR=6.8
D54A **Lac Fusel, La** 73.89 35 P P 09 12 31.1 -1.2
baz=326
F52A **Sundridge** 73.96 37 P P 09 12 31.4 -1.2
baz=325
J48A **Bridge Port** 74.09 42 P P 09 12 32.6 -0.8
baz=323
E53A **Dumoine, Ponti** 74.14 36 P P 09 12 32.8 -0.9
baz=326
ABTX **Abilene, Hawle** 74.18 59 P P 09 12 33.9 -0.3
baz=318
ABTX **Abilene, Hawle** 74.18 59 IAmb IAmb 09 12 35.9
comp=Z,15nm,1.2s
TXAR **Lajitas Array** 74.25 64 P P 09 12 35.1 +0.4
comp=Z,2.4nm,0.7s,baz=306,slow=5.0,SNR=41
E54A **Lac Daplat, Po** 74.28 36 P P 09 12 33.5 -1.0
baz=326
ALGO **Algonquin Park** 74.34 37 P P 09 12 34.2 -0.7
baz=326
D55A **Sainte-Anne-du** 74.45 34 P P 09 12 34.3 -1.2
baz=327
HHAR **Hobbs** 74.59 52 P P 09 12 35.0 -1.5
CCM **Cathedral Cave** 74.63 50 P P 09 12 36.1 -0.6
baz=320
CCM **Cathedral Cave** 74.63 50 P P 09 12 36.6 -0.1

CCM				pmax	pmax		
	comp=Z,6.0nm,1.1s						
CCM	**Cathedral Cave**	**74.63**	**50**	P	**P**	**09 12 36.6**	**-0.1**
K49A	**Clarkson**	**74.64**	**42**	P	**P**	**09 12 35.8**	**-0.8**
	baz=323						
H52A	**Wyevale**	**74.67**	**38**	P	**P**	**09 12 35.6**	**-1.2**
	baz=325						
D56A	**ZEC Mazanza, M**	**74.70**	**34**	P	**P**	**09 12 36.2**	**-0.7**
	baz=327						
ASAR	**Alice Springs**	**74.76**	**202**	P	**P**	**09 12 38.1**	**+0.7**
	comp=Z,7.2nm,0.9s,baz=15,slow=5.5,SNR=34						
ASAR	**Alice Springs**	**74.76**	**202**	P	**P**	**09 12 37.4**	**0.0**
ASAR	**Alice Springs**	**74.76**	**202**	P	**P**	**09 12 37.4**	**0.0**
G54A	**Lake Saint Pet**	**74.78**	**37**	P	**P**	**09 12 36.7**	**-0.8**
	baz=326						
G53A	**Haliburton**	**74.80**	**37**	P	**P**	**09 12 36.2**	**-1.4**
	baz=325						
SFIN	**Lafayette**	**74.87**	**45**	P	**P**	**09 12 37.5**	**-0.5**
	baz=322						
E56A	**St. Veronique**	**75.02**	**34**	P	**P**	**09 12 37.6**	**-1.2**
	baz=327						
D57A	**Chemin Vers le**	**75.05**	**33**	P	**P**	**09 12 38.1**	**-0.8**
	baz=328,SNR=6.3						
Q44A	**Meyer Farm, Va**	**75.09**	**48**	IAmb	IAmb	09 12 40.3	
	comp=Z,18nm,1.2s						
U40A	**Yellville**	**75.10**	**52**	P	**P**	**09 12 38.9**	**-0.5**
	baz=320,SNR=13						
U40A	**Yellville**	**75.10**	**52**	IAmb	IAmb	09 12 40.0	
	comp=Z,17nm,1.1s						
F55A	**Otter Lake**	**75.11**	**36**	P	**P**	**09 12 38.4**	**-0.9**
	baz=326						
LATQ	**La Tuque**	**75.14**	**33**	P	**P**	**09 12 38.1**	**-1.3**
	baz=328						
H53A	**Bobcaygeon**	**75.26**	**38**	P	**P**	**09 12 39.8**	**-0.4**
	baz=325						
EKA	**Eskdalemuir Ar**	**75.28**	**349**	P	**P**	**09 12 41.8**	**+1.7**
	comp=Z,1.3nm,0.5s,baz=21,slow=5.2,SNR=8.7						
D58A	**Chemin du LacG**	**75.34**	**33**	P	**P**	**09 12 39.7**	**-1.0**
	baz=328						
G55A	**Calabogie**	**75.45**	**36**	P	**P**	**09 12 40.5**	**-0.8**
	baz=326						
E57A	**Chemin Saint G**	**75.46**	**34**	P	**P**	**09 12 40.3**	**-1.1**
	baz=328,SNR=5.2						
TRQ	**Mont Tremblant**	**75.47**	**34**	P	**P**	**09 12 40.5**	**-0.9**
W39A	**Magazine**	**75.49**	**53**	P	**P**	**09 12 40.8**	**-0.9**
	baz=320						
W39A	**Magazine**	**75.49**	**53**	IAmb	IAmb	09 12 42.5	
	comp=Z,14nm,1.4s						
L50A	**Kingsville**	**75.52**	**42**	P	**P**	**09 12 40.9**	**-0.8**
	baz=324						
J52A	**Paris**	**75.57**	**40**	P	**P**	**09 12 39.9**	**-2.1**
	baz=325						
BURAR	**Bucovina Array**	**75.64**	**329**	P	**P**	**09 12 42.6**	**+0.1**
JCT	**Junction City**	**75.68**	**60**	P	**P**	**09 12 42.3**	**-0.6**
	baz=318						
JCT	**Junction City**	**75.68**	**60**	IAmb	IAmb	09 12 44.9	
	comp=Z,22nm,1.4s						
UZH	**Uzhgorod**	**75.73**	**331**	*e*P	**P**	**09 12 39.5**	**-3.3**
UZH				*e*		09 12 51.3	
E58A	**La Victoria**	**75.81**	**33**	P	**P**	**09 12 42.2**	**-1.1**
	baz=328						
FCAR	**Ozark Folk Cen**	**75.84**	**52**	P	**P**	**09 12 42.9**	**-0.8**
FCAR				IAmb	IAmb	09 12 44.1	
	comp=Z,11nm,1.0s						
H55A	**Tweed**	**75.85**	**37**	P	**P**	**09 12 42.5**	**-1.0**
	baz=326						
O48A	**Farmland**	**75.88**	**44**	P	**P**	**09 12 42.8**	**-1.0**
	baz=323						
WHTX	**Lake Whitney,**	**75.89**	**58**	P	**P**	**09 12 43.3**	**-0.7**
	baz=319						
I55A	**Frankford**	**75.92**	**37**	P	**P**	**09 12 42.8**	**-1.2**
	baz=326						
CLL	**Collm**	**76.00**	**338**	*i* P	**P**	**09 12 44.7**	**+0.4**
PBMO	**Poplar Bluff**	**76.03**	**50**	IAmb	IAmb	09 12 45.8	
	comp=Z,14nm,1.1s						
MIAR	**Mount Ida**	**76.09**	**53**	P	**P**	**09 12 44.6**	**-0.5**
	baz=320,SNR=5.7						
BRG	**Berggiesshubel**	**76.16**	**337**	*e*P	**P**	**09 12 45.7**	**+0.5**
	comp=Z,3.7nm,0.6s						
	comp=N,99nm,14.8s						
	comp=E,116nm,19.7s						
	comp=Z,163nm,12.5s						
BRG	**Berggiesshubel**	**76.16**	**337**	*e*P	**P**	**09 12 45.7**	**+0.5**
BRG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRG				MLR	MLR		
	comp=N,99nm,14.8s						
BRG				MLR	MLR		
	comp=E,116nm,19.7s						
BRG				MLR	MLR		
	comp=Z,163nm,12.5s						
H56A	**Elgin**	**76.18**	**36**	P	**P**	**09 12 44.9**	**-0.5**
	baz=327						
D60A	**Saint Jean D'O**	**76.19**	**32**	P	**P**	**09 12 45.1**	**-0.3**
	baz=329						
WHAR	**Wooly Hollow**	**76.21**	**52**	P	**P**	**09 12 44.0**	**-1.7**
WHAR				IAmb	IAmb	09 12 46.6	
	comp=Z,22nm,1.5s						
G57A	**Newington**	**76.25**	**35**	P	**P**	**09 12 45.5**	**-0.3**
	baz=327						
J54A	**Appleton**	**76.31**	**38**	P	**P**	**09 12 45.5**	**-0.7**
	baz=326						
W41B	**Gary Mavity, V**	**76.32**	**52**	P	**P**	**09 12 45.9**	**-0.5**
	baz=320,SNR=7.1						
W41B	**Gary Mavity, V**	**76.32**	**52**	IAmb	IAmb	09 12 47.2	
	comp=Z,16nm,1.2s						
P48A	**Milroy**	**76.39**	**45**	IAmb	IAmb	09 12 47.4	
	comp=Z,18nm,1.1s						
F59A	**Saint Guilaume**	**76.44**	**33**	P	**P**	**09 12 46.3**	**-0.5**
	baz=328						
E60A	**Ste Agathe de**	**76.48**	**32**	P	**P**	**09 12 46.4**	**-0.7**
	baz=329						
X40A	**Basin Creek Fa**	**76.53**	**53**	P	**P**	**09 12 47.2**	**-0.4**
	baz=320						
G58A	**Ormstown**	**76.56**	**35**	P	**P**	**09 12 46.8**	**-0.8**
	baz=328						
M52A	**Chesterland**	**76.57**	**41**	P	**P**	**09 12 46.6**	**-1.1**
	baz=324						
N51A	**Ashland**	**76.62**	**42**	P	**P**	**09 12 47.5**	**-0.5**
	baz=324						
H57A	**Richville**	**76.63**	**36**	P	**P**	**09 12 47.1**	**-0.9**
	baz=327						
J55A	**Hilton**	**76.66**	**38**	P	**P**	**09 12 47.3**	**-0.8**
	baz=326						
P49A	**Miami Univ. Ec**	**76.66**	**45**	P	**P**	**09 12 47.7**	**-0.6**
	baz=323						
P49A	**Miami Univ. Ec**	**76.66**	**45**	P	**P**	**09 12 47.0**	**-1.3**
P49A				IAmb	IAmb	09 12 49.1	
	comp=Z,18nm,1.2s						
D62A	**Allapoint, All**	**76.69**	**30**	P	**P**	**09 12 47.9**	**-0.4**
	baz=330						
LONY	**Lake Oconia**	**76.81**	**35**	P	**P**	**09 12 47.5**	**-1.5**
	baz=328						
K54A	**Basiliko Farm,**	**76.83**	**39**	P	**P**	**09 12 48.5**	**-0.8**
	baz=326						
VRAC	**Vranov**	**76.86**	**335**	P	**P**	**09 12 50.6**	**+1.4**
	comp=Z,1.3nm,0.3s,baz=19,slow=3.6,SNR=5.7						
L54A	**Sinclairville**	**76.88**	**39**	P	**P**	**09 12 48.8**	**-0.6**
	baz=325						
VYHS	**Vyhne**	**76.93**	**333**	*e*P	**P**	**09 12 53.2**	**+3.5**
VYHS	**Vyhne**	**76.93**	**333**	*e*P	**P**	**09 12 53.1**	**+3.4**
WCI	**Wyandotte Cave**	**76.95**	**46**	P	**P**	**09 12 49.7**	**-0.2**
	baz=322						
WCI	**Wyandotte Cave**	**76.95**	**46**	P	**P**	**09 12 50.3**	**+0.4**
WCI				pmax	pmax		
	comp=Z,18nm,0.9s						
WCI	**Wyandotte Cave**	**76.95**	**46**	P	**P**	**09 12 50.3**	**+0.4**
M53A	**Wl Miller and**	**76.95**	**41**	P	**P**	**09 12 48.9**	**-1.0**
	baz=325						
F61A	**St Evariste**	**76.98**	**32**	P	**P**	**09 12 49.7**	**-0.3**
	baz=330,SNR=6.2						
K55A	**Perry**	**77.00**	**38**	P	**P**	**09 12 49.2**	**-0.9**
	baz=326						
J56A	**Wolcott**	**77.04**	**37**	P	**P**	**09 12 49.1**	**-1.2**
	baz=327						
D63A	**Stockholm**	**77.05**	**30**	P	**P**	**09 12 50.2**	**-0.1**
	baz=331						
MMNY	**Mt. Morris Dam**	**77.06**	**38**	P	**P**	**09 12 50.4**	**-0.1**
MMNY				IAmb	IAmb	09 12 51.0	
	comp=Z,15nm,1.0s						
H59A	**Cadyville**	**77.12**	**35**	P	**P**	**09 12 50.4**	**-0.4**
	baz=328						
H58A	**Gabriels**	**77.13**	**35**	P	**P**	**09 12 50.4**	**-0.5**
	baz=328						
O51A	**Pataskala**	**77.14**	**43**	P	**P**	**09 12 50.0**	**-0.9**
	baz=324						
G60A	**Masonville**	**77.25**	**34**	P	**P**	**09 12 51.0**	**-0.5**
	baz=329						
J57A	**Williamstown**	**77.27**	**37**	P	**P**	**09 12 51.1**	**-0.5**
	baz=327						
K56A	**Middlesex**	**77.33**	**38**	P	**P**	**09 12 51.4**	**-0.6**
	baz=326						
M54A	**Oil Creek Stat**	**77.33**	**40**	P	**P**	**09 12 51.7**	**-0.3**
	baz=325						
G61A	**St-Isidore-de-**	**77.38**	**33**	P	**P**	**09 12 51.7**	**-0.5**
	baz=329						
N53A	**Lisbon**	**77.39**	**41**	P	**P**	**09 12 51.0**	**-1.4**
	baz=325						
F62A	**Pittston Farm,**	**77.41**	**32**	P	**P**	**09 12 51.3**	**-1.1**
	baz=330						
I58A	**Old Forge**	**77.44**	**36**	P	**P**	**09 12 51.7**	**-0.9**
	baz=328						
P51A	**Williamsport**	**77.47**	**44**	P	**P**	**09 12 52.0**	**-0.8**
	baz=324						
E63A	**Oxbow**	**77.48**	**30**	P	**P**	**09 12 51.2**	**-1.5**
	baz=331						
O52A	**Adamsville**	**77.51**	**42**	P	**P**	**09 12 52.4**	**-0.6**
	baz=324						
T47A	**Sharon Grove**	**77.53**	**48**	IAmb	IAmb	09 12 54.7	
	comp=Z,15nm,1.1s						
H60A	**Morristown**	**77.57**	**34**	P	**P**	**09 12 52.8**	**-0.5**
	baz=329						
K57A	**Scipio Center**	**77.63**	**37**	P	**P**	**09 12 53.0**	**-0.7**
	baz=327						
N54A	**Moraine State**	**77.64**	**41**	P	**P**	**09 12 53.5**	**-0.3**
	baz=325						
O53A	**New Philadelph**	**77.68**	**42**	P	**P**	**09 12 53.3**	**-0.7**
	baz=325						
E64A	**Bridgewater**	**77.68**	**30**	P	**P**	**09 12 53.0**	**-0.8**
	baz=331						
L56A	**Greenwood**	**77.70**	**38**	P	**P**	**09 12 53.4**	**-0.7**
	baz=326						
M55A	**Ridgway**	**77.75**	**40**	P	**P**	**09 12 53.5**	**-0.9**
	baz=328						
M55A	**Ridgway**	**77.75**	**40**	IAmb	IAmb	09 12 55.4	
	comp=Z,16nm,1.1s						
P52A	**Corning**	**77.77**	**43**	P	**P**	**09 12 53.7**	**-0.8**
	baz=324						
I59A	**Olmsteadville**	**77.78**	**35**	P	**P**	**09 12 53.7**	**-0.8**
	baz=328						
G62A	**West of Eustis**	**77.80**	**32**	P	**P**	**09 12 54.0**	**-0.6**
	baz=330						
J59A	**Pesco**	**77.81**	**36**	P	**P**	**09 12 54.2**	**-0.5**
	baz=328						
R50A	**Paris**	**77.84**	**45**	P	**P**	**09 12 54.5**	**-0.4**
R50A				IAmb	IAmb	09 12 56.3	
	comp=Z,10nm,1.1s						
WVT	**Waverly**	**77.84**	**49**	P	**P**	**09 12 54.5**	**-0.5**
	baz=322						
KHC	**Kasperske Hory**	**77.85**	**337**	*c*e P	**P**	**09 12 54.9**	**+0.1**
KHC				pmax	pmax		
	comp=Z,17nm,1.3s						
F63A	**Nahmakanta, Br**	**77.88**	**31**	P	**P**	**09 12 54.2**	**-0.7**
	baz=331						
H61A	**Lyndonville**	**77.88**	**34**	P	**P**	**09 12 53.6**	**-1.4**
	baz=329						
GRF	**Grafenberg Arr**	**77.94**	**338**	*e*P	**P**	**09 12 56.6**	**+1.3**
	comp=Z,14nm,1.6s,baz=23,slow=5.1						
K58A	**Earlville**	**77.95**	**37**	P	**P**	**09 12 55.0**	**-0.5**
	baz=327						
I60A	**Shoreham**	**77.96**	**35**	P	**P**	**09 12 54.2**	**-1.2**
	baz=328						
M56A	**Emporium**	**77.98**	**39**	P	**P**	**09 12 55.6**	**0.0**
	baz=326						
F64A	**Sherman**	**77.99**	**31**	P	**P**	**09 12 55.1**	**-0.5**
	baz=331						
GERES	**GERESS Array B**	**78.08**	**336**	P	**P**	**09 12 57.6**	**+1.5**
	comp=Z,1.4nm,0.5s,baz=37,slow=5.2,SNR=9.9						
O54A	**Avella**	**78.10**	**41**	P	**P**	**09 12 56.1**	**-0.3**
	baz=325						
H62A	**Milan**	**78.13**	**33**	P	**P**	**09 12 56.2**	**-0.2**
	baz=330						
LBNH	**Lisbon**	**78.13**	**34**	P	**P**	**09 12 55.8**	**-0.6**
	baz=329						
G63A	**Kingsbury**	**78.21**	**32**	P	**P**	**09 12 56.1**	**-0.7**
	baz=330						
N55A	**Marion Center**	**78.22**	**40**	P	**P**	**09 12 56.0**	**-1.0**
	baz=326						
P53A	**Whipple**	**78.22**	**42**	P	**P**	**09 12 56.0**	**-1.0**
	baz=325						
Q52A	**Bidwell**	**78.25**	**43**	P	**P**	**09 12 57.4**	**+0.3**
	baz=324						
K59A	**Cooperstown**	**78.26**	**36**	P	**P**	**09 12 57.1**	**-0.1**
	baz=328						
BINY	**Binghamton**	**78.29**	**37**	P	**P**	**09 12 56.7**	**-0.7**
	baz=327						
OXF	**Oxford**	**78.31**	**51**	P	**P**	**09 12 57.0**	**-0.5**
	baz=322						
N56A	**West Decatur**	**78.40**	**40**	P	**P**	**09 12 56.7**	**-1.4**
	baz=326						
L58A	**Harry Jones Me**	**78.47**	**37**	P	**P**	**09 12 57.2**	**-1.1**
	baz=327						
P54A	**Burton**	**78.53**	**42**	P	**P**	**09 12 58.2**	**-0.5**
	baz=325						
M57A	**Sunshine Farm,**	**78.54**	**39**	P	**P**	**09 12 58.2**	**-0.5**
	baz=327						
O55A	**Ligonier**	**78.55**	**41**	P	**P**	**09 12 57.8**	**-1.1**
	baz=326						
U49A	**Red Boiling Sp**	**78.55**	**47**	IAmb	IAmb	09 13 00.0	
	comp=Z,11nm,1.1s						
UOSS	**Minazif**	**78.60**	**295**	P	**P**	**09 12 59.4**	**0.0**
T50A	**Nancy**	**78.61**	**46**	IAmb	IAmb	09 13 00.4	
	comp=Z,12nm,1.1s						
PLAL	**Pickwick Lake**	**78.62**	**50**	P	**P**	**09 12 58.4**	**-0.8**
V48A	**Smith Brothers**	**78.65**	**48**	P	**P**	**09 12 58.8**	**-0.7**
J61A	**Chester**	**78.66**	**35**	P	**P**	**09 12 59.0**	**-0.3**
	baz=329						
Q53A	**Leroy**	**78.67**	**43**	P	**P**	**09 12 58.5**	**-1.0**
	baz=325						
L59A	**Walton**	**78.68**	**37**	P	**P**	**09 12 58.5**	**-1.1**
	baz=328						
H64A	**Troy**	**78.76**	**32**	P	**P**	**09 12 59.0**	**-0.8**
	baz=331						
MCWV	**Mont Chateau**	**78.77**	**41**	P	**P**	**09 12 59.6**	**-0.4**
	baz=325						
M58A	**Price's Panora**	**78.79**	**38**	P	**P**	**09 12 59.5**	**-0.7**
	baz=327						
O56A	**Blue Knob Stat**	**78.82**	**40**	P	**P**	**09 12 59.3**	**-1.0**
	baz=326						
N57A	**Milroy**	**78.85**	**39**	P	**P**	**09 13 00.1**	**-0.3**
	baz=326						
Q54A	**Coxs Mills**	**78.88**	**42**	P	**P**	**09 13 00.7**	**+0.1**
	baz=325						
Q54A	**Coxs Mills**	**78.88**	**42**	IAmb	IAmb	09 13 02.0	
	comp=Z,24nm,1.3s						
P55A	**Reedsville**	**78.90**	**41**	P	**P**	**09 13 00.7**	**-0.1**
	baz=326,SNR=5.1						
R53A	**Hurricane**	**78.91**	**43**	P	**P**	**09 13 00.7**	**-0.1**
	baz=324						
BRTR	**Keskin Array B**	**78.99**	**319**	P	**P**	**09 13 02.1**	**+0.7**
	comp=Z,2.1nm,0.9s,baz=64,slow=2.9,SNR=7.0						
BRTR	**Keskin Array B**	**78.99**	**319**	*i* P	**P**	**09 13 02.0**	**+0.6**
BRTR				pmax	pmax		
	comp=Z,3.0nm,1.0s						
BRTR	**Keskin Array B**	**78.99**	**319**	P	**P**	**09 13 00.8**	**-0.6**
Q55A	**Buckhannon**	**79.21**	**42**	P	**P**	**09 13 01.6**	**-0.9**
	baz=325						
O57A	**Amberson**	**79.27**	**40**	P	**P**	**09 13 02.4**	**-0.3**
	baz=326						
H66A	**Whiting**	**79.29**	**31**	P	**P**	**09 13 02.2**	**-0.5**
	baz=332						
RAR	**Rarotonga**	**79.29**	**140**	LR	LR	09 39 38.2	
	comp=Z,64nm,21.3s,baz=339,slow=29						
P56A	**Dayton Farm, R**	**79.33**	**41**	P	**P**	**09 13 02.7**	**-0.4**
	baz=326						
S53A	**Williamson**	**79.35**	**44**	P	**P**	**09 13 03.1**	**-0.2**
	baz=324						
K62A	**Royalston**	**79.36**	**35**	P	**P**	**09 13 03.7**	**+0.5**
	baz=329						
L61B	**Northampton**	**79.38**	**35**	P	**P**	**09 13 03.4**	**+0.1**
	baz=329						
N59A	**State Game Lan**	**79.45**	**38**	P	**P**	**09 13 04.1**	**+0.3**
	baz=327						
R54A	**Victor**	**79.47**	**43**	P	**P**	**09 13 03.8**	**-0.1**
	baz=325						
TZTN	**Tazewell**	**79.60**	**46**	P	**P**	**09 13 04.4**	**-0.2**
	baz=324						
T53A	**Wise**	**79.73**	**45**	P	**P**	**09 13 05.1**	**-0.3**
	baz=324						
R55A	**Marlinton**	**79.78**	**42**	P	**P**	**09 13 05.4**	**-0.2**
	baz=325						
O59A	**Robesonia**	**79.79**	**39**	P	**P**	**09 13 05.2**	**-0.4**
	baz=327						
V52A	**Sevierville**	**80.15**	**46**	P	**P**	**09 13 07.9**	**+0.3**
V52A				IAmb	IAmb	09 13 08.8	
	comp=Z,23nm,1.4s						
FPAL	**Fort Paine**	**80.21**	**48**	IAmb	IAmb	09 13 08.8	
	comp=Z,12nm,1.1s						
TKL	**Tuckaleechee C**	**80.21**	**46**	IAmb	IAmb	09 13 09.0	
	comp=Z,17nm,1.2s						
V53A	**Saluda**	**80.66**	**46**	P	**P**	**09 13 10.4**	**0.0**
V53A				IAmb	IAmb	09 13 12.5	
	comp=Z,15nm,1.3s						
ESDC	**Sonseca Array**	**90.68**	**346**	P	**P**	**09 14 00.2**	**+0.1**
	comp=Z,3.1nm,1.1s,baz=9.1,slow=3.9,SNR=12						
ESDC	**Sonseca Array**	**90.68**	**346**	P	**P**	**09 13 59.0**	**-1.2**
VNDA	**Vanda**	**125.73**	**179**	PKP	**PKPdf**	**09 19 57.8**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=358,slow=2.5,SNR=3.6						
LPAZ	**La Paz**	**131.10**	**65**	PKP	**PKiKP**	**09 20 13.0**	**+1.8**
	comp=Z,1.0nm,0.8s,baz=315,slow=4.3,SNR=3.8						
LPAZ	**La Paz**	**131.10**	**65**	PKIKP	**PKiKP**	**09 20 13.0**	**+1.8**
SYO	**Syowa Base**	**143.83**	**213**	*e*P	PKPab	09 20 26.8	-1.5
SYO	**Syowa Base**	**143.83**	**213**	*e*P	**PKiKP**	**09 20 39.4**	**+4.7**
LL01	**San Ignacio de**	**145.15**	**99**		**PKPbc**	**09 20 33.9**	**-0.1**
CPUP	**Villa Florida**	**145.22**	**63**	PKPbc	**PKPbc**	**09 20 34.7**	**+0.1**
	comp=Z,6.8nm,1.0s,baz=270,slow=2.0,SNR=7.1						
PLCA	**Paso Flores**	**145.60**	**95**	PKPbc	**PKPab**	**09 20 36.3**	**+0.3**
	comp=Z,14nm,1.2s,baz=301,slow=3.8,SNR=7.8						
PLCA	**Paso Flores**	**145.60**	**95**		**PKPab**	**09 20 36.4**	**+0.5**
SNAA	**Sanae**	**154.93**	**195**	PKPbc	**PKPbc**	**09 20 57.1**	**-0.6**

BJI ***26*** *09:03:00.9±0.0,51.45N×178.59W,h46km,mB5.0/35, mb5.1/60,Ms4.8/27,Ms7 4.5/25*
BGR ***26*** *09:03:01.8±0.0,51.18N×178.38W,h33km,mb4.6*
MOS ***26*** *09:03:01.7±0.9,51.51N×178.41W,h49km,mb4.9/37, Error ellipse: s-maj=8.6km s-min=6.7km az=97.4*
AEIC ***26*** *09:03:01±2.8,51.17N±0.09×178.33W±0.06,h26km±2km, Error ellipse: s-maj=13.2km s-min=5.5km az=173.0*
UNK ***26*** *09:03:03.5,51.40N×178.49W,h51km*
NEIC ***26*** *09:03:03.2±1.9,51.39N±0.07×178.39W±0.06,h51km±4km, mb5.0/244,ML4.6/36(AEIC),Error ellipse: s-maj=10.9km s-min=5.6km az=170.0*
IDC ***26*** *09:03:04.3±2.1,51.55N×178.41W,h55km±17km,mb4.3/45, mb1 4.4/46,mb1mx4.4/62,mbtmp4.6/46,ML3.4/1,MS3.7/8, Ms1 3.7/8,ms1mx3.4/45,Error ellipse: s-maj=13.2km s-min=7.9km az=162.0*

ISC 26 09:03:03.8±0.8,51.40N±0.07×178.40W±0.03,h55km±6km, n690,σ0990/626,mb4.9/192,MS4.5/29,14C-5D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALAA	**Gareloi Lava P**	**0.43**	**327**		**Pn**	**09 03 14.2**	**-0.4**
GAEA	**Gareloi East**	**0.44**	**330**		**Pn**	**09 03 14.3**	**-0.4**
TASE	**Tanaga Southea**	**0.49**	**27**		**Pn**	**09 03 14.4**	**-0.9**
TAPA	**Tanaga Point A**	**0.55**	**41**		**Pn**	**09 03 14.8**	**-1.2**
TAFP	**Tanaga Falls P**	**0.56**	**27**		**Pn**	**09 03 15.1**	**-1.0**
KIMD	**Kanaga Island**	**0.81**	**63**		**Pn**	**09 03 17.5**	**-1.6**
KIKV	**Kanaga Island**	**0.90**	**58**		**Pn**	**09 03 19.1**	**-1.2**
KICM	**Kanaga Island**	**0.91**	**55**		**Pn**	**09 03 19.3**	**-1.1**
ADK	**Adak**	**1.17**	**65**	P	**Pn**	**09 03 22.2**	**-1.7**
ADK	**Adak**	**1.17**	**65**		**Pn**	**09 03 22.2**	**-1.7**
ADAG	**Mount Adagdak**	**1.26**	**62**		**Pn**	**09 03 24.4**	**-0.7**
CERAA	**Semis' Rag'd T**	**1.30**	**294**		**Pn**	**09 03 25.6**	**+0.1**
CESW	**Semis' Southwe**	**1.36**	**292**		**Pn**	**09 03 26.4**	**-0.1**
CEAP	**Semis' Anvil P**	**1.40**	**296**		**Pn**	**09 03 27.1**	**+0.2**
CETU	**Semis' Tuman**	**1.43**	**294**		**Pn**	**09 03 27.5**	**+0.2**
AMKA	**Amchitka**	**1.44**	**270**		**Pn**	**09 03 25.7**	**-1.8**
AMKA					**Sn**	**09 03 44.8**	**-0.5**
GSMY	**Great Sitkin M**	**1.59**	**65**		**Pn**	**09 03 28.8**	**-0.8**
GSTR	**Great Sitkin T**	**1.61**	**64**		**Pn**	**09 03 29.5**	**-0.4**
LSPA	**Little Sitkin**	**1.97**	**288**		**Pn**	**09 03 34.8**	**+0.2**
LSSA	**Little Sitkin**	**2.00**	**287**		**Pn**	**09 03 35.1**	**0.0**
LSNW	**Little Sitkin**	**2.00**	**288**		**Pn**	**09 03 35.0**	**-0.1**
ATKA	**Atka Island**	**2.73**	**71**		**Pn**	**09 03 43.6**	**-1.4**
ATKA					**Sn**	**09 04 17.1**	**+0.3**
KOFP	**Korovin Flat P**	**2.81**	**70**		**Pn**	**09 03 46.9**	**+0.7**
KOSE	**Korovin Southe**	**2.86**	**69**		**Pn**	**09 03 48.0**	**+1.1**
SMY	**Shemya**	**4.82**	**289**	P	**Pn**	**09 04 13.7**	**+0.1**
SMY	**Shemya**	**4.82**	**289**	Pn	**Pn**	**09 04 13.7**	**+0.1**
NIKH	**Nikolski High**	**6.08**	**71**	Pn	**Pn**	**09 04 32.0**	**+1.1**
OKNC	**Okmok New Cone**	**6.61**	**68**		**Pn**	**09 04 36.8**	**-1.4**
OKFG	**Magazine Ridge**	**6.72**	**69**		**Pn**	**09 04 39.4**	**-0.4**
MREP	**Makushin Rep't**	**7.49**	**67**		**Pn**	**09 04 50.9**	**+0.6**
SPIA	**Saint Paul Isl**	**7.49**	**36**		**Pn**	**09 04 52.1**	**+1.9**
MSW	**Makushin Switc**	**7.50**	**66**		**Pn**	**09 04 50.7**	**+0.4**
MNAT	**Makushin Natee**	**7.55**	**66**		**Pn**	**09 04 50.2**	**-0.8**
UNV	**Unalaska Valle**	**7.64**	**67**	Pn	**Pn**	**09 04 53.7**	**+1.4**
AKUT	**Akutan**	**8.13**	**65**	Pn	**Pn**	**09 05 00.8**	**+1.9**
FALS	**False Pass**	**9.64**	**63**	Pn	**Pn**	**09 05 21.3**	**+1.7**
SDPT	**Sand Point**	**11.40**	**63**	Pn	**Pn**	**09 05 43.7**	**0.0**
CNBA	**Chernabura Isl**	**11.80**	**66**	Pn	**Pn**	**09 05 48.4**	**-0.7**
PETK	**Petropavlovsk-**	**14.72**	**286**	P	**Pn**	**09 06 30.2**	**+1.6**
	0.9nm,0.3s,baz=94,slow=17,SNR=3.4						
PETK				S	**Sn**	**09 09 12.3**	**+2.0**
	0.1nm,0.3s,baz=128,slow=48,SNR=0.9						
ANM	**Nome**	**14.85**	**22**	P	**Pn**	**09 06 31.0**	**+0.9**
ANM	**Nome**	**14.85**	**22**		**Pn**	**09 06 31.0**	**+0.9**
OHAK	**Old Harbor**	**15.71**	**58**	Pn	**Pn**	**09 06 41.4**	**+0.1**
SVW2	**Sparrevohn**	**15.88**	**44**	P	**P**	**09 06 46.2**	**0.0**
KDAK	**Kodiak Island**	**16.20**	**57**	P	**Pn**	**09 06 44.4**	**-3.0**
	6.0nm,0.3s,baz=205,slow=4.5,SNR=59						
KDAK				S	**Sn**	**09 09 46.7**	**+0.7**
	1.4nm,0.3s,baz=199,slow=23,SNR=6.5				

comp=Z,0.4nm,0.7s,baz=219,slow=14,SNR=2.3
ILAR PcP **PcP** **09 11 46.6 -0.6**
comp=Z,3.0nm,0.6s,baz=284,slow=3.6,SNR=20
ILAR ScP **ScP** **09 15 19.6 +0.6**
comp=Z,0.8nm,0.5s,baz=276,slow=3.9,SNR=12
COLD Coldfoot 21.11 31 P **P** **09 07 43.2 -0.1**
baz=235
COLD Coldfoot 21.11 31 P **P** **09 07 43.5 +0.2**
GLB Gilahina Butte 21.34 49 IAmb IAmb 09 07 54.8
comp=Z,23nm,0.6s
DOT Dot Lake 21.81 43 **S** **09 11 50.0 +1.2**
TOLK Toolik Lake Re 22.13 28 P **P** **09 07 53.9 -0.4**
baz=233
TOLK Toolik Lake Re 22.13 28 P **P** **09 07 52.7 -1.6**
EGAK Eagle 23.36 41 P **P** **09 08 07.0 0.0**
EGAK IAmb IAmb 09 08 10.6
comp=Z,18nm,1.1s
YSS Yuzh-Sakhalins 25.57 275⇑ *e*P **P** **09 08 28.2 +1.0**
YSS *e* 09 08 44.6
YSS pmax pmax
comp=Z,50nm,0.9s
YSS pmax pmax
comp=N,30nm,0.8s
YSS pmax pmax
comp=E,40nm,0.8s
YSS MLR MLR
comp=Z,200nm,17.0s
EPYK Eagle Plains 25.58 38 P **P** **09 08 26.9 -0.4**
baz=255
JKA Kamikawa-asahi 26.96 270 IAmb IAmb 09 08 42.8
comp=Z,40nm,0.9s
ASAJ Asahikawa 26.96 270 P **P** **09 08 40.6 +0.8**
comp=Z,34nm,0.9s,baz=44,slow=4.7,SNR=16
ASAJ LR LR 09 17 50.4
comp=Z,64nm,21.9s,baz=14,slow=33
INK Inuvik 27.29 35 P **P** **09 08 42.7 +0.1**
comp=Z,1.6nm,0.3s,baz=251,slow=19,SNR=12
INK PcP **PcP** **09 12 00.6 0.0**
comp=Z,6.6nm,0.7s,baz=243,slow=3.8,SNR=8.7
INK Inuvik 27.29 35 PcP **PcP** **09 12 01.0 +0.5**
ERM Erimo 27.70 265 *i* P **P** **09 08 47.3 +0.8**
ERM pmax pmax
comp=Z,22nm,1.1s
ERM Erimo 27.70 265 P **P** **09 08 46.2 -0.2**
ERM IAmb IAmb 09 08 48.2
comp=Z,23nm,1.1s
GRNR Gornyy 28.05 287⇑ *i* P **P** **09 08 48.3 -1.2**
GRNR pmax pmax
comp=Z,5.0nm,1.0s
GRNR MLR MLR
comp=E,90nm,11.0s
GRNR MLR MLR
comp=N,100nm,17.0s
GRNR MLR MLR
comp=Z,130nm,18.0s
DLBC Dease Lake 28.14 56 P **P** **09 08 52.4 +2.0**
comp=Z,4.2nm,1.0s,baz=275,slow=8.4,SNR=5.7
DLBC PcP **PcP** **09 12 03.8 +0.8**
comp=Z,1.7nm,0.7s,baz=219,slow=4.1,SNR=3.8
TIXI Tiksi 30.74 330 P **P** **09 09 16.1 +3.0**
comp=Z,1.8nm,0.4s,baz=125,slow=11,SNR=2.1
TIXI PcP **PcP** **09 12 09.0 -0.2**
comp=Z,6.2nm,0.5s,baz=59,slow=2.0,SNR=7.9
TIXI ScP **ScP** **09 15 46.8 -0.1**
comp=Z,3.0nm,0.8s,baz=124,slow=2.7,SNR=5.3
TIXI Tiksi 30.74 330 P **P** **09 09 16.1 +3.0**
TIXI 09 12 09.1
TIXI pmax pmax
comp=Z,4.0nm,1.1s
TIXI Tiksi 30.74 330 IAmb IAmb 09 09 17.9
comp=Z,3.6nm,1.1s
TIXI PcP **PcP** **09 12 09.1 -0.2**
A36M Sachs Harbour 30.94 29 P **P** **09 09 14.9 0.0**
baz=257
KLR Kul'dur 31.42 286 P **P** **09 09 19.2 -0.1**
comp=Z,16nm,0.4s,baz=73,slow=7.6,SNR=92
KLR Kul'dur 31.42 286 *i* P **P** **09 09 18.6 -0.7**
KLR pmax pmax
comp=Z,10.0nm,0.8s
USA0B Ussuriysk Arra 33.54 277 P **P** **09 09 36.8 -1.2**
USA0B pmax pmax
comp=Z,17nm,0.6s
USA0B Ussuriysk Arra 33.54 277 P **P** **09 09 36.8 -1.2**
USA0B IAmb IAmb 09 09 38.4
comp=Z,17nm,0.6s
USRK Ussuriysk Ar. 33.54 277 P **P** **09 09 37.6 -0.3**
comp=Z,18nm,0.6s,baz=57,slow=8.9,SNR=68
USRK PcP **PcP** **09 12 17.8 +0.4**
comp=Z,0.5nm,0.6s,baz=66,slow=1.7,SNR=3.6
USRK Ussuriysk Ar. 33.54 277 P **P** **09 09 36.6 -1.3**
H11N2 WAKE ISLAND Hy 33.66 206 T T 09 45 30.0
baz=17,slow=76,SNR=321
H11N3 WAKE ISLAND Hy 33.67 206 T T 09 45 31.3
baz=17,slow=76,SNR=337
H11N1 WAKE ISLAND Hy 33.68 206 T T 09 45 32.0
baz=17,slow=76,SNR=323
MAJO Matsushiro 34.04 261 P **P** **09 09 43.2 +0.8**
MAJO pmax pmax
comp=Z,21nm,1.0s
MAJO Matsushiro 34.04 261 P **P** **09 09 43.2 +0.8**
MAJO IAmb IAmb 09 09 44.1
comp=Z,21nm,0.9s
MAT Matsushiro 34.04 261 P **P** **09 09 43.1 +0.7**
MJAR Matsushiro Arr 34.04 261 P **P** **09 09 43.0 +0.7**
comp=Z,8.7nm,0.7s,baz=50,slow=6.6,SNR=25
MJAR PcP **PcP** **09 12 19.5 +0.6**
comp=Z,1.5nm,0.4s,baz=84,slow=1.7,SNR=5.7
MJAR LR LR 09 21 40.3
comp=Z,92nm,21.6s,baz=60,slow=33
MJAR Matsushiro Arr 34.04 261 P **P** **09 09 43.1 +0.7**
MJAR 09 12 19.8
MJAR pmax pmax
comp=Z,4.0nm,0.7s
MJAR Matsushiro Arr 34.04 261 P **P** **09 09 43.1 +0.7**
MJAR PcP **PcP** **09 12 19.8 +0.8**
MJB9 Matsu-Tunnel 34.04 261 IAmb IAmb 09 09 44.1
comp=Z,23nm,1.0s
H11S1 WAKE ISLAND Hy 34.88 205 T T 09 47 02.0
baz=17,slow=76,SNR=913
H11S2 WAKE ISLAND Hy 34.89 205 T T 09 47 04.1
baz=17,slow=76,SNR=583
H11S3 WAKE ISLAND Hy 34.90 205 T T 09 47 03.3
baz=17,slow=76,SNR=600
MSHR Mys Shultsa 34.90 276 *i* P **P** **09 09 50.6 +0.9**
NLWA Neilton Lookou 35.02 75 P **P** **09 09 52.4 +1.6**
NLWA IAmb IAmb 09 09 58.9
comp=Z,17nm,1.0s
YKA Yellowknife Ar 35.03 47 P **P** **09 09 50.0 -0.6**
comp=Z,1.6nm,0.4s,baz=279,slow=9.5,SNR=14
YKA PcP **PcP** **09 12 21.9 +0.5**
comp=Z,3.3nm,0.7s,baz=285,slow=3.0,SNR=14
YKA ScP **ScP** **09 16 02.8 +0.9**
comp=Z,0.5nm,0.5s,baz=291,slow=3.9,SNR=3.1
YKA LR LR 09 26 57.0
comp=Z,95nm,18.1s,baz=0.0,slow=41
D03D Eldon 35.43 74 P **P** **09 09 54.1 -0.1**
baz=297,SNR=14
E03A Lebam 35.60 76 IAmb IAmb 09 10 04.7
comp=Z,10nm,0.8s
B05A Bryant 35.69 72 P **P** **09 09 56.7 +0.3**
baz=297,SNR=11
D04E Lakebay 35.78 74 P **P** **09 09 57.5 +0.3**
baz=298
E04D Cinebar 36.20 75 P **P** **09 10 00.8 -0.1**
baz=299,SNR=12
D05A Enumclaw 36.25 74 IAmb IAmb 09 10 09.3
comp=Z,12nm,1.0s
G03D McMinnville, O 36.44 78 P **P** **09 10 02.8 -0.1**
baz=300
F04A Amboy 36.60 76 P **P** **09 10 05.2 +1.0**
F04A IAmb IAmb 09 10 10.6
comp=Z,14nm,0.6s
J01E Myrtle Point 37.09 81 P **P** **09 10 08.7 +0.3**
baz=302
H04D Lebanon 37.11 78 P **P** **09 10 08.8 +0.1**
baz=301
I03D Drain, OR 37.16 80 P **P** **09 10 08.9 -0.2**
baz=302
B08A Colville Reser 37.29 71 P **P** **09 10 10.2 0.0**
B08A IAmb IAmb 09 10 11.8
comp=Z,19nm,0.8s
H04A Detroit Lake 37.37 78 P **P** **09 10 11.8 +1.0**
H04A IAmb IAmb 09 10 13.0
comp=Z,16nm,0.8s
K02D Willamette Mer 37.51 81 P **P** **09 10 11.6 -0.5**
baz=303
G05D Wamic, OR 37.61 76 P **P** **09 10 12.7 -0.2**
baz=301
I04A Tendick Farm, 37.69 79 P **P** **09 10 13.5 -0.1**
baz=302,SNR=6.8
CN2 Changchun 37.79 281 *e*P **P** **09 10 15.0 +0.6**
I05D Terrebonne, OR 38.06 78 P **P** **09 10 16.3 -0.4**
baz=302,SNR=7.0
HAWA Hanford 38.11 74 IAmb IAmb 09 10 22.7
comp=Z,14nm,0.7s
D08A Wollman Farm, 38.15 72 P **P** **09 10 18.2 +0.8**
J04D Umpqua Nationa 38.17 80 P **P** **09 10 16.6 -1.3**
baz=303
C09A Chrisman Ranch 38.18 71 IAmb IAmb 09 10 18.9
comp=Z,14nm,0.8s
PINE Pine Mountain 38.59 78 IAmb IAmb 09 10 27.2
comp=Z,24nm,1.2s
L04D Klamath Falls 38.61 81 P **P** **09 10 21.5 +0.1**
baz=304,SNR=5.8
YBH Yreka Blue Hor 38.63 82 P **P** **09 10 23.5 +2.0**
comp=Z,4.1nm,0.8s,baz=335,slow=7.1,SNR=19
YBH Yreka Blue Hor 38.63 82 P **P** **09 10 23.7 +2.2**
YBH IAmb IAmb 09 10 28.4
comp=Z,12nm,1.1s
NEW Newport 38.64 70 P **P** **09 10 20.9 -0.6**
baz=298,SNR=23
NEW Newport 38.64 70 P **P** **09 10 21.8 +0.3**
comp=Z,18nm,0.6s,baz=302,slow=6.6,SNR=38
NEW Newport 38.64 70 IAmb IAmb 09 10 22.6
comp=Z,17nm,0.6s
J05D Fort Rock, OR 38.69 79 P **P** **09 10 21.2 -0.9**
baz=303,SNR=19
K04D Chiloquin, OR 38.73 80 P **P** **09 10 21.2 -1.2**
baz=303
M02C Callahan 38.73 83 P **P** **09 10 23.0 +0.6**
baz=304
N02D Trinity Center 39.06 83 P **P** **09 10 25.0 -0.2**
baz=305
M04C Macdoel 39.14 81 P **P** **09 10 26.1 +0.2**
baz=304,SNR=11
O02D Mt. Diablo Mer 39.47 84 P **P** **09 10 28.4 -0.2**
baz=306
RES Resolute Bay 39.62 24 P **P** **09 10 29.2 0.0**
comp=Z,7.6nm,0.9s,baz=256,slow=6.2,SNR=7.6
RES PcP **PcP** **09 12 35.7 +0.6**
comp=Z,9.0nm,0.7s,baz=279,slow=2.4,SNR=6.1
RES Resolute Bay 39.62 24 IAmb IAmb 09 10 32.3
comp=Z,15nm,1.1s
KSRS Korea Array 39.89 271 P **P** **09 10 33.1 +1.2**
comp=Z,12nm,0.8s,baz=55,slow=8.1,SNR=38
KSRS PcP **PcP** **09 12 37.9 +1.3**
comp=Z,0.5nm,0.3s,baz=0.0,slow=1.7,SNR=2.9
KSRS LR LR 09 24 25.7
comp=Z,72nm,21.1s,baz=95,slow=32
KS19 Wonju Array Si 39.90 271 P **P** **09 10 32.5 +0.5**
KS19 IAmb IAmb 09 10 34.0
comp=Z,16nm,0.8s
KSAR Wonju Array Be 39.92 271 P **P** **09 10 32.9 +0.7**
KSAR Wonju Array Be 39.92 271 P **P** **09 10 32.9 +0.7**
O03E Paynes Creek 40.01 83 P **P** **09 10 33.5 +0.4**
baz=306,SNR=16
MOD Modoc Plateau 40.02 80 P **P** **09 10 34.6 +1.3**
MOD IAmb IAmb 09 10 37.6
comp=Z,12nm,0.8s
INCN Inchon 40.68 272 P **P** **09 10 39.2 +0.7**
INCN pmax pmax
comp=Z,25nm,0.8s
INCN Inchon 40.68 272 P **P** **09 10 39.2 +0.7**
INCN IAmb IAmb 09 10 40.1
comp=Z,25nm,0.8s
JNU Nakatsue 40.83 264 P **P** **09 10 40.8 +1.0**
comp=Z,11nm,0.6s,baz=32,slow=2.3,SNR=12
JNU LR LR 09 25 58.9
comp=Z,84nm,20.7s,baz=71,slow=34
JNU Nakatsue 40.83 264 P **P** **09 10 39.2 -0.6**
JNU IAmb IAmb 09 10 41.7
comp=Z,24nm,1.1s
TJN Taejon 40.91 270 *i* P **P** **09 10 40.9 +0.5**
YERR Yerington 42.38 83 P **P** **09 10 54.3 +1.6**
RYN Ryan 43.04 83 P **P** **09 10 57.7 -0.3**
KVN Kaiserville 43.05 82 P **P** **09 10 57.6 -0.5**
KVN pmax pmax
comp=Z,12nm,0.9s
KVN Kaiserville 43.05 82 P **P** **09 10 57.6 -0.5**
NVAR Mina Array Bea 43.30 83 P **P** **09 10 60.0 -0.1**
comp=Z,2.0nm,0.5s,baz=299,slow=7.8,SNR=17
NVAR Mina Array Bea 43.30 83 P **P** **09 10 60.0 -0.1**
NRIK Noril'sk 44.52 330 P **P** **09 11 08.8 -0.4**
comp=Z,3.4nm,0.9s,baz=104,slow=8.2,SNR=2.2
NRIK PcP **PcP** **09 12 52.2 +0.7**
comp=Z,1.2nm,0.4s,baz=118,slow=2.2,SNR=3.5
H17A Grant Village 44.52 71 P **P** **09 11 06.2 -3.7**
H17A IAmb IAmb 09 11 07.5
comp=Z,24nm,1.1s
BJI Beijing 45.62 282 P **P** **09 11 18.8 +0.5**
BJI S **S** **09 17 53.0 -3.6**
BJI pmax pmax
comp=Z,7.0nm,0.8s
BJI LR LR
comp=Z,79nm,4.9s
BJI LR LR
comp=Z,310nm,13.0s
DUG Dugway, Tooele 45.62 77 P **P** **09 11 17.4 -1.1**
baz=307
LAO LASA Array 45.78 66 P **P** **09 11 19.1 -0.6**
baz=304
CTU Camp Tracy 45.97 76 P **P** **09 11 22.5 +1.2**
PSUT Pine Spring 45.99 80 P **P** **09 11 22.3 +0.8**
BW06 Boulder Array 46.06 72 P **P** **09 11 21.3 -0.8**
baz=306
PDAR Pinedale Array 46.06 72 P **P** **09 11 22.3 +0.2**
comp=Z,6.1nm,0.5s,baz=335,slow=2.7,SNR=39
PDAR Pinedale Array 46.06 72 P **P** **09 11 21.7 -0.4**
TLY Talaya 46.26 303 P **P** **09 11 23.0 -0.2**
comp=Z,2.0nm,0.5s,baz=220,slow=20,SNR=1.6
TLY PcP **PcP** **09 12 58.9 +1.0**
comp=Z,7.7nm,0.6s,baz=290,slow=2.5,SNR=9.0
TLY Talaya 46.26 303 *i* P **P** **09 11 21.9 -1.4**
TLY pmax pmax
comp=Z,2.0nm,0.8s
TLY Talaya 46.26 303 IAmb IAmb 09 11 23.4
comp=Z,2.5nm,0.6s
TLY PcP **PcP** **09 12 58.9 +1.0**
ULN Ulaanbaatar 46.48 296 *i* P **P** **09 11 25.2 0.0**
ULN pmax pmax
comp=Z,4.0nm,0.9s
SONM Songino Array 46.86 297 P **P** **09 11 28.5 +0.4**
comp=Z,2.3nm,0.5s,baz=65,slow=7.2,SNR=12
SONM PcP **PcP** **09 13 01.2 +1.0**
comp=Z,3.2nm,0.6s,baz=64,slow=2.4,SNR=8.4
SONM Songino Array 46.86 297 P **P** **09 11 28.3 +0.1**
SONM 09 13 00.3
SONM pmax pmax
comp=Z,5.0nm,1.2s
SONM Songino Array 46.86 297 P **P** **09 11 28.3 +0.1**
SONM PcP **PcP** **09 13 00.3 +0.1**
P17A Butcher Ranch, 47.32 77 P **P** **09 11 33.0 +1.1**
P17A IAmb IAmb 09 11 33.4
comp=Z,10nm,0.6s
TIA Tai'an 47.41 278 P **P** **09 11 32.5 +0.1**
TIA pmax pmax
comp=Z,23nm,0.6s
HHC Hu-ho-hao-te 47.92 286 *e*P **P** **09 11 38.3 +1.8**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,58nm,5.4s
K22A Casper 47.93 71 P **P** **09 11 35.4 -1.2**
baz=307
RWWY Rawlins 48.10 72 P **P** **09 11 38.0 0.0**
RWWY IAmb IAmb 09 11 42.7
comp=Z,8.9nm,1.1s
O20A White River Ci 48.43 75 P **P** **09 11 40.0 -0.5**
baz=308
O20A White River Ci 48.43 75 IAmb IAmb 09 11 41.5
comp=Z,21nm,0.8s
MDND Maddock 48.84 61 P **P** **09 11 42.6 -0.7**
baz=305
BTO Baotou 49.00 287 *e*P **P** **09 11 45.5 +0.8**
NJ2 Nanjing 49.06 272 *e*P **P** **09 11 44.0 -1.2**
NJ2 pP **pP** **09 11 58.3 -1.2**
NJ2 pmax pmax
comp=Z,19nm,0.6s
PV17 East Wray Mesa 49.15 77 P **P** **09 11 46.6 +0.5**
PV17 IAmb IAmb 09 11 47.0
comp=Z,25nm,0.6s
N23A Red Feather La 49.34 72 P **P** **09 11 47.1 -0.5**
baz=308
PHWY Pilot Hill 49.38 72 P **P** **09 11 46.9 -1.0**
PHWY IAmb IAmb 09 11 48.5
comp=Z,4.0nm,0.8s
WUAZ Wupatki 49.44 81 P **P** **09 11 47.9 -0.4**
baz=311
WUAZ Wupatki 49.44 81 P **P** **09 11 49.2 +1.0**
WUAZ IAmb IAmb 09 11 49.7
comp=Z,7.6nm,0.8s
MVCO Mesa Verde 50.11 78 P **P** **09 11 53.2 -0.3**
baz=310
SPA0 Spitsbergen Ar 50.37 356 P **P** **09 11 53.1 -1.4**
SPA0 IAmb IAmb 09 11 55.2
comp=Z,18nm,0.9s
SPITS Spitsbergen Ar 50.37 356 P **P** **09 11 53.9 -0.6**
comp=Z,6.3nm,0.4s,baz=46,slow=7.1,SNR=44
SPITS PcP **PcP** **09 13 12.4 +0.2**
comp=Z,3.1nm,0.6s,baz=71,slow=6.3,SNR=2.0
AGMN Agassiz Nation 50.61 59 P **P** **09 11 56.5 -0.3**
baz=307
W18A Petrified Fore 50.71 81 P **P** **09 11 57.7 -0.2**
baz=311
S22A 4UR Ranch, Cre 50.79 76 P **P** **09 11 57.4 -1.2**
baz=310
214A Organ Pipe Nat 50.90 86 P **P** **09 11 59.7 +0.5**
baz=313
SDCO Great Sand Dun 51.60 75 P **P** **09 12 04.1 -0.5**
baz=310
TUC Tucson 51.93 84 P **P** **09 12 07.2 +0.3**
baz=313
TUC Tucson 51.93 84 P **P** **09 12 07.5 +0.6**
TUC pmax pmax
comp=Z,5.0nm,1.0s
TUC Tucson 51.93 84 P **P** **09 12 07.5 +0.6**
K31A O'Neill 52.48 66 IAmb IAmb 09 12 11.4
comp=Z,29nm,1.1s
KSCO Kaye Shedlock' 52.51 72 P **P** **09 12 11.2 0.0**
baz=310
T25A Trinidad 52.65 75 P **P** **09 12 12.1 -0.3**
baz=311
T25A Trinidad 52.65 75 IAmb IAmb 09 12 14.5
comp=Z,12nm,0.8s
ANMO Albuquerque 52.84 79 P **P** **09 12 12.9 -0.9**
baz=312
ANMO Albuquerque 52.84 79 P **P** **09 12 13.2 -0.6**
ANMO pmax pmax
comp=Z,5.0nm,1.0s
ANMO Albuquerque 52.84 79 P **P** **09 12 13.2 -0.6**
WHN Wuhan 52.91 274⇑⇑ P **P** **09 12 14.0 0.0**
WHN pmax pmax
comp=Z,62nm,0.7s
ECSD EROS Data Cent 53.00 64 P **P** **09 12 13.4 -1.1**
baz=309
ECSD EROS Data Cent 53.00 64 P **P** **09 12 13.5 -1.1**
EYMN Ely 53.15 57 P **P** **09 12 15.1 -0.6**
baz=309
SUMG Summit 53.21 14 *i* P **P** **09 12 16.6 +0.4**
comp=Z,11nm,0.5s
SUMG Summit 53.21 14 *i* P **P** **09 12 16.6 +0.4**
SUMG pmax pmax
comp=Z,11nm,0.5s
SSLB Suanglung 53.56 263 P **P** **09 12 18.9 -0.1**
SSLB IAmb IAmb 09 12 19.9
comp=Z,14nm,0.7s
BGNE Belgrade 53.60 67 P **P** **09 12 18.1 -1.0**
baz=310
121A Cookes Peak, D 53.64 82 P **P** **09 12 19.4 -0.2**
baz=313
121A Cookes Peak, D 53.64 82 IAmb IAmb 09 12 20.9
comp=Z,6.8nm,0.8s
XAN Xi'an 53.90 281 P **P** **09 12 21.3 -0.1**
XAN pP pP 09 12 30.0 -6.0
XAN pmax pmax
comp=Z,23nm,0.9s
XAN LR LR
comp=Z,390nm,16.3s
XAN LR LR
comp=Z,140nm,14.1s
XAN LR LR
comp=Z,360nm,15.2s
XAN Xi'an 53.90 281 P **P** **09 12 21.0 -0.4**
XAN pmax pmax
comp=Z,24nm,1.1s
XAN Xi'an 53.90 281 P **P** **09 12 21.0 -0.4**
XAN IAmb IAmb 09 12 22.1
comp=Z,24nm,1.1s
E38A The Farm, Brul 53.96 58 IAmb IAmb 09 12 21.3
comp=Z,12nm,0.5s
SPMN Marine on St. 54.16 60 P **P** **09 12 21.9 -1.2**
baz=310
ZAA0 Zalesovo Array 54.20 314 PcP **PcP** **09 13 27.5 +0.6**
ZALV Zalesovo Beam 54.20 314 PcP **PcP** **09 13 27.4 +0.5**
comp=Z,6.0nm,0.6s,baz=41,slow=3.8,SNR=15
ZALV Zalesovo Beam 54.20 314 *i* P **P** **09 12 19.5 -3.7**
ZALV pmax pmax
comp=Z,2.0nm,0.3s
ZALV Zalesovo Beam 54.20 314 PcP **PcP** **09 13 27.1 +0.1**
R32A Long Quarter, 55.21 70 IAmb IAmb 09 12 30.9
comp=Z,12nm,0.6s
D41A Chassel 55.24 56 IAmb IAmb 09 12 32.0
comp=Z,14nm,1.0s
G40A Rib Lake 55.54 59 IAmb IAmb 09 12 33.0
comp=Z,5.5nm,0.5s
COWI Conover 55.56 58 IAmb IAmb 09 12 33.1
comp=Z,6.9nm,0.6s
LZH Lanzhou 55.62 286 *e*P **P** **09 12 34.5 +0.6**
LZH pP pP 09 12 48.5 -0.1
LZH sP sP 09 12 54.8 -0.1
LZH *e*PP **PP** **09 14 40.8 +2.6**
LZH pmax pmax
comp=Z,23nm,1.3s
LZH pmax pmax
comp=Z,95nm,7.6s
LZH LR LR
comp=Z,390nm,15.2s
LZH LR LR
comp=Z,400nm,15.0s
LZH LR LR
comp=Z,620nm,17.1s
MNTX Cornudas Mount 55.70 81 P **P** **09 12 33.7 -0.7**
baz=314
MNTX Cornudas Mount 55.70 81 IAmb IAmb 09 12 35.7
comp=Z,6.6nm,0.8s
DGZ Jazzator, Alta 55.72 308 *i* P **P** **09 12 33.4 -1.0**
DGZ pmax pmax
comp=Z,2.0nm,1.0s
MSTX Muleshoe 55.75 77 P **P** **09 12 34.1 -0.8**
baz=313
MSTX Muleshoe 55.75 77 IAmb IAmb 09 12 36.3
comp=Z,7.7nm,0.8s
GTA Gaotai 55.79 292⇑⇑ P **P** **09 12 35.8 +0.7**
GTA pP pP 09 12 45.5 -4.3
GTA sP sP 09 12 50.0 -6.0
GTA pmax pmax
comp=Z,34nm,0.7s
GTA pmax pmax
comp=Z,62nm,4.9s
GTA LR LR
comp=Z,430nm,14.3s
GTA LR LR
comp=Z,500nm,15.6s
GTA LR LR
comp=Z,780nm,15.2s
AMTX Amarillo 55.80 75 P **P** **09 12 34.8 -0.3**
baz=313
AMTX Amarillo 55.80 75 P **P** **09 12 35.3 +0.1**
AMTX IAmb IAmb 09 12 37.3
comp=Z,7.2nm,0.7s
KSU1 Kansas State U 56.00 68 P **P** **09 12 35.7 -0.7**
baz=312,SNR=6.2
SCIA State Center 56.08 64 P **P** **09 12 36.4 -0.6**
baz=311
ENH Enshi 56.12 277 P **P** **09 12 36.5 -1.0**
ENH IAmb IAmb 09 12 37.8
comp=Z,17nm,0.8s
I40A Norwalk 56.22 60 IAmb IAmb 09 12 41.4
comp=Z,7.8nm,0.5s
U32A Winter Ranch, 56.40 72 IAmb IAmb 09 12 41.0
comp=Z,17nm,0.8s
JFWS Jewell Farm 57.06 61 P **P** **09 12 42.7 -1.2**
baz=312,SNR=6.2
JFWS Jewell Farm 57.06 61 IAmb IAmb 09 12 43.4
comp=Z,10.0nm,0.6s
L40A Anamosa 57.09 62 IAmb IAmb 09 12 43.8
comp=Z,8.0nm,0.6s
I42A Draeger Farm, 57.14 59 P **P** **09 12 43.8 -0.6**
I42A IAmb IAmb 09 12 44.6
comp=Z,6.1nm,0.7s

H43A **Windswept, Lux** 57.37 58 IAmb IAmb 09 12 46.2
comp=Z,13nm,0.5s
T35A **Sooner Cattle** 57.52 70 IAmb IAmb 09 12 48.0
comp=Z,8.9nm,0.6s
WMOK **Wichita Mounta** 57.65 74 P **P** **09 12 47.9 -0.3**
baz=313,SNR=5.0
WMOK **Wichita Mounta** 57.65 74 IAmb IAmb 09 12 49.1
comp=Z,7.0nm,0.8s
D46A **Sault St. Mari** 57.68 54 P **P** **09 12 47.6 -0.6**
baz=312
F45A **CMU Biological** 57.74 56 P **P** **09 12 47.9 -0.6**
baz=312
D47A **Chapleau** 58.04 53 P **P** **09 12 49.9 -0.8**
baz=313
ARCES **ARCESS Array B** 58.11 350 P **P** **09 12 49.9 -0.9**
comp=Z,4.4nm,0.6s,baz=24,slow=7.8,SNR=28
ARCES PcP **PcP** **09 13 41.5 -0.4**
comp=Z,5.0nm,0.7s,baz=27,slow=5.7,SNR=7.1
ARCES LR LR 09 40 58.4
comp=Z,113nm,18.1s,baz=22,slow=39
ARCES **ARCESS Array B** 58.11 350 P **P** **09 12 49.4 -1.5**
G46A **Petoskey** 58.32 56 P **P** **09 12 52.5 -0.2**
baz=313
E47A **Iron Bridge** 58.36 54 P **P** **09 12 52.3 -0.7**
baz=313
TXAR **Lajitas Array** 58.40 81 P **P** **09 12 53.6 +0.1**
comp=Z,2.4nm,0.5s,baz=304,slow=5.1,SNR=12
I45A **Fountain** 58.47 58 P **P** **09 12 53.2 -0.5**
baz=313
ABTX **Abilene, Hawle** 58.58 76 P **P** **09 12 54.7 0.0**
baz=314
ABTX **Abilene, Hawle** 58.58 76 IAmb IAmb 09 12 57.6
comp=Z,15nm,1.1s
D48A **Paudash Townsh** 58.61 53 P **P** **09 12 54.0 -0.7**
baz=313
TUL1 **Leonard** 58.63 71 P **P** **09 12 54.9 -0.1**
baz=314
TUL1 **Leonard** 58.63 71 IAmb IAmb 09 12 56.2
comp=Z,15nm,0.8s
H46A **Fife Lake** 58.67 57 P **P** **09 12 54.4 -0.8**
baz=313
D49A **Beulah Townshi** 58.77 52 P **P** **09 12 54.8 -1.0**
baz=314
L44A **Lake County Fo** 58.84 60 P **P** **09 12 55.8 -0.5**
baz=313
S39A **Bolivar** 58.85 67 IAmb IAmb 09 12 55.3
comp=Z,9.3nm,0.8s
E48A **Lockeyer** 58.91 53 P **P** **09 12 56.5 -0.2**
baz=314
G47A **Hillman** 58.94 55 P **P** **09 12 56.1 -0.9**
baz=313
I46A **Reed City** 58.95 57 P **P** **09 12 56.5 -0.6**
baz=313
R40A **Maddies Statio** 59.05 66 P **P** **09 12 55.9 -2.0**
U38A **Gravette** 59.09 69 IAmb IAmb 09 12 58.5
comp=Z,9.8nm,0.8s
F48A **Evansville** 59.12 54 P **P** **09 12 57.8 -0.4**
baz=314
H47A **Mio** 59.15 56 P **P** **09 12 57.8 -0.7**
baz=313
HDIL **Hopedale** 59.18 63 P **P** **09 12 58.4 -0.3**
baz=313
HDIL **Hopedale** 59.18 63 IAmb IAmb 09 12 58.9
comp=Z,19nm,0.8s
KURK **Kurchatov** 59.19 314 P **P** **09 12 58.6 0.0**
KURK 09 13 46.7
KURK pmax pmax
comp=Z,6.0nm,1.0s
KURK **Kurchatov** 59.19 314 P **P** **09 12 58.6 0.0**
CD2 **Chengdu** 59.22 282 P **P** **09 12 59.5 +0.3**
CD2 pmax pmax
comp=Z,40nm,1.1s
KURBB **Kurchatov Arra** 59.29 314 P **P** **09 12 58.3 -1.0**
comp=Z,3.4nm,0.5s,baz=41,slow=6.8,SNR=20
KURBB PcP **PcP** **09 13 46.7 -0.2**
comp=Z,2.6nm,0.7s,baz=41,slow=3.5,SNR=9.5
HHAR **Hobbs** 59.46 69 IAmb IAmb 09 13 00.9
comp=Z,9.6nm,0.7s
F49A **Sandfield** 59.46 54 P **P** **09 13 00.0 -0.6**
baz=314
WMQ **Urumqi** 59.54 303 *e*P **P** **09 13 03.3 +2.0**
WMQ pmax pmax
comp=Z,15nm,0.9s
WMQ pmax pmax
comp=Z,42nm,7.5s
WMQ LR LR
comp=Z,480nm,29.2s
WMQ LR LR
comp=Z,760nm,29.0s
WMQ LR LR
comp=Z,100nm,18.1s
D50A **G1974 Best Tow** 59.59 51 P **P** **09 13 00.7 -0.7**
baz=314
E50A **Wahnapitae** 59.66 53 P **P** **09 13 01.7 -0.2**
baz=314
X37A **Clayton** 59.78 71 IAmb IAmb 09 13 04.2
comp=Z,12nm,0.7s
CCM **Cathedral Cave** 59.80 66 P **P** **09 13 02.0 -1.1**
baz=314
CCM **Cathedral Cave** 59.80 66 P **P** **09 13 01.9 -1.1**
CCM pmax pmax
comp=Z,7.0nm,0.7s
CCM **Cathedral Cave** 59.80 66 P **P** **09 13 01.9 -1.1**
CCM IAmb IAmb 09 13 02.5
comp=Z,7.3nm,0.7s
SCHQ **Schefferville** 59.83 38 P **P** **09 13 02.8 -0.2**
comp=Z,1.8nm,0.5s,baz=237,slow=13,SNR=2.9
SCHQ PcP **PcP** **09 13 49.2 +0.2**
comp=Z,2.3nm,0.5s,baz=312,slow=2.3,SNR=4.6
SCHQ **Schefferville** 59.83 38 IAmb IAmb 09 13 06.6
comp=Z,2.6nm,0.9s
D51A **Lot 18 Range I** 59.87 51 P **P** **09 13 02.4 -0.9**
baz=314
O44A **Mansfield** 59.92 62 IAmb IAmb 09 13 03.9
comp=Z,14nm,0.7s
JCT **Junction City** 59.98 78 P **P** **09 13 03.8 -0.6**
baz=315
JCT **Junction City** 59.98 78 P **P** **09 13 04.0 -0.4**
JCT pmax pmax
comp=Z,8.0nm,0.7s
JCT **Junction City** 59.98 78 P **P** **09 13 04.0 -0.4**
JCT IAmb IAmb 09 13 07.5
comp=Z,7.7nm,0.7s
U40A **Yellville** 60.04 68 P **P** **09 13 03.5 -1.3**
baz=314,SNR=7.0
U40A **Yellville** 60.04 68 P **P** **09 13 03.1 -1.6**
U40A IAmb IAmb 09 13 04.8
comp=Z,16nm,0.9s
E51A **G1948 Merrick** 60.20 52 P **P** **09 13 04.5 -1.2**
baz=315
MK31 **Makanchi Array** 60.22 309 P **P** **09 13 05.2 -0.6**
MK31 pmax pmax
comp=Z,2.0nm,0.6s
MK31 **Makanchi Array** 60.22 309 P **P** **09 13 05.2 -0.6**
MKAR **Makanchi Array** 60.22 309 P **P** **09 13 04.8 -1.0**
comp=Z,2.7nm,0.4s,baz=49,slow=6.6,SNR=26
MKAR PcP **PcP** **09 13 50.8 0.0**
comp=Z,1.4nm,0.5s,baz=48,slow=3.3,SNR=5.6
MKAR **Makanchi Array** 60.22 309 P **P** **09 13 04.0 -1.8**
CHGQ **Chibougamau** 60.23 46 P **P** **09 13 04.5 -1.2**
baz=316
J48A **Bridge Port** 60.27 57 P **P** **09 13 05.5 -0.6**
baz=314
W39A **Magazine** 60.30 70 P **P** **09 13 05.6 -0.8**
baz=314,SNR=6.6
W39A **Magazine** 60.30 70 IAmb IAmb 09 13 07.2
comp=Z,19nm,1.4s
I49A **Point Hope** 60.33 56 P **P** **09 13 06.3 -0.2**
baz=314
WHTX **Lake Whitney,** 60.34 75 P **P** **09 13 06.9 0.0**
baz=315
MAKZ **Makanchi** 60.36 309 P **P** **09 13 06.6 -0.2**
MAKZ pmax pmax
comp=Z,4.0nm,0.7s
MAKZ **Makanchi** 60.36 309 P **P** **09 13 06.6 -0.2**
F51A **Arnstein** 60.41 53 P **P** **09 13 06.5 -0.6**
baz=315
D52A **ZEK Kipawa Sen** 60.42 51 P **P** **09 13 06.2 -1.0**
baz=315
Q44A **Meyer Farm, Va** 60.47 64 IAmb IAmb 09 13 08.3
comp=Z,22nm,0.8s
SFIN **Lafayette** 60.52 61 P **P** **09 13 07.5 -0.4**
baz=314,SNR=19
J49A **Marlette** 60.57 57 P **P** **09 13 08.0 -0.2**
baz=314
GYA **Guiyang** 60.57 276 ⇑P **P** **09 13 08.5 -0.1**
GYA pP pP 09 13 24.0 +0.5
comp=Z,9.0nm,0.9s
T42A **Van Buren** 60.59 67 P **P** **09 13 06.5 -2.0**
T42A IAmb IAmb 09 13 07.5
comp=Z,6.9nm,0.7s
T42A **PcP** **09 13 52.5 +0.1**
D53A **Lac Vacive, Po** 60.69 50 P **P** **09 13 08.0 -1.0**
baz=315
E52A **Mattawa** 60.78 52 P **P** **09 13 08.9 -0.7**
baz=315
F52A **Sundridge** 60.80 52 P **P** **09 13 09.3 -0.5**
baz=315
K49A **Clarkson** 60.80 57 P **P** **09 13 09.4 -0.4**
baz=314,SNR=5.8
MIAR **Mount Ida** 60.88 70 P **P** **09 13 09.8 -0.6**
baz=315,SNR=7.9
MIAR **Mount Ida** 60.88 70 IAmb IAmb 09 13 11.2
comp=Z,8.8nm,0.6s
BVAR **Bovoyoe Array** 61.03 320 P **P** **09 13 10.7 -0.5**
comp=Z,5.6nm,0.4s,baz=55,slow=6.5,SNR=21
BVAR PcP **PcP** **09 13 53.7 -0.2**
comp=Z,4.4nm,0.6s,baz=60,slow=3.1,SNR=7.7
AAM **Ann Arbor** 61.03 58 P **P** **09 13 10.9 -0.5**
baz=315
BRVK **Borovoye** 61.05 320 P **P** **09 13 10.9 -0.4**
BRVK pmax pmax
comp=Z,6.0nm,0.4s
BRVK **Borovoye** 61.05 320 P **P** **09 13 10.9 -0.4**
BRVK IAmb IAmb 09 13 12.6
comp=Z,5.5nm,0.4s
WHAR **Wooly Hollow** 61.11 69 P **P** **09 13 11.4 -0.6**
WHAR IAmb IAmb 09 13 12.1
comp=Z,9.1nm,0.7s
435B **Jarrell** 61.12 76 P **P** **09 13 11.5 -0.6**
baz=315
D54A **Lac Fusel, La** 61.14 50 P **P** **09 13 10.6 -1.4**
baz=316
PBMO **Poplar Bluff** 61.15 66 IAmb IAmb 09 13 12.1
comp=Z,18nm,0.8s
S44A **Carbondale** 61.18 65 IAmb IAmb 09 13 12.5
comp=Z,18nm,0.7s
E53A **Dumoine, Ponti** 61.20 51 P **P** **09 13 11.4 -1.1**
baz=316
W41B **Gary Mavity, V** 61.22 69 P **P** **09 13 12.2 -0.5**
baz=315,SNR=8.1
W41B **Gary Mavity, V** 61.22 69 IAmb IAmb 09 13 13.0
comp=Z,12nm,0.7s
LCAR **Lake Charles** 61.23 67 P **P** **09 13 09.5 -3.2**
LCAR IAmb IAmb 09 13 12.2
comp=Z,6.7nm,0.9s
K50A **Casco** 61.25 57 P **P** **09 13 12.4 -0.4**
baz=315
ALGO **Algonquin Park** 61.32 51 P **P** **09 13 13.1 -0.1**
baz=316
H52A **Wyevale** 61.33 54 P **P** **09 13 12.8 -0.6**
baz=315,SNR=5.1
X40A **Basin Creek Fa** 61.35 70 P **P** **09 13 13.4 -0.3**
baz=315
E54A **Lac Daplat, Po** 61.40 51 P **P** **09 13 12.9 -0.8**
baz=316
H06N1 **SOCORRO T-PHAS** 61.42 95 T T 10 20 19.3
SNR=5.2
G53A **Haliburton** 61.63 52 P **P** **09 13 14.6 -0.7**
baz=316,SNR=6.0
O48A **Farmland** 61.66 60 P **P** **09 13 14.5 -1.1**
baz=315,SNR=23
G54A **Lake Saint Pet** 61.69 52 P **P** **09 13 15.2 -0.6**
baz=316
WLAR **White Oak Lake** 61.75 71 P **P** **09 13 15.8 -0.6**
833A **Chaparral WMA,** 61.76 79 P **P** **09 13 16.3 -0.2**
baz=316
833A **Chaparral WMA,** 61.76 79 P **P** **09 13 16.6 +0.1**
833A IAmb IAmb 09 13 20.0
comp=Z,6.3nm,0.8s
D55A **Sainte-Anne-du** 61.80 49 P **P** **09 13 15.7 -0.7**
baz=316
H53A **Bobcaygeon** 62.04 53 P **P** **09 13 17.7 -0.5**
baz=316
P48A **Milroy** 62.08 61 P **P** **09 13 16.9 -1.5**
D56A **ZEC Mazanza, M** 62.11 49 P **P** **09 13 17.4 -1.2**
baz=317
O49A **Covington** 62.16 60 IAmb IAmb 09 13 19.1
comp=Z,8.3nm,0.5s
NATX **Nacogdoches** 62.19 73 P **P** **09 13 18.7 -0.6**
baz=315
E56A **St. Veronique** 62.35 49 P **P** **09 13 19.2 -1.0**
baz=317
CCAR **Cane Creek** 62.38 70 IAmb IAmb 09 13 22.6
comp=Z,15nm,0.9s
P49A **Miami Univ. Ec** 62.41 61 P **P** **09 13 19.9 -0.8**
baz=315,SNR=12
P49A **Miami Univ. Ec** 62.41 61 P **P** **09 13 19.6 -1.1**
WCI **Wyandotte Cave** 62.47 63 P **P** **09 13 20.7 -0.4**
baz=315
WCI **Wyandotte Cave** 62.47 63 P **P** **09 13 21.1 0.0**
WCI pmax pmax
comp=Z,27nm,0.7s
WCI **Wyandotte Cave** 62.47 63 P **P** **09 13 21.1 0.0**
G55A **Calabogie** 62.47 51 P **P** **09 13 20.1 -0.9**
baz=316
X43A **Marvell** 62.48 68 P **P** **09 13 20.9 -0.3**
baz=315
DELO **Deloro Mine** 62.56 52 IAmb IAmb 09 13 23.4
comp=Z,9.0nm,1.1s
N51A **Ashland** 62.69 58 P **P** **09 13 21.9 -0.6**
baz=316
ARU **Arti** 62.72 328 P **P** **09 13 23.5 +1.1**
comp=Z,1.1nm,0.3s,baz=200,slow=5.2,SNR=4.1
ARU **Arti** 62.72 328 *d* *i*P **P** **09 13 23.2 +0.8**
ARU 09 14 00.0
ARU 09 15 38.7
ARU S **S** **09 21 49.0 +2.5**
ARU SS **SS** **09 25 48.3 -2.6**
ARU pmax pmax
comp=Z,5.0nm,0.8s
ARU **Arti** 62.72 328 IAmb IAmb 09 13 24.1
comp=Z,9.2nm,1.2s
I55A **Frankford** 62.74 53 P **P** **09 13 22.0 -0.8**
baz=316
H55A **Tweed** 62.75 52 P **P** **09 13 22.1 -0.8**
baz=316
M52A **Chesterland** 62.78 57 P **P** **09 13 22.1 -1.1**
baz=316
E57A **Chemin Saint G** 62.86 49 P **P** **09 13 22.5 -1.1**
baz=317
T47A **Sharon Grove** 62.89 64 P **P** **09 13 23.4 -0.5**
J54A **Appleton** 62.94 54 P **P** **09 13 23.9 -0.3**
baz=316
D58A **Chemin du LacG** 62.95 48 P **P** **09 13 23.1 -1.1**
baz=318
WVT **Waverly** 63.09 65 P **P** **09 13 25.0 -0.2**
baz=316
WVT **Waverly** 63.09 65 P **P** **09 13 24.8 -0.5**
WVT pmax pmax
comp=Z,14nm,0.9s
WVT **Waverly** 63.09 65 P **P** **09 13 24.8 -0.5**
WVT IAmb IAmb 09 13 26.0
comp=Z,14nm,0.8s
O51A **Pataskala** 63.12 59 P **P** **09 13 24.8 -0.6**
baz=316,SNR=6.1
N52A **McGinn's Farm,** 63.13 58 P **P** **09 13 24.9 -0.6**
baz=316
H56A **Elgin** 63.17 52 P **P** **09 13 25.1 -0.6**
baz=317
M53A **Wi Miller and** 63.21 57 P **P** **09 13 25.9 -0.1**
baz=316
OXF **Oxford** 63.34 68 P **P** **09 13 26.5 -0.4**
baz=316,SNR=7.6
L54A **Sinclairville** 63.35 55 P **P** **09 13 26.3 -0.6**
baz=316
P51A **Williamsport** 63.35 60 P **P** **09 13 26.6 -0.3**
baz=316
J55A **Hilton** 63.36 53 P **P** **09 13 26.5 -0.4**
baz=317
K54A **Basiliko Farm,** 63.40 54 P **P** **09 13 26.9 -0.3**
baz=316
Q51A **Peebles** 63.52 60 P **P** **09 13 28.2 +0.1**
Q51A IAmb IAmb 09 13 28.9
comp=Z,16nm,0.8s
O52A **Adamsville** 63.55 58 P **P** **09 13 27.7 -0.6**
baz=316,SNR=5.4
O52A **Adamsville** 63.55 58 IAmb IAmb 09 13 29.9
comp=Z,12nm,0.7s
N53A **Lisbon** 63.58 57 P **P** **09 13 28.1 -0.4**
baz=316
K55A **Perry** 63.63 54 P **P** **09 13 28.6 -0.1**
baz=317
KIRV **Kirov** 63.66 334 P **P** **09 13 29.4 +0.8**
comp=Z,8.3nm,0.4s,baz=34,slow=4.6,SNR=4.0
M54A **Oil Creek Stat** 63.69 56 P **P** **09 13 29.1 -0.1**
baz=316
P52A **Corning** 63.74 59 P **P** **09 13 29.1 -0.4**
baz=316
PLAL **Pickwick Lake** 63.77 66 IAmb IAmb 09 13 30.1
comp=Z,24nm,0.8s
O53A **New Philadelph** 63.79 58 P **P** **09 13 29.4 -0.4**
baz=316
J56A **Wolcott** 63.84 53 P **P** **09 13 29.5 -0.5**
baz=317
N54A **Moraine State** 63.92 57 P **P** **09 13 30.2 -0.4**
baz=316
F59A **Saint Guilaume** 63.92 49 P **P** **09 13 29.5 -1.0**
baz=318
V48A **Smith Brothers** 63.94 65 IAmb IAmb 09 13 31.4
comp=Z,17nm,0.7s
I57A **Carthage** 63.95 52 P **P** **09 13 30.3 -0.5**
baz=317
KMI **Kunming** 63.97 278 ⇑P **P** **09 13 31.8 +0.3**
KMI pmax pmax
comp=Z,19nm,0.8s
QIZ **Qiongzhong** 64.02 268 P **P** **09 13 31.3 -0.3**
QIZ S **S** **09 22 03.5 -0.2**
QIZ LR LR
comp=Z,220nm,22.6s
QIZ LR LR
comp=Z,280nm,21.1s
K56A **Middlesex** 64.02 54 P **P** **09 13 30.9 -0.5**
baz=317,SNR=8.0
KLMR **Klimovskoe** 64.04 340 *e*P **P** **09 13 27.8 -3.3**
KLMR pmax pmax
comp=Z,9.0nm,1.2s
KLMR **Klimovskoe** 64.04 340 *e*P **P** **09 13 27.9 -3.2**
KLMR AMP 09 13 31.7
comp=Z,9.0nm,1.2s
T50A **Nancy** 64.14 63 P **P** **09 13 31.9 -0.2**
Q52A **Bidwell** 64.15 59 P **P** **09 13 32.2 0.0**
baz=316
M55A **Ridgway** 64.19 55 P **P** **09 13 32.3 -0.1**
baz=317
P53A **Whipple** 64.24 59 P **P** **09 13 32.6 -0.2**
baz=316
P53A **Whipple** 64.24 59 IAmb IAmb 09 13 34.0
comp=Z,7.8nm,0.5s
O54A **Avella** 64.28 57 P **P** **09 13 33.0 0.0**
baz=317
L56A **Greenwood** 64.31 54 P **P** **09 13 32.9 -0.4**
baz=317,SNR=8.2
L56A **Greenwood** 64.31 54 IAmb IAmb 09 13 35.8
comp=Z,29nm,1.2s
VBMS **Vicksburg** 64.33 70 P **P** **09 13 33.1 -0.3**
baz=316
S51A **Beattyville** 64.38 61 IAmb IAmb 09 13 34.3
comp=Z,16nm,0.7s
K57A **Scipio Center** 64.41 53 P **P** **09 13 33.5 -0.3**
baz=317
I58A **Old Forge** 64.47 51 P **P** **09 13 34.3 +0.1**
baz=318
M56A **Emporium** 64.47 55 P **P** **09 13 34.2 -0.1**
baz=317
J58A **Remsen** 64.56 52 P **P** **09 13 34.5 -0.3**
baz=318
N55A **Marion Center** 64.57 56 P **P** **09 13 34.3 -0.7**
baz=317
Q53A **Leroy** 64.62 59 P **P** **09 13 34.9 -0.5**
baz=317,SNR=6.5
D62A **Allapoint, All** 64.71 45 P **P** **09 13 35.0 -0.6**
baz=319
X48A **Hartselle** 64.74 66 IAmb IAmb 09 13 36.1
comp=Z,13nm,0.5s
344A **Westbrook Farm** 64.75 71 P **P** **09 13 34.0 -2.2**
344A IAmb IAmb 09 13 37.6
comp=Z,19nm,0.7s
L57A **Andrews Acres** 64.78 54 P **P** **09 13 36.0 -0.2**
baz=317
R53A **Hurricane** 64.78 60 P **P** **09 13 36.5 +0.2**
baz=317,SNR=5.3
R53A **Hurricane** 64.78 60 IAmb IAmb 09 13 37.9
comp=Z,15nm,0.7s
J59A **Piesco** 64.86 51 P **P** **09 13 35.9 -1.0**
baz=318
146A **Union** 64.88 69 P **P** **09 13 37.0 0.0**
Q54A **Coxs Mills** 64.91 59 P **P** **09 13 36.9 -0.2**
baz=317
Q54A **Coxs Mills** 64.91 59 IAmb IAmb 09 13 42.1
comp=Z,4.6nm,0.6s
P55A **Reedsville** 65.06 58 P **P** **09 13 38.3 +0.2**
baz=317
BINY **Binghamton** 65.06 53 P **P** **09 13 38.2 +0.1**
baz=318
BINY **Binghamton** 65.06 53 IAmb IAmb 09 13 39.7
comp=Z,8.9nm,0.6s
M57A **Sunshine Farm,** 65.12 54 P **P** **09 13 38.3 -0.2**
baz=316
S53A **Williamson** 65.15 60 P **P** **09 13 38.7 -0.1**
baz=317
I60A **Shoreham** 65.17 50 P **P** **09 13 37.8 -0.9**
baz=318
W50A **Signal Mountai** 65.19 64 P **P** **09 13 38.3 -0.7**
TZTN **Tazewell** 65.20 62 P **P** **09 13 39.1 0.0**
baz=317,SNR=6.1
TZTN **Tazewell** 65.20 62 IAmb IAmb 09 13 40.1
comp=Z,17nm,0.8s
K59A **Cooperstown** 65.20 52 P **P** **09 13 38.2 -0.8**
baz=318
L58A **Harry Jones Me** 65.25 53 P **P** **09 13 39.1 -0.2**
baz=318,SNR=5.7
Q55A **Buckhannon** 65.30 58 P **P** **09 13 39.3 -0.4**
baz=317
N57A **Milroy** 65.33 55 P **P** **09 13 39.2 -0.6**
baz=318
R54A **Victor** 65.41 59 P **P** **09 13 40.5 0.0**
baz=317
M58A **Price's Panora** 65.43 54 P **P** **09 13 40.0 -0.6**
baz=318
T53A **Wise** 65.44 61 P **P** **09 13 40.9 +0.2**
baz=317,SNR=6.2
G62A **West of Eustis** 65.44 48 P **P** **09 13 39.8 -0.8**
baz=319
E63A **Oxbow** 65.49 46 P **P** **09 13 40.5 -0.3**
baz=320
S54A **Dingess, Beckl** 65.51 60 P **P** **09 13 40.9 -0.3**
baz=317
S54A **Dingess, Beckl** 65.51 60 P **P** **09 13 40.6 -0.5**
S54A IAmb IAmb 09 13 42.6
comp=Z,16nm,1.1s
Y49A **Blount Mountai** 65.53 66 P **P** **09 13 39.9 -1.4**
Y49A IAmb IAmb 09 13 41.4
comp=Z,15nm,0.7s
L59A **Walton** 65.54 53 P **P** **09 13 41.1 -0.2**
baz=318
J60A **Lant Hill Farm** 65.55 51 P **P** **09 13 40.8 -0.5**
baz=318
H62A **Milan** 65.64 49 P **P** **09 13 41.2 -0.6**
baz=319
V52A **Sevierville** 65.68 63 IAmb IAmb 09 13 43.0
comp=Z,22nm,0.8s
O57A **Amberson** 65.69 56 P **P** **09 13 41.7 -0.5**
baz=318
E64A **Bridgewater** 65.76 45 P **P** **09 13 41.3 -1.2**
baz=320
LRAL **Lakeview Retre** 65.79 67 P **P** **09 13 42.3 -0.6**
baz=317,SNR=11
LRAL **Lakeview Retre** 65.79 67 P **P** **09 13 41.7 -1.2**
LRAL IAmb IAmb 09 13 43.5
comp=Z,13nm,0.9s
FINES **FINESS Array B** 65.82 347 P **P** **09 13 41.4 -1.2**
comp=Z,3.4nm,0.5s,baz=24,slow=8.6,SNR=12
FINES **FINESS Array B** 65.82 347 P **P** **09 13 41.2 -1.4**
M59A **Waymart** 65.83 53 P **P** **09 13 42.7 -0.3**
baz=318
X51A **Calhoun** 65.90 64 IAmb IAmb 09 13 44.2
comp=Z,27nm,0.9s
T54A **Tazewell** 65.91 60 P **P** **09 13 43.7 -0.1**
baz=317,SNR=7.1
G63A **Kingsbury** 65.94 47 P **P** **09 13 43.1 -0.6**
baz=320
F64A **Sherman** 65.95 46 P **P** **09 13 42.8 -1.0**
baz=320
S55A **Lewisburg** 65.97 59 P **P** **09 13 43.8 -0.3**
baz=317
PKME **Peaks-Kenny Pk** 65.98 47 P **P** **09 13 43.3 -0.6**
baz=320
W52A **Murphy** 66.04 63 P **P** **09 13 44.0 -0.6**
R56A **Bull Pasture M** 66.09 58 P **P** **09 13 44.5 -0.3**
baz=318

L60A	Shokan	66.10	52	P		P	09 13 44.3	-0.5
	baz=318							
N59A	State Game Lan	66.12	54	P		P	09 13 44.8	-0.2
	baz=318							
U54A	Nelsons Funny	66.17	61	P		P	09 13 45.5	+0.1
	baz=317							
V53A	Saluda	66.24	62	IAmb		IAmb	09 13 46.8	
	comp=Z,17nm,0.7s							
T55A	Pulaski	66.30	60	P		P	09 13 46.3	+0.1
	baz=318							
J62A	Henniker	66.34	50	P		P	09 13 46.1	-0.2
	baz=319							
O59A	Robesonia	66.36	55	P		P	09 13 46.2	-0.3
	baz=318							
M60A	Port Jervis	66.39	53	P		P	09 13 46.2	-0.4
	baz=318							
N60A	Cedar Hill Far	66.49	54	P		P	09 13 47.5	+0.2
	baz=318							
S56A	Natural Bridge	66.54	59	P		P	09 13 47.8	+0.1
	baz=318							
Q58A	Fox Den Farm,	66.60	57	P		P	09 13 47.7	-0.3
	baz=318							
U55A	TA2, Sparta	66.60	61	P		P	09 13 48.3	+0.1
	baz=318,SNR=7.5							
R57A	Stanardsville	66.64	58	P		P	09 13 48.3	0.0
	baz=318							
V54A	Nebo	66.64	62	P		P	09 13 48.3	-0.1
	baz=318,SNR=12							
P59A	Jarrettsville	66.75	55	P		P	09 13 48.6	-0.4
	baz=318							
T56A	Rocky Mt	66.77	60	P		P	09 13 48.9	-0.2
	baz=318							
Y52A	Lilburn	66.86	64	P		P	09 13 49.2	-0.5
R58A	Rapidan	66.91	57	P		P	09 13 49.9	-0.1
	baz=318							
V55A	Taylorsville	66.99	61	P		P	09 13 50.7	+0.2
	baz=318							
V55A	Taylorsville	66.99	61	IAmb		IAmb	09 13 51.5	
	comp=Z,11nm,0.8s							
W54A	Cherokee Point	67.02	62	P		P	09 13 50.8	+0.1
	baz=318,SNR=10							
AAK	Ala-Archa	67.04	310	P		P	09 13 51.2	+0.2
	comp=Z,4.4nm,0.4s,baz=106,slow=6.0,SNR=5.8							
AAK	Ala-Archa	67.04	310	P		P	09 13 51.2	+0.2
AAK				pmax		pmax		
	comp=Z,5.0nm,0.6s							
AAK	Ala-Archa	67.04	310	P		P	09 13 51.2	+0.2
AAK				IAmb		IAmb	09 13 53.7	
	comp=Z,5.3nm,0.6s							
U56A	King	67.08	60	P		P	09 13 51.2	0.0
	baz=318							
T57A	Hurt	67.21	59	P		P	09 13 52.0	0.0
	baz=318							
R58B	Mineral	67.22	57	P		P	09 13 52.2	+0.2
	baz=318							
X54A	Belton	67.31	63	P		P	09 13 52.9	+0.3
	baz=318,SNR=19							
152A	Waverly Hall	67.36	66	P		P	09 13 51.3	-1.7
152A				IAmb		IAmb	09 13 52.9	
	comp=Z,13nm,0.8s							
V56A	Mocksville	67.41	61	P		P	09 13 53.4	+0.2
	baz=318							
PAULI	Pauline	67.42	62	P		P	09 13 52.6	-0.6
PAULI				IAmb		IAmb	09 13 54.1	
	comp=Z,16nm,0.9s							
NC204	NORSAR Array S	67.43	355	IAmb		IAmb	09 13 55.9	
	comp=Z,11nm,1.1s							
KMSC	Kings Mountain	67.45	62	P		P	09 13 53.3	-0.1
	baz=318,SNR=9.5							
KMSC	Kings Mountain	67.45	62	IAmb		IAmb	09 13 54.4	
	comp=Z,30nm,0.9s							
GOGA	Godfrey	67.53	64	P		P	09 13 53.6	-0.4
	baz=318,SNR=15							
GOGA	Godfrey	67.53	64	IAmb		IAmb	09 13 54.8	
	comp=Z,24nm,0.8s							
NC405	NORSAR Array S	67.54	355	P		P	09 13 52.4	-1.3
NC405				IAmb		IAmb	09 13 56.6	
	comp=Z,16nm,1.1s							
U57A	Blanch	67.58	59	P		P	09 13 54.0	-0.3
	baz=318							
NB201	NORSAR Array S	67.63	355	IAmb		IAmb	09 13 57.6	
	comp=Z,9.9nm,0.7s							
T58A	Grand View Acr	67.63	59	P		P	09 13 54.3	-0.3
	baz=318							
NB2	NORSAR Subarra	67.64	355	P		P	09 13 53.4	-0.9
	comp=Z,2.7nm,0.8s,baz=7.2,slow=6.5							
NOA	NORSAR Array B	67.64	355	P		P	09 13 53.9	-0.5
	comp=Z,1.2nm,0.5s,baz=3.8,slow=7.3,SNR=14							
NOA				PcP		PcP	09 14 20.3	-0.7
	comp=Z,1.3nm,0.6s,baz=0.2,slow=3.1,SNR=4.4							
V57A	Coltrane Farms	67.75	60	P		P	09 13 55.5	+0.2
	baz=318							
X55A	Gracelyn & Ava	67.78	62	P		P	09 13 55.8	+0.2
	baz=318,SNR=17							
AKTO	Aktyubinsk	67.81	325	P		P	09 13 55.0	-0.5
	comp=Z,3.9nm,0.5s,baz=50,slow=4.7,SNR=6.0							
W56A	Indian Trail	67.87	61	P		P	09 13 56.2	+0.1
	baz=318							
Y55A	Saluda	68.05	63	P		P	09 13 57.4	+0.1
	baz=318,SNR=19							
ABKAR	Akbulak array	68.07	323	P		P	09 13 56.4	-0.8
X56A	White Oak	68.09	62	P		P	09 13 57.5	0.0
	baz=318,SNR=7.1							
JSC	Jenkinsville	68.12	62	IAmb		IAmb	09 13 58.6	
	comp=Z,16nm,0.6s							
T59A	Double "B" Far	68.14	58	P		P	09 13 57.6	-0.2
	baz=319							
W57A	Gilead	68.18	61	P		P	09 13 57.9	-0.1
	baz=318							
V58A	Windy Hill, Pi	68.18	60	P		P	09 13 58.0	0.0
	baz=318							
BIRD	Birdtown, Kers	68.30	62	IAmb		IAmb	09 13 59.5	
	comp=Z,13nm,0.8s							
HFS	Hagfors	68.39	354	P		P	09 13 57.9	-1.0
	comp=Z,2.7nm,0.4s,baz=22,slow=4.8,SNR=17							
HFS				PcP		PcP	09 14 23.6	-0.5
	comp=Z,2.1nm,0.5s,baz=90,slow=3.3,SNR=2.5							
Y56A	Pelion	68.46	63	P		P	09 14 00.1	+0.2
	baz=318							
U59A	Littleton	68.47	59	P		P	09 13 59.7	-0.2
	baz=319							
KKAR	Karatay Array	68.55	313	P		P	09 14 00.2	-0.1
KKAR	Karatay Array	68.55	313	P		P	09 14 00.2	-0.1
KKAR	Karatay Array	68.55	313	IAmb		IAmb	09 14 02.8	
	comp=Z,3.1nm,0.8s							
X57A	Johnson Farm,	68.63	61	P		P	09 14 01.0	+0.1
	baz=318							
V59A	Middlesex	68.67	59	P		P	09 14 01.2	+0.1
	baz=319							
KSH	Kashi	68.69	307	*e*P		P	09 14 07.0	+5.7
KSH				pmax		pmax		
	comp=Z,15nm,0.6s							
KSH				pmax		pmax		
	comp=Z,140nm,4.2s							
KSH				LR		LR		
	comp=Z,1μm,14.8s							
KSH				LR		LR		
	comp=Z,820nm,13.5s							
KSH				LR		LR		
	comp=Z,280nm,11.7s							
W58A	Raeford	68.69	60	P		P	09 14 01.2	0.0
	baz=319							
Z56A	Williston	68.77	63	P		P	09 14 02.0	+0.3
	baz=318,SNR=7.6							
Y57A	Sumter	68.80	62	P		P	09 14 02.0	0.0
	baz=318							
TIGA	Tifton	68.92	66	P		P	09 14 02.3	-0.4
	baz=318							
X58A	Rowland	68.98	61	P		P	09 14 03.3	+0.2
	baz=319							
Z57A	Bowman	69.17	63	P		P	09 14 04.4	+0.1
	baz=318,SNR=9.4							
CNNC	Cliffs of the	69.25	59	P		P	09 14 04.8	+0.1
	baz=319							
157A	Early Branch	69.46	63	P		P	09 14 06.8	+0.7
	baz=319							
W60A	Pink Hill	69.49	59	P		P	09 14 06.7	+0.5
	baz=319							
NHSC	New Hope	69.60	62	P		P	09 14 07.3	+0.4
	baz=319							
Z58A	St. Stephen	69.63	62	P		P	09 14 07.3	+0.3
	baz=319							
X60A	Albert Glenn T	69.70	60	P		P	09 14 07.8	+0.3
	baz=319							
RGRS	Roger Stewart	69.74	63	P		P	09 14 07.9	+0.2
OBN	Obninsk	69.94	339	*e*P		P	09 14 07.1	-1.5
OBN				pmax		pmax		
	comp=Z,9.0nm,0.9s							
456A	Hilliard	70.34	65	P		P	09 14 11.9	+0.4
CMAR	Chiang Mai Arr	71.26	276	P		P	09 14 17.8	+0.5
	comp=Z,5.0nm,0.7s,baz=27,slow=6.9,SNR=14							
CMAR	Chiang Mai Arr	71.26	276	P		P	09 14 16.9	-0.3
TAPN	Taplejung	71.43	291	*e*P		P	09 14 19.6	+1.1
	comp=Z,216nm,0.8s							
GAR	Garm	71.86	310	IAmb		IAmb	09 14 24.8	
	comp=Z,9.6nm,0.6s							
ODAN	Odare	71.99	290	*e*P		P	09 14 22.7	+0.9
	comp=Z,52nm,0.6s							
GUN	Gumba	72.08	292	*e*P		P	09 14 23.2	+0.7
	comp=Z,460nm,0.5s							
JIRN	Jiri	72.09	292	*e*P		P	09 14 23.8	+1.2
	comp=Z,453nm,0.6s							
RAMN	Ramite	72.38	291	*e*P		P	09 14 25.2	+1.0
	comp=Z,323nm,0.5s							
KKN	Kakani	72.52	293	*e*P		P	09 14 25.9	+1.0
	comp=Z,158nm,0.6s							
PKI	Pulchoki	72.61	292	*e*P		P	09 14 26.3	+0.7
	comp=Z,114nm,0.6s							
PKIN	Phulchowk	72.61	292	*e*P		P	09 14 26.3	+0.7
	comp=Z,110nm,0.6s							
GKN	Gorkha	72.73	293	*e*P		P	09 14 26.9	+0.8
	comp=Z,153nm,0.6s							
DMN	Daman	72.75	293	*e*P		P	09 14 27.4	+1.0
	comp=Z,82nm,0.7s							
DANN	Dangsing	72.97	294	*e*P		P	09 14 28.5	+0.8
	comp=Z,226nm,0.9s							
PPT	Papeete	73.16	151	LR		LR	09 39 49.8	
	comp=Z,48nm,19.4s,baz=262,slow=30							
KOLN	Koldanda	73.50	294	*e*P		P	09 14 31.4	+0.7
	comp=Z,77nm,0.9s							
EKA	Eskdalemuir Ar	73.56	3	P		P	09 14 30.0	-0.3
	comp=Z,0.8nm,0.3s,baz=5.2,slow=6.6,SNR=16							
PYUN	Piuthan	73.60	294	*e*P		P	09 14 32.5	+1.2
NIL	Nilore	74.61	305	P		P	09 14 36.6	-0.3
NIL				pmax		pmax		
	comp=Z,8.0nm,0.6s							
NIL	Nilore	74.61	305	P		P	09 14 36.6	-0.3
NIL				IAmb		IAmb	09 14 40.5	
	comp=Z,8.1nm,0.6s							
AKASG	Malin Array Be	75.60	342	P		P	09 14 41.3	-0.9
	comp=Z,2.6nm,0.3s,baz=21,slow=6.1,SNR=9.5							
AKASG	Malin Array Be	75.60	342	*i* P		P	09 14 41.2	-1.0
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.3s							
AKASG	Malin Array Be	75.60	342	P		P	09 14 40.6	-1.6
AKBB	Malin Array Si	75.60	342	IAmb		IAmb	09 14 42.6	
	comp=Z,13nm,1.3s							
CLL	Collm	77.21	353	*e*P		P	09 14 51.0	-0.3
	comp=Z,3.0nm,0.4s							
CLL				Lm		MLR	09 23 00.0	
	comp=Z,100nm,21.5s							
CLL	Collm	77.21	353	*e*P		P	09 14 51.0	-0.3
CLL				pmax		pmax		
	comp=Z,3.0nm,0.4s							
CHVC	Chvalec	77.65	351	AMS		AMS	09 51 20.0	
	comp=Z,200nm,17.9s							
OSTC	Ostas	77.66	351	*e*P		P	09 14 54.6	+0.7
OSTC				AMS		AMS	09 51 30.0	
	comp=Z,200nm,16.0s							
UPC	Upice	77.73	351	AMS		AMS	09 51 20.0	
	comp=Z,200nm,14.4s							
PVCC	Panska Ves	77.85	352	AMS		AMS	09 51 40.0	
	comp=Z,200nm,16.2s							
DPC	Dobruska-Polom	77.85	350	*e*P		P	09 14 54.9	-0.1
DPC				AMS		AMS	09 51 40.0	
	comp=Z,200nm,15.1s							
DPC	Dobruska-Polom	77.85	350	*e*P		P	09 14 54.9	-0.1
DPC				MLR		MLR		
	comp=Z,200nm,15.1s							
OKC	Ostrava-Krasne	78.16	349	AMS		AMS	09 51 40.0	
	comp=Z,200nm,14.6s							
GEYT	Alibeck	78.24	318	P		P	09 14 58.2	+0.8
	comp=Z,2.5nm,0.7s,baz=346,slow=3.1,SNR=3.9							
GEYT	Alibeck	78.24	318	P		P	09 14 58.0	+0.6
PRA	Prague	78.31	352	AMS		AMS	09 52 10.0	
	comp=Z,100nm,18.1s							
NKC	Novy Kostel	78.32	353	AMS		AMS	09 52 30.0	
	comp=Z,100nm,12.1s							
PRU	Pruhonice	78.39	352	AMS		AMS	09 52 00.0	
	comp=Z,200nm,18.8s							
GOPC	GO Pecny, Ondr	78.44	351	AMS		AMS	09 52 10.0	
	comp=Z,200nm,15.1s							
KOLS	Kolonicke sedl	78.49	346	*e*P		P	09 14 59.0	+0.5
KOLS	Kolonicke sedl	78.49	346	*e*P		P	09 14 59.0	+0.5
BMRD	Maredsous	78.64	358	P		P	09 14 59.0	-0.2
KBZ	Khabaz	78.71	331	P		P	09 15 00.8	+1.0
	comp=Z,3.3nm,0.7s,baz=19,slow=5.7,SNR=5.2							
KBZ	Khabaz	78.71	331	*i* P		P	09 14 58.8	-1.0
KBZ				pmax		pmax		
	comp=Z,4.0nm,0.9s							
DOU	Dourbes	78.85	358	P		P	09 15 00.4	0.0
VRAC	Vranov	78.85	350	P		P	09 15 01.3	+0.8
	comp=Z,3.3nm,0.6s,baz=34,slow=12,SNR=2.3							
GRF	Grafenberg Arr	78.95	354	*e*P		P	09 15 01.7	+0.6
	comp=Z,5.2nm,0.8s,baz=8.1,slow=4.7							
TRPA	Tarpa	79.23	346	⇓P		P	09 15 03.0	+0.4
BURAR	Bucovina Array	79.30	344	⇑P		P	09 15 03.2	+0.1
BURAR	Bucovina Array	79.30	344	P		P	09 15 02.6	-0.5
KHC	Kasperske Hory	79.32	352	*e*P		P	09 15 02.7	-0.4
KHC				AMS		AMS	09 52 10.0	
	comp=Z,200nm,15.6s							
KHC	Kasperske Hory	79.32	352	*e*P		P	09 15 02.7	-0.4
KHC				MLR		MLR		
	comp=Z,200nm,15.6s							
GERES	GERESS Array B	79.60	352	P		P	09 15 04.3	-0.4
	comp=Z,1.8nm,0.5s,baz=25,slow=5.6,SNR=11							
BIZ	Bicaz	79.80	343	⇑P		P	09 15 06.7	+1.0
VRI	Vrincioaia	80.71	343	⇑P		P	09 15 10.9	+0.3
VRI	Vrincioaia	80.71	343	P		P	09 15 10.9	+0.3
PLOR	Ploshina	80.74	343	⇑P		P	09 15 11.6	+0.7
ARSA	Arzberg	81.00	350	*i* P		P	09 15 13.1	+1.0
	comp=Z,4.8nm,0.8s							
MLR	Muntele Rosu	81.22	343	P		P	09 15 14.5	+1.0
	comp=Z,5.5nm,0.4s,baz=340,slow=7.6,SNR=7.3							
MLR	Muntele Rosu	81.22	343	⇑P		P	09 15 14.7	+1.2
MLR	Muntele Rosu	81.22	343	P		P	09 15 13.5	0.0
MLR				pmax		pmax		
	comp=Z,22nm,1.3s							
MLR	Muntele Rosu	81.22	343	P		P	09 15 13.5	0.0
MLR				IAmb		IAmb	09 15 15.7	
	comp=Z,22nm,1.3s							
WATA	Walderalm	81.27	353	*i* P		P	09 15 14.1	+0.3
	comp=Z,4.7nm,0.4s							
MOTA	Moosalm	81.29	353	*i* P		P	09 15 14.2	+0.3
	comp=Z,3.2nm,0.5s							
WTTA	Wattenberg	81.33	353	*i* P		P	09 15 14.3	+0.1
	comp=Z,9.3nm,0.7s							
KBA	Koelnbreinsper	81.38	352	*i* P		P	09 15 15.0	+0.7
	comp=Z,16nm,0.5s,SNR=9.1							
SQTA	Sankt Quirin	81.41	353	*i* P		P	09 15 15.0	+0.6
	comp=Z,4.9nm,0.5s							
VOIR		81.44	344	⇓P		P	09 15 15.7	+1.1
SOKA	Soboth	81.62	351	*i* P		P	09 15 16.4	+0.9
	comp=Z,7.3nm,0.6s							
FETA	Feichten	81.64	354	*i* P		P	09 15 16.3	+0.5
	comp=Z,4.4nm,0.6s							
ABTA	Abfaltersbach	81.78	352	*i* PcP		P	09 15 17.5	+1.1
	comp=Z,3.4nm,0.5s							
OBKA	Obir	81.83	351	*i* P		P	09 15 17.0	+0.3
	comp=Z,3.1nm,0.5s							
DAVOX	Davos/Dischmat	81.94	354	P		P	09 15 17.7	+0.3
	comp=Z,3.9nm,0.5s,baz=157,slow=5.7,SNR=5.9							
PRED	Cave del Predi	81.99	352	IAmb		IAmb	09 15 19.4	
	comp=Z,7.2nm,0.5s							
FUORN	Ofenpass-Fuorn	82.07	354	IAmb		IAmb	09 15 20.9	
	comp=Z,6.1nm,0.5s							
WRA	Warramunga Arr	82.20	224	P		P	09 15 18.3	-0.4
	comp=Z,1.8nm,0.6s,baz=31,slow=6.2,SNR=9.4							
PVM	Pelavaram	82.76	288	*e*P		P	09 15 21.3	-0.5
RPR	Rampur	82.88	291	*e*P		P	09 15 20.2	-2.2
PSI	Prapat	83.25	266	P		P	09 15 23.5	-1.0
PSI				pmax		pmax		
	comp=Z,15nm,0.6s							
RPSI	Rantau Prapat	83.33	266	P		P	09 15 23.5	-1.3
RPSI				IAmb		IAmb	09 15 25.2	
	comp=Z,15nm,0.6s							
SRSP	Sriramsagar	83.38	292	*e*P		P	09 15 24.0	-1.1
HYBB	Hyderabad (bro	84.44	291	*e*P		P	09 15 29.6	-0.8
HYB	Hyderabad	84.44	291	*i* P		P	09 15 30.5	0.0
VTS	Vitosha	84.49	344	⇓P		P	09 15 30.1	-0.4
NJS	Nagarjunasagar	84.68	290	*e*P		P	09 15 31.1	-0.5
ADKI	Addanki	84.84	289	*e*P		P	09 15 32.2	-0.2
BR131	Keskin Array S	85.03	336	IAmb		IAmb	09 15 33.8	
	comp=Z,5.9nm,0.7s							
BRTR	Keskin Array B	85.03	336	P		P	09 15 33.1	-0.1
	comp=Z,6.4nm,0.8s,baz=45,slow=3.9,SNR=16							
BRTR				LR		LR	09 56 35.5	
	comp=Z,62nm,18.2s,baz=357,slow=38							
BRTR	Keskin Array B	85.03	336	P		P	09 15 32.2	-1.1
KLRI	Killari	85.06	293	*e*P		P	09 15 33.0	-0.7
SRLM	Srisailam	85.28	290	⇓*e*P		P	09 15 33.5	-1.2
PDG	Podgorica	85.29	347	⇑P		P	09 15 34.0	-0.3
NRCA	Norcia	85.61	352	IAmb		IAmb	09 15 39.2	
	comp=Z,14nm,0.8s							
ASAR	Alice Springs	85.67	223	P		P	09 15 36.4	+0.1
	comp=Z,4.1nm,0.7s,baz=24,slow=5.7,SNR=31							
ASAR				PKKPbc		PKKPbc	09 33 38.4	+1.0
	comp=Z,0.1nm,0.4s,baz=217,slow=1.7,SNR=4.4							
ASAR	Alice Springs	85.67	223	P		P	09 15 36.3	-0.1
SKHT	Srikalahasti	86.64	288	*e*P		P	09 15 40.7	-0.7
URV	Uravakonda	87.14	290	*e*P		P	09 15 42.3	-1.6
ESDC	Sonseca Array	89.17	4	P		P	09 15 52.4	-0.8
	comp=Z,2.2nm,0.6s,baz=348,slow=4.1,SNR=13							
ESDC	Sonseca Array	89.17	4	P		P	09 15 52.2	-1.0
STKA	Stephens Creek	90.08	213	P		P	09 15 58.5	+1.3
	comp=Z,6.6nm,0.6s,baz=19,slow=3.1,SNR=6.8							
TORD	Torodi Ar. Bea	115.72	360	PKP		PKiKP	09 21 39.3	-0.7
	comp=Z,1.2nm,0.4s,baz=354,slow=2.1,SNR=16							
TORD	Torodi Ar. Bea	115.72	360			PKiKP	09 21 39.1	-0.9
H03N2	Juan Fernandez	120.91	106	T		T	11 34 20.0	
	baz=317,slow=77,SNR=54							
H03N1	Juan Fernandez	120.92	106	T		T	11 34 27.3	
	baz=317,slow=77,SNR=60							
H03N3	Juan Fernandez	120.92	106	T		T	11 34 25.5	
	baz=317,slow=77,SNR=71							
DBIC	Dimbokro	121.89	8	PKP		PKPdf	09 21 51.3	-0.6
	comp=Z,6.1nm,0.6s,baz=349,slow=3.3,SNR=18							
TIC	Toumodi	121.90	8	*e*PKIKP		PKPdf	09 21 51.2	-0.8
KIC	Kosan Boka	122.21	7	*e*PKIKP		PKPdf	09 21 51.7	-0.8
	comp=Z,2.0nm,0.3s							
LIC	Lamto	122.32	8	*e*PKIKP		PKPdf	09 21 52.0	-0.7
	comp=Z,3.8nm,0.3s							
LSZ	Lusaka	138.14	320	PKIKP		PKiKP	09 22 24.6	-0.1
LSZ	Lusaka	138.14	320	PKPdf		PKiKP	09 22 24.6	-0.1
TSUM	Tsumeb	145.48	333	PKPdf		PKPdf	09 22 35.1	-0.6
MAW	Mawson	146.66	218	PKPbc		PKPab	09 22 38.3	-0.6
	comp=Z,15nm,0.9s,baz=56,slow=2.7,SNR=11							
LBTB	Lobatse	147.89	316	PKP2		PKPbc	09 22 43.3	+0.7
LBTB	Lobatse	147.89	316			PKPbc	09 22 43.2	+0.7
BOSA	Boshof	151.15	313	PKPbc		PKPbc	09 22 50.7	+0.2
	comp=Z,19nm,0.6s,baz=26,slow=2.1,SNR=48							
BOSA	Boshof	151.15	313	PKIKP		PKPdf	09 22 47.2	+2.5
BOSA	Boshof	151.15	313			PKPdf	09 22 47.2	+2.5
SYO	Syowa Base	154.83	211	⇑*e*PKPdf		pPKPdf	09 23 04.8	0.0
SYO	Syowa Base	154.83	211	⇓*es*PKPdf		sPKPdf	09 23 10.4	-0.2

*IDC **26** 09:10:34.7±2.0,28°.33S×177°.69W,h0km,mb3.9/4, mb1 4.1/4,mb1mx3.7/30,mbtmp3.9/4,MS3.8/1,Ms1 3.8/1, ms1mx2.9/25,Error ellipse: s-maj=45.6km s-min=21.3km az=90.0*

ISC 26 09:10:41.4±1.5,28°.5S±0°.1×177°.6W±0°.3,h54km,n7, σ1°08/7,mb3.9/4,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	Raoul Island	0.81	198	Pn		Pn	09 10 55.7	-1.1
	238nm,0.3s,baz=234,slow=22,SNR=8.9							
RAO				Sn		Sn	09 11 09.1	+1.1
	979nm,0.3s,baz=91,slow=19,SNR=8.8							
STKA	Stephens Creek	35.26	254	P		P	09 17 31.1	+0.1
	1.0nm,0.4s,baz=92,slow=14,SNR=1.7							
ASAR	Alice Springs	43.56	265	P		P	09 18 40.8	+0.5
	0.4nm,0.4s,baz=103,slow=7.5,SNR=9.8							
WRA	Warramunga Arr	44.38	270	P		P	09 18 46.2	-0.7
	0.6nm,0.2s,baz=111,slow=8.0,SNR=0.6							
JAY	Jayapura	47.33	295	LR		LR	09 37 24.9	
	comp=Z,106nm,19.4s,baz=336,slow=34							
ILAR	Eielson Array	95.99	13	P		P	09 24 01.8	-0.2
	0.2nm,0.7s,baz=202,slow=6.8,SNR=1.6							
FINES	FINESS Array B	143.44	341	PKP		PKPdf	09 30 10.5	+1.2
	1.2nm,0.5s,baz=33,slow=3.3,SNR=10							

*RHSSO **26** 09:12:36.0±0.3,44°.81N×17°.28E,h2km,s2km,ML2.5/9*

BEO 26 09:12:35.1±0.4,44°.87N×17°.35E,h0km,ML2.4/9,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BLY	Banja Luka	0.17	225	*e*Pg		Pg	09 12 37.6	-0.7
BLY				*e*Sg		Sg	09 12 38.8	-1.7
BLY	Banja Luka	0.17	225	*e*Pg		Pg	09 12 37.5	-0.8
BLY				*e*Sg		Sg	09 12 38.9	-1.6
MGRS	Mrkonjic Grad	0.49	203	*e*Pg		Pg	09 12 44.4	-0.1
MGRS				*e*Sg		Sg	09 12 50.1	-0.7
KIJV	Kijevo	1.10	218	*e*Pg		Pg	09 12 54.6	-1.5
KIJV				Sg		Sg	09 13 07.5	-2.9
HAPS	Han Pijesak,Bl	1.39	124	*e*Pg		Pg	09 13 00.7	-1.0
HAPS				*e*Sg		Sg	09 13 19.2	-0.5
HAPS	Han Pijesak,Bl	1.39	124	*e*Pg		Pg	09 13 00.9	-0.8
HAPS				*e*Sg		Sn	09 13 20.9	0.0
KALN	Kalnik	1.41	334	*e*Pn		Pn	09 13 01.2	-0.9
KALN				Sg		Sb	09 13 20.9	+0.1
PTJ	Puntijarka	1.

BARS	**Barje**	**3.83**	**121**	*e*Pn		Pn	09 13 35.4	+0.1

*MEX **26** 09:15:23.3±0.6, 14°.17N×93°.26W, h10km, MD4.0*
*NEIC **26** 09:15:23.6±0.5, 14°.38N±0°.08×93°.19W±0°.07, h17km±12km, Error ellipse: s-maj=14.7km s-min=4.7km az=221.0*
ISC 26 09:15:23.8±3.4, 14°.4N±0°.1×93°.18W±0°.09, h17km±18km, n11, σ0s76/19, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
THIG		**1.03**	**59**				**Pb**	**09 15 43.0**	**-0.2**
THIG							**Sg**	**09 15 57.4**	**+0.2**
THIG		**1.03**	**59**	*i* P			**Pb**	**09 15 43.0**	**-0.2**
THIG				*e*S			**Sg**	**09 15 57.4**	**+0.2**
PCIG		**1.32**	**358**				**Pn**	**09 15 46.9**	**-0.5**
PCIG							**Sn**	**09 16 04.6**	**-0.1**
PCIG		**1.32**	**358**	*e*P			**Pn**	**09 15 46.9**	**-0.5**
PCIG				*i* S			**Sb**	**09 16 05.4**	**+0.6**
CCIG	**Comitan**	**2.14**	**28**				**Pb**	**09 16 02.4**	**+0.1**
CCIG							**Sg**	**09 16 32.5**	**-0.4**
CCIG	**Comitan**	**2.14**	**28**	*i* P			**Pn**	**09 15 58.7**	**-0.2**
CCIG				*i* S			**Sb**	**09 16 27.9**	**-0.7**
TGIG		**2.39**	**1**				**Pn**	**09 16 04.0**	**+1.8**
TGIG							**Sb**	**09 16 35.5**	**-0.1**
TGIG		**2.39**	**1**	*e*P			**Pn**	**09 16 04.0**	**+1.8**
TGIG				*e*S			**Sb**	**09 16 34.9**	**-0.7**
CMIG	**Matias Romero**	**3.16**	**329**				**Pn**	**09 16 12.6**	**-0.2**
CMIG	**Matias Romero**	**3.16**	**329**	*e*P			**Pn**	**09 16 12.6**	**-0.2**
TEIG	**Tepich**	**7.47**	**38**	Pn			**Pn**	**09 17 12.3**	**+0.3**

*IDC **26** 09:25:56.6±0.6, 34°.04N×141°.59E, h0km, mb4.0/17, mb1 4.1/22, mb1mx4.0/49, mbtmp3.9/22, ML3.3/4, Error ellipse: s-maj=15.8km s-min=14.7km az=128.0*
*JMA **26** 09:26:00.9±0.5, 34°.07N×141°.55E, h39km±3km, M3.6*
*NIED **26** 09:26:00, 34°.10N×141°.50E, h20km, Mw3.9 Best double couple: M0 7.84000×10^14 NP1:φs97.00000°, δs56.00000°, λ-127.00000°. NP2:φs330.00000°, δs48.00000°, λ-49.00000°.*
*NEIC **26** 09:26:02.4±1.6, 34°.04N±0°.06×141°.50E±0°.10, h38km±6km, mb4.5/14, Error ellipse: s-maj=11.9km s-min=8.0km az=104.0*
ISC 26 09:26:00.0±0.5, 34°.10N±0°.05×141°.60E±0°.06, h24km, n68, σ1s34/77, mb4.0/23, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.76**	**317**	P			**Pn**	**09 26 15.1**	**+0.4**
BSO1				X				09 26 26.1	
BSO3	**Boso 3**	**1.14**	**308**	P			**Pb**	**09 26 20.9**	**0.0**
BSO4	**Boso 4**	**1.37**	**311**	P			**Pb**	**09 26 24.8**	**-0.1**
JKUC	**kamogawauchiur**	**1.57**	**313**	P			**Pb**	**09 26 27.2**	**-1.1**
JKUC				S			**Sb**	**09 26 47.0**	**-0.7**
JMKN	**Mikurajimanish**	**1.69**	**263**	P			**Pn**	**09 26 28.1**	**+0.1**
JMKN				S			**Sn**	**09 26 48.1**	**-0.7**
JHJ2	**Mitsune**	**1.79**	**237**	P			**Pn**	**09 26 29.8**	**+0.4**
JHJ2				S			**Sn**	**09 26 50.7**	**-0.7**
JHJ2	**Mitsune**	**1.79**	**237**				**Sn**	**09 26 29.9**	**+0.5**
JSMT	**Sammumatsuo**	**1.81**	**329**	P			**Pb**	**09 26 31.3**	**-1.1**
JHJ	**Hachijo jima 2**	**1.81**	**238**	Pn			**Pn**	**09 26 29.9**	**+0.3**
	108nm,0.3s,baz=296,slow=21,SNR=179								
JHJ					Sn		**Sn**	**09 26 51.1**	**-0.7**
	174nm,0.3s,baz=65,slow=22,SNR=17								
JIM2	**Oshima 3**	**1.90**	**289**	P			**Pn**	**09 26 30.7**	**-0.2**
JTHY	**Toshimahigashi**	**1.96**	**283**	P			**Pb**	**09 26 33.1**	**-2.0**
JKO	**Kozu shima**	**2.05**	**273**	P			**Pn**	**09 26 33.6**	**+0.6**
JAOM	**Aogashimamukai**	**2.25**	**224**	P			**Pn**	**09 26 36.3**	**+0.6**
JIZS	**Izushimoda**	**2.34**	**286**	P			**Pn**	**09 26 37.9**	**+1.0**
JOD2	**Odawara 2**	**2.38**	**300**	P			**Pn**	**09 26 37.8**	**+0.3**
MJAR	**Matsushiro Arr**	**3.69**	**312**	Pn			**Pn**	**09 26 57.0**	**+1.4**
	3.1nm,0.3s,baz=166,slow=13,SNR=130								
MJAR					Sn		**Sn**	**09 27 39.5**	**+1.1**
	0.3nm,0.3s,baz=145,slow=11,SNR=6.7								
MAJO	**Matsushiro**	**3.69**	**312**	Pn			**Pn**	**09 26 57.7**	**+2.1**
MAT	**Matsushiro**	**3.69**	**312**	P			**Pn**	**09 26 57.3**	**+1.7**
MAT				S			**Sn**	**09 27 40.6**	**+2.2**
MJB9	**Matsu-Tunnel**	**3.70**	**312**	Pn			**Pn**	**09 26 57.7**	**+2.0**
INU	**Inuyama**	**3.98**	**290**				**Pn**	**09 27 00.7**	**+1.2**
JCJ	**Chichijima**	**7.00**	**176**	Pn			**Pn**	**09 27 39.7**	**-1.4**
ERM	**Erimo**	**7.99**	**8**	Pn			**Pn**	**09 27 52.9**	**-1.8**
JNU	**Nakatsue**	**9.00**	**267**	Pn			**Pn**	**09 28 09.3**	**+0.8**
	0.3nm,0.3s,baz=1.6,slow=20,SNR=2.2								
ASAJ	**Asahikawa**	**10.03**	**4**	Pn			**Pn**	**09 28 21.3**	**-1.2**
	0.7nm,0.3s,baz=224,slow=14,SNR=4.2								
ASAJ					Sn		**Sn**	**09 30 09.4**	**-4.9**
	0.8nm,0.3s,baz=314,slow=28,SNR=5.9								
JKA	**Kamikawa-asahi**	**10.03**	**4**				**Sn**	**09 30 09.4**	**-4.9**
KSRS	**Korea Array**	**11.60**	**291**	Pn			**Pn**	**09 28 42.1**	**-2.0**
	0.1nm,0.3s,baz=259,slow=40,SNR=2.2								
KSAR	**Wonju Array Be**	**11.63**	**291**	Pn			**Pn**	**09 28 41.3**	**-3.2**
USRK	**Ussuriysk Ar.**	**12.53**	**326**	Pn			**Pn**	**09 28 56.5**	**-0.3**
	baz=114,slow=13,SNR=5.5								
USRK	**Ussuriysk Ar.**	**12.53**	**326**				**Pn**	**09 28 56.1**	**-0.7**
KLR	**Kul'dur**	**16.79**	**337**	Pn			**P**	**09 29 55.1**	**-0.3**
	0.2nm,0.3s,baz=131,slow=10,SNR=6.2								
MA2	**Magadan**	**26.19**	**11**	P			**P**	**09 31 33.9**	**+1.4**
MA2				IAmb			IAmb	09 31 40.8	
	comp=Z,17nm,1.2s								
SONM	**Songino Array**	**29.64**	**308**	P			**P**	**09 32 05.2**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=123,slow=5.5,SNR=4.7								
CMAR	**Chiang Mai Arr**	**40.99**	**259**	P			**P**	**09 33 40.6**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=45,slow=7.9,SNR=1.7								
ZALV	**Zalesovo Beam**	**44.04**	**315**	P			**P**	**09 34 06.4**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=90,slow=5.9,SNR=1.3								
ZALV				PcP			**PcP**	**09 35 50.7**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=94,slow=4.3,SNR=2.2								
MK31	**Makanchi Array**	**45.86**	**305**	P			**P**	**09 34 20.6**	**+0.3**
MKAR	**Makanchi Array**	**45.86**	**305**	P			**P**	**09 34 20.6**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=89,slow=9.5,SNR=8.0								
MKAR				PcP			**PcP**	**09 35 57.8**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=76,slow=6.1,SNR=2.9								
MKAR	**Makanchi Array**	**45.86**	**305**	P			**P**	**09 34 20.4**	**+0.1**
KNRA	**Kununurra**	**50.99**	**196**	P			**P**	**09 34 59.9**	**0.0**
TOLK	**Toolik Lake Re**	**51.02**	**26**	P			**P**	**09 35 01.6**	**+1.9**
TOLK				IAmb			IAmb	09 35 02.6	
	comp=Z,4.4nm,1.1s								
ILAR	**Eielson Array**	**51.90**	**31**	P			**P**	**09 35 07.0**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=266,slow=6.3,SNR=13								
ILAR	**Eielson Array**	**51.90**	**31**	P			**P**	**09 35 06.5**	**+0.2**
DOT	**Dot Lake**	**53.17**	**32**	P			**P**	**09 35 17.0**	**+1.2**
SCRK	**Sand Creek**	**53.19**	**32**	P			**P**	**09 35 17.1**	**+1.1**
WB0	**Warramunga Arr**	**54.01**	**188**	P			**P**	**09 35 21.7**	**-0.6**
WB0				IAmb			IAmb	09 35 33.1	
	comp=Z,10nm,1.4s								
FITZ	**Fitzroy Crossi**	**54.09**	**199**	P			**P**	**09 35 23.4**	**+0.5**
WR0	**Warramunga Arr**	**54.18**	**188**	P			**P**	**09 35 23.1**	**-0.5**
WR0				IAmb			IAmb	09 35 40.4	
	comp=Z,4.6nm,0.8s								
WB2	**Warramunga Arr**	**54.19**	**188**	P			**P**	**09 35 23.5**	**-0.1**
WB2				IAmb			IAmb	09 35 25.8	
	comp=Z,11nm,1.4s								
WRA	**Warramunga Arr**	**54.19**	**188**	P			**P**	**09 35 23.2**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=5.9,slow=7.7,SNR=9.9								
BCAR	**Beaver Creek A**	**54.24**	**33**				**P**	**09 35 25.3**	**+1.6**
EGAK	**Eagle**	**54.35**	**31**	P			**P**	**09 35 25.0**	**+0.6**
EGAK				IAmb			IAmb	09 35 32.6	
	comp=Z,4.0nm,1.4s								
INK	**Inuvik**	**56.93**	**26**	P			**P**	**09 35 43.5**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=330,slow=14,SNR=1.9								
ASAR	**Alice Springs**	**57.91**	**188**	P			**P**	**09 35 50.0**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=16,slow=9.0,SNR=9.4								
ASAR				PcP			**PcP**	**09 36 43.3**	**+0.9**
	comp=Z,0.6nm,1.0s,baz=16,slow=4.8,SNR=3.2								
ABKAR	**Akbulak array**	**59.97**	**312**	P			**P**	**09 36 04.2**	**-0.1**
FORT	**Forrest**	**65.79**	**193**	P			**P**	**09 36 43.5**	**+0.4**
FINES	**FINESS Array B**	**71.48**	**333**	P			**P**	**09 37 18.7**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=83,slow=6.0,SNR=6.8								
KBZ	**Khabaz**	**72.94**	**311**	P			**P**	**09 37 28.5**	**+1.2**
	comp=Z,2.7nm,0.9s,baz=185,slow=5.4,SNR=4.9								
NVAR	**Mina Array Bea**	**76.63**	**53**	P			**P**	**09 37 50.8**	**+1.7**
	comp=Z,0.3nm,0.6s,baz=287,slow=5.2,SNR=4.3								
AKASG	**Malin Array Be**	**76.71**	**323**	P			**P**	**09 37 48.9**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=48,slow=6.1,SNR=5.9								
AKASG	**Malin Array Be**	**76.71**	**323**	IAmb			IAmb	09 37 52.3	
	comp=Z,1.2nm,1.1s								
NB2	**NORSAR Subarra**	**76.95**	**338**	P			**P**	**09 37 50.7**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=40,slow=5.9								
NOA	**NORSAR Array B**	**76.95**	**338**	P			**P**	**09 37 50.6**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=39,slow=5.7,SNR=5.4								
PDAR	**Pinedale Array**	**79.61**	**45**	P			**P**	**09 38 06.4**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=225,slow=1.9,SNR=7.1								
BRTR	**Keskin Array B**	**80.92**	**312**	P			**P**	**09 38 13.2**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=72,slow=5.3,SNR=3.9								
GERES	**GERESS Array B**	**85.28**	**328**	P			**P**	**09 38 34.9**	**0.0**
	comp=Z,0.5nm,0.6s,baz=76,slow=5.6,SNR=4.3								
TXAR	**Lajitas Array**	**91.78**	**53**	P			**P**	**09 39 07.5**	**+1.3**
	comp=Z,0.2nm,0.7s,baz=328,slow=3.2,SNR=2.6								
TORD	**Torodi Ar. Bea**	**119.49**	**314**	PKP			**PKiKP**	**09 44 47.5**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=15,slow=1.8,SNR=1.9								
QSPA	**South Pole Qui**	**123.85**	**180**	PKP			**PKiKP**	**09 44 54.6**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=288,slow=4.1,SNR=2.2								
LPAZ	**La Paz**	**147.94**	**64**	PKPbc			**PKPab**	**09 45 45.4**	**-1.8**
	comp=Z,1.4nm,0.7s,baz=340,slow=4.0,SNR=6.9								

*IDC **26** 09:27:29.6±2.0, 28°.44S×178°.00W, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.9/33, mbtmp4.2/4, MS3.4/1, Ms1 3.4/1, ms1mx2.8/21, Error ellipse: s-maj=41.3km s-min=18.4km az=60.0*
ISC 26 09:27:30.6±2.5, 28°.4S±0°.2×178°.0W±0°.3, h10km, n7, σ0s40/6, mb4.1/3, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.85**	**177**	Pn			**Pn**	**09 27 48.8**	**+0.1**
	344nm,0.3s,baz=219,slow=21,SNR=22								
RAO				Sn			**Sn**	**09 28 01.3**	**0.0**
	515nm,0.3s,baz=56,slow=19,SNR=7.2								
HNR	**Honiara**	**28.05**	**308**	LR			LR	09 42 27.8	
	comp=Z,79nm,18.8s,baz=306,slow=32								
STKA	**Stephens Creek**	**35.00**	**254**	P			**P**	**09 34 22.9**	**-0.4**
	3.3nm,1.1s,baz=85,slow=9.8,SNR=4.6								
ASAR	**Alice Springs**	**43.28**	**265**	P			**P**	**09 35 33.2**	**+0.4**
	0.7nm,0.7s,baz=104,slow=7.3,SNR=11								
WRA	**Warramunga Arr**	**44.08**	**270**	P			**P**	**09 35 39.5**	**+0.3**
	1.4nm,0.2s,baz=110,slow=8.1,SNR=18								
LPAZ	**La Paz**	**98.93**	**114**	P			Pdif	09 41 12.7	0.0
	0.8nm,0.4s,baz=262,slow=6.1,SNR=5.9								
FINES	**FINESS Array B**	**143.27**	**341**	PKP			**PKPdf**	**09 47 04.3**	**-0.1**
	1.4nm,0.6s,baz=50,slow=3.5,SNR=7.5								

IDC 26 09:27:38.1±1.7, 10°.16S×161°.03E, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.6/36, mbtmp3.7/4, ML3.1/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/27, Error ellipse: s-maj=40.7km s-min=24.9km az=40.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.29**	**304**	Pn			Pn	09 28 03.7	+0.3
	343nm,0.3s,baz=158,slow=11,SNR=40								
HNR				Sn			Sn	09 28 21.7	+0.2
	693nm,0.3s,baz=314,slow=21,SNR=16								
DZM	**Mont Dzumac**	**12.93**	**157**	Pn			Pn	09 30 44.0	+0.7
	0.1nm,0.3s,baz=343,slow=17,SNR=1.9								
PMG	**Port Moresby**	**13.69**	**272**	LR			LR	09 36 00.5	
	comp=Z,225nm,18.1s,baz=80,slow=37								
WRA	**Warramunga Arr**	**27.51**	**246**	P			P	09 33 26.1	-0.6
	0.6nm,0.6s,baz=75,slow=9.5,SNR=0.7								
KSRS	**Korea Array**	**56.62**	**329**	LR			LR	10 00 57.8	
	comp=Z,80nm,18.9s,baz=226,slow=35								
SONM	**Songino Array**	**75.26**	**325**	P			P	09 39 24.1	+1.0
	0.2nm,0.3s,baz=146,slow=2.8,SNR=1.5								
ILAR	**Eielson Array**	**84.21**	**20**	P			P	09 40 10.2	-0.9
	0.3nm,0.7s,baz=231,slow=5.7,SNR=1.7								

*NNC **26** 09:36:30.0±8.5, 37°.05N×70°.87E, h136km±145km, mb3.1, mpv3.6, Error ellipse: s-maj=69.6km s-min=47.4km az=19.0*
ISC 26 09:36:30.3±1.2, 37°.04N±0°.09×71°.5E±0°.1, h250km, n10, σ2s80/15, 4C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.04**	**21**	P			**Pn**	**09 37 59.2**	**+0.2**
	3.1nm,0.6s								
AAK				S			**S**	**09 39 09.5**	**-0.5**
	16nm,0.5s								
KK31	**Karatay Array**	**6.11**	**353**	⇓P			**Pn**	**09 37 59.3**	**-0.4**
	2.1nm,0.3s,baz=175,slow=12,SNR=23								
KK31				⇓S			**S**	**09 39 07.5**	**-3.8**
	4.6nm,0.3s,baz=186,slow=24,SNR=31								
TKM2	**Tokmak 2**	**6.66**	**27**	⇑P			**Pn**	**09 38 08.1**	**+1.3**
	1.6nm,0.5s								
TKM2				⇓S			**S**	**09 39 24.3**	**+0.2**
	5.7nm,0.6s								
DANN	**Dangsing**	**13.45**	**127**	*e*P			**Pn**	**09 39 30.6**	**-1.5**
AB31	**Akbulak array**	**14.83**	**329**	⇑P			**Pn**	**09 39 49.7**	**+1.5**
	1.1nm,0.5s,baz=155,slow=13,SNR=30								
AB31				⇑S			**S**	**09 42 28.0**	**-3.9**
	1.3nm,0.5s,baz=151,slow=22,SNR=8.3								
PKIN	**Phulchoki**	**15.04**	**125**	*e*P			**P**	**09 39 50.5**	**-0.4**
PKI	**Pulchoki**	**15.05**	**125**	*e*P			**P**	**09 39 50.8**	**-0.3**
JIRN	**Jiri**	**15.51**	**123**	*e*P			**P**	**09 39 56.0**	**-0.2**
RAMN	**Ramite**	**16.25**	**124**	*e*P			**P**	**09 40 05.2**	**+1.0**
AKTO	**Aktyubinsk**	**16.54**	**328**	⇑P			**Pn**	**09 40 09.9**	**+1.4**
	3.5nm,0.4s								
AKTO				⇓S			**S**	**09 43 14.0**	**+7.4**
	1.6nm,0.7s								

*KRNET **26** 09:42:10.8±0.1, 42°.17N×76°.83E, h19km, mb3.2*
*SOME **26** 09:42:10.9, 42°.18N×76°.82E, h10km*
*NNC **26** 09:42:11.5±0.4, 42°.24N×76°.82E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=2.7km s-min=1.4km az=172.0*
*KNET **26** 09:42:13.1±0.5, 42°.25N×76°.65E, h8km±2km, ml2.4, Error ellipse: s-maj=3.5km s-min=2.5km az=145.0*
ISC 26 09:42:11.3±1.0, 42°.22N±0°.02×76°.81E±0°.01, h6km±9km, n80, σ0s92/147, 17C-39D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDJ	**Kajisay**	**0.29**	**108**	⇓*i*P			**Pg**	**09 42 16.7**	**-0.3**
	baz=0.0								
KDJ				⇓*i*S			**Sg**	**09 42 20.6**	**-0.2**
	baz=0.0								
ULHL	**Ulahol**	**0.42**	**274**	⇓*i*P			**Pg**	**09 42 19.9**	**+0.3**
	baz=80								
ULHL				⇓*i*S			**Sg**	**09 42 25.8**	**+0.6**
	baz=80								
ULHL	**Ulahol**	**0.42**	**274**	⇓P			**Pg**	**09 42 19.9**	**+0.3**
	75nm,0.1s,SNR=113								
ULHL				⇑S			**Sg**	**09 42 25.9**	**+0.6**
	454nm,0.2s								
BOOM	**Boomskoye usch**	**0.70**	**293**	⇓*i*P			**Pg**	**09 42 24.8**	**0.0**
	baz=96								
BOOM				⇓*i*S			**Sg**	**09 42 34.7**	**+0.7**
	baz=96								
TNSS	**Tian-Shan**	**0.82**	**7**	*e*P			**Pg**	**09 42 27.4**	**+0.2**
	baz=6.0								
TNSS				*e*S			**Sb**	**09 42 39.7**	**-0.2**
	baz=6.0								
TNSS	**Tian-Shan**	**0.82**	**7**	*e*P			**Pg**	**09 42 27.4**	**+0.2**
	6.7nm,0.1s								
TNSS				*e*S			**Sb**	**09 42 39.6**	**-0.2**
	38nm,0.1s								
TNSS	**Tian-Shan**	**0.82**	**7**	P			**Pg**	**09 42 27.4**	**+0.2**
	6.7nm,0.1s								
TNSS				S			**Sb**	**09 42 39.6**	**-0.2**
	38nm,0.1s								
ANVS	**Anan'yevo**	**0.85**	**48**	⇓*i*P			**Pg**	**09 42 26.9**	**-0.7**
	baz=45								
ANVS				⇓*i*S			**Sg**	**09 42 38.8**	**+0.2**
	baz=45								
TARG	**Taragay, Kyrgy**	**0.89**	**123**	⇓*i*P			**Pg**	**09 42 26.9**	**-1.5**
	baz=21								
TARG				⇓*i*S			**Sg**	**09 42 38.3**	**-1.6**
	baz=21								
MTBS	**Maitube**	**0.95**	**343**	*e*P			**Pg**	**09 42 29.4**	**-0.2**
	baz=43								
MTBS				*e*S			**Sb**	**09 42 42.7**	**-0.6**
	baz=43								
MTBS	**Maitube**	**0.95**	**343**	*e*P			**Pg**	**09 42 29.4**	**-0.2**
	12nm,0.2s								
MTBS				*e*S			**Sb**	**09 42 42.7**	**-0.6**
	54nm,0.2s								
MTBS	**Maitube**	**0.95**	**343**	P			**Pg**	**09 42 29.4**	**-0.2**
	12nm,0.2s								
MTBS				S			**Sb**	**09 42 42.7**	**-0.6**
	54nm,0.2s								
MDOK	**Medeo**	**0.96**	**10**	*e*P			**Pg**	**09 42 29.5**	**-0.3**
	baz=9.0								
MDOK				*e*S			**Sb**	**09 42 42.8**	**-0.7**
	baz=9.0								
MDOK	**Medeo**	**0.96**	**10**	*e*P			**Pg**	**09 42 29.5**	**-0.3**
	13nm,0.3s								
MDOK				*e*S			**Sb**	**09 42 42.8**	**-0.7**
	47nm,0.2s								
MDOK	**Medeo**	**0.96**	**10**	P			**Pg**	**09 42 29.7**	**0.0**
	4.3nm,0.5s								
MDOK				S			**Sb**	**09 42 42.6**	**-0.9**
	20nm,0.6s								
MDOK	**Medeo**	**0.96**	**10**	Pg			**Pg**	**09 42 29.5**	**-0.3**
	13nm,0.3s								
MDOK				Lg			Lg	09 42 42.8	
	47nm,0.2s								
KST	**Kastek**	**1.03**	**323**	*e*P			**Pg**	**09 42 31.0**	**-0.2**
	baz=24								
KST				*e*S			**Sb**	**09 42 45.5**	**-0.2**
	baz=24								
KST	**Kastek**	**1.03**	**323**	*e*P			**Pg**	**09 42 31.0**	**-0.2**
	31nm,0.1s								
KST				*e*S			**Sb**	**09 42 45.5**	**-0.2**
	52nm,0.3s								
KST	**Kastek**	**1.03**	**323**	P			**Pg**	**09 42 31.0**	**-0.2**
	31nm,0.1s								
KST				S			**Sb**	**09 42 45.5**	**-0.2**
	52nm,0.3s								
TKM2	**Tokmak 2**	**1.14**	**308**	⇑*i*P			**Pg**	**09 42 32.8**	**-0.4**
	baz=10.0								
TKM2				⇑*i*S			**Sb**	**09 42 48.4**	**-0.4**
	baz=10.0								
TKM2	**Tokmak 2**	**1.14**	**308**	⇓P			**Pg**	**09 42 33.1**	**-0.1**
	45nm,0.1s,SNR=31								
TKM2				⇑S			**Sn**	**09 42 48.8**	**-1.3**
	120nm,0.1s								
TKM2	**Tokmak 2**	**1.14**	**308**	⇑P			**Pg**	**09 42 32.9**	**-0.4**
	12nm,0.3s								
TKM2				⇓S			**Sb**	**09 42 48.6**	**-0.2**
	22nm,0.3s								
KZA	**Kyzart**	**1.17**	**264**	⇓*i*P			**Pg**	**09 42 32.9**	**-0.9**
	baz=66								
KZA				⇓*i*S			**Sg**	**09 42 48.7**	**-0.3**
	baz=66								
KZA	**Kyzart**	**1.17**	**264**	⇓P			**Pg**	**09 42 33.2**	**-0.6**
	25nm,0.2s,SNR=10								
KZA				⇓S			**Sg**	**09 42 49.5**	**+0.5**
	88nm,0.3s								
PRZ	**Przheval'sk**	**1.21**	**77**	⇓*i*P			**Pb**	**09 42 33.1**	**-1.6**
	baz=75								
PRZ				⇓*i*S			**Sb**	**09 42 49.3**	**-1.3**
	baz=75								
DGS	**Degeres**	**1.28**	**323**	*e*P			**Pn**	**09 42 35.3**	**-0.6**
	baz=24								
DGS				*e*S			**Sn**	**09 42 53.0**	**-0.5**
	baz=24								
DGS	**Degeres**	**1.28**	**323**	*e*P			**Pn**	**09 42 35.3**	**-0.6**
	0.2nm,0.3s								
DGS				*e*S			**Sn**	**09 42 52.9**	**-0.5**
	31nm,0.3s								
DGS	**Degeres**	**1.28**	**323**	P			**Pn**	**09 42 35.3**	**-0.6**
	0.2nm,0.3s								
DGS				S			**Sn**	**09 42 52.9**	**-0.5**
	31nm,0.3s								
SATY	**Saty**	**1.44**	**54**	*e*P			**Pb**	**09 42 38.2**	**-0.5**
	12nm,0.2s								
SATY				*e*S			**Sg**	**09 42 57.8**	**0.0**
	194nm,0.2s								
SATY	**Saty**	**1.44**	**54**	P			**Pb**	**09 42 38.2**	**-0.5**
	12nm,0.2s								
SATY				S			**Sg**	**09 42 57.8**	**0.0**
	194nm,0.2s								
KBK	**Karagaybulak**	**1.45**	**288**	⇑*i*P			**Pn**	**09 42 37.7**	**-0.6**
	baz=90								
KBK				⇑*i*S			**Sb**	**09 42 57.6**	**0.0**
	baz=90								
KBK	**Karagaybulak**	**1.45**	**288**	⇓P			**Pb**	**09 42 38.5**	**-0.3**
	21nm,0.1s,SNR=13								
KBK				⇓S			**Sg**	**09 42 58.8**	**+1.0**
	48nm,0.2s								
KTBS	**Karatobe**	**1.50**	**356**	*e*P			**Pb**	**09 42 39.1**	**-0.5**
	4.9nm,0.2s								
KTBS	

UZB					*e*S		**Sb**	**09 43 09.8**	**0.0**
	62nm,0.3s								
UZB	**Uzynbulak**	**1.87**	**60**	P			**Pb**	**09 42 45.3**	**-0.8**
	26nm,0.3s								
UZB					S		**Sb**	**09 43 09.8**	**0.0**
	62nm,0.3s								
ARLS	**Aral**	**1.89**	**260**	⇑*e*P			**Pn**	**09 42 44.8**	**+0.5**
	baz=62								
ARLS				⇑*i*S			**Sb**	**09 43 09.5**	**-0.8**
	baz=62								
USP	**Ospenovka**	**2.00**	**302**	⇓*i*P			**Pb**	**09 42 46.8**	**-1.4**
	baz=3.0								
USP				⇓*i*S			**Sb**	**09 43 12.5**	**-0.9**
	baz=3.0								
USP	**Ospenovka**	**2.00**	**302**	⇓P			**Pb**	**09 42 47.9**	**-0.3**
	44nm,0.2s,SNR=60								
USP				⇓S			**Sg**	**09 43 14.7**	**-0.9**
	21nm,0.1s								
SGDS	**Sogindy**	**2.02**	**308**	Pg			**Pb**	**09 42 48.2**	**-0.3**
	80nm,0.3s								
SGDS				Lg			Lg	09 43 15.4	
	28nm,0.3s								
ARXS	**Arharly**	**2.13**	**20**	*e*P			**Pb**	**09 42 50.3**	**-0.1**
	14nm,0.3s								
ARXS				*e*S			**Sg**	**09 43 18.8**	**-0.9**
	31nm,0.4s								
ARXS	**Arharly**	**2.13**	**20**	Pg			**Pb**	**09 42 50.3**	**-0.1**
	14nm,0.3s								
ARXS				Lg			Lg	09 43 18.8	
	31nm,0.4s								
SHLS	**Shalkode**	**2.17**	**63**	*e*P			**Pg**	**09 42 55.5**	**+2.7**
	20nm,0.3s								
SHLS				*e*S			**Sg**	**09 43 27.3**	**+6.4**
	52nm,0.4s								
SHLS	**Shalkode**	**2.17**	**63**	Pg			**Pg**	**09 42 55.5**	**+2.7**
	20nm,0.3s								
SHLS				Lg			Lg	09 43 27.3	
	52nm,0.4s								
MNBS	**Baschi**	**2.19**	**31**	*e*P			**Pb**	**09 42 52.0**	**+0.5**
	8.5nm,0.4s								
MNBS				*e*S			**Sg**	**09 43 21.3**	**-0.4**
	50nm,0.3s								
MNBS	**Baschi**	**2.19**	**31**	Pg			**Pb**	**09 42 51.9**	**+0.5**
	8.5nm,0.4s								
MNBS				Lg			Lg	09 43 21.3	
	50nm,0.3s								
PDGK	**Podgornoye**	**2.26**	**60**	Pg			**Pb**	**09 42 51.6**	**-1.1**
	4.0nm,0.3s								
PDGK				Lg			Lg	09 43 20.8	
	26nm,0.3s								
PDGK	**Podgornoye**	**2.26**	**60**	⇑Pn			**Pn**	**09 42 50.2**	**+0.8**
	9.2nm,0.6s								
PDGK				⇑Lg			Lg	09 43 21.0	
	26nm,0.4s								
EKS2	**Erkin-Say**	**2.29**	**282**	⇓*i*P			**Pn**	**09 42 50.7**	**+0.9**
	baz=83								
EKS2				⇓*i*S			**Sn**	**09 43 19.4**	**+1.0**
	baz=83								
EKS2	**Erkin-Say**	**2.29**	**282**	⇓P			**Pb**	**09 42 53.2**	**+0.1**
	8.6nm,0.2s,SNR=25								
AML	**Almayashu**	**2.32**	**269**	⇓*i*P			**Pn**	**09 42 51.2**	**+0.7**
	baz=70								
AML				⇓*i*S			**Sn**	**09 43 20.4**	**+0.9**
	baz=70								
AML	**Almayashu**	**2.32**	**269**	⇓P			**Pb**	**09 42 53.8**	**-0.1**
	18nm,0.2s,SNR=16								
MRKS	**Merke**	**2.71**	**282**	*e*P			**Pb**	**09 43 01.1**	**+0.9**
	16nm,0.3s								
MRKS				*e*S			**Sg**	**09 43 37.0**	**-1.2**
	13nm,0.3s								
MRKS	**Merke**	**2.71**	**282**	Pg			**Pb**	**09 43 01.1**	**+0.9**
	16nm,0.3s								
MRKS				Lg			Lg	09 43 37.0	
	13nm,0.3s								
DJR	**Jarkent**	**3.03**	**45**	*e*P			**Pb**	**09 43 05.2**	**-0.6**
	4.4nm,0.4s								
DJR				*e*S			**Sb**	**09 43 44.2**	**+1.1**
	25nm,0.4s								
DJR	**Jarkent**	**3.03**	**45**	Pg			**Pb**	**09 43 05.2**	**-0.6**
	4.4nm,0.4s								
DJR				Lg			Lg	09 43 44.2	
	25nm,0.4s								
KAPS	**Kapalarasan**	**3.58**	**30**	*e*P			**Pb**	**09 43 15.0**	**0.0**
	1.9nm,0.3s								
KAPS				*e*S			**Sb**	**09 44 01.0**	**+2.3**
	11nm,0.3s								
KAPS	**Kapalarasan**	**3.58**	**30**	Pg			**Pb**	**09 43 15.0**	**0.0**
	1.9nm,0.3s								
KAPS				Lg			Lg	09 44 01.0	
	11nm,0.3s								
KK31	**Karatay Array**	**4.73**	**283**	⇓Pg			**Pb**	**09 43 37.3**	**+2.6**
	3.3nm,0.8s,baz=91,slow=15,SNR=12								
KK31				⇓Lg			Lg	09 44 41.8	
	3.1nm,0.5s,baz=100,slow=28,SNR=6.1								

DJA 26 10:17:40.0±0.2, 0°S±2′×10°0E±′, h10km, M3.8/11, MLv3.8/11, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**0.82**	**51**	P	Pg	10 17 56.0	+0.2
BKNI				S	Sb	10 18 07.5	0.0
SDSI	**Sungai Dareh**	**1.27**	**126**	P	Pn	10 18 02.8	-1.0
SDSI				S	Sg	10 18 20.7	-0.1
MNSI	**Mandailing Nat**	**1.28**	**320**	P	Pn	10 18 04.0	+0.1
MNSI				S	Sb	10 18 20.0	-0.7
SISI	**Saibi**	**1.73**	**229**	P	Pn	10 18 08.3	-1.8
SISI				S	Sb	10 18 33.4	-0.3
RGRI	**Rengat**	**1.94**	**95**	P	Pn	10 18 12.7	-0.4
KRJI	**Kerinci**	**2.17**	**151**	P	Pn	10 18 16.8	+0.5
GSI	**Gunungsitoli**	**3.19**	**298**	P	Pn	10 18 30.2	-0.1
MASI	**Maura Aman, Be**	**3.46**	**148**	P	Pn	10 18 34.0	0.0
WSI	**Waingapu**	**21.93**	**116**	P	P	10 22 32.5	-1.3

UCR 26 10:30:37.3±1.5, 9°47N×85°71W, h25km±3km, MD3.6, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUAI	**GUAI**	**0.82**	**14**	*i* P	Pb	10 30 52.2	-0.8
GUAI				*i* S	Sb	10 31 03.9	+0.2
PLVR	**Palo Verde**	**0.94**	**22**	*e*P	Pb	10 30 53.9	-1.3
JTS	**Las Juntas de**	**1.11**	**42**	*e*P	Pn	10 30 56.6	-0.7
JTS				*e*S	Sb	10 31 12.2	+0.3
COLC	**Colonia**	**1.29**	**23**	*i* P	Pn	10 30 59.6	-0.2
CUI	**Cuipilapa**	**1.30**	**24**	*e*P	Pn	10 30 59.7	-0.2
CUI				*i* P	Pb	10 30 59.8	-1.4
CUI				*e*S	Sb	10 31 17.3	-0.1
LIM1	**Limonal**	**1.30**	**20**	*i* P	Pn	10 30 59.8	-0.2
GUAB	**Guayabo de Bag**	**1.32**	**21**	*i* P	Pn	10 30 59.8	-0.5
LAPC	**Finca la Perla**	**1.32**	**12**	*i* P	Pn	10 30 59.8	-0.4
GPS2	**Hotel Rincn d**	**1.32**	**15**	*i* P	Pn	10 31 00.4	+0.1
GPS2				*i* S	Sn	10 31 17.6	+0.4
GBS3	**Finca Las Img**	**1.33**	**11**	*i* P	Pn	10 31 00.3	-0.1
ACAL	**Aguas Claras**	**1.34**	**30**	*i* P	Pn	10 31 00.8	+0.4
HORNC	**Hornillas**	**1.34**	**23**	*i* P	Pn	10 31 00.6	0.0
HORNC				*i* S	Sb	10 31 18.5	-0.2
GPS1	**Guardaparques**	**1.35**	**15**	*i* P	Pn	10 31 00.7	0.0
GPS1				*i* S	Sb	10 31 18.4	-0.5
BUEV	**Buena Vista**	**1.36**	**13**	*i* P	Pn	10 31 00.6	-0.2
BUEV				*e*S	Sn	10 31 18.1	+0.1
SRA1	**San Ramn**	**1.36**	**63**	*e*P	Pn	10 31 00.5	-0.3
CASO	**Castillo**	**1.36**	**45**	*i* P	Pn	10 31 01.1	+0.3
GB1A	**Borinquen Arri**	**1.38**	**13**	*i* P	Pn	10 31 00.9	-0.1
GB1A				*e*S	Sn	10 31 18.6	+0.1
ARE1	**Arenal 1**	**1.39**	**44**	*e*P	Pn	10 31 01.6	+0.5
CEDE	**Laguna Cedeo**	**1.42**	**44**	*i* P	Pn	10 31 01.9	+0.3
FORC	**Fortuna**	**1.43**	**46**	*i* P	Pn	10 31 01.9	+0.2
PTEN	**Parque Tenorio**	**1.43**	**30**	*i* P	Pn	10 31 02.3	+0.6
BUAI	**Buenos Aires**	**1.45**	**15**	*i* P	Pn	10 31 02.5	+0.5
HDC	**Heredia**	**1.66**	**71**	*e*P	Pn	10 31 05.3	+0.4
HDC				*e*S	Sb	10 31 27.4	-0.4
SJS	**Escuela Geolog**	**1.69**	**74**	*e*P	Pn	10 31 05.7	+0.2
SJS				*e*S	Sb	10 31 28.4	-0.5
LCR2	**La Lucha 2**	**1.70**	**81**	*e*P	Pn	10 31 05.0	-0.6
DRK0	**Durika**	**2.44**	**95**	*e*P	Pn	10 31 15.3	-0.4

*IDC **26** 10:44:11.2±2.4, 51°.18N×176°.54E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.4/56, mbtmp3.5/6, Error ellipse: s-maj=75.7km s-min=23.3km az=179.0*
*AEIC **26** 10:44:19.0±1.4, 51°.6N±0°.1×176°.43E±0°.08, h46km±7km, ML3.4/21, Error ellipse: s-maj=18.3km s-min=6.1km az=192.0*
*NEIC **26** 10:44:19.6±1.3, 51°.6N±0°.1×176°.3E±0°.08, h49km±11km, Error ellipse: s-maj=19.3km s-min=1.3km az=200.0*

ISC 26 10:44:19.9±1.9, 51°.6N±0°.2×176°.40E±0°.07, h49km±15km, n28, σ0°.88/28, mb3.5/6, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**1.35**	**75**		**Pn**	**10 44 42.1**	**-0.3**
LSNW	**Little Sitkin**	**1.36**	**75**		**Pn**	**10 44 41.5**	**-0.9**
LSNW					**Sn**	**10 44 58.0**	**-1.4**
LSPA	**Little Sitkin**	**1.39**	**76**		**Pn**	**10 44 42.2**	**-0.7**
LSPA					**Sn**	**10 45 01.0**	**+0.9**
SMY	**Shemya**	**1.79**	**309**		**Pn**	**10 44 48.1**	**-0.2**
SMY					**Sn**	**10 45 10.5**	**+0.6**
AMKA	**Amchitka**	**1.83**	**97**		**Pn**	**10 44 48.6**	**-0.3**
AMKA					**Sn**	**10 45 10.5**	**-0.4**
CETU	**Semis' Tuman**	**1.95**	**79**		**Pn**	**10 44 50.9**	**+0.3**
CESW	**Semis' Southwe**	**1.99**	**81**		**Pn**	**10 44 51.1**	**+0.1**
CESW					**Sn**	**10 45 14.6**	**-0.1**
CEAP	**Semis' Anvil P**	**2.01**	**78**		**Pn**	**10 44 52.0**	**+0.7**
TASE	**Tanaga Southea**	**3.47**	**84**		**Pn**	**10 45 11.1**	**-0.2**
TAFP	**Tanaga Falls P**	**3.50**	**83**		**Pn**	**10 45 12.9**	**+1.1**
TAFP					**Sn**	**10 45 52.4**	**+0.4**
KIMD	**Kanaga Island**	**3.96**	**86**		**Pn**	**10 45 19.9**	**+1.8**
KIKV	**Kanaga Island**	**4.00**	**84**		**Pn**	**10 45 19.9**	**+1.2**
ADK	**Adak**	**4.31**	**84**		**Pn**	**10 45 23.5**	**+0.7**
ATKA	**Atka Island**	**5.85**	**81**		**Pn**	**10 45 45.3**	**+1.4**
ILAR	**Eielson Array**	**22.98**	**41**	P	**P**	**10 49 20.0**	**+0.1**
	0.2nm,0.4s,baz=251,slow=8.5,SNR=2.0						
BCAR	**Beaver Creek A**	**24.81**	**46**	P	**P**	**10 49 37.5**	**+0.5**
EGAK	**Eagle**	**25.36**	**42**	P	**P**	**10 49 43.2**	**+1.3**
H11N2	**WAKE ISLAND Hy**	**32.70**	**197**	T	T	11 25 46.7	
	baz=11,slow=76,SNR=22						
H11N3	**WAKE ISLAND Hy**	**32.71**	**197**	T	T	11 25 47.8	
	baz=11,slow=76,SNR=21						
H11N1	**WAKE ISLAND Hy**	**32.72**	**197**	T	T	11 25 48.0	
	baz=11,slow=76,SNR=20						
H11S1	**WAKE ISLAND Hy**	**33.93**	**197**	T	T	11 27 27.0	
	baz=72,slow=74,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**33.94**	**197**	T	T	11 27 29.4	
	baz=14,slow=74,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**33.94**	**197**	T	T	11 27 25.4	
YKA	**Yellowknife Ar**	**37.22**	**46**	P	**P**	**10 51 25.2**	**-0.9**
	0.5nm,0.6s,baz=279,slow=9.7,SNR=5.0						
SONM	**Songino Array**	**43.82**	**294**	P	**P**	**10 52 21.2**	**+0.3**
	0.5nm,0.6s,baz=46,slow=8.4,SNR=1.6						
KURBB	**Kurchatov Arra**	**56.74**	**311**	P	**P**	**10 53 59.0**	**+0.7**
	1.5nm,0.7s,baz=42,slow=7.1,SNR=13						
MKAR	**Makanchi Array**	**57.48**	**306**	P	**P**	**10 54 03.4**	**-0.3**
	0.6nm,0.8s,baz=51,slow=8.1,SNR=4.5						
TXAR	**Lajitas Array**	**61.56**	**78**	P	**P**	**10 54 31.0**	**-1.1**
	0.1nm,0.4s,baz=302,slow=5.4,SNR=6.1						

NNC 26 11:11:24.2±2.5, 37°.78N×71°.96E, h0km, mb3.5, mpv3.1, 2C-3D, Error ellipse: s-maj=20.8km s-min=16.1km az=48.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.22**	**21**	Pg	Pb	11 12 58.9	+2.3
	2.5nm,0.8s						
AAK				Lg	Lg	11 14 11.4	
	3.8nm,1.0s						
KK31	**Karatay Array**	**5.43**	**349**	⇑Pn	Pn	11 12 45.8	-0.7
	0.7nm,0.4s,baz=173,slow=12,SNR=13						
KK31				⇑Sn	Sn	11 13 51.2	+1.6
	0.7nm,0.3s,baz=166,slow=21,SNR=3.7						
KK31				⇓Lg	Lg	11 14 15.8	
	1.9nm,0.5s,baz=166,slow=28,SNR=3.5						
TKM2	**Tokmak 2**	**5.84**	**27**	⇓Pn	Pn	11 12 53.0	+0.8
	2.2nm,0.7s						
TKM2				⇓Lg	Lg	11 14 27.2	
	0.9nm,0.7s						

IDC 26 11:18:16.1±26.0, 22°.45S×172°.49W, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.8/46, mbtmp4.3/4, Error ellipse: s-maj=491.0km s-min=161.4km az=75.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.43**	**266**	P	P	11 25 40.0	+0.2
	5.1nm,0.3s,baz=95,slow=10,SNR=18						
STKA	**Stephens Creek**	**41.66**	**247**	P	P	11 26 05.0	-1.5
	1.9nm,0.8s,baz=95,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**49.09**	**258**	P	P	11 27 05.5	-0.1
	0.6nm,0.4s,baz=100,slow=8.3,SNR=14						
WRA	**Warramunga Arr**	**49.42**	**262**	P	P	11 27 08.7	+0.5
	1.7nm,0.3s,baz=99,slow=7.0,SNR=8.8						

*MOS **26** 11:28:20.4±1.1, 0°.11N×123°.29E, h145km, mb5.4/51, Error ellipse: s-maj=7.9km s-min=4.4km az=109.4*
*NEIC **26** 11:28:21.9±2.7, 0°.02N±0°.06×123°.46E±0°.06, h142km±4km, mb5.4/153, Error ellipse: s-maj=9.4km s-min=8.9km az=150.0*
*UNK **26** 11:28:21.9, 0°.04N×123°.42E, h139km*
*BJI **26** 11:28:22.0±0.0, 0°.10N×123°.50E, h148km, mB5.1/51, mb5.3/80*
*GCMT **26** 11:28:22.9±0.1, 0°.04N±0°.01×123°.57E±0°.01, h138km±1km, MW5.2/151, Moment Tensor Solution. s93,c128; s151,c259; Duration: 1!0 Moment tensor: Scale 10^16 Nm; Mrr2.63±.13; Mθθ2.50±.14; Mϕϕ-5.12±.15; Mrθ5.36±.10; Mrϕ-5.14±.13; Mθϕ0.41±.11; Best double couple: Ms8.65?00×10^16 NP1:ϕ168.00000°, δ50.00000°, λ19.00000°. NP2:ϕ66.00000°, δ76.00000°, λ139.00000°. Principal axes: T 8.8030, Plg39.0000°, Azm19.0000°; N -0.2820, Plg47.0000°, Azm230.0000°; P -8.5110, Plg16.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **26** 11:28:22.9±1.1, 0°.13N×123°.27E, h151km±9km, mb4.8/36, mb1 4.8/40, mb1mx4.7/47, mbtmp5.2/40, MS3.9/20, Ms1 3.9/20, ms1mx3.7/33 Error ellipse: s-maj=10.5km s-min=6.8km az=71.0*
*DJA **26** 11:28:23.3±0.1, 0°.N±2°×12°.3E±°, h144km±2km, M5.2/92, mb5.2/92, mB5.7/47, MLv5.8/23, Mw(mB)5.2/47, Mwp5.2/6*
*KLM **26** 11:28:25.0, 0°.11N×123°.50E, h179km, mb5.5*

ISC 26 11:28:23.2±0.3, 0°.01S±0°.03×123°.39E±0°.04, h156km±2km, h156km:pP-P, n596, σ1942/652, mb5.3/177, 62C-8D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.82**	**45**	P	**Pn**	**11 28 46.0**	**-1.1**
KMSI				S	**Sn**	**11 29 05.3**	**-0.1**
LUWI	**Luwuk**	**1.20**	**211**	P	**Pn**	**11 28 48.2**	**-2.0**
LUWI	**Luwuk**	**1.20**	**211**		**Pn**	**11 28 48.7**	**-1.5**
MRSI	**Marisa**	**1.53**	**288**	P	**Pn**	**11 28 52.1**	**-1.4**
SANI	**Sanana**	**3.29**	**128**	P	**Pn**	**11 29 10.5**	**-4.0**
MPSI	**Mapaga**	**3.51**	**276**	P	**Pn**	**11 29 17.6**	**+0.3**
TNTI	**Ternate**	**4.05**	**79**	P	**Pn**	**11 29 21.9**	**-2.3**
TNTI	**Ternate**	**4.05**	**79**	Pn	**Pn**	**11 29 21.9**	**-2.3**
LBMI	**Labuha**	**4.16**	**99**	P	**Pn**	**11 29 22.6**	**-3.0**
TTSI	**Tana Toraja**	**4.67**	**230**	P	**Pn**	**11 29 33.5**	**+1.1**
NLAI	**Namlea**	**4.90**	**131**	P	**Pn**	**11 29 34.2**	**-1.2**
SPSI	**Sidrap Palu**	**5.34**	**223**	P	**Pn**	**11 29 41.6**	**+0.4**
	5.9nm5μm15μm2μm,0.6s						
BNSI	**Bone**	**5.46**	**217**	P	**Pn**	**11 29 43.3**	**+0.5**
	5.2nm12μm1μm,0.6s						
BBSI	**Bau Bau**	**5.50**	**189**	P	**Pn**	**11 29 43.4**	**0.0**
	0.9nm2μm226nm,0.7s						
AAI	**Ambon**	**6.03**	**127**	P	**Pn**	**11 29 49.9**	**-0.5**
	8.4nm9μm26μm2μm,0.6s						
KAPI	**Kappang**	**6.16**	**216**	P	**Pn**	**11 29 52.2**	**+0.1**
	96nm,0.3s,baz=5.4,slow=7.3,SNR=94						
KAPI				S	**Sn**	**11 30 59.7**	**-2.0**
	81nm,0.3s,baz=215,slow=23,SNR=7.5						
KAPI				LR	LR	11 32 47.1	
	comp=Z,2μm,19.1s,baz=48,slow=43						
KAPI	**Kappang**	**6.16**	**216**	P	**Pn**	**11 29 52.6**	**+0.5**
KAPI						11 30 59.7	
KAPI	**Kappang**	**6.16**	**216**	Pn	**Pn**	**11 29 52.6**	**+0.5**
SMKI	**Samarinda**	**6.20**	**266**	P	**Pn**	**11 29 54.2**	**+1.6**
	3.7nm12μm897nm,0.9s						
MSAI	**Masohi**	**6.45**	**121**	P	**Pn**	**11 29 55.4**	**-0.6**
	2.9nm6μm490nm,0.6s						
DDMP	**Don Marcelino,**	**6.50**	**21**	*e*P	**Pn**	**11 29 57.8**	**+1.2**
DDMP				*e*S	**Sn**	**11 31 11.6**	**+1.7**
SKMP	**Bagumbayan, Su**	**6.59**	**10**	*e*P	**Pn**	**11 29 57.8**	**0.0**
SKMP				*e*S	**Sn**	**11 31 10.6**	**-1.4**
BKB	**Balikpapan**	**6.61**	**259**	P	**Pn**	**11 30 00.1**	**+2.0**
	6.3nm5μm19μm2μm,0.9s						
BKB	**Balikpapan**	**6.61**	**259**	Pn	**Pn**	**11 29 59.8**	**+1.7**
MYLDM	**Lahad Datu**	**7.10**	**317**	Pn	**Pn**	**11 30 06.8**	**+2.1**
KCP	**Kidapawan**	**7.17**	**14**	⇑*i*P	**Pn**	**11 30 08.3**	**+2.6**
DMPH	**Davao City--Mi**	**7.35**	**17**	*e*P	Pn	11 30 14.1	+6.1
MATI	**Mati**	**7.48**	**22**	*e*P	**Pn**	**11 30 08.2**	**-1.4**
MATI				*e*S	**Sn**	**11 31 38.8**	**+5.5**
PAGZ	**Pagadian**	**7.80**	**360**	*e*P	**Pn**	**11 30 15.2**	**+1.2**
BNDI	**Bandanaira**	**7.90**	**125**	P	**Pn**	**11 30 13.8**	**-1.5**
	12nm45μm3μm,0.7s						
SIJI	**Sorong**	**7.92**	**96**	P	**Pn**	**11 30 14.2**	**-1.4**
	95nm,0.3s,baz=302,slow=9.8,SNR=158						
KBKI	**Kotabaru**	**7.93**	**246**	P	**Pn**	**11 30 16.8**	**+1.2**
	3μm282nm,0.9s						
BUKP	**Musuan**	**8.01**	**12**	*e*P	**Pn**	**11 30 18.1**	**+1.3**
BUKP				*e*S	**Sn**	**11 31 48.2**	**+2.0**
SPMM	**Sapulut**	**8.36**	**304**	P	**Pn**	**11 30 24.0**	**+2.6**
CGP	**Cagayan de Oro**	**8.51**	**9**	⇓*i*P	**Pn**	**11 30 26.8**	**+3.4**
MTKI	**Muara Teweh, K**	**8.55**	**264**	P	**Pn**	**11 30 25.7**	**+1.8**
	231nm,0.9s						
MMRI	**Maumere**	**8.65**	**188**	P	**Pn**	**11 30 26.5**	**+1.3**
	5μm356nm,0.9s						
MMRI	**Maumere**	**8.65**	**188**		**Pn**	**11 30 26.8**	**+1.6**
EDFI	**Ende, Flores**	**8.85**	**191**	P	**Pn**	**11 30 27.6**	**-0.4**
	3μm105nm,0.5s						
FAKI	**Fak Fak**	**9.31**	**108**	P	**Pn**	**11 30 31.3**	**-2.8**
	4μm330nm,1.1s						
FAKI	**Fak Fak**	**9.31**	**108**	Pn	**Pn**	**11 30 31.3**	**-2.8**
KKM	**Kota Kinabalu**	**9.35**	**310**	Pn	**Pn**	**11 30 36.8**	**+2.1**
SOEI	**Soe**	**9.72**	**175**	P	**Pn**	**11 30 41.2**	**+1.6**
	6μm535nm,0.8s						
SOEI	**Soe**	**9.72**	**175**	Pn	**Pn**	**11 30 43.3**	**+3.7**
CNOP	**Candoni, Negro**	**9.80**	**356**	*e*P	**Pn**	**11 30 42.0**	**+1.5**
WSI	**Waingapu**	**10.08**	**198**	P	**P**	**11 30 55.1**	**+1.0**
BATI	**Baumata**	**10.13**	**178**	P	**Pn**	**11 30 47.2**	**+2.3**
	14nm,0.3s,baz=297,slow=1.9,SNR=9.1						
BATI	**Baumata**	**10.13**	**178**	P	**Pn**	**11 30 46.5**	**+1.5**
	3μm365nm,0.7s						
MSLP	**Maasin**	**10.18**	**8**	*e*P	**Pn**	**11 30 47.6**	**+2.0**
WBSI	**Waikabubak, Su**	**10.37**	**202**	P	**Pn**	**11 30 48.9**	**+0.9**
	2μm212nm,0.7s						
BATP	**Bataraza**	**10.37**	**328**	*e*P	**Pn**	**11 30 49.8**	**+1.8**
BATP				*e*S	**S**	**11 32 46.7**	**+2.6**
PLAI	**Plampang**	**10.39**	**212**	P	**Pn**	**11 30 50.1**	**+1.7**
	2μm172nm,1.4s						
BASI	**Baing, Sumba**	**10.52**	**195**	P	**Pn**	**11 30 52.1**	**+2.0**
	4μm251nm,0.8s						
GUIM	**Jordan**	**10.60**	**356**	*e*P	**Pn**	**11 30 52.9**	**+1.8**
JAP	**San Jose, Anti**	**10.78**	**352**	⇑*e*P	**Pn**	**11 30 56.5**	**+3.1**
RKPI	**Ransiki, Papua**	**10.89**	**98**	P	**P**	**11 31 06.9**	**+3.8**
CUYO	**Cuyo Island**	**11.04**	**348**	*e*P	**P**	**11 31 01.5**	**-3.7**
SAUI	**Saumlaki**	**11.17**	**135**	P	**Pn**	**11 30 58.9**	**+0.3**
	1μm,1.2s						
SAUI	**Saumlaki**	**11.17**	**135**	Pn	**Pn**	**11 30 59.2**	**+0.5**
SBUM	**Sibu**	**11.43**	**282**	Pn	**Pn**	**11 31 02.7**	**+0.7**
SBUM	**Sibu**	**11.43**	**282**	P	**Pn**	**11 31 03.0**	**+1.0**
RCP	**Roxas**	**11.51**	**357**	⇑*e*P	**Pn**	**11 31 05.9**	**+2.9**
PBKI	**Pangkalan Bun**	**12.02**	**257**	P	**Pn**	**11 31 12.3**	**+2.6**
	8μm374nm,1.2s						
BUSP	**Coron**	**12.35**	**345**	*e*P	**Pn**	**11 31 15.9**	**+2.1**
JAGI	**Jajag, Banyuwa**	**12.47**	**227**	P	**P**	**11 31 18.5**	**-2.5**
	172nm,1.2s						
JAGI	**Jajag, Banyuwa**	**12.47**	**227**	Pn	**P**	**11 31 18.4**	**-2.5**
CNP	**Catarman**	**12.50**	**6**	*e*P	**Pn**	**11 31 17.3**	**+1.5**
SRPI	**Serui, Papua**	**12.98**	**98**	P	**Pn**	**11 31 21.5**	**-0.5**
	0.7nm,0.5s						
KSM	**Kuching**	**13.16**	**276**	P	**P**	**11 31 31.7**	**+3.0**
KSM	**Kuching**	**13.16**	**276**	P	**Pn**	**11 31 26.0**	**+1.6**
BOAC	**Boac**	**13.47**	**354**	*e*P	**P**	**11 31 32.3**	**+0.3**
PVCP	**Virac**	**13.54**	**3**	*e*P	**P**	**11 31 30.8**	**-2.0**
GQP	**Guinayangan**	**13.86**	**356**	⇑*i*P	**P**	**11 31 35.7**	**-0.7**
NGJI	**Ngawi**	**13.96**	**238**	P	P	11 31 44.9	+7.3
LUBP	**Lubang**	**14.01**	**347**	*e*P	**P**	**11 31 36.4**	**-1.7**
LQP	**Lukban**	**14.15**	**353**	⇑*i*P	**P**	**11 31 39.6**	**-0.3**
TGY	**Tagaytay City**	**14.23**	**350**	P	**P**	**11 31 40.4**	**-0.2**
	38nm,0.3s,baz=96,slow=17,SNR=18						
POLP	**Polilio Island**	**14.71**	**354**	*e*P	**P**	**11 31 45.2**	**-0.7**
MTN	**Manton Dam**	**14.88**	**149**	P	**Pn**	**11 31 45.2**	**-0.8**
	baz=15,SNR=165						
MTN	**Manton Dam**	**14.88**	**149**		**P**	**11 31 47.0**	**-0.8**
SMPI	**Sarmi**	**

KULM IAmb IAmb 11 33 21.3
comp=Z,161nm,1.4s
TPUB Ta-pu 23.32 354 P **P** **11 33 17.4 -0.1**
SSLB Suanglung 23.77 354 P **P** **11 33 20.7 -0.9**
SSLB IAmb IAmb 11 33 24.9
comp=Z,202nm,0.9s
COEN Coen 23.99 126 P **P** **11 33 23.6 -0.1**
baz=24,SNR=95
COEN Coen 23.99 126 IAmb IAmb 11 33 25.7
comp=Z,70nm,0.7s
RPSI Rantau Prapat 24.61 276 P **P** **11 33 29.6 +0.3**
YHNB Yeheng 24.61 356 IAmb IAmb 11 33 33.8
comp=Z,213nm,1.3s
PSI Prapat 24.62 277 P **P** **11 33 29.0 -0.5**
comp=Z,19nm,0.8s,baz=179,slow=1.8,SNR=7.1
PSI Prapat 24.62 277 P **P** **11 33 29.6 +0.1**
PSI pmax pmax
comp=Z,94nm,1.4s
TATO Taipei 24.91 356 P **P** **11 33 32.2 +0.4**
TATO IAmb IAmb 11 33 34.1
comp=Z,80nm,0.9s
GUMO Guam 25.20 57 P **P** **11 33 35.2 +0.5**
comp=Z,41nm,0.4s,baz=186,slow=4.2,SNR=7.9
GUMO Guam 25.20 57 P **P** **11 33 36.0 +1.4**
GUMO pmax pmax
comp=Z,108nm,0.9s
GUMO Guam 25.20 57 P **P** **11 33 36.0 +1.4**
GUMO IAmb IAmb 11 33 36.7
comp=Z,108nm,0.9s
QZH Quanzhou 25.24 350⇓ *i*P **P** **11 33 35.8 +1.0**
QZH sP **sP** **11 34 22.0 -3.0**
QZH *e*S **S** **11 37 50.0 +1.1**
QZH pmax pmax
comp=Z,88nm,1.0s
QZH pmax pmax
comp=Z,250nm,8.2s
QZH LR LR
comp=Z,240nm,15.4s
QZH LR LR
comp=Z,200nm,12.9s
QZH LR LR
comp=Z,270nm,15.9s
WRKA Warakurna 25.33 170 P **P** **11 33 36.0 +0.3**
baz=26,SNR=204
PMG Port Moresby 25.43 112 P **P** **11 33 37.4 +0.6**
comp=Z,62nm,0.7s,baz=299,slow=16,SNR=11
PMG Port Moresby 25.43 112*c**e*P **P** **11 33 36.7 0.0**
PMG pmax pmax
comp=Z,71nm,0.8s
PMG Port Moresby 25.43 112 P **P** **11 33 36.7 0.0**
PMG IAmb IAmb 11 33 41.1
comp=Z,70nm,0.8s
ASAR Alice Springs 25.64 157 P **P** **11 33 39.2 +0.6**
comp=Z,26nm,0.5s,baz=345,slow=15,SNR=240
ASAR PcP **PcP** **11 37 06.2 +0.9**
comp=Z,7.7nm,0.4s,baz=351,slow=2.1,SNR=8.5
ASAR ScP **ScP** **11 40 31.1 +0.7**
comp=Z,9.1nm,0.7s,baz=343,slow=2.6,SNR=16
ASAR LR LR 11 45 57.8
comp=Z,136nm,18.0s,baz=336,slow=41
ASAR Alice Springs 25.64 157 P **P** **11 33 38.8 +0.3**
QIS Mount Isa 25.86 143 P **P** **11 33 41.4 +0.9**
baz=26,SNR=131
MEEK Meekatharra 26.87 189 P **P** **11 33 49.7 +0.1**
baz=27,SNR=11
JOW Kunigami 27.10 10 P **P** **11 33 52.5 +1.0**
comp=Z,5.2nm,0.9s,baz=159,slow=14,SNR=5.7
MTSU Mount Surprise 27.34 132 P **P** **11 33 54.8 +1.0**
baz=27,SNR=20
SLVN Son La 28.50 319 P **P** **11 34 04.7 +0.6**
SLVN IAmb IAmb 11 34 12.5
comp=Z,56nm,1.1s
KRVT Keravat (AS076 28.92 99 P **P** **11 34 09.5 +1.6**
comp=Z,189nm,0.9s,baz=100,slow=3.3,SNR=22
MORW Morawa 29.74 193 P **P** **11 34 15.3 +0.3**
baz=30,SNR=7.7
CTAO Charters Tower 29.99 133 P **P** **11 34 18.8 +1.5**
CTAO pmax pmax
comp=Z,103nm,1.5s
CTAO Charters Tower 29.99 133 P **P** **11 34 18.8 +1.5**
CTAO IAmb IAmb 11 34 19.7
comp=Z,103nm,1.5s
CM31 Chiang Mai Arr 30.23 309 IAmb IAmb 11 34 24.1
comp=Z,101nm,1.4s
CMAR Chiang Mai Arr 30.23 309 P **P** **11 34 20.3 +0.9**
comp=Z,28nm,0.7s,baz=135,slow=7.1,SNR=84
CMAR PcP **PcP** **11 37 16.4 -0.2**
comp=Z,5.1nm,0.7s,baz=160,slow=2.3,SNR=6.5
CMAR ScP **ScP** **11 40 45.2 +0.7**
comp=Z,5.4nm,1.0s,baz=160,slow=2.4,SNR=11
CMAR PKiKP **PKiKP** **11 44 47.7 -0.7**
comp=Z,1.1nm,0.6s,baz=282,slow=1.6,SNR=5.3
CMAR LR LR 11 48 27.1
comp=Z,291nm,18.7s,baz=192,slow=40
CMAR Chiang Mai Arr 30.23 309 P **P** **11 34 20.7 +1.3**
CMAR pP **pP** **11 34 52.8 +0.6**
CMAR **PcP** **11 37 17.5 +0.9**
CHTO Chiang Mai 30.43 309 P **P** **11 34 22.8 +1.6**
CHTO IAmb IAmb 11 34 25.1
comp=Z,62nm,0.8s
CHTO pP **pP** **11 34 56.9 +2.8**
GYA Guiyang 30.86 330⇑ P **P** **11 34 27.5 +2.5**
GYA pP pP 11 34 59.5 +1.6
GYA PcP **PcP** **11 37 18.8 +0.5**
GYA S **S** **11 39 19.0 +1.4**
GYA sS sS 11 40 18.3 +4.2
GYA pmax pmax
comp=Z,64nm,0.9s
GYA LR LR
comp=Z,210nm,12.3s
GYA LR LR
comp=Z,340nm,22.4s
FORT Forrest 30.92 172 P **P** **11 34 25.9 +0.5**
baz=31,SNR=102
FORT Forrest 30.92 172 P **P** **11 34 25.9 +0.5**
BLDU Ballidu 31.09 191 P **P** **11 34 26.9 +0.1**
baz=31,SNR=9.0
KMBL Kambalda 31.22 182 P **P** **11 34 28.3 +0.4**
baz=31,SNR=12
WHN Wuhan 31.58 345⇓ P **P** **11 34 33.0 +1.9**
WHN pP **pP** **11 35 05.0 +1.0**
WHN pmax pmax
comp=Z,110nm,1.0s
KLBR Kellerberrin 31.86 189 P **P** **11 34 33.9 +0.3**
baz=32,SNR=18
KMI Kunming 31.99 323⇓ P **P** **11 34 38.8 +3.8**
KMI pP pP 11 35 09.5 +1.4
KMI sP sP 11 35 26.0 0.0
KMI pmax pmax
comp=Z,24nm,1.2s
KMI pmax pmax
comp=Z,120nm,5.4s
KMI LR LR
comp=Z,190nm,23.2s
KMI LR LR
comp=Z,400nm,18.1s
KMI LR LR
comp=Z,340nm,17.7s
NJ2 Nanjing 32.17 353 *e*P **P** **11 34 37.0 +0.7**
NJ2 PP **PP** **11 35 53.0 +0.7**
NJ2 pmax pmax
comp=Z,84nm,0.8s
JCJ Chichijima 32.45 32 P **P** **11 34 37.3 -1.4**
ENH Enshi 32.89 337 P **P** **11 34 43.1 +0.5**
QLP Quilpie 33.18 144 P **P** **11 34 46.3 +1.2**
baz=33,SNR=17
NWAO Narrogin (SRO) 33.25 189 P **P** **11 34 46.4 +0.7**
baz=34,SNR=10
JNU Nakatsue 33.70 11 P **P** **11 34 48.0 -1.6**
comp=Z,14nm,0.8s,baz=222,slow=4.9,SNR=9.1
JNU ScP **ScP** **11 40 55.8 -0.3**
comp=Z,9.6nm,0.9s,baz=122,slow=6.2,SNR=4.9
JNU LR LR 11 49 29.1
comp=Z,112nm,19.5s,baz=210,slow=38
BBOO Buckleboo 34.74 161 P **P** **11 34 59.1 +0.5**
baz=35,SNR=22
BBOO Buckleboo 34.74 161 P **P** **11 34 59.0 +0.4**
BBOO IAmb IAmb 11 36 20.1
comp=Z,83nm,1.2s
PATS Pohnpei 35.49 78 P **P** **11 35 06.2 +0.9**
RMQ Roma 35.91 139 P **P** **11 35 09.4 +0.7**
baz=36,SNR=17
CD2 Chengdu 35.96 331 P **P** **11 35 10.0 +1.0**
CD2 PP **PnPn** **11 36 35.5 +0.1**
CD2 S **S** **11 40 39.5 +3.4**
CD2 pmax pmax
comp=Z,320nm,1.1s
CD2 pmax pmax
comp=Z,620nm,3.7s
STKA Stephens Creek 36.07 153 P **P** **11 35 10.7 +0.8**
baz=36,SNR=83
STKA Stephens Creek 36.07 153 P **P** **11 35 11.0 +1.0**
comp=Z,63nm,0.6s,baz=328,slow=8.6,SNR=171
STKA ScP **ScP** **11 41 05.9 +1.2**
comp=Z,11nm,0.7s,baz=328,slow=4.7,SNR=6.3
STKA LR LR 11 50 44.6
comp=Z,249nm,18.9s,baz=318,slow=37
STKA Stephens Creek 36.07 153 P **P** **11 35 11.0 +1.0**
HTT Hallett 36.31 158 P **P** **11 35 13.6 +1.6**
baz=36,SNR=21
JHJ Hachijo jima 2 36.39 24 P **P** **11 35 10.9 -1.7**
comp=Z,34nm,0.4s,baz=90,slow=23,SNR=9.6
TJN Taejon 36.39 5*c**e*P **P** **11 35 11.5 -1.0**
XAN Xi'an 36.49 340 P **P** **11 35 13.8 +0.3**
XAN pmax pmax
comp=Z,100nm,0.9s
XAN LR LR
comp=Z,480nm,12.2s
XAN LR LR
comp=Z,660nm,15.1s
XAN LR LR
comp=Z,640nm,17.3s
XAN Xi'an 36.49 340 IAmb IAmb 11 35 15.5
comp=Z,70nm,0.9s
TIA Tai'an 36.51 351 P **P** **11 35 13.0 -0.5**
TIA pmax pmax
comp=Z,56nm,1.0s
EIDS Eidsvold 36.76 135 P **P** **11 35 15.7 -0.2**
baz=37,SNR=7.6
EIDS Eidsvold 36.76 135 IAmb IAmb 11 35 16.8
comp=Z,91nm,1.6s
INU Inuyama 37.40 18 P **P** **11 35 19.8 -1.3**
KSAR Wonju Array Be 37.50 6 P **P** **11 35 21.6 -0.3**
KSAR Wonju Array Be 37.50 6 P **P** **11 35 21.6 -0.3**
KSRS Korea Array 37.51 6 P **P** **11 35 21.6 -0.4**
comp=Z,21nm,0.9s,baz=181,slow=10,SNR=65
KSRS PcP **PcP** **11 37 36.5 -0.5**
comp=Z,3.9nm,0.7s,baz=197,slow=3.1,SNR=6.0
KSRS ScP **ScP** **11 41 10.3 +0.5**
comp=Z,5.0nm,0.8s,baz=187,slow=3.7,SNR=20
KSRS LR LR 11 50 51.3
comp=Z,116nm,21.4s,baz=190,slow=36
HNR Honiara 37.57 105 P **P** **11 35 23.1 +0.2**
HNR pmax pmax
comp=Z,138nm,0.6s
HNR Honiara 37.57 105 P **P** **11 35 23.1 +0.2**
CMSA Cobar Meteorol 37.81 148 P **P** **11 35 26.2 +1.6**
baz=38,SNR=120
KOHI KOHIMA 38.12 314 *e*P **P** **11 35 27.1 -0.4**
KOHI IAmb IAmb 11 35 29.4
comp=Z,72nm,0.8s
DL2 Dalian 38.76 358 P **P** **11 35 31.5 -0.9**
DL2 pmax pmax
comp=Z,83nm,0.7s
TIY Taiyuan 38.88 346 *e*P **P** **11 35 33.8 +0.3**
TIY pmax pmax
comp=Z,73nm,0.8s
TIY pmax pmax
comp=Z,99nm,4.2s
TIY LR LR
comp=Z,280nm,12.9s
TIY LR LR
comp=Z,71nm,4.3s
TIY LR LR
comp=Z,250nm,20.4s
MAJO Matsushiro 38.88 19*c i*P **P** **11 35 32.1 -1.4**
MAJO pmax pmax
comp=Z,160nm,1.3s
MAJO Matsushiro 38.88 19 P **P** **11 35 32.1 -1.4**
MAJO IAmb IAmb 11 35 33.3
comp=Z,141nm,1.1s
MAT Matsushiro 38.88 19 P **P** **11 35 32.1 -1.4**
MAT S **S** **11 41 16.0 -4.0**
MJAR Matsushiro Arr 38.88 19 P **P** **11 35 31.7 -1.8**
comp=Z,68nm,0.9s,baz=198,slow=9.6,SNR=170
MJAR PcP **PcP** **11 37 40.5 -0.8**
comp=Z,6.4nm,0.9s,baz=211,slow=4.4,SNR=4.4
MJAR ScP **ScP** **11 41 14.9 -0.2**
comp=Z,7.3nm,0.9s,baz=201,slow=4.3,SNR=16
MJAR LR LR 11 50 25.9
comp=Z,118nm,21.0s,baz=205,slow=34
MJAR Matsushiro Arr 38.88 19 P **P** **11 35 31.3 -2.2**
MJB9 Matsu-Tunnel 38.88 19 IAmb IAmb 11 35 33.3
comp=Z,137nm,1.1s
ZIRO ZIRO 39.42 316 *e*P **P** **11 35 39.5 +1.2**
ZIRO IAmb IAmb 11 35 43.4
comp=Z,28nm,0.5s
SHL Shillong 39.65 312 *e*P **P** **11 35 40.5 +0.3**
SHL Shillong 39.65 312 IAmb IAmb 11 35 42.4
comp=Z,88nm,1.1s
LZH Lanzhou 40.25 335⇑ P **P** **11 35 46.3 +1.3**
LZH pP pP 11 36 18.3 -0.8
LZH sP sP 11 36 34.8 -1.9
LZH PP **PnPn** **11 37 25.5 -0.7**
LZH PcP **PcP** **11 37 46.3 +0.4**
LZH pmax pmax
comp=Z,19nm,1.1s
LZH pmax pmax
comp=Z,68nm,5.2s
LZH LR LR
comp=Z,340nm,13.5s
LZH LR LR
comp=Z,360nm,13.2s
LZH LR LR
comp=Z,370nm,16.7s
ARPS Mount Arapiles 40.38 157 P **P** **11 35 47.2 +1.4**
baz=40,SNR=39
BJI Beijing 40.40 351 P **P** **11 35 45.3 -0.7**
BJI S **S** **11 41 46.5 +4.0**
BJI pmax pmax
comp=Z,23nm,1.1s
BJI LR LR
comp=Z,55nm,7.8s
BJI LR LR
comp=Z,160nm,22.3s
ARMA Armidale 40.44 141 P **P** **11 35 48.8 +2.2**
baz=40,SNR=130
ARMA Armidale 40.44 141 P **P** **11 35 48.8 +2.2**
YNG Young 41.38 148 P **P** **11 35 56.2 +2.1**
baz=42,SNR=17
BWNR Bhubaneshwar 41.95 301 *e*P **P** **11 35 58.5 -0.4**
BWNR IAmb IAmb 11 36 02.6
comp=Z,47nm,1.2s
HHC Hu-ho-hao-te 42.06 347 *e*P **P** **11 36 00.3 +0.6**
HHC pP pP 11 36 30.3 -3.7
HHC S **S** **11 42 11.3 +3.9**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,41nm,4.7s
HHC LR LR
comp=Z,120nm,14.5s
HHC LR LR
comp=Z,120nm,16.2s
HHC LR LR
comp=Z,130nm,16.2s
BTO Baotou 42.22 345 *e*P **P** **11 36 00.3 -0.6**
CAN Canberra 42.48 148 P **P** **11 36 05.3 +2.2**
CAN pmax pmax
comp=Z,88nm,0.5s
CAN Canberra 42.48 148 P **P** **11 36 05.3 +2.2**
TOO Toolangi 42.58 154 P **P** **11 36 06.3 +2.4**
baz=43,SNR=13
TOO Toolangi 42.58 154 P **P** **11 36 04.9 +1.0**
TOO pmax pmax
comp=Z,113nm,1.3s
TOO Toolangi 42.58 154 P **P** **11 36 04.9 +1.0**
TOO IAmb IAmb 11 36 07.4
comp=Z,113nm,1.3s
LSA Lhasa 42.62 317 P **P** **11 36 07.0 +2.2**
CNB Canberra Magne 42.67 148 P **P** **11 36 06.6 +2.0**
baz=43,SNR=39
MSHR Mys Shultsa 42.97 8*c**e*P **P** **11 36 06.7 -0.1**
MSHR pmax pmax
comp=Z,49nm,1.3s
VLA Vladivostok 43.61 9*c i*P **P** **11 36 11.7 -0.2**
VLA pmax pmax
comp=Z,65nm,1.2s
CN2 Changchun 43.66 2 *e*P **P** **11 36 14.5 +2.2**
ODAN Odare 43.73 311 *e*P **P** **11 36 14.9 +1.4**
comp=Z,199nm,0.9s
TAPN Taplejung 43.75 311 *e*P **P** **11 36 14.8 +1.1**
comp=Z,164nm,1.0s
RAMN Ramite 44.38 310 *e*P **P** **11 36 20.2 +1.5**
comp=Z,324nm,0.9s
PVM Polavaram 44.55 295 *e*P **P** **11 36 21.1 +1.3**
USA0B Ussuriysk Arra 44.68 9*c i*P **P** **11 36 19.8 -0.6**
USA0B Ussuriysk Arra 44.68 9 IAmb IAmb 11 36 21.3
comp=Z,75nm,1.0s
USRK Ussuriysk Ar. 44.68 9 P **P** **11 36 20.0 -0.4**
comp=Z,22nm,0.6s,baz=191,slow=7.4,SNR=100
USRK ScP **ScP** **11 41 37.3 -0.7**
comp=Z,4.6nm,1.0s,baz=236,slow=5.7,SNR=6.2
USRK LR LR 11 57 36.3
comp=Z,92nm,18.4s,baz=183,slow=39
USRK Ussuriysk Ar. 44.68 9 P **P** **11 36 19.7 -0.8**
GTA Gaotai 44.77 334⇑ P **P** **11 36 22.0 +0.6**
GTA pP pP 11 36 56.5 +0.4
GTA sP sP 11 37 12.0 -1.6
GTA PcP **PcP** **11 38 02.0 +1.1**
GTA ScP **ScP** **11 41 39.3 +0.5**
GTA PcS **PcS** **11 41 53.3 -1.5**
GTA sS sS 11 43 48.5 +2.7
GTA ScS **ScS** **11 45 59.8 -3.0**
GTA pmax pmax
comp=Z,130nm,1.1s
GTA pmax pmax
comp=Z,250nm,5.4s
GTA LR LR
comp=Z,140nm,19.7s
GTA LR LR
comp=Z,190nm,18.1s
GTA LR LR
comp=Z,230nm,19.4s
MDJ Mudanjiang 44.77 6 IAmb IAmb 11 36 25.2
comp=Z,76nm,1.1s
JIRN Jiri 45.05 311 *e*P **P** **11 36 25.4 +1.2**
SKHT Srikalahasti 45.36 289 *e*P **P** **11 36 25.1 -1.2**
GUN Gumba 45.42 311 *e*P **P** **11 36 28.1 +1.1**
comp=Z,224nm,0.8s
ERM Erimo 45.48 21*c**e*P **P** **11 36 26.4 -0.4**
ERM pmax pmax
comp=Z,62nm,1.2s
ERM Erimo 45.48 21 P **P** **11 36 27.1 +0.3**
PKI Pulchoki 45.60 310 *e*P **P** **11 36 29.2 +0.7**
PKIN Phulchoki 45.62 310 *e*P **P** **11 36 28.8 +0.3**
ADKI Addanki 45.65 292 *e*P **P** **11 36 29.3 +0.7**
DMN Daman 45.85 310 *e*P **P** **11 36 30.8 +0.5**
SANVU Saraoutou 45.90 112 P **P** **11 36 32.3 +1.8**
SANVU IAmb IAmb 11 36 34.5
comp=Z,66nm,0.9s
TEY Ternei 46.36 13⇑ *i*P **P** **11 36 33.4 -0.2**
TEY pmax pmax
comp=Z,200nm,0.9s
TEY pmax pmax
comp=N,120nm,0.9s
GKN Gorkha 46.41 310 *e*P **P** **11 36 34.5 -0.1**
NJS Nagarjunasagar 46.46 293 *e*P **P** **11 36 34.7 -0.2**
SRLM Srisailam 46.72 292 *e*P **P** **11 36 37.5 +0.6**
KOLN Koldanda 47.09 309 *e*P **P** **11 36 40.2 +0.3**
ASAJ Asahikawa 47.15 19 P **P** **11 36 40.0 +0.2**
comp=N,97nm,0.9s,baz=235,slow=12,SNR=66
ASAJ LR LR 11 58 32.8
comp=N,67nm,18.3s,baz=224,slow=38
RPR Rampur 47.16 296 *e*P **P** **11 36 40.5 +0.2**
DANN Dangsing 47.26 310 *e*P **P** **11 36 41.2 -0.1**
DZM Mont Dzumac 47.32 121 P **P** **11 36 43.0 +1.4**
comp=N,16nm,0.8s,baz=148,slow=3.2,SNR=23
HYB Hyderabad 47.40 294 *i* P **P** **11 36 42.0 -0.2**
HYB *e*pP **pP** **11 37 16.0 -0.9**
HYB Hyderabad 47.40 294 *e*P **P** **11 36 41.9 -0.4**
HYB IAmb IAmb 11 36 45.4
comp=Z,26nm,0.7s
HYB *i* pP **pP** **11 37 20.7 +3.8**
HYBB Hyderabad (bro 47.40 294 *e*P **P** **11 36 42.3 +0.1**
PYUN Piuthan 47.73 309 *e*P **P** **11 36 45.2 +0.4**
comp=Z,756nm,0.9s
URV Uravakonda 47.95 290 *e*P **P** **11 36 47.2 +0.8**
SRSP Sriramsagar 48.03 296 *e*P **P** **11 36 46.5 -0.5**
NGP Nagpur 48.12 299 *e*P **P** **11 36 47.6 -0.1**
NGP *i* pP **pP** **11 37 26.8 +4.1**
HIA Hailar 49.19 357 P **P** **11 36 55.0 -0.4**
HIA pmax pmax
comp=Z,43nm,0.8s
HIA Hailar 49.19 357 P **P** **11 36 55.0 -0.4**
HIA IAmb IAmb 11 36 55.8
comp=Z,43nm,0.8s
KLRI Killari 49.37 294 *e*P **P** **11 36 56.9 -0.5**
KLR Kul'dur 49.57 7 P **P** **11 36 57.4 -0.9**
comp=Z,21nm,0.8s,baz=202,slow=5.8,SNR=52
KLR LR LR 11 57 42.9
comp=Z,73nm,18.8s,baz=192,slow=36
KLR Kul'dur 49.57 7*c**e*P **P** **11 36 57.2 -1.1**
KLR pmax pmax
comp=Z,46nm,1.0s
YSS Yuzh-Sakhalins 49.75 17*α i*P **P** **11 36 59.1 -0.4**
YSS *e* 11 37 36.8
YSS pmax pmax
comp=Z,80nm,1.3s
YSS pmax pmax
comp=Z,200nm,5.2s
YSS MLR MLR
comp=Z,200nm,17.0s
YSS Yuzh-Sakhalins 49.75 17 P **P** **11 36 59.2 -0.4**
YSS IAmb IAmb 11 37 00.4
comp=Z,135nm,1.2s
ULN Ulaanbaatar 49.76 346*c**e*P **P** **11 36 59.3 -0.6**
ULN pmax pmax
comp=Z,40nm,0.8s
ULN Ulaanbaatar 49.76 346 P **P** **11 36 59.6 -0.2**
ULN IAmb IAmb 11 37 01.9
comp=Z,37nm,0.8s
SONM Songino Array 49.89 345 P **P** **11 37 00.5 -0.4**
comp=Z,39nm,0.7s,baz=160,slow=8.9,SNR=87
SONM PcP **PcP** **11 38 17.3 -1.7**
comp=Z,6.7nm,0.6s,baz=184,slow=2.5,SNR=4.0
SONM ScP **ScP** **11 41 58.0 -2.1**
comp=Z,1.9nm,0.8s,baz=187,slow=1.9,SNR=4.6
SONM LR LR 11 59 44.6
comp=Z,153nm,19.0s,baz=168,slow=38
BHPL Bhopal 50.26 301 *e*P **P** **11 37 03.9 -0.1**
BHPL IAmb IAmb 11 37 06.5
comp=Z,24nm,0.5s
GRNR Gornyy 51.79 10⇑ *i*P **P** **11 37 14.9 0.0**
GRNR pmax pmax
comp=N,40nm,1.1s
GRNR pmax pmax
comp=Z,80nm,0.9s
GRNR MLR MLR
comp=E,300nm,18.0s
ZAK Zakamensk 53.05 344 *e*P **P** **11 37 23.2 -1.1**
ZAK pmax pmax
comp=Z,15nm,1.0s
TYV Tymovskoe 53.26 15 *e*P **P** **11 37 26.2 +0.5**
TYV pmax pmax
comp=Z,400nm,3.0s
TYV pmax pmax
comp=Z,52nm,1.7s
SMLA Simla 53.62 310 *e*P **P** **11 37 29.0 +0.4**
SMLA IAmb IAmb 11 37 31.1
comp=Z,216nm,1.0s
SMLA *i* pP **pP** **11 38 04.9 +0.5**
ZEA Zeya 53.66 3 *e*P **P** **11 37 27.2 -1.3**
ZEA pmax pmax
comp=Z,58nm,1.0s
WMQ Urumqi 54.01 329 *e*P **P** **11 37 31.5 +0.2**
WMQ pP pP 11 38 05.8 -1.4
WMQ pmax pmax
comp=Z,37nm,0.9s
WMQ pmax pmax
comp=Z,140nm,3.7s
WMQ LR LR
comp=Z,230nm,20.9s
WMQ LR LR
comp=Z,260nm,26.5s
WMQ LR LR
comp=Z,190nm,23.7s
TLY Talaya 54.14 345 P **P** **11 37 31.9 -0.1**
comp=Z,23nm,0.7s,baz=175,slow=5.5,SNR=30
TLY LR LR 12 02 22.3
comp=Z,116nm,19.1s,baz=146,slow=38
TLY Talaya 54.14 345*c i*P **P** **11 37 31.8 -0.3**
TLY pmax pmax
comp=Z,23nm,0.7s
TLY Talaya 54.14 345 P **P** **11 37 31.4 -0.7**
IRK Irkutsk 54.49 346 *e*P **P** **11 37 34.6 0.0**
MOY Mondy 54.85 343 *e*P **P** **11 37 37.2 -0.1**

MOY pmax pmax
comp=Z,59nm,1.9s
MSVF Nonsavu 56.54 111 *i* P **P 11 37 49.9 0.0**
MSVF pmax pmax
comp=Z,23nm,0.9s
NIL Nilore 57.69 311 P **P 11 37 57.1 -0.6**
NIL pmax pmax
comp=Z,116nm,1.7s
NIL Nilore 57.69 311 P **P 11 37 57.1 -0.6**
NIL lAmb lAmb 11 37 59.6
comp=Z,116nm,1.6s
ZSN Zaisan 57.94 330 *e*P **P 11 37 59.0 -0.1**
comp=Z,36nm,2.5s,baz=330
ZSN *i* pP **pP 11 38 34.6 -0.9**
baz=330
ZSN *e*S **S 11 45 47.2 +0.1**
baz=330
ZSN Zaisan 57.94 330 *e*P **P 11 37 59.0 -0.1**
ZSN *i* *PP **pP 11 38 34.6 -0.9**
ZSN *e*S **S 11 45 47.1 +0.1**
ZSN pmax pmax
comp=Z,36nm,2.5s
BOD Bodaibo 58.14 354 *e*P **P 11 37 59.3 -1.0**
BOD pmax pmax
comp=Z,67nm,1.0s
SHLS Shalkode 58.20 323⇑ *i*P **P 11 37 59.8 -1.4**
comp=Z,56nm,1.8s,baz=324
SHLS *i* pP **pP 11 38 35.8 -1.8**
baz=324
SHLS Shalkode 58.20 323*c* *i*P **P 11 37 59.8 -1.4**
SHLS *i* *PP **pP 11 38 35.8 -1.8**
SHLS pmax pmax
comp=Z,57nm,1.8s
DGZ Jazzator, Alta 58.30 333*c* *i*P **P 11 38 01.5 -0.3**
DGZ pmax pmax
comp=Z,53nm,0.8s
KSH Kashi 58.45 318 *e*P **P 11 38 03.8 +0.8**
KSH sP PcP 11 38 53.5 +1.5
KSH pmax pmax
comp=Z,24nm,0.5s
KSH pmax pmax
comp=Z,220nm,4.6s
UZB Uzynbulak 58.46 323⇑ *i*P **P 11 38 03.1 +0.1**
comp=Z,25nm,1.4s,baz=323
UZB *i* pP **pP 11 38 39.0 -0.4**
baz=323
UZB Uzynbulak 58.46 323*c* *i*P **P 11 38 03.1 +0.1**
UZB *i* *PP **pP 11 38 39.0 -0.4**
UZB pmax pmax
comp=Z,25nm,1.4s
SATY Saty 58.78 323 *e*P **P 11 38 05.7 +0.4**
comp=Z,20nm,0.6s,baz=323
SATY *i* pP **pP 11 38 41.7 0.0**
baz=323
SATY Saty 58.78 323 *e*P **P 11 38 05.6 +0.4**
SATY *i* *PP **pP 11 38 41.7 0.0**
SATY pmax pmax
comp=Z,20nm,0.6s
MK31 Makanchi Array 58.83 328 lAmb lAmb 11 38 06.9
comp=Z,16nm,0.5s
MKAR Makanchi Array 58.83 328 P **P 11 38 05.1 -0.3**
comp=Z,22nm,0.4s,baz=124,slow=8.1,SNR=198
MKAR PcP **PcP 11 38 51.3 -1.9**
comp=Z,11nm,0.5s,baz=154,slow=3.0,SNR=12
MKAR ScP **ScP 11 42 38.2 -0.9**
comp=Z,4.5nm,1.0s,baz=123,slow=4.5,SNR=5.6
MKAR S S 11 45 49.8 -8.8
comp=Z,0.2nm,0.5s,baz=91,slow=34,SNR=2.0
MKAR PKKPbc PKKPdf 11 59 48.8 +28
comp=Z,0.5nm,0.6s,baz=292,slow=6.4,SNR=4.7
MKAR Makanchi Array 58.83 328 P **P 11 38 04.3 -1.0**
MKAR 11 38 51.3
MKAR S S 11 45 49.8 -8.8
MKAR Makanchi Array 58.83 328 P **P 11 38 04.3 -1.0**
KPKS Kokpek 58.85 323⇑ *i*P **P 11 38 05.8 +0.1**
comp=Z,20nm,0.6s,baz=323
KPKS *i* pP **pP 11 38 40.9 -1.2**
baz=323
KPKS *e*S **S 11 45 59.4 +0.3**
baz=323
KPKS Kokpek 58.85 323*c* *i*P **P 11 38 05.7 +0.1**
KPKS *i* *PP **pP 11 38 40.8 -1.2**
KPKS *e*S **S 11 45 59.3 +0.2**
KPKS pmax pmax
comp=Z,20nm,0.6s
MAKZ Makanchi 59.00 328 P **P 11 38 06.2 -0.3**
MAKZ pmax pmax
comp=Z,22nm,0.5s
MAKZ Makanchi 59.00 328 P **P 11 38 06.2 -0.3**
MAKZ lAmb lAmb 11 38 08.0
comp=Z,22nm,0.5s
KDJ Kajisay 59.03 321 lAmb lAmb 11 38 09.8
comp=Z,24nm,0.8s
TNSS Tian-Shan 59.66 322⇑ *i*P **P 11 38 12.2 +0.6**
baz=322
TNSS *i* pP **pP 11 38 48.1 0.0**
baz=322
TNSS Tian-Shan 59.66 322*c* *i*P **P 11 38 12.2 +0.6**
TNSS *i* *PP **pP 11 38 48.1 0.0**
MDOK Medeo 59.67 322 *i* P **P 11 38 11.7 +0.3**
baz=322
MDOK *i* pP **pP 11 38 48.1 +0.1**
baz=322
MDOK *e*S **S 11 46 10.4 +0.6**
baz=322
MDOK Medeo 59.67 322 *i* P **P 11 38 11.7 +0.3**
MDOK *i* *PP **pP 11 38 48.0 +0.1**
MDOK *e*S **S 11 46 10.3 +0.5**
ULHL Ulahol 59.68 321 P **P 11 38 11.8 +0.3**
SNR=10.0
AAA Alma-Ata 59.77 322⇑ *e*P **P 11 38 12.4 +0.4**
baz=322
AAA Alma-Ata 59.77 322*ce*P **P 11 38 12.3 +0.4**
TDK Taldyqorghan 59.89 325 *i* P **P 11 38 12.8 +0.1**
baz=324
TDK Taldyqorghan 59.89 325 *i* P **P 11 38 12.7 +0.1**
BOOM Boomskoye usch 60.00 321 P **P 11 38 13.2 -0.5**
BOOM pmax pmax
comp=Z,26nm,1.2s
BOOM Boomskoye usch 60.00 321 P **P 11 38 13.2 -0.5**
MTBS Maitube 60.03 322⇑ *i*P **P 11 38 12.7 -1.1**
baz=322
MTBS Maitube 60.03 322⇑ *i*P **P 11 38 12.6 -1.1**
CHKK Chushkaly 60.08 323⇑ *i*P **P 11 38 13.7 -0.4**
baz=323
CHKK Chushkaly 60.08 323*c* *i*P **P 11 38 13.6 -0.4**
PEA0B Petropavlovsk- 60.14 23*ce*P **P 11 38 14.4 +0.2**
PETK Petropavlovsk- 60.14 23 P **P 11 38 14.8 +0.6**
comp=Z,40nm,0.7s,baz=206,slow=3.9,SNR=57
PETK Petropavlovsk- 60.14 23 P **P 11 38 14.3 +0.1**
PETK Petropavlovsk- 60.14 23 P **P 11 38 14.3 +0.1**
KZA Kyzart 60.22 320 P **P 11 38 16.1 +0.7**
SNR=21
TKM2 Tokmak 2 60.44 321 P **P 11 38 16.9 +0.2**
SNR=26
PET Petropavlovsk 60.45 24 *i* P **P 11 38 16.8 +0.6**
PET pmax pmax
comp=Z,129nm,1.4s
PET Petropavlovsk 60.45 24 P **P 11 38 16.9 +0.6**
KUU Kurty 60.50 323⇑ *i*P **P 11 38 16.9 0.0**
comp=Z,40nm,0.6s,baz=322
KUU *i* pP **pP 11 38 53.1 -0.4**
baz=322
KUU *e*S **S 11 46 20.6 +0.4**
baz=322
KUU Kurty 60.50 323*c* *i*P **P 11 38 16.8 0.0**
KUU *i* *PP **pP 11 38 53.0 -0.4**
KUU *e*S **S 11 46 20.5 +0.4**
KUU pmax pmax
comp=Z,40nm,0.6s
LBZ Lake Benmore 60.59 143 P **P 11 38 19.4 +2.0**
LBZ lAmb lAmb 11 38 19.7
comp=Z,40nm,1.1s
KBK Karagaybulak 60.71 321 P **P 11 38 18.9 +0.4**
SNR=8.8
RPZ Rata Peaks 60.76 142 P **P 11 38 20.5 +1.9**
UCH Uchtor 60.77 320 P **P 11 38 19.8 +0.5**
SNR=15
THZ Tophouse 60.93 139 P **P 11 38 20.6 +0.7**
THZ lAmb lAmb 11 38 37.8
comp=Z,96nm,1.6s
AAK Ala-Archa 60.99 321 P **P 11 38 20.2 -0.1**
comp=Z,7.4nm,0.6s,baz=106,slow=5.1,SNR=16
AAK Ala-Archa 60.99 321 P **P 11 38 21.0 +0.7**
SNR=5.3
AAK Ala-Archa 60.99 321 P **P 11 38 21.1 +0.7**

AAK pmax pmax
comp=Z,23nm,1.2s
AAK Ala-Archa 60.99 321 P **P 11 38 21.1 +0.7**
OXZ Oxford 61.17 141 lAmb lAmb 11 39 03.2
comp=Z,69nm,1.6s
AML Almayashu 61.25 320 P **P 11 38 22.7 +0.3**
SNR=24
USP Ospenovka 61.30 321 P **P 11 38 22.0 -0.3**
SNR=15
SGDS Sogindy 61.32 321⇑ *i*P **P 11 38 22.1 -0.4**
comp=Z,23nm,1.6s,baz=321
SGDS *i* pP **pP 11 38 58.6 -0.6**
baz=321
SGDS Sogindy 61.32 321*c* *i*P **P 11 38 22.0 -0.4**
SGDS *i* *PP **pP 11 38 58.6 -0.6**
SGDS pmax pmax
comp=Z,23nm,1.6s
EKS2 Erkin-Say 61.46 320 P **P 11 38 24.0 +0.5**
SNR=17
KHZ Kahutara 61.66 140 P **P 11 38 25.6 +1.0**
KHZ lAmb lAmb 11 38 37.3
comp=Z,95nm,1.7s
YAK Yakutsk 62.06 3 P **P 11 38 26.3 -0.6**
comp=Z,117nm,0.8s,baz=355,slow=1.0,SNR=62
YAK Yakutsk 62.06 3*c* *i*P **P 11 38 26.4 -0.5**
YAK *e**PP **pP 11 38 58.0 -5.8**
YAK *e*S **S 11 46 39.1 0.0**
YAK *e* 11 47 58.7
YAK *e*SS **SS 11 50 46.9 +2.2**
YAK *e*SSS SSS 11 53 25.2
YAK pmax pmax
comp=Z,202nm,0.8s
YAK pmax pmax
comp=N,80nm,1.0s
YAK pmax pmax
comp=E,12nm,0.9s
YAK smax smax
comp=E,26nm,2.8s
YAK smax smax
comp=N,47nm,2.3s
YAK Yakutsk 62.06 3 P **P 11 38 26.3 -0.6**
GAR Garm 62.09 315 lAmb lAmb 11 38 28.8
comp=Z,38nm,0.6s
GAR **PcP 11 39 04.8 -1.9**
BKZ Black Stump Fm 62.17 135 lAmb lAmb 11 38 31.7
comp=Z,64nm,1.2s
SEM Semipalatinsk 62.18 330 *e*P **P 11 38 26.4 -1.8**
baz=330
SEM Semipalatinsk 62.18 330 *e*P **P 11 38 26.4 -1.8**
ZAA0 Zalesovo Array 62.48 335 lAmb lAmb 11 38 30.8
comp=Z,38nm,1.0s
ZALV Zalesovo Beam 62.48 335 P **P 11 38 28.3 -1.6**
comp=Z,22nm,0.6s,baz=121,slow=6.2,SNR=51
ZALV PcP **pP 11 39 05.7 -1.2**
comp=Z,6.0nm,0.6s,baz=128,slow=6.4,SNR=4.9
ZALV S **S 11 46 37.7 -7.0**
comp=Z,1.6nm,0.8s,baz=122,slow=16,SNR=3.6
ZALV LR LR 12 05 22.6
comp=Z,114nm,21.6s,baz=125,slow=36
ZALV Zalesovo Beam 62.48 335 P **P 11 38 28.2 -1.7**
BTLS Baital 62.50 323⇑ *i*P **P 11 38 29.4 -0.8**
comp=Z,16nm,1.8s,baz=323
BTLS *i* pP **pP 11 39 06.2 -0.8**
baz=323
BTLS *e*S **S 11 46 44.7 -0.6**
baz=323
BTLS Baital 62.50 323*c* *i*P **P 11 38 29.4 -0.8**
BTLS *i* *PP **pP 11 39 06.2 -0.8**
BTLS *e*S **S 11 46 44.7 -0.6**
BTLS pmax pmax
comp=Z,16nm,1.8s
CHGR Chuyangaron 62.77 314 P **P 11 38 31.1 -1.1**
CHGR lAmb lAmb 11 38 34.1
comp=Z,59nm,1.1s
MA2 Magadan 63.14 15*ce*P **P 11 38 34.6 +0.5**
MA2 pmax pmax
comp=Z,178nm,1.2s
MA2 Magadan 63.14 15 P **P 11 38 34.9 +0.8**
DZA Taraz 63.15 319⇑ *i*P **P 11 38 33.9 -0.7**
baz=319
DZA Taraz 63.15 319*c* *i*P **P 11 38 33.8 -0.7**
KURBB Kurchatov Arra 63.17 330 P **P 11 38 33.7 -0.8**
comp=Z,28nm,0.7s,baz=133,slow=6.5,SNR=136
KURBB PcP **PcP 11 39 09.3 -1.2**
comp=Z,12nm,0.9s,baz=131,slow=5.6,SNR=10
KURBB PP **PP 11 40 58.4 +3.0**
comp=Z,4.3nm,1.0s,baz=126,slow=8.9,SNR=5.1
KURBB ScP 11 42 56.6
comp=Z,2.5nm,1.0s,baz=116,slow=3.8,SNR=4.5
KURBB Kurchatov Arra 63.17 330 P **P 11 38 33.4 -1.1**
KURK Kurchatov 63.18 330 P **P 11 38 33.8 -0.7**
KURK pmax pmax
comp=Z,57nm,0.7s
KURK Kurchatov 63.18 330 P **P 11 38 33.8 -0.7**
JBG Jabagly 63.44 319*c* *i*P **P 11 38 37.4 +0.7**
JBG pmax pmax
comp=Z,10.0nm,1.2s
IUG Iuzhnay 63.66 318 *e*P **P 11 38 37.4 -0.7**
baz=318
IUG Iuzhnay 63.66 318 *e*P **P 11 38 37.4 -0.7**
KK31 Karatay Array 63.78 319 *i* P **P 11 38 37.7 -1.0**
KK31 Karatay Array 63.78 319 **PcP 11 39 15.8 +2.5**
KKAR Karatay Array 63.78 319 P **P 11 38 37.8 -0.9**
KKAR Karatay Array 63.78 319 P **P 11 38 37.8 -0.9**
CHM Chimkent 64.02 318⇑ *i*P **P 11 38 40.0 -0.3**
baz=318
CHM Chimkent 64.02 318*c* *i*P **P 11 38 40.0 -0.3**
BRZS Berezniki 65.88 327⇑ *i*P **P 11 38 51.4 -0.7**
comp=Z,10nm,0.7s,baz=327
BRZS *i* pP **pP 11 39 28.0 -1.4**
baz=327
BRZS Berezniki 65.88 327*c* *i*P **P 11 38 51.4 -0.7**
BRZS *i* *PP **pP 11 39 28.0 -1.4**
BRZS pmax pmax
comp=Z,10.0nm,0.7s
CASY Casey 66.76 186 P **P 11 38 57.5 +0.1**
BVA0 Borovoye Array 68.69 329 *i* P **P 11 39 08.5 -1.3**
BVAR Borovoye Array 68.69 329 P **P 11 39 08.8 -1.0**
comp=Z,2.0nm,0.3s,baz=125,slow=9.3,SNR=30
BRVK Borovoye 68.77 329*ce*P **P 11 39 09.2 -1.0**
BRVK pmax pmax
comp=Z,17nm,1.2s
BRVK Borovoye 68.77 329 P **P 11 39 09.3 -0.9**
GEYT Alibeck 70.69 310 P **P 11 39 21.0 -1.4**
comp=Z,2.1nm,0.4s,baz=194,slow=3.1,SNR=5.4
GEYT Alibeck 70.69 310 P **P 11 39 21.3 -1.1**
TIXI Tiksi 71.63 2 P **P 11 39 25.9 -1.3**
comp=Z,31nm,0.3s,baz=157,slow=4.7,SNR=66
TIXI Tiksi 71.63 2*ce*P **P 11 39 25.7 -1.5**
TIXI pmax pmax
comp=Z,148nm,1.1s
TIXI Tiksi 71.63 2 P **P 11 39 25.9 -1.3**
TIXI lAmb lAmb 11 39 27.8
comp=Z,118nm,1.0s
ADK Adak 71.91 34 P **P 11 39 29.8 +0.5**
ADK pmax pmax
comp=Z,62nm,1.0s
ADK Adak 71.91 34 P **P 11 39 29.8 +0.5**
ADK lAmb lAmb 11 39 30.9
comp=Z,62nm,1.0s
AB31 Akbulak array 72.98 322 *i* P **P 11 39 34.2 -1.5**
ABKAR Akbulak array 72.98 322 P **P 11 39 34.1 -1.6**
NRIK Noril'sk 73.29 347 P **P 11 39 36.4 -0.7**
comp=Z,30nm,0.8s,baz=128,slow=6.0,SNR=27
NRIK LR LR 12 12 30.2
comp=Z,123nm,21.7s,baz=158,slow=36
AKTO Aktyubinsk 74.55 323 P **P 11 39 41.8 -3.1**
SVE Sverdlovsk 75.43 330 *e*P **P 11 39 48.6 -1.2**
SVE pmax pmax
comp=Z,46nm,1.1s
ARU Arti 76.34 329 P **P 11 39 53.5 -1.5**
comp=Z,7.3nm,0.8s,baz=140,slow=3.2,SNR=24
ARU Arti 76.34 329*c* *i*P **P 11 39 53.0 -1.9**
ARU *PP **pP 11 40 30.7 -2.4**
ARU 11 42 45.6
ARU S **S 11 49 25.1 -1.8**
ARU pmax pmax
comp=Z,30nm,1.0s
ARU Arti 76.34 329 P **P 11 39 51.9 -3.1**
UNV Unalaska Valle 78.37 35 P **P 11 40 06.4 +0.1**
UNV lAmb lAmb 11 40 07.7
comp=Z,66nm,0.9s
MAW Mawson 79.12 200 LR LR 12 09 42.6
comp=Z,76nm,20.6s,baz=56,slow=31
GAMB Gambell 79.15 24 P **P 11 40 10.2 -0.1**

GAMB lAmb lAmb 11 40 12.2
comp=Z,44nm,0.9s
VNDA Vanda 80.18 172 P **P 11 40 16.9 +1.2**
comp=Z,3.5nm,0.7s,baz=317,slow=5.8,SNR=18
VNDA LR LR 12 18 49.3
comp=Z,68nm,18.1s,baz=324,slow=38
VNDA Vanda 80.18 172 P **P 11 40 17.0 +1.3**
VNDA pmax pmax
comp=Z,7.0nm,0.9s
VNDA Vanda 80.18 172 P **P 11 40 16.9 +1.3**
FALS False Pass 80.38 34 P **P 11 40 17.1 0.0**
DDFL Dedoflistskaro 80.47 312 P **P 11 40 20.0 +2.0**
KIRV Kirov 81.69 329 *e*P **P 11 40 22.5 -1.5**
KZRT Kazreti 81.75 312 P **P 11 40 25.8 +1.0**
ZEI Tsey 82.29 313 *e*P **P 11 40 26.6 -1.2**
AKH Akhalkalaki 82.43 312 P **P 11 40 29.0 +0.5**
KBZ Khabaz 83.13 314 P **P 11 40 31.1 -0.7**
comp=Z,6.2nm,0.9s,baz=83,slow=3.3,SNR=9.3
KBZ Khabaz 83.13 314*ce*P **P 11 40 30.8 -1.0**
KBZ pmax pmax
comp=Z,11nm,1.1s
SHA1 Shidzhatmaz 83.31 314 *i* P **P 11 40 31.8 -1.2**
KIV Kislovodsk 83.31 314 *e*P **P 11 40 30.8 -2.0**
KIV pmax pmax
comp=Z,17nm,1.0s
RDOG Red Dog Mine 83.95 21 P **P 11 40 35.6 +0.1**
RDOG lAmb lAmb 11 40 37.4
comp=Z,56nm,0.8s
VRH Novokhopyorsk 84.78 321 *e*P **P 11 40 38.7 -1.2**
VRH pmax pmax
comp=Z,40nm,0.9s
SOC Sochi 85.42 314 *e*P **P 11 40 41.9 -1.4**
SOC *e* 11 43 59.1
SOC *e*S **SKSac 11 50 51.8 -2.2**
SOC *e**SS pS 11 51 58.3 +7.8
SOC *e*SSS SSS 12 00 11.1
SVW2 Sparrevohn 85.66 29 P **P 11 40 44.3 +0.1**
SII Sitkinak Islan 85.82 33 P **P 11 40 46.2 +1.1**
VORD Divnogorie 86.28 321 *e*P **P 11 40 45.7 -1.7**
VORD pmax pmax
comp=Z,30nm,0.6s
OHAK Old Harbor 86.38 33 P **P 11 40 48.4 +0.6**
OHAK lAmb lAmb 11 40 49.5
comp=Z,81nm,1.0s
VSR Storozhevoye 86.38 321 *e*P **P 11 40 46.3 -1.6**
VSR pmax pmax
comp=Z,80nm,1.3s
LPSR Galich'ya Gora 86.63 323 *e*P **P 11 40 47.2 -1.9**
LPSR pmax pmax
comp=Z,50nm,1.2s
A21K Barrow 86.80 19 P **P 11 40 50.0 +0.5**
baz=260
KDAK Kodiak Island 86.81 32 P **P 11 40 49.8 0.0**
KDAK pmax pmax
comp=Z,28nm,0.8s
KDAK Kodiak Island 86.81 32 P **P 11 40 49.8 0.0**
KDAK lAmb lAmb 11 40 53.9
comp=Z,28nm,0.8s
KLMR Klimovskoe 87.01 331 *e*P **P 11 40 47.8 -2.9**
KLMR *e* 11 44 12.3
KLMR pmax pmax
comp=Z,40nm,1.0s
KLMR Klimovskoe 87.01 331 *e*P **P 11 40 47.9 -2.8**
KLMR AMP 11 40 51.7
comp=Z,40nm,1.0s
KLMR *e*PP **PP 11 44 12.3 -3.8**
ANN Anapa 87.13 315 *e*P **P 11 40 50.0 -1.7**
ANN *e*S **SKSac 11 51 01.6 -2.9**
ANN pmax pmax
comp=Z,76nm,0.8s
MOS Moscow 87.61 326 *e*P **P 11 40 50.1 -3.6**
MOS pmax pmax
comp=Z,58nm,0.6s
CNPM China Poot 87.65 31 lAmb lAmb 11 40 56.2
comp=Z,42nm,0.9s
SYO Syowa Base 87.76 201⇓ *i*pP pP 11 41 34.3 +1.2
BRLK Bradley Lake 87.84 30 lAmb lAmb 11 40 55.2
comp=Z,45nm,0.9s
TMCR Tamitsa 87.97 334 *e*P **P 11 40 53.2 -2.0**
TMCR pmax pmax
comp=Z,45nm,0.9s
OBN Obninsk 88.18 325*ce*P **P 11 40 54.8 -1.6**
OBN *e*PPP PPP 11 46 19.8
OBN pmax pmax
comp=Z,54nm,1.5s
SEW Seward 88.58 30 lAmb lAmb 11 40 58.9
comp=Z,46nm,1.0s
COLD Coldfoot 88.61 23 P **P 11 40 59.0 +0.7**
baz=267
COLD Coldfoot 88.61 23 lAmb lAmb 11 40 59.9
comp=Z,28nm,0.9s
TOLK Toolik Lake Re 88.92 21 P **P 11 41 00.1 +0.4**
baz=267
NEA2 Nenana 88.95 26 P **P 11 40 59.2 -0.6**
baz=268
RND Reindeer 89.00 27 P **P 11 40 59.2 -1.0**
RND pmax pmax
comp=Z,33nm,0.9s
RND Reindeer 89.00 27 P **P 11 40 59.1 -1.0**
RND lAmb lAmb 11 41 00.2
comp=Z,33nm,0.9s
SML Sawmill 89.19 28 P **P 11 41 01.0 -0.1**
SML lAmb lAmb 11 41 01.8
comp=Z,39nm,0.9s
TCOL CIGO, UAF Yank 89.47 25 P **P 11 41 01.4 -0.9**
baz=269
COLA College 89.48 25 *i* P **P 11 41 01.2 -1.1**
COLA pmax pmax
comp=Z,5.0nm,0.8s
DHY Denali Highway 89.66 27 lAmb lAmb 11 41 04.1
comp=Z,18nm,0.7s
POKR Poker Plat Res 89.66 25 P **P 11 41 04.2 +1.0**
baz=269
SCM Sheep Creek Mo 89.67 28 lAmb lAmb 11 41 04.3
comp=Z,33nm,1.0s
BR131 Keskin Array S 89.81 310 *i* P **P 11 41 02.3 -2.4**
BRTR Keskin Array B 89.81 310 P **P 11 41 03.0 -1.7**
comp=Z,2.8nm,0.8s,baz=121,slow=4.8,SNR=9.1
BRTR PP **PP 11 44 41.1 +1.9**
comp=Z,1.2nm,0.7s,baz=120,slow=4.9,SNR=4.1
BRTR LR LR 12 26 35.3
comp=Z,35nm,21.3s,baz=84,slow=39
BRTR Keskin Array B 89.81 310 *i* P **P 11 41 03.0 -1.7**
BRTR pmax pmax
comp=Z,4.0nm,1.0s
BRTR Keskin Array B 89.81 310 P **P 11 41 02.7 -1.9**
HDA Harding Lake 89.86 26 P **P 11 41 02.7 -1.4**
baz=270
HDA Harding Lake 89.86 26 P **P 11 41 02.4 -1.8**
ILAR Eielson Array 89.89 25 P **P 11 41 02.6 -1.6**
comp=Z,3.6nm,0.6s,baz=242,slow=5.2,SNR=55
ILAR Eielson Array 89.89 25 P **P 11 41 02.0 -2.2**
QSPA South Pole Qui 89.92 180 P **P 11 41 05.6 +1.0**
APA Apatity 90.00 337⇓ *i*P P 11 40 59.1 -5.6
APA pmax pmax
comp=Z,8.0nm,1.0s
APA MLR MLR
comp=Z,100nm,16.0s
FYU Fort Yukon 90.56 24 lAmb lAmb 11 41 08.6
comp=Z,22nm,1.0s
BMAR Burnt Mountain 90.79 23 P **P 11 41 09.4 +1.0**
RIDG Independent Ri 90.79 26 lAmb lAmb 11 41 09.2
comp=Z,23nm,0.8s
SCRK Sand Creek 91.16 26 lAmb lAmb 11 41 12.3
comp=Z,51nm,1.9s
GLB Gilahina Butte 91.35 29 lAmb lAmb 11 41 12.5
comp=Z,30nm,1.1s
CRQM Cirque 91.71 29 P **P 11 41 13.4 +0.4**
CRQM lAmb lAmb 11 42 02.4
comp=Z,25nm,0.7s
MCARA McCarthy VSAT 91.73 29 lAmb lAmb 11 41 16.9
comp=Z,19nm,0.8s
BALM Baldy 92.08 29 lAmb lAmb 11 41 16.1
comp=Z,19nm,0.8s
ISLE Juniper Island 92.11 29 lAmb lAmb 11 41 17.2
comp=Z,30nm,0.9s
BCAR Beaver Creek A 92.20 27 P **P 11 41 15.1 +0.1**
EGAK Eagle 92.34 25 lAmb lAmb 11 41 16.8
comp=Z,20nm,1.1s
YAH Yahtse 92.42 30 lAmb lAmb 11 41 17.9
comp=Z,26nm,0.8s
CTGM Chitina Glacie 92.58 29 P **P 11 41 17.4 +0.4**
AKASG Malin Array Be 92.66 321 P **P 11 41 15.3 -2.0**
comp=Z,2.9nm,0.5s,baz=70,slow=4.3,SNR=10
AKASG LR LR 12 28 53.5

comp=Z,32nm,20.3s,baz=230,slow=39
AKBB Malin Array Si 92.66 321 *ce*P **P** **11 41 15.0 -2.3**
TABL Table Mountain 92.71 30 IAmb IAmb 11 41 19.5
comp=Z,40nm,1.0s
ARCES ARCESS Array B 92.77 340 P **P** **11 41 15.6 -1.9**
comp=Z,6.8nm,0.7s,baz=89,slow=5.4,SNR=25
ARCES LR LR 12 27 17.6
comp=Z,72nm,19.3s,baz=9.0,slow=38
DAWY Dawson 93.17 26 IAmb IAmb 11 41 21.1
comp=Z,27nm,1.0s
PCA Pinnacle 93.19 30 IAmb IAmb 11 41 21.5
comp=Z,44nm,1.1s
VSU Vasula 93.50 328 *e*P **P** **11 41 19.7 -1.4**
VSU Vasula 93.50 328 *i* P **P** **11 41 19.0 -2.0**
VSU pmax pmax
comp=Z,37nm,0.7s
FINES FINESS Array B 93.52 331 P **P** **11 41 18.9 -2.2**
comp=Z,2.3nm,0.7s,baz=78,slow=4.0,SNR=15
FINES PKiKP **PKiKP** **11 46 06.2 +0.2**
comp=Z,0.5nm,0.5s,baz=106,slow=4.2,SNR=3.5
EPYK Eagle Plains 93.98 23 P **P** **11 41 23.1 -0.1**
baz=279
EPYK Eagle Plains 93.98 23 IAmb IAmb 11 41 24.1
comp=Z,32nm,0.8s
IZAR Zarasai 94.04 326 *e*P **P** **11 41 24.0 +0.4**
KBS Kingsbay 94.06 350 *ce*P **P** **11 41 21.2 -2.1**
KBS pmax pmax
comp=Z,29nm,1.0s
IIGN Ignalina 94.09 325 *e*P **P** **11 41 22.1 -1.7**
ISAL Salakas 94.13 326 *e*P **P** **11 41 23.0 -1.0**
TESR Tescani 94.66 317 ⇓P **P** **11 41 25.5 -1.2**
INK Inuvik 94.83 21 P **P** **11 41 26.1 -0.8**
comp=Z,9.5nm,0.7s,baz=169,slow=28,SNR=4.6
INK PP **PP** **11 45 19.0 +1.5**
comp=Z,2.3nm,0.8s,baz=295,slow=6.7,SNR=3.9
INK Inuvik 94.83 21 IAmb IAmb 11 41 27.6
comp=Z,30nm,1.4s
LSZ Lusaka 95.02 255 P **P** **11 41 28.5 -0.6**
LSZ pmax pmax
comp=Z,29nm,0.9s
LSZ Lusaka 95.02 255 P **P** **11 41 28.5 -0.6**
MLR Muntele Rosu 95.24 316 P **P** **11 41 28.0 -1.5**
comp=Z,1.9nm,0.5s,baz=151,slow=15,SNR=3.6
PABE Paberze 95.35 326 *e*P **P** **11 41 28.4 -1.2**
BURAR Bucovina Array 95.53 318 ⇑P **P** **11 41 29.8 -1.0**
BURAR Bucovina Array 95.53 318 P **P** **11 41 29.7 -1.0**
BUR08 Bucovina Ar. S 95.54 318 IAmb IAmb 11 41 32.1
comp=Z,24nm,1.6s
LVV L'vov 96.06 320 *e*P P 11 41 28.1 -4.9
NOR Nord 96.48 355 *i* P **P** **11 41 33.0 -1.3**
comp=Z,7.0nm,0.8s
NOR Nord 96.48 355 *i* P **P** **11 41 33.0 -1.3**
NOR pmax pmax
comp=Z,7.0nm,0.8s
A36M Sachs Harbour 96.52 17 P **P** **11 41 34.4 -0.1**
baz=290
BOSA Boshof 97.14 241 LR LR 12 21 45.7
comp=Z,84nm,18.9s,baz=100,slow=33
KOLS Kolonicke sedl 97.31 319 *e*P **P** **11 41 38.4 -0.3**
KOLS Kolonicke sedl 97.31 319 *e*PDIFF **P** **11 41 38.4 -0.3**
UZH Uzhgorod 97.34 319 *e*P **P** **11 41 35.2 -3.6**
UZH *e* 11 42 08.5
HERR Herculane 97.79 315 ⇓P **P** **11 41 40.0 -0.9**
WRAK Wrangell Islan 97.88 33 IAmb IAmb 11 41 43.5
comp=Z,15nm,0.8s
DAG Danmarks Havn 100.47 352 *i* P **Pdif** **11 41 49.0 -3.2**
DAG Danmarks Havn 100.47 352 *i* P **Pdif** **11 41 50.3 -1.9**
DAG Danmarks Havn 100.47 352 *i* P **Pdif** **11 41 50.3 -1.9**
NOA NORSAR Array B 100.59 333 P **Pdif** **11 41 50.5 -2.5**
comp=Z,1.1nm,0.7s,baz=69,slow=4.5,SNR=3.4
BRG Berggiesshubel 102.19 322 *e*P **Pdif** **11 41 58.4 -2.0**
comp=Z,4.7nm,1.1s
BRG Berggiesshubel 102.19 322 *e*P **Pdif** **11 41 58.3 -2.0**
BRG pmax pmax
comp=Z,5.0nm,1.1s
CLL Collm 102.64 323 *i* PKiKP **PKiKP** **11 46 23.4 +0.9**
comp=Z,6.0nm,1.1s
CLL *e*PPS PPS 11 56 18.0
CLL Collm 102.64 323 *e*P **Pdif** **11 41 59.0 -3.3**
CLL *e* 11 46 21.0
GERES GERESS Array B 102.87 320 P **Pdif** **11 42 02.8 -0.8**
comp=Z,0.5nm,0.6s,baz=92,slow=6.7,SNR=5.4
YKA Yellowknife Ar 104.25 24 Pdiff **Pdif** **11 42 09.4 +0.1**
comp=Z,1.1nm,0.7s,baz=305,slow=4.9,SNR=7.4
YKA PKiKP **PKiKP** **11 46 25.0 -0.2**
comp=Z,1.6nm,0.7s,baz=305,slow=1.6,SNR=29
YKA PKKPbc **PKKPbc** **11 57 55.8 -3.3**
comp=Z,0.4nm,0.4s,baz=125,slow=4.4,SNR=12
J04D Umpqua Nationa 107.65 44 P **PKiKP** **11 46 33.5 +1.2**
baz=287
L04D Klamath Falls 107.81 45 P **PKiKP** **11 46 33.3 +0.7**
baz=287
I05D Terrebonne, OR 107.84 43 P **PKiKP** **11 46 33.6 +1.2**
baz=288
N02D Trinity Center 107.87 47 P **PKiKP** **11 46 33.8 +1.1**
baz=266
O02D Mt. Diablo Mer 108.03 47 P **PKiKP** **11 46 34.8 +1.9**
baz=286
J05D Fort Rock, OR 108.24 44 P **PKiKP** **11 46 34.5 +1.2**
baz=288
MSO Missoula 111.76 38 P **PKiKP** **11 46 39.8 0.0**
baz=295
NVAR Mina Array Bea 111.87 48 PKiKP **PKiKP** **11 46 40.8 +0.3**
comp=Z,1.5nm,0.7s,baz=248,slow=2.1,SNR=12
NVAR PKKPbc **PKKPbc** **11 57 33.9 -0.7**
comp=Z,0.5nm,0.7s,baz=139,slow=5.5,SNR=4.4
DUG Dugway, Tooele 115.22 45 PKiKP **PKPdf** **11 46 47.6 +0.9**
DUG Dugway, Tooele 115.22 45 **PKPdf** **11 46 47.6 +0.9**
MSU Marysvale 116.34 46 PKiKP **PKiKP** **11 46 50.3 +1.3**
MSU Marysvale 116.34 46 **PKiKP** **11 46 50.3 +1.3**
PDAR Pinedale Array 116.34 41 PKP **PKiKP** **11 46 49.0 +0.1**
comp=Z,0.8nm,0.4s,baz=135,slow=0.6,SNR=11
PDAR PKKPbc **PKKPab** **11 57 22.6 -1.0**
comp=Z,1.1nm,0.5s,baz=113,slow=3.9,SNR=8.0
ESDC Sonseca Array 117.93 316 PKP **PKPdf** **11 46 51.5 -0.3**
comp=Z,0.7nm,0.8s,baz=355,slow=4.8,SNR=4.5
WUAZ Wupatki 118.08 49 PKPdf **PKPdf** **11 46 52.0 -0.4**
RWWY Rawlins 118.39 41 **PKPdf** **11 46 51.6 -1.3**
PV05 Paradox Valley 118.72 46 **PKiKP** **11 46 54.3 +0.6**
PV04 Paradox Valley 118.73 45 **PKiKP** **11 46 53.9 +0.3**
PV02 Paradox Valley 118.93 45 **PKiKP** **11 46 54.3 +0.2**
RSSD Black Hills 119.17 37 PKiKP **PKPdf** **11 46 52.4 -1.9**
RSSD Black Hills 119.17 37 PKPdf **PKPdf** **11 46 52.4 -1.9**
W18A Petrified Fore 119.47 49 **PKiKP** **11 46 55.9 +0.7**
ULM Lac du Bonnet 119.81 28 PKP **PKPdf** **11 46 54.6 -0.4**
comp=Z,10nm,0.6s,baz=347,slow=0.5,SNR=7.9
TOA0 Torodi Ar. Sit 120.79 285 PKPdf **PKPdf** **11 46 56.2 -1.7**
TORD Torodi Ar. Bea 120.79 285 PKP **PKPdf** **11 46 57.5 -0.4**
comp=Z,3.2nm,0.4s,baz=94,slow=1.9,SNR=39
TORD PKKPbc **PKKPab** **11 57 04.1 +0.1**
comp=Z,2.6nm,0.9s,baz=279,slow=4.6,SNR=6.4
SDCO Great Sand Dun 121.42 44 **PKiKP** **11 46 59.2 +0.2**
ANMO Albuquerque 121.99 48 PKiKP **PKiKP** **11 47 00.5 +0.4**
ANMO Albuquerque 121.99 48 PKPdf **PKiKP** **11 47 00.5 +0.4**
B35A Bob, Littlefor 122.14 28 PKPdf **PKPdf** **11 46 58.1 -1.4**
SCHQ Schefferville 124.72 7 PKP **PKiKP** **11 47 04.7 0.0**
comp=Z,15nm,0.5s,baz=355,slow=1.6,SNR=31
N33A J Bar K, Exete 125.09 37 **PKPdf** **11 47 03.8 -1.7**
TXAR Lajitas Array 126.51 53 PKP **PKiKP** **11 47 09.7 +0.6**
comp=Z,2.5nm,0.8s,baz=221,slow=1.1,SNR=20
TXAR Lajitas Array 126.51 53 PKPdf **PKPdf** **11 47 08.3 -0.3**
KSU1 Kansas State U 126.59 39 PKPdf **PKPdf** **11 47 07.6 -0.8**
T35A Sooner Cattle 127.94 41 **PKPdf** **11 47 10.9 -0.2**
ABTX Abilene, Hawle 128.09 47 **PKPdf** **11 47 11.2 -0.3**
N41A Harden Midland 128.94 33 **PKPdf** **11 47 10.4 -2.4**
JCT Junction City 129.01 50 PKiKP **PKPdf** **11 47 10.5 -2.8**
JCT Junction City 129.01 50 PKPdf **PKPdf** **11 47 10.5 -2.8**
P40A Paris 129.06 35 **PKPdf** **11 47 11.5 -1.6**
J48A Bridge Port 130.51 26 PKPdf **PKPdf** **11 47 14.0 -1.7**
CCM Cathedral Cave 130.51 36 PKiKP **PKPdf** **11 47 14.8 -1.1**
CCM Cathedral Cave 130.51 36 PKPdf **PKPdf** **11 47 14.8 -1.1**
N47A Urbana 131.51 29 **PKPdf** **11 47 14.8 -2.9**
PECO Prince Edward 132.63 20 **PKPdf** **11 47 18.0 -1.7**
NCB Newcomb 133.49 18 **PKPdf** **11 47 20.1 -1.2**
WVT Waverly 133.82 36 PKiKP **PKiKP** **11 47 22.9 -0.6**
WVT Waverly 133.82 36 PKPdf **PKiKP** **11 47 22.9 -0.6**
M55A Ridgway 134.12 23 **PKPdf** **11 47 20.2 -2.4**
PLAL Pickwick Lake 134.46 37 **PKPdf** **11 47 21.4 -2.0**
BINY Binghamton 134.51 20 PKPdf **PKPdf** **11 47 22.6 -0.7**
SSPA Standing Stone 135.17 23 **PKPdf** **11 47 23.4 -1.1**
N58A Sunbury 135.44 22 **PKPdf** **11 47 24.8 -0.3**
ODNJ Ogdensburg 135.98 20 **PKPdf** **11 47 26.0 0.0**
R55A Marlinton 136.20 27 **PKPdf** **11 47 26.3 -0.4**
TKL Tuckaleechee C 136.44 33 PKPdf **PKPdf** **11 47 25.2 -1.9**
R58B Mineral 137.45 25 **PKPdf** **11 47 28.1 -0.8**
PLCA Paso Flores 137.51 164 PKP **PKPdf** **11 47 29.8 +0.7**
comp=Z,3.7nm,0.9s,baz=204,slow=8.4,SNR=5.0
Y52A Lilburn 137.60 35 **PKPdf** **11 47 29.2 -0.1**
TEIG Tepich 143.06 55 PKhKP PKPbc 11 47 37.2 +0.4
comp=Z,22nm,0.9s,baz=319,slow=4.9,SNR=3.5
061Z Ochoppi 145.21 41 **PKPab** **11 47 44.1 +0.9**
CO03 El Pedregal 146.53 158 **PKPab** **11 47 48.2 -0.1**
CFA Coronel Fontan 146.68 162 PKPbc **PKPbc** **11 47 47.1 -0.3**
comp=Z,42nm,0.3s,baz=280,slow=7.8,SNR=94
BBSR BB Station 146.92 13 **PKPbc** **11 47 48.5 +0.6**
GO04 Tololo Observa 147.08 157 **PKPab** **11 47 50.1 -0.5**
BOAB BOACO BROADBAND 148.63 66 PKPbc **PKPab** **11 47 53.2 +0.3**
ACON Acoyapa 149.25 66 **PKiKP** **11 47 55.9 +0.3**
JTS Las Juntas de 150.01 69 PKPbc PKPbc **11 47 56.8 +0.3**
comp=Z,32nm,0.9s,baz=350,slow=5.6,SNR=12
JTS Las Juntas de 150.01 69 **PKPbc** **11 47 56.1 -0.4**
AC02 Maricunga 150.72 157 **PKiKP** **11 48 00.6 +1.6**
CPUP Villa Florida 153.80 179 PKPbc **PKiKP** **11 48 05.3 +0.5**
comp=Z,1.3nm,0.6s,baz=64,slow=5.5,SNR=5.3
CPUP PKPab **PKPab** **11 48 19.8 +1.8**
comp=Z,1.9nm,0.6s,baz=195,slow=8.5,SNR=2.9
LVC Limon Verde 154.53 153 PKPbc **PKiKP** **11 48 07.8 +0.9**
comp=Z,3.4nm,0.5s,baz=301,slow=2.8,SNR=5.9
LVC PKPab **PKPab** **11 48 23.2 +1.5**
comp=Z,4.1nm,0.6s,baz=264,slow=5.8,SNR=5.2
RCBR Riachuelo 158.53 254 PKPab **PKPab** **11 48 39.6 +0.6**
comp=Z,7.3nm,0.6s,baz=91,slow=5.8,SNR=5.2
SJG San Juan 159.71 27 PKPab **PKPab** **11 48 43.9 +0.3**
comp=Z,10nm,0.4s,baz=36,slow=6.6,SNR=3.4
LPAZ La Paz 160.22 145 PKP **PKPdf** **11 48 07.5 +1.6**
comp=Z,2.3nm,0.8s,baz=93,slow=3.6,SNR=10
LPAZ PKPab **PKPab** **11 48 47.9 +1.1**
comp=Z,2.7nm,0.7s,baz=179,slow=4.2,SNR=6.6
ROSC El Rosal 161.67 75 PKPab **PKPab** **11 48 55.2 +2.1**
comp=Z,7.0nm,0.4s,baz=88,slow=16,SNR=4.7
BDFB Brasilia 162.28 208 PKPab **PKPab** **11 48 56.2 +1.1**
comp=Z,1.8nm,0.5s,baz=92,slow=4.3,SNR=3.2
SDV Santo Domingo 163.48 57 PKP **PKPdf** **11 48 08.4 -0.3**
comp=Z,7.4nm,0.3s,baz=276,slow=2.9,SNR=6.2
SDV PKPab **PKPab** **11 49 01.8 +1.1**
comp=Z,11nm,0.5s,baz=307,slow=4.8,SNR=4.8
SIV San Ignacio 163.50 165 PKP **PKPdf** **11 48 09.8 +1.3**
comp=Z,4.1nm,0.8s,baz=169,slow=2.7,SNR=18
SIV PKPab **PKPab** **11 49 01.8 +1.5**
comp=Z,1.2nm,0.6s,baz=178,slow=4.2,SNR=4.5
SAML Samuel 168.95 144 PKiKP **PKPdf** **11 48 13.8 +1.0**
SAML Samuel 168.95 144 **PKPdf** **11 48 13.8 +1.0**
PTGA Pitinga 176.56 102 **PKPdf** **11 48 16.0 0.0**

*NNC **26** 11:46:24.0± 1.8, 40˚.49N× 62˚.81E, h0km, mb3.7, mpv3.4,*
Error ellipse: s-maj=25.2km s-min=11.8km az=132.0
*IDC **26** 11:46:24.1± 1.5, 40˚.31N× 62˚.99E, h0km, mb3.4/2,*
mb1 3.5/8, mb1mx3.3/56, mbtmp3.5/8, ML3.3/6, Error
ellipse: s-maj=22.3km s-min=13.6km az=159.0
ISC 26 11:46:26.6± 0.9, 40˚.50N± 0˚.08× 62˚.86E± 0˚.07, h15km, n12, σ 2.9 26/16, 7C-3D, Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GEYT	**Alibeck**	**4.49**	**237**	Pn		**Pn**	**Pn**	**11 47 34.5**	**+0.4**
	2.0nm,0.3s,baz=72,slow=9.5,SNR=5.7								
GEYT				Sn		**Sn**	**Sn**	**11 48 25.4**	**-0.7**
	6.0nm,0.3s,baz=42,slow=16,SNR=7.6								
GEYT				Lg		Lg	Lg	11 48 47.4	
	4.2nm,0.3s,baz=52,slow=17,SNR=4.3								
GYA0B	**ALIBECK ARRAY**	**4.49**	**237**	⇑Pn		**Pn**	**Pn**	**11 47 35.0**	**+0.9**
GYA0B				⇑Sn		**Sn**	**Sn**	**11 48 24.9**	**-1.1**
GYA0B				⇑Lg		Lg	Lg	11 48 47.9	
KK31	**Karatay Array**	**6.28**	**63**	⇑Pn		**Pn**	**Pn**	**11 47 56.6**	**-2.0**
	0.6nm,0.5s,baz=14,slow=38,SNR=6.6								
KK31				⇓Pg		**Pb**	**Pb**	**11 48 19.8**	**+4.2**
	1.5nm,0.4s,baz=246,slow=18,SNR=8.1								
KK31				⇓Lg		Lg	Lg	11 49 45.5	
	12nm,0.6s,baz=243,slow=28,SNR=11								
AAK	**Ala-Archa**	**8.98**	**72**	Pn		Pn	Pn	11 48 32.0	-3.8
	0.5nm,0.3s,baz=249,slow=10.0,SNR=1.8								
AAK				Lg		Lg	Lg	11 51 07.9	
	0.5nm,0.3s,baz=115,slow=21,SNR=3.9								
AB31	**Akbulak array**	**8.99**	**348**	⇑Pn		**Pn**	**Pn**	**11 48 36.0**	**+0.2**
	0.9nm,0.3s,baz=155,slow=15,SNR=9.0								
AB31				⇑Sn		**Sn**	**Sn**	**11 50 18.2**	**+1.4**
	0.7nm,0.5s								
AKTO	**Aktyubinsk**	**10.50**	**343**	Pn		**Pn**	**Pn**	**11 48 57.9**	**+1.4**
	0.5nm,0.3s,baz=133,slow=7.9,SNR=6.6								
AKTO				Sn		**Sn**	**Sn**	**11 50 50.6**	**-3.0**
	0.1nm,0.3s,baz=268,slow=22,SNR=1.9								
AKTO				Lg		Lg	Lg	11 52 02.6	
	0.1nm,0.3s,baz=22,slow=17,SNR=1.3								
AKTO	**Aktyubinsk**	**10.50**	**343**	⇑Pn		**Pn**	**Pn**	**11 48 58.4**	**+2.0**
	0.8nm,0.4s								
AKTO				⇓Sn		**Sn**	**Sn**	**11 50 52.2**	**-1.4**
	0.9nm,0.6s								
BVAR	**Borovoye Array**	**13.54**	**20**	Pn		**Pn**	**Pn**	**11 49 37.1**	**-0.8**
	0.3nm,0.3s,baz=226,slow=43,SNR=2.5								
KURBB	**Kurchatov Arra**	**14.90**	**42**	Pn		Pn	Pn	11 49 51.8	-4.7
	0.0nm,0.3s,baz=242,slow=13,SNR=1.7								
KURBB				Lg		Lg	Lg	11 54 19.7	
	0.0nm,0.3s,baz=225,slow=30,SNR=4.0								
MKAR	**Makanchi Array**	**15.39**	**59**	Pn		**Pn**	**Pn**	**11 49 58.6**	**-4.5**
	0.1nm,0.3s,baz=243,slow=13,SNR=3.8								
ZALV	**Zalesovo Beam**	**19.97**	**40**	P		**P**	**P**	**11 50 59.1**	**+1.0**
	0.4nm,0.4s,baz=250,slow=7.3,SNR=1.6								
FINES	**FINESS Array B**	**30.59**	**326**	P		**P**	**P**	**11 52 39.8**	**+0.3**
	0.6nm,0.5s,baz=190,slow=33,SNR=1.6								

*IDC **26** 12:06:45.6± 1.6, 20˚.44S× 70˚.88W, h0km, mb3.7/3,*
mb1 3.9/5, mb1mx3.7/36, mbtmp3.8/5, ML3.8/2, MS2.9/1,
Ms1 2.9/1, ms1mx2.4/27, Error ellipse: s-maj=37.3km
s-min=25.3km az=52.0
*NEIC **26** 12:06:46.5± 1.4, 20˚.58S± 0˚.04× 70˚.98W± 0˚.05, h10km± 5km,*
Error ellipse: s-maj=7.6km s-min=5.9km az=68.0
*GUC **26** 12:06:48.1± 0.7, 20˚.54S× 70˚.88W, h42km± 1km, ML4.0*
ISC 26 12:06:49.2± 2.0, 20˚.59S± 0˚.03× 70˚.87W± 0˚.06, h27km± 14km, n46, σ 1.9 36/54, mb3.9/3, 8C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TA01	**Diego Aracena**	**0.64**	**88**	⇓*e*P		**Pn**	**Pn**	**12 07 00.7**	**-1.8**
TA01				*e*S		**Sb**	**Sb**	**12 07 10.2**	**-0.3**
TA01	**Diego Aracena**	**0.64**	**88**			**Pn**	**Pn**	**12 07 00.8**	**-1.8**
PATCX	**Punta Patache**	**0.71**	**109**			**Pn**	**Pn**	**12 07 02.4**	**-1.2**
TA02	**Huaiquique**	**0.76**	**65**	⇑*i*P		**Pn**	**Pn**	**12 07 02.2**	**-1.9**
TA02				*e*S		**Sn**	**Sn**	**12 07 13.5**	**-1.2**
TA02				IAML				12 07 14.9	
	comp=N,14μm,0.4s								
PB02	**IPOC Station P**	**1.16**	**129**	⇑*i*P		**Pn**	**Pn**	**12 07 10.1**	**+0.2**
PB02				*e*S		**Sb**	**Sb**	**12 07 26.2**	**+0.7**
PB02				IAML				12 07 31.3	
	comp=E,5μm,0.4s								
PSGC	**Pisagua**	**1.21**	**35**	⇓*e*P		**Pn**	**Pn**	**12 07 09.1**	**-1.4**
PSGC				*e*S		**Sn**	**Sn**	**12 07 25.3**	**-0.7**
PSGCX	**Pisagua**	**1.21**	**35**			**Pn**	**Pn**	**12 07 09.1**	**-1.4**
PB01	**IPOC Station P**	**1.37**	**110**	⇑*i*P		**Pn**	**Pn**	**12 07 12.9**	**+0.2**
PB01				*e*S		**Sn**	**Sn**	**12 07 30.5**	**+0.6**
PB01				IAML				12 07 35.1	
	comp=N,3μm,0.6s								
PB01	**IPOC Station P**	**1.37**	**110**			**Pn**	**Pn**	**12 07 13.1**	**+0.5**
PB11	**IPOC Station P**	**1.40**	**54**	⇑*i*P		**Pn**	**Pn**	**12 07 12.4**	**-0.7**
PB11				*e*S		**Sn**	**Sn**	**12 07 30.9**	**0.0**
PB11				IAML				12 07 35.8	
	comp=N,3μm,0.4s								
PB11	**IPOC Station P**	**1.40**	**54**			**Pn**	**Pn**	**12 07 12.5**	**-0.7**
PB07	**IPOC Station P**	**1.46**	**141**	⇑*i*P		**Pn**	**Pn**	**12 07 14.2**	**+0.2**
PB07				*e*S		**Sn**	**Sn**	**12 07 33.7**	**+1.4**
PB07	**IPOC Station P**	**1.46**	**141**			**Pn**	**Pn**	**12 07 14.2**	**+0.2**
PB08	**IPOC Station P**	**1.67**	**75**	⇑*i*P		**Pn**	**Pn**	**12 07 17.1**	**+0.1**
PB08				*e*S		**Sn**	**Sn**	**12 07 39.2**	**+1.4**
PB08				IAML				12 07 44.4	
	comp=E,1μm,0.2s								
PB08	**IPOC Station P**	**1.67**	**75**			**Pn**	**Pn**	**12 07 17.1**	**+0.1**
PB03	**IPOC Station P**	**1.79**	**145**	*e*P		**Pn**	**Pn**	**12 07 18.7**	**+0.2**
GO01	**Chusmiza**	**1.82**	**60**	⇑*i*P		**Pn**	**Pn**	**12 07 18.9**	**-0.3**
GO01				*e*S		**Sn**	**Sn**	**12 07 42.5**	**+1.0**
GO01	**Chusmiza**	**1.82**	**60**			**Pn**	**Pn**	**12 07 19.0**	**-0.2**
PB04	**IPOC Station P**	**1.86**	**159**			**Pn**	**Pn**	**12 07 19.3**	**-0.2**
MNMC	**Minye Minye**	**1.88**	**40**	⇑*i*P		**Pn**	**Pn**	**12 07 20.3**	**+0.4**
MNMC				*i* S		**Sn**	**Sn**	**12 07 44.3**	**+1.5**
MNMC				IAML				12 07 50.4	
	comp=E,2μm,0.3s								
MNMC	**Minye Minye**	**1.88**	**40**			**Pn**	**Pn**	**12 07 19.6**	**-0.2**
PB09	**IPOC Station P**	**1.93**	**129**			**Pn**	**Pn**	**12 07 22.2**	**+1.7**
PB12	**IPOC Station P**	**2.03**	**15**	*e*P		**Pn**	**Pn**	**12 07 22.2**	**+0.5**
PB12				*i* S		**Sb**	**Sb**	**12 07 52.0**	**+1.6**
PB12	**IPOC Station P**	**2.03**	**15**			**Pn**	**Pn**	**12 07 22.2**	**+0.5**
AP01	**Chacalluta**	**2.26**	**13**	IAML				12 08 04.7	
	comp=N,2μm,0.6s								
AP01	**Chacalluta**	**2.26**	**13**	Pn		**Pn**	**Pn**	**12 07 24.8**	**-0.1**
PB06	**IPOC Station P**	**2.43**	**151**			**Pn**	**Pn**	**12 07 27.0**	**-0.3**
LVC	**Limon Verde**	**2.71**	**138**	Pn		**Pn**	**Pn**	**12 07 33.3**	**+1.9**
	comp=N,14nm,0.3s,baz=325,slow=9.6,SNR=72								
LVC				Sn			**Sb**	**12 08 07.8**	**-2.5**
	comp=N,26nm,0.3s,baz=232,slow=20,SNR=7.7								
LVC	**Limon Verde**	**2.71**	**138**			**Pn**	**Pn**	**12 07 33.1**	**+1.7**
PB15	**IPOC Station P**	**2.91**	**154**			**Pn**	**Pn**	**12 07 33.7**	**-0.3**
PB10	**IPOC Station P**	**2.93**	**174**			**Pn**	**Pn**	**12 07 32.8**	**-1.3**
GO02	**Mina Guanaco**	**4.70**	**166**			**Pn**	**Pn**	**12 07 58.4**	**-0.3**
LPAZ	**La Paz**	**5.00**	**32**	Pn		**Pn**	**Pn**	**12 08 07.5**	**+4.4**
	comp=N,1.2nm,0.3s,baz=192,slow=6.9,SNR=22								
LPAZ	**La Paz**	**5.00**	**32**			**Pn**	**Pn**	**12 08 06.2**	**+3.0**
AC01	**Pan de Azucar**	**5.54**	**178**	Pn		**Pn**	**Pn**	**12 08 08.8**	**-1.2**
SIV	**San Ignacio**	**10.36**	**65**	Pn		**Pn**	**Pn**	**12 09 16.8**	**+0.6**
	comp=N,0.9nm,0.3s,baz=268,slow=9.8,SNR=20								
SIV				Sn			**Sn**	**12 11 14.3**	**+2.7**
	comp=N,0.2nm,0.3s,baz=192,slow=16,SNR=1.2								
SIV				LR		LR	LR	12 13 47.9	
	comp=N,68nm,20.5s,baz=95,slow=41								
PTGA	**Pitinga**	**22.43**	**30**	P		**P**	**P**	**12 11 44.6**	**-1.5**
	comp=N,2.0nm,0.5s,baz=355,slow=22,SNR=2.6								
PTGA	**Pitinga**	**22.43**	**30**	P		**P**	**P**	**12 11 44.1**	**-2.0**
PTGA				IAmb		IAmb	IAmb	12 12 00.1	
	comp=Z,8.8nm,1.4s								
TXAR	**Lajitas Array**	**58.85**	**326**	P		**P**	**P**	**12 16 45.6**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=163,slow=10,SNR=2.8								
TORD	**Torodi Ar. Bea**	**78.78**	**71**	P		**P**	**P**	**12 18 49.6**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=245,slow=5.3,SNR=13								
TORD	**Torodi Ar. Bea**	**78.78**	**71**	IAmb		IAmb	IAmb	12 18 50.0	
	comp=Z,0.8nm,0.6s								
H11S2	**WAKE ISLAND Hyl**	**25.94**	**278**	T		T	T	14 45 19.1	
	baz=102,slow=74,SNR=23								
H11S1	**WAKE ISLAND Hyl**	**25.95**	**278**	T		T	T	14 45 19.8	
	baz=102,slow=74,SNR=10								
H11S3	**WAKE ISLAND Hyl**	**25.96**	**278**	T		T	T	14 45 20.6	
	baz=102,slow=74,SNR=11								
MKAR	**Makanchi Array**	**145.93**	**34**	PKPbc		**PKPab**	**PKPab**	**12 26 27.1**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=328,slow=3.1,SNR=5.2								
MKAR	**Makanchi Array**	**145.93**	**34**				**PKPab**	**12 26 27.0**	**+0.2**

*MAN **26** 12:13:25.9, 5˚.70N× 127˚.37E, h33km, mb5.0, ML3.9, MS4.0*
*IDC **26** 12:13:27.1± 2.9, 5˚.70N× 127˚.08E, h144km± 28km, mb3.8/14,*
mb1 3.9/16, mb1mx3.7/42, mbtmp4.2/16, Error ellipse:
s-maj=29.1km s-min=11.3km az=71.0
*NEIC **26** 12:13:27.3± 2.0, 5˚.65N± 0˚.08× 127˚.2E± 0˚.1, h147km± 7km,*
mb4.4/15, Error ellipse: s-maj=21.4km s-min=9.0km
az=69.0
*DJA **26** 12:13:32.1± 0.8, 5˚.N± 6˚× 12˚.7E± ˚, h150km± 11km, M4.4/11,*
mB4.9/5, mb4.4/8, MLv4.6/11, Mw(mB)4.1/5
ISC 26 12:13:25.5± 0.9, 5˚.66N± 0˚.05× 127˚.09E± 0˚.08, h131km± 7km, n70, σ 1.9 46/82, mb4.2/30, 2D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**1.44**	**288**	*e*P		**Pn**	**Pn**	**12 13 53.1**	**+0.1**
DDMP				*e*S		**Sn**	**Sn**	**12 14 13.8**	**-0.3**
MATI	**Mati**	**1.53**	**327**	*e*P		**Pn**	**Pn**	**12 13 53.7**	**-0.3**
MATI				*e*S		**Sn**	**Sn**	**12 14 13.5**	**-2.3**
DMPH	**Davao City--Mi**	**2.12**	**312**	*e*P		**Pn**	**Pn**	**12 14 04.8**	**+3.8**
DMPH				*e*S		**Sn**	**Sn**	**12 14 28.4**	**+0.2**
GSPH	**General Santos**	**2.17**	**281**	⇓*e*P		**Pn**	**Pn**	**12 14 01.2**	**-0.5**
GSPH				*e*S		**Sn**	**Sn**	**12 14 27.7**	**-1.9**
KCP	**Kidapawan**	**2.40**	**304**	⇓*e*P		**Pn**	**Pn**	**12 14 05.7**	**+1.1**
KCP				*i* S		**Sn**	**Sn**	**12 14 37.3**	**+2.7**
SKMP	**Bagumbayan, Su**	**2.68**	**289**	*e*P		**Pn**	**Pn**	**12 14 06.6**	**-1.4**
SKMP				*e*S		**Sn**	**Sn**	**12 14 43.8**	**+3.1**
BUKP	**Musuan**	**2.99**	**318**	*e*P		**Pn**	**Pn**	**12 14 11.6**	**-0.5**
BUKP				*e*S		**Sn**	**Sn**	**12 14 47.9**	**-0.2**
**TN

comp=Z,3.8nm,0.7s
MDOK Medeo 57.70 318 *i* P **P** **12 23 02.9 +0.2**
baz=318
TNSS Tian-Shan 57.71 318 *i* P **P** **12 23 03.5 +0.5**
baz=318
CHKK Chushkaly 58.04 319 *i* P **P** **12 23 04.4 -0.4**
baz=319
KUU Kurty 58.48 319 *i* P **P** **12 23 07.9 0.0**
comp=Z,5.3nm,0.8s,baz=319
KUU *eS* **S** **12 31 00.9 -0.2**
baz=319
ZALV Zalesovo Beam 59.05 332 P **P** **12 23 11.6 0.0**
comp=Z,2.2nm,0.3s,baz=116,slow=6.8,SNR=6.8
ZALV Zalesovo Beam 59.05 332 P **P** **12 23 10.6 -1.0**
BTLS Baital 60.45 319 *eP* **P** **12 23 21.0 -0.4**
comp=Z,1.2nm,0.8s,baz=319
KK31 Karatay Array 62.09 316 P **P** **12 23 31.8 -0.7**
KK31 IAmb IAmb 12 23 33.2
comp=Z,3.9nm,0.8s
KKAR Karatay Array 62.09 316 P **P** **12 23 31.9 -0.6**
KKAR Karatay Array 62.09 316 P **P** **12 23 31.1 -1.4**
KKAR IAmb IAmb 12 23 33.2
comp=Z,3.9nm,0.8s
IUG Iuzhnay 62.10 315 *eP* **P** **12 23 32.8 +0.1**
comp=Z,0.6nm,0.7s,baz=315
BRZS Berezniki 63.34 324 *eP* **P** **12 23 40.5 -0.1**
comp=Z,1.7nm,0.6s,baz=324
BRVK Borovoye 65.99 326 P **P** **12 23 58.5 +0.8**
GEYT Alibeck 69.98 308 P **P** **12 24 23.7 +0.6**
comp=Z,2.9nm,0.8s,baz=144,slow=5.3,SNR=4.2
GEYT Alibeck 69.98 308 IAmb IAmb 12 24 24.5
comp=Z,2.3nm,0.8s
ABKAR Akbulak array 70.90 320 P **P** **12 24 28.4 +0.1**
ILAR Eielson Array 83.22 26 P **P** **12 25 36.1 -0.8**
comp=Z,1.2nm,1.0s,baz=225,slow=7.1,SNR=5.4
KLMR Klimovskoe 83.92 331 *eP* **P** **12 25 38.5 -2.0**
KLMR AMP 12 25 41.5
comp=Z,6.0nm,0.8s
BMAR Burnt Mountain 84.17 23 P **P** **12 25 42.7 +0.9**
VNDA Vanda 85.28 173 P **P** **12 25 47.6 +0.6**
comp=Z,1.2nm,0.8s,baz=293,slow=2.5,SNR=6.3
ARCES ARCESS Array B 88.78 340 P **P** **12 26 02.5 -1.6**
comp=Z,0.8nm,0.4s,baz=81,slow=6.3,SNR=9.6
ARCES ARCESS Array B 88.78 340 P **P** **12 26 02.3 -1.8**
FINES FINESS Array B 90.32 332 P **P** **12 26 10.6 -0.8**
comp=Z,0.5nm,0.4s,baz=41,slow=5.0,SNR=8.3
TORD Torodi Ar. Bea 122.64 289 PKP **PKPdf** **12 32 06.4 -0.3**
comp=Z,1.0nm,0.8s,baz=38,slow=1.2,SNR=3.8

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*INET **26** 12:15:10.3, 11°.18N×87°.27W, h15km, ML3.8*
*IDC **26** 12:15:11.2±1.7, 11°.85N×86°.90W, h0km, mb3.7/6, mb1 4.0/8, mb1mx3.8/35, mbtmp3.7/8, ML3.9/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/31, Error ellipse: s-maj=52.3km s-min=23.5km az=41.0*
*UCR **26** 12:15:14.6±1.6, 11°.43N×87°.02W, h26km±16km, mb4.2(NEIC)*
*NEIC **26** 12:15:15.9±2.5, 11°.47N±0°.08×87°.02W±0°.07, h52km±9km, mb4.2/16, Error ellipse: s-maj=12.0km s-min=8.7km az=215.0*

ISC 26 12:15:15.6±0.8, 11°.50N±0°.07×86°.97W±0°.09, h49km, n49, σ0s95/47, mb4.2/11, 1C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MASN	**Masaya**	**0.94**	**59**	*eP*		**Pn**	**12 15 33.6**	**+1.1**
CNGN	**Cerro Negro**	**1.03**	**15**	*eP*		**Pn**	**12 15 34.4**	**+0.7**
CRIN	**San Cristobal**	**1.19**	**356**	Pn		**Pn**	**12 15 35.5**	**-0.4**
BOAB	**BOACO BROADBAN**	**1.59**	**54**	Pn		**Pn**	**12 15 41.5**	**+0.2**
GBS3	**Finca Las Img**	**1.65**	**116**	*eP*		**Pn**	**12 15 41.3**	**-0.9**
LAPC	**Finca la Perla**	**1.68**	**116**	*eP*		**Pn**	**12 15 41.7**	**-0.8**
BUEV	**Buena Vista**	**1.69**	**114**	*eP*		**Pn**	**12 15 42.2**	**-0.5**
GB1A	**Borinquen Arri**	**1.69**	**114**	*eP*		**Pn**	**12 15 42.3**	**-0.5**
BUAI	**Buenos Aires**	**1.73**	**111**	*eP*		**Pn**	**12 15 43.2**	**0.0**
GPS3	**Bodega del ICE**	**1.75**	**115**	*eP*		**Pn**	**12 15 42.5**	**-1.0**
MATN	**Matagalpa**	**1.75**	**36**	*eP*		**Pn**	**12 15 44.6**	**+1.0**
GPS1	**Guardaparques**	**1.75**	**114**	*eP*		**Pn**	**12 15 42.8**	**-0.8**
GPS2	**Hotel Rincn d**	**1.76**	**115**	*eP*		**Pn**	**12 15 43.5**	**-0.1**
ACON	**Acoyapa**	**1.82**	**75**	*eP*		**Pn**	**12 15 44.5**	**+0.1**
ACON	**Acoyapa**	**1.82**	**75**	Pn		**Pn**	**12 15 44.1**	**-0.4**
LIM1	**Limonal**	**1.87**	**115**	*eP*		**Pn**	**12 15 44.3**	**-0.9**
GUAB	**Guayabo de Bag**	**1.89**	**115**	*eP*		**Pn**	**12 15 45.2**	**-0.2**
GUAI	**GUAI**	**1.89**	**130**	*eP*		**Pn**	**12 15 47.3**	**+1.9**
HORNC	**Hornillas**	**1.93**	**114**	*eP*		**Pn**	**12 15 46.1**	**+0.1**
PLVR	**Palo Verde**	**1.96**	**126**	*eP*		**Pn**	**12 15 47.5**	**+0.9**
CUI	**Cuipilapa**	**1.97**	**115**	*eP*		**Pn**	**12 15 46.4**	**-0.1**
CUI				*eS*		**Sn**	**12 16 11.5**	**+1.5**
ACAL	**Aguas Claras**	**2.09**	**114**	*eP*		**Pn**	**12 15 48.0**	**-0.2**
PTEN	**Parque Tenorio**	**2.10**	**112**	*eP*		**Pn**	**12 15 49.4**	**+1.0**
JTS	**Las Juntas de**	**2.32**	**121**	Pn		**Pn**	**12 15 54.1**	**+2.7**
	15nm,0.3s,baz=3.6,slow=10,SNR=39							
JTS				Sn		**Sn**	**12 16 18.6**	**-0.2**
	23nm,0.3s,baz=334,slow=19,SNR=7.8							
JTS	**Las Juntas de**	**2.32**	**121**	*eP*		**Pn**	**12 15 50.1**	**-1.3**
JTS				*eS*		**Sn**	**12 16 18.8**	**+0.1**
JTS	**Las Juntas de**	**2.32**	**121**			**Pn**	**12 15 51.2**	**-0.2**
CEDE	**Laguna Cedeo**	**2.45**	**114**	*eP*		**Pn**	**12 15 53.1**	**0.0**
CEDE				*eP*			12 15 53.3	
LCR2	**La Lucha 2**	**3.41**	**121**	*eP*		**Pn**	**12 16 08.3**	**+1.9**
CMIG	**Matias Romero**	**9.46**	**307**	Pn		**Pn**	**12 17 28.8**	**-0.6**
	1.7nm,0.3s,baz=136,slow=7.0,SNR=11							
ATAH	**Atahualpa**	**20.39**	**155**	LR		LR	12 27 10.0	
	comp=Z,48nm,19.2s,baz=58,slow=35							
GOGA	**Godfrey**	**22.04**	**8**	P		**P**	**12 20 06.6**	**+0.5**
Y49A	**Blount Mountai**	**22.26**	**1**	P		**P**	**12 20 09.7**	**+1.3**
Y49A				IAmb		IAmb	12 20 10.4	
	comp=Z,7.1nm,0.7s							
TX31	**Lajitas Ar. Si**	**23.60**	**321**	P		**P**	**12 20 22.5**	**+0.3**
TX32	**Lajitas Array**	**23.60**	**321**	P		**P**	**12 20 22.7**	**+0.5**
TXAR	**Lajitas Array**	**23.60**	**321**	P		**P**	**12 20 22.4**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=134,slow=9.6,SNR=16							
CPCT	**Cooper Cave**	**23.94**	**5**	P		**P**	**12 20 26.5**	**+1.3**
CPCT				IAmb		IAmb	12 20 28.2	
	comp=Z,5.1nm,0.7s							
H06E1	**SOCORRO T-PHAS**	**24.21**	**290**	T		T	12 45 19.5	
	SNR=16							
TKL	**Tuckaleechee C**	**24.22**	**6**	P		**P**	**12 20 27.8**	**0.0**
	comp=Z,2.0nm,0.3s,baz=162,slow=9.7,SNR=4.5							
TKL	**Tuckaleechee C**	**24.22**	**6**	IAmb		IAmb	12 20 31.4	
	comp=Z,7.5nm,1.1s							
CLTN	**Cedars of Leba**	**24.49**	**1**	P		**P**	**12 20 31.6**	**+1.4**
CLTN				IAmb		IAmb	12 20 33.0	
	comp=Z,5.6nm,0.7s							
PV18	**Skein Mesa, Pa**	**33.07**	**327**	P		**P**	**12 21 48.2**	**+1.3**
PV18				IAmb		IAmb	12 21 50.7	
	comp=Z,3.5nm,0.7s							
E43A	**Lone Tree Farm**	**34.76**	**360**	P		**P**	**12 22 00.1**	**-1.0**
PDAR	**Pinedale Array**	**36.82**	**332**	P		**P**	**12 22 18.8**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=131,slow=10,SNR=5.1							
REDW	**Red Top Meadow**	**37.89**	**331**	IAmb		IAmb	12 22 30.1	
	comp=Z,3.5nm,0.9s							
NVAR	**Mina Array Bea**	**38.72**	**319**	P		**P**	**12 22 35.9**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=161,slow=3.6,SNR=2.0							
SCHQ	**Schefferville**	**46.05**	**16**	P		**P**	**12 23 33.4**	**-1.0**
	comp=Z,0.9nm,0.4s,baz=227,slow=8.6,SNR=1.7							
SCHQ	**Schefferville**	**46.05**	**16**	IAmb		IAmb	12 23 47.4	
	comp=Z,3.7nm,1.1s							
YKA	**Yellowknife Ar**	**54.64**	**345**	P		**P**	**12 24 38.7**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=136,slow=7.2,SNR=3.8							
CMAR	**Chiang Mai Arr**	**149.66**	**349**	PKPbc		**PKiKP**	**12 35 01.1**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=348,slow=2.7,SNR=6.9							

IDC 26 12:18:54.6±4.3, 28°.41S×177°.80W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/21, mbtmp3.6/2, MS4.5/1, Ms1 4.5/1, ms1mx3.1/22, Error ellipse: s-maj=85.5km s-min=22.9km az=75.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.84**	**187**	Pn		Pn	12 19 14.6	+0.8
	96nm,0.3s,baz=249,slow=22,SNR=2.0							
RAO				Sn		Sn	12 19 27.1	+0.2
	286nm,0.3s,baz=146,slow=22,SNR=8.9							
ASAR	**Alice Springs**	**43.43**	**265**	P		P	12 26 57.4	-2.1
	0.2nm,0.3s,baz=108,slow=7.5,SNR=2.0							
WRA	**Warramunga Arr**	**44.24**	**270**	P		P	12 27 07.1	+1.1
	0.5nm,0.3s,baz=110,slow=8.1,SNR=13							
BATI	**Baumata**	**57.60**	**276**	LR		LR	12 53 15.1	
	comp=Z,390nm,18.7s,baz=273,slow=36							
FINES	**FINESS Array B**	**143.34**	**341**	PKP		PKPbc	12 38 28.4	+1.0
	0.7nm,0.6s,baz=0.0,slow=2.8,SNR=4.0							

IDC 26 12:38:58.1±6.1, 29°.20S×177°.92W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.4/26, mbtmp3.6/2, Error ellipse: s-maj=332.2km s-min=88.9km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.25**	**266**	P		P	12 47 00.8	-0.8
	0.6nm,1.1s,baz=101,slow=7.9,SNR=1.5							
WRA	**Warramunga Arr**	**44.13**	**271**	P		P	12 47 09.1	+0.4
	0.3nm,0.7s,baz=109,slow=8.0,SNR=0.5							
FINES	**FINESS Array B**	**144.04**	**341**	PKP		PKPdf	12 58 34.5	-0.5
	0.8nm,0.8s,baz=39,slow=9.0,SNR=1.9							

IDC 26 12:39:05.9±5.0, 29°.79S×177°.02W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/27, mbtmp3.7/2, Error ellipse: s-maj=301.0km s-min=69.3km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.00**	**266**	P		P	12 47 15.1	-0.2
	0.6nm,0.7s,baz=103,slow=7.7,SNR=6.0							
WRA	**Warramunga Arr**	**44.93**	**271**	P		P	12 47 22.9	0.0
	1.0nm,0.7s,baz=110,slow=8.1,SNR=6.9							
FINES	**FINESS Array B**	**144.86**	**341**	PKP		PKPbc	12 58 43.5	+0.2
	1.9nm,0.7s,baz=64,slow=4.4,SNR=7.2							

IDC 26 12:42:11.2±8.0, 29°.25S×175°.20E, h0km, mb3.2/2, mb1 3.5/2, mb1mx3.3/28, mbtmp3.2/2, Error ellipse: s-maj=353.5km s-min=119.1km az=168.0, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**37.25**	**269**	P		P	12 49 24.9	+0.1
	0.3nm,0.8s,baz=103,slow=8.0,SNR=2.0							
WRA	**Warramunga Arr**	**38.13**	**275**	P		P	12 49 32.0	-0.3
	0.3nm,0.6s,baz=113,slow=8.0,SNR=0.4							
FINES	**FINESS Array B**	**141.88**	**336**	PKP		PKPdf	13 01 43.8	-0.4
	0.8nm,0.5s,baz=48,slow=2.8,SNR=5.1							

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*IDC **26** 12:44:09.8±1.1, 21°.12N×103°.09E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.5/42, mbtmp3.7/6, Error ellipse: s-maj=24.5km s-min=19.8km az=92.0*
ISC 26 12:44:16.9±1.1, 21°.6N±0°.1×103°.7E±0°.1, h35km, n23, σ2s63/25, mb3.8/6, Vietnam

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PAYA	**Payao**	**4.18**	**239**	P		**Pn**	**12 45 15.3**	**-3.0**
PAYA				S		**Sn**	**12 46 02.7**	**-3.3**
UTTA	**Uttaradit**	**4.80**	**218**	P		**Pn**	**12 45 30.5**	**+3.8**
LAMP	**Lampang**	**4.85**	**232**	P		**Pn**	**12 45 28.4**	**+0.9**
CM34	**Chiang Mai Arr**	**5.03**	**238**	P		**Pn**	**12 45 30.2**	**+0.2**
CM35	**Chiang Mai Arr**	**5.12**	**237**	P		**Pn**	**12 45 32.9**	**+1.7**
CM33	**Chiang Mai Arr**	**5.21**	**239**	P		**Pn**	**12 45 33.6**	**+1.2**
CMMT	**Chiang Mai**	**5.21**	**239**	P		**Pn**	**12 45 34.0**	**+1.5**
CMMT				S		**Sn**	**12 46 32.9**	**+1.6**
CM32	**Chiang Mai Arr**	**5.38**	**238**	P		**Pn**	**12 45 37.9**	**+3.2**
CM09	**Chiang Mai Arr**	**5.38**	**236**	P		**Pn**	**12 45 38.2**	**+3.4**
CM31	**Chiang Mai Arr**	**5.41**	**236**	P		**Pn**	**12 45 38.6**	**+3.4**
CMAR	**Chiang Mai Arr**	**5.41**	**236**	Pg		**Pn**	**12 45 37.1**	**+1.9**
	0.9nm,0.3s,baz=39,slow=12,SNR=5.8							
CMAR				Lg		Lg	12 46 39.6	
	2.4nm,0.3s,baz=59,slow=29,SNR=8.7							
CM04	**Chiang Mai Arr**	**5.42**	**235**	P		**Pn**	**12 45 37.3**	**+2.0**
CM01	**Chiang Mai Arr**	**5.42**	**236**	P		**Pn**	**12 45 37.1**	**+1.8**
CM02	**Chiang Mai Arr**	**5.42**	**236**	P		**Pn**	**12 45 38.8**	**+3.5**
CM15	**Chiang Mai Arr**	**5.43**	**236**	P		**Pn**	**12 45 38.9**	**+3.4**
CM05	**Chiang Mai Arr**	**5.44**	**236**	P		**Pn**	**12 45 36.6**	**+1.0**
CM13	**Chiang Mai Arr**	**5.46**	**236**	P		**Pn**	**12 45 37.6**	**+1.8**
SONM	**Songino Array**	**26.30**	**4**	P		**P**	**12 49 53.4**	**+4.1**
	0.3nm,0.4s,baz=179,slow=13,SNR=1.8							
MKAR	**Makanchi Array**	**30.57**	**330**	P		**P**	**12 50 26.4**	**-0.8**
	1.3nm,0.7s,baz=142,slow=9.0,SNR=11							
KURBB	**Kurchatov Arra**	**35.07**	**332**	P		**P**	**12 51 05.1**	**-1.4**
	0.6nm,0.2s,baz=148,slow=8.5,SNR=5.1							
ZALV	**Zalesovo Beam**	**35.37**	**341**	P		**P**	**12 51 08.1**	**-0.9**
	1.0nm,0.6s,baz=151,slow=6.8,SNR=5.7							
WRA	**Warramunga Arr**	**51.00**	**142**	P		**P**	**12 53 14.8**	**-0.8**
	1.0nm,0.9s,baz=329,slow=8.0,SNR=3.2							
ASAR	**Alice Springs**	**53.73**	**145**	P		**P**	**12 53 32.1**	**-3.8**
	0.3nm,0.8s,baz=315,slow=7.2,SNR=1.9							

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*TAP **26** 13:16:34.8, 24°.25N×121°.74E, h11km, ML3.3, B*
*JMA **26** 13:16:34.5±0.1, 24°.22N×121°.70E, h17km±1km, M2.5*
ISC 26 13:16:34.7±0.8, 24°.24N±0°.01×121°.75E±0°.02, h11km±6km, n114, σ0s66/212, 1C-9D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
NACB	**Ninganchiao**	**0.16**	**245**	P		**Pg**	**13 16 38.4**	**+0.1**
	baz=231							
NACB				S		**Sg**	**13 16 41.0**	**+0.2**
	baz=231							
ENA	**Nanau**	**0.19**	**357**	⇓*i*P		**Pg**	**13 16 39.0**	**+0.2**
	baz=3.0							
ENA				*i* S		**Sg**	**13 16 41.9**	**+0.4**
	baz=3.0							
TWD	**Chiawan**	**0.21**	**222**	⇑*i*P		**Pg**	**13 16 39.5**	**+0.3**
	baz=215							
TWD				*i* S		**Sg**	**13 16 42.8**	**+0.4**
	baz=215							
ETLH	**Xiulin Townshi**	**0.25**	**262**	P		**Pg**	**13 16 39.9**	**0.0**
	baz=259							
ETLH				S		**Sg**	**13 16 43.6**	**+0.1**
	baz=259							
HWA	**Hwalien**	**0.30**	**207**	*i* P		**Pb**	**13 16 41.7**	**-0.4**
	baz=202							
HWA				*i* S		**Sb**	**13 16 46.6**	**-0.4**
	baz=202							
TWC	**Suao**	**0.38**	**14**	⇓*i*P		**Pg**	**13 16 42.4**	**+0.1**
	baz=9.0							
TWC				*i* S		**Sg**	**13 16 47.2**	**0.0**
	baz=9.0							
NNSB	**Datong**	**0.39**	**299**	⇓P		**Pg**	**13 16 42.6**	**+0.2**
	baz=298							
NNSB				S		**Sg**	**13 16 47.6**	**+0.1**
	baz=298							
NNSH	**Datong**	**0.39**	**299**	⇓*i*P		**Pg**	**13 16 42.6**	**+0.2**
	baz=298							
NNSH				*i* S		**Sg**	**13 16 47.6**	**0.0**
	baz=298							
NNS	**Nan Shan**	**0.40**	**300**	⇓*i*P		**Pg**	**13 16 42.8**	**+0.2**
	baz=299							
NNS				*i* S		**Sg**	**13 16 48.0**	**0.0**
	baz=299							
NDT	**Datong Townshi**	**0.42**	**329**	⇓*i*P		**Pg**	**13 16 43.4**	**+0.3**
	baz=329							
NDT				*i* S		**Sg**	**13 16 49.1**	**+0.5**
	baz=329							
ENTT	**Nioudou**	**0.43**	**337**	⇓*i*P		**Pg**	**13 16 43.5**	**+0.2**
	baz=338							
ENTT				*i* S		**Sg**	**13 16 49.4**	**+0.4**
	baz=338							
WHF	**Hehuan Shan**	**0.46**	**258**	*i* P		**Pg**	**13 16 43.8**	**0.0**
	baz=256							
WHF				*i* S		**Sg**	**13 16 50.2**	**+0.3**
	baz=256							
TWE	**Neicheng**	**0.48**	**351**	*i* P		**Pg**	**13 16 44.4**	**+0.1**
	baz=360							
TWE				*i* S		**Sg**	**13 16 50.9**	**+0.3**
	baz=360							
ESL	**Shilin**	**0.52**	**214**	*i* P		**Pg**	**13 16 44.8**	**-0.1**
	baz=220							
ESL				S		**Sg**	**13 16 52.1**	**+0.5**
	baz=220							
ILA	**Ilan**	**0.52**	**360**	*e*P		**Pb**	**13 16 45.6**	**-0.3**
	baz=356							
ILA				S		**Sb**	**13 16 53.0**	**-0.6**
	baz=356							
TWT	**Tachien**	**0.53**	**271**	*i* P		**Pb**	**13 16 45.6**	**-0.5**
	baz=270							
TWT				*i* S		**Sb**	**13 16 52.9**	**-1.0**
	baz=270							
TDCB	**Techi**	**0.54**	**271**	P		**Pg**	**13 16 45.6**	**+0.3**
	baz=270							
TDCB				S		**Sg**	**13 16 52.4**	**-0.2**
	baz=270							
YHNB	**Yeheng**	**0.55**	**321**	⇓P		**Pg**	**13 16 45.6**	**+0.2**
	baz=321							
YHNB				S		**Sg**	**13 16 53.2**	**+0.5**
	baz=321							
CHGB	**Renai**	**0.56**	**251**	P		**Pg**	**13 16 45.8**	**+0.1**
	baz=243							
CHGB				S		**Sb**	**13 16 54.2**	**-0.6**
	baz=243							
NSK	**Sanguang**	**0.56**	**320**	⇓*i*P		**Pg**	**13 16 45.8**	**+0.1**
	baz=321							
NSK				*i* S		**Sg**	**13 16 53.3**	**+0.2**
	baz=321							
NWLT	**Wulai**	**0.58**	**337**	*i* P		**Pg**	**13 16 46.2**	**+0.2**
	baz=337							
NWLT				*i* S		**Sg**	**13 16 53.6**	**-0.1**
	baz=337							
OWD	**Renai**	**0.60**	**242**	*e*P		**Pb**	**13 16 46.9**	**-0.4**
	baz=233							
OWD				S		**Sb**	**13 16 55.3**	**-0.6**
	baz=233							
NTC	**Toucheng**	**0.61**	**7**	*i* P		**Pg**	**13 16 46.7**	**0.0**
	baz=8.0							
NTC				*e*S		**Sg**	**13 16 55.4**	**+0.6**
	baz=8.0							
EGS		**0.62**	**15**	*i* P		**Pb**	**13 16 47.9**	**+0.2**
	baz=25							
EGS				*e*S		**Sg**	**13 16 55.3**	**+0.2**
	baz=25							
EGFH	**Guangfu**	**0.64**	**208**	*i* P		**Pg**	**13 16 47.1**	**-0.1**
	baz=213							
EGFH				S		**Sb**	**13 16 56.3**	**-0.7**
	baz=213							
TIPB	**Shuangxi**	**0.73**	**5**	*i* P		**Pg**	**13 16 48.8**	**-0.1**
	baz=6.0							
TIPB				*i* S		**Sg**	**13 16 58.1**	**-0.4**
	baz=6.0							
WHP	**Taichung City**	**0.74**	**273**	*i* P		**Pb**	**13 16 49.4**	**-0.3**
	baz=272							
WHP				*i* S		**Sg**	**13 16 59.0**	**+0.3**
	baz=272							
VWDT	**VWDT**	**0.74**	**229**	P		**Pb**	**13 16 49.2**	**-0.5**
	baz=228							
VWDT				S		**Sb**	**13 16 59.8**	**0.0**
	baz=228							
NHDH	**Xindian Distri**	**0.75**	**344**	P		**Pg**	**13 16 49.2**	**-0.1**
	baz=344							
NHDH				*e*S		**Sg**	**13 16 59.4**	**+0.3**
	baz=344							
TWA	**Mucha**	**0.75**	**348**	*i* P		**Pg**	**13 16 49.2**	**-0.1**
	baz=339							
WLTB	**Daxi**	**0.76**	**323**	P		**Pb**	**13 16 50.2**	**+0.2**
	baz=323							
WLTB				*e*S		**Sg**	**13 16 59.3**	**-0.1**
	baz=323							
TATO	**Taipei**	**0.77**	**342**	P		**Pb**	**13 16 49.8**	**-0.3**
	baz=342							
TATO				S		**Sb**	**13 17 00.1**	**-0.6**
	baz=342							
DPDB	**Guoxing**	**0.78**	**255**	*i* P		**Pb**	**13 16 50.2**	**-0.2**
	baz=254							
DPDB				S		**Sb**	**13 17 00.6**	**-0.5**
	baz=254							
LIOB	**Emei**	**0.78**	**301**	*i* P		**Pb**	**13 16 50.3**	**-0.1**
	baz=301							
NSTT	**Nanjuang**	**0.79**	**300**	*i* P		**Pb**	**13 16 50.2**	**-0.2**
	baz=299							
NSTT				*e*S		**Sb**	**13 17 00.5**	**-0.6**
	baz=299							
TWB1	**Santiao Chiao**	**0.79**	**16**	*i* P		**Pg**	**13 16 50.2**	**+0.1**
	baz=17							
TWB1				*i* S		**Sg**	**13 17 00.3**	**-0.2**
	baz=17							
HGSD	**Ruisui**	**0.81**	**202**	P		**Pb**	**13 16 51.1**	**+0.3**
	baz=217							
TAP1	**Taipei**	**0.82**	**345**	P		**Pb**	**13 16 51.2**	**+0.2**
	baz=345							
TAP1				*e*S		**Sb**	**13 17 01.9**	**-0.2**
	baz=345							
TAP	**Taipei**	**0.82**	**344**	*e*P		**Pb**	**13 16 51.1**	**0.0**
	baz=334							
NWF	**Wu-fen Shan**	**0.83**	**2**	*i* P		**Pb**	**13 16 51.6**	**+0.4**
	baz=355							
NWF				*e*S		**Sg**	**13 17 01.7**	**+0.1**
	baz=355							
WFSB	**Wu-fen Shan**	**0.83**	**2**	P		**Pb**	**13 16 51.5**	**+0.4**
	baz=355							
WFSB				*e*S		**Sg**	**13 17 01.5**	**0.0**
	baz=355							
EHY	**Hungye**	**0.83**	**208**	*i* P		**Pg**	**13 16 50.6**	**-0.2**
	baz=213							
EHY				S		**Sb**	**13 17 02.8**	**+0.4**
	baz=213							
SMLT	**Sun Moon Lake**	**0.86**	**246**	*i* P		**Pb**	**13 16 51.5**	**-0.2**
	baz=236							
SMLT				S		**Sb**	**13 17 02.9**	**-0.4**
	baz=236							
SSLB	**Suanglung**	**0.86**	**238**	P		**Pg**	**13 16 51.0**	**-0.4**
	baz=238							
SSLB				S		**Sg**	**13 17 02.5**	**0.0**
	baz=238							
TYC	**Yuchr**	**0.89**	**248**	*i* P		**Pb**	**13 16 51.8**	**-0.4**
	baz=238							
TYC				*e*S		**Sg**	**13 17 02.8**	**-0.6**
	baz=238							
NCUH	**Zhongli**	**0.89**	**325**	*i* P		**Pn**	**13 16 52.9**	**-0.3**
	baz=325							
NCUH				*i* S		**Sn**	**13 17 07.1**	**+1.0**
	baz=325							
SBCB	**Hsinchu**	**0.89**	**308**	P		**Pn**	**13 16 53.4**	**+0.2**
	baz=308							
SBCB				*e*S		**Sn**	**13 17 04.9**	**-1.2**
	baz=308							
NCU	**National Centr**	**0.89**	**325**	*e*P		**Pn**	**13 16 52.8**	**-0.4**
	baz=325							
NCU				S		**Sn**	**13 17 06.0**	**-0.1**
	baz=325							
TWQ1	**Liyutan**	**0.90**	**277**	*i* P		**Pn**	**13 16 53.0**	**-0.3**
	baz=277							
TWQ1				*e*S		**Sn**	**13 17 05.2**	**-1.2**
	baz=277							
HSN	**Hsinchu**	**0.91**	**308**	*

WJS				S		Sn	13 17 10.6	+1.1		
	baz=241									
TWY	**Chenhua**	**1.04 352**		P		**Pn**	**13 16 55.8**	**+0.5**		
	baz=339									
WNT	**Mingjian**	**1.04 250**	*i*	P		**Pn**	**13 16 55.8**	**+0.5**		
	baz=245									
WNT				S		Sn	13 17 10.3	+0.5		
	baz=245									
WCHH	**Zhanghua**	**1.10 262**		P		**Pn**	**13 16 57.0**	**+0.8**		
	baz=262									
WCHH				S		Sn	13 17 12.5	+1.1		
	baz=262									
JYNG	**Yonagunijimaku**	**1.11 79**		P		**Pg**	**13 16 56.2**	**+0.1**		
FULB	**Fuli**	**1.12 202**	*i*	P		**Pb**	**13 16 55.2**	**-0.9**		
	baz=218									
FULB				*e*S		Sn	13 17 12.0	+0.1		
	baz=218									
ALS	**Alishan**	**1.13 230**	*i*	P		**Pn**	**13 16 56.7**	**-0.1**		
	baz=230									
ALS				S		Sn	13 17 12.3	-0.2		
	baz=230									
YOJ	**Yonaguni jima**	**1.17 79**		P		**Pg**	**13 16 57.0**	**-0.2**		
	baz=68									
YOJ				S		Sn	13 17 14.0	+1.0		
	baz=68									
YOJ	**Yonaguni jima**	**1.17 79**		P		**Pg**	**13 16 57.0**	**-0.2**		
YOJ				*e*S		Sn	13 17 13.6	+0.6		
CHN5	**Tsauling**	**1.17 237**		P		**Pg**	**13 16 58.0**	**+0.6**		
	baz=238									
CHN5				*i* S		Sn	13 17 14.3	+1.0		
	baz=238									
CHKT	**Chengkung**	**1.19 197**		P		**Pn**	**13 16 56.2**	**-1.1**		
	baz=179									
CHKT				*e*S		Sn	13 17 13.7	+0.1		
	baz=179									
WGK	**Gukeng**	**1.22 243**	*i*	P		**Pg**	**13 16 59.0**	**+0.7**		
	baz=243									
WGK				*i* S		Sg	13 17 16.1	+2.0		
	baz=243									
WDLH	**Douliu**	**1.24 244**	*i*	P		**Pg**	**13 16 59.1**	**+0.5**		
	baz=244									
WDLH				S		Sg	13 17 16.8	+2.1		
	baz=244									
ELDTW	**Lidau**	**1.25 213**	*i*	P		**Pn**	**13 16 57.4**	**-0.9**		
	baz=213									
ELDTW				*i* S		Sn	13 17 14.4	-0.7		
	baz=213									
RLNB	**Erlin**	**1.32 255**		P		**Pg**	**13 17 00.5**	**+0.4**		
	baz=271									
RLNB				S		Sg	13 17 18.9	+1.6		
	baz=271									
CHN2	**Minshiung**	**1.37 239**	*e*S			**Sg**	**13 17 20.4**	**+1.6**		
	baz=240									
CHN4	**Tsaushan**	**1.38 230**	*i*	P		**Pg**	**13 17 01.1**	**-0.2**		
	baz=231									
CHN4				*i* S		Sg	13 17 21.8	+2.5		
	baz=231									
TPUB	**Ta-pu**	**1.39 228**		P		**Pg**	**13 17 01.1**	**-0.4**		
	baz=216									
TPUB				*e*S		Sg	13 17 20.2	+0.7		
	baz=216									
WTCT	**Ta-ch'eng**	**1.40 255**	*e*S			**Sg**	**13 17 21.3**	**+1.6**		
	baz=270									
STYT	**Tauyuan**	**1.41 221**	*i*	P		**Pb**	**13 17 00.7**	**-0.4**		
	baz=221									
STYT				*i* S		Sg	13 17 20.5	+0.4		
	baz=221									
PCYT	**Pengchaiyu**	**1.41 12**	*i*	P		**Pb**	**13 17 00.9**	**-0.3**		
	baz=12									
CHY	**Chiayi**	**1.42 239**		P		**Pg**	**13 17 02.6**	**+0.5**		
	baz=240									
CHY				*e*S		Sg	13 17 21.1	+0.5		
	baz=240									
WTP	**Ta-pu**	**1.44 227**	*i*	P		**Pg**	**13 17 02.0**	**-0.4**		
	baz=228									
WTP				*i* S		Sg	13 17 21.7	+0.6		
	baz=228									
TWK	**Hsinying**	**1.51 230**	*i*	P		**Pb**	**13 17 02.8**	**0.0**		
	baz=231									
TWK				S		Sg	13 17 24.4	+1.0		
	baz=231									
WSF	**Szhu**	**1.52 247**	S			**Sg**	**13 17 25.2**	**+1.4**		
	baz=258									
SNST	**Tainan City**	**1.54 229**	*i*	P		**Pg**	**13 17 03.6**	**-0.7**		
	baz=230									
SNST				*i* S		Sg	13 17 26.1	+1.9		
	baz=230									
CHN1	**Nanshi**	**1.54 227**	*i*	P		**Pg**	**13 17 04.1**	**-0.2**		
	baz=228									
CHN1				S		Sg	13 17 25.1	+0.8		
	baz=228									
TWG	**Pinlang**	**1.55 204**	*i*	P		**Pn**	**13 17 01.9**	**-0.4**		
	baz=205									
TWG				*e*S		Sb	13 17 23.5	+0.4		
	baz=205									
TWGBT	**Beinan**	**1.55 204**	*e*P			**Pn**	**13 17 01.4**	**-0.9**		
	baz=205									
TWGBT				*e*S		Sb	13 17 23.3	+0.3		
	baz=205									
SGST	**Jiashian**	**1.57 223**	*e*P			**Pb**	**13 17 03.2**	**-0.7**		
	baz=224									
SGST				*i* S		Sg	13 17 25.9	+0.5		
	baz=224									
SLGT	**Liugui**	**1.60 219**	*i*	P		**Pb**	**13 17 03.5**	**-0.9**		
	baz=221									
SLGT				*i* S		Sg	13 17 27.5	+1.1		
	baz=221									
CHN8	**Yiju**	**1.67 238**	*e*S			**Sg**	**13 17 29.3**	**+0.9**		
	baz=224									
ECL	**Taimali**	**1.79 204**	*e*P			**Pn**	**13 17 05.5**	**-0.2**		
	baz=191									
ECL				*e*S		Sb	13 17 29.0	-1.1		
	baz=191									
IRIF	**Iriomote-Funau**	**1.81 87**		P		**Pn**	**13 17 05.0**	**-0.8**		
IRIF				*e*S		Sn	13 17 28.5	-0.3		
SSD	**Sandimen**	**1.81 215**	*i*	P		**Pb**	**13 17 07.1**	**-0.8**		
	baz=217									
SSD				*i* S		Sg	13 17 32.2	-0.7		
	baz=217									
HATJ	**Hateruma jima**	**1.88 95**	*e*S			**Sn**	**13 17 31.5**	**+0.8**		
MASBT	**Mashibuluo**	**1.92 213**		P		**Pn**	**13 17 08.2**	**+0.8**		
	baz=216									
MASBT				S		Sb	13 17 33.6	-0.2		
	baz=216									
EAST	**Anshuo**	**2.03 204**		P		**Pn**	**13 17 09.4**	**+0.5**		
	baz=193									
EAST				*e*S		Sn	13 17 34.5	+0.2		
	baz=193									
JKRS	**Kuro-shima**	**2.06 90**		P		**Pn**	**13 17 10.1**	**+0.8**		
JKRS				S		Sg	13 17 36.2	+1.2		
SSPT	**Xinbi**	**2.06 212**	*e*P			**Pb**	**13 17 11.2**	**-1.0**		
	baz=216									
SSPT				*e*S		Sb	13 17 38.6	+0.8		
	baz=216									
PNG	**Penghu**	**2.12 252**		P		**Pn**	**13 17 10.9**	**+0.8**		
	baz=253									
PNG				S		Sb	13 17 37.8	-1.8		
	baz=253									
PHUB	**P'eng-hu**	**2.12 250**		P		**Pn**	**13 17 10.0**	**-0.2**		
	baz=252									
PHUB				S		Sb	13 17 38.3	-1.3		
	baz=252									
SCZT	**Fangliau**	**2.13 209**	*e*P			**Pb**	**13 17 12.1**	**-1.3**		
	baz=214									
SCZT				*e*S		Sb	13 17 40.4	+0.5		
	baz=214									
WDGT	**Dungji**	**2.15 243**	*i*	P		**Pn**	**13 17 11.2**	**+0.6**		
	baz=245									
WDGT				S		Sb	13 17 39.3	-1.1		
	baz=245									
JIJ	**Ishigaki jima**	**2.19 86**		P		**Pn**	**13 17 11.0**	**0.0**		
JIJ				*e*S		Sn	13 17 37.6	-0.5		
VWUC	**VWUC**	**2.23 290**		P		**Pn**	**13 17 11.3**	**-0.3**		
	baz=291									
VWUC				*e*S		Sn	13 17 38.4	-0.7		
	baz=291									
JISG	**Ishigakijimahi**	**2.36 81**		P		**Pn**	**13 17 13.9**	**+0.5**		
JISG				*e*S		Sn	13 17 42.8	+0.4		
VCHM	**Qimei**	**2.36 245**	*e*P			**Pn**	**13 17 13.9**	**+0.4**		
	baz=233									
VCHM				*e*S		Sb	13 17 44.9	-1.7		
	baz=233									
MATB	**Ma-tsu**	**2.51 320**	*e*P			**Pn**	**13 17 15.6**	**+0.1**		
	baz=319									
MATB				*e*S		Sn	13 17 47.4	+1.3		
	baz=319									
JTJ	**Tarama**	**2.72 81**		P		**Pn**	**13 17 18.5**	**+0.1**		
JTJ				*e*S		Sn	13 17 51.4	+0.1		
KNMB	**Chin-men Tao**	**3.08 275**	*e*P			**Pn**	**13 17 23.3**	**0.0**		
	baz=273									

*IDC **26** 13:58:58.3±3.6,28.˝54S×178.˝04W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.8/31,mbtmp4.0/3,Error ellipse: s-maj=74.3km s-min=17.0km az=58.0*
*NEIC **26** 13:58:59.4±1.9,28.˝39S±0.˝07×178.˝0W±0.˝3,h17km±12km, mb4.1/8,Error ellipse: s-maj=44.7km s-min=6.1km az=79.0*
ISC 26 13:58:58.4±2.4,28.˝3S±0.˝2×178.˝1W±0.˝3,h10km,n17, σ1§85/18,mb4.1/8,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.91**	**173**	Pn	**Pg**	**13 59 16.0**	**0.0**
	685nm,0.3s,baz=92,slow=10,SNR=32						
RAO				Sn	**Sb**	**13 59 28.6**	**+0.1**
	2µm,0.3s,baz=58,slow=22,SNR=20						
RAO	**Raoul Island**	**0.91**	**173**		**Pb**	**13 59 16.2**	**-0.1**
ARMA	**Armidale**	**26.47**	**258**	P	**P**	**14 04 35.8**	**-0.2**
ARMA				IAmb	IAmb	14 04 48.5	
	comp=Z,3.2nm,0.9s						
EIDS	**Eidsvold**	**27.66**	**269**	P	**P**	**14 04 46.9**	**+0.4**
EIDS				IAmb	IAmb	14 04 59.8	
	comp=Z,4.2nm,1.1s						
TOO	**Toolangi**	**31.79**	**244**	P	**P**	**14 05 23.7**	**+0.6**
CTAO	**Charters Tower**	**33.48**	**276**	P	**P**	**14 05 35.8**	**-2.2**
CTAO				IAmb	IAmb	14 05 50.8	
	comp=Z,2.8nm,1.1s						
STKA	**Stephens Creek**	**34.95**	**254**	P	**P**	**14 05 50.5**	**-0.1**
	comp=Z,1.0nm,0.4s,baz=101,slow=11,SNR=5.7						
STKA	**Stephens Creek**	**34.95**	**254**	P	**P**	**14 05 48.5**	**-2.1**
BBOO	**Buckleboo**	**39.53**	**252**	P	**P**	**14 06 27.4**	**-2.2**
ASAR	**Alice Springs**	**43.22**	**265**	P	**P**	**14 07 01.0**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=106,slow=7.7,SNR=11						
WR0	**Warramunga Arr**	**43.83**	**270**	P	**P**	**14 07 07.8**	**+2.9**
WB2	**Warramunga Arr**	**44.01**	**270**	P	**P**	**14 07 08.9**	**+2.6**
WRAB	**Tennant Creek**	**44.01**	**270**	P	**P**	**14 07 08.2**	**+1.8**
WRAB				IAmb	IAmb	14 07 17.3	
	comp=Z,4.7nm,0.9s						
WRA	**Warramunga Arr**	**44.02**	**270**	P	**P**	**14 07 09.0**	**+2.6**
	comp=Z,1.1nm,0.3s,baz=110,slow=8.1,SNR=21						
WRA	**Warramunga Arr**	**44.02**	**270**	P	**P**	**14 07 08.8**	**+2.4**
WB0	**Warramunga Arr**	**44.03**	**270**	P	**P**	**14 07 08.7**	**+2.2**
WB0				IAmb	IAmb	14 07 12.1	
	comp=Z,2.6nm,0.9s						
FINES	**FINESS Array B**	**143.20**	**341**	PKP	**PKPdf**	**14 18 31.9**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=53,slow=4.2,SNR=12						

*IDC **26** 13:59:21.0±1.8,29.˝24S×177.˝84W,h0km,mb4.4/4, mb1 4.5/4,mb1mx4.0/31,mbtmp4.4/4,MS3.3/3,Ms1 3.3/3, ms1mx2.9/32,Error ellipse: s-maj=50.4km s-min=34.5km az=30.0*
*NEIC **26** 13:59:35.4±1.0,29.˝1S±0.˝3×177.˝9W±0.˝3,h118km±14km, mb4.4/10,Error ellipse: s-maj=48.9km s-min=27.2km az=211.0*
ISC 26 13:59:25.0±1.5,29.˝0S±0.˝3×177.˝6W±0.˝2,h35km,n21, σ1§01/18,mb4.5/8,MS3.2/3,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EIDS	**Eidsvold**	**28.01**	**270**	P	**P**	**14 05 14.1**	**+1.3**
CAN	**Canberra**	**28.84**	**249**	P	**P**	**14 05 20.9**	**+0.8**
CAN				IAmb	IAmb	14 05 21.7	
	comp=Z,11nm,1.0s						
STKA	**Stephens Creek**	**35.11**	**255**	P	**P**	**14 06 14.6**	**-0.5**
	comp=Z,4.0nm,0.7s,baz=108,slow=13,SNR=4.9						
STKA	**Stephens Creek**	**35.11**	**255**	P	**P**	**14 06 15.2**	**+0.1**
KRVT	**Keravat (AS076**	**37.83**	**305**	LR	LR	14 17 35.0	
	comp=Z,173nm,21.7s,baz=125,slow=29						
BBOO	**Buckleboo**	**39.66**	**253**	P	**P**	**14 06 50.9**	**-2.8**
ASAR	**Alice Springs**	**43.51**	**265**	P	**P**	**14 07 23.8**	**-1.6**
	comp=Z,1.5nm,0.5s,baz=105,slow=7.3,SNR=15						
ASAR	**Alice Springs**	**43.51**	**265**	P	**P**	**14 07 24.6**	**-0.7**
WR0	**Warramunga Arr**	**44.19**	**271**	P	**P**	**14 07 31.4**	**+0.6**
WR0				IAmb	IAmb	14 07 38.8	
	comp=Z,3.8nm,1.1s						
WB2	**Warramunga Arr**	**44.37**	**271**	P	**P**	**14 07 32.7**	**+0.5**
WB2				IAmb	IAmb	14 07 33.9	
	comp=Z,8.0nm,0.9s						
WRAB	**Tennant Creek**	**44.37**	**271**	P	**P**	**14 07 32.4**	**+0.2**
WRA	**Warramunga Arr**	**44.38**	**271**	P	**P**	**14 07 32.7**	**+0.4**
	comp=Z,4.4nm,0.4s,baz=110,slow=8.1,SNR=13						
WRA	**Warramunga Arr**	**44.38**	**271**	P	**P**	**14 07 32.9**	**+0.5**
WB0	**Warramunga Arr**	**44.39**	**271**	P	**P**	**14 07 33.2**	**+0.7**
WB0				IAmb	IAmb	14 07 34.3	
	comp=Z,5.7nm,0.6s						
QSPA	**South Pole Qui**	**61.08**	**180**	P	**P**	**14 09 35.3**	**0.0**
	comp=Z,3.5nm,0.8s,baz=66,slow=3.8,SNR=8.7						
QSPA	**South Pole Qui**	**61.08**	**180**	P	**P**	**14 09 35.8**	**+0.6**
QSPA				IAmb	IAmb	14 09 42.2	
	comp=Z,4.5nm,0.9s						
CMIG	**Matias Romero**	**92.03**	**72**	LR	LR	14 49 25.5	
	comp=Z,8.0nm,18.9s,baz=240,slow=33						
TEIG	**Tepich**	**99.02**	**72**	LR	LR	14 49 50.9	
	comp=Z,7.9nm,21.5s,baz=20,slow=30						
FINES	**FINESS Array B**	**143.96**	**341**	PKP	**PKPdf**	**14 18 55.9**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=46,slow=5.5,SNR=8.5						
NB2	**NORSAR Subarra**	**147.44**	**352**	PKP	**PKPab**	**14 19 06.4**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=17,slow=2.9						
NOA	**NORSAR Array B**	**147.44**	**352**	PKPbc	**PKPab**	**14 19 06.5**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=15,slow=4.3,SNR=3.0						

*NEIC **26** 14:02:50.5±1.1,36.˝83N±0.˝02×97.˝70W±0.˝02,h5km±2km, Error ellipse: s-maj=3.8km s-min=3.0km az=55.0*
*TUL **26** 14:02:50.2±1.4,36.˝87N±0.˝02×97.˝69W±0.˝02,h2km±7km, ML3.3,Mwr3.2/14(SLM),Error ellipse: s-maj=3.2km s-min=1.8km az=53.0,Moment Tensor Solution. Moment tensor: Scale 10^{13}Nm; M_{rr}0.00; $M_{\theta\theta}$8.81; $M_{\phi\phi}$-8.81; $M_{r\theta}$0.00; $M_{\theta\phi}$0.00; $M_{r\phi}$0.00;*
*UNK **26** 14:02:50.6,36.˝83N×97.˝70W,h5km*
*IDC **26** 14:02:50.7±1.1,36.˝96N×97.˝87W,h0km,mb3.4/1, mb1 3.8/5,mb1mx3.5/40,mbtmp3.4/5,ML3.8/4,MS2.8/1, Ms1 2.8/1,ms1mx2.1/26,Error ellipse: s-maj=17.2km s-min=12.7km az=162.0*
*ANF **26** 14:02:51.0±0.3,36.˝86N×97.˝75W,h10km,ML4.4/17,Error ellipse: s-maj=3.8km s-min=2.9km az=25.0*
ISC 26 14:02:50.6±0.7,36.˝83N±0.˝04×97.˝73W±0.˝04,h10km,n57, σ0§88/67,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T35A	**Sooner Cattle**	**0.98**	**85**	Pg	**Pg**	**14 03 08.2**	**-1.4**
U32A	**Winter Ranch,**	**1.12**	**247**		**Pb**	**14 03 12.0**	**0.0**
OKCFA	**Oklahoma City**	**1.43**	**171**		**Pn**	**14 03 17.3**	**+0.6**
OKCSW	**OKLAHOMA CITY**	**1.44**	**170**		**Pb**	**14 03 17.7**	**0.0**
FNO	**Franklin**	**1.59**	**170**		**Pb**	**14 03 20.4**	**+0.2**
R32A	**Long Quarter,**	**1.77**	**334**	Pn	**Pn**	**14 03 22.6**	**+1.3**
W35A	**Tecumseh**	**1.81**	**157**		**Pn**	**14 03 22.8**	**+0.9**
TUL1	**Leonard**	**1.82**	**120**	P	**Pn**	**14 03 22.9**	**+0.9**
	baz=301						
TUL1				S	**Sb**	**14 03 46.8**	**0.0**
	baz=301						
TUL1	**Leonard**	**1.82**	**120**		**Pn**	**14 03 22.5**	**+0.6**
WMOK	**Wichita Mounta**	**2.26**	**202**	P	**Pn**	**14 03 29.1**	**+1.0**
	baz=22,SNR=78						
WMOK	**Wichita Mounta**	**2.26**	**202**		**Pn**	**14 03 29.1**	**+1.0**
KSU1	**Kansas State U**	**2.43**	**21**	P	**Pn**	**14 03 31.5**	**+1.0**
	baz=201,SNR=14						
KSU1				S	**Sn**	**14 04 01.4**	**+1.1**
	baz=201						
KSU1	**Kansas State U**	**2.43**	**21**	Pn	**Pn**	**14 03 31.7**	**+1.2**
CBKS	**Cedar Bluff**	**2.54**	**322**	P	**Pn**	**14 03 32.9**	**+0.9**
	baz=140,SNR=35						
HHAR	**Hobbs**	**3.10**	**99**		**Pn**	**14 03 40.6**	**+1.0**
W39A	**Magazine**	**3.59**	**116**	P	**Pn**	**14 03 47.0**	**+0.6**
	baz=298						
W39A	**Magazine**	**3.59**	**116**		**Pn**	**14 03 47.8**	**+1.4**
S39A	**Bolivar**	**3.62**	**75**		**Pn**	**14 03 46.6**	**-0.2**
AMTX	**Amarillo**	**3.75**	**240**	P	**Pn**	**14 03 49.7**	**+1.0**
	baz=58						
AMTX	**Amarillo**	**3.75**	**240**	Pn	**Pn**	**14 03 50.1**	**+1.5**
U40A	**Yellville**	**3.96**	**95**	P	**Pn**	**14 03 52.2**	**+0.8**
	baz=278						
U40A				S	**Sn**	**14 04 37.2**	**-0.7**
	baz=278						
U40A	**Yellville**	**3.96**	**95**	Pn	**Pn**	**14 03 52.1**	**+0.8**
MIAR	**Mount Ida**	**4.08**	**123**	P	**Pn**	**14 03 53.9**	**+0.8**
	baz=306						
MIAR				S	**Sn**	**14 04 41.5**	**+0.6**
	baz=306						
KSCO	**Kaye Shedlock'**	**4.44**	**301**	P	**Pn**	**14 03 58.8**	**+0.6**
	baz=118						
KSCO				S	**Sn**	**14 04 49.6**	**-0.4**
	baz=118						
ABTX	**Abilene, Hawle**	**4.48**	**201**	P	**Pn**	**14 03 59.7**	**+1.0**
	baz=20						
R40A	**Maddies Statio**	**4.58**	**70**		**Pn**	**14 04 00.3**	**+0.3**
BGNE	**Belgrade**	**4.58**	**356**	P	**Pn**	**14 04 00.8**	**+0.8**
	baz=176						
BGNE				S	**Sn**	**14 04 53.3**	**0.0**
	baz=176						
BGNE	**Belgrade**	**4.58**	**356**		**Pn**	**14 04 00.6**	**+0.5**
X40A	**Basin Creek Fa**	**4.62**	**119**	P	**Pn**	**14 04 01.3**	**+0.8**
	baz=302						
X40A				S	**Sn**	**14 04 54.8**	**+0.4**
	baz=302						
W41B	**Gary Mavity, V**	**4.75**	**109**	S	**Sn**	**14 04 56.8**	**-0.5**
	baz=292						
WHTX	**Lake Whitney,**	**4.83**	**177**	P	**Pn**	**14 04 04.9**	**+1.4**
	baz=358						
WHTX				S	**Sn**	**14 04 59.1**	**-0.4**
	baz=358						
MSTX	**Muleshoe**	**5.01**	**237**	P	**Pn**	**14 04 06.9**	**+0.9**
	baz=54						
CCM	**Cathedral Cave**	**5.31**	**75**	P	**Pn**	**14 04 10.2**	**+0.3**
	baz=258						
T25A	**Trinidad**	**5.36**	**275**	P	**Pn**	**14 04 11.1**	**+0.3**
	baz=91,SNR=6.7						
T25A	**Trinidad**	**5.36**	**275**		**Pn**	**14 04 11.4**	**+0.6**
Z41A	**Richland Creek**	**5.39**	**130**	S	**Sn**	**14 05 12.8**	**-0.4**
	baz=313						
435B	**Jarrell**	**6.03**	**179**	S	**Sn**	**14 05 28.6**	**-0.5**
	baz=359						
SCIA	**State Center**	**6.16**	**33**	S	**Sn**	**14 05 30.8**	**-1.3**
	baz=216						
Q24A	**Divide**	**6.24**	**292**	P	**Pn**	**14 04 22.9**	**-0.1**
	baz=108,SNR=6.2						
Q24A				S	**Sn**	**14 05 34.0**	**-0.6**
	baz=108						
SDCO	**Great Sand Dun**	**6.26**	**281**	P	**Pn**	**14 04 24.4**	**+1.1**
	baz=96,SNR=13						
SDCO				S	**Sn**	**14 05 35.5**	**+0.5**
	baz=96						
SDCO	**Great Sand Dun**	**6.26**	**281**		**Pn**	**14 04 24.6**	**+1.2**
JCT	**Junction City**	**6.56**	**196**	P	**Pn**	**14 04 27.6**	**+0.3**
	baz=15						
JCT				S	**Sn**	**14 05 41.9**	**-0.4**
	baz=15						
ISCO	**Idaho Springs**	**6.87**	**298**	P	**Pn**	**14 04 32.3**	**+0.6**
	baz=113,SNR=5.6						
ISCO				S	**Sn**	**14 05 48.8**	**-1.3**
	baz=113						
ISCO	**Idaho Springs**	**6.87**	**298**	Pn	**Pn**	**14 04 32.7**	**+1.0**
ECSD	**EROS Data Cent**	**6.95**	**7**	S	**Sn**	**14 05 49.6**	**-2.0**
	baz=187						
ECSD	**EROS Data Cent**	**6.95**	**7**	Pn	**Pn**	**14 04 31.2**	**-1.3**
ANMO	**Albuquerque**	**7.33**	**258**	Pn	**Pn**	**14 04 38.9**	**+1.0**
	0.4nm,0.3s,baz=84,slow=16,SNR=2.9						
ANMO				Pg	Pg	14 05 06.4	-4.5
	2.0nm,0.3s,baz=79,slow=16,SNR=12						
ANMO				Lg	Lg	14 06 38.0	
	1.0nm,0.3s,baz=72,slow=15,SNR=2.9						
MNTX	**Cornudas Mount**	**8.14**	**233**	P	**Pn**	**14 04 49.5**	**+0.6**
	baz=49,SNR=13						
MNTX	**Cornudas Mount**	**8.14**	**233**		**Pn**	**14 04 48.2**	**-0.7**
JFWS	**Jewell Farm**	**8.37**	**41**	P	**Pn**	**14 04 51.5**	**-0.4**
	baz=226						
TXAR	**Lajitas Array**	**8.98**	**215**	Pn	**Pn**	**14 05 00.7**	**+0.2**
	0.3nm,0.3s,baz=37,slow=10,SNR=15						
TXAR				Pg	Pg	14 05 35.6	-6.9
	0.6nm,0.3s,baz=16,slow=14,SNR=5.1						
TXAR				Lg	Lg	14 07 27.6	
	0.7nm,0.3s,baz=18,slow=8.3,SNR=2.0						
PDAR	**Pinedale Array**	**10.85**	**307**	Pn	**Pn**	**14 05 25.9**	**-0.3**
	0.2nm,0.3s,baz=122,slow=15,SNR=2.7						
TKL	**Tuckaleechee C**	**11.34**	**92**	Pn	**Pn**	**14 05 34.3**	**+1.6**
	0.5nm,0.3s,baz=60,slow=2.5,SNR=4.6						
TKL				Lg	Lg	14 08 43.6	
	0.9nm,0.3s,baz=7.6,slow=22,SNR=9.7						
ULM	**Lac du Bonnet**	**13.48**	**5**	Lg	Lg	14 09 43.1	
	0.5nm,0.3s,baz=250,slow=20,SNR=1.8						
SADO	**Sadowa**	**16.13**	**55**	Pn	**P**	**14 06 41.3**	**+0.6**
	0.2nm,0.3s,baz=37,slow=11,SNR=1.8						
SADO				Lg	Lg	14 11 09.9	
	0.4nm,0.3s,baz=357,slow=19,SNR=3.2						
LPIG	**La Paz**	**16.67**	**224**	LR	LR	14 13 51.1	
	comp=Z,34nm,21.9s,baz=276,slow=40						
ILAR	**Eielson Array**	**40.17**	**330**	P	**P**	**14 10 27.5**	**+0.9**
	0.4nm,0.6s,baz=110,slow=6.5,SNR=5.7						

*IDC **26** 14:14:40.0±0.8,7.˝10S×155.˝00E,h0km,mb4.2/13, mb1 4.4/15,mb1mx4.2/27,mbtmp4.2/15,ML2.0/1,MS3.5/4, Ms1 3.5/4,ms1mx3.2/27,Error ellipse: s-maj=26.2km s-min=16.8km az=111.0*
*NEIC **26** 14:14:44.9±2.3,7.˝1S±0.˝1×155.˝0E±0.˝1,h35km±2km, mb4.5/19,Error ellipse: s-maj=24.8km s-min=16.5km az=117.0*
ISC 26 14:14:45.8±0.6,7.˝08S±0.˝07×154.˝90E±0.˝09,h41km,n44, σ1§19/45,mb4.4/22,MS3.7/3,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**3.98**	**314**	Pn	**Pn**	**14 15 44.9**	**+0.5**
	11nm,0.3s,baz=69,slow=0.5,SNR=15						
KRVT				Sn	**Sn**	**14 16 28.5**	**-1.2**
	23nm,0.3s,baz=31,slow=18,SNR=9.3						
HNR	**Honiara**	**5.51**	**115**	Pn	Pn	14 16 11.5	+6.1
	3.5nm,0.3s,baz=273,slow=7.8,SNR=1.8						
HNR	

MK31	**Makanchi Array**	**83.41**	**319**	P		**P**	**14 27 09.5**	**+0.5**
MKAR	**Makanchi Array**	**83.41**	**319**	P		**P**	**14 27 09.6**	**+0.6**
	comp=Z,1.5nm,0.7s,baz=99,slow=6.0,SNR=16							
MKAR	**Makanchi Array**	**83.41**	**319**	P		**P**	**14 27 09.9**	**+0.9**
ILAR	**Eielson Array**	**83.49**	**22**	P		**P**	**14 27 08.8**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=237,slow=5.0,SNR=14							
ILAR				LR		LR	15 05 30.2	
	comp=Z,26nm,18.0s,baz=298,slow=36							
ILAR	**Eielson Array**	**83.49**	**22**	P		**P**	**14 27 09.4**	**+0.4**
MAKZ	**Makanchi**	**83.62**	**319**	P		**P**	**14 27 09.5**	**-0.6**
MAKZ				IAmb		IAmb	14 27 11.9	
	comp=Z,3.3nm,0.8s							
CTGM	**Chitina Glacie**	**83.85**	**26**	P		**P**	**14 27 11.4**	**+0.3**
DOT	**Dot Lake**	**83.98**	**23**	P		**P**	**14 27 11.5**	**0.0**
DOT				IAmb		IAmb	14 27 28.5	
	comp=Z,5.4nm,0.9s							
ZALV	**Zalesovo Beam**	**84.20**	**326**	P		**P**	**14 27 12.2**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=114,slow=5.6,SNR=4.6							
ZALV				LR		LR	15 04 55.2	
	comp=Z,60nm,19.5s,baz=177,slow=36							
ZALV	**Zalesovo Beam**	**84.20**	**326**	P		**P**	**14 27 11.1**	**-1.7**
BCAR	**Beaver Creek A**	**84.61**	**24**	P		**P**	**14 27 15.9**	**+1.1**
HYT	**Haines Junctio**	**85.49**	**27**	P		**P**	**14 27 19.7**	**+0.3**
EGAK	**Eagle**	**85.63**	**23**	P		**P**	**14 27 20.5**	**+0.7**
EGAK				IAmb		IAmb	14 27 49.1	
	comp=Z,4.8nm,0.9s							
BMAR	**Burnt Mountain**	**85.67**	**20**	P		**P**	**14 27 21.6**	**+1.6**
EPYK	**Eagle Plains**	**87.98**	**22**	P		**P**	**14 27 33.0**	**+1.8**
NVAR	**Mina Array Bea**	**91.84**	**52**	P		**P**	**14 27 51.0**	**+0.8**
	comp=Z,1.0nm,1.1s,baz=262,slow=7.3,SNR=5.4							
YKA	**Yellowknife Ar**	**96.46**	**28**	P		**P**	**14 28 10.1**	**-0.4**
	comp=Z,2.3nm,1.0s,baz=274,slow=4.4,SNR=7.0							
CLL	**Collm**	**125.85**	**331**	*e*PKPdf		**PKiKP**	**14 33 44.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**152.96**	**285**	PKPbc		**PKiKP**	**14 34 40.0**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=40,slow=1.6,SNR=5.0							

DJA 26 14:29:20.7±0.3, 10°S±3°×12°4E±°, h51km±5km, M3.9/8, mb4.3/4, MLv3.8/8, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.26**	**255**	P		Pn	14 29 31.2	+1.6
BATI				S		Sn	14 29 39.5	+3.5
SOEI	**Soe**	**0.51**	**42**	P		Pn	14 29 33.5	+1.2
SOEI				S		Sn	14 29 42.5	+1.9
MMRI	**Maumere**	**2.23**	**312**	P		Pn	14 29 56.5	+1.2
MMRI				S		Sn	14 30 22.8	+1.1
EDFI	**Ende, Flores**	**2.60**	**302**	P		Pn	14 30 00.6	+0.2
WBSI	**Waikabubak, Su**	**4.49**	**276**	P		Pn	14 30 24.8	-1.5
PLAI	**Plampang**	**6.20**	**282**	P		Pn	14 30 48.3	-1.4
	0.2nm48nm,1.3s							

*JMA **26** 14:32:31.7±0.1, 24°.29N×123°.00E, h56km±1km, M2.8*
*TAP **26** 14:32:32.0, 24°.18N×122°.95E, h40km, ML3.4, C*
ISC 26 14:32:32.4±1.7, 24°.13N±0°.03×123°.00E±0°.02, h36km±1km, n97, σ1°28/181, 2D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.33**	**351**	P		**Pn**	**14 32 40.4**	**-0.2**
JYNG				S		**Sn**	**14 32 46.9**	**-0.2**
YOJ	**Yonaguni jima**	**0.33**	**1**	⇓P		**Pn**	**14 32 40.6**	**-0.1**
	baz=8.0							
YOJ				S		**Sn**	**14 32 46.5**	**-0.6**
	baz=8.0							
YOJ	**Yonaguni jima**	**0.33**	**1**	P		**Pn**	**14 32 40.6**	**-0.1**
YOJ				*e*S		**Sn**	**14 32 46.7**	**-0.5**
IRIF	**Iriomote-Funau**	**0.69**	**73**	P		**Pn**	**14 32 45.2**	**-0.5**
IRIF				S		**Sn**	**14 32 55.5**	**+0.3**
HATJ	**Hateruma jima**	**0.74**	**95**	P		**Pn**	**14 32 46.7**	**+0.5**
HATJ				S		**Sn**	**14 32 57.8**	**+1.6**
JKRS	**Kuro-shima**	**0.93**	**83**	P		**Pn**	**14 32 49.0**	**+0.2**
JKRS				*e*S		**Sn**	**14 33 01.8**	**+0.9**
JIJ	**Ishigaki jima**	**1.07**	**77**	P		**Pn**	**14 32 50.1**	**-0.7**
JIJ				S		**Sn**	**14 33 03.5**	**-0.9**
TWC	**Suao**	**1.16**	**295**	⇓*i*P		**Pn**	**14 32 51.1**	**-0.9**
	baz=305							
TWC				*i* S		**Sn**	**14 33 05.4**	**-1.2**
	baz=305							
EGS		**1.21**	**306**	P		**Pn**	**14 32 51.8**	**-0.9**
EGS				S		**Sn**	**14 33 04.8**	**-3.1**
	baz=315							
TWB1	**Santiao Chiao**	**1.27**	**314**	P		**Pn**	**14 32 53.2**	**-0.4**
	baz=325							
TWB1				S		**Sn**	**14 33 08.0**	**-1.5**
	baz=325							
JISG	**Ishigakijimahi**	**1.28**	**69**	P		**Pn**	**14 32 52.8**	**-0.9**
JISG				S		**Sn**	**14 33 08.5**	**-1.0**
TWD	**Chiawan**	**1.29**	**268**	P		**Pn**	**14 32 53.7**	**-0.1**
	baz=267							
TWD				S		**Sn**	**14 33 08.4**	**-1.5**
	baz=267							
NACB	**Ninganchiao**	**1.29**	**272**	P		**Pn**	**14 32 53.0**	**-0.8**
	baz=257							
NACB				S		**Sn**	**14 33 08.9**	**-1.0**
	baz=257							
NTC	**Toucheng**	**1.29**	**304**	*e*P		**Pn**	**14 32 53.6**	**-0.3**
	baz=304							
NTC				S		**Sn**	**14 33 08.9**	**-1.0**
	baz=304							
ILA	**Ilan**	**1.31**	**299**	*e*S		**Sn**	**14 33 10.3**	**0.0**
	baz=310							
TWE	**Neicheng**	**1.35**	**296**	*i* P		**Pn**	**14 32 54.2**	**-0.5**
	baz=305							
TWE				*i* S		**Sn**	**14 33 10.9**	**-0.5**
	baz=305							
TIPB	**Shuangxi**	**1.36**	**308**	*i* P		**Pn**	**14 32 54.1**	**-0.8**
	baz=308							
TIPB				*i* S		**Sn**	**14 33 10.0**	**-1.8**
	baz=308							
ETLH	**Xiulin Townshi**	**1.39**	**273**	P		**Pn**	**14 32 55.1**	**-0.2**
	baz=272							
ETLH				S		**Sn**	**14 33 11.0**	**-1.6**
	baz=272							
ENTT	**Nioudou**	**1.41**	**292**	*i* P		**Pn**	**14 32 55.9**	**+0.4**
	baz=300							
ENTT				S		**Sn**	**14 33 13.7**	**+0.8**
	baz=300							
NDT	**Datong Townshi**	**1.44**	**289**	*i* P		**Pn**	**14 32 56.4**	**+0.4**
	baz=276							
NDT				S		**Sn**	**14 33 14.2**	**+0.6**
	baz=276							
NWF	**Wu-fen Shan**	**1.46**	**310**	*i* P		**Pn**	**14 32 55.5**	**-0.7**
	baz=310							
NWF				*i* S		**Sn**	**14 33 12.4**	**-1.7**
	baz=310							
WFSB	**Wu-fen Shan**	**1.46**	**310**	P		**Pn**	**14 32 55.5**	**-0.7**
	baz=310							
WFSB				S		**Sn**	**14 33 12.1**	**-1.9**
	baz=310							
ESL	**Shilin**	**1.47**	**258**	*i* P		**Pn**	**14 32 55.1**	**-1.2**
	baz=256							
ESL				S		**Sn**	**14 33 12.2**	**-2.1**
	baz=256							
NNSB	**Datong**	**1.51**	**282**	P		**Pn**	**14 32 56.7**	**-0.3**
	baz=269							
NNSB				S		**Sn**	**14 33 15.2**	**-0.3**
	baz=269							
NNSH	**Datong**	**1.51**	**282**	*e*P		**Pn**	**14 32 57.1**	**+0.1**
	baz=281							
NWLT	**Wulai**	**1.51**	**296**	P		**Pn**	**14 32 57.3**	**+0.3**
	baz=306							
NWLT				S		**Sn**	**14 33 15.6**	**+0.1**
	baz=306							
EGFH	**Guangfu**	**1.51**	**253**	P		**Pn**	**14 32 54.1**	**-2.9**
	baz=251							
EGFH				S		**Sn**	**14 33 15.4**	**0.0**
	baz=251							
NNS	**Nan Shan**	**1.52**	**282**	*i* P		**Pn**	**14 32 57.1**	**-0.1**
	baz=270							
NNS				S		**Sn**	**14 33 15.4**	**-0.4**
	baz=270							
TWA	**Mucha**	**1.55**	**304**	*i* P		**Pn**	**14 32 56.7**	**-0.7**
	baz=303							
TWA				*i* S		**Sn**	**14 33 15.8**	**-0.5**
	baz=303							
YHNB	**Yeheng**	**1.58**	**290**	P		**Pn**	**14 32 58.5**	**+0.6**
	baz=276							
YHNB				S		**Sn**	**14 33 17.7**	**+0.5**
	baz=276							
HGSD	**Ruisui**	**1.58**	**247**	P		**Pn**	**14 32 56.9**	**-0.9**
	baz=245							
HGSD				S		**Sn**	**14 33 14.5**	**-2.5**
	baz=245							
NHDH	**Xindian Distri**	**1.58**	**302**	*e*P		**Pn**	**14 32 59.0**	**+1.1**
	baz=302							
NHDH				S		**Sn**	**14 33 17.0**	**-0.1**
	baz=302							
WHF	**Hehuan Shan**	**1.59**	**271**	*i* P		**Pn**	**14 32 57.6**	**-0.8**
	baz=270							
WHF				*i* S		**Sn**	**14 33 17.3**	**-0.5**
	baz=270							
NSK	**Sanguang**	**1.60**	**290**	*i* P		**Pn**	**14 32 58.5**	**+0.3**
	baz=276							
NSK				*i* S		**Sn**	**14 33 17.3**	**-0.2**
	baz=276							
TATO	**Taipei**	**1.62**	**302**	P		**Pn**	**14 32 57.8**	**-0.6**
	baz=302							
TATO				S		**Sn**	**14 33 15.8**	**-2.2**
	baz=302							
JTJ	**Tarama**	**1.63**	**71**	P		**Pn**	**14 32 58.1**	**-0.4**
JTJ				S		**Sn**	**14 33 17.3**	**-1.0**
EHY	**Hungye**	**1.66**	**248**	*i* P		**Pn**	**14 32 58.3**	**-0.7**
	baz=247							
EHY				S		**Sn**	**14 33 17.5**	**-1.5**
	baz=247							
YM08	**YM08**	**1.66**	**310**	*e*S		**Sn**	**14 33 17.3**	**-1.8**
	baz=309							
CHGB	**Renai**	**1.67**	**268**	P		**Pn**	**14 32 58.8**	**-0.5**
	baz=267							
CHGB				S		**Sn**	**14 33 18.2**	**-1.5**
	baz=267							
YM04	**YM04**	**1.68**	**308**	P		**Pn**	**14 32 58.5**	**-0.8**
	baz=307							
YM04				S		**Sn**	**14 33 18.0**	**-1.6**
	baz=307							
TDCB	**Techi**	**1.69**	**275**	P		**Pn**	**14 32 59.4**	**-0.1**
	baz=261							
TDCB				S		**Sn**	**14 33 19.8**	**-0.2**
	baz=261							
YM03	**YM03**	**1.69**	**308**	*e*P		**Pn**	**14 32 59.0**	**-0.5**
	baz=308							
YM03				*e*S		**Sn**	**14 33 17.5**	**-2.5**
	baz=308							
PCYT	**Pengchaiyu**	**1.72**	**331**	P		**Pn**	**14 32 59.0**	**-0.7**
	baz=320							
PCYT				S		**Sn**	**14 33 20.3**	**-0.1**
	baz=320							
YULB	**Yu-li**	**1.73**	**245**	P		**Pn**	**14 32 59.0**	**-0.9**
	baz=234							
YULB				S		**Sn**	**14 33 19.5**	**-1.3**
	baz=234							
TWS1	**Kuangyinshan**	**1.74**	**304**	*e*P		**Pn**	**14 32 58.3**	**-1.7**
	baz=304							
TWS1				*e*S		**Sn**	**14 33 19.8**	**-1.1**
	baz=304							
VWDT	**VWDT**	**1.74**	**258**	P		**Pn**	**14 32 59.9**	**-0.2**
	baz=257							
VWDT				S		**Sn**	**14 33 19.5**	**-1.6**
	baz=257							
TWF1	**Yuli**	**1.75**	**244**	*i* P		**Pn**	**14 32 59.4**	**-0.8**
	baz=233							
TWF1				*i* S		**Sn**	**14 33 20.5**	**-0.6**
	baz=233							
NTST	**Danshui**	**1.75**	**306**	P		**Pn**	**14 32 59.9**	**-0.3**
	baz=306							
NTST				*e*S		**Sn**	**14 33 20.3**	**-0.9**
	baz=306							
CHKT	**Chengkung**	**1.82**	**236**	P		**Pn**	**14 32 59.7**	**-1.4**
	baz=224							
CHKT				S		**Sn**	**14 33 19.8**	**-3.1**
	baz=224							
FULB	**Fuli**	**1.82**	**240**	*i* P		**Pn**	**14 32 59.9**	**-1.3**
	baz=229							
FULB				*i* S		**Sn**	**14 33 21.2**	**-1.8**
	baz=229							
LIOB	**Emei**	**1.88**	**286**	P		**Pn**	**14 33 02.9**	**+0.8**
	baz=275							
LIOB				S		**Sn**	**14 33 25.6**	**+1.0**
	baz=275							
WHP	**Taichung City**	**1.89**	**275**	P		**Pn**	**14 33 02.9**	**+0.8**
	baz=263							
WHP				*e*S		**Sn**	**14 33 24.9**	**+0.2**
	baz=263							
NSTT	**Nanjuang**	**1.89**	**286**	*i* P		**Pn**	**14 33 02.9**	**+0.7**
	baz=274							
NSTT				S		**Sn**	**14 33 26.0**	**+1.2**
	baz=274							
DPDB	**Guoxing**	**1.90**	**268**	P		**Pn**	**14 33 02.4**	**0.0**
	baz=266							
SSLB	**Suanglung**	**1.91**	**260**	P		**Pn**	**14 33 02.5**	**+0.2**
	baz=259							
SSLB				S		**Sn**	**14 33 25.3**	**+0.1**
	baz=259							
SMLT	**Sun Moon Lake**	**1.94**	**263**	*i* P		**Pn**	**14 33 02.7**	**-0.2**
	baz=262							
SMLT				*i* S		**Sn**	**14 33 26.0**	**-0.1**
	baz=262							
TYC	**Yuchr**	**1.98**	**264**	*i* P		**Pn**	**14 33 03.4**	**+0.1**
	baz=263							
TYC				S		**Sn**	**14 33 25.6**	**-1.2**
	baz=263							
WHYT	**Xinyi Township**	**2.02**	**258**	P		**Pn**	**14 33 04.7**	**+0.8**
	baz=257							
WHYT				S		**Sn**	**14 33 28.4**	**+0.6**
	baz=257							
ELDTW	**Lidau**	**2.05**	**243**	*i* P		**Pn**	**14 33 03.4**	**-1.0**
	baz=242							
ELDTW				*i* S		**Sn**	**14 33 28.4**	**-0.3**
	baz=242							
TWQ1	**Liyutan**	**2.05**	**277**	*i* P		**Pn**	**14 33 06.6**	**+2.3**
	baz=276							
TWQ1				*i* S		**Sn**	**14 33 30.4**	**+1.7**
	baz=276							
NMLH	**Miaoli**	**2.06**	**282**	S		**Sn**	**14 33 30.7**	**+1.8**
	baz=282							
NSY	**Sanyi**	**2.07**	**278**	S		**Sn**	**14 33 30.7**	**+1.6**
	baz=278							
JIRB	**Irabujima**	**2.10**	**70**	P		**Pn**	**14 33 04.6**	**-0.3**
JIRB				S		**Sn**	**14 33 29.0**	**-0.8**
WJS	**Zhushan**	**2.10**	**262**	*e*P		**Pn**	**14 33 06.6**	**+1.5**
	baz=261							
WJS				S		**Sn**	**14 33 33.0**	**+3.0**
	baz=261							
ALS	**Alishan**	**2.11**	**253**	P		**Pn**	**14 33 05.7**	**+0.3**
	baz=253							
ALS				S		**Sn**	**14 33 30.6**	**+0.1**
	baz=253							
TCU	**Taichung**	**2.13**	**271**	*e*S		**Sn**	**14 33 32.1**	**+1.6**
	baz=270							
WNT	**Mingjian**	**2.14**	**264**	P		**Pn**	**14 33 06.8**	**+1.3**
	baz=263							
WNT				S		**Sn**	**14 33 32.5**	**+1.7**
	baz=263							
WDJ	**Dajia District**	**2.17**	**276**	*e*S		**Sn**	**14 33 33.5**	**+2.0**
	baz=276							
TTN	**Taitung**	**2.19**	**232**	*e*P		**Pn**	**14 33 06.8**	**+0.6**
	baz=222							
TTN				*e*S		**Sn**	**14 33 31.1**	**-0.9**
	baz=222							
JIKM	**Ikemajima**	**2.19**	**68**	P		**Pn**	**14 33 06.6**	**+0.3**
JIKM				S		**Sn**	**14 33 31.3**	**-0.8**
CHN5	**Tsauling**	**2.19**	**256**	P		**Pn**	**14 33 07.8**	**+1.4**
	baz=247							
CHN5				*e*S		**Sn**	**14 33 33.2**	**+0.8**
	baz=247							
JMJ	**Miyako jima 2**	**2.19**	**71**	P		**Pn**	**14 33 06.2**	**-0.1**
	baz=74							
JMJ				S		**Sn**	**14 33 33.5**	**+1.3**
	baz=74							
TWGBT	**Beinan**	**2.20**	**234**	P		**Pn**	**14 33 05.7**	**-0.6**
	baz=224							
TWGBT				*e*S		**Sn**	**14 33 29.9**	**-2.4**
	baz=224							
TWG	**Pinlang**	**2.20**	**234**	P		**Pn**	**14 33 05.4**	**-1.1**
	baz=224							
TWG				S		**Sn**	**14 33 30.6**	**-1.8**
	baz=224							
JMJ2	**Miyako jima3**	**2.20**	**73**	P		**Pn**	**14 33 06.4**	**0.0**
JMJ2				S		**Sn**	**14 33 32.0**	**-0.5**
STYT	**Tauyuan**	**2.27**	**245**	P		**Pn**	**14 33 08.0**	**+0.5**
	baz=237							
STYT				S		**Sn**	**14 33 34.4**	**+0.1**
	baz=237							
JOGS	**Gusukube**	**2.28**	**74**	P		**Pn**	**14 33 07.8**	**+0.3**
JOGS				*e*S		**Sn**	**14 33 34.2**	**-0.1**
WGK	**Gukeng**	**2.28**	**259**	P		**Pn**	**14 33 08.7**	**+1.3**
	baz=259							
WGK				*e*S		**Sn**	**14 33 35.8**	**+1.5**
	baz=259							
WDLH	**Douliu**	**2.30**	**260**	*e*P		**Pn**	**14 33 09.2**	**+1.5**
	baz=259							
WDLH				*e*S		**Sn**	**14 33 38.1**	**+3.3**
	baz=259							
TPUB	**Ta-pu**	**2.33**	**250**	*e*P		**Pn**	**14 33 09.8**	**+1.6**
	baz=249							
TPUB				*e*S		**Sn**	**14 33 37.1**	**+1.5**
	baz=249							
CHN4	**Tsaushan**	**2.34**	**251**	P		**Pn**	**14 33 09.8**	**+1.4**
	baz=251							
CHN4				S		**Sn**	**14 33 38.3**	**+2.4**
	baz=251							
WTP	**Ta-pu**	**2.36**	**249**	P		**Pn**	**14 33 09.2**	**+0.6**
	baz=248							
WTP				S		**Sn**	**14 33 38.3**	**+1.9**
	baz=248							
ECL	**Taimali**	**2.42**	**231**	P		**Pn**	**14 33 07.8**	**-1.6**
	baz=241							
ECL				S		**Sn**	**14 33 35.8**	**-2.1**
	baz=241							
RLNB	**Erlin**	**2.43**	**265**	*e*S		**Sn**	**14 33 39.4**	**+1.4**
	baz=265							
SLGT	**Liugui**	**2.44**	**243**	*e*P		**Pn**	**14 33 10.8**	**+1.1**
	baz=234							
SLGT				*e*S		**Sn**	**14 33 39.4**	**+1.0**
	baz=234							
SGST	**Jiashian**	**2.45**	**245**	P		**Pn**	**14 33 10.8**	**+0.9**
	baz=236							
SGST				S		**Sn**	**14 33 40.6**	**+1.9**
	baz=236							
CHN1	**Nanshi**	**2.46**	**248**	P		**Pn**	**14 33 11.2**	**+1.2**
	baz=247							
CHN1				S		**Sn**	**14 33 40.2**	**+1.5**
	baz=247							
TWK	**Hsinying**	**2.46**	**250**	P		**Pn**	**14 33 11.5**	**+1.5**
	baz=249							
TWK				S		**Sn**	**14 33 41.0**	**+2.1**
	baz=249							
SNST	**Tainan City**	**2.47**	**249**	P		**Pn**	**14 33 12.1**	**+1.9**
	baz=248							
SNST				S		**Sn**	**14 33 41.3**	**+2.3**
	baz=248							
LAY	**Lan-yu**	**2.47**	**213**	P		**Pn**	**14 33 08.5**	**-1.7**
	baz=212							
LAY				*e*S		**Sn**	**14 33 36.2**	**-3.0**
	baz=212							
WTCT	**Ta-ch'eng**	**2.50**	**265**	*e*S		**Sn**	**14 33 42.0**	**+2.1**
	baz=264							
SSD	**Sandimen**	**2.58**	**238**	P		**Pn**	**14 33 12.2**	**+0.6**
	baz=233							
SSD				*e*S		**Sn**	**14 33 40.2**	**-1.4**
	baz=233							
TAW	**Tawu**	**2.62**	**228**	P		**Pn**	**14 33 12.6**	**+0.4**
	baz=236							
TAW				*e*S		**Sn**	**14 33 41.5**	**-1.3**
	baz=236							
MASBT	**Mashibuluo**	**2.65**	**236**	*e*P		**Pn**	**14 33 13.1**	**+0.5**
	baz=230							
MASBT				*e*S		**Sn**	**14 33 42.7**	**-0.8**
	baz=230							
TWM1	**Shoushan**	**2.70**	**242**	*e*P		**Pn**	**14 33 17.0**	**+3.6**
	baz=240							
SSPT	**Xinbi**	**2.77**	**234**	*e*P		**Pn**	**14 33 15.2**	**+0.9**
	baz=228							
SCZT	**Fangliau**	**2.80**	**232**	*e*P		**Pn**	**14 33 15.9**	**+1.2**
	baz=224							

*UPA **26** 14:45:38.7±2.1, 7°.24N×80°.02W, h1km±6km, MW3.8*
*RSNC **26** 14:45:39.4±0.9, 7°.17N×80°.05W, h13km±11km, ML3.4, Mw3.7*
ISC 26 14:45:36.7±2.2, 7°.18N±0°.05×80°.02W±0°.03, h0km±15km, n31, σ0°83/57, 14C-4D, Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOSI3	**Tonosi**	**0.48**	**298**	⇑*e*P		**Pb**	**14 45 48.7**	**+0.7**
TOSI3				*e*S		**Sb**	**14 45 56.7**	**+1.2**
AZU	**Azuero**	**0.66**	**337**	⇑*i*P		**Pb**	**14 45 51.1**	**0.0**
AZU				*e*S		**Sb**	**14 46 00.3**	**-0.4**
AZU	**Azuero**	**0.66**	**337**	⇑*i*P		**Pb**	**14 45 51.1**	**0.0**
AZU				*i* S		**Sb**	**14 46 00.5**	**-0.3**
CACAO	**El Cacao, Vera**	**0.85**	**281**	⇑*i*P		**Pb**	**14 45 54.8**	**+0.4**
CACAO				*i* S		**Sn**	**14 46 07.6**	**-1.6**
OCU3	**Ocu, Herrera**	**1.07**	**315**	⇑*e*P		**Pb**	**14 45 58.2**	**+0.2**
OCU3				*e*S		**Sn**	**14 46 14.3**	**-0.2**
MARI3	**Mariato, Verag**	**1.07**	**296**	⇑*i*P		**Pn**	**14 45 59.5**	**+0.5**
MARI3				*i* S		**Sn**	**14 46 15.4**	**+0.9**
PONU3	**Ponuga, Veragu**	**1.18**	**306**	*e*P		**Pn**	**14 46 00.7**	**+0.2**
PONU3				*i* S		**Sn**	**14 46 18.4**	**+1.1**
PNME	**Penonome**	**1.33**	**347**	⇑*i*P		**Pn**	**14 46 01.8**	**-0.8**
PNME				*e*S		**Sg**	**14 46 19.2**	**-0.4**
VTON	**El Valle, Cocl**	**1.42**	**356**	*e*P		**Pn**	**14 46 03.7**	**-0.2**
VTON				*e*S		**Sb**	**14 46 21.3**	**-1.6**
TABO3	**Taboga, Panama**	**1.66**	**16**	⇑*e*P		**Pn**	**14 46 07.2**	**0.0**
TABO3				*e*S		**Sn**	**14 46 27.5**	**-1.7**
CHOR3	**La Chorrera**	**1.72**	**8**	*e*S		**Sg**	**14 46 33.7**	**+1.5**
ZANG	**Zanguenga, Cho**	**1.77**	**5**	*e*P		**Pn**	**14 46 09.3**	**+0.7**
ZANG				*e*S		**Sb**	**14 46 33.1**	**+0.3**
FLAM	**Flamenco Islan**	**1.78**	**15**	⇑*i*P		**Pn**	**14 46 09.0**	**+0.2**
FLAM				*i* S		**Sn**	**14 46 31.1**	**-1.1**
UPA	**Univ. de Panam**	**1.85**	**15**	*e*P		**Pn**	**14 46 09.6**	**-0.1**
UPA				*e*S		**Sn**	**14 46 33.0**	**-0.8**
UPA				*i*			14 46 34.5	
	comp=Z,338nm,0.2s							
UPA	**Univ. de Panam**	**1.85**	**15**	⇓*e*P		**Pn**	**14 46 09.7**	**-0.1**
UPA				*e*S		**Sn**	**14 46 33.0**	**-0.8**
MFS3	**Miraflores**	**1.85**	**13**	⇑*i*P		**Pn**	**14 46 10.1**	**+0.3**
MFS3				*i* S		**Sn**	**14 46 34.0**	**+0.1**
PML3	**Paraiso**	**1.87**	**12**	⇑*i*P		**Pn**	**14 46 10.6**	**+0.7**
PML3				*e*S		**Sn**	**14 46 34.5**	**+0.2**
GAMB1	**Gamboa**	**1.95**	**9**	*e*P		**Pb**	**14 46 12.4**	**-0.7**
GAMB1				*e*S		**Sn**	**14 46 36.6**	**+0.4**
BCIP	**Isla Barro Col**	**1.98**	**5**	*e*P		**Pn**	**14 46 12.1**	**+0.7**
BCIP				*e*S		**Sn**	**14 46 37.3**	**+0.3**
BCIP				*i*			14 46 39.6	
	comp=Z,342nm,0.2s							
BCIP	**Isla Barro Col**	**1.98**	**5**	*e*P		**Pn**	**14 46 12.4**	**+0.9**
BCIP				*i* S		**Sb**	**14 46 37.8**	**-1.0**
MAD3	**Madden Dam**	**2.05**	**11**	⇓*e*P		**Pb**	**14 46 14.8**	**-0.1**
MAD3				*i* S		**Sb**	**14 46 41.1**	**+0.1**
SPIL	**Cristobal, Col**	**2.07**	**2**	⇓*e*P		**Pb**	**14 46 14.6**	**-0.6**
SPIL				*e*S		**Sn**	**14 46 39.8**	**+0.7**
CHPO	**Chepo, Panama**	**2.17**	**24**	⇓*e*P		**Pn**	**14 46 14.2**	**+0.2**
CHPO				*i* S		**Sn**	**14 46 42.4**	**+0.8**
UPD2	**Meteti**	**2.40**	**56**	*e*P		**Pn**	**14 46 18.6**	**+1.3

PB06				IAML			14 54 19.9	
	comp=N,442nm,0.3s							
PB05	**IPOC Station P**	**2.81**	**298**	⇑*i*	P	**Pn**	**14 53 50.1**	**+0.2**
PB05				*i*	S	**S**	**14 54 25.0**	**-1.1**
PB05				IAML			14 54 27.8	
	comp=E,243nm,0.6s							
PB10	**IPOC Station P**	**2.87**	**283**	⇑*i*	P	**Pn**	**14 53 51.0**	**+0.6**
PB10				*i*	S	**S**	**14 54 26.3**	**-0.8**
PB10				IAML			14 54 32.2	
	comp=N,222nm,0.3s							
PB09	**IPOC Station P**	**2.87**	**326**	⇑*i*	P	**Pn**	**14 53 51.4**	**+0.7**
PB09				*i*	S	**S**	**14 54 27.0**	**-0.5**
PB09				IAML			14 54 29.7	
	comp=N,199nm,0.5s							
PB03	**IPOC Station P**	**2.97**	**315**	*e*P		**Pn**	**14 53 52.1**	**+0.3**
PB03				*i*	S	**S**	**14 54 28.7**	**-1.0**
PB03				IAML			14 54 29.6	
	comp=N,683nm,0.2s							
PB04	**IPOC Station P**	**3.05**	**307**	*i*	P	**Pn**	**14 53 52.9**	**0.0**
PB04				*i*	S	**S**	**14 54 30.2**	**-1.2**
PB04				IAML			14 54 35.3	
	comp=N,377nm,0.2s							
PB07	**IPOC Station P**	**3.29**	**318**	⇑*i*	P	**Pn**	**14 53 55.8**	**0.0**
PB07				*i*	S	**S**	**14 54 35.1**	**-1.5**
PB07				IAML			14 54 37.1	
	comp=E,496nm,0.4s							
AC01	**Pan de Azucar**	**3.41**	**235**	⇑*i*	P	**Pn**	**14 53 55.9**	**-1.1**
AC01				*i*	S	**S**	**14 54 36.7**	**-2.4**
AC01				IAML			14 54 39.2	
	comp=E,226nm,0.3s							
PB02	**IPOC Station P**	**3.61**	**322**	*i*	P	**Pn**	**14 53 59.2**	**-0.5**
PB02				*i*	S	**S**	**14 54 41.2**	**-2.5**
PB02				IAML			14 54 44.7	
	comp=E,285nm,0.2s							
PB01	**IPOC Station P**	**3.63**	**329**	*e*P		**Pn**	**14 53 59.3**	**-0.6**
PB01				*i*	S	**S**	**14 54 42.3**	**-1.8**
PB01				IAML			14 54 47.7	
	comp=E,214nm,0.2s							
GO03	**Copiap**	**4.18**	**215**	*e*P		**Pn**	**14 54 05.1**	**-1.7**
GO03				*i*	S	**S**	**14 54 53.0**	**-3.6**
CFA	**Coronel Fontan**	**7.41**	**185**	P		**Pn**	**14 54 47.0**	**-1.8**
	comp=E,1.2nm,0.3s,baz=0.9,slow=12,SNR=9.8							
CFA				S		Sn	14 56 05.6	-6.8
	comp=E,1.1nm,0.3s,baz=297,slow=22,SNR=6.7							
LPAZ	**La Paz**	**7.89**	**356**	P		**Pn**	**14 54 55.2**	**-0.5**
	comp=E,0.4nm,0.3s,baz=188,slow=9.4,SNR=6.8							
CPUP	**Villa Florida**	**9.46**	**105**	P		Pn	**14 55 16.2**	**+0.6**
	comp=E,0.4nm,0.3s,baz=286,slow=10,SNR=6.4							
SIV	**San Ignacio**	**10.15**	**38**	P		Pn	14 55 20.0	-4.9
	comp=E,1.8nm,0.3s,baz=232,slow=12,SNR=17							
PLCA	**Paso Flores**	**16.69**	**188**	P		**Pn**	**14 56 53.6**	**+7.0**
	comp=E,0.3nm,0.3s,baz=350,slow=9.0,SNR=5.2							
BDFB	**Brasilia**	**20.19**	**69**	P		**P**	**14 57 21.6**	**-2.5**
	comp=E,1.2nm,0.3s,baz=242,slow=11,SNR=11							
TXAR	**Lajitas Array**	**63.57**	**325**	P		**P**	**15 03 15.1**	**+0.6**
	comp=E,0.1nm,0.4s,baz=123,slow=4.4,SNR=2.0							
TORD	**Torodi Ar. Bea**	**77.07**	**69**	P		**P**	**15 04 34.9**	**-1.7**
	comp=E,0.9nm,0.8s,baz=262,slow=5.9,SNR=2.7							
ASAR	**Alice Springs**	**128.09**	**205**	PKP		**PKiKP**	**15 11 49.4**	**+0.6**
	comp=E,0.3nm,0.7s,baz=131,slow=1.7,SNR=5.7							
WRA	**Warramunga Arr**	**131.24**	**208**	PKP		**PKiKP**	**15 11 56.1**	**+0.8**
	comp=E,0.8nm,1.0s,baz=177,slow=1.4,SNR=0.7							
MKAR	**Makanchi Array**	**146.97**	**39**	PKPbc		**PKiKP**	**15 12 25.4**	**-1.0**
	comp=E,0.4nm,0.6s,baz=306,slow=2.9,SNR=5.1							

*NNC **26** 15:10:12.7±3.9,37.°48N×71.°24E,h238km±56km,mb2.6, mpv3.8,Error ellipse: s-maj=39.5km s-min=24.4km az=22.0*
ISC 26 15:10:15.2±3.3,**37.°6N**±0.°2×**71.°3E**±0.°1,**h250**km,**n12,** σ1§**48**/16,**1C-5D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**4.85**	**21**	P	**Pn**	**15 11 27.6**	**-1.9**
	SNR=24						
UCH	**Uchtor**	**5.21**	**27**	P	**Pn**	**15 11 32.4**	**-1.5**
	SNR=9.4						
EKS2	**Erkin-Say**	**5.37**	**20**	P	**Pn**	**15 11 34.9**	**-0.6**
	SNR=15						
KZA	**Kyzart**	**5.37**	**33**	P	**Pn**	**15 11 33.8**	**-2.0**
	SNR=8.1						
KK31	**Karatay Array**	**5.51**	**354**	P	**Pn**	**15 11 36.4**	**-0.7**
	2.7nm,0.4s,baz=169,slow=11,SNR=29						
KK31				⇓S	**S**	**15 12 42.8**	**+0.3**
	3.0nm,0.5s,baz=176,slow=22,SNR=6.6						
AAK	**Ala-Archa**	**5.56**	**25**	P	**Pn**	**15 11 37.4**	**-0.5**
	SNR=10						
AAK	**Ala-Archa**	**5.56**	**25**	P	**Pn**	**15 11 36.8**	**-1.1**
	7.8nm,0.5s						
AAK				⇓S	**S**	**15 12 45.5**	**+1.5**
	3.6nm,0.5s						
CHMS	**Chumysh**	**5.97**	**25**	P	**Pn**	**15 11 42.2**	**-0.7**
	SNR=10						
USP	**Ospenovka**	**6.13**	**22**	P	**Pn**	**15 11 44.2**	**-0.7**
	SNR=7.4						
TKM2	**Tokmak 2**	**6.21**	**30**	P	**Pn**	**15 11 45.5**	**-0.6**
	SNR=11						
TKM2	**Tokmak 2**	**6.21**	**30**	⇓P	**Pn**	**15 11 44.4**	**-1.7**
	3.9nm,0.5s						
TKM2				⇓S	**S**	**15 13 00.2**	**+1.4**
	1.4nm,0.6s						
AB31	**Akbulak array**	**14.25**	**328**	⇓P		**P**	**15 13 28.3**	**+1.9**
	0.7nm,0.6s,baz=145,slow=12,SNR=9.5							
AB31				⇑S	**S**	**15 16 01.6**	**-2.0**
	1.1nm,0.8s,baz=153,slow=22,SNR=4.7							

*SOF **26** 15:13:37.9,40.°52N×21.°39E,h2km,MD3.4*
*IDC **26** 15:13:39.2±1.3,40.°68N×21.°48E,h0km,mb3.2/7, mb1 3.4/10,mb1mx3.3/45,mbtmp3.3/10,ML3.4/3,MS2.7/1, Ms1 2.7/1,ms1mx2.0/30,Error ellipse: s-maj=30.2km s-min=19.2km az=67.0*
*PDG **26** 15:13:40.9±0.3,40.°71N×21.°47E,h10km,ML3.5/12,Error ellipse: s-maj=0.4km s-min=0.5km az=0.0*
*ATH **26** 15:13:41.3,40.°67N×21.°44E,h22km±1km,ML3.5/10,Error ellipse: s-maj=1.8km s-min=0.7km az=140.0*
*TIR **26** 15:13:41.0,40.°82N×21.°50E,h12km,Md3.6/6*
*THE **26** 15:13:41.1,40.°73N×21.°41E,h6km±5km,ML3.7/10,Error ellipse: s-maj=5.1km s-min=0.8km az=161.0*
*SKO **26** 15:13:41.5,40.°60N×21.°41E,h9km*
*BEO **26** 15:13:42.4±0.7,40.°69N×21.°40E,h15km±2km,ML3.3/14*
*PRU **26** 15:13:47.6±0.0,41.°68N×23.°66E,h0km*
ISC 26 15:13:41.6±1.0,**40.°69N**±0.°02×**21.°45E**±0.°02,**h14**km±7km, **n179,**σ1§**44**/244,**mb3.1**/5,**24C-13D,Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEST	**Nestorio**	**0.41**	**228**	P	**Pg**	**15 13 49.1**	**-0.6**
NEST				S	**Sg**	**15 13 55.5**	**+0.2**
	14μm,0.2s						
NEST	**Nestorio**	**0.41**	**228**	P	**Pg**	**15 13 49.1**	**-0.6**
NEST				S	**Sb**	**15 13 55.7**	**-0.9**
NEST				AML	AML	15 13 56.7	
	comp=E,32178μm,0.2s						
NEST				AML	AML	15 13 58.7	
	comp=N,20566μm,0.2s						
KZN	**Kozani**	**0.45**	**147**	P	**Pb**	**15 13 50.8**	**-0.5**
KZN				S	**Sb**	**15 13 58.3**	**+0.4**
	comp=N,16μm,0.4s						
KZN	**Kozani**	**0.45**	**147**	P	**Pb**	**15 13 50.9**	**-0.5**
KZN				S	**Sb**	**15 13 57.8**	**-0.1**
KZN				AML	AML	15 13 59.8	
	comp=E,28732μm,0.3s						
KZN				AML	AML	15 14 01.1	
	comp=N,37071μm,0.4s						
PENT	**Pentalofos**	**0.54**	**206**	P	**Pg**	**15 13 51.6**	**-0.6**
PENT				S	**Sg**	**15 13 59.4**	**-0.1**
PENT	**Pentalofos**	**0.54**	**206**	P	**Pg**	**15 13 51.6**	**-0.6**
PENT				S	**Sg**	**15 13 59.1**	**-0.4**
PENT				AML	AML	15 14 03.4	
	comp=N,13734μm,0.4s						
PENT				AML	AML	15 14 03.8	
	comp=E,14146μm,0.4s						
KTI	**Kastanea**	**0.59**	**119**	P	**Pb**	**15 13 53.5**	**-0.2**
OHR	**Ohrid**	**0.65**	**311**	⇑*i*Pg	**Pg**	**15 13 53.0**	**-1.2**
OHR				*i* Sg	**Sb**	**15 14 03.8**	**+0.1**
OHR				*e*Lg	Lg	15 14 04.6	
	comp=N,1μm,0.4s						
KPRO	**Kipourio**	**0.73**	**185**	P	**Pg**	**15 13 54.6**	**-1.2**
KPRO				S	**Sn**	**15 14 08.2**	**-0.3**
	comp=N,9μm,0.4s						
KPRO	**Kipourio**	**0.73**	**185**	P	**Pg**	**15 13 55.5**	**-0.3**
KPRO				S	**Sb**	**15 14 05.9**	**-0.1**
KPRO				AML	AML	15 14 11.0	
	comp=E,19954μm,0.3s						
KPRO				AML	AML	15 14 12.1	
	comp=N,17052μm,0.4s						
GRG	**Griva**	**0.78**	**69**	P	**Pb**	**15 13 57.0**	**+0.2**
GRG				S	**Sg**	**15 14 06.1**	**-0.7**
	comp=N,3μm,0.5s						
GRG	**Griva**	**0.78**	**69**	P	**Pb**	**15 13 56.8**	**0.0**
GRG				S	**Sb**	**15 14 07.8**	**+0.5**
GRG				AML	AML	15 14 12.2	
	comp=E,3640μm,0.4s						
GRG				AML	AML	15 14 16.2	
	comp=N,7145μm,0.5s						
MEV	**Metsovon**	**0.91**	**191**	P	**Pg**	**15 13 58.5**	**-0.8**
LIT	**Litokhoron**	**0.99**	**126**	P	**Pg**	**15 14 00.3**	**-0.3**
LIT				S	**Sn**	**15 14 16.1**	**+1.3**
	comp=N,4μm,0.4s						
VAY	**Valandovo**	**1.06**	**53**	*e*Pg	**Pn**	**15 14 02.1**	**+0.1**
VAY				*e*Sg	**Sn**	**15 14 17.6**	**+1.0**
VAY	**Valandovo**	**1.06**	**53**	⇓*i*Pg	**Pn**	**15 14 02.2**	**+0.2**
VAY				*i* Sg	**Sn**	**15 14 17.9**	**+1.3**
VAY				*e*Lg	Lg	15 14 18.7	
	comp=N,461nm,0.6s						
JAN	**Janina**	**1.12**	**204**	P	**Pg**	**15 14 02.2**	**-1.0**
JAN				S	**Sn**	**15 14 19.1**	**+1.0**
	comp=N,2μm,0.5s						
JAN	**Janina**	**1.12**	**204**	P	**Pg**	**15 14 02.6**	**-0.6**
JAN				S	**Sn**	**15 14 18.2**	**+0.1**
JAN				AML	AML	15 14 21.4	
	comp=E,3696μm,0.4s						
JAN				AML	AML	15 14 22.8	
	comp=N,3894μm,0.4s						
STIP	**Stip**	**1.15**	**29**	⇑*i*Pg	**Pn**	**15 14 06.3**	**+3.0**
STIP				*i* Sg	**Sn**	**15 14 26.8**	**+8.0**
STIP				*e*Lg	Lg	15 14 28.9	
	comp=E,212nm,0.5s						
THE	**Thessaloniki**	**1.16**	**92**	P	**Pg**	**15 14 03.4**	**-0.4**
THE				AML	AML	15 14 24.3	
	comp=E,500μm,0.6s						
THE				AML	AML	15 14 25.6	
	comp=N,948μm,0.5s						
KNT	**Kendrikon**	**1.20**	**66**	P	**Pg**	**15 14 04.5**	**-0.1**
KNT				S	**Sn**	**15 14 21.3**	**+1.3**
	comp=N,688nm,0.6s						
KNT	**Kendrikon**	**1.20**	**66**	P	**Pg**	**15 14 04.6**	**-0.1**
KNT				S	**Sn**	**15 14 20.7**	**+0.7**
KNT				AML	AML	15 14 24.8	
	comp=N,1512μm,0.6s						
KNT				AML	AML	15 14 26.8	
	comp=E,1149μm,0.7s						
THL	**Klokotos Trika**	**1.20**	**159**	P	**Pb**	**15 14 03.2**	**-0.8**
THL				S	**Sn**	**15 14 21.7**	**+1.8**
	comp=E,3μm,0.7s						
THL	**Klokotos Trika**	**1.20**	**159**	P	**Pb**	**15 14 03.4**	**-0.7**
THL				AML	AML	15 14 22.9	
	comp=E,5498μm,0.6s						
THL				AML	AML	15 14 23.9	
	comp=N,5645μm,0.8s						
PHP	**Peshkopia**	**1.25**	**323**	P	**Pn**	**15 14 03.3**	**-1.4**
PHP				S	**Sn**	**15 14 22.8**	**+1.4**
PHP	**Peshkopia**	**1.25**	**323**	*i* PN	**Pn**	**15 14 03.4**	**-1.3**
PHP				*i* SN	**Sn**	**15 14 21.7**	**+0.3**
HORT	**Hortiatis**	**1.26**	**93**	P	**Pn**	**15 14 05.0**	**+0.2**
HORT	**Hortiatis**	**1.26**	**93**	P	**Pn**	**15 14 05.1**	**+0.2**
SKO	**Skopje**	**1.29**	**360**	*e*Pg	**Pg**	**15 14 05.8**	**-0.5**
SKO				*e*Sg	**Sn**	**15 14 23.5**	**+1.4**
SKO	**Skopje**	**1.29**	**360**	⇑*i*Pg	**Pg**	**15 14 05.8**	**-0.5**
SKO				*i* Sg	**Sn**	**15 14 24.1**	**+1.9**
SKO				*e*Lg	Lg	15 14 24.4	
	comp=E,130nm,0.8s						
SRN	**Sarande**	**1.37**	**234**	P	**Pb**	**15 14 06.7**	**-0.2**
SRN				S	**Sb**	**15 14 24.4**	**+0.2**
SRN	**Sarande**	**1.37**	**234**	*i* PN	**Pb**	**15 14 06.9**	**+0.1**
SRN				*i* SN	**Sg**	**15 14 31.4**	**+5.8**
TIR	**Tirane**	**1.37**	**299**	*e*Pg	**Pb**	**15 14 06.8**	**-0.2**
TIR				*e*Sg	**Sg**	**15 14 26.1**	**+0.5**
TIR	**Tirane**	**1.37**	**299**	P	**Pb**	**15 14 06.7**	**-0.2**
TIR	**Tirane**	**1.37**	**299**	*i* PN	**Pg**	**15 14 07.3**	**-0.5**
TIR				*i* SN	**Sg**	**15 14 27.5**	**+1.8**
TIR	**Tirane**	**1.37**	**299**	⇓P	**Pg**	**15 14 07.2**	**-0.7**
TIR				⇑S	**Sg**	**15 14 27.4**	**+1.8**
VLO	**Vlora**	**1.50**	**262**	*i* PN	**Pg**	**15 14 13.2**	**+2.9**
VLO				*i* SN	**Sg**	**15 14 34.4**	**+4.5**
PLG	**Polygyros**	**1.56**	**101**	P	**Pb**	**15 14 10.0**	**-0.2**
KEK	**Kerkira**	**1.59**	**233**	P	**Pb**	**15 14 10.7**	**0.0**
KEK				AML	AML	15 14 35.5	
	comp=E,1060μm,0.6s						
KEK				AML	AML	15 14 36.9	
	comp=N,1090μm,0.4s						
SRS	**Serrai**	**1.68**	**74**	P	**Pn**	**15 14 11.1**	**+0.5**
KKB	**Krupnik**	**1.71**	**46**	*i* P	**Pb**	**15 14 12.7**	**0.0**
EVR	**Evrytania**	**1.79**	**171**	P	**Pb**	**15 14 13.5**	**-0.6**
EVR	**Evrytania**	**1.79**	**171**	P	**Pn**	**15 14 13.0**	**+1.0**
PUK	**Puka**	**1.79**	**320**	*i* PN	**Pb**	**15 14 13.5**	**-0.7**
PUK				*i* SN	**Sg**	**15 14 38.0**	**-1.2**
AGG	**Agios Georgios**	**1.79**	**157**	P	**Pn**	**15 14 12.7**	**+0.6**
AGG	**Agios Georgios**	**1.79**	**157**	P	**Pn**	**15 14 13.0**	**+0.9**
PAIG	**Paliouri**	**1.87**	**113**	P	**Pn**	**15 14 13.1**	**0.0**
PAIG	**Paliouri**	**1.87**	**113**	P	**Pn**	**15 14 13.5**	**+0.4**
XOR	**Xorichti**	**1.88**	**134**	P	**Pn**	**15 14 13.8**	**+0.5**
MMB	**Musomiste**	**1.95**	**62**	P	**Pn**	**15 14 15.4**	**+1.2**
NVR	**Nevrokopi**	**1.95**	**69**	P	**Pn**	**15 14 14.9**	**+0.7**
TSLK	**Tsoukalades, L**	**1.96**	**198**	P	**Pn**	**15 14 15.3**	**+1.0**
BOSS	**Bosilegrad**	**1.97**	**23**	*e*Pn	**Pn**	**15 14 15.6**	**+1.1**
BCI	**Bajram Curri**	**1.97**	**329**	*i* PN	**Pn**	**15 14 15.8**	**+1.2**
BCI				*i* SN	**Sb**	**15 14 41.0**	**-0.7**
LKD2	**Lefkada island**	**1.99**	**198**	P	**Pb**	**15 14 16.5**	**-1.0**
LKD2				S	**Sb**	**15 14 42.1**	**0.0**
LKD2	**Lefkada island**	**1.99**	**198**	P	**Pb**	**15 14 16.3**	**-1.2**
PVO	**Paravola**	**2.07**	**178**	P	**Pb**	**15 14 17.6**	**-1.2**
MGNA	**Meganis**	**2.09**	**194**	P	**Pn**	**15 14 17.5**	**+1.4**
ULC	**Ulcinj**	**2.09**	**308**	⇓*i*Pn	**Pn**	**15 14 17.4**	**+1.2**
ULC				*i* Sn	**Sb**	**15 14 45.4**	**+0.2**
ANX	**Ano Chora**	**2.12**	**170**	P	**Pn**	**15 14 18.1**	**+1.4**
ANX				S	**Sn**	**15 14 44.4**	**+1.6**
	comp=N,2μm,0.6s						
ANX	**Ano Chora**	**2.12**	**170**	P	**Pn**	**15 14 17.6**	**+0.9**
BARS	**Barje**	**2.15**	**7**	*e*Pn	**Pn**	**15 14 18.0**	**+1.0**
BARS				*e*Sn	**Sn**	**15 14 44.3**	**+0.9**
EVGI	**Lefkada island**	**2.15**	**197**	P	**Pn**	**15 14 18.4**	**+1.4**
EVGI				S	**Sb**	**15 14 46.0**	**-0.7**
EVGI	**Lefkada island**	**2.15**	**197**	P	**Pn**	**15 14 18.2**	**+1.2**
SKIA	**Skiathos**	**2.17**	**134**	P	**Pn**	**15 14 17.7**	**+0.4**
PVY	**Plav**	**2.21**	**330**	⇑*i*Pn	**Pn**	**15 14 18.6**	**+0.7**
PVY				*i* Sn	**Sb**	**15 14 47.8**	**-0.8**
DRME	**Dracevica, Mon**	**2.27**	**312**	⇑*i*Pn	**Pn**	**15 14 19.7**	**+1.1**
DRME				*i* Sn	**Sb**	**15 14 49.5**	**-0.7**
DRME	**Dracevica, Mon**	**2.27**	**312**	⇑*i*Pn	**Pn**	**15 14 20.3**	**+1.7**
EFP	**Efpalio**	**2.28**	**171**	P	**Pn**	**15 14 20.7**	**+1.9**
EFP				S	**Sn**	**15 14 48.7**	**+2.0**
	comp=N,840nm,0.7s						
EFP	**Efpalio**	**2.28**	**171**	P	**Pn**	**15 14 20.2**	**+1.4**
SERG	**Sergoula**	**2.32**	**168**	P	**Pn**	**15 14 20.1**	**+0.8**
FSK	**Fiskardo**	**2.33**	**197**	P	**Pn**	**15 14 20.6**	**+1.3**
KAVA	**Kavala**	**2.35**	**81**	P	**Pn**	**15 14 20.8**	**+1.1**
VTS	**Vitosha**	**2.35**	**34**	*e*Pn	**Pn**	**15 14 21.1**	**+1.2**
VTS				*e*Sn	**Sn**	**15 14 48.2**	**-0.4**
VTS	**Vitosha**	**2.35**	**34**	⇑P	**Pn**	**15 14 21.3**	**+1.4**
VTS				⇑S	**Sn**	**15 14 49.5**	**+0.9**
VTS	**Vitosha**	**2.35**	**34**	P	**Pn**	**15 14 21.3**	**+1.4**
KALE	**Kalithea**	**2.35**	**167**	P	**Pn**	**15 14 20.9**	**+1.0**
LKR	**Lokris**	**2.36**	**149**	P	**Pn**	**15 14 20.9**	**+1.0**
TRIZ	**Trizonia**	**2.37**	**168**	P	**Pn**	**15 14 21.1**	**+1.2**
PDG	**Podgorica**	**2.40**	**317**	⇑P	**Pn**	**15 14 22.6**	**-1.9**
PDG	**Podgorica**	**2.40**	**317**	⇑*i*Pn	**Pn**	**15 14 22.1**	**+1.8**
TTG	**Podgorica**	**2.40**	**317**	⇑*i*Pn	**Pn**	**15 14 21.5**	**+1.2**
TTG				*i* Sn	**Sb**	**15 14 52.3**	**-1.5**
AOS	**Alonnisos**	**2.41**	**128**	P	**Pn**	**15 14 20.6**	**+0.1**
AOS	**Alonnisos**	**2.41**	**128**	P	**Pn**	**15 14 20.9**	**+0.4**
IVA	**Berane**	**2.48**	**333**	⇓*i*Pn	**Pn**	**15 14 22.1**	**+0.6**
IVA				*i* Sn	**Sb**	**15 14 54.4**	**-1.8**
BUM	**Brajici-Budva**	**2.51**	**311**	⇑*i*Pn	**Pn**	**15 14 23.0**	**+1.1**
BUM				*i* Sn	**Sb**	**15 14 55.3**	**-1.8**
KEF5	**Kardakata, Kep**	**2.52**	**198**	P	**Pn**	**15 14 23.3**	**+1.2**
SELS	**Selova**	**2.54**	**355**	*e*Pn	**Pn**	**15 14 22.6**	**+0.2**
KEF4	**Livadi, Kephal**	**2.55**	**198**	P	**Pn**	**15 14 23.8**	**+1.3**
MRKA	**Markates**	**2.58**	**139**	P	**Pn**	**15 14 23.5**	**+0.7**
VLS	**Valsamata**	**2.59**	**195**	P	**Pn**	**15 14 24.0**	**+1.0**
KOME	**Kolasin**	**2.60**	**327**	⇑*i*Pn	**Pn**	**15 14 24.4**	**+1.1**
KOME				*i* Sn	**Sb**	**15 14 57.6**	**-2.3**
KEF3	**Kipouria, Keph**	**2.62**	**199**	P	**Pn**	**15 14 24.7**	**+1.3**
CEME	**Cevo**	**2.66**	**315**	⇓*i*Pn	**Pn**	**15 14 25.2**	**+1.2**
CEME				*i* Sn	**Sn**	**15 14 58.7**	**+2.7**
RZN	**Rozhen**	**2.66**	**67**	P	**Pn**	**15 14 25.6**	**+1.4**
KLV	**Kalavryta, Ach**	**2.69**	**168**	P	**Pn**	**15 14 25.5**	**+1.1**
NKME	**Niksic**	**2.79**	**319**	⇓*i*Pn	**Pn**	**15 14 27.0**	**+1.1**
NKME				*i* Sn	**Sn**	**15 15 01.8**	**+2.4**
SJES	**Sjenica**	**2.80**	**337**	*e*Pn	**Pn**	**15 14 27.1**	**+1.1**
SJES				*e*Sn	**Sn**	**15 14 59.7**	**+0.1**
NKY	**Niksic**	**2.81**	**320**	⇓*i*Pn	**Pn**	**15 14 27.4**	**+1.3**
NKY				*i* Sn	**Sn**	**15 15 02.7**	**+2.9**
HCY	**Herceg Novi**	**2.83**	**309**	⇑*i*Pn	**Pn**	**15 14 27.4**	**+1.1**
HCY				*i* Sn	**Sn**	**15 15 02.8**	**+2.6**
HCY	**Herceg Novi**	**2.83**	**309**	*e*Pn	**Pn**	**15 14 28.2**	**+1.9**
PLD	**Plovdiv**	**2.83**	**59**	P	**Pg**	**15 14 38.5**	**+2.7**
VIL2	**Platees**	**2.84**	**150**	P	**Pn**	**15 14 28.2**	**+1.7**
BOVS	**Bovan**	**2.96**	**4**	*e*Pn	**Pn**	**15 14 28.7**	**+0.7**
IVAS	**Ivanjica**	**3.05**	**342**	*e*Pn	**Pn**	**15 14 29.3**	**0.0**
PLE	**Pljevlja**	**3.06**	**331**	⇓*i*Pn	**Pn**	**15 14 30.7**	**+1.2**
PLE				*i* Sn	**Sn**	**15 15 08.5**	**+2.6**
TREB	**Trebinje**	**3.08**	**312**	*e*Pn	**Pn**	**15 14 30.7**	**+0.9**
TREB	**Trebinje**	**3.08**	**312**	*e*Pn	**Pn**	**15 14 30.6**	**+0.8**
BRY	**Bratogost**	**3.10**	**317**	⇓*i*Pn	**Pn**	**15 14 31.2**	**+1.0**
BRY				*i* Sn	**Sn**	**15 15 09.7**	**+2.6**
BRY	**Bratogost**	**3.10**	**317**	*e*Pn	**Pn**	**15 14 31.3**	**+1.0**
DBRK	**Dubrovnik**	**3.17**	**310**	*e*Pn	**Pn**	**15 14 31.6**	**+0.6**
MPEP	**Malo Peshtene**	**3.17**	**32**	P	**Pn**	**15 14 33.3**	**+2.3**
ZAGS	**Zajecar**	**3.18**	**10**	*e*Pn	**Pn**	**15 14 31.5**	**+0.4**
DION	**Dionisos Attik**	**3.24**	**143**	P	**Pn**	**15 14 33.4**	**+1.4**
GRUS	**Gruza**	**3.25**	**351**	*e*Pn	**Pn**	**15 14 33.0**	**+1.0**
RUDO	**Rudo**	**3.31**	**333**	*e*Pn	**Pn**	**15 14 32.4**	**-0.6**
BBLS	**Lazići**	**3.52**	**335**	*e*Pn	**Pn**	**15 14 36.4**	**+0.5**
BBLS	**Lazići**	**3.52**	**335**	*e*Pn	**Pn**	**15 14 36.4**	**+0.5**
STON	**Ston**	**3.55**	**309**	*e*Pn	**Pn**	**15 14 36.8**	**+0.6**
STON				S	**Sn**	**15 15 17.1**	**-0.9**
STON	**Ston**	**3.55**	**309**	*e*Pn	**Pn**	**15 14 37.3**	**+1.1**
DIVS	**Divibare**	**3.58**	**343**	*e*Pn	**Pn**	**15 14 37.1**	**+0.4**
PLVB	**Pleven**	**3.59**	**40**	⇑P	**Pn**	**15 14 37.5**	**+0.7**
MATE	**Matera**	**3.61**	**271**	⇑P	**Pn**	**15 14 38.7**	**+1.7**
TRUS	**Trudelj**	**3.62**	**348**	*e*Pn	**Pn**	**15 14 38.5**	**+1.3**
HAPS	**Han Pijesak,Bl**	**3.87**	**332**	*e*Pn	**Pn**	**15 14 41.2**	**+0.5**
TIP	**Timpagrande**	**3.91**	**249**	⇓P	**Pn**	**15 14 43.2**	**+2.0**
MDVR	**Moldovita**	**4.10**	**3**	⇑P	**Pn**	**15 14 44.4**	**+0.6**
TEKS	**Tekeris**	**4.11**	**341**	*e*Pn	**Pn**	**15 14 44.2**	**+0.2**
TEKS	**Tekeris**	**4.11**	**341**	*e*Pn	**Pn**	**15 14 44.1**	**+0.1**
MAKA	**Makarska**	**4.20**	**310**	*e*Pn	**Pn**	**15 14 45.7**	**+0.6**
MAKA				S	**Sn**	**15 15 32.4**	**-1.6**
HERR	**Herculane**	**4.25**	**9**	⇑P	**Pn**	**15 14 46.3**	**+0.4**
RICI	**Ricice**	**4.26**	**313**	*e*Pn	**Pn**	**15 14 46.9**	**+0.8**
RICI				S	**Sn**	**15 15 35.2**	**-0.4**
HVAR	**Hvar**	**4.48**	**305**	*e*Pn	**Pn**	**15 14 48.9**	**-0.1**
HVAR				S	**Sn**	**15 15 40.4**	**-0.5**
FRGS	**Fruska Gora**	**4.63**	**346**	*e*Pn	**Pn**	**15 14 51.4**	**+0.3**
FRGS	**Fruska Gora**	**4.63**	**346**	⇓*i*Pn	**Pn**	**15 14 51.4**	**+0.3**
APE	**Apeiranthos**	**4.82**	**137**	⇓P	**Pn**	**15 14 53.6**	**-0.1**
BZS	**Buzias**	**4.93**	**1**	⇑P	**Pn**	**15 14 55.3**	**+0.1**
KIJV	**Kijevo**	**5.00**	**313**	*e*Pn	**Pn**	**15 14 56.9**	**+0.9**
KIJV				S	**Sn**	**15 15 52.9**	**-0.7**
BLY	**Banja Luka**	**5.13**	**324**	*e*Pn	**Pn**	**15 15 00.4**

JNBK					*e*S	**S**	15 22 44.2	+0.8	
JAR	**Ashorobuto**	**2.46**	**97**		P	**Pn**	15 22 14.3	+0.3	
JAR					*e*S	**S**	15 22 49.3	+0.7	
JTKR	**Abashiri--Toko**	**2.54**	**81**		P	**Pn**	15 22 15.1	+0.2	
JTKR					*e*S	**S**	15 22 50.2	0.0	
JAK	**Akkeshi**	**3.18**	**100**		P	**Pn**	15 22 21.5	-0.6	
JAK					*e*S	**S**	15 23 00.4	-2.7	
USRK	**Ussuriysk Ar.**	**6.12**	**278**		P	**Pn**	15 22 57.5	-0.9	
	baz=90,slow=14,SNR=5.5								
MJAR	**Matsushiro Arr**	**7.29**	**194**		P	Pn	15 22 59.5	-14	
	0.0nm,0.3s,baz=4.6,slow=12,SNR=2.0								
ZALV	**Zalesovo Beam**	**37.15**	**306**		P	**P**	15 28 18.5	-0.5	
	0.7nm,0.6s,baz=86,slow=6.5,SNR=1.5								
MKAR	**Makanchi Array**	**40.27**	**295**		P	**P**	15 28 46.1	+1.0	
	0.2nm,0.4s,baz=72,slow=12,SNR=3.6								
FINES	**FINESS Array B**	**62.66**	**330**		P	**P**	15 31 30.1	-0.2	
	0.3nm,0.3s,baz=50,slow=13,SNR=2.1								

NEIC ***26*** *15:23:15.6±0.9,51°.86N±0°.09×177°.8E±0°.1,h141km±4km, mb4.4/3,Error ellipse: s-maj=13.9km s-min=9.7km az=197.0*

AEIC 26 15:23:17.3±2.7,51°.87N±0°.09×177°.9E±0°.1,h134km±3km, Error ellipse: s-maj=13.5km s-min=9.5km az=195.0,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.39**	**78**		Pn	15 23 35.5	-0.8
LSSA					Sn	15 23 50.8	+0.1
LSNW	**Little Sitkin**	**0.40**	**75**		Pn	15 23 35.6	-0.6
LSNW					Sn	15 23 50.8	+0.2
LSPA	**Little Sitkin**	**0.43**	**78**		Pn	15 23 35.7	-0.8
LSPA					Sn	15 23 49.7	-1.2
CETU	**Semis' Tuman**	**1.00**	**84**		Pn	15 23 39.9	-0.6
AMKA	**Amchitka**	**1.01**	**119**		Sn	15 23 57.1	-1.1
AMKA	**Amchitka**	**1.01**	**119**		Pn	15 23 41.7	+1.1
CESW	**Semis' Southwe**	**1.04**	**88**		Pn	15 23 39.9	-0.9
CEAP	**Semis' Anvil P**	**1.05**	**82**		Pn	15 23 40.4	-0.6
CEAP					Sn	15 23 57.9	-1.2
CERAA	**Semis' Rag'd T**	**1.11**	**87**		Pn	15 23 40.8	-0.8
SMY	**Shemya**	**2.48**	**292**		Pn	15 23 55.6	-1.7
TASE	**Tanaga Southea**	**2.53**	**89**		Pn	15 23 57.3	-0.7
TAFP	**Tanaga Falls P**	**2.56**	**88**		Pn	15 23 57.4	-0.9
TAFP					Sn	15 24 27.2	-2.7
KIMD	**Kanaga Island**	**3.03**	**90**		Pn	15 24 02.8	-1.5
KIMD					Sn	15 24 39.1	-1.5
KIRH	**Kanaga Island**	**3.11**	**87**		Pn	15 24 04.0	-1.4
ADK	**Adak**	**3.36**	**88**		Pn	15 24 06.7	-1.9
GSTD	**Great Sitkin T**	**3.69**	**85**		Pn	15 24 11.7	-1.4
GSTD					Sn	15 24 53.9	-2.4
GSTR	**Great Sitkin T**	**3.75**	**84**	Pn	Pn	15 24 11.9	-1.9
ATKA	**Atka Island**	**4.90**	**83**	Pn	Pn	15 24 29.3	+0.4
SPIA	**Saint Paul Isl**	**8.71**	**48**	Pn	Pn	15 25 20.3	+0.4
FALS	**False Pass**	**11.56**	**68**	Pn	Pn	15 25 55.2	-2.8
SDPT	**Sand Point**	**13.29**	**66**	Pn	Pn	15 26 18.2	-2.3
CNBA	**Chernabura Isl**	**13.76**	**69**	Pn	Pn	15 26 23.4	-3.1
SII	**Sitkinak Islan**	**16.93**	**63**	P	P	15 27 03.1	-2.5
KDAK	**Kodiak Island**	**17.91**	**59**	P	P	15 27 14.7	-1.7
KDAK				IAmb	IAmb	15 27 15.5	
	comp=Z,41nm,1.6s						
CNPM	**China Poot**	**18.87**	**54**	P	P	15 27 25.0	-1.9
CNPM				IAmb	IAmb	15 27 25.7	
	comp=Z,28nm,1.4s						
BCAR	**Beaver Creek A**	**23.97**	**47**	P	P	15 28 19.1	+0.1
BMAR	**Burnt Mountain**	**24.00**	**35**	P	P	15 28 17.2	-1.9

IDC ***26*** *15:23:47.9±2.6,28°.41S×177°.66W,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.6/30,mbtmp3.7/2,Error ellipse: s-maj=41.7km s-min=23.8km az=75.0*

NEIC ***26*** *15:23:48.6±1.0,28°.41S±0°.09×177°.5W±0°.2,h10km±1km, mb4.5/7,Error ellipse: s-maj=32.3km s-min=11.1km az=109.0*

ISC 26 15:23:54.7±1.3,28°.6S±0°.1×177°.6W±0°.2,h54km,n15, σ1§05/15,mb4.3/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.73**	**200**	Pn	**Pn**	15 24 08.2	-0.9
	196nm,0.3s,baz=17,slow=20,SNR=6.9						
RAO				Sn	**Sn**	15 24 20.4	+0.9
	423nm,0.3s,baz=82,slow=23,SNR=8.6						
MXZ	**Matakaoa Point**	**9.60**	**200**	Pn	**Pn**	15 26 09.6	-0.6
OUZ	**Omahuta**	**9.98**	**226**		Pn	15 26 05.5	-10
STKA	**Stephens Creek**	**35.25**	**254**	P	**P**	15 30 44.5	+0.3
ASAR	**Alice Springs**	**43.56**	**265**	P	**P**	15 31 53.0	-0.6
	0.3nm,0.4s,baz=110,slow=7.4,SNR=2.0						
ASAR	**Alice Springs**	**43.56**	**265**	P	**P**	15 31 53.0	-0.6
WB2	**Warramunga Arr**	**44.38**	**270**	P	**P**	15 32 00.6	+0.5
WB2				IAmb	IAmb	15 32 25.4	
	comp=Z,24nm,1.6s						
WRA	**Warramunga Arr**	**44.39**	**270**	P	**P**	15 32 00.5	+0.2
	comp=Z,1.6nm,0.6s,baz=111,slow=7.7,SNR=2.3						
WB0	**Warramunga Arr**	**44.40**	**270**	P	**P**	15 32 00.8	+0.4
WB0				IAmb	IAmb	15 32 24.4	
	comp=Z,18nm,1.6s						
VNDA	**Vanda**	**49.95**	**186**	P	**P**	15 32 45.3	+2.6
VNDA				IAmb	IAmb	15 32 50.0	
	comp=Z,3.8nm,1.6s						
CASY	**Casey**	**56.91**	**207**	P	**P**	15 33 32.9	-0.9
CASY				IAmb	IAmb	15 34 08.6	
	comp=Z,5.0nm,1.3s						
QSPA	**South Pole Qui**	**61.54**	**180**	P	**P**	15 34 04.6	-1.5
FINES	**FINESS Array B**	**143.53**	**341**	PKP	**PKPdf**	15 43 22.5	-0.2
	comp=Z,2.4nm,0.7s,baz=56,slow=3.5,SNR=8.3						
FINES	**FINESS Array B**	**143.53**	**341**		**PKPdf**	15 43 22.6	0.0
CLL	**Collm**	**155.92**	**344**	*e*PKPab	**PKPab**	15 44 10.0	+0.4

KRNET ***26*** *15:31:53.9±0.1,40°.12N×77°.66E,mb2.8*
SOME ***26*** *15:31:54.0,40°.22N×77°.38E,h5km*
NNC ***26*** *15:31:55.3±0.9,40°.25N×77°.40E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=6.3km s-min=5.5km az=177.0*

ISC 26 15:31:53.9±3.0,40°.3N±0°.1×77°.3E±0°.04,h3km±17km,n36, σ1§19/57,17C-7D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.52**	**14**	⇑*i* P	**Pg**	15 32 23.3	+0.2
	baz=4.0						
TARG				⇑*i* S	**Sg**	15 32 44.9	+2.0
	baz=4.0						
KDJ	**Kajisay**	**1.88**	**357**	⇑*e* P	**Pb**	15 32 29.7	+0.7
	baz=50						
KDJ				⇑*i* S	**Sg**	15 32 56.0	+1.6
	baz=50						
ULHL	**Ulahol**	**2.16**	**338**	⇑*e* P	**Pg**	15 32 34.9	-0.3
	baz=34						
ULHL				⇑*i* S	**Sg**	15 33 04.0	+0.8
	baz=34						
PRZ	**Przheval'sk**	**2.38**	**20**	⇓*e* P	**Pb**	15 32 35.4	-2.0
	baz=13						
PRZ				⇓*i* S	**Sb**	15 33 06.0	-1.2
	baz=13						
KZA	**Kyzart**	**2.41**	**320**	⇑*i* P	**Pb**	15 32 38.8	+0.8
	baz=18						
KZA				⇑*i* S	**Sg**	15 33 11.9	+0.7
	baz=18						
BOOM	**Boomskoye usch**	**2.47**	**336**	⇑*e* P	**Pb**	15 32 38.9	-0.1
	baz=32						
BOOM				⇑*i* S	**Sg**	15 33 12.4	-0.8
	baz=32						
ANVS	**Anan'yevo**	**2.55**	**6**	⇑*i* P	**Pb**	15 32 38.6	-1.7
	baz=0.0						
ANVS				⇑*i* S	**Sb**	15 33 10.9	-1.2
	baz=0.0						
ARLS	**Aral**	**2.78**	**306**	⇑*e* P	**Pb**	15 32 44.2	-0.1
	baz=6.0						
ARLS				⇑*e* S	**Sb**	15 33 21.1	+2.3
	baz=6.0						
TNSS	**Tian-Shan**	**2.80**	**354**	*e*P	**Pg**	15 32 47.4	-0.2
	11nm,0.5s						
TNSS				*e*S	**Sg**	15 33 25.4	+1.6
	8.3nm,0.3s						
TNSS	**Tian-Shan**	**2.80**	**354**	Pg	**Pg**	15 32 47.4	-0.2
	11nm,0.5s						
TNSS				Lg	Lg	15 33 25.4	
	8.3nm,0.3s						
UCH	**Uchtor**	**2.90**	**314**	⇓*i* P	**Pb**	15 32 45.8	-0.7
	baz=13						
UCH				⇓*i* S	**Sb**	15 33 23.5	+1.0
	baz=13						
MDOK	**Medeo**	**2.92**	**356**	*e*P	**Pg**	15 32 49.0	-0.9
	6.4nm,0.3s						
MDOK				*e*S	**Sg**	15 33 28.1	+0.4
	15nm,0.4s						
MDOK	**Medeo**	**2.92**	**356**	Pg	**Pb**	15 32 47.9	+1.3
	4.6nm,0.5s						
MDOK				Lg	Lg	15 33 28.4	
	10nm,0.5s						
MDOK	**Medeo**	**2.92**	**356**	Pg	**Pg**	15 32 49.0	-0.9
	6.4nm,0.3s						
MDOK				Lg	Lg	15 33 28.1	
	15nm,0.4s						
SATY	**Saty**	**2.92**	**16**	*e*P	**Pg**	15 32 49.4	-0.5
	3.7nm,0.2s						
SATY				*e*S	**Sg**	15 33 29.6	+1.8
	9.5nm,0.3s						
SATY	**Saty**	**2.92**	**16**	Pg	**Pg**	15 32 49.4	-0.5
	3.7nm,0.2s						
SATY				Lg	Lg	15 33 29.6	
	9.5nm,0.3s						
MTBS	**Maitube**	**2.96**	**347**	*e*P	**Pg**	15 32 49.8	-0.8
	3.2nm,0.2s						
MTBS				*e*S	**Sg**	15 33 29.4	+0.5
	8.2nm,0.3s						
MTBS	**Maitube**	**2.96**	**347**	Pg	**Pg**	15 32 49.8	-0.8
	3.2nm,0.2s						
MTBS				Lg	Lg	15 33 29.4	
	8.2nm,0.3s						
TKM2	**Tokmak 2**	**2.97**	**335**	⇑*e* P	**Pb**	15 32 46.0	-1.5
	baz=32						
TKM2				⇑*i* S	**Sb**	15 33 23.8	-0.4
	baz=32						
TKM2	**Tokmak 2**	**2.97**	**335**	⇑Pg	**Pg**	15 32 49.5	-1.3
	0.9nm,0.3s						
TKM2				⇓Lg	Lg	15 33 30.4	
	3.8nm,0.7s						
KST	**Kastek**	**2.97**	**340**	*e*P	**Pg**	15 32 50.4	-0.5
	2.7nm,0.3s						
KST				*e*S	**Sg**	15 33 31.2	+1.8
	7.3nm,0.4s						
KST	**Kastek**	**2.97**	**340**	Pg	**Pg**	15 32 50.4	-0.5
	2.7nm,0.3s						
KST				Lg	Lg	15 33 31.2	
	7.3nm,0.4s						
KOTS	**Kotyrbulak**	**2.99**	**357**	*e*P	**Pg**	15 32 50.9	-0.3
	8.5nm,0.2s						
KOTS				*e*S	**Sg**	15 33 31.2	+1.4
	11nm,0.7s						
KOTS	**Kotyrbulak**	**2.99**	**357**	Pg	**Pg**	15 32 50.9	-0.3
	8.5nm,0.2s						
KOTS				Lg	Lg	15 33 31.2	
	11nm,0.7s						
UZB	**Uzynbulak**	**3.16**	**23**	*e*P	**Pb**	15 32 52.0	+1.2
	2.5nm,0.4s						
UZB				*e*S	**Sg**	15 33 33.8	-1.7
	4.4nm,0.4s						
UZB	**Uzynbulak**	**3.16**	**23**	Pg	**Pb**	15 32 52.0	+1.2
	2.5nm,0.4s						
UZB				Lg	Lg	15 33 33.8	
	4.4nm,0.4s						
AAK	**Ala-Archa**	**3.20**	**319**	⇓Pg	**Pg**	15 32 53.8	-1.3
	2.4nm,0.5s						
AAK				⇓Lg	Lg	15 33 38.3	
	3.7nm,0.5s						
DGS	**Degeres**	**3.21**	**339**	*e*P	**Pg**	15 32 55.0	-0.4
	4.1nm,0.3s						
DGS				*e*S	**Sg**	15 33 38.2	+1.2
	7.5nm,0.4s						
DGS	**Degeres**	**3.21**	**339**	Pg	**Pg**	15 32 54.9	-0.4
	4.1nm,0.3s						
DGS				Lg	Lg	15 33 38.2	
	7.5nm,0.4s						
PDGK	**Podgornoye**	**3.48**	**27**	Pg	**Pb**	15 32 57.9	+1.8
	1.4nm,0.4s						
PDGK				Lg	Lg	15 33 44.3	
	3.6nm,0.8s						
KTBS	**Karatobe**	**3.49**	**352**	*e*P	**Pg**	15 32 59.3	-1.5
	2.8nm,0.5s						
KTBS				*e*S	**Sg**	15 33 46.4	+0.3
	14nm,0.5s						
KTBS	**Karatobe**	**3.49**	**352**	Pg	**Pg**	15 32 59.3	-1.5
	2.8nm,0.5s						
KTBS				Lg	Lg	15 33 46.4	
	14nm,0.5s						
CHKK	**Chushkaly**	**3.61**	**356**	*e*P	**Pg**	15 33 01.0	-2.0
	2.4nm,0.4s						
CHKK				*e*S	**Sg**	15 33 49.7	-0.2
	6.4nm,0.3s						
CHKK	**Chushkaly**	**3.61**	**356**	Pg	**Pg**	15 33 01.0	-2.0
	2.4nm,0.4s						
CHKK				Lg	Lg	15 33 49.7	
	6.4nm,0.3s						
KRBS	**Karabastau**	**3.66**	**341**	*e*P	**Pg**	15 33 02.8	-1.2
	2.4nm,0.5s						
KRBS				*e*S	**Sg**	15 33 51.3	0.0
	3.4nm,0.6s						
KRBS	**Karabastau**	**3.66**	**341**	Pg	**Pg**	15 33 02.8	-1.2
	2.4nm,0.5s						
KRBS				Lg	Lg	15 33 51.3	
	3.4nm,0.6s						

DDA ***26*** *15:41:37.2,37°.34N×42°.64E,h7km±3km,ML2.3*
ISK ***26*** *15:41:37.5,37°.36N×42°.54E,h7km,ML2.7/10*

ISC 26 15:41:37.3±1.5,37°.32N±0°.07×42°.63E±0°.04,h3km±11km, n17,σ0§82/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.24**	**321**	PG	**Pg**	15 41 41.4	-0.6
SIRN	**Sirnak**	**0.25**	**316**	*i* P	**Pg**	15 41 41.6	-0.6
SIRN				*i* S	**Sg**	15 41 46.3	+0.8
SIRN				IAML		15 41 48.0	
	comp=E,907nm,0.6s						
SIRN				IAML		15 41 48.0	
	comp=N,620nm,0.4s						
CUKT	**Cukurca**	**0.78**	**95**	PG	**Pb**	15 41 54.4	+0.8
CUKT				SG	**Sn**	15 42 06.8	-0.8
SRTM	**Siirt_Merkez**	**0.88**	**320**	*i* P	**Pg**	15 41 54.0	-0.2
SRTM				*i* S	**Sn**	15 42 09.3	-0.7
SRTM				IAML		15 42 11.0	
	comp=E,92nm,0.4s						
SRTM				IAML		15 42 15.0	
	comp=N,66nm,0.5s						
HAKT	**HAKKARI**	**0.89**	**74**	*i* P	**Pg**	15 41 54.3	-0.1
AKDM	**Akdamar-Van**	**1.05**	**15**	PG	**Pb**	15 41 57.6	-0.6
AKDM				SG	**Sb**	15 42 12.4	0.0
BLIS	**Bitlis-Merkez**	**1.17**	**340**	*i* P	**Pn**	15 42 00.2	-0.6
BTMN	**Batman**	**1.22**	**298**	*i* P	**Pb**	15 42 01.1	0.0
BTMN				*i* S	**Sn**	15 42 20.2	+1.7
BTMN				IAML		15 42 21.0	
	comp=E,85nm,0.3s						
BTMN				IAML		15 42 21.0	
	comp=N,135nm,0.4s						
GURO	**Guroymak-BITLI**	**1.32**	**339**	PN	**Pn**	15 42 01.9	-0.9
GURO				SN	**Sb**	15 42 19.8	-0.4
SVAN	**Silvan-Diyarba**	**1.41**	**307**	*i* P	**Pb**	15 42 04.0	-0.3
SVAN				*i* S	**Sn**	15 42 24.7	+1.7
SVAN				IAML		15 42 27.0	
	comp=N,37nm,0.5s						
MUSM	**Mu-Merkez**	**1.66**	**328**	*i* P	**Pn**	15 42 07.7	+0.2
MUSM				*i* S	**Sg**	15 42 32.0	+1.3
MUSM				IAML		15 42 32.0	
	comp=E,42nm,0.5s						
MAZI	**Mazidag**	**1.75**	**275**	PN	**Pn**	15 42 07.9	-0.7
DYBB	**Diyarbakir**	**2.08**	**289**	PN	**Pn**	15 42 12.6	-0.5
AGRB	**Hanur-Agry**	**2.27**	**7**	PN	**Pn**	15 42 16.1	+0.2
SVRC	**Sivrice-ELAZID**	**2.84**	**293**	PN	**Pn**	15 42 23.1	-0.6
PTK	**Pertek**	**3.00**	**303**	PN	**Pn**	15 42 25.9	0.0
MALT	**Malatya**	**3.47**	**288**	PN	**Pn**	15 42 31.6	-0.7

NIED ***26*** *15:41:00,45°.60N×151°.30E,h92km,Mw4.4 Best double couple: M0 4.33000×10^15 NP1:φs239.00000°,δ78.00000°, λ-114.00000°. NP2:φs124.00000°,δ27.00000°, λ-27.00000°.*

BGR ***26*** *15:41:40.5±0.0,45°.29N×151°.91E,h33km,mb4.7*

BJI ***26*** *15:41:45.4±0.0,45°.74N×151°.31E,h83km,mB4.7/31, mb4.7/41,Ms4.0/8,Ms7 3.9/3*

MOS ***26*** *15:41:46.7±1.1,45°.69N×151°.26E,h92km,mb4.6/51,Error ellipse: s-maj=5.9km s-min=4.7km az=110.8*

NEIC ***26*** *15:41:47.1±1.4,45°.69N±0°.09×151°.3E±0°.1,h84km±6km, mb4.8/105,Error ellipse: s-maj=14.1km s-min=11.5km az=148.0*

IDC ***26*** *15:41:47.3±2.2,45°.76N×151°.23E,h83km±19km,mb4.1/24, mb1 4.1/30,mb1mx4.0/45,mbtmp4.3/30,MS2.7/4, Ms1 2.7/4,ms1mx2.6/51,Error ellipse: s-maj=14.3km s-min=11.3km az=146.0*

JMA ***26*** *15:41:47.5±0.8,45°.61N×151°.27E,h30km,M4.8*

SKHL ***26*** *15:41:47.1±0.2,45°.58N×151°.40E,h104km±14km,mb5.1/1, msh6.3/5*

ISC 26 15:41:48.1±0.4,45°.60N±0°.05×151°.30E±0°.05,h100km, n453,σ1§53/470,mb4.6/125,24C-7D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.44**	**263**	*i* P	**Pn**	15 42 26.9	+0.6
KUR				AMB	AMB	15 42 27.6	
	980nm,0.4s						
KUR				*i* S	**Sn**	15 42 56.3	+0.6
KUR				A	A	15 42 57.0	
	3μm,0.4s						
KUR				A	A	15 42 57.0	
	2μm,0.4s						
KUR	**Kuril'sk**	**2.44**	**263**	*d i* PN	**Pn**	15 42 26.9	+0.6
KUR				*i* S	**Sn**	15 42 56.0	+0.3
KUR				pmax	pmax		
	comp=E,196nm,0.1s						
KUR				pmax	pmax		
	comp=Z,980nm,0.1s						
KUR				pmax	pmax		
	comp=N,91nm,0.2s						
KUR				smax	smax		
	comp=N,3μm,0.3s						
KUR				smax	smax		
	comp=E,2μm,0.2s						
YUK	**Yuzh-Kuril'sk**	**4.17**	**250**	*i* P	**Pn**	15 42 50.1	+0.6
YUK				AMB	AMB	15 42 54.5	
	comp=E,110nm,0.2s						
YUK				*e*S	**Sn**	15 43 37.5	+0.4
YUK				A	A	15 43 38.4	
	comp=E,830nm,0.6s						
YUK				A	A	15 43 38.4	
	comp=E,690nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**4.17**	**250**	*c i* PN	**Pn**	15 42 50.1	+0.6
YUK				*e*S	**Sn**	15 43 36.7	-0.4
YUK				pmax	pmax		
	comp=E,50nm,0.2s						
YUK				pmax	pmax		
	comp=Z,196nm,0.2s						
YUK				pmax	pmax		
	comp=N,61nm,0.1s						
YUK				smax	smax		
	comp=N,827nm,0.6s						
YUK				smax	smax		
	comp=E,688nm,0.6s						
LAGR	**Lagunnoye**	**4.21**	**250**	*e*P	**Pn**	15 42 50.0	0.0
LAGR				AMB	AMB	15 42 55.0	
	comp=E,60nm,0.3s						
LAGR				AMB	AMB	15 42 55.0	
	comp=E,40nm,0.3s						
LAGR				AMB	AMB	15 42 55.0	
	comp=E,120nm,0.3s						
LAGR				*e*S	**Sn**	15 43 37.0	-1.1
LAGR				A	A	15 43 42.0	
	comp=E,1μm,0.7s						
LAGR				A	A	15 43 42.0	
	comp=E,930nm,0.7s						
LAGR	**Lagunnoye**	**4.21**	**250**	*e*PN	**Pn**	15 42 50.0	0.0
LAGR				*e*S	**Sn**	15 43 36.5	-1.6
LAGR				pmax	pmax		
	comp=N,63nm,0.1s						
LAGR				pmax	pmax		
	comp=E,35nm,0.1s						
LAGR				pmax	pmax		
	comp=Z,120nm,0.1s						
LAGR				smax	smax		
	comp=E,927nm,0.6s						
LAGR				smax	smax		
	comp=N,1μm,0.7s						
GRPR	**Tuman**	**4.25**	**250**	*e*P	**Pn**	15 42 51.1	+0.6
GRPR				*e*S	**Sn**	15 43 37.2	-1.8
GRPR	**Tuman**	**4.25**	**250**	PN	**Pn**	15 42 51.1	+0.6
GRPR				*e*S	**Sn**	15 43 37.2	-1.8
NEM2	**Nemuro 2**	**4.56**	**243**	P	**Pn**	15 42 53.4	-1.3
NEM2				*e*S	**Sn**	15 43 42.3	-4.2
NMR	**Nemuro--Hokkai**	**4.56**	**243**	*e*P	**Pn**	15 42 54.0	-0.8
NMR	**Nemuro--Hokkai**	**4.56**	**243**	*e*PN	**Pn**	15 42 53.7	-1.1
NMR				*e*S	**Sn**	15 43 42.4	-4.3
JRA	**Rausu**	**4.70**	**251**	P	**Pn**	15 42 57.8	+1.2
JRA				*e*S	**Sn**	15 43 50.1	+0.2
JNK	**Nakash**	**5.11**	**249**	P	**Pn**	15 43 02.6	+0.4
JAK	**Akkeshi**	**5.40**	**244**	P	**Pn**	15 43 05.0	-1.2
JAK				*e*S	**Sn**	15 44 03.3	-3.7
JTKR	**Abashiri--Toko**	**5.50**	**255**	P	**Pn**	15 43 08.6	+1.1
JAR	**Ashorobuto**	**5.86**	**250**	P	**Pn**	15 43 13.1	+0.7
JMP	**Maruseppu**	**5.87**	**257**	P	**Pn**	15 43 14.0	+1.5
JOB	**Onbets**	**6.00**	**246**	P	**Pn**	15 43 14.3	+0.1
SKR	**Severo-Kuril's**	**6.02**	**31**	*e*P	**Pn**	15 43 13.7	-0.8
SKR				AMB	AMB	15 43 15.0	
	comp=N,110nm,0.8s						
SKR				*e*S	**Sn**	15 44 17.0	-5.0
SKR				A	A	15 44 22.0	
	comp=N,280nm,0.6s						
SKR				A	A	15 44 22.0	
	comp=N,760nm,0.6s						
SKR	**Severo-Kuril's**	**6.02**	**31**	*e*PN	**Pn**	15 43 13.7	-0.8
SKR				*e*S	**Sn**	15 44 16.5	-5.5
SKR				pmax	pmax		
	comp=Z,105nm,0.8s						
SKR				pmax	pmax		
	comp=Z,100nm,1.1s						
SKR				smax	smax		
	comp=E,76nm,0.2s						
SKR				smax	smax		
	comp=N,83nm,0.2s						
SKR				MLR	MLR		
	comp=Z,100nm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.07**	**286**	*e*P	**Pn**	15 43 16.8	+1.6
YSS				AMB	AMB	15 43 18.3	
	comp=Z,40nm,0.9s						
YSS				*e*S	**Sn**	15 44 22.8	-0.5
YSS				A	A	15 44 28.0	
	comp=Z,40nm,0.9s						
YSS	**Yuzh-Sakhalins**	**6.07**	**286**	⇓*e* PN	**Pn**	15 43 17.6	+2.4
YSS				*e*S	**Sn**	15 44 25.1	+1.8
YSS				pmax	pmax		
	comp=Z,40nm,0.9s						
YSS				smax	smax		
	comp=N,40nm,0.9s						
YSS				MLR	MLR		
	comp=Z,200nm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.07**	**286**		**Pn**	15 43 16.9	+1.7
JSE	**Soyaes**	**6.18**	**267**	P	**Pn**	15 43 19.0	+2.3
JKK2	**Kamakawa 2**	**6.33**	**257**	P	**Pn**	15 43 20.2	+1.5
JKA	**Kamikawa-asahi**	**6.36**	**260**	*e*P	**Pn**	15 43 20.0	+0.9
JKA	**Kamikawa-asahi**	**6.36**	**260**		**Pn**	15 43 20.6	+1.5
ASAJ	**Asahikawa**	**6.36**	**260**	P	**Pn**	15 43 20.0	+0.9
	comp=Z,0.6nm,0.3s,baz=61,slow=17,SNR=8.8						
ASAJ				LR	LR	15 45 41.8	
	comp=Z,101nm,21.1s,baz=160,slow=37						
ASAJ	**Asahikawa**	**6.36**	**260**	P	**Pn**	15 43 20.9	+1.8
ASAJ	**Asahikawa**	**6.36**	**260**	PN	**Pn**	15 43 20.0	+0.9
**JCH

comp=Z,48nm,1.0s
TYV smax smax

comp=E,28nm,1.0s
JNB Noboribetsu 8.03 251 P **Pn** **15 43 41.5 -0.3**
JNB *e*S **Sn** **15 45 07.6 -3.2**
JKB Kayabe 8.30 247 P **Pn** **15 43 44.2 -1.4**
JKB *e*S **Sn** **15 45 11.2 -6.4**
PEA0B Petropavlovsk- 8.60 27 *ce*PN **Pn** **15 43 47.9 -1.6**
PEA0B Petropavlovsk- 8.60 27 Pn **Pn** **15 43 48.0 -1.6**
PETK Petropavlovsk- 8.60 27 P **Pn** **15 43 47.7 -1.8**
comp=E,3.0nm,0.3s,baz=199,slow=14,SNR=60
PETK LR LR 15 46 37.3

comp=E,59nm,18.7s,baz=243,slow=34
JYM2 Yakumo 2 8.63 250 P **Pn** **15 43 49.5 -0.5**
PET Petropavlovsk 8.84 30 *e*P **Pn** **15 43 51.5 -1.3**
PET AMB AMB 15 43 52.6

comp=E,30nm,0.2s
PET *e*S **Sn** **15 45 23.2 -7.4**
PET A A 15 45 28.1

comp=E,300nm,0.4s
PET A A 15 45 28.1

comp=E,130nm,0.4s
PET Petropavlovsk 8.84 30 *e*PN **Pn** **15 43 51.1 -1.7**
PET MLR MLR

comp=Z,100nm,11.0s
PET Petropavlovsk 8.84 30 Pn **Pn** **15 43 50.3 -2.6**
JANG Nango 8.87 237 P **Pn** **15 43 50.5 -2.8**
JTM Tenmabayashi 8.88 241 *e*S **Sn** **15 45 23.1 -8.6**
OFUJ Ofunato 9.65 231 P **Pn** **15 44 01.1 -2.8**
GRNR Gornyy 11.19 303 *e*P **Pn** **15 44 25.0 +0.3**
GRNR AMB AMB 15 44 26.6

comp=Z,10.0nm,1.0s
GRNR Gornyy 11.19 303 *i* PN **Pn** **15 44 25.0 +0.3**
GRNR pmax pmax

comp=Z,9.0nm,1.2s
GRNR MLR MLR

comp=E,60nm,14.0s
GRNR MLR MLR

comp=N,40nm,17.0s
GRNR MLR MLR

comp=Z,70nm,14.0s
MJAR Matsushiro Arr 13.38 232 P **Pn** **15 44 52.8 -1.0**
comp=Z,0.0nm,0.3s,baz=30,slow=13,SNR=4.8
MJAR LR LR 15 49 35.0

comp=Z,46nm,20.0s,baz=235,slow=35
MJAR Matsushiro Arr 13.38 232 **Pn** **15 44 52.9 -0.9**
MJB9 Matsu-Tunnel 13.38 232 Pn **Pn** **15 44 52.4 -1.4**
MAJO Matsushiro 13.38 232 *i* PN **Pn** **15 44 54.1 +0.3**
MAJO Matsushiro 13.38 232 Pn **Pn** **15 44 52.5 -1.3**
KLR Kul'dur 13.72 292 P **Pn** **15 44 57.0 -1.1**
comp=Z,0.1nm,0.3s,baz=103,slow=12,SNR=7.1
KLR Kul'dur 13.72 292 *e*P **Pn** **15 44 58.0 -0.1**
KLR Kul'dur 13.72 292 *ce*P **Pn** **15 44 58.5 +0.4**
USA0B Ussuriysk Arra 13.76 271 *i* P **Pn** **15 44 57.9 -0.8**
USA0B Ussuriysk Arra 13.76 271 **Pn** **15 44 57.7 -1.0**
USRK Ussuriysk Ar. 13.76 271 P **Pn** **15 44 57.6 -1.0**
baz=60,slow=15,SNR=14
USRK Ussuriysk Ar. 13.76 271 **Pn** **15 44 58.0 -0.7**
USRK Ussuriysk Ar. 13.76 271 **Pn** **15 44 58.0 -0.7**
MA2 Magadan 14.00 359 P **Pn** **15 45 01.1 -0.6**
comp=Z,1.2nm,0.3s,baz=180,slow=10,SNR=17
MA2 Magadan 14.00 359 *e*P **Pn** **15 44 59.1 -2.6**
MA2 Magadan 14.00 359 *ce*P **Pn** **15 44 59.1 -2.6**
MA2 pmax pmax

comp=Z,43nm,2.5s
EKMR Ekimchan 14.08 309 *e*P **Pn** **15 45 01.5 -1.3**
EKMR AMB AMB 15 45 08.0

comp=Z,8.0nm,0.6s
MDJ Mudanjiang 15.35 274 P **P** **15 45 20.0 -1.5**
MDJ pmax pmax

comp=Z,27nm,1.1s
MDJ pmax pmax

comp=Z,32nm,2.7s
MDJ Mudanjiang 15.35 274 Pn **P** **15 45 19.3 -2.3**
BMKR Bomnak 16.97 311 *e*P **Pn** **15 45 36.7 -2.3**
BMKR AMB AMB 15 45 41.6

comp=Z,3.0nm,0.5s
ZEA Zeya 17.50 306 *e*P **Pn** **15 45 43.9 -1.6**
ZEA AMB AMB 15 45 46.2

comp=Z,20nm,1.0s
ZEA Zeya 17.50 306 *e*P **Pn** **15 45 45.0 -0.5**
ZEA pmax pmax

comp=Z,23nm,1.0s
KROS Kirovskiy 17.88 308 *e*P **Pn** **15 45 48.4 -1.7**
KROS AMB AMB 15 45 52.1

comp=Z,3.0nm,0.6s
CN2 Changchun 18.44 274 *e*P **Pn** **15 45 55.3 -1.5**
CN2 pmax pmax

comp=Z,10.0nm,0.6s
KSRS Korea Array 19.25 253 P **Pn** **15 46 05.7 -0.7**
comp=Z,0.1nm,0.3s,baz=61,slow=11,SNR=5.7
KSRS LR LR 15 53 06.3

comp=Z,9.5nm,18.4s,baz=25,slow=35
YAK Yakutsk 20.65 331 P **P** **15 46 18.1 -1.2**
comp=Z,11nm,0.3s,baz=71,slow=0.7,SNR=23
YAK Yakutsk 20.65 331 *e*P **P** **15 46 18.2 -1.2**
YAK *e*S **S** **15 50 02.4 -1.9**
YAK *e*SS Sn 15 50 25.0 +10
YAK pmax pmax

comp=Z,25nm,0.8s
YAK pmax pmax

comp=N,7.0nm,0.6s
YAK pmax pmax

comp=E,4.0nm,0.9s
YAK smax smax

comp=N,18nm,1.0s
YAK smax smax

comp=E,10.0nm,1.3s
YAK Yakutsk 20.65 331 **P** **15 46 17.5 -1.8**
YAK IAmb IAmb 15 46 20.6

comp=Z,36nm,0.7s
HIA Hailar 21.57 291 P **P** **15 46 27.3 -2.1**
HIA pmax pmax

comp=Z,6.0nm,0.6s
HIA Hailar 21.57 291 P **P** **15 46 27.3 -2.1**
ADK Adak 21.91 62 P **P** **15 46 32.2 -0.6**
ADK pmax pmax

comp=Z,86nm,1.8s
ADK Adak 21.91 62 P **P** **15 46 32.2 -0.6**
ADK IAmb IAmb 15 47 31.8

comp=Z,86nm,1.8s
TIXI Tiksi 28.24 345 P **P** **15 47 28.9 -2.1**
comp=Z,3.4nm,0.5s,baz=146,slow=7.9,SNR=20
TIXI Tiksi 28.24 345 *i* P **P** **15 47 28.3 -2.8**
TIXI pmax pmax

comp=Z,7.0nm,1.1s
TIXI Tiksi 28.24 345 P **P** **15 47 28.9 -2.1**
TIXI IAmb IAmb 15 47 30.0

comp=Z,26nm,1.6s
NJ2 Nanjing 28.45 253 *e*P **P** **15 47 33.8 +0.4**
NJ2 pmax pmax

comp=Z,6.0nm,0.7s
H11N2 WAKE ISLAND Hy 28.84 148 T T 16 19 17.3
baz=338,slow=76,SNR=1275
H11N1 WAKE ISLAND Hy 28.86 148 T T 16 19 22.7
baz=338,slow=76,SNR=1023
H11N3 WAKE ISLAND Hy 28.86 148 T T 16 19 07.7
baz=338,slow=76,SNR=1120
HHC Hu-ho-hao-te 29.12 275 *e*P **P** **15 47 42.5 +3.1**
HHC pmax pmax

comp=Z,7.0nm,0.7s
HHC pmax pmax

comp=Z,59nm,6.2s
H11S1 WAKE ISLAND Hy 29.89 150 T T 16 20 41.9
baz=106,slow=74,SNR=826
H11S3 WAKE ISLAND Hy 29.90 150 T T 16 20 40.4
baz=339,slow=74,SNR=600
H11S2 WAKE ISLAND Hy 29.91 150 T T 16 19 44.5
SNR=556
ULN Ulaanbaatar 30.10 290 *e*P **P** **15 47 49.3 +1.3**
ULN Ulaanbaatar 30.10 290 *ce*P **P** **15 47 49.3 +1.3**
ULN pmax pmax

comp=Z,10.0nm,1.7s
ULN Ulaanbaatar 30.10 290 P **P** **15 47 49.4 +1.3**
ULN IAmb IAmb 15 47 50.4

comp=Z,5.9nm,0.6s
SONM Songino Array 30.54 291 P **P** **15 47 51.4 -0.5**
comp=Z,3.6nm,0.7s,baz=77,slow=8.6,SNR=20
SONM Songino Array 30.54 291 P **P** **15 47 52.0 +0.1**
SONM pmax pmax

comp=Z,3.0nm,0.8s
SONM Songino Array 30.54 291 P **P** **15 47 52.0 +0.1**
TLY Talaya 31.60 299 *e*P **P** **15 48 00.2 -0.9**
TLY Talaya 31.60 299 *i* P **P** **15 48 00.2 -0.9**
TLY pmax pmax

comp=Z,2.0nm,0.9s
CNPM China Poot 36.38 46 P **P** **15 48 43.5 +1.3**
BPAW Bear Paw Mtn. 36.44 39 P **P** **15 48 42.8 0.0**
COLD Coldfoot 36.99 33 P **P** **15 48 48.9 +1.6**
TOLK Toolik Lake Re 37.38 31 P **P** **15 48 51.0 +0.3**
TOLK IAmb IAmb 15 48 56.6

comp=Z,4.5nm,0.5s
SML Sawmill 37.67 42 P **P** **15 48 52.2 -1.0**
SML IAmb IAmb 15 50 14.1

comp=Z,27nm,1.7s
COLA College 37.82 37 *i* P **P** **15 48 55.4 +1.1**
COLA pmax pmax

comp=Z,4.0nm,0.9s
CCB Clear Creek Bu 37.84 38 P **P** **15 48 56.1 +1.6**
CCB IAmb IAmb 15 49 38.7

comp=Z,10nm,1.7s
GTA Gaotai 37.91 279 ⇑P **P** **15 48 57.5 +1.9**
GTA pmax pmax

comp=Z,23nm,0.9s
GTA pmax pmax

comp=Z,55nm,5.4s
GTA LR LR

comp=Z,110nm,17.5s
GTA LR LR

comp=Z,130nm,17.8s
GTA LR LR

comp=Z,96nm,18.1s
DHY Denali Highway 38.06 40 P **P** **15 48 56.6 0.0**
DHY IAmb IAmb 15 50 03.7

comp=Z,7.8nm,1.3s
SCM Sheep Creek Mo 38.15 42 P **P** **15 48 57.4 +0.2**
SCM pmax pmax

comp=Z,27nm,1.5s
SCM Sheep Creek Mo 38.15 42 P **P** **15 48 57.4 +0.2**
SCM IAmb IAmb 15 49 29.8

comp=Z,26nm,1.5s
HDA Harding Lake 38.21 38 P **P** **15 48 57.4 -0.3**
ILAR Eielson Array 38.23 38 P **P** **15 48 57.5 -0.3**
comp=Z,0.8nm,0.9s,baz=287,slow=8.4,SNR=6.0
ILAR Eielson Array 38.23 38 P **P** **15 48 57.7 -0.1**
ILAR Eielson Array 38.23 38 P **P** **15 48 57.7 -0.1**
NRIK Noril'sk 39.10 330 P **P** **15 49 03.6 -1.4**
comp=Z,4.0nm,0.8s,baz=89,slow=4.9,SNR=4.6
BMAR Burnt Mountain 39.18 33 P **P** **15 49 07.3 +1.6**
KWAJ Kwajalein Atol 39.27 154 P **P** **15 49 07.0 +0.1**
KWAJ Kwajalein Atol 39.27 154 P **P** **15 49 07.0 +0.1**
CD2 Chengdu 39.52 265 *e*P **P** **15 49 09.0 0.0**
CD2 pmax pmax

comp=Z,10.0nm,0.5s
MENT Mentasta 39.73 40 P **P** **15 49 09.5 -0.9**
MENT IAmb IAmb 15 49 23.0

comp=Z,14nm,0.6s
BCAR Beaver Creek A 40.59 40 P **P** **15 49 18.5 +1.0**
ISLE Juniper Island 40.69 44 P **P** **15 49 18.1 -0.3**
BARN Barnard Glacie 40.94 43 P **P** **15 49 20.9 +0.4**
BARN IAmb IAmb 15 50 32.5

comp=Z,15nm,1.4s
CTGM Chitina Glacie 41.11 43 P **P** **15 49 24.1 +2.2**
CTGM IAmb IAmb 15 49 27.2

comp=Z,21nm,1.6s
DGZ Jazzator, Alta 42.06 300 *i* P **P** **15 49 30.0 +0.2**
DGZ pmax pmax

comp=Z,3.0nm,0.9s
ZALV Zalesovo Beam 42.27 306 P **P** **15 49 29.4 -1.8**
comp=Z,1.5nm,0.6s,baz=82,slow=6.5,SNR=6.1
ZALV PcP **PcP** **15 51 23.9 +0.8**

comp=Z,1.0nm,0.7s,baz=108,slow=4.8,SNR=4.2
ZALV Zalesovo Beam 42.27 306 *i* P **P** **15 49 30.8 -0.4**
ZALV pmax pmax

comp=Z,2.0nm,0.6s
ZALV Zalesovo Beam 42.27 306 P **P** **15 49 29.1 -2.0**
INK Inuvik 43.29 32 P **P** **15 49 38.5 -0.7**
comp=Z,3.1nm,1.0s,baz=300,slow=6.4,SNR=3.4
INK Inuvik 43.29 32 P **P** **15 49 42.2 +2.9**
INK pmax pmax

comp=Z,7.0nm,0.5s
INK Inuvik 43.29 32 P **P** **15 49 42.2 +2.9**
INK IAmb IAmb 15 49 49.4

comp=Z,7.1nm,0.5s
WMQ Urumqi 44.17 291 *e*P **P** **15 49 48.8 +2.1**
WMQ pmax pmax

comp=Z,32nm,0.7s
WMQ pmax pmax

comp=Z,110nm,3.9s
WMQ LR LR

comp=Z,690nm,25.7s
WMQ LR LR

comp=Z,590nm,29.0s
SEM Semipalatinsk 46.12 303 *i* P **P** **15 50 00.5 -1.8**
comp=Z,2.6nm,0.7s,baz=303
SEM Semipalatinsk 46.12 303 *i* P **P** **15 50 00.4 -1.8**
SEM pmax pmax

comp=Z,3.0nm,0.7s
MK31 Makanchi Array 46.35 298 P **P** **15 50 03.4 -0.5**
MK31 pmax pmax

comp=Z,4.0nm,0.7s
MK31 Makanchi Array 46.35 298 P **P** **15 50 03.4 -0.5**
MKAR Makanchi Array 46.35 298 P **P** **15 50 03.8 -0.1**
comp=Z,3.0nm,0.6s,baz=68,slow=7.4,SNR=39
MKAR Makanchi Array 46.35 298 P **P** **15 50 03.6 -0.3**
MAKZ Makanchi 46.54 298 P **P** **15 50 04.1 -1.2**
MAKZ pmax pmax

comp=Z,3.0nm,0.7s
MAKZ Makanchi 46.54 298 P **P** **15 50 04.1 -1.2**
KURK Kurchatov 46.95 304 *e*P **P** **15 50 07.8 -0.7**
KURK Kurchatov 46.95 304 *ce*P **P** **15 50 07.8 -0.7**
KURK pmax pmax

comp=Z,17nm,1.3s
KURK Kurchatov 46.95 304 P **P** **15 50 07.6 -0.8**
KURK IAmb IAmb 15 50 09.1

comp=Z,16nm,1.1s
SHLS Shalkode 49.80 294 ⇑*i*P **P** **15 50 29.2 -1.4**
comp=Z,3.1nm,0.6s,baz=294
SHLS Shalkode 49.80 294 ⇑*i*P **P** **15 50 29.1 -1.4**
SHLS pmax pmax

comp=Z,3.0nm,0.6s
UZB Uzynbulak 50.08 295 *e*P **P** **15 50 33.5 +0.7**
comp=Z,4.6nm,0.8s,baz=295
UZB Uzynbulak 50.08 295 *e*P **P** **15 50 33.5 +0.7**
UZB pmax pmax

comp=Z,5.0nm,0.8s
KPKS Kokpek 50.14 295 *i* P **P** **15 50 34.2 +1.1**
comp=Z,7.1nm,0.8s,baz=295
KPKS Kokpek 50.14 295 *i* P **P** **15 50 34.2 +1.1**
KPKS pmax pmax

comp=Z,7.0nm,0.8s
SATY Saty 50.52 295 *e*P **P** **15 50 36.4 +0.3**
comp=Z,3.1nm,0.7s,baz=295
SATY Saty 50.52 295 *e*P **P** **15 50 36.3 +0.3**
SATY pmax pmax

comp=Z,3.0nm,0.7s
BRVK Borovoye 50.66 310 *e*P **P** **15 50 35.8 -0.9**
BRVK Borovoye 50.66 310 *ce*P **P** **15 50 35.8 -0.9**
BRVK pmax pmax

comp=Z,11nm,1.7s
BRVK Borovoye 50.66 310 P **P** **15 50 36.2 -0.5**
BRVK IAmb IAmb 15 50 37.0

comp=Z,5.0nm,0.8s
BRZS Berezniki 50.71 305 *e*P **P** **15 50 35.7 -1.5**
comp=Z,3.5nm,0.7s,baz=305
BRZS Berezniki 50.71 305 *e*P **P** **15 50 35.7 -1.5**
BRZS pmax pmax

comp=Z,4.0nm,0.7s
CMAR Chiang Mai Arr 50.87 256 P **P** **15 50 39.9 +1.2**
comp=Z,0.3nm,0.3s,baz=199,slow=30,SNR=4.4
CMAR Chiang Mai Arr 50.87 256 P **P** **15 50 38.6 -0.1**
CHKK Chushkaly 51.02 296 *e*P **P** **15 50 40.3 +0.6**
baz=296
CHKK Chushkaly 51.02 296 *e*P **P** **15 50 40.2 +0.6**
MDOK Medeo 51.33 296 *e*P **P** **15 50 42.6 +0.5**
baz=296
MDOK Medeo 51.33 296 *e*P **P** **15 50 42.6 +0.5**
AAA Alma-Ata 51.39 296 *e*P **P** **15 50 43.8 +1.3**
KUU Kurty 51.41 297 *e*P **P** **15 50 42.7 +0.1**
comp=Z,5.6nm,0.7s,baz=297
KUU Kurty 51.41 297 *e*P **P** **15 50 42.6 +0.1**
KUU pmax pmax

comp=Z,6.0nm,0.7s
TNSS Tian-Shan 51.45 295 *e*P **P** **15 50 43.6 +0.2**
baz=296
TNSS Tian-Shan 51.45 295 *e*P **P** **15 50 43.6 +0.2**
TARG Taragay, Kyrgy 51.57 294 P **P** **15 50 45.4 +1.2**
MTBS Maitube 51.74 296 *i* P **P** **15 50 46.1 +1.0**
baz=296
MTBS Maitube 51.74 296 *i* P **P** **15 50 46.1 +1.0**

KDJ Kajisay 51.77 294 P **P** **15 50 45.9 +0.5**
KDJ pmax pmax

comp=Z,23nm,0.7s
KDJ Kajisay 51.77 294 P **P** **15 50 45.9 +0.5**
ULHL Ulahol 52.31 295 P **P** **15 50 51.2 +1.7**
SNR=7.2
RES Resolute Bay 52.32 18 P **P** **15 50 50.6 +1.8**
RES pmax pmax

comp=Z,15nm,1.0s
RES Resolute Bay 52.32 18 P **P** **15 50 50.6 +1.8**
RES IAmb IAmb 15 52 12.1

comp=Z,15nm,1.0s
TKM2 Tokmak 2 52.37 296 P **P** **15 50 51.5 +1.5**
SNR=11
BOOM Boomskoye usch 52.37 295 P **P** **15 50 50.9 +1.0**
BOOM pmax pmax

comp=Z,20nm,0.7s
BOOM Boomskoye usch 52.37 295 P **P** **15 50 50.9 +1.0**
YKA Yellowknife Ar 52.60 36 P **P** **15 50 52.1 +1.1**
comp=Z,1.1nm,0.7s,baz=300,slow=6.9,SNR=5.5
SGDS Sogindy 52.70 297 *e*P **P** **15 50 52.8 +0.5**
comp=Z,8.6nm,0.9s,baz=297
SGDS Sogindy 52.70 297 *e*P **P** **15 50 52.7 +0.5**
SGDS pmax pmax

comp=Z,9.0nm,0.9s
USP Ospenovka 52.88 297 P **P** **15 50 54.8 +1.3**
SNR=20
TAPN Taplejung 52.90 273 *e*P **P** **15 50 57.8 +3.7**
KBK Karagaybulak 52.91 296 P **P** **15 50 55.7 +1.8**
SNR=8.5
KZA Kyzart 53.02 295 P **P** **15 50 56.9 +1.9**
SNR=27
FRU1 Bishkek 53.03 296 P **P** **15 50 55.7 +1.0**
FRU1 pmax pmax

comp=Z,21nm,0.6s
FRU1 Bishkek 53.03 296 P **P** **15 50 55.6 +1.0**
AAK Ala-Archa 53.21 296 P **P** **15 50 57.6 +1.6**
SNR=10
AAK Ala-Archa 53.21 296 *e*P **P** **15 50 57.1 +1.1**
AAK Ala-Archa 53.21 296 *ce*P **P** **15 50 57.1 +1.1**
AAK pmax pmax

comp=Z,14nm,0.7s
AAK Ala-Archa 53.21 296 P **P** **15 50 57.2 +1.1**
KBS Kingsbay 53.44 351 P **P** **15 50 57.1 +0.1**
KBS pmax pmax

comp=Z,17nm,0.8s
KBS Kingsbay 53.44 351 P **P** **15 50 57.1 +0.1**
KBS Kingsbay 53.44 351 *e*P **P** **15 50 57.1 +0.1**
SPA0 Spitsbergen Ar 53.52 350 P **P** **15 50 57.5 -0.1**
SPA0 Spitsbergen Ar 53.52 350 *e*P **P** **15 50 57.3 -0.3**
EKS2 Erkin-Say 53.65 297 P **P** **15 51 00.9 +1.7**
SNR=19
JIRN Jiri 53.77 274 *e*P **P** **15 51 03.7 +3.1**
SVE Sverdlovsk 53.81 317 *e*P **P** **15 50 59.6 -0.4**
SVE pmax pmax

comp=Z,19nm,0.9s
GUN Gumba 53.84 275 *e*P **P** **15 51 03.8 +2.7**
KSH Kashi 53.92 292 *e*P P 15 51 07.0 +5.8
KSH pmax pmax

comp=Z,21nm,0.8s
KSH pmax pmax

comp=Z,130nm,4.0s
RAMN Ramite 53.92 273 *e*P **P** **15 51 04.7 +3.1**
comp=Z,36nm,0.6s
AML Almayashu 53.98 296 P **P** **15 51 04.0 +2.0**
SNR=13
PKI Pulchoki 54.38 275 *e*P **P** **15 51 07.8 +2.9**
PKIN Phulchoki 54.38 275 *e*P **P** **15 51 07.8 +2.9**
comp=Z,12nm,0.5s
DMN Daman 54.56 275 *e*P **P** **15 51 09.0 +2.8**
comp=Z,15nm,0.6s
GKN Gorkha 54.65 276 *e*P **P** **15 51 09.3 +2.6**
comp=Z,20nm,0.5s
ARSB Arslanbob 54.86 296 P **P** **15 51 09.3 +1.2**
ARSB pmax pmax

comp=Z,27nm,0.9s
ARSB Arslanbob 54.86 296 P **P** **15 51 09.3 +1.2**
ARU Arti 55.00 317 *e*P **P** **15 51 07.6 -1.0**
ARU Arti 55.00 317 *ce*P **P** **15 51 07.6 -1.0**
ARU pmax pmax

comp=Z,21nm,1.0s
ARU Arti 55.00 317 P **P** **15 51 07.8 -0.9**
DANN Dangsing 55.05 276 *e*P **P** **15 51 12.8 +3.0**
comp=Z,29nm,0.6s
DZA Taraz 55.05 298 *i* P **P** **15 51 10.2 +0.9**
baz=298
DZA Taraz 55.05 298 *i* P **P** **15 51 10.1 +0.9**
KK31 Karatay Array 55.44 299 P **P** **15 51 12.8 +0.7**
KK31 pmax pmax

comp=Z,13nm,0.8s
KK31 Karatay Array 55.44 299 P **P** **15 51 12.8 +0.7**
KK31 IAmb IAmb 15 51 13.7

comp=Z,13nm,0.8s
KKAR Karatay Array 55.44 299 P **P** **15 51 12.5 +0.5**
KKAR pmax pmax

comp=Z,13nm,0.8s
KKAR Karatay Array 55.44 299 P **P** **15 51 12.6 +0.5**
KKAR PcP **PcP** **15 52 09.2 -1.8**
KKAR Karatay Array 55.44 299 P **P** **15 51 12.4 +0.5**
KKAR IAmb IAmb 15 51 13.7

comp=Z,13nm,0.8s
TULEG Thule 55.49 11 P **P** **15 51 12.8 +1.0**
KOLN Koldanda 55.52 276 *e*P **P** **15 51 15.2 +2.2**
PYUN Piuthan 55.74 277 *e*P **P** **15 51 15.9 +1.3**
JBG Jabagly 55.79 298 *e*P **P** **15 51 16.8 +2.1**
JBG pmax pmax

comp=Z,12nm,1.1s
BJO1 Bjornoya 56.02 346 *e*P **P** **15 51 15.9 +0.3**
IUG Iuzhnay 56.26 298 *e*P **P** **15 51 18.6 +0.6**
comp=Z,2.4nm,0.8s,baz=298
IUG Iuzhnay 56.26 298 *e*P **P** **15 51 18.6 +0.6**
IUG pmax pmax

comp=Z,2.0nm,0.8s
CHM Chimkent 56.43 298 *e*P **P** **15 51 19.8 +0.7**
baz=298
CHM Chimkent 56.43 298 *e*P **P** **15 51 19.8 +0.7**
DAG Danmarks Havn 57.74 357 *i* P **P** **15 51 28.0 +0.3**
comp=Z,9.8nm,1.1s
DAG Danmarks Havn 57.74 357 *i* P **P** **15 51 28.0 +0.3**
DAG pmax pmax

comp=Z,10.0nm,1.1s
GAR Garm 57.85 295 P **P** **15 51 30.3 +1.0**
KEV Kevo 58.00 340 P **P** **15 51 29.6 0.0**
KEV pmax pmax

comp=Z,63nm,1.6s
KEV Kevo 58.00 340 P **P** **15 51 29.6 0.0**
ABKAR Akbulak array 58.19 310 P **P** **15 51 30.9 -0.4**
ABKAR Akbulak array 58.19 310 P **P** **15 51 31.4 +0.1**
ABKAR IAmb IAmb 15 51 32.5

comp=Z,10nm,0.6s
ARCES ARCESS Array B 58.52 340 P **P** **15 51 32.9 -0.5**
comp=Z,4.8nm,0.8s,baz=52,slow=5.8,SNR=14
ARCES ARCESS Array B 58.52 340 P **P** **15 51 32.5 -0.8**
ARE0 ARCESS Array S 58.52 340 P **P** **15 51 31.9 -1.4**
ARE0 ARCESS Array S 58.52 340 *e*P **P** **15 51 33.6 +0.3**
KULLO Kullorsuaq 58.59 9 *i* P **P** **15 51 33.4 -0.3**
comp=Z,11nm,0.7s
KULLO Kullorsuaq 58.59 9 *i* P **P** **15 51 33.4 -0.3**
KULLO pmax pmax

comp=Z,11nm,0.7s
CHGR Chuyangaron 58.79 295 P **P** **15 51 36.9 +1.1**
PINE Pine Mountain 59.27 57 P **P** **15 51 42.6 +3.4**
PINE IAmb IAmb 15 52 29.4

comp=Z,3.8nm,0.9s
KTK1 Kautokeino 59.44 341 *e*P **P** **15 51 39.9 +0.2**
TRO Tromso 59.91 343 *e*P **P** **15 51 42.2 -0.6**
KBL Kabul 61.31 291 P **P** **15 51 53.9 +0.7**
KBL pmax pmax

comp=Z,8.0nm,0.6s
KBL Kabul 61.31 291 P **P** **15 51 52.9 -0.3**
KBL IAmb IAmb 15 51 54.8

comp=Z,7.5nm,0.6s
KBL Kabul 61.31 291 P **P** **15 51 53.9 +0.7**
KBL IAmb IAmb 15 51 54.8

comp=Z,7.5nm,0.6s
N2IH Innhavet 61.90 343 *e*P **P** **15 51 56.0 -0.3**
SUMG Summit 61.93 3 ⇑*i*P **P** **15 51 58.8 +1.8**
comp=Z,42nm,0.7s
SUMG Summit 61.93 3 ⇑*i*P **P** **15 51 58.8 +1.8**
SUMG Summit 61.93 3 P **P** **15 51 57.5 +0.5**
STEI Steigen 62.08 343 *e*P **P** **15 51 56.9 -0.6**
LOF Lofoten 62.25 343 *e*P **P** **15 51 58.5 -0.2**
N2TV Tvrnvik 62.41 343 *e*P **P** **15 51 59.8 +0.1**
FAUS Fauske 62.53 342 *e*P **P** **15 52 00.4 -0.1**
FCC Fort Churchill 62.91 32 P **P** **15 52 05.3 +2.1**

FCC pmax pmax
comp=Z,9.0nm,1.3s
FCC Fort Churchill 62.91 32 P **P** **15 52 05.3 +2.1**
FCC IAmb IAmb 15 52 30.5
comp=Z,9.0nm,1.2s
NBB05 Inndyr 63.08 343 *e*P **P** **15 52 03.8 -0.4**
NBB17 Glomfjord B¥r 63.29 343 *e*P **P** **15 52 06.5 +1.0**
MOR8 Moi Rana 63.73 342 *e*P **P** **15 52 07.0 -1.5**
NVAR Mina Array Bea 64.09 61 P **P** **15 52 12.8 +1.2**
comp=Z,1.2nm,0.7s,baz=290,slow=7.4,SNR=10
NVAR Mina Array Bea 64.09 61 P **P** **15 52 12.4 +0.8**
SCO Scoresbysund 64.13 357 P **P** **15 52 12.5 +1.5**
SCO pmax pmax
comp=Z,25nm,1.3s
SCO Scoresbysund 64.13 357 P **P** **15 52 12.5 +1.5**
SCO IAmb IAmb 15 53 53.7
comp=Z,25nm,1.3s
KNRA Kununurra 64.32 204 P **P** **15 52 14.0 +1.1**
FIA1 FINESS Array S 64.53 334 P **P** **15 52 13.2 -0.6**
FIA1 IAmb IAmb 15 52 14.6
comp=Z,6.5nm,0.7s
FINES FINESS Array B 64.53 334 P **P** **15 52 13.3 -0.5**
comp=Z,7.2nm,0.5s,baz=38,slow=7.3,SNR=49
FINES FINESS Array B 64.53 334 P **P** **15 52 12.9 -0.9**
OBN Obninsk 65.53 325 *e*P **P** **15 52 18.1 -2.3**
OBN Obninsk 65.53 325 *e*P **P** **15 52 18.1 -2.3**
OBN *e* 15 52 51.4
OBN pmax pmax
comp=Z,4.0nm,0.8s
NSS Namsos 65.68 342 *e*P **P** **15 52 21.8 +0.6**
GEYT Alibeck 66.10 300 P **P** **15 52 25.7 +1.3**
comp=Z,12nm,0.6s,baz=46,slow=4.3,SNR=13
GEYT Alibeck 66.10 300 P **P** **15 52 25.9 +1.5**
GYA0B ALIBECK ARRAY 66.10 300 P **P** **15 52 26.1 +1.7**
GYA0B IAmb IAmb 15 52 26.9
comp=Z,13nm,0.7s
TPNV Topopah Spring 66.29 61 P **P** **15 52 26.6 +0.8**
TPNV pmax pmax
comp=Z,11nm,1.7s
TPNV Topopah Spring 66.29 61 P **P** **15 52 26.6 +0.8**
TPNV IAmb IAmb 15 53 18.4
comp=Z,11nm,1.6s
BW06 Boulder Array 66.45 52 P **P** **15 52 26.8 +0.1**
PD31 Pinedale Array 66.45 52 P **P** **15 52 26.3 -0.5**
PDAR Pinedale Array 66.45 52 P **P** **15 52 27.4 +0.6**
comp=Z,1.0nm,0.8s,baz=318,slow=2.0,SNR=7.8
PDAR Pinedale Array 66.45 52 P **P** **15 52 27.1 +0.3**
SFJD Kangerlussuaq 66.50 9 P **P** **15 52 27.4 +1.1**
SFJD pmax pmax
comp=Z,25nm,1.3s
SFJD Kangerlussuaq 66.50 9 P **P** **15 52 27.4 +1.1**
SFJD IAmb IAmb 15 54 17.3
comp=Z,25nm,1.2s
WB0 Warramunga Arr 66.84 197 P **P** **15 52 30.4 +1.3**
WB0 IAmb IAmb 15 52 56.4
comp=Z,33nm,1.8s
WR0 Warramunga Arr 67.00 197 P **P** **15 52 31.4 +1.3**
WR0 IAmb IAmb 15 53 00.9
comp=Z,11nm,1.1s
WB2 Warramunga Arr 67.02 197 P **P** **15 52 31.1 +0.9**
WB2 IAmb IAmb 15 52 32.8
comp=Z,9.8nm,0.9s
WRA Warramunga Arr 67.03 197 P **P** **15 52 31.0 +0.8**
comp=Z,4.7nm,0.8s,baz=18,slow=6.1,SNR=3.3
WRA Warramunga Arr 67.03 197 P **P** **15 52 30.9 +0.6**
WRA Warramunga Arr 67.03 197 P **P** **15 52 30.9 +0.6**
RDMU Red Mountain 67.89 54 P **P** **15 52 35.9 0.0**
NC303 NORSAR Array S 68.70 340 P **P** **15 52 40.7 +0.4**
NC303 IAmb IAmb 15 54 21.9
comp=Z,26nm,1.3s
NC405 NORSAR Array S 68.72 340 P **P** **15 52 40.6 +0.2**
NC204 NORSAR Array S 68.80 341 P **P** **15 52 41.1 +0.1**
NB201 NORSAR Array S 68.87 340 P **P** **15 52 41.6 +0.2**
NB2 NORSAR Subarra 68.90 340 P **P** **15 52 41.8 +0.2**
comp=Z,15nm,0.9s,baz=30,slow=6.5
NB2 NORSAR Subarra 68.90 340 P **P** **15 52 41.8 +0.2**
baz=30,slow=6.5
NOA NORSAR Array B 68.90 340 P **P** **15 52 41.9 +0.2**
comp=Z,4.2nm,0.6s,baz=29,slow=6.3,SNR=32
NBO00 NORSAR Array S 69.01 341 P **P** **15 52 42.5 +0.2**
NC602 NORSAR Array S 69.09 340 P **P** **15 52 42.7 -0.1**
NC602 IAmb IAmb 15 52 43.6
comp=Z,13nm,0.8s
NC602 NORSAR Array S 69.09 340 *e*P **P** **15 52 42.9 +0.2**
NAO01 NORSAR Array S 69.15 340 P **P** **15 52 43.3 +0.2**
AKT Akhty 69.75 309 *e*P **P** **15 52 48.7 +1.4**
AKT *e**PP **pP** **15 53 11.2 -1.1**
AKT *e* 15 53 13.1
AKT *e**SP **sP** **15 52 21.3 -1.8**
AKT pmax pmax
comp=Z,19nm,0.8s
KIV Kislovodsk 70.69 314 *e*P **P** **15 52 54.8 +1.9**
KIV pmax pmax
comp=Z,45nm,1.0s
AS31 Alice Springs 70.73 197 P **P** **15 52 55.6 +2.4**
ASAR Alice Springs 70.73 197 P **P** **15 52 55.5 +2.3**
comp=Z,2.0nm,0.6s,baz=12,slow=5.8,SNR=42
ASAR Alice Springs 70.73 197 P **P** **15 52 54.6 +1.4**
KBZ Khabaz 70.74 313 P **P** **15 52 54.8 +1.7**
comp=Z,13nm,0.9s,baz=75,slow=4.4,SNR=26
KBZ Khabaz 70.74 313 *e*P **P** **15 52 54.2 +1.1**
KBZ Khabaz 70.74 313 *ce*P **P** **15 52 54.2 +1.1**
KBZ pmax pmax
comp=Z,15nm,0.9s
SHA1 Shidzhatmaz 70.85 313 *c i*P **P** **15 52 53.8 -0.3**
X16A Lo Mia Camp, P 70.90 60 P **P** **15 52 55.5 +1.1**
TBLG Delisi 71.19 311 P **P** **15 52 57.4 +1.5**
TBLG pmax pmax
comp=Z,18nm,0.8s
TBLG Delisi 71.19 311 P **P** **15 52 57.4 +1.5**
TBLG IAmb IAmb 15 52 58.7
comp=Z,18nm,0.8s
F33A 5 Mile Ranch, 71.21 43 P **P** **15 52 56.3 +0.4**
ONI Oni 71.26 312 P **P** **15 52 58.6 +2.2**
S22A 4UR Ranch, Cre 71.36 55 P **P** **15 52 58.6 +1.2**
KZRT Kazreti 71.61 311 P **P** **15 53 00.2 +1.7**
AKASG Malin Array Be 71.79 325 P **P** **15 52 59.3 0.0**
comp=Z,6.8nm,0.6s,baz=35,slow=6.2,SNR=24
AKASG Malin Array Be 71.79 325 P **P** **15 52 59.1 -0.2**
AKBB Malin Array Si 71.79 325 P **P** **15 52 58.3 -1.0**
AKBB pmax pmax
comp=Z,8.0nm,0.7s
AKBB Malin Array Si 71.79 325 P **P** **15 52 58.3 -1.0**
AKBB IAmb IAmb 15 53 00.1
comp=Z,7.7nm,0.7s
AKH Akhalkalaki 72.07 311 P **P** **15 53 02.4 +0.9**
AKH pmax pmax
comp=Z,7.0nm,0.9s
AKH Akhalkalaki 72.07 311 P **P** **15 53 02.4 +0.9**
AKH IAmb IAmb 15 53 04.6
comp=Z,7.4nm,0.9s
SDCO Great Sand Dun 72.12 54 P **P** **15 53 02.7 +0.8**
BATM Batumi 72.88 312 ⇓P **P** **15 53 07.3 +1.3**
BATM Batumi 72.88 312 ⇑P **P** **15 53 07.2 +1.3**
BCA Borcka 73.03 312 ⇑P **P** **15 53 08.2 +1.2**
T25A Trinidad 73.17 54 P **P** **15 53 08.7 +0.6**
T25A IAmb IAmb 15 53 36.9
comp=Z,7.8nm,1.3s
ANMO Albuquerque 73.52 57 P **P** **15 53 11.2 +1.1**
ANMO pmax pmax
comp=Z,6.0nm,1.6s
ANMO Albuquerque 73.52 57 P **P** **15 53 11.2 +1.1**
SORM Soroca 74.16 324 ⇓P **P** **15 53 13.7 +0.4**
SCHQ Schefferville 74.85 22 P **P** **15 53 17.6 +0.3**
comp=Z,1.7nm,0.6s,baz=277,slow=8.1,SNR=2.4
SCHQ Schefferville 74.85 22 P **P** **15 53 17.4 +0.2**
SCHQ IAmb IAmb 15 55 18.4
comp=Z,14nm,1.6s
OJC Ojcow 75.70 330 *e*P **P** **15 53 23.3 +1.1**
OJC Ojcow 75.70 330 P **P** **15 53 22.2 0.0**
OJC pmax pmax
comp=Z,12nm,0.9s
OJC Ojcow 75.70 330 P **P** **15 53 22.2 0.0**
OJC IAmb IAmb 15 53 24.1
comp=Z,12nm,0.9s
BUR08 Bucovina Ar. S 75.82 326 P **P** **15 53 23.7 +0.6**
BUR08 IAmb IAmb 15 53 24.9
comp=Z,10nm,0.7s
BURAR Bucovina Array 75.84 326 ⇑P **P** **15 53 23.8 +0.6**
BURAR Bucovina Array 75.84 326 P **P** **15 53 23.8 +0.6**
KOLS Kolonicke sedl 75.89 328 *e*P **P** **15 53 24.3 +1.0**
KOLS pmax pmax
comp=Z,7.0nm,0.9s
KOLS Kolonicke sedl 75.89 328 *e*P **P** **15 53 24.3 +1.0**

BIZ Bicaz 76.03 325 ⇑P **P** **15 53 25.1 +1.0**
TESR Tescani 76.15 324 ⇓P **P** **15 53 25.4 +0.6**
NIE Niedzica 76.20 329 *e*P **P** **15 53 27.2 +2.1**
TLCR 76.30 322 ⇑P **P** **15 53 26.1 +0.5**
KSP Ksiaz 76.35 333 *e*P **P** **15 53 27.3 +1.4**
MNTX Cornudas Mount 76.44 59 P **P** **15 53 27.6 +0.8**
OSTC Ostas 76.62 332 *e*P **P** **15 53 29.3 +1.9**
CHVC Chvalec 76.65 333 *e*P **P** **15 53 29.2 +1.6**
GDL2 Guadalupe Moun 76.69 58 P **P** **15 53 28.7 +0.4**
LANS Liptovska Anna 76.72 330 *e*P **P** **15 53 30.3 +2.3**
LANS pmax pmax
comp=Z,8.0nm,0.8s
LANS Liptovska Anna 76.72 330 *e*P **P** **15 53 30.3 +2.3**
UPC Upice 76.73 333 *e*P **P** **15 53 29.7 +1.7**
UPC Upice 76.73 333 *e*P **P** **15 53 29.7 +1.7**
DPC Dobruska-Polom 76.77 332 *e*P **P** **15 53 30.1 +1.8**
DPC Dobruska-Polom 76.77 332 *e*P **P** **15 53 30.1 +1.8**
MORC Moravsky Berou 76.85 331 ⇑P **P** **15 53 28.8 0.0**
MORC Moravsky Berou 76.85 331 *e*P **P** **15 53 29.9 +1.1**
MORC Moravsky Berou 76.85 331 P **P** **15 53 29.3 +0.5**
MORC pmax pmax
comp=Z,11nm,0.9s
MORC Moravsky Berou 76.85 331 P **P** **15 53 29.3 +0.5**
MORC IAmb IAmb 15 53 31.0
comp=Z,11nm,0.9s
CLL Collm 76.97 335 *i* P **P** **15 53 29.8 +0.4**
comp=Z,13nm,0.9s
CLL Collm 76.97 335 *i* P **P** **15 53 29.8 +0.4**
CLL pmax pmax
comp=Z,13nm,0.9s
CLL Collm 76.97 335 P **P** **15 53 29.7 +0.3**
CLL IAmb IAmb 15 53 30.9
comp=Z,10nm,0.6s
BRG Berggiesshubel 77.07 334 *e*P **P** **15 53 31.4 +1.5**
comp=Z,5.0nm,1.1s
BRG Berggiesshubel 77.07 334 *e*P **P** **15 53 31.4 +1.5**
BRG pmax pmax
comp=Z,5.0nm,1.1s
MLR Muntele Rosu 77.27 324 ⇓P **P** **15 53 32.4 +1.1**
MLR Muntele Rosu 77.27 324 P **P** **15 53 33.1 +1.8**
MLR pmax pmax
comp=Z,7.0nm,0.7s
MLR Muntele Rosu 77.27 324 P **P** **15 53 33.1 +1.8**
MLR IAmb IAmb 15 53 34.1
comp=Z,6.5nm,0.7s
VYHS Vyhne 77.50 330 *e*P **P** **15 53 33.6 +1.2**
VYHS pmax pmax
comp=Z,8.0nm,1.2s
VYHS Vyhne 77.50 330 *e*P **P** **15 53 33.5 +1.2**
VRAC Vranov 77.57 332 ⇑P **P** **15 53 33.2 +0.4**
VRAC Vranov 77.57 332 *e*P **P** **15 53 34.6 +1.8**
VRAC Vranov 77.57 332 P **P** **15 53 33.1 +0.4**
JAVC Velka Javorina 77.59 331 *e*P **P** **15 53 35.4 +2.4**
GOPC GO Pecny, Ondr 77.64 333 *e*P **P** **15 53 34.3 +1.2**
GOPC GO Pecny, Ondr 77.64 333 *e*P **P** **15 53 34.3 +1.2**
PRU Pruhonice 77.65 333 *e*P **P** **15 53 34.6 +1.4**
PRU Pruhonice 77.65 333 *e*P **P** **15 53 34.6 +1.4**
VOIR 77.68 324 ⇑P **P** **15 53 34.1 +0.6**
KRUC Moravsky 77.85 332 *e*P **P** **15 53 35.9 +1.6**
WMOK Wichita Mounta 78.06 52 P **P** **15 53 36.2 +0.4**
WMOK pmax pmax
comp=Z,4.0nm,1.0s
WMOK Wichita Mounta 78.06 52 P **P** **15 53 36.2 +0.4**
MODS Modra-Piesok 78.14 331 *e*P **P** **15 53 37.4 +1.4**
MODS pmax pmax
comp=Z,9.0nm,1.0s
MODS Modra-Piesok 78.14 331 *e*P **P** **15 53 37.4 +1.4**
BR131 Keskin Array S 78.35 316 P **P** **15 53 38.5 +1.1**
BR131 pmax pmax
comp=Z,5.0nm,0.9s
BR131 Keskin Array S 78.35 316 P **P** **15 53 38.5 +1.1**
BRTR Keskin Array B 78.35 316 P **P** **15 53 38.8 +1.4**
comp=Z,2.9nm,0.8s,baz=95,slow=4.3,SNR=11
BRTR Keskin Array B 78.35 316 P **P** **15 53 38.2 +0.8**
KHC Kasperske Hory 78.71 333 *e*P **P** **15 53 39.9 +0.8**
KHC Kasperske Hory 78.71 333 *e*P **P** **15 53 39.9 +0.8**
KHC Kasperske Hory 78.71 333 P **P** **15 53 39.9 +0.8**
R40A Maddies Statio 78.84 46 P **P** **15 53 40.2 +0.2**
BZS Buzias 78.89 327 ⇑P **P** **15 53 40.3 +0.2**
GEC2 GERESS Array S 78.92 333 P **P** **15 53 40.8 +0.5**
GERES GERESS Array B 78.92 333 P **P** **15 53 41.2 +0.9**
comp=Z,2.4nm,0.5s,baz=37,slow=5.6,SNR=20
GERES GERESS Array B 78.92 333 P **P** **15 53 40.6 +0.3**
GRA1 Grafenberg Arr 78.94 335 P **P** **15 53 40.4 +0.1**
GRA1 IAmb IAmb 15 53 42.9
comp=Z,10nm,0.6s
GRF Grafenberg Arr 78.94 335 P **P** **15 53 40.4 +0.1**
GRF pmax pmax
comp=Z,10.0nm,0.6s
GRF Grafenberg Arr 78.94 335 *e*P **P** **15 53 41.8 +1.5**
comp=Z,6.5nm,0.8s,baz=26,slow=4.8
MDUB Mudurnu 78.94 318 P **P** **15 53 40.9 +0.3**
CONA Conrad Observa 79.01 331 *i* PKKPdf **P** **15 53 42.7 +1.9**
comp=Z,4.5nm,0.6s
TX31 Lajitas Ar. Si 79.16 59 P **P** **15 53 43.0 +1.1**
TX31 IAmb IAmb 15 53 44.0
comp=Z,9.9nm,0.8s
TX32 Lajitas Array 79.16 59 P **P** **15 53 42.8 +0.8**
TXAR Lajitas Array 79.16 59 P **P** **15 53 43.3 +1.3**
comp=Z,2.8nm,0.6s,baz=299,slow=4.1,SNR=39
TXAR Lajitas Array 79.16 59 P **P** **15 53 42.6 +0.7**
HHAR Hobbs 79.52 48 P **P** **15 53 44.4 +0.7**
MEM Membach 79.56 338 P **P** **15 53 44.1 +0.4**
BSTI Sart Tilman 79.70 339 P **P** **15 53 46.5 +2.1**
BCLA Clavier 79.92 339 P **P** **15 53 46.3 +0.7**
U40A Yellville 80.03 48 P **P** **15 53 46.8 +0.4**
U40A IAmb IAmb 15 53 47.7
comp=Z,7.2nm,0.9s
BMRD Maredsous 80.16 339 P **P** **15 53 48.2 +1.4**
SOKA Soboth 80.38 331 *i* PKKPbc **P** **15 53 49.8 +1.5**
comp=Z,3.8nm,0.8s
PERS Pernice 80.38 331 *e*P **P** **15 53 49.4 +1.2**
KBA Koelnbreinsper 80.59 332 *i* PKKPbc **P** **15 53 51.6 +2.2**
comp=Z,8.4nm,0.8s
OBKA Obir 80.69 331 *i* PKKPbc **P** **15 53 51.1 +1.2**
comp=Z,3.8nm,0.7s
VTS Vitosha 80.74 324 ⇓P **P** **15 53 51.7 +1.4**
VTS Vitosha 80.74 324 P **P** **15 53 50.7 +0.4**
VTS pmax pmax
comp=Z,10.0nm,0.8s
VTS Vitosha 80.74 324 P **P** **15 53 50.7 +0.4**
VTS IAmb IAmb 15 53 53.1
comp=Z,10nm,0.8s
WATA Walderalm 80.92 334 *i* PKKPbc **P** **15 53 53.3 +2.1**
comp=Z,6.9nm,0.5s
WTTA Wattenberg 80.97 333 *i* PKKPbc **P** **15 53 53.7 +2.2**
comp=Z,7.9nm,0.5s
MIAR Mount Ida 81.03 49 P **P** **15 53 52.3 +0.5**
MIAR pmax pmax
comp=Z,5.0nm,0.8s
MIAR Mount Ida 81.03 49 P **P** **15 53 52.3 +0.5**
MIAR IAmb IAmb 15 53 53.6
comp=Z,5.1nm,0.8s
RETA Reutte 81.04 334 *i* PKKPbc **P** **15 53 53.5 +1.8**
comp=Z,4.0nm,1.1s
MOTA Moosalm 81.06 334 *i* PKKPbc **P** **15 53 53.6 +1.7**
comp=Z,10nm,1.1s
PRED Cave del Predi 81.07 332 P **P** **15 53 52.4 +0.4**
PRED IAmb IAmb 15 53 53.4
comp=Z,4.4nm,0.7s
LJU Ljubljana 81.10 331 *e*P **P** **15 53 53.2 +1.2**
SQTA Sankt Quirin 81.14 334 *i* PKKPbc **P** **15 53 54.4 +2.1**
comp=Z,6.1nm,0.8s
ECH Echery 81.44 337 P **P** **15 53 54.4 +0.6**
ECH pmax pmax
comp=Z,5.0nm,0.7s
ECH Echery 81.44 337 P **P** **15 53 54.4 +0.6**
ECH IAmb IAmb 15 53 55.7
comp=Z,5.0nm,0.7s
FETA Feichten 81.47 334 *i* PKKPbc **P** **15 53 55.9 +1.7**
comp=Z,3.9nm,1.0s
DAVA Damuels 81.49 335 *e*PKKPbc **P** **15 53 55.9 +1.7**
comp=Z,8.0nm,1.1s
LDF La Druitiere 82.92 341 *e*P **P** **15 54 02.2 +0.8**
LDF pmax pmax
comp=Z,35nm,1.6s
SSF Saint Saulge 83.48 338 *e*P **P** **15 54 05.2 +0.9**
SSF pmax pmax
comp=Z,5.0nm,0.7s
LPL La Plagne 84.02 336 *e*P **P** **15 54 08.7 +1.3**
LPL pmax pmax
comp=Z,8.0nm,1.0s
MFF Saint Martin d 84.80 341 *e*P **P** **15 54 12.7 +1.7**
MFF pmax pmax
comp=Z,11nm,0.8s
CAF Calviac 85.83 339 *e*P **P** **15 54 18.7 +2.4**
CAF pmax pmax
comp=Z,6.0nm,0.8s
V58A Windy Hill, Pi 87.08 39 P **P** **15 54 23.1 +0.7**
H03N2 Juan Fernandez 140.01 90 T T 18 37 43.8
baz=308,slow=77,SNR=61
H03N3 Juan Fernandez 140.02 90 T T 18 37 57.8
baz=308,slow=77,SNR=83
H03N1 Juan Fernandez 140.02 90 T T 18 37 45.1
baz=308,slow=77,SNR=64
PLCA Paso Flores 149.35 96 PKPbc **PKiKP** **16 01 25.8 -0.2**
comp=Z,1.7nm,0.6s,baz=246,slow=4.2,SNR=5.2
PLCA Paso Flores 149.35 96 **PKPbc** **16 01 22.4 -2.5**
CPUP Villa Florida 150.13 60 PKPbc **PKiKP** **16 01 27.6 -0.3**
comp=Z,2.2nm,0.6s,baz=191,slow=3.3,SNR=4.4
CPUP Villa Florida 150.13 60 PKIKP **PKiKP** **16 01 27.7 -0.2**
CPUP Villa Florida 150.13 60 **PKiKP** **16 01 27.7 -0.2**
SNAA Sanae 151.09 197 PKPbc **PKiKP** **16 01 28.8 +0.3**

NEIC ***26*** *15:52:37.9±1.9, 29.2°S±0.1°×176.75°W±0.08, h10km±6km, mb4.6/9, Error ellipse: s-maj=21.0km s-min=8.6km az=166.0*
IDC ***26*** *15:52:41.8±3.9, 28.54°S×177.71°W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/25, mbtmp3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx2.8/33, Error ellipse: s-maj=74.9km s-min=20.8km az=80.0*
ISC 26 15:52:39.4±1.0, 29.3°S±0.1°×176.7°W±0.1, h21km, n21, σ1§13/20, mb4.4/6, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.04**	**270**	Pn	**Pn**	**15 53 00.1**	**+1.4**
	885nm,0.3s,baz=93,slow=9.2,SNR=42						
RAO				Sn	**Sb**	**15 53 10.9**	**-0.8**
	696nm,0.3s,baz=72,slow=23,SNR=16						
RAO	**Raoul Island**	**1.04**	**270**		**Pn**	**15 52 59.8**	**+1.2**
OUZ	**Omahuta**	**10.11**	**232**	Pn	**Pn**	**15 55 03.5**	**+0.2**
TUWZ	**Tuamarina**	**14.31**	**210**	Pn	**Pn**	**15 56 02.2**	**+1.5**
NNZ	**Nelson**	**14.39**	**211**	Pn	**Pn**	**15 56 02.1**	**+0.3**
MCQ	**Macquarie Isla**	**30.74**	**208**	P	P	15 58 59.4	+6.6
STKA	**Stephens Creek**	**35.82**	**255**	P	**P**	**15 59 37.8**	**+0.4**
	2.6nm,1.1s,baz=90,slow=12,SNR=3.9						
STKA	**Stephens Creek**	**35.82**	**255**	P	**P**	**15 59 37.2**	**-0.3**
STKA				IAmb	IAmb	15 59 43.6	
	comp=Z,4.9nm,1.8s						
AS31	**Alice Springs**	**44.28**	**265**	P	**P**	**16 00 47.9**	**+0.1**
ASAR	**Alice Springs**	**44.28**	**265**	P	**P**	**16 00 46.5**	**-1.3**
	comp=Z,0.3nm,0.5s,baz=104,slow=7.2,SNR=11						
ASAR	**Alice Springs**	**44.28**	**265**	P	**P**	**16 00 47.1**	**-0.7**
WR0	**Warramunga Arr**	**44.99**	**270**	P	**P**	**16 00 53.7**	**+0.2**
WB2	**Warramunga Arr**	**45.16**	**270**	P	**P**	**16 00 54.9**	**+0.1**
WB2				IAmb	IAmb	16 01 19.0	
	comp=Z,20nm,1.6s						
WRA	**Warramunga Arr**	**45.17**	**270**	P	**P**	**16 00 54.3**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=110,slow=7.5,SNR=1.7						
WRA	**Warramunga Arr**	**45.17**	**270**	P	**P**	**16 00 52.4**	**-2.6**
WB0	**Warramunga Arr**	**45.19**	**271**	P	**P**	**16 00 55.1**	**0.0**
WB0				IAmb	IAmb	16 01 31.2	
	comp=Z,16nm,1.6s						
HON	**Honolulu**	**53.44**	**22**	P	**P**	**16 01 58.2**	**+0.4**
GUMO	**Guam**	**56.48**	**314**	LR	LR	16 25 32.3	
	comp=Z,34nm,18.5s,baz=256,slow=36						
CASY	**Casey**	**56.65**	**208**	P	**P**	**16 02 19.0**	**-1.7**
CASY				IAmb	IAmb	16 02 28.7	
	comp=Z,9.8nm,1.7s						
FINES	**FINESS Array B**	**144.44**	**341**	PKP	**PKiKP**	**16 12 15.8**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=62,slow=5.4,SNR=5.3						
FINES	**FINESS Array B**	**144.44**	**341**		**PKPdf**	**16 12 14.6**	**+1.2**

NEIC ***26*** *15:58:05.9±0.8, 51.9°N±0.1°×178.26°E±0.10, h126km±3km, Error ellipse: s-maj=14.9km s-min=8.9km az=178.0*
AEIC 26 15:58:06.4±0.8, 51.85°N±0.09°×178.2°E±0.1, h126km±3km, mb4.0/3(NEIC)**, Error ellipse: s-maj=12.7km s-min=8.9km az=197.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.20**	**60**		Pn	15 58 23.4	-0.4
LSNW	**Little Sitkin**	**0.22**	**55**		Pn	15 58 23.0	-0.8
LSNW					Sn	15 58 36.3	-0.6
LSPA	**Little Sitkin**	**0.24**	**63**		Pn	15 58 23.2	-0.6
LSPA					Sn	15 58 36.2	-0.9
CETU	**Semis' Tuman**	**0.79**	**81**		Pn	15 58 26.5	-0.6
AMKA	**Amchitka**	**0.82**	**125**		Sn	15 58 42.0	-1.0
AMKA	**Amchitka**	**0.82**	**125**		Pn	15 58 27.2	0.0
CESW	**Semis' Southwe**	**0.83**	**86**		Pn	15 58 26.4	-1.0
CESW					Sn	15 58 42.7	-0.5
CEAP	**Semis' Anvil P**	**0.85**	**79**		Pn	15 58 27.0	-0.5
CERAA	**Semis' Rag'd T**	**0.91**	**86**		Pn	15 58 27.2	-0.8
TASE	**Tanaga Southea**	**2.32**	**89**		Pn	15 58 43.3	-0.8
TASE					Sn	15 59 12.1	-1.0
TAFP	**Tanaga Falls P**	**2.35**	**87**		Pn	15 58 43.6	-0.8
TAFP					Sn	15 59 12.3	-1.4
SMY	**Shemya**	**2.69**	**291**		Pn	15 58 46.5	-2.1
SMY	**Shemya**	**2.69**	**291**		Sn	15 59 17.9	-3.4
KIMD	**Kanaga Island**	**2.82**	**90**		Pn	15 58 49.3	-1.1
KIKV	**Kanaga Island**	**2.85**	**88**		Pn	15 58 49.9	-1.0
KIRH	**Kanaga Island**	**2.90**	**87**		Pn	15 58 50.4	-1.1
ADK	**Adak**	**3.15**	**87**		Pn	15 58 53.1	-1.6
ADAG	**Mount Adagdak**	**3.21**	**86**		Pn	15 58 54.0	-1.4
GSTR	**Great Sitkin T**	**3.54**	**84**	Pn	Pn	15 58 58.0	-1.9
ATKA	**Atka Island**	**4.69**	**83**	Pn	Pn	15 59 14.5	-0.7
NIKH	**Nikolski High**	**7.98**	**77**	Pn	Pn	15 59 59.1	-0.3
SDPT	**Sand Point**	**13.11**	**66**	Pn	Pn	16 01 05.1	-2.4
CNBA	**Chernabura Isl**	**13.57**	**69**	Pn	Pn	16 01 12.4	-1.1
SII	**Sitkinak Islan**	**16.75**	**63**		Pn	16 01 52.7	-0.5
SVW2	**Sparrevohn**	**17.06**	**47**	P	P	16 01 54.8	-1.9
SVW2				IAmb	IAmb	16 01 59.1	
	comp=Z,5.3nm,1.2s						
KDAK	**Kodiak Island**	**17.75**	**59**	P	P	16 02 01.2	-2.9
KDAK				IAmb	IAmb	16 02 06.2	
	comp=Z,29nm,1.4s						

NEIC ***26*** *16:02:49.0±2.6, 30.10°S±0.05°×177.6°W±0.1, h6km±1km, mb4.6/32, Error ellipse: s-maj=16.6km s-min=6.1km az=73.0*
IDC ***26*** *16:02:49.1±0.7, 29.86°S×177.56°W, h0km, mb4.2/12, mb1 4.4/13, mb1mx4.2/41, mbtmp4.2/13, ML4.6/1, MS3.7/9, Ms1 3.7/9, ms1mx3.5/28, Error ellipse: s-maj=24.0km s-min=13.1km az=77.0*
ISC 26 16:02:52.7±0.5, 30.02°S±0.04°×177.51°W±0.09, h35km, n119, σ2§01/115, mb4.4/19, MS3.9/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**0.84**	**335**	P	**Pn**	**16 03 06.3**	**-1.7**
GLKZ				S	**Sn**	**16 03 18.0**	**-1.1**
RAO	**Raoul Island**	**0.85**	**335**	Pn	**Pn**	**16 03 06.0**	**-2.1**
	2µm,0.3s,baz=86,slow=10.0,SNR=43						
RAO				Sn	**Sn**	**16 03 18.4**	**-0.9**
	4µm,0.3s,baz=118,slow=22,SNR=10						
RAO	**Raoul Island**	**0.85**	**335**		**Pn**	**16 03 06.6**	**-1.5**
RIZ	**Raoul Island**	**0.86**	**335**	P	**Pn**	**16 03 06.6**	**-1.7**
RIZ				S	**Sn**	**16 03 18.3**	**-1.3**
WMGZ	**Waiomatatini S**	**8.48**	**202**	P	**Pn**	**16 04 52.2**	**-0.8**
WMGZ				S	**Sn**	**16 06 27.9**	**+0.5**
HAZ	**Te Kaha**	**8.65**	**206**	P	**Pn**	**16 04 54.7**	**-0.6**
HAZ				S	**Sn**	**16 06 33.9**	**+2.4**
PKGZ	**Pakihiroa**	**8.66**	**204**	P	**Pn**	**16 04 54.5**	**-1.0**
PKGZ				S	**Sn**	**16 06 31.1**	**-0.8**
PUZ	**Puketiti**	**8.76**	**202**	P	**Pn**	**16 04 55.2**	**-1.6**
PUZ				S	**Sn**	**16 06 33.6**	**-0.8**
TWGZ	**Tauwhareparae**	**8.95**	**203**	P	**Pn**	**16 04 58.1**	**-1.4**
TWGZ				S	**Sn**	**16 06 41.2**	**+2.1**
WCZ	**Waipu Caves**	**9.03**	**227**	P	Pn	16 05 12.3	+12
OUZ	**Omahuta**	**9.11**	**233**	P	Pn	16 05 10.3	+8.6
OUZ	**Omahuta**	**9.11**	**233**		Pn	16 05 10.1	+8.4
MWZ	**Matawai**	**9.25**	**205**	P	**Pn**	**16 05 01.7**	**-1.9**
MWZ				S	**Sn**	**16 06 46.2**	**+0.1**
RIGZ	**Rimuhau**	**9.50**	**203**	S	**Sn**	**16 06 49.2**	**-3.4**
MUGZ	**Murupara**	**9.67**	**208**	P	**Pn**	**16 05 06.0**	**-3.3**
MUGZ				S	**Sn**	**16 06 57.4**	**+0.7**
MTHZ	**Maungataniwha**	**9.96**	**206**	P	**Pn**	**16 05 11.4**	**-2.0**
MTHZ				S	**Sn**	**16 07 04.1**	**+0.1**
BKZ	**Black Stump Fm**	**10.37**	**207**	Pn	**Pn**	**16 05 16.7**	**-2.3**
HIZ	**Hauiti**	**10.56**	**215**	Pn	**Pn**	**16 05 18.8**	**-2.7**
BFZ	**Birch Farm**	**11.79**	**204**	Pn	**Pn**	**16 05 36.6**	**-1.7**

OGWZ	**Otaki Gorge**	**12.31**	**207**	P	**Pn**	16 05 45.0	-0.4
OGWZ				S	**Sn**	16 07 54.1	-7.2
MSWZ	**Moikau Station**	**12.79**	**205**	Pn	Pn	16 05 47.2	-4.8
NIUE	**Niue**	**12.89**	**34**	Pn	Pn	16 05 46.5	-7.0
SNZO	**South Karori**	**12.91**	**207**	Pn	**Pn**	16 05 50.7	-2.9
BHW	**Baring Head**	**12.93**	**206**	Pn	**Pn**	16 05 51.3	-2.5
TUWZ	**Tuamarina**	**13.32**	**209**	P	**Pn**	16 05 56.7	-2.5
TUWZ	**Tuamarina**	**13.32**	**209**	Pn	**Pn**	16 05 55.5	-3.7
NNZ	**Nelson**	**13.39**	**211**	P	**Pn**	16 06 01.5	+1.3
NNZ	**Nelson**	**13.39**	**211**	Pn	**Pn**	16 05 59.2	-1.0
CMWZ	**Cape Campbell**	**13.48**	**208**	Pn	**Pn**	16 06 02.6	+1.2
QRZ	**Quartz Range**	**13.48**	**214**	Pn	**Pn**	16 06 00.4	-1.1
BSWZ	**Blackbirch Sta**	**13.59**	**209**	Pn	**Pn**	16 06 02.0	-0.8
THZ	**Tophouse**	**14.04**	**211**	P	**P**	16 06 12.3	-4.2
THZ	**Tophouse**	**14.04**	**211**	Pn	**Pn**	16 06 05.1	-4.0
KHZ	**Kahutara**	**14.31**	**208**	P	Pn	16 06 07.8	-4.9
KHZ	**Kahutara**	**14.31**	**208**	Pn	Pn	16 06 07.3	-5.4
DSZ	**Denniston Nort**	**14.54**	**214**	P	**P**	16 06 20.5	-1.5
GVZ	**Greta Valley S**	**14.97**	**208**	P	**Pn**	16 06 20.8	-0.9
LTZ	**Lake Taylor**	**15.14**	**210**	P	**Pn**	16 06 22.9	-1.1
LTZ	**Lake Taylor**	**15.14**	**210**	Pn	**Pn**	16 06 20.4	-3.5
LTZ				IAmb	IAmb	16 06 56.4	
	comp=Z,25nm,1.3s						
AMCZ	**Amberley**	**15.30**	**208**	P	**P**	16 06 29.4	-1.0
INZ	**Inchbonnie**	**15.47**	**212**	P	**Pn**	16 06 28.4	+0.2
OKCZ	**Okains Bay**	**15.60**	**206**	P	**P**	16 06 35.4	+1.7
OXZ	**Oxford**	**15.68**	**209**	P	**P**	16 06 32.8	-1.9
OXZ	**Oxford**	**15.68**	**209**	Pn	**Pn**	16 06 27.7	-3.2
OXZ				IAmb	IAmb	16 06 36.3	
	comp=Z,30nm,1.1s						
MQZ	**McQueen's Vall**	**15.74**	**207**	P	**Pn**	16 06 29.3	-2.4
MQZ	**McQueen's Vall**	**15.74**	**207**	Pn	**Pn**	16 06 28.1	-3.6
MQZ				IAmb	IAmb	16 06 58.3	
	comp=Z,60nm,1.6s						
RPZ	**Rata Peaks**	**16.42**	**211**	Pn	**P**	16 06 41.4	-1.5
	comp=Z,2.0nm,0.3s,baz=340,slow=1.6,SNR=8.5						
RPZ	**Rata Peaks**	**16.42**	**211**	P	**P**	16 06 42.5	-0.4
RPZ	**Rata Peaks**	**16.42**	**211**	P	**P**	16 06 40.7	-2.1
RPZ				IAmb	IAmb	16 06 46.6	
	comp=Z,75nm,1.7s						
DZM	**Mont Dzuma**	**16.44**	**295**	LR	LR	16 12 01.4	
	comp=Z,329nm,18.5s,baz=153,slow=34						
FOZ	**Fox Glacier**	**16.85**	**213**	Pn	**Pn**	16 06 43.1	-2.7
FOZ				IAmb	IAmb	16 07 15.4	
	comp=Z,104nm,1.4s						
LBZ	**Lake Benmore**	**17.34**	**211**	Pn	**Pn**	16 06 49.5	-2.3
LBZ				IAmb	IAmb	16 06 52.3	
	comp=Z,90nm,1.6s						
ODZ	**Otahua Downs**	**17.66**	**209**	Pn	**Pn**	16 06 53.2	-2.6
WKZ	**Wanaka**	**18.21**	**212**	Pn	**Pn**	16 06 59.3	-3.3
RAR	**Rarotonga**	**18.23**	**65**	LR	LR	16 14 14.7	
	comp=Z,95nm,18.0s,baz=222,slow=38						
RAR	**Rarotonga**	**18.23**	**65**	Pn	**P**	16 06 58.5	-4.4
MLZ	**Mavora Lakes**	**19.03**	**212**		**P**	16 07 10.1	-1.5
MLZ				IAmb	IAmb	16 07 13.3	
	comp=Z,43nm,1.5s						
WHZ	**Wether Hill Ro**	**19.51**	**212**	P	**P**	16 07 15.1	-1.7
ARMA	**Armidale**	**26.63**	**261**	P	**P**	16 08 32.8	+4.5
ARMA				IAmb	IAmb	16 08 38.7	
	comp=Z,11nm,1.1s						
KNTN	**Kanton**	**27.65**	**13**	P	**P**	16 08 36.0	-1.3
EIDS	**Eidsvold**	**28.14**	**272**	P	**P**	16 08 41.5	-0.2
EIDS				IAmb	IAmb	16 08 47.8	
	comp=Z,18nm,1.5s						
PPT	**Papeete**	**28.32**	**70**	LR	LR	16 17 05.1	
	comp=Z,80nm,20.7s,baz=197,slow=30						
CAN	**Canberra**	**28.60**	**251**	P	**P**	16 08 44.5	-1.2
CTAO	**Charters Tower**	**34.16**	**278**	P	**P**	16 09 36.0	+1.2
STKA	**Stephens Creek**	**34.98**	**256**	P	**P**	16 09 44.2	+2.5
	comp=Z,6.6nm,0.8s,baz=103,slow=13,SNR=7.4						
STKA				LR	LR	16 22 42.8	
	comp=Z,186nm,19.3s,baz=86,slow=34						
STKA	**Stephens Creek**	**34.98**	**256**	P	**P**	16 09 40.8	-0.9
BBOO	**Buckleboo**	**39.48**	**254**	P	**P**	16 10 20.4	+0.5
AS31	**Alice Springs**	**43.55**	**266**	P	**P**	16 10 55.2	+1.8
ASAR	**Alice Springs**	**43.55**	**266**	P	**P**	16 10 53.9	+0.5
	comp=Z,3.9nm,0.7s,baz=106,slow=7.5,SNR=53						
ASAR				LR	LR	16 27 29.3	
	comp=Z,227nm,20.0s,baz=174,slow=34						
ASAR	**Alice Springs**	**43.55**	**266**	P	**P**	16 10 53.4	0.0
WR0	**Warramunga Arr**	**44.33**	**272**	P	**P**	16 11 00.3	+0.7
WR0				IAmb	IAmb	16 11 15.5	
	comp=Z,5.8nm,0.8s						
WB2	**Warramunga Arr**	**44.50**	**272**	P	**P**	16 11 01.3	+0.3
WB2				IAmb	IAmb	16 11 15.8	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**44.51**	**272**	P	**P**	16 11 01.4	+0.3
	comp=Z,2.9nm,0.6s,baz=110,slow=8.1,SNR=18						
WRA	**Warramunga Arr**	**44.51**	**272**	P	**P**	16 10 58.8	-2.2
WB0	**Warramunga Arr**	**44.53**	**272**	P	**P**	16 11 01.1	-0.2
WB0				IAmb	IAmb	16 11 16.4	
	comp=Z,6.8nm,0.8s						
FORT	**Forrest**	**46.55**	**255**	P	**P**	16 11 16.7	-0.4
JAY	**Jayapura**	**48.11**	**297**	LR	LR	16 28 42.7	
	comp=Z,82nm,19.4s,baz=64,slow=32						
VNDA	**Vanda**	**48.51**	**186**	P	**P**	16 11 35.6	+3.9
	comp=Z,0.6nm,0.8s,baz=12,slow=7.1,SNR=6.4						
VNDA	**Vanda**	**48.51**	**186**	P	**P**	16 11 31.0	-0.6
FITZ	**Fitzroy Crossi**	**52.79**	**269**	P	**P**	16 12 05.3	+0.6
FITZ				IAmb	IAmb	16 12 30.2	
	comp=Z,20nm,1.6s						
CASY	**Casey**	**55.67**	**208**	P	**P**	16 12 25.9	+0.9
QSPA	**South Pole Qui**	**60.09**	**180**	P	**P**	16 12 59.3	+3.1
	comp=Z,1.4nm,0.8s,baz=330,slow=1.3,SNR=6.5						
QSPA	**South Pole Qui**	**60.09**	**180**	P	**P**	16 12 58.1	+1.9
QSPA				IAmb	IAmb	16 13 14.4	
	comp=Z,6.6nm,0.8s						
MAW	**Mawson**	**72.81**	**200**	P	**P**	16 14 19.6	+2.4
	comp=Z,2.5nm,0.7s,baz=125,slow=5.6,SNR=3.5						
MAW	**Mawson**	**72.81**	**200**	P	**P**	16 14 18.4	+1.2
MJAR	**Matsushiro Arr**	**78.18**	**325**	P	**P**	16 14 50.6	+2.2
	comp=Z,2.7nm,0.9s,baz=161,slow=4.9,SNR=6.0						
MJAR	**Matsushiro Arr**	**78.18**	**325**	P	**P**	16 14 49.7	+1.3
MAJO	**Matsushiro**	**78.18**	**325**	P	**P**	16 14 49.7	+1.3
MAJO				IAmb	IAmb	16 15 07.8	
	comp=Z,4.6nm,1.0s						
MJB9	**Matsu-Tunnel**	**78.18**	**325**	P	**P**	16 14 49.5	+1.0
MJB9				IAmb	IAmb	16 15 07.7	
	comp=Z,4.7nm,1.0s						
H03S2	**Juan Fernandez**	**80.32**	**123**	T	T	17 44 30.3	
	baz=239,slow=74,SNR=16						
H03S1	**Juan Fernandez**	**80.33**	**123**	T	T	17 44 29.3	
	baz=239,slow=74,SNR=13						
H03S3	**Juan Fernandez**	**80.33**	**123**	T	T	17 44 29.9	
	baz=239,slow=74,SNR=10						
KSRS	**Korea Array**	**84.34**	**319**	P	**P**	16 15 23.1	+2.1
	comp=Z,0.2nm,0.3s,baz=69,slow=5.8,SNR=4.3						
PETK	**Petropavlovsk-**	**85.56**	**345**	P	**P**	16 15 27.8	+1.0
	comp=Z,1.9nm,0.8s,baz=124,slow=8.9,SNR=1.1						
USRK	**Ussuriysk Ar.**	**87.08**	**326**	P	**P**	16 15 36.4	+1.9
	comp=Z,0.5nm,0.5s,baz=145,slow=37,SNR=4.5						
NVAR	**Mina Array Bea**	**87.67**	**42**	P	**P**	16 15 39.5	+1.6
	comp=Z,0.5nm,0.6s,baz=224,slow=8.5,SNR=4.8						
NVAR				LR	LR	16 50 21.4	
	comp=Z,56nm,18.3s,baz=194,slow=32						
NVAR	**Mina Array Bea**	**87.67**	**42**	P	**P**	16 15 38.9	+1.1
TXAR	**Lajitas Array**	**91.83**	**57**	LR	LR	16 48 00.3	
	comp=Z,28nm,21.4s,baz=0.0,slow=30						
PDAR	**Pinedale Array**	**95.57**	**43**	LR	LR	16 54 57.7	
	comp=Z,35nm,18.7s,baz=298,slow=33						
ILAR	**Eielson Array**	**97.47**	**13**	P	Pdif	16 16 24.5	+2.3
	comp=Z,0.3nm,0.6s,baz=249,slow=7.6,SNR=1.3						
ILAR	**Eielson Array**	**97.47**	**13**	P	Pdif	16 16 24.0	+1.8
KURK	**Kurchatov**	**121.10**	**314**		**PKiKP**	16 21 43.7	+2.3
KURBB	**Kurchatov Arra**	**121.14**	**314**	PKP	**PKiKP**	16 21 44.6	+3.1
	comp=Z,0.5nm,0.7s,baz=114,slow=2.2,SNR=5.8						
ARCES	**ARCESS Array B**	**138.31**	**348**	PKP	**PKPdf**	16 22 12.7	-0.6
	comp=Z,1.2nm,0.8s,baz=99,slow=25,SNR=5.0						
ARCES	**ARCESS Array B**	**138.31**	**348**	PKPdf	**PKiKP**	16 22 15.0	-0.4
FINES	**FINESS Array B**	**144.94**	**340**	PKP	**PKPbc**	16 22 24.4	-0.3
	comp=Z,2.3nm,0.5s,baz=58,slow=3.3,SNR=16						
FINES	**FINESS Array B**	**144.94**	**340**		**PKPbc**	16 22 23.6	-1.1
NB2	**NORSAR Subarra**	**148.44**	**352**	PKP	**PKPbc**	16 22 34.9	0.0
	comp=Z,12nm,1.4s,baz=18,slow=4.4						
NOA	**NORSAR Array B**	**148.44**	**352**	PKPbc	**PKPbc**	16 22 34.8	-0.2
	comp=Z,0.5nm,0.9s,baz=24,slow=17,SNR=2.2						
HFS	**Hagfors**	**148.96**	**349**	PKPbc	**PKiKP**	16 22 38.2	+0.7
	comp=Z,2.8nm,0.7s,baz=60,slow=4.1,SNR=7.7						
AKASG	**Malin Array Be**	**151.26**	**324**	PKPbc	**PKPbc**	16 22 41.3	-0.7
	comp=Z,0.6nm,0.4s,baz=47,slow=3.6,SNR=1.3						
AKASG	**Malin Array Be**	**151.26**	**324**		**PKPbc**	16 22 41.0	-1.1
MMAI	**Mount Meron Ar**	**151.85**	**285**	PKPbc	**PKiKP**	16 22 45.7	+1.2
	comp=Z,1.4nm,0.4s,baz=83,slow=7.0,SNR=7.2						
BRTR	**Keskin Array B**	**152.79**	**299**	PKPbc	**PKPbc**	16 22 46.0	-0.1
	comp=Z,0.3nm,0.6s,baz=37,slow=12,SNR=3.6						
BRTR	**Keskin Array B**	**152.79**	**299**		**PKPbc**	16 22 45.1	-1.0
GERES	**GERESS Array B**	**159.35**	**339**	PKPab	**PKPab**	16 23 24.1	-0.7
	comp=Z,0.2nm,0.3s,baz=156,slow=26,SNR=1.5						
GERES	**GERESS Array B**	**159.35**	**339**		**PKPab**	16 23 24.8	0.0
TORD	**Torodi Ar. Bea**	**163.19**	**177**	PKP	**PKPdf**	16 22 52.9	+0.7
	comp=Z,0.4nm,0.7s,baz=124,slow=37,SNR=1.8						
TORD				PKPab	**PKPab**	16 23 44.4	+2.2
	comp=Z,0.2nm,0.3s,baz=100,slow=38,SNR=1.8						
TORD	**Torodi Ar. Bea**	**163.19**	**177**		**PKPdf**	16 22 51.9	-0.3
TORD					**PKPab**	16 23 43.7	+1.5

*MOS **26** 16:09:52.8±0.9, 52.˚15N×178.˚33E, h122km, mb4.3/43, Error ellipse: s-maj=7.7km s-min=7.2km az=128.9*
*NEIC **26** 16:09:53.9±1.7, 52.˚02N±0.˚08×178.˚29E±0.˚08, h123km±4km, mb4.4/184, ML3.8/39(AEIC), Error ellipse: s-maj=11.5km s-min=6.8km az=183.0*
*AEIC **26** 16:09:54.1±1.9, 51.˚91N±0.˚08×178.˚24E±0.˚07, h120km±4km, Error ellipse: s-maj=11.2km s-min=6.6km az=184.0*
*IDC **26** 16:09:55.0±2.0, 52.˚07N×178.˚32E, h127km±18km, mb3.9/30, mb1 4.1/31, mb1mx3.9/69, mbtmp4.3/31, MS3.0/4, Ms1 3.0/4, ms1mx2.8/58, Error ellipse: s-maj=13.3km s-min=8.2km az=165.0*

ISC 26 16:09:53.8±0.5, 52.˚02N±0.˚06×178.˚28E±0.˚03, h119km±4km, n393,σ1s01/418, mb4.4/128, 9C-5D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.16**	**109**				**Pn**	**16 10 10.0**	**-0.2**
LSSA	**Little Sitkin**	**0.16**	**117**				**Pn**	**16 10 10.0**	**-0.2**
LSPA	**Little Sitkin**	**0.19**	**110**				**Pn**	**16 10 10.0**	**-0.3**
LSPA							**Sn**	**16 10 23.4**	**+0.8**
CETU	**Semis' Tuman**	**0.75**	**94**				**Pn**	**16 10 13.6**	**+0.2**
CEAP	**Semis' Anvil P**	**0.80**	**91**				**Pn**	**16 10 14.1**	**+0.3**
CEAP							**Sn**	**16 10 29.5**	**+0.6**
CESW	**Semis' Southwe**	**0.80**	**98**				**Pn**	**16 10 13.5**	**-0.3**
CERB	**Semis' Cerberu**	**0.84**	**96**				**Pn**	**16 10 14.5**	**+0.4**
CERAA	**Semis' Rag'd T**	**0.88**	**97**				**Pn**	**16 10 14.4**	**-0.1**
AMKA	**Amchitka**	**0.91**	**135**	Pn			**Pn**	**16 10 15.9**	**+1.1**
AMKA							**Sn**	**16 10 31.0**	**+0.5**
GALAA	**Gareloi Lava P**	**1.85**	**97**				**Pn**	**16 10 24.9**	**-0.3**
GAEA	**Gareloi East**	**1.86**	**96**				**Pn**	**16 10 25.3**	**0.0**
TASE	**Tanaga Southea**	**2.29**	**93**				**Pn**	**16 10 30.4**	**-0.4**
TAFP	**Tanaga Falls P**	**2.32**	**92**				**Pn**	**16 10 30.6**	**-0.5**
TAFP							**Sn**	**16 10 59.1**	**-0.7**
TAPA	**Tanaga Point A**	**2.43**	**93**				**Pn**	**16 10 32.3**	**-0.3**
SMY	**Shemya**	**2.66**	**287**	P			**Pn**	**16 10 34.8**	**-0.7**
SMY								16 11 07.0	
SMY	**Shemya**	**2.66**	**287**				**Pn**	**16 10 34.8**	**-0.7**
SMY							**Sn**	**16 11 07.0**	**-0.6**
KIMD	**Kanaga Island**	**2.79**	**94**				**Pn**	**16 10 36.6**	**-0.6**
KIMD							**Sn**	**16 11 10.3**	**-0.4**
KICM	**Kanaga Island**	**2.80**	**90**				**Pn**	**16 10 37.0**	**-0.3**
KIKV	**Kanaga Island**	**2.82**	**91**				**Pn**	**16 10 37.0**	**-0.6**
ADK	**Adak**	**3.12**	**91**	P			**Pn**	**16 10 40.5**	**-1.0**
ADK								16 11 17.4	
ADK	**Adak**	**3.12**	**91**				**Pn**	**16 10 40.5**	**-1.0**
ADK						Sn	**Sn**	**16 11 17.4**	**-1.0**
GSTD	**Great Sitkin T**	**3.44**	**87**				**Pn**	**16 10 44.7**	**-1.2**
GSTD							**Sn**	**16 11 24.4**	**-1.7**
GSTR	**Great Sitkin T**	**3.50**	**87**				**Pn**	**16 10 45.9**	**-0.6**
GSMY	**Great Sitkin M**	**3.50**	**87**				**Pn**	**16 10 45.8**	**-0.8**
ATKA	**Atka Island**	**4.64**	**85**				**Pn**	**16 11 01.1**	**-0.7**
ATKA							**Sn**	**16 11 54.7**	**0.0**
KOFP	**Korovin Flat P**	**4.70**	**84**				**Pn**	**16 11 03.1**	**+0.4**
KOSE	**Korovin Southe**	**4.73**	**83**				**Pn**	**16 11 03.2**	**+0.1**
NIKH	**Nikolski High**	**7.91**	**78**				**Pn**	**16 11 46.3**	**+0.4**
OKCE	**Okmok Cone E**	**8.35**	**75**				**Pn**	**16 11 52.8**	**+0.9**
SPIA	**Saint Paul Isl**	**8.42**	**48**	Pn			**Pn**	**16 11 55.1**	**+2.4**
MSW	**Makushin Switc**	**9.21**	**72**				**Pn**	**16 12 04.5**	**+0.9**
UNV	**Unalaska Valle**	**9.37**	**73**	Pn			**Pn**	**16 12 06.8**	**+1.2**
AKUT	**Akutan**	**9.83**	**71**				**Pn**	**16 12 13.8**	**+2.0**
PET	**Petropavlovsk**	**12.00**	**283**	*e*P			**Pn**	**16 12 39.8**	**-0.9**
PET				*e*S			**Sn**	**16 14 48.2**	**-4.4**
PET				MLR			MLR		
	comp=Z,100nm,17.0s								
PET	**Petropavlovsk**	**12.00**	**283**	Pn			**Pn**	**16 12 40.8**	**+0.1**
PEA0B	**Petropavlovsk-**	**12.57**	**283**	P			**Pn**	**16 12 48.9**	**+0.7**
PEA0B	**Petropavlovsk-**	**12.57**	**283**				**Pn**	**16 12 48.9**	**+0.7**
PETK	**Petropavlovsk-**	**12.57**	**283**	P			**Pn**	**16 12 48.9**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=98,slow=18,SNR=34								
PETK				S			**Sn**	**16 15 01.2**	**-5.2**
	comp=Z,0.6nm,0.3s,baz=94,slow=38,SNR=2.2								
PETK				LR			LR	16 17 45.5	
	comp=Z,19nm,18.5s,baz=61,slow=37								
PETK	**Petropavlovsk-**	**12.57**	**283**				**Pn**	**16 12 49.0**	**+0.8**
GAMB	**Gambell**	**12.91**	**20**	Pn			**Pn**	**16 12 53.0**	**+0.5**
SDPT	**Sand Point**	**13.01**	**67**	Pn			**Pn**	**16 12 52.5**	**-1.4**
CNBA	**Chernabura Isl**	**13.48**	**69**	Pn			**Pn**	**16 12 57.0**	**-3.1**
SKR	**Severo-Kuril's**	**13.91**	**273**	*i* P			**Pn**	**16 13 07.3**	**+1.7**
CHIR	**Chirikof Islan**	**15.80**	**66**	Pn			**Pn**	**16 13 28.4**	**-0.9**
SII	**Sitkinak Islan**	**16.64**	**63**	Pn			**Pn**	**16 13 37.6**	**-2.2**
SVW2	**Sparrevohn**	**16.92**	**47**				**P**	**16 13 43.8**	**+0.7**
SVW2				IAmb			IAmb	16 13 51.2	
	comp=Z,19nm,0.9s								
OHAK	**Old Harbor**	**17.19**	**61**	P			**P**	**16 13 43.7**	**-2.4**
OHAK				IAmb			IAmb	16 13 59.5	
	comp=Z,49nm,1.4s								
KDAK	**Kodiak Island**	**17.63**	**59**	P			**P**	**16 13 48.6**	**-2.3**
	comp=Z,3.1nm,0.3s,baz=192,slow=2.5,SNR=32								
KDAK				LR			LR	16 19 36.7	
	comp=Z,89nm,21.2s,baz=296,slow=33								
KDAK	**Kodiak Island**	**17.63**	**59**	P			**P**	**16 13 49.0**	**-1.9**
KDAK				pmax			pmax		
	comp=Z,68nm,1.6s								
KDAK	**Kodiak Island**	**17.63**	**59**				**P**	**16 13 49.0**	**-1.9**
RSO	**Redoubt South**	**18.05**	**51**	P			**Pn**	**16 13 57.8**	**+0.9**
CNPM	**China Poot**	**18.58**	**54**	P			**P**	**16 14 01.5**	**+0.1**
BRLK	**Bradley Lake**	**18.80**	**54**	P			**P**	**16 14 03.2**	**-0.6**
SKT	**Skwentna**	**19.04**	**47**	P			**Pn**	**16 14 07.9**	**-0.5**
PPLA	**Purkeypile**	**19.06**	**44**				**Pn**	**16 14 08.7**	**0.0**
PPLA				IAmb			IAmb	16 14 13.4	
	comp=Z,21nm,1.0s								
SUA	**Susitna One**	**19.25**	**49**	P			**P**	**16 14 08.9**	**+0.2**
SUA				IAmb			IAmb	16 14 13.7	
	comp=Z,18nm,0.6s								
SEW	**Seward**	**19.57**	**53**	P			**P**	**16 14 11.5**	**-0.5**
BPAW	**Bear Paw Mtn.**	**20.01**	**41**				**P**	**16 14 17.8**	**+1.0**
BPAW				IAmb			IAmb	16 14 21.4	
	comp=Z,14nm,1.1s								
TRF	**Thorofare Moun**	**20.06**	**43**				**P**	**16 14 18.1**	**+0.6**
TRF				IAmb			IAmb	16 14 21.2	
	comp=Z,16nm,0.7s								
GHO	**Glory Hole Cre**	**20.17**	**48**	P			**P**	**16 14 18.7**	**+0.1**
GHO				IAmb			IAmb	16 14 21.2	
	comp=Z,17nm,0.6s								
KNK	**Knik Glacier**	**20.31**	**49**	P			**P**	**16 14 20.4**	**+0.3**
KNK				IAmb			IAmb	16 14 23.1	
	comp=Z,20nm,0.7s								
SML	**Sawmill**	**20.46**	**48**	P			**P**	**16 14 22.1**	**+0.5**
SML				IAmb			IAmb	16 14 25.0	
	comp=Z,32nm,1.0s								
RND	**Reindeer**	**20.66**	**44**	P			**P**	**16 14 22.3**	**-1.5**
RND				pmax			pmax		
	comp=Z,6.0nm,0.6s								
RND	**Reindeer**	**20.66**	**44**	P			**P**	**16 14 22.3**	**-1.5**
MCK	**McKinley**	**20.73**	**43**	P			**P**	**16 14 24.7**	**+0.2**
MCK				pmax			pmax		
	comp=Z,13nm,1.0s								
MCK	**McKinley**	**20.73**	**43**	P			**P**	**16 14 24.7**	**+0.2**
MCK				IAmb			IAmb	16 14 55.2	
	comp=Z,13nm,1.0s								
GLI	**Glacier Island**	**20.86**	**51**	P			**P**	**16 14 25.5**	**-0.4**
GLI				IAmb			IAmb	16 14 28.1	
	comp=Z,23nm,0.8s								
SCM	**Sheep Creek Mo**	**20.93**	**49**	P			**P**	**16 14 26.5**	**-0.2**
SCM				pmax			pmax		
	comp=Z,23nm,1.0s								
SCM	**Sheep Creek Mo**	**20.93**	**49**	P			**P**	**16 14 26.5**	**-0.2**
SCM				IAmb			IAmb	16 14 28.9	
	comp=Z,23nm,1.0s								
FID	**Port Fidalgo**	**21.13**	**52**	P			**P**	**16 14 26.3**	**-2.6**
FID				IAmb			IAmb	16 14 31.2	
	comp=Z,23nm,0.9s								
DHY	**Denali Highway**	**21.20**	**45**	P			**P**	**16 14 29.8**	**0.0**
DHY				IAmb			IAmb	16 14 32.3	
	comp=Z,19nm,0.6s								
WRH	**Wood River Hil**	**21.32**	**41**	P			**P**	**16 14 29.7**	**-1.1**
MDM	**Murphy Dome**	**21.44**	**40**	P			**P**	**16 14 32.3**	**+0.2**
CCB	**Clear Creek Bu**	**21.50**	**41**	P			**P**	**16 14 31.9**	**-0.9**

COLA	**College**	**21.56**	**40**	*i* P		**P**	**16 14 33.5**	**+0.2**
COLA				pmax		pmax		
	comp=Z,7.0nm,0.9s							
COLA	**College**	**21.56**	**40**	P		**P**	**16 14 32.5**	**-0.9**
HDA	**Harding Lake**	**21.77**	**42**	P		**P**	**16 14 35.3**	**-0.3**
HDA				IAmb		IAmb	16 14 36.9	
	comp=Z,7.9nm,0.6s							
IL31		**21.91**	**41**	P		**P**	**16 14 36.5**	**-0.5**
ILAR	**Eielson Array**	**21.91**	**41**	P		**P**	**16 14 36.8**	**-0.4**
	comp=Z,1.5nm,0.4s,baz=245,slow=8.3,SNR=22							
ILAR				ScP		**ScP**	**16 21 54.9**	**-2.3**
	comp=Z,1.0nm,0.7s,baz=278,slow=3.3,SNR=7.7							
ILAR				LR		LR	16 23 42.7	
	comp=Z,51nm,19.1s,baz=309,slow=38							
ILAR	**Eielson Array**	**21.91**	**41**	P		**P**	**16 14 36.5**	**-0.6**
ILAR						**ScP**	**16 21 54.4**	**-2.8**
RAGM	**Ragged Mountai**	**21.97**	**53**	P		**P**	**16 14 38.6**	**+0.7**
RIDG	**Independent Ri**	**22.47**	**44**	P		**P**	**16 14 41.6**	**-1.3**
GLB	**Gilahina Butte**	**22.51**	**50**	P		**P**	**16 14 42.8**	**-0.6**
GLB				IAmb		IAmb	16 14 46.7	
	comp=Z,10.0nm,0.8s							
TOLK	**Toolik Lake Re**	**22.59**	**30**	P		**P**	**16 14 43.1**	**-1.0**
TOLK				IAmb		IAmb	16 15 12.1	
	comp=Z,13nm,0.9s							
VRDI	**Verde Repeater**	**22.66**	**51**	P		**P**	**16 14 43.9**	**-1.1**
PRP	**Porcupine Dome**	**22.70**	**40**	P		**P**	**16 14 44.7**	**-0.5**
CRQM	**Cirque**	**22.76**	**52**	P		**P**	**16 14 45.3**	**-0.7**
DOT	**Dot Lake**	**22.79**	**45**	P		**P**	**16 14 45.0**	**-1.1**
DOT				IAmb		IAmb	16 14 47.2	
	comp=Z,11nm,0.8s							
WAX	**Waxell Ridge**	**22.88**	**53**	P		**P**	**16 14 45.6**	**-1.4**
MCARA	**McCarthy VSAT**	**22.88**	**51**	P		**P**	**16 14 45.9**	**-1.0**
MCARA				IAmb		IAmb	16 14 56.8	
	comp=Z,18nm,0.7s							
TGL	**Tana Glacier**	**22.91**	**52**	P		**P**	**16 14 47.3**	**0.0**
TGL				IAmb		IAmb	16 14 57.6	
	comp=Z,32nm,1.4s							
BALM	**Baldy**	**23.17**	**52**	P		**P**	**16 14 49.6**	**-0.1**
BALM				IAmb		IAmb	16 14 51.2	
	comp=Z,8.1nm,0.6s							
FYU	**Fort Yukon**	**23.17**	**37**	P		**P**	**16 14 49.2**	**-0.4**
FYU				IAmb		IAmb	16 15 19.4	
	comp=Z,15nm,1.0s							
YAH	**Yahtse**	**23.42**	**53**	P		**

NEW Newport 40.35 69 P **P** 16 17 18.5 -1.0
NEW pmax pmax
comp=Z,6.0nm,0.6s
NEW Newport 40.35 69 P **P** 16 17 18.5 -1.0
NEW IAmb IAmb 16 17 19.8
comp=Z,6.0nm,0.6s
KHMM Horse Mountain 40.45 82 P **P** 16 17 20.6 0.0
PINE Pine Mountain 40.48 77 P **P** 16 17 21.3 +0.5
YBH Yreka Blue Hor 40.58 81 P **P** 16 17 22.4 +0.9
comp=Z,3.9nm,0.9s,baz=334,slow=5.1,SNR=7.7
YBH Yreka Blue Hor 40.58 81 P **P** 16 17 22.2 +0.7
YBH pmax pmax
comp=Z,5.0nm,1.0s
YBH Yreka Blue Hor 40.58 81 P **P** 16 17 22.2 +0.7
YBH IAmb IAmb 16 17 23.4
comp=Z,5.0nm,1.0s
KMRM Mail Ridge 40.86 83 P **P** 16 17 25.4 +1.6
KMRM IAmb IAmb 16 17 32.6
comp=Z,18nm,1.3s
K05A Summer Lake 41.11 78 P **P** 16 17 26.7 +0.7
K05A IAmb IAmb 16 17 29.6
comp=Z,10nm,1.3s
I07A Izee 41.18 76 P **P** 16 17 26.4 0.0
I07A IAmb IAmb 16 17 27.1
comp=Z,4.1nm,0.8s
KCPM Cahto Peak 41.26 84 P **P** 16 17 27.7 +0.6
KCPM IAmb IAmb 16 18 06.6
comp=Z,14nm,1.2s
WALA Waterton Lakes 41.78 66 P **P** 16 17 31.5 +0.1
WALA IAmb IAmb 16 17 31.9
comp=Z,8.0nm,0.8s
MOD Modoc Plateau 41.94 79 P **P** 16 17 33.0 +0.2
MOD IAmb IAmb 16 17 33.8
comp=Z,3.1nm,0.6s
BMO Blue Mountains 42.06 73 P **P** 16 17 32.9 -0.7
BMO pmax pmax
comp=Z,3.0nm,0.9s
BMO Blue Mountains 42.06 73 P **P** 16 17 32.9 -0.7
J08A Circle Bar Ran 42.20 76 P **P** 16 17 34.3 -0.5
GDXM Geysers 42.27 84 P **P** 16 17 35.8 +0.3
GDXM IAmb IAmb 16 17 37.5
comp=Z,5.3nm,0.9s
ORV Oroville 42.61 82 P **P** 16 17 37.4 -0.6
ORV pmax pmax
comp=Z,4.0nm,1.0s
ORV Oroville 42.61 82 P **P** 16 17 37.4 -0.6
MCCM Marconi Confer 42.63 85 P **P** 16 17 37.4 -0.8
WVOR Wild Horse Val 42.64 77 P **P** 16 17 37.7 -0.7
WVOR pmax pmax
comp=Z,3.0nm,0.9s
WVOR Wild Horse Val 42.64 77 P **P** 16 17 37.7 -0.7
MSO Missoula 42.94 69 P **P** 16 17 39.2 -1.5
AFDM Forest Hills D 43.31 83 P **P** 16 17 42.6 -1.1
MFID Camas Ranch 43.75 74 P **P** 16 17 45.7 -1.6
PAHR Pah Rah Range 43.81 81 P **P** 16 17 46.1 -1.8
PAHR IAmb IAmb 16 17 49.0
comp=Z,11nm,1.4s
KWAJ Kwajalein Atol 43.97 195 P **P** 16 17 47.0 -2.1
KWAJ Kwajalein Atol 43.97 195 P **P** 16 17 47.0 -2.1
PNTR Pine Nut 44.06 82 P **P** 16 17 50.8 +0.9
PNTR IAmb IAmb 16 17 51.4
comp=Z,12nm,1.0s
ULN Ulaanbaatar 44.34 294 *ce*P **P** 16 17 51.6 -0.4
ULN pmax pmax
comp=Z,1.0nm,0.4s
HLID Hailey 44.50 73 P **P** 16 17 52.4 -1.0
WAKR Walker 44.52 82 P **P** 16 17 53.9 +0.3
WAKR IAmb IAmb 16 17 54.6
comp=Z,4.2nm,0.5s
EGMT Eagleton 44.67 65 P **P** 16 17 52.9 -1.6
SONM Songino Array 44.73 295 P **P** 16 17 55.8 +0.7
comp=Z,2.3nm,0.5s,baz=64,slow=7.5,SNR=13
SONM PcP **PcP** 16 19 35.6 +0.4
comp=Z,1.4nm,0.5s,baz=51,slow=2.3,SNR=7.1
SONM Songino Array 44.73 295 P **P** 16 17 53.0 -2.0
SONM **PcP** 16 19 35.1 -0.1
BOZ Bozeman (W) 44.96 69 P **P** 16 17 55.2 -1.7
BOZ pmax pmax
comp=Z,5.0nm,0.9s
BOZ Bozeman (W) 44.96 69 P **P** 16 17 55.2 -1.7
BOZ IAmb IAmb 16 17 56.6
comp=Z,5.1nm,0.9s
KVN Kaiserville 45.00 81 P **P** 16 17 56.5 -0.9
KVN pmax pmax
comp=Z,9.0nm,1.4s
KVN Kaiserville 45.00 81 P **P** 16 17 56.5 -0.9
KVN IAmb IAmb 16 17 58.6
comp=Z,8.8nm,1.4s
RYN Ryan 45.01 81 P **P** 16 17 57.1 -0.3
RYN IAmb IAmb 16 17 58.3
comp=Z,4.8nm,0.5s
NVAR Mina Array Bea 45.26 81 P **P** 16 17 59.9 +0.4
comp=Z,1.9nm,0.5s,baz=296,slow=7.4,SNR=15
NVAR Mina Array Bea 45.26 81 P **P** 16 17 59.1 -0.4
NV11 Mina Array Sit 45.35 81 P **P** 16 17 59.8 -0.3
NV11 IAmb IAmb 16 18 01.5
comp=Z,9.1nm,1.4s
OMMB Old Mammoth Mi 45.35 83 P **P** 16 18 00.1 -0.2
YHL Hebgen Lake 45.65 70 P **P** 16 18 01.7 -0.8
ELK Elko 45.69 77 P **P** 16 18 02.3 -0.6
ELK pmax pmax
comp=Z,2.0nm,0.7s
ELK Elko 45.69 77 P **P** 16 18 02.2 -0.6
YHB Horse Butte 45.70 70 P **P** 16 18 02.1 -0.8
HHC Hu-ho-hao-te 45.77 283 *eP* **P** 16 18 04.0 +0.7
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,37nm,7.3s
PAGB Antelope Grade 45.80 86 P **P** 16 18 03.3 -0.2
IMW Indian Meadow 46.35 71 P **P** 16 18 06.9 -1.1
R11A Troy Canyon, C 46.97 80 P **P** 16 18 12.5 -0.3
NJ2 Nanjing 46.99 269 *eP* **P** 16 18 12.3 -0.5
NJ2 pmax pmax
comp=Z,8.0nm,0.9s
TPNV Topopah Spring 47.46 82 P **P** 16 18 17.0 +0.4
TPNV pmax pmax
comp=Z,6.0nm,0.9s
TPNV Topopah Spring 47.46 82 P **P** 16 18 17.0 +0.4
TPNV IAmb IAmb 16 18 17.6
comp=Z,6.4nm,0.9s
DUG Dugway, Tooele 47.48 76 P **P** 16 18 15.1 -1.6
DUG pmax pmax
comp=Z,4.0nm,1.0s
DUG Dugway, Tooele 47.48 76 P **P** 16 18 15.1 -1.6
BW06 Boulder Array 47.83 71 P **P** 16 18 18.7 -0.8
PD31 Pinedale Array 47.83 71 P **P** 16 18 18.9 -0.5
PDAR Pinedale Array 47.83 71 P **P** 16 18 18.6 -0.9
comp=Z,2.1nm,0.7s,baz=318,slow=4.0,SNR=17
PDAR PcP **PcP** 16 19 46.6 +0.2
comp=Z,0.1nm,0.3s,baz=342,slow=22,SNR=1.3
PDAR Pinedale Array 47.83 71 P **P** 16 18 18.2 -1.3
PSUT Pine Spring 47.90 78 P **P** 16 18 19.7 -0.3
GSC Goldstone, Bar 48.20 84 P **P** 16 18 21.6 -0.6
GSC pmax pmax
comp=Z,6.0nm,0.8s
GSC Goldstone, Bar 48.20 84 P **P** 16 18 21.6 -0.6
GSC IAmb IAmb 16 18 23.0
comp=Z,6.2nm,0.8s
TMUT Trail Mountain 49.01 76 P **P** 16 18 28.1 -0.6
P17A Butcher Ranch, 49.18 75 P **P** 16 18 29.1 -0.7
RDMU Red Mountain 49.18 73 P **P** 16 18 28.7 -1.1
MTPU Mount Pierson 49.23 78 P **P** 16 18 30.1 -0.2
LCMT Little Creek M 49.25 79 P **P** 16 18 29.6 -0.7
KNB Kanab 49.51 79 P **P** 16 18 31.4 -0.9
KNB pmax pmax
comp=Z,2.0nm,0.6s
KNB Kanab 49.51 79 P **P** 16 18 31.4 -0.9
SRU San Rafael Swe 49.54 75 P **P** 16 18 32.7 +0.2
SRU pmax pmax
comp=Z,3.0nm,0.5s
SRU San Rafael Swe 49.54 75 P **P** 16 18 32.7 +0.2
SPA0 Spitsbergen Ar 49.59 355 P **P** 16 18 31.9 -0.2
SPITS Spitsbergen Ar 49.59 355 P **P** 16 18 31.9 -0.2
comp=Z,4.7nm,0.5s,baz=51,slow=6.6,SNR=19
SPITS Spitsbergen Ar 49.59 355 P **P** 16 18 32.0 -0.2
RWWY Rawlins 49.87 71 P **P** 16 18 34.2 -0.8
BAR Barrett 50.03 86 P **P** 16 18 36.5 +0.4
BAR IAmb IAmb 16 18 50.0
comp=Z,14nm,1.5s
U15A North Rim 50.21 79 P **P** 16 18 38.0 +0.3
U15A IAmb IAmb 16 18 38.6
comp=Z,4.0nm,1.0s

WHN Wuhan 50.81 271 ⇑P **P** 16 18 42.5 +0.6
WHN pmax pmax
comp=Z,28nm,0.7s
PV21 Cone Mtn., Par 50.82 75 P **P** 16 18 41.0 -1.2
PV21 IAmb IAmb 16 18 48.9
comp=Z,7.8nm,0.8s
PV04 Paradox Valley 50.97 75 P **P** 16 18 42.7 -0.6
PV04 IAmb IAmb 16 18 45.1
comp=Z,12nm,1.5s
PV11 David Mesa, Pa 51.05 75 P **P** 16 18 42.2 -1.7
PV11 IAmb IAmb 16 18 44.9
comp=Z,5.9nm,0.7s
PV18 Skein Mesa, Pa 51.06 75 P **P** 16 18 42.3 -1.7
PV18 IAmb IAmb 16 18 44.9
comp=Z,4.4nm,0.8s
PV03 Paradox Valley 51.09 75 P **P** 16 18 43.1 -1.1
PV03 IAmb IAmb 16 18 53.2
comp=Z,4.6nm,0.9s
PV13 Radium Mtn., P 51.17 75 P **P** 16 18 44.2 -0.6
PV02 Paradox Valley 51.19 75 P **P** 16 18 43.7 -1.3
PV02 IAmb IAmb 16 19 19.0
comp=Z,5.8nm,1.0s
PV15 Paradox Valley 51.26 75 P **P** 16 18 44.2 -1.3
PV15 IAmb IAmb 16 19 20.6
comp=Z,3.7nm,0.5s
PV01 Paradox Valley 51.34 75 P **P** 16 18 44.8 -1.3
PV01 IAmb IAmb 16 19 23.0
comp=Z,2.8nm,0.7s
SMCO Snowmass 51.61 73 P **P** 16 18 50.2 +1.9
SSLB Suanglung 51.62 260 P **P** 16 18 47.7 -0.4
ISCO Idaho Springs 52.01 72 P **P** 16 18 49.1 -2.0
ISCO pmax pmax
comp=Z,2.0nm,0.9s
ISCO Idaho Springs 52.01 72 P **P** 16 18 49.1 -2.0
AGMN Agassiz Nation 52.04 58 P **P** 16 18 49.2 -1.7
AGMN IAmb IAmb 16 18 51.0
comp=Z,5.7nm,1.1s
X16A Lo Mia Camp, P 52.07 81 P **P** 16 18 50.6 -0.9
TPUB Ta-pu 52.18 260 P **P** 16 18 52.8 +0.6
ZAA0 Zalesovo Array 52.26 312 PcP **PcP** 16 20 01.7 -0.4
ZALV Zalesovo Beam 52.26 312 P **P** 16 18 52.7 +0.3
comp=Z,0.6nm,0.3s,baz=71,slow=7.0,SNR=3.1
ZALV PcP **PcP** 16 20 02.0 0.0
comp=Z,3.3nm,0.8s,baz=44,slow=4.9,SNR=10.0
ZALV Zalesovo Beam 52.26 312 P **P** 16 18 53.6 +1.2
ZALV 16 20 02.2
ZALV Zalesovo Beam 52.26 312 P **P** 16 18 53.6 +1.2
ZALV PcP **PcP** 16 20 02.2 +0.1
S22A 4UR Ranch, Cre 52.63 74 P **P** 16 18 55.9 +0.1
KNMB Chin-men Tao 52.68 262 P **P** 16 18 55.4 -0.4
SUMG Summit 53.09 13 P **P** 16 18 58.7 -0.1
SUMG pmax pmax
comp=Z,25nm,1.5s
SUMG Summit 53.09 13 P **P** 16 18 58.7 -0.1
B35A Bob, Littlefor 53.11 56 P **P** 16 18 57.1 -1.7
B35A IAmb IAmb 16 18 58.0
comp=Z,3.0nm,0.9s
SDCO Great Sand Dun 53.42 73 P **P** 16 18 59.8 -1.8
LZH Lanzhou 53.46 284 ⇓P **P** 16 19 02.0 +0.3
LZH pP pwP 16 19 30.5 -1.2
LZH sP sP 16 19 44.3 +2.4
LZH pmax pmax
comp=Z,19nm,1.3s
LZH pmax pmax
comp=Z,76nm,6.5s
GTA Gaotai 53.64 290 ⇓P **P** 16 19 03.5 +0.6
GTA pP pP 16 19 26.0 -4.5
GTA sP sP 16 19 40.3 -3.2
GTA pmax pmax
comp=Z,9.0nm,0.8s
DGZ Jazzator, Alta 53.70 306 *i*P **P** 16 19 03.4 +0.2
DGZ pmax pmax
comp=Z,3.0nm,1.0s
ILULI Ilulissat 53.78 20 P **P** 16 19 02.4 -0.9
ILULI pmax pmax
comp=Z,44nm,1.6s
ILULI Ilulissat 53.78 20 P **P** 16 19 02.4 -0.9
TUC Tucson 53.91 82 P **P** 16 19 04.9 0.0
TUC pmax pmax
comp=Z,2.0nm,1.0s
TUC Tucson 53.91 82 P **P** 16 19 04.9 0.0
ENH Enshi 54.00 275 P **P** 16 19 04.6 -0.9
KSCO Kaye Shedlock' 54.27 70 P **P** 16 19 07.3 -0.2
T25A Trinidad 54.47 73 P **P** 16 19 08.5 -0.6
T25A IAmb IAmb 16 19 09.7
comp=Z,6.6nm,1.1s
EYMN Ely 54.52 56 P **P** 16 19 08.0 -1.0
EYMN IAmb IAmb 16 19 09.0
comp=Z,2.8nm,0.8s
E38A The Farm, Brul 55.37 57 P **P** 16 19 14.4 -0.8
121A Cookes Peak, D 55.58 80 P **P** 16 19 17.1 0.0
R32A Long Quarter, 56.93 68 P **P** 16 19 25.3 -1.1
ARCES ARCESS Array B 57.13 349 P **P** 16 19 27.1 -0.2
comp=Z,1.5nm,0.8s,baz=35,slow=8.1,SNR=7.2
ARCES ARCESS Array B 57.13 349 P **P** 16 19 26.2 -1.1
KURK Kurchatov 57.25 312 *ce*P **P** 16 19 28.1 -0.3
KURK pmax pmax
comp=Z,8.0nm,1.3s
KURK Kurchatov 57.25 312 P **P** 16 19 27.9 -0.5
KURK IAmb IAmb 16 19 29.4
comp=Z,5.9nm,0.9s
KURK **PcP** 16 20 20.2 -1.2
KURBB Kurchatov Arra 57.35 312 P **P** 16 19 29.1 0.0
comp=Z,4.8nm,0.5s,baz=42,slow=6.6,SNR=52
KURBB PcP **PcP** 16 20 22.1 +0.3
comp=Z,1.6nm,0.7s,baz=43,slow=4.2,SNR=6.6
WMQ Urumqi 57.46 301 *eP* **P** 16 19 32.5 +2.4
WMQ pmax pmax
comp=Z,15nm,0.7s
WMQ pmax pmax
comp=Z,37nm,4.5s
WMQ LR LR
comp=N,350nm,29.0s
WMQ LR LR
comp=E,580nm,28.9s
WMQ LR LR
comp=Z,150nm,21.1s
MNTX Cornudas Mount 57.62 79 P **P** 16 19 30.9 -0.5
E43A Lone Tree Farm 57.85 55 P **P** 16 19 32.1 -0.6
E43A IAmb IAmb 16 19 33.0
comp=Z,3.9nm,0.8s
MK31 Makanchi Array 58.20 306 P **P** 16 19 34.4 -0.8
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 58.20 306 P **P** 16 19 34.4 -0.8
MK31 IAmb IAmb 16 19 35.3
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 58.20 306 P **P** 16 19 34.6 -0.6
comp=Z,2.6nm,0.6s,baz=48,slow=6.5,SNR=35
MKAR Makanchi Array 58.20 306 P **P** 16 19 34.2 -0.9
MAKZ Makanchi 58.34 307 P **P** 16 19 35.2 -0.9
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 58.34 307 P **P** 16 19 35.2 -0.9
MAKZ IAmb IAmb 16 19 36.3
comp=Z,3.3nm,0.7s
E46A Sault Ste Mari 59.20 53 P **P** 16 19 41.6 -0.5
BRVK Borovoye 59.23 318 P **P** 16 19 42.3 +0.2
BRVK pmax pmax
comp=Z,6.0nm,0.6s
BRVK Borovoye 59.23 318 P **P** 16 19 42.3 +0.2
WMOK Wichita Mounta 59.43 72 P **P** 16 19 42.8 -1.1
WMOK pmax pmax
comp=Z,2.0nm,0.8s
WMOK Wichita Mounta 59.43 72 P **P** 16 19 42.8 -1.1
W35A Tecumseh 60.26 70 P **P** 16 19 48.7 -0.8
TX31 Lajitas Ar. Si 60.34 79 P **P** 16 19 49.6 -0.6
TX31 IAmb IAmb 16 19 50.8
comp=Z,6.8nm,1.0s
TX32 Lajitas Array 60.34 79 P **P** 16 19 50.0 -0.2
TXAR Lajitas Array 60.34 79 P **P** 16 19 50.1 -0.1
comp=Z,1.1nm,0.5s,baz=311,slow=5.2,SNR=14
TXAR Lajitas Array 60.34 79 P **P** 16 19 49.3 -0.9
SCHQ Schefferville 60.60 37 P **P** 16 19 51.2 -0.3
ARU Arti 61.08 327 *c i*P **P** 16 19 55.3 +0.6
ARU 16 20 35.0
ARU S **S** 16 28 08.3 +4.4
ARU SS **SS** 16 32 07.7 +3.1
ARU pmax pmax
comp=Z,9.0nm,0.8s
ARU Arti 61.08 327 P **P** 16 19 55.2 +0.6
KIRV Kirov 62.18 333 *eP* **P** 16 20 02.1 +0.1
SHLS Shalkode 62.19 305 *i*P **P** 16 20 01.5 -1.1
comp=Z,2.9nm,0.6s,baz=304

SHLS Shalkode 62.19 305 *i*P **P** 16 20 01.6 -0.9
KPKS Kokpek 62.36 306 *i*P **P** 16 20 03.3 -0.3
comp=Z,2.4nm,0.7s,baz=305
KPKS Kokpek 62.36 306 *di*P **P** 16 20 03.6 0.0
UZB Uzynbulak 62.42 305 *i*P **P** 16 20 03.4 -0.7
baz=305
KLMR Klimovskoe 62.73 339 *e*P **P** 16 20 05.7 +0.1
KLMR *e**SP **pwP** 16 20 38.7 +1.1
KLMR pmax pmax
comp=Z,9.0nm,1.4s
KLMR Klimovskoe 62.73 339 *e*P **P** 16 20 05.8 +0.1
KLMR AMP 16 20 07.9
comp=Z,9.0nm,1.4s
KLMR *es*P **pwP** 16 20 38.8 +1.1
KUU Kurty 63.21 308 *i*P **P** 16 20 07.6 -1.5
comp=Z,1.6nm,0.7s,baz=307
KUU Kurty 63.21 308 *e*P **P** 16 20 07.6 -1.5
MDOK Medeo 63.39 307 *i*P **P** 16 20 10.3 -0.2
baz=306
MDOK Medeo 63.39 307 *e*P **P** 16 20 10.3 -0.2
BTLS Baital 63.46 310 *i*P **P** 16 20 10.1 -0.7
baz=309
BTLS Baital 63.46 310 *i*P **P** 16 20 10.6 -0.2
MTBS Maitube 63.72 307 *e*P **P** 16 20 13.1 +0.5
baz=306
SLVN Son La 63.92 272 P **P** 16 20 14.9 +0.8
SLVN IAmb IAmb 16 20 15.9
comp=Z,7.8nm,1.3s
KDJ Kajisay 64.09 306 P **P** 16 20 15.1 -0.1
KDJ pmax pmax
comp=Z,5.0nm,0.9s
KDJ Kajisay 64.09 306 P **P** 16 20 15.1 -0.1
KDJ IAmb IAmb 16 20 16.4
comp=Z,4.8nm,0.9s
SGDS Sogindy 64.36 308 *i*P **P** 16 20 16.9 +0.2
baz=308
SGDS Sogindy 64.36 308 *di*P **P** 16 20 17.2 +0.4
BOOM Boomskoye usch 64.44 307 P **P** 16 20 17.6 +0.2
BOOM pmax pmax
comp=Z,3.0nm,0.7s
BOOM Boomskoye usch 64.44 307 P **P** 16 20 17.6 +0.2
BOOM IAmb IAmb 16 20 18.6
comp=Z,3.1nm,0.7s
HKT Hockley 64.59 73 P **P** 16 20 20.3 +2.0
HKT pmax pmax
comp=Z,14nm,1.6s
HKT Hockley 64.59 73 P **P** 16 20 20.3 +2.0
HKT IAmb IAmb 16 20 58.8
comp=Z,14nm,1.6s
FINES FINESS Array B 64.73 346 P **P** 16 20 17.5 -1.2
comp=Z,1.0nm,0.4s,baz=10,slow=7.8,SNR=9.9
FINES FINESS Array B 64.73 346 P **P** 16 20 17.3 -1.4
AAK Ala-Archa 65.04 308 *ce*P **P** 16 20 21.2 -0.1
AAK pmax pmax
comp=Z,7.0nm,1.7s
AAK Ala-Archa 65.04 308 P **P** 16 20 21.1 -0.2
AAK IAmb IAmb 16 20 22.3
comp=Z,3.7nm,0.5s
J56A Wolcott 65.08 51 P **P** 16 20 20.5 -0.8
LSA Lhasa 65.51 287 P **P** 16 20 25.7 +0.8
LSA pmax pmax
comp=Z,6.0nm,0.8s
LSA Lhasa 65.51 287 P **P** 16 20 25.7 +0.8
LSA IAmb IAmb 16 20 27.3
comp=Z,6.2nm,0.8s
L56A Greenwood 65.60 52 P **P** 16 20 24.6 -0.2
SIJI Sorong 65.83 233 P **P** 16 20 27.0 +0.6
comp=Z,27nm,0.7s,baz=30,slow=4.7,SNR=12
K58A Earlville 66.05 51 P **P** 16 20 27.4 -0.2
J59A Piesco 66.06 50 P **P** 16 20 27.0 -0.7
J59A IAmb IAmb 16 20 57.8
comp=Z,9.8nm,1.2s
ABKAR Akbulak array 66.31 321 P **P** 16 20 29.7 +0.6
ABKAR **PcP** 16 20 58.5 +0.4
KK31 Karatay Array 66.59 311 P **P** 16 20 31.0 -0.1
KK31 pmax pmax
comp=Z,4.0nm,0.7s
KK31 Karatay Array 66.59 311 P **P** 16 20 31.0 -0.1
KK31 IAmb IAmb 16 20 33.6
comp=Z,3.8nm,0.7s
KKAR Karatay Array 66.59 311 P **P** 16 20 30.8 -0.3
KKAR pmax pmax
comp=Z,4.0nm,0.7s
KKAR Karatay Array 66.59 311 P **P** 16 20 30.8 -0.3
KKAR IAmb IAmb 16 20 33.6
comp=Z,3.8nm,0.7s
KKAR Karatay Array 66.59 311 P **P** 16 20 31.0 -0.1
PMG Port Moresby 66.78 214 *ce*P **P** 16 20 36.2 +3.8
PMG pmax pmax
comp=Z,48nm,2.5s
NB2 NORSAR Subarra 66.81 353 P **P** 16 20 31.7 -0.4
comp=Z,0.7nm,0.7s,baz=7.5,slow=6.5
NOA NORSAR Array B 66.81 353 P **P** 16 20 31.8 -0.4
comp=Z,0.3nm,0.6s,baz=2.3,slow=5.7,SNR=4.1
IUG luzhnay 67.56 310 *i*P **P** 16 20 37.6 +0.4
baz=310
IUG luzhnay 67.56 310 ⇓*i*P **P** 16 20 37.2 -0.1
CHM Chimkent 67.63 311 *i*P **P** 16 20 37.8 +0.2
baz=310
CHM Chimkent 67.63 311 *e*P **P** 16 20 37.6 0.0
OBN Obninsk 68.60 338 *e*P **P** 16 20 42.8 -0.6
OBN *e*PP **pP** 16 21 13.0 +1.0
OBN *e* 16 23 18.1
OBN pmax pmax
comp=Z,3.0nm,1.0s
BTK Batken 68.80 308 P **P** 16 20 44.4 -0.6
BTK pmax pmax
comp=Z,5.0nm,0.8s
BTK Batken 68.80 308 P **P** 16 20 44.4 -0.6
BTK IAmb IAmb 16 20 46.5
comp=Z,5.4nm,0.8s
CMAR Chiang Mai Arr 69.15 273 P **P** 16 20 47.6 +0.3
comp=Z,1.9nm,0.6s,baz=24,slow=7.4,SNR=14
CMAR Chiang Mai Arr 69.15 273 P **P** 16 20 47.4 +0.1
TAPN Taplejung 69.28 288 *eP* **P** 16 20 49.1 +0.7
comp=Z,25nm,0.7s
ODAN Odare 69.83 288 *eP* **P** 16 20 52.2 +0.4
comp=Z,16nm,0.8s
GAR Garm 69.86 308 P **P** 16 20 52.1 +0.5
GUN Gumba 69.93 290 *eP* **P** 16 20 53.3 +0.8
comp=Z,46nm,0.5s
JIRN Jiri 69.94 289 *eP* **P** 16 20 53.5 +1.0
comp=Z,58nm,0.7s
RAMN Ramite 70.23 289 *eP* **P** 16 20 54.8 +0.6
comp=Z,37nm,0.6s
KKN Kakani 70.37 290 *eP* **P** 16 20 55.7 +0.7
comp=Z,24nm,0.6s
PKI Pulchoki 70.46 290 *eP* **P** 16 20 56.1 +0.4
comp=Z,26nm,0.6s
PKIN Phulchoki 70.46 290 *eP* **P** 16 20 56.1 +0.5
comp=Z,26nm,0.5s
GKN Gorkha 70.58 291 *eP* **P** 16 20 56.8 +0.6
comp=Z,38nm,0.8s
DMN Daman 70.60 290 *eP* **P** 16 20 57.3 +0.8
comp=Z,22nm,0.9s
CHGR Chuyangaron 70.69 308 P **P** 16 20 57.0 +0.4
DANN Dangsing 70.82 292 *eP* **P** 16 20 58.5 +0.7
comp=Z,38nm,0.7s
KOLN Koldanda 71.35 291 *eP* **P** 16 21 01.4 +0.5
comp=Z,22nm,0.8s
PYUN Piuthan 71.45 292 *eP* **P** 16 21 02.1 +0.6
comp=Z,40nm,0.9s
KBL Kabul 74.00 306 P **P** 16 21 16.1 -0.4
KBL pmax pmax
comp=Z,7.0nm,0.8s
KBL Kabul 74.00 306 P **P** 16 21 16.1 -0.4
KBL IAmb IAmb 16 21 16.8
comp=Z,6.5nm,0.8s
AKASG Malin Array Be 74.35 340 P **P** 16 21 18.4 +0.5
comp=Z,4.3nm,0.5s,baz=22,slow=6.2,SNR=19
AKASG Malin Array Be 74.35 340 P **P** 16 21 18.3 +0.3
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 74.35 340 P **P** 16 21 18.3 +0.3
CLL Collm 76.29 351 *eP* **P** 16 21 28.0 -1.1
GEYT Alibeck 76.36 315 P **P** 16 21 30.9 +1.1
comp=Z,1.9nm,0.7s,baz=17,slow=6.5,SNR=5.1
GEYT Alibeck 76.36 315 P **P** 16 21 30.3 +0.5
KBZ Khabaz 77.13 329 P **P** 16 21 34.7 +0.8
comp=Z,1.7nm,0.7s,baz=84,slow=11,SNR=4.3
KBZ Khabaz 77.13 329 *ce*P **P** 16 21 34.8 +0.9
KBZ pmax pmax
comp=Z,3.0nm,1.0s
SHA1 Shidzhatmaz 77.20 329 *i*P **P** 16 21 34.7 +0.1
ZEI Tsey 77.64 327 *eP* **P** 16 21 36.7 -0.4

ZEI			pmax	pmax		
	comp=Z,9.0nm,0.4s					
BUR08	**Bucovina Ar. S**	**78.07 342**	P	**P**	**16 21 39.8**	**+0.6**
BUR08			IAmb	IAmb	16 21 41.5	
	comp=Z,3.8nm,0.6s					
BURAR	**Bucovina Array**	**78.10 342**	P	**P**	**16 21 39.6**	**+0.2**
WRA	**Warramunga Arr**	**81.26 221**	P	**P**	**16 21 56.2**	**-0.3**
	comp=Z,5.2nm,0.6s,baz=33,slow=6.2,SNR=9.5					
WRA	**Warramunga Arr**	**81.26 221**	P	**P**	**16 21 56.1**	**-0.4**
WRA	**Warramunga Arr**	**81.26 221**	P	**P**	**16 21 56.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**83.46 230**	P	**P**	**16 22 07.8**	**-0.2**
	comp=Z,6.0nm,0.7s,baz=28,slow=5.9,SNR=12					
FITZ	**Fitzroy Crossi**	**83.46 230**	P	**P**	**16 22 08.0**	**0.0**
FITZ			IAmb	IAmb	16 22 08.9	
	comp=Z,7.3nm,0.8s					
ASAR	**Alice Springs**	**84.77 220**	P	**P**	**16 22 14.8**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=23,slow=5.3,SNR=17					
ASAR	**Alice Springs**	**84.77 220**	P	**P**	**16 22 14.5**	**0.0**
STKA	**Stephens Creek**	**89.52 211**	P	**P**	**16 22 38.0**	**+0.8**
	comp=Z,5.0nm,0.6s,baz=343,slow=5.8,SNR=10					
STKA	**Stephens Creek**	**89.52 211**	P	**P**	**16 22 37.6**	**+0.4**
STKA			pmax	pmax		
	comp=Z,1.0nm,0.8s					
STKA	**Stephens Creek**	**89.52 211**	P	**P**	**16 22 37.6**	**+0.4**
TORD	**Torodi Ar. Bea**	**115.03 356**	PKP	**PKiKP**	**16 28 19.8**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=354,slow=1.8,SNR=7.7					
MAW	**Mawson**	**145.88 218**	PKPbc	**PKPbc**	**16 29 17.7**	**-0.1**
	comp=Z,8.4nm,0.9s,baz=84,slow=6.1,SNR=10					
MAW	**Mawson**	**145.88 218**	PKP2	**PKPbc**	**16 29 18.0**	**+0.3**
MAW	**Mawson**	**145.88 218**		**PKPbc**	**16 29 18.0**	**+0.3**
BOSA	**Boshof**	**149.18 309**	PKPbc	**PKPbc**	**16 29 28.0**	**-0.1**
	comp=Z,3.9nm,0.6s,baz=359,slow=3.0,SNR=11					
BOSA	**Boshof**	**149.18 309**		**PKPbc**	**16 29 28.4**	**+0.2**

*TEH **26** 16:13:19.9,27.41N×56.75E,h9km,ML3.5*
*DSN **26** 16:13:24.6±2.0,27.19N×56.92E,h10km,ML3.9/7,Error ellipse: s-maj=50.0km s-min=13.6km az=126.0*
*OMAN **26** 16:13:28.1±5.3,27.47N×57.63E,h35km±34km,ml3.8/18, Error ellipse: s-maj=77.9km s-min=50.6km az=283.0*

ISC 26 16:13:20.8±1.3,**27.43N**±0.03×**56.76E**±0.06,**h6**km±12km, **n43**,σ2§**54**/52,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.53**	**267**	*e*Pg	**Pg**	**16 13 30.0**	**-1.0**
GENO				*e*		16 13 49.0	
KHNJ	**Kahnooj**	**0.98**	**58**	*e*Pg	**Pb**	**16 13 39.3**	**-1.0**
SHME	**Shamm**	**1.48**	**202**	*e*P	**Pb**	**16 13 47.7**	**-1.0**
	SNR=27						
SHME				S	**Sg**	**16 14 07.8**	**-0.5**
SHME	**Shamm**	**1.48**	**202**	*e*Pn	**Pb**	**16 13 47.7**	**-1.0**
BANOM	**Banah**	**1.55**	**196**	*e*P	**Pb**	**16 13 48.9**	**-1.0**
	SNR=16						
BANOM				S	**Sg**	**16 14 09.4**	**-1.4**
BANOM	**Banah**	**1.55**	**196**	P	**Pg**	**16 13 51.3**	**+0.7**
	SNR=99						
BANOM	**Banah**	**1.55**	**196**	*e*Pn	**Pg**	**16 13 49.4**	**-1.2**
MSFE	**Esma-Masafi**	**2.13**	**195**	*e*P	**Pb**	**16 13 57.5**	**-2.2**
	SNR=10						
MSFE	**Esma-Masafi**	**2.13**	**195**	*e*Pn	**Pb**	**16 13 57.1**	**-2.7**
UMQ	**Umm Al-Quwin**	**2.13**	**208**	P	Pg	16 14 06.2	+4.5
UMQ				S	**Sg**	**16 14 34.1**	**+4.7**
MDH	**Madha**	**2.16**	**191**	P	**Pn**	**16 13 57.1**	**-0.2**
MDH	**Madha**	**2.16**	**191**	P	Pg	16 14 05.9	+3.7
MDH				S	**Sg**	**16 14 28.3**	**-1.9**
MDH	**Madha**	**2.16**	**191**	*e*Pn	**Pn**	**16 13 56.7**	**-0.6**
NGRK	**Negar Kerman**	**2.21**	**359**	*e*Pn	**Pb**	**16 13 59.3**	**-2.1**
NGRK				*e*		16 14 45.2	
CHMN	**Cheshme madani**	**2.52**	**16**	*e*Pn	**Pb**	**16 14 04.7**	**-2.0**
CHMN				*e*		16 14 52.8	
UOSS	**Minazif**	**2.52**	**192**	P	**Pn**	**16 14 02.8**	**+0.5**
UOSS	**Minazif**	**2.52**	**192**	P	**Pg**	**16 14 10.9**	**+1.8**
UOSS				S	**Sg**	**16 14 46.8**	**+5.0**
UOSS	**Minazif**	**2.52**	**192**	*e*Pn	**Pb**	**16 14 03.6**	**-2.9**
TVBK	**TV Kerman**	**2.55**	**360**	*e*Pn	**Pb**	**16 14 04.4**	**-2.8**
TVBK				*e*		16 14 55.7	
NAZ	**Nazwa, Dubai**	**2.62**	**202**	P	**Pb**	**16 14 06.8**	**-1.4**
NAZ	**Nazwa, Dubai**	**2.62**	**202**	P	**Pg**	**16 14 10.8**	**-0.2**
	SNR=7.9						
NAZ				S	**Sg**	**16 14 50.7**	**+5.7**
HATD	**Hatta, Dubai**	**2.65**	**192**	*e*P	**Pb**	**16 14 05.8**	**-2.9**
	SNR=9.9						
HATD	**Hatta, Dubai**	**2.65**	**192**	P	**Pg**	**16 14 12.7**	**+1.1**
HATD				S	**Sg**	**16 14 46.5**	**+0.5**
HATD	**Hatta, Dubai**	**2.65**	**192**	*e*Pn	**Pb**	**16 14 05.7**	**-3.0**
ASHO	**Ashiyiah**	**2.80**	**193**	*e*P	**Pb**	**16 14 08.1**	**-3.2**
	SNR=5.6						
ASHO	**Ashiyiah**	**2.80**	**193**	P	**Pg**	**16 14 13.9**	**-0.7**
ASHO				S	**Sg**	**16 14 56.9**	**+6.0**
ASHO	**Ashiyiah**	**2.80**	**193**	*e*Pn	**Pb**	**16 14 07.5**	**-3.8**
FAQ	**Al Faqa, Dubai**	**2.87**	**202**	S	**Sg**	**16 14 54.7**	**+1.7**
KHGB	**Koh Gabri**	**2.95**	**355**	*e*Pn	**Pn**	**16 14 09.9**	**+1.5**
KHGB				*e*		16 15 07.6	
SOHO	**SOHO**	**3.28**	**184**	P	**Pg**	**16 14 20.5**	**-3.2**
SOHO	**SOHO**	**3.28**	**184**	*e*Pn	**Pb**	**16 14 14.8**	**-4.7**
HOQ	**Hoqain**	**3.86**	**173**	P	**Pb**	**16 14 25.9**	**-3.4**
HOQ				S	**Sn**	**16 15 04.9**	**-1.5**
ARQ	**Araqi**	**4.08**	**183**	P	**Pb**	**16 14 31.0**	**-2.0**
BIDO	**Bidbid**	**4.08**	**162**	*e*Pn	**Pn**	**16 14 22.9**	**-0.8**
IMEH	**Mehriz**	**4.37**	**335**	*e*Pn	**Pn**	**16 14 28.0**	**0.0**
WSAR	**Wadi Sarin**	**4.50**	**158**	P	**Pn**	**16 14 29.8**	**+0.3**
	SNR=38						
WSAR				S	**Sn**	**16 15 20.8**	**-1.3**
SMDO	**Samad**	**4.50**	**165**	P	**Pn**	**16 14 32.7**	**+3.1**
SMDO				S	**Sn**	**16 15 23.8**	**+1.4**
BSY	**Bisya**	**4.68**	**175**	P	Pb	16 14 37.7	-5.6
BSY				S	**Sn**	**16 15 30.6**	**+4.0**
NHDN	**Nehbandan**	**4.88**	**35**	*e*Pn	**Pn**	**16 14 37.1**	**+2.2**
UMZA	**Um Al Zommool**	**4.91**	**198**	*e*Pn	**Pn**	**16 14 34.4**	**-0.7**
JMDO	**Jabal Madar**	**5.18**	**166**	P	**Pn**	**16 14 41.3**	**+2.5**
WBK	**Wadi Bani Khal**	**5.20**	**157**	P	**Pn**	**16 14 39.0**	**-0.1**
	SNR=18						
IRAM	**Rameshe**h	**5.80**	**320**	*e*Pn	**Pn**	**16 14 46.9**	**-0.6**

*IDC **26** 16:13:50.8±1.1,2.05N×128.74E,h0km,mb3.7/8, mb1 3.9/9,mb1mx3.6/51,mbtmp3.8/9,ML4.1/1,Error ellipse: s-maj=75.4km s-min=15.6km az=69.0*
*DJA **26** 16:13:53.4±0.6,2°N±6'×12°9E±°,h10km,M4.2/9,mB5.0/1, mb4.5/3,MLv4.0/9,Mw(mB)4.3/1*
*NEIC **26** 16:13:57.2±2.1,2.01N±0.09×129.05E±0.08,h63km±9km, mb4.4/23,Error ellipse: s-maj=14.0km s-min=10.0km az=215.0*

ISC 26 16:13:55.5±0.6,**2.08N**±0.07×**129.06E**±0.07,**h40**km,**n45**, σ1§**35**/44,**mb4.2**/15,**1D,Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.14**	**232**	P	**Pn**	**16 14 28.1**	**-0.6**
TNTI	**Ternate**	**2.14**	**232**		**Pn**	**16 14 27.9**	**-0.9**
LBMI	**Labuha**	**3.12**	**210**	P	**Pn**	**16 14 42.4**	**+0.2**
SIJI	**Sorong**	**3.67**	**143**	Pn	**Pn**	**16 14 50.3**	**+0.5**
	13nm,0.3s,baz=302,slow=23,SNR=52						
SIJI				Sn	**Sn**	**16 15 32.2**	**+0.4**
	10nm,0.3s,baz=357,slow=23,SNR=12						
KMSI	**Cibinong**	**5.30**	**254**	P	**Pn**	**16 15 12.9**	**+0.8**
	0.5nm2µm175nm,0.7s						
FAKI	**Fak Fak**	**5.90**	**147**	P	**Pn**	**16 15 20.7**	**+0.2**
FAKI	**Fak Fak**	**5.90**	**147**	Pn	**Pn**	**16 15 21.1**	**+0.6**
KCP	**Kidapawan**	**6.29**	**321**	*e*P	Pn	16 15 32.3	+6.4
LUWI	**Luwuk**	**7.01**	**244**	Pn	**Pn**	**16 15 38.8**	**+3.0**
MYLDM	**Lahad Datu**	**10.98**	**287**	Pn	**Pn**	**16 16 34.6**	**+4.5**
BKB	**Balikpapan**	**12.61**	**255**	Pn	**Pn**	**16 16 55.3**	**+2.8**
MTN	**Manton Dam**	**14.97**	**172**	Pn	**Pn**	**16 17 24.2**	**-0.3**
SBUM	**Sibu**	**16.84**	**272**	Pn	**Pn**	**16 17 47.3**	**-1.0**
KNRA	**Kununurra**	**17.65**	**181**		**Pn**	**16 17 57.8**	**-0.7**
KNRA					IAmb	IAmb	16 18 43.5
	comp=Z,75nm,1.8s						
JAGI	**Jajag, Banyuwa**	**18.19**	**235**	P	**P**	**16 18 05.7**	**+0.6**
JAGI					IAmb	IAmb	16 18 55.3
	comp=Z,81nm,1.2s						
KSM	**Kuching**	**18.76**	**268**	P	**Pn**	**16 18 12.2**	**+0.1**
KSM					IAmb	IAmb	16 18 20.4
	comp=Z,15nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.34**	**189**	P	**P**	**16 18 27.5**	**-1.0**
	comp=Z,2.7nm,1.0s,baz=356,slow=11,SNR=2.0						
FITZ	**Fitzroy Crossi**	**20.34**	**189**	P	**P**	**16 18 27.8**	**-0.7**
WB0	**Warramunga Arr**	**22.34**	**167**	P	**P**	**16 18 49.8**	**-0.2**
WB0					IAmb	IAmb	16 18 53.3
	comp=Z,15nm,1.4s						
YULB	**Yu-li**	**22.48**	**341**	P	**P**	**16 18 49.2**	**-2.3**
YULB					IAmb	IAmb	16 19 03.5
	comp=Z,18nm,1.3s						
WRA	**Warramunga Arr**	**22.49**	**167**	P	**P**	**16 18 52.6**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=347,slow=11,SNR=9.4						
WB2	**Warramunga Arr**	**22.50**	**167**	P	**P**	**16 18 52.6**	**+0.8**
WB2					IAmb	IAmb	16 19 09.9
	comp=Z,8.8nm,1.0s						
WR0	**Warramunga Arr**	**22.56**	**166**	P	**P**	**16 18 53.6**	**+1.2**
WR0					IAmb	IAmb	16 19 36.5
	comp=Z,12nm,1.4s						
NACB	**Ninganchiao**	**23.12**	**342**	P	**P**	**16 18 56.4**	**-1.8**
NACB					IAmb	IAmb	16 19 05.5
	comp=Z,15nm,0.7s						
YHNB	**Yeheng**	**23.65**	**342**	P	**P**	**16 19 04.1**	**+0.7**
QIZ	**Qiongzhong**	**25.26**	**313**	P	**P**	**16 19 20.1**	**+1.9**
AS31	**Alice Springs**	**26.02**	**170**	P	**P**	**16 19 25.4**	**+0.3**
ASAR	**Alice Springs**	**26.02**	**170**	P	**P**	**16 19 26.2**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=348,slow=7.5,SNR=13						
ASAR	**Alice Springs**	**26.02**	**170**	P	**P**	**16 19 25.4**	**+0.4**
HNR	**Honiara**	**32.83**	**111**		P	16 20 17.8	-7.7
MJB9	**Matsu-Tunnel**	**35.32**	**13**	P	**P**	**16 20 45.7**	**-1.2**
MJB9					IAmb	IAmb	16 21 17.6
	comp=Z,7.8nm,1.4s						
STKA	**Stephens Creek**	**35.81**	**162**	P	**P**	**16 20 53.0**	**+1.8**
	comp=Z,0.8nm,0.4s,baz=0.0,slow=14,SNR=1.2						
STKA	**Stephens Creek**	**35.81**	**162**	P	**P**	**16 20 49.7**	**-1.5**
STKA					IAmb	IAmb	16 21 57.6
	comp=Z,8.6nm,1.7s						
SONM	**Songino Array**	**49.61**	**340**	P	**P**	**16 22 43.8**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=122,slow=7.3,SNR=2.1						
SONM	**Songino Array**	**49.61**	**340**	P	**P**	**16 22 42.8**	**-0.2**
MK31	**Makanchi Array**	**60.23**	**325**	P	**P**	**16 23 59.3**	**-0.4**
MKAR	**Makanchi Array**	**60.23**	**325**	P	**P**	**16 23 59.8**	**0.0**
	comp=Z,0.7nm,0.6s,baz=118,slow=8.1,SNR=6.2						
MKAR	**Makanchi Array**	**60.23**	**325**	P	**P**	**16 23 59.3**	**-0.4**
MAKZ	**Makanchi**	**60.42**	**325**	P	**P**	**16 24 00.2**	**-0.8**
MAKZ					IAmb	IAmb	16 24 56.8
	comp=Z,3.1nm,1.4s						
KDJ	**Kajisay**	**61.12**	**318**	P	**P**	**16 24 06.0**	**-0.1**
KDJ					IAmb	IAmb	16 24 17.4
	comp=Z,5.9nm,1.6s						
ZALV	**Zalesovo Beam**	**63.11**	**332**	P	**P**	**16 24 20.5**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=112,slow=9.5,SNR=1.8						
KURK	**Kurchatov**	**64.38**	**327**	P	**P**	**16 24 26.9**	**-0.4**
KURBB	**Kurchatov Arra**	**64.38**	**327**	P	**P**	**16 24 26.6**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=124,slow=5.8,SNR=7.8						
RODM	**Citronelle, R**	**67.88**	**248**	P	**P**	**16 24 48.9**	**-1.5**
JIS	**Juneau Island**	**91.70**	**32**	P	**P**	**16 26 58.7**	**+0.2**

*TEH **26** 16:18:58.3,27.48N×56.68E,h8km,ML3.2*
*OMAN **26** 16:19:06.6±0.6,27.33N×57.45E,h35km,ml3.3/10,Error ellipse: s-maj=29.5km s-min=2.7km az=281.0*

ISC 26 16:18:58.6±0.8,**27.48N**±0.03×**56.74E**±0.06,**h10**km,**n24**, σ1§**46**/29,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.51**	**261**	*e*Pg	**Pb**	**16 19 08.0**	**-1.7**
KHNJ	**Kahnooj**	**0.98**	**61**	*e*Pg	**Pg**	**16 19 17.8**	**+0.4**
SHME	**Shamm**	**1.52**	**201**	*e*Pn	**Pb**	**16 19 26.0**	**-0.9**
BANOM	**Banah**	**1.60**	**194**	P	**Pb**	**16 19 27.7**	**-0.6**
	SNR=59						
BANOM				S	**Sb**	**16 19 48.0**	**-0.6**
BANOM	**Banah**	**1.60**	**194**	*e*Pn	**Pb**	**16 19 28.1**	**-0.2**
NGRK	**Negar Kerman**	**2.16**	**360**	*e*Pn	**Pb**	**16 19 37.6**	**-0.4**
NGRK				*e*		16 20 17.7	
MSFE	**Esma-Masafi**	**2.17**	**194**	*e*Pn	**Pb**	**16 19 37.0**	**-1.1**
MDH	**Madha**	**2.21**	**190**	P	**Pg**	**16 19 40.1**	**-0.9**
MDH	**Madha**	**2.21**	**190**	*e*Pn	**Pb**	**16 19 38.2**	**-0.9**
CHMN	**Cheshme madani**	**2.48**	**16**	*e*Pn	**Pb**	**16 19 42.2**	**-1.2**
CHMN				*e*		16 20 30.6	
TVBK	**TV Kerman**	**2.50**	**0**	*e*Pn	**Pb**	**16 19 42.9**	**-0.9**
TVBK				*e*		16 20 28.7	
UOSS	**Minazif**	**2.57**	**191**	P	**Pg**	**16 19 48.0**	**+0.2**
NAZ	**Nazwa, Dubai**	**2.66**	**202**	P	**Pg**	**16 19 52.0**	**+2.3**
HATD	**Hatta, Dubai**	**2.70**	**192**	P	**Pg**	**16 19 50.2**	**-0.2**
HATD				S	**Sg**	**16 20 23.8**	**-1.5**
HATD	**Hatta, Dubai**	**2.70**	**192**	*e*Pn	**Pb**	**16 19 46.1**	**-0.9**
ASHO	**Ashiyiah**	**2.85**	**193**	P	**Pg**	**16 19 53.0**	**-0.3**
ASHO				S	**Sg**	**16 20 32.5**	**+2.3**
ASHO	**Ashiyiah**	**2.85**	**193**	*e*Pn	**Pn**	**16 19 46.2**	**+2.0**
KHGB	**Koh Gabri**	**2.90**	**356**	*e*Pn	**Pb**	**16 19 48.2**	**-2.3**
KHGB				*e*		16 20 39.4	
HOQ	**Hoqain**	**3.92**	**172**	P	**Pn**	**16 19 58.9**	**0.0**
HOQ				S	**Sn**	**16 20 42.6**	**-2.3**
IMEH	**Mehriz**	**4.32**	**335**	*e*Pn	**Pn**	**16 20 06.3**	**+1.8**
WSAR	**Wadi Sarin**	**4.56**	**158**	P	**Pn**	**16 20 09.5**	**+1.9**
WSAR				S	**Sn**	**16 20 58.2**	**-2.5**
UMZA	**Um Al Zommool**	**4.96**	**197**	*e*Pn	**Pn**	**16 20 13.9**	**+0.8**
WBK	**Wadi Bani Khal**	**5.25**	**157**	P	**Pn**	**16 20 19.0**	**+1.7**
	SNR=7.0						
IRAM	**Rameshe**h	**5.74**	**320**	*e*Pn	**Pn**	**16 20 25.5**	**+1.4**

NNC 26 16:20:46.7±10.0,**37.03N×70.43E,h0**km,**mb3.7,mpv3.3, 2C-2D,Error ellipse: s-maj=84.5km s-min=72.9km az=169.0,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.07**	**1**	⇓P	Pn	16 22 20.0	+2.3
	0.8nm,0.5s,baz=177,slow=12,SNR=12						
KK31				⇑S	Sn	16 23 30.0	+2.0
	1.7nm,0.3s,baz=188,slow=23,SNR=16						
AAK	**Ala-Archa**	**6.42**	**28**	P	Pn	16 22 22.4	-0.2
	1.2nm,0.4s						
AAK				S	Sn	16 23 37.2	+0.5
	3.0nm,0.6s						
TKM2	**Tokmak 2**	**7.10**	**32**	⇑P	Pn	16 22 30.6	-1.4
	1.2nm,0.4s						
TKM2				⇓S	Sn	16 23 53.5	0.0
	0.8nm,0.6s						

*IDC **26** 16:22:05.6±0.9,39.69N×25.44E,h0km,mb3.7/9, mb1 3.8/15,mb1mx3.6/45,mbtmp3.8/15,ML3.8/6,MS2.9/7, Ms1 3.0/7,ms1mx2.7/54,Error ellipse: s-maj=16.1km s-min=11.9km az=83.0*
*ATH **26** 16:22:06.8,39.68N×25.57E,h31km,ML3.9/17,Error ellipse: s-maj=1.3km s-min=0.8km az=79.0*
*ISK **26** 16:22:06.3,39.70N×25.56E,h7km,ML4.2/22*
*THE **26** 16:22:07.7,39.69N×25.61E,h12km±2km,ML3.8/6,Error ellipse: s-maj=2.1km s-min=0.6km az=123.0*
*DDA **26** 16:22:07.7,39.68N×25.65E,h12km±2km,MW4.1*
*SOF **26** 16:22:13.4,40.14N×25.46E,h18km,MD4.0*

ISC 26 16:22:07.5±0.9,**39.68N**±0.02×**25.59E**±0.02,**h12**km±7km, **n210**,σ0§**92**/242,**mb3.7**/9,**MS2.7**/5,**30C-9D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIA	**Limnos Island**	**0.39**	**305**	P	**Pg**	**16 22 15.6**	**+0.4**
LIA				S	**Sg**	**16 22 20.8**	**+0.5**
	13µm,0.4s						
LIA	**Limnos Island**	**0.39**	**305**	P	**Pg**	**16 22 15.6**	**+0.4**
LIA				S	**Sb**	**16 22 21.7**	**-0.6**
LIA				AML	AML	16 22 21.8	
	comp=E,20799µm,0.4s						
LIA				AML	AML	16 22 28.0	
	comp=N,27371µm,0.4s						
BOZC	**Bozcaada**	**0.39**	**65**	PG	**Pg**	**16 22 14.5**	**-0.8**
BOZC	**Bozcaada**	**0.39**	**65**	*i* P	**Pg**	**16 22 14.8**	**-0.5**
BOZC				*i* S	**Sg**	**16 22 20.0**	**-0.5**
BOZC				IAML		16 22 26.0	
	comp=N,7µm,0.7s						
BOZC				IAML		16 22 27.0	
	comp=E,7µm,0.9s						
EFSA	**Agios Efstrati**	**0.49**	**254**	P	**Pg**	**16 22 17.7**	**+0.6**
EFSA				AML	AML	16 22 25.6	
	comp=N,41788µm,0.3s						
EFSA				AML	AML	16 22 27.1	
	comp=E,37748µm,0.4s						
SIGR	**SIGRI**	**0.51**	**156**	P	**Pg**	**16 22 17.3**	**-0.1**
SIGR				S	**Sg**	**16 22 25.1**	**+0.9**
SIGR	**SIGRI**	**0.51**	**156**	P	**Pg**	**16 22 17.3**	**-0.1**
SIGR				S	**Sb**	**16 22 25.4**	**-0.4**
SIGR				AML	AML	16 22 25.9	
	comp=E,30582µm,0.5s						
SIGR				AML	AML	16 22 26.0	
	comp=N,33957µm,0.3s						
SIGR	**SIGRI**	**0.51**	**156**	PG	**Pg**	**16 22 17.3**	**-0.1**
SIGR				SG	**Sg**	**16 22 25.2**	**+1.0**
GADA	**Gvkgeada**	**0.56**	**25**	P	**Pg**	**16 22 18.1**	**-0.5**
GADA				S	**Sg**	**16 22 26.7**	**+0.6**
	comp=N,12µm,0.7s						
GADA	**Gvkgeada**	**0.56**	**25**	PG	**Pg**	**16 22 17.6**	**-1.0**
GOKA	**anakkale-Gk**	**0.57**	**25**	*i* P	**Pg**	**16 22 18.3**	**-0.3**
GOKA				*i* S	**Sg**	**16 22 26.9**	**+0.7**
GOKA				IAML		16 22 34.0	
	comp=E,19µm,0.6s						
GOKA				IAML		16 22 37.0	
	comp=N,17µm,0.6s						
EZN	**Ezine**	**0.58**	**75**	P	**Pg**	**16 22 18.3**	**-0.6**
EZN				S	**Sg**	**16 22 26.1**	**-0.5**
	comp=N,12µm,0.5s						
EZN	**Ezine**	**0.58**	**75**	PG	**Pg**	**16 22 18.3**	**-0.6**
EZN				SG	**Sg**	**16 22 26.2**	**-0.4**
PRK	**Paraskevi**	**0.68**	**129**	P	**Pb**	**16 22 21.6**	**+0.2**
PRK				S	**Sb**	**16 22 31.3**	**+0.6**
	comp=N,10µm,0.5s						
PRK	**Paraskevi**	**0.68**	**129**	P	**Pb**	**16 22 21.5**	**+0.2**
PRK				S	**Sb**	**16 22 31.3**	**+0.6**
PRK				AML	AML	16 22 33.1	
	comp=N,14237µm,0.6s						
PRK				AML	AML	16 22 34.1	
	comp=E,24674µm,0.8s						
BAYC	**CANAKKALE_Bayr**	**0.74**	**85**	*i* P	**Pg**	**16 22 21.2**	**-0.6**
BAYC				*i* S	**Sg**	**16 22 31.3**	**-0.2**
BAYC				IAML		16 22 34.0	
	comp=N,5µm,0.4s						
BAYC				IAML		16 22 35.0	
	comp=E,4µm,0.2s						
SMTH	**Samothraki Isl**	**0.79**	**357**	P	**Pg**	**16 22 22.6**	**-0.3**
SMTH				S	**Sb**	**16 22 34.1**	**0.0**
SMTH	**Samothraki Isl**	**0.79**	**357**	P	**Pg**	**16 22 22.6**	**-0.3**
SMTH				S	**Sb**	**16 22 34.1**	**0.0**
SMTH				AML	AML	16 22 35.6	
	comp=N,14890µm,0.4s						
SMTH				AML	AML	16 22 35.9	
	comp=E,12060µm,0.4s						
AYVA	**Ayvalik**	**0.93**	**113**	*i* P	**Pg**	**16 22 25.0**	**-0.4**
AYVA				*i* S	**Sn**	**16 22 39.6**	**0.0**
AYVA				IAML		16 22 40.0	
	comp=N,10µm,0.6s						
AYVA				IAML		16 22 42.0	
	comp=E,2µm,0.4s						
GELI	**Tayfur-Gelibol**	**0.99**	**43**	PG	**Pb**	**16 22 25.4**	**-1.2**
GELI				SG	**Sg**	**16 22 39.9**	**+0.4**
LPK	**Lapseki**	**1.13**	**52**	PN	**Pb**	**16 22 28.3**	**-0.8**
SKY	**Skiros Island**	**1.14**	**226**	P	**Pb**	**16 22 28.2**	**-0.9**
SKY				S	**Sb**	**16 22 43.5**	**-0.4**
SKY	**Skiros Island**	**1.14**	**226**	P	**Pb**	**16 22 28.4**	**-0.7**
SKY				S	**Sb**	**16 22 43.4**	**-0.5**
SKY				AML	AML	16 22 45.9	
	comp=N,16021µm,0.6s						
SKY				AML	AML	16 22 46.1	
	comp=E,15606µm,0.5s						
ENEZ	**Enez**	**1.14**	**22**	P	**Pb**	**16 22 28.5**	**-0.7**
ENEZ				S	**Sg**	**16 22 44.9**	**+0.5**
	comp=E,10µm,0.6s						
ENEZ	**Enez**	**1.14**	**22**	PN	**Pb**	**16 22 28.5**	**-0.7**
THAS	**Thassos island**	**1.14**	**324**	P	**Pb**	**16 22 28.3**	**-1.0**
THAS				S	**Sb**	**16 22 43.6**	**-0.5**
THAS	**Thassos island**	**1.14**	**324**	P	**Pb**	**16 22 28.2**	**-1.0**
THAS				S	**Sb**	**16 22 44.4**	**+0.3**
THAS				AML	AML	16 22 45.6	
	comp=N,18425µm,0.3s						
THAS				AML	AML	16 22 46.0	
	comp=E,20446µm,0.3s						
DKL	**Dikili**	**1.18**	**120**	PN	**Pn**	**16 22 29.9**	**0.0**
ERIK	**Erikli-Kesan**	**1.22**	**35**	PN	**Pn**	**16 22 29.7**	**-0.7**
ALN	**Alexandroupoli**	**1.27**	**16**	P	**Pn**	**16 22 30.1**	**-1.0**
ALN				S	**Sb**	**16 22 47.6**	**0.0**
ALN	**Alexandroupoli**	**1.27**	**16**	P	**Pn**	**16 22 29.9**	**-1.2**
ALN				S	**Sb**	**16 22 47.7**	**0.0**
ALN				AML	AML	16 22 55.0	
	comp=N,5969µm,0.6s						
ALN				AML	AML	16 22 55.6	
	comp=E,7452µm,0.4s						
ALN	**Alexandroupoli**	**1.27**	**16**	PN	**Pn**	**16 22 30.3**	**-0.8**
KRBN	**Karaburun**	**1.31**	**145**	PN	**Pn**	**16 22 31.8**	**+0.1**
CHOS	**Chios island**	**1.34**	**164**	P	**Pn**	**16 22 31.6**	**-0.5**
CHOS				S	**Sg**	**16 22 50.9**	**+0.3**
CHOS	**Chios island**	**1.34**	**164**	P	**Pn**	**16 22 31.6**	**-0.5**
CHOS				S	**Sb**	**16 22 49.0**	**-0.8**
CHOS				AML	AML	16 22 52.8	
	comp=N,

	comp=N,4430μm,0.5s							
EDC	**Edincik**	**1.87**	**68**	PN	**Pn**	**16 22 39.4**	**0.0**
NEO	**Neokhori**	**1.87**	**259**	P	**Pn**	**16 22 38.5**	**-0.9**
NEO	**Neokhori**	**1.87**	**259**	P	**Pn**	**16 22 38.4**	**-1.0**
NEO				S	**Sn**	**16 23 01.8**	**-1.2**
NEO				AML	AML	16 23 09.3	
	comp=N,4882μm,0.5s						
NEO				AML	AML	16 23 10.4	
	comp=E,3333μm,0.5s						
KARY	**Karystos**	**1.87**	**209**	P	**Pn**	**16 22 38.4**	**-1.0**
XOR	**Xorichti**	**1.88**	**261**	P	**Pn**	**16 22 38.3**	**-1.3**
AKHS	**Akhisar**	**1.90**	**114**	*i* P	**Pn**	**16 22 40.0**	**+0.3**
AKS	**Akhisar**	**1.90**	**114**	PN	**Pn**	**16 22 40.0**	**+0.2**
KDZ	**Kurdzhali**	**1.98**	**356**	*i* P	**Pn**	**16 22 40.4**	**-0.5**
KDZ	**Kurdzhali**	**1.98**	**356**	Pg	**Pb**	**16 22 43.3**	**-0.2**
KDZ	**Kurdzhali**	**1.98**	**356**	PN	**Pn**	**16 22 40.6**	**-0.3**
GOMA	**Golmarmara-Man**	**2.05**	**117**	PN	**Pn**	**16 22 42.3**	**+0.5**
DION	**Dionisos Attik**	**2.06**	**220**	P	**Pn**	**16 22 41.1**	**-0.9**
DION	**Dionisos Attik**	**2.06**	**220**	P	**Pn**	**16 22 41.0**	**-0.9**
DION				AML	AML	16 23 21.2	
	comp=E,6054μm,0.6s						
DION				AML	AML	16 23 22.1	
	comp=N,7761μm,0.7s						
SRS	**Serrai**	**2.10**	**314**	P	**Pn**	**16 22 42.0**	**-0.5**
PTL	**Penteli**	**2.11**	**220**	P	**Pn**	**16 22 42.1**	**-0.6**
RZN	**Rozhen**	**2.12**	**342**	*i* P	**Pn**	**16 22 43.1**	**+0.1**
RZN	**Rozhen**	**2.12**	**342**	Pg	**Pb**	**16 22 46.2**	**+0.2**
HORT	**Hortiatis**	**2.12**	**296**	P	**Pn**	**16 22 42.8**	**-0.1**
NVR	**Nevrokopi**	**2.13**	**322**	P	**Pn**	**16 22 42.6**	**-0.4**
CRLT	**Corlu**	**2.19**	**48**	PN	**Pn**	**16 22 43.8**	**+0.1**
SMG	**Samos**	**2.19**	**153**	P	**Pn**	**16 22 43.4**	**-0.4**
ATHU	**Athens Univers**	**2.22**	**220**	P	**Pn**	**16 22 43.3**	**-0.8**
DURS	**Dursunbey**	**2.23**	**91**	*i* P	**Pn**	**16 22 44.7**	**+0.3**
DURS				IAML		16 23 13.0	
	comp=N,935nm,0.5s						
DURS				IAML		16 23 13.0	
	comp=E,1μm,0.4s						
BOTS	**Marmara Eregli**	**2.25**	**54**	PN	**Pn**	**16 22 44.7**	**+0.1**
LKR	**Lokris**	**2.26**	**244**	P	**Pn**	**16 22 44.1**	**-0.6**
VLY	**Voula,Athens**	**2.30**	**218**	P	**Pn**	**16 22 44.5**	**-0.8**
VLY	**Voula,Athens**	**2.30**	**218**	P	**Pn**	**16 22 44.5**	**-0.8**
DST	**Dursunbey**	**2.34**	**91**	PN	**Pn**	**16 22 46.3**	**+0.4**
EDRB	**Edirne**	**2.34**	**22**	P	**Pn**	**16 22 44.8**	**-1.0**
EDRB				S	**Sb**	**16 23 17.0**	**-1.4**
EDRB	**Edirne**	**2.34**	**22**	PN	**Pn**	**16 22 46.0**	**+0.2**
DIM	**Dimitrovgrad**	**2.37**	**359**	P	**Pn**	**16 22 47.3**	**+1.0**
MMB	**Musomiste**	**2.38**	**324**	P	**Pn**	**16 22 46.3**	**-0.1**
LIT	**Litokhoron**	**2.42**	**281**	P	**Pn**	**16 22 46.9**	**-0.1**
PHSR	**Pinarhisar**	**2.44**	**36**	PN	**Pn**	**16 22 47.4**	**+0.1**
PLD	**Plovdiv**	**2.52**	**345**	*i* P	**Pn**	**16 22 49.0**	**+0.7**
PLD	**Plovdiv**	**2.52**	**345**	Pg	**Pb**	**16 22 54.5**	**+1.8**
SLVT	**Silivri**	**2.53**	**51**	PN	**Pn**	**16 22 48.7**	**+0.3**
KNT	**Kendrikon**	**2.54**	**307**	P	**Pn**	**16 22 49.1**	**+0.6**
ORLT	**Orhaneli**	**2.57**	**81**	PN	**Pn**	**16 22 49.6**	**+0.6**
APE	**Apeiranthos**	**2.60**	**181**	P	**Pn**	**16 22 48.2**	**-1.3**
APE	**Apeiranthos**	**2.60**	**181**	⇑P	**Pn**	**16 22 48.4**	**-1.2**
AGG	**Agios Georgios**	**2.61**	**257**	P	**Pn**	**16 22 49.4**	**-0.2**
MDNY	**Mudanya-Bursa**	**2.62**	**74**	PN	**Pn**	**16 22 50.1**	**+0.4**
LTK	**Loutraki**	**2.63**	**232**	P	**Pn**	**16 22 49.2**	**-0.7**
KULA	**Kula-Manisa**	**2.66**	**115**	P	**Pn**	**16 22 51.1**	**+0.9**
SERI	**Serifos**	**2.66**	**199**	P	**Pn**	**16 22 49.4**	**-0.8**
GRG	**Griva**	**2.75**	**299**	P	**Pn**	**16 22 52.6**	**+1.0**
MAKR	**Makrakomi, Fth**	**2.76**	**257**	P	**Pn**	**16 22 52.2**	**+0.5**
ULDT	**Uludag**	**2.77**	**79**	*i* P	**Pn**	**16 22 52.2**	**+0.3**
ULDT				IAML		16 23 43.0	
	comp=E,879nm,0.7s						
ULDT				IAML		16 23 46.0	
	comp=N,1μm,0.7s						
THL	**Klokotos Trika**	**2.77**	**269**	P	**Pn**	**16 22 51.7**	**0.0**
VAY	**Valandovo**	**2.83**	**306**	*i* Pn	**Pn**	**16 22 54.5**	**+1.9**
IGD	**Bursa**	**2.83**	**77**	*i* P	**Pn**	**16 22 52.7**	**0.0**
IGD				IAML		16 23 42.0	
	comp=E,321nm,0.9s						
IGD				IAML		16 23 43.0	
	comp=N,259nm,0.8s						
DID	**Didima**	**2.85**	**221**	P	**Pn**	**16 22 52.0**	**-0.8**
JMB	**Yambol**	**2.89**	**15**	Pg	**Pg**	**16 23 02.8**	**0.0**
KKB	**Krupnik**	**2.90**	**320**	P	**Pn**	**16 22 54.4**	**+0.8**
BODT	**Bodrum**	**2.94**	**152**	P	**Pn**	**16 22 54.1**	**0.0**
IOSP	**Ios island**	**2.96**	**185**	P	**Pn**	**16 22 53.1**	**-1.2**
KALE	**Kalithea**	**2.98**	**246**	P	**Pn**	**16 22 54.7**	**0.0**
ISK	**Istanbul-Kandi**	**2.99**	**61**	P	**Pn**	**16 22 54.5**	**-0.3**
KZN	**Kozani**	**3.00**	**283**	P	**Pn**	**16 22 55.6**	**+0.6**
SERG	**Sergoula**	**3.03**	**246**	P	**Pn**	**16 22 55.2**	**-0.1**
EVR	**Evrytania**	**3.03**	**257**	P	**Pn**	**16 22 56.0**	**+0.5**
EVR	**Evrytania**	**3.03**	**257**	P	**Pn**	**16 22 55.9**	**+0.4**
TRIZ	**Trizonia**	**3.04**	**246**	P	**Pn**	**16 22 55.5**	**+0.1**
ANX	**Ano Chora**	**3.05**	**250**	P	**Pn**	**16 22 56.1**	**+0.4**
PGB	**Panagyurishte**	**3.07**	**340**	P	**Pn**	**16 22 57.2**	**+1.3**
GUR	**Goura**	**3.08**	**237**	P	**Pn**	**16 22 55.9**	**-0.2**
MHLO	**Agia Marina, M**	**3.13**	**198**	P	**Pn**	**16 22 55.9**	**-0.7**
EFP	**Efpalio**	**3.13**	**248**	P	**Pn**	**16 22 56.9**	**+0.2**
STIP	**Stip**	**3.28**	**309**	*i* Pn	**Pn**	**16 22 58.1**	**-0.7**
YER	**Yerkesik**	**3.30**	**139**	P	**Pn**	**16 22 59.8**	**+0.7**
DAT	**Datca**	**3.33**	**151**	P	**Pn**	**16 22 59.7**	**+0.1**
PVO	**Paravola**	**3.33**	**253**	P	**Pn**	**16 23 00.7**	**+1.2**
TRIP	**Tripoli**	**3.37**	**232**	P	**Pn**	**16 23 00.3**	**+0.2**
VTS	**Vitosha**	**3.44**	**330**	P	**Pn**	**16 23 01.6**	**+0.6**
DRO	**Drossia**	**3.49**	**242**	P	**Pn**	**16 23 01.7**	**+0.1**
PDO	**Prodromos**	**3.59**	**254**	P	**Pn**	**16 23 04.9**	**+1.8**
SZH	**Strazhica**	**3.60**	**4**	P	**Pn**	**16 23 03.6**	**+0.5**
VLI	**Veliai**	**3.62**	**216**	P	**Pn**	**16 23 02.7**	**-0.7**
PRD	**Provadia**	**3.77**	**21**	P	**Pn**	**16 23 05.4**	**-0.1**
PLVB	**Pleven**	**3.78**	**349**	⇑P	**Pn**	**16 23 06.0**	**+0.4**
SKO	**Skopje**	**3.90**	**307**	*i* Pn	**Pn**	**16 23 11.7**	**+4.5**
MPEP	**Malo Peshtene**	**3.93**	**340**	P	**Pn**	**16 23 08.3**	**+0.6**
OHR	**Ohrid**	**3.93**	**293**	*i* Pn	**Pn**	**16 23 09.8**	**+2.0**
RAZG	**Razgrad**	**3.95**	**10**	⇑P	**Pn**	**16 23 08.6**	**+0.7**
ZIMR		**3.98**	**358**	⇓P	**Pn**	**16 23 08.1**	**-0.2**
IDI	**Anoyia**	**4.42**	**187**	Pn	**Pn**	**16 23 12.8**	**-1.7**
	comp=N,1.8nm,0.3s,baz=332,slow=12,SNR=15						
IDI				Lg	Lg	16 24 27.4	
	comp=N,2.4nm,0.3s,baz=262,slow=20,SNR=3.6						
IDI	**Anoyia**	**4.42**	**187**	⇓P	**Pn**	**16 23 13.2**	**-1.3**
COPA	**Copaceanca**	**4.46**	**357**	⇑P	**Pn**	**16 23 15.9**	**+0.9**
TIR	**Tirane**	**4.67**	**293**	⇑P	**Pn**	**16 23 18.6**	**+0.7**
MANR	**Mangalia**	**4.70**	**27**	⇑P	**Pn**	**16 23 19.3**	**+1.0**
HUMR	**Humele**	**4.87**	**355**	⇑P	**Pn**	**16 23 20.5**	**-0.1**
TLBR	**Topalu**	**5.20**	**20**	⇑P	**Pn**	**16 23 24.5**	**-0.5**
TIRR	**Tirgusor**	**5.22**	**23**	⇓P	**Pn**	**16 23 24.8**	**-0.5**
TIRR	**Tirgusor**	**5.22**	**23**	⇓P	**Pn**	**16 23 24.8**	**-0.5**
HARR	**Harsova**	**5.30**	**18**	⇑P	**Pn**	**16 23 26.2**	**-0.3**
PDG	**Podgorica**	**5.52**	**302**	⇑P	**Pn**	**16 23 30.7**	**+1.2**
ANTO	**Ankara**	**5.55**	**86**	⇑P	**Pn**	**16 23 30.0**	**-0.1**
TOPG	**Topolog**	**5.59**	**21**	⇓P	**Pn**	**16 23 31.0**	**+0.5**
HERR	**Herculane**	**5.71**	**337**	⇑P	**Pn**	**16 23 32.3**	**+0.1**
ARR	**Arges**	**5.73**	**353**	⇑P	**Pn**	**16 23 32.4**	**-0.1**
NEHR	**Nehoiu**	**5.77**	**5**	⇓P	**Pn**	**16 23 34.4**	**+1.4**
VOIR		**5.77**	**356**	⇑P	**Pn**	**16 23 33.3**	**+0.2**
CFR	**Carcaliu**	**5.81**	**18**	⇑P	**Pn**	**16 23 33.7**	**+0.2**
MLR	**Muntele Rosu**	**5.82**	**2**	Pn	**Pn**	**16 23 33.7**	**0.0**
	comp=N,1.6nm,0.3s,baz=219,slow=5.6,SNR=14						
MLR				Lg	Lg	16 25 14.3	
	baz=220,slow=19,SNR=2.0						
MLR				LR	LR	16 26 21.9	
	comp=N,187nm,20.4s,baz=349,slow=44						
MLR	**Muntele Rosu**	**5.82**	**2**	⇑P	**Pn**	**16 23 35.0**	**+1.2**
MDVR	**Moldovita**	**5.86**	**332**	⇓P	**Pn**	**16 23 34.9**	**+0.7**
LOT	**Lotru**	**5.92**	**347**	⇑P	**Pn**	**16 23 35.2**	**0.0**
TLCR		**6.00**	**22**	⇑P	**Pn**	**16 23 36.2**	**+0.1**
ODBI	**Odobesti**	**6.18**	**10**	⇑P	**Pn**	**16 23 39.9**	**+1.4**
BRTR	**Keskin Array B**	**6.21**	**87**	Pn	**Pn**	**16 23 40.1**	**+1.0**
	comp=N,10nm,0.3s,baz=257,slow=11,SNR=145						
BRTR				Lg	Lg	16 25 29.6	
	baz=277,slow=21,SNR=3.5						
BRTR				LR	LR	16 26 36.4	
	comp=N,62nm,20.6s,baz=202,slow=43						
PLOR	**Plostina**	**6.22**	**7**	⇑P	**Pn**	**16 23 40.3**	**+1.1**
VRI	**Vrincioaia**	**6.24**	**7**	⇑P	**Pn**	**16 23 40.6**	**+1.1**
DOPR	**Dopca**	**6.29**	**359**	⇑P	**Pn**	**16 23 40.6**	**+0.5**
DEV	**Deva**	**6.51**	**343**	⇑P	**Pn**	**16 23 43.0**	**-0.2**
MDB	**Medias**	**6.52**	**353**	⇑P	**Pn**	**16 23 44.0**	**+0.7**
BZS	**Buzias**	**6.62**	**335**	⇓P	**Pn**	**16 23 44.9**	**+0.3**
TIP	**Timpagrande**	**6.86**	**269**	⇑P	**Pn**	**16 23 47.7**	**-0.3**
TESR	**Tescani**	**6.88**	**6**	⇑P	**Pn**	**16 23 48.5**	**+0.4**
SIRR	**Siria**	**7.19**	**338**	⇑P	**Pn**	**16 23 52.8**	**+0.3**
BIZ	**Bicaz**	**7.27**	**3**	⇓P	**Pn**	**16 23 54.5**	**+1.0**
RICI	**Ricice**	**7.40**	**304**	P	**Pn**	**16 23 57.9**	**+2.6**
PRAR	**RASCA**	**7.70**	**3**	⇑P	**Pn**	**16 23 58.9**	**-0.5**
HVAR	**Hvar**	**7.71**	**300**	P	**Pn**	**16 24 00.6**	**+1.0**
BURAR	**Bucovina Array**	**7.94**	**358**	⇑P	**Pn**	**16 24 04.0**	**+1.1**
ZIRJ	**Zirje**	**8.44**	**301**	P	**Pn**	**16 24 10.5**	**+0.9**
MORI	**Morici**	**8.49**	**303**	P	**Pn**	**16 24 11.3**	**+1.1**
SORM	**Soroca**	**8.69**	**12**	⇑P	**Pn**	**16 24 12.3**	**-0.7**
DUGI	**Dugi Otok**	**8.97**	**302**	P	**Pn**	**16 24 18.6**	**+1.7**
VYHS	**Vyhne**	**10.06**	**333**	*e*Pn	**Pn**	**16 24 35.2**	**+3.4**
BRJN	**Brijuni**	**10.21**	**305**	P	**Pn**	**16 24 38.5**	**+4.7**
MMAI	**Mount Meron Ar**	**10.33**	**127**	Pn	**Pn**	**16 24 35.0**	**-0.6**
	comp=N,1.3nm,0.3s,baz=312,slow=12,SNR=5.6						
AKASG	**Malin Array Be**	**11.32**	**12**	Pn	**Pn**	**16 24 47.9**	**-1.1**
	comp=N,0.8nm,0.3s,baz=202,slow=11,SNR=3.2						
DAVOX	**Davos/Dischmat**	**13.46**	**307**	Pn	**Pn**	**16 25 16.7**	**-1.8**
	comp=N,0.1nm,0.3s,baz=259,slow=10,0,SNR=2.2						
FINES	**FINESS Array B**	**21.80**	**1**	P	**P**	**16 26 58.1**	**-1.1**
	comp=N,0.4nm,0.5s,baz=175,slow=12,SNR=2.2						
FINES				LR	LR	16 37 07.7	
	comp=N,28nm,18.8s,baz=148,slow=41						
HFS	**Hagfors**	**21.80**	**344**	P	**P**	**16 26 57.6**	**-1.6**
	comp=N,0.8nm,0.5s,baz=225,slow=21,SNR=1.7						
ESDC	**Sonseca Array**	**22.71**	**280**	LR	LR	16 37 02.1	
	comp=N,28nm,18.6s,baz=145,slow=40						
KLMR	**Klimovskoe**	**22.90**	**18**	*e*	**P**	**16 27 13.4**	**+2.5**
KLMR				AMP		16 27 15.2	
	comp=Z,13nm,1.2s						
NB2	**NORSAR Subarra**	**23.17**	**342**	P	**P**	**16 27 14.6**	**+0.9**
	comp=Z,3.4nm,1.4s,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**23.17**	**342**	P	**P**	**16 27 12.8**	**-0.9**
	comp=Z,0.4nm,0.7s,baz=276,slow=4.8,SNR=1.5						
NOA				LR	LR	16 37 19.7	
	comp=Z,21nm,21.2s,baz=70,slow=40						
EKA	**Eskdalemuir Ar**	**24.70**	**319**	P	**P**	**16 27 26.6**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=285,slow=23,SNR=3.9						
MDT	**Midelt**	**25.22**	**264**	LR	LR	16 37 35.4	
	comp=Z,49nm,18.4s,baz=96,slow=37						
GEYT	**Alibeck**	**25.34**	**84**	P	**P**	**16 27 35.5**	**+1.3**
	comp=Z,3.2nm,0.8s,baz=232,slow=36,SNR=2.5						
GEYT				LR	LR	16 39 13.3	
	comp=Z,49nm,20.5s,baz=165,slow=40						
TORD	**Torodi Ar. Bea**	**33.79**	**225**	P	**P**	**16 28 49.8**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=34,slow=9.4,SNR=7.9						
MKAR	**Makanchi Array**	**41.13**	**61**	P	**P**	**16 29 52.1**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=278,slow=7.5,SNR=24						
ZALV	**Zalesovo Beam**	**41.73**	**50**	P	**P**	**16 29 57.3**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=270,slow=8.9,SNR=5.4						
CMAR	**Chiang Mai Arr**	**65.80**	**86**	P	**P**	**16 32 53.3**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=311,slow=8.2,SNR=5.6						

*THR **26** 16:22:08.6±0.3,37.°44N×54.°58E,h14km±7km, ML3.1*
*TEH **26** 16:22:09.7,37.°43N×54.°56E,h18km, ML3.6*

ISC 26 16:22:10.2±1.2,37.°36N±0.°08×54.°53E±0.°04,h10km,n20,
σ0.°92/22,Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.70**	**98**	*e*Pg		**Pg**		**16 22 23.3**	**-0.5**
IMND				*e*Sg		**Sg**		**16 22 32.5**	**-0.5**
IGLO	**Ghaloghah**	**1.03**	**213**	*e*Pg		**Pn**		**16 22 31.2**	**+0.4**
IGLO				*e*				16 22 51.9	
SHRO	**Shahrood**	**1.81**	**139**	*e*Pn		**Pn**		**16 22 41.7**	**+0.2**
SHRO				*e*Sg		**Sb**		**16 23 06.6**	**+0.2**
SHRO				IAML				16 23 07.7	
	comp=E,152nm,0.2s								
SHRO	**Shahrood**	**1.81**	**139**	*e*Pn		**Pn**		**16 22 41.7**	**+0.2**
IALA	**Alasht**	**1.88**	**228**	*e*Pn		**Pn**		**16 22 43.9**	**+1.2**
IALA				*e*				16 23 16.4	
IPRN	**Peran**	**2.09**	**238**	*e*Pn		**Pn**		**16 22 46.0**	**+0.7**
IFIR	**Firoozkooh**	**2.24**	**220**	*e*Pn		**Pb**		**16 22 50.0**	**-0.8**
IFIR				*e*				16 23 23.7	
SBZV	**Sabzevar**	**2.65**	**111**	*e*Pn		**Pn**		**16 22 53.6**	**+0.4**
IDMV	**Damavand**	**2.69**	**229**	*e*Pn		**Pb**		**16 22 56.7**	**-1.9**
IDMV				*e*				16 23 45.9	
ISFR	**Sfrayin**	**2.79**	**95**	*e*Pn		**Pn**		**16 22 55.8**	**+0.7**
ISFR				*e*				16 23 52.1	
IKRD	**Kardeh**	**3.24**	**99**	*e*Pn		**Pg**		**16 23 13.5**	**+1.3**
QALM	**Alamut, Qazvin**	**3.25**	**255**	*e*Pn		**Pn**		**16 23 02.2**	**+0.7**
IEMG	**Emamgholi**	**3.28**	**88**	*e*Pn		**Pn**		**16 23 02.6**	**+0.7**
TKDS	**Koohdasht(Taba**	**4.30**	**150**	*e*Pn		**Pn**		**16 23 16.3**	**+0.6**
QABG	**Abgarm-Qazvin**	**4.32**	**249**	*e*Pn		**Pn**		**16 23 17.4**	**+1.3**
QSDN	**Sirdan**	**4.38**	**260**	*e*Pn		**Pn**		**16 23 17.8**	**+0.9**
YZKH	**Yazd**	**4.96**	**179**	*e*Pn		**Pn**		**16 23 26.1**	**+1.3**
YZKH	**Yazd**	**4.96**	**179**	*e*Pn		**Pn**		**16 23 26.1**	**+1.3**
GRMI	**Germi**	**5.43**	**287**	*e*Pn		**Pn**		**16 23 31.5**	**+0.1**
GRMI	**Germi**	**5.43**	**287**	*e*Pn		**Pn**		**16 23 31.5**	**+0.1**

*TEH **26** 16:28:38.2,27.°46N×56.°68E,h7km,ML3.2*
*OMAN **26** 16:28:50.3±0.4,26.°56N×56.°99E,h10km±3km, ml2.7/8,*
Error ellipse: s-maj=6.3km s-min=2.4km az=332.0

ISC 26 16:28:38.1±1.0,27.°48N±0.°04×56.°71E±0.°06,h10km,n24,
σ1.°40/26,Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.48**	**261**	*e*Pg		**Pg**		**16 28 47.5**	**-0.1**
KHNJ	**Kahnooj**	**1.00**	**62**	*e*Pg		**Pg**		**16 28 57.9**	**+0.5**
SHME	**Shamm**	**1.51**	**200**	*e*Pn		**Pb**		**16 29 05.8**	**-0.5**
BANOM	**Banah**	**1.59**	**193**	P		Pn		**16 29 06.6**	**+0.2**
	SNR=46								
BANOM				P		**Pb**		**16 29 07.8**	**+0.2**
BANOM				S		**Sb**		**16 29 27.7**	**-0.2**
BANOM	**Banah**	**1.59**	**193**	*e*Pn		**Pb**		**16 29 07.8**	**+0.2**
NGRK	**Negar Kerman**	**2.16**	**1**	*e*Pn		**Pb**		**16 29 16.9**	**-0.7**
NGRK				*e*				16 30 02.6	
MSFE	**Esma-Masafi**	**2.17**	**193**	*e*Pn		**Pb**		**16 29 16.0**	**-1.5**
MDH	**Madha**	**2.20**	**190**	P		**Pn**		**16 29 15.4**	**+0.6**
MDH	**Madha**	**2.20**	**190**	*e*Pn		**Pb**		**16 29 16.5**	**-1.5**
CHMN	**Cheshme madani**	**2.48**	**17**	*e*Pn		**Pb**		**16 29 21.5**	**-1.6**
CHMN				*e*				16 30 10.0	
TVBK	**TV Kerman**	**2.50**	**1**	*e*Pn		**Pb**		**16 29 22.5**	**-0.9**
TVBK				*e*				16 30 08.0	
UOSS	**Minazif**	**2.56**	**190**	P		**Pn**		**16 29 18.9**	**-0.8**
UOSS	**Minazif**	**2.56**	**190**	*e*Pn		**Pb**		**16 29 22.4**	**-1.8**
NAZ	**Nazwa, Dubai**	**2.65**	**201**	P		**Pb**		**16 29 24.5**	**-1.3**
HATD	**Hatta, Dubai**	**2.69**	**191**	P		**Pn**		**16 29 22.9**	**+1.4**
HATD	**Hatta, Dubai**	**2.69**	**191**	*e*Pn		**Pn**		**16 29 22.7**	**+1.2**
ASHO	**Ashiyiah**	**2.84**	**192**	P		**Pn**		**16 29 25.2**	**+1.5**
ASHO	**Ashiyiah**	**2.84**	**192**	*e*Pn		**Pb**		**16 29 27.0**	**-2.0**
KHGB	**Koh Gabri**	**2.89**	**356**	*e*Pn		**Pb**		**16 29 27.6**	**-2.4**
KHGB				*e*				16 30 22.5	
SOHO	**SOHO**	**3.33**	**183**	P		**Pn**		**16 29 32.3**	**+2.0**
IMEH	**Mehriz**	**4.30**	**335**	*e*Pn		**Pn**		**16 29 46.5**	**+2.6**
UMZA	**Um Al Zommool**	**4.95**	**197**	*e*Pn		**Pn**		**16 29 53.8**	**+1.3**
WBK	**Wadi Bani Khal**	**5.26**	**157**	P		**Pn**		**16 29 57.0**	**+0.1**
	SNR=6.1								
IRAM	**Ramesheh**	**5.73**	**320**	*e*Pn		**Pn**		**16 30 04.9**	**+1.4**

*SKHL **26** 16:37:50.5±0.2,45.°30N×150.°72E,h87km±5km, mb4.1/2,*
msh5.2/4
*JMA **26** 16:37:52.3±0.4,45.°33N×150.°11E,h153km, M3.4*
*IDC **26** 16:37:54.3±2.4,46.°75N×149.°33E,h167km±22km, mb3.0/5,*
mb1 3.1/10,mb1mx2.9/59,mbtmp3.5/10,MS2.7/1,
Ms1 2.7/1,ms1mx2.2/18, Error ellipse: s-maj=41.9km
s-min=19.0km az=146.0

ISC 26 16:37:50.1±1.4,45.°1N±0.°1×150.°4E±0.°1,h150km,n29,
σ2.°77/34,mb3.1/5,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.79**	**275**	*i* P		**Pn**		**16 38 22.3**	**-0.4**
KUR				AMB		AMB		16 38 22.6	
	20nm,0.4s								
KUR				*i* S		**Sn**		**16 38 46.0**	**-1.8**
KUR				A		A		16 38 52.0	
	210nm,0.4s								
KUR				A		A		16 38 52.0	
	120nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**3.40**	**253**	*i* P		**Pn**		**16 38 45.2**	**+2.6**
YUK				AMB		AMB		16 38 45.7	
	10.0nm,0.3s								
YUK				*e*S		**Sn**		**16 39 26.4**	**+3.2**
YUK				A		A		16 39 36.2	
	180nm,0.8s								
YUK				A		A		16 39 36.2	
	180nm,0.8s								
LAGR	**Lagunnoye**	**3.45**	**254**	*e*P		**Pn**		**16 38 46.5**	**+3.4**
LAGR				*e*S		**Sn**		**16 39 28.4**	**+4.2**
LAGR				A		A		16 39 29.0	
	70nm,0.2s								
LAGR				A		A		16 39 29.0	
	10.0nm,0.2s								
GRPR	**Tuman**	**3.48**	**253**	*e*P		**Pn**		**16 38 46.7**	**+3.2**
GRPR				*e*S		**Sn**		**16 39 29.0**	**+4.0**
GRPR				A		A		16 39 30.0	
	70nm,0.3s								
GRPR				A		A		16 39 30.0	
	30nm,0.3s								
NEM2	**Nemuro 2**	**3.76**	**244**	P		**Pn**		**16 38 49.3**	**+2.1**
NEM2				*e*S		**Sn**		**16 39 33.2**	**+1.7**
NMR	**Nemuro--Hokkai**	**3.77**	**244**	*e*P		**Pn**		**16 38 49.5**	**+2.2**
JNK	**Nakash**	**4.34**	**252**	P		**Pn**		**16 38 56.8**	**+2.1**
AKK	**Akkeshi**	**4.50**	**244**	*e*P		**Pn**		**16 38 59.7**	**+2.8**
JAK	**Akkeshi**	**4.61**	**245**	P		**Pn**		**16 39 00.1**	**+1.8**
JAK				*e*S		**Sn**		**16 39 52.5**	**+1.1**
JAR	**Ashorobuto**	**5.09**	**252**	P		**Pn**		**16 39 07.0**	**+2.4**
JOB	**Onbets**	**5.21**	**247**	P		**Pn**		**16 39 08.1**	**+1.8**
JOB				*e*S		**Sn**		**16 40 06.6**	**+0.9**
JKK2	**Kamakawa 2**	**5.60**	**260**	P		**Pn**		**16 39 12.2**	**+0.8**
ASAJ	**Asahikawa**	**5.65**	**263**	P		**Pn**		**16 39 12.6**	**+0.5**
	0.1nm,0.3s,baz=45,slow=11,SNR=2.2								
ASAJ				LR		LR		16 41 03.8	
	comp=Z,72nm,21.4s,baz=171,slow=35								
JCH	**Churui**	**5.65**	**246**	P		**Pn**		**16 39 14.1**	**+2.0**
JCH				*e*S		**Sn**		**16 40 15.0**	**-1.2**
JNBK	**Urakawa-nobuka**	**6.21**	**246**	P		**Pn**		**16 39 19.8**	**+0.3**
JNBK				*e*S		**Sn**		**16 40 26.5**	**-3.0**
JNB	**Noboribetsu**	**7.26**	**252**	*e*S		**Sn**		**16 40 50.7**	**-4.0**
JKB	**Kayabe**	**7.52**	**248**	P		**Pn**		**16 39 36.8**	**-0.2**
JKB				*e*S		**Sn**		**16 40 55.3**	**-5.7**
JANG	**Nango**	**8.06**	**237**	*e*S		**Sn**		**16 41 10.0**	**-3.9**
JTM	**Tenmabayashi**	**8.08**	**241**	*e*S		**Sn**		**16 41 08.7**	**-5.7**
JTH	**Tanohata**	**8.13**	**234**	*e*S		**Sn**		**16 41 13.3**	**-2.5**
PETK	**Petropavlovsk-**	**9.34**	**28**	P		Pn		16 39 53.1	-8.0
	0.2nm,0.3s,baz=215,slow=17,SNR=2.8								
MJAR	**Matsushiro Arr**	**12.56**	**231**	P		P		16 40 55.3

s-maj=44.3km s-min=17.4km az=163.0
ISC 26 17:35:36.4±0.7, 51°38'N±0'1×178°66'E±0'05, h100km, n46, σ1§50/48, mb3.6/13, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSPA	**Little Sitkin**	**0.15**	**339**		**Pn**	**17 35 51.4**	**+0.9**
LSSA	**Little Sitkin**	**0.16**	**326**		**Pn**	**17 35 51.4**	**+0.9**
LSNW	**Little Sitkin**	**0.18**	**330**		**Pn**	**17 35 51.3**	**+0.8**
CETU	**Semis' Tuman**	**0.54**	**73**		**Pn**	**17 35 53.5**	**+1.0**
CESW	**Semis' Southwe**	**0.56**	**81**		**Pn**	**17 35 53.3**	**+0.6**
AMKA	**Amchitka**	**0.59**	**137**		**Pn**	**17 35 55.6**	**+2.8**
AMKA	**Amchitka**	**0.59**	**137**		**Sn**	**17 36 03.6**	**-1.5**
CEAP	**Semis' Anvil P**	**0.60**	**71**		**Pn**	**17 35 53.8**	**+0.9**
CEAP					**Sn**	**17 36 06.3**	**+1.0**
CERAA	**Semis' Rag'd T**	**0.64**	**81**		**Pn**	**17 35 53.9**	**+0.6**
TASE	**Tanaga Southea**	**2.05**	**88**		**Pn**	**17 36 10.0**	**+0.4**
TAFP	**Tanaga Falls P**	**2.08**	**86**		**Pn**	**17 36 10.3**	**+0.3**
TAFP					**Sn**	**17 36 35.1**	**-0.6**
TAPA	**Tanaga Point A**	**2.19**	**89**		**Pn**	**17 36 11.8**	**+0.4**
TAPA					**Sn**	**17 36 37.6**	**-0.6**
KIMD	**Kanaga Island**	**2.55**	**90**		**Pn**	**17 36 16.3**	**+0.2**
KICM	**Kanaga Island**	**2.57**	**86**		**Pn**	**17 36 17.0**	**+0.6**
KIKV	**Kanaga Island**	**2.58**	**87**		**Pn**	**17 36 17.3**	**+0.7**
KIRH	**Kanaga Island**	**2.63**	**86**		**Pn**	**17 36 17.5**	**+0.3**
ADK	**Adak**	**2.89**	**87**		**Pn**	**17 36 20.3**	**-0.2**
GSTD	**Great Sitkin T**	**3.22**	**84**		**Pn**	**17 36 25.0**	**-0.1**
GSTD					**Sn**	**17 37 02.0**	**-0.8**
GSMY	**Great Sitkin M**	**3.28**	**84**		**Pn**	**17 36 25.6**	**-0.2**
GSTR	**Great Sitkin T**	**3.28**	**83**		**Pn**	**17 36 26.1**	**+0.2**
ATKA	**Atka Island**	**4.43**	**82**		**Pn**	**17 36 42.5**	**+1.2**
KOFP	**Korovin Flat P**	**4.49**	**81**		**Pn**	**17 36 43.9**	**+1.7**
NIKH	**Nikolski High**	**7.73**	**76**		**Pn**	**17 37 27.3**	**+1.3**
PETK	**Petropavlovsk-** 0.2nm,0.3s,baz=148,slow=45,SNR=1.6	**12.85**	**284**	P	**Pn**	**17 38 38.1**	**+3.1**
PETK	S 0.1nm,0.3s,baz=248,slow=43,SNR=0.9				**Sn**	**17 40 51.1**	**-5.0**
KDAK	**Kodiak Island** 1.3nm,0.3s,baz=184,slow=0.5,SNR=34	**17.53**	**59**	P	**P**	**17 39 31.8**	**-2.0**
KDAK	**Kodiak Island**	**17.53**	**59**	P	**P**	**17 39 33.1**	**-0.7**
SKT	**Skwentna**	**19.01**	**46**	P	**P**	**17 39 52.9**	**+2.8**
SKT	comp=Z,13nm,0.9s			IAmb	IAmb	17 39 56.5	
BPAW	**Bear Paw Mtn.**	**20.01**	**40**	P	**P**	**17 40 03.6**	**+2.7**
HDA	**Harding Lake**	**21.77**	**41**	P	**P**	**17 40 21.0**	**+1.4**
ILAR	**Eielson Array** comp=Z,0.7nm,0.6s,baz=237,slow=7.9,SNR=8.8	**21.92**	**41**	P	**P**	**17 40 20.9**	**-0.3**
TOLK	**Toolik Lake Re**	**22.66**	**30**	P	**P**	**17 40 30.1**	**+1.2**
TOLK	comp=Z,5.3nm,0.6s			IAmb	IAmb	17 40 31.4	
DOT	**Dot Lake**	**22.77**	**44**	P	**P**	**17 40 30.4**	**+0.3**
BARN	**Barnard Glacie**	**23.45**	**51**	P	**P**	**17 40 36.7**	**0.0**
BARN	comp=Z,9.1nm,0.7s			IAmb	IAmb	17 40 38.2	
EGAK	**Eagle**	**24.27**	**42**	P	**P**	**17 40 43.8**	**0.0**
EGAK	comp=Z,6.4nm,0.7s			IAmb	IAmb	17 40 45.2	
DAWY	**Dawson**	**24.89**	**44**	P	**P**	**17 40 51.5**	**+2.0**
DAWY	comp=Z,4.5nm,0.8s			IAmb	IAmb	17 40 52.7	
HYT	**Haines Junctio**	**25.46**	**52**		**P**	**17 40 57.5**	**+2.7**
HYT	comp=Z,6.9nm,1.1s			IAmb	IAmb	17 40 57.8	
H11N2	**WAKE ISLAND Hy** baz=11,slow=76,SNR=4.8	**33.32**	**200**	T	T	18 17 23.8	
H11N3	**WAKE ISLAND Hy** baz=11,slow=76,SNR=6.6	**33.33**	**200**	T	T	18 17 44.7	
H11N1	**WAKE ISLAND Hy** baz=11,slow=76,SNR=6.1	**33.34**	**200**	T	T	18 17 34.4	
YKA	**Yellowknife Ar** comp=Z,1.1nm,0.5s,baz=282,slow=7.6,SNR=6.6	**36.08**	**46**	P	**P**	**17 42 28.2**	**+0.4**
NVAR	**Mina Array Bea** comp=Z,0.7nm,0.7s,baz=289,slow=8.4,SNR=5.6	**45.06**	**81**	P	**P**	**17 43 42.8**	**+0.5**
PDAR	**Pinedale Array** comp=Z,0.5nm,0.5s,baz=311,slow=5.7,SNR=6.5	**47.67**	**71**	P	**P**	**17 44 01.0**	**-1.8**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.9s,baz=66,slow=7.8,SNR=2.7	**58.51**	**307**	P	**P**	**17 45 21.8**	**-0.1**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,baz=308,slow=6.2,SNR=4.8	**60.14**	**80**	P	**P**	**17 45 32.1**	**-1.3**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.4s,baz=30,slow=5.9,SNR=1.5	**81.26**	**222**	P	**P**	**17 47 39.9**	**-1.4**
ASAR	**Alice Springs** comp=Z,0.5nm,0.8s,baz=24,slow=5.6,SNR=10.0	**84.77**	**220**	P	**P**	**17 47 59.1**	**-0.1**

*SOME **26** 17:53:01.6, 41°.68N×80°.88E, h10km*
*KRNET **26** 17:53:02.9±0.1, 41°.57N×80°.93E, mb3.2*
*NNC **26** 17:53:04.4±1.6, 41°.73N×80°.86E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=11.3km s-min=9.4km az=164.0*
ISC 26 17:53:03.0±2.2, 41°.63N±0°.09×80°.97E±0°.07, h10km, n41, σ1§93/65, 13C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode** 68nm,0.2s	**1.89**	**324**	*e*P	**Pn**	**17 53 33.7**	**-1.8**
SHLS	237nm,0.3s			*e*S	**Sn**	**17 53 56.7**	**-2.7**
SHLS	**Shalkode** 68nm,0.2s	**1.89**	**324**	P	**Pn**	**17 53 33.7**	**-1.8**
SHLS	237nm,0.3s			S	**Sn**	**17 53 56.7**	**-2.7**
PDGK	**Podgornoye** 15nm,0.2s	**2.02**	**328**	Pg	**Pn**	**17 53 38.4**	**+1.2**
PDGK	20nm,0.3s			Lg	Lg	17 54 04.6	
PDGK	**Podgornoye** 14nm,0.5s	**2.02**	**328**	⇑Pn	**Pn**	**17 53 38.2**	**+1.0**
PDGK	66nm,0.8s			⇑Sn	**Sb**	**17 54 05.1**	**0.0**
UZB	**Uzynbulak** 21nm,0.2s	**2.09**	**317**	*e*P	**Pn**	**17 53 39.7**	**+1.4**
UZB	84nm,0.3s			*e*S	**Sb**	**17 54 07.1**	**-0.1**
UZB	**Uzynbulak** 21nm,0.2s	**2.09**	**317**	Pg	**Pn**	**17 53 39.7**	**+1.4**
UZB	84nm,0.3s			Lg	Lg	17 54 07.1	
PRZ	**Przheval'sk** baz=97	**2.10**	**295**	⇑*i*P	**Pb**	**17 53 40.9**	**-0.3**
PRZ	baz=97			⇑*i*S	**Sg**	**17 54 09.1**	**-1.3**
SATY	**Saty** 6.7nm,0.2s	**2.38**	**308**	*e*P	**Pb**	**17 53 44.5**	**-1.5**
SATY	62nm,0.2s			*e*S	**Sb**	**17 54 15.6**	**+0.2**
SATY	**Saty** 6.7nm,0.2s	**2.38**	**308**	Pg	**Pb**	**17 53 44.5**	**-1.5**
SATY	62nm,0.2s			Lg	Lg	17 54 15.6	
ZHN	**Zhinishke** 14nm,0.2s	**2.43**	**310**	*e*P	**Pb**	**17 53 45.7**	**-1.1**
ZHN	26nm,0.2s			*e*S	**Sb**	**17 54 17.6**	**+0.7**
ZHN	**Zhinishke** 14nm,0.2s	**2.43**	**310**	Pg	**Pb**	**17 53 45.7**	**-1.1**
ZHN	26nm,0.2s			Lg	Lg	17 54 17.6	
KPKS	**Kokpek** 24nm,0.3s	**2.49**	**318**	*e*P	**Pb**	**17 53 46.8**	**-1.1**
KPKS	152nm,0.3s			*e*S	**Sb**	**17 54 19.5**	**+0.8**
ANVS	**Anan'yevo** baz=98	**2.71**	**296**	⇑*e*P	**Pb**	**17 53 50.1**	**-1.6**
ANVS	baz=98			⇑*e*S	**Sb**	**17 54 24.3**	**-0.8**
KURS	**Kuram** 8.7nm,0.3s	**2.78**	**313**	*e*P	**Pb**	**17 53 51.6**	**-1.2**
KURS	22nm,0.7s			*e*S	**Sb**	**17 54 27.9**	**+1.0**
KURS	**Kuram** 8.7nm,0.3s	**2.78**	**313**	Pg	**Pb**	**17 53 51.6**	**-1.2**
KURS	22nm,0.7s			Lg	Lg	17 54 27.9	
DJR	**Jarkent** 5.6nm,0.2s	**2.83**	**343**	*e*P	**Pb**	**17 53 51.8**	**-1.9**
DJR	21nm,0.2s			*e*S	**Sb**	**17 54 28.2**	**-0.4**
DJR	**Jarkent** 5.6nm,0.2s	**2.83**	**343**	Pg	**Pb**	**17 53 51.8**	**-1.9**
DJR	21nm,0.2s			Lg	Lg	17 54 28.2	
KDJ	**Kajisay** baz=82	**2.88**	**281**	⇓*e*P	**Pb**	**17 53 51.5**	**-3.0**
KDJ	baz=82			⇓*i*S	**Sb**	**17 54 27.6**	**-2.2**
MNBS	**Baschi** 6.1nm,0.3s	**3.09**	**323**	*e*P	**Pb**	**17 53 55.6**	**-2.5**
MNBS	52nm,0.3s			*e*S	**Sb**	**17 54 35.4**	**-0.5**
MNBS	**Baschi** 6.1nm,0.3s	**3.09**	**323**	Pg	**Pb**	**17 53 55.6**	**-2.5**
MNBS	52nm,0.3s			Lg	Lg	17 54 35.4	
KOTS	**Kotyrbulak** 12nm,0.2s	**3.28**	**301**	*e*P	**Pb**	**17 54 00.8**	**-0.5**
KOTS	53nm,0.5s			*e*S	**Sb**	**17 54 43.4**	**+2.1**
KOTS	**Kotyrbulak** 12nm,0.2s	**3.28**	**301**	Pg	**Pb**	**17 54 00.8**	**-0.5**
KOTS	53nm,0.5s			Lg	Lg	17 54 43.4	
MDOK	**Medeo** 3.7nm,0.2s	**3.29**	**299**	*e*P	**Pb**	**17 54 00.3**	**-1.2**
MDOK	23nm,0.6s			*e*S	**Sb**	**17 54 42.5**	**+1.0**
MDOK	**Medeo** 2.7nm,0.6s	**3.29**	**299**	Pn	**Pb**	**17 53 59.8**	**-1.6**
MDOK	22nm,0.6s			Lg	Lg	17 54 43.2	
MDOK	**Medeo** 3.7nm,0.2s	**3.29**	**299**	Pg	**Pb**	**17 54 00.3**	**-1.2**
MDOK	23nm,0.6s			Lg	Lg	17 54 42.5	
TNSS	**Tian-Shan** 4.7nm,0.2s	**3.30**	**297**	*e*P	**Pb**	**17 54 00.9**	**-0.9**
TNSS	18nm,0.4s			*e*S	**Sb**	**17 54 44.1**	**+1.9**
TNSS	**Tian-Shan** 4.7nm,0.2s	**3.30**	**297**	Pg	**Pb**	**17 54 00.9**	**-0.9**
TNSS	18nm,0.4s			Lg	Lg	17 54 44.1	
ARXS	**Arharly** 6.6nm,0.2s	**3.46**	**319**	*e*P	**Pb**	**17 54 02.7**	**-1.7**
ARXS	13nm,0.5s			*e*S	**Sb**	**17 54 46.6**	**0.0**
ARXS	**Arharly** 6.6nm,0.2s	**3.46**	**319**	Pg	**Pb**	**17 54 02.7**	**-1.7**
ARXS	13nm,0.5s			Lg	Lg	17 54 46.6	
CHKK	**Chushkaly** 2.1nm,0.2s	**3.68**	**308**	*e*P	**Pb**	**17 54 07.8**	**-0.3**
CHKK	17nm,0.4s			*e*S	**Sb**	**17 54 54.3**	**+1.5**
CHKK	**Chushkaly** 2.1nm,0.2s	**3.68**	**308**	Pg	**Pb**	**17 54 07.8**	**-0.3**
CHKK	17nm,0.4s			Lg	Lg	17 54 54.3	
KTBS	**Karatobe** 1.9nm,0.2s	**3.79**	**305**	*e*P	**Pb**	**17 54 09.0**	**-0.9**
KTBS	20nm,0.5s			*e*S	**Sb**	**17 54 57.9**	**+2.1**
KTBS	**Karatobe** 1.9nm,0.2s	**3.79**	**305**	Pg	**Pb**	**17 54 09.0**	**-0.9**
KTBS	20nm,0.5s			Lg	Lg	17 54 57.9	
KAPS	**Kapalarasan** 1.8nm,0.1s	**3.84**	**343**	*e*P	**Pn**	**17 54 06.4**	**+4.2**
KAPS	12nm,0.3s			*e*S	**Sn**	**17 54 52.7**	**+5.4**
KAPS	**Kapalarasan** 1.8nm,0.1s	**3.84**	**343**	Pg	**Pn**	**17 54 06.4**	**+4.2**
KAPS	12nm,0.3s			Lg	Lg	17 54 52.7	
BOOM	**Boomskoye usch** baz=86	**3.84**	**285**	⇑*e*P	**Pn**	**17 54 05.8**	**+3.4**
BOOM	baz=86			⇑*e*S	**Sn**	**17 54 50.9**	**+3.2**
KUU	**Kurty** 1.3nm,0.6s	**4.09**	**305**	*e*P	**Pb**	**17 54 14.7**	**-0.4**
KUU	10nm,0.5s			*e*S	**Sb**	**17 55 07.0**	**+2.4**
TKM2	**Tokmak 2** 1.5nm,0.5s	**4.19**	**290**	⇑Pn	**Pn**	**17 54 09.6**	**+2.4**
TKM2	3.7nm,0.6s			⇓Lg	Lg	17 55 15.4	
AAK	**Ala-Archa** 1.1nm,0.5s	**4.92**	**284**	Pg	**Pg**	**17 54 34.8**	**-2.5**
AAK	3.1nm,0.6s			⇑Lg	Lg	17 55 41.2	
MAKZ	**Makanchi** 1.3nm,0.3s	**5.22**	**8**	⇑Pn	**Pn**	**17 54 21.0**	**-0.1**
MAKZ	0.5nm,0.3s			⇓Sn	**Sn**	**17 55 24.1**	**+2.7**
MAKZ	0.8nm,0.3s			⇓Lg	Lg	17 55 45.7	
MK31	**Makanchi Array** 0.4nm,0.5s,baz=196,slow=13,SNR=23	**5.25**	**10**	⇓Pn	**Pn**	**17 54 21.3**	**-0.2**
MK31	0.6nm,0.4s,baz=175,slow=24,SNR=6.1			⇑Sn	**Sn**	**17 55 24.9**	**+2.9**
MK31	0.5nm,0.3s,baz=191,slow=30,SNR=3.6			⇑Lg	Lg	17 55 45.0	

*MAN **26** 18:00:53.6, 13°.54N×120°.51E, h53km, mb4.7, ML3.6, MS3.5*
*IDC **26** 18:00:54.7±1.0, 14°.57N×120°.31E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.5/48, mbtmp3.9/5, Error ellipse: s-maj=42.7km s-min=9.5km az=43.0*
*NEIC **26** 18:00:55.6±1.0, 14°.7N±0°.1×120°.5E±0°.2, h10km±2km, mb4.1/10, Error ellipse: s-maj=28.8km s-min=8.4km az=237.0*
ISC 26 18:00:54.4±0.8, 13°.55N±0°.03×120°.52E±0°.04, h63km±6km, n36, σ1§14/47, mb4.0/11, 1C-4D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.32**	**304**	*e*P	**Pn**	**18 01 05.3**	**+0.3**
LUBP				*e*S	**Sn**	**18 01 12.9**	**+0.2**
PGP	**Puerto Galera**	**0.42**	**96**	⇓*e*P	**Pn**	**18 01 04.6**	**-1.3**
PGP				*e*S	**Sn**	**18 01 13.6**	**-0.6**
TGY	**Tagaytay City** 797nm,0.3s,baz=211,slow=12,SNR=74	**0.68**	**36**	Pg	**Pn**	**18 01 08.8**	**+0.2**
TGY	1µm,0.3s,baz=190,slow=22,SNR=10			Lg	Lg	18 01 20.5	
TGY	**Tagaytay City**	**0.68**	**36**	⇓*e*P	**Pn**	**18 01 09.4**	**+0.7**
TGY				*e*S	**Sn**	**18 01 20.5**	**+1.3**
LQP	**Lukban**	**1.14**	**60**	⇓*i*P	**Pn**	**18 01 14.6**	**+0.1**
LQP				*i* S	**Sn**	**18 01 27.4**	**-2.0**
BOAC	**Boac**	**1.29**	**94**	*e*P	**Pn**	**18 01 16.0**	**-0.3**
BOAC				*e*S	**Sn**	**18 01 32.3**	**-0.4**
BUSP	**Coron**	**1.57**	**192**	*e*P	**Pn**	**18 01 20.1**	**0.0**
BUSP				*e*S	**Sn**	**18 01 39.0**	**-0.5**
POLP	**Polilio Island**	**1.81**	**49**	*e*P	**Pn**	**18 01 23.5**	**+0.3**
POLP				*e*S	**Sn**	**18 01 45.5**	**+0.4**
OTRP	**Odiongan**	**1.88**	**129**	*e*P	**Pn**	**18 01 23.9**	**-0.3**
OTRP				*e*S	**Sn**	**18 01 47.8**	**+0.8**
GQP	**Guinayangan**	**1.90**	**79**	⇓*i*P	**Pn**	**18 01 25.5**	**+0.9**
SCZP	**Santa Cruz**	**2.29**	**345**	*e*P	**Pn**	**18 01 29.9**	**0.0**
SCZP				*e*S	**Sn**	**18 01 59.1**	**+2.1**
BALP	**Baler**	**2.41**	**25**	*e*P	**Pn**	**18 01 32.8**	**+1.4**
BALP				*e*S	**Sn**	**18 02 02.8**	**+3.0**
ENPP	**El Nido**	**2.56**	**205**	*e*P	**Pn**	**18 01 33.5**	**-0.1**
SMPP	**San Manuel, Pa**	**2.59**	**3**	*e*P	**Pn**	**18 01 32.4**	**-1.5**
SMPP				*e*S	**Sn**	**18 02 03.3**	**-1.0**
BOLP	**Bolinao**	**2.88**	**348**	*e*P	**Pn**	**18 01 37.7**	**-0.1**
BOLP				*e*S	**Sn**	**18 02 12.1**	**+0.8**
RCP	**Roxas**	**2.94**	**132**	⇑*e*P	**Pn**	**18 01 39.5**	**+0.8**
CAUP	**Cauayan**	**3.60**	**20**	*e*P	**Pn**	**18 01 45.8**	**-1.9**
SZP	**Santa**	**3.98**	**359**	Pn	Pn	18 01 41.6	-11
ABRA	**Dolores**	**4.08**	**3**	*e*P	**Pn**	**18 01 53.3**	**-0.9**
ABRA				*e*S	**Sn**	**18 02 39.9**	**-0.8**
APYP	**Conner**	**4.34**	**9**	*e*P	**Pn**	**18 02 00.8**	**+2.9**
APYP				*e*S	**Sn**	**18 02 47.4**	**+0.2**
TBP	**Tagbilaran**	**5.04**	**139**	*e*P	**Pn**	**18 02 08.2**	**+0.7**
TBP				*i* S	**Pn**	**18 02 09.9**	**+2.4**
MAJO	**Matsushiro**	**27.85**	**32**	P	**P**	**18 06 37.3**	**-0.7**
MAJO	comp=Z,4.6nm,1.3s			IAmb	IAmb	18 06 46.1	
MJB9	**Matsu-Tunnel**	**27.85**	**32**	P	**P**	**18 06 37.3**	**-0.7**
MJB9	comp=Z,4.4nm,1.3s			IAmb	IAmb	18 06 46.1	
WB0	**Warramunga Arr**	**35.81**	**157**	P	**pP**	**18 08 04.2**	**+0.5**
WB0	comp=Z,2.4nm,1.1s			IAmb	IAmb	18 08 22.0	
WRA	**Warramunga Arr** comp=Z,1.8nm,0.7s,baz=332,slow=11,SNR=7.9	**35.95**	**157**	P	pP	18 08 05.7	+0.8
WB2	**Warramunga Arr**	**35.96**	**157**	P	**pP**	**18 08 05.7**	**+0.9**
WB2	comp=Z,6.8nm,0.9s			IAmb	IAmb	18 08 06.1	
SONM	**Songino Array**	**36.15**	**344**	P	**P**	**18 07 50.6**	**-0.2**
AS31	**Alice Springs** comp=Z,0.5nm,0.5s,baz=167,slow=8.7,SNR=2.0	**39.23**	**160**	P	pP	18 08 33.1	+0.5
ASAR	**Alice Springs** comp=Z,2.2nm,0.6s,baz=337,slow=6.8,SNR=22	**39.24**	**160**	P	pP	18 08 34.2	+1.6
MK31	**Makanchi Array**	**46.05**	**324**	P	**P**	**18 09 11.9**	**0.0**
MKAR	**Makanchi Array** comp=Z,0.9nm,0.7s,baz=135,slow=8.4,SNR=9.3	**46.05**	**324**	P	**P**	**18 09 12.7**	**+0.8**
YAK	**Yakutsk**	**48.85**	**6**	P	**P**	**18 09 32.2**	**-1.1**
ZAA0	**Zalesovo Array**	**49.11**	**333**	P	**P**	**18 09 35.0**	**-0.4**
ZAA0	comp=Z,1.0nm,0.5s			IAmb	IAmb	18 09 35.3	
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.3s,baz=126,slow=5.2,SNR=2.6	**49.11**	**333**	P	**P**	**18 09 35.2**	**-0.2**
KURK	**Kurchatov**	**50.22**	**326**	P	**P**	**18 09 44.2**	**+0.3**
BRVK	**Borovoye**	**55.87**	**326**	P	**P**	**18 10 26.0**	**+0.5**
BRVK	comp=Z,2.0nm,0.8s			IAmb	IAmb	18 10 26.9	

IDC 26 18:03:12.2±8.0, 30°.28S×176°.83W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.4/46, mbtmp3.5/2, Error ellipse: s-maj=338.1km s-min=59.9km az=155.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs** 0.5nm,0.9s,baz=103,slow=7.6,SNR=2.1	**44.13**	**266**	P	P	18 11 22.1	-0.6
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=111,slow=8.0,SNR=11	**45.11**	**271**	P	P	18 11 30.7	+0.2
FINES	**FINESS Array B** 0.7nm,0.6s,baz=66,slow=4.9,SNR=5.1	**145.37**	**341**	PKPbc	PKPbc	18 22 50.4	-0.9

IDC 26 18:04:36.6±2.0, 3°.75N×125°.20E, h0km, mb3.5/4, mb1 3.8/4, mb1mx3.4/43, mbtmp3.6/4, Error ellipse: s-maj=122.2km s-min=27.2km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.8nm,0.3s,baz=0.0,slow=13,SNR=16	**21.71**	**179**	P	P	18 09 30.0	+0.6
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=336,slow=10,SNR=35	**25.20**	**159**	P	P	18 10 04.2	0.0
ASAR	**Alice Springs** 0.2nm,0.4s,baz=345,slow=7.1,SNR=4.8	**28.54**	**163**	P	P	18 10 33.6	-0.6
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=114,slow=9.6,SNR=2.4	**56.68**	**326**	P	P	18 14 21.9	0.0

*ATH **26** 18:09:44.5, 40°.71N×21°.45E, h22km±1km, ML3.0/9, Error ellipse: s-maj=2.8km s-min=1.5km az=175.0*
*TIR **26** 18:09:44.3, 40°.73N×21°.41E, h9km, Md3.4/5*
*BEO **26** 18:09:44.0±0.7, 40°.57N×21°.38E, h7km±3km, ML2.5/11*
*SKO **26** 18:09:45.2, 40°.61N×21°.31E, h20km*
*THE **26** 18:09:45.5, 40°.70N×21°.38E, h14km±2km, ML2.9/8, Error ellipse: s-maj=3.0km s-min=0.6km az=198.0*
ISC 26 18:09:45.5±0.9, 40°.68N±0°.01×21°.43E±0°.02, h13km±8km, n75, σ1§21/113, 9C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEST	**Nestorio**	**0.40**	**227**	P	**Pg**	**18 09 52.9**	**-0.5**
NEST	3µm,0.3s			S	**Sg**	**18 09 59.3**	**+0.5**
KZN	**Kozani**	**0.46**	**145**	P	**Pg**	**18 09 54.6**	**+0.1**
KZN	3µm,0.5s			S	**Sb**	**18 10 02.9**	**+0.8**
KZN	**Kozani**	**0.46**	**145**	P	**Pg**	**18 09 54.7**	**+0.1**
KZN				S	**Sg**	**18 10 01.2**	**+0.5**
KZN	comp=E,5620µm,0.4s			AML	AML	18 10 03.4	
KZN	comp=N,4849µm,0.4s			AML	AML	18 10 04.1	
PENT	**Pentalofos**	**0.54**	**205**	P	**Pg**	**18 09 55.3**	**-0.7**
PENT	comp=N,2µm,0.2s			S	**Sb**	**18 10 04.4**	**0.0**
PENT	**Pentalofos**	**0.54**	**205**	P	**Pg**	**18 09 55.5**	**-0.5**
PENT				S	**Sg**	**18 10 03.8**	**+0.7**
PENT	comp=E,3164µm,0.3s			AML	AML	18 10 07.4	
PENT	comp=N,3042µm,0.3s			AML	AML	18 10 07.4	
KTI	**Kastanea**	**0.60**	**119**	P	**Pb**	**18 09 57.5**	**-0.3**
OHR	**Ohrid**	**0.64**	**312**	⇑*i*Pg	**Pg**	**18 09 56.9**	**-1.1**
OHR				*i* Sg	**Sb**	**18 10 07.5**	**+0.1**
OHR	comp=N,329nm,0.6s			*e*Lg	Lg	18 10 07.9	
KPRO	**Kipourio**	**0.73**	**184**	P	**Pb**	**18 09 59.1**	**-0.9**
KPRO	comp=N,2µm,0.4s			S	**Sn**	**18 10 11.3**	**-1.2**
GRG	**Griva**	**0.79**	**69**	P	**Pg**	**18 10 00.9**	**+0.2**
GRG	comp=N,510nm,0.6s			S	**Sn**	**18 10 14.1**	**+0.2**
LIT	**Litokhoron**	**1.00**	**125**	P	**Pg**	**18 10 04.7**	**0.0**
LIT	comp=N,902nm,0.5s			S	**Sn**	**18 10 19.4**	**+0.4**
VAY	**Valandovo**	**1.07**	**53**	*e*Pg	**Pg**	**18 10 05.9**	**-0.3**
VAY				*e*Sg	**Sn**	**18 10 21.7**	**+0.8**
VAY	**Valandovo**	**1.07**	**53**	P	**Pg**	**18 10 05.8**	**-0.4**
VAY				S	**Sn**	**18 10 22.5**	**+1.6**
VAY	**Valandovo**	**1.07**	**53**	⇑*i*Pg	**Pg**	**18 10 06.2**	**+0.1**
VAY				*i* Sg	**Sn**	**18 10 23.9**	**+3.0**
VAY	comp=E,193nm,0.6s			*e*Lg	Lg	18 10 25.0	
JAN	**Janina**	**1.12**	**204**	P	**Pn**	**18 10 06.2**	**-0.6**
JAN				S	**Sg**	**18 10 23.5**	**+1.9**
JAN	comp=N,1190µm,0.5s			AML	AML	18 10 24.5	
JAN	comp=E,1760µm,0.4s			AML	AML	18 10 29.1	
THL	**Klokotos Trika**	**1.20**	**158**	P	**Pn**	**18 10 07.0**	**-0.9**
THL	comp=E,410nm,0.7s			S	**Sg**	**18 10 24.9**	**+0.6**
THL	**Klokotos Trika**	**1.20**	**158**	P	**Pn**	**18 10 07.1**	**-0.8**
THL				S	**Sg**	**18 10 25.1**	**+0.8**
THL	comp=E,851µm,0.6s			AML	AML	18 10 27.6	
THL	comp=N,817µm,0.9s			AML	AML	18 10 27.6	
KNT	**Kendrikon**	**1.21**	**66**	P	**Pg**	**18 10 08.0**	**-0.8**
KNT	comp=N,158nm,0.7s			S	**Sg**	**18 10 25.7**	**+1.1**
PHP	**Peshkopia**	**1.25**	**324**	P	**Pn**	**18 10 07.4**	**-1.2**
PHP				S	**Sg**	**18 10 26.0**	**+0.2**
PHP	**Peshkopia**	**1.25**	**324**	*i* PN	**Pb**	**18 10 08.2**	**-0.7**
PHP				*i* SN	**Sg**	**18 10 25.9**	**+0.1**
SKO	**Skopje**	**1.29**	**0**	*e*Pg	**Pn**	**18 10 08.2**	**-0.9**
SKO				*e*Sg	**Sg**	**18 10 28.0**	**+1.0**
SKO	**Skopje**	**1.29**	**0**	*e*Pg	**Pg**	**18 10 10.3**	**+0.1**
SKO				*i* Sg	**Sg**	**18 10 28.4**	**+1.3**
SKO	comp=E,40nm,1.2s			*e*Lg	Lg	18 10 29.7	
SRN	**Sarande**	**1.36**	**234**	P	**Pb**	**18 10 10.4**	**-0.3**
SRN	**Sarande**	**1.36**	**234**	*i* PN	**Pg**	**18 10 11.1**	**-0.4**
SRN				*i* SN	**Sg**	**18 10 32.7**	**+3.5**
TIR	**Tirane**	**1.36**	**300**	*e*Pg	**Pn**	**18 10 09.5**	**-0.6**
TIR				*e*Sg	**Sg**	**18 10 28.9**	**-0.3**
TIR	**Tirane**	**1.36**	**300**	*i* PN	**Pg**	**18 10 10.9**	**-0.7**
TIR				*i* SN	**Sg**	**18 10 31.1**	**+1.9**
TIR	**Tirane**	**1.36**	**300**	⇑P	**Pg**	**18 10 11.5**	**-0.1**
TIR				⇑S	**Sg**	**18 10 29.1**	**-0.1**
PLG	**Polygyros**	**1.57**	**101**	P	**Pb**	**18 10 13.6**	**-0.7**
KEK	**Kerk

EVR					AML	AML	18 10 51.8		
	comp=E,366µm,0.5s								
XOR	**Xorichti**	**1.89**	**134**		P	**Pn**	**18 10 17.3**	**-0.1**	
NEO	**Neokhori**	**1.95**	**134**		P	**Pn**	**18 10 18.4**	**+0.2**	
MMB	**Musomiste**	**1.96**	**62**		P	**Pg**	**18 10 22.8**	**-0.2**	
BCI	**Bajram Curri**	**1.97**	**329**	*i*	PN	**Pb**	**18 10 20.8**	**-0.3**	
BCI				*i*	SN	**Sg**	**18 10 49.8**	**+1.0**	
BOSS	**Bosilegrad**	**1.98**	**23**	*e*	Pn	**Pb**	**18 10 19.3**	**-2.0**	
BOSS				*e*	Sn	**Sb**	**18 10 45.7**	**-0.1**	
PVO	**Paravola**	**2.06**	**178**		P	**Pb**	**18 10 21.6**	**-1.1**	
ANX	**Ano Chora**	**2.12**	**170**		P	**Pn**	**18 10 21.6**	**+0.9**	
ANX					S	**Sb**	**18 10 49.0**	**-1.1**	
ANX					AML	AML	18 10 50.3		
	comp=E,1015µm,0.5s								
ANX					AML	AML	18 10 55.7		
	comp=N,660µm,0.5s								
BARS	**Barje**	**2.15**	**8**	*e*	Pn	**Pn**	**18 10 21.8**	**+0.8**	
BARS				*e*	Sn	**Sb**	**18 10 51.0**	**+0.2**	
SKIA	**Skiathos**	**2.18**	**133**		P	**Pn**	**18 10 21.3**	**0.0**	
EFP	**Efpalio**	**2.28**	**171**		P	**Pb**	**18 10 24.7**	**-1.8**	
SERG	**Sergoula**	**2.32**	**168**		P	**Pn**	**18 10 23.9**	**+0.7**	
FSK	**Fiskardo**	**2.32**	**197**		P	**Pn**	**18 10 24.7**	**+1.4**	
KALE	**Kalithea**	**2.35**	**166**		P	**Pn**	**18 10 24.3**	**+0.4**	
KALE					S	**Sb**	**18 10 54.3**	**-2.4**	
KALE					AML	AML	18 11 06.3		
	comp=N,216µm,0.7s								
KALE					AML	AML	18 11 07.2		
	comp=E,233µm,0.4s								
VTS	**Vitosha**	**2.36**	**34**	*e*	Pn	**Pn**	**18 10 23.9**	**-0.1**	
VTS				*e*	Sn	**Sb**	**18 10 55.0**	**-2.0**	
VTS	**Vitosha**	**2.36**	**34**	⇑	P	**Pb**	**18 10 27.0**	**-0.9**	
TRIZ	**Trizonia**	**2.37**	**168**		P	**Pn**	**18 10 23.6**	**-0.3**	
PDG	**Podgorica**	**2.39**	**318**	⇑	P	**Pb**	**18 10 26.4**	**-1.9**	
SELS	**Selova**	**2.55**	**355**	*e*	Pn	**Pn**	**18 10 26.8**	**+0.4**	
KLV	**Kalavryta, Ach**	**2.69**	**168**		P	**Pn**	**18 10 29.2**	**+0.7**	
DRO	**Drossia**	**2.73**	**175**		P	**Pn**	**18 10 30.5**	**+1.5**	
ZAPS	**Zavoj**	**2.74**	**19**	*e*	Pn	**Pn**	**18 10 30.4**	**+1.3**	
SJES	**Sjenica**	**2.80**	**338**	*e*	Pn	**Pn**	**18 10 30.9**	**+0.9**	
GUR	**Goura**	**2.83**	**165**		P	**Pn**	**18 10 30.8**	**+0.4**	
LTK	**Loutraki**	**2.91**	**155**		P	**Pn**	**18 10 31.3**	**-0.2**	
BOVS	**Bovan**	**2.96**	**4**	*e*	Pn	**Pn**	**18 10 32.1**	**0.0**	
IVAS	**Ivanjica**	**3.04**	**342**	*e*	Pn	**Pn**	**18 10 32.9**	**-0.4**	
TREB	**Trebinje**	**3.07**	**312**	*e*	Pn	**Pn**	**18 10 33.5**	**-0.2**	
GRUS	**Gruza**	**3.25**	**351**	*e*	Pn	**Pn**	**18 10 36.4**	**+0.3**	
DID	**Didima**	**3.47**	**156**		P	**Pn**	**18 10 40.0**	**+0.9**	
BBLS	**Lazići**	**3.52**	**335**	*e*	Pn	**Pn**	**18 10 40.5**	**+0.7**	
DIVS	**Divibare**	**3.58**	**343**	*e*	Pn	**Pn**	**18 10 40.1**	**-0.5**	
MATE	**Matera**	**3.59**	**271**	⇑	P	**Pn**	**18 10 41.6**	**+0.8**	
PLVB	**Pleven**	**3.60**	**40**	⇓	P	**Pb**	**18 10 44.4**	**-4.5**	
TRUS	**Trudelj**	**3.62**	**348**	*e*	Pn	**Pn**	**18 10 41.8**	**+0.6**	
MDVR	**Moldovita**	**4.10**	**3**	⇑	P	**Pn**	**18 10 51.1**	**+3.2**	
RICI	**Ricice**	**4.26**	**313**	*e*	Pn	**Pn**	**18 10 51.7**	**+1.7**	
RICI					Sn	**Sn**	**18 11 40.8**	**+1.4**	
HERR	**Herculane**	**4.26**	**9**	⇑	P	**Pn**	**18 10 53.3**	**+3.3**	
HVAR	**Hvar**	**4.47**	**306**	*e*	Pn	**Pn**	**18 10 53.4**	**+0.5**	
HVAR					Sn	**Sn**	**18 11 44.0**	**-0.8**	
BZS	**Buzias**	**4.93**	**2**	⇓	P	**Pn**	**18 11 02.7**	**+3.5**	
KLIV	**Kijevo**	**4.99**	**313**	*e*	Pn	**Pn**	**18 11 01.7**	**+1.7**	
KLIV					Sn	**Sn**	**18 11 58.0**	**+0.5**	
ZIRJ	**Zirje**	**5.22**	**307**	*e*	Pn	**Pn**	**18 11 03.4**	**+0.2**	
ZIRJ					Sn	**Sn**	**18 12 01.6**	**-1.6**	

NEIC ***26*** *18:30:48.9±1.5,51.1′9N±0.1′×178.1′49E±0.1′07, h103*$^{km}_{\pm 3}$*, Error ellipse: s-maj=16.4km s-min=5.9km az=184.0*

IDC ***26*** *18:30:48.5±3.5,51.1′96N×178.1′50E, h98*$^{km}_{\pm 32}$*, mb3.7/25, mb1 3.8/27,mb1mx3.7/39,mbtmp4.0/27,MS2.8/3, Ms1 2.8/3,ms1mx2.7/30,Error ellipse: s-maj=18.0km s-min=10.5km az=163.0*

AEIC ***26*** *18:30:49±1.6,51.1′8N±0.1′×178.1′44E±0.1′07, h99*$^{km}_{\pm 3}$*, ML3.7/31,mb4.3/45(NEIC),Error ellipse: s-maj=15.4km s-min=6.0km az=177.0*

ISC 26 18:30:48.7±0.6,51′97N±0.1′08×178′43E±0.1′04, h98$^{km}_{\pm 5}$**, n131,σ1§10/136, mb4.1/42, 1C-1D, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.05**	**87**			**Pn**	**18 31 02.7**	**+0.3**
LSSA	**Little Sitkin**	**0.05**	**111**			**Pn**	**18 31 02.7**	**+0.3**
LSPA	**Little Sitkin**	**0.09**	**97**			**Pn**	**18 31 02.8**	**+0.3**
LSPA						**Sn**	**18 31 14.7**	**+2.1**
CETU	**Semis' Tuman**	**0.66**	**90**			**Pn**	**18 31 05.9**	**+0.4**
CESW	**Semis' Southwe**	**0.70**	**95**			**Pn**	**18 31 05.8**	**-0.1**
CEAP	**Semis' Anvil P**	**0.71**	**87**			**Pn**	**18 31 06.4**	**+0.4**
CEAP						**Sn**	**18 31 20.1**	**+1.1**
CERAA	**Semis' Rag'd T**	**0.78**	**94**			**Pn**	**18 31 06.6**	**0.0**
CERAA						**Sn**	**18 31 20.3**	**+0.2**
AMKA	**Amchitka**	**0.80**	**137**	Pn		**Pn**	**18 31 09.7**	**+2.8**
AMKA	**Amchitka**	**0.80**	**137**			**Sn**	**18 31 18.6**	**-1.9**
GAEA	**Gareloi East**	**1.76**	**95**			**Pn**	**18 31 17.3**	**-0.8**
GAEA						**Sn**	**18 31 41.2**	**+0.8**
TASE	**Tanaga Southea**	**2.19**	**92**			**Pn**	**18 31 23.3**	**-0.4**
TAFP	**Tanaga Falls P**	**2.22**	**90**			**Pn**	**18 31 23.5**	**-0.5**
TAFP						**Sn**	**18 31 49.9**	**-1.2**
TAPA	**Tanaga Point A**	**2.33**	**92**			**Pn**	**18 31 25.3**	**-0.2**
TAPA						**Sn**	**18 31 54.5**	**+0.8**
KIMD	**Kanaga Island**	**2.69**	**93**			**Pn**	**18 31 29.4**	**-0.9**
KICM	**Kanaga Island**	**2.71**	**89**			**Pn**	**18 31 30.3**	**-0.1**
KIKV	**Kanaga Island**	**2.72**	**90**			**Pn**	**18 31 30.3**	**-0.3**
KIWB	**Kanaga Island**	**2.74**	**91**	Pn		**Pn**	**18 31 30.0**	**-0.8**
SMY	**Shemya**	**2.77**	**288**	Pn		**Pn**	**18 31 31.3**	**+0.1**
SMY	**Shemya**	**2.77**	**288**			**Sn**	**18 32 03.9**	**0.0**
ADK	**Adak**	**3.02**	**90**			**Pn**	**18 31 33.9**	**-0.8**
GSTD	**Great Sitkin T**	**3.35**	**86**			**Pn**	**18 31 38.5**	**-0.6**
GSTR	**Great Sitkin T**	**3.40**	**86**			**Pn**	**18 31 39.2**	**-0.6**
GSMY	**Great Sitkin M**	**3.41**	**87**			**Pn**	**18 31 39.3**	**-0.5**
ATKA	**Atka Island**	**4.55**	**84**			**Pn**	**18 31 55.2**	**0.0**
ATKA						**Sn**	**18 32 45.5**	**-1.3**
NIKH	**Nikolski High**	**7.83**	**78**	Pn		**Pn**	**18 32 40.5**	**+0.8**
SPIA	**Saint Paul Isl**	**8.39**	**47**	Pn		**Pn**	**18 32 50.7**	**+3.4**
UNV	**Unalaska Valle**	**9.29**	**72**	Pn		**Pn**	**18 33 01.3**	**+1.7**
AKUT	**Akutan**	**9.76**	**71**	Pn		**Pn**	**18 33 09.4**	**+3.5**
PEA0B	**Petropavlovsk-**	**12.67**	**283**	Pn		**Pn**	**18 33 47.5**	**+2.4**
PETK	**Petropavlovsk-**	**12.67**	**283**	P		**Pn**	**18 33 46.9**	**+1.8**
	0.8nm,0.3s,baz=94,slow=19,SNR=8.9							
PETK				S		**Sn**	**18 35 58.8**	**-5.5**
	0.3nm,0.3s,baz=274,slow=32,SNR=0.9							
PETK				LR		LR	18 39 09.7	
	comp=Z,49nm,19.3s,baz=245,slow=39							
SDPT	**Sand Point**	**12.95**	**67**	Pn		**Pn**	**18 33 47.2**	**-1.4**
CNBA	**Chernabura Isl**	**13.41**	**69**	Pn		**Pn**	**18 33 52.0**	**-2.7**
SII	**Sitkinak Islan**	**16.58**	**63**	Pn		**Pn**	**18 34 34.1**	**-0.9**
SVW2	**Sparrevohn**	**16.89**	**47**			**P**	**18 34 40.0**	**+0.8**
KDAK	**Kodiak Island**	**17.57**	**59**	P		**P**	**18 34 44.8**	**-1.8**
	2.1nm,0.3s,baz=282,slow=6.4,SNR=18							
KDAK	**Kodiak Island**	**17.57**	**59**			**P**	**18 34 44.2**	**-2.5**
KDAK					IAmb	IAmb	18 34 52.0	
	comp=Z,16nm,1.1s							
RSO	**Redoubt South**	**18.01**	**51**	P		**P**	**18 34 50.3**	**-1.3**
SPU	**Mount Spurr**	**18.53**	**49**			**Pn**	**18 34 59.7**	**+1.2**
CNPM	**China Poot**	**18.54**	**54**	P		**P**	**18 34 57.0**	**-0.3**
CNPM					IAmb	IAmb	18 34 59.8	
	comp=Z,16nm,1.0s							
BRLK	**Bradley Lake**	**18.76**	**53**	P		**P**	**18 34 59.7**	**0.0**
BRLK					IAmb	IAmb	18 35 00.4	
	comp=Z,18nm,1.0s							
SKT	**Skwentna**	**19.01**	**47**	P		**Pn**	**18 35 04.3**	**+0.1**
SKT					IAmb	IAmb	18 35 08.9	
	comp=Z,9.7nm,0.9s							
SEW	**Seward**	**19.53**	**53**	P		**P**	**18 35 08.0**	**0.0**
SEW					IAmb	IAmb	18 35 13.4	
	comp=Z,16nm,1.1s							
BPAW	**Bear Paw Mtn.**	**19.99**	**41**	P		**P**	**18 35 13.2**	**+0.2**
TRF	**Thorofare Moun**	**20.04**	**43**			**P**	**18 35 13.8**	**+0.1**
TRF					IAmb	IAmb	18 35 20.4	
	comp=Z,16nm,1.4s							
SML	**Sawmill**	**20.42**	**48**	P		**P**	**18 35 18.7**	**+1.0**
SML					IAmb	IAmb	18 35 22.0	
	comp=Z,8.2nm,0.8s							
GLI	**Glacier Island**	**20.82**	**51**	P		**P**	**18 35 21.7**	**-0.1**
SCM	**Sheep Creek Mo**	**20.89**	**48**	P		**P**	**18 35 23.4**	**+0.6**
SCM					IAmb	IAmb	18 35 25.8	
	comp=Z,12nm,1.0s							
FID	**Port Fidalgo**	**21.09**	**52**	P		**P**	**18 35 24.4**	**-0.4**
FID					IAmb	IAmb	18 35 32.9	
	comp=Z,20nm,1.1s							
ILAR	**Eielson Array**	**21.89**	**41**	P		**P**	**18 35 32.1**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=255,slow=11,SNR=8.6							
RAGM	**Ragged Mountai**	**21.93**	**53**	P		**P**	**18 35 34.1**	**+0.3**
RIDG	**Independent Ri**	**22.45**	**44**	P		**P**	**18 35 39.7**	**+0.4**
GLB	**Gilahina Butte**	**22.48**	**50**	P		**P**	**18 35 39.6**	**0.0**
TOLK	**Toolik Lake Re**	**22.59**	**30**	P		**P**	**18 35 41.1**	**+0.4**
VRDI	**Verde Repeater**	**22.62**	**51**	P		**P**	**18 35 40.0**	**-1.1**
VRDI					IAmb	IAmb	18 35 43.2	
	comp=Z,12nm,1.0s							
DOT	**Dot Lake**	**22.76**	**45**	P		**P**	**18 35 42.8**	**+0.4**
YAH	**Yahtse**	**23.38**	**53**	P		**P**	**18 35 48.1**	**-0.4**
YAH					IAmb	IAmb	18 36 05.5	
	comp=Z,25nm,1.3s							
BARN	**Barnard Glacie**	**23.47**	**52**	P		**P**	**18 35 50.8**	**+1.5**
CTGM	**Chitina Glacie**	**23.62**	**52**	P		**P**	**18 35 51.6**	**+1.0**
CTGM					IAmb	IAmb	18 35 53.2	
	comp=Z,9.4nm,0.7s							
DAWY	**Dawson**	**24.87**	**45**	P		**P**	**18 36 02.8**	**+0.9**
ASAJ	**Asahikawa**	**25.01**	**266**	P		**P**	**18 36 03.3**	**+0.1**
	comp=Z,5.1nm,0.8s,baz=18,slow=3.2,SNR=4.5							
ERM	**Erimo**	**25.81**	**261**	P		**P**	**18 36 11.7**	**+1.3**
INK	**Inuvik**	**27.98**	**36**	P		**P**	**18 36 29.6**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=298,slow=4.5,SNR=1.8							
KLR	**Kul'dur**	**29.36**	**283**	P		**P**	**18 36 42.3**	**+0.2**
	comp=Z,3.8nm,0.6s,baz=59,slow=8.9,SNR=17							
DLBC	**Dease Lake**	**29.47**	**57**	P		**P**	**18 36 43.5**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=274,slow=9.2,SNR=3.2							
USA0B	**Ussuriysk Arra**	**31.52**	**274**	P		**P**	**18 37 00.8**	**-0.3**
USA0B					IAmb	IAmb	18 37 10.9	
	comp=Z,2.7nm,0.7s							
USRK	**Ussuriysk Ar.**	**31.52**	**274**	P		**P**	**18 37 00.1**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=138,slow=40,SNR=3.3							
MJAR	**Matsushiro Arr**	**32.20**	**257**	P		**P**	**18 37 08.1**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=316,slow=8.8,SNR=2.6							
H11N2	**WAKE ISLAND Hy**	**33.42**	**200**	T		T	19 12 57.4	
	baz=11,slow=76,SNR=23							
H11N3	**WAKE ISLAND Hy**	**33.43**	**200**	T		T	19 12 41.3	
	baz=11,slow=76,SNR=26							
H11N1	**WAKE ISLAND Hy**	**33.44**	**200**	T		T	19 12 39.1	
	baz=11,slow=76,SNR=24							
H11S1	**WAKE ISLAND Hy**	**34.65**	**200**	T		T	19 14 24.3	
	baz=10,slow=76,SNR=8.1							
H11S2	**WAKE ISLAND Hy**	**34.66**	**200**	T		T	19 14 23.8	
	baz=10,slow=76,SNR=4.0							
H11S3	**WAKE ISLAND Hy**	**34.66**	**200**	T		T	19 14 14.9	
	baz=10,slow=76,SNR=5.5							
YKA	**Yellowknife Ar**	**36.07**	**47**	P		**P**	**18 37 40.2**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=290,slow=8.2,SNR=4.1							
KSRS	**Korea Array**	**37.92**	**268**	P		**P**	**18 37 57.0**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=55,slow=7.5,SNR=5.5							
KSRS					LR	LR	18 53 23.9	
	comp=Z,8.1nm,20.8s,baz=220,slow=36							
SONM	**Songino Array**	**44.84**	**295**	P		**P**	**18 38 53.5**	**+0.7**
	comp=Z,1.8nm,0.7s,baz=62,slow=7.8,SNR=11							
SONM					PcP	**PcP**	**18 40 32.9**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=67,slow=2.9,SNR=4.9							
BOZ	**Bozeman (W)**	**44.89**	**69**	P		**P**	**18 38 52.3**	**-1.0**
NVAR	**Mina Array Bea**	**45.18**	**81**	P		**P**	**18 38 55.7**	**0.0**
	comp=Z,1.3nm,0.6s,baz=297,slow=7.2,SNR=12							
ELK	**Elko**	**45.61**	**77**	P		**P**	**18 38 58.7**	**-0.4**
HHC	**Hu-ho-hao-te**	**45.87**	**284**	*e*	P	**P**	**18 39 01.5**	**+0.5**
HHC					pmax	pmax		
	comp=Z,15nm,0.7s							
HHC					pmax	pmax		
	comp=Z,75nm,7.0s							
R11A	**Troy Canyon, C**	**46.89**	**80**	P		**P**	**18 39 08.7**	**-0.4**
PDAR	**Pinedale Array**	**47.76**	**71**	LR		LR	18 57 03.3	
	comp=Z,14nm,18.3s,baz=342,slow=33							
GSC	**Goldstone, Bar**	**48.10**	**84**	P		**P**	**18 39 18.4**	**-0.1**
GSC					IAmb	IAmb	18 39 19.1	
	comp=Z,3.8nm,0.8s							
SPITS	**Spitsbergen Ar**	**49.65**	**355**	P		**P**	**18 39 29.5**	**-0.1**
	comp=Z,1.8nm,0.3s,baz=50,slow=6.6,SNR=28							
ZALV	**Zalesovo Beam**	**52.36**	**312**	P		**P**	**18 39 50.1**	**0.0**
	comp=Z,0.5nm,0.4s,baz=52,slow=6.5,SNR=2.5							
ZALV					PcP	**PcP**	**18 41 00.2**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=45,slow=4.4,SNR=7.1							
SUMG	**Summit**	**53.12**	**13**	P		**P**	**18 39 56.1**	**+0.1**
LZH	**Lanzhou**	**53.57**	**284**	⇓	P	**P**	**18 39 59.3**	**-0.2**
LZH					pP	pP	18 40 24.8	+1.8
LZH					sP	sP	18 40 36.8	+2.9
LZH					pmax	pmax		
	comp=Z,16nm,1.3s							
LZH					pmax	pmax		
	comp=Z,63nm,5.6s							
GTA	**Gaotai**	**53.75**	**290**	⇑	P	**P**	**18 40 01.5**	**+0.8**
GTA					pmax	pmax		
	comp=Z,6.0nm,0.7s							
ENH	**Enshi**	**54.10**	**275**	P		**P**	**18 40 03.1**	**-0.2**
ARCES	**ARCESS Array B**	**57.20**	**349**	P		**P**	**18 40 25.7**	**+0.8**
	comp=Z,2.3nm,1.0s,baz=32,slow=8.9,SNR=5.0							
KURK	**Kurchatov**	**57.36**	**312**	P		**P**	**18 40 26.5**	**+0.4**
WMQ	**Urumqi**	**57.57**	**301**	*e*	P	**P**	**18 40 31.0**	**+3.1**
MK31	**Makanchi Array**	**58.31**	**307**	P		**P**	**18 40 32.6**	**-0.3**
MK31					IAmb	IAmb	18 40 33.1	
	comp=Z,1.4nm,0.7s							
MKAR	**Makanchi Array**	**58.31**	**307**	P		**P**	**18 40 32.5**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=50,slow=6.4,SNR=19							
MKAR					PcP	**PcP**	**18 41 23.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=54,slow=6.7,SNR=2.2							
MAKZ	**Makanchi**	**58.45**	**307**	P		**P**	**18 40 33.5**	**-0.5**
MAKZ					IAmb	IAmb	18 40 34.1	
	comp=Z,2.1nm,0.7s							
BRVK	**Borovoye**	**59.33**	**318**	P		**P**	**18 40 40.6**	**+0.7**
TX32	**Lajitas Array**	**60.25**	**80**	P		**P**	**18 40 46.2**	**-0.5**
TXAR	**Lajitas Array**	**60.25**	**80**	P		**P**	**18 40 46.2**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=311,slow=5.0,SNR=11							
ARU	**Arti**	**61.18**	**327**	P		**P**	**18 40 53.4**	**+1.0**
KDJ	**Kajisay**	**64.20**	**306**	P		**P**	**18 41 13.5**	**+0.5**
KDJ					IAmb	IAmb	18 41 13.8	
	comp=Z,3.0nm,0.6s							
BOOM	**Boomskoye usch**	**64.55**	**307**	P		**P**	**18 41 16.0**	**+0.8**
BOOM					IAmb	IAmb	18 41 18.6	
	comp=Z,2.1nm,0.7s							
FINES	**FINESS Array B**	**64.81**	**346**	P		**P**	**18 41 15.7**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=20,slow=6.9,SNR=11							
AAK	**Ala-Archa**	**65.15**	**308**	P		**P**	**18 41 20.0**	**+0.9**
AAK					IAmb	IAmb	18 41 20.1	
	comp=Z,2.6nm,0.6s							
KK31	**Karatay Array**	**66.70**	**311**	P		**P**	**18 41 29.3**	**+0.5**
KK31					IAmb	IAmb	18 41 29.8	
	comp=Z,2.5nm,0.7s							
KKAR	**Karatay Array**	**66.70**	**311**	P		**P**	**18 41 29.3**	**+0.4**
KKAR					IAmb	IAmb	18 41 29.8	
	comp=Z,2.5nm,0.7s							
NOA	**NORSAR Array B**	**66.88**	**353**	P		**P**	**18 41 29.0**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=3.5,slow=5.0,SNR=2.2							
BTK	**Batken**	**68.91**	**308**	P		**P**	**18 41 43.2**	**+0.4**
BTK					IAmb	IAmb	18 41 44.2	
	comp=Z,5.4nm,0.8s							
CMAR	**Chiang Mai Arr**	**69.25**	**274**	P		**P**	**18 41 44.9**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=22,slow=6.3,SNR=8.1							
TAPN	**Taplejung**	**69.39**	**288**	*e*	P	**P**	**18 41 46.5**	**+0.3**
GAR	**Garm**	**69.97**	**308**	P		**P**	**18 41 50.1**	**+0.7**
GUN	**Gumba**	**70.04**	**290**	*e*	P	**P**	**18 41 51.2**	**+0.9**
	comp=Z,26nm,0.4s							
JIRN	**Jiri**	**70.04**	**289**	*e*	P	**P**	**18 41 51.4**	**+1.1**
RAMN	**Ramite**	**70.34**	**289**	*e*	P	**P**	**18 41 52.6**	**+0.6**
	comp=Z,16nm,0.5s							
PKI	**Pulchoki**	**70.56**	**290**	*e*	P	**P**	**18 41 54.0**	**+0.5**
	comp=Z,13nm,0.6s							
PKIN	**Phulchoki**	**70.57**	**290**	*e*	P	**P**	**18 41 54.0**	**+0.6**
	comp=Z,11nm,0.5s							
GKN	**Gorkha**	**70.69**	**291**	*e*	P	**P**	**18 41 54.6**	**+0.6**
	comp=Z,22nm,0.7s							
DANN	**Dangsing**	**70.93**	**292**	*e*	P	**P**	**18 41 56.4**	**+0.8**
	comp=Z,26nm,0.7s							
KOLN	**Koldanda**	**71.46**	**291**	*e*	P	**P**	**18 41 59.3**	**+0.6**
	comp=Z,18nm,0.8s							
PYUN	**Piuthan**	**71.56**	**292**	*e*	P	**P**	**18 42 00.0**	**+0.7**
	comp=Z,18nm,0.8s							
AKASG	**Malin Array Be**	**74.43**	**340**	P		**P**	**18 42 14.9**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=20,slow=6.2,SNR=1.9							
GEYT	**Alibeck**	**76.47**	**315**	P		**P**	**18 42 29.0**	**+1.4**
	comp=Z,0.8nm,0.5s,baz=40,slow=11,SNR=2.6							
WRA	**Warramunga Arr**	**81.28**	**221**	P		**P**	**18 42 53.1**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=30,slow=5.7,SNR=8.1							
BRTR	**Keskin Array B**	**83.67**	**333**	P		**P**	**18 43 06.2**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=121,slow=16,SNR=2.7							
ASAR	**Alice Springs**	**84.79**	**220**	P		**P**	**18 43 11.4**	**-0.5**
	comp=Z,1.1nm,0.8s,baz=20,slow=5.2,SNR=13							
STKA	**Stephens Creek**	**89.52**	**211**	P		**P**	**18 43 33.9**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=6.2,slow=5.7,SNR=4.3							
STKA	**Stephens Creek**	**89.52**	**211**	P		**P**	**18 43 34.0**	**-0.4**
STKA					IAmb	IAmb	18 43 52.6	
	comp=Z,2.7nm,1.4s							
TORD	**Torodi Ar. Bea**	**115.09**	**356**	PKP		**PKiKP**	**18 49 17.1**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=349,slow=2.4,SNR=5.9							
MAW	**Mawson**	**145.89**	**218**	PKPbc		**PKPab**	**18 50 15.6**	**-0.2**
	comp=Z,0.4nm,0.2s,baz=89,slow=5.9,SNR=5.1							
MAW	**Mawson**	**145.89**	**218**			**PKPbc**	**18 50 14.9**	**-0.3**
BOSA	**Boshof**	**149.29**	**309**	PKPbc		**PKPbc**	**18 50 25.7**	**0.0**
	comp=Z,1.8nm,0.5s,baz=41,slow=2.7,SNR=5.0							
BOSA				PKPab		**PKPab**	**18 50 30.2**	**-0.4**
	comp=Z,3.0nm,0.9s,baz=26,slow=5.9,SNR=3.6							
BOSA	**Boshof**	**149.29**	**309**			**PKPbc**	**18 50 25.6**	**-0.2**

KRNET ***26*** *19:11:41.2±0.1,39.′04N×78.′95E,mb2.3*

SOME 26 19:11:42.2,42.′32N×81.′00E,h0^{km}**,6C-2D, Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.41**	**307**	*e*	P	Pg	19 12 04.7	-4.6
	1.7nm,0.2s							
SHLS					*e*	Sg	19 12 20.5	-7.0
	2.8nm,0.2s							
UZB	**Uzynbulak**	**1.68**	**300**	*e*	P	Pb	19 12 14.2	+0.1
	1.1nm,0.2s							
UZB					*e*	Sg	19 12 36.9	+0.8
	1.9nm,0.2s							
SATY	**Saty**	**2.05**	**292**	*e*	P	Pg	19 12 21.3	-0.2
	1.0nm,0.2s							
SATY					*e*	Sg	19 12 49.0	+0.9
	2.4nm,0.1s							
TARG	**Taragay, Kyrgy**	**2.45**	**257**	⇑	*i* P	Pb	19 12 26.9	-0.5
	baz=42							
TARG				⇑	*i* S	Sg	19 13 00.6	-0.4
	baz=42							
KDJ	**Kajisay**	**2.84**	**268**	⇑	*i* P	Pb	19 12 34.8	+0.9
	baz=37							
KDJ				⇑	*i* S	Sg	19 13 13.4	-0.1
	baz=37							
ULHL	**Ulahol**	**3.53**	**270**	⇑	*i* P	Pn	19 12 40.8	+2.3
	baz=28							
ULHL				⇑	*e* S	Sn	19 13 24.8	+3.7
	baz=28							
BOOM	**Boomskoye usch**	**3.75**	**274**	⇓	*i* P	Pn	19 12 45.3	+3.8
	baz=27							
BOOM				⇓	*i* S	Sb	19 13 31.9	-3.6
	baz=27							

IDC 26 19:18:03.6±6.1,28.′92S×177.′47W,h0^{km}**, mb3.4/2, mb1 3.7/2,mb1mx3.4/22,mbtmp3.4/2,Error ellipse: s-maj=346.0km s-min=84.8km az=164.0,Kermadec Islands region**

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

1um,0.3s,baz=73,slow=20,SNR=10
RAO Raoul Island 1.36 323 Pn Pn 19 45 29.7 -1.5
RAO Sn Sn 19 45 47.8 -0.6
URZ Urewera 9.28 210 Pn Pn 19 47 18.4 -1.4
OUZ Omahuta 9.30 236 Pn Pn 19 47 17.9 -2.2
BKZ Black Stump Fm 10.30 210 Pn Pn 19 47 30.6 -3.3
MSWZ Moikau Station 12.70 208 Pn Pn 19 48 04.2 -2.6
BHW Baring Head 12.85 209 Pn Pn 19 48 04.9 -3.8
TUWZ Tuamarina 13.27 211 Pn Pn 19 48 10.0 -4.4
THZ Tophouse 14.01 213 Pn Pn 19 48 19.9 -4.7
KHZ Kahutara 14.24 210 Pn Pn 19 48 19.6 -8.2
LTZ Lake Taylor 15.10 212 Pn Pn 19 48 31.5 -7.8
OXZ Oxford 15.63 211 Pn Pn 19 48 41.4 -4.9
OXZ IAmb IAmb 19 48 53.7
comp=Z,28nm,0.4s
RPZ Rata Peaks 16.38 212 Pn Pn 19 48 51.7 -4.2
comp=Z,2.1nm,0.3s,baz=37,slow=3.9,SNR=7.6
RPZ Rata Peaks 16.38 212 Pn 19 48 50.5 -5.5
RPZ IAmb IAmb 19 48 59.9
comp=Z,126nm,1.9s
FOZ Fox Glacier 16.84 215 Pn Pn 19 48 58.1 -3.5
FOZ IAmb IAmb 19 49 05.7
comp=Z,96nm,1.4s
DZM Mont Dzumac 16.99 295 P P 19 49 07.8 +2.2
comp=Z,0.5nm,0.3s,baz=140,slow=11,SNR=8.1
LBZ Lake Benmore 17.30 212 Pn Pn 19 49 04.0 -3.4
ODZ Otahua Downs 17.60 210 Pn 19 49 06.1 -5.2
WKZ Wanaka 18.18 213 Pn Pn 19 49 13.3 -5.0
TBI Tubuai 25.49 81 eLQ LQ 19 55 23.2
comp=Z,589nm,26.2s
TBI eLR LR 19 56 40.2
comp=Z,693nm,29.2s,baz=252
PPT2 Papeete2 28.00 69 eLQ LQ 19 56 15.3
comp=Z,916nm,26.0s
PPT2 eLR LR 19 57 48.3
comp=Z,439nm,21.0s,baz=249
PPT Papeete 28.01 69 LR LR 19 59 46.6
comp=Z,461nm,18.7s,baz=216,slow=32
HNR Honiara 29.94 309 LR LR 20 02 11.4
comp=Z,229nm,18.3s,baz=181,slow=34
CTA Charters Tower 34.66 278 P P **19 51 57.6 +2.2**
comp=Z,5.2nm,0.6s,baz=92,slow=10,SNR=7.8
CTAO Charters Tower 34.66 278 P P **19 51 57.0 +1.6**
CTAO IAmb IAmb 19 51 59.1
comp=Z,24nm,1.2s
STKA Stephens Creek 35.34 257 P P **19 52 03.4 +2.2**
comp=Z,5.6nm,0.8s,baz=106,slow=14,SNR=8.4
STKA LR LR 20 06 36.6
comp=Z,578nm,18.2s,baz=95,slow=36
STKA Stephens Creek 35.34 257 P P **19 52 03.2 +2.0**
TAOE Nuku Hiva Isla 40.48 66 eLR LR 20 03 46.8
comp=Z,374nm,21.2s
AS31 Alice Springs 43.99 266 P P **19 53 13.4 +0.1**
ASAR Alice Springs 43.99 266 P P **19 53 12.8 -0.6**
comp=Z,4.2nm,0.8s,baz=114,slow=8.0,SNR=21
ASAR LR LR 20 12 01.8
comp=Z,762nm,18.1s,baz=118,slow=37
WR0 Warramunga Arr 44.79 272 P P **19 53 20.3 +0.6**
WR0 IAmb IAmb 19 53 20.8
comp=Z,19nm,1.2s
WB2 Warramunga Arr 44.96 272 P P **19 53 21.4 +0.3**
WRAB Tennant Creek 44.97 272 P P **19 53 21.7 +0.6**
WRAB IAmb IAmb 19 53 22.2
comp=Z,23nm,1.1s
WRA Warramunga Arr 44.97 272 P P **19 53 21.6 +0.4**
comp=Z,10nm,0.9s,baz=112,slow=7.8,SNR=26
WB0 Warramunga Arr 45.00 272 P P **19 53 21.7 +0.4**
FORT Forrest 46.91 255 P P **19 53 36.8 +0.5**
VNDA Vanda 48.23 186 P P **19 53 48.4 +2.5**
comp=Z,0.6nm,0.7s,baz=55,slow=6.6,SNR=2.0
VNDA LR LR 20 11 15.5
comp=Z,198nm,19.8s,baz=9.5,slow=32
FITZ Fitzroy Crossi 53.24 269 P P **19 54 24.4 -0.1**
comp=Z,11nm,1.1s,baz=120,slow=5.4,SNR=4.7
FITZ Fitzroy Crossi 53.24 269 P P **19 54 25.8 +1.3**
FITZ IAmb IAmb 19 54 26.2
comp=Z,18nm,1.2s
CASY Casey 55.59 208 P P **19 54 42.2 +1.3**
CASY IAmb IAmb 19 55 03.3
comp=Z,12nm,1.0s
GUMO Guam 57.07 314 LR LR 20 15 04.4
comp=Z,100nm,21.9s,baz=140,slow=32
RPN Rapa Nui 58.60 105 LR LR 20 15 04.0
comp=Z,225nm,19.1s,baz=347,slow=31
QSPA South Pole Qui 59.76 180 P P **19 55 10.1 -0.3**
comp=Z,3.5nm,1.1s,baz=237,slow=6.4,SNR=5.3
KAPI Kappang 64.47 280 LR LR 20 24 59.5
comp=Z,133nm,18.1s,baz=163,slow=37
MAW Mawson 72.66 200 P P **19 56 34.3 +1.5**
comp=Z,2.3nm,0.8s,baz=96,slow=6.7,SNR=3.9
LEM Lembang 73.99 271 LR LR 20 27 40.5
comp=Z,132nm,20.4s,baz=214,slow=34
SYO Syowa Base 77.36 193‖ *eP* P **19 57 01.0 +1.0**
SYO Syowa Base 77.36 193‖ *esP* sP 19 57 08.4 +0.5
MJAR Matsushiro Arr 78.71 325 P P **19 57 07.8 -0.1**
comp=Z,9.4nm,1.2s,baz=161,slow=4.9,SNR=11
MAJO Matsushiro 78.71 325 P 19 57 07.9 +0.1
MAJO IAmb IAmb 19 57 10.7
comp=Z,20nm,1.4s
MAT Matsushiro 78.71 325 P P **19 57 07.3 -0.6**
MJB9 Matsu-Tunnel 78.71 325 P P **19 57 07.9 0.0**
MJB9 IAmb IAmb 19 57 10.6
comp=Z,20nm,1.4s
PLCA Paso Flores 81.90 133 P P **19 57 25.1 -0.2**
comp=Z,2.3nm,0.9s,baz=213,slow=10.0,SNR=3.5
PLCA LR LR 20 26 33.0
comp=Z,237nm,19.0s,baz=284,slow=30
KSRS Korea Array 84.88 319 P P **19 57 41.4 +1.1**
comp=Z,1.5nm,1.0s,baz=150,slow=4.6,SNR=6.6
KSRS LR LR 20 29 38.5
comp=Z,93nm,21.0s,baz=204,slow=32
CMB Columbia Colle 86.14 41 P P **19 57 47.2 +0.5**
WDC Whiskeytown Da 86.73 38 P P **19 57 50.3 +0.9**
WDC IAmb IAmb 19 57 51.7
comp=Z,14nm,1.5s
USRK Ussuriysk Ar. 87.61 326 P P **19 57 54.2 +0.6**
comp=Z,3.2nm,0.9s,baz=86,slow=4.5,SNR=12
NVAR Mina Array Bea 87.61 42 P P **19 57 54.5 +0.4**
comp=Z,2.0nm,0.9s,baz=212,slow=8.0,SNR=11
CFA Coronel Fontan 88.56 126 LR LR 20 31 01.8
comp=Z,120nm,20.6s,baz=254,slow=31
TXAR Lajitas Array 91.62 57 P P **19 58 13.5 +0.5**
comp=Z,1.0nm,1.0s,baz=210,slow=7.2,SNR=4.3
TXAR LR LR 20 32 18.1
comp=Z,182nm,19.5s,baz=0.0,slow=31
ENH Enshi 92.30 304 P P **19 58 16.7 +0.8**
BMO Blue Mountains 92.46 38 P P **19 58 16.5 +0.1**
BMO IAmb IAmb 19 58 19.8
comp=Z,7.8nm,1.7s
LVC Limon Verde 93.19 118 LR LR 20 31 19.5
comp=Z,140nm,21.9s,baz=230,slow=30
F10A Beach Ranch, E 93.25 37 P P **19 58 18.7 -1.3**
F10A IAmb IAmb 19 58 23.0
comp=Z,4.0nm,0.9s
PV04 Paradox Valley 93.29 47 P P **19 58 19.2 -1.4**
CMAR Chiang Mai Arr 94.22 289 P P **19 58 25.5 +0.5**
comp=Z,1.2nm,1.1s,baz=204,slow=2.7,SNR=5.4
CMAR LR LR 20 45 43.7
comp=Z,40nm,18.0s,baz=125,slow=39
PDAR Pinedale Array 95.50 43 P P **19 58 31.8 +1.1**
comp=Z,0.6nm,0.8s,baz=208,slow=5.0,SNR=4.5
LPAZ La Paz 97.36 114 LR LR 20 36 12.9
comp=Z,50nm,18.7s,baz=224,slow=32
CPUP Villa Florida 99.32 128 LR LR 20 38 32.8
comp=Z,169nm,18.3s,baz=219,slow=32
J56A Wolcott 117.03 54 PKiKP 20 03 50.2 0.0
MKAR Makanchi Array 118.41 310 PKP PKiKP **20 03 52.1 -0.8**
comp=Z,1.0nm,1.1s,baz=54,slow=2.1,SNR=4.8
BOOM Boomskoye usch 121.74 304 PKiKP 20 03 59.9 +0.1
BRVK Borovoye 127.05 316 PKiKP 20 04 09.9 +0.2
FIA1 FINESS Array S 145.39 341 PKPab 20 04 42.3 -0.6
FINES FINESS Array B 145.40 341 PKPbc PKiKP **20 04 42.8 -4.0**
comp=Z,19nm,1.0s,baz=59,slow=5.1,SNR=35
OBN Obninsk 145.63 326 PKiKP 20 04 43.9 -3.5
AKH Akhalkalaki 145.68 300 PKiKP 20 04 45.7 -2.5
KBZ Khabaz 145.81 304 PKPbc PKiKP **20 04 45.6 -2.5**
comp=Z,2.7nm,0.9s,baz=49,slow=6.6,SNR=7.0
NB2 NORSAR Subarra 148.83 352 PKP PKiKP **20 04 51.6 -2.3**
comp=Z,0.8nm,0.8s,baz=15,slow=2.9
NOA NORSAR Array B 148.83 352 PKPbc PKiKP **20 04 51.6 -2.3**
comp=Z,3.1nm,1.1s,baz=15,slow=4.3,SNR=3.8
AKASG Malin Array Be 151.79 324 PKPbc PKiKP **20 04 59.5 -0.7**
comp=Z,4.4nm,0.9s,baz=42,slow=2.7,SNR=15
BRTR Keskin Array B 153.35 299 PKPbc PKiKP **20 05 04.3 +0.2**
comp=Z,0.7nm,0.8s,baz=24,slow=11,SNR=2.5
CHVC Chvalec 157.55 338 *e*PKPAB **PKPab 20 05 34.7 +1.3**

DPC Dobruska-Polom 157.66 337 *e*PKPAB **PKPab 20 05 35.3 +1.4**
CLL Collm 157.78 343 *i* PKPab **PKPab 20 05 34.2 -0.1**
comp=Z,6.0nm,1.1s
CLL LmV 21 28 00.0
comp=Z,100nm,18.6s
PRU Pruhonice 158.55 339 *e*PKPAB **PKPab 20 05 38.3 +0.6**
KHC Kasperske Hory 159.60 340 *e*PKPAB **PKPab 20 05 42.6 +0.2**
KHC Kasperske Hory 159.60 340 PKPab 20 05 43.0 +0.7
VTS Vitosha 159.71 313 PKPab 20 05 44.1 +0.9
GERES GERESS Array B 159.81 339 PKPab **PKPab 20 05 43.4 0.0**
comp=Z,1.2nm,0.9s,baz=46,slow=5.8,SNR=9.1
CONA Conrad Observa 159.87 334 *i* PKPab **PKPab 20 05 44.9 +1.3**
comp=Z,3.9nm,1.2s
WATA Walderalm 161.80 341 *i* PKPab **PKPab 20 05 53.3 +1.1**
comp=Z,6.5nm,1.1s
WTTA Wattenberg 161.85 341 *i* PKPab **PKPab 20 05 53.6 +1.2**
comp=Z,7.5nm,1.3s
RETA Reutte 161.88 343 *i* PKPab **PKPab 20 05 53.5 +1.2**
comp=Z,7.5nm,1.3s
MOTA Moosalm 161.92 342 *i* PKPab **PKPab 20 05 53.6 +0.9**
comp=Z,8.9nm,1.1s
FUORN Ofenpass-Fuorn 162.81 343 PKPab 20 05 57.2 +0.5
TORD Torodi Ar. Bea 162.84 176 PKPab **PKPab 20 05 58.5 +1.3**
comp=Z,0.8nm,0.6s,baz=203,slow=3.5,SNR=4.2

DJA 26 19:49:24.2±1.3, 9°S±5°×11°1E±°, h17km±11km, M4.0/9, mb3.9/1, MLv4.1/9, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WOJI	**Wonogiri, Jawa**	**0.87**	**2**	P	Pb	19 49 40.6	-0.2
WOJI				S	Sb	19 49 52.0	-0.2
UGM	**Wanagama**	**0.87**	**335**	P	Pg	19 49 41.3	+0.1
UGM				S	Sn	19 49 54.2	+0.1
NGJI	**Ngawi**	**1.45**	**23**	P	Pg	19 49 51.6	-0.5
SMRI	**Semarang**	**1.71**	**345**	P	Pn	19 49 53.8	+0.5
GRJI	**Gresik**	**2.38**	**42**	P	Pn	19 50 02.1	-0.4
JAGI	**Jajag, Banyuwa**	**3.23**	**86**	P	Pn	19 50 14.0	-0.2
JAGI				S	Sn	19 50 53.8	+1.4
CISI	**Cisompet, Garu**	**3.25**	**290**	P	Pn	19 50 13.8	-0.7
CISI				S	Sn	19 50 49.0	-3.9
CNJI	**Cibinong**	**3.98**	**290**	P	Pn	19 50 24.0	-0.4

IDC 26 20:05:28.9±55.0, 16°93S×178°74W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/28, mbtmp4.1/3, Error ellipse: s-maj=1001.0km s-min=168.9km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**38.83**	**240**	P	P	20 12 56.1	+0.2
	4.7nm,1.1s,baz=73,slow=17,SNR=2.7						
WRA	**Warramunga Arr**	**44.50**	**259**	P	P	20 13 42.3	-0.3
	0.8nm,0.7s,baz=92,slow=8.5,SNR=8.3						
ASAR	**Alice Springs**	**44.76**	**253**	P	P	20 13 44.4	-0.2
	3.2nm,0.6s,baz=88,slow=8.4,SNR=64						

*IDC **26** 20:13:29.9±6.2, 6°65N×75°75W, h126km±73km, mb3.5/1, mb1 3.9/2, mb1mx3.1/34, mbtmp4.0/2, Error ellipse: s-maj=150.6km s-min=37.4km az=81.0*
*RSNC **26** 20:13:29.4±1.0, 6°81N×73°13W, h143km±5km, ML3.4, Mw3.7*
ISC 26 20:13:27.1±1.0, 6°87N±0°03×73°11W±0°04, h159km±6km, n37, σ1ş68/69, 7C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.28**	**195**↓	*i*P	**Pn**	**20 13 49.0**	**0.0**
BARC				*e*S	**Sn**	**20 14 03.5**	**-2.2**
BARC				*i*		20 14 05.3	
	comp=Z,378nm,0.6s						
PAMC	**Pamplona, Colo**	**0.62**	**41**↑	*e*P	**Pn**	**20 13 51.6**	**+1.0**
PAMC				*e*S	**Sn**	**20 14 08.2**	**-0.4**
PAMC				*i*		20 14 10.2	
	comp=Z,387nm,0.2s						
BRRC	**Barranca, Sant**	**0.64**	**292**↑	*i*P	**Pn**	**20 13 50.7**	**+0.6**
BRRC				*e*S	**Sn**	**20 14 07.1**	**-0.7**
RUSC	**La Rusia**	**0.97**	**178**‖	*e*P	**Pn**	**20 13 53.0**	**-0.1**
RUSC				*e*S	**Sn**	**20 14 11.7**	**-1.2**
RUSC				*i*		20 14 14.0	
	comp=Z,236nm,0.3s						
PTBC	**PUERTO BERRIO,**	**1.38**	**256**↑	*e*P	**Pn**	**20 13 55.4**	**-0.7**
PTBC				*e*S	**Sn**	**20 14 17.0**	**-1.3**
PTBC				*i*		20 14 18.9	
	comp=Z,560nm,0.1s						
OCAC	**Ocana**	**1.38**	**351**	*e*P	**Pn**	**20 13 57.4**	**+1.1**
OCAC				*e*S	**Sn**	**20 14 18.9**	**+0.2**
OCAC				*i*		20 14 24.2	
	comp=Z,461nm,0.3s						
TAMC	**Tame, Arauca**	**1.38**	**108**↑	*e*P	**Pn**	**20 13 57.4**	**+1.2**
TAMC				*e*S	**Sn**	**20 14 17.2**	**-1.2**
TAMC				*i*		20 14 19.3	
	comp=Z,222nm,0.6s						
SPBC	**San Pablo de B**	**1.54**	**218**↑	*e*P	**Pn**	**20 13 57.9**	**0.0**
SPBC				*e*S	**Sn**	**20 14 19.8**	**-1.7**
SPBC				*i*		20 14 27.2	
	comp=Z,331nm,0.3s						
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	*e*P	**Pn**	**20 14 01.2**	**+0.3**
ZARC				*e*S	**Sn**	**20 14 27.3**	**+0.2**
SMLC	**San Martn de**	**2.14**	**334**‖	*e*P	**Pn**	**20 14 05.3**	**+0.9**
SMLC				*e*S	**Sn**	**20 14 32.5**	**-0.7**
SMLC				*i*		20 14 35.4	
	comp=Z,355nm,0.1s						
NORC	**Norcasia**	**2.18**	**234**	*e*P	**Pn**	**20 14 04.9**	**0.0**
NORC				*e*S	**Sn**	**20 14 32.1**	**-1.9**
NORC				*i*		20 14 40.9	
	comp=Z,189nm,0.2s						
CHIC	**Chingaza**	**2.31**	**196**	*e*P	**Pn**	**20 14 07.4**	**+0.6**
CHIC				*e*S	**Sn**	**20 14 36.2**	**-1.2**
CHIC				*i*		20 14 47.2	
	comp=Z,67nm,0.4s						
ROSC	**El Rosal**	**2.35**	**211**	P	**Pn**	**20 14 09.0**	**+1.8**
	comp=Z,50nm,0.3s,baz=288,slow=20,SNR=49						
ROSC				S	**Sn**	**20 14 36.7**	**-1.5**
	comp=Z,24nm,0.3s,baz=92,slow=13,SNR=5.6						
ROSC	**El Rosal**	**2.35**	**211**	*e*P	**Pn**	**20 14 08.8**	**+1.6**
ROSC				*e*S	**Sn**	**20 14 39.0**	**+0.9**
ROSC				*i*		20 14 44.6	
	comp=Z,193nm,0.3s						
HELC	**Santa Helena**	**2.50**	**254**	*e*P	**Pn**	**20 14 09.6**	**+0.6**
HELC				*e*S	**Sn**	**20 14 40.9**	**-0.3**
HELC				*i*		20 14 47.6	
	comp=Z,168nm,0.3s						
CVER	**Cruz Verde, Cu**	**2.52**	**202**	*e*P	**Pn**	**20 14 11.3**	**+2.0**
UREC	**San Jos de Ur**	**2.56**	**290**	*e*P	**Pn**	**20 14 08.8**	**-0.6**
UREC				*e*S	**Sn**	**20 14 41.4**	**-0.6**
GUY2C	**Guyana, Caldas**	**2.77**	**234**	*e*P	**Pn**	**20 14 13.9**	**+1.4**
GUY2C				*e*S	**Sn**	**20 14 48.9**	**+1.3**
GUY2C				*i*		20 14 57.1	
	comp=Z,208nm,0.7s						
VILC	**Villavicencio,**	**2.80**	**192**	*e*P	**Pn**	**20 14 12.8**	**+0.4**
VILC				*e*S	**Sn**	**20 14 46.1**	**-1.5**
VILC				*i*		20 14 50.1	
	comp=Z,92nm,0.3s						
PTGC	**Puerto Gaitan,**	**2.83**	**160**	*e*P	**Pn**	**20 14 12.3**	**-0.4**
PTGC				*e*S	**Sn**	**20 14 44.7**	**-3.3**
PTGC				*i*		20 14 50.6	
	comp=Z,107nm,0.7s						
RREF	**El Recreo**	**2.96**	**229**	*e*P	**Pn**	**20 14 16.3**	**+1.3**
RREF				*e*S	**Sn**	**20 14 53.8**	**+1.8**
CBOC	**Ciudad Bolivar**	**3.05**	**251**	*e*P	**Pn**	**20 14 16.9**	**+1.3**
CBOC				*e*S	**Sn**	**20 14 53.9**	**+0.7**
CBOC				*i*		20 15 05.2	
	comp=Z,71nm,0.4s						
DBBC	**Dabeiba**	**3.08**	**273**	*e*S	**Sn**	**20 14 50.1**	**-3.6**
TOLC	**Tolima**	**3.16**	**224**	*e*P	**Pn**	**20 14 18.4**	**+1.2**
TOLC				*e*S	**Sn**	**20 14 55.9**	**-0.1**
ARGC	**Ariguani, Magd**	**3.17**	**339**	*e*P	**Pn**	**20 14 19.0**	**+2.0**
ARGC				*e*S	**Sn**	**20 14 57.1**	**+1.3**
ARGC				*i*		20 15 04.9	
	comp=Z,72nm,0.6s						
ANIL	**Santa Ana**	**3.28**	**224**	*e*P	**Pn**	**20 14 20.4**	**+1.7**
ANIL				*e*S	**Sn**	**20 14 59.8**	**+1.1**
PRAC	**Prado**	**3.60**	**210**	*e*P	**Pn**	**20 14 22.4**	**-0.1**
PRAC				*e*S	**Sn**	**20 15 04.2**	**-1.4**
PRAC				*i*		20 15 12.3	
	comp=Z,108nm,0.5s						
ORTC	**Ortega, Tolima**	**3.63**	**216**	*e*P	**Pn**	**20 14 23.1**	**+0.2**
ORTC				*e*S	**Sn**	**20 15 07.2**	**+0.9**
ORTC				*i*		20 15 11.4	
	comp=Z,79nm,0.4s						
SJCC	**San Jacinto, C**	**3.64**	**326**	*e*P	**Pn**	**20 14 22.7**	**-0.3**
SJCC				*e*S	**Sn**	**20 15 03.7**	**-2.7**
SJCC				*i*		20 15 07.2	
	comp=Z,69nm,0.5s						
PLMC	**San Jos del P**	**3.71**	**238**	*e*P	**Pn**	**20 14 25.3**	**+1.4**
PLMC				*e*S	**Sn**	**20 15 07.0**	**-1.1**
YOTC	**Yotoco, Valle**	**4.31**	**228**	*e*P	**Pn**	**20 14 32.3**	**+0.5**
YOTC				*e*S	**Sn**	**20 15 23.9**	**+1.7**
SMRC	**Santa Marta, M**	**4.41**	**346**	*e*P	**Pn**	**20 14 33.7**	**+0.8**
SMRC				*e*S	**Sn**	**20 15 20.9**	**-3.4**
SMRC				*i*		20 15 24.8	
	comp=Z,30nm,0.3s						
CAPC	**Capurgana**	**4.55**	**293**	*e*P	**Pn**	**20 14 32.3**	**-2.6**
CAPC				*e*S	**Sn**	**20 15 21.8**	**-5.9**
MACC	**Macarena, Meta**	**4.75**	**189**	*e*P	**Pn**	**20 14 36.3**	**-1.2**
MACC				*e*S	**Sn**	**20 15 27.6**	**-4.8**
MACC				*i*		20 15 57.1	
	comp=Z,28nm,0.1s						
YKA	**Yellowknife Ar**	**63.22**	**340**	P	**P**	**20 23 39.6**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=137,slow=6.9,SNR=5.0						
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPbc**	**20 32 57.7**	**0.0**
	comp=Z,0.2nm,0.4s,baz=117,slow=3.4,SNR=4.3						
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKPbc**	**20 33 01.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=109,slow=2.7,SNR=7.2						

*IDC **26** 20:18:41.2±3.5, 34°59N×73°55E, h0km, mb3.7/4, mb1 3.6/8, mb1mx3.4/60, mbtmp3.6/8, ML3.4/4, Error ellipse: s-maj=76.5km s-min=26.9km az=129.0*
ISC 26 20:18:46.6±1.1, 34°9N±0°1×73°4E±0°1, h22km, n17, σ1ş45/17, mb3.5/3, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYUN	**Piuthan**	**10.59**	**127**	*e*P	**Pn**	**20 21 19.3**	**+2.1**
DANN	**Dangsing**	**10.94**	**124**	*e*P	**Pn**	**20 21 23.9**	**+1.7**
KOLN	**Koldanda**	**11.21**	**126**	*e*P	**Pn**	**20 21 26.7**	**+1.0**
GKN	**Gorkha**	**11.76**	**122**	*e*P	**Pn**	**20 21 34.9**	**+1.6**
PKIN	**Phulchoki**	**12.55**	**122**	*e*P	**Pn**	**20 21 44.1**	**-0.1**
PKI	**Pulchoki**	**12.57**	**122**	*e*P	**Pn**	**20 21 44.3**	**-0.1**
JIRN	**Jiri**	**13.06**	**120**	*e*P	**Pn**	**20 21 51.2**	**0.0**
MKAR	**Makanchi Array**	**13.66**	**27**	Pn	**Pn**	**20 21 59.2**	**+0.1**
	0.0nm,0.3s,baz=208,slow=8.1,SNR=1.9						
RAMN	**Ramite**	**13.78**	**121**	*e*P	**Pn**	**20 21 59.3**	**-1.6**
TAPN	**Taplejung**	**14.34**	**118**	*e*P	**Pn**	**20 22 05.1**	**-3.5**
KURBB	**Kurchatov Arra**	**16.18**	**12**	Pn	**Pn**	**20 22 32.3**	**-0.2**
	0.1nm,0.3s,baz=200,slow=10,SNR=7.1						
BVAR	**Borovoye Array**	**18.28**	**354**	P	**Pn**	**20 23 00.1**	**+1.4**
	0.4nm,0.3s,baz=163,slow=12,SNR=9.9						
AKTO	**Aktyubinsk**	**19.19**	**329**	P	**P**	**20 23 08.5**	**-0.2**
	0.4nm,0.3s,baz=111,slow=9.5,SNR=5.9						
ZALV	**Zalesovo Beam**	**20.70**	**19**	P	**P**	**20 23 24.9**	**-0.2**
	1.1nm,0.4s,baz=202,slow=10.0,SNR=5.6						
FINES	**FINESS Array B**	**39.94**	**327**	P	**P**	**20 26 18.9**	**+0.1**
	0.4nm,0.4s,baz=99,slow=12,SNR=5.2						
ARCES	**ARCESS Array B**	**43.41**	**338**	P	**P**	**20 26 47.6**	**+0.4**
	0.5nm,0.6s,baz=93,slow=7.7,SNR=5.0						
TORD	**Torodi Ar. Bea**	**67.58**	**271**	P	**P**	**20 29 41.4**	**-1.1**
	0.9nm,0.5s,baz=55,slow=5.8,SNR=13						

*IDC **26** 20:19:11.8±1.9, 7°19S×129°40E, h133km±20km, mb3.4/4, mb1 3.6/8, mb1mx3.2/49, mbtmp3.9/8, Error ellipse: s-maj=27.4km s-min=15.1km az=88.0*
ISC 26 20:19:11.8±0.8, 7°31S±0°07×129°4E±0°1, h150km, n9, σ2ş64/12, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.38**	**243**	P	**Pn**	**20 20 44.5**	**+0.8**
	7.6nm,0.3s,baz=104,slow=4.2,SNR=12						
BATI				S	**Sn**	**20 21 52.8**	**-2.9**
	22nm,0.3s,baz=58,slow=21,SNR=20						
SIJI	**Sorong**	**6.66**	**16**	P	**Pn**	**20 20 46.6**	**-0.7**
	0.3nm,0.3s,baz=229,slow=19,SNR=2.1						
SIJI				S	**Sn**	**20 21 59.4**	**-2.8**
	1.3nm,0.3s,baz=260,slow=23,SNR=6.3						
FITZ	**Fitzroy Crossi**	**11.34**	**199**	P	**Pn**	**20 21 48.2**	**-1.3**
	0.4nm,0.3s,baz=29,slow=9.5,SNR=15						
FITZ				S	Sn	20 23 46.7	-8.2
	0.9nm,0.3s,baz=103,slow=23,SNR=9.3						
WRA	**Warramunga Arr**	**13.43**	**160**	P	**Pn**	**20 22 15.5**	**-1.0**
	0.7nm,0.3s,baz=334,slow=14,SNR=31						
WRA				S	Sn	20 24 38.3	-7.0
	1.6nm,0.3s,baz=342,slow=18,SNR=7.8						
ASAR	**Alice Springs**	**16.82**	**166**	P	**Pn**	**20 23 01.4**	**+2.7**
	1.0nm,0.3s,baz=342,slow=9.4,SNR=44						
ASAR				S	**S**	**20 26 01.4**	**-4.3**
	0.5nm,0.3s,baz=339,slow=24,SNR=4.6						
STKA	**Stephens Creek**	**26.95**	**157**	P	**P**	**20 24 43.0**	**+3.7**
	1.0nm,0.5s,baz=333,slow=13,SNR=1.5						
CMAR	**Chiang Mai Arr**	**39.50**	**311**	P	**P**	**20 26 28.6**	**+0.5**
	0.7nm,0.8s,baz=146,slow=7.1,SNR=5.3						
MKAR	**Makanchi Array**	**68.18**	**327**	P	**P**	**20 29 57.0**	**+1.0**
	0.4nm,0.4s,baz=114,slow=8.5,SNR=14						
KURBB	**Kurchatov Arra**	**72.48**	**329**	P	**P**	**20 30 23.1**	**+1.1**
	0.5nm,0.4s,baz=125,slow=5.1,SNR=12						

*IDC **26** 20:23:39.0±0.9, 65°34N×133°63W, h0km, mb3.5/2, mb1 3.4/6, mb1mx3.2/50, mbtmp3.2/6, ML3.2/4, Error ellipse: s-maj=12.6km s-min=11.2km az=48.0*
*PGC **26** 20:23:39.0±0.0, 65°30N×133°56W, h1km, ML3.2/9, 241km Sse of Fort McPherson, Nt Northern Yukon Territory, Canada*
ISC 26 20:23:39.5±0.7, 65°37N±0°04×133°56W±0°05, h10km, n21, σ2ş66/41, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAWY	**Dawson**	**2.82**	**245**	Pn	**Pn**	**20 24 24.7**	**0.0**
DAWY				Sn	**Sn**	**20 24 58.4**	**-0.4**
DAWY				Sg	**Sb**	**20 25 04.5**	**-0.1**
INK	**Inuvik**	**2.95**	**0**	Pn	**Pn**	**20 24 27.0**	**+0.7**
	0.9nm,0.3s,baz=164,slow=17,SNR=17						
INK				Pg	**Pb**	**20 24 33.5**	**+1.5**
	3.3nm,0.3s,baz=170,slow=16,SNR=23						
INK				Sn	**Sn**	**20 25 00.5**	**-1.2**
	1.9nm,0.3s,baz=186,slow=20,SNR=3.6						
INK				Lg	Lg	20 25 13.2	
	7.8nm,0.3s,baz=285,slow=32,SNR=6.4						
INK	**Inuvik**	**2.95**	**0**	Pn	**Pn**	**20 24 27.3**	**+1.0**
INK				Sn	**Sn**	**20 25 03.2**	**+1.5**
YUK1	**Sand Pete Hill**	**4.47**	**227**	Pn	**Pn**	**20 24 46.7**	**-0.7**
YUK1				Sn	**Sn**	**20 25 35.4**	**-4.1**
YUK4	**Talbot Arm**	**4.64**	**212**	Pn	**Pn**	**20 24 47.1**	**-2.7**
YUK3	**Moose Creek**	**4.74**	**224**	Pn	**Pn**	**20 24 50.9**	**-0.3**

MKAR Makanchi Array 64.76 334 P P 20 34 18.9 +1.3
0.4nm,0.9s,baz=0.0,slow=7.2,SNR=2.4

*KRNET **26** 20:34:42.7±0.1,39.05N×78.61E,mb2.3*
SOME 26 20:34:42.3,42.32N×80.93E,h0km,8C-4D,
Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**1.37**	**308**	*e*P		Pg	20 35 05.1	-3.5
	2.5nm,0.2s							
SHLS				*e*S		Sg	20 35 21.1	-5.3
	3.4nm,0.3s							
UZB	**Uzynbulak**	**1.63**	**301**	*e*P		Pg	20 35 14.5	+0.9
	1.4nm,0.3s							
UZB				*e*S		Sg	20 35 37.5	+2.7
	1.4nm,0.2s							
KPKS	**Kokpek**	**2.01**	**306**	*e*P		Pb	20 35 19.9	0.0
	3.3nm,0.3s							
KPKS				*e*S		Sg	20 35 47.1	+0.2
	3.4nm,0.3s							
DJR	**Jarkent**	**2.18**	**338**	*e*P		Pg	20 35 23.7	-0.4
	0.8nm,0.2s							
DJR				*e*S		Sg	20 35 53.3	+1.0
	0.7nm,0.3s							
TARG	**Taragay, Kyrgy**	**2.40**	**257**	⇓*i*P		Pb	20 35 26.8	+0.1
	baz=47							
TARG				⇓*i*S		Sg	20 35 59.1	-0.4
	baz=47							
KDJ	**Kajisay**	**2.79**	**267**	⇑*e*P		Pb	20 35 33.7	+0.5
	baz=41							
KDJ				⇑*i*S		Sg	20 36 10.7	-1.3
	baz=41							
ULHL	**Ulahol**	**3.48**	**270**	⇑*e*P		Pn	20 35 39.2	+1.3
	baz=31							
ULHL				⇑*i*S		Sn	20 36 21.1	+1.1
	baz=31							
BOOM	**Boomskoye usch**	**3.70**	**274**	⇑*i*P		Pn	20 35 43.9	+3.0
	baz=30							
BOOM				⇑*i*S		Sn	20 36 28.4	+3.1
	baz=30							
KZA	**Kyzart**	**4.23**	**269**	⇑*i*P		Pn	20 35 43.8	-4.6
	baz=21							
KZA				⇑*i*S		Sn	20 36 28.2	-10
	baz=21							
ARLS	**Aral**	**4.94**	**267**	⇓*e*P		Pn	20 35 48.5	-9.4
	baz=12							
ARLS				⇓*i*S		Sn	20 36 36.4	-19
	baz=12							

*IDC **26** 20:45:42.2±1.1,62.85S×164.00W,h0km,mb4.2/5,*
mb1 4.4/6,mb1mx4.2/24,mbtmp4.2/6,ML3.9/1,MS4.0/12,
Ms1 4.0/12,ms1mx3.9/21,Error ellipse: s-maj=37.1km
s-min=24.9km az=31.0
*NEIC **26** 20:45:44.2±2.1,62.9S±0.1×163.8W±0.4,h10km±2km,*
mb4.5/4,Error ellipse: s-maj=35.6km s-min=11.4km
az=47.0
*GCMT **26** 20:45:47.2±0.3,62.95S±0.02×163.48W±0.06,h12km,*
MW4.8/74,Moment Tensor Solution. s22,c23; s74,c94;
Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.38±.11;
Mθθ 1.74±.09; Mφφ -1.36±.10; Mrθ 0.20±.28; Mφr 1.41±.08;
Mθr=0.98±.34; Best double couple: Mo2.34200×1016
NP1:φs=291.00000°,δ69.00000°,λ-16.00000°. NP2:
φs=27.00000°,δ75.00000°,λ-158.00000°. Principal axes:
T 2.2960, Plg4.0000°, Azm158.0000°; N 0.0900,
Plg64.0000°, Azm60.0000°; P -2.3880, Plg26.0000°,
Azm250.0000°; nsta1 refers to body waves, cutoff=40s.
nsta2 refers to surface waves, cutoff=50s. Triangular
moment-rate function
ISC 26 20:45:44.1±0.9,62.8S±0.2×164.0W±0.2,h10km,n41,
σ0.98/15,mb4.3/5,MS4.0/12,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**18.23**	**203**	P		**P**	**20 49 57.4**	**+0.5**
	0.4nm,0.3s,baz=62,slow=17,SNR=42							
VNDA				LR		LR	20 55 05.3	
	comp=Z,914nm,20.1s,baz=54,slow=31							
VNDA	**Vanda**	**18.23**	**203**	P		**P**	**20 49 57.2**	**+0.3**
RPZ	**Rata Peaks**	**24.00**	**311**	LR		LR	20 57 48.9	
	comp=Z,440nm,19.8s,baz=176,slow=30							
QSPA	**South Pole Qui**	**27.27**	**180**	P		**P**	**20 51 27.4**	**-0.9**
	5.6nm,0.9s,baz=57,slow=3.8,SNR=11							
QSPA				LR		LR	21 00 42.7	
	comp=Z,352nm,18.1s,baz=42,slow=33							
QSPA	**South Pole Qui**	**27.27**	**180**	P		**P**	**20 51 27.5**	**-0.8**
QSPA				IAmb		IAmb	20 51 34.6	
	comp=Z,10nm,1.1s							
TBI	**Tubuai**	**40.67**	**21**	*e*T		T	21 36 45.0	
	comp=Z,71nm,0.3s							
RKT	**Rikitea**	**44.25**	**40**	*e*LQ		LQ	21 03 52.2	
	comp=Z,756nm,30.2s							
RKT	**Rikitea**	**44.25**	**40**	*e*T		T	21 41 13.0	
	comp=Z,13nm,0.2s							
SNAA	**Sanae**	**45.14**	**172**	P		**P**	**20 54 00.5**	**+0.4**
MAW	**Mawson**	**45.54**	**203**	LR		LR	21 11 26.2	
	comp=Z,274nm,19.9s,baz=156,slow=34							
STKA	**Stephens Creek**	**46.04**	**286**	LR		LR	21 10 44.2	
	comp=Z,183nm,20.6s,baz=212,slow=33							
TVO	**Taravao**	**46.17**	**20**	*e*T		T	21 43 36.1	
	comp=Z,2.5nm,0.2s							
PAE	**Paea**	**46.23**	**19**	*e*T		T	21 43 41.4	
	comp=Z,2.5nm,0.2s							
MEH	**Mehetia**	**46.27**	**21**	*e*T		T	21 43 44.0	
	comp=Z,79nm,0.2s							
PPT2	**Papeete2**	**46.31**	**19**	*e*LR		LR	21 06 43.6	
	comp=Z,964nm,25.0s							
PPT2	**Papeete2**	**46.31**	**19**	*e*T		T	21 43 46.8	
	comp=Z,7.1nm,0.3s							
PPT	**Papeete**	**46.33**	**19**	LR		LR	21 08 19.6	
	comp=Z,157nm,18.9s,baz=184,slow=29							
H01W1	**Cape Leeuwin H**	**55.98**	**259**	T		T	21 56 10.6	
	baz=147,slow=76,SNR=87							
H01W2	**Cape Leeuwin H**	**55.99**	**259**	T		T	21 56 10.8	
	baz=147,slow=76,SNR=83							
H01W3	**Cape Leeuwin H**	**56.00**	**259**	T		T	21 56 11.8	
	baz=147,slow=76,SNR=103							
PLCA	**Paso Flores**	**56.18**	**114**	LR		LR	21 14 02.6	
	comp=Z,58nm,19.2s,baz=168,slow=30							
ASAR	**Alice Springs**	**56.53**	**284**	P		**P**	**20 55 26.4**	**0.0**
	comp=Z,3.9nm,1.1s,baz=150,slow=6.8,SNR=11							
H03S2	**Juan Fernandez**	**58.31**	**103**	T		T	21 59 04.9	
	baz=210,slow=74,SNR=630							
H03S1	**Juan Fernandez**	**58.32**	**103**	T		T	21 59 07.4	
	baz=210,slow=74,SNR=664							
H03S3	**Juan Fernandez**	**58.33**	**103**	T		T	21 59 06.9	
	baz=210,slow=74,SNR=596							
H03N3	**Juan Fernandez**	**58.64**	**103**	T		T	21 59 25.6	
	baz=189,slow=71,SNR=229							
H03N2	**Juan Fernandez**	**58.65**	**103**	T		T	21 59 25.4	
	baz=189,slow=71,SNR=242							
H03N1	**Juan Fernandez**	**58.65**	**103**	T		T	21 59 24.9	
	baz=189,slow=71,SNR=175							
WRA	**Warramunga Arr**	**59.59**	**286**	P		**P**	**20 55 46.9**	**-0.9**
	comp=Z,1.9nm,0.9s,baz=160,slow=5.9,SNR=5.1							
CPUP	**Villa Florida**	**74.11**	**117**	P		**P**	**20 57 20.8**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=230,slow=8.1,SNR=3.2							
CPUP				LR		LR	21 25 28.8	
	comp=Z,45nm,20.5s,baz=212,slow=32							
LPAZ	**La Paz**	**78.31**	**103**	P		**P**	**20 57 45.0**	**0.0**
	comp=Z,1.0nm,0.6s,baz=210,slow=7.1,SNR=3.6							
LPAZ	**La Paz**	**78.31**	**103**	P		**P**	**20 57 44.8**	**-0.2**
LPAZ				IAmb		IAmb	20 57 51.6	
	comp=Z,4.5nm,0.9s							
BDFB	**Brasilia**	**87.46**	**120**	LR		LR	21 35 33.0	
	comp=Z,141nm,18.1s,baz=140,slow=34							
BOSA	**Boshof**	**88.56**	**188**	LR		LR	21 33 53.3	
	comp=Z,217nm,21.1s,baz=171,slow=33							
CMIG	**Matias Romero**	**95.91**	**64**	LR		LR	21 33 54.8	
	comp=Z,54nm,18.7s,baz=196,slow=30							
LPIG	**La Paz**	**96.46**	**48**	LR		LR	21 34 16.6	
	comp=Z,37nm,19.9s,baz=263,slow=30							
I37A	**Lemond, Waseca**	**120.34**	**52**			**PKPdf**	**21 04 34.2**	**-0.2**
ZALV	**Zalesovo Beam**	**144.56**	**288**	PKP		**PKPdf**	**21 05 20.7**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=116,slow=3.4,SNR=4.4							
KURK	**Kurchatov**	**145.09**	**280**			**PKPab**	**21 05 20.4**	**+0.5**
BRVK	**Borovoye**	**150.47**	**276**			**PKPdf**	**21 05 30.1**	**+1.0**
ESDC	**Sonseca Array**	**153.88**	**143**	PKPbc		**PKPbc**	**21 05 40.5**	**-2.2**
	comp=Z,0.9nm,1.0s,baz=280,slow=0.4,SNR=4.3							

IDC 26 20:51:03.5±1.6,62.82S×163.29W,h0km,mb4.0/3,
mb1 4.0/4,mb1mx3.8/21,mbtmp3.8/4,ML3.4/1,Error
ellipse: s-maj=52.8km s-min=35.2km az=17.0,
Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**18.37**	**203**	P		Pn	20 55 19.1	-0.1
	0.1nm,0.3s,baz=67,slow=16,SNR=10							
H01W1	**Cape Leeuwin H**	**56.30**	**258**	T		T	22 01 37.4	
	baz=147,slow=76,SNR=12							
H01W2	**Cape Leeuwin H**	**56.31**	**258**	T		T	22 01 37.5	
	baz=147,slow=76,SNR=13							
H01W3	**Cape Leeuwin H**	**56.32**	**258**	T		T	22 01 38.7	
	baz=147,slow=76,SNR=14							
ASAR	**Alice Springs**	**56.84**	**283**	P		P	21 00 49.5	-0.2
	1.2nm,1.0s,baz=146,slow=9.1,SNR=4.2							
H03S2	**Juan Fernandez**	**58.00**	**102**	T		T	22 04 24.3	
	baz=210,slow=74,SNR=7.0							
H03S1	**Juan Fernandez**	**58.01**	**102**	T		T	22 04 32.8	
	baz=210,slow=74,SNR=7.2							
H03S3	**Juan Fernandez**	**58.02**	**102**	T		T	22 04 26.3	
	baz=210,slow=74,SNR=9.4							
H03N3	**Juan Fernandez**	**58.32**	**102**	T		T	22 04 54.0	
	baz=219,slow=74,SNR=21							
H03N2	**Juan Fernandez**	**58.33**	**102**	T		T	22 04 51.1	
	baz=219							
H03N1	**Juan Fernandez**	**58.34**	**102**	T		T	22 04 51.7	
	baz=219,slow=74,SNR=18							
WRA	**Warramunga Arr**	**59.90**	**286**	P		P	21 01 11.0	0.0
	0.5nm,0.9s,baz=155,slow=5.7,SNR=4.2							
LPAZ	**La Paz**	**78.00**	**102**	P		P	21 03 04.5	+0.1
	1.0nm,0.7s,baz=239,slow=12,SNR=2.5							

*NEIC **26** 20:57:58.5±2.4, 12.58N±0.05×143.4E±0.1, h79km±7km,*
mb4.3/10,Error ellipse: s-maj=18.7km s-min=7.4km
az=95.0
*IDC **26** 20:57:58.2±2.1, 12.62N×143.34E, h74km±19km, mb3.8/14,*
mb1 4.0/14,mb1mx3.8/41,mbtmp4.1/14,Error ellipse:
s-maj=23.6km s-min=14.9km az=113.0
ISC 26 20:57:52.8±0.8,12.6N±0.1×143.25E±0.10,h27km,n27,
σ1.906/30,mb4.4/20,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.86**	**58**	P		**Pb**	**20 58 27.7**	**+1.6**
	132nm,0.3s,baz=84,slow=1.3,SNR=90							
GUMO				S		**Sb**	**20 58 48.8**	**-0.1**
	140nm,0.3s,baz=166,slow=23,SNR=5.6							
GUMO				LR		LR	20 59 05.3	
	comp=Z,120nm,18.5s,baz=242,slow=38							
GUMO	**Guam**	**1.86**	**58**			**Pb**	**20 58 27.4**	**+1.3**
GUMO				Sn		**Sb**	**20 58 48.3**	**-0.7**
MJAR	**Matsushiro Arr**	**24.27**	**350**	P		**P**	**21 03 07.8**	**-0.1**
	0.9nm,0.6s,baz=171,slow=12,SNR=4.1							
WRA	**Warramunga Arr**	**33.50**	**195**	P		**P**	**21 04 30.5**	**+0.3**
	0.3nm,0.4s,baz=20,slow=9.7,SNR=11							
ASAR	**Alice Springs**	**37.18**	**194**	P		**P**	**21 05 02.6**	**+0.8**
	0.5nm,0.4s,baz=21,slow=12,SNR=10							
SONM	**Songino Array**	**46.66**	**326**	P		**P**	**21 06 20.8**	**+1.7**
	0.4nm,0.5s,baz=148,slow=8.7,SNR=3.9							
MKAR	**Makanchi Array**	**61.12**	**317**	P		**P**	**21 08 06.4**	**+1.6**
	0.3nm,0.6s,baz=90,slow=7.8,SNR=3.7							
ZALV	**Zalesovo Beam**	**61.52**	**325**	P		**P**	**21 08 07.2**	**-0.1**
	0.9nm,0.4s,baz=114,slow=8.1,SNR=4.1							
ZALV				PcP		**PcP**	**21 08 47.8**	**-1.2**
	0.9nm,0.5s,baz=130,slow=4.5,SNR=4.3							
KURK	**Kurchatov**	**64.33**	**320**	P		**P**	**21 08 27.2**	**+1.1**
COLD	**Coldfoot**	**69.46**	**22**	P		**P**	**21 08 58.9**	**+0.5**
COLD				IAmb		IAmb	21 08 59.6	
	comp=Z,2.7nm,0.6s							
DHY	**Denali Highway**	**69.54**	**27**	P		**P**	**21 08 59.5**	**+0.3**
DHY				IAmb		IAmb	21 09 00.5	
	comp=Z,1.7nm,0.6s							
IL31		**70.14**	**25**	P		**P**	**21 09 01.2**	**-1.4**
IL31				IAmb		IAmb	21 09 02.1	
	comp=Z,2.2nm,0.8s							
ILAR	**Eielson Array**	**70.14**	**25**	P		**P**	**21 09 00.9**	**-1.7**
	comp=Z,1.8nm,0.6s,baz=251,slow=5.9,SNR=17							
DOT	**Dot Lake**	**71.12**	**27**	P		**P**	**21 09 07.6**	**-1.1**
DOT				IAmb		IAmb	21 09 08.9	
	comp=Z,2.9nm,0.6s							
SCRK	**Sand Creek**	**71.21**	**26**	P		**P**	**21 09 07.7**	**-1.7**
INK	**Inuvik**	**75.88**	**22**	P		**P**	**21 09 35.9**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=240,slow=5.5,SNR=4.1							
DLBC	**Dease Lake**	**77.66**	**33**	P		**P**	**21 09 47.2**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=291,slow=5.9,SNR=4.5							
YKA	**Yellowknife Ar**	**84.46**	**27**	P		**P**	**21 10 22.4**	**-0.4**
	comp=Z,1.7nm,0.3s,baz=285,slow=5.1,SNR=13							
YBH	**Yreka Blue Hor**	**84.71**	**49**	P		**P**	**21 10 24.5**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=245,slow=1.3,SNR=5.4							
B08A	**Colville Reser**	**85.56**	**42**	P		**P**	**21 10 27.3**	**-1.5**
B08A				IAmb		IAmb	21 10 28.7	
	comp=Z,6.3nm,1.2s							
C09A	**Chrisman Ranch**	**86.39**	**42**	P		**P**	**21 10 32.3**	**-0.5**
NEW	**Newport**	**87.01**	**41**	P		**P**	**21 10 35.7**	**-0.2**
ARCES	**ARCESS Array B**	**87.54**	**342**	P		**P**	**21 10 36.7**	**-1.3**
	comp=Z,1.7nm,0.9s,baz=71,slow=5.3,SNR=5.7							
BMO	**Blue Mountains**	**87.80**	**45**	P		**P**	**21 10 39.2**	**-0.7**
BMO				IAmb		IAmb	21 10 40.8	
	comp=Z,3.2nm,0.7s							
NVAR	**Mina Array Bea**	**88.77**	**51**	P		**P**	**21 10 44.9**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=258,slow=6.0,SNR=10							
FINES	**FINESS Array B**	**91.39**	**335**	P		**P**	**21 10 54.6**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=63,slow=4.4,SNR=33							
LPAZ	**La Paz**	**149.40**	**101**	PKPbc		**PKPbc**	**21 17 40.9**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=307,slow=4.8,SNR=1.9							

*ROM **26** 21:22:38.2±0.2,38.72N±0.01×15.32E±0.02,h235km±1km,*
ML3.5/2,Error ellipse: s-maj=2.0km s-min=0.9km
az=115.0
*IDC **26** 21:22:39.0±1.1,38.91N×15.14E,h242km±16km,mb3.2/7,*
mb1 3.1/12,mb1mx2.9/49,mbtmp3.7/12,Error ellipse:
s-maj=18.8km s-min=14.9km az=50.0
*LDG **26** 21:22:41.0,38.76N×15.25E,h210km*
ISC 26 21:22:38.2±0.7,38.76N±0.06×15.40E±0.05,h235km±6km,
n153,σ1.857/155,mb3.5/6,2C-1D,Sicily

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JOPP	**Joppolo**	**0.41**	**112**	P		**Pn**	**21 23 09.3**	**+0.2**
JOPP				S		**S**	**21 23 32.8**	**-0.5**
JOPP				AML		AML		
	comp=E,556μm,0.5s							
JOPP				AML		AML		
	comp=N,498μm,0.4s							
JOPP				AML		AML		
	comp=N,499μm,0.4s							
JOPP				AML		AML		
	comp=E,556μm,0.5s							
LLI	**Lipari**	**0.47**	**228**	P		**Pn**	**21 23 10.2**	**+1.0**
VPL	**Vulcano Piano**	**0.50**	**220**	P		**Pn**	**21 23 09.6**	**+0.2**
VPL				AML		AML		
	comp=N,1745μm,0.2s							
VPL				AML		AML		
	comp=E,2015μm,1.2s							
MILZ	**Milazzo**	**0.51**	**195**	P		**Pn**	**21 23 09.2**	**-0.2**
MILZ				S		**S**	**21 23 33.4**	**-0.3**
MILZ				AML		AML		
	comp=N,420μm,1.5s							
MILZ				AML		AML		
	comp=E,556μm,0.3s							
MILZ				AML		AML		
	comp=N,420μm,1.5s							
MSRU	**Castanea**	**0.51**	**170**	P		**Pn**	**21 23 09.1**	**-0.3**
MSRU				S		**S**	**21 23 32.8**	**-1.0**
MSRU				AML		AML		
	comp=N,830μm,0.3s							
MSRU				AML		AML		
	comp=E,991μm,1.1s							
ATN	**Antennamare**	**0.61**	**175**	P		**Pn**	**21 23 09.4**	**-0.5**
ATN				S		**S**	**21 23 33.6**	**-1.1**
MSCL	**Scilla**	**0.61**	**150**	P		**Pn**	**21 23 09.8**	**-0.1**
MSCL				S		**S**	**21 23 33.6**	**-1.0**
MSCL				AML		AML		
	comp=N,2285μm,0.1s							
MSCL				AML		AML		
	comp=E,1510μm,0.3s							
MPNC	**Port Mandanici**	**0.62**	**183**	P		**Pn**	**21 23 09.5**	**-0.3**
MPNC				AML		AML		
	comp=E,965μm,0.2s							
MPNC				AML		AML		
	comp=N,812μm,0.2s							
MPNC				AML		AML		
	comp=E,964μm,0.2s							
CEL	**Celeste**	**0.64**	**142**	P		**Pn**	**21 23 10.0**	**+0.1**
CEL				S		**S**	**21 23 33.4**	**-1.3**
CEL				AML		AML		
	comp=E,578μm,0.3s							
CEL				AML		AML		
	comp=E,473μm,0.3s							
CEL				AML		AML		
	comp=N,521μm,0.6s							
CEL				AML		AML		
	comp=N,639μm,1.4s							
IFIL	**Filicudi I Eol**	**0.68**	**253**	P		**Pn**	**21 23 10.2**	**+0.3**
IFIL				AML		AML		
	comp=E,2710μm,0.3s							
IFIL				AML		AML		
	comp=N,770μm,0.2s							
GMB	**Gambarie**	**0.69**	**150**	P		**Pn**	**21 23 10.3**	**+0.1**
GMB				AML		AML		
	comp=E,4900μm,0.2s							
GMB				AML		AML		
	comp=N,3745μm,0.2s							
MCSR	**Castroreale**	**0.71**	**189**	P		**Pn**	**21 23 10.4**	**+0.1**
MCSR				AML		AML		
	comp=E,1735μm,0.2s							
MCSR				AML		AML		
	comp=N,2950μm,0.3s							
NOV	**Novara**	**0.76**	**195**	P		**Pn**	**21 23 10.9**	**+0.4**
NOV				AML		AML		
	comp=E,638μm,0.9s							
NOV				AML		AML		
	comp=E,638μm,0.9s							
NOV				AML		AML		
	comp=N,523μm,1.3s							
MTTG	**Motta San Giov**	**0.80**	**163**	P		**Pn**	**21 23 11.0**	**+0.4**
MTTG				AML		AML		
	comp=E,422μm,0.5s							
MTTG				AML		AML		
	comp=N,658μm,1.1s							
AIO	**Antillo**	**0.80**	**189**	P		**Pn**	**21 23 11.2**	**+0.5**
AIO				AML		AML		
	comp=E,438μm,0.2s							
AIO				AML		AML		
	comp=N,482μm,1.0s							
CAR1	**CAROLEI**	**0.80**	**52**	P		**Pn**	**21 23 11.1**	**+0.6**
CAR1				S		**S**	**21 23 35.1**	**-0.9**
CAR1				AML		AML		
	comp=E,1895μm,0.5s							
CAR1				AML		AML		
	comp=E,2205μm,0.5s							
CAR1				AML		AML		
	comp=N,1930μm,0.6s							
CAR1				AML		AML		
	comp=N,2135μm,0.6s							
CAR1				AML		AML		
	comp=E,1900μm,0.5s							
CAR1				AML		AML		
	comp=E,2210μm,0.5s							
GRI	**Girifalco**	**0.80**	**86**	P		**Pn**	**21 23 11.7**	**+1.2**
GRI				S		**S**	**21 23 36.6**	**+0.7**
GRI				AML		AML		
	comp=N,1310μm,1.4s							
GRI				AML		AML		
	comp=E,1645μm,0.4s							
MUCR	**Ucria**	**0.83**	**210**	P		**Pn**	**21 23 10.6**	**-0.2**
MUCR				AML		AML		
	comp=N,244μm,0.1s							
MUCR				AML		AML		
	comp=E,204μm,0.7s							
IACL	**Alicudi**	**0.84**	**255**	P		**Pn**	**21 23 10.9**	**+0.2**
IACL				AML		AML		
	comp=N,382μm,1.6s							
IACL				AML		AML		
	comp=E,277μm,1.5s							
PLAC	**Placanica**	**0.88**	**111**	P		**Pn**	**21 23 11.8**	**+0.8**
PLAC				AML		AML		
	comp=E,382μm,0.5s							
PLAC				AML		AML		
	comp=N,536μm,0.5s							
PLAC				AML		AML		
	comp=E,576μm,0.5s							
PLAC				AML		AML		
	comp=N,393μm,0.4s							
CET2	**Cetraro**	**0.88**	**30**	P		**Pn**	**21 23 11.6**	**+0.7**
CET2				AML		AML		
	comp=E,882μm,0.3s							
CET2				AML		AML		
	comp=N,1430μm,0.4s							
CET2				AML		AML		
	comp=E,883μm,0.3s							
MPAZ	**Palizzi**	**0.94**	**149**	P		**Pn**	**21 23 11.7**	**+0.4**
MPAZ				AML		AML		
	comp=N,716μm,1.0s							
MPAZ				AML		AML		
	comp=E,892μm,0.6s							
MSFR	**San Fratello**	**0.96**	**221**	P		**Pn**	**21 23 11.6**	**+0.2**
MNO	**Monte Soro**	**0.99**	**214**	P		**Pn**	**21 23 13.1**	**+1.2**
EMSG	**Monte Spagnolo**	**1.00**	**201**	P		**Pn**	**21 23 13.3**	**+1.4**
EMSG				AML		AML		
	comp=E,770μm,0.4s							
EMSG				AML		AML		
	comp=N,832μm,0.6s							
EPZF	**Pizzo Felice**	**1.03**	**204**	P		**Pn**	**21 23 13.0**	**+1.1**
EPZF				AML		AML		
	comp=E,513μm,0.5s							
EPZF				AML		AML		
	comp=N,844μm,0.3s							
SERS	**Sersale**	**1.05**	**75**	P		**Pn**	**21 23 13.3**	**+1.4**
SERS				S		**S**	**21 23 38.7**	**+0.3**
SERS				AML		AML		
	comp=E,806μm,0.5s							
SERS				AML		AML		
	comp=E,579μm,0.6s							
SERS				AML		AML		
	comp=N,618μm,0.6s							
SERS				AML		AML		
	comp=N,834μm,0.5s							
CELI	**Celico**	**1.08**	**53**	P		**Pn**	**21 23 13.6**	**+1.5**
CELI				S		**S**	**21 23 40.2**	**+1.4**
CELI				AML		AML		
	comp=E,767μm,0.5s							
CELI				AML		AML		
	comp=E,1925μm,0.5s							
CELI				AML		AML		
	comp=N,1680μm,1.0s							
CELI				AML		AML		
	comp=N,656μm,1.0s							
T0702	**Acquaformosa (**	**1.09**	**29**	P		**Pn**	**21 23 13.1**	**+0.9**
T0702				AML		AML		
	comp=E,945μm,0.4s							
T0702				AML		AML		
	comp=N,382μm,1.3s							
ESLN	**Serra La Nave**	**1.12**	**197**	P		**Pn**	**21 23 13.4**	**+0.7**
TIP	**Timpagrande**	**1.14**	**68**	P		**Pn**	**21 23 13.9**	**+1.5**
TIP				S		**S**	**21 23 39.7**	**+0.3**
TIP				AML		AML		
	comp=E,398μm,0.6s							
TIP				AML		AML		
	comp=N,502μm,0.6s							
TIP				AML		AML		
	comp=E,340μm,0.6s							
TIP				AML		AML		
	comp=N,394μm,0.6s							
TDS	**Terranova Siba**	**1.16**	**39**	P		**Pn**	**21 23 13.9**	**+1.4**
TDS				AML		AML		
	comp=N,277μm,0.6s							
TDS				AML		AML		
	comp=N,276μm,0.6s							
TDS				AML		AML		
	comp=E,451μm,1.6s							
ESML	**S. M. di Licod**	**1.22**	**200**	P		**Pn**	**21 23 14.0**	**+1.0**
ESML				AML		AML		
	comp=E,488μm,1.1s							
ESML				AML		AML		
	comp=N,344μm,1.2s							
CUC	**Castrocucco**	**1.27**	**15**	P		**Pn**	**21 23 14.2**	**+0.9**
CUC				AML		AML		
	comp=E,156μm,1

BULG				AML	AML				
	comp=E,111μm,1.1s								
PIPA	**Pietrapaola**	**1.32**	**56**	P	**Pn**	**21 23 15.3 +1.6**			
PIPA				AML	AML				
	comp=N,835μm,0.5s								
PIPA				AML	AML				
	comp=E,648μm,0.3s								
PIPA				AML	AML				
	comp=N,738μm,0.5s								
PIPA				AML	AML				
	comp=E,692μm,1.3s								
GIB	**Gibilmanna**	**1.32**	**235**	P	**Pn**	**21 23 13.6 -0.3**			
GIB				AML	AML				
	comp=E,445μm,1.3s								
GIB				AML	AML				
	comp=N,617μm,0.6s								
GIB				AML	AML				
	comp=E,446μm,1.3s								
SALB	**San Lorenzo Be**	**1.33**	**33**	P	**Pn**	**21 23 15.6 +1.8**			
SALB				AML	AML				
	comp=E,568μm,0.3s								
SALB				AML	AML				
	comp=N,292μm,1.0s								
LADO	**San Nicola del**	**1.34**	**67**	P	**Pn**	**21 23 15.1 +1.3**			
LADO				AML	AML				
	comp=N,300μm,0.3s								
LADO				AML	AML				
	comp=E,472μm,0.3s								
LADO				AML	AML				
	comp=N,300μm,0.3s								
CAGR	**Agira**	**1.34**	**212**	P	**Pn**	**21 23 15.5 +1.6**			
CAGR				AML	AML				
	comp=N,982μm,0.9s								
CAGR				AML	AML				
	comp=E,686μm,0.3s								
PETRA	**Petralia Sopra**	**1.37**	**228**	P	**Pn**	**21 23 14.5 +0.2**			
PETRA				AML	AML				
	comp=E,140μm,1.2s								
PETRA				AML	AML				
	comp=N,218μm,0.6s								
PETRA				AML	AML				
	comp=E,188μm,0.5s								
MGR	**Morigerati**	**1.38**	**5**	P	**Pn**	**21 23 15.3 +1.2**			
MGR				AML	AML				
	comp=E,97μm,0.9s								
MGR				AML	AML				
	comp=N,120μm,0.7s								
SIRI	**Monte Sirino -**	**1.46**	**14**	P	**Pn**	**21 23 15.8 +1.0**			
SIRI				AML	AML				
	comp=E,150μm,0.3s								
SIRI				AML	AML				
	comp=N,157μm,0.9s								
HLNI	**Lentini**	**1.47**	**196**	P	**Pn**	**21 23 14.9 0.0**			
HLNI				AML	AML				
	comp=E,272μm,1.5s								
HLNI				AML	AML				
	comp=N,414μm,0.9s								
HAGA	**Augusta**	**1.49**	**187**	P	**Pn**	**21 23 15.0 0.0**			
HAGA				AML	AML				
	comp=N,257μm,0.6s								
HAGA				AML	AML				
	comp=N,256μm,0.6s								
HAGA				AML	AML				
	comp=E,271μm,1.4s								
VAE	**Valguarnera**	**1.50**	**211**	P	**Pn**	**21 23 17.1 +1.9**			
	comp=E,7.7nm,0.3s,baz=161,slow=11,SNR=18								
HCRL	**Carlentini**	**1.51**	**191**	P	**Pn**	**21 23 15.4 +0.3**			
HCRL				AML	AML				
	comp=N,335μm,1.6s								
HCRL				AML	AML				
	comp=E,352μm,1.5s								
AGST	**Augusta-Monte**	**1.51**	**185**	P	**Pn**	**21 23 15.0 -0.2**			
MTSN	**Montesano sull**	**1.53**	**10**	P	**Pn**	**21 23 16.2 +0.9**			
MTSN				AML	AML				
	comp=E,94μm,0.7s								
MTSN				AML	AML				
	comp=N,104μm,1.3s								
ORI	**Oriolo Calabro**	**1.53**	**32**	P	**Pn**	**21 23 16.9 +1.6**			
ORI				AML	AML				
	comp=N,660μm,0.5s								
ORI				AML	AML				
	comp=E,720μm,0.4s								
CMPR	**Campora**	**1.55**	**357**	P	**Pn**	**21 23 16.8 +1.3**			
CMPR				AML	AML				
	comp=N,99μm,0.5s								
CMPR				AML	AML				
	comp=E,74μm,1.6s								
MCEL	**Monticello**	**1.59**	**11**	AML	AML				
MCEL	comp=E,116μm,0.9s								
	comp=N,138μm,0.7s			AML	AML				
SOLUN	**Solunto**	**1.61**	**246**	P	**Pn**	**21 23 15.6 -0.3**			
SSY	**Sortino**	**1.63**	**189**	P	**Pn**	**21 23 16.3 +0.2**			
SSY				AML	AML				
	comp=N,976μm,0.2s								
SSY				AML	AML				
	comp=E,508μm,1.0s								
SLCN	**Sala Consilina**	**1.63**	**6**	P	**Pn**	**21 23 17.8 +1.6**			
SLCN				AML	AML				
	comp=E,168μm,1.0s								
SLCN				AML	AML				
	comp=N,186μm,0.8s								
ALJA	**Alia**	**1.64**	**232**	P	**Pn**	**21 23 17.0 +0.7**			
ALJA				AML	AML				
	comp=E,238μm,0.5s								
ALJA				AML	AML				
	comp=N,236μm,0.6s								
MEU	**Monte Lauro**	**1.70**	**193**	AML	AML				
	comp=N,462μm,0.4s								
MEU				AML	AML				
	comp=E,476μm,1.5s								
MPG	**Monte Pellegri**	**1.71**	**250**	P	**Pn**	**21 23 16.3 -0.5**			
MPG				AML	AML				
	comp=N,87μm,0.4s								
MPG				AML	AML				
	comp=E,99μm,1.4s								
CDRU	**Civita di Ruta**	**1.73**	**358**	P	**Pn**	**21 23 18.4 +1.4**			
CDRU				AML	AML				
	comp=E,73μm,1.6s								
CDRU				AML	AML				
	comp=N,72μm,1.4s								
HBSP	**Bosco Santo Pi**	**1.78**	**204**	P	**Pn**	**21 23 18.1 +0.7**			
CRAC	**Craco**	**1.79**	**26**	AML	AML				
	comp=E,752μm,0.9s								
CRAC				AML	AML				
	comp=N,1070μm,1.0s								
HAVL	**Avola**	**1.81**	**187**	P	**Pn**	**21 23 17.9 +0.1**			
HAVL				AML	AML				
	comp=E,516μm,1.3s								
HAVL				AML	AML				
	comp=N,1050μm,1.3s								
CORL	**Corleone**	**1.86**	**243**	P	**Pn**	**21 23 17.9 -0.3**			
MRLC	**Muro Lucano**	**1.99**	**2**	P	**Pn**	**21 23 21.1 +1.8**			
MRLC				AML	AML				
	comp=N,61μm,1.4s								
MRLC				AML	AML				
	comp=E,52μm,0.4s								
MIGL	**Miglionico**	**2.01**	**23**	AML	AML				
	comp=N,448μm,0.5s								
MIGL				AML	AML				
	comp=E,678μm,0.9s								
ACER	**Acerenza**	**2.06**	**12**	P	**Pn**	**21 23 21.1 +1.2**			
ACER				AML	AML				
	comp=E,138μm,1.1s								
ACER				AML	AML				
	comp=N,152μm,1.1s								
CLTB	**Caltabellotta**	**2.09**	**236**	AML	AML				
	comp=N,331μm,0.4s								
CLTB				AML	AML				
	comp=E,202μm,0.5s								
MATE	**Matera**	**2.14**	**28**	AML	AML				
	comp=E,240μm,0.8s								
MATE				AML	AML				
	comp=N,385μm,0.3s								
SNAL	**S. Angelo Dei**	**2.16**	**356**	P	**Pn**	**21 23 22.7 +1.7**			
SNAL				AML	AML				
	comp=N,117μm,1.6s								
SNAL				AML	AML				
	comp=E,112μm,1.4s								
PALZ	**Palazzo San Ge**	**2.22**	**11**	AML	AML				
	comp=N,154μm,1.1s								
PALZ				AML	AML				
	comp=E,220μm,1.2s								
CAFE	**Carife**	**2.27**	**357**	P	**Pn**	**21 23 23.8 +1.8**			
CAFE				AML	AML				
	comp=N,74μm,1.0s								
CAFE				AML	AML				

	comp=E,107μm,0.6s								
TAR1	**Taranto**	**2.29**	**39**	⇓*i*Pn	**Pn**	**21 23 23.3 +1.3**			
SG1	**Sgolgore (BA)**	**2.30**	**25**	⇑*i*Pn	**Pn**	**21 23 22.6 +0.4**			
SG1				Sn	**S**	**21 23 56.9 0.0**			
AMUR	**Altamura**	**2.33**	**23**	AML	AML				
	comp=N,163μm,1.6s								
AMUR				AML	AML				
	comp=E,158μm,1.5s								
MRVN	**Minervino Murg**	**2.38**	**15**	AML	AML				
	comp=N,60μm,0.6s								
MRVN				AML	AML				
	comp=E,91μm,1.6s								
NOCI	**Noci**	**2.40**	**32**	AML	AML				
	comp=N,293μm,1.1s								
NOCI				AML	AML				
	comp=E,291μm,1.5s								
BAI	**Bari**	**2.60**	**26**	⇑*i*Pn	**Pn**	**21 23 25.9 +0.6**			
SCTE	**Santa Cesarea**	**2.71**	**60**	AML	AML				
	comp=E,408μm,0.6s								
SCTE				AML	AML				
	comp=N,364μm,1.0s								
BSSO	**Busso**	**2.85**	**348**	AML	AML				
	comp=E,22μm,0.8s								
BSSO				AML	AML				
	comp=N,25μm,0.5s								
SAMA	**S.Maria delle**	**3.70**	**325**	AML	AML				
	comp=N,498μm,0.1s								
SAMA				AML	AML				
	comp=E,450μm,0.1s								
AQU	**L'Aquila**	**3.89**	**338**	*e*Pn	**Pn**	**21 23 41.8 +1.8**			
HCY	**Herceg Novi**	**4.37**	**32**	*e*Pn	**Pn**	**21 23 46.5 +0.8**			
DBRK	**Dubrovnik**	**4.43**	**27**	P	**Pn**	**21 23 47.6 +1.3**			
STON	**Ston**	**4.46**	**22**	P	**Pn**	**21 23 48.0 +1.2**			
STON	**Ston**	**4.46**	**22**	*e*Pn	**Pn**	**21 23 47.9 +1.2**			
DRME	**Dracevica, Mon**	**4.48**	**39**	*e*Pn	**Pn**	**21 23 48.3 +1.4**			
HVAR	**Hvar**	**4.48**	**10**	P	**Pn**	**21 23 48.2 +1.2**			
TREB	**Trebinje**	**4.54**	**29**	*e*Pn	**Pn**	**21 23 48.9 +1.2**			
PDG	**Podgorica**	**4.70**	**38**	*e*Pn	**Pn**	**21 23 50.8 +1.2**			
BRY	**Bratogost**	**4.77**	**29**	*e*Pn	**Pn**	**21 23 51.7 +1.0**			
ZIRJ	**Zirje**	**4.89**	**2**	P	**Pn**	**21 23 52.3 +0.3**			
RICI	**Ricice**	**4.91**	**15**	P	**Pn**	**21 23 54.1 +1.9**			
MORI	**Morici**	**5.10**	**3**	P	**Pn**	**21 23 55.1 +0.5**			
DUGI	**Dugi Otok**	**5.23**	**357**	P	**Pn**	**21 23 56.4 +0.2**			
KIJV	**Kijevo**	**5.29**	**8**	P	**Pn**	**21 23 58.0 +1.0**			
RUDO	**Rudo**	**5.70**	**30**	*e*Pn	**Pn**	**21 24 02.2 +0.1**			
MGRS	**Mrkonjic Grad**	**5.79**	**12**	*e*Pn	**Pn**	**21 24 03.7 +0.5**			
BBLS	**Lazići**	**5.92**	**29**	*e*Pn	**Pn**	**21 24 06.1 +1.1**			
HAPS	**Han Pijesak,Bl**	**5.95**	**26**	*e*Pn	**Pn**	**21 24 05.9 +0.5**			
BLY	**Banja Luka**	**6.13**	**12**	*e*Pn	**Pn**	**21 24 08.5 +1.0**			
PGF	**Pioggiola**	**6.16**	**310**	*e*Pn	**Pn**	**21 24 10.8 +2.8**			
CEY	**Cerknica**	**7.01**	**354**	*e*Pn	**Pn**	**21 24 22.3 +3.7**			
CRES	**Cresnjev**	**7.06**	**0**	*e*Pn	**Pn**	**21 24 20.0 +0.7**			
OBKA	**Obir**	**7.77**	**356**	*i* Pn	**Pn**	**21 24 30.1 +1.8**			
	comp=E,3.4nm,0.6s								
BEHE	**Becsehely**	**7.77**	**7**	*e*Pn	**Pn**	**21 24 27.1 -1.2**			
MORH	**Mrgy, Hungar**	**7.82**	**17**	*e*Pn	**Pn**	**21 24 29.7 +0.7**			
SOKA	**Soboth**	**7.91**	**358**	*i* Pn	**Pn**	**21 24 31.3 +1.0**			
	comp=E,2.7nm,0.5s								
IDI	**Anoyia**	**8.35**	**112**	P	**Pn**	**21 24 39.2 +3.3**			
	comp=E,0.4nm,0.3s,baz=278,slow=20,SNR=6.7								
MBDF	**Montbardon**	**8.77**	**316**	*e*P	**Pn**	**21 24 43.2 +1.9**			
MBDF	**Montbardon**	**8.77**	**316**	*e*Pn	**Pn**	**21 24 45.5 +4.2**			
MBDF				*e*Sg	**S**	**21 26 20.2 -0.3**			
	comp=E,1.1nm,0.3s								
WTTA	**Wattenberg**	**8.93**	**343**	Pn	**Pn**	**21 24 47.7 +4.4**			
	comp=E,4.2nm,0.4s,SNR=6.9								
FETA	**Feichten**	**8.93**	**339**	Pn	**Pn**	**21 24 47.5 +4.1**			
	comp=E,7.7nm,1.1s,SNR=9.3								
DAVOX	**Davos/Dischmat**	**9.98**	**335**	P	**Pn**	**21 24 47.8 +3.9**			
	comp=E,1.0nm,0.3s,baz=171,slow=6.3,SNR=13								
SQTA	**Sankt Quirin**	**8.99**	**341**	Pn	**Pn**	**21 24 47.3 +3.3**			
	comp=E,11nm,0.5s,SNR=13								
WATA	**Walderalm**	**9.01**	**343**	Pn	**Pn**	**21 24 47.3 +3.0**			
	comp=E,8.6nm,0.5s,SNR=7.8								
SMRF	**Simiane la Rot**	**9.03**	**308**	*e*P	**Pn**	**21 24 46.7 +2.2**			
SMRF	**Simiane la Rot**	**9.03**	**308**	*e*Pn	**Pn**	**21 24 48.6 +4.1**			
MOTA	**Moosalm**	**9.13**	**341**	*i* Pn	**Pn**	**21 24 48.6 +2.7**			
	comp=E,5.7nm,1.2s								
LPG	**La Plagne**	**9.30**	**319**	*e*P	**Pn**	**21 24 50.9 +2.8**			
LPG	**La Plagne**	**9.30**	**319**	*e*Pn	**P**	**21 24 52.4 -3.3**			
LPG				*e*Sg	**S**	**21 26 32.0 -0.9**			
	comp=E,0.4nm,0.2s								
LPL	**La Plagne**	**9.32**	**319**	*e*P	**Pn**	**21 24 50.6 +2.3**			
LPL	**La Plagne**	**9.32**	**319**	*e*Pn	**P**	**21 24 52.8 -3.0**			
LPL				*e*Sg	**S**	**21 26 32.6 -0.8**			
	comp=E,0.9nm,0.2s								
ORIF	**Oris-en-Rattie**	**9.39**	**314**	*e*P	**Pn**	**21 24 49.4 +0.3**			
ORIF	**Oris-en-Rattie**	**9.39**	**314**	*e*Pn	**P**	**21 24 53.3 -3.2**			
ORIF				*e*Sg	**S**	**21 26 34.3 -0.5**			
	comp=E,0.4nm,0.3s								
DAVA	**Damuels**	**9.42**	**336**	*i* Pn	**Pn**	**21 24 51.7 +2.1**			
	comp=E,3.4nm,0.5s								
VIVF	**Saint-Julien-l**	**10.05**	**311**	*e*P	**Pn**	**21 24 59.7 +2.2**			
VIVF	**Saint-Julien-l**	**10.05**	**311**	*e*Pn	**P**	**21 25 02.0 -1.9**			
GERES	**GERESS Array B**	**10.15**	**354**	P	**Pn**	**21 24 58.4 -0.4**			
	comp=E,0.1nm,0.3s,baz=163,slow=14,SNR=4.6								
SMF	**Signal de Mont**	**11.58**	**317**	*e*P	**P**	**21 25 18.8 -2.0**			
SMF	**Signal de Mont**	**11.58**	**317**	*e*Pn	**P**	**21 25 22.0 +1.2**			
AVF	**Avril sur Loir**	**11.93**	**316**	*e*P	**P**	**21 25 23.1 -1.6**			
AVF	**Avril sur Loir**	**11.93**	**316**	*e*Pn	**P**	**21 25 27.0 +2.3**			
BRG	**Berggiesshubel**	**12.15**	**356**	*e*(P)	**P**	**21 25 28.6 +1.6**			
	comp=E,2.7nm,0.8s								
EPF	**Esparros**	**12.16**	**295**	*e*P	**P**	**21 25 26.4 -1.0**			
EPF	**Esparros**	**12.16**	**295**	*e*Pn	**P**	**21 25 30.3 +2.9**			
EPF				*e*Sg	**S**	**21 27 39.5 +0.6**			
	comp=E,0.5nm,0.3s								
LFF	**La Frestale**	**12.54**	**304**	*e*P	**P**	**21 25 31.2 -0.3**			
LFF	**La Frestale**	**12.54**	**304**	*e*Pn	**P**	**21 25 35.1 +3.6**			
ETSF	**Etsaut**	**12.77**	**294**	*e*P	**P**	**21 25 34.1 0.0**			
ETSF	**Etsaut**	**12.77**	**294**	*e*Pn	P	21 25 38.8 +4.7			
ETSF				*e*Sg	**S**	**21 27 53.1 0.0**			
	comp=E,0.4nm,0.2s								
SJPF	**Ste Jean**	**13.29**	**294**	*e*P	**P**	**21 25 40.6 +0.7**			
SJPF	**Ste Jean**	**13.29**	**294**	*e*Pn	P	21 25 45.6 +5.7			
ESDC	**Sonseca Array**	**15.04**	**280**	P	**P**	**21 25 59.0 -0.3**			
	comp=E,0.1nm,0.3s,baz=83,slow=12,SNR=7.5								
FLN	**La Foliniere**	**15.18**	**316**	*e*Pn	Pn	21 26 10.6 +10			
AKASG	**Malin Array Be**	**15.43**	**35**	P	**P**	**21 26 03.4 0.0**			
	comp=E,0.6nm,0.3s,baz=228,slow=9.9,SNR=1.7								
MMAI	**Mount Meron Ar**	**17.19**	**103**	P	**Pn**	**21 26 26.1 +1.2**			
	comp=E,0.2nm,0.3s,baz=278,slow=10.0,SNR=2.9								
EKA	**Eskdalemuir Ar**	**20.74**	**329**	P	**P**	**21 26 58.7 -2.0**			
	comp=E,1.1nm,0.3s,baz=140,slow=11,SNR=20								
HFS	**Hagfors**	**21.42**	**358**	P	**P**	**21 27 05.2 -2.3**			
	comp=E,0.6nm,0.3s,baz=181,slow=9.8,SNR=8.1								
FINES	**FINESS Array B**	**23.65**	**13**	P	**P**	**21 27 27.8 -0.3**			
	comp=E,3.9nm,0.4s,baz=188,slow=8.1,SNR=52								
TORD	**Torodi Ar. Bea**	**28.26**	**209**	P	**P**	**21 28 09.9 +0.1**			
	comp=E,0.4nm,0.8s,baz=15,slow=10,SNR=1.7								
ARCES	**ARCESS Array B**	**31.31**	**7**	P	**P**	**21 28 34.6 -1.4**			
	comp=E,0.5nm,0.5s,baz=184,slow=8.9,SNR=7.0								
ZALV	**Zalesovo Beam**	**48.29**	**48**	P	**P**	**21 30 55.7 +0.2**			
	comp=E,0.7nm,0.3s,baz=281,slow=6.7,SNR=4.8								
MKAR	**Makanchi Array**	**48.41**	**58**	P	**P**	**21 30 57.6 +1.0**			
	comp=E,0.6nm,0.5s,baz=279,slow=6.7,SNR=13								

IDC 26 21:36:02.4±6.5, 31.40S×178.73W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.6/19, mbtmp3.7/2, Error ellipse: s-maj=274.4km s-min=56.5km az=158.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.44**	**268**	P	P	21 43 57.9	-1.3
	0.5nm,0.6s,baz=112,slow=7.4,SNR=4.2						
WRA	**Warramunga Arr**	**43.52**	**274**	P	P	21 44 08.7	+0.7
	0.7nm,0.5s,baz=114,slow=8.0,SNR=11						
FINES	**FINESS Array B**	**145.86**	**339**	PKPbc	PKPdf	21 55 42.1	-0.2
	0.6nm,0.4s,baz=52,slow=2.3,SNR=9.0						

*KRNET **26** 21:37:10.5±0.1, 38.93N×77.46E, mb2.3*
SOME 26 21:37:12.6, 42.47N×81.02E, h0km, 6C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.34**	**302**	*e*P	Pg	21 37 34.8	-3.4
	2.0nm,0.2s						
SHLS				*e*S	Sg	21 37 50.8	-4.7
	5.3nm,0.2s						
UZB	**Uzynbulak**	**1.62**	**296**	*e*P	Pg	21 37 44.6	+1.0
	1.3nm,0.3s						
UZB				*e*S	Sg	21 38 07.2	+2.6
	1.5nm,0.2s						
KPKS	**Kokpek**	**1.98**	**301**	*e*P	Pg	21 37 50.4	-0.2
	6.4nm,0.2s						
KPKS				*e*S	Sg	21 38 18.0	+1.7
	5.5nm,0.4s						
TARG	**Taragay, Kyrgy**	**2.50**	**254**	⇓*e*P	Pb	21 37 57.5	-1.1
	baz=5.0						
TARG				⇓*i*S	Sg	21 38 31.9	-1.1
	baz=5.0						
KDJ	**Kajisay**	**2.87**	**265**	⇑*i*P	Pb	21 38 02.9	-1.8
	baz=56						
KDJ				⇑*i*S	Sb	21 38 41.0	+0.6
	baz=56						
ULHL	**Ulahol**	**3.55**	**268**	⇑*i*P	Pn	21 38 06.5	-2.6
	baz=45						
ULHL				⇑*i*S	Sn	21 38 47.3	-4.5
	baz=45						
BOOM	**Boomskoye usch**	**3.75**	**272**	⇑*i*P	Pn	21 38 10.7	-1.2
	baz=43						
BOOM				⇑*i*S	Sn	21 38 55.0	-1.9
	baz=43						

*JMA **26** 21:47:40.0±0.1, 22.63N×121.51E, h23km±5km, M3.2*
*TAP **26** 21:47:41.7, 22.68N×121.44E, h13km, ML3.3, C*
ISC 26 21:47:40.0±1.1, 22.64N±0.02×121.52E±0.03, h12km±8km, n76, σ0.83/139, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTN	**Taitung**	**0.36**	**289**	P	**Pg**	**21 47 48.0**	**+0.8**
	baz=286						
TTN				S	**Sb**	**21 47 53.0**	**-0.8**
	baz=286						
TWGBT	**Beinan**	**0.44**	**294**	P	**Pg**	**21 47 48.9**	**+0.2**
	baz=304						
TWGBT				S	**Sg**	**21 47 53.4**	**-1.2**
	baz=304						
TWG	**Pinlang**	**0.45**	**294**	P	**Pg**	**21 47 48.9**	**+0.1**
	baz=304						
TWG				S	**Sg**	**21 47 53.2**	**-1.6**
	baz=304						
CHKT	**Chengkung**	**0.48**	**343**	P	**Pg**	**21 47 50.1**	**+0.7**
	baz=1.0						
CHKT				S	**Sg**	**21 47 56.5**	**+0.7**
	baz=1.0						
ECL	**Taimali**	**0.52**	**266**	⇑*i*P	**Pb**	**21 47 50.9**	**-0.2**
	baz=261						
ECL				S	**Sb**	**21 47 57.8**	**-0.8**
	baz=261						
FULB	**Fuli**	**0.59**	**340**	P	**Pg**	**21 47 51.9**	**+0.3**
	baz=357						
FULB				S	**Sg**	**21 47 59.9**	**+0.4**
	baz=357						
LAY	**Lan-yu**	**0.60**	**177**	P	**Pb**	**21 47 52.8**	**+0.4**
	baz=170						
LAY				S	**Sb**	**21 48 01.8**	**+1.0**
	baz=170						
TAW	**Tawu**	**0.64**	**244**	P	**Pb**	**21 47 53.2**	**+0.2**
	baz=250						
TAW				*e*S	**Sb**	**21 48 01.6**	**-0.3**
	baz=250						
EAST	**Anshuo**	**0.67**	**248**	⇑*i*P	**Pb**	**21 47 53.7**	**+0.1**
	baz=254						
EAST				S	**Sg**	**21 48 01.1**	**-0.7**
	baz=254						
ELDTW	**Lidau**	**0.71**	**320**	P	**Pg**	**21 47 53.7**	**-0.2**
	baz=324						
ELDTW				S	**Sg**	**21 48 02.3**	**-1.0**
	baz=324						
TWF1	**Yuli**	**0.74**	**344**	P	**Pg**	**21 47 54.7**	**+0.4**
TWF1				S	**Sg**	**21 48 04.6**	**+0.6**
YULB	**Yu-li**	**0.78**	**345**	P	**Pg**	**21 47 54.9**	**-0.2**
	baz=336						
YULB				S	**Sg**	**21 48 05.4**	**+0.2**
	baz=336						
MASBT	**Mashibuluo**	**0.81**	**268**	P	**Pg**	**21 47 55.7**	**-0.1**
	baz=258						
MASBT				S	**Sg**	**21 48 05.0**	**-1.4**
	baz=258						
SSD	**Sandimen**	**0.82**	**278**	P	**Pg**	**21 47 55.5**	**-0.4**
	baz=268						
SSD				*e*S	**Sg**	**21 48 04.8**	**-1.9**
	baz=268						
HGSD	**Ruisui**	**0.85**	**354**	P	**Pg**	**21 47 56.4**	**-0.1**
	baz=10.0						
HGSD				*e*S	**Sn**	**21 48 10.7**	**+0.5**
	baz=10.0						
SCZT	**Fangliau**	**0.87**	**252**	P	**Pg**	**21 47 56.7**	**-0.1**
	baz=258						
SCZT				S	**Sb**	**21 48 08.6**	**+0.1**
	baz=258						
STYT	**Tauyuan**	**0.87**	**307**	P	**Pg**	**21 47 56.5**	**-0.4**
	baz=309						
STYT				S	**Sg**	**21 48 07.5**	**-0.8**
	baz=309						
SLGT	**Liugui**	**0.88**	**294**	*e*P	**Pg**	**21 47 56.8**	**-0.1**
	baz=298						
SLGT				*e*S	**Sg**	**21 48 07.1**	**-1.3**
	baz=298						
EHY	**Hungye**	**0.88**	**348**	P	**Pg**	**21 47 56.7**	**-0.3**
	baz=338						
EHY				S	**Sg**	**21 48 08.2**	**-0.4**
	baz=338						
SSPT	**Xinbi**	**0.89**	**260**	*e*P	**Pb**	**21 47 57.7**	**+0.4**
	baz=257						
SSPT				*e*S	**Sb**	**21 48 09.9**	**+0.7**
	baz=257						
TSEB	**Hengchuen, Pin**	**0.93**	**218**	*e*P	**Pn**	**21 47 58.9**	**+0.1**
	baz=216						
TSEB				S	**Sn**	**21 48 11.8**	**-0.3**
	baz=216						
TWKBT	**Hengchun**	**0.95**	**223**	P	**Pb**	**21 47 58.5**	**+0.1**
	baz=219						
TWKBT				S	**Sg**	**21 48 10.7**	**-0.1**
	baz=219						
TWK1	**Hengchun**	**0.95**	**224**	P	**Pb**	**21 47 58.6**	**+0.1**
	baz=219						
TWK1				S	**Sg**	**21 48 10.9**	**0.0**
	baz=219						
HEN	**Hengchun**	**0.96**	**229**	*e*P	**Pg**	**21 47 58.8**	**+0.3**
	baz=225						
HEN				*e*S	**Sb**	**21 48 11.3**	**+0.2**
	baz=225						
SGST	**Jiashian**	**0.97**	**297**	P	**Pb**	**21 47 58.2**	**-0.5**
	baz=302						
SGST				S	**Sg**	**21 48 10.7**	**-0.6**
	baz=302						
WTP	**Ta-pu**	**1.03**	**306**	P	**Pb**	**21 48 00.0**	**+0.3**
	baz=308						
WTP				S	**Sg**	**21 48 14.0**	**+0.8**
	baz=308						
EGFH	**Guangfu**	**1.03**	**356**	*e*P	**Pb**	**21 47 59.4**	**-0.3**
	baz=11						
EGFH				*e*S	**Sn**	**21 48 14.6**	**0.0**
	baz=11						
**TPUB

WHYT	**Xinyi Township**	**1.22**	**330**	*eP*		**Pn**	**21 48 03.0**	**+0.1**
	baz=339								
WHYT				*eS*		**Sb**	**21 48 17.8**	**-0.8**
	baz=339								
CHN5	**Tsauling**	**1.23**	**321**	P		**Pb**	**21 48 03.5**	**+0.3**
	baz=330								
CHN5				S		**Sg**	**21 48 20.4**	**+0.8**
	baz=330								
SSLB	**Suanglung**	**1.25**	**336**	*eP*		**Pn**	**21 48 02.8**	**-0.5**
	baz=349								
CHY	**Chiayi**	**1.32**	**311**	*eP*		**Pb**	**21 48 05.2**	**+0.5**
	baz=312								
CHY				*eS*		**Sg**	**21 48 22.8**	**+0.3**
	baz=312								
SMLT	**Sun Moon Lake**	**1.36**	**336**	P		**Pn**	**21 48 05.5**	**+0.6**
	baz=353								
SMLT				S		**Sb**	**21 48 23.1**	**+0.2**
	baz=353								
WDLH	**Douliu**	**1.38**	**319**	*eP*		**Pg**	**21 48 06.8**	**+0.3**
	baz=321								
WDLH				*eS*		**Sg**	**21 48 25.0**	**+0.6**
	baz=321								
WJS	**Zhushan**	**1.38**	**329**	*eP*		**Pg**	**21 48 07.0**	**+0.4**
	baz=331								
WJS				*eS*		**Sg**	**21 48 24.9**	**+0.4**
	baz=331								
TYC	**Yuchr**	**1.40**	**334**	P		**Pb**	**21 48 06.4**	**+0.4**
	baz=353								
TYC				*eS*		**Sb**	**21 48 24.5**	**+0.7**
	baz=353								
TWD	**Chiawan**	**1.44**	**3**	*eP*		**Pn**	**21 48 04.6**	**-1.3**
	baz=18								
TWD				*eS*		**Sn**	**21 48 22.7**	**-2.0**
	baz=18								
CHGB	**Renai**	**1.45**	**348**	*eP*		**Pa**	**21 48 05.9**	**-0.3**
	baz=2.0								
WNT	**Mingjian**	**1.45**	**328**	*eP*		**Pb**	**21 48 07.6**	**+0.7**
	baz=330								
DPDB	**Guoxing**	**1.49**	**339**	*eP*		**Pn**	**21 48 07.5**	**+0.9**
	baz=352								
DPDB				*eS*		**Sn**	**21 48 26.2**	**+0.2**
	baz=352								
WHF	**Hehuan Shan**	**1.52**	**351**	P		**Pn**	**21 48 06.8**	**-0.5**
	baz=6.0								
WHF				S		**Sn**	**21 48 25.2**	**-2.1**
	baz=6.0								
NACB	**Ninganchiao**	**1.53**	**3**	*eP*		**Pn**	**21 48 05.7**	**-1.4**
	baz=350								
NACB				*eS*		**Sn**	**21 48 23.9**	**-3.0**
	baz=350								
ETLH	**Xiulin Townshi**	**1.56**	**359**	*eP*		**Pn**	**21 48 06.5**	**-1.1**
	baz=1.0								
ETLH				*eS*		**Sn**	**21 48 27.6**	**-0.2**
	baz=1.0								
TWT	**Tachien**	**1.64**	**349**	*eP*		**Pn**	**21 48 09.7**	**+1.0**
	baz=350								
TDCB	**Techi**	**1.64**	**349**	*eP*		**Pn**	**21 48 09.1**	**+0.4**
	baz=350								
WHP	**Taichung City**	**1.71**	**342**	P		**Pb**	**21 48 12.3**	**+0.9**
	baz=354								
WHP				*eS*		**Sg**	**21 48 35.0**	**-0.1**
	baz=354								
NNSB	**Datong**	**1.79**	**356**	*eP*		**Pn**	**21 48 11.7**	**+0.9**
	baz=358								
NNSB				*eS*		**Sb**	**21 48 34.9**	**-0.2**
	baz=358								
NNSH	**Datong**	**1.79**	**356**	*eP*		**Pn**	**21 48 11.9**	**+1.1**
	baz=8.0								
NNSH				*eS*		**Sn**	**21 48 33.5**	**0.0**
	baz=8.0								
NNS	**Nan Shan**	**1.80**	**356**	*eP*		**Pg**	**21 48 14.4**	**-0.1**
	baz=10.0								
WDGT	**Dungji**	**1.82**	**290**	*eP*		**Pn**	**21 48 11.4**	**+0.3**
	baz=275								
TWQ1	**Liyutan**	**1.83**	**338**	*eP*		**Pb**	**21 48 13.5**	**0.0**
	baz=341								
TWQ1				*eS*		**Sb**	**21 48 37.5**	**+1.1**
	baz=341								
NSY	**Sanyi**	**1.90**	**339**	*eP*		**Pb**	**21 48 14.4**	**-0.2**
	baz=341								
NSY				*eS*		**Sb**	**21 48 39.2**	**+0.9**
	baz=341								
NDT	**Datong Townshi**	**1.96**	**360**	*eP*		**Pn**	**21 48 14.2**	**+1.3**
	baz=13								
TWC	**Suao**	**1.98**	**9**	*eP*		**Pn**	**21 48 13.2**	**-0.1**
	baz=10.0								
ENTT	**Nioudou**	**1.99**	**1**	*eP*		**Pn**	**21 48 14.7**	**+1.2**
	baz=2.0								
YHNB	**Yeheng**	**2.03**	**356**	*eP*		**Pn**	**21 48 14.7**	**+0.7**
	baz=9.0								
YHNB				*eS*		**Sn**	**21 48 39.5**	**+0.2**
	baz=9.0								
NSK	**Sanguang**	**2.03**	**356**	*eP*		**Pn**	**21 48 14.4**	**+0.3**
	baz=9.0								
NSK				*eS*		**Sn**	**21 48 40.4**	**+0.9**
	baz=9.0								
LIOB	**Emei**	**2.05**	**347**	*eP*		**Pn**	**21 48 16.2**	**+1.9**
	baz=348								
TWE	**Neicheng**	**2.08**	**4**	*eP*		**Pn**	**21 48 15.7**	**+1.0**
	baz=5.0								
NWLT	**Wulai**	**2.13**	**360**	*eP*		**Pn**	**21 48 16.1**	**+0.7**
	baz=12								
JYNG	**Yonagunijimaku**	**2.23**	**36**	P		**Pn**	**21 48 17.9**	**+1.1**
JYNG				S		**Sn**	**21 48 43.7**	**-0.5**
YOJ	**Yonaguni jima**	**2.27**	**37**	P		**Pn**	**21 48 17.7**	**+0.3**
YOJ				S		**Sn**	**21 48 45.2**	**-0.1**
TIPB	**Shuangxi**	**2.34**	**7**	*eP*		**Pn**	**21 48 19.4**	**+1.1**
	baz=357								
TIPB				*eS*		**Sn**	**21 48 46.7**	**-0.3**
	baz=357								
HATJ	**Hateruma jima**	**2.53**	**56**	P		**Pn**	**21 48 21.4**	**+0.5**
HATJ				S		**Sn**	**21 48 50.2**	**-1.5**
IRIF	**Iriomote-Funau**	**2.64**	**50**	P		**Pn**	**21 48 23.3**	**+0.9**
IRIF				S		**Sn**	**21 48 53.6**	**-0.8**
JKRS	**Kuro-shima**	**2.79**	**55**	P		**Pn**	**21 48 25.2**	**+0.8**
JKRS				S		**Sn**	**21 48 57.2**	**-0.8**
JIJ	**Ishigaki jima**	**2.96**	**54**	P		**Pn**	**21 48 27.3**	**+0.5**
JIJ				S		**Sn**	**21 49 00.0**	**-2.3**
JISG	**Ishigakijimahi**	**3.21**	**52**	P		**Pn**	**21 48 30.5**	**+0.2**
JISG				S		**Sn**	**21 49 06.0**	**-2.5**
JTJ	**Tarama**	**3.54**	**55**	P		**Pn**	**21 48 35.9**	**+1.2**
JTJ				S		**Sn**	**21 49 16.5**	**0.0**

SOME ***26*** *21:54:16.9, 50.47N×86.88E, h20km*
IDC ***26*** *21:54:17.9±0.8, 49.87N×88.05E, h0km, mb3.9/12, mb1 4.1/19, mb1mx3.9/54, mbtmp4.1/19, ML4.0/8, MS3.1/5, Ms1 3.1/5, ms1mx2.8/47, Error ellipse: s-maj=11.5km s-min=9.8km az=17.0*
MOS ***26*** *21:54:18.0±1.5, 49.83N×87.94E, h15km, mb4.5/4, Error ellipse: s-maj=6.6km s-min=5.4km az=62.8*
NEIC ***26*** *21:54:19.0±2.9, 49.88N±0.06×88.1E±0.1, h10km±1km, mb4.2/21, Error ellipse: s-maj=12.0km s-min=10.6km az=110.0*
NNC ***26*** *21:54:19.7±1.7, 49.85N×87.85E, h0km, mb4.9, mpv4.6, Error ellipse: s-maj=15.3km s-min=10.2km az=92.0*
ASRS ***26*** *21:54:20.3±0.2, 50°N±1°×8°8E±1°, h5km, MLv5.1/20, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*
BJI ***26*** *21:54:21.4±0.0, 49.61N×87.59E, h10km, mB4.4/16, mb4.3/20, ML4.4/8, Ms4.0/5, Ms7 3.9/6*

ISC 26 21:54:19.4±1.0, 49°89'N±0'02×87°89'E±0'03, h3km±7km, n177, σ1°89/227, mb4.1/21, 10C-15D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res
				Op	ISC		ISC
DGZ	**Jazzator, Alta**	**0.35**	**238**	P	**Pg**	**21 54 24.7**	**-1.6**
DGZ				S	**Sg**	**21 54 29.0**	**-1.8**
DGZ	**Jazzator, Alta**	**0.35**	**238**	PG	**Pg**	**21 54 24.7**	**-1.6**
DGZ						21 54 29.5	
CUR	**Chagan-Uzun**	**0.36**	**54**	P	**Pg**	**21 54 25.4**	**-1.0**
CUR				S	**Sg**	**21 54 30.4**	**-0.8**
CUR	**Chagan-Uzun**	**0.36**	**54**	PG	**Pg**	**21 54 25.5**	**-1.0**
CUR						21 54 31.0	
AKAR	**Aktash**	**0.47**	**338**	P	**Pg**	**21 54 28.7**	**+0.3**
AKAR				S	**Sb**	**21 54 36.4**	**-1.4**
AKAR	**Aktash**	**0.47**	**338**	PG	**Pg**	**21 54 28.7**	**+0.3**
AKAR						21 54 36.7	
CHBI	**Chibit, Altay**	**0.49**	**330**	P	**Pg**	**21 54 29.3**	**+0.3**
CHBI				S	**Sg**	**21 54 36.8**	**+1.5**
CHBI	**Chibit, Altay**	**0.49**	**330**	PG	**Pg**	**21 54 29.2**	**+0.3**
CHBI						21 54 38.4	
ARTR	**Artybash**	**1.95**	**349**	P	**Pn**	**21 54 54.4**	**+0.9**
ARTR				S	**Sb**	**21 55 20.1**	**-0.2**
ARTR	**Artybash**	**1.95**	**349**	PN	**Pg**	**21 54 57.5**	**+0.7**
ARTR						21 55 22.5	
GALT	**Gorno-Altaysk,**	**2.41**	**330**	P	**Pb**	**21 55 02.2**	**-1.2**
GALT				S	**Sg**	**21 55 35.8**	**-1.1**
GALT	**Gorno-Altaysk,**	**2.41**	**330**	PN	**Pg**	**21 55 04.7**	**-0.9**
GALT						21 55 38.1	
TASR	**Tashtagol**	**2.88**	**360**	P	**Pb**	**21 55 10.2**	**-1.2**
TASR				S	**Sb**	**21 55 45.5**	**-1.5**
TASR	**Tashtagol**	**2.88**	**360**	PN	**Pb**	**21 55 12.6**	**+1.2**
TASR						21 55 49.6	
ZSN	**Zaisan**	**3.16**	**221**	*eP*	**Pb**	**21 55 16.4**	**+0.2**
	938nm,0.5s						
ZSN				*eS*	**Sg**	**21 56 02.5**	**+1.7**
	1μm,0.9s						
ZSN	**Zaisan**	**3.16**	**221**	*e*PN	**Pb**	**21 55 16.4**	**+0.2**
ZSN				*e*S	**Sg**	**21 56 02.5**	**+1.7**
TBTR	**Tabat**	**3.52**	**29**	P	**Pn**	**21 55 16.4**	**+1.4**
TBTR				S	**Sb**	**21 56 01.8**	**-3.8**
TBTR	**Tabat**	**3.52**	**29**	PN	**Pb**	**21 55 23.9**	**+1.5**
TBTR						21 56 09.8	
ELT	**Eltsovka**	**3.53**	**344**	P	**Pn**	**21 55 17.1**	**+1.9**
ELT				S	**Sb**	**21 56 02.4**	**-3.4**
DJOS	**Djoyskaya Sosn**	**3.65**	**36**	P	**Pn**	**21 55 17.9**	**+1.1**
DJOS				S	**Sn**	**21 56 01.8**	**+1.5**
DJOS	**Djoyskaya Sosn**	**3.65**	**36**	PN	**Pb**	**21 55 25.9**	**+1.4**
VEH	**Verkhnyaya Baz**	**3.69**	**23**	P	**Pn**	**21 55 19.0**	**+1.6**
VEH				S	**Sn**	**21 56 01.5**	**0.0**
CERR	**Cheremushki**	**3.70**	**35**	P	**Pn**	**21 55 18.6**	**+1.2**
CERR	**Cheremushki**	**3.70**	**35**	PN	**Pg**	**21 55 28.2**	**-2.1**
LUZB	**Luzhba, Kemero**	**3.83**	**9**	P	**Pn**	**21 55 21.0**	**+1.7**
ARDR	**Aradan**	**4.40**	**50**	P	**Pn**	**21 55 27.6**	**+0.4**
ABNR	**Abakan**	**4.43**	**28**	P	**Pn**	**21 55 28.4**	**+1.0**
ZAA0	**Zalesovo Array**	**4.49**	**336**	⇓Pn	**Pn**	**21 55 29.4**	**+1.2**
	4.1nm,0.5s						
ZAA0				⇑Pg	**Pb**	**21 55 40.8**	**+2.0**
	11nm,0.5s						
ZAA0				⇓Lg	Lg	21 56 42.0	
	34nm,0.6s						
ZAA0	**Zalesovo Array**	**4.49**	**336**	Pn	**Pn**	**21 55 29.5**	**+1.2**
ZALV	**Zalesovo Beam**	**4.49**	**336**	Pn	**Pn**	**21 55 29.4**	**+1.1**
	16nm,0.3s,baz=157,slow=14,SNR=194						
ZALV				Sn	**Sn**	**21 56 23.8**	**+2.8**
	29nm,0.3s,baz=157,slow=27,SNR=6.2						
ZALV				Lg	Lg	21 56 42.7	
	60nm,0.3s,baz=156,slow=26,SNR=11						
ZALV				LR	LR	21 57 28.4	
	comp=Z,83nm,21.3s,baz=186,slow=42						
KZLR	**Kyzyl**	**4.54**	**64**	P	**Pn**	**21 55 27.8**	**-1.2**
POMOR	**Pomortsevo, Ku**	**4.60**	**350**	P	**Pn**	**21 55 33.1**	**+3.3**
POMOR				S	**Sn**	**21 56 29.8**	**+6.0**
SALR	**Pechorkino, Sa**	**4.73**	**344**	P	**Pn**	**21 55 33.8**	**+2.2**
SALR				S	**Sn**	**21 56 31.7**	**+4.7**
SHRR	**Shira**	**4.82**	**16**	P	**Pn**	**21 55 34.7**	**+1.9**
SHRR				S	**Sn**	**21 56 33.1**	**+4.0**
MK31	**Makanchi Array**	**4.85**	**232**	Pn	**Pn**	**21 55 35.0**	**+1.7**
	69nm,0.5s,baz=60,slow=12,SNR=2005						
MK31				⇓Pg	**Pb**	**21 55 48.4**	**+3.4**
	220nm,0.5s,baz=53,slow=16,SNR=18						
MK31				⇓Lg	Lg	21 56 47.3	
	68nm,0.5s,baz=66,slow=28,SNR=4.5						
MK31	**Makanchi Array**	**4.85**	**232**	PN	**Pn**	**21 55 34.5**	**+1.2**
MK31	**Makanchi Array**	**4.85**	**232**		**Pn**	**21 55 34.5**	**+1.2**
MKAR	**Makanchi Array**	**4.85**	**232**	Pn	**Pn**	**21 55 34.5**	**+1.2**
	21nm,0.3s,baz=53,slow=15,SNR=558						
MKAR				Pg	**Pb**	**21 55 47.3**	**+2.3**
	133nm,0.3s,baz=46,slow=15,SNR=32						
MKAR				Sn	**Sn**	**21 56 28.1**	**-1.8**
	34nm,0.3s,baz=64,slow=16,SNR=3.8						
MKAR				Lg	Lg	21 56 51.5	
	32nm,0.3s,baz=42,slow=35,SNR=2.7						
MKAR				LR	LR	21 57 28.4	
	comp=Z,295nm,18.7s,baz=50,slow=39						
MKAR	**Makanchi Array**	**4.85**	**232**	P	**Pn**	**21 55 34.7**	**+1.4**
MKAR				S	**Sn**	**21 56 29.8**	**-0.2**
SEM	**Semipalatinsk**	**4.94**	**279**	*e*P	**Pn**	**21 55 35.9**	**+1.2**
	40nm,0.5s						
SEM				*e*S	**Sn**	**21 56 34.6**	**+2.1**
	235nm,0.3s						
SEM	**Semipalatinsk**	**4.94**	**279**	*e*PN	**Pn**	**21 55 35.9**	**+1.2**
SEM				*e*S	**Sn**	**21 56 34.6**	**+2.1**
MAKZ	**Makanchi**	**5.00**	**234**	P	**Pn**	**21 55 36.7**	**+1.3**
MAKZ				S	**Sn**	**21 56 35.5**	**+1.8**
MAKZ	**Makanchi**	**5.00**	**234**	⇑Pn	**Pn**	**21 55 36.9**	**+1.5**
	45nm,0.7s						
MAKZ				⇑Pg	**Pb**	**21 55 51.1**	**+3.5**
	209nm,0.5s						
MAKZ				⇑Lg	Lg	21 56 57.5	
	231nm,0.5s						
MAKZ	**Makanchi**	**5.00**	**234**	PN	**Pn**	**21 55 35.4**	**0.0**
MAKZ	**Makanchi**	**5.00**	**234**	Pn	**Pn**	**21 55 35.4**	**0.0**
KHAR	**Kharino, NSO,**	**5.42**	**332**	P	**Pn**	**21 55 41.1**	**0.0**
KHAR				S	**Sn**	**21 56 45.9**	**+2.0**
KEM	**Kemerovo**	**5.57**	**349**	P	**Pn**	**21 55 45.1**	**+2.0**
KEM				S	**Sn**	**21 56 50.4**	**+2.7**
BSTK	**Bystrovka, Nov**	**5.69**	**328**	P	**Pn**	**21 55 45.3**	**+0.6**
BSTK				S	**Sn**	**21 56 51.1**	**+0.7**
NVS	**Novosibirsk**	**5.72**	**332**	P	**Pn**	**21 55 45.0**	**-0.1**
NVS				S	**Sn**	**21 56 51.4**	**+0.1**
NVSII	**Novosibirsk**	**5.72**	**332**	P	**Pn**	**21 55 45.0**	**-0.1**
NVSII				S	**Sn**	**21 56 51.4**	**+0.1**
TDJR	**Todzha**	**5.75**	**61**	P	**Pn**	**21 55 46.3**	**+0.7**
NHES	**Novosibirsk, N**	**5.81**	**331**	P	**Pn**	**21 55 48.1**	**+1.7**
NHES				S	**Sn**	**21 56 56.8**	**+3.2**
KURK	**Kurchatov**	**6.00**	**281**	P	**Pn**	**21 55 50.2**	**+1.2**
KURK				S	**Sn**	**21 57 00.1**	**+1.9**
KURK	**Kurchatov**	**6.00**	**281**	⇑Pn	**Pn**	**21 55 50.3**	**+1.2**
	72nm,0.8s						
KURK				⇓Sn	**Sn**	**21 57 00.5**	**+2.4**
	442nm,0.7s						
KURK				⇓Lg	Lg	21 57 29.0	
	549nm,0.6s						
KURK	**Kurchatov**	**6.00**	**281**	PN	**Pn**	**21 55 50.9**	**+1.9**
KURK						21 57 02.1	
KURK	**Kurchatov**	**6.00**	**281**	Pn	**Pn**	**21 55 50.2**	**+1.2**
KURBB	**Kurchatov Arra**	**6.05**	**281**	Pn	**Pn**	**21 55 50.9**	**+1.2**
	11nm,0.3s,baz=93,slow=14,SNR=1915						
KURBB				Sn	**Sn**	**21 57 02.1**	**+2.7**
	9.7nm,0.3s,baz=88,slow=27,SNR=6.4						
KURBB				Lg	Lg	21 57 27.2	
	7.9nm,0.3s,baz=86,slow=34,SNR=4.4						
KURBB	**Kurchatov Arra**	**6.05**	**281**	⇑Pn	**Pn**	**21 55 51.2**	**+1.5**
	81nm,0.3s						
KURBB				⇓Sn	**Sn**	**21 57 02.0**	**+2.7**
	344nm,0.6s						
KURBB				⇓Lg	Lg	21 57 32.3	
	635nm,0.6s						
KURBB	**Kurchatov Arra**	**6.05**	**281**	PN	**Pn**	**21 55 51.2**	**+1.5**
KURBB				SN	**Sn**	**21 57 02.3**	**+2.9**
WMQ	**Urumqi**	**6.07**	**181**	*e*Pn	**Pn**	**21 55 51.3**	**+1.2**
WMQ				Sn	**Sn**	**21 57 00.3**	**+0.2**
WMQ				smax	smax		
	comp=N,270nm,0.7s						
WMQ				smax	smax		
	comp=E,350nm,1.1s						
WMQ	**Urumqi**	**6.07**	**181**	PN	**Pn**	**21 55 51.1**	**+1.0**
WMQ	**Urumqi**	**6.07**	**181**	Pn	**Pn**	**21 55 51.1**	**+1.0**
ASR1	**Anjero-Sudjens**	**6.30**	**350**	P	**Pn**	**21 55 56.0**	**+2.9**
ORY	**Orie**	**6.76**	**38**	P	**Pn**	**21 55 57.9**	**-1.6**
SHTK	**Zheleznogorsk-**	**7.31**	**26**	P	**Pn**	**21 56 05.1**	**-1.9**
KAPS	**Kapalarasan**	**7.38**	**235**	*e*P	**Pn**	**21 56 08.5**	**+0.5**
	139nm,0.4s						
KAPS				*e*S	**Sn**	**21 57 30.9**	**-1.4**
	117nm,0.6s						
KAPS	**Kapalarasan**	**7.38**	**235**	*e*P	**Pn**	**21 56 08.5**	**+0.5**
KAPS				*e*S	**Sn**	**21 57 30.9**	**-1.4**
DJR	**Jarkent**	**7.83**	**228**	*e*P	**Pn**	**21 56 15.0**	**+0.7**
	46nm,0.3s						
DJR				*e*S	**Sn**	**21 57 41.4**	**-2.1**
	44nm,0.5s						
DJR	**Jarkent**	**7.83**	**228**	*e*P	**Pn**	**21 56 15.0**	**+0.7**
DJR				*e*S	**Sn**	**21 57 41.4**	**-2.1**
ORL	**Orlik**	**7.94**	**66**	P	**Pn**	**21 56 20.2**	**+4.5**
MOY	**Mondy**	**8.49**	**73**	P	**Pn**	**21 56 27.4**	**+4.0**
PDGK	**Podgornoye**	**8.74**	**225**	⇑Pn	**Pn**	**21 56 25.5**	**-1.3**
	20nm,0.8s						
PDGK				⇑Lg	Lg	21 58 53.2	
	118nm,1.1s						
PDGK	**Podgornoye**	**8.74**	**225**	P	**Pn**	**21 56 25.5**	**-1.3**
BRZS	**Berezniki**	**9.81**	**276**	*e*P	Pn	21 57 07.5	+26
	12nm,0.4s						
BRZS				*e*S	Sn	21 59 05.6	+34
	44nm,0.8s						
MDOK	**Medeo**	**10.05**	**232**	Pn	**Pn**	**21 56 42.5**	**-2.2**
	22nm,0.7s						
MDOK	**Medeo**	**10.05**	**232**	P	**Pn**	**21 56 42.5**	**-2.2**
TLY	**Talaya**	**10.14**	**74**	Lg	Lg	21 59 34.8	
	0.0nm,0.3s,baz=188,slow=22,SNR=4.2						
TLY				LR	LR	22 00 42.7	
	comp=Z,162nm,19.4s,baz=140,slow=38						
TLY	**Talaya**	**10.14**	**74**	P	**Pn**	**21 56 42.1**	**-3.7**
TLY	**Talaya**	**10.14**	**74**	Pn	**Pn**	**21 56 42.1**	**-3.7**
OTUK	**Ortayu**	**10.34**	**267**	⇑Pn	**Pn**	**21 56 46.7**	**-1.9**
	9.3nm,0.4s						
OTUK				⇓Sn	**Sn**	**21 58 40.9**	**-4.1**
	21nm,0.7s						
OTUK	**Ortayu**	**10.34**	**267**	P	**Pn**	**21 56 46.7**	**-1.9**
OTUK				SN	**Sn**	**21 58 40.9**	**-4.1**
KDJ	**Kajisay**	**10.75**	**228**	P	**Pn**	**21 56 54.6**	**+0.3**
KDJ	**Kajisay**	**10.75**	**228**	Pn	**Pn**	**21 56 54.6**	**+0.3**
TARG	**Taragay, Kyrgy**	**10.77**	**225**	Pn	**Pn**	**21 56 53.9**	**-0.9**
TKM2	**Tokmak 2**	**10.97**	**235**	P	**Pn**	**21 57 00.3**	**+2.8**
	SNR=18						
TKM2	**Tokmak 2**	**10.97**	**235**	⇓Pn	**Pn**	**21 56 56.6**	**-0.9**
	5.9nm,0.6s						
TKM2				⇓Lg	Lg	22 00 09.9	
	31nm,0.7s						
TKM2	**Tokmak 2**	**10.97**	**235**	*i* P	**Pn**	**21 56 56.5**	**-0.9**
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BOOM	**Boomskoye usch**	**11.10**	**233**	P	**Pn**	**21 56 58.7**	**-0.4**
BOOM	**Boomskoye usch**	**11.10**	**233**	Pn	**Pn**	**21 56 58.7**	**-0.4**
ULHL	**Ulahol**	**11.12**	**231**	P	**Pn**	**21 56 59.9**	**+0.4**
	SNR=20						
USP	**Ospenovka**	**11.34**	**239**	P	**Pn**	**21 57 00.6**	**-1.7**
	SNR=19						
BVA0	**Borovoye Array**	**11.36**	**293**	⇓Pn	**Pn**	**21 57 01.9**	**-0.6**
	comp=Z,6.3nm,0.6s,baz=110,slow=14,SNR=104						
BVA0				⇓Sn	**Sn**	**21 59 12.5**	**+2.6**
	comp=Z,2.1nm,0.4s,baz=101,slow=24,SNR=5.4						
BVAR	**Borovoye Array**	**11.36**	**293**	Pn	**Pn**	**21 57 01.5**	**-1.0**
	comp=Z,3.5nm,0.3s,baz=108,slow=14,SNR=76						
BVAR				Sn	**Sn**	**21 59 07.3**	**-2.5**
	comp=Z,7.2nm,0.3s,baz=98,slow=22,SNR=8.2						
BVAR				Lg	Lg	22 00 17.9	
	baz=101,slow=24,SNR=1.1						
CHMS	**Chumysh**	**11.38**	**238**	P	**Pn**	**21 57 03.5**	**+0.7**
	SNR=6.4						
BRVK	**Borovoye**	**11.43**	**293**	⇓Pn	**Pn**	**21 57 02.8**	**-0.6**
	comp=Z,10nm,0.8s						
BRVK				⇑Sn	**Sn**	**21 59 13.7**	**+2.2**
	comp=Z,21nm,0.6s						
BRVK	**Borovoye**	**11.43**	**293**	P	**Pn**	**21 57 02.8**	**-0.6**
BRVK				SN	**Sn**	**21 59 13.7**	**+2.2**
BRVK	**Borovoye**	**11.43**	**293**	Pn	**Pn**	**21 57 02.9**	**-0.6**
KBK	**Karagaybulak**	**11.50**	**236**	P	**Pn**	**21 57 05.9**	**+1.3**
	SNR=8.9						
KZA	**Kyzart**	**11.75**	**233**	P	**Pn**	**21 57 09.0**	**+0.8**
	SNR=16						
AAK	**Ala-Archa**	**11.76**	**237**	Pn	**Pn**	**21 57 07.3**	**-0.8**
	comp=Z,2.9nm,0.3s,baz=67,slow=7.6,SNR=13						
AAK				Lg	Lg	22 00 29.9	
	comp=Z,1.2nm,0.3s,baz=92,slow=21,SNR=1.5						
AAK				LR	LR	22 01 50.5	
	comp=Z,123nm,20.0s,baz=78,slow=38						
AAK	**Ala-Archa**	**11.76**	**237**	P	**Pn**	**21 57 09.3**	**+1.2**
	SNR=10						
AAK	**Ala-Archa**	**11.76**	**237**	Pn	**Pn**	**21 57 07.5**	**-0.7**
	comp=Z,4.3nm,0.4s						
AAK	**Ala-Archa**	**11.76**	**237**	P	**Pn**	**21 57 08.6**	**+0.5**
AAK	**Ala-Archa**	**11.76**	**237**	Pn	**Pn**	**21 57 08.6**	**+0.5**
UCH	**Uchtor**	**12.03**	**236**	P	**Pn**	**21 57 13.6**	**+1.5**
	SNR=11						
EKS2	**Erkin-Say**	**12.14**	**239**	P	**Pn**	**21 57 11.0**	**-2.2**
	SNR=17						
SONM	**Songino Array**	**12.36**	**92**	Pn	**Pn**	**21 57 15.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=281,slow=13,SNR=11						
SONM				Sn	**Sn**	**21 59 34.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=316,slow=23,SNR=1.9						
SONM				Lg	Lg	22 00 45.8	
	comp=Z,1.0nm,0.3s,baz=278,slow=31,SNR=9.3						
ULN	**Ulaanbaatar**	**12.77**	**92**	*i* P	**Pn**	**21 57 20.7**	**-1.3**
KK31	**Karatay Array**	**13.74**	**247**	P	**Pn**	**21 57 32.5**	**-2.6**
KK31	**Karatay Array**	**13.74**	**247**	Pn	**Pn**	**21 57 32.5**	**-2.6**
KKAR	**Karatay Array**	**13.74**	**247**	P	**Pn**	**21 57 32.5**	**-2.6**
KKAR	**Karatay Array**	**13.74**	**247**		**Pn**	**21 57 32.5**	**-2.6**
BTK	**Batken**	**15.54**	**237**	P	**Pn**	**21 57 57.6**	**-1.9**
BTK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
BTK	**Batken**	**15.54**	**237**	Pn	**Pn**	**21 57 57.6**	**-1.9**
BTK				lAmb	lAmb	21 58 14.9	
	comp=Z,8.9nm,0.8s						
GAR	**Garm**	**16.57**	**236**		**Pn**	**21 58 10.9**	**-1.

comp=Z,7.0nm,1.1s
KLMR Klimovskoe 28.91 311 *e*P **P 22 00 21.0 +1.8**
KLMR AMP 22 00 22.6
comp=Z,7.0nm,1.1s
KIV Kislovodsk 31.06 277 *e*P **P 22 00 36.4 -2.1**
KIV pmax pmax
comp=Z,12nm,1.0s
OBN Obninsk 31.08 300 *e*P **P 22 00 37.9 -0.5**
OBN *e* 22 03 29.3
OBN pmax pmax
comp=Z,2.0nm,0.7s
CMAR Chiang Mai Arr 32.59 160 P **P 22 00 52.0 0.0**
comp=Z,0.6nm,0.6s,baz=347,slow=7.7,SNR=5.3
FINES FINESS Array B 35.35 313 P **P 22 01 15.2 -0.4**
comp=Z,0.5nm,0.4s,baz=60,slow=7.8,SNR=7.2
AKASG Malin Array Be 36.63 294 P **P 22 01 26.0 -0.7**
comp=Z,1.7nm,0.3s,baz=63,slow=8.9,SNR=5.5
AKASG Malin Array Be 36.63 294 P **P 22 01 26.0 -0.7**
BR131 Keskin Array S 39.02 276 P **P 22 01 46.9 -0.3**
BR131 pmax pmax
comp=Z,4.0nm,1.1s
BR131 Keskin Array S 39.02 276 P **P 22 01 46.9 -0.3**
BRTR Keskin Array B 39.02 276 P **P 22 01 48.2 +1.0**
comp=Z,1.6nm,0.4s,baz=61,slow=4.4,SNR=10
BUR08 Bucovina Ar. S 40.31 292 P **P 22 01 57.5 -0.4**
BUR08 IAmb IAmb 22 02 07.6
comp=Z,4.3nm,1.1s
MLR Muntele Rosu 40.88 288 P **P 22 02 02.6 0.0**
MLR pmax pmax
comp=Z,2.0nm,0.7s
MLR Muntele Rosu 40.88 288 P **P 22 02 02.6 0.0**
KWP Kalwaria Pacla 40.89 296 P **P 22 02 02.6 +0.1**
KWP pmax pmax
comp=Z,3.0nm,0.6s
KWP Kalwaria Pacla 40.89 296 P **P 22 02 02.6 +0.1**
KWP IAmb IAmb 22 02 10.7
comp=Z,3.0nm,0.6s
BILL Bilibino 40.92 34 *e*P **P 22 02 02.0 -0.5**
BILL *e* 22 02 09.6
BILL *e* 22 03 37.6
BILL *e* 22 03 58.3
BILL pmax pmax
comp=Z,2.0nm,1.3s
NC405 NORSAR Array S 42.12 315 P **P 22 02 12.1 -0.3**
NC303 NORSAR Array S 42.24 316 P **P 22 02 13.7 +0.4**
OJC Ojcow 42.31 298 P **P 22 02 13.8 -0.3**
OJC pmax pmax
comp=Z,3.0nm,0.8s
OJC Ojcow 42.31 298 P **P 22 02 13.8 -0.3**
OJC IAmb IAmb 22 02 27.4
comp=Z,3.0nm,0.8s
NB201 NORSAR Array S 42.33 315 P **P 22 02 15.0 +0.8**
NC602 NORSAR Array S 42.33 315 P **P 22 02 13.4 -0.7**
NC602 IAmb IAmb 22 02 26.6
comp=Z,10nm,1.0s
NB2 NORSAR Subarra 42.37 315 P **P 22 02 14.9 +0.4**
comp=Z,1.2nm,0.7s,baz=68,slow=7.9
NOA NORSAR Array B 42.37 315 P **P 22 02 15.1 +0.5**
comp=Z,1.0nm,0.7s,baz=64,slow=7.8,SNR=7.5
NC204 NORSAR Array S 42.49 316 P **P 22 02 16.1 +0.6**
NC204 IAmb IAmb 22 02 19.6
comp=Z,12nm,1.1s
NBO00 NORSAR Array S 42.58 315 P **P 22 02 15.7 -0.4**
NAO01 NORSAR Array S 42.59 315 P **P 22 02 16.3 0.0**
CLL Collm 45.61 302 *e*(P) **P 22 02 41.0 +0.4**
CLL *i* 22 02 46.3
comp=Z,4.0nm,0.5s
CLL Collm 45.61 302 *e*P **P 22 02 41.0 +0.4**
CLL *e* 22 02 43.0
GERES GERESS Array B 46.45 299 P **P 22 02 46.5 -0.8**
comp=Z,0.2nm,0.5s,baz=47,slow=4.7,SNR=2.5
SUMG Summit 52.29 342 P **P 22 03 32.3 +0.3**
BNI Bardonecchia 52.56 298 P **P 22 03 34.0 0.0**
ILAR Eielson Array 58.05 24 P **P 22 04 10.9 -2.3**
comp=Z,0.6nm,0.5s,baz=320,slow=5.9,SNR=7.4
INK Inuvik 58.15 17 P **P 22 04 11.5 -2.3**
comp=Z,2.8nm,1.0s,baz=6.4,slow=6.5,SNR=4.0
ESDC Sonseca Array 62.04 299 P **P 22 04 40.3 -0.8**
comp=Z,0.9nm,0.6s,baz=45,slow=6.4,SNR=9.7
TORD Torodi Ar. Bea 77.63 276 P **P 22 06 17.0 -0.3**
comp=Z,0.6nm,0.6s,baz=42,slow=4.7,SNR=6.4
CPUP Villa Florida 144.41 298 PKP **PKPdf 22 13 56.1 -0.8**
comp=Z,2.8nm,0.8s,baz=37,slow=2.2,SNR=3.2

NIED ***26*** *21:55:00, 37.60N×141.60E, h59km, Mw4.5 Best double couple: M₀6.74000×10¹⁵ NP1:φ₈174.00000°, δ65.00000°, λ54.00000°. NP2:φ₈54.00000°, δ43.00000°, λ142.00000°.*
MOS ***26*** *21:55:36.1±1.0, 37.60N×141.79E, h45km, mb4.9/29, Error ellipse: s-maj=5.7km s-min=4.0km az=99.0*
BGR ***26*** *21:55:39.0±0.0, 37.71N×141.40E, h33km, mb4.6*
IDC ***26*** *21:55:39.7±0.6, 37.64N×141.49E, h55km±6km, mb4.3/35, mb1 4.4/41, mb1mx4.3/55, mbtmp4.5/41, MS3.6/15, Ms1 3.6/15, ms1mx3.4/34, Error ellipse: s-maj=11.9km s-min=10.4km az=129.0*
JMA ***26*** *21:55:39.2, 37.63N×141.57E, h51km±1km, M4.7*
JMA Felt III J1.
NEIC ***26*** *21:55:39.4±1.3, 37.60N±0.06×141.73E±0.03, h59km±5km, mb4.7/242, Error ellipse: s-maj=8.3km s-min=3.1km az=184.0*

ISC 26 21:55:38.1±0.4,**37.60N**±0.04×**141.79E**±0.04,**h51**km±3km,
h51km:**pP-P, n548,** σ1≦**14**/553,**mb4.7**/210,**MS3.6**/13,
27C-12D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JMST	**Minamisoumatoc**	**0.72**	**280**	P		**Pn**	**21 55 51.1**	**-1.1**
JMST				S		**Sn**	**21 55 59.7**	**-2.7**
JIKH	**Ishinomakikobu**	**0.75**	**340**	P		**Pn**	**21 55 52.9**	**+0.3**
JIKH				S		**Sn**	**21 56 02.5**	**-0.6**
JFK	**Kawauchi**	**0.76**	**253**	P		**Pn**	**21 55 51.9**	**-0.8**
JFK				S		**Sn**	**21 56 00.8**	**-2.6**
JMM	**Marumori**	**0.83**	**289**	P		**Pn**	**21 55 52.5**	**-1.1**
JMM				S		**Sn**	**21 56 01.6**	**-3.3**
JIO	**Ouri**	**0.92**	**338**	P		**Pn**	**21 55 55.0**	**+0.2**
JIO				S		**Sn**	**21 56 06.1**	**-0.9**
ONAJ	**Iwakimizuishiy**	**0.93**	**238**	P		**Pn**	**21 55 54.3**	**-0.7**
ONAJ				*e*S		**Sn**	**21 56 04.9**	**-2.5**
JFT	**Otama**	**1.16**	**266**	P		**Pn**	**21 55 57.4**	**-0.6**
JFT				S		**Sn**	**21 56 10.5**	**-2.2**
JOU	**Okura**	**1.17**	**311**	P		**Pn**	**21 55 57.4**	**-0.8**
JOU				S		**Sn**	**21 56 10.8**	**-2.3**
JMK	**Ichinoseki**	**1.42**	**342**	P		**Pn**	**21 56 02.0**	**+0.5**
JMK				*e*S		**Sn**	**21 56 18.8**	**-0.3**
JYS	**Shirataka**	**1.50**	**295**	*e*S		**Sn**	**21 56 18.3**	**-2.7**
JFY	**Yanaizu**	**1.67**	**264**	P		**Pn**	**21 56 04.1**	**-0.8**
JFY				*e*S		**Sn**	**21 56 22.8**	**-2.4**
JYK	**Kaneyama**	**1.73**	**320**	P		**Pn**	**21 56 05.6**	**-0.2**
JYK				*e*S		**Sn**	**21 56 25.6**	**-1.1**
JYA	**Atsumi**	**1.91**	**302**	P		**Pn**	**21 56 07.7**	**-0.6**
JYA				*e*S		**Sn**	**21 56 28.9**	**-2.3**
MJAR	**Matsushiro Arr**	**3.05**	**251**	P		**Pn**	**21 56 24.2**	**+0.3**
	3.5nm,0.3s,baz=60,slow=9.9,SNR=158							
MJAR				S		**Sn**	**21 57 01.0**	**+1.8**
	5.5nm,0.3s,baz=84,slow=28,SNR=2.8							
MJAR				LR		LR	21 57 52.1	
	comp=Z,1μm,20.8s,baz=70,slow=47							
MAJO	**Matsushiro**	**3.05**	**251**	P		**Pn**	**21 56 24.5**	**+0.6**
MAJO	**Matsushiro**	**3.05**	**251**			**Pn**	**21 56 24.5**	**+0.6**
MAT	**Matsushiro**	**3.05**	**251**	P		**Pn**	**21 56 24.4**	**+0.5**
MAT				S		**Sn**	**21 57 03.8**	**+4.6**
MJB9	**Matsu-Tunnel**	**3.05**	**251**			**Pn**	**21 56 24.5**	**+0.6**
INU	**Inuyama**	**4.45**	**241**			**Pn**	**21 56 44.0**	**+0.9**
ERM	**Erimo**	**4.53**	**13**	*ce*P		**Pn**	**21 56 43.8**	**-0.3**
ERM				pmax	pmax			
	comp=Z,168nm,1.3s							
ERM	**Erimo**	**4.53**	**13**	Pn		**Pn**	**21 56 44.2**	**0.0**
JHJ2	**Mitsune**	**4.76**	**200**			**Pn**	**21 56 48.8**	**+1.5**
JHJ	**Hachijo jima 2**	**4.76**	**201**	P		**Pn**	**21 56 47.6**	**+0.3**
	comp=Z,88nm,0.3s,baz=324,slow=20,SNR=70							
JHJ				S		**Sn**	**21 57 39.6**	**-1.6**
	comp=Z,159nm,0.3s,baz=242,slow=23,SNR=6.2							
JHJ				LR		LR	21 58 32.0	
	comp=Z,346nm,20.6s,baz=118,slow=37							
NMR	**Nemuro--Hokkai**	**6.50**	**26**	⇑*i*P		**Pn**	**21 57 10.1**	**-1.0**
ASAJ	**Asahikawa**	**6.54**	**5**	P		**Pn**	**21 57 11.2**	**-0.4**
	comp=Z,9.2nm,0.3s,baz=219,slow=10,SNR=44							
ASAJ				S		**Sn**	**21 58 23.7**	**-1.1**
	baz=161,slow=23,SNR=1.3							
JKA	**Kamikawa-asahi**	**6.54**	**5**			**Pn**	**21 57 11.2**	**-0.4**
GRPR	**Tuman**	**7.07**	**24**	*e*P		**Pn**	**21 57 18.0**	**-0.8**
GRPR				*e*S		**Sn**	**21 58 36.5**	**-1.2**
GRPR				pmax	pmax			
	comp=Z,496nm,0.2s							
GRPR				pmax	pmax			
	comp=E,274nm,0.3s							
GRPR				pmax	pmax			
	comp=N,129nm,0.1s							
LAGR	**Lagunnoye**	**7.13**	**24**	*e*P		**Pn**	**21 57 19.0**	**-0.7**
LAGR				*e*S		**Sn**	**21 58 37.9**	**-1.3**
LAGR				pmax	pmax			
	comp=Z,529nm,0.4s							
LAGR				pmax	pmax			
	comp=N,431nm,0.3s							
LAGR				pmax	pmax			
	comp=E,544nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**7.13**	**24**	*c*P		**Pn**	**21 57 19.1**	**-0.6**
YUK				*e*S		**Sn**	**21 58 37.0**	**-2.3**
YUK				MLR	MLR			
	comp=Z,129nm,10.0s							
TEY	**Ternei**	**8.39**	**334**	⇑*i*P		**Pn**	**21 57 41.3**	**+4.3**
TEY				pmax	pmax			
	comp=E,30nm,1.1s							
TEY				pmax	pmax			
	comp=N,30nm,0.7s							
TEY				pmax	pmax			
	comp=Z,40nm,1.1s							
KUR	**Kuril'sk**	**8.89**	**29**	*e*P		**Pn**	**21 57 43.8**	**0.0**
KUR				*e*S		**Sn**	**21 59 18.9**	**-3.5**
KUR				pmax	pmax			
	comp=Z,110nm,0.4s							
KUR				pmax	pmax			
	comp=E,61nm,0.5s							
KUR				smax	smax			
	comp=N,212nm,0.3s							
KUR				smax	smax			
	comp=E,193nm,0.4s							
VLA	**Vladivostok**	**9.35**	**309**	*i* P		**Pn**	**21 57 52.8**	**+2.6**
VLA				pmax	pmax			
	comp=Z,167nm,1.0s							
YSS	**Yuzh-Sakhalins**	**9.38**	**4**	⇓*e*P		**Pn**	**21 57 51.1**	**+0.6**
YSS				pmax	pmax			
	comp=Z,60nm,0.9s							
YSS				pmax	pmax			
	comp=Z,100nm,3.4s							
YSS				MLR	MLR			
	comp=Z,200nm,16.0s							
YSS	**Yuzh-Sakhalins**	**9.38**	**4**	Pn		**Pn**	**21 57 51.1**	**+0.6**
MSHR	**Mys Shultsa**	**9.54**	**305**	*ce*P		**Pn**	**21 57 54.4**	**+1.6**
MSHR				pmax	pmax			
	comp=Z,30nm,0.7s							
USA0B	**Ussuriysk Arra**	**9.92**	**315**	P		**Pn**	**21 57 59.0**	**+1.1**
USA0B	**Ussuriysk Arra**	**9.92**	**315**	Pn		**Pn**	**21 57 59.0**	**+1.1**
USRK	**Ussuriysk Ar.**	**9.92**	**315**	P		**Pn**	**21 58 00.5**	**+2.6**
	baz=123,slow=11,SNR=44							
JNU	**Nakatsue**	**9.96**	**247**	P		**Pn**	**21 57 57.4**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=20,slow=22,SNR=3.3							
JNU				LR	LR		22 02 04.0	
	comp=Z,500nm,20.9s,baz=54,slow=39							
JNU	**Nakatsue**	**9.96**	**247**	Pn		**Pn**	**21 58 00.2**	**+1.6**
JCJ	**Chichijima**	**10.48**	**178**	Pn		**Pn**	**21 58 04.3**	**-1.3**
KSRS	**Korea Array**	**11.01**	**273**	P		**Pn**	**21 58 15.4**	**+2.6**
	comp=Z,1.0nm,0.3s,baz=88,slow=14,SNR=79							
KSRS				LR	LR		22 01 59.9	
	comp=Z,339nm,20.5s,baz=102,slow=35							
KS19	**Wonju Array Si**	**11.05**	**274**			**Pn**	**21 58 16.0**	**+2.5**
MDJ	**Mudanjiang**	**11.56**	**311**	Pn		**Pn**	**21 58 20.4**	**+0.1**
TJN	**Taejon**	**11.60**	**268**	*ce*P		**Pn**	**21 58 22.6**	**+1.7**
INCN	**Inchon**	**12.03**	**274**	P		**Pn**	**21 58 25.7**	**-1.2**
INCN	**Inchon**	**12.03**	**274**	Pn		**Pn**	**21 58 25.7**	**-1.2**
KLR	**Kul'dur**	**13.71**	**331**	P		**Pn**	**21 58 49.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=138,slow=8.8,SNR=5.4							
KLR				LR	LR		22 03 50.2	
	comp=Z,197nm,18.9s,baz=152,slow=36							
KLR	**Kul'dur**	**13.71**	**331**	*i* P		**Pn**	**21 58 50.7**	**+1.1**
KLR				pmax	pmax			
	comp=Z,8.0nm,0.9s							
CN2	**Changchun**	**13.85**	**302**	*e*P		**Pn**	**21 58 51.3**	**-0.3**
DL2	**Dalian**	**15.89**	**281**	P		**Pn**	**21 59 18.5**	**+0.2**
DL2				sP		**pP**	**21 59 35.3**	**+2.7**
DL2				*e*S		**Sn**	**22 02 15.0**	**+1.6**
DL2				pmax	pmax			
	comp=Z,47nm,0.8s							
DL2				LR	LR			
	comp=N,170nm,17.7s							
DL2				LR	LR			
	comp=E,190nm,17.8s							
DL2				LR	LR			
	comp=Z,200nm,18.3s							
SSE	**Sheshan**	**18.19**	**255**	P		**Pn**	**21 59 44.8**	**-1.9**
SSE				IAmb	IAmb		21 59 49.9	
	comp=Z,48nm,0.8s							
ZEA	**Zeya**	**19.01**	**333**	*e*P		**P**	**21 59 55.2**	**-0.2**
PEA0B	**Petropavlovsk-**	**19.05**	**30**	P		**Pn**	**21 59 56.8**	**-0.3**
PEA0B				pmax	pmax			
	comp=Z,32nm,1.0s							
PEA0B	**Petropavlovsk-**	**19.05**	**30**			**Pn**	**21 59 56.8**	**-0.3**
PETK	**Petropavlovsk-**	**19.05**	**30**	P		**Pn**	**21 59 58.4**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=206,slow=9.4,SNR=16							
PETK				LR	LR		22 06 46.8	
	comp=Z,114nm,21.7s,baz=236,slow=35							
PET	**Petropavlovsk**	**19.38**	**32**	P		**Pn**	**22 00 01.1**	**+0.1**
PET				pmax	pmax			
	comp=Z,22nm,0.7s							
PET	**Petropavlovsk**	**19.38**	**32**	P		**Pn**	**22 00 01.1**	**+0.1**
PET				IAmb	IAmb		22 00 07.8	
	comp=Z,22nm,0.7s							
NJ2	**Nanjing**	**19.61**	**260**	*e*P		**Pn**	**22 00 04.0**	**+0.1**
NJ2				pmax	pmax			
	comp=Z,8.0nm,0.5s							
TIA	**Tai'an**	**19.76**	**274**	P		**P**	**22 00 02.0**	**-1.8**
TIA				pmax	pmax			
	comp=Z,39nm,1.4s							
BJI	**Beijing**	**20.09**	**285**	P		**P**	**22 00 07.0**	**-0.3**
BJI				S		**S**	**22 03 49.0**	**-1.1**
BJI				pmax	pmax			
	comp=Z,9.0nm,0.8s							
BJI				LR	LR			
	comp=N,340nm,12.8s							
BJI				LR	LR			
	comp=E,340nm,14.4s							
BJI				LR	LR			
	comp=Z,250nm,53.0s							
BJT	**Baijiatuan**	**20.09**	**285**	P		**P**	**22 00 06.5**	**-0.9**
BJT				pmax	pmax			
	comp=Z,24nm,0.6s							
BJT	**Baijiatuan**	**20.09**	**285**	P		**P**	**22 00 06.5**	**-0.9**
BJT				IAmb	IAmb		22 00 19.2	
	comp=Z,24nm,0.6s							
SSLB	**Suanglung**	**22.53**	**238**	P		**P**	**22 00 35.7**	**+2.0**
YULB	**Yu-li**	**22.57**	**237**	P		**P**	**22 00 35.0**	**+0.9**
MA2	**Magadan**	**22.74**	**12**	P		**P**	**22 00 36.3**	**+0.7**
	comp=Z,15nm,0.6s,baz=202,slow=13,SNR=9.4							
MA2				LR	LR		22 08 40.5	
	comp=Z,113nm,21.9s,baz=158,slow=34							
MA2	**Magadan**	**22.74**	**12**	*ce*P		**P**	**22 00 34.2**	**-1.4**
MA2				pmax	pmax			
	comp=Z,21nm,1.0s							
MA2	**Magadan**	**22.74**	**12**	P		**P**	**22 00 36.0**	**+0.4**
MA2				IAmb	IAmb		22 00 36.9	
	comp=Z,22nm,0.8s							
TPUB	**Ta-pu**	**23.07**	**238**	P		**P**	**22 00 39.9**	**+0.5**
TWG	**Pinlang**	**23.11**	**236**	P		**P**	**22 00 39.6**	**-0.1**
TIY	**Taiyuan**	**23.20**	**279**	*e*P		**P**	**22 00 39.8**	**-0.8**
TIY				pmax	pmax			
	comp=Z,12nm,0.6s							
TIY				pmax	pmax			
	comp=Z,95nm,6.7s							
HHC	**Hu-ho-hao-te**	**23.58**	**287**	*e*P		**P**	**22 00 43.3**	**-0.9**
HHC				pmax	pmax			
	comp=Z,10.0nm,0.8s							
HHC				pmax	pmax			
	comp=Z,38nm,5.0s							
WHN	**Wuhan**	**23.74**	**261**	P		**P**	**22 00 44.8**	**-0.8**
BTO	**Baotou**	**24.76**	**287**	*e*P		**P**	**22 00 53.0**	**-2.1**
YAK	**Yakutsk**	**25.59**	**347**	P		**P**	**22 01 01.6**	**-0.5**
	comp=Z,31nm,0.7s,baz=163,slow=0.4,SNR=14							
YAK	**Yakutsk**	**25.59**	**347**	*e*P		**P**	**22 01 01.8**	**-0.3**
YAK				*e**PP		**pP**	**22 01 17.2**	**+2.3**
YAK				*e*S		**S**	**22 05 22.7**	**-3.5**
YAK				*e*SS			22 06 24.4	
YAK				pmax	pmax			
	comp=Z,38nm,0.7s							
YAK				pmax	pmax			
	comp=N,12nm,0.9s							
YAK				pmax	pmax			
	comp=E,4.0nm,0.9s							
YAK				smax	smax			
	comp=E,79nm,2.1s							
YAK				smax	smax			
	comp=N,111nm,1.7s							
YAK	**Yakutsk**	**25.59**	**347**	P		**P**	**22 01 01.9**	**-0.3**
XAN	**Xi'an**	**26.81**	**272**	P		**P**	**22 01 12.0**	**-1.6**
XAN				pP		pP	22 01 22.0	-4.5
XAN				pmax	pmax			
	comp=Z,37nm,0.6s							
XAN	**Xi'an**	**26.81**	**272**	IAmb		IAmb	22 01 14.9	
	comp=Z,22nm,0.6s							
SONM	**Songino Array**	**27.72**	**303**	LR		LR	22 12 05.1	
	comp=Z,140nm,20.2s,baz=180,slow=36							
H11N2	**WAKE ISLAND Hy**	**28.19**	**122**	T		T	22 31 46.6	
	baz=316,slow=75,SNR=6085							
H11N1	**WAKE ISLAND Hy**	**28.20**	**122**	T		T	22 31 51.1	
	baz=316,slow=75,SNR=1556							
H11N3	**WAKE ISLAND Hy**	**28.21**	**122**	T		T	22 31 57.8	
	baz=316,slow=75,SNR=1318							
H11S1	**WAKE ISLAND Hy**	**28.92**	**124**	T		T	22 32 04.2	
	baz=320,SNR=946							
H11S3	**WAKE ISLAND Hy**	**28.92**	**124**	T		T	22 32 49.8	
	baz=320,slow=74,SNR=198							
H11S2	**WAKE ISLAND Hy**	**28.94**	**124**	T		T	22 32 45.8	
	baz=320,slow=74,SNR=1162							
LZH	**Lanzhou**	**30.27**	**279**	*e*P		**P**	**22 01 46.0**	**+1.5**
LZH				pP		sP	22 02 02.0	-1.5
LZH				sP		pP	22 02 10.3	+13
LZH				*e*PP		**PnPn**	**22 02 46.3**	**+2.5**
LZH				pmax	pmax			
	comp=Z,25nm,1.3s							
LZH				pmax	pmax			
	comp=Z,86nm,5.0s							
LZH				LR	LR			
	comp=N,380nm,13.0s							
LZH				LR	LR			
	comp=E,400nm,13.2s							
LZH				LR	LR			
	comp=Z,630nm,16.3s							
GYA	**Guiyang**	**31.61**	**260**	⇓P		**P**	**22 01 54.3**	**-2.0**
GYA				pP		sP	22 02 13.8	-1.6
GYA				PP		**PP**	**22 03 07.8**	**-0.6**
GYA				S		**S**	**22 06 59.3**	**-2.6**
GYA				SS		SS	22 08 58.8	-20
GYA				pmax	pmax			
	comp=Z,19nm,1.1s							
GYA				LR	LR			
	comp=N,110nm,10.4s							
GYA				LR	LR			
	comp=E,170nm,8.8s							
GYA				LR	LR			
	comp=Z,190nm,17.7s							
CD2	**Chengdu**	**31.97**	**269**	*e*P		**P**	**22 01 58.5**	**-0.9**
CD2	**Chengdu**	**31.97**	**269**	*e*P		**P**	**22 02 00.0**	**+0.6**
CD2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
CD2				pmax	pmax			
	comp=Z,80nm,0.8s							
GTA	**Gaotai**	**32.69**	**286**	*e*P		**P**	**22 02 06.5**	**+0.8**
GTA				pP		pP	22 02 13.0	-5.7
GTA				sP		sP	22 02 16.8	-7.9
GTA				pmax	pmax			
	comp=Z,13nm,1.0s							
GSTR	**Great Sitkin T**	**32.71**	**50**	P		**P**	**22 02 05.8**	**+0.2**
BILL	**Bilibino**	**33.40**	**16**	*e*P		**P**	**22 02 08.9**	**-2.5**
BILL				pmax	pmax			
	comp=Z,5.0nm,1.1s							
TIXI	**Tiksi**	**34.77**	**353**	P		**P**	**22 02 22.9**	**-0.3**
	comp=Z,4.1nm,0.5s,baz=152,slow=4.7,SNR=8.6							
TIXI	**Tiksi**	**34.77**	**353**	P		**P**	**22 02 22.5**	**-0.6**
KMI	**Kunming**	**35.34**	**261**	⇑P		**P**	**22 02 27.3**	**-1.6**
KMI				pP		sP	22 02 45.8	-2.3
KMI				sP		pP	22 02 55.3	+13
KMI				PP		**PnPn**	**22 03 48.3**	**-0.1**
KMI				pmax	pmax			
	comp=Z,25nm,0.9s							
KMI				pmax	pmax			
	comp=Z,150nm,5.6s							
KMI				LR	LR			
	comp=N,360nm,9.9s							
KMI				LR	LR			
	comp=E,270nm,9.3s							
KMI				LR	LR			
	comp=Z,290nm,9.6s							
KMI	**Kunming**	**35.34**	**261**	P		**P**	**22 02 27.6**	**-1.4**
KMI				pmax	pmax			
	comp=Z,18nm,0.7s							
KMI	**Kunming**	**35.34**	**261**	P		**P**	**22 02 27.6**	**-1.4**
SLVN	**Son La**	**36.47**	**254**	P		**P**	**22 02 37.0**	**-1.3**
KWAJ	**Kwajalein Atol**	**36.97**	**134**	P		**P**	**22 02 42.6**	**0.0**
KWAJ				pmax	pmax			
	comp=Z,40nm,1.2s							
KWAJ	**Kwajalein Atol**	**36.97**	**134**	P		**P**	**22 02 42.6**	**0.0**
NIKH	**Nikolski High**	**37.18**	**49**	P		**P**	**22 02 44.2**	**+0.2**
MYLDM	**Lahad Datu**	**38.64**	**219**	P		**P**	**22 02 56.1**	**-0.6**
MYLDM				IAmb	IAmb		22 03 15.4	
	comp=Z,7.8nm,0.9s							
DGZ	**Jazzator, Alta**	**40.30**	**305**	*i* P		**P**	**22 03 11.7**	**+1.3**
DGZ				pmax	pmax			
	comp=Z,11nm,0.7s							
WMQ	**Urumqi**	**40.85**	**296**	*e*P		**P**	**22 03 16.8**	**+1.9**
WMQ				pmax	pmax			
	comp=Z,18nm,0.7s							
WMQ				pmax	pmax			
	comp=Z,100nm,4.7s							
WMQ				LR	LR			
	comp=N,560nm,29.0s							
WMQ				LR	LR			
	comp=E,2μm,29.3s							
WMQ				LR	LR			
	comp=Z,180nm,26.1s							
ANM	**Nome**	**40.96**	**32**	P		**P**	**22 03 16.6**	**+1.2**
ANM				pmax	pmax			
	comp=Z,19nm,1.0s							
ANM	**Nome**	**40.96**	**32**	P		**P**	**22 03 16.6**	**+1.2**
ANM				IAmb	IAmb		22 03 19.6	
	comp=Z,19nm,1.0s							
CHTO	**Chiang Mai**	**41.72**	**255**	P		**P**	**22 03 22.4**	**+0.1**
CHTO				pmax	pmax			
	comp=Z,6.0nm,0.9s							
CHTO	**Chiang Mai**	**41.72**	**255**	P		**P**	**22 03 22.4**	**+0.1**
ZAA0	**Zalesovo Array**	**41.76**	**312**	P		**P**	**22 03 21.6**	**-0.5**
ZAA0				IAmb	IAmb		22 03 26.1	
	comp=Z,8.1nm,0.7s							
ZALV	**Zalesovo Beam**	**41.76**	**312**	P		**P**	**22 03 21.6**	**-0.5**
	comp=Z,5.4nm,0.5s,baz=76,slow=8.4,SNR=6.1							
ZALV				LR	LR		22 21 28.6	
	comp=Z,80nm,18.2s,baz=105,slow=37							
CMAR	**Chiang Mai Arr**	**41.93**	**255**	P		**P**	**22 03 23.2**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=46,slow=8.3,SNR=7.3							
CMAR				LR	LR		22 21 08.2	
	comp=Z,78nm,19.8s,baz=245,slow=37							
LSA	**Lhasa**	**42.46**	**275**	P		**P**	**22 03 30.8**	**+2.1**
LSA				pmax	pmax			
	comp=Z,23nm,1.1s							
LSA	**Lhasa**	**42.46**	**275**	P		**P**	**22 03 28.8**	**+0.1**
LSA				pmax	pmax			
	comp=Z,6.0nm,0.8s							
LSA	**Lhasa**	**42.46**	**275**	P		**P**	**22 03 28.8**	**+0.1**
RDOG	**Red Dog Mine**	**42.87**	**27**	P		**P**	**22 03 32.2**	**+1.2**
RDOG				IAmb	IAmb		22 03 35.8	
	comp=Z,15nm,1.0s							
NRIK	**Noril'sk**	**42.

SEM Semipalatinsk 44.84 307 *e*P **P 22 03 49.1 +1.8**
baz=307
SEM Semipalatinsk 44.84 307 *e*P **P 22 03 49.0 +1.8**
SVW2 Sparrevohn 44.89 38 P **P 22 03 48.6 +1.3**
SVW2 IAmb IAmb 22 03 51.6
comp=Z,10nm,0.7s
KURK Kurchatov 45.82 308 *c*e**P P 22 03 54.8 0.0**
KURK pmax pmax
comp=Z,83nm,1.3s
KURK Kurchatov 45.82 308 P P 22 03 55.5 +0.8
OHAK Old Harbor 46.14 43 P **P 22 03 58.3 +1.1**
OHAK IAmb IAmb 22 04 15.1
comp=Z,14nm,0.9s
KSM Kuching 46.16 226 P **P 22 03 58.9 +1.1**
KSM IAmb IAmb 22 04 16.3
comp=Z,12nm,0.8s
TAPN Taplejung 46.20 274 *e*P **P 22 04 00.2 +1.8**
comp=Z,14nm,0.4s
RSO Redoubt South 46.27 39 P **P 22 03 59.8 +1.4**
KDAK Kodiak Island 46.48 42 P **P 22 04 01.9 +2.1**
comp=Z,27nm,0.7s,baz=284,slow=4.2,SNR=12
KDAK Kodiak Island 46.48 42 P **P 22 04 00.3 +0.5**
KDAK pmax pmax
comp=Z,32nm,0.8s
KDAK Kodiak Island 46.48 42 P **P 22 04 00.3 +0.5**
PPLA Purkeypile 46.53 35 P **P 22 04 02.5 +2.1**
PPLA IAmb IAmb 22 04 09.0
comp=Z,8.7nm,0.9s
ODAN Odare 46.68 273 *e*P **P 22 04 01.8 -0.3**
comp=Z,25nm,0.6s
SHLS Shalkode 46.84 297 *e*P **P 22 04 02.1 -0.9**
comp=Z,5.4nm,0.8s,baz=297
SHLS Shalkode 46.84 297 *e*P **P 22 04 02.1 -0.9**
SHLS pmax pmax
comp=Z,5.0nm,0.8s
SKT Skwentna 46.84 36 P **P 22 04 03.0 +0.4**
BPAW Bear Paw Mtn. 47.09 34 P **P 22 04 05.5 +1.0**
TDK Taldyqorghan 47.10 300 *e*P **P 22 04 05.4 +0.4**
comp=Z,9.9nm,0.5s,baz=300
TDK Taldyqorghan 47.10 300 *e*P **P 22 04 05.3 +0.4**
TDK pmax pmax
comp=Z,10.0nm,0.5s
UZB Uzynbulak 47.15 297 *e*P **P 22 04 07.6 +2.1**
baz=298
UZB Uzynbulak 47.15 297 *c i*P **P 22 04 07.6 +2.1**
UZB pmax pmax
comp=Z,3.0nm,0.8s
SUA Susitna One 47.23 37 P **P 22 04 06.6 +0.8**
RAMN Ramite 47.26 274 *e*P **P 22 04 06.4 -0.3**
JIRN Jiri 47.27 275 *e*P **P 22 04 08.3 +1.5**
KPKS Kokpek 47.31 298 *e*P **P 22 04 08.8 +2.2**
comp=Z,4.9nm,0.6s,baz=298
KPKS Kokpek 47.31 298 *c i*P **P 22 04 08.7 +2.1**
KPKS pmax pmax
comp=Z,5.0nm,0.6s
TRF Thorofare Moun 47.40 34 P **P 22 04 07.9 +0.8**
TRF IAmb IAmb 22 04 12.0
comp=Z,8.1nm,0.8s
GUN Gumba 47.40 275 *e*P **P 22 04 10.0 +2.1**
COLD Coldfoot 47.51 29 P **P 22 04 08.8 +1.0**
SATY Saty 47.61 297 *e*P **P 22 04 12.0 +2.9**
comp=Z,3.3nm,0.8s,baz=298
SATY Saty 47.61 297 *e*P **P 22 04 12.1 +3.0**
SATY pmax pmax
comp=Z,3.0nm,0.8s
TOLK Toolik Lake Re 47.83 27 P **P 22 04 11.2 +0.9**
TOLK IAmb IAmb 22 04 14.0
comp=Z,12nm,0.8s
PKI Pulchoki 47.92 275 *e*P **P 22 04 13.1 +1.2**
PKIN Phulchoki 47.93 275 *e*P **P 22 04 13.2 +1.3**
comp=Z,16nm,0.5s
SEW Seward 47.94 39 P **P 22 04 11.9 +0.8**
SEW IAmb IAmb 22 04 13.8
comp=Z,9.9nm,1.0s
PMR Palmer 47.99 37 P **P 22 04 12.1 +0.5**
PMR pmax pmax
comp=Z,19nm,1.1s
PMR Palmer 47.99 37 P **P 22 04 12.1 +0.5**
MCK McKinley 48.00 34 P **P 22 04 13.2 +1.6**
MCK pmax pmax
comp=Z,9.0nm,0.8s
MCK McKinley 48.00 34 P **P 22 04 13.2 +1.6**
MCK IAmb IAmb 22 04 14.7
comp=Z,9.3nm,0.8s
RND Reindeer 48.04 34 P **P 22 04 12.5 +0.5**
RND pmax pmax
comp=Z,13nm,0.8s
RND Reindeer 48.04 34 P **P 22 04 12.5 +0.5**
RND IAmb IAmb 22 04 14.8
comp=Z,13nm,0.8s
GHO Glory Hole Cre 48.08 37 P **P 22 04 12.8 +0.5**
DMN Daman 48.15 275 *e*P **P 22 04 13.1 -0.4**
MDM Murphy Dome 48.28 32 P **P 22 04 14.9 +1.1**
MDM IAmb IAmb 22 04 17.5
comp=Z,11nm,1.0s
KNK Knik Glacier 48.33 37 P **P 22 04 14.9 +0.7**
KNK IAmb IAmb 22 04 16.8
comp=Z,16nm,1.0s
GKN Gorkha 48.34 276 *e*P **P 22 04 14.6 -0.3**
comp=Z,60nm,0.8s
WRH Wood River Hil 48.35 33 P **P 22 04 14.9 +0.6**
WRH IAmb IAmb 22 04 17.7
comp=Z,5.6nm,0.8s
SML Sawmill 48.36 37 P **P 22 04 15.9 +1.4**
CHKK Chushkaly 48.38 299 *e*P **P 22 04 17.1 +2.2**
baz=299
CHKK Chushkaly 48.38 299 *e*P **P 22 04 17.1 +2.2**
TARG Taragay, Kyrgy 48.42 296 P **P 22 04 15.9 +0.2**
COLA College 48.44 33 *i*P **P 22 04 14.3 -0.6**
COLA pmax pmax
comp=Z,5.0nm,1.0s
CCB Clear Creek Bu 48.47 33 P **P 22 04 16.0 +0.8**
MDOK Medeo 48.54 298 *e*P **P 22 04 17.3 +1.0**
baz=298
MDOK Medeo 48.54 298 *e*P **P 22 04 17.2 +1.0**
TNSS Tian-Shan 48.64 298 *e*P **P 22 04 19.9 +2.6**
baz=298
TNSS Tian-Shan 48.64 298 *e*P **P 22 04 20.1 +2.7**
DHY Denali Highway 48.73 35 P **P 22 04 18.6 +1.2**
DHY IAmb IAmb 22 04 20.3
comp=Z,6.2nm,0.8s
KDJ Kajisay 48.74 297 P **P 22 04 18.3 +0.4**
KDJ pmax pmax
comp=Z,7.0nm,0.7s
KDJ Kajisay 48.74 297 P **P 22 04 18.3 +0.4**
KDJ IAmb IAmb 22 04 21.3
comp=Z,7.0nm,0.7s
KUU Kurty 48.83 299⇑ *i*P **P 22 04 20.7 +2.4**
comp=Z,10nm,0.7s,baz=299
KUU Kurty 48.83 299⇑ *i*P **P 22 04 20.6 +2.4**
KUU pmax pmax
comp=Z,10.0nm,0.7s
HDA Harding Lake 48.85 33 P **P 22 04 19.1 +1.0**
HDA IAmb IAmb 22 04 20.7
comp=Z,13nm,0.9s
IL31 48.86 33 P **P 22 04 18.9 +0.7**
ILAR Eielson Array 48.86 33 P **P 22 04 19.8 +1.6**
comp=Z,8.4nm,0.7s,baz=267,slow=6.3,SNR=56
DANN Dangsing 48.88 277 *e*P **P 22 04 19.1 -0.1**
comp=Z,113nm,0.6s
GLI Glacier Island 49.03 38 P **P 22 04 19.3 -0.3**
KOLN Koldanda 49.26 276 *e*P **P 22 04 21.5 -0.5**
comp=Z,34nm,0.8s
PRP Porcupine Dome 49.40 32 P **P 22 04 23.0 +0.5**
PRP IAmb IAmb 22 04 26.0
comp=Z,8.1nm,0.8s
FYU Fort Yukon 49.47 30 P **P 22 04 23.2 +0.4**
FYU IAmb IAmb 22 04 26.7
comp=Z,10nm,0.8s
BOOM Boomskoye usch 49.51 297 P **P 22 04 24.3 +0.6**
BOOM pmax pmax
comp=Z,12nm,0.6s
BOOM Boomskoye usch 49.51 297 P **P 22 04 24.3 +0.6**
MID Middleton Isla 49.57 40 P **P 22 04 23.1 -0.5**
MID Middleton Isla 49.57 40 P **P 22 04 23.1 -0.5**
PYUN Piuthan 49.59 277 *e*P **P 22 04 24.2 -0.4**
comp=Z,49nm,0.4s
IPM Ipoh 49.69 239 P **P 22 04 24.9 -0.3**
IPM IAmb IAmb 22 04 31.6
comp=Z,7.5nm,1.0s
BRZS Berezniki 49.70 308 *e*P **P 22 04 27.1 +2.2**
comp=Z,5.2nm,0.6s,baz=308
BRZS Berezniki 49.70 308 *e*P **P 22 04 27.0 +2.2**
BRZS pmax pmax
comp=Z,5.0nm,0.6s

EYAK Cordova Ski Ar 49.72 38 P **P 22 04 25.9 +1.1**
HNR Honiara 49.78 156 LR LR 22 22 26.2
comp=Z,56nm,19.5s,baz=356,slow=32
RIDG Independent Ri 49.81 34 P **P 22 04 25.7 +0.1**
RIDG IAmb IAmb 22 04 28.2
comp=Z,5.4nm,0.9s
BTLS Baital 50.08 301 *i*P **P 22 04 29.8 +2.0**
baz=301
BTLS Baital 50.08 301 *e*P **P 22 04 29.7 +2.0**
BTLS pmax pmax
comp=Z,4.0nm,0.6s
DOT Dot Lake 50.17 34 P **P 22 04 29.3 +1.1**
DOT IAmb IAmb 22 04 30.9
comp=Z,6.9nm,0.8s
SCRK Sand Creek 50.17 34 P **P 22 04 29.0 +0.7**
FRU1 Bishkek 50.34 298 P **P 22 04 30.0 +0.1**
FRU1 pmax pmax
comp=Z,14nm,0.7s
FRU1 Bishkek 50.34 298 P **P 22 04 30.0 +0.1**
BVAR Borovoye Array 50.41 312 P **P 22 04 29.8 -0.4**
comp=Z,2.2nm,0.4s,baz=85,slow=8.3,SNR=6.8
KSH Kashi 50.45 294 *e*P P 22 04 38.5 +7.7
KSH pmax pmax
comp=Z,25nm,0.5s
KSH pmax pmax
comp=Z,230nm,5.0s
AAK Ala-Archa 50.48 298 P **P 22 04 32.3 +1.2**
comp=Z,9.9nm,0.5s,baz=108,slow=6.2,SNR=6.2
AAK Ala-Archa 50.48 298 P **P 22 04 30.7 -0.4**
AAK pmax pmax
comp=Z,10.0nm,0.7s
AAK Ala-Archa 50.48 298 P **P 22 04 30.7 -0.4**
GLB Gilahina Butte 50.55 37 P **P 22 04 31.4 +0.3**
GLB IAmb IAmb 22 04 38.5
comp=Z,8.3nm,1.1s
VRDI Verde Repeater 50.75 37 P **P 22 04 33.9 +1.0**
VRDI IAmb IAmb 22 04 36.5
comp=Z,12nm,1.1s
MCARA McCarthy VSAT 50.93 37 P **P 22 04 34.3 +0.3**
CRQM Cirque 50.97 38 P **P 22 04 34.8 +0.3**
EGAK Eagle 51.30 32 P **P 22 04 36.9 +0.2**
EGAK IAmb IAmb 22 04 39.0
comp=Z,4.6nm,0.8s
BALM Baldy 51.31 37 P **P 22 04 37.6 +0.7**
BALM IAmb IAmb 22 04 40.4
comp=Z,12nm,1.0s
ISLE Juniper Island 51.38 38 P **P 22 04 37.4 -0.2**
ISLE IAmb IAmb 22 04 40.4
comp=Z,14nm,1.2s
BARN Barnard Glacie 51.63 37 P **P 22 04 40.6 +1.2**
BARN IAmb IAmb 22 04 43.0
comp=Z,6.8nm,0.6s
YAH Yahtse 51.71 38 P **P 22 04 41.1 +1.0**
YAH IAmb IAmb 22 04 46.4
comp=Z,10nm,1.1s
ARSB Arslanbob 51.98 297 P **P 22 04 42.6 +0.3**
ARSB pmax pmax
comp=Z,20nm,0.8s
ARSB Arslanbob 51.98 297 P **P 22 04 42.6 +0.3**
LHMI Lhok Sumawe 51.98 243 P **P 22 04 42.1 -0.3**
DAWY Dawson 52.16 33 P **P 22 04 44.3 +1.1**
PCA Pinnacle 52.49 38 P **P 22 04 45.5 -0.2**
PCA IAmb IAmb 22 04 50.9
comp=Z,11nm,1.0s
EPYK Eagle Plains 52.89 30 P **P 22 04 49.6 +1.1**
KK31 Karatay Array 53.10 300 P **P 22 04 51.5 +1.1**
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KK31 Karatay Array 53.10 300 P **P 22 04 51.5 +1.1**
KK31 IAmb IAmb 22 04 54.7
comp=Z,8.4nm,0.8s
KKAR Karatay Array 53.10 300 P **P 22 04 50.8 +0.4**
KKAR pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 53.10 300 P **P 22 04 50.8 +0.4**
KKAR IAmb IAmb 22 04 54.7
comp=Z,8.4nm,0.8s
HYT Haines Junctio 53.67 37 P **P 22 04 56.0 +1.6**
INK Inuvik 53.75 27 P **P 22 04 56.9 +2.3**
comp=Z,7.8nm,0.5s,baz=293,slow=6.5,SNR=22
INK Inuvik 53.75 27 P **P 22 04 55.4 +0.7**
INK pmax pmax
comp=Z,9.0nm,0.6s
INK Inuvik 53.75 27 P **P 22 04 55.4 +0.7**
NIL Nilore 54.72 288 P **P 22 05 02.6 +0.2**
NIL pmax pmax
comp=Z,15nm,0.6s
NIL Nilore 54.72 288 P **P 22 05 02.6 +0.2**
GAR Garm 54.73 295 P **P 22 05 02.2 -0.3**
WHY Whitehorse 54.96 37 P **P 22 05 05.0 +1.3**
WHY IAmb IAmb 22 05 08.6
comp=Z,7.6nm,1.0s
SKAG Skagway 55.07 38 P **P 22 05 06.2 +1.8**
SKAG IAmb IAmb 22 05 08.9
comp=Z,5.9nm,0.9s
CHGR Chuyangaron 55.69 295 P **P 22 05 09.8 +0.5**
SIT Sitka 55.77 41 P **P 22 05 09.9 +0.5**
SIT pmax pmax
comp=Z,14nm,1.1s
SIT Sitka 55.77 41 P **P 22 05 09.9 +0.5**
SIT IAmb IAmb 22 05 24.0
comp=Z,14nm,1.1s
JIS Juneau Island 55.88 39 P **P 22 05 11.7 +1.5**
JIS IAmb IAmb 22 05 14.7
comp=Z,14nm,1.1s
ARU Arti 56.14 318 P **P 22 05 11.9 -0.2**
comp=Z,3.3nm,0.5s,baz=77,slow=5.1,SNR=5.8
ARU Arti 56.14 318 *d i*P **P 22 05 11.8 -0.3**
ARU *PP **sP 22 05 29.1 -2.7**
ARU 22 06 08.2
ARU S **S 22 12 57.9 +0.6**
ARU SS **SS 22 16 41.4 -2.2**
ARU pmax pmax
comp=Z,24nm,1.2s
ARU Arti 56.14 318 P **P 22 05 11.6 -0.5**
WB0 Warramunga Arr 57.48 188 P **P 22 05 22.6 +0.6**
KBL Kabul 57.49 291 P **P 22 05 22.3 -0.1**
KBL pmax pmax
comp=Z,7.0nm,1.0s
KBL Kabul 57.49 291 P **P 22 05 22.2 -0.1**
KBL IAmb IAmb 22 05 28.9
comp=Z,6.8nm,0.9s
WRAB Tennant Creek 57.65 188 P **P 22 05 23.6 +0.4**
WRAB pmax pmax
comp=Z,21nm,1.0s
WRAB Tennant Creek 57.65 188 P **P 22 05 23.6 +0.4**
WR0 Warramunga Arr 57.66 188 P **P 22 05 23.5 +0.3**
WB2 Warramunga Arr 57.66 188 P **P 22 05 23.3 +0.1**
WRA Warramunga Arr 57.66 188 P **P 22 05 23.8 +0.5**
comp=Z,5.3nm,0.6s,baz=5.7,slow=6.9,SNR=40
WRA pP **pP 22 05 38.6 +1.4**
comp=Z,9.8nm,0.5s,baz=5.3,slow=7.2,SNR=20
DLBC Dease Lake 58.00 38 P **P 22 05 28.2 +2.8**
comp=Z,6.5nm,0.9s,baz=281,slow=6.8,SNR=7.4
DLBC Dease Lake 58.00 38 P **P 22 05 26.9 +1.5**
DLBC IAmb IAmb 22 05 29.5
comp=Z,6.1nm,0.8s
XMIS Christmas Isla 58.59 223 P **P 22 05 30.1 +0.2**
KIRV Kirov 59.98 323 P **P 22 05 37.9 -1.0**
comp=Z,16nm,0.5s,baz=33,slow=3.7,SNR=13
NOR Nord 60.51 356 *i*P **P 22 05 42.3 0.0**
comp=Z,3.1nm,0.8s
NOR Nord 60.51 356 *i*P **P 22 05 42.3 0.0**
NOR pmax pmax
comp=Z,3.0nm,0.8s
ASAR Alice Springs 61.39 188 P **P 22 05 49.7 +0.8**
comp=Z,3.5nm,0.8s,baz=12,slow=6.5,SNR=25
ASAR pP **pP 22 06 04.7 +1.8**
comp=Z,8.5nm,0.8s,baz=10,slow=6.5,SNR=23
YKA Yellowknife Ar 63.17 30 P **P 22 06 01.8 +1.4**
comp=Z,3.0nm,0.7s,baz=302,slow=6.4,SNR=9.5
YKA LR LR 22 33 52.4
comp=Z,31nm,21.1s,baz=0.0,slow=36
KLMR Klimovskoe 63.44 328 *e*P **P 22 06 00.7 -1.4**
KLMR pmax pmax
comp=Z,5.0nm,0.6s
KLMR Klimovskoe 63.44 328 *e*P **P 22 06 00.8 -1.4**
KLMR AMP 22 06 05.2
comp=Z,5.0nm,0.6s
ARCES ARCESS Array B 63.57 339 P **P 22 06 03.4 +0.4**
comp=Z,3.6nm,0.9s,baz=57,slow=8.8,SNR=6.8
GEYT Alibeck 63.82 299 P **P 22 06 05.6 +0.4**
comp=Z,4.4nm,1.0s,baz=352,slow=3.0,SNR=6.2
GYA0B ALIBECK ARRAY 63.82 299 P **P 22 06 05.1 -0.1**
GYA0B IAmb IAmb 22 06 23.3
comp=Z,5.4nm,0.8s
DAG Danmarks Havn 65.24 355 *i*P **P 22 06 14.0 +0.3**
comp=Z,8.5nm,0.9s
DAG Danmarks Havn 65.24 355 *i*P **P 22 06 14.0 +0.3**
DAG pmax pmax
comp=Z,9.0nm,0.9s
LLLB Lillooet 65.64 44 P **P 22 06 17.4 +0.6**
LLLB IAmb IAmb 22 06 20.3
comp=Z,7.9nm,1.0s
VRH Novokhopyorsk 67.36 318 *e*P **P 22 06 26.4 -1.3**
VRH pmax pmax
comp=Z,10.0nm,0.7s
OBN Obninsk 67.82 323 *e*P **P 22 06 29.4 -1.1**
OBN *e* 22 06 57.9
OBN *e* 22 08 57.9
OBN pmax pmax
comp=Z,8.0nm,0.6s
LPSR Galich'ya Gora 68.06 320 *e*P **P 22 06 31.7 -0.4**
LPSR pmax pmax
comp=Z,10.0nm,0.7s
FIA1 FINESS Array S 68.45 332 IAmb IAmb 22 06 35.1
comp=Z,14nm,0.8s
FINES FINESS Array B 68.45 332 P **P 22 06 34.2 -0.2**
comp=Z,9.8nm,0.8s,baz=46,slow=8.2,SNR=30
H04A Detroit Lake 68.51 50 P **P 22 06 35.6 +0.4**
H04A IAmb IAmb 22 06 38.8
comp=Z,11nm,1.0s
VSR Storozhevoye 68.70 319 *e*P **P 22 06 35.3 -0.8**
VSR pmax pmax
comp=Z,10.0nm,0.6s
AKT Akhty 68.98 307 *e*P **P 22 06 37.9 -0.3**
AKT *e* 22 07 03.0
AKT pmax pmax
comp=Z,13nm,1.2s
STKA Stephens Creek 69.12 180 P **P 22 06 39.9 +1.2**
comp=Z,3.7nm,1.0s,baz=355,slow=8.9,SNR=2.8
STKA pP **sP 22 06 56.3 -2.3**
comp=Z,12nm,0.8s,baz=347,slow=5.1,SNR=8.2
STKA Stephens Creek 69.12 180 P **P 22 06 38.9 +0.1**
STKA pmax pmax
comp=Z,3.0nm,0.9s
STKA Stephens Creek 69.12 180 P **P 22 06 38.9 +0.1**
G06A Carlson Farm, 69.15 49 P **P 22 06 39.5 +0.4**
NEW Newport 69.52 44 P **P 22 06 43.4 +2.1**
comp=Z,3.8nm,0.8s,baz=308,slow=8.0,SNR=5.0
NEW Newport 69.52 44 P **P 22 06 41.8 +0.5**
NEW pmax pmax
comp=Z,4.0nm,0.8s
NEW Newport 69.52 44 P **P 22 06 41.8 +0.5**
PINE Pine Mountain 69.75 50 P **P 22 06 44.8 +1.8**
YBH Yreka Blue Hor 69.76 53 P **P 22 06 46.3 +3.3**
comp=Z,3.2nm,0.7s,baz=295,slow=3.7,SNR=8.7
YBH Yreka Blue Hor 69.76 53 P **P 22 06 44.6 +1.6**
YBH pmax pmax
comp=Z,3.0nm,0.8s
YBH Yreka Blue Hor 69.76 53 P **P 22 06 44.6 +1.6**
E09A Wood Farm, Sta 69.91 46 P **P 22 06 44.2 +0.5**
VSU Vasula 70.12 330 *i*P **P 22 06 44.1 -0.6**
VSU pmax pmax
comp=Z,23nm,1.0s
SUMG Summit 70.12 0 *i*P **P 22 06 46.0 +1.0**
comp=Z,26nm,1.0s
SUMG Summit 70.12 0 *i*P **P 22 06 46.0 +1.0**
SUMG pmax pmax
comp=Z,27nm,1.0s
SUMG Summit 70.12 0 P **P 22 06 45.4 +0.4**
SUMG IAmb IAmb 22 06 47.3
comp=Z,10nm,1.0s
K05A Summer Lake 70.36 51 P **P 22 06 46.8 +0.1**
K05A IAmb IAmb 22 06 51.0
comp=Z,18nm,1.0s
F10A Beach Ranch, E 70.74 46 P **P 22 06 49.2 +0.3**
KBZ Khabaz 70.76 311 P **P 22 06 48.9 -0.1**
comp=Z,5.4nm,0.9s,baz=74,slow=3.2,SNR=8.4
KBZ Khabaz 70.76 311 *c*e**P P 22 06 48.8 -0.1**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KIV Kislovodsk 70.76 311⇓ P **P 22 06 50.4 +1.3**
KIV Kislovodsk 70.76 311 *e*P **P 22 06 49.3 +0.2**
KIV pmax pmax
comp=Z,45nm,1.1s
KIV Kislovodsk 70.76 311 P P 22 06 49.7 +0.6
KIV IAmb IAmb 22 06 52.5
comp=Z,14nm,1.0s
WALA Waterton Lakes 70.82 42 P **P 22 06 50.3 +1.0**
WALA IAmb IAmb 22 06 52.7
comp=Z,6.5nm,0.8s
NEY Neytrino 71.13 310 *i*P **P 22 06 51.3 -0.1**
NEY pmax pmax
comp=Z,1.0nm,0.9s
MOD Modoc Plateau 71.18 51 P **P 22 06 52.4 +0.7**
BMO Blue Mountains 71.33 47 P **P 22 06 53.1 +0.6**
BMO pmax pmax
comp=Z,4.0nm,0.9s
BMO Blue Mountains 71.33 47 P **P 22 06 53.1 +0.6**
J08A Circle Bar Ran 71.48 49 P **P 22 06 54.8 +1.4**
ORV Oroville 71.72 54 P **P 22 06 55.1 +0.2**
ORV pmax pmax
comp=Z,3.0nm,0.9s
ORV Oroville 71.72 54 P **P 22 06 55.1 +0.2**
WVOR Wild Horse Val 71.90 50 P **P 22 06 56.8 +0.7**
WVOR pmax pmax
comp=Z,3.0nm,0.9s
WVOR Wild Horse Val 71.90 50 P **P 22 06 56.8 +0.7**
PAHR Pah Rah Range 72.99 53 P **P 22 07 03.2 +0.6**
PAHR IAmb IAmb 22 07 06.1
comp=Z,7.7nm,1.0s
MFID Camas Ranch 73.03 48 P **P 22 07 03.4 +0.7**
CMB Columbia Colle 73.30 55 P **P 22 07 05.7 +1.4**
CMB pmax pmax
comp=Z,7.0nm,1.1s
CMB Columbia Colle 73.30 55 P **P 22 07 05.7 +1.4**
FCC Fort Churchill 73.36 27 P **P 22 07 04.4 +0.2**
FCC pmax pmax
comp=Z,8.0nm,0.7s
FCC Fort Churchill 73.36 27 P **P 22 07 04.4 +0.2**
FCC IAmb IAmb 22 07 05.8
comp=Z,7.9nm,0.7s
NC405 NORSAR Array S 73.57 337 IAmb IAmb 22 07 06.7
comp=Z,20nm,1.1s
NC303 NORSAR Array S 73.59 337 P **P 22 07 05.7 +0.1**
NC303 IAmb IAmb 22 07 10.8
comp=Z,9.5nm,0.9s
WAKR Walker 73.64 54 P **P 22 07 06.9 +0.4**
EGMT Eagleton 73.65 42 P **P 22 07 07.4 +1.1**
EGMT IAmb IAmb 22 07 09.4
comp=Z,13nm,1.0s
DLMT Dillon 73.73 45 IAmb IAmb 22 07 10.3
comp=Z,8.6nm,0.8s
NC204 NORSAR Array S 73.73 338 P **P 22 07 06.5 +0.1**
HLID Hailey 73.77 47 P **P 22 07 07.6 +0.5**
NB2 NORSAR Subarra 73.78 337 P **P 22 07 06.7 0.0**
comp=Z,4.9nm,0.6s,baz=39,slow=6.5
NOA NORSAR Array B 73.78 337 P **P 22 07 06.8 +0.1**
comp=Z,5.5nm,0.8s,baz=39,slow=5.9,SNR=27
NOA LR LR 22 42 51.8
comp=Z,30nm,20.5s,baz=30,slow=38
NC602 NORSAR Array S 73.92 337 P **P 22 07 07.0 -0.5**
NBO00 NORSAR Array S 73.92 338 P **P 22 07 07.1 -0.4**
AKASG Malin Array Be 74.03 322 P **P 22 07 08.0 -0.3**
comp=Z,4.2nm,0.4s,baz=47,slow=6.1,SNR=16
AKASG Malin Array Be 74.03 322 P **P 22 07 08.0 -0.3**
AKBB Malin Array Si 74.03 322 P **P 22 07 08.2 -0.1**
AKBB pmax pmax
comp=Z,8.0nm,0.8s
AKBB Malin Array Si 74.03 322 P **P 22 07 08.2 -0.1**
AKBB IAmb IAmb 22 07 08.7
comp=Z,7.6nm,0.8s
BOZ Bozeman (W) 74.13 44 P **P 22 07 10.0 +0.8**
BOZ pmax pmax
comp=Z,8.0nm,0.9s
BOZ Bozeman (W) 74.13 44 P **P 22 07 10.0 +0.8**
BOZ IAmb IAmb 22 07 12.5
comp=Z,8.1nm,0.9s
RYN Ryan 74.16 53 P **P 22 07 10.4 +0.9**
KVN Kaiserville 74.18 53 P **P 22 07 09.9 +0.3**
KVN pmax pmax
comp=Z,7.0nm,1.0s
KVN Kaiserville 74.18 53 P **P 22 07 09.9 +0.3**
KVN IAmb IAmb 22 07 13.4
comp=Z,7.3nm,1.0s
NVAR Mina Array Bea 74.41 53 P **P 22 07 13.9 +2.8**
comp=Z,4.2nm,0.8s,baz=284,slow=6.1,SNR=15
NV11 Mina Array Sit 74.50 53 P **P 22 07 12.3 +0.8**
SUW Suwalki 74.57 327 P **P 22 07 09.8 -1.5**

SUW pmax pmax
comp=Z,16nm,1.1s
SUW Suwalki 74.57 327 P **P** **22 07 09.8 -1.5**
SUW lAmb lAmb 22 07 16.0
comp=Z,16nm,1.1s
YHL Hebgen Lake 74.84 45 P **P** **22 07 14.8 +1.3**
YHB Horse Butte 74.89 45 P **P** **22 07 14.5 +0.8**
ELK Elko 74.96 50 P **P** **22 07 15.8 +1.6**
ELK pmax pmax
comp=Z,2.0nm,0.9s
ELK Elko 74.96 50 P **P** **22 07 15.8 +1.6**
YMR Madison River 75.07 45 P **P** **22 07 15.0 +0.3**
YPP Pitchstone Pla 75.41 45 P **P** **22 07 18.5 +1.8**
H17A Grant Village 75.46 45 P **P** **22 07 18.4 +1.3**
H17A lAmb lAmb 22 07 22.3
comp=Z,12nm,0.9s
IMW Indian Meadow 75.56 45 P **P** **22 07 19.3 +1.6**
IMW lAmb lAmb 22 07 21.9
comp=Z,8.2nm,0.8s
FLWY Flagg Ranch 75.58 45 P **P** **22 07 18.8 +1.1**
FLWY lAmb lAmb 22 07 22.4
comp=Z,5.5nm,0.7s
FXWY Fox Creek 75.67 46 P **P** **22 07 18.8 +0.6**
RLMT Red Lodge 75.73 44 P **P** **22 07 19.3 +0.8**
TPAW Teton Pass 75.81 46 P **P** **22 07 18.8 -0.3**
TPAW lAmb lAmb 22 07 23.1
comp=Z,5.9nm,0.8s
SORM Soroca 76.14 321 ⇑P **P** **22 07 19.8 -0.7**
AHID Auburn Hatcher 76.18 46 P **P** **22 07 22.6 +1.5**
AHID lAmb lAmb 22 07 26.3
comp=Z,7.5nm,0.8s
R11A Troy Canyon, C 76.18 52 P **P** **22 07 22.2 +1.1**
BGU Big Grassy Mou 76.18 49 P **P** **22 07 19.7 -1.4**
LAO LASA Array 76.35 41 P **P** **22 07 22.6 +0.8**
LAO lAmb lAmb 22 07 25.3
comp=Z,14nm,0.9s
TPNV Topopah Spring 76.60 54 P **P** **22 07 23.6 +0.1**
TPNV pmax pmax
comp=Z,7.0nm,1.0s
TPNV Topopah Spring 76.60 54 P **P** **22 07 23.6 +0.1**
TPNV lAmb lAmb 22 07 27.1
comp=Z,7.2nm,1.0s
HWUT Hardware Ranch 76.63 48 P **P** **22 07 23.4 -0.2**
MILM Milestii Mici 76.71 320 ⇑P **P** **22 07 23.5 -0.2**
DUG Dugway, Tooele 76.76 49 P **P** **22 07 25.3 +1.0**
DUG pmax pmax
comp=Z,5.0nm,0.7s
DUG Dugway, Tooele 76.76 49 P **P** **22 07 25.3 +1.0**
DUG lAmb lAmb 22 07 27.6
comp=Z,4.5nm,0.7s
TCUT Toone Canyon 77.03 48 P **P** **22 07 26.2 +0.2**
BW06 Boulder Array 77.06 46 P **P** **22 07 25.7 -0.4**
PDAR Pinedale Array 77.06 46 P **P** **22 07 27.9 +1.9**
comp=Z,2.5nm,0.7s,baz=289,slow=2.9,SNR=20
PSUT Pine Spring 77.15 51 P **P** **22 07 27.8 +1.2**
GSC Goldstone, Bar 77.23 55 P **P** **22 07 27.5 +0.5**
GSC pmax pmax
comp=Z,8.0nm,1.2s
GSC Goldstone, Bar 77.23 55 P **P** **22 07 27.5 +0.5**
GSC lAmb lAmb 22 07 31.2
comp=Z,7.6nm,1.1s
JLU Jordanelle 77.32 48 P **P** **22 07 27.8 +0.2**
NLU North Lily Min 77.35 49 P **P** **22 07 28.3 +0.5**
SHPR Sheep Range 77.56 53 P **P** **22 07 30.0 +1.0**
MPU Maple Canyon 77.58 49 P **P** **22 07 29.6 +0.6**
ILGA Ilgaz 77.81 313 P **P** **22 07 29.9 -0.4**
ILGA lAmb lAmb 22 07 32.5
comp=Z,8.5nm,0.8s
KWP Kalwaria Pacla 77.84 324 P **P** **22 07 30.5 +0.5**
KWP pmax pmax
comp=Z,15nm,1.1s
KWP Kalwaria Pacla 77.84 324 P **P** **22 07 30.5 +0.5**
KWP lAmb lAmb 22 07 35.6
comp=Z,15nm,1.1s
BUR08 Bucovina Ar. S 78.04 322 P **P** **22 07 30.7 -0.6**
BURAR Bucovina Array 78.05 322 ⇓P **P** **22 07 31.6 +0.2**
CCUT Cedar City 78.06 52 P **P** **22 07 32.1 +0.3**
BIZ Bicaz 78.08 321 ⇓P **P** **22 07 32.1 +0.7**
TESR Tescani 78.09 320 ⇓P **P** **22 07 31.4 -0.1**
MSU Marysvale 78.19 50 P **P** **22 07 33.0 +0.5**
MSU Marysvale 78.19 50 P **P** **22 07 33.0 +0.5**
RDMU Red Mountain 78.45 47 P **P** **22 07 34.9 +1.0**
DGAR Diego Garcia 78.46 251 P **P** **22 07 32.4 -1.5**
DGAR Diego Garcia 78.46 251 P **P** **22 07 32.4 -1.5**
P17A Butcher Ranch, 78.46 49 P **P** **22 07 34.8 +0.9**
LCMT Little Creek M 78.47 52 P **P** **22 07 33.6 -0.3**
MTPU Mount Pierson 78.48 51 P **P** **22 07 34.8 +0.5**
VRI Vrincioaia 78.49 320 ⇑P **P** **22 07 34.7 +1.0**
KOLS Kolonicke sedl 78.54 324 *e*P **P** **22 07 34.5 +0.6**
KOLS pmax pmax
comp=Z,4.0nm,1.2s
KOLS Kolonicke sedl 78.54 324 *e*P **P** **22 07 34.5 +0.6**
Q16A Castle Valley 78.55 50 P **P** **22 07 35.4 +1.0**
BRTR Keskin Array B 78.70 312 P **P** **22 07 34.8 -0.3**
comp=Z,0.9nm,0.6s,baz=132,slow=3.7,SNR=4.5
OJC Ojcow 78.74 326 *e*P **P** **22 07 35.5 +0.5**
OJC Ojcow 78.74 326 P **P** **22 07 34.7 -0.2**
OJC pmax pmax
comp=Z,8.0nm,1.1s
OJC Ojcow 78.74 326 P **P** **22 07 34.7 -0.2**
OJC lAmb lAmb 22 07 36.5
comp=Z,7.7nm,1.1s
OZUR 78.81 320 ⇑P **P** **22 07 36.7 +1.2**
SRU San Rafael Swe 78.82 49 P **P** **22 07 35.9 +0.1**
SRU pmax pmax
comp=Z,8.0nm,0.9s
SRU San Rafael Swe 78.82 49 P **P** **22 07 35.9 +0.1**
K22A Casper 78.84 44 P **P** **22 07 36.5 +0.6**
ARCR ARCALIA 78.84 322 ⇑P **P** **22 07 35.9 +0.3**
ULM Lac du Bonnet 78.87 34 P **P** **22 07 35.9 +0.2**
comp=Z,2.4nm,0.4s,baz=359,slow=4.2,SNR=2.3
ULM Lac du Bonnet 78.87 34 P **P** **22 07 34.4 -1.3**
ULM pmax pmax
comp=Z,6.0nm,1.0s
ULM Lac du Bonnet 78.87 34 P **P** **22 07 34.4 -1.3**
TRPA Tarpa 78.98 323 ⇑P **P** **22 07 36.5 +0.2**
NIE Niedzica 79.09 325 *e*P **P** **22 07 37.9 +0.9**
DOPR Dopca 79.10 320 ⇓P **P** **22 07 38.1 +1.0**
MLR Muntele Rosu 79.15 320 ⇓P **P** **22 07 38.4 +1.0**
MLR Muntele Rosu 79.15 320 P **P** **22 07 37.4 0.0**
MLR pmax pmax
comp=Z,3.0nm,1.0s
MLR Muntele Rosu 79.15 320 P **P** **22 07 37.4 0.0**
RSSD Black Hills 79.21 42 P **P** **22 07 37.4 -0.5**
RSSD pmax pmax
comp=Z,4.0nm,0.9s
RSSD Black Hills 79.21 42 P **P** **22 07 37.4 -0.5**
U15A North Rim 79.43 52 P **P** **22 07 40.2 +0.9**
O20A White River Ci 79.51 47 P **P** **22 07 40.5 +0.9**
O20A lAmb lAmb 22 07 42.8
comp=Z,6.0nm,0.9s
VOIR 79.64 320 ⇑P **P** **22 07 40.9 +0.9**
LANS Liptovska Anna 79.66 326 *e*P **P** **22 07 41.2 +1.1**
LANS pmax pmax
comp=Z,2.0nm,0.7s
LANS Liptovska Anna 79.66 326 *e*P **P** **22 07 41.2 +1.1**
BSEG Bad Segeberg 79.69 333 *e*P **P** **22 07 40.4 +0.4**
comp=Z,7.9nm,0.8s,baz=38,slow=5.2
ARR Arges 79.90 320 ⇓P **P** **22 07 42.3 +0.8**
MORC Moravsky Berou 80.05 327 ⇑P **P** **22 07 42.6 +0.5**
MORC Moravsky Berou 80.05 327 *e*P **P** **22 07 42.5 +0.3**
MORC Moravsky Berou 80.05 327 P **P** **22 07 41.1 -1.1**
MORC pmax pmax
comp=Z,5.0nm,1.0s
MORC Moravsky Berou 80.05 327 P **P** **22 07 41.1 -1.1**
DPC Dobruska-Polom 80.14 328 *e*P **P** **22 07 43.3 +0.7**
DPC Dobruska-Polom 80.14 328 *e*P **P** **22 07 43.3 +0.7**
PV23 Carpenter Ridg 80.14 49 P **P** **22 07 43.2 0.0**
PV23 lAmb lAmb 22 07 46.1
comp=Z,9.6nm,0.9s
PV10 Paradox Valley 80.18 49 P **P** **22 07 44.6 +1.2**
PV22 Blue Mesa, Par 80.22 49 P **P** **22 07 44.1 +0.5**
PV22 lAmb lAmb 22 07 47.1
comp=Z,7.8nm,1.1s
PV20 West Nyswonger 80.24 49 P **P** **22 07 44.6 +1.0**
PV20 lAmb lAmb 22 07 47.1
comp=Z,12nm,1.1s
AGMN Agassiz Nation 80.30 35 P **P** **22 07 43.6 +0.1**
N23A Red Feather La 80.33 45 P **P** **22 07 44.6 +0.5**
N23A lAmb lAmb 22 07 47.9
comp=Z,9.3nm,1.1s
PV11 David Mesa, Pa 80.33 49 P **P** **22 07 44.8 +0.7**
PV11 lAmb lAmb 22 07 47.2
comp=Z,8.8nm,0.8s
PV18 Skein Mesa, Pa 80.34 49 P **P** **22 07 44.5 +0.4**
PV18 lAmb lAmb 22 07 47.2
comp=Z,8.7nm,1.1s
PSZ Piszkesteto 80.37 325 ⇑P **P** **22 07 44.0 +0.1**
PSZ Piszkesteto 80.37 325 lAmb lAmb 22 07 48.0
comp=Z,6.8nm,1.0s
VYHS Vyhne 80.43 326 *e*P **P** **22 07 44.8 +0.6**
VYHS Vyhne 80.43 326 *e*P **P** **22 07 44.8 +0.6**
PV13 Radium Mtn., P 80.45 49 lAmb lAmb 22 07 48.4
comp=Z,13nm,1.1s
PV02 Paradox Valley 80.47 49 P **P** **22 07 45.5 +0.7**
PV15 Paradox Valley 80.53 49 P **P** **22 07 45.9 +0.6**
PV15 lAmb lAmb 22 08 02.5
comp=Z,11nm,0.7s
Y14A Wickenburg 80.54 54 P **P** **22 07 43.9 -1.2**
WUAZ Wupatki 80.58 52 P **P** **22 07 46.0 +0.6**
PV01 Paradox Valley 80.61 49 P **P** **22 07 47.0 +1.3**
PV01 lAmb lAmb 22 07 49.2
comp=Z,8.1nm,1.2s
JAVC Velka Javorina 80.68 326 *e*P **P** **22 07 46.9 +1.3**
BRG Berggiesshubel 80.72 330 *e*P **P** **22 07 45.6 0.0**
comp=Z,4.8nm,1.2s
BRG Berggiesshubel 80.72 330 *e*P **P** **22 07 45.6 0.0**
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG Berggiesshubel 80.72 330 *e*P **P** **22 07 45.6 0.0**
comp=Z,4.8nm,1.2s,baz=38,slow=5.2
PVCC Panska Ves 80.73 329 *e*P **P** **22 07 46.9 +1.2**
PVCC Panska Ves 80.73 329 *e*P **P** **22 07 46.9 +1.2**
SIRR Siria 80.73 323 ⇓P **P** **22 07 45.3 -0.6**
CLL Collm 80.75 330 *i* P **P** **22 07 45.7 -0.1**
comp=Z,7.0nm,0.9s
CLL *e*(sP) **sP** **22 08 07.0 +1.0**
CLL Collm 80.75 330 *i* P **P** **22 07 45.7 -0.1**
CLL pmax pmax
comp=Z,7.0nm,0.9s
CLL Collm 80.75 330 lAmb lAmb 22 07 46.8
comp=Z,6.7nm,0.9s
CLL Collm 80.75 330 *e*P **P** **22 07 45.8 0.0**
comp=Z,7.3nm,0.9s,baz=38,slow=5.2
113A Mohawk Valley, 80.77 56 P **P** **22 07 46.1 -0.2**
VRAC Vranov 80.81 327 ⇑P **P** **22 07 46.7 +0.5**
VRAC Vranov 80.81 327 *e*P **P** **22 07 46.7 +0.5**
FBE Freiberg 80.92 330 *e*P **P** **22 07 47.1 +0.4**
comp=Z,9.4nm,1.0s,baz=38,slow=5.2
RETH Rethem/Aller, 80.99 333 *e*P **P** **22 07 47.5 +0.4**
comp=Z,0.4nm,0.8s,baz=38,slow=5.2
KRUC Moravsky 81.08 327 *e*P **P** **22 07 47.9 +0.3**
GOPC GO Pecny, Ondr 81.11 328 *e*P **P** **22 07 48.7 +0.9**
GOPC GO Pecny, Ondr 81.11 328 *e*P **P** **22 07 48.7 +0.9**
PRU Pruhonice 81.16 329 *e*P **P** **22 07 49.0 +1.0**
PRU Pruhonice 81.16 329 *e*P **P** **22 07 49.0 +1.0**
B35A Bob, Littlefor 81.21 34 P **P** **22 07 49.5 +1.1**
B35A lAmb lAmb 22 07 49.9
comp=Z,4.5nm,0.7s
BZS Buzias 81.22 322 ⇑P **P** **22 07 48.5 0.0**
X16A Lo Mia Camp, P 81.24 53 P **P** **22 07 49.0 0.0**
ISCO Idaho Springs 81.24 46 P **P** **22 07 49.2 +0.1**
ISCO pmax pmax
comp=Z,3.0nm,1.0s
ISCO Idaho Springs 81.24 46 P **P** **22 07 49.2 +0.1**
MVCO Mesa Verde 81.26 50 P **P** **22 07 49.8 +0.6**
TREC Trest 81.29 328 *e*P **P** **22 07 49.6 +0.8**
TREC *e*PCP **PcP** **22 07 52.9 -2.0**
TREC Trest 81.29 328 *e*P **P** **22 07 49.6 +0.8**
NEUB Neuenburg 81.31 331 *e*P **P** **22 07 49.0 +0.2**
comp=Z,7.0nm,1.1s,baz=38,slow=5.2
CLZ Clausthal 81.34 332 *e*P **P** **22 07 49.2 +0.2**
comp=Z,9.8nm,1.1s,baz=38,slow=5.2
HERR Herculane 81.36 321 ⇑P **P** **22 07 49.5 +0.3**
GTTG Gottingen 81.73 332 *e*P **P** **22 07 51.5 +0.4**
comp=Z,7.0nm,0.7s,baz=38,slow=5.2
MDVR Moldovita 81.78 321 ⇑P **P** **22 07 51.3 -0.2**
WERN Wernitzgruen 81.80 330 *e*P **P** **22 07 51.8 +0.3**
comp=Z,4.0nm,0.9s,baz=38,slow=5.2
MOX Moxa 81.82 331 *e*P **P** **22 07 51.7 +0.1**
comp=Z,6.5nm,1.4s,baz=38,slow=5.2
F33A 5 Mile Ranch, 81.90 37 P **P** **22 07 52.5 +0.4**
F33A lAmb lAmb 22 07 54.5
comp=Z,10nm,1.1s
S22A 4UR Ranch, Cre 81.91 48 P **P** **22 07 53.0 +0.4**
CSS Mathiatis 81.95 308 P **P** **22 07 51.7 -0.8**
CSS lAmb lAmb 22 07 54.8
comp=Z,4.2nm,0.7s
CONA Conrad Observa 82.17 327 *i* P **P** **22 07 54.3 +0.8**
comp=Z,4.2nm,1.0s
KHC Kasperske Hory 82.22 329 *e*P **P** **22 07 54.0 +0.3**
KHC *e*PCP **PcP** **22 07 57.8 -1.1**
KHC Kasperske Hory 82.22 329 *e*P **P** **22 07 54.0 +0.3**
ROTZ Rotzenmuhle 82.28 330 *e*P **P** **22 07 54.2 +0.3**
comp=Z,3.2nm,0.9s,baz=38,slow=5.2
GEC2 GERESS Array S 82.39 328 P **P** **22 07 54.0 -0.7**
GEC2 GERESS Array S 82.39 328 *e*P **P** **22 07 54.9 +0.2**
comp=Z,9.0nm,1.7s,baz=38,slow=5.2
GERES GERESS Array B 82.39 328 P **P** **22 07 54.6 0.0**
comp=Z,1.8nm,0.7s,baz=42,slow=6.1,SNR=16
EYMN Ely 82.50 33 P **P** **22 07 56.3 +1.1**
EYMN lAmb lAmb 22 07 57.2
comp=Z,6.7nm,0.9s
VTS Vitosha 82.55 319 ⇓P **P** **22 07 56.2 +0.5**
VTS Vitosha 82.55 319 P **P** **22 07 56.4 +0.7**
VTS pmax pmax
comp=Z,4.0nm,1.0s
VTS Vitosha 82.55 319 P **P** **22 07 56.4 +0.7**
GRF Grafenberg Arr 82.73 330 *e*P **P** **22 07 57.0 +0.6**
comp=Z,9.9nm,1.1s,baz=38,slow=5.2
ARSA Arzberg 82.84 326 *i* PcP **P** **22 08 00.4 +3.5**
comp=Z,5.3nm,1.2s
ECSD EROS Data Cent 83.29 38 lAmb lAmb 22 08 01.6
comp=Z,5.5nm,0.9s
SOKA Soboth 83.49 326 *i* P **P** **22 08 00.7 +0.3**
comp=Z,4.6nm,0.7s,SNR=5.8
RJOB Jochberg 83.63 328 *e*P **P** **22 08 00.5 -0.6**
comp=Z,5.2nm,0.9s,baz=38,slow=5.2
T25A Trinidad 83.74 47 lAmb lAmb 22 08 05.3
comp=Z,6.7nm,0.8s
KBA Koelnbreinsper 83.91 327 *i* PcP **P** **22 08 03.9 +1.2**
comp=Z,3.2nm,0.8s
ANMO Albuquerque 84.00 50 P **P** **22 08 03.9 +0.5**
ANMO pmax pmax
comp=Z,6.0nm,1.1s
ANMO Albuquerque 84.00 50 P **P** **22 08 03.9 +0.5**
ANMO lAmb lAmb 22 08 07.2
comp=Z,6.0nm,1.1s
PPT Papeete 84.62 117 LR LR 22 41 47.6
comp=Z,43nm,20.6s,baz=236,slow=33
BMRD Maredsous 84.63 334 P **P** **22 08 06.7 +0.7**
MOTA Moosalm 84.64 329 *i* PcP **P** **22 08 07.2 +0.8**
comp=Z,7.8nm,1.4s
RETA Reutte 84.67 329 *i* P **P** **22 08 05.5 -0.9**
comp=Z,4.0nm,0.7s
SQTA Samkt Quirin 84.70 329 *i* P **P** **22 08 06.7 +0.1**
comp=Z,1.6nm,0.5s
SCHQ Schefferville 84.71 16 P **P** **22 08 07.2 +0.8**
comp=Z,3.8nm,0.7s,baz=65,slow=15,SNR=5.2
SCHQ Schefferville 84.71 16 lAmb lAmb 22 08 08.4
comp=Z,5.0nm,0.8s
121A Cookes Peak, D 84.78 53 lAmb lAmb 22 08 11.0
comp=Z,5.9nm,0.8s
COWI Conover 84.95 33 lAmb lAmb 22 08 09.3
comp=Z,3.7nm,0.7s
BFO Black Forest 84.96 331 P **P** **22 08 07.3 -0.5**
BFO pmax pmax
comp=Z,7.0nm,0.9s
BFO Black Forest 84.96 331 P **P** **22 08 07.3 -0.5**
BFO lAmb lAmb 22 08 08.8
comp=Z,6.9nm,0.9s
BFO Black Forest 84.96 331 *e*P **P** **22 08 07.9 +0.2**
comp=Z,9.3nm,1.0s,baz=38,slow=5.2
G40A Rib Lake 85.14 34 lAmb lAmb 22 08 10.8
comp=Z,6.4nm,0.8s
DAVA Damuels 85.19 329 *i* PcP **P** **22 08 09.5 +0.4**
comp=Z,6.3nm,0.9s,SNR=4.1
ECH Echery 85.50 331 lAmb lAmb 22 08 11.2
comp=Z,4.9nm,0.9s
FUORN Ofenpass-Fuorn 85.57 329 lAmb lAmb 22 08 12.3
comp=Z,8.1nm,0.8s
E43A Lone Tree Farm 85.64 31 lAmb lAmb 22 08 13.1
comp=Z,5.7nm,0.7s
ITM Ithomi 87.15 316 P **P** **22 08 18.7 0.0**
VLDQ Val d'Or 87.78 25 lAmb lAmb 22 08 22.6
comp=Z,7.2nm,0.8s
D53A Lac Vacive, Po 88.59 26 lAmb lAmb 22 08 26.8
comp=Z,5.5nm,0.8s
TX32 Lajitas Array 89.54 53 P **P** **22 08 31.2 +0.9**
TX32 lAmb lAmb 22 08 33.2
comp=Z,4.2nm,0.8s
TXAR Lajitas Array 89.54 53 P **P** **22 08 32.3 +1.9**
comp=Z,4.1nm,0.8s,baz=297,slow=3.1,SNR=39
CCM Cathedral Cave 90.23 39 P **P** **22 08 33.5 +0.2**
CCM pmax pmax
comp=Z,4.0nm,0.9s
CCM Cathedral Cave 90.23 39 P **P** **22 08 33.5 +0.2**
CCM lAmb lAmb 22 08 35.7
comp=Z,4.1nm,0.8s
TRQ Mont Tremblant 90.40 24 P **P** **22 08 33.6 -0.4**
Z35A Perchaven, San 90.56 46 P **P** **22 08 35.6 +0.7**
N47A Urbana 90.62 34 P **P** **22 08 34.4 -0.7**
H06N1 SOCORRO T-PHAS 91.58 65 T T 23 50 45.5
SNR=4.7
H06E1 SOCORRO T-PHAS 91.67 65 T T 23 50 57.7
SNR=7.2
MIAR Mount Ida 91.70 43 P **P** **22 08 40.8 +0.6**
MIAR pmax pmax
comp=Z,6.0nm,0.9s
MIAR Mount Ida 91.70 43 P **P** **22 08 40.8 +0.6**
WHAR Wooly Hollow 91.82 42 P **P** **22 08 41.3 +0.6**
ESDC Sonseca Array 96.91 334 P **P** **22 09 03.6 -0.4**
comp=Z,0.5nm,0.8s,baz=46,slow=3.7,SNR=4.5
TORD Torodi Ar. Bea 117.14 315 PKP **PKPdf** **22 14 17.1 -0.9**
comp=Z,0.6nm,0.8s,baz=16,slow=1.6,SNR=2.6
LPAZ La Paz 146.15 59 PKPbc **PKPab** **22 15 15.2 +0.6**
comp=Z,6.5nm,0.7s,baz=286,slow=2.3,SNR=23
H03N2 Juan Fernandez 146.78 95 T T 00 59 32.5
baz=291,slow=76,SNR=60
H03N3 Juan Fernandez 146.79 95 T T 00 59 36.1
baz=291,slow=76,SNR=72
H03N1 Juan Fernandez 146.80 95 T T 00 59 32.8
baz=291,slow=76,SNR=70

*IDC **26** 21:59:51.7±3.4,54.12N×163.31W,h0km,mb3.8/6, mb1 3.8/8,mb1mx3.5/49,mbtmp3.7/8,ML3.4/2,Error ellipse: s-maj=89.1km s-min=18.8km az=160.0*
*AEIC **26** 21:59:53.6±1.1,53.92N±0.03×162.9W±0.1,h80km±8km, ML3.1/31,Error ellipse: s-maj=9.2km s-min=3.8km az=108.0*
*NEIC **26** 21:59:53.8±1.5,53.80N±0.03×162.86W±0.07,h31km±7km, Error ellipse: s-maj=6.4km s-min=4.4km az=69.0*
ISC 26 21:59:52.2±0.9,53.78N±0.09×162.79W±0.04,h25km,n48, σ1s35/46,mb3.7/6,South of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FALS	**False Pass**	**1.14**	**341**		**Pb**	**22 00 13.3**	**+0.1**
FALS	**False Pass**	**1.14**	**341**		**Sn**	**22 00 28.3**	**+1.0**
SSLW	**Shishaldin Wes**	**1.27**	**322**		**Pb**	**22 00 15.3**	**0.0**
SSBA	**Shishaldin**	**1.27**	**322**		**Pb**	**22 00 15.2**	**-0.2**
WESP	**Westdahl Peak**	**1.34**	**303**		**Pb**	**22 00 16.0**	**-0.7**
WESP					**Sb**	**22 00 32.7**	**-0.8**
WEBT	**Westdahl Beart**	**1.41**	**306**		**Pb**	**22 00 17.3**	**-0.5**
HAG	**Hague Volcano**	**1.62**	**18**		**Pn**	**22 00 19.4**	**+0.2**
PS4A	**Pavlof South-4**	**1.66**	**19**		**Pn**	**22 00 19.6**	**-0.1**
PVV	**Pavlof Volcano**	**1.70**	**20**		**Pn**	**22 00 20.2**	**0.0**
AKSA	**Akutan Strait**	**1.75**	**283**		**Pn**	**22 00 21.6**	**+0.6**
AKSA					**Sn**	**22 00 41.5**	**-1.0**
AKUT	**Akutan**	**1.80**	**283**		**Pn**	**22 00 22.3**	**+0.7**
AKLV	**Akutan Long Va**	**1.91**	**283**		**Pn**	**22 00 23.5**	**+0.3**
AKMO	**Akutan Morgan**	**1.93**	**281**		**Pn**	**22 00 24.0**	**+0.6**
AKMO					**Sn**	**22 00 46.0**	**-0.8**
AKGG	**Akutan Green G**	**1.94**	**284**		**Pn**	**22 00 24.4**	**+0.9**
AKRB	**Akutan Reef Bi**	**1.97**	**282**		**Pn**	**22 00 24.7**	**+0.7**
SDPT	**Sand Point**	**2.07**	**40**		**Pb**	**22 00 27.7**	**-1.4**
CNBA	**Chernabura Isl**	**2.15**	**60**		**Pn**	**22 00 27.9**	**+1.5**
UNV	**Unalaska Valle**	**2.20**	**273**		**Pn**	**22 00 28.0**	**+0.9**
MNAT	**Makushin Natee**	**2.31**	**274**		**Pn**	**22 00 29.0**	**+0.4**
MREP	**Makushin Rep't**	**2.35**	**272**		**Pn**	**22 00 29.7**	**+0.5**
MSW	**Makushin Switc**	**2.37**	**275**		**Pn**	**22 00 29.9**	**+0.4**
VNWF	**Veniaminof 8**	**3.02**	**37**		**Pn**	**22 00 40.5**	**+2.0**
VNSS	**Veniaminof 8**	**3.12**	**37**		**Pn**	**22 00 41.8**	**+1.9**
VNFG	**Fog Glacier, M**	**3.13**	**35**		**Pn**	**22 00 40.8**	**+0.9**
OKSP	**Okmok Steeple**	**3.33**	**263**		**Pn**	**22 00 43.4**	**+0.7**
NIKH	**Nikolski High**	**3.72**	**260**	Pn	**Pn**	**22 00 48.8**	**+0.8**
CHIR	**Chirikof Islan**	**4.62**	**61**	Pn	**Pn**	**22 01 01.0**	**+0.6**
SII	**Sitkinak Islan**	**5.66**	**57**	Pn	**Pn**	**22 01 15.2**	**+0.5**
KABU	**Katmai Buttres**	**6.16**	**40**		**Pn**	**22 01 24.1**	**+2.6**
OHAK	**Old Harbor**	**6.41**	**54**		**Pn**	**22 01 25.4**	**+0.6**
KDAK	**Kodiak Island**	**7.01**	**51**	Pn	**Pn**	**22 01 34.1**	**+0.9**
	1.3nm,0.3s,baz=171,slow=4.5,SNR=18						
KDAK					Sn	**Sn**	**22 02 48.0**	**-4.0**
	baz=115,slow=21,SNR=1.1						
SVW2	**Sparrevohn**	**8.30**	**25**	Pn	**Pn**	**22 01 52.3**	**+1.5**
CNPM	**China Poot**	**8.58**	**43**	Pn	**Pn**	**22 01 55.5**	**+0.9**
ADK	**Adak**	**8.63**	**263**		**Pn**	**22 01 54.8**	**-0.5**
SEW	**Seward**	**9.65**	**44**	Pn	**Pn**	**22 02 09.1**	**-0.2**
ILAR	**Eielson Array**	**13.64**	**30**	Pn	**Pn**	**22 03 01.9**	**-1.8**
	0.1nm,0.3s,baz=217,slow=14,SNR=1.6						
PETK	**Petropavlovsk-**	**23.34**	**284**	P	**P**	**22 04 58.4**	**+0.1**
	3.8nm,0.4s,baz=87,slow=13,SNR=16						
YKA	**Yellowknife Ar**	**26.29**	**51**	P	**P**	**22 05 29.8**	**+4.5**
	0.7nm,0.6s,baz=274,slow=9.4,SNR=2.6						
KLR	**Kul'dur**	**39.70**	**291**	P	**P**	**22 07 20.3**	**-1.7**
	0.5nm,0.3s,baz=63,slow=6.8,SNR=2.6						
H11N2	**WAKE ISLAND Hy**	**41.17**	**226**	T	T	22 51 44.9	
	baz=26,slow=76,SNR=7.9						
H11N3	**WAKE ISLAND Hy**	**41.18**	**226**	T	T	22 51 48.8	
	baz=26,slow=76,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**41.19**	**226**	T	T	22 51 46.4	
	baz=26,slow=76,SNR=7.2						
H11S1	**WAKE ISLAND Hy**	**42.34**	**226**	T	T	22 53 10.1	
	baz=26,slow=76,SNR=17						
H11S2	**WAKE ISLAND Hy**	**42.35**	**226**	T	T	22 53 15.5	
	baz=26,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**42.36**	**226**	T	T	22 53 18.3	
	baz=26,slow=76,SNR=7.0						
KSRS	**Korea Array**	**49.12**	**280**	P	**P**	**22 08 38.6**	**+1.2**
	0.5nm,0.3s,baz=68,slow=6.5,SNR=4.3						
SONM	**Songino Array**	**53.91**	**304**	P	**P**	**22 09 13.4**	**+0.1**
	0.3nm,0.4s,baz=54,slow=7.3,SNR=2.3						
MKAR	**Makanchi Array**	**65.61**	**317**	P	**P**	**22 10 33.6**	**-0.1**
	0.5nm,0.7s,baz=48,slow=6.5,SNR=4.3						

IDC 26 22:03:34.8±2.6,30.39S×176.93W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.6/23,mbtmp3.6/2,MS3.4/2,Ms1 3.4/2, ms1mx2.9/23,Error ellipse: s-maj=55.4km s-min=34.0km az=70.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.42**	**323**	Pn	Pn	22 04 01.2	-0.7
	52nm,0.3s,baz=75,slow=24,SNR=1.2						
RAO				Sn	Sn	22 04 23.0	+1.8
	152nm,0.3s,baz=106,slow=19,SNR=3.7						
DZM	**Mont Dzumac**	**17.05**	**295**	LR	LR	22 12 24.6	
	comp=Z,87nm,21.7s,baz=199,slow=31						
ASAR	**Alice Springs**	**44.03**	**266**	P		22 11 44.0	-0.5
	0.6nm,0.7s,baz=108,slow=6.6,SNR=5.0						
WRA	**Warramunga Arr**	**45.02**	**272**	P	P	22 11 52.5	+0.1
	0.9nm,0.9s,baz=111,slow=8.1,SNR=8.2						
SIJI	**Sorong**	**57.19**	**291**	LR	LR	22 36 53.5	
	comp=Z,68nm,21.5s,baz=287,slow=35						
FINES	**FINESS Array B**	**145.44**	**341**	PKPbc	PKPbc	22 23 13.3	-0.7
	1.9nm,0.9s,baz=58,slow=4.3,SNR=8.8						

*IDC **26** 22:28:39.4±2.3,5.96N×125.85E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/32,mbtmp3.6/4,Error ellipse: s-maj=145.7km s-min=27.8km az=68.0*
ISC 26 22:28:54.4±1.2,5.80N±0.10×125.9E±0.2,h127km,n7, σ0s97/10,mb3.5/4,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.98**	**287**	*e*P	**Pn**	**22 29 17.5**	**+0.5**
GSPH				*e*S	**Sn**	**22 29 35.4**	**+1.2**
DMPH	**Davao City--Mi**	**1.33**	**343**	⇑*e*P	**Pn**	**22 29 22.0**	**+1.6**
DMPH				*e*S	**Sn**	**22 29 40.7**	**+0.5**
KCP	**Kidapawan**	**1.44**	**326**	⇓*e*P	**Pn**	**22 29 21.2**	**-0.6**
KCP				*i* S	**Sn**	**22 29 42.1**	**-0.4**
FITZ	**Fitzroy Crossi**	**23.75**	**181**	P	**P**	**22 33 55.6**	**+0.3**
	1.0nm,0.4s,baz=17,slow=11,SNR=5.6						
WRA	**Warramunga Arr**	**26.90**	**162**	P	P	**22 34 23.4**	**-0.3**
	0.3nm,0.4s,baz=340,slow=9.4,SNR=8.0						
ASAR	**Alice Springs**	**30.32**	**165**	P	**P**	**22 34 54.0**	**-0.1**
	0.7nm,0.4s,baz=339,slow=7.5,

MAN ***26*** *22:54:19.4, 13.27N×124.77E, h30km, mb4.5, ML3.4, MS3.2*

IDC ***26*** *22:54:21.9±2.8, 11.39N×121.30E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/39, mbtmp3.6/3, Error ellipse: s-maj=309.4km s-min=29.5km az=62.0*

ISC 26 22:54:21.3±1.6,**13°22N**±0.06×**124°58E**±0.09,**h29**km±11km, **n10**,σ1°**08**/16,**mb3.6**/3,**3C-1D**,**Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PVCP	**Virac**	**0.56**	**312**	*eP*	**Pb**	**22 54 32.0**	**-0.7**
PVCP				*eS*	**Sb**	**22 54 41.0**	**+0.5**
CNP	**Catarman**	**0.71**	**174**	*eP*	**Pb**	**22 54 34.9**	**-0.2**
CNP				*eS*	**Sn**	**22 54 46.1**	**+0.8**
MMPH	**Masbate**	**1.27**	**228**↑	*iP*	**Pn**	**22 54 43.8**	**+0.8**
MMPH				*i* S	**Sb**	**22 55 01.5**	**+1.0**
GQP	**Guinayangan**	**2.19**	**288**↑	*eP*	**Pn**	**22 54 56.8**	**+1.0**
GQP				*i* S	**Sb**	**22 55 26.0**	**-0.9**
RCP	**Roxas**	**2.44**	**228**↓	*eP*	**Pn**	**22 54 59.1**	**-0.1**
RCP				*eS*	**Sn**	**22 55 27.0**	**-1.0**
LLP	**Lapu-Lapu**	**2.95**	**192**	*eP*	**Pn**	**22 55 06.7**	**+0.5**
LLP				*eS*	**Sn**	**22 55 41.3**	**+0.7**
LQP	**Lukban**	**3.09**	**287**↑	*eP*	**Pn**	**22 55 09.3**	**+0.9**
WRA	**Warramunga Arr**	**34.32**	**164**	P	**P**	**23 01 04.2**	**-1.3**
	0.6nm,0.7s,baz=333,slow=11,SNR=2.0						
ASAR	**Alice Springs**	**37.77**	**166**	P	**P**	**23 01 33.3**	**-1.8**
	0.9nm,0.5s,baz=351,slow=7.6,SNR=9.6						
MKAR	**Makanchi Array**	**48.70**	**322**	P	**P**	**23 03 04.3**	**+1.2**
	0.3nm,0.8s,baz=106,slow=9.2,SNR=2.7						

IDC ***26*** *23:28:02.7±1.2, 36.03N×97.39W, h0km, mb1 3.8/4, mb1mx3.5/33, mbtmp3.5/4, ML3.4/4, Error ellipse: s-maj=16.0km s-min=14.1km az=131.0*

TUL ***26*** *23:28:03.4±0.6, 35.89N±0.02×97.26W±0.02, h5km±6km, ML3.8, Mwr3.7/53(NEIC), Error ellipse: s-maj=2.3km s-min=2.1km az=101.0*

UNK ***26*** *23:28:03.4, 35.89N×97.26W, h5km*

NEIC ***26*** *23:28:03.4, 35.89N×97.26W, h6km, Moment Tensor Solution. Moment tensor: Scale 10^14Nm; Mrr=0.08; Mθθ=3.66; Mϕϕ=3.58; Mrθ=-0.34; Mθϕ=2.03; Mϕr=0.31; Fault plane solution: M0=4.17000×10^14 NP1:φs=120.30000°, δ=88.57000°, λ=-6.16000°. NP2:φs=210.45000°, δ=83.84000°, λ=-178.56000°. Principal axes: T 4.2029, Plg=3.0000°, Azm=166.0000°; N -0.0572, Plg=84.0000°, Azm=287.0000°; P -4.1457, Plg=5.0000°, Azm=75.0000°;*

ANF ***26*** *23:28:04.0±1.3, 35.91N×97.25W, h11km±10km, ML4.7/15 Error ellipse: s-maj=3.6km s-min=2.7km az=170.0*

NEIC ***26*** *23:28:04.3±0.8, 35.88N±0.01×97.26W±0.02, h1km±7km, Error ellipse: s-maj=2.3km s-min=1.9km az=96.0*

ISC 26 23:28:03.1±1.2,**35°93N**±0.03×**97°27W**±0.03,**h3**km±10km, **n81**,σ0°**94**/93,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK005	**Luther M Schoo**	**0.28**	**167**		**Pg**	**23 28 08.6**	**0.0**
OK005				Sg	**Sg**	**23 28 12.2**	**-0.1**
ADOK	**Arcadia Dam**	**0.29**	**197**	Pg	**Pg**	**23 28 08.7**	**0.0**
ADOK				Sg	**Sg**	**23 28 12.4**	**-0.1**
OK001	**Jones High Sch**	**0.37**	**183**	Pg	**Pg**	**23 28 10.1**	**-0.1**
OK001				Sg	**Sg**	**23 28 14.9**	**-0.2**
OK009	**Oakdale Elemen**	**0.37**	**200**		**Pg**	**23 28 10.6**	**+0.4**
OK009				Sg	**Sg**	**23 28 15.0**	**-0.1**
OKCFA	**Oklahoma City**	**0.54**	**196**	Pg	**Pg**	**23 28 13.2**	**-0.2**
OKCFA				Sg	**Sg**	**23 28 20.3**	**-0.1**
OKCSW	**OKLAHOMA CITY**	**0.54**	**195**		**Pg**	**23 28 13.3**	**-0.2**
OKCSW				Sg	**Sg**	**23 28 20.5**	**-0.1**
FNO	**Franklin**	**0.68**	**189**		**Pg**	**23 28 16.1**	**0.0**
FNO				Sg	**Sg**	**23 28 25.2**	**+0.2**
W35A	**Tecumseh**	**0.84**	**157**		**Pg**	**23 28 18.3**	**-0.9**
T35A	**Sooner Cattle**	**1.16**	**32**		**Pg**	**23 28 25.7**	**+0.4**
TUL1	**Leonard**	**1.20**	**91**	P	**Pg**	**23 28 25.2**	**-0.8**
	baz=269,SNR=240						
TUL1				S	**Sg**	**23 28 41.7**	**0.0**
	baz=269						
TUL1	**Leonard**	**1.20**	**91**		**Pg**	**23 28 25.2**	**-0.8**
X34A	**Smith Ranch, M**	**1.41**	**199**		**Pn**	**23 28 29.1**	**-0.5**
U32A	**Winter Ranch,**	**1.47**	**288**		**Pn**	**23 28 30.9**	**+0.4**
WMOK	**Wichita Mounta**	**1.72**	**227**	P	**Pn**	**23 28 33.8**	**-0.1**
	baz=47,SNR=555						
WMOK				S	**Sn**	**23 28 56.7**	**+0.3**
	baz=47						
WMOK	**Wichita Mounta**	**1.72**	**227**	Pn	**Pn**	**23 28 33.7**	**-0.1**
X37A	**Clayton**	**2.05**	**130**		**Pn**	**23 28 38.5**	**+0.1**
U38A	**Gravette**	**2.39**	**77**		**Pn**	**23 28 43.6**	**+0.5**
Z35A	**Perchaven, San**	**2.59**	**180**		**Pn**	**23 28 46.1**	**+0.2**
HHAR	**Hobbs**	**2.72**	**82**		**Pn**	**23 28 48.2**	**+0.5**
R32A	**Long Quarter,**	**2.74**	**336**		**Pn**	**23 28 49.6**	**+1.6**
W39A	**Magazine**	**2.93**	**103**	P	**Pn**	**23 28 51.0**	**+0.4**
	baz=285,SNR=38						
W39A				S	**Sn**	**23 29 27.5**	**+1.2**
	baz=285						
W39A	**Magazine**	**2.93**	**103**	Pn	**Pn**	**23 28 50.9**	**+0.3**
KSU1	**Kansas State U**	**3.21**	**9**	P	**Pn**	**23 28 55.1**	**+0.7**
	baz=189						
KSU1	**Kansas State U**	**3.21**	**9**	Pn	**Pn**	**23 28 56.0**	**+1.6**
Z38A	**Mt. Pleasant**	**3.26**	**144**		**Pn**	**23 28 55.2**	**+0.1**
MIAR	**Mount Ida**	**3.32**	**114**	P	**Pn**	**23 28 56.7**	**+0.7**
	baz=295,SNR=59						
MIAR	**Mount Ida**	**3.32**	**114**		**Pn**	**23 28 56.6**	**+0.7**
CBKS	**Cedar Bluff**	**3.48**	**326**	P	**Pn**	**23 28 58.6**	**+0.4**
	baz=145						
CBKS	**Cedar Bluff**	**3.48**	**326**	Pn	**Pn**	**23 28 59.9**	**+1.6**
U40A	**Yellville**	**3.60**	**82**	P	**Pn**	**23 28 59.4**	**-0.4**
	baz=264						
U40A	**Yellville**	**3.60**	**82**	Pn	**Pn**	**23 28 59.9**	**+0.2**
S39A	**Bolivar**	**3.62**	**60**	Pn	**Pn**	**23 29 00.6**	**+0.5**
ABTX	**Abilene, Hawle**	**3.84**	**211**	P	**Pn**	**23 29 03.0**	**-0.1**
	baz=30						
ABTX				S	**Sn**	**23 29 48.9**	**+0.1**
	baz=30						
X40A	**Basin Creek Fa**	**3.91**	**110**	P	**Pn**	**23 29 04.6**	**+0.7**
	baz=292,SNR=8.7						
WHTX	**Lake Whitney,**	**3.93**	**182**	P	**Pn**	**23 29 04.0**	**-0.3**
	baz=2.3						
WHTX	**Lake Whitney,**	**3.93**	**182**	Pn	**Pn**	**23 29 04.0**	**-0.3**
237A	**Washetta, Mont**	**4.10**	**162**		**Pn**	**23 29 06.0**	**-0.6**
WHAR	**Wooly Hollow**	**4.11**	**98**	Pn	**Pn**	**23 29 07.4**	**+0.7**
W41B	**Gary Mavity, V**	**4.16**	**99**	P	**Pn**	**23 29 07.6**	**+0.1**
	baz=281,SNR=28						
W41B				S	**Sn**	**23 29 55.5**	**-1.1**
	baz=281						
W41B	**Gary Mavity, V**	**4.16**	**99**	Pn	**Pn**	**23 29 07.8**	**+0.3**
FCAR	**Ozark Folk Cen**	**4.17**	**89**	Pn	**Pn**	**23 29 08.2**	**+0.6**
UALR	**University of**	**4.19**	**105**		**Pn**	**23 29 09.3**	**+1.5**
MGMO	**Mountain Grove**	**4.21**	**72**		**Pn**	**23 29 08.9**	**+0.8**
Z41A	**Richland Creek**	**4.55**	**125**	P	**Pn**	**23 29 12.5**	**-0.3**
	baz=307						
Z41A	**Richland Creek**	**4.55**	**125**	Pn	**Pn**	**23 29 12.3**	**-0.4**
R40A	**Maddies Statio**	**4.64**	**58**	Pn	**Pn**	**23 29 14.4**	**+0.4**
N35A	**Tabor**	**5.08**	**14**	Pn	**Pn**	**23 29 20.7**	**+0.6**
435B	**Jarrell**	**5.14**	**183**	P	**Pn**	**23 29 20.9**	**0.0**
	baz=2.9						
CCM	**Cathedral Cave**	**5.27**	**64**	P	**Pn**	**23 29 22.1**	**-0.5**
	baz=248						
X43A	**Marvell**	**5.42**	**103**	Sb	**Sb**	**23 30 48.3**	**+4.6**
	baz=286						
BGNE	**Belgrade**	**5.51**	**353**	S	**Sn**	**23 30 28.4**	**-1.5**
	baz=173						
JCT	**Junction City**	**5.84**	**202**	P	**Pn**	**23 29 29.6**	**-1.0**
	baz=21						
T25A	**Trinidad**	**5.88**	**284**	P	**Pn**	**23 29 31.4**	**+0.1**
	baz=100,SNR=6.4						
OXF	**Oxford**	**6.59**	**100**	P	**Pn**	**23 29 40.1**	**-0.6**
	baz=284						
OXF				S	**Sn**	**23 30 54.5**	**-1.8**
	baz=284						
SCIA	**State Center**	**6.75**	**27**	S	**Sn**	**23 31 00.5**	**+0.1**
	baz=209						
SDCO	**Great Sand Dun**	**6.85**	**288**	P	**Pn**	**23 29 45.4**	**+0.8**
	baz=103,SNR=9.4						
ISCO	**Idaho Springs**	**7.65**	**303**	P	**Pn**	**23 29 55.6**	**0.0**
	baz=118,SNR=5.8						
HDIL	**Hopedale**	**7.79**	**51**	P	**Pn**	**23 29 57.2**	**-0.1**
	baz=236,SNR=8.9						
833A	**Chaparral WMA,**	**7.80**	**194**	P	**Pn**	**23 29 57.8**	**+0.4**
	baz=13						
ECSD	**EROS Data Cent**	**7.81**	**3**	P	**Pn**	**23 29 57.1**	**-0.5**
	baz=184,SNR=6.7						
MNTX	**Cornudas Mount**	**7.96**	**240**	P	**Pn**	**23 29 59.7**	**0.0**
	baz=56						
N23A	**Red Feather La**	**8.42**	**309**	P	**Pn**	**23 30 07.1**	**+0.9**
	baz=124,SNR=21						
TXAR	**Lajitas Array**	**8.51**	**221**	Pn	**Pn**	**23 30 05.5**	**-1.8**
	0.1nm,0.3s,baz=41,slow=12,SNR=8.9						
TXAR				Pg		23 30 37.8	
	1.8nm,0.3s,baz=52,slow=16,SNR=12						
TXAR				Lg	Lg	23 32 28.2	
	3.3nm,0.3s,baz=40,slow=26,SNR=8.5						
SUSD	**Miller**	**8.60**	**352**	P	**Pn**	**23 30 09.7**	**+1.3**
	baz=171						
LRAL	**Lakeview Retre**	**8.96**	**106**	P	**Pn**	**23 30 14.3**	**+1.0**
	baz=292						
WCI	**Wyandotte Cave**	**9.06**	**72**	P	**Pn**	**23 30 15.9**	**+1.1**
	baz=258						
SFIN	**Lafayette**	**9.16**	**58**	P	**Pn**	**23 30 17.0**	**+0.9**
	baz=244						
O48A	**Farmland**	**10.47**	**62**	P	**Pn**	**23 30 33.6**	**-0.6**
	baz=249						
P49A	**Miami Univ. Ec**	**10.57**	**66**	P	**Pn**	**23 30 35.2**	**-0.3**
	baz=254						
TKL	**Tuckaleechee C**	**10.96**	**87**	Pn	**Pn**	**23 30 41.5**	**+0.6**
	0.2nm,0.3s,baz=92,slow=11,SNR=3.8						
PDAR	**Pinedale Array**	**11.70**	**309**	Pn	**Pn**	**23 30 50.4**	**-0.8**
	0.3nm,0.3s,baz=120,slow=14,SNR=7.4						
PDAR				Pg		23 31 42.4	
	0.5nm,0.3s,baz=105,slow=17,SNR=8.8						
PDAR				Lg	Lg	23 34 01.4	
	0.3nm,0.3s,baz=113,slow=36,SNR=2.3						
O51A	**Pataskala**	**12.30**	**66**	P	**Pn**	**23 30 57.1**	**-2.0**
	baz=254						
Q52A	**Bidwell**	**12.30**	**71**	P	**Pn**	**23 30 57.4**	**-1.7**
	baz=260						
R53A	**Hurricane**	**12.46**	**74**	P	**Pn**	**23 31 00.6**	**-0.6**
	baz=263						
U54A	**Nelsons Funny**	**12.49**	**83**	P	**Pn**	**23 31 01.5**	**-0.3**
	baz=272						
P52A	**Corning**	**12.53**	**68**	P	**Pn**	**23 31 01.5**	**-0.8**
	baz=257						
EYMN	**Ely**	**12.75**	**18**	P	**Pn**	**23 31 04.4**	**-0.8**
	baz=202						
Q53A	**Leroy**	**12.86**	**72**	P	**Pn**	**23 31 04.7**	**-2.0**
	baz=262,SNR=7.7						
P53A	**Whipple**	**13.06**	**70**	P	**Pn**	**23 31 07.8**	**-1.7**
	baz=259						
G46A	**Petoskey**	**13.28**	**41**	P	**Pn**	**23 31 11.4**	**-1.0**
	baz=229,SNR=6.2						
ULM	**Lac du Bonnet**	**14.35**	**4**	Pn	Pn	23 31 21.2	-5.8
	0.4nm,0.3s,baz=188,slow=7.1,SNR=1.7						
ULM				Lg	Lg	23 35 29.3	
	0.6nm,0.3s,baz=278,slow=18,SNR=4.7						

IDC 26 23:33:23.8±6.3,**31°50S**×**179°20W**,**h0**km,**mb3.5**/2, **mb1 3.8**/2,**mb1mx3.5**/21,**mbtmp3.5**/2,**Error ellipse: s-maj=250.5km s-min=64.6km az=157.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**42.04**	**269**	P	P	23 41 17.0	-0.3
	0.9nm,1.0s,baz=111,slow=8.0,SNR=2.0						
WRA	**Warramunga Arr**	**43.13**	**274**	P	P	23 41 26.3	+0.1
	0.2nm,0.3s,baz=114,slow=8.0,SNR=1.5						
FINES	**FINESS Array B**	**145.80**	**339**	PKPbc	PKPdf	23 53 03.1	-0.5
	0.5nm,0.6s,baz=46,slow=5.5,SNR=3.8						

IDC ***27*** *00:09:48.4±0.9, 12.81N×124.80E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.8/47, mbtmp4.0/8, Error ellipse: s-maj=81.4km s-min=15.9km az=72.0*

MAN ***27*** *00:09:52.3, 12.96N×124.65E, h15km, mb4.7, ML3.6, MS3.5*

NEIC ***27*** *00:09:56.0±1.5, 12.78N±0.09×124.8E±0.2, h63km±8km, mb4.3/8, Error ellipse: s-maj=26.4km s-min=10.9km az=70.0*

ISC 27 00:09:48.5±1.7,**12°80N**±0.04×**124°84E**±0.08,**h3**km±11km, **n33**,σ1°**58**/32,**mb4.2**/11,**2C**,**Samar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CNP	**Catarman**	**0.33**	**212**	*eP*	**Pn**	**00 10 01.3**	**+1.0**
PVCP	**Virac**	**1.04**	**320**	*eP*	**Pg**	**00 10 08.5**	**0.0**
PVCP				*eS*	**Sg**	**00 10 20.5**	**-1.5**
OCLP	**Ormoc**	**1.75**	**188**	*eP*	**Pg**	**00 10 23.8**	**+1.7**
OCLP				*eS*	**Sn**	**00 10 41.7**	**-1.0**
RCP	**Roxas**	**2.39**	**239**↑	*eP*	**Pb**	**00 10 31.6**	**-0.7**
RCP				*eS*	**Sb**	**00 11 00.1**	**-2.1**
LLP	**Lapu-Lapu**	**2.61**	**199**	*eP*	**Pb**	**00 10 35.7**	**-0.3**
LLP				*eS*	**Sb**	**00 11 09.4**	**+0.9**
MSLP	**Maasin**	**2.65**	**180**	*eP*	**Pb**	**00 10 38.1**	**+1.5**
MSLP				*eS*	**Sg**	**00 11 13.6**	**-0.1**
TBP	**Tagbilaran**	**3.23**	**197**	*eP*	**Pn**	**00 10 42.0**	**+1.8**
TGY	**Tagaytay City**	**4.02**	**289**	Pn	**Pn**	**00 10 53.8**	**+2.7**
	18nm,0.3s,baz=198,slow=17,SNR=1.4						
BUKP	**Musuan**	**4.89**	**177**	*eP*	Pn	00 11 09.0	+5.9
BUKP				*eS*	**Sb**	**00 12 09.4**	**-4.9**
KCP	**Kidapawan**	**5.76**	**178**↑	*eP*	**Pb**	**00 11 26.0**	**-3.8**
KSRS	**Korea Array**	**24.71**	**6**	P	**P**	**00 15 11.2**	**+0.2**
	0.9nm,0.6s,baz=186,slow=12,SNR=4.9						
KNRA	**Kununurra**	**28.55**	**172**	P	**P**	**00 15 46.0**	**+0.2**
KNRA				IAmb	IAmb	00 15 59.0	
	comp=Z,7.6nm,0.9s						
FITZ	**Fitzroy Crossi**	**30.71**	**179**	P	**P**	**00 16 04.9**	**0.0**
WB0	**Warramunga Arr**	**33.70**	**164**	P	**P**	**00 16 29.7**	**-1.5**
WRA	**Warramunga Arr**	**33.85**	**164**	P	**P**	**00 16 32.1**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=343,slow=9.1,SNR=14						
WB2	**Warramunga Arr**	**33.85**	**164**	P	**P**	**00 16 32.2**	**-0.3**
WB2				IAmb	IAmb	00 16 45.0	
	comp=Z,3.8nm,0.8s						
WR0	**Warramunga Arr**	**33.92**	**164**	P	**P**	**00 16 33.4**	**+0.3**
WR0				IAmb	IAmb	00 16 46.5	
	comp=Z,4.2nm,1.1s						
AS31	**Alice Springs**	**37.31**	**166**	P	**P**	**00 17 03.2**	**+1.0**
ASAR	**Alice Springs**	**37.31**	**166**	P	**P**	**00 17 02.8**	**+0.5**
	comp=Z,2.8nm,0.5s,baz=350,slow=7.3,SNR=37						
SONM	**Songino Array**	**38.18**	**340**	P	**P**	**00 17 09.2**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=148,slow=8.7,SNR=4.8						
H11S3	**WAKE ISLAND Hy**	**40.62**	**76**	T	T	01 00 48.6	
	baz=262,SNR=16						
H11S1	**WAKE ISLAND Hy**	**40.63**	**76**	T	T	01 00 47.8	
	baz=262,SNR=7.6						
H11S2	**WAKE ISLAND Hy**	**40.64**	**77**	T	T	01 00 50.4	
	baz=262,SNR=9.3						
H11N1	**WAKE ISLAND Hy**	**40.87**	**75**	T	T	01 01 20.7	
	baz=267,slow=74,SNR=95						
H11N2	**WAKE ISLAND Hy**	**40.87**	**75**	T	T	01 01 21.5	
	baz=267,slow=74,SNR=67						
H11N3	**WAKE ISLAND Hy**	**40.88**	**75**	T	T	01 01 22.4	
	baz=267,slow=74,SNR=89						
FORT	**Forrest**	**43.43**	**176**	P	**P**	**00 17 52.4**	**-0.5**
BBOO	**Buckleboo**	**46.60**	**167**	P	**P**	**00 18 18.9**	**+0.9**
STKA	**Stephens Creek**	**47.23**	**160**	P	**P**	**00 18 24.2**	**+1.2**
	comp=Z,8.8nm,0.7s,baz=331,slow=7.6,SNR=11						
STKA	**Stephens Creek**	**47.23**	**160**	P	**P**	**00 18 23.5**	**+0.5**
STKA				IAmb	IAmb	00 18 25.0	
	comp=Z,2.2nm,0.8s						
MKAR	**Makanchi Array**	**49.18**	**322**	P	**P**	**00 18 38.5**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=127,slow=7.8,SNR=4.3						
ZALV	**Zalesovo Beam**	**51.75**	**331**	P	**P**	**00 18 57.0**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=111,slow=8.1,SNR=4.1						
ARCES	**ARCESS Array B**	**81.35**	**339**	P	**P**	**00 22 06.1**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=66,slow=9.0,SNR=3.7						

IDC ***27*** *00:14:18.7±1.4, 30.33S×177.09W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/41, mbtmp4.1/4, MS3.2/1, Ms1 3.2/1, ms1mx2.8/22, Error ellipse: s-maj=37.8km s-min=20.5km az=65.0*

ISC 27 00:14:21.9±1.5,**30°3S**±0.2×**177°0W**±0.3,**h24**km,**n9**, σ1°**20**/9,**mb4.3**/4,**Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.32**	**322**	Pn	**Pb**	**00 14 45.3**	**-0.6**
	428nm,0.3s,baz=93,slow=19,SNR=5						
RAO				Sn	**Sb**	**00 15 04.1**	**+1.7**
	599nm,0.3s,baz=278,slow=23,SNR=9.9						
RAO				LR	LR	00 15 23.5	
	comp=Z,333nm,19.9s,baz=358,slow=50						
DZM	**Mont Dzumac**	**16.96**	**295**	LR	LR	00 22 50.2	
	comp=Z,79nm,20.8s,baz=210,slow=30						
STKA	**Stephens Creek**	**35.34**	**257**	P	**P**	**00 21 15.9**	**+0.5**
	3.9nm,0.6s,baz=97,slow=10.0,SNR=6.1						
ASAR	**Alice Springs**	**43.98**	**266**	P	**P**	**00 22 26.8**	**-0.8**
	0.6nm,0.5s,baz=102,slow=7.1,SNR=9.6						
WRA	**Warramunga Arr**	**44.96**	**272**	P	**P**	**00 22 33.9**	**-1.5**
	4.0nm,0.7s,baz=111,slow=7.8,SNR=12						
QSPA	**South Pole Qui**	**59.81**	**180**	P	**P**	**00 24 26.3**	**+1.3**
	1.0nm,0.6s,baz=316,slow=0.9,SNR=8.9						
KURBB	**Kurchatov Arra**	**121.65**	**314**	PKP	**PKiKP**	**00 33 13.2**	**-0.1**
	0.3nm,0.7s,baz=90,slow=2.8,SNR=2.4						
BVAR	**Borovoye Array**	**126.94**	**316**	PKP	**PKPdf**	**00 33 23.5**	**+0.2**
	0.3nm,0.5s,baz=154,slow=4.6,SNR=2.6						
FINES	**FINESS Array B**	**145.35**	**341**	PKPbc	**PKPbc**	**00 33 56.0**	**-0.8**
	2.1nm,0.7s,baz=61,slow=3.4,SNR=15						

IDC 27 00:29:22.1±2.8,**49°76S**×**126°65E**,**h0**km,**mb3.8**/4, **mb1 4.1**/4,**mb1mx3.9**/18,**mbtmp3.9**/4,**MS3.5**/1,**Ms1 3.4**/1, **ms1mx2.9**/17,**Error ellipse: s-maj=128.2km s-min=25.9km az=94.0,Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**17.45**	**324**	T	T	00 51 31.2	
	baz=155,slow=79,SNR=18						
H01W2	**Cape Leeuwin H**	**17.45**	**324**	T	T	00 51 27.5	
	baz=155,slow=79,SNR=22						
H01W3	**Cape Leeuwin H**	**17.47**	**324**	T	T	00 51 29.5	
	baz=155,slow=79,SNR=18						
STKA	**Stephens Creek**	**21.07**	**38**	P	P	00 34 07.8	0.0
	5.5nm,0.9s,baz=221,slow=11,SNR=4.1						
STKA				LR	LR	00 40 50.6	
	comp=Z,126nm,18.9s,baz=332,slow=33						
ASAR	**Alice Springs**	**26.66**	**15**	P	P	00 35 03.0	+0.5
	2.9nm,0.9s,baz=186,slow=8.9,SNR=14						
WRA	**Warramunga Arr**	**30.37**	**14**	P	P	00 35 35.0	-0.7
	1.1nm,1.0s,baz=194,slow=8.6,SNR=2.4						
VNDA	**Vanda**	**30.89**	**166**	P	P	00 35 39.7	0.0
	0.6nm,0.9s,baz=322,slow=7.6,SNR=5.3						

IDC ***27*** *00:37:50.1±2.3, 36.34N×142.10E, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.3/37, mbtmp3.5/4, ML2.7/1, MS3.5/1, Ms1 3.5/1, ms1mx2.6/34, Error ellipse: s-maj=55.9km s-min=32.9km az=47.0*

JMA ***27*** *00:37:54.9±0.2, 36.29N×141.82E, h57km, M3.3*

ISC 27 00:37:53.6±1.4,**36°31N**±0.08×**141°91E**±0.09,**h19**km,**n16**, σ1°**09**/18,**mb3.7**/3,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**1.04**	**235**	P	**Pn**	**00 38 12.8**	**-0.4**
JHYU	**Hitachinakayam**	**1.07**	**272**	P	**Pb**	**00 38 13.0**	**-0.4**
JHYU				*eS*	**Sb**	**00 38 26.9**	**-0.1**
JHO	**Hitachi**	**1.12**	**286**	P	**Pn**	**00 38 13.7**	**-0.5**
JIHU	**Itakohorinouch**	**1.17**	**253**	P	**Pn**	**00 38 14.4**	**-0.5**
ONAJ	**Iwakimizuishiy**	**1.19**	**312**	P	**Pb**	**00 38 15.3**	**-0.3**
JFK	**Kawauchi**	**1.34**	**322**	P	**Pb**	**00 38 18.1**	**0.0**
JFT	**Otama**	**1.74**	**314**	P	**Pb**	**00 38 24.0**	**-1.0**
BSO1	**Boso 1**	**1.82**	**205**	P	**Pn**	**00 38 23.6**	**+0.3**
BSO3	**Boso 3**	**1.89**	**218**	P	**Pn**	**00 38 24.6**	**+0.1**
JAG	**Ashikaga**	**1.98**	**274**	P	**Pn**	**00 38 25.9**	**-0.2**
MJAR	**Matsushiro Arr**	**2.99**	**276**	Pn	**Pn**	**00 38 40.6**	**+0.6**
	0.8nm,0.3s,baz=118,slow=8.3,SNR=20						
MJAR				Sn	**Sb**	**00 39 20.1**	**-2.3**
	0.5nm,0.3s,baz=313,slow=16,SNR=5.3						
MAT	**Matsushiro**	**2.99**	**276**	P	**Pn**	**00 38 41.7**	**+1.7**
MAT				*eS*	**Sn**	**00 39 18.1**	**+2.7**
MKAR	**Makanchi Array**	**44.84**	**303**	P	**P**	**00 46 06.3**	**-0.1**
	0.3nm,0.5s,baz=81,slow=9.4,SNR=4.4						
KURBB	**Kurchatov Arra**	**46.76**	**309**	P	**P**	**00 46 21.8**	**+0.3**
	0.5nm,0.4s,baz=85,slow=7.9,SNR=6.9						
HNR	**Honiara**	**48.56**	**156**	LR	LR	01 03 28.8	
	comp=Z,48nm,20.6s,baz=105,slow=32						
WRA	**Warramunga Arr**	**56.40**	**189**	P	**P**	**00 47 33.7**	**-0.1**
	0.7nm,1.0s,baz=2.8,slow=7.9,SNR=2.2						

IDC ***27*** *00:39:27.0±5.7, 22.55S×67.96W, h0km, mb3.9/1, mb1 4.1/2, mb1mx3.5/23, mbtmp3.9/2, ML4.0/1, MS3.2/1, Ms1 3.1/1, ms1mx2.6/17, Error ellipse: s-maj=163.4km s-min=52.6km az=64.0*

GUC ***27*** *00:39:43.5±0.8, 21.46S×68.50W, h124km±6km, ML3.5*

ISC 27 00:39:44.0±1.1,**21°45S**±0.04×**68°6W**±0.1,**h134**km±9km, **n19**,σ0°**65**/32,**6C-3D**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.73**	**241**↑	*iP*	**Pn**	**00 40 05.3**	**+0.1**
PB09				*i* S	**Sn**	**00 40 21.6**	**+0.4**
PB09				IAML		00 40 24.4	
	comp=E,670nm,0

SMRI	**Semarang**	**3.34**	**330**	P		**Pn**	**01 23 10.9**	**+0.4**
SMRI	**Semarang**	**3.34**	**330**			**Pn**	**01 23 11.6**	**+1.1**
SRBI	**Singaraja**	**3.58**	**59**	P		**Pn**	**01 23 15.3**	**+1.7**
CNJI	**Cibinong**	**5.60**	**298**	P		**Pn**	**01 23 45.6**	**+4.1**
	0.3nm76nm,0.9s							
PLAI	**Plampang**	**5.69**	**79**	P		**Pn**	**01 23 46.8**	**+4.1**
FITZ	**Fitzroy Crossi**	**15.39**	**123**	Pn		**P**	**01 25 58.6**	**-0.9**
	0.1nm,0.3s,baz=293,slow=11,SNR=1.9							
FITZ				Sn		**Sn**	**01 28 40.7**	**-4.1**
	0.2nm,0.3s,baz=136,slow=23,SNR=1.7							
FITZ	**Fitzroy Crossi**	**15.39**	**123**	IAmb		IAmb	01 26 10.1	
	comp=Z,19nm,1.5s							
WRA	**Warramunga Arr**	**23.61**	**117**	P		**P**	**01 27 33.4**	**+4.7**
	comp=Z,0.8nm,0.5s,baz=294,slow=11,SNR=6.1							
WB2	**Warramunga Arr**	**23.62**	**117**	P		**P**	**01 27 26.5**	**-2.2**
AS31	**Alice Springs**	**24.85**	**126**	P		**P**	**01 27 39.9**	**-0.1**
ASAR	**Alice Springs**	**24.85**	**126**	P		**P**	**01 27 46.7**	**+6.7**
	comp=Z,0.6nm,0.7s,baz=309,slow=9.1,SNR=4.6							
FORT	**Forrest**	**25.47**	**147**	P		**P**	**01 27 44.9**	**-0.6**
PBKT	**Sadao Pong**	**28.59**	**337**	P		**P**	**01 28 12.6**	**-1.0**
ARMA	**Armidale**	**41.99**	**125**	P		**P**	**01 30 08.1**	**-0.7**
MK31	**Makanchi Array**	**62.47**	**337**	P		**P**	**01 32 39.7**	**-0.8**
MK31					IAmb	IAmb	01 32 41.6	
	comp=Z,0.9nm,0.7s							
MKAR	**Makanchi Array**	**62.47**	**337**	P		**P**	**01 32 41.1**	**+0.7**
	comp=Z,1.4nm,0.5s,baz=152,slow=7.4,SNR=11							
ZAA0	**Zalesovo Array**	**67.75**	**343**	P		**P**	**01 33 15.9**	**+1.4**
ZALV	**Zalesovo Beam**	**67.75**	**343**	P		**P**	**01 33 15.0**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=147,slow=6.4,SNR=1.6							
ZALV	**Zalesovo Beam**	**67.75**	**343**	P		**P**	**01 33 15.0**	**+0.5**

*SOME **27** 01:25:29.1,41˚.03N×71˚.72E,h5km*
*KRNET **27** 01:25:29.9±0.1,41˚.06N×71˚.69E,h17km,mb3.3*
*ISU **27** 01:25:29.4,41˚.00N×71˚.46E,h10km*
*NNC **27** 01:25:33.2±1.1,41˚.21N×71˚.82E,h0km,mb3.8,mpv3.5,*
Error ellipse: s-maj=10.0km s-min=5.0km az=2.0
ISC 27 01:25:30.6±0.9,41˚.00N±0˚.02×71˚.56E±0˚.02,h12km±6km,
n73,σ2s19/113,39C-7D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAM	**Namangan**	**0.07**	**95**	*i* P	**Pg**	**01 25 33.1**	**-0.1**
NAM				*e*S	**Sg**	**01 25 35.9**	**+0.7**
FRG	**Fergana**	**0.31**	**147**	*e*P	**Pn**	**01 25 43.0**	**+2.0**
FRG				*e*S	Sb	01 25 54.4	+11
ANR	**Andizhan**	**0.65**	**112**	*e*P	**Pg**	**01 25 43.6**	**+0.3**
ANR				*e*S	**Sg**	**01 25 51.8**	**-0.1**
ARK	**Arkit**	**0.85**	**21**	⇑*i*P	**Pg**	**01 25 44.0**	**-3.2**
	baz=17						
ARK				⇑*i*S	**Sg**	**01 25 54.8**	**-3.6**
	baz=17						
OHH	**Osh**	**1.04**	**117**	⇑*i*P	**Pb**	**01 25 48.5**	**-2.1**
	baz=22						
OHH				⇑*i*S	**Sg**	**01 26 01.8**	**-2.5**
	baz=22						
OHH	**Osh**	**1.04**	**117**	*e*P	**Pb**	**01 25 50.5**	**-0.1**
OHH				*e*S	**Sg**	**01 26 02.1**	**-2.2**
BTK	**Batken**	**1.10**	**211**	⇑*e*P	**Pn**	**01 25 52.2**	**+0.4**
	baz=14						
BTK				⇑*i*S	**Sn**	**01 26 08.6**	**+1.7**
	baz=14						
ARSB	**Arslanbob**	**1.12**	**73**	⇑*i*P	**Pb**	**01 25 49.4**	**-2.6**
	baz=74						
ARSB				⇑*i*S	**Sb**	**01 26 03.2**	**-3.4**
	baz=74						
IUG	**Iuzhnay**	**1.62**	**316**	*e*P	**Pg**	**01 26 01.6**	**-0.1**
	26nm,0.2s						
IUG				*e*S	**Sg**	**01 26 25.3**	**+2.5**
	2µm,0.2s						
TAS	**Tashkent**	**1.74**	**282**	⇑*i*P	**Pg**	**01 26 03.7**	**-0.3**
	baz=79						
TAS				⇑*i*S	**Sg**	**01 26 27.9**	**+1.3**
	baz=79						
AML	**Almayashu**	**1.96**	**54**	⇓*i*P	**Pn**	**01 26 03.9**	**-0.1**
	baz=54						
AML				⇓*i*S	**Sn**	**01 26 28.6**	**-0.1**
	baz=54						
AML	**Almayashu**	**1.96**	**54**	P	**Pn**	**01 26 04.5**	**+0.5**
	SNR=120						
CHM	**Chimkent**	**1.97**	**313**	*e*P	**Pg**	**01 26 07.1**	**-1.4**
	82nm,0.2s						
CHM				*e*S	**Sg**	**01 26 34.1**	**+0.1**
	503nm,0.3s						
MRKS	**Merke**	**2.14**	**35**	*e*P	**Pb**	**01 26 08.0**	**-1.4**
	55nm,0.4s						
MRKS				*e*S	**Sb**	**01 26 35.2**	**-0.7**
	189nm,0.4s						
MRKS	**Merke**	**2.14**	**35**	Pg	**Pb**	**01 26 08.0**	**-1.4**
	55nm,0.4s						
MRKS				Lg	Lg	01 26 35.2	
	189nm,0.3s						
GAR	**Garm**	**2.21**	**206**	⇑*i*P	**Pg**	**01 26 10.3**	**-2.7**
	baz=8.0						
GAR				⇑*i*S	**Sg**	**01 26 40.3**	**-1.4**
	baz=8.0						
KK31	**Karatay Array**	**2.24**	**340**	⇑Pn	**Pb**	**01 26 10.0**	**-1.1**
	24nm,0.3s,baz=145,slow=16,SNR=6.2						
KK31				⇑Lg	Lg	01 26 39.7	
	31nm,0.3s,baz=155,slow=26,SNR=15						
ARLS	**Aral**	**2.25**	**67**	⇑*i*P	**Pn**	**01 26 08.3**	**+0.5**
	baz=67						
ARLS				⇑*i*S	**Sn**	**01 26 36.1**	**+0.6**
	baz=67						
EKS2	**Erkin-Say**	**2.35**	**44**	⇑*i*P	**Pn**	**01 26 09.6**	**+0.5**
	baz=43						
EKS2				⇑*i*S	**Sn**	**01 26 38.4**	**+0.5**
	baz=43						
EKS2	**Erkin-Say**	**2.35**	**44**	P	**Pb**	**01 26 11.4**	**-1.5**
	SNR=51						
BRLS	**Borolday**	**2.40**	**328**	*e*P	**Pb**	**01 26 12.5**	**-1.3**
	32nm,0.2s						
BRLS				*e*S	**Sb**	**01 26 42.5**	**-0.8**
	207nm,0.3s						
UCH	**Uchtor**	**2.53**	**60**	⇑*i*P	**Pn**	**01 26 12.3**	**+0.4**
	baz=60						
UCH				⇑*i*S	**Sn**	**01 26 42.9**	**0.0**
	baz=60						
UCH	**Uchtor**	**2.53**	**60**	P	**Pb**	**01 26 15.1**	**-1.2**
	SNR=21						
AAK	**Ala-Archa**	**2.74**	**52**	⇓*i*P	**Pn**	**01 26 14.6**	**+0.1**
	baz=52						
AAK				⇓*i*S	**Sn**	**01 26 47.2**	**-0.4**
	baz=52						
AAK	**Ala-Archa**	**2.74**	**52**	P	**Pb**	**01 26 17.3**	**-2.3**
	SNR=12						
AAK	**Ala-Archa**	**2.74**	**52**	⇑Pg	**Pb**	**01 26 17.3**	**-2.3**
	3.6nm,0.3s						
AAK				⇓Lg	Lg	01 26 50.2	
	46nm,0.7s						
KZA	**Kyzart**	**2.97**	**68**	⇑*e*P	**Pn**	**01 26 18.1**	**+0.2**
	baz=68						
KZA				⇑*i*S	**Sn**	**01 26 53.6**	**-0.1**
	baz=68						
KZA	**Kyzart**	**2.97**	**68**	P	**Pn**	**01 26 18.8**	**+0.9**
	SNR=15						
CHGR	**Chuyangaron**	**2.98**	**219**	⇑*e*P	**Pb**	**01 26 21.6**	**-2.1**
	baz=20						
CHGR				⇑*i*S	**Sb**	**01 26 58.9**	**-1.1**
	baz=20						
KBK	**Karagaybulak**	**3.03**	**56**	⇑*i*P	**Pn**	**01 26 18.8**	**+0.4**
	baz=56						
KBK				⇑*i*S	**Sn**	**01 26 54.4**	**-0.3**
	baz=56						
KBK	**Karagaybulak**	**3.03**	**56**	P	**Pb**	**01 26 23.4**	**-1.1**
	SNR=9.0						
CHMS	**Chumysh**	**3.11**	**49**	⇑*i*P	**Pn**	**01 26 19.7**	**+0.3**
	baz=49						
CHMS				⇑*i*S	**Sn**	**01 26 56.0**	**-0.5**
	baz=49						
CHMS	**Chumysh**	**3.11**	**49**	P	**Sb**	**01 27 04.5**	**+0.8**
	SNR=5.9						
USP	**Ospenovka**	**3.15**	**43**	⇓*i*P	**Pn**	**01 26 20.3**	**+0.3**
	baz=42						
USP				⇓*i*S	**Sn**	**01 26 57.1**	**-0.5**
	baz=42						
USP	**Ospenovka**	**3.15**	**43**	P	**Pb**	**01 26 25.8**	**-0.7**
	SNR=9.1						
SGDS	**Sogindy**	**3.35**	**42**	Pg	**Pb**	**01 26 28.7**	**-1.2**
	6.2nm,0.2s						
SGDS				Lg	Lg	01 27 10.6	
	31nm,0.3s						
TKM2	**Tokmak 2**	**3.57**	**56**	⇑*e*P	**Pn**	**01 26 26.2**	**+0.2**
	baz=56						
TKM2				⇑*i*S	**Sn**	**01 27 07.3**	**-0.9**
	baz=56						
TKM2	**Tokmak 2**	**3.57**	**56**	⇑Pg	**Pb**	**01 26 32.3**	**-1.5**
	1.7nm,0.3s						
TKM2				⇑Lg	Lg	01 27 18.4	
	14nm,0.3s						
BOOM	**Boomskoye usch**	**3.60**	**64**	⇑*i*P	**Pn**	**01 26 26.8**	**+0.5**
	baz=64						
BOOM				⇑*i*S	**Sn**	**01 27 08.0**	**-0.9**
	baz=64						
ULHL	**Ulahol**	**3.73**	**69**	⇑*i*P	**Pn**	**01 26 28.7**	**+0.6**
	baz=69						
ULHL				⇑*i*S	**Sn**	**01 27 11.0**	**-1.0**
	baz=69						
DGS	**Degeres**	**3.85**	**53**	*e*P	**Pb**	**01 26 37.6**	**-0.9**
	0.4nm,0.5s						
DGS				*e*S	**Sb**	**01 27 26.7**	**+1.5**
	33nm,0.5s						
DGS	**Degeres**	**3.85**	**53**	Pg	**Pb**	**01 26 37.7**	**-0.9**
	0.4nm,0.5s						
DGS				Lg	Lg	01 27 26.7	
	33nm,0.5s						
KST	**Kastek**	**3.87**	**57**	*e*P	**Pb**	**01 26 38.6**	**-0.1**
	5.3nm,0.3s						
KST				*e*S	**Sb**	**01 27 27.9**	**+2.4**
	23nm,0.7s						
KST	**Kastek**	**3.87**	**57**	Pg	**Pb**	**01 26 38.7**	**-0.1**
	5.3nm,0.3s						
KST				Lg	Lg	01 27 28.0	
	23nm,0.6s						
KRBS	**Karabastau**	**4.07**	**47**	*e*P	**Pb**	**01 26 41.5**	**-0.8**
	3.3nm,0.4s						
KRBS				*e*S	**Sb**	**01 27 32.9**	**+1.5**
	8.5nm,0.5s						
KRBS	**Karabastau**	**4.07**	**47**	Pg	**Pb**	**01 26 41.5**	**-0.8**
	3.3nm,0.5s						
KRBS				Lg	Lg	01 27 32.8	
	8.5nm,0.5s						
MTBS	**Maitube**	**4.21**	**58**	*e*P	**Pb**	**01 26 44.2**	**-0.3**
	2.5nm,0.1s						
MTBS				*e*S	**Sb**	**01 27 37.3**	**+2.0**
	9.9nm,0.4s						
MTBS	**Maitube**	**4.21**	**58**	Pg	**Pb**	**01 26 44.2**	**-0.3**
	2.5nm,0.1s						
MTBS				Lg	Lg	01 27 37.3	
	9.9nm,0.4s						
BTLS	**Baital**	**4.43**	**23**	*e*P	**Pb**	**01 26 48.9**	**+0.5**
	13nm,0.3s						
BTLS				*e*S	**Sb**	**01 27 46.0**	**+4.3**
	54nm,0.6s						
BTLS	**Baital**	**4.43**	**23**	Pg	**Pb**	**01 26 48.9**	**+0.5**
	13nm,0.5s						
BTLS				Lg	Lg	01 27 46.0	
	51nm,0.7s						
TNSS	**Tian-Shan**	**4.50**	**61**	*e*P	**Pb**	**01 26 51.0**	**+1.3**
	5.3nm,0.4s						
TNSS				*e*S	**Sb**	**01 27 48.7**	**+4.6**
	12nm,0.6s						
TNSS	**Tian-Shan**	**4.50**	**61**	Pg	**Pb**	**01 26 51.0**	**+1.3**
	5.3nm,0.4s						
TNSS				Lg	Lg	01 27 48.7	
	12nm,0.6s						
KUU	**Kurty**	**4.57**	**49**	*e*P	**Pb**	**01 26 51.0**	**+0.4**
	4.8nm,0.3s						
KUU				*e*S	**Sb**	**01 27 48.7**	**+3.0**
	18nm,0.7s						
KUU	**Kurty**	**4.57**	**49**	Pg	**Pb**	**01 26 51.0**	**+0.4**
	4.8nm,0.3s						
KUU				Lg	Lg	01 27 48.7	
	18nm,0.7s						
MDOK	**Medeo**	**4.62**	**60**	*e*P	**Pb**	**01 26 51.6**	**0.0**
	5.5nm,0.5s						
MDOK				*e*S	**Sb**	**01 27 50.0**	**+2.7**
	7.3nm,0.8s						
MDOK	**Medeo**	**4.62**	**60**	Pg	**Pb**	**01 26 53.4**	**+1.8**
	3.7nm,0.5s						
MDOK				Lg	Lg	01 27 51.1	
	22nm,1.0s						
MDOK	**Medeo**	**4.62**	**60**	Pg	**Pb**	**01 26 51.6**	**0.0**
	5.5nm,0.5s						
MDOK				Lg	Lg	01 27 50.0	
	7.3nm,0.8s						
KTBS	**Karatobe**	**4.67**	**53**	*e*P	**Pb**	**01 26 52.3**	**0.0**
	3.5nm,0.4s						
KTBS				*e*S	**Sb**	**01 27 51.4**	**+2.9**
	16nm,0.8s						
KTBS	**Karatobe**	**4.67**	**53**	Pg	**Pb**	**01 26 52.3**	**0.0**
	3.5nm,0.4s						
KTBS				Lg	Lg	01 27 51.4	
	16nm,0.8s						
KOTS	**Kotyrbulak**	**4.70**	**60**	*e*P	**Pb**	**01 26 54.7**	**+1.8**
	5.0nm,0.3s						
KOTS				*e*S	**Sb**	**01 27 55.8**	**+6.3**
	14nm,0.5s						
KOTS	**Kotyrbulak**	**4.70**	**60**	Pg	**Pb**	**01 26 54.7**	**+1.8**
	5.0nm,0.3s						
KOTS				Lg	Lg	01 27 55.8	
	14nm,0.5s						
CHKK	**Chushkaly**	**4.93**	**53**	*e*P	**Pb**	**01 26 57.5**	**+0.7**
	7.7nm,0.2s						
CHKK				*e*S	**Sb**	**01 28 00.6**	**+4.6**
	18nm,0.2s						
SATY	**Saty**	**5.50**	**66**	*e*P	**Pb**	**01 27 08.8**	**+2.2**
	1.3nm,0.2s						
SATY				*e*S	**Sb**	**01 28 19.2**	**+6.6**
	8.4nm,0.4s						
SATY	**Saty**	**5.50**	**66**	Pg	**Pb**	**01 27 08.7**	**+2.2**
	2.8nm,0.1s						
SATY				Lg	Lg	01 28 19.1	
ARXS	**Arharly**	**5.63**	**53**	*e*P	**Pb**	**01 27 11.4**	**+2.6**
	2.8nm,0.5s						
ARXS				*e*S	**Sb**	**01 28 24.4**	**+8.1**
	16nm,0.6s						
ARXS	**Arharly**	**5.63**	**53**	Pg	**Pb**	**01 27 09.4**	**+0.6**
	2.8nm,0.5s						
ARXS				Lg	Lg	01 28 21.3	
	16nm,0.6s						
KPKS	**Kokpek**	**5.83**	**63**	*e*P	**Pb**	**01 27 15.7**	**+3.4**
	4.2nm,0.3s						
KPKS				*e*S	**Sg**	**01 28 32.5**	**-5.4**
	7.8nm,0.4s						
UZB	**Uzynbulak**	**5.95**	**66**	*e*P	**Pb**	**01 27 17.9**	**+3.5**
	1.6nm,0.5s						
UZB				*e*S	**Sg**	**01 28 35.5**	**-6.2**
	5.2nm,0.7s						
UZB	**Uzynbulak**	**5.95**	**66**	Pg	**Pb**	**01 27 15.9**	**+1.6**
	1.5nm,0.6s						
UZB				Lg	Lg	01 28 31.5	
	5.2nm,0.7s						
SHLS	**Shalkode**	**6.26**	**67**	*e*P	**Pg**	**01 27 28.3**	**-2.2**
	2.3nm,0.2s						
SHLS				*e*S	**Sg**	**01 28 52.8**	**+1.2**
	7.9nm,0.5s						
PDGK	**Podgornoye**	**6.34**	**66**	Pg	**Pb**	**01 27 24.9**	**+4.0**
	0.5nm,0.3s						
PDGK				Lg	Lg	01 28 46.9	
	2.3nm,0.8s						
PDGK	**Podgornoye**	**6.34**	**66**	⇑Pg	Pg	01 27 26.6	-5.3
	1.2nm,0.6s						
PDGK				⇑Lg	Lg	01 28 47.2	
	5.1nm,0.7s						
DJR	**Jarkent**	**6.92**	**58**	Pg	Pb	01 27 36.9	+6.1
	0.7nm,0.1s						
DJR				Lg	Lg	01 29 08.1	
	2.2nm,0.4s						

*IDC **27** 01:40:15.2±52.0,41˚.56N×145˚.19E,h0km,mb3.7/3,*
mb1 3.8/3,mb1mx3.4/28,mbtmp3.7/3,MS3.8/1,Ms1 3.8/1,
ms1mx2.7/37,Error ellipse: s-maj=1200.0km
s-min=80.8km az=159.0
*JMA **27** 01:41:06.0±0.2,44˚.53N×142˚.32E,h241km±2km,M3.0*
ISC 27 01:41:05.8±1.0,44˚.47N±0˚.07×142˚.43E±0˚.09,h244km±7km,
n19,σ0s93/27,Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**0.38**	**161**	P	**Pn**	**01 41 37.9**	**+0.2**
ASAJ				*e*S	**S**	**01 42 02.5**	**-0.2**
JSS	**Shosan**	**0.42**	**260**	P	**Pn**	**01 41 37.7**	**0.0**
JSS				*e*S	**S**	**01 42 02.1**	**-0.6**
JSE	**Soyaes**	**0.50**	**13**	P	**Pn**	**01 41 37.9**	**+0.1**
JSE				*e*S	**S**	**01 42 02.2**	**-1.0**
JKK2	**Kamakawa 2**	**0.64**	**159**	P	**Pn**	**01 41 39.0**	**+0.5**
JKK2				*e*S	**S**	**01 42 04.4**	**+0.2**
JMP	**Maruseppu**	**0.82**	**124**	P	**Pn**	**01 41 39.6**	**+0.3**
JMP				*e*S	**S**	**01 42 05.7**	**+0.2**
JHR	**Hokuryu**	**0.89**	**215**	P	**Pn**	**01 41 40.0**	**+0.4**
JWK2	**Keihoku**	**0.92**	**336**	P	**Pn**	**01 41 39.4**	**-0.2**
JTKR	**Abashiri--Toko**	**1.18**	**115**	P	**Pn**	**01 41 42.0**	**+0.8**
JTKR				*e*S	**S**	**01 42 09.9**	**+0.9**
JRBN	**Rebuntou**	**1.35**	**315**	P	**Pn**	**01 41 41.2**	**-1.1**
JAR	**Ashorobuto**	**1.53**	**140**	P	**Pn**	**01 41 44.4**	**+0.7**
JAR				*e*S	**S**	**01 42 14.3**	**+0.8**
JEW	**Eniwo**	**1.78**	**204**	P	**Pn**	**01 41 46.4**	**+0.6**
JCH	**Churui**	**1.98**	**160**	P	**Pn**	**01 41 46.6**	**-1.0**
JCH				*e*S	**S**	**01 42 18.5**	**-1.9**
JNBK	**Urakawa-nobuka**	**2.21**	**174**	P	**Pn**	**01 41 49.7**	**0.0**
JNBK				*e*S	**S**	**01 42 24.3**	**0.0**
NEM2	**Nemuro 2**	**2.64**	**114**	*e*S	**S**	**01 42 29.1**	**-2.9**
JKB	**Kayabe**	**2.78**	**202**	P	**Pn**	**01 41 54.8**	**-0.7**
SONM	**Songino Array**	**25.04**	**291**	P	**P**	**01 46 08.2**	**+0.5**
	0.5nm,0.5s,baz=87,slow=8.1,SNR=3.5						
MKAR	**Makanchi Array**	**41.22**	**295**	P	**P**	**01 48 27.0**	**+0.3**
	0.3nm,0.5s,baz=78,slow=8.4,SNR=4.6						
SIJI	**Sorong**	**46.23**	**196**	LR	LR	02 04 53.5	
	comp=Z,114nm,21.9s,baz=164,slow=34						
FINES	**FINESS Array B**	**62.64**	**331**	P	**P**	**01 51 04.0**	**+0.2**
	1.0nm,0.5s,baz=63,slow=8.8,SNR=9.0						

MAN 27 01:47:09.8,11˚.72N×121˚.73E,h5km,mb4.0,ML2.8,MS2.4,
1C,Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTRP	**Odiongan**	**0.69**	**24**	*e*P	Pg	01 47 23.5	+0.3
OTRP				*e*S	Sg	01 47 33.0	+0.8
RCP	**Roxas**	**1.00**	**99**	⇑*e*P	Pn	01 47 31.3	+0.7
RCP				*e*S	Sn	01 47 45.3	+0.1
CUYO	**Cuyo Island**	**1.12**	**219**	*e*P	Pg	01 47 31.2	-0.1
CUYO				*e*S	Sg	01 47 39.7	-6.1
BUSP	**Coron**	**1.53**	**281**	*e*P	Pb	01 47 38.6	0.0
BUSP				*e*S	Sb	01 47 58.4	+0.1
ENPP	**El Nido**	**2.32**	**257**	*e*P	Pn	01 47 46.0	-2.7

*CNRM **27** 02:17:30.8±1.2,36˚.47N×9˚.61W,h50km,Error ellipse:*
s-maj=10.3km s-min=5.8km az=104.0
*SFS **27** 02:17:30.0,36˚.72N×9.79W,h21km,ML2.9,SW. CABO*
DE SAN VICENTE
*MDD **27** 02:17:30.7±1.1,36˚.73N×9˚.76W,h21km±9km,mbLg2.7/43,*
Error ellipse: s-maj=11.2km s-min=6.6km az=39.0,
PRXIMO
*IGIL **27** 02:17:31.4,36˚.64N×9˚.75W,h32km,ML2.4*
*INMG **27** 02:17:31.4±1.4,36˚.65N×9˚.76W,h30km±12km,ML2.5,*
Error ellipse: s-maj=7.7km s-min=3.7km az=55.0
ISC 27 02:17:27.4±5.2,36˚.60N±0˚.05×9˚.85W±0˚.07,h36km±6km,
n96,σ2s15/180,15C-3D,West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**0.98**	**57**	⇑P	**Pn**	**02 17 46.4**	**+1.9**
	82nm,0.1s,SNR=18						
PFVI				S	**Sn**	**02 17 57.2**	**-0.1**
	62nm,0.1s,SNR=13						
PFVI	**Vila Bisbo**	**0.98**	**57**	P	**Pn**	**02 17 46.9**	**+2.3**
	SNR=33						
PFVI				S	**Sn**	**02 17 58.8**	**+1.6**
PFVI	**Vila Bisbo**	**0.98**	**57**	⇑*i*P	**Pn**	**02 17 46.5**	**+1.9**
PFVI				*e*S	**Sn**	**02 17 57.7**	**+0.5**
PFVI				A	A	02 17 58.2	
	62nm,0.1s						
MORF	**Marmelete**	**1.19**	**53**	*e*P	**Pn**	**02 17 49.4**	**+1.9**
MORF				*e*S	**Sn**	**02 18 02.6**	**0.0**
MORF				AML	AML	02 18 03.6	
	comp=N,111nm,0.1s						
MORF	**Marmelete**	**1.19**	**53**	P	**Pn**	**02 17 49.4**	**+1.9**
MORF				S	**Sn**	**02 18 02.9**	**+0.3**
	comp=N,56nm,0.1s						
MORF	**Marmelete**	**1.19**	**53**	⇑*e*P	**Pn**	**02 17 49.4**	**+1.9**
MORF				*e*S	**Sn**	**02 18 02.9**	**+0.3**
MORF				A	A	02 18 03.8	
	comp=N,56nm,0.1s						
PTEO	**Sao Teotonio**	**1.31**	**43**	P	**Pn**	**02 17 50.9**	**+1.8**
PTEO				S	**Sn**	**02 18 05.8**	**+0.6**
	comp=N,14nm,0.4s						
PTEO	**Sao Teotonio**	**1.31**	**43**	⇑*e*P	**Pn**	**02 17 50.9**	**+1.8**
PTEO				*e*S	**Sn**	**02 18 05.8**	**+0.6**
PTEO				A	A	02 18 06.3	
	comp=N,27nm,0.4s						
PBDV	**Barranco-do-Ve**	**1.67**	**67**	P	**Pn**	**02 17 56.1**	**+2.0**
PBDV				S	**Sn**	**02 18 14.4**	**+0.2**
	comp=N,19nm,0.2s						
PBDV	**Barranco-do-Ve**	**1.67**	**67**	⇑*i*P	**Pn**	**02 17 56.1**	**+2.0**
PBDV				*e*S	**Sn**	**02 18 14.4**	**+0.2**
PBDV				A	A	02 18 17.9	
	comp=N,19nm,0.2s						
PCVE	**Castro Verde**	**1.78**	**54**	P	**Pn**	**02 17 57.7**	**+2.1**
PCVE				S	**Sn**	**02 18 17.7**	**+0.8**
	comp=N,20nm,0.4s						
PCVE	**Castro Verde**	**1.78**	**54**	⇑*e*Pn	**Pn**	**02 17 57.7**	**+2.1**
PCVE				*e*Sn	**Sn**	**02 18 17.7**	**+0.8**
PCVE				A	A	02 18 19.0	
	comp=N,20nm,0.4s						
MESJ	**Messejana**	**1.80**	**46**	*e*P	**Pn**	**02 17 57.6**	**+1.8**
MESJ				*e*S	**Sn**	**02 18 17.1**	**-0.3**
MESJ				AML	AML	02 18 19.3	
	comp=N,23nm,0.2s						
MESJ	**Messejana**	**1.80**	**46**	P	**Pn**	**02 17 57.6**	**+1.8**
MESJ				S	**Sn**	**02 18 17.4**	**0.0**
	comp=N,14nm,0.6s						
MESJ	**Messejana**	**1.80**	**46**	⇑*e*Pn	**Pn**	**02 17 57.6**	**+1.8**
MESJ				*e*Sn	**Sn**	**02 18 17.4**	**0.0**
MESJ				A	A	02 18 26.5	
	comp=N,14nm,0.6s						
PNCL	**Nicolau / Gran**	**1.84**	**35**	P	**Pn**	**02 17 58.2**	**+1.8**
PNCL				S	**Sn**	**02 18 18.5**	**+0.1**
	comp=N,21nm,0.2s						
PNCL	**Nicolau / Gran**	**1.84**	**35**	⇑*e*Pn	**Pn**	**02 17 58.2**	**+1.8**
PNCL				*e*Sn	**Sn**	**02 18 18.5**	**+0.1**
PNCL				A	A	02 18 21.5	
	comp=N,21nm,0.2s						
PVAQ	**Vaqueiros**	**1.89**	**64**	P	**Pn**	**02 17 59.0**	**+1.9**
PVAQ				S	**Sn**	**02 18 19.5**	**-0.1**
	comp=N,19nm,0.1s						
PVAQ	**Vaqueiros**	**1.89**	**64**	P	**Pn**	**02 17 58.9**	**+1.9**
	SNR=74						
PVAQ				S	**Sn**	**02 18 21.0**	**+1.4**
PVAQ	**Vaqueiros**	**1.89**	**64**	⇑*i*Pn	**Pn**	**02 17 59.0**	**+1.9**
PVAQ				*e*Sn	**Sn**	**02 18 19.5**	**-0.1**
PVAQ				A	A

PMTG					A	A	02 18 42.5		
	comp=N,14nm,0.1s								
EMIN	**Mina Concepcio**	**2.79**	**64**	⇓P	**Pn**	**02 18 11.0**	**+1.5**		
	comp=N,1.1nm,0.1s,SNR=18								
EMIN				S	**Sn**	**02 18 41.3**	**-0.7**		
	comp=N,5.0nm,0.1s,SNR=16								
PSBE	**So Bento**	**3.03**	**16**	*e*Pn	**Pn**	**02 18 14.7**	**+1.9**		
PSBE				*e*Sn	**Sn**	**02 18 47.1**	**-0.7**		
PSBE				A	A	02 18 48.9			
	comp=N,8.5nm,0.5s								
EBAD	**Badajoz**	**3.12**	**45**	⇑P	**Pn**	**02 18 15.1**	**+1.2**		
	comp=N,3.2nm,0.1s,SNR=18								
EBAD				S	**Sn**	**02 18 48.7**	**-1.2**		
	comp=N,8.6nm,0.1s,SNR=12								
ESPR	**Espera**	**3.22**	**84**	⇑P	**Pn**	**02 18 17.5**	**+2.1**		
	comp=N,3.7nm,0.1s,SNR=18								
ESPR				S	**Sn**	**02 18 51.9**	**-0.6**		
	comp=N,44nm,0.2s,SNR=12								
PMRV	**Marv??o**	**3.43**	**34**	P	**Pn**	**02 18 19.9**	**+1.6**		
PMRV				S	**Sn**	**02 18 55.9**	**-1.7**		
	comp=N,8.2nm,0.5s								
PMRV	**Marv??o**	**3.43**	**34**	*e*Pn	**Pn**	**02 18 19.9**	**+1.6**		
PMRV				*e*Sn	**Sn**	**02 18 55.9**	**-1.7**		
PMRV				A	A	02 18 58.1			
	comp=N,8.2nm,0.5s								
PCAS	**Casmilo, Conde**	**3.61**	**17**	P	**Pn**	**02 18 18.6**	**-2.1**		
PCAS				S	**Sn**	**02 18 56.9**	**-5.2**		
	comp=N,4.4nm,0.3s								
PCAS	**Casmilo, Conde**	**3.61**	**17**	*e*Pn	**Pn**	**02 18 18.6**	**-2.1**		
PCAS				*e*Sn	**Sn**	**02 18 56.9**	**-5.2**		
PCAS				A	A	02 19 00.7			
	comp=N,4.4nm,0.3s								
PCBR	**Castelo Branco**	**3.74**	**29**	P	**Pn**	**02 18 24.4**	**+1.9**		
PCBR				S	**Sn**	**02 19 03.8**	**-1.4**		
	comp=N,1.3nm,0.4s								
PCBR	**Castelo Branco**	**3.74**	**29**	*e*Pn	**Pn**	**02 18 24.4**	**+1.9**		
PCBR				*e*Sn	**Sn**	**02 19 03.8**	**-1.4**		
PCBR				A	A	02 19 09.9			
	comp=N,2.6nm,0.4s								
COI	**Coimbra**	**3.78**	**17**	S	**Sn**	**02 19 05.9**	**-0.3**		
	comp=N,5.4nm,0.1s								
COI	**Coimbra**	**3.78**	**17**	*e*Sn	**Sn**	**02 19 05.9**	**-0.3**		
COI				A	A	02 19 07.4			
	comp=N,11nm,0.1s								
ECAB	**El Cabril**	**3.83**	**66**	P	**Pn**	**02 18 25.6**	**+1.8**		
	comp=N,1.1nm,0.1s,SNR=22								
ECAB				S	**Sn**	**02 19 05.9**	**-1.6**		
	comp=N,7.1nm,0.2s								
HORN	**Hornachuelos**	**3.87**	**70**	P	**Pn**	**02 18 26.1**	**+1.8**		
	SNR=21								
HORN				S	**Sn**	**02 19 08.0**	**-0.6**		
CHEFC	**Chefchaouen**	**3.96**	**111**	S	**Sn**	**02 19 07.6**	**-3.1**		
EMIJ	**Mijas**	**4.09**	**89**	P	**Pn**	**02 18 28.7**	**+1.4**		
	comp=N,0.2nm,0.1s,SNR=7.9								
EMIJ				S	**Sn**	**02 19 14.0**	**+0.1**		
	comp=N,2.7nm,0.2s,SNR=5.7								
EMAL	**Malaga-Limoner**	**4.36**	**86**	*e*S	**Sn**	**02 19 12.5**	**-8.1**		
PVIS	**Viseu**	**4.39**	**20**	P	**Pn**	**02 18 33.6**	**+2.1**		
PVIS				S	**Sn**	**02 19 20.3**	**-1.0**		
	comp=N,4.6nm,0.3s								
PVIS	**Viseu**	**4.39**	**20**	*e*Pn	**Pn**	**02 18 33.6**	**+2.1**		
PVIS				*e*Sn	**Sn**	**02 19 20.3**	**-1.0**		
PVIS				A	A	02 19 23.4			
	comp=N,9.2nm,0.3s								
EADA	**Adamuz**	**4.48**	**68**	P	**Pn**	**02 18 34.6**	**+1.8**		
	comp=N,0.9nm,0.1s,SNR=7.9								
EADA				S	**Sn**	**02 19 21.2**	**-2.5**		
	comp=N,2.9nm,0.1s,SNR=7.9								
EPLA	**Plasencia**	**4.56**	**39**	P	**Pn**	**02 18 35.0**	**+1.3**		
	comp=N,0.6nm,0.1s,SNR=10								
EPLA				S	**Sn**	**02 19 23.9**	**-1.6**		
	comp=N,8.4nm,0.2s,SNR=10								
EGOR	**Sierra Gorda,**	**4.63**	**82**	P	**Pn**	**02 18 37.7**	**+2.8**		
	comp=N,0.3nm,0.2s,SNR=7.9								
EGOR				S	**Sn**	**02 19 27.3**	**-0.3**		
	comp=N,5.1nm,0.3s,SNR=7.9								
PTO	**Porto**	**4.64**	**12**	S	**Sn**	**02 19 26.3**	**-1.0**		
	comp=N,5.4nm,0.1s								
PTO	**Porto**	**4.64**	**12**	*e*Sn	**Sn**	**02 19 26.3**	**-1.0**		
PTO				A	A	02 19 30.4			
	comp=N,11nm,0.1s								
IFR	**Ifrane**	**4.95**	**127**	*e*P	**Pn**	**02 18 40.1**	**+0.8**		
IFR				*e*S	**Sn**	**02 19 32.3**	**-3.1**		
PVRL	**Vila Real**	**4.96**	**19**	P	**Pn**	**02 18 41.6**	**+2.3**		
PVRL				S	**Sn**	**02 19 32.1**	**-3.3**		
	comp=N,5.6nm,0.1s								
PVRL	**Vila Real**	**4.96**	**19**	*e*Pn	**Pn**	**02 18 41.6**	**+2.3**		
PVRL				*e*Sn	**Sn**	**02 19 32.1**	**-3.3**		
PVRL				A	A	02 19 36.3			
	comp=N,11nm,0.1s								
PALE	**Palemas**	**4.99**	**104**	P	**Pn**	**02 18 39.9**	**+0.1**		
PALE				S	**Sn**	**02 19 34.0**	**-2.3**		
ELGU	**Los Guajares,**	**5.01**	**85**	P	**Pn**	**02 18 43.9**	**+3.9**		
	comp=N,0.2nm,0.1s,SNR=7.9								
ELGU				S	**Sn**	**02 19 37.4**	**+0.7**		
	comp=N,4.4nm,0.2s,SNR=7.9								
MVO	**Moncorvo**	**5.06**	**25**	⇑P	**Pn**	**02 18 42.3**	**+1.5**		
	comp=N,0.5nm,0.1s,SNR=18								
MVO				S	**Sn**	**02 19 35.0**	**-3.0**		
	comp=N,2.2nm,0.1s,SNR=7.0								
MVO	**Moncorvo**	**5.06**	**25**	⇑*e*Pn	**Pn**	**02 18 42.3**	**+1.5**		
MVO				*e*Sn	**Sn**	**02 19 35.2**	**-2.8**		
MVO				A	A	02 19 39.7			
	comp=N,3.4nm,0.3s								
EQUE	**Quentar**	**5.17**	**81**	P	**Pn**	**02 18 46.4**	**+4.1**		
	comp=N,0.1nm,0.1s,SNR=7.9								
EQUE				S	**Sn**	**02 19 40.0**	**-0.8**		
	comp=N,0.7nm,0.1s,SNR=7.9								
PAB	**San Pablo**	**5.25**	**54**	P	**Pn**	**02 18 44.5**	**+1.2**		
	comp=N,1.0nm,0.1s,SNR=7.9								
PAB				S	**Sn**	**02 19 39.2**	**-3.3**		
	comp=N,1.5nm,0.1s,SNR=7.9								
PCAB	**Cabril**	**5.30**	**15**	P	**Pn**	**02 18 45.6**	**+1.7**		
PCAB				S	**Sn**	**02 19 41.4**	**-2.3**		
	comp=N,2.0nm,0.2s								
PCAB	**Cabril**	**5.30**	**15**	*e*Pn	**Pn**	**02 18 45.6**	**+1.7**		
PCAB				*e*Sn	**Sn**	**02 19 41.4**	**-2.3**		
PCAB				A	A	02 19 43.8			
	comp=N,4.0nm,0.2s								
AKLM	**AKL**	**5.31**	**111**	S	**Sn**	**02 19 43.7**	**-0.4**		
CZD	**Col de Zad**	**5.32**	**131**	P	**Pn**	**02 18 46.0**	**+1.5**		
CZD				S	**Sn**	**02 19 43.2**	**-1.5**		
ELOB	**Lobios**	**5.44**	**14**	P	**Pn**	**02 18 47.5**	**+1.5**		
	comp=N,0.1nm,0.0s,SNR=7.9								
ELOB				S	**Sn**	**02 19 43.2**	**-4.1**		
	comp=N,1.7nm,0.1s,SNR=7.9								
PGAV	**Gavieira, Arco**	**5.50**	**12**	P	**Pn**	**02 18 48.3**	**+1.5**		
PGAV				S	**Sn**	**02 19 45.7**	**-3.0**		
	comp=N,3.3nm,0.7s								
PGAV	**Gavieira, Arco**	**5.50**	**12**	*e*Pn	**Pn**	**02 18 48.3**	**+1.5**		
PGAV				*e*Sn	**Sn**	**02 19 45.7**	**-3.0**		
PGAV				A	A	02 19 46.9			
	comp=N,3.3nm,0.7s								
GORA	**Gorafe**	**5.52**	**79**	S	**Sn**	**02 19 48.7**	**-0.6**		
	comp=N,4.5nm,0.2s,SNR=7.9								
EQES	**Quesada**	**5.54**	**75**	P	**Pn**	**02 18 49.1**	**+1.7**		
	comp=N,0.1nm,0.1s,SNR=8.6								
EQES				S	**Sn**	**02 19 47.9**	**-2.0**		
	comp=N,2.5nm,0.1s,SNR=7.9								
ESDC	**Sonseca Array**	**5.56**	**55**	P	**Pn**	**02 18 49.1**	**+1.5**		
	comp=N,1.1nm,0.1s,baz=241,slow=13,SNR=51								
ESDC				S	**Sn**	**02 19 48.7**	**-1.6**		
	comp=N,1.5nm,0.5s,baz=241,slow=23,SNR=25								
EBER	**Berja**	**5.60**	**85**	S	**Sn**	**02 19 52.3**	**+0.9**		
	comp=N,2.8nm,0.3s,SNR=7.9								
MD31	**MD31**	**5.61**	**130**	P	**Pn**	**02 18 50.9**	**+2.7**		
MD31				S	**Sn**	**02 19 49.6**	**-1.9**		
EZAM	**Zamans**	**5.62**	**9**	S	**Sn**	**02 19 48.6**	**-2.9**		
	comp=N,0.6nm,0.1s,SNR=4.0								
OUK	**Oukaimeden**	**5.63**	**162**	P	**Pn**	**02 18 49.8**	**+1.1**		
OUK				S	**Sn**	**02 19 50.5**	**-1.8**		
PBRG	**Braganca**	**5.73**	**24**	P	**Pn**	**02 18 51.4**	**+1.5**		
PBRG				S	**Sn**	**02 19 51.1**	**-3.3**		
	comp=N,1.2nm,0.1s								
PBRG	**Braganca**	**5.73**	**24**	*e*Pn	**Pn**	**02 18 51.4**	**+1.5**		
PBRG				*e*Sn	**Sn**	**02 19 51.1**	**-3.3**		
PBRG				A	A	02 19 54.4			
	comp=N,2.4nm,0.1s								
MDT	**Midelt**	**5.74**	**130**	P	**Pn**	**02 18 51.4**	**+1.3**		
MDT				S	**Sn**	**02 19 52.8**	**-1.9**		
ECAL	**Calabor**	**5.86**	**23**	P	**Pn**	**02 18 52.9**	**+1.2**		
	comp=N,0.6nm,0.2s,SNR=7.9								
ECAL				S	**Sn**	**02 19 55.0**	**-2.6**		
	comp=N,4.5nm,0.3s,SNR=7.9								
SESP	**Santiago Espad**	**6.01**	**73**	P	**Pn**	**02 18 55.3**	**+1.4**		
	comp=N,0.7nm,0.2s,SNR=7.9								
SESP				S	**Sn**	**02 19 59.0**	**-2.6**		
	comp=N,5.2nm,0.2s,SNR=7.9								
GUD	**Guadarrama**	**6.02**	**46**	⇓P	**Pn**	**02 18 55.4**	**+1.5**		
	comp=N,0.2nm,0.1s,SNR=18								
GUD				S	**Sn**	**02 19 58.7**	**-2.9**		
	comp=N,2.2nm,0.3s								
TTIG	**Tnine Tigouga,**	**6.15**	**169**	P	**Pn**	**02 18 57.4**	**+1.6**		
	SNR=100								
OUZM	**OUZ**	**6.23**	**155**	P	**Pn**	**02 18 58.8**	**+1.9**		
OUZM				S	**Sn**	**02 20 05.1**	**-1.8**		
JBK	**JBK**	**6.36**	**109**	P	**Pn**	**02 18 58.3**	**-0.4**		
JBK				S	**Sn**	**02 20 06.8**	**-3.4**		
UCM	**Universidad Co**	**6.37**	**52**	*e*P	**Pn**	**02 19 00.7**	**+2.0**		
UCM				*e*S	**Sn**	**02 20 07.1**	**-3.1**		
EMAZ	**Mazaricos**	**6.38**	**6**	P	**Pn**	**02 18 59.4**	**+0.6**		
	comp=N,0.4nm,0.1s,SNR=7.9								
EMAZ				S	**Sn**	**02 20 04.0**	**-6.3**		
	comp=N,1.6nm,0.1s,SNR=7.9								
ETOB	**Tobarra**	**6.90**	**70**	P	**Pn**	**02 19 07.4**	**+1.4**		
	comp=N,0.2nm,0.2s,SNR=7.9								
ETOB				S	**Sn**	**02 20 19.2**	**-4.0**		
	comp=N,1.0nm,0.1s,SNR=7.9								
EPON	**Pontenova**	**7.03**	**16**	S	**Sn**	**02 20 22.5**	**-3.9**		
	comp=N,0.3nm,0.1s,SNR=7.9								
TDRA	**Tendrara**	**7.35**	**117**	P	**Pn**	**02 19 10.9**	**-1.4**		
TDRA				S	**Sn**	**02 20 29.5**	**-5.0**		
ETOR	**Torete**	**7.41**	**53**	P	**Pn**	**02 19 14.7**	**+1.7**		
	comp=N,6.1nm,0.2s,SNR=10								
ETOR				S	**Sn**	**02 20 30.5**	**-5.3**		
	comp=N,12nm,0.4s,SNR=7.9								
EARI	**Arriondas**	**7.58**	**27**	P	**Pn**	**02 19 16.6**	**+1.3**		
	comp=N,0.7nm,0.3s,SNR=7.9								
EARI				S	**Sn**	**02 20 36.8**	**-3.2**		
	comp=N,0.2nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**8.26**	**60**	P	**Pn**	**02 19 27.8**	**+3.1**		
	comp=N,0.2nm,0.2s,SNR=7.9								
EMOS				S	**Sn**	**02 20 54.2**	**-2.7**		
	comp=N,0.7nm,0.1s,SNR=7.9								

IDC 27 02:23:16.4±3.1, 30°47'S×177°35'W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/23, mbtmp3.7/2, Error ellipse: s-maj=64.9km s-min=29.2km az=91.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.31**	**338**	Pn		Pn	Pn	02 23 42.6	+0.6
	203nm,0.3s,baz=170,slow=22,SNR=6.2								
RAO				Sn		Sn	Sn	02 24 00.3	+0.1
	277nm,0.3s,baz=94,slow=22,SNR=6.2								
ASAR	**Alice Springs**	**43.67**	**267**	P		P	P	02 31 23.2	+0.1
	0.3nm,0.4s,baz=105,slow=7.2,SNR=2.4								
WRA	**Warramunga Arr**	**44.66**	**272**	P		P	P	02 31 30.8	-0.4
	1.7nm,0.7s,baz=110,slow=8.1,SNR=5.1								
FINES	**FINESS Array B**	**145.41**	**340**	PKPbc		PKPbc	PKPbc	02 42 54.4	-1.1
	0.9nm,0.8s,baz=60,slow=4.6,SNR=4.6								

TIF 27 02:46:40.6, 42°.46N×44°.55E, h15km±1km
NORS 27 02:46:40.3±0.0, 42°.44N×44°.45E, h15km, MPVA3.6
DDA 27 02:46:40.6, 42°.44N×44°.51E, h7km±2km, ML2.1
ISC 27 02:46:41.4±1.0, 42°.45N±0°.02×44°.47E±0°.02, h10km±8km, n27, σ1s26/56, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PNSH	**Pansheti**	**0.22**	**30**	P		**Pg**	**Pg**	**02 46 45.1**	**-1.0**
PNSH				S		**Sg**	**Sg**	**02 46 48.4**	**-0.9**
LACR	**Lac**	**0.40**	**342**	*i* Pg		**Pg**	**Pg**	**02 46 49.1**	**-0.3**
LACR				*e*Sg		**Sg**	**Sg**	**02 46 55.2**	**+0.5**
ZEI	**Tsey**	**0.54**	**309**	*i* Pg		**Pg**	**Pg**	**02 46 52.3**	**+0.3**
ZEI				*e*Sg		**Sg**	**Sb**	**02 47 00.1**	**-0.9**
VLKR	**Vladikavkaz**	**0.62**	**14**	*e*Pg		**Pb**	**Pb**	**02 46 54.0**	**-0.4**
VLKR				*e*Pg		**Pg**	**Pg**	**02 46 54.1**	**+0.7**
VLKR				*e*Sg		**Sb**	**Sb**	**02 47 04.2**	**+1.0**
VLKR				*e*Sg		**Sn**	**Sn**	**02 47 04.4**	**-2.0**
KMGR	**Komgaron**	**0.68**	**26**	*e*Pg		**Pb**	**Pb**	**02 46 55.0**	**-0.3**
KMGR				*e*Sg		**Sn**	**Sn**	**02 47 06.6**	**-1.2**
KORR	**Kora**	**0.70**	**335**	*e*Pg		**Pb**	**Pb**	**02 46 56.1**	**+0.3**
KORR				*e*Sg		**Sn**	**Sn**	**02 47 07.4**	**-1.0**
ARNR	**Ardon**	**0.74**	**350**	*e*Pg		**Pn**	**Pn**	**02 46 57.3**	**-0.8**
ARNR				*e*Sg		**Sn**	**Sn**	**02 47 09.1**	**-0.3**
TBLG	**Delisi**	**0.74**	**164**	P		**Pg**	**Pg**	**02 46 55.3**	**-0.5**
TBLG				S		**Sb**	**Sb**	**02 47 06.5**	**-0.2**
TBLG	**Delisi**	**0.74**	**164**	*i* P		**Pg**	**Pg**	**02 46 55.3**	**-0.5**
TBLG				*i* S		**Sb**	**Sb**	**02 47 06.3**	**-0.4**
ONI	**Oni**	**0.76**	**281**	P		**Pb**	**Pb**	**02 46 56.8**	**-0.1**
ONI				S		**Sn**	**Sn**	**02 47 09.0**	**-0.9**
ONI	**Oni**	**0.76**	**281**	*e*Pg		**Pb**	**Pb**	**02 46 56.9**	**0.0**
ONI				*e*Sg		**Sn**	**Sn**	**02 47 09.3**	**-0.7**
DIGR	**Digorskoe uzhe**	**0.80**	**305**	*e*Pg		**Pb**	**Pb**	**02 46 57.0**	**-0.5**
DIGR				*e*Sg		**Sb**	**Sb**	**02 47 09.0**	**+0.6**
BTNK	**Botanikuri**	**0.80**	**162**	P		**Pb**	**Pb**	**02 46 56.9**	**-0.6**
BTNK				S		**Sb**	**Sb**	**02 47 08.6**	**+0.2**
BTNK	**Botanikuri**	**0.80**	**162**	*i* P		**Pg**	**Pg**	**02 46 56.3**	**-0.6**
BTNK				IAML				02 47 08.0	
	comp=N,112nm,0.1s								
BTNK				IAML				02 47 08.0	
	comp=E,67nm,0.1s								
BTNK				*i* S		**Sb**	**Sb**	**02 47 08.7**	**+0.2**
BTKR	**Batakoyurt**	**0.93**	**3**	*e*Pg		**Pn**	**Pn**	**02 47 00.6**	**+0.1**
BTKR				*e*Sg		**Sn**	**Sn**	**02 47 15.4**	**+1.5**
LSNR	**Lesken**	**0.95**	**331**	*e*Pg		**Pn**	**Pn**	**02 47 00.4**	**-0.6**
LSNR				*e*Sg		**Sn**	**Sn**	**02 47 15.3**	**+0.6**
BKRG	**Bakuriani**	**0.98**	**226**	P		**Pb**	**Pb**	**02 47 00.4**	**-0.3**
BKRG				S		**Sn**	**Sn**	**02 47 15.1**	**-0.4**
KZRT	**Kazreti**	**1.06**	**183**	P		**Pb**	**Pb**	**02 47 00.8**	**-1.1**
KZRT				S		**Sn**	**Sn**	**02 47 16.0**	**-1.2**
KZRT	**Kazreti**	**1.06**	**183**	*i* P		**Pb**	**Pb**	**02 47 00.8**	**-1.1**
KZRT				*i* S		**Sn**	**Sn**	**02 47 16.0**	**-1.2**
TKB	**Tkibuli**	**1.09**	**265**	P		**Pn**	**Pn**	**02 47 03.3**	**+0.4**
TKB				S		**Sn**	**Sn**	**02 47 19.2**	**+1.1**
GROC	**Groznyy**	**1.23**	**52**	*e*Pg		**Pg**	**Pg**	**02 47 04.9**	**-0.3**
GROC				*e*Sg		**Sg**	**Sg**	**02 47 23.3**	**+2.1**
AKH	**Akhalkalaki**	**1.27**	**215**	P		**Pg**	**Pg**	**02 47 05.4**	**-0.3**
AKH				S		**Sg**	**Sg**	**02 47 23.6**	**+1.4**
LGD	**Lagodekhi**	**1.46**	**114**	P		**Pn**	**Pn**	**02 47 07.1**	**-0.7**
LGD				S		**Sg**	**Sg**	**02 47 27.2**	**-1.0**
NEY	**Neytrino**	**1.51**	**303**	*e*Pg		**Pg**	**Pg**	**02 47 10.2**	**-0.3**
NEY				*e*Sg		**Sg**	**Sg**	**02 47 30.5**	**+0.3**
DDFL	**Dedoflistskaro**	**1.59**	**129**	P		**Pg**	**Pg**	**02 47 11.8**	**-0.1**
DDFL				S		**Sg**	**Sg**	**02 47 37.1**	**+4.6**
DDFL	**Dedoflistskaro**	**1.59**	**129**	*i* P		**Pg**	**Pg**	**02 47 12.0**	**+0.1**
DDFL				*i* S		**Sg**	**Sg**	**02 47 37.5**	**+5.0**
EPOS	**Posof**	**1.60**	**235**	*i* P		**Pg**	**Pg**	**02 47 11.8**	**-0.5**
EPOS				*i* S		**Sg**	**Sg**	**02 47 34.6**	**+1.5**
EPOS				IAML				02 47 36.0	
	comp=N,14nm,0.8s								
EPOS				IAML				02 47 36.0	
	comp=E,21nm,0.7s								

JMA 27 02:50:31.6±0.2, 37°.70N×142°.62E, h12km±2km, M3.7, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**1.10**	**304**	P		P	Pb	02 50 51.9	-0.6
JIKH				S		S	Sb	02 51 06.1	-0.7
JIO	**Ouri**	**1.25**	**307**	P		P	Pn	02 50 54.3	-0.6
JIO				S		S	Sb	02 51 10.5	-0.8
JMST	**Minamisoumatoc**	**1.37**	**272**	P		P	Pn	02 50 56.0	-0.6
JFK	**Kawauchi**	**1.43**	**257**	P		P	Pn	02 50 57.1	-0.3
JKMT	**Kesennumamotoy**	**1.43**	**321**	P		P	Pn	02 50 57.1	-0.3
JKMT				S		S	Sn	02 51 14.8	-1.3
JMM	**Marumori**	**1.46**	**277**	P		P	Pn	02 50 57.3	-0.4
JMK	**Ichinoseki**	**1.67**	**319**	P		P	Pn	02 51 01.1	+0.5
JMK				S		S	Sb	02 51 23.0	-0.1
JOU	**Okura**	**1.68**	**294**	P		P	Pn	02 51 01.2	+0.4
JFT	**Otama**	**1.82**	**265**	P		P	Pn	02 51 03.8	+1.0
JFT				*e*S		S	Sb	02 51 28.4	+0.7
JOM	**Ohasama**	**2.05**	**330**	P		P	Pn	02 51 07.0	+1.1
JOM				*e*S		S	Sn	02 51 32.4	+0.9
JYK	**Kaneyama**	**2.15**	**305**	P		P	Pn	02 51 08.0	+0.7
JANG	**Nango**	**2.81**	**342**	P		P	Pn	02 51 18.2	+1.9
MAT	**Matsushiro**	**3.71**	**253**	P		P	Pb	02 51 33.5	-3.6
MAT				*e*S		S	Sn	02 52 12.9	+0.5

IDC 27 02:59:58.1±1.1, 12°.78N×87°.58W, h0km, mb3.8/9, mb1 4.1/9, mb1mx3.8/35, mbtmp3.8/9, MS2.0/1, Ms1 2.0/1, ms1mx2.0/37, Error ellipse: s-maj=44.4km s-min=12.6km az=53.0
NEIC 27 03:00:06.7±1.2, 12°.51N±0°.05×87°.82W±0°.04, h71km±9km, mb4.2/40, Md3.9(SNET), Error ellipse: s-maj=8.0km s-min=4.9km az=165.0
SNET 27 03:00:07.7±0.9, 12°.50N×87°.91W, h28km±4km, ML3.9
UCR 27 03:00:07.6±1.7, 12°.49N×87°.86W, h35km±6km, ML3.9, mb4.2(NEIC)
INET 27 03:00:08.1, 12°.54N×87°.72W, h16km, MD2.4, ML4.0
ISC 27 03:00:07.0±0.9, 12°.58N±0°.06×87°.79W±0°.05, h75km±8km, n74, σ0s92/84, mb4.1/19, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**0.73**	**80**	Pn		Pn	**Pn**	**03 00 22.4**	**-0.3**
LCND	**La Caada**	**0.73**	**352**	*i* P		Pn	**Pn**	**03 00 22.6**	**-0.1**
LCND				*e*S		Sn	**Sn**	**03 00 34.7**	**+0.5**
LCND				IAML				03 00 36.2	
	comp=Z,13µm,0.3s								
LCND	**La Caada**	**0.73**	**352**	*i* P		Pn	**Pn**	**03 00 22.6**	**-0.1**
LCND				*e*S		Sn	**Sn**	**03 00 34.7**	**+0.5**
LCND				IAML				03 00 36.2	
	comp=Z,13µm,0.3s								
JUCU	**Jucuarįn**	**0.81**	**326**	*e*P		Pn	**Pn**	**03 00 22.9**	**-0.7**
JUCU				*e*S		Sn	**Sn**	**03 00 34.9**	**-0.9**
JUCU				IAML				03 00 36.2	
	comp=Z,8µm,0.2s								
JUCU	**Jucuarįn**	**0.81**	**326**	*e*P		Pn	**Pn**	**03 00 22.9**	**-0.7**
JUCU				*e*S		Sn	**Sn**	**03 00 34.9**	**-0.9**
JUCU				IAML				03 00 36.2	
	comp=Z,8µm,0.2s								
ALJI	**Alcalda de J**	**1.06**	**314**	*e*P		Pn	**Pn**	**03 00 26.3**	**-0.2**
ALJI				*e*S		Sn	**Sn**	**03 00 41.2**	**+0.1**
ALJI				IAML				03 00 46.6	
	comp=Z,3µm,0.2s								
ALJI	**Alcalda de J**	**1.06**	**314**	*e*P		Pn	**Pn**	**03 00 26.3**	**-0.2**
ALJI				*e*S		Sn	**Sn**	**03 00 41.2**	**+0.1**
ALJI				IAML				03 00 46.6	
	comp=Z,3µm,0.2s								
FAGO	**Alcalda de S**	**1.15**	**344**	*i* P		Pn	**Pn**	**03 00 27.9**	**+0.3**
FAGO				*e*S		Sn	**Sn**	**03 00 45.1**	**+2.0**
FAGO				IAML				03 00 46.0	
	comp=Z,1µm,0.4s								
FAGO	**Alcalda de S**	**1.15**	**344**	*i* P		Pn	**Pn**	**03 00 27.9**	**+0.3**
FAGO				*e*S		Sn	**Sn**	**03 00 45.1**	**+2.0**
FAGO				IAML				03 00 46.0	
	comp=Z,1µm,0.4s								
TGUH	**Tegucigalpa,Un**	**1.55**	**19**	Pn		Pn	**Pn**	**03 00 33.7**	**+0.7**
PAVA	**Las Pavas**	**1.59**	**315**	*e*P		Pn	**Pn**	**03 00 34.2**	**+0.8**
PAVA				*e*S		Sn	**Sn**	**03 00 54.2**	**+0.9**
PAVA	**Las Pavas**	**1.59**	**315**	*e*P		Pn	**Pn**	**03 00 34.2**	**+0.8**
PAVA				*e*S		Sn	**Sn**	**03 00 54.2**	**+0.9**
OPAM	**Oficina de Pla**	**1.77**	**310**	*e*P		Pn	**Pn**	**03 00 36.7**	**+0.9**
OPAM				*e*S		Sn	**Sn**	**03 00 58.1**	**+0.4**
OPAM	**Oficina de Pla**	**1.77**	**310**	*e*P		Pn	**Pn**	**03 00 36.7**	**+0.9**
OPAM				*e*S		Sn	**Sn**	**03 00 58.1**	**+0.4**
SNET	**Serv Nac Est T**	**1.79**	**308**			Pn	**Pn**	**03 00 34.9**	**-1.1**
UEES	**Universidad Ev**	**1.81**	**309**	*e*P		Pn	**Pn**	**03 00 37.0**	**+0.7**
UEES	**Universidad Ev**	**1.81**	**309**	*e*P		Pn

comp=Z,5.3nm,0.6s,baz=223,slow=5.7,SNR=19
SCHQ Schefferville 45.25 17 IAmb IAmb 03 08 16.5
comp=Z,5.2nm,0.7s
YKA Yellowknife Ar 53.40 345 P **P 03 09 17.4 -1.4**
comp=Z,0.5nm,0.6s,baz=156,slow=6.6,SNR=4.6
ILAR Eielson Array 65.77 336 P **P 03 10 42.5 -1.3**
comp=Z,0.3nm,0.5s,baz=102,slow=3.0,SNR=5.0

MAN 27 03:18:58.1, 13°.99N×122°.80E, h6km, mb4.1, ML2.9, MS2.6, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GQP	**Guinayangan**	**0.35**	**256**	⇑*iP*		Pg 03 19 05.4	+0.4
GQP				*i* S		Sg 03 19 10.2	+0.6
POLP	**Polilio Island**	**1.11**	**311**	*e*P		Pg 03 19 19.5	+0.1
POLP				*e*S		Sb 03 19 35.0	+0.6
LQP	**Lukban**	**1.23**	**276**	⇑*e*P		Pg 03 19 21.4	-0.3
LQP				*e*S		Sn 03 19 38.7	-0.3
PVCP	**Virac**	**1.38**	**107**	*e*P		Pn 03 19 23.4	-0.5
PVCP				*e*S		Sg 03 19 42.4	0.0
BALP	**Baler**	**2.10**	**326**	*e*P		Pg 03 19 37.9	-0.5
BALP				*e*S		Sg 03 20 04.7	-1.1
SMPP	**San Manuel, Pa**	**2.96**	**317**	*e*P		Pn 03 19 47.4	+1.6
SMPP				*e*S		Sn 03 20 21.1	-0.6

VAO ***27*** *03:26:18.4±1.4, 15°.72S×74°.92W, h80km±8km, mb4.2*
IDC ***27*** *03:26:21.7±1.9, 15°.71S×74°.30W, h57km±18km, mb3.9/10, mb1 4.1/14, mb1mx3.9/37, mbtmp4.2/14, ML3.7/4, MS3.0/1, Ms1 3.0/1, ms1mx2.7/21, Error ellipse: s-maj=23.4km s-min=12.3km az=55.0*
ARE ***27*** *03:26:22±2.2, 15°.82S±0°.09×74°.4W±0°.1, h58km±5km, ML4.4, mb4.5/31(NEIC), Error ellipse: s-maj=16.3km s-min=8.4km az=51.0*
NEIC ***27*** *03:26:22.8±1.5, 15°.82S±0°.09×74°.3W±0°.1, h71km±7km, Error ellipse: s-maj=17.9km s-min=10.1km az=51.0*
ISC 27 03:26:21.4±0.5, 15.79S±0.06×74.34W±0.07, h54km, n95, σ1$33/91, mb4.4/14, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**4.50**	**327**	P	**Pn**	**03 27 27.6**	**+0.6**
	12nm,0.3s,baz=153,slow=10,SNR=18						
NNA				S	**Sn**	**03 28 17.5**	**-0.6**
	29nm,0.3s,baz=358,slow=16,SNR=5.4						
NNA	**Nana**	**4.50**	**327**	Pn	**Pn**	**03 27 27.8**	**+0.8**
NNA				Sn	**Sn**	**03 28 18.5**	**+0.4**
PB12	**IPOC Station P**	**4.75**	**127**	Pn	**Pn**	**03 27 30.9**	**+0.3**
PSGCX	**Pisagua**	**5.52**	**134**		**Pn**	**03 27 40.9**	**-0.2**
MNMC	**Minye Minye**	**5.61**	**127**		**Pn**	**03 27 43.4**	**+0.9**
PB11	**IPOC Station P**	**5.96**	**132**	Pn	**Pn**	**03 27 47.8**	**+0.6**
LPAZ	**La Paz**	**5.99**	**96**	P	Pn	03 27 52.3	+4.3
	1.7nm,0.3s,baz=304,slow=8.5,SNR=57						
LPAZ	**La Paz**	**5.99**	**96**	Pn	**Pn**	**03 27 50.6**	**+2.6**
LPAZ	**La Paz**	**5.99**	**96**	*e*P	Pn	03 27 52.8	+4.8
LPAZ	**La Paz**	**5.99**	**96**	*e*P	Pn	03 27 52.8	+4.8
TA01	**Diego Aracena**	**6.18**	**141**		**Pn**	**03 27 51.1**	**+1.1**
GO01	**Chusmiza**	**6.24**	**129**		**Pn**	**03 27 53.4**	**+2.1**
PB08	**IPOC Station P**	**6.56**	**132**		**Pn**	**03 27 57.3**	**+1.6**
PB01	**IPOC Station P**	**6.96**	**139**		**Pn**	**03 28 02.2**	**+1.2**
PB07	**IPOC Station P**	**7.25**	**145**		**Pn**	**03 28 05.9**	**+0.9**
PB04	**IPOC Station P**	**7.62**	**149**		**Pn**	**03 28 10.6**	**+0.6**
PB09	**IPOC Station P**	**7.68**	**142**	Pn	**Pn**	**03 28 13.0**	**+2.2**
PB06	**IPOC Station P**	**8.22**	**148**		**Pn**	**03 28 19.0**	**+0.8**
PB10	**IPOC Station P**	**8.47**	**156**	Pn	**Pn**	**03 28 22.2**	**+0.8**
LVC	**Limon Verde**	**8.50**	**144**	P	**Pn**	**03 28 23.3**	**+1.0**
	5.6nm,0.3s,baz=314,slow=8.4,SNR=25						
LVC				S	**Sn**	**03 29 55.0**	**-2.0**
	4.0nm,0.3s,baz=282,slow=23,SNR=8.7						
LVC				LR	LR	03 31 22.2	
	comp=Z,101nm,20.5s,baz=316,slow=35						
LVC	**Limon Verde**	**8.50**	**144**	Pn	**Pn**	**03 28 23.8**	**+1.5**
LVC	**Limon Verde**	**8.50**	**144**	*e*P	**Pn**	**03 28 23.8**	**+1.5**
LVC	**Limon Verde**	**8.50**	**144**	*e*P	**Pn**	**03 28 23.8**	**+1.5**
PB15	**IPOC Station P**	**8.69**	**149**		**Pn**	**03 28 25.6**	**+0.9**
ATAH	**Atahualpa**	**9.47**	**335**	P	Pn	03 28 39.7	+4.1
	0.2nm,0.3s,baz=330,slow=20,SNR=1.2						
GO02	**Mina Guanaco**	**10.33**	**155**	Pn	**Pn**	**03 28 48.3**	**+1.0**
SIV	**San Ignacio**	**12.76**	**93**	P	**Pn**	**03 29 18.7**	**-1.5**
	0.1nm,0.3s,baz=285,slow=10,SNR=2.6						
CFA	**Coronel Fontan**	**16.70**	**162**	P	**P**	**03 30 12.5**	**-0.8**
	0.1nm,0.3s,baz=344,slow=15,SNR=3.4						
MACC	**Macarena, Meta**	**17.82**	**2**	*e*P	**P**	**03 30 24.8**	**-1.1**
BBAC	**Balboa, Cauca**	**17.93**	**351**	*e*P	**P**	**03 30 27.3**	**0.0**
MACA	**Manacapuru-AM**	**18.38**	**48**	*e*P	**Pn**	**03 30 31.3**	**-1.3**
MACA	**Manacapuru-AM**	**18.38**	**48**	*e*P	**Pn**	**03 30 31.3**	**-1.3**
CLDB	**Colider**	**18.68**	**77**	*e*P	**Pn**	**03 30 36.0**	**-0.2**
CLDB	**Colider**	**18.68**	**77**	*e*P	**Pn**	**03 30 36.0**	**-0.2**
GO05	**Huala**	**19.26**	**174**	P	**P**	**03 30 41.0**	**-0.5**
GO05				IAmb	IAmb	03 31 04.4	
	comp=Z,71nm,1.8s						
PRAC	**Prado**	**19.39**	**358**	*e*P	**Pn**	**03 30 48.6**	**+4.0**
ORTC	**Ortega, Tolima**	**19.59**	**357**	*e*P	**Pn**	**03 30 48.6**	**+1.5**
VILC	**Villavicencio,**	**19.78**	**2**	*e*P	**Pn**	**03 30 49.3**	**-0.1**
TOLC	**Tolima**	**20.27**	**357**	*e*P	Pn	03 30 56.5	+1.2
CHIC	**Chingaza**	**20.30**	**2**	*e*P	Pn	03 30 58.2	+2.5
NPGB	**Novo Progresso**	**20.51**	**67**	*e*P	**P**	**03 30 54.5**	**-0.8**
NPGB	**Novo Progresso**	**20.51**	**67**	*e*P	**P**	**03 30 54.5**	**-0.8**
RREF	**El Recreo**	**20.58**	**357**	*e*P	Pn	03 30 58.2	-1.1
PTGA	**Pitinga**	**20.61**	**45**	P	**Pn**	**03 30 55.8**	**-0.6**
	comp=Z,5.8nm,0.5s,baz=224,slow=13,SNR=15						
PTGA	**Pitinga**	**20.61**	**45**	P	Pn	03 30 55.9	-3.2
PTGA	**Pitinga**	**20.61**	**45**	*e*P	**P**	**03 30 55.7**	**-0.6**
PTGA	**Pitinga**	**20.61**	**45**	*e*P	**P**	**03 30 55.7**	**-0.6**
GUY2C	**Guyana, Caldas**	**20.90**	**357**	*e*P	Pn	03 31 01.8	-1.2
SPBC	**San Pablo de B**	**21.30**	**1**	*e*P	**P**	**03 31 03.5**	**-0.4**
CBOC	**Ciudad Bolivar**	**21.58**	**355**	*e*P	**P**	**03 31 07.0**	**+0.2**
RUSC	**La Rusia**	**21.58**	**3**	*e*P	**P**	**03 31 08.2**	**+1.1**
RUSC	**La Rusia**	**21.58**	**3**	P	**P**	**03 31 07.9**	**+0.7**
ARAG	**Araguaiana, MT**	**21.68**	**93**	*e*P	**P**	**03 31 09.3**	**+1.5**
ARAG	**Araguaiana, MT**	**21.68**	**93**	*e*P	**P**	**03 31 09.3**	**+1.5**
HELC	**Santa Helena**	**21.87**	**357**	*e*P	**P**	**03 31 11.4**	**+1.2**
PTBC	**PUERTO BERRIO,**	**22.18**	**360**	*e*P	**P**	**03 31 13.0**	**-0.2**
BARC	**Barichara**	**22.27**	**3**	*e*P	**P**	**03 31 08.8**	**-5.5**
DBBC	**Dabeiba**	**22.73**	**355**	*e*P	**P**	**03 31 20.2**	**+1.1**
LC01	**Cunco**	**23.12**	**175**	P	**P**	**03 31 25.0**	**+2.2**
LC01				IAmb	IAmb	03 31 27.3	
	comp=Z,15nm,0.9s						
SOCV	**Socops**	**24.16**	**8**	*e*P	**P**	**03 31 31.3**	**-1.4**
SDV	**Santo Domingo**	**24.79**	**9**	P	**P**	**03 31 38.9**	**+0.3**
	comp=Z,4.8nm,0.2s,baz=212,slow=7.7,SNR=4.3						
SDV	**Santo Domingo**	**24.79**	**9**	P	**P**	**03 31 38.8**	**+0.2**
SDV				IAmb	IAmb	03 31 42.1	
	comp=Z,15nm,1.1s						
PLCA	**Paso Flores**	**25.07**	**173**	P	**P**	**03 31 41.6**	**+0.7**
	comp=Z,5.0nm,0.8s,baz=336,slow=10.0,SNR=11						
PLCA	**Paso Flores**	**25.07**	**173**	P	**P**	**03 31 42.2**	**+1.3**
PLCA				IAmb	IAmb	03 31 46.7	
	comp=Z,41nm,1.9s						
IPMB	**Ipameri, GO**	**25.09**	**99**	*e*P	**P**	**03 31 41.6**	**+0.3**
IPMB	**Ipameri, GO**	**25.09**	**99**	*e*P	**P**	**03 31 41.6**	**+0.3**
BDFB	**Brasilia**	**25.33**	**93**	P	**P**	**03 31 43.4**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=257,slow=15,SNR=3.9						
PEXB	**Peixe**	**25.52**	**85**	*e*P	**P**	**03 31 45.1**	**0.0**
PEXB				*e*S	**S**	**03 36 11.3**	**+2.1**
PEXB	**Peixe**	**25.52**	**85**	*e*P	**P**	**03 31 45.1**	**0.0**
PEXB				*e*S	**S**	**03 36 11.3**	**+2.1**
JANB	**Januaria**	**28.94**	**93**	*e*P	**P**	**03 32 15.4**	**-0.5**
JANB	**Januaria**	**28.94**	**93**	*e*P	**P**	**03 32 15.4**	**-0.5**
WLAR	**White Oak Lake**	**52.36**	**340**	P	**P**	**03 35 28.0**	**0.0**
TXAR	**Lajitas Array**	**53.05**	**328**	P	**P**	**03 35 33.2**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=152,slow=8.5,SNR=8.7						
TX32	**Lajitas Array**	**53.05**	**328**	P	**P**	**03 35 32.9**	**-0.5**
TX32				IAmb	IAmb	03 36 05.8	
	comp=Z,10nm,2.0s						
ABTX	**Abilene, Hawle**	**53.89**	**333**	P	**P**	**03 35 39.3**	**-0.1**
U40A	**Yellville**	**54.74**	**342**	P	**P**	**03 35 44.4**	**-1.1**
U40A				IAmb	IAmb	03 35 45.7	
	comp=Z,3.2nm,0.7s						
X34A	**Smith Ranch, M**	**54.87**	**336**	P	**P**	**03 35 46.4**	**0.0**
W35A	**Tecumseh**	**54.99**	**337**	P	**P**	**03 35 45.7**	**-1.6**
SDCO	**Great Sand Dun**	**60.78**	**332**	P	**P**	**03 36 27.5**	**-0.7**
X16A	**Lo Mia Camp, P**	**61.14**	**325**	IAmb	IAmb	03 36 32.7	
	comp=Z,3.1nm,1.0s						
CCUT	**Cedar City**	**64.51**	**326**	P	**P**	**03 36 54.5**	**+1.5**
MSU	**Marysvale**	**64.61**	**328**	P	**P**	**03 36 53.8**	**+0.2**
DUG	**Dugway, Tooele**	**66.20**	**329**	P	**P**	**03 37 04.4**	**+0.6**
DUG				IAmb	IAmb	03 37 05.8	
	comp=Z,4.0nm,0.8s						
SNAA	**Sanae**	**69.32**	**161**	P	**P**	**03 37 24.7**	**+1.8**
SCHQ	**Schefferville**	**70.63**	**5**	P	**P**	**03 37 29.9**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=182,slow=7.2,SNR=4.8						
DBIC	**Dimbokro**	**72.30**	**78**	P	**P**	**03 37 41.1**	**-0.7**
	comp=Z,4.9nm,1.0s,baz=215,slow=3.2,SNR=4.8						
TORD	**Torodi Ar. Bea**	**80.48**	**73**	P	**P**	**03 38 28.1**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=262,slow=5.5,SNR=35						
YKA	**Yellowknife Ar**	**84.17**	**342**	P	**P**	**03 38 45.6**	**-0.8**
	comp=Z,1.5nm,0.9s,baz=137,slow=5.5,SNR=5.2						
ESDC	**Sonseca Array**	**85.55**	**47**	P	**P**	**03 38 54.3**	**+0.4**
	comp=Z,0.9nm,1.0s,baz=257,slow=4.2,SNR=6.0						
SUMG	**Summit**	**91.31**	**10**	P	**P**	**03 39 22.0**	**+0.9**
WRA	**Warramunga Arr**	**134.67**	**219**	PKP	**PKiKP**	**03 45 35.7**	**-0.6**
	comp=Z,1.5nm,1.0s,baz=136,slow=2.1,SNR=3.1						
MKAR	**Makanchi Array**	**143.48**	**27**	PKP	**PKPdf**	**03 45 48.4**	**-1.7**
	comp=Z,0.6nm,1.0s,baz=344,slow=3.7,SNR=3.2						
SONM	**Songino Array**	**148.04**	**359**	PKPbc	**PKPbc**	**03 45 59.5**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=336,slow=2.8,SNR=5.1						
KSRS	**Korea Array**	**150.79**	**322**	PKPbc	**PKiKP**	**03 46 07.5**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=42,slow=2.0,SNR=4.5						
LZH	**Lanzhou**	**159.72**	**4**	*e*PKP	**PKPdf**	**03 46 12.8**	**-2.0**
LZH				pPKP	pPKPdf	03 46 30.0	-1.1
LZH				sPKP		03 46 37.3	
LZH				PKP	**PKPab**	**03 46 55.0**	**+1.5**

IDC 27 03:27:26.7±2.5, 30.01S×177.14W, h0km, mb3.9/2, mb1 4.2/2, mb1mx3.6/31, mbtmp3.9/2, Error ellipse: s-maj=54.5km s-min=31.5km az=62.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.02**	**318**	Pn	Pn	03 27 49.7	+1.4
	75nm,0.3s,baz=78,slow=20,SNR=1.7						
RAO				Sn	Sn	03 28 02.2	-1.0
	159nm,0.3s,baz=66,slow=21,SNR=2.4						
ASAR	**Alice Springs**	**43.88**	**266**	P	P	03 35 34.9	-0.3
	0.9nm,0.8s,baz=102,slow=7.7,SNR=6.9						
WRA	**Warramunga Arr**	**44.83**	**271**	P	P	03 35 42.8	-0.1
	1.2nm,0.4s,baz=111,slow=8.0,SNR=9.3						
FINES	**FINESS Array B**	**145.03**	**341**	PKPbc	PKPbc	03 47 03.3	-1.3
	2.6nm,0.8s,baz=54,slow=2.4,SNR=8.9						

GUC ***27*** *03:50:53.8±0.7, 19°.89S×71°.11W, h39km±2km, ML4.4*
IDC ***27*** *03:50:53.2±0.8, 19°.75S×70°.75W, h0km, mb4.0/10, mb1 4.2/12, mb1mx4.1/25, mbtmp4.1/12, ML4.1/2, MS3.6/12, Ms1 3.6/12, ms1mx3.5/21, Error ellipse: s-maj=24.5km s-min=15.0km az=57.0*
NEIC ***27*** *03:50:54.3±1.8, 19°.95S±0°.04×70°.99W±0°.03, h12km±3km, mb4.5/32, Mwr4.5/44, ML4.4(GUC), Error ellipse: s-maj=6.4km s-min=3.3km az=166.0*
NEIC ***27*** *03:50:54.2, 19°.96S×71°.01W, h15km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}3.79; $M_{\theta\theta}$-0.67; $M_{\phi\phi}$-3.12; $M_{r\theta}$1.41; $M_{r\phi}$2.45; $M_{\theta\phi}$-4.56; Fault plane solution: M_o6.41000×10^{15} NP1:ϕ_s313.12000°, δ22.50000°, λ64.81000°. NP2:ϕ_s160.09000°, δ69.74000°, λ100.00000°. Principal axes: T 6.0622, Plg64.0000°, Azm86.0000°; N 0.6465, Plg9.0000°, Azm337.0000°; P -6.7087, Plg24.0000°, Azm242.0000°;*
VAO ***27*** *03:51:00.2±0.9, 19°.81S×70°.86W, h67km±6km, mb4.3*
ISC 27 03:50:53.7±1.5, 19.86S±0.03×70.98W±0.05, h8km, σ9km, n162, σ1$40/167, mb4.5/17, MS3.7/7, 13C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSGC	**Pisagua**	**0.85**	**72**	⇓*e*P	**Pn**	**03 51 11.4**	**-0.6**
PSGC				*e*S	**Sn**	**03 51 24.9**	**+0.2**
PSGCX	**Pisagua**	**0.85**	**72**		**Pn**	**03 51 11.5**	**-0.5**
TA02	**Huaiquique**	**0.89**	**117**	⇑*i*P	**Pn**	**03 51 12.1**	**-0.5**
TA02				*e*S	**Sn**	**03 51 24.9**	**-0.9**
TA02				IAML		03 51 29.4	
	comp=E,10μm,0.3s						
TA01	**Diego Aracena**	**1.02**	**133**	⇑*i*P	**Pg**	**03 51 13.3**	**-0.2**
TA01				*e*S	**Sb**	**03 51 27.7**	**+0.3**
TA01	**Diego Aracena**	**1.02**	**133**		**Pg**	**03 51 14.0**	**+0.6**
PB11	**IPOC Station P**	**1.25**	**86**	⇑*i*P	**Pn**	**03 51 18.1**	**+0.4**
PB11				*e*S	**Sn**	**03 51 36.5**	**+1.8**
PB11				IAML		03 51 38.5	
	comp=N,14μm,0.5s						
PB11	**IPOC Station P**	**1.25**	**86**		**Pn**	**03 51 18.1**	**+0.4**
PB12	**IPOC Station P**	**1.38**	**26**	⇑*i*P	**Pb**	**03 51 19.3**	**-0.7**
PB12				*e*S	**Sn**	**03 51 39.0**	**+1.0**
PB12	**IPOC Station P**	**1.38**	**26**	Pn	**Pb**	**03 51 19.2**	**-0.7**
MNMC	**Minye Minye**	**1.49**	**61**	⇑*i*P	**Pg**	**03 51 21.8**	**-0.6**
MNMC				*e*S	**Sg**	**03 51 43.5**	**+1.7**
MNMC				IAML		03 51 52.1	
	comp=N,10μm,0.8s						
MNMC	**Minye Minye**	**1.49**	**61**		**Pg**	**03 51 22.1**	**-0.3**
AP01	**Chacalluta**	**1.60**	**22**	⇑*i*P	**Pn**	**03 51 21.9**	**-0.4**
AP01				*e*S	**Sg**	**03 51 43.4**	**-1.8**
AP01	**Chacalluta**	**1.60**	**22**		**Pb**	**03 51 23.4**	**-0.1**
GO01	**Chusmiza**	**1.69**	**84**	⇑*i*P	**Pg**	**03 51 24.9**	**-1.4**
GO01				*e*S	**Sg**	**03 51 48.9**	**+0.7**
GO01				IAML		03 51 55.0	
	comp=N,6μm,0.3s						
GO01	**Chusmiza**	**1.69**	**84**		**Pg**	**03 51 24.8**	**-1.4**
PB08	**IPOC Station P**	**1.74**	**100**	⇑*i*P	**Pb**	**03 51 25.1**	**-1.0**
PB08				*e*S	**Sg**	**03 51 49.6**	**-0.1**
PB08				IAML		03 51 53.2	
	comp=N,4μm,0.5s						
PB08	**IPOC Station P**	**1.74**	**100**		**Pb**	**03 51 25.3**	**-0.8**
PB02	**IPOC Station P**	**1.77**	**145**	⇑*i*P	**Pn**	**03 51 24.2**	**-0.5**
PB02				*i* S	**Sb**	**03 51 49.4**	**+0.5**
PB01	**IPOC Station P**	**1.82**	**130**	⇑*i*P	**Pn**	**03 51 25.7**	**+0.1**
PB01				*e*S	**Sn**	**03 51 49.3**	**+0.4**
PB01				IAML		03 52 00.3	
	comp=E,5μm,0.5s						
PB01	**IPOC Station P**	**1.82**	**130**		**Pn**	**03 51 25.3**	**-0.2**
PB07	**IPOC Station P**	**2.12**	**151**	⇑*i*P	**Pn**	**03 51 28.8**	**-0.9**
PB07				*i* S	**Sg**	**03 52 04.9**	**+3.0**
PB07				IAML		03 52 12.9	
	comp=E,3μm,0.6s						
PB07	**IPOC Station P**	**2.12**	**151**		**Pn**	**03 51 28.7**	**-0.9**
PB03	**IPOC Station P**	**2.46**	**152**	⇑*i*P	**Pn**	**03 51 33.4**	**-0.9**
PB03				*i* S	**Sn**	**03 51 57.1**	**-2.9**
PB09	**IPOC Station P**	**2.52**	**140**	*e*P	**Pn**	**03 51 35.9**	**+0.8**
PB09				*i* S	**Sb**	**03 52 10.3**	**-0.2**
PB09				IAML		03 52 25.9	
	comp=N,3μm,0.6s						
PB09	**IPOC Station P**	**2.52**	**140**	Pn	**Pn**	**03 51 35.0**	**-0.2**
PB04	**IPOC Station P**	**2.58**	**163**	*i* P	**Pn**	**03 51 34.4**	**-1.6**
PB04				IAML		03 52 29.7	
	comp=N,2μm,0.7s						
PB04	**IPOC Station P**	**2.58**	**163**	Pn	**Pn**	**03 51 34.6**	**-1.4**
PB05	**IPOC Station P**	**3.06**	**167**	⇑*i*P	**Pn**	**03 51 40.5**	**-2.1**
PB06	**IPOC Station P**	**3.12**	**155**		**Pn**	**03 51 42.2**	**-1.2**
LVC	**Limon Verde**	**3.35**	**145**	Pn	**Pn**	**03 51 47.5**	**+0.8**
	comp=N,15nm,0.3s,baz=349,slow=6.4,SNR=130						
LVC				Sn	**Sn**	**03 52 26.8**	**-0.1**
	comp=N,55nm,0.3s,baz=340,slow=20,SNR=7.9						
LVC				Lg	Lg	03 52 38.7	
	comp=N,47nm,0.3s,baz=12,slow=3.1,SNR=5.1						
LVC	**Limon Verde**	**3.35**	**145**	Pn	**Pn**	**03 51 47.1**	**+0.4**
LVC	**Limon Verde**	**3.35**	**145**	*e*P	**Pn**	**03 51 47.5**	**+0.8**
LVC	**Limon Verde**	**3.35**	**145**	*e*P	**Pn**	**03 51 47.5**	**+0.8**
PB15	**IPOC Station P**	**3.61**	**157**		**Pn**	**03 51 48.7**	**-1.6**
PB10	**IPOC Station P**	**3.66**	**174**	Pn	**Pn**	**03 51 48.8**	**-1.8**
LPAZ	**La Paz**	**4.47**	**38**	Pn	**Pn**	**03 52 06.2**	**+3.8**
	comp=N,2.6nm,0.3s,baz=192,slow=1.9,SNR=41						
LPAZ				LR	LR	03 53 58.7	
	comp=N,806nm,19.2s,baz=235,slow=44						
LPAZ	**La Paz**	**4.47**	**38**	Pn	**Pn**	**03 52 04.0**	**+1.7**
LPAZ	**La Paz**	**4.47**	**38**	*e*P	**Pn**	**03 52 06.1**	**+3.8**
LPAZ	**La Paz**	**4.47**	**38**	*e*P	**Pn**	**03 52 06.1**	**+3.8**
GO02	**Mina Guanaco**	**5.43**	**167**	Pn	**Pn**	**03 52 14.2**	**-1.1**
AC01	**Pan de Azucar**	**6.27**	**177**	Pn	**Pn**	**03 52 25.3**	**-1.2**
AC02	**Maricunga**	**7.15**	**167**	Pn	**Pn**	**03 52 36.2**	**-2.9**
GO03	**Copiap**	**7.73**	**175**	Pn	**Pn**	**03 52 46.4**	**-0.2**
AC04	**Llanos de Chal**	**8.31**	**181**	Pn	**Pn**	**03 52 52.1**	**-2.4**
AC05	**El Transito**	**8.96**	**176**	Pn	**Pn**	**03 53 01.6**	**-2.1**
NNA	**Nana**	**9.65**	**323**	LR	LR	03 57 09.1	
	comp=N,181nm,19.9s,baz=157,slow=39						
SIV	**San Ignacio**	**10.18**	**69**	Pn	**Pn**	**03 53 18.8**	**-1.5**
	comp=N,2.4nm,0.3s,baz=261,slow=11,SNR=62						
GO04	**Tololo Observa**	**10.27**	**179**	Pn	**Pn**	**03 53 20.3**	**-1.4**
CO03	**El Pedregal**	**10.93**	**179**	Pn	**Pn**	**03 53 30.4**	**-0.2**
CFA	**Coronel Fontan**	**11.95**	**169**	LR	LR	03 57 50.8	
	comp=N,105nm,21.3s,baz=336,slow=35						
PTLB	**Pontes e Lacer**	**12.11**	**71**	*e*P	**Pn**	**03 53 48.6**	**+2.0**
PTLB	**Pontes e Lacer**	**12.11**	**71**	*e*P	**Pn**	**03 53 48.6**	**+2.0**
VILB	**Vilhena**	**12.41**	**58**	*e*P	**Pn**	**03 53 53.3**	**+2.4**
VILB	**Vilhena**	**12.41**	**58**	*e*P	**Pn**	**03 53 53.3**	**+2.4**
SAML	**Samuel**	**13.21**	**36**		**Pn**	**03 54 04.3**	**+2.5**
SAML	**Samuel**	**13.21**	**36**	*e*P	**Pn**	**03 54 03.3**	**+1.6**
SAML	**Samuel**	**13.21**	**36**	*e*P	**Pn**	**03 54 03.3**	**+1.6**
CPUP	**Villa Florida**	**14.11**	**120**	LR	LR	04 00 17.2	
	comp=N,221nm,19.2s,baz=300,slow=40						
CPUP	**Villa Florida**	**14.11**	**120**	*e*P	**Pn**	**03 54 16.3**	**+2.4**
CPUP	**Villa Florida**	**14.11**	**120**	*e*P	**Pn**	**03 54 16.3**	**+2.4**
AQDB	**Aquidauana**	**14.36**	**95**	*e*P	**Pn**	**03 54 19.1**	**+1.7**
AQDB	**Aquidauana**	**14.36**	**95**	*e*P	**Pn**	**03 54 19.1**	**+1.7**
ATAH	**Atahualpa**	**14.56**	**329**	LR	LR	03 59 53.6	
	comp=N,149nm,18.9s,baz=345,slow=37						
SALV	**Santo Antonio**	**15.07**	**77**	*e*P	**Pn**	**03 54 27.2**	**+0.1**
SALV	**Santo Antonio**	**15.07**	**77**	*e*P	**Pn**	**03 54 27.2**	**+0.1**
BI02	**San Fabin de**	**16.74**	**181**	Pn	**Pn**	**03 54 45.7**	**-3.0**
CLDB	**Colider**	**17.14**	**61**	*e*P	**Pn**	**03 54 52.5**	**-1.3**
CLDB	**Colider**	**17.14**	**61**	*e*P	**Pn**	**03 54 52.5**	**-1.3**
C2SB	**Chapadao do Su**	**17.16**	**89**	*e*P	**Pn**	**03 54 53.9**	**-0.1**
C2SB	**Chapadao do Su**	**17.16**	**89**	*e*P	**Pn**	**03 54 53.9**	**-0.1**
PTGB	**Pitanga**	**18.15**	**109**	*e*P	**P**	**03 55 06.8**	**+0.1**
PTGB	**Pitanga**	**18.15**	**109**	*e*P	**P**	**03 55 06.8**	**+0.1**
PCMB	**Pacaembu**	**18.52**	**99**	*e*P	**Pn**	**03 55 10.7**	**-0.2**
PCMB	**Pacaembu**	**18.52**	**99**	*e*P	**Pn**	**03 55 10.7**	**-0.2**
ARAG	**Araguaiana, MT**	**18.71**	**80**	*e*P	**P**	**03 55 11.5**	**-1.3**
ARAG	**Araguaiana, MT**	**18.71**	**80**	*e*P	**P**	**03 55 11.5**	**-1.3**
MACA	**Manacapuru-AM**	**19.40**	**32**	*e*P	**P**	**03 55 19.6**	**-0.8**
MACA	**Manacapuru-AM**	**19.40**	**32**	*e*P	**P**	**03 55 19.6**	**-0.8**
ITRB	**Iturama**	**19.40**	**93**	*e*P	**Pn**	**03 55 21.2**	**-0.4**
ITRB	**Iturama**	**19.40**	**93**	*e*P	**Pn**	**03 55 21.2**	**-0.4**
NPGB	**Novo Progresso**	**19.80**	**52**	*e*P	**P**	**03 55 22.7**	**-2.1**
NPGB	**Novo Progresso**	**19.80**	**52**	*e*P	**P**	**03 55 22.7**	**-2.1**
FRTB	**Fartura**	**20.21**	**104**	*e*P	**P**	**03 55 29.8**	**+0.5**
FRTB	**Fartura**	**20.21**	**104**	*e*P	**P**	**03 55 29.8**	**+0.5**
PLCA	**Paso Flores**	**20.81**	**179**	P	**P**	**03 55 37.3**	**+1.7**
	comp=N,3.3nm,0.8s,baz=336,slow=9.2,SNR=4.2						
PLCA	**Paso Flores**	**20.81**	**179**	IAmb	IAmb	03 56 11.2	
	comp=Z,27nm,1.5s						
PLCA	**Paso Flores**	**20.81**	**179**	*e*P	**P**	**03 55 37.6**	**+2.0**
PLCA	**Paso Flores**	**20.81**	**179**	*e*

LZH			LR	LR
	comp=N,48nm,18.0s			
LZH			LR	LR
	comp=E,52nm,17.8s			
LZH			LR	LR
	comp=Z,73nm,20.1s			

TEH ***27*** *04:32:17.6,27°.30N×57°.72E,h10km,ML3.3*
OMAN ***27*** *04:32:26.7±1.7,26°.34N×57°.66E,h10km±12km,ml2.7/7, Error ellipse: s-maj=16.9km s-min=3.5km az=295.0*

ISC 27 04:32:15.6±1.2,27°.14N±0°.05×57°.79E±0°.07,h10km,n22, σ2°17/22,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	**0.81**	**355**	*e*Pg	**Pg**	**04 32 29.6**	**-1.6**
KHNJ				*e*Sg	**Sb**	**04 32 40.3**	**-2.5**
GENO	**Geno**	**1.46**	**281**	*e*Pg	**Pg**	**04 32 44.2**	**+0.5**
GENO				*e*		04 32 46.5	
BANOM	**Banah** SNR=8.0	**1.80**	**228**	P	**Pn**	**04 32 50.0**	**+3.2**
MDH	**Madha**	**2.27**	**216**	P	**Pn**	**04 32 54.2**	**+1.0**
UOSS	**Minazif**	**2.61**	**213**	P	**Pn**	**04 32 59.5**	**+1.6**
NGRK	**Negar Kerman**	**2.66**	**340**	*e*Pn	**Pb**	**04 33 00.8**	**-2.8**
NGRK				*e*		04 33 39.9	
CHMN	**Cheshme madani**	**2.72**	**355**	*e*		04 33 07.4	
CHMN				*e*Pn	**Pb**	**04 33 01.9**	**-2.7**
ASHO	**Ashiyiah**	**2.90**	**213**	P	**Pn**	**04 33 03.4**	**+1.5**
TVBK	**TV Kerman**	**2.97**	**343**	*e*	**Sg**	**04 33 54.2**	**+3.0**
SOHO	**SOHO**	**3.20**	**201**	P	**Pn**	**04 33 06.3**	**+0.3**
KHGB	**Koh Gabri**	**3.42**	**341**	*e*	Sg	04 34 12.5	+7.0
HOQ	**Hoqain** SNR=14	**3.57**	**187**	P	**Pn**	**04 33 11.2**	**+0.1**
SZD1	**Zahaedan-tmp**	**3.58**	**49**	*e*Pn	**Pn**	**04 33 15.0**	**+3.6**
BIDO	**Bidbid**	**3.62**	**175**	P	**Pn**	**04 33 11.6**	**-0.1**
ARQ	**Araqi**	**3.62**	**197**	P	**Pn**	**04 33 16.9**	**+0.5**
WSAR	**Wadi Sarin**	**3.96**	**169**	P	**Pn**	**04 33 17.6**	**+1.2**
WBK	**Wadi Bani Khal** SNR=19	**4.64**	**166**	P	**Pn**	**04 33 27.0**	**+1.2**
IKOO	**Kooshah**	**5.37**	**11**	*e*Pn	**Pn**	**04 33 37.9**	**+1.8**
ITEG	**Tejag**	**5.80**	**8**	*e*Pn	**Pn**	**04 33 45.2**	**+3.3**
MHTO	**MHTO**	**6.13**	**178**	P	**Pn**	**04 33 47.0**	**+0.7**
IRAM	**Ramesheh**	**6.62**	**316**	*e*Pn	**Pn**	**04 33 55.4**	**+2.2**
KLNJ	**Kolanjah**	**6.65**	**307**	*e*Pn	**Pn**	**04 33 55.9**	**+2.2**

KRSC ***27*** *04:46:11.7±0.8,54°.25N×159°.94E,h6km±8km,ML3.8*
IDC ***27*** *04:46:11.6±1.1,54°.38N×159°.85E,h0km,mb3.7/6, mb1 3.9/6,mb1mx3.6/38,mbtmp3.7/6,MS3.2/6,Ms1 3.2/6, ms1mx2.9/38,Error ellipse: s-maj=37.0km s-min=16.6km az=145.0*
NEIC ***27*** *04:46:12.5±2.1,54°.2N±0°.1×160°.0E±0°.2,h10km±1km, mb4.1/5,Error ellipse: s-maj=27.8km s-min=4.3km az=136.0*

ISC 27 04:46:12.0±0.7,54°.20N±0°.04×160°.01E±0°.07,h10km,n55, σ1°08/52,mb3.7/8,MS3.1/5,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.37**	**244**	*e*P	**Pg**	**04 46 19.7**	**+0.4**
KZV	**Kizimen**	**0.93**	**10**	*e*P	**Pg**	**04 46 28.7**	**-1.3**
TUMD	**Tumrok D**	**1.03**	**12**	*e*P	**Pb**	**04 46 30.1**	**-1.9**
TUMR	**Tumrok**	**1.09**	**4**	*e*P	**Pb**	**04 46 31.6**	**-1.5**
SPN	**Mys Shipunski**	**1.10**	**180**	*e*P	**Pn**	**04 46 33.1**	**-0.4**
SPN				*e*S	**Sn**	**04 46 49.2**	**+0.5**
SDLR	**Sedlovina**	**1.14**	**216**	*e*P	**Pb**	**04 46 33.6**	**-0.3**
KRX	**Arik**	**1.17**	**224**	*e*P	**Pb**	**04 46 33.8**	**-0.5**
KRER	**Koryakskii**	**1.17**	**220**	*e*P	**Pg**	**04 46 33.9**	**-0.5**
SMAR	**Somma**	**1.18**	**218**	*e*P	**Pg**	**04 46 34.4**	**-0.3**
AVH	**Avacha**	**1.20**	**220**	*e*P	**Pn**	**04 46 34.8**	**-0.1**
UGLR	**Uglovaya**	**1.22**	**216**	*e*P	**Pn**	**04 46 34.9**	**-0.3**
KOK	**Koryaka**	**1.22**	**223**	*e*P	**Pb**	**04 46 34.8**	**-0.4**
DALK	**Dalny**	**1.39**	**213**	*e*P	**Pb**	**04 46 37.3**	**-0.7**
PET	**Petropavlovsk**	**1.43**	**215**	*e*P	**Pb**	**04 46 38.2**	**-0.5**
PET	**Petropavlovsk**	**1.43**	**215**		**Pn**	**04 46 37.3**	**-0.6**
KMNR	**Kamenistaya**	**1.57**	**5**	*e*P	**Pn**	**04 46 39.9**	**-0.1**
PEA0B	**Petropavlovsk-**	**1.76**	**233**		**Pn**	**04 46 42.9**	**+0.4**
PETK	**Petropavlovsk-** 25nm,0.3s,baz=69,slow=17,SNR=126	**1.76**	**233**	Pn	**Pn**	**04 46 43.2**	**+0.7**
PETK				Sn	**Sg**	**04 47 09.7**	**+1.3**
	8.7nm,0.3s,baz=74,slow=36,SNR=6.8						
KIRR	**Kirishev**	**1.77**	**6**	*e*P	**Pn**	**04 46 42.7**	**-0.1**
KRMR	**Karymshinskiy**	**1.77**	**220**	*e*P	**Pn**	**04 46 42.6**	**-0.1**
KPT	**Kopyto**	**1.78**	**4**	*e*P	**Pn**	**04 46 42.6**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**1.79**	**12**	*e*P	**Pn**	**04 46 43.5**	**+0.4**
BZWR	**Bezymyannyi-We**	**1.79**	**9**	*e*P	**Pn**	**04 46 43.3**	**+0.1**
KOZ	**Kozyrevsk**	**1.87**	**358**	*e*P	**Pn**	**04 46 43.8**	**-0.2**
ZLN	**Zelenaya**	**1.88**	**14**	*e*P	**Pn**	**04 46 45.3**	**+1.0**
LGNR	**Loginova**	**1.93**	**11**	*e*P	**Pn**	**04 46 45.7**	**+0.5**
CIRR	**Tsirk**	**1.97**	**12**	*e*P	**Pb**	**04 46 47.6**	**+2.0**
RUS	**Russkaya**	**1.98**	**208**	*e*P	**Pb**	**04 46 46.9**	**-1.2**
RUS				*e*S	**Sg**	**04 47 13.1**	**-2.6**
GRL	**Gorelyy**	**2.02**	**216**	*e*P	**Pb**	**04 46 48.2**	**-0.6**
KRSR	**Krestovskiy**	**2.05**	**9**	*e*P	**Pn**	**04 46 46.4**	**-0.2**
SRDR	**Sredinnyy**	**2.13**	**356**	*e*P	**Pn**	**04 46 46.9**	**-0.8**
ASAK	**Asacha**	**2.21**	**216**	*e*P	**Pb**	**04 46 51.4**	**-0.8**
BDR	**Baidarnaya**	**2.47**	**16**	*e*P	**Pn**	**04 46 54.1**	**+1.7**
SMKR	**Semkarok**	**2.53**	**19**	*e*P	**Pn**	**04 46 54.8**	**+1.6**
SRKR	**Sorokina**	**2.55**	**15**	*e*P	**Pn**	**04 46 55.3**	**+1.8**
KBTR	**Krutoberegovo**	**2.58**	**37**	*e*P	**Pn**	**04 46 55.0**	**+1.2**
KDTR	**Khodutka, Kamc**	**2.66**	**207**	*e*P	**Pb**	**04 46 57.3**	**-2.4**
KDTR				*e*S	**Sb**	**04 47 31.4**	**-1.0**
ASAJ	**Asahikawa** comp=Z,108nm,18.5s,baz=7.0,slow=38	**15.17**	**235**	LR	LR	04 55 55.2	
MJB9	**Matsu-Tunnel**	**23.21**	**229**	P	**P**	**04 51 20.8**	**+1.8**
MJB9				IAmb	IAmb	04 51 22.9	
	comp=Z,3.9nm,0.8s						
MJAR	**Matsushiro Arr** comp=Z,0.6nm,0.3s,baz=13,slow=14,SNR=5.2	**23.21**	**229**	P	**P**	**04 51 20.8**	**+1.8**
MJAR				LR	LR	05 01 09.5	
	comp=Z,67nm,18.1s,baz=75,slow=39						
KDAK	**Kodiak Island** comp=Z,32nm,19.4s,baz=296,slow=37	**26.32**	**63**	LR	LR	05 02 28.9	
KSRS	**Korea Array** comp=Z,34nm,20.3s,baz=225,slow=35	**27.61**	**246**	LR	LR	05 02 27.3	
IL31		**28.08**	**47**	P	**P**	**04 52 03.1**	**-0.2**
IL31				IAmb	IAmb	04 52 15.4	
	comp=Z,8.9nm,1.8s						
ILAR	**Eielson Array** comp=Z,0.5nm,0.7s,baz=259,slow=7.4,SNR=7.7	**28.08**	**47**	P	**P**	**04 52 04.1**	**+0.7**
ILAR				LR	LR	05 04 25.1	
	comp=Z,45nm,18.0s,baz=140,slow=39						
TLY	**Talaya** comp=Z,52nm,19.3s,baz=174,slow=35	**33.30**	**289**	LR	LR	05 05 34.0	
H11N2	**WAKE ISLAND Hy** baz=354,slow=76,SNR=5.7	**34.81**	**169**	T	T	05 30 08.4	
H11N3	**WAKE ISLAND Hy** baz=354,slow=76,SNR=6.3	**34.82**	**169**	T	T	05 30 02.7	
H11N1	**WAKE ISLAND Hy** baz=354,slow=76,SNR=6.3	**34.82**	**169**	T	T	05 30 00.4	
YKA	**Yellowknife Ar** comp=Z,0.9nm,0.8s,baz=295,slow=7.4,SNR=3.4	**42.39**	**43**	P	**P**	**04 54 06.2**	**+0.1**
KURK	**Kurchatov**	**47.12**	**301**	P	**P**	**04 54 43.8**	**0.0**
KURBB	**Kurchatov Arra** comp=Z,1.8nm,0.6s,baz=56,slow=8.1,SNR=15	**47.22**	**301**	P	**P**	**04 54 44.4**	**-0.2**
MK31	**Makanchi Array**	**47.64**	**295**	P	**P**	**04 54 47.7**	**-0.4**
MKAR	**Makanchi Array** comp=Z,0.6nm,0.6s,baz=54,slow=6.8,SNR=8.1	**47.64**	**295**	P	**P**	**04 54 47.8**	**-0.3**
MAKZ	**Makanchi**	**47.80**	**295**	P	**P**	**04 54 47.6**	**-1.7**
TXAR	**Lajitas Array** comp=Z,0.3nm,0.8s,baz=305,slow=5.8,SNR=4.6	**70.25**	**67**	P	**P**	**04 57 26.8**	**+1.5**

IDC 27 04:47:32.3±5.0,23°.91N×92°.59E,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.4/40,mbtmp3.7/3,MS3.3/1,Ms1 3.3/1, ms1mx2.7/36,Error ellipse: s-maj=369.8km s-min=29.4km az=61.0,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=156,slow=11,SNR=4.7	**24.29**	**343**	P	P	04 52 51.4	0.0
ZALV	**Zalesovo Beam** comp=Z,51nm,18.9s,baz=180,slow=36	**30.56**	**351**	LR	LR	05 05 54.6	
WRA	**Warramunga Arr** 1.0nm,0.6s,baz=320,slow=7.5,SNR=6.6	**59.62**	**133**	P	P	04 57 38.1	-0.4
ASAR	**Alice Springs** 0.7nm,0.4s,baz=316,slow=6.9,SNR=12	**62.01**	**137**	P	P	04 57 54.9	+0.2

IDC ***27*** *05:45:48.6±5.9,51°.89N×178°.50E,h102km±55km,mb3.1/7, mb1 3.6/9,mb1mx3.3/53,mbtmp3.6/9,Error ellipse: s-maj=43.9km s-min=19.1km az=171.0*
NEIC ***27*** *05:45:49.8±2.1,51°.9N±0°.2×178°.34E±0°.10,h126km±5km, Error ellipse: s-maj=24.0km s-min=8.6km az=179.0*
AEIC ***27*** *05:45:50±2.1,51°.9N±0°.2×178°.34E±0°.09,h123km±4km, ML3.2,mb3.9/33(NEIC),Error ellipse: s-maj=23.4km s-min=8.0km az=179.0*

ISC 27 05:45:50.2±0.7,51°.9N±0°.1×178°.32E±0°.06,h124km±6km, n68,σ1°18/72,mb3.8/20,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.14**	**57**		**Pn**	**05 46 07.0**	**-0.3**
LSSA					**Sn**	**05 46 20.2**	**+0.1**
LSNW	**Little Sitkin**	**0.15**	**50**		**Pn**	**05 46 06.8**	**-0.5**
LSPA	**Little Sitkin**	**0.18**	**61**		**Pn**	**05 46 06.8**	**-0.5**
LSPA					**Sn**	**05 46 20.3**	**+0.1**
CETU	**Semis' Tuman**	**0.73**	**82**		**Pn**	**05 46 10.0**	**-0.3**
CESW	**Semis' Southwe**	**0.77**	**87**		**Pn**	**05 46 09.9**	**-0.6**
AMKA	**Amchitka**	**0.79**	**129**		**Pn**	**05 46 10.0**	**-0.7**
AMKA					**Sn**	**05 46 26.6**	**+0.5**
CEAP	**Semis' Anvil P**	**0.79**	**80**		**Pn**	**05 46 10.4**	**-0.3**
CERAA	**Semis' Rag'd T**	**0.84**	**87**		**Pn**	**05 46 10.8**	**-0.4**
GAEA	**Gareloi East**	**1.82**	**92**		**Pn**	**05 46 21.3**	**-0.4**
TASE	**Tanaga Southea**	**2.26**	**90**		**Pn**	**05 46 26.4**	**-0.7**
TAFP	**Tanaga Falls P**	**2.29**	**88**		**Pn**	**05 46 26.5**	**-0.9**
TAFP					**Sn**	**05 46 54.5**	**-1.5**
TAPA	**Tanaga Point A**	**2.40**	**90**		**Pn**	**05 46 28.1**	**-0.8**
SMY	**Shemya**	**2.73**	**290**		**Pn**	**05 46 31.6**	**-1.5**
KIMD	**Kanaga Island**	**2.76**	**91**		**Pn**	**05 46 32.5**	**-0.9**
KICM	**Kanaga Island**	**2.78**	**87**		**Pn**	**05 46 33.0**	**-0.7**
KIKV	**Kanaga Island**	**2.79**	**88**		**Pn**	**05 46 33.1**	**-0.8**
ADK	**Adak**	**3.09**	**88**		**Pn**	**05 46 36.2**	**-1.6**
GSTD	**Great Sitkin T**	**3.43**	**85**		**Pn**	**05 46 41.0**	**-1.3**
GSTR	**Great Sitkin T**	**3.48**	**84**		**Pn**	**05 46 41.5**	**-1.4**
GSMY	**Great Sitkin M**	**3.48**	**85**		**Pn**	**05 46 41.7**	**-1.2**
ATKA	**Atka Island**	**4.63**	**83**		**Pn**	**05 46 57.1**	**-1.0**
NIKH	**Nikolski High**	**7.92**	**77**	Pn	**Pn**	**05 47 43.0**	**+0.6**
UNV	**Unalaska Valle**	**9.39**	**72**	Pn	**Pn**	**05 48 03.1**	**+0.9**
PETK	**Petropavlovsk-** 0.7nm,0.3s,baz=105,slow=17,SNR=5.7	**12.63**	**284**	P	**Pn**	**05 48 46.2**	**+0.9**
CNBA	**Chernabura Isl**	**13.51**	**69**	Pn	**Pn**	**05 48 55.0**	**-1.6**
SVW2	**Sparrevohn**	**17.00**	**47**	P	**Pn**	**05 49 42.8**	**+2.6**
OHAK	**Old Harbor**	**17.24**	**61**	P	**P**	**05 49 40.6**	**-2.1**
OHAK				IAmb	IAmb	05 49 50.5	
	comp=Z,8.2nm,1.0s						
KDAK	**Kodiak Island** comp=Z,1.1nm,0.3s,baz=187,slow=1.0,SNR=31	**17.68**	**59**	P	**P**	**05 49 45.1**	**-2.3**
KDAK	**Kodiak Island**	**17.68**	**59**	P	**P**	**05 49 45.0**	**-2.5**
KDAK				IAmb	IAmb	05 49 53.2	
	comp=Z,9.2nm,1.1s						
CNPM	**China Poot**	**18.65**	**54**	P	**P**	**05 49 58.0**	**-0.2**
BRLK	**Bradley Lake**	**18.87**	**53**	P	**P**	**05 50 00.2**	**-0.3**
TRF	**Thorofare Moun**	**20.15**	**43**	P	**P**	**05 50 15.9**	**+1.4**
TRF				IAmb	IAmb	05 50 21.2	
	comp=Z,3.3nm,0.8s						
GHO	**Glory Hole Cre**	**20.25**	**48**	P	**P**	**05 50 16.5**	**+1.0**
SML	**Sawmill**	**20.54**	**48**	P	**P**	**05 50 19.1**	**+0.6**
SML				IAmb	IAmb	05 50 28.1	
	comp=Z,9.5nm,1.2s						
SCM	**Sheep Creek Mo**	**21.00**	**48**	P	**P**	**05 50 24.3**	**+0.7**
FID	**Port Fidalgo**	**21.20**	**52**	P	**P**	**05 50 24.5**	**-1.2**
FID				IAmb	IAmb	05 50 36.2	
	comp=Z,9.0nm,1.2s						
DHY	**Denali Highway**	**21.29**	**45**	P	**P**	**05 50 27.2**	**+0.5**
DHY				IAmb	IAmb	05 50 28.0	
	comp=Z,3.6nm,0.8s						
ILAR	**Eielson Array** comp=Z,0.2nm,0.4s,baz=248,slow=8.2,SNR=2.1	**22.01**	**41**	P	**P**	**05 50 33.3**	**-0.8**
RAGM	**Ragged Mountai**	**22.04**	**53**	P	**P**	**05 50 36.4**	**+1.9**
RIDG	**Independent Ri**	**22.56**	**44**	P	**P**	**05 50 39.3**	**-0.4**
RIDG				IAmb	IAmb	05 50 57.9	
	comp=Z,6.4nm,1.4s						
GLB	**Gilahina Butte**	**22.59**	**50**	P	**P**	**05 50 41.1**	**+1.1**
GLB				IAmb	IAmb	05 50 53.5	
	comp=Z,9.7nm,1.5s						
VRDI	**Verde Repeater**	**22.73**	**51**	P	**P**	**05 50 41.0**	**-0.6**
VRDI				IAmb	IAmb	05 50 59.0	
	comp=Z,11nm,1.3s						
DOT	**Dot Lake**	**22.88**	**44**	P	**P**	**05 50 41.8**	**-1.0**
SCRK	**Sand Creek**	**22.99**	**44**	P	**P**	**05 50 42.4**	**-1.5**
EGAK	**Eagle**	**24.37**	**42**	P	**P**	**05 50 55.5**	**-0.8**
EGAK				IAmb	IAmb	05 50 57.1	
	comp=Z,3.5nm,0.8s						
DAWY	**Dawson**	**24.99**	**44**	P	**P**	**05 51 02.2**	**+0.2**
DAWY				IAmb	IAmb	05 51 04.8	
	comp=Z,2.7nm,0.8s						
HYT	**Haines Junctio**	**25.60**	**52**	P	**P**	**05 51 10.9**	**+3.3**
ERM	**Erimo**	**25.72**	**261**	P	**P**	**05 51 09.8**	**+1.0**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.7s,baz=280,slow=7.1,SNR=4.4	**36.19**	**46**	P	**P**	**05 52 40.4**	**+0.1**
K05A	**Summer Lake**	**41.11**	**78**	P	**P**	**05 53 22.7**	**+0.8**
WVOR	**Wild Horse Val**	**42.65**	**77**	P	**P**	**05 53 33.3**	**-1.0**
PAHR	**Pah Rah Range**	**43.81**	**81**	P	**P**	**05 53 44.3**	**+0.6**
PAHR				IAmb	IAmb	05 53 51.7	
	comp=Z,2.3nm,1.1s						
PNTR	**Pine Nut**	**44.05**	**81**	P	**P**	**05 53 46.9**	**+1.1**
PNTR				IAmb	IAmb	05 53 49.7	
	comp=Z,3.3nm,1.0s						
WAKR	**Walker**	**44.52**	**82**	P	**P**	**05 53 50.6**	**+1.2**
MCMT	**McKenzie Canyo**	**44.72**	**71**	P	**P**	**05 53 50.3**	**-0.7**
JOW	**Kunigami**	**44.93**	**256**	P	**P**	**05 53 49.8**	**-2.7**
BOZ	**Bozeman (W)**	**44.99**	**69**	P	**P**	**05 53 52.0**	**-0.9**
KVN	**Kaiserville**	**45.00**	**80**	P	**P**	**05 53 53.4**	**+0.2**
KVN				IAmb	IAmb	05 53 54.1	
	comp=Z,3.0nm,1.4s						
NVAR	**Mina Array Bea** comp=Z,0.6nm,0.4s,baz=299,slow=7.4,SNR=4.1	**45.26**	**81**	P	**P**	**05 53 56.0**	**+0.7**
R11A	**Troy Canyon, C**	**46.97**	**80**	P	**P**	**05 54 08.0**	**-0.6**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.6s,baz=303,slow=2.9,SNR=5.0	**47.85**	**71**	P	**P**	**05 54 14.6**	**-0.9**
MSU	**Marysvale**	**48.94**	**77**	P	**P**	**05 54 23.9**	**0.0**
U15A	**North Rim**	**50.21**	**79**	P	**P**	**05 54 34.0**	**+0.4**
U15A				IAmb	IAmb	05 54 35.7	
	comp=Z,1.1nm,1.0s						
PV03	**Paradox Valley**	**51.10**	**75**	P	**P**	**05 54 39.9**	**-0.3**
PV03				IAmb	IAmb	05 54 54.0	
	comp=Z,1.8nm,1.0s						
KURK	**Kurchatov**	**57.37**	**312**	P	**P**	**05 55 26.9**	**+1.9**
KURK				IAmb	IAmb	05 55 27.7	
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra** comp=Z,0.5nm,0.9s,baz=40,slow=6.8,SNR=5.8	**57.47**	**312**	P	**P**	**05 55 26.9**	**+1.1**
TXAR	**Lajitas Array** comp=Z,0.4nm,0.5s,baz=297,slow=4.7,SNR=7.0	**60.34**	**79**	P	**P**	**05 55 46.0**	**0.0**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.6s,baz=34,slow=5.9,SNR=2.1	**81.16**	**221**	P	**P**	**05 57 52.9**	**+1.1**

KRAR ***27*** *05:58:30.3±0.2,54°.24N×86°.21E,M1.9,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
NNC ***27*** *05:58:32.7±2.9,54°.27N×86°.37E,h0km,mb3.4,mpv2.8, Error ellipse: s-maj=58.1km s-min=14.1km az=167.0, Suspected Mining explosion.*
IDC ***27*** *05:58:34.6±2.4,54°.15N×86°.36E,h0km,mb1 3.2/2, mb1mx3.0/64,mbtmp3.2/2,ML2.7/2,Error ellipse: s-maj=19.2km s-min=12.4km az=55.0*

ISC 27 05:58:27.8±3.1,53°.3N±0°.1×86°.4E±0°.2,h0km,n8,σ0°35/8, 7C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=74,slow=309,SNR=1.0	**1.15**	**308**	*i*		06 04 50.0	
ZAA0	**Zalesovo Array** 0.8nm,0.4s	**1.15**	**308**	⇑P	**Pn**	**05 58 51.0**	**-0.1**
ZAA0				⇑S	**Sg**	**05 59 04.8**	**+0.1**
	7.3nm,1.1s						
ZALV	**Zalesovo Beam** 4.8nm,0.3s,baz=75,slow=17,SNR=40	**1.15**	**308**	Pg	**Pn**	**05 58 51.1**	**0.0**
ZALV				Lg	Lg	05 59 05.7	
	3.7nm,0.3s,baz=81,slow=29,SNR=28						
ZALV				Rg	Rg	05 59 11.6	
	76nm,1.0s,baz=73,slow=30,SNR=16						
KURK	**Kurchatov** 2.6nm,1.1s	**5.42**	**245**	⇓Pn	**Pb**	**06 00 03.5**	**+0.3**
KURK				⇑Lg	Lg	06 01 39.5	
	7.1nm,1.4s						
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=54,slow=14,SNR=25	**5.51**	**245**	Pn	**Pb**	**06 00 05.0**	**+0.1**
KURBB				Lg	Lg	06 01 44.7	
	0.0nm,0.3s,baz=61,slow=33,SNR=9.7						
KURBB	**Kurchatov Arra** 4.9nm,1.1s	**5.51**	**245**	⇑Pn	**Pb**	**06 00 04.4**	**-0.5**
KURBB				⇑Lg	Lg	06 01 42.8	
	4.5nm,0.7s						
MK31	**Makanchi Array** 0.1nm,0.3s,baz=26,slow=15	**6.98**	**204**	⇑Pn	**Pb**	**06 00 29.6**	**-0.3**
MK31				⇑Lg	Lg	06 02 42.9	
	7.9nm,1.2s,baz=30,slow=32,SNR=6.6						
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=24,slow=14,SNR=11	**6.98**	**204**	Pn	**Pb**	**06 00 30.3**	**+0.4**
MKAR				Lg	Lg	06 02 40.1	
	0.0nm,0.3s,baz=29,slow=30,SNR=13						

IDC 27 06:03:39.3±5.1,8°.75S×122°.00E,h191km±23km,mb3.8/1, mb1 3.3/5,mb1mx3.0/46,mbtmp3.7/5,Error ellipse: s-maj=87.6km s-min=48.7km az=78.0,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata** 4.9nm,0.3s,baz=275,slow=17,SNR=1.5	**2.19**	**131**	P	Pn	06 04 19.8	+0.6
FITZ	**Fitzroy Crossi** 0.2nm,0.3s,baz=340,slow=13,SNR=1.6	**9.94**	**160**	P	Pn	06 05 57.4	-0.5
FITZ				S	Sn	06 07 50.9	+2.1
	0.3nm,0.3s,baz=214,slow=21,SNR=5.8						
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=308,slow=12,SNR=1.1	**16.32**	**134**	P	P	06 07 17.4	-0.1
WRA				S	S	06 10 18.7	+0.3
	0.1nm,0.3s,baz=309,slow=22,SNR=1.8						
ASAR	**Alice Springs** 0.3nm,0.3s,baz=334,slow=12,SNR=10	**18.70**	**144**	P	P	06 07 44.1	+0.6
STKA	**Stephens Creek** 6.4nm,1.2s,baz=318,slow=11,SNR=2.8	**29.34**	**144**	P	P	06 09 23.4	-0.9

IDC 27 06:15:09.7±2.5,54°.14N×86°.38E,h0km,mb1 2.9/2, mb1mx2.8/43,mbtmp2.9/2,ML2.6/2,Error ellipse: s-maj=20.4km s-min=12.0km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=75,slow=318,SNR=2.4	**0.94**	**259**	*i*		06 21 30.0	
ZALV	**Zalesovo Beam** 2.5nm,0.3s,baz=77,slow=18,SNR=17	**0.94**	**259**	Pg	Pg	06 15 26.1	-1.5
ZALV				Lg	Lg	06 15 41.5	
	3.1nm,0.3s,baz=80,slow=30,SNR=8.9						
ZALV				Rg	Rg	06 15 46.8	
	12nm,0.8s,baz=81,slow=33,SNR=10.0						
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=54,slow=13,SNR=9.4	**5.96**	**237**	Pn	Pn	06 16 40.2	+1.2
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=24,slow=13,SNR=11	**7.80**	**201**	Pn	Pn	06 17 05.5	+1.0
MKAR				Lg	Lg	06 19 14.5	
	0.1nm,0.3s,baz=18,slow=29,SNR=3.5						

NNC 27 06:20:55.3±4.1,42°.98N×87°.78E,h0km,mb3.8,mpv3.4, 9C-4D,Error ellipse: s-maj=28.8km s-min=20.1km az=120.0,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan** 3.0nm,0.3s	**4.92**	**336**	Pg	Pg	06 22 32.3	+2.7
ZSN				Lg	Lg	06 23 38.1	
	6.5nm,0.8s						
MK31	**Makanchi Array** 0.9nm,0.7s,baz=130,slow=14,SNR=11	**5.45**	**316**	⇓Pn	Pn	06 22 15.5	-2.4
MK31				⇓Sn	Sn	06 23 21.0	-0.3
	2.2nm,0.7s,baz=133,slow=30,SNR=4.1						
MK31				⇑Lg	Lg	06 23 51.6	
	1.7nm,0.6s,baz=133,slow=28						
MAKZ	**Makanchi** 2.7nm,1.4s	**5.62**	**315**	⇑Pn	Pn	06 22 17.4	-2.8
MAKZ				⇓Sn	Sn	06 23 27.7	+2.3
	1.8nm,0.7s						
MAKZ				⇑Lg	Lg	06 23 53.7	
	6.4nm,1.1s						
PDGK	**Podgornoye** 2.0nm,0.8s	**6.07**	**276**	⇑Pn	Pn	06 22 27.2	+0.8
PDGK				⇑Sn	Sn	06 23 37.0	+0.3
	4.1nm,0.7s						
PDGK				⇓Lg	Lg	06 24 06.8	
	14nm,0.8s						
SHLS	**Shalkode** 3.4nm,0.3s	**6.09**	**274**	Pg	Pb	06 22 43.7	+1.3
SHLS				Lg	Lg	06 23 57.3	
	15nm,0.6s						
UZB	**Uzynbulak** 2.3nm,0.7s	**6.42**	**274**	Pg	Pg	06 22 54.2	-4.0
UZB				Lg	Lg	06 24 15.2	
	5.7nm,0.7s						
MNBS	**Baschi** 1.5nm,0.4s	**6.90**	**282**	Pg	Pg	06 23 04.6	-2.9
MNBS		

BBOO	Buckleboo	39.71	254	P	P	06 31 47.0	+0.1
ASAR	Alice Springs	43.89	267	P	P	06 32 20.7	-0.5
	comp=Z,0.5nm,0.5s,baz=105,slow=6.8,SNR=5.9						
WR0	Warramunga Arr	44.70	272	P	P	06 32 27.4	-0.3
WB2	Warramunga Arr	44.87	272	P	P	06 32 28.4	-0.7
WB2				IAmb	IAmb	06 32 32.8	
	comp=Z,3.4nm,0.8s						
WRAB	Tennant Creek	44.88	272	P	P	06 32 28.7	-0.4
WRAB				IAmb	IAmb	06 32 44.5	
	comp=Z,9.7nm,1.3s						
WRA	Warramunga Arr	44.88	272	P	P	06 32 28.3	-0.8
	comp=Z,2.9nm,0.7s,baz=110,slow=8.1,SNR=9.6						
WB0	Warramunga Arr	44.91	272	P	P	06 32 28.9	-0.4
WB0				IAmb	IAmb	06 32 37.2	
	comp=Z,12nm,1.3s						
QSPA	South Pole Qui	59.67	180	P	P	06 34 21.7	+3.2
QSPA				IAmb	IAmb	06 34 37.7	
	comp=Z,2.7nm,0.9s						
PMSA	Palmer Station	71.90	155	P	P	06 35 35.3	-1.8
MJAR	Matsushiro Arr	78.73	325	LR	LR	07 09 13.7	
	comp=Z,56nm,18.4s,baz=210,slow=34						
FINES	FINESS Array B	145.45	341	PKPbc	PKPab	06 43 52.3	+0.5
	comp=Z,1.8nm,0.8s,baz=21,slow=1.9,SNR=5.5						

*IDC **27** 06:27:44.4±3.2,30°.48S×177°.26W,h0km,mb3.6/2, mb1 3.9/2,mb1mx3.6/25,mbtmp3.6/2,Error ellipse: s-maj=66.0km s-min=29.7km az=89.0*
*NEIC **27** 06:27:49.1±1.5,30°.52S±0°.10×177°.25W±0°.04,h35km±2km, mb4.4/6,Error ellipse: s-maj=16.1km s-min=5.9km az=1.0*

ISC 27 06:27:45.0±2.4,30°.4S±0°.2×176°.6W±0°.3,h35km,n11, σ0s65/13,mb4.4/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.59	313	Pn	Pn	06 28 11.0	+0.3
	236nm,0.3s,baz=110,slow=8.9,SNR=7.1						
RAO				Sn	Sn	06 28 29.7	-0.3
	200nm,0.3s,baz=36,slow=22,SNR=4.2						
RAO	Raoul Island	1.59	313		Pn	06 28 10.6	-0.1
RAO				Sn	Sn	06 28 30.0	0.0
WHZ	Wether Hill Ro	19.66	214		P	06 32 10.2	-0.6
WHZ				IAmb	IAmb	06 32 21.4	
	comp=Z,29nm,1.2s						
STKA	Stephens Creek	35.68	257	P	P	06 34 41.1	+1.0
ASAR	Alice Springs	44.33	266	P	P	06 35 52.0	0.0
	comp=Z,0.2nm,0.4s,baz=105,slow=6.7,SNR=4.8						
WR0	Warramunga Arr	45.13	271	P	P	06 35 57.5	-0.9
WR0				IAmb	IAmb	06 35 58.9	
	comp=Z,7.8nm,1.3s						
WB2	Warramunga Arr	45.30	271	P	P	06 35 58.8	-0.9
WB2				IAmb	IAmb	06 36 11.0	
	comp=Z,7.8nm,1.2s						
WRAB	Tennant Creek	45.31	271	P	P	06 35 59.1	-0.7
WRAB				IAmb	IAmb	06 36 02.3	
	comp=Z,7.5nm,1.3s						
WRA	Warramunga Arr	45.31	271	P	P	06 35 59.4	-0.5
	comp=Z,1.3nm,0.6s,baz=110,slow=8.1,SNR=6.0						
WB0	Warramunga Arr	45.34	272	P	P	06 36 00.4	+0.4
FINES	FINESS Array B	145.50	341	PKPbc	PKiKP	06 47 22.7	0.0
	comp=Z,0.8nm,0.5s,baz=69,slow=7.6,SNR=2.9						

*IDC **27** 06:31:33.4±1.4,3°.24N×64°.26E,h0km,mb4.0/5,mb1 4.3/5, mb1mx3.7/39,mbtmp4.0/5,MS3.8/5,Ms1 3.9/5, ms1mx3.5/30,Error ellipse: s-maj=49.2km s-min=29.3km az=32.0*
*NEIC **27** 06:31:34.6±1.4,3°.2N±0°.1×64°.2E±0°.1,h10km±1km, mb4.3/15,Error ellipse: s-maj=29.2km s-min=10.0km az=215.0*

ISC 27 06:31:34.6±1.4,3°.3N±0°.2×64°.2E±0°.2,h10km,n24, σ0s80/20,mb4.2/13,MS3.7/5,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSAR	Wadi Sarin	20.57	345	LR	LR	06 42 40.1	
	comp=Z,296nm,19.2s,baz=187,slow=32						
DAMY	Dhamar	22.52	301	P	P	06 36 34.7	-0.5
ATD	Arta Tunnel	22.68	292	LR	LR	06 44 07.9	
	comp=Z,85nm,19.2s,baz=232,slow=33						
KMBO	Kilima Mbogo	27.27	261	LR	LR	06 48 52.4	
	comp=Z,194nm,18.4s,baz=82,slow=38						
HRA	Herat	31.02	357	P	P	06 37 54.1	+1.4
HRA				IAmb	IAmb	06 38 02.0	
	comp=Z,5.2nm,1.2s						
KBL	Kabul	31.45	8	P	P	06 37 55.5	-1.0
KBL				IAmb	IAmb	06 38 11.0	
	comp=Z,11nm,1.4s						
GEYT	Alibeck	34.95	352	LR	LR	06 52 04.5	
	comp=Z,217nm,21.4s,baz=70,slow=35						
GAR	Garm	36.01	8	P	P	06 38 36.5	+0.4
BTK	Batken	37.12	8	P	P	06 38 46.6	+1.1
BTK				IAmb	IAmb	06 38 58.2	
	comp=Z,6.8nm,1.1s						
CMAR	Chiang Mai Arr	37.22	63	P	P	06 38 46.7	+0.1
	comp=Z,1.0nm,0.3s,baz=246,slow=8.7,SNR=4.5						
CMAR				LR	LR	06 55 58.9	
	comp=Z,210nm,18.2s,baz=262,slow=39						
KK31	Karatay Array	40.07	7	P	P	06 39 11.3	+1.1
KKAR	Karatay Array	40.07	7	P	P	06 39 11.2	+1.0
KDJ	Kajisay	40.41	15	P	P	06 39 13.4	+0.2
ABKAR	Akbulak array	45.97	356	P	P	06 39 57.8	-0.1
ABKAR				IAmb	IAmb	06 40 10.7	
	comp=Z,5.3nm,1.5s						
MK31	Makanchi Array	46.13	17	P	P	06 39 59.1	-0.1
MK31				IAmb	IAmb	06 40 10.0	
	comp=Z,3.2nm,1.4s						
ARU	Arti	53.20	356	P	P	06 40 51.2	-1.6
ARU				IAmb	IAmb	06 41 04.7	
	comp=Z,6.9nm,1.2s						
ZAA0	Zalesovo Array	53.28	15	P	P	06 40 52.9	-0.6
ZAA0				IAmb	IAmb	06 41 04.4	
	comp=Z,1.8nm,0.6s						
SONM	Songino Array	57.32	33	P	P	06 41 22.6	-0.4
	comp=Z,0.6nm,0.6s,baz=222,slow=8.8,SNR=4.0						
ULN	Ulaanbaatar	57.69	33	P	P	06 41 26.0	+0.4
ULN				IAmb	IAmb	06 41 26.6	
	comp=Z,2.8nm,1.1s						
TLY	Talaya	58.39	28	P	P	06 41 30.7	+0.4
ESDC	Sonseca Array	71.17	311	P	P	06 42 54.6	+0.7
	comp=Z,1.0nm,1.0s,baz=89,slow=6.8,SNR=4.7						
WRA	Warramunga Arr	72.56	112	P	P	06 43 02.5	-0.1
	comp=Z,3.0nm,0.9s,baz=289,slow=5.4,SNR=6.3						
ASAR	Alice Springs	72.86	116	P	P	06 43 04.2	-0.2
	comp=Z,1.4nm,0.8s,baz=287,slow=5.9,SNR=9.4						
TXAR	Lajitas Array	145.56	341	PKPbc	PKPbc	06 51 14.4	+0.3
	comp=Z,1.4nm,1.0s,baz=79,slow=2.2,SNR=8.4						

*UNK **27** 07:10:46.2,35°.88N×97°.26W,h5km*
*TUL **27** 07:10:46.2±1.9,35°.88N±0°.02×97°.26W±0°.05,h5km±6km, ML3.5,Error ellipse: s-maj=6.1km s-min=2.0km az=70.0*
*NEIC **27** 07:10:46.5±1.5,35°.89N±0°.02×97°.25W±0°.05,h5km±6km, Error ellipse: s-maj=6.6km s-min=2.1km az=72.0*
*ANF **27** 07:10:48.5±1.0,35°.91N×97°.23W,h27km±10km,ML4.4/15, Error ellipse: s-maj=3.1km s-min=2.4km az=175.0*

ISC 27 07:10:46.1±1.1,35°.93N±0°.04×97°.20W±0°.03,h8km±9km, n124,σ1s17/143,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	Luther M Schoo	0.27	179		Pg	07 10 51.3	-0.2
OK005				Sg	Sg	07 10 55.2	0.0
ADOK	Arcadia Dam	0.31	207	Pg	Pg	07 10 51.5	-0.7
ADOK				Sg	Sg	07 10 55.5	-0.8
OK001	Jones High Sch	0.37	192	Pg	Pg	07 10 52.9	-0.5
OK001				Sg	Sg	07 10 57.7	-0.6
OK009	Oakdale Elemen	0.39	208		Pg	07 10 53.0	-0.7
OK009				Sg	Sg	07 10 58.0	-0.9
OKCFA	Oklahoma City	0.55	202	Pg	Pg	07 10 56.1	-0.7
OKCFA				Sg	Sg	07 11 03.2	-0.8
OKCSW	OKLAHOMA CITY	0.56	201		Pg	07 10 56.1	-0.7
OKCSW				Sg	Sg	07 11 03.4	-0.8
W35A	Tecumseh	0.82	161		Pg	07 11 01.0	-0.8
W35A				Sg	Sg	07 11 12.2	-0.3
T35A	Sooner Cattle	1.13	29		Pb	07 11 08.5	+0.5
TUL1	Leonard	1.14	90	P	Pb	07 11 07.9	-0.2
	baz=269,SNR=174						
TUL1				S	Sg	07 11 24.3	+1.5
	baz=269						
TUL1	Leonard	1.14	90		Pb	07 11 07.9	-0.2
X34A	Smith Ranch, M	1.42	202	Pn	Pn	07 11 11.8	-0.5
U32A	Winter Ranch,	1.53	288		Pn	07 11 13.8	0.0
WMOK	Wichita Mounta	1.76	228	P	Pn	07 11 16.4	-0.5
	baz=47						
WMOK				S	Sn	07 11 39.4	-0.1
	baz=47						
WMOK	Wichita Mounta	1.76	228		Pn	07 11 16.7	-0.2
X37A	Clayton	2.00	131		Pn	07 11 21.4	+1.1
U38A	Gravette	2.33	77		Pn	07 11 26.5	+1.7
Z35A	Perchaven, San	2.59	181	Pn	Pn	07 11 28.8	+0.4
HHAR	Hobbs	2.66	81		Pn	07 11 30.7	+1.3
R32A	Long Quarter,	2.77	335		Pn	07 11 32.9	+2.0
W39A	Magazine	2.88	104	P	Pn	07 11 33.6	+1.3
	baz=285,SNR=15						
W39A	Magazine	2.88	104		Pn	07 11 33.8	+1.5
KSU1	Kansas State U	3.20	8	P	Pn	07 11 38.1	+1.3
	baz=189,SNR=21						
KSU1	Kansas State U	3.20	8		Pn	07 11 38.2	+1.4
Z38A	Mt. Pleasant	3.23	145		Pn	07 11 37.8	+0.7
MIAR	Mount Ida	3.27	114	P	Pn	07 11 39.5	+1.8
	baz=295,SNR=27						
MIAR				S	Sn	07 12 18.4	+1.6
	baz=295						
MIAR	Mount Ida	3.27	114		Pn	07 11 39.9	+2.2
CBKS	Cedar Bluff	3.52	326	P	Pn	07 11 42.2	+1.0
	baz=145,SNR=12						
CBKS	Cedar Bluff	3.52	326	Pn	Pn	07 11 42.3	+1.0
CBKS				Pg	Pb	07 11 50.6	+1.8
U40A	Yellville	3.54	82	P	Pn	07 11 42.5	+1.0
	baz=264,SNR=17						
U40A	Yellville	3.54	82		Pn	07 11 42.5	+1.0
S39A	Bolivar	3.57	59		Pn	07 11 43.5	+1.6
X40A	Basin Creek Fa	3.85	111	P	Pn	07 11 47.1	+1.4
	baz=292,SNR=9.8						
X40A	Basin Creek Fa	3.85	111		Pn	07 11 47.7	+2.0
ABTX	Abilene, Hawle	3.87	212	P	Pn	07 11 45.9	-0.1
	baz=30						
ABTX	Abilene, Hawle	3.87	212	Pn	Pn	07 11 45.0	-0.9
WHTX	Lake Whitney,	3.93	183	P	Pn	07 11 46.3	-0.5
	baz=2.3						
WHTX				Sb	Sb	07 12 44.8	+1.4
	baz=2.3						
WHTX	Lake Whitney,	3.93	183		Pn	07 11 46.7	-0.1
WLAR	White Oak Lake	4.04	122	Pn	Pn	07 11 50.0	+1.7
WHAR	Wooly Hollow	4.05	98	Pn	Pn	07 11 49.6	+1.1
237A	Washetta, Mont	4.08	163		Pn	07 11 48.6	-0.3
W41B	Gary Mavity, V	4.11	99	P	Pn	07 11 50.5	+1.4
	baz=281,SNR=12						
W41B				S	Sn	07 12 38.4	+1.0
	baz=281						
W41B	Gary Mavity, V	4.11	99		Pn	07 11 50.6	+1.4
FCAR	Ozark Folk Cen	4.12	89		Pn	07 11 50.6	+1.2
MGMO	Mountain Grove	4.15	71		Pn	07 11 51.4	+1.5
Z41A	Richland Creek	4.50	125	S	Sn	07 12 47.9	+0.8
	baz=307						
R40A	Maddies Statio	4.59	58	Pn	Pn	07 11 57.2	+1.4
NATX	Nacogdoches	4.66	152	S	Sn	07 12 49.9	-1.3
	baz=333						
P38A	Dawn	4.70	37	Pn	Pn	07 11 59.2	+1.8
N33A	J Bar K, Exete	4.81	358		Pn	07 11 58.9	0.0
CCAR	Cane Creek	4.89	113	Pn	Pn	07 12 00.2	+0.3
LCAR	Lake Charles	4.90	87		Pn	07 12 00.2	+0.1
MSTX	Muleshoe	4.98	249	P	Pn	07 12 00.7	-0.6
	baz=66						
T42A	Van Buren	5.04	76		Pn	07 12 03.0	+1.0
N35A	Tabor	5.08	13		Pn	07 12 03.1	+0.6
CCM	Cathedral Cave	5.22	64	P	Pn	07 12 05.4	+0.9
	baz=248						
CCM	Cathedral Cave	5.22	64		Pn	07 12 05.8	+1.4
KSCO	Kaye Shedlock'	5.30	307	Pn	Pn	07 12 08.1	+2.3
P40A	Paris	5.44	47		Pn	07 12 09.0	+1.5
BGNE	Belgrade	5.52	353	P	Pn	07 12 08.8	+0.1
	baz=173						
BGNE				S	Sn	07 13 11.0	-1.5
	baz=173						
BGNE	Belgrade	5.52	353	Pn	Pn	07 12 08.8	+0.1
N38A	Joes South For	5.77	31	Pn	Pn	07 12 12.5	+0.4
JCT	Junction City	5.85	203	P	Pn	07 12 12.2	-1.1
	baz=21						
JCT	Junction City	5.85	203	Pn	Pn	07 12 12.3	-1.0
T25A	Trinidad	5.93	284	P	Pn	07 12 13.7	-0.8
	baz=100						
T25A	Trinidad	5.93	284		Pn	07 12 14.5	0.0
CPRX	Cap Rock	6.22	244	Pn	Pn	07 12 16.6	-1.8
OXF	Oxford	6.53	100	P	Pn	07 12 22.4	-0.1
	baz=284						
OXF				S	Sn	07 13 37.0	-0.2
	baz=284						
W45A	Hickory Valley	6.58	94	Pn	Pn	07 12 22.9	-0.3
S44A	Carbondale	6.61	72	Pn	Pn	07 12 24.0	+0.3
Y45A	Yeager Farm, C	6.62	106	Pn	Pn	07 12 24.9	+1.2
K31A	O'Neill	6.79	350	Pn	Pn	07 12 26.0	-0.2
N41A	Harden Midland	6.90	44	Pn	Pn	07 12 29.8	+2.2
SDCO	Great Sand Dun	6.90	288	P	Pn	07 12 28.1	+0.2
	baz=103						
SDCO				S	Sn	07 13 45.4	-1.4
	baz=103						
SDCO	Great Sand Dun	6.90	288		Pn	07 12 28.8	+0.9
GDL2	Guadalupe Moun	7.01	240		Pb	07 12 51.4	+3.2
Q24A	Divide	7.01	298	P	Pn	07 12 30.3	+0.8
	baz=114						
Q24A				S	Sn	07 13 48.9	-0.6
	baz=114						
P43A	Skaggs, Pawnee	7.12	56		Pn	07 12 30.5	-0.1
Q44A	Meyer Farm, Va	7.16	63		Pn	07 12 32.6	+1.5
PLAL	Pickwick Lake	7.50	95	Pn	Pn	07 12 35.4	-0.5
WVT	Waverly	7.59	86	Pn	Pn	07 12 40.6	+3.5
ANMO	Albuquerque	7.62	265		Pg	07 13 05.3	-6.8
L40A	Anamosa	7.69	35	Pn	Pn	07 12 39.0	+0.6
ISCO	Idaho Springs	7.70	303	P	Pn	07 12 38.8	0.0
	baz=118						
ISCO				S	Sn	07 14 05.1	-1.3
	baz=118						
ISCO	Idaho Springs	7.70	303		Pn	07 12 39.4	+0.6
HDIL	Hopedale	7.75	51	P	Pn	07 12 39.8	+0.6
	baz=236,SNR=7.0						
HDIL				S	Sn	07 14 04.9	-2.2
	baz=236						
HDIL	Hopedale	7.75	51		Pn	07 12 40.7	+1.5
ECSD	EROS Data Cent	7.81	3	P	Pn	07 12 39.8	-0.3
	baz=184,SNR=5.6						
ECSD				S	Sn	07 14 06.3	-2.4
	baz=184						
ECSD	EROS Data Cent	7.81	3		Pn	07 12 39.6	-0.5
BNM	Barren Site	7.94	260		Pn	07 12 43.2	+1.1
MNTX	Cornudas Mount	8.01	241	P	Pn	07 12 41.9	-1.0
	baz=56						
MNTX	Cornudas Mount	8.01	241		Pn	07 12 41.6	-1.3
PHWY	Pilot Hill	8.40	312		Pn	07 12 47.9	-0.5
L42A	Oliver, Polo	8.44	42		Pn	07 12 48.7	+0.1
N23A	Red Feather La	8.47	308	P	Pn	07 12 49.2	-0.1
	baz=124						
N23A	Red Feather La	8.47	308		Pn	07 12 50.5	+1.1
TX31	Lajitas Ar. Si	8.54	221		Pn	07 12 50.7	+0.5
SUSD	Miller	8.61	352	P	Pn	07 12 51.3	+0.2
	baz=171						
JFWS	Jewell Farm	8.81	35	P	Pn	07 12 54.3	+0.5
	baz=220						
JFWS	Jewell Farm	8.81	35	Pn	Pn	07 12 54.9	+1.2
LRAL	Lakeview Retre	8.90	106	P	Pn	07 12 55.8	+0.7
	baz=292						
LRAL	Lakeview Retre	8.90	106	Pn	Pn	07 12 56.0	+1.0
M44A	Midewin, Midew	9.00	50	Pn	Pn	07 12 56.9	+0.6
WCI	Wyandotte Cave	9.01	72	P	Pn	07 12 57.9	+1.3
	baz=258						
WCI	Wyandotte Cave	9.01	72		Pn	07 13 00.2	+3.7
BLO	Bloomington	9.07	66	Pn	Pn	07 12 58.9	+1.4
I40A	Norwalk	9.42	30		Pn	07 13 02.1	-0.1
K43A	Burlington	9.64	43	Pn	Pn	07 13 06.2	+1.0
RWWY	Rawlins	9.70	309	Pn	Pn	07 13 06.5	+0.3
RSSD	Black Hills	9.72	329	P	Pn	07 13 06.9	+0.5
	baz=146						
RSSD	Black Hills	9.72	329		Pn	07 13 06.5	0.0
K22A	Casper	9.86	316	Pn	Pn	07 13 08.1	-0.2
P48A	Milroy	9.97	66	Pn	Pn	07 13 09.5	-0.3
I42A	Draeger Farm,	10.18	36	Pn	Pn	07 13 14.2	+1.6
Z51A	Franklin	10.24	101	Pn	Pn	07 13 14.9	+1.4
CPCT	Cooper Cave	10.32	89	Pn	Pn	07 13 15.3	+0.8
V51A	Loudon	10.43	87	Pn	Pn	07 13 16.5	+0.5
L46A	Eue Claire	10.43	51	Pn	Pn	07 13 17.4	+1.4
G40A	Rib Lake	10.74	28	Pn	Pn	07 13 20.8	+0.6
S51A	Beattyville	11.04	77	Pn	Pn	07 13 25.9	+1.5
L48A	N Adams	11.61	55	Pn	Pn	07 13 32.3	+0.1
G45A	Suttons Bay	12.64	40	Pn	Pn	07 13 45.3	-0.8
J48A	Bridge Port	12.69	50	Pn	Pn	07 13 45.6	-1.2
P53A	Whipple	13.01	69	Pn	Pn	07 13 51.1	-0.2
E46A	Sault Ste Mari	14.23	39	Pn	Pn	07 14 06.7	-1.3

*IDC **27** 07:18:14.5±13.0,1°.48N×127°.49E,h110km±129km, mb3.7/5,mb1 3.8/7,mb1mx3.4/52,mbtmp4.1/7,ML3.9/2, Error ellipse: s-maj=124.6km s-min=17.3km az=58.0*
*DJA **27** 07:18:16.5±0.6,1°.1N±4°×12°.7E±°,h101km±6km,M4.5/8, mB5.1/2,mb5.0/3,MLv4.3/8,Mw(mB)4.5/2*
*NEIC **27** 07:18:16.5±1.1,1°.4N±0°.1×127°.3E±0°.1,h128km±7km, mb4.3/16,Error ellipse: s-maj=20.4km s-min=15.2km az=52.0*

ISC 27 07:18:16.8±0.7,1°.36N±0°.07×127°.3E±0°.1,h128km,n34, σ0s86/37,mb4.3/11,1D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	0.59	173	P	Pn	07 18 34.5	-1.7
TNTI				S	Sn	07 18 48.9	-2.0
TNTI	Ternate	0.59	173		Pn	07 18 36.0	-0.1
TNTI				Sn	Sn	07 18 51.1	+0.3
KMSI	Cibinong	3.40	257	P	Pn	07 19 07.4	-1.1
SANI	Sanana	3.63	201	P	Pn	07 19 11.4	-0.2
LUWI	Luwuk	5.11	242		Pn	07 19 30.5	-0.8
MRSI	Marisa	5.42	261	P	Pn	07 19 34.9	-0.6
	0.2nm40nm,0.5s						
KCP	Kidapawan	6.03	339	⇓iP	Pn	07 19 41.7	-2.0
KCP				*i* S	Sn	07 20 53.0	+1.4
TTSI	Tana Toraja	8.66	240	P	Pn	07 20 18.2	-0.9
	0.3nm978nm81nm,0.7s						
SPSI	Sidrap Palu	9.19	235	P	Pn	07 20 26.4	+0.1
KAPI	Kappang	9.84	230	P	Pn	07 20 36.6	+1.5
	2.0nm,0.3s,baz=28,slow=14,SNR=8.6						
KAPI	Kappang	9.84	230		Pn	07 20 35.7	+0.6
KNRA	Kununurra	16.99	175	P	Pn	07 22 06.9	+0.1
KNRA				IAmb	IAmb	07 22 18.5	
	comp=Z,24nm,1.3s						
FITZ	Fitzroy Crossi	19.40	185	P	P	07 22 33.5	+0.5
	comp=Z,0.2nm,0.3s,baz=4.7,slow=13,SNR=1.4						
FITZ	Fitzroy Crossi	19.40	185	P	P	07 22 33.3	+0.3
FITZ				IAmb	IAmb	07 22 43.4	
	comp=Z,19nm,1.4s						
COEN	Coen	21.89	135	P	P	07 23 01.2	+1.4
COEN				IAmb	IAmb	07 23 03.7	
	comp=Z,17nm,1.4s						
WB0	Warramunga Arr	22.12	162	P	P	07 23 01.8	-0.2
WB0				IAmb	IAmb	07 23 02.6	
	comp=Z,17nm,1.1s						
WRAB	Tennant Creek	22.27	162	P	P	07 23 03.3	-0.2
WRAB				IAmb	IAmb	07 23 09.9	
	comp=Z,9.0nm,0.5s						
WRA	Warramunga Arr	22.27	162	P	P	07 23 03.1	-0.5
	comp=Z,8.6nm,0.5s,baz=340,slow=11,SNR=32						
WB2	Warramunga Arr	22.27	162	P	P	07 23 03.3	-0.3
WB2				IAmb	IAmb	07 23 04.6	
	comp=Z,8.4nm,0.8s						
WR0	Warramunga Arr	22.35	162	P	P	07 23 04.0	-0.3
WR0				IAmb	IAmb	07 23 04.2	
	comp=Z,5.8nm,0.5s						
AS31	Alice Springs	25.69	166	P	P	07 23 35.2	+0.1
ASAR	Alice Springs	25.70	166	P	P	07 23 34.8	-0.3
	comp=Z,1.1nm,0.6s,baz=350,slow=7.3,SNR=15						
BBOO	Buckleboo	34.98	167	P	P	07 24 56.8	0.0
EIDS	Eidsvold	35.16	141	P	P	07 24 58.1	-0.3
EIDS				IAmb	IAmb	07 25 17.1	
	comp=Z,8.6nm,1.2s						
STKA	Stephens Creek	35.73	159	P	P	07 25 03.5	+0.3
	comp=Z,1.3nm,0.3s,baz=324,slow=9.6,SNR=7.6						
STKA	Stephens Creek	35.73	159	P	P	07 25 03.6	+0.3
ARMA	Armidale	39.20	146	P	P	07 25 34.0	+1.4
LBZ	Lake Benmore	59.42	145	P	P	07 28 06.5	+0.5
MK31	Makanchi Array	59.81	326	P	P	07 28 08.6	-0.1
MKAR	Makanchi Array	59.81	326	P	P	07 28 08.6	-0.1
	comp=Z,0.7nm,0.4s,baz=117,slow=7.8,SNR=11						
TUWZ	Tuamarina	59.97	141	P	P	07 28 09.6	-0.1
BKZ	Black Stump Fm	60.46	137	P	P	07 28 13.1	-0.1
KURBB	Kurchatov Arra	64.03	328	P	P	07 28 36.2	-0.5
	comp=Z,0.6nm,0.5s,baz=128,slow=6.4,SNR=7.4						
KURK	Kurchatov	64.03	328	P	P	07 28 36.1	-0.6

*NNC **27** 07:20:24.4±0.6,50°.01N×78°.71E,h0km,mb3.8,mpv3.4, Error ellipse: s-maj=10.4km s-min=3.3km az=82.0, Suspected Mining explosion.*
*IDC **27** 07:20:25.4±0.9,50°.04N×78°.74E,h0km,mb3.6/2, mb1 3.5/5,mb1mx3.3/58,mbtmp3.4/5,ML3.1/3,Error ellipse: s-maj=10.8km s-min=7.7km az=58.0*

ISC 27 07:20:25.1±0.9,50°.13N±0°.04×78°.83E±0°.06,h0km,n25, σ1s06/41,22C-12D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	Kurchatov Arra	0.50	336	⇑P	Pb	07 20 36.1	-0.7
KUR07				⇑S	Sb	07 20 44.9	+0.3
KUR14	Kurchatov Arra	0.51	343	⇑P	Pb	07 20 36.5	-0.6
KUR14				⇑S	Sb	07 20 45.2	+0.2
KUR06	Kurchatov Arra	0.52	337	⇓P	Pb	07 20 36.4	-0.7
KUR06				⇓S	Sb	07 20 45.3	+0.2
KUR15	Kurchatov Arra	0.52	341	⇑P	Pb	07 20 36.6	-0.6
KUR15				⇑S	Sb	07 20 46.1	+0.8
KURBB	Kurchatov Arra	0.53	339	Pg	Pb	07 20 36.5	-0.9
	10nm,0.3s,baz=165,slow=17,SNR=846						
KURBB				Lg	Lg	07 20 45.7	
	9.4nm,0.3s,baz=169,slow=32,SNR=18						
KURBB	Kurchatov Arra	0.53	339	⇑P	Pb	07 20 36.

4.4nm,0.7s
BRVK ⇓Lg Lg 07 23 37.0
4.5nm,0.8s
KUU Kurty 6.47 196 Pg **Pb 07 22 18.7 +0.2**
1.4nm,0.3s
KUU Lg Lg 07 23 43.2
21nm,0.8s
KTBS Karatobe 6.58 194 Pg **Pb 07 22 23.5 +3.0**
0.8nm,0.2s
KTBS Lg Lg 07 23 52.6
37nm,0.9s
HFS Hagfors 37.06 311 P **P 07 27 35.7 -0.8**
0.8nm,0.4s,baz=82,slow=11,SNR=6.6
NOA NORSAR Array B 38.01 313 P **P 07 27 43.7 -0.9**
0.2nm,0.4s,baz=65,slow=9.4,SNR=3.1

HLW ***27*** *07:28:36.6,36′.07N×27°.17E,h12km±14km,Md4.0*
ATH ***27*** *07:28:36.4,36′.38N×26°.91E,h118km±3km,ML2.8/9,Error ellipse: s-maj=3.1km s-min=1.4km az=117.0*
ISK ***27*** *07:28:37.2,36′.40N×26°.94E,h110km±1km,ML2.6/12*
THE ***27*** *07:28:38.5,36′.40N×26°.93E,h130km±7km,ML2.9/4,Error ellipse: s-maj=7.5km s-min=1.0km az=143.0*
ISC 27 07:28:35.1±1.4,**36′.38N**±0′.05×**26°.96E**±0′.03,**h132**km±9km, **n49,**σ**1$55/76, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BODT	**Bodrum**	**0.74**	**23**	PG	**Pn**	**07 28 56.3**	**+0.3**
BODT				SG	**Sn**	**07 29 10.4**	**-1.4**
KARP	**Karpathos**	**0.85**	**169**	P	**Pn**	**07 28 57.6**	**+0.7**
KARP				S	**Sn**	**07 29 12.3**	**-1.1**
	238nm,0.1s						
KARP	**Karpathos**	**0.85**	**169**	P	**Pn**	**07 28 57.6**	**+0.7**
KARP				S	**Sn**	**07 29 12.8**	**-0.6**
KARP				AML	AML	07 29 14.8	
	comp=N,414μm,0.1s						
KARP				AML	AML	07 29 15.9	
	comp=E,499μm,0.2s						
KARP	**Karpathos**	**0.85**	**169**	PG	**Pn**	**07 28 57.6**	**+0.7**
KARP				SG	**Sn**	**07 29 12.5**	**-0.9**
ANAF	**Anafi Island**	**0.95**	**269**	P	**Pn**	**07 28 58.6**	**+0.9**
ANAF				S	**Sn**	**07 29 13.5**	**-1.5**
ANAF				AML	AML	07 29 14.1	
	comp=N,951μm,0.4s						
ANAF				AML	AML	07 29 14.3	
	comp=E,628μm,0.4s						
ARG	**Arkhangelos**	**0.96**	**100**	P	**Pn**	**07 28 59.1**	**+1.4**
ARG				S	**Sn**	**07 29 14.8**	**-0.2**
	comp=E,495nm,0.2s						
ARG	**Arkhangelos**	**0.96**	**100**	P	**Pn**	**07 28 59.2**	**+1.4**
ARG				S	**Sn**	**07 29 14.8**	**-0.2**
ARG				AML	AML	07 29 16.6	
	comp=E,1079μm,0.2s						
ARG				AML	AML	07 29 17.2	
	comp=N,858μm,0.2s						
ARG	**Arkhangelos**	**0.96**	**100**	PG	**Pn**	**07 28 58.9**	**+1.1**
ARG				SG	**Sn**	**07 29 14.6**	**-0.4**
AMGA	**Amorgos Island**	**0.97**	**298**	P	**Pn**	**07 28 58.5**	**+0.6**
AMGA				S	**Sn**	**07 29 13.8**	**-1.3**
AMGA				AML	AML	07 29 14.5	
	comp=E,213μm,0.5s						
AMGA				AML	AML	07 29 14.6	
	comp=N,217μm,0.5s						
MRSB	**Marmaris-Mugla**	**1.05**	**71**	PG	**Pn**	**07 28 59.7**	**+1.0**
MRSB				SG	**Sn**	**07 29 15.9**	**-0.7**
SANT	**Santorini**	**1.21**	**270**	PN	**Pn**	**07 29 00.9**	**+0.7**
SANT				SN	**Sn**	**07 29 18.4**	**-0.9**
THR6	**Thira Island,**	**1.26**	**269**	P	**Pn**	**07 29 01.4**	**+0.7**
YER	**Yerkesik**	**1.30**	**54**	P	**Pn**	**07 29 02.9**	**+1.6**
YER				S	**Sn**	**07 29 20.9**	**-0.3**
YER	**Yerkesik**	**1.30**	**54**	PN	**Pn**	**07 29 02.8**	**+1.5**
APE	**Apeiranthos**	**1.33**	**301**	P	**Pn**	**07 29 02.5**	**+1.0**
APE	**Apeiranthos**	**1.33**	**301**	PN	**Pn**	**07 29 02.6**	**+1.0**
APE				SN	**Sn**	**07 29 21.1**	**-0.6**
STIA	**Sitia Lasithi**	**1.37**	**211**	P	**Pn**	**07 29 04.2**	**+2.3**
STIA				S	**Sn**	**07 29 21.4**	**-0.9**
IOSP	**Ios island**	**1.39**	**285**	P	**Pn**	**07 29 03.0**	**+1.0**
ZKR	**Zakros**	**1.40**	**206**	P	**Pn**	**07 29 04.0**	**+1.8**
ZKR				S	**Sn**	**07 29 23.6**	**+0.7**
ZKR	**Zakros**	**1.40**	**206**	P	**Pn**	**07 29 03.4**	**+1.1**
ZKR				S	**Sn**	**07 29 22.4**	**-0.4**
ZKR				AML	AML	07 29 24.7	
	comp=E,636μm,0.6s						
ZKR				AML	AML	07 29 25.6	
	comp=N,287μm,0.3s						
ZKR	**Zakros**	**1.40**	**206**	PN	**Pn**	**07 29 04.0**	**+1.8**
ZKR				SN	**Sn**	**07 29 23.1**	**+0.2**
TURN	**Turunc**	**1.41**	**69**	PN	**Pn**	**07 29 00.4**	**-1.9**
TURN				SN	**Sn**	**07 29 16.9**	**-6.2**
DALY	**Dalyan (Mula)**	**1.43**	**72**	PN	**Pn**	**07 29 04.7**	**+2.2**
DALY				SN	**Sn**	**07 29 23.8**	**+0.3**
NPS	**Neapolis**	**1.56**	**225**	P	**Pn**	**07 29 04.9**	**+0.9**
NPS	**Neapolis**	**1.56**	**225**	P	**Pn**	**07 29 05.0**	**+1.0**
LAST	**Lasithi**	**1.71**	**225**	P	**Pn**	**07 29 06.7**	**+0.9**
LAST				S	**Sn**	**07 29 28.5**	**-0.7**
	comp=N,165nm,0.2s						
LAST	**Lasithi**	**1.71**	**225**	P	**Pn**	**07 29 06.8**	**+0.9**
LAST				S	**Sn**	**07 29 28.5**	**-0.7**
LAST				AML	AML	07 29 29.1	
	comp=E,298μm,0.2s						
LAST				AML	AML	07 29 29.3	
	comp=N,357μm,0.2s						
FETY	**Fethiye**	**1.73**	**81**	P	**Pn**	**07 29 07.4**	**+1.4**
FETY				S	**Sn**	**07 29 29.2**	**-0.4**
FETY	**Fethiye**	**1.73**	**81**	PN	**Pn**	**07 29 07.6**	**+1.6**
FETY				SN	**Sn**	**07 29 28.9**	**-0.7**
IDI	**Anoyia**	**2.00**	**238**	P	**Pn**	**07 29 10.2**	**+0.9**
IDI				AML	AML	07 29 35.6	
	comp=N,223μm,0.1s						
IDI				AML	AML	07 29 36.4	
	comp=E,243μm,0.3s						
IDI	**Anoyia**	**2.00**	**238**	PN	**Pn**	**07 29 10.1**	**+0.8**
KSL	**Kastellorizon**	**2.14**	**95**	P	**Pn**	**07 29 12.7**	**+1.9**
KSL				S	**Sn**	**07 29 37.8**	**-0.4**
KSL	**Kastellorizon**	**2.14**	**95**	P	**Pn**	**07 29 12.6**	**+1.9**
KSL				AML	AML	07 29 40.2	
	comp=E,274μm,0.4s						
KSL				AML	AML	07 29 41.3	
	comp=N,119μm,0.3s						
AKAS	**Kas**	**2.15**	**93**	PN	**Pn**	**07 29 12.9**	**+1.8**
ELL	**Elmali**	**2.41**	**80**	PN	**Pn**	**07 29 16.6**	**+2.3**
VAM	**Vamos**	**2.44**	**247**	P	**Pn**	**07 29 15.6**	**+1.0**
VAM				AML	AML	07 29 45.8	
	comp=E,133μm,0.2s						
VAM				AML	AML	07 29 46.9	
	comp=N,203μm,0.2s						
IMMV	**Iera Moni Meta**	**2.58**	**250**	P	**Pn**	**07 29 17.4**	**+1.0**
IMMV				S	**Sn**	**07 29 47.1**	**-1.1**
IMMV	**Iera Moni Meta**	**2.58**	**250**	P	**Pn**	**07 29 17.9**	**+1.5**
GVDS	**Gavdos**	**2.79**	**238**	P	**Pn**	**07 29 21.2**	**+2.1**
GVDS				S	**Sn**	**07 29 54.1**	**+1.1**
	comp=N,85nm,0.3s						
GVD	**Gavdhos**	**2.80**	**237**	P	**Pn**	**07 29 20.6**	**+1.4**
KTHA	**Kythira Island**	**3.15**	**269**	P	**Pn**	**07 29 25.1**	**+1.4**
KTHA	**Kythira Island**	**3.15**	**269**	P	**Pn**	**07 29 24.9**	**+1.2**
VLI	**Veliai**	**3.25**	**277**	P	**Pn**	**07 29 26.4**	**+1.4**
VLI	**Veliai**	**3.25**	**277**	P	**Pn**	**07 29 26.5**	**+1.4**
SWA2		**7.23**	**190**	P	**Pn**	**07 30 18.4**	**+0.3**
	baz=193						
SWA2				S	**Sn**	**07 31 32.9**	**-5.9**
	baz=193						
RSH		**7.81**	**132**	P	**Pn**	**07 30 25.4**	**-0.6**
	baz=131						
GLL	**Jalalah**	**7.87**	**148**	P	**Pn**	**07 30 26.6**	**-0.3**
	baz=148						
SUZ	**Suez**	**8.17**	**141**	P	**Pn**	**07 30 31.1**	**+0.3**
	baz=141						
HFRF	**Wahat Farafira**	**9.28**	**172**	P	**Pn**	**07 30 46.4**	**+0.6**
	baz=173						

NEIC ***27*** *07:34:56.9±1.6,8′.38S±0′.07×74°.23W±0′.09,h159km±5km, mb4.4/122,Error ellipse: s-maj=13.2km s-min=9.3km az=71.0*
IDC ***27*** *07:34:56.4±0.6,8′.36S×74°.23W,h159km±5km,mb3.8/15, mb1 4.0/20,mb1mx3.9/32,mbtmp4.3/20,Error ellipse: s-maj=14.3km s-min=8.9km az=43.0*
VAO ***27*** *07:35:00.7±1.3,8′.57S×73°.94W,h166km±5km,mb4.6*
ISC 27 07:34:56.4±0.5,**8′.40S**±0′.04×**74°.27W**±0′.05,**h157**km±4km, **h157km:pP-P,n247,**σ**0$93/271,mb4.3/63,2D,Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATAH	**Atahualpa**	**4.28**	**287**	P	**Pn**	**07 35 60.0**	**-0.9**
	29nm,0.3s,baz=91,slow=5.0,SNR=187						
ATAH				S	**Sn**	**07 36 50.2**	**-0.8**
	42nm,0.3s,baz=28,slow=16,SNR=8.1						
NNA	**Nana**	**4.37**	**215**	P	**Pn**	**07 36 01.7**	**0.0**
	3.9nm,0.3s,baz=36,slow=3.2,SNR=11						
NNA				S	**Sn**	**07 36 49.2**	**-3.5**
	36nm,0.3s,baz=261,slow=2.5,SNR=14						
NNA	**Nana**	**4.37**	**215**		**Pn**	**07 36 02.1**	**+0.4**
NNA				Sn	**Sn**	**07 36 48.6**	**-4.0**
PUAC	**Puerto Asis, P**	**9.19**	**345**	*eP*	**Pn**	**07 37 03.7**	**-1.9**
CUSE	**Cuicocha Este**	**9.58**	**334**	*eP*	**Pn**	**07 37 13.1**	**+1.8**
LPAZ	**La Paz**	**9.87**	**143**	P	**Pn**	**07 37 13.9**	**-1.2**
	1.0nm,0.3s,baz=333,slow=11,SNR=31						
LPAZ	**La Paz**	**9.87**	**143**	Pn	**Pn**	**07 37 13.6**	**-1.6**
LPAZ	**La Paz**	**9.87**	**143**	*eP*	**Pn**	**07 37 14.4**	**-0.7**
LPAZ	**La Paz**	**9.87**	**143**	*eP*	**Pn**	**07 37 14.4**	**-0.7**
GCUF	**Volcan Galeras**	**10.04**	**342**	*eP*	**Pn**	**07 37 17.0**	**-0.5**
CRUC	**La Cruz**	**10.26**	**345**	*eP*	**Pn**	**07 37 18.8**	**-1.3**
MACC	**Macarena, Meta**	**10.49**	**2**	*eP*	**Pn**	**07 37 20.5**	**-2.3**
GARC	**Garzon, Huila**	**10.59**	**353**	*eP*	**Pn**	**07 37 23.6**	**-0.8**
SOTA	**Rioblanco**	**10.72**	**347**	*eP*	**Pn**	**07 37 26.0**	**-0.4**
BBAC	**Balboa, Cauca**	**10.77**	**344**	*eP*	**Pn**	**07 37 26.7**	**-0.1**
PCON	**Cinco Dias**	**10.87**	**349**	*eP*	**Pn**	**07 37 28.3**	**-0.1**
GUVC	**San Jose del G**	**11.00**	**9**	*eP*	**Pn**	**07 37 31.0**	**+1.5**
MARP	**Paez Belalcaza**	**11.30**	**351**	*eP*	**Pn**	**07 37 32.8**	**-0.9**
MNMC	**Minye Minye**	**11.59**	**157**		**Pn**	**07 37 37.8**	**+0.3**
PRAC	**Prado**	**12.05**	**357**	*eP*	**Pn**	**07 37 43.1**	**-0.2**
GO01	**Chusmiza**	**12.23**	**157**	Pn	**Pn**	**07 37 46.1**	**+0.1**
ORTC	**Ortega, Tolima**	**12.27**	**355**	*eP*	**Pn**	**07 37 45.4**	**-0.7**
VILC	**Villavicencio,**	**12.45**	**3**	*eP*	**Pn**	**07 37 48.3**	**-0.2**
YOTC	**Yotoco, Valle**	**12.48**	**350**	*eP*	**Pn**	**07 37 49.3**	**+0.4**
PB08	**IPOC Station P**	**12.68**	**158**	P	**P**	**07 37 57.4**	**+0.6**
TA01	**Diego Aracena**	**12.72**	**162**	P	**P**	**07 37 57.4**	**+0.6**
TOLC	**Tolima**	**12.95**	**355**	*eP*	**P**	**07 38 01.9**	**+2.2**
CHIC	**Chingaza**	**12.96**	**2**	*eP*	**Pn**	**07 37 53.9**	**-1.4**
ROSC	**El Rosal**	**13.16**	**360**	P	**P**	**07 38 03.3**	**+1.1**
RREF	**El Recreo**	**13.26**	**355**	*eP*	**P**	**07 38 05.6**	**+0.1**
PB01	**IPOC Station P**	**13.39**	**160**	P	**P**	**07 38 05.2**	**+0.8**
GUY2C	**Guyana, Caldas**	**13.58**	**355**	*eP*	**P**	**07 38 06.1**	**-0.9**
NORC	**Norcasia**	**13.89**	**358**	*eP*	**P**	**07 38 08.8**	**-1.1**
PB07	**IPOC Station P**	**13.90**	**163**	P	**P**	**07 38 11.7**	**+1.5**
SPBC	**San Pablo de B**	**13.96**	**1**	*eP*	**P**	**07 38 10.3**	**-0.5**
PB09	**IPOC Station P**	**14.17**	**161**		**P**	**07 38 14.4**	**+1.3**
RUSC	**La Rusia**	**14.25**	**5**		**P**	**07 38 16.1**	**+1.7**
CBOC	**Ciudad Bolivar**	**14.28**	**353**	*eP*	**Pn**	**07 38 10.5**	**-1.3**
VILB	**Vilhena**	**14.54**	**109**	*eP*	**Pn**	**07 38 14.2**	**-0.8**
VILB	**Vilhena**	**14.54**	**109**	*eP*	**Pn**	**07 38 14.2**	**-0.8**
HELC	**Santa Helena**	**14.55**	**355**	*eP*	**Pn**	**07 38 15.3**	**-0.1**
PTBC	**PUERTO BERRIO,**	**14.85**	**359**	*eP*	**Pn**	**07 38 19.2**	**+0.5**
SIV	**San Ignacio**	**14.94**	**122**	P	**Pn**	**07 38 18.6**	**-1.3**
	7.3nm,0.3s,baz=296,slow=10.0,SNR=80						
LVC	**Limon Verde**	**15.04**	**161**	P	**Pn**	**07 38 21.6**	**+0.3**
	2.2nm,0.3s,baz=344,slow=4.9,SNR=8.8						
LVC	**Limon Verde**	**15.04**	**161**	P	**P**	**07 38 24.7**	**+1.7**
LVC				IAmb	IAmb	07 38 25.9	
	comp=Z,15nm,0.8s						
PB15	**IPOC Station P**	**15.42**	**163**	P	**P**	**07 38 29.1**	**+2.0**
PB15				IAmb	IAmb	07 38 35.0	
	comp=Z,22nm,1.0s						
DBBC	**Dabeiba**	**15.44**	**353**	*eP*	**P**	**07 38 28.1**	**+0.9**
ZARC	**Zaragoza, Cauc**	**15.80**	**358**	*eP*	**P**	**07 38 31.6**	**+0.4**
UREC	**San Jos de Ur**	**16.10**	**355**	*eP*	**Pn**	**07 38 34.0**	**-0.1**
PTGA	**Pitinga**	**16.16**	**63**		**P**	**07 38 34.9**	**-0.2**
PTGA	**Pitinga**	**16.16**	**63**	*eP*	**P**	**07 38 35.9**	**+0.8**
PTGA	**Pitinga**	**16.16**	**63**	*eP*	**P**	**07 38 35.9**	**+0.8**
PTLB	**Pontes e Lacer**	**16.37**	**117**	*eP*	**P**	**07 38 36.6**	**-0.8**
PTLB	**Pontes e Lacer**	**16.37**	**117**	*eP*	**P**	**07 38 36.6**	**-0.8**
SMLC	**San Martn de**	**17.09**	**1**	*eP*	**P**	**07 38 43.4**	**-1.9**
GO02	**Mina Guanaco**	**17.25**	**166**	P	**Pn**	**07 38 49.0**	**+0.8**
GO02				IAmb	IAmb	07 38 51.7	
	comp=Z,20nm,1.0s						
SJCC	**San Jacinto, C**	**18.20**	**357**	*eP*	**P**	**07 38 57.1**	**-0.5**
CLDB	**Colider**	**18.38**	**99**	*eP*	**P**	**07 38 58.6**	**-0.9**
CLDB	**Colider**	**18.38**	**99**	*eP*	**P**	**07 38 58.6**	**-0.9**
NPGB	**Novo Progresso**	**18.79**	**87**	*eP*	**P**	**07 39 04.6**	**+0.7**
NPGB	**Novo Progresso**	**18.79**	**87**	*eP*	**P**	**07 39 04.6**	**+0.7**
ITTB	**Itaituba**	**18.85**	**79**	*eP*	**P**	**07 39 05.4**	**+0.8**
ITTB	**Itaituba**	**18.85**	**79**	*eP*	**P**	**07 39 05.4**	**+0.8**
AC02	**Maricunga**	**18.97**	**166**	P	**Pn**	**07 39 08.4**	**-0.3**
AC02				IAmb	IAmb	07 39 11.8	
	comp=Z,14nm,0.9s						
SALV	**Santo Antonio**	**19.62**	**114**	*eP*	**P**	**07 39 12.8**	**-0.1**
SALV	**Santo Antonio**	**19.62**	**114**	*eP*	**P**	**07 39 12.8**	**-0.1**
AC05	**El Transito**	**20.67**	**170**	P	Pn	07 39 28.4	-0.2
AC05				IAmb	IAmb	07 39 31.3	
	comp=Z,6.5nm,0.8s						
MALB	**Monte Alegre**	**20.95**	**73**	*eP*	**P**	**07 39 27.7**	**+0.5**
MALB				*eS*	**S**	**07 43 10.9**	**-1.2**
MALB	**Monte Alegre**	**20.95**	**73**	*eP*	**P**	**07 39 27.7**	**+0.5**
MALB				*eS*	**S**	**07 43 10.9**	**-1.2**
AQDB	**Aquidauana**	**21.59**	**126**	*eP*	**P**	**07 39 33.2**	**-0.7**
AQDB	**Aquidauana**	**21.59**	**126**	*eP*	**P**	**07 39 33.2**	**-0.7**
CO03	**El Pedregal**	**22.57**	**172**	P	**P**	**07 39 44.8**	**+1.1**
CO03				IAmb	IAmb	07 39 55.7	
	comp=Z,16nm,1.3s						
ARAG	**Araguaiana, MT**	**23.12**	**110**	*eP*	**P**	**07 39 48.0**	**-0.7**
ARAG	**Araguaiana, MT**	**23.12**	**110**	*eP*	**P**	**07 39 48.0**	**-0.7**
C2SB	**Chapadao do Su**	**23.21**	**119**	*eP*	**P**	**07 39 50.9**	**+1.2**
C2SB	**Chapadao do Su**	**23.21**	**119**	*eP*	**P**	**07 39 50.9**	**+1.2**
CFA	**Coronel Fontan**	**23.76**	**167**	P	**P**	**07 39 55.6**	**+1.1**
	comp=Z,2.6nm,0.5s,baz=354,slow=12,SNR=4.7						
CPUP	**Villa Florida**	**24.02**	**140**	P	**P**	**07 39 55.7**	**-1.2**
	comp=Z,2.5nm,0.5s,baz=323,slow=13,SNR=11						
CPUP	**Villa Florida**	**24.02**	**140**	P	**P**	**07 39 55.9**	**-0.9**
CPUP				IAmb	IAmb	07 39 56.6	
	comp=Z,3.6nm,0.6s						
PRPB	**Parauapebas**	**24.36**	**86**	*eP*	**P**	**07 40 00.6**	**+0.4**
PRPB	**Parauapebas**	**24.36**	**86**	*eP*	**P**	**07 40 00.6**	**+0.4**
ITRB	**Iturama**	**25.73**	**118**	*eP*	**P**	**07 40 11.7**	**-0.9**
ITRB	**Iturama**	**25.73**	**118**	*eP*	**P**	**07 40 11.7**	**-0.9**
PCMB	**Pacaembu**	**25.76**	**123**	*eP*	**P**	**07 40 12.9**	**+0.1**
PCMB	**Pacaembu**	**25.76**	**123**	*eP*	**P**	**07 40 12.9**	**+0.1**
SMTB	**Santa Maria do**	**26.38**	**93**	*eP*	**P**	**07 40 19.4**	**+0.9**
SMTB	**Santa Maria do**	**26.38**	**93**	*eP*	**P**	**07 40 19.4**	**+0.9**
BDFB	**Brasilia**	**26.65**	**108**	P	**P**	**07 40 20.3**	**-0.6**
	comp=Z,5.7nm,0.5s,baz=281,slow=10,SNR=12						
BDFB	**Brasilia**	**26.65**	**108**	P	**P**	**07 40 20.4**	**-0.6**
BDFB				IAmb	IAmb	07 40 23.5	
	comp=Z,6.2nm,0.5s						
PTGB	**Pitanga**	**26.69**	**130**	*eP*	**P**	**07 40 21.8**	**+0.7**
PTGB	**Pitanga**	**26.69**	**130**	*eP*	**P**	**07 40 21.8**	**+0.7**
IPMB	**Ipameri, GO**	**27.06**	**113**	*eP*	**P**	**07 40 25.4**	**+0.8**
IPMB	**Ipameri, GO**	**27.06**	**113**	*eP*	**P**	**07 40 25.4**	**+0.8**
PCDR	**Punta Cana, DR**	**27.37**	**12**	P	**P**	**07 40 28.2**	**+1.1**
PDPR	**Patillas Dam,**	**27.49**	**17**	P	**P**	**07 40 27.2**	**-1.0**
PDPR				IAmb	IAmb	07 40 29.5	
	comp=Z,8.2nm,0.7s						
AOPR	**Arecibo Observ**	**27.60**	**16**	P	**P**	**07 40 29.3**	**+0.2**
MTP	**Monte Pirata**	**27.70**	**18**	P	**P**	**07 40 28.9**	**-1.2**
MTP				IAmb	IAmb	07 40 31.7	
	comp=Z,10nm,0.8s						
FRTB	**Fartura**	**27.95**	**125**	*eP*	**P**	**07 40 32.7**	**+0.3**
FRTB	**Fartura**	**27.95**	**125**	*eP*	**P**	**07 40 32.7**	**+0.3**
CUPR	**Culebra, Puert**	**27.98**	**18**	P	**P**	**07 40 30.8**	**-1.8**
JANB	**Januaria**	**30.05**	**106**	*eP*	**P**	**07 40 51.1**	**+0.1**
JANB	**Januaria**	**30.05**	**106**	*eP*	**P**	**07 40 51.1**	**+0.1**
PLCA	**Paso Flores**	**32.36**	**175**	P	**P**	**07 41 11.5**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=336,slow=14,SNR=2.2						
PLCA				PcP	**PcP**	**07 43 56.0**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=354,slow=6.9,SNR=5.4						
PLCA	**Paso Flores**	**32.36**	**175**	IAmb	IAmb	07 41 19.1	
	comp=Z,3.6nm,1.4s						
BSFB	**Barra de Sao F**	**34.03**	**111**	*eP*	**P**	**07 41 25.9**	**+0.2**
BSFB				*ePP*	**pP**	**07 42 00.8**	**+1.5**
BSFB	**Barra de Sao F**	**34.03**	**111**	*eP*	**P**	**07 41 25.9**	**+0.2**
BSFB				*ePP*	**pP**	**07 42 00.8**	**+1.5**
GDU01	**Guandu, BA**	**34.43**	**102**	*eP*	**P**	**07 41 28.6**	**-0.7**
GDU01	**Guandu, BA**	**34.43**	**102**	*eP*	**P**	**07 41 28.6**	**-0.7**
RIB01	**Linhares ES**	**34.56**	**112**	*eP*	**P**	**07 41 30.7**	**+0.4**
RIB01	**Linhares ES**	**34.56**	**112**	*eP*	**P**	**07 41 30.7**	**+0.4**
656A	**Willston**	**38.39**	**348**	P	**P**	**07 42 03.1**	**+0.6**
Y57A	**Sumter**	**42.59**	**352**	P	**P**	**07 42 37.1**	**+0.2**
LRAL	**Lakeview Retre**	**42.95**	**344**	P	**P**	**07 42 39.5**	**-0.4**
BIRD	**Birdtown, Kers**	**43.21**	**353**	P	**P**	**07 42 42.0**	**0.0**
BIRD				IAmb	IAmb	07 42 42.7	
	comp=Z,6.8nm,1.0s						
Z47A	**Carrollton**	**43.41**	**343**	P	**P**	**07 42 42.8**	**-0.7**
Z47A				IAmb	IAmb	07 42 44.0	
	comp=Z,14nm,1.5s						
Y49A	**Blount Mountai**	**43.58**	**345**	P	**P**	**07 42 43.9**	**-1.1**
W57A	**Gilead**	**43.66**	**353**	P	**P**	**07 42 45.0**	**-0.5**
W57A				IAmb	IAmb	07 42 46.2	
	comp=Z,12nm,0.9s						
FPAL	**Fort Paine**	**44.04**	**346**	P	**P**	**07 42 47.9**	**-0.8**
V58A	**Windy Hill, Pi**	**44.20**	**354**	P	**P**	**07 42 49.6**	**-0.2**
V58A				IAmb	IAmb	07 42 50.4	
	comp=Z,6.3nm,0.9s						
W50A	**Signal Mountai**	**44.60**	**347**	P	**P**	**07 42 51.2**	**-2.0**
U56A	**King**	**44.88**	**353**	P	**P**	**07 42 55.5**	**+0.2**
U56A				IAmb	IAmb	07 42 56.5	
	comp=Z,9.4nm,0.8s						
T59A	**Double "B" Far**	**45.24**	**356**	P	**P**	**07 42 58.2**	**+0.2**
T57A	**Hurt**	**45.40**	**354**	P	**P**	**07 42 59.4**	**+0.1**
V48A	**Smith Brothers**	**45.47**	**346**	P	**P**	**07 42 58.4**	**-1.5**
V48A				IAmb	IAmb	07 42 59.4	
	comp=Z,5.1nm,0.6s						
TZTN	**Tazewell**	**45.55**	**350**	P	**P**	**07 42 59.9**	**-0.7**
TZTN				IAmb	IAmb	07 43 10.5	
	comp=Z,11nm,1.4s						
TZTN				PcP	**PcP**	**07 44 37.1**	**+0.6**
VWCC	**Virginia Weste**	**45.72**	**354**	P	**P**	**07 43 02.3**	**+0.4**
U49A	**Red Boiling Sp**	**45.97**	**347**	P	**P**	**07 43 02.5**	**-1.2**
S57A	**Dark Hollow, R**	**46.13**	**355**	P	**P**	**07 43 05.4**	**+0.4**
S57A				IAmb	IAmb	07 43 05.9	
	comp=Z,10nm,0.7s						
MIAR	**Mount Ida**	**46.46**	**338**	P	**P**	**07 43 07.9**	**+0.2**
W41B	**Gary Mavity, V**	**46.55**	**340**	P	**P**	**07 43 08.1**	**-0.2**
WHAR	**Wooly Hollow**	**46.67**	**340**	P	**P**	**07 43 08.3**	**-1.0**
WHAR				PcP	**PcP**	**07 44 40.8**	**+0.3**
R55A	**Marlinton**	**46.76**	**354**	P	**P**	**07 43 10.5**	**+0.5**
R55A				IAmb	IAmb	07 43 11.2	
	comp=Z,4.8nm,0.8s						
Z35A	**Perchaven, San**	**46.91**	**333**	P	**P**	**07 43 11.9**	**+0.7**
TX31	**Lajitas Ar. Si**	**47.01**	**324**	P	**P**	**07 43 12.6**	**+0.5**
TX31				IAmb	IAmb	07 43 13.3	
	comp=Z,8.8nm,0.9s						
TX31				PcP	**PcP**	**07 44 42.1**	**+0.2**
TX32	**Lajitas Array**	**47.01**	**324**	P	**P**	**07 43 12.5**	**+0.4**
TX32				PcP	**PcP**	**07 44 42.2**	**+0.3**
TXAR	**Lajitas Array**	**47.01**	**324**	P	**P**	**07 43 12.6**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=150,slow=8.6,SNR=33						
TXAR				PcP	**PcP**	**07 44 41.8**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=132,slow=7.3,SNR=5.4						
W39A	**Magazine**	**47.12**	**338**	P	**P**	**07 43 13.2**	**+0.4**
W39A				PcP	**PcP**	**07 44 42.7**	**+0.7**
FCAR	**Ozark Folk Cen**	**47.16**	**340**	P	**P**	**07 43 11.9**	**-1.2**
FCAR				PcP	**PcP**	**07 44 42.2**	**0.0**
X37A	**Clayton**	**47.20**	**336**	P	**P**	**07 43 14.0**	**+0.6**
X37A				IAmb	IAmb	07 43 14.4	
	comp=Z,6.1nm,0.6s						
Q56A	**Snyder Ridge,**	**47.42**	**355**	P	**P**	**07 43 16.0**	**+0.9**
Q56A				IAmb	IAmb	07 43 16.7	
	comp=Z,7.0nm,1.0s						
ABTX	**Abilene, Hawle**	**47.43**	**331**	P	**P**	**07 43 16.3**	**+1.0**
ABTX				IAmb	IAmb	07 43 16.7	
	comp=Z,9.8nm,0.9s						
Q54A	**Coxs Mills**	**47.54**	**353**	P	**P**	**07 43 15.8**	**-0.1**
Q54A				IAmb	IAmb	07 43 16.3	
	comp=Z,4.7nm,0.7s						
U40A	**Yellville**	**47.83**	**340**	P	**P**	**07 43 16.9**	**-1.4**
T42A	**Van Buren**	**47.87**	**342**	P	**P**	**07 43 16.7**	**-1.8**
P53A	**Whipple**	**48.10**	**353**	P	**P**	**07 43 20.2**	**-0.1**
P53A				IAmb	IAmb	07 43 32.7	
	comp=Z,9.8nm,1.2s	

SCHQ	**Schefferville**	**63.31**	**5**	P		**P**	**07 45 08.0**	**-0.4**
BOZ	**Bozeman (W)**	**63.34**	**332**	P		**P**	**07 45 09.1**	**+0.1**
BOZ				IAmb		IAmb	07 45 09.9	
	comp=Z,4.9nm,0.9s							
MCMT	**McKenzie Canyo**	**63.36**	**330**	P		**P**	**07 45 09.8**	**+0.6**
DLMT	**Dillon**	**63.62**	**331**	P		**P**	**07 45 10.9**	**+0.1**
DLMT				IAmb		IAmb	07 45 13.5	
	comp=Z,5.0nm,1.3s							
LRM	**Limekiln Ridge**	**63.89**	**331**	P		**P**	**07 45 13.0**	**+0.3**
EGMT	**Eagleton**	**64.33**	**334**	P		**P**	**07 45 15.5**	**+0.2**
MSO	**Missoula**	**65.33**	**331**	P		**P**	**07 45 23.0**	**+1.2**
MOD	**Modoc Plateau**	**65.41**	**324**	P		**P**	**07 45 23.0**	**+0.5**
MOD				IAmb		IAmb	07 45 24.3	
	comp=Z,2.4nm,0.6s							
I07A	**Izee**	**66.33**	**326**	P		**P**	**07 45 29.2**	**+0.9**
PINE	**Pine Mountain**	**66.95**	**325**	P		**P**	**07 45 33.3**	**+1.0**
PINE				IAmb		IAmb	07 45 35.4	
	comp=Z,4.7nm,0.8s							
KRMB	**Red Mountain**	**67.34**	**322**	P		**P**	**07 45 35.5**	**+0.8**
G06A	**Carlson Farm,**	**67.69**	**326**	P		**P**	**07 45 37.9**	**+1.2**
G06A				IAmb		IAmb	07 45 41.1	
	comp=Z,2.9nm,0.7s							
FCC	**Fort Churchill**	**68.83**	**349**	P		**P**	**07 45 42.9**	**-0.6**
B08A	**Colville Reser**	**69.03**	**330**	P		**P**	**07 45 45.1**	**+0.1**
F04A	**Amboy**	**69.10**	**326**	P		**P**	**07 45 45.5**	**+0.1**
F04A				IAmb		IAmb	07 45 46.3	
	comp=Z,5.3nm,0.7s							
LON	**Longmire**	**69.28**	**327**	P		**P**	**07 45 46.2**	**-0.4**
D05A	**Enumclaw**	**69.65**	**327**	P		**P**	**07 45 49.3**	**+0.6**
D05A				IAmb		IAmb	07 45 49.9	
	comp=Z,7.4nm,0.9s							
NLWA	**Neilton Lookou**	**70.78**	**327**	P		**P**	**07 45 57.1**	**+1.4**
DBIC	**Dimbokro**	**70.80**	**80**	P		**P**	**07 45 55.5**	**-1.0**
	comp=Z,3.1nm,0.3s,baz=247,slow=4.6,SNR=14							
PGC	**Sidney**	**71.32**	**328**	P		**P**	**07 46 00.0**	**+1.2**
SNAA	**Sanae**	**76.27**	**162**	P		**P**	**07 46 27.8**	**+0.3**
SNAA	**Sanae**	**76.27**	**162**	P		**P**	**07 46 27.9**	**+0.5**
SNAA				PcP		**PcP**	**07 46 40.5**	**+1.8**
YKA	**Yellowknife Ar**	**77.20**	**342**	P		**P**	**07 46 31.9**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=140,slow=5.7,SNR=43							
YKA				pP		**pP**	**07 47 11.4**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=139,slow=6.0,SNR=4.2							
TOA0	**Torodi Ar. Sit**	**78.41**	**75**	P		**P**	**07 46 39.0**	**-1.3**
TOA0				IAmb		IAmb	07 46 39.8	
	comp=Z,4.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**78.41**	**75**	P		**P**	**07 46 39.0**	**-1.4**
	comp=Z,1.2nm,0.3s,baz=257,slow=4.6,SNR=24							
PAB	**San Pablo**	**80.18**	**47**	P		**P**	**07 46 50.0**	**+0.4**
ESDC	**Sonseca Array**	**80.50**	**47**	P		**P**	**07 46 51.3**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=247,slow=6.5,SNR=7.2							
SKAG	**Skagway**	**83.13**	**333**	P		**P**	**07 47 04.8**	**+0.4**
SKAG				IAmb		IAmb	07 47 12.2	
	comp=Z,9.9nm,1.3s							
SUMG	**Summit**	**84.07**	**10**	⇓*i*P		**P**	**07 47 09.5**	**0.0**
SUMG				*i*			07 47 48.5	
SUMG	**Summit**	**84.07**	**10**	P		**P**	**07 47 09.7**	**+0.2**
VNDA	**Vanda**	**88.75**	**190**	P		**P**	**07 47 33.3**	**+1.5**
	comp=Z,1.0nm,0.9s,baz=105,slow=5.3,SNR=6.6							
SCRK	**Sand Creek**	**88.80**	**336**	P		**P**	**07 47 32.2**	**-0.1**
SCRK				IAmb		IAmb	07 47 32.9	
	comp=Z,3.4nm,0.6s							
ILAR	**Eielson Array**	**90.26**	**336**	P		**P**	**07 47 38.2**	**-0.7**
	comp=Z,0.7nm,0.6s,baz=136,slow=3.5,SNR=8.1							
ILAR				pP		**pP**	**07 48 19.2**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=124,slow=3.5,SNR=6.5							
RND	**Reindeer**	**90.65**	**334**	P		**P**	**07 47 41.1**	**+0.2**
DAG	**Danmarks Havn**	**90.72**	**11**	*i* P		**P**	**07 47 40.3**	**-0.6**
	comp=Z,1.8nm,0.7s							
DAG				*i*			07 48 19.8	
NOR	**Nord**	**93.76**	**7**	*i* P		P	07 47 42.0	-13
	comp=Z,1.4nm,0.6s							
STKA	**Stephens Creek**	**127.29**	**219**	PKPdf		**PKPdf**	**07 53 43.2**	**+0.2**
CTAO	**Charters Tower**	**131.09**	**234**	PKPdf		**PKPdf**	**07 53 51.1**	**+0.5**
ZALV	**Zalesovo Beam**	**131.56**	**16**	PKP		**PKPdf**	**07 53 50.3**	**0.0**
	comp=Z,1.7nm,0.4s,baz=318,slow=2.0,SNR=5.9							
ZALV				pPKP		**pPKPdf**	**07 54 32.6**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=321,slow=1.9,SNR=2.9							
COEN	**Coen**	**136.70**	**239**	PKPdf		**PKPdf**	**07 54 01.6**	**+0.5**
MKAR	**Makanchi Array**	**136.82**	**24**	PKP		**PKPdf**	**07 54 00.4**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=318,slow=1.6,SNR=6.9							
MKAR				pPKP		**pPKPdf**	**07 54 43.0**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=271,slow=1.8,SNR=3.1							
ASAR	**Alice Springs**	**137.88**	**220**	PKP		**PKPdf**	**07 54 02.7**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=129,slow=2.2,SNR=6.8							
WR0	**Warramunga Arr**	**140.02**	**225**	PKPdf		**PKPdf**	**07 54 07.2**	**+0.1**
WB2	**Warramunga Arr**	**140.16**	**225**	PKPdf		**PKPdf**	**07 54 07.6**	**+0.2**
WRAB	**Tennant Creek**	**140.17**	**225**	PKPdf		**PKPdf**	**07 54 07.4**	**0.0**
WRA	**Warramunga Arr**	**140.17**	**225**	PKP		**PKPdf**	**07 54 07.3**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=128,slow=1.9,SNR=5.3							
KSRS	**Korea Array**	**144.78**	**328**	PKP		**PKPab**	**07 54 13.8**	**-0.5**
	comp=Z,3.2nm,0.6s,baz=39,slow=3.6,SNR=13							
JNU	**Nakatsue**	**146.16**	**320**			**PKPdf**	**07 54 17.6**	**0.0**
KNRA	**Kununurra**	**146.94**	**224**	PKPbc		**PKPbc**	**07 54 21.1**	**-0.3**
MTN	**Manton Dam**	**147.10**	**230**			**PKPbc**	**07 54 21.9**	**0.0**
FITZ	**Fitzroy Crossi**	**147.14**	**217**	PKPbc		**PKPbc**	**07 54 22.2**	**+0.3**
PSA00	**Pilbara Seismi**	**147.15**	**205**	PKPbc		**PKPbc**	**07 54 21.6**	**-0.3**
FAKI	**Fak Fak**	**151.26**	**248**	PKPbc		**PKiKP**	**07 54 33.3**	**+0.4**
LZH	**Lanzhou**	**152.39**	**3**	⇓PKPbc		**PKPdf**	**07 54 26.3**	**-1.3**
LZH				PKPbc		**PKPab**	**07 54 46.5**	**+1.4**
LZH				pPKP		pPKPdf	07 55 08.0	-1.3
LZH				sPKP			07 55 23.0	

IDC ***27*** *07:35:10.3±0.6, 4.°93N×96.°10E, h0km, mb4.2/17, mb1 4.3/17, mb1mx4.0/54, mbtmp4.2/17, MS3.7/19, Ms1 3.7/19, ms1mx3.6/43, Error ellipse: s-maj=30.6km s-min=13.5km az=53.0*

NEIC ***27*** *07:35:11.5±1.7, 4.°91N±0.°07×96.°04E±0.°07, h9km±4km, mb4.6/31, Error ellipse: s-maj=10.9km s-min=8.3km az=143.0*

DJA ***27*** *07:35:11.8±1.1, 5.°1N±6.°×9.°6E±.°, h10km, M4.7/10, mB5.2/1, mb4.8/1, MLv4.7/10, Mw(mB)4.5/1*

BJI ***27*** *07:35:11.9±0.0, 5.°08N×95.°87E, h7km, mB4.8/18, mb4.5/26, Ms4.3/12, Ms7 4.0/12*

ISC 27 07:35:12.7±0.4, 4.°88N±0.°04×96.°04E±0.°05, h10km, n86,
σ1s56/80, mb4.4/36, MS3.9/21, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**0.71**	**149**	P		**Pg**	**07 35 26.0**	**-0.5**
LHMI	**Lhok Sumawe**	**0.97**	**69**	P		**Pg**	**07 35 31.7**	**+0.4**
LHMI				S		**Sb**	**07 35 45.6**	**+1.2**
LHMI	**Lhok Sumawe**	**0.97**	**69**			**Pg**	**07 35 31.4**	**0.0**
LHMI				Sn		**Sb**	**07 35 45.6**	**+1.2**
TPTI		**1.97**	**145**	P		**Pn**	**07 35 47.5**	**+1.3**
KCSI	**Kotacane, Aceh**	**2.19**	**128**	P		**Pn**	**07 35 50.5**	**+1.2**
KCSI				S		**Sb**	**07 36 20.7**	**+0.9**
PSI	**Prapat**	**3.54**	**126**	Pn		**Pn**	**07 36 10.4**	**+2.5**
	15nm,0.3s,baz=360,slow=15,SNR=21							
PSI				LR		LR	07 37 47.9	
	comp=Z,2µm,18.5s,baz=270,slow=44							
RPSI	**Rantau Prapat**	**3.61**	**127**	Pn		**Pn**	**07 36 10.3**	**+1.6**
RPSI	**Rantau Prapat**	**3.61**	**127**			**Pn**	**07 36 10.4**	**+1.7**
GSI	**Gunungsitoli**	**3.87**	**157**	P		**Pn**	**07 36 13.3**	**+0.9**
GSI	**Gunungsitoli**	**3.87**	**157**			**Pn**	**07 36 12.4**	**+0.1**
KULM	**Kulim**	**4.61**	**85**			**Pn**	**07 36 21.1**	**-1.4**
IPM	**Ipoh**	**4.99**	**94**			**Pn**	**07 36 27.1**	**-0.6**
IPM				Sn		**Sn**	**07 37 24.1**	**-1.3**
KRJI	**Kerinci**	**8.79**	**142**	P		Pn	07 37 08.2	-12
CMAR	**Chiang Mai Arr**	**13.79**	**12**	Pn		**Pn**	**07 38 31.1**	**+2.7**
	0.5nm,0.3s,baz=200,slow=13,SNR=5.9							
CMAR				LR		LR	07 43 16.4	
	comp=Z,227nm,18.7s,baz=234,slow=35							
LEM	**Lembang**	**16.40**	**135**	LR		LR	07 45 34.6	
	comp=Z,669nm,20.7s,baz=232,slow=38							
QIZ	**Qiongzhong**	**19.47**	**43**	P		**P**	**07 39 39.8**	**-0.1**
QIZ				S		**Sn**	**07 43 18.0**	**-1.7**
QIZ				LR		LR		
	comp=N,540nm,20.1s							
QIZ				LR		LR		
	comp=E,400nm,20.6s							
QIZ				LR		LR		
	comp=Z,280nm,11.0s							
SHL	**Shillong**	**20.95**	**349**	*e*P		**P**	**07 39 57.4**	**+1.3**
SHL				IAML			07 40 03.4	
	comp=Z,12nm,0.9s							
SHL	**Shillong**	**20.95**	**349**	P		**P**	**07 39 57.4**	**+1.3**
SHL				IAmb		IAmb	07 40 01.1	
	comp=Z,35nm,1.0s							
KMI	**Kunming**	**21.13**	**17**	⇑*e*P		**P**	**07 39 58.8**	**+0.7**
KMI				pP		pP	07 40 01.0	-0.2
KMI				sP		sP	07 40 02.0	-0.7
KMI				pmax		pmax		
	comp=Z,12nm,0.8s							
HYB	**Hyderabad**	**21.17**	**307**	*i* P		**P**	**07 40 00.0**	**+1.6**
HYB	**Hyderabad**	**21.17**	**307**	*e*P		**P**	**07 39 59.3**	**+0.9**
HYB				IAML			07 40 03.3	
	comp=Z,25nm,0.2s							
MYLDM	**Lahad Datu**	**22.38**	**88**			**P**	**07 40 10.9**	**-0.4**
MYLDM				IAmb		IAmb	07 40 11.1	
	comp=Z,14nm,0.4s							
ZIRO	**ZIRO**	**22.61**	**355**	*ex*		**P**	**07 40 18.1**	**+4.1**
ZIRO				IAML			07 40 19.7	
	comp=Z,17nm,0.0s							
GYA	**Guiyang**	**23.74**	**24**	*e*P		**P**	**07 40 26.8**	**+1.4**
GYA				pmax		pmax		
	comp=Z,8.0nm,0.9s							
GYA				LR		LR		
	comp=Z,200nm,9.3s							
GYA				LR		LR		
	comp=Z,180nm,7.8s							
GYA				LR		LR		
	comp=Z,310nm,14.5s							
KAPI	**Kappang**	**25.64**	**112**	LR		LR	07 51 25.3	
	comp=Z,316nm,19.1s,baz=296,slow=38							
H08S2	**Diego Garcia H**	**26.59**	**242**	T		T	08 08 00.9	
	baz=61,slow=75,SNR=729							
H08S3	**Diego Garcia H**	**26.59**	**242**	T		T	08 08 07.5	
	baz=61,slow=75,SNR=778							
H08S1	**Diego Garcia H**	**26.60**	**242**	T		T	08 08 00.3	
	baz=61,slow=75,SNR=359							
LZH	**Lanzhou**	**31.87**	**12**	*e*P		**P**	**07 41 38.8**	**+0.5**
LZH				pP		pP	07 41 41.3	-0.5
LZH				sP		sP	07 41 42.5	-0.7
LZH				*e*PP		**PnPn**	**07 42 44.3**	**+1.3**
LZH				pmax		pmax		
	comp=Z,20nm,1.3s							
LZH				pmax		pmax		
	comp=Z,100nm,5.2s							
LZH				LR		LR		
	comp=Z,280nm,13.0s							
LZH				LR		LR		
	comp=Z,280nm,12.8s							
LZH				LR		LR		
	comp=Z,380nm,16.4s							
NJ2	**Nanjing**	**34.45**	**36**	*e*P		**P**	**07 42 01.0**	**+0.3**
NJ2				pmax		pmax		
	comp=Z,14nm,0.6s							
GTA	**Gaotai**	**34.54**	**5**	*e*P		**P**	**07 42 02.8**	**+1.2**
GTA				pmax		pmax		
	comp=Z,3.0nm,0.7s							
GTA				pmax		pmax		
	comp=Z,89nm,4.9s							
GTA				LR		LR		
	comp=Z,100nm,18.1s							
GTA				LR		LR		
	comp=Z,130nm,19.4s							
GTA				LR		LR		
	comp=Z,120nm,17.1s							
NIL	**Nilore**	**35.62**	**326**	P		**P**	**07 42 09.1**	**-1.7**
FITZ	**Fitzroy Crossi**	**37.07**	**129**	P		**P**	**07 42 21.4**	**-1.9**
	comp=Z,4.9nm,0.9s,baz=304,slow=6.7,SNR=5.4							
FITZ	**Fitzroy Crossi**	**37.07**	**129**	P		**P**	**07 42 21.8**	**-1.6**
FITZ				IAmb		IAmb	07 42 30.5	
	comp=Z,12nm,1.3s							
HHC	**Hu-ho-hao-te**	**38.43**	**19**	*e*P		**P**	**07 42 33.3**	**-1.4**
HHC				pmax		pmax		
	comp=Z,11nm,0.6s							
HHC				pmax		pmax		
	comp=Z,85nm,5.0s							
HHC				LR		LR		
	comp=Z,170nm,16.2s							
HHC				LR		LR		
	comp=Z,220nm,17.9s							
HHC				LR		LR		
	comp=Z,160nm,17.0s							
WMQ	**Urumqi**	**39.47**	**350**	*e*P		**P**	**07 42 43.3**	**-0.1**
WMQ				pmax		pmax		
	comp=Z,10.0nm,0.8s							
WMQ				pmax		pmax		
	comp=Z,60nm,3.6s							
WMQ				LR		LR		
	comp=Z,2µm,29.3s							
WMQ				LR		LR		
	comp=Z,1µm,28.9s							
WMQ				LR		LR		
	comp=Z,75nm,29.0s							
KDJ	**Kajisay**	**40.72**	**338**	P		**P**	**07 42 52.4**	**-1.5**
GAR	**Garm**	**41.19**	**329**	P		**P**	**07 42 56.6**	**-1.2**
GAR				IAmb		IAmb	07 42 59.5	
	comp=Z,15nm,1.1s							
CHGR	**Chuyangaron**	**41.54**	**328**	P		**P**	**07 42 58.7**	**-1.9**
CHGR				IAmb		IAmb	07 43 00.7	
	comp=Z,14nm,0.7s							
BTK	**Batken**	**41.75**	**331**	P		**P**	**07 43 01.7**	**-0.6**
BTK				IAmb		IAmb	07 43 06.9	
	comp=Z,5.9nm,0.7s							
MK31	**Makanchi Array**	**43.41**	**346**	P		**P**	**07 43 14.3**	**-1.3**
MKAR	**Makanchi Array**	**43.41**	**346**	P		**P**	**07 43 14.4**	**-1.2**
	comp=Z,1.6nm,0.9s,baz=160,slow=7.5,SNR=9.7							
MKAR				LR		LR	08 05 55.9	
	comp=Z,47nm,18.4s,baz=146,slow=42							
MAKZ	**Makanchi**	**43.50**	**346**	P		**P**	**07 43 15.3**	**-1.0**
SONM	**Songino Array**	**43.71**	**10**	P		**P**	**07 43 18.3**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=183,slow=7.8,SNR=6.5							
KK31	**Karatay Array**	**44.27**	**333**	P		**P**	**07 43 21.7**	**-0.8**
KKAR	**Karatay Array**	**44.27**	**333**	P		**P**	**07 43 21.6**	**-1.0**
WB0	**Warramunga Arr**	**44.97**	**124**	P		**P**	**07 43 27.1**	**-1.5**
WB0				IAmb		IAmb	07 43 44.9	
	comp=Z,8.5nm,1.4s							
WRA	**Warramunga Arr**	**45.01**	**124**	P		**P**	**07 43 27.5**	**-1.4**
	comp=Z,1.4nm,0.7s,baz=303,slow=9.3,SNR=8.3							
WRAB	**Tennant Creek**	**45.02**	**124**	P		**P**	**07 43 27.8**	**-1.0**
WRAB				IAmb		IAmb	07 43 47.0	
	comp=Z,4.2nm,0.9s							
WB2	**Warramunga Arr**	**45.02**	**124**	P		**P**	**07 43 27.6**	**-1.3**
WB2				IAmb		IAmb	07 43 44.7	
	comp=Z,16nm,1.4s							
WR0	**Warramunga Arr**	**45.18**	**124**	P		**P**	**07 43 29.0**	**-1.2**
WR0				IAmb		IAmb	07 43 29.1	
	comp=Z,16nm,1.5s							
AS31	**Alice Springs**	**46.57**	**129**	P		**P**	**07 43 39.9**	**-1.2**
AS31				IAmb		IAmb	07 43 40.7	
	comp=Z,2.7nm,0.8s							
ASAR	**Alice Springs**	**46.57**	**129**	P		**P**	**07 43 39.9**	**-1.2**
	comp=Z,7.9nm,0.7s,baz=297,slow=7.9,SNR=59							
ASAR				LR		LR	08 03 48.6	
	comp=Z,162nm,19.3s,baz=306,slow=37							
FORT	**Forrest**	**46.84**	**141**	P		**P**	**07 43 42.9**	**-0.2**
GEYT	**Alibeck**	**47.68**	**319**	P		**P**	**07 43 49.1**	**-0.5**
	comp=Z,10nm,0.8s,baz=157,slow=8.0,SNR=16							
GEYT				LR		LR	08 05 43.0	
	comp=Z,156nm,19.7s,baz=180,slow=38							
GYA0B	**ALIBECK ARRAY**	**47.68**	**319**	P		**P**	**07 43 47.9**	**-1.7**
KURBB	**Kurchatov Arra**	**47.90**	**345**	P		**P**	**07 43 49.9**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=164,slow=7.0,SNR=5.8							
KURK	**Kurchatov**	**47.96**	**345**	P		**P**	**07 43 49.5**	**-2.0**
KURK				IAmb		IAmb	07 43 50.8	
	comp=Z,4.0nm,1.4s							
ZALV	**Zalesovo Beam**	**49.76**	**351**	P		**P**	**07 44 03.8**	**-1.5**
	comp=Z,2.1nm,0.8s,baz=168,slow=7.6,SNR=5.4							
ZALV				LR		LR	08 06 04.1	
	comp=Z,56nm,19.8s,baz=200,slow=37							
MJAR	**Matsushiro Arr**	**49.84**	**45**	LR		LR	08 07 09.6	
	comp=Z,79nm,19.7s,baz=245,slow=39							
BVAR	**Borovoye Array**	**52.41**	**341**	P		**P**	**07 44 23.1**	**-2.1**
	comp=Z,0.9nm,0.6s,baz=149,slow=6.6,SNR=4.9							
ABKAR	**Akbulak array**	**53.74**	**331**	P		**P**	**07 44 33.0**	**-2.0**
STKA	**Stephens Creek**	**56.69**	**133**	P		**P**	**07 44 55.7**	**-1.0**
	comp=Z,2.8nm,0.7s,baz=329,slow=7.0,SNR=5.4							
STKA				LR		LR	08 11 50.5	
	comp=Z,107nm,18.6s,baz=326,slow=39							
STKA	**Stephens Creek**	**56.69**	**133**	P		**P**	**07 44 55.9**	**-0.8**
TBLG	**Delisi**	**58.51**	**317**	P		**P**	**07 45 08.3**	**-1.0**
KMBO	**Kilima Mbogo**	**59.03**	**266**	P		**P**	**07 45 14.1**	**+0.4**
KMBO				IAmb		IAmb	07 45 16.4	
	comp=Z,5.7nm,0.9s							
KBZ	**Khabaz**	**60.56**	**318**	P		**P**	**07 45 22.4**	**-1.0**
	comp=Z,2.5nm,0.8s,baz=151,slow=5.8,SNR=5.5							
KBZ				LR		LR	08 15 29.9	
	comp=Z,31nm,18.3s,baz=140,slow=40							
MBAR	**Mbarara**	**65.45**	**267**	P		**P**	**07 45 56.6**	**-0.2**
MBAR				IAmb		IAmb	07 45 59.2	
	comp=Z,7.6nm,1.1s							
BRTR	**Keskin Array B**	**65.80**	**311**	P		**P**	**07 45 56.4**	**-2.2**
	comp=Z,2.4nm,0.8s,baz=96,slow=7.6,SNR=9.2							
BRTR				LR		LR	08 18 48.9	
	comp=Z,34nm,18.2s,baz=104,slow=40							
BR131	**Keskin Array S**	**65.81**	**311**	P		**P**	**07 45 56.4**	**-2.1**
BR131				IAmb		IAmb	07 45 57.7	
	comp=Z,4.2nm,0.9s							
ELL	**Elmali**	**68.02**	**308**	P		**P**	**07 46 10.8**	**-2.0**
PETK	**Petropavlovsk-**	**69.35**	**35**	LR		LR	08 19 59.2	
	comp=Z,51nm,18.2s,baz=241,slow=39							
MANT	**Manisa**	**69.40**	**309**	P		**P**	**07 46 20.0**	**-1.4**
KARP	**Karpathos**	**70.02**	**306**	P		**P**	**07 46 23.6**	**-1.4**
AKASG	**Malin Array Be**	**71.66**	**322**	LR		LR	08 23 00.9	
	comp=Z,46nm,18.3s,baz=95,slow=40							
BOSA	**Boshof**	**75.64**	**239**	P		**P**	**07 46 59.7**	**+1.0**
	comp=Z,2.5nm,0.8s,baz=195,slow=2.9,SNR=3.8							
BOSA	**Boshof**	**75.64**	**239**	P		**P**	**07 47 00.8**	**+2.2**
BOSA				IAmb		IAmb	07 47 19.2	
	comp=Z,6.7nm,1.1s							
FINES	**FINESS Array B**	**76.22**	**332**	P		**P**	**07 47 00.7**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=83,slow=6.5,SNR=4.0							
FINES				LR		LR	08 25 07.5	
	comp=Z,73nm,20.0s,baz=137,slow=39							
ARCES	**ARCESS Array B**	**78.70**	**340**	P		**P**	**07 47 14.8**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=93,slow=6.0,SNR=12							
GERES	**GERESS Array B**	**81.30**	**319**	P		**P**	**07 47 27.9**	**-1.7**
	comp=Z,0.7nm,0.6s,baz=60,slow=4.7,SNR=6.7							
GERES				LR		LR	08 29 34.8	
	comp=Z,16nm,18.2s,baz=102,slow=40							
CLL	**Collm**	**81.86**	**321**	*e*(sP)		**P**	**07 47 37.0**	**+4.7**
NOA	**NORSAR Array B**	**83.25**	**331**	LR		LR	08 29 24.1	
	comp=Z,66nm,19.6s,baz=115,slow=39							
KEST	**Kesra**	**84.50**	**305**	LR		LR	08 30 59.1	
	comp=Z,15nm,19.9s,baz=276,slow=40							
VNDA	**Vanda**	**89.64**	**169**	LR		LR	08 27 40.7	
	comp=Z,43nm,19.3s,baz=332,slow=35							
TORD	**Torodi Ar. Bea**	**93.12**	**283**	P		**P**	**07 48 27.6**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=93,slow=5.1,SNR=4.3							
CFA	**Coronel Fontan**	**149.60**	**207**	PKPbc		**PKPdf**	**07 55 02.8**	**+4.0**
	comp=Z,3.4nm,0.8s,baz=100,slow=2.2,SNR=4.6							

KRNET ***27*** *08:04:04.8±0.1, 41.°08N×71.°62E, h18km, mb2.7*
SOME ***27*** *08:04:04.1, 41.°02N×71.°70E, h5km*
ISU ***27*** *08:04:08.0, 40.°80N×71.°80E, h5km*
ISC 27 08:04:05.8±0.8, 41.°04N±0.°02×71.°64E±0.°02, h10km, n25,
σ2s02/50, 19C-6D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ANR	**Andizhan**	**0.61**	**117**	*e*P		**Pb**	**08 04 18.7**	**0.0**
ANR				*e*S		**Sb**	**08 04 26.4**	**-1.0**
ARK	**Arkit**	**0.80**	**18**	⇓*e*P		**Pg**	**08 04 19.1**	**-2.1**
	baz=21							
ARK				⇓*i*S		**Sg**	**08 04 29.3**	**-2.3**
	baz=21							
OHH	**Osh**	**1.01**	**120**	⇑*i*P		**Pg**	**08 04 24.5**	**-0.8**
	baz=22							
OHH				⇑*i*S		**Sb**	**08 04 38.6**	**-0.2**
	baz=22							
OHH	**Osh**	**1.01**	**120**	*e*P		**Pg**	**08 04 24.1**	**-1.2**
OHH				*e*S		**Sg**	**08 04 36.5**	**-1.9**
ARSB	**Arslanbob**	**1.05**	**74**	⇓*i*P		**Pg**	**08 04 24.9**	**-1.2**
	baz=76							
ARSB				⇓*i*S		**Sb**	**08 04 39.5**	**-0.6**
	baz=76							
BTK	**Batken**	**1.16**	**213**	⇑*i*P		**Pb**	**08 04 27.1**	**-1.0**
	baz=11							
BTK				⇑*i*S		**Sb**	**08 04 43.3**	**+0.1**
	baz=11							
BTK	**Batken**	**1.16**	**213**	*e*P		**Pg**	**08 04 28.5**	**+0.3**
BTK				*e*S		**Sb**	**08 04 43.5**	**+0.3**
IUG	**Iuzhnay**	**1.64**	**313**	*e*P		**Pb**	**08 04 36.1**	**-0.1**
	14nm,0.2s							
IUG				*e*S		**Sg**	**08 04 59.0**	**+0.4**
	575nm,0.4s							
AML	**Almayashu**	**1.89**	**54**	⇑*i*P		**Pn**	**08 04 39.2**	**+0.7**
	baz=55							
AML				⇑*i*S		**Sb**	**08 05 04.1**	**-0.3**
	baz=55							
MRKS	**Merke**	**2.08**	**34**	*e*P		**Pb**	**08 04 43.1**	**-0.5**
	11nm,0.4s							
MRKS				*e*S		**Sb**	**08 05 09.8**	**+0.3**
	60nm,0.3s							
ARLS	**Aral**	**2.18**	**67**	⇑*i*P		**Pn**	**08 04 43.6**	**+1.3**
	baz=68							

	42nm,0.1s,SNR=27							
KBK				⇑S		**Sb**	**08 04 43.1**	**-1.5**
	59nm,0.2s							
SGDS	**Sogindy**	**0.46**	**336**	P		**Pg**	**08 04 37.9**	**+0.8**
	6.6nm,0.1s							
SGDS				S		**Sb**	**08 04 46.0**	**-0.7**
	12nm,0.1s							
AAK	**Ala-Archa**	**0.49**	**216**	⇑P		**Pg**	**08 04 38.4**	**+0.6**
	7.1nm,0.2s,SNR=8.7							
AAK				⇓S		**Sb**	**08 04 46.1**	**-1.7**
	14nm,0.2s							
AAK	**Ala-Archa**	**0.49**	**216**	⇑Pn		**Pb**	**08 04 39.9**	**-0.1**
	2.4nm,0.3s							
AAK				⇓Pg		**Sb**	**08 04 46.0**	**-1.9**
	4.1nm,0.3s							
AAK				⇑Lg		Lg	08 05 24.7	
	7.5nm,0.7s							
TKM2	**Tokmak 2**	**0.53**	**102**	⇑P		**Pg**	**08 04 38.4**	**-0.2**
	8.8nm,0.1s,SNR=32							
TKM2	**Tokmak 2**	**0.53**	**102**	⇓P		**Pg**	**08 04 38.6**	**+0.1**
	1.3nm,0.2s							
TKM2				⇑S		**Sg**	**08 04 46.2**	**+0.7**
	11nm,0.5s							
KST	**Kastek**	**0.79**	**89**	P		**Pg**	**08 04 43.8**	**+0.4**
	12nm,0.2s							
KST				S		**Sg**	**08 04 55.3**	**+1.6**
	9.4nm,0.3s							
KRBS	**Karabastau**	**0.87**	**41**	P		**Pg**	**08 04 45.2**	**+0.1**
	4.5nm,0.1s							
KRBS				S		**Sg**	**08 04 57.6**	**+1.2**
	7.8nm,0.2s							
BOOM	**Boomskoye usch**	**0.95**	**125**	⇓*iP*		**Pg**	**08 04 46.3**	**-0.2**
	baz=88							
BOOM				⇓*iS*		**Sg**	**08 04 59.8**	**+1.0**
	baz=88							
KZA	**Kyzart**	**0.99**	**164**	⇑P		**Pg**	**08 04 47.7**	**+0.3**
	3.1nm,0.1s,SNR=18							
KUU	**Kurty**	**1.36**	**51**	P		**Pg**	**08 04 54.1**	**-0.3**
	2.7nm,0.1s							
KUU				S		**Sg**	**08 05 12.0**	**0.0**
	4.7nm,0.2s							
KTBS	**Karatobe**	**1.47**	**62**	P		**Pn**	**08 04 56.1**	**-0.1**
	2.7nm,0.1s							
KTBS				S		**Sn**	**08 05 16.7**	**+0.4**
	8.0nm,0.5s							
MDOK	**Medeo**	**1.59**	**85**	⇑P		**Pn**	**08 04 57.6**	**-0.3**
	2.8nm,0.2s							
MDOK				⇓S		**Sg**	**08 05 20.3**	**+0.9**
	3.8nm,0.4s							
MDOK	**Medeo**	**1.59**	**85**	Pg		**Pn**	**08 04 57.4**	**-0.5**
	14nm,0.2s							
MDOK				Lg		Lg	08 05 18.6	
	4.5nm,0.2s							
CHKK	**Chushkaly**	**1.73**	**61**	P		**Pn**	**08 05 00.3**	**+0.5**
	3.9nm,0.1s							
CHKK				S		**Sg**	**08 05 24.3**	**+0.2**
	15nm,0.3s							
KDJ	**Kajisay**	**1.92**	**117**	⇑*iP*		**Pb**	**08 05 04.0**	**-0.4**
	baz=99							
KDJ				⇑*iS*		**Sg**	**08 05 30.6**	**+0.5**
	baz=99							
ANVS	**Anan'yevo**	**2.06**	**96**	⇑*iP*		**Pg**	**08 05 08.8**	**+1.0**
	baz=81							
ANVS				⇑*iS*		**Sg**	**08 05 38.4**	**+3.9**
	baz=81							
ARXS	**Arharly**	**2.44**	**60**	Pg		**Pb**	**08 05 11.5**	**-1.6**
	3.8nm,0.1s							
ARXS				Lg		Lg	08 05 43.5	
	11nm,0.5s							
MK31	**Makanchi Array**	**6.46**	**52**	⇑Pn		**Pn**	**08 06 06.8**	**+2.1**
	0.2nm,0.5s,baz=231,slow=13,SNR=4.2							
MK31				⇑Lg		Lg	08 07 58.1	
	0.6nm,0.4s,baz=318,slow=27,SNR=4.3							

NEIC ***27*** *08:07:48.4±1.4,21°.3N×0°.1×145°.6E±0°.1,h59km±8km, mb4.1/7,Error ellipse: s-maj=16.9km s-min=14.1km az=142.0*
IDC ***27*** *08:07:57.9±9.2,21°.32N×145°.40E,h142km±83km,mb3.4/9, mb1 3.5/9,mb1mx3.3/45,mbtmp3.9/9,MS3.2/2,Ms1 3.2/2, ms1mx2.7/36,Error ellipse: s-maj=51.9km s-min=17.6km az=82.0*

ISC 27 08:07:47.0±1.0,21°.3N±0°.1×145°.5E±0°.2,h44km,n19, σ1§09/17,mb4.0/13,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**6.52**	**333**	Pn	**Pn**	**08 09 19.0**	**-1.4**
GUMO	**Guam**	**7.70**	**185**	LR	LR	08 12 14.9	
	comp=Z,58nm,18.1s,baz=324,slow=33						
JNU	**Nakatsue**	**17.54**	**315**		**P**	**08 11 50.3**	**+1.3**
JNU				IAmb	IAmb	08 12 00.6	
	comp=Z,17nm,1.2s						
KSRS	**Korea Array**	**22.17**	**320**	P	**P**	**08 12 41.1**	**+1.8**
	comp=Z,0.7nm,0.5s,baz=147,slow=8.4,SNR=5.9						
USRK	**Ussuriysk Ar.**	**25.45**	**337**	P	**P**	**08 13 12.8**	**+2.2**
	comp=Z,1.9nm,0.7s,baz=166,slow=11,SNR=5.1						
WRA	**Warramunga Arr**	**42.43**	**196**	P	**P**	**08 15 38.7**	**+1.1**
	comp=Z,1.1nm,0.7s,baz=17,slow=8.8,SNR=3.9						
FITZ	**Fitzroy Crossi**	**43.74**	**208**	P	**P**	**08 15 46.9**	**-1.4**
FITZ				IAmb	IAmb	08 15 49.7	
	comp=Z,6.3nm,1.2s						
CM31	**Chiang Mai Arr**	**43.78**	**275**	P	**P**	**08 15 48.8**	**0.0**
CM31				IAmb	IAmb	08 15 49.3	
	comp=Z,8.0nm,0.3s						
TLY	**Talaya**	**44.37**	**324**	LR	LR	08 35 58.7	
	comp=Z,60nm,19.6s,baz=70,slow=38						
AS31	**Alice Springs**	**46.11**	**195**	P	**P**	**08 16 06.4**	**-0.7**
AS31				IAmb	IAmb	08 16 06.4	
	comp=Z,1.5nm,1.1s						
ASAR	**Alice Springs**	**46.11**	**195**	P	**P**	**08 16 07.7**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=12,slow=7.9,SNR=5.6						
ZALV	**Zalesovo Beam**	**55.88**	**321**	P	**P**	**08 17 19.6**	**-0.5**
	comp=Z,1.0nm,0.4s,baz=104,slow=6.3,SNR=3.5						
MK31	**Makanchi Array**	**56.57**	**313**	P	**P**	**08 17 25.2**	**-0.1**
OHAK	**Old Harbor**	**56.80**	**35**	P	**P**	**08 17 26.9**	**+0.3**
KURK	**Kurchatov**	**59.25**	**317**	P	**P**	**08 17 43.9**	**0.0**
KURK				IAmb	IAmb	08 17 51.3	
	comp=Z,1.3nm,1.1s						
KURBB	**Kurchatov Array**	**59.30**	**317**	P	**P**	**08 17 43.7**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=92,slow=7.9,SNR=23						
BVAR	**Borovoye Array**	**64.39**	**320**	P	**P**	**08 18 18.2**	**-0.2**
	comp=Z,1.8nm,0.4s,baz=91,slow=7.9,SNR=9.8						
YKA	**Yellowknife Ar**	**75.77**	**28**	P	**P**	**08 19 27.7**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=293,slow=6.2,SNR=2.8						
FINES	**FINESS Array B**	**84.47**	**335**	P	**P**	**08 20 14.3**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=52,slow=3.1,SNR=5.3						

SOME ***27*** *08:12:22.2,41°.02N×71°.73E,h10km*
KRNET ***27*** *08:12:22.5±0.1,41°.09N×71°.69E,h17km,mb2.2*
NNC ***27*** *08:12:25.6±2.9,41°.19N×71°.73E,h0km,mb3.5,mpv3.0, Error ellipse: s-maj=24.2km s-min=9.4km az=172.0*

ISC 27 08:12:21.6±1.2,41°.05N±0°.03×71°.79E±0°.02,h6km±12km, n21,σ1§21/37,16C-8D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ARK	**Arkit**	**0.76**	**10**	⇑*iP*	**Pg**	**08 12 36.2**	**0.0**
	baz=17						
ARK				⇑*iS*	**Sg**	**08 12 46.5**	**+0.4**
	baz=17						
ARSB	**Arslanbob**	**0.94**	**72**	⇓*iP*	**Pn**	**08 12 41.7**	**+0.2**
	baz=76						
ARSB				⇓*iS*	**Sn**	**08 12 55.5**	**+0.1**
	baz=76						
BTK	**Batken**	**1.24**	**217**	⇑*iP*	**Pg**	**08 12 45.5**	**+0.2**
	baz=13						
BTK				⇑*iS*	**Sn**	**08 13 02.6**	**0.0**
	baz=13						
IUG	**luzhnay**	**1.72**	**310**	*eP*	**Pg**	**08 12 54.2**	**-0.3**
	5.9nm,0.2s						
IUG				*eS*	**Sg**	**08 13 17.5**	**+0.7**
	151nm,0.2s						
IUG	**luzhnay**	**1.72**	**310**	P	**Pg**	**08 12 54.2**	**-0.3**
	5.9nm,0.2s						
IUG				S	**Sg**	**08 13 17.5**	**+0.7**
	151nm,0.2s						
AML	**Almayashu**	**1.79**	**52**	⇑*iP*	**Pg**	**08 12 56.0**	**+0.1**
	baz=55						
AML				⇑*iS*	**Sg**	**08 13 20.7**	**+1.6**
	baz=55						
MRKS	**Merke**	**2.00**	**32**	*eP*	**Pg**	**08 13 00.2**	**+0.2**
	6.8nm,0.2s						
MRKS				*eS*	**Sg**	**08 13 27.8**	**+1.8**
	18nm,0.2s						
ARLS	**Aral**	**2.07**	**66**	⇑*iP*	**Pg**	**08 13 00.8**	**-0.4**
	baz=68						
ARLS				⇑*iS*	**Sg**	**08 13 28.0**	**0.0**
	baz=68						
EKS2	**Erkin-Say**	**2.19**	**42**	⇑*iP*	**Pb**	**08 13 01.8**	**+0.1**
	baz=44						
EKS2				⇑*iS*	**Sg**	**08 13 30.8**	**-1.2**
	baz=44						
KK31	**Karatay Array**	**2.27**	**336**	Pn	**Pb**	**08 13 03.1**	**+0.2**
	2.2nm,0.3s,baz=148,slow=16,SNR=20						
KK31				⇑Lg	Lg	08 13 32.2	
	2.7nm,0.3s,baz=154,slow=30,SNR=12						
GAR	**Garm**	**2.34**	**209**	⇓*iP*	**Pb**	**08 13 03.5**	**-0.7**
	baz=7.0						
GAR				⇓*iS*	**Sb**	**08 13 34.1**	**+0.7**
	baz=7.0						
UCH	**Uchtor**	**2.35**	**59**	⇓*iP*	**Pb**	**08 13 04.6**	**-0.1**
	baz=61						
UCH				⇓*iS*	**Sb**	**08 13 35.6**	**+1.4**
	baz=61						
BRLS	**Borolday**	**2.46**	**324**	*eP*	**Pb**	**08 13 04.4**	**-1.9**
	1.7nm,0.3s						
BRLS				*eS*	**Sb**	**08 13 34.8**	**-2.1**
	17nm,0.3s						
BRLS	**Borolday**	**2.46**	**324**	Pg	**Pn**	**08 13 03.7**	**+1.4**
	1.7nm,0.3s						
BRLS				Lg	Lg	08 13 33.8	
	17nm,0.3s						
AAK	**Ala-Archa**	**2.57**	**51**	⇑*iP*	**Pb**	**08 13 07.3**	**-0.9**
	baz=53						
AAK				⇑*iS*	**Sb**	**08 13 40.1**	**0.0**
	baz=53						
AAK	**Ala-Archa**	**2.57**	**51**	⇑Lg	Lg	08 13 44.6	
	4.2nm,0.8s						
KZA	**Kyzart**	**2.79**	**67**	⇓*iP*	**Pb**	**08 13 10.6**	**-1.5**
	baz=69						
KZA				⇓*iS*	**Sb**	**08 13 45.9**	**-0.8**
	baz=69						
CHGR	**Chuyangaron**	**3.13**	**221**	⇑*iP*	**Pn**	**08 13 14.1**	**+2.5**
	baz=20						
CHGR				⇑*iS*	**Sb**	**08 13 52.6**	**-3.6**
	baz=20						
DGS	**Degeres**	**3.68**	**52**	*eP*	**Pg**	**08 13 30.7**	**-1.4**
	0.3nm,0.2s						
DGS				*eS*	**Sg**	**08 14 19.9**	**+0.1**
	2.4nm,0.5s						
KST	**Kastek**	**3.69**	**56**	*eP*	**Pg**	**08 13 31.2**	**-1.1**
	0.6nm,0.1s						
KST				*eS*	**Sg**	**08 14 20.8**	**+0.7**
	2.2nm,0.5s						

WEL 27 08:15:46.1±0.4,33°S±4°×17°9W±°,h33km,M4.5/16, mB5.0/8,ML4.7/16,MLv4.6/16,Mw(mB)4.4/8,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.63**	**13**	P	Pn	08 16 39.1	-0.9
GLKZ				S	Sn	08 17 20.1	-1.7
MXZ	**Matakaoa Point**	**5.28**	**205**	P	Pn	08 17 05.3	+2.7
MXZ				S	Sn	08 18 02.9	+0.7
WMGZ	**Waiomatatini S**	**5.47**	**203**	P	Pn	08 17 06.0	+0.8
WMGZ				S	Sn	08 18 05.5	-1.4
HAZ	**Te Kaha**	**5.65**	**208**	P	Pn	08 17 08.5	+0.9
HAZ				S	Sn	08 18 12.7	+1.3
PKGZ	**Pakihiroa**	**5.65**	**206**	P	Pn	08 17 07.3	-0.5
PUZ	**Puketiti**	**5.75**	**204**	P	Pn	08 17 09.7	+0.6
PUZ				S	Sn	08 18 10.9	-3.1
RUGZ	**Raukumara Rang**	**5.87**	**208**	P	Pn	08 17 10.8	0.0
TWGZ	**Tauwhareparae**	**5.94**	**205**	P	Pn	08 17 13.7	+2.0
CNGZ	**Carnagh Statio**	**6.14**	**202**	P	Pn	08 17 15.1	+0.7
TKGZ	**Te Karaka**	**6.22**	**205**	P	Pn	08 17 17.4	+1.8
TKGZ				S	Sn	08 18 26.4	+0.9
MWZ	**Matawai**	**6.25**	**207**	P	Pn	08 17 16.1	+0.1
MWZ				S	Sn	08 18 27.8	+1.6
OPRZ	**Ohinepanea**	**6.27**	**216**	P	Pn	08 17 19.7	+3.5
URZ	**Urewera**	**6.35**	**210**	P	Pn	08 17 17.8	+0.5
URZ				S	Sn	08 18 28.9	+0.2
RAGZ	**Rawiri**	**6.43**	**207**	P	Pn	08 17 18.9	+0.4
RAGZ				S	Sn	08 18 32.3	+1.5
WCZ	**Waipu Caves**	**6.44**	**239**	P	Pn	08 17 12.4	-6.1
RIGZ	**Rimuhau**	**6.49**	**204**	P	Pn	08 17 19.2	-0.1
RIGZ				S	Sn	08 18 27.5	-4.7
MUGZ	**Murupara**	**6.68**	**211**	P	Pn	08 17 22.2	+0.3
RTZ	**Ruatahuna**	**6.71**	**209**	P	Pn	08 17 23.6	+1.2
SNGZ	**Shannon Statio**	**6.71**	**206**	P	Pn	08 17 23.0	+0.7
SNGZ				S	Sn	08 18 38.3	+0.7
OUZ	**Omahuta**	**6.72**	**247**	P	Pn	08 17 27.0	+4.6
ALRZ	**Allen Road**	**6.94**	**213**	P	Pn	08 17 27.7	+2.3

NEIC ***27*** *08:26:23.6±1.9,11°.4S±0°.1×166°.3E±0°.2,h96km±10km, mb4.5/17,Error ellipse: s-maj=24.3km s-min=15.0km az=87.0*
IDC ***27*** *08:26:31.4±11.0,11°.81S×166°.42E,h182km±122km, mb3.6/4,mb1 3.9/5,mb1mx3.4/35,mbtmp4.2/5,MS3.4/5, Ms1 3.4/5,ms1mx3.1/30,Error ellipse: s-maj=91.0km s-min=28.1km az=161.0*

ISC 27 08:26:19.9±1.0,11°.27S±0°.09×166°.3E±0°.1,h59km,n27, σ1§49/23,mb4.5/10,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SANVU	**Saraoutou**	**4.25**	**168**		**Pn**	**08 27 24.5**	**+2.4**
HNR	**Honiara**	**6.47**	**286**	LR	LR	08 30 33.5	
	comp=Z,102nm,20.8s,baz=60,slow=36						
DZM	**Mont Dzumac**	**10.74**	**179**	P	**Pn**	**08 28 53.5**	**+2.4**
	2.6nm,0.3s,baz=313,slow=21,SNR=34						
DZM				S	**Sn**	**08 30 48.6**	**-1.3**
	0.5nm,0.3s,baz=235,slow=23,SNR=2.6						
DZM				LR	LR	08 32 37.2	
	comp=Z,71nm,19.4s,baz=4.5,slow=36						
PMG	**Port Moresby**	**18.88**	**274**	LR	LR	08 38 19.2	
	comp=Z,117nm,18.5s,baz=9.0,slow=37						
PATS	**Pohnpei**	**19.65**	**336**	P	**Pn**	**08 30 45.7**	**-0.2**
PATS				IAmb	IAmb	08 30 47.1	
	comp=Z,26nm,0.9s						
EIDS	**Eidsvold**	**20.07**	**224**	P	Pn	08 30 50.3	-0.5
EIDS				IAmb	IAmb	08 30 51.8	
	comp=Z,30nm,0.9s						
CTA	**Charters Tower**	**21.14**	**243**	P	**P**	**08 31 01.6**	**+1.4**
	comp=Z,4.4nm,0.7s,baz=74,slow=13,SNR=7.3						
CTAO	**Charters Tower**	**21.14**	**243**		**P**	**08 31 02.1**	**+1.9**
CTAO				IAmb	IAmb	08 31 03.2	
	comp=Z,11nm,0.9s						
COEN	**Coen**	**22.68**	**261**		**P**	**08 31 19.1**	**+2.3**
ARMA	**Armidale**	**23.40**	**213**	P	**P**	**08 31 25.5**	**+1.6**
BKZ	**Black Stump Fm**	**29.23**	**164**	P	**P**	**08 32 15.3**	**-1.0**
BKZ				IAmb	IAmb	08 32 25.4	
	comp=Z,15nm,1.3s						
WR0	**Warramunga Arr**	**31.70**	**250**	P	**P**	**08 32 37.7**	**-0.6**
WR0				IAmb	IAmb	08 32 49.6	
	comp=Z,11nm,1.3s						
WB0	**Warramunga Arr**	**31.80**	**251**	P	**P**	**08 32 38.7**	**-0.4**
WRAB	**Tennant Creek**	**31.87**	**250**	P	**P**	**08 32 39.2**	**-0.5**
WRAB				IAmb	IAmb	08 32 54.0	
	comp=Z,9.7nm,1.3s						
WB2	**Warramunga Arr**	**31.87**	**250**	P	**P**	**08 32 39.4**	**-0.3**
WB2				IAmb	IAmb	08 32 40.1	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**31.88**	**250**	P	**P**	**08 32 39.3**	**-0.5**
	comp=Z,6.0nm,0.8s,baz=83,slow=9.0,SNR=15						
TOO	**Toolangi**	**32.14**	**212**	P	**P**	**08 32 42.5**	**+0.5**
TOO				IAmb	IAmb	08 32 42.6	
	comp=Z,11nm,1.0s						
ASAR	**Alice Springs**	**33.14**	**244**	P	**P**	**08 32 50.0**	**-1.0**
	comp=Z,2.8nm,0.8s,baz=71,slow=9.8,SNR=21						
BBOO	**Buckleboo**	**35.05**	**228**	P	**P**	**08 33 04.6**	**-2.7**
FITZ	**Fitzroy Crossi**	**39.81**	**255**	LR	LR	08 48 38.7	
	comp=Z,109nm,20.9s,baz=326,slow=33						
FITZ	**Fitzroy Crossi**	**39.81**	**255**	P	**P**	**08 33 47.8**	**+0.1**
FITZ				IAmb	IAmb	08 33 51.2	
	comp=Z,4.7nm,1.0s						
PSA00	**Pilbara Seismi**	**45.53**	**251**	P	**P**	**08 34 34.6**	**+0.4**
NWAO	**Narrogin (SRO)**	**49.76**	**236**	P	**P**	**08 35 06.3**	**-0.4**
VNDA	**Vanda**	**66.28**	**181**	P	**P**	**08 36 59.5**	**-2.0**
SONM	**Songino Array**	**79.15**	**324**	LR	LR	09 13 17.9	
	comp=Z,90nm,19.2s,baz=246,slow=35						
ILAR	**Eielson Array**	**83.57**	**18**	P	**P**	**08 38 41.0**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=231,slow=5.1,SNR=4.9						
SCRK	**Sand Creek**	**83.96**	**20**	P	**P**	**08 38 45.2**	**+1.7**

ISK 27 08:33:56.7,39°.41N×31°.53E,h2km,ML1.2/1,Suspected Mining explosion.,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AUSIV	**SIVRIHISAR**	**0.03**	**23**	PG	Pg	08 33 57.4	-0.1
AUSIV				SG	Sg	08 33 58.7	+0.7
SVRH	**Sivrihisar-ESK**	**0.03**	**358**	PG	Pg	08 33 57.1	-0.4
SVRH				SG	Sg	08 33 58.3	+0.2
KIZT	**Kizilcal**	**0.60**	**152**	PG	Pb	08 34 09.7	-0.3
KIZT				SG	Sb	08 34 18.2	-0.7
BORA	**Eskisehir**	**0.95**	**300**	PG	Pg	08 34 15.2	+0.3
BORA				SG	Sb	08 34 30.1	+1.1

DDA 27 08:34:00.6,39°.88N×29°.23E,h7km±1km,ML1.7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ULDT	**Uludag**	**0.28**	**345**	*i* P	Pg	08 34 06.3	+0.2
ULDT				*i* S	Sg	08 34 10.4	+0.6
ULDT				IAML		08 34 16.0	
	comp=N,212nm,0.9s						
ULDT				IAML		08 34 18.0	
	comp=E,90nm,1.2s						
IGD	**Bursa**	**0.39**	**357**	*i* P	Pg	08 34 08.4	+0.3
IGD				*i* S	Sg	08 34 14.0	+0.7
IGD				IAML		08 34 14.0	
	comp=N,27nm,0.5s						
DURS	**Dursunbey**	**0.65**	**245**	*i* P	Pg	08 34 13.4	+0.4
DURS				IAML		08 34 27.0	
	comp=N,19nm,0.5s						
DURS				IAML		08 34 52.0	
	comp=E,27nm,1.6s						
DEMI	**Demirci**	**0.92**	**206**	*i* P	Pg	08 34 18.6	+0.2
DEMI				*i* S	Sn	08 34 33.2	-0.4
DEMI				IAML		08 34 37.0	
	comp=N,41nm,0.3s						
DEMI				IAML		08 34 38.0	
	comp=E,47nm,0.4s						
BALY	**Balya**	**1.25**	**264**	*i* P	Pb	08 34 22.2	-2.3
BALY				*i* S	Sn	08 34 42.0	+0.4

IDC 27 08:38:57.7±3.4,15°.86S×173°.56W,h0km,mb3.5/4, mb1 3.9/4,mb1mx3.7/26,mbtmp3.5/4,Error ellipse: s-maj=188.5km s-min=28.8km az=146.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H11S2	**WAKE ISLAND Hy**	**39.28**	**330**	T	T	09 28 03.4	
	baz=149,slow=76,SNR=6.2						
H11S3	**WAKE ISLAND Hy**	**39.29**	**330**	T	T	09 27 49.1	
	baz=149,slow=76,SNR=6.6						
H11S1	**WAKE ISLAND Hy**	**39.30**	**330**	T	T	09 27 55.5	
	baz=149,slow=76,SNR=5.8						
WRA	**Warramunga Arr**	**49.59**	**257**	P	P	08 47 52.1	+1.0
	0.4nm,0.7s,baz=95,slow=6.4,SNR=1.3						
ASAR	**Alice Springs**	**49.82**	**252**	P	P	08 47 52.1	-0.8
	0.6nm,0.6s,baz=88,slow=8.1,SNR=11						
NVAR	**Mina Array Bea**	**74.77**	**42**	P	P	08 50 40.6	+0.6
	0.4nm,0.6s,baz=221,slow=9.5,SNR=4.3						
ILAR	**Eielson Array**	**82.93**	**11**	P	P	08 51 23.4	-0.6
	0.2nm,0.5s,baz=227,slow=6.3,SNR=5.4						

SCB ***27*** *08:57:41.3±2.8,21°.69S×66°.72W,h256km±24km,ML4.1/2, Error ellipse: s-maj=17.3km s-min=11.8km az=0.0*
IDC ***27*** *08:57:42.8±0.8,21°.55S×66°.63W,h210km±9km,mb3.5/4, mb1 3.8/10,mb1mx3.5/35,mbtmp4.2/10,Error ellipse: s-maj=15.5km s-min=12.6km az=122.0*
NEIC ***27*** *08:57:42.8±2.9,21°.60S±0°.07×66°.68W±0°.09,h212km±6km, mb4.1/23,Error ellipse: s-maj=11.9km s-min=9.6km az=83.0*
VAO ***27*** *08:57:43.4±0.3,21°.31S×66°.86W,h222km±8km,mb4.0*
SJA ***27*** *08:57:43.3±0.6,21°.60S×66°.75W,h227km±4km,ML3.8, MW3.7*
GUC ***27*** *08:57:44.8±0.7,21°.55S×66°.94W,h239km±8km,ML4.6*

ISC 27 08:57:43.1±0.5,21°.54S±0°.04×66°.78W±0°.04,h221km±5km, n150,σ1§46/192,mb4.1/11,8C-3D,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.10**	**75**	P	**Pn**	**08 58 17.3**	**+1.1**
YJA	**Yavi**	**1.34**	**119**	P	**Pn**	**08 58 18.7**	**+0.8**
YJA				S	**S**	**08 58 44.1**	**-0.8**
YJA				AML	AML	08 58 45.5	
	2μm,0.2s						
YJA	**Yavi**	**1.34**	**119**	*i* P	**Pn**	**08 58 18.8**	**+0.9**
YJA				*eS*	**S**	**08 58 45.6**	**+0.7**
YJA				IAML		08 58 46.5	
	comp=Z,462nm,0.5s						
HJA	**Humahuaca**	**2.09**	**143**	*i* P	**Pn**	**08 58 26.3**	**+1.8**
HJA				*eS*	**S**	**08 58 56.7**	**0.0**
HJA				IAML		08 58 59.3	
	comp=Z,461nm,0.6s						
LVC	**Limon Verde**	**2.25**	**241**	P	**Pn**	**08 58 27.5**	**+1.4**
	comp=Z,32nm,0.3s,baz=65,slow=6.2,SNR=219						
LVC				S	**S**	**08 59 00.2**	**+0.7**
	comp=Z,45nm,0.3s,baz=235,slow=20,SNR=41						
LVC	**Limon Verde**	**2.25**	**241**	*eP*	**Pn**	**08 58 27.4**	**+1.4**
LVC				*i* S	**S**	**08 59 00.1**	**+0.7**
LVC	**Limon Verde**	**2.25**	**241**	*i* P	**Pn**	**08 58 27.4**	**+1.4**
LVC				*eS*	**S**	**08 58 59.5**	**0.0**
LVC				IAML		08 59 01.6	
	comp=Z,78nm,0.5s						
LVC	**Limon Verde**	**2.25**	**241**	*eP*	**Pn**	**08 58 27.5**	**+1.4**
LVC				*eS*	**S**	**08 59 00.5**	**+1.0**
LVC	**Limon Verde**	**2.25**	**241**	*eP*	**Pn**	**08 58 27.5**	**+1.4**
LVC				*eS*	**S**	**08 59 00.5**	**+1.0**
PB01	**IPOC Station P**	**2.57**	**280**	⇓*iP*	**Pn**	**08 58 29.9**	**+0.6**
PB01				*i* S	**S**	**08 59 04.9**	**-0.2**
PB01	**IPOC Station P**	**2.57**	**280**	P	**Pn**	**08 58 30.2**	**+1.0**
PB01				S	**S**	**08 59 05.4**	**+0.3**
PB01				AML	AML	08 59 06.6	
	comp=Z,166nm,0.3s						
PB01	**IPOC Station P**	**2.57**	**280**		**Pn**	**08 58 30.6**	**+1.3**
PB01					**S**	**08 59 05.3**	**+0.3**
PB08	**IPOC Station P**	**2.62**	**302**	*eP*	**Pn**	**08

PB04 IPOC Station P 3.23 255 P Pn 08 58 37.0 +0.3
PB04 S S 08 59 15.7 -2.8
PB04 IPOC Station P 3.23 255 Pn Pn 08 58 37.5 +0.8
PB04 S 08 59 16.5 -2.0
TA01 Diego Aracena 3.32 286 ⇓ *i* P **Pn 08 58 37.7 +0.1**
TA01 *i* S S 08 59 17.9 -2.2
TA01 Diego Aracena 3.32 286 Pn 08 58 37.6 +0.1
TA01 S 08 59 17.7 -2.5
TA02 Huaiquique 3.38 291 *eP* **Pn 08 58 38.6 +0.4**
TA02 *i* S S 08 59 19.2 -2.2
PB05 IPOC Station P 3.43 247 ⇑ *iP* **Pn 08 58 39.5 +0.5**
PB05 *i* S S 08 59 20.8 -1.9
MNMC Minye Minye 3.57 312 *iP* **Pn 08 58 41.6 +0.8**
MNMC *i* S S 08 59 25.4 -0.5
MNMC Minye Minye 3.57 312 P Pn 08 58 41.4 +0.6
MNMC Minye Minye 3.57 312 Pn 08 58 41.6 +0.8
MNMC S 08 59 25.0 -0.9
PSGC Pisagua 3.68 301 *i* P **Pn 08 58 41.2 -0.7**
PSGC *i* S S 08 59 25.1 -2.9
PSGC Pisagua 3.68 301 P Pn 08 58 42.0 0.0
PSGCX Pisagua 3.68 301 Pn 08 58 41.5 -0.5
PSGCX S 08 59 25.0 -3.0
PB10 IPOC Station P 4.01 240 *i* P **Pn 08 58 46.2 +0.4**
PB10 *i* S S 08 59 32.0 -2.9
PB10 IPOC Station P 4.01 240 Pn Pn 08 58 46.0 +0.2
PB10 S 08 59 31.9 -3.1
PB12 IPOC Station P 4.42 310 Pn Pn 08 58 50.0 -1.1
PB12 S 08 59 40.3 -4.2
GO02 Mina Guanaco 4.44 215 ⇑ *iP* **Pn 08 58 52.2 +0.9**
GO02 *i* S S 08 59 44.1 -1.0
GO02 Mina Guanaco 4.44 215 Pn Pn 08 58 52.2 +0.9
GO02 S 08 59 44.0 -1.0
AP01 Chacalluta 4.60 313 Pn Pn 08 58 51.2 -1.8
BBOJ La Paz, Jacaqu 4.73 343 P Pn 08 58 57.2 +1.9
BBOE La Paz, Chanca 4.83 346 P Pn 08 58 58.7 +2.1
BBOD La Paz, Gloria 5.17 340 P Pn 08 59 02.3 +1.5
LPAZ La Paz 5.37 346 P Pn 08 59 04.4 +0.9
comp=E,10nm,0.3s,baz=151,slow=7.5,SNR=242
LPAZ S S 09 00 06.3 -0.5
baz=346,slow=17,SNR=4.6
LPAZ La Paz 5.37 346 P Pn 08 59 04.3 +0.9
BBOB La Paz, Bander 5.52 346 P Pn 08 59 05.8 +0.7
BS09 Huarina 5.59 342 P Pn 08 59 07.3 +1.2
AC02 Maricunga 5.70 202 Pn Pn 08 59 07.7 +0.4
AC01 Pan de Azucar 5.77 217 Pn Pn 08 59 07.1 -0.7
GO03 Copiap 6.80 207 *iP* **Pn 08 59 19.5 -1.5**
GO03 Copiap 6.80 207 *iP* **Pn 08 59 19.8 -1.2**
VCA Vinchina 7.29 190 *iP* **Pn 08 59 28.5 +1.2**
VCA IAML 09 01 34.6
comp=Z,18nm,3.5s
AC04 Llanos de Chal 7.70 210 Pn 08 59 29.6 -2.9
SIV San Ignacio 7.72 45 P Pn **08 59 31.3 -1.6**
comp=Z,7.5nm,0.3s,baz=273,slow=11,SNR=134
SIV S S **09 00 56.0 -4.7**
comp=Z,1.6nm,0.3s,baz=338,slow=23,SNR=5.6
ACLC CERRO LA CRUZ 7.86 181 *iP* **Pn 08 59 34.2 -0.4**
AC05 El Transito 7.93 203 Pn 08 59 33.8 -1.8
APLL PUNTA DE LOS L 8.83 179 *iP* **Pn 08 59 46.7 -0.3**
ACDV Cuesta del Vie 8.85 193 *iP* **Pn 08 59 47.6 +0.1**
CO01 Juntas del Tor 8.92 199 Pn 08 59 47.6 -0.8
AROD Rodeo 8.93 195 *iP* **Pn 08 59 49.0 +0.4**
ACCO Cerro Coronel 9.25 192 *iP* **Pn 08 59 52.8 +0.1**
GO04 Tololo Observa 9.33 202 Pn 08 59 51.3 -2.4
PTLB Pontes e Lacer 9.44 51 *eP* **Pn 08 59 53.5 -1.5**
PTLB Pontes e Lacer 9.44 51 *eP* **Pn 08 59 53.5 -1.5**
CPUP Villa Florida 9.87 121 P **Pn 08 59 59.2 -1.2**
comp=Z,0.1nm,0.3s,baz=70,slow=7.3,SNR=2.8
CPUP Villa Florida 9.87 121 Pn 09 00 00.5 +0.1
RTLL Cerro Villicun 9.87 189 *iP* **Pn 09 00 00.1 -0.3**
CO03 El Pedregal 9.91 200 Pn 08 59 59.0 -2.0
TCA Tanti 9.96 169 *iP* **Pn 09 00 01.1 -0.4**
CFA Coronel Fontan 10.11 187 P **Pn 09 00 02.4 -1.2**
comp=Z,5.6nm,0.3s,baz=37,slow=13,SNR=99
CFA S S **09 01 50.0 -7.1**
comp=Z,2.1nm,0.3s,baz=306,slow=22,SNR=6.6
CFA Coronel Fontan 10.11 187 *iP* **Pn 09 00 03.2 -0.3**
ZON Zonda 10.11 189 *iP* **Pn 09 00 03.2 -0.4**
CO02 Combarbal 10.35 201 Pn Pn 09 00 03.5 -3.0
RTCV Cerro Valdivia 10.40 188 *iP* **Pn 09 00 06.3 -0.9**
RTLS Leoncito 10.47 192 *iP* **Pn 09 00 08.3 +0.1**
VILB Vilhena 10.60 37 *eP* **Pn 09 00 09.0 -0.8**
VILB Vilhena 10.60 37 *eP* **Pn 09 00 09.0 -0.8**
AUSP Uspallata 10.90 192 *iP* **Pn 09 00 13.8 +0.1**
VA03 San Esteban 11.68 196 Pn 09 00 22.6 -0.8
SALV Santo Antonio 11.90 64 *eP* **Pn 09 00 26.9 +0.7**
SALV Santo Antonio 11.90 64 *eP* **Pn 09 00 26.9 +0.7**
ROC1 El Roble 12.00 197 Pn Pn 09 00 28.2 +0.6
ROC1 El Roble 12.00 197 P **Pn 09 00 28.2 -0.5**
MT02 Curacav 12.30 197 Pn Pn 09 00 30.3 -0.9
MT05 Renca 12.32 196 Pn Pn 09 00 31.0 -0.5
BO02 Sierra Bellavi 13.67 194 P **P 09 00 49.5 -0.5**
GO05 Huala 14.17 198 Pn 09 00 54.7 +0.4
CLDB Colider 14.94 47 P **Pn 09 01 01.6 -2.3**
CLDB Colider 14.94 47 *eP* **Pn 09 01 02.2 -1.7**
CLDB Colider 14.94 47 *eP* **Pn 09 01 02.2 -1.7**
BI02 San Fabin de 15.57 194 P **Pn 09 01 12.7 +1.3**
BI02 IAmb IAmb 09 01 15.0
comp=Z,13nm,1.1s
FRTB Fartura 16.02 100 *eP* **Pn 09 01 17.6 +0.8**
FRTB Fartura 16.02 100 *eP* **Pn 09 01 17.6 +0.8**
BB19B Bebedouro 17.02 92 *eP* **Pn 09 01 28.3 -0.4**
BB19B Bebedouro 17.02 92 *eP* **Pn 09 01 28.3 -0.4**
IPMB Ipameri, GO 17.83 82 *eP* **P 09 01 37.0 +1.1**
IPMB Ipameri, GO 17.83 82 *eP* **P 09 01 37.0 +1.1**
LC01 Cunco 17.85 193 Pn **P 09 01 35.6 -0.3**
LC01 IAmb IAmb 09 01 44.9
comp=Z,12nm,1.2s
NPGB Novo Progresso 18.15 39 *eP* **P 09 01 38.0 -1.3**
NPGB Novo Progresso 18.15 39 *eP* **P 09 01 38.0 -1.3**
BDFB Brasilia 18.72 75 P **P 09 01 46.0 +0.4**
comp=Z,0.6nm,0.3s,baz=250,slow=8.1,SNR=4.0
BDFB Brasilia 18.72 75 P **P 09 01 46.3 +0.6**
BDFB IAmb IAmb 09 01 48.5
comp=Z,9.4nm,1.5s
MACA Manacapuru-AM 19.20 19 *eP* **P 09 01 48.9 -1.8**
MACA Manacapuru-AM 19.20 19 *eP* **P 09 01 48.9 -1.8**
PLCA Paso Flores 19.41 189 P **Pn 09 01 56.0 -0.6**
PTGA Pitinga 21.72 19 P **P 09 02 14.6 -2.5**
PTGA IAmb IAmb 09 02 25.7
comp=Z,7.6nm,1.3s
JANB Januaria 22.27 77 *eP* **P 09 02 21.6 -0.7**
JANB Januaria 22.27 77 *eP* **P 09 02 21.6 -0.7**
MALB Monte Alegre 23.05 34 *eP* **P 09 02 28.7 -0.6**
MALB Monte Alegre 23.05 34 *eP* **P 09 02 28.7 -0.6**
344A Westbrook Farm 57.48 336 P **P 09 07 11.1 +1.9**
344A Westbrook Farm 57.48 336 P **P 09 07 10.8 +1.6**
344A IAmb IAmb 09 07 11.9
comp=Z,8.9nm,0.7s
W50A Signal Mountai 59.10 342 P **P 09 07 18.6 -1.8**
W50A IAmb IAmb 09 07 19.0
comp=Z,3.8nm,0.8s
V48A Smith Brothers 60.05 341 P **P 09 07 27.1 +0.3**
WVT Waverly 60.71 341 P 09 07 30.9 -0.4
WVT IAmb IAmb 09 07 33.4
comp=Z,5.6nm,0.9s
SNAA Sanae 61.60 161 P **P 09 07 37.6 +0.7**
CCM Cathedral Cave 63.58 339 P 09 07 50.3 0.0
S39A Bolivar 63.99 337 P 09 07 52.8 -0.2
D62A Allapoint, All 68.33 358 P **P 09 08 20.0 -0.3**
D62A IAmb IAmb 09 08 27.8
comp=Z,7.3nm,1.1s
KNB Kanab 72.63 323 P **P 09 08 49.9 +3.0**
SRU San Rafael Swe 72.90 326 P **P 09 08 50.3 +1.9**
MTPU Mount Pierson 73.01 324 P **P 09 08 51.6 +2.3**
CCUT Cedar City 73.32 323 P **P 09 08 53.9 +3.0**
MSU Marysvale 73.35 324 P **P 09 08 53.7 +2.7**
TPNV Topopah Spring 74.56 321 P **P 09 09 00.9 +2.9**
TPNV IAmb IAmb 09 09 03.6
comp=Z,4.3nm,1.3s
R11A Troy Canyon, C 75.13 322 P **P 09 09 04.1 +2.8**
PDAR Pinedale Array 75.15 329 P **P 09 09 02.5 +1.1**
comp=Z,0.4nm,0.5s,baz=133,slow=7.7,SNR=4.7
TORD Torodi Ar. Bea 75.50 69 P **P 09 09 03.1 -0.6**
comp=Z,1.8nm,0.5s,baz=253,slow=5.3,SNR=15
TORD pP **pP 09 09 58.0 +0.7**
comp=Z,2.0nm,0.7s,baz=255,slow=5.4,SNR=7.1
NVAR Mina Array Bea 76.76 321 P **P 09 09 13.0 +2.5**
comp=Z,0.9nm,0.9s,baz=156,slow=7.3,SNR=5.8
K05A Summer Lake 81.06 323 P **P 09 09 36.6 +2.9**
K05A IAmb IAmb 09 09 36.8
comp=Z,3.2nm,0.9s
BOSA Boshof 81.67 117 P **P 09 09 37.6 +0.2**
BOSA IAmb IAmb 09 09 49.3
comp=Z,3.4nm,0.9s
YKA Yellowknife Ar 91.89 340 P **P 09 10 26.7 +0.9**
comp=Z,0.8nm,0.7s,baz=133,slow=4.3,SNR=7.8
ASAR Alice Springs 130.77 205 PKP **PKPdf 09 16 29.3 +0.5**
comp=Z,0.4nm,0.5s,baz=136,slow=1.6,SNR=8.9
WRA Warramunga Arr 133.89 208 PKP **PKiKP 09 16 35.7 -0.3**
comp=Z,0.8nm,0.8s,baz=142,slow=1.3,SNR=4.6
WRAB Tennant Creek 133.90 208 PKPdf **PKiKP 09 16 36.4 +0.4**
MAKZ Makanchi 144.29 38 PKPdf 09 16 52.5 -0.2
MK31 Makanchi Array 144.48 37 PKPdf 09 16 53.0 -0.1
MKAR Makanchi Array 144.48 37 PKP **PKPdf 09 16 53.2 +0.1**
comp=Z,2.9nm,0.7s,baz=317,slow=3.9,SNR=32
USRK Ussuriysk Ar. 152.57 330 PKPbc **PKiKP 09 17 14.6 +1.0**
comp=Z,0.9nm,0.6s,baz=40,slow=7.4,SNR=4.6
SONM Songino Array 153.19 10 PKPbc **PKiKP 09 17 16.0 +1.1**
comp=Z,0.3nm,0.4s,baz=312,slow=3.8,SNR=4.1

IDC 27 08:59:20.0±2.3, 54°27N×86°13E, h0km, mb1 3.1/2, mb1mx3.0/36, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=18.3km s-min=12.0km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.83**	**248**	*i*			09 04 30.0	
	baz=67,slow=313,SNR=1.8							
ZALV	**Zalesovo Beam**	**0.84**	**248**	Pg	Pg	Pg	08 59 34.3	-1.7
	1.1nm,0.3s,baz=67,slow=17,SNR=22							
ZALV				Lg	Lg	Lg	08 59 48.6	
	7.2nm,0.3s,baz=67,slow=26,SNR=32							
KURBB	**Kurchatov Arra**	**5.91**	**235**	Pn	Pn	Pn	09 00 49.8	+1.1
	0.1nm,0.3s,baz=51,slow=13,SNR=17							
KURBB				Lg	Lg	Lg	09 02 27.7	
	0.1nm,0.3s,baz=50,slow=34,SNR=5.6							
MKAR	**Makanchi Array**	**7.88**	**200**	Pn	Pn	Pn	09 01 16.7	+0.9
	0.2nm,0.3s,baz=24,slow=13,SNR=16							
MKAR				Lg	Lg	Lg	09 03 28.5	
	0.1nm,0.3s,baz=14,slow=31,SNR=6.0							

*NEIC **27** 09:01:18.5±1.8, 6°77N±0°07×73°02W±0°08, h155km±7km, Error ellipse: s-maj=13.8km s-min=8.4km az=125.0*
*IDC **27** 09:01:18.6±0.6, 6°74N×72°93W, h157km±7km, mb3.6/8, mb1 4.0/12, mb1mx3.6/34, mbtmp4.2/12, Error ellipse: s-maj=18.4km s-min=7.0km az=131.0*
*RSNC **27** 09:01:19.6±1.1, 6°80N×73°14W, h142km±4km, ML4.0, Mw4.2*

ISC 27 09:01:18.4±0.6, 6°83N±0°03×73°13W±0°03, h150km±5km, n140, σ1§64/181, mb4.3/34, 4C-8D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.25**	**193**	⇓ *iP*		**Pn**	**09 01 39.1**	**0.0**
BARC				*eS*		**Sn**	**09 01 53.7**	**-1.2**
BARC				*i*			09 01 54.9	
	comp=Z,3µm,0.2s							
PAMC	**Pamplona, Colo**	**0.66**	**40**	⇑ *iP*		**Pn**	**09 01 42.0**	**+0.8**
PAMC				*eS*		**Sn**	**09 01 58.5**	**-0.1**
PAMC				*i*			09 02 01.1	
	comp=Z,3µm,0.4s							
RUSC	**La Rusia**	**0.94**	**177**	⇑ *eP*		**Pn**	**09 01 43.0**	**-0.2**
RUSC				*eS*		**Sn**	**09 02 00.7**	**-1.5**
RUSC				*i*			09 02 03.2	
	comp=Z,2µm,0.3s							
RUSC	**La Rusia**	**0.94**	**177**			**Pn**	**09 01 42.9**	**-0.4**
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	*eP*		**Pn**	**09 01 45.8**	**-0.7**
PTBC				*eS*		**Sn**	**09 02 06.4**	**-1.6**
PTBC				*i*			09 02 09.2	
	comp=Z,1µm,0.2s							
TAMC	**Tame, Arauca**	**1.39**	**107**	⇑ *iP*		**Pn**	**09 01 47.5**	**+0.7**
TAMC				*eS*		**Sn**	**09 02 08.4**	**-0.1**
TAMC				*i*			09 02 09.5	
	comp=Z,789nm,0.6s							
OCAC	**Ocana**	**1.41**	**352**	*eP*		**Pn**	**09 01 47.5**	**+0.3**
OCAC				*eS*		**Sn**	**09 02 08.8**	**-0.6**
OCAC				*i*			09 02 11.2	
	comp=Z,1µm,0.5s							
SPBC	**San Pablo de B**	**1.50**	**219**	⇓ *iP*		**Pn**	**09 01 48.1**	**-0.1**
SPBC				*eS*		**Sn**	**09 02 09.8**	**-1.1**
SPBC				*i*			09 02 12.5	
	comp=Z,2µm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	*eP*		**Pn**	**09 01 52.0**	**+0.4**
ZARC				*eS*		**Sn**	**09 02 17.5**	**+0.3**
ZARC				*i*			09 02 25.2	
	comp=Z,1µm,0.2s							
CTAU	**Tausa, Cundina**	**1.86**	**209**	*eP*		**Pn**	**09 01 53.0**	**+0.5**
CTAB	**Cerro Tablazo,**	**2.10**	**211**	*eP*		**Pn**	**09 01 56.7**	**+1.4**
NORC	**Norcasia**	**2.14**	**234**	⇓ *eP*		**Pn**	**09 01 54.9**	**-0.4**
NORC				*eS*		**Sn**	**09 02 21.4**	**-2.3**
NORC				*i*			09 02 24.5	
	comp=Z,761nm,0.3s							
SMLC	**San Martn de**	**2.17**	**334**	*eP*		**Pn**	**09 01 55.8**	**+0.3**
SMLC				*eS*		**Sn**	**09 02 23.6**	**-0.5**
SMLC				*i*			09 02 26.7	
	comp=Z,587nm,0.2s							
CHIC	**Chingaza**	**2.27**	**195**	⇓ *eP*		**Pn**	**09 01 57.3**	**+0.1**
CHIC				*eS*		**Sn**	**09 02 25.5**	**-1.5**
CHIC				*i*			09 02 29.9	
	comp=Z,610nm,0.5s							
ROSC	**El Rosal**	**2.31**	**211**	P		**Pn**	**09 01 59.0**	**+1.4**
	comp=Z,196nm,0.3s,baz=82,slow=11,SNR=156							
ROSC				S		**Sn**	**09 02 29.8**	**+2.0**
	comp=Z,293nm,0.3s,baz=38,slow=22,SNR=21							
ROSC	**El Rosal**	**2.31**	**211**			**Pn**	**09 01 58.8**	**+1.2**
ROSC					Sn	**Sn**	**09 02 29.6**	**+1.9**
HELC	**Santa Helena**	**2.47**	**255**	*eP*		**Pn**	**09 01 59.2**	**-0.4**
HELC				*eS*		**Sn**	**09 02 31.4**	**+0.2**
HELC				*i*			09 02 38.4	
	comp=Z,1µm,0.3s							
CVER	**Cruz Verde, Cu**	**2.48**	**202**	*eP*		**Pn**	**09 02 01.7**	**+1.9**
UREC	**San Jos de Ur**	**2.56**	**291**	*eP*		**Pn**	**09 01 59.5**	**-0.7**
UREC				*eS*		**Sn**	**09 02 30.3**	**-2.2**
UREC				*i*			09 02 35.1	
	comp=Z,755nm,0.3s							
GUY2C	**Guyana, Caldas**	**2.74**	**234**	*eP*		**Pn**	**09 02 03.8**	**+0.8**
GUY2C				*eS*		**Sn**	**09 02 37.8**	**+0.5**
GUY2C				*i*			09 02 46.4	
	comp=Z,677nm,0.4s							
VILC	**Villavicencio,**	**2.76**	**192**	*eP*		**Pn**	**09 02 02.8**	**-0.2**
VILC				*eS*		**Sn**	**09 02 36.1**	**-1.2**
VILC				*i*			09 02 39.3	
	comp=Z,545nm,0.4s							
PTGC	**Puerto Gaitan,**	**2.80**	**159**	⇑ *iP*		**Pn**	**09 02 02.3**	**-1.0**
PTGC				*eS*		**Sn**	**09 02 34.9**	**-3.1**
PTGC				*i*			09 02 38.1	
	comp=Z,649nm,0.4s							
RREF	**El Recreo**	**2.93**	**229**	*eP*		**Pn**	**09 02 06.0**	**+0.5**
RREF				*eS*		**Sn**	**09 02 40.6**	**-1.1**
RREF				*i*			09 02 47.3	
	comp=Z,828nm,0.7s							
CBOC	**Ciudad Bolivar**	**3.02**	**252**	*eP*		**Pn**	**09 02 06.9**	**+0.7**
CBOC				*eS*		**Sn**	**09 02 42.5**	**-0.7**
CBOC				*i*			09 02 45.6	
	comp=Z,194nm,0.3s							
DBBC	**Dabeiba**	**3.07**	**274**	⇓ *eP*		**Pn**	**09 02 07.2**	**+0.5**
DBBC				*eS*		**Sn**	**09 02 42.5**	**-1.5**
TOLC	**Tolima**	**3.12**	**224**	*eP*		**Pn**	**09 02 08.5**	**+0.9**
TOLC				*eS*		**Sn**	**09 02 45.1**	**-0.7**
TOLC				*i*			09 02 54.0	
	comp=Z,1µm,0.3s							
ARGC	**Ariguani, Magd**	**3.20**	**340**	*eP*		**Pn**	**09 02 10.0**	**+1.6**
ARGC				*eS*		**Sn**	**09 02 48.4**	**+1.2**
ARGC				*i*			09 02 58.9	
	comp=Z,195nm,0.5s							
SDV	**Santo Domingo**	**3.20**	**50**	P		**Pn**	**09 02 08.9**	**+0.4**
	comp=Z,86nm,0.3s,baz=233,slow=9.9,SNR=71							
SDV				S		**Sn**	**09 02 46.4**	**-1.0**
	comp=Z,122nm,0.3s,baz=254,slow=21,SNR=39							
SDV	**Santo Domingo**	**3.20**	**50**	⇓ *eP*		**Pn**	**09 02 08.9**	**+0.4**
SDV				*eS*		**Sn**	**09 02 44.5**	**-2.9**
SDV				*i*			09 02 51.1	
	comp=Z,468nm,0.5s							
SDV	**Santo Domingo**	**3.20**	**50**			**Pn**	**09 02 08.7**	**+0.2**
SDV					Sn	**Sn**	**09 02 46.1**	**-1.3**
ANIL	**Santa Ana**	**3.25**	**224**	*eP*		**Pn**	**09 02 09.9**	**+0.7**
ANIL				*eS*		**Sn**	**09 02 47.7**	**-0.9**
ANIL				*i*			09 03 02.2	
	comp=Z,1µm,0.4s							
PRAC	**Prado**	**3.56**	**210**	*eP*		**Pn**	**09 02 12.9**	**-0.1**
PRAC				*eS*		**Sn**	**09 02 54.2**	**-1.2**
PRAC				*i*			09 03 00.9	
	comp=Z,367nm,0.3s							
ORTC	**Ortega, Tolima**	**3.59**	**216**	⇓ *eP*		**Pn**	**09 02 13.3**	**-0.1**
ORTC				*eS*		**Sn**	**09 02 55.9**	**-0.2**
ORTC				*i*			09 03 03.7	
	comp=Z,420nm,0.4s							
SJCC	**San Jacinto, C**	**3.66**	**326**	*eP*		**Pn**	**09 02 13.6**	**-0.7**
SJCC				*eS*		**Sn**	**09 02 54.3**	**-3.4**
SJCC				*i*			09 02 59.2	
	comp=Z,299nm,0.5s							
PLMC	**San Jos del P**	**3.68**	**239**	*eP*		**Pn**	**09 02 15.1**	**+0.5**
PLMC				*eS*		**Sn**	**09 02 57.1**	**-1.0**
PLMC				*i*			09 03 02.7	
	comp=Z,331nm,0.3s							
LCBC	**Los crdobas,**	**3.79**	**302**	*eS*		**Sn**	**09 02 56.9**	**-3.7**
LCBC				*i*			09 03 04.3	
	comp=Z,268nm,0.3s							
YOTC	**Yotoco, Valle**	**4.28**	**229**	*eP*		**Pn**	**09 02 21.8**	**-0.6**
YOTC				*eS*		**Sn**	**09 03 12.6**	**+0.4**
GUVC	**San Jose del G**	**4.29**	**173**	*eP*		**Pn**	**09 02 21.6**	**-0.9**
GUVC				*eS*		**Sn**	**09 03 08.3**	**-4.1**
GUVC				*i*			09 03 15.1	
	comp=Z,323nm,0.3s							
SMRC	**Santa Marta, M**	**4.44**	**346**	*eP*		**Pn**	**09 02 24.1**	**-0.3**
SMRC				*eS*		**Sn**	**09 03 12.8**	**-3.0**
SMRC				*i*			09 03 18.6	
	comp=Z,105nm,0.3s							
CAPC	**Capurgana**	**4.55**	**293**	*eP*		**Pn**	**09 02 23.7**	**-2.2**
CAPC				*eS*		**Sn**	**09 03 10.9**	**-7.6**
CAPC				*i*			09 03 23.1	
	comp=Z,125nm,0.3s							
PTAC	**Punta Ardita,**	**4.66**	**274**	*eP*		**Pn**	**09 02 26.5**	**-0.8**
PTAC				*eS*		**Sn**	**09 03 18.1**	**-2.9**
PTAC				*i*			09 03 22.0	
	comp=Z,371nm,0.3s							
MACC	**Macarena, Meta**	**4.71**	**189**	⇓ *eP*		**Pn**	**09 02 26.3**	**-1.7**
MACC				*eS*		**Sn**	**09 03 16.6**	**-5.8**
MACC				*i*			09 03 24.7	
	comp=Z,110nm,0.5s							
BETC	**Betania**	**4.72**	**209**	*eP*		**Pn**	**09 02 27.1**	**-1.2**
BETC				*eS*		Sn	09 03 12.6	-10
MARP	**Paez Belalcaza**	**4.86**	**216**	*eP*		**Pn**	**09 02 29.8**	**-0.5**
MARP				*eS*		**Sn**	**09 03 24.0**	**-2.3**
URIC	**Uribia, Colomb**	**4.96**	**13**	*eP*		**Pn**	**09 02 30.0**	**-1.4**
URIC				*eS*		**Sn**	**09 03 22.9**	**-5.4**
URIC				*i*			09 03 28.3	
	comp=Z,64nm,0.4s							
URIC	**Uribia, Colomb**	**4.96**	**13**			**Pn**	**09 02 30.2**	**-1.2**
MALC	**Bahia Malaga**	**5.04**	**236**	*eP*		**Pn**	**09 02 33.4**	**+1.0**
MALC				*eS*		**Sn**	**09 03 32.0**	**+1.9**
MALC				*i*			09 03 40.6	
	comp=Z,43nm,0.5s							
GARC	**Garzon, Huila**	**5.18**	**207**	*eP*		**Pn**	**09 02 33.4**	**-1.1**
GARC				*eS*		**Sn**	**09 03 27.4**	**-6.5**
PCON	**Cinco Dias**	**5.54**	**216**	*eP*		**Pn**	**09 02 40.0**	**+0.6**
PCON				*eS*		**Sn**	**09 03 42.7**	**0.0**
PCON				*i*			09 03 54.3	
	comp=Z,54nm,0.5s							
SOTA	**Rioblanco**	**5.82**	**217**	*eP*		**Pn**	**09 02 44.4**	**+1.2**
SOTA				*eS*		**Sn**	**09 03 45.6**	**-3.8**
SOTA				*i*			09 03 53.9	
	comp=Z,49nm,0.6s							
BBAC	**Balboa, Cauca**	**6.30**	**221**	*eP*		**Pn**	**09 02 49.0**	**-0.4**
BBAC				*eS*		**Sn**	**09 03 56.4**	**-4.2**
BBAC				*i*			09 04 06.6	
	comp=Z,42nm,0.4s							
CRUC	**La Cruz**	**6.47**	**216**	*eP*		**Pn**	**09 02 53.0**	**+1.2**
CRUC				*i*			09 04 10.5	
	comp=Z,60nm,0.5s							
HATO	**Hato, Curacao**	**6.72**	**37**	Pn		**Pn**	**09 02 54.3**	**-0.4**
GCUF	**Volcan Galeras**	**6.98**	**217**	*eP*		**Pn**	**09 02 59.3**	**+0.7**
GCUF				*i*			09 04 20.9	
	comp=Z,28nm,0.4s							
BCIP	**Isla Barro Col**	**7.04**	**290**	Pn		**Pn**	**09 02 57.8**	**-1.2**
PCRV	**Puerto La Cruz**	**9.03**	**68**	P		**Pn**	**09 03 23.5**	**-2.1**
	comp=Z,3.2nm,0.3s,baz=308,slow=1.6,SNR=14							
PLCV	**Puerto La Cruz**	**9.07**	**68**			**Pn**	**09 03 23.5**	**-2.6**
MTDJ	**Mount Denham**	**12.11**	**340**	Pn		**Pn**	**09 04 07.8**	**+1.6**
MLPR	**Magueyes Islan**	**12.56**	**28**	Pn		**Pn**	**09 04 10.7**	**-1.2**
CRPR	**Cabo Rojo, PR**	**12.56**	**27**	Pn		**Pn**	**09 04 10.0**	**-2.0**
MPR	**Mayaguez**	**12.73**	**27**	Pn		**Pn**	**09 04 13.5**	**-0.6**
AGPR	**Aguadilla, PR**	**12.96**	**26**	Pn		**Pn**	**09 04 15.7**	**-1.5**
IGPR	**InterUniversit**	**13.01**	**31**	Pn		**Pn**	**09 04 17.1**	**-0.6**
AOPR	**Arecibo Observ**	**13.02**	**28**	Pn		**Pn**	**09 04 17.2**	**-0.7**
PDPR	**Patillas Dam,**	**13.10**	**31**	Pn		**Pn**	**09 04 17.2**	**-1.7**
SJG	**San Juan**	**13.11**	**31**	P		**Pn**	**09 04 18.3**	**-0.8**
	comp=Z,2.7nm,0.3s,baz=212,slow=15,SNR=5.7							
SJG	**San Juan**	**13.11**	**31**	Pn		**Pn**	**09 04 18.1**	**-0.9**
HUMP	**Col San Antoni**	**13.29**	**32**	Pn		**Pn**	**09 04 20.1**	**-1.2**
GCPR	**Guaynabo City**	**13.31**	**30**	Pn		**Pn**	**09 04 20.6**	**-1.0**
CBYP	**Canovanas**	**13.40**	**31**	Pn		**Pn**	**09 04 21.6**	**-1.1**
MTP	**Monte Pirata**	**13.41**	**33**	Pn		**Pn**	**09 04 22.4**	**-0.5**
CDVI	**St. Croix**	**13.58**	**36**	Pn		**Pn**	**09 04 23.9**	**-1.0**
CUPR	**Culebra, Puert**	**13.73**	**33**	Pn		**Pn**	**09 04 26.9**	**0.0**
STVI	**Saint Thomas**	**13.95**	**34**	Pn		**Pn**	**09 04 29.7**	**+0.1**
TEIG	**Tepich**	**19.83**	**314**	P		**Pn**	**09 05 39.6**	**-1.0**
	comp=Z,11nm,0.5s,baz=138,slow=14,SNR=12							
TEIG	**Tepich**	**19.83**	**314**	P		**Pn**	**09 05 40.0**	**-0.6**
CCIG	**Comitan**	**20.84**	**298**	P		**P**	**09 05 50.5**	**+2.0**
CCIG				IAmb		IAmb	09 05 52.9	
	comp=Z,6.0nm,0.6s							
LPAZ	**La Paz**	**23.50**	**168**	P		**P**	**09 06 14.0**	**-1.5**
	comp=Z,1.0nm,0.9s,baz=17,slow=11,SNR=2.4							
LPAZ	**La Paz**	**23.50**	**168**	P		**P**	**09 06 14.2**	**-1.2**
SIV	**San Ignacio**	**25.63**	**152**	pP		pP	09 07 05.8	-0.8
	comp=Z,1.9

JFWS	**Jewell Farm**	**38.98**	**340**	P		**P**	**09 08 29.6**	**-0.3**
BATG	**Bathurst New B**	**40.75**	**7**	P		**P**	**09 08 45.3**	**+0.8**
BATG				IAmb		IAmb	09 08 52.9	
	comp=Z,8.4nm,1.2s							
ECSD	**EROS Data Cent**	**42.13**	**334**	P		**P**	**09 08 56.5**	**+0.7**
D41A	**Chassel**	**42.21**	**344**	P		**P**	**09 08 57.4**	**+1.0**
D41A				IAmb		IAmb	09 09 16.5	
	comp=Z,5.2nm,1.1s							
SDCO	**Great Sand Dun**	**42.53**	**321**	P		**P**	**09 09 00.6**	**+1.1**
S22A	**4UR Ranch, Cre**	**43.37**	**320**	P		**P**	**09 09 08.3**	**+2.0**
S22A				IAmb		IAmb	09 09 09.1	
	comp=Z,6.9nm,1.4s							
W18A	**Petrified Fore**	**43.85**	**315**	P		**P**	**09 09 08.6**	**-1.5**
W18A				IAmb		IAmb	09 09 12.8	
	comp=Z,7.7nm,0.8s							
EYMN	**Ely**	**43.86**	**342**	P		**P**	**09 09 09.1**	**-0.5**
PV02	**Paradox Valley**	**44.86**	**319**	P		**P**	**09 09 19.9**	**+1.8**
B35A	**Bob, Littlefor**	**44.93**	**341**	P		**P**	**09 09 18.2**	**+0.1**
WUAZ	**Wupatki**	**45.21**	**315**	P		**P**	**09 09 22.0**	**+1.2**
WUAZ				IAmb		IAmb	09 09 23.8	
	comp=Z,9.1nm,1.0s							
AGMN	**Agassiz Nation**	**45.61**	**339**	IAmb		IAmb	09 09 24.4	
	comp=Z,4.1nm,0.6s							
Y14A	**Wickenburg**	**45.64**	**312**	IAmb		IAmb	09 09 26.1	
	comp=Z,3.4nm,0.7s							
TCRU	**Three Creeks R**	**47.52**	**318**	P		**P**	**09 09 40.5**	**+1.6**
BW06	**Boulder Array**	**48.06**	**324**	P		**P**	**09 09 43.7**	**+0.8**
PDAR	**Pinedale Array**	**48.06**	**324**	P		**P**	**09 09 43.5**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=120,slow=9.1,SNR=9.0							
SCHQ	**Schefferville**	**48.13**	**5**	P		**P**	**09 09 43.7**	**+0.7**
	comp=Z,3.1nm,0.5s,baz=201,slow=6.2,SNR=17							
SCHQ	**Schefferville**	**48.13**	**5**	P		**P**	**09 09 43.7**	**+0.7**
SCHQ				IAmb		IAmb	09 09 44.5	
	comp=Z,3.8nm,0.6s							
HWUT	**Hardware Ranch**	**48.59**	**322**	IAmb		IAmb	09 09 48.7	
	comp=Z,2.1nm,0.6s							
SNOW	**Snow King Moun**	**49.18**	**324**	IAmb		IAmb	09 09 54.4	
	comp=Z,2.9nm,0.7s							
HLID	**Hailey**	**51.42**	**322**	P		**P**	**09 10 09.5**	**+1.3**
NVAR	**Mina Array Bea**	**51.47**	**315**	P		**P**	**09 10 09.9**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=118,slow=6.7,SNR=9.6							
NVAR				PcP		**PcP**	**09 11 21.9**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=135,slow=5.4,SNR=3.7							
KVN	**Kaiserville**	**51.60**	**315**	P		**P**	**09 10 10.2**	**+0.5**
YERR	**Yerington**	**52.37**	**315**	P		**P**	**09 10 14.3**	**-1.0**
YERR				IAmb		IAmb	09 10 19.7	
	comp=Z,3.1nm,0.9s							
WVOR	**Wild Horse Val**	**53.51**	**319**	P		**P**	**09 10 24.4**	**+0.8**
F10A	**Beach Ranch, E**	**54.41**	**323**	P		**P**	**09 10 30.4**	**+0.4**
F10A				IAmb		IAmb	09 10 30.9	
	comp=Z,2.4nm,0.5s							
G08A	**Pilot Rock**	**55.10**	**322**	P		**P**	**09 10 35.8**	**+0.7**
PINE	**Pine Mountain**	**55.64**	**319**	P		**P**	**09 10 40.3**	**+1.3**
YKA	**Yellowknife Ar**	**63.25**	**340**	P		**P**	**09 11 30.6**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=130,slow=6.4,SNR=27							
ILAR	**Eielson Array**	**76.95**	**335**	P		**P**	**09 12 54.2**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=103,slow=5.2,SNR=4.9							
MKAR	**Makanchi Array**	**122.31**	**20**	PKP		**PKPdf**	**09 19 55.0**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=283,slow=1.5,SNR=2.7							
LZH	**Lanzhou**	**137.21**	**4**	*e*PKP		**PKPdf**	**09 20 22.3**	**-2.3**
LZH				pPKP		pPKPdf	09 21 01.8	-3.0
LZH				sPKP			09 21 16.5	
ASAR	**Alice Springs**	**149.11**	**234**	PKPbc		**PKPbc**	**09 20 48.6**	**-1.2**
	comp=Z,2.2nm,0.5s,baz=117,slow=3.5,SNR=5.7							
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc		**PKPbc**	**09 20 51.9**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=110,slow=2.5,SNR=18							

IDC 27 09:43:58.9±3.3, 54°36N×87°33E, h0km, mb1 2.9/2, mb1mx2.8/52, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=28.1km s-min=18.1km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.53**	**255**	*i*		09 52 30.0	
	baz=75,slow=306,SNR=1.2						
ZALV	**Zalesovo Beam**	**1.53**	**255**	Pg	Pn	09 44 25.3	-2.2
	0.8nm,0.3s,baz=73,slow=16,SNR=9.5						
ZALV				Lg	Lg	09 44 47.6	
	1.9nm,0.3s,baz=71,slow=24,SNR=6.4						
KURBB	**Kurchatov Arra**	**6.55**	**239**	Pn	Pn	09 45 37.3	+0.9
	0.1nm,0.3s,baz=55,slow=14,SNR=8.5						
MKAR	**Makanchi Array**	**8.22**	**205**	Pn	Pn	09 46 00.5	+1.0
	0.1nm,0.3s,baz=26,slow=13,SNR=4.5						
MKAR				Sn	Sn	09 47 32.7	-0.4
	0.1nm,0.3s,baz=27,slow=26,SNR=5.8						
MKAR				Lg	Lg	09 48 20.0	
	0.1nm,0.3s,baz=23,slow=30,SNR=6.3						

IDC 27 09:44:02.9±0.9, 14°50N×56°36E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.6/55, mbtmp3.8/10, MS3.3/7, Ms1 3.3/7, ms1mx3.0/42, Error ellipse: s-maj=25.1km s-min=22.4km az=120.0
NEIC 27 09:44:03.1±1.4, 14°3N±0°1×56°31E±0°09, h10km±1km, mb4.3/2, Error ellipse: s-maj=25.2km s-min=5.7km az=144.0

ISC 27 09:44:02.5±0.7, 14°2N±0°1×56°1E±0°1, h10km, n25, σ1§01/17, mb4.0/12, MS3.3/6, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOCY	**Socotra**	**2.87**	**227**	Pn	**Pn**	**09 44 49.0**	**+0.6**
SOCY					**Sn**	**09 45 21.3**	**-1.8**
WSAR	**Wadi Sarin**	**9.33**	**14**	LR	LR	09 49 30.2	
	comp=Z,130nm,18.2s,baz=197,slow=36						
GEYT	**Alibeck**	**23.73**	**4**	P	**P**	**09 49 13.5**	**-1.4**
	4.0nm,0.7s,baz=212,slow=8.1,SNR=5.8						
ASF	**Jabal al Asfar**	**25.10**	**319**	P	**P**	**09 49 29.4**	**+1.7**
	1.2nm,0.7s,baz=153,slow=8.8,SNR=3.9						
BRTR	**Keskin Array B**	**32.22**	**326**	LR	LR	10 04 25.7	
	comp=Z,36nm,18.2s,baz=156,slow=38						
AAK	**Ala-Archa**	**32.49**	**26**	LR	LR	10 03 59.3	
	comp=Z,68nm,19.8s,baz=158,slow=37						
AKTO	**Aktyubinsk**	**36.20**	**2**	LR	LR	10 08 54.4	
	comp=Z,42nm,18.7s,baz=136,slow=42						
MKAR	**Makanchi Array**	**39.20**	**29**	P	**P**	**09 51 30.2**	**-0.6**
	0.5nm,0.7s,baz=205,slow=5.4,SNR=4.9						
KURBB	**Kurchatov Arra**	**40.65**	**22**	P	**P**	**09 51 42.1**	**-0.6**
	0.7nm,0.7s,baz=222,slow=8.3,SNR=8.3						
KURBB				PcP	**PcP**	**09 53 45.0**	**+0.5**
	0.1nm,0.2s,baz=199,slow=2.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**41.24**	**78**	P	**P**	**09 51 48.2**	**+0.1**
	0.6nm,0.3s,baz=277,slow=8.0,SNR=4.5						
AKASG	**Malin Array Be**	**42.46**	**335**	LR	LR	10 14 22.2	
	comp=Z,24nm,18.5s,baz=75,slow=43						
MATP	**Matopo**	**43.81**	**219**	P	P	09 52 15.6	+6.5
	1.3nm,0.5s,baz=32,slow=8.4,SNR=5.5						
ZALV	**Zalesovo Beam**	**45.64**	**23**	P	**P**	**09 52 21.7**	**-1.4**
	1.9nm,0.7s,baz=239,slow=7.7,SNR=5.9						
ZALV				LR	LR	10 15 29.3	
	comp=Z,59nm,18.1s,baz=240,slow=42						
FINES	**FINESS Array B**	**51.92**	**342**	P	**P**	**09 53 10.5**	**-0.7**
	0.5nm,0.4s,baz=137,slow=15,SNR=1.9						
NOA	**NORSAR Array B**	**56.86**	**336**	LR	LR	10 21 41.1	
	comp=Z,28nm,18.1s,baz=80,slow=40						
ESDC	**Sonseca Array**	**58.14**	**308**	P	**P**	**09 53 57.2**	**+0.5**
	0.4nm,0.3s,baz=85,slow=5.8,SNR=6.1						
H01W3	**Cape Leeuwin H**	**73.50**	**133**	T	T	11 15 50.1	
	baz=302,slow=75,SNR=15						
H01W2	**Cape Leeuwin H**	**73.50**	**133**	T	T	11 15 52.5	
	baz=302,slow=75,SNR=15						
H01W1	**Cape Leeuwin H**	**73.51**	**133**	T	T	11 15 52.4	
	baz=302,slow=75,SNR=15						
WB0	**Warramunga Arr**	**84.02**	**112**	P	**P**	**09 56 34.1**	**+0.3**
WB2	**Warramunga Arr**	**84.04**	**112**	P	**P**	**09 56 34.1**	**+0.2**
WB2				IAmb	IAmb	09 56 38.6	
	comp=Z,1.2nm,0.9s						
WR0	**Warramunga Arr**	**84.21**	**112**	P	**P**	**09 56 34.8**	**0.0**
WR0				IAmb	IAmb	09 56 35.3	
	comp=Z,3.4nm,1.1s						
ASAR	**Alice Springs**	**84.76**	**116**	P	**P**	**09 56 37.7**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=290,slow=4.5,SNR=6.4						
PDAR	**Pinedale Array**	**121.84**	**348**	PKP	**PKPdf**	**10 02 58.0**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=0.0,slow=4.4,SNR=4.6						
NVAR	**Mina Array Bea**	**127.42**	**354**	PKP	**PKiKP**	**10 03 10.2**	**+1.3**
	comp=Z,0.6nm,0.7s,baz=287,slow=0.9,SNR=7.4						

MAN 27 10:27:04.5, 14°09N×122°78E, h1km, mb4.0, ML2.8, MS2.4, 2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GQP	**Guinayangan**	**0.37**	**240**	⇓*e*P	Pg	10 27 11.2	-0.4
GQP				*i* S	Sg	10 27 15.2	-1.2
POLP	**Polilio Island**	**1.03**	**308**	*e*P	Pb	10 27 25.1	0.0
POLP				*e*S	Sn	10 27 41.2	+0.1
LQP	**Lukban**	**1.20**	**271**	⇓*i*P	Pn	10 27 28.8	+0.2
LQP				*i* S	Sn	10 27 45.5	-0.2
BALP	**Baler**	**2.01**	**325**	*e*P	Pn	10 27 39.5	-0.1
BALP				*e*S	Sg	10 28 10.5	+1.4

IDC 27 10:45:18.6±3.5, 8°35S×111°36E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/39, mbtmp3.5/3, MS4.1/1, Ms1 4.1/1, ms1mx2.9/36, Error ellipse: s-maj=209.1km s-min=26.5km az=48.0
NEIC 27 10:45:29.7±1.4, 8°7S±0°1×111°11E±0°02, h102km±10km, mb4.1/5, Error ellipse: s-maj=19.4km s-min=1.8km az=185.0
DJA 27 10:45:31.7±0.5, 9°S×11°1E±°, h10km, M3.7/9, MLv3.7/9
ISC 27 10:45:29.9±0.9, 8°7S±0°08×111°07E±0°05, h100km, n20, σ1§97/24, mb3.9/6, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WOJI	**Wonogiri, Jawa**	**0.94**	**351**	P	**Pn**	**10 45 48.8**	**-0.9**
WOJI				S	**Sn**	**10 46 01.8**	**-2.7**
UGM	**Wanagama**	**1.01**	**327**	P	**Pn**	**10 45 49.6**	**-0.8**
UGM				S	**Sn**	**10 46 04.6**	**-1.4**
UGM	**Wanagama**	**1.01**	**327**		**Pn**	**10 45 49.7**	**-0.8**
UGM				Sn	**Sn**	**10 46 04.7**	**-1.2**
NGJI	**Ngawi**	**1.45**	**15**	P	**Pn**	**10 45 58.0**	**+2.5**
NGJI				S	**Sn**	**10 46 17.3**	**+2.4**
SMRI	**Semarang**	**1.82**	**340**	Pn	**Pn**	**10 45 58.2**	**-2.0**
GRJI	**Gresik**	**2.31**	**37**	P	**Pn**	**10 46 09.4**	**+2.9**
JAGI	**Jajag, Banyuwa**	**3.06**	**85**	P	Pn	10 46 20.6	+4.2
JAGI	**Jajag, Banyuwa**	**3.06**	**85**	Pn	**Pn**	**10 46 15.8**	**-0.6**
JAGI					**Sn**	**10 46 50.0**	**-2.3**
CISI	**Cisompet, Garu**	**3.44**	**290**	P	**Pn**	**10 46 25.3**	**+3.7**
CISI	**Cisompet, Garu**	**3.44**	**290**	Pn	**Pn**	**10 46 20.2**	**-1.4**
CISI					**Sn**	**10 46 60.0**	**-1.7**
CNJI	**Cibinong**	**4.17**	**290**	P	**Pn**	**10 46 35.4**	**+4.1**
WB0	**Warramunga Arr**	**25.07**	**118**	P	**P**	**10 50 45.0**	**-0.3**
WB0				IAmb	IAmb	10 50 45.4	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**25.09**	**119**	P	**P**	**10 50 45.6**	**+0.1**
	comp=Z,0.8nm,1.1s,baz=294,slow=11,SNR=4.6						
WB2	**Warramunga Arr**	**25.10**	**119**	P	**P**	**10 50 46.4**	**+0.9**
WR0	**Warramunga Arr**	**25.27**	**119**	P	**P**	**10 50 48.3**	**+1.2**
WR0				IAmb	IAmb	10 50 59.7	
	comp=Z,16nm,1.5s						
ASAR	**Alice Springs**	**26.39**	**127**	P	**P**	**10 50 56.6**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=304,slow=9.6,SNR=4.2						
MJAR	**Matsushiro Arr**	**51.79**	**28**	LR	LR	11 14 57.2	
	comp=Z,197nm,21.7s,baz=105,slow=35						
MK31	**Makanchi Array**	**60.98**	**338**	P	**P**	**10 55 32.6**	**+0.1**
MK31				IAmb	IAmb	10 55 45.5	
	comp=Z,1.7nm,1.4s						
MKAR	**Makanchi Array**	**60.98**	**338**	P	**Pn**	**10 55 31.8**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=145,slow=7.5,SNR=10						
QSPA	**South Pole Qui**	**81.23**	**180**	P	**P**	**10 57 34.9**	**+0.2**

NNC 27 10:47:41.3±3.0, 40°40N×76°98E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=20.6km s-min=14.3km az=173.0
KRNET 27 10:47:41.8±0.1, 40°48N×77°21E, h21km, mb2.8
SOME 27 10:47:43.1, 40°55N×77°05E, h5km
ISC 27 10:47:45.0±2.0, 40°46N±0°09×77°15E±0°04, h5km±13km, n51, σ1§43/81, 21C-16D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.36**	**21**	⇑*i*P	**Pn**	**10 48 07.4**	**-3.7**
	baz=19						
TARG				⇑*i*S	**Sn**	**10 48 26.0**	**-3.7**
	baz=19						
KDJ	**Kajisay**	**1.67**	**1**	⇑*i*P	**Pn**	**10 48 12.8**	**-2.3**
	baz=60						
KDJ				⇑*i*S	**Sn**	**10 48 35.4**	**-1.6**
	baz=60						
ULHL	**Ulahol**	**1.91**	**339**	⇑*i*P	**Pn**	**10 48 17.3**	**-1.1**
	baz=38						
ULHL				⇑*i*S	**Sn**	**10 48 43.5**	**+0.6**
	baz=38						
KZA	**Kyzart**	**2.16**	**319**	⇓*i*P	**Pn**	**10 48 21.6**	**-0.4**
	baz=18						
KZA				⇓*i*S	**Sn**	**10 48 50.8**	**+1.5**
	baz=18						
BOOM	**Boomskoye usch**	**2.22**	**336**	⇑*i*P	**Pn**	**10 48 22.1**	**-0.6**
	baz=35						
BOOM				⇑*i*S	**Sn**	**10 48 51.8**	**+1.2**
	baz=35						
PRZ	**Przheval'sk**	**2.23**	**25**	⇓*i*P	**Pn**	**10 48 21.6**	**-1.2**
	baz=24						
PRZ				⇓*i*S	**Sn**	**10 48 51.0**	**+0.2**
	baz=24						
ANVS	**Anan'yevo**	**2.35**	**9**	⇑*i*P	**Pn**	**10 48 23.6**	**-0.9**
	baz=8.0						
ANVS				⇑*i*S	**Sn**	**10 48 54.3**	**+0.4**
	baz=8.0						
ARLS	**Aral**	**2.55**	**304**	⇓*i*P	**Pn**	**10 48 27.1**	**0.0**
	baz=4.0						
ARLS				⇓*i*S	**Sn**	**10 49 00.4**	**+1.8**
	baz=4.0						
TNSS	**Tian-Shan**	**2.58**	**357**	*e*P	**Pb**	**10 48 30.2**	**-1.7**
	12nm,0.6s						
TNSS				*e*S	**Sb**	**10 49 04.2**	**+0.1**
	16nm,0.3s						
TNSS	**Tian-Shan**	**2.58**	**357**	Pg	**Pb**	**10 48 30.5**	**-1.5**
	12nm,0.6s						
TNSS				Lg	Lg	10 49 04.7	
	16nm,0.3s						
UCH	**Uchtor**	**2.66**	**313**	⇑*i*P	**Pn**	**10 48 28.5**	**-0.4**
	baz=12						
UCH				⇑*i*S	**Sn**	**10 49 02.7**	**+1.1**
	baz=12						
MDOK	**Medeo**	**2.70**	**358**	*e*P	**Pb**	**10 48 32.6**	**-1.3**
	8.7nm,0.2s						
MDOK				*e*S	**Sb**	**10 49 08.2**	**+0.7**
	17nm,0.4s						
MDOK	**Medeo**	**2.70**	**358**	⇑Pg	**Pb**	**10 48 32.6**	**-1.3**
	9.1nm,0.7s						
MDOK				Lg	Lg	10 49 10.2	
	15nm,0.4s						
MDOK	**Medeo**	**2.70**	**358**	Pg	**Pb**	**10 48 32.6**	**-1.3**
	8.7nm,0.2s						
MDOK				Lg	Lg	10 49 07.9	
	17nm,0.4s						
TKM2	**Tokmak 2**	**2.72**	**335**	⇓Pg	**Pn**	**10 48 30.2**	**+0.7**
	3.0nm,0.9s						
TKM2				⇓Lg	Lg	10 49 08.6	
	7.0nm,0.6s						
MTBS	**Maitube**	**2.72**	**349**	*e*P	**Pb**	**10 48 32.7**	**-1.5**
	3.9nm,0.2s						
MTBS				*e*S	**Sb**	**10 49 08.2**	**+0.3**
	12nm,0.3s						
MTBS	**Maitube**	**2.72**	**349**	Pg	**Pb**	**10 48 32.7**	**-1.5**
	3.9nm,0.2s						
MTBS				Lg	Lg	10 49 08.2	
	12nm,0.3s						
KST	**Kastek**	**2.73**	**341**	*e*P	**Pb**	**10 48 33.0**	**-1.3**
	4.8nm,0.4s						
KST				*e*S	**Sb**	**10 49 08.5**	**+0.4**
	6.0nm,0.3s						
KST	**Kastek**	**2.73**	**341**	Pg	**Pb**	**10 48 33.0**	**-1.3**
	4.8nm,0.4s						
KST				Lg	Lg	10 49 08.5	
	6.0nm,0.3s						
KBK	**Karagaybulak**	**2.75**	**324**	⇑*i*P	**Pn**	**10 48 29.7**	**-0.1**
	baz=23						
KBK				⇑*i*S	**Sn**	**10 49 04.5**	**+1.0**
	baz=23						
SATY	**Saty**	**2.76**	**20**	*e*P	**Pb**	**10 48 33.2**	**-1.8**
	5.2nm,0.2s						
SATY				*e*S	**Sb**	**10 49 09.0**	**-0.1**
	26nm,0.4s						
SATY	**Saty**	**2.76**	**20**	Pg	**Pb**	**10 48 33.2**	**-1.8**
	5.2nm,0.2s						
SATY				Lg	Lg	10 49 09.0	
	26nm,0.4s						
KOTS	**Kotyrbulak**	**2.77**	**359**	*e*P	**Pb**	**10 48 34.0**	**-1.1**
	19nm,0.4s						
KOTS				*e*S	**Sb**	**10 49 10.2**	**+0.8**
	29nm,0.5s						
KOTS	**Kotyrbulak**	**2.77**	**359**	Pg	**Pb**	**10 48 34.0**	**-1.1**
	19nm,0.4s						
KOTS				Lg	Lg	10 49 10.2	
	29nm,0.5s						
AAK	**Ala-Archa**	**2.95**	**318**	⇓*i*P	**Pn**	**10 48 32.6**	**0.0**
	baz=18						
AAK				⇓*i*S	**Sn**	**10 49 09.3**	**+0.8**
	baz=18						
AAK	**Ala-Archa**	**2.95**	**318**	⇑Pg	**Pb**	**10 48 36.0**	**-2.1**
	3.1nm,0.5s						
AAK				⇑Lg	Lg	10 49 14.2	
	8.9nm,0.8s						
DGS	**Degeres**	**2.96**	**340**	*e*P	**Pb**	**10 48 37.0**	**-1.4**
	9.1nm,0.5s						
DGS				*e*S	**Sb**	**10 49 15.2**	**+0.4**
	12nm,0.5s						
DGS	**Degeres**	**2.96**	**340**	Pg	**Pb**	**10 48 37.0**	**-1.4**
	9.1nm,0.5s						
DGS				Lg	Lg	10 49 15.2	
	12nm,0.5s						
UZB	**Uzynbulak**	**3.03**	**27**	*e*P	**Pb**	**10 48 38.4**	**-1.1**
	4.0nm,0.4s						
UZB				*e*S	**Sb**	**10 49 18.6**	**+1.8**
	9.3nm,0.6s						
UZB	**Uzynbulak**	**3.03**	**27**	Pg	**Pb**	**10 48 38.4**	**-1.1**
	4.0nm,0.4s						
UZB				Lg	Lg	10 49 18.6	
	9.3nm,0.6s						
AML	**Almayashu**	**3.09**	**304**	⇓*i*P	**Pn**	**10 48 34.8**	**0.0**
	baz=3.0						
AML				⇓*i*S	**Sn**	**10 49 13.3**	**+1.0**
	baz=3.0						
SHLS	**Shalkode**	**3.20**	**32**	*e*P	**Pg**	**10 48 46.0**	**-0.4**
	7.6nm,0.6s						
SHLS				*e*S	**Sg**	**10 49 31.2**	**+3.4**
	29nm,0.5s						
SHLS	**Shalkode**	**3.20**	**32**	Pg	**Pg**	**10 48 46.0**	**-0.4**
	7.6nm,0.6s						
SHLS				Lg	Lg	10 49 31.2	
	29nm,0.5s						
KPKS	**Kokpek**	**3.22**	**20**	*e*P	**Pb**	**10 48 42.1**	**-0.5**
	12nm,0.6s						
KPKS				*e*S	**Sb**	**10 49 24.1**	**+2.0**
	28nm,0.7s						
KTBS	**Karatobe**	**3.27**	**354**	*e*P	**Pb**	**10 48 42.4**	**-1.1**
	3.0nm,0.4s						
KTBS				*e*S	**Sb**	**10 49 24.5**	**+0.9**
	32nm,0.4s						
KTBS	**Karatobe**	**3.27**	**354**	Pg	**Pb**	**10 48 42.4**	**-1.1**
	3.0nm,0.4s						
KTBS				Lg	Lg	10 49 24.5	
	32nm,0.4s						
ARSB	**Arslanbob**	**3.27**	**287**	⇓*i*P	**Pn**	**10 48 37.4**	**+0.3**
	baz=86						
ARSB				⇓*i*S	**Sn**	**10 49 17.6**	**+1.2**
	baz=86						
PDGK	**Podgornoye**	**3.36**	**31**	Pg	**Pb**	**10 48 44.7**	**-0.4**
	2.3nm,0.5s						
PDGK				Lg	Lg	10 49 28.7	
	5.5nm,0.7s						
PDGK	**Podgornoye**	**3.36**	**31**	⇓Pg	**Pb**	**10 48 44.3**	**-0.8**
	4.5nm,0.7s						
PDGK				⇑Lg	Lg	10 49 34.8	
	12nm,0.9s						
CHKK	**Chushkaly**	**3.39**	**358**	*e*P	**Pb**	**10 48 44.8**	**-0.8**
	4.7nm,0.2s						
CHKK				*e*S	**Sb**	**10 49 28.7**	**+1.5**
	12nm,0.3s						
CHKK	**Chushkaly**	**3.39**	**358**	Pg	**Pb**	**10 48 44.8**	**-0.8**
	4.7nm,0.2s						
CHKK				Lg	Lg	10 49 28.7	
	12nm,0.3s						
USP	**Ospenovka**	**3.43**	**326**	⇑*i*P	**Pb**	**10 48 39.1**	**0.0**
	baz=25						
USP				⇑*i*S	**Sn**	**10 49 20.8**	**+0.6**
	baz=25						
SGDS	**Sogindy**	**3.53**	**329**	Pg	**Pb**	**10 48 45.3**	**-2.6**
	2.0nm,0.4s						
SGDS				Lg	Lg	10 49 29.9	
	0.8nm,0.4s						
MRKS	**Merke**	**3.72**	**309**	*e*P	**Pb**	**10 48 49.5**	**-1.7**
	2.1nm,0.4s						
MRKS				*e*S	**Sb**	**10 49 37.0**	**+0.3**
	3.2nm,0.3s						
MNBS	**Baschi**	**3.73**	**14**	*e*P	**Pb**	**10 48 51.1**	**-0.3**
	2.3nm,0.3s						
MNBS				*e*S	**Sb**	**10 49 39.7**	**+2.6**
	7.6nm,0.4s						
MNBS	**Baschi**	**3.73**	**14**	Pg	**Pb**	**10 48 51.1**	**-0.3**
	2.3nm,0.3s						
MNBS				Lg	Lg	10 49 39.7	
	7.6nm,0.4s						
ARXS	**Arharly**	**3.79**	**7**	*e*P	**Pb**	**10 48 51.0**	**-1.3**
	5.1nm,0.6s						
ARXS				*e*S	**Sb**	**10 49 39.2**	**+0.8**
	6.5nm,0.7s						
ARXS	**Arharly**	**3.79**	**7**	Pg	**Pb**	**10 48 51.0**	**-1.3**
	5.1nm,0.6s						
ARXS				Lg	Lg	10 49 39.2	
	6.5nm,0.7s						
KTMS	**Ketmen**	**3.82**	**38**	*e*P	**Pb**	**10 48 53.1**	**+0.1**
	0.1nm,0.1s						
KTMS				*e*S	**Sb**	**10 49 43.0**	**+3.4**
	12nm,0.5s						
KTMS	**Ketmen**	**3.82**	**38**	Pg	**Pb**	**10 48 53.1**	**+0.1**
	0.1nm,0.1s						
KTMS				Lg	Lg	10 49 43.0	
	12nm,0.5s						
KK31	**Karatay Array**	**5.62**	**300**	⇓Pg	**Pb**	**10 48 20.9**	**-2.6**
	1.1nm,0.8s,baz=137,slow=16,SNR=4.7						
KK31				⇑Lg	Lg	10 50 33.4	
	0.5nm,0.5s,baz=128,slow=27						

*NIED 27 11:10:00, 36°40N×143°70E, h8km, Mw4.6 Best double couple: M0 1.05000×10^16 NP1:φs206.00000°, δ62.00000°, λ-92.00000°. NP2:φs30.00000°, δ28.00000°

MAJO	**Matsushiro**	**4.78**	**274**	*c*	*i*P		**Pn**		**11 11 50.0**	**-1.0**
MAJO	**Matsushiro**	**4.78**	**274**		Pn		**Pn**		**11 11 49.8**	**-1.2**
MAJO					Sn		**Sn**		**11 12 41.5**	**-4.1**
MAT	**Matsushiro**	**4.78**	**274**		P		**Pn**		**11 11 49.6**	**-1.4**
MAT					S		**Sn**		**11 12 40.1**	**-5.4**
MJB9	**Matsu-Tunnel**	**4.79**	**274**				**Pn**		**11 11 49.6**	**-1.4**
JHJ2	**Mitsune**	**4.80**	**229**		P		**Pn**		**11 11 48.1**	**-3.1**
JHJ2					S		**Sn**		**11 12 37.7**	**-8.2**
JHJ2	**Mitsune**	**4.80**	**229**		Pn		**Pn**		**11 11 48.2**	**-3.0**
JHJ2					Sn		**Sn**		**11 12 39.0**	**-6.9**
JHJ	**Hachijo jima 2**	**4.82**	**229**		Pn		**Pn**		**11 11 47.9**	**-3.5**
	126nm,0.3s,baz=337,slow=19,SNR=88									
JHJ					Sn		Sn		11 12 37.7	-8.6
	223nm,0.3s,baz=136,slow=22,SNR=8.2									
JOT	**Ohata**	**5.58**	**335**		P		**Pn**		**11 11 59.5**	**-2.3**
ERM	**Erimo**	**5.71**	**353**	*c*	*i*P		**Pn**		**11 12 01.0**	**-2.7**
ERM	**Erimo**	**5.71**	**353**		Pn		**Pn**		**11 12 01.3**	**-2.3**
INU	**Inuyama**	**5.87**	**262**		Pn		**Pn**		**11 12 04.4**	**-1.4**
JKB	**Kayabe**	**6.04**	**337**		P		**Pn**		**11 12 06.8**	**-1.3**
JIE	**Ise**	**6.38**	**254**		P		**Pn**		**11 12 11.6**	**-1.2**
NMR	**Nemuro--Hokkai**	**7.12**	**9**	⇑	*i*P		**Pn**		**11 12 19.0**	**-4.0**
NMR					*i*S		**Sn**		**11 13 35.4**	**-7.5**
GRPR	**Tuman**	**7.74**	**9**		*e*P		**Pn**		**11 12 27.2**	**-4.3**
GRPR					*e*S		Sn		11 13 49.4	-8.8
GRPR					pmax	pmax				
	comp=Z,222nm,0.4s									
GRPR					pmax	pmax				
	comp=E,68nm,0.2s									
GRPR					pmax	pmax				
	comp=N,63nm,0.1s									
YUK	**Yuzh-Kuril'sk**	**7.79**	**9**		*e*P		**Pn**		**11 12 28.9**	**-3.3**
YUK					*e*S		Sn		11 13 49.6	-10
YUK					pmax	pmax				
	comp=N,48nm,0.3s									
YUK					pmax	pmax				
	comp=E,68nm,0.3s									
YUK					pmax	pmax				
	comp=Z,175nm,0.3s									
YUK					MLR	MLR				
	comp=Z,216nm,10.0s									
LAGR	**Lagunnoye**	**7.80**	**9**		*e*P		**Pn**		**11 12 29.3**	**-3.1**
LAGR					*e*S		Sn		11 13 51.4	-8.3
LAGR					pmax	pmax				
	comp=N,175nm,0.5s									
LAGR					pmax	pmax				
	comp=Z,341nm,0.5s									
LAGR					pmax	pmax				
	comp=E,106nm,0.2s									
JKA	**Kamikawa-asahi**	**7.85**	**352**				**Pn**		**11 12 30.6**	**-2.4**
ASAJ	**Asahikawa**	**7.85**	**352**		Pn		**Pn**		**11 12 31.5**	**-1.5**
	comp=E,9.5nm,0.3s,baz=206,slow=13,SNR=72									
ASAJ					Sn		**Sn**		**11 13 56.7**	**-4.2**
	comp=E,9.0nm,0.3s,baz=43,slow=27,SNR=2.8									
ASAJ					LR		LR		11 16 17.7	
	comp=E,472nm,18.5s,baz=180,slow=43									
ASAJ	**Asahikawa**	**7.85**	**352**		P		**Pn**		**11 12 30.6**	**-2.4**
KUR	**Kuril'sk**	**9.32**	**17**		*e*P		**Pn**		**11 12 50.0**	**-3.1**
KUR					*e*S		Sn		11 14 28.1	-8.8
KUR					pmax	pmax				
	comp=Z,45nm,1.0s									
KUR					smax	smax				
	comp=E,103nm,0.3s									
KUR					smax	smax				
	comp=N,42nm,0.4s									
JCJ	**Chichijima**	**9.37**	**191**		Pn		Pn		11 12 48.7	-5.3
TEY	**Ternei**	**10.39**	**329**	⇓	*e*P		**Pn**		**11 13 07.1**	**-0.7**
TEY					pmax	pmax				
	comp=N,100nm,0.7s									
TEY					pmax	pmax				
	comp=E,70nm,0.7s									
TEY					pmax	pmax				
	comp=Z,100nm,0.7s									
YSS	**Yuzh-Sakhalins**	**10.65**	**355**	⇓	*i*P		**Pn**		**11 13 11.8**	**+0.5**
YSS					*e*S		**Sn**		**11 15 08.0**	**-1.6**
YSS					pmax	pmax				
	comp=Z,20nm,0.5s									
YSS					MLR	MLR				
	comp=Z,400nm,15.0s									
YSS	**Yuzh-Sakhalins**	**10.65**	**355**		Pn		**Pn**		**11 13 11.0**	**-0.3**
JNU	**Nakatsue**	**11.37**	**257**		Pn		**Pn**		**11 13 20.1**	**-1.3**
	comp=Z,3.1nm,0.3s,baz=48,slow=1.7,SNR=30									
JNU					LR		LR		11 18 08.9	
	comp=Z,408nm,18.6s,baz=76,slow=40									
JNU	**Nakatsue**	**11.37**	**257**		Pn		**Pn**		**11 13 20.4**	**-0.9**
VLA	**Vladivostok**	**11.60**	**309**	*d*	*i*P		**Pn**		**11 13 24.0**	**-0.4**
MSHR	**Mys Shultsa**	**11.80**	**306**	*de*	P		**Pn**		**11 13 26.4**	**-0.7**
MSHR					pmax	pmax				
	comp=Z,74nm,2.5s									
USA0B	**Ussuriysk Arra**	**12.14**	**314**	*c*	*i*P		**Pn**		**11 13 30.8**	**-0.9**
USA0B	**Ussuriysk Arra**	**12.14**	**314**		Pn		**Pn**		**11 13 31.0**	**-0.7**
USRK	**Ussuriysk Ar.**	**12.14**	**314**		Pn		**Pn**		**11 13 31.0**	**-0.8**
	baz=118,slow=13,SNR=34									
USRK					LR		LR		11 17 51.6	
	comp=Z,290nm,19.3s,baz=125,slow=36									
USRK	**Ussuriysk Ar.**	**12.14**	**314**		P		**Pn**		**11 13 31.0**	**-0.8**
KSRS	**Korea Array**	**13.03**	**280**		Pn		**Pn**		**11 13 43.9**	**0.0**
	comp=Z,0.9nm,0.3s,baz=90,slow=13,SNR=33									
KSRS					LR		LR		11 18 42.3	
	comp=Z,372nm,19.1s,baz=78,slow=37									
KSRS					PcP		**PcP**		**11 19 16.5**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=102,slow=1.8,SNR=4.9									
KS19	**Wonju Array Si**	**13.07**	**280**				**Pn**		**11 13 43.3**	**-1.2**
TJN	**Taejon**	**13.52**	**275**	*de*	P		**Pn**		**11 13 50.2**	**-0.5**
MDJ	**Mudanjiang**	**13.80**	**311**		P		**Pn**		**11 13 54.0**	**-0.4**
MDJ					pP		P		11 13 56.0	-6.5
MDJ					PP		**PnPn**		**11 14 02.0**	**-0.3**
MDJ					S		**Sn**		**11 16 27.5**	**+0.9**
MDJ					SS		**SnSn**		**11 16 40.0**	**+1.0**
MDJ					pmax	pmax				
	comp=Z,8.0nm,0.6s									
MDJ					pmax	pmax				
	comp=Z,160nm,5.9s									
MDJ					LR	LR				
	comp=Z,590nm,14.7s									
MDJ					LR	LR				
	comp=Z,390nm,15.0s									
MDJ					LR	LR				
	comp=Z,720nm,14.7s									
MDJ	**Mudanjiang**	**13.80**	**311**		Pn		**Pn**		**11 13 53.8**	**-0.6**
TYV	**Tymovskoe**	**14.55**	**356**		*e*P		Pn		11 14 00.1	-4.5
TYV					*e*S		**Sn**		**11 16 40.3**	**-4.6**
TYV					pmax	pmax				
	comp=Z,1.0nm,0.5s									
TYV					smax	smax				
	comp=N,4.0nm,0.7s									
GRNR	**Gornyy**	**15.45**	**341**		*e*P		**Pn**		**11 14 12.5**	**-4.1**
GRNR					MLR	MLR				
	comp=E,340nm,15.0s									
GRNR					MLR	MLR				
	comp=N,220nm,16.0s									
GRNR					MLR	MLR				
	comp=Z,200nm,16.0s									
KLR	**Kul'dur**	**15.73**	**329**		Pn		**Pn**		**11 14 16.6**	**-3.6**
	comp=Z,0.6nm,0.3s,baz=129,slow=14,SNR=18									
KLR					LR		LR		11 20 18.9	
	comp=Z,244nm,21.9s,baz=144,slow=37									
KLR	**Kul'dur**	**15.73**	**329**	⇓	*e*P		**Pn**		**11 14 16.4**	**-3.9**
CN2	**Changchun**	**16.11**	**303**		*e*P		**Pn**		**11 14 23.5**	**-1.6**
CN2					*e*S		**Sn**		**11 17 23.0**	**+0.2**
CN2					pmax	pmax				
	comp=Z,10.0nm,1.0s									
CN2					pmax	pmax				
	comp=Z,100nm,3.0s									
CN2					LR	LR				
	comp=Z,300nm,15.0s									
CN2					LR	LR				
	comp=Z,300nm,15.0s									
CN2					LR	LR				
	comp=Z,400nm,17.0s									
SKR	**Severo-Kuril's**	**16.73**	**27**		*e*P		**P**		**11 14 36.4**	**+1.4**
SKR					*e*S		**Sn**		**11 17 31.9**	**-5.8**
SKR					pmax	pmax				
	comp=Z,69nm,0.9s									
SKR					pmax	pmax				
	comp=Z,200nm,1.7s									
SKR					MLR	MLR				
	comp=Z,100nm,15.0s									
DL2	**Dalian**	**18.01**	**285**		P		**P**		**11 14 49.0**	**-0.2**
DL2					S		**Sn**		**11 18 06.5**	**-2.4**
DL2					pmax	pmax				
	comp=Z,44nm,0.9s									
DL2					pmax	pmax				
	comp=Z,240nm,3.6s									
DL2					LR	LR				
	comp=Z,220nm,17.8s									
DL2					LR	LR				
	comp=Z,400nm,16.7s									
DL2					LR	LR				
	comp=Z,420nm,15.2s									
PEA0B	**Petropavlovsk-**	**19.27**	**25**		P		**P**		**11 15 02.9**	**-0.2**
PEA0B					pmax	pmax				
	comp=Z,50nm,1.3s									
PEA0B	**Petropavlovsk-**	**19.27**	**25**		P		**P**		**11 15 02.9**	**-0.2**
PETK	**Petropavlovsk-**	**19.27**	**25**		P		**Pn**		**11 15 04.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=204,slow=9.8,SNR=8.0									
PETK					LR		LR		11 24 44.3	
	comp=Z,105nm,18.1s,baz=232,slow=44									
PETK	**Petropavlovsk-**	**19.27**	**25**		P		**Pn**		**11 15 04.0**	**-0.2**
ZEA	**Zeya**	**21.00**	**331**		*e*P		**P**		**11 15 22.0**	**+0.2**
ZEA					pmax	pmax				
	comp=Z,200nm,4.0s									
ZEA					MLR	MLR				
	comp=Z,600nm,16.0s									
ZEA					MLR	MLR				
	comp=E,400nm,15.0s									
ZEA					MLR	MLR				
	comp=N,400nm,14.0s									
NJ2	**Nanjing**	**21.32**	**266**		*e*P		**P**		**11 15 23.5**	**-2.0**
NJ2					pmax	pmax				
	comp=N,11nm,0.6s									
YOJ	**Yonaguni jima**	**21.68**	**243**		P		**P**		**11 15 25.5**	**-3.8**
YOJ					pmax	pmax				
	comp=Z,65nm,1.1s									
YOJ	**Yonaguni jima**	**21.68**	**243**		P		**P**		**11 15 25.5**	**-3.8**
YOJ					IAmb	IAmb			11 15 26.5	
	comp=Z,65nm,1.1s									
TIA	**Tai'an**	**21.76**	**278**		P		**P**		**11 15 29.3**	**-0.8**
TIA					pmax	pmax				
	comp=Z,9.0nm,0.9s									
BJI	**Beijing**	**22.24**	**288**		P		**P**		**11 15 34.5**	**-0.8**
BJI					S		**S**		**11 19 39.0**	**+0.5**
BJI					pmax	pmax				
	comp=Z,12nm,1.0s									
BJI					LR	LR				
	comp=Z,190nm,14.6s									
BJI					LR	LR				
	comp=Z,180nm,12.7s									
BJI					LR	LR				
	comp=Z,250nm,33.2s									
BJT	**Baijiatuan**	**22.25**	**288**		P		**P**		**11 15 34.5**	**-0.9**
BJT					pmax	pmax				
	comp=Z,16nm,1.0s									
BJT	**Baijiatuan**	**22.25**	**288**		P		**P**		**11 15 34.5**	**-0.9**
GUMO	**Guam**	**22.67**	**178**		LR		LR		11 21 29.0	
	comp=Z,53nm,20.8s,baz=353,slow=29									
YULB	**Yu-li**	**23.57**	**243**		P		**P**		**11 15 47.6**	**-1.5**
MA2	**Magadan**	**23.64**	**8**		LR		LR		11 26 00.2	
	comp=Z,90nm,18.9s,baz=187,slow=39									
TWG	**Pinlang**	**24.09**	**242**		P		**P**		**11 15 52.4**	**-1.6**
TPUB	**Ta-pu**	**24.11**	**244**		P		**P**		**11 15 51.7**	**-2.5**
TPUB					IAmb	IAmb			11 15 55.2	
	comp=Z,86nm,1.4s									
WHN	**Wuhan**	**25.46**	**266**	⇓	P		**P**		**11 16 07.5**	**+1.1**
WHN					S		**S**		**11 20 35.0**	**+3.2**
WHN					pmax	pmax				
	comp=Z,28nm,0.6s									
WHN					LR	LR				
	comp=Z,3μm,25.4s									
WHN					LR	LR				
	comp=Z,650nm,13.8s									
WHN					LR	LR				
	comp=Z,860nm,28.3s									
HHC	**Hu-ho-hao-te**	**25.76**	**290**		*e*P		**P**		**11 16 12.0**	**+2.8**
HHC					S		**S**		**11 20 42.0**	**+5.3**
HHC					SS		**SnSn**		**11 21 40.5**	**+7.7**
HHC					pmax	pmax				
	comp=Z,14nm,0.9s									
HHC					pmax	pmax				
	comp=Z,67nm,6.4s									
HHC					LR	LR				
	comp=Z,87nm,13.6s									
HHC					LR	LR				
	comp=Z,130nm,14.5s									
HHC					LR	LR				
	comp=Z,150nm,15.3s									
H11N2	**WAKE ISLAND Hy**	**25.93**	**124**		T		T		11 43 10.5	
	baz=314,slow=75,SNR=109									
H11N1	**WAKE ISLAND Hy**	**25.94**	**124**		T		T		11 43 24.7	
	baz=314,slow=75,SNR=86									
H11N3	**WAKE ISLAND Hy**	**25.95**	**124**		T		T		11 43 19.2	
	baz=314,slow=75,SNR=83									
H11S1	**WAKE ISLAND Hy**	**26.67**	**126**		T		T		11 44 12.4	
	baz=316,slow=76,SNR=42									
H11S3	**WAKE ISLAND Hy**	**26.67**	**126**		T		T		11 44 16.3	
	baz=316,slow=76,SNR=40									
H11S2	**WAKE ISLAND Hy**	**26.68**	**126**		T		T		11 44 08.7	
	baz=316,slow=76,SNR=43									
BTO	**Baotou**	**26.94**	**290**		*e*P		**P**		**11 16 21.3**	**+1.5**
YAK	**Yakutsk**	**27.26**	**345**		LR		LR		11 27 36.7	
	comp=Z,100nm,18.9s,baz=159,slow=37									
YAK	**Yakutsk**	**27.26**	**345**		*e*P		**P**		**11 16 22.0**	**-0.3**
YAK					*e**PP		**pP**		**11 16 29.4**	**+0.9**
YAK					*e*				11 17 05.9	
YAK					*e*S		**S**		**11 21 03.5**	**+4.0**
YAK					*e**SS		**sS**		**11 21 16.2**	**+6.3**
YAK					*e*SS		SS		11 22 00.2	-54
YAK					pmax	pmax				
	comp=Z,20nm,1.1s									
YAK					pmax	pmax				
	comp=N,13nm,1.1s									
YAK					pmax	pmax				
	comp=E,9.0nm,1.4s									
YAK					pmax	pmax				
	comp=Z,91nm,3.1s									
YAK					pmax	pmax				
	comp=N,54nm,3.1s									
YAK					pmax	pmax				
	comp=E,39nm,2.8s									
YAK					smax	smax				
	comp=N,58nm,4.6s									
YAK					smax	smax				
	comp=E,64nm,3.2s									
YAK					MLR	MLR				
	comp=Z,89nm,16.0s									
YAK					MLR	MLR				
	comp=N,106nm,17.0s									
YAK					MLR	MLR				
	comp=E,99nm,19.0s									
YAK	**Yakutsk**	**27.26**	**345**		P		**P**		**11 16 22.6**	**+0.3**
YAK					IAmb	IAmb			11 16 37.2	
	comp=Z,32nm,0.6s									
XAN	**Xi'an**	**28.78**	**276**		P		**P**		**11 16 40.0**	**+3.8**
XAN					pmax	pmax				
	comp=Z,31nm,0.9s									
XAN	**Xi'an**	**28.78**	**276**		P		**P**		**11 16 33.6**	**-2.6**
XAN					pmax	pmax				
	comp=Z,20nm,0.8s									
XAN	**Xi'an**	**28.78**	**276**		P		**P**		**11 16 33.6**	**-2.6**
XAN					IAmb	IAmb			11 16 40.8	
	comp=Z,20nm,0.8s									
BOD	**Bodaibo**	**29.29**	**327**		*e*P		P		11 16 45.3	+4.8
BOD					pmax	pmax				
	comp=Z,11nm,1.3s									
ENH	**Enshi**	**29.48**	**268**		P		**P**		**11 16 42.5**	**0.0**
ENH					IAmb	IAmb			11 16 47.5	
	comp=Z,25nm,0.8s									
ULN	**Ulaanbaatar**	**29.55**	**305**	⇓	*e*P		**P**		**11 16 45.4**	**+2.3**
ULN					pmax	pmax				
	comp=Z,26nm,1.3s									
ULN	**Ulaanbaatar**	**29.55**	**305**		P		**P**		**11 16 43.0**	**0.0**
SONM	**Songino Array**	**29.98**	**304**		P		**P**		**11 16 48.7**	**+1.9**
	comp=Z,10nm,0.8s,baz=104,slow=8.6,SNR=20									
SONM					LR		LR		11 29 38.4	
	comp=Z,113nm,18.5s,baz=149,slow=38									
LZH	**Lanzhou**	**32.34**	**282**		*e*P		**P**		**11 17 08.5**	**+0.6**
LZH					pP		pP		11 17 11.3	-3.0
LZH					sP		sP		11 17 13.5	-3.4
LZH					*e*PP		**PnPn**		**11 18 13.5**	**-1.3**
LZH					pmax	pmax				
	comp=Z,31nm,1.2s									
LZH					pmax	pmax				
	comp=Z,180nm,6.5s									
LZH					LR	LR				
	comp=Z,280nm,14.1s									
LZH					LR	LR				
	comp=Z,330nm,14.1s									
LZH					LR	LR				
	comp=Z,350nm,16.8s									
TLY	**Talaya**	**32.43**	**311**		*e*P		**P**		**11 17 11.2**	**+2.9**
TLY					pmax	pmax				
	comp=Z,32nm,1.2s									
TLY					MLR	MLR				
	comp=E,540nm,15.0s									
TLY	**Talaya**	**32.43**	**311**		P		**P**		**11 17 09.0**	**+0.8**
GYA	**Guiyang**	**33.29**	**264**	⇓	*i*P		**P**		**11 17 16.5**	**+0.3**
GYA					pP		pP		11 17 19.0	-3.9
GYA					pmax	pmax				
	comp=E,12nm,0.9s									
CD2	**Chengdu**	**33.88**	**273**		P		**P**		**11 17 21.3**	**+0.1**
CD2					S		**S**		**11 22 43.5**	**-0.5**
CD2					pmax	pmax				
	comp=E,20nm,0.4s									
CD2					LR	LR				
	comp=E,520nm,9.8s									
CD2					LR	LR				
	comp=E,370nm,17.7s									
CD2					LR	LR				
	comp=E,380nm,10.1s									
BILL	**Bilibino**	**34.10**	**15**	*d*	*i*P		**P**		**11 17 22.3**	**-0.3**
BILL					*e*				11 18 32.5	
BILL					pmax	pmax				
	comp=Z,11nm,1.7s									
BILL					MLR	MLR				
	comp=Z,92nm,16.0s									
GTA	**Gaotai**	**34.86**	**289**	⇑	P		**P**		**11 17 31.3**	**+1.6**
GTA					pP		sP		11 17 40.0	+1.2
GTA					sP		pwP		11 17 44.3	+1.2
GTA					PcP		**PcP**		**11 20 03.5**	**+1.2**
GTA					pmax	pmax				
	comp=Z,12nm,1.0s									
GTA					pmax	pmax				
	comp=Z,70nm,5.2s									
GTA					LR	LR				
	comp=Z,140nm,18.1s									
GTA					LR	LR				
	comp=Z,150nm,20.6s									
GTA					LR	LR				
	comp=Z,200nm,20.6s									
TIXI	**Tiksi**	**36.26**	**352**		P		**P**		**11 17 41.0**	**-0.1**
TIXI					pmax	pmax				
	comp=Z,24nm,1.5s									
TIXI	**Tiksi**	**36.26**	**352**		P		**P**		**11 17 41.0**	**-0.1**
TIXI					IAmb	IAmb			11 18 13.4	
	comp=Z,24nm,1.5s									
KMI	**Kunming**	**37.05**	**264**	⇓	*e*P		**P**		**11 17 48.0**	**-0.7**
KMI					pP		pP		11 17 51.3	-3.7
KMI					sP		sP		11 17 53.0	-4.7
KMI					LR		LR			
	comp=Z,260nm,10.7s									
KMI					LR		LR			
	comp=Z,250nm,12.9s									
KMI					LR		LR			
	comp=Z,150nm,16.4s									
DGZ	**Jazzator, Alta**	**42.56**	**307**	*c*	*i*P		**P**		**11 18 36.3**	**+2.1**
DGZ					pmax	pmax				
	comp=Z,31nm,0.9s									
WMQ	**Urumqi**	**43.10**	**298**		*e*P		**P**		**11 18 40.0**	**+1.5**
WMQ					pmax	pmax				
	comp=Z,15nm,0.7s									
WMQ					pmax	pmax				
	comp=Z,73nm,5.1s									
WMQ					LR	LR				
	comp=Z,340nm,29.2s									
WMQ					LR	LR				
	comp=Z,910nm,29.2s									
WMQ					LR	LR				
	comp=Z,160nm,22.7s									
CHTO	**Chiang Mai**	**43.27**	**259**		P		**P**		**11 18 40.2**	**+0.1**
CHTO					pmax	pmax				
	comp=Z,14nm,1.2s									
CHTO	**Chiang Mai**	**43.27**	**259**		P		**P**		**11 18 40.2**	**+0.1**
CM31	**Chiang Mai Arr**	**43.47**	**258**		P		**P**		**11 18 41.5**	**-0.2**
CMAR	**Chiang Mai Arr**	**43.47**	**258**		P		**P**		**11 18 42.0**	**+0.3**
	comp=Z,3.7nm,0.9s,baz=48,slow=6.2,SNR=14									
CMAR					PcP		**PcP**		**11 20 30.1**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=357,slow=1.4,SNR=4.7									
CMAR					LR		LR		11 39 03.0	
	comp=Z,95nm,18.3s,baz=255,slow=39									
CMAR	**Chiang Mai Arr**	**43.47**	**258**	*i*	P		**P**		**11 18 42.7**	**+1.0**
CMAR					pmax	pmax				
	comp=Z,4.0nm,0.9s									
ZAA0	**Zalesovo Array**	**43.99**	**313**		P		**P**		**11 18 45.4**	**0.0**
ZAA0					IAmb	IAmb			11 18 47.7	
	comp=Z,23nm,1.3s									
ZAA0							**PcP**		**11 20 30.6**	**-0.1**
ZALV	**Zalesovo Beam**	**43.99**	**313**		P		**P**		**11 18 46.3**	**+0.9**
	comp=Z,7.9nm,0.8s,baz=92,slow=7.4,SNR=27									
ZALV					PcP		**PcP**		**11 20 30.9**	**+0.2**
	comp=Z,12nm,0.5s,baz=92,slow=3.0,SNR=18									
ZALV					LR		LR		11 37 33.4	
	comp=Z,91nm,19.1s,baz=82,slow=37									
ZALV	**Zalesovo Beam**	**43.99**	**313**	*i*	P		**P**		**11 18 46.5**	**+1.1**
ZALV					pmax	pmax				
	comp=Z,8.0nm,0.8s									
ZSN	**Zaisan**	**44.49**	**304**		*e*P		**P**		**11 18 51.0**	**+1.4**
	comp=Z,5.4nm,0.9s,baz=303									
ZSN	**Zaisan**	**44.49**	**304**		*e*P		**P**		**11 18 51.0**	**+1.4**
ZSN					pmax	pmax				
	comp=Z,5.0nm,0.9s									
TTA	**Tatalina**	**44.75**	**34**		P		**P**		**11 18 52.3**	**+0.9**
TTA					pmax	pmax				
	comp=Z,11nm,0.9s									
TTA	**Tatalina**	**44.75**	**34**		P		**P**		**11 18 52.3**	**+0.9**
SVW2	**Sparrevohn**	**44.75**	**37**		P		**P**		**11 18 52.8**	**+1.4**
SVW2					IAmb	IAmb			11 18 54.9	
	comp=Z,22nm,1.0s									
SBUM	**Sibu**	**44.79**	**229**		P		**P**		**11 18 50.7**	**-1.5**
NRIK	**Noril'sk**	**44.81**	**335**		P		**P**		**11 18 52.5**	**+0.8**
	comp=Z,3.8nm,0.9s,baz=159,slow=4.8,SNR=4.8									
NRIK					LR		LR		11 38 19.8	
	comp=Z,198nm,20.2s,baz=102,slow=37									
SHL	**Shillong**	**45.60**	**272**		P		**P**		**11 18 58.4**	**-0.4**
SHL					pmax	pmax				
	comp=Z,7.0nm,0.6s									
SHL	**Shillong**	**45.60**	**272**		P		**P**		**11 18 58.4**	**-0.4**
OHAK	**Old Harbor**	**45.78**	**42**		P		**P**		**11 19 00.2**	**+0.6**
OHAK					IAmb	IAmb			11 19 01.1	
	comp=Z,14nm,0.7s									
RSO	**Redoubt South**	**46.09**	**38**		P		**P**		**11 19 03.5**	**+1.2**
KDAK	**Kodiak Island**	**46.15**	**42**		P		**P**		**11 19 03.2**	**+0.7**
KDAK					pmax	pmax				
	comp=Z,32nm,0.7s									

baz=268,SNR=20
GHO Glory Hole Cre 47.97 36 P **P** **11 19 17.8 +1.0**
MCK McKinley 47.99 33 P **P** **11 19 16.9 0.0**
MCK pmax pmax
comp=Z,21nm,0.9s
MCK McKinley 47.99 33 P **P** **11 19 16.9 0.0**
MCK IAmb IAmb 11 19 19.1
comp=Z,21nm,0.9s
KURK Kurchatov 48.07 309*d* iP **P** **11 19 18.0 +0.4**
KURK pmax pmax
comp=Z,33nm,1.0s
TOLK Toolik Lake Re 48.09 27 P **P** **11 19 19.3 +1.7**
baz=263,SNR=17
TOLK Toolik Lake Re 48.09 27 P **P** **11 19 19.0 +1.4**
TOLK IAmb IAmb 11 19 20.5
comp=Z,21nm,0.9s
MDM Murphy Dome 48.34 32 P **P** **11 19 20.2 +0.7**
MDM IAmb IAmb 11 19 22.4
comp=Z,18nm,0.8s
WRH Wood River Hil 48.38 32 P **P** **11 19 20.7 +0.9**
WRH IAmb IAmb 11 19 22.0
comp=Z,10.0nm,0.8s
WRH **PcP** **PcP** **11 20 46.1 +0.2**
TCOL CIGO, UAF Yank 48.49 32 P **P** **11 19 22.3 +1.6**
baz=268,SNR=6.9
COLA College 48.50 32 P **P** **11 19 21.5 +0.8**
COLA pmax pmax
comp=Z,14nm,0.8s
COLA College 48.50 32 P **P** **11 19 21.4 +0.8**
COLA IAmb IAmb 11 19 24.0
comp=Z,14nm,0.8s
CCB Clear Creek Bu 48.51 32 P **P** **11 19 21.7 +0.9**
ODAN Odare 48.65 276 *e*P **P** **11 19 23.3 +0.6**
POKR Poker Plat Res 48.68 32 P **P** **11 19 24.0 +1.8**
baz=268,SNR=6.2
DHY Denali Highway 48.69 34 P **P** **11 19 23.4 +1.0**
DHY IAmb IAmb 11 19 24.6
comp=Z,11nm,0.9s
HDA Harding Lake 48.88 33 P **P** **11 19 24.4 +0.8**
baz=270,SNR=16
HDA Harding Lake 48.88 33 IAmb IAmb 11 19 25.3
comp=Z,18nm,0.7s
IL31 48.91 32 P **P** **11 19 24.1 +0.3**
IL31 IAmb IAmb 11 19 25.7
comp=Z,18nm,0.8s
ILAR Eielson Array 48.91 32 P **P** **11 19 24.4 +0.5**
comp=Z,12nm,0.7s,baz=261,slow=6.4,SNR=116
ILAR PcP **PcP** **11 20 47.1 -0.8**
comp=Z,1.2nm,0.9s,baz=268,slow=5.5,SNR=2.7
SHLS Shalkode 49.09 299 *i* P **P** **11 19 23.3 -2.5**
comp=Z,2.4nm,0.8s,baz=298
SHLS Shalkode 49.09 299 *i* P **P** **11 19 23.2 -2.5**
SHLS pmax pmax
comp=Z,2.0nm,0.8s
FID Port Fidalgo 49.19 37 P **P** **11 19 27.0 +1.0**
HIN Hinchinbrook I 49.19 38 P **P** **11 19 28.2 +2.0**
RAMN Ramite 49.24 276 *e*P **P** **11 19 28.0 +0.7**
comp=Z,40nm,0.7s
UZB Uzynbulak 49.40 299 *i* P **P** **11 19 28.3 +0.1**
comp=Z,2.7nm,1.2s,baz=299
UZB Uzynbulak 49.40 299 *i* P **P** **11 19 28.2 +0.1**
UZB pmax pmax
comp=Z,3.0nm,1.2s
GUN Gumba 49.41 278 *e*P **P** **11 19 29.4 +0.8**
comp=Z,36nm,0.9s
KPKS Kokpek 49.56 300 *i* P **P** **11 19 29.4 +0.2**
comp=Z,5.8nm,1.4s,baz=299
KPKS *e*S **S** **11 26 37.9 +2.3**
baz=299
KPKS Kokpek 49.56 300 *i* P **P** **11 19 29.4 +0.2**
KPKS *e*S **S** **11 26 37.8 +2.3**
KPKS pmax pmax
comp=Z,6.0nm,1.4s
PAX Paxson 49.56 34 IAmb IAmb 11 19 31.7
comp=Z,14nm,0.9s
FYU Fort Yukon 49.62 30 IAmb IAmb 11 19 32.8
comp=Z,21nm,0.8s
RIDG Independent Ri 49.81 33 IAmb IAmb 11 19 32.2
comp=Z,13nm,1.2s
SATY Saty 49.86 299 *i* P **P** **11 19 31.9 +0.2**
comp=Z,3.0nm,1.5s,baz=299
SATY Saty 49.86 299 *i* P **P** **11 19 31.8 +0.2**
SATY pmax pmax
comp=Z,3.0nm,1.5s
PKI Pulchoki 49.93 277 *e*P **P** **11 19 32.8 +0.2**
comp=Z,12nm,0.7s
PKIN Phulchoki 49.94 278 *e*P **P** **11 19 33.3 +0.7**
comp=Z,12nm,0.6s
KKN Kakani 49.94 278 *e*P **P** **11 19 33.4 +0.9**
comp=Z,27nm,0.7s
COEN Coen 50.04 181 P **P** **11 19 32.6 -0.3**
COEN IAmb IAmb 11 19 33.5
comp=Z,9.1nm,0.9s
DOT Dot Lake 50.16 34 P **P** **11 19 34.5 +1.0**
DOT IAmb IAmb 11 19 35.5
comp=Z,9.2nm,0.7s
SCRK Sand Creek 50.18 33 IAmb IAmb 11 19 35.9
comp=Z,16nm,0.8s
MENT Mentasta 50.36 34 P **P** **11 19 36.5 +1.5**
MENT IAmb IAmb 11 19 38.3
comp=Z,19nm,1.0s
GKN Gorkha 50.36 278 *e*P **P** **11 19 36.5 +0.8**
comp=Z,57nm,0.7s
GLB Gilahina Butte 50.43 36 P **P** **11 19 37.4 +1.9**
MTN Manton Dam 50.44 197 P **P** **11 19 35.0 -0.9**
CHKK Chushkaly 50.64 300 *e*P **P** **11 19 37.8 +0.4**
baz=300
CHKK Chushkaly 50.64 300 *e*P **P** **11 19 37.7 +0.4**
MDOK Medeo 50.79 300 *i* P **P** **11 19 39.4 +0.7**
baz=299
MDOK Medeo 50.79 300 *i* P **P** **11 19 39.3 +0.7**
MCARA McCarthy VSAT 50.81 36 P **P** **11 19 40.5 +2.1**
CRQM Cirque 50.82 37 P **P** **11 19 40.9 +2.2**
TNSS Tian-Shan 50.89 299 *e*P **P** **11 19 41.1 +1.3**
baz=299
TNSS Tian-Shan 50.89 299 *e*P **P** **11 19 41.1 +1.3**
DANN Dangsing 50.91 279 *e*P **P** **11 19 41.0 +1.0**
comp=Z,111nm,0.6s
KDJ Kajisay 50.99 298 P **P** **11 19 40.5 +0.3**
KDJ pmax pmax
comp=Z,7.0nm,1.1s
KDJ Kajisay 50.99 298 P **P** **11 19 40.5 +0.3**
WAX Waxell Ridge 50.99 38 P **P** **11 19 41.6 +1.7**
KUU Kurty 51.08 301 *e*P **P** **11 19 40.6 -0.1**
comp=Z,13nm,1.2s,baz=300
KUU Kurty 51.08 301 *e*P **P** **11 19 40.6 -0.1**
KUU pmax pmax
comp=Z,13nm,1.2s
KOLN Koldanda 51.29 279 *e*P **P** **11 19 43.4 +0.7**
comp=Z,18nm,0.6s
BARN Barnard Glacie 51.50 37 IAmb IAmb 11 19 46.7
comp=Z,22nm,0.8s
PYUN Piuthan 51.63 279 *e*P **P** **11 19 46.1 +0.8**
comp=Z,34nm,0.5s
BOOM Boomskoye usch 51.76 299 P **P** **11 19 47.4 +1.4**
BOOM pmax pmax
comp=Z,22nm,1.3s
BOOM Boomskoye usch 51.76 299 P **P** **11 19 47.4 +1.4**
BOOM IAmb IAmb 11 19 49.1
comp=Z,22nm,1.2s
TABL Table Mountain 51.84 37 P **P** **11 19 48.1 +1.8**
TABL IAmb IAmb 11 19 48.9
comp=Z,22nm,0.7s
TKM2 Tokmak 2 51.88 300 P **P** **11 19 48.9 +2.0**
SNR=21
BRZS Berezniki 51.95 309 *i* P **P** **11 19 46.9 -0.2**
comp=Z,4.9nm,1.1s,baz=309
BRZS Berezniki 51.95 309 *i* P **P** **11 19 46.8 -0.2**
BRZS pmax pmax
comp=Z,5.0nm,1.1s
BTLS Baital 52.33 303 *e*P **P** **11 19 49.7 -0.3**
comp=Z,4.1nm,1.0s,baz=302
BTLS Baital 52.33 303 *e*P **P** **11 19 49.7 -0.3**
BTLS pmax pmax
comp=Z,4.0nm,1.0s
KZA Kyzart 52.38 299 P **P** **11 19 53.4 +2.5**
SNR=12
SGDS Sogindy 52.39 301 *i* P **P** **11 19 50.5 -0.1**
comp=Z,6.8nm,1.1s,baz=300
SGDS Sogindy 52.39 301 *i* P **P** **11 19 50.4 -0.1**
SGDS pmax pmax
comp=Z,7.0nm,1.1s
KBK Karagaybulak 52.41 300 P **P** **11 19 52.6 +1.8**
SNR=11
USP Ospenovka 52.54 300 P **P** **11 19 53.1 +1.5**
SNR=9.4

KSH Kashi 52.68 295 *e*P **P** **11 19 57.5 +4.7**
KSH pmax pmax
comp=Z,21nm,0.7s
KSH pmax pmax
comp=Z,150nm,4.2s
BRVK Borovoye 52.70 313*c* *i*P **P** **11 19 53.7 +1.1**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
BRVK Borovoye 52.70 313 P **P** **11 19 52.0 -0.6**
AAK Ala-Archa 52.73 300*c* *i*P **P** **11 19 54.5 +1.3**
AAK pmax pmax
comp=Z,14nm,1.7s
AAK Ala-Archa 52.73 300 P **P** **11 19 51.5 -1.8**
EPYK Eagle Plains 53.04 30 P **P** **11 19 56.9 +2.0**
baz=277,SNR=15
EPYK Eagle Plains 53.04 30 P **P** **11 19 54.6 -0.3**
EKS2 Erkin-Say 53.23 300 P **P** **11 19 58.3 +1.5**
SNR=7.9
AML Almayashu 53.46 299 P **P** **11 20 00.6 +1.8**
SNR=35
KNRA Kununurra 53.74 198 P **P** **11 19 59.6 -0.9**
INK Inuvik 54.00 27 P **P** **11 20 02.8 +0.9**
INK pmax pmax
comp=Z,13nm,0.8s
INK Inuvik 54.00 27 P **P** **11 20 02.8 +0.9**
INK IAmb IAmb 11 20 04.3
comp=Z,12nm,0.8s
MNSI Mandailing Nat 54.31 240 P **P** **11 20 08.8 +3.9**
WHY Whitehorse 54.84 37 IAmb IAmb 11 20 11.7
comp=Z,18nm,0.9s
DZA Taraz 54.86 301 *e*P **P** **11 20 09.3 +0.7**
baz=301
DZA Taraz 54.86 301 *e*P **P** **11 20 09.3 +0.7**
SKAG Skagway 54.89 38 IAmb IAmb 11 20 12.1
comp=Z,17nm,1.0s
MDSI Maura Dua 55.17 231 P **P** **11 20 11.3 +0.3**
comp=Z,18nm,1.8s
BESE Bessie Mountai 55.34 39 IAmb IAmb 11 20 15.1
comp=Z,35nm,1.3s
KK31 Karatay Array 55.36 301 P **P** **11 20 11.7 -0.5**
KK31 pmax pmax
comp=Z,23nm,1.2s
KK31 Karatay Array 55.36 301 P **P** **11 20 11.7 -0.5**
KK31 IAmb IAmb 11 20 14.6
comp=Z,23nm,1.1s
KKAR Karatay Array 55.36 301 P **P** **11 20 12.7 +0.5**
KKAR pmax pmax
comp=Z,23nm,1.2s
KKAR Karatay Array 55.36 301 P **P** **11 20 12.7 +0.5**
KKAR IAmb IAmb 11 20 14.6
comp=Z,23nm,1.1s
JIS Juneau Island 55.66 39 IAmb IAmb 11 20 17.5
comp=Z,20nm,1.0s
IUG luzhnay 56.02 300 *i* P **P** **11 20 17.8 +0.8**
comp=Z,2.1nm,1.0s,baz=300
IUG luzhnay 56.02 300 *i* P **P** **11 20 17.8 +0.8**
IUG pmax pmax
comp=Z,2.0nm,1.0s
A36M Sachs Harbour 56.08 22 P **P** **11 20 18.6 +1.8**
baz=283
WB0 Warramunga Arr 56.56 191 IAmb IAmb 11 20 21.4
comp=Z,11nm,0.7s
WR0 Warramunga Arr 56.73 191 IAmb IAmb 11 20 24.7
comp=Z,12nm,1.0s
WRAB Tennant Creek 56.73 191 ‖ *i*P **P** **11 20 20.7 -1.4**
WRAB pmax pmax
comp=Z,25nm,1.7s
WRAB Tennant Creek 56.73 191 P **P** **11 20 20.1 -1.9**
WRAB IAmb IAmb 11 20 21.6
comp=Z,11nm,0.7s
WB2 Warramunga Arr 56.74 191 P **P** **11 20 20.5 -1.7**
WB2 IAmb IAmb 11 20 21.7
comp=Z,14nm,0.7s
WRA Warramunga Arr 56.74 191 P **P** **11 20 20.8 -1.4**
comp=Z,9.9nm,0.6s,baz=11,slow=7.3,SNR=75
FITZ Fitzroy Crossi 56.91 201 P **P** **11 20 22.4 -0.8**
FITZ IAmb IAmb 11 20 24.0
comp=Z,46nm,1.8s
NIL Nilore 56.91 290 P **P** **11 20 23.0 -0.4**
NIL pmax pmax
comp=Z,20nm,0.9s
NIL Nilore 56.91 290 P **P** **11 20 23.0 -0.4**
NIL IAmb IAmb 11 20 25.6
comp=Z,20nm,0.8s
GAR Garm 56.97 297 P **P** **11 20 24.0 +0.1**
GAR IAmb IAmb 11 20 42.6
comp=Z,14nm,0.7s
SVE Sverdlovsk 57.10 319 *e*P **P** **11 20 25.7 +1.4**
SVE pmax pmax
comp=Z,25nm,1.1s
DLBC Dease Lake 57.81 38 P **P** **11 20 31.1 +1.6**
DLBC IAmb IAmb 11 20 33.2
comp=Z,16nm,1.1s
CHGR Chuyangaron 57.93 297 P **P** **11 20 31.1 +0.5**
PVM Polavaram 57.99 268 *e*P **P** **11 20 31.5 +0.3**
ARU Arti 58.31 319*c* *i*P **P** **11 20 33.6 +0.7**
ARU 11 21 21.9
ARU 11 22 41.1
ARU S **S** **11 28 39.6 +6.3**
ARU SS **SS** **11 32 28.9 +4.0**
ARU pmax pmax
comp=Z,28nm,1.1s
ARU Arti 58.31 319 P **P** **11 20 33.5 +0.7**
RPR Rampur 59.03 271 *e*P **P** **11 20 36.9 -1.5**
KBL Kabul 59.70 292 P **P** **11 20 43.1 0.0**
KBL pmax pmax
comp=Z,24nm,0.6s
KBL Kabul 59.70 292 P **P** **11 20 43.1 0.0**
KBL Kabul 59.70 292 P **P** **11 20 43.2 +0.1**
KBL IAmb IAmb 11 20 51.5
comp=Z,24nm,0.6s
SRSP Sriramsagar 59.76 272 *e*P **P** **11 20 43.0 -0.5**
ABKAR Akbulak array 60.05 311 P **P** **11 20 45.2 +0.2**
NJS Nagarjunasagar 60.24 269 *e*P **P** **11 20 46.6 -0.1**
HYB Hyderabad 60.38 270 *i* P **P** **11 20 48.5 +0.7**
HYBB Hyderabad (bro 60.38 270 *e*P **P** **11 20 48.1 +0.3**
AS31 Alice Springs 60.47 191 P **P** **11 20 46.7 -1.3**
ASAR Alice Springs 60.47 191 P **P** **11 20 46.7 -1.3**
comp=Z,4.5nm,0.8s,baz=15,slow=9.3,SNR=42
SRLM Srisailam 60.82 269 *e*P **P** **11 20 50.9 +0.1**
SKHT Srikalahasti 61.45 266 *e*P **P** **11 20 55.7 +0.8**
KLRI Killari 61.62 272 *e*P **P** **11 20 55.9 -0.3**
KIRV Kirov 62.10 324 *i* P **P** **11 20 59.7 +1.0**
RES Resolute Bay 62.71 15 P **P** **11 21 03.1 +0.5**
RES pmax pmax
comp=Z,27nm,1.0s
RES Resolute Bay 62.71 15 P **P** **11 21 03.1 +0.5**
URV Uravakonda 62.76 269 *e*P **P** **11 21 04.0 +0.1**
YKA Yellowknife Ar 63.29 31 P **P** **11 21 07.2 +0.6**
comp=Z,5.5nm,0.8s,baz=302,slow=6.9,SNR=46
YKA PcP **PcP** **11 21 44.2 +0.6**
comp=Z,1.3nm,0.7s,baz=305,slow=4.1,SNR=8.2
APA Apatity 64.20 337 ‖ *i*P P 11 21 03.8 -8.7
APA pmax pmax
comp=Z,7.0nm,1.2s
TMCR Tamitsa 64.39 332 *e*P **P** **11 21 11.2 -2.6**
LLLB Lillooet 65.22 44 P **P** **11 21 20.2 +0.7**
ARCES ARCESS Array B 65.40 340 P **P** **11 21 21.0 +0.7**
comp=Z,1.8nm,0.8s,baz=47,slow=8.9,SNR=5.5
ARCES LR LR 11 56 08.8
comp=Z,35nm,20.7s,baz=47,slow=42
KLMR Klimovskoe 65.49 329 *e*P **P** **11 21 18.7 -2.3**
KLMR *e* 11 23 43.2
KLMR pmax pmax
comp=Z,13nm,1.4s
KLMR Klimovskoe 65.49 329 *e*P **P** **11 21 18.8 -2.3**
KLMR AMP 11 21 22.7
comp=Z,13nm,1.4s
KLMR *e*PP **PP** **11 23 43.2 -1.6**
A04D Lummi Island 65.63 47 P **P** **11 21 23.7 +1.7**
baz=298
D03D Eldon 65.95 48 P **P** **11 21 26.7 +2.5**
baz=298,SNR=10
GEYT Alibeck 66.08 300 P **P** **11 21 26.1 +0.8**
comp=Z,8.6nm,0.8s,baz=29,slow=3.4,SNR=14
GYA0B ALIBECK ARRAY 66.08 300 P **P** **11 21 25.4 +0.2**
GYA0B IAmb IAmb 11 21 27.0
comp=Z,13nm,0.8s
B05A Bryant 66.20 47 P **P** **11 21 27.5 +1.7**
baz=298,SNR=5.3
D04E Lakebay 66.31 48 P **P** **11 21 28.9 +2.3**
baz=298
E04D Cinebar 66.73 49 P **P** **11 21 31.5 +2.2**
baz=299
D05A Enumclaw 66.78 48 P **P** **11 21 31.7 +2.1**

G03D McMinnville, O 66.95 50 P **P** **11 21 32.8 +2.1**
baz=299
LON Longmire 67.10 48 P **P** **11 21 33.4 +1.7**
LON pmax pmax
comp=Z,21nm,1.7s
LON Longmire 67.10 48 P **P** **11 21 33.4 +1.7**
LON IAmb IAmb 11 21 36.1
comp=Z,22nm,1.6s
I02D Swisshome 67.12 51 P **P** **11 21 33.7 +1.9**
baz=299
F04A Amboy 67.12 49 P **P** **11 21 32.4 +0.6**
LTY Liberty 67.53 47 P **P** **11 21 34.4 0.0**
LTY IAmb IAmb 11 21 36.2
comp=Z,8.2nm,0.7s
I03D Drain, OR 67.63 52 P **P** **11 21 36.8 +1.8**
baz=299
B08A Colville Reser 67.76 46 P **P** **11 21 35.6 -0.3**
B08A IAmb IAmb 11 21 38.2
comp=Z,15nm,1.1s
H04A Detroit Lake 67.88 50 P **P** **11 21 37.7 +1.0**
H04A IAmb IAmb 11 21 39.2
comp=Z,14nm,0.7s
STKA Stephens Creek 67.91 182 P **P** **11 21 36.3 -0.4**
comp=Z,6.8nm,0.7s,baz=356,slow=7.3,SNR=13
STKA Stephens Creek 67.91 182 P **P** **11 21 35.6 -1.1**
STKA pmax pmax
comp=Z,15nm,2.0s
STKA Stephens Creek 67.91 182 P **P** **11 21 35.6 -1.1**
K02D Willamette Mer 67.92 53 P **P** **11 21 38.8 +1.8**
baz=300
G05D Wamic, OR 68.14 49 P **P** **11 21 39.9 +1.7**
baz=300
I04A Tendick Farm, 68.18 51 P **P** **11 21 40.2 +1.7**
baz=300
I05D Terrebonne, OR 68.58 50 P **P** **11 21 42.8 +1.8**
baz=300
HAWA Hanford 68.64 48 P **P** **11 21 42.7 +1.4**
J04D Umpqua Nationa 68.64 52 P **P** **11 21 43.4 +1.7**
baz=300
C09A Chrisman Ranch 68.66 46 P **P** **11 21 42.2 +0.7**
C09A IAmb IAmb 11 21 43.7
comp=Z,15nm,0.8s
D08A Wollman Farm, 68.66 47 P **P** **11 21 41.6 +0.2**
D08A IAmb IAmb 11 21 43.2
comp=Z,11nm,0.7s
KHMM Horse Mountain 68.78 54 P **P** **11 21 41.4 -1.1**
KHMM IAmb IAmb 11 21 46.6
comp=Z,37nm,1.6s
E08A Dider Farm, El 68.87 47 IAmb IAmb 11 21 44.6
comp=Z,8.4nm,0.7s
YBH Yreka Blue Hor 69.02 53 P **P** **11 21 45.7 +1.8**
comp=Z,7.7nm,1.1s,baz=2.5,slow=4.9,SNR=13
YBH Yreka Blue Hor 69.02 53 P **P** **11 21 44.4 +0.5**
YBH pmax pmax
comp=Z,14nm,1.3s
YBH Yreka Blue Hor 69.02 53 P **P** **11 21 44.4 +0.5**
YBH IAmb IAmb 11 21 47.1
comp=Z,14nm,1.3s
L04D Klamath Falls 69.03 53 P **P** **11 21 45.9 +1.8**
baz=300,SNR=5.6
NEW Newport 69.08 45 P **P** **11 21 45.2 +1.1**
baz=301,SNR=11
NEW Newport 69.08 45 P **P** **11 21 45.3 +1.3**
comp=Z,9.3nm,0.8s,baz=300,slow=6.8,SNR=20
NEW Newport 69.08 45 IAmb IAmb 11 21 46.3
comp=Z,12nm,0.8s
M02C Callahan 69.10 54 P **P** **11 21 46.6 +2.3**
baz=300,SNR=5.1
J05D Fort Rock, OR 69.17 51 P **P** **11 21 46.8 +2.0**
baz=301,SNR=7.1
K04D Chiloquin, OR 69.18 52 P **P** **11 21 46.6 +1.7**
baz=301
E09A Wood Farm, Sta 69.40 47 IAmb IAmb 11 21 48.5
comp=Z,12nm,0.7s
N02D Trinity Center 69.41 54 P **P** **11 21 48.4 +2.1**
baz=301,SNR=6.3
KCPM Cahto Peak 69.48 55 IAmb IAmb 11 21 49.8
comp=Z,21nm,0.9s
M04C Macdoel 69.55 53 P **P** **11 21 49.0 +1.8**
baz=301,SNR=5.5
WDC Whiskeytown Da 69.71 54 P **P** **11 21 47.4 -0.7**
WDC pmax pmax
comp=Z,10.0nm,1.1s
WDC Whiskeytown Da 69.71 54 P **P** **11 21 47.4 -0.7**
O02D Mt. Diablo Mer 69.76 55 P **P** **11 21 50.4 +1.9**
baz=301,SNR=7.0
I07A Izee 69.84 50 P **P** **11 21 49.3 +0.4**
OBN Obninsk 69.94 324 ‖ *e*P **P** **11 21 49.6 +0.5**
OBN *e* 11 22 12.8
OBN *e* 11 24 27.1
OBN *e*S **SKSac** **11 31 46.7 -1.4**
OBN pmax pmax
comp=Z,10.0nm,0.5s
OBN MLR MLR
comp=Z,77nm,15.0s
LPSR Galich'ya Gora 70.22 321 *e*P **P** **11 21 51.3 +0.4**
LPSR pmax pmax
comp=Z,20nm,1.2s
O03E Paynes Creek 70.34 54 P **P** **11 21 53.2 +1.1**
baz=301,SNR=7.5
FIA1 FINESS Array S 70.42 333 P **P** **11 21 51.7 -0.3**
FIA1 IAmb IAmb 11 21 53.7
comp=Z,19nm,0.8s
FINES FINESS Array B 70.43 333 P **P** **11 21 52.7 +0.6**
comp=Z,11nm,0.7s,baz=57,slow=7.7,SNR=44
FINES LR LR 11 55 46.2
comp=Z,103nm,18.1s,baz=38,slow=38
FINES FINESS Array B 70.43 333 *i* P **P** **11 21 53.0 +1.0**
FINES pmax pmax
comp=Z,11nm,0.7s
GDXM Geysers 70.46 56 P **P** **11 21 52.5 -0.2**
WALA Waterton Lakes 70.46 43 P **P** **11 21 53.4 +0.7**
MOD Modoc Plateau 70.47 52 P **P** **11 21 53.8 +0.8**
MOD IAmb IAmb 11 21 55.4
comp=Z,9.0nm,0.7s
J08A Circle Bar Ran 70.86 50 IAmb IAmb 11 21 58.0
comp=Z,18nm,1.1s
VSR Storozhevoye 70.88 320 *e*P **P** **11 21 55.2 +0.2**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VORD Divnogorie 70.95 320 *e*P **P** **11 21 55.5 +0.1**
VORD pmax pmax
comp=Z,10.0nm,1.0s
JTMT Jette 70.97 44 IAmb IAmb 11 21 58.1
comp=Z,11nm,0.8s
WVOR Wild Horse Val 71.25 51 P **P** **11 21 58.5 +1.0**
WVOR pmax pmax
comp=Z,6.0nm,0.8s
WVOR Wild Horse Val 71.25 51 P **P** **11 21 58.5 +1.0**
SUMG Summit 71.36 1 P **P** **11 21 58.7 +0.7**
SUMG pmax pmax
comp=Z,18nm,1.2s
SUMG Summit 71.36 1 P **P** **11 21 58.7 +0.7**
SUMG IAmb IAmb 11 22 00.4
comp=Z,18nm,1.2s
MSO Missoula 71.67 45 P **P** **11 22 00.8 +0.8**
baz=304,SNR=5.5
MSO Missoula 71.67 45 P **P** **11 22 00.2 +0.2**
PNTR Pine Nut 72.42 54 P **P** **11 22 06.2 +1.4**
MFID Camas Ranch 72.45 49 P **P** **11 22 05.2 +0.5**
CMB Columbia Colle 72.47 56 P **P** **11 22 06.0 +1.1**
CMB pmax pmax
comp=Z,23nm,1.4s
CMB Columbia Colle 72.47 56 P **P** **11 22 06.0 +1.1**
CMB IAmb IAmb 11 22 07.3
comp=Z,23nm,1.4s
YERR Yerington 72.71 54 P **P** **11 22 07.6 +1.1**
YERR IAmb IAmb 11 22 09.0
comp=Z,14nm,0.9s
KIV Kislovodsk 73.00 312 *e*P **P** **11 22 09.0 +1.0**
KIV pmax pmax
comp=Z,63nm,1.1s
KBZ Khabaz 73.00 312 P **P** **11 22 09.3 +1.5**
comp=Z,7.8nm,0.9s,baz=63,slow=4.9,SNR=14
KBZ LR LR 11 57 07.8
comp=Z,44nm,18.7s,baz=52,slow=38
KBZ Khabaz 73.00 312*de*P **P** **11 22 08.9 +1.1**
KBZ pmax pmax
comp=Z,15nm,1.0s
LRM Limekiln Ridge 73.09 45 P **P** **11 22 09.5 +0.8**
HLID Hailey 73.22 48 P **P** **11 22 10.6 +1.2**
baz=304,SNR=8.7
HLID Hailey 73.22 48 P **P** **11 22 09.5 +0.1**
DLMT Dillon 73.27 46 P **P** **11 22 09.4 -0.2**
DLMT IAmb IAmb 11 22 12.0
comp=Z,9.9nm,0.8s

EGMT Eagleton 73.32 42 P P 11 22 10.6 +0.8
baz=306,SNR=6.6
EGMT Eagleton 73.32 42 P P 11 22 10.2 +0.4
EGMT IAmb IAmb 11 22 11.8
comp=Z,30nm,1.5s
RYN Ryan 73.38 54 P P 11 22 11.6 +1.2
KVN Kaiserville 73.42 54 IAmb IAmb 11 22 13.2
comp=Z,15nm,1.0s
NVAR Mina Array Bea 73.63 54 P P 11 22 13.4 +1.5
comp=Z,10nm,0.7s,baz=289,slow=6.0,SNR=101
BOZ Bozeman (W) 73.69 45 P P 11 22 13.2 +1.1
baz=305,SNR=18
BOZ Bozeman (W) 73.69 45 P P 11 22 12.5 +0.4
BOZ pmax pmax
comp=Z,10.0nm,0.8s
BOZ Bozeman (W) 73.69 45 P P 11 22 12.5 +0.4
BOZ IAmb IAmb 11 22 14.3
comp=Z,10nm,0.8s
NV11 Mina Array Sit 73.73 54 P P 11 22 13.2 +0.7
SMMC Simmler 74.21 58 P P 11 22 16.5 +1.3
baz=304
ELK Elko 74.30 51 P P 11 22 15.9 0.0
ELK pmax pmax
comp=Z,4.0nm,0.7s
ELK Elko 74.30 51 P P 11 22 15.9 0.0
YHL Hebgen Lake 74.38 46 P P 11 22 16.0 -0.4
YHB Horse Butte 74.43 46 P P 11 22 16.9 +0.4
VES Vestal, Richgr 74.54 57 P P 11 22 17.5 +0.5
baz=304,SNR=6.7
PKM Mcpherson Peak 74.57 58 P P 11 22 19.4 +2.0
baz=304
YMR Madison River 74.61 46 P P 11 22 18.9 +1.3
GCMT Greycliff 74.69 44 P P 11 22 18.7 +0.8
CWC Cottonwood Cre 74.88 56 P P 11 22 20.2 +1.0
baz=304
YPP Pitchstone Pla 74.94 46 P P 11 22 20.4 +0.8
YNE Yellowstone No 74.96 45 P P 11 22 19.5 -0.2
H17A Grant Village 75.00 46 P P 11 22 23.0 +3.1
baz=306,SNR=8.8
H17A Grant Village 75.00 46 IAmb IAmb 11 22 24.1
comp=Z,18nm,0.9s
ISA Isabella, Lake 75.05 57 P P 11 22 20.4 +0.3
baz=304
ARVC Arvin 75.11 57 P P 11 22 21.1 +0.8
baz=304
RLMT Red Lodge 75.32 45 P P 11 22 23.0 +1.4
baz=307
TPAW Teton Pass 75.32 47 IAmb IAmb 11 22 24.6
comp=Z,40nm,1.8s
NC405 NORSAR Array S 75.44 338 IAmb IAmb 11 22 23.8
comp=Z,34nm,1.1s
R11A Troy Canyon, C 75.44 53 P P 11 22 23.7 +1.2
baz=305,SNR=17
SNOW Snow King Moun 75.45 47 P P 11 22 23.0 +0.5
MPMC Manual Prospec 75.49 56 P P 11 22 23.9 +1.1
baz=304,SNR=13
ANN Anapa 75.57 315 *e*P P 11 22 30.1 +7.3
ANN pmax pmax
comp=Z,86nm,1.0s
BGU Big Grassy Mou 75.57 50 P P 11 22 23.9 +0.8
NC204 NORSAR Array S 75.59 339 P P 11 22 22.9 +0.2
NC204 IAmb IAmb 11 22 24.6
comp=Z,26nm,0.9s
NB201 NORSAR Array S 75.61 338 P P 11 22 23.1 +0.2
NB2 NORSAR Subarra 75.65 338 P P 11 22 23.4 +0.4
comp=Z,7.8nm,0.7s,baz=38,slow=5.9
NOA NORSAR Array B 75.65 338 P P 11 22 23.6 +0.6
comp=Z,6.6nm,0.8s,baz=38,slow=5.7,SNR=19
NOA LR LR 12 00 27.3
comp=Z,75nm,19.5s,baz=35,slow=40
AHID Auburn Hatcher 75.66 47 IAmb IAmb 11 22 25.8
comp=Z,35nm,1.9s
FURC Furnace Creek, 75.68 55 P P 11 22 24.9 +1.3
baz=305,SNR=10
LRMC Laurel Mtn Rad 75.69 56 P P 11 22 25.0 +1.1
baz=304
TPNV Topopah Spring 75.81 55 P P 11 22 25.7 +1.2
baz=305,SNR=12
TPNV Topopah Spring 75.81 55 IAmb IAmb 11 22 26.7
comp=Z,11nm,0.8s
EDW2 Edwards Air Fo 75.82 57 P P 11 22 25.7 +1.2
baz=304,SNR=6.1
DGMT Dagmar 75.99 40 P P 11 22 25.7 +0.5
baz=309
DGMT Dagmar 75.99 40 P P 11 22 25.1 -0.1
DGMT IAmb IAmb 11 22 26.8
comp=Z,19nm,0.9s
LAO LASA Array 76.04 42 P P 11 22 26.5 +1.0
baz=308
LAO LASA Array 76.04 42 P P 11 22 24.1 -1.4
LAO IAmb IAmb 11 22 27.9
comp=Z,16nm,1.1s
HWUT Hardware Ranch 76.06 48 P P 11 22 24.7 -1.3
HWUT IAmb IAmb 11 22 28.6
comp=Z,12nm,0.9s
DUG Dugway, Tooele 76.13 50 P P 11 22 27.8 +1.5
baz=306,SNR=22
DUG Dugway, Tooele 76.13 50 P P 11 22 26.7 +0.4
DUG pmax pmax
comp=Z,16nm,0.8s
DUG Dugway, Tooele 76.13 50 P P 11 22 26.7 +0.4
DUG IAmb IAmb 11 22 28.8
comp=Z,16nm,0.8s
AKASG Malin Array Be 76.16 324 P P 11 22 26.5 +0.5
comp=Z,4.0nm,0.6s,baz=45,slow=5.9,SNR=15
AKASG LR LR 11 57 30.8
comp=Z,32nm,21.9s,baz=55,slow=37
AKBB Malin Array Si 76.16 324 P P 11 22 24.8 -1.2
AKBB pmax pmax
comp=Z,27nm,1.4s
AKBB Malin Array Si 76.16 324 P P 11 22 24.8 -1.2
AKBB IAmb IAmb 11 22 27.4
comp=Z,27nm,1.4s
GSC Goldstone, Bar 76.38 56 P P 11 22 28.8 +1.1
baz=305
SHOC Shoshone, Teco 76.39 55 P P 11 22 28.8 +1.1
baz=305
BFSC Mount Baldy Ra 76.41 58 P P 11 22 29.2 +1.2
baz=305
TCUT Toone Canyon 76.45 49 P P 11 22 28.6 +0.4
CTU Camp Tracy 76.49 49 P P 11 22 28.5 +0.1
BW06 Boulder Array 76.57 47 P P 11 22 29.6 +0.7
baz=307,SNR=7.7
BW06 Boulder Array 76.57 47 P P 11 22 28.5 -0.4
PD31 Pinedale Array 76.57 47 P P 11 22 28.6 -0.2
PDAR Pinedale Array 76.57 47 P P 11 22 29.4 +0.6
comp=Z,4.1nm,0.6s,baz=275,slow=1.7,SNR=38
SUW Suwalki 76.63 329 *e*P P 11 22 30.0 +1.4
TUQ Turquoise Moun 76.89 56 P P 11 22 31.8 +1.1
baz=305,SNR=7.5
HEC Hector,Ludlow 76.97 56 P P 11 22 32.2 +1.2
baz=305
MURC Murrieta 77.09 58 P P 11 22 32.5 +0.8
baz=305
GMRC Granite Mounta 77.44 56 P P 11 22 34.7 +0.9
baz=306
109C Camp Elliot, M 77.56 58 P P 11 22 35.0 +0.8
baz=305
PFO Pinyon Flats O 77.58 57 P P 11 22 35.5 +0.9
baz=305
PFO Pinyon Flats O 77.58 57 P P 11 22 35.8 +1.3
comp=Z,6.2nm,1.0s,baz=273,slow=12,SNR=6.4
PFO Pinyon Flats O 77.58 57 *e*P P 11 22 35.3 +0.7
PFO pmax pmax
comp=Z,12nm,1.0s
PFO Pinyon Flats O 77.58 57 P P 11 22 35.4 +0.9
XPFO Pion Flat 77.59 57 P P 11 22 34.8 +0.2
TMUT Trail Mountain 77.66 50 P P 11 22 35.4 +0.3
BELC Belle Mtn. Jos 77.67 57 P P 11 22 35.6 +0.5
baz=306
LCMT Little Creek M 77.73 53 P P 11 22 36.8 +1.4
MTPU Mount Pierson 77.80 52 P P 11 22 37.6 +1.6
P17A Butcher Ranch, 77.84 50 P P 11 22 37.1 +1.2
MONP2 Monument Peak 78.02 58 P P 11 22 37.9 +0.7
baz=306
IRM Iron Mountain 78.16 56 P P 11 22 38.5 +0.9
baz=306
BC3 Big Chuckawall 78.24 57 P P 11 22 39.1 +0.9
baz=306
IKP In-Ko-Pah, Jac 78.38 58 P P 11 22 39.9 +0.9
baz=306
K22A Casper 78.40 45 P P 11 22 39.7 +0.7
baz=309,SNR=5.1
K22A Casper 78.40 45 P P 11 22 39.2 +0.2
K22A IAmb IAmb 11 22 40.3
comp=Z,9.2nm,0.8s

SWSC Sam W. Stewart 78.42 58 P P 11 22 40.0 +0.9
baz=306
RWWY Rawlins 78.61 46 P P 11 22 40.4 +0.1
RWWY IAmb IAmb 11 22 42.1
comp=Z,11nm,0.9s
U15A North Rim 78.69 53 P P 11 22 41.7 +0.8
U15A IAmb IAmb 11 22 43.4
comp=Z,8.8nm,0.8s
MDND Maddock 78.72 38 P P 11 22 41.1 +0.6
baz=312
MDND Maddock 78.72 38 P P 11 22 39.4 -1.1
Y12C Blythe 78.81 56 P P 11 22 42.1 +0.9
baz=306
ULM Lac du Bonnet 78.85 35 P P 11 22 41.4 +0.3
comp=Z,3.7nm,0.5s,baz=315,slow=7.6,SNR=5.4
ULM Lac du Bonnet 78.85 35 IAmb IAmb 11 22 42.2
comp=Z,11nm,0.9s
RSSD Black Hills 78.86 43 P P 11 22 42.0 +0.4
baz=310
RSSD Black Hills 78.86 43 P P 11 22 40.8 -0.8
RSSD pmax pmax
comp=Z,6.0nm,1.0s
RSSD Black Hills 78.86 43 P P 11 22 40.8 -0.8
O20A White River Ci 78.96 48 P P 11 22 43.0 +0.8
baz=308,SNR=10
O20A White River Ci 78.96 48 P P 11 22 41.8 -0.4
O20A IAmb IAmb 11 22 44.1
comp=Z,12nm,0.9s
GLA Glamis 79.02 57 P P 11 22 43.6 +1.2
baz=306
E28A Huff 79.03 39 P P 11 22 42.2 0.0
E28A IAmb IAmb 11 22 43.2
comp=Z,12nm,0.7s
LVV L'vov 79.21 325 *e*P P 11 22 44.6 +1.5
PV09 Paradox Valley 79.43 50 P P 11 22 46.0 +1.1
PV21 Cone Mtn., Par 79.49 50 IAmb IAmb 11 22 47.4
comp=Z,18nm,0.7s
PV13 Radium Mtn., P 79.83 50 IAmb IAmb 11 22 49.3
comp=Z,23nm,0.8s
WUAZ Wupatki 79.83 53 P P 11 22 48.2 +1.2
baz=308,SNR=8.1
WUAZ Wupatki 79.83 53 P P 11 22 46.7 -0.2
N23A Red Feather La 79.85 46 P P 11 22 48.4 +1.3
baz=310,SNR=17
N23A Red Feather La 79.85 46 P P 11 22 46.6 -0.4
N23A IAmb IAmb 11 22 49.7
comp=Z,20nm,0.9s
PV02 Paradox Valley 79.85 50 P P 11 22 46.3 -0.9
PV02 IAmb IAmb 11 22 49.5
comp=Z,20nm,1.1s
KWP Kalwaria Pacla 79.95 326 *e*P P 11 22 48.4 +1.3
PV01 Paradox Valley 80.00 50 IAmb IAmb 11 22 50.2
comp=Z,15nm,0.8s
BUR08 Bucovina Ar. S 80.18 323 P P 11 22 48.2 -0.4
AGMN Agassiz Nation 80.23 36 P P 11 22 48.5 -0.2
baz=315
AGMN Agassiz Nation 80.23 36 P P 11 22 47.6 -1.0
AGMN IAmb IAmb 11 22 49.5
comp=Z,11nm,0.8s
MVCO Mesa Verde 80.62 51 P P 11 22 52.4 +1.1
baz=309,SNR=7.8
MVCO Mesa Verde 80.62 51 P P 11 22 52.2 +1.0
MVCO IAmb IAmb 11 22 53.4
comp=Z,43nm,1.9s
ISCO Idaho Springs 80.74 47 P P 11 22 53.3 +1.3
baz=310,SNR=9.6
ISCO Idaho Springs 80.74 47 P P 11 22 51.4 -0.5
ISCO pmax pmax
comp=Z,5.0nm,0.8s
ISCO Idaho Springs 80.74 47 P P 11 22 51.4 -0.5
OJC Ojcow 80.81 327 *e*P P 11 22 52.8 +1.1
OJC Ojcow 80.81 327 P P 11 22 52.2 +0.4
OJC pmax pmax
comp=Z,28nm,1.5s
OJC Ojcow 80.81 327 P P 11 22 52.1 +0.4
OJC IAmb IAmb 11 22 54.5
comp=Z,28nm,1.5s
BR131 Keskin Array S 80.93 313 P P 11 22 53.3 +0.5
BR131 pmax pmax
comp=Z,16nm,1.5s
BR131 Keskin Array S 80.93 313 P P 11 22 53.3 +0.5
BR131 IAmb IAmb 11 22 54.7
comp=Z,16nm,1.4s
BRTR Keskin Array B 80.93 313 P P 11 22 53.5 +0.7
comp=Z,4.6nm,0.7s,baz=104,slow=4.0,SNR=16
BRTR LR LR 12 03 09.4
comp=Z,25nm,19.0s,baz=60,slow=39
BRTR Keskin Array B 80.93 313 *i* P P 11 22 53.7 +0.9
BRTR pmax pmax
comp=Z,5.0nm,0.7s
214A Organ Pipe Nat 81.04 57 P P 11 22 54.2 +0.9
baz=307
W18A Petrified Fore 81.14 53 P P 11 22 55.0 +1.0
baz=308
NIE Niedzica 81.18 327 *e*P P 11 22 55.6 +1.9
B35A Bob, Littlefor 81.19 35 IAmb IAmb 11 22 54.3
comp=Z,8.3nm,0.7s
S22A 4UR Ranch, Cre 81.32 49 P P 11 22 56.6 +1.5
baz=310,SNR=16
S22A 4UR Ranch, Cre 81.32 49 IAmb IAmb 11 22 57.8
comp=Z,10nm,0.9s
SUSD Miller 81.37 40 P P 11 22 55.0 +0.1
baz=313
Q24A Divide 81.55 47 P P 11 22 57.0 +0.7
baz=310
KSP Ksiaz 81.82 330 *e*P P 11 22 58.5 +1.4
OSTC Ostas 82.07 329 AMS AMS 12 06 40.0
comp=Z,100nm,12.8s
MORC Moravsky Berou 82.11 328 P P 11 22 57.6 -1.1
MORC pmax pmax
comp=Z,6.0nm,1.1s
MORC Moravsky Berou 82.11 328 P P 11 22 57.6 -1.1
SDCO Great Sand Dun 82.12 49 P P 11 23 00.6 +1.3
baz=310,SNR=12
TUC Tucson 82.18 56 P P 11 23 00.3 +0.9
baz=308
DPC Dobruska-Polom 82.18 329 AMS AMS 12 04 50.0
comp=Z,100nm,18.5s
UPC Upice 82.19 330 AMS AMS 12 07 10.0
comp=Z,100nm,14.7s
PPT Papeete 82.38 118 LR LR 11 52 32.8
comp=Z,60nm,20.1s,baz=273,slow=31
PPT2 Paete2 82.39 118 *e*LR LR 11 48 16.0
comp=Z,129nm,24.8s
EYMN Ely 82.51 34 P P 11 23 00.9 +0.1
baz=318
EYMN Ely 82.51 34 IAmb IAmb 11 23 01.9
comp=Z,12nm,0.9s
VYHS Vyhne 82.52 327 *e*P P 11 23 01.5 +0.7
VYHS pmax pmax
comp=Z,15nm,1.7s
VYHS Vyhne 82.52 327 *e*P P 11 23 01.5 +0.7
BRG Berggiesshubel 82.74 331 *e*P P 11 23 02.4 +0.6
comp=Z,3.3nm,0.8s
BRG Berggiesshubel 82.74 331 *e*P P 11 23 02.4 +0.6
BRG pmax pmax
comp=Z,3.0nm,0.8s
BRG Berggiesshubel 82.74 331 *e*P P 11 23 03.1 +1.2
comp=Z,3.3nm,0.8s,baz=36,slow=5.1
CLL Collm 82.76 332 *e*P P 11 23 02.0 0.0
comp=Z,9.0nm,1.1s
CLL LmH 11 57 00.0
comp=N,100nm,18.6s
CLL LmH 11 57 00.0
comp=E,100nm,18.8s
CLL Collm 82.76 332 *e*P P 11 23 02.0 0.0
CLL pmax pmax
comp=Z,9.0nm,1.1s
CLL Collm 82.76 332 *e*P P 11 23 03.0 +1.0
comp=Z,9.4nm,1.1s,baz=36,slow=5.1
NRDL Niedersach Rie 82.89 334 *e*P P 11 23 04.0 +1.5
comp=Z,9.8nm,1.3s,baz=36,slow=5.1
FBE Freiberg 82.93 331 *e*P P 11 23 03.6 +0.7
comp=Z,9.9nm,1.0s,baz=36,slow=5.1
ASSE Asse, Remlinge 82.98 333 *e*P P 11 23 04.4 +1.4
comp=Z,5.2nm,1.1s,baz=36,slow=5.1
KSCO Kaye Shedlock' 83.00 46 IAmb IAmb 11 23 05.4
comp=Z,19nm,1.0s
ECSD EROS Data Cent 83.08 40 P P 11 23 03.9 +0.1
baz=315,SNR=11
ECSD EROS Data Cent 83.08 40 P P 11 23 03.5 -0.4
ECSD IAmb IAmb 11 23 04.9
comp=Z,11nm,0.8s
PRA Prague 83.17 330 AMS AMS 12 06 00.0
comp=Z,100nm,13.1s
T25A Trinidad 83.18 49 P P 11 23 05.9 +1.2
baz=311,SNR=13

T25A Trinidad 83.18 49 IAmb IAmb 11 23 07.0
comp=Z,13nm,0.8s
PRU Pruhonice 83.19 330 AMS AMS 12 06 50.0
comp=Z,100nm,14.3s
CLZ Clausthal 83.32 333 *e*P P 11 23 06.5 +1.6
comp=Z,14nm,1.5s,baz=36,slow=5.1
ANMO Albuquerque 83.33 51 P P 11 23 06.8 +1.2
baz=310
ANMO Albuquerque 83.33 51 P P 11 23 07.0 +1.4
comp=Z,7.0nm,0.9s,baz=268,slow=3.3,SNR=22
ANMO Albuquerque 83.33 51 *c i*P P 11 23 07.1 +1.6
ANMO pmax pmax
comp=Z,13nm,1.3s
ANMO Albuquerque 83.33 51 P P 11 23 06.1 +0.6
ANMO IAmb IAmb 11 23 08.5
comp=Z,9.6nm,1.0s
E38A The Farm, Brul 83.47 35 P P 11 23 05.1 -0.7
BNM Barren Site 83.73 52 P P 11 23 07.2 -0.4
PLN Plauen 83.74 331 *e*P P 11 23 08.6 +1.6
comp=Z,13nm,1.8s,baz=36,slow=5.1
WERN Wernitzgruen 83.81 331 *e*P P 11 23 09.1 +1.6
comp=Z,9.6nm,1.4s,baz=36,slow=5.1
MOX Moxa 83.82 332 *e*P P 11 23 08.8 +1.4
comp=Z,25nm,2.1s,baz=36,slow=5.1
NKC Novy Kostel 83.83 331 AMS AMS 12 07 50.0
comp=Z,100nm,12.1s
TAOE Nuku Hiva Isla 83.88 106 *e*LR LR 11 49 21.0
comp=Z,188nm,25.4s
BGNE Belgrade 83.89 42 P P 11 23 08.1 0.0
baz=314
BGNE Belgrade 83.89 42 P P 11 23 07.0 -1.1
SPMN Marine on St. 83.90 37 P P 11 23 08.1 +0.2
baz=317
SPMN Marine on St. 83.90 37 P P 11 23 08.0 0.0
SPMN IAmb IAmb 11 23 09.2
comp=Z,11nm,1.0s
121A Cookes Peak, D 84.02 54 P P 11 23 10.3 +1.2
baz=310,SNR=6.9
121A Cookes Peak, D 84.02 54 IAmb IAmb 11 23 11.4
comp=Z,12nm,0.9s
KHC Kasperske Hory 84.25 330 *e*P P 11 23 10.3 +0.5
KHC AMS AMS 12 07 00.0
comp=Z,100nm,15.0s
KHC Kasperske Hory 84.25 330 *e*P P 11 23 10.3 +0.5
KHC MLR MLR
comp=Z,100nm,15.0s
ROTZ Rotzenmuhle 84.30 331 *e*P P 11 23 11.9 +2.0
comp=Z,13nm,1.3s,baz=36,slow=5.1
GEC2 GERESS Array S 84.43 330 P P 11 23 10.2 -0.6
GEC2 GERESS Array S 84.43 330 *e*P P 11 23 11.9 +1.2
comp=Z,6.0nm,1.1s,baz=36,slow=5.1
GERES GERESS Array B 84.43 330 P P 11 23 10.9 +0.2
comp=Z,1.6nm,0.7s,baz=36,slow=5.0,SNR=13
GERES LR LR 12 03 18.3
comp=Z,54nm,21.3s,baz=346,slow=37
ALN Alexandroupoli 84.45 318 P P 11 23 10.2 -0.6
ALN pmax pmax
comp=Z,19nm,1.1s
ALN Alexandroupoli 84.45 318 P P 11 23 10.2 -0.6
ALN IAmb IAmb 11 23 12.5
comp=Z,19nm,1.1s
D41A Chassel 84.48 33 P P 11 23 10.4 -0.5
WET Wettzell 84.53 330 *e*P P 11 23 12.8 +1.7
comp=Z,10.0nm,1.3s,baz=36,slow=5.1
VTS Vitosha 84.72 320 IAmb IAmb 11 23 14.7
comp=Z,15nm,0.9s
CBKS Cedar Bluff 84.80 45 P P 11 23 12.6 -0.1
baz=313
COWI Conover 84.96 34 IAmb IAmb 11 23 14.4
comp=Z,12nm,1.4s
ELL Elmali 85.10 313 P P 11 23 14.6 +0.2
ELL pmax pmax
comp=Z,70nm,1.4s
ELL Elmali 85.10 313 P P 11 23 14.6 +0.2
G40A Rib Lake 85.10 35 P P 11 23 14.2 +0.1
G40A IAmb IAmb 11 23 15.2
comp=Z,12nm,0.9s
DIVS Divibare 85.25 323 IAmb IAmb 11 23 17.1
comp=Z,13nm,1.2s
SCHQ Schefferville 85.37 17 P P 11 23 15.5 +0.3
comp=Z,2.5nm,0.7s,baz=316,slow=4.3,SNR=4.6
SCHQ Schefferville 85.37 17 IAmb IAmb 11 25 32.9
comp=Z,16nm,1.6s
N35A Tabor 85.62 41 P P 11 23 16.6 -0.1
RJOB Jochberg 85.67 329 *e*P P 11 23 17.5 +0.5
comp=Z,50nm,2.4s,baz=36,slow=5.1
E43A Lone Tree Farm 85.70 33 P P 11 23 16.3 -0.7
E43A IAmb IAmb 11 23 18.2
comp=Z,8.2nm,0.9s
MEM Membach 85.89 335 P P 11 23 18.5 +0.7
I40A Norwalk 85.94 36 IAmb IAmb 11 23 19.3
comp=Z,9.3nm,0.7s
MNTX Cornudas Mount 86.11 53 P P 11 23 19.9 +0.5
baz=311,SNR=5.6
MNTX Cornudas Mount 86.11 53 P P 11 23 19.7 +0.4
SCIA State Center 86.13 39 P P 11 23 19.6 +0.4
baz=317
TBI Tubuai 86.30 122 *e*LR LR 11 50 26.4
comp=Z,185nm,29.8s
TBI Tubuai 86.30 122 *e*T T 12 58 23.9
comp=Z,4.6nm,0.3s
AMTX Amarillo 86.33 49 P P 11 23 21.3 +0.9
baz=312
AMTX Amarillo 86.33 49 P P 11 23 21.3 +0.9
AMTX IAmb IAmb 11 23 22.5
comp=Z,14nm,0.9s
KSU1 Kansas State U 86.35 43 P P 11 23 20.0 -0.4
baz=315
KSU1 Kansas State U 86.35 43 P P 11 23 20.6 +0.3
D46A Sault St. Mari 86.55 31 P P 11 23 21.0 -0.2
baz=323
BMRD Maredsous 86.57 335 P P 11 23 21.5 +0.3
D47A Chapleau 86.80 30 P P 11 23 22.3 -0.1
baz=324
H43A Windswept, Lux 86.83 34 IAmb IAmb 11 23 24.1
comp=Z,16nm,1.0s
JFWS Jewell Farm 86.85 37 P P 11 23 22.1 -0.7
baz=319
JFWS Jewell Farm 86.85 37 IAmb IAmb 11 23 23.6
comp=Z,10nm,0.9s
F45A CMU Biological 86.88 32 P P 11 23 22.8 -0.1
baz=322
BFO Black Forest 86.95 332 *e*P P 11 23 24.3 +1.1
comp=Z,11nm,1.1s,baz=36,slow=5.1
E47A Iron Bridge 87.21 31 P P 11 23 24.4 0.0
baz=324
D48A Paudash Townsh 87.22 29 P P 11 23 23.9 -0.6
baz=325
G45A Suttons Bay 87.33 33 P P 11 23 25.3 +0.3
baz=322
LSQQ Lebel-sur-Quev 87.46 26 P P 11 23 25.6 +0.1
baz=328
CHGQ Chibougamau 87.61 24 P P 11 23 26.2 -0.1
baz=330
P38A Dawn 87.63 41 IAmb IAmb 11 23 28.0
comp=Z,9.7nm,0.8s
E48A Lockeyer 87.64 30 P P 11 23 26.1 -0.4
baz=324
H46A Fife Lake 87.92 33 P P 11 23 28.4 +0.5
baz=322
T35A Sooner Cattle 87.95 44 P P 11 23 27.3 -0.9
T35A IAmb IAmb 11 23 29.7
comp=Z,7.7nm,0.8s
F48A Evansville 87.99 31 P P 11 23 28.3 +0.1
baz=324
D50A G1974 Best Tow 88.00 28 P P 11 23 27.6 -0.5
baz=326
G47A Hillman 88.00 32 P P 11 23 28.8 +0.5
baz=323
VLDQ Val d'Or 88.09 26 P P 11 23 27.1 -1.5
VLDQ IAmb IAmb 11 23 28.8
comp=Z,8.2nm,0.9s
WMOK Wichita Mounta 88.17 47 P P 11 23 29.5 +0.3
baz=314
WMOK Wichita Mounta 88.17 47 P P 11 23 29.7 +0.4
WMOK pmax pmax
comp=Z,7.0nm,0.9s
WMOK Wichita Mounta 88.17 47 P P 11 23 29.7 +0.4
WMOK IAmb IAmb 11 26 11.8
comp=Z,7.5nm,0.8s
N41A Harden Midland 88.21 39 P P 11 23 28.8 -0.5
D51A Lot 18 Range I 88.24 28 P P 11 23 28.9 -0.4
baz=326
E50A Wahnapitae 88.26 29 P P 11 23 29.6 +0.2
baz=325
F49A Sandfield 88.28 30 P P 11 23 29.6 +0.1
baz=324

E51A	**G1948 Merrick**	**88.66**	**28**	P	**P**	**11 23 30.9**	**-0.4**
	baz=326						
D52A	**ZEK Kipawa Sen**	**88.69**	**28**	P	**P**	**11 23 31.1**	**-0.3**
	baz=327						
TX31	**Lajitas Ar. Si**	**88.78**	**54**	P	**P**	**11 23 32.2**	**-0.1**
TX32	**Lajitas Array**	**88.78**	**54**	P	**P**	**11 23 32.0**	**-0.4**
TX32				IAmb	IAmb	11 23 34.1	
	comp=Z,19nm,1.7s						
TXAR	**Lajitas Array**	**88.78**	**54**	P	**P**	**11 23 32.9**	**+0.5**
	comp=Z,2.8nm,0.8s,baz=300,slow=2.9,SNR=26						
TXAR				LR	LR	11 58 56.1	
	comp=Z,35nm,20.4s,baz=0.0,slow=33						
D53A	**Lac Vacive, Po**	**88.87**	**27**	P	**P**	**11 23 32.1**	**-0.2**
	baz=328						
F51A	**Arnstein**	**88.99**	**29**	P	**P**	**11 23 32.7**	**-0.2**
	baz=326						
TUL1	**Leonard**	**89.07**	**45**	P	**P**	**11 23 33.9**	**+0.4**
	baz=316						
HDIL	**Hopedale**	**89.10**	**38**	P	**P**	**11 23 33.9**	**+0.4**
	baz=320						
ABTX	**Abilene, Hawle**	**89.11**	**49**	P	**P**	**11 23 33.9**	**+0.2**
	baz=314						
S39A	**Bolivar**	**89.16**	**42**	P	**P**	**11 23 33.5**	**-0.3**
S39A				IAmb	IAmb	11 23 34.4	
	comp=Z,6.4nm,0.8s						
E52A	**Mattawa**	**89.18**	**28**	P	**P**	**11 23 33.2**	**-0.6**
	baz=327						
D54A	**Lac Fusel, La**	**89.19**	**26**	P	**P**	**11 23 33.4**	**-0.5**
	baz=328						
R40A	**Maddies Statio**	**89.28**	**41**	P	**P**	**11 23 34.6**	**+0.2**
R40A				IAmb	IAmb	11 23 35.4	
	comp=Z,8.9nm,0.8s						
F52A	**Sundridge**	**89.33**	**29**	P	**P**	**11 23 34.6**	**+0.1**
	baz=326						
I49A	**Point Hope**	**89.43**	**32**	P	**P**	**11 23 35.9**	**+0.9**
	baz=324						
NRCA	**Norcia**	**89.43**	**326**	P	**P**	**11 23 34.7**	**-0.4**
NRCA				IAmb	IAmb	11 23 36.5	
	comp=Z,12nm,0.9s						
E53A	**Dumoine, Ponti**	**89.48**	**27**	P	**P**	**11 23 34.7**	**-0.5**
	baz=328						
U38A	**Gravette**	**89.48**	**43**	IAmb	IAmb	11 23 36.5	
	comp=Z,7.6nm,0.8s						
J48A	**Bridge Port**	**89.53**	**33**	P	**P**	**11 23 36.2**	**+0.7**
	baz=323						
E54A	**Lac Daplat, Po**	**89.61**	**27**	P	**P**	**11 23 35.4**	**-0.4**
	baz=328						
ALGO	**Algonquin Park**	**89.69**	**28**	P	**P**	**11 23 36.1**	**0.0**
	baz=327						
D55A	**Sainte-Anne-du**	**89.73**	**26**	P	**P**	**11 23 36.4**	**+0.1**
	baz=329						
J49A	**Marlette**	**89.76**	**32**	P	**P**	**11 23 37.0**	**+0.4**
	baz=324						
HHAR	**Hobbs**	**89.84**	**43**	IAmb	IAmb	11 23 38.0	
	comp=Z,6.7nm,0.9s						
D56A	**ZEC Mazanza, M**	**89.95**	**25**	P	**P**	**11 23 37.5**	**+0.1**
	baz=330						
CCM	**Cathedral Cave**	**89.99**	**41**	P	**P**	**11 23 37.9**	**+0.2**
	baz=318						
CCM	**Cathedral Cave**	**89.99**	**41**	P	**P**	**11 23 37.1**	**-0.6**
CCM				pmax	pmax		
	comp=Z,14nm,0.9s						
CCM	**Cathedral Cave**	**89.99**	**41**	P	**P**	**11 23 37.1**	**-0.6**
MGMO	**Mountain Grove**	**90.12**	**42**	P	**P**	**11 23 38.1**	**-0.2**
MGMO				IAmb	IAmb	11 23 39.2	
	comp=Z,7.9nm,0.8s						
G54A	**Lake Saint Pet**	**90.14**	**28**	P	**P**	**11 23 38.1**	**-0.2**
	baz=327						
D57A	**Chemin Vers le**	**90.28**	**25**	P	**P**	**11 23 39.2**	**+0.3**
	baz=330						
E56A	**St. Veronique**	**90.29**	**26**	P	**P**	**11 23 39.0**	**0.0**
	baz=329						
I51A	**Listowel**	**90.30**	**31**	P	**P**	**11 23 39.5**	**+0.4**
	baz=325						
U40A	**Yellville**	**90.39**	**43**	P	**P**	**11 23 39.5**	**-0.1**
	baz=318						
U40A	**Yellville**	**90.39**	**43**	P	**P**	**11 23 39.5**	**-0.1**
JCT	**Junction City**	**90.48**	**51**	P	**P**	**11 23 40.5**	**+0.2**
	baz=314						
D58A	**Chemin du LacG**	**90.55**	**24**	P	**P**	**11 23 40.1**	**-0.1**
	baz=331						
H53A	**Bobcaygeon**	**90.64**	**29**	P	**P**	**11 23 41.0**	**+0.3**
	baz=327						
E57A	**Chemin Saint G**	**90.71**	**25**	P	**P**	**11 23 41.0**	**0.0**
	baz=330						
W39A	**Magazine**	**90.72**	**44**	P	**P**	**11 23 41.4**	**+0.2**
	baz=317						
G55A	**Calabogie**	**90.78**	**28**	P	**P**	**11 23 41.3**	**0.0**
	baz=328						
T42A	**Van Buren**	**90.84**	**41**	P	**P**	**11 23 41.9**	**+0.2**
T42A				IAmb	IAmb	11 23 43.5	
	comp=Z,6.5nm,0.8s						
WHTX	**Lake Whitney,**	**90.87**	**48**	P	**P**	**11 23 42.4**	**+0.5**
	baz=315						
FCAR	**Ozark Folk Cen**	**91.13**	**42**	P	**P**	**11 23 42.6**	**-0.5**
H55A	**Tweed**	**91.20**	**28**	P	**P**	**11 23 43.5**	**+0.3**
	baz=328						
I55A	**Frankford**	**91.29**	**29**	P	**P**	**11 23 44.1**	**+0.5**
	baz=328						
S44A	**Carbondale**	**91.30**	**40**	IAmb	IAmb	11 23 45.1	
	comp=Z,9.3nm,0.8s						
MIAR	**Mount Ida**	**91.31**	**44**	P	**P**	**11 23 44.7**	**+0.7**
	baz=317						
D61A	**St Aubert, Com**	**91.32**	**23**	P	**P**	**11 23 43.8**	**+0.1**
	baz=333						
D60A	**Saint Jean D'O**	**91.34**	**23**	P	**P**	**11 23 44.3**	**+0.5**
	baz=332						
WHAR	**Wooly Hollow**	**91.48**	**43**	P	**P**	**11 23 44.6**	**-0.1**
H56A	**Elgin**	**91.52**	**28**	P	**P**	**11 23 45.1**	**+0.5**
	baz=328						
LCAR	**Lake Charles**	**91.52**	**42**	P	**P**	**11 23 45.0**	**+0.1**
LCAR				IAmb	IAmb	11 23 45.9	
	comp=Z,5.0nm,0.8s						
G57A	**Newington**	**91.55**	**27**	P	**P**	**11 23 44.9**	**+0.1**
	baz=329						
W41B	**Gary Mavity, V**	**91.59**	**43**	P	**P**	**11 23 45.2**	**0.0**
	baz=318						
W41B	**Gary Mavity, V**	**91.59**	**43**	P	**P**	**11 23 45.0**	**-0.2**
X40A	**Basin Creek Fa**	**91.77**	**44**	P	**P**	**11 23 46.6**	**+0.5**
	baz=318						
G58A	**Ormstown**	**91.84**	**26**	P	**P**	**11 23 45.5**	**-0.7**
	baz=330						
F61A	**St Evariste**	**92.15**	**24**	P	**P**	**11 23 47.5**	**-0.2**
	baz=332						
K54A	**Basiliko Farm,**	**92.24**	**30**	P	**P**	**11 23 48.1**	**0.0**
	baz=327						
L54A	**Sinclairville**	**92.30**	**31**	P	**P**	**11 23 48.2**	**-0.2**
	baz=326						
T47A	**Sharon Grove**	**92.93**	**39**	IAmb	IAmb	11 23 52.7	
	comp=Z,5.6nm,0.7s						
WVT	**Waverly**	**93.23**	**40**	P	**P**	**11 23 52.6**	**-0.1**
	baz=320						
M56A	**Emporium**	**93.39**	**30**	P	**P**	**11 23 53.8**	**+0.4**
	baz=327						
G64A	**Maxfield**	**93.51**	**23**	P	**P**	**11 23 54.3**	**+0.4**
	baz=334						
J61A	**Chester**	**93.94**	**26**	P	**P**	**11 23 54.5**	**-1.4**
	baz=331						
M58A	**Price's Panora**	**94.18**	**29**	P	**P**	**11 23 57.4**	**+0.3**
	baz=328						
W54A	**Cherokee Point**	**96.87**	**37**	P	**P**	**11 24 09.4**	**-0.1**
	baz=324						
ESDC	**Sonseca Array**	**98.84**	**336**	LR	LR	12 16 01.3	
	comp=Z,30nm,18.3s,baz=330,slow=40						
H03N2	**Juan Fernandez**	**144.77**	**98**	T	T	14 11 55.3	
	baz=291,slow=76,SNR=6.0						
H03N3	**Juan Fernandez**	**144.78**	**98**	T	T	14 11 55.8	
	baz=291,slow=76,SNR=7.3						
H03N1	**Juan Fernandez**	**144.78**	**98**	T	T	14 11 56.1	
	baz=291,slow=76,SNR=6.0						
LPAZ	**La Paz**	**145.09**	**64**	PKPbc	**PKPbc**	**11 30 16.2**	**0.0**
	comp=Z,4.1nm,0.7s,baz=10,slow=4.0,SNR=16						
PB08	**IPOC Station P**	**146.73**	**70**		**PKPbc**	**11 30 20.9**	**0.0**
AC05	**El Transito**	**150.17**	**85**		**PKPbc**	**11 30 29.9**	**+0.5**
GO04	**Tololo Observa**	**150.26**	**88**		**PKPbc**	**11 30 29.6**	**-0.1**
LL01	**San Ignacio de**	**151.26**	**113**		**PKPbc**	**11 30 30.4**	**-0.9**
VA03	**San Esteban**	**151.30**	**93**		**PKPbc**	**11 30 31.5**	**-0.4**
LC01	**Cunco**	**151.48**	**106**		**PKPbc**	**11 30 32.1**	**+0.1**
BI02	**San Fabin de**	**151.63**	**101**		**PKPbc**	**11 30 32.0**	**-0.5**
BO02	**Sierra Bellavi**	**151.65**	**97**		**PKPbc**	**11 30 32.5**	**0.0**
ZON	**Zonda**	**152.44**	**90**	PKIKP	**PKiKP**	**11 30 35.1**	**+0.4**
ZON	**Zonda**	**152.44**	**90**		**PKiKP**	**11 30 35.1**	**+0.4**
PLCA	**Paso Flores**	**152.63**	**110**	PKPbc	**PKPbc**	**11 30 34.7**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=208,slow=4.0,SNR=5.9						
PLCA	**Paso Flores**	**152.63**	**110**	PKPbc	**PKPbc**	**11 30 33.9**	**-0.7**

*LVSN **27** 11:15:21.9±1.2,56.4°N×23.5°E,h0km±19km,ML2.3*
*HEL **27** 11:15:21.6±0.4,56.3°N×23.0°E,h0km,ML1.9,*
ML2.2(UPP),Explosion

UPP 27 11:15:19.8±2.5,56.2°N×23.3°E,h0km,ML2.2,
Suspected explosion,Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PABE	**Paberze**	**0.84**	**157**	*eP*	Pn	11 15 40.1	+1.2
PABE	**Paberze**	**0.84**	**157**	*eP*	Pn	11 15 39.9	+1.0
PABE				IAML		11 16 16.0	
	comp=Z,19nm,0.2s						
PBUR	**Paburge**	**0.86**	**253**	*eP*	Pg	11 15 28.3	-7.9
PBUR				*eS*	Sg	11 15 43.1	-4.2
PBUR	**Paburge**	**0.86**	**253**	*eP*	Pg	11 15 32.8	-3.5
PBUR				IAML		11 16 09.3	
	comp=Z,34nm,0.3s						
SLIT	**Slitere, Latvi**	**1.48**	**336**	*eP*	Pn	11 15 46.0	-1.7
SLIT				*eS*	Sg	11 16 05.2	-2.1
SLIT				AML	AML	11 16 07.4	
	comp=E,93nm,0.4s						
SLIT				AML	AML	11 16 10.4	
	comp=Z,58nm,0.5s						
SLIT				AML	AML	11 16 16.9	
	comp=N,79nm,0.5s						
IIGN	**Ignalina**	**1.85**	**119**	*eP*	Pg	11 15 59.2	+4.0
IIGN				*eS*	Sg	11 16 25.9	+6.8
IIGN	**Ignalina**	**1.85**	**119**	*eP*	Pg	11 15 58.9	+3.7
IIGN				IAML		11 16 34.9	
	comp=Z,9.3nm,0.2s						
MTSE	**Matsula**	**2.45**	**5**	*eP*	Pb	11 16 02.9	-1.8
MTSE				*eS*	Sn	11 16 32.9	+1.3
VSU	**Vasula**	**2.84**	**38**	*eP*	Pn	11 15 58.5	-7.8
VSU				IAML		11 16 06.8	
	comp=Z,38nm,0.2s						
VSU	**Vasula**	**2.84**	**38**	*eP*	Pn	11 15 58.1	-8.2
GOTU	**Gotland**	**2.99**	**300**	P	Pn	11 16 09.4	+1.0
GOTU				S	Sn	11 16 43.0	-1.9
GOTU	**Gotland**	**2.99**	**300**	P	Pn	11 16 09.4	+1.0
GOTU				S	Sn	11 16 41.0	-3.9
GOTU	**Gotland**	**2.99**	**300**	*eP*	Pn	11 16 09.4	+1.0
GOTU				*eS*	Sn	11 16 41.0	-3.9
BYXU	**Byxelkrok**	**3.66**	**289**	P	Pn	11 16 17.6	+0.1
BYXU	**Byxelkrok**	**3.66**	**289**	P	Pn	11 16 17.5	-0.1
BYXU	**Byxelkrok**	**3.66**	**289**	*eP*	Pn	11 16 17.5	-0.1
ASPU	**Aespoe**	**3.90**	**290**	P	Pn	11 16 20.5	-0.4
ASPU	**Aespoe**	**3.90**	**290**	P	Pn	11 16 20.4	-0.5
ASPU	**Aespoe**	**3.90**	**290**	*eP*	Pn	11 16 20.4	-0.5
NYNU	**Nynaeshamn**	**3.98**	**316**	P	Pn	11 16 21.3	-0.6
NYNU	**Nynaeshamn**	**3.98**	**316**	P	Pn	11 16 21.4	-0.6
NYNU	**Nynaeshamn**	**3.98**	**316**	*eP*	Pn	11 16 21.4	-0.6
VSTU	**Vaestervik**	**4.00**	**293**	P	Pn	11 16 22.3	+0.1
VSTU	**Vaestervik**	**4.00**	**293**	P	Pn	11 16 22.7	+0.4
VSTU	**Vaestervik**	**4.00**	**293**	*eP*	Pn	11 16 22.7	+0.4
OSKU	**Oskarshamn**	**4.12**	**286**	P	Pn	11 16 23.3	-0.6
OSKU	**Oskarshamn**	**4.12**	**286**	*eP*	Pn	11 16 23.3	-0.6
BLEU	**Blekinge**	**4.22**	**273**	P	Pn	11 16 23.9	-1.4
BLEU	**Blekinge**	**4.22**	**273**	P	Pn	11 16 24.1	-1.2
BLEU	**Blekinge**	**4.22**	**273**	*eP*	Pn	11 16 24.1	-1.2
NRTU	**Norrtaelje**	**4.25**	**325**	P	Pn	11 16 25.4	-0.2
NRTU	**Norrtaelje**	**4.25**	**325**	P	Pn	11 16 25.4	-0.2
NRTU	**Norrtaelje**	**4.25**	**325**	*eP*	Pn	11 16 25.4	-0.2
AAL	**Aland**	**4.30**	**337**	P	Pn	11 16 25.3	-1.1
AAL	**Aland**	**4.30**	**337**	P	Pn	11 16 25.4	-1.0
AAL	**Aland**	**4.30**	**337**	*eP*	Pn	11 16 25.5	-0.8
AAL				*eS*	Sn	11 17 13.8	-3.4
PVF	**Pernaja**	**4.47**	**16**	*eP*	Pn	11 16 31.5	+2.8
PVF				*eS*	Sn	11 17 22.7	+1.3
PVF				MSG		11 17 44.7	
	comp=Z,1.6nm,0.2s						
ESKU	**Eskilstuna**	**4.78**	**311**	P	Pn	11 16 31.9	-1.0
ESKU	**Eskilstuna**	**4.78**	**311**	P	Pn	11 16 31.8	-1.1
ESKU	**Eskilstuna**	**4.78**	**311**	*eP*	Pn	11 16 31.8	-1.1
GRAU	**Graesoe**	**4.80**	**330**	P	Pn	11 16 32.1	-1.1
GRAU	**Graesoe**	**4.80**	**330**	P	Pn	11 16 32.1	-1.1
GRAU	**Graesoe**	**4.80**	**330**	*eP*	Pn	11 16 32.1	-1.1
RAF	**Rauma**	**4.83**	**351**	*eP*	Pn	11 16 35.4	+1.7
RAF	**Rauma**	**4.83**	**351**	*eP*	Pn	11 16 34.8	+1.1
RAF				*eS*	Sn	11 17 28.4	-1.9
RAF				MSG		11 17 54.4	
	comp=Z,1.4nm,0.1s						
FLYU	**Flymyra**	**4.83**	**325**	P	Pn	11 16 33.5	-0.2
FLYU	**Flymyra**	**4.83**	**325**	*eP*	Pn	11 16 33.5	-0.2
FIBU	**Brunna**	**4.84**	**321**	P	Pn	11 16 33.1	-0.7
BACU	**Backbrunna**	**4.90**	**320**	P	Pn	11 16 33.7	-0.8
BACU	**Backbrunna**	**4.90**	**320**	*eP*	Pn	11 16 33.7	-0.8
FIA0	**FINESS Array S**	**5.36**	**14**	*eP*	Pn	11 16 42.2	+1.2
FIA0				*eS*	Sn	11 17 42.4	-0.9
FIA1	**FINESS Array S**	**5.36**	**14**	*eP*	Pn	11 16 42.2	+1.2
FIA1				*eS*	Sn	11 17 42.3	-1.1
KEF	**Keuruu**	**5.95**	**7**	*eP*	Pn	11 16 50.2	+1.2
KEF				*eS*	Sn	11 17 56.8	-1.1
KAF	**Kangasniemi**	**6.04**	**13**	*eP*	Pn	11 16 51.5	+1.3
KAF				*eS*	Sn	11 17 58.7	-1.3

IDC 27 11:17:02.5±8.5,21.2°N×107.8°W,h0km,mb3.3/3,
mb1 3.8/5,mb1mx3.6/34,mbtmp3.3/5,ML3.2/2,MS3.1/7,
Ms1 3.1/7,ms1mx2.9/21,Error ellipse: s-maj=141.2km
s-min=64.3km az=153.0,Off coast of central Mexico

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H06N1	**SOCORRO T-PHAS**	**3.76**	**234**	T	T	11 22 01.1	
	SNR=4.4						
H06E1	**SOCORRO T-PHAS**	**3.77**	**232**	T	T	11 21 59.9	
	SNR=54						
TXAR	**Lajitas Array**	**8.98**	**24**	Pn	Pn	11 19 14.3	+0.7
	0.1nm,0.3s,baz=204,slow=15,SNR=8.9						
ANMO	**Albuquerque**	**13.82**	**5**	LR	LR	11 25 24.6	
	comp=Z,116nm,21.0s,baz=199,slow=36						
PFO	**Pinyon Flats O**	**14.63**	**330**	LR	LR	11 25 25.3	
	comp=Z,57nm,18.8s,baz=182,slow=34						
NVAR	**Mina Array Bea**	**19.49**	**335**	P	P	11 21 30.9	-0.5
	0.0nm,0.3s,baz=164,slow=13,SNR=6.6						
NVAR				LR	LR	11 28 43.2	
	comp=Z,38nm,20.8s,baz=176,slow=36						
PDAR	**Pinedale Array**	**21.63**	**356**	P	P	11 21 55.8	+1.2
	0.5nm,0.9s,baz=164,slow=10,SNR=4.4						
PDAR				LR	LR	11 30 14.9	
	comp=Z,67nm,18.5s,baz=252,slow=37						
YBH	**Yreka Blue Hor**	**24.11**	**332**	LR	LR	11 30 12.5	
	comp=Z,31nm,21.3s,baz=166,slow=33						
NEW	**Newport**	**28.10**	**347**	LR	LR	11 32 53.9	
	comp=Z,51nm,18.9s,baz=171,slow=34						
YKA	**Yellowknife Ar**	**41.61**	**355**	P	P	11 24 51.8	-0.2
	0.4nm,0.8s,baz=169,slow=6.9,SNR=3.4						
ILAR	**Eielson Array**	**50.64**	**340**	P	P	11 26 03.0	-0.1
	1.0nm,1.0s,baz=146,slow=6.8,SNR=7.7						
PTGA	**Pitinga**	**51.51**	**109**	LR	LR	11 49 54.3	
	comp=Z,41nm,19.9s,baz=148,slow=38						

IDC 27 11:29:48.4±2.0,8.2°S×129.2°E,h0km,mb3.8/1,
mb1 3.4/3,mb1mx3.3/27,mbtmp3.3/3,ML2.6/2,Error
ellipse: s-maj=118.3km s-min=32.7km az=66.0,Timor
Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.65**	**158**	Pn	Pn	11 32 50.9	+1.2
	0.0nm,0.3s,baz=336,slow=13,SNR=1.1						
ASAR	**Alice Springs**	**15.99**	**164**	Pn	Pn	11 33 33.4	-1.5
	0.0nm,0.3s,baz=346,slow=10,SNR=4.4						
MKAR	**Makanchi Array**	**68.84**	**327**	P	P	11 40 54.8	0.0
	0.4nm,0.3s,baz=129,slow=8.1,SNR=7.3						

*IDC **27** 11:38:13.3±0.7,11.1°N×86.5°W,h0km,mb4.2/11,*
mb1 4.4/13,mb1mx4.1/42,mbtmp4.2/13,ML3.8/2,MS3.5/9,
Ms1 3.5/9,ms1mx3.3/33,Error ellipse: s-maj=38.2km
s-min=13.8km az=50.0
*INET **27** 11:38:15.6,11.2°N×87.2°W,h15km,ML4.2*
*UCR **27** 11:38:16.3±2.3,11.3°N×87.1°W,h37km±999km,MD4.1,*
ML3.6,mb4.6(NEIC)
*SNET **27** 11:38:17.1±1.1,11.4°N×87.3°W,h15km±110km,ML3.8*
*NEIC **27** 11:38:18.6±2.1,11.4°N±0.0°×87.0°W±0.0°,h55km±6km,*
mb4.6/205,Error ellipse: s-maj=8.2km s-min=7.6km
az=103.0
*UNK **27** 11:38:18.9,11.4°N×86.9°W,h50km*

ISC 27 11:38:17.1±1.1,11.3°N±0.0°×87.0°W±0.0°,h40km±9km,
n476,σ0.95/447,mb4.6/96,MS3.6/9,Near coast of
Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MASN	**Masaya**	**1.08**	**56**	*eP*	**Pn**	**11 38 36.9**	**+1.1**
CRIN	**San Cristobal**	**1.30**	**1**	*eP*	**Pn**	**11 38 39.8**	**+0.8**
CRIN	**San Cristobal**	**1.30**	**1**	Pn	**Pn**	**11 38 39.7**	**+0.8**
GBS3	**Finca Las Img**	**1.69**	**111**	*iP*	**Pn**	**11 38 43.5**	**-0.8**
LAPC	**Finca la Perla**	**1.72**	**111**	*iP*	**Pn**	**11 38 43.8**	**-0.8**
BOAB	**BOACO BROADBAN**	**1.73**	**52**	Pn	**Pn**	**11 38 44.5**	**-0.2**
BUEV	**Buena Vista**	**1.73**	**110**	*iP*	**Pn**	**11 38 44.4**	**-0.4**
GB1A	**Borinquen Arri**	**1.73**	**109**	*iP*	**Pn**	**11 38 44.4**	**-0.4**
BUAI	**Buenos Aires**	**1.78**	**106**	*iP*	**Pn**	**11 38 45.3**	**-0.1**
GPS3	**Bodega del ICE**	**1.79**	**110**	*iP*	**Pn**	**11 38 45.2**	**-0.4**
GPS1	**Guardaparques**	**1.79**	**110**	*iP*	**Pn**	**11 38 45.5**	**-0.2**
GPS2	**Hotel Rincn d**	**1.80**	**110**	*iP*	**Pn**	**11 38 45.4**	**-0.4**
GUAI	**GUAI**	**1.89**	**126**	*iP*	**Pn**	**11 38 50.8**	**+3.9**
MATN	**Matagalpa**	**1.90**	**36**	*eP*	**Pn**	**11 38 47.9**	**+0.8**
MATN	**Matagalpa**	**1.90**	**36**	Pn	**Pn**	**11 38 47.9**	**+0.8**
LIM1	**Limonal**	**1.91**	**111**	*iP*	**Pn**	**11 38 46.8**	**-0.5**
ACON	**Acoyapa**	**1.94**	**73**	*eP*	**Pn**	**11 38 47.3**	**-0.4**
ACON	**Acoyapa**	**1.94**	**73**		**Pn**	**11 38 47.3**	**-0.4**
COLC	**Colonia**	**1.97**	**111**	*iP*	**Pn**	**11 38 49.1**	**+1.1**
HORNC	**Hornillas**	**1.97**	**110**	*iP*	**Pn**	**11 38 48.5**	**+0.3**
PLVR	**Palo Verde**	**1.98**	**121**	*eP*	**Pn**	**11 38 46.8**	**-1.5**
CUI	**Cuipilapa**	**2.00**	**111**	*iP*	**Pn**	**11 38 48.6**	**+0.1**
CNCH	**Conchagua**	**2.02**	**338**	*eP*	**Pn**	**11 38 49.2**	**+0.4**
CNCH	**Conchagua**	**2.02**	**338**	*eP*	**Pn**	**11 38 49.2**	**+0.4**
LCND	**La Caada**	**2.07**	**337**	*eP*	**Pn**	**11 38 49.5**	**+0.1**
LCND	**La Caada**	**2.07**	**337**	*eP*	**Pn**	**11 38 49.5**	**+0.1**
ACAL	**Aguas Claras**	**2.13**	**110**	*iP*	**Pn**	**11 38 50.0**	**-0.3**
PTEN	**Parque Tenorio**	**2.15**	**108**	*iP*	**Pn**	**11 38 50.9**	**+0.3**
JUCU	**Jucuar¡n**	**2.18**	**328**	*eP*	**Pn**	**11 38 50.4**	**-0.6**
JUCU				*eS*	**Sn**	**11 39 18.0**	**+1.1**
JUCU	**Jucuar¡n**	**2.18**	**328**	*eP*	**Pn**	**11 38 50.4**	**-0.6**
JUCU				*eS*	**Sn**	**11 39 18.0**	**+1.1**
FAGO	**Alcalda de S**	**2.51**	**336**	*eP*	**Pn**	**11 38 55.3**	**-0.2**
FAGO				*eS*	**Sn**	**11 39 25.8**	**+0.9**
FAGO				IAML		11 39 37.7	
	comp=Z,270nm,0.6s						
FAGO	**Alcalda de S**	**2.51**	**336**	*eP*	**Pn**	**11 38 55.3**	**-0.2**
FAGO				*eS*	**Sn**	**11 39 25.8**	**+0.9**
FAGO				IAML		11 39 37.7	
	comp=Z,270nm,0.6s						
TECA	**Tecapa**	**2.52**	**326**	*eP*	**Pn**	**11 38 55.7**	**-0.1**
TECA	**Tecapa**	**2.52**	**326**	*eP*	**Pn**	**11 38 55.7**	**-0.1**
COEB	**Comit de Eme**	**2.54**	**326**	*eS*	**Sn**	**11 39 26.7**	**+0.9**
COEB	**Comit de Eme**	**2.54**	**326**	*eS*	**Sn**	**11 39 26.7**	**+0.9**
TGUH	**Tegucigalpa,Un**	**2.66**	**356**	*eP*	**Pn**	**11 38 59.1**	**+1.4**
TGUH	**Tegucigalpa,Un**	**2.66**	**356**		**Pn**	**11 38 57.9**	**+0.3**
TGUH	**Tegucigalpa,Un**	**2.66**	**356**	*eP*	**Pn**	**11 38 59.1**	**+1.4**
UESV	**Universidad de**	**2.79**	**323**	*eP*	**Pn**	**11 38 59.0**	**-0.4**
UESV				*eS*	**Sn**	**11 39 32.1**	**+0.2**
UESV				IAML		11 39 42.3	
	comp=Z,937nm,0.4s						
UESV	**Universidad de**	**2.79**	**323**	*eP*	**Pn**	**11 38 59.0**	**-0.4**
UESV				*eS*	**Sn**	**11 39 32.1**	**+0.2**
UESV				IAML		11 39 42.3	
	comp=Z,937nm,0.4s						
ESPN	**Las Esperanzas**	**2.83**	**73**		**Pn**	**11 38 59.5**	**-0.3**
LFRS	**El Faro**	**2.95**	**319**	*eP*	**Pn**	**11 39 01.2**	**-0.5**
LFRS				*eS*	**Sn**	**11 39 35.6**	**-0.3**
LFRS	**El Faro**	**2.95**	**319**	*eP*	**Pn**	**11 39 01.2**	**-0.5**
LFRS				*eS*	**Sn**	**11 39 35.6**	**-0.3**
OPAM	**Oficina de Pla**	**3.11**	**318**	*eS*	**Sn**	**11 39 38.7**	**-1.0**
SNET	**Serv Nac Est T**	**3.11**	**317**	Pn	**Pn**	**11 39 05.6**	**+1.8**
HDC	**Heredia**	**3.21**	**115**		**Pn**	**11 39 05.7**	**+0.4**
JAYA	**Jayaque - finc**	**3.24**	**314**	*eP*	**Pn**	**11 39 04.9**	**-0.7**
JAYA				*eS*	**Sn**	**11 39 41.8**	**-1.2**
JAYA				IAML		11 39 47.2	
	comp=Z,614nm,0.2s						
JAYA	**Jayaque - finc**	**3.24**	**314**	*eP*	**Pn**	**11 39 04.9**	**-0.7**
JAYA				*eS*	**Sn**	**11 39 41.8**	**-1.2**
JAYA				IAML		11 39 47.2	
	comp=Z,614nm,0.2s						
TACO	**Tacachico**	**3.40**	**319**	*eP*	**Pn**	**11 39 07.9**	**+0.1**
TACO				*eS*	**Sn**	**11 39 46.0**	**-0.9**
TACO				IAML		11 40 03.8	
	comp=Z,112nm,0.5s						
TACO	**Tacachico**	**3.40**

	comp=Z,24nm,1.1s									
Z57A	**Bowman**	22.57	14	P	P	11 43 14.7	+0.7			
	baz=196									
WHTX	**Lake Whitney,**	22.63	337	P	P	11 43 15.3	+0.6			
	baz=152									
WHTX	**Lake Whitney,**	22.63	337	P	P	11 43 14.9	+0.1			
WHTX				IAmb	IAmb	11 43 25.7				
	comp=Z,28nm,1.1s									
Z58A	**St. Stephen**	22.84	16	P	P	11 43 18.4	+1.5			
	baz=196									
Y55A	**Saluda**	22.95	11	P	P	11 43 19.0	+1.1			
	baz=193,SNR=6.6									
Z38A	**Mt. Pleasant**	22.95	343	P	P	11 43 18.6	+0.6			
Z38A				IAmb	IAmb	11 43 33.1				
	comp=Z,27nm,0.9s									
X48A	**Hartselle**	22.96	0	P	P	11 43 17.8	-0.3			
FPAL	**Fort Paine**	23.09	3	P	P	11 43 17.7	-1.7			
OXF	**Oxford**	23.12	355	P	P	11 43 19.0	-0.7			
	baz=174,SNR=5.6									
OXF	**Oxford**	23.12	355	P	P	11 43 19.1	-0.7			
OXF				IAmb	IAmb	11 43 20.8				
	comp=Z,29nm,0.9s									
HODGE	**Hodges**	23.16	10	P	P	11 43 20.9	+0.7			
X51A	**Calhoun**	23.16	5	P	P	11 43 21.0	+0.8			
X51A				IAmb	IAmb	11 43 22.8				
	comp=Z,17nm,0.8s									
X54A	**Belton**	23.45	10	P	P	11 43 24.1	+1.2			
	baz=191									
PLAL	**Pickwick Lake**	23.51	358	P	P	11 43 23.2	-0.3			
PLAL				IAmb	IAmb	11 43 24.4				
	comp=Z,15nm,1.1s									
X55A	**Gracelyn & Ava**	23.51	11	P	P	11 43 24.1	+0.6			
	baz=193,SNR=5.4									
X40A	**Basin Creek Fa**	23.59	348	P	P	11 43 23.8	-0.5			
	baz=166									
X40A	**Basin Creek Fa**	23.59	348	P	P	11 43 24.0	-0.3			
TX31	**Lajitas Ar. Si**	23.63	322	P	P	11 43 25.4	+0.5			
TX32	**Lajitas Array**	23.63	322	P	P	11 43 25.2	+0.3			
TX32				IAmb	IAmb	11 43 37.7				
	comp=Z,11nm,0.7s									
TXAR	**Lajitas Array**	23.63	322	P	P	11 43 25.9	+1.0			
	comp=Z,4.5nm,0.6s,baz=134,slow=10.0,SNR=59									
TXAR				PcP	PcP	11 47 12.5	+3.6			
	comp=Z,2.8nm,0.9s,baz=144,slow=4.0,SNR=10									
X56A	**White Oak**	23.65	13	P	P	11 43 24.7	-0.1			
	baz=195,SNR=5.3									
W45A	**Hickory Valley**	23.74	356	P	P	11 43 25.2	-0.5			
SWET	**Sewanee**	23.74	2	P	P	11 43 25.8	0.0			
SWET				IAmb	IAmb	11 43 27.5				
	comp=Z,17nm,0.8s									
Z35A	**Perchaven, San**	23.75	338	IAmb	IAmb	11 43 28.5				
	comp=Z,17nm,0.6s									
W50A	**Signal Mountai**	23.76	4	P	P	11 43 25.8	-0.1			
W52A	**Murphy**	23.77	6	IAmb	IAmb	11 43 27.9				
	comp=Z,16nm,0.9s									
BG3	**Lake Jocassee**	23.80	8	P	P	11 43 26.7	+0.4			
MIAR	**Mount Ida**	23.80	347	P	P	11 43 25.9	-0.4			
	baz=164,SNR=16									
MIAR	**Mount Ida**	23.80	347	P	P	11 43 26.2	-0.1			
MIAR				IAmb	IAmb	11 43 27.9				
	comp=Z,10nm,0.8s									
PAULI	**Pauline**	23.81	11	IAmb	IAmb	11 43 28.4				
	comp=Z,12nm,0.7s									
X57A	**Johnson Farm,**	23.84	14	P	P	11 43 27.9	+1.3			
	baz=197									
W54A	**Cherokee Point**	24.01	10	P	P	11 43 28.9	+0.7			
	baz=192,SNR=8.3									
ABTX	**Abilene, Hawle**	24.09	333	P	P	11 43 29.0	-0.1			
	baz=148									
X58A	**Rowland**	24.11	16	P	P	11 43 29.1	0.0			
	baz=198									
W41B	**Gary Mavity, V**	24.14	350	P	P	11 43 29.0	-0.4			
	baz=167									
W41B	**Gary Mavity, V**	24.14	350	IAmb	IAmb	11 43 38.8				
	comp=Z,18nm,1.4s									
H06E1	**SOCORRO T-PHAS**	24.16	291	T	T	12 08 32.2				
	SNR=85									
KMSC	**Kings Mountain**	24.22	12	P	P	11 43 30.2	+0.1			
	baz=194									
KMSC	**Kings Mountain**	24.22	12	IAmb	IAmb	11 43 32.0				
	comp=Z,10nm,0.7s									
V48A	**Smith Brothers**	24.25	0	IAmb	IAmb	11 43 33.4				
	comp=Z,11nm,0.8s									
WHAR	**Wooly Hollow**	24.26	350	IAmb	IAmb	11 43 32.1				
	comp=Z,16nm,1.2s									
X37A	**Clayton**	24.30	343	P	P	11 43 31.3	+0.3			
X59A	**McDuffie Farm,**	24.34	17	P	P	11 43 31.8	+0.6			
	baz=200									
TKL	**Tuckaleechee C**	24.35	7	P	P	11 43 32.3	+1.0			
	comp=Z,15nm,0.7s,baz=177,slow=12,SNR=22									
TKL	**Tuckaleechee C**	24.35	7	IAmb	IAmb	11 43 34.4				
	comp=Z,18nm,0.8s									
W56A	**Indian Trail**	24.36	13	P	P	11 43 31.5	0.0			
	baz=195									
V51A	**Loudon**	24.43	5	P	P	11 43 32.5	+0.4			
V51A				IAmb	IAmb	11 43 35.2				
	comp=Z,23nm,0.9s									
W39A	**Magazine**	24.48	347	P	P	11 43 32.2	-0.3			
	baz=164									
W39A	**Magazine**	24.48	347	P	P	11 43 32.4	-0.1			
V53A	**Saluda**	24.48	8	IAmb	IAmb	11 43 36.0				
	comp=Z,15nm,0.7s									
W57A	**Gilead**	24.52	14	P	P	11 43 32.9	0.0			
	baz=197									
W57A	**Gilead**	24.52	14	IAmb	IAmb	11 43 36.0				
	comp=Z,12nm,0.7s									
W58A	**Raeford**	24.58	16	P	P	11 43 33.4	0.0			
	baz=198									
WVT	**Waverly**	24.64	359	P	P	11 43 33.9	-0.1			
	baz=178									
WVT	**Waverly**	24.64	359	P	P	11 43 34.1	+0.1			
V54A	**Nebo**	24.72	10	P	P	11 43 35.1	+0.3			
	baz=192,SNR=9.2									
FCAR	**Ozark Folk Cen**	24.82	350	P	P	11 43 34.6	-1.0			
LCAR	**Lake Charles**	24.85	352	P	P	11 43 34.9	-1.0			
LCAR				IAmb	IAmb	11 43 35.8				
	comp=Z,9.0nm,0.7s									
V56A	**Mocksville**	25.03	13	P	P	11 43 38.0	+0.5			
	baz=195									
U49A	**Red Boiling Sp**	25.04	2	IAmb	IAmb	11 43 40.5				
	comp=Z,14nm,0.8s									
TZTN	**Tazewell**	25.25	7	P	P	11 43 39.8	+0.3			
	baz=188									
TZTN	**Tazewell**	25.25	7	IAmb	IAmb	11 43 43.3				
	comp=Z,11nm,0.7s									
V57A	**Coltrane Farms**	25.27	14	P	P	11 43 40.2	+0.5			
	baz=197,SNR=5.2									
PARMO	**Parma**	25.28	355	P	P	11 43 39.5	-0.2			
V58A	**Windy Hill, Pi**	25.34	15	P	P	11 43 41.0	+0.6			
	baz=198,SNR=10									
V58A	**Windy Hill, Pi**	25.34	15	P	P	11 43 40.4	0.0			
V58A				IAmb	IAmb	11 43 42.0				
	comp=Z,20nm,0.8s									
U40A	**Yellville**	25.40	349	P	P	11 43 40.4	-0.6			
	baz=166,SNR=11									
U40A	**Yellville**	25.40	349	P	P	11 43 40.1	-0.8			
U40A				IAmb	IAmb	11 43 41.4				
	comp=Z,13nm,0.8s									
U54A	**Nelsons Funny**	25.47	10	P	P	11 43 42.0	+0.4			
	baz=192									
U54A	**Nelsons Funny**	25.47	10	IAmb	IAmb	11 43 46.0				
	comp=Z,20nm,1.0s									
T47A	**Sharon Grove**	25.49	360	IAmb	IAmb	11 43 42.1				
	comp=Z,16nm,0.7s									
FNO	**Franklin**	25.55	340	P	P	11 43 42.3	0.0			
HHAR	**Hobbs**	25.55	347	P	P	11 43 41.8	-0.5			
V59A	**Middlesex**	25.55	17	P	P	11 43 42.6	+0.3			
	baz=200									
U56A	**King**	25.57	13	P	P	11 43 43.1	+0.6			
	baz=195									
U56A	**King**	25.57	13	IAmb	IAmb	11 43 47.2				
	comp=Z,18nm,1.1s									
WMOK	**Wichita Mounta**	25.58	337	P	P	11 43 43.7	+1.2			
	baz=152,SNR=21									
WMOK	**Wichita Mounta**	25.58	337	P	P	11 43 43.1	+0.6			
WMOK				IAmb	IAmb	11 43 53.5				
	comp=Z,36nm,1.3s									
U55A	**TA2, Sparta**	25.59	11	P	P	11 43 42.7	0.0			
	baz=194									
TUL1	**Leonard**	25.66	343	P	P	11 43 43.6	+0.4			
	baz=160									
TUL1	**Leonard**	25.66	343	IAmb	IAmb	11 43 57.5				
	comp=Z,16nm,0.8s									
T42A	**Van Buren**	25.79	353	IAmb	IAmb	11 43 44.2				
	comp=Z,8.7nm,0.7s									
T53A	**Wise**	25.81	8	P	P	11 43 44.8	+0.1			
	baz=190									
U57A	**Blanch**	25.89	14	P	P	11 43 46.0	+0.6			
	baz=197,SNR=7.7									
T54A	**Tazewell**	26.04	10	P	P	11 43 47.2	+0.5			
	baz=192									
U58A	**Oxford**	26.06	16	P	P	11 43 47.2	+0.3			
	baz=199									
U59A	**Littleton**	26.23	17	P	P	11 43 48.8	+0.4			
	baz=201									
T55A	**Pulaski**	26.24	11	P	P	11 43 49.0	+0.5			
	baz=194,SNR=5.2									
S44A	**Carbondale**	26.27	356	IAmb	IAmb	11 43 49.1				
	comp=Z,12nm,0.9s									
T56A	**Rocky Mt**	26.30	13	P	P	11 43 49.9	+0.9			
	baz=195									
MNTX	**Cornudas Mount**	26.35	323	P	P	11 43 50.9	+1.3			
	baz=136									
MNTX	**Cornudas Mount**	26.35	323	P	P	11 43 50.4	+0.8			
BLA	**Blacksburg**	26.40	12	P	P	11 43 50.3	+0.4			
	baz=194									
T57A	**Hurt**	26.45	14	P	P	11 43 50.4	0.0			
	baz=197									
T57A	**Hurt**	26.45	14	P	P	11 43 50.2	-0.2			
T57A				IAmb	IAmb	11 43 52.1				
	comp=Z,11nm,0.9s									
T58A	**Grand View Acr**	26.58	15	P	P	11 43 52.0	+0.5			
	baz=199									
MSTX	**Muleshoe**	26.67	330	P	P	11 43 52.0	-0.5			
	baz=144,SNR=5.4									
MSTX	**Muleshoe**	26.67	330	IAmb	IAmb	11 44 04.5				
	comp=Z,28nm,1.2s									
WCI	**Wyandotte Cave**	26.74	1	P	P	11 43 52.3	-0.7			
	baz=181									
WCI	**Wyandotte Cave**	26.74	1	P	P	11 43 52.3	-0.7			
WCI				IAmb	IAmb	11 43 54.5				
	comp=Z,9.3nm,0.7s									
S39A	**Bolivar**	26.79	349	P	P	11 43 52.5	-0.9			
S39A				IAmb	IAmb	11 43 53.5				
	comp=Z,14nm,0.8s									
S39A				PcP	PcP	11 47 16.8	+1.1			
T35A	**Sooner Cattle**	26.80	343	P	P	11 43 54.0	+0.4			
CCM	**Cathedral Cave**	26.82	353	P	P	11 43 53.3	-0.4			
	baz=171									
CCM	**Cathedral Cave**	26.82	353	P	P	11 43 52.5	-1.1			
T59A	**Double "B" Far**	26.88	17	P	P	11 43 54.7	+0.6			
	baz=201									
AMTX	**Amarillo**	26.91	333	P	P	11 43 54.2	-0.4			
AMTX				IAmb	IAmb	11 44 12.0				
	comp=Z,8.8nm,0.8s									
S55A	**Lewisburg**	26.93	12	P	P	11 43 55.2	+0.5			
	baz=194									
R40A	**Maddies Statio**	27.19	351	P	P	11 43 54.7	-2.3			
R53A	**Hurricane**	27.22	9	P	P	11 43 56.3	-1.0			
	baz=191									
R54A	**Victor**	27.23	11	P	P	11 43 57.0	-0.4			
	baz=193									
S57A	**Dark Hollow, R**	27.25	14	P	P	11 43 57.6	0.0			
	baz=197									
S58A	**Poland Farm, P**	27.34	16	P	P	11 43 58.6	+0.3			
	baz=199									
R55A	**Marlinton**	27.49	12	P	P	11 44 00.4	+0.6			
	baz=195,SNR=6.6									
R55A	**Marlinton**	27.49	12	IAmb	IAmb	11 44 01.8				
	comp=Z,13nm,0.8s									
R56A	**Bull Pasture M**	27.77	13	P	P	11 44 01.9	-0.4			
	baz=196									
Q52A	**Bidwell**	27.79	8	P	P	11 44 02.5	+0.1			
	baz=190,SNR=7.1									
Q53A	**Leroy**	27.80	9	P	P	11 44 02.8	+0.3			
	baz=191									
R57A	**Stanardsville**	27.86	14	P	P	11 44 03.6	+0.5			
	baz=198,SNR=6.0									
R58A	**Rapidan**	28.00	15	P	P	11 44 04.4	+0.1			
	baz=199									
Q54A	**Coxs Mills**	28.04	10	P	P	11 44 05.1	+0.5			
	baz=193,SNR=6.6									
Q54A	**Coxs Mills**	28.04	10	IAmb	IAmb	11 44 06.5				
	comp=Z,14nm,0.8s									
P49A	**Miami Univ. Ec**	28.11	4	P	P	11 44 05.1	-0.1			
	baz=185									
Q55A	**Buckhannon**	28.19	12	P	P	11 44 06.2	+0.2			
	baz=194									
Q56A	**Snyder Ridge,**	28.42	13	P	P	11 44 09.2	+1.2			
	baz=196,SNR=7.3									
Q56A	**Snyder Ridge,**	28.42	13	IAmb	IAmb	11 44 10.7				
	comp=Z,16nm,0.8s									
P53A	**Whipple**	28.44	9	P	P	11 44 08.6	+0.4			
	baz=192,SNR=7.5									
P53A	**Whipple**	28.44	9	P	P	11 44 07.5	-0.6			
P52A	**Corning**	28.47	8	P	P	11 44 08.3	-0.1			
	baz=190,SNR=5.7									
P52A	**Corning**	28.47	8	P	P	11 44 07.4	-1.1			
Q57A	**Strasburg**	28.59	14	P	P	11 44 09.9	+0.4			
	baz=198									
Q58A	**Fox Den Farm,**	28.69	15	P	P	11 44 10.7	+0.4			
	baz=199									
P38A	**Dawn**	28.70	350	IAmb	IAmb	11 44 10.2				
	comp=Z,10nm,0.8s									
P54A	**Burton**	28.70	11	P	P	11 44 10.8	+0.2			
	baz=193									
P55A	**Reedsville**	28.73	12	P	P	11 44 11.2	+0.3			
	baz=195									
O49A	**Covington**	28.79	4	IAmb	IAmb	11 44 12.3				
	comp=Z,12nm,0.8s									
BNM	**Barren Site**	28.85	325	P	P	11 44 11.9	-0.2			
SFIN	**Lafayette**	28.88	360	P	P	11 44 11.0	-1.0			
	baz=180									
O51A	**Pataskala**	28.91	7	P	P	11 44 11.8	-0.6			
	baz=189									
P56A	**Dayton Farm, R**	28.94	13	P	P	11 44 12.7	+0.1			
	baz=197,SNR=6.9									
ACSO	**Alum Creek Sta**	28.95	6	P	P	11 44 12.9	+0.2			
	baz=188									
ACSO	**Alum Creek Sta**	28.95	6	P	P	11 44 12.6	-0.1			
ACSO				IAmb	IAmb	11 44 14.1				
	comp=Z,17nm,0.8s									
O52A	**Adamsville**	28.99	8	P	P	11 44 13.2	+0.1			
	baz=190,SNR=5.4									
O52A	**Adamsville**	28.99	8	P	P	11 44 12.2	-0.8			
O52A				IAmb	IAmb	11 44 14.6				
	comp=Z,18nm,0.9s									
P57A	**Homestead Farm**	29.11	14	P	P	11 44 14.3	+0.2			
	baz=198,SNR=5.6									
P57A	**Homestead Farm**	29.11	14	IAmb	IAmb	11 44 16.4				
	comp=Z,17nm,0.8s									
O53A	**New Philadelph**	29.21	9	P	P	11 44 15.3	+0.3			
	baz=192,SNR=6.6									
P58A	**Pank, Wackersv**	29.30	16	P	P	11 44 16.3	+0.5			
	baz=200									
ANMO	**Albuquerque**	29.34	326	P	P	11 44 17.6	+1.1			
	baz=138									
ANMO	**Albuquerque**	29.34	326	P	P	11 44 18.5	+2.0			
	comp=Z,0.9nm,0.7s,baz=162,slow=9.1,SNR=6.8									
ANMO				PcP	PcP	11 47 24.6	+2.3			
	comp=Z,0.5nm,0.6s,baz=177,slow=8.0,SNR=4.3									
ANMO	**Albuquerque**	29.34	326	P	P	11 44 17.6	+1.1			
N49A	**Columbus Grove**	29.53	4	P	P	11 44 17.5	-0.3			
P59A	**Jarrettsville**	29.65	17	P	P	11 44 19.5	+0.6			
	baz=201									
O56A	**Blue Knob Stat**	29.73	13	P	P	11 44 19.6	-0.1			
	baz=197									
O56A	**Blue Knob Stat**	29.73	13	IAmb	IAmb	11 44 21.4				
	comp=Z,6.2nm,0.8s									
N53A	**Lisbon**	29.81	10	P	P	11 44 20.4	0.0			
	baz=192,SNR=6.6									
O57A	**Amberson**	29.90	15	P	P	11 44 21.8	+0.7			
	baz=198,SNR=5.3									
O58A	**Lewisberry**	30.00	16	P	P	11 44 22.8	+0.8			
	baz=200									
MVL	**Millersville**	30.04	17	IAmb	IAmb	11 44 24.8				
	comp=Z,14nm,0.9s									
N54A	**Moraine State**	30.11	11	P	P	11 44 22.8	-0.2			
	baz=194									
N55A	**Marion Center**	30.13	12	P	P	11 44 23.4	+0.2			
	baz=196									
SSPA	**Standing Stone**	30.24	14	P	P	11 44 24.6	+0.5			
	baz=198									
SSPA	**Standing Stone**	30.24	14	P	P	11 44 25.1	+1.0			
N56A	**West Decatur**	30.41	13	P	P	11 44 26.2	+0.5			
	baz=197									
N57A	**Milroy**	30.43	14	P	P	11 44 26.0	+0.2			
	baz=198,SNR=5.0									
M53A	**WI Miller and**	30.46	10	P	P	11 44 25.8	-0.3			
	baz=192,SNR=5.6									
M53A	**WI Miller and**	30.46	10	P	P	11 44 26.0	0.0			
O60A	**Telford**	30.60	18	P	P	11 44 28.1	+0.8			
	baz=203									
M54A	**Oil Creek Stat**	30.70	11	P	P	11 44 28.1	-0.1			
	baz=194,SNR=6.2									
N58A	**Sunbury**	30.72	15	P	P	11 44 28.8	+0.4			
	baz=200									
L50A	**Kingsville**	30.77	6	P	P	11 44 28.1	-0.6			
	baz=188									
L40A	**Anamosa**	30.77	354	IAmb	IAmb	11 44 28.6				
	comp=Z,7.8nm,0.8s									
M55A	**Ridgway**	30.84	12	P	P	11 44 29.5	+0.1			
	baz=196									
M55A	**Ridgway**	30.84	12	IAmb	IAmb	11 44 30.5				
	comp=Z,12nm,1.0s									
M56A	**Emporium**	30.98	13	P	P	11 44 30.9	+0.3			
	baz=197,SNR=7.5									
M56A	**Emporium**	30.98	13	P	P	11 44 30.6	-0.1			
SDCO	**Great Sand Dun**	31.02	331	P	P	11 44 32.3	+0.9			
	baz=143,SNR=5.3									
SDCO	**Great Sand Dun**	31.02	331	P	P	11 44 30.4	-1.0			
L53A	**Girard**	31.03	10	P	P	11 44 31.2	+0.1			
	baz=193,SNR=7.6									
N59A	**State Game Lan**	31.05	17	P	P	11 44 31.9	+0.5			
	baz=202,SNR=7.7									
M57A	**Sunshine Farm,**	31.09	15	P	P	11 44 32.2	+0.6			
	baz=199,SNR=8.6									
M57A	**Sunshine Farm,**	31.09	15	P	P	11 44 32.5	+0.9			
SAML	**Samuel**	31.18	129	P	P	11 44 31.3	-1.4			
N60A	**Cedar Hill Far**	31.20	18	P	P	11 44 32.9	+0.3			
	baz=203									
ERPA	**Erie**	31.23	10	P	P	11 44 32.4	-0.5			
	baz=193,SNR=5.3									
ERPA	**Erie**	31.23	10	P	P	11 44 32.7	-0.1			
M58A	**Price's Panora**	31.29	15	P	P	11 44 33.5	+0.1			
	baz=200									
L54A	**Sinclairville**	31.47	11	P	P	11 44 34.5	-0.4			
	baz=194									
JFWS	**Jewell Farm**	31.53	356	P	P	11 44 34.0	-1.4			
	baz=174									
JFWS	**Jewell Farm**	31.53	356	P	P	11 44 34.1	-1.3			
JFWS				IAmb	IAmb	11 44 35.3				
	comp=Z,8.3nm,0.9s									
L55A	**Hinsdale**	31.59	12	P	P	11 44 36.0	0.0			
	baz=196									
KSPA	**Keystone Colle**	31.65	16	P	P	11 44 36.1	-0.4			
S22A	**4UR Ranch, Cre**	31.67	329	P	P	11 44 37.9	+0.8			
	baz=141									
S22A	**4UR Ranch, Cre**	31.67	329	P	P	11 44 36.8	-0.3			
M59A	**Waymart**	31.73	17	P	P	11 44 37.4	+0.2			
	baz=202,SNR=5.4									
L56A	**Greenwood**	31.74	14	P	P	11 44 37.6	+0.2			
	baz=198,SNR=6.1									
M60A	**Port Jervis**	31.76	18	P	P	11 44 37.6	+0.1			
	baz=203									
L57A	**Andrews Acres**	31.78	15	P	P	11 44 37.9	+0.1			
	baz=199									
J48A	**Bridge Port**	31.92	5	P	P	11 44 38.0	-0.9			
	baz=186									
X16A	**Lo Mia Camp, P**	31.92	320	P	P	11 44 39.1	-0.2			
K54A	**Basiliko Farm,**	31.95	12	P	P	11 44 38.9	-0.3			
	baz=195									
M61A	**Granite Spring**	32.02	19	P	P	11 44 39.5	-0.3			
	baz=205									
J49A	**Marlette**	32.04	5	P	P	11 44 38.9	-1.1			
	baz=187									
L58A	**Harry Jones Me**	32.08	16	P	P	11 44 40.5	+0.2			
	baz=201,SNR=5.1									
MVCO	**Mesa Verde**	32.13	327	P	P	11 44 41.7	+0.6			
	baz=138									
BINY	**Binghamton**	32.19	16	P	P	11 44 41.7	+0.4			
	baz=200									
K55A	**Perry**	32.19	12	P	P	11 44 40.8	-0.5			
	baz=196									
J52A	**Paris**	32.25	9	P	P	11 44 41.2	-0.6			
	baz=192									
K56A	**Middlesex**	32.33	13	P	P	11 44 42.3	-0.2			
	baz=198,SNR=8.7									
I42A	**Draeger Farm,**	32.42	358	P	P	11 44 41.9	-1.4			
L59A	**Walton**	32.44	17	P	P	11 44 43.9	+0.4			
	baz=202,SNR=5.1									
I46A	**Reed City**	32.47	2	P	P	11 44 43.1	-0.6			
	baz=183									
L60A	**Shokan**	32.49	18	P	P	11 44 44.3	+0.4			
	baz=204									
I40A	**Norwalk**	32.53	355	P	P	11 44 42.6	-1.7			
K57A	**Scipio Center**	32.55	15	P	P	11 44 43.9	-0.5			
	baz=199									
WUAZ	**Wupatki**	32.60	321	P	P	11 44 46.5	+1.3			
WUAZ				IAmb	IAmb	11 44 59.3				
	comp=Z,6.3nm,1.0s									
J54A	**Appleton**	32.60	11	P	P	11 44 44.1	-0.7			
	baz=195									
I49A	**Point Hope**	32.64	6	P	P	11 44 44.4	-0.8			
	baz=188									
I51A	**Listowel**	32.72	8	P	P	11 44 45.6	-0.3			
	baz=191,SNR=8.2									
K58A	**Earlville**	32.80	16	P	P	11 44 46.4	-0.2			
	baz=201									
L61A	**Hillsdale 1, H**	32.88	19	P	P	11 44 47.5	+0.1			
	baz=205									
J56A	**Wolcott**	32.98	14	P	P	11 44 48.0	-0.2			
	baz=198,SNR=22									
PV13	**Radium Mtn., P**	33.00	328	IAmb	IAmb	11 45

SPMN	**Marine on St.**	34.08	353	P		**P**		11 44 55.5	-2.2
H55A	**Tweed**	34.12	13	P		**P**		11 44 57.4	-0.7
	baz=197								
BC3	**Big Chuckawall**	34.13	315	P		**P**		11 44 59.8	+1.3
	baz=124								
F45A	**CMU Biological**	34.20	2	P		**P**		11 44 58.0	-0.8
	baz=182								
O20A	**White River Ci**	34.21	330	P		**P**		11 45 00.1	+0.9
	baz=141								
O20A	**White River Ci**	34.21	330	P		**P**		11 45 00.5	+1.3
O20A				IAmb		IAmb		11 45 14.4	
	comp=Z,9.2nm,0.9s								
J61A	**Chester**	34.24	19	P		**P**		11 44 59.5	+0.3
	baz=206								
I59A	**Olmsteadville**	34.25	17	P		**P**		11 44 58.8	-0.4
	baz=203								
NCB	**Newcomb**	34.31	17	P		**P**		11 44 59.8	+0.1
NCB				IAmb		IAmb		11 45 13.7	
	comp=Z,13nm,1.4s								
H56A	**Elgin**	34.37	14	P		**P**		11 44 59.9	-0.3
	baz=199,SNR=9.9								
J62A	**Henniker**	34.38	20	P		**P**		11 45 00.4	+0.1
	baz=207								
G53A	**Haliburton**	34.39	11	P		**P**		11 44 59.5	-0.9
	baz=194								
H57A	**Richville**	34.46	15	P		**P**		11 45 00.7	-0.3
	baz=200								
I60A	**Shoreham**	34.46	18	P		**P**		11 45 00.8	-0.3
	baz=204								
SUSD	**Miller**	34.49	345	P		**P**		11 45 00.3	-1.1
	baz=159								
F49A	**Sandfield**	34.52	6	P		**P**		11 45 00.2	-1.3
	baz=188								
F48A	**Evansville**	34.53	5	P		**P**		11 45 00.3	-1.3
	baz=188,SNR=7.8								
PLVO	**Plevna**	34.61	13	P		**P**		11 45 01.4	-1.0
PLVO				IAmb		IAmb		11 45 02.7	
	comp=Z,11nm,1.0s								
COWI	**Conover**	34.64	357	P		**P**		11 45 00.5	-2.1
LCMT	**Little Creek M**	34.72	322	P		**P**		11 45 01.1	-2.5
H58A	**Gabriels**	34.73	16	P		**P**		11 45 02.8	-0.6
	baz=202								
G54A	**Lake Saint Pet**	34.75	11	P		**P**		11 45 02.9	-0.7
	baz=195,SNR=9.5								
MTPU	**Mount Pierson**	34.77	324	P		**P**		11 45 03.7	-0.6
F36A	**Milaca**	34.80	352	P		**P**		11 45 02.3	-1.6
F36A				IAmb		IAmb		11 45 03.0	
	comp=Z,7.7nm,0.7s								
LONY	**Lake Ozonia**	34.81	16	P		**P**		11 45 03.8	-0.3
	baz=202,SNR=5.7								
LONY	**Lake Ozonia**	34.81	16	P		**P**		11 45 03.0	-1.1
E43A	**Lone Tree Farm**	34.87	0	P		**P**		11 45 03.0	-1.6
G55A	**Calabogie**	34.89	13	P		**P**		11 45 04.3	-0.5
	baz=198								
F51A	**Arnstein**	34.96	9	P		**P**		11 45 04.5	-0.8
	baz=192								
H59A	**Cadyville**	35.08	17	P		**P**		11 45 05.8	-0.6
	baz=203								
E47A	**Iron Bridge**	35.10	5	P		**P**		11 45 05.4	-1.1
	baz=186,SNR=21								
G57A	**Newington**	35.16	15	P		**P**		11 45 06.0	-1.0
	baz=201								
E48A	**Lockeyer**	35.22	6	P		**P**		11 45 06.3	-1.3
	baz=188,SNR=13								
ALGO	**Algonquin Park**	35.30	11	P		**P**		11 45 07.2	-1.0
	baz=195								
E50A	**Wahnapitae**	35.33	8	P		**P**		11 45 07.2	-1.3
	baz=190								
G58A	**Ormstown**	35.44	16	P		**P**		11 45 08.2	-1.3
	baz=202								
K22A	**Casper**	35.46	335	P		**P**		11 45 09.4	-0.5
	baz=146								
D46A	**Sault St. Mari**	35.48	4	P		**P**		11 45 08.2	-1.6
	baz=185,SNR=5.3								
E52A	**Mattawa**	35.51	10	P		**P**		11 45 08.9	-1.1
	baz=194,SNR=6.7								
F55A	**Otter Lake**	35.52	13	P		**P**		11 45 09.3	-0.8
	baz=198								
E51A	**G1948 Merrick**	35.61	9	P		**P**		11 45 10.2	-0.8
	baz=193,SNR=11								
D47A	**Chapleau**	35.71	5	P		**P**		11 45 10.3	-1.5
	baz=186,SNR=7.9								
E53A	**Dumoine, Ponti**	35.78	11	P		**P**		11 45 11.5	-0.8
	baz=196,SNR=5.9								
E54A	**Lac Daplat, Po**	35.92	12	P		**P**		11 45 12.6	-1.0
	baz=196,SNR=7.9								
D48A	**Paudash Townsh**	35.95	6	P		**P**		11 45 12.5	-1.3
	baz=189,SNR=18								
PSUT	**Pine Spring**	36.08	323	P		**P**		11 45 16.1	+0.7
D49A	**Beulah Townshi**	36.09	7	P		**P**		11 45 13.9	-1.1
	baz=189,SNR=18								
D51A	**Lot 18 Range I**	36.17	9	P		**P**		11 45 14.5	-1.3
	baz=193,SNR=5.1								
JLU	**Jordanelle**	36.18	328	P		**P**		11 45 16.8	+0.6
D50A	**G1974 Best Tow**	36.18	8	P		**P**		11 45 14.5	-1.2
	baz=192,SNR=8.2								
D52A	**ZEK Kipawa Sen**	36.22	10	P		**P**		11 45 15.5	-0.6
	baz=194,SNR=6.4								
TRQ	**Mont Tremblant**	36.31	15	P		**P**		11 45 15.8	-1.2
D53A	**Lac Vacive, Po**	36.45	11	P		**P**		11 45 17.5	-0.6
	baz=195,SNR=8.2								
TPNV	**Topopah Spring**	36.56	319	P		**P**		11 45 18.5	-0.9
G62A	**West of Eustis**	36.57	20	P		**P**		11 45 18.6	-0.5
	baz=208								
E57A	**Chemin Saint G**	36.59	15	P		**P**		11 45 18.6	-0.7
	baz=201								
EYMN	**Ely**	36.63	355	P		**P**		11 45 17.7	-2.0
	baz=172								
D54A	**Lac Fusel, La**	36.72	12	P		**P**		11 45 19.4	-1.0
	baz=197,SNR=7.5								
E58A	**La Victoria**	36.78	16	P		**P**		11 45 20.4	-0.5
	baz=203								
F60A	**Warwick**	36.79	18	P		**P**		11 45 20.0	-1.0
	baz=205								
D55A	**Sainte-Anne-du**	36.84	13	P		**P**		11 45 20.4	-1.1
	baz=199,SNR=11								
BW06	**Boulder Array**	36.88	332	P		**P**		11 45 20.6	-1.5
PD31	**Pinedale Array**	36.88	332	P		**P**		11 45 21.1	-1.1
PDAR	**Pinedale Array**	36.88	332	P		**P**		11 45 21.9	-0.2
	comp=Z,1.1nm,0.5s,baz=124,slow=11,SNR=14								
PDAR				PcP		**PcP**		11 47 44.0	+0.7
	comp=Z,1.0nm,0.7s,baz=125,slow=4.4,SNR=6.1								
E28A	**Huff**	36.92	344	P		**P**		11 45 20.8	-1.4
E28A				IAmb		IAmb		11 45 22.3	
	comp=Z,9.3nm,0.9s								
HWUT	**Hardware Ranch**	36.97	329	P		**P**		11 45 23.3	+0.5
HWUT				IAmb		IAmb		11 45 35.4	
	comp=Z,6.7nm,0.8s								
R11A	**Troy Canyon, C**	37.00	321	P		**P**		11 45 22.5	-0.6
D56A	**ZEC Mazanza, M**	37.04	14	P		**P**		11 45 22.0	-1.2
	baz=200								
D57A	**Chemin Vers le**	37.22	15	P		**P**		11 45 23.6	-1.1
	baz=201								
B35A	**Bob, Littlefor**	37.27	353	P		**P**		11 45 23.4	-1.7
B35A				IAmb		IAmb		11 45 24.9	
	comp=Z,3.8nm,0.7s								
SIV	**San Ignacio**	37.44	136	P		**P**		11 45 29.1	+2.1
	comp=Z,4.8nm,0.5s,baz=320,slow=7.7,SNR=21								
F63A	**Nahmakanta, Br**	37.48	21	P		**P**		11 45 26.4	-0.5
	baz=210								
VLDQ	**Val d'Or**	37.48	11	P		**P**		11 45 25.6	-1.2
VLDQ				IAmb		IAmb		11 45 26.8	
	comp=Z,6.7nm,0.9s								
AGMN	**Agassiz Nation**	37.52	350	P		**P**		11 45 25.8	-1.4
	baz=166,SNR=9.3								
AGMN	**Agassiz Nation**	37.52	350	P		**P**		11 45 25.8	-1.4
D58A	**Chemin du LacG**	37.55	16	P		**P**		11 45 26.9	-0.6
	baz=203								
AHID	**Auburn Hatcher**	37.61	331	P		**P**		11 45 28.2	-0.1
AHID				IAmb		IAmb		11 45 48.1	
	comp=Z,6.6nm,0.8s								
G65A	**Princeton**	37.61	23	P		**P**		11 45 27.7	-0.3
	baz=212								
MDND	**Maddock**	37.84	346	P		**P**		11 45 28.8	-1.1
	baz=160								
LATQ	**La Tuque**	37.85	16	P		**P**		11 45 29.3	-0.6
	baz=203								
D60A	**Saint Jean D'O**	37.95	18	P		**P**		11 45 29.8	-1.0
	baz=206								
SNOW	**Snow King Moun**	37.97	332	IAmb		IAmb		11 45 50.1	
	comp=Z,9.0nm,0.9s								
TPAW	**Teton Pass**	38.09	331	IAmb		IAmb		11 45 48.9	
	comp=Z,8.2nm,0.9s								
ELK	**Elko**	38.34	325	P		**P**		11 45 36.4	+1.8
IMW	**Indian Meadow**	38.39	332	P		**P**		11 45 35.6	+0.6
FLWY	**Flagg Ranch**	38.43	332	P		**P**		11 45 34.1	-1.1
LSQQ	**Lebel-sur-Quev**	38.48	11	P		**P**		11 45 34.2	-1.1
	baz=196								
RLMT	**Red Lodge**	38.62	335	P		**P**		11 45 36.4	-0.4
	baz=144								
NV11	**Mina Array Sit**	38.65	320	P		**P**		11 45 38.8	+1.7
D62A	**Allapoint, All**	38.70	20	P		**P**		11 45 36.4	-0.6
	baz=209								
NVAR	**Mina Array Bea**	38.75	319	P		**P**		11 45 39.7	+1.7
	comp=Z,1.4nm,0.7s,baz=130,slow=6.9,SNR=14								
NVAR				PcP		**PcP**		11 47 51.0	+1.9
	comp=Z,1.7nm,0.7s,baz=142,slow=3.6,SNR=9.0								
KVN	**Kaiserville**	38.98	320	P		**P**		11 45 40.2	+0.3
YHB	**Horse Butte**	39.17	333	P		**P**		11 45 39.6	-1.8
YHL	**Hebgen Lake**	39.24	333	P		**P**		11 45 42.4	+0.4
ULM	**Lac du Bonnet**	39.42	351	P		**P**		11 45 41.5	-1.6
	comp=Z,7.4nm,0.6s,baz=165,slow=11,SNR=5.7								
ULM				LR		LR		12 04 22.6	
	comp=Z,58nm,18.9s,baz=293,slow=40								
ULM	**Lac du Bonnet**	39.42	351	P		**P**		11 45 41.3	-1.8
ULM				IAmb		IAmb		11 45 42.0	
	comp=Z,8.9nm,0.7s								
CHGQ	**Chibougamau**	39.81	13	P		**P**		11 45 45.8	-0.6
	baz=199								
HLID	**Hailey**	39.84	329	P		**P**		11 45 47.5	+0.5
	baz=135,SNR=5.7								
PNTR	**Pine Nut**	39.95	319	P		**P**		11 45 49.1	+1.1
MCMT	**McKenzie Canyo**	39.99	331	P		**P**		11 45 48.7	+0.4
BOZ	**Bozeman (W)**	40.02	333	P		**P**		11 45 48.4	0.0
	baz=141								
BOZ	**Bozeman (W)**	40.02	333	P		**P**		11 45 49.0	+0.7
DLMT	**Dillon**	40.28	332	P		**P**		11 45 52.0	+1.5
PINE	**Pine Mountain**	43.54	324	P		**P**		11 46 18.7	+1.4
PINE				IAmb		IAmb		11 46 22.1	
	comp=Z,13nm,1.1s								
WALA	**Waterton Lakes**	43.67	335	P		**P**		11 46 18.2	0.0
H03N2	**Juan Fernandez**	45.25	170	T		T		12 34 42.5	
	baz=348,slow=76,SNR=6.2								
H03N1	**Juan Fernandez**	45.25	170	T		T		12 34 52.0	
	baz=348,slow=76,SNR=7.0								
H03N3	**Juan Fernandez**	45.26	170	T		T		12 34 51.2	
	baz=348,slow=76,SNR=8.8								
SCHQ	**Schefferville**	46.19	16	P		**P**		11 46 36.2	-1.7
	comp=Z,4.6nm,0.6s,baz=203,slow=6.3,SNR=6.1								
SCHQ				LR		LR		12 08 15.7	
	comp=Z,69nm,18.2s,baz=274,slow=40								
SCHQ	**Schefferville**	46.19	16	P		**P**		11 46 36.6	-1.3
SCHQ				IAmb		IAmb		11 46 37.0	
	comp=Z,6.2nm,0.8s								
BDFB	**Brasilia**	47.07	124	P		**P**		11 46 45.6	+0.1
	comp=Z,6.9nm,0.8s,baz=301,slow=12,SNR=5.3								
BDFB	**Brasilia**	47.07	124	P		**P**		11 46 45.4	-0.1
BDFB				IAmb		IAmb		11 46 48.4	
	comp=Z,7.9nm,0.9s								
YKA	**Yellowknife Ar**	54.73	345	P		**P**		11 47 40.8	-1.5
	comp=Z,2.6nm,0.8s,baz=140,slow=7.0,SNR=33								
YKA				PcP		**PcP**		11 48 44.6	+0.2
	comp=Z,1.0nm,0.7s,baz=145,slow=3.6,SNR=13								
DLBC	**Dease Lake**	57.02	335	P		**P**		11 47 57.6	-1.2
DLBC				IAmb		IAmb		11 48 02.3	
	comp=Z,4.5nm,1.1s								
INK	**Inuvik**	64.33	343	P		**P**		11 48 47.8	-0.5
INK				IAmb		IAmb		11 48 51.8	
	comp=Z,6.7nm,1.3s								
ILAR	**Eielson Array**	67.14	336	P		**P**		11 49 05.6	-1.0
	comp=Z,0.5nm,0.6s,baz=148,slow=4.6,SNR=7.5								
ESDC	**Sonseca Array**	77.55	52	P		**P**		11 50 07.1	-2.1
	comp=Z,0.6nm,0.7s,baz=278,slow=5.6,SNR=4.5								
MDT	**Midelt**	77.64	59	LR		LR		12 18 06.2	
	comp=Z,49nm,20.1s,baz=325,slow=31								
AMKA	**Amchitka**	83.46	321	P		**P**		11 50 39.1	-1.5
NOA	**NORSAR Array B**	84.11	29	LR		LR		12 25 17.7	
	comp=Z,15nm,20.8s,baz=95,slow=34								
KHC	**Kasperske Hory**	88.34	40	*eP*		**P**		11 51 03.0	-1.8
GERES	**GERESS Array B**	88.50	40	LR		LR		12 25 08.9	
	comp=Z,40nm,21.2s,baz=301,slow=32								
FINES	**FINESS Array B**	90.75	26	LR		LR		12 30 46.7	
	comp=Z,35nm,18.9s,baz=98,slow=35								
OJC	**Ojcow**	91.86	38	P		**P**		11 51 22.9	+1.7
KURK	**Kurchatov**	116.91	10			**PKPdf**		11 56 56.2	-1.3
KURBB	**Kurchatov Arra**	116.98	10	PKP		**PKiKP**		11 56 58.3	+0.6
	comp=Z,0.3nm,0.5s,baz=338,slow=2.0,SNR=4.4								
SONM	**Songino Array**	119.84	350	PKP		**PKiKP**		11 57 04.3	+0.8
	comp=Z,0.6nm,0.4s,baz=349,slow=3.5,SNR=3.7								
KSRS	**Korea Array**	121.37	328	PKP		**PKiKP**		11 57 07.7	+1.0
	comp=Z,3.1nm,0.9s,baz=22,slow=1.3,SNR=13								
LZH	**Lanzhou**	131.67	348	*e*PKP		**PKPdf**		11 57 24.0	-2.5
LZH				pPKP		pPKPdf		11 57 39.0	-0.2
LZH				sPKP				11 57 44.8	
LZH				LR		LR			
	comp=N,56nm,18.1s								
LZH				LR		LR			
	comp=E,62nm,17.9s								
LZH				LR		LR			
	comp=Z,83nm,20.0s								
ASAR	**Alice Springs**	139.21	247	PKhKP		PKPpre		11 57 37.8	
	comp=Z,0.5nm,0.7s,baz=102,slow=3.4,SNR=7.7								
ASAR				PKP		**PKiKP**		11 57 45.5	+2.5
	comp=Z,0.9nm,0.7s,baz=110,slow=2.2,SNR=12								
WRA	**Warramunga Arr**	139.32	253	PKP		**PKiKP**		11 57 45.9	+2.7
	comp=Z,1.9nm,0.6s,baz=89,slow=2.0,SNR=15								
CMAR	**Chiang Mai Arr**	149.76	349	PKP		**PKPdf**		11 58 00.4	+1.4
	comp=Z,5.3nm,0.8s,baz=307,slow=1.7,SNR=4.5								
CMAR				PKPbc		**PKPbc**		11 58 04.5	+0.8
	comp=Z,5.2nm,0.7s,baz=329,slow=3.2,SNR=15								

*AEIC **27** 11:45:23.3±2.7, 51.9°N±0.1°×176.15°E±0.07, h5km±1km, ML3.5, mb4.0/11(NEIC), Error ellipse: s-maj=18.3km s-min=5.4km az=15.0*
*NEIC **27** 11:45:25.9±3.3, 52.1°N±0.1°×176.30°E±0.05, h30km±6km, Error ellipse: s-maj=16.9km s-min=3.3km az=191.0*
*IDC **27** 11:45:28.6±4.9, 52.25°N×176.28°E, h51km±44km, mb3.4/8, mb1 3.6/9, mb1mx3.3/45, mbtmp3.6/9, ML2.7/1, Error ellipse: s-maj=36.8km s-min=20.0km az=169.0*

ISC 27 11:45:27.0±0.8, 52.1°N±0.1°×176.26°E±0.05, h40km, n42, σ1§35/36, mb3.8/14, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	1.40	95		**Pn**	11 45 47.6	-2.4
LSSA	**Little Sitkin**	1.40	96		**Pn**	11 45 48.0	-2.1
LSPA	**Little Sitkin**	1.44	95		**Pn**	11 45 48.0	-2.6
LSPA					**Sn**	11 46 09.1	+0.9
SMY	**Shemya**	1.46	296		**Pn**	11 45 48.4	-2.5
SMY					**Sn**	11 46 10.0	+1.2
CETU	**Semis' Tuman**	2.00	93		**Pn**	11 45 57.4	-1.0
AMKA	**Amchitka**	2.03	110		**Pn**	11 45 56.4	-2.2
AMKA					**Sn**	11 46 22.7	0.0
CEAP	**Semis' Anvil P**	2.05	92		**Pn**	11 45 58.7	-0.3
CESW	**Semis' Southwe**	2.05	95		**Pn**	11 45 57.3	-1.7
KIWB	**Kanaga Island**	4.08	91	Pn	**Pn**	11 46 26.7	-0.2
ADK	**Adak**	4.37	90		**Pn**	11 46 29.8	-1.0
ATKA	**Atka Island**	5.88	85	Pn	**Pn**	11 46 51.8	+0.3
PEA0B	**Petropavlovsk-**	11.33	282	Pn	**Pn**	11 48 07.1	+0.9
PETK	**Petropavlovsk-**	11.33	282	P	**Pn**	11 48 07.3	+1.0
	0.3nm,0.3s,baz=98,slow=19,SNR=6.2						
CNPM	**China Poot**	19.55	55	P	**Pn**	11 49 52.4	-0.2
CNPM				IAmb	IAmb	11 49 57.6	
	comp=Z,21nm,1.2s						
ILAR	**Eielson Array**	22.67	42	P	**P**	11 50 24.4	-0.2
	comp=Z,0.6nm,0.8s,baz=257,slow=10,SNR=4.0						
GLB	**Gilahina Butte**	23.42	51	P	**P**	11 50 32.7	+0.4
GLB				IAmb	IAmb	11 50 41.3	
	comp=Z,2.7nm,0.7s						
VRDI	**Verde Repeater**	23.58	51	P	**P**	11 50 35.3	+1.4
VRDI				IAmb	IAmb	11 50 35.4	
	comp=Z,3.0nm,0.8s						
DOT	**Dot Lake**	23.61	45	P	**P**	11 50 31.8	-2.2
SCRK	**Sand Creek**	23.71	45	P	**P**	11 50 33.8	-1.2
MESA	**MESA**	24.27	54	P	**P**	11 50 42.4	+2.1
YAH	**Yahtse**	24.37	54	P	**P**	11 50 42.9	+1.6
TABL	**Table Mountain**	24.67	54	P	**P**	11 50 42.6	-1.4
TABL				IAmb	IAmb	11 50 46.8	
	comp=Z,5.0nm,0.9s						
EGAK	**Eagle**	25.06	43	P	**P**	11 50 47.1	-0.1
EGAK				IAmb	IAmb	11 50 51.0	
	comp=Z,4.8nm,0.8s						
DAWY	**Dawson**	25.72	45	P	**P**	11 50 54.2	+0.9
DAWY				IAmb	IAmb	11 51 02.6	
	comp=Z,2.2nm,1.1s						
HYT	**Haines Junctio**	26.46	53	P	**P**	11 51 01.2	+1.1
HYT				IAmb	IAmb	11 51 09.8	
	comp=Z,2.7nm,1.1s						
H11N2	**WAKE ISLAND Hy**	33.13	196	T	T	12 27 02.8	
	baz=11,slow=76,SNR=319						
H11N3	**WAKE ISLAND Hy**	33.15	196	T	T	12 27 05.8	
	baz=11,slow=76,SNR=317						
H11N1	**WAKE ISLAND Hy**	33.15	196	T	T	12 27 06.4	
	baz=11,slow=76,SNR=346						
H11S1	**WAKE ISLAND Hy**	34.36	196	T	T	12 28 35.5	
	baz=10,slow=76,SNR=139						
H11S3	**WAKE ISLAND Hy**	34.38	196	T	T	12 28 36.2	
	baz=10,slow=76,SNR=179						
H11S2	**WAKE ISLAND Hy**	34.38	196	T	T	12 28 36.3	
	baz=10,slow=76,SNR=98						
YKA	**Yellowknife Ar**	36.95	46	P	**P**	11 52 31.6	-0.2
	comp=Z,0.8nm,0.8s,baz=287,slow=8.7,SNR=5.0						
SONM	**Songino Array**	43.55	293	P	**P**	11 53 27.5	+0.7
	comp=Z,0.4nm,0.4s,baz=76,slow=7.4,SNR=2.4						
NVAR	**Mina Array Bea**	46.48	80	P	**P**	11 53 49.8	-0.4
	comp=Z,0.2nm,0.3s,baz=344,slow=15,SNR=5.7						
MKAR	**Makanchi Array**	57.14	305	P	**P**	11 55 08.6	-0.8
	comp=Z,0.5nm,0.5s,baz=58,slow=4.9,SNR=8.0						
FINES	**FINESS Array B**	64.33	345	P	**P**	11 55 57.5	-0.4
	comp=Z,0.4nm,0.4s,baz=12,slow=9.8,SNR=3.5						
NB2	**NORSAR Subarra**	66.57	352	P	**P**	11 56 12.2	-0.3
	comp=Z,0.6nm,0.6s,baz=10.0,slow=6.5						
NOA	**NORSAR Array B**	66.57	352	P	**P**	11 56 12.0	-0.4
	comp=Z,0.6nm,0.7s,baz=9.5,slow=6.4,SNR=4.0						
WRA	**Warramunga Arr**	80.52	220	P	**P**	11 57 36.0	+1.3
	comp=Z,1.2nm,0.7s,baz=31,slow=6.1,SNR=3.5						
H03N2	**Juan Fernandez**	124.30	102	T	T	14 19 37.7	
	baz=312						
H03N1	**Juan Fernandez**	124.31	102	T	T	14 19 34.2	
	baz=312						
H03N3	**Juan Fernandez**	124.32	102	T	T	14 19 41.7	
	baz=312,SNR=3.2						

*NEIC **27** 12:56:11.3±1.1, 26.37°N±0.06°×126.91°E±0.07, h42km±7km, mb4.4/18, Error ellipse: s-maj=9.7km s-min=8.0km az=132.0*
*IDC **27** 12:56:12.7±3.4, 26.43°N×127.01°E, h55km±34km, mb3.7/9, mb1 3.8/9, mb1mx3.5/56, mbtmp3.9/9, Error ellipse: s-maj=31.0km s-min=16.5km az=66.0*
*JMA **27** 12:56:14.3±0.2, 26.42°N×127.13°E, h64km±2km, M3.6*
JMA Felt I J1.

ISC 27 12:56:13.9±0.8, 26.39°N±0.07°×127.09°E±0.05, h65km±6km, n43, σ1§19/50, mb4.2/19, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGN	**Aguni-jima**	0.24	34	P	**Pn**	12 56 24.1	0.0
JAGN				S	**Sn**	12 56 31.6	0.0
JKE	**Kume jima 2**	0.28	257	P	**Pn**	12 56 24.9	+0.5
JKE				S	**Sn**	12 56 33.1	+1.1
JJT3	**Tamagusuku3**	0.67	111	P	**Pn**	12 56 28.7	+0.7
JJT3				*e*S	**Sn**	12 56 39.6	+1.2
JNTH	**Nagotoyohara**	0.84	81	P	**Pn**	12 56 30.2	+0.1
JNTH				S	**Sn**	12 56 41.6	-0.5
JIH	**Iheya**	1.01	50	P	**Pn**	12 56 32.3	0.0
JIH				S	**Sn**	12 56 45.3	-0.6
JOW	**Kunigami**	1.15	67	P	**Pn**	12 56 34.1	0.0
	16nm,0.3s,baz=11,slow=17,SNR=151						
JOW				S	**Sn**	12 56 48.5	-0.5
	93nm,0.3s,baz=90,slow=22,SNR=20						
JOW	**Kunigami**	1.15	67	P	**Pn**	12 56 33.8	-0.2
JOW				S	**Sn**	12 56 48.2	-0.9
JOW	**Kunigami**	1.15	67		**Pn**	12 56 33.6	-0.4
JOW					**Sn**	12 56 48.8	-0.3
JYRO	**Yoronjima**	1.37	62	P	**Pn**	12 56 36.7	-0.2
JYRO				S	**Sn**	12 56 53.1	-1.2
YOJ	**Yonaguni jima**	4.16	243	Pn	**Pn**	12 57 10.2	-4.7
YULB	**Yu-li**	6.05	242	Pn	Pn	12 57 35.7	-5.1
TPUB	**Ta-pu**	6.63	244	Pn	Pn	12 57 43.2	-5.5
JNU	**Nakatsue**	7.47	25	P	**Pn**	12 58 01.5	+1.2
	0.5nm,0.3s,baz=144,slow=16,SNR=2.4						
JNU	**Nakatsue**	7.47	25		**Pn**	12 57 58.7	-1.6
SONM	**Songino Array**	26.88	328	P	**P**	13 01 51.0	+2.3
	2.4nm,0.6s,baz=140,slow=11,SNR=9.3						
MK31	**Makanchi Array**	40.67	312	P	**P**	13 03 46.4	-1.4
MKAR	**Makanchi Array**	40.67	312	P	**P**	13 03 46.6	-1.3
	1.1nm,0.5s,baz=97,slow=11,SNR=13						
ZALV	**Zalesovo Beam**	41.51	323	P	**P**	13 03 53.4	-1.2
	0.9nm,0.4s,

comp=Z,1µm,0.5s
CUSE Cuicocha Este 2.83 159 *eP* **Pn 12 57 20.8 -0.7**
CUSE *eS* **Sn 12 57 53.2 -2.1**
CRUC La Cruz 2.84 119ⓕ *eP* **Pn 12 57 22.3 +0.7**
CRUC *eS* **Sn 12 57 54.6 -0.8**
SOTA Rioblanco 2.94 106ⓕ *eP* **Pn 12 57 23.5 +0.4**
SOTA *eS* **Sn 12 57 58.4 +0.2**
SOTA *i* 12 58 01.2
comp=Z,1µm,0.4s
PCON Cinco Dias 3.10 102 *eP* **Pn 12 57 25.7 +0.4**
PCON *eS* **Sn 12 58 02.1 0.0**
PCON *i* 12 58 08.6
comp=Z,742nm,0.6s
YOTC Yotoco, Valle 3.25 72 *eP* **Pn 12 57 25.8 -1.2**
YOTC *eS* **Sn 12 58 03.8 -1.5**
YOTC *i* 12 58 05.8
comp=Z,168nm,0.5s
MARP Paez Belalcaza 3.48 92 *eP* **Pn 12 57 31.0 +0.8**
MARP *eS* **Sn 12 58 10.7 -0.4**
MARP *i* 12 58 14.9
comp=Z,102nm,0.3s
PLMC San Jos del P 3.69 58 *eP* **Pn 12 57 32.1 -0.9**
PLMC *eS* **Sn 12 58 15.1 -1.0**
PLMC *i* 12 58 22.2
comp=Z,360nm,0.2s
PUAC Puerto Asis, P 3.73 130 *eP* **Pn 12 57 35.0 +1.5**
PUAC *eS* **Sn 12 58 16.2 -0.8**
BETC Betania 4.00 94 *eP* **Pn 12 57 39.4 +2.2**
BETC *eS* **Sn 12 58 23.5 -0.2**
GARC Garzon, Huila 4.01 101 *eP* **Pn 12 57 39.2 +1.6**
GARC *eS* **Sn 12 58 24.7 +0.5**
GARC *i* 12 58 27.1
comp=Z,244nm,0.3s
ORTC Ortega, Tolima 4.29 77 *eP* **Pn 12 57 42.4 +1.2**
ORTC *eS* **Sn 12 58 31.9 +1.1**
ORTC *i* 12 58 36.2
comp=Z,203nm,0.4s
ANIL Santa Ana 4.30 69 *eP* **Pn 12 57 42.6 +1.0**
ANIL *eS* **Sn 12 58 32.0 +0.5**
TOLC Tolima 4.41 68 *eP* **Pn 12 57 43.9 +0.7**
TOLC *eS* **Sn 12 58 33.9 -0.4**
TOLC *i* 12 58 44.6
comp=Z,276nm,0.5s
CBOC Ciudad Bolivar 4.47 50 *eP* **Pn 12 57 41.0 -2.9**
RREF El Recreo 4.51 65 *eP* **Pn 12 57 45.0 +0.2**
RREF *eS* **Sn 12 58 36.1 -1.1**
RREF *i* 12 58 46.8
comp=Z,52nm,0.5s
PRAC Prado 4.60 80 *eP* **Pn 12 57 46.5 +1.0**
PRAC *eS* **Sn 12 58 37.8 -0.8**
PRAC *i* 12 58 45.5
comp=Z,164nm,0.6s
GUY2C Guyana, Caldas 4.64 61 *eP* **Pn 12 57 46.7 +0.2**
GUY2C *eS* **Sn 12 58 36.5 -3.6**
GUY2C *i* 12 58 48.2
comp=Z,114nm,0.5s
HELC Santa Helena 5.05 50 *eP* **Pn 12 57 53.7 +1.8**
HELC *eS* **Sn 12 58 46.4 -3.7**
HELC *i* 12 58 54.7
comp=Z,31nm,0.6s
DBBC Dabeiba 5.16 38 *eP* **Pn 12 57 56.7 +3.5**
DBBC *i* 12 59 05.6
comp=Z,129nm,0.7s
NORC Norcasia 5.24 60 *eP* **Pn 12 57 55.4 +1.1**
NORC *eS* **Sn 12 58 51.1 -3.1**
NORC *i* 12 59 01.0
comp=Z,30nm,0.6s
ROSC El Rosal 5.43 70 Pn **Pn 12 57 59.9 +2.6**
comp=Z,15nm,0.3s,baz=110,slow=4.0,SNR=12
ROSC LR LR 12 59 34.6
comp=Z,132nm,19.9s,baz=230,slow=33
ROSC El Rosal 5.43 70 Pn **Pn 12 57 59.3 +2.0**
MACC Macarena, Meta 5.64 98ⓕ *eP* **Pn 12 58 01.1 +1.3**
MACC *eS* **Sn 12 59 03.6 -0.5**
MACC *i* 12 59 06.4
comp=Z,114nm,0.7s
VILC Villavicencio, 5.84 78 *eP* **Pn 12 58 05.1 +2.4**
VILC *eS* **Sn 12 59 11.9 +2.5**
VILC *i* 12 59 16.0
comp=Z,126nm,0.6s
CHIC Chingaza 5.93 74 *eP* **Pn 12 58 06.2 +2.1**
CHIC *eS* **Sn 12 59 12.2 +0.4**
PTBC PUERTO BERRIO, 6.11 54 *eP* **Pn 12 58 06.7 +0.6**
PTBC *i* 12 59 30.7
comp=Z,21nm,0.5s
BCIP Isla Barro Col 6.18 356 Pn **Pn 12 58 06.7 -0.6**
RUSC La Rusia 6.97 65 *eP* **Pn 12 58 20.8 +2.3**
RUSC *i* 12 59 50.6
comp=Z,20nm,0.7s
RUSC La Rusia 6.97 65 Pn **Pn 12 58 19.9 +1.4**
JTS Las Juntas de 9.12 323 Pn **Pn 12 58 49.4 +1.8**
comp=Z,0.8nm,0.3s,baz=180,slow=15,SNR=3.4
JTS LR LR 13 01 51.4
comp=Z,423nm,20.8s,baz=214,slow=34
SDV Santo Domingo 10.55 56 Pn **Pn 12 59 10.0 +2.6**
DR12 Loma Pena Alta 18.56 31 P **P 13 00 51.7 -1.1**
TEIG Tepich 19.21 334 P **Pn 13 01 00.8 -0.1**
comp=Z,1.5nm,0.3s,baz=139,slow=1.2,SNR=8.6
TEIG Tepich 19.21 334 P **P 13 00 59.7 -0.3**
MACA Manacapuru-AM 19.70 108 *eP* **P 13 01 05.7 +0.3**
MACA Manacapuru-AM 19.70 108 *eP* **P 13 01 05.7 +0.3**
AOPR Arecibo Observ 19.71 38 P **Pn 13 01 07.4 +0.5**
PTGA Pitinga 19.80 100 P **P 13 01 07.2 +0.7**
comp=Z,2.7nm,0.3s,baz=286,slow=13,SNR=26
PTGA Pitinga 19.80 100 **P 13 01 06.8 +0.3**
PTGA IAmb IAmb 13 01 12.6
comp=Z,35nm,0.8s
PTGA Pitinga 19.80 100 *eP* **P 13 01 06.0 -0.5**
PTGA Pitinga 19.80 100 *eP* **P 13 01 06.0 -0.5**
PDPR Patillas Dam, 19.92 40 P **Pn 13 01 10.3 +0.8**
PDPR IAmb IAmb 13 01 11.9
comp=Z,20nm,0.9s
SAML Samuel 20.06 126 P **P 13 01 09.6 +0.4**
GCPR Guaynabo City 20.10 40 P **P 13 01 09.4 -0.2**
CBYP Canovanas 20.22 40 P **P 13 01 11.9 +1.0**
CBYP IAmb IAmb 13 01 17.1
comp=Z,26nm,0.8s
TOSP Speyside 20.49 65 P **P 13 01 14.4 +0.5**
CUPR Culebra, Puert 20.62 41 P Pn 13 01 16.9 -0.7
CUPR IAmb IAmb 13 01 18.0
comp=Z,35nm,1.0s
CMIG Matias Romero 20.68 314 P **P 13 01 16.7 +0.8**
comp=Z,4.5nm,1.0s,baz=151,slow=9.8,SNR=4.8
LPAZ La Paz 22.14 150 P **P 13 01 33.8 +1.4**
comp=Z,7.6nm,0.7s,baz=337,slow=12,SNR=24
LPAZ LR LR 13 11 29.0
comp=Z,130nm,21.4s,baz=326,slow=40
LPAZ La Paz 22.14 150 P **P 13 01 33.8 +1.4**
LPAZ La Paz 22.14 150 *eP* **P 13 01 34.0 +1.6**
LPAZ *epP* **pP 13 01 36.4 -0.1**
LPAZ La Paz 22.14 150 *eP* **P 13 01 34.0 +1.6**
LPAZ *epP* **pP 13 01 36.4 -0.1**
PB12 IPOC Station P 23.23 158 P **P 13 01 44.5 +1.2**
PB12 IAmb IAmb 13 01 54.0
comp=Z,27nm,0.9s
MNMC Minye Minye 23.99 157 P **P 13 01 51.5 +0.6**
PSGCX Pisagua 24.21 158 P **P 13 01 54.4 +1.8**
PB11 IPOC Station P 24.53 157 P **P 13 01 57.3 +1.6**
GO01 Chusmiza 24.63 156 P **P 13 01 57.8 +0.9**
VILB Vilhena 24.79 130 *eP* **P 13 01 58.9 +1.0**
VILB *epP* **pP 13 02 01.3 -1.1**
VILB Vilhena 24.79 130 *eP* **P 13 01 58.9 +1.0**
VILB *epP* **pP 13 02 01.3 -1.1**
PB08 IPOC Station P 25.07 157 P **P 13 01 60.0 -0.8**
MALB Monte Alegre 25.61 100 *eP* **P 13 02 04.0 -1.4**
MALB *epP* **pP 13 02 06.6 -3.2**
MALB Monte Alegre 25.61 100 *eP* **P 13 02 04.0 -1.4**
MALB *epP* **pP 13 02 06.6 -3.2**
PB01 IPOC Station P 25.77 158 P **P 13 02 06.9 +0.2**
NPGB Novo Progresso 26.00 113 *eP* **P 13 02 08.6 -0.4**
NPGB Novo Progresso 26.00 113 *eP* **P 13 02 08.6 -0.4**
SIV San Ignacio 26.16 137 P **P 13 02 10.8 +0.5**
comp=Z,9.5nm,0.8s,baz=334,slow=11,SNR=21
PTLB Pontes e Lacer 27.16 133 *eP* **P 13 02 19.6 +0.2**
PTLB Pontes e Lacer 27.16 133 *eP* **P 13 02 19.6 +0.2**
CLDB Colider 27.24 121 *eP* **P 13 02 18.4 -1.7**
CLDB Colider 27.24 121 *eP* **P 13 02 18.4 -1.7**
GOGA Godfrey 30.53 353 P **P 13 02 49.5 +0.3**
baz=172
GOGA Godfrey 30.53 353 P **P 13 02 50.1 +0.9**
GOGA IAmb IAmb 13 02 58.3
comp=Z,8.6nm,0.9s
LRAL Lakeview Retre 30.75 348 P **P 13 02 51.3 +0.2**
baz=165
LRAL Lakeview Retre 30.75 348 P **P 13 02 51.5 +0.4**
Y55A Saluda 30.91 356 P **P 13 02 53.4 +0.9**
baz=175
JSC Jenkinsville 31.21 357 P **P 13 02 54.1 -1.1**
HODGE Hodges 31.23 355 P **P 13 02 56.4 +1.1**
HODGE IAmb IAmb 13 03 05.3
comp=Z,6.1nm,0.8s
X56A White Oak 31.41 357 P **P 13 02 57.8 +0.9**
baz=177
X55A Gracelyn & Ava 31.42 357 P **P 13 02 58.0 +1.0**
baz=176
X54A Belton 31.55 355 P **P 13 02 58.9 +0.8**
baz=174
W56A Indian Trail 32.04 358 P **P 13 03 03.4 +1.0**
baz=178
BG3 Lake Jocassee 32.04 355 P **P 13 03 03.7 +1.2**
BG3 IAmb IAmb 13 03 04.2
comp=Z,5.2nm,0.7s
W54A Cherokee Point 32.07 356 P **P 13 03 03.9 +1.2**
baz=175
KMSC Kings Mountain 32.07 357 P **P 13 03 03.7 +1.0**
baz=176
CPCT Cooper Cave 32.67 352 IAmb IAmb 13 03 17.3
comp=Z,8.4nm,1.1s
V58A Windy Hill, Pi 32.68 0 P **P 13 03 08.8 +0.8**
baz=181
V58A Windy Hill, Pi 32.68 0 P **P 13 03 07.8 -0.2**
V58A IAmb IAmb 13 03 17.4
comp=Z,9.2nm,0.8s
V54A Nebo 32.74 356 P **P 13 03 09.5 +0.9**
baz=175
V55A Taylorsville 32.78 357 P **P 13 03 09.6 +0.7**
baz=177
U56A King 33.24 359 P **P 13 03 14.1 +1.1**
baz=178
U58A Oxford 33.29 1 P **P 13 03 14.4 +1.0**
baz=182
U57A Blanch 33.31 0 P **P 13 03 14.5 +0.9**
baz=180
V48A Smith Brothers 33.33 349 IAmb IAmb 13 03 22.4
comp=Z,12nm,1.1s
U55A TA2, Sparta 33.42 358 P **P 13 03 14.8 +0.2**
baz=177
TZTN Tazewell 33.64 354 P **P 13 03 16.5 +0.1**
baz=173
T58A Grand View Acr 33.84 1 P **P 13 03 18.3 +0.2**
baz=182
T57A Hurt 33.88 0 P **P 13 03 19.3 +0.8**
baz=180
T57A Hurt 33.88 0 P **P 13 03 19.2 +0.8**
T57A IAmb IAmb 13 03 28.0
comp=Z,11nm,0.9s
T59A Double "B" Far 33.90 3 P **P 13 03 19.3 +0.7**
baz=183
WVT Waverly 33.91 348 P **P 13 03 16.8 -2.0**
WVT IAmb IAmb 13 03 32.9
comp=Z,8.0nm,1.4s
T54A Tazewell 34.00 357 P **P 13 03 20.3 +0.7**
baz=176
MIAR Mount Ida 34.08 339 P **P 13 03 20.7 +0.5**
baz=154
W41B Gary Mavity, V 34.19 341 P **P 13 03 21.6 +0.3**
baz=157
W41B Gary Mavity, V 34.19 341 IAmb IAmb 13 03 29.1
comp=Z,9.4nm,0.9s
WHAR Wooly Hollow 34.31 341 P **P 13 03 22.0 -0.3**
S51A Beattyville 34.73 354 IAmb IAmb 13 03 34.7
comp=Z,12nm,1.1s
W39A Magazine 34.73 339 P **P 13 03 26.4 +0.5**
baz=154
W39A Magazine 34.73 339 IAmb IAmb 13 03 28.9
comp=Z,6.8nm,0.8s
FCAR Ozark Folk Cen 34.81 342 P **P 13 03 25.5 -1.1**
FCAR IAmb IAmb 13 03 34.0
comp=Z,5.0nm,0.9s
R58B Mineral 34.87 2 P **P 13 03 28.4 +1.4**
baz=183
TXAR Lajitas Array 34.90 321 P **P 13 03 26.9 -0.6**
comp=Z,0.3nm,0.9s,baz=128,slow=13,SNR=1.9
TXAR pP **pP 13 03 32.1 +0.1**
comp=Z,0.6nm,0.8s,baz=139,slow=8.4,SNR=4.9
TXAR PcP **PcP 13 06 01.1 +0.8**
comp=Z,1.1nm,0.9s,baz=140,slow=6.6,SNR=6.3
TXAR LR LR 13 16 47.2
comp=Z,37nm,21.3s,baz=0.0,slow=35
R54A Victor 35.09 358 P **P 13 03 29.8 +0.8**
baz=177
R55A Marlinton 35.17 359 P **P 13 03 30.5 +0.8**
baz=179
R58A Rapidan 35.20 2 P **P 13 03 31.2 +1.3**
baz=182
U40A Yellville 35.47 341 P **P 13 03 31.8 -0.5**
baz=157,SNR=11
U40A Yellville 35.47 341 P **P 13 03 31.6 -0.7**
T42A Van Buren 35.57 344 P **P 13 03 31.6 -1.5**
T42A IAmb IAmb 13 03 32.7
comp=Z,4.3nm,0.6s
HHAR Hobbs 35.77 340 IAmb IAmb 13 03 36.6
comp=Z,6.1nm,1.0s
Q53A Leroy 35.79 357 P **P 13 03 35.7 +0.8**
baz=176
Q58A Fox Den Farm, 35.85 2 P **P 13 03 36.4 +0.9**
baz=183
Q55A Buchannon 35.88 359 P **P 13 03 36.4 +0.6**
baz=179
Q54A Coxs Mills 35.88 358 P **P 13 03 36.4 +0.7**
baz=178
Q52A Bidwell 35.93 356 P **P 13 03 36.5 +0.3**
baz=175
MGMO Mountain Grove 36.02 342 IAmb IAmb 13 03 44.6
comp=Z,4.8nm,0.8s
CPUP Villa Florida 36.12 145 P **P 13 03 37.2 -0.7**
comp=Z,3.2nm,0.9s,baz=299,slow=10,SNR=3.3
CPUP LR LR 13 19 55.0
comp=Z,140nm,19.3s,baz=329,slow=39
CPUP Villa Florida 36.12 145 IAmb IAmb 13 03 37.8
comp=Z,6.0nm,1.1s
BDFB Brasilia 36.16 122 LR LR 13 20 53.9
comp=Z,40nm,19.0s,baz=25,slow=40
P57A Homestead Farm 36.38 2 P **P 13 03 42.7 +2.6**
baz=182
P56A Dayton Farm, R 36.38 1 P **P 13 03 41.3 +1.3**
baz=181
P53A Whipple 36.41 357 P **P 13 03 40.6 +0.3**
baz=177
P58A Pank, Wackersv 36.42 3 P **P 13 03 41.1 +0.8**
baz=184
CCM Cathedral Cave 36.57 344 P **P 13 03 40.9 -0.8**
baz=160
CCM Cathedral Cave 36.57 344 P **P 13 03 40.9 -0.8**
PCMB Pacaembu 36.82 133 *eP* **P 13 03 43.6 -0.5**
PCMB Pacaembu 36.82 133 *eP* **P 13 03 43.6 -0.5**
O58A Lewisberry 37.07 3 P **P 13 03 46.5 +0.6**
baz=184
O57A Amberson 37.12 2 P **P 13 03 48.5 +2.2**
baz=183
O56A Blue Knob Stat 37.15 1 P **P 13 03 47.8 +1.2**
baz=182
O53A New Philadelph 37.16 358 P **P 13 03 46.9 +0.3**
baz=177
SSPA Standing Stone 37.54 2 P **P 13 03 51.4 +1.6**
baz=183
MNTX Cornudas Mount 37.60 322 P **P 13 03 52.5 +1.9**
baz=134
MNTX Cornudas Mount 37.60 322 P **P 13 03 52.4 +1.8**
N55A Marion Center 37.66 1 P **P 13 03 51.8 +0.9**
baz=181
MSTX Muleshoe 37.76 327 P **P 13 03 53.8 +1.8**
baz=140
N58A Sunbury 37.79 3 P **P 13 03 54.4 +2.4**
baz=184
N60A Cedar Hill Far 37.95 5 P **P 13 03 53.6 +0.3**
baz=187
PAL Palisades 38.21 7 P **P 13 03 54.9 -0.6**
baz=189
M57A Sunshine Farm, 38.27 3 P **P 13 03 56.6 +0.5**
baz=184,SNR=5.5
M58A Price's Panora 38.34 4 P **P 13 03 57.8 +1.2**
baz=185
M56A Emporium 38.37 2 P **P 13 03 57.6 +0.7**
baz=182
M56A Emporium 38.37 2 IAmb IAmb 13 04 06.2
comp=Z,14nm,0.9s
M63A Gales Ferry 38.85 9 P **P 13 04 02.1 +1.2**
baz=192
L57A Andrews Acres 38.94 3 P **P 13 04 02.9 +1.2**
baz=184
L56A Greenwood 39.05 2 P **P 13 04 02.8 +0.2**
baz=183
L58A Harry Jones Me 39.05 4 P **P 13 04 03.3 +0.7**
baz=186
L55A Hinsdale 39.07 1 P **P 13 04 03.5 +0.7**
baz=182
BINY Binghamton 39.20 4 P **P 13 04 05.0 +1.2**
baz=186
L59A Walton 39.26 5 P **P 13 04 06.0 +1.6**
baz=187
121A Cookes Peak, D 39.66 321 P **P 13 04 07.2 -0.8**
baz=132,SNR=7.3
121A Cookes Peak, D 39.66 321 IAmb IAmb 13 04 13.5
comp=Z,9.6nm,0.8s
K57A Scipio Center 39.69 3 P **P 13 04 08.7 +0.7**
baz=185
HRV Adam Dziewonsk 40.00 9 P **P 13 04 12.2 +1.7**
baz=192
J56A Wolcott 40.21 3 P **P 13 04 12.8 +0.6**
baz=184,SNR=8.5
J56A Wolcott 40.21 3 P **P 13 04 12.8 +0.6**
J57A Williamstown 40.40 4 P **P 13 04 14.1 +0.3**
baz=185
J57A Williamstown 40.40 4 IAmb IAmb 13 04 15.2
comp=Z,7.6nm,0.7s
J58A Remsen 40.40 5 P **P 13 04 14.6 +0.7**
baz=186
J58A Remsen 40.40 5 P **P 13 04 14.3 +0.5**
J58A IAmb IAmb 13 04 23.5
comp=Z,15nm,1.1s
ANMO Albuquerque 40.53 325 P **P 13 04 16.1 +0.9**
baz=136
ANMO Albuquerque 40.53 325 P **P 13 04 17.3 +2.0**
comp=Z,1.2nm,0.6s,baz=132,slow=9.5,SNR=5.9
ANMO Albuquerque 40.53 325 P **P 13 04 15.7 +0.5**
J59A Piesco 40.58 6 P **P 13 04 16.1 +0.8**
baz=188,SNR=5.9
J59A Piesco 40.58 6 P **P 13 04 16.7 +1.4**
J59A IAmb IAmb 13 04 17.1
comp=Z,11nm,0.7s
VAO Valinhos 40.84 131 *eP* **P 13 04 17.5 -0.3**
VAO Valinhos 40.84 131 *eP* **P 13 04 17.5 -0.3**
PECO Prince Edward 40.86 3 IAmb IAmb 13 04 26.5
comp=Z,16nm,1.2s
JFWS Jewell Farm 40.94 348 P **P 13 04 17.5 -0.8**
baz=164
JFWS Jewell Farm 40.94 348 IAmb IAmb 13 04 19.5
comp=Z,8.8nm,0.6s
I57A Carthage 40.95 4 P **P 13 04 18.6 +0.3**
baz=186
I59A Olmsteadville 40.97 6 P **P 13 04 18.7 +0.3**
baz=188
T25A Trinidad 41.04 329 P **P 13 04 21.2 +1.7**
baz=140
T25A Trinidad 41.04 329 IAmb IAmb 13 04 24.4
comp=Z,6.6nm,0.8s
H57A Richville 41.49 4 P **P 13 04 23.0 +0.3**
baz=186
H56A Elgin 41.56 3 P **P 13 04 24.0 +0.7**
baz=185,SNR=9.2
LONY Lake Ozonia 41.71 5 P **P 13 04 25.8 +1.2**
baz=187
LONY Lake Ozonia 41.71 5 IAmb IAmb 13 04 33.5
comp=Z,19nm,1.3s
H59A Cadyville 41.83 6 P **P 13 04 26.3 +0.7**
baz=189
H61A Lyndonville 41.93 8 P **P 13 04 27.1 +0.7**
baz=191
PLVO Plevna 41.96 3 IAmb IAmb 13 04 35.2
comp=Z,12nm,0.9s
SDCO Great Sand Dun 42.07 329 P **P 13 04 29.2 +1.2**
baz=139,SNR=13
SDCO Great Sand Dun 42.07 329 P **P 13 04 29.0 +1.0**
G57A Newington 42.16 5 P **P 13 04 28.5 +0.3**
baz=187
G55A Calabogie 42.19 3 P **P 13 04 28.3 -0.2**
baz=184
G47A Hillman 42.23 355 P **P 13 04 28.5 -0.2**
baz=174
LC01 Cunco 42.23 171 P **P 13 04 30.3 +1.5**
LC01 IAmb IAmb 13 04 30.9
comp=Z,10nm,0.8s
G54A Lake Saint Pet 42.29 1 P **P 13 04 28.6 -0.7**
baz=182
G59A Clarenceville 42.31 7 P **P 13 04 29.1 -0.3**
baz=189
F48A Evansville 42.79 357 P **P 13 04 32.2 -1.1**
baz=175
ALGO Algonquin Park 42.84 1 P **P 13 04 34.1 +0.3**
baz=182
E52A Mattawa 43.16 1 P **P 13 04 35.2 -1.1**
baz=181
G40A Rib Lake 43.19 349 P **P 13 04 34.9 -1.7**
G40A IAmb IAmb 13 04 44.1
comp=Z,11nm,1.1s
X16A Lo Mia Camp, P 43.20 320 P **P 13 04 36.7 -0.4**
TRQ Mont Tremblant 43.30 5 P **P 13 04 37.9 +0.3**
E54A Lac Daplat, Po 43.35 2 P **P 13 04 36.6 -1.3**
baz=183
ECSD EROS Data Cent 43.37 342 P **P 13 04 36.7 -1.4**
baz=155
E51A G1948 Merrick 43.41 360 P **P 13 04 37.0 -1.3**
baz=180
E48A Lockeyer 43.42 357 P **P 13 04 37.3 -1.1**
baz=176
E47A Iron Bridge 43.46 356 P **P 13 04 37.1 -1.6**
baz=174
E57A Chemin Saint G 43.53 5 P **P 13 04 39.0 -0.4**
baz=188
E56A St. Veronique 43.59 4 P **P 13 04 40.2 +0.4**
baz=186,SNR=6.4
ISCO Idaho Springs 43.69 331 P **P 13 04 42.3 +1.2**
baz=140
ISCO Idaho Springs 43.69 331 P **P 13 04 42.5 +1.4**
E43A Lone Tree Farm 43.75 352 P **P 13 04 40.3 -0.8**
E43A IAmb IAmb 13 04 48.1
comp=Z,6.1nm,0.8s
COWI Conover 43.80 350 P **P 13 04 40.3 -1.2**
WUAZ Wupatki 43.86 321 P **P 13 04 42.7 +0.3**
baz=130
WUAZ Wupatki 43.86 321 P **P 13 04 42.0 -0.4**
WUAZ IAmb IAmb 13 04 47.3
comp=Z,9.8nm,0.9s
D53A Lac Vacive, Po 43.98 2 P **P 13 04 42.3 -0.7**
baz=182
D53A Lac Vacive, Po 43.98 2 IAmb IAmb 13 04 51.0
comp=Z,7.3nm,0.8s
D55A Sainte-Anne-du 44.03 4 P **P 13 04 44.1 +0.8**
baz=186
D47A Chapleau 44.04 356 P **P 13 04 41.8 -1.6**
baz=175
D54A Lac Fusel, La 44.09 3 P **P 13 04 42.2 -1.6**
baz=184
D48A Paudash Townsh 44.09 358 P **P 13 04 42.2 -1.6**
baz=177
D56A ZEC Mazanza, M 44.11 5 P **P 13 04 44.2 +0.3**
baz=187
D57A Chemin Vers le 44.15 5 P **P 13 04 43.7 -0.7**
baz=188
PLCA Paso Flores 44.23 170 P **P 13 04 46.4 +1.3**
comp=Z,9.9nm,0.8s,baz=343,slow=8.9,SNR=26
PLCA Paso Flores 44.23 170 P **P 13 04 46.4 +1.3**
PLCA Paso Flores 44.23 170 *eP* **P 13 04 45.0 -0.1**
PLCA *epP* **pP 13 04 47.1 -2.6**
PLCA Paso Flores 44.23 170 *eP* **P 13 04 45.0 -0.1**
PLCA *epP* **pP 13 04 47.1 -2.6**
PV12 Saucer Basin, 44.26 326 IAmb IAmb 13 04 51.1
comp=Z,7.0nm,0.8s
PV18 Skein Mesa, Pa 44.26 326 P **P 13 04 45.1 -0.5**
D58A Chemin du LacG 44.34 6 P **P 13 04 46.5 +0.7**
baz=189
E62A Clayton Lake 44.34 10 P **P 13 04 47.0 +1.2**
baz=194
D62A Allapoint, All 44.87 10 P **P 13 04 51.0 +0.9**
baz=195
BC3 Big Chuckawall 45.41 316 P **P 13 04 56.0 +1.3**
baz=125
GMRC Granite Mounta 46.20 318 P **P 13 05 02.2 +1.3**
baz=125
K22A Casper 46.33 332 P **P 13 05 02.1 +0.2**
baz=141
RSSD Black Hills 46.41 336 P **P 13 05 03.6 +1.0**
baz=145
RSSD Black Hills 46.41 336 P **P 13 05 02.7 +0.1**
RSSD IAmb IAmb 13 05 11.8
comp=Z,7.3nm,0.8s
TUQ Turquoise Moun 46.75 318 P **P 13 05 07.7 +2.4**

	baz=126								
PDAR	**Pinedale Array**	**47.88**	**330**	P		**P**		**13 05 15.0**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=112,slow=12,SNR=3.2								
PDAR				LR		LR		13 26 29.5	
	comp=Z,45nm,21.1s,baz=180,slow=37								
HWUT	**Hardware Ranch**	**48.08**	**328**	P		**P**		**13 05 14.7**	**-0.9**
R11A	**Troy Canyon, C**	**48.27**	**322**	P		**P**		**13 05 19.1**	**+2.0**
	baz=128								
CWC	**Cottonwood Cre**	**48.76**	**318**	P		**P**		**13 05 23.2**	**+2.3**
	baz=124								
ULM	**Lac du Bonnet**	**49.14**	**346**	P		**P**		**13 05 21.8**	**-1.5**
	comp=Z,3.5nm,0.5s,baz=159,slow=7.4,SNR=3.5								
ULM				pP		**pP**		**13 05 29.3**	**+1.3**
	comp=Z,8.2nm,0.7s,baz=148,slow=6.0,SNR=4.7								
NVAR	**Mina Array Bea**	**50.03**	**320**	P		**P**		**13 05 32.4**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=135,slow=6.7,SNR=13								
NVAR				PcP		**PcP**		**13 06 51.0**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=138,slow=4.4,SNR=5.5								
NVAR				LR		LR		13 27 02.5	
	comp=Z,65nm,18.8s,baz=186,slow=36								
MDPB	**Devils Postpil**	**50.08**	**319**	P		**P**		**13 05 30.3**	**-0.8**
MDPB				IAmb		IAmb		13 05 35.3	
	comp=Z,3.6nm,0.9s								
GCMT	**Greycliff**	**50.19**	**333**	P		**P**		**13 05 30.4**	**-1.2**
HLID	**Hailey**	**50.95**	**328**	P		**P**		**13 05 39.2**	**+1.7**
	baz=133								
BOZ	**Bozeman (W)**	**50.96**	**331**	P		**P**		**13 05 38.0**	**+0.5**
	baz=137								
WVOR	**Wild Horse Val**	**52.60**	**324**	IAmb		IAmb		13 05 58.8	
	comp=Z,10nm,0.9s								
ORV	**Oroville**	**52.72**	**319**	P		**P**		**13 05 48.9**	**-1.7**
SCHQ	**Schefferville**	**52.72**	**9**	P		**P**		**13 05 50.2**	**-0.1**
	comp=Z,3.8nm,0.7s,baz=222,slow=5.0,SNR=4.5								
SCHQ				pP		**sP**		**13 05 57.9**	**+1.2**
	comp=Z,7.7nm,1.0s,baz=186,slow=4.9,SNR=5.1								
SCHQ	**Schefferville**	**52.72**	**9**	P		**P**		**13 05 49.6**	**-0.7**
SCHQ				IAmb		IAmb		13 05 59.2	
	comp=Z,11nm,1.1s								
J08A	**Circle Bar Ran**	**53.07**	**325**	P		**P**		**13 05 53.9**	**+0.7**
J08A				IAmb		IAmb		13 05 56.6	
	comp=Z,4.9nm,0.8s								
M02C	**Callahan**	**54.58**	**321**	P		**P**		**13 06 02.5**	**-1.7**
	baz=123								
YBH	**Yreka Blue Hor**	**54.68**	**321**	P		**P**		**13 06 05.5**	**+0.5**
	comp=Z,2.2nm,0.8s,baz=343,slow=5.6,SNR=5.7								
L04D	**Klamath Falls**	**54.69**	**322**	P		**P**		**13 06 03.8**	**-1.3**
	baz=124								
YKA	**Yellowknife Ar**	**64.89**	**343**	P		**P**		**13 07 13.9**	**-0.8**
	comp=Z,2.1nm,0.7s,baz=136,slow=5.6,SNR=40								
YKA				pP		**sP**		**13 07 21.4**	**+0.2**
	comp=Z,4.2nm,0.9s,baz=131,slow=6.4,SNR=17								
DLBC	**Dease Lake**	**67.85**	**334**	P		**P**		**13 07 35.0**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=142,slow=5.1,SNR=3.9								
DLBC	**Dease Lake**	**67.85**	**334**	IAmb		IAmb		13 07 43.0	
	comp=Z,6.4nm,1.1s								
SUMG	**Summit**	**73.98**	**12**	P		**P**		**13 08 10.2**	**-1.1**
TIC	**Toumodi**	**74.19**	**84**	*eP*		**P**		**13 08 12.5**	**-0.7**
LIC	**Lamto**	**74.19**	**84**	*eP*		**P**		**13 08 13.1**	**0.0**
	comp=Z,52nm,1.2s								
DBIC	**Dimbokro**	**74.35**	**84**	P		**P**		**13 08 13.9**	**-0.2**
	comp=Z,4.4nm,0.7s,baz=245,slow=4.6,SNR=5.7								
KIC	**Kosan Boka**	**74.47**	**84**	*eP*		**P**		**13 08 14.4**	**-0.4**
	comp=Z,29nm,0.9s								
INK	**Inuvik**	**74.61**	**342**	P		**P**		**13 08 14.8**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=91,slow=8.3,SNR=4.8								
INK	**Inuvik**	**74.61**	**342**	IAmb		IAmb		13 08 23.6	
	comp=Z,8.0nm,1.2s								
DOT	**Dot Lake**	**76.30**	**335**	P		**P**		**13 08 25.2**	**+0.8**
DOT				IAmb		IAmb		13 08 33.2	
	comp=Z,6.0nm,1.1s								
SCRK	**Sand Creek**	**76.39**	**336**	P		**P**		**13 08 24.7**	**-0.3**
SCRK				IAmb		IAmb		13 08 34.0	
	comp=Z,6.5nm,1.3s								
PAB	**San Pablo**	**76.63**	**50**	P		**P**		**13 08 26.1**	**-0.7**
PAB				IAmb		IAmb		13 08 27.9	
	comp=Z,5.1nm,0.9s								
ESDC	**Sonseca Array**	**76.94**	**50**	P		**P**		**13 08 29.1**	**+0.6**
	comp=Z,0.9nm,1.0s,baz=264,slow=5.1,SNR=4.6								
HDA	**Harding Lake**	**77.76**	**336**	P		**P**		**13 08 32.0**	**-0.5**
	baz=109								
HDA	**Harding Lake**	**77.76**	**336**	P		**P**		**13 08 31.7**	**-0.8**
HDA				IAmb		IAmb		13 08 41.8	
	comp=Z,5.9nm,1.1s								
IL31		**77.86**	**336**	P		**P**		**13 08 32.2**	**-0.7**
IL31				IAmb		IAmb		13 08 41.2	
	comp=Z,5.5nm,1.2s								
ILAR	**Eielson Array**	**77.86**	**336**	P		**P**		**13 08 32.7**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=113,slow=4.8,SNR=12								
ILAR				pP		**sP**		**13 08 40.5**	**+0.9**
	comp=Z,1.6nm,0.9s,baz=110,slow=4.0,SNR=8.3								
ILAR				LR		LR		13 45 35.9	
	comp=Z,20nm,18.0s,baz=266,slow=38								
RND	**Reindeer**	**78.24**	**335**	P		**P**		**13 08 35.5**	**+0.2**
RND				IAmb		IAmb		13 08 36.5	
	comp=Z,4.4nm,0.8s								
NEA2	**Nenana**	**78.69**	**336**	P		**P**		**13 08 38.0**	**+0.4**
	baz=107								
TORD	**Torodi Ar. Bea**	**80.70**	**77**	P		**P**		**13 08 49.2**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=282,slow=6.6,SNR=18								
TAM	**Tamanrasset**	**84.22**	**68**	P		**P**		**13 09 08.1**	**+0.1**
TAM				IAmb		IAmb		13 09 10.4	
	comp=Z,4.3nm,0.9s								
ECH	**Echery**	**85.54**	**42**	P		**P**		**13 09 14.7**	**+0.7**
VNA3	**Neumayer Olymp**	**86.37**	**162**	P		**P**		**13 09 17.6**	**0.0**
NB2	**NORSAR Subarra**	**87.75**	**29**	P		**P**		**13 09 25.2**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=273,slow=4.6								
NOA	**NORSAR Array B**	**87.75**	**29**	P		**P**		**13 09 24.8**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=270,slow=4.5,SNR=6.0								
NOA				pP		**sP**		**13 09 32.9**	**+1.7**
	comp=Z,1.6nm,0.8s,baz=269,slow=4.6,SNR=5.4								
SNAA	**Sanae**	**88.59**	**162**	P		**P**		**13 09 28.8**	**+0.5**
SNAA	**Sanae**	**88.59**	**162**	P		**P**		**13 09 28.4**	**+0.1**
ARCES	**ARCESS Array B**	**92.44**	**20**	P		**P**		**13 09 45.7**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=327,slow=3.6,SNR=4.6								
QSPA	**South Pole Qui**	**92.99**	**180**	P		**P**		**13 09 49.1**	**+0.1**
FINES	**FINESS Array B**	**94.78**	**28**	P		**P**		**13 09 56.7**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=32,slow=4.7,SNR=4.1								
VNDA	**Vanda**	**98.88**	**191**	LR		LR		13 47 28.1	
	comp=Z,99nm,20.9s,baz=84,slow=31								
ZALV	**Zalesovo Beam**	**121.79**	**11**	PKP		**PKPdf**		**13 15 29.3**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=289,slow=3.8,SNR=6.1								
MKAR	**Makanchi Array**	**127.91**	**16**	PKP		**PKPdf**		**13 15 41.4**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=17,slow=1.6,SNR=12								
MKAR				pPKP		**sPKPdf**		**13 15 49.1**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=245,slow=5.2,SNR=4.6								
SONM	**Songino Array**	**129.16**	**355**	PKP		**PKPdf**		**13 15 44.4**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=334,slow=2.4,SNR=5.3								
SONM				pPKP		**sPKPdf**		**13 15 52.3**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=90,slow=1.5,SNR=2.6								
ASAR	**Alice Springs**	**141.76**	**235**	PKhKP		PKPpre		13 16 02.0	
	comp=Z,0.9nm,0.5s,baz=115,slow=4.0,SNR=29								
WRA	**Warramunga Arr**	**142.97**	**240**	PKhKP		PKPpre		13 16 06.3	
	comp=Z,4.0nm,0.8s,baz=108,slow=2.9,SNR=13								
H01W1	**Cape Leeuwin H**	**145.80**	**200**	T		T		15 59 51.3	
	baz=147,slow=76,SNR=5.4								
H01W2	**Cape Leeuwin H**	**145.81**	**200**	T		T		15 59 50.7	
	baz=147,slow=76,SNR=6.9								
H01W3	**Cape Leeuwin H**	**145.82**	**200**	T		T		15 59 48.6	
	baz=147,slow=76,SNR=6.0								

*KRNET **27** 13:03:02.8±0.1,41.02N×69.64E,mb2.8*
*SOME **27** 13:03:04.2,40.92N×69.98E,h5km*
*NNC **27** 13:03:05.9±1.7,41.02N×69.90E,h0km,mb3.5,mpv3.2,*
Error ellipse: s-maj=13.2km s-min=9.8km az=62.0

ISC 27 13:03:04.0±1.6,41.03N±0.03×69.90E±0.06,h1km±13km, n17,σ1§78/31,10C-6D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**1.12**	**5**	*eP*		**Pn**	**13 03 27.3**	**+0.3**
	19nm,0.3s							
IUG				*eS*		**Sn**	**13 03 43.5**	**+0.4**
	62nm,0.6s							
IUG	**Iuzhnay**	**1.12**	**5**	P		**Pn**	**13 03 27.2**	**+0.3**
IUG				S		**Sn**	**13 03 43.5**	**+0.4**
	62nm,0.6s							
BTK	**Batken**	**1.20**	**144**	⇑*iP*		**Pb**	**13 03 27.5**	**0.0**
	baz=37							
BTK				⇑*iS*		**Sn**	**13 03 46.0**	**+1.2**
	baz=37							
CHM	**Chimkent**	**1.31**	**350**	*eP*		**Pb**	**13 03 31.9**	**+2.5**
	108nm,0.3s							
CHM				*eS*		**Sn**	**13 03 51.3**	**+3.8**
	257nm,0.4s							
ARK	**Arkit**	**1.73**	**63**	⇑*iP*		**Pg**	**13 03 38.3**	**+1.1**
	baz=66							
ARK				⇑*iS*		**Sg**	**13 04 04.1**	**+4.5**
	baz=66							
BRLS	**Borolday**	**2.00**	**359**	*eP*		**Pn**	**13 03 38.0**	**-0.9**
	15nm,0.4s							
BRLS				*eS*		**Sn**	**13 04 01.7**	**-2.9**
	68nm,0.5s							
BRLS	**Borolday**	**2.00**	**359**	P		**Pn**	**13 03 38.0**	**-0.9**
	15nm,0.4s							
BRLS				S		**Sn**	**13 04 01.7**	**-2.9**
	68nm,0.5s							
GAR	**Garm**	**2.05**	**171**	⇓*iP*		**Pn**	**13 03 40.8**	**+1.1**
	baz=65							
GAR				⇓*iS*		**Sg**	**13 04 08.9**	**-1.0**
	baz=65							
KK31	**Karatay Array**	**2.12**	**12**	⇓Pn		**Pb**	**13 03 43.0**	**-0.3**
	2.4nm,0.3s,baz=198,slow=15,SNR=27							
KK31				⇓Lg		Lg	13 04 13.2	
	14nm,0.5s,baz=202,slow=28,SNR=4.0							
OHH	**Osh**	**2.25**	**102**	⇓*iP*		**Pb**	**13 03 45.5**	**+0.1**
	baz=1.0							
OHH				⇓*iS*		**Sg**	**13 04 16.7**	**+0.5**
	baz=1.0							
ARSB	**Arslanbob**	**2.34**	**82**	⇑*iP*		**Pb**	**13 03 47.2**	**+0.1**
	baz=82							
ARSB				⇑*iS*		**Sg**	**13 04 19.2**	**-0.1**
	baz=82							
CHGR	**Chuyangaron**	**2.44**	**194**	⇑*iP*		**Pn**	**13 03 44.9**	**-0.1**
	baz=89							
CHGR				⇑*iS*		**Sn**	**13 04 15.6**	**+0.1**
	baz=89							
MRKS	**Merke**	**3.02**	**54**	*eP*		**Pb**	**13 04 00.3**	**+1.8**
	6.7nm,0.5s							
MRKS				*eS*		**Sg**	**13 04 40.3**	**-0.7**
	5.4nm,0.4s							
MRKS	**Merke**	**3.02**	**54**	Pg		**Pb**	**13 04 00.4**	**+1.8**
	6.7nm,0.5s							
MRKS				Lg		Lg	13 04 40.3	
	5.4nm,0.5s							
AML	**Almayashu**	**3.05**	**68**	⇑*iP*		**Pb**	**13 03 57.2**	**-2.1**
	baz=69							
AML				⇑*iS*		**Sb**	**13 04 36.6**	**-0.6**
	baz=69							
BTLS	**Baital**	**5.03**	**36**	*eP*		**Pg**	**13 04 38.3**	**-2.1**
	1.0nm,0.2s							
BTLS				*eS*		**Sg**	**13 05 45.8**	**+0.3**
	3.7nm,0.5s							
BTLS	**Baital**	**5.03**	**36**	Pg		**Pg**	**13 04 38.3**	**-2.1**
	1.0nm,0.2s							
BTLS				Lg		Lg	13 05 45.8	
	3.7nm,0.5s							

*JMA **27** 13:18:27.4,39.67N×141.59E,h73km±1km,M3.4*
Broadband fault plane solution: P waves. NP1:
ϕ±24.00000°,δ43.00000°,λ107.00000°. NP2:
ϕ±181.00000°,δ49.00000°,λ74.00000°. Principal axes: T
Plg78.0000°, Azm25.0000°; N Plg12.0000°,
Azm191.0000°; P Plg3.0000°, Azm282.0000°;
JMA Felt I J1.
*NEIC **27** 13:18:28.1±0.9,39.65N±0.08×141.8E±0.1,h92km±3km,*
mb4.3/7 Error ellipse: s-maj=17.5km s-min=10.1km
az=112.0
*IDC **27** 13:18:30.9±2.8,39.61N×141.51E,h111km±26km,mb3.5/8,*
mb1 3.6/11,mb1mx3.4/35,mbtmp3.8/11,Error ellipse:
s-maj=25.0km s-min=15.4km az=90.0

ISC 27 13:18:27.1±0.8,39.64N±0.04×141.70E±0.06,h78km±6km, n41,σ1§31/48,mb4.2/13,8C-5D,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.11**	**126**	⇑P		**Pn**	**13 18 38.5**	**+0.2**
MIYJ				S		**Sn**	**13 18 46.5**	**0.0**
JTH	**Tanohata**	**0.32**	**23**	⇑P		**Pn**	**13 18 39.2**	**0.0**
JTH				S		**Sn**	**13 18 47.7**	**-0.5**
JOM	**Ohasama**	**0.36**	**242**	⇑P		**Pn**	**13 18 38.8**	**-0.7**
JOM				S		**Sn**	**13 18 47.3**	**-1.3**
JKZ	**Kuzumaki**	**0.45**	**320**	⇑P		**Pn**	**13 18 39.6**	**-0.6**
JKZ				S		**Sn**	**13 18 48.3**	**-1.6**
JANG	**Nango**	**0.74**	**349**	⇑P		**Pn**	**13 18 42.4**	**-0.6**
JANG				S		**Sn**	**13 18 53.5**	**-1.4**
JMK	**Ichinoseki**	**0.79**	**209**	⇑P		**Pn**	**13 18 43.2**	**-0.3**
JMK				S		**Sn**	**13 18 54.8**	**-0.8**
JRG	**Rokugo**	**0.86**	**254**	⇓P		**Pn**	**13 18 43.7**	**-0.6**
JRG				S		**Sn**	**13 18 56.2**	**-1.0**
JAH	**Hinai**	**0.99**	**304**	⇓P		**Pn**	**13 18 45.1**	**-0.7**
JAH				S		**Sn**	**13 18 58.5**	**-1.2**
JIO	**Ouri**	**1.22**	**193**	⇑P		**Pn**	**13 18 48.8**	**+0.1**
JIO				S		**Sn**	**13 19 04.9**	**+0.1**
JTM	**Tenmabayashi**	**1.24**	**337**	⇓P		**Pn**	**13 18 48.8**	**-0.2**
JTM				S		**Sn**	**13 19 04.7**	**-0.7**
JYK	**Kaneyama**	**1.27**	**236**	⇓P		**Pn**	**13 18 48.9**	**-0.4**
JYK				eS		**Sn**	**13 19 05.5**	**-0.5**
JOU	**Okura**	**1.51**	**213**	⇑P		**Pn**	**13 18 52.9**	**+0.5**
JOU				S		**Sn**	**13 19 11.8**	**+0.2**
JIW	**Iwasaki**	**1.61**	**307**	⇓P		**Pn**	**13 18 53.5**	**-0.2**
ERM	**Erimo**	**2.61**	**24**			**Pn**	**13 19 07.9**	**+0.8**
MJB9	**Matsu-Tunnel**	**4.14**	**223**	Pn		**Pn**	**13 19 30.0**	**+2.0**
MAJO	**Matsushiro**	**4.14**	**223**			**Pn**	**13 19 30.0**	**+2.0**
MJAR	**Matsushiro Arr**	**4.14**	**223**	P		**Pn**	**13 19 29.8**	**+1.8**
	0.1nm,0.3s,baz=35,slow=11,SNR=14							
JHJ	**Hachijo jima 2**	**6.69**	**194**	P		**Pn**	**13 20 02.2**	**-0.5**
	3.5nm,0.3s,baz=243,slow=9.3,SNR=1.6							
JHJ				S		**Sn**	**13 21 12.6**	**-4.9**
	3.5nm,0.3s,baz=52,slow=10.0,SNR=2.0							
USRK	**Ussuriysk Ar.**	**8.55**	**305**	P		**Pn**	**13 20 30.4**	**+2.4**
	baz=132,slow=13,SNR=6.1							
KSRS	**Korea Array**	**11.01**	**263**	P		**Pn**	**13 21 04.9**	**+3.3**
	0.3nm,0.3s,baz=74,slow=14,SNR=7.0							
H11N2	**WAKE ISLAND Hy**	**29.38**	**125**	T		T	13 55 05.0	
	baz=318,slow=75,SNR=86							
H11N1	**WAKE ISLAND Hy**	**29.38**	**125**	T		T	13 55 09.6	
	baz=318,slow=75,SNR=109							
H11N3	**WAKE ISLAND Hy**	**29.39**	**125**	T		T	13 55 06.7	
	baz=318,slow=75,SNR=91							
H11S1	**WAKE ISLAND Hy**	**30.17**	**127**	T		T	13 55 58.2	
	baz=319,slow=76,SNR=20							
H11S3	**WAKE ISLAND Hy**	**30.17**	**127**	T		T	13 56 07.3	
	baz=319,slow=76,SNR=30							
H11S2	**WAKE ISLAND Hy**	**30.18**	**127**	T		T	13 56 02.2	
	baz=319,slow=76,SNR=17							
ZALV	**Zalesovo Beam**	**40.37**	**310**	P		**P**	**13 25 56.6**	**-0.3**
	1.4nm,0.4s,baz=91,slow=7.8,SNR=7.4							
MKAR	**Makanchi Array**	**42.97**	**300**	P		**P**	**13 26 18.2**	**-0.2**
	0.2nm,0.4s,baz=81,slow=8.0,SNR=4.0							
KURK	**Kurchatov**	**44.54**	**306**	P		**P**	**13 26 30.1**	**-0.7**
KURK					IAmb	IAmb	13 26 33.2	
	comp=Z,1.9nm,0.5s							
KDAK	**Kodiak Island**	**45.03**	**44**	P		**P**	**13 26 36.1**	**+1.4**
	comp=Z,6.3nm,1.1s,baz=240,slow=7.2,SNR=4.2							
SKT	**Skwentna**	**45.25**	**38**	P		**P**	**13 26 34.6**	**-1.8**
SKT					IAmb	IAmb	13 26 39.3	
	comp=Z,4.4nm,0.7s							
ILAR	**Eielson Array**	**47.19**	**34**	P		**P**	**13 26 52.8**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=262,slow=5.9,SNR=9.7							
WB0	**Warramunga Arr**	**59.49**	**188**	P		**P**	**13 28 21.8**	**-0.3**
WRAB	**Tennant Creek**	**59.66**	**188**	P		**P**	**13 28 22.5**	**-0.8**
WRAB					IAmb	IAmb	13 28 28.0	
	comp=Z,2.9nm,1.0s							
WR0	**Warramunga Arr**	**59.67**	**188**	P		**P**	**13 28 23.1**	**-0.1**
WR0					IAmb	IAmb	13 28 30.9	
	comp=Z,2.5nm,1.1s							
WB2	**Warramunga Arr**	**59.67**	**188**	P		**P**	**13 28 22.5**	**-0.8**
WB2					IAmb	IAmb	13 28 40.3	
	comp=Z,3.8nm,1.1s							
WRA	**Warramunga Arr**	**59.67**	**188**	P		**P**	**13 28 23.1**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=5.8,slow=7.0,SNR=14							
AS31	**Alice Springs**	**63.40**	**188**	P		**P**	**13 28 47.9**	**-0.4**
ASAR	**Alice Springs**	**63.40**	**188**	P		**P**	**13 28 48.5**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=2.3,slow=7.4,SNR=23							
FINES	**FINESS Array B**	**66.62**	**332**	P		**P**	**13 29 08.2**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=72,slow=8.4,SNR=5.1							
NOA	**NORSAR Array B**	**71.87**	**337**	P		**P**	**13 29 41.2**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=57,slow=22,SNR=3.6							

*DDA **27** 13:26:24.1,36.23N×32.94E,h7km±4km,ML1.9*
*ISK **27** 13:26:24.4,36.19N×32.93E,h5km,ML2.5/12*
*NIC **27** 13:26:25.2±0.0,36.09N×32.94E,h15km,Ml2.1/3*

ISC 27 13:26:24.6±0.9,36.16N±0.02×32.92E±0.02,h11km±6km, n34,σ1§03/51,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BOZY	**Bozyazi-Mersin**	**0.07**	**140**	PG		**Pg**	**13 26 27.0**	**+0.1**
BOZY					SG	**Sg**	**13 26 28.9**	**+0.4**
TEKE	**Tekeli-Mersin**	**0.16**	**97**		PG	**Pg**	**13 26 28.3**	**+0.2**
BERE	**Bereket-Mersin**	**0.31**	**53**		PG	**Pg**	**13 26 30.7**	**-0.2**
BERE					SG	**Sb**	**13 26 35.6**	**-1.8**
YORU	**Yoruktepe-Mers**	**0.39**	**91**		PG	**Pg**	**13 26 32.5**	**+0.1**
YORU					SG	**Sb**	**13 26 38.4**	**-1.3**
OREN	**Orenkoy-Mersin**	**0.44**	**84**		PG	**Pg**	**13 26 33.0**	**-0.2**
OREN					SG	**Sb**	**13 26 39.8**	**-1.1**
GAZI	**Gazipasa**	**0.49**	**279**		PG	**Pg**	**13 26 34.5**	**+0.3**
GAZI	**Gazipasa**	**0.49**	**279**	*i*	P	**Pg**	**13 26 34.4**	**+0.1**
GAZI					*i* S	**Sg**	**13 26 41.7**	**+0.9**
GAZI					IAML		13 26 42.0	
	comp=N,125nm,0.3s							
GAZI					IAML		13 26 42.0	
	comp=E,113nm,0.3s							
TEVE	**Tevekalti-Mers**	**0.50**	**57**		PG	**Pb**	**13 26 34.4**	**-1.1**
GULN	**MERSIN_Gulnar**	**0.51**	**87**	*i*	P	**Pg**	**13 26 34.3**	**-0.1**
GULN					*i* S	**Sg**	**13 26 40.4**	**-0.8**
GULN					IAML		13 26 43.0	
	comp=N,83nm,0.4s							
GULN					IAML		13 26 43.0	
	comp=E,77nm,0.3s							
TEPK	**Tepekoy-MERSIN**	**0.51**	**83**		PG	**Pg**	**13 26 34.3**	**-0.2**
YESI	**Yesilovacik-Me**	**0.58**	**86**		PG	**Pb**	**13 26 36.2**	**-0.7**
TISA	**Tisan-Mersin**	**0.61**	**90**		PG	**Pb**	**13 26 36.7**	**-0.6**
KARG	**Kargicak-Mersi**	**0.64**	**86**		PG	**Pb**	**13 26 37.2**	**-0.6**
KEBE	**Keben-Mersin**	**0.70**	**66**		PG	**Pg**	**13 26 37.9**	**-0.3**
SILI	**Silifke-Mersin**	**0.84**	**75**		PG	**Pb**	**13 26 40.9**	**-0.3**
SLFK	**Silifke-Mersin**	**0.86**	**74**		PG	**Pb**	**13 26 41.4**	**-0.2**
ALFC	**Alefka**	**1.04**	**195**		P	**Pg**	**13 26 43.7**	**-0.8**
ALFC					AML	AML	13 26 57.5	
	comp=E,0.2nm,0.3s							
ALFC					AML	AML	13 26 57.5	
	comp=E,0.2nm,0.3s							
ALFC					S	**Sg**	**13 26 58.0**	**0.0**
ALFC					AML	AML	13 27 02.5	
	comp=E,0.4nm,0.3s							
ALFC					AML	AML	13 27 02.5	
	comp=E,0.4nm,0.3s							
KIZK	**Mersin**	**1.04**	**72**		PG	**Pb**	**13 26 44.2**	**-0.4**
KRMN	**Karaman**	**1.05**	**15**		PG	**Pn**	**13 26 45.2**	**-0.2**
KRMN					SG	**Sb**	**13 26 58.5**	**-0.1**
EREN	**Erenkoy**	**1.20**	**121**		PN	**Pn**	**13 26 47.7**	**+0.4**
EREN	**Erenkoy**	**1.20**	**121**	*i*	P	**Pn**	**13 26 48.3**	**+1.1**
EREN					IAML		13 27 06.0	
	comp=N,19nm,0.7s							
EREN					IAML		13 27 06.0	
	comp=E,25nm,1.1s							
EREN					*i* S	**Sn**	**13 27 08.0**	**+4.5**
AKMS	**Akamas**	**1.24**	**203**		P	**Pn**	**13 26 47.1**	**-0.8**
AKMS					S	**Sb**	**13 27 03.7**	**-0.3**
AKMS					AML	AML	13 27 09.5	
	comp=E,0.2nm,0.4s							
AKMS					AML	AML	13 27 09.5	
	comp=E,0.2nm,0.4s							
AKMS					AML	AML	13 27 10.9	
	comp=E,0.1nm,0.5s							
AKMS					AML	AML	13 27 10.9	
	comp=E,0.1nm,0.5s							
CSS	**Mathiatis**	**1.24**	**164**		PN	**Pn**	**13 26 47.6**	**-0.3**
CSS	**Mathiatis**	**1.24**	**164**		P	**Pn**	**13 26 46.9**	**-1.1**
CSS					S	**Sb**	**13 27 03.9**	**-0.2**
MVOU	**Mavrovouni**	**1.28**	**153**		P	**Pn**	**13 26 47.2**	**-1.3**
MVOU					AML	AML	13 27 04.4	
	comp=E,0.1nm,0.3s							
MVOU					AML	AML	13 27 04.4	
	comp=E,0.1nm,0.3s							
MVOU					S	**Sb**	**13 27 04.5**	**-0.7**
MVOU					AML	AML	13 27 07.3	
	comp=E,0.1nm,0.2s							
MVOU					AML	AML	13 27 07.3	
	comp=E,0.1nm,0.2s							
KEPZ	**Antalya-Kepez**	**1.29**	**305**	*i*	P	**Pn**	**13 26 48.5**	**-0.2**
KEPZ				*i*	S	**

MORW					IAmb	IAmb	13 42 31.5			
	comp=Z,28nm,1.2s									
NJ2	**Nanjing**	**48.30**	**322**	*eP*	**P**	**P**	**13 43 11.0**	**-1.4**		
NJ2					pmax	pmax				
	comp=Z,10.0nm,0.6s									
CN2	**Changchun**	**53.92**	**336**	*eP*	**P**	**P**	**13 43 56.3**	**+2.2**		
CN2					pmax	pmax				
	comp=Z,10.0nm,0.8s									
PBKT	**Sadao Pong**	**54.72**	**294**	P	**P**	**P**	**13 44 00.6**	**+0.3**		
CMAR	**Chiang Mai Arr**	**57.14**	**295**	P	**P**	**P**	**13 44 18.2**	**+0.6**		
	comp=Z,3.2nm,0.7s,baz=122,slow=5.8,SNR=24									
CHTO	**Chiang Mai**	**57.26**	**296**	P	**P**	**P**	**13 44 16.3**	**-2.1**		
CHTO					IAmb	IAmb	13 44 19.1			
	comp=Z,6.7nm,1.4s									
HHC	**Hu-ho-hao-te**	**58.54**	**325**	*eP*	**P**	**P**	**13 44 28.8**	**+1.7**		
HHC					pmax	pmax				
	comp=Z,12nm,0.7s									
HHC					pmax	pmax				
	comp=Z,90nm,7.1s									
LZH	**Lanzhou**	**60.64**	**316**	⇓P	**P**	**P**	**13 44 42.5**	**+0.9**		
LZH					pP	pP	13 45 20.8	+3.4		
LZH					sP	sP	13 45 38.8	+4.8		
LZH					PP	PP	13 47 10.5	+13		
LZH					pmax	pmax				
	comp=Z,20nm,1.3s									
LZH					pmax	pmax				
	comp=Z,110nm,5.8s									
GTA	**Gaotai**	**65.08**	**318**	*eP*	**P**	**P**	**13 45 11.0**	**+0.1**		
GTA					pmax	pmax				
	comp=Z,3.0nm,1.0s									
CASY	**Casey**	**67.85**	**197**	P	**P**	**P**	**13 45 28.3**	**+0.5**		
CASY					IAmb	IAmb	13 45 46.2			
	comp=Z,6.9nm,1.2s									
WMQ	**Urumqi**	**75.17**	**318**	*eP*	**P**	**P**	**13 46 12.5**	**+0.3**		
WMQ					LR	LR				
	comp=N,320nm,28.9s									
WMQ					LR	LR				
	comp=E,1μm,29.0s									
WMQ					LR	LR				
	comp=Z,200nm,23.5s									
ZALV	**Zalesovo Beam**	**80.67**	**326**	P	**P**	**P**	**13 46 40.9**	**-1.3**		
	comp=Z,0.5nm,0.4s,baz=107,slow=5.4,SNR=2.6									
ILAR	**Eielson Array**	**82.39**	**22**	P	**P**	**P**	**13 46 49.5**	**-1.6**		
	comp=Z,0.4nm,0.8s,baz=242,slow=5.8,SNR=3.1									
QSPA	**South Pole Qui**	**85.23**	**180**	P	**P**	**P**	**13 47 05.9**	**+0.3**		
	comp=Z,0.6nm,0.9s,baz=317,slow=1.8,SNR=6.1									
QSPA	**South Pole Qui**	**85.23**	**180**	P	**P**	**P**	**13 47 05.3**	**-0.3**		
TORD	**Torodi Ar. Bea**	**149.54**	**288**	PKPbc	**PKPbc**		**13 54 17.5**	**-1.3**		
	comp=Z,2.2nm,0.5s,baz=90,slow=2.9,SNR=19									

*AEIC **27** 13:43:39.5±1.9,51°.9N±0°.1×178°.27E±0°.08,h112km±4km, ML3.7,mb4.3/52(NEIC),Error ellipse: s-maj=16.9km s-min=6.8km az=188.0*

*NEIC **27** 13:43:39.3±1.8,51°.9N±0°.1×178°.34E±0°.08,h115km±5km, Error ellipse: s-maj=16.8km s-min=7.3km az=186.0*

*IDC **27** 13:43:39.9±2.3,52°.05N×178°.41E,h119km±20km, mb3.8/16,mb1 3.9/18,mb1mx3.7/45,mbtmp4.2/18,MS3.4/1, Ms1 3.4/1,ms1mx2.4/36,Error ellipse: s-maj=19.7km s-min=10.5km az=165.0*

ISC 27 13:43:39.5±0.6,51°.91N±0°.09×178°.36E±0°.04,h117km±5km, n116,σ1s01/116,mb4.2/39,1C,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.10**	**67**		**Pn**	**13 43 54.5**	**-1.1**
LSNW	**Little Sitkin**	**0.11**	**58**		**Pn**	**13 43 54.5**	**-1.1**
LSPA	**Little Sitkin**	**0.14**	**70**		**Pn**	**13 43 54.5**	**-1.1**
LSPA					**Sn**	**13 44 08.0**	**+0.3**
CETU	**Semis' Tuman**	**0.70**	**85**		**Pn**	**13 43 58.2**	**-0.4**
CESW	**Semis' Southwe**	**0.74**	**90**		**Pn**	**13 43 58.1**	**-0.8**
CEAP	**Semis' Anvil P**	**0.76**	**83**		**Pn**	**13 43 58.6**	**-0.3**
AMKA	**Amchitka**	**0.79**	**132**		**Pn**	**13 43 58.6**	**-0.7**
AMKA				Sn	**Sn**	**13 44 14.3**	**+0.1**
CERAA	**Semis' Rag'd T**	**0.82**	**90**		**Pn**	**13 43 58.9**	**-0.6**
CERAA					**Sn**	**13 44 14.0**	**-0.6**
GAEA	**Gareloi East**	**1.80**	**93**		**Pn**	**13 44 09.9**	**-0.4**
TASE	**Tanaga Southea**	**2.23**	**91**		**Pn**	**13 44 15.3**	**-0.5**
TAFP	**Tanaga Falls P**	**2.27**	**89**		**Pn**	**13 44 15.6**	**-0.6**
TAFP					**Sn**	**13 44 43.9**	**-0.3**
TAPA	**Tanaga Point A**	**2.38**	**91**		**Pn**	**13 44 17.0**	**-0.6**
KIMD	**Kanaga Island**	**2.74**	**91**		**Pn**	**13 44 21.5**	**-0.7**
SMY	**Shemya**	**2.74**	**289**		**Pn**	**13 44 21.0**	**-1.2**
SMY				Sn	**Sn**	**13 44 53.3**	**-1.8**
KICM	**Kanaga Island**	**2.75**	**88**		**Pn**	**13 44 21.9**	**-0.5**
KIKV	**Kanaga Island**	**2.77**	**89**		**Pn**	**13 44 22.3**	**-0.3**
ADK	**Adak**	**3.07**	**89**	Pn	**Pn**	**13 44 25.6**	**-0.9**
GSTD	**Great Sitkin T**	**3.40**	**85**		**Pn**	**13 44 30.0**	**-1.0**
GSTR	**Great Sitkin T**	**3.45**	**85**	Pn	**Pn**	**13 44 30.9**	**-0.7**
GSMY	**Great Sitkin M**	**3.46**	**86**		**Pn**	**13 44 30.8**	**-0.9**
ATKA	**Atka Island**	**4.60**	**83**	Pn	**Pn**	**13 44 46.9**	**-0.1**
KOFP	**Korovin Flat P**	**4.67**	**83**		**Pn**	**13 44 48.1**	**+0.2**
NIKH	**Nikolski High**	**7.89**	**77**	Pn	**Pn**	**13 45 31.9**	**+0.6**
SPIA	**Saint Paul Isl**	**8.46**	**79**	Pn	**Pn**	**13 45 40.8**	**+1.7**
PEA0B	**Petropavlovsk-**	**12.64**	**284**	Pn	**Pn**	**13 46 36.3**	**+1.3**
PETK	**Petropavlovsk-**	**12.64**	**284**	P	**Pn**	**13 46 36.3**	**+1.3**
	0.6nm,0.3s,baz=110,slow=17,SNR=14						
OHAK	**Old Harbor**	**17.20**	**61**	P	**P**	**13 47 29.4**	**-2.7**
BILL	**Bilibino**	**17.21**	**345**	P	**Pn**	**13 47 33.8**	**+1.4**
BILL				IAmb	IAmb	13 47 35.2	
	comp=Z,15nm,1.2s						
TTA	**Tatalina**	**17.53**	**41**	P	**P**	**13 47 35.3**	**-0.4**
KDAK	**Kodiak Island**	**17.64**	**59**	P	**P**	**13 47 34.5**	**-2.4**
	comp=Z,2.8nm,0.3s,baz=253,slow=2.9,SNR=60						
RSO	**Redoubt South**	**18.08**	**50**	P	**P**	**13 47 42.3**	**+0.4**
SPU	**Mount Spurr**	**18.61**	**49**	P	**Pn**	**13 47 48.9**	**-0.2**
CNPM	**China Poot**	**18.61**	**54**	P	**P**	**13 47 47.5**	**0.0**
CNPM				IAmb	IAmb	13 47 48.6	
	comp=Z,18nm,0.7s						
BRLK	**Bradley Lake**	**18.83**	**53**	P	**P**	**13 47 49.1**	**-0.8**
BRLK				IAmb	IAmb	13 47 50.6	
	comp=Z,17nm,0.6s						
SKT	**Skwentna**	**19.08**	**46**	P	**Pn**	**13 47 54.3**	**-0.5**
SKT				IAmb	IAmb	13 48 00.1	
	comp=Z,13nm,0.8s						
BPAW	**Bear Paw Mtn.**	**20.06**	**41**	P	**P**	**13 48 04.2**	**+1.0**
TRF	**Thorofare Moun**	**20.11**	**43**	P	**P**	**13 48 05.1**	**+1.2**
TRF				IAmb	IAmb	13 48 10.8	
	comp=Z,7.0nm,0.8s						
GHO	**Glory Hole Cre**	**20.21**	**48**	P	Pn	13 48 06.6	-1.4
GHO				IAmb	IAmb	13 48 42.8	
	comp=Z,20nm,1.5s						
KNK	**Knik Glacier**	**20.34**	**49**	P	**P**	**13 48 04.9**	**-1.4**
KNK				IAmb	IAmb	13 48 09.4	
	comp=Z,12nm,1.1s						
SML	**Sawmill**	**20.49**	**48**	P	**P**	**13 48 08.8**	**+0.9**
SML				IAmb	IAmb	13 48 10.4	
	comp=Z,9.6nm,0.9s						
GLI	**Glacier Island**	**20.89**	**51**	IAmb	IAmb	13 48 39.7	
	comp=Z,10nm,0.8s						
SCM	**Sheep Creek Mo**	**20.96**	**48**	P	**P**	**13 48 12.9**	**-0.1**
SCM				IAmb	IAmb	13 48 14.4	
	comp=Z,8.8nm,0.7s						
DHY	**Denali Highway**	**21.25**	**45**	P	**P**	**13 48 15.6**	**-0.5**
WRH	**Wood River Hil**	**21.38**	**41**	P	**P**	**13 48 17.1**	**-0.2**
WRH				IAmb	IAmb	13 48 19.5	
	comp=Z,18nm,1.7s						
MDM	**Murphy Dome**	**21.49**	**40**	P	**P**	**13 48 20.3**	**+1.7**
CCB	**Clear Creek Bu**	**21.55**	**41**	P	**P**	**13 48 19.5**	**+0.3**
HDA	**Harding Lake**	**21.82**	**42**	P	**P**	**13 48 22.5**	**+0.5**
ILAR	**Eielson Array**	**21.97**	**41**	P	**P**	**13 48 21.2**	**-2.3**
	comp=Z,0.5nm,0.6s,baz=247,slow=8.8,SNR=9.5						
ILAR				ScP	**ScP**	**13 55 42.2**	**-1.2**
	comp=Z,0.5nm,0.7s,baz=253,slow=3.0,SNR=4.8						
RAGM	**Ragged Mountai**	**22.00**	**53**	P	**P**	**13 48 23.6**	**-0.4**
RAGM				IAmb	IAmb	13 48 27.8	
	comp=Z,24nm,1.0s						
PAX	**Paxson**	**22.06**	**46**	P	**P**	**13 48 24.5**	**-0.1**
RIDG	**Independent Ri**	**22.52**	**44**	P	**P**	**13 48 27.0**	**-2.3**
RIDG				IAmb	IAmb	13 48 31.4	
	comp=Z,12nm,1.4s						
GLB	**Gilahina Butte**	**22.55**	**50**	P	**P**	**13 48 29.6**	**0.0**
GLB				IAmb	IAmb	13 48 32.9	
	comp=Z,5.4nm,0.6s						
TOLK	**Toolik Lake Re**	**22.67**	**30**	P	**P**	**13 48 31.3**	**+0.6**
VRDI	**Verde Repeater**	**22.69**	**51**	P	**P**	**13 48 31.1**	**0.0**
VRDI				IAmb	IAmb	13 48 52.7	
	comp=Z,32nm,1.9s						
CRQM	**Cirque**	**22.79**	**52**	P	**P**	**13 48 32.2**	**+0.1**
CRQM				IAmb	IAmb	13 48 34.1	
	comp=Z,17nm,0.9s						
DOT	**Dot Lake**	**22.84**	**45**	P	**P**	**13 48 30.9**	**-1.5**
MENT	**Mentasta**	**22.84**	**46**	P	**P**	**13 48 33.3**	**+1.0**
WAX	**Waxell Ridge**	**22.91**	**53**	P	**P**	**13 48 33.8**	**+0.7**
WAX				IAmb	IAmb	13 48 35.0	
	comp=Z,12nm,0.7s						
YAH	**Yahtse**	**23.45**	**53**	P	**P**	**13 48 38.7**	**+0.4**
YAH				IAmb	IAmb	13 48 40.1	
	comp=Z,12nm,0.7s						
BARN	**Barnard Glacie**	**23.54**	**51**	IAmb	IAmb	13 48 41.9	
	comp=Z,7.9nm,0.7s						
CTGM	**Chitina Glacie**	**23.69**	**52**	IAmb	IAmb	13 48 43.1	
	comp=Z,9.7nm,1.0s						
EGAK	**Eagle**	**24.33**	**42**	P	**P**	**13 48 45.6**	**-0.3**
EGAK					**pwP**	**13 49 13.3**	**+1.3**
EGAK				IAmb	IAmb	13 49 14.5	
	comp=Z,12nm,0.9s						
JKA	**Kamikawa-asahi**	**24.96**	**266**	P	**P**	**13 48 53.4**	**+1.5**
JKA	**Kamikawa-asahi**	**24.96**	**266**	IAmb	IAmb	13 49 05.0	
	comp=Z,9.3nm,1.0s						
ASAJ	**Asahikawa**	**24.96**	**266**	P	**P**	**13 48 53.4**	**+1.5**
	comp=Z,6.4nm,0.8s,baz=84,slow=8.9,SNR=7.1						
HYT	**Haines Junctio**	**25.55**	**52**	P	**P**	**13 48 58.5**	**+1.2**
HYT				IAmb	IAmb	13 49 01.0	
	comp=Z,10nm,0.6s						
KLR	**Kul'dur**	**29.33**	**283**	P	**P**	**13 49 30.9**	**0.0**
	comp=Z,5.2nm,0.6s,baz=68,slow=9.7,SNR=19						
USRK	**Ussuriysk Ar.**	**31.48**	**274**	LR	LR	14 05 45.6	
	comp=Z,59nm,18.3s,baz=258,slow=42						
MAT	**Matsushiro**	**32.15**	**257**	P	**P**	**13 49 56.7**	**+0.9**
H11N2	**WAKE ISLAND Hy**	**33.35**	**200**	T	T	14 25 32.6	
	baz=11,slow=76,SNR=10						
H11N3	**WAKE ISLAND Hy**	**33.36**	**200**	T	T	14 25 44.1	
	baz=11,slow=76,SNR=6.9						
H11N1	**WAKE ISLAND Hy**	**33.37**	**200**	T	T	14 25 39.0	
	baz=11,slow=76,SNR=8.6						
YKA	**Yellowknife Ar**	**36.15**	**46**	P	**P**	**13 50 30.3**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=285,slow=8.5,SNR=11						
YKA				ScP	**ScP**	**13 56 28.0**	**-0.2**
	comp=Z,0.6nm,1.0s,baz=293,slow=3.4,SNR=4.0						
KSRS	**Korea Array**	**37.88**	**268**	P	**P**	**13 50 45.7**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=58,slow=9.2,SNR=6.2						
SONM	**Sonjino Array**	**44.82**	**295**	P	**P**	**13 51 42.0**	**+0.3**
	comp=Z,1.9nm,0.5s,baz=66,slow=8.1,SNR=11						
SONM				PcP	**PcP**	**13 53 21.8**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=90,slow=3.0,SNR=3.7						
KVN	**Kaiserville**	**44.97**	**81**	P	**P**	**13 51 43.4**	**+0.4**
RYN	**Ryan**	**44.97**	**81**	P	**P**	**13 51 43.0**	**0.0**
RYN				IAmb	IAmb	13 51 44.1	
	comp=Z,2.0nm,0.5s						
NVAR	**Mina Array Bea**	**45.23**	**81**	P	**P**	**13 51 45.6**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=295,slow=7.5,SNR=11						
TIA	**Tal'an**	**45.35**	**275**	P	**P**	**13 51 46.5**	**+0.7**
TIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HHC	**Hu-ho-hao-te**	**45.84**	**284**	*eP*	**P**	**13 51 49.0**	**-0.8**
HHC				pmax	pmax		
	comp=Z,16nm,0.8s						
HHC				pmax	pmax		
	comp=Z,48nm,6.1s						
PDAR	**Pinedale Array**	**47.82**	**71**	P	**P**	**13 52 04.4**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=332,slow=4.5,SNR=5.4						
PSUT	**Pine Spring**	**47.88**	**78**	P	**P**	**13 52 02.6**	**-3.2**
MDND	**Maddock**	**50.35**	**60**	P	**P**	**13 52 24.5**	**+0.3**
PV13	**Radium Mtn., P**	**51.15**	**75**	P	**P**	**13 52 28.6**	**-2.1**
XAN	**Xi'an**	**51.83**	**279**	P	**P**	**13 52 35.8**	**+0.3**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ZALV	**Zalesovo Beam**	**52.37**	**312**	PcP	**PcP**	**13 53 49.3**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=40,slow=2.5,SNR=5.5						
LZH	**Lanzhou**	**53.54**	**284**	⇑P	**P**	**13 52 45.0**	**-3.2**
LZH				pP	pP	13 53 13.3	-2.5
LZH				sP	sP	13 53 27.0	-1.7
LZH				pmax	pmax		
	comp=Z,16nm,1.3s						
LZH				pmax	pmax		
	comp=Z,57nm,4.5s						
GTA	**Gaotai**	**53.72**	**290**	*eP*	**P**	**13 52 50.0**	**+0.6**
GTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
ARCES	**ARCESS Array B**	**57.25**	**349**	P	**P**	**13 53 13.1**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=39,slow=9.9,SNR=5.0						
KURK	**Kurchatov**	**57.36**	**312**	P	**P**	**13 53 14.3**	**-0.8**
KURK				IAmb	IAmb	13 53 15.2	
	comp=Z,3.0nm,0.6s						
MK31	**Makanchi Array**	**58.31**	**307**	P	**P**	**13 53 20.4**	**-1.4**
MK31				IAmb	IAmb	13 53 21.6	
	comp=Z,1.2nm,0.6s						
MKAR	**Makanchi Array**	**58.31**	**307**	P	**P**	**13 53 20.9**	**-1.0**
	comp=Z,1.2nm,0.4s,baz=48,slow=6.7,SNR=21						
MAKZ	**Makanchi**	**58.45**	**307**	P	**P**	**13 53 21.6**	**-1.2**
MAKZ				IAmb	IAmb	13 53 22.7	
	comp=Z,2.0nm,0.7s						
BRVK	**Borovoye**	**59.34**	**318**	P	**P**	**13 53 28.2**	**-0.6**
TXAR	**Lajitas Array**	**60.31**	**79**	P	**P**	**13 53 35.8**	**-0.1**
	comp=Z,2.6nm,0.5s,baz=305,slow=4.7,SNR=8.8						
FINES	**FINESS Array B**	**64.85**	**346**	P	**P**	**13 54 04.8**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=15,slow=7.8,SNR=10						
SIJI	**Sorong**	**65.81**	**233**	P	**P**	**13 54 13.0**	**+0.8**
	comp=Z,7.2nm,0.6s,baz=10.0,slow=4.6,SNR=4.4						
CMAR	**Chiang Mai Arr**	**69.20**	**274**	P	**P**	**13 54 34.0**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=28,slow=6.7,SNR=7.3						
GUN	**Gumba**	**70.01**	**290**	*eP*	**P**	**13 54 39.6**	**+0.7**
	comp=Z,28nm,0.4s						
JIRN	**Jiri**	**70.02**	**289**	*eP*	**P**	**13 54 39.8**	**+0.8**
	comp=Z,26nm,0.6s						
RAMN	**Ramite**	**70.31**	**289**	*eP*	**P**	**13 54 41.1**	**+0.5**
	comp=Z,24nm,0.6s						
PKI	**Pulchoki**	**70.54**	**290**	*eP*	**P**	**13 54 42.7**	**+0.6**
	comp=Z,15nm,0.5s						
PKIN	**Phulchoki**	**70.55**	**290**	*eP*	**P**	**13 54 42.6**	**+0.5**
	comp=Z,16nm,0.5s						
DANN	**Dangsing**	**70.91**	**292**	*eP*	**P**	**13 54 44.9**	**+0.6**
	comp=Z,26nm,0.6s						
KOLN	**Koldanda**	**71.44**	**291**	*eP*	**P**	**13 54 47.4**	**0.0**
	comp=Z,6.8nm,0.5s						
AKASG	**Malin Array Be**	**74.47**	**340**	P	**P**	**13 55 04.0**	**-0.6**
	comp=Z,2.4nm,0.4s,baz=21,slow=5.9,SNR=7.6						
KSM	**Kuching**	**75.43**	**253**	P	**P**	**13 55 11.0**	**+0.4**
MTN	**Manton Dam**	**76.30**	**227**	P	**P**	**13 55 15.9**	**+0.5**
KNRA	**Kununurra**	**79.87**	**228**	P	**P**	**13 55 35.5**	**+0.5**
WB0	**Warramunga Arr**	**81.03**	**221**	P	**P**	**13 55 41.1**	**-0.1**
WR0	**Warramunga Arr**	**81.14**	**221**	P	**P**	**13 55 41.7**	**-0.1**
WRAB	**Tennant Creek**	**81.19**	**221**	P	**P**	**13 55 41.9**	**-0.2**
WRA	**Warramunga Arr**	**81.21**	**221**	P	**P**	**13 55 42.3**	**+0.1**
	comp=Z,2.4nm,0.7s,baz=31,slow=5.7,SNR=9.0						
FITZ	**Fitzroy Crossi**	**83.43**	**230**	P	**P**	**13 55 54.5**	**+0.8**
ASAR	**Alice Springs**	**84.72**	**220**	P	**P**	**13 56 00.8**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=24,slow=5.1,SNR=14						
TORD	**Torodi Ar. Bea**	**115.15**	**356**	PKP	**PKiKP**	**14 02 06.1**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=357,slow=1.5,SNR=5.3						

*JMA **27** 14:13:50.7,24°.28N×122°.22E,h52km±2km,M1.8*

*TAP **27** 14:13:51.0,24°.40N×122°.19E,h43km,ML2.8,D*

ISC 27 14:13:51.0±1.0,24°.36N±0°.02×122°.24E±0°.02,h32km±6km, n83,σ1s12/160,1C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.43**	**305**	*i* P	**Pb**	**14 14 00.6**	**+0.1**
	baz=309						
TWC				*i* S	**Sb**	**14 14 07.0**	**+0.1**
	baz=309						
ENA	**Nanau**	**0.46**	**278**	*i* P	**Pb**	**14 14 00.9**	**0.0**
	baz=278						
ENA				*i* S	**Sb**	**14 14 07.8**	**+0.1**
	baz=278						
EGS		**0.56**	**330**	*i* P	**Pb**	**14 14 02.2**	**-0.2**
	baz=327						
EGS				*i* S	**Sb**	**14 14 10.5**	**+0.3**
	baz=327						
ILA	**Ilan**	**0.60**	**312**	P	**Pb**	**14 14 03.7**	**+0.5**
	baz=320						
ILA				*i* S	**Sb**	**14 14 12.3**	**+0.9**
	baz=320						
NACB	**Ninganchiao**	**0.61**	**252**	P	**Pb**	**14 14 03.2**	**-0.2**
	baz=237						
NACB				S	**Sb**	**14 14 11.8**	**-0.1**
	baz=237						
NTC	**Toucheng**	**0.61**	**323**	*eP*	**Pb**	**14 14 03.1**	**-0.3**
	baz=331						
NTC				S	**Sb**	**14 14 12.3**	**+0.4**
	baz=331						
TWE	**Neicheng**	**0.63**	**305**	⇑ *i* P	**Pb**	**14 14 03.7**	**0.0**
	baz=307						
TWE				S	**Sb**	**14 14 12.1**	**-0.2**
	baz=307						
TWD	**Chiawan**	**0.65**	**245**	P	**Pb**	**14 14 03.8**	**-0.2**
	baz=228						
TWD				*i* S	**Sb**	**14 14 13.2**	**+0.4**
	baz=228						
JYNG	**Yonagunijimaku**	**0.65**	**82**	P	**Pb**	**14 14 04.2**	**+0.2**
JYNG				S	**Sn**	**14 14 14.3**	**+1.1**
ENTT	**Nioudou**	**0.67**	**295**	⇓ *i* P	**Pb**	**14 14 04.3**	**0.0**
	baz=293						
ENTT				S	**Sb**	**14 14 13.2**	**-0.2**
	baz=293						
TWB1	**Santiao Chiao**	**0.68**	**341**	*i* P	**Pb**	**14 14 03.6**	**-0.9**
	baz=344						
TWB1				*i* S	**Sb**	**14 14 12.8**	**-0.9**
	baz=344						
HWA	**Hwalien**	**0.69**	**237**	*e*S	**Sb**	**14 14 14.4**	**+0.4**
	baz=232						
NDT	**Datong Townshi**	**0.70**	**290**	*i* P	**Pb**	**14 14 05.0**	**+0.2**
	baz=288						
NDT				S	**Sb**	**14 14 15.0**	**+0.7**
	baz=288						
ETLH	**Xiulin Townshi**	**0.71**	**258**	P	**Pb**	**14 14 04.4**	**-0.6**
	baz=246						
ETLH				S	**Sb**	**14 14 14.7**	**+0.2**
	baz=246						
YOJ	**Yonaguni jima**	**0.71**	**82**	P	**Pb**	**14 14 05.1**	**+0.1**
YOJ				S	**Sb**	**14 14 15.6**	**+1.1**
TIPB	**Shuangxi**	**0.71**	**328**	*i* P	**Pb**	**14 14 04.3**	**-0.7**
	baz=339						
TIPB				S	**Sb**	**14 14 13.5**	**-1.1**
	baz=339						
NNSB	**Datong**	**0.78**	**275**	P	**Pb**	**14 14 05.6**	**-0.6**
	baz=263						
NNSB				S	**Sb**	**14 14 16.9**	**+0.3**
	baz=263						
NNSH	**Datong**	**0.78**	**275**	P	**Pb**	**14 14 06.0**	**-0.3**
	baz=265						
NNSH				S	**Sb**	**14 14 16.3**	**-0.3**
	baz=265						
NWLT	**Wulai**	**0.79**	**302**	*e*P	**Pb**	**14 14 05.9**	**-0.4**
	baz=308						
NWLT				*e*S	**Sb**	**14 14 16.8**	**+0.1**
	baz=308						
NNS	**Nan Shan**	**0.79**	**276**	*i* P	**Pb**	**14 14 05.8**	**-0.6**
	baz=264						
NNS				S	**Sb**	**14 14 16.8**	**-0.2**
	baz=264						
NWF	**Wu-fen Shan**	**0.82**	**330**	*i* P	**Pb**	**14 14 05.8**	**-1.1**
	baz=340						
NWF				*i* S	**Sb**	**14 14 16.5**	**-1.1**
	baz=340						
WFSB	**Wu-fen Shan**	**0.82**	**330**	P	**Pb**	**14 14 05.8**	**-1.0**
	baz=340						
WFSB				*e*S	**Sb**	**14 14 16.5**	**-1.1**
	baz=340						
YHNB	**Yeheng**	**0.84**	**292**	⇓P	**Pb**	**14 14 06.9**	**-0.3**
	baz=279						
YHNB				S	**Sb**	**14 14 18.7**	**+0.4**
	baz=279						
TWA	**Mucha**	**0.86**	**316**	P	**Pb**	**14 14 05.9**	**-1.5**
	baz=328						
TWA				*i* S	**Sb**	**14 14 18.6**	**0.0**
	baz=328						
NSK	**Sanguang**	**0.86**	**292**	*i* P	**Pb**	**14 14 06.9**	**-0.6**
	baz=279						
NSK				S	**Sb**	**14 14 18.1**	**-0.7**
	baz=279						
NHDH	**Xindian Distri**	**0.88**	**313**	*e*P	**Pb**	**14 14 08.0**	**+0.1**
	baz=323						
NHDH				*e*S	**Sb**	**14 14 19.6**	**+0.3**
	baz=323						
WHF	**Hehuan Shan**	**0.91**	**257**	*i* P	**Pb**	**14 14 07.8**	**-0.8**
	baz=253						
WHF				*i* S	**Sb**	**14 14 19.8**	**-0.9**
	baz=253						
ESL	**Shilin**	**0.92**	**234**	*e*P	**Pb**	**14 14 06.4**	**-2.0**
	baz=230						
ESL				*e*S	**Sb**	**14 14 19.3**	**-0.9**
	baz=230						
TAP	**Taipei**	**0.95**	**316**	*e*P	**Pb**	**14 14 08.4**	**-0.5**
	baz=329						
TAP				*e*S	**Sb**	**14 14 20.5**	**-0.7**
	baz=329						
TWT	**Tachien**	**0.97**	**264**	*i* P	**Pn**	**14 14 09.2**	**+0.6**
	baz=261						
TWT				*i* S	**Sb**	**14 14 21.4**	**-0.7**
	baz=261						
TDCB	**Techi**	**0.99**	**264**	P	**Pn**	**14 14 08.9**	**+0.2**
	baz=261						
TDCB				S	**Sb**	**14 14 21.3**	**-1.3**
	baz=261						
EGFH	**Guangfu**	**1.01**	**227**	*e*P	**Pn**	**14 14 08.9**	**-0.1**
	baz=215						
EGFH				S	**Sb**	**14 14 21.7**	**-1.3**
	baz=215						
YM08	**YM08**	**1.01**	**325**	P	**Pn**	**14 14 08.3**	**-0.7**
	baz=334						
YM08				S	**Sb**	**14 14 20.4**	**-2.7**
	baz=334				

TYC	**Yuchr**	**1.34**	**250**	P	**Pn**	**14 14 14.9 +1.4**
	baz=239					
TYC				S	**Sn**	**14 14 30.5 +0.3**
	baz=239					
NSY	**Sanyi**	**1.35**	**273**	*eP*	**Pn**	**14 14 14.6 +1.0**
	baz=271					
NSY				*eS*	**Sn**	**14 14 31.1 +0.7**
	baz=271					
IRIF	**Iriomote-Funau**	**1.36**	**91**	P	**Pn**	**14 14 14.0 +0.2**
IRIF				*eS*	**Sn**	**14 14 31.3 +0.6**
WHYT	**Xinyi Township**	**1.43**	**243**	P	**Pn**	**14 14 16.4 +1.6**
	baz=232					
WHYT				S	**Sn**	**14 14 34.4 +1.9**
	baz=232					
FULB	**Fuli**	**1.44**	**217**	P	**Pn**	**14 14 14.0 -1.0**
	baz=204					
FULB				S	**Sn**	**14 14 32.0 -0.8**
	baz=204					
WJS	**Zhushan**	**1.48**	**249**	*eS*	**Sn**	**14 14 35.9 +2.2**
	baz=236					
CHKT	**Chengkung**	**1.49**	**213**	P	**Pn**	**14 14 14.6 -1.0**
	baz=200					
CHKT				S	**Sn**	**14 14 32.1 -1.7**
	baz=200					
WNT	**Mingjian**	**1.50**	**252**	*eP*	**Pn**	**14 14 17.7 +2.0**
	baz=249					
WNT				*eS*	**Sn**	**14 14 36.3 +2.2**
	baz=249					
ALS	**Alishan**	**1.56**	**237**	P	**Pn**	**14 14 18.0 +1.2**
	baz=224					
ALS				S	**Sn**	**14 14 36.5 +0.4**
	baz=224					
CHN5	**Tsauling**	**1.62**	**242**	P	**Pn**	**14 14 18.1 +0.8**
	baz=229					
CHN5				S	**Sn**	**14 14 38.0 +0.8**
	baz=229					
ELDTW	**Lidau**	**1.62**	**224**	P	**Pn**	**14 14 16.9 -0.4**
	baz=215					
ELDTW				S	**Sn**	**14 14 36.0 -1.2**
	baz=215					
JKRS	**Kuro-shima**	**1.62**	**94**	P	**Pn**	**14 14 18.3 +1.0**
JKRS				S	**Sn**	**14 14 38.5 +1.4**
WDLH	**Douliu**	**1.69**	**247**	*eP*	**Pn**	**14 14 20.4 +2.1**
	baz=245					
WDLH				*eS*	**Sn**	**14 14 41.4 +2.5**
	baz=245					
JIJ	**Ishigaki jima**	**1.74**	**90**	P	**Pn**	**14 14 19.4 +0.5**
JIJ				*eS*	**Sn**	**14 14 40.3 +0.3**
RLNB	**Erlin**	**1.78**	**255**	*eS*	**Sn**	**14 14 42.6 +1.6**
	baz=267					
STYT	**Tauyuan**	**1.81**	**229**	P	**Pn**	**14 14 21.0 +1.0**
	baz=218					
STYT				S	**Sn**	**14 14 42.3 +0.5**
	baz=218					
CHN4	**Tsaushan**	**1.81**	**237**	P	**Pn**	**14 14 21.9 +1.9**
	baz=224					
CHN4				*eS*	**Sn**	**14 14 44.2 +2.4**
	baz=224					
TPUB	**Ta-pu**	**1.81**	**235**	P	**Pn**	**14 14 21.4 +1.4**
	baz=222					
TPUB				*eS*	**Sn**	**14 14 43.5 +1.6**
	baz=222					
WTP	**Ta-pu**	**1.85**	**234**	*eP*	**Pn**	**14 14 22.0 +1.4**
	baz=221					
WTP				*eS*	**Sn**	**14 14 44.5 +1.5**
	baz=221					
TWGBT	**Beinan**	**1.87**	**215**	*eP*	**Pn**	**14 14 20.1 -0.7**
	baz=214					
TWGBT				*eS*	**Sn**	**14 14 40.9 -2.3**
	baz=214					
TWG	**Pinlang**	**1.87**	**215**	*eP*	**Pn**	**14 14 20.4 -0.4**
	baz=214					
TWG				*eS*	**Sn**	**14 14 41.5 -1.7**
	baz=214					
JISG	**Ishigakijimahi**	**1.90**	**83**	P	**Pn**	**14 14 21.4 +0.2**
JISG				S	**Sn**	**14 14 43.7 -0.4**
TWK	**Hsinying**	**1.94**	**236**	P	**Pn**	**14 14 23.6 +1.9**
	baz=224					
TWK				S	**Sn**	**14 14 47.2 +2.2**
	baz=224					
CHN1	**Nanshi**	**1.96**	**234**	*eP*	**Pn**	**14 14 23.6 +1.7**
	baz=222					
CHN1				*eS*	**Sn**	**14 14 47.6 +2.2**
	baz=222					
SNST	**Tainan City**	**1.96**	**235**	*eP*	**Pn**	**14 14 24.1 +2.1**
	baz=224					
SNST				S	**Sn**	**14 14 46.6 +1.2**
	baz=224					
SGST	**Jiashian**	**1.98**	**230**	*eS*	**Sn**	**14 14 48.5 +2.5**
	baz=219					
SLGT	**Liugui**	**2.00**	**227**	*eP*	**Pn**	**14 14 23.9 +1.4**
	baz=226					
SLGT				*eS*	**Sn**	**14 14 48.0 +1.5**
	baz=226					
SSD	**Sandimen**	**2.18**	**223**	*eP*	**Pn**	**14 14 27.4 +2.3**
	baz=221					
SSD				*eS*	**Sn**	**14 14 52.3 +1.3**
	baz=221					
JTJ	**Tarama**	**2.26**	**82**	P	**Pn**	**14 14 27.5 +1.3**
JTJ				*eS*	**Sn**	**14 14 53.9 +0.9**
MASBT	**Mashibuluo**	**2.28**	**221**	*eP*	**Pn**	**14 14 26.9 +0.5**
	baz=219					
MASBT				S	**Sn**	**14 14 55.9 +2.4**
	baz=219					
EAST	**Anshuo**	**2.35**	**213**	*eP*	**Pn**	**14 14 26.6 -0.7**
	baz=202					
LAY	**Lan-yu**	**2.40**	**195**	*eP*	**Pn**	**14 14 26.9 -1.1**
	baz=185					

*IDC **27** 14:14:02.1±2.0,61°.31N×150°.91W,h74^{km}±28^{km},mb3.6/8, mb1 3.8/13,mb1mx3.5/38,mbtmp4.0/13,MS2.2/1, Ms1 2.2/1,ms1mx2.0/33,Error ellipse: s-maj=35.4km s-min=12.4km az=124.0*

*UNK **27** 14:14:03.0,61°.41N×150°.93W,h72^{km}*

*ANF **27** 14:14:03.9±0.3,61°.45N×150°.68W,h72^{km},ML4.4/6,Error ellipse: s-maj=6.8km s-min=2.3km az=101.0*

*AEIC **27** 14:14:03.9±1.0,61°.41N±0°.03×150°.93W±0°.06,h72^{km}±5^{km}, ML3.8,mb4.2/1(NEIC),Mwr4.0/30(NEIC),Error ellipse: s-maj=5.0km s-min=4.0km az=142.0*

*NEIC **27** 14:14:03.0±0.8,61°.41N±0°.03×150°.96W±0°.05,h73^{km}±5^{km}, Error ellipse: s-maj=5.3km s-min=1.0km az=143.0*

*NEIC **27** 14:14:03,61°.39N×150°.81W,h66^{km},Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}0.22; $M_{\theta\theta}$-1.11; $M_{\phi\phi}$0.89; $M_{r\theta}$-0.38; $M_{\theta\phi}$0.15; $M_{\phi r}$0.23; Fault plane solution: M_o1.12000×10^{15} NP1:ϕ_s318.24000°, δ89.44000°,λ157.03000°. NP2:ϕ_s48.48000°,δ67.04000°, λ0.61000°. Principal axes: T 0.9596, Plg16.0000°, Azm271.0000°; N 0.2695, Plg67.0000°, Azm137.0000°; P -1.2291, Plg16.0000°, Azm6.0000°;*

ISC 27 14:14:02.9±0.6,61°.41N±0°.03×150°.92W±0°.03,h77^{km}±4^{km}, n118,σ0^{s}93/135,mb4.0/10,Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SUA	**Susitna One**	**0.10**	**57**		**Pn**	**14 14 13.9**	**-0.2**
SUA					**Sn**	**14 14 22.3**	**-0.1**
FIS	**Fire Island**	**0.43**	**128**		**Pn**	**14 14 16.6**	**+0.9**
STLK	**Strandline Lak**	**0.45**	**282**		**Pn**	**14 14 15.8**	**-0.2**
SPCG	**Spurr Capps Gl**	**0.55**	**258**		**Pn**	**14 14 16.5**	**-0.3**
SPCG					**Sn**	**14 14 26.4**	**-0.8**
SKT	**Skwentna**	**0.64**	**333**		**Pn**	**14 14 17.4**	**-0.4**
SKT					**Sn**	**14 14 28.4**	**-0.3**
CAPN	**Captain Cook N**	**0.66**	**190**	P	**Pn**	**14 14 19.2**	**+1.4**
	baz=9.5,SNR=38						
CAPN				S	**Sn**	**14 14 31.5**	**+2.7**
	baz=9.5						
CAPN	**Captain Cook N**	**0.66**	**190**		**Pn**	**14 14 19.2**	**+1.4**
SPNN	**North Nagishla**	**0.86**	**268**		**Pn**	**14 14 20.0**	**-0.3**
SPNN					**Sn**	**14 14 32.5**	**-0.6**
PMR	**Palmer**	**0.88**	**77**		**Pn**	**14 14 20.3**	**+0.1**
PMR					**Sn**	**14 14 33.1**	**0.0**
SLKM	**Skilak Lake**	**0.97**	**159**		**Pn**	**14 14 21.4**	**+0.1**
GHO	**Glory Hole Cre**	**1.02**	**68**		**Pn**	**14 14 22.4**	**+0.3**
GHO					**Sn**	**14 14 36.4**	**+0.1**
O22K	**Cooper Landing**	**1.10**	**148**	P	**Pn**	**14 14 23.0**	**+0.1**
	baz=328,SNR=171						
O22K				S	**Sn**	**14 14 38.4**	**+0.5**
	baz=328						
O22K	**Cooper Landing**	**1.10**	**148**		**Pn**	**14 14 23.1**	**+0.2**
KNK	**Knik Glacier**	**1.18**	**89**		**Pn**	**14 14 24.5**	**+0.5**
RDJH	**Redoubt Jeurge**	**1.23**	**229**		**Pn**	**14 14 24.8**	**+0.1**
SML	**Sawmill**	**1.30**	**71**		**Pn**	**14 14 25.6**	**+0.1**
RSO	**Redoubt South**	**1.31**	**224**		**Pn**	**14 14 25.8**	**0.0**
RDWB	**Redoubt West**	**1.32**	**226**		**Pn**	**14 14 26.1**	**+0.3**
RED	**Redoubt Volcan**	**1.35**	**223**		**Pn**	**14 14 26.1**	**-0.1**
PWL	**Port Wells**	**1.37**	**113**		**Pn**	**14 14 26.2**	**-0.1**
SEW	**Seward**	**1.49**	**151**		**Pn**	**14 14 27.8**	**-0.2**
PPLA	**Purkeypile**	**1.61**	**339**		**Pn**	**14 14 29.6**	**+0.1**
BRLK	**Bradley Lake**	**1.65**	**179**		**Pn**	**14 14 29.9**	**-0.2**
BRSE	**Bradley Lake S**	**1.68**	**177**		**Pn**	**14 14 29.9**	**-0.4**
IVE	**Iliamna Volcan**	**1.74**	**217**		**Pn**	**14 14 31.5**	**+0.2**
SCM	**Sheep Creek Mo**	**1.77**	**75**		**Pn**	**14 14 31.7**	**+0.1**
HOM	**Homer**	**1.79**	**192**		**Pn**	**14 14 32.3**	**+0.4**
WAT1	**Susitna Watana**	**1.81**	**37**		**Pn**	**14 14 32.5**	**+0.4**
CNPM	**China Poot**	**1.90**	**185**		**Pn**	**14 14 33.2**	**-0.2**
WAT2	**Susitna Watana**	**1.90**	**34**		**Pn**	**14 14 34.0**	**+0.6**
WAT6	**Susitna Watana**	**1.90**	**51**		**Pn**	**14 14 33.8**	**+0.2**
GLI	**Glacier Island**	**1.93**	**104**		**Pn**	**14 14 32.7**	**-1.0**
TRF	**Thorofare Moun**	**2.07**	**8**		**Pn**	**14 14 35.7**	**0.0**
CAST	**Castle Rocks**	**2.09**	**345**		**Pn**	**14 14 36.5**	**+0.6**
RND	**Reindeer**	**2.22**	**25**		**Pn**	**14 14 37.9**	**+0.2**
VMT	**TAPS Tl Valdez**	**2.22**	**96**		**Pn**	**14 14 37.2**	**-0.4**
FID	**Port Fidalgo**	**2.26**	**105**		**Pn**	**14 14 36.5**	**-1.5**
SVW2	**Sparrevohn**	**2.28**	**264**		**Pn**	**14 14 38.1**	**-0.3**
DHY	**Denali Highway**	**2.35**	**43**		**Pn**	**14 14 40.0**	**+0.5**
AU22	**Augustine Moun**	**2.38**	**212**		**Pn**	**14 14 40.3**	**+0.6**
HIN	**Hinchinbrook I**	**2.38**	**113**		**Pn**	**14 14 38.6**	**-1.2**
MCK	**McKinley**	**2.50**	**21**		**Pn**	**14 14 42.2**	**+0.8**
EYAK	**Cordova Ski Ar**	**2.66**	**107**		**Pn**	**14 14 42.5**	**-1.0**
PS11	**TAPS Pump St11**	**2.67**	**73**		**Pn**	**14 14 44.8**	**+1.1**
BPAW	**Bear Paw Mtn.**	**2.70**	**359**		**Pn**	**14 14 43.6**	**-0.4**
TT01	**Tatalina**	**2.83**	**304**		**Pn**	**14 14 45.5**	**-0.3**
TTA	**Tatalina**	**2.83**	**305**		**Pn**	**14 14 45.8**	**-0.1**
PAX	**Paxson**	**2.99**	**56**		**Pn**	**14 14 49.0**	**+0.9**
PS10	**TAPS Pump St10**	**3.13**	**48**		**Pn**	**14 14 52.0**	**+2.1**
NEA2	**Nenana**	**3.30**	**14**	P	**Pn**	**14 14 51.7**	**-0.5**
	baz=196,SNR=71						
NEA2				S	**Sn**	**14 15 29.4**	**-1.0**
	baz=196						
WRH	**Wood River Hil**	**3.33**	**22**		**Pn**	**14 14 52.6**	**0.0**
GLB	**Gilahina Butte**	**3.42**	**86**		**Pn**	**14 14 53.0**	**-0.8**
KAHC	**Katmai Hardscr**	**3.45**	**218**		**Pn**	**14 14 54.5**	**+0.2**
HDA	**Harding Lake**	**3.52**	**29**	P	**Pn**	**14 14 55.2**	**+0.1**
	baz=213,SNR=166						
HDA				S	**Sn**	**14 15 34.1**	**-1.4**
	baz=213						
HDA	**Harding Lake**	**3.52**	**29**		**Pn**	**14 14 55.8**	**+0.7**
CCB	**Clear Creek Bu**	**3.54**	**22**		**Pn**	**14 14 55.5**	**+0.1**
VRDI	**Verde Repeater**	**3.60**	**90**		**Pn**	**14 14 55.5**	**-1.0**
MLY	**Manley**	**3.64**	**1**		**Pn**	**14 14 57.6**	**+0.9**
RIDG	**Independent Ri**	**3.65**	**48**		**Pn**	**14 14 58.4**	**+1.4**
MENT	**Mentasta**	**3.71**	**62**		**Pn**	**14 14 58.2**	**+0.5**
KDAK	**Kodiak Island**	**3.74**	**194**	P	**Pn**	**14 14 56.6**	**-1.4**
	11nm,0.3s,baz=42,slow=8.3,SNR=373						
KDAK				S	**Sn**	**14 15 37.6**	**-3.3**
	11nm,0.3s,baz=272,slow=23,SNR=6.8						
KDAK				LR	LR	14 15 48.7	
	comp=Z,39nm,21.6s,baz=301,slow=29						
TCOL	**CIGO, UAF Yank**	**3.74**	**20**	P	**Pn**	**14 14 58.1**	**0.0**
	baz=203,SNR=87						
TCOL				S	**Sn**	**14 15 40.1**	**-0.9**
	baz=203						
TCOL	**CIGO, UAF Yank**	**3.74**	**20**		**Pn**	**14 14 58.4**	**+0.2**
COLA	**College**	**3.75**	**20**		**Pn**	**14 14 58.3**	**+0.2**
MDM	**Murphy Dome**	**3.76**	**18**		**Pn**	**14 14 58.7**	**+0.2**
MCARA	**McCarthy VSAT**	**3.79**	**87**		**Pn**	**14 14 58.6**	**-0.3**
CRQM	**Cirque**	**3.83**	**96**		**Pn**	**14 14 59.1**	**-0.5**
IL31		**3.84**	**27**		**Pn**	**14 14 59.6**	**+0.2**
ILAR	**Eielson Array**	**3.84**	**27**	P	**Pn**	**14 14 59.4**	**-0.1**
	22nm,0.3s,baz=212,slow=14,SNR=255						
KABU	**Katmai Buttres**	**3.84**	**217**		**Pn**	**14 15 00.1**	**+0.4**
KHIT	**Khitrov Hills**	**3.87**	**101**		**Pn**	**14 14 58.8**	**-1.1**
GRIN	**Grindle Hills**	**3.89**	**104**		**Pn**	**14 14 58.9**	**-1.3**
DOT	**Dot Lake**	**3.89**	**52**		**Pn**	**14 15 00.8**	**+0.6**
TGL	**Tana Glacier**	**3.98**	**96**		**Pn**	**14 15 00.8**	**-0.7**
CAHL	**Cahill**	**4.03**	**215**		**Pn**	**14 15 02.9**	**+0.7**
POKR	**Poker Plat Res**	**4.04**	**21**	P	**Pn**	**14 15 02.0**	**-0.2**
	baz=205,SNR=66						
POKR				S	**Sn**	**14 15 48.4**	**+0.2**
	baz=205						
WAX	**Waxell Ridge**	**4.05**	**100**		**Pn**	**14 15 01.4**	**-1.1**
PTPK	**Patty Peak**	**4.08**	**89**		**Pn**	**14 15 02.7**	**-0.3**
PS07	**TAPS Pump Stn7**	**4.09**	**16**		**Pn**	**14 15 03.4**	**-0.5**
SCRK	**Sand Creek**	**4.10**	**48**		**Pn**	**14 15 03.6**	**+0.4**
BALM	**Baldy**	**4.16**	**91**		**Pn**	**14 15 03.1**	**-0.9**
KIAG	**Kiagna River**	**4.17**	**93**		**Pn**	**14 15 03.4**	**-0.8**
ISLE	**Juniper Island**	**4.25**	**97**		**Pn**	**14 15 04.2**	**-1.0**
OHAK	**Old Harbor**	**4.37**	**197**	Pn	**Pn**	**14 15 05.2**	**-1.6**
BAGL	**Bagley Icefiel**	**4.40**	**98**		**Pn**	**14 15 06.5**	**-0.6**
BARN	**Barnard Glacie**	**4.49**	**90**		**Pn**	**14 15 08.5**	**0.0**
PS06	**TAPS Pump Stn6**	**4.49**	**6**		**Pn**	**14 15 08.9**	**+0.5**
GRNC	**Granite Creek**	**4.50**	**95**		**Pn**	**14 15 08.3**	**-0.5**
MESA	**MESA**	**4.56**	**102**		**Pn**	**14 15 08.3**	**-1.2**
BC03		**4.58**	**65**		**Pn**	**14 15 10.3**	**+0.8**
YAH	**Yahtse**	**4.60**	**99**		**Pn**	**14 15 09.2**	**-0.8**
CTGM	**Chitina Glacie**	**4.66**	**91**		**Pn**	**14 15 10.4**	**-0.4**
PRP	**Porcupine Dome**	**4.78**	**28**		**Pn**	**14 15 13.8**	**+1.4**
TABL	**Table Mountain**	**4.87**	**97**		**Pn**	**14 15 13.2**	**-0.5**
SII	**Sitkinak Islan**	**5.15**	**201**	Pn	**Pn**	**14 15 16.2**	**-1.2**
PCA	**Pinnacle**	**5.39**	**99**		**Pn**	**14 15 20.2**	**-0.5**
EGAK	**Eagle**	**5.57**	**48**		**Pn**	**14 15 23.4**	**+0.4**
FYU	**Fort Yukon**	**5.75**	**23**	Pn	**Pn**	**14 15 26.7**	**+1.3**
COLD	**Coldfoot**	**5.85**	**3**	P	**Pn**	**14 15 26.9**	**0.0**
	baz=183,SNR=41						
COLD				S	**Sn**	**14 16 32.6**	**+0.2**
	baz=183						
HYT	**Haines Junctio**	**6.53**	**89**	Pn	**Pn**	**14 15 36.2**	**0.0**
TOLK	**Toolik Lake Re**	**7.28**	**4**	P	**Pn**	**14 15 47.1**	**+0.6**
	baz=185,SNR=24						
TOLK				S	**Sn**	**14 17 08.0**	**+0.5**
	baz=185						
EPYK	**Eagle Plains**	**7.99**	**45**	P	**Pn**	**14 15 55.7**	**-0.3**
	baz=238						
EPYK				S	**Sn**	**14 17 22.6**	**-2.0**
	baz=238						
INK	**Inuvik**	**10.09**	**39**	P	**Pn**	**14 16 24.9**	**+0.2**
	1.6nm,0.3s,baz=254,slow=18,SNR=40						
INK	**Inuvik**	**10.09**	**39**	Pn	**Pn**	**14 16 24.6**	**-0.1**
DLBC	**Dease Lake**	**10.88**	**97**	P	**Pn**	**14 16 35.4**	**-0.2**
	0.3nm,0.3s,baz=300,slow=14,SNR=2.3						
YKA	**Yellowknife Ar**	**16.97**	**70**	P	**P**	**14 17 56.1**	**+0.4**
	0.1nm,0.3s,baz=282,slow=12,SNR=9.7						
RES	**Resolute Bay**	**23.56**	**33**	P	**P**	**14 19 08.0**	**+2.1**
	2.8nm,0.6s,baz=243,slow=9.0,SNR=1.1						
RES	**Resolute Bay**	**23.56**	**33**	P	**P**	**14 19 08.7**	**+2.8**
RES				IAmb	IAmb	14 19 58.4	
	comp=Z,9.2nm,1.0s						
DAG	**Danmarks Havn**	**38.86**	**16**	*i* P	**P**	**14 21 19.0**	**-0.9**
DAG				*i* S	**pP**	**14 21 41.6**	**+3.3**
TXAR	**Lajitas Array**	**44.57**	**114**	pP	pP	**14 22 28.2**	**+2.4**
	comp=Z,0.3nm,0.6s,baz=325,slow=6.4,SNR=3.4						
ARCES	**ARCESS Array B**	**49.32**	**2**	P	**P**	**14 22 43.1**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=10,slow=7.4,SNR=8.2						
KSRS	**Korea Array**	**53.86**	**283**	P	**P**	**14 23 18.2**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=32,slow=6.3,SNR=8.2						
KSRS				sP	**sP**	**14 23 44.5**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=27,slow=6.7,SNR=3.8						
SONM	**Songino Array**	**54.78**	**306**	P	**P**	**14 23 25.5**	**+1.0**
	comp=Z,2.8nm,0.6s,baz=39,slow=7.3,SNR=14						
NOA	**NORSAR Array B**	**57.11**	**10**	P	**P**	**14 23 39.5**	**-1.2**
	comp=Z,1.1nm,0.9s,baz=300,slow=21,SNR=2.3						
FINES	**FINESS Array B**	**57.45**	**2**	P	**P**	**14 23 42.1**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=7.6,slow=12,SNR=2.9						
MKAR	**Makanchi Array**	**63.95**	**322**	P	**P**	**14 24 26.5**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=40,slow=7.2,SNR=5.5						
ESDC	**Sonseca Array**	**75.74**	**26**	pP	pP	14 26 03.0	+2.8
	comp=Z,1.0nm,0.6s,baz=345,slow=6.6,SNR=4.5						
CMAR	**Chiang Mai Arr**	**83.18**	**296**	P	**P**	**14 26 20.4**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=24,slow=6.9,SNR=2.2						
CMAR				sP	**sP**	**14 26 47.3**	**-2.2**
	comp=Z,0.4nm,0.4s,baz=14,slow=7.3,SNR=2.8						

*IDC **27** 14:14:02.6±2.8,30°.17S×177°.29W,h0^{km},mb3.6/2, mb1 3.9/2,mb1mx3.6/28,mbtmp3.6/2,Error ellipse: s-maj=57.8km s-min=28.3km az=80.0*

*NEIC **27** 14:14:10.4±2.4,29°.95S±0°.2×177°.4W±0°.3,h61^{km}±17^{km}, mb4.3/7,Error ellipse: s-maj=51.4km s-min=10.5km az=51.0*

ISC 27 14:14:06.9±3.0,30°.3S±0°.1×177°.5W±0°.4,h35^{km},n11, σ1^{s}66/12,mb4.3/7,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.10**	**342**	Pn	**Pn**	**14 14 25.4**	**-0.4**
	190nm,0.3s,baz=55,slow=17,SNR=8.1						
RAO				Sn	**Sn**	**14 14 40.2**	**+0.4**
	365nm,0.3s,baz=104,slow=21,SNR=6.6						
RAO				LR	LR	14 14 49.6	
	comp=Z,197nm,20.1s,baz=344,slow=44						
CTAO	**Charters Tower**	**34.19**	**279**	P	**P**	**14 20 47.8**	**-1.4**
STKA	**Stephens Creek**	**34.90**	**257**	P	**P**	**14 20 54.5**	**-0.7**
STKA				IAmb	IAmb	14 21 08.5	
	comp=Z,0.8nm,0.8s						
AS31	**Alice Springs**	**43.52**	**267**	P	**P**	**14 22 06.6**	**-0.7**
ASAR	**Alice Springs**	**43.52**	**267**	P	**P**	**14 22 09.8**	**+2.5**
	comp=Z,0.4nm,0.8s,baz=108,slow=7.8,SNR=4.9						
WR0	**Warramunga Arr**	**44.32**	**272**	P	**P**	**14 22 15.2**	**+1.4**
WR0				IAmb	IAmb	14 22 23.4	
	comp=Z,9.5nm,1.4s						
WB2	**Warramunga Arr**	**44.49**	**272**	P	**P**	**14 22 16.5**	**+1.3**
WB2				IAmb	IAmb	14 22 18.2	
	comp=Z,4.9nm,1.1s						
WRAB	**Tennant Creek**	**44.50**	**272**	P	**P**	**14 22 17.2**	**+2.1**
WRAB				IAmb	IAmb	14 22 25.5	
	comp=Z,9.3nm,1.4s						
WRA	**Warramunga Arr**	**44.50**	**272**	P	**P**	**14 22 17.7**	**+2.5**
	comp=Z,0.6nm,0.4s,baz=110,slow=8.1,SNR=9.0						
WB0	**Warramunga Arr**	**44.53**	**272**	P	**P**	**14 22 16.6**	**+1.2**
WB0				IAmb	IAmb	14 22 22.2	
	comp=Z,13nm,1.4s						
FINES	**FINESS Array B**	**145.20**	**340**	PKPbc	**PKPbc**	**14 33 39.7**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=64,slow=4.4,SNR=6.1						

*UNK **27** 14:24:48.8,51°.92N×178°.45E,h118^{km}*

*MOS **27** 14:24:48.3±1.1,51°.99N×178°.50E,h130^{km},mb4.5/25, Error ellipse: s-maj=9.0km s-min=8.3km az=96.2*

*NEIC **27** 14:24:48.9±1.6,51°.94N±0°.09×178°.46E±0°.09, h118^{km}±4^{km},Error ellipse: s-maj=12.8km s-min=8.3km az=178.0*

*AEIC **27** 14:24:49.2±2.4,51°.9N±0°.1×178°.37E±0°.09,h119^{km}±4^{km}, ML4.1,mb4.5/95(NEIC),Error ellipse: s-maj=15.1km s-min=8.3km az=184.0*

*IDC **27** 14:24:49.8±0.8,52°.06N×178°.50E,h125^{km}±6^{km},mb3.9/26, mb1 4.1/28,mb1mx4.0/38,mbtmp4.3/28,MS3.2/4, Ms1 3.2/4,ms1mx2.8/36,Error ellipse: s-maj=14.9km s-min=8.4km az=166.0*

ISC 27 14:24:49.1±0.5,51°.95N±0°.07×178°.45E±0°.04,h123^{km}±4^{km}, h123^{km}:pP-P,n306,σ1^{s}00/296,mb4.5/86,6C-15D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.04**	**93**		**Pn**	**14 25 04.9**	**-0.9**
LSNW	**Little Sitkin**	**0.05**	**67**		**Pn**	**14 25 04.8**	**-1.0**
LSPA	**Little Sitkin**	**0.08**	**86**		**Pn**	**14 25 04.9**	**-0.9**
CETU	**Semis' Tuman**	**0.65**	**88**		**Pn**	**14 25 07.9**	**-0.4**
CESW	**Semis' Southwe**	**0.69**	**94**		**Pn**	**14 25 07.9**	**-0.7**
CEAP	**Semis' Anvil P**	**0.70**	**85**		**Pn**	**14 25 08.4**	**-0.3**
CERAA	**Semis' Rag'd T**	**0.77**	**93**		**Pn**	**14 25 08.7**	**-0.6**
AMKA	**Amchitka**	**0.78**	**137**		**Pn**	**14 25 08.6**	**-0.8**
AMKA					**Sn**	**14 25 22.9**	**-1.7**
GAEA	**Gareloi East**	**1.75**	**94**		**Pn**	**14 25 19.3**	**-0.3**
TASE	**Tanaga Southea**	**2.18**	**92**		**Pn**	**14 25 24.6**	**-0.4**
TAFP	**Tanaga Falls P**	**2.21**	**90**		**Pn**	**14 25 24.9**	**-0.4**
TAFP					**Sn**	**14 25 52.7**	**-0.4**
TAPA	**Tanaga Point A**	**2.32**	**92**		**Pn**	**14 25 26.3**	**-0.4**
KIMD	**Kanaga Island**	**2.69**	**92**		**Pn**	**14 25 30.7**	**-0.6**
KICM	**Kanaga Island**	**2.70**	**89**		**Pn**	**14 25 31.3**	**-0.2**
KIKV	**Kanaga Island**	**2.72**	**90**		**Pn**	**14 25 31.3**	**-0.4**
KIWB	**Kanaga Island**	**2.73**	**90**		**Pn**	**14 25 30.7**	**-1.2**
SMY	**Shemya**	**2.78**	**288**	Pn	**Pn**	**14 25 30.7**	**-1.8**
SMY	**Shemya**	**2.78**	**288**		**Sn**	**14 26 04.2**	**-1.8**
ADK	**Adak**	**3.02**	**89**	P	**Pn**	**14 25 34.8**	**-0.8**
ADK	**Adak**	**3.02**	**89**		**Pn**	**14 25 34.8**	**-0.8**
GSTD	**Great Sitkin T**	**3.34**	**86**		**Pn**	**14 25 39.0**	**-1.0**
GSTR	**Great Sitkin T**	**3.40**	**85**		**Pn**	**14 25 39.9**	**-0.8**
GSMY	**Great Sitkin M**	**3.40**	**86**		**Pn**	**14 25 39.8**	**-0.8**
ATKA	**Atka Island**	**4.55**	**84**	Pn	**Pn**	**14 25 55.0**	**-0.9**
KOFP	**Korovin Flat P**	**4.61**	**83**		**Pn**	**14 25 56.9**	**+0.1**
KOSE	**Korovin Southe**	**4.64**	**82**		**Pn**	**14 25 57.6**	**+0.4**
NIKH	**Nikolski High**	**7.

DHY IAmb IAmb 14 29 26.5
comp=Z,18nm,0.8s
TCOL CIGO, UAF Yank 21.54 40 P **P 14 29 28.7 +0.5**
baz=249
COLA College 21.55 40*de*P **P 14 29 28.8 +0.6**
COLA pmax pmax
comp=Z,6.0nm,0.9s
COLD Coldfoot 21.68 33 P **P 14 29 29.9 +0.2**
baz=241
HDA Harding Lake 21.76 42 P **P 14 29 30.6 +0.1**
baz=251,SNR=6.5
POKR Poker Plat Res 21.80 40 P **P 14 29 31.1 +0.1**
baz=249
IL31 21.90 41 P **P 14 29 29.6 -2.4**
ILAR Eielson Array 21.90 41 P **P 14 29 30.2 -1.8**
comp=Z,1.4nm,0.8s,baz=246,slow=8.3,SNR=16
ILAR ScP **ScP 14 36 49.9 -1.7**
comp=Z,0.6nm,0.6s,baz=289,slow=3.9,SNR=6.4
GLB Gilahina Butte 22.48 50 IAmb IAmb 14 29 41.2
comp=Z,12nm,0.7s
TOLK Toolik Lake Re 22.60 30 P **P 14 29 39.2 +0.1**
baz=238
TOLK Toolik Lake Re 22.60 30 P **P 14 29 38.4 -0.7**
TOLK IAmb IAmb 14 30 08.6
comp=Z,13nm,0.7s
VRDI Verde Repeater 22.62 51 IAmb IAmb 14 29 42.3
comp=Z,11nm,0.6s
MENT Mentasta 22.77 46 IAmb IAmb 14 29 45.1
comp=Z,9.7nm,0.6s
WAX Waxell Ridge 22.84 53 IAmb IAmb 14 29 43.6
comp=Z,25nm,0.7s
MCARA McCarthy VSAT 22.85 51 IAmb IAmb 14 29 43.2
comp=Z,18nm,0.8s
SCRK Sand Creek 22.88 44 P **P 14 29 40.7 -1.3**
ISLE Juniper Island 23.10 53 IAmb IAmb 14 29 46.0
comp=Z,20nm,1.1s
FYU Fort Yukon 23.17 37 P **P 14 29 42.9 -1.6**
FYU IAmb IAmb 14 30 14.3
comp=Z,18nm,1.1s
YSS Yuzh-Sakhalins 23.57 272 *e*P **P 14 29 49.5 +1.2**
YSS pmax pmax
comp=Z,20nm,0.7s
YSS Yuzh-Sakhalins 23.57 272 P **P 14 29 50.4 +2.1**
YSS IAmb IAmb 14 29 51.0
comp=Z,16nm,0.7s
CTGM Chitina Glacie 23.62 52 IAmb IAmb 14 29 51.5
comp=Z,18nm,0.7s
PCA Pinnacle 24.11 54 IAmb IAmb 14 29 55.5
comp=Z,19nm,0.6s
DAWY Dawson 24.88 45 IAmb IAmb 14 30 03.2
comp=Z,12nm,0.8s
ASAJ Asahikawa 25.01 266 P **P 14 30 02.5 +1.1**
comp=Z,7.0nm,0.7s,baz=75,slow=8.9,SNR=12
EPYK Eagle Plains 26.40 40 P **P 14 30 13.4 -0.3**
baz=259
EPYK Eagle Plains 26.40 40 P **P 14 30 13.0 -0.7**
EPYK IAmb IAmb 14 30 28.6
comp=Z,7.8nm,0.8s
INK Inuvik 27.99 36 P **P 14 30 27.9 +0.1**
comp=Z,1.5nm,0.5s,baz=248,slow=7.8,SNR=8.2
KLR Kul'dur 29.38 283 P **P 14 30 40.4 0.0**
comp=Z,5.7nm,0.5s,baz=67,slow=7.9,SNR=36
KLR Kul'dur 29.38 283*d i*P **P 14 30 40.1 -0.2**
KLR pmax pmax
comp=Z,11nm,0.8s
DLBC Dease Lake 29.48 57 P **P 14 30 42.4 +1.2**
comp=Z,2.6nm,0.9s,baz=244,slow=12,SNR=4.5
DLBC Dease Lake 29.48 57 IAmb IAmb 14 30 45.7
comp=Z,18nm,1.4s
USA0B Ussuriysk Arra 31.53 274 P **P 14 30 58.5 -0.8**
USA0B pmax pmax
comp=Z,6.0nm,0.7s
USA0B Ussuriysk Arra 31.53 274 P **P 14 30 58.5 -0.8**
USA0B IAmb IAmb 14 30 59.9
comp=Z,5.9nm,0.7s
USRK Ussuriysk Ar. 31.53 274 P **P 14 30 59.1 -0.3**
comp=Z,6.0nm,0.6s,baz=54,slow=9.0,SNR=14
MAJO Matsushiro 32.21 257*ce*P **P 14 31 06.2 +0.8**
MAJO pmax pmax
comp=Z,6.0nm,1.0s
MAT Matsushiro 32.21 257 P **P 14 31 06.4 +1.0**
MJAR Matsushiro Arr 32.21 257 P **P 14 31 06.2 +0.8**
comp=Z,1.5nm,0.6s,baz=47,slow=6.1,SNR=7.5
MJAR LR LR 14 46 10.6
comp=Z,20nm,19.1s,baz=230,slow=40
MDJ Mudanjiang 32.79 277 P **P 14 31 10.0 -0.4**
MDJ pmax pmax
comp=Z,8.0nm,0.8s
MDJ pmax pmax
comp=Z,68nm,5.2s
H11N2 WAKE ISLAND Hy 33.41 200 T T 15 06 49.4
baz=11,slow=76,SNR=18
H11N3 WAKE ISLAND Hy 33.41 200 T T 15 06 40.0
baz=11,slow=76,SNR=22
H11N1 WAKE ISLAND Hy 33.42 200 T T 15 06 53.0
baz=11,slow=76,SNR=22
CN2 Changchun 35.76 278 *e*P **P 14 31 37.0 +1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
YKA Yellowknife Ar 36.08 47 P **P 14 31 38.8 +0.3**
comp=Z,2.5nm,0.7s,baz=283,slow=8.3,SNR=22
YKA pP **pP 14 32 05.8 +0.7**
comp=Z,0.7nm,0.6s,baz=285,slow=8.2,SNR=3.2
YKA ScP **ScP 14 37 34.4 -1.9**
comp=Z,0.7nm,0.8s,baz=280,slow=2.9,SNR=6.3
YKA LR LR 14 48 07.8
comp=Z,36nm,18.0s,baz=0.0,slow=39
BOD Bodaibo 36.25 305 *e*P **P 14 31 38.7 -1.3**
BOD pmax pmax
comp=Z,5.0nm,0.9s
D03D Eldon 37.16 73 P **P 14 31 48.0 +0.2**
baz=299
B05A Bryant 37.39 71 P **P 14 31 49.4 -0.3**
baz=299
KSRS Korea Array 37.93 268 P **P 14 31 55.8 +1.4**
comp=Z,3.8nm,0.8s,baz=59,slow=8.5,SNR=18
KSRS PcP **PcP 14 34 08.8 +1.1**
comp=Z,1.4nm,0.7s,baz=40,slow=2.8,SNR=7.5
TJN Taejon 38.96 267*ce*P **P 14 32 03.8 +0.8**
G05D Wamic, OR 39.38 75 P **P 14 32 05.5 -0.9**
baz=302
NEW Newport 40.28 69 P **P 14 32 13.0 -0.9**
baz=300
J05D Fort Rock, OR 40.50 78 P **P 14 32 16.0 +0.2**
baz=304
N02D Trinity Center 40.93 82 P **P 14 32 19.1 -0.3**
baz=306
M04C Macdoel 40.99 80 P **P 14 32 19.8 -0.2**
baz=306
O02D Mt. Diablo Mer 41.35 83 P **P 14 32 23.2 +0.4**
baz=307
O03E Paynes Creek 41.89 82 P **P 14 32 27.4 +0.2**
baz=307,SNR=10
BMO Blue Mountains 41.98 73 P **P 14 32 26.8 -1.1**
BMO pmax pmax
comp=Z,3.0nm,0.9s
BMO Blue Mountains 41.98 73 P **P 14 32 26.8 -1.1**
MSO Missoula 42.87 69 P **P 14 32 34.2 -0.9**
baz=303
NRIK Noril'sk 43.04 329 P **P 14 32 37.5 +1.6**
comp=Z,5.8nm,0.8s,baz=68,slow=9.2,SNR=8.1
BJI Beijing 43.58 280 P **P 14 32 41.8 +1.1**
BJI pmax pmax
comp=Z,6.0nm,1.0s
PAHR Pah Rah Range 43.72 81 IAmb IAmb 14 32 44.3
comp=Z,10nm,1.4s
PNTR Pine Nut 43.97 82 P **P 14 32 44.9 +0.8**
PNTR IAmb IAmb 14 32 46.0
comp=Z,16nm,1.1s
HLID Hailey 44.42 73 P **P 14 32 46.7 -1.0**
baz=306,SNR=5.5
WAKR Walker 44.43 82 P **P 14 32 48.6 +0.8**
WAKR IAmb IAmb 14 32 49.8
comp=Z,12nm,1.2s
ULN Ulaanbaatar 44.46 294*c i*P **P 14 32 48.1 +0.2**
ULN *i* *PP **pP 14 33 17.1 +2.0**
ULN pmax pmax
comp=Z,4.0nm,0.7s
EGMT Eagleton 44.61 65 P **P 14 32 47.8 -1.1**
baz=303
SONM Songino Array 44.85 295 P **P 14 32 51.4 +0.5**
comp=Z,3.7nm,0.6s,baz=60,slow=8.0,SNR=22
SONM PcP **PcP 14 34 31.0 +0.5**
comp=Z,1.7nm,0.7s,baz=76,slow=3.0,SNR=6.5
SONM ScP **ScP 14 38 13.0 +1.8**
comp=Z,1.3nm,0.7s,baz=67,slow=3.1,SNR=6.0
SONM LR LR 14 53 40.6
comp=Z,44nm,18.7s,baz=244,slow=39
BOZ Bozeman (W) 44.89 69 P **P 14 32 49.8 -1.5**
baz=305,SNR=9.4
RYN Ryan 44.91 81 IAmb IAmb 14 32 52.5
comp=Z,4.6nm,0.5s
NVAR Mina Array Bea 45.17 81 P **P 14 32 54.1 +0.4**
comp=Z,3.0nm,0.6s,baz=293,slow=7.7,SNR=27
NVAR pP **pP 14 33 21.6 -0.1**
comp=Z,1.3nm,0.6s,baz=298,slow=7.4,SNR=4.9
ZAK Zakamensk 45.18 299 *e*P **P 14 32 53.4 -0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TIA Tai'an 45.40 275 P **P 14 32 55.8 +0.6**
TIA pmax pmax
comp=Z,22nm,0.7s
HHC Hu-ho-hao-te 45.88 284 *e*P **P 14 33 00.0 +0.9**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,53nm,6.3s
H17A Grant Village 46.19 70 P **P 14 33 02.1 +0.4**
baz=306
RLMT Red Lodge 46.52 68 P **P 14 33 04.1 -0.2**
baz=306
SBC Santa Barbara 46.88 87 P **P 14 33 07.2 +0.5**
baz=312
R11A Troy Canyon, C 46.88 80 P **P 14 33 06.5 -0.5**
baz=309,SNR=8.9
R11A Troy Canyon, C 46.88 80 P **P 14 33 07.1 0.0**
NJ2 Nanjing 47.09 269 *e*P **P 14 33 09.0 +0.5**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
MPMC Manual Prospec 47.19 83 P **P 14 33 09.7 +0.2**
baz=311
FURC Furnace Creek, 47.30 83 P **P 14 33 10.5 +0.4**
baz=310
TPNV Topopah Spring 47.37 82 P **P 14 33 10.8 0.0**
baz=310,SNR=6.5
TPNV Topopah Spring 47.37 82 IAmb IAmb 14 33 40.7
comp=Z,7.4nm,0.9s
DUG Dugway, Tooele 47.40 76 P **P 14 33 10.7 -0.3**
baz=308,SNR=6.0
LRMC Laurel Mtn Rad 47.44 84 P **P 14 33 11.1 -0.2**
baz=311
EDW2 Edwards Air Fo 47.65 85 P **P 14 33 13.3 +0.4**
baz=312
BW06 Boulder Array 47.76 71 P **P 14 33 12.5 -1.3**
baz=307,SNR=5.4
PDAR Pinedale Array 47.76 71 P **P 14 33 12.9 -0.9**
comp=Z,2.6nm,0.7s,baz=307,slow=3.4,SNR=21
SHOC Shoshone, Teco 48.03 83 P **P 14 33 15.8 0.0**
baz=311
GSC Goldstone, Bar 48.10 84 P **P 14 33 16.4 0.0**
baz=311,SNR=7.3
GSC Goldstone, Bar 48.10 84 P **P 14 33 16.8 +0.4**
GSC pmax pmax
comp=Z,15nm,1.2s
GSC Goldstone, Bar 48.10 84 P **P 14 33 16.8 +0.4**
GSC IAmb IAmb 14 33 17.6
comp=Z,15nm,1.1s
TUQ Turquoise Moun 48.55 83 P **P 14 33 19.4 -0.5**
baz=311
HEC Hector,Ludlow 48.70 84 P **P 14 33 20.5 -0.5**
baz=312
GMRC Granite Mounta 49.15 83 P **P 14 33 24.8 +0.3**
baz=312
KNB Kanab 49.42 79 P **P 14 33 26.0 -0.5**
KNB pmax pmax
comp=Z,6.0nm,1.2s
KNB Kanab 49.42 79 P **P 14 33 26.0 -0.5**
PFO Pinyon Flats O 49.44 85 P **P 14 33 26.0 -0.6**
baz=312
IRM Iron Mountain 49.88 84 P **P 14 33 29.4 -0.4**
baz=312
BC3 Big Chuckawall 50.03 84 P **P 14 33 30.4 -0.7**
baz=312
U15A North Rim 50.12 79 IAmb IAmb 14 33 33.2
comp=Z,5.5nm,1.1s
O20A White River Ci 50.17 73 P **P 14 33 31.2 -1.0**
baz=310
MDND Maddock 50.29 60 P **P 14 33 31.8 -1.0**
baz=307
IKP In-Ko-Pah, Jac 50.30 86 P **P 14 33 32.8 -0.3**
baz=313
PDMCI Parker Dam,Lak 50.40 83 P **P 14 33 33.5 -0.3**
baz=312
Y12C Blythe 50.54 84 P **P 14 33 35.1 +0.3**
baz=312
WHN Wuhan 50.92 271 ⇓P **P 14 33 37.8 +0.2**
PV17 East Wray Mesa 50.93 75 IAmb IAmb 14 33 38.1
comp=Z,5.9nm,0.6s
N23A Red Feather La 51.03 71 P **P 14 33 38.1 -0.7**
baz=310
WUAZ Wupatki 51.28 80 P **P 14 33 40.3 -0.3**
baz=312
SSLB Suanglung 51.70 260 P **P 14 33 43.9 +0.3**
YULB Yu-li 51.79 259 P **P 14 33 44.7 +0.5**
XAN Xi'an 51.87 279 P **P 14 33 44.8 0.0**
XAN pmax pmax
comp=Z,6.0nm,0.6s
ISCO Idaho Springs 51.93 72 P **P 14 33 45.1 -0.4**
baz=310
TPUB Ta-pu 52.26 260 P **P 14 33 48.5 +0.7**
ZALV Zalesovo Beam 52.38 312 P **P 14 33 47.4 -0.8**
comp=Z,0.7nm,0.4s,baz=47,slow=6.5,SNR=2.7
ZALV PcP **PcP 14 34 58.1 +0.7**
comp=Z,3.4nm,0.7s,baz=32,slow=3.6,SNR=14
ZALV LR LR 14 57 28.9
comp=Z,22nm,19.1s,baz=86,slow=37
S22A 4UR Ranch, Cre 52.55 74 P **P 14 33 49.9 -0.2**
baz=311
SDCO Great Sand Dun 53.34 74 P **P 14 33 55.7 -0.2**
baz=312
LZH Lanzhou 53.58 284 ⇓P **P 14 33 57.0 -0.5**
LZH pP pP 14 34 25.3 -0.8
LZH sP sP 14 34 39.0 -0.6
LZH PP **PP 14 36 01.3 +2.2**
LZH pmax pmax
comp=Z,19nm,1.3s
LZH pmax pmax
comp=Z,70nm,8.0s
GTA Gaotai 53.76 290 ⇓P **P 14 33 59.0 +0.3**
GTA pP pP 14 34 25.8 -1.7
GTA sP sP 14 34 39.5 -1.6
GTA pmax pmax
comp=Z,13nm,0.8s
GTA pmax pmax
comp=Z,52nm,5.1s
GTA LR LR
comp=N,99nm,17.1s
GTA LR LR
comp=E,100nm,16.2s
GTA LR LR
comp=Z,72nm,16.2s
TUC Tucson 53.81 82 P **P 14 33 59.1 0.0**
baz=314
DGZ Jazzator, Alta 53.82 306 ⇓*e*P **P 14 33 59.0 -0.1**
DGZ pmax pmax
comp=Z,4.0nm,1.1s
ENH Enshi 54.11 275 IAmb IAmb 14 34 01.8
comp=Z,7.8nm,0.8s
T25A Trinidad 54.39 73 P **P 14 34 02.9 -0.5**
baz=312
EYMN Ely 54.48 56 P **P 14 34 03.2 -0.4**
baz=311
ANMO Albuquerque 54.64 77 P **P 14 34 04.9 -0.4**
baz=313
ANMO Albuquerque 54.64 77 ⇓*e*P **P 14 34 05.6 +0.3**
ANMO pmax pmax
comp=Z,4.0nm,1.5s
121A Cookes Peak, D 55.49 80 P **P 14 34 11.3 0.0**
baz=314
ARCES ARCESS Array B 57.22 349 P **P 14 34 21.9 -0.9**
comp=Z,2.0nm,0.7s,baz=27,slow=8.4,SNR=8.1
ARCES ARCESS Array B 57.22 349 P **P 14 34 22.0 -0.9**
KURK Kurchatov 57.37 312 P **P 14 34 24.5 +0.4**
KURK pmax pmax
comp=Z,11nm,1.0s
KURK Kurchatov 57.37 312 P **P 14 34 24.5 +0.4**
MNTX Cornudas Mount 57.53 79 P **P 14 34 25.7 +0.1**
baz=315
MNTX Cornudas Mount 57.53 79 P **P 14 34 25.5 -0.1**
WMQ Urumqi 57.58 301 *e*P **P 14 34 28.8 +2.9**
WMQ PcP **PcP 14 35 14.3 -3.5**
WMQ pmax pmax
comp=Z,120nm,6.7s
WMQ LR LR
comp=N,640nm,29.0s
WMQ LR LR
comp=E,1μm,29.1s
WMQ LR LR
comp=Z,55nm,28.9s
E43A Lone Tree Farm 57.81 55 IAmb IAmb 14 34 28.2
comp=Z,3.5nm,0.9s
MK31 Makanchi Array 58.32 307 P **P 14 34 30.4 -0.5**
MK31 pmax pmax
comp=Z,3.0nm,0.6s
MK31 Makanchi Array 58.32 307 P **P 14 34 30.4 -0.5**
MK31 IAmb IAmb 14 34 30.9
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 58.32 307 P **P 14 34 29.8 -1.1**
comp=Z,3.5nm,0.5s,baz=48,slow=6.7,SNR=48
MKAR Makanchi Array 58.32 307*ce*P **P 14 34 30.2 -0.7**
MKAR pmax pmax
comp=Z,4.0nm,0.5s
MAKZ Makanchi 58.47 307 P **P 14 34 31.3 -0.6**
MAKZ pmax pmax
comp=Z,6.0nm,0.6s
MAKZ Makanchi 58.47 307 P **P 14 34 31.3 -0.6**
JFWS Jewell Farm 58.50 59 P **P 14 34 31.2 -1.0**
baz=314
GYA Guiyang 58.56 274 *e*P **P 14 34 33.0 0.0**
GYA pmax pmax
comp=Z,7.0nm,0.9s
D47A Chapleau 59.27 52 P **P 14 34 36.8 -0.7**
baz=315
BRVK Borovoye 59.35 318*d i*P **P 14 34 37.9 0.0**
BRVK pmax pmax
comp=Z,7.0nm,0.6s
BRVK Borovoye 59.35 318 P **P 14 34 37.9 0.0**
WMOK Wichita Mounta 59.36 72 P **P 14 34 37.8 -0.5**
baz=315
E47A Iron Bridge 59.61 52 P **P 14 34 39.1 -0.6**
baz=315
E48A Lockeyer 60.13 52 P **P 14 34 42.2 -1.1**
baz=315
SVE Sverdlovsk 60.17 326 *e*P **P 14 34 44.4 +1.0**
SVE pmax pmax
comp=Z,14nm,1.0s
TX31 Lajitas Ar. Si 60.25 80 P **P 14 34 43.7 -0.8**
TX32 Lajitas Array 60.25 80 P **P 14 34 43.6 -0.9**
TX32 IAmb IAmb 14 34 45.3
comp=Z,5.4nm,1.2s
TXAR Lajitas Array 60.25 80 P **P 14 34 44.3 -0.2**
comp=Z,2.0nm,0.7s,baz=304,slow=5.2,SNR=22
F48A Evansville 60.38 53 P **P 14 34 44.1 -0.9**
baz=315
F49A Sandfield 60.70 52 P **P 14 34 46.5 -0.7**
baz=316
E50A Wahnapitae 60.86 51 P **P 14 34 46.9 -1.4**
baz=316
D51A Lot 18 Range I 61.03 50 P **P 14 34 48.4 -1.0**
baz=316
ARU Arti 61.20 327*d i*P **P 14 34 50.7 +0.4**
ARU pmax pmax
comp=Z,26nm,1.2s
ARU Arti 61.20 327 P **P 14 34 50.8 +0.4**
CHGQ Chibougamau 61.24 45 P **P 14 34 49.5 -1.4**
baz=318
E51A G1948 Merrick 61.38 50 P **P 14 34 50.1 -1.7**
baz=316
U40A Yellville 61.65 66 P **P 14 34 52.3 -1.4**
baz=315
D53A Lac Vacive, Po 61.83 49 P **P 14 34 53.8 -1.0**
baz=317
W39A Magazine 61.94 68 P **P 14 34 55.0 -0.7**
baz=316
SFIN Lafayette 61.96 60 P **P 14 34 55.2 -0.6**
baz=316
KIRV Kirov 62.29 333 *e*P **P 14 34 58.6 +1.0**
E53A Dumoine, Ponti 62.36 49 P **P 14 34 56.4 -1.9**
baz=317
FCAR Ozark Folk Cen 62.39 66 P **P 14 34 56.6 -2.1**
MIAR Mount Ida 62.52 68 P **P 14 34 59.4 -0.2**
baz=316
MIAR Mount Ida 62.52 68 P **P 14 34 58.2 -1.4**
MIAR pmax pmax
comp=Z,8.0nm,1.2s
MIAR Mount Ida 62.52 68 P **P 14 34 58.1 -1.4**
MIAR IAmb IAmb 14 35 00.5
comp=Z,8.4nm,1.2s
G53A Haliburton 62.83 51 P **P 14 35 00.7 -0.8**
baz=317
G54A Lake Saint Pet 62.88 50 P **P 14 35 00.8 -1.0**
baz=318
D55A Sainte-Anne-du 62.90 48 P **P 14 35 00.3 -1.6**
baz=318
D56A ZEC Mazanza, M 63.20 47 P **P 14 35 02.2 -1.7**
baz=318
H55A Tweed 63.94 50 P **P 14 35 07.8 -1.0**
baz=318
D58A Chemin du LacG 64.01 46 P **P 14 35 08.1 -1.1**
baz=319
FINES FINESS Array B 64.82 346 P **P 14 35 13.0 -1.2**
comp=Z,0.7nm,0.4s,baz=19,slow=8.1,SNR=8.4
FINES FINESS Array B 64.82 346 *i*P **P 14 35 14.1 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.5s
OXF Oxford 64.92 66 P **P 14 35 14.3 -1.0**
baz=317
D61A St Aubert, Com 65.11 44 P **P 14 35 15.0 -1.3**
baz=321
AAK Ala-Archa 65.17 308*d i*P **P 14 35 17.4 +0.4**
AAK pmax pmax
comp=Z,4.0nm,0.6s
K56A Middlesex 65.26 52 P **P 14 35 16.8 -0.7**
baz=319
L56A Greenwood 65.56 52 P **P 14 35 18.9 -0.6**
baz=319
K57A Scipio Center 65.62 51 P **P 14 35 19.0 -0.7**
baz=319
ABKAR Akbulak array 66.43 321 P **P 14 35 25.3 +0.6**
ABKAR IAmb IAmb 14 35 26.2
comp=Z,11nm,1.1s
KK31 Karatay Array 66.72 311 P **P 14 35 27.1 +0.3**
KK31 pmax pmax
comp=Z,5.0nm,0.6s
KK31 Karatay Array 66.72 311 P **P 14 35 27.1 +0.3**
KK31 IAmb IAmb 14 35 28.9
comp=Z,5.3nm,0.6s
KKAR Karatay Array 66.72 311 P **P 14 35 27.0 +0.2**
KKAR IAmb IAmb 14 35 28.9
comp=Z,5.3nm,0.6s
NB2 NORSAR Subarra 66.90 353 P **P 14 35 26.4 -1.2**
comp=Z,0.8nm,0.6s,baz=8.3,slow=6.2
NOA NORSAR Array B 66.90 353 P **P 14 35 26.9 -0.7**
comp=Z,1.0nm,0.8s,baz=2.7,slow=5.7,SNR=4.7
NOA pP **pP 14 35 57.7 +0.7**
comp=Z,1.5nm,0.9s,baz=7.8,slow=6.3,SNR=3.8
N59A State Game Lan 67.36 52 P **P 14 35 30.0 -0.9**
baz=320
K63A Dunstable 68.02 48 P **P 14 35 33.7 -1.1**
baz=321
HRV Adam Dziewonsk 68.14 48 P **P 14 35 34.6 -1.1**
baz=321
T57A Hurt 68.59 57 P **P 14 35 37.3 -1.2**
baz=320
BTK Batken 68.92 308 IAmb IAmb 14 35 43.8
comp=Z,9.7nm,1.0s
CMAR Chiang Mai Arr 69.25 274 P **P 14 35 43.1 +0.2**
comp=Z,2.0nm,0.6s,baz=26,slow=7.0,SNR=18
Y55A Saluda 69.52 61 P **P 14 35 43.1 -1.2**
baz=320
ODAN Odare 69.95 288 *e*P **P 14 35 47.9 +0.5**
comp=Z,19nm,0.8s
GAR Garm 69.99 308 P **P 14 35 47.6 +0.4**
GUN Gumba 70.05 290 *e*P **P 14 35 48.9 +0.8**
comp=Z,54nm,0.4s
V59A Middlesex 70.05 57 P **P 14 35 46.9 -0.7**
baz=320
JIRN Jiri 70.06 289 *e*P **P 14 35 49.1 +0.9**
comp=Z,74nm,0.7s
RAMN Ramite 70.35 289 *e*P **P 14 35 50.4 +0.6**
comp=Z,57nm,0.7s
PKI Pulchoki 70.58 290 *e*P **P 14 35 51.8 +0.5**
comp=Z,37nm,0.6s
PKIN Phulchoki 70.58 290 *e*P **P 14 35 51.7 +0.5**
comp=Z,36nm,0.5s
GKN Gorkha 70.70 291 *e*P **P 14 35 52.3 +0.5**
comp=Z,43nm,0.7s
DMN Daman 70.72 290 *e*P **P 14 35 52.9 +0.8**
comp=Z,33nm,0.8s
CHGR Chuyangaron 70.82 309 P **P 14 35 51.9 -0.4**
DANN Dangsing 70.94 292 *e*P **P 14 35 54.1 +0.6**

	comp=Z,66nm,0.7s						
KOLN	**Koldanda**	**71.47 291**	*e*P	**P**		**14 35 57.0**	**+0.4**
	comp=Z,32nm,0.8s						
NIL	**Nilore**	**72.67 303**	P	**P**		**14 36 02.9**	**-0.5**
NIL			pmax	pmax			
	comp=Z,10.0nm,0.7s						
NIL	**Nilore**	**72.67 303**	P	**P**		**14 36 02.9**	**-0.5**
AKASG	**Malin Array Be**	**74.45 340**	P	**P**		**14 36 12.5**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=24,slow=5.9,SNR=5.3						
AKASG			pP	**pP**		**14 36 44.9**	**+1.4**
	comp=Z,3.0nm,0.5s,baz=24,slow=6.8,SNR=5.5						
AKBB	**Malin Array Si**	**74.45 340**‖	*e*P	**P**		**14 36 13.5**	**+0.1**
KSM	**Kuching**	**75.50 253**	P	**P**		**14 36 20.8**	**+0.8**
MTN	**Manton Dam**	**76.36 228**	P	**P**		**14 36 24.8**	**+0.1**
MTN			IAmb	IAmb		14 36 26.0	
	comp=Z,11nm,0.8s						
GEYT	**Alibeck**	**76.49 315**	P	**P**		**14 36 25.9**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=333,slow=5.8,SNR=6.8						
KIV	**Kislovodsk**	**77.11 329**	*e*P	**P**		**14 36 29.5**	**+0.7**
KIV			pmax	pmax			
	comp=Z,22nm,1.0s						
KBZ	**Khabaz**	**77.25 329**	P	**P**		**14 36 30.3**	**+0.9**
	comp=Z,3.2nm,0.8s,baz=296,slow=2.6,SNR=7.7						
KBZ	**Khabaz**	**77.25 329**‖	*e*P	**P**		**14 36 30.7**	**+1.3**
KBZ			pmax	pmax			
	comp=Z,4.0nm,0.9s						
KNRA	**Kununurra**	**79.93 228**	P	**P**		**14 36 44.6**	**+0.3**
WR0	**Warramunga Arr**	**81.20 221**	P	**P**		**14 36 51.3**	**+0.2**
WRAB	**Tennant Creek**	**81.26 221**	*de*P	**P**		**14 36 51.1**	**-0.3**
WRAB			pmax	pmax			
	comp=Z,50nm,3.8s						
WRA	**Warramunga Arr**	**81.27 221**	P	**P**		**14 36 51.6**	**+0.2**
	comp=Z,5.0nm,0.7s,baz=32,slow=6.2,SNR=14						
WRA	**Warramunga Arr**	**81.27 221**	*i* P	**P**		**14 36 50.0**	**-1.5**
WRA			pmax	pmax			
	comp=Z,5.0nm,0.6s						
HYB	**Hyderabad**	**82.41 288**	*i* P	**P**		**14 36 58.0**	**+0.3**
ASAR	**Alice Springs**	**84.78 220**	P	**P**		**14 37 10.3**	**+0.8**
	comp=Z,2.0nm,0.7s,baz=21,slow=5.1,SNR=32						
STKA	**Stephens Creek**	**89.51 211**	P	**P**		**14 37 33.2**	**+1.2**
	comp=Z,4.6nm,0.6s,baz=341,slow=6.8,SNR=12						
STKA	**Stephens Creek**	**89.51 211**	IAmb	IAmb		14 37 38.6	
	comp=Z,14nm,1.9s						
TORD	**Torodi Ar. Bea**	**115.11 357**	PKP	**PKiKP**		**14 43 15.2**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=4.7,slow=2.4,SNR=5.4						
EFI	**East Falkland**	**145.82 112**	*c i* PKP2	**PKiKP**		**14 44 16.5**	**+0.2**
EFI			pmax	pmax			
	comp=Z,60nm,1.3s						
MAW	**Mawson**	**145.88 218**	PKPbc	**PKPab**		**14 44 13.0**	**-0.3**
	comp=Z,7.1nm,0.7s,baz=77,slow=4.3,SNR=12						
MAW	**Mawson**	**145.88 218**	PKP2	**PKPab**		**14 44 13.2**	**-0.1**
MAW	**Mawson**	**145.88 218**		**PKPab**		**14 44 13.2**	**-0.1**
BOSA	**Boshof**	**149.30 309**	PKPbc	**PKPbc**		**14 44 23.7**	**+0.4**
	comp=Z,8.2nm,0.5s,baz=24,slow=2.3,SNR=29						

WEL 27 14:53:08.3±0.7, 31°S±4°, 17°8'E±2°, 5, h33km, M4.4/12, mB4.8/6, ML4.9/12, MLv4.7/12, Mw(mB)4.1/6, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.42**	**175**	P	Pn	14 54 39.8	-0.8
HAZ	**Te Kaha**	**6.59**	**179**	P	Pn	14 54 44.8	+1.9
HAZ				S	Sn	14 56 01.2	+4.4
WMGZ	**Waiomatatini S**	**6.68**	**174**	P	Pn	14 54 45.0	+0.8
WMGZ				S	Sn	14 56 00.3	+1.2
PKGZ	**Pakihiroa**	**6.73**	**177**	P	Pn	14 54 46.3	+1.4
PKGZ				S	Sn	14 56 01.8	+1.4
RUGZ	**Raukumara Rang**	**6.79**	**179**	P	Pn	14 54 47.7	+1.9
RUGZ				S	Sn	14 56 03.5	+1.4
PUZ	**Puketiti**	**6.92**	**176**	P	Pn	14 54 46.9	-0.6
PUZ				S	Sn	14 56 03.5	-1.6
TWGZ	**Tauwhareparae**	**7.01**	**177**	P	Pn	14 54 49.0	+0.3
TWGZ				S	Sn	14 56 08.6	+1.3
URZ	**Urewera**	**7.10**	**183**	P	Pn	14 54 50.6	+0.7
URZ				S	Sn	14 56 09.5	+0.2
MWZ	**Matawai**	**7.16**	**180**	P	Pn	14 54 51.0	+0.2
MWZ				S	Sn	14 56 09.6	-1.5
TKGZ	**Te Karaka**	**7.27**	**178**	P	Pn	14 54 51.4	-0.9
TKGZ				S	Sn	14 56 13.1	-0.6
RAGZ	**Rawiri**	**7.33**	**181**	P	Pn	14 54 53.0	0.0
RAGZ				S	Sn	14 56 16.8	+1.8
MUGZ	**Murupara**	**7.33**	**185**	P	Pn	14 54 54.1	+1.0
RIGZ	**Rimuhau**	**7.54**	**179**	P	Pn	14 54 54.1	-1.8
SNGZ	**Shannon Statio**	**7.61**	**181**	P	Pn	14 54 56.8	-0.1
RAHZ	**Arahi**	**7.75**	**183**	P	Pn	14 54 57.8	-1.1
KNZ	**Kokohu**	**7.85**	**179**	P	Pn	14 54 57.6	-2.6

*IDC **27** 15:09:01.1±0.8, 35°.90N×97°.16W, h0km, mb3.7/2, mb1 4.1/7, mb1mx3.6/46, mbtmp3.8/7, ML3.8/5, MS2.9/5, Ms1 2.9/5, ms1mx2.5/43, Error ellipse: s-maj=13.7km s-min=10.8km az=160.0*

*NEIC **27** 15:09:02.9±1.2, 35°.904N±0°.010×97°.27W±0°.05, h5km±2km, Error ellipse: s-maj=6.5km s-min=3.0km az=280.0*

*TUL **27** 15:09:02.8±0.9, 35°.89N±0°.02×97°.31W±0°.05, h5km±7km, ML4.1, Mwr3.6/31(NEIC), Error ellipse: s-maj=5.6km s-min=2.1km az=100.0*

*UNK **27** 15:09:02.9, 35°.91N×97°.30W, h5km*

*NEIC **27** 15:09:02.9, 35°.91N×97°.30W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.24; $M_{\theta\theta}$=1.06; $M_{\phi\phi}$=-0.82; $M_{r\theta}$=-0.70; $M_{r\phi}$=2.38; $M_{\theta\phi}$=0.07; Fault plane solution: $M_0$2.66000×10^{14} NP1:ϕ_s190.72000°, δ74.51000°, λ-179.23000°. NP2:ϕ_s100.51000°, δ89.25000°, λ-15.49000°. Principal axes: T 2.7770, Plg10.0000°, Azm147.0000°; N -0.2450, Plg74.0000°, Azm278.0000°; P -2.5320, Plg11.0000°, Azm55.0000°;*

*ANF **27** 15:09:05.0±0.9, 35°.90N×97°.33W, h29km±8km, ML4.9/17 Error ellipse: s-maj=3.7km s-min=2.1km az=164.0*

ISC 27 15:09:03.0±0.7, 35°.87N±0°.04×97°.28W±0°.03, h10km, n76, σ1§01/82, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK005	**Luther M Schoo**	**0.23**	**162**		**Pg**	**15 09 08.2**	**+0.5**
ADOK	**Arcadia Dam**	**0.23**	**199**	Pg	**Pg**	**15 09 07.8**	**0.0**
ADOK				Sg	**Sg**	**15 09 11.4**	**+0.5**
OK009	**Oakdale Elemen**	**0.31**	**202**		**Pg**	**15 09 09.3**	**0.0**
OKCFA	**Oklahoma City**	**0.48**	**197**	Pg	**Pg**	**15 09 12.4**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**0.48**	**196**		**Pg**	**15 09 12.5**	**+0.1**
FNG	**Franklin**	**0.62**	**189**		**Pg**	**15 09 15.5**	**+0.5**
W35A	**Tecumseh**	**0.79**	**155**		**Pg**	**15 09 17.9**	**-0.3**
TUL1	**Leonard** baz=270,SNR=105	**1.21**	**88**	P	**Pb**	**15 09 25.2**	**-0.8**
TUL1				S	**Sg**	**15 09 42.3**	**+0.4**
	baz=270						
TUL1	**Leonard**	**1.21**	**88**		**Pb**	**15 09 25.1**	**-0.8**
T35A	**Sooner Cattle**	**1.21**	**30**		**Pb**	**15 09 25.3**	**-0.7**
X34A	**Smith Ranch, M**	**1.35**	**200**		**Pn**	**15 09 28.2**	**+0.3**
U32A	**Winter Ranch,**	**1.48**	**290**		**Pn**	**15 09 29.4**	**-0.4**
WMOK	**Wichita Mounta** baz=46,SNR=538	**1.67**	**228**	P	**Pn**	**15 09 32.7**	**+0.3**
WMOK				S	**Sn**	**15 09 54.9**	**+1.1**
	baz=46						
WMOK	**Wichita Mounta**	**1.67**	**228**		**Pn**	**15 09 32.6**	**+0.3**
X37A	**Clayton**	**2.02**	**129**		**Pn**	**15 09 38.2**	**+1.1**
U38A	**Gravette**	**2.41**	**76**		**Pn**	**15 09 43.5**	**+1.0**
Z35A	**Perchaven, San**	**2.54**	**179**		**Pn**	**15 09 45.4**	**+1.2**
HHAR	**Hobbs**	**2.74**	**80**		**Pn**	**15 09 48.0**	**+1.0**
R32A	**Long Quarter,**	**2.79**	**336**		**Pn**	**15 09 49.3**	**+1.5**
W39A	**Magazine** baz=285,SNR=24	**2.93**	**102**	P	**Pn**	**15 09 50.7**	**+1.1**
W39A				S	**Sn**	**15 10 26.8**	**+2.0**
	baz=285						
W39A	**Magazine**	**2.93**	**102**		**Pn**	**15 09 51.0**	**+1.4**
Z38A	**Mt. Pleasant**	**3.22**	**143**		**Pn**	**15 09 55.1**	**+1.5**
KSU1	**Kansas State U** baz=190,SNR=8.2	**3.27**	**9**	P	**Pn**	**15 09 52.7**	**-1.6**
KSU1	**Kansas State U**	**3.27**	**9**	Pn	**Pn**	**15 09 55.3**	**+1.0**
MIAR	**Mount Ida** baz=295,SNR=93	**3.31**	**112**	P	**Pn**	**15 09 56.6**	**+1.7**
MIAR				S	**Sn**	**15 10 35.9**	**+1.6**
	baz=295						
MIAR	**Mount Ida**	**3.31**	**112**		**Pn**	**15 09 56.5**	**+1.7**
CBKS	**Cedar Bluff** baz=146	**3.53**	**327**	Pb	**Pb**	**15 10 06.2**	**+0.6**
CBKS	**Cedar Bluff**	**3.53**	**327**	Pn	**Pn**	**15 09 59.6**	**+1.7**
U40A	**Yellville** baz=264,SNR=53	**3.62**	**81**	P	**Pn**	**15 09 59.2**	**+0.1**
U40A	**Yellville**	**3.62**	**81**		**Pn**	**15 09 59.5**	**+0.4**
S39A	**Bolivar**	**3.66**	**59**	Pn	**Pn**	**15 10 00.3**	**+0.6**
AMTX	**Amarillo**	**3.73**	**256**	Pn	**Pn**	**15 10 02.5**	**+1.7**
ABTX	**Abilene, Hawle** baz=30	**3.79**	**212**	P	**Pn**	**15 10 01.6**	**+0.1**
ABTX				S	**Sn**	**15 10 47.4**	**+1.3**
	baz=30						
WHTX	**Lake Whitney,** baz=1.8,SNR=14	**3.87**	**182**	P	**Pn**	**15 10 03.0**	**+0.4**
WHTX	**Lake Whitney,**	**3.87**	**182**		**Pn**	**15 10 03.3**	**+0.7**
X40A	**Basin Creek Fa** baz=292,SNR=8.6	**3.89**	**109**	P	**Pn**	**15 10 04.3**	**+1.4**
X40A				S	**Sn**	**15 10 50.2**	**+1.5**
	baz=292						
WLAR	**White Oak Lake**	**4.06**	**121**		**Pn**	**15 10 06.1**	**+0.9**
WHAR	**Wooly Hollow**	**4.11**	**97**		**Pn**	**15 10 06.8**	**+0.9**
W41B	**Gary Mavity, V** baz=282,SNR=21	**4.16**	**98**	P	**Pn**	**15 10 07.3**	**+0.7**
W41B				S	**Sn**	**15 10 56.0**	**+0.7**
	baz=282						
FCAR	**Ozark Folk Cen**	**4.19**	**88**		**Pn**	**15 10 07.2**	**+0.3**
MGMO	**Mountain Grove**	**4.23**	**71**		**Pn**	**15 10 09.0**	**+1.4**
Z41A	**Richland Creek** baz=307	**4.52**	**124**	P	**Pn**	**15 10 11.8**	**+0.3**
Z41A				S	**Sn**	**15 11 03.5**	**-0.6**
	baz=307						
NATX	**Nacogdoches** baz=333	**4.64**	**151**	P	**Pn**	**15 10 13.6**	**+0.4**
NATX				S	**Sn**	**15 11 07.2**	**0.0**
	baz=333						
MSTX	**Muleshoe** baz=65	**4.89**	**249**	S	**Sn**	**15 11 12.7**	**-0.8**
435B	**Jarrell** baz=2.6	**5.08**	**183**	P	**Pn**	**15 10 19.0**	**-0.2**
KSCO	**Kaye Shedlock'** baz=125	**5.28**	**308**	P	**Pn**	**15 10 22.3**	**+0.1**
CCM	**Cathedral Cave** baz=248	**5.30**	**64**	P	**Pn**	**15 10 22.5**	**+0.3**
X43A	**Marvell** baz=27	**5.41**	**103**	S	**Sn**	**15 11 27.4**	**+1.4**
BGNE	**Belgrade** baz=173	**5.57**	**353**	P	**Pn**	**15 10 25.3**	**-0.6**
JCT	**Junction City** baz=20	**5.78**	**202**	P	**Pn**	**15 10 28.4**	**-0.4**
JCT				S	**Sn**	**15 11 34.7**	**-0.5**
	baz=20						
T25A	**Trinidad** baz=100	**5.88**	**285**	P	**Pn**	**15 10 29.8**	**-0.7**
OXF	**Oxford** baz=284	**6.58**	**100**	P	**Pn**	**15 10 39.4**	**-0.5**
SCIA	**State Center** baz=209	**6.81**	**27**	P	**Pn**	**15 10 42.9**	**-0.1**
SDCO	**Great Sand Dun** baz=103	**6.86**	**288**	P	**Pn**	**15 10 44.3**	**+0.4**
Q24A	**Divide** baz=114	**6.98**	**299**	P	**Pn**	**15 10 45.0**	**-0.6**
ANMO	**Albuquerque** 0.1nm,0.3s,baz=291,slow=17,SNR=1.9	**7.55**	**266**	Pn	**Pn**	**15 10 54.7**	**+1.4**
ANMO				Lg	Lg	15 12 57.6	
	5.4nm,0.3s,baz=292,slow=13,SNR=6.7						
ISCO	**Idaho Springs** baz=118	**7.67**	**303**	P	**Pn**	**15 10 54.8**	**-0.3**
HDIL	**Hopedale** baz=236	**7.83**	**51**	P	**Pn**	**15 10 56.4**	**-0.5**
ECSD	**EROS Data Cent** baz=184	**7.87**	**4**	P	**Pn**	**15 10 55.9**	**-1.6**
MNTX	**Cornudas Mount** baz=56	**7.92**	**241**	P	**Pn**	**15 10 58.7**	**+0.4**
N23A	**Red Feather La** baz=124	**8.45**	**309**	P	**Pn**	**15 11 05.9**	**+0.2**
TXAR	**Lajitas Array** 0.7nm,0.3s,baz=39,slow=12,SNR=18	**8.46**	**221**	Pn	**Pn**	**15 11 04.6**	**-1.1**
TXAR				Lg	Lg	15 13 26.2	
	3.3nm,0.3s,baz=47,slow=33,SNR=6.5						
TXAR				LR	LR	15 14 53.8	
	comp=Z,36nm,21.6s,baz=0.0,slow=41						
JFWS	**Jewell Farm** baz=220	**8.89**	**36**	P	**Pn**	**15 11 10.5**	**-1.0**
WCI	**Wyandotte Cave** baz=259	**9.09**	**72**	P	**Pn**	**15 11 14.6**	**+0.3**
RSSD	**Black Hills** baz=146	**9.73**	**330**	P	**Pn**	**15 11 23.6**	**+0.4**
K22A	**Casper** baz=130	**9.86**	**316**	P	**Pn**	**15 11 24.0**	**-0.8**
TKL	**Tuckaleechee C** 1.2nm,0.3s,baz=260,slow=22,SNR=14	**10.98**	**87**	Pn	**Pn**	**15 11 36.8**	**-3.3**
TKL				Lg	Lg	15 14 37.7	
	1.2nm,0.3s,baz=57,slow=19,SNR=4.9						
BW06	**Boulder Array** baz=122	**11.73**	**310**	P	**Pn**	**15 11 49.2**	**-1.4**
PDAR	**Pinedale Array** 0.6nm,0.3s,baz=127,slow=15,SNR=9.6	**11.73**	**310**	Pn	**Pn**	**15 11 49.9**	**-0.8**
PDAR				Lg	Lg	15 15 08.6	
	1.3nm,0.3s,baz=101,slow=23,SNR=3.8						
ULM	**Lac du Bonnet** 0.7nm,0.3s,baz=176,slow=11,SNR=2.1	**14.41**	**4**	Pn	**Pn**	**15 12 21.1**	**-5.8**
ULM				Lg	Lg	15 16 26.1	
	1.0nm,0.3s,baz=111,slow=11,SNR=3.8						
LPIG	**La Paz** comp=Z,35nm,21.7s,baz=318,slow=39	**16.26**	**227**	LR	LR	15 19 36.0	
NVAR	**Mina Array Bea** 0.4nm,0.3s,baz=174,slow=7.2,SNR=4.7	**16.95**	**285**	LR	LR	15 20 46.3	
YBH	**Yreka Blue Hor** comp=Z,27nm,19.4s,baz=213,slow=42	**20.63**	**294**	LR	LR	15 23 27.2	
BBB	**Bella Bella** comp=Z,48nm,21.0s,baz=180,slow=39	**27.24**	**316**	LR	LR	15 26 49.0	
ILAR	**Eielson Array** 0.5nm,0.6s,baz=109,slow=6.8,SNR=8.0	**41.18**	**330**	P	**P**	**15 16 48.8**	**+1.4**
FINES	**FINESS Array B** 0.8nm,0.7s,baz=317,slow=7.0,SNR=3.6	**72.72**	**25**	P	**P**	**15 20 31.1**	**+0.2**

IDC 27 15:10:57.9±2.5, 10°.50S×113°.49E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.5/28, mbtmp3.4/5, ML3.1/1, Error ellipse: s-maj=122.5km s-min=21.6km az=46.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi** 0.1nm,0.3s,baz=89,slow=23,SNR=2.0	**13.98**	**124**	Pn	Pn	15 14 15.4	-2.1
FITZ				Sn	Sn	15 16 38.3	-15
	0.1nm,0.3s,baz=210,slow=23,SNR=2.0						
WRA	**Warramunga Arr** 0.7nm,0.8s,baz=292,slow=11,SNR=2.6	**22.18**	**118**	P	P	15 15 56.9	+1.0
ASAR	**Alice Springs** 0.5nm,0.6s,baz=303,slow=9.5,SNR=11	**23.46**	**127**	P	P	15 16 09.1	-0.2
CMAR	**Chiang Mai Arr** 0.4nm,0.3s,baz=174,slow=7.2,SNR=4.7	**32.15**	**333**	P	P	15 17 28.1	+0.5
H08S2	**Diego Garcia H** baz=96,slow=75,SNR=18	**40.56**	**270**	T	T	16 01 47.3	
H08S3	**Diego Garcia H** baz=96,slow=75,SNR=14	**40.58**	**271**	T	T	16 01 44.6	
H08S1	**Diego Garcia H** baz=96,slow=75,SNR=17	**40.58**	**270**	T	T	16 01 45.2	
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=126,slow=7.4,SNR=2.0	**63.48**	**337**	P	P	15 21 29.4	-0.5

*PAS **27** 15:17:23.9±1.4, 35°.399N±0°.010×118°.48W±0°.02, h4km±7km, ML3.8/223, Error ellipse: s-maj=2.5km s-min=1.4km az=101.0*

*SCEDC **27** 15:17:23.9, 35°.40N×118°.48W, h4km, M3.8, ML3.8, ML3.8, ML3.8, ML3.8*

*ANF **27** 15:17:23.0±0.1, 35°.41N×118°.46W, h9km±1km, ML3.9/33, Error ellipse: s-maj=1.3km s-min=1.0km az=149.0*

*NEIC **27** 15:17:23.7±1.3, 35°.399N±0°.010×118°.48W±0°.02, h5km±7km, Error ellipse: s-maj=2.4km s-min=1.4km az=102.0*

ISC 27 15:17:23.1±0.9, 35°.40N±0°.01×118°.52W±0°.02, h12km±7km, n104, σ0§87/143, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WOFM	**Oak Flat**	**0.21**	**310**		**Pb**	**15 17 28.5**	**-0.6**
ISA	**Isabella, Lake** baz=180,SNR=1000	**0.27**	**7**	P	**Pg**	**15 17 28.9**	**+0.1**
ISA				S	**Sg**	**15 17 32.4**	**-0.1**
	baz=180						
ISA	**Isabella, Lake**	**0.27**	**7**		**Pg**	**15 17 28.9**	**+0.1**
ISA					**Sg**	**15 17 33.1**	**+0.7**
WHFM	**Hanning Flat**	**0.33**	**25**		**Pg**	**15 17 29.8**	**0.0**
WHFM					**Sg**	**15 17 34.4**	**+0.1**
WBSM	**Bird Springs**	**0.34**	**66**		**Pg**	**15 17 29.9**	**-0.2**
WBSM					**Sg**	**15 17 34.3**	**-0.4**
WASM	**Alta Sierra Ca**	**0.34**	**354**		**Pg**	**15 17 30.5**	**+0.4**
WASM					**Sg**	**15 17 35.4**	**+0.6**
WORM	**Onyx Ranch**	**0.37**	**37**		**Pg**	**15 17 30.6**	**0.0**
ARVC	**Arvin** baz=47,SNR=140	**0.37**	**224**	P	**Pb**	**15 17 31.7**	**+0.1**
ARVC				S	**Sb**	**15 17 37.1**	**-0.3**
	baz=47						
ARVC	**Arvin**	**0.37**	**224**		**Pb**	**15 17 31.8**	**+0.1**
ARVC					**Sb**	**15 17 37.1**	**-0.3**
TJR	**Tejon Ranch**	**0.41**	**207**		**Pb**	**15 17 32.0**	**-0.4**
TJR					**Sb**	**15 17 38.0**	**-0.7**
CCAC	**Calif City Air**	**0.48**	**121**		**Pg**	**15 17 32.4**	**-0.1**
CCAC					**Sg**	**15 17 38.7**	**-0.2**
BAKC	**Calstate**	**0.48**	**264**		**Pn**	**15 17 34.4**	**-1.5**
BAKC					**Sb**	**15 17 42.4**	**+1.7**
DTP	**Desert Tortois**	**0.56**	**103**		**Pg**	**15 17 33.8**	**-0.4**
TPO	**Tropico Hills**	**0.57**	**155**		**Sg**	**15 17 42.1**	**+0.3**
WCHM	**Chimney Peak**	**0.60**	**36**		**Pg**	**15 17 34.8**	**-0.2**
VES	**Vestal, Richgr** baz=132,SNR=199	**0.64**	**314**	P	**Pb**	**15 17 36.2**	**0.0**
VES				S	**Sb**	**15 17 44.7**	**-0.5**
	baz=132						
VES	**Vestal, Richgr**	**0.64**	**314**		**Pb**	**15 17 36.3**	**0.0**
VES					**Sb**	**15 17 44.8**	**-0.3**
EDW2	**Edwards Air Fo** baz=323,SNR=202	**0.67**	**140**	P	**Pg**	**15 17 35.8**	**-0.3**
EDW2				S	**Sg**	**15 17 44.6**	**-0.4**
	baz=323						
EDW2	**Edwards Air Fo**	**0.67**	**140**		**Sg**	**15 17 44.7**	**-0.3**
LRMC	**Laurel Mtn Rad** baz=263,SNR=1000	**0.69**	**83**	P	**Pg**	**15 17 36.1**	**-0.4**
LRMC				S	**Sg**	**15 17 44.1**	**-1.4**
	baz=263						
LRMC	**Laurel Mtn Rad**	**0.69**	**83**		**Sg**	**15 17 44.9**	**-0.6**
FOXC	**Fox Airport**	**0.69**	**160**		**Pg**	**15 17 36.8**	**+0.2**
BTPC	**Burnt Peak**	**0.72**	**184**		**Pb**	**15 17 37.4**	**-0.3**
ALPC	**Antelope**	**0.73**	**166**		**Pg**	**15 17 37.4**	**+0.1**
ALPC					**Sg**	**15 17 47.2**	**+0.3**
WLHM	**Little Horse**	**0.77**	**12**		**Pg**	**15 17 38.0**	**-0.2**
WLHM					**Sg**	**15 17 48.5**	**+0.3**
MPI	**Mount Pinos, F**	**0.78**	**222**		**Pb**	**15 17 39.0**	**+0.2**
MPI					**Sb**	**15 17 49.4**	**-0.1**
LEOC	**Leona Valley**	**0.79**	**167**		**Sb**	**15 17 49.1**	**-0.4**
ABL	**Mount Abel**	**0.80**	**227**		**Pb**	**15 17 39.0**	**0.0**
OSI	**Osito Audit: C**	**0.80**	**192**		**Pb**	**15 17 38.9**	**-0.1**
JRC2	**Joshua Ridge**	**0.82**	**44**		**Sg**	**15 17 49.5**	**-0.2**
SPG2	**Springville 2**	**0.83**	**346**		**Pb**	**15 17 39.2**	**-0.3**
SPG2					**Sg**	**15 17 49.9**	**-0.1**
PYR	**Pyramid**	**0.85**	**193**		**Pb**	**15 17 39.8**	**-0.1**
CLC	**China Lake**	**0.86**	**61**		**Sg**	**15 17 50.3**	**-0.6**
BCW	**Bitter Crk WRg**	**0.86**	**238**		**Pn**	**15 17 40.5**	**-0.8**
BCW					**Sn**	**15 17 52.8**	**-1.1**
SBB	**Saddle Back Bu**	**0.91**	**141**		**Pg**	**15 17 40.1**	**-0.5**
SBB					**Sg**	**15 17 51.8**	**-0.7**
CJV	**Casa Juvan**	**0.92**	**160**		**Sg**	**15 17 52.9**	**0.0**
HYS	**Haystack Butte**	**0.94**	**124**		**Sg**	**15 17 40.6**	**-0.7**
HYS					**Sg**	**15 17 53.1**	**-0.5**
CCCA	**Chr Cany lake**	**0.95**	**82**		**Pg**	**15 17 41.1**	**-0.4**
LRRC	**Littlerock Res**	**0.96**	**155**		**Pg**	**15 17 41.6**	**0.0**
JNH	**Juniper Hills**	**1.05**	**154**		**Pb**	**15 17 43.0**	**-0.4**
OAT	**Oat Mountain**	**1.05**	**184**		**Pn**	**15 17 44.1**	**+0.2**
MPMC	**Manual Prospec** baz=231,SNR=618	**1.06**	**51**	P	**Pb**	**15 17 43.2**	**-0.4**
MPMC				S	**Sb**	**15 17 56.8**	**-0.8**
	baz=231						
MPMC	**Manual Prospec**	**1.06**	**51**		**Sb**	**15 17 56.8**	**-0.8**
RCTC	**Rector, Farmer**	**1.08**	**327**		**Pn**	**15 17 44.0**	**-0.1**
CWC	**Cottonwood Cre** baz=197	**1.10**	**19**	S	**Sb**	**15 17 58.3**	**-0.3**
CWC	**Cottonwood Cre**	**1.10**	**19**		**Sb**	**15 17 58.3**	**-0.3**
CHFC	**Chilao Flat St**	**1.14**	**159**		**Pb**	**15 17 44.4**	**-0.4**
CHFC					**Sb**	**15 17 59.0**	**-0.6**
DECC	**Green Verdugo** baz=354,SNR=58	**1.15**	**172**	P	**Pn**	**15 17 45.0**	**-0.1**
DECC				S	**Sn**	**15 18 01.2**	**+0.4**
	baz=354						
VOG	**Valley Oaks Go** baz=141,SNR=5.3	**1.16**	**323**	P	**Pg**	**15 17 45.1**	**-0.3**
VOG				S	**Sn**	**15 18 00.5**	**-0.4**
	baz=141						
PKM	**Mcpherson Peak** baz=65,SNR=56	**1.18**	**245**	P	**Pg**	**15 17 45.7**	**-0.1**
PKM				S	**Sn**	**15 18 02.2**	**+0.5**
	baz=65						
PKM	**Mcpherson Peak**	**1.18**	**245**		**Pg**	**15 17 45.8**	**-0.1**
YEG	**Yeguas Mountai**	**1.18**	**272**		**Pg**	**15 17 46.0**	**+0.2**
SMMC	**Simmler** baz=86,SNR=39	**1.21**	**266**	P	**Pg**	**15 17 46.2**	**-0.3**
SMMC				S	**Sn**	**15 18 03.1**	**+0.7**
	baz=86						
ADO	**Adelanto Recei**	**1.23**	**133**		**Pn**	**15 17 46.2**	**0.0**
FLSC	**Flash Two Peak**	**1.28**	**109**		**Pb**	**15 17 47.3**	**0.0**
BCH	**Branch Mountai**	**1.30**	**261**		**Pg**	**15 17 47.4**	**-0.7**
RRX	**Edison Barstow** baz=294,SNR=31	**1.35**	**112**	P	**Pn**	**15 17 47.9**	**+0.1**
RRX				S	**Sb**	**15 18 05.3**	**-0.4**
	baz=294						
BFSC	**Mount Baldy Ra** baz=330,SNR=41	**1.35**	**148**	P	**Pb**	**15 17 48.3**	**-0.3**
BFSC				S	**Sb**	**15 18 06.0**	**+0.1**
	baz=330						
SBC	**Santa Barbara** baz=46	**1.37**	**226**	Pg	**Pg**	**15 17 50.1**	**+0.7**
SBC				S	**Sg**	**15 18 08.7**	**+1.4**
	baz=46						
GSC	**Goldstone, Bar** baz=275,SNR=440	**1.40**	**93**	P	**Pn**	**15 17 48.5**	**-0.1**
GSC				S	**Sn**	**15 18 06.8**	**-0.3**
	baz=275						
GSC	**Goldstone, Bar**	**1.40**	**93**	Pn	**Pn**	**15 17 48.6**	**-0.1**
PT2	**Point Dume**	**1.41**	**190**		**Pg**	**15 17 49.7**	**-

SAO	San Andreas Ge	2.74	301		Pn	15 18 08.6	+1.7
109C	Camp Elliot, M	2.76	155	Pb	Pb	15 18 12.7	+0.2
	baz=336						
SHPR	Sheep Range	2.94	67		Pn	15 18 10.4	+0.6
CMB	Columbia Colle	3.03	331	Pn	Pb	15 18 14.2	-2.8
IRM	Iron Mountain	3.04	113	P	Pn	15 18 10.8	-0.3
	baz=295,SNR=6.5						
BAR	Barrett	3.11	150	Pn	Pn	15 18 13.3	+1.2
WAKR	Walker	3.19	347		Pb	15 18 16.5	-3.4
RYN	Ryan	3.22	360		Pb	15 18 17.1	-3.4
NEE2	Needles Airpor	3.26	100	P	Pn	15 18 13.6	-0.4
	baz=282,SNR=7.3						
KVN	Kaiserville	3.66	5	Pn	Pn	15 18 22.6	+2.9
Y12C	Blythe	3.68	115		Pn	15 18 20.3	+0.4
R11A	Troy Canyon, C	3.77	38		Pn	15 18 23.8	+2.6
GLA	Glamis	3.85	126		Pn	15 18 23.0	+0.7
LCMT	Little Creek M	4.56	68		Pn	15 18 33.6	+1.6
KNB	Kanab	4.88	69	Pn	Pn	15 18 37.7	+1.2
WUAZ	Wupatki	5.83	87	Pn	Pn	15 18 50.8	+1.2
ELK	Elko	5.93	25	Pn	Pn	15 18 54.0	+3.0

*NNC **27** 15:44:14.5±7.8, 43.°91N×83.°84E, h0^{km}, mb2.8, mpv2.8, Error ellipse: s-maj=68.3km s-min=33.2km az=136.0*
*SOME **27** 15:44:20.1, 43.°88N×83.°50E, h25^{km}*
ISC 27 15:44:18.9±2.1, 43.°83N±0.°10×83.°69E±0.°10, h20^{km}, n12, σ1^{s}01/18, 3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTMS	Ketmen	2.45	262	*e*P		Pb		15 45 01.2	-1.2
	1.0nm,0.1s								
KTMS				*e*S		Sb		15 45 31.1	-1.2
	6.9nm,0.4s								
KTMS	Ketmen	2.45	262	Pg		Pb		15 45 01.3	-1.1
	1.0nm,0.1s								
KTMS				Lg		Lg		15 45 31.1	
	6.9nm,0.4s								
DJR	Jarkent	2.85	282	*e*P		Pb		15 45 09.2	-0.1
	1.5nm,0.2s								
DJR				*e*S		Sb		15 45 44.5	+0.7
	6.9nm,0.3s								
DJR	Jarkent	2.85	282	Pg		Pb		15 45 09.0	-0.3
	1.5nm,0.4s								
DJR				Lg		Lg		15 45 44.4	
	6.9nm,0.3s								
MK31	Makanchi Array	3.13	342	⇓Pn		Pn		15 45 06.0	-1.2
	0.3nm,0.3s,baz=152,slow=17,SNR=8.1								
MK31				Lg		Lg		15 45 49.9	
	0.2nm,0.2s,baz=144,slow=29,SNR=6.5								
SHLS	Shalkode	3.15	259	*e*P		Pn		15 45 08.6	+1.1
	2.7nm,0.2s								
SHLS				*e*S		Sn		15 45 43.5	-1.1
	20nm,0.4s								
SHLS	Shalkode	3.15	259	Pg		Pn		15 45 08.5	+1.1
	2.7nm,0.2s								
SHLS				Lg		Lg		15 45 43.5	
	20nm,0.4s								
MAKZ	Makanchi	3.22	339	⇓Pn		Pn		15 45 07.9	-0.4
	0.6nm,0.6s								
MAKZ				⇓Lg		Lg		15 45 53.9	
	0.6nm,0.4s								
KAPS	Kapalarasan	3.42	297	*e*P		Pb		15 45 18.8	-0.1
	0.8nm,0.3s								
KAPS				*e*S		Sb		15 46 01.4	+1.3
	2.7nm,0.7s								
KAPS	Kapalarasan	3.42	297	Pg		Pb		15 45 18.8	-0.1
	0.8nm,0.3s								
KAPS				Lg		Lg		15 46 01.4	
	2.7nm,0.7s								
UZB	Uzynbulak	3.46	260	*e*P		Pb		15 45 19.9	+0.3
	0.4nm,0.1s								
UZB				*e*S		Sb		15 46 02.9	+1.5
	2.1nm,0.3s								
ZSN	Zaisan	3.72	12	*e*P		Pb		15 45 24.0	+0.1
	2.8nm,0.3s								
ZSN				*e*S		Sb		15 46 09.6	+1.1
	5.2nm,0.6s								

*BJI **27** 16:14:23.1±0.0, 38.°06N×24.°59E, h8^{km}, mB4.9/14, mb4.4/23, Ms4.6/6, Ms7 4.3/6*
*DDA **27** 16:14:23.7, 38.°23N×25.°00E, h4^{km}±2^{km}, MW4.6*
*IDC **27** 16:14:26.6±0.5, 38.°22N×25.°05E, h0^{km}, mb4.1/25, mb1 4.2/37, mb1mx4.1/60, mbtmp4.1/37, ML3.9/11, MS3.7/35, Ms1 3.8/35, ms1mx3.7/48, Error ellipse: s-maj=10.5km s-min=9.2km az=108.0*
*ATH **27** 16:14:27.8, 38.°24N×25.°13E, h30^{km}±1^{km}, ML4.7/22, Error ellipse: s-maj=1.2km s-min=0.7km az=61.0*
*ISK **27** 16:14:27.9, 38.°26N×25.°08E, h19^{km}, ML4.8/74*
*MOS **27** 16:14:27.6±1.1, 38.°24N×25.°10E, h13^{km}, mb4.6/15, Error ellipse: s-maj=6.1km s-min=3.7km az=81.1*
*PDG **27** 16:14:27.9±0.5, 38.°22N×25.°11E, h16^{km}±1^{km}, ML4.3/12, Error ellipse: s-maj=0.5km s-min=0.7km az=0.0*
*THE **27** 16:14:28.6, 38.°24N×25.°12E, h13^{km}±1^{km}, ML4.6/11, Error ellipse: s-maj=1.1km s-min=0.5km az=328.0*
*NEIC **27** 16:14:28.2±2.1, 38.°18N±0.°05×25.°06E±0.°05, h10^{km}±1^{km}, Error ellipse: s-maj=8.4km s-min=6.5km az=333.0*
*MED_RC **27** 16:14:28.0±0.3, 38.°23N×25.°20E, h15^{km}±1^{km}, MW4.6/28, Moment Tensor Solution. Mantle waves: s28,c45; Duration: 1^{s}0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.16±.05; $M_{\theta\theta}$0.95±.05; $M_{\phi\phi}$-0.78±.04; $M_{r\theta}$0.12±.07; $M_{\theta\phi}$-0.21±.03; $M_{r\phi}$0.22±.06; Best double couple: M_o0.93000×10^{16} NP1:ϕ_s141.00000°, δ74.00000°, λ-9.00000°. NP2:ϕ_s233.00000°, δ81.00000°, λ-164.00000°. Principal axes: T 0.9800, Plg5.0000°, Azm6.0000°; N -0.1000, Plg71.0000°, Azm261.0000°; P -0.8800, Plg18.0000°, Azm98.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*GII **27** 16:14:33.0±0.0, 37.°93N×25.°52E, h10^{km}, mb4.8/2, MD4.8/2*
ISC 27 16:14:27.8±0.7, 38.°22N±0.°02×25.°12E±0.°01, h7^{km}±4^{km}, n522, σ1^{s}54/603, mb4.5/57, MS3.9/31, 33C-29D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PSRA	Psara	0.48	47	P		Pb		16 14 38.0	-0.6
PSRA				S		Sg		16 14 44.3	+1.0
PSRA				AML		AML		16 14 45.1	
PSRA				AML		AML		16 14 45.4	
KARY	Karystos	0.57	251	P		Pb		16 14 39.5	-0.6
KARY				S		Sb		16 14 48.0	-0.4
	54μm,0.6s								
KARY	Karystos	0.57	251	P		Pb		16 14 39.5	-0.6
KARY				S		Sb		16 14 47.7	-0.7
KARY				AML		AML		16 14 48.4	
	comp=E,96933μm,0.6s								
KARY				AML		AML		16 14 48.7	
TNSA	Tinos	0.68	177	P		Pb		16 14 42.0	0.0
TNSA				S		Sb		16 14 51.9	+0.4
TNSA				AML		AML		16 14 55.9	
TNSA				AML		AML		16 14 56.2	
CHOS	Chios island	0.76	77	P		Pb		16 14 43.4	+0.1
CHOS				S		Sb		16 14 53.5	-0.4
	comp=E,59μm,0.7s								
CHOS	Chios island	0.76	77	P		Pb		16 14 43.4	+0.1
CHOS				S		Sg		16 14 52.4	+0.2
CHOS				AML		AML		16 14 55.9	
CHOS				AML		AML		16 14 56.3	
CHOS	Chios island	0.76	77	PG		Pb		16 14 43.5	+0.1
CHOS				SG		Sb		16 14 54.9	+1.0
SKY	Skiros Island	0.79	326	P		Pb		16 14 43.8	-0.2
SKY				S		Sb		16 14 54.8	-0.1
	comp=E,64μm,0.8s								
SKY	Skiros Island	0.79	326	P		Pb		16 14 43.6	-0.4
SKY				S		Sb		16 14 54.6	-0.3
SKY				AML		AML		16 14 56.4	
SKY				AML		AML		16 15 01.2	
KYMI	Kymi, Euboea I	0.90	298	P		Pb		16 14 45.4	-0.4
KYMI				S		Sb		16 14 58.7	+0.8
	comp=E,29μm,0.6s								
KYMI	Kymi, Euboea I	0.90	298	P		Pb		16 14 45.7	-0.1
KYMI				S		Sb		16 14 57.2	-0.7
KYMI				AML		AML		16 14 59.9	
	comp=N,52510μm,0.6s								
KYMI				AML		AML		16 15 03.5	
	comp=E,61446μm,0.6s								
DION	Dionisos Attik	0.94	262	P		Pg		16 14 46.0	0.0
DION				S		Sn		16 15 00.6	-0.7
	comp=E,86μm,0.5s								
DION	Dionisos Attik	0.94	262	P		Pg		16 14 46.1	+0.2
DION				S		Sb		16 14 59.5	+0.3
DION				AML		AML		16 15 03.3	
DION				AML		AML		16 15 03.4	
PTL	Penteli	1.00	261	P		Pg		16 14 47.0	-0.1
PTL	Penteli	1.00	261	P		Pb		16 14 47.3	-0.3
PTL				S		Sb		16 15 01.1	+0.1
PTL				AML		AML		16 15 03.6	
	comp=N,52761μm,0.7s								
PTL				AML		AML		16 15 07.7	
	comp=E,71430μm,0.5s								
ATHU	Athens Univers	1.08	257	P		Pg		16 14 48.2	-0.4
ATHU	Athens Univers	1.08	257	P		Pg		16 14 48.6	0.0
ATHU				S		Sg		16 15 02.5	-0.1
ATHU				AML		AML		16 15 06.8	
	comp=N,36669μm,0.5s								
ATHU				AML		AML		16 15 11.9	
	comp=E,18092μm,0.7s								
VLY	Voula,Athens	1.11	251	P		Pg		16 14 48.5	-0.6
VLY	Voula,Athens	1.11	251	P		Pb		16 14 49.2	-0.1
VLY				S		Sb		16 15 03.6	-0.3
VLY				AML		AML		16 15 06.9	
VLY				AML		AML		16 15 08.6	
ATH	Athens Observa	1.13	258	P		Pb		16 14 49.7	0.0
ATH	Athens Observa	1.13	258	P		Pb		16 14 49.8	0.0
ATH				S		Sb		16 15 04.9	+0.3
ATH				AML		AML		16 15 07.6	
	comp=E,82523μm,0.6s								
ATH				AML		AML		16 15 11.1	
	comp=N,63724μm,0.5s								
ATH	Athens Observa	1.13	258	P		Pb		16 14 49.7	0.0
SIGR	SIGRI	1.15	30	P		Pg		16 14 49.0	-0.8
SIGR				S		Sg		16 15 04.6	-0.1
	comp=N,26μm,0.7s								
SIGR	SIGRI	1.15	30	P		Pg		16 14 48.9	-0.8
SIGR				S		Sg		16 15 04.6	-0.1
SIGR				AML		AML		16 15 12.2	
	comp=N,66605μm,0.6s								
SIGR				AML		AML		16 15 12.9	
	comp=E,35558μm,0.5s								
SIGR	SIGRI	1.15	30	PN		Pg		16 14 49.1	-0.8
SIGR				SN		Sg		16 15 04.7	0.0
SERI	Serifos	1.17	206	P		Pg		16 14 49.5	-0.8
SERI				S		Sn		16 15 06.8	0.0
	comp=E,31μm,0.8s								
SERI	Serifos	1.17	206	P		Pg		16 14 50.1	-0.1
SERI				S		Sb		16 15 05.9	+0.2
SERI				AML		AML		16 15 10.4	
	comp=E,75522μm,0.8s								
SERI				AML		AML		16 15 12.8	
	comp=N,48429μm,0.8s								
URLA	Izmir	1.17	83	PN		Pg		16 14 50.0	-0.3
URLA				SN		Sn		16 15 06.6	-0.3
URLA	Izmir	1.17	83	*i* P		Pg		16 14 50.0	-0.3
URLA				*i* S		Sg		16 15 04.4	-1.1
URLA				IAML				16 15 15.0	
	comp=E,6μm,0.6s								
URLA				IAML				16 15 16.0	
	comp=N,5μm,0.7s								
KRBN	Karaburun	1.19	71	PN		Pb		16 14 50.4	-0.3
KRBN				SN		Sn		16 15 06.8	-0.5
APE	Apeiranthos	1.19	164	P		Pb		16 14 50.3	-0.5
APE				S		Sb		16 15 06.6	+0.1
	comp=N,39μm,0.8s								
APE	Apeiranthos	1.19	164	P		Pb		16 14 50.3	-0.5
APE				S		Sn		16 15 07.0	-0.5
APE				AML		AML		16 15 09.0	
	comp=E,75216μm,0.9s								
APE				AML		AML		16 15 09.4	
	comp=N,79070μm,0.6s								
APE	Apeiranthos	1.19	164	⇑P		Pb		16 14 50.6	-0.2
APE				⇓S		Sb		16 15 06.5	0.0
APE	Apeiranthos	1.19	164	PN		Pb		16 14 50.6	-0.2
APE				SN		Sn		16 15 07.7	+0.2
APE	Apeiranthos	1.19	164	*i* P		Pb		16 14 50.1	-0.7
APE				*i* S		Sg		16 15 04.0	-2.2
APE	Apeiranthos	1.19	164	P		Pb		16 14 50.3	-0.5
APE				S		Sb		16 15 06.6	+0.1
MRKA	Markates	1.29	292	P		Pn		16 14 51.3	-1.1
MRKA	Markates	1.29	292	P		Pn		16 14 51.4	-0.9
MRKA				S		Sg		16 15 09.5	0.0
MRKA				AML		AML		16 15 15.6	
	comp=N,23570μm,0.7s								
MRKA				AML		AML		16 15 16.9	
	comp=E,26247μm,0.7s								
EFSA	Agios Efstrati	1.32	356	P		Pn		16 14 51.6	-1.1
AOS	Alonnisos	1.36	315	P		Pn		16 14 52.3	-0.9
AOS	Alonnisos	1.36	315	P		Pg		16 14 53.7	-0.1
AOS	Alonnisos	1.36	315	PN		Pn		16 14 52.4	-0.8
AOS				SN		Sb		16 15 09.1	-2.0
PRK	Paraskevi	1.37	41	P		Pn		16 14 53.1	-0.2
PRK				S		Sb		16 15 10.6	-0.8
PRK				AML		AML		16 15 22.7	
	comp=E,44551μm,1.0s								
PRK				AML		AML		16 15 23.1	
	comp=N,57293μm,0.8s								
DGB	zmir	1.40	96	*i* P		Pn		16 14 53.2	-0.5
DGB				*i* S		Sb		16 15 12.2	-0.1
DGB				IAML				16 15 17.0	
	comp=E,2μm,0.4s								
DGB				IAML				16 15 19.0	
	comp=N,2μm,0.6s								
VILL	Villia	1.42	268	P		Pn		16 14 53.4	-0.7
SMG	Samos	1.45	110	P		Pn		16 14 53.8	-0.7
SMG				S		Sn		16 15 13.7	-0.1
	comp=N,10μm,0.5s								
SMG	Samos	1.45	110	P		Pn		16 14 53.7	-0.8
SMG				S		Sn		16 15 13.6	-0.2
VIL2	Platees	1.46	270	P		Pn		16 14 54.1	-0.5
IOSP	Ios island	1.50	175	P		Pn		16 14 54.4	-0.7
IOSP	Ios island	1.50	175	P		Pn		16 14 54.8	-0.3
IOSP				S		Sb		16 15 15.4	+0.2
AMGA	Amorgos Island	1.52	156	P		Pn		16 14 54.8	-0.6
AMGA				S		Sn		16 14 14.7	-0.7
	comp=N,18μm,0.8s								
AMGA	Amorgos Island	1.52	156	P		Pn		16 14 54.9	-0.4
AMGA				S		Sn		16 15 13.9	-1.5
AMGA				AML		AML		16 15 22.0	
	comp=E,42803μm,0.6s								
AMGA				AML		AML		16 15 30.1	
	comp=N,27666μm,0.6s								
BLCB	Balcova	1.52	83	PN		Pn		16 14 54.9	-0.6
BLCB				SN		Sn		16 15 15.3	-0.2
MHLA	Plaka, Milos I	1.57	201	P		Pn		16 14 55.3	-0.8
MHLA				S		Sn		16 15 15.6	-1.2
MHLA				AML		AML		16 15 28.7	
	comp=N,81089μm,0.8s								
MHLA				AML		AML		16 15 29.2	
	comp=E,81658μm,0.8s								
SKIA	Skiathos	1.60	307	P		Pn		16 14 55.9	-0.6
SKIA	Skiathos	1.60	307	P		Pn		16 14 56.0	-0.6
SKIA				S		Sn		16 15 16.4	-1.1
SKIA				AML		AML		16 15 22.6	
	comp=N,25690μm,0.6s								
SKIA				AML		AML		16 15 29.4	
	comp=E,23287μm,0.9s								
MHLO	Agia Marina, M	1.63	201	P		Pn		16 14 56.3	-0.6
MHLO	Agia Marina, M	1.63	201	P		Pn		16 14 56.3	-0.6
MHLO				S		Sn		16 15 17.6	-0.5
MHLO				AML		AML		16 15 28.8	
MHLO				AML		AML		16 15 30.1	
DKL	Dikili	1.64	58	PN		Pn		16 14 56.1	-0.9
DKL				SN		Sn		16 15 17.5	-0.8
AYVA	Ayvalik	1.64	48	*i* P		Pn		16 14 55.9	-1.2
AYVA				*i* S		Sn		16 15 16.9	-1.6
AYVA				IAML				16 15 26.0	
	comp=N,7μm,0.7s								
AYVA				IAML				16 15 28.0	
	comp=E,6μm,0.7s								
DID	Didima	1.65	245	P		Pn		16 14 56.8	-0.4
LIA	Limnos Island	1.68	2	P		Pn		16 14 56.5	-1.1
LIA				S		Sn		16 15 17.2	-2.1
	comp=E,9μm,0.6s								
LIA	Limnos Island	1.68	2	P		Pn		16 14 56.5	-1.1
LOUT	Loutraki	1.71	263	P		Pn		16 14 58.0	0.0
LOUT				S		Sb		16 15 20.6	-0.6
LOUT				AML		AML		16 15 26.8	
	comp=N,9035μm,0.4s								
LOUT				AML		AML		16 15 27.2	
	comp=E,12305μm,0.5s								
ZEDA	zmir-Bergama	1.71	63	*i* P		Pn		16 14 57.1	-0.9
ZEDA				IAML				16 15 32.0	
	comp=N,3μm,0.8s								
ZEDA				IAML				16 15 32.0	
	comp=E,3μm,1.1s								
LKR	Lokris	1.72	285	P		Pn		16 14 57.9	-0.2
LKR	Lokris	1.72	285	P		Pn		16 14 57.7	-0.5
PROD	Prodromos	1.75	272	P		Pn		16 14 58.4	-0.2
PROD				S		Sn		16 15 21.4	+0.4
PROD				AML		AML		16 15 27.0	
	comp=E,29979μm,0.6s								
PROD				AML		AML		16 15 30.4	
	comp=N,30814μm,0.6s								
GCAM	G?zelcaml?	1.75	107	PN		Pn		16 14 58.2	-0.4
GCAM	G?zelcaml?	1.75	107	*i* P		Pn		16 14 58.5	-0.1
GCAM				IAML				16 15 41.0	
	comp=E,3μm,0.9s								
GCAM				IAML				16 15 44.0	
	comp=N,3μm,1.0s								
SAP4	Santorini-Oia	1.75	173	P		Pn		16 14 58.9	+0.2
SAP4				S		Sb		16 15 22.8	+0.3
CMBO	Columbo, Santo	1.76	172	P		Pn		16 14 58.5	-0.2
CMBO				S		Sn		16 15 19.9	-1.5
BOZC	Bozcaada	1.78	24	PN		Pn		16 14 57.5	-1.5
BOZC	Bozcaada	1.78	24	*i* P		Pn		16 14 57.5	-1.5
BOZC				IAML				16 15 28.0	
	comp=N,5μm,0.9s								
BOZC				IAML				16 15 31.0	
	comp=E,6μm,0.7s								
SAP3	Santorini-Thir	1.79	174	P		Pn		16 14 59.2	+0.1
SAP2K	Karterados	1.82	172	P		Pn		16 14 59.9	+0.3
NEO	Neokhori	1.84	307	P		Pn		16 14 59.1	-0.7
EZN	Ezine	1.86	30	PN		Pn		16 14 58.9	-1.2
EZN	Ezine	1.86	30	P		Pn		16 14 58.6	-1.5
SANT	Santorini	1.86	171	PN		Pn		16 15 00.3	+0.1
SANT	Santorini	1.86	171	*i* P		Pn		16 15 00.4	+0.1
SANT				*i* S		Sb		16 15 25.7	0.0
SANT	Santorini	1.86	171	Pn		Pn		16 14 59.6	-0.6
BAYC	CANAKKALE_Bayr	1.89	36	*i* P		Pn		16 14 59.2	-1.3
BAYC				IAML				16 15 32.0	
	comp=E,1μm,0.5s								
BAYC				IAML				16 15 39.0	
	comp=N,2μm,1.1s								
XOR	Xorichti	1.89	308	P		Pn		16 15 00.3	-0.3
ANAF	Anafi Island	1.93	164	P		Pn		16 15 00.9	-0.2
PAIG	Paliouri	2.04	327	P		Pn		16 15 01.8	-0.7
GADA	Gvkgeada	2.06	17	PN		Pn		16 15 01.6	-1.2
GOKA	anakkale-Gk	2.06	17	*i* P		Pn		16 15 01.9	-0.9
KOSK	Kos Island	2.08	134	PN		Pn		16 15 04.0	+0.9
BODT	Bodrum	2.09	123	PN		Pn		16 15 03.3	0.0
BDRM	Kayabasi	2.18	121	*i* P		Pn		16 15 04.3	-0.2
BDRM				IAML				16 15 44.0	
	comp=N,2μm,0.5s								
BDRM				IAML				16 15 52.0	
	comp=E,1μm,0.8s								
AYDB	Zeytinkoy-Aydi	2.21	96	PN		Pn		16 15 04.8	-0.2
AKHS	Akhisar	2.21	72	*i* P		Pn		16 15 04.8	-0.2
AYDN	Tasoluk	2.25	103	*i* P		Pn		16 15 05.3	-0.3
NISR	Nisiros	2.27	134	P		Pn		16 15 05.8	+0.1
SMTH	Samothraki Isl	2.27	8	P		Pn		16 15 04.2	-1.6
AGG	Agios Georgios	2.33	291	P		Pn		16 15 06.8	+0.2
AGG	Agios Georgios	2.33	291	PN		Pn		16 15 05.8	-0.7
AGG	Agios Georgios	2.33	291	*i* P		Pn		16 15 08.2	+1.6
AGG				*i* S		Sb		16 15 40.6	+1.5
AGG	Agios Georgios	2.33	291	P		Pn		16 15 06.6	0.0
AGG	Agios Georgios	2.33	291			Pn		16 15 06.5	0.0
STEP	BALIKESIR_Sava	2.34	60	*i* P		Pn		16 15 07.8	+1.1
STEP				*i* S		Sg		16 15 41.6	-1.3
STEP				IAML				16 15 52.0	
	comp=N,5μm,1.2s								
STEP				IAML				16 15 57.0	
	comp=E,5μm,0.8s								
KALE	Kalithea	2.35	275	P		Pn		16 15 07.1	+0.3
THAS	Thassos island	2.40	353	P		Pn		16 15 06.2	-1.3
GELI	Tayfur-Gelibol	2.42	25	PN		Pn		16 15 07.2	-0.6
DAT	Datca	2.46	126	PN		Pn		16 15 08.4	0.0
DAT	Datca	2.46	126	*i* P		Pn		16 15 08.4	0.0
DAT				IAML				16 15 53.0	
	comp=E,340nm,0.6s								
DAT				IAML				16 15 54.0	
	comp=N,448nm,1.2s								
MAKR	Makrakomi, Fth	2.47	290	P		Pn		16 15 08.6	+0.1
BALY	Balya	2.47	51	*i* P		Pn		16 15 07.8	-0.7
BALY				*i* S		Sg		16 15 49.2	+2.0
BALY				IAML				16 15 57.0	
	comp=N,4μm,0.8s								
BALY				IAML				16 16 07.0	
	comp=E,2μm,0.7s								
LPK	Lapseki	2.50	30	PN		Pn		16 15 08.6	-0.3
PLG	Polygyros	2.51	329	P		Pn		16 15 08.2	-0.9
KTHA	Kythira Island	2.56	221	PN		Pn		16 15 09.3	-0.4
BALB	Balikesir	2.58	56	PN		Pn		16 15 09.6	-0.4
ENEZ	Enez	2.64	17	PN		Pn		16 15 10.8	0.0
ERIK	Erikli-Kesan	2.68	23	PN		Pn		16 15 10.6	-0.7
GONE	Gonen-Balikesi	2.71	47	PN		Pn		16 15 11.7	0.0
MANT	Manisa	2.72	83	*i* P		Pg		16 15 18.6	-1.4
MANT				*i* S		Sb		16 15 50.2	-0.3
ITM	Ithomi	2.73	249	PN		Pn		16 15 12.9	+0.7
ITM	Ithomi	2.73	249			Pn		16 15 12.9	+0.7
YER	Yerkesik	2.73	112	PN		Pn		16 15 12.9	+0.7
ALN	Alexandroupoli	2.77	15	P		Pn		16 15 10.9	-1.7
ALN	Alexandroupoli	2.77	15	PN		Pn		16 15 11.7	-0.9
ALN	Alexandroupoli	2.77	15	*i* P		Pn		16 15 11.4	-1.2
ALN				*i* S		Sb		16 15 51.2	-0.6
ALN	Alexandroupoli	2.77	15	P		Pn		16 15 12.3	-0.3
ALN	Alexandroupoli	2.77	15	Pn		Pn		16 15 12.3	-0.3
THL	Klokotos Trika	2.77	300	P		Pn		16 15 12.9	+0.3
KNL	Balıkesir	2.77	42	*i* P		Pn		16 15 12.7	-0.5
KNL				*i* S		Sb		16 15 49.3	-2.6
KULA	Kula-Manisa	2.80	83	PN		Pn		16 15 13.4	+0.3
HORT	Hortiatis	2.84	327	PN		Pn		16 15 13.8	+0.1
KESN	Edirne-Kesan	2.87	24	*i* P		Pn		16 15 13.3	-1.1
KESN				IAML				16 16 03.0	
	comp=E,1μm,0.8s								
KESN				IAML				16 16 10.0	
	comp=N,2μm,0.9s								
IMMV	Iera Moni

KNDR Palaiochora Ch 3.19 202 PN Pn 16 15 18.9 +0.5
ZKR Zakros 3.22 164 PN Pn 16 15 19.4 +0.6
KNT Kendrikon 3.40 330 PN Pn 16 15 21.8 +0.5
KHAL Karahalli 3.44 86 *i* P Pn 16 15 24.3 +2.3
KHAL *i* S Sg 16 16 16.0 -2.5
GRG Griva 3.45 323 PN Pn 16 15 22.6 +0.7
GEDZ Gediz 3.46 75 PN Pn 16 15 23.5 +1.3
GVDS Gavdos 3.47 194 PN Pn 16 15 24.0 +1.8
GVD Gavdhos 3.47 194 PN Pn 16 15 23.7 +1.4
FETY Fethiye 3.53 115 PN Pn 16 15 25.4 +2.3
FETY Fethiye 3.53 115 *i* P Pn 16 15 25.4 +2.3
FETY *i* S Sn 16 16 09.2 +4.1
FETY IAML 16 16 13.0
comp=N,245nm,0.8s
FETY IAML 16 16 15.0
comp=E,249nm,0.6s
CRLT Corlu 3.54 34 PN Pn 16 15 24.4 +1.2
TVSB Tavsanli 3.61 69 PN Pn 16 15 24.9 +0.7
MDNY Mudanya-Bursa 3.63 53 PN Pn 16 15 25.8 +1.4
GOLH Golhisar 3.66 104 *i* P Pn 16 15 26.9 +2.0
ULDT Uludag 3.67 57 *i* P Pn 16 15 27.2 +2.0
ULDT *i* S Sg 16 16 22.1 -3.5
VAY Valandovo 3.67 328 *i* Pn Pn 16 15 26.2 +1.3
IGD Bursa 3.77 56 *i* P Pn 16 15 27.8 +1.4
EDRB Edirne 3.83 19 PN Pn 16 15 26.7 -0.5
SLVT Silivri 3.84 37 PN Pn 16 15 27.0 -0.3
GEMT Gemlik 3.86 54 PN Pn 16 15 28.4 +0.9
KIRK Kirklareli 3.87 23 *i* P Pn 16 15 28.7 +1.0
PLD Plovdiv 3.89 355 PN Pn 16 15 28.4 +0.3
BASM Basmaki-Afyon 3.90 93 PN Pn 16 15 29.8 +1.5
BRDR BURDUR-Merkez 3.94 96 *i* P Pn 16 15 30.0 +1.2
KZIL AFYON_Kizioren 3.96 88 *i* P Pn 16 15 29.9 +0.9
CTKS Kestanelik-??a 3.99 40 PN Pn 16 15 29.0 -0.3
BUY Buyukada 4.06 48 *i* P Pb 16 15 39.6 0.0
ELL Elmali 4.08 110 PN Pn 16 15 33.4 +2.6
ELL Elmali 4.08 110 P Pn 16 15 33.2 +2.4
ELL Elmali 4.08 110 Pn Pn 16 15 33.2 +2.4
BGKT Bogazkoy 4.09 42 PN Pn 16 15 31.8 +1.1
AKAS Kas 4.09 118 *i* P Pn 16 15 30.4 -0.6
AFYO Afyonkarahisar 4.10 80 *i* P Pb 16 15 42.4 +1.9
AFYO *i* S Sg 16 16 40.5 +0.9
KAVV Kandilli-Istan 4.16 46 PN Pn 16 15 31.0 -0.8
ISK Istanbul-Kandi 4.16 46 PN Pn 16 15 31.2 -0.6
CAVI Cavuskoy 4.17 60 PN Pn 16 15 33.9 +2.0
AUBOZ BOZOYUK 4.18 65 PN Pn 16 15 34.1 +2.0
AUBOZ BOZOYUK 4.18 65 *i* P Pb 16 15 43.0 +1.2
AUBOZ *i* S Sb 16 16 34.3 +1.8
ADVT Abdulvahap 4.21 57 PN Pn 16 15 34.3 +1.9
KLYT Kilyos 4.28 44 PN Pn 16 15 33.0 -0.4
SHUT Suhut-Afyon 4.28 84 PN Pn 16 15 35.1 +1.6
ISP Isparta 4.29 94 PN Pn 16 15 35.1 +1.6
ISP Isparta 4.29 94 P Pn 16 15 35.2 +1.6
ISP Isparta 4.29 94 Pn Pn 16 15 35.2 +1.6
AUKIR Kirka- Seyitga 4.36 74 *i* P Pg 16 15 51.7 +0.3
HRT Hereke 4.38 52 PN Pn 16 15 35.4 +0.7
OHR Ohrid 4.41 312 *i* Pn Pn 16 15 38.7 +3.5
BAGO Egridir - ISPA 4.48 91 *i* P Pg 16 15 52.1 -1.5
BAGO *i* S Sg 16 16 53.7 +2.1
SILT Sile 4.56 49 PN Pn 16 15 37.9 +0.7
GEYV SAKARYA_Geyve 4.61 59 *i* P Pg 16 15 56.5 +0.4
VTS Vitosha 4.62 342 ⇓P Pn 16 15 38.9 +0.7
VTS Vitosha 4.62 342 P Pn 16 15 39.0 +0.7
VTS Vitosha 4.62 342 Pn Pn 16 15 39.0 +0.7
SKO Skopje 4.69 324 *i* Pn Pn 16 15 39.2 +0.2
SPNC Sapanca-Adapaz 4.71 57 PN Pn 16 15 40.5 +1.2
GULT Gulveren 4.73 60 PN Pn 16 15 41.8 +2.1
SAUV Serdivan-Sakar 4.75 56 PN Pn 16 15 41.4 +1.6
CIFT Cifteler, Eski 4.78 74 PN Pn 16 15 41.9 +1.5
TIR Tirane 5.11 309 P Pn 16 15 46.8 +2.0
TIR Tirane 5.11 309 Pn Pn 16 15 46.8 +2.0
SVRH Sivrihisar-ESK 5.15 74 PN Pn 16 15 47.9 +2.5
AUSIV SIVRIHISAR 5.16 74 PN Pn 16 15 48.5 +2.9
PLVB Pleven 5.18 356 ⇓P Pn 16 15 45.8 +0.1
AUMIH MIHALICIK 5.22 70 PN Pn 16 15 49.1 +2.6
MDUB Mudurnu 5.22 63 PN Pn 16 15 48.7 +2.3
NEF NEVSHA 5.30 17 P Pn 16 15 48.1 +0.7
KIZT Kizilcal 5.34 81 PN Pn 16 15 50.3 +2.2
SEYD Seydisehir-KON 5.38 97 PN Pn 16 15 50.9 +2.3
RAZG Razgrad 5.45 11 ⇑P Pn 16 15 48.9 -0.5
SCTE Santa Cesarea 5.49 292 Pn Pn 16 15 51.2 +1.2
YUKA Yuva-Kibriscik 5.54 65 PN Pn 16 15 52.8 +2.0
KONT Konya--Tatoy 5.72 91 PN Pn 16 15 56.1 +2.9
VLAD Vladila 5.80 355 ⇓P Pn 16 15 54.1 -0.1
ULC Ulcinj 5.85 312 ⇑*i*Pn Pn 16 15 55.6 +0.6
ULC *i* Sn Sn 16 17 01.6 -0.7
PVY Plav 5.88 320 ⇓*i*Pn Pn 16 15 56.1 +0.6
PVY *i* Sn Sn 16 17 02.6 -0.6
DRME Dracevica, Mon 6.03 313 ⇑*i*Pn Pn 16 15 58.5 +1.1
DRME *i* Sn Sn 16 17 05.6 -1.0
DRME Dracevica, Mon 6.03 313 *e*Pn Pn 16 16 00.1 +2.7
GAZI Gazipasa 6.08 107 PN Pn 16 15 59.5 +1.4
CHBY Cihanbeyli 6.12 84 PN Pn 16 16 01.4 +2.7
IVA Berane 6.12 321 ⇓*i*Pn Pn 16 15 59.6 +0.9
IVA *i* Sn Sn 16 17 08.5 -0.4
PDG Podgorica 6.14 315 ⇑P Pn 16 16 00.7 +1.8
PDG Podgorica 6.14 315 Pn Pn 16 16 01.0 +2.0
PDG Podgorica 6.14 315 *e*Pn Pn 16 16 01.9 +3.0
TTG Podgorica 6.14 315 ⇑*i*Pn Pn 16 15 59.9 +1.0
TTG *i* Sn Sn 16 17 08.9 -0.5
ANTO Ankara 6.20 72 PN Pn 16 16 02.3 +2.5
ICOR Ion Corvin 6.23 18 ⇑P Pn 16 16 00.1 0.0
BUM Brajici-Budva 6.27 313 ⇑*i*Pn Pn 16 16 01.4 +0.7
BUM *i* Sn Sn 16 17 11.7 -0.9
KOME Kolasin 6.29 319 ⇑*i*Pn Pn 16 16 01.9 +0.8
KOME *i* Sn Sn 16 17 12.1 -1.2
AFSR Afar-Bala (An 6.33 76 PN Pn 16 16 04.8 +3.2
CEME Cevo 6.41 314 ⇑*i*Pn Pn 16 16 03.6 +0.9
CEME *i* Sn Sn 16 17 15.3 -0.8
NKME Niksic 6.53 316 ⇓*i*Pn Pn 16 16 05.3 +0.9
NKME *i* Sn Sn 16 17 18.2 -0.9
NKY Niksic 6.54 316 ⇑*i*Pn Pn 16 16 05.5 +1.0
NKY *i* Sn Sn 16 17 18.2 -1.2
HCY Herceg Novi 6.59 312 ⇓*i*Pn Pn 16 16 06.0 +0.9
HCY *i* Sn Sn 16 17 19.3 -1.1
HCY Herceg Novi 6.59 312 *e*Pn Pn 16 16 06.7 +1.6
SRE Strehaia 6.59 348 ⇓P Pn 16 16 05.4 +0.2
TIP Timpagrande 6.61 281 ⇓P Pn 16 16 06.8 +1.4
TIP Timpagrande 6.61 281 Pn Pn 16 16 06.8 +1.4
PLE Pljevlja 6.70 321 ⇑*i*Pn Pn 16 16 07.3 +0.5
PLE *i* Sn Sn 16 17 22.1 -1.3
TIRR Tirgusor 6.71 21 ⇑P Pn 16 16 05.4 -1.2
TIRR Tirgusor 6.71 21 P Pn 16 16 06.5 -0.2
TIRR Tirgusor 6.71 21 Pn Pn 16 16 06.5 -0.2
TEKE Tekeli-Mersin 6.71 106 PN Pn 16 16 09.7 +2.9
HARR Harsova 6.80 17 ⇑P Pn 16 16 07.5 -0.5
BR131 Keskin Array S 6.81 75 *d* iP Pn 16 16 09.6 +1.4
BR131 Keskin Array S 6.81 75 Pn 16 16 09.9 +1.6
BR131 Pn 16 16 10.7 +2.5
BRTR Keskin Array B 6.81 75 Pn Pn 16 16 09.7 +1.4
comp=E,2.2nm,0.3s,baz=252,slow=12,SNR=23
BRTR Lg Lg 16 18 07.0
baz=252,slow=32,SNR=1.2
BRTR LR LR 16 19 03.1
comp=E,482nm,20.7s,baz=242,slow=40
BRTR Keskin Array B 6.81 75 PN Pn 16 16 09.0 +0.8
TREB Trebinje 6.84 313 *e*Pn Pn 16 16 09.8 +1.3
BRY Bratogost 6.85 315 P Pn 16 16 09.8 +1.0
BRY S Sn 16 17 26.0 -1.1
BRY Bratogost 6.85 315 ⇓*i*Pn Pn 16 16 09.8 +1.0
BRY *i* Sn Sn 16 17 26.2 -0.9
BRY Bratogost 6.85 315 *e*Pn Pn 16 16 09.9 +1.1
DBRK Dubrovnik 6.93 312 *e*Pn Pn 16 16 11.3 +1.6
RUDO Rudo 6.93 323 *e*Pn Pn 16 16 12.6 +2.8
MATE Matera 6.95 293 ⇓P Pn 16 16 11.5 +1.5
HERR Herculane 6.96 344 ⇓P Pn 16 16 09.8 -0.4
ISR Istrita 6.98 9 P Pn 16 16 11.5 +1.1
BAI Bari 6.98 297 *e*Pn Pn 16 16 13.2 +2.8
SG1 Sgolgore (BA) 7.03 294 *e*Pn Pn 16 16 11.7 +0.6
DIVS Divibare 7.03 328 Pn 16 16 11.3 +0.1
DIVS Divibare 7.03 328 *e*Pn Pn 16 16 11.8 +0.6
MDVR Moldovita 7.04 340 ⇑P Pn 16 16 11.3 0.0
AKKU Akkuyu-Mersin 7.04 104 PN Pn 16 16 14.1 +2.8
KEBE Keben-Mersin 7.07 102 PN Pn 16 16 14.1 +2.3
TOPG Topolog 7.09 19 ⇑P Pn 16 16 10.9 -1.0
BBLS Lazići 7.10 324 *e*Pn Pn 16 16 14.6 +2.4
VOIR 7.21 360 ⇓P Pn 16 16 13.3 -0.4
VOIR 7.21 360 P Pn 16 16 13.2 -0.5
MLR Muntele Rosu 7.29 5 Pn Pn 16 16 15.0 +0.2
comp=E,4.1nm,0.3s,baz=202,slow=4.8,SNR=26
MLR Lg Lg 16 18 20.2
baz=163,slow=19,SNR=2.3
MLR Muntele Rosu 7.29 5 ⇓P Pn 16 16 15.6 +0.8
LOT Lotru 7.29 353 ⇓P Pn 16 16 14.3 -0.5
LOT Lotru 7.29 353 PN Pn 16 16 14.9 +0.1
CFR Carcaliu 7.31 17 ⇑P Pn 16 16 14.0 -0.9
STON Ston 7.31 312 *e*Pn Pn 16 16 14.8 -0.1
STON Ston 7.31 312 *e*Pn Pn 16 16 16.8 +1.8
CSS Mathiatis 7.36 114 PN Pn 16 16 18.6 +2.9
CSS Mathiatis 7.36 114 Pn Pn 16 16 15.1 -0.6
CSS Mathiatis 7.36 114 Pn Pn 16 16 14.5 -1.2
HAPS Han Pijesak,BI 7.48 324 *e*Pn Pn 16 16 18.7 +1.3
TEKS Tekeris 7.59 328 *e*Pn Pn 16 16 19.8 +1.0
MERS Mersin 7.59 97 PN Pn 16 16 21.6 +2.7
CORM Corum 7.64 72 PN Pn 16 16 22.2 +2.5
PLOR Plostina 7.71 8 ⇑P Pn 16 16 21.2 +0.6
VRI Vrincioaia 7.74 8 ⇓P Pn 16 16 21.2 +0.3
VRI Vrincioaia 7.74 8 PN Pn 16 16 22.8 +2.0
VRI Vrincioaia 7.74 8 P Pn 16 16 21.1 +0.3
DOPR Dopca 7.75 1 ⇑P Pn 16 16 21.6 +0.7
CMRD Camardi-Nigde 7.82 91 PN Pn 16 16 24.9 +2.8
DEV Deva 7.83 349 ⇑P Pn 16 16 23.3 +1.1
BZS Buzias 7.84 342 ⇓P Pn 16 16 21.7 -0.5
MDB Medias 7.94 356 ⇑P Pn 16 16 24.5 +0.9
MAKA Makarska 7.96 312 *e*Pn Pn 16 16 23.4 -0.5
FRGS Fruska Gora 7.99 332 *e*Pn Pn 16 16 20.3 -4.0
RICI Ricice 8.02 314 *e*Pn Pn 16 16 24.7 0.0
RICI Sn Sn 16 17 54.6 -1.0
YOZ Yozgat 8.08 77 PN Pn 16 16 28.5 +2.8
TESR Tescani 8.36 7 ⇑P Pn 16 16 30.1 +0.7
SIRR Siria 8.44 343 ⇓P Pn 16 16 30.4 -0.1
VAE Valguarnera 8.50 268 Pn Pn 16 16 31.8 +0.4
baz=196,slow=17,SNR=0.8
VAE LR LR 16 19 51.3
comp=E,262nm,20.5s,baz=128,slow=38
MGRS Mrkonjic Grad 8.65 318 *e*Pn Pn 16 16 36.9 +3.5
BIZ Bicaz 8.74 4 ⇑P Pn 16 16 35.2 +0.6
DRGR 8.75 349 ⇓P Pn 16 16 35.3 +0.6
DRGR 8.75 349 P Pn 16 16 37.8 +3.0
KIJV Kijevo 8.75 314 *e*Pn Pn 16 16 35.3 +0.5
BLY Banja Luka 8.83 320 *e*Pn Pn 16 16 38.1 +2.3
ZIRJ Zirje 8.99 310 *e*Pn Pn 16 16 39.1 +1.2
ZIRJ Sn Sn 16 18 17.5 -1.9
SEV Sevastopol' 9.01 43 *e*P Pn 16 16 35.6 -2.7
MORI Morici 9.07 311 *e*Pn Pn 16 16 40.2 +1.1
MORH Mrgy, Hungar 9.32 331 *e*Pn Pn 16 16 42.7 +0.2
INTR Introdacqua 9.39 297 Pn Pn 16 16 42.9 -0.6
BURAR Bucovina Array 9.39 0 ⇑P Pn 16 16 44.9 +1.3
BURAR Bucovina Array 9.39 0 P Pn 16 16 44.9 +1.3
BUR08 Bucovina Ar. S 9.42 0 Pn Pn 16 16 44.5 +0.4
CLTB Caltabellotta 9.43 270 Pn 16 16 39.3 -4.8
SIM Simferopol' 9.52 42 P Pn 16 16 46.6 +1.4
SIM pmax pmax
comp=Z,23µm,0.8s
DUGI Dugi Otok 9.53 310 *e*Pn Pn 16 16 46.5 +1.1
DUGI Sn Sn 16 18 32.6 -0.1
MOSL Moslavina 9.66 323 *e*Pn Pn 16 16 47.5 +0.2
MOSL Sn Sn 16 18 34.0 -2.0
MMA0B Mount Meron ar 9.85 119 Pn Pn 16 16 49.3 -0.6
MMAI Mount Meron Ar 9.85 119 Pn Pn 16 16 49.6 -0.3
comp=Z,1.9nm,0.3s,baz=303,slow=14,SNR=18
MMAI Sn Sn 16 18 36.6 -4.2
comp=Z,1.7nm,0.3s,baz=313,slow=23,SNR=2.7
MMAI LR LR 16 21 10.2
comp=Z,330nm,20.5s,baz=310,slow=41
GEM Giv'at Ha'Em 9.92 117 Pn Pn 16 16 50.8 0.0
NATI Neve Ativ 9.95 117 Pn Pn 16 16 51.2 +0.1
SUDU Sudak 9.96 45 *e*P Pn 16 16 53.0 +1.7
SUDU *e*S Sn 16 18 39.2 -4.0
NVLJ Novalja 9.97 313 *e*Pn Pn 16 16 52.3 +0.9
KALN Kalnik 10.18 324 *e*Pn Pn 16 16 54.2 -0.2
SORM Soroca 10.19 12 ⇑P Pn 16 16 53.3 -1.0
NRCA Norcia 10.23 301 Pn Pn 16 16 54.0 -1.1
PTJ Puntijarka 10.25 321 *e*Pn Pn 16 16 55.5 +0.1
PTJ Sn Sn 16 18 47.5 -3.2
BOJS Bojanci 10.34 318 *i* Pn Pn 16 16 58.7 +2.2
HMDT Nahal Hemdat 10.38 122 Pn Pn 16 16 56.7 -0.4
HMDT Sn Sn 16 18 47.2 -6.5
GCIS Gornji Cirnik 10.39 320 *e*Pn Pn 16 16 58.2 +0.9
PSZ Piszkesteto 10.42 340 P Pn 16 16 58.8 +1.2
PSZ Piszkesteto 10.42 340 Pn Pn 16 16 58.8 +1.2
CRES Cresnjev 10.45 320 *e*Pn Pn 16 16 59.0 +0.9
KZIT Kziot 10.57 131 Pn Pn 16 16 58.5 -1.2
KZIT Sn Sn 16 18 52.7 -5.6
UZH Uzhgorod 10.61 350 *e*P Pn 16 17 04.5 +4.4
UZH *e*S Sn 16 19 05.0 +5.9
UZH MLR MLR
comp=N,140nm,15.0s
UZH MLR MLR
comp=E,400nm,15.0s
UZH MLR MLR
comp=Z,60nm,15.0s
YTIR Yattir 10.69 127 Pn Pn 16 17 00.2 -1.2
DSI Dead Sea 10.72 125 Pn Pn 16 17 01.2 -0.6
BRJN Brijuni 10.82 312 *e*Pn Pn 16 17 03.7 +0.7
KOLS Kolonicke sedl 10.91 350 *e*P Pn 16 17 05.9 +1.7
KOLS Kolonicke sedl 10.91 350 *e*Pn Pn 16 17 05.9 +1.7
CEY Cerknica 10.94 317 *e*Pn Pn 16 17 05.4 +0.7
DAMI2 DAM2 11.03 127 Pn Pn 16 17 04.9 -1.0
PERS Pernice 11.19 322 *e*Pn Pn 16 17 08.8 +0.6
SOKA Soboth 11.26 322 *e*Pn Pn 16 17 09.6 +0.4
comp=Z,14nm,0.8s
ZFRI Zfr 11.29 130 Pn Pn 16 17 09.9 +0.4
PRNI Paran 11.33 131 Pn Pn 16 17 09.0 -1.1
ANN Anapa 11.33 51 *e*P Pn 16 17 11.8 +1.8
ANN MLR MLR
comp=Z,287nm,13.0s
KRMI Paran Flat 11.34 133 Pn Pn 16 17 09.0 -1.2
ASF Jabal al Asfar 11.37 119 Pn Pn 16 17 09.9 -0.8
comp=Z,0.2nm,0.3s,baz=51,slow=9.1,SNR=2.1
ASF Sn Sn 16 19 20.0 +2.1
comp=Z,0.2nm,0.3s,baz=121,slow=23,SNR=1.3
OBKA Obir 11.38 320 Pn Pn 16 17 13.0 +2.2
comp=Z,19nm,1.5s
VOJS Vojsko 11.41 317 *e*Pn Pn 16 17 13.2 +1.9
ARSA Arzberg 11.45 325 *e*Pn Pn 16 17 13.3 +1.6
comp=Z,7.9nm,0.6s
HRFI Mount Harif 11.58 132 Pn Pn 16 17 12.8 -0.7
HRFI Sn Sn 16 19 18.2 -4.9
EIL Elat 11.80 133 Pn Pn 16 17 15.4 -1.1
comp=Z,0.9nm,0.3s,baz=316,slow=6.9,SNR=19
EIL Sn Sn 16 19 25.9 -2.5
comp=Z,0.4nm,0.3s,baz=48,slow=20,SNR=2.4
EIL Elat 11.80 133 Pn Pn 16 17 15.4 -1.1
CONA Conrad Observa 11.82 328 Pn Pn 16 17 18.7 +1.9
comp=Z,7.4nm,1.0s
SOC Sochi 12.27 60 *e*P Pn 16 17 21.8 -1.1
SOC *e* 16 19 38.9
SOC pmax pmax
comp=Z,5.0nm,0.4s
SOC MLR MLR
comp=Z,334nm,14.0s
KBA Koelnbreinsper 12.38 319 *e*Pn Pn 16 17 27.5 +3.0
comp=Z,19nm,1.6s
MOA Molln 12.46 324 *e*Pn Pn 16 17 27.5 +1.9
comp=Z,21nm,1.1s
ABTA Abfaltersbach 12.60 317 *e*Pn Pn 16 17 30.0 +2.4
comp=Z,5.8nm,0.6s
OKC Ostrava-Krasne 12.64 339 AMS AMS 16 23 10.0
comp=Z,700nm,12.2s
VRAC Vranov 12.67 334 LR LR 16 23 18.8
comp=Z,308nm,18.7s,baz=152,slow=42
AKASG Malin Array Be 12.82 12 Pn Pn 16 17 28.7 -1.6
comp=Z,0.8nm,0.3s,baz=198,slow=12,SNR=5.2
AKASG LR LR 16 22 43.1
comp=Z,198nm,19.0s,baz=170,slow=39
AKBB Malin Array Si 12.82 12 *c**e*P Pn 16 17 31.6 +1.3
KEST Kesra 12.86 264 Pn Pn 16 17 28.9 -2.2
comp=Z,0.1nm,0.3s,baz=122,slow=12,SNR=1.6
WTTA Wattenberg 13.39 317 Pn Pn 16 17 40.8 +2.4
comp=Z,9.8nm,0.9s
GERES GERESS Array B 13.45 326 Pn Pn 16 17 38.0 -1.1
comp=Z,0.1nm,0.3s,baz=148,slow=14,SNR=14
WATA Walderalm 13.47 317 *e*Pn P 16 17 41.9 +2.5
comp=Z,8.7nm,0.7s
SQTA Sankt Quirin 13.60 316 *e*Pn Pn 16 17 42.3 +1.1
comp=Z,5.2nm,0.5s
DPC Dobruska-Polom 13.65 335 AMS AMS 16 24 00.0
comp=Z,700nm,13.4s
KHC Kasperske Hory 13.72 326 *e*P P 16 17 47.0 -4.5
KHC AMS AMS 16 23 10.0
comp=Z,600nm,11.8s
KHC Kasperske Hory 13.72 326 ⇓*e*P Pn 16 17 46.4 +3.7
KHC pmax pmax
comp=Z,21nm,1.7s
MOTA Moosalm 13.73 316 Pn Pn 16 17 43.4 +0.4
comp=Z,11nm,0.9s
FETA Feichten 13.75 314 *e*Pn Pn 16 17 44.1 +0.8
comp=Z,13nm,1.3s
GOPC GO Pecny, Ondr 13.83 331 AMS AMS 16 23 40.0
comp=Z,600nm,13.2s
OSTC Ostas 13.87 336 AMS AMS 16 24 00.0
comp=Z,700nm,12.6s
UPC Upice 13.89 335 AMS AMS 16 24 00.0
comp=Z,900nm,12.6s
PRU Pruhonice 13.99 331 AMS AMS 16 23 40.0
comp=Z,600nm,12.5s
RETA Reutte 14.00 316 Pn Pn 16 17 47.0 +0.4
comp=Z,7.8nm,0.8s
PRA Prague 14.09 331 AMS AMS 16 23 50.0
comp=Z,300nm,12.4s
DAVOX Davos/Dischmat 14.11 312 Pn Pn 16 17 48.9 +0.7
comp=Z,0.3nm,0.3s,baz=135,slow=19,SNR=2.6
DAVOX LR LR 16 23 31.7
comp=Z,520nm,21.1s,baz=108,slow=39
NEY Neytrino 14.26 64 ⇓*e*P Pn 16 17 53.4 +3.2
DAVA Damuels 14.38 314 *e*Pn Pn 16 17 53.3 +1.4
comp=Z,18nm,0.8s
PVCC Panska Ves 14.41 332 AMS AMS 16 23 40.0
comp=Z,200nm,13.4s
KIV Kislovodsk 14.43 61 *e*P Pn 16 17 54.8 +2.3
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,270nm,12.0s
KBZ Khabaz 14.51 62 Pn P 16 18 02.0 +1.8
comp=Z,0.1nm,0.3s,baz=258,slow=8.1,SNR=8.1
KBZ Khabaz 14.51 62 ⇑*e*P Pn 16 17 54.9 +1.4
BRG Berggiesshubel 14.93 332 *e*P P 16 18 01.8 -3.0
comp=Z,3.9nm,1.2s
BRG *i* 16 18 08.3
comp=Z,4.3nm,0.9s
comp=N,445nm,11.0s
comp=E,63nm,14.4s
comp=Z,414nm,12.4s
BRG Berggiesshubel 14.93 332 *e*P P 16 18 01.8 -3.0
BRG pmax pmax
comp=Z,4.0nm,1.2s
BRG MLR MLR
comp=N,445nm,11.0s
BRG MLR MLR
comp=E,63nm,14.4s
BRG MLR MLR
comp=Z,414nm,12.4s
ZEI Tsey 15.00 66 *e*P P 16 18 03.1 -2.8
ZEI pmax pmax
comp=Z,33nm,1.3s
NKC Novy Kostel 15.03 327 AMS AMS 16 24 00.0
comp=Z,600nm,11.4s
LPL La Plagne 15.50 304 *e*P P 16 18 12.4 +0.9
CLL Collm 15.63 331 *e*pP Pn 16 18 10.0 +1.6
comp=Z,5.0nm,1.1s
CLL *i* sP sP 16 18 16.7 +1.3
comp=Z,10.0nm,0.9s
CLL Lmax 16 25 00.0
CLL Collm 15.63 331 *e*P Pn 16 18 10.0 +1.6
CLL pmax pmax
comp=Z,5.0nm,1.1s
VORD Divnogorie 16.22 34 *e*P Pn 16 18 17.0 +1.0
VORD pmax pmax
comp=Z,20nm,1.6s
GROC Groznyy 16.44 66 *e*P Pn 16 18 20.1 +1.2
GROC pmax pmax
comp=Z,15nm,0.6s
NACGM Naroch 16.73 3 *e* Pn 16 18 21.0 -1.5
NACGM *e*LR LR 16 24 20.0
NACGM LRM MLR 16 25 48.0
comp=Z,0.2nm,10.0s
IIGN Ignalina 17.15 2 *e*P Pn 16 18 25.6 -2.3
IIGN IAmb IAmb 16 18 29.8
comp=Z,17nm,1.0s
LPSR Galich'ya Gora 17.30 29 *e*P P 16 18 30.8 -0.3
LPSR pmax pmax
comp=Z,10.0nm,0.9s
PABE Paberze 17.31 358 *e*P Pn 16 18 27.6 -2.2
PABE IAmb IAmb 16 18 32.5
comp=Z,42nm,1.0s
ISAL Salakas 17.37 2 *e*P Pn 16 18 29.7 -0.9
VRH Novokhopyorsk 17.49 37 *e*P P 16 18 35.5 +2.3
VRH pmax pmax
comp=Z,20nm,0.9s
IZAR Zarasai 17.55 2 *e*P Pn 16 18 31.2 -1.6
MAK Makhachkala 17.64 67 *e*P Pn 16 18 29.5 -4.4
MAK *e*S Sn 16 21 45.3 -5.2
MAK pmax pmax
comp=Z,17nm,0.3s
MAK MLR MLR
comp=Z,207nm,17.0s
AKT Akhty 17.66 72 *e*P P 16 18 37.2 +1.9
AKT pmax pmax
comp=Z,3.0nm,0.4s
PBUR Paburge 17.94 354 *e*P Pn 16 18 31.2 -6.3
AVF Avril sur Loir 18.15 305 *e*P P 16 18 41.4 +0.9
MEM Membach 18.37 319 pP pP 16 18 45.0 +0.3
OBN Obninsk 18.59 21 P P 16 18 44.3 -1.0
comp=Z,0.6nm,0.3s,baz=29,slow=21,SNR=4.9
OBN LR LR 16 26 14.8
comp=Z,79nm,18.6s,baz=187,slow=38
OBN Obninsk 18.59 21 *de*P Pn 16 18 45.6 0.0
OBN pmax pmax
comp=Z,21nm,1.0s
OBN MLR MLR
comp=Z,300nm,18.0s
MOS Moscow 19.44 22 *e*P P 16 18 52.6 -2.0
MOS *e*S Sn 16 22 29.8 -4.0
MOS pmax pmax
comp=Z,37nm,0.8s
VSU Vasula 20.29 2 *e*P P 16 19 04.4 +0.6
VSU IAmb IAmb 16 19 09.0
comp=Z,104nm,0.9s
VSU Vasula 20.29 2 *de*P Pn 16 19 04.8 -1.0
VSU pmax pmax
comp=Z,87nm,0.9s
PUL Pulkovo 21.83 7 ⇑*e*P P 16 19 21.8 +1.4
PUL pmax pmax
comp=Z,81nm,0.8s
ESDC Sonseca Array 22.62 283 P P 16 19 28.2 -1.1
comp=Z,2.1nm,0.9s,baz=77,slow=11,SNR=6.4
ESDC LR LR 16 28 29.1
comp=Z,151nm,19.1s,baz=90,slow=37
HFS Hagfors 23.10 345 P P 16 19 33.2 -0.8
comp=Z,3.0nm,0.8s,baz=146,slow=11,SNR=9.0
HFS LR LR 16 29 38.6
comp=Z,318nm,19.0s,baz=164,slow=40
FINES FINESS Array B 23.26 1 P P 16 19 35.7 +0.2
comp=Z,25nm,1.0s,baz=165,slow=7.9,SNR=37
FINES LR LR 16 29 33.0
comp=Z,441nm,19.1s,baz=185,slow=39
FIA1 FINESS Array S 23.26 1 P P 16 19 34.8 -0.7
FIA1 IAmb IAmb 16 19 42.1
comp=Z,34nm,0.9s
KONO Kongsberg 23.63 340 ⇑*e*P P 16 19 43.2 +3.9
KONO pmax pmax
comp=Z,7.0nm,1.1s
NC602 NORSAR Array S 24.10 344 P P 16 19 43.3 -0.5
NAO01 NORSAR Array S 24.35 343 P P 16 19 46.9 +0.8
KLMR Klimovskoe 24.40 17 *e*P P 16 19 46.8 +0.3
KLMR *e*S S 16 24 06.3 +0.2
KLMR pmax pmax
comp=Z,23nm,1.0s
KLMR Klimovskoe 24.40 17 *e*P P 16 19 46.8 +0.3
KLMR AMP 16 19 59.9
comp=Z,23nm,1.0s
KLMR *e*S S 16 24 06.4 +0.3
KLMR *e*S S 16 24 06.4 +0.3
KLMR LQ LQ 16 27 01.6
KLMR LQ LQ 16 27 01.6
KLMR LR LR 16 28 13.7
NC405 NORSAR Array S 24.40 344 P P 16 19 46.6 0.0
NB201 NORSAR Array S 24.44 344 P P 16 19 46.4 -0.6
NB201 IAmb IAmb 16 19 58.3
comp=Z,36nm,1.1s
NB2 NORSAR Subarra 24.45 344 P P 16 19 48.1 +1.1
comp=Z,17nm,1.1s,baz=148,slow=10
NOA NORSAR Array B 24.45 344 P P 16 19 47.0 0.0
comp=Z,4.5nm,0.7s,baz=148,slow=9.4,SNR=26
NOA LR LR 16 29 30.3
comp=Z,122nm,20.7s,baz=140,slow=37
SUF Sumiainen 24.54 1 P P 16 19 50.3 +2.5
SUF pmax pmax

comp=Z,23nm,0.9s
NBO00 NORSAR Array S 24.54 343 P P 16 19 47.6 -0.2
NC303 NORSAR Array S 24.58 344 P P 16 19 49.1 +0.9
NC303 IAmb IAmb 16 20 00.5
comp=Z,40nm,1.2s
PBRG Braganca 24.59 288 *e*P **P 16 19 49.3 +0.8**
comp=Z,15nm,1.6s
MDT Midelt 24.73 266 P P 16 19 50.4 +0.5
comp=Z,3.0nm,0.9s,baz=92,slow=9.2,SNR=5.6
NC204 NORSAR Array S 24.76 343 P P 16 19 50.0 +0.2
NC204 IAmb IAmb 16 20 05.2
comp=Z,31nm,1.0s
MVO Moncorvo 24.84 287 *e*P **P 16 19 51.0 +0.2**
comp=Z,16nm,1.8s
MVO *e*S **S 16 24 17.6 +3.8**
PMRV Marv??o 25.29 283 *e*P **P 16 19 57.6 +2.8**
comp=Z,14nm,1.4s
PMRV *e*S **S 16 24 22.4 +1.5**
PCBR Castelo Branco 25.30 284 *e*P **P 16 19 55.5 +0.6**
comp=Z,12nm,1.9s
EKA Eskdalemuir Ar 25.58 321 P P 16 19 57.4 +0.1
comp=Z,6.0nm,0.8s,baz=121,slow=8.9,SNR=14
KIRV Kirov 25.73 30 P P 16 19 59.2 +0.7
comp=Z,9.0nm,0.5s,baz=308,slow=7.2,SNR=2.2
KIRV LR LR 16 30 39.8
comp=Z,195nm,19.6s,baz=230,slow=38
PBEJ Beja 25.88 280 *e*P **P 16 20 00.8 +0.7**
comp=Z,20nm,1.8s
PVAQ Vaqueiros 25.88 278 *e*P **P 16 20 00.4 +0.2**
comp=Z,30nm,1.5s
PVAQ *e*S **S 16 24 30.6 +0.3**
PVAQ Vaqueiros 25.88 278 P P 16 19 59.9 -0.3
PVAQ IAmb IAmb 16 20 06.1
comp=Z,15nm,0.9s
GEYT Alibeck 25.91 80 P P 16 20 01.8 +1.3
comp=Z,9.2nm,0.8s,baz=287,slow=11,SNR=26
GEYT LR LR 16 32 34.6
comp=Z,120nm,18.2s,baz=325,slow=42
COI Coimbra 25.97 285 *e*S **S** 16 24 42.2 +11
PCAS Casmilo, Conde 26.05 285 *e*S **S 16 24 38.4 +5.4**
PBDV Barranco-do-Ve 26.08 278 *e*P **P 16 20 02.7 +0.6**
comp=Z,37nm,1.4s
AKTO Aktyubinsk 26.29 52 P P 16 20 05.0 +1.2
comp=Z,3.2nm,0.6s,baz=248,slow=11,SNR=6.3
AKTO LR LR 16 32 02.6
comp=Z,106nm,19.8s,baz=260,slow=40
AKTO Aktyubinsk 26.29 52 P P 16 20 05.0 +1.2
PNCL Nicolau / Gran 26.37 280 *e*S **S 16 24 46.9 +8.8**
PTEO Sao Teotonio 26.64 279 *e*P **P 16 20 07.4 +0.4**
comp=Z,44nm,1.3s
ARU Arti 28.67 40 P P 16 20 25.2 +0.2
comp=Z,1.2nm,0.5s,baz=220,slow=7.1,SNR=11
ARU LR LR 16 33 45.9
comp=Z,122nm,18.5s,baz=242,slow=40
ARU Arti 28.67 40 *c i*P **P 16 20 24.8 -0.2**
ARU 16 21 11.6
ARU S **S 16 25 15.4 +1.5**
ARU SS **SnSn 16 26 36.0 +2.3**
ARU pmax pmax
comp=Z,11nm,1.0s
SVE Sverdlovsk 29.88 40⇓ *e*P **P 16 20 36.3 +0.6**
SVE pmax pmax
comp=Z,13nm,1.1s
ARCES ARCESS Array B 31.38 0 P P 16 20 48.2 -0.6
comp=Z,5.8nm,0.9s,baz=189,slow=7.2,SNR=16
ARCES LR LR 16 34 33.2
comp=Z,294nm,18.2s,baz=182,slow=38
TOA0 Torodi Ar. Sit 32.51 226 P P 16 20 59.4 +0.1
TOA0 IAmb IAmb 16 21 11.0
comp=Z,6.9nm,0.7s
TORD Torodi Ar. Bea 32.51 226 P P 16 20 59.3 0.0
comp=Z,3.1nm,0.6s,baz=33,slow=9.1,SNR=16
TORD LR LR 16 35 48.9
comp=Z,98nm,19.0s,baz=35,slow=40
BRVK Borovoye 34.27 49⇑ *e*P **P 16 21 15.0 +0.7**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BVAR Borovoye Array 34.33 50 P P 16 21 15.9 +1.0
comp=Z,1.0nm,0.8s,baz=258,slow=4.4,SNR=5.9
AAK Ala-Archa 37.42 67⇓ *e*P **P 16 21 43.2 +1.6**
AAK pmax pmax
comp=Z,1.0nm,1.1s
KURBB Kurchatov Arra 39.29 54 P P 16 21 57.5 +0.5
comp=Z,3.4nm,0.9s,baz=282,slow=8.6,SNR=15
KURK Kurchatov 39.34 54⇑ *e*P **P 16 21 57.7 +0.2**
KURK pmax pmax
comp=Z,6.0nm,1.7s
DBIC Dimbokro 41.51 228 P P 16 22 15.2 -0.5
comp=Z,5.0nm,0.8s,baz=5.3,slow=11,SNR=6.0
DBIC LR LR 16 39 49.4
comp=Z,59nm,20.8s,baz=18,slow=37
DBIC Dimbokro 41.51 228 P P 16 22 15.3 -0.5
DBIC pmax pmax
comp=Z,12nm,0.9s
DBIC Dimbokro 41.51 228 IAmb IAmb 16 22 32.9
comp=Z,12nm,0.9s
TIC Toumodi 41.63 229 *e*P **P 16 22 17.0 +0.2**
KIC Kosan Boka 41.69 228 *e*P **P 16 22 17.6 +0.3**
comp=Z,7.2nm,0.7s
LIC Lamto 41.97 228 *e*P **P 16 22 20.0 +0.5**
comp=Z,22nm,0.6s
MKAR Makanchi Array 42.18 59 P P 16 22 21.4 +0.3
comp=Z,1.3nm,0.5s,baz=276,slow=6.9,SNR=15
MKAR LR LR 16 41 53.9
comp=Z,78nm,19.7s,baz=272,slow=39
MKAR Makanchi Array 42.18 59 *i*P **P 16 22 24.3 +3.2**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 42.96 48 P P 16 22 27.0 -0.2
comp=Z,1.8nm,0.7s,baz=274,slow=8.8,SNR=6.5
ZALV LR LR 16 42 31.1
comp=Z,76nm,19.9s,baz=264,slow=39
DGZ Jazzator, Alta 45.08 54⇑ *e*P **P 16 22 44.9 +0.4**
DGZ pmax pmax
comp=Z,1.0nm,0.6s
NRIK Noril'sk 45.14 26 LR LR 16 42 31.8
comp=Z,145nm,21.8s,baz=260,slow=37
WMQ Urumqi 46.55 62 *e*P **P 16 22 59.0 +2.9**
WMQ LR LR
comp=Z,720nm,29.3s
PYUN Piuthan 48.80 84 *e*P **P 16 23 14.7 +0.8**
comp=Z,40nm,0.9s
DANN Dangsing 49.28 83 *e*P **P 16 23 18.6 +0.8**
comp=Z,34nm,0.7s
KOLN Koldanda 49.43 84 *e*P **P 16 23 19.1 +0.3**
comp=Z,9.6nm,0.6s
GKN Gorkha 50.13 83 *e*P **P 16 23 24.7 +0.6**
comp=Z,18nm,0.6s
DMN Daman 50.68 83 *e*P **P 16 23 28.8 +0.5**
comp=Z,22nm,0.8s
KKN Kakani 50.73 83 *e*P **P 16 23 29.2 +0.5**
comp=Z,8.4nm,0.5s
PKIN Phulchoki 50.92 83 *e*P **P 16 23 30.3 +0.1**
comp=Z,16nm,1.0s
PKI Pulchoki 50.94 83 *e*P **P 16 23 30.4 0.0**
comp=Z,17nm,1.0s
GUN Gumba 51.15 83 *e*P **P 16 23 32.6 +0.7**
comp=Z,33nm,1.0s
RAMN Ramite 52.16 83 *e*P **P 16 23 39.3 -0.1**
comp=Z,26nm,0.8s
ODAN Odare 52.83 83 *e*P **P 16 23 44.4 +0.1**
comp=Z,11nm,0.8s
LSZ Lusaka 53.29 176 P P 16 23 47.7 +0.2
comp=Z,0.5nm,0.3s,baz=113,slow=14,SNR=1.5
LSZ Lusaka 53.29 176 P P 16 23 47.7 +0.2
LSZ pmax pmax
comp=Z,3.0nm,1.0s
GTA Gaotai 56.59 64 *e*P **P 16 24 11.8 +0.4**
GTA pP sP 16 24 18.0 +3.7
GTA sP pP 16 24 21.0 +7.5
GTA pmax pmax
comp=Z,2.0nm,1.3s
SONM Songino Array 57.60 52 P P 16 24 18.5 +0.1
comp=Z,0.4nm,0.4s,baz=293,slow=7.7,SNR=3.7
SCHQ Schefferville 60.86 319 LR LR 16 49 35.8
comp=Z,86nm,20.6s,baz=110,slow=35
LZH Lanzhou 60.92 65 *e*P **P 16 24 42.0 +0.4**
LZH pP sP 16 24 45.3 +0.8
LZH sP pP 16 24 46.8 +3.1
LZH *e*PP **PP 16 26 58.5 +3.0**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,93nm,4.1s
LZH LR LR
comp=Z,290nm,15.0s
LZH LR LR
comp=Z,430nm,17.2s
YAK Yakutsk 63.26 31 *e*P **P 16 24 57.9 +1.3**
YAK pmax pmax
comp=Z,5.0nm,0.8s
HHC Hu-ho-hao-te 63.99 57 *e*P **P 16 25 05.8 +3.8**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,33nm,4.5s
KMI Kunming 65.59 76⇓ *e*P **P 16 25 15.0 +2.2**
KMI pP sP 16 25 16.8 +1.1
KMI sP pP 16 25 18.0 +3.1
KMI pmax pmax
comp=Z,5.0nm,1.0s
KMI LR LR
comp=Z,190nm,10.4s
KMI LR LR
comp=Z,260nm,12.3s
CMAR Chiang Mai Arr 66.29 85 P P 16 25 16.8 -0.3
comp=Z,1.1nm,0.8s,baz=303,slow=7.8,SNR=11
CMAR LR LR 16 59 23.2
comp=Z,151nm,19.0s,baz=301,slow=41
BOSA Boshof 66.48 180 P P 16 25 17.2 -0.9
comp=Z,2.7nm,0.8s,baz=230,slow=5.7,SNR=3.7
BOSA LR LR 16 55 39.1
comp=Z,75nm,18.3s,baz=24,slow=37
BOSA Boshof 66.48 180 P P 16 25 17.2 -0.9
BOSA pmax pmax
comp=Z,17nm,1.4s
NJ2 Nanjing 73.63 62 *e*P **P 16 26 00.5 -1.5**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
YKA Yellowknife Ar 74.53 342 P P 16 26 06.4 -0.4
comp=Z,0.4nm,0.8s,baz=39,slow=5.6,SNR=5.3
YKA LR LR 16 59 41.4
comp=Z,50nm,18.2s,baz=0.0,slow=36
USRK Ussuriysk Ar. 74.72 46 P P 16 26 08.4 +0.2
comp=Z,1.7nm,0.7s,baz=310,slow=5.4,SNR=4.9
KSRS Korea Array 75.46 53 P P 16 26 18.1 -0.1
comp=Z,1.0nm,0.8s,baz=307,slow=5.0,SNR=6.0
KSRS LR LR 17 03 56.1
comp=Z,68nm,18.6s,baz=256,slow=39
ILAR Eielson Array 77.15 356 LR LR 17 00 14.4
comp=Z,41nm,21.9s,baz=358,slow=36
ULM Lac du Bonnet 77.76 326 LR LR 17 00 45.9
comp=Z,73nm,18.4s,baz=9.5,slow=36
YSS Yuzh-Sakhalins 78.55 38 *e*P **P 16 26 31.5 +1.7**
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS MLR MLR
comp=Z,100nm,13.0s
PETK Petropavlovsk- 80.20 27 LR LR 17 04 45.2
comp=Z,60nm,19.4s,baz=241,slow=38
MJAR Matsushiro Arr 83.31 48 P P 16 26 56.1 +0.6
comp=Z,1.4nm,0.9s,baz=321,slow=4.6,SNR=4.3
MJAR LR LR 17 07 43.3
comp=Z,41nm,19.3s,baz=220,slow=38
CCM Cathedral Cave 84.14 315 P P 16 26 57.2 -2.4
CCM pmax pmax
comp=Z,27nm,1.0s
CCM Cathedral Cave 84.14 315 P P 16 26 57.2 -2.4
ANMO Albuquerque 94.48 322 LR LR 17 10 11.6
comp=Z,56nm,19.6s,baz=46,slow=35
YBH Yreka Blue Hor 95.19 336 LR LR 17 13 45.3
comp=Z,58nm,18.7s,baz=358,slow=37
NVAR Mina Array Bea 96.63 332 LR LR 17 15 22.8
comp=Z,55nm,18.9s,baz=29,slow=38
TXAR Lajitas Array 97.50 317 LR LR 17 12 52.4
comp=Z,70nm,18.2s,baz=0.0,slow=36
ASAR Alice Springs 118.59 99 PKP **PKiKP 16 33 16.7 -0.1**
comp=Z,0.3nm,0.8s,baz=279,slow=0.5,SNR=2.0

*IDC **27** 16:24:59.8±5.5,24.°03N×142.°32E,h63km±48km,mb3.4/7, mb1 3.5/9,mb1mx3.3/38,mbtmp3.7/9,ML3.1/2,MS2.6/1, Ms1 2.6/1,ms1mx2.1/32,Error ellipse: s-maj=90.3km s-min=19.9km az=84.0*
ISC 27 16:24:56.8±1.8,24.°0N±0.°1×142.°4E±0.°5,h35km,n9, σ0s99/9,mb3.7/7,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**13.07**	**345**	P		**Pn**	**16 28 01.2 +1.3**
	0.1nm,0.3s,baz=160,slow=14,SNR=2.0						
KSRS	**Korea Array**	**18.31**	**321**	P		**P**	**16 29 08.6 +0.7**
	0.1nm,0.3s,baz=135,slow=11,SNR=2.9						
KSRS				LR	LR	16 35 41.4	
	comp=Z,16nm,18.9s,baz=245,slow=35						
USRK	**Ussuriysk Ar.**	**21.93**	**340**	P		**P**	**16 29 46.1 -1.0**
	0.7nm,0.5s,baz=145,slow=10,SNR=3.5						
KLR	**Kul'dur**	**26.59**	**344**	P		**P**	**16 30 31.2 -0.4**
	1.8nm,0.9s,baz=172,slow=5.7,SNR=7.0						
WRA	**Warramunga Arr**	**44.33**	**191**	P		**P**	**16 33 04.1 +0.5**
	0.7nm,0.5s,baz=18,slow=7.9,SNR=1.9						
ASAR	**Alice Springs**	**48.05**	**191**	P		**P**	**16 33 33.4 +0.5**
	0.4nm,0.9s,baz=3.2,slow=6.9,SNR=5.3						
MKAR	**Makanchi Array**	**52.67**	**311**	P		**P**	**16 34 06.6 -1.1**
	0.3nm,0.5s,baz=85,slow=8.6,SNR=4.1						
ARCES	**ARCESS Array B**	**76.57**	**341**	P		**P**	**16 36 42.9 -0.3**
	1.3nm,0.7s,baz=73,slow=9.2,SNR=7.1						
FINES	**FINESS Array B**	**80.86**	**334**	P		**P**	**16 37 06.0 -0.8**
	0.3nm,0.3s,baz=70,slow=6.3,SNR=4.7						

JMA 27 16:30:24.3±0.3,24.°87N×123.°39E,h29km,M0.9, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.53**	**220**	P		Pb	16 30 34.9 -0.3
YOJ				*e*S		Sb	16 30 42.1 -0.6
JYNG	**Yonagunijimaku**	**0.58**	**224**	P		Pb	16 30 35.7 -0.3
JYNG				*e*S		Sb	16 30 43.8 -0.2
IRIF	**Iriomote-Funau**	**0.62**	**150**	P		Pb	16 30 36.3 -0.3
JKRS	**Kuro-shima**	**0.84**	**138**	P		Pn	16 30 40.1 -0.1
JKRS				S		Sb	16 30 51.3 -0.1
JIJ	**Ishigaki jima**	**0.85**	**126**	S		Sb	16 30 50.2 -1.4
JISG	**Ishigakijimahi**	**0.88**	**108**	*e*S		Sb	16 30 51.2 -1.3

TAP 27 16:30:25.2,24.°46N×121.°93E,h11km±1km,ML1.6,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.17**	**335**	P		Pb	16 30 29.6 -0.6
	baz=337						
TWC				*i* S		Sg	16 30 32.2 +0.7
	baz=337						
ENA	**Nanau**	**0.17**	**260**	P		Pb	16 30 29.8 -0.6
	baz=258						
ENA				S		Sg	16 30 33.2 +1.5
	baz=258						
TWE	**Neicheng**	**0.35**	**318**	*e*S		Sb	16 30 39.2 +0.2
	baz=319						
ENTT	**Nioudou**	**0.38**	**299**	P		Pb	16 30 33.6 -0.2
	baz=298						
ENTT				S		Sb	16 30 39.8 +0.1
	baz=298						
NDT	**Datong Townshi**	**0.40**	**291**	P		Pb	16 30 34.8 +0.5
	baz=290						
NDT				S		Sb	16 30 40.4 -0.1
	baz=290						
NACB	**Ninganchiao**	**0.41**	**227**	*e*P		Pb	16 30 34.1 -0.4
	baz=226						
NACB				*e*S		Sb	16 30 40.6 -0.2
	baz=226						
ETLH	**Xiulin Townshi**	**0.48**	**238**	P		Pg	16 30 35.1 +0.5
	baz=238						
ETLH				*e*S		Sb	16 30 42.6 -0.1
	baz=238						
NNSB	**Datong**	**0.50**	**267**	P		Pb	16 30 35.9 -0.1
	baz=266						
NNSB				S		Sb	16 30 43.0 -0.3
	baz=266						
NNSH	**Datong**	**0.50**	**267**	P		Pb	16 30 35.9 -0.1
	baz=266						
NNSH				S		Sb	16 30 43.0 -0.3
	baz=266						
NWLT	**Wulai**	**0.50**	**309**	*e*P		Pb	16 30 35.7 -0.3
	baz=309						
NWLT				*e*S		Sb	16 30 43.5 +0.2
	baz=309						
NNS	**Nan Shan**	**0.51**	**268**	S		Sb	16 30 43.9 +0.3
	baz=267						
TIPB	**Shuangxi**	**0.52**	**350**	P		Pb	16 30 36.0 -0.3
	baz=349						
TIPB				*e*S		Sb	16 30 44.0 +0.2
	baz=349						
YHNB	**Yeheng**	**0.54**	**293**	*e*P		Pb	16 30 36.6 -0.1
	baz=292						
YHNB				*e*S		Sb	16 30 44.4 -0.2
	baz=292						
NSK	**Sanguang**	**0.56**	**293**	*e*P		Pb	16 30 36.6 -0.4
	baz=292						
NSK				S		Sb	16 30 45.0 -0.1
	baz=292						
NTST	**Danshui**	**0.83**	**328**	*e*P		Pb	16 30 41.5 0.0
	baz=328						
NTST				*e*S		Sb	16 30 53.5 +0.9
	baz=328						

KRSC 27 16:38:41.4±1.3,51.°32N×158.°18E,h45km±16km,ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**0.50**	**353**	*e*P		Pn	16 38 54.1 +1.8
KDTR				*e*S		Sn	16 39 02.4 +2.3
PAU	**Pauzhetka**	**0.87**	**280**	*e*P		Pn	16 38 59.1 +1.8
ASAK	**Asacha**	**1.08**	**351**	*e*P		Pn	16 39 01.9 +1.7
ASAK				*e*S		Sn	16 39 15.6 +1.5
RUS	**Russkaya**	**1.14**	**10**	*e*P		Pn	16 39 01.9 +1.0
RUS				*e*S		Sn	16 39 15.9 +0.6
MTVR	**Mutnovka**	**1.17**	**0**	*e*P		Pn	16 39 03.1 +1.6
MTVR				*e*S		Sn	16 39 17.7 +1.4
GRL	**Gorelyy**	**1.24**	**357**	*e*P		Pn	16 39 04.4 +2.0
GRL				*e*S		Sn	16 39 20.3 +2.3
MIPR	**Malaya Ipel'ka**	**1.30**	**318**	*e*P		Pn	16 39 05.1 +1.9
MIPR				*e*S		Sn	16 39 21.1 +1.6
SKR	**Severo-Kuril's**	**1.45**	**245**	*e*P		Pn	16 39 06.6 +1.5
SKR				*e*S		Sn	16 39 24.4 +1.5
KRMR	**Karymshinskiy**	**1.52**	**359**	*e*P		Pn	16 39 09.1 +3.1
KRMR				*e*S		Sn	16 39 28.1 +3.5
APC	**Apacha**	**1.73**	**339**	*e*P		Pn	16 39 11.0 +2.0
PET	**Petropavlovsk**	**1.73**	**9**	*e*P		Pn	16 39 10.6 +1.6
PET				*e*S		Sn	16 39 31.6 +1.7
DALK	**Dalny**	**1.75**	**11**	*e*P		Pn	16 39 10.8 +1.5
DALK				*e*S		Sn	16 39 31.9 +1.5
UGLR	**Uglovaya**	**1.94**	**12**	*e*P		Pn	16 39 14.8 +2.9
AVH	**Avacha**	**1.98**	**10**	*e*P		Pn	16 39 15.2 +2.7
SMAR	**Somma**	**1.99**	**11**	*e*P		Pn	16 39 16.4 +3.7
NLC	**Nalytchevo**	**1.99**	**21**	*e*S		Sn	16 39 35.5 -0.7
KOK	**Koryaka**	**2.00**	**8**	*e*P		Pn	16 39 15.6 +2.8
SDLR	**Sedlovina**	**2.01**	**12**	*e*P		Pn	16 39 14.9 +1.9
SDLR				*e*S		Sn	16 39 37.7 +0.8
KRER	**Koryakskii**	**2.02**	**10**	*e*P		Pn	16 39 15.5 +2.3
KRER				*e*S		Sn	16 39 39.2 +1.9
KRX	**Arik**	**2.06**	**8**	*e*P		Pn	16 39 16.4 +2.7
SPN	**Mys Shipunski**	**2.11**	**32**	*e*P		Pn	16 39 16.5 +2.3
SPN				*e*S		Sn	16 39 40.5 +1.2
KII	**Karymskiy**	**2.83**	**15**	*e*P		Pn	16 39 29.8 +5.6
KZV	**Kizimen**	**4.01**	**18**	*e*P		Pn	16 39 45.5 +5.1
TUMR	**Tumrok**	**4.14**	**16**	*e*P		Pn	16 39 46.4 +4.2
KBTR	**Krutoberegovo**	**5.62**	**27**	*e*P		Pn	16 40 06.5 +4.2

*DDA **27** 16:44:34.4,38.°17N×24.°83E,h24km±5km,ML3.4*
*ISK **27** 16:44:37.6,38.°23N×25.°09E,h6km,ML3.5/30*
*ATH **27** 16:44:38.2,38.°24N×25.°13E,h32km±1km,ML3.5/16,Error ellipse: s-maj=1.7km s-min=0.8km az=111.0*
*THE **27** 16:44:40.0,38.°26N×25.°12E,h24km±1km,ML3.5/8,Error ellipse: s-maj=2.0km s-min=0.6km az=40.0*
ISC 27 16:44:39.0±1.0,38.°21N±0.°02×25.°11E±0.°01,h13km±8km, n106,σ1s03/150,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSRA	**Psara**	**0.49**	**47**	P		**Pg**	**16 44 48.0 -0.5**
PSRA				S		**Sg**	**16 44 54.7 -0.3**
PSRA				AML	AML	16 44 55.2	
	comp=N,21643μm,0.2s						
PSRA				AML	AML	16 44 56.4	
	comp=E,19275μm,0.3s						
TNSA	**Tinos**	**0.67**	**176**	P		**Pg**	**16 44 52.2 +0.1**
TNSA				S		**Sb**	**16 45 02.5 +0.7**
TNSA				AML	AML	16 45 06.5	
	comp=N,16082μm,0.5s						
TNSA				AML	AML	16 45 06.6	
	comp=E,26797μm,0.4s						
CHOS	**Chios island**	**0.77**	**77**	P		**Pg**	**16 44 53.8 -0.1**
CHOS				S		**Sg**	**16 45 04.3 +0.4**
	comp=E,4μm,0.4s						
CHOS	**Chios island**	**0.77**	**77**	P		**Pg**	**16 44 53.7 -0.1**
CHOS				S		**Sg**	**16 45 03.8 -0.1**
CHOS				AML	AML	16 45 07.1	
	comp=N,7615μm,0.4s						
CHOS				AML	AML	16 45 09.2	
	comp=E,8874μm,0.3s						
CHOS	**Chios island**	**0.77**	**77**	PG		**Pg**	**16 44 53.8 -0.1**
CHOS				SG		**Sg**	**16 45 04.2 +0.4**
SKY	**Skiros Island**	**0.80**	**327**	P		**Pg**	**16 44 54.9 +0.5**
SKY				S		**Sg**	**16 45 04.9 +0.1**
	comp=E,5μm,0.7s						
SKY	**Skiros Island**	**0.80**	**327**	P		**Pg**	**16 44 54.1 -0.2**
SKY				S		**Sg**	**16 45 05.3 +0.5**
SKY				AML	AML	16 45 13.4	
	comp=N,7750μm,0.6s						
SKY				AML	AML	16 45 13.5	
	comp=E,8900μm,0.4s						
KYMI	**Kymi, Euboea I**	**0.90**	**298**	P		**Pg**	**16 44 56.1 -0.2**
KYMI				S		**Sg**	**16 45 08.1 +0.1**
	comp=E,1μm,0.7s						
KYMI	**Kymi, Euboea I**	**0.90**	**298**	P		**Pg**	**16 44 56.0 -0.3**
KYMI				S		**Sg**	**16 45 08.2 +0.2**
KYMI				AML	AML	16 45 10.1	
	comp=N,2888μm,0.5s						
KYMI				AML	AML	16 45 11.0	
	comp=E,2315μm,0.4s						
DION	**Dionisos Attik**	**0.94**	**262**	P		**Pg**	**16 44 56.4 -0.7**
DION				S		**Sg**	**16 45 09.7 +0.4**
	comp=E,6μm,0.4s						
DION	**Dionisos Attik**	**0.94**	**262**	P		**Pg**	**16 44 56.3 -0.8**
DION				S		**Sg**	**16 45 08.3 -1.0**
DION				AML	AML	16 45 13.5	
	comp=E,13204μm,0.4s						
DION				AML	AML	16 45 13.7	
	comp=N,9472μm,0.3s						
PTL	**Penteli**	**0.99**	**261**	P		**Pg**	**16 44 57.5 -0.6**
PTL				S		**Sg**	**16 45 11.6 +0.5**
	comp=N,2μm,0.6s						
PTL	**Penteli**	**0.99**	**261**	P		**Pg**	**16 44 57.5 -0.6**
PTL				S		**Sg**	**16 45 11.1 0.0**
PTL				AML	AML	16 45 13.8	
	comp=N,5588μm,0.7s						
PTL				AML	AML	16 45 14.9	
	comp=E,4158μm,0.6s						
ATHU	**Athens Univers**	**1.07**	**257**	P		**Pb**	**16 44 59.4 0.0**
ATHU	**Athens Univers**	**1.07**	**257**	P		**Pb**	**16 44 59.3 0.0**
ATHU				S		**Sg**	**16 45 13.8 +0.1**
ATHU				AML	AML	16 45 15.4	
	comp=N,1921μm,0.6s						
ATHU				AML	AML	16 45 15.8	
	comp=E,823μm,0.4s						
VLY	**Voula,Athens**	**1.10**	**251**	P		**Pb**	**16 44 59.8 0.0**
VLY	**Voula,Athens**	**1.10**	**251**	P		**Pb**	**16 44 60.0 +0.1**
VLY				S		**Sb**	**16 45 14.2 +0.1**
VLY				AML	AML	16 45 18.3	
	comp=N,8465μm,0.5s						
VLY				AML	AML	16 45 21.6	
	comp=E,6354μm,0.5s						
ATH	**Athens Observa**	**1.12**	**258**	P		**Pb**	**16 45 00.1 -0.2**
ATH				S		**Sb**	**16 45 15.7 +0.9**
ATH				AML	AML	16 45 18.9	
	comp=N,3963μm,0.3s						
ATH				AML	AML	16 45 19.1	
	comp=E,5838μm,0.3s						
SIGR	**SIGRI**	**1.16**	**30**	P		**Pb**	**16 44 59.2 -1.6**
SIGR				S		**Sb**	**16 45 14.4 -1.3**
	comp=E,1μm,0.6s						
SIGR	**SIGRI**	**1.16**	**30**	P		**Pb**	**16 44 59.3 -1.5**
SIGR				S		**Sb**	**16 45 14.1 -1.6**
SIGR				AML	AML	16 45 21.6	
	comp=N,2719μm,0.6s						
SIGR				AML	AML	16 45 22.4	
	comp=E,2052μm,0.6s						
SIGR	**SIGRI**	**1.16**	**30**	PN		**Pb**	**16 44 59.6 -1.2**
SIGR				SN		**Sb**	**16 45 16.4 +0.7**
SERI	**Serifos**	**1.16**	**205**	P		**Pb**	**16 45 00.3 -0.6**

SERI					S		Sg	16 45 16.4	0.0
	comp=E,2µm,0.2s								
SERI	**Serifos**	**1.16**	**205**		P		**Pb**	**16 45 00.4**	**-0.6**
SERI					S		**Sb**	**16 45 16.1**	**+0.2**
SERI					AML	AML		16 45 19.3	
	comp=E,4367µm,0.2s								
SERI					AML	AML		16 45 19.9	
	comp=N,3454µm,0.3s								
URLA	**Izmir**	**1.18**	**82**		PN		**Pb**	**16 45 00.4**	**-0.8**
URLA					SN		**Sn**	**16 45 17.8**	**+0.6**
URLA	**Izmir**	**1.18**	**82**	*i*	P		**Pb**	**16 45 00.2**	**-1.1**
URLA				*i*	S		**Sb**	**16 45 14.2**	**-2.2**
URLA					IAML			16 45 18.0	
	comp=N,436nm,0.4s								
APE	**Apeiranthos**	**1.19**	**164**		P		**Pb**	**16 45 00.7**	**-0.8**
APE					S		**Sg**	**16 45 17.0**	**-0.4**
	comp=N,3µm,0.3s								
APE	**Apeiranthos**	**1.19**	**164**		P		**Pb**	**16 45 00.6**	**-0.8**
APE					S		**Sb**	**16 45 16.7**	**-0.1**
APE					AML	AML		16 45 19.6	
	comp=N,6232µm,0.4s								
APE					AML	AML		16 45 20.8	
	comp=E,5068µm,0.3s								
APE	**Apeiranthos**	**1.19**	**164**		PN		**Pb**	**16 45 01.2**	**-0.2**
APE					SN		**Sn**	**16 45 18.3**	**+0.8**
APE	**Apeiranthos**	**1.19**	**164**	*i*	P		**Pb**	**16 45 00.7**	**-0.8**
APE				*i*	S		**Sb**	**16 45 16.2**	**-0.5**
KRBN	**Karaburun**	**1.20**	**71**		PN		**Pb**	**16 45 01.0**	**-0.5**
KRBN					SN		**Sg**	**16 45 18.2**	**+0.6**
MRKA	**Markates**	**1.29**	**293**		P		**Pn**	**16 45 02.0**	**-0.7**
MRKA	**Markates**	**1.29**	**293**		P		**Pn**	**16 45 02.3**	**-0.5**
MRKA					S		**Sb**	**16 45 19.6**	**-0.1**
MRKA					AML	AML		16 45 22.6	
	comp=E,1435µm,0.6s								
MRKA					AML	AML		16 45 28.6	
	comp=N,1688µm,0.7s								
EFSA	**Agios Efstrati**	**1.33**	**356**		P		**Pn**	**16 45 01.3**	**-1.9**
AOS	**Alonnisos**	**1.35**	**315**		P		**Pn**	**16 45 02.9**	**-0.7**
AOS					S		**Sb**	**16 45 21.6**	**+0.2**
AOS					AML	AML		16 45 26.7	
	comp=E,1632µm,0.5s								
AOS					AML	AML		16 45 27.5	
	comp=N,2167µm,0.6s								
AOS	**Alonnisos**	**1.35**	**315**		PN		**Pn**	**16 45 03.5**	**-0.1**
AOS					SN		**Sb**	**16 45 22.4**	**+0.9**
PRK	**Paraskevi**	**1.38**	**41**		P		**Pn**	**16 45 03.3**	**-0.6**
PRK					S		**Sn**	**16 45 20.5**	**-1.4**
PRK					AML	AML		16 45 33.2	
	comp=N,1757µm,0.6s								
PRK					AML	AML		16 45 33.7	
	comp=E,2758µm,1.0s								
DGB	**zmir**	**1.41**	**96**	*i*	P		**Pn**	**16 45 03.3**	**-1.0**
DGB				*i*	S		**Sn**	**16 45 22.0**	**-0.7**
VILL	**Villia**	**1.42**	**269**		P		**Pn**	**16 45 04.3**	**-0.2**
VIL2	**Platees**	**1.45**	**271**		P		**Pn**	**16 45 04.1**	**-0.8**
SMG	**Samos**	**1.46**	**110**		P		**Pn**	**16 45 04.4**	**-0.6**
IOSP	**Ios island**	**1.49**	**174**		P		**Pn**	**16 45 05.3**	**-0.2**
IOSP					S		**Sn**	**16 45 24.5**	**-0.4**
AMGA	**Amorgos Island**	**1.51**	**155**		P		**Pn**	**16 45 05.6**	**-0.2**
AMGA	**Amorgos Island**	**1.51**	**155**		P		**Pn**	**16 45 05.3**	**-0.5**
BLCB	**Balcovos**	**1.53**	**85**		PN		**Pn**	**16 45 04.4**	**+0.4**
MHLA	**Plaka, Milos I**	**1.56**	**201**		P		**Pn**	**16 45 05.4**	**-1.1**
SKIA	**Skiathos**	**1.60**	**307**		P		**Pn**	**16 45 05.9**	**-1.1**
SKIA	**Skiathos**	**1.60**	**307**		P		**Pn**	**16 45 05.7**	**-1.2**
MHLO	**Agia Marina, M**	**1.62**	**200**		P		**Pn**	**16 45 06.8**	**-0.5**
MHLO	**Agia Marina, M**	**1.62**	**200**		P		**Pn**	**16 45 06.7**	**-0.5**
DKL	**Dikili**	**1.65**	**58**		PN		**Pn**	**16 45 07.4**	**-0.2**
AYVA	**Ayvalik**	**1.65**	**48**	*i*	P		**Pn**	**16 45 08.2**	**+0.6**
AYVA				*i*	S		**Sn**	**16 45 27.6**	**-1.2**
AYVA					IAML			16 45 36.0	
	comp=N,285nm,0.7s								
AYVA					IAML			16 45 38.0	
	comp=E,357nm,0.7s								
LIA	**Limnos Island**	**1.68**	**2**		P		**Pn**	**16 45 06.0**	**-2.1**
LKR	**Lokris**	**1.71**	**285**		P		**Pn**	**16 45 07.9**	**-0.6**
ZEDA	**zmir-Bergama**	**1.72**	**63**	*i*	P		**Pn**	**16 45 06.9**	**-1.7**
ZEDA				*i*	S		**Sn**	**16 45 31.1**	**+0.7**
PROD	**Prodromos**	**1.74**	**272**		P		**Pn**	**16 45 08.8**	**-0.1**
GCAM	**G?zelcaml?**	**1.76**	**106**		PN		**Pn**	**16 45 09.6**	**+0.5**
GCAM	**G?zelcaml?**	**1.76**	**106**	*i*	P		**Pn**	**16 45 09.3**	**+0.2**
BOZC	**Bozcaada**	**1.79**	**24**		PN		**Pn**	**16 45 08.3**	**-1.2**
BOZC	**Bozcaada**	**1.79**	**24**	*i*	P		**Pn**	**16 45 07.4**	**-2.2**
BOZC				*i*	S		**Sn**	**16 45 29.9**	**-2.2**
SANT	**Santorini**	**1.86**	**171**		PN		**Pn**	**16 45 11.1**	**+0.5**
SANT	**Santorini**	**1.86**	**171**	*i*	P		**Pn**	**16 45 10.8**	**+0.2**
SANT				*i*	S		**Sg**	**16 45 39.1**	**+0.3**
EZN	**Ezine**	**1.87**	**30**		PN		**Pn**	**16 45 10.9**	**+0.3**
BAYC	**CANAKKALE_Bayr**	**1.89**	**36**	*i*	P		**Pn**	**16 45 12.3**	**+1.3**
GADA	**Gvkgeada**	**2.07**	**17**		PN		**Pn**	**16 45 13.7**	**+0.3**
GOKA	**anakkale-Gk**	**2.07**	**17**	*i*	P		**Pn**	**16 45 11.3**	**-2.1**
GOKA					IAML			16 45 51.0	
	comp=N,323nm,0.6s								
GOKA					IAML			16 45 51.0	
	comp=E,269nm,0.5s								
KOSK	**Kos Island**	**2.08**	**134**		PN		**Pn**	**16 45 14.4**	**+0.8**
BODT	**Bodrum**	**2.09**	**123**		PN		**Pn**	**16 45 14.3**	**+0.5**
BDRM	**Kayabasi**	**2.18**	**121**	*i*	P		**Pn**	**16 45 14.4**	**-0.6**
AYDB	**Zeytinkoy-Aydi**	**2.21**	**96**		PN		**Pn**	**16 45 16.1**	**+0.6**
AYDN	**Tasoluk**	**2.26**	**103**	*i*	P		**Pn**	**16 45 16.4**	**+0.3**
AGG	**Agios Georgios**	**2.32**	**291**		PN		**Pn**	**16 45 17.2**	**+0.3**
AGG	**Agios Georgios**	**2.32**	**291**	*i*	P		**Pb**	**16 45 22.2**	**+1.5**
AGG				*i*	S		**Sb**	**16 45 51.8**	**+2.4**
STEP	**BALIKESIR_Sava**	**2.35**	**60**	*i*	P		**Pb**	**16 45 21.1**	**0.0**
STEP				*i*	S		**Sb**	**16 45 50.2**	**+0.2**
GELI	**Tayfur-Gelibol**	**2.42**	**25**		PN		**Pn**	**16 45 18.5**	**+0.2**
DAT	**Datca**	**2.46**	**126**		PN		**Pn**	**16 45 19.7**	**+0.8**
DAT	**Datca**	**2.46**	**126**	*i*	P		**Pn**	**16 45 19.5**	**+0.8**
BALY	**Balya**	**2.48**	**51**	*i*	P		**Pn**	**16 45 20.7**	**+1.5**
BALY				*i*	S		**Sb**	**16 45 56.0**	**+2.0**
LPK	**Lapseki**	**2.51**	**30**		PN		**Pn**	**16 45 20.0**	**+0.5**
BALB	**Balikesir**	**2.59**	**56**		PN		**Pn**	**16 45 21.2**	**+0.6**
ENEZ	**Enez**	**2.65**	**17**		PN		**Pn**	**16 45 21.9**	**+0.6**
ERIK	**Erikli-Kesan**	**2.69**	**23**		PN		**Pn**	**16 45 22.5**	**+0.6**
MANT	**Manisa**	**2.73**	**83**	*i*	P		**Pg**	**16 45 30.6**	**-0.6**
MANT				*i*	S		**Sb**	**16 46 02.5**	**+1.3**
YER	**Yerkesik**	**2.74**	**112**		PN		**Pn**	**16 45 23.6**	**+0.9**
ALN	**Alexandroupoli**	**2.78**	**15**		PN		**Pn**	**16 45 23.8**	**+0.7**
KNL	**Balıkesir**	**2.78**	**42**	*i*	P		**Pb**	**16 45 28.5**	**-0.1**
KULA	**Kula-Manisa**	**2.81**	**83**		PN		**Pn**	**16 45 24.6**	**+0.9**
HORT	**Hortiatis**	**2.84**	**327**		PN		**Pn**	**16 45 24.7**	**+0.5**
DEMI	**Demirci**	**2.94**	**73**	*i*	P		**Pb**	**16 45 31.8**	**+0.4**
RKY	**Sarkoy-Tekirda**	**2.94**	**32**		PN		**Pn**	**16 45 26.3**	**+0.8**
RDO	**Rodhopi**	**2.95**	**6**		PN		**Pn**	**16 45 26.3**	**+0.8**
DURS	**Dursunbey**	**2.97**	**61**	*i*	P		**Pn**	**16 45 28.7**	**+2.8**
EDC	**Edincik**	**3.02**	**44**		PN		**Pn**	**16 45 27.4**	**+0.9**
MRMT	**Marmara Adasi**	**3.07**	**38**		PN		**Pn**	**16 45 28.0**	**+0.8**
TURN	**Turunc**	**3.08**	**115**		PN		**Pn**	**16 45 25.7**	**-1.6**
TURN	**Turunc**	**3.08**	**115**	*i*	P		**Pn**	**16 45 23.7**	**-3.6**
TAVA	**DENIZLI_Tavas**	**3.10**	**103**	*i*	P		**Pn**	**16 45 28.0**	**+0.3**
USAK	**Uak-Merkez**	**3.11**	**80**	*i*	P		**Pn**	**16 45 28.2**	**+0.4**
USAK					IAML			16 46 20.0	
	comp=N,79nm,1.8s								
KARP	**Karpathos**	**3.13**	**148**		PN		**Pn**	**16 45 28.4**	**+0.4**
DALY	**Dalyan (Mula)**	**3.15**	**115**	*i*	P		**Pn**	**16 45 28.1**	**0.0**
SIMA	**Simav-Kutahya**	**3.15**	**73**		PN		**Pn**	**16 45 29.4**	**+1.0**
KHAL	**Karahalli**	**3.45**	**86**	*i*	P		**Pn**	**16 45 33.2**	**+0.6**
KHAL				*i*	S		**Sg**	**16 46 27.7**	**-2.2**
FETY	**Fethiye**	**3.54**	**115**		PN		**Pn**	**16 45 35.1**	**+1.5**
FETY	**Fethiye**	**3.54**	**115**	*i*	P		**Pn**	**16 45 35.2**	**+1.5**
TVSB	**Tavsanli**	**3.62**	**109**		PN		**Pn**	**16 45 36.1**	**+1.3**
GOLH	**Golhisar**	**3.66**	**104**	*i*	P		**Pn**	**16 45 37.9**	**+2.4**
ULDT	**Uludag**	**3.67**	**57**	*i*	P		**Pb**	**16 46 45.5**	**+2.6**
ULDT				*i*	S		**Sg**	**16 46 39.5**	**+2.5**

NEIC ***27*** *16:49:54.5±0.9, 4.7S±0.1×146.6E±0.1, h57km±20km, mb4.0/11, Error ellipse: s-maj=24.0km s-min=17.4km az=220.0*

IDC ***27*** *16:49:54.9±3.1, 5.17S×145.95E, h0km, mb3.8/3, mb1 4.1/7, mb1mx3.7/32, mbtmp4.0/7, ML4.0/3, Error ellipse: s-maj=55.4km s-min=29.9km az=160.0*

ISC 27 16:49:56.4±3.0, 5.0S±0.2×146.4E±0.2, h35km, n19, σ1.9 **91/18, mb3.6/3, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.41**	**171**	Pn		**Pn**	**16 51 03.5**	**+2.7**
	5.8nm,0.3s,baz=331,slow=7.5,SNR=25							
PMG				Sn		**Sn**	**16 51 47.0**	**-4.0**
	14nm,0.3s,baz=338,slow=10,SNR=3.0							
KRVT	**Keravat (AS076**	**5.63**	**83**	Pn		Pn	16 51 27.3	+10
	2.9nm,0.3s,baz=252,slow=3.4,SNR=8.9							
COEN	**Coen**		**9.43 200**	Pn		**Pn**	**16 52 14.2**	**+4.3**
CTA	**Charters Tower**		**14.97 181**	Pn		**Pn**	**16 53 26.8**	**+1.3**
	0.3nm,0.3s,baz=1.7,slow=15,SNR=2.0							
CTAO	**Charters Tower**		**14.97 181**	Pn		**Pn**	**16 53 26.3**	**+0.8**
CTAO				IAmb		IAmb	16 53 35.0	
	comp=Z,14nm,1.4s							
WB0	**Warramunga Arr**		**18.76 218**	P		**Pn**	**16 54 13.2**	**0.0**
WB0				IAmb		IAmb	16 54 29.1	
	comp=Z,14nm,1.4s							
WR0	**Warramunga Arr**		**18.82 217**	P		**P**	**16 54 12.4**	**-0.8**
WR0				IAmb		IAmb	16 54 13.8	
	comp=Z,9.4nm,1.3s							
WRAB	**Tennant Creek**		**18.91 217**	P		**Pn**	**16 54 14.3**	**-0.8**
WB2	**Warramunga Arr**		**18.92 217**	P		**Pn**	**16 54 14.3**	**-0.8**
WB2				IAmb		IAmb	16 54 16.6	
	comp=Z,4.7nm,0.7s							
WRA	**Warramunga Arr**		**18.93 217**	P		**Pn**	**16 54 14.4**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=40,slow=11,SNR=8.2							
KNRA	**Kununurra**		**20.32 237**	P		Pn	16 54 29.6	-2.2
KNRA				IAmb		IAmb	16 54 45.0	
	comp=Z,22nm,1.5s							
EIDS	**Eidsvold**		**20.71 168**	P		**P**	**16 54 33.0**	**-0.8**
EIDS				IAmb		IAmb	16 54 44.2	
	comp=Z,9.3nm,1.2s							
AS31	**Alice Springs**		**22.11 212**	P		**P**	**16 54 47.9**	**-1.0**
ASAR	**Alice Springs**		**22.11 212**	P		**P**	**16 54 47.9**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=48,slow=8.3,SNR=22							
FITZ	**Fitzroy Crossi**		**24.11 236**	P		**P**	**16 55 08.1**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=59,slow=11,SNR=1.6							
FITZ	**Fitzroy Crossi**		**24.11 236**	P		**P**	**16 55 08.1**	**-1.0**
MMRI	**Maumere**		**24.28 260**	P		**P**	**16 55 09.3**	**-1.4**
STKA	**Stephens Creek**		**27.09 189**	P		**P**	**16 55 36.8**	**+0.9**
	comp=Z,3.6nm,0.8s,baz=15,slow=12,SNR=5.0							
STKA	**Stephens Creek**		**27.09 189**	P		**P**	**16 55 36.6**	**+0.6**
STKA				IAmb		IAmb	16 55 38.7	
	comp=Z,5.2nm,1.4s							

IDC 27 17:04:52.3±2.4, 29.92S×176.92W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/28, mbtmp3.6/2, Error ellipse: s-maj=59.0km s-min=32.7km az=42.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**		**1.10 307**	Pn		Pn	17 05 16.2	+1.3
	93nm,0.3s,baz=82,slow=22,SNR=2.3							
RAO				Sn		Sn	17 05 29.9	-0.9
	225nm,0.3s,baz=103,slow=23,SNR=8.6							
ASAR	**Alice Springs**		**44.07 266**	P		P	17 13 02.2	-0.2
	0.3nm,0.5s,baz=102,slow=6.6,SNR=10							
WRA	**Warramunga Arr**		**45.02 271**	P		P	17 13 09.6	-0.4
	0.4nm,0.4s,baz=113,slow=7.2,SNR=3.1							
FINES	**FINESS Array B**		**145.01 341**	PKPbc		PKPbc	17 24 29.1	-1.0
	0.7nm,0.5s,baz=56,slow=4.8,SNR=7.8							

NEIC ***27*** *17:07:54.6±1.5, 44.03N±0.05×105.29W±0.08, h0km±1km, ML3.7/70, Error ellipse: s-maj=9.6km s-min=8.0km az=108.0*

IDC ***27*** *17:07:54.1±0.7, 43.97N×105.41W, h0km, mb3.9/7, mb1 4.1/14, mb1mx3.8/43, mbtmp3.9/14, ML3.8/7, Error ellipse: s-maj=14.8km s-min=7.3km az=148.0*

ANF ***27*** *17:07:55.2±0.3, 43.98N×105.40W, ML4.1/13, Error ellipse: s-maj=3.3km s-min=2.8km az=109.0*

ISC 27 17:07:54.2±0.5, 44.09N±0.03×105.27W±0.04, h0km, n161, σ1.8 **14/169, mb4.2/7, Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.89**	**87**	P		**Pb**	**17 08 13.6**	**+1.0**
	baz=262							
RSSD				S		**Sn**	**17 08 27.7**	**-0.1**
	baz=262							
RSSD	**Black Hills**	**0.89**	**87**			**Pb**	**17 08 13.1**	**+0.5**
K22A	**Casper**		**1.70 213**	P		**Pn**	**17 08 24.1**	**-1.2**
	baz=31,SNR=344							
K22A				S		**Sn**	**17 08 45.6**	**-2.2**
	baz=31							
K22A	**Casper**		**1.70 213**			**Pn**	**17 08 24.1**	**-1.2**
K22A				IAML			17 08 52.6	
	comp=E,931nm,0.4s							
K22A				IAML			17 08 53.8	
	comp=N,837nm,0.4s							
LAO	**LASA Array**		**2.69 346**	P		**Pn**	**17 08 40.2**	**+1.4**
	baz=168,SNR=86							
LAO				S		**Sb**	**17 09 16.0**	**-0.8**
	baz=168							
LAO	**LASA Array**		**2.69 346**			**Pn**	**17 08 40.0**	**+1.2**
LAO				IAML			17 09 33.3	
	comp=N,446nm,0.6s							
PHWY	**Pilot Hill**		**2.79 183**			**Pn**	**17 08 40.3**	**0.0**
RWWY	**Rawlins**		**2.79 211**			**Pn**	**17 08 40.9**	**+0.6**
RWWY				IAML			17 09 24.4	
	comp=N,322nm,0.6s							
RLMT	**Red Lodge**		**3.04 291**	P		**Pn**	**17 08 44.3**	**+0.6**
	baz=111,SNR=92							
RLMT	**Red Lodge**		**3.04 291**	Pn		**Pn**	**17 08 44.6**	**+0.9**
RLMT				IAML			17 09 40.3	
	comp=N,227nm,0.7s							
N23A	**Red Feather La**		**3.23 189**	P		**Pn**	**17 08 47.0**	**+0.7**
	baz=7.3,SNR=32							
N23A				Sb		**Sb**	**17 09 32.0**	**-0.4**
	baz=7.3							
N23A	**Red Feather La**		**3.23 189**	Pn		**Pn**	**17 08 47.0**	**+0.7**
N23A				IAML			17 09 34.2	
	comp=E,227nm,0.6s							
N23A				IAML			17 09 36.8	
	comp=N,236nm,0.8s							
BW06	**Boulder Array**		**3.39 249**	P		**Pn**	**17 08 48.8**	**+0.2**
	baz=67,SNR=63							
BW06				Sb		**Sb**	**17 09 36.5**	**-0.7**
	baz=67							
BW06	**Boulder Array**		**3.39 249**			**Pn**	**17 08 48.3**	**-0.3**
BW06				IAML			17 09 39.8	
	comp=E,155nm,0.6s							
BW06				IAML			17 09 53.6	
	comp=N,143nm,0.8s							
PD31	**Pinedale Array**		**3.39 249**			**Pn**	**17 08 48.5**	**-0.1**
PDAR	**Pinedale Array**		**3.39 249**	Pn		**Pn**	**17 08 48.4**	**-0.2**
	comp=N,6.8nm,0.3s,baz=65,slow=16,SNR=116							
PDAR				Lg		Lg	17 09 35.0	
	comp=N,36nm,0.3s,baz=72,slow=30,SNR=13							
YNE	**Yellowstone No**		**3.51 287**			**Pn**	**17 08 50.6**	**+0.4**
GCMT	**Greyclift**		**3.56 300**			**Pn**	**17 08 52.0**	**+1.2**
YMP	**Mirror Lake Pl**		**3.56 282**			**Pn**	**17 08 51.3**	**+0.3**
LKWY	**Lake**		**3.71 279**			**Pn**	**17 08 54.0**	**+1.0**
LKWY				IAML			17 09 22.8	
	comp=N,141nm,0.7s							
H17A	**Grant Village**		**3.83 276**			**Pn**	**17 08 56.2**	**+1.6**
H17A				IAML			17 10 05.5	
	comp=N,91nm,0.8s							
FLWY	**Flagg Ranch**		**3.91 272**			**Pn**	**17 08 56.1**	**+0.4**
FLWY				IAML			17 10 09.4	
	comp=N,163nm,0.9s							
FLWY				IAML			17 10 14.2	
	comp=N,98nm,1.0s							
YPP	**Pitchstone Pla**		**3.99 275**			**Pn**	**17 08 57.6**	**+0.7**
SNOW	**Snow King Moun**		**4.02 263**			**Pn**	**17 08 57.3**	**+0.1**
SNOW				IAML			17 10 04.8	
	comp=N,118nm,1.2s							
SNOW				IAML			17 10 39.5	
	comp=N,96nm,1.2s							
YHH	**Holmes Hill**		**4.06 282**	Pn		**Pn**	**17 08 57.8**	**0.0**
E28A	**Huff**		**4.07 51**	Pn		**Pn**	**17 09 00.3**	**+2.6**
IMW	**Indian Meadow**		**4.10 269**	Pn		**Pn**	**17 08 58.2**	**-0.1**
IMW				IAML			17 09 35.9	
	comp=N,106nm,0.5s							
IMW				IAML			17 10 08.8	
	comp=N,93nm,0.8s							
REDW	**Red Top Meadow**		**4.11 262**			**Pn**	**17 08 58.7**	**+0.3**
REDW				IAML			17 10 10.6	
	comp=N,129nm,0.8s							
REDW				IAML			17 10 14.0	
	comp=N,126nm,1.4s							
YMR	**Madison River**		**4.13 280**			**Pn**	**17 08 59.6**	**+1.0**
TPAW	**Teton Pass**		**4.16 264**			**Pn**	**17 08 59.8**	**+0.6**
TPAW				IAML			17 10 22.5	
	comp=N,95nm,0.8s							
FXWY	**Fox Creek**		**4.19 266**	Pn		**Pn**	**17 08 59.9**	**+0.4**
ISCO	**Idaho Springs**		**4.29 184**	P		**Pn**	**17 09 01.5**	**+0.5**
ISCO				Sb		**Sb**	**17 10 05.5**	**+2.4**
	baz=2.1							
ISCO	**Idaho Springs**		**4.29 184**	Pn		**Pn**	**17 09 01.0**	**0.0**
YHB	**Horse Butte**		**4.30 281**			**Pn**	**17 09 00.9**	**-0.2**
YHL	**Hebgen Lake**		**4.30 282**	Pn		**Pn**	**17 09 01.3**	**+0.1**
AHID	**Auburn Hatcher**		**4.45 255**			**Pn**	**17 09 02.9**	**-0.2**
AHID				IAML			17 10 15.9	
	comp=N,91nm,1.0s							
AHID				IAML			17 10 18.0	
	comp=E,78nm,0.9s							
DGMT	**Dagmar**	**4.45**	**9**	P		**Pn**	**17 09 06.2**	**+3.3**
	baz=191,SNR=13							
DGMT				Sb		**Sg**	**17 10 15.0**	**-2.0**
	baz=191							
DGMT	**Dagmar**	**4.45**	**9**	Pn		**Pn**	**17 09 04.8**	**+1.9**
QLMT	**Earthquake Lak**		**4.47 282**			**Pn**	**17 09 04.2**	**+0.8**
O20A	**White River Ci**		**4.53 210**	P		**Pn**	**17 09 04.2**	**+0.1**
	baz=28							
O20A	**White River Ci**		**4.53 210**	Pn		**Pn**	**17 09 04.4**	**+0.3**
O20A				IAML			17 10 18.6	
	comp=N,110nm,0.9s							
O20A				IAML			17 10 25.9	
	comp=E,96nm,0.8s							
SUSD	**Miller**	**4.55**	**83**	Sb		**Sg**	**17 10 19.9**	**-0.3**
	baz=266							
SUSD	**Miller**	**4.55**	**83**			**Pn**	**17 09 06.9**	**+2.6**
RDMU	**Red Mountain**		**4.74 224**			**Pn**	**17 09 07.6**	**+0.5**
BOZ	**Bozeman (W)**		**4.77 291**	P		**Pn**	**17 09 07.5**	**0.0**
	baz=108,SNR=12							
BOZ				Sb		**Sb**	**17 10 20.4**	**+3.7**
	baz=108							
BOZ	**Bozeman (W)**		**4.77 291**			**Pn**	**17 09 07.6**	**+0.2**
BOZ				IAML			17 10 34.0	
	comp=E,47nm,0.7s							
K31A	**O'Neill**		**4.97 105**			**Pn**	**17 09 11.0**	**+0.9**
EGMT	**Eagleton**		**5.03 323**	P		**Pn**	**17 09 11.7**	**+0.8**
	baz=142,SNR=14							
EGMT	**Eagleton**		**5.03 323**	Pn		**Pn**	**17 09 11.8**	**+0.8**
Q24A	**Divide**		**5.12 179**	P		**Pn**	**17 09 12.1**	**-0.2**
	baz=358,SNR=7.1							
Q24A				Sb		**Sb**	**17 10 31.5**	**+4.6**
	baz=358							
HWUT	**Hardware Ranch**		**5.25 244**	Pn		**Pn**	**17 09 14.0**	**-0.1**
DLMT	**Dillon**		**5.38 286**			**Pn**	**17 09 16.8**	**+1.1**
DLMT				IAML			17 10 53.7	
	comp=E,31nm,0.9s							
TCUT	**Toone Canyon**		**5.42 239**			**Pn**	**17 09 16.6**	**+0.2**
MDND	**Maddock**		**5.45 44**			**Pn**	**17 09 18.4**	**+1.7**
MCMT	**McKenzie Canyo**		**5.48 280**	Pn		**Pn**	**17 09 18.3**	**+1.1**
JLU	**Jordanelle**		**5.75 235**			**Pn**	**17 09 21.5**	**+0.5**
CTU	**Camp Tracy**		**5.88 237**			**Pn**	**17 09 22.8**	**+0.2**
BGNE	**Belgrade**		**5.88 115**	P		**Pn**	**17 09 24.2**	**+1.6**
	baz=298							
BGNE	**Belgrade**		**5.88 115**			**Pn**	**17 09 24.1**	**+1.5**
HVU	**Hansel Valley**		**5.97 250**			**Pn**	**17 09 24.2**	**+0.2**
SPUT	**South Promonto**		**5.97 245**	Pn		**Pn**	**17 09 24.1**	**+0.1**
PV22	**Blue Mesa, Par**		**6.14 207**			**Pn**	**17 09 26.1**	**-0.3**
P17A	**Butcher Ranch,**		**6.16 223**			**Pn**	**17 09 26.7**	**+0.1**
PV21	**Cone Mtn., Par**		**6.18 208**	Pn		**Pn**	**17 09 27.3**	**+0.4**
PV07	**Paradox Valley**		**6.19 205**	Pn		**Pn**	**17 09 27.2**	**+0.2**
PV15	**Paradox Valley**		**6.23 204**			**Pn**	**17 09 26.7**	**-0.9**
ECSD	**EROS Data Cent**		**6.26 90**	P		**Pn**	**17 09 29.6**	**+1.8**
	baz=275,SNR=12							
ECSD	**EROS Data Cent**		**6.26 90**	Pn		**Pn**	**17 09 29.0**	**+1.2**
PV09	**Paradox Valley**		**6.29 209**			**Pn**	**17 09 28.9**	**+0.4**
PV23	**Carpenter Ridg**		**6.29 208**			**Pn**	**17 09 29.1**	**+0.6**
PV04	**Paradox Valley**		**6.31 207**			**Pn**	**17 09 29.4**	**+0.7**
SDCO	**Great Sand Dun**		**6.34 182**	P		**Pn**	**17 09 29.4**	**+0.3**
	baz=0.7,SNR=27							
SDCO	**Great Sand Dun**		**6.34 182**	Pn		**Pn**	**17 09 29.2**	**+0.1**
SRU	**San Rafael Swe**		**6.34 220**			**Pn**	**17 09 28.3**	**-0.8**
PV12	**Saucer Basin,**		**6.35 206**			**Pn**	**17 09 28.3**	**-0.9**
PV10	**Paradox Valley

baz=336,slow=34,SNR=3.2
T47A Sharon Grove 15.51 111 Pn 17 11 31.4 -2.6
V51A Loudon 18.01 110 P **Pn 17 12 04.4 -1.5**
YKA Yellowknife Ar 19.23 347 P **P 17 12 19.5 -0.1**
comp=E,0.2nm,0.3s,baz=158,slow=12,SNR=14
ILAR Eielson Array 30.99 326 P **P 17 14 14.0 +1.2**
comp=E,0.3nm,0.6s,baz=113,slow=7.0,SNR=3.4
ARCES ARCESS Array B 61.09 18 P **P 17 18 09.1 -0.3**
comp=E,2.5nm,1.1s,baz=339,slow=6.5,SNR=6.6
FINES FINESS Array B 67.71 23 P **P 17 18 53.2 +0.3**
comp=E,0.3nm,0.5s,baz=0.0,slow=1.9,SNR=4.9
GERES GERESS Array B 73.15 37 P **P 17 19 27.1 +0.7**
comp=E,0.3nm,0.5s,baz=355,slow=7.1,SNR=3.9
AKASG Malin Array Be 77.65 28 P **P 17 19 52.0 -0.2**
comp=E,0.9nm,0.5s,baz=329,slow=5.1,SNR=5.5
ZALV Zalesovo Beam 81.96 354 P **P 17 20 15.6 +0.1**
comp=E,0.9nm,0.5s,baz=352,slow=7.5,SNR=4.6
MKAR Makanchi Array 89.26 355 P **P 17 20 52.5 +0.5**
comp=E,1.7nm,0.7s,baz=9.8,slow=4.3,SNR=23

KRSC 27 17:11:16.7±1.4, 50.79N×157.56E, h47km±21km, ML3.9, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**0.83**	**326**	*eP*	Pn	17 11 33.9	+1.9
PAU				*eS*	Sn	17 11 45.7	+2.5
SKR	**Severo-Kuril's**	**0.92**	**264**	*eP*	Pn	17 11 34.4	+1.1
SKR				*eS*	Sn	17 11 46.4	+1.0
KDTR	**Khodutka, Kamc**	**1.07**	**17**	*eP*	Pn	17 11 37.1	+1.8
KDTR				*eS*	Sn	17 11 50.7	+1.6
ALID	**Alaid**	**1.28**	**274**	*eP*	Pn	17 11 39.6	+1.4
ALID				*eS*	Sn	17 11 54.7	+0.4
MIPR	**Malaya Ipel'ka**	**1.57**	**342**	*eP*	Pn	17 11 44.4	+2.2
MIPR				*eS*	Sn	17 12 03.2	+1.9
ASAK	**Asacha**	**1.61**	**7**	*eP*	Pn	17 11 45.0	+2.2
ASAK				*eS*	Sn	17 12 04.6	+2.2
MTVR	**Mutnovka**	**1.74**	**13**	*eP*	Pn	17 11 46.9	+2.3
MTVR				*eS*	Sn	17 12 07.7	+2.0
RUS	**Russkaya**	**1.75**	**20**	*eP*	Pn	17 11 46.2	+1.6
RUS				*eS*	Sn	17 12 06.6	+0.9
GRL	**Gorelyy**	**1.80**	**10**	*eP*	Pn	17 11 47.8	+2.5
GRL				*eS*	Sn	17 12 09.3	+2.3
APC	**Apacha**	**2.15**	**354**	*eP*	Pn	17 11 52.4	+2.3
PET	**Petropavlovsk**	**2.34**	**16**	*eP*	Pn	17 11 55.1	+2.5
PET				*eS*	Sn	17 12 22.2	+2.1
DALK	**Dalny**	**2.37**	**18**	*eP*	Pn	17 11 55.5	+2.5
DALK				*eS*	Sn	17 12 23.0	+2.2
UGLR	**Uglovaya**	**2.55**	**17**	*eP*	Pn	17 11 59.4	+3.8
AVH	**Avacha**	**2.59**	**16**	*eP*	Pn	17 12 00.3	+4.2
AVH				*eS*	Sn	17 12 30.9	+4.6
KOK	**Koryaka**	**2.59**	**14**	*eP*	Pn	17 11 59.5	+3.2
KOK				*eS*	Sn	17 12 30.3	+3.7
SMAR	**Somma**	**2.59**	**17**	*eP*	Pn	17 12 00.4	+4.0
SMAR				*eS*	Sn	17 12 31.5	+4.7
KRER	**Koryakskii**	**2.62**	**16**	*eP*	Pn	17 12 01.0	+4.2
SDLR	**Sedlovina**	**2.62**	**18**	*eP*	Pn	17 12 00.1	+3.4
NLC	**Nalytchevo**	**2.63**	**24**	*eS*	Sn	17 12 27.8	+0.5
KRX	**Arik**	**2.66**	**14**	*eP*	Pn	17 12 01.6	+4.4
KRX				*eS*	Sn	17 12 33.1	+4.8
SPN	**Mys Shipunski**	**2.77**	**32**	*eP*	Pn	17 12 01.1	+2.5
SPN				*eS*	Sn	17 12 32.7	+1.9
KZV	**Kizimen**	**4.64**	**20**	*eP*	Pn	17 12 29.5	+5.2
KBTR	**Krutoberegovo**	**6.27**	**28**	*eP*	Pn	17 12 49.0	+2.5

IDC 27 17:28:22.9±5.1, 29.42S×177.44W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/24, mbtmp3.5/2, Error ellipse: s-maj=251.6km s-min=78.5km az=164.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**43.66**	**266**	P	P	17 36 29.1	-0.6
	0.3nm,0.6s,baz=100,slow=7.6,SNR=7.9						
WRA	**Warramunga Ar**	**44.56**	**271**	P	P	17 36 37.3	+0.4
	0.6nm,0.5s,baz=112,slow=7.9,SNR=8.6						
FINES	**FINESS Array B**	**144.39**	**341**	PKP	PKPbc	17 47 59.5	+0.8
	1.2nm,0.8s,baz=53,slow=5.4,SNR=4.6						

*IDC **27** 17:31:18.5±0.7, 8.12N×37.96W, h0km, mb3.9/14, mb1 4.2/15, mb1mx4.0/44, mbtmp3.9/15, ML4.2/1, MS4.0/30, Ms1 3.9/30, ms1mx3.9/35, Error ellipse: s-maj=25.2km s-min=15.9km az=134.0*
*NEIC **27** 17:31:20.5±1.4, 8.1N±0.1×37.9W±0.1, h11km±4km, mb4.7/38, Error ellipse: s-maj=17.0km s-min=15.1km az=134.0*
ISC 27 17:31:21.7±0.5, 8.09N±0.07×37.92W±0.08, h16km, n104, σ1§47/82, mb4.5/30, MS4.0/29, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSB	**Rosrio**	**12.55**	**210**	*eP*	**Pn**	**17 34 17.1**	**-2.6**
ROSB				*eS*	Sn	17 36 30.0	-9.3
ROSB	**Rosrio**	**12.55**	**210**	*eP*	**Pn**	**17 34 17.1**	**-2.6**
ROSB				*eS*	Sn	17 36 30.0	-9.3
RCBR	**Riachuelo**	**13.97**	**172**	Pn	**Pn**	**17 34 36.8**	**-2.4**
	1.2nm,0.3s,baz=339,slow=15,SNR=6.9						
RCBR				Sn	Sn	17 37 01.2	-13
	0.3nm,0.3s,baz=103,slow=8.0,SNR=1.8						
RCBR				LR	LR	17 38 39.3	
	comp=Z,542nm,20.1s,baz=349,slow=32						
RCBR	**Riachuelo**	**13.97**	**172**		**Pn**	**17 34 37.9**	**-1.3**
MDP	**Montagnes des**	**14.93**	**259**	LR	LR	17 39 30.6	
	comp=Z,871nm,20.8s,baz=90,slow=33						
SMTB	**Santa Maria do**	**19.41**	**210**	*eP*	**P**	**17 35 47.1**	**-0.2**
SMTB	**Santa Maria do**	**19.41**	**210**	*eP*	**P**	**17 35 47.1**	**-0.2**
GDU01	**Guandu, BA**	**21.73**	**184**	*eP*	**P**	**17 36 15.8**	**+3.3**
GDU01	**Guandu, BA**	**21.73**	**184**	*eP*	**P**	**17 36 15.8**	**+3.3**
PEXB	**Peixe**	**22.57**	**207**	*eP*	**P**	**17 36 22.2**	**+0.7**
PEXB	**Peixe**	**22.57**	**207**	*eP*	**P**	**17 36 22.2**	**+0.7**
NPGB	**Novo Progresso**	**22.99**	**230**	*eP*	**P**	**17 36 24.4**	**-1.6**
NPGB	**Novo Progresso**	**22.99**	**230**	*eP*	**P**	**17 36 24.4**	**-1.6**
H05S1	**Guadeloupe/Mar**	**23.33**	**288**	T	T	18 00 35.9	
	SNR=6.7						
PTGA	**Pitinga**	**23.67**	**249**	P	**P**	**17 36 32.3**	**-0.4**
	1.8nm,0.5s,baz=44,slow=22,SNR=2.6						
PTGA				LR	LR	17 45 10.6	
	comp=Z,496nm,21.1s,baz=65,slow=35						
PTGA	**Pitinga**	**23.67**	**249**	P	**P**	**17 36 32.9**	**+0.2**
PTGA	**Pitinga**	**23.67**	**249**	*eP*	**P**	**17 36 32.7**	**-0.1**
PTGA	**Pitinga**	**23.67**	**249**	*eP*	**P**	**17 36 32.7**	**-0.1**
H05N1	**Guadeloupe/Mar**	**24.03**	**292**	T	T	18 01 13.0	
	SNR=4.8						
BDFB	**Brasilia**	**25.62**	**203**	P	**P**	**17 36 50.3**	**-0.3**
	6.3nm,0.8s,baz=44,slow=12,SNR=5.6						
BDFB				LR	LR	17 46 28.3	
	comp=Z,156nm,18.9s,baz=1.8,slow=36						
BDFB	**Brasilia**	**25.62**	**203**	P	**P**	**17 36 50.4**	**-0.3**
BDFB				IAmb	IAmb	17 36 58.5	
	comp=Z,35nm,1.6s						
CLDB	**Colider**	**25.92**	**224**	*eP*	**P**	**17 36 54.2**	**+0.9**
CLDB	**Colider**	**25.92**	**224**	*eP*	**P**	**17 36 54.2**	**+0.9**
SJMB	**Sao Joao De Ma**	**26.82**	**187**	*eP*	**P**	**17 37 04.7**	**+3.2**
SJMB	**Sao Joao De Ma**	**26.82**	**187**	*eP*	**P**	**17 37 04.7**	**+3.2**
BSFB	**Barra de Sao F**	**26.91**	**186**	*eP*	**P**	**17 37 06.8**	**+4.6**
BSFB	**Barra de Sao F**	**26.91**	**186**	*eP*	**P**	**17 37 06.8**	**+4.6**
ARAG	**Araguaiana, MT**	**27.36**	**210**	*eP*	**P**	**17 37 06.5**	**+0.2**
ARAG	**Araguaiana, MT**	**27.36**	**210**	*eP*	**P**	**17 37 06.5**	**+0.2**
IPMB	**Ipameri, GO**	**27.83**	**201**	*eP*	**P**	**17 37 12.2**	**+1.6**
IPMB	**Ipameri, GO**	**27.83**	**201**	*eP*	**P**	**17 37 12.2**	**+1.6**
H10N3	**ASCENSION HYDR**	**28.20**	**124**	T	T	18 06 50.8	
	baz=303,slow=75,SNR=176						
H10N2	**ASCENSION HYDR**	**28.20**	**124**	T	T	18 06 51.1	
	baz=303,slow=75,SNR=259						
H10N1	**ASCENSION HYDR**	**28.22**	**124**	T	T	18 06 52.3	
	baz=303,slow=75,SNR=150						
SJG	**San Juan**	**29.20**	**293**	LR	LR	17 46 30.8	
	comp=Z,622nm,21.4s,baz=93,slow=31						
SALV	**Santo Antonio**	**29.64**	**216**	*eP*	**P**	**17 37 27.5**	**+0.9**
SALV	**Santo Antonio**	**29.64**	**216**	*eP*	**P**	**17 37 27.5**	**+0.9**
MLPR	**Magueyes Islan**	**29.98**	**292**	P	**P**	**17 37 29.6**	**-0.1**
SAML	**Samuel**	**30.34**	**237**	P	**P**	**17 37 31.8**	**-1.1**
SAML				IAmb	IAmb	17 37 33.2	
	comp=Z,11nm,1.2s						
SAML	**Samuel**	**30.34**	**237**	*eP*	**P**	**17 37 32.4**	**-0.5**
SAML	**Samuel**	**30.34**	**237**	*eP*	**P**	**17 37 32.4**	**-0.5**
PCMB	**Pacaembu**	**32.29**	**204**	*eP*	**P**	**17 37 52.0**	**+2.0**
PCMB	**Pacaembu**	**32.29**	**204**	*eP*	**P**	**17 37 52.0**	**+2.0**
DBIC	**Dimbokro**	**32.81**	**90**	LR	LR	17 48 51.8	
	comp=Z,405nm,19.0s,baz=248,slow=32						
SIV	**San Ignacio**	**33.14**	**224**	P	**P**	**17 37 57.0**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=61,slow=10,SNR=5.0						
SIV				LR	LR	17 50 48.9	
	comp=Z,308nm,18.8s,baz=84,slow=35						
SDDR	**Presa de Saban**	**34.13**	**292**	P	**P**	**17 38 05.6**	**-0.7**
SDDR				IAmb	IAmb	17 38 32.7	
	comp=Z,19nm,1.2s						
RUSC	**La Rusia**	**34.97**	**269**	P	**P**	**17 38 13.9**	**-0.1**
ROSC	**El Rosal**	**36.31**	**267**	LR	LR	17 53 29.7	
	comp=Z,406nm,19.8s,baz=84,slow=37						
ROSC	**El Rosal**	**36.31**	**267**	P	**P**	**17 38 24.9**	**-0.6**
ROSC				IAmb	IAmb	17 38 33.0	
	comp=Z,28nm,1.2s						
LPAZ	**La Paz**	**38.49**	**231**	P	**P**	**17 38 43.1**	**-1.0**
	comp=Z,3.0nm,0.8s,baz=47,slow=11,SNR=7.5						
LPAZ				LR	LR	17 54 01.3	
	comp=Z,194nm,19.3s,baz=50,slow=35						
LPAZ	**La Paz**	**38.49**	**231**	P	**P**	**17 38 43.0**	**-1.0**
CPUP	**Villa Florida**	**39.07**	**208**	LR	LR	17 55 05.0	
	comp=Z,185nm,18.8s,baz=29,slow=36						
TORD	**Torodi Ar. Bea**	**39.22**	**79**	P	**P**	**17 38 49.0**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=273,slow=8.5,SNR=7.6						
TORD				LR	LR	17 53 20.2	
	comp=Z,676nm,19.6s,baz=260,slow=34						
ESDC	**Sonseca Array**	**43.71**	**39**	LR	LR	17 54 33.6	
	comp=Z,156nm,20.0s,baz=230,slow=32						
F64A	**Sherman**	**45.84**	**330**	P	**P**	**17 39 44.5**	**+1.5**
JTS	**Las Juntas de**	**46.45**	**276**	LR	LR	18 00 00.7	
	comp=Z,176nm,19.8s,baz=148,slow=37						
BIRD	**Birdtown, Kers**	**47.11**	**310**	P	**P**	**17 39 54.7**	**+1.5**
BOAB	**BOACO BROADBAN**	**47.14**	**279**	P	**P**	**17 39 55.1**	**+1.5**
S57A	**Dark Hollow, R**	**47.37**	**315**	P	**P**	**17 39 56.7**	**+1.5**
S57A				IAmb	IAmb	17 39 59.3	
	comp=Z,12nm,1.1s						
M54A	**Oil Creek Stat**	**49.67**	**319**	P	**P**	**17 40 13.3**	**+0.5**
M54A				IAmb	IAmb	17 40 22.0	
	comp=Z,9.1nm,0.8s						
H09W1	**TRISTAN DA CUN**	**50.94**	**154**	T	T	18 34 47.6	
	SNR=7.2						
KEST	**Kesra**	**51.09**	**50**	LR	LR	18 02 23.3	
	comp=Z,214nm,19.2s,baz=234,slow=36						
D53A	**Lac Vacive, Po**	**51.53**	**326**	P	**P**	**17 40 27.3**	**+0.6**
D53A				IAmb	IAmb	17 40 29.6	
	comp=Z,7.5nm,1.1s						
SCHQ	**Schefferville**	**52.01**	**339**	LR	LR	17 58 40.5	
	comp=Z,145nm,21.9s,baz=176,slow=32						
N47A	**Urbana**	**53.44**	**316**	P	**P**	**17 40 42.0**	**+0.9**
PLCA	**Paso Flores**	**57.13**	**209**	LR	LR	18 06 24.9	
	comp=Z,98nm,18.0s,baz=5.5,slow=37						
S39A	**Bolivar**	**57.92**	**310**	P	**P**	**17 41 13.8**	**+0.5**
S39A				IAmb	IAmb	17 41 21.0	
	comp=Z,6.7nm,1.1s						
GERES	**GERESS Array B**	**59.26**	**37**	LR	LR	18 04 08.1	
	comp=Z,39nm,20.9s,baz=247,slow=33						
CLL	**Collm**	**59.95**	**34**	*eS*	**S**	**17 49 38.0**	**-0.8**
CLL				*e*SSS	SSS	17 56 18.0	
CLL				Lm	MLR	18 02 00.0	
	comp=Z,100nm,20.4s						
DIVS	**Divibare**	**61.58**	**44**	P	P	17 41 33.5	-5.0
DIVS				IAmb	IAmb	17 41 42.0	
	comp=Z,3.8nm,0.9s						
ULM	**Lac du Bonnet**	**63.61**	**323**	LR	LR	18 05 44.8	
	comp=Z,125nm,19.7s,baz=74,slow=32						
NB2	**NORSAR Subarra**	**64.06**	**24**	P	**P**	**17 41 56.1**	**+1.5**
	comp=Z,26nm,1.7s,baz=236,slow=6.9						
NOA	**NORSAR Array B**	**64.06**	**24**	P	**P**	**17 41 54.8**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=235,slow=6.9,SNR=4.9						
NOA				LR	LR	18 08 06.1	
	comp=Z,39nm,18.6s,baz=225,slow=34						
SUMG	**Summit**	**64.43**	**360**	P	**P**	**17 41 57.2**	**-0.1**
TXAR	**Lajitas Array**	**64.96**	**299**	P	**P**	**17 42 00.2**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=110,slow=6.6,SNR=5.7						
TXAR				LR	LR	18 10 11.7	
	comp=Z,35nm,21.2s,baz=0.0,slow=36						
KARP	**Karpathos**	**65.09**	**55**	P	**P**	**17 42 00.9**	**-0.9**
SDCO	**Great Sand Dun**	**67.38**	**307**	P	**P**	**17 42 17.0**	**+0.1**
SDCO				IAmb	IAmb	17 42 25.6	
	comp=Z,3.9nm,1.1s						
AKASG	**Malin Array Be**	**69.36**	**39**	P	**P**	**17 42 28.5**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=260,slow=4.8,SNR=7.2						
AKASG				LR	LR	18 10 39.2	
	comp=Z,62nm,20.3s,baz=250,slow=34						
FINES	**FINESS Array B**	**70.65**	**27**	LR	LR	18 10 02.0	
	comp=Z,42nm,21.7s,baz=228,slow=33						
BRTR	**Keskin Array B**	**70.69**	**51**	LR	LR	18 14 17.2	
	comp=Z,42nm,19.6s,baz=210,slow=36						
BOSA	**Boshof**	**70.96**	**124**	LR	LR	18 07 25.1	
	comp=Z,219nm,21.3s,baz=280,slow=30						
PDAR	**Pinedale Array**	**71.08**	**312**	P	**P**	**17 42 40.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=317,slow=48,SNR=1.9						
PDAR				LR	LR	18 09 43.3	
	comp=Z,315nm,21.9s,baz=124,slow=32						
TPAW	**Teton Pass**	**72.17**	**313**	P	**P**	**17 42 46.1**	**-0.1**
TPAW				IAmb	IAmb	17 42 55.0	
	comp=Z,8.8nm,1.1s						
IMW	**Indian Meadow**	**72.20**	**313**	P	**P**	**17 42 46.4**	**-0.1**
IMW				IAmb	IAmb	17 42 55.2	
	comp=Z,9.5nm,1.3s						
FXWY	**Fox Creek**	**72.24**	**313**	P	**P**	**17 42 48.2**	**+1.6**
FXWY				IAmb	IAmb	17 42 55.2	
	comp=Z,6.1nm,1.2s						
HWUT	**Hardware Ranch**	**72.45**	**311**	P	**P**	**17 42 47.5**	**-0.3**
HWUT				IAmb	IAmb	17 42 56.8	
	comp=Z,10nm,0.9s						
YHB	**Horse Butte**	**72.47**	**314**	P	**P**	**17 42 48.1**	**+0.1**
YHL	**Hebgen Lake**	**72.48**	**314**	P	**P**	**17 42 48.8**	**+0.7**
MTPU	**Mount Pierson**	**72.67**	**307**	P	**P**	**17 42 50.2**	**+0.7**
MSU	**Marysvale**	**72.70**	**308**	P	**P**	**17 42 51.3**	**+1.9**
BOZ	**Bozeman (W)**	**72.87**	**315**	P	**P**	**17 42 51.0**	**+0.8**
ARCES	**ARCESS Array B**	**73.34**	**19**	P	**P**	**17 42 50.3**	**-2.0**
	comp=Z,1.3nm,0.8s,baz=213,slow=4.2,SNR=4.8						
ARCES				LR	LR	18 11 28.9	
	comp=Z,32nm,19.5s,baz=172,slow=33						
BGU	**Big Grassy Mou**	**73.50**	**310**	P	**P**	**17 42 54.5**	**+0.5**
DLMT	**Dillon**	**73.52**	**315**	P	**P**	**17 42 54.8**	**+0.8**
DLMT				IAmb	IAmb	17 43 04.1	
	comp=Z,11nm,1.2s						
HLID	**Hailey**	**74.69**	**313**	P	**P**	**17 43 00.6**	**-0.3**
ELK	**Elko**	**75.17**	**310**	P	**P**	**17 43 03.5**	**-0.3**
R11A	**Troy Canyon, C**	**75.36**	**307**	P	**P**	**17 43 05.9**	**+0.9**
YKA	**Yellowknife Ar**	**76.72**	**332**	P	**P**	**17 43 10.7**	**-1.2**
	comp=Z,1.5nm,0.9s,baz=96,slow=5.3,SNR=12						
YKA				LR	LR	18 15 55.5	
	comp=Z,108nm,18.1s,baz=0.0,slow=35						
KVN	**Kaiserville**	**77.34**	**308**	P	**P**	**17 43 16.8**	**+0.6**
NVAR	**Mina Array Bea**	**77.50**	**308**	P	**P**	**17 43 14.9**	**-2.2**
	comp=Z,0.4nm,0.5s,baz=72,slow=2.9,SNR=2.6						
NVAR				LR	LR	18 13 53.9	
	comp=Z,125nm,21.8s,baz=88,slow=33						
KBZ	**Khabaz**	**77.82**	**47**	P	**P**	**17 43 18.8**	**+0.3**
	comp=Z,2.1nm,0.9s,baz=1.3,slow=2.4,SNR=4.7						
KBZ				LR	LR	18 19 44.0	
	comp=Z,20nm,18.9s,baz=258,slow=37						
MOD	**Modoc Plateau**	**78.99**	**311**	P	**P**	**17 43 25.6**	**+0.4**
MOD				IAmb	IAmb	17 43 35.4	
	comp=Z,11nm,1.0s						
SNAA	**Sanae**	**82.89**	**169**	P	**P**	**17 43 44.4**	**-0.8**
SNAA				IAmb	IAmb	17 43 46.0	
	comp=Z,5.5nm,1.0s						
ILAR	**Eielson Array**	**90.66**	**336**	P	**P**	**17 44 24.0**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=79,slow=4.7,SNR=1.5						
ILAR				LR	LR	18 22 33.6	
	comp=Z,68nm,20.1s,baz=100,slow=34						

*IDC **27** 17:44:07.8±3.3, 15.37S×71.06W, h175km±30km, mb3.4/2, mb1 3.6/6, mb1mx3.3/31, mbtmp4.0/6, Error ellipse: s-maj=43.7km s-min=29.6km az=119.0*
ISC 27 17:44:06.1±1.1, 15.45S±0.10×71.3W±0.1, h167km, n9, σ1§62/10, Southern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**3.16**	**106**	P	**Pn**	**17 44 57.8**	**+1.1**
	11nm,0.3s,baz=301,slow=8.6,SNR=155						
LPAZ				S	**Sn**	**17 45 37.9**	**+1.9**
	1.7nm,0.3s,baz=188,slow=22,SNR=6.2						
NNA	**Nana**	**6.40**	**302**	P	Pn	17 45 34.4	-3.9
	2.7nm,0.3s,baz=174,slow=10,SNR=2.1						
NNA				S	Sn	17 46 38.6	-12
	3.0nm,0.3s,baz=28,slow=8.8,SNR=8.4						
LVC	**Limon Verde**	**7.47**	**163**	P	**Pn**	**17 45 53.0**	**+0.3**
	5.3nm,0.3s,baz=341,slow=8.4,SNR=28						
LVC				S	**Sn**	**17 47 15.1**	**-1.6**
	3.3nm,0.3s,baz=261,slow=23,SNR=14						
SIV	**San Ignacio**	**9.86**	**94**	P	**Pn**	**17 46 22.4**	**-1.7**
	1.1nm,0.3s,baz=288,slow=12,SNR=8.7						
PTGA	**Pitinga**	**18.41**	**38**	P	**P**	**17 48 07.1**	**-1.7**
	0.5nm,0.3s,baz=209,slow=15,SNR=7.6						
TORD	**Torodi Ar. Bea**	**77.59**	**73**	P	**P**	**17 55 43.5**	**-0.8**
	0.4nm,0.3s,baz=255,slow=5.2,SNR=7.0						
YKA	**Yellowknife Ar**	**84.76**	**341**	P	**P**	**17 56 21.2**	**+0.1**
	0.5nm,0.6s,baz=129,slow=4.3,SNR=7.8						
ASAR	**Alice Springs**	**133.97**	**213**	PKP	**PKPdf**	**18 03 05.9**	**+1.6**
	0.3nm,0.7s,baz=136,slow=1.3,SNR=1.8						
SONM	**Songino Array**	**147.66**	**3**	PKPbc	**PKPbc**	**18 03 32.5**	**+1.4**
	0.8nm,0.4s,baz=333,slow=1.7,SNR=6.3						

*IDC **27** 17:54:16.9±0.8, 49.49S×125.20E, h0km, mb4.3/8, mb1 4.4/8, mb1mx4.1/22, mbtmp4.3/8, MS3.9/15, Ms1 3.9/15, ms1mx3.7/33, Error ellipse: s-maj=35.1km s-min=16.2km az=103.0*
*NEIC **27** 17:54:19.1±2.5, 49.5S±0.1×125.1E±0.2, h14km±4km, mb4.6/22, Error ellipse: s-maj=17.7km s-min=13.2km az=48.0*
ISC 27 17:54:18.9±0.5, 49.50S±0.09×125.2E±0.1, h10km, n54, σ1§29/37, mb4.5/17, MS4.0/14, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**16.69**	**327**	T	T	18 15 32.0	
	baz=154,slow=76,SNR=76						
H01W2	**Cape Leeuwin H**	**16.70**	**327**	T	T	18 15 22.1	
	baz=154,slow=76,SNR=68						
H01W3	**Cape Leeuwin H**	**16.71**	**327**	T	T	18 15 17.3	
	baz=154,slow=76,SNR=56						
NWAO	**Narrogin (SRO)**	**17.58**	**337**	LR	LR	18 03 07.0	
	comp=Z,122nm,19.9s,baz=150,slow=30						
TOO	**Toolangi**	**18.89**	**59**	P	**Pn**	**17 58 40.7**	**+0.6**
STKA	**Stephens Creek**	**21.49**	**41**	P	**P**	**17 59 07.2**	**-0.5**
	11nm,0.8s,baz=201,slow=12,SNR=13						
STKA				LR	LR	18 06 26.4	
	comp=Z,442nm,18.1s,baz=205,slow=34						
STKA	**Stephens Creek**	**21.49**	**41**		**P**	**17 59 07.8**	**+0.1**
MORW	**Morawa**	**21.56**	**338**	P	**P**	**17 59 07.6**	**-0.9**
ASAR	**Alice Springs**	**26.69**	**18**	P	**P**	**17 59 57.0**	**-1.2**
	3.2nm,0.5s,baz=197,slow=8.5,SNR=88						
ASAR				LR	LR	18 09 23.5	
	comp=Z,432nm,20.6s,baz=198,slow=34						
AS31	**Alice Springs**	**26.69**	**18**	P	**P**	**17 59 56.7**	**-1.5**
ARMA	**Armidale**	**27.61**	**56**	P	**P**	**18 00 06.0**	**-0.5**
ARMA				IAmb	IAmb	18 00 08.5	
	comp=Z,8.7nm,0.9s						
WRA	**Warramunga Arr**	**30.40**	**17**	P	**P**	**18 00 29.1**	**-2.1**
	comp=Z,1.0nm,0.5s,baz=196,slow=8.1,SNR=3.5						
WB2	**Warramunga Arr**	**30.40**	**17**	P	**P**	**18 00 29.8**	**-1.5**
WRAB	**Tennant Creek**	**30.41**	**17**	P	**P**	**18 00 29.6**	**-1.7**
WRAB				IAmb	IAmb	18 00 54.3	
	comp=Z,11nm,1.4s						
WR0	**Warramunga Arr**	**30.42**	**18**	P	**P**	**18 00 29.9**	**-1.5**
WR0				IAmb	IAmb	18 00 37.6	
	comp=Z,9.7nm,1.4s						
WB0	**Warramunga Arr**	**30.58**	**17**	P	**P**	**18 00 31.3**	**-1.5**
WB0				IAmb	IAmb	18 01 04.2	
	comp=Z,11nm,1.6s						
LBZ	**Lake Benmore**	**30.80**	**98**	P	**P**	**18 00 35.5**	**+0.8**
FITZ	**Fitzroy Crossi**	**31.33**	**1**	P	**P**	**18 00 41.9**	**+2.5**
FITZ				IAmb	IAmb	18 00 53.5	
	comp=Z,17nm,1.6s						
VNDA	**Vanda**	**31.37**	**166**	P	**P**	**18 00 38.9**	**-0.3**
	comp=Z,3.2nm,1.0s,baz=312,slow=8.4,SNR=9.3						
VNDA				LR	LR	18 12 11.6	
	comp=Z,107nm,20.4s,baz=324,slow=34						
VNDA	**Vanda**	**31.37**	**166**	P	**P**	**18 00 39.7**	**+0.5**
VNDA				IAmb	IAmb	18 00 41.5	
	comp=Z,7.7nm,1.3s						
CTA	**Charters Tower**	**33.84**	**37**	LR	LR	18 15 19.0	
	comp=Z,317nm,18.1s,baz=184,slow=37						
MAW	**Mawson**	**35.25**	**216**	LR	LR	18 13 31.3	
	comp=Z,110nm,18.8s,baz=60,slow=33						
QSPA	**South Pole Qui**	**40.62**	**180**	P	**P**	**18 01 58.3**	**-0.3**
	comp=Z,6.8nm,1.1s,baz=303,slow=1.5,SNR=9.4						
QSPA	**South Pole Qui**	**40.62**	**180**	P	**P**	**18 01

MKAR	**Makanchi Array**	**83.63**	**319**	P		P	18 24 15.4	-0.2	
	0.1nm,0.4s,baz=91,slow=6.1,SNR=2.7								

*IDC **27** 18:20:00.3±0.8,30°.11S×177°.26W,h0km,mb4.1/8, mb1 4.3/9,mb1mx4.0/38,mbtmp4.2/9,ML3.9/1,Error ellipse: s-maj=26.6km s-min=17.6km az=70.0*
*NEIC **27** 18:20:03.0±2.1,30°.21S±0°.06×177°.3W±0°.1,h21km±5km, mb4.6/13,Error ellipse: s-maj=18.6km s-min=9.0km az=80.0*

ISC 27 18:20:05.3±0.8,30°.22S±0°.08×177°.3W±0°.1,h35km,n37, σ1§66/38,mb4.3/12,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**1.11**	**330**	Pn		**Pn**	**18 20 22.3**	**-2.1**
	199nm,0.3s,baz=62,slow=8.7,SNR=9.4							
RAO				Sn		**Sn**	**18 20 37.8**	**-0.7**
	517nm,0.3s,baz=102,slow=22,SNR=8.6							
RAO	**Raoul Island**	**1.11**	**330**			**Pn**	**18 20 23.0**	**-1.4**
OUZ	**Omahuta**	**9.15**	**235**	Pn		**Pn**	**18 22 13.3**	**-1.6**
BKZ	**Black Stump Fm**	**10.28**	**208**	Pn		**Pn**	**18 22 27.7**	**-2.7**
TUWZ	**Tuamarina**	**13.24**	**210**	Pn		**Pn**	**18 23 07.6**	**-3.2**
NNZ	**Nelson**	**13.33**	**212**	Pn		**Pn**	**18 23 11.5**	**-0.5**
THZ	**Tophouse**	**13.97**	**212**	Pn		**Pn**	**18 23 19.8**	**-1.0**
KHZ	**Kahutara**	**14.23**	**209**	Pn		**Pn**	**18 23 20.2**	**-4.0**
LTZ	**Lake Taylor**	**15.07**	**211**	Pn		**Pn**	**18 23 33.5**	**-2.2**
OXZ	**Oxford**	**15.61**	**210**	Pn		**Pn**	**18 23 39.5**	**-3.2**
RPZ	**Rata Peaks**	**16.35**	**211**	Pn		**Pn**	**18 23 52.9**	**+0.7**
	0.5nm,0.3s,baz=51,slow=20,SNR=2.0							
RPZ	**Rata Peaks**	**16.35**	**211**			**Pn**	**18 23 49.8**	**-2.4**
RPZ				IAmb		IAmb	18 24 02.5	
	comp=Z,66nm,1.4s							
ODZ	**Otahua Downs**	**17.58**	**209**			**P**	**18 24 08.1**	**-0.2**
ODZ				IAmb		IAmb	18 24 20.5	
	comp=Z,56nm,1.6s							
ARMA	**Armidale**	**26.79**	**262**	P		**P**	**18 25 43.0**	**+0.6**
ARMA				IAmb		IAmb	18 26 26.0	
	comp=Z,21nm,1.3s							
CTAO	**Charters Tower**	**34.38**	**278**	P		**P**	**18 26 51.9**	**+2.7**
STKA	**Stephens Creek**	**35.12**	**257**	P		**P**	**18 26 57.4**	**+1.9**
	comp=Z,2.9nm,0.8s,baz=134,slow=13,SNR=3.1							
STKA	**Stephens Creek**	**35.12**	**257**	P		**P**	**18 26 58.0**	**+2.4**
AS31	**Alice Springs**	**43.73**	**266**	P		**P**	**18 28 08.4**	**+0.9**
ASAR	**Alice Springs**	**43.73**	**266**	P		**P**	**18 28 07.2**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=106,slow=7.7,SNR=28							
WR0	**Warramunga Arr**	**44.53**	**272**	P		**P**	**18 28 13.8**	**0.0**
WB2	**Warramunga Arr**	**44.70**	**272**	P		**P**	**18 28 14.8**	**-0.4**
WB2				IAmb		IAmb	18 28 29.0	
	comp=Z,8.1nm,1.1s							
WRAB	**Tennant Creek**	**44.70**	**272**	P		**P**	**18 28 15.1**	**-0.1**
WRAB				IAmb		IAmb	18 28 58.8	
	comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**44.71**	**272**	P		**P**	**18 28 15.6**	**+0.3**
	comp=Z,2.9nm,0.6s,baz=112,slow=7.7,SNR=16							
WB0	**Warramunga Arr**	**44.73**	**272**	P		**P**	**18 28 14.3**	**-1.2**
WB0				IAmb		IAmb	18 28 20.1	
	comp=Z,25nm,1.8s							
QSPA	**South Pole Qui**	**59.89**	**180**	P		**P**	**18 30 09.0**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=53,slow=3.4,SNR=9.8							
QSPA	**South Pole Qui**	**59.89**	**180**	P		**P**	**18 30 09.2**	**+1.8**
QSPA				IAmb		IAmb	18 30 44.4	
	comp=Z,7.2nm,1.2s							
MJAR	**Matsushiro Arr**	**78.45**	**325**	P		**P**	**18 32 02.4**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=167,slow=6.6,SNR=5.8							
PETK	**Petropavlovsk-**	**85.80**	**345**	P		**P**	**18 32 40.7**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=131,slow=4.0,SNR=2.0							
USRK	**Ussuriysk Ar.**	**87.36**	**326**	P		**P**	**18 32 49.5**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=140,slow=1.7,SNR=5.6							
NVAR	**Mina Aray Bea**	**87.69**	**42**	P		**P**	**18 32 51.0**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=240,slow=7.2,SNR=3.0							
FIA1	**FINESS Array S**	**145.19**	**341**			**PKPbc**	**18 39 37.0**	**-1.1**
FINES	**FINESS Array B**	**145.19**	**341**	PKPbc		**PKPbc**	**18 39 37.0**	**-1.1**
	comp=Z,6.8nm,0.7s,baz=62,slow=4.5,SNR=32							
NB2	**NORSAR Subarra**	**148.66**	**352**	PKP		**PKPbc**	**18 39 47.7**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=16,slow=3.0							
NOA	**NORSAR Array B**	**148.66**	**352**	PKPbc		**PKiKP**	**18 39 49.8**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=16,slow=3.0,SNR=4.4							
ASF	**Jabal al Asfar**	**150.76**	**283**	PKPbc		**PKPbc**	**18 39 53.6**	**-0.7**
	comp=Z,1.2nm,0.7s,baz=20,slow=2.0,SNR=3.1							
AKASG	**Malin Array Be**	**151.53**	**323**	PKPbc		**PKPbc**	**18 39 54.1**	**-1.2**
	comp=Z,1.7nm,0.6s,baz=50,slow=2.9,SNR=7.0							
TORD	**Torodi Ar. Bea**	**162.98**	**177**	PKPab		**PKPab**	**18 40 53.7**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=204,slow=3.5,SNR=1.8							

MAN 27 18:21:05.2,11°.37N×125°.51E,h23km,mb4.0,ML2.8, MS2.5,Samar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OCLP	**Ormoc**	**0.94**	**250**	*eP*		Pb	18 21 22.3	-0.4
OCLP				*eS*		Sn	18 21 35.9	+0.3
MSLP	**Maasin**	**1.39**	**207**	*eP*		Pn	18 21 28.7	-0.4
MSLP				*eS*		Sb	18 21 48.3	+0.6
CNP	**Catarman**	**1.40**	**324**	*eP*		Pn	18 21 28.6	-0.7
CNP				*eS*		Sn	18 21 47.4	+0.4
PVCP	**Virac**	**2.57**	**329**	*eP*		Pn	18 21 46.9	+1.4
PVCP				*eS*		Sb	18 22 26.7	+4.8
BUKP	**Musuan**	**3.50**	**187**	*eP*		Pb	18 22 04.8	-1.7

MAN 27 18:21:59.3,15°.81N×119°.88E,h37km,mb4.0,ML2.8, MS2.4,1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BOLP	**Bolinao**	**0.57**	**3**	*eP*		Pn	18 22 11.6	+0.6
BOLP				*eS*		Sn	18 22 21.5	+2.3
BALP	**Baler**	**1.63**	**92**	*eP*		Pn	18 22 24.8	-0.6
BALP				*eS*		Sn	18 22 46.8	+1.6
ABRA	**Dolores**	**2.00**	**23**	*eP*		Pn	18 22 32.3	+1.9
ABRA				*eS*		Sn	18 23 01.0	+6.8
CAUP	**Cauayan**	**2.18**	**58**	*eP*		Pn	18 22 33.2	+0.3
LQP	**Lukban**	**2.32**	**136**↑	*eP*		Pn	18 22 43.7	+8.5
APYP	**Conner**	**2.42**	**32**	*eP*		Sn	18 22 48.7	+12
APYP				*eS*		Sn	18 23 05.5	+0.8

*SJA **27** 18:30:03.3±0.8,30°.14S×71°.32W,h71km±6km,ML4.5, MW4.5*
*NEIC **27** 18:30:04.1±2.0,30°.17S±0°.04×71°.28W±0°.08,h69km±1km, mb4.8/13,ML4.4(GUC),Error ellipse: s-maj=10.5km s-min=5.8km az=85.0*
*GUC **27** 18:30:04.3±0.7,30°.17S×71°.12W,h64km±3km,ML4.5*
*IDC **27** 18:30:05.5±0.7,29°.97S×71°.12W,h73km±4km,mb4.2/9, mb1 4.2/15,mb1mx3.9/44,mbtmp4.4/15,MS3.0/2, Ms1 3.0/2,ms1mx2.8/19,Error ellipse: s-maj=18.9km s-min=9.4km az=49.0*
*VAO **27** 18:30:16.1±0.7,29°.80S×70°.18W,h111km±7km,mb4.4*

ISC 27 18:30:03.7±0.5,30°.14S±0°.03×71°.30W±0°.06,h68km±4km, h68km:pP-P,n182,σ1§49/206,mb4.6/13,8C-6D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GO04	**Tololo Observa**	**0.43**	**95**	*eP*		**Pn**	**18 30 16.3**	**+0.3**
GO04				*i* S		**Sn**	**18 30 25.2**	**+0.3**
GO04	**Tololo Observa**	**0.43**	**95**			**Pn**	**18 30 16.3**	**+0.3**
GO04					Sn	**Sn**	**18 30 25.2**	**+0.3**
GO04	**Tololo Observa**	**0.43**	**95**	*i* P		**Pn**	**18 30 16.6**	**+0.6**
GO04				*e*S		**Sn**	**18 30 25.3**	**+0.4**
CO03	**El Pedregal**	**0.87**	**143**↑	*i* P		**Sn**	**18 30 20.9**	**+0.3**
CO03				*i* S		**Sn**	**18 30 32.9**	**-0.2**
CO03				IAML			18 30 33.4	
	comp=N,20μm,0.3s							
CO03	**El Pedregal**	**0.87**	**143**			**Pn**	**18 30 20.8**	**+0.2**
CO03					Sn	**Sn**	**18 30 33.0**	**-0.2**
CO01	**Juntas del Tor**	**1.05**	**82**↑	*i* P		**Sn**	**18 30 23.6**	**+0.5**
CO01				*i* S		**Sn**	**18 30 37.4**	**0.0**
CO01				IAML			18 30 37.9	
	comp=N,19μm,0.4s							
CO01	**Juntas del Tor**	**1.05**	**82**			**Pn**	**18 30 23.5**	**+0.5**
CO02	**Combarbal**	**1.09**	**167**↑	*i* P		**Pn**	**18 30 24.1**	**+0.7**
CO02				*i* S		**Sn**	**18 30 39.2**	**+1.1**
CO02				IAML			18 30 40.2	
	comp=E,19μm,0.4s							
CO02	**Combarbal**	**1.09**	**167**	Pn		**Pn**	**18 30 24.2**	**+0.7**
LCO	**Las Campanas**	**1.24**	**25**	*e*P		**Pn**	**18 30 27.0**	**+1.6**
LCO				*i* S		**Sn**	**18 30 43.0**	**+1.4**
LCO	**Las Campanas**	**1.24**	**25**			**Pn**	**18 30 26.9**	**+1.5**
LCO					Sn	**Sn**	**18 30 42.4**	**+0.8**
LCO	**Las Campanas**	**1.24**	**25**	*i* PZ			18 30 26.6	
LCO				*i* P		**Pn**	**18 30 27.0**	**+1.6**
LCO				*e*S		**Sn**	**18 30 43.9**	**+2.3**
AC05	**El Transito**	**1.57**	**35**↑	*i* P		**Pn**	**18 30 31.3**	**+1.6**
AC05				*i* S		**Sn**	**18 30 51.4**	**+2.1**
AC05				IAML			18 30 52.7	
	comp=N,6μm,0.3s							
AC05	**El Transito**	**1.57**	**35**	Pn		**Pn**	**18 30 31.2**	**+1.6**
AROD	**Rodeo**	**1.58**	**92**	*i* P		**Pn**	**18 30 31.6**	**+1.7**
ACDV	**Cuesta del Vie**	**1.88**	**92**	*i* P		**Pn**	**18 30 35.7**	**+1.8**
ACDV				IAML			18 31 02.4	
	comp=Z,2μm,0.4s							
AC04	**Llanos de Chal**	**1.94**	**6**↑	*i* P		**Sn**	**18 30 36.3**	**+1.8**
AC04				*i* S		**Sn**	**18 31 01.5**	**+3.7**
AC04				IAML			18 31 07.4	
	comp=N,7μm,0.4s							
AC04	**Llanos de Chal**	**1.94**	**6**	Pn		**Pn**	**18 30 36.3**	**+1.8**
AGUA	**GUANDACOL**	**2.52**	**76**	*i* P		**Pn**	**18 30 45.8**	**+3.3**
AGUA				IAML			18 31 23.9	
	comp=Z,3μm,0.6s							
AUSP	**Uspallata**	**2.65**	**142**	*i* P		**Pn**	**18 30 47.0**	**+2.6**
AUSP				*e*S		**Sn**	**18 31 18.5**	**+3.0**
ZON	**Zonda**	**2.65**	**123**			**Pn**	**18 30 45.9**	**+1.7**
ZON	**Zonda**	**2.65**	**123**	*i* P		**Pn**	**18 30 46.1**	**+1.9**
ZON				IAML			18 31 24.6	
	comp=Z,669nm,0.4s							
VA03	**San Esteban**	**2.69**	**167**	*e*P		**Pn**	**18 30 46.3**	**+1.5**
VA03				*i* S		**Sn**	**18 31 18.3**	**+1.9**
VA03	**San Esteban**	**2.69**	**167**			**Pn**	**18 30 46.3**	**+1.5**
GO03	**Copiap**	**2.70**	**20**↓	*i* P		**Pn**	**18 30 46.2**	**+1.4**
GO03				IAML			18 31 23.6	
	comp=N,2μm,0.4s							
GO03	**Copiap**	**2.70**	**20**			**Pn**	**18 30 46.4**	**+1.5**
GO03	**Copiap**	**2.70**	**20**	*i* P		**Pn**	**18 30 46.7**	**+1.8**
RTLL	**Cerro Villicun**	**2.70**	**117**	*i* P		**Pn**	**18 30 46.7**	**+1.8**
RTLL				IAML			18 31 24.5	
	comp=Z,1μm,0.9s							
ROCH	**El Roble**	**2.84**	**175**↓	*i* P		**Pn**	**18 30 47.7**	**+0.8**
ROCH				IAML			18 31 39.1	
	comp=N,2μm,0.7s							
ROC1	**El Roble**	**2.84**	**175**			**Pn**	**18 30 47.6**	**+0.7**
RTCV	**Cerro Valdivia**	**2.92**	**127**	*i* P		**Pn**	**18 30 50.1**	**+2.2**
RTCV				IAML			18 31 30.1	
	comp=Z,577nm,0.4s							
CFA	**Coronel Fontan**	**3.01**	**120**	P		**Pn**	**18 30 50.4**	**+1.4**
	comp=Z,177nm,0.3s,baz=306,slow=13,SNR=318							
CFA				S		**Sn**	**18 31 26.2**	**+2.2**
	comp=Z,147nm,0.3s,baz=88,slow=19,SNR=18							
PEL	**Peldehue**	**3.04**	**170**↓	*i* P		**Pn**	**18 30 50.9**	**+1.4**
PEL				*i* S		**Sn**	**18 31 25.7**	**+0.9**
PEL				IAML			18 31 48.4	
	comp=N,1μm,0.2s							
PEL	**Peldehue**	**3.04**	**170**	Pn		**Pn**	**18 30 50.8**	**+1.4**
PEL	**Peldehue**	**3.04**	**170**	*i* P		**Pn**	**18 30 50.9**	**+1.4**
MT02	**Curacav**	**3.12**	**178**↑	*i* P		**Pn**	**18 30 50.9**	**+0.4**
MT02				IAML			18 31 37.2	
	comp=E,900nm,0.6s							
MT02	**Curacav**	**3.12**	**178**	Pn		**Pn**	**18 30 50.8**	**+0.4**
MT05	**Renca**	**3.28**	**172**			**Pn**	**18 30 53.8**	**+1.1**
MT01	**Popeta**	**3.71**	**179**			**Pn**	**18 30 59.0**	**+0.4**
AC02	**Maricunga**	**3.80**	**31**↓	*i* P		**Pn**	**18 31 01.6**	**+1.3**
AC02				*i* S		**Sn**	**18 31 47.7**	**+3.7**
AC02	**Maricunga**	**3.80**	**31**	Pn		**Pn**	**18 31 01.6**	**+1.3**
LMEL	**Las Melosas**	**3.81**	**166**	*e*P		**Pn**	**18 31 02.1**	**+1.9**
LMEL				*i* S		**Sn**	**18 31 45.4**	**+1.5**
LMEL				IAML			18 31 48.7	
	comp=N,640nm,0.2s							
ACLC	**CERRO LA CRUZ**	**3.84**	**80**	*i* P		**Pn**	**18 31 02.3**	**+1.8**
AC01	**Pan de Azucar**	**4.02**	**9**↓	*i* P		**Pn**	**18 31 02.4**	**-0.5**
AC01	**Pan de Azucar**	**4.02**	**9**	Pn		**Pn**	**18 31 02.3**	**-0.5**
ACAN	**Cantantal**	**4.11**	**122**	*i* P		**Pn**	**18 31 05.6**	**+1.5**
ACAN				IAML			18 31 57.2	
	comp=Z,314nm,0.6s							
BO02	**Sierra Bellavi**	**4.66**	**175**			**Pn**	**18 31 11.7**	**+0.1**
GO05	**Huala**	**4.89**	**186**			**Pn**	**18 31 13.9**	**-0.8**
GO05	**Huala**	**4.89**	**186**	*i* P		**Pn**	**18 31 13.9**	**-0.8**
LAMA	**Las Malvinas**	**5.10**	**160**	*i* P		**Pn**	**18 31 19.7**	**+2.2**
COIS	**El Sosneado**	**5.16**	**164**	*i* P		**Pn**	**18 31 19.1**	**+0.8**
GO02	**Mina Guanaco**	**5.18**	**17**	Pn		**Pn**	**18 31 18.8**	**-0.2**
MRA	**San Martin**	**5.29**	**117**	*i* P		**Pn**	**18 31 20.3**	**+0.1**
MRA				IAML			18 32 22.4	
	comp=Z,466nm,0.9s							
TCA	**Tanti**	**5.89**	**103**	*i* P		**Pn**	**18 31 28.6**	**+0.1**
TCA				IAML			18 32 37.8	
	comp=Z,379nm,0.6s							
BI02	**San Fabin de**	**6.51**	**180**			**Pn**	**18 31 36.9**	**0.0**
PB10	**IPOC Station P**	**6.63**	**6**	Pn		**Pn**	**18 31 38.7**	**+0.2**
BI03	**Tigo**	**6.84**	**192**	Pn		**Pn**	**18 31 40.0**	**-1.3**
PB15	**IPOC Station P**	**7.09**	**14**			**Pn**	**18 31 44.7**	**-0.8**
PB15	**IPOC Station P**	**7.09**	**14**	*i* P		**Pn**	**18 31 44.7**	**-0.4**
PB15				IAML			18 33 44.0	
	comp=Z,363nm,0.4s							
VA04	**Juan Fernndez**	**7.30**	**239**	Pn		**Pn**	**18 31 47.6**	**0.0**
PB05	**IPOC Station P**	**7.32**	**8**	*i* P		**Pn**	**18 31 45.3**	**-2.8**
PB05				IAML			18 33 46.3	
	comp=Z,123nm,0.7s							
PB06	**IPOC Station P**	**7.56**	**12**	Pn		**Pn**	**18 31 50.2**	**-1.2**
LVC	**Limon Verde**	**7.80**	**16**	P		**Pn**	**18 31 53.1**	**-1.7**
	comp=Z,1.2nm,0.3s,baz=166,slow=9.3,SNR=12							
LVC				S		**Sn**	**18 33 17.6**	**-4.2**
	comp=Z,4.7nm,0.3s,baz=25,slow=22,SNR=1.5							
LVC	**Limon Verde**	**7.80**	**16**			**Pn**	**18 31 53.2**	**-1.6**
LVC	**Limon Verde**	**7.80**	**16**	*e*P		Pn	18 31 59.7	+4.9
LVC	**Limon Verde**	**7.80**	**16**	*e*P		Pn	18 31 59.7	+4.9
PB04	**IPOC Station P**	**7.84**	**8**	Pn		**Pn**	**18 31 54.2**	**-1.0**
PB07	**IPOC Station P**	**8.47**	**9**	Pn		**Pn**	**18 32 04.6**	**+0.7**
PB09	**IPOC Station P**	**8.51**	**13**	Pn		**Pn**	**18 32 02.9**	**-1.5**
LC01	**Cunco**	**8.75**	**183**			**Pn**	**18 32 06.5**	**-1.0**
PB01	**IPOC Station P**	**9.20**	**11**	Pn		**Pn**	**18 32 10.1**	**-3.7**
TA01	**Diego Aracena**	**9.59**	**6**	Pn		**Pn**	**18 32 15.8**	**-3.1**
PB08	**IPOC Station P**	**10.14**	**12**	Pn		**Pn**	**18 32 23.5**	**-3.4**
PB11	**IPOC Station P**	**10.44**	**9**	Pn		**Pn**	**18 32 30.2**	**-0.5**
PSGCX	**Pisagua**	**10.55**	**6**	Pn		**Pn**	**18 32 31.0**	**-1.2**
PLCA	**Paso Flores**	**10.59**	**177**	P		Pn	18 32 38.4	+5.8
	comp=Z,0.3nm,0.3s,baz=337,slow=11,SNR=3.9							
PLCA				LR		LR	18 36 42.7	
	comp=Z,107nm,20.4s,baz=320,slow=37							
PLCA	**Paso Flores**	**10.59**	**177**			**Pn**	**18 32 31.8**	**-0.8**
PLCA	**Paso Flores**	**10.59**	**177**	*e*P		Pn	18 32 49.1	+17
PLCA	**Paso Flores**	**10.59**	**177**	*e*P		Pn	18 32 49.1	+17
GO01	**Chusmiza**	**10.60**	**11**	Pn		**Pn**	**18 32 29.9**	**-3.3**
MNMC	**Minye Minye**	**11.07**	**8**	Pn		**Pn**	**18 32 40.2**	**+0.8**
PB12	**IPOC Station P**	**11.51**	**5**	Pn		**Pn**	**18 32 43.3**	**-2.0**
AP01	**Chacalluta**	**11.75**	**4**	Pn		**Pn**	**18 32 48.2**	**-0.3**
ITQB	**Itaqui**	**12.74**	**92**	*e*P		**Pn**	**18 32 59.1**	**-2.8**
ITQB	**Itaqui**	**12.74**	**92**	*e*P		**Pn**	**18 32 59.1**	**-2.8**
CPUP	**Villa Florida**	**12.88**	**76**	P		**Pn**	**18 33 02.9**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=254,slow=11,SNR=4.9							
CPUP				LR		LR	18 39 07.9	
	comp=Z,56nm,19.8s,baz=226,slow=43							
CPUP	**Villa Florida**	**12.88**	**76**	Pn		**Pn**	**18 33 02.7**	**-1.2**
CPUP	**Villa Florida**	**12.88**	**76**	*e*P		**Pn**	**18 33 02.4**	**-1.5**
CPUP	**Villa Florida**	**12.88**	**76**	*e*P		**Pn**	**18 33 02.4**	**-1.5**
LPAZ	**La Paz**	**14.09**	**13**	P		**Pn**	**18 33 21.2**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=193,slow=10,SNR=5.0							
LPAZ	**La Paz**	**14.09**	**13**			**Pn**	**18 33 21.4**	**+0.8**
LPAZ	**La Paz**	**14.09**	**13**	*e*P		**P**	**18 33 24.1**	**-2.2**
LPAZ	**La Paz**	**14.09**	**13**	*e*P		**P**	**18 33 24.1**	**-2.2**
PLTB	**Pedras Altas**	**15.27**	**101**	*e*P		**Pn**	**18 33 33.5**	**-1.8**
PLTB	**Pedras Altas**	**15.27**	**101**	*e*P		**Pn**	**18 33 33.5**	**-1.8**
SIV	**San Ignacio**	**16.92**	**36**	P		**P**	**18 33 56.7**	**-0.5**
	comp=Z,0.6nm,0.3s,baz=228,slow=11,SNR=40							
AQDB	**Aquidauana**	**17.05**	**59**	*e*P		**Pn**	**18 33 55.7**	**-2.1**
AQDB	**Aquidauana**	**17.05**	**59**	*e*P		**Pn**	**18 33 55.7**	**-2.1**
CNLB	**Canela**	**17.78**	**92**	*e*P		**Pn**	**18 34 04.9**	**-1.7**
CNLB	**Canela**	**17.78**	**92**	*e*P		**Pn**	**18 34 04.9**	**-1.7**
PTGB	**Pitanga**	**17.90**	**77**	*e*P		**P**	**18 34 06.1**	**-1.9**
PTGB	**Pitanga**	**17.90**	**77**	*e*P		**P**	**18 34 06.1**	**-1.9**
PTLB	**Pontes e Lacer**	**18.40**	**40**	*e*P		**P**	**18 34 12.5**	**-0.9**
PTLB	**Pontes e Lacer**	**18.40**	**40**	*e*P		**P**	**18 34 12.5**	**-0.9**
PCMB	**Pacaembu**	**19.91**	**69**	*e*P		**P**	**18 34 27.9**	**-2.0**
PCMB	**Pacaembu**	**19.91**	**69**	*e*P		**P**	**18 34 27.9**	**-2.0**
VILB	**Vilhena**	**19.95**	**33**	*e*P		**Pn**	**18 34 30.8**	**-1.7**
VILB	**Vilhena**	**19.95**	**33**	*e*P		**Pn**	**18 34 30.8**	**-1.7**
SALV	**Santo Antonio**	**20.14**	**49**	*e*P		**P**	**18 34 31.6**	**-0.8**
SALV	**Santo Antonio**	**20.14**	**49**	*e*P		**P**	**18 34 31.6**	**-0.8**
FRTB	**Fartura**	**20.54**	**76**	*e*P		**P**	**18 34 35.6**	**-1.1**
FRTB	**Fartura**	**20.54**	**76**	*e*P		**P**	**18 34 35.6**	**-1.1**
ITRB	**Iturama**	**21.61**	**66**	*e*P		**P**	**18 34 47.3**	**-0.9**
ITRB	**Iturama**	**21.61**	**66**	*e*P		**P**	**18 34 47.3**	**-0.9**
SPB	**Sao Paulo**	**22.24**	**79**	*e*P		**P**	**18 34 53.2**	**-1.7**
SPB	**Sao Paulo**	**22.24**	**79**	*e*P		**P**	**18 34 53.2**	**-1.7**
BB19B	**Bebedouro**	**22.40**	**72**	*e*P		**P**	**18 34 54.6**	**-2.1**
BB19B	**Bebedouro**	**22.40**	**72**	*e*P		**P**	**18 34 54.6**	**-2.1**
SAML	**Samuel**	**22.41**	**21**	P		**P**	**18 34 55.8**	**-0.9**
SAML	**Samuel**	**22.41**	**21**	*e*P		**P**	**18 34 58.1**	**+1.3**
SAML	**Samuel**	**22.41**	**21**	*e*P		**P**	**18 34 58.1**	**+1.3**
VAO	**Valinhos**	**22.86**	**78**	*e*P		**P**	**18 34 59.8**	**-1.8**
VAO	**Valinhos**	**22.86**	**78**	*e*P		**P**	**18 34 59.8**	**-1.8**
ARAG	**Araguaiana, MT**	**22.93**	**56**	*e*P		**P**	**18 35 01.0**	**-1.3**
ARAG	**Araguaiana, MT**	**22.93**	**56**	*e*P		**P**	**18 35 01.0**	**-1.3**
EFI	**East Falkland**	**23.65**	**159**	P		**P**	**18 35 08.6**	**-0.2**
IPMB	**Ipameri, GO**	**24.25**	**65**	*e*P		**P**	**18 35 13.6**	**-1.0**
IPMB	**Ipameri, GO**	**24.25**	**65**	*e*P		**P**	**18 35 13.6**	**-1.0**
BDFB	**Brasilia**	**25.78**	**61**	P		**P**	**18 35 27.5**	**-1.0**
	comp=Z,11nm,0.6s,baz=243,slow=7.0,SNR=16							
BDFB	**Brasilia**	**25.78**	**61**	P		**P**	**18 35 27.8**	**-0.7**
BDFB				IAmb		IAmb	18 35 28.6	
	comp=Z,13nm,0.6s							
PEXB	**Peixe**	**27.87**	**55**	*e*P		**P**	**18 35 46.3**	**-0.9**
PEXB	**Peixe**	**27.87**	**55**	*e*P		**P**	**18 35 46.3**	**-0.9**
JANB	**Januaria**	**28.98**	**65**	*e*P		**P**	**18 35 55.6**	**-1.5**
JANB	**Januaria**	**28.98**	**65**	*e*P		**P**	**18 35 55.6**	**-1.5**
SJMB	**Sao Joao De Ma**	**29.60**	**74**	*e*P		**P**	**18 36 01.9**	**-0.6**
SJMB	**Sao Joao De Ma**	**29.60**	**74**	*e*P		**P**	**18 36 01.9**	**-0.6**
BSFB	**Barra de Sao F**	**29.82**	**75**	*e*P		**P**	**18 36 03.9**	**-0.6**
BSFB	**Barra de Sao F**	**29.82**	**75**	*e*P		**P**	**18 36 03.9**	**-0.6**
RIB01	**Linhares ES**	**29.98**	**76**	*e*P		**P**	**18 36 05.0**	**-0.9**
RIB01	**Linhares ES**	**29.98**	**76**	*e*P		**P**	**18 36 05.0**	**-0.9**
SDBA	**SAO DESIDERIO**	**30.14**	**60**	*e*P		**P**	**18 36 06.7**	**-0.8**
SDBA	**SAO DESIDERIO**	**30.14**	**60**	*e*P		**P**	**18 36 06.7**	**-0.8**
GDU01	**Guandu, BA**	**33.50**	**68**	*e*P		**P**	**18 36 35.9**	**-0.9**
GDU01	**Guandu, BA**	**33.50**	**68**	*e*P		**P**	**18 36 35.9**	**-0.9**
PMSA	**Palmer Station**	**34.95**	**175**	P		**P**	**18 36 49.0**	**+0.2**
RUSC	**La Rusia**	**35.87**	**357**	P		**P**	**18 37 00.0**	**+2.3**
RCBR	**Riachuelo**	**41.15**	**61**	P		**P**	**18 37 42.8**	**+1.2**
RCBR				IAmb		IAmb	18 37 53.1	
	comp=Z,32nm,1.2s							
VNA2	**Neumayer--Watz**	**53.34**	**158**	P		**P**	**18 39 16

comp=Z,1.3nm,0.7s,baz=12,slow=8.7,SNR=6.7
ASAR Alice Springs 50.22 191 P **P** **18 39 56.6 +2.1**
comp=Z,0.3nm,0.8s,baz=10,slow=6.7,SNR=2.6
MKAR Makanchi Array 51.51 310 P **P** **18 40 04.2 +0.2**
comp=Z,0.2nm,0.7s,baz=99,slow=9.3,SNR=3.0
ILAR Eielson Array 58.33 28 LR LR 19 04 57.3
comp=Z,24nm,21.9s,baz=262,slow=35
FINES FINESS Array B 79.06 334 P **P** **18 43 03.2 +1.1**
comp=Z,0.9nm,0.5s,baz=69,slow=6.6,SNR=9.2

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*IDC **27** 18:42:48.7±2.7,28°.85S×177°.00W,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.6/30,mbtmp3.7/2,Error ellipse: s-maj=45.2km s-min=30.6km az=134.0*
ISC 27 18:42:53.9±1.9,28°.9S±0°.2×177°.0W±0°.2,h36km,n15, σ1§70/10,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.86**	**246**	Pn	**Pn**	**18 43 09.8**	**+0.2**
	603nm,0.3s,baz=66,slow=22,SNR=34						
RAO				Sn	**Sn**	**18 43 21.3**	**+0.4**
	351nm,0.3s,baz=97,slow=15,SNR=8.5						
WMGZ	**Waiomatatini S**	**9.68**	**202**	P	Pn	18 45 17.0	+6.4
HAZ	**Te Kaha**	**9.85**	**205**	P	**Pn**	**18 45 12.8**	**0.0**
PKGC	**Pakihiroa**	**9.86**	**203**	P	**Pn**	**18 45 14.6**	**+1.5**
PUZ	**Puketiti**	**9.96**	**202**	P	**Pn**	**18 45 16.5**	**+2.0**
RUGZ	**Raukumara Rang**	**10.07**	**205**	P	**Pn**	**18 45 12.6**	**-3.4**
CNGZ	**Carnagh Statio**	**10.35**	**201**	P	**Pn**	**18 45 19.3**	**-0.6**
MWZ	**Matawai**	**10.45**	**204**	P	Pn	18 45 14.7	-6.6
URZ	**Urewera**	**10.54**	**206**	P	Pn	18 45 13.5	-8.9
RIGZ	**Rimuhau**	**10.70**	**203**	P	Pn	18 45 17.9	-6.8
MUGZ	**Murupara**	**10.86**	**207**	P	Pn	18 45 15.7	-11
KNZ	**Kokohu**	**11.02**	**202**	P	Pn	18 45 20.9	-7.9
ASAR	**Alice Springs**	**44.07**	**265**	P	**P**	**18 50 57.5**	**-1.2**
	0.7nm,0.7s,baz=106,slow=7.2,SNR=7.8						
WRA	**Warramunga Arr**	**44.92**	**270**	P	**P**	**18 51 06.2**	**+0.6**
	0.4nm,0.4s,baz=109,slow=6.3,SNR=5.2						
FINES	**FINESS Array B**	**144.02**	**341**	PKP	**PKPdf**	**19 02 25.2**	**+0.3**
	0.8nm,0.7s,baz=60,slow=4.6,SNR=6.0						

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*IDC **27** 18:45:14.9±1.8,4°.07N×122°.78E,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.4/37,mbtmp3.6/3,Error ellipse: s-maj=224.6km s-min=25.6km az=62.0*
*NEIC **27** 18:45:29.2±1.3,4°.0N±0°.1×122°.7E±0°.2,h131km±10km, mb4.1/10,Error ellipse: s-maj=23.5km s-min=21.4km az=91.0*
ISC 27 18:45:31.0±1.0,3°.9N±0°.2×122°.6E±0°.2,h150km,n14, σ0§69/13,mb3.8/8,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CISI	**Cisompet, Garu**	**18.65**	**232**	P	**P**	**18 49 36.7**	**-0.9**
KNRA	**Kununurra**	**20.35**	**163**	P	Pn	18 50 00.0	+0.5
KNRA				IAmb	IAmb	18 50 18.4	
	comp=Z,19nm,1.3s						
WB0	**Warramunga Arr**	**26.18**	**154**	P	**P**	**18 50 51.9**	**+0.1**
WB0				IAmb	IAmb	18 51 10.6	
	comp=Z,4.0nm,1.2s						
WRAB	**Tennant Creek**	**26.31**	**154**	P	**P**	**18 50 53.4**	**+0.4**
WRAB				IAmb	IAmb	18 50 59.0	
	comp=Z,17nm,1.6s						
WRA	**Warramunga Arr**	**26.32**	**155**	P	**P**	**18 50 53.6**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=333,slow=10,SNR=8.6						
WB2	**Warramunga Arr**	**26.32**	**154**	P	**P**	**18 50 53.5**	**+0.5**
WR0	**Warramunga Arr**	**26.42**	**154**	P	**P**	**18 50 54.1**	**+0.2**
WR0				IAmb	IAmb	18 51 05.9	
	comp=Z,13nm,1.6s						
ASAR	**Alice Springs**	**29.50**	**159**	P	**P**	**18 51 22.1**	**+0.9**
	comp=Z,0.7nm,1.1s,baz=339,slow=7.6,SNR=5.7						
HNR	**Honiara**	**39.46**	**110**		**S**	**18 58 37.4**	**-0.6**
MK31	**Makanchi Array**	**55.16**	**327**	P	**P**	**18 54 48.8**	**+0.8**
MK31				IAmb	IAmb	18 54 49.6	
	comp=Z,2.3nm,1.6s						
MKAR	**Makanchi Array**	**55.16**	**327**	P	**P**	**18 54 48.6**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=117,slow=8.0,SNR=7.5						
MAKZ	**Makanchi**	**55.34**	**327**	P	**P**	**18 54 49.9**	**+0.6**
KURK	**Kurchatov**	**59.47**	**329**	P	**P**	**18 55 17.5**	**-0.6**
KURK				IAmb	IAmb	18 55 25.2	
	comp=Z,1.1nm,0.8s						
NIKH	**Nikolski High**	**74.06**	**36**	P	**P**	**18 56 50.1**	**-0.3**

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*JMA **27** 18:49:29.8,23°.24N×121°.51E,h0km,M2.7*
*TAP **27** 18:49:32.0,23°.27N×121°.37E,h15km,ML3.0,C*
ISC 27 18:49:31.8±0.8,23°.24N±0°.02×121°.44E±0°.02,h18km±2km, n99,σ0§92/155,19C-3D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FULB	**Fuli**	**0.14**	**254**	⇑*i* P	**Pb**	**18 49 35.8**	**+0.4**
FULB	baz=216			*e*S	**Sg**	**18 49 39.2**	**+0.5**
CHKT	**Chengkung**	**0.15**	**206**	⇑*i* P	**Pg**	**18 49 36.8**	**+0.7**
CHKT	baz=170			*e*S	**Sg**	**18 49 40.3**	**+1.3**
TWF1	**Yuli**	**0.17**	**311**	⇓*i* P	**Pb**	**18 49 35.7**	**-0.4**
TWF1	baz=315			*e*S	**Sb**	**18 49 38.6**	**-0.4**
YULB	**Yu-li**	**0.20**	**320**	⇓*i* P	**Pb**	**18 49 36.1**	**-0.7**
YULB	baz=325			*e*S	**Sb**	**18 49 39.2**	**-0.9**
HGSD	**Ruisui**	**0.25**	**357**	*i* P	**Pb**	**18 49 37.7**	**-0.1**
HGSD	baz=24			*e*S	**Sg**	**18 49 43.4**	**+1.9**
ELDTW	**Lidau**	**0.39**	**263**	⇑*i* P	**Pg**	**18 49 38.9**	**-1.1**
ELDTW	baz=254			*e*S	**Sg**	**18 49 43.4**	**-2.1**
EGFH	**Guangfu**	**0.43**	**359**	⇑*e* P	**Pg**	**18 49 40.5**	**-0.1**
EGFH	baz=356			*e*S	**Sb**	**18 49 47.2**	**+0.2**
TWGBT	**Beinan**	**0.53**	**218**	⇑*i* P	**Pb**	**18 49 41.9**	**-0.7**
TWGBT	baz=207			*e*S	**Sb**	**18 49 49.5**	**-0.4**
TWG	**Pinlang**	**0.54**	**219**	⇑*i* P	**Pb**	**18 49 41.9**	**-0.8**
TTN	**Taitung**	**0.55**	**209**	*e* P	**Pg**	**18 49 43.5**	**+0.7**
TTN	baz=197			*e*S	**Sn**	**18 49 52.9**	**-0.6**
ESL	**Shilin**	**0.57**	**359**	⇑*i* P	**Pb**	**18 49 42.4**	**-1.0**
ESL	baz=2.0			*e*S	**Sb**	**18 49 51.2**	**0.0**
VWDT	**VWDT**	**0.58**	**332**	⇑*i* P	**Pb**	**18 49 42.9**	**-0.6**
VWDT	baz=339			*e*S	**Sb**	**18 49 50.2**	**-1.2**
STYT	**Tauyuan**	**0.63**	**263**	⇑*i* P	**Pb**	**18 49 43.4**	**-0.9**
STYT	baz=257			S	**Sb**	**18 49 51.2**	**-1.6**
ALS	**Alishan**	**0.64**	**295**	⇑*i* P	**Pb**	**18 49 43.9**	**-0.8**
ALS	baz=286			*e*S	**Sb**	**18 49 51.9**	**-1.5**
SSLB	**Suanglung**	**0.70**	**321**	⇑*i* P	**Pb**	**18 49 44.6**	**-1.0**
SSLB	baz=325			*e*S	**Sb**	**18 49 52.8**	**-2.3**
WHYT	**Xinyi Township**	**0.70**	**310**	⇑*i* P	**Pb**	**18 49 45.0**	**-0.6**
WHYT	baz=317			*e*S	**Sb**	**18 49 53.8**	**-1.2**
TPUB	**Ta-pu**	**0.75**	**275**	⇑*i* P	**Pb**	**18 49 45.8**	**-0.5**
TPUB	baz=270			*e*S	**Sb**	**18 49 55.9**	**-0.3**
HWA	**Hwalien**	**0.75**	**12**	*e* P	**Pn**	**18 49 47.7**	**+0.1**
WTP	**Ta-pu**	**0.76**	**271**	⇑*i* P	**Pb**	**18 49 46.2**	**-0.3**
WTP	baz=265			*e*S	**Sb**	**18 49 56.0**	**-0.6**
SLGT	**Liugui**	**0.77**	**252**	⇑*i* P	**Pb**	**18 49 46.1**	**-0.6**
SLGT	baz=246			*e*S	**Sb**	**18 49 55.8**	**-1.0**
ECL	**Taimali**	**0.78**	**215**	*e* P	**Pb**	**18 49 45.2**	**-1.7**
ECL	baz=206			*e*S	**Sb**	**18 49 56.0**	**-1.1**
CHN5	**Tsauling**	**0.79**	**297**	⇑*i* P	**Pb**	**18 49 46.8**	**-0.3**
CHN5	baz=296			*e*S	**Sb**	**18 49 57.0**	**-0.3**
SGST	**Jiashian**	**0.80**	**259**	⇑*i* P	**Pb**	**18 49 46.1**	**-1.2**
SGST	baz=252			*e*S	**Sb**	**18 49 57.4**	**-0.3**
SMLT	**Sun Moon Lake**	**0.81**	**323**	⇑*i* P	**Pb**	**18 49 46.7**	**-0.7**
SMLT	baz=333			*e*S	**Sb**	**18 49 57.0**	**-1.2**
CHN1	**Nanshi**	**0.84**	**267**	P	**Pb**	**18 49 47.9**	**0.0**
CHN1	baz=261			*e*S	**Sg**	**18 50 00.0**	**+0.7**
TWD	**Chiawan**	**0.85**	**10**	*e* P	**Pb**	**18 49 47.5**	**-0.5**
TWD	baz=7.0			*e*S	**Sg**	**18 50 00.6**	**+0.9**
TYC	**Yuchr**	**0.85**	**321**	*i* P	**Pb**	**18 49 47.4**	**-0.6**
TYC	baz=330			*e*S	**Sb**	**18 49 57.8**	**-1.4**
CHGB	**Renai**	**0.85**	**344**	⇑*i* P	**Pb**	**18 49 47.5**	**-0.8**
CHGB	baz=351			*e*S	**Sb**	**18 49 58.4**	**-1.1**
SNST	**Tainan City**	**0.87**	**269**	*e* P	**Pb**	**18 49 47.6**	**-0.8**
SNST	baz=263			*e*S	**Sg**	**18 50 00.5**	**+0.3**
WJS	**Zhushan**	**0.87**	**312**	*e* P	**Pb**	**18 49 49.0**	**+0.5**
WJS	baz=325			*e*S	**Sb**	**18 50 00.3**	**+0.4**
SSD	**Sandimen**	**0.89**	**237**	*e* P	**Pb**	**18 49 47.6**	**-1.1**
WHF	**Hehuan Shan**	**0.92**	**350**	*e* P	**Pb**	**18 49 48.7**	**-0.8**
WHF	baz=358			*e*S	**Sb**	**18 50 01.6**	**+0.1**
WGK	**Gukeng**	**0.92**	**299**	*e* P	**Pb**	**18 49 49.5**	**+0.3**
WGK	baz=297			*e*S	**Sg**	**18 50 02.6**	**+0.7**
DPDB	**Guoxing**	**0.92**	**329**	*e* P	**Pb**	**18 49 48.8**	**-0.5**
DPDB	baz=344			*e*S	**Sb**	**18 50 00.6**	**-0.7**
WDLH	**Douliu**	**0.94**	**299**	*e* P	**Pb**	**18 49 50.0**	**+0.4**
WDLH	baz=296			*e*S	**Sn**	**18 50 03.6**	**+0.4**
WNT	**Mingjian**	**0.94**	**313**	*i* P	**Pn**	**18 49 50.3**	**+0.1**
WNT	baz=314			*e*S	**Sb**	**18 50 01.4**	**-0.4**
NACB	**Ninganchiao**	**0.94**	**9**	*e* P	**Pb**	**18 49 47.8**	**-1.9**
ETLH	**Xiulin Townshi**	**0.96**	**2**	*e* P	**Pb**	**18 49 48.5**	**-1.6**
CHY	**Chiayi**	**0.97**	**286**	*e* P	**Pb**	**18 49 50.1**	**+0.1**
CHY	baz=270			*e*S	**Sb**	**18 50 02.7**	**+0.2**
MASBT	**Mashibuluo**	**0.97**	**230**	⇓*i* P	**Pb**	**18 49 49.1**	**-1.0**
MASBT	baz=225			*e*S	**Sb**	**18 50 02.4**	**-0.2**
CHN3	**Shinhua**	**1.00**	**261**	*e* P	**Pg**	**18 49 53.1**	**+1.9**
CHN3	baz=266			*e*S	**Sg**	**18 50 07.7**	**+3.2**
TAW	**Tawu**	**1.01**	**210**	*e* P	**Pb**	**18 49 49.7**	**-1.1**
TAW	baz=202			*e*S	**Sb**	**18 50 02.2**	**-1.5**
EAST	**Anshuo**	**1.01**	**213**	*e* P	**Pb**	**18 49 49.6**	**-1.2**
TWM1	**Shoushan**	**1.02**	**246**	*e* P	**Pg**	**18 49 53.5**	**+1.8**
TWM1	baz=239			*e*S	**Sg**	**18 50 08.9**	**+3.8**
TDCB	**Techi**	**1.04**	**346**	*e* P	**Pb**	**18 49 50.7**	**-0.7**
TDCB	baz=353			*e*S	**Sb**	**18 50 03.6**	**-1.2**
WLGB	**Puzi**	**1.07**	**283**	*e* P	**Pb**	**18 49 52.0**	**+0.2**
WLGB	baz=278			*e*S	**Sn**	**18 50 06.2**	**-0.2**
SSPT	**Xinbi**	**1.10**	**227**	*e* P	**Pn**	**18 49 52.2**	**-0.2**
SNJT	**Kaohsiung City**	**1.12**	**245**	*e* P	**Pg**	**18 49 54.7**	**+1.0**
WHP	**Taichung City**	**1.13**	**337**	*e* P	**Pn**	**18 49 52.8**	**0.0**
CHN8	**Yiju**	**1.13**	**276**	*e* P	**Pn**	**18 49 52.3**	**-0.5**
TCU	**Taichung**	**1.14**	**322**	*e* P	**Pn**	**18 49 53.2**	**+0.3**
TCU	baz=325			*e*S	**Sg**	**18 50 09.6**	**+0.6**
SCZT	**Fangliau**	**1.15**	**221**	*e* P	**Pn**	**18 49 52.7**	**-0.3**
WCHH	**Zhanghua**	**1.16**	**316**	*e* P	**Pn**	**18 49 53.5**	**+0.3**
RLNB	**Erlin**	**1.19**	**303**	*e* P	**Pn**	**18 49 53.7**	**+0.2**
NNSB	**Datong**	**1.19**	**358**	P	**Pn**	**18 49 52.4**	**-1.2**
NNSH	**Datong**	**1.19**	**358**	P	**Pn**	**18 49 52.4**	**-1.3**
WSF	**Szhu**	**1.19**	**290**	*e* P	**Pn**	**18 49 53.6**	**0.0**
WSF	baz=285			*e*S	**Sg**	**18 50 10.3**	**0.0**
LAY	**Lan-yu**	**1.20**	**175**	*e* P	**Pn**	**18 49 52.1**	**-1.6**
NNS	**Nan Shan**	**1.20**	**357**	*e* P	**Pn**	**18 49 52.8**	**-1.1**
ENA	**Nanau**	**1.22**	**13**	*e* P	**Pn**	**18 49 52.5**	**-1.5**
WLCH	**Liuqiu**	**1.32**	**228**	*e* P	**Pb**	**18 49 56.9**	**+0.9**
WDJ	**Dajia District**	**1.32**	**327**	*e* P	**Pb**	**18 49 56.9**	**+0.8**
WDJ	baz=344			*e*S	**Sg**	**18 50 15.3**	**+0.5**
NSY	**Sanyi**	**1.33**	**332**	*e* P	**Pg**	**18 49 57.3**	**-0.2**
NDT	**Datong Townshi**	**1.36**	**3**	*e* P	**Pb**	**18 49 57.5**	**+0.8**
PTSB	**Yuanli**	**1.38**	**331**	*e* P	**Pn**	**18 49 56.8**	**+0.6**
HEN	**Hengchun**	**1.39**	**208**	*e* P	**Pn**	**18 49 56.6**	**+0.4**
ENTT	**Nioudou**	**1.40**	**5**	*e* P	**Pn**	**18 49 55.6**	**-0.9**
TWK1	**Hengchun**	**1.42**	**205**	*e* P	**Pn**	**18 49 56.3**	**-0.3**
TWKBT	**Hengchun**	**1.42**	**204**	*e* P	**Pn**	**18 49 56.7**	**0.0**
TWKBT	baz=188			*e*S	**Sn**	**18 50 14.4**	**-0.4**
TWC	**Suao**	**1.42**	**15**	*e* P	**Pb**	**18 49 58.5**	**+0.8**
TSEB	**Hengchuen, Pin**	**1.42**	**201**	*e* P	**Pn**	**18 49 56.9**	**+0.1**
NMLH	**Miaoli**	**1.42**	**336**	*e* P	**Pb**	**18 49 58.5**	**+0.7**
YHNB	**Yeheng**	**1.43**	**358**	*e* P	**Pn**	**18 49 56.7**	**-0.2**
YHNB	baz=21			*e*S	**Sn**	**18 50 14.3**	**-1.0**
NSK	**Sanguang**	**1.43**	**357**	*e* P	**Pn**	**18 49 56.6**	**-0.4**
NSK	baz=20			*e*S	**Sn**	**18 50 15.1**	**-0.3**
NSTT	**Nanjuang**	**1.44**	**344**	*e* P	**Pb**	**18 49 58.2**	**0.0**
LIOB	**Emei**	**1.45**	**345**	*e* P	**Pb**	**18 49 58.5**	**+0.1**
TWE	**Neicheng**	**1.49**	**8**	*e* P	**Pb**	**18 49 58.9**	**-0.1**
NWLT	**Wulai**	**1.53**	**2**	*e* P	**Pn**	**18 49 58.8**	**+0.4**
WDGT	**Dungji**	**1.64**	**271**	*e* P	**Pn**	**18 49 59.7**	**0.0**
PHUB	**P'eng-hu**	**1.74**	**279**	*e* P	**Pn**	**18 50 01.0**	**-0.1**
PHUB	baz=273			*e*S	**Sn**	**18 50 21.5**	**-1.3**
PNG	**Penghu**	**1.76**	**281**	*e* P	**Pn**	**18 50 01.6**	**+0.2**
PNG	baz=275			*e*S	**Sn**	**18 50 22.2**	**-1.2**
TIPB	**Shuangxi**	**1.76**	**12**	*e* P	**Pn**	**18 50 01.7**	**+0.2**
JYNG	**Yonagunijimaku**	**1.83**	**49**	P	**Pn**	**18 50 03.0**	**+0.6**
JYNG				S	**Sn**	**18 50 25.9**	**+0.7**
VCHM	**Qimei**	**1.85**	**269**	*e* P	**Pn**	**18 50 02.4**	**-0.2**
YOJ	**Yonaguni jima**	**1.89**	**49**	P	**Pn**	**18 50 03.6**	**+0.5**
YOJ				*e*S	**Sn**	**18 50 27.6**	**+1.1**
HATJ	**Hateruma jima**	**2.32**	**69**	P	**Pn**	**18 50 09.3**	**+0.2**
HATJ				*e*S	**Sn**	**18 50 37.0**	**-0.2**
IRIF	**Iriomote-Funau**	**2.37**	**62**	P	**Pn**	**18 50 10.0**	**+0.3**
IRIF				*e*S	**Sn**	**18 50 39.3**	**+1.0**
VWUC	**VWUC**	**2.52**	**314**	*e* P	**Pn**	**18 50 11.6**	**-0.3**
	baz=300						
JKRS	**Kuro-shima**	**2.56**	**67**	P	**Pn**	**18 50 13.0**	**+0.6**
JKRS				*e*S	**Sn**	**18 50 43.6**	**+0.5**
JIJ	**Ishigaki jima**	**2.72**	**65**	P	**Pn**	**18 50 14.4**	**-0.2**
JIJ				S	**Sn**	**18 50 46.1**	**-0.9**
PTTC	**Pingtan**	**2.72**	**326**	*e* P	**Pn**	**18 50 14.7**	**+0.1**
	baz=326						
PTMZ	**Houxiangcun**	**2.78**	**311**	*e* P	**Pn**	**18 50 15.3**	**0.0**
	baz=310						
JISG	**Ishigakijimahi**	**2.95**	**62**	P	**Pn**	**18 50 17.6**	**-0.2**
JISG				*e*S	**Sn**	**18 50 52.1**	**-0.7**
KNM	**Kinmen**	**2.99**	**294**	*e* P	**Pn**	**18 50 19.6**	**+1.3**
	baz=292						
KNMB	**Chin-men Tao**	**3.05**	**294**	*e* P	**Pn**	**18 50 18.6**	**-0.5**
	baz=294						
MATB	**Ma-tsu**	**3.20**	**335**	*e* P	**Pn**	**18 50 21.5**	**+0.2**
	baz=346						
JTJ	**Tarama**	**3.30**	**64**	P	**Pn**	**18 50 23.2**	**+0.7**
JTJ				*e*S	**Sn**	**18 51 02.1**	**+0.8**
ZPLA	**Ao Xicun**	**3.45**	**282**	*e* P	**Pn**	**18 50 24.5**	**-0.2**
	baz=281						
AXDP	**Jialang**	**3.58**	**298**	*e* P	**Pn**	**18 50 26.0**	**-0.4**
	baz=298						

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*IDC **27** 18:50:12.3±0.6,29°.91S×176°.90W,h0km,mb4.4/12, mb1 4.6/13,mb1mx4.4/25,mbtmp4.4/13,ML4.4/1,MS3.6/4, Ms1 3.6/4,ms1mx3.3/29,Error ellipse: s-maj=20.9km s-min=15.8km az=32.0*
*NEIC **27** 18:50:17.4±1.5,30°.00S±0°.07×177°.0W±0°.1,h38km±5km, mb4.7/35,Error ellipse: s-maj=14.0km s-min=9.4km az=62.0*
ISC 27 18:50:15.4±0.5,30°.04S±0°.07×176°.94W±0°.08,h24km,n77, σ1§26/74,mb4.7/24,MS3.6/6,1D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.15**	**312**	Pn	**Pn**	**18 50 35.0**	**-1.0**
	883nm,0.3s,baz=287,slow=3.6,SNR=28						
RAO				Sn	**Sb**	**18 50 51.4**	**+0.2**
	4μm,0.3s,baz=91,slow=23,SNR=21						
RAO				LR	LR	18 51 10.9	
	comp=Z,3μm,18.2s,baz=122,slow=53						
RAO	**Raoul Island**	**1.15**	**312**		**Pn**	**18 50 34.9**	**-1.1**
RAO				Sn	**Sn**	**18 50 51.1**	**0.0**
OUZ	**Omahuta**	**9.50**	**235**	Pn	**Pn**	**18 52 31.7**	**+1.0**
BKZ	**Black Stump Fm**	**10.59**	**209**	Pn	**Pn**	**18 52 46.4**	**+0.8**
TUWZ	**Tuamarina**	**13.55**	**211**	Pn	**Pn**	**18 53 24.9**	**-1.1**
QRZ	**Quartz Range**	**13.75**	**216**	Pn	**Pn**	**18 53 27.1**	**-1.7**
BSWZ	**Blackbirch Sta**	**13.81**	**210**	Pn	**Pn**	**18 53 29.6**	**0.0**
THZ	**Tophouse**	**14.29**	**212**	Pn	**Pn**	**18 53 35.2**	**-0.9**
KHZ	**Kahutara**	**14.53**	**209**	Pn	**Pn**	**18 53 36.9**	**-2.5**
LTZ	**Lake Taylor**	**15.38**	**211**	Pn	**Pn**	**18 53 47.4**	**-3.4**
LTZ				IAmb	IAmb	18 54 03.0	
	comp=Z,63nm,1.4s						
OXZ	**Oxford**	**15.92**	**211**	Pn	**Pn**	**18 53 53.2**	**-4.5**
RPZ	**Rata Peaks**	**16.66**	**212**	Pn	**Pn**	**18 54 07.7**	**+0.4**
	comp=Z,1.3nm,0.3s,baz=192,slow=1.1,SNR=7.5						
RPZ	**Rata Peaks**	**16.66**	**212**		**Pn**	**18 54 04.6**	**-2.6**
DZM	**Mont Dzumac**	**16.89**	**294**	*e*P	Pn	18 53 59.4	-11
	comp=Z,156nm,1.0s						
DZM	**Mont Dzumac**	**16.89**	**294**	Pn	**P**	**18 54 13.9**	**+1.7**
	comp=Z,0.7nm,0.3s,baz=92,slow=17,SNR=6.5						
DZM	**Mont Dzumac**	**16.89**	**294**	P	**P**	**18 54 14.2**	**+2.0**
LBZ	**Lake Benmore**	**17.58**	**212**	Pn	**Pn**	**18 54 18.4**	**-0.2**
LBZ				IAmb	IAmb	18 54 37.0	
	comp=Z,74nm,1.6s						
ODZ	**Otahua Downs**	**17.89**	**210**	Pn	**Pn**	**18 54 19.8**	**-2.7**
TBI	**Tubuai**	**25.40**	**81**	*e*LR	LR	19 01 56.5	
	comp=Z,138nm,26.8s						
ARMA	**Armidale**	**27.11**	**261**	P	**P**	**18 55 58.1**	**+1.4**
ARMA				IAmb	IAmb	18 56 53.8	
	comp=Z,38nm,1.6s						
PPT2	**Papeete2**	**27.86**	**70**	*e*LR	LR	19 02 58.2	
	comp=Z,140nm,24.5s						
PPT	**Papeete**	**27.87**	**70**	LR	LR	19 03 53.1	
	comp=Z,58nm,21.4s,baz=218,slow=30						
CTA	**Charters Tower**	**34.65**	**278**	P	**P**	**18 57 03.9**	**+0.8**
	comp=Z,4.8nm,0.6s,baz=107,slow=10.0,SNR=9.5						
CTAO	**Charters Tower**	**34.65**	**278**	P	**P**	**18 57 00.8**	**-2.3**
CTAO				IAmb	IAmb	18 57 27.1	
	comp=Z,11nm,0.9s						
STKA	**Stephens Creek**	**35.45**	**256**	P	**P**	**18 57 10.5**	**+0.6**
	comp=Z,5.5nm,0.8s,baz=111,slow=11,SNR=4.0						
STKA				LR	LR	19 10 36.1	
	comp=Z,185nm,18.4s,baz=33,slow=34						
STKA	**Stephens Creek**	**35.45**	**256**	P	**P**	**18 57 09.8**	**-0.1**
BBOO	**Buckleboo**	**39.95**	**254**	P	**P**	**18 57 47.8**	**-0.1**
AS31	**Alice Springs**	**44.04**	**266**	P	**P**	**18 58 22.0**	**+0.6**
ASAR	**Alice Springs**	**44.04**	**266**	P	**P**	**18 58 21.6**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=103,slow=7.4,SNR=24						
WR0	**Warramunga Arr**	**44.82**	**271**	P	**P**	**18 58 26.6**	**-1.1**
WR0				IAmb	IAmb	18 58 49.9	
	comp=Z,11nm,1.1s						
WB2	**Warramunga Arr**	**44.99**	**271**	P	**P**	**18 58 27.9**	**-1.1**
WB2				IAmb	IAmb	18 58 51.7	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**45.00**	**271**	P	**P**	**18 58 30.2**	**+1.1**
	comp=Z,6.2nm,0.8s,baz=110,slow=7.8,SNR=12						
WB0	**Warramunga Arr**	**45.02**	**271**	P	**P**	**18 58 28.4**	**-0.9**
WB0				IAmb	IAmb	18 58 30.9	
	comp=Z,9.5nm,1.0s						
FORT	**Forrest**	**47.02**	**254**	P	**P**	**18 58 44.6**	**-0.4**
JOHN	**Johnston Islan**	**47.05**	**10**	P	**P**	**18 58 45.0**	**0.0**
VNDA	**Vanda**	**48.55**	**186**	P	**P**	**18 58 53.8**	**-2.3**
KNRA	**Kununurra**	**51.59**	**273**	P	**P**	**18 59 20.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**53.28**	**269**	LR	LR	19 21 12.4	
	comp=Z,71nm,18.8s,baz=8.5,slow=35						
FITZ	**Fitzroy Crossi**	**53.28**	**269**	P	**P**	**18 59 33.9**	**+1.4**
FITZ				IAmb	IAmb	19 00 34.5	
	comp=Z,14nm,1.4s						
NWAO	**Narrogin (SRO)**	**55.38**	**249**	P	**P**	**18 59 47.6**	**0.0**
CASY	**Casey**	**55.88**	**208**	P	**P**	**18 59 51.0**	**+0.3**
CASY				IAmb	IAmb	18 59 53.3	
	comp=Z,7.9nm,0.9s						
QSPA	**South Pole Qui**	**60.07**	**180**	P	**P**	**19 00 22.7**	**+2.4**
	comp=Z,4.1nm,0.9s,baz=38,slow=1.6,SNR=14						
QSPA	**South Pole Qui**	**60.07**	**180**	P	**P**	**19 00 22.2**	**+1.9**
QSPA				IAmb	IAmb	19 00 24.4	
	comp=Z,7.8nm,1.1s						
SYO	**Syowa Base**	**77.67**	**193**	⇓*e* P	**P**	**19 02 09.4**	**0.0**
MJAR	**Matsushiro Arr**	**78.47**	**325**	P	**P**	**19 02 14.1**	**-0.2**
	comp=Z,2.6nm,0.7s,baz=160,slow=4.6,SNR=9.1						
MJB9	**Matsu-Tunnel**	**78.48**	**325**	P	**P**	**19 02 12.6**	**-1.7**
MJB9				IAmb	IAmb	19 02 40.6	
	comp=Z,16nm,1.6s						
SNAA	**Sanae**	**78.49**	**178**	P	**P**	**19 02 14.7**	**+0.6**
SNAA				IAmb	IAmb	19 03 00.6	
	comp=Z,15nm,1.8s						
PLCA	**Paso Flores**	**82.08**	**133**	P	**P**	**19 02 34.9**	**+0.9**
	comp=Z,2.7nm,0.9s,baz=207,slow=6.7,SNR=4.7						
PLCA	**Paso Flores**	**82.08**	**133**	P	**P**	**19 02 34.5**	**+0.5**
KSRS	**Korea Array**	**84.67**	**319**	P	**P**	**19 02 47.9**	**+0.9**
	comp=Z,2.4nm,0.9s,baz=146,slow=5.6,SNR=9.5						
YSS	**Yuzh-Sakhalins**	**84.83**	**334**	P	**P**	**19 02 47.6**	**+0.1**
PETK	**Petropavlovsk-**	**85.69**	**345**	P	**P**	**19 02 52.1**	**+0.3**

comp=Z,3.2nm,0.8s,baz=136,slow=9.9,SNR=4.6
CMB Columbia Colle 85.89 41 P P 19 02 53.5 +0.3
NVAR Mina Array Bea 87.36 42 P P 19 03 01.3 +0.8
comp=Z,1.1nm,0.6s,baz=218,slow=9.0,SNR=6.2
USRK Ussuriysk Ar. 87.37 326 P P 19 03 01.3 +1.1
comp=Z,6.0nm,0.8s,baz=146,slow=3.7,SNR=16
NV11 Mina Array Sit 87.44 42 P P 19 03 01.1 +0.2
NV11 IAmb IAmb 19 03 02.8
comp=Z,3.5nm,1.1s
TPNV Topopah Spring 87.60 44 P P **19 03 01.9 +0.2**
TPNV IAmb IAmb 19 03 03.9
comp=Z,4.6nm,1.2s
KVN Kaiserville 87.89 42 P P 19 03 01.6 -1.5
KVN IAmb IAmb 19 03 04.8
comp=Z,3.6nm,1.2s
LCMT Little Creek M 89.48 46 P P **19 03 11.1 +0.5**
U15A North Rim 89.72 47 P P **19 03 12.4 +0.6**
U15A IAmb IAmb 19 03 14.7
comp=Z,4.5nm,1.1s
KDAK Kodiak Island 89.85 13 LR LR 19 36 52.7
comp=Z,34nm,20.3s,baz=153,slow=31
MTPU Mount Pierson 90.78 46 P P 19 03 17.8 +0.9
TXAR Lajitas Array 91.43 57 P P **19 03 18.9 -0.9**
comp=Z,0.8nm,1.0s,baz=190,slow=6.4,SNR=3.7
ENH Enshi 92.16 304 P P **19 03 23.2 +0.2**
FIA1 FINESS Array S 145.11 341 PKPbc 19 09 49.0 -0.5
FINES FINESS Array B 145.11 341 PKPbc **PKPbc** 19 09 49.4 -0.2
comp=Z,10nm,0.6s,baz=64,slow=4.4,SNR=40
AKH Akhalkalaki 145.55 300 PKPab 19 09 52.2 +0.1
KBZ Khabaz 145.66 305 PKPbc **PKPab 19 09 52.7 +0.5**
comp=Z,2.9nm,0.8s,baz=291,slow=0.8,SNR=6.1
NC303 NORSAR Array S 148.32 352 PKPbc 19 09 59.0 +0.1
NB2 NORSAR Subarra 148.52 352 PKP **PKPbc 19 09 59.2 -0.3**
comp=Z,5.0nm,1.0s,baz=13,slow=4.3
NOA NORSAR Array B 148.52 352 PKPbc **PKPbc** 19 09 59.2 -0.3
comp=Z,3.2nm,0.9s,baz=14,slow=4.3,SNR=8.8
AKASG Malin Array Be 151.56 324 PKPbc **PKPbc 19 10 07.0 0.0**
comp=Z,4.8nm,0.8s,baz=44,slow=2.8,SNR=10
AKBB Malin Array Si 151.56 324 PKPbc 19 10 07.0 -0.1
BUR08 Bucovina Ar. S 155.51 322 PKPdf 19 10 05.3 -1.5
BUR08 **PKPab 19 10 32.5 -0.2**
CLL Collm 157.49 344 ePKPab **PKPab 19 10 40.0 -0.8**
TORD Torodi Ar. Bea 163.14 175 PKPab PKPab 19 11 06.8 +0.5
comp=Z,1.1nm,0.9s,baz=176,slow=3.3,SNR=2.8
ESDC Sonseca Array 168.79 29 PKPab **PKPab 19 11 30.6 -0.2**
comp=Z,0.8nm,0.9s,baz=313,slow=5.2,SNR=5.1

*NEIC **27** 18:58:43.1±1.0,51.85N±0.08×178.63E±0.06, h105km±5km, Error ellipse: s-maj=10.8km s-min=5.4km az=180.0*
AEIC 27 18:58:43±1.1,**51.80N**±0.07×**178.5E**±0.1,**h106**km±4km, **mb3.7**/4(NEIC),**Error ellipse: s-maj=11.8km s-min=7.8km az=213.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.14**	**0**		Pn	18 58 57.5	-0.4
LSPA	**Little Sitkin**	**0.16**	**14**		Pn	18 58 57.7	-0.2
LSPA					Sn	18 59 09.0	0.0
LSNW	**Little Sitkin**	**0.17**	**1**		Pn	18 58 57.3	-0.5
CETU	**Semis' Tuman**	**0.63**	**75**		Pn	18 59 00.1	-0.3
AMKA	**Amchitka**	**0.65**	**131**		Pn	18 59 00.8	+0.2
AMKA	**Amchitka**	**0.65**	**131**		Sn	18 59 13.4	-0.4
CESW	**Semis' Southwe**	**0.66**	**81**		Pn	18 58 59.9	-0.7
CEAP	**Semis' Anvil P**	**0.69**	**73**		Pn	18 59 00.5	-0.3
CERAA	**Semis' Rag'd T**	**0.73**	**82**		Pn	18 59 00.7	-0.5
TASE	**Tanaga Southea**	**2.14**	**88**		Pn	18 59 17.1	-0.6
TAFP	**Tanaga Falls P**	**2.18**	**86**		Pn	18 59 17.3	-0.8
KIMD	**Kanaga Island**	**2.64**	**89**		Pn	18 59 23.4	-0.7
KIWB	**Kanaga Island**	**2.69**	**87**	Pn	Pn	18 59 23.5	-1.2
SMY	**Shemya**	**2.87**	**295**	Pn	Pn	18 59 28.3	+1.3
ADK	**Adak**	**2.98**	**87**	Pn	Pn	18 59 27.4	-1.1
GSTR	**Great Sitkin T**	**3.37**	**83**	Pn	Pn	18 59 33.0	-0.9
CNBA	**Chernabura Isl**	**13.42**	**68**	Pn	Pn	19 01 51.3	+2.4
KDAK	**Kodiak Island**	**17.62**	**59**	P	P	19 02 37.5	-3.4
KDAK					IAmb IAmb	19 02 42.4	
	comp=Z,4.2nm,1.1s						
CNPM	**China Poot**	**18.60**	**54**	P	P	19 02 50.1	-1.5
RIDG	**Independent Ri**	**22.53**	**44**	P	P	19 03 32.9	-0.9
TOLK	**Toolik Lake Re**	**22.71**	**30**	P	P	19 03 34.5	-1.0
TOLK					IAmb IAmb	19 03 36.1	
	comp=Z,2.5nm,0.5s						

*IDC **27** 19:10:07.9±1.0, 15°.21N×122°.46E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.6/35, mbtmp3.8/7, Error ellipse: s-maj=20.6km s-min=15.6km az=119.0*
*MAN **27** 19:10:11.1, 15°.20N×122°.16E, h6km, mb4.9, ML3.8, MS3.8*
*NEIC **27** 19:10:13.4±0.7, 15°.15N±0°.08×122°.5E±0°.1, h40km±10km, mb4.3/9, Error ellipse: s-maj=20.0km s-min=6.0km az=121.0*
ISC 27 19:10:09.8±1.3,**15°.21N**±0°.03×**122°.33E**±0°.06,**h13**km±8km, **n32**,σ1°**45**/45,**mb3.9**/12,**1C-3D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POLP	**Polilio Island**	**0.61**	**218**	*eP*	**Pg**	**19 10 21.5**	**-0.3**
POLP				*eS*	**Sg**	**19 10 29.9**	**0.0**
BALP	**Baler**	**0.90**	**306**	*eP*	**Pg**	**19 10 26.5**	**-0.6**
BALP				*eS*	**Sg**	**19 10 39.8**	**+0.9**
GQP	**Guinayangan**	**1.30**	**175**↑	*eP*	**Pg**	**19 10 34.4**	**-0.6**
GQP				*i* S	**Sn**	**19 10 52.3**	**+1.2**
LQP	**Lukban**	**1.33**	**215**↓	*eP*	**Pn**	**19 10 34.9**	**+0.5**
LQP				*i* S	**Sb**	**19 10 51.4**	**-0.6**
TGY	**Tagaytay City**	**1.74**	**231**	Pg	**Pb**	**19 10 42.3**	**+0.5**
	baz=36,slow=3.2						
TGY				Lg	Lg	19 11 05.3	
	222nm,0.3s,baz=54,slow=23,SNR=1.6						
TGY	**Tagaytay City**	**1.74**	**231**↓	*eP*	**Pb**	**19 10 42.6**	**+0.9**
TGY				*eS*	**Sn**	**19 10 58.0**	**-4.1**
CAUP	**Cauayan**	**1.79**	**344**	*eP*	**Pb**	**19 10 40.9**	**-1.6**
CAUP				*eS*	**Sb**	**19 11 04.9**	**0.0**
BOAC	**Boac**	**1.81**	**195**	*eP*	**Pb**	**19 10 42.4**	**-0.4**
BOAC				*eS*	**Sg**	**19 11 08.6**	**+0.6**
SMPP	**San Manuel, Pa**	**1.84**	**301**	*eP*	**Pn**	**19 10 41.0**	**-0.3**
SMPP				*eS*	**Sn**	**19 11 04.5**	**0.0**
PGP	**Puerto Galera**	**2.16**	**218**↓	*eP*	**Pn**	**19 10 47.4**	**+1.7**
PGP				*eS*	**Sn**	**19 11 15.1**	**+2.8**
LUBP	**Lubang**	**2.50**	**234**	*eP*	**Pn**	**19 10 50.5**	**+0.3**
LUBP				*eS*	**Sn**	**19 11 16.8**	**-3.7**
BOLP	**Bolinao**	**2.60**	**297**	*eP*	**Pn**	**19 10 51.2**	**-0.5**
BOLP				*eS*	**Sn**	**19 11 24.1**	**+1.0**
APYP	**Conner**	**2.83**	**339**	*eP*	**Pn**	**19 10 54.6**	**-0.3**
APYP				*eS*	**Sn**	**19 11 27.3**	**-1.5**
OTRP	**Odiongan**	**2.85**	**186**	*eP*	**Pn**	**19 10 57.3**	**+2.2**
OTRP				*eS*	**Sb**	**19 11 33.0**	**-2.4**
YOJ	**Yonaguni jima**	**9.22**	**4**	Pn	**Pn**	**19 12 24.8**	**+2.1**
CMAR	**Chiang Mai Arr**	**22.61**	**281**	P	**P**	**19 15 12.8**	**+2.2**
	1.0nm,0.3s,baz=96,slow=8.3,SNR=5.1						
KNRA	**Kununurra**	**31.34**	**168**	P	**P**	**19 16 28.3**	**-2.0**
WB0	**Warramunga Arr**	**36.73**	**161**	P	**P**	**19 17 16.0**	**-1.1**
WRAB	**Tennant Creek**	**36.87**	**161**	P	**P**	**19 17 17.3**	**-1.0**
WRA	**Warramunga Arr**	**36.88**	**161**	P	**P**	**19 17 17.1**	**-1.2**
	1.3nm,0.8s,baz=346,slow=9.2,SNR=4.0						
WB2	**Warramunga Arr**	**36.88**	**161**	P	**P**	**19 17 18.0**	**-0.4**
WB2				IAmb	IAmb	19 17 26.9	
	comp=Z,9.3nm,1.5s						
WR0	**Warramunga Arr**	**36.96**	**161**	P	**P**	**19 17 18.3**	**-0.7**
WR0				IAmb	IAmb	19 17 20.2	
	comp=Z,9.8nm,1.6s						
AS31	**Alice Springs**	**40.26**	**163**	P	**P**	**19 17 46.3**	**-0.5**
ASAR	**Alice Springs**	**40.26**	**163**	P	**P**	**19 17 47.1**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=343,slow=7.2,SNR=20						
MK31	**Makanchi Array**	**45.79**	**322**	P	**P**	**19 18 32.6**	**+1.3**
MK31				IAmb	IAmb	19 18 33.7	
	comp=Z,3.6nm,1.6s						
MKAR	**Makanchi Array**	**45.79**	**322**	P	**P**	**19 18 32.0**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=121,slow=8.4,SNR=12						
MAKZ	**Makanchi**	**45.98**	**322**	P	**P**	**19 18 33.9**	**+1.1**
MAKZ				IAmb	IAmb	19 18 34.4	
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**48.47**	**331**	P	**P**	**19 18 52.7**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=129,slow=7.5,SNR=5.7						
KURK	**Kurchatov**	**49.84**	**325**	P	**P**	**19 19 03.4**	**+0.8**
KURK				IAmb	IAmb	19 19 04.6	
	comp=Z,4.3nm,0.8s						
KBL	**Kabul**	**51.42**	**302**		**PcP**	**19 20 28.9**	**-0.7**
FINES	**FINESS Array B**	**79.74**	**331**	P	**P**	**19 22 17.6**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=92,slow=5.7,SNR=5.7						
NOA	**NORSAR Array B**	**86.64**	**333**	P	**P**	**19 22 53.2**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=63,slow=5.0,SNR=3.6						

*NEIC **27** 19:22:45.1±1.5,51°.8N±0°.1×178°.49E±0°.08, h99km±6km, Error ellipse: s-maj=17.6km s-min=6.7km az=177.0*
*AEIC **27** 19:22:45±2.0,51°.7N±0°.2×178°.47E±0°.08, h96km±4km, mb4.0/34(NEIC), Error ellipse: s-maj=22.9km s-min=7.2km az=183.0*
*IDC **27** 19:22:49.5±5.8,51°.90N×178°.56E, h139km±54km, mb3.3/10, mb1 3.5/12, mb1mx3.2/46, mbtmp3.7/12, Error ellipse: s-maj=49.5km s-min=12.9km az=174.0*
ISC 27 19:22:45.1±0.8,**51.8N**±0°.1×**178.50E**±0°.04,**h100**km±6km, **n71**,σ1°**18**/74,**mb3.8**/21,**Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.12**	**4**		**Pn**	**19 22 59.4**	**+0.3**
LSPA	**Little Sitkin**	**0.13**	**20**		**Pn**	**19 22 59.2**	**+0.1**
LSPA					**Sn**	**19 23 09.9**	**+0.4**
LSNW	**Little Sitkin**	**0.14**	**4**		**Pn**	**19 22 59.2**	**0.0**
CETU	**Semis' Tuman**	**0.63**	**77**		**Pn**	**19 23 02.2**	**+0.3**
CESW	**Semis' Southwe**	**0.66**	**84**		**Pn**	**19 23 02.1**	**-0.1**
AMKA	**Amchitka**	**0.68**	**132**		**Pn**	**19 23 03.1**	**+0.8**
CEAP	**Semis' Anvil P**	**0.69**	**75**		**Pn**	**19 23 02.8**	**+0.4**
CERAA	**Semis' Rag'd T**	**0.74**	**84**		**Pn**	**19 23 03.0**	**+0.1**
GAEA	**Gareloi East**	**1.71**	**91**		**Pn**	**19 23 14.2**	**+0.2**
TASE	**Tanaga Southea**	**2.15**	**89**		**Pn**	**19 23 19.8**	**+0.1**
TAFP	**Tanaga Falls P**	**2.18**	**87**		**Pn**	**19 23 20.0**	**0.0**
TAFP					**Sn**	**19 23 46.4**	**-0.3**
TAPA	**Tanaga Point A**	**2.29**	**89**		**Pn**	**19 23 21.5**	**0.0**
KIMD	**Kanaga Island**	**2.65**	**90**		**Pn**	**19 23 26.1**	**0.0**
KICM	**Kanaga Island**	**2.67**	**86**		**Pn**	**19 23 26.7**	**+0.3**
KIKV	**Kanaga Island**	**2.69**	**87**		**Pn**	**19 23 26.5**	**-0.1**
KIWB	**Kanaga Island**	**2.70**	**88**	Pn	**Pn**	**19 23 25.1**	**-1.6**
SMY	**Shemya**	**2.85**	**290**	Pn	**Pn**	**19 23 28.4**	**-0.3**
SMY				Sn	**Sn**	**19 24 01.2**	**-1.2**
ADK	**Adak**	**2.99**	**87**	Pn	**Pn**	**19 23 30.4**	**-0.1**
ADK				Sn	**Sn**	**19 24 04.9**	**-0.7**
GSTD	**Great Sitkin T**	**3.32**	**84**		**Pn**	**19 23 35.3**	**+0.1**
GSMY	**Great Sitkin M**	**3.38**	**84**		**Pn**	**19 23 35.8**	**0.0**
GSTR	**Great Sitkin T**	**3.38**	**83**		**Pn**	**19 23 35.9**	**0.0**
ATKA	**Atka Island**	**4.53**	**82**	Pn	**Pn**	**19 23 51.6**	**+0.3**
NIKH	**Nikolski High**	**7.82**	**77**	Pn	**Pn**	**19 24 36.7**	**+0.7**
PETK	**Petropavlovsk-**	**12.74**	**284**	P	**P**	**19 25 46.2**	**-3.4**
	0.1nm,0.3s,baz=102,slow=18,SNR=1.6						
SDPT	**Sand Point**	**12.96**	**66**	Pn	**Pn**	**19 25 45.5**	**+0.3**
SVW2	**Sparrevohn**	**16.95**	**47**		**P**	**19 26 38.2**	**+2.1**
OHAK	**Old Harbor**	**17.16**	**61**	Pn	**Pn**	**19 26 36.1**	**-2.2**
BILL	**Bilibino**	**17.31**	**344**	P	**Pn**	**19 26 41.0**	**+0.9**
BILL				IAmb	IAmb	19 26 44.0	
	comp=Z,12nm,1.6s						
MA2	**Magadan**	**17.34**	**307**	P	**P**	**19 26 40.2**	**-0.2**
MA2				IAmb	IAmb	19 26 58.3	
	comp=Z,19nm,1.3s						
KDAK	**Kodiak Island**	**17.61**	**59**	P	**P**	**19 26 42.8**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=251,slow=3.0,SNR=9.6						
KDAK	**Kodiak Island**	**17.61**	**59**	P	**P**	**19 26 41.5**	**-1.8**
KDAK				IAmb	IAmb	19 27 02.0	
	comp=Z,21nm,1.4s						
RSO	**Redoubt South**	**18.06**	**50**	P	**P**	**19 26 44.0**	**-4.6**
CNPM	**China Poot**	**18.58**	**54**	P	**P**	**19 26 54.0**	**-0.1**
SKT	**Skwentna**	**19.07**	**46**	P	**Pn**	**19 27 01.7**	**+0.5**
SUA	**Susitna One**	**19.28**	**48**	P	**P**	**19 27 24.5**	**+0.7**
SUA				IAmb	IAmb	19 27 24.4	
	comp=Z,11nm,1.1s						
BPAW	**Bear Paw Mtn.**	**20.07**	**41**	P	Pn	19 27 13.5	+0.7
GHO	**Glory Hole Cre**	**20.20**	**48**	P	**P**	**19 27 12.4**	**+0.8**
GHO				IAmb	IAmb	19 27 32.2	
	comp=Z,13nm,1.4s						
RND	**Reindeer**	**20.70**	**43**	P	**P**	**19 27 15.7**	**-1.4**
GLI	**Glacier Island**	**20.87**	**51**	P	**P**	**19 27 17.9**	**-0.8**
SCM	**Sheep Creek Mo**	**20.95**	**48**	P	**P**	**19 27 20.2**	**+0.5**
SCM				IAmb	IAmb	19 27 54.8	
	comp=Z,14nm,1.4s						
MID	**Middleton Isla**	**21.04**	**55**	P	**P**	**19 27 22.1**	**+1.5**
FID	**Port Fidalgo**	**21.14**	**51**	P	**P**	**19 27 19.6**	**-2.2**
FID				IAmb	IAmb	19 27 31.9	
	comp=Z,15nm,1.3s						
DHY	**Denali Highway**	**21.24**	**45**	P	**P**	**19 27 21.6**	**-1.3**
DHY				IAmb	IAmb	19 27 25.7	
	comp=Z,7.5nm,1.4s						
CCB	**Clear Creek Bu**	**21.55**	**41**	P	**P**	**19 27 26.2**	**+0.2**
HDA	**Harding Lake**	**21.82**	**41**	P	**P**	**19 27 30.0**	**+1.1**
ILAR	**Eielson Array**	**21.97**	**41**	P	**P**	**19 27 31.9**	**+1.4**
	comp=Z,0.5nm,0.6s,baz=232,slow=9.0,SNR=5.6						
RAGM	**Ragged Mountai**	**21.98**	**53**	P	**P**	**19 27 30.9**	**+0.2**
PAX	**Paxson**	**22.05**	**46**	P	**P**	**19 27 32.6**	**+1.1**
RIDG	**Independent Ri**	**22.51**	**44**	P	**P**	**19 27 36.1**	**-0.1**
RIDG				IAmb	IAmb	19 28 01.6	
	comp=Z,8.1nm,1.6s						
GLB	**Gilahina Butte**	**22.53**	**50**	P	**P**	**19 27 36.0**	**-0.4**
GLB				IAmb	IAmb	19 27 52.2	
	comp=Z,11nm,1.6s						
VRDI	**Verde Repeater**	**22.67**	**51**	P	**P**	**19 27 38.2**	**+0.1**
VRDI				IAmb	IAmb	19 27 56.3	
	comp=Z,10.0nm,1.4s						
CRQM	**Cirque**	**22.77**	**52**	P	**P**	**19 27 37.2**	**-1.8**
ISLE	**Juniper Island**	**23.15**	**52**	P	**P**	**19 27 42.2**	**-0.4**
ISLE				IAmb	IAmb	19 27 50.5	
	comp=Z,14nm,1.4s						
YAH	**Yahtse**	**23.43**	**53**	P	**P**	**19 27 43.9**	**-1.4**
BARN	**Barnard Glacie**	**23.52**	**51**	P	**P**	**19 27 45.7**	**-0.3**
BARN				IAmb	IAmb	19 27 48.0	
	comp=Z,3.2nm,0.6s						
CTGM	**Chitina Glacie**	**23.67**	**52**	P	**P**	**19 27 47.3**	**-0.1**
CTGM				IAmb	IAmb	19 28 05.5	
	comp=Z,6.0nm,1.1s						
DAWY	**Dawson**	**24.94**	**44**	P	**P**	**19 27 59.7**	**+1.0**
DAWY				IAmb	IAmb	19 28 25.7	
	comp=Z,5.7nm,1.4s						
ASAJ	**Asahikawa**	**25.04**	**266**	P	**P**	**19 28 01.2**	**+1.5**
	comp=Z,4.0nm,0.9s,baz=76,slow=12,SNR=2.5						
HYT	**Haines Junctio**	**25.53**	**52**	P	**P**	**19 28 07.6**	**+3.4**
KLR	**Kul'dur**	**29.44**	**284**	P	**P**	**19 28 39.0**	**0.0**
	comp=Z,1.5nm,0.6s,baz=64,slow=6.9,SNR=6.1						
YKA	**Yellowknife Ar**	**36.14**	**46**	P	**P**	**19 29 37.8**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=279,slow=8.1,SNR=3.9						
BOZ	**Bozeman (W)**	**44.90**	**69**	P	**P**	**19 30 48.9**	**-0.8**
BOZ				IAmb	IAmb	19 30 49.3	
	comp=Z,1.3nm,0.7s						
SONM	**Songino Array**	**44.93**	**295**	P	**P**	**19 30 50.7**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=68,slow=7.2,SNR=5.7						
NVAR	**Mina Array Bea**	**45.16**	**81**	P	**P**	**19 30 52.8**	**+1.0**
	comp=Z,0.6nm,0.6s,baz=309,slow=8.0,SNR=2.7						
ELK	**Elko**	**45.60**	**77**	P	**P**	**19 30 55.4**	**+0.1**
ELK				IAmb	IAmb	19 30 56.8	
	comp=Z,2.9nm,1.4s						
PDAR	**Pinedale Array**	**47.76**	**71**	P	**P**	**19 31 10.3**	**-1.8**
	comp=Z,0.4nm,0.5s,baz=305,slow=5.2,SNR=4.4						
PSUT	**Pine Spring**	**47.81**	**78**	P	**P**	**19 31 12.6**	**0.0**
KURK	**Kurchatov**	**57.48**	**312**	P	**P**	**19 32 23.9**	**+0.6**
MKAR	**Makanchi Array**	**58.42**	**307**	P	**P**	**19 32 29.6**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=50,slow=6.3,SNR=7.5						
TXAR	**Lajitas Array**	**60.24**	**80**	P	**P**	**19 32 42.9**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=296,slow=3.7,SNR=6.0						
CMAR	**Chiang Mai Arr**	**69.30**	**274**	P	**P**	**19 33 42.6**	**+1.0**
	comp=Z,0.4nm,0.4s,baz=34,slow=6.2,SNR=1.6						

*NEIC **27** 19:23:25.7±2.6, 7°.89S±0°.05×107°.27E±0°.06, h64km±7km, mb4.4/10, Error ellipse: s-maj=8.4km s-min=7.1km az=117.0*
*DJA **27** 19:23:25.7±0.5, 8°S±4°×107°E±°, h24km±3km, M4.5/17, mb4.7/5, MLv4.3/17*
*IDC **27** 19:23:29.4±2.7, 7°.52S×107°.55E, h96km±21km, mb3.5/6, mb1 3.6/6, mb1mx3.2/39, mbtmp3.9/6, Error ellipse: s-maj=82.2km s-min=16.0km az=40.0*
ISC 27 19:23:24.8±0.9,**7°.89S**±0°.05×**107°.28E**±0°.04,**h55**km±9km, **n51**,σ1°**41**/54,**mb4.4**/10,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.60**	**346**	P	**Pn**	**19 23 37.9**	**+0.3**
CNJI				S	**Sn**	**19 23 44.7**	**-2.1**
CISI	**Cisompet, Garu**	**0.63**	**58**	P	**Pn**	**19 23 37.6**	**-0.4**
CISI				S	**Sn**	**19 23 46.3**	**-1.2**
CISI	**Cisompet, Garu**	**0.63**	**58**	Pn	**Pn**	**19 23 38.6**	**+0.6**
CISI					**Sn**	**19 23 46.5**	**-1.0**
CISI				Sn	Sn	19 23 47.1	-0.4
LEM	**Lembang**	**1.11**	**18**	P	**Pn**	**19 23 45.3**	**+0.9**
	294nm,0.3s,baz=131,slow=4.0,SNR=146						
LEM				S	**Sn**	**19 24 01.1**	**+2.3**
	203nm,0.3s,baz=126,slow=21,SNR=7.8						
LEM	**Lembang**	**1.11**	**18**	P	**Pn**	**19 23 44.5**	**+0.2**
LEM				S	**Sn**	**19 23 58.7**	**0.0**
SKJI	**Sukabumi**	**1.13**	**321**	P	**Pn**	**19 23 45.6**	**+1.1**
SKJI				S	**Sn**	**19 23 59.8**	**+0.7**
DBJI	**Dramaga**	**1.43**	**338**	P	**Pn**	**19 23 49.4**	**+0.9**
DBJI				S	**Sn**	**19 24 07.0**	**+0.8**
XMIS	**Christmas Isla**	**3.03**	**212**		**Pn**	**19 24 11.0**	**+0.6**
XMIS				Sn	**Sn**	**19 24 44.0**	**-1.6**
UGM	**Wanagama**	**3.21**	**91**	P	**Pn**	**19 24 13.8**	**+0.9**
UGM	**Wanagama**	**3.21**	**91**	Pn	**Pn**	**19 24 14.5**	**+1.6**
BLSI	**Bandar Lampung**	**3.22**	**321**	P	**Pn**	**19 24 13.3**	**+0.6**
SMRI	**Semarang**	**3.25**	**75**	P	**Pn**	**19 24 14.3**	**+1.0**
SMRI	**Semarang**	**3.25**	**75**	Pn	**Pn**	**19 24 13.6**	**+0.2**
WOJI	**Wonogiri, Jawa**	**3.61**	**89**	P	**Pn**	**19 24 19.7**	**+1.4**
KASI	**Kota Agung**	**3.63**	**310**	P	**Pn**	**19 24 20.2**	**+1.7**
NGJI	**Ngawi**	**4.18**	**83**	P	**Pn**	**19 24 27.1**	**+1.0**
LWLI	**Liwa**	**4.29**	**312**	P	**Pn**	**19 24 28.7**	**+1.0**
MDSI	**Maura Dua**	**4.58**	**317**	P	**Pn**	**19 24 32.9**	**+1.4**
GRJI	**Gresik**	**5.25**	**80**	P	**Pn**	**19 24 41.8**	**+1.0**
	0.2nm50nm,1.2s						
MNAI	**Manna**	**5.55**	**309**	P	**Pn**	**19 24 46.9**	**+2.0**
	2.0nm306nm,1.4s						
MNAI	**Manna**	**5.55**	**309**	Pn	**Pn**	**19 24 46.9**	**+2.0**
PPBI	**Pangkal Pinang**	**5.80**	**349**	P	**Pn**	**19 24 49.1**	**+0.7**
	0.1nm22nm,1.5s						
JAGI	**Jajag, Banyuwa**	**6.83**	**95**	Pn	**Pn**	**19 25 04.8**	**+2.4**
SDSI	**Sungai Dareh**	**9.04**	**320**	P	**Pn**	**19 25 34.2**	**+1.4**
KSM	**Kuching**	**9.78**	**18**	Pn	**Pn**	**19 25 40.5**	**-2.4**
GSI	**Gunungsitoli**	**13.31**	**313**	Pn	Pn	19 26 25.0	-6.1
MMRI	**Maumere**	**14.82**	**94**	P	**P**	**19 26 56.4**	**+0.4**
GIRL	**Giralia**	**16.12**	**156**	Pn	**Pn**	**19 27 08.8**	**+0.9**
SOEI	**Soe**	**16.89**	**98**	P	**P**	**19 27 20.0**	**+0.9**
FITZ	**Fitzroy Crossi**	**20.55**	**121**	P	**P**	**19 27 59.8**	**+0.8**
	2.1nm,0.8s,baz=275,slow=11,SNR=3.6						
FITZ				S	**S**	**19 31 42.3**	**-3.7**
	0.5nm,0.4s,baz=84,slow=23,SNR=1.1						
FITZ	**Fitzroy Crossi**	**20.55**	**121**	P	**P**	**19 27 57.4**	**-1.6**
KNRA	**Kununurra**	**22.39**	**112**	P	**P**	**19 28 19.2**	**+0.4**
KNRA				IAmb	IAmb	19 28 56.3	
	comp=Z,21nm,1.4s						
MTN	**Manton Dam**	**23.97**	**104**	P	**P**	**19 28 33.9**	**-0.5**
H01W3	**Cape Leeuwin H**	**27.59**	**168**	T	T	19 58 46.3	
	baz=347,slow=76,SNR=25						
H01W1	**Cape Leeuwin H**	**27.61**	**168**	T	T	19 58 50.5	
	baz=347,slow=76,SNR=21						
H01W2	**Cape Leeuwin H**	**27.61**	**168**	T	T	19 58 48.8	
	baz=347,slow=76,SNR=33						
WB0	**Warramunga Arr**	**28.80**	**117**	P	**P**	**19 29 16.6**	**-1.3**
WB0				IAmb	IAmb	19 29 51.3	
	comp=Z,16nm,1.6s						
WRA	**Warramunga Arr**	**28.81**	**117**	P	**P**	**19 29 19.1**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=293,slow=12,SNR=1.2						
WRA				PcP	**PcP**	**19 32 27.0**	**+0.1**
	comp=Z,1.4nm,0.3s,baz=315,slow=2.1,SNR=3.7						
WRAB	**Tennant Creek**	**28.82**	**117**	P	**P**	**19 29 17.4**	**-0.7**
WRAB				IAmb	IAmb	19 29 39.5	
	comp=Z,18nm,1.6s						
WB2	**Warramunga Arr**	**28.82**	**117**	P	**P**	**19 29 18.4**	**+0.2**
WB2				IAmb	IAmb	19 29 48.2	
	comp=Z,16nm,1.6s						
WR0	**Warramunga Arr**	**29.00**	**117**	P	**P**	**19 29 20.1**	**+0.5**
WR0				IAmb	IAmb	19 29 29.2	
	comp=Z,14nm,1.4s						
ASAR	**Alice Springs**	**29.95**	**125**	P	**P**	**19 29 29.6**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=304,slow=8.7,SNR=6.8						
ASAR				PcP	**PcP**	**19 32 30.2**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=306,slow=2.6,SNR=1.7						
H08S2	**Diego Garcia H**	**34.46**	**268**	T	T	20 07 05.0	
	baz=92,slow=76,SNR=42						
H08S3	**Diego Garcia H**	**34.47**	**268**	T	T	20 07 04.4	

TWF1	**Yuli** baz=358	**1.19**	**357**	*e*P		**Pg**	**19 25 21.9**	**-2.2**
YULB	**Yu-li** baz=358	**1.23**	**358**	*e*P		**Pg**	**19 25 22.3**	**-2.6**
CHN1	**Nanshi** baz=326	**1.28**	**323**	*e*P		**Pn**	**19 25 25.2**	**+1.1**
WTP	**Ta-pu** baz=331	**1.28**	**328**	*e*P		**Pn**	**19 25 25.2**	**+1.1**
TPUB	**Ta-pu** baz=332	**1.32**	**330**	*e*P		**Pn**	**19 25 25.8**	**+1.1**
SNST	**Tainan City** baz=326	**1.32**	**323**	*e*P		**Pg**	**19 25 26.4**	**-0.2**
HGSD	**Ruisui** baz=3.0	**1.33**	**3**	*e*P		**Pn**	**19 25 25.2**	**+0.4**
EHY	**Hungye** baz=359	**1.34**	**359**	*e*P		**Pn**	**19 25 23.9**	**-1.1**
TWK	**Hsinying** baz=327	**1.37**	**324**	*e*P		**Pn**	**19 25 26.6**	**+1.3**
ALS	**Alishan** baz=341	**1.44**	**340**	*e*P		**Pn**	**19 25 27.2**	**+0.6**
EGFH	**Guangfu** baz=2.0	**1.51**	**3**	*e*P		**Pn**	**19 25 26.8**	**-0.4**
CHN5	**Tsauling** baz=338	**1.56**	**337**	*e*P		**Pn**	**19 25 29.5**	**+1.4**
CHY	**Chiayi** baz=330	**1.59**	**327**	*e*P		**Pn**	**19 25 29.5**	**+1.2**
WHYT	**Xinyi Township** baz=344	**1.60**	**343**	*e*P		**Pb**	**19 25 30.1**	**-0.1**
VWDT	**VWDT** baz=354	**1.60**	**353**	*e*P		**Pn**	**19 25 28.8**	**+0.3**
WLGB	**Puzi** baz=326	**1.64**	**324**	*e*P		**Pn**	**19 25 29.2**	**+0.2**
ESL	**Shilin** baz=3.0	**1.65**	**2**	*e*P		**Pn**	**19 25 29.6**	**+0.4**
SSLB	**Suanglung** baz=348	**1.67**	**347**	*e*P		**Pn**	**19 25 30.4**	**+1.0**
WDLH	**Douliu** baz=335	**1.70**	**334**	*e*P		**Pn**	**19 25 30.4**	**+0.5**
SMLT	**Sun Moon Lake** baz=347	**1.77**	**346**	*e*P		**Pb**	**19 25 32.5**	**-0.5**
TYC	**Yuchr** baz=346	**1.80**	**345**	*e*P		**Pb**	**19 25 33.1**	**-0.4**
WSF	**Szhu** baz=327	**1.81**	**325**	*e*P		**Pn**	**19 25 31.6**	**+0.2**
WNT	**Mingjian** baz=342	**1.82**	**340**	*e*P		**Pb**	**19 25 34.0**	**0.0**
CHGB	**Renai** baz=355	**1.90**	**355**	*e*P		**Pn**	**19 25 33.5**	**+0.6**
DPDB	**Guoxing** baz=349	**1.91**	**348**	*e*P		**Pn**	**19 25 34.6**	**+1.8**
WDGT	**Dungji** baz=308	**1.91**	**305**	P		**Pn**	**19 25 31.9**	**-0.8**
WDGT	baz=308			*e*S		**Sn**	**19 25 55.0**	**-1.4**
TWD	**Chiawan** baz=6.0	**1.93**	**7**	*e*P		**Pn**	**19 25 34.0**	**+1.0**
WHF	**Hehuan Shan** baz=358	**1.98**	**358**	*e*P		**Pn**	**19 25 34.9**	**+0.8**
NACB	**Ninganchiao** baz=6.0	**2.02**	**6**	*e*P		**Pn**	**19 25 34.8**	**+0.5**
NACB	baz=6.0			*e*S		**Sn**	**19 25 59.4**	**+0.3**
ETLH	**Xiulin Townshi** baz=3.0	**2.05**	**3**	*e*P		**Pn**	**19 25 35.0**	**+0.3**
VCHM	**Qimei** baz=303	**2.06**	**301**	*e*P		**Pn**	**19 25 34.2**	**-0.6**
TWT	**Tachien** baz=355	**2.10**	**356**	*e*P		**Pn**	**19 25 35.7**	**+0.3**
TDCB	**Techi** baz=355	**2.10**	**355**	*e*P		**Pn**	**19 25 36.8**	**+1.4**
PHUB	**P'eng-hu** baz=312	**2.13**	**310**	*e*P		**Pn**	**19 25 34.8**	**-1.0**
WHP	**Taichung City** baz=350	**2.15**	**350**	*e*P		**Pn**	**19 25 38.1**	**+2.0**
PNG	**Penghu** baz=312	**2.17**	**311**	*e*P		**Pn**	**19 25 35.6**	**-0.8**
NNSB	**Datong** baz=1.0	**2.26**	**1**	*e*P		**Pn**	**19 25 38.5**	**+0.8**
NNSH	**Datong** baz=1.0	**2.26**	**1**	*e*P		**Pn**	**19 25 38.9**	**+1.2**
NNS	**Nan Shan** baz=1.0	**2.27**	**0**	*e*P		**Pn**	**19 25 40.0**	**+2.2**
ENA	**Nanau** baz=9.0	**2.29**	**9**	*e*P		**Pn**	**19 25 39.2**	**+1.2**
NDT	**Datong Townshi** baz=3.0	**2.44**	**3**	*e*P		**Pn**	**19 25 41.5**	**+1.5**
ENTT	**Nioudou** baz=4.0	**2.48**	**4**	*e*P		**Pn**	**19 25 41.2**	**+0.6**
LIOB	**Emei** baz=353	**2.50**	**353**	*e*P		**Pn**	**19 25 42.9**	**+2.0**
YHNB	**Yeheng**	**2.50**	**0**	*e*P		**Pn**	**19 25 42.2**	**+1.3**
NSK	**Sanguang**	**2.51**	**0**	*e*P		**Pn**	**19 25 42.1**	**+1.1**
TWE	**Neicheng** baz=6.0	**2.57**	**6**	*e*P		**Pn**	**19 25 42.0**	**+0.2**
NWLT	**Wulai** baz=3.0	**2.61**	**3**	*e*P		**Pn**	**19 25 44.0**	**+1.5**
JYNG	**Yonagunijimaku**	**2.71**	**32**	P		**Pn**	**19 25 44.3**	**+0.5**
YOJ	**Yonaguni jima**	**2.75**	**33**	P		**Pn**	**19 25 45.2**	**+0.9**
TIPB	**Shuangxi** baz=8.0	**2.84**	**9**	*e*P		**Pn**	**19 25 47.1**	**+1.6**
HATJ	**Hateruma jima**	**2.94**	**50**	P		**Pn**	**19 25 46.8**	**-0.2**
HATJ				*e*S		**Sn**	**19 26 20.9**	**-1.0**
IRIF	**Iriomote-Funau**	**3.08**	**45**	P		**Pn**	**19 25 49.3**	**+0.5**
IRIF				*e*S		**Sn**	**19 26 23.9**	**-1.3**
JKRS	**Kuro-shima**	**3.20**	**49**	P		**Pn**	**19 25 51.0**	**+0.5**
JKRS				*e*S		**Sn**	**19 26 27.6**	**-0.6**
VWUC	**VWUC** baz=329	**3.32**	**329**	*e*P		**Pn**	**19 25 52.0**	**-0.1**
VWUC	baz=329			*e*S		**Sn**	**19 26 30.9**	**-0.2**
JIJ	**Ishigaki jima**	**3.38**	**49**	P		**Pn**	**19 25 53.3**	**+0.4**
JIJ				S		**Sn**	**19 26 31.4**	**-1.1**
PTMZ	**Houxiangcun** baz=325	**3.53**	**325**	*e*P		**Pn**	**19 25 55.5**	**+0.5**
JISG	**Ishigakijimahi**	**3.64**	**48**	P		**Pn**	**19 25 56.2**	**-0.3**
JISG				*e*S		**Sn**	**19 26 38.2**	**-0.8**
JTJ	**Tarama**	**3.95**	**51**	P		**Pn**	**19 26 00.9**	**+0.2**
JTJ				S		**Sn**	**19 26 46.2**	**-0.4**
JIRB	**Irabujima**	**4.40**	**52**	*e*S		**Sn**	**19 26 57.2**	**-0.6**

IDC 27 19:42:06.1±440.0, 57.˝58N×28.˝01E, h0km, Error ellipse: s-maj=142.3km s-min=108.9km az=96.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON** baz=281,slow=324,SNR=3.1	**5.09**	**96**	*i*		20 15 40.0	
I26DE	**FREYUNG INFRAS** baz=40,slow=323,SNR=1.5	**12.21**	**230**	*i*		21 02 40.0	
I37NO	**I37NO** baz=154,slow=331,SNR=1.2	**12.26**	**344**	*i*		20 51 40.0	
I48TN	**KESRA INFRASON** baz=22,slow=330,SNR=1.2	**25.11**	**218**	*i*		22 26 10.0	

*IDC **27** 20:07:17.3±1.0,21.˝88N×120.˝82E,h0km,mb3.7/8, mb1 3.9/9,mb1mx3.6/45,mbtmp3.7/9,ML3.6/1,MS3.4/10, Ms1 3.5/10,ms1mx3.1/46,Error ellipse: s-maj=36.5km s-min=19.5km az=68.0*

*JMA **27** 20:07:18.9±0.2,21.˝70N×120.˝48E,h55km±4km,M3.9*

*TAP **27** 20:07:20.7,21.˝80N×120.˝60E,h45km,ML4.1,C*

ISC 27 20:07:21.5±1.0,21.˝75N±0.˝05×120.˝50E±0.˝03,h35km±3km, n139,σ1§12/189,mb3.7/7,MS3.7/9,20C,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HEN	**Hengchun** baz=44	**0.34**	**41**	⇑*iP*		**Pb**	**20 07 29.3**	**-0.6**
HEN	baz=44			*e*S		**Sn**	**20 07 35.3**	**0.0**
TWK1	**Hengchun** baz=50	**0.34**	**56**	⇑*iP*		**Pb**	**20 07 29.1**	**-0.8**
TWK1	baz=50			*e*S		**Sn**	**20 07 35.2**	**-0.3**
TWKBT	**Hengchun** baz=50	**0.35**	**57**	⇑*iP*		**Pb**	**20 07 29.1**	**-0.9**
TWKBT	baz=50			S		**Sn**	**20 07 35.2**	**-0.4**
TSEB	**Hengchuen, Pin** baz=68	**0.40**	**68**	⇑*iP*		**Pb**	**20 07 29.6**	**-1.1**
TSEB	baz=68			S		**Sb**	**20 07 36.1**	**-0.9**
TWP	**Hsiaoliuchiu** baz=327	**0.61**	**348**	⇑*iP*		**Pb**	**20 07 34.1**	**+0.2**
TWP				*e*S		**Sb**	**20 07 44.5**	**+2.1**
WLCH	**Liuqiu** baz=329	**0.61**	**349**	⇑*iP*		**Pb**	**20 07 34.2**	**+0.3**
SCZT	**Fangliau** baz=3.0	**0.63**	**10**	⇑*iP*		**Pn**	**20 07 33.2**	**-0.7**
SCZT	baz=3.0			*e*S		**Sn**	**20 07 41.5**	**-1.2**
EAST	**Anshuo** baz=23	**0.71**	**27**	⇑*iP*		**Pn**	**20 07 34.3**	**-0.8**
TAW	**Tawu** baz=21	**0.71**	**31**	⇑*iP*		**Pn**	**20 07 34.2**	**-0.8**
TAW	baz=21			*e*S		**Sn**	**20 07 43.1**	**-1.6**
SSPT	**Xinbi** baz=4.0	**0.73**	**5**	⇑*iP*		**Pn**	**20 07 35.0**	**-0.4**
SSPT	baz=4.0			*e*S		**Sn**	**20 07 44.9**	**-0.4**
KAU	**Kaohsiung** baz=341	**0.83**	**348**	P		**Pn**	**20 07 36.8**	**+0.1**
KAU	baz=341			*e*S		**Sb**	**20 07 48.9**	**+0.3**
MASBT	**Mashibuluo** baz=3.0	**0.87**	**8**	⇑*iP*		**Pn**	**20 07 36.2**	**-1.1**
MASBT	baz=3.0			*e*S		**Sn**	**20 07 47.0**	**-1.7**
ECL	**Taimali** baz=23	**0.94**	**27**	⇑*iP*		**Pn**	**20 07 37.4**	**-0.9**
SGLT	**Jiouru** baz=355	**0.97**	**360**	⇑*iP*		**Pn**	**20 07 38.9**	**+0.2**
SGLT	baz=355			*e*S		**Sb**	**20 07 53.0**	**+0.5**
SSD	**Sandimen** baz=3.0	**1.00**	**7**	⇑*iP*		**Pn**	**20 07 38.2**	**-0.9**
SSD	baz=3.0			*e*S		**Sn**	**20 07 49.7**	**-2.3**
SNJT	**Kaohsiung City** baz=333	**1.01**	**351**	P		**Pn**	**20 07 38.9**	**-0.3**
LAY	**Lan-yu** baz=64	**1.02**	**73**	*i*	P	**Pn**	**20 07 37.6**	**-1.7**
LAY	baz=64			*e*S		**Sn**	**20 07 49.4**	**-3.1**
TWM1	**Shoushan** baz=352	**1.07**	**356**	⇑*iP*		**Pn**	**20 07 40.1**	**0.0**
TWM1	baz=352			*e*S		**Sb**	**20 07 55.1**	**-0.3**
TTN	**Taitung** baz=39	**1.17**	**31**	*e*P		**Pn**	**20 07 41.1**	**-0.3**
TWG	**Pinlang** baz=34	**1.19**	**26**	P		**Pn**	**20 07 40.6**	**-1.1**
TWGBT	**Beinan** baz=34	**1.19**	**27**	⇑*iP*		**Pn**	**20 07 40.3**	**-1.4**
SLGT	**Liugui** baz=2.0	**1.25**	**6**	P		**Pn**	**20 07 42.0**	**-0.5**
SLGT	baz=2.0			*e*S		**Sn**	**20 07 57.0**	**-1.1**
CHN3	**Shinhua** baz=351	**1.32**	**355**	*e*P		**Pn**	**20 07 43.4**	**-0.2**
CHN3	baz=351			*e*S		**Sn**	**20 08 00.3**	**+0.3**
SGST	**Jiashian** baz=360	**1.33**	**3**	P		**Pn**	**20 07 42.1**	**-1.5**
STYT	**Tauyuan** baz=356	**1.43**	**10**	⇑*iP*		**Pn**	**20 07 44.1**	**-0.9**
STYT	baz=356			*e*S		**Sn**	**20 08 01.1**	**-1.5**
CHN1	**Nanshi** baz=358	**1.43**	**1**	⇑*iP*		**Pn**	**20 07 44.3**	**-0.7**
CHN1	baz=358			*e*S		**Sn**	**20 08 02.0**	**-0.6**
SCLT	**Jiali** baz=345	**1.45**	**349**	*e*P		**Pn**	**20 07 44.7**	**-0.5**
SCLT	baz=345			*e*S		**Sn**	**20 08 02.2**	**-0.7**
SNST	**Tainan City** baz=356	**1.46**	**360**	*e*P		**Pn**	**20 07 43.6**	**-1.9**
WTP	**Ta-pu** baz=348	**1.49**	**4**	⇑*iP*		**Pn**	**20 07 45.0**	**-0.9**
TWK	**Hsinying** baz=357	**1.51**	**360**	P		**Pn**	**20 07 45.3**	**-0.8**
ELDTW	**Lidau** baz=27	**1.51**	**18**	P		**Pn**	**20 07 45.8**	**-0.4**
TPUB	**Ta-pu** baz=349	**1.55**	**4**	⇑*iP*		**Pn**	**20 07 45.7**	**-1.0**
TPUB	baz=349			*e*S		**Sn**	**20 08 03.5**	**-2.0**
CHKT	**Chengkung** baz=39	**1.56**	**31**	*e*P		**Pn**	**20 07 46.2**	**-0.6**
CHKT	baz=39			*e*S		**Sn**	**20 08 04.3**	**-1.5**
CHN8	**Yiju** baz=348	**1.61**	**351**	*e*P		**Pn**	**20 07 46.4**	**-1.1**
CHN8	baz=348			*e*S		**Sn**	**20 08 06.2**	**-0.9**
FULB	**Fuli** baz=33	**1.62**	**27**	*e*P		**Pn**	**20 07 47.1**	**-0.5**
FULB	baz=33			*e*S		**Sn**	**20 08 07.3**	**0.0**
WDGT	**Dungji** baz=330	**1.69**	**333**	*e*P		**Pn**	**20 07 47.3**	**-1.3**
WDGT	baz=330			*e*S		**Sn**	**20 08 07.5**	**-1.6**
WLGB	**Puzi** baz=351	**1.73**	**354**	*e*P		**Pn**	**20 07 48.0**	**-1.1**
CHY	**Chiayi** baz=355	**1.74**	**358**	*e*P		**Pn**	**20 07 48.3**	**-0.9**
CHY	baz=355			*e*S		**Sn**	**20 08 08.0**	**-2.3**
VCHM	**Qimei** baz=333	**1.76**	**326**	*e*P		**Pn**	**20 07 48.2**	**-1.3**
VCHM	baz=333			*e*S		**Sn**	**20 08 08.6**	**-2.0**
TWF1	**Yuli** baz=29	**1.76**	**25**	*e*P		**Pn**	**20 07 49.1**	**-0.4**
CHN2	**Minshiung** baz=356	**1.77**	**359**	*e*P		**Pn**	**20 07 49.1**	**-0.6**
ALS	**Alishan** baz=355	**1.77**	**9**	*e*P		**Pn**	**20 07 49.3**	**-0.7**
YULB	**Yu-li** baz=34	**1.79**	**24**	*e*P		**Pn**	**20 07 49.3**	**-0.7**
CHN5	**Tsauling** baz=351	**1.84**	**5**	*e*P		**Pn**	**20 07 50.0**	**-0.8**
WSF	**Szhu** baz=350	**1.90**	**352**	*e*P		**Pn**	**20 07 50.1**	**-1.3**
WSF	baz=350			*e*S		**Sn**	**20 08 12.3**	**-1.7**
EHY	**Hungye** baz=33	**1.91**	**23**	*e*P		**Pn**	**20 07 51.2**	**-0.4**
WGK	**Gukeng** baz=349	**1.93**	**2**	*e*P		**Pn**	**20 07 51.1**	**-0.7**
WGK	baz=349			*e*S		**Sn**	**20 08 13.6**	**-1.2**
WDLH	**Douliu** baz=348	**1.93**	**1**	*e*P		**Pn**	**20 07 51.0**	**-0.8**
WDLH	baz=348			*e*S		**Sn**	**20 08 12.9**	**-2.0**
HGSD	**Ruisui** baz=12	**1.93**	**26**	*e*P		**Pn**	**20 07 52.0**	**+0.1**
HGSD	baz=12			*e*S		**Sn**	**20 08 15.5**	**+0.5**
PHUB	**P'eng-hu** baz=331	**1.95**	**334**	*e*P		**Pn**	**20 07 50.7**	**-1.5**
PHUB	baz=331			*e*S		**Sn**	**20 08 12.1**	**-3.3**
WHYT	**Xinyi Township** baz=357	**1.96**	**10**	*e*P		**Pn**	**20 07 51.8**	**-0.6**
WHYT	baz=357			*e*S		**Sn**	**20 08 14.2**	**-1.7**
PNG	**Penghu** baz=332	**2.01**	**334**	*e*P		**Pn**	**20 07 51.5**	**-1.5**
PNG	baz=332			*e*S		**Sn**	**20 08 14.3**	**-2.5**
SSLB	**Suanglung** baz=10.0	**2.07**	**12**	*e*P		**Pn**	**20 07 53.0**	**-0.9**
SSLB	baz=10.0			*e*S		**Sn**	**20 08 16.7**	**-1.8**
WJS	**Zhushan** baz=353	**2.07**	**6**	*e*P		**Pn**	**20 07 52.9**	**-1.0**
VWDT	**VWDT** baz=2.0	**2.08**	**16**	*e*P		**Pn**	**20 07 53.9**	**0.0**
EGFH	**Guangfu** baz=22	**2.09**	**24**	*e*P		**Pn**	**20 07 53.6**	**-0.6**
WNT	**Mingjian** baz=3.0	**2.12**	**5**	*e*P		**Pn**	**20 07 53.4**	**-1.1**
WNT	baz=3.0			*e*S		**Sn**	**20 08 18.1**	**-1.6**
RLNB	**Erlin** baz=354	**2.13**	**357**	*e*P		**Pn**	**20 07 53.4**	**-1.3**
RLNB	baz=354			*e*S		**Sn**	**20 08 18.0**	**-2.0**
SMLT	**Sun Moon Lake** baz=356	**2.15**	**10**	*e*P		**Pn**	**20 07 54.5**	**-0.6**
SMLT	baz=356			*e*S		**Sn**	**20 08 19.9**	**-0.7**
TYC	**Yuchr** baz=355	**2.17**	**9**	*e*P		**Pn**	**20 07 54.7**	**-0.4**
ESL	**Shilin** baz=32	**2.23**	**23**	*e*P		**Pn**	**20 07 55.1**	**-0.8**
ESL	baz=32			*e*S		**Sn**	**20 08 20.9**	**-1.4**
DPDB	**Guoxing** baz=357	**2.31**	**10**	*e*P		**Pn**	**20 07 56.4**	**-0.8**
WCHH	**Zhanghua** baz=359	**2.32**	**1**	*e*P		**Pn**	**20 07 56.6**	**-0.6**
WCHH	baz=359			*e*S		**Sn**	**20 08 22.8**	**-1.7**
CHGB	**Renai** baz=27	**2.38**	**15**	*e*P		**Pn**	**20 07 58.1**	**-0.2**
TCU	**Taichung** baz=2.0	**2.39**	**4**	*e*P		**Pn**	**20 07 57.7**	**-0.6**
TCU	baz=2.0			*e*S		**Sn**	**20 08 26.0**	**-0.3**
HWA	**Hwalien** baz=23	**2.44**	**25**	*e*P		**Pn**	**20 08 00.1**	**+1.2**
WHF	**Hehuan Shan** baz=15	**2.49**	**16**	*e*P		**Pn**	**20 07 59.8**	**-0.1**
WHF	baz=15			*e*S		**Sn**	**20 08 28.0**	**-1.3**
TWD	**Chiawan** baz=22	**2.53**	**23**	*e*P		**Pn**	**20 07 59.8**	**-0.4**
WHP	**Taichung City** baz=8.0	**2.55**	**9**	*e*P		**Pn**	**20 08 00.1**	**-0.4**
WHP	baz=8.0			*e*S		**Sn**	**20 08 29.2**	**-1.2**
TDCB	**Techi** baz=2.0	**2.56**	**14**	*e*P		**Pn**	**20 08 00.5**	**-0.2**
WDJ	**Dajia District** baz=1.0	**2.59**	**3**	*e*P		**Pn**	**20 08 00.4**	**-0.5**
WDJ	baz=1.0			*e*S		**Sn**	**20 08 30.6**	**-0.6**
TWQ1	**Liyutan** baz=354	**2.60**	**6**	*e*P		**Pn**	**20 08 00.8**	**-0.3**
TWQ1	baz=354			*e*S		**Sn**	**20 08 29.4**	**-2.0**
ETLH	**Xiulin Townshi** baz=31	**2.61**	**20**	*e*P		**Pn**	**20 08 00.9**	**-0.3**
NACB	**Ninganchiao** baz=21	**2.62**	**23**	*e*P		**Pn**	**20 07 59.9**	**-1.4**
NSY	**Sanyi** baz=353	**2.66**	**5**	*e*P		**Pn**	**20 08 01.9**	**-0.1**
NSY	baz=353			*e*S		**Sn**	**20 08 32.6**	**-0.5**
PTSB	**Yuanli** baz=2.0	**2.69**	**4**	*e*P		**Pn**	**20 08 02.3**	**0.0**
NMLH	**Miaoli** baz=353	**2.79**	**5**	*e*P		**Pn**	**20 08 03.7**	**0.0**
NNSB	**Datong** baz=16	**2.79**	**17**	*e*P		**Pn**	**20 08 04.0**	**+0.2**
NNSB	baz=16			*e*S		**Sn**	**20 08 35.9**	**-0.4**
NNSH	**Datong** baz=15	**2.79**	**17**	*e*P		**Pn**	**20 08 04.3**	**+0.5**
NNSH	baz=15			*e*S		**Sn**	**20 08 35.2**	**-1.1**
ENA	**Nanau** baz=22	**2.90**	**23**	*e*P		**Pn**	**20 08 04.6**	**-0.6**
NSTT	**Nanjuang** baz=355	**2.90**	**9**	*e*P		**Pn**	**20 08 04.5**	**-0.8**
NSTT	baz=355			*e*S		**Sn**	**20 08 36.8**	**-2.2**
LIOB	**Emei** baz=355	**2.92**	**9**	*e*P		**Pn**	**20 08 04.8**	**-0.7**
NDT	**Datong Townshi** baz=28	**2.99**	**18**	*e*P		**Pn**	**20 08 06.9**	**+0.5**
YHNB	**Yeheng** baz=14	**3.02**	**15**	*e*P		**Pn**	**20 08 06.8**	**-0.1**
NSK	**Sanguang** baz=14	**3.02**	**15**	*e*P		**Pn**	**20 08 07.2**	**+0.3**
NSK	baz=14			*e*S		**Sn**	**20 08 40.9**	**-1.0**
ENTT	**Nioudou** baz=28	**3.04**	**19**	*e*P		**Pn**	**20 08 07.3**	**+0.2**
TWC	**Suao** baz=22	**3.10**	**23**	*e*P		**Pn**	**20 08 08.6**	**+0.6**
TWE	**Neicheng** baz=30	**3.15**	**20**	*e*P		**Pn**	**20 08 09.2**	**+0.7**
NWLT	**Wulai** baz=3.0	**3.15**	**17**	*e*P		**Pn**	**20 08 08.8**	**+0.1**
KNM	**Kinmen** baz=321	**3.27**	**325**	*e*P		**Pn**	**20 08 10.8**	**+0.6**
NTC	**Toucheng** baz=20	**3.32**	**21**	*e*P		**Pn**	**20 08 11.9**	**+0.9**
KNMB	**Chin-men Tao** baz=323	**3.33**	**325**	*e*P		**Pn**	**20 08 10.1**	**-1.0**
ZPLA	**Ao Xicun** baz=309	**3.34**	**311**	*e*P		**Pn**	**20 08 10.5**	**-0.7**
EGS	baz=22	**3.35**	**23**	*e*P		**Pn**	**20 08 12.7**	**+1.3**
VWUC	**VWUC** baz=342	**3.37**	**344**	*e*P		**Pn**	**20 08 10.5**	**-1.2**
TIPB	**Shuangxi** baz=28	**3.43**	**21**	*e*P		**Pn**	**20 08 13.0**	**+0.5**
JYNG	**Yonagunijimaku**	**3.51**	**39**	P		**Pn**	**20 08 13.7**	**+0.2**
JYNG				*e*S		**Sn**	**20 08 54.8**	**+1.0**
NWF	**Wu-fen Shan** baz=29	**3.51**	**19**	*e*P		**Pn**	**20 08 14.4**	**+0.7**
WFSB	**Wu-fen Shan** baz=29	**3.51**	**19**	*e*P		**Pn**	**20 08 14.6**	**+1.0**
PTMZ	**Houxiangcun** baz=338	**3.51**	**339**	*e*P		**Pn**	**20 08 12.2**	**-1.4**
YM04	**YM04** baz=3.0	**3.52**	**16**	*e*P		**Pn**	**20 08 12.7**	**-1.0**
YM03	**YM03** baz=3.0	**3.54**	**15**	*e*P		**Pn**	**20 08 13.8**	**-0.3**
ANP	**Anpu** baz=3.0	**3.55**	**15**	*e*P		**Pn**	**20 08 13.5**	**-0.7**
YOJ	**Yonaguni jima**	**3.55**	**40**	P		**Pn**	**20 08 14.7**	**+0.5**
YOJ				S		**Sn**	**20 08 54.9**	**-0.1**
YM08	**YM08** baz=3.0	**3.56**	**16**	*e*P		**Pn**	**20 08 13.8**	**-0.6**
TWY	**Chenhua** baz=3.0	**3.65**	**16**	*e*P		**Pn**	**20 08 14.7**	**-0.8**
ZZJH	**Jiuhuzhen** baz=315	**3.78**	**316**	*e*P		**Pn**	**20 08 16.7**	**-0.6**
PTTC	**Pingtan** baz=349	**3.79**	**350**	*e*P		**Pn**	**20 08 16.3**	**-1.1**
HATJ	**Hateruma jima**	**3.82**	**52**	P		**Pn**	**20 08 17.3**	**-0.5**
HATJ				S		**Sn**	**20 08 59.5**	**-2.0**
AXDP	**Jialang** baz=322	**3.90**	**324**	*e*P		**Pn**	**20 08 18.2**	**-0.8**
IRIF	**Iriomote-Funau**	**3.93**	**49**	P		**Pn**	**20 08 19.4**	**0.0**
IRIF				*e*S		**Sn**	**20 09 03.9**	**-0.5**
JKRS	**Kuro-shima**	**4.07**	**52**	P		**Pn**	**20 08 21.5**	**+0.2**
JKRS				*e*S		**Sn**	**20 09 08.5**	**+0.7**
PCYT	**Pengchaiyu** baz=20	**4.12**	**20**	*e*P		**Pn**	**20 08 22.1**	**+0.1**
JIJ	**Ishigaki jima**	**4.25**	**52**	P		**Pn**	**20 08 23.5**	**-0.2**
JIJ				*e*S		**Sn**	**20 09 10.0**	**-2.1**
MATB	**Ma-tsu** baz=1.0	**4.41**	**354**	*e*P		**Pn**	**20 08 24.5**	**-1.5**
JISG	**Ishigakijimahi**	**4.50**	**50**	P		**Pn**	**20 08 26.5**	**-0.7**
JISG				*e*S		**Sn**	**20 09 16.2**	**-2.2**
JTJ	**Tarama**	**4.82**	**53**	P		**Pn**	**20 08 31.2**	**-0.4**
JTJ				S		**Sn**	**20 09 24.0**	**-2.2**
LYJJ	**Jianjiangzhen** baz=351	**4.83**	**352**	*e*P		**Pn**	**20 08 30.5**	**-1.2**
XPSS	**Dashiqiu** baz=356	**5.16**	**357**	*e*P		**Pn**	**20 08 34.4**	**-1.9**
JIRB	**Irabujima**	**5.28**	**54**	P		**Pn**	**20 08 37.6**	**-0.3**
JIRB				*e*S		**Sn**	**20 09 35.4**	**-2.1**
JMJ2	**Miyako jima3**	**5.35**	**55**	P		**Pn**	**20 08 38.1**	**-0.7**
JIKM	**Ikemajima**	**5.39**	**53**	P		**Pn**	**20 08 39.5**	**+0.1**
JOGS	**Gusukube**	**5.42**	**55**	*e*S		**Sn**	**20 09 41.2**	**+0.2**
KSRS	**Korea Array** 0.2nm,0.3s,baz=199,slow=11,SNR=2.7	**16.92**	**21**	P		**Pn**	**20 11 12.7**	**-2.8**
KSRS				LR		LR	20 18 42.1	
	comp=Z,81nm,18.2s,baz=228,slow=41							
CMAR	**Chiang Mai Arr** 1.6nm,0.9s,baz=72,slow=8.9,SNR=11	**20.50**	**265**	P		Pn	20 12 00.9	+1.8
CMAR				LR		LR	20 20 01.6	
	comp=Z,40nm,19.2s,baz=140,slow=37							
GUMO	**Guam** comp=Z,21nm,19.0s,baz=270,slow=38	**24.57**	**105**	LR		LR	20 22 38.5	
PSI	**Prapat** comp=Z,263nm,18.5s,baz=276,slow=38	**28.19**	**231**	LR		LR	20 25 21.1	
SONM	**Songino Array** 0.2nm,0.6s,baz=153,slow=9.7,SNR=3.1	**28.39**	**340**	P		**P**	**20 13 12.9**	**+0.2**

SONM				LR	LR	20 26 22.4		
	comp=Z,86nm,18.6s,baz=243,slow=40							
ASAJ	**Asahikawa**	**28.84**	**34**	LR	LR	20 24 27.9		
	comp=Z,49nm,19.8s,baz=264,slow=36							
MKAR	**Makanchi Array**	**39.68**	**318**	P	**P**	**20 14 51.8**	**+1.5**	
	0.4nm,0.6s,baz=112,slow=9.6,SNR=4.3							
ZALV	**Zalesovo Beam**	**41.97**	**329**	P	**P**	**20 15 10.4**	**+1.5**	
	1.8nm,0.7s,baz=109,slow=8.5,SNR=7.5							
WRA	**Warramunga Arr**	**43.59**	**161**	P	**P**	**20 15 23.0**	**+0.5**	
	2.2nm,0.7s,baz=344,slow=8.8,SNR=3.3							
ASAR	**Alice Springs**	**46.99**	**163**	P	**P**	**20 15 50.8**	**+1.4**	
	0.7nm,0.4s,baz=342,slow=7.1,SNR=22							
TIXI	**Tiksi**	**50.15**	**3**	LR	LR	20 40 44.6		
	comp=Z,75nm,18.2s,baz=80,slow=40							
NRIK	**Noril'sk**	**51.59**	**346**	LR	LR	20 41 16.2		
	comp=Z,63nm,18.0s,baz=70,slow=40							
AKTO	**Aktyubinsk**	**56.09**	**317**	LR	LR	20 42 02.1		
	comp=Z,55nm,18.8s,baz=134,slow=37							
NOA	**NORSAR Array B**	**80.07**	**332**	LR	LR	20 59 08.1		
	comp=Z,37nm,18.0s,baz=90,slow=39							
GERES	**GERESS Array B**	**84.31**	**321**	P	**P**	**20 19 51.7**	**+1.6**	
	0.5nm,0.8s,baz=54,slow=5.3,SNR=4.8							
YKA	**Yellowknife Ar**	**85.45**	**22**	P	**P**	**20 19 55.9**	**+0.6**	
	0.3nm,0.7s,baz=321,slow=5.3,SNR=3.6							

IDC 27 20:08:39.5±3.9, 4°.15S×152°.05E, h0km, mb3.5/2, mb1 3.9/2, mb1mx3.3/34, mbtmp3.6/2, Error ellipse: s-maj=152.8km s-min=52.3km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.33**	**226**	P	P	20 13 49.3	-0.3
	5.3nm,0.9s,baz=51,slow=9.8,SNR=6.3						
ASAR	**Alice Springs**	**26.14**	**220**	P	P	20 14 16.1	+0.5
	0.2nm,0.6s,baz=56,slow=8.9,SNR=6.5						
TORD	**Torodi Ar. Bea**	**149.39**	**289**	PKPbc	PKPbc	20 28 30.8	-0.9
	0.2nm,0.4s,baz=84,slow=2.1,SNR=1.4						

IDC 27 20:10:15.0±0.5, 49°.00S×121°.58E, h0km, mb4.6/18, mb1 4.7/19, mb1mx4.6/29, mbtmp4.6/19, ML2.7/1, MS4.0/10, Ms1 4.0/10, ms1mx3.8/18, Error ellipse: s-maj=28.2km s-min=12.4km az=101.0

BJI 27 20:10:15.7±0.0, 48°.81S×121°.00E, h9km, mB5.2/23, mb4.7/33, Ms4.8/10, Ms7 4.5/10

GCMT 27 20:10:16.7±0.3, 48°.99S±0°.03×121°.63E±0°.04, h17km±1km, MW4.9/71, Moment Tensor Solution. s14,c18; s71,c109; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.57±.22; Mθθ 1.28±.14; Mϕϕ 1.30±.14; Mrθ -0.69±.35; Mϕθ -1.52±.06; Mrϕ 0.29±.38; Best double couple: M0 2.79400×10^16 NP1: ϕs 322.00000°, δs 38.00000°, λs -80.00000°. NP2: ϕs 129.00000°, δs 53.00000°, λs -98.00000°. Principal axes: T 2.8990, Plg7.0000°, Azm225.0000°; N -0.1980, Plg6.0000°, Azm134.0000°; P -2.6900, Plg80.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

NEIC 27 20:10:16.7±1.3, 49°.00S±0°.09×121°.6E±0°.2, h15km±3km, mb5.0/46 Error ellipse: s-maj=17.9km s-min=13.3km az=92.0

ISC 27 20:10:16.7±0.3, 49°.05S±0°.06×121°.64E±0°.09, h13km, n167, σ1 22/164, mb4.9/46, MS4.2/12, 1C-3D, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**15.19**	**336**	T	T	20 29 17.6	
	baz=160,slow=74,SNR=194						
H01W2	**Cape Leeuwin H**	**15.19**	**336**	T	T	20 29 17.2	
	baz=160,slow=74,SNR=247						
H01W3	**Cape Leeuwin H**	**15.20**	**336**	T	T	20 29 16.8	
	baz=160,slow=74,SNR=201						
NWAO	**Narrogin (SRO)**	**16.44**	**347**	P	**Pn**	**20 14 08.1**	**+1.1**
	baz=16,SNR=5.1						
NWAO	**Narrogin (SRO)**	**16.44**	**347**	Pn	**Pn**	**20 14 07.3**	**+0.3**
	1.3nm,0.3s,baz=167,slow=6.8,SNR=9.7						
NWAO				LR	LR	20 19 32.7	
	comp=Z,284nm,18.0s,baz=156,slow=34						
NWAO	**Narrogin (SRO)**	**16.44**	**347**		**Pn**	**20 14 06.2**	**-0.9**
NWAO	**Narrogin (SRO)**	**16.44**	**347**		**Pn**	**20 14 06.1**	**-0.9**
NWAO				IAmb	IAmb	20 14 18.3	
	comp=Z,72nm,1.1s						
KMBL	**Kambalda**	**17.66**	**1**	P	**Pn**	**20 14 20.5**	**-1.9**
	baz=18,SNR=6.6						
KLBR	**Kellerberrin**	**17.68**	**349**	P	**P**	**20 14 23.5**	**0.0**
	baz=18,SNR=4.4						
CASY	**Casey**	**18.21**	**194**	P	**Pn**	**20 14 27.4**	**-1.5**
TAU	**Tasmania Unive**	**18.82**	**81**	P	**Pn**	**20 14 38.1**	**+1.6**
TAU				IAmb	IAmb	20 14 54.6	
	comp=Z,138nm,1.4s						
FORT	**Forrest**	**18.89**	**17**	P	**P**	**20 14 30.5**	**-6.2**
BBOO	**Buckleboo**	**19.49**	**39**	P	**P**	**20 14 42.5**	**-0.8**
BBOO				IAmb	IAmb	20 14 59.7	
	comp=Z,157nm,1.6s						
MORW	**Morawa**	**20.41**	**346**	P	**P**	**20 14 53.6**	**+0.3**
	baz=20,SNR=3.8						
MORW	**Morawa**	**20.41**	**346**	P	**P**	**20 14 51.3**	**-2.1**
MORW				IAmb	IAmb	20 15 03.9	
	comp=Z,112nm,1.2s						
TOO	**Toolangi**	**20.71**	**65**	P	**P**	**20 14 57.4**	**+0.8**
	baz=21,SNR=8.3						
TOO	**Toolangi**	**20.71**	**65**	P	**P**	**20 14 55.8**	**-0.8**
MEEK	**Meekatharra**	**22.50**	**353**	P	**P**	**20 15 15.3**	**-0.5**
	baz=22,SNR=8.3						
STKA	**Stephens Creek**	**22.80**	**49**	P	**P**	**20 15 20.9**	**+1.9**
	baz=23,SNR=5.9						
STKA	**Stephens Creek**	**22.80**	**49**	LR	LR	20 22 34.3	
	comp=Z,825nm,21.2s,baz=218,slow=32						
WRKA	**Warakurna**	**24.53**	**15**	P	**P**	**20 15 35.6**	**-0.3**
	baz=24,SNR=16						
CMSA	**Cobar Meteorol**	**25.18**	**55**	P	**P**	**20 15 43.6**	**+1.9**
	baz=25,SNR=9.2						
GIRL	**Giralia**	**27.00**	**345**	P	**P**	**20 15 58.5**	**+0.3**
ASAR	**Alice Springs**	**27.12**	**25**	P	**P**	**20 15 58.8**	**-0.5**
	comp=Z,9.1nm,0.9s,baz=212,slow=8.9,SNR=44						
ASAR				PcP	**PcP**	**20 19 19.2**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=193,slow=2.1,SNR=4.7						
ASAR				LR	LR	20 25 27.2	
	comp=Z,1μm,21.3s,baz=192,slow=34						
PSA00	**Pilbara Seismi**	**27.46**	**356**	P	**P**	**20 16 02.0**	**-0.3**
PSA00				IAmb	IAmb	20 16 09.5	
	comp=Z,27nm,0.8s						
PSAB1	**Pilbara Seismi**	**27.46**	**356**	P	**P**	**20 16 01.2**	**-1.2**
PSAB1				IAmb	IAmb	20 16 09.5	
	comp=Z,27nm,0.8s						
ARMA	**Armidale**	**29.35**	**62**	P	**P**	**20 16 20.6**	**+1.3**
ARMA				IAmb	IAmb	20 16 21.4	
	comp=Z,49nm,1.9s						
WRA	**Warramunga Arr**	**30.78**	**24**	P	**P**	**20 16 30.9**	**-1.0**
	comp=Z,5.2nm,0.8s,baz=195,slow=11,SNR=5.6						
WRA				PcP	**PcP**	**20 19 28.1**	**-1.0**
	comp=Z,5.4nm,0.7s,baz=209,slow=2.1,SNR=5.5						
WRA				LR	LR	20 27 52.9	
	comp=Z,598nm,20.9s,baz=225,slow=34						
WRAB	**Tennant Creek**	**30.79**	**24**	P	**P**	**20 16 30.7**	**-1.3**
RMQ	**Roma**	**30.81**	**53**	P	**P**	**20 16 33.2**	**+1.1**
	baz=31,SNR=4.2						
FITZ	**Fitzroy Crossi**	**31.05**	**7**	P	**P**	**20 16 34.8**	**+0.7**
	baz=31,SNR=4.9						
FITZ	**Fitzroy Crossi**	**31.05**	**7**	P	**P**	**20 16 33.8**	**-0.4**
QIS	**Mount Isa**	**31.86**	**33**	P	**P**	**20 16 41.7**	**+0.4**
	baz=32,SNR=3.3						
VNDA	**Vanda**	**32.40**	**165**	P	**P**	**20 16 46.7**	**+1.1**
	comp=Z,6.7nm,0.9s,baz=299,slow=8.5,SNR=35						
VNDA				LR	LR	20 28 14.0	
	comp=Z,135nm,20.3s,baz=318,slow=33						
KNRA	**Kununurra**	**33.79**	**12**	P	**P**	**20 16 58.0**	**-0.3**
	baz=34,SNR=4.3						
KNRA	**Kununurra**	**33.79**	**12**	P	**P**	**20 16 57.2**	**-1.0**
KNRA				IAmb	IAmb	20 17 05.7	
	comp=Z,19nm,1.1s						
MAW	**Mawson**	**34.28**	**216**	P	**P**	**20 17 02.5**	**+0.5**
	baz=34,SNR=8.9						
MAW	**Mawson**	**34.28**	**216**	P	**P**	**20 17 02.5**	**+0.5**
	comp=Z,9.2nm,0.9s,baz=73,slow=10,SNR=12						
MAW				LR	LR	20 29 21.1	
	comp=Z,268nm,18.3s,baz=63,slow=33						
MAW	**Mawson**	**34.28**	**216**	IAmb	IAmb	20 17 10.7	
	comp=Z,2.6nm,0.9s						
OXZ	**Oxford**	**34.82**	**100**	P	**P**	**20 17 07.0**	**-0.1**
CTA	**Charters Tower**	**34.98**	**43**	P	**P**	**20 17 08.6**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=192,slow=12,SNR=4.1						
CTAO	**Charters Tower**	**34.98**	**43**	P	**P**	**20 17 08.3**	**-0.3**
MTN	**Manton Dam**	**36.95**	**16**	P	**P**	**20 17 24.4**	**-1.0**
MTN				IAmb	IAmb	20 17 33.3	
	comp=Z,24nm,1.1s						
KDU	**Kakadu**	**37.35**	**18**	P	**P**	**20 17 28.4**	**-0.4**
	baz=37,SNR=6.4						
BATI	**Baumata**	**38.76**	**3**	P	**P**	**20 17 42.4**	**+1.7**
	comp=Z,50nm,0.8s,baz=219,slow=4.8,SNR=11						
BATI	**Baumata**	**38.76**	**3**	P	**P**	**20 17 43.0**	**+2.3**
	comp=Z,72nm,1.0s						
COEN	**Coen**	**39.23**	**34**	P	**P**	**20 17 44.5**	**-0.1**
SOEI	**Soe**	**39.23**	**4**	P	**P**	20 17 54.1	+9.3
SOEI	**Soe**	**39.23**	**4**	P	**P**	**20 17 44.3**	**-0.5**
SOEI				IAmb	IAmb	20 17 54.8	
	comp=Z,53nm,1.0s						
QSPA	**South Pole Qui**	**41.07**	**180**	P	**P**	**20 18 00.7**	**+1.0**
	comp=Z,21nm,1.0s,baz=332,slow=4.3,SNR=34						
QSPA	**South Pole Qui**	**41.07**	**180**	P	**P**	**20 18 00.4**	**+0.7**
QSPA				IAmb	IAmb	20 18 02.4	
	comp=Z,30nm,1.1s						
SYO	**Syowa Base**	**42.67**	**212**	⇓*e*P	**P**	**20 18 11.0**	**-1.4**
KAPI	**Kappang**	**43.91**	**357**	P	**P**	**20 18 22.3**	**-0.7**
PMG	**Port Moresby**	**44.92**	**37**	P	**P**	**20 18 31.9**	**+0.8**
	comp=Z,13nm,1.0s,baz=193,slow=12,SNR=3.9						
PMG	**Port Moresby**	**44.92**	**37**	P	**P**	**20 18 30.9**	**-0.2**
PMG				IAmb	IAmb	20 18 33.0	
	comp=Z,23nm,0.9s						
SPSI	**Sidrap Palu**	**44.95**	**357**	P	**P**	**20 18 33.0**	**+1.7**
	comp=Z,928nmcomp=Z,112nm,1.3s						
KBKI	**Kotabaru**	**45.82**	**352**	P	**P**	**20 18 41.9**	**+3.7**
	comp=Z,67nm,1.1s						
NLAI	**Namlea**	**45.88**	**8**	P	P	20 18 47.1	+8.4
MDSI	**Maura Dua**	**46.83**	**336**	P	P	20 18 55.2	+9.1
MTKI	**Muara Teweh, K**	**48.27**	**351**	P	**P**	**20 18 59.4**	**+2.0**
SIJI	**Sorong**	**48.71**	**13**	P	**P**	**20 19 01.8**	**+1.1**
	comp=Z,1.6nm,0.3s,baz=207,slow=23,SNR=1.9						
GENI	**Genyem**	**48.93**	**25**	P	P	20 19 11.9	+9.5
KSM	**Kuching**	**51.27**	**345**	P	**P**	**20 19 19.4**	**-0.8**
KSM				IAmb	IAmb	20 19 28.8	
	comp=Z,27nm,1.0s						
SBUM	**Sibu**	**51.94**	**348**	P	**P**	**20 19 25.1**	**-0.1**
BKNI	**Bangkinang**	**52.30**	**334**	P	**P**	**20 19 27.2**	**-0.7**
SNAA	**Sanae**	**53.37**	**199**	P	**P**	**20 19 35.9**	**+0.7**
SNAA	**Sanae**	**53.37**	**199**	P	**P**	**20 19 36.0**	**+0.7**
	comp=Z,11nm,1.1s,baz=143,slow=8.0,SNR=19						
SNAA	**Sanae**	**53.37**	**199**	P	**P**	**20 19 35.1**	**-0.2**
SNAA				IAmb	IAmb	20 19 36.9	
	comp=Z,15nm,1.1s						
MYLDM	**Lahad Datu**	**54.08**	**356**	P	**P**	**20 19 42.7**	**+1.8**
RPSI	**Rantau Prapat**	**55.18**	**332**	P	**P**	**20 19 48.0**	**-0.9**
RPSI				IAmb	IAmb	20 19 56.5	
	comp=Z,17nm,1.2s						
PSI	**Prapat**	**55.28**	**332**	P	**P**	**20 19 47.6**	**-2.2**
	comp=Z,2.0nm,0.4s,baz=180,slow=11,SNR=3.7						
VNA1	**Neumayer--Stat**	**55.29**	**198**	P	**P**	**20 19 50.2**	**+1.1**
IPM	**Ipoh**	**56.26**	**335**	P	**P**	**20 19 56.2**	**-0.5**
IPM				IAmb	IAmb	20 20 04.5	
	comp=Z,15nm,0.9s						
KULM	**Kulim**	**57.13**	**335**	P	**P**	**20 20 01.8**	**-1.1**
H08S2	**Diego Garcia H**	**58.26**	**298**	T	T	21 23 04.4	
	baz=144,slow=76,SNR=18						
H08S1	**Diego Garcia H**	**58.27**	**298**	T	T	21 23 03.0	
	baz=144,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**58.28**	**298**	T	T	21 23 02.2	
	baz=144,slow=76,SNR=19						
PBKT	**Sadao Pong**	**67.86**	**339**	P	**P**	**20 21 14.3**	**-0.2**
PBKT				IAmb	IAmb	20 21 22.7	
	comp=Z,7.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**70.18**	**337**	P	**P**	**20 21 28.9**	**0.0**
	comp=Z,4.5nm,0.8s,baz=187,slow=5.4,SNR=31						
CHTO	**Chiang Mai**	**70.52**	**337**	P	**P**	**20 21 30.2**	**-0.8**
CHTO				IAmb	IAmb	20 21 31.8	
	comp=Z,15nm,1.5s						
TWG	**Pinlang**	**71.55**	**359**	P	**P**	**20 21 36.7**	**-0.4**
SLVN	**Son La**	**71.83**	**343**	P	**P**	**20 21 39.4**	**+0.4**
TPUB	**Ta-pu**	**72.03**	**359**	P	**P**	**20 21 39.6**	**-0.5**
YULB	**Yu-li**	**72.11**	**360**	P	**P**	**20 21 39.1**	**-1.4**
YULB				IAmb	IAmb	20 21 43.5	
	comp=Z,32nm,1.9s						
SSLB	**Suanglung**	**72.51**	**359**	P	**P**	**20 21 41.8**	**-1.1**
SSLB				IAmb	IAmb	20 21 51.1	
	comp=Z,26nm,1.2s						
BOSA	**Boshof**	**72.87**	**246**	LR	LR	20 47 52.0	
	comp=Z,155nm,18.1s,baz=141,slow=31						
KMI	**Kunming**	**75.75**	**342**	⇓*e*P	**P**	**20 22 03.3**	**+1.3**
KMI				pP	sP	20 22 07.5	+1.6
KMI				sP	pwP	20 22 10.5	-0.2
KMI				pmax	pmax		
	comp=Z,13nm,1.5s						
KMI	**Kunming**	**75.75**	**342**	P	**P**	**20 22 02.9**	**+0.9**
KMI				IAmb	IAmb	20 22 11.6	
	comp=Z,15nm,0.9s						
PPT	**Papeete**	**76.16**	**101**	LR	LR	20 50 48.2	
	comp=Z,44nm,18.5s,baz=197,slow=32						
GYA	**Guiyang**	**76.35**	**346**	P	**P**	**20 22 05.8**	**+0.5**
GYA				pP	pwP	20 22 13.0	-1.0
GYA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
SHL	**Shillong**	**78.89**	**333**	P	**P**	**20 22 18.8**	**-0.8**
SHL				IAmb	IAmb	20 22 27.3	
	comp=Z,22nm,1.0s						
WHN	**Wuhan**	**79.50**	**354**	⇓P	**P**	**20 22 21.3**	**-1.3**
ENH	**Enshi**	**79.71**	**349**	P	**P**	**20 22 23.4**	**-0.3**
ENH				IAmb	IAmb	20 22 31.7	
	comp=Z,16nm,1.3s						
NJ2	**Nanjing**	**80.78**	**358**	*e*P	**P**	**20 22 30.8**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CD2	**Chengdu**	**81.19**	**345**	P	**P**	**20 22 32.0**	**+0.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.3s						
ODAN	**Odare**	**81.53**	**329**	*e*P	**P**	**20 22 33.0**	**-0.9**
TAPN	**Taplejung**	**81.87**	**330**	*e*P	**P**	**20 22 35.1**	**-0.7**
	comp=Z,26nm,0.8s						
RAMN	**Ramite**	**81.88**	**329**	*e*P	**P**	**20 22 34.8**	**-0.9**
	comp=Z,14nm,0.7s						
JIRN	**Jiri**	**82.67**	**329**	*e*P	**P**	**20 22 39.2**	**-0.8**
	comp=Z,93nm,1.3s						
PKI	**Pulchoki**	**82.86**	**328**	*e*P	**P**	**20 22 39.6**	**-1.3**
	comp=Z,36nm,1.2s						
PKIN	**Phulchoki**	**82.86**	**328**	*e*P	**P**	**20 22 39.8**	**-1.1**
	comp=Z,44nm,1.3s						
LSA	**Lhasa**	**82.99**	**334**	P	**P**	**20 22 41.2**	**-0.5**
LSA				IAmb	IAmb	20 22 49.9	
	comp=Z,9.5nm,0.9s						
GUN	**Gumba**	**83.00**	**329**	*e*P	**P**	**20 22 41.1**	**-0.6**
	comp=Z,111nm,1.3s						
XAN	**Xi'an**	**83.50**	**349**	P	**P**	**20 22 44.0**	**+0.3**
XAN				pP	pwP	20 22 51.3	-1.1
XAN				pmax	pmax		
	comp=Z,11nm,1.9s						
XAN	**Xi'an**	**83.50**	**349**	P	**P**	**20 22 43.6**	**-0.1**
GKN	**Gorkha**	**83.52**	**328**	*e*P	**P**	**20 22 43.2**	**-1.0**
	comp=Z,60nm,1.2s						
DANN	**Dangsing**	**84.15**	**327**	*e*P	**P**	**20 22 46.4**	**-1.1**
	comp=Z,58nm,0.7s						
PYUN	**Piuthan**	**84.20**	**326**	*e*P	**P**	**20 22 46.5**	**-1.2**
	comp=Z,56nm,0.9s						
LZH	**Lanzhou**	**86.23**	**346**	*e*P	**P**	**20 22 57.3**	**-0.3**
LZH				pP	pP	20 23 00.5	0.0
LZH				sP	sP	20 23 02.0	+0.5
LZH				*e*PP	**PP**	**20 26 21.5**	**+2.6**
LZH				pmax	pmax		
	comp=Z,21nm,1.4s						
LZH				pmax	pmax		
	comp=Z,95nm,9.0s						
LZH				LR	LR		
	comp=Z,170nm,17.0s						
LZH				LR	LR		
	comp=Z,170nm,17.2s						
LZH				LR	LR		
	comp=Z,270nm,19.5s						
KSRS	**Korea Array**	**86.31**	**5**	P	**P**	**20 22 58.5**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=183,slow=4.8,SNR=9.2						
MJAR	**Matsushiro Arr**	**86.48**	**13**	P	**P**	**20 22 59.0**	**+0.3**
	comp=Z,12nm,1.3s,baz=194,slow=6.7,SNR=8.7						
MJAR				LR	LR	21 03 35.6	
	comp=Z,22nm,18.1s,baz=210,slow=37						
MAT	**Matsushiro**	**86.48**	**13**	P	**P**	**20 22 58.8**	**+0.2**
PLCA	**Paso Flores**	**89.95**	**171**	P	**P**	**20 23 15.8**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=180,slow=8.7,SNR=3.8						
PLCA	**Paso Flores**	**89.95**	**171**	IAmb	IAmb	20 23 17.5	
	comp=Z,26nm,1.7s						
HHC	**Hu-ho-hao-te**	**89.96**	**352**	*e*P	**P**	**20 23 15.0**	**-0.2**
HHC				pmax	pmax		
	comp=Z,11nm,0.9s						
HHC				pmax	pmax		
	comp=Z,66nm,7.0s						
MBAR	**Mbarara**	**90.14**	**269**	P	**P**	**20 23 18.1**	**+1.2**
	comp=Z,1.2nm,0.3s,baz=105,slow=2.7,SNR=4.8						
MBAR	**Mbarara**	**90.14**	**269**	P	**P**	**20 23 17.8**	**+0.9**
MBAR				IAmb	IAmb	20 23 19.5	
	comp=Z,8.0nm,1.2s						
GTA	**Gaotai**	**90.17**	**343**	⇑P	**P**	**20 23 16.5**	**+0.2**
GTA				pP	pwP	20 23 23.0	-2.0
GTA				sP	sP	20 23 25.5	+5.3
GTA				pmax	pmax		
	comp=Z,4.0nm,1.3s						
GTA				pmax	pmax		
	comp=Z,67nm,5.1s						
GTA				LR	LR		
	comp=Z,100nm,17.5s						
GTA				LR	LR		
	comp=Z,87nm,18.4s						
GTA				LR	LR		
	comp=Z,65nm,17.5s						
WSAR	**Wadi Sarin**	**91.19**	**305**	LR	LR	21 01 03.7	
	comp=Z,54nm,18.0s,baz=138,slow=34						
CN2	**Changchun**	**92.53**	**3**	*e*P	**P**	**20 23 30.0**	**+3.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**93.31**	**7**	P	**P**	**20 23 30.5**	**0.0**
	comp=Z,1.0nm,0.8s,baz=222,slow=2.6,SNR=4.4						
MDJ	**Mudanjiang**	**93.54**	**6**	P	**P**	**20 23 32.3**	**+0.7**
MDJ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,54nm,5.1s						
WMQ	**Urumqi**	**97.16**	**336**	*e*P	Pdif	20 23 48.8	+0.5
WMQ				pmax	pmax		
	comp=Z,31nm,4.5s						
WMQ				LR	LR		
	comp=Z,130nm,26.5s						
WMQ				LR	LR		
	comp=Z,140nm,28.7s						
WMQ				LR	LR		
	comp=Z,83nm,28.7s						
SONM	**Songino Array**	**97.40**	**350**	P	**P**	**20 23 49.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=177,slow=5.9,SNR=4.1						
SONM				PP	**PP**	**20 27 52.7**	**+5.7**
	comp=Z,0.4nm,0.8s,baz=161,slow=10,SNR=3.9						
TORD	**Torodi Ar. Bea**	**119.35**	**256**	PKP	**PKPdf**	**20 29 05.0**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=62,slow=2.6,SNR=2.0						
AKASG	**Malin Array Be**	**126.79**	**308**	PKP	**PKPdf**	**20 29 17.5**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=81,slow=2.2,SNR=1.6						
ILAR	**Eielson Array**	**133.45**	**36**	PKP	**PKPdf**	**20 29 30.8**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=295,slow=2.6,SNR=1.9						
FINES	**FINESS Array B**	**133.72**	**319**	PKP	**PKiKP**	**20 29 32.6**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=64,slow=4.4,SNR=6.4						
PCA	**Pinnacle**	**134.28**	**44**		**PKPdf**	**20 29 31.3**	**-1.7**
CLL	**Collm**	**135.91**	**301**	*e*PKPdf	**PKiKP**	**20 29 37.0**	**-0.8**
CLL				*e*PP	**PP**	**20 32 16.0**	**0.0**
NVAR	**Mina Array Bea**	**136.47**	**81**	PKP	**PKiKP**	**20 29 39.5**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=205,slow=3.3,SNR=5.0						
ARCES	**ARCESS Array B**	**136.86**	**329**	PKP	**PKiKP**	**20 29 38.5**	**-0.8**
	comp=Z,1.7nm,0.9s,baz=104,slow=1.9,SNR=5.9						
TXAR	**Lajitas Array**	**140.45**	**103**	PKP	**PKPdf**	**20 29 45.9**	**+0.5**
	comp=Z,0.8nm,1.0s,baz=174,slow=2.4,SNR=5.0						
MNTX	**Cornudas Mount**	**140.91**	**99**		**PKPdf**	**20 29 46.2**	**+0.1**
FXWY	**Fox Creek**	**143.86**	**78**		**PKPdf**	**20 29 50.4**	**-0.9**
LRM	**Limekiln Ridge**	**143.92**	**74**		PKPbc	20 29 49.9	+0.7
IMW	**Indian Meadow**	**144.03**	**78**		**PKPdf**	**20 29 50.5**	**-1.1**
YHL	**Hebgen Lake**	**144.31**	**76**		**PKPdf**	**20 29 51.9**	**-0.2**
BOZ	**Bozeman (W)**	**144.34**	**75**		**PKPdf**	**20 29 51.6**	**-0.3**
BW06	**Boulder Array**	**144.40**	**80**		PKPbc	20 29 50.9	+0.1
PDAR	**Pinedale Array**	**144.40**	**80**	PKP	PKPbc	20 29 51.0	+0.2
	comp=Z,5.2nm,1.1s,baz=205,slow=2.5,SNR=19						
SDCO	**Great Sand Dun**	**144.47**	**90**		PKPbc	20 29 51.5	+0.4
YHH	**Holmes Hill**	**144.49**	**77**		**PKPdf**	**20 29 52.1**	**-0.3**
T25A	**Trinidad**	**144.85**	**92**	PKPdf	PKPbc	20 29 52.2	-0.1
ISCO	**Idaho Springs**	**145.51**	**87**		**PKPab**	**20 29 54.5**	**-0.2**
HKT	**Hockley**	**145.82**	**110**		**PKPab**	**20 29 55.7**	**+0.1**
N23A	**Red Feather La**	**145.85**	**86**		**PKPab**	**20 29 55.5**	**-0.4**
K22A	**Casper**	**146.32**	**82**		**PKPbc**	**20 29 56.9**	**+0.2**
YKA	**Yellowknife Ar**	**146.80**	**45**	PKPbc	**PKPbc**	**20 29 57.0**	**-0.2**
	comp=Z,3.5nm,0.8s,baz=273,slow=2.8,SNR=30						
WMOK	**Wichita Mounta**	**147.11**	**101**		**PKPbc**	**20 29 58.1**	**-0.9**
LAO	**LASA Array**	**148.22**	**76**	PKPdf	**PKPdf**	**20 29 59.1**	**+0.8**
LAO					**PKPbc**	**20 30 02.9**	**+1.2**
RSSD	**Black Hills**	**148.60**	**81**	PKPdf	**PKPdf**	**20 29 58.6**	**-0.6**
RSSD					**PKPbc**	**20 30 02.7**	**-0.2**
X37A	**Clayton**	**149.21**	**104**		**PKPbc**	**20 30 04.3**

ULHL	**Ulahol**	**7.29**	**35**	P	**Pn**	**20 53 20.4**	**+0.8**
	SNR=6.6						
CHMS	**Chumysh**	**7.32**	**25**	P	**Pn**	**20 53 20.4**	**+0.7**
	SNR=13						
USP	**Ospenovka**	**7.47**	**23**	P	**Pn**	**20 53 22.4**	**+0.6**
	SNR=18						
TKM2	**Tokmak 2**	**7.56**	**29**	P	**Pn**	**20 53 23.7**	**+0.6**
	SNR=21						
TKM2	**Tokmak 2**	**7.56**	**29**	⇓Pn	**Pn**	**20 53 23.6**	**+0.5**
	22nm,0.5s						
SGDS	**Sogindy**	**7.68**	**23**	*e*P	**Pn**	**20 53 24.0**	**-0.5**
	1.1nm,0.4s,baz=24						
MTBS	**Maitube**	**8.08**	**32**	*e*P	**Pn**	**20 53 29.2**	**-0.4**
	baz=34						
TNSS	**Tian-Shan**	**8.23**	**35**	*i* P	**Pn**	**20 53 32.5**	**+0.5**
	baz=36						
AAA	**Alma-Ata**	**8.35**	**34**	*e*P	**Pn**	**20 53 35.0**	**+1.7**
	baz=35						
MDOK	**Medeo**	**8.38**	**35**	*i* P	**Pn**	**20 53 34.6**	**+0.9**
	baz=36						
KUU	**Kurty**	**8.67**	**29**	*i* P	**Pn**	**20 53 36.5**	**-0.9**
	1.8nm,0.7s,baz=30						
CHKK	**Chushkaly**	**8.90**	**32**	*i* P	**Pn**	**20 53 40.1**	**-0.2**
	baz=33						
SATY	**Saty**	**8.96**	**40**	*i* P	**Pn**	**20 53 41.5**	**+0.2**
	0.8nm,0.9s,baz=42						
BTLS	**Baital**	**9.00**	**16**	*i* P	**Pn**	**20 53 41.2**	**-0.4**
	baz=17						
UZB	**Uzynbulak**	**9.35**	**42**	*i* P	**Pn**	**20 53 46.4**	**+0.1**
	baz=43						
GEYT	**Alibeck**	**10.05**	**282**	P	**Pn**	**20 53 52.9**	**-2.4**
	0.2nm,0.3s,baz=96,slow=10,SNR=2.8						
PYUN	**Piuthan**	**13.39**	**125**	*e*P	**P**	**20 54 39.6**	**-1.1**
	12nm,0.3s						
MKAR	**Makanchi Array**	**13.56**	**37**	P	**P**	**20 54 41.0**	**-1.3**
	0.2nm,0.3s,baz=216,slow=12,SNR=11						
DANN	**Dangsing**	**13.74**	**122**	*e*P	P	20 54 48.1	+3.3
DANN				*e*S	**S**	**20 57 09.3**	**-6.5**
GKN	**Gorkha**	**14.56**	**121**	*e*P	P	20 54 57.2	+3.5
	12nm,0.2s						
KURBB	**Kurchatov Arra**	**15.31**	**20**	P	**Pn**	**20 54 60.0**	**-1.3**
	0.0nm,0.3s,baz=206,slow=11,SNR=4.0						
PKIN	**Phulchoki**	**15.35**	**121**	*e*P	**P**	**20 55 06.1**	**+3.5**
	7.5nm,0.4s						
PKI	**Pulchoki**	**15.37**	**121**	*e*P	**P**	**20 55 06.1**	**+3.3**
	5.9nm,0.4s						
JIRN	**Jiri**	**15.86**	**119**	*e*P	**Pn**	**20 55 12.0**	**+3.5**
	19nm,0.4s						
RAMN	**Ramite**	**16.58**	**120**	*e*P	**Pn**	**20 55 18.2**	**+1.2**
	4.5nm,0.4s						
BVAR	**Borovoye Array**	**16.60**	**360**	P	**Pn**	**20 55 18.4**	**+1.7**
	0.2nm,0.3s,baz=171,slow=10,SNR=4.5						
AKTO	**Aktyubinsk**	**16.67**	**331**	P	**Pn**	**20 55 17.7**	**+0.1**
	0.4nm,0.3s,baz=150,slow=12,SNR=12						
ZALV	**Zalesovo Beam**	**20.13**	**25**	P	Pn	20 55 55.6	-2.9
	0.7nm,0.3s,baz=217,slow=11,SNR=5.1						
FINES	**FINESS Array B**	**37.35**	**326**	P	**P**	**20 58 29.8**	**+1.5**
	1.6nm,0.6s,baz=120,slow=9.0,SNR=11						
ARCES	**ARCESS Array B**	**41.08**	**338**	P	**P**	**20 59 00.5**	**+1.4**
	1.1nm,0.5s,baz=116,slow=8.0,SNR=16						
NB2	**NORSAR Subarra**	**44.23**	**323**	P	**P**	**20 59 25.3**	**+0.7**
	comp=Z,0.7nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.23**	**323**	P	**P**	**20 59 25.4**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=97,slow=7.9,SNR=7.1						
YAK	**Yakutsk**	**44.23**	**35**	P	**P**	**20 59 26.3**	**+1.8**
	comp=Z,9.7nm,0.5s,baz=165,slow=2.2,SNR=5.1						
ESDC	**Sonseca Array**	**57.18**	**298**	LR	LR	21 32 07.4	
	comp=Z,45nm,19.1s,baz=145,slow=43						
TORD	**Torodi Ar. Bea**	**65.36**	**268**	P	**P**	**21 01 56.2**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=41,slow=7.1,SNR=4.9						
ASAR	**Alice Springs**	**84.50**	**125**	P	**P**	**21 03 46.7**	**+0.7**
	comp=Z,0.8nm,1.0s,baz=179,slow=12,SNR=1.5						

WEL 27 20:52:57.6±1.2,45°S±4°×16°7E±°, h9km±6km, M3.5/10, ML3.5/10, MLv3.5/10, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLZ	**Mavora Lakes**	**0.77**	**105**	P	Pg	20 53 12.4	0.0
MLZ				S	Sb	20 53 24.1	+0.5
WHZ	**Wether Hill Ro**	**0.95**	**140**	P	Pg	20 53 14.9	-0.9
WHZ				S	Sb	20 53 28.6	-0.3
WKZ	**Wanaka**	**1.43**	**77**	P	Pn	20 53 24.0	+0.2
WKZ				S	Sn	20 53 42.4	-0.2
EAZ	**Earnscleugh**	**1.58**	**93**	P	Pn	20 53 25.8	0.0
JCZ	**Jackson Bay**	**1.65**	**49**	P	Pn	20 53 27.0	+0.2
APZ	**The Paps**	**1.78**	**159**	P	Pb	20 53 29.8	-0.6
TUZ	**Tuapeka**	**1.96**	**114**	P	Pn	20 53 31.4	+0.4
SYZ	**Scrubby Hill**	**1.99**	**134**	P	Pn	20 53 30.5	-0.9
LBZ	**Lake Benmore**	**2.35**	**72**	P	Pn	20 53 36.2	-0.2
ODZ	**Otahua Downs**	**2.54**	**88**	P	Pn	20 53 37.8	-1.2
FOZ	**Fox Glacier**	**2.56**	**51**	P	Pb	20 53 41.6	-2.2
HHSZ	**Highcliff Hill**	**2.58**	**107**	P	Pn	20 53 40.5	+1.0
RPZ	**Rata Peaks**	**3.21**	**64**	P	Pn	20 53 46.6	-1.6
INZ	**Inchbonnie**	**4.00**	**54**	P	Pn	20 53 56.1	-2.9
MQZ	**McQueen's Vall**	**4.26**	**72**	P	Pn	20 54 01.0	-1.6
AKCZ	**Akaroa Harbour**	**4.38**	**75**	P	Pn	20 54 02.7	-1.5
LTZ	**Lake Taylor**	**4.45**	**59**	P	Pn	20 54 02.3	-3.0
DSZ	**Denniston Nort**	**4.86**	**47**	P	Pn	20 54 08.2	-2.7
THZ	**Tophouse**	**5.45**	**53**	P	Pn	20 54 17.2	-1.8
QRZ	**Quartz Range**	**5.91**	**45**	P	Pn	20 54 22.5	-2.8

IDC 27 20:56:13.4±4.6,9°09S×110°33E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/31, mbtmp3.5/3, Error ellipse: s-maj=256.1km s-min=27.3km az=47.0, South of Java

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.59**	**118**	P	P	21 01 44.4	-0.1
	7.8nm,1.1s,baz=290,slow=11,SNR=6.9						
ASAR	**Alice Springs**	**26.80**	**126**	P	P	21 01 55.6	+0.1
	0.5nm,0.7s,baz=300,slow=8.7,SNR=6.1						
MKAR	**Makanchi Array**	**60.99**	**338**	P	P	21 06 28.6	0.0
	0.2nm,0.3s,baz=149,slow=7.0,SNR=6.4						

IDC 27 21:07:49.0±58.0, 13°60S×168°15E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/20, mbtmp3.7/3, Error ellipse: s-maj=983.7km s-min=119.4km az=65.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.37**	**229**	P	P	21 14 02.5	-0.3
	1.8nm,0.6s,baz=47,slow=11,SNR=4.3						
WRA	**Warramunga Arr**	**32.94**	**254**	P	P	21 14 26.7	+1.1
	0.6nm,0.9s,baz=84,slow=9.2,SNR=1.2						
ASAR	**Alice Springs**	**33.88**	**248**	P	P	21 14 33.1	-0.6
	0.4nm,0.4s,baz=79,slow=9.0,SNR=16						

KRSC 27 21:49:37.8±2.0, 49°58N×156°96E, h17km±36km, ML4.2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.23**	**334**	*e*P	Pn	21 49 59.4	-0.8
SKR				*e*S	Sb	21 50 15.4	-0.8
PAU	**Pauzhetka**	**1.89**	**357**	*e*P	Pb	21 50 10.7	-1.2
PAU				*e*S	Sb	21 50 35.2	0.0
KDTR	**Khodutka, Kamc**	**2.34**	**17**	*e*P	Pb	21 50 17.7	-1.8
KDTR				*e*S	Sb	21 50 47.6	-0.5
MIPR	**Malaya Ipel'ka**	**2.70**	**357**	*e*P	Pn	21 50 21.9	+1.4
MIPR				*e*S	Sn	21 50 54.5	+1.7
ASAK	**Asacha**	**2.87**	**12**	*e*P	Pn	21 50 25.7	+2.9
ASAK				*e*S	Sb	21 51 01.7	-1.7
MTVR	**Mutnovka**	**3.01**	**14**	*e*P	Pn	21 50 27.6	+2.8
MTVR				*e*S	Sb	21 51 04.4	-3.0
RUS	**Russkaya**	**3.02**	**18**	*e*P	Pn	21 50 27.0	+2.2
RUS				*e*S	Sn	21 51 03.0	+2.4
GRL	**Gorelyy**	**3.06**	**13**	*e*P	Pn	21 50 28.3	+2.8
GRL				*e*S	Sb	21 51 06.0	-2.9
UGLR	**Uglovaya**	**3.82**	**17**	*e*P	Pb	21 50 40.6	-4.1
AVH	**Avacha**	**3.85**	**16**	*e*P	Pb	21 50 41.5	-3.8
KRER	**Koryakskii**	**3.89**	**16**	*e*S	Sb	21 51 28.1	-4.9
NLC	**Nalytchevo**	**3.89**	**22**	*e*S	Sn	21 51 24.3	+2.2
SDLR	**Sedlovina**	**3.89**	**17**	*e*P	Pn	21 50 41.4	+4.5
SPN	**Mys Shipunski**	**4.01**	**27**	*e*P	Pn	21 50 41.7	+3.3
SPN				*e*S	Sn	21 51 28.5	+3.5
TUMR	**Tumrok**	**6.03**	**18**	*e*P	Pn	21 51 10.8	+4.5

GEN 27 22:11:30.7, 44°52N×9°65E, h12km±2km, Ml 1.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GORR	**Gorreto**	**0.27**	**288**	P	Pg	22 11 36.6	+0.2
GORR				S	Sg	22 11 40.6	+0.5
GRAM	**Graiana**	**0.30**	**96**	P	Pg	22 11 36.9	0.0
GRAM				S	Sg	22 11 41.4	+0.5
EQUI	**Equi**	**0.51**	**135**	P	Pg	22 11 40.3	-0.4
EQUI				S	Sg	22 11 47.6	+0.2
SARO	**Sassorosso**	**0.64**	**122**	P	Pg	22 11 42.7	-0.4
SARO				S	Sg	22 11 51.8	+0.3
POPM	**Popiglio**	**0.93**	**121**	P	Pg	22 11 47.9	-0.7
POPM				S	Sg	22 12 00.6	-0.1

IDC 27 22:12:09.2±1.1, 33°84N×92°56E, h0km, mb3.8/9, mb1 3.9/13, mb1mx3.7/41, mbtmp3.8/13, ML3.3/4, MS3.1/2, Ms1 3.1/2, ms1mx2.6/46, Error ellipse: s-maj=29.8km s-min=20.8km az=47.0
BJI 27 22:12:11.2±0.0, 33°99N×92°44E, h6km, mB3.9/2, mb4.2/9, Ms3.7/6, Ms7 3.5/4
ISC 27 22:12:12.5±0.6, 34°00N±0°06×92°38E±0°08, h10km, n28, σ1§81/28, mb3.9/8, 1C, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.41**	**194**	Pn	**Pn**	**22 13 23.8**	**+3.9**
LSA				Pg	**Pb**	**22 13 30.0**	**-0.3**
LSA				Sg	**Sg**	**22 14 33.0**	**-1.2**
LSA				LR	LR		
	comp=N,1μm,7.1s						
LSA				LR	LR		
	comp=E,1μm,6.4s						
GTA	**Gaotai**	**8.05**	**46**	⇑P	**Pn**	**22 14 10.5**	**+0.9**
GTA				pP	Pb	22 14 19.5	-13
GTA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GTA				pmax	pmax		
	comp=Z,64nm,4.0s						
GTA				LR	LR		
	comp=Z,260nm,9.8s						
RAMN	**Ramite**	**8.61**	**217**	*e*P	**Pn**	**22 14 18.3**	**+0.8**
	38nm,0.5s						
KKN	**Kakani**	**8.69**	**226**	*e*P	**Pn**	**22 14 20.6**	**+2.2**
	15nm,0.6s						
PKI	**Pulchoki**	**8.77**	**225**	*e*P	**Pn**	**22 14 21.4**	**+1.7**
	11nm,0.5s						
PKIN	**Phulchoki**	**8.77**	**225**	*e*P	**Pn**	**22 14 21.6**	**+1.9**
	16nm,0.4s						
DMN	**Daman**	**8.92**	**226**	*e*P	**Pn**	**22 14 23.8**	**+2.1**
	23nm,0.7s						
GKN	**Gorkha**	**8.93**	**230**	*e*P	**Pn**	**22 14 23.4**	**+1.6**
	32nm,0.5s						
DANN	**Dangsing**	**9.28**	**235**	*e*P	**Pn**	**22 14 27.9**	**+1.2**
	20nm,0.7s						
KOLN	**Koldanda**	**9.77**	**233**	*e*P	**Pn**	**22 14 34.6**	**+1.4**
	37nm,1.0s						
PYUN	**Piuthan**	**9.97**	**236**	*e*P	**Pn**	**22 14 36.9**	**+0.9**
	20nm,0.5s						
WMQ	**Urumqi**	**10.46**	**341**	*e*P	**Pn**	**22 14 46.0**	**+3.4**
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,5.0nm,3.8s						
WMQ				LR	LR		
	comp=N,84nm,7.5s						
WMQ				LR	LR		
	comp=E,93nm,10.5s						
XAN	**Xi'an**	**13.72**	**85**	P	**Pn**	**22 15 30.0**	**+2.8**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MKAR	**Makanchi Array**	**14.90**	**332**	Pn	**Pn**	**22 15 42.8**	**-0.4**
	0.1nm,0.3s,baz=150,slow=13,SNR=6.1						
AAK	**Ala-Archa**	**16.45**	**307**	Pn	**Pn**	**22 16 05.0**	**+1.5**
	0.4nm,0.3s,baz=188,slow=5.2,SNR=1.8						
SONM	**Songino Array**	**17.38**	**33**	P	**Pn**	**22 16 13.9**	**-1.2**
	0.1nm,0.3s,baz=224,slow=10,SNR=3.2						
KURBB	**Kurchatov Arra**	**19.46**	**333**	P	**P**	**22 16 39.9**	**+0.7**
	0.1nm,0.3s,baz=144,slow=11,SNR=9.2						
ZALV	**Zalesovo Beam**	**20.65**	**347**	P	**P**	**22 16 52.0**	**-0.2**
	1.4nm,0.6s,baz=168,slow=12,SNR=6.8						
BVAR	**Borovoye Array**	**24.65**	**327**	P	**P**	**22 17 33.8**	**+0.6**
	1.5nm,0.8s,baz=134,slow=11,SNR=11						
KSRS	**Korea Array**	**28.95**	**73**	LR	LR	22 30 32.7	
	comp=Z,23nm,18.6s,baz=235,slow=38						
KLR	**Kul'dur**	**32.72**	**50**	P	**P**	**22 18 43.7**	**-1.4**
	0.7nm,0.4s,baz=278,slow=4.5,SNR=5.4						
BRTR	**Keskin Array B**	**46.62**	**295**	LR	LR	22 42 22.9	
	comp=Z,25nm,18.8s,baz=115,slow=39						
FINES	**FINESS Array B**	**49.57**	**325**	P	**P**	**22 21 03.4**	**+0.1**
	1.2nm,0.9s,baz=95,slow=9.6,SNR=4.3						
NOA	**NORSAR Array B**	**56.75**	**325**	P	**P**	**22 21 55.0**	**-1.4**
	0.5nm,0.6s,baz=79,slow=7.1,SNR=3.3						
ASAR	**Alice Springs**	**69.63**	**140**	P	**P**	**22 23 19.5**	**-2.6**
	0.4nm,0.5s,baz=325,slow=6.5,SNR=8.9						
ILAR	**Eielson Array**	**71.28**	**23**	P	**P**	**22 23 29.9**	**-1.8**
	0.5nm,0.8s,baz=340,slow=5.3,SNR=3.9						
YKA	**Yellowknife Ar**	**81.42**	**12**	P	**P**	**22 24 27.8**	**-1.5**
TORD	**Torodi Ar. Bea**	**83.33**	**281**	P	**P**	**22 24 39.2**	**-1.0**
	2.8nm,0.8s,baz=45,slow=4.6,SNR=23						

ROM 27 22:12:15.8±0.1, 44°522N±0°008×9°67E±0°01, h9km, ML1.0/2, Error ellipse: s-maj=0.9km s-min=0.8km az=38.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSSA	**Maissana**	**0.23**	**208**	P	Pg	22 12 21.4	+0.9
MSSA				S	Sg	22 12 25.1	+1.4
GRAM	**Graiana**	**0.28**	**96**	P	Pb	22 12 22.8	-0.3
GRAM				S	Sg	22 12 26.4	+1.1
GRAM				AML	AML		
	comp=E,64μm,0.8s						
GRAM				AML	AML		
	comp=N,52μm,0.4s						
GORR	**Gorreto**	**0.28**	**288**	P	Pb	22 12 22.3	-0.8
GORR				S	Sb	22 12 26.8	-1.1
GORR				AML	AML		
	comp=E,48μm,1.0s						
GORR				AML	AML		
	comp=N,42μm,1.3s						
GORR				AML	AML		
	comp=N,42μm,1.3s						
GORR				AML	AML		
	comp=E,48μm,1.0s						
BOB	**Bobbio (Coli)**	**0.29**	**327**	P	Pb	22 12 22.5	-0.7
BOB				S	Sb	22 12 27.4	-0.8
BOB				AML	AML		
	comp=E,64μm,0.9s						
BOB				AML	AML		
	comp=N,47μm,0.4s						
BOB				AML	AML		
	comp=N,47μm,0.4s						
BOB				AML	AML		
	comp=E,64μm,0.9s						
SSFR	**Montelago di S**	**2.49**	**115**	AML	AML		
	comp=E,16μm,1.1s						
SSFR				AML	AML		
	comp=N,12μm,1.2s						
SSFR				AML	AML		
	comp=E,808μm,1.5s						
SSFR				AML	AML		
	comp=N,1517μm,1.5s						

JMA 27 22:23:34.2±0.2, 42°94N×146°77E, h60km±3km, M3.5
SKHL 27 22:23:34.3±0.4, 42°92N×146°86E, h44km±4km, mb4.0/3
ISC 27 22:23:33.0±2.0, 42°95N±0°08×146°81E±0°08, h30km, n20, σ1§54/31, Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.89**	**299**	P	**Pb**	**22 23 50.6**	**+0.7**
NEM2				*e*S	**Sb**	**22 24 02.8**	**+1.4**
NMR	**Nemuro--Hokkai**	**0.90**	**298**	*i* P	**Pb**	**22 23 50.7**	**+0.6**
NMR				*i* S	**Sb**	**22 24 02.8**	**+1.0**
JKHN	**Kushirohamanak**	**1.22**	**277**	P	**Pb**	**22 23 55.1**	**-0.4**
YUK	**Yuzh-Kuril'sk**	**1.29**	**328**	*i* P	**Pb**	**22 23 55.6**	**-1.1**
YUK				AMB	AMB	22 23 56.0	
	40nm,0.2s						
YUK				*i* S	**Sb**	**22 24 11.7**	**-1.2**
YUK				A	A	22 24 16.0	
	850nm,0.4s						
YUK				A	A	22 24 16.0	
	540nm,0.4s						
GRPR	**Tuman**	**1.29**	**324**	*i* P	**Pb**	**22 23 55.6**	**-1.1**
GRPR				AMB	AMB	22 23 58.0	
	30nm,0.2s						
GRPR				*i* S	**Sn**	**22 24 11.3**	**0.0**
GRPR				A	A	22 24 12.0	
	350nm,0.3s						
GRPR				A	A	22 24 12.0	
	810nm,0.3s						
LAGR	**Lagunnoye**	**1.34**	**326**	*i* P	**Pb**	**22 23 56.0**	**-1.5**
LAGR				AMB	AMB	22 24 01.0	
	30nm,0.2s						
LAGR				*i* S	**Sb**	**22 24 12.7**	**-1.5**
LAGR				A	A	22 24 17.0	
	700nm,0.4s						
LAGR				A	A	22 24 17.0	
	480nm,0.4s						
JAK	**Akkeshi**	**1.56**	**273**	P	**Pb**	**22 23 59.5**	**-1.7**
JAK				*e*S	**Sb**	**22 24 18.3**	**-2.1**
JNSB	**Nemuroshibetsu**	**1.56**	**303**	P	**Pb**	**22 23 59.3**	**-1.9**
JRA	**Rausu**	**1.58**	**309**	P	**Pb**	**22 24 00.1**	**-1.5**
JNK	**Nakash**	**1.66**	**293**	P	**Pb**	**22 24 00.7**	**-2.2**
JNK				*e*S	**Sn**	**22 24 20.2**	**-0.2**
JOB	**Onbets**	**2.19**	**270**	P	**Pn**	**22 24 08.6**	**+1.3**
JAR	**Ashorobuto**	**2.26**	**280**	P	**Pn**	**22 24 09.5**	**+1.2**
JAR				*e*S	**Sn**	**22 24 35.4**	**+0.3**
JTKR	**Abashiri--Toko**	**2.35**	**297**	P	**Pb**	**22 24 11.4**	**-3.3**
JTKR				*e*S	**Sn**	**22 24 38.8**	**+1.4**
KUR	**Kuril'sk**	**2.41**	**18**	*e*P	**Pn**	**22 24 11.7**	**+1.3**
KUR				*i* S	**Sn**	**22 24 38.9**	**0.0**
KUR				A	A	22 24 41.7	
	120nm,0.2s						
KUR				A	A	22 24 41.7	
	110nm,0.2s						
JCH	**Churui**	**2.56**	**264**	P	**Pn**	**22 24 13.5**	**+1.0**
JCH				*e*S	**Sn**	**22 24 42.4**	**-0.2**
JMP	**Maruseppu**	**2.73**	**294**	P	**Pn**	**22 24 16.8**	**+2.0**
JNBK	**Urakawa-nobuka**	**3.07**	**259**	P	**Pn**	**22 24 20.7**	**+1.2**
JFR	**Furan**	**3.10**	**275**	P	**Pn**	**22 24 21.7**	**+1.8**
JBT2	**Biratori 2**	**3.28**	**269**	P	**Pn**	**22 24 23.2**	**+0.9**
ASAJ	**Asahikawa**	**3.28**	**292**	P	**Pn**	**22 24 25.2**	**+2.8**

IDC 27 22:35:03.8±0.8, 36°79N×97°88W, h0km, mb3.8/3, mb1 4.0/10, mb1mx3.7/43, mbtmp3.7/10, ML3.7/6, MS3.1/10, Ms1 3.1/10, ms1mx2.9/51, Error ellipse: s-maj=12.9km s-min=10.6km az=145.0
NEIC 27 22:35:04.8±0.8, 36°716N±0°009×97°90W±0°02, h0km±3km, Error ellipse: s-maj=1.9km s-min=1.3km az=97.0
TUL 27 22:35:04.8±1.0, 36°719N±0°010×97°90W±0°03, h6km±5km, ML3.9, mb3.7/1(NEIC), Mwr3.7/44(NEIC), Error ellipse: s-maj=2.9km s-min=1.4km az=86.0
ANF 27 22:35:05.3±0.9, 36°70N×97°82W, h11km±6km, ML4.8/18, Error ellipse: s-maj=2.6km s-min=2.5km az=112.0
UNK 27 22:35:05.2, 36°72N×97°81W, h5km
NEIC 27 22:35:05.1, 36°71N×97°84W, h2km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=4.32; $M_{\theta\theta}$=4.57; $M_{\phi\phi}$=0.26; $M_{r\theta}$=1.44; $M_{r\phi}$=0.58; $M_{\theta\phi}$=1.62; Fault plane solution: M_0=4.98000×10^{14} NP1:ϕ_s=244.57000°, δ=40.52000°, λ=-120.97000°. NP2:ϕ_s=102.86000°, δ=56.15000°, λ=-66.26000°. Principal axes: T 4.8215, Plg8.0000°, Azm176.0000°; N 0.3098, Plg20.0000°, Azm269.0000°; P -5.1313, Plg69.0000°, Azm64.0000°;
ISC 27 22:35:04.2±0.6, 36°71N±0°03×97°85W±0°03, h10km, n138, σ1§84/144, mb3.8/3, MS3.3/4, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
U32A	**Winter Ranch,**	**0.98**	**251**	Pg	**Pg**	**22 35 22.8**	**-0.3**
T35A	**Sooner Cattle**	**1.10**	**79**		**Pb**	**22 35 26.2**	**+0.9**
ADOK	**Arcadia Dam**	**1.12**	**159**	Pg	**Pb**	**22 35 26.4**	**+0.7**
OK009	**Oakdale Elemen**	**1.17**	**163**		**Pb**	**22 35 27.5**	**+0.9**
FNO	**Franklin**	**1.49**	**166**		**Pb**	**22 35 33.0**	**+1.0**
W35A	**Tecumseh**	**1.74**	**153**	Pn	**Pn**	**22 35 36.3**	**+1.8**
R32A	**Long Quarter,**	**1.84**	**339**	Pn	**Pn**	**22 35 37.6**	**+1.6**
TUL1	**Leonard**	**1.84**	**115**	P	**Pn**	**22 35 37.8**	**+1.9**
	baz=297,SNR=186						
TUL1				Sb	**Sb**	**22 36 03.6**	**+2.4**
	baz=297						
TUL1	**Leonard**	**1.84**	**115**		**Pn**	**22 35 37.9**	**+1.9**
X34A	**Smith Ranch, M**	**2.10**	**180**	Pn	**Pn**	**22 35 41.3**	**+1.8**
WMOK	**Wichita Mounta**	**2.10**	**201**	P	**Pn**	**22 35 40.9**	**+1.3**
	baz=22,SNR=122						
WMOK				S	**Sb**	**22 36 08.4**	**-0.3**
	baz=22						
WMOK	**Wichita Mounta**	**2.10**	**201**		**Pn**	**22 35 40.8**	**+1.3**
CBKS	**Cedar Bluff**	**2.58**	**325**	P	**Pn**	**22 35 47.8**	**+1.7**
	baz=143						
CBKS				S	**Sb**	**22 36 22.8**	**+0.3**
	baz=143						
CBKS	**Cedar Bluff**	**2.58**	**325**	Pn	**Pn**	**22 35 47.2**	**+1.1**
KSU1	**Kansas State U**	**2.59**	**22**	P	**Pn**	**22 35 47.8**	**+1.7**
	baz=202,SNR=42						
KSU1				S	**Sn**	**22 36 20.7**	**+3.0**
	baz=202						
KSU1	**Kansas State U**	**2.59**	**22**	Pn	**Pn**	**22 35 48.0**	**+1.8**
U38A	**Gravette**	**2.81**	**94**		**Pn**	**22 35 51.5**	**+2.3**
X37A	**Clayton**	**2.92**	**135**		**Pn**	**22 35 53.2**	**+2.4**
HHAR	**Hobbs**	**3.18**	**96**		**Pn**	**22 35 56.5**	**+2.1**
Z35A	**Perchaven, San**	**3.40**	**171**	Pn	**Pn**	**22 35 59.9**	**+2.5**
AMTX	**Amarillo**	**3.60**	**241**	P	**Pn**	**22 36 02.2**	**+2.0**
	baz=59						
AMTX				Sb	**Sg**	**22 36 56.9**	**-3.1**
	baz=59						
AMTX	**Amarillo**	**3.60**	**241**	Pn	**Pn**	**22 36 02.6**	**+2.3**
W39A	**Magazine**	**3.63**	**113**	P	**Pn**	**22 36 02.0**	**+1.5**
	baz=296,SNR=16						
W39A	**Magazine**	**3.63**	**113**	Pn	**Pn**	**22 36 02.6**	**+2.2**
N33A	**J Bar K, Exete**	**4.04**	**4**	Pn	**Pn**	**22 36 06.7**	**+0.6**
U40A	**Yellville**	**4.04**	**93**	P	**Pn**	**22 36 07.8**	**+1.6**
	baz=277,SNR=40						
U40A				S	**Sn**	**22 36 55.5**	**+1.9**
	baz=277						
MIAR	**Mount Ida**	**4.10**	**120**	P	**Pn**	**22 36 07.6**	**+0.7**
	baz=304

baz=333
CCAR Cane Creek 5.70 117 Pn **Pn 22 36 30.6 +1.7**
435B Jarrell 5.91 178 Pg Pb 22 36 53.5 +6.1
K31A O'Neill 5.95 354 Pn **Pn 22 36 33.4 +1.0**
X43A Marvell 6.08 109 Pn **Pn 22 36 36.4 +2.2**
CPRX Cap Rock 6.15 235 Pn **Pn 22 36 37.2 +1.9**
SDCO Great Sand Dun 6.19 282 P **Pn 22 36 37.0 +1.0**
baz=97
Q24A Divide 6.20 294 P **Pn 22 36 37.3 +1.2**
baz=109
Q24A Divide 6.20 294 Pn **Pn 22 36 37.7 +1.6**
SCIA State Center 6.32 33 P **Pn 22 36 38.8 +1.3**
baz=216
JCT Junction City 6.42 195 P **Pn 22 36 39.4 +0.5**
baz=14
LNXT Lenox 6.77 93 Pn **Pn 22 36 45.9 +2.2**
ISCO Idaho Springs 6.84 299 P **Pn 22 36 45.9 +1.0**
baz=114
HICK Hickman 6.94 89 Pn **Pn 22 36 48.0 +2.1**
HKT Hockley 6.95 165 Pn **Pn 22 36 48.0 +2.0**
ECSD EROS Data Cent 7.08 7 P **Pn 22 36 47.9 -0.1**
baz=188,SNR=19
K38A Parkersburg 7.11 32 **Pn 22 36 49.5 +1.2**
ANMO Albuquerque 7.21 258 Pn **Pn 22 36 52.6 +2.8**
0.1nm,0.3s,baz=262,slow=15,SNR=1.7
ANMO Pg Pg 22 37 16.9 -5.3
0.7nm,0.3s,baz=71,slow=16,SNR=4.7
ANMO Lg Lg 22 38 47.6
2.8nm,0.3s,baz=356,slow=13,SNR=6.9
ANMO Albuquerque 7.21 258 Pn **Pn 22 36 52.3 +2.5**
OXF Oxford 7.22 105 P **Pn 22 36 51.2 +1.4**
baz=290
OXF Oxford 7.22 105 **Pn 22 36 51.3 +1.5**
S22A 4UR Ranch, Cre 7.24 281 Pn **Pn 22 36 51.4 +1.1**
HDIL Hopedale 7.72 58 P **Pn 22 36 58.3 +1.5**
baz=243,SNR=15
SUSD Miller 7.78 354 P **Pn 22 36 57.6 +0.1**
baz=173
MNTX Cornudas Mount 7.99 233 P **Pn 22 37 02.0 +1.6**
baz=49,SNR=5.5
WVT Waverly 8.10 91 P **Pn 22 37 02.1 +0.1**
baz=277
JFWS Jewell Farm 8.53 41 P **Pn 22 37 08.0 +0.3**
baz=226,SNR=19
RSSD Black Hills 8.78 329 P **Pn 22 37 13.2 +1.8**
baz=145
TXAR Lajitas Array 8.82 215 Pn **Pn 22 37 11.2 -0.7**
0.3nm,0.3s,baz=47,slow=11,SNR=20
TXAR Pg Pg 22 37 42.2 -11
0.8nm,0.3s,baz=29,slow=13,SNR=6.4
TXAR Lg Lg 22 39 39.7
2.1nm,0.3s,baz=40,slow=29,SNR=6.8
TXAR LR LR 22 40 50.2
comp=Z,123nm,20.4s,baz=0.0,slow=39
SFIN Lafayette 9.19 63 P **Pn 22 37 17.8 +0.9**
baz=250,SNR=5.0
WCI Wyandotte Cave 9.32 77 P **Pn 22 37 19.5 +0.9**
baz=264
SPMN Marine on St. 9.33 23 P **Pn 22 37 19.3 +0.6**
baz=206
O48A Farmland 10.57 67 P **Pn 22 37 34.5 -1.2**
baz=254,SNR=7.2
P49A Miami Univ. Ec 10.73 71 P **Pn 22 37 36.9 -1.0**
baz=259
PDAR Pinedale Array 10.85 307 Pn **Pn 22 37 39.4 -0.5**
0.2nm,0.3s,baz=108,slow=14,SNR=6.3
PDAR Lg Lg 22 40 40.4
0.5nm,0.3s,baz=111,slow=29,SNR=3.5
PDAR LR LR 22 42 36.5
comp=Z,38nm,19.3s,baz=100,slow=42
TKL Tuckaleechee C 11.43 91 Pn **Pn 22 37 48.4 +0.8**
1.1nm,0.3s,baz=246,slow=7.6,SNR=25
TKL Lg Lg 22 41 00.1
3.3nm,0.3s,baz=193,slow=21,SNR=4.1
TKL LR LR 22 42 31.2
comp=Z,22nm,21.0s,baz=302,slow=39
TZTN Tazewell 11.50 87 P **Pn 22 37 49.2 +0.7**
baz=275
U15A North Rim 11.62 273 Pn **Pn 22 37 52.4 +2.1**
KNB Kanab 12.00 276 Pn **Pn 22 37 57.0 +1.6**
EYMN Ely 12.17 21 P **Pn 22 37 55.7 -1.9**
baz=205
EYMN Ely 12.17 21 Pn **Pn 22 37 56.6 -1.1**
SZCU Shurtz Canyon 12.19 279 Pn **Pn 22 37 59.5 +1.4**
T53A Wise 12.28 84 P **Pn 22 37 58.9 -0.3**
baz=273,SNR=8.9
O51A Pataskala 12.44 69 P **Pn 22 38 00.1 -1.3**
baz=259,SNR=7.3
Q52A Bidwell 12.53 75 P **Pn 22 38 02.0 -0.6**
baz=264,SNR=7.1
J48A Bridge Port 12.63 54 P **Pn 22 38 02.6 -1.3**
baz=243,SNR=6.6
P52A Corning 12.71 72 P **Pn 22 38 03.4 -1.7**
baz=262
R53A Hurricane 12.73 78 P **Pn 22 38 04.4 -0.9**
baz=268,SNR=7.4
N51A Ashland 12.78 66 P **Pn 22 38 05.2 -0.8**
baz=256,SNR=12
L50A Kingsville 12.80 61 P **Pn 22 38 05.7 -0.5**
baz=250
V54A Nebo 12.88 89 P **Pn 22 38 07.4 +0.1**
baz=279,SNR=11
U54A Nelsons Funny 12.89 86 P **Pn 22 38 07.0 -0.5**
baz=276,SNR=7.5
T54A Tazewell 13.04 84 P **Pn 22 38 08.4 -1.2**
baz=273,SNR=8.0
J49A Marlette 13.08 55 P **Pn 22 38 08.3 -1.7**
baz=244,SNR=6.0
Q53A Leroy 13.10 76 P **Pn 22 38 08.5 -1.8**
baz=266,SNR=11
S54A Dingess, Beckl 13.23 80 P **Pn 22 38 11.3 -0.8**
baz=270
P53A Whipple 13.26 73 P **Pn 22 38 11.2 -1.4**
baz=263
R54A Victor 13.48 79 P **Pn 22 38 14.5 -1.1**
baz=269,SNR=10
G47A Hillman 13.53 47 P **Pn 22 38 12.8 -3.4**
baz=236,SNR=12
I49A Point Hope 13.54 53 P **Pn 22 38 13.8 -2.5**
baz=243
ULM Lac du Bonnet 13.62 5 Pn Pn 22 38 12.8 -4.5
1.2nm,0.3s,baz=191,slow=10,SNR=7.7
ULM Sn Sn 22 40 33.3 -15
0.6nm,0.3s,baz=286,slow=19,SNR=2.6
ULM Lg Lg 22 42 02.5
0.6nm,0.3s,baz=294,slow=20,SNR=1.7
ULM LR LR 22 43 54.5
comp=Z,59nm,18.3s,baz=124,slow=39
Q54A Coxs Mills 13.64 75 P **Pn 22 38 16.4 -1.4**
baz=266
T55A Pulaski 13.67 83 P **Pn 22 38 16.9 -1.2**
baz=274,SNR=6.6
N53A Lisbon 13.89 68 P **Pn 22 38 19.0 -2.2**
baz=258
W56A Indian Trail 14.09 91 P **Pn 22 38 23.6 -0.3**
baz=282
M53A WI Miller and 14.15 65 P **Pn 22 38 24.5 -0.2**
baz=256
R55A Marlinton 14.17 78 P **Pn 22 38 23.2 -1.9**
baz=269,SNR=13
D46A Sault St. Mari 14.46 41 P **Pn 22 38 26.6 -2.3**
baz=230
N54A Moraine State 14.56 68 P **Pn 22 38 27.4 -2.8**
baz=259
E47A Iron Bridge 14.60 44 P **Pn 22 38 27.5 -3.3**
baz=233
F48A Evansville 14.62 47 P Pn 22 38 26.7 -4.3
baz=237
I51A Listowel 14.66 56 P **Pn 22 38 28.8 -2.9**
baz=247
R56A Bull Pasture M 14.74 78 P **Pn 22 38 30.7 -2.1**
baz=269
M54A Oil Creek Stat 14.91 66 P **Pn 22 38 32.3 -2.7**
baz=257
F49A Sandfield 14.93 48 P Pn 22 38 30.2 -5.0
baz=238,SNR=7.3
D47A Chapleau 15.06 42 P **Pn 22 38 32.6 -4.4**
baz=232,SNR=8.8
P56A Dayton Farm, R 15.23 74 P **Pn 22 38 37.8 -1.5**
baz=265
N55A Marion Center 15.27 69 P **Pn 22 38 38.0 -1.9**
baz=261
L54A Sinclairville 15.34 63 P **Pn 22 38 38.3 -2.4**
baz=255
O56A Blue Knob Stat 15.52 71 P **Pn 22 38 40.4 -2.7**
baz=263
SADO Sadowa 16.29 55 Pn **Pn 22 38 49.2 -3.8**
0.3nm,0.3s,baz=284,slow=11,SNR=3.7
SADO Sn **Sn 22 41 46.9 -6.8**
0.4nm,0.3s,baz=178,slow=18,SNR=1.7
SADO Lg Lg 22 43 29.9
0.9nm,0.3s,baz=140,slow=16,SNR=8.9
SADO Sadowa 16.29 55 IAmb IAmb 22 39 12.7
comp=Z,7.0nm,1.1s
NVAR Mina Array Bea 16.31 282 Pn **P 22 38 56.3 -0.2**
comp=Z,0.1nm,0.3s,baz=85,slow=11,SNR=2.1
E51A G1948 Merrick 16.84 49 P **Pn 22 38 56.2 -3.8**
baz=241,SNR=5.8
E52A Mattawa 17.24 50 P **Pn 22 39 01.1 -3.9**
baz=243,SNR=6.2
E53A Dumoine, Ponti 17.90 51 P **Pn 22 39 09.7 -3.4**
baz=244,SNR=5.8
E54A Lac Daplat, Po 18.22 51 P **Pn 22 39 13.5 -3.7**
baz=245,SNR=12
NEW Newport 18.26 315 LR LR 22 46 52.7
comp=Z,79nm,21.1s,baz=114,slow=39
CMIG Matias Romero 19.71 172 LR LR 22 50 13.2
comp=Z,20nm,18.5s,baz=332,slow=46
BBB Bella Bella 26.32 316 LR LR 22 51 53.9
comp=Z,62nm,19.0s,baz=123,slow=38
YKA Yellowknife Ar 27.83 343 LR LR 22 52 22.1
comp=Z,99nm,18.7s,baz=0.0,slow=37
ILAR Eielson Array 40.23 330 P **P 22 42 41.9 +1.2**
comp=Z,0.7nm,0.7s,baz=105,slow=7.3,SNR=5.4
ARCES ARCESS Array B 66.32 19 P **P 22 45 52.0 -0.5**
comp=Z,0.5nm,0.7s,baz=310,slow=5.6,SNR=4.0
NOA NORSAR Array B 66.92 30 LR LR 23 14 30.9
comp=Z,15nm,18.6s,baz=230,slow=35
FINES FINESS Array B 72.16 25 P **P 22 46 29.5 +0.8**
comp=Z,1.5nm,0.8s,baz=347,slow=5.7,SNR=3.3
JNU Nakatsue 96.96 321 LR LR 23 35 45.0
comp=Z,69nm,18.3s,baz=220,slow=38

BJI ***27*** *22:37:17.0±0.0, 23.˚12N×142.˚71E, h145km, mB4.7/35, mb4.8/58*
NEIC ***27*** *22:37:20.1±1.6, 23.˚15N±0.˚06×142.˚29E±0.˚09, h136km±4km, mb5.0/356, Error ellipse: s-maj=12.2km s-min=9.3km az=82.0*
BGR ***27*** *22:37:20.6±0.0, 25.˚50N×141.˚10E, h33km, mb5.0*
UNK ***27*** *22:37:20.1, 23.˚15N×142.˚29E, h136km*
MOS ***27*** *22:37:20.1±0.9, 23.˚18N×142.˚26E, h147km, mb4.9/55, Error ellipse: s-maj=6.4km s-min=3.8km az=111.0*
JMA ***27*** *22:37:21.8±0.1, 23.˚47N×142.˚02E, h175km±1km, M5.3*
JMA Felt I J1.
IDC ***27*** *22:37:21.1±0.5, 23.˚23N×142.˚25E, h138km±4km, mb4.5/37, mb1 4.6/39, mb1mx4.6/49, mbtmp4.9/39, MS3.4/10, Ms1 3.4/10, ms1mx3.1/35, Error ellipse: s-maj=8.9km s-min=6.1km az=86.0*
GCMT ***27*** *22:37:22.1±0.3, 23.˚10N±0.˚02×142.˚24E±0.˚02, h151km±2km, MW5.0/108, Moment Tensor Solution. s36,c38; s108,c150; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.90±.11; Mθθ0.47±.15; Mϕϕ-2.37±.15; Mrθ-0.94±.10; Mrϕ-3.27±.13; Mθr1.45±.11; Best double couple: M₀4.24900×10^16 NP1:ϕs252.00000°, δ58.00000°, λ154.00000°. NP2:ϕs356.00000°, δ69.00000°, λ34.00000°. Principal axes: T 3.9030, Plg39.0000°, Azm217.0000°; N 0.6890, Plg50.0000°, Azm24.0000°; P -4.5940, Plg6.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 27 22:37:21.0±0.4, 23.˚22N±0.˚03×142.˚31E±0.˚04, h143km±3km, h143km:pP-P,n836,c1s29/841,mb4.9/297,47C-25D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**3.41**	**358**	P		**Pn**	**Pn**	**22 38 12.6**	**-0.7**
JHH2				S		**Sn**	**Sn**	**22 38 51.5**	**-2.3**
JCJ	**Chichijima**	**3.87**	**358**	Pn		**Pn**	**Pn**	**22 38 18.9**	**-0.4**
JCJ				Sn		**Sn**	**Sn**	**22 39 02.1**	**-2.5**
CBIJ	**Chichi jima**	**3.87**	**358**	P		**Pn**	**Pn**	**22 38 18.4**	**-0.9**
CBIJ				*e*S		**Sn**	**Sn**	**22 39 01.8**	**-2.8**
GUMO	**Guam**	**9.88**	**165**	P		**Pn**	**Pn**	**22 39 39.6**	**+0.1**
GUMO	6.9nm,0.3s,baz=297,slow=5.7,SNR=12			LR		LR	LR	22 42 39.8	
	comp=Z,316nm,18.7s,baz=354,slow=32								
GUMO	**Guam**	**9.88**	**165**	Pn		**Pn**	**Pn**	**22 39 39.0**	**-0.6**
JHCJ	**Hachijojimakas**	**10.07**	**348**	P		**Pn**	**Pn**	**22 39 38.9**	**-3.1**
JHJ2	**Mitsune**	**10.10**	**348**	P		**Pn**	**Pn**	**22 39 39.6**	**-2.8**
JHJ2	**Mitsune**	**10.10**	**348**	Pn		**Pn**	**Pn**	**22 39 39.8**	**-2.6**
JHJ	**Hachijo jima 2**	**10.12**	**348**	P		**Pn**	**Pn**	**22 39 39.4**	**-3.2**
	36nm,0.3s,baz=224,slow=22,SNR=22								
JHJ				S		Sn	Sn	22 41 23.5	-11
	25nm,0.3s,baz=81,slow=22,SNR=1.8								
JMKN	**Mikurajimanish**	**10.90**	**348**	P		**Pn**	**Pn**	**22 39 49.6**	**-3.4**
JMKN				*e*S		Sn	Sn	22 41 44.0	-9.4
BSO1	**Boso 1**	**11.46**	**354**	P		**Pn**	**Pn**	**22 39 56.8**	**-3.0**
BSO1				S		Sn	Sn	22 41 54.0	-12
BSO3	**Boso 3**	**11.65**	**353**	P		**Pn**	**Pn**	**22 39 58.9**	**-3.7**
BSO4	**Boso 4**	**11.86**	**352**	P		**Pn**	**Pn**	**22 40 03.4**	**-2.1**
JTNC	**Tanabenakahech**	**12.09**	**332**	P		**Pn**	**Pn**	**22 40 07.9**	**-0.7**
JKN2	**Miekihoku**	**12.19**	**336**	P		**Pn**	**Pn**	**22 40 07.9**	**-2.0**
HMMJ	**Hamamatsu 2**	**12.27**	**342**	P		**Pn**	**Pn**	**22 40 08.4**	**-2.6**
JOD2	**Odawara 2**	**12.33**	**348**	P		**Pn**	**Pn**	**22 40 08.0**	**-3.7**
JNY	**Yasuok**	**12.70**	**343**	P		**Pn**	**Pn**	**22 40 13.9**	**-2.8**
JAO	**Obara**	**12.79**	**341**	P		**Pn**	**Pn**	**22 40 15.4**	**-2.3**
JHU	**Hanno**	**12.86**	**349**	P		**Pn**	**Pn**	**22 40 14.1**	**-4.5**
JHU				*e*S		Sn	Sn	22 42 28.5	-12
INU	**Inuyama**	**12.94**	**340**	Pn		**Pn**	**Pn**	**22 40 17.3**	**-2.3**
JRY	**Ryogami san**	**13.10**	**348**	P		**Pn**	**Pn**	**22 40 17.3**	**-4.3**
JRY				*e*S		Sn	Sn	22 42 31.8	-15
JYT	**Yasato**	**13.10**	**352**	P		**Pn**	**Pn**	**22 40 17.2**	**-4.4**
JOW	**Kunigami**	**13.22**	**289**	P		**Pn**	**Pn**	**22 40 24.9**	**+1.5**
	0.2nm,0.3s,baz=108,slow=15,SNR=3.8								
JOW	**Kunigami**	**13.22**	**289**	Pn		**Pn**	**Pn**	**22 40 23.0**	**-0.3**
JAG	**Ashikaga**	**13.39**	**350**	P		Pn	Pn	22 40 19.8	-5.6
JAG				*e*S		Sn	Sn	22 42 38.9	-15
JHO	**Hitachi**	**13.44**	**354**	P		**Pn**	**Pn**	**22 40 21.6**	**-4.4**
MJAR	**Matsushiro Arr**	**13.75**	**346**	P		**Pn**	**Pn**	**22 40 26.3**	**-3.7**
	0.6nm,0.3s,baz=160,slow=11,SNR=20								
MJAR				S		Sn	Sn	22 42 48.3	-14
	0.1nm,0.3s,baz=161,slow=31,SNR=1.9								
MJAR				LR		LR	LR	22 45 46.7	
	comp=Z,51nm,21.3s,baz=190,slow=37								
MAJO	**Matsushiro**	**13.75**	**346**	*c*	*i*P	**Pn**	**Pn**	**22 40 26.1**	**-3.9**
MAJO	**Matsushiro**	**13.75**	**346**	Pn		**Pn**	**Pn**	**22 40 25.8**	**-4.2**
MAT	**Matsushiro**	**13.75**	**346**	P		**Pn**	**Pn**	**22 40 25.4**	**-4.6**
MAT				S		Sn	Sn	22 42 47.8	-14
MJB9	**Matsu-Tunnel**	**13.75**	**346**			**Pn**	**Pn**	**22 40 26.5**	**-3.5**
JNU	**Nakatsue**	**14.10**	**317**	P		**P**	**P**	**22 40 35.9**	**-1.8**
	0.4nm,0.3s,baz=98,slow=9.4,SNR=9.9								
JFK	**Kawauchi**	**14.16**	**355**	P		**Pn**	**Pn**	**22 40 31.7**	**-3.5**
JMK	**Ichinoseki**	**15.71**	**357**	P		**Pn**	**Pn**	**22 40 52.2**	**-2.3**
YOJ	**Yonaguni jima**	**17.70**	**278**	P		**P**	**P**	**22 41 17.3**	**-0.2**
YOJ				pmax		pmax	pmax		
	comp=Z,89nm,1.0s								
YOJ	**Yonaguni jima**	**17.70**	**278**	P		**P**	**P**	**22 41 17.3**	**-0.2**
YOJ				IAmb		IAmb	IAmb	22 41 21.0	
	comp=Z,89nm,1.0s								
TJN	**Taejon**	**18.41**	**319**	*e*	P	**P**	**P**	**22 41 24.2**	**-1.0**
ERM	**Erimo**	**18.76**	**2**	*c*	*e*P	**Pn**	**Pn**	**22 41 31.3**	**+0.3**
ERM				pmax		pmax	pmax		
	comp=Z,81nm,0.8s								
ERM	**Erimo**	**18.76**	**2**			**P**	**P**	**22 41 29.3**	**+0.4**
ERM				IAmb		IAmb	IAmb	22 41 37.3	
	comp=Z,85nm,0.9s								
KSRS	**Korea Array**	**18.82**	**322**	P		**P**	**P**	**22 41 28.9**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=136,slow=12,SNR=21								
KSRS				S			**S**	**22 44 58.7**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=149,slow=16,SNR=1.2								
KS19	**Wonju Array Si**	**18.89**	**322**	P		**P**	**P**	**22 41 30.6**	**+0.3**
KS19				IAmb		IAmb	IAmb	22 41 35.2	
	comp=Z,72nm,1.4s								
NACB	**Ninganchiao**	**18.99**	**277**	P		**P**	**P**	**22 41 31.7**	**+0.1**
TATO	**Taipei**	**19.09**	**279**	P		**P**	**P**	**22 41 31.6**	**-1.1**
YHNB	**Yeheng**	**19.19**	**279**	P		**P**	**P**	**22 41 34.0**	**+0.1**
YULB	**Yu-li**	**19.30**	**275**	P		**P**	**P**	**22 41 35.0**	**0.0**
TWG	**Pinlang**	**19.55**	**273**	P		**P**	**P**	**22 41 38.1**	**+0.4**
SGCP	**Mt. Cagua**	**19.58**	**259**	*e*P		**Pn**	**Pn**	**22 41 40.1**	**-0.8**
INCN	**Inchon**	**19.59**	**320**	P		**P**	**P**	**22 41 38.8**	**+0.8**
INCN				pmax		pmax			
	comp=Z,39nm,0.8s								
INCN	**Inchon**	**19.59**	**320**	P		**P**	**P**	**22 41 38.8**	**+0.8**
INCN				IAmb		IAmb	IAmb	22 41 44.2	
	comp=Z,38nm,0.8s								
SSLB	**Suanglung**	**19.59**	**276**	P		**Pn**	**Pn**	**22 41 39.9**	**-1.1**
SSLB				IAmb		IAmb	IAmb	22 41 46.7	
	comp=Z,38nm,0.9s								
CNP	**Catarman**	**19.86**	**241**	*e*P		**Pn**	**Pn**	**22 41 46.6**	**+2.5**
TPUB	**Ta-pu**	**19.92**	**275**	P		**P**	**P**	**22 41 42.0**	**+0.3**
TPUB				IAmb		IAmb	IAmb	22 41 46.6	
	comp=Z,46nm,1.1s								
APYP	**Conner**	**20.42**	**259**	*e*P		Pn	Pn	22 41 54.8	+4.1
ASAJ	**Asahikawa**	**20.85**	**1**	P		**P**	**P**	**22 41 53.2**	**+1.8**
	comp=Z,17nm,0.7s,baz=146,slow=27,SNR=6.0								
ASAJ				S			**S**	**22 45 38.5**	**+2.5**
	comp=Z,2.0nm,0.4s,baz=282,slow=20,SNR=1.5								
BALP	**Baler**	**20.89**	**253**	*e*P		**P**	**P**	**22 41 52.2**	**0.0**
ABRA	**Dolores**	**20.97**	**259**	*e*P		**P**	**P**	**22 41 54.4**	**+1.4**
YUK	**Yuzh-Kuril'sk**	**20.97**	**7**	P		Pn	Pn	22 41 55.6	-1.5
YUK				*e*	*PP	pwP	pwP	22 42 21.4	+0.4
YUK				*i*	S	**S**	**S**	**22 45 41.6**	**+3.3**
YUK				*i*	*SS	sS	sS	22 46 25.4	+5.1
YUK				pmax		pmax	pmax		
	comp=Z,196nm,1.3s								
MSHR	**Mys Shultsa**	**21.42**	**337**	⇑ *e*	P	**P**	**P**	**22 41 57.9**	**+0.3**
MSHR				pmax		pmax	pmax		
	comp=Z,15nm,1.0s								
SMPP	**San Manuel, Pa**	**21.53**	**255**	*e*	P	**P**	**P**	**22 41 59.6**	**+0.6**
VLA	**Vladivostok**	**21.83**	**339**	*c*	*i*P	**P**	**P**	**22 41 58.8**	**-1.2**
VLA				pmax		pmax	pmax		
	comp=Z,57nm,1.0s								
TEY	**Ternei**	**22.26**	**349**	*e*P		**P**	**P**	**22 42 04.1**	**-2.1**
PATS	**Pohnpei**	**22.41**	**134**	P		**P**	**P**	**22 42 07.3**	**-0.6**
PATS				IAmb		IAmb	IAmb	22 42 09.7	
	comp=Z,67nm,1.1s								
KUR	**Kuril'sk**	**22.43**	**10**	*e*P		P	P	22 42 21.0	+13
KUR				*e*S		**S**	**S**	**22 46 06.8**	**+3.3**
BUKP	**Musuan**	**22.51**	**230**	*e*P		**P**	**P**	**22 42 09.2**	**+0.2**
NJ2	**Nanjing**	**22.53**	**298**	*e*P		**P**	**P**	**22 42 09.0**	**0.0**
NJ2				pmax		pmax	pmax		
	comp=Z,14nm,0.5s								
USRK	**Ussuriysk Ar.**	**22.59**	**340**	P		**P**	**P**	**22 42 08.2**	**-1.2**
	comp=Z,7.5nm,0.7s,baz=162,slow=10,SNR=21								
USA0B	**Ussuriysk Arra**	**22.59**	**340**	P		**P**	**P**	**22 42 07.4**	**-2.0**
USA0B				pmax		pmax	pmax		
	comp=Z,15nm,1.1s								
USA0B	**Ussuriysk Arra**	**22.59**	**340**	P		**P**	**P**	**22 42 07.4**	**-2.0**
CNOP	**Candoni, Negro**	**23.04**	**238**	*e*P		**P**	**P**	**22 42 13.0**	**-0.9**
KCP	**Kidapawan**	**23.10**	**228**	⇑ *i*P		**P**	**P**	**22 42 14.7**	**+0.1**
H11N1	**WAKE ISLAND Hy**	**23.14**	**94**	T		T	T	23 06 23.0	
	baz=282,slow=74,SNR=6.9								
H11N2	**WAKE ISLAND Hy**	**23.14**	**94**	T		T	T	23 06 25.3	
	baz=282,slow=74,SNR=23								
H11N3	**WAKE ISLAND Hy**	**23.15**	**94**	T		T	T	23 06 23.1	
	baz=282,slow=74,SNR=12								
DDMP	**Don Marcelino,**	**23.34**	**226**	*e*P		**P**	**P**	**22 42 15.1**	**-1.6**
YSS	**Yuzh-Sakhalins**	**23.69**	**1**	*e*P		**P**	**P**	**22 42 22.0**	**+2.5**
YSS				*e*				22 42 51.2	
YSS				*e*S		**S**	**S**	**22 46 24.7**	**+0.9**
YSS				pmax		pmax	pmax		
	comp=Z,50nm,0.8s								
YSS	**Yuzh-Sakhalins**	**23.69**	**1**	P		**P**	**P**	**22 42 20.6**	**+1.1**
YSS				IAmb		IAmb	IAmb	22 42 39.4	
	comp=Z,68nm,0.9s								
CUYO	**Cuyo Island**	**23.74**	**242**	*e*P		**P**	**P**	**22 42 20.6**	**+0.2**
PAGZ	**Pagadian**	**23.74**	**233**	*e*P		**P**	**P**	**22 42 21.1**	**+0.8**
MDJ	**Mudanjiang**	**23.75**	**337**	P		**P**	**P**	**22 42 21.3**	**+1.1**
MDJ				S		**S**	**S**	**22 46 28.8**	**+3.9**
MDJ				pmax		pmax	pmax		
	comp=Z,11nm,0.7s								
MDJ				pmax		pmax	pmax		
	comp=Z,60nm,3.6s								
MDJ	**Mudanjiang**	**23.75**	**337**	P		**P**	**P**	**22 42 21.0**	**+0.8**
SKMP	**Bagumbayan, Su**	**23.83**	**229**	*e*P		**P**	**P**	**22 42 21.6**	**+0.4**
SNY	**Shenyang**	**24.27**	**324**	⇑P		**P**	**P**	**22 42 24.8**	**-0.1**
SNY				pmax		pmax	pmax		
	comp=Z,12nm,0.8s								
SNY				pmax		pmax	pmax		
	comp=Z,38nm,3.5s								
SNY				LR		LR	LR		
	comp=Z,54nm,15.0s								
SNY				LR		LR	LR		
	comp=Z,100nm,16.7s								
SNY				LR		LR	LR		
	comp=Z,120nm,10.3s								
CN2	**Changchun**	**24.79**	**330**	*e*P		**P**	**P**	**22 42 33.3**	**+3.7**
CN2				*e*S		**S**	**S**	**22 46 38.5**	**-3.0**
CN2				pmax		pmax	pmax		
	comp=Z,10.0nm,0.5s								
CN2				pmax		pmax	pmax		
	comp=Z,100nm,5.0s								
ENPP	**El Nido**	**24.86**	**245**	*e*P		**P**	**P**	**22 42 30.6**	**+0.2**
TIA	**Tai'an**	**25.33**	**306**	P		**P**	**P**	**22 42 35.5**	**+0.9**
TIA				pmax		pmax	pmax		
	comp=Z,45nm,0.9s								
SIJI	**Sorong**	**26.24**	**206**	P		**P**	**P**	**22 42 42.8**	**-0.2**
	comp=Z,8.2nm,0.6s,baz=5.0,slow=21,SNR=3.6								
KLR	**Kul'dur**	**27.27**	**345**	P		**P**	**P**	**22 42 51.6**	**-0.2**
	comp=Z,9.3nm,0.7s,baz=148,slow=6.7,SNR=18								
KLR				S			**S**	**22 47 20.1**	**-0.3**
	comp=Z,2.7nm,1.0s,baz=52,slow=22,SNR=3.0								
BJI	**Beijing**	**27.72**	**313**	P		**P**	**P**	**22 42 56.0**	**+0.1**
BJI				S		**S**	**S**	**22 47 27.5**	**-0.2**
BJI				pmax		pmax	pmax		
	comp=Z,5.0nm,1.3s								
BJI				LR		LR	LR		
	comp=Z,190nm,15.3s								
BJI				LR		LR	LR		
	comp=Z,90nm,12.3s								
GRNR	**Gornyy**	**27.88**	**352**	*e*P		**P**	**P**	**22 42 58.8**	**+1.5**
GRNR				pmax		pmax	pmax		
	comp=Z,6.0nm,1.1s								
GRNR				MLR		MLR	MLR		
	comp=E,230nm,10.0s								
GRNR				MLR		MLR	MLR		
	comp=Z,60nm,16.0s								
KWAJ	**Kwajalein Atol**	**28.16**	**116**	P		**P**	**P**	**22 42 58.8**	**-1.3**
KWAJ				pmax		pmax	pmax		
	comp=Z,62nm,1.1s								
KWAJ	**Kwajalein Atol**	**28.16**	**116**	P		**P**	**P**	**22 42 58.8**	**-1.3**
MYLDM	**Lahad Datu**	**29.14**	**236**	P		**P**	**P**	**22 43 09.5**	**+0.8**
MRSI	**Marisa**	**30.04**	**224**	P		**P**	**P**	**22 43 19.6**	**+2.9**
	comp=Z,761nmcomp=Z,94nm,0.8s								
ENH	**Enshi**	**30.07**	**291**	P		**P**	**P**	**22 43 16.6**	**-0.3**
KKM	**Kota Kinabalu**	**30.38**	**240**	P		**P**	**P**	**22 43 18.1**	**-1.8**
KKM				IAmb		IAmb	IAmb	22 43 22.2	
	comp=Z,30nm,1.0s								
XAN	**Xi'an**	**31.10**	**298**	P		**P**	**P**	**22 43 25.3**	**-0.7**
XAN				pmax		pmax	pmax		
	comp=Z,11nm,1.2s								
XAN				LR		LR	LR		
	comp=Z,210nm,17.6s								
XAN				LR		LR	LR		
	comp=Z,140nm,19.6s								
XAN				LR		LR	LR		
	comp=Z,260nm,20.6s								
XAN	**Xi'an**	**31.10**	**298**	P		**P**	**P**	**22 43 24.4**	**-1.5**
XAN				pmax		pmax	pmax		
	comp=Z,16nm,1.3s								
XAN	**Xi'an**	**31.10**	**298**	P		**P**	**P**	**22 43 24.4**	**-1.5**
MPSI	**Mapaga**	**31.48**	**227**	P		**P**	**P**	**22 43 30.9**	**

BKB Balikpapan 34.69 229 P P 22 43 54.4 -2.9
SPSI Sidrap Palu 34.84 222 P P 22 43 58.0 -0.5
comp=Z,826nm,comp=Z,70nm,0.7s
BNSI Bone 34.97 221 P P 22 44 00.9 +1.2
comp=Z,40nm,1.0s
CD2 Chengdu 35.04 291 P P 22 44 00.8 +0.6
CD2 pmax pmax
comp=Z,30nm,0.8s
SLVN Son La 35.52 275 P P 22 44 04.0 -0.4
SLVN IAmb IAmb 22 44 06.9
comp=Z,19nm,1.0s
LZH Lanzhou 35.58 300 ⇓P P 22 44 06.8 +1.9
LZH pP pwP 22 44 38.5 +1.0
LZH sP sP 22 44 55.0 +3.5
LZH PP **PnPn 22 45 32.0 +2.9**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,92nm,5.4s
KAPI Kappang 35.67 221 P P 22 44 06.4 +0.8
comp=Z,9.5nm,0.6s,baz=30,slow=2.6,SNR=8.8
KAPI Kappang 35.67 221 P P 22 44 05.9 +0.2
KAPI pmax pmax
comp=Z,39nm,1.3s
KAPI Kappang 35.67 221 P P 22 44 05.9 +0.2
KAPI IAmb IAmb 22 44 12.1
comp=Z,39nm,1.3s
SBUM Sibu 35.71 239 P P 22 44 05.7 -0.3
SBUM Sibu 35.71 239 P P 22 44 07.0 +0.9
MTKI Muara Teweh, K 35.88 232 P P 22 44 08.7 +1.2
KMI Kunming 36.06 281⇓*e*P P 22 44 11.0 +1.8
KMI pmax pmax
comp=Z,7.0nm,0.8s
COEN Coen 36.95 179 P P 22 44 14.7 -1.8
SOEI Soe 37.22 210 P P 22 44 17.1 -1.9
SOEI IAmb IAmb 22 44 23.8
comp=Z,20nm,0.7s
ULN Ulaanbaatar 37.28 320⇑*e*P P 22 44 19.2 0.0
ULN pmax pmax
comp=Z,9.0nm,1.1s
ULN Ulaanbaatar 37.28 320 P P 22 44 19.1 -0.2
ULN PcP **PcP 22 46 36.8 +1.2**
MTN Manton Dam 37.47 198 P P 22 44 19.9 -1.0
SONM Songino Array 37.66 320 P P 22 44 23.1 +0.7
comp=Z,4.1nm,0.8s,baz=132,slow=8.6,SNR=15
SONM PcP **PcP 22 46 37.3 +0.6**
comp=Z,5.2nm,0.9s,baz=143,slow=3.2,SNR=9.0
SONM S **S 22 50 01.3 -0.3**
comp=Z,0.4nm,0.3s,baz=292,slow=29,SNR=1.4
SONM ScP **ScP 22 50 10.7 -0.2**
comp=Z,0.7nm,0.7s,baz=120,slow=3.7,SNR=2.8
KSM Kuching 37.82 240 P P 22 44 23.4 -0.5
BATI Baumata 37.90 211 P P 22 44 24.8 +0.3
comp=Z,18nm,0.3s,baz=149,slow=4.8,SNR=6.7
SMY Shemya 38.12 31 P P 22 44 26.2 +0.2
SMY pmax pmax
comp=Z,115nm,1.4s
SMY Shemya 38.12 31 P P 22 44 26.2 +0.2
PBKT Sadao Pong 39.33 268 P P 22 44 37.1 +0.6
GTA Gaotai 39.34 304 ⇓P P 22 44 38.3 +1.8
GTA pP pP 22 45 08.0 +0.5
GTA sP sP 22 45 21.5 -2.1
GTA PcP **PcP 22 46 43.5 +1.3**
GTA S **S 22 50 27.5 +0.3**
GTA sS sS 22 51 23.8 +2.9
GTA pmax pmax
comp=Z,9.0nm,1.3s
GTA pmax pmax
comp=Z,71nm,4.0s
GTA LR LR
comp=Z,140nm,17.1s
GTA LR LR
comp=Z,120nm,15.2s
GTA LR LR
comp=Z,140nm,17.1s
YAK Yakutsk 39.74 351 *e*P P 22 44 39.8 +0.5
YAK *e* 22 46 47.6
YAK *e*S **S 22 50 30.3 -1.9**
YAK *e*SS **SS 22 53 26.2 -7.5**
YAK *e* 22 54 36.7
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,14nm,1.0s
YAK pmax pmax
comp=E,3.0nm,1.0s
YAK smax smax
comp=N,24nm,1.5s
YAK smax smax
comp=E,12nm,1.5s
YAK Yakutsk 39.74 351 P P 22 44 39.9 +0.5
YAK IAmb IAmb 22 44 42.1
comp=Z,34nm,0.9s
AMKA Amchitka 40.01 36 P P 22 44 42.9 +1.2
CHTO Chiang Mai 40.61 272 P P 22 44 47.0 -0.1
CHTO pmax pmax
comp=Z,25nm,1.0s
CHTO Chiang Mai 40.61 272 P P 22 44 47.0 -0.1
CHTO IAmb IAmb 22 44 48.9
comp=Z,25nm,0.9s
ZAK Zakamensk 40.65 322 *e*P P 22 44 46.4 -0.8
ZAK *e* 22 46 45.3
ZAK *e* 22 50 42.8
ZAK pmax pmax
comp=Z,14nm,1.2s
CM31 Chiang Mai Arr 40.69 272 P P 22 44 47.9 +0.1
CM31 IAmb IAmb 22 44 50.0
comp=Z,14nm,0.7s
CMAR Chiang Mai Arr 40.69 272 P P 22 44 49.0 +1.2
comp=Z,11nm,0.8s,baz=60,slow=8.4,SNR=30
CMAR PcP **PcP 22 46 48.1 +1.4**
comp=Z,3.8nm,1.0s,baz=126,slow=1.4,SNR=6.6
CMAR Chiang Mai Arr 40.69 272*c*eP P 22 44 49.0 +1.2
CMAR pmax pmax
comp=Z,11nm,0.8s
KNRA Kununurra 40.86 200 P P 22 44 48.1 -0.9
KNRA IAmb IAmb 22 44 49.9
comp=Z,21nm,0.9s
TLY Talaya 41.06 324 *e*P P 22 44 51.5 +1.1
TLY pmax pmax
comp=Z,25nm,1.3s
TLY MLR MLR
comp=Z,147nm,13.0s
TLY Talaya 41.06 324 P P 22 44 50.3 -0.1
JAGI Jajag, Banyuwa 41.84 224 P P 22 44 56.4 -0.7
ADK Adak 42.45 37 P P 22 45 02.6 +1.0
ADK pmax pmax
comp=Z,19nm,1.0s
ADK Adak 42.45 37 P P 22 45 02.6 +1.0
MOY Mondy 42.52 323 *e*P P 22 45 02.8 +0.4
MOY pmax pmax
comp=Z,17nm,1.6s
GSTR Great Sitkin T 42.89 37 P P 22 45 05.8 +0.6
MYKOM Kota Tinggi 42.93 246 P P 22 45 06.3 +0.3
CTA Charters Tower 43.21 175 P P 22 45 08.6 +0.5
comp=Z,4.3nm,0.8s,baz=2.8,slow=11,SNR=6.6
CTAO Charters Tower 43.21 175 P P 22 45 07.3 -0.8
CTAO pmax pmax
comp=Z,14nm,1.2s
CTAO Charters Tower 43.21 175 P P 22 45 07.3 -0.8
WB0 Warramunga Arr 43.41 191 P P 22 45 09.3 -0.4
WB0 IAmb IAmb 22 45 10.8
comp=Z,28nm,1.0s
WR0 Warramunga Arr 43.58 191 P P 22 45 10.5 -0.4
WR0 IAmb IAmb 22 45 12.1
comp=Z,42nm,1.2s
WRAB Tennant Creek 43.58 191*c* iP P 22 45 11.0 0.0
WRAB pmax pmax
comp=Z,72nm,1.4s
WRAB Tennant Creek 43.58 191 P P 22 45 10.6 -0.5
WB2 Warramunga Arr 43.59 191 P P 22 45 09.3 -1.8
WRA Warramunga Arr 43.59 191 P P 22 45 11.2 +0.1
comp=Z,16nm,0.3s,baz=7.3,slow=7.9,SNR=144
WRA ScP **ScP 22 50 34.4 0.0**
comp=Z,2.6nm,0.8s,baz=6.9,slow=4.0,SNR=7.2
WRA S **S 22 51 26.9 -3.0**
comp=Z,1.5nm,0.8s,baz=9.5,slow=13,SNR=3.2
KULM Kulim 43.91 253 P P 22 45 13.3 -0.6
KULM IAmb IAmb 22 45 16.4
comp=Z,26nm,1.1s
KULM Kulim 43.91 253 P P 22 45 16.0 +2.1
IPM Ipoh 43.97 251 P P 22 45 13.8 -0.5
IPM PcP **PcP 22 46 57.0 -0.7**
IPM Ipoh 43.97 251 P P 22 45 16.0 +1.6
FITZ Fitzroy Crossi 44.17 203 P P 22 45 16.2 +0.5
comp=Z,12nm,0.3s,baz=32,slow=10,SNR=84
FITZ Fitzroy Crossi 44.17 203 P P 22 45 16.3 +0.5
FITZ IAmb IAmb 22 45 18.2
comp=Z,33nm,1.0s
LEM Lembang 45.18 233 P P 22 45 24.9 +0.9
comp=Z,175nm,0.8s,baz=18,slow=11,SNR=13
CISI Cisompet, Garu 45.53 232 P P 22 45 24.6 -2.1
DBJI Dramaga 45.64 234 P P 22 45 28.4 +0.9
comp=Z,79nm,1.1s
SHL Shillong 45.76 284 IAmb IAmb 22 45 29.8
comp=Z,28nm,0.6s
LSA Lhasa 45.95 289 *i* P P 22 45 32.3 +1.9
SNR=17
LSA Lhasa 45.95 289 P P 22 45 31.6 +1.2
LSA pmax pmax
comp=Z,39nm,0.9s
LSA Lhasa 45.95 289 P P 22 45 31.6 +1.2
LSA IAmb IAmb 22 45 33.6
comp=Z,38nm,0.9s
BKNI Bangkinang 46.08 246 P P 22 45 31.1 +0.1
BKNI IAmb IAmb 22 45 33.8
comp=Z,54nm,1.2s
MDSI Maura Dua 46.29 238 P P 22 45 33.4 +0.8
comp=Z,12nm,1.0s
LHSI Lahat 46.40 240 P P 22 45 34.9 +1.4
comp=Z,52nm,0.9s
PSI Prapat 46.62 251 P P 22 45 36.2 +0.9
comp=Z,13nm,0.8s,baz=0.9,slow=3.4,SNR=11
PSI PcP **PcP 22 47 07.2 +0.2**
comp=Z,14nm,0.8s,baz=178,slow=0.2,SNR=7.1
PSI Prapat 46.62 251 P P 22 45 34.3 -1.0
PSI 22 47 07.3
PSI pmax pmax
comp=Z,17nm,0.9s
RPSI Rantau Prapat 46.67 251 P P 22 45 34.3 -1.3
RPSI PcP **PcP 22 47 07.3 +0.2**
MNSI Mandailing Nat 47.07 248 P P 22 45 39.6 +0.9
comp=Z,21nm,1.1s
BILL Bilibino 47.20 12*c* iP P 22 45 40.0 +1.0
BILL *e**PP **pP 22 46 11.6 +1.1**
BILL *e* 22 47 26.3
BILL pmax pmax
comp=Z,13nm,1.0s
BILL Bilibino 47.20 12 P P 22 45 39.6 +0.6
KCSI Kotacane, Aceh 47.27 252 P P 22 45 40.6 +0.3
comp=Z,21nm,1.1s
AS31 Alice Springs 47.31 191 P P 22 45 39.4 -1.0
ASAR Alice Springs 47.31 191 P P 22 45 40.4 0.0
comp=Z,4.5nm,0.6s,baz=16,slow=9.1,SNR=50
ASAR ScP **ScP 22 50 49.4 -0.4**
comp=Z,0.4nm,0.7s,baz=12,slow=5.0,SNR=2.7
ASAR S **S 22 52 21.8 -1.4**
comp=Z,1.0nm,0.7s,baz=17,slow=21,SNR=5.1
ASAR LR LR 23 03 52.5
comp=Z,131nm,21.1s,baz=337,slow=34
GSI Gunungsitoli 48.53 250 P P 22 45 49.5 -0.4
GSI IAmb IAmb 22 45 51.1
comp=Z,24nm,0.9s
UNV Unalaska Valle 48.90 38 P P 22 45 52.4 +0.2
UNV IAmb IAmb 22 45 54.7
comp=Z,33nm,1.1s
WMQ Urumqi 49.00 309 *e*P P 22 45 55.0 +1.8
WMQ pmax pmax
comp=Z,17nm,0.9s
WMQ pmax pmax
comp=Z,60nm,5.1s
WMQ LR LR
comp=Z,580nm,29.0s
WMQ LR LR
comp=Z,1μm,28.8s
WMQ LR LR
comp=Z,74nm,27.3s
WMQ Urumqi 49.00 309 P P 22 45 53.3 +0.1
WMQ pmax pmax
comp=Z,22nm,1.0s
WMQ Urumqi 49.00 309 P P 22 45 53.3 +0.1
WMQ IAmb IAmb 22 45 57.3
comp=Z,22nm,1.0s
EIDS Eidsvold 49.04 169 P P 22 45 52.3 -1.2
TIXI Tiksi 49.07 354*de*P P 22 45 53.7 +0.6
TIXI pmax pmax
comp=Z,17nm,1.3s
TIXI Tiksi 49.07 354 P P 22 45 53.8 +0.6
TAPN Taplejung 49.22 287 *e*P P 22 45 56.6 +1.2
comp=Z,74nm,0.9s
AKUT Akutan 49.40 38 P P 22 45 56.1 +0.2
ODAN Odare 49.57 286 *e*P P 22 45 58.9 +0.9
comp=Z,79nm,0.9s
PSA00 Pilbara Seismi 49.60 208 P P 22 45 58.5 +0.6
PSA00 IAmb IAmb 22 45 59.4
comp=Z,45nm,1.2s
DGZ Jazzator, Alta 50.08 316*c* iP P 22 46 02.8 +1.4
DGZ pmax pmax
comp=Z,30nm,1.2s
RAMN Ramite 50.25 286 *e*P P 22 46 03.9 +0.7
comp=Z,62nm,0.9s
JIRN Jiri 50.51 287 *e*P P 22 46 06.5 +1.2
comp=Z,202nm,0.8s
GUN Gumba 50.75 288 *e*P P 22 46 08.1 +1.1
comp=Z,123nm,1.1s
DZM Mont Dzumac 50.78 151 P P 22 46 06.8 -0.1
comp=Z,18nm,1.0s,baz=349,slow=7.6,SNR=3.7
DZM Mont Dzumac 50.78 151 P P 22 46 06.1 -0.8
DZM IAmb IAmb 22 46 08.3
comp=Z,19nm,1.0s
PKI Pulchoki 51.21 287 *e*P P 22 46 10.9 +0.4
comp=Z,45nm,1.0s
PKIN Phulchoki 51.22 287 *e*P P 22 46 11.0 +0.5
comp=Z,17nm,0.5s
KKN Kakani 51.29 288 *e*P P 22 46 11.6 +0.7
ZSN Zaisan 51.40 313 *e*P P 22 46 11.6 +0.3
comp=Z,3.2nm,1.0s,baz=312
ZSN *e*S **S 22 53 21.9 +2.0**
baz=312
ZSN Zaisan 51.40 313 *e*P P 22 46 11.5 +0.3
ZSN *e*S **S 22 53 21.8 +2.0**
ZSN pmax pmax
comp=Z,3.0nm,1.0s
DMN Daman 51.47 288 *e*P P 22 46 13.0 +0.7
GKN Gorkha 51.82 288 *e*P P 22 46 15.7 +0.9
ZAA0 Zalesovo Array 52.52 321 P P 22 46 19.6 +0.2
ZAA0 IAmb IAmb 22 46 20.6
comp=Z,14nm,1.0s
ZALV Zalesovo Beam 52.52 321 P P 22 46 19.5 +0.1
comp=Z,9.4nm,0.3s,baz=111,slow=7.2,SNR=73
ZALV PcP **PcP 22 47 27.5 -0.3**
comp=Z,10nm,0.8s,baz=107,slow=3.5,SNR=11
ZALV ScP **ScP 22 51 10.3 -1.4**
comp=Z,1.0nm,0.6s,baz=132,slow=4.3,SNR=3.9
ZALV S **S 22 53 33.3 -1.6**
comp=Z,0.3nm,0.4s,baz=106,slow=11,SNR=1.7
ZALV LR LR 23 08 13.6
comp=Z,51nm,21.0s,baz=110,slow=35
DANN Dangsing 52.54 289 *e*P P 22 46 21.5 +1.3
comp=Z,350nm,0.8s
KOLN Koldanda 52.76 288 *e*P P 22 46 22.7 +0.9
comp=Z,127nm,1.0s
MKAR Makanchi Array 53.08 312 P P 22 46 24.6 +1.0
comp=Z,8.4nm,0.6s,baz=94,slow=9.0,SNR=91
MKAR ScP **ScP 22 51 13.0 -1.4**
comp=Z,1.1nm,0.8s,baz=89,slow=5.0,SNR=4.6
MKAR S **S 22 53 42.8 0.0**
comp=Z,0.3nm,0.7s,baz=88,slow=7.4,SNR=2.5
MKAR LR LR 23 10 12.0
comp=Z,50nm,18.5s,baz=136,slow=37
PYUN Piuthan 53.24 289 *e*P P 22 46 26.4 +1.0
MAKZ Makanchi 53.30 312 P P 22 46 26.3 +1.1
MAKZ pmax pmax
comp=Z,20nm,0.9s
MAKZ Makanchi 53.30 312 P P 22 46 26.3 +1.1
MAKZ IAmb IAmb 22 46 27.3
comp=Z,20nm,0.8s
ANM Nome 53.39 25 P P 22 46 27.0 +1.5
ANM pmax pmax
comp=Z,17nm,0.9s
ANM Nome 53.39 25 P P 22 46 27.0 +1.5
ANM IAmb IAmb 22 46 28.8
comp=Z,17nm,0.9s
CHLP Challavanipeta 54.33 277 *e*P P 22 46 33.3 +0.2
SEM Semipalatinsk 54.76 316 *i* P P 22 46 36.0 +0.1
comp=Z,16nm,0.9s,baz=316
SEM Semipalatinsk 54.76 316 *i* P P 22 46 36.0 +0.1
SEM pmax pmax
comp=Z,16nm,0.9s
STKA Stephens Creek 54.78 181 P P 22 46 36.2 +0.2
comp=Z,18nm,0.7s,baz=345,slow=7.6,SNR=28
STKA Stephens Creek 54.78 181 P P 22 46 35.8 -0.2
STKA pmax pmax
comp=Z,5.0nm,0.8s
STKA Stephens Creek 54.78 181 P P 22 46 35.8 -0.2
SHLS Shalkode 54.94 307 *i* P P 22 46 36.3 -1.0
comp=Z,6.9nm,0.7s,baz=307
SHLS Shalkode 54.94 307 *i* P P 22 46 36.3 -1.0
SHLS pmax pmax
comp=Z,7.0nm,0.7s
UZB Uzynbulak 55.27 307⇑*i*P P 22 46 40.8 +1.1
comp=Z,28nm,3.3s,baz=307
UZB Uzynbulak 55.27 307*c* iP P 22 46 40.7 +1.1
UZB pmax pmax
comp=Z,28nm,3.3s
FORT Forrest 55.40 195 P P 22 46 40.2 -0.2
KPKS Kokpek 55.51 308⇑*i*P P 22 46 42.3 +0.9
comp=Z,5.9nm,0.9s,baz=307
KPKS Kokpek 55.51 308*c* iP P 22 46 42.2 +0.9
KPKS pmax pmax
comp=Z,6.0nm,0.9s
TDK Taldyqorghan 55.71 310 *i* P P 22 46 44.1 +1.4
comp=Z,16nm,0.8s,baz=309
TDK Taldyqorghan 55.71 310 *i* P P 22 46 44.0 +1.4
TDK pmax pmax
comp=Z,16nm,0.8s
SATY Saty 55.72 307⇑*i*P P 22 46 44.4 +1.5
comp=Z,9.3nm,1.1s,baz=307
SATY Saty 55.72 307*c* iP P 22 46 44.3 +1.5
SATY pmax pmax
comp=Z,9.0nm,1.1s
PRZ Przheval'sk 55.73 306 P P 22 46 43.7 +0.6
PRZ pmax pmax
comp=Z,45nm,0.9s
PRZ Przheval'sk 55.73 306 P P 22 46 43.7 +0.6
RDOG Red Dog Mine 55.76 22 P P 22 46 44.0 +1.3
RDOG IAmb IAmb 22 46 45.8
comp=Z,16nm,0.9s
KURK Kurchatov 55.82 316*c* iP P 22 46 43.7 +0.4
KURK *i* *PP **pP 22 47 16.5 +0.2**
KURK pmax pmax
comp=Z,29nm,0.7s
KURK Kurchatov 55.82 316 P P 22 46 43.9 +0.7
TARG Taragay, Kyrgy 56.20 306 P P 22 46 46.7 0.0
TARG IAmb IAmb 22 46 49.7
comp=Z,20nm,1.1s
NRIK Noril'sk 56.30 340 P P 22 46 46.7 +0.4
comp=Z,17nm,0.9s,baz=105,slow=9.3,SNR=11
SVW2 Sparrevohn 56.52 31 P P 22 46 48.6 +0.5
SVW2 IAmb IAmb 22 46 51.0
comp=Z,12nm,0.9s
KDJ Kajisay 56.65 306 P P 22 46 49.8 +0.2
KDJ pmax pmax
comp=Z,14nm,1.0s
KDJ Kajisay 56.65 306 P P 22 46 49.8 +0.2
KDJ IAmb IAmb 22 46 53.0
comp=Z,14nm,1.0s
MDOK Medeo 56.71 307 *i* P P 22 46 51.8 +1.8
baz=307
MDOK Medeo 56.71 307 *i* P P 22 46 51.7 +1.8
CHKK Chushkaly 56.73 308 *e*P P 22 46 51.0 +1.1
baz=308
CHKK Chushkaly 56.73 308 *e*P P 22 46 51.0 +1.1
TTA Tatalina 56.76 29 P P 22 46 50.2 +0.4
TTA pmax pmax
comp=Z,6.0nm,1.1s
TTA Tatalina 56.76 29 P P 22 46 50.2 +0.4
TNSS Tian-Shan 56.79 307 *i* P P 22 46 52.7 +1.8
baz=307
TNSS Tian-Shan 56.79 307 *i* P P 22 46 52.6 +1.8
AAA Alma-Ata 56.80 307⇑*i*P P 22 46 52.5 +2.0
comp=Z,26nm,1.0s,baz=307
AAA Alma-Ata 56.80 307⇑*i*P P 22 46 52.5 +2.0
AAA pmax pmax
comp=Z,26nm,1.0s
PVM Polavaram 56.91 276 *e*P P 22 46 52.1 +0.6
OHAK Old Harbor 56.97 36 P P 22 46 50.8 -0.5
OHAK IAmb IAmb 22 47 05.0
comp=Z,22nm,1.3s
MTBS Maitube 57.16 307 *e*P P 22 46 54.5 +1.5
baz=307
MTBS Maitube 57.16 307 *e*P P 22 46 54.5 +1.5
KUU Kurty 57.20 308⇑*i*P P 22 46 54.4 +1.2
comp=Z,45nm,1.0s,baz=308
KUU Kurty 57.20 308*c* iP P 22 46 54.4 +1.2
KUU pmax pmax
comp=Z,45nm,1.0s
ULHL Ulahol 57.34 306 P P 22 46 56.1 +1.7
SNR=9.8
BOOM Boomskoye usch 57.55 307 IAmb IAmb 22 46 58.5
comp=Z,14nm,0.9s
KSH Kashi 57.72 303 *e*P P 22 47 01.3 +4.2
KSH S **S 22 54 47.0 +2.1**
KSH pmax pmax
comp=Z,39nm,0.8s
KSH pmax pmax
comp=Z,200nm,4.2s
RSO Redoubt South 57.76 32 P P 22 46 56.9 -0.1
TKM2 Tokmak 2 57.78 307 P P 22 46 59.4 +1.8
SNR=16
TKM2 Tokmak 2 57.78 307 *i* P P 22 46 58.0 +0.5
TKM2 pmax pmax
comp=Z,16nm,1.0s
KZA Kyzart 58.08 306 P P 22 47 02.2 +2.3
SNR=14
KBK Karagaybulak 58.27 307 P P 22 47 02.5 +1.6
SNR=12
CNPM China Poot 58.37 33 P P 22 47 00.5 -0.6
CHMS Chumysh 58.40 307 P P 22 47 02.9 +1.3
SNR=8.5
PPLA Purkeypile 58.46 29 P P 22 47 02.5 +0.7
PPLA IAmb IAmb 22 47 04.7
comp=Z,8.8nm,0.7s
SGDS Sogindy 58.46 308⇑*i*P P 22 47 03.1 +1.0
comp=Z,7.9nm,0.9s,baz=308
SGDS Sogindy 58.46 308*c* iP P 22 47 03.1 +1.0
SGDS pmax pmax
comp=Z,8.0nm,0.9s
FRU1 Bishkek 58.50 307 P P 22 47 01.6 -0.7
FRU1 pmax pmax
comp=Z,17nm,1.0s
FRU1 Bishkek 58.50 307 P P 22 47 01.6 -0.7
FRU1 IAmb IAmb 22 47 04.9
comp=Z,17nm,1.0s
CAN Canberra 58.56 174 P P 22 47 01.2 -1.4
CAN pmax pmax
comp=Z,42nm,1.4s
CAN Canberra 58.56 174 P P 22 47 01.2 -1.4
USP Ospenovka 58.56 308 P P 22 47 04.0 +1.3
SNR=11
BRLK Bradley Lake 58.57 33 P P 22 47 02.1 -0.4
BRLK IAmb IAmb 22 47 03.3
comp=Z,12nm,0.8s
SKT Skwentna 58.59 30 P P 22 47 02.4 -0.2
SKT IAmb IAmb 22 47 04.2
comp=Z,11nm,0.8s
AAK Ala-Archa 58.61 307 P P 22 47 04.4 +1.1
AAK Ala-Arcba 58.61 307*c* iP P 22 47 04.3 +1.1
AAK *i* *PP **pP 22 47 34.8 -1.7**
AAK pmax pmax
comp=Z,11nm,1.2s
AAK Ala-Archa 58.61 307 P P 22 47 03.0 -0.2
UCH Uchtor 58.62 306 P P 22 47 05.6 +1.9
SNR=20
BTLS Baital 58.80 310⇑*i*P P 22 47 05.4 +1.1
comp=Z,11nm,0.9s,baz=309
BTLS Baital 58.80 310*c* iP P 22 47 05.4 +1.1
BTLS pmax pmax
comp=Z,11nm,0.9s
SUA Susitna One 58.88 31 P P 22 47 05.3 +0.6
EKS2 Erkin-Say 59.13 307 P P 22 47 08.3 +1.5
SNR=12
BPAW Bear Paw Mtn. 59.21 28 P P 22 47 07.3 +0.4
BPAW IAmb IAmb 22 47 09.4
comp=Z,18nm,0.8s
NJS Nagarjunasagar 59.23 276 *e*P P 22 47 07.6 -0.1
AML Almayashu 59.23 306 P P 22 47 09.4 +1.5
SNR=14
SEW Seward 59.33 33 P P 22 47 08.0 +0.3
SEW IAmb IAmb 22 47 09.2
comp=Z,19nm,0.9s
TRF Thorofare Moun 59.40 29 P P 22 47 08.0 -0.4
SRSP Sriramsagar 59.43 279 *e*P P 22 47 08.8 -0.2
BRZS Berezniki 59.60 315⇑*i*P P 22 47 10.3 +0.5
comp=Z,18nm,1.0s,baz=315
BRZS Berezniki 59.60 315*c* iP P 22 47 10.2 +0.5

BRZS pmax pmax
comp=Z,18nm,1.0s
HYB Hyderabad 59.67 277 *i* P **P 22 47 11.0 +0.3**
HYBB Hyderabad (bro 59.67 277 *e*P **P 22 47 10.7 0.0**
PMR Palmer 59.67 31 P **P 22 47 09.9 0.0**
PMR pmax pmax
comp=Z,17nm,0.8s
PMR Palmer 59.67 31 P **P 22 47 09.9 0.0**
PMR IAmb IAmb 22 47 11.3
comp=Z,17nm,0.8s
SRLM Srisailam 59.75 276 *e*P **P 22 47 10.9 -0.4**
GHO Glory Hole Cre 59.79 31 IAmb IAmb 22 47 13.1
comp=Z,18nm,0.9s
ARSB Arslanbob 59.84 305 P **P 22 47 11.1 -0.6**
ARSB pmax pmax
comp=Z,41nm,1.3s
ARSB Arslanbob 59.84 305 P **P 22 47 11.1 -0.6**
KNK Knik Glacier 59.97 31 P **P 22 47 12.4 +0.3**
RND Reindeer 60.03 29 P **P 22 47 12.2 -0.4**
RND pmax pmax
comp=Z,14nm,0.6s
RND Reindeer 60.03 29 P **P 22 47 12.2 -0.4**
RND IAmb IAmb 22 47 14.1
comp=Z,14nm,0.6s
MCK McKinley 60.05 29 P **P 22 47 13.0 +0.5**
MCK pmax pmax
comp=Z,17nm,0.7s
MCK McKinley 60.05 29 P **P 22 47 13.0 +0.5**
MCK IAmb IAmb 22 47 14.2
comp=Z,17nm,0.7s
SML Sawmill 60.07 31 P **P 22 47 13.0 +0.2**
NEA2 Nenana 60.12 28 P **P 22 47 14.6 +1.6**
baz=261,SNR=19
COLD Coldfoot 60.12 25 P **P 22 47 15.0 +2.0**
baz=259,SNR=13
COLD Coldfoot 60.12 25 P **P 22 47 13.8 +0.8**
COLD IAmb IAmb 22 47 16.1
comp=Z,7.9nm,0.8s
WRH Wood River Hil 60.52 28 P **P 22 47 16.0 +0.3**
MDM Murphy Dome 60.52 27 P **P 22 47 15.6 -0.2**
MDM IAmb IAmb 22 47 18.2
comp=Z,7.2nm,0.6s
TOO Toolangi 60.54 177 P **P 22 47 15.4 -0.7**
TOO pmax pmax
comp=Z,21nm,0.9s
TOO Toolangi 60.54 177 P **P 22 47 15.4 -0.7**
TOO IAmb IAmb 22 47 18.1
comp=Z,21nm,0.8s
SCM Sheep Creek Mo 60.55 31 P **P 22 47 16.5 +0.4**
SCM pmax pmax
comp=Z,19nm,0.6s
SCM Sheep Creek Mo 60.55 31 P **P 22 47 16.5 +0.4**
GLI Glacier Island 60.57 32 P **P 22 47 16.0 -0.1**
GLI IAmb IAmb 22 47 17.9
comp=Z,15nm,0.7s
NIL Nilore 60.63 297 P **P 22 47 17.9 +0.9**
NIL 22 47 56.3
NIL pmax pmax
comp=Z,75nm,1.0s
NIL Nilore 60.63 297 P **P 22 47 17.9 +0.9**
NIL **PcP 22 47 56.3 -3.7**
TOLK Toolik Lake Re 60.64 23 P **P 22 47 18.3 +1.8**
baz=258
TOLK Toolik Lake Re 60.64 23 P **P 22 47 16.6 0.0**
TOLK IAmb IAmb 22 47 19.6
comp=Z,33nm,1.4s
COLA College 60.67 27⇓ *e*P **P 22 47 17.7 +1.0**
COLA pmax pmax
comp=Z,8.0nm,0.8s
NWAO Narrogin (SRO) 60.74 204 P **P 22 47 17.7 +0.2**
comp=Z,16nm,0.9s,baz=44,slow=6.4,SNR=7.3
HIN Hinchinbrook I 60.82 33 P **P 22 47 18.1 +0.2**
HIN IAmb IAmb 22 47 20.0
comp=Z,21nm,0.8s
MID Middleton Isla 60.84 34 P **P 22 47 17.0 -0.9**
MID pmax pmax
comp=Z,127nm,1.2s
MID Middleton Isla 60.84 34 P **P 22 47 17.0 -0.9**
FID Port Fidalgo 60.86 32 P **P 22 47 17.7 -0.4**
FID IAmb IAmb 22 47 19.9
comp=Z,16nm,0.8s
POKR Poker Flat Res 60.88 27 P **P 22 47 19.9 +1.7**
baz=262
DZA Taraz 60.91 307 *e*P **P 22 47 19.9 +1.1**
comp=Z,3.2nm,0.7s,baz=307
DZA Taraz 60.91 307 *e*P **P 22 47 19.9 +1.1**
DZA pmax pmax
comp=Z,3.0nm,0.7s
HDA Harding Lake 61.00 28 P **P 22 47 19.1 +0.2**
baz=263
HDA Harding Lake 61.00 28 P **P 22 47 19.2 +0.2**
HDA IAmb IAmb 22 47 19.6
comp=Z,8.2nm,0.6s
BRVK Borovoye 61.06 319*c i*P **P 22 47 19.9 +0.3**
BRVK pmax pmax
comp=Z,77nm,0.9s
BRVK Borovoye 61.06 319 P **P 22 47 20.5 +0.9**
IL31 61.07 28 IAmb IAmb 22 47 20.4
comp=Z,10nm,0.7s
IL31 pP pP 22 47 52.5 +0.2
ILAR Eielson Array 61.07 28 P **P 22 47 19.5 +0.1**
comp=Z,9.0nm,0.8s,baz=257,slow=5.5,SNR=81
ILAR pP **pP 22 47 52.5 +0.2**
comp=Z,19nm,0.8s,baz=264,slow=5.8,SNR=17
KLRI Killari 61.26 279 *e*P **P 22 47 21.0 -0.6**
KK31 Karatay Array 61.49 308 P **P 22 47 23.8 +1.1**
KK31 Karatay Array 61.49 308 P **P 22 47 23.8 +1.1**
KK31 IAmb IAmb 22 47 24.8
comp=Z,20nm,0.9s
KKAR Karatay Array 61.49 308 IAmb IAmb 22 47 24.8
comp=Z,20nm,0.9s
PAX Paxson 61.51 30 IAmb IAmb 22 47 24.2
comp=Z,7.4nm,0.6s
URV Uravakonda 61.60 275 *e*P **P 22 47 23.7 -0.1**
PRP Porcupine Dome 61.73 27 P **P 22 47 24.8 +0.8**
PRP IAmb IAmb 22 47 26.1
comp=Z,12nm,0.5s
RAGM Ragged Mountai 61.73 33 P **P 22 47 24.0 0.0**
RAGM IAmb IAmb 22 47 26.6
comp=Z,33nm,1.3s
RIDG Independent Ri 61.85 29 IAmb IAmb 22 47 26.4
comp=Z,21nm,0.9s
IUG Iuzhnay 61.94 307 *e*P **P 22 47 27.2 +1.3**
comp=Z,2.1nm,0.7s,baz=306
IUG Iuzhnay 61.94 307 *e*P **P 22 47 27.2 +1.3**
IUG pmax pmax
comp=Z,2.0nm,0.7s
FYU Fort Yukon 61.96 26 P **P 22 47 26.4 +1.1**
FYU IAmb IAmb 22 47 28.0
comp=Z,11nm,0.8s
GAR Garm 62.14 303 P **P 22 47 27.2 0.0**
DOT Dot Lake 62.20 29 IAmb IAmb 22 47 28.8
comp=Z,14nm,0.9s
DOT **PcP 22 48 04.7 -1.0**
CHM Chimkent 62.24 307 *i* P **P 22 47 28.6 +0.8**
baz=307
CHM Chimkent 62.24 307 *i* P **P 22 47 28.5 +0.8**
SCRK Sand Creek 62.25 29 P **P 22 47 28.3 +0.8**
VRDI Verde Repeater 62.36 32 **PcP 22 48 06.7 0.0**
CRQM Cirque 62.50 32 IAmb IAmb 22 47 31.5
comp=Z,18nm,0.7s
MCARA McCarthy VSAT 62.57 32 IAmb IAmb 22 47 31.8
comp=Z,11nm,0.8s
TGL Tana Glacier 62.65 32 IAmb IAmb 22 47 32.4
comp=Z,12nm,0.8s
TGL **PcP 22 48 09.1 +1.3**
ISLE Juniper Island 62.89 32 P **P 22 47 33.0 +1.2**
ISLE IAmb IAmb 22 47 33.7
comp=Z,12nm,1.0s
BALM Baldy 62.89 32 IAmb IAmb 22 47 33.6
comp=Z,13nm,0.7s
CHGR Chuyangaron 63.09 303 P **P 22 47 33.8 +0.3**
BARN Barnard Glacie 63.23 32 IAmb IAmb 22 47 36.4
comp=Z,6.5nm,0.6s
CTGM Chitina Glacie 63.39 32 P **P 22 47 34.5 -0.6**
TABL Table Mountain 63.48 33 P **P 22 47 35.0 -0.8**
KBL Kabul 63.90 298 P **P 22 47 39.9 +0.9**
KBL pmax pmax
comp=Z,52nm,1.0s
KBL Kabul 63.90 298 P **P 22 47 39.9 +0.9**
OUZ Omahuta 65.25 152 P **P 22 47 45.2 -2.1**
HYT Haines Junctio 65.26 32 IAmb IAmb 22 47 50.4
comp=Z,16nm,1.1s
EPYK Eagle Plains 65.36 26 P **P 22 47 49.2 +1.4**
baz=272
EPYK Eagle Plains 65.36 26 P **P 22 47 47.7 0.0**
SVE Sverdlovsk 66.38 324 *e*P **P 22 47 55.2 +0.9**
SVE pmax pmax
comp=Z,53nm,1.1s
INK Inuvik 66.51 24 LR LR 23 14 57.2
comp=Z,24nm,20.1s,baz=284,slow=34
INK Inuvik 66.51 24 IAmb IAmb 22 47 56.8
comp=Z,20nm,1.1s
INK pwP 22 48 32.8 +0.3
BESE Bessie Mountai 66.80 34 P **P 22 47 56.9 -0.2**
BESE IAmb IAmb 22 47 59.9
comp=Z,16nm,0.9s
JIS Juneau Island 67.08 35 P **P 22 47 59.9 +1.2**
JIS IAmb IAmb 22 48 01.3
comp=Z,13nm,0.6s
ARU Arti 67.57 323*c i*P **P 22 48 02.1 +0.3**
ARU pmax pmax
comp=Z,58nm,1.1s
ARU Arti 67.57 323 P **P 22 48 02.2 +0.3**
ABKAR Akbulak array 67.90 316 P **P 22 48 03.6 -0.5**
ABKAR IAmb IAmb 22 48 05.5
comp=Z,21nm,0.8s
DLBC Dease Lake 69.33 34 P **P 22 48 13.7 +0.8**
comp=Z,12nm,1.1s,baz=280,slow=4.0,SNR=11
DLBC LR LR 23 14 59.5
comp=Z,41nm,21.4s,baz=293,slow=33
DLBC Dease Lake 69.33 34 P **P 22 48 13.0 +0.1**
DLBC IAmb IAmb 22 48 16.1
comp=Z,17nm,1.1s
HRA Herat 69.41 300 P **P 22 48 13.7 -0.4**
RPZ Rata Peaks 71.64 158 P **P 22 48 26.6 -0.3**
GEYT Alibeck 71.72 304 P **P 22 48 28.9 +1.2**
comp=Z,3.8nm,0.9s,baz=129,slow=2.1,SNR=12
GYA0 ALIBECK ARRAY 71.72 304 P **P 22 48 28.2 +0.4**
GYA0B ALIBECK ARRAY 71.72 304 P **P 22 48 28.2 +0.4**
BBB Bella Bella 71.76 40 LR LR 23 14 42.4
comp=Z,23nm,19.5s,baz=262,slow=31
KIRV Kirov 71.97 327 *i* P **P 22 48 28.9 +0.2**
SPA0 Spitsbergen Ar 74.20 350 P **P 22 48 41.6 0.0**
SPA0 IAmb IAmb 22 48 44.6
comp=Z,37nm,1.4s
KBS Kingsbay 74.37 351*c e*P **P 22 48 43.1 +0.6**
KBS pmax pmax
comp=Z,10.0nm,0.7s
KBS Kingsbay 74.37 351 P **P 22 48 43.0 +0.4**
NOR Nord 74.85 357 *i* P **P 22 48 45.3 +0.1**
NOR Nord 74.85 357 *i* P **P 22 48 45.3 +0.1**
TMCR Tamitsa 75.35 334 *e*P **P 22 48 48.0 -0.3**
TMCR pmax pmax
comp=Z,34nm,0.9s
YKA Yellowknife Ar 75.50 28 P **P 22 48 49.9 +0.7**
comp=Z,11nm,0.5s,baz=292,slow=5.6,SNR=70
YKA pP **pP 22 49 22.9 -0.6**
comp=Z,5.7nm,0.6s,baz=293,slow=5.5,SNR=4.8
NLWA Neilton Lookou 75.77 44 P **P 22 48 51.5 +0.4**
NLWA IAmb IAmb 22 48 54.4
comp=Z,20nm,0.9s
RES Resolute Bay 75.79 13 P **P 22 48 50.9 +0.2**
RES pmax pmax
comp=Z,11nm,0.8s
RES Resolute Bay 75.79 13 P **P 22 48 50.9 +0.2**
LLLB Lillooet 75.95 41 P **P 22 48 52.3 +0.1**
LLLB IAmb IAmb 22 48 55.0
comp=Z,23nm,1.1s
KLMR Klimovskoe 75.99 331 *e*P **P 22 48 49.7 -2.4**
KLMR pmax pmax
comp=Z,32nm,1.0s
KLMR Klimovskoe 75.99 331 *e*P **P 22 48 49.7 -2.4**
KLMR AMP 22 48 53.1
comp=Z,32nm,1.0s
D03D Eldon 76.22 44 P **P 22 48 56.0 +2.4**
baz=289
E03A Lebam 76.24 45 P **P 22 48 54.0 +0.3**
E03A IAmb IAmb 22 48 57.2
comp=Z,33nm,0.9s
B05A Bryant 76.61 43 P **P 22 48 57.7 +1.9**
baz=290
KEV Kevo 76.67 341 P **P 22 48 55.8 +0.1**
KEV pmax pmax
comp=Z,24nm,1.0s
KEV Kevo 76.67 341 P **P 22 48 55.8 +0.1**
KEV IAmb IAmb 22 48 57.3
comp=Z,24nm,1.0s
BANOM Banah 76.81 293 P **P 22 48 57.4 -0.1**
I02D Swisshome 76.86 48 P **P 22 48 58.4 +1.1**
baz=290
G03D McMinnville, O 76.88 46 P **P 22 48 59.0 +1.6**
baz=290
E04D Cinebar 76.88 45 P **P 22 48 59.5 +2.1**
baz=290
B06A Marblemount 76.90 43 P **P 22 48 57.5 +0.1**
SHME Shamm 76.91 293 P **P 22 48 59.4 +1.4**
D05A Enumclaw 77.04 44 P **P 22 48 59.3 +1.1**
D05A IAmb IAmb 22 49 01.4
comp=Z,38nm,1.4s
MSFE Esma-Masafi 77.12 292 P **P 22 48 60.0 +0.8**
F04A Amboy 77.19 45 P **P 22 48 58.4 -0.8**
F04A IAmb IAmb 22 49 01.8
comp=Z,29nm,0.7s
SOHO SOHO 77.21 291 *i* P **P 22 48 60.0 +0.3**
SNR=12
UOSS Minazif 77.22 292 P **P 22 49 00.5 +0.7**
ARCES ARCESS Array B 77.23 341 P **P 22 48 59.5 +0.5**
comp=Z,13nm,0.7s,baz=60,slow=7.2,SNR=50
LON Longmire 77.31 45 P **P 22 49 00.2 +0.3**
LON pmax pmax
comp=Z,6.0nm,0.9s
LON Longmire 77.31 45 P **P 22 49 00.2 +0.3**
HATD Hatta, Dubai 77.32 292 P **P 22 49 01.6 +1.3**
I03D Drain, OR 77.33 48 P **P 22 49 01.4 +1.4**
baz=290
ASHO Ashiyiah 77.44 292 P **P 22 49 01.1 +0.1**
K02D Willamette Mer 77.46 49 P **P 22 49 01.8 +1.0**
baz=290
H04D Lebanon 77.46 47 P **P 22 49 02.7 +2.0**
baz=290
H04A Detroit Lake 77.78 47 P **P 22 49 02.8 +0.3**
H04A IAmb IAmb 22 49 05.0
comp=Z,20nm,0.9s
F05D White Salmon 77.84 45 P **P 22 49 04.6 +1.8**
baz=291
I04A Tendick Farm, 77.94 48 P **P 22 49 04.9 +1.5**
baz=290,SNR=6.2
KHMM Horse Mountain 78.04 51 P **P 22 49 04.2 +0.1**
KHMM IAmb IAmb 22 49 07.4
comp=Z,25nm,0.8s
G05D Wamic, OR 78.16 46 P **P 22 49 06.3 +1.7**
baz=291
AKT Akhty 78.26 310 *e*P **P 22 49 05.8 +0.5**
AKT *e* 22 49 14.0
AKT pmax pmax
comp=Z,20nm,1.0s
KMRM Mail Ridge 78.28 51 P **P 22 49 05.9 +0.5**
KMRM IAmb IAmb 22 49 08.5
comp=Z,23nm,1.0s
B08A Colville Reser 78.30 42 IAmb IAmb 22 49 07.6
comp=Z,25nm,1.1s
J04D Umpqua Nationa 78.34 48 P **P 22 49 07.4 +1.6**
baz=291,SNR=5.3
YBH Yreka Blue Hor 78.46 50 P **P 22 49 08.2 +1.9**
comp=Z,13nm,0.7s,baz=348,slow=3.2,SNR=35
YBH Yreka Blue Hor 78.46 50 P **P 22 49 06.7 +0.3**
YBH pmax pmax
comp=Z,13nm,0.8s
YBH Yreka Blue Hor 78.46 50 P **P 22 49 06.7 +0.3**
YBH IAmb IAmb 22 49 09.2
comp=Z,13nm,0.8s
I05D Terrebonne, OR 78.47 47 P **P 22 49 07.8 +1.5**
baz=291
M02C Callahan 78.48 50 P **P 22 49 08.5 +2.0**
baz=291,SNR=10
KCPM Cahto Peak 78.56 52 P **P 22 49 07.7 +0.7**
VRH Novokhopyorsk 78.56 321 *e*P **P 22 49 06.4 -0.2**
VRH pmax pmax
comp=Z,50nm,0.9s
L04D Klamath Falls 78.57 49 P **P 22 49 08.5 +1.5**
baz=291,SNR=9.1
E07A Sunnyside 78.63 44 P **P 22 49 07.3 +0.2**
TULEG Thule 78.67 7 P **P 22 49 05.8 -0.9**
TULEG IAmb IAmb 22 49 08.4
comp=Z,39nm,1.1s
N02D Trinity Center 78.73 50 P **P 22 49 09.8 +1.9**
baz=291,SNR=10
K04D Chiloquin, OR 78.80 48 P **P 22 49 09.9 +1.6**
baz=291
F07A Phinny Hill Vi 78.83 45 P **P 22 49 08.1 -0.1**
F07A IAmb IAmb 22 49 10.9
comp=Z,29nm,1.3s
HAWA Hanford 78.90 44 P **P 22 49 08.0 -0.6**
J05D Fort Rock, OR 78.92 48 P **P 22 49 10.9 +1.9**
baz=291,SNR=17
PINE Pine Mountain 78.93 47 P **P 22 49 09.0 0.0**
O02D Mt. Diablo Mer 78.95 51 P **P 22 49 11.1 +2.0**
baz=291,SNR=19
MOS Moscow 78.97 326 *e*P **P 22 49 08.0 -0.7**
MOS *e*S **S 22 58 47.3 -8.1**
MOS pmax pmax
comp=Z,35nm,1.0s
GROC Groznyy 78.98 312 *e*P **P 22 49 09.4 +0.3**
GROC *e* 22 49 17.9
GROC *e**SP **sP 22 49 58.0 -1.3**
GROC *e*S **S 22 58 54.6 -1.5**
GROC pmax pmax
comp=Z,17nm,0.9s
WDC Whiskeytown Da 78.99 51 P **P 22 49 08.7 -0.4**
WDC pmax pmax
comp=Z,13nm,1.1s
WDC Whiskeytown Da 78.99 51 P **P 22 49 08.7 -0.4**
D08A Wollman Farm, 79.04 43 P **P 22 49 08.4 -0.9**
D08A IAmb IAmb 22 49 11.8
comp=Z,21nm,1.0s
M04C Macdoel 79.05 49 P **P 22 49 11.2 +1.5**
baz=291,SNR=5.6
C09A Chrisman Ranch 79.17 43 P **P 22 49 10.0 0.0**
C09A IAmb IAmb 22 49 12.4
comp=Z,49nm,1.4s
E08A Dider Farm, El 79.17 44 P **P 22 49 10.2 +0.2**
HOPS Hopland Field 79.17 52 P **P 22 49 10.0 -0.2**
K05A Sumner Lake 79.36 48 P **P 22 49 12.1 +0.7**
GDXM Geysers 79.44 52 P **P 22 49 11.6 -0.2**
GDXM IAmb IAmb 22 49 14.7
comp=Z,19nm,1.1s
DAG Danmarks Havn 79.56 356 *i* P **P 22 49 11.6 0.0**
comp=Z,12nm,1.1s
DAG Danmarks Havn 79.56 356 *i* P **P 22 49 11.6 0.0**
DAG pmax pmax
comp=Z,12nm,1.1s
LPSR Galich'ya Gora 79.58 323 *e*P **P 22 49 12.7 +0.6**
LPSR pmax pmax
comp=Z,60nm,1.0s
O03E Paynes Creek 79.61 51 P **P 22 49 13.7 +1.0**
baz=292,SNR=10.0
MCCM Marconi Confer 79.62 53 P **P 22 49 12.4 -0.2**
MCCM IAmb IAmb 22 49 15.0
comp=Z,25nm,1.0s
G08A Pilot Rock 79.69 45 P **P 22 49 13.7 +0.7**
NEW Newport 79.70 42 P **P 22 49 14.1 +1.2**
baz=293
NEW Newport 79.70 42 P **P 22 49 14.4 +1.4**
comp=Z,20nm,0.8s,baz=284,slow=4.6,SNR=25
NEW Newport 79.70 42 IAmb IAmb 22 49 15.3
comp=Z,27nm,0.9s
E09A Wood Farm, Sta 79.74 44 P **P 22 49 13.4 +0.2**
E09A IAmb IAmb 22 49 15.7
comp=Z,28nm,1.0s
OBN Obninsk 79.78 326*c i*P **P 22 49 13.3 +0.2**
OBN *e* 22 52 19.2
OBN *i*S **S 22 58 56.1 -7.9**
OBN pmax pmax
comp=Z,44nm,1.2s
OBN Obninsk 79.78 326 P **P 22 49 13.4 +0.2**
I07A Izee 79.79 46 P **P 22 49 14.1 +0.5**
ORV Oroville 80.10 51 IAmb IAmb 22 49 17.2
comp=Z,18nm,1.1s
TBLG Delisi 80.26 311 P **P 22 49 15.6 -0.4**
TBLG Delisi 80.26 311 P **P 22 49 15.6 -0.4**
ZEI Tsey 80.43 312 *e*P **P 22 49 16.8 -0.4**
ZEI pmax pmax
comp=Z,20nm,1.1s
AFDM Forest Hills D 80.71 52 P **P 22 49 18.7 +0.2**
SUF Sumiainen 80.74 335 P **P 22 49 18.5 +0.4**
SUF pmax pmax
comp=Z,36nm,0.9s
KBZ Khabaz 80.74 314 P **P 22 49 19.5 +1.1**
comp=Z,30nm,0.8s,baz=89,slow=3.3,SNR=73
KBZ Khabaz 80.74 314*c i*P **P 22 49 19.2 +0.7**
KBZ pmax pmax
comp=Z,35nm,0.9s
J08A Circle Bar Ran 80.76 47 P **P 22 49 18.9 +0.2**
J08A IAmb IAmb 22 49 21.2
comp=Z,28nm,0.8s
KIV Kislovodsk 80.79 314⇓ P **P 22 49 17.2 -1.7**
KIV Kislovodsk 80.79 314 *i* P **P 22 49 19.9 +1.0**
SNR=9.3
KIV Kislovodsk 80.79 314 *e*P **P 22 49 19.4 +0.5**
KIV pmax pmax
comp=Z,62nm,1.1s
KIV Kislovodsk 80.79 314 P **P 22 49 18.7 -0.2**
KIV IAmb IAmb 22 49 22.1
comp=Z,21nm,1.0s
BMO Blue Mountains 80.94 45 P **P 22 49 21.1 +1.4**
BMO pmax pmax
comp=Z,19nm,0.9s
BMO Blue Mountains 80.94 45 P **P 22 49 21.1 +1.4**
BMO IAmb IAmb 22 49 22.0
comp=Z,19nm,0.8s
WVOR Wild Horse Val 81.01 48 P **P 22 49 20.9 +0.7**
WVOR pmax pmax
comp=Z,15nm,0.9s
WVOR Wild Horse Val 81.01 48 P **P 22 49 20.9 +0.7**
WVOR IAmb IAmb 22 49 22.5
comp=Z,15nm,0.8s
NEY Neytrino 81.04 313⇑ *e*P **P 22 49 21.5 +1.1**
NEY pmax pmax
comp=Z,4.0nm,0.9s
SAO San Andreas Ge 81.19 54 P **P 22 49 21.4 +0.3**
SAO pmax pmax
comp=Z,8.0nm,0.8s
SAO San Andreas Ge 81.19 54 P **P 22 49 21.4 +0.3**
FIA1 FINESS Array S 81.47 334 IAmb IAmb 22 49 22.1
comp=Z,15nm,0.7s
FINES FINESS Array B 81.47 334 P **P 22 49 21.5 -0.5**
comp=Z,14nm,0.7s,baz=66,slow=5.5,SNR=90
CMB Columbia Colle 81.48 52 IAmb IAmb 22 49 24.9
comp=Z,22nm,0.8s
VCNR Virginia City 81.53 51 P **P 22 49 23.3 +0.3**
PAHR Pah Rah Range 81.56 51 IAmb IAmb 22 49 25.4
comp=Z,19nm,1.1s
KULLO Kullorsuaq 81.62 5 *i* P **P 22 49 22.4 -0.2**
comp=Z,24nm,1.0s
KULLO Kullorsuaq 81.62 5 *i* P **P 22 49 22.4 -0.2**
KULLO pmax pmax
comp=Z,24nm,1.0s
PNTR Pine Nut 81.64 51 IAmb IAmb 22 49 26.2
comp=Z,20nm,0.8s
JTMT Jette 81.65 42 P **P 22 49 23.2 -0.2**
JTMT IAmb IAmb 22 49 25.8
comp=Z,34nm,1.0s
PMPB Monarch Peak 81.88 54 P **P 22 49 23.9 -0.9**
YERR Yerington 81.94 51 P **P 22 49 25.8 +0.6**
YERR IAmb IAmb 22 49 27.5
comp=Z,15nm,0.8s
WAKR Walker 81.99 52 P **P 22 49 25.7 +0.2**
TAOE Nuku Hiva Isla 82.18 103 P **P 22 49 25.9 -0.7**
MSO Missoula 82.25 42 P **P 22 49 27.2 +0.6**
baz=296
MSO Missoula 82.25 42 P **P 22 49 25.3 -1.2**
BATM Batumi 82.40 312⇑ P **P 22 49 28.7 +1.4**
BATM Batumi 82.40 312⇑ P **P 22 49 28.7 +1.4**
PAGB Antelope Grade 82.48 54 P **P 22 49 27.6 -0.3**
MFID Camas Ranch 82.50 46 P **P 22 49 27.9 0.0**
MFID IAmb IAmb 22 49 30.4
comp=Z,26nm,0.8s
BCA Borcka 82.52 312⇑ P **P 22 49 28.4 +0.5**
MDPB Devils Postpil 82.59 52 P **P 22 49 27.3 -1.4**
RYN Ryan 82.60 51 P **P 22 49 28.6 0.0**
RYN IAmb IAmb 22 49 31.0
comp=Z,16nm,0.9s
KVN Kaiserville 82.73 51 IAmb IAmb 22 49 31.5
comp=Z,19nm,1.0s
NVAR Mina Array Bea 82.83 51 P **P 22 49 31.4 +1.5**
comp=Z,17nm,0.8s,baz=266,slow=5.8,SNR=59
VSU Vasula 82.84 331 *e*P **P 22 49 28.9 -0.2**
VSU Vasula 82.84 331*c i*P **P 22 49 28.5 -0.7**
VSU pmax pmax
comp=Z,79nm,1.0s
SOC Sochi 82.90 314 *e*P P 22 49 34.8 +5.0
SOC *e* 22 52 49.6
SOC *e*PPP PPP 22 54 34.6
SOC *e*SS SS 23 05 01.6 -0.7

SOC pmax pmax
comp=Z,32nm,0.8s
NV11 Mina Array Sit 82.94 51 P **P 22 49 30.6 +0.3**
NV11 IAmb IAmb 22 49 32.7
comp=Z,13nm,0.9s
PKM Mcpherson Peak 83.14 55 P **P 22 49 32.9 +1.4**
baz=293
VES Vestal, Richgr 83.30 54 P **P 22 49 32.5 +0.4**
baz=294,SNR=5.0
HLID Hailey 83.36 45 P **P 22 49 33.6 +1.2**
baz=296
TIN Tinemaha, Big 83.44 53 P **P 22 49 34.4 +1.4**
baz=294,SNR=5.7
DLMT Dillon 83.74 43 IAmb IAmb 22 49 36.7
comp=Z,15nm,1.1s
ARVC Arvin 83.78 55 P **P 22 49 35.4 +0.9**
baz=294
CWC Cottonwood Cre 83.81 53 P **P 22 49 35.7 +0.9**
baz=294
MCMT McKenzie Canyo 83.82 44 P **P 22 49 34.7 -0.1**
ISA Isabella, Lake 83.83 54 P **P 22 49 35.5 +0.7**
baz=294
ISA Isabella, Lake 83.83 54 P **P 22 49 34.6 -0.3**
ISA pmax pmax
comp=Z,10.0nm,1.2s
ISA Isabella, Lake 83.83 54 P **P 22 49 34.6 -0.3**
ELK Elko 84.03 48 P **P 22 49 35.4 -0.6**
ELK pmax pmax
comp=Z,17nm,0.8s
ELK Elko 84.03 48 P **P 22 49 35.4 -0.6**
ELK IAmb IAmb 22 49 38.4
comp=Z,17nm,0.8s
OSI Osito Audit: C 84.07 55 P **P 22 49 37.4 +1.4**
baz=294
GRAC Grapevine Rang 84.10 52 P **P 22 49 37.3 +1.2**
baz=295
BOZ Bozeman (W) 84.24 43 P **P 22 49 37.9 +1.1**
baz=297
BOZ Bozeman (W) 84.24 43 IAmb IAmb 22 49 39.0
comp=Z,16nm,0.7s
EGMT Eagleton 84.24 40 P **P 22 49 37.8 +1.1**
baz=298
EGMT Eagleton 84.24 40 IAmb IAmb 22 49 38.9
comp=Z,34nm,1.1s
MPMC Manual Prospec 84.40 53 P **P 22 49 39.0 +1.1**
baz=295,SNR=18
SUMG Summit 84.46 0 *i* P **P 22 49 38.7 +1.0**
comp=Z,36nm,0.8s
SUMG Summit 84.46 0 *i* P **P 22 49 38.7 +1.0**
SUMG pmax pmax
comp=Z,36nm,0.8s
SUMG Summit 84.46 0 IAmb IAmb 22 49 39.2
comp=Z,13nm,0.7s
LRMC Laurel Mtn Rad 84.49 54 P **P 22 49 39.3 +0.9**
baz=294,SNR=7.7
EDW2 Edwards Air Fo 84.51 54 P **P 22 49 39.9 +1.6**
baz=294
DECC Green Verdugo 84.51 55 P **P 22 49 39.0 +0.7**
baz=294
IZAR Zarasai 84.56 329 *e*P **P 22 49 38.1 +0.1**
PASC Pasadena Art C 84.66 55 P **P 22 49 38.3 -0.7**
PASC IAmb IAmb 22 49 44.5
comp=Z,17nm,0.8s
FURC Furnace Creek, 84.69 53 P **P 22 49 40.3 +1.3**
baz=295,SNR=23
ISAL Salakas 84.72 329 *e*P **P 22 49 38.5 -0.3**
IIGN Ignalina 84.80 329 *e*P **P 22 49 39.1 -0.1**
CIS Catalina Islan 84.80 56 P **P 22 49 40.9 +1.2**
baz=294
R11A Troy Canyon, C 84.81 51 P **P 22 49 41.1 +1.2**
baz=296
R11A Troy Canyon, C 84.81 51 IAmb IAmb 22 49 42.2
comp=Z,18nm,0.8s
YHL Hebgen Lake 84.86 43 P **P 22 49 39.5 -0.7**
YHB Horse Butte 84.90 43 P **P 22 49 40.2 -0.1**
TPNV Topopah Spring 84.93 52 P **P 22 49 41.7 +1.2**
baz=295,SNR=40
FFC Flin Flon 84.97 32 P **P 22 49 40.7 +0.6**
FFC pmax pmax
comp=Z,31nm,1.0s
FFC Flin Flon 84.97 32 P **P 22 49 40.7 +0.6**
BFSC Mount Baldy Ra 85.03 55 P **P 22 49 41.7 +0.7**
baz=295
YMR Madison River 85.09 43 P **P 22 49 41.6 +0.4**
YHH Holmes Hill 85.10 43 P **P 22 49 40.9 -0.5**
GSC Goldstone, Bar 85.22 54 P **P 22 49 43.1 +1.2**
baz=295,SNR=14
GSC Goldstone, Bar 85.22 54 IAmb IAmb 22 49 44.1
comp=Z,22nm,0.8s
YNM Yellowstone No 85.22 43 P **P 22 49 42.4 +0.5**
HVU Hansel Valley 85.24 46 P **P 22 49 41.8 -0.1**
HVU pmax pmax
comp=Z,13nm,0.7s
HVU Hansel Valley 85.24 46 P **P 22 49 41.8 -0.1**
SHOC Shoshone, Teco 85.36 53 P **P 22 49 43.6 +1.1**
baz=295,SNR=7.0
YPP Pitchstone Pla 85.37 44 P **P 22 49 43.6 +0.9**
BGU Big Grassy Mou 85.45 47 P **P 22 49 43.1 +0.1**
H17A Grant Village 85.46 43 P **P 22 49 46.5 +3.4**
baz=298
H17A Grant Village 85.46 43 P **P 22 49 43.6 +0.5**
H17A IAmb IAmb 22 49 48.2
comp=Z,18nm,0.9s
IMW Indian Meadow 85.46 44 P **P 22 49 43.3 +0.1**
IMW IAmb IAmb 22 49 46.0
comp=Z,21nm,0.8s
LKWY Lake 85.49 43 P **P 22 49 43.6 +0.3**
LKWY pmax pmax
comp=Z,30nm,0.9s
LKWY Lake 85.49 43 P **P 22 49 43.6 +0.3**
YNE Yellowstone No 85.53 43 P **P 22 49 43.0 -0.4**
FXWY Fox Creek 85.53 44 P **P 22 49 43.7 +0.3**
FLWY Flagg Ranch 85.53 44 P **P 22 49 44.0 +0.6**
YMP Mirror Lake Pl 85.56 43 P **P 22 49 44.6 +0.9**
MURC Murrieta 85.64 55 P **P 22 49 44.8 +0.9**
baz=295
TPAW Teton Pass 85.65 44 P **P 22 49 44.2 +0.2**
TPAW IAmb IAmb 22 49 46.8
comp=Z,11nm,0.8s
PABE Paberze 85.76 330 *e*P **P 22 49 43.6 -0.4**
HEC Hector,Ludlow 85.77 54 P **P 22 49 45.7 +1.1**
baz=295,SNR=9.1
REDW Red Top Meadow 85.77 44 P **P 22 49 44.4 -0.2**
SNOW Snow King Moun 85.78 44 P **P 22 49 44.3 -0.4**
SNOW IAmb IAmb 22 49 47.4
comp=Z,18nm,1.4s
AKASG Malin Array Be 85.81 324 P **P 22 49 43.6 -0.7**
comp=Z,1.3nm,0.3s,baz=47,slow=5.4,SNR=20
AKBB Malin Array Si 85.81 324 *c i*P **P 22 49 43.4 -0.9**
TUQ Turquoise Moun 85.81 53 P **P 22 49 46.2 +1.3**
baz=296,SNR=18
AHID Auburn Hatcher 85.89 45 P **P 22 49 45.0 -0.2**
AHID IAmb IAmb 22 49 47.4
comp=Z,15nm,1.1s
SHPR Sheep Range 85.91 52 IAmb IAmb 22 49 47.9
comp=Z,21nm,0.9s
DUG Dugway, Tooele 85.93 48 P **P 22 49 46.6 +1.3**
baz=297,SNR=44
RLMT Red Lodge 85.93 42 P **P 22 49 47.1 +1.8**
baz=299
RLMT Red Lodge 85.93 42 P **P 22 49 45.8 +0.4**
PSUT Pine Spring 85.95 50 P **P 22 49 45.3 -0.3**
109C Camp Elliot, M 86.01 56 P **P 22 49 46.6 +0.9**
baz=295
109C Camp Elliot, M 86.01 56 P **P 22 49 45.4 -0.3**
109C IAmb IAmb 22 49 47.6
comp=Z,20nm,0.8s
FCC Fort Churchill 86.03 26 IAmb IAmb 22 49 46.3
comp=Z,16nm,0.9s
HWUT Hardware Ranch 86.12 46 IAmb IAmb 22 49 48.6
comp=Z,23nm,0.8s
PFO Pinyon Flats O 86.19 55 P **P 22 49 47.8 +1.0**
baz=295,SNR=6.6
PFO Pinyon Flats O 86.19 55 *c i*P **P 22 49 47.4 +0.6**
PFO pmax pmax
comp=Z,44nm,0.9s
PFO Pinyon Flats O 86.19 55 P **P 22 49 48.1 +1.4**
XPFO Pion Flat 86.20 55 P **P 22 49 48.1 +1.4**
GMRC Granite Mounta 86.29 54 P **P 22 49 48.5 +1.3**
baz=296,SNR=22
BELC Belle Mtn. Jos 86.37 55 P **P 22 49 48.5 +0.9**
baz=296,SNR=14
PBUR Paburge 86.38 331 *e*P **P 22 49 46.0 -1.0**
BAR Barrett 86.43 56 IAmb IAmb 22 49 49.1
comp=Z,15nm,0.8s
MONP2 Monument Peak 86.53 56 P **P 22 49 49.5 +0.9**
baz=295,SNR=14
NLU North Lily Min 86.54 48 P **P 22 49 44.9 -3.6**
JLU Jordanelle 86.67 47 P **P 22 49 47.9 -1.2**
DIKM Dikmen 86.71 314 ⇓P **P 22 49 52.4 +3.4**
CCUT Cedar City 86.74 50 P **P 22 49 48.1 -1.4**
IKP In-Ko-Pah, Jac 86.87 56 P **P 22 49 51.1 +1.1**
baz=296,SNR=7.0
BW06 Boulder Array 86.89 44 P **P 22 49 50.2 +0.1**
baz=299
PDAR Pinedale Array 86.89 44 P **P 22 49 51.0 +0.8**
comp=Z,2.1nm,0.6s,baz=289,slow=4.5,SNR=19
TCRU Three Creeks R 86.90 49 P **P 22 49 51.0 +0.7**
SZCU Shurtz Canyon 86.91 50 P **P 22 49 48.6 -1.7**
BC3 Big Chuckawall 86.93 55 P **P 22 49 51.6 +1.3**
baz=296,SNR=20
IRM Iron Mountain 86.94 54 P **P 22 49 51.5 +1.2**
baz=296,SNR=16
SWSC Sam W. Stewart 86.98 55 P **P 22 49 51.4 +1.0**
baz=296,SNR=6.4
LAO LASA Array 86.99 40 P **P 22 49 51.7 +1.4**
baz=301
LAO LASA Array 86.99 40 P **P 22 49 50.3 0.0**
SUW Suwalki 87.01 329 *e*P **P 22 49 49.5 -0.6**
NC303 NORSAR Array S 87.06 339 P **P 22 49 48.3 -1.9**
LCMT Little Creek M 87.07 51 P **P 22 49 51.2 +0.2**
NEE2 Needles Airpor 87.07 53 P **P 22 49 52.1 +1.3**
baz=296
MSU Marysvale 87.14 49 P **P 22 49 51.7 +0.3**
MSU Marysvale 87.14 49 P **P 22 49 51.7 +0.3**
NB201 NORSAR Array S 87.21 338 P **P 22 49 50.1 -0.9**
DGMT Dagmar 87.22 38 P **P 22 49 51.9 +0.5**
baz=302
DGMT Dagmar 87.22 38 P **P 22 49 50.6 -0.7**
DGMT IAmb IAmb 22 49 52.9
comp=Z,12nm,0.8s
NB2 NORSAR Subarra 87.24 338 P **P 22 49 49.6 -1.6**
comp=Z,18nm,1.1s,baz=47,slow=4.8
NB2 NORSAR Subarra 87.24 338 P **P 22 49 49.6 -1.6**
baz=47,slow=4.8
NOA NORSAR Array B 87.24 338 P **P 22 49 50.0 -1.2**
comp=Z,7.0nm,1.0s,baz=48,slow=4.7,SNR=20
NOA LR LR 23 32 29.5
comp=Z,10nm,19.2s,baz=95,slow=38
NOA NORSAR Array B 87.24 338 P **P 22 49 50.0 -1.2**
MTPU Mount Pierson 87.35 50 P **P 22 49 52.8 +0.3**
KNB Kanab 87.36 51 P **P 22 49 52.3 -0.2**
KNB pmax pmax
comp=Z,46nm,0.9s
KNB Kanab 87.36 51 P **P 22 49 52.3 -0.2**
TMUT Trail Mountain 87.44 48 P **P 22 49 53.3 +0.3**
GAZ Gaziantep 87.45 309 P **P 22 49 51.1 -1.6**
NAO01 NORSAR Array S 87.50 338 P **P 22 49 50.0 -2.3**
NAO01 IAmb IAmb 22 49 52.3
comp=Z,17nm,1.1s
PKCU Pink Cliffs 87.53 50 P **P 22 49 53.2 -0.2**
Y12C Blythe 87.59 54 P **P 22 49 54.6 +1.3**
baz=296,SNR=6.2
Y12C Blythe 87.59 54 P **P 22 49 53.2 -0.2**
Y12C IAmb IAmb 22 49 55.7
comp=Z,16nm,0.8s
PDMCI Parker Dam,Lak 87.63 54 P **P 22 49 54.7 +1.2**
baz=296,SNR=7.8
SORM Soroca 87.66 322 ⇓P **P 22 49 52.4 -1.0**
SORM Soroca 87.66 322 ⇓P **P 22 49 52.4 -1.0**
GLA Glamis 87.67 55 P **P 22 49 55.3 +1.5**
baz=296,SNR=17
RDMU Red Mountain 87.94 46 P **P 22 49 54.1 -1.1**
SRU San Rafael Swe 88.00 48 P **P 22 49 54.5 -0.9**
SRU pmax pmax
comp=Z,12nm,0.8s
SRU San Rafael Swe 88.00 48 P **P 22 49 54.5 -0.9**
U15A North Rim 88.01 51 P **P 22 49 54.6 -1.1**
U15A IAmb IAmb 22 49 58.2
comp=Z,14nm,0.9s
113A Mohawk Valley, 88.59 55 P **P 22 49 57.9 -0.2**
Y14A Wickenburg 88.63 54 P **P 22 49 58.9 +0.6**
BR131 Keskin Array S 88.72 313 P **P 22 49 57.8 -0.9**
BR131 pmax pmax
comp=Z,7.0nm,0.9s
BR131 Keskin Array S 88.72 313 P **P 22 49 57.8 -0.9**
BRTR Keskin Array B 88.72 313 P **P 22 49 58.4 -0.3**
comp=Z,5.8nm,0.9s,baz=84,slow=3.4,SNR=15
BRTR pP **pP 22 50 35.4 +0.9**
comp=Z,2.3nm,0.8s,baz=151,slow=2.8,SNR=2.6
K22A Casper 88.88 43 P **P 22 50 00.1 +0.6**
baz=301
K22A Casper 88.88 43 P **P 22 49 58.5 -1.0**
K22A IAmb IAmb 22 50 02.8
comp=Z,16nm,1.4s
MSEY Mahe Island 88.91 264 P **P 22 49 59.0 -1.0**
MSEY pmax pmax
comp=Z,29nm,1.1s
MSEY Mahe Island 88.91 264 P **P 22 49 59.0 -1.0**
O20A White River Ci 89.04 46 P **P 22 50 00.9 +0.6**
baz=300
O20A White River Ci 89.04 46 P **P 22 49 58.9 -1.5**
O20A IAmb IAmb 22 50 02.3
comp=Z,21nm,1.5s
LVV L'vov 89.06 325 *e*P **P 22 49 59.6 -0.4**
WUAZ Wupatki 89.09 52 P **P 22 50 02.0 +1.4**
baz=298
WUAZ Wupatki 89.09 52 P **P 22 50 01.2 +0.6**
WUAZ IAmb IAmb 22 50 03.2
comp=Z,13nm,1.0s
BR231 Keskin MP Arra 89.24 313 P **P 22 49 59.4 -1.7**
BR231 IAmb IAmb 22 50 03.4
comp=Z,6.1nm,0.7s
PV09 Paradox Valley 89.24 48 P **P 22 50 00.1 -1.3**
PV21 Cone Mtn., Par 89.32 48 P **P 22 50 00.6 -1.2**
PV23 Carpenter Ridg 89.35 48 P **P 22 50 00.9 -1.0**
PV10 Paradox Valley 89.37 48 P **P 22 50 02.4 +0.4**
CFR Carcaliu 89.39 320 ⇓P **P 22 50 01.0 -0.5**
CFR Carcaliu 89.39 320 ⇓P **P 22 50 01.0 -0.5**
TOPG Topolog 89.41 319 ⇓P **P 22 50 01.5 -0.1**
PV20 West Nyswonger 89.43 48 P **P 22 50 02.5 +0.3**
PV19 Morning Glory 89.44 48 P **P 22 50 00.8 -1.5**
PV04 Paradox Valley 89.45 48 P **P 22 50 01.3 -0.9**
PV04 IAmb IAmb 22 50 04.3
comp=Z,14nm,0.9s
PV22 Blue Mesa, Par 89.46 48 P **P 22 50 00.9 -1.4**
PV17 East Wray Mesa 89.47 48 P **P 22 50 02.4 0.0**
PV05 Paradox Valley 89.47 48 IAmb IAmb 22 50 04.4
comp=Z,17nm,1.0s
BEL Belsk 89.49 328 *e*P **P 22 50 02.4 +0.5**
PV11 David Mesa, Pa 89.52 48 P **P 22 50 03.2 +0.6**
PV18 Skein Mesa, Pa 89.52 48 P **P 22 50 02.9 +0.3**
TESR Tescani 89.52 321 ⇑P **P 22 50 01.0 -1.2**
PV03 Paradox Valley 89.56 48 IAmb IAmb 22 50 04.6
comp=Z,19nm,1.1s
BIZ Bicaz 89.59 322 ⇓P **P 22 50 01.5 -1.0**
RSSD Black Hills 89.65 41 P **P 22 50 03.9 +0.8**
baz=303
RSSD Black Hills 89.65 41 P **P 22 50 02.2 -0.9**
RSSD pmax pmax
comp=Z,5.0nm,0.8s
RSSD Black Hills 89.65 41 P **P 22 50 02.2 -0.9**
PV02 Paradox Valley 89.66 48 IAmb IAmb 22 50 05.1
comp=Z,16nm,0.7s
214A Organ Pipe Nat 89.68 55 P **P 22 50 04.8 +1.6**
baz=297,SNR=6.8
214A Organ Pipe Nat 89.68 55 P **P 22 50 02.7 -0.5**
214A IAmb IAmb 22 50 05.9
comp=Z,15nm,0.9s
BUR08 Bucovina Ar. S 89.70 323 P **P 22 50 01.6 -1.5**
BURAR Bucovina Array 89.70 323 ⇓P **P 22 50 02.9 -0.2**
BURAR Bucovina Array 89.70 323 ⇓P **P 22 50 02.9 -0.2**
PV15 Paradox Valley 89.77 48 P **P 22 50 03.6 -0.2**
HARR Harsova 89.78 319 ⇓P **P 22 50 03.3 -0.1**
HARR Harsova 89.78 319 ⇓P **P 22 50 03.3 -0.1**
PV01 Paradox Valley 89.81 48 P **P 22 50 02.4 -1.7**
PV01 IAmb IAmb 22 50 05.7
comp=Z,13nm,0.7s
KWP Kalwaria Pacla 89.87 326 *e*P **P 22 50 04.1 +0.4**
KWP Kalwaria Pacla 89.87 326 P **P 22 50 03.2 -0.5**
KWP pmax pmax
comp=Z,35nm,1.1s
KWP Kalwaria Pacla 89.87 326 P **P 22 50 03.2 -0.5**
MDUB Mudurnu 89.96 315 P **P 22 50 02.9 -1.6**
MDND Maddock 90.12 36 P **P 22 50 05.7 +0.7**
baz=306
MDND Maddock 90.12 36 P **P 22 50 02.4 -2.5**
N23A Red Feather La 90.16 45 P **P 22 50 07.1 +1.5**
baz=301
N23A Red Feather La 90.16 45 P **P 22 50 05.9 +0.3**
N23A IAmb IAmb 22 50 08.3
comp=Z,21nm,1.1s
E28A Huff 90.25 38 P **P 22 50 06.5 +0.9**
PHWY Pilot Hill 90.26 44 IAmb IAmb 22 50 08.2
comp=Z,8.7nm,0.9s
MVCO Mesa Verde 90.31 49 P **P 22 50 07.3 +0.9**
baz=300,SNR=5.9
MVCO Mesa Verde 90.31 49 P **P 22 50 05.1 -1.3**
MVCO IAmb IAmb 22 50 09.1
comp=Z,8.6nm,1.0s
KOLS Kolonicke sedl 90.52 325 *e*P **P 22 50 06.2 -0.6**
KOLS pmax pmax
comp=Z,4.0nm,1.1s
KOLS Kolonicke sedl 90.52 325 *e*P **P 22 50 06.2 -0.6**
DOPR Dopca 90.55 322 ⇓P **P 22 50 07.2 +0.1**
ULM Lac du Bonnet 90.62 33 LR LR 23 30 54.3
comp=Z,20nm,20.0s,baz=5.5,slow=36
ULM Lac du Bonnet 90.62 33 ⇑*e*P **P 22 50 08.2 +1.0**
TRPA Tarpa 90.86 324 ⇑P **P 22 50 08.0 -0.3**
ISCO Idaho Springs 90.95 46 P **P 22 50 10.5 +1.2**
baz=302
ISCO Idaho Springs 90.95 46 P **P 22 50 09.6 +0.2**
ISCO pmax pmax
comp=Z,8.0nm,0.9s
ISCO Idaho Springs 90.95 46 P **P 22 50 09.6 +0.2**
ISCO IAmb IAmb 22 50 11.8
comp=Z,8.2nm,0.8s
CRVS Cervenica-Dubn 90.96 325 *e*P **P 22 50 08.9 +0.1**
CRVS pmax pmax
comp=Z,35nm,1.2s
CRVS Cervenica-Dubn 90.96 325 *e*P **P 22 50 08.9 +0.1**
OJC Ojcow 90.99 327 *e*P **P 22 50 08.7 -0.2**
OJC Ojcow 90.99 327 IAmb IAmb 22 50 10.4
comp=Z,21nm,1.3s
TUC Tucson 91.04 54 P **P 22 50 11.0 +1.3**
baz=298
TUC Tucson 91.04 54 P **P 22 50 09.0 -0.6**
TUC pmax pmax
comp=Z,6.0nm,0.8s
TUC Tucson 91.04 54 P **P 22 50 09.0 -0.6**
TUC IAmb IAmb 22 50 12.2
comp=Z,5.8nm,0.8s
S22A 4UR Ranch, Cre 91.19 48 P **P 22 50 11.8 +1.3**
baz=301,SNR=8.1
S22A 4UR Ranch, Cre 91.19 48 P **P 22 50 10.2 -0.3**
S22A IAmb IAmb 22 50 12.9
comp=Z,12nm,1.0s
NIE Niedzica 91.24 326 *e*P **P 22 50 10.4 +0.3**
ARR Arges 91.33 321 ⇓P **P 22 50 11.0 +0.3**
Q24A Divide 91.69 46 P **P 22 50 13.9 +1.0**
baz=302
Q24A Divide 91.69 46 P **P 22 50 12.1 -0.8**
Q24A IAmb IAmb 22 50 15.0
comp=Z,10nm,0.8s
AGMN Agassiz Nation 91.85 35 P **P 22 50 13.3 +0.4**
baz=309
AGMN Agassiz Nation 91.85 35 P **P 22 50 12.3 -0.7**
AGMN IAmb IAmb 22 50 14.2
comp=Z,9.5nm,0.8s
OKC Ostrava-Krasne 92.05 328 *e*P **P 22 50 13.8 0.0**
OKC Ostrava-Krasne 92.05 328 *e*P **P 22 50 13.8 0.0**
SDCO Great Sand Dun 92.09 47 P **P 22 50 15.7 +1.1**
baz=302,SNR=11
SDCO Great Sand Dun 92.09 47 P **P 22 50 14.1 -0.6**
SDCO IAmb IAmb 22 50 16.8
comp=Z,7.8nm,0.8s
KSP Ksiaz 92.28 329 *e*P **P 22 50 15.2 +0.3**
MORC Moravsky Berou 92.39 328 *e*P **P 22 50 14.9 -0.6**
MORC Moravsky Berou 92.39 328 P **P 22 50 14.3 -1.2**
MORC pmax pmax
comp=Z,4.0nm,1.1s
MORC Moravsky Berou 92.39 328 P **P 22 50 14.3 -1.2**
PSZ Piszkesteto 92.39 325 P **P 22 50 14.7 -0.8**
PSZ pmax pmax
comp=Z,9.0nm,1.1s
PSZ Piszkesteto 92.39 325 P **P 22 50 14.7 -0.8**
PSZ IAmb IAmb 22 50 16.5
comp=Z,9.1nm,1.1s
SUSD Miller 92.48 39 P **P 22 50 16.3 +0.3**
baz=306
OSTC Ostas 92.51 329 *e*P **P 22 50 15.5 -0.5**
VYHS Vyhne 92.57 326 *e*P **P 22 50 16.3 0.0**
VYHS pmax pmax
comp=Z,16nm,1.2s
VYHS Vyhne 92.57 326 *e*P **P 22 50 16.3 0.0**
DPC Dobruska-Polom 92.60 329 *e*P **P 22 50 16.4 0.0**
DPC Dobruska-Polom 92.60 329 *e*P **P 22 50 16.4 0.0**
ANMO Albuquerque 92.88 50 P **P 22 50 19.4 +1.1**
baz=301
ANMO Albuquerque 92.88 50 *c i*P **P 22 50 19.3 +1.1**
ANMO pmax pmax
comp=Z,9.0nm,0.9s
ANMO Albuquerque 92.88 50 P **P 22 50 19.8 +1.5**
ANMO IAmb IAmb 22 50 21.3
comp=Z,7.3nm,0.8s
B35A Bob, Littlefor 92.91 34 P **P 22 50 17.6 -0.3**
B35A IAmb IAmb 22 50 19.3
comp=Z,11nm,1.0s
JAVC Velka Javorina 92.92 327 *e*P **P 22 50 18.5 +0.5**
121A Cookes Peak, D 93.14 53 P **P 22 50 21.0 +1.5**
baz=300
121A Cookes Peak, D 93.14 53 P **P 22 50 18.9 -0.5**
T25A Trinidad 93.15 47 P **P 22 50 20.6 +1.1**
baz=302
T25A Trinidad 93.15 47 P **P 22 50 18.6 -0.9**
T25A IAmb IAmb 22 50 21.8
comp=Z,12nm,1.1s
VRAC Vranov 93.16 328 *e*P **P 22 50 18.8 -0.2**
SMOL Smolenice 93.27 327 *e*P **P 22 50 19.8 +0.3**
SMOL pmax pmax
comp=Z,7.0nm,1.3s
SMOL Smolenice 93.27 327 *e*P **P 22 50 19.8 +0.3**
KSCO Kaye Shedlock' 93.32 45 P **P 22 50 20.6 +0.5**
baz=304
KSCO Kaye Shedlock' 93.32 45 P **P 22 50 19.8 -0.3**
MDVR Moldovita 93.34 322 ⇓P **P 22 50 19.3 -0.6**
BRG Berggiesshubel 93.36 330 *e*P **P 22 50 19.2 -0.6**
comp=Z,15nm,1.7s
BRG Berggiesshubel 93.36 330 *e*P **P 22 50 19.2 -0.6**
BRG pmax pmax
comp=Z,15nm,1.7s
KRUC Moravsky 93.42 328 *e*P **P 22 50 19.7 -0.5**
MODS Modra-Piesok 93.44 327 *e*P **P 22 50 20.0 -0.3**
MODS pmax pmax
comp=Z,11nm,1.3s
MODS Modra-Piesok 93.44 327 *e*P **P 22 50 20.0 -0.3**
CLL Collm 93.48 331 *i* P **P 22 50 19.3 -1.1**
comp=Z,7.0nm,1.1s
CLL Collm 93.48 331 *i* P **P 22 50 19.3 -1.1**
CLL pmax pmax
comp=Z,7.0nm,1.1s
CLL Collm 93.48 331 P **P 22 50 18.5 -1.8**
CLL IAmb IAmb 22 50 20.7
comp=Z,7.2nm,1.2s
GOPC GO Pecny, Ondr 93.62 329 *e*P **P 22 50 20.6 -0.5**
GOPC GO Pecny, Ondr 93.62 329 *e*P **P 22 50 20.6 -0.5**
PRU Pruhonice 93.69 329 *e*P **P 22 50 21.1 -0.3**
PRU Pruhonice 93.69 329 *e*P **P 22 50 21.1 -0.3**
VTS Vitosha 93.76 320 ⇓P **P 22 50 22.1 0.0**
VTS Vitosha 93.76 320 ⇓P **P 22 50 22.1 0.0**
ECSD EROS Data Cent 94.26 39 P **P 22 50 24.4 +0.2**
baz=308
CONA Conrad Observa 94.44 327 *e*PcP **P 22 50 25.8 +0.8**
comp=Z,6.4nm,1.1s
KHC Kasperske Hory 94.73 329 *e*P **P 22 50 25.6 -0.6**
KHC Kasperske Hory 94.73 329 *de*P **P 22 50 26.0 -0.2**
KHC pmax pmax
comp=Z,15nm,1.4s
GEC2 GERESS Array S 94.87 329 IAmb IAmb 22 50 27.1
comp=Z,5.3nm,1.1s
GERES GERESS Array B 94.87 329 P **P 22 50 26.3 -0.6**
comp=Z,1.7nm,0.9s,baz=38,slow=5.0,SNR=14
ARSA Arzberg 95.07 327 *e*PcP **P 22 50 28.2 +0.4**
comp=Z,3.0nm,1.0s
MNTX Cornudas Mount 95.32 52 P **P 22 50 30.1 +0.8**
baz=301
GRF Grafenberg Arr 95.43 331 *e*P **P 22 50 29.4 0.0**
comp=Z,8.2nm,1.3s,baz=53,slow=4.5
SOKA Soboth 95.70 327 *e*PcP **P 22 50 30.9 +0.1**
comp=Z,4.7nm,1.2s
OBKA Obir 96.06 327 *e*PcP **P 22 50 31.7 -0.7**
comp=Z,3.2nm,1.4s
ABTA Abfaltersbach 96.91 328 *e*PcP **P 22 50 35.2 -1.1**
comp=Z,3.9nm,1.2s
MOTA Moosalm 97.17 329 *e*PcP **P 22 50 37.1 -0.3**

	comp=Z,3.8nm,1.4s								
SQTA	**Sankt Quirin**	**97.21**	**329**	*i* PcP		**P**		**22 50 37.3**	**-0.4**
	comp=Z,0.8nm,0.5s								
TX31	**Lajitas Ar. Si**	**97.82**	**54**	P		**P**		**22 50 37.8**	**-2.9**
TX32	**Lajitas Array**	**97.82**	**54**	P		**P**		**22 50 37.5**	**-3.2**
TX32				IAmb		IAmb		22 50 42.7	
	comp=Z,3.2nm,1.1s								
TXAR	**Lajitas Array**	**97.82**	**54**	P		Pdif		22 50 42.0	+1.2
	comp=Z,1.2nm,0.7s,baz=271,slow=3.5,SNR=11								
TXAR				PKKPbc		**PKKPbc**		**23 07 14.1**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=140,slow=3.5,SNR=5.8								
TXAR	**Lajitas Array**	**97.82**	**54**	P		Pdif		22 50 42.0	+1.2
M52A	**Chesterland**	**103.93**	**32**	P		**Pdif**		**22 51 07.8**	**+0.2**
	baz=319								
J55A	**Hilton**	**104.25**	**29**	P		**Pdif**		**22 51 09.7**	**+0.8**
	baz=322								
ESDC	**Sonseca Array**	**109.95**	**333**	PKKPbc		PKKPbc		23 06 39.1	-0.1
	comp=Z,0.2nm,0.5s,baz=223,slow=3.1,SNR=4.7								
LSZ	**Lusaka**	**117.74**	**264**	PKIKP		**PKPdf**		**22 55 50.2**	**-1.0**
LSZ	**Lusaka**	**117.74**	**264**	PKPdf		**PKPdf**		**22 55 50.2**	**-1.0**
BOSA	**Boshof**	**123.68**	**250**	PKP		**PKPdf**		**22 56 02.4**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=38,slow=2.3,SNR=8.8								
TOA0	**Torodi Ar. Sit**	**127.16**	**309**			**PKPdf**		**22 56 08.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**127.16**	**309**	PKP		**PKPdf**		**22 56 09.5**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=90,slow=1.6,SNR=27								
TORD				pPKP		**pPKPdf**		**22 56 48.0**	**+1.6**
	comp=Z,4.2nm,1.1s,baz=32,slow=3.3,SNR=5.9								
SNAA	**Sanae**	**127.64**	**193**	PKPdf		**PKPdf**		**22 56 08.6**	**0.0**
SNAA	**Sanae**	**127.64**	**193**	*d* PKIKP		**PKPdf**		**22 56 08.4**	**-0.2**
SNAA				pmax		pmax			
	comp=Z,12nm,1.7s								
SNAA	**Sanae**	**127.64**	**193**	PKPdf		**PKPdf**		**22 56 07.8**	**-0.8**
VNA2	**Neumayer--Watz**	**129.15**	**192**	PKPdf		**PKiKP**		**22 56 12.2**	**+0.1**
DBIC	**Dimbokro**	**136.27**	**309**	PKP		**PKPdf**		**22 56 27.3**	**+0.8**
	comp=Z,3.6nm,0.7s,baz=1.0,slow=1.4,SNR=4.8								
KIC	**Kosan Boka**	**136.40**	**308**	*e* PKP2		**PKiKP**		**22 56 28.0**	**-0.5**
	comp=Z,5.7nm,0.5s								
TIC	**Toumodi**	**136.40**	**309**	*e* PKP2		**PKiKP**		**22 56 28.4**	**-0.1**
LIC	**Lamto**	**136.70**	**309**	*e* PKP2		**PKiKP**		**22 56 29.3**	**+0.2**
	comp=Z,24nm,0.8s								
LC01	**Cunco**	**147.03**	**126**	PKPdf		**PKPdf**		**22 56 45.7**	**+0.8**
PLCA	**Paso Flores**	**147.36**	**130**	PKPbc		**PKPbc**		**22 56 49.2**	**+1.1**
	comp=Z,30nm,0.7s,baz=249,slow=3.3,SNR=66								
BI02	**San Fabin de**	**148.14**	**123**			**PKPbc**		**22 56 51.1**	**+0.8**
MDP	**Montagnes des**	**148.29**	**29**	PKPbc		**PKPbc**		**22 56 51.9**	**+0.6**
	comp=Z,27nm,0.9s,baz=356,slow=1.6,SNR=5.5								
MT01	**Popeta**	**148.79**	**117**			**PKPbc**		**22 56 52.7**	**+0.7**
PTGA	**Pitinga**	**148.90**	**47**	PKP		**PKPdf**		**22 56 49.8**	**+1.1**
	comp=Z,9.5nm,0.7s,baz=281,slow=5.4,SNR=16								
PTGA				PKPbc		**PKPbc**		**22 56 53.0**	**+0.2**
	comp=Z,7.5nm,0.6s,baz=277,slow=23,SNR=12								
PTGA	**Pitinga**	**148.90**	**47**			**PKPdf**		**22 56 49.6**	**+0.9**
AC05	**El Transito**	**150.25**	**108**			**PKiKP**		**22 56 56.8**	**+0.2**
LPAZ	**La Paz**	**150.58**	**82**	PKP		**PKPdf**		**22 56 53.1**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=294,slow=2.3,SNR=16								
LPAZ				PKPbc		**PKiKP**		**22 56 58.5**	**+0.3**
	comp=Z,6.7nm,0.5s,baz=312,slow=2.1,SNR=20								
LPAZ				pPKPbc		**pPKPbc**		**22 57 33.0**	**-1.6**
	comp=Z,4.5nm,0.8s,baz=248,slow=3.8,SNR=2.9								
CFA	**Coronel Fontan**	**151.70**	**114**	PKP		**PKPdf**		**22 56 53.4**	**+0.8**
	comp=Z,7.7nm,0.7s,baz=259,slow=5.7,SNR=4.2								
CFA				PKPbc		**PKPbc**		**22 56 59.2**	**+0.1**
	comp=Z,7.7nm,0.7s,baz=268,slow=2.9,SNR=5.7								
CFA				PKPab		**PKPab**		**22 57 09.6**	**+1.2**
	comp=Z,2.1nm,0.4s,baz=265,slow=6.7,SNR=3.6								
SIV	**San Ignacio**	**156.85**	**76**	PKP		**PKPdf**		**22 57 00.6**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=67,slow=9.7,SNR=4.3								
SIV				PKPab		**PKPab**		**22 57 30.7**	**0.0**
	comp=Z,1.4nm,0.7s,baz=332,slow=3.9,SNR=4.0								
CPUP	**Villa Florida**	**161.90**	**104**	PKPab		**PKPab**		**22 57 53.2**	**+0.8**
	comp=Z,2.9nm,0.9s,baz=297,slow=3.2,SNR=3.6								
BDFB	**Brasilia**	**167.69**	**54**	PKPab		**PKPab**		**22 58 18.3**	**+0.1**
	comp=Z,5.6nm,0.9s,baz=264,slow=4.6,SNR=6.1								

IDC 27 22:57:27.6±8.4, 30.06S×177.27W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/30, mbtmp3.7/2, Error ellipse: s-maj=359.0km s-min=59.2km az=154.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.76**	**266**	P	P	23 05 35.9	+0.7
	0.3nm,0.4s,baz=104,slow=7.2,SNR=4.5						
WRA	**Warramunga Arr**	**44.72**	**271**	P	P	23 05 41.8	-1.0
	0.5nm,0.3s,baz=112,slow=7.1,SNR=2.2						
FINES	**FINESS Array B**	**145.04**	**341**	PKPbc	PKPbc	23 17 05.2	-0.3
	0.4nm,0.3s,baz=50,slow=4.3,SNR=7.0						

*GUC **27** 23:28:45.8±0.8, 20.24S×71.20W, h36km±4km, ML3.7*
*IDC **27** 23:28:50.7±4.2, 20.20S×70.87W, h44km±32km, mb3.6/2, mb1 3.8/5, mb1mx3.5/29, mbtmp3.7/5, ML3.4/3, Error ellipse: s-maj=51.3km s-min=18.1km az=85.0*

ISC 27 23:28:47.0±1.7, 20.26S±0.04×71.2W±0.1, h36km±5km, n26, σ1§07/36, 6C-5D, Off coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.95**	**91**	*e*P	**Pn**	**23 29 02.9**	**-1.1**
TA02				*i* S	**Sn**	**23 29 15.6**	**-0.7**
TA02				IAML		23 29 17.0	
	comp=E,6μm,0.5s						
TA01	**Diego Aracena**	**0.96**	**109**	⇑*i*P	**Pn**	**23 29 03.0**	**-1.0**
TA01				*i* S	**Sn**	**23 29 15.6**	**-0.7**
TA01				IAML		23 29 21.1	
	comp=N,3μm,0.5s						
PSGC	**Pisagua**	**1.17**	**56**	*e*P	**Pn**	**23 29 05.2**	**-1.8**
PSGC				*i* S	**Sn**	**23 29 21.0**	**-0.7**
PB11	**IPOC Station P**	**1.49**	**71**	⇑*i*P	**Pn**	**23 29 10.4**	**-1.1**
PB11				*i* S	**Sn**	**23 29 30.0**	**+0.3**
PB11				IAML		23 29 31.5	
	comp=N,2μm,0.3s						
PB02	**IPOC Station P**	**1.57**	**132**	⇓*i*P	**Pn**	**23 29 12.4**	**-0.1**
PB02				*i* S	**Sn**	**23 29 31.5**	**-0.3**
PB02				IAML		23 29 43.0	
	comp=E,2μm,0.3s						
PB01	**IPOC Station P**	**1.74**	**117**	*e*P	**Pn**	**23 29 14.5**	**-0.3**
PB01				*i* S	**Sn**	**23 29 36.4**	**+0.6**
PB01				IAML		23 29 40.5	
	comp=N,1μm,0.3s						
PB12	**IPOC Station P**	**1.81**	**25**	⇑*i*P	**Pn**	**23 29 14.5**	**-1.3**
PB12				*i* S	**Sn**	**23 29 39.2**	**+1.6**
PB12				IAML		23 29 49.9	
	comp=N,561nm,0.5s						
MNMC	**Minye Minye**	**1.85**	**53**	⇑*i*P	**Pn**	**23 29 15.7**	**-0.8**
MNMC				*i* S	**Sn**	**23 29 39.9**	**+1.2**
PB07	**IPOC Station P**	**1.87**	**141**	⇓*i*P	**Pn**	**23 29 16.6**	**-0.2**
PB07				*i* S	**Sn**	**23 29 38.9**	**-0.3**
PB08	**IPOC Station P**	**1.88**	**87**	⇑*i*P	**Pn**	**23 29 16.7**	**-0.3**
PB08				*i* S	**Sn**	**23 29 40.0**	**+0.4**
GO01	**Chusmiza**	**1.93**	**72**	⇑*i*P	**Pn**	**23 29 17.3**	**-0.5**
GO01				*i* S	**Sn**	**23 29 43.1**	**+2.0**
GO01				IAML		23 29 49.0	
	comp=N,2μm,0.2s						
PB03	**IPOC Station P**	**2.20**	**144**	*e*P	**Pn**	**23 29 21.0**	**-0.3**
PB03				*i* S	**Sn**	**23 29 47.2**	**-0.2**
PB03				IAML		23 30 09.4	
	comp=E,252nm,0.6s						
PB04	**IPOC Station P**	**2.26**	**156**	⇓*i*P	**Pn**	**23 29 21.6**	**-0.4**
PB04				*i* S	**Sn**	**23 29 47.9**	**-0.9**
PB09	**IPOC Station P**	**2.34**	**131**	⇓*i*P	**Pn**	**23 29 24.4**	**+1.2**
PB09				IAML		23 30 11.6	
	comp=E,552nm,0.6s						
PB05	**IPOC Station P**	**2.72**	**161**	⇓*i*P	**Pn**	**23 29 27.6**	**-0.8**
PB05				IAML		23 30 23.7	
	comp=E,202nm,0.5s						
PB06	**IPOC Station P**	**2.84**	**149**	*e*P	**Pn**	**23 29 29.4**	**-0.6**
PB06				IAML		23 30 25.5	
	comp=E,230nm,0.4s						
LVC	**Limon Verde**	**3.13**	**139**	P	**Pn**	**23 29 35.6**	**+1.4**
	comp=E,10nm,0.3s,baz=319,slow=12,SNR=132						
LVC				S	**Sn**	**23 30 12.1**	**+1.5**
	comp=E,28nm,0.3s,baz=122,slow=18,SNR=10.0						
PB15	**IPOC Station P**	**3.32**	**152**	*e*P	**Pn**	**23 29 36.1**	**-0.6**
LPAZ	**La Paz**	**4.88**	**36**	P	**Pn**	**23 30 00.4**	**+1.9**
	comp=E,0.8nm,0.3s,baz=225,slow=9.6,SNR=11						
SIV	**San Ignacio**	**10.48**	**68**	P	**Pn**	**23 31 12.9**	**-2.0**
	comp=E,0.2nm,0.3s,baz=241,slow=17,SNR=3.6						
H03N1	**Juan Fernandez**	**14.83**	**206**	T	T	23 47 42.3	
	baz=33,slow=72,SNR=26						
H03N2	**Juan Fernandez**	**14.84**	**206**	T	T	23 47 42.8	
	baz=33,slow=72,SNR=15						
H03N3	**Juan Fernandez**	**14.85**	**206**	T	T	23 47 43.4	
	baz=33,slow=72,SNR=22						
PLCA	**Paso Flores**	**20.41**	**179**	P	Pn	23 33 24.0	+0.7
	comp=E,2.6nm,0.7s,baz=358,slow=14,SNR=5.4						
TORD	**Torodi Ar. Bea**	**78.93**	**72**	P	**P**	**23 40 48.1**	**+0.6**
	comp=E,1.2nm,0.8s,baz=253,slow=4.4,SNR=5.3						
MKAR	**Makanchi Array**	**145.81**	**33**	PKPbc	**PKiKP**	**23 48 25.0**	**-1.1**
	comp=E,0.2nm,0.4s,baz=301,slow=3.4,SNR=2.2						

*BJI **27** 23:30:09.5±0.0, 5.99S×155.41E, h31km, mB4.9/15, mb4.7/22, Ms4.6/3, Ms7 4.4/2*
*NEIC **27** 23:30:11.1±1.9, 6.38S±0.07×155.09E±0.07, h35km±2km, mb4.7/56, Error ellipse: s-maj=12.7km s-min=11.5km az=209.0*
*IDC **27** 23:30:18.3±1.5, 6.27S×154.76E, h78km±13km, mb4.2/20, mb1 4.3/25, mb1mx4.2/35, mbtmp4.5/25, MS3.6/13, Ms1 3.6/13, ms1mx3.4/32, Error ellipse: s-maj=12.9km s-min=9.6km az=52.0*
*DJA **27** 23:30:32.9±0.4, 6°S±4'×15°4E±°, h124km±6km, M4.7/9, mb4.5/9, mB4.9/4, MLv5.0/3, Mw(mB)4.2/4*

ISC 27 23:30:13.9±0.4, 6.37S±0.05×155.04E±0.06, h56km, n108, σ1§40/101, mb4.7/54, MS3.7/13, 1D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.59**	**307**	Pn	**Pn**	**23 31 05.0**	**-2.0**
KRVT	**Keravat (AS076**	**3.63**	**304**	P	**Pn**	**23 31 08.4**	**+0.8**
	29nm,0.3s,baz=129,slow=1.8,SNR=15						
KRVT				S	**Sn**	**23 31 47.5**	**-1.7**
	59nm,0.3s,baz=227,slow=15,SNR=4.8						
HNR	**Honiara**	**5.74**	**122**	P	Pn	23 31 43.9	+7.4
	11nm,0.3s,baz=115,slow=16,SNR=2.0						
HNR				S	Sn	23 32 54.4	+13
	0.8nm,0.3s,baz=300,slow=14,SNR=1.8						
HNR	**Honiara**	**5.74**	**122**	Pn	**Pn**	**23 31 32.6**	**-3.9**
PMG	**Port Moresby**	**8.36**	**248**	P	**Pn**	**23 32 13.7**	**+1.1**
	7.3nm,0.3s,baz=52,slow=9.0,SNR=27						
PMG				S	**Sn**	**23 33 47.4**	**+1.8**
	9.0nm,0.3s,baz=212,slow=22,SNR=14						
PMG				LR	LR	23 35 28.6	
	comp=Z,221nm,20.6s,baz=78,slow=38						
PMG	**Port Moresby**	**8.36**	**248**	Pn	**Pn**	**23 32 11.5**	**-1.1**
PMG					**Sn**	**23 33 46.1**	**+0.6**
PATS	**Pohnpei**	**13.52**	**14**	Pn	**Pn**	**23 33 21.1**	**-1.9**
COEN	**Coen**	**13.89**	**236**	Pn	**Pn**	**23 33 26.4**	**-1.7**
CTA	**Charters Tower**	**16.08**	**211**	P	**P**	**23 33 58.2**	**-0.8**
	0.2nm,0.3s,baz=25,slow=13,SNR=6.7						
CTAO	**Charters Tower**	**16.08**	**211**		**Pn**	**23 33 54.4**	**-2.1**
DZM	**Mont Dzumac**	**19.11**	**146**	P	**Pn**	**23 34 36.8**	**+3.1**
	0.5nm,0.3s,baz=333,slow=13,SNR=6.8						
DZM				LR	LR	23 40 59.4	
	comp=Z,130nm,21.3s,baz=308,slow=33						
EIDS	**Eidsvold**	**19.27**	**191**	P	**P**	**23 34 32.8**	**-1.2**
GUMO	**Guam**	**22.25**	**333**	LR	LR	23 42 14.7	
	comp=Z,64nm,20.7s,baz=130,slow=32						
FAKI	**Fak Fak**	**22.96**	**278**	P	**P**	**23 35 14.2**	**+0.3**
FAKI				IAmb	IAmb	23 35 21.6	
	comp=Z,48nm,1.1s						
WR0	**Warramunga Arr**	**24.05**	**234**	P	**P**	**23 35 21.3**	**-2.8**
WR0				IAmb	IAmb	23 35 26.6	
	comp=Z,31nm,0.9s						
WB0	**Warramunga Arr**	**24.07**	**234**	P	**P**	**23 35 25.2**	**+0.9**
WB0				IAmb	IAmb	23 35 26.8	
	comp=Z,18nm,0.8s						
ARMA	**Armidale**	**24.14**	**187**	P	**P**	**23 35 22.9**	**-1.9**
WB2	**Warramunga Arr**	**24.20**	**234**	P	**P**	**23 35 26.6**	**+1.2**
WB2				IAmb	IAmb	23 35 28.0	
	comp=Z,21nm,0.9s						
WRA	**Warramunga Arr**	**24.21**	**234**	P	**P**	**23 35 27.0**	**+1.5**
	comp=Z,15nm,0.8s,baz=58,slow=9.4,SNR=25						
WRA				PcP	**PcP**	**23 39 06.5**	**+1.5**
	comp=Z,2.2nm,0.9s,baz=55,slow=2.1,SNR=2.7						
SIJI	**Sorong**	**24.33**	**282**	P	**P**	**23 35 26.8**	**+0.1**
	comp=Z,5.3nm,0.4s,baz=118,slow=6.9,SNR=6.2						
MTN	**Manton Dam**	**24.42**	**253**	P	**P**	**23 35 28.4**	**+1.0**
MTN				IAmb	IAmb	23 35 29.7	
	comp=Z,22nm,0.9s						
AS31	**Alice Springs**	**26.62**	**228**	P	**P**	**23 35 47.4**	**0.0**
ASAR	**Alice Springs**	**26.62**	**228**	P	**P**	**23 35 48.5**	**+1.2**
	comp=Z,4.8nm,0.7s,baz=60,slow=8.6,SNR=40						
ASAR				PcP	**PcP**	**23 39 12.3**	**+1.8**
	comp=Z,1.9nm,0.7s,baz=58,slow=2.9,SNR=8.6						
H11S3	**WAKE ISLAND Hy**	**27.25**	**25**	T	T	00 04 21.7	
	baz=204,slow=75,SNR=22						
H11S2	**WAKE ISLAND Hy**	**27.25**	**25**	T	T	00 04 17.8	
	baz=204,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hy**	**27.27**	**25**	T	T	00 04 20.1	
	baz=204,slow=75,SNR=11						
STKA	**Stephens Creek**	**28.32**	**205**	P	**P**	**23 36 03.0**	**+0.6**
	comp=Z,3.1nm,0.7s,baz=37,slow=14,SNR=5.2						
STKA				LR	LR	23 46 49.7	
	comp=Z,179nm,20.2s,baz=26,slow=35						
STKA	**Stephens Creek**	**28.32**	**205**	P	**P**	**23 36 02.2**	**-0.2**
H11N1	**WAKE ISLAND Hy**	**28.43**	**24**	T	T	00 05 49.0	
	baz=213,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.44**	**24**	T	T	00 05 45.6	
	baz=213,slow=74						
H11N2	**WAKE ISLAND Hy**	**28.44**	**24**	T	T	00 05 45.1	
	baz=213						
CAN	**Canberra**	**29.34**	**190**	P	**P**	**23 36 11.1**	**-0.5**
SOEI	**Soe**	**30.64**	**262**	P	**P**	**23 36 20.1**	**-3.2**
SOEI				IAmb	IAmb	23 36 30.6	
	comp=Z,16nm,0.8s						
FITZ	**Fitzroy Crossi**	**30.94**	**245**	LR	LR	23 47 42.5	
	comp=Z,143nm,21.8s,baz=78,slow=34						
FITZ	**Fitzroy Crossi**	**30.94**	**245**	P	**P**	**23 36 25.0**	**-0.8**
FITZ				IAmb	IAmb	23 36 26.9	
	comp=Z,9.1nm,0.8s						
BATI	**Baumata**	**31.27**	**261**	LR	LR	23 51 46.8	
	comp=Z,898nm,18.3s,baz=248,slow=42						
BBOO	**Buckleboo**	**31.68**	**211**	P	**P**	**23 36 31.9**	**-0.3**
BBOO				IAmb	IAmb	23 36 33.0	
	comp=Z,17nm,1.0s						
LUWI	**Luwuk**	**32.62**	**278**	P	**P**	**23 36 39.9**	**-0.6**
FORT	**Forrest**	**35.07**	**223**	P	**P**	**23 37 00.6**	**-1.0**
MPSI	**Mapaga**	**35.70**	**279**	P	**P**	**23 37 07.5**	**+0.2**
	comp=Z,32nm,0.9s						
PSA00	**Pilbara Seismi**	**37.22**	**242**	P	**P**	**23 37 20.2**	**0.0**
PSA00				IAmb	IAmb	23 37 29.5	
	comp=Z,16nm,1.0s						
QRZ	**Quartz Range**	**37.71**	**158**	P	**P**	**23 37 21.8**	**-2.2**
BKZ	**Black Stump Fm**	**37.96**	**152**	P	**P**	**23 37 27.3**	**+1.0**
SNZO	**South Karori**	**38.96**	**156**	P	**P**	**23 37 33.9**	**-0.6**
BFZ	**Birch Farm**	**39.08**	**154**	P	**P**	**23 37 35.4**	**-0.2**
BFZ				IAmb	IAmb	23 37 35.6	
	comp=Z,20nm,1.0s						
LTZ	**Lake Taylor**	**39.33**	**160**	P	**P**	**23 37 36.8**	**-0.9**
KHZ	**Kahutara**	**39.46**	**158**	P	**P**	**23 37 37.4**	**-1.3**
KHZ				IAmb	IAmb	23 37 43.1	
	comp=Z,24nm,1.1s						
MLZ	**Mavora Lakes**	**40.48**	**166**	P	**P**	**23 37 46.4**	**-0.8**
MLZ				IAmb	IAmb	23 37 54.4	
	comp=Z,16nm,1.2s						
JAGI	**Jajag, Banyuwa**	**40.58**	**264**	P	**P**	**23 37 47.6**	**-0.8**
KKM	**Kota Kinabalu**	**40.66**	**287**	P	**P**	**23 37 49.0**	**-0.1**
WHZ	**Wether Hill Ro**	**40.93**	**166**	P	**P**	**23 37 50.4**	**-0.5**
WHZ				IAmb	IAmb	23 38 09.0	
	comp=Z,16nm,1.1s						
MORW	**Morawa**	**43.15**	**234**	P	**P**	**23 38 08.9**	**-0.3**
MORW				IAmb	IAmb	23 38 10.7	
	comp=Z,16nm,0.9s						
YULB	**Yu-li**	**44.28**	**313**	P	**P**	**23 38 17.4**	**-1.0**
TPUB	**Ta-pu**	**44.72**	**312**	P	**P**	**23 38 21.6**	**-0.3**
TPUB				IAmb	IAmb	23 38 40.9	
	comp=Z,6.7nm,0.7s						
JNU	**Nakatsue**	**45.49**	**331**	P	**P**	**23 38 26.3**	**-1.5**
	comp=Z,7.2nm,0.9s,baz=139,slow=11,SNR=2.3						
MJAR	**Matsushiro Arr**	**45.51**	**341**	P	**P**	**23 38 26.9**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=156,slow=8.2,SNR=2.1						
KNMB	**Chin-men Tao**	**47.05**	**312**	P	**P**	**23 38 39.2**	**-1.0**
ERM	**Erimo**	**49.36**	**348**	P	**P**	**23 38 56.2**	**-1.5**
KSRS	**Korea Array**	**50.41**	**332**	P	**P**	**23 39 06.2**	**+0.5**
	comp=Z,2.5nm,0.9s,baz=148,slow=8.3,SNR=7.9						
KSRS				LR	LR	23 58 51.0	
	comp=Z,26nm,18.7s,baz=224,slow=34						
NJ2	**Nanjing**	**51.46**	**320**	*e*P	**P**	**23 39 15.0**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
WHN	**Wuhan**	**53.52**	**316**	*e*P	P	23 39 38.8	+10
IPM	**Ipoh**	**54.99**	**280**	P	**P**	**23 39 39.3**	**-0.8**
IPM				IAmb	IAmb	23 39 41.4	
	comp=Z,8.1nm,0.9s						
KULM	**Kulim**	**55.51**	**281**	P	**P**	**23 39 42.5**	**-1.3**
KULM				IAmb	IAmb	23 39 59.6	
	comp=Z,6.3nm,0.9s						
MNSI	**Mandailing Nat**	**55.80**	**275**	P	**P**	**23 39 45.4**	**-0.5**
SLVN	**Son La**	**57.20**	**300**	P	**P**	**23 39 54.2**	**-1.6**
GSI	**Gunungsitoli**	**57.86**	**276**	P	**P**	**23 39 58.9**	**-1.6**
PBKT	**Sadao Pong**	**58.12**	**294**	P	**P**	**23 40 02.4**	**+0.2**
PBKT				IAmb	IAmb	23 40 04.6	
	comp=Z,6.3nm,0.9s						
XAN	**Xi'an**	**59.29**	**316**	P	**P**	**23 40 09.5**	**-0.6**
XAN				pP	pP	23 40 24.5	-0.8
XAN				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PEA0B	**Petropavlovsk-**	**59.30**	**2**	P	**P**	**23 40 11.1**	**+1.4**
PETK	**Petropavlovsk-**	**59.30**	**2**	P	**P**	**23 40 12.1**	**+2.4**
	comp=Z,8.0nm,0.7s,baz=179,slow=9.4,SNR=14						
PETK				LR	LR	00 01 35.7	
	comp=Z,41nm,21.9s,baz=234,slow=32						
KMI	**Kunming**	**59.70**	**304**	⇓*i*P	**P**	**23 40 15.0**	**+1.7**
KMI				pP	pP	23 40 25.8	-2.7
KMI				sP	sP	23 40 30.5	-4.3
KMI				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KMI	**Kunming**	**59.70**	**304**	P	**P**	**23 40 13.2**	**-0.2**
KMI				IAmb	IAmb	23 40 15.8	
	comp=Z,7.4nm,0.9s						
CM31	**Chiang Mai Arr**	**60.55**	**295**	P	**P**	**23 40 18.9**	**-0.2**
CMAR	**Chiang Mai Arr**	**60.55**	**295**	P	**P**	**23 40 20.6**	**+1.6**
	comp=Z,16nm,0.8s,baz=117,slow=5.1,SNR=86						
CHTO	**Chiang Mai**	**60.67**	**296**	P	**P**	**23 40 19.9**	**+0.1**
CHTO				IAmb	IAmb	23 40 21.9	
	comp=Z,11nm,0.9s						
SMY	**Shemya**	**61.07**	**13**	P	**P**	**23 40 19.9**	**-1.9**
HHC	**Hu-ho-hao-te**	**61.62**	**324**	*e*P	**P**	**23 40 27.8**	**+1.9**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,58nm,7.7s						
LZH	**Lanzhou**	**63.90**	**315**	*e*P	**P**	**23 40 41.5**	**+0.2**
LZH				pP	pP	23 40 52.8	-3.8
LZH				sP	sP	23 40 57.0	-5.9
LZH				*e*PP	**PP**	**23 43 04.5**	**+2.0**
LZH				pmax	pmax		
	comp=Z,22nm,1.3s						
LZH				pmax	pmax		
	comp=Z,120nm,5.8s						
LZH				LR	LR		
	comp=Z,220nm,15.2s						
LZH				LR	LR		
	comp=Z,380nm,17.4s						
GTA	**Gaotai**	**68.31**	**317**	*e*P	**P**	**23 41 10.5**	**+1.0**
GTA				pP	pP	23 41 20.8	-4.2
GTA				sP	sP	23 41 26.3	-4.9
GTA				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	**Songino Array**	**68.84**	**327**	P	**P**	**23 41 13.5**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=132,slow=5.8,SNR=9.8						
SONM				LR	LR	00 09 50.4	
	comp=Z,33nm,19.4s,baz=147,slow=35						
VNDA	**Vanda**	**71.20**	**178**	P	**P**	**23 41 28.8**	**+2.4**
	comp=Z,1.0nm,0.7s,baz=337,slow=6.0,SNR=6.4						
TLY	**Talaya**	**72.55**	**329**	LR	LR	00 15 40.4	
	comp=Z,36nm,18.1s,baz=266,slow=38						
BILL	**Bilibino**	**74.66**	**4**	P	**P**	**23 41 47.7**	**+0.8**
BILL				IAmb	IAmb	23 41 52.1	
	comp=Z,7.3nm,0.9s						
KDAK	**Kodiak Island**	**76.59**	**26**	P	**P**	**23 42 01.2**	**+3.0**
	comp=Z,14nm,1.1s,baz=243,slow=2.3,SNR=3.4						
WMQ	**Urumqi**	**78.40**	**317**	*e*P	**P**	**23 42 10.8**	**+2.1**
WMQ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
WMQ				pmax	pmax		
	comp=Z,37nm,4.5s						
WMQ				LR	LR		
	comp=Z,420nm,29.0s						
ILAR	**Eielson

	comp=N,25665µm,0.3s								
ZKR					AML	AML	23 55 37.3		
	comp=E,60724µm,0.3s								
ZKR	**Zakros**	**0.33**	**25**	PG	**Pg**	**23 55 31.7**	**-0.2**		
ZKR				SG	**Sg**	**23 55 36.7**	**+0.5**		
ZKR	**Zakros**	**0.33**	**25**	⇑P	**Pg**	**23 55 32.0**	**+0.1**		
ZKR				AML	AML	23 55 36.5			
	comp=E,26nm,0.3s								
ZKR				AML	AML	23 55 36.5			
	comp=E,26nm,0.3s								
ZKR				S	**Sg**	**23 55 36.7**	**+0.5**		
ZKR				AML	AML	23 55 36.8			
	comp=E,60nm,0.3s								
ZKR				AML	AML	23 55 36.8			
	comp=E,60nm,0.3s								
NPS	**Neapolis**	**0.57**	**321**	P	**Pg**	**23 55 35.6**	**-0.9**		
NPS				S	**Sg**	**23 55 43.6**	**-0.3**		
	comp=E,5µm,0.4s								
NPS	**Neapolis**	**0.57**	**321**	P	**Pg**	**23 55 35.6**	**-0.9**		
NPS				S	**Sg**	**23 55 43.4**	**-0.5**		
LAST	**Lasithi**	**0.58**	**306**	P	**Pg**	**23 55 36.0**	**-0.7**		
LAST				S	**Sg**	**23 55 43.9**	**-0.4**		
	comp=E,4µm,0.3s								
LAST	**Lasithi**	**0.58**	**306**	P	**Pg**	**23 55 36.0**	**-0.7**		
LAST				S	**Sg**	**23 55 43.8**	**-0.4**		
HRKL	**Herakleio**	**0.92**	**303**	PG	**Pg**	**23 55 42.9**	**-0.2**		
HRKL				SG	**Sb**	**23 55 56.9**	**+0.7**		
IACM	**Heraklion**	**0.94**	**302**	P	**Pg**	**23 55 43.0**	**-0.5**		
IACM				S	**Sb**	**23 55 57.0**	**+0.3**		
	comp=E,8µm,0.5s								
IACM	**Heraklion**	**0.94**	**302**	P	**Pg**	**23 55 42.7**	**-0.8**		
IACM				AML	AML	23 56 02.2			
	comp=N,12763µm,0.3s								
IACM				AML	AML	23 56 05.2			
	comp=E,15915µm,0.6s								
SIVA	**Sivas**	**1.03**	**281**	P	**Pg**	**23 55 44.6**	**-0.8**		
SIVA				S	**Sn**	**23 56 00.7**	**-0.6**		
	comp=E,3µm,0.5s								
SIVA	**Sivas**	**1.03**	**281**	P	**Pg**	**23 55 44.6**	**-0.8**		
SIVA				S	**Sb**	**23 55 59.3**	**-0.3**		
SIVA				AML	AML	23 56 02.8			
	comp=E,8660µm,0.4s								
SIVA				AML	AML	23 56 04.7			
	comp=N,4852µm,0.5s								
IDI	**Anoyia**	**1.06**	**297**	P	**Pg**	**23 55 45.6**	**-0.2**		
IDI	**Anoyia**	**1.06**	**297**	Pg	**Pg**	**23 55 44.4**	**-1.4**		
	comp=N,22nm,0.3s,baz=167,slow=8.6,SNR=195								
IDI				Lg	Lg	23 55 58.5			
	comp=N,185nm,0.3s,baz=12,slow=17,SNR=19								
IDI				LR	LR	23 56 28.2			
	comp=N,123nm,18.8s,baz=91,slow=63								
IDI	**Anoyia**	**1.06**	**297**	P	**Pg**	**23 55 44.2**	**-1.6**		
IDI				S	**Sg**	**23 55 58.8**	**-0.8**		
IDI				AML	AML	23 56 02.5			
	comp=N,2590µm,0.3s								
IDI				AML	AML	23 56 05.1			
	comp=E,2087µm,0.5s								
IDI	**Anoyia**	**1.06**	**297**	PG	**Pg**	**23 55 45.2**	**-0.6**		
KARP	**Karpathos**	**1.17**	**51**	P	**Pg**	**23 55 47.2**	**-0.7**		
KARP	**Karpathos**	**1.17**	**51**	P	**Pg**	**23 55 47.2**	**-0.7**		
KARP				S	**Sg**	**23 56 03.4**	**+0.4**		
KARP	**Karpathos**	**1.17**	**51**	PN	**Pg**	**23 55 47.8**	**-0.1**		
KARP	**Karpathos**	**1.17**	**51**	⇑P	**Pg**	**23 55 47.5**	**-0.4**		
KARP				S	**Sn**	**23 56 06.4**	**+1.8**		
KARP				AML	AML	23 56 09.4			
	comp=E,2.9nm,0.4s								
KARP				AML	AML	23 56 09.4			
	comp=E,2.9nm,0.4s								
KARP				AML	AML	23 56 18.2			
	comp=E,2.7nm,0.5s								
KARP				AML	AML	23 56 18.2			
	comp=E,2.7nm,0.5s								
ANAF	**Anafi Island**	**1.55**	**352**	P	**Pn**	**23 55 52.9**	**-0.7**		
ANAF	**Anafi Island**	**1.55**	**352**	P	**Pn**	**23 55 52.9**	**-0.7**		
ANAF				S	**Sn**	**23 56 12.4**	**-1.7**		
GVDS	**Gavdos**	**1.61**	**271**	PN	**Pg**	**23 55 56.7**	**+0.3**		
GVD	**Gavdhos**	**1.61**	**271**	P	**Pg**	**23 55 56.0**	**-0.4**		
GVD	**Gavdhos**	**1.61**	**271**	PN	**Pb**	**23 55 55.7**	**+0.1**		
SANT	**Santorini**	**1.62**	**343**	P	**Pn**	**23 55 54.2**	**-0.4**		
SANT	**Santorini**	**1.62**	**343**	PN	**Pn**	**23 55 55.1**	**+0.5**		
VAM	**Vamos**	**1.62**	**292**	P	**Pn**	**23 55 54.6**	**0.0**		
VAM	**Vamos**	**1.62**	**292**	P	**Pn**	**23 55 54.6**	**0.0**		
SAP1	**Santorini-Akro**	**1.62**	**341**	P	**Pn**	**23 55 54.1**	**-0.5**		
SAP1	**Santorini-Akro**	**1.62**	**341**	P	**Pn**	**23 55 54.2**	**-0.4**		
SAP2K	**Karterados**	**1.66**	**343**	P	**Pn**	**23 55 54.7**	**-0.5**		
SAP3	**Santorini-Thir**	**1.71**	**341**	P	**Pn**	**23 55 55.1**	**-0.7**		
SAP3	**Santorini-Thir**	**1.71**	**341**	P	**Pn**	**23 55 55.0**	**-0.7**		
CMBO	**Columbo, Santo**	**1.73**	**343**	P	**Pn**	**23 55 55.7**	**-0.4**		
CMBO	**Columbo, Santo**	**1.73**	**343**	P	**Pn**	**23 55 55.7**	**-0.4**		
IMMV	**Iera Moni Meta**	**1.81**	**291**	P	**Pn**	**23 55 57.7**	**+0.5**		
IMMV	**Iera Moni Meta**	**1.81**	**291**	P	**Pn**	**23 55 57.7**	**+0.5**		
IMMV	**Iera Moni Meta**	**1.81**	**291**	PN	**Pb**	**23 55 58.8**	**-0.2**		
KNDR	**Palaiochora Ch**	**1.98**	**283**	PN	**Pb**	**23 56 01.8**	**-0.1**		
IOSP	**Ios island**	**2.00**	**342**	P	**Pn**	**23 55 59.0**	**-0.8**		
ROP	**Rodopos**	**2.02**	**292**	PN	**Pb**	**23 56 01.7**	**-0.8**		
KOSK	**Kos Island**	**2.07**	**21**	PN	**Pn**	**23 56 01.1**	**+0.3**		
ARG	**Arkhangelos**	**2.20**	**50**	P	**Pn**	**23 56 04.1**	**+1.7**		
ARG	**Arkhangelos**	**2.20**	**50**	⇑P	**Pn**	**23 56 04.3**	**+1.8**		
ARG				S	**Sb**	**23 56 32.8**	**-0.3**		
DAT	**Datca**	**2.28**	**33**	PN	**Pn**	**23 56 04.1**	**+0.4**		
DAT	**Datca**	**2.28**	**33**	*i* P	**Pn**	**23 56 03.7**	**0.0**		
DAT				*i* S	**Sn**	**23 56 31.6**	**-0.5**		
DAT				IAML		23 56 41.0			
	comp=N,28nm,0.4s								
APE	**Apeiranthos**	**2.29**	**350**	P	**Pn**	**23 56 02.8**	**-0.9**		
APE	**Apeiranthos**	**2.29**	**350**	PN	**Pn**	**23 56 03.5**	**-0.2**		
BODT	**Bodrum**	**2.46**	**24**	PN	**Pn**	**23 56 06.7**	**+0.5**		
ANKY	**Antikythira Is**	**2.48**	**296**	P	**Pn**	**23 56 07.5**	**+1.2**		
BDRM	**Kayabasi**	**2.51**	**26**	*i* P	**Pn**	**23 56 07.5**	**+0.7**		
BDRM				IAML		23 56 43.0			
	comp=N,23nm,0.5s								
BDRM				IAML		23 56 53.0			
	comp=E,21nm,0.8s								
KTHA	**Kythira Island**	**2.83**	**301**	P	**Pn**	**23 56 11.5**	**+0.4**		
KTHA	**Kythira Island**	**2.83**	**301**	PN	**Pn**	**23 56 12.4**	**+1.3**		
DALY	**Dalyan (Mula)**	**2.91**	**46**	PN	**Pn**	**23 56 13.4**	**+1.1**		
DALY	**Dalyan (Mula)**	**2.91**	**46**	*i* P	**Pn**	**23 56 13.8**	**+1.6**		
DALY				*i* S	**Sb**	**23 56 51.8**	**-1.7**		
DALY				IAML		23 57 07.0			
	comp=E,34nm,0.6s								
DALY				IAML		23 57 09.0			
	comp=N,39nm,0.6s								
TURN	**Turunc**	**2.92**	**45**	*i* P	**Pn**	**23 56 10.2**	**-2.2**		
TURN				*i* S	**Sn**	**23 56 41.8**	**-5.9**		
TURN				IAML		23 56 55.0			
	comp=N,45nm,0.5s								
TURN				IAML		23 56 58.0			
	comp=E,25nm,0.6s								
YER	**Yerkesik**	**2.94**	**37**	PN	**Pn**	**23 56 13.5**	**+0.8**		
GCAM	**G?zelcaml?**	**3.03**	**18**	*i* P	**Pn**	**23 56 14.1**	**+0.2**		
GCAM				*i* S	**Sn**	**23 56 44.4**	**-6.1**		
GCAM				IAML		23 57 31.0			
	comp=E,26nm,0.5s								
FETY	**Fethiye**	**3.06**	**53**	PN	**Pn**	**23 56 15.3**	**+0.9**		
FETY	**Fethiye**	**3.06**	**53**	*i* P	**Pn**	**23 56 15.5**	**+1.1**		
FETY				IAML		23 57 14.0			
	comp=E,11nm,1.0s								
FETY				IAML		23 57 16.0			
	comp=N,16nm,0.9s								
VLI	**Velíai**	**3.16**	**308**	P	**Pn**	**23 56 16.2**	**+0.4**		
KSL	**Kastellorizon**	**3.18**	**64**	⇑P	**Pn**	**23 56 16.7**	**+0.7**		
KSL				S	**Sn**	**23 56 56.5**	**+2.4**		
AKAS	**Kas**	**3.23**	**63**	PN	**Pn**	**23 56 17.8**	**+1.0**		
AKAS	**Kas**	**3.23**	**63**	*i* P	**Pn**	**23 56 18.1**	**+1.3**		
AKAS				*i* S	**Sn**	**23 56 57.8**	**+2.2**		
AKAS				IAML		23 57 04.0			
	comp=N,35nm,0.6s								
AKAS				IAML		23 57 11.0			
	comp=E,17nm,0.6s								
DGB	**zmir**	**3.30**	**12**	*i* P	**Pn**	**23 56 16.9**	**-0.7**		
DGB				IAML		23 57 16.0			
	comp=E,20nm,1.0s								
DGB				IAML		23 57 26.0			
	comp=N,17nm,1.2s								
AYDB	**Zeytinkoy-Aydi**	**3.46**	**25**	PN	**Pn**	**23 56 20.9**	**+1.0**		
TAVA	**DENIZLI_Tavas**	**3.52**	**40**	*i* P	**Pn**	**23 56 22.5**	**+1.8**		
TAVA				IAML		23 57 18.0			
	comp=E,17nm,0.7s								
TAVA				IAML		23 57 30.0			
	comp=N,18nm,0.7s								
CHOS	**Chios island**	**3.56**	**0**	P	**Pn**	**23 56 20.9**	**-0.4**		
CHOS	**Chios island**	**3.56**	**0**	PN	**Pn**	**23 56 22.4**	**+1.1**		
URLA	**Izmir**	**3.56**	**7**	PN	**Pn**	**23 56 22.2**	**+0.9**		
URLA	**Izmir**	**3.56**	**7**	*i* P	**Pn**	**23 56 20.6**	**-0.7**		
URLA				IAML		23 57 26.0			
	comp=E,13nm,0.7s								
URLA				IAML		23 57 37.0			
	comp=N,16nm,1.1s								
BLCB	**Balcova**	**3.65**	**12**	PN	**Pn**	**23 56 22.9**	**+0.5**		
ELL	**Elmali**	**3.68**	**57**	PN	**Pn**	**23 56 24.3**	**+1.3**		
ELL	**Elmali**	**3.68**	**57**	P	**Pn**	**23 56 23.8**	**+0.7**		
GOLH	**Golhisar**	**3.73**	**49**	*i* P	**Pn**	**23 56 25.8**	**+2.1**		
GOLH				*i* S	**Sn**	**23 57 11.2**	**+3.2**		
VLX	**Vlachokerasia**	**3.91**	**312**	P	**Pn**	**23 56 27.1**	**+0.9**		
MANT	**Manisa**	**4.18**	**28**	*i* P	**Pn**	**23 56 31.4**	**+1.4**		
MANT				IAML		23 57 23.0			
	comp=N,6.0nm,1.0s								
MANT				IAML		23 57 55.0			
	comp=E,6.3nm,1.3s								
KULA	**Kula-Manisa**	**4.25**	**29**	PN	**Pn**	**23 56 32.1**	**+1.4**		
BRDR	**BURDUR-Merkez**	**4.33**	**47**	*i* P	**Pn**	**23 56 34.4**	**+2.5**		
BRDR				IAML		23 57 51.0			
	comp=N,8.9nm,1.7s								
BRDR				IAML		23 57 54.0			
	comp=E,10nm,0.7s								
KHAL	**Karahalli**	**4.50**	**37**	*i* P	**Pn**	**23 56 34.7**	**+0.5**		
KHAL				IAML		23 57 33.0			
	comp=E,5.5nm,0.6s								
OSC1	**CSNet OBS 1**	**4.53**	**105**	P	**Pn**	**23 56 33.9**	**-0.6**		
USAK	**Uak-Merkez**	**4.56**	**31**	*i* P	**Pn**	**23 56 36.6**	**+1.5**		
USAK				IAML		23 57 49.0			
	comp=E,7.3nm,2.1s								
USAK				IAML		23 59 17.0			
	comp=N,14nm,5.1s								
DEMI	**Demirci**	**4.73**	**26**	*i* P	**Pn**	**23 56 34.3**	**-3.0**		
DEMI				IAML		23 58 38.0			
	comp=N,8.3nm,1.1s								
DEMI				IAML		23 58 58.0			
	comp=E,6.4nm,1.0s								
KEPZ	**Antalya-Kepez**	**4.97**	**64**	*i* P	**Pn**	**23 56 40.8**	**+0.2**		
KEPZ				*i* S	**Sn**	**23 57 40.2**	**+1.8**		
KEPZ				IAML		23 57 52.0			
	comp=E,5.3nm,0.8s								
KEPZ				IAML		23 58 03.0			
	comp=N,7.5nm,0.8s								
AKMS	**Akamas**	**5.17**	**86**	P	**Pn**	**23 56 43.5**	**+0.1**		
AKMS				AML	AML	23 57 50.2			
	comp=N,0.1nm,0.6s								
AKMS				AML	AML	23 57 54.7			
	comp=N,0.1nm,1.0s								
GAZI	**Gazipasa**	**5.30**	**73**	PN	**Pn**	**23 56 47.3**	**+2.1**		
GAZI	**Gazipasa**	**5.30**	**73**	*i* P	**Pn**	**23 56 46.3**	**+1.1**		
GAZI				*i* S	**Sn**	**23 57 43.8**	**-2.9**		
NATA	**Nata**	**5.37**	**89**	P	**Pn**	**23 56 46.6**	**+0.5**		
TVSB	**Tavsanli**	**5.37**	**30**	PN	**Pn**	**23 56 48.2**	**+2.0**		
ALFC	**Alefka**	**5.39**	**85**	⇑P	**Pn**	**23 56 47.0**	**+0.6**		
SZAC	**Souni**	**5.63**	**89**	P	**Pn**	**23 56 49.8**	**+0.1**		
SZAC				AML	AML	23 58 06.1			
	comp=N,0.2nm,0.6s								
SZAC				AML	AML	23 58 19.1			
	comp=N,0.1nm,0.6s								
ERMK	**Ermenek**	**5.87**	**70**	*i* P	**Pn**	**23 56 55.4**	**+2.1**		
ERMK				*i* S	**Sn**	**23 58 00.8**	**-0.2**		
ASGA	**Asgata**	**5.92**	**88**	P	**Pn**	**23 56 53.4**	**-0.4**		
CSS	**Mathiatis**	**5.99**	**87**	Pn	**Pn**	**23 56 55.0**	**+0.4**		
CSS	**Mathiatis**	**5.99**	**87**	P	**Pn**	**23 56 54.8**	**+0.2**		
MVOU	**Mavrovouni**	**6.24**	**86**	P	**Pn**	**23 56 58.8**	**+0.8**		
SLTI	**Sal'it**	**7.94**	**106**	Pn	**Pn**	**23 57 21.9**	**+0.5**		
MMA0B	**Mount Meron ar**	**7.98**	**100**	Pn	**Pn**	**23 57 23.0**	**+0.9**		
MMAI	**Mount Meron Ar**	**7.98**	**100**	Pn	**Pn**	**23 57 22.8**	**+0.8**		
	comp=N,1.6nm,0.3s,baz=266,slow=12,SNR=26								
MMAI				Sn	**Sn**	**23 58 51.6**	**-1.1**		
	comp=N,0.5nm,0.3s,baz=285,slow=22,SNR=1.5								
KZIT	**Kziot**	**8.03**	**117**	Pn	**Pn**	**23 57 23.5**	**+0.8**		
KZIT				Sn	**Sn**	**23 58 50.1**	**-3.8**		
AMAZ	**Amatzia**	**8.12**	**111**	Pn	**Pn**	**23 57 24.1**	**+0.2**		
YTIR	**Yattir**	**8.35**	**112**	Pn	**Pn**	**23 57 26.7**	**-0.5**		
YTIR				Sn	**Sn**	**23 58 59.6**	**-2.2**		
DSI	**Dead Sea**	**8.47**	**110**	Pn	**Pn**	**23 57 28.3**	**-0.3**		
DSI				Sn	**Sn**	**23 59 02.2**	**-2.3**		
GHAJ	**Ghor Haditha**	**8.72**	**111**	Pn	**Pn**	**23 57 33.2**	**+1.1**		
PRNI	**Paran**	**8.77**	**118**	Pn	**Pn**	**23 57 33.3**	**+0.5**		
PRNI				Sn	**Sn**	**23 59 08.7**	**-3.3**		
ZFRI	**Zfri**	**8.79**	**116**	Pn	**Pn**	**23 57 33.5**	**+0.4**		
ZFRI				Sn	**Sn**	**23 59 09.9**	**-2.5**		
HRFI	**Mount Harif**	**8.97**	**120**	Pn	**Pn**	**23 57 35.8**	**+0.3**		
HRFI				Sn	**Sn**	**23 59 12.9**	**-4.0**		
MBRI	**Mt Berech**	**9.02**	**121**	Pn	**Pn**	**23 57 37.4**	**+1.1**		
EIL	**Elat**	**9.12**	**122**	Pn	**Pn**	**23 57 38.8**	**+1.2**		
	comp=N,0.3nm,0.3s,baz=294,slow=1.8,SNR=7.7								
EIL				Sn	**Sn**	**23 59 17.7**	**-2.8**		
	comp=N,0.2nm,0.3s,baz=7.4,slow=13,SNR=1.9								
EIL	**Elat**	**9.12**	**122**	Pn	**Pn**	**23 57 37.6**	**0.0**		
GERES	**GERESS Array B**	**16.73**	**331**	Pn	**P**	**23 59 21.9**	**-0.9**		
	comp=N,0.1nm,0.3s,baz=152,slow=11,SNR=2.8								
ESDC	**Sonseca Array**	**24.32**	**290**	P	**P**	**00 00 43.1**	**-0.7**		
	comp=N,0.2nm,0.6s,baz=81,slow=9.1,SNR=5.2								
GEYT	**Ailbeck**	**25.94**	**74**	P	**P**	**00 01 01.6**	**+3.0**		
	comp=N,1.1nm,0.8s,baz=263,slow=12,SNR=4.6								
TORD	**Torodi Ar. Bea**	**30.84**	**232**	P	**P**	**00 01 43.1**	**+0.7**		
	comp=N,0.4nm,0.4s,baz=32,slow=7.7,SNR=10								
ARCES	**ARCESS Array B**	**34.77**	**360**	P	**P**	**00 02 17.1**	**+0.8**		
	comp=N,0.2nm,0.4s,baz=181,slow=9.0,SNR=5.4								
KURBB	**Kurchatov Arra**	**40.77**	**51**	P	**P**	**00 03 07.1**	**-0.1**		
	comp=N,0.8nm,0.7s,baz=269,slow=8.3,SNR=3.8								
MKAR	**Makanchi Array**	**43.36**	**56**	P	**P**	**00 03 28.4**	**0.0**		
	comp=N,0.9nm,0.6s,baz=286,slow=6.3,SNR=9.6								

IDC ***28*** *00:10:44.8±0.6,29.˚97S×177.˚09W,h0km,mb4.5/14, mb1 4.6/14,mb1mx4.4/30,mbtmp4.5/14,MS4.3/23, Ms1 4.3/23,ms1mx4.2/28,Error ellipse: s-maj=21.4km s-min=16.1km az=58.0*

BJI ***28*** *00:10:47.3±0.0,29.˚76S×176.˚88W,h26km,mB5.6/15, mb5.2/16,Ms4.8/6,Ms7 4.5/6*

NEIC ***28*** *00:10:48.2±1.8,30.˚08S±0.˚02×177.˚22W±0.˚09,h23km±4km, mb4.8/60,Error ellipse: s-maj=11.7km s-min=2.5km az=98.0*

GCMT ***28*** *00:10:51.2±0.2,29.˚89S±0.˚02×176.˚80W±0.˚01,h20km, MW5.1/102,Moment Tensor Solution. s57,c73; s102,c147; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.23±.18; Mθθ0.39±.13; Mϕϕ-4.62±.13; Mrθ0.06±.26; Mrϕ-1.31±.09; Mθϕ3.16±.23; Best double couple: M₀5.57800×10¹⁶ NP1:ϕs203.00000°,δ29.00000°, λ106.00000°. NP2:ϕs6.00000°,δ62.00000°,λ82.00000°. Principal axes: T 5.2670, Plg71.0000°, Azm257.0000°; N 0.6250, Plg7.0000°, Azm10.0000°; P -5.8880, Plg17.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 00:10:49.6±0.7,30.˚08S±0.˚05×177.˚21W±0.˚07,h32km±4km, h31km;pP-P,n228,σ1§19/197,mb4.8/43,MS4.4/35,12C-7D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.03**	**323**	Pn	**Pn**	**00 11 06.9**	**-0.9**
	3µm,0.3s,baz=90,slow=4.7,SNR=167						
RAO				Sn	**Sb**	**00 11 21.9**	**-0.1**
	5µm,0.3s,baz=90,slow=20,SNR=12						
RAO				LR	LR	00 11 32.9	
	comp=Z,15µm,20.3s,baz=64,slow=47						
RAO	**Raoul Island**	**1.03**	**323**	Pn	**Pn**	**00 11 07.2**	**-0.6**
RAO				Sn	**Sn**	**00 11 21.1**	**0.0**
MXZ	**Matakaoa Point**	**8.34**	**205**	Pn	**Pn**	**00 12 47.7**	**-0.6**
MXZ				Sn	**Sn**	**00 14 20.8**	**-0.6**
OUZ	**Omahuta**	**9.29**	**234**	Pn	**Pn**	**00 13 00.9**	**-0.4**
BKZ	**Black Stump Fm**	**10.44**	**208**	Pn	**Pn**	**00 13 15.9**	**-1.2**
HIZ	**Hauiti**	**10.66**	**216**	Pn	**Pn**	**00 13 19.4**	**-0.7**
BFZ	**Birch Farm**	**11.85**	**205**	Pn	**Pn**	**00 13 35.4**	**-0.9**
NIUE	**Niue**	**12.80**	**33**	Pn	**Pn**	**00 13 48.2**	**-1.2**
MSWZ	**Moikau Station**	**12.86**	**206**	Pn	**Pn**	**00 13 50.1**	**0.0**
SNZO	**South Karori**	**12.98**	**208**	Pn	**Pn**	**00 13 51.7**	**-0.1**
PLWZ	**Palliser**	**12.99**	**206**	Pn	**Pn**	**00 13 47.8**	**-4.1**
BHW	**Baring Head**	**13.00**	**207**	Pn	**Pn**	**00 13 51.1**	**-0.9**
MSVF	**Nonsavu**	**13.03**	**340**	Pn	**Pn**	**00 13 51.1**	**-1.5**
TUWZ	**Tuamarina**	**13.40**	**210**	Pn	**Pn**	**00 13 56.4**	**-1.1**
NNZ	**Nelson**	**13.48**	**212**	Pn	**Pn**	**00 13 59.0**	**+0.4**
CMWZ	**Cape Campbell**	**13.55**	**208**	Pn	**Pn**	**00 14 01.1**	**+1.6**
QRZ	**Quartz Range**	**13.59**	**215**	Pn	**Pn**	**00 13 59.9**	**-0.1**
THZ	**Tophouse**	**14.13**	**212**	Pn	**Pn**	**00 14 06.9**	**-0.6**
KHZ	**Kahutara**	**14.38**	**209**	Pn	**Pn**	**00 14 08.0**	**-2.9**
LTZ	**Lake Taylor**	**15.23**	**211**	Pn	**Pn**	**00 14 21.7**	**-0.6**
OXZ	**Oxford**	**15.77**	**210**	Pn	**Pn**	**00 14 29.3**	**+0.1**
OXZ				IAmb	IAmb	00 14 34.5	
	comp=Z,46nm,0.6s						
MQZ	**McQueen's Vall**	**15.82**	**208**	Pn	**Pn**	**00 14 28.3**	**-1.6**
RPZ	**Rata Peaks**	**16.51**	**211**	Pn	**Pn**	**00 14 35.5**	**-3.2**
	comp=Z,0.9nm,0.3s,baz=37,slow=10,SNR=2.6						
RPZ				Sn	Sn	00 17 29.1	-12
	comp=Z,0.8nm,0.3s,baz=112,slow=19,SNR=1.5						
RPZ	**Rata Peaks**	**16.51**	**211**	Pn	**Pn**	**00 14 36.5**	**-2.2**
RPZ				IAmb	IAmb	00 14 52.0	
	comp=Z,36nm,0.9s						
DZM	**Mont Dzumac**	**16.70**	**295**	Pn	**P**	**00 14 46.6**	**+3.2**
	comp=Z,1.3nm,0.3s,baz=122,slow=16,SNR=15						
DZM				LR	LR	00 20 07.5	
	comp=Z,4µm,18.2s,baz=92,slow=34						
FOZ	**Fox Glacier**	**16.95**	**214**	Pn	**Pn**	**00 14 42.3**	**-1.9**
LBZ	**Lake Benmore**	**17.42**	**212**	Pn	**Pn**	**00 14 48.0**	**-2.2**
ODZ	**Otahua Downs**	**17.74**	**209**	Pn	**Pn**	**00 14 52.2**	**-1.8**
RAR	**Rarotonga**	**18.01**	**65**	LR	LR	00 19 47.9	
	comp=Z,973nm,20.2s,baz=238,slow=30						
WKZ	**Wanaka**	**18.30**	**213**	P	**P**	**00 14 58.6**	**-2.3**
MLZ	**Mavora Lakes**	**19.12**	**213**	P	**P**	**00 15 09.8**	**-0.1**
WHZ	**Wether Hill Ro**	**19.60**	**212**	P	**P**	**00 15 14.8**	**-0.2**
WHZ				IAmb	IAmb	00 15 20.6	
	comp=Z,51nm,1.1s						
TBI	**Tubuai**	**25.64**	**81**	*e*LR	LR	00 22 28.0	
	comp=Z,1µm,25.0s						
TBI	**Tubuai**	**25.64**	**81**	*e*T	T	00 42 16.0	
	comp=Z,6.8nm,0.3s						
ARMA	**Armidale**	**26.88**	**261**	P	**P**	**00 16 26.5**	**-1.3**
ARMA				IAmb	IAmb	00 16 45.7	
	comp=Z,8.9nm,0.8s						
PAE	**Paea**	**28.05**	**70**	*e*T	T	00 45 28.4	
	comp=Z,2.7nm,0.3s						
PPT2	**Papeete2**	**28.09**	**70**	*e*LQ	LQ	00 22 15.5	
	comp=Z,677nm,24.0s						
PPT2				*e*LR	LR	00 23 36.6	
	comp=Z,1µm,25.5s,baz=234						
PPT	**Papeete**	**28.10**	**70**	LR	LR	00 24 51.8	
	comp=Z,368nm,20.6s,baz=238,slow=30						
EIDS	**Eidsvold**	**28.41**	**272**	P	**P**	**00 16 41.5**	**+0.2**
EIDS				IAmb	IAmb	00 16 55.3	
	comp=Z,7.9nm,0.9s						
CAN	**Canberra**	**28.82**	**251**	P	**P**	**00 16 44.0**	**-1.0**
CAN				IAmb	IAmb	00 16 58.4	
	comp=Z,22nm,1.1s						
HNR	**Honiara**	**29.62**	**309**	LR	LR	00 27 44.7	
	comp=Z,576nm,18.4s,baz=136,slow=34						
TAU	**Tasmania Unive**	**31.02**	**236**	P	**P**	**00 17 04.8**	**+0.5**
TAU				IAmb	IAmb	00 17 13.8	
	comp=Z,23nm,1.1s						
TOO	**Toolangi**	**31.72**	**246**	P	**P**	**00 17 08.7**	**-1.8**
TOO				IAmb	IAmb	00 17 15.4	
	comp=Z,19nm,1.1s						
CTA	**Charters Tower**	**34.42**	**278**	LR	LR	00 30 29.3	
	comp=Z,2µm,19.4s,baz=116,slow=34						
CTAO	**Charters Tower**	**34.42**	**278**	P	**P**	**00 17 35.1**	**+0.8**
STKA	**Stephens Creek**	**35.22**	**256**	P	**P**	**00 17 42.6**	**+1.6**
	comp=Z,5.7nm,0.5s,baz=103,slow=12,SNR=5.7						
STKA				LR	LR	00 31 24.8	
	comp=Z,1µm,18.3s,baz=93,slow=35						
STKA	**Stephens Creek**	**35.22**	**256**	P	**P**	**00 17 42.4**	**+1.4**
XMAS	**Kiritimati**	**37.10**	**34**	P	**P**	**00 17 57.7**	**+0.4**
RKT	**Rikitea**	**38.23**	**90**	*e*LR	LR	00 28 13.5	
	comp=Z,888nm,27.0s

comp=Z,2.4nm,0.9s
KVN Kaiserville 88.07 42 P **P** **00 23 37.4 +0.3**
KVN IAmb IAmb 00 23 44.0
comp=Z,4.2nm,1.2s
MDJ Mudanjiang 88.75 325 P **P** **00 23 39.8 -0.1**
AC05 El Transito 88.98 123 P **P** **00 23 37.7 -4.0**
U15A North Rim 89.91 47 P **P** **00 23 45.9 0.0**
U15A IAmb IAmb 00 24 00.2
comp=Z,3.8nm,0.9s
WUAZ Wupatki 89.94 48 P **P** **00 23 46.3 +0.5**
WUAZ IAmb IAmb 00 24 00.5
comp=Z,3.0nm,0.8s
CCUT Cedar City 89.94 46 P **P** **00 23 47.1 +1.2**
KNB Kanab 89.94 46 P **P** **00 23 45.9 0.0**
WVOR Wild Horse Val 90.04 39 P **P** **00 23 45.6 -0.5**
SZCU Shurtz Canyon 90.14 46 P **P** **00 23 46.9 +0.1**
AC01 Pan de Azucar 90.24 121 P **P** **00 23 47.4 -0.1**
PSUT Pine Spring 90.26 45 P **P** **00 23 47.2 -0.2**
CN2 Changchun 90.30 322 *e*P **P** **00 23 47.5 +0.4**
CN2 pP sP 00 23 58.3 -0.4
CN2 pmax pmax
comp=Z,30nm,1.4s
CN2 pmax pmax
comp=Z,120nm,7.6s
CN2 LR LR
comp=Z,120nm,18.0s
CN2 LR LR
comp=Z,110nm,18.0s
CN2 LR LR
comp=Z,210nm,18.0s
PKCU Pink Cliffs 90.53 46 P **P** **00 23 48.6 -0.2**
ELK Elko 90.84 42 P **P** **00 23 48.4 -1.7**
KLR Kul'dur 91.11 329 P **P** **00 23 51.8 +1.1**
comp=Z,3.5nm,0.7s,baz=84,slow=2.0,SNR=12
PBKT Sadao Pong 91.32 288 P **P** **00 23 53.1 +0.7**
PBKT IAmb IAmb 00 23 57.2
comp=Z,4.6nm,1.1s
TXAR Lajitas Array 91.64 57 P **P** **00 23 53.7 -0.1**
comp=Z,0.2nm,0.9s,baz=249,slow=4.6,SNR=2.2
TXAR LR LR 00 59 46.6
comp=Z,123nm,18.0s,baz=0.0,slow=32
MNTX Cornudas Mount 91.74 54 P **P** **00 23 53.0 -1.2**
ENH Enshi 91.99 304 P **P** **00 23 55.2 -0.2**
JLU Jordanelle 93.00 44 P **P** **00 24 00.8 +0.8**
D08A Wollman Farm, 93.00 36 P **P** **00 23 59.4 -0.2**
D08A IAmb IAmb 00 24 13.0
comp=Z,4.3nm,0.8s
E09A Wood Farm, Sta 93.03 36 P **P** **00 23 59.3 -0.4**
BJI Beijing 93.18 315 P **P** **00 24 02.8 +2.3**
BJI pmax pmax
comp=Z,6.0nm,0.8s
CMAR Chiang Mai Arr 93.94 289 P **P** **00 24 05.8 +1.2**
comp=Z,0.5nm,0.3s,baz=150,slow=3.7,SNR=4.5
CMAR LR LR 01 08 54.8
comp=Z,59nm,19.4s,baz=135,slow=37
PDAR Pinedale Array 95.43 43 LR LR 01 01 44.6
comp=Z,179nm,18.9s,baz=255,slow=32
HHC Hu-ho-hao-te 96.50 314 *e*P **P** **00 24 17.5 +1.6**
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,37nm,6.0s
LPAZ La Paz 97.65 114 LR LR 01 01 41.5
comp=Z,40nm,18.9s,baz=216,slow=31
TEIG Tepich 98.99 72 LR LR 01 02 56.0
comp=Z,30nm,19.0s,baz=229,slow=32
LZH Lanzhou 99.08 306 *e*P **Pdif** **00 24 25.3 -2.4**
LZH pP pP 00 24 34.5 -1.9
LZH sP sP 00 24 38.3 -1.3
LZH pmax pmax
comp=Z,18nm,1.4s
LZH pmax pmax
comp=Z,76nm,5.3s
LZH LR LR
comp=Z,120nm,17.5s
LZH LR LR
comp=Z,130nm,17.2s
LZH LR LR
comp=Z,170nm,19.7s
CPUP Villa Florida 99.64 128 LR LR 01 03 50.6
comp=Z,65nm,18.0s,baz=220,slow=32
WMQ Urumqi 113.56 308 *e*PKP **PKiKP** **00 29 25.5 +1.0**
WMQ LR LR
comp=Z,290nm,29.3s
WMQ LR LR
comp=Z,1μm,28.8s
WMQ LR LR
comp=Z,64nm,19.7s
MKAR Makanchi Array 118.09 310 PKP **PKPdf** **00 29 32.2 -0.8**
comp=Z,0.3nm,0.6s,baz=101,slow=3.8,SNR=4.5
ZALV Zalesovo Beam 118.25 318 PKP **PKiKP** **00 29 33.4 +0.4**
comp=Z,0.3nm,0.3s,baz=132,slow=4.3,SNR=1.5
MAKZ Makanchi 118.30 310 **PKPdf** **00 29 32.8 -0.7**
KURK Kurchatov 121.32 314 **PKPdf** **00 29 38.6 -0.5**
GEYT Aibeck 134.04 295 PKP **PKPdf** **00 30 02.2 -1.6**
comp=Z,0.4nm,0.3s,baz=47,slow=6.5,SNR=1.4
KLMR Klimovskoe 140.80 332 *e*PKPdf **PKiKP** **00 30 21.5 +3.4**
KLMR AMP 00 30 25.7
comp=Z,12nm,1.4s
TBLG Delisi 144.41 301 **PKPdf** **00 30 22.1 -0.5**
FINES FINESS Array B 145.07 341 PKPbc **PKPbc** **00 30 21.8 -0.7**
comp=Z,17nm,0.7s,baz=59,slow=3.2,SNR=108
OBN Obninsk 145.29 326 **PKPbc** **00 30 23.1 -0.2**
AKH Akhalkalaki 145.37 300 ⇑P **PKPab** **00 30 25.4 +0.9**
AKH Akhalkalaki 145.37 300 **PKPab** **00 30 25.5 +0.9**
KBZ Khabaz 145.50 304 PKPbc **PKPab** **00 30 25.1 +0.5**
comp=Z,10nm,1.2s,baz=56,slow=4.5,SNR=10
KIV Kislovodsk 145.61 305 **PKPab** **00 30 25.9 +0.7**
VSU Vasula 147.21 337 *e*P **PKPbc** **00 30 28.9 -0.1**
NB2 NORSAR Subarra148.53 352 PKP **PKPbc** **00 30 31.8 -0.7**
comp=Z,21nm,1.1s,baz=11,slow=4.4
NOA NORSAR Array B148.53 352 PKPbc **PKPbc** **00 30 31.9 -0.7**
comp=Z,3.4nm,1.0s,baz=16,slow=4.5,SNR=8.5
IZAR Zarasai 149.42 334 *e*P **PKPab** **00 30 38.3 -1.3**
ISAL Salakas 149.59 334 *e*P **PKiKP** **00 30 36.9 +0.5**
IIGN Ignalina 149.72 333 *e*P **PKiKP** **00 30 36.3 -0.3**
NACGM Naroch 149.82 332 *e* **PKPdf** **00 30 31.0 -0.1**
KONO Kongsberg 150.07 353 **PKPbc** **00 30 36.3 -0.1**
PABE Paberze 150.45 334 *e*P **PKPbc** **00 30 37.5 +0.2**
PBUR Paburge 150.74 338 *e*P **PKPbc** **00 30 37.7 -0.3**
AKASG Malin Array Be 151.45 324 PKPbc **PKPbc** **00 30 39.5 -0.3**
comp=Z,4.4nm,0.6s,baz=46,slow=2.6,SNR=20
SUW Suwalki 151.89 334 *e*PKP **PKPbc** **00 30 40.6 -0.1**
BRTR Keskin Array B 153.04 299 PKPbc **PKPbc** **00 30 44.1 0.0**
comp=Z,0.8nm,0.6s,baz=271,slow=15,SNR=2.9
BRTR PKPab **PKPab** **00 30 54.9 -0.7**
comp=Z,2.1nm,0.9s,baz=56,slow=4.6,SNR=5.6
SORM Soroca 153.39 320 ⇑P **PKPab** **00 30 54.7 -1.8**
TOPG Topolog 155.03 313 ⇓P **PKPab** **00 31 04.4 +0.9**
TESR Tescani 155.25 319 ⇑P **PKPab** **00 31 04.6 +0.1**
KWP Kalwaria Pacla 155.33 328 *e*PKP **PKPab** **00 31 04.9 +0.2**
BUR08 Bucovina Ar. S 155.40 322 **PKPab** **00 31 06.1 +0.9**
BURAR Bucovina Array 155.41 322 ⇓P **PKPab** **00 31 00.2 -5.0**
BSEG Bad Segeberg 155.54 349 *e*PKP sPKPab 00 31 18.0 +1.0
baz=21,slow=4.3
VRI Vrincioaia 155.55 317 ⇑P **PKPab** **00 31 07.3 +1.5**
KOLS Kolonicke sedl 156.03 327 *e*PKP **PKPab** **00 31 08.3 +0.6**
MLR Muntele Rosu 156.21 317 ⇑P **PKPab** **00 31 09.2 +0.4**
CRVS Cervenica-Dubn 156.43 328 *e*PKP **PKPab** **00 31 10.2 +0.8**
TRPA Tarpa 156.46 325 ⇓P **PKPab** **00 31 09.9 +0.3**
KSP Ksiaz 156.93 338 *e*PKP **PKPab** **00 31 12.9 +1.4**
NRDL Niedersach Rie 156.96 349 *e*PKP sPKPab 00 31 24.2 +1.1
baz=21,slow=4.3
ARR Arges 157.05 318 ⇑P **PKPab** **00 31 13.7 +1.4**
OSTC Ostas 157.19 338 *e*PKP **PKPab** **00 31 14.1 +1.4**
OSTC *ex* x 00 31 23.9
ASSE Asse, Remlinge 157.21 347 *e*PKP sPKPab 00 31 25.3 +1.1
baz=21,slow=4.3
DRGR 157.26 323 ⇑P **PKPab** **00 31 13.8 +0.6**
UPC Upice 157.31 338 AMS AMS 01 50 20.0
comp=Z,100nm,19.3s
DPC Dobruska-Polom 157.34 337 *e*PKPAB **PKPab** **00 31 13.7 +0.4**
DPC *ex* x 00 31 25.8
DPC AMS AMS 01 51 50.0
comp=Z,100nm,15.9s
MORC Moravsky Berou 157.38 335 *e*PKP **PKPab** **00 31 14.2 +0.6**
MORC *e* 00 31 25.5
CLL Collm 157.47 343 *e*PKPdf **PKPdf** **00 30 42.0 -0.1**
CLL *e*PKPab **PKPab** **00 31 14.0 +0.2**
CLL *i* sPKPab **sPKPab** **00 31 24.9 -0.5**
comp=Z,20nm,1.5s
CLL LmV 01 48 00.0
comp=Z,100nm,20.4s
CLL Collm 157.47 343 *e*PKP sPKPab 00 31 26.0 +0.6
baz=21,slow=4.3

IBBN Ibbenburen 157.49 352 *e*PKP sPKPab 00 31 26.3 +0.8
baz=21,slow=4.3
CLZ Clausthal 157.54 348 *e*PKP sPKPab 00 31 26.7 +0.9
baz=21,slow=4.3
BRG Berggiesshubel 157.61 341 *e*PKP sPKPab 00 31 26.4 +0.3
comp=Z,19nm,1.5s
BRG Berggiesshubel 157.61 341 *e*PKP sPKPab 00 31 27.1 +1.0
baz=21,slow=4.3
FBE Freiberg 157.73 342 *e*PKP sPKPab 00 31 27.8 +1.2
baz=21,slow=4.3
PVCC Panska Ves 157.74 340 AMS AMS 01 45 20.0
comp=Z,100nm,15.8s
NEUB Neuenburg 157.85 345 *e*PKP sPKPab 00 31 27.9 +0.8
baz=21,slow=4.3
PSZ Piszkesteto 157.86 328 ⇓P **PKPab** **00 31 16.1 +0.3**
PSZ Piszkesteto 157.86 328 ⇑P **PKPab** **00 31 16.0 +0.3**
VYHS Vyhne 157.89 331 *e*PKP **PKPab** **00 31 16.4 +0.6**
GTTG Gottingen 157.90 348 *e*PKP sPKPab 00 31 28.2 +1.0
baz=21,slow=4.3
JAVC Velka Javorina 158.08 333 *e*PKP **PKPab** **00 31 18.3 +1.7**
JAVC *e* 00 31 29.7
PLVB Pleven 158.11 313 ⇓P **PKPab** **00 31 17.9 +0.9**
VRAC Vranov 158.12 335 ⇑P **PKPab** **00 31 18.0 +1.3**
VRAC Vranov 158.12 335 *e*PKP **PKPab** **00 31 17.5 +0.8**
VRAC *e* 00 31 29.1
SIRR Siria 158.15 323 ⇑P **PKPab** **00 31 17.4 +0.4**
GOPC GO Pecny, Ondr 158.21 339 *e*PKPAB **PKPab** **00 31 16.9 -0.2**
GOPC *ex* x 00 31 29.5
PRU Pruhonice 158.22 339 *e*PKPAB **PKPab** **00 31 17.1 0.0**
PRU *ex* x 00 31 29.4
PRU AMS AMS 01 49 20.0
comp=Z,100nm,18.7s
KRUC Moravsky 158.40 335 *e*PKP **PKPab** **00 31 18.6 +0.7**
KRUC *e* 00 31 29.8
MOX Moxa 158.41 345 *e*PKP sPKPab 00 31 30.3 +0.8
baz=21,slow=4.3
TANN Tannenbergstha 158.42 343 *e*PKP sPKPab 00 31 30.9 +1.2
baz=21,slow=4.3
PLN Plauen 158.43 344 *e*PKP sPKPab 00 31 30.7 +1.1
baz=21,slow=4.3
SMOL Smolenice 158.45 333 *e*PKP **PKPab** **00 31 19.3 +1.1**
GUNZ Gunzen 158.50 343 *e*PKP sPKPab 00 31 31.2 +1.2
baz=21,slow=4.3
TREC Trest 158.52 337 AMS AMS 01 42 20.0
comp=Z,100nm,22.5s
WERN Wernitzgruen 158.56 343 *e*PKP sPKPab 00 31 31.4 +1.1
baz=21,slow=4.3
UBBA Unterbreizbach 158.59 347 *e*PKP sPKPab 00 31 31.1 +1.0
baz=21,slow=4.3
NKC Novy Kostel 158.59 343 AMS AMS 01 52 50.0
comp=Z,100nm,22.4s
BZS Buzias 158.59 322 ⇑P **PKPab** **00 31 18.7 -0.2**
MDVR Moldovita 159.07 320 ⇓P **PKPab** **00 31 21.4 +0.3**
ROTZ Rotzenmuhle 159.08 343 *e*PKP sPKPab 00 31 34.1 +1.6
baz=21,slow=4.3
KHC Kasperske Hory 159.28 340 *e*PKPAB **PKPab** **00 31 22.5 +0.8**
KHC *ex* x 00 31 33.9
KHC AMS AMS 01 46 50.0
comp=Z,100nm,20.1s
GRF Grafenberg Arr 159.40 344 *e*PKP sPKPab 00 31 35.3 +1.5
baz=21,slow=4.3
TNS Taunus Mts 159.43 350 *e*PKP sPKPab 00 31 34.7 +0.7
baz=21,slow=4.3
WET Wettzell 159.47 341 *e*PKP sPKPab 00 31 35.7 +1.5
baz=21,slow=4.3
GEC2 GERESS Array S 159.49 339 *e*PKP sPKPab 00 31 35.5 +1.1
baz=21,slow=4.3
GERES GERESS Array B 159.49 339 PKPab **PKPab** **00 31 22.3 -0.5**
comp=Z,0.2nm,0.4s,baz=343,slow=4.2,SNR=6.6
CONA Conrad Observa 159.54 334 *e*PKPab **PKPab** **00 31 24.2 +1.2**
comp=Z,13nm,1.3s,SNR=8.6
CONA *i* sPKPab **sPKPab** **00 31 35.6 +1.0**
comp=Z,13nm,1.1s
MOA Molln 160.18 337 *e*PKPab **PKPab** **00 31 26.8 +1.1**
comp=Z,9.3nm,1.4s
MOA *es*PKPab **sPKPab** **00 31 38.2 +0.8**
comp=Z,12nm,1.3s
ARSA Arzberg 160.22 334 *e*PKPab **PKPab** **00 31 26.5 +0.6**
comp=Z,5.6nm,1.4s
ARSA *es*PKPab **sPKPab** **00 31 38.0 +0.5**
comp=Z,7.7nm,1.6s
RJOB Jochberg 160.75 339 *e*PKP sPKPab 00 31 40.6 +0.7
baz=21,slow=4.3
FUR Furstenfeldbru 160.80 343 *e*PKP sPKPab 00 31 41.2 +1.2
baz=21,slow=4.3
SOKA Soboth 160.89 334 *e*PKPab **PKPab** **00 31 29.3 +0.4**
comp=Z,12nm,1.5s,SNR=9.6
SOKA *es*PKPab **sPKPab** **00 31 40.8 +0.2**
comp=Z,12nm,1.2s
KBA Koelnbreinsper 161.16 337 *e*PKPab **PKPab** **00 31 30.8 +0.6**
comp=Z,1.9nm,0.6s
OBKA Obir 161.21 334 *i* sPKPab sPKPab 00 31 41.9 -0.1
comp=Z,4.3nm,1.3s
MYKA Terra Mystica 161.44 336 *e*PKPab **PKPab** **00 31 31.1 -0.2**
comp=Z,5.8nm,1.1s
WATA Walderalm 161.48 341 *e*PKPab **PKPab** **00 31 32.1 +0.6**
comp=Z,11nm,1.4s
WATA *es*PKPab **sPKPab** **00 31 43.6 +0.4**
comp=Z,12nm,1.0s
WTTA Wattenberg 161.53 341 *e*PKPab **PKPab** **00 31 32.2 +0.4**
comp=Z,8.9nm,1.4s
WTTA *es*PKPab **sPKPab** **00 31 44.1 +0.6**
comp=Z,19nm,1.2s
RETA Reutte 161.56 343 *i* PKPab **PKPab** **00 31 32.0 +0.2**
comp=Z,5.0nm,1.7s
RETA *es*PKPab **sPKPab** **00 31 43.9 +0.5**
comp=Z,12nm,1.4s
MOTA Moosalm 161.60 342 *e*PKPab **PKPab** **00 31 32.2 +0.2**
comp=Z,5.3nm,1.2s
MOTA *es*PKPab **sPKPab** **00 31 44.3 +0.6**
comp=Z,15nm,1.5s
SQTA Sankt Quirin 161.68 341 *e*PKPab **PKPab** **00 31 33.3 +0.9**
comp=Z,6.4nm,1.1s
SQTA *es*PKPab **sPKPab** **00 31 44.6 +0.6**
comp=Z,11nm,1.3s
ABTA Abfaltersbach 161.72 338 *e*PKPab **PKPab** **00 31 32.3 -0.2**
comp=Z,3.9nm,0.9s
ABTA *es*PKPab **sPKPab** **00 31 43.9 -0.2**
comp=Z,13nm,1.3s
FETA Feichten 162.00 342 *es*PKPab sPKPab 00 31 45.8 +0.4
comp=Z,9.0nm,1.6s
TORD Torodi Ar. Bea 163.12 176 PKPab **PKPab** **00 31 39.3 +0.1**
comp=Z,0.6nm,0.6s,baz=194,slow=2.7,SNR=6.1
ESDC Sonseca Array 168.94 28 PKP **PKPdf** **00 30 53.9 +0.4**
comp=Z,0.4nm,0.9s,baz=350,slow=6.5,SNR=4.1
ESDC PKPab **PKPab** **00 32 04.2 -0.4**
comp=Z,0.5nm,1.1s,baz=339,slow=6.9,SNR=2.0
KEST Kesra 172.12 317 PKPab **PKPab** **00 32 19.3 +0.5**
comp=Z,4.6nm,1.1s,baz=74,slow=7.4,SNR=3.0

*IDC **28** 00:20:50.0±0.9, 29.°98S×177.°08W, h0km, mb4.2/9, mb1 4.3/9, mb1mx4.1/30, mbtmp4.2/9, MS3.8/1, Ms1 3.8/1, ms1mx3.1/33, Error ellipse: s-maj=29.6km s-min=20.5km az=41.0*
*NEIC **28** 00:20:51.4±1.6, 30.°08S±0.°08×177.°1W±0.°1, h10km±1km, mb4.4/5, Error ellipse: s-maj=21.5km s-min=8.7km az=55.0*

ISC 28 00:20:53.7±0.8,**30.°09S**±0.°08×**177.°2W**±0.°1,**h24**km,**n28,**
σ1§**13**/30,**mb4.3**/11,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.04**	**323**	Pn		**Pb**		**00 21 12.5**	**-0.5**
	509nm,0.3s,baz=111,slow=11,SNR=19								
RAO				Sn		**Sn**		**00 21 27.5**	**+1.0**
	1μm,0.3s,baz=273,slow=24,SNR=14								
RAO				LR		LR		00 21 38.3	
	comp=Z,1μm,20.1s,baz=126,slow=47								
RAO	**Raoul Island**	**1.04**	**323**	Pn		**Pb**		**00 21 12.7**	**-0.3**
RAO						**Sn**		**00 21 26.4**	**-0.2**
BKZ	**Black Stump Fm**	**10.44**	**208**	Pn		**Pn**		**00 23 21.9**	**0.0**
QRZ	**Quartz Range**	**13.59**	**215**	Pn		**Pn**		**00 24 04.9**	**+0.1**
THZ	**Tophouse**	**14.13**	**212**	Pn		**Pn**		**00 24 13.8**	**+1.5**
KHZ	**Kahutara**	**14.38**	**209**	Pn		**Pn**		**00 24 16.3**	**+0.6**
OXZ	**Oxford**	**15.76**	**210**	Pn		**Pn**		**00 24 34.2**	**+0.2**
DZM	**Mont Dzumac**	**16.71**	**295**	Pn		**P**		**00 24 49.3**	**+0.8**
	0.1nm,0.3s,baz=120,slow=20,SNR=1.5								
DZM				LR		LR		00 30 27.8	
	comp=Z,314nm,18.3s,baz=232,slow=34								
CTA	**Charters Tower**	**34.44**	**278**	P		**P**		**00 27 40.4**	**+0.9**
	1.9nm,0.5s,baz=88,slow=12,SNR=3.9								
BBOO	**Buckleboo**	**39.72**	**254**	P		**P**		**00 28 21.5**	**-2.8**
BBOO				IAmb		IAmb		00 28 29.4	
	comp=Z,6.9nm,0.9s								
ASAR	**Alice Springs**	**43.82**	**266**	P		**P**		**00 28 58.5**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=106,slow=7.4,SNR=11								
WB2	**Warramunga Arr**	**44.77**	**271**	P		**P**		**00 29 05.0**	**-0.6**
WB2				IAmb		IAmb		00 29 15.8	
	comp=Z,8.4nm,1.1s								
WRA	**Warramunga Arr**	**44.78**	**271**	P		**P**		**00 29 06.0**	**+0.3**
	comp=Z,3.9nm,0.8s,baz=110,slow=7.9,SNR=6.8								
WB0	**Warramunga Arr**	**44.80**	**272**	P		**P**		**00 29 06.3**	**+0.4**
QSPA	**South Pole Qui**	**60.02**	**180**	P		**P**		**00 31 00.3**	**+2.1**
	comp=Z,1.4nm,1.0s,baz=74,slow=2.7,SNR=2.6								
QSPA	**South Pole Qui**	**60.02**	**180**	P		**P**		**00 30 57.5**	**-0.8**
QSPA				IAmb		IAmb		00 31 14.9	
	comp=Z,2.8nm,0.9s								
MJAR	**Matsushiro Arr**	**78.38**	**325**	P		**P**		**00 32 51.8**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=152,slow=5.7,SNR=4.2								
KSRS	**Korea Array**	**84.56**	**319**	P		**P**		**00 33 26.0**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=126,slow=6.3,SNR=2.0								
USRK	**Ussuriysk Ar.**	**87.29**	**326**	P		**P**		**00 33 38.9**	**+0.8**
	comp=Z,2.6nm,0.8s,baz=126,slow=4.6,SNR=8.3								
NVAR	**Mina Array Bea**	**87.54**	**42**	P		**P**		**00 33 40.0**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=218,slow=8.7,SNR=3.5								
KLR	**Kul'dur**	**91.12**	**329**	P		**P**		**00 33 56.9**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=45,slow=3.9,SNR=5.6								
FINES	**FINESS Array B**	**145.09**	**341**	PKPbc		**PKPdf**		**00 40 27.1**	**-1.1**
	comp=Z,8.3nm,0.8s,baz=50,slow=4.3,SNR=32								
KBZ	**Khabaz**	**145.51**	**304**	PKPbc		**PKPab**		**00 40 29.8**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=146,slow=3.6,SNR=1.8								
NB2	**NORSAR Subarra148.54**	**352**		PKP		**PKPbc**		**00 40 37.2**	**-0.6**
	comp=Z,0.7nm,0.8s,baz=11,slow=2.8								
NOA	**NORSAR Array B148.54**	**352**		PKPbc		**PKPbc**		**00 40 36.6**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=6.3,slow=4.0,SNR=5.8								
HFS	**Hagfors**	**149.07**	**349**	PKPbc		**PKPbc**		**00 40 37.5**	**-1.6**
	comp=Z,2.7nm,0.8s,baz=45,slow=8.6,SNR=3.1								
AKASG	**Malin Array Be**	**151.47**	**324**	PKPbc		**PKPbc**		**00 40 43.6**	**-1.5**
	comp=Z,1.6nm,0.6s,baz=51,slow=2.6,SNR=7.4								
CLL	**Collm**	**157.48**	**343**	*e*PKPab		**PKPab**		**00 41 21.0**	**+2.0**

*KRNET **28** 00:41:03.5±0.1, 39.°99N×69.°31E, h1km, mb3.3*
*ISU **28** 00:41:04.0, 40.°00N×69.°20E, h15km*
*SOME **28** 00:41:05.6, 40.°07N×69.°38E, h5km*
*NNC **28** 00:41:08.0±1.0, 40.°10N×69.°38E, h3km±5km, mb3.7, mpv3.5, Error ellipse: s-maj=6.8km s-min=4.4km az=32.0*

ISC 28 00:41:03.2±1.3,**39.°97N**±0.°03×**69.°44E**±0.°04,**h8**km±11km,
n39,σ1§**89**/55,**13C-8D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.07**	**85**	⇓*i*P		**Pn**		**00 41 24.7**	**+0.1**
	baz=86								
BTK				⇓*i*S		**Sn**		**00 41 40.8**	**+1.2**
	baz=86								
GAR	**Garm**	**1.18**	**145**	⇑*e*P		**Pn**		**00 41 26.9**	**+0.7**
	baz=41								
GAR				⇑*i*S		**Sn**		**00 41 43.8**	**+1.2**
	baz=41								
CHGR	**Chuyangaron**	**1.33**	**189**	⇑*i*P		**Pg**		**00 41 28.3**	**-0.3**
	baz=85								
CHGR				⇑*i*S		**Sg**		**00 41 45.9**	**0.0**
	baz=85								
TAS	**Tashkent**	**1.36**	**356**	⇓*i*P		**Pb**		**00 41 28.3**	**-0.6**
	baz=60								
TAS				⇓*i*S		**Sn**		**00 41 46.0**	**-0.8**
	baz=60								
TAS	**Tashkent**	**1.36**	**356**	*i* P		**Pg**		**00 41 29.8**	**+0.6**
TAS				*i* S		**Sg**		**00 41 49.1**	**+2.2**
FRG	**Fergana**	**1.95**	**66**	*i* P		**Pg**		**00 41 40.4**	**-0.2**
FRG				*i* S		**Sg**		**00 42 09.8**	**+3.9**
IUG	**Iuzhnay**	**2.22**	**12**	*e*P		**Pg**		**00 41 46.1**	**+0.4**
	4.6nm,0.2s								
IUG				*e*S		**Sg**		**00 42 15.7**	**+1.2**
	96nm,0.5s								
IUG	**Iuzhnay**	**2.22**	**12**	Pg		**Pg**		**00 41 46.2**	**+0.4**
	4.6nm,0.2s								
IUG				Lg		Lg		00 42 15.7	
	96nm,0.5s								
CHM	**Chimkent**	**2.35**	**3**	*e*P		**Pg**		**00 41 48.8**	**+0.5**
	144nm,0.1s								
CHM				*e*S		**Sg**		**00 42 20.2**	**+1.5**
	295nm,0.2s								
OHH	**Osh**	**2.62**	**77**	⇑*i*P		**Pb**		**00 41 49.1**	**-1.4**
	baz=78								
OHH				⇑*i*S		**Sb**		**00 42 22.0**	**-0.9**
	baz=78								
ARK	**Arkit**	**2.65**	**46**	⇑*i*P		**Pb**		**00 41 48.8**	**-2.1**
	baz=48								
ARK				⇑*i*S		**Sb**		**00 42 22.3**	**-1.4**
	baz=48								
ARK	**Arkit**	**2.65**	**46**	*i* P		**Pb**		**00 41 50.1**	**-0.8**
ARK				*i* S		Sg		00 42 40.4	+12
ARSB	**Arslanbob**	**3.02**	**62**	⇑*i*P		**Pb**		**00 41 54.7**	**-2.6**
	baz=63								
ARSB				⇑*i*S		**Sb**		**00 42 32.1**	**-2.3**
	baz=63								
BRLS	**Borolday**	**3.07**	**5**	*e*P		**Pb**		**00 41 56.1**	**-2.0**
	5.6nm,0.2s								
BRLS				*e*S		**Sb**		**00 42 32.9**	**-2.9**
	26nm,0.2s								
BRLS	**Borolday**	**3.07**	**5**	Pg		**Pb**		**00 41 56.1**	**-2.0**
	5.6nm,0.2s								
BRLS				Lg		Lg		00 42 32.9	
	61nm,0.5s								
KK31	**Karatay Array**	**3.23**	**14**	⇑Pn		**Pb**		**00 41 58.6**	**-2.2**
	1.1nm,0.5s,baz=201,slow=18,SNR=17								
KK31				⇓Pg		**Pg**		**00 42 05.7**	**+0.5**
	1.4nm,0.3s,baz=202,slow=16,SNR=13								
KK31				Lg		Lg		00 42 46.1	
	14nm,0.5s,baz=188,slow=16,SNR=12								
DZA	**Taraz**	**3.25**	**25**	*e*P		**Pg**		**00 42 04.8**	**-0.6**
	37nm,0.1s								
DZA				*e*S		**Sg**		**00 42 47.8**	**+0.2**
	61nm,0.2s								
MRKS	**Merke**	**3.98**	**45**	*e*P		**Pg**		**00 42 19.6**	**+0.2**
	6.5nm,0.3s								
MRKS				*e*S		**Sg**		**00 43 13.3**	**+2.4**
	12nm,0.5s								
MRKS	**Merke**	**3.98**	**45**	Pg		**Pg**		**00 42 19.6**	**+0.2**
	6.5nm,0.3s								
MRKS				Lg		Lg		00 43 13.3	
	12nm,0.5s								
ARLS	**Aral**	**4.16**	**61**	⇓*i*P		**Pn**		**00 42 10.6**	**+3.5**
	baz=62								
ARLS				⇓*i*S		**Sn**		**00 42 58.9**	**+2.9**
	baz=62								
AAK	**Ala-Archa**	**4.65**	**53**	Pn		**Pn**		**00 42 17.8**	**+3.9**
	3.0nm,0.7s								
AAK				⇑Lg		Lg		00 43 34.6	
	12nm,0.8s								
SGDS	**Sogindy**	**5.22**	**46**	Pg		**Pg**		**00 42 41.3**	**-1.8**
	4.4nm,0.7s								
SGDS				Lg		Lg		00 43 50.5	
	6.2nm,0.4s								
TKM2	**Tokmak 2**	**5.49**	**56**	⇑Pn		Pn		00 42 30.1	+4.6
	1.1nm,0.4s								
TKM2				⇓Lg		Lg		00 44 03.1	
	5.6nm,0.6s								
DGS	**Degeres**	**5.77**	**53**	*e*P		**Pg**		**00 42 52.7**	**-0.9**
	0.7nm,0.3s								
DGS				*e*S		**Sg**		**00 44 10.1**	**+1.9**
	6.4nm,0.5s								
DGS	**Degeres**	**5.77**	**53**	Pg		**Pg**		**00 42 52.7**	**-0.9**
	0.7nm,0.3s								
DGS				Lg		Lg		00 44 10.1	
	6.4nm,0.5s								
KST	**Kastek**	**5.78**	**56**	*e*P		**Pg**		**00 42 52.7**	**-1.2**
	1.9nm,0.2s								
KST				*e*S		**Sg**		**00 44 10.1**	**+1.3**
	10.0nm,0.4s								
KST	**Kastek**	**5.78**	**56**	Pg		**Pg**		**00 42 52.7**	**-1.2**
	1.9nm,0.2s								
KST				Lg		Lg		00 44 10.1	
	10.0nm,0.4s								
KRBS	**Karabastau**	**5.96**	**49**	Pg		**Pg**		**00 42 56.1**	**-1.3**
	2.3nm,0.5s								
KRBS			

MDOK	**Medeo**	**6.54**	**58**	Pg	**Pg**	**00 43 06.8**	**-1.6**
	1.5nm,0.3s							
MDOK				Lg	Lg	00 44 34.1		
	2.6nm,0.4s							
KTBS	**Karatobe**	**6.58**	**53**	Pg	**Pg**	**00 43 07.1**	**-2.0**
	2.5nm,0.6s							
KTBS				Lg	Lg	00 44 34.8		
	5.4nm,0.5s							
CHKK	**Chushkaly**	**6.84**	**53**	Pg	**Pg**	**00 43 13.4**	**-0.7**
	1.1nm,0.1s							
CHKK				Lg	Lg	00 44 45.7		
	3.7nm,0.3s							
SATY	**Saty**	**7.41**	**62**	Pg	**Pg**	**00 43 23.3**	**-1.6**
	0.7nm,0.1s							
SATY				Lg	Lg	00 45 03.2		
	2.3nm,0.1s							
ARXS	**Arharly**	**7.54**	**53**	Pg	**Pg**	**00 43 24.7**	**-2.9**
	4.3nm,0.5s							
ARXS				Lg	Lg	00 45 05.3		
	4.1nm,0.3s							
MNBS	**Baschi**	**7.83**	**55**	Pg	**Pg**	**00 43 31.1**	**-2.0**
	1.1nm,0.7s							
MNBS				Lg	Lg	00 45 16.7		
	4.1nm,0.3s							
OTUK	**Ortayu**	**8.53**	**13**	Pg	**Pg**	**00 43 42.2**	**-4.3**
	0.4nm,0.5s							
OTUK				Lg	Lg	00 45 35.8		
	0.5nm,0.5s							
KAPS	**Kapalarasan**	**9.04**	**51**	Pg	Pn	00 43 52.3	+38	
	0.6nm,0.4s							
KAPS				Lg	Lg	00 45 52.7		
	1.6nm,0.2s							

*IPEC **28** 00:43:49.0±0.3,51°.62N×16°.25E,h0km,ML2.1/4, Error ellipse: s-maj=3.1km s-min=1.6km az=60.0*
*VIE **28** 00:43:51.9±1.0,51°.41N×15°.94E,h0km,mb2.2/4,ml2.7/5, Error ellipse: s-maj=7.3km s-min=7.0km az=131.0 83 km WNW of Wroclaw Suspected Mining induced.*
*PRU **28** 00:43:51.4±0.0,51°.51N×16°.11E,h0km*

ISC 28 00:43:49.5±0.9,**51°.54N**±0°.04×**16°.18E**±0°.03,**h0**km,**n30,** σ0**92**/61,**Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**174**	*i* Pg	**Pb**	**00 44 04.2**	**-0.5**
KSP				*e*Sg	**Sb**	**00 44 13.4**	**-1.4**
CHVC	**Chvalec**	**0.96**	**185**	*e*PG	**Pb**	**00 44 09.0**	**0.0**
CHVC				*e*SG	**Sb**	**00 44 21.2**	**-1.0**
	comp=Z,37nm,0.5s						
OSTC	**Ostas**	**0.98**	**179**	*e*PG	**Pb**	**00 44 09.5**	**0.0**
OSTC				*e*SG	**Sb**	**00 44 22.2**	**-0.8**
	comp=Z,31nm,0.2s						
UPC	**Upice**	**1.04**	**186**	*e*PG	**Pb**	**00 44 10.1**	**-0.3**
UPC				*e*SG	**Sb**	**00 44 23.5**	**-1.1**
	comp=Z,63nm,0.5s						
DPC	**Dobruska-Polom**	**1.20**	**176**	*e*PG	**Pb**	**00 44 13.0**	**-0.1**
DPC				*e*SG	**Sb**	**00 44 28.4**	**-0.7**
	comp=Z,32nm,0.3s						
PVCC	**Panska Ves**	**1.44**	**226**	*e*PG	**Pb**	**00 44 17.7**	**+0.6**
PVCC				*e*SG	**Sn**	**00 44 36.6**	**+0.3**
	comp=Z,135nm,0.5s						
BRG	**Berggiesshubel**	**1.56**	**245**	PG	**Pg**	**00 44 19.9**	**+0.5**
BRG				SG	**Sg**	**00 44 40.2**	**+0.7**
	85nm,0.5s						
GOPC	**GO Pecny, Ondr**	**1.85**	**209**	*e*PG	**Pg**	**00 44 25.1**	**+0.1**
GOPC				*e*SG	**Sb**	**00 44 47.6**	**-0.4**
PRU	**Pruhonice**	**1.87**	**214**	*e*PG	**Pb**	**00 44 24.8**	**+0.3**
PRU				*e*SG	**Sb**	**00 44 48.6**	**+0.2**
	comp=Z,48nm,0.3s						
MORC	**Moravsky Berou**	**1.97**	**153**	*e*PN	**Pn**	**00 44 24.5**	**+0.3**
MORC				*e*SG	**Sg**	**00 44 52.7**	**0.0**
MORC	**Moravsky Berou**	**1.97**	**153**	*e*Pn	**Pn**	**00 44 24.4**	**+0.3**
	baz=337						
MORC				*e*Sg	**Sg**	**00 44 52.7**	**0.0**
	14nm,0.3s,baz=337						
CLL	**Collm**	**2.00**	**265**	*e*Pn	**Pn**	**00 44 25.0**	**+0.4**
CLL				*e*Pg	**Pb**	**00 44 28.0**	**+1.2**
CLL				*e*Sg	**Sb**	**00 44 53.0**	**+0.8**
	comp=Z,31nm,0.7s						
OKC	**Ostrava-Krasne**	**2.12**	**143**	*e*PG	**Pg**	**00 44 30.0**	**-0.1**
VRAC	**Vranov**	**2.25**	**173**	*e*SG	**Sg**	**00 45 01.6**	**-0.2**
VRAC	**Vranov**	**2.25**	**173**	*e*Sg	**Sg**	**00 45 01.5**	**-0.2**
	comp=Z,12nm,0.3s,baz=355						
KRUC	**Moravsky**	**2.48**	**177**	*e*PN	**Pn**	**00 44 32.0**	**+0.8**
KRUC				*e*SG	**Sg**	**00 45 09.4**	**+0.1**
KRUC	**Moravsky**	**2.48**	**177**	*e*Pn	**Pn**	**00 44 32.0**	**+0.8**
	baz=358						
KRUC				*e*Sg	**Sg**	**00 45 09.3**	**0.0**
	comp=Z,7.8nm,0.3s,baz=358						
OJC	**Ojcow**	**2.65**	**119**	*e*Pg	**Pg**	**00 44 40.8**	**+0.6**
OJC				*e*Sg	**Sg**	**00 45 16.4**	**+1.9**
NKC	**Novy Kostel**	**2.70**	**242**	*e*SG	**Sg**	**00 45 16.0**	**-0.2**
	comp=Z,46nm,0.4s						
JAVC	**Velka Javorina**	**2.85**	**160**	*e*PN	**Pn**	**00 44 36.8**	**+0.4**
JAVC				*e*SG	**Sg**	**00 45 20.4**	**-0.7**
JAVC	**Velka Javorina**	**2.85**	**160**	*e*Pn	**Pn**	**00 44 36.7**	**+0.4**
	baz=342						
JAVC				*e*Sg	**Sg**	**00 45 20.4**	**-0.7**
	comp=Z,5.8nm,0.4s,baz=342						
KHC	**Kasperske Hory**	**2.93**	**216**	*e*PN	**Pn**	**00 44 37.8**	**+0.4**
KHC				*e*PG	**Pb**	**00 44 43.7**	**+1.0**
KHC				*e*SN	**Sn**	**00 45 12.0**	**-1.3**
KHC				*e*SG	**Sg**	**00 45 22.6**	**-1.1**
	comp=Z,12nm,0.4s						
SMOL	**Smolenice**	**3.13**	**165**	*e*PG	**Pg**	**00 44 49.7**	**+0.1**
SMOL				*e*SG	**Sg**	**00 45 32.5**	**+2.3**
SMOL				*e*LG	Lg	00 45 37.7	
LANS	**Liptovska Anna**	**3.19**	**137**	*e*PN	**Pn**	**00 44 42.2**	**+1.3**
LANS				*e*LG	Lg	00 45 40.9	
MODS	**Modra-Piesok**	**3.25**	**167**	*e*PG	**Pg**	**00 44 51.5**	**-0.3**
MODS				*e*SG	**Sg**	**00 45 36.1**	**+2.3**
MODS				*e*LG	Lg	00 45 43.3	
VYHS	**Vyhne**	**3.50**	**150**	*e*PN	**Pn**	**00 44 45.6**	**+0.4**
VYHS				*e*PG	**Pg**	**00 44 58.0**	**+1.5**
VYHS				*e*SG	**Sg**	**00 45 41.7**	**-0.2**
CONA	**Conrad Observa**	**3.62**	**183**	*i* Pn	**Pn**	**00 44 48.6**	**+1.6**
	comp=Z,0.5nm,0.2s						
CONA				*e*Pg	**Pg**	**00 44 58.1**	**-0.8**
	comp=Z,1.6nm,0.3s						
CONA				Sg	**Sg**	**00 45 46.1**	**+0.3**
	comp=Z,6.8nm,0.4s						
BSD	**Bornholm Skovb**	**3.66**	**349**	*i* P	**Pn**	**00 44 46.9**	**-0.4**
BSD				*i* S	**Sn**	**00 45 28.3**	**-2.9**
MOA	**Molln**	**3.90**	**199**	*e*Pn	**Pn**	**00 44 51.6**	**+0.9**
	comp=Z,0.5nm,0.1s						
MOA				*e*Sg	**Sg**	**00 45 53.6**	**-1.1**
	comp=Z,8.1nm,0.4s						
ARSA	**Arzberg**	**4.32**	**186**	*i* Pn	**Pn**	**00 44 57.1**	**+0.6**
	comp=Z,0.5nm,0.2s						
ARSA				*e*Pg	**Pg**	**00 45 12.1**	**-0.1**
	comp=Z,1.1nm,0.3s						
ARSA				Sg	**Sg**	**00 46 07.2**	**-0.9**
	comp=Z,4.3nm,0.5s						

IDC 28 00:49:28.3±2.9,**28°.32S**×**177°.69W**,**h0**km,**mb3.4**/2, **mb1 3.7**/2,**mb1mx3.5**/32,**mbtmp3.4**/2,**MS3.3**/2,**Ms1 3.3**/2, **ms1mx3.1**/10,**Error ellipse: s-maj=50.2km s-min=29.8km az=56.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.95**	**192**	Pn	Pn	00 49 48.8	-0.1
	139nm,0.3s,baz=14,slow=22,SNR=7.8						
RAR	**Rarotonga**	**17.73**	**70**	LR	LR	01 00 08.3	
	comp=Z,64nm,19.6s,baz=227,slow=36						
ASAR	**Alice Springs**	**43.53**	**265**	P	P	00 57 33.0	-1.0
	0.2nm,0.5s,baz=101,slow=8.2,SNR=1.4						
WRA	**Warramunga Arr**	**44.33**	**270**	P	P	00 57 41.1	+0.6
	0.7nm,0.7s,baz=112,slow=7.8,SNR=1.5						
KSRS	**Korea Array**	**82.95**	**319**	LR	LR	01 36 59.5	
	comp=Z,21nm,18.5s,baz=235,slow=34						
FINES	**FINESS Array B**	**143.28**	**341**	PKP	PKPdf	01 09 04.2	+0.2
	1.1nm,0.9s,baz=46,slow=4.0,SNR=2.2						
NB2	**NORSAR Subarra**	**146.74**	**352**	PKP	PKiKP	01 09 25.3	+11
	comp=Z,4.0nm,1.2s,baz=15,slow=4.4						

*IDC **28** 00:49:37.8±1.1,30°.09S×177°.12W,h0km,mb4.2/4, mb1 4.4/4,mb1mx3.9/33,mbtmp4.2/4,MS3.7/2,Ms1 3.7/2, ms1mx3.2/20,Error ellipse: s-maj=31.9km s-min=22.7km az=54.0*
*NEIC **28** 00:49:39.6±1.4,30°.22S±0°.07×177°.2W±0°.2,h10km±1km, mb4.3/17,Error ellipse: s-maj=22.5km s-min=12.0km az=80.0*

ISC 28 00:49:41.7±0.9,**30°.22S**±0°.08×**177°.2W**±0°.1,**h24**km,**n41,** σ1**948**/42,**mb4.3**/8,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.13**	**328**	Pn	**Pn**	**00 50 00.4**	**-1.5**
	627nm,0.3s,baz=97,slow=8.9,SNR=21						
RAO				Sn	**Sn**	**00 50 15.6**	**-1.1**
	1µm,0.3s,baz=291,slow=23,SNR=8.7						
RAO	**Raoul Island**	**1.13**	**328**		**Pn**	**00 50 00.7**	**-1.3**
BKZ	**Black Stump Fm**	**10.31**	**208**	Pn	**Pn**	**00 52 07.2**	**-0.9**
BFZ	**Birch Farm**	**11.71**	**205**	Pn	**Pn**	**00 52 26.2**	**-1.1**
MSWZ	**Moikau Station**	**12.72**	**207**	Pn	**Pn**	**00 52 39.1**	**-2.0**
NNZ	**Nelson**	**13.35**	**212**	Pn	**Pn**	**00 52 49.2**	**-0.5**
QRZ	**Quartz Range**	**13.46**	**215**	Pn	**Pn**	**00 52 49.0**	**-2.2**
BSWZ	**Blackbirch Sta**	**13.54**	**210**	Pn	**Pn**	**00 52 49.6**	**-2.6**
THZ	**Tophouse**	**14.00**	**212**	Pn	**Pn**	**00 53 00.1**	**+1.5**
KHZ	**Kahutara**	**14.25**	**209**	Pn	**Pn**	**00 53 01.0**	**-1.0**
LTZ	**Lake Taylor**	**15.10**	**211**	Pn	**Pn**	**00 53 12.3**	**-1.1**
OXZ	**Oxford**	**15.63**	**210**	Pn	**Pn**	**00 53 20.7**	**+0.2**
OXZ				IAmb	IAmb	00 53 26.0	
	comp=Z,15nm,0.7s						
MQZ	**McQueen's Vall**	**15.69**	**208**	Pn	**Pn**	**00 53 20.6**	**-0.4**
RPZ	**Rata Peaks**	**16.38**	**211**	Pn	**Pn**	**00 53 29.8**	**-0.1**
DZM	**Mont Dzumac**	**16.74**	**295**	Pn	**P**	**00 53 41.7**	**+4.9**
	comp=Z,0.4nm,0.3s,baz=99,slow=19,SNR=3.2						
DZM				LR	LR	00 59 01.4	
	comp=Z,332nm,18.6s,baz=34,slow=34						
DZM	**Mont Dzumac**	**16.74**	**295**	Pn	**Pn**	**00 53 32.8**	**-1.9**
DZM				IAmb	IAmb	00 53 47.0	
	comp=Z,17nm,0.9s						
ODZ	**Otahua Downs**	**17.61**	**209**	Pn	**Pn**	**00 53 42.3**	**-3.1**
WKZ	**Wanaka**	**18.17**	**213**		**Pn**	**00 53 51.6**	**-0.7**
WKZ				IAmb	IAmb	00 54 07.4	
	comp=Z,19nm,1.0s						
MLZ	**Mavora Lakes**	**19.00**	**213**	P	**P**	**00 54 01.4**	**-0.1**
MLZ				IAmb	IAmb	00 54 06.4	
	comp=Z,16nm,1.0s						
WHZ	**Wether Hill Ro**	**19.47**	**212**	P	**P**	**00 54 05.7**	**-1.0**
CTAO	**Charters Tower**	**34.42**	**278**	P	**P**	**00 56 28.3**	**+0.8**
STKA	**Stephens Creek**	**35.16**	**257**	P	**P**	**00 56 34.5**	**+0.8**
	comp=Z,3.1nm,0.7s,baz=91,slow=10,SNR=4.6						
STKA	**Stephens Creek**	**35.16**	**257**	P	**P**	**00 56 33.9**	**+0.1**
BBOO	**Buckleboo**	**39.65**	**254**	P	**P**	**00 57 12.3**	**+0.5**
ASAR	**Alice Springs**	**43.78**	**266**	P	**P**	**00 57 46.1**	**+0.4**
	comp=Z,1.9nm,0.7s,baz=105,slow=7.5,SNR=16						
WB2	**Warramunga Arr**	**44.74**	**272**	P	**P**	**00 57 53.2**	**-0.2**
WB2				IAmb	IAmb	00 58 01.5	
	comp=Z,5.5nm,1.1s						
WRA	**Warramunga Arr**	**44.75**	**272**	P	**P**	**00 57 54.0**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=110,slow=8.1,SNR=7.7						
WB0	**Warramunga Arr**	**44.77**	**272**	P	**P**	**00 57 53.8**	**+0.1**
WB0				IAmb	IAmb	00 57 55.9	
	comp=Z,6.0nm,1.1s						
MTN	**Manton Dam**	**50.61**	**278**	P	**P**	**00 58 38.4**	**-0.6**
FITZ	**Fitzroy Crossi**	**53.02**	**269**	P	**P**	**00 58 57.0**	**+0.1**
FITZ				IAmb	IAmb	00 59 06.0	
	comp=Z,2.3nm,0.9s						
CASY	**Casey**	**55.61**	**208**	P	**P**	**00 59 16.0**	**+1.0**
CASY				IAmb	IAmb	00 59 18.0	
	comp=Z,2.7nm,0.6s						
MJAR	**Matsushiro Arr**	**78.47**	**325**	P	**P**	**01 01 40.7**	**0.0**
	comp=Z,1.2nm,0.7s,baz=165,slow=6.2,SNR=4.7						
CFA	**Comel Fontan**	**88.81**	**126**	LR	LR	01 31 14.1	
	comp=Z,24nm,21.0s,baz=229,slow=28						
LCMT	**Little Creek M**	**89.79**	**46**	P	**P**	**01 02 38.8**	**+0.4**
KURBB	**Kurchatov Arra**	**121.44**	**314**	PKP	**PKPdf**	**01 08 32.1**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=116,slow=1.8						
FINES	**FINESS Array B**	**145.20**	**341**	PKPbc	**PKPbc**	**01 09 15.5**	**-0.7**
	comp=Z,4.9nm,0.7s,baz=46,slow=4.0,SNR=30						
NOA	**NORSAR Array B**	**148.66**	**352**	PKPbc	**PKPbc**	**01 09 25.1**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=12,slow=4.1,SNR=2.6						
AKASG	**Malin Array Be**	**151.55**	**324**	PKPbc	**PKPbc**	**01 09 33.1**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=43,slow=2.5,SNR=5.2						
AKASG				PKPab	**PKPab**	**01 09 42.3**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=51,slow=3.1,SNR=5.4						
CLL	**Collm**	**157.59**	**343**	*e*(PKPab)	**PKPab**	**01 10 11.0**	**+3.4**
GERES	**GERESS Array B**	**159.61**	**339**	PKPab	**PKPab**	**01 10 14.9**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=26,slow=3.4,SNR=3.6						
TORD	**Torodi Ar. Bea**	**162.99**	**176**	PKPab	**PKPab**	**01 10 31.8**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=208,slow=3.5,SNR=4.1						

IDC 28 00:51:46.4±4.7,**28°.42S**×**177°.19W**,**h0**km,**mb3.7**/2, **mb1 3.9**/2,**mb1mx3.5**/33,**mbtmp3.7**/2,**Error ellipse: s-maj=100.7km s-min=31.6km az=110.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.05**	**218**	Pn	Pn	00 52 08.6	+0.3
	96nm,0.3s,baz=72,slow=19,SNR=1.0						
RAO				Sn	Sn	00 52 23.9	+0.3
	322nm,0.3s,baz=301,slow=23,SNR=2.8						
ASAR	**Alice Springs**	**43.96**	**265**	P	P	00 59 55.1	-0.4
	0.7nm,0.7s,baz=114,slow=8.5,SNR=4.4						
WRA	**Warramunga Arr**	**44.78**	**270**	P	P	01 00 02.2	+0.2
	0.6nm,0.5s,baz=109,slow=7.6,SNR=2.6						
FINES	**FINESS Array B**	**143.52**	**341**	PKP	PKPdf	01 11 21.4	-0.9
	1.7nm,0.8s,baz=29,slow=3.2,SNR=4.5						

*IDC **28** 01:10:49.1±4.1,36°.13N×70°.44E,h184km±30km,mb3.1/5, mb1 3.1/11,mb1mx2.9/48,mbtmp3.6/11,MS3.9/1, Ms1 4.0/1,ms1mx2.7/25,Error ellipse: s-maj=52.4km s-min=22.1km az=147.0*
*NNC **28** 01:10:57.5±4.6,36°.89N×70°.36E,h188km±66km,mb2.9, mpv3.6,Error ellipse: s-maj=43.9km s-min=24.4km az=4.0*

ISC 28 01:10:53.0±0.8,**36°.55N**±0°.07×**70°.37E**±0°.08,**h204**km,**n34,** σ1**950**/37,**mb3.3**/4,**4C-5D,Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.14**	**24**	P	**Pn**	**01 12 22.8**	**+0.4**
	SNR=42						
UCH	**Uchtor**	**6.51**	**28**	P	**Pn**	**01 12 27.9**	**+0.6**
	SNR=17						
KK31	**Karatay Array**	**6.54**	**1**	⇓P	**Pn**	**01 12 27.3**	**0.0**
	1.1nm,0.2s,baz=166,slow=9.0,SNR=43						
KK31				⇓S	**S**	**01 13 38.3**	**-3.6**
	3.5nm,0.5s,baz=195,slow=26,SNR=7.1						
EKS2	**Erkin-Say**	**6.64**	**22**	P	**Pn**	**01 12 29.4**	**+0.7**
	SNR=6.2						
KZA	**Kyzart**	**6.69**	**33**	P	**Pn**	**01 12 29.8**	**+0.2**
	SNR=5.6						
AAK	**Ala-Archa**	**6.86**	**26**	P	**Pn**	**01 12 32.6**	**+1.1**
	1.4nm,0.3s,baz=190,slow=3.9,SNR=5.4						
AAK				S	**S**	**01 13 46.2**	**-3.4**
	1.6nm,0.3s,baz=349,slow=21,SNR=20						
AAK	**Ala-Archa**	**6.86**	**26**	⇑P	**Pn**	**01 12 32.0**	**+0.5**
	2.6nm,0.6s						
AAK				⇑S	**S**	**01 13 47.8**	**-1.8**
	19nm,0.6s						
TKM2	**Tokmak 2**	**7.53**	**31**	P	**Pn**	**01 12 40.9**	**+0.7**
	SNR=9.5						
TKM2	**Tokmak 2**	**7.53**	**31**	⇓P	**Pn**	**01 12 40.7**	**+0.5**
	2.9nm,0.4s						
TKM2				⇑S	**S**	**01 14 03.0**	**-2.5**
	6.0nm,0.8s						
GEYT	**Alibeck**	**9.87**	**282**	P	**Pn**	**01 13 08.5**	**-1.9**
	0.2nm,0.3s,baz=97,slow=12,SNR=3.7						
MAKZ	**Makanchi**	**13.41**	**37**	⇓P	**Pn**	**01 13 55.8**	**+0.4**
	7.0nm,1.1s						
MK31	**Makanchi Array**	**13.55**	**37**	⇑P	**Pn**	**01 13 59.7**	**+2.6**
	0.4nm,0.3s,baz=206,slow=10,SNR=11						
MKAR	**Makanchi Array**	**13.55**	**37**	P	**Pn**	**01 13 58.4**	**+1.3**
	0.3nm,0.3s,baz=220,slow=15,SNR=13						
DANN	**Dangsing**	**13.94**	**122**	*e*P	**Pn**	**01 14 01.1**	**-1.3**
	10nm,0.3s						
KOLN	**Koldanda**	**14.21**	**124**	*e*P	**Pn**	**01 14 04.1**	**-1.5**
	4.6nm,0.3s						
GKN	**Gorkha**	**14.76**	**121**	*e*P	**Pn**	**01 14 12.0**	**-0.4**
	15nm,0.2s						
AB01	**Akbulak array**	**14.80**	**332**	⇓P	**Pn**	**01 14 14.5**	**+2.1**
	1.3nm,0.5s						
KURBB	**Kurchatov Arra**	**15.24**	**20**	P	**Pn**	**01 14 17.8**	**0.0**
	0.0nm,0.3s,baz=211,slow=10,SNR=6.3						
DMN	**Daman**	**15.33**	**121**	*e*P	**Pn**	**01 14 18.5**	**-0.9**
	6.8nm,0.3s						
KKN	**Kakani**	**15.34**	**120**	*e*P	**Pn**	**01 14 19.2**	**-0.2**
	12nm,0.4s						
PKIN	**Phulchoki**	**15.55**	**121**	*e*P	**P**	**01 14 22.1**	**0.0**
	20nm,0.6s						
PKI	**Pulchoki**	**15.57**	**121**	*e*P	**P**	**01 14 22.3**	**0.0**
	28nm,0.6s						
GUN	**Gumba**	**15.69**	**119**	*e*P	**P**	**01 14 24.0**	**+0.4**
	13nm,0.4s						
JIRN	**Jiri**	**16.06**	**119**	*e*P	**Pn**	**01 14 29.2**	**+1.0**
	46nm,0.5s						
BVAR	**Borovoye Array**	**16.47**	**0**	P	**P**	**01 14 33.8**	**+2.1**
	0.2nm,0.3s,baz=187,slow=8.1,SNR=4.1						
AKTO	**Aktyubinsk**	**16.48**	**331**	P	**P**	**01 14 33.7**	**+1.9**
	0.2nm,0.3s,baz=163,slow=9.1,SNR=5.0						
RAMN	**Ramite**	**16.78**	**120**	*e*P	**P**	**01 14 35.5**	**0.0**
	20nm,0.7s						
ODAN	**Odare**	**17.39**	**119**	*e*P	**P**	**01 14 43.5**	**+1.3**
	14nm,0.6s						
ZALV	**Zalesovo Beam**	**20.08**	**25**	P	**P**	**01 15 11.7**	**+1.0**
	1.8nm,0.3s,baz=211,slow=10,SNR=10						
FINES	**FINESS Array B**	**37.16**	**326**	P	**P**	**01 17 45.1**	**+1.2**
	0.6nm,0.6s,baz=134,slow=5.5,SNR=5.4						
ARCES	**ARCESS Array B**	**40.90**	**338**	P	**P**	**01 18 16.3**	**+1.4**
	0.6nm,0.5s,baz=116,slow=8.2,SNR=10						
NOA	**NORSAR Array B**	**44.03**	**323**	P	**P**	**01 18 40.4**	**+0.2**
	0.6nm,0.8s,baz=96,slow=8.0,SNR=3.3						
ESDC	**Sonseca Array**	**56.98**	**298**	LR	LR	01 50 31.2	
	comp=Z,87nm,18.1s,baz=315,slow=42						
TORD	**Torodi Ar. Bea**	**65.21**	**268**	P	**P**	**01 21 11.3**	**-1.6**
	0.4nm,0.8s,baz=45,slow=7.0,SNR=5.7						

*NEIC **28** 01:13:29.6±1.5,20°.4S±0°.1×178°.0W±0°.1,h537km±7km, mb4.2/54,Error ellipse: s-maj=21.6km s-min=16.1km az=153.0*
*IDC **28** 01:13:29.2±3.0,20°.33S×177°.94W,h523km±32km, mb3.7/14,mb1 4.0/14,mb1mx3.7/30,mbtmp4.6/14,Error ellipse: s-maj=31.7km s-min=15.3km az=153.0*

ISC 28 01:13:29.3±0.6,**20°.4S**±0°.1×**177°.96W**±0°.09,**h534**km,**n65,** σ1**930**/48,**mb4.2**/35,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.63**	**305**	P	**P**	**01 14 56.1**	**+0.9**
NIUE	**Niue**	**7.68**	**81**	P	**P**	**01 15 23.8**	**+0.3**
AFI	**Afiamalu**	**8.77**	**43**	P	**P**	**01 15 35.4**	**+0.9**
DZM	**Mont Dzumac**	**14.64**	**261**	P	**P**	**01 16 39.2**	**+3.8**
	1.4nm,0.3s,baz=114,slow=22,SNR=14						
DZM	**Mont Dzumac**	**14.64**	**261**	P	**P**	**01 16 32.1**	**-3.3**
SANVU	**Saraoutou**	**14.96**	**287**	P	**P**	**01 16 36.9**	**-1.8**
THZ	**Tophouse**	**22.64**	**198**	P	**P**	**01 17 49.1**	**-0.7**
EIDS	**Eidsvold**	**28.91**	**254**	P	**P**	**01 18 45.5**	**+0.3**
CTA	**Charters Tower**	**33.54**	**264**	P	**P**	**01 19 26.3**	**+1.3**
	18nm,0.5s,baz=91,slow=11,SNR=32						
CTAO	**Charters Tower**	**33.54**	**264**	P	**P**	**01 19 25.5**	**+0.5**
PMG	**Port Moresby**	**35.36**	**283**	P	**P**	**01 19 39.8**	**-0.6**
STKA	**Stephens Creek**	**37.86**	**244**	P	**P**	**01 20 00.8**	**+0.1**
	3.1nm,0.6s,baz=78,slow=11,SNR=5.1						
STKA	**Stephens Creek**	**37.86**	**244**	IAmb	IAmb	01 20 53.4	
	comp=Z,15nm,1.9s						
JAY	**Jayapura**	**44.06**	**288**	P	**P**	**01 20 51.1**	**+0.9**
	comp=Z,41nm,0.6s,baz=140,slow=4.9,SNR=26						
WR0	**Warramunga Arr**	**44.46**	**262**	P	**P**	**01 20 52.7**	**-0.5**
WR0				IAmb	IAmb	01 20 53.8	
	comp=Z,7.1nm,0.8s						
AS31	**Alice Springs**	**44.57**	**257**	P	**P**	**01 20 53.7**	**-0.5**
AS31				IAmb	IAmb	01 20 55.7	
	comp=Z,4.2nm,0.7s						
ASAR	**Alice Springs**	**44.57**	**257**	P	**P**	**01 20 55.2**	**+1.1**
	comp=Z,17nm,0.7s,baz=89,slow=8.2,SNR=105						
ASAR				ScP	**ScP**	**01 25 29.1**	**+2.0**
	comp=Z,0.7nm,0.9s,baz=106,slow=3.8,SNR=5.8						
WB0	**Warramunga Arr**	**44.63**	**262**	P	**P**	**01 20 54.0**	**-0.5**
WB2	**Warramunga Arr**	**44.64**	**262**	P	**P**	**01 20 54.2**	**-0.4**
WRA	**Warramunga Arr**	**44.65**	**262**	P	**P**	**01 20 54.9**	**+0.2**
	comp=Z,7.0nm,0.3s,baz=97,slow=7.8,SNR=68						
MTN	**Manton Dam**	**49.20**	**270**		**P**	**01 21 29.3**	**+0.2**
SOEI	**Soe**	**56.54**	**272**		**P**	**01 22 23.8**	**+2.2**
PAGZ	**Pagadian**	**64.14**	**290**	*e*P	P	01 23 21.6	+10
MJAR	**Matsushiro Arr**	**70.17**	**324**	P	**P**	**01 23 48.1**	**-0.3**
	comp=Z,2.7nm,0.5s,baz=157,slow=6.7,SNR=9.5						
MAT	**Matsushiro**	**70.17**	**324**	P	**P**	**01 23 48.0**	**-0.4**
PETK	**Petropavlovsk-**	**76.21**	**345**	P	**P**	**01 24 22.8**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=146,slow=10,SNR=2.6						
KSRS	**Korea Array**	**76.86**	**319**

AUBOZ	**BOZOYUK**	0.32	240	PG		**Pb**	01 39 27.7	-1.5
AUBOZ	**BOZOYUK**	0.32	240	*i* P		**Pb**	01 39 27.5	-1.7
AUBOZ				*i* S		**Sg**	01 39 31.4	-0.6
AUBOZ				IAML			01 39 34.0	
	comp=E,7μm,0.4s							
AUBOZ				IAML			01 39 35.0	
	comp=N,5μm,0.4s							
GULT	**Gulveren**	0.37	15	PG		**Pg**	01 39 28.4	-0.4
GULT				SG		**Sb**	01 39 34.8	-1.3
GEYV	**SAKARYA_Geyve**	0.42	350	*i* P		**Pg**	01 39 29.2	-0.4
GEYV				IAML			01 39 38.0	
	comp=E,2μm,0.8s							
GEYV				IAML			01 39 43.0	
	comp=N,3μm,0.5s							
CAVI	**Cavuskoy**	0.44	288	PG		**Pg**	01 39 29.6	-0.4
ADVT	**Abdulvahap**	0.61	306	PG		**Pg**	01 39 32.6	-0.7
SPNC	**Sapanca-Adapaz**	0.62	354	PG		**Pg**	01 39 33.3	-0.1
SAUV	**Serdivan-Sakar**	0.67	356	PG		**Pg**	01 39 34.0	-0.4
BTAS	**Taskesti**	0.68	43	*i* P		**Pg**	01 39 34.2	-0.5
BTAS				*i* S		**Sb**	01 39 45.4	+0.4
BTAS				IAML			01 39 51.0	
	comp=E,3μm,0.3s							
BTAS				IAML			01 39 56.0	
	comp=N,3μm,0.4s							
MDUB	**Mudurnu**	0.74	57	PG		**Pb**	01 39 35.9	-0.5
AUKIR	**Kırka- Seyitga**	0.80	172	*i* P		**Pb**	01 39 36.3	-1.1
AUKIR				*i* S		**Sb**	01 39 46.8	-1.6
AUKIR				IAML			01 39 54.0	
	comp=N,3μm,0.6s							
AUKIR				IAML			01 39 55.0	
	comp=E,4μm,0.6s							
SAHE	**Sakarya_HENDEK**	0.86	24	*i* P		**Pg**	01 39 37.4	-0.6
SAHE				IAML			01 39 57.0	
	comp=N,747nm,0.4s							
SAHE				IAML			01 39 58.0	
	comp=E,567nm,0.3s							
AUMIH	**MIHALICIK**	0.87	103	PG		**Pg**	01 39 37.3	-0.9
AUMIH	**MIHALICIK**	0.87	103	*i* P		**Pg**	01 39 37.2	-0.9
AUMIH				*i* S		**Sb**	01 39 49.3	-1.0
AUMIH				IAML			01 39 55.0	
	comp=E,4μm,0.3s							
AUMIH				IAML			01 39 57.0	
	comp=N,3μm,0.3s							
CIFT	**Cifteler, Eski**	0.88	143	PG		**Pn**	01 39 39.1	-0.8
HRT	**Hereke**	0.93	324	PG		**Pg**	01 39 38.4	-0.9
IGD	**Bursa**	0.93	282	*i* P		**Pg**	01 39 37.9	-1.4
IGD				*i* S		**Sn**	01 39 53.9	+0.1
IGD				IAML			01 39 55.0	
	comp=N,758nm,0.4s							
IGD				IAML			01 39 58.0	
	comp=E,858nm,0.9s							
TVSB	**Tavsanli**	0.95	229	PG		**Pb**	01 39 39.4	-0.5
ULDT	**Uludag**	0.96	275	*i* P		**Pb**	01 39 39.7	-0.6
ULDT				*i* S		**Sn**	01 39 54.0	-0.9
ULDT				IAML			01 39 59.0	
	comp=E,2μm,0.9s							
ULDT				IAML			01 40 00.0	
	comp=N,3μm,0.5s							
GEMT	**Gemlik**	0.99	292	PG		**Pb**	01 39 40.5	0.0
KAND	**Kocaeli-Kandir**	1.03	352	*i* P		**Pg**	01 39 40.8	-0.5
KAND				*i* S		**Sb**	01 39 55.5	+0.5
KAND				IAML			01 39 58.0	
	comp=N,1μm,0.5s							
KAND				IAML			01 39 58.0	
	comp=E,1μm,0.5s							
YUVA	**Yuva-Kibriscik**	1.05	72	PG		**Pb**	01 39 41.6	0.0
SVRH	**Sivrihisar-ESK**	1.08	125	PN		**Pb**	01 39 41.4	-0.7
AUSIV	**SIVRIHISAR**	1.09	125	PN		**Pb**	01 39 41.7	-0.7
AUSIV	**SIVRIHISAR**	1.09	125	*i* P		**Pb**	01 39 41.6	-0.7
AUSIV				*i* S		**Sn**	01 39 58.2	+0.2
AUSIV				IAML			01 40 01.0	
	comp=E,698nm,0.4s							
AUSIV				IAML			01 40 03.0	
	comp=N,1μm,0.7s							
TUZL	**Tuzla-Istanbul**	1.13	311	PN		**Pn**	01 39 43.1	-0.2
ORLT	**Orhaneli**	1.14	269	PN		**Pn**	01 39 43.8	+0.3
KIBS	**BOLU**	1.18	72	*i* P		**Pn**	01 39 44.1	+0.1
KIBS				IAML			01 40 05.0	
	comp=N,969nm,0.5s							
MDNY	**Mudanya-Bursa**	1.19	285	PN		**Pn**	01 39 44.5	+0.5
YIGI	**Dzce**	1.20	42	*i* P		**Pg**	01 39 43.5	-1.1
YIGI				IAML			01 40 06.0	
	comp=N,893nm,0.6s							
YIGI				IAML			01 40 08.0	
	comp=E,614nm,0.5s							
SILT	**Sile**	1.22	333	PN		**Pn**	01 39 44.8	+0.3
BUY	**Buyukada**	1.24	309	*i* P		**Pn**	01 39 45.0	+0.2
BUY				*i* S		**Sn**	01 40 02.1	+0.5
BUY				IAML			01 40 04.0	
	comp=N,1μm,0.5s							
BUY				IAML			01 40 04.0	
	comp=E,791nm,0.6s							
ARMT	**Armutlu**	1.27	293	PN		**Pb**	01 39 44.9	-0.4
GEDZ	**Gediz**	1.27	217	PN		**Pn**	01 39 46.7	+1.4
AFYO	**Afyonkarahisar**	1.28	183	*i* P		**Pn**	01 39 45.5	+0.1
AFYO				*i* S		**Sn**	01 40 03.2	+0.4
AFYO				IAML			01 40 08.0	
	comp=N,2μm,0.9s							
AFYO				IAML			01 40 11.0	
	comp=E,3μm,1.0s							
SHAP	**Saphane-Kutahy**	1.38	221	PN		**Pg**	01 39 47.8	-0.1
KAVV	**Kandilli-Istan**	1.42	315	PN		**Pg**	01 39 48.0	-0.6
ISK	**Istanbul-Kandi**	1.42	315	PN		**Pg**	01 39 47.9	-0.7
BOLV	**Bolvadin**	1.42	162	*i* P		**Pg**	01 39 48.4	-0.2
BOLV				IAML			01 40 12.0	
	comp=E,2μm,0.4s							
BOLV				IAML			01 40 14.0	
	comp=N,3μm,0.7s							
SMAA	**Simav-Kutahya**	1.46	229	PN		**Pg**	01 39 49.2	-0.1
KDZE	**Karadeniz Ereo**	1.48	33	PN		**Pg**	01 39 49.1	-0.7
HVHR	**Bakirkoy-Istan**	1.48	308	PN		**Pg**	01 39 49.2	-0.6
BCAM	**Yenicaga**	1.48	59	*i* P		**Pn**	01 39 48.2	0.0
BCAM				*i* S		**Sg**	01 40 11.2	+2.1
BCAM				IAML			01 40 14.0	
	comp=N,648nm,1.3s							
BCAM				IAML			01 40 16.0	
	comp=E,625nm,0.7s							
SHUT	**Suhut-Afyon**	1.52	175	PN		**Pg**	01 39 49.9	-0.7
DURS	**Dursunbey**	1.55	253	*i* P		**Pg**	01 39 50.6	-0.4
DURS				*i* S		**Sg**	01 40 11.5	+0.4
DURS				IAML			01 40 14.0	
	comp=N,1μm,0.4s							
DURS				IAML			01 40 16.0	
	comp=E,1μm,0.5s							
KLYT	**Kilyos**	1.56	320	PN		**Pb**	01 39 50.1	-0.3
AVCI	**Avcilar-stanb**	1.57	307	PN		**Pg**	01 39 50.5	-1.0
DEMI	**Demirci**	1.65	232	*i* P		**Pg**	01 39 51.7	-1.4
DEMI				IAML			01 40 18.0	
	comp=N,596nm,0.4s							
DEMI				IAML			01 40 23.0	
	comp=E,951nm,0.4s							
CMDR	**Camlidere-ANKA**	1.65	75	*i* P		**Pb**	01 39 51.0	-1.0
CMDR				IAML			01 40 22.0	
	comp=N,1μm,1.0s							
CMDR				IAML			01 40 26.0	
	comp=E,1μm,0.7s							
BGKT	**Bogazkoy**	1.65	313	PN		**Pb**	01 39 51.7	-0.2
KIZT	**Kizilcal**	1.66	135	PN		**Pb**	01 39 51.5	-0.6
USAK	**Uak-Merkez**	1.72	218	*i* P		**Pg**	01 39 53.2	-1.2
USAK				IAML			01 40 21.0	
	comp=E,358nm,0.4s							
USAK				IAML			01 40 26.0	
	comp=N,287nm,0.9s							
KZIL	**AFYON_Kizioren**	1.82	186	*i* P		**Pb**	01 39 53.8	-1.1
KZIL				*i* S		**Sg**	01 40 20.6	+0.6
KZIL				IAML			01 40 28.0	
	comp=E,337nm,0.9s							
KZIL				IAML			01 40 30.0	
	comp=N,209nm,0.6s							
ELBA	**Catalca**	1.84	306	*i* P		**Pb**	01 39 54.0	-1.0
ELBA				*i* S		**Sb**	01 40 18.2	+0.1
ELBA				IAML			01 40 22.0	
	comp=E,101nm,0.6s							
ELBA				IAML			01 40 23.0	
	comp=N,122nm,0.9s							
KHAL	**Karahalli**	1.84	203	*i* P		**Pg**	01 39 56.1	-0.5
KHAL				IAML			01 40 24.0	
	comp=E,296nm,0.4s							
KHAL				IAML			01 40 27.0	
	comp=N,265nm,0.9s							
LOD	**Lodumlu**	1.84	95	PN		**Pb**	01 39 54.7	-0.4
CTKS	**Kestanelik-??a**	1.84	310	PN		**Pb**	01 39 54.5	-0.7
ANTO	**Ankara**	1.86	95	⇑P		**Pg**	01 39 57.5	+0.4
ANTO	**Ankara**	1.86	95	PN		**Pb**	01 39 55.3	-0.2
EDC	**Edincik**	1.95	279	PN		**Pb**	01 39 56.5	-0.5
BALB	**Balikesir**	1.98	258	PN		**Pb**	01 39 56.9	-0.5
SLVT	**Silivri**	2.02	306	PN		**Pb**	01 39 57.1	-1.1
KDHN	**Kadinhani**	2.05	139	*i* P		**Pb**	01 39 58.6	-0.1
KDHN				IAML			01 40 35.0	
	comp=N,339nm,0.6s							
KDHN				IAML			01 40 41.0	
	comp=E,240nm,0.8s							
KULA	**Kula-Manisa**	2.05	221	PN		**Pb**	01 39 58.1	-0.7
KBUK	**KARABUK-Merkez**	2.06	55	*i* P		**Pg**	01 39 59.7	-1.2
KBUK				IAML			01 40 34.0	
	comp=N,212nm,0.8s							
KBUK				IAML			01 40 34.0	
	comp=E,186nm,0.6s							
GONE	**Gonen-Balikesi**	2.07	270	PN		**Pb**	01 39 57.9	-1.2
BAGO	**Egridir - ISPA**	2.10	171	*i* P		**Pb**	01 39 57.7	-1.9
BAGO				IAML			01 40 37.0	
	comp=N,124nm,1.5s							
BAGO				IAML			01 40 39.0	
	comp=E,128nm,1.5s							
BTIN	**Bartın**	2.11	42	*i* P		**Pb**	01 39 59.1	-0.6
MANT	**Manisa**	2.12	223	*i* P		**Pb**	01 39 59.2	-0.8
MANT				*i* S		**Sg**	01 40 28.7	-1.0
MANT				IAML			01 40 35.0	
	comp=N,301nm,1.2s							
MANT				IAML			01 40 40.0	
	comp=E,201nm,0.5s							
KKUL	**Konya-Kulu**	2.15	114	*i* P		**Pg**	01 40 01.9	-0.7
KKUL				IAML			01 40 36.0	
	comp=E,661nm,0.8s							
KKUL				IAML			01 40 39.0	
	comp=N,638nm,1.3s							
BALY	**Balya**	2.15	262	*i* P		**Pn**	01 39 58.1	+0.7
BALY				*i* S		**Sg**	01 40 30.7	+0.1
BALY				IAML			01 40 38.0	
	comp=N,678nm,0.8s							
BALY				IAML			01 40 39.0	
	comp=E,474nm,0.7s							
STEP	**BALIKESIR_Sava**	2.17	252	*i* P		**Pn**	01 39 58.4	+0.8
STEP				IAML			01 40 39.0	
	comp=N,742nm,0.9s							
STEP				IAML			01 40 44.0	
	comp=E,830nm,0.6s							
BBAL	**Bala**	2.17	103	*i* P		**Pb**	01 40 00.2	-0.7
BBAL				IAML			01 40 40.0	
	comp=N,358nm,0.9s							
BBAL				IAML			01 40 40.0	
	comp=E,239nm,0.6s							
MRMT	**Marmara Adasi**	2.20	285	PN		**Pb**	01 39 59.6	-1.7
KNL	**Balıkesir**	2.20	276	*i* P		**Pg**	01 40 02.9	-0.7
KNL				*i* S		**Sg**	01 40 32.4	+0.3
KNL				IAML			01 40 44.0	
	comp=N,410nm,0.7s							
KNL				IAML			01 40 45.0	
	comp=E,410nm,0.8s							
DOGA	**KONYA_Doganhis**	2.20	153	*i* P		**Pn**	01 39 58.8	+0.7
DOGA				IAML			01 40 41.0	
	comp=N,259nm,0.7s							
DOGA				IAML			01 40 50.0	
	comp=E,222nm,1.0s							
CRLT	**Corlu**	2.28	298	PN		**Pb**	01 40 00.7	-1.9
AKHS	**Akhisar**	2.32	240	*i* P		**Pg**	01 40 04.9	-1.0
AKHS				*i* S		**Sg**	01 40 35.2	-0.7
AKHS				IAML			01 40 40.0	
	comp=E,180nm,0.8s							
GOMA	**Golmarmara-Man**	2.35	235	PN		**Pb**	01 40 02.5	-1.3
BRDR	**BURDUR-Merkez**	2.38	186	*i* P		**Pn**	01 40 01.0	+0.4
BRDR				*i* S		**Sg**	01 40 41.9	+3.9
BRDR				IAML			01 40 50.0	
	comp=N,211nm,0.7s							
BRDR				IAML			01 40 53.0	
	comp=E,192nm,0.7s							
KURC	**Kurucasile-Bar**	2.52	44	PN		**Pb**	01 40 04.3	-2.3
BRTR	**Keskin Array B**	2.53	97	Pn		**Pn**	01 40 03.5	+1.0
	comp=E,3.5nm,0.3s,baz=260,slow=10,SNR=73							
BRTR				Lg		Lg	01 40 44.9	
	comp=E,10.0nm,0.3s,baz=262,slow=25,SNR=7.1							
BRTR				LR		LR	01 41 23.9	
	comp=E,86nm,19.9s,baz=112,slow=50							
RKY	**Sarkoy-Tekirda**	2.53	285	PN		**Pn**	01 40 04.3	+1.8
PELI	**Kastamonı-Ara**	2.54	60	*i* P		**Pb**	01 40 04.9	-2.2
PELI				IAML			01 40 59.0	
	comp=N,109nm,0.7s							
PELI				IAML			01 41 00.0	
	comp=E,118nm,0.7s							
KONT	**Konya--Tatoy**	2.62	143	*i* P		**Pb**	01 40 05.6	-2.9
KONT				IAML			01 40 56.0	
	comp=N,268nm,0.9s							
KONT				IAML			01 40 56.0	
	comp=E,173nm,1.0s							
DELI	**KIRIKKALE**	2.71	90	*i* P		**Pn**	01 40 05.8	+0.7
DELI				IAML			01 40 56.0	
	comp=N,153nm,0.9s							
DELI				IAML			01 40 57.0	
	comp=E,124nm,0.5s							
KMER	**Konya-Meram**	2.77	145	*i* P		**Pn**	01 40 06.9	+1.0
KMER				IAML			01 41 01.0	
	comp=E,198nm,0.9s							
KMER				IAML			01 41 01.0	
	comp=N,192nm,0.9s							
ZEDA	**zmir-Bergama**	2.79	248	*i* P		**Pn**	01 40 05.4	-0.6
ZEDA				*i* S		**Sb**	01 40 47.1	+1.6
ZEDA				IAML			01 40 59.0	
	comp=N,194nm,0.7s							
ZEDA				IAML			01 40 59.0	
	comp=E,159nm,0.9s							
TAVA	**DENIZLI_Tavas**	2.84	204	*i* P		**Pn**	01 40 07.6	+0.7
TAVA				IAML			01 41 03.0	
	comp=E,95nm,0.9s							
TAVA				IAML			01 41 05.0	
	comp=N,120nm,1.1s							
KIRS	**Kırehir-Merke**	2.88	108	*i* P		**Pn**	01 40 09.5	+2.0
KIRS				IAML			01 40 57.0	
	comp=N,150nm,0.7s							
KIRS				IAML			01 40 57.0	
	comp=E,78nm,0.9s							
GOLH	**Golhisar**	2.90	193	*i* P		**Pn**	01 40 09.7	+1.9
GOLH				IAML			01 40 46.0	
	comp=E,188nm,1.1s							
GOLH				IAML			01 41 12.0	
	comp=N,165nm,2.3s							
AYVA	**Ayvalik**	2.95	256	*i* P		**Pn**	01 40 09.1	+0.8
AYVA				*i* S		**Sg**	01 40 55.3	-0.9
AYVA				IAML			01 41 07.0	
	comp=E,406nm,0.9s							
AYVA				IAML			01 41 09.0	
	comp=N,406nm,0.8s							
BAYC	**CANAKKALE_Bayr**	2.97	265	*i* P		**Pn**	01 40 10.9	+2.3
BAYC				*i* S		**Sb**	01 40 52.5	+1.7
BAYC				IAML			01 41 01.0	
	comp=E,143nm,0.5s							
BAYC				IAML			01 41 14.0	
	comp=N,128nm,0.6s							
KIRK	**Kırklareli**	3.02	305	*i* P		**Pn**	01 40 08.6	-0.7
KIRK				IAML			01 41 03.0	
	comp=N,67nm,0.7s							
KAGI	**orum-Kargı**	3.29	70	*i* P		**Pg**	01 40 22.5	-2.0
KAGI				IAML			01 41 18.0	
	comp=N,94nm,1.4s							
KEPZ	**Antalya-Kepez**	3.31	163	*i* P		**Pn**	01 40 14.6	+1.4
KEPZ				IAML			01 41 04.0	
	comp=N,78nm,0.8s							
KEPZ				IAML			01 41 26.0	
	comp=E,79nm,1.0s							
CTAK	**Corum_Osmancik**	3.41	79	*i* P		**Pn**	01 40 16.3	+1.5
CTAK				IAML			01 41 30.0	
	comp=N,46nm,1.8s							
CTAK				IAML			01 41 43.0	
	comp=E,42nm,1.3s							
AVNS	**Nevsehir-Avano**	3.68	109	*i* P		**Pn**	01 40 21.4	+2.9
AVNS				IAML			01 41 28.0	
	comp=E,221nm,0.8s							
AVNS				IAML			01 41 35.0	
	comp=N,162nm,1.3s							
JMB	**Yambol**	3.73	311	*e*P		**Pn**	01 40 20.8	+1.8
AKAS	**Kas**	3.88	189	*i* P		**Pn**	01 40 22.6	+1.4
AKAS				IAML			01 41 19.0	
	comp=N,59nm,0.6s							
AKAS				IAML			01 41 53.0	
	comp=E,25nm,1.5s							
DIKM	**Dikmen**	4.02	65	⇑P		**Pg**	01 40 36.4	-1.9
GAZI	**Gazipasa**	4.12	158	*i* P		**Pn**	01 40 26.3	+1.9
GAZI				IAML			01 41 17.0	
	comp=E,55nm,0.5s							
GAZI				IAML			01 41 18.0	
	comp=N,72nm,0.7s							
ELND	**Elena**	4.43	312	⇓P		**Pn**	01 40 31.1	+2.4
RZN	**Rozhen**	4.59	292	*e*P		**Pn**	01 40 31.5	+0.5
TIRR	**Tirgusor**	4.62	342	⇓P		**Pn**	01 40 34.6	+3.4
TLBR	**Topalu**	4.79	340	⇑P		**Pn**	01 40 34.0	+0.4
HARR	**Harsova**	4.96	339	⇑P		**Pn**	01 40 35.9	+0.1
TOPG	**Topolog**	5.03	343	⇑P		**Pn**	01 40 38.9	+2.1
MMB	**Musomiste**	5.27	289	*e*P		**Pn**	01 40 41.3	+1.0
LEF	**Lefka**	5.33	157	⇓P		**Pn**	01 40 43.7	+2.8
CFR	**Carcaliu**	5.37	343	⇓P		**Pn**	01 40 41.9	+0.5
VTS	**Vitosha**	5.95	298	⇓P		**Pn**	01 40 50.9	+1.2
VTS	**Vitosha**	5.95	298	*i* P		**Pn**	01 40 50.3	+0.6
VARL	**Varlezi**	6.12	343	⇓P		**Pn**	01 40 54.4	+2.7
NEHR	**Nehoiu**	6.14	332	⇑P		**Pn**	01 40 54.0	+1.9
MLR	**Muntele Rosu**	6.32	330	Pn		**Pn**	01 40 57.2	+2.5
	comp=N,0.3nm,0.3s,baz=153,slow=9.0,SNR=2.4							
MLR				Lg		Lg	01 42 46.4	
	comp=N,0.2nm,0.3s,baz=17,slow=20,SNR=2.0							
MLR				LR		LR	01 44 06.1	
	comp=N,124nm,18.0s,baz=122,slow=45							
VRI	**Vrincioaia**	6.38	336	⇑P		**Pn**	01 40 57.5	+2.1
PLOR	**Plostina**	6.39	336	⇑P		**Pn**	01 40 57.6	+2.0
IDI	**Anoyia**	6.46	224	Pn		**Pn**	01 40 56.3	-0.3
	comp=N,0.1nm,0.3s,baz=58,slow=17,SNR=1.5							
OZUR		6.90	332	⇓P		**Pn**	01 41 04.4	+1.9
MILM	**Milestii Mici**	6.94	351	⇑P		**Pn**	01 41 02.1	-0.9
TESR	**Tescani**	6.99	338	⇑P		**Pn**	01 41 07.0	+3.2
BIZ	**Bicaz**	7.54	337	⇓P		**Pn**	01 41 12.6	+1.4
HERR	**Herculane**	7.60	312	⇑P		Pn	01 41 18.4	+6.3
MMAI	**Mount Meron Ar**	8.12	149	Pn		**Pn**	01 41 20.5	+1.1
	comp=N,1.5nm,0.3s,baz=332,slow=12,SNR=20							
SORM	**Soroca**	8.19	350	⇑P		**Pn**	01 41 20.4	+0.1
BURAR	**Bucovina Array**	8.41	335	⇑P		**Pn**	01 41 27.6	+4.2
ASF	**Jabal al Asfar**	9.48	144	Pn		**Pn**	01 41 37.7	-0.3
	comp=N,0.1nm,0.3s,baz=300,slow=8.1,SNR=1.7							
AKASG	**Malin Array Be**	10.66	356	Pn		**Pn**	01 41 54.5	+0.4
	comp=N,1.1nm,0.3s,baz=175,slow=12,SNR=6.5							
AKASG				Sn		**Sn**	01 43 47.7	-5.7
	comp=N,0.7nm,0.3s,baz=184,slow=24,SNR=2.0							
EIL	**Elat**	11.03	159	Pn		**Pn**	01 41 59.2	0.0
	comp=N,0.2nm,0.3s,baz=49,slow=9.3,SNR=2.7							
CLL	**Collm**	16.50	319	*e*(P)		**P**	01 43 16.0	+0.6
CLL				*e*			01 43 29.0	
FINES	**FINESS Array B**	21.56	354	P		**P**	01 44 12.0	+1.3
	comp=N,1.8nm,0.9s,baz=151,slow=12,SNR=5.9							
GEYT	**Alibeck**	21.63	87	P		**P**	01 44 13.4	+1.7
	comp=N,1.0nm,0.6s,baz=279,slow=20,SNR=2.6							
AKTO	**Aktyubinsk**	21.92	53	P		**P**	01 44 15.1	+0.4
	comp=N,1.4nm,0.6s,baz=262,slow=14,SNR=5.7							
HFS	**Hagfors**	22.63	338	P		**P**	01 44 22.8	+0.6
	comp=N,0.9nm,0.8s,baz=184,slow=19,SNR=1.6							
NB2	**NORSAR Subarra**	24.09	337	P		**P**	01 44 36.7	-0.1
	comp=Z,2.2nm,1.0s,baz=142,slow=9.3							
NOA	**NORSAR Array B**	24.09	337	P		**P**	01 44 37.0	+0.1
	comp=Z,1.2nm,0.9s,baz=140,slow=9.2,SNR=4.8							
ESDC	**Sonseca Array**	26.27	280	P		**P**	01 44 57.4	+0.5
	comp=Z,0.7nm,0.8s,baz=69,slow=7.8,SNR=6.1							
ARCES	**ARCESS Array B**	29.64	357	P		**P**	01 45 25.6	-0.9
	comp=Z,0.9nm,0.7s,baz=178,slow=8.1,SNR=5.6							
KURBB	**Kurchatov Arra**	34.87	56	P		**P**	01 46 12.8	+0.2
	comp=Z,0.2nm,0.2s,baz=283,slow=8.6,SNR=4.1							
TORD	**Torodi Ar. Bea**	36.81	231	P		**P**	01 46 30.2	+0.7
	comp=Z,1.6nm,0.7s,baz=37,slow=8.5,SNR=13							
MKAR	**Makanchi Array**	37.70	62	P		**P**	01 46 37.0	0.0
	comp=Z,0.2nm,0.4s,baz=266,slow=9.5,SNR=2.8							

IDC 28 02:43:26.1±3.8, 4°.58S×152°.84E, **h0**km, **mb3.4**/2, **mb1 3.7**/2, **mb1mx3.3**/31, **mbtmp3.4**/2, **Error ellipse: s-maj=173.8km s-min=50.0km az=121.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	23.62	228	P	P	02 48 39.0	0.0
	0.9nm,0.5s,baz=52,slow=9.9,SNR=5.9						
ASAR	**Alice Springs**	26.34	222	P	P	02 49 03.9	-0.1
	0.1nm,0.3s,baz=58,slow=8.8,SNR=1.4						
TORD	**Torodi Ar. Bea**	150.28	289	PKPbc	PKPbc	03 03 20.1	-0.3
	0.5nm,0.6s,baz=80,slow=2.5,SNR=5.4						

*NAO **28** 02:44:14.2±2.0, 79°.09N×3°.83E, ML3.7*
*IDC **28** 02:44:16.0±0.8, 78°.97N×3°.63E, h0km, mb3.7/12, mb1 3.8/17, mb1mx3.6/55, mbtmp3.7/17, ML2.9/4, MS3.0/14, Ms1 3.0/14, ms1mx2.8/44, Error ellipse: s-maj=18.7km s-min=12.5km az=31.0*
*NEIC **28** 02:44:17.0±2.5, 78°.98N±0°.10×3°.7E±0°.4, h10km±5km, mb4.1/10, Error ellipse: s-maj=13.7km s-min=9.8km az=182.0*
*BER **28** 02:44:18.2±2.5, 79°.06N×4°.42E, h24km±24km, ML3.2, ML3.7(NAO), Confirmed Earthquake*
*IEPN **28** 02:44:20.0, 78°.58N×5°.58E,

ZFI2				*i* S		Sn	02 47 27.4	-8.7
	comp=Z,65nm,0.9s							
JNW	**Jan Mayen West**	**8.55**	**208**	*eP*		**Pn**	**02 46 18.9**	**-0.8**
JNE	**Jan Mayen East**	**8.58**	**208**	⇑*iP*		**Pn**	**02 46 18.8**	**-1.3**
JMIC	**Jan Mayen**	**8.60**	**208**	Pn		**Pn**	**02 46 18.7**	**-1.6**
JMIC						Sn	02 47 49.0	-8.2
JMIC	**Jan Mayen**	**8.60**	**208**	⇑*iP*		**Pn**	**02 46 18.6**	**-1.7**
JMIC				IAML			02 47 53.2	
	comp=Z,49nm,0.9s							
JMI	**Jan Mayen**	**8.68**	**209**	⇑*iP*		**Pn**	**02 46 20.3**	**-1.1**
SCO	**Scoresbysund**	**10.75**	**232**	*i* P		**Pn**	**02 46 48.0**	**-1.7**
SCO	**Scoresbysund**	**10.75**	**232**	Pn		**Pn**	**02 46 47.0**	**-2.7**
SCO	**Scoresbysund**	**10.75**	**232**	*i* P		**Pn**	**02 46 48.1**	**-1.7**
KIF	**Kilpisjarvi**	**10.94**	**147**	Pn		**Pn**	**02 46 51.6**	**-0.7**
KIF	**Kilpisjarvi**	**10.94**	**147**	Pn		**Pn**	**02 46 51.6**	**-0.7**
KEV	**Kevo**	**10.99**	**134**	Pn		**Pn**	**02 46 54.2**	**+1.2**
ARA0	**ARCESS Array S**	**10.99**	**137**	Pn		**Pn**	**02 46 53.0**	**-0.2**
	baz=343,slow=12							
ARA0						Sn	**02 48 49.9**	**-6.0**
	baz=343,slow=16							
ARA0	**ARCESS Array S**	**10.99**	**137**	Pn		**Pn**	**02 46 53.0**	**-0.2**
	baz=343,slow=12							
ARA0						Sn	**02 48 49.9**	**-6.0**
	baz=343,slow=16							
ARCES	**ARCESS Array B**	**10.99**	**137**	Pn		**Pn**	**02 46 52.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=345,slow=12,SNR=9.9							
ARCES						Sn	**02 48 54.5**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=0.5,slow=22,SNR=2.6							
ARCES						LR	LR	02 51 13.7
	comp=Z,43nm,20.4s,baz=154,slow=38							
LOF	**Lofoten**	**11.18**	**161**	*eP*		**Pn**	**02 46 56.6**	**+0.9**
STEI	**Steigen**	**11.49**	**158**	*e*		**Pn**	**02 47 02.7**	**+2.8**
SUMG	**Summit**	**11.89**	**260**	*i* P		**Pn**	**02 47 03.3**	**-2.4**
SUMG	**Summit**	**11.89**	**260**			**Pn**	**02 47 03.3**	**-2.4**
SUMG	**Summit**	**11.89**	**260**	*i* P		**Pn**	**02 47 03.4**	**-2.4**
KULLO	**Kullorsuaq**	**14.00**	**284**	*i* P		Pn	02 47 27.9	-6.1
KULLO	**Kullorsuaq**	**14.00**	**284**	*i* P		Pn	02 47 28.0	-6.0
TULEG	**Thule**	**14.70**	**298**	*i* P		Pn	02 47 38.6	-5.0
UPNV	**Upernavik**	**15.13**	**278**	*i* P		**Pn**	**02 47 42.7**	**-6.8**
NUUG	**Nuugaatsiaq**	**15.55**	**273**	*i* P		Pn	02 47 47.8	-7.1
BORG	**Borgarnes**	**16.02**	**222**	LR		LR	02 52 28.4	
	comp=Z,23nm,21.7s,baz=21,slow=31							
ILULI	**Ilulissat**	**17.06**	**266**	Pn		**Pn**	**02 48 12.7**	**-1.5**
NC204	**NORSAR Array S**	**17.89**	**169**	Pn		**Pn**	**02 48 21.8**	**-2.8**
NC204				IAmb		IAmb	02 48 32.0	
	comp=Z,16nm,1.0s							
NC303	**NORSAR Array S**	**17.96**	**168**	Pn		**Pn**	**02 48 24.4**	**-1.0**
NB2	**NORSAR Subarra**	**18.14**	**169**	P		**P**	**02 48 29.4**	**+1.4**
	baz=358,slow=14							
NB2	**NORSAR Subarra**	**18.14**	**169**	P		**P**	**02 48 29.4**	**+1.4**
	baz=358,slow=14							
NOA	**NORSAR Array B**	**18.14**	**169**	P		**Pn**	**02 48 29.3**	**+1.6**
	comp=Z,0.0nm,0.3s,baz=346,slow=8.6,SNR=5.3							
NOA						LR	LR	02 54 25.0
	comp=Z,17nm,18.3s,baz=0.0,slow=34							
NRA0	**NORESS Array S**	**18.46**	**168**	P		**Pn**	**02 48 33.2**	**+1.7**
	baz=356,slow=12							
NRA0	**NORESS Array S**	**18.46**	**168**	P		**Pn**	**02 48 33.2**	**+1.7**
	baz=356,slow=12							
FIA0	**FINESS Array S**	**18.84**	**146**	P		**P**	**02 48 37.2**	**+1.6**
	baz=325,slow=11							
FIA0	**FINESS Array S**	**18.84**	**146**	P		**P**	**02 48 37.2**	**+1.6**
	baz=325,slow=11							
FIA1	**FINESS Array S**	**18.84**	**146**	P		**P**	**02 48 36.5**	**+0.9**
FINES	**FINESS Array B**	**18.84**	**146**	P		**P**	**02 48 37.1**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=348,slow=9.1,SNR=8.9							
FINES						LR	LR	02 55 39.4
	comp=Z,30nm,21.4s,baz=343,slow=36							
SFJD	**Kangerlussuaq**	**18.88**	**262**	P		**P**	**02 48 33.4**	**-2.7**
	comp=Z,2.8nm,0.3s,baz=16,slow=13,SNR=6.7							
SFJD						LR	LR	02 56 19.7
	comp=Z,64nm,20.0s,baz=8.5,slow=38							
SFJD	**Kangerlussuaq**	**18.88**	**262**	P		**P**	**02 48 33.6**	**-2.5**
HFS	**Hagfors**	**19.15**	**165**	P		**P**	**02 48 40.4**	**+1.3**
	baz=1.5,slow=11							
HFS	**Hagfors**	**19.15**	**165**	P		**P**	**02 48 40.6**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=359,slow=8.9,SNR=16							
HFS						LR	LR	02 54 59.3
	comp=Z,35nm,19.1s,baz=354,slow=34							
HFS	**Hagfors**	**19.15**	**165**	P		**P**	**02 48 40.4**	**+1.3**
	baz=1.5,slow=11							
RES	**Resolute Bay**	**20.28**	**311**	P		**P**	**02 48 52.5**	**+1.2**
	comp=Z,2.7nm,0.6s,baz=45,slow=11,SNR=5.7							
RES	**Resolute Bay**	**20.28**	**311**	IAmb		IAmb	02 49 29.3	
	comp=Z,14nm,1.3s							
NRIK	**Noril'sk**	**22.33**	**68**	P		**P**	**02 49 15.2**	**+1.8**
	comp=Z,6.1nm,0.8s,baz=14,slow=6.7,SNR=7.6							
NRIK						LR	LR	03 00 16.4
	comp=Z,73nm,18.5s,baz=344,slow=43							
EKA	**Eskdalemuir Ar**	**23.84**	**190**	P		**P**	**02 49 30.8**	**+1.9**
	comp=Z,0.8nm,0.7s,baz=29,slow=7.4,SNR=1.9							
AKASG	**Malin Array Be**	**29.75**	**147**	LR		LR	03 02 21.4	
	comp=Z,17nm,19.7s,baz=305,slow=36							
GERES	**GERESS Array B**	**30.43**	**167**	P		**P**	**02 50 30.4**	**+2.2**
	comp=Z,1.2nm,0.9s,baz=10,slow=8.1,SNR=8.7							
SCHQ	**Schefferville**	**33.17**	**267**	P		**P**	**02 50 51.9**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=2.0,slow=5.0,SNR=3.8							
YKA	**Yellowknife Ar**	**34.29**	**314**	P		**P**	**02 51 03.4**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=6.6,slow=7.3,SNR=4.3							
ZALV	**Zalesovo Beam**	**35.94**	**84**	LR		LR	03 07 15.0	
	comp=Z,33nm,18.0s,baz=102,slow=38							
KURK	**Kurchatov**	**37.82**	**92**	P		**P**	**02 51 34.6**	**+2.5**
KURK	**Kurchatov**	**37.82**	**92**	IAmb		IAmb	02 51 35.9	
	comp=Z,3.0nm,1.1s							
KURBB	**Kurchatov Arra**	**37.90**	**92**	P		**P**	**02 51 34.6**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=340,slow=7.8,SNR=9.2							
KBZ	**Khabaz**	**38.31**	**133**	P		**P**	**02 51 39.5**	**+3.2**
	comp=Z,1.5nm,0.8s,baz=338,slow=5.4,SNR=2.1							
MCARA	**McCarthy VSAT**	**38.54**	**335**	P		**P**	**02 51 40.8**	**+2.7**
ESDC	**Sonseca Array**	**39.52**	**190**	P		**P**	**02 51 48.3**	**+1.7**
	comp=Z,0.4nm,0.8s,baz=4.5,slow=8.1,SNR=3.3							
MKAR	**Makanchi Array**	**42.29**	**90**	P		**P**	**02 52 11.3**	**+2.1**
	comp=Z,0.6nm,0.7s,baz=342,slow=6.6,SNR=5.5							
MKAR						LR	LR	03 12 59.4
	comp=Z,54nm,18.1s,baz=212,slow=41							
SONM	**Songino Array**	**45.80**	**67**	LR		LR	03 12 47.2	
	comp=Z,42nm,20.5s,baz=244,slow=37							
ECSD	**EROS Data Cent**	**49.44**	**290**	P		**P**	**02 53 05.9**	**+0.2**
ECSD				IAmb		IAmb	02 53 07.5	
	comp=Z,2.9nm,0.7s							
KSRS	**Korea Array**	**59.44**	**50**	LR		LR	03 21 37.5	
	comp=Z,13nm,18.1s,baz=220,slow=38							
TXAR	**Lajitas Array**	**64.71**	**293**	P		**P**	**02 54 54.8**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=35,slow=4.9,SNR=6.4							
TORD	**Torodi Ar. Bea**	**65.82**	**182**	P		**P**	**02 55 02.1**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=355,slow=7.5,SNR=2.6							
CMAR	**Chiang Mai Arr**	**72.97**	**81**	LR		LR	03 30 09.0	
	comp=Z,23nm,18.1s,baz=205,slow=38							

IDC 28 02:47:11.0±377.0, 18°94N×139°28E, h0km, Error ellipse: s-maj=249.3km s-min=146.5km az=66.0, West of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I39PW	**PALAU INFRASON**	**12.23**	**203**	*i*		03 56 30.0	
	baz=25,slow=319,SNR=2.3						
I45RU	**USSURIYSK INFR**	**25.92**	**348**	*i*		05 25 10.0	
	baz=160,slow=312,SNR=3.4						
I22FR	**PORTLAGUERRE I**	**48.96**	**145**	*i*		07 52 30.0	
	baz=323,slow=320,SNR=2.4						

*IDC **28** 02:47:13.7±1.4, 38°.49N×67°.85E, h0km, mb3.6/7, mb1 3.7/13, mb1mx3.5/50, mbtmp3.6/13, ML3.2/6, MS3.8/2, Ms1 3.9/2, ms1mx2.6/43, Error ellipse: s-maj=22.8km s-min=11.9km az=159.0*

*NNC **28** 02:47:15.6±1.8, 38°.73N×67°.58E, h4km±7km, mb4.0, mpv3.5, Error ellipse: s-maj=15.4km s-min=7.1km az=6.0*

ISC 28 02:47:17.2±1.1, 38°.78N±0°.10×67°.63E±0°.06, h10km, n24, σ2s12/28, mb3.6/8, 8C-5D, Southeastern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.84**	**26**	Pn		**Pn**	**02 48 30.6**	**+0.5**
	1.5nm,0.5s,baz=203,slow=15,SNR=15							
KK31				⇑Pg		**Pb**	**02 48 45.3**	**+3.2**
	7.1nm,0.6s,baz=208,slow=18,SNR=22							
KK31				⇑Lg		Lg	02 49 50.6	
	17nm,0.4s,baz=198,slow=32,SNR=4.8							
AAK	**Ala-Archa**	**6.48**	**51**	Pn		**Pn**	**02 48 53.6**	**+0.8**
	0.6nm,0.3s,baz=207,slow=7.5,SNR=2.6							
AAK						Sn	**02 50 07.7**	**+0.8**
	0.7nm,0.3s,baz=180,slow=12,SNR=1.9							
AAK						Lg	Lg	02 50 39.9
	0.8nm,0.3s,baz=3.4,slow=20,SNR=1.5							
AAK	**Ala-Archa**	**6.48**	**51**	⇑Pn		**Pn**	**02 48 53.1**	**+0.3**
	2.3nm,0.4s							
AAK				⇑Pg		**Pb**	**02 49 14.7**	**+4.6**
	2.5nm,0.5s							
AAK				⇑Sn		**Sn**	**02 50 09.4**	**+2.5**
	11nm,0.8s							
AAK				⇑Lg		Lg	02 50 44.4	
	15nm,0.8s							
TKM2	**Tokmak 2**	**7.32**	**53**	⇓Pn		**Pn**	**02 49 02.6**	**-1.7**
	1.1nm,0.5s							
TKM2				⇓Pg		Pb	02 49 29.7	+5.3
	2.7nm,0.8s							
TKM2				⇓Lg		Lg	02 51 09.0	
	7.4nm,0.7s							
GEYT	**Alibeck**	**7.53**	**266**	Pn		**Pn**	**02 49 07.8**	**+0.7**
	0.5nm,0.3s,baz=80,slow=8.9,SNR=2.0							
GEYT						Sn	**02 50 35.2**	**+2.8**
	1.6nm,0.3s,baz=82,slow=12,SNR=1.9							
AB01	**Akbulak array**	**11.84**	**335**	⇑Pn		**Pn**	**02 50 06.0**	**0.0**
	1.8nm,0.3s							
AB31	**Akbulak array**	**11.84**	**335**	Pn		**Pn**	**02 50 06.0**	**0.0**
	1.8nm,0.4s,baz=157,slow=12,SNR=76							
AB31				⇓Sn		**Sn**	**02 52 19.1**	**+1.0**
	2.2nm,0.5s							
MKAR	**Makanchi Array**	**13.40**	**49**	Pn		Pn	02 50 22.0	-5.4
	0.1nm,0.3s,baz=228,slow=19,SNR=2.9							
MKAR					Lg	Lg	02 54 23.5	
	0.1nm,0.3s,baz=237,slow=24,SNR=1.9							
AKTO	**Aktyubinsk**	**13.50**	**333**	Pn		**Pn**	**02 50 30.0**	**+1.3**
	0.4nm,0.3s,baz=148,slow=13,SNR=10							
AKTO						Sn	**02 52 54.6**	**-4.2**
	0.4nm,0.3s,baz=225,slow=22,SNR=4.0							
AKTO					Lg	Lg	02 54 32.5	
	0.1nm,0.3s,baz=36,slow=18,SNR=1.3							
AKTO						LR	LR	02 55 09.7
	comp=Z,32nm,19.2s,baz=154,slow=34							
AKTO	**Aktyubinsk**	**13.50**	**333**	⇓Pn		**Pn**	**02 50 27.7**	**-1.0**
	5.0nm,1.0s							
AKTO				⇑Sn		**Sn**	**02 52 58.7**	**0.0**
	5.3nm,0.9s							
KURBB	**Kurchatov Arra**	**14.13**	**30**	Pn		Pn	02 50 31.2	-6.1
	0.0nm,0.3s,baz=220,slow=13,SNR=2.4							
KURBB					Lg	Lg	02 54 44.1	
	0.0nm,0.3s,baz=290,slow=31,SNR=4.4							
BVAR	**Borovoye Array**	**14.37**	**7**	Pn		**Pn**	**02 50 36.5**	**-4.1**
	0.1nm,0.3s,baz=173,slow=8.8,SNR=1.6							
ZALV	**Zalesovo Beam**	**19.17**	**32**	P		**P**	**02 51 37.8**	**-3.0**
	0.4nm,0.3s,baz=246,slow=10,SNR=6.0							
CMAR	**Chiang Mai Arr**	**33.89**	**118**	LR		LR	03 10 00.7	
	comp=Z,58nm,19.5s,baz=200,slow=41							
FINES	**FINESS Array B**	**34.10**	**325**	P		**P**	**02 54 02.0**	**+0.3**
	0.7nm,0.8s,baz=127,slow=9.2,SNR=4.2							
ARCES	**ARCESS Array B**	**38.02**	**337**	P		**P**	**02 54 36.2**	**+1.1**
	1.6nm,0.7s,baz=109,slow=9.1,SNR=7.9							
HFS	**Hagfors**	**39.62**	**321**	P		**P**	**02 54 49.3**	**+0.7**
	1.7nm,0.5s,baz=97,slow=11,SNR=17							
NB2	**NORSAR Subarra**	**40.95**	**322**	P		**P**	**02 54 59.9**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=96,slow=8.6							
NOA	**NORSAR Array B**	**40.95**	**322**	P		**P**	**02 55 00.1**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=96,slow=8.0,SNR=6.7							
TGY	**Tagaytay City**	**52.83**	**102**	LR		LR	03 21 47.4	
	comp=Z,21nm,19.5s,baz=66,slow=39							
TORD	**Torodi Ar. Bea**	**63.17**	**265**	P		**P**	**02 57 44.4**	**-1.3**
	comp=Z,0.3nm,0.7s,baz=36,slow=5.3,SNR=1.8							
INK	**Inuvik**	**72.06**	**8**	P		**P**	**02 58 37.8**	**-3.2**
	comp=Z,1.3nm,0.8s,baz=352,slow=15,SNR=2.1							
ILAR	**Eielson Array**	**73.28**	**15**	P		**P**	**02 58 47.1**	**-1.2**
	comp=Z,0.2nm,0.8s,baz=302,slow=7.3,SNR=4.2							
YKA	**Yellowknife Ar**	**79.06**	**1**	P		**P**	**02 59 20.6**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=322,slow=21,SNR=1.9							

*IDC **28** 03:20:43.7±0.6, 22°.08S×170°.04E, h0km, mb4.5/20, mb1 4.6/21, mb1mx4.5/33, mbtmp4.5/21, ML3.7/1, MS4.2/18, Ms1 4.3/18, ms1mx4.1/28, Error ellipse: s-maj=19.6km s-min=14.8km az=93.0*

*BGR **28** 03:20:48.4±0.0, 22°.18S×170°.90E, h35km*

*GCMT **28** 03:20:49.9±0.2, 22°.18S±0°.02×169°.82E±0°.01, h14km, MW5.1/106, Moment Tensor Solution. s59,c74; s106,c152; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.08±.15; Mθθ-1.21±.11; Mφφ-2.87±.11; Mrθ 1.22±.24; Mθφ2.30±.08; Mφr-2.95±.27; Best double couple: M○5.34600×10^16 NP1○s316.00000°, δ28.00000°, λ75.00000°. NP2○s153.00000°, δ63.00000°, λ98.00000°. Principal axes: T 5.1850, Plg71.0000°, Azm79.0000°; N 0.3210, Plg7.0000°, Azm329.0000°; P -5.5060, Plg18.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*BJI **28** 03:20:51.0±0.0, 22°.00S×169°.90E, h55km, mB5.2/30, mb4.8/37, Ms4.8/18, Ms7 4.5/16*

*NEIC **28** 03:20:53.9±1.9, 22°.05S±0°.1×169°.9E±0°.2, h73km±5km, mb4.9/58, Error ellipse: s-maj=20.5km s-min=16.0km az=83.0*

ISC 28 03:20:49.5±0.6, 22°.03S±0°.06×169°.87E±0°.05, h33km±3km, h31km:pP-P, n204, σ1s20/205, mb4.7/41, MS4.5/33, 8C-6D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.18**	**269**	Pn		**Pn**	**03 21 35.7**	**-1.6**
	7.3nm,0.3s,baz=84,slow=7.6,SNR=208							
DZM						LR	LR	03 22 04.6
	comp=Z,2μm,19.5s,baz=145,slow=24							
DZM						Sn	**Sn**	**03 22 13.4**	**-0.7**
	46nm,0.3s,baz=86,slow=19,SNR=4.4							
DZM	**Mont Dzumac**	**3.18**	**269**			**Pn**	**03 21 35.0**	**-2.3**
MSVF	**Nonsavu**	**8.81**	**62**	Pn		**Pn**	**03 22 58.8**	**+4.1**
HNR	**Honiara**	**15.74**	**321**	LR		LR	03 29 54.7	
	comp=Z,1μm,20.1s,baz=145,slow=35							
EIDS	**Eidsvold**	**17.52**	**255**	Pn		**P**	**03 24 52.0**	**-0.3**
EIDS				IAmb		IAmb	03 25 04.4	
	comp=Z,127nm,1.6s							
BKZ	**Black Stump Fm**	**17.99**	**163**	P		**P**	**03 25 00.1**	**+2.7**
BKZ				IAmb		IAmb	03 25 00.5	
	comp=Z,187nm,1.8s							
ARMA	**Armidale**	**18.35**	**239**			**Pn**	**03 25 02.5**	**+0.8**
ARMA				IAmb		IAmb	03 25 40.5	
	comp=Z,134nm,1.7s							
BFZ	**Birch Farm**	**19.36**	**165**	P		**P**	**03 25 11.9**	**-0.5**
TUWZ	**Tuamarina**	**19.64**	**171**	P		**Pn**	**03 25 18.9**	**+1.9**
SNZO	**South Karori**	**19.65**	**169**	P		**Pn**	**03 25 18.7**	**+1.7**
KHZ	**Kahutara**	**20.56**	**172**	P		Pn	03 25 27.1	-0.6
KHZ				IAmb		IAmb	03 25 39.7	
	comp=Z,112nm,1.3s							
OXZ	**Oxford**	**21.31**	**176**	P		**P**	**03 25 36.5**	**+3.0**
RPZ	**Rata Peaks**	**21.65**	**178**	P		**P**	**03 25 35.7**	**-1.4**
	comp=Z,20nm,1.2s,baz=0.0,slow=18,SNR=1.9							
RPZ						LR	LR	03 33 21.9	
	comp=Z,1μm,19.6s,baz=351,slow=35							
RPZ	**Rata Peaks**	**21.65**	**178**	IAmb		IAmb	03 25 50.1	
	comp=Z,80nm,1.2s							
MQZ	**McQueen's Vall**	**21.74**	**175**	P		**P**	**03 25 43.0**	**+5.0**
CTA	**Charters Tower**	**22.12**	**271**	P		**P**	**03 25 43.8**	**+1.4**
	comp=Z,20nm,0.9s,baz=96,slow=12,SNR=19							
CTA						LR	LR	03 33 36.1	
	comp=Z,1μm,19.8s,baz=82,slow=35							
CTAO	**Charters Tower**	**22.12**	**271**	P		**P**	**03 25 44.0**	**+1.6**
CTAO				IAmb		IAmb	03 25 46.7	
	comp=Z,49nm,1.1s							
ODZ	**Otahua Downs**	**22.96**	**179**	P		**P**	**03 25 54.6**	**+3.5**
KRVT	**Keravat (AS076**	**24.69**	**313**	P		**P**	**03 26 07.8**	**0.0**
	comp=Z,40nm,0.5s,baz=338,slow=8.3,SNR=7.1							
COEN	**Coen**	**26.59**	**283**	P		**P**	**03 26 27.0**	**+2.0**
STKA	**Stephens Creek**	**26.97**	**243**	P		**P**	**03 26 28.2**	**-0.1**
	comp=Z,5.6nm,0.9s,baz=77,slow=13,SNR=3.0							
STKA						LR	LR	03 36 40.8	
	comp=Z,954nm,19.0s,baz=57,slow=35							
STKA	**Stephens Creek**	**26.97**	**243**	P		**P**	**03 26 29.2**	**+0.9**
RAR	**Rarotonga**	**28.21**	**94**	LR		LR	03 35 29.1	
	comp=Z,141nm,19.8s,baz=258,slow=32							
WR0	**Warramunga Arr**	**33.00**	**267**	P		**P**	**03 27 21.7**	**-0.1**
WR0				IAmb		IAmb	03 27 23.8	
	comp=Z,24nm,1.1s							
AS31	**Alice Springs**	**33.13**	**260**	P		**P**	**03 27 23.3**	**+0.3**
ASAR	**Alice Springs**	**33.13**	**260**	P		**P**	**03 27 22.6**	**-0.4**
	comp=Z,14nm,0.9s,baz=87,slow=8.5,SNR=53							
ASAR						LR	LR	03 40 03.3	
	comp=Z,808nm,21.2s,baz=94,slow=35							
WB0	**Warramunga Arr**	**33.17**	**267**	P		**P**	**03 27 22.0**	**-1.3**
WRAB	**Tennant Creek**	**33.18**	**267**	P		**P**	**03 27 22.6**	**-0.8**
WRA	**Warramunga Arr**	**33.19**	**267**	P		**P**	**03 27 21.9**	**-1.6**
	comp=Z,8.6nm,0.9s,baz=98,slow=8.4,SNR=19							
TBI	**Tubuai**	**37.46**	**100**	*e*S		**S**	**03 33 44.5**	**-2.3**
	comp=Z,176nm,26.5s							
TBI				*e*LQ		LQ	03 36 25.6	
	comp=Z,726nm,28.5s							
TBI				*e*LR		LR	03 38 14.2	
	comp=Z,168nm,34.2s							
PPT2	**Papeete2**	**38.33**	**91**	*e*S		**S**	**03 33 59.0**	**-1.3**
	comp=Z,151nm,24.2s							
PPT2				*e*LQ		LQ	03 37 01.6	
	comp=Z,911nm,25.5s							
PPT2				*e*LR		LR	03 38 38.0	
	comp=Z,300nm,27.2s							
PPT	**Papeete**	**38.34**	**91**	LR		LR	03 42 54.8	
	comp=Z,245nm,18.4s,baz=261,slow=35							
KNRA	**Kununurra**	**39.32**	**272**	P		**P**	**03 28 16.2**	**+0.4**
FITZ	**Fitzroy Crossi**	**41.62**	**267**	P		**P**	**03 28 35.4**	**+0.5**
GUMO	**Guam**	**43.06**	**323**	P		**P**	**03 28 45.8**	**-0.8**
SOEI	**Soe**	**45.36**	**278**	P		**P**	**03 29 05.6**	**+0.4**
MBWA	**Marble Bar**	**46.45**	**261**	P		**P**	**03 29 13.6**	**0.0**
NWAO	**Narrogin (SRO)**	**47.52**	**245**	P		**P**	**03 29 22.5**	**+0.7**
	comp=Z,24nm,1.0s,baz=93,slow=8.3,SNR=5.3							
TAOE	**Nuku Hiva Isla**	**49.71**	**83**	*e*S		**S**	**03 36 45.2**	**-1.1**
	comp=Z,308nm,25.2s							
TAOE				*e*LR		LR	03 43 54.2	
	comp=Z,386nm,27.2s							
VNDA	**Vanda**	**55.67**	**182**	P		**P**	**03 30 21.8**	**-0.3**
	comp=Z,1.8nm,1.1s,baz=1.8,slow=8.8,SNR=7.7							
VNDA						LR	LR	03 52 34.0	
	comp=Z,379nm,18.2s,baz=12,slow=34							
CASY	**Casey**	**57.82**	**204**	P		**P**	**03 30 37.8**	**+0.3**
YULB	**Yu-li**	**65.36**	**311**	P		**P**	**03 31 28.0**	**-1.0**
MJAR	**Matsushiro Arr**	**65.49**	**332**	P		**P**	**03 31 28.9**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=169,slow=6.0,SNR=7.1							
MJAR						LR	LR	04 02 33.2	
	comp=Z,70nm,18.0s,baz=155,slow=38							
MAJO	**Matsushiro**	**65.49**	**332**	P		**P**	**03 31 28.5**	**-1.0**
MAT	**Matsushiro**	**65.49**	**332**	P		**P**	**03 31 28.5**	**-1.0**
MAT				S		S	03 40 00.0	-12
MJB9	**Matsu-Tunnel**	**65.49**	**332**	P		**P**	**03 31 29.3**	**-0.3**
NACB	**Ninganchiao**	**65.66**	**312**	P		**P**	**03 31 31.2**	**+0.4**
SSLB	**Suanglung**	**65.86**	**311**	P		**P**	**03 31 31.4**	**-0.7**
SSLB				IAmb		IAmb	03 31 33.1	
	comp=Z,30nm,1.6s							
QSPA	**South Pole Qui**	**68.03**	**180**	P		**P**	**03 31 43.9**	**-1.6**
	comp=Z,8.1nm,0.9s,baz=11,slow=2.9,SNR=17							
QSPA	**South Pole Qui**	**68.03**	**180**	P		**P**	**03 31 46.2**	**+0.6**
QSPA				IAmb		IAmb	03 31 47.7	
	comp=Z,24nm,1.1s							
SDSI	**Sungai Dareh**	**69.70**	**277**	P		P	03 32 09.2	+13
JKA	**Kamikawa-asahi**	**70.41**	**339**	P		**P**	**03 32 00.7**	**+0.4**
JKA	**Kamikawa-asahi**	**70.41**	**339**	IAmb		IAmb	03 32 11.2	
	comp=Z,20nm,1.0s							
ASAJ	**Asahikawa**	**70.41**	**339**	P		**P**	**03 32 00.7**	**+0.4**
	comp=Z,4.3nm,0.4s,baz=219,slow=5.1,SNR=3.5							
KSRS	**Korea Array**	**71.13**	**326**	P		**P**	**03 32 05.2**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=140,slow=7.8,SNR=5.4							
KSRS						LR	LR	03 59 21.9	
	comp=Z,36nm,21.7s,baz=135,slow=32							
QIZ	**Qiongzhong**	**71.48**	**300**	P		**P**	**03 32 06.8**	**-0.5**
QIZ				S		**S**	**03 41 23.0**	**-1.1**
QIZ				pmax		pmax		
	comp=Z,9.0nm,1.5s							
QIZ				LR		LR		
	comp=

LZH				pmax	pmax			
	comp=Z,220nm,8.5s							
LZH				LR	LR			
	comp=Z,210nm,16.5s							
LZH				LR	LR			
	comp=Z,190nm,17.0s							
LZH				LR	LR			
	comp=Z,280nm,18.3s							
SNAA	**Sanae**	**86.41**	**182**	P	**P**	**03 33 27.3**	**-1.1**	
SNAA	**Sanae**	**86.41**	**182**	P	**P**	**03 33 27.3**	**-1.1**	
VNA3	**Neumayer Olymp**	**86.97**	**180**	P	**P**	**03 33 26.8**	**-4.3**	
VNA1	**Neumayer--Stat**	**87.56**	**181**	P	**P**	**03 33 34.9**	**+1.0**	
AFDM	**Forest Hills D**	**88.63**	**47**	P	**P**	**03 33 39.1**	**-0.3**	
AFDM					**P**	**03 33 40.0**	**+0.5**	
AFDM				IAmb	IAmb	03 33 41.0		
	comp=Z,22nm,2.0s							
ULN	**Ulaanbaatar**	**89.44**	**323**	P	**P**	**03 33 44.3**	**+1.1**	
WAKR	**Walker**	**89.46**	**48**	P	**P**	**03 33 42.5**	**-1.1**	
WAKR					**P**	**03 33 43.5**	**-0.1**	
WAKR				IAmb	IAmb	03 33 44.7		
	comp=Z,15nm,1.6s							
FID	**Port Fidalgo**	**89.72**	**20**	P	**P**	**03 33 42.1**	**-1.9**	
SONM	**Songino Array**	**89.79**	**323**	P	**P**	**03 33 44.7**	**-0.1**	
	comp=Z,2.4nm,1.0s,baz=141,slow=5.0,SNR=15							
SONM				LR	LR	04 16 53.9		
	comp=Z,73nm,18.1s,baz=118,slow=38							
H02N1	**VAN INLET T-PH**	**89.96**	**30**	T	T	05 14 18.7		
	SNR=2.4							
PAHR	**Pah Rah Range**	**90.08**	**47**	P	**P**	**03 33 45.4**	**-1.0**	
PAHR				IAmb	IAmb	03 34 41.6		
	comp=Z,13nm,1.6s							
RYN	**Ryan**	**90.15**	**48**	P	**P**	**03 33 46.0**	**-0.8**	
NVAR	**Mina Array Bea**	**90.21**	**48**	P	**P**	**03 33 45.4**	**-1.7**	
	comp=Z,1.0nm,0.8s,baz=238,slow=5.1,SNR=5.7							
NVAR				LR	LR	04 10 24.9		
	comp=Z,189nm,18.0s,baz=273,slow=33							
NV11	**Mina Array Sit**	**90.31**	**48**	IAmb	IAmb	03 33 48.3		
	comp=Z,20nm,1.9s							
RND	**Reindeer**	**91.10**	**17**	P	**P**	**03 33 48.2**	**-2.2**	
WVOR	**Wild Horse Val**	**91.88**	**45**	P	**P**	**03 33 52.7**	**-2.0**	
WVOR				IAmb	IAmb	03 33 54.4		
	comp=Z,5.5nm,1.2s							
ILAR	**Eielson Array**	**92.71**	**17**	P	**P**	**03 33 55.3**	**-2.5**	
	comp=Z,0.7nm,0.7s,baz=236,slow=5.2,SNR=10							
ILAR				LR	LR	04 15 13.1		
	comp=Z,203nm,18.1s,baz=226,slow=35							
LCMT	**Little Creek M**	**93.16**	**51**	P	**P**	**03 33 59.7**	**-1.0**	
ELK	**Elko**	**93.37**	**47**	P	**P**	**03 33 59.9**	**-1.9**	
ELK				IAmb	IAmb	03 36 00.6		
	comp=Z,7.6nm,1.9s							
EGAK	**Eagle**	**94.36**	**19**	P	**P**	**03 34 03.9**	**-1.5**	
DAWY	**Dawson**	**94.41**	**20**	P	**P**	**03 34 04.3**	**-1.4**	
TXAR	**Lajitas Array**	**97.58**	**62**	LR	LR	04 12 19.9		
	comp=Z,378nm,18.1s,baz=0.0,slow=32							
PDAR	**Pinedale Array**	**98.07**	**47**	LR	LR	04 15 59.0		
	comp=Z,65nm,18.1s,baz=268,slow=34							
WMQ	**Urumqi**	**99.55**	**313**	*e*P	**Pdif**	**03 34 28.5**	**-1.0**	
WMQ				pP	pwP	03 34 43.8	-0.3	
WMQ				pmax	pmax			
	comp=Z,69nm,4.5s							
WMQ				LR	LR			
	comp=Z,190nm,28.8s							
ARCES	**ARCESS Array B**	**127.91**	**345**	PKP	**PKiKP**	**03 39 52.0**	**+0.2**	
	comp=Z,0.7nm,0.8s,baz=112,slow=1.3,SNR=5.2							
KMBO	**Kilima Mbogo**	**128.38**	**250**	PKP	**PKPdf**	**03 39 53.4**	**-0.7**	
	comp=Z,1.0nm,0.8s,baz=54,slow=19,SNR=2.0							
AKASG	**Malin Array Be**	**138.08**	**323**	PKP	**PKPdf**	**03 40 10.8**	**-0.1**	
	comp=Z,1.1nm,0.8s,baz=90,slow=1.9,SNR=1.6							
ARR	**Arges**	**143.31**	**318**	⇑P	PKPbc	03 40 18.9	+1.2	
DRGR		**143.76**	**321**	⇑P	PKPbc	03 40 18.8	-0.1	
LOT	**Lotru**	**143.81**	**318**	⇓P	**PKPdf**	**03 40 22.0**	**+0.5**	
BSEG	**Bad Segeberg**	**144.57**	**339**	*e*PKPbc	PKPbc	03 40 20.9	-0.1	
	baz=35,slow=2.8							
PSZ	**Piszkesteto**	**144.72**	**324**		PKPbc	03 40 22.2	+0.3	
MORC	**Moravsky Berou**	**144.75**	**329**	*e*PKP	**PKPab**	**03 40 21.5**	**-0.3**	
OSTC	**Ostas**	**144.84**	**331**	*e*PKP	**PKPab**	**03 40 21.9**	**-0.2**	
KARP	**Karpathos**	**144.87**	**301**		PKPbc	03 40 23.0	+0.3	
CHVC	**Chvalec**	**144.90**	**331**	*e*PKP	**PKPab**	**03 40 22.1**	**-0.2**	
HERR	**Herculane**	**144.92**	**318**	⇓P	PKPbc	03 40 22.6	+0.1	
VYHS	**Vyhne**	**144.93**	**326**	*e*PKP	PKPbc	03 40 22.8	+0.3	
DPC	**Dobruska-Polom**	**144.94**	**330**	*e*PKP	PKPbc	03 40 22.7	+0.2	
UPC	**Upice**	**144.97**	**331**	AMS	AMS	04 52 30.0		
	comp=Z,100nm,23.2s							
BZS	**Buzias**	**145.03**	**320**	⇑P	**PKPdf**	**03 40 23.6**	**+0.1**	
HLG	**Helgoland**	**145.12**	**341**	*e*PKPbc	**PKPbc**	**03 40 22.7**	**-0.1**	
	baz=35,slow=2.8							
JAVC	**Velka Javorina**	**145.29**	**327**	*e*PKP	**PKPdf**	**03 40 24.7**	**+0.8**	
MDVR	**Moldovita**	**145.40**	**319**	⇓P	**PKPab**	**03 40 24.5**	**+0.1**	
VTS	**Vitosha**	**145.45**	**314**		**PKPdf**	**03 40 24.0**	**-0.4**	
PVCC	**Panska Ves**	**145.60**	**332**	*e*PKP	**PKPab**	**03 40 25.5**	**+0.7**	
PVCC				AMS	AMS	04 55 00.0		
	comp=Z,100nm,18.9s							
BRG	**Berggiesshubel**	**145.62**	**333**	*i* PKP	**PKPdf**	**03 40 24.2**	**-0.1**	
	comp=Z,89nm,1.7s							
BRG				SS	SS	04 02 17.0	-18	
BRG	**Berggiesshubel**	**145.62**	**333**	*e*PKPbc	**PKPbc**	**03 40 24.6**	**0.0**	
	baz=35,slow=2.8							
CLL	**Collm**	**145.68**	**334**	⇑*i* PKPdf	**PKPdf**	**03 40 24.1**	**-0.3**	
	comp=Z,93nm,1.9s							
CLL				*i*		03 40 33.9		
CLL				*e*(pPKPdf)		03 40 42.0		
CLL				LmV		04 53 00.0		
	comp=Z,100nm,18.5s							
CLL	**Collm**	**145.68**	**334**	*e*PKPbc	**PKPbc**	**03 40 24.6**	**-0.2**	
	baz=35,slow=2.8							
FBE	**Freiberg**	**145.83**	**333**	*e*PKPbc	**PKPab**	**03 40 25.6**	**-0.1**	
	baz=35,slow=2.8							
FBE				*e*pPKPbc	**sPKPdf**	**03 40 36.0**	**-0.9**	
	baz=34,slow=2.9							
NRDL	**Niedersach Rie**	**145.83**	**338**	*e*PKPbc	**PKPab**	**03 40 25.3**	**-0.2**	
	baz=35,slow=2.8							
NRDL				*e*pPKPbc	pPKPab	03 40 35.7	+1.0	
	baz=34,slow=2.9							
ASSE	**Asse, Remlinge**	**145.93**	**337**	*e*PKPbc	**PKPbc**	**03 40 25.6**	**+0.2**	
	baz=35,slow=2.8							
ASSE				*e*pPKPbc	**sPKPdf**	**03 40 36.1**	**-0.9**	
	baz=34,slow=2.9							
GOPC	**GO Pecny, Ondr**	**145.95**	**331**	*e*PKP	**PKPab**	**03 40 26.1**	**-0.1**	
GOPC				*ex*	x	03 40 34.8		
GOPC				AMS	AMS	04 53 10.0		
	comp=Z,100nm,20.3s							
PRA	**Prague**	**145.99**	**331**	AMS	AMS	04 54 30.0		
	comp=Z,100nm,17.5s							
PRU	**Pruhonice**	**146.00**	**331**	*e*PKP	**PKPbc**	**03 40 25.5**	**-0.3**	
PRU				AMS	AMS	04 53 00.0		
	comp=Z,100nm,15.6s							
TREC	**Trest**	**146.06**	**330**	*e*PKP	**PKPbc**	**03 40 26.0**	**0.0**	
TREC				*ex*	x	03 40 35.1		
NEUB	**Neuenburg**	**146.25**	**335**	*e*PKPbc	**PKPbc**	**03 40 26.7**	**+0.2**	
	baz=35,slow=2.8							
NEUB				*e*pPKPbc	**sPKPdf**	**03 40 37.3**	**-0.3**	
	baz=34,slow=2.9							
CLZ	**Clausthal**	**146.27**	**337**	*e*PKPbc	**PKPbc**	**03 40 26.9**	**+0.3**	
	baz=35,slow=2.8							
CLZ				*e*pPKPbc	**sPKPdf**	**03 40 37.5**	**-0.2**	
	baz=34,slow=2.9							
VAY	**Valandovo**	**146.45**	**313**	*i* P	**PKPab**	**03 40 28.6**	**+0.3**	
TANN	**Tannenbergstha**	**146.58**	**333**	*e*PKPbc	**PKPbc**	**03 40 27.8**	**+0.2**	
	baz=35,slow=2.8							
TANN				*e*pPKPbc	**sPKPdf**	**03 40 38.5**	**+0.1**	
	baz=34,slow=2.9							
PLN	**Plauen**	**146.66**	**334**	*e*PKPbc	**PKPbc**	**03 40 27.7**	**0.0**	
	baz=35,slow=2.8							
PLN				*e*pPKPbc	pPKPab	03 40 38.0	0.0	
	baz=34,slow=2.9							
GTTG	**Gottingen**	**146.66**	**337**	*e*PKPbc	**PKPbc**	**03 40 27.7**	**0.0**	
	baz=35,slow=2.8							
GTTG				*e*pPKPbc	pPKPab	03 40 38.1	+0.1	
	baz=34,slow=2.9							
GUNZ	**Gunzen**	**146.68**	**334**	*e*PKPbc	**PKPbc**	**03 40 28.0**	**+0.2**	
	baz=35,slow=2.8							
GUNZ				*e*pPKPbc	**sPKPdf**	**03 40 38.4**	**-0.1**	
	baz=34,slow=2.9							
WERN	**Wernitzgruen**	**146.72**	**333**	*e*PKPbc	**PKPbc**	**03 40 28.2**	**+0.3**	
	baz=35,slow=2.8							
WERN				*e*pPKPbc	**sPKPdf**	**03 40 38.7**	**+0.1**	
	baz=34,slow=2.9							
NKC	**Novy Kostel**	**146.73**	**333**	*e*PKP	**PKPbc**	**03 40 27.8**	**-0.2**	
NKC				AMS	AMS	04 52 40.0		
	comp=Z,100nm,20.5s							
IDI	**Anoyia**	**146.73**	**301**	⇑P	**PKPab**	**03 40 29.7**	**-0.1**	
MOX	**Moxa**	**146.75**	**335**	*e*PKPbc	**PKPbc**	**03 40 28.1**	**+0.1**	
	baz=35,slow=2.8							
MOX				*e*pPKPbc	pPKPab	03 40 38.4	+0.1	
	baz=34,slow=2.9							
IBBN	**Ibbenburen**	**146.78**	**340**	*e*pPKPbc	pPKPbc	03 40 38.1	+1.0	
	baz=34,slow=2.9							
DIVS	**Divibare**	**146.81**	**319**		**PKPbc**	**03 40 28.2**	**-0.3**	
CONA	**Conrad Observa**	**146.81**	**327**	*e*PKPab	**PKPbc**	**03 40 28.2**	**-0.2**	
	comp=Z,14nm,1.9s,SNR=6.8							
SKO	**Skopje**	**146.93**	**314**	*i* P	**PKPab**	**03 40 29.5**	**-0.7**	
KHC	**Kasperske Hory**	**147.06**	**331**	*e*PKP	**PKPbc**	**03 40 28.7**	**-0.3**	
KHC				*ex*	x	03 40 56.0		
KHC				AMS	AMS	04 55 30.0		
	comp=Z,100nm,22.6s							
KHC	**Kasperske Hory**	**147.06**	**331**		**PKPbc**	**03 40 28.6**	**-0.4**	
MANZ	**Manzenberg**	**147.06**	**333**	*e*PKPbc	**PKPbc**	**03 40 29.1**	**+0.2**	
	baz=35,slow=2.8							
MANZ				*e*pPKPbc	**pPKPab**	**03 40 39.8**	**+0.2**	
	baz=34,slow=2.9							
ROTZ	**Rotzenmuhle**	**147.18**	**333**	*e*PKPbc	**PKPbc**	**03 40 29.5**	**+0.2**	
	baz=35,slow=2.8							
ROTZ				*e*pPKPbc	**pPKPab**	**03 40 40.2**	**+0.1**	
	baz=34,slow=2.9							
GEC2	**GERESS Array S**	**147.21**	**330**		**PKPbc**	**03 40 29.4**	**0.0**	
GEC2	**GERESS Array S**	**147.21**	**330**	*e*PKPbc	**PKPbc**	**03 40 29.5**	**0.0**	
	baz=35,slow=2.8							
GERES	**GERESS Array B**	**147.21**	**330**	PKPbc	**PKPbc**	**03 40 29.2**	**-0.2**	
	comp=Z,5.9nm,1.1s,baz=56,slow=3.4,SNR=22							
UBBA	**Unterbreizbach**	**147.24**	**336**	*e*PKPbc	**PKPbc**	**03 40 29.4**	**+0.2**	
	baz=35,slow=2.8							
UBBA				*e*pPKPbc	**pPKPab**	**03 40 40.0**	**0.0**	
	baz=34,slow=2.9							
WET	**Wettzell**	**147.36**	**332**	*e*PKPbc	**PKPbc**	**03 40 30.0**	**+0.2**	
	baz=35,slow=2.8							
ARSA	**Arzberg**	**147.44**	**327**	*e*PKPbc	**PKPbc**	**03 40 29.2**	**-0.9**	
	comp=Z,3.2nm,1.0s							
GRF	**Grafenberg Arr**	**147.65**	**334**	*e*PKPbc	**PKPbc**	**03 40 31.0**	**+0.4**	
	baz=35,slow=2.8							
MOA	**Molln**	**147.65**	**329**	*e*PKPab	**PKPbc**	**03 40 31.2**	**+0.5**	
	comp=Z,4.4nm,1.2s							
BUG	**Bochum--Univer**	**147.68**	**340**	*e*PKPbc	**PKPbc**	**03 40 30.3**	**-0.2**	
	baz=35,slow=2.8							
OHR	**Ohrid**	**147.75**	**313**	*i* P	**PKPbc**	**03 40 31.3**	**+0.2**	
SOKA	**Sokoh**	**148.07**	**326**	*e*PKiKP	**PKPbc**	**03 40 32.1**	**+0.2**	
	comp=Z,8.2nm,1.3s							
PDG	**Podgorica**	**148.13**	**317**	⇑P	**PKPdf**	**03 40 28.1**	**-0.6**	
TNS	**Taunus Mts**	**148.30**	**337**	*e*PKPbc	**PKPbc**	**03 40 32.4**	**+0.1**	
	baz=35,slow=2.8							
OBKA	**Obir**	**148.43**	**327**	*e*PKiKP	**PKPbc**	**03 40 32.9**	**0.0**	
	comp=Z,4.6nm,1.4s							
KBA	**Koelnbreinsper**	**148.64**	**328**	*e*PKiKP	**PKPbc**	**03 40 33.3**	**-0.2**	
	comp=Z,2.1nm,0.5s							
MEM	**Membach**	**148.80**	**340**	PKPdf	**PKPdf**	**03 40 28.3**	**-1.3**	
MEM	**Membach**	**148.80**	**340**	PKiKP	**PKPbc**	**03 40 33.4**	**-0.1**	
MEM	**Membach**	**148.80**	**340**	x	pPKPdf	03 40 41.8	+3.1	
FUR	**Furstenfeldbru**	**148.80**	**332**	*e*PKPbc	**PKPbc**	**03 40 33.6**	**0.0**	
	baz=35,slow=2.8							
MYKA	**Terra Mystica**	**148.81**	**328**	*i* PKiKP	**PKPbc**	**03 40 33.6**	**-0.2**	
	comp=Z,9.0nm,1.8s							
BSTI	**Sart Tilman**	**148.96**	**340**	PKiKP	**PKiKP**	**03 40 34.9**	**-0.3**	
BSTI				pPKP	**sPKPbc**	**03 40 46.1**	**0.0**	
BHOU	**Houvegnez**	**149.02**	**340**	PKiKP	**PKPbc**	**03 40 33.8**	**-0.3**	
BCLA	**Clavier**	**149.18**	**341**	PKiKP	**PKiKP**	**03 40 35.1**	**-0.6**	
ABTA	**Abfaltersbach**	**149.28**	**329**	*e*PKiKP	**PKPbc**	**03 40 34.5**	**-0.5**	
	comp=Z,12nm,1.9s							
BGES	**Gesves**	**149.28**	**341**	PKPbc	**PKPbc**	**03 40 33.6**	**-1.1**	
BGES				PKiKP	**PKiKP**	**03 40 34.5**	**-1.4**	
BGES				x	x	03 40 43.4		
WATA	**Walderalm**	**149.29**	**330**	*e*PKiKP	**PKPbc**	**03 40 35.2**	**+0.2**	
	comp=Z,6.5nm,1.3s							
WTTA	**Wattenberg**	**149.31**	**330**	*e*PKiKP	**PKPbc**	**03 40 35.5**	**+0.4**	
	comp=Z,16nm,1.7s							
BMRD	**Maredsous**	**149.45**	**341**	x	pPKPdf	03 40 43.9	+4.1	
MOTA	**Moosalm**	**149.50**	**331**	*e*PKiKP	**PKPbc**	**03 40 35.5**	**0.0**	
	comp=Z,7.4nm,1.2s							
STAL	**STALIGIAL**	**149.53**	**328**		**PKPbc**	**03 40 34.8**	**-0.8**	
RETA	**Reutte**	**149.54**	**332**	*e*PKiKP	**PKPbc**	**03 40 35.9**	**+0.4**	
	comp=Z,11nm,1.5s							
SQTA	**Sankt Quirin**	**149.54**	**331**	*e*PKiKP	**PKPbc**	**03 40 36.0**	**+0.3**	
	comp=Z,9.5nm,1.3s							
WLF	**Walferdange**	**149.57**	**339**	PKiKP	**PKPbc**	**03 40 35.8**	**+0.4**	
WLF	**Walferdange**	**149.57**	**339**	*e*PKPbc	**PKPbc**	**03 40 35.9**	**+0.5**	
	baz=35,slow=2.8							
UBR	**Ueberruh**	**149.68**	**332**	*e*PKPbc	**PKPbc**	**03 40 35.5**	**-0.4**	
	baz=35,slow=2.8							
DOU	**Dourbes**	**149.68**	**341**	PKiKP	**PKPbc**	**03 40 35.8**	**+0.1**	
DOU				pPKP	**pPKPbc**	**03 40 45.3**	**+0.3**	
BFO	**Black Forest**	**149.89**	**335**	PKPbc	**PKPbc**	**03 40 36.2**	**-0.1**	
BFO					**PKPab**	**03 40 42.4**	**+0.5**	
BFO	**Black Forest**	**149.89**	**335**	*e*PKPbc	**PKPbc**	**03 40 35.8**	**-0.5**	
	baz=35,slow=2.8							
FETA	**Feichten**	**149.91**	**331**	*e*PKiKP	**PKPbc**	**03 40 37.0**	**+0.4**	
	comp=Z,6.1nm,1.1s							
DAVA	**Damuels**	**150.08**	**332**	*e*PKiKP	**PKiKP**	**03 40 37.5**	**-0.4**	
	comp=Z,11nm,1.2s							
CTI	**Castel Tesino**	**150.19**	**329**		**PKPbc**	**03 40 37.0**	**-0.3**	
FUORN	**Ofenpass-Fuorn**	**150.42**	**331**		**PKiKP**	**03 40 38.6**	**-0.1**	
TIP	**Timpagrande**	**151.38**	**313**	⇓P	**PKPbc**	**03 40 38.1**	**-2.2**	
NRCA	**Norcia**	**151.62**	**322**		**PKPbc**	**03 40 40.4**	**-0.2**	
SENIN	**Lac Senin/Sane**	**151.90**	**334**	PKPbc	**PKPbc**	**03 40 41.2**	**-0.2**	
SENIN					**pPKPbc**	**03 40 51.0**	**+0.3**	
BNI	**Bardonecchia**	**153.21**	**333**	PKPbc	**PKPbc**	**03 40 42.8**	**-1.4**	
ESDC	**Sonseca Array**	**161.64**	**345**	PKPab	**PKPab**	**03 41 31.7**	**-0.6**	
	comp=Z,0.5nm,0.8s,baz=352,slow=5.3,SNR=3.1							
TORD	**Torodi Ar. Bea**	**165.68**	**234**	PKP	**PKPdf**	**03 40 49.7**	**-2.0**	
	comp=Z,2.0nm,1.1s,baz=60,slow=1.3,SNR=5.6							
TORD				PKPab	**PKPab**	**03 41 52.2**	**+1.4**	
	comp=Z,0.9nm,0.8s,baz=123,slow=5.3,SNR=2.4							

*AEIC **28** 03:32:03.6±2.3, 52°.3N±0°.1×175°.69E±0°.09, h91km±7km, ML3.4/11, Error ellipse: s-maj=20.5km s-min=6.7km az=191.0*
*NEIC **28** 03:32:06.6±3.7, 52°.5N±0°.2×175°.86E±0°.10, h65km±15km, Error ellipse: s-maj=35.3km s-min=3.4km az=192.0*
*IDC **28** 03:32:13.1±5.2, 53°.01N×175°.79E, h60km±47km, mb3.1/5, mb1 3.4/7, mb1mx3.2/42, mbtmp3.6/7, ML3.2/2, Error ellipse: s-maj=70.9km s-min=19.8km az=169.0*

ISC 28 03:32:08.7±0.8, 52°.5N±0°.2×175°.89E±0°.06, h35km, n23, σ1§89/18, mb3.5/5, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.11**	**282**		**Sn**	**03 32 41.7**	**-0.1**
SMY	**Shemya**	**1.11**	**282**	Pn	**Pn**	**03 32 24.1**	**-3.5**
LSNW	**Little Sitkin**	**1.70**	**107**		**Pn**	**03 32 33.6**	**-2.3**
LSNW					**Sn**	**03 32 56.2**	**-0.1**
LSSA	**Little Sitkin**	**1.71**	**108**		**Pn**	**03 32 33.7**	**-2.2**
LSSA					**Sn**	**03 32 57.4**	**+0.8**
AMKA	**Amchitka**	**2.40**	**117**		**Pn**	**03 32 42.8**	**-2.6**
AMKA					**Sn**	**03 33 12.4**	**-1.0**
TASE	**Tanaga Southea**	**3.80**	**98**		**Pn**	**03 33 02.9**	**-1.8**
KIMD	**Kanaga Island**	**4.30**	**97**		**Pn**	**03 33 10.1**	**-1.4**
ADK	**Adak**	**4.61**	**95**		**Pn**	**03 33 14.2**	**-1.6**
PETK	**Petropavlovsk-**	**11.03**	**280**	P	**Pn**	**03 34 45.5**	**+1.8**
	0.4nm,0.3s,baz=104,slow=18,SNR=7.9						
KDAK	**Kodiak Island**	**18.66**	**61**	P	**P**	**03 36 22.7**	**-0.6**
	0.2nm,0.3s,baz=286,slow=7.4,SNR=2.1						
KDAK	**Kodiak Island**	**18.66**	**61**	P	P	03 36 15.3	-8.0
SCM	**Sheep Creek Mo**	**21.73**	**50**	P	P	03 36 48.4	-8.1
ILAR	**Eielson Array**	**22.53**	**43**	P	**P**	**03 37 05.2**	**+0.2**
	0.5nm,0.8s,baz=243,slow=7.1,SNR=5.3						
H11N2	**WAKE ISLAND Hy**	**33.46**	**195**	T	T	04 13 53.3	
	baz=10.0,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**33.47**	**195**	T	T	04 13 54.6	
	baz=10.0,slow=76,SNR=21						
H11N1	**WAKE ISLAND Hy**	**33.47**	**195**	T	T	04 13 56.7	
	baz=10.0,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**34.69**	**195**	T	T	04 15 25.9	
	baz=9.6,slow=76,SNR=15						
H11S3	**WAKE ISLAND Hy**	**34.70**	**195**	T	T	04 15 27.0	
	baz=9.6,slow=76,SNR=13						
H11S2	**WAKE ISLAND Hy**	**34.70**	**195**	T	T	04 15 28.9	
	baz=9.6,slow=76,SNR=14						
KSRS	**Korea Array**	**36.39**	**265**	P	**P**	**03 39 12.3**	**+2.9**
	0.6nm,0.5s,baz=52,slow=8.8,SNR=2.5						
SONM	**Songino Array**	**43.19**	**293**	P	**P**	**03 40 05.5**	**-0.4**
	0.5nm,0.5s,baz=70,slow=8.3,SNR=2.8						
MKAR	**Makanchi Array**	**56.72**	**305**	P	**P**	**03 41 47.2**	**-1.3**
	0.3nm,0.6s,baz=53,slow=8.5,SNR=3.8						
TXAR	**Lajitas Array**	**61.68**	**78**	P	**P**	**03 42 24.3**	**+1.2**
	0.3nm,0.9s,baz=323,slow=5.7,SNR=2.2						

*IDC **28** 03:33:13.4±1.1, 29°.93S×177°.35W, h0km, mb4.3/6, mb1 4.4/6, mb1mx4.1/28, mbtmp4.3/6, Error ellipse: s-maj=32.4km s-min=14.8km az=64.0*
*NEIC **28** 03:33:14.8±1.9, 30°.03S±0°.07×177°.4W±0°.2, h15km±4km, mb4.6/11, Error ellipse: s-maj=20.3km s-min=9.1km az=73.0*

ISC 28 03:33:18.0±0.8, 30°.01S±0°.07×177°.5W±0°.1, h35km, n36, σ1§38/30, mb4.4/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.86**	**332**	Pn	**Pn**	**03 33 33.7**	**+0.1**
	2μm,0.3s,baz=67,slow=23,SNR=14						
RAO				Sn	**Sn**	**03 33 45.5**	**+0.6**
	5μm,0.3s,baz=267,slow=23,SNR=13						
RAO	**Raoul Island**	**0.86**	**332**		**Pn**	**03 33 33.4**	**-0.2**
BKZ	**Black Stump Fm**	**10.40**	**207**	Pn	**Pn**	**03 35 42.3**	**-2.4**
OXZ	**Oxford**	**15.71**	**209**	Pn	**Pn**	**03 36 54.5**	**-2.2**
RPZ	**Rata Peaks**	**16.45**	**211**	Pn	**Pn**	**03 37 02.4**	**-3.7**
	0.8nm,0.3s,baz=234,slow=19,SNR=1.5						
RPZ				Sn	Sn	03 39 49.2	-18
	0.5nm,0.3s,baz=73,slow=20,SNR=1.5						
RPZ	**Rata Peaks**	**16.45**	**211**		**Pn**	**03 37 04.2**	**-1.9**
RPZ				IAmb	IAmb	03 37 09.0	
	comp=Z,78nm,1.5s						
CTAO	**Charters Tower**	**34.20**	**278**	P	**P**	**03 39 59.6**	**-0.8**
STKA	**Stephens Creek**	**35.02**	**256**	P	**P**	**03 40 09.5**	**+2.1**
	comp=Z,2.3nm,0.3s,baz=101,slow=11,SNR=11						
STKA	**Stephens Creek**	**35.02**	**256**	P	**P**	**03 40 07.8**	**+0.4**
STKA				IAmb	IAmb	03 40 10.4	
	comp=Z,13nm,1.8s						
ASAR	**Alice Springs**	**43.60**	**266**	P	**P**	**03 41 19.1**	**0.0**
	comp=Z,1.0nm,0.3s,baz=105,slow=7.2,SNR=16						
WB2	**Warramunga Arr**	**44.54**	**271**	P	**P**	**03 41 26.6**	**0.0**
WB2				IAmb	IAmb	03 41 30.0	
	comp=Z,9.6nm,0.9s						
WRAB	**Tennant Creek**	**44.55**	**271**	P	**P**	**03 41 27.1**	**+0.4**
WRA	**Warramunga Arr**	**44.55**	**271**	P	**P**	**03 41 27.6**	**+0.9**
	comp=Z,5.9nm,0.3s,baz=110,slow=8.1,SNR=60						
WB0	**Warramunga Arr**	**44.57**	**272**	P	**P**	**03 41 27.5**	**+0.6**
WB0				IAmb	IAmb	03 41 28.4	
	comp=Z,10nm,1.0s						
VNDA	**Vanda**	**48.52**	**186**	P	**P**	**03 41 58.9**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=9.8,slow=4.9,SNR=8.1						
SBLHI	**Steaming Bluff**	**53.60**	**26**	P	**P**	**03 42 33.7**	**-2.3**
CASY	**Casey**	**55.70**	**208**	P	**P**	**03 42 49.8**	**-0.7**
QSPA	**South Pole Qui**	**60.09**	**180**	P	**P**	**03 43 23.4**	**+1.9**
	comp=Z,2.1nm,0.9s,baz=3.4,slow=0.8,SNR=11						
QSPA	**South Pole Qui**	**60.09**	**180**	P	**P**	**03 43 22.3**	**+0.7**
MAW	**Mawson**	**72.83**	**200**	P	**P**	**03 44 44.1**	**+1.4**
	comp=Z,2.2nm,0.7s,baz=173,slow=11,SNR=5.8						
MAW	**Mawson**	**72.83**	**200**	IAmb	IAmb	03 44 44.8	
	comp=Z,5.8nm,1.9s						
H03S2	**Juan Fernandez**	**80.29**	**123**	T	T	05 14 45.3	
	baz=238,slow=74,SNR=11						
H03S1	**Juan Fernandez**	**80.30**	**123**	T	T	05 14 52.8	
	baz=238,slow=74,SNR=13						

KINC	Kanaga Island	2.76	89		Pn	03 44 53.6	+0.5
ADK	Adak	3.04	89		Pn	03 44 56.6	-0.1
GSTD	Great Sitkin T	3.37	86		Pn	03 45 00.9	-0.3
GSTD					Sn	03 45 40.3	-0.4
GSTR	Great Sitkin T	3.42	85	Pn	Pn	03 45 01.9	+0.1
GSMY	Great Sitkin M	3.42	86		Pn	03 45 01.9	+0.1
ATKA	Atka Island	4.57	84		Pn	03 45 17.0	-0.1
KDAK	Kodiak Island	17.60	59	P	P	03 48 04.9	-1.6
	0.4nm,0.3s,baz=184,slow=1.7,SNR=13						
ILAR	Eielson Array	21.92	41	P	P	03 48 53.0	-0.1
	0.2nm,0.5s,baz=244,slow=8.2,SNR=4.2						
H11N2	WAKE ISLAND Hy	33.39	200	T	T	04 26 15.0	
	baz=12						
H11N3	WAKE ISLAND Hy	33.40	200	T	T	04 26 11.4	
	baz=12						
H11N1	WAKE ISLAND Hy	33.41	200	T	T	04 26 10.2	
	baz=12						
YKA	Yellowknife Ar	36.10	46	P	P	03 50 59.0	-0.5
	0.4nm,0.6s,baz=276,slow=8.4,SNR=4.5						
NVAR	Mina Array Bea	45.20	81	P	P	03 52 15.5	+0.7
	0.2nm,0.4s,baz=296,slow=6.7,SNR=2.2						
MKAR	Makanchi Array	58.31	307	P	P	03 53 51.5	-0.1
	0.2nm,0.5s,baz=32,slow=8.5,SNR=2.0						
TXAR	Lajitas Array	60.27	80	P	P	03 54 06.3	+0.8
	0.1nm,0.5s,baz=342,slow=5.7,SNR=1.6						

NEIC ***28*** *04:06:01.8±1.7,30.0°N±0.1°×138.6°E±0.1°,h411km±10km, mb4.1/5,Error ellipse: s-maj=18.6km s-min=16.3km az=87.0*

JMA ***28*** *04:06:02.0±0.2,30.15°N×139.61°E,h456km,M3.6*

IDC ***28*** *04:06:02.9±1.1,30.02°N×139.02°E,h414km±12km,mb3.0/6, mb1 3.2/9,mb1mx2.9/32,mbtmp3.8/9,Error ellipse: s-maj=47.7km s-min=13.8km az=93.0*

ISC 28 04:06:02.2±0.7, 30.03°N±0.06°×138.9°E±0.1°, h421km, n28, σ2°31/31, mb3.3/7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ	Hachijo jima 2	3.17	14	P	P		04 07 10.1	+1.9
	23nm,0.3s,baz=269,slow=14,SNR=2.5							
JHJ				S	S		04 08 01.0	-0.9
	5.9nm,0.3s,baz=246,slow=23,SNR=1.5							
JHJ2	Mitsune	3.17	14	P	P		04 07 10.0	+1.8
JHJ2	Mitsune	3.17	14		P		04 07 08.8	+0.7
JMKN	Mikurajimanish	3.89	8	P	P		04 07 16.1	+1.7
CBIJ	Chichi jima	4.11	135	P	P		04 07 16.0	-0.6
CBIJ				S	S		04 08 13.7	-3.4
JCJ	Chichijima	4.11	135		P		04 07 15.7	-0.9
JIE	Ise	4.73	337	P	P		04 07 26.2	+4.0
BSO1	Boso 1	4.93	20	P	P		04 07 24.8	+1.2
BSO3	Boso 3	4.95	16	P	P		04 07 24.8	+0.7
BSO3				S	S		04 08 29.2	-1.9
INU	Inuyama	5.53	344		P		04 07 30.1	-0.3
JHU	Hanno	5.81	3	S	S		04 08 44.3	-3.6
JRY	Ryogami san	5.97	0	P	P		04 07 36.3	+1.4
JRY				S	S		04 08 49.9	-1.1
JAG	Ashikaga	6.39	4	P	P		04 07 39.7	+0.3
MJAR	Matsushiro Arr	6.52	355	P	P		04 07 41.3	0.0
	0.1nm,0.3s,baz=168,slow=9.7,SNR=4.2							
MJAR				S	S		04 08 55.6	-6.1
	0.1nm,0.3s,baz=205,slow=22,SNR=1.5							
JHO	Hitachi	6.71	12	S	S		04 09 01.8	-3.6
JOW	Kunigami	9.88	254	P	P		04 08 14.7	-3.6
SSLB	Suanglung	17.16	253	P	P		04 09 34.2	-3.1
SSLB				IAmb	IAmb		04 09 35.5	
	comp=Z,7.7nm,1.1s							
KLR	Kul'dur	19.93	346	P	P		04 10 07.0	+2.5
	comp=Z,0.2nm,0.3s,baz=160,slow=12,SNR=5.2							
XAN	Xi'an	25.68	287	P	P		04 10 54.2	-2.3
MTN	Manton Dam	43.28	191	P	P		04 13 22.6	-2.3
WRA	Warramunga Arr	49.88	186	P	P		04 14 16.2	+0.9
	comp=Z,0.7nm,0.4s,baz=16,slow=6.9,SNR=9.1							
ASAR	Alice Springs	53.61	186	P	P		04 14 43.6	+1.2
	comp=Z,0.6nm,0.4s,baz=4.3,slow=7.0,SNR=10.0							
GHO	Glory Hole Cre	55.65	33	P	P		04 14 58.0	+1.5
GHO				IAmb	IAmb		04 15 02.8	
	comp=Z,7.6nm,0.7s							
ILAR	Eielson Array	56.56	30	P	P		04 15 03.8	+1.1
	comp=Z,0.2nm,0.5s,baz=323,slow=34,SNR=2.3							
STKA	Stephens Creek	61.62	177	P	P		04 15 39.0	+1.8
	comp=Z,4.3nm,1.1s,baz=342,slow=9.6,SNR=1.4							
STKA	Stephens Creek	61.62	177	IAmb	IAmb		04 15 46.2	
	comp=Z,9.0nm,1.6s							
ARCES	ARCESS Array B	69.81	340	P	P		04 16 29.4	+0.9
	comp=Z,1.0nm,0.9s,baz=73,slow=9.7,SNR=5.0							
YKA	Yellowknife Ar	70.93	28	P	P		04 16 36.2	+1.0
	comp=Z,0.4nm,0.5s,baz=301,slow=6.2,SNR=4.9							

JMA ***28*** *04:13:51.3±0.2,24.49°N×122.21°E,h61km±3km,M2.4*

TAP ***28*** *04:13:51.8,24.58°N×122.23°E,h45km,ML2.9,D*

ISC 28 04:13:52.3±1.2, 24.57°N±0.03°×122.24°E±0.02, h47km±10km, n62, σ0°71/112, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWC	Suao	0.36	277	*i* P	P		04 14 01.4	-0.3
	baz=275							
TWC				S	S		04 14 08.2	-0.3
	baz=275							
NTC	Toucheng	0.47	307	*i* P	P		04 14 03.0	0.0
	baz=307							
NTC				*i* S	S		04 14 10.7	+0.1
	baz=307							
ENA	Nanau	0.48	253	P	P		04 14 03.0	0.0
	baz=251							
ENA				*e*S	S		04 14 11.8	+1.1
	baz=251							
ILA	Ilan	0.49	294	S	S		04 14 11.8	+0.8
	baz=293							
TWB1	Santiao Chiao	0.50	332	P	P		04 14 03.0	-0.3
	baz=333							
TWB1				*i* S	S		04 14 10.9	-0.2
	baz=333							
TWE	Neicheng	0.55	286	*i* P	P		04 14 03.8	-0.1
	baz=285							
TWE				S	S		04 14 12.8	+0.6
	baz=285							
TIPB	Shuangxi	0.55	317	*i* P	P		04 14 03.8	-0.2
	baz=316							
TIPB				*i* S	S		04 14 12.1	-0.4
	baz=316							
ENTT	Nioudou	0.62	277	P	P		04 14 04.8	0.0
	baz=275							
ENTT				*e*S	S		04 14 14.3	+0.3
	baz=275							
JYNG	Yonagunijimaku	0.65	100	P	P		04 14 05.4	+0.2
JYNG				S	S		04 14 15.3	+0.7
NWF	Wu-fen Shan	0.65	320	*i* P	P		04 14 05.2	-0.2
	baz=320							
NWF				*e*S	S		04 14 14.8	0.0
	baz=320							
WFSB	Wu-fen Shan	0.65	320	P	P		04 14 05.2	-0.1
	baz=320							
WFSB				S	S		04 14 14.8	+0.1
	baz=320							
NDT	Datong Townshi	0.67	273	P	P		04 14 05.4	-0.1
	baz=272							
NDT				S	S		04 14 15.7	+0.7
	baz=272							
NACB	Ninganchiao	0.71	237	P	P		04 14 05.1	-0.9
	baz=235							
YOJ	Yonaguni jima	0.71	98	P	P		04 14 06.2	+0.2
YOJ				*e*S	S		04 14 16.3	+0.4
TWA	Mucha	0.73	305	P	P		04 14 06.1	-0.2
	baz=304							
TWA				S	S		04 14 16.4	0.0
	baz=304							
NHDH	Xindian Distri	0.76	301	*e*P	P		04 14 06.5	-0.3
	baz=300							
NHDH				*e*S	S		04 14 17.4	+0.2
	baz=300							
TWD	Chiawan	0.76	231	P	P		04 14 06.2	-0.6
	baz=229							
TWD				S	S		04 14 16.8	-0.4
	baz=229							
ETLH	Xiulin Townshi	0.78	243	P	P		04 14 06.6	-0.4
	baz=241							
ETLH				*e*S	S		04 14 17.2	-0.6
	baz=241							
NNSB	Datong	0.80	260	P	P		04 14 07.2	-0.1
	baz=259							
NNSB				*e*S	S		04 14 18.7	+0.5
	baz=259							
NNSH	Datong	0.80	260	*i* P	P		04 14 07.2	-0.1
	baz=259							
NNSH				*e*S	S		04 14 18.4	+0.2
	baz=259							
YHNB	Yeheng	0.80	278	P	P		04 14 07.6	+0.3
	baz=276							
YHNB				S	S		04 14 18.4	+0.2
	baz=276							
NNS	Nan Shan	0.80	261	P	P		04 14 07.1	-0.3
	baz=259							
NNS				S	S		04 14 18.8	+0.4
	baz=259							
TAP1	Taipei	0.81	306	*e*S	S		04 14 17.8	-0.4
	baz=305							
NSK	Sanguang	0.81	278	P	P		04 14 07.7	+0.2
	baz=276							
NSK				S	S		04 14 18.8	+0.2
	baz=276							
YM04	YM04	0.87	312	P	P		04 14 07.6	-0.6
	baz=312							
YM04				S	S		04 14 19.4	-0.4
	baz=312							
TWY	Chenhua	0.92	321	*e*P	P		04 14 08.9	+0.1
	baz=320							
TWY				*e*S	S		04 14 21.0	+0.1
	baz=320							
TWS1	Kuangyinshan	0.92	306	*e*P	P		04 14 08.7	-0.1
	baz=305							
TWS1				*e*S	S		04 14 21.3	+0.3
	baz=305							
WHF	Hehuan Shan	0.98	245	P	P		04 14 09.9	-0.3
	baz=243							
WHF				S	S		04 14 22.4	-0.7
	baz=243							
TWT	Tachien	1.02	252	*e*P	P		04 14 10.7	+0.3
	baz=251							
TWT				*e*S	S		04 14 24.6	+0.9
	baz=251							
TDCB	Techi	1.04	253	P	P		04 14 10.6	+0.1
	baz=251							
TDCB				S	S		04 14 23.5	-0.5
	baz=251							
PCYT	Pengchaiyu	1.07	352	P	P		04 14 11.6	+0.7
	baz=352							
PCYT				S	S		04 14 25.6	+0.9
	baz=352							
CHGB	Renai	1.10	243	P	P		04 14 11.0	-0.5
	baz=241							
CHGB				*e*S	S		04 14 25.4	-0.2
	baz=241							
LIOB	Emei	1.12	274	*e*P	P		04 14 12.0	+0.4
	baz=273							
LIOB				*e*S	S		04 14 26.7	+0.8
	baz=273							
NSTT	Nanjuang	1.13	273	*e*S	S		04 14 26.7	+0.6
	baz=272							
WHP	Taichung City	1.22	257	P	P		04 14 13.3	+0.4
	baz=255							
WHP				*e*S	S		04 14 29.2	+0.9
	baz=255							
VWDT	VWDT	1.29	231	P	P		04 14 13.2	-0.7
	baz=230							
VWDT				*e*S	S		04 14 28.4	-1.6
	baz=230							
HGSD	Ruisui	1.31	215	*e*P	P		04 14 14.7	+0.6
	baz=214							
HGSD				*e*S	S		04 14 30.2	-0.2
	baz=214							
EHY	Hungye	1.35	219	*e*P	P		04 14 12.8	-2.0
	baz=217							
IRIF	Iriomote-Funau	1.38	99	P	P		04 14 14.9	-0.1
IRIF				S	S		04 14 31.8	-0.3
SMLT	Sun Moon Lake	1.40	241	*e*P	P		04 14 15.1	-0.4
	baz=240							
SMLT				*e*S	S		04 14 34.4	+1.5
	baz=240							
SSLB	Suanglung	1.41	237	*e*P	P		04 14 15.3	-0.3
	baz=236							
SSLB				*e*S	S		04 14 33.5	+0.5
	baz=236							
TYC	Yuchr	1.43	243	P	P		04 14 16.3	+0.5
	baz=241							
TYC				*e*S	S		04 14 34.4	+1.1
	baz=241							
YULB	Yu-li	1.45	217	*e*P	P		04 14 13.9	-2.2
	baz=215							
TWF1	Yuli	1.49	216	*e*P	P		04 14 14.7	-1.9
	baz=214							
WHYT	Xinyi Township	1.54	236	*e*P	P		04 14 17.6	+0.3
	baz=235							
WHYT				*e*S	S		04 14 36.4	+0.3
	baz=235							
JKRS	Kuro-shima	1.64	101	P	P		04 14 18.7	0.0
JKRS				S	S		04 14 38.9	+0.2
ALS	Alishan	1.68	232	*e*P	P		04 14 19.7	+0.1
	baz=230							
CHN5	Tsauling	1.73	236	*e*P	P		04 14 20.3	+0.4
	baz=235							
CHN5				*e*S	S		04 14 41.2	+0.4
	baz=235							
JIJ	Ishigaki jima	1.74	96	P	P		04 14 20.0	-0.1
JIJ				S	S		04 14 40.3	-0.8
ELDTW	Lidau	1.77	220	*e*P	P		04 14 19.2	-1.4
	baz=218							
JISG	Ishigakijimahi	1.88	89	P	P		04 14 22.2	+0.2
JISG				*e*S	S		04 14 44.5	0.0
CHN4	Tsaushan	1.93	232	*e*P	P		04 14 23.2	+0.5
	baz=230							
TPUB	Ta-pu	1.94	230	*e*P	P		04 14 23.6	+0.8
	baz=229							
TPUB				*e*S	S		04 14 47.8	+1.8
	baz=229							
STYT	Tauyuan	1.95	225	*e*P	P		04 14 23.0	0.0
	baz=223							
STYT				*e*S	S		04 14 47.4	+1.1
	baz=223							
WTP	Ta-pu	1.99	229	*e*P	P		04 14 24.2	+0.7
	baz=227							
WTP				*e*S	S		04 14 49.0	+1.8
	baz=227							
TWK	Hsinying	2.06	231	*e*P	P		04 14 25.0	+0.4
	baz=230							
TWK				*e*S	S		04 14 49.4	+0.3
	baz=230							
CHN1	Nanshi	2.09	229	*e*P	P		04 14 25.1	+0.3
	baz=228							
CHN1				*e*S	S		04 14 49.9	+0.3
	baz=228							
SLGT	Liugui	2.14	223	*e*P	P		04 14 25.9	+0.3
	baz=222							
SLGT				*e*S	S		04 14 52.0	+1.1
	baz=222							
MASBT	Mashibuluo	2.44	218	*e*P	P		04 14 30.2	+0.5
	baz=216							
WDGT	Dungji	2.70	242	*e*P	P		04 14 31.7	-1.4
	baz=240							
WDGT				*e*S	S		04 15 03.9	-0.7
	baz=240							
PTMZ	Houxiangcun	2.88	280	*e*P	P		04 14 35.6	0.0
	baz=279							
LYJJ	Jianjiangzhen	2.99	312	*e*P	P		04 14 36.4	-0.8
	baz=311							
LYJJ				*e*S	S		04 15 09.9	-1.9
	baz=311							

IDC ***28*** *04:17:32.5±1.0,3.36°S×148.75°E,h0km,mb3.9/7, mb1 4.1/10,mb1mx3.9/32,mbtmp4.0/10,ML2.2/2,MS3.5/12, Ms1 3.5/12,ms1mx3.3/30,Error ellipse: s-maj=27.8km s-min=19.0km az=116.0*

NEIC ***28*** *04:17:35.0±1.4,3.27°S±0.10°×148.79°E±0.08,h17km±5km, mb4.4/11,Error ellipse: s-maj=14.2km s-min=11.5km az=170.0*

ISC 28 04:17:35.3±0.7, 3.31°S±0.08°×148.79°E±0.09, h19km, n37, σ0°86/26, mb4.2/12, MS3.5/9, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	Keravat (AS076	3.38	107	Pn	Pn		04 18 27.7	+0.6
	20nm,0.3s,baz=111,slow=6.6,SNR=6.6							
KRVT				LR	LR		04 19 48.1	
	comp=Z,302nm,20.8s,baz=305,slow=40							
RABL	Rabaul	3.48	105	Pn	Pn		04 18 28.1	-0.4
PMG	Port Moresby	6.27	195	Pn	Pn		04 19 07.7	+0.9
	0.8nm,0.3s,baz=254,slow=14,SNR=2.1							
PMG				Sn	Sn		04 20 17.8	-0.2
	1.1nm,0.3s,baz=328,slow=13,SNR=1.4							
PMG	Port Moresby	6.27	195		Pn		04 19 07.3	+0.4
PMG					Sn		04 20 18.8	+0.7
JAY	Jayapura	8.11	275	Pn	Pn		04 19 31.6	-0.6
	0.3nm,0.3s,baz=174,slow=23,SNR=1.3							
HNR	Honiara	12.64	119	LR	LR		04 25 16.8	
	comp=Z,192nm,21.1s,baz=299,slow=37							
GUMO	Guam	17.23	347	LR	LR		04 26 45.9	
	comp=Z,128nm,20.9s,baz=180,slow=32							
WB0	Warramunga Arr	21.57	220	P	P		04 22 23.6	-0.3
WR0	Warramunga Arr	21.62	219	P	P		04 22 25.1	+0.7
WRAB	Tennant Creek	21.72	219	P	P		04 22 25.9	+0.4
WRAB				IAmb	IAmb		04 22 32.8	
	comp=Z,20nm,1.0s							
WB2	Warramunga Arr	21.72	219	P	P		04 22 26.0	+0.4
WB2				IAmb	IAmb		04 22 29.8	
	comp=Z,23nm,1.1s							
WRA	Warramunga Arr	21.73	219	P	P		04 22 24.6	-1.1
	comp=Z,11nm,0.9s,baz=44,slow=10,SNR=14							
WRA				LR	LR		04 30 49.5	
	comp=Z,203nm,21.5s,baz=155,slow=37							
AS31	Alice Springs	24.83	214	P	P		04 22 57.4	+0.7
AS31				IAmb	IAmb		04 23 04.2	
	comp=Z,8.0nm,1.3s							
ASAR	Alice Springs	24.83	214	P	P		04 22 56.0	-0.6
	comp=Z,3.4nm,0.6s,baz=42,slow=7.8,SNR=25							
ASAR				LR	LR		04 33 42.6	
	comp=Z,148nm,20.5s,baz=28,slow=39							
FITZ	Fitzroy Crossi	27.02	235	P	P		04 23 17.0	+0.5
	comp=Z,7.0nm,0.7s,baz=53,slow=11,SNR=17							
FITZ				LR	LR		04 33 50.5	
	comp=Z,149nm,19.1s,baz=60,slow=36							
FITZ	Fitzroy Crossi	27.02	235	P	P		04 23 17.3	+0.8
H11S3	WAKE ISLAND Hy	27.93	39	T	T		04 52 32.5	
	baz=220,slow=76,SNR=485							
H11S2	WAKE ISLAND Hy	27.94	39	T	T		04 52 33.1	
	baz=220,slow=76,SNR=179							
H11S1	WAKE ISLAND Hy	27.95	39	T	T		04 52 33.8	
	baz=220,slow=76,SNR=245							
H11N1	WAKE ISLAND Hy	28.98	37	T	T		04 53 52.3	
	baz=219,slow=76,SNR=21							
H11N3	WAKE ISLAND Hy	28.99	37	T	T		04 53 55.8	
	baz=219,slow=76,SNR=25							
H11N2	WAKE ISLAND Hy	29.00	37	T	T		04 53 56.0	
	baz=219,slow=76,SNR=80							
KAPI	Kappang	29.01	266	LR	LR		04 34 58.0	
	comp=Z,107nm,19.1s,baz=108,slow=36							
KSRS	Korea Array	44.95	336	LR	LR		04 42 01.9	
	comp=Z,48nm,21.2s,baz=180,slow=33							
PETK	Petropavlovsk-	56.71	6	P	P		04 27 19.7	+2.1
	comp=Z,2.4nm,0.9s,baz=168,slow=8.7,SNR=2.3							
MA2	Magadan	62.71	1	LR	LR		04 50 18.7	
	comp=Z,25nm,20.9s,baz=206,slow=31							
SONM	Songino Array	62.97	329	LR	LR		04 56 08.3	
	comp=Z,30nm,18.9s,baz=120,slow=37							
VNDA	Vanda	74.48	177	P	P		04 29 10.6	-1.5
	comp=Z,0.3nm,0.6s,baz=278,slow=15,SNR=2.4							
MK31	Makanchi Array	76.59	320	P	P		04 29 24.7	0.0
MKAR	Makanchi Array	76.59	320	P	P		04 29 23.4	-1.3
	comp=Z,0.1nm,0.5s,baz=206,slow=44,SNR=2.7							
MKAR				LR	LR		05 03 17.7	
	comp=Z,30nm,19.0s,baz=113,slow=36							
MAKZ	Makanchi	76.80	320	P	P		04 29 25.6	-0.3
ZALV	Zalesovo Beam	77.72	327	LR	LR		05 02 38.6	
	comp=Z,29nm,21.1s,baz=88,slow=35							
KURK	Kurchatov	80.15	323	P	P		04 29 44.2	0.0
KURK				IAmb	IAmb		04 29 48.9	
	comp=Z,2.9nm,0.9s							
AAK	Ala-Archa	80.75	314	P	P		04 29 46.8	-1.1
AAK				IAmb	IAmb		04 31 50.2	
	comp=Z,2.2nm,0.5s							
IL31		82.32	23	P	P		04 29 55.0	-0.5
ILAR	Eielson Array	82.32	23	P	P		04 29 56.0	+0.5
	comp=Z,0.4nm,1.0s,baz=229,slow=5.5,SNR=1.9							
TORD	Torodi Ar. Bea	146.04	289	PKPbc	PKPab		04 37 14.8	-0.8
	comp=Z,0.6nm,0.7s,baz=51,slow=3.1,SNR=4.9							

IDC ***28*** *04:26:18.0±0.6,30.20°S×177.39W,h0km,mb4.4/16, mb1 4.6/16,mb1mx4.4/29,mbtmp4.3/16,MS4.1/11, Ms1 4.1/11,ms1mx3.9/18,Error ellipse: s-maj=20.0km s-min=15.4km az=77.0*

NEIC ***28*** *04:26:21.5±1.5,30.20°S±0.06°×177.5W±0.1,h23km±4km, mb4.7/28,Error ellipse: s-maj=15.6km s-min=3.2km az=56.0*

ISC 28 04:26:23.2±0.5, 30.28°S±0.06°×177.51W±0.09, h35km, n94, σ1°41/81, mb4.6/23, MS4.0/13, 1C-1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	Raoul Island	1.09	341	Pn	Pn		04 26 41.2	-0.8
	448nm,0.3s,baz=70,slow=17,SNR=17							
RAO				Sn	Sn		04 26 53.7	-2.1
	638nm,0.3s,baz=72,slow=23,SNR=7.5							
RAO	Raoul Island	1.09	341		Pn		04 26 40.8	-1.2
THZ	Tophouse	13.82	211	Pn	Pn		04 29 36.0	-0.7
OXZ	Oxford	15.46	210	Pn	Pn		04 29 59.6	+1.1
OXZ				IAmb	IAmb		04 30 07.3	
	comp=Z,32nm,0.5s							
RPZ	Rata Peaks	16.20	211	Pn	Pn		04 30 05.6	-2.5
	comp=Z,1.5nm,0.3s,baz=2.2,slow=16,SNR=2.6							
RPZ				Sn	Sn		04 32 58.9	-7.8
	comp=Z,0.8nm,0.3s,baz=169,slow=17,SNR=2.3							
RPZ	Rata Peaks	16.20	211		Pn		04 30 07.6	-0.5
RPZ				IAmb	IAmb		04 30 49.8	
	comp=Z,124nm,1.8s							
DZM	Mont Dzumac	16.55	296	Pn	P		04 30 19.4	+4.4
	comp=Z,0.4nm,0.3s,baz=112,slow=23,SNR=6.3							
DZM				LR	LR		04 35 30.2	
	comp=Z,1μm,18.5s,baz=166,slow=33							
DZM	Mont Dzumac	16.55	296	Pn	Pn		04 30 12.0	-0.8
DZM				IAmb	IAmb		04 30 22.0	
	comp=Z,133nm,1.7s							
ODZ	Otahua Downs	17.44	209	P	P		04 30 25.6	+1.1
RAR	Rarotonga	18.33	65	LR	LR		04 35 18.6	
	comp=Z,470nm,20.1s,baz=247,slow=30							
TBI	Tubuai	25.92	81	*e*LR	LR		04 38 10.5	
	comp=Z,601nm,28.8s,baz=252							
TBI	Tubuai	25.92	81	*e*T	T		04 58 17.0	
	comp=Z,5.2nm,0.3s							
EIDS	Eidsvold	28.16	272	P	P		04 32 11.9	-0.4
EIDS				IAmb	IAmb		04 32 17.8	
	comp=Z,41nm,1.6s							
PPT2	Papeete2	28.40	70	*e*LR	LR		04 39 17.0	
	comp=Z,568nm,27.0s,baz=231							
PPT	Papeete	28.41	70	LR	LR		04 40 33.6	
	comp=Z,158nm,20.2s,baz=252,slow=30							
HNR	Honiara	29.55	310	LR	LR		04 43 26.9	
	comp=Z,238nm,18.9s,baz=164,slow=35							
CTAO	Charters Tower	34.20	279	P	P		04 33 05.5	-0.1
STKA	Stephens Creek	34.92	257	P	P		04 33 13.7	+2.0
	comp=Z,8.1nm,0.6s,baz=101,slow=12,SNR=21							
STKA				LR	LR		04 46 31.1	
	comp=Z,504nm,18.1s,baz=76,slow=35							
STKA	Stephens Creek	34.92	257	P	P		04 33 12.9	+1.2
RKT	Rikitea	38.49	90	*e*LR	LR		04 43 56.1	
	comp=Z,382nm,26.8s							
TAOE	Nuku Hiva Isla	40.87	66	*e*LR	LR		04 45 00.7	
	comp=Z,363nm,26.3s							
AS31	Alice Springs	43.54	267	P	P		04 34 24.1	+0.3
ASAR	Alice Springs	43.54	267	P	P		04 34 23.8	0.0
	comp=Z,4.9nm,0.7s,baz=106,slow=7.2,SNR=27							
ASAR				PcP	PcP

	comp=Z,165nm,18.9s,baz=62,slow=35						
MAW	**Mawson**	**72.56**	**200**		**P**	**04 37 47.6**	**+1.3**
SYO	**Syowa Base**	**77.32**	**193**	*e*P	**P**	**04 38 12.0**	**-1.7**
SYO	**Syowa Base**	**77.32**	**193**	*e*pP	pP	04 38 19.2	-4.2
SNAA	**Sanae**	**78.26**	**178**	P	**P**	**04 38 18.9**	**-0.1**
SNAA				IAmb	IAmb	04 38 45.2	
	comp=Z,6.7nm,1.2s						
VNA3	**Neumayer Olymp**	**78.39**	**176**	P	**P**	**04 38 19.5**	**-0.3**
MJAR	**Matsushiro Arr**	**78.39**	**325**	P	**P**	**04 38 19.4**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=154,slow=4.9,SNR=4.6						
MJAR				LR	LR	05 07 43.3	
	comp=Z,36nm,21.5s,baz=265,slow=32						
VNA1	**Neumayer--Stat**	**79.06**	**176**	P	**P**	**04 38 23.6**	**+0.3**
PLCA	**Paso Flores**	**82.27**	**133**	P	**P**	**04 38 41.5**	**+0.2**
	comp=Z,2.7nm,1.0s,baz=313,slow=2.8,SNR=3.7						
PLCA				LR	LR	05 10 01.5	
	comp=Z,66nm,18.5s,baz=286,slow=32						
PLCA	**Paso Flores**	**82.27**	**133**	IAmb	IAmb	04 39 49.9	
	comp=Z,10nm,1.4s						
KSRS	**Korea Array**	**84.54**	**319**	P	**P**	**04 38 53.5**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=128,slow=6.2,SNR=5.4						
KSRS				LR	LR	05 14 10.3	
	comp=Z,47nm,18.2s,baz=192,slow=34						
YSS	**Yuzh-Sakhalins**	**84.83**	**334**	P	**P**	**04 38 54.3**	**+0.6**
RPSI	**Rantau Prapat**	**85.79**	**276**	P	**P**	**04 38 58.2**	**-1.2**
RPSI				IAmb	IAmb	04 39 11.6	
	comp=Z,6.4nm,1.1s						
PETK	**Petropavlovsk-**	**85.81**	**345**	P	**P**	**04 38 59.1**	**+0.5**
	comp=Z,5.7nm,0.9s,baz=149,slow=9.8,SNR=6.4						
USA0B	**Ussuriysk Arra**	**87.30**	**326**	P	**P**	**04 39 05.0**	**-1.0**
USRK	**Ussuriysk Ar.**	**87.30**	**326**	P	**P**	**04 39 07.0**	**+0.9**
	comp=Z,3.1nm,0.8s,baz=126,slow=4.9,SNR=9.2						
NVAR	**Mina Array Bea**	**87.86**	**42**	P	**P**	**04 39 09.3**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=218,slow=8.1,SNR=7.1						
NV11	**Mina Array Sit**	**87.95**	**43**	P	**P**	**04 39 08.7**	**-0.9**
NV11				IAmb	IAmb	04 39 24.2	
	comp=Z,3.7nm,1.1s						
Y14A	**Wickenburg**	**88.24**	**49**	P	**P**	**04 39 09.0**	**-1.9**
Y14A				IAmb	IAmb	04 39 26.6	
	comp=Z,4.4nm,1.2s						
ZAIG	**Zacatecas**	**89.18**	**63**	P	**P**	**04 39 15.6**	**-0.2**
U15A	**North Rim**	**90.24**	**47**	IAmb	IAmb	04 39 35.6	
	comp=Z,6.5nm,1.1s						
ENH	**Enshi**	**91.89**	**304**	P	**P**	**04 39 27.8**	**-0.2**
TXAR	**Lajitas Array**	**91.97**	**57**	P	**P**	**04 39 29.4**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=202,slow=6.6,SNR=2.0						
CMAR	**Chiang Mai Arr**	**93.77**	**289**	P	**P**	**04 39 38.0**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=142,slow=4.6,SNR=4.0						
PDAR	**Pinedale Array**	**95.76**	**43**	P	**P**	**04 39 45.0**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=194,slow=35,SNR=2.1						
MK31	**Makanchi Array**	**118.03**	**310**	PKPdf	**PKiKP**	**04 45 06.6**	**+0.5**
MKAR	**Makanchi Array**	**118.03**	**310**	PKP	**PKiKP**	**04 45 05.5**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=169,slow=0.6,SNR=3.6						
BOOM	**Boomskoye usch**	**121.33**	**304**	PKPdf	**PKiKP**	**04 45 12.7**	**-0.2**
ARCES	**ARCESS Array B**	**138.57**	**348**	PKhKP	PKPpre	04 45 35.0	
	comp=Z,1.1nm,0.9s,baz=33,slow=2.9,SNR=4.2						
TBLG	**Delisi**	**144.30**	**300**	PKPdf	**PKPdf**	**04 45 54.3**	**-1.2**
FIA1	**FINESS Array S**	**145.18**	**340**		**PKPab**	**04 45 55.4**	**-0.6**
FINES	**FINESS Array B**	**145.18**	**340**	PKPbc	**PKPab**	**04 45 55.3**	**-0.7**
	comp=Z,8.2nm,0.5s,baz=58,slow=3.6,SNR=72						
AKH	**Akhalkalaki**	**145.25**	**300**		**PKPdf**	**04 45 57.0**	**-0.4**
OBN	**Obninsk**	**145.32**	**326**	PKPbc	**PKPdf**	**04 45 56.7**	**0.0**
KBZ	**Khabaz**	**145.40**	**304**	PKPbc	**PKPbc**	**04 45 56.7**	**-0.5**
	comp=Z,5.3nm,0.9s,baz=82,slow=8.4,SNR=7.4						
KIV	**Kislovodsk**	**145.51**	**305**		**PKPab**	**04 45 58.4**	**+0.4**
NC303	**NORSAR Array S**	**148.50**	**352**		**PKPbc**	**04 46 05.1**	**-0.4**
NC405	**NORSAR Array S**	**148.57**	**351**	PKPbc	**PKiKP**	**04 46 06.3**	**-1.0**
NB2	**NORSAR Subarra**	**148.70**	**352**	PKP	**PKPbc**	**04 46 05.0**	**-1.1**
	comp=Z,54nm,3.3s,baz=9.8,slow=2.7						
NOA	**NORSAR Array B**	**148.70**	**352**	PKPbc	**PKPbc**	**04 46 04.3**	**-1.8**
	comp=Z,3.5nm,1.0s,baz=15,slow=4.3,SNR=8.4						
NC602	**NORSAR Array S**	**148.95**	**351**		**PKPdf**	**04 46 03.8**	**+1.1**
AKASG	**Malin Array Be**	**151.47**	**323**	PKPbc	**PKPbc**	**04 46 12.6**	**-0.4**
	comp=Z,2.4nm,0.6s,baz=47,slow=2.7,SNR=10						
AKBB	**Malin Array Si**	**151.47**	**323**		**PKiKP**	**04 46 12.7**	**-0.8**
BRTR	**Keskin Array B**	**152.92**	**299**	PKPbc	**PKiKP**	**04 46 17.1**	**0.0**
	comp=Z,0.9nm,0.4s,baz=136,slow=4.5,SNR=2.8						
CRVS	**Cervenica-Dubn**	**156.46**	**328**	*e*PKP	**PKPab**	**04 46 43.4**	**+0.6**
OSTC	**Ostas**	**157.29**	**337**	*e*PKPAB	PKPab	04 46 54.5	+8.3
OSTC				*ex*	x	04 46 58.9	
DPC	**Dobruska-Polom**	**157.42**	**336**	*e*PKPAB	**PKPab**	**04 46 47.8**	**+0.9**
DPC				*ex*	x	04 46 56.4	
GOPC	**GO Pecny, Ondr**	**158.31**	**338**	*e*PKPAB	PKPab	04 47 03.3	+13
PRU	**Pruhonice**	**158.32**	**339**	*e*PKPAB	PKPab	04 47 03.1	+12
KHC	**Kasperske Hory**	**159.38**	**339**	*e*PKPAB	PKPab	04 47 02.5	+7.2
KHC				*ex*	x	04 47 07.6	
GERES	**GERESS Array B**	**159.59**	**338**	PKPab	**PKPab**	**04 46 56.6**	**+0.2**
	comp=Z,0.8nm,0.9s,baz=28,slow=3.2,SNR=5.3						
CONA	**Conrad Observa**	**159.61**	**333**	*e*PKPab	**PKPab**	**04 46 57.3**	**+0.8**
	comp=Z,3.2nm,1.0s						
MOA	**Molln**	**160.26**	**336**	*e*PKPab	**PKPab**	**04 47 00.1**	**+0.9**
	comp=Z,2.6nm,1.2s						
SOKA	**Soboth**	**160.96**	**333**	*e*PKPab	**PKPab**	**04 47 02.5**	**+0.2**
	comp=Z,7.1nm,1.8s						
WATA	**Walderalm**	**161.59**	**340**	*e*PKPab	**PKPab**	**04 47 05.5**	**+0.4**
	comp=Z,3.6nm,0.7s						
WTTA	**Wattenberg**	**161.63**	**340**	*e*PKPab	**PKPab**	**04 47 05.9**	**+0.5**
	comp=Z,8.0nm,1.2s						
RETA	**Reutte**	**161.68**	**342**	*e*PKPab	**PKPab**	**04 47 05.8**	**+0.3**
	comp=Z,2.9nm,1.2s						
MOTA	**Moosalm**	**161.71**	**341**	*e*PKPab	**PKPab**	**04 47 04.7**	**-1.0**
	comp=Z,5.8nm,1.3s						
ABTA	**Abfaltersbach**	**161.81**	**337**	*e*PKPab	**PKPab**	**04 47 05.1**	**-1.0**
	comp=Z,7.3nm,1.3s						
FETA	**Feichten**	**162.11**	**341**	*e*PKPab	**PKPab**	**04 47 05.8**	**-1.7**
	comp=Z,2.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**162.93**	**177**	PKPab	**PKPab**	**04 47 09.7**	**-1.9**
	comp=Z,0.9nm,0.7s,baz=191,slow=2.9,SNR=13						

WEL 28 04:43:02.0, 39.2°S ± 0.9°, 17.8°E ± °, h54 km ± 2 km, M3.2/32, ML3.5/25, MLv3.2/32, Error ellipse: s-maj=0.0km s-min=0.0km az=96.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**0.09**	**61**	P	Pn	04 43 10.8	+0.5
MHGZ				S	Sn	04 43 17.4	+1.1
KNZ	**Kokohu**	**0.20**	**330**	P	Pn	04 43 10.6	-0.1
KNZ				S	Sn	04 43 16.6	-0.4
PRGZ	**Paritu Road**	**0.28**	**13**	P	Pn	04 43 11.6	+0.2
PRGZ				S	Sn	04 43 18.7	+0.6
WHHZ	**Waihua**	**0.46**	**285**	P	Pn	04 43 13.3	+0.3
WHHZ				S	Sn	04 43 21.2	+0.2
RIGZ	**Rimuhau**	**0.49**	**356**	P	Pn	04 43 13.0	-0.5
RIGZ				S	Sn	04 43 21.7	0.0
SNGZ	**Shannon Statio**	**0.55**	**319**	P	Pn	04 43 14.3	+0.2
SNGZ				S	Sn	04 43 22.7	-0.1
RAHZ	**Arahi**	**0.62**	**297**	P	Pn	04 43 15.3	+0.3
RAHZ				S	Sn	04 43 24.5	0.0
ARHZ	**Aropaoanui**	**0.63**	**264**	P	Pn	04 43 15.6	+0.6
ARHZ				S	Sn	04 43 25.7	+1.2
CKHZ	**Cape Kidnapper**	**0.72**	**230**	P	Pn	04 43 16.6	+0.4
CKHZ				S	Sn	04 43 27.4	+0.8
TKGZ	**Te Karaka**	**0.76**	**3**	P	Pn	04 43 16.9	+0.3
TKGZ				S	Sn	04 43 27.9	+0.6
RAGZ	**Rawiri**	**0.76**	**337**	P	Pn	04 43 17.0	+0.2
RAGZ				S	Sn	04 43 27.5	-0.1
CNGZ	**Carnagh Statio**	**0.78**	**24**	P	Pn	04 43 17.7	+0.8
NMHZ	**Naumai**	**0.78**	**277**	P	Pn	04 43 17.6	+0.6
NMHZ				S	Sn	04 43 28.4	+0.4
MTHZ	**Maungataniwha**	**0.82**	**294**	P	Pn	04 43 17.7	+0.2
MTHZ				S	Sn	04 43 28.3	-0.6
RTZ	**Ruatahuna**	**0.86**	**312**	P	Pn	04 43 18.2	+0.1
RTZ				S	Sn	04 43 29.2	-0.7
MWZ	**Matawai**	**0.89**	**346**	P	Pn	04 43 18.5	+0.1
MCHZ	**McNeill Hill**	**0.89**	**254**	P	Pn	04 43 19.0	+0.7
MCHZ				S	Sn	04 43 31.7	+1.2
KAHZ	**Kahuranaki**	**0.93**	**230**	P	Pn	04 43 19.2	+0.3
BKZ	**Black Stump Fm**	**1.02**	**271**	P	Pn	04 43 20.4	+0.3
BKZ				S	Sn	04 43 32.9	-0.5
TWGZ	**Tauwhareparae**	**1.03**	**8**	P	Pn	04 43 20.7	+0.4
TWGZ				S	Sn	04 43 35.2	+1.4
MUGZ	**Murupara**	**1.08**	**311**	P	Pn	04 43 21.3	+0.4
MUGZ				S	Sn	04 43 34.4	-0.5
URZ	**Urewera**	**1.08**	**330**	P	Pn	04 43 21.0	+0.1
KWHZ	**Kaweka Forest**	**1.09**	**258**	P	Pn	04 43 21.5	+0.4
PXZ	**Pawanui**	**1.10**	**221**	P	Pn	04 43 20.9	-0.3
MRHZ	**Matea Rd**	**1.14**	**288**	P	Pn	04 43 22.3	+0.6
PUZ	**Puketiti**	**1.18**	**18**	P	Pn	04 43 22.2	-0.1
KRHZ	**Kereru**	**1.20**	**248**	P	Pn	04 43 22.4	0.0
RUGZ	**Raukumara Rang**	**1.23**	**355**	P	Pn	04 43 23.1	0.0
ALRZ	**Allen Road**	**1.30**	**299**	P	Pn	04 43 25.2	+1.3
PKGZ	**Pakihiroa**	**1.32**	**9**	P	Pn	04 43 24.5	+0.2
WPHZ	**Waipukurau**	**1.36**	**230**	P	Pn	04 43 24.6	-0.1
BHHZ	**Black Hill Sta**	**1.38**	**257**	P	Pn	04 43 25.3	+0.4
PRHZ	**Porangahau**	**1.40**	**220**	P	Pn	04 43 24.6	-0.6
TARZ	**Mount Tarawera**	**1.40**	**313**	P	Pn	04 43 26.4	+1.2
PNHZ	**Pukenui**	**1.43**	**239**	P	Pn	04 43 25.4	-0.2
HAZ	**Te Kaha**	**1.44**	**359**	P	Pn	04 43 26.3	+0.6
WMGZ	**Waiomatatini S**	**1.46**	**19**	P	Pn	04 43 26.1	+0.2
MOVZ	**Moawhango**	**1.60**	**262**	P	Pn	04 43 28.9	+0.9
TSZ	**Takapari Road**	**1.66**	**238**	P	Pn	04 43 28.4	-0.4
OPRZ	**Ohinepanea**	**1.67**	**324**	P	Pn	04 43 28.5	-0.3
TUVZ	**Tukino**	**1.67**	**267**	P	Pn	04 43 29.9	+0.9
DVHZ	**Dannevirke**	**1.67**	**228**	P	Pn	04 43 28.4	-0.5
MXZ	**Matakaoa Point**	**1.68**	**14**	P	Pn	04 43 29.5	+0.5
KRVZ	**Karewarewa**	**1.68**	**273**	P	Pn	04 43 29.8	+0.7
WHVZ	**Whangaehu Hut**	**1.72**	**266**	P	Pn	04 43 30.5	+0.7
FWVZ	**Far West T-bar**	**1.75**	**267**	P	Pn	04 43 30.7	+0.6
TRVZ	**Turoa**	**1.75**	**266**	P	Pn	04 43 30.8	+0.6
MTVZ	**Mangateitei**	**1.82**	**263**	P	Pn	04 43 31.6	+0.7
BFZ	**Birch Farm**	**1.90**	**218**	P	Pn	04 43 30.9	-1.2
PKVZ	**Pokaka**	**1.91**	**266**	P	Pn	04 43 32.9	+0.7
PRWZ	**Pori Road**	**1.96**	**226**	P	Pn	04 43 32.4	-0.4
POWZ	**Post Office Ro**	**1.97**	**232**	P	Pn	04 43 32.5	-0.4
CPWZ	**Castlepoint**	**2.10**	**215**	P	Pn	04 43 33.9	-0.9
TIWZ	**Tintock**	**2.16**	**222**	P	Pn	04 43 34.3	-1.2
MRZ	**Mangatainoka R**	**2.25**	**229**	P	Pn	04 43 35.9	-0.9
WAZ	**Wanganui**	**2.25**	**255**	P	Pn	04 43 38.0	+1.2
VRZ	**Vera Road**	**2.37**	**271**	P	Pn	04 43 39.3	+1.0
TMWZ	**Te Maipa**	**2.40**	**217**	P	Pn	04 43 37.2	-1.7
HOWZ	**Holdsworth Sta**	**2.44**	**225**	P	Pn	04 43 38.0	-1.4
OGWZ	**Otaki Gorge**	**2.59**	**230**	P	Pn	04 43 40.3	-1.1
MTW	**Mount Morrison**	**2.63**	**221**	P	Pn	04 43 39.9	-2.1
TRWZ	**Traveller**	**2.73**	**216**	P	Pn	04 43 40.9	-2.5
KIW	**Kapiti Island**	**2.77**	**232**	P	Pn	04 43 42.9	-1.0
CAW	**Cannon Point**	**2.83**	**227**	P	Pn	04 43 43.1	-1.7
PAWZ	**Paruwai Farm**	**2.84**	**219**	P	Pn	04 43 42.7	-2.2
KHEZ	**Kahui Hut**	**2.94**	**267**	P	Pn	04 43 47.9	+1.6
MSWZ	**Moikau Station**	**2.95**	**221**	P	Pn	04 43 43.9	-2.4
PKE	**Pukeiti**	**2.96**	**269**	P	Pn	04 43 48.4	+1.9
PLWZ	**Palliser**	**3.06**	**219**	P	Pn	04 43 45.2	-2.8
BHW	**Baring Head**	**3.15**	**224**	P	Pn	04 43 46.6	-2.4
TCW	**Tory Channel**	**3.37**	**232**	P	Pn	04 43 50.0	-2.0
DUWZ	**D'Urville Isla**	**3.38**	**241**	P	Pn	04 43 50.6	-1.7
TUWZ	**Tuamarina**	**3.70**	**232**	P	Pn	04 43 54.0	-2.6
BSWZ	**Blackbirch Sta**	**3.91**	**229**	P	Pn	04 43 57.0	-2.5
NNZ	**Nelson**	**3.94**	**238**	P	Pn	04 43 57.9	-2.0
QRZ	**Quartz Range**	**4.36**	**246**	P	Pn	04 44 03.5	-2.2
THZ	**Tophouse**	**4.53**	**234**	P	Pn	04 44 05.3	-2.7
KHZ	**Kahutara**	**4.56**	**224**	P	Pn	04 44 05.2	-3.2
GVZ	**Greta Valley S**	**5.21**	**222**	P	Pn	04 44 14.6	-2.8
DSZ	**Denniston Nort**	**5.23**	**239**	P	Pn	04 44 15.5	-2.2
LTZ	**Lake Taylor**	**5.51**	**228**	P	Pn	04 44 18.0	-3.4
OKCZ	**Okains Bay**	**5.75**	**217**	P	Pn	04 44 21.3	-3.5
AKCZ	**Akaroa Harbour**	**5.94**	**217**	P	Pn	04 44 24.5	-2.8
ODZ	**Otahua Downs**	**7.90**	**220**	P	Pn	04 44 50.7	-3.4

*IDC **28** 04:44:17.2±0.6, 30.8°S ± 89 km × 41.4°E ± 42 km, h0 km, mb4.2/21, mb1 4.4/21, mb1mx4.2/42, mbtmp4.2/21, MS3.7/18, Ms1 3.7/18, ms1mx3.6/29, Error ellipse: s-maj=16.9km s-min=14.0km az=162.0*

*NEIC **28** 04:44:19.3±1.6, 30.9°S ± 0.1° × 41.3°W ± 0.1°, h10 km ± 1 km, mb4.7/118, Error ellipse: s-maj=21.2km s-min=16.5km az=172.0*

*NEIC **28** 04:44:27.7±6.7, 31.3°S ± 0.2° × 40.9°W ± 0.1°, h10 km ± 5 km, Error ellipse: s-maj=0.0km s-min=0.0km az=94.0*

ISC 28 04:44:19.6±0.4, 30.89°N ± 0.09° × 41.33°W ± 0.06°, h13 km, n214, σ 0.92/187, mb4.6/107, MS3.7/20, 5C-5D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSR	**BB Station**	**19.95**	**280**	P	**P**	**04 48 52.0**	**+0.6**
PMOZ	**Porto Moniz, M**	**20.58**	**78**	P	**P**	**04 48 57.3**	**-1.1**
LMN	**Caledonia Moun**	**23.59**	**316**	P	**P**	**04 49 29.1**	**-0.8**
G65A	**Princeton**	**24.98**	**312**	P	**P**	**04 49 42.1**	**-0.8**
MTP	**Monte Pirata**	**25.39**	**246**	P	**P**	**04 49 48.8**	**+2.0**
SJG	**San Juan**	**25.85**	**246**	LR	LR	04 57 38.6	
	comp=Z,74nm,21.1s,baz=72,slow=31						
E63A	**Oxbow**	**26.06**	**314**	P	**P**	**04 49 54.0**	**+1.3**
HRV	**Adam Dziewonsk**	**26.73**	**304**	P	**P**	**04 49 59.9**	**+1.2**
HRV				IAmb	IAmb	04 50 01.6	
	comp=Z,15nm,1.1s						
E62A	**Clayton Lake**	**26.83**	**314**	P	**P**	**04 50 01.2**	**+1.6**
E62A				IAmb	IAmb	04 50 02.5	
	comp=Z,17nm,1.2s						
MDP	**Montagnes des**	**27.77**	**205**	LR	LR	04 59 41.3	
	comp=Z,57nm,19.3s,baz=62,slow=33						
SCHQ	**Schefferville**	**30.05**	**330**	LR	LR	05 01 24.2	
	comp=Z,312nm,20.9s,baz=148,slow=34						
ESDC	**Sonseca Array**	**31.55**	**64**	P	**P**	**04 50 41.0**	**-0.7**
	comp=Z,1.3nm,1.1s,baz=251,slow=8.4,SNR=5.5						
ESDC				LR	LR	05 00 30.3	
	comp=Z,90nm,21.5s,baz=240,slow=31						
M54A	**Oil Creek Stat**	**32.46**	**300**	P	**P**	**04 50 49.7**	**0.0**
N53A	**Lisbon**	**33.28**	**298**	P	**P**	**04 50 56.7**	**-0.1**
O53A	**New Philadelph**	**33.52**	**297**	P	**P**	**04 51 00.1**	**+1.2**
AAM	**Ann Arbor**	**35.51**	**301**	P	**P**	**04 51 18.3**	**+2.2**
AAM				IAmb	IAmb	04 52 29.3	
	comp=Z,11nm,1.1s						
PTGA	**Pitinga**	**36.09**	**213**	P	**P**	**04 51 21.0**	**-0.3**
	comp=Z,5.1nm,1.0s,baz=68,slow=23,SNR=3.4						
BORG	**Borgarnes**	**36.10**	**14**	P	**P**	**04 51 21.1**	**+0.3**
	comp=Z,12nm,0.9s,baz=209,slow=5.1,SNR=8.3						
T50A	**Nancy**	**36.36**	**292**	P	**P**	**04 51 23.6**	**+0.2**
U49A	**Red Boiling Sp**	**37.15**	**291**	P	**P**	**04 51 30.1**	**-0.1**
CLTN	**Cedars of Leba**	**37.63**	**290**	P	**P**	**04 51 34.4**	**+0.1**
V48A	**Smith Brothers**	**38.06**	**290**	P	**P**	**04 51 38.3**	**+0.3**
X48A	**Hartselle**	**38.40**	**288**	P	**P**	**04 51 40.8**	**0.0**
WVT	**Waverly**	**38.84**	**291**	P	**P**	**04 51 46.1**	**+1.6**
WVT				IAmb	IAmb	04 51 51.9	
	comp=Z,24nm,1.9s						
OLIL	**Olney**	**38.84**	**295**	P	**P**	**04 51 45.9**	**+1.4**
SNF	**Seneffe**	**39.00**	**46**	P	**P**	**04 51 45.9**	**+0.3**
	comp=Z,13nm,1.0s						
PLAL	**Pickwick Lake**	**39.17**	**289**	P	**P**	**04 51 47.2**	**-0.1**
BGES	**Gesves**	**39.48**	**47**	P	**P**	**04 51 50.0**	**+0.4**
	comp=Z,14nm,0.0s						
BNI	**Bardonecchia**	**39.82**	**55**	P	**P**	**04 51 51.8**	**-0.9**
WLF	**Walferdange**	**40.02**	**48**	*e*P	**P**	**04 51 56.3**	**+2.1**
	comp=Z,25nm,1.5s,baz=263,slow=7.9						
W45A	**Hickory Valley**	**40.05**	**289**	P	**P**	**04 51 55.4**	**+0.8**
W45A				IAmb	IAmb	04 52 06.5	
	comp=Z,25nm,1.1s						
ROSC	**El Rosal**	**40.42**	**237**	LR	LR	05 09 00.5	
	comp=Z,71nm,19.6s,baz=170,slow=37						
I40A	**Norwalk**	**40.68**	**303**	P	**P**	**04 51 59.4**	**-0.3**
PBMO	**Poplar Bluff**	**40.85**	**292**	P	**P**	**04 52 00.5**	**-0.6**
PBMO				IAmb	IAmb	04 52 07.4	
	comp=Z,29nm,1.8s						
N41A	**Harden Midland**	**40.88**	**298**	P	**P**	**04 52 01.9**	**+0.5**
BFO	**Black Forest**	**41.25**	**50**	P	**P**	**04 52 04.0**	**-0.4**
BFO	**Black Forest**	**41.25**	**50**	*e*P	**P**	**04 52 05.3**	**+0.9**
	comp=Z,14nm,1.2s,baz=263,slow=7.9						
CCM	**Cathedral Cave**	**41.36**	**294**	P	**P**	**04 52 04.6**	**-0.7**
IBBN	**Ibbenburen**	**41.51**	**44**	*e*P	**P**	**04 52 07.5**	**+1.2**
	comp=Z,24nm,0.9s,baz=263,slow=7.9						
LCAR	**Lake Charles**	**41.52**	**291**	IAmb	IAmb	04 52 12.8	
	comp=Z,21nm,1.7s						
TNS	**Taunus Mts**	**41.57**	**48**	*e*P	**P**	**04 52 08.4**	**+1.4**
	comp=Z,16nm,1.3s,baz=263,slow=7.9						
SUMG	**Summit**	**41.77**	**1**	*i* P	**P**	**04 52 08.0**	**-0.8**
	comp=Z,11nm,0.7s						
SUMG	**Summit**	**41.77**	**1**	P	**P**	**04 52 08.3**	**-0.4**
TUE	**Stuetta**	**41.78**	**53**	P	**P**	**04 52 09.8**	**+0.9**
DBIC	**Dimbokro**	**41.79**	**118**	P	**P**	**04 52 09.0**	**0.0**
	comp=Z,10nm,1.0s,baz=281,slow=8.9,SNR=6.7						
DBIC				LR	LR	05 07 17.4	
	comp=Z,235nm,19.9s,baz=302,slow=33						
P40A	**Paris**	**41.86**	**296**	P	**P**	**04 52 08.9**	**-0.5**
P40A				IAmb	IAmb	04 52 20.2	
	comp=Z,15nm,1.4s						
DAVA	**Damuels**	**42.20**	**52**	*e*pP	**P**	**04 52 13.6**	**+1.3**
	comp=Z,11nm,1.2s						
K38A	**Pawersburg**	**42.25**	**301**	P	**P**	**04 52 14.2**	**+1.5**
TAM	**Tamanrasset**	**42.33**	**89**	P	**P**	**04 52 14.8**	**+1.1**
CCAR	**Cane Creek**	**42.35**	**288**	P	**P**	**04 52 12.5**	**-1.0**
UBR	**Ueberruh**	**42.38**	**52**	*e*P	**P**	**04 52 14.6**	**+1.0**
	comp=Z,41nm,2.1s,baz=263,slow=7.9						
FUORN	**Ofenpass-Fuorn**	**42.42**	**53**	P	**P**	**04 52 14.3**	**0.0**
FUORN				IAmb	IAmb	04 53 28.1	
	comp=Z,24nm,1.9s						
WHAR	**Wooly Hollow**	**42.54**	**290**	IAmb	IAmb	04 52 22.0	
	comp=Z,28nm,1.6s						
UALR	**University of**	**42.67**	**289**	IAmb	IAmb	04 52 22.4	
	comp=Z,14nm,0.9s						
GTTG	**Gottingen**	**42.72**	**46**	*e*P	**P**	**04 52 17.7**	**+1.4**
	comp=Z,18nm,1.1s,baz=263,slow=7.9						
FETA	**Feichten**	**42.76**	**53**	*e*pP	**P**	**04 52 18.4**	**+1.5**
	comp=Z,5.8nm,1.1s						
RETA	**Reutte**	**42.81**	**52**	*e*pP	**P**	**04 52 18.3**	**+1.1**
	comp=Z,8.0nm,1.1s						
U40A	**Yellville**	**42.84**	**292**	IAmb	IAmb	04 52 48.5	
	comp=Z,9.0nm,0.5s						
NRDL	**Niedersach Rie**	**42.95**	**45**	*e*P	**P**	**04 52 19.7**	**+1.6**
	comp=Z,30nm,1.1s,baz=263,slow=7.9						
CLZ	**Clausthal**	**43.02**	**46**	*e*P	**P**	**04 52 19.9**	**+1.2**
	comp=Z,19nm,1.1s,baz=263,slow=7.9						
MOTA	**Moosalm**	**43.03**	**52**	*e*pP	**P**	**04 52 20.3**	**+1.3**
	comp=Z,15nm,1.9s						
OSSC	**Osservatorio P**	**43.07**	**58**	IAmb	IAmb	04 52 20.7	
	comp=Z,17nm,1.2s						
SQTA	**Sankt Quirin**	**43.10**	**52**	*e*pP	**P**	**04 52 21.0**	**+1.5**
	comp=Z,13nm,1.4s						
ASSE	**Asse, Remlinge**	**43.24**	**45**	*e*P	**P**	**04 52 22.0**	**+1.6**
	comp=Z,29nm,1.4s,baz=263,slow=7.9						
GRF	**Grafenberg Arr**	**43.29**	**49**	*e*P	**P**	**04 52 21.7**	**+0.8**
	comp=Z,9.3nm,1.1s,baz=263,slow=7.9						
GRF				*e*L	L	05 05 31.7	
	comp=Z,90nm,21.9s						
TOA0	**Torodi Ar. Sit**	**43.31**	**104**	P	**P**	**04 52 22.0**	**+0.5**
TOA0				IAmb	IAmb	04 52 29.8	
	comp=Z,25nm,1.4s						
TORD	**Torodi Ar. Bea**	**43.31**	**104**	P	**P**	**04 52 21.4**	**0.0**
	comp=Z,6.6nm,1.0s,baz=310,slow=8.7,SNR=21						
TORD				LR	LR	05 10 54.1	
	comp=Z,120nm,18.3s,baz=310,slow=37						
Z41A	**Richland Creek**	**43.32**	**287**	P	**P**	**04 52 21.4**	**0.0**
BSEG	**Bad Segeberg**	**43.33**	**43**	*e*P	**P**	**04 52 22.4**	**+1.3**
	comp=Z,50nm,1.0s,baz=263,slow=7.9						
WATA	**Walderalm**	**43.35**	**

KWP					IAmb	IAmb	04 53 21.5		
	comp=Z,10nm,0.9s								
DEV	**Deva**	**51.20**	**54**	⇓P	**P**	**P**	**04 53 23.6**	**+1.0**	
MSTX	**Muleshoe**	**51.27**	**291**	P	**P**	**P**	**04 53 21.9**	**-1.6**	
MSTX				IAmb	IAmb		04 53 29.7		
	comp=Z,7.6nm,0.9s								
T25A	**Trinidad**	**51.82**	**295**	IAmb	IAmb		04 53 40.0		
	comp=Z,21nm,1.8s								
ISCO	**Idaho Springs**	**52.19**	**299**	P	**P**	**P**	**04 53 30.5**	**0.0**	
BUR08	**Bucovina Ar. S**	**52.56**	**51**	P	**P**	**P**	**04 53 32.9**	**0.0**	
BUR08				IAmb	IAmb		04 53 35.1		
	comp=Z,8.1nm,1.1s								
BURAR	**Bucovina Array**	**52.58**	**51**	⇓P	**P**	**P**	**04 53 34.5**	**+1.5**	
FINES	**FINESS Array B**	**52.65**	**34**	P	**P**	**P**	**04 53 33.4**	**+0.2**	
	comp=Z,3.7nm,0.7s,baz=247,slow=3.9,SNR=17								
FIA1	**FINESS Array S**	**52.65**	**34**	P	**P**	**P**	**04 53 32.4**	**-0.7**	
VOIR		**52.75**	**54**	⇑P	**P**	**P**	**04 53 34.8**	**+0.4**	
BIZ	**Bicaz**	**53.27**	**52**	⇓P	**P**	**P**	**04 53 39.5**	**+1.5**	
TXAR	**Lajitas Array**	**53.31**	**285**	P	**P**	**P**	**04 53 37.4**	**-1.3**	
	comp=Z,0.3nm,0.5s,baz=72,slow=5.9,SNR=4.5								
ARCES	**ARCESS Array B**	**53.34**	**24**	P	**P**	**P**	**04 53 38.4**	**+0.3**	
	comp=Z,3.1nm,0.9s,baz=260,slow=6.0,SNR=9.9								
TLIG	**Tlapa**	**53.34**	**270**	P	**P**	**P**	**04 53 39.3**	**+0.2**	
TLIG				IAmb	IAmb		04 54 40.8		
	comp=Z,12nm,1.2s								
MLR	**Muntele Rosu**	**53.37**	**54**	⇑P	**P**	**P**	**04 53 39.6**	**+0.7**	
LPAZ	**La Paz**	**53.52**	**213**	P	**P**	**P**	**04 53 40.7**	**-0.1**	
	comp=Z,2.4nm,0.8s,baz=2.5,slow=5.1,SNR=3.8								
LPAZ	**La Paz**	**53.52**	**213**	P	**P**	**P**	**04 53 40.8**	**-0.1**	
LPAZ				IAmb	IAmb		04 53 53.5		
	comp=Z,6.3nm,1.0s								
RLMT	**Red Lodge**	**53.89**	**306**	P	**P**	**P**	**04 53 43.0**	**+0.2**	
RLMT				IAmb	IAmb		04 53 51.0		
	comp=Z,15nm,1.7s								
ANMO	**Albuquerque**	**53.96**	**293**	P	**P**	**P**	**04 53 43.1**	**-0.4**	
ANMO				IAmb	IAmb		04 53 55.3		
	comp=Z,17nm,1.9s								
O20A	**White River Ci**	**54.10**	**299**	IAmb	IAmb		04 53 55.8		
	comp=Z,8.8nm,1.1s								
PD31	**Pinedale Array**	**54.52**	**303**	IAmb	IAmb		04 53 53.5		
	comp=Z,7.1nm,0.8s								
PDAR	**Pinedale Array**	**54.52**	**303**	P	**P**	**P**	**04 53 46.1**	**-1.4**	
	comp=Z,1.9nm,0.6s,baz=84,slow=8.0,SNR=16								
BW06	**Boulder Array**	**54.52**	**303**	IAmb	IAmb		04 53 53.5		
	comp=Z,7.7nm,0.8s								
AKASG	**Malin Array Be**	**54.81**	**47**	P	**P**	**P**	**04 53 48.2**	**-1.0**	
	comp=Z,5.6nm,0.8s,baz=276,slow=6.4,SNR=12								
AKASG				LR	LR		05 15 19.3		
	comp=Z,42nm,18.1s,baz=40,slow=34								
AKBB	**Malin Array Si**	**54.81**	**47**	P	**P**	**P**	**04 53 49.1**	**-0.1**	
SNOW	**Snow King Moun**	**55.24**	**304**	IAmb	IAmb		04 53 59.4		
	comp=Z,7.2nm,0.8s								
IMW	**Indian Meadow**	**55.29**	**304**	P	**P**	**P**	**04 53 52.9**	**-0.2**	
IMW				IAmb	IAmb		04 53 59.7		
	comp=Z,6.5nm,0.9s								
YHB	**Horse Butte**	**55.30**	**306**	P	**P**	**P**	**04 53 53.3**	**+0.1**	
TPAW	**Teton Pass**	**55.38**	**304**	P	**P**	**P**	**04 53 53.3**	**-0.5**	
TPAW				IAmb	IAmb		04 53 59.8		
	comp=Z,5.6nm,1.0s								
FXWY	**Fox Creek**	**55.40**	**304**	P	**P**	**P**	**04 53 54.5**	**+0.6**	
YKA	**Yellowknife Ar**	**55.44**	**327**	P	**P**	**P**	**04 53 52.4**	**-1.1**	
	comp=Z,1.1nm,0.8s,baz=90,slow=7.2,SNR=11								
YKA				PcP	**PcP**		**04 54 52.2**	**-1.4**	
	comp=Z,0.7nm,0.8s,baz=92,slow=4.7,SNR=4.0								
YKA				LR	LR		05 16 28.1		
	comp=Z,216nm,21.5s,baz=0.0,slow=35								
HPIG		**55.77**	**283**	P	**P**	**P**	**04 53 56.5**	**-0.2**	
HPIG				IAmb	IAmb		04 54 08.8		
	comp=Z,9.9nm,1.3s								
HWUT	**Hardware Ranch**	**56.23**	**302**	IAmb	IAmb		04 54 10.6		
	comp=Z,5.7nm,0.9s								
MANT	**Manisa**	**56.73**	**62**	P	**P**	**P**	**04 54 03.9**	**+0.5**	
GO01	**Chusmiza**	**56.95**	**212**	P	**P**	**P**	**04 54 04.7**	**-0.7**	
DUG	**Dugway, Tooele**	**57.48**	**301**	P	**P**	**P**	**04 54 09.1**	**+0.5**	
U15A	**North Rim**	**58.12**	**296**	IAmb	IAmb		04 54 26.1		
	comp=Z,14nm,1.9s								
OBN	**Obninsk**	**58.56**	**41**	P	**P**	**P**	**04 54 15.9**	**+0.2**	
KLMR	**Klimovskoe**	**59.18**	**34**	*e*P	**P**	**P**	**04 54 18.5**	**-1.4**	
KLMR				AMP			04 54 27.2		
	comp=Z,11nm,1.3s								
ILGA	**Ilgaz**	**59.87**	**58**	P	**P**	**P**	**04 54 25.3**	**0.0**	
BR131	**Keskin Array S**	**60.19**	**59**	P	**P**	**P**	**04 54 27.5**	**0.0**	
BR131				IAmb	IAmb		04 54 29.1		
	comp=Z,6.5nm,0.9s								
BRTR	**Keskin Array B**	**60.19**	**59**	P	**P**	**P**	**04 54 28.2**	**+0.8**	
	comp=Z,4.7nm,0.8s,baz=274,slow=5.4,SNR=13								
BRTR				LR	LR		05 20 06.3		
	comp=Z,26nm,18.0s,baz=284,slow=36								
TPNV	**Topopah Spring**	**60.99**	**298**	P	**P**	**P**	**04 54 33.7**	**+0.7**	
TPNV				IAmb	IAmb		04 54 35.5		
	comp=Z,6.3nm,1.2s								
KVN	**Kaiserville**	**61.72**	**301**	P	**P**	**P**	**04 54 38.1**	**+0.1**	
KVN				IAmb	IAmb		04 54 44.3		
	comp=Z,5.6nm,1.1s								
NV11	**Mina Array Sit**	**61.96**	**300**	P	**P**	**P**	**04 54 39.4**	**-0.1**	
NVAR	**Mina Array Bea**	**62.07**	**300**	P	**P**	**P**	**04 54 39.5**	**-0.9**	
	comp=Z,0.9nm,0.6s,baz=71,slow=6.5,SNR=9.3								
NVAR				LR	LR		05 20 51.1		
	comp=Z,326nm,18.7s,baz=86,slow=35								
PAHR	**Pah Rah Range**	**62.46**	**302**	IAmb	IAmb		04 54 48.7		
	comp=Z,7.3nm,1.1s								
INK	**Inuvik**	**62.49**	**335**	P	**P**	**P**	**04 54 42.4**	**+0.1**	
KBZ	**Khabaz**	**65.51**	**52**	P	**P**	**P**	**04 55 04.2**	**+1.6**	
	comp=Z,6.3nm,0.8s,baz=306,slow=5.9,SNR=14								
KBZ				LR	LR		05 24 37.0		
	comp=Z,32nm,18.2s,baz=113,slow=37								
DAWY	**Dawson**	**66.06**	**332**	P	**P**	**P**	**04 55 08.3**	**+2.4**	
IL31		**68.73**	**334**	P	**P**	**P**	**04 55 23.3**	**+0.6**	
ILAR	**Eielson Array**	**68.73**	**334**	P	**P**	**P**	**04 55 22.9**	**+0.2**	
	comp=Z,3.3nm,1.0s,baz=57,slow=4.3,SNR=21								
ILAR				LR	LR		05 25 23.4		
	comp=Z,144nm,19.0s,baz=97,slow=36								
ARU	**Arti**	**69.96**	**36**	P	**P**	**P**	**04 55 29.6**	**-0.9**	
ARU				IAmb	IAmb		04 55 31.9		
	comp=Z,10nm,1.3s								
TRF	**Thorofare Moun**	**70.68**	**333**	P	**P**	**P**	**04 55 34.1**	**-0.9**	
ABKAR	**Akbulak array**	**73.99**	**42**	P	**P**	**P**	**04 55 55.1**	**+0.3**	
BRVK	**Borovoye**	**77.52**	**35**	P	**P**	**P**	**04 56 15.5**	**+0.6**	
BRVK				IAmb	IAmb		04 56 16.8		
	comp=Z,5.7nm,1.1s								
KMBO	**Kilima Mbogo**	**80.78**	**97**	LR	LR		05 32 35.7		
	comp=Z,159nm,18.1s,baz=272,slow=36								
LSZ	**Lusaka**	**80.99**	**114**	P	**P**	**P**	**04 56 35.2**	**+0.7**	
KURK	**Kurchatov**	**83.02**	**34**	P	**P**	**P**	**04 56 44.4**	**-0.2**	
KURK				IAmb	IAmb		04 56 46.0		
	comp=Z,7.3nm,1.1s								
KK31	**Karatay Array**	**83.48**	**43**	P	**P**	**P**	**04 56 47.0**	**-0.1**	
KK31				IAmb	IAmb		04 58 05.4		
	comp=Z,10.0nm,1.9s								
KKAR	**Karatay Array**	**83.48**	**43**	P	**P**	**P**	**04 56 45.7**	**-1.4**	
KKAR				IAmb	IAmb		04 58 05.4		
	comp=Z,10.0nm,1.9s								
ZAA0	**Zalesovo Array**	**83.55**	**29**	P	**P**	**P**	**04 56 46.3**	**-0.9**	
ZALV	**Zalesovo Beam**	**83.55**	**29**	P	**P**	**P**	**04 56 46.8**	**-0.4**	
	comp=Z,1.4nm,0.7s,baz=286,slow=5.9,SNR=5.1								
CHGR	**Chuyangaron**	**85.28**	**47**	P	**P**	**P**	**04 56 56.5**	**0.0**	
GAR	**Garm**	**85.81**	**47**	P	**P**	**P**	**04 57 00.1**	**+1.0**	
AAK	**Ala-Archa**	**86.08**	**42**	P	**P**	**P**	**04 57 00.1**	**-0.3**	
BOSA	**Boshof**	**86.73**	**126**	LR	LR		05 29 17.2		
	comp=Z,59nm,18.8s,baz=266,slow=31								
MAKZ	**Makanchi**	**87.31**	**35**	P	**P**	**P**	**04 57 06.1**	**-0.1**	
MAKZ				IAmb	IAmb		04 59 02.5		
	comp=Z,2.6nm,0.6s								
MK31	**Makanchi Array**	**87.47**	**35**	P	**P**	**P**	**04 57 06.9**	**-0.1**	
MKAR	**Makanchi Array**	**87.47**	**35**	P	**P**	**P**	**04 57 06.2**	**-0.7**	
	comp=Z,1.2nm,1.0s,baz=318,slow=3.4,SNR=8.7								
WMQ	**Urumqi**	**92.25**	**34**	*e*P	**P**	**P**	**04 57 29.0**	**-0.5**	
WMQ				PcP	**pP**	**pP**	**04 57 31.8**	**-1.1**	
WMQ				sP	pwP		04 57 36.8	0.0	
WMQ				pmax	pmax				
	comp=Z,20nm,0.6s								
WMQ				pmax	pmax				
	comp=Z,43nm,6.5s								
WMQ				LR	LR				
	comp=N,890nm,28.8s								
WMQ				LR	LR				
	comp=E,340nm,29.2s								
WMQ				LR	LR				
	comp=Z,160nm,29.0s								
PETK	**Petropavlovsk-**	**94.73**	**349**	LR	LR		05 38 58.8		
	comp=Z,18nm,20.0s,baz=64,slow=35								
GTA	**Gaotai**	**101.28**	**30**	*e*P	**Pdif**		**04 58 09.3**	**-1.2**	
GTA				pP	pP		04 58 14.5	+0.4	
GTA				sP	pwP		04 58 17.3	-0.6	
GTA				pmax	pmax				
	comp=Z,2.0nm,1.0s								
LZH	**Lanzhou**	**105.79**	**29**	*e*Pdif	**Pdif**		**04 58 29.5**	**-1.2**	
LZH				LR	LR				
	comp=N,100nm,17.5s								
LZH				LR	LR				
	comp=E,110nm,17.3s								
LZH				LR	LR				
	comp=Z,170nm,19.8s								

IDC 28 04:49:53.4±2.6,5.94S×130.53E,h0km,mb3.7/1, mb1 3.8/3,mb1mx3.5/20,mbtmp3.6/3,ML3.6/2,Error ellipse: s-maj=166.2km s-min=31.6km az=71.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.40**	**165**	Pn	Pn	04 53 18.1	-0.6
	0.3nm,0.3s,baz=348,slow=13,SNR=4.8						
WRA				Sn	Sn	04 55 47.0	-12
	0.3nm,0.3s,baz=351,slow=30,SNR=1.7						
ASAR	**Alice Springs**	**17.92**	**170**	P	Pn	04 54 04.4	+0.2
	0.2nm,0.3s,baz=351,slow=11,SNR=8.8						
MKAR	**Makanchi Array**	**67.64**	**326**	P	P	05 00 52.2	0.0
	0.3nm,0.4s,baz=131,slow=5.4,SNR=6.1						

*IDC **28** 05:10:23.6±2.6,4.40N×127.98E,h0km,mb3.5/3, mb1 3.8/3,mb1mx3.3/32,mbtmp3.5/3,Error ellipse: s-maj=187.2km s-min=28.8km az=67.0*
*NEIC **28** 05:10:30.0±0.7,4.3N±0.1×127.8E±0.1,h48km±15km, mb4.1/7,Error ellipse: s-maj=25.3km s-min=12.4km az=134.0*
ISC 28 05:10:31.8±1.6,4.4N±0.2×128.1E±0.2,h66km,n13, σ0§42/14,mb4.0/8,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**2.92**	**306**	*e*P	**Pn**	**05 11 15.4**	**-0.5**
DDMP				*e*S	**Sn**	**05 11 50.9**	**+1.0**
SKMP	**Bagumbayan, Su**	**4.12**	**301**	*e*P	**Pn**	**05 11 32.6**	**+0.3**
SKMP				*e*S	**Sn**	**05 12 18.6**	**-0.7**
LUWI	**Luwuk**	**7.58**	**225**	Pn	Pn	05 12 13.9	-5.9
FITZ	**Fitzroy Crossi**	**22.48**	**186**	P	**P**	**05 15 25.9**	**0.0**
FITZ				IAmb	IAmb	05 15 44.1	
	comp=Z,16nm,1.5s						
WB0	**Warramunga Arr**	**24.80**	**166**	P	**P**	**05 15 47.5**	**-0.3**
WRAB	**Tennant Creek**	**24.95**	**166**	P	**P**	**05 15 49.2**	**+0.1**
WRAB				IAmb	IAmb	05 16 06.4	
	comp=Z,10nm,1.4s						
WRA	**Warramunga Arr**	**24.95**	**166**	P	**P**	**05 15 49.0**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=345,slow=9.9,SNR=8.8						
WB2	**Warramunga Arr**	**24.96**	**166**	P	**P**	**05 15 49.2**	**-0.1**
WB2				IAmb	IAmb	05 16 00.3	
	comp=Z,9.6nm,1.4s						
WR0	**Warramunga Arr**	**25.02**	**166**	P	**P**	**05 15 50.1**	**+0.3**
WR0				IAmb	IAmb	05 16 03.5	
	comp=Z,8.9nm,1.5s						
AS31	**Alice Springs**	**28.46**	**169**	P	**P**	**05 16 20.7**	**-0.1**
ASAR	**Alice Springs**	**28.46**	**169**	P	**P**	**05 16 20.8**	**0.0**
	comp=Z,0.5nm,0.5s,baz=355,slow=7.5,SNR=11						
STKA	**Stephens Creek**	**38.29**	**161**	P	**P**	**05 17 46.2**	**+0.2**
STKA				IAmb	IAmb	05 17 50.0	
	comp=Z,1.8nm,1.1s						
MKAR	**Makanchi Array**	**57.80**	**324**	P	**P**	**05 20 16.4**	**0.0**
	comp=Z,0.2nm,0.5s,baz=108,slow=6.6,SNR=2.5						

*NNC **28** 05:34:23.1±0.5,45.18N×80.80E,h0km,mb3.5,mpv3.5, Error ellipse: s-maj=5.4km s-min=3.0km az=129.0*
*SOME **28** 05:34:23.8,45.20N×80.87E,h20km*
ISC 28 05:34:23.3±0.9,45.20N±0.03×80.88E±0.03,h10km,n45, σ1§53/71,5C-1D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPS	**Kapalarasan**	**1.08**	**275**	*e*P	**Pg**	**05 34 43.4**	**-0.6**
	16nm,0.1s						
KAPS				*e*S	**Sb**	**05 34 57.6**	**-0.6**
	30nm,0.1s						
KAPS	**Kapalarasan**	**1.08**	**275**	P	**Pb**	**05 34 43.7**	**-0.4**
	15nm,0.1s						
KAPS				S	**Sn**	**05 34 58.1**	**-1.4**
	44nm,0.8s						
TDK	**Taldyqorghan**	**1.76**	**264**	*e*P	**Pb**	**05 34 55.4**	**-0.2**
	104nm,0.2s						
TDK				*e*S	**Sg**	**05 35 18.3**	**-1.6**
	155nm,0.2s						
TDK	**Taldyqorghan**	**1.76**	**264**	P	**Pb**	**05 34 55.4**	**-0.2**
	103nm,0.3s						
TDK				S	**Sg**	**05 35 18.3**	**-1.6**
	229nm,0.5s						
MAKZ	**Makanchi**	**1.78**	**25**	⇑P	**Pb**	**05 34 56.0**	**-0.1**
	1.6nm,0.3s						
MAKZ				⇑S	**Sb**	**05 35 19.5**	**+1.0**
	1.7nm,0.3s						
KTMS	**Ketmen**	**1.79**	**192**	*e*P	**Pb**	**05 34 56.0**	**-0.3**
	5.5nm,0.1s						
KTMS				*e*S	**Sg**	**05 35 19.5**	**-1.4**
	20nm,0.1s						
KTMS	**Ketmen**	**1.79**	**192**	P	**Pb**	**05 34 56.1**	**-0.2**
	5.5nm,0.1s						
KTMS				S	**Sg**	**05 35 19.5**	**-1.4**
	20nm,0.1s						
MK31	**Makanchi Array**	**1.87**	**31**	⇑P	**Pb**	**05 34 57.4**	**-0.2**
	3.7nm,0.3s,baz=216,slow=15,SNR=259						
MK31				S	**Sb**	**05 35 21.9**	**+0.8**
	8.3nm,0.4s,baz=209,slow=28,SNR=10						
MNBS	**Baschi**	**2.09**	**238**	⇓*e*P	**Pb**	**05 35 00.6**	**-0.7**
	10.0nm,0.2s						
MNBS				*e*S	**Sb**	**05 35 27.0**	**-0.4**
	85nm,0.2s						
MNBS	**Baschi**	**2.09**	**238**	Pg	**Pb**	**05 35 00.6**	**-0.7**
	10.0nm,0.2s						
MNBS				Lg	Lg	05 35 27.0	
	85nm,0.2s						
PDGK	**Podgornoye**	**2.12**	**209**	Pg	**Pb**	**05 35 01.6**	**-0.2**
	5.6nm,0.2s						
PDGK				Lg	Lg	05 35 28.9	
	26nm,0.4s						
SHLS	**Shalkode**	**2.28**	**207**	*e*P	**Pb**	**05 35 02.6**	**-2.0**
	15nm,0.1s						
SHLS				*e*S	**Sn**	**05 35 30.6**	**+1.2**
	51nm,0.3s						
SHLS	**Shalkode**	**2.28**	**207**	Pg	**Pb**	**05 35 02.6**	**-2.0**
	15nm,0.1s						
SHLS				Lg	Lg	05 35 30.6	
	51nm,0.3s						
KPKS	**Kokpek**	**2.34**	**223**	*e*P	**Pb**	**05 35 05.1**	**-0.5**
	27nm,0.1s						
KPKS				*e*S	**Sb**	**05 35 35.0**	**+0.4**
	133nm,0.3s						
ARXS	**Arharly**	**2.39**	**247**	*e*P	**Pb**	**05 35 05.3**	**-1.1**
	3.9nm,0.2s						
ARXS				*e*S	**Sb**	**05 35 35.4**	**-0.5**
	44nm,0.4s						
ARXS	**Arharly**	**2.39**	**247**	Pg	**Pb**	**05 35 05.3**	**-1.1**
	3.9nm,0.2s						
ARXS				Lg	Lg	05 35 35.4	
	44nm,0.4s						
UZB	**Uzynbulak**	**2.45**	**214**	⇑*e*P	**Pb**	**05 35 06.8**	**-0.6**
	3.6nm,0.2s						
UZB				*e*S	**Sb**	**05 35 37.7**	**0.0**
	33nm,0.2s						
UZB	**Uzynbulak**	**2.45**	**214**	Pg	**Pb**	**05 35 06.9**	**-0.6**
	3.6nm,0.2s						
UZB				Lg	Lg	05 35 37.7	
	33nm,0.2s						
KURS	**Kuram**	**2.59**	**230**	*e*P	**Pb**	**05 35 09.6**	**-0.2**
	2.7nm,0.2s						
KURS				*e*S	**Sb**	**05 35 42.3**	**+0.6**
	14nm,0.4s						
KURS	**Kuram**	**2.59**	**230**	Pg	**Pb**	**05 35 09.6**	**-0.2**
	2.7nm,0.2s						
KURS				Lg	Lg	05 35 42.3	
	15nm,0.4s						
SATY	**Saty**	**2.78**	**221**	*e*P	**Pb**	**05 35 13.4**	**+0.3**
	3.0nm,0.1s						
SATY				⇑*i*S	**Sb**	**05 35 49.1**	**+1.8**
	101nm,0.2s						
SATY	**Saty**	**2.78**	**221**	Pg	**Pb**	**05 35 13.5**	**+0.3**
	4.7nm,0.2s						
SATY				Lg	Lg	05 35 49.1	
	104nm,0.2s						
CHKK	**Chushkaly**	**3.09**	**246**	*e*P	**Pb**	**05 35 17.8**	**-0.5**
	0.7nm,0.1s						
CHKK				*e*S	**Sb**	**05 35 56.9**	**+0.9**
	43nm,0.2s						
CHKK	**Chushkaly**	**3.09**	**246**	Pg	**Pb**	**05 35 17.8**	**-0.5**
	0.9nm,0.1s						
CHKK				Lg	Lg	05 35 56.9	
	43nm,0.2s						
KOTS	**Kotyrbulak**	**3.34**	**235**	*e*P	**Pb**	**05 35 22.7**	**-0.1**
	4.3nm,0.2s						
KOTS				*e*S	**Sb**	**05 36 05.2**	**+1.7**
	17nm,0.2s						
KOTS	**Kotyrbulak**	**3.34**	**235**	Pg	**Pb**	**05 35 22.7**	**-0.1**
	4.3nm,0.2s						
KOTS				Lg	Lg	05 36 05.2	
	17nm,0.2s						
KTBS	**Karatobe**	**3.35**	**245**	*e*P	**Pb**	**05 35 22.0**	**-0.8**
	1.5nm,0.3s						
KTBS				*e*S	**Sb**	**05 36 04.2**	**+0.5**
	17nm,0.3s						
KTBS	**Karatobe**	**3.35**	**245**	Pg	**Pb**	**05 35 22.0**	**-0.8**
	1.8nm,0.3s						
KTBS				Lg	Lg	05 36 04.2	
	17nm,0.3s						
MDOK	**Medeo**	**3.42**	**235**	*e*P	**Pb**	**05 35 23.6**	**-0.5**
	7.7nm,0.2s						
MDOK				*e*S	**Sb**	**05 36 06.9**	**+1.1**
	13nm,0.4s						
MDOK	**Medeo**	**3.42**	**235**	Pg	**Pb**	**05 35 23.6**	**-0.5**
	7.7nm,0.2s						
MDOK				Lg	Lg	05 36 06.9	
	13nm,0.4s						
KUU	**Kurty**	**3.50**	**250**	*e*P	**Pb**	**05 35 25.8**	**+0.6**
	1.3nm,0.2s						
KUU				*e*S	**Sb**	**05 36 10.2**	**+2.4**
	15nm,0.3s						
KUU	**Kurty**	**3.50**	**250**	Pg	**Pb**	**05 35 25.8**	**+0.6**
	1.3nm,0.2s						
KUU				Lg	Lg	05 36 10.1	
	15nm,0.3s						
TNSS	**Tian-Shan**	**3.56**	**234**	Pg	**Pb**	**05 35 26.7**	**+0.1**
	2.0nm,0.1s						
TNSS				Lg	Lg	05 36 11.8	
	14nm,0.1s						
ZSN	**Zaisan**	**3.56**	**49**	*e*P	**Pb**	**05 35 22.7**	**-3.8**
	6.1nm,0.3s						
ZSN				*e*S	**Sn**	**05 36 04.7**	**+3.9**
	5.3nm,0.3s						
ZSN	**Zaisan**	**3.56**	**49**	Pg	**Pn**	**05 35 19.9**	**+1.2**
	6.1nm,0.3s						
ZSN				Lg	Lg	05 36 00.2	
	5.9nm,0.4s						
MTBS	**Maitube**	**3.81**	**239**	*e*P	**Pb**	**05 35 30.3**	**-0.4**
	3.2nm,0.1s						
MTBS				*e*S	**Sb**	**05 36 17.8**	**+0.9**
	28nm,0.4s						
MTBS	**Maitube**	**3.81**	**239**	Pg	**Pb**	**05 35 30.3**	**-0.4**
	3.2nm,0.1s						
MTBS				Lg	Lg	05 36 17.8	
	28nm,0.4s						
KRBS	**Karabastau**	**4.02**	**250**	*e*P	**Pb**	**05 35 34.9**	**+0.8**
	1.9nm,0.3s						
KRBS				*e*S	**Sb**	**05 36 26.0**	**+3.3**
	3.8nm,0.5s						
KRBS	**Karabastau**	**4.02**	**250**	Pg	**Pb**	**05 35 34.9**	**+0.8**
	1.9nm,0.3s						
KRBS				Lg	Lg	05 36 26.0	
	4.5nm,0.5s						
KST	**Kastek**	**4.14**	**240**	*e*P	**Pb**	**05 35 37.3**	**+1.0**
	1.6nm,0.2s						
KST				*e*S	**Sb**	**05 36 30.3**	**+3.8**
	8.6nm,0.4s						
KST	**Kastek**	**4.14**	**240**	Pg	**Pb**	**05 35 37.3**	**+1.0**
	1.6nm,0.2s						
KST				Lg	Lg	05 36 30.3	
	8.6nm,0.4s						
DGS	**Degeres**	**4.16**	**244**	*e*P	**Pb**	**05 35 36.8**	**+0.2**
	0.4nm,0.3s						
DGS				*e*S	**Sb**	**05 36 29.1**	**+2.2**
	14nm,0.5s						
DGS	**Degeres**	**4.16**	**244**	Pg	**Pb**	**05 35 36.8**	**+0.2**
	0.4nm,0.3s						
DGS				Lg	Lg	05 36 29.1	
	14nm,0.5s						
BTLS	**Baital**	**4.84**	**271**	*e*P	**Pb**	**05 35 50.3**	**+2.2**
	0.6nm,0.1s						
BTLS				*e*S	**Sg**	**05 36 52.3**	**-6.2**
	0.8nm,0.3s						
BTLS	**Baital**	**4.84**	**271**	Pg	**Pb**	**05 35 50.3**	**+2.2**
	0.6nm,0.1s						
BTLS				Lg	Lg	05 36 52.3	
	1.7nm,0.4s						

*BGR **28** 05:50:48.9±0.0,35.78N×140.08E,h33km,mb4.9*
*MOS **28** 05:51:03.9±1.0,36.45N×139.08E,h148km,mb4.7/61, Error ellipse: s-maj=6.4km s-min=4.1km az=108.6*
*IDC **28** 05:51:05.7±0.4,36.34N×138.99E,h152km±3km,mb4.2/27, mb1 4.3/31,mb1mx4.2/46,mbtmp4.6/31,MS2.6/1, Ms1 2.6/1,ms1mx2.3/34,Error ellipse: s-maj=10.7km s-min=6.9km az=72.0*
*NEIC **28** 05:51:06.2±1.2,36.37N±0.06×138.99E±0.08, h156km±4km,mb4.6/81,Error ellipse: s-maj=10.0km s-min=8.5km az=70.0*
*JMA **28** 05:51:06.4±0.1,36.35N×139.09E,h151km±1km,M4.4 Broadband fault plane solution: P waves. NP1: φs281.00000°,δ42.00000°,λ98.00000°. NP2:φs91.00000°, δ48.00000°,λ83.00000°. Principal axes: T Plg84.0000°, Azm309.0000°; N Plg5.0000°, Azm96.0000°; P Plg3.0000°, Azm186.0000°;*
JMA Felt II J1.
*NIED **28** 05:51:06.4,36.35N×139.09E,h151km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10

BSO1 Boso 1 2.33 137 P **Pn** **05 51 44.6 +0.4**
BSO1 S **Sn** **05 52 14.8 +0.7**
JHJ Hachijo jima 2 3.29 169 P **Pn** **05 51 57.0 +0.2**
480nm,0.3s,baz=78,slow=23,SNR=132
JHJ S **Sn** **05 52 35.4 -1.2**
232nm,0.3s,baz=293,slow=22,SNR=18
JHJ2 Mitsune 3.31 169 Pn **Pn** **05 51 56.9 -0.1**
JHJ2 Sn **Sn** **05 52 34.7 -2.1**
ERM Erimo 6.49 28 *ce*P **Pn** **05 52 36.1 -2.7**
ERM pmax pmax
comp=Z,516nm,0.8s
ERM Erimo 6.49 28 **Pn** **05 52 36.0 -2.7**
JNU Nakatsue 7.45 247 P **Pn** **05 52 52.2 +0.5**
comp=Z,2.1nm,0.3s,baz=58,slow=3.3,SNR=24
JNU LR LR 05 55 43.8
comp=Z,43nm,19.3s,baz=110,slow=38
JNU Nakatsue 7.45 247 Pn **Pn** **05 52 53.3 +1.5**
ASAJ Asahikawa 8.21 18 P **Pn** **05 52 58.9 -2.8**
comp=Z,29nm,0.3s,baz=235,slow=14,SNR=43
ASAJ Asahikawa 8.21 18 P **Pn** **05 52 58.4 -3.2**
JKA Kamikawa-asahi 8.21 18 **Pn** **05 52 58.4 -3.3**
NMR Nemuro--Hokkai 8.68 34 ⇓ *i*P **Pn** **05 53 03.8 -4.1**
NMR *i* S Sn 05 54 32.5 -12
VLA Vladivostok 8.71 323 *i* P **Pn** **05 53 11.1 +2.8**
VLA pmax pmax
comp=Z,19nm,0.9s
TEY Ternei 8.86 349 ⇓ *e*P **Pn** **05 53 09.8 -0.5**
TEY pmax pmax
comp=N,20nm,0.7s
TEY pmax pmax
comp=Z,20nm,0.6s
TEY pmax pmax
comp=E,10.0nm,0.9s
KSRS Korea Array 8.97 280 P **Pn** **05 53 14.3 +2.5**
comp=E,1.3nm,0.3s,baz=97,slow=13,SNR=92
KS19 Wonju Array Si 9.02 281 **Pn** **05 53 14.4 +1.9**
GRPR Tuman 9.20 32 *d i*P **Pn** **05 53 11.4 -3.4**
GRPR *i* S Sn 05 54 45.3 -11
GRPR pmax pmax
comp=N,133nm,0.3s
GRPR pmax pmax
comp=Z,225nm,0.3s
GRPR pmax pmax
comp=E,164nm,0.2s
LAGR Lagunnoye 9.25 32 *d i*P **Pn** **05 53 11.7 -3.8**
LAGR *i* S Sn 05 54 46.6 -12
LAGR pmax pmax
comp=Z,1μm,1.0s
LAGR pmax pmax
comp=Z,677nm,0.5s
LAGR pmax pmax
comp=N,711nm,0.4s
LAGR pmax pmax
comp=E,403nm,0.4s
YUK Yuzh-Kuril'sk 9.27 32 *d i*P **Pn** **05 53 12.2 -3.5**
YUK *i* S Sn 05 54 47.5 -11
YUK pmax pmax
comp=Z,539nm,0.5s
YUK pmax pmax
comp=E,258nm,0.3s
YUK pmax pmax
comp=N,340nm,0.2s
YUK pmax pmax
comp=Z,492nm,1.3s
TJN Taejon 9.42 274 *i* P **Pn** **05 53 18.0 +0.2**
USA0B Ussuriysk Arra 9.50 328 *i* P **Pn** **05 53 19.4 +0.6**
USA0B Ussuriysk Arra 9.50 328 Pn **Pn** **05 53 19.8 +1.0**
USRK Ussuriysk Ar. 9.50 328 P **Pn** **05 53 19.2 +0.4**
baz=133,slow=13,SNR=17
MDJ Mudanjiang 10.94 322 P **Pn** **05 53 40.5 +2.8**
MDJ pmax pmax
comp=Z,7.0nm,0.5s
YSS Yuzh-Sakhalins 10.94 14 *k i*P **Pn** **05 53 34.4 -3.4**
YSS *eS* **Sn** **05 55 33.3 -5.4**
YSS pmax pmax
comp=Z,10.0nm,0.4s
YSS Yuzh-Sakhalins 10.94 14 Pn **Pn** **05 53 35.1 -2.6**
KUR Kuril'sk 11.10 34 *d i*P **Pn** **05 53 37.4 -2.4**
KUR *eS* Sn 05 55 31.0 -11
KUR pmax pmax
comp=N,117nm,0.5s
KUR pmax pmax
comp=Z,576nm,0.5s
KUR pmax pmax
comp=E,67nm,0.3s
KUR pmax pmax
comp=Z,278nm,1.1s
CN2 Changchun 12.78 310 *e*P Pn 05 53 55.8 -5.9
CN2 *eS* **Sn** **05 56 22.8 -0.2**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,80nm,6.9s
CN2 LR LR
comp=N,80nm,16.0s
CN2 LR LR
comp=E,100nm,16.0s
CN2 LR LR
comp=Z,60nm,16.0s
KLR Kul'dur 13.92 340 P **Pn** **05 54 14.7 -1.5**
comp=Z,1.2nm,0.3s,baz=150,slow=11,SNR=18
DL2 Dalian 14.03 286 P **P** **05 54 20.0 -0.7**
DL2 pmax pmax
comp=Z,31nm,0.6s
GRNR Gornyy 14.53 353 ⇓ *i*P **Pn** **05 54 19.8 -3.9**
GRNR *eS* Sn 05 56 55.0 -10
GRNR pmax pmax
comp=N,10.0nm,0.6s
GRNR pmax pmax
comp=Z,10.0nm,0.8s
GRNR smax smax
comp=N,2.0nm,0.6s
GRNR MLR MLR
comp=E,110nm,11.0s
GRNR MLR MLR
comp=N,50nm,12.0s
GRNR MLR MLR
comp=Z,50nm,16.0s
TYV Tymovskoe 14.73 9 *e*P **Pn** **05 54 23.8 -2.4**
TYV pmax pmax
comp=Z,54nm,0.8s
NJ2 Nanjing 17.24 261 *e*P **P** **05 54 56.5 +0.3**
NJ2 pmax pmax
comp=Z,19nm,0.8s
TIA Tai'an 17.67 276 P **P** **05 55 00.5 -0.4**
TIA pmax pmax
comp=Z,31nm,0.5s
BJI Beijing 18.33 288 P **P** **05 55 08.0 -0.1**
BJI S **S** **05 58 29.8 +0.3**
BJI pmax pmax
comp=Z,22nm,1.2s
BJI LR LR
comp=Z,73nm,5.4s
BJI LR LR
comp=Z,51nm,4.4s
ZEA Zeya 19.22 338 *e*P **P** **05 55 15.2 -2.4**
ZEA pmax pmax
comp=Z,31nm,0.8s
PEA0B Petropavlovsk- 21.25 32 P **P** **05 55 40.1 +0.7**
PEA0B pmax pmax
comp=Z,15nm,0.9s
PEA0B Petropavlovsk- 21.25 32 P **P** **05 55 40.1 +0.7**
PEA0B IAmb IAmb 05 55 47.3
comp=Z,15nm,0.8s
PETK Petropavlovsk- 21.25 32 P **P** **05 55 39.1 -0.2**
comp=Z,11nm,0.8s,baz=221,slow=8.8,SNR=13
WHN Wuhan 21.38 261 P **P** **05 55 39.5 -1.4**
HHC Hu-ho-hao-te 21.89 290 *e*P **P** **05 55 46.5 +0.1**
HHC pmax pmax
comp=Z,15nm,0.9s
HHC pmax pmax
comp=Z,35nm,5.2s
GUMO Guam 23.27 166 P **P** **05 55 59.1 -0.4**
comp=Z,89nm,0.8s,baz=164,slow=5.5,SNR=6.5
GUMO Guam 23.27 166 P **P** **05 55 59.8 +0.3**
GUMO pmax pmax
comp=Z,79nm,0.8s
GUMO Guam 23.27 166 P **P** **05 55 59.8 +0.3**
MA2 Magadan 24.45 14 P **P** **05 56 10.4 +0.6**
comp=Z,31nm,0.8s,baz=190,slow=12,SNR=7.1
MA2 Magadan 24.45 14 *ce*P **P** **05 56 11.2 +1.4**
MA2 pmax pmax
comp=Z,27nm,0.8s
MA2 Magadan 24.45 14 P **P** **05 56 10.6 +0.8**
XAN Xi'an 24.68 274 P **P** **05 56 11.0 -1.3**
XAN pmax pmax
comp=Z,28nm,0.6s
XAN pmax pmax
comp=Z,190nm,6.9s
ULN Ulaanbaatar 26.18 306 *ce*P **P** **05 56 25.0 -0.8**
ULN pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 26.18 306 P **P** **05 56 25.1 -0.8**
ULN IAmb IAmb 05 56 25.4
comp=Z,4.9nm,0.7s
YAK Yakutsk 26.36 350 *eP* **P** **05 56 26.5 -0.5**
YAK *e**PP **pP** **05 56 58.1 -0.9**
YAK *e* 05 57 14.6
YAK *e* 05 59 46.9
YAK *eS* **S** **06 00 49.2 +0.8**
YAK *e**SS **sS** **06 01 43.3 -1.9**
YAK *e* 06 07 04.1
YAK pmax pmax
comp=Z,23nm,1.2s
YAK pmax pmax
comp=N,21nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.0s
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,7.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK smax smax
comp=N,67nm,2.0s
YAK smax smax
comp=E,20nm,1.8s
SONM Songino Array 26.60 306 P **P** **05 56 28.7 -0.9**
comp=E,6.2nm,0.6s,baz=111,slow=9.4,SNR=21
SONM PcP **PcP** **05 59 50.2 +0.6**
comp=E,0.8nm,0.5s,baz=160,slow=2.8,SNR=4.0
BOD Bodaibo 27.12 330 *eP* **P** **05 56 33.9 0.0**
LZH Lanzhou 28.30 280 ⇓ P **P** **05 56 46.8 +1.9**
LZH pP pP 05 57 19.3 +1.5
LZH sP sP 05 57 37.3 +1.5
LZH PP **PnPn** **05 57 45.0 +2.9**
LZH pmax pmax
comp=E,25nm,1.0s
LZH pmax pmax
comp=E,110nm,5.2s
ZAK Zakamensk 29.21 310 *eP* **P** **05 56 51.2 -1.5**
ZAK pmax pmax
comp=Z,2.0nm,0.8s
GYA Guiyang 29.22 259 ⇓ P **P** **05 56 52.0 -1.1**
GYA pP pP 05 57 29.5 +3.5
GYA S **S** **06 01 28.8 -5.7**
GYA SS **ScP** **06 03 23.0 -0.6**
GYA pmax pmax
comp=Z,9.0nm,0.9s
CD2 Chengdu 29.77 270 P **P** **05 56 57.5 -0.2**
CD2 pmax pmax
comp=Z,20nm,0.8s
GTA Gaotai 30.94 288 *eP* **P** **05 57 07.0 -1.1**
GTA pmax pmax
comp=Z,5.0nm,0.8s
GTA pmax pmax
comp=Z,27nm,4.9s
GTA LR LR
comp=Z,60nm,16.2s
GTA LR LR
comp=Z,210nm,17.8s
GTA LR LR
comp=Z,95nm,16.8s
SLVN Son La 34.01 254 P **P** **05 57 34.7 -0.3**
SLVN IAmb IAmb 05 57 36.9
comp=Z,6.9nm,1.1s
BILL Bilibino 35.22 17 *i* P **P** **05 57 45.8 +1.1**
BILL pmax pmax
comp=Z,5.0nm,1.0s
TIXI Tiksi 35.75 355 *i* P **P** **05 57 50.4 +1.2**
TIXI pmax pmax
comp=Z,9.0nm,1.5s
JAY Jayapura 38.71 177 P **P** **05 58 15.5 +0.8**
comp=Z,8.9nm,0.7s,baz=9.7,slow=8.3,SNR=5.0
DGZ Jazzator, Alta 39.25 306 *d i*P **P** **05 58 19.6 +0.5**
DGZ pmax pmax
comp=Z,29nm,0.8s
CHTO Chiang Mai 39.27 255 P **P** **05 58 19.0 -0.4**
CHTO pmax pmax
comp=Z,4.0nm,0.7s
CHTO Chiang Mai 39.27 255 P **P** **05 58 19.0 -0.4**
WMQ Urumqi 39.44 297 *eP* **P** **05 58 21.5 +0.8**
WMQ pmax pmax
comp=Z,18nm,0.7s
WMQ pmax pmax
comp=Z,28nm,6.5s
WMQ LR LR
comp=Z,480nm,29.0s
WMQ LR LR
comp=Z,400nm,29.1s
WMQ LR LR
comp=Z,96nm,29.3s
CMAR Chiang Mai Arr 39.48 254 P **P** **05 58 21.4 +0.2**
comp=Z,1.8nm,0.7s,baz=46,slow=7.1,SNR=8.6
CMAR PcP **PcP** **06 00 26.6 +0.7**
comp=Z,1.2nm,0.5s,baz=24,slow=2.9,SNR=4.1
SANI Sanana 40.10 201 P **P** **05 58 24.3 -2.0**
comp=Z,84nm,0.6s
LSA Lhasa 40.37 275 P **P** **05 58 30.0 +1.1**
LSA pmax pmax
comp=Z,120nm,1.0s
ZAA0 Zalesovo Array 40.97 313 P **P** **05 58 33.1 +0.2**
ZALV Zalesovo Beam 40.97 313 P **P** **05 58 33.0 0.0**
comp=Z,22nm,0.5s,baz=91,slow=6.3,SNR=96
ZALV PcP **PcP** **06 00 30.1 0.0**
comp=Z,5.2nm,0.5s,baz=106,slow=2.8,SNR=11
ZALV ScP **ScP** **06 04 04.9 -0.4**
comp=Z,0.9nm,0.7s,baz=123,slow=5.3,SNR=2.5
ZALV Zalesovo Beam 40.97 313 *i* P **P** **05 58 33.0 0.0**
ZALV pmax pmax
comp=Z,22nm,0.5s
ZSN Zaisan 41.05 303 *i* P **P** **05 58 33.6 -0.2**
comp=Z,6.8nm,1.0s,baz=302
ZSN Zaisan 41.05 303 *i* P **P** **05 58 33.5 -0.2**
ZSN pmax pmax
comp=Z,7.0nm,1.0s
MK31 Makanchi Array 42.86 302 *i* P **P** **05 58 48.2 -0.3**
MK31 Makanchi Array 42.86 302 P **P** **05 58 48.2 -0.3**
MK31 IAmb IAmb 05 58 49.6
comp=Z,17nm,1.1s
MKAR Makanchi Array 42.86 302 P **P** **05 58 48.5 0.0**
comp=Z,7.4nm,0.6s,baz=86,slow=9.6,SNR=71
MKAR PcP **PcP** **06 00 36.6 0.0**
comp=Z,2.3nm,0.9s,baz=76,slow=5.1,SNR=4.0
MKAR Makanchi Array 42.86 302 *ce*P **P** **05 58 48.5 0.0**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
MAKZ Makanchi 43.07 302 P **P** **05 58 50.1 -0.1**
MAKZ pmax pmax
comp=Z,23nm,1.1s
MAKZ Makanchi 43.07 302 P **P** **05 58 50.1 -0.1**
MAKZ IAmb IAmb 05 58 51.4
comp=Z,23nm,1.1s
NRIK Noril'sk 43.09 336 P **P** **05 58 50.1 +0.1**
comp=Z,3.5nm,0.5s,baz=73,slow=7.5,SNR=4.0
SEM Semipalatinsk 43.84 308 *i* P **P** **05 58 55.8 -0.8**
comp=Z,19nm,1.0s,baz=307
SEM Semipalatinsk 43.84 308 *i* P **P** **05 58 55.7 -0.8**
SEM pmax pmax
comp=Z,19nm,1.0s
TAPN Taplejung 44.08 273 *eP* **P** **05 58 58.9 +0.1**
comp=Z,15nm,0.5s
ODAN Odare 44.55 273 *eP* **P** **05 59 02.3 -0.1**
comp=Z,15nm,0.5s
KURK Kurchatov 44.85 308 *ce*P **P** **05 59 04.1 -0.1**
KURK pmax pmax
comp=Z,68nm,0.9s
KURK Kurchatov 44.85 308 P **P** **05 59 04.5 +0.3**
KURBB Kurchatov Arra 44.91 308 P **P** **05 59 04.7 0.0**
comp=Z,44nm,0.8s,baz=84,slow=8.2,SNR=307
KURBB Kurchatov Arra 44.91 308 P **P** **05 59 04.6 -0.1**
RAMN Ramite 45.14 273 *eP* **P** **05 59 07.1 -0.1**
comp=Z,44nm,0.8s
JIRN Jiri 45.17 275 *eP* **P** **05 59 08.1 +0.6**
comp=Z,115nm,0.9s
GUN Gumba 45.32 275 *eP* **P** **05 59 09.0 +0.3**
comp=Z,19nm,0.4s
SHLS Shalkode 45.46 298 ⇑ *i*P **P** **05 59 07.1 -2.2**
SHLS *eS* **S** **06 05 36.4 -2.8**
baz=297
SHLS Shalkode 45.46 298 *c i*P **P** **05 59 07.1 -2.2**
SHLS *eS* **S** **06 05 36.4 -2.8**
SHLS pmax pmax
comp=Z,22nm,1.1s
UZB Uzynbulak 45.77 298 ⇑ *i*P **P** **05 59 11.8 0.0**
comp=Z,14nm,0.5s,baz=297
UZB Uzynbulak 45.77 298 *c i*P **P** **05 59 11.8 0.0**
UZB pmax pmax
comp=Z,14nm,0.5s
TDK Taldyqorghan 45.83 300 *i* P **P** **05 59 12.9 +0.8**
comp=Z,22nm,0.9s,baz=300
TDK Taldyqorghan 45.83 300 *i* P **P** **05 59 12.8 +0.8**
TDK pmax pmax
comp=Z,22nm,0.9s
PKI Pulchoki 45.84 275 *eP* **P** **05 59 12.5 -0.2**
comp=Z,20nm,0.7s
PKIN Phulchoki 45.85 275 *eP* **P** **05 59 12.5 -0.2**
comp=Z,23nm,0.6s
KKN Kakani 45.85 275 *eP* **P** **05 59 12.9 +0.2**
KPKS Kokpek 45.95 298 *i* P **P** **05 59 13.4 +0.2**
comp=Z,12nm,0.8s,baz=298
KPKS Kokpek 45.95 298 *i* P **P** **05 59 13.3 +0.2**
KPKS pmax pmax
comp=Z,12nm,0.8s
SATY Saty 46.23 298 *i* P **P** **05 59 15.7 +0.3**
comp=Z,4.9nm,0.7s,baz=297
SATY Saty 46.23 298 *i* P **P** **05 59 15.7 +0.3**
SATY pmax pmax
comp=Z,5.0nm,0.7s
GKN Gorkha 46.28 276 *eP* **P** **05 59 16.2 +0.2**
PRZ Przheval'sk 46.37 297 P **P** **05 59 17.4 +0.8**
PRZ pmax pmax
comp=Z,74nm,1.0s
PRZ Przheval'sk 46.37 297 P **P** **05 59 17.4 +0.8**
PBKI Pangkalan Bun 46.50 219 P **P** **05 59 16.5 -1.0**
comp=Z,19μmcomp=Z,1μm,0.5s
DANN Dangsing 46.84 277 *eP* **P** **05 59 21.1 +0.6**
comp=Z,176nm,0.8s
TARG Taragay, Kyrgy 46.98 296 P **P** **05 59 22.6 +1.0**
CHKK Chushkaly 47.06 299 *i* P **P** **05 59 22.0 +0.3**
baz=299
CHKK Chushkaly 47.06 299 *i* P **P** **05 59 21.9 +0.3**
MDOK Medeo 47.18 298 *i* P **P** **05 59 23.5 +0.7**
baz=298
MDOK Medeo 47.18 298 *i* P **P** **05 59 23.4 +0.7**
KOLN Koldanda 47.21 276 *eP* **P** **05 59 23.4 +0.1**
comp=Z,119nm,1.2s
AAA Alma-Ata 47.26 298 ⇑ *i*P **P** **05 59 24.3 +1.0**
comp=Z,18nm,0.6s,baz=298
AAA Alma-Ata 47.26 298 *c i*P **P** **05 59 24.3 +1.0**
AAA pmax pmax
comp=Z,18nm,0.6s
TNSS Tian-Shan 47.28 298 *i* P **P** **05 59 24.8 +0.9**
baz=298
TNSS Tian-Shan 47.28 298 *i* P **P** **05 59 24.7 +0.9**
KDJ Kajisay 47.34 297 P **P** **05 59 24.6 +0.6**
KDJ pmax pmax
comp=Z,28nm,0.6s
KDJ Kajisay 47.34 297 P **P** **05 59 24.6 +0.6**
KUU Kurty 47.51 299 ⇑ *i*P **P** **05 59 25.2 +0.1**
comp=Z,41nm,1.2s,baz=299
KUU Kurty 47.51 299 *c i*P **P** **05 59 25.2 +0.1**
KUU pmax pmax
comp=Z,41nm,1.2s
PYUN Piuthan 47.56 277 *eP* **P** **05 59 26.4 +0.4**
comp=Z,137nm,0.8s
MTBS Maitube 47.63 298 *i* P **P** **05 59 26.8 +0.6**
baz=298
MTBS Maitube 47.63 298 *i* P **P** **05 59 26.7 +0.6**
ULHL Ulahol 47.98 297 P **P** **05 59 30.0 +1.0**
SNR=18
BOOM Boomskoye usch 48.13 298 P **P** **05 59 30.4 +0.2**
BOOM pmax pmax
comp=Z,15nm,0.5s
BOOM Boomskoye usch 48.13 298 P **P** **05 59 30.4 +0.2**
TKM2 Tokmak 2 48.27 298 P **P** **05 59 32.4 +1.2**
SNR=60
TKM2 Tokmak 2 48.27 298 P **P** **05 59 32.2 +1.0**
BRZS Berezniki 48.72 308 ⇑ *i*P **P** **05 59 34.1 -0.3**
comp=Z,21nm,0.4s,baz=308
BRZS Berezniki 48.72 308 *c i*P **P** **05 59 34.0 -0.3**
BRZS pmax pmax
comp=Z,21nm,0.4s
KZA Kyzart 48.74 297 P **P** **05 59 36.7 +1.6**
SNR=72
KBK Karagaybulak 48.80 298 P **P** **05 59 36.2 +0.9**
SNR=49
SGDS Sogindy 48.82 299 *i* P **P** **05 59 35.5 +0.3**
comp=Z,5.6nm,0.5s,baz=299
SGDS Sogindy 48.82 299 *i* P **P** **05 59 35.5 +0.3**
SGDS pmax pmax
comp=Z,6.0nm,0.5s
BTLS Baital 48.84 301 ⇑ *i*P **P** **05 59 35.3 0.0**
comp=Z,16nm,0.5s,baz=301
BTLS Baital 48.84 301 *c i*P **P** **05 59 35.3 0.0**
BTLS pmax pmax
comp=Z,16nm,0.5s
CHMS Chumysh 48.85 299 P **P** **05 59 35.5 +0.1**
SNR=7.9
KDAK Kodiak Island 48.87 41 P **P** **05 59 36.3 +1.0**
comp=Z,2.6nm,0.6s,baz=260,slow=9.9,SNR=7.7
KDAK Kodiak Island 48.87 41 P **P** **05 59 36.3 +1.0**
KDAK pmax pmax
comp=Z,16nm,1.4s
KDAK Kodiak Island 48.87 41 P **P** **05 59 36.3 +1.0**
KDAK IAmb IAmb 05 59 45.5
comp=Z,16nm,1.4s
KSH Kashi 48.93 294 *eP* **P** **05 59 40.5 +4.2**
KSH pmax pmax
comp=Z,17nm,0.8s
KSH pmax pmax
comp=Z,200nm,4.8s
USP Ospenovka 48.96 299 P **P** **05 59 36.9 +0.6**
SNR=15
FRU1 Bishkek 48.98 298 P **P** **05 59 37.2 +0.7**
FRU1 pmax pmax
comp=Z,31nm,0.9s
FRU1 Bishkek 48.98 298 P **P** **05 59 37.2 +0.7**
AAK Ala-Archa 49.13 298 P **P** **05 59 38.7 +0.9**
comp=Z,20nm,0.6s,baz=103,slow=4.7,SNR=30
AAK Ala-Archa 49.13 298 P **P** **05 59 38.2 +0.5**
SNR=14
AAK Ala-Archa 49.13 298 *ce*P **P** **05 59 38.4 +0.7**
AAK pmax pmax
comp=Z,12nm,0.8s
AAK Ala-Archa 49.13 298 P **P** **05 59 38.1 +0.5**
AAK IAmb IAmb 05 59 39.5
comp=Z,16nm,0.6s
UCH Uchtor 49.22 298 P **P** **05 59 39.8 +1.0**
SNR=23
OTUK Ortayu 49.27 306 P **P** **05 59 38.9 +0.3**
BVA0 Borovoye Array 49.61 312 *i* P **P** **05 59 41.2 +0.2**
EKS2 Erkin-Say 49.63 298 P **P** **05 59 41.8 +0.3**
SNR=19
BRVK Borovoye 49.67 312 *ce*P **P** **05 59 41.7 +0.3**
BRVK pmax pmax
comp=Z,15nm,1.1s
BRVK Borovoye 49.67 312 P **P** **05 59 41.8 +0.3**
BRVK IAmb IAmb 05 59 43.4
comp=Z,15nm,1.1s
PSI Prapat 49.82 237 P **P** **05 59 43.1 -0.1**
comp=Z,3.1nm,0.4s,baz=0.2,slow=6.0,SNR=4.1
AML Almayashu 49.84 298 P **P** **05 59 44.7 +1.3**
SNR=95
RPSI Rantau Prapat 49.90 237 P **P** **05 59 43.1 -0.5**
RND Reindeer 50.30 34 P **P** **05 59 47.5 +1.3**
RND pmax pmax
comp=Z,3.0nm,0.9s
RND Reindeer 50.30 34 P **P** **05 59 47.5 +1.3**
GHO Glory Hole Cre 50.38 36 P **P** **05 59 48.5 +1.7**
IL31 51.08 32 P **P** **05 59 53.2 +1.4**
ILAR Eielson Array 51.08 32 P **P** **05 59 52.4 +0.5**
comp=Z,1.2nm,0.8s,baz=270,slow=5.3,SNR=13
KK31 Karatay Array 51.81 300 P **P** **05 59 57.7 0.0**
KK31 pmax pmax
comp=Z,15nm,0.8s
KK31 Karatay Array 51.81 300 P **P** **05 59 57.7 0.0**
KK31 IAmb IAmb 06 00 00.5
comp=Z,15nm,0.8s
KKAR Karatay Array 51.81 300 P **P** **05 59 57.8 +0.2**
KKAR pmax pmax
comp=Z,15nm,0.8s
KKAR Karatay Array 51.81 300 P **P** **05 59 57.8 +0.2**
KKAR IAmb IAmb 06 00 00.5
comp=Z,15nm,0.8s
PAX Paxson 51.87 34 P **P** **05 59 57.1 -0.8**

PAX					pmax	pmax		
	comp=Z,8.0nm,0.8s							
PAX	**Paxson**	**51.87**	**34**	P		**P**	05 59 57.1	-0.8
PAX				IAmb		IAmb	05 59 59.0	
	comp=Z,8.0nm,0.8s							
SCRK	**Sand Creek**	**52.41**	**33**	P		**P**	**06 00 03.0**	**+1.1**
IUG	**Iuzhnay**	**52.43**	**299**⇓	*i* P		**P**	**06 00 03.3**	**+0.9**
	comp=Z,3.3nm,0.7s,baz=298							
IUG	**Iuzhnay**	**52.43**	**299***c*	*i* P		**P**	**06 00 03.3**	**+0.9**
IUG					pmax	pmax		
	comp=Z,3.0nm,0.7s							
BTK	**Batken**	**52.54**	**296**	P		**P**	**06 00 03.0**	**-0.1**
BTK					pmax	pmax		
	comp=Z,9.0nm,0.5s							
BTK	**Batken**	**52.54**	**296**	P		**P**	**06 00 03.0**	**-0.1**
BTK				IAmb		IAmb	06 00 05.0	
	comp=Z,8.6nm,0.5s							
KNRA	**Kununurra**	**52.66**	**192**			**P**	**06 00 04.3**	**+0.3**
NIL	**Nilore**	**53.01**	**288**	P		**P**	**06 00 06.3**	**-0.3**
NIL					pmax	pmax		
	comp=Z,15nm,0.6s							
NIL	**Nilore**	**53.01**	**288**	P		**P**	**06 00 06.3**	**-0.3**
GAR	**Garm**	**53.26**	**295**	P		**P**	**06 00 08.7**	**+0.1**
CHGR	**Chuyangaron**	**54.23**	**295**	P		**P**	**06 00 15.4**	**-0.1**
SVE	**Sverdlovsk**	**54.39**	**319**	*e*P		**P**	**06 00 17.2**	**+1.0**
SVE					pmax	pmax		
	comp=Z,21nm,0.7s							
ARU	**Arti**	**55.60**	**318***c*	*i* P		**P**	**06 00 25.1**	**+0.2**
ARU				*PP		**pP**	**06 01 00.2**	**-0.5**
ARU							06 01 19.8	
ARU				S		**S**	**06 08 00.9**	**+2.5**
ARU					pmax	pmax		
	comp=Z,30nm,1.0s							
ARU	**Arti**	**55.60**	**318**	P		**P**	**06 00 24.8**	**-0.1**
KBL	**Kabul**	**55.87**	**290**	P		**P**	**06 00 26.6**	**-0.9**
KBL					pmax	pmax		
	comp=Z,10.0nm,0.9s							
KBL	**Kabul**	**55.87**	**290**	P		**P**	**06 00 26.6**	**-0.9**
KBL				IAmb		IAmb	06 00 27.9	
	comp=Z,9.6nm,0.8s							
WB0	**Warramunga Arr**	**56.00**	**185**			**P**	**06 00 28.4**	**+0.2**
WRAB	**Tennant Creek**	**56.16**	**185***c*	*e*P		**P**	**06 00 29.8**	**+0.5**
WRAB					pmax	pmax		
	comp=Z,7.0nm,0.7s							
WB2	**Warramunga Arr**	**56.17**	**185**			**P**	**06 00 29.2**	**-0.2**
WB2				IAmb		IAmb	06 00 31.4	
	comp=Z,12nm,0.8s							
WRA	**Warramunga Arr**	**56.17**	**185**	P		**P**	**06 00 29.1**	**-0.3**
	comp=Z,8.7nm,0.5s,baz=0.6,slow=7.6,SNR=46							
WR0	**Warramunga Arr**	**56.18**	**185**			**P**	**06 00 29.4**	**0.0**
AB31	**Akbulak array**	**56.91**	**310**	*i* P		**P**	**06 00 34.2**	**-0.1**
ABKAR	**Akbulak array**	**56.91**	**310**	P		**P**	**06 00 34.7**	**+0.4**
AKTO	**Aktyubinsk**	**57.70**	**312**	P		**P**	**06 00 40.0**	**+0.1**
KIRV	**Kirov**	**59.63**	**323**	*e*P		**P**	**06 00 53.6**	**+0.6**
AS31	**Alice Springs**	**59.90**	**185**			**P**	**06 00 57.6**	**+2.3**
AS31				IAmb		IAmb	06 00 59.8	
	comp=Z,2.4nm,0.6s							
ASAR	**Alice Springs**	**59.90**	**185**	P		**P**	**06 00 56.1**	**+0.8**
	comp=Z,3.2nm,0.6s,baz=19,slow=11,SNR=41							
HRA	**Herat**	**61.03**	**293**	P		**P**	**06 01 04.1**	**+0.8**
HRA				IAmb		IAmb	06 01 04.6	
	comp=Z,8.5nm,0.8s							
GEYT	**Alibeck**	**62.48**	**298**	P		**P**	**06 01 12.6**	**-0.1**
	comp=Z,6.3nm,0.8s,baz=0.0,slow=4.4,SNR=11							
KLMR	**Klimovskoe**	**63.30**	**327**	*e*P		**P**	**06 01 16.3**	**-1.3**
KLMR					pmax	pmax		
	comp=Z,6.0nm,0.4s							
KLMR	**Klimovskoe**	**63.30**	**327**	*e*P		**P**	**06 01 16.3**	**-1.3**
KLMR				AMP			06 01 18.1	
	comp=Z,6.0nm,0.4s							
KEV	**Kevo**	**63.39**	**339**	P		**P**	**06 01 18.5**	**+0.5**
KEV					pmax	pmax		
	comp=Z,15nm,1.4s							
KEV	**Kevo**	**63.39**	**339**	P		**P**	**06 01 18.5**	**+0.5**
KEV				IAmb		IAmb	06 01 25.1	
	comp=Z,15nm,1.4s							
RES	**Resolute Bay**	**63.72**	**14**	P		**P**	**06 01 21.2**	**+1.0**
RES					pmax	pmax		
	comp=Z,16nm,1.4s							
RES	**Resolute Bay**	**63.72**	**14**	P		**P**	**06 01 21.2**	**+1.0**
RES				IAmb		IAmb	06 01 25.0	
	comp=Z,16nm,1.4s							
ARCES	**ARCESS Array B**	**63.95**	**339**	P		**P**	**06 01 22.1**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=58,slow=7.7,SNR=30							
ARE0	**ARCESS Array S**	**63.95**	**339**	P		**P**	**06 01 21.8**	**+0.1**
ARE0	**ARCESS Array S**	**63.95**	**339**	*e*P		**P**	**06 01 21.8**	**+0.1**
KTK1	**Kautokeino**	**64.91**	**339**	*e*P		**P**	**06 01 28.1**	**+0.1**
YKA	**Yellowknife Ar**	**65.34**	**29**	P		**P**	**06 01 30.9**	**0.0**
	comp=Z,0.4nm,0.7s,baz=296,slow=6.8,SNR=5.5							
TRO	**Tromso**	**65.72**	**341**	*e*P		**P**	**06 01 33.3**	**+0.1**
OBN	**Obninsk**	**67.48**	**323**	*i* P		**P**	**06 01 44.2**	**-0.4**
OBN				*i*			06 02 09.2	
OBN					pmax	pmax		
	comp=Z,16nm,1.1s							
N2IH	**Innhavet**	**67.65**	**340**	*e*P		**P**	**06 01 45.7**	**+0.3**
STEI	**Steigen**	**67.86**	**340**	*e*P		**P**	**06 01 46.3**	**-0.5**
AKT	**Akhty**	**67.94**	**306**	*e*P		**P**	**06 01 47.9**	**0.0**
AKT				*e*			06 02 13.6	
AKT				*e**PP		**pP**	**06 02 23.8**	**-1.2**
AKT				*e*			06 04 20.5	
AKT					pmax	pmax		
	comp=Z,10.0nm,0.6s							
N2TV	**Tvrnvik**	**68.15**	**340**	*e*P		**P**	**06 01 49.1**	**+0.6**
FAUS	**Fauske**	**68.23**	**340**	*e*P		**P**	**06 01 49.2**	**+0.2**
FIA1	**FINESS Array S**	**68.51**	**332**	P		**P**	**06 01 50.6**	**-0.2**
FIA1				IAmb		IAmb	06 01 51.8	
	comp=Z,13nm,0.8s							
FINES	**FINESS Array B**	**68.51**	**332**	P		**P**	**06 01 50.9**	**0.0**
	comp=Z,8.4nm,0.7s,baz=76,slow=8.0,SNR=42							
N2VA	**Vr_y**	**68.74**	**341**	*e*P		**P**	**06 01 52.4**	**+0.2**
NBB05	**Inndyr**	**68.82**	**340**	*e*P		**P**	**06 01 53.1**	**+0.4**
NBB30	**Finnes**	**68.95**	**340**	*e*P		**P**	**06 01 53.7**	**+0.2**
MOR8	**Moi Rana**	**69.32**	**339**	*e*P		**P**	**06 01 54.7**	**-1.1**
KBZ	**Khabaz**	**69.88**	**310**	P		**P**	**06 01 59.8**	**+0.2**
	comp=Z,6.6nm,0.8s,baz=32,slow=2.9,SNR=15							
KBZ	**Khabaz**	**69.88**	**310***c*	*e*P		**P**	**06 02 00.5**	**+0.9**
KBZ					pmax	pmax		
	comp=Z,7.0nm,0.9s							
KIV	**Kislovodsk**	**69.89**	**310**	*e*P		**P**	**06 02 00.2**	**+0.3**
KIV					pmax	pmax		
	comp=Z,44nm,1.0s							
KIV	**Kislovodsk**	**69.89**	**310**	P		**P**	**06 02 01.3**	**+1.4**
KIV				IAmb		IAmb	06 02 02.5	
	comp=Z,11nm,0.7s							
VSU	**Vasula**	**70.05**	**329**	*i* P		**P**	**06 02 01.6**	**+1.2**
VSU					pmax	pmax		
	comp=Z,31nm,1.0s							
SUMG	**Summit**	**71.34**	**359**	*i* P		**P**	**06 02 09.4**	**+0.9**
	comp=Z,17nm,0.7s							
SUMG	**Summit**	**71.34**	**359**	*i* P		**P**	**06 02 09.4**	**+0.9**
SUMG					pmax	pmax		
	comp=Z,17nm,0.7s							
SUMG	**Summit**	**71.34**	**359**	P		**P**	**06 02 10.0**	**+1.5**
SUMG				IAmb		IAmb	06 02 10.7	
	comp=Z,6.8nm,0.7s							
NWAO	**Narrogin (SRO)**	**71.88**	**199**	P		**P**	**06 02 13.0**	**+1.3**
NWAO					pmax	pmax		
	comp=Z,21nm,1.3s							
NWAO	**Narrogin (SRO)**	**71.88**	**199**	P		**P**	**06 02 13.0**	**+1.3**
NWAO				IAmb		IAmb	06 02 26.9	
	comp=Z,21nm,1.3s							
AKASG	**Malin Array Be**	**73.65**	**321**	P		**P**	**06 02 21.9**	**-0.2**
	comp=Z,11nm,0.7s,baz=49,slow=6.3,SNR=32							
AKBB	**Malin Array Si**	**73.65**	**321***c*	*e*P		**P**	**06 02 21.9**	**-0.1**
AKBB	**Malin Array Si**	**73.65**	**321**	P		**P**	**06 02 21.9**	**-0.1**
AKBB				IAmb		IAmb	06 02 22.7	
	comp=Z,12nm,0.7s							
NC405	**NORSAR Array S**	**73.84**	**336**	P		**P**	**06 02 23.5**	**+0.5**
NC405				IAmb		IAmb	06 02 24.1	
	comp=Z,23nm,0.9s							
NC303	**NORSAR Array S**	**73.86**	**337**	P		**P**	**06 02 23.2**	**+0.1**
NC303				IAmb		IAmb	06 02 27.9	
	comp=Z,19nm,1.2s							
DOMB	**Dombas**	**73.96**	**338**	*e*P		**P**	**06 02 24.1**	**+0.4**
NC204	**NORSAR Array S**	**74.02**	**337**	P		**P**	**06 02 24.4**	**+0.3**
NB2	**NORSAR Subarra**	**74.05**	**336**	P		**P**	**06 02 24.2**	**-0.1**
	comp=Z,5.0nm,0.5s,baz=42,slow=5.9							
NB2	**NORSAR Subarra**	**74.05**	**336**	P		**P**	**06 02 24.2**	**-0.1**
	baz=42,slow=5.9							
NOA	**NORSAR Array B**	**74.05**	**336**	P		**P**	**06 02 24.4**	**+0.1**
	comp=Z,4.9nm,0.6s,baz=41,slow=5.8,SNR=35							
NC602	**NORSAR Array S**	**74.17**	**336**	*e*P		**P**	**06 02 24.7**	**-0.3**
NBO00	**NORSAR Array S**	**74.20**	**337**	P		**P**	**06 02 25.2**	**+0.1**
NBO00				IAmb		IAmb	06 02 26.5	
	comp=Z,14nm,0.8s							
OSL	**Oslo**	**75.05**	**336**	*e*P		**P**	**06 02 30.6**	**+0.7**
SKAR	**Skarslia**	**75.25**	**337**	*e*P		**P**	**06 02 32.0**	**+0.9**
KONO	**Kongsberg**	**75.63**	**336**	P		**P**	**06 02 33.9**	**+0.6**
KONO					pmax	pmax		
	comp=Z,26nm,1.5s							
KONO	**Kongsberg**	**75.63**	**336**	P		**P**	**06 02 33.9**	**+0.6**
KONO				IAmb		IAmb	06 02 46.9	
	comp=Z,26nm,1.4s							
KONO	**Kongsberg**	**75.63**	**336**	*e*P		**P**	**06 02 33.7**	**+0.4**
SUE	**Sulen**	**76.02**	**339**	*e*P		**P**	**06 02 36.4**	**+1.0**
DLMT	**Dillon**	**76.15**	**44**	P		**P**	**06 02 36.0**	**-0.7**
KVN	**Kaiserville**	**76.67**	**51**	P		**P**	**06 02 41.6**	**+1.8**
KVN					pmax	pmax		
	comp=Z,3.0nm,0.8s							
KVN	**Kaiserville**	**76.67**	**51**	P		**P**	**06 02 41.6**	**+1.8**
NVAR	**Mina Array Bea**	**76.91**	**52**	P		**P**	**06 02 43.2**	**+2.0**
	comp=Z,1.2nm,0.7s,baz=299,slow=5.4,SNR=9.9							
BEL	**Belsk**	**76.95**	**326**	*e*P		**P**	**06 02 42.0**	**+1.2**
KWP	**Kalwaria Pacla**	**77.55**	**323**	*e*P		**P**	**06 02 45.3**	**+1.1**
KWP	**Kalwaria Pacla**	**77.55**	**323**	P		**P**	**06 02 45.5**	**+1.2**
KWP					pmax	pmax		
	comp=Z,43nm,1.3s							
KWP	**Kalwaria Pacla**	**77.55**	**323**	P		**P**	**06 02 45.5**	**+1.2**
BUR08	**Bucovina Ar. S**	**77.63**	**321**	P		**P**	**06 02 45.3**	**+0.4**
BUR08				IAmb		IAmb	06 02 46.2	
	comp=Z,6.2nm,0.9s							
BRTR	**Keskin Array B**	**77.85**	**310**	P		**P**	**06 02 46.9**	**+0.6**
	comp=Z,3.7nm,0.9s,baz=124,slow=3.6,SNR=12							
BRTR					PP	**PP**	**06 05 44.1**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=39,slow=9.3,SNR=4.2							
OJC	**Ojcow**	**78.52**	**325**	*e*P		**P**	**06 02 50.4**	**+0.9**
OJC	**Ojcow**	**78.52**	**325**	P		**P**	**06 02 50.1**	**+0.5**
OJC					pmax	pmax		
	comp=Z,16nm,1.1s							
OJC	**Ojcow**	**78.52**	**325**	P		**P**	**06 02 50.1**	**+0.5**
OJC				IAmb		IAmb	06 02 51.1	
	comp=Z,16nm,1.1s							
R11A	**Troy Canyon, C**	**78.67**	**51**	P		**P**	**06 02 52.8**	**+1.9**
NIE	**Niedzica**	**78.84**	**324**	*e*P		**P**	**06 02 52.7**	**+1.3**
TPNV	**Topopah Spring**	**79.10**	**52**	P		**P**	**06 02 54.9**	**+1.6**
TPNV					pmax	pmax		
	comp=Z,7.0nm,1.5s							
TPNV	**Topopah Spring**	**79.10**	**52**	P		**P**	**06 02 54.9**	**+1.6**
PDAR	**Pinedale Array**	**79.49**	**44**	P		**P**	**06 02 55.6**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=275,slow=5.5,SNR=7.1							
KSP	**Ksiaz**	**79.65**	**327**	*e*P		**P**	**06 02 56.5**	**+0.7**
MORC	**Moravsky Berou**	**79.86**	**326**	*e*P		**P**	**06 02 57.5**	**+0.5**
MORC	**Moravsky Berou**	**79.86**	**326**	P		**P**	**06 02 57.2**	**+0.2**
MORC					pmax	pmax		
	comp=Z,7.0nm,1.0s							
MORC	**Moravsky Berou**	**79.86**	**326**	P		**P**	**06 02 57.2**	**+0.2**
MORC				IAmb		IAmb	06 02 58.6	
	comp=Z,6.5nm,1.0s							
CHVC	**Chvalec**	**79.94**	**327**	*e*P		**P**	**06 02 58.2**	**+0.9**
DPC	**Dobruska-Polom**	**79.99**	**327**	*e*P		**P**	**06 02 58.4**	**+0.7**
DPC	**Dobruska-Polom**	**79.99**	**327**	*e*P		**P**	**06 02 58.4**	**+0.7**
PSZ	**Piszkesteto**	**80.08**	**323**	P		**P**	**06 02 58.7**	**+0.5**
PSZ					pmax	pmax		
	comp=Z,7.0nm,0.9s							
PSZ	**Piszkesteto**	**80.08**	**323**	P		**P**	**06 02 58.7**	**+0.5**
PSZ				IAmb		IAmb	06 02 60.0	
	comp=Z,6.7nm,0.9s							
VYHS	**Vyhne**	**80.17**	**324**	*e*P		**P**	**06 02 59.1**	**+0.5**
VYHS					pmax	pmax		
	comp=Z,4.0nm,1.0s							
VYHS	**Vyhne**	**80.17**	**324**	*e*P		**P**	**06 02 59.1**	**+0.5**
JAVC	**Velka Javorina**	**80.46**	**325**	*e*P		**P**	**06 03 01.8**	**+1.6**
VRAC	**Vranov**	**80.63**	**326**	*e*P		**P**	**06 03 01.8**	**+0.8**
BRG	**Berggiesshubel**	**80.64**	**328**	*e*PKP		**P**	**06 03 01.2**	**+0.2**
	comp=Z,4.5nm,0.7s							
BRG	**Berggiesshubel**	**80.64**	**328**	*e*P		**P**	**06 03 01.2**	**+0.2**
BRG					pmax	pmax		
	comp=Z,5.0nm,0.7s							
BRG	**Berggiesshubel**	**80.64**	**328**	*e*P		**P**	**06 03 01.7**	**+0.7**
	comp=Z,32nm,2.4s,baz=40,slow=5.1							
CLL	**Collm**	**80.71**	**329**⇑	*i* P		**P**	**06 03 01.6**	**+0.2**
	comp=Z,9.0nm,0.9s							
CLL					*e*PcP	**PcP**	**06 03 07.0**	**-0.7**
CLL					*e*(pP)	**pP**	**06 03 44.0**	**+4.2**
CLL	**Collm**	**80.71**	**329**⇑	*i* P		**P**	**06 03 01.6**	**+0.2**
CLL					pmax	pmax		
	comp=Z,9.0nm,0.9s							
CLL	**Collm**	**80.71**	**329**	P		**P**	**06 03 01.4**	**0.0**
CLL				IAmb		IAmb	06 03 02.4	
	comp=Z,8.4nm,0.9s							
CLL	**Collm**	**80.71**	**329**	*e*P		**P**	**06 03 01.8**	**+0.4**
	comp=Z,9.2nm,0.9s,baz=40,slow=5.1							
FBE	**Freiberg**	**80.85**	**329**	*e*P		**P**	**06 03 03.0**	**+0.9**
	comp=Z,14nm,1.2s,baz=40,slow=5.1							
KRUC	**Mavsky**	**80.89**	**326**	*e*P		**P**	**06 03 02.9**	**+0.5**
GOPC	**GO Pecny, Ondr**	**80.99**	**327**	*e*P		**P**	**06 03 03.4**	**+0.5**
GOPC	**GO Pecny, Ondr**	**80.99**	**327**	*e*P		**P**	**06 03 03.4**	**+0.5**
PRU	**Pruhonice**	**81.04**	**327**	*e*P		**P**	**06 03 04.5**	**+1.3**
PRU	**Pruhonice**	**81.04**	**327**	*e*P		**P**	**06 03 04.5**	**+1.3**
SRU	**San Rafael Swe**	**81.28**	**48**	P		**P**	**06 03 06.3**	**+1.4**
SRU					pmax	pmax		
	comp=Z,3.0nm,0.9s							
SRU	**San Rafael Swe**	**81.28**	**48**	P		**P**	**06 03 06.3**	**+1.4**
NEUB	**Neuenburg**	**81.29**	**330**	*e*P		**P**	**06 03 04.9**	**+0.5**
	comp=Z,14nm,0.9s,baz=40,slow=5.1							
CLZ	**Clausthal**	**81.37**	**331**	*e*P		**P**	**06 03 05.7**	**+0.8**
	comp=Z,12nm,1.1s,baz=40,slow=5.1							
GUNZ	**Gunzen**	**81.70**	**329**	*e*P		**P**	**06 03 07.3**	**+0.6**
	comp=Z,6.3nm,1.2s,baz=40,slow=5.1							
WERN	**Wernitzgruen**	**81.74**	**329**	*e*P		**P**	**06 03 07.7**	**+0.8**
	comp=Z,5.5nm,1.0s,baz=40,slow=5.1							
GTTG	**Gottingen**	**81.76**	**331**	*e*P		**P**	**06 03 07.5**	**+0.6**
	comp=Z,10nm,0.9s,baz=40,slow=5.1							
U15A	**North Rim**	**81.92**	**51**	P		**P**	**06 03 09.9**	**+1.5**
CONA	**Conrad Observa**	**81.97**	**325**	*e*P		**P**	**06 03 09.2**	**+1.0**
	comp=Z,3.0nm,0.7s							
VTS	**Vitosha**	**82.02**	**318**	P		**P**	**06 03 09.5**	**+0.9**
VTS					pmax	pmax		
	comp=Z,4.0nm,0.8s							
VTS	**Vitosha**	**82.02**	**318**	P		**P**	**06 03 09.5**	**+0.9**
MANZ	**Manzenberg**	**82.08**	**329**	*e*P		**P**	**06 03 09.3**	**+0.6**
	comp=Z,5.0nm,1.2s,baz=40,slow=5.1							
KHC	**Kasperske Hory**	**82.10**	**327**	*e*P		**P**	**06 03 09.4**	**+0.6**
KHC	**Kasperske Hory**	**82.10**	**327***c*	*e*P		**P**	**06 03 09.8**	**+1.0**
KHC					pmax	pmax		
	comp=Z,3.0nm,0.6s							
KHC	**Kasperske Hory**	**82.10**	**327**	P		**P**	**06 03 08.8**	**0.0**
ROTZ	**Rotzenmuhle**	**82.21**	**328**	*e*P		**P**	**06 03 10.2**	**+0.9**
	comp=Z,8.8nm,1.9s,baz=40,slow=5.1							
GERES	**GERESS Array B**	**82.26**	**327**	P		**P**	**06 03 09.4**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=40,slow=5.7,SNR=12							
WET	**Wettzell**	**82.39**	**328**	*e*P		**P**	**06 03 11.0**	**+0.7**
	comp=Z,7.2nm,1.4s,baz=40,slow=5.1							
GRA1	**Grafenberg Arr**	**82.68**	**329**	P		**P**	**06 03 12.3**	**+0.5**
GRA1				IAmb		IAmb	06 03 13.5	
	comp=Z,15nm,0.9s							
GRF	**Grafenberg Arr**	**82.68**	**329**	P		**P**	**06 03 12.3**	**+0.5**
GRF					pmax	pmax		
	comp=Z,15nm,0.9s							
GRF	**Grafenberg Arr**	**82.68**	**329**	*e*P		**P**	**06 03 12.8**	**+1.1**
	comp=Z,14nm,0.8s,baz=40,slow=5.1							
MOA	**Molln**	**82.75**	**326**	*e*PcP		**P**	**06 03 13.7**	**+1.5**
	comp=Z,5.8nm,1.3s							
PV05	**Paradox Valley**	**82.80**	**48**	P		**P**	**06 03 14.3**	**+1.4**
PV05				IAmb		IAmb	06 03 15.5	
	comp=Z,9.9nm,1.1s							
PV13	**Radium Mtn., P**	**82.91**	**47**	P		**P**	**06 03 14.9**	**+1.4**
PERS	**Pernice**	**83.26**	**325**	*i* P		**P**	**06 03 15.2**	**+0.3**
SOKA	**Soboth**	**83.27**	**325**	*e*PcP		**P**	**06 03 16.1**	**+1.1**
	comp=Z,11nm,1.0s							
GOLS	**Golise**	**83.48**	**324**	*i* P		**P**	**06 03 16.1**	**+0.1**
RJOB	**Jochberg**	**83.49**	**327**	*e*P		**P**	**06 03 15.9**	**-0.1**
	comp=Z,7.0nm,1.0s,baz=40,slow=5.1							
OBKA	**Obir**	**83.62**	**325**	*e*PcP		**P**	**06 03 17.4**	**+0.7**
	comp=Z,2.1nm,0.6s							
X16A	**Lo Mia Camp, P**	**83.73**	**52**	P		**P**	**06 03 18.9**	**+1.3**
KBA	**Koelnbreinsper**	**83.74**	**326**	*i* PcP		**P**	**06 03 18.1**	**+0.7**
	comp=Z,6.2nm,0.7s							
MYKA	**Terra Mystica**	**83.94**	**326**	*e*P		**P**	**06 03 18.0**	**-0.3**
	comp=Z,4.1nm,0.7s							
VISS	**Visnje**	**84.00**	**324**	*i* P		**P**	**06 03 18.5**	**-0.1**
BOJS	**Bojanci**	**84.03**	**324**	*i* P		**P**	**06 03 18.8**	**0.0**
PRED	**Cave del Predi**	**84.12**	**326**	P		**P**	**06 03 18.0**	**-1.3**
S22A	**4UR Ranch, Cre**	**84.36**	**47**	P		**P**	**06 03 21.7**	**+0.8**
ABTA	**Abfaltersbach**	**84.36**	**326**	*e*P		**P**	**06 03 20.5**	**0.0**
	comp=Z,7.7nm,1.0s							
KARP	**Karpathos**	**84.47**	**311**	P		**P**	**06 03 20.7**	**-0.5**
KARP				IAmb		IAmb	06 03 22.0	
	comp=Z,18nm,1.0s							
RETA	**Reutte**	**84.57**	**328**	*i* P		**P**	**06 03 21.6**	**+0.1**
	comp=Z,4.5nm,0.7s							
STAL	**STALIGIAL**	**84.64**	**326**	P		**P**	**06 03 20.6**	**-1.2**
STAL				IAmb		IAmb	06 03 21.5	
	comp=Z,9.5nm,0.7s							
BMRD	**Maredsous**	**84.74**	**333**	P		**P**	**06 03 22.0**	**-0.2**
SNF	**Seneffe**	**84.75**	**333**	P		**P**	**06 03 22.4**	**+0.1**
BFO	**Black Forest**	**84.93**	**329**	P		**P**	**06 03 23.2**	**-0.1**
BFO					pmax	pmax		
	comp=Z,5.0nm,0.9s							
BFO	**Black Forest**	**84.93**	**329**	P		**P**	**06 03 23.2**	**-0.1**
BFO				IAmb		IAmb	06 03 24.1	
	comp=Z,5.2nm,0.9s							
BFO	**Black Forest**	**84.93**	**329**	*e*P		**P**	**06 03 23.5**	**+0.3**
	comp=Z,7.5nm,1.1s,baz=40,slow=5.1							
FETA	**Feichten**	**84.94**	**327**	*e*P		**P**	**06 03 23.5**	**0.0**
	comp=Z,5.5nm,1.1s							
DAVA	**Damuels**	**85.10**	**328**	*e*PcP		**P**	**06 03 24.4**	**+0.1**
	comp=Z,5.7nm,0.7s							
SDCO	**Great Sand Dun**	**85.14**	**46**	P		**P**	**06 03 26.1**	**+1.3**
FUORN	**Ofenpass-Fuorn**	**85.45**	**327**	P		**P**	**06 03 26.2**	**0.0**
FUORN				IAmb		IAmb	06 03 27.4	
	comp=Z,7.8nm,0.7s							
T25A	**Trinidad**	**86.18**	**46**	P		**P**	**06 03 30.5**	**+0.6**
NRCA	**Norcia**	**87.05**	**323**	P		**P**	**06 03 33.8**	**0.0**
NRCA				IAmb		IAmb	06 03 34.6	
	comp=Z,6.4nm,0.7s							
TXAR	**Lajitas Array**	**92.03**	**51**	P		**P**	**06 03 57.9**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=292,slow=2.7,SNR=7.8							
TXAR	**Lajitas Array**	**92.03**	**51**	P		**P**	**06 03 58.0**	**+0.5**
KMBO	**Kilima Mbogo**	**100.16**	**276**	*i* P		**Pdif**	**06 04 33.2**	**-1.5**
KMBO					pmax	pmax		
	comp=Z,1.0nm,0.4s							
TORD	**Torodi Ar. Bea**	**116.41**	**313**	PKP		**PKPdf**	**06 09 30.9**	**-0.7**
	comp=Z,0.5nm,0.6s,baz=1.4,slow=2.8,SNR=2.7							
BOSA	**Boshof**	**124.57**	**258**	PKP		**PKPdf**	**06 09 46.5**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=89,slow=4.8,SNR=3.4							
BOSA	**Boshof**	**124.57**	**258**	PKIKP		**PKPdf**	**06 09 46.9**	**0.0**
BOSA	**Boshof**	**124.57**	**258**			**PKPdf**	**06 09 46.9**	**0.0**
QSPA	**South Pole Qui**	**126.11**	**180**	PKPdf		**PKiKP**	**06 09 49.2**	**+0.2**
LPAZ	**La Paz**	**148.67**	**58**	PKPbc		**PKPbc**	**06 10 36.4**	**+0.6**
	comp=Z,3.2nm,0.7s,baz=242,slow=2.2,SNR=14							
LPAZ	**La Paz**	**148.67**	**58**	PKP2		**PKiKP**	**06 10 37.0**	**-0.2**
LPAZ	**La Paz**	**148.67**	**58**			**PKiKP**	**06 10 37.0**	**-0.2**
MNMC	**Minye Minye**	**149.56**	**63**	PKPbc		**PKiKP**	**06 10 39.7**	**+1.1**
PB11	**IPOC Station P**	**149.91**	**64**	PKPbc		**PKPbc**	**06 10 39.0**	**+0.7**
GO01	**Chusmiza**	**150.19**	**64**	PKPbc		**PKiKP**	**06 10 40.6**	**+0.6**
PB08	**IPOC Station P**	**150.52**	**64**	PKPbc		**PKiKP**	**06 10 41.7**	**+1.1**

TAP 28 05:55:53.2,24°.26N×121°.71E,h7km,ML2.6,1D,D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.13**	**231**	P		Pg	05 55 57.0	+0.9
	baz=230							
NACB				*e*S		Sg	05 55 59.5	+1.5
	baz=230		

	baz=271							
YHNB	**Yeheng**	**0.53**	**322**	P	Pg	05 56 09.6	+0.5	
	baz=322							
YHNB				*e*S	Sg	05 56 15.7	-0.4	
	baz=322							
CHGB	**Renai**	**0.54**	**250**	*e*P	Pg	05 56 09.7	+0.3	
	baz=243							
CHGB				*e*S	Sg	05 56 17.1	+0.5	
	baz=243							
NSK	**Sanguang**	**0.55**	**321**	*e*P	Pg	05 56 09.7	+0.3	
	baz=321							
NSK				*e*S	Sg	05 56 17.0	+0.4	
	baz=321							
WHP	**Taichung City**	**0.72**	**272**	*e*P	Pb	05 56 13.5	+0.1	
	baz=272							
WHP				*e*S	Sg	05 56 22.4	+0.3	
	baz=272							
TIPB	**Shuangxi**	**0.72**	**7**	*e*P	Pb	05 56 14.0	+0.6	
	baz=6.0							
TIPB				*e*S	Sg	05 56 22.0	-0.3	
	baz=6.0							
VWDT	**VWDT**	**0.73**	**228**	*e*P	Pg	05 56 13.1	+0.2	
	baz=220							
VWDT				*e*S	Sb	05 56 23.5	-0.1	
	baz=220							
LIOB	**Emei**	**0.76**	**301**	*e*P	Pg	05 56 13.5	0.0	
	baz=301							
NSTT	**Nanjuang**	**0.77**	**300**	*e*P	Pb	05 56 14.0	-0.2	
	baz=300							
NSTT				*e*S	Sb	05 56 24.6	-0.1	
	baz=300							
DPDB	**Guoxing**	**0.77**	**254**	*e*P	Pg	05 56 12.4	-1.2	
	baz=254							
EHY	**Hungye**	**0.83**	**207**	*e*P	Pg	05 56 14.0	-0.8	
	baz=207							
TYC	**Yuchr**	**0.87**	**247**	*e*P	Pg	05 56 15.2	-0.3	
	baz=246							

NDI ***28*** *05:57:04.1±1.2, 12.°09N×93.°45E, h33km, mb4.9, ML4.0, mb4.4(NEIC)*

NEIC ***28*** *05:57:06.3±1.3, 11.°6N±0.°1×93.°4E±0.°1, h38km±11km, mb4.4/9, Error ellipse: s-maj=24.1km s-min=10.1km az=149.0*

IDC ***28*** *05:57:07.2±1.6, 11.°29N×94.°33E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/41, mbtmp3.7/5, ML4.5/1, MS2.7/1, Ms1 2.9/1, ms1mx2.5/33, Error ellipse: s-maj=61.7km s-min=23.6km az=61.0*

ISC 28 05:57:04.0±0.8, **11.°93N**±0.°08×**93.°3E**±0.°1, **h35**km, **n35**, σ**1**°**30**/27, **mb4.2**/8, **Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**0.57**	**242**	*e*P	Pn	05 57 19.8	+4.2
PBA				*e*S	Sn	05 57 31.2	+7.4
PBA				IAML		05 57 31.8	
	comp=E,11μm,0.3s						
PBA				IAML		05 57 32.4	
	comp=N,8μm,0.2s						
PBA	**Port Blair**	**0.57**	**242**		Pn	05 57 19.9	+4.2
DGPR	**DIGLIPUR**	**1.28**	**346**	*e*P	**Pn**	**05 57 26.4**	**+0.9**
DGPR				*e*S	**Sn**	**05 57 41.6**	**+0.2**
DGPR				IAML		05 57 42.8	
	comp=E,2μm,0.1s						
DGPR				IAML		05 57 43.2	
	comp=N,2μm,0.2s						
CM31	**Chiang Mai Arr**	**8.50**	**40**	Pn	Pn	05 59 10.0	+5.3
CMAR	**Chiang Mai Arr**	**8.50**	**40**	Pn	Pn	05 59 09.3	+4.6
	comp=N,1.5nm,0.3s,baz=235,slow=14,SNR=20						
CMAR				Sn	**Sn**	**06 00 38.7**	**-0.8**
	comp=N,1.0nm,0.3s,baz=41,slow=29,SNR=3.0						
CMAR				LR	LR	06 01 35.1	
	comp=N,49nm,21.1s,baz=306,slow=32						
CHTO	**Chiang Mai**	**8.77**	**38**	Pn	Pn	05 59 13.3	+4.9
SAIH	**SAIHA**	**10.51**	**359**	*e*P	**Pn**	**05 59 29.7**	**-2.6**
SAIH				*e*S	Sn	06 01 15.6	-13
BOK	**Bokaro**	**13.72**	**330**	*e*P	**Pn**	**06 00 13.6**	**-2.6**
BOK				IAmb	IAmb	06 00 16.9	
	comp=Z,11nm,0.6s						
ODAN	**Odare**	**15.85**	**340**	*e*P	**Pn**	**06 00 44.4**	**-0.3**
	comp=Z,51nm,0.3s						
RAMN	**Ramite**	**16.20**	**338**	*e*P	**Pn**	**06 00 49.5**	**+0.2**
	comp=Z,33nm,0.3s						
TAPN	**Taplejung**	**16.20**	**342**	*e*P	**Pn**	**06 00 49.0**	**-0.4**
	comp=Z,34nm,0.4s						
JIRN	**Jiri**	**17.00**	**338**	*e*P	**P**	**06 00 59.9**	**-1.2**
	comp=Z,28nm,0.3s						
PKI	**Pulchoki**	**17.21**	**336**	*e*P	**P**	**06 01 02.6**	**-0.9**
	comp=Z,22nm,0.3s						
PKIN	**Phulchoki**	**17.22**	**336**	*e*P	**P**	**06 01 02.7**	**-0.8**
	comp=Z,32nm,0.4s						
GUN	**Gumba**	**17.34**	**338**	*e*P	**P**	**06 01 04.1**	**-0.7**
	comp=Z,24nm,0.5s						
GKN	**Gorkha**	**17.91**	**334**	*e*P	**P**	**06 01 11.7**	**+0.7**
	comp=Z,48nm,0.3s						
KOLN	**Koldanda**	**18.17**	**332**	*e*P	**P**	**06 01 15.0**	**+1.1**
	comp=Z,30nm,0.5s						
DANN	**Dangsing**	**18.59**	**333**	*e*P	**Pn**	**06 01 20.7**	**+1.6**
	comp=Z,23nm,0.3s						
PYUN	**Piuthan**	**18.74**	**331**	*e*P	**Pn**	**06 01 22.7**	**+1.9**
	comp=Z,30nm,0.5s						
H08S3	**Diego Garcia H**	**28.36**	**228**	T	T	06 31 08.8	
	baz=46,slow=76,SNR=7.0						
H08S2	**Diego Garcia H**	**28.36**	**228**	T	T	06 31 34.3	
	baz=46,slow=76,SNR=6.7						
H08S1	**Diego Garcia H**	**28.38**	**228**	T	T	06 31 22.6	
	baz=46,slow=76,SNR=3.8						
MKAR	**Makanchi Array**	**35.97**	**347**	P	P	06 04 17.1	+16
	comp=Z,0.2nm,0.5s,baz=166,slow=9.7,SNR=2.1						
JNU	**Nakatsue**	**40.34**	**52**	P	**P**	**06 04 41.3**	**+2.8**
JNU				IAmb	IAmb	06 04 53.6	
	comp=Z,14nm,1.4s						
FITZ	**Fitzroy Crossi**	**43.73**	**133**	P	**P**	**06 05 05.8**	**-0.3**
FITZ				IAmb	IAmb	06 05 19.1	
	comp=Z,9.8nm,1.3s						
KNRA	**Kununurra**	**44.58**	**127**	P	**P**	**06 05 14.1**	**+1.1**
NWAO	**Narrogin (SRO)**	**50.14**	**154**	P	**P**	**06 05 55.6**	**-0.4**
WB0	**Warramunga Arr**	**51.31**	**127**	P	**P**	**06 06 04.6**	**-0.6**
WB0				IAmb	IAmb	06 06 21.4	
	comp=Z,7.0nm,1.2s						
WRA	**Warramunga Arr**	**51.37**	**128**	P	**P**	**06 06 04.8**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=300,slow=9.9,SNR=12						
WB2	**Warramunga Arr**	**51.38**	**128**	P	**P**	**06 06 05.1**	**-0.6**
WR0	**Warramunga Arr**	**51.53**	**128**	P	**P**	**06 06 06.2**	**-0.6**
WR0				IAmb	IAmb	06 06 20.1	
	comp=Z,3.8nm,1.0s						
AS31	**Alice Springs**	**53.21**	**132**	P	**P**	**06 06 17.8**	**-1.5**
ASAR	**Alice Springs**	**53.21**	**132**	P	**P**	**06 06 18.7**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=310,slow=6.9,SNR=13						
FINES	**FINESS Array B**	**68.75**	**332**	P	P	06 08 19.1	+15
	comp=Z,0.5nm,0.7s,baz=116,slow=6.3,SNR=1.7						
CASY	**Casey**	**79.03**	**173**	P	**P**	**06 09 04.0**	**-0.1**

NEIC ***28*** *06:06:14.8±0.9, 35.°148N±0.°009×118.°157W±0.°010, h9km±2km, Error ellipse: s-maj=1.3km s-min=1.2km az=192.0*

ANF ***28*** *06:06:14.5±0.1, 35.°15N×118.°16W, h12km±1km, ML3.0/34, Error ellipse: s-maj=1.3km s-min=1.1km az=56.0*

PAS ***28*** *06:06:15.4±1.0, 35.°143N±0.°009×118.°17W±0.°01, h7km±4km, ML3.0/216, Error ellipse: s-maj=1.5km s-min=1.3km az=223.0*

SCEDC ***28*** *06:06:15.4, 35.°14N×118.°17W, h7km, M3.0, ML3.0, ML3.0, ML3.0, ML3.0*

ISC 28 06:06:15.3±0.8, **35.°14N**±0.°01×**118.°17W**±0.°01, **h11**km±6km, **n136**, σ0°**84**/200, **Central California**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CCAC	**Calif City Air**	**0.12**	**84**		**Pg**	**06 06 18.2**	**-0.2**
CCAC					**Sg**	**06 06 20.3**	**-0.3**
DTP	**Desert Tortois**	**0.29**	**64**		**Pg**	**06 06 21.0**	**-0.3**
EDW2	**Edwards Air Fo**	**0.29**	**151**	P	**Pg**	**06 06 20.9**	**-0.4**
	baz=332,SNR=1000						
EDW2				S	**Sg**	**06 06 24.9**	**-0.4**
	baz=332						
EDW2	**Edwards Air Fo**	**0.29**	**151**		**Pg**	**06 06 20.9**	**-0.4**
EDW2					**Sg**	**06 06 24.9**	**-0.4**
WBSM	**Bird Springs**	**0.40**	**3**		**Pg**	**06 06 22.8**	**-0.5**
WBSM					**Sg**	**06 06 28.2**	**-0.3**
FOXC	**Fox Airport**	**0.40**	**188**		**Pg**	**06 06 23.1**	**-0.1**
TEJ	**El Tejon**	**0.44**	**282**		**Pg**	**06 06 23.4**	**-0.5**
TEJ					**Sg**	**06 06 29.3**	**-0.5**
ALPC	**Antelope**	**0.47**	**194**		**Pg**	**06 06 24.1**	**-0.3**
ALPC					**Sg**	**06 06 30.7**	**+0.1**
THC	**Tehachapi Micr**	**0.47**	**241**		**Pg**	**06 06 24.3**	**-0.3**
THC					**Sg**	**06 06 31.0**	**+0.2**
TJR	**Tejon Ranch**	**0.49**	**257**		**Pg**	**06 06 24.3**	**-0.5**
TJR					**Sg**	**06 06 30.9**	**-0.4**
LEOC	**Leona Valley**	**0.52**	**193**		**Pg**	**06 06 25.0**	**-0.5**
LRMC	**Laurel Mtn Rad**	**0.52**	**49**	P	**Pg**	**06 06 25.3**	**-0.3**
	baz=230,SNR=22						
LRMC				S	**Sg**	**06 06 31.8**	**-0.6**
	baz=230						
LRMC	**Laurel Mtn Rad**	**0.52**	**49**		**Pg**	**06 06 25.2**	**-0.3**
SBB	**Saddle Back Bu**	**0.53**	**148**		**Pg**	**06 06 23.7**	**-2.0**
ARVC	**Arvin**	**0.55**	**269**	P	**Pg**	**06 06 25.5**	**-0.4**
	baz=88,SNR=36						
ARVC				S	**Sg**	**06 06 33.0**	**-0.2**
	baz=88						
ARVC	**Arvin**	**0.55**	**269**		**Pg**	**06 06 25.5**	**-0.4**
ARVC					**Sg**	**06 06 33.5**	**+0.3**
WORM	**Onyx Ranch**	**0.56**	**354**		**Pg**	**06 06 25.6**	**-0.7**
HYS	**Haystack Butte**	**0.56**	**119**		**Pg**	**06 06 25.8**	**-0.5**
HYS					**Sg**	**06 06 32.8**	**-0.9**
BTPC	**Burnt Peak**	**0.57**	**216**		**Pg**	**06 06 26.1**	**-0.3**
BTPC					**Sg**	**06 06 34.1**	**+0.2**
WHFM	**Hanning Flat**	**0.57**	**345**		**Pg**	**06 06 25.9**	**-0.7**
WHFM					**Sg**	**06 06 33.6**	**-0.6**
ISA	**Isabella, Lake**	**0.58**	**334**	P	**Pg**	**06 06 26.0**	**-0.6**
	baz=154,SNR=103						
ISA				S	**Sg**	**06 06 33.8**	**-0.5**
	baz=154						
ISA	**Isabella, Lake**	**0.58**	**334**		**Pg**	**06 06 26.1**	**-0.6**
ISA				Sg	**Sg**	**06 06 33.8**	**-0.5**
WOFM	**Oak Flat**	**0.60**	**312**		**Pg**	**06 06 26.5**	**-0.5**
CJV	**Casa Juvan**	**0.61**	**178**		**Pg**	**06 06 26.7**	**-0.5**
CJV					**Sg**	**06 06 35.4**	**+0.2**
LRRC	**Littlerock Res**	**0.62**	**169**		**Pg**	**06 06 27.0**	**-0.4**
SRTC	**Snort**	**0.65**	**32**		**Pg**	**06 06 25.5**	**-2.4**
WASM	**Alta Sierra Ca**	**0.68**	**332**		**Pg**	**06 06 27.8**	**-0.7**
WASM					**Sg**	**06 06 37.0**	**-0.4**
OSI	**Osito Audit: C**	**0.70**	**221**	P	**Pg**	**06 06 28.4**	**-0.4**
	baz=41,SNR=11						
OSI				S	**Sg**	**06 06 38.1**	**+0.1**
	baz=41						
OSI	**Osito Audit: C**	**0.70**	**221**	Pg	**Pg**	**06 06 28.4**	**-0.4**
OSI				Sg	**Sg**	**06 06 37.6**	**-0.3**
JNH	**Juniper Hills**	**0.71**	**166**		**Pg**	**06 06 28.7**	**-0.5**
JNH					**Sg**	**06 06 38.0**	**-0.5**
PYR	**Pyramid**	**0.74**	**220**		**Pg**	**06 06 29.2**	**-0.5**
WCHM	**Chimney Peak**	**0.74**	**6**		**Pg**	**06 06 28.9**	**-0.9**
CCCA	**Chr Cany lake**	**0.76**	**59**		**Pb**	**06 06 31.3**	**+0.7**
IR2C	**Iron Canyon**	**0.78**	**194**		**Pg**	**06 06 29.6**	**-0.7**
CHFC	**Chilao Flat St**	**0.81**	**172**		**Pg**	**06 06 30.3**	**-0.7**
CHFC					**Sg**	**06 06 40.9**	**-0.8**
CLC	**China Lake**	**0.82**	**34**		**Pg**	**06 06 30.4**	**-0.8**
CLC					**Sg**	**06 06 41.4**	**-0.5**
ADO	**Adelanto Recei**	**0.84**	**134**		**Pg**	**06 06 42.8**	**+0.2**
MPI	**Mount Pinos, F**	**0.87**	**248**		**Pg**	**06 06 31.4**	**-0.8**
OAT	**Oat Mountain**	**0.88**	**205**		**Pg**	**06 06 32.2**	**-0.1**
XTL	**Crystal Lake,**	**0.88**	**163**		**Pg**	**06 06 31.6**	**-0.7**
JRC2	**Joshua Ridge**	**0.89**	**19**		**Pg**	**06 06 31.7**	**-0.8**
JRC2					**Sg**	**06 06 43.2**	**-0.9**
DECC	**Green Verdugo**	**0.90**	**189**	P	**Pg**	**06 06 32.0**	**-0.5**
	baz=8.7,SNR=22						
DECC				S	**Sg**	**06 06 43.8**	**-0.4**
	baz=8.7						
DECC	**Green Verdugo**	**0.90**	**189**		**Pg**	**06 06 31.8**	**-0.8**
VTV	**Victorville**	**0.90**	**130**		**Sg**	**06 06 43.4**	**-1.0**
ABL	**Mount Abel**	**0.91**	**252**		**Pg**	**06 06 31.9**	**-1.0**
MWC	**Mount Wilson**	**0.92**	**174**		**Pg**	**06 06 32.1**	**-0.9**
PASC	**Pasadena Art C**	**0.97**	**181**	Pg	**Pg**	**06 06 32.7**	**-1.2**
PASC					**Sg**	**06 06 45.8**	**-0.7**
BLCC	**Black Canyon**	**0.99**	**205**		**Pg**	**06 06 34.1**	**-0.2**
BFSC	**Mount Baldy Ra**	**0.99**	**155**	P	**Pg**	**06 06 33.4**	**-1.0**
	baz=335,SNR=78						
BFSC				S	**Sg**	**06 06 46.2**	**-1.2**
	baz=335						
BFSC	**Mount Baldy Ra**	**0.99**	**155**		**Pg**	**06 06 33.4**	**-1.0**
RRX	**Edison Barstow**	**0.99**	**105**	P	**Pg**	**06 06 34.0**	**-0.5**
	baz=286,SNR=8.3						
RRX				S	**Sg**	**06 06 46.7**	**-0.7**
	baz=286						
RRX	**Edison Barstow**	**0.99**	**105**		**Pg**	**06 06 34.0**	**-0.5**
PEM	**Pine Mountain**	**1.00**	**166**		**Pg**	**06 06 33.8**	**-0.8**
SSK	**Sunset Peak**	**1.01**	**157**		**Pg**	**06 06 33.5**	**-1.2**
MFS	**McCloud Flat S**	**1.01**	**14**		**Pg**	**06 06 33.8**	**-1.0**
MFS					**Sg**	**06 06 47.0**	**-0.9**
WLHM	**Little Horse**	**1.02**	**353**		**Pg**	**06 06 33.9**	**-1.1**
WLHM					**Sg**	**06 06 47.4**	**-0.8**
VES	**Vestal, Richgr**	**1.02**	**313**	P	**Pg**	**06 06 34.1**	**-1.0**
	baz=133,SNR=41						
VES				S	**Sg**	**06 06 47.1**	**-1.3**
	baz=133						
VES	**Vestal, Richgr**	**1.02**	**313**		**Pg**	**06 06 34.1**	**-1.0**
VES					**Sg**	**06 06 47.2**	**-1.3**
GR2C	**Griffith Obs.**	**1.03**	**186**		**Pg**	**06 06 34.1**	**-1.0**
GR2C					**Sg**	**06 06 47.5**	**-0.9**
BCW	**Bitter Crk WRg**	**1.04**	**259**		**Pg**	**06 06 34.0**	**-1.4**
DJJ	**Donna J Jenkin**	**1.06**	**193**		**Pg**	**06 06 34.6**	**-1.1**
DJJ					**Sg**	**06 06 49.0**	**-0.4**
DJJ	**Donna J Jenkin**	**1.06**	**193**		**Pg**	**06 06 34.8**	**-0.9**
MPMC	**Manual Prospec**	**1.07**	**31**	P	**Pg**	**06 06 34.8**	**-1.1**
	baz=211,SNR=78						
MPMC				S	**Sg**	**06 06 49.2**	**-0.7**
	baz=211						
MPMC	**Manual Prospec**	**1.07**	**31**		**Pg**	**06 06 34.9**	**-1.1**
MPMC					**Sg**	**06 06 49.2**	**-0.7**
CSP	**Cedar Springs**	**1.07**	**141**		**Pg**	**06 06 34.9**	**-1.0**
SS2	**San Sevaine**	**1.08**	**149**		**Pg**	**06 06 35.3**	**-0.8**
PSRC	**Puddingstone R**	**1.09**	**164**		**Pg**	**06 06 35.5**	**-0.8**
GVRC	**Garvey Reservo**	**1.09**	**178**		**Pg**	**06 06 35.6**	**-0.7**
GSC	**Goldstone, Bar**	**1.12**	**81**	P	**Pg**	**06 06 36.1**	**-1.0**
	baz=262,SNR=101						
GSC				S	**Sb**	**06 06 51.8**	**+0.3**
	baz=262						
GSC	**Goldstone, Bar**	**1.12**	**81**	Pg	**Pg**	**06 06 36.0**	**-1.0**
GSC				Sg	**Sg**	**06 06 51.4**	**-0.2**
SPG2	**Springville 2**	**1.17**	**335**		**Pb**	**06 06 36.4**	**-1.2**
SPG2					**Sg**	**06 06 52.8**	**-0.1**
MLSC	**Mira Loma**	**1.24**	**156**		**Pn**	**06 06 38.1**	**-0.5**
CWC	**Cottonwood Cre**	**1.30**	**3**	P	**Pn**	**06 06 38.8**	**-0.8**
	baz=183						
CWC				S	**Sb**	**06 06 55.7**	**-0.9**
	baz=183						
CWC	**Cottonwood Cre**	**1.30**	**3**		**Pn**	**06 06 38.7**	**-0.8**
CWC					**Sb**	**06 06 56.0**	**-0.7**
BTL	**Butler Peak**	**1.30**	**132**		**Pn**	**06 06 38.6**	**-1.1**
RVR	**Riverside**	**1.32**	**150**		**Pn**	**06 06 38.7**	**-1.0**
BBRC	**Big Bear Solar**	**1.35**	**130**	P	**Pn**	**06 06 39.6**	**-0.8**
	baz=311,SNR=10.0						
BBRC				S	**Sb**	**06 06 57.8**	**-0.3**
	baz=311						
BBRC	**Big Bear Solar**	**1.35**	**130**		**Pn**	**06 06 39.4**	**-1.0**
BBRC					**Sb**	**06 06 57.8**	**-0.3**
SVD	**Seven Oaks Dam**	**1.36**	**139**		**Pn**	**06 06 39.7**	**-0.5**
SVD					**Sb**	**06 06 58.4**	**+0.2**
PKM	**Mcpherson Peak**	**1.38**	**260**	P	**Pn**	**06 06 40.3**	**-0.3**
	baz=79,SNR=11						
PKM				S	**Sn**	**06 06 59.8**	**+0.8**
	baz=79						
FMP	**Fort Macarthur**	**1.43**	**184**	Pg	**Pn**	**06 06 41.8**	**+0.6**
	baz=4.2						
FMP				Sb	**Sb**	**06 07 00.7**	**+0.6**
	baz=4.2						
CGO	**Cerro Gordo**	**1.44**	**12**		**Pn**	**06 06 41.5**	**-0.1**
SME	**Santa Rosa Min**	**1.48**	**153**		**Pn**	**06 06 41.3**	**-0.6**
SMMC	**Simmler**	**1.51**	**277**	Pb	**Pn**	**06 06 42.5**	**+0.1**
	baz=96						
SMMC				S	**Sn**	**06 07 02.1**	**+0.1**
	baz=96						
HEC	**Hector,Ludlow**	**1.54**	**101**	Pg	**Pb**	**06 06 43.9**	**+0.1**
	baz=282,SNR=29						
HEC				Sg	**Sg**	**06 07 04.3**	**-0.4**
	baz=282						
HEC	**Hector,Ludlow**	**1.54**	**101**		**Sg**	**06 07 04.3**	**-0.4**
VOG	**Valley Oaks Go**	**1.54**	**320**	Pg	**Pb**	**06 06 44.1**	**+0.3**
	baz=140,SNR=12						
VOG				Sb	**Sb**	**06 07 04.1**	**+0.8**
	baz=140						
BCH	**Branch Mountai**	**1.57**	**272**		**Pn**	**06 06 43.0**	**-0.3**
SHOC	**Shoshone, Teco**	**1.72**	**63**	P	**Pn**	**06 06 45.0**	**-0.3**
	baz=244,SNR=20						
HMTC	**Hemet**	**1.72**	**146**		**Pn**	**06 06 44.7**	**-0.6**
HMTC					**Sn**	**06 07 08.3**	**+1.0**
MURC	**Murrieta**	**1.73**	**152**	P	**Pn**	**06 06 45.0**	**-0.5**
	baz=333,SNR=22						
MURC				Sb	**Sb**	**06 07 09.1**	**+0.1**
	baz=333						
MURC	**Murrieta**	**1.73**	**152**		**Pb**	**06 06 47.1**	**-0.1**
CIS	**Catalina Islan**	**1.75**	**187**	Pb	**Pn**	**06 06 46.3**	**+0.7**
	baz=6.7,SNR=11						
DGR	**Domenigoni Val**	**1.77**	**147**		**Pn**	**06 06 45.4**	**-0.5**
POB	**Polly Butte**	**1.78**	**144**		**Pn**	**06 06 46.0**	**-0.1**
BACC	**Bachelor Mtn.**	**1.79**	**148**		**Pb**	**06 06 48.0**	**-0.1**
PAGB	**Antelope Grade**	**1.80**	**290**		**Pn**	**06 06 46.4**	**0.0**
SBI	**Santa Barbara**	**1.80**	**204**		**Pn**	**06 06 46.4**	**0.0**
BLAC	**Blackrock camp**	**1.81**	**126**		**Pb**	**06 06 48.8**	**+0.1**
TUQ	**Turquoise Moun**	**1.86**	**80**	Pb	**Pn**	**06 06 48.4**	**+1.1**
	baz=262,SNR=5.2						
TUQ				Sg	**Sg**	**06 07 14.7**	**-0.4**
	baz=262						
TIN	**Tinemaha, Big**	**1.91**	**358**	Sg	**Sg**	**06 07 16.6**	**-0.2**
	baz=178						
GRAC	**Grapevine Rang**	**1.96**	**19**	Pg	**Pb**	**06 06 51.5**	**+0.4**
	baz=200,SNR=24						
GRAC				Sb	**Sb**	**06 07 16.4**	**+0.7**
	baz=200						
CRY	**Cary Ranch**	**1.97**	**143**		**Pn**	**06 06 48.5**	**-0.2**
GATR	**Gnd/Air Tx Cnt**	**2.01**	**254**		**Pn**	**06 06 48.8**	**-0.5**
AMDNV	**Amargosa**	**2.02**	**49**		**Pn**	**06 06 48.7**	**-0.6**
SNDA	**J Saunders Pla**	**2.04**	**141**		**Pn**	**06 06 49.9**	**+0.1**
BZNA	**Buzz No.'s Pla**	**2.06**	**143**		**Pn**	**06 06 50.0**	**0.0**
PFO	**Pinyon Flats O**	**2.08**	**137**	P	**Pn**	**06 06 49.7**	**-0.5**
	baz=318,SNR=12						
PFO				Sb	**Sb**	**06 07 19.5**	**+0.5**
	baz=318						
PFO	**Pinyon Flats O**	**2.08**	**137**		**Pn**	**06 06 49.4**	**-0.8**
PFO	**Pinyon Flats O**	**2.08**	**137**		**Pn**	**06 06 49.8**	**-0.5**
XPFO	**Pion Flat**	**2.08**	**137**		**Pn**	**06 06 49.6**	**-0.7**
XPFO	**Pion Flat**	**2.08**	**137**		**Pn**	**06 06 49.8**	**-0.5**
TPFO	**Pinon Flats**	**2.08**	**137**	Pn	**Pn**	**06 06 49.8**	**-0.6**
	baz=318,SNR=18						
TPFO				Pb	**Pb**	**06 06 53.3**	**+0.1**
	baz=318						
TPFO				Sn	**Sn**	**06 07 15.9**	**-0.5**
	baz=318						
TPFO				Sb	**Sb**	**06 07 19.7**	**+0.5**
	baz=318						
GMRC	**Granite Mounta**	**2.09**	**99**	Sb	**Sb**	**06 07 20.2**	**+0.8**
	baz=281						
FRD	**Ford Ranch, An**	**2.09**	**141**		**Pn**	**06 06 50.2**	**-0.2**
FRD	**Ford Ranch, An**	**2.09**	**141**		**Pn**	**06 06 50.1**	**-0.3**
BELC	**Belle Mtn. Jos**	**2.12**	**122**	P	**Pn**	**06 06 50.7**	**-0.1**
	baz=303,SNR=14						
BELC				Sb	**Sg**	**06 07 22.0**	**-1.4**
	baz=303						
PSMM	**Smith Mountain**	**2.19**	**296**		**Pb**	**06 06 53.8**	**-1.2**
HWB	**Hans Werner Br**	**2.33**	**154**		**Pb**	**06 06 57.1**	**-0.3**
DPP	**Dos Picos Cty**	**2.37**	**154**		**Pn**	**06 06 53.0**	**-0.2**
TPNV	**Topopah Spring**	**2.38**	**40**	P	**Pn**	**06 06 54.4**	**-0.1**
	baz=221						
TPNV	**Topopah Spring**	**2.38**	**40**		**Pn**	**06 06 54.2**	**-0.3**
109C	**Camp Elliot, M**	**2.41**	**158**	Pb	**Pb**	**06 06 58.4**	**-0.3**
	baz=339,SNR=7.8						
109C				Sb	**Sb**	**06 07 29.3**	**+0.8**
	baz=339						
EML	**El Monte Cty P**	**2.50**	**154**		**Pn**	**06 06 55.7**	**-0.2**
OMMB	**Old Mammoth Mi**	**2.56**	**345**		**Pn**	**06 06 57.6**	**+0.5**
MONP2	**Monument Peak**	**2.67**	**147**	Pn	**Pn**	**06 06 58.3**	**-0.2**
	baz=328						
MONP2				Pb	**Pb**	**06 07 03.4**	**+0.1**
	baz=328						
MONP2				Sb	**Sb**	**06 07 37.4**	**+1.3**
	baz=328						
IRM	**Iron Mountain**	**2.68**	**111**	Pg	**Pb**	**06 07 04.8**	**+1.5**
	baz=292,SNR=9.3						
IRM				Sb	**Sg**	**06 07 39.2**	**-2.1**
	baz=292						
BC3	**Big Chuckawall**	**2.69**	**123**	Pg	**Pb**	**06 07 05.2**	**+1.7**
	baz=304,SNR=9.2						
BC3				Sb	**Sb**	**06 07 39.1**	**+2.6**
	baz=304						
BAR	**Barrett**	**2.75**	**153**		**Pn**	**06 06 59.2**	**-0.2**
SHPR	**Sheep Range**	**2.80**	**60**		**Pn**	**06 07 00.2**	**0.0**
NEE2	**Needles Airpor**	**2.94**	**96**	Pg	**Pg**	**06 07 10.5**	**-1.1**
	baz=278						
NEE2				Sb	**Sb**	**06 07 46.4**	**+2.8**
	baz=278						
SAO	**San Andreas Ge**	**3.12**	**302**	Pn	**Pn**	**06 07 04.2**	**-0.3**
WAKR	**Walker**	**3.51**	**343**		**Pb**	**06 07 18.4**	**+0.8**
R11A	**Troy Canyon, C**	**3.81**	**32**		**Pb**	**06 07 25.2**	**+2.5**
KVN	**Kaiserville**	**3.90**	**1**		**Pb**	**06 07 27.1**	**+2.8**
YERR	**Yerington**	**3.93**	**348**		**Pb**	**06 07 27.9**	**+3.1**

THE ***28*** *06:08:26.5, 38.°75N×20.°55E, h9km±1km, ML2.7/6, Error ellipse: s-maj=1.4km s-min=0.7km az=295.0*

ATH ***28*** *06:08:

KEK	Kerkira	1.16	327	P	Pg	06 08 49.4	+0.5
SERG	Sergoula	1.17	106	P	Pg	06 08 48.8	-0.1
SERG	Sergoula	1.17	106	P	Pg	06 08 48.9	-0.1
TRIZ	Trizonia	1.19	108	P	Pb	06 08 49.0	0.0
KALE	Kalithea	1.23	106	P	Pb	06 08 49.9	+0.1
AGG	Agios Georgios	1.36	78	P	Pg	06 08 52.2	-0.4
AGG	Agios Georgios	1.36	78	P	Pg	06 08 53.2	+0.7
KLV	Kalavryta, Ach	1.39	120	P	Pn	06 08 51.6	-0.1
KLV	Kalavryta, Ach	1.39	120	P	Pg	06 08 53.0	-0.1
MAKA	Makarska	5.30	330	*e*Pn	Pn	06 09 47.2	+1.8
MAKA				Sn	Sn	06 10 45.1	-1.2
RICI	Ricice	5.43	332	*e*Pn	Pn	06 09 48.4	+1.1
RICI				Sn	Sn	06 10 48.0	-1.7
KIJV	Kijevo	6.14	330	*e*Pn	Pn	06 09 57.2	+0.2
KIJV				Sn	Sn	06 11 06.2	-1.0
ZIRJ	Zirje	6.18	324	*e*Pn	Pn	06 09 58.7	+1.1
ZIRJ				Sn	Sn	06 11 06.2	-1.9
DUGI	Dugi Otok	6.71	323	*e*Pn	Pn	06 10 06.3	+1.5
DUGI				Sn	Sn	06 11 19.4	-1.9

SOME ***28*** *06:33:23.3,43.˚63N×88.˚40E, h5km*
NNC ***28*** *06:33:44.1±2.0, 43.˚58N×87.˚44E, h0km, mb4.0, mpv3.5, Error ellipse: s-maj=15.9km s-min=10.5km az=132.0*

ISC 28 06:33:21.2±3.8, 43.˚5N±0.˚1×88.˚6E±0.˚2, h10km, n17, σ3$07/19, 5C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**4.76**	**328**	*e*P	**Pg**	**06 34 50.5**	**-1.8**
ZSN	2.8nm,0.3s			*e*S	**Sg**	**06 35 53.0**	**-0.9**
ZSN	11nm,0.8s **Zaisan**	**4.76**	**328**	Pg	Pg	06 35 01.7	+9.4
ZSN	3.9nm,0.2s			Lg	Lg	06 36 02.4	
MK31	4.1nm,1.1s **Makanchi Array**	**5.55**	**309**	⇑Pn	**Pb**	**06 35 00.1**	**+2.0**
MK31	0.7nm,0.5s,baz=135,slow=14,SNR=28			⇓Lg	Lg	06 36 20.1	
MAKZ	3.2nm,0.8s,baz=135,slow=27,SNR=8.2 **Makanchi**	**5.73**	**308**	⇓Pn	**Pb**	**06 35 02.5**	**+1.2**
MAKZ	1.9nm,0.6s			⇑Lg	Lg	06 36 24.7	
KTMS	4.3nm,0.9s **Ketmen**	**5.97**	**273**	*e*P	**Pg**	**06 35 11.9**	**-3.5**
KTMS	0.3nm,0.1s			*e*S	**Sg**	**06 36 30.3**	**-2.4**
KTMS	7.7nm,0.8s **Ketmen**	**5.97**	**273**	Pg	**Pg**	**06 35 16.3**	**+0.9**
KTMS	0.3nm,0.1s			Lg	Lg	06 36 28.0	
DJR	7.7nm,0.8s **Jarkent**	**6.39**	**281**	*e*P	**Pg**	**06 35 19.1**	**-4.4**
DJR	1.0nm,0.5s			*e*S	**Sg**	**06 36 42.6**	**-3.6**
DJR	4.6nm,0.9s **Jarkent**	**6.39**	**281**	Pg	**Pg**	**06 35 24.8**	**+1.3**
DJR	2.1nm,0.5s			Lg	Lg	06 36 42.0	
PDGK	4.2nm,0.7s **Podgornoye**	**6.60**	**272**	Pg	**Pg**	**06 35 28.6**	**+1.0**
PDGK	1.2nm,0.3s			Lg	Lg	06 36 49.1	
PDGK	3.6nm,0.8s **Podgornoye**	**6.60**	**272**	⇑Pn	**Pb**	**06 35 11.7**	**-4.4**
PDGK	3.1nm,0.7s			⇑Lg	Lg	06 36 48.4	
SHLS	10nm,0.9s **Shalkode**	**6.64**	**271**	*e*P	**Pb**	**06 35 19.1**	**+2.4**
SHLS	7.8nm,0.3s			*e*S	**Sb**	**06 36 42.3**	**+6.1**
SHLS	14nm,0.4s **Shalkode**	**6.64**	**271**	Pg	**Pg**	**06 35 23.9**	**-4.4**
SHLS	7.8nm,0.3s			Lg	Lg	06 36 40.8	
UZB	14nm,0.4s **Uzynbulak**	**6.96**	**271**	Pg	**Pg**	**06 35 35.8**	**+1.4**
UZB	1.6nm,0.6s			Lg	Lg	06 37 01.2	
SATY	4.0nm,0.6s **Saty**	**7.42**	**270**	Pg	**Pg**	**06 35 44.5**	**+1.3**
SATY	2.1nm,0.3s			Lg	Lg	06 37 16.3	
ARXS	3.2nm,0.2s **Arharly**	**7.79**	**279**	Pg	**Pg**	**06 35 51.0**	**+0.7**
ARXS	2.5nm,0.5s			Lg	Lg	06 37 27.1	
KTBS	4.5nm,0.5s **Karatobe**	**8.62**	**276**	Pg	**Pg**	**06 36 05.6**	**-0.6**
KTBS	1.4nm,0.9s			Lg	Lg	06 37 52.7	
KURBB	5.8nm,0.9s **Kurchatov Arra**	**9.90**	**320**	⇑Lg	Lg	06 38 39.9	
	4.7nm,0.7s						

NIED ***28*** *06:33:52.2, 31.˚26N×127.˚49E, h1km, MW3.7, Moment Tensor Solution. s2 Moment tensor: Scale 10^14Nm; Mrr-2.89; Mθθ2.96; Mϕϕ-0.07; Mrθ-0.75; Mθϕ1.26; Mϕr1.01; Fault plane solution: M0 3.43000×10^14 NP1:φs91.00000°, δ52.00000°, λ-61.00000°. NP2:φs229.00000°, δ46.00000°, λ-122.00000°.*

JMA 28 06:33:52.1±0.3, 31.˚26N×127.˚49E, h1km, M3.8, Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JFU	**Fukue jima 2**	**1.76**	**37**	P	Pn	06 34 23.9	+0.2
JFU				*e*S	Sb	06 34 47.9	+0.2
JSJ	**Shimokoshiki**	**1.95**	**77**	P	Pn	06 34 26.5	+0.2
JSJ				*e*S	Sn	06 34 51.5	+0.1
NGSJ	**Nagasakinomoza**	**2.39**	**55**	P	Pn	06 34 33.4	+1.0
JTZ	**Takazaki**	**3.14**	**77**	P	Pn	06 34 44.3	+1.6
JAMN	**Amaminishikomi**	**3.34**	**154**	*e*S	Sn	06 35 27.0	+1.1
JTU	**Tsushima**	**3.63**	**26**	P	Pn	06 34 50.8	+1.4
JTU				*e*S	Sn	06 35 33.0	+0.1
JTK	**Tokunoshima**	**3.69**	**159**	*e*S	Sn	06 35 36.2	+1.8

MOS ***28*** *07:11:47.0±1.0, 35.˚90N×140.˚90E, h30km, mb4.9/62, Error ellipse: s-maj=6.8km s-min=4.0km az=112.9*
BJI ***28*** *07:11:47.1±0.0, 35.˚83N×140.˚90E, h44km, mB4.7/41, mb4.7/51, Ms4.0/34, Ms7 3.8/32*
NIED ***28*** *07:11:49.6, 35.˚89N×140.˚89E, h41km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr0.61; Mθθ-0.21; Mϕϕ-0.40; Mrθ0.20; Mθϕ-0.23; Mϕr0.97; Fault plane solution: M0 1.15000×10^16 NP1:φs15.00000°, δ75.00000°, λ82.00000°. NP2:φs225.00000°, δ17.00000°, λ118.00000°.*
JMA ***28*** *07:11:49.5±0.1, 35.˚89N×140.˚89E, h41km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φs235.00000°, δ24.00000°, λ135.00000°. NP2:φs7.00000°, δ73.00000°, λ72.00000°. Principal axes: T Plg58.0000°, Azm253.0000°; N Plg17.0000°, Azm12.0000°; P Plg26.0000°, Azm111.0000°;*
JMA Felt III J1.
NEIC ***28*** *07:11:50.1±2.9, 35.˚92N±0.˚05×140.˚98E±0.˚07, h39km±5km, mb4.8/100 Error ellipse: s-maj=9.2km s-min=5.7km az=119.0*
IDC ***28*** *07:11:52.3±1.4, 35.˚77N×140.˚85E, h64km±13km, mb4.1/29, mb1 4.2/34, mb1mx4.1/54, mbtmp4.4/34, MS3.8/24, Ms1 3.8/24, ms1mx3.6/40, Error ellipse: s-maj=12.7km s-min=8.1km az=74.0*

ISC 28 07:11:49.6±0.5, 35.˚94N±0.˚03×140.˚89E±0.˚04, h35km±2km, n329, σ1$50/351, mb4.7/115, MS3.9/34, 24C-11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.24**	**186**	⇑P	**Pb**	**07 11 56.8**	**0.0**
CHOJ				*e*S	**Sb**	**07 12 01.5**	**-0.1**
JIHU	**Itakohorinouch**	**0.30**	**275**	⇓P	**Pn**	**07 11 58.4**	**+1.0**
JIHU				*e*S	**Sb**	**07 12 04.5**	**+1.7**
JSMT	**Sammumatsuo**	**0.47**	**230**	⇓P	**Pn**	**07 12 00.1**	**+0.3**
JSMT				*e*S	**Sn**	**07 12 07.0**	**+0.2**
JHYU	**Hitachinakayam**	**0.47**	**329**	⇓P	**Pn**	**07 12 00.7**	**+0.9**
JHYU				*e*S	**Sn**	**07 12 08.3**	**+1.4**
JYT	**Yasato**	**0.63**	**297**	⇓P	**Pn**	**07 12 02.1**	**+0.1**
JYT				S	**Sn**	**07 12 11.4**	**+0.5**
JHO	**Hitachi**	**0.72**	**339**	⇓P	**Pb**	**07 12 03.8**	**0.0**
I30JP	**ISUMI INFRASON**	**0.79**	**217**	P	**Pb**	**07 12 06.1**	**+1.2**
I30JP	baz=63,slow=15			S	**Sb**	**07 12 18.1**	**+2.8**
BSO3	baz=51,slow=255 **Boso 3**	**1.18**	**195**	P	**Pn**	**07 12 09.1**	**-0.2**
JAG	**Ashikaga**	**1.26**	**293**	⇓P	**Pn**	**07 12 10.9**	**+0.2**
JAG				*e*S	**Sn**	**07 12 26.5**	**+0.1**
BSO1	**Boso 1**	**1.29**	**177**	P	**Pn**	**07 12 09.7**	**-0.9**
BSO1				*e*S	**Sn**	**07 12 26.3**	**0.0**
MJAR	**Matsushiro Arr**	**2.25**	**286**	P	**Pn**	**07 12 25.2**	**+0.9**
MJAR	12nm,0.3s,baz=102,slow=9.5,SNR=415			S	**Sb**	**07 12 55.9**	**-1.1**
MJAR	7.5nm,0.3s,baz=224,slow=27,SNR=3.5			LR	LR	07 13 26.2	
MAJO	comp=Z,2μm,20.0s,baz=115,slow=42 **Matsushiro**	**2.25**	**286**	*d* P	**Pn**	**07 12 25.4**	**+1.1**
MAJO	**Matsushiro**	**2.25**	**286**	Pn	**Pn**	**07 12 25.9**	**+1.6**
MAT	**Matsushiro**	**2.25**	**286**	P	**Pn**	**07 12 25.2**	**+0.9**
MAT				*e*S	**Sn**	**07 12 53.3**	**+2.4**
MJB9	**Matsu-Tunnel**	**2.25**	**286**	Pn	**Pn**	**07 12 26.0**	**+1.6**
JHJ2	**Mitsune**	**2.96**	**198**		**Pn**	**07 12 33.6**	**-0.5**
JHJ	**Hachijo jima 2**	**2.96**	**198**	P	**Pn**	**07 12 33.8**	**-0.3**
JHJ	108nm,0.3s,baz=316,slow=18,SNR=40			S	**Sn**	**07 13 07.1**	**-1.3**
INU	359nm,0.3s,baz=277,slow=22,SNR=16 **Inuyama**	**3.21**	**261**	Pn	**Pn**	**07 12 39.3**	**+1.8**
ERM	**Erimo**	**6.32**	**16**	*ce* P	**Pn**	**07 13 20.4**	**+0.2**
ERM	comp=Z,47nm,0.6s			pmax	pmax		
ERM	**Erimo**	**6.32**	**16**	Pn	**Pn**	**07 13 20.4**	**+0.2**
ASAJ	**Asahikawa**	**8.27**	**9**	P	**Pn**	**07 13 46.7**	**-0.3**
ASAJ	comp=Z,13nm,0.3s,baz=230,slow=7.8,SNR=24			S	**Sn**	**07 15 17.1**	**-2.0**
JKA	comp=Z,2.3nm,0.3s,baz=199,slow=33,SNR=1.7 **Kamikawa-asahi**	**8.27**	**9**		**Pn**	**07 13 46.7**	**-0.3**
JKA					**Sn**	**07 15 17.1**	**-2.0**
NMR	**Nemuro--Hokkai**	**8.30**	**25**	*i* P	**Pn**	**07 13 45.4**	**-2.0**
NMR				*i* S	**Sn**	**07 15 13.6**	**-6.3**
JNU	**Nakatsue**	**8.72**	**254**	P	**Pn**	**07 13 56.3**	**+3.0**
JNU	comp=Z,0.9nm,0.3s,baz=63,slow=9.5,SNR=7.2 comp=Z,1μm,18.3s,baz=56,slow=40			LR	LR	07 17 34.9	
JNU	**Nakatsue**	**8.72**	**254**	Pn	**Pn**	**07 13 55.8**	**+2.5**
GRPR	**Tuman**	**8.87**	**23**	*e*P	**Pn**	**07 13 54.6**	**-0.6**
GRPR				*i* S	**Sn**	**07 15 28.2**	**-5.7**
GRPR	comp=Z,81nm,0.3s			pmax	pmax		
LAGR	**Lagunnoye**	**8.93**	**23**	P	**Pn**	**07 13 55.2**	**-0.8**
LAGR				*e*S	**Sn**	**07 15 30.3**	**-5.0**
LAGR	comp=Z,182nm,0.6s			pmax	pmax		
LAGR	comp=N,132nm,0.5s			pmax	pmax		
YUK	**Yuzh-Kuril'sk**	**8.94**	**24**	*i* P	**Pn**	**07 13 57.2**	**+1.1**
TEY	**Ternei**	**9.65**	**342**	*e*P	**Pn**	**07 14 07.9**	**+2.0**
TEY	comp=Z,10.0nm,1.3s			pmax	pmax		
TEY	comp=E,10.0nm,1.1s			pmax	pmax		
TEY	comp=N,10.0nm,1.2s			pmax	pmax		
VLA	**Vladivostok**	**9.98**	**319**	*i* P	**Pn**	**07 14 10.4**	**0.0**
VLA	comp=Z,23nm,1.0s			pmax	pmax		
KSRS	**Korea Array**	**10.52**	**282**	P	**Pn**	**07 14 22.2**	**+4.4**
KSRS	comp=Z,0.9nm,0.3s,baz=98,slow=15,SNR=13			LR	LR	07 18 25.7	
KSRS	comp=Z,495nm,20.8s,baz=100,slow=37						
KS19	**Wonju Array Si**	**10.57**	**282**		**Pn**	**07 14 21.8**	**+3.3**
KUR	**Kuril'sk**	**10.69**	**28**	⇑*i* P	**Pn**	**07 14 21.9**	**+1.9**
KUR				*e*S	**Sn**	**07 16 13.1**	**-5.3**
KUR	comp=Z,32nm,0.4s			pmax	pmax		
KUR	comp=E,27nm,0.3s			pmax	pmax		
KUR	comp=N,27nm,0.4s			smax	smax		
KUR	comp=E,62nm,0.4s			smax	smax		
USA0B	**Ussuriysk Arra**	**10.70**	**323**	*i* P	**Pn**	**07 14 22.1**	**+1.9**
USA0B	**Ussuriysk Arra**	**10.70**	**323**	Pn	**Pn**	**07 14 23.0**	**+2.8**
USRK	**Ussuriysk Ar.**	**10.70**	**323**	P	**Pn**	**07 14 23.7**	**+3.5**
USRK	baz=140,slow=12,SNR=24			LR	LR	07 18 13.3	
TJN	comp=E,552nm,19.8s,baz=138,slow=35 **Taejon**	**10.95**	**276**	*i* P	**Pn**	**07 14 20.1**	**-3.6**
YSS	**Yuzh-Sakhalins**	**11.09**	**7**	⇑*i* P	**Pn**	**07 14 25.4**	**-0.2**
YSS				*e*S	**Sn**	**07 16 24.9**	**-3.4**
YSS	comp=Z,20nm,0.8s			pmax	pmax		
YSS	comp=Z,300nm,15.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**11.09**	**7**	Pn	**Pn**	**07 14 24.8**	**-0.8**
INCN	**Inchon**	**11.55**	**282**	P	**Pn**	**07 14 35.1**	**+3.2**
INCN	**Inchon**	**11.55**	**282**	Pn	**Pn**	**07 14 35.1**	**+3.2**
CN2	**Changchun**	**14.21**	**308**	*e*P	**P**	**07 15 13.0**	**-2.1**
CN2	comp=Z,10.0nm,1.1s			pmax	pmax		
CN2	comp=Z,90nm,9.3s			pmax	pmax		
CN2	comp=Z,210nm,17.0s			LR	LR		
CN2	comp=Z,240nm,17.0s			LR	LR		
CN2	comp=Z,280nm,17.0s			LR	LR		
KLR	**Kul'dur**	**14.87**	**336**	P	**Pn**	**07 15 17.8**	**+0.6**
KLR	comp=Z,0.6nm,0.3s,baz=160,slow=9.2,SNR=9.4			LR	LR	07 20 45.6	
KLR	comp=Z,266nm,20.2s,baz=144,slow=36						
KLR	**Kul'dur**	**14.87**	**336**	*i* P	**Pn**	**07 15 17.8**	**+0.6**
KLR	comp=Z,2.0nm,0.5s			pmax	pmax		
TYV	**Tymovskoe**	**14.97**	**4**	*e*P	**Pn**	**07 15 12.5**	**-5.9**
TYV	comp=Z,4.0nm,0.9s			pmax	pmax		
GRNR	**Gornyy**	**15.17**	**349**	⇑*i* P	**Pn**	**07 15 20.0**	**-1.1**
GRNR				*e*S	**Sn**	**07 18 08.2**	**+0.4**
GRNR	comp=Z,2.0nm,0.8s			pmax	pmax		
GRNR	comp=N,5.0nm,0.6s			smax	smax		
GRNR	comp=N,200nm,17.0s			MLR	MLR		
GRNR	comp=Z,180nm,17.0s			MLR	MLR		
DL2	**Dalian**	**15.59**	**287**	P	**P**	**07 15 30.5**	**+0.1**
DL2	comp=Z,110nm,3.8s			pmax	pmax		
DL2	comp=Z,430nm,19.8s			LR	LR		
DL2	comp=Z,440nm,24.1s			LR	LR		
SKR	**Severo-Kuril's**	**18.38**	**32**	*e*P	P	07 15 51.4	-10
SKR	comp=Z,100nm,16.0s			MLR	MLR		
SKR	comp=Z,100nm,15.0s			MLR	MLR		
NJ2	**Nanjing**	**18.67**	**264**	*e*P	**P**	**07 16 04.0**	**-0.6**
NJ2	comp=Z,11nm,0.5s			pmax	pmax		
TIA	**Tai'an**	**19.21**	**278**	P	**P**	**07 16 08.5**	**-2.0**
TIA				S	**Sn**	**07 19 40.3**	**-5.5**
TIA	comp=Z,5.0nm,0.7s			pmax	pmax		
TIA	comp=Z,70nm,3.9s			pmax	pmax		
TIA	comp=Z,200nm,17.1s			LR	LR		
TIA	comp=Z,210nm,18.5s			LR	LR		
TIA	comp=Z,280nm,19.2s			LR	LR		
BJI	**Beijing**	**19.88**	**289**	P	**P**	**07 16 17.3**	**-0.5**
BJI				S	**Sn**	**07 20 02.0**	**0.0**
BJI	comp=Z,10.0nm,0.5s			pmax	pmax		
BJI	comp=Z,120nm,6.5s			LR	LR		
BJI	comp=Z,65nm,8.9s			LR	LR		
ZEA	**Zeya**	**20.19**	**336**	*e*P	**P**	**07 16 19.0**	**-2.0**
ZEA	comp=N,21nm,0.8s			pmax	pmax		
ZEA	comp=Z,31nm,0.8s			pmax	pmax		
PEA0B	**Petropavlovsk-**	**20.84**	**29**	P	Pn	07 16 32.5	+1.8
PEA0B	comp=Z,18nm,1.0s			pmax	pmax		
PEA0B	**Petropavlovsk-**	**20.84**	**29**	Pn	Pn	07 16 32.5	+1.8
PETK	**Petropavlovsk-**	**20.84**	**29**	P	**P**	**07 16 29.5**	**+1.3**
PETK	comp=Z,4.0nm,0.7s,baz=211,slow=9.5,SNR=6.1			LR	LR	07 24 17.8	
TPUB	comp=Z,64nm,21.6s,baz=240,slow=36 **Ta-pu**	**21.60**	**240**	P	**P**	**07 16 33.4**	**-3.1**
WHN	**Wuhan**	**22.81**	**264**	P	**P**	**07 16 47.5**	**-1.8**
WHN				S	**S**	**07 20 50.0**	**-6.1**
WHN	comp=Z,300nm,11.4s			LR	LR		
WHN	comp=Z,650nm,15.9s			LR	LR		
WHN	comp=Z,780nm,19.2s			LR	LR		
HHC	**Hu-ho-hao-te**	**23.44**	**291**	*e*P	**P**	**07 16 56.8**	**+1.0**
HHC	comp=Z,12nm,1.0s			pmax	pmax		
HHC	comp=Z,39nm,5.1s			pmax	pmax		
MA2	**Magadan**	**24.51**	**12**	LR	LR	07 28 23.4	
MA2	comp=Z,87nm,18.1s,baz=134,slow=40			P	**P**	**07 17 07.8**	**+2.4**
MA2	**Magadan** comp=Z,67nm,1.3s	**24.51**	**12**	pmax	pmax		
MA2	**Magadan**	**24.51**	**12**	P	**P**	**07 17 07.8**	**+2.4**
XAN	**Xi'an**	**26.20**	**275**	P	**P**	**07 17 19.0**	**-2.1**
XAN	comp=Z,14nm,0.7s			pmax	pmax		
XAN	comp=Z,100nm,4.4s			pmax	pmax		
XAN	comp=Z,240nm,20.6s			LR	LR		
XAN	comp=Z,210nm,21.7s			LR	LR		
XAN	comp=Z,340nm,30.4s			LR	LR		
XAN	**Xi'an**	**26.20**	**275**	P	**P**	**07 17 19.6**	**-1.5**
XAN	comp=Z,9.0nm,0.8s			pmax	pmax		
XAN	**Xi'an**	**26.20**	**275**	P	**P**	**07 17 19.6**	**-1.5**
ENH	**Enshi**	**26.84**	**267**	P	**P**	**07 17 25.1**	**-1.7**
ENH				IAmb	IAmb	07 17 33.1	
YAK	comp=Z,18nm,0.7s **Yakutsk**	**27.05**	**348**	P	**P**	**07 17 28.6**	**+0.3**
YAK	comp=Z,8.2nm,0.4s,baz=154,slow=3.5,SNR=4.5 **Yakutsk**	**27.05**	**348**	*e*P	**P**	**07 17 27.2**	**-1.1**
YAK				*e**PP	**pP**	**07 17 33.3**	**-4.9**
YAK				*e*		07 18 11.5	
YAK				*e*		07 20 47.3	
YAK				*e*S	**S**	**07 22 03.5**	**0.0**
YAK				*e**SS	**sS**	**07 22 22.3**	**+2.4**
YAK				*e*SS	**SnSn**	**07 23 13.4**	**+2.0**
YAK				*e*		07 28 15.4	
YAK	comp=Z,21nm,0.9s			pmax	pmax		
YAK	comp=N,5.0nm,0.8s			pmax	pmax		
YAK	comp=E,6.0nm,1.0s			pmax	pmax		
YAK	comp=Z,8.0nm,0.9s			pmax	pmax		
YAK	comp=N,2.0nm,0.9s			pmax	pmax		
YAK	comp=E,3.0nm,0.9s			smax	smax		
YAK	comp=N,17nm,1.4s			smax	smax		
YAK	comp=E,17nm,1.4s			smax	smax		
YAK	**Yakutsk**	**27.05**	**348**	P	**P**	**07 17 28.7**	**+0.4**
YAK	comp=Z,19nm,0.7s			IAmb	IAmb	07 17 29.1	
ULN	**Ulaanbaatar**	**27.64**	**306**	*ce* P	**P**	**07 17 33.4**	**-0.6**
ULN	comp=Z,7.0nm,0.8s			pmax	pmax		
ULN	**Ulaanbaatar**	**27.64**	**306**	P	**P**	**07 17 34.2**	**+0.3**
H11N2	**WAKE ISLAND Hy**	**27.98**	**118**	T	T	07 46 51.2	
H11N1	baz=311,slow=75,SNR=135 **WAKE ISLAND Hy**	**27.98**	**118**	T	T	07 46 51.2	
H11N3	baz=311,slow=75,SNR=89 **WAKE ISLAND Hy**	**28.00**	**118**	T	T	07 46 52.4	
SONM	baz=311,slow=75,SNR=90 **Songino Array**	**28.06**	**306**	P	**P**	**07 17 37.5**	**-0.2**
SONM	comp=Z,5.2nm,0.6s,baz=103,slow=9.4,SNR=14 comp=Z,241nm,18.1s,baz=113,slow=37			LR	LR	07 29 24.6	
BOD	**Bodaibo**	**28.24**	**329**	*e*P	**P**	**07 17 38.7**	**-0.3**
BOD				*e*		07 17 43.8	
H11S1	**WAKE ISLAND Hy**	**28.65**	**120**	T	T	07 47 33.5	
H11S3	baz=312,slow=75,SNR=195 **WAKE ISLAND Hy**	**28.65**	**121**	T	T	07 47 37.1	
H11S2	baz=312,slow=75,SNR=172 **WAKE ISLAND Hy**	**28.66**	**120**	T	T	07 47 29.6	
LZH	baz=312,slow=75,SNR=120 **Lanzhou**	**29.85**	**281**	⇓P	**P**	**07 17 53.0**	**-0.8**
LZH				pP	pP	07 18 03.5	-0.3
LZH				sP	sP	07 18 05.8	-2.1
LZH				PP	**PnPn**	**07 18 52.0**	**+1.6**
LZH	comp=Z,23nm,1.3s			pmax	pmax		
LZH	comp=Z,100nm,5.2s			pmax	pmax		
LZH	comp=Z,190nm,13.2s			LR	LR		
LZH	comp=Z,330nm,13.2s			LR	LR		
LZH	comp=Z,270nm,16.5s			LR	LR		
GYA	**Guiyang**	**30.63**	**262**	⇓P	**P**	**07 17 58.5**	**-2.2**
GYA				S	**S**	**07 23 05.8**	**+4.9**
GYA	comp=Z,13nm,1.1s			pmax	pmax		
GYA	comp=Z,170nm,12.4s			LR	LR		
GYA	comp=Z,150nm,13.3s			LR	LR		
GYA	comp=Z,220nm,16.5s			LR	LR		
TLY	**Talaya**	**30.74**	**313**	*i* P	**P**	**07 18 02.2**	**+0.9**
TLY	comp=Z,2.0nm,0.8s			pmax	pmax		
CD2	**Chengdu**	**31.27**	**272**	*e*P	**P**	**07 18 06.0**	**-0.2**
CD2				S	**S**	**07 23 11.0**	**+0.4**
CD2	comp=Z,10.0nm,0.5s			pmax	pmax		
CD2	comp=Z,410nm,20.1s			LR	LR		
CD2	comp=Z,430nm,19.1s			LR	LR		
QIZ	**Qiongzhong**	**32.10**	**247**	P	**P**	**07 18 13.0**	**-0.6**
QIZ				S	**S**	**07 23 24.3**	**+0.6**
QIZ	comp=Z,180nm,8.9s			LR	LR		
QIZ	comp=Z,280nm,16.7s			LR	LR		
GTA	**Gaotai**	**32.50**	**289**	*e*P	**P**	**07 18 16.5**	**-0.5**
GTA	comp=Z,10.0nm,1.0s			pmax	pmax		
GTA	comp=Z,40nm,4.3s			pmax	pmax		
GTA	comp=Z,98nm,16.5s			LR	LR		
GTA	comp=Z,150nm,16.2s			LR	LR		
GTA	comp=Z,140nm,18.1s			LR	LR		
BILL	**Bilibino**	**35.19**	**16**	*i* P	**P**	**07 18 40.1**	**+0.2**
BILL				*i*		07 19 59.0	
BILL	comp=Z,8.0nm,1.3s			pmax	pmax		
BILL	comp=Z,87nm,19.0s			MLR	MLR		
ATKA	**Atka Island**	**35.49**	**48**	P	**P**	**07 18 44.8**	**+2.2**
TIXI	**Tiksi**	**36.32**	**354**	P	**P**	**07 18 48.7**	**-0.8**
TIXI	comp=Z,4.1nm,0.6s,baz=181,slow=5.0,SNR=5.7 **Tiksi**	**36.32**	**354**	*ce* P	**P**	**07 18 49.9**	**+0.3**
TIXI	comp=Z,6.0nm,1.0s			pmax	pmax		
TIXI	**Tiksi**	**36.32**	**354**	P	**P**	**07 18 49.9**	**+0.3**
FAKI	**Fak Fak**	**39.49**	**194**	P	**P**	**07 19 15.7**	**-1.1**
PBKT	**Sadao Pong**	**40.32**	**252**	P	**P**	**07 19 23.7**	**0.0**
LUWI	**Luwuk**	**40.48**	**209**	P	**P**	**07 19 22.9**	**-2.2**
DGZ	**Jazzator, Alta**	**40.70**	**307**	*c* P	**P**	**07 19 27.6**	**+0.8**

DGZ pmax pmax
comp=Z,13nm,0.8s
CMAR Chiang Mai Arr 40.82 256 P **P 07 19 26.7 -1.2**
comp=Z,0.7nm,0.3s,baz=101,slow=29,SNR=1.5
CMAR LR LR 07 36 38.0
comp=Z,178nm,20.9s,baz=134,slow=36
WMQ Urumqi 40.97 298 *e*P **P 07 19 30.8 +1.8**
WMQ pmax pmax
comp=Z,23nm,0.9s
WMQ pmax pmax
comp=Z,43nm,3.7s
WMQ LR LR
comp=Z,180nm,28.9s
ZAA0 Zalesovo Array 42.35 313 P **P 07 19 39.5 -0.5**
ZAA0 IAmb IAmb 07 19 56.9
comp=Z,12nm,0.8s
ZALV Zalesovo Beam 42.35 313 P **P 07 19 40.2 +0.2**
comp=Z,4.8nm,0.4s,baz=96,slow=7.6,SNR=19
ZALV PcP **PcP 07 21 32.4 -0.5**
comp=Z,2.2nm,0.5s,baz=115,slow=3.1,SNR=3.9
ZALV LR LR 07 37 36.8
comp=Z,78nm,18.2s,baz=72,slow=36
ZSN Zaisan 42.53 304 *i* P **P 07 19 42.4 +0.7**
comp=Z,18nm,0.9s,baz=303
ZSN *e*S **S 07 26 03.8 +2.2**
baz=303
ZSN Zaisan 42.53 304 *i* P **P 07 19 42.3 +0.7**
ZSN *e*S **S 07 26 03.7 +2.2**
ZSN pmax pmax
comp=Z,18nm,0.9s
NRIK Noril'sk 44.09 336 P **P 07 19 55.5 +1.7**
comp=Z,5.1nm,0.6s,baz=76,slow=4.7,SNR=6.9
MK31 Makanchi Array 44.35 303 P **P 07 19 56.4 +0.1**
MK31 pmax pmax
comp=Z,18nm,0.8s
MK31 Makanchi Array 44.35 303 P **P 07 19 56.4 +0.1**
MK31 IAmb IAmb 07 19 57.4
comp=Z,18nm,0.8s
MKAR Makanchi Array 44.35 303 P **P 07 19 56.4 +0.1**
comp=Z,18nm,0.6s,baz=89,slow=9.7,SNR=242
MKAR LR LR 07 39 10.3
comp=Z,177nm,18.7s,baz=98,slow=37
MAKZ Makanchi 44.56 303 P **P 07 19 58.3 +0.3**
MAKZ pmax pmax
comp=Z,21nm,0.8s
MAKZ Makanchi 44.56 303 P **P 07 19 58.3 +0.3**
MAKZ IAmb IAmb 07 19 59.1
comp=Z,21nm,0.8s
SEM Semipalatinsk 45.28 308 *e*P **P 07 20 02.9 -1.0**
comp=Z,3.2nm,0.8s,baz=308
SEM *e*S **S 07 26 42.2 +0.3**
baz=308
SEM Semipalatinsk 45.28 308 *e*P **P 07 20 02.9 -1.0**
SEM *e*S **S 07 26 42.2 +0.3**
SEM pmax pmax
comp=Z,3.0nm,0.8s
KAPI Kappang 45.31 210 P **P 07 20 04.3 +0.1**
KAPI pmax pmax
comp=Z,23nm,1.2s
KAPI Kappang 45.31 210 P **P 07 20 04.3 +0.1**
KAPI IAmb IAmb 07 20 08.3
comp=Z,23nm,1.1s
KURK Kurchatov 46.28 309 *ce*P **P 07 20 11.4 -0.1**
KURK pmax pmax
comp=Z,25nm,0.9s
KURK Kurchatov 46.28 309 P **P 07 20 11.3 -0.1**
KURBB Kurchatov Arra 46.35 309 P **P 07 20 11.6 -0.4**
PDGK Podgornoye 46.92 299 P **P 07 20 16.4 -0.4**
SHLS Shalkode 46.98 298⇑ *i*P **P 07 20 14.8 -2.5**
comp=Z,9.0nm,0.9s,baz=298
SHLS Shalkode 46.98 298 *c i*P **P 07 20 14.7 -2.5**
SHLS pmax pmax
comp=Z,9.0nm,0.9s
UZB Uzynbulak 47.29 299⇑ *i*P **P 07 20 19.5 -0.2**
comp=Z,5.8nm,1.1s,baz=298
UZB Uzynbulak 47.29 299 *c i*P **P 07 20 19.5 -0.2**
UZB pmax pmax
comp=Z,6.0nm,1.1s
TDK Taldyqorghan 47.33 301 *i* P **P 07 20 20.4 +0.6**
comp=Z,14nm,0.6s,baz=301
TDK LR LR 07 40 09.5
comp=Z,165nm,16.0s,baz=301
TDK Taldyqorghan 47.33 301 *i* P **P 07 20 20.4 +0.6**
TDK pmax pmax
comp=Z,14nm,0.6s
TDK MLR MLR
comp=Z,165nm,16.0s
KPKS Kokpek 47.46 299 *e*P **P 07 20 21.0 -0.1**
comp=Z,5.2nm,0.8s,baz=299
KPKS Kokpek 47.46 299 *e*P **P 07 20 20.9 -0.1**
KPKS pmax pmax
comp=Z,5.0nm,0.8s
SATY Saty 47.75 299 *e*P **P 07 20 23.5 +0.2**
comp=Z,2.3nm,0.7s,baz=298
SATY Saty 47.75 299 *e*P **P 07 20 23.5 +0.2**
SATY pmax pmax
comp=Z,2.0nm,0.7s
OHAK Old Harbor 47.85 42 P **P 07 20 24.9 +1.3**
OHAK IAmb IAmb 07 20 39.0
comp=Z,9.9nm,1.2s
PRZ Przheval'sk 47.89 298 P **P 07 20 24.2 -0.3**
PRZ pmax pmax
comp=Z,39nm,1.2s
PRZ Przheval'sk 47.89 298 P **P 07 20 24.2 -0.3**
RSO Redoubt South 48.02 38 P **P 07 20 26.7 +1.5**
KDAK Kodiak Island 48.20 41 P **P 07 20 27.1 +0.7**
comp=Z,4.1nm,0.8s,baz=279,slow=5.3,SNR=9.1
KDAK Kodiak Island 48.20 41 P **P 07 20 27.0 +0.7**
KDAK pmax pmax
comp=Z,24nm,1.4s
KDAK Kodiak Island 48.20 41 P **P 07 20 27.0 +0.7**
TARG Taragay, Kyrgy 48.51 297 P **P 07 20 30.1 +0.5**
CHKK Chushkaly 48.57 300 *i* P **P 07 20 29.3 -0.2**
baz=300
CHKK Chushkaly 48.57 300 *i* P **P 07 20 29.2 -0.2**
SKT Skwentna 48.60 36 P **P 07 20 31.0 +1.5**
MDOK Medeo 48.69 299 *i* P **P 07 20 31.1 +0.5**
baz=299
MDOK LR LR 07 40 56.4
comp=Z,112nm,18.0s,baz=299
MDOK Medeo 48.69 299 *i* P **P 07 20 31.1 +0.5**
MDOK MLR MLR
comp=Z,112nm,18.0s
AAA Alma-Ata 48.78 299 *i* P **P 07 20 32.1 +0.9**
baz=299
AAA LR LR 07 41 50.4
comp=Z,114nm,15.8s,baz=299
AAA Alma-Ata 48.78 299 *i* P **P 07 20 32.0 +0.9**
AAA MLR MLR
comp=Z,114nm,16.0s
TNSS Tian-Shan 48.80 299 *i* P **P 07 20 32.3 +0.6**
baz=299
TNSS Tian-Shan 48.80 299 *i* P **P 07 20 32.2 +0.6**
KDJ Kajisay 48.86 298 P **P 07 20 31.4 -0.5**
KDJ pmax pmax
comp=Z,8.0nm,0.9s
KDJ Kajisay 48.86 298 P **P 07 20 31.4 -0.5**
KDJ IAmb IAmb 07 20 35.1
comp=Z,8.2nm,0.8s
KUU Kurty 49.02 300⇑ *i*P **P 07 20 32.6 -0.3**
comp=Z,21nm,1.0s,baz=300
KUU Kurty 49.02 300 *c i*P **P 07 20 32.6 -0.3**
KUU pmax pmax
comp=Z,21nm,1.0s
MTBS Maitube 49.14 299 *e*P **P 07 20 34.3 +0.3**
baz=299
MTBS Maitube 49.14 299 *e*P **P 07 20 34.2 +0.3**
MTN Manton Dam 49.39 193 P **P 07 20 34.8 -1.0**
ULHL Ulahol 49.50 298 P **P 07 20 37.0 +0.1**
SNR=5.8
BOOM Boomskoye usch 49.65 298 P **P 07 20 38.0 +0.1**
BOOM pmax pmax
comp=Z,22nm,1.5s
BOOM Boomskoye usch 49.65 298 P **P 07 20 38.0 +0.1**
BOOM IAmb IAmb 07 20 39.3
comp=Z,22nm,1.5s
COEN Coen 49.67 177 P **P 07 20 38.1 +0.1**
COEN IAmb IAmb 07 20 44.8
comp=Z,9.5nm,1.1s
SEW Seward 49.68 38 P **P 07 20 38.8 +1.1**
SEW IAmb IAmb 07 20 57.0
comp=Z,14nm,1.3s
TKM2 Tokmak 2 49.78 299 P **P 07 20 39.9 +0.9**
SNR=18
TKM2 Tokmak 2 49.78 299 P **P 07 20 39.5 +0.5**
RND Reindeer 49.82 34 P **P 07 20 40.1 +1.3**
RND pmax pmax
comp=Z,6.0nm,1.0s
RND Reindeer 49.82 34 P **P 07 20 40.1 +1.3**
RND IAmb IAmb 07 20 53.7
comp=Z,5.8nm,1.0s
MDM Murphy Dome 50.06 32 P **P 07 20 43.2 +2.6**
MDM IAmb IAmb 07 20 58.0
comp=Z,4.2nm,0.8s
BRZS Berezniki 50.15 309 *e*P **P 07 20 41.2 -0.2**
comp=Z,4.1nm,0.5s,baz=308
BRZS Berezniki 50.15 309 *e*P **P 07 20 41.2 -0.2**
BRZS pmax pmax
comp=Z,4.0nm,0.5s
COLA College 50.23 32 *i* P **P 07 20 43.5 +1.8**
COLA pmax pmax
comp=Z,2.0nm,0.9s
CCB Clear Creek Bu 50.25 32 P **P 07 20 43.0 +1.0**
KZA Kyzart 50.26 298 P **P 07 20 44.0 +1.2**
SNR=17
KBK Karagaybulak 50.31 299 P **P 07 20 43.6 +0.6**
SNR=13
SGDS Sogindy 50.33 300⇑ *i*P **P 07 20 42.9 0.0**
comp=Z,4.3nm,0.9s,baz=300
SGDS Sogindy 50.33 300 *c i*P **P 07 20 42.9 0.0**
SGDS pmax pmax
comp=Z,4.0nm,0.9s
BTLS Baital 50.33 302⇑ *i*P **P 07 20 42.7 -0.1**
comp=Z,6.2nm,0.7s,baz=302
BTLS Baital 50.33 302 *c i*P **P 07 20 42.7 -0.1**
BTLS pmax pmax
comp=Z,6.0nm,0.7s
USP Ospenovka 50.47 300 P **P 07 20 44.2 +0.3**
SNR=6.2
HDA Harding Lake 50.63 32 P **P 07 20 46.0 +1.1**
HDA IAmb IAmb 07 20 59.9
comp=Z,5.7nm,0.8s
AAK Ala-Archa 50.64 299 P **P 07 20 45.9 +0.5**
AAK pmax pmax
comp=Z,9.0nm,1.1s
AAK Ala-Archa 50.64 299 P **P 07 20 45.9 +0.5**
AAK IAmb IAmb 07 20 53.4
comp=Z,9.3nm,1.1s
IL31 50.64 32 P **P 07 20 45.6 +0.7**
IL31 IAmb IAmb 07 21 01.4
comp=Z,5.1nm,0.8s
ILAR Eielson Array 50.64 32 P **P 07 20 45.7 +0.8**
comp=Z,2.3nm,0.8s,baz=266,slow=6.1,SNR=32
OTUK Ortayu 50.73 307 P **P 07 20 45.8 0.0**
PSI Prapat 50.87 239 LR LR 07 44 33.0
comp=Z,184nm,18.6s,baz=274,slow=39
BVA0 Borovoye Array 51.00 313 *i* P **P 07 20 47.5 -0.3**
BRVK Borovoye 51.06 313 *ce*P **P 07 20 48.6 +0.4**
BRVK pmax pmax
comp=Z,14nm,1.3s
BRVK Borovoye 51.06 313 P **P 07 20 49.2 +1.0**
BRVK IAmb IAmb 07 20 49.3
comp=Z,8.2nm,0.7s
FID Port Fidalgo 51.10 37 P **P 07 20 49.7 +1.3**
FID IAmb IAmb 07 20 55.6
comp=Z,12nm,1.0s
FYU Fort Yukon 51.27 30 P **P 07 20 52.4 +2.9**
FYU IAmb IAmb 07 21 08.1
comp=Z,16nm,1.4s
AML Almayashu 51.35 299 P **P 07 20 52.3 +1.3**
SNR=9.8
RIDG Independent Ri 51.59 33 P **P 07 20 53.0 +0.9**
ARSB Arslanbob 52.10 298 P **P 07 20 56.6 +0.2**
ARSB pmax pmax
comp=Z,12nm,0.9s
ARSB Arslanbob 52.10 298 P **P 07 20 56.6 +0.2**
ARSB IAmb IAmb 07 21 10.5
comp=Z,12nm,0.9s
VRDI Verde Repeater 52.51 36 P **P 07 21 00.8 +1.7**
KNRA Kununurra 52.60 195 P **P 07 20 59.0 -1.0**
DZA Taraz 52.80 300 *e*P **P 07 21 01.5 0.0**
baz=300
DZA Taraz 52.80 300 *e*P **P 07 21 01.4 0.0**
EGAK Eagle 53.09 32 P **P 07 21 04.1 +1.0**
ISLE Juniper Island 53.14 37 P **P 07 21 05.6 +1.9**
ISLE IAmb IAmb 07 21 07.2
comp=Z,9.3nm,1.2s
KK31 Karatay Array 53.31 301 P **P 07 21 06.9 +1.8**
KK31 pmax pmax
comp=Z,7.0nm,0.7s
KK31 Karatay Array 53.31 301 P **P 07 21 06.9 +1.8**
KK31 IAmb IAmb 07 21 09.1
comp=Z,7.2nm,0.7s
KKAR Karatay Array 53.31 301 P **P 07 21 05.3 +0.2**
KKAR pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 53.31 301 P **P 07 21 05.3 +0.2**
KKAR IAmb IAmb 07 21 06.2
comp=Z,10nm,0.9s
IUG luznay 53.95 300 *e*P **P 07 21 10.1 +0.2**
comp=Z,1.9nm,0.8s,baz=300
IUG luznay 53.95 300 *e*P **P 07 21 10.0 +0.2**
IUG pmax pmax
comp=Z,2.0nm,0.8s
DAWY Dawson 53.95 32 P **P 07 21 09.8 +0.3**
EPYK Eagle Plains 54.68 29 P **P 07 21 16.8 +1.9**
EPYK IAmb IAmb 07 21 29.7
comp=Z,9.6nm,0.8s
GAR Garm 54.79 296 P **P 07 21 15.8 -0.3**
INK Inuvik 55.55 27 P **P 07 21 21.7 +0.9**
comp=Z,2.9nm,0.5s,baz=284,slow=5.6,SNR=12
INK Inuvik 55.55 27 P **P 07 21 21.8 +0.9**
INK pmax pmax
comp=Z,4.0nm,0.6s
INK Inuvik 55.55 27 P **P 07 21 21.8 +0.9**
INK IAmb IAmb 07 21 22.8
comp=Z,3.7nm,0.6s
FITZ Fitzroy Crossi 55.65 198 P **P 07 21 21.8 -0.3**
FITZ IAmb IAmb 07 21 23.1
comp=Z,7.7nm,0.7s
SVE Sverdlovsk 55.69 319 *e*P **P 07 21 22.5 +0.4**
SVE pmax pmax
comp=Z,20nm,0.8s
WB0 Warramunga Arr 55.74 187 P **P 07 21 21.8 -1.1**
CHGR Chuyangaron 55.76 296 P **P 07 21 23.1 +0.1**
WRAB Tennant Creek 55.91 187 *ce*P **P 07 21 23.2 -0.9**
WRAB pmax pmax
comp=Z,11nm,1.3s
WRAB Tennant Creek 55.91 187 P **P 07 21 22.1 -1.9**
WRAB IAmb IAmb 07 21 23.5
comp=Z,18nm,1.1s
WR0 Warramunga Arr 55.92 187 P **P 07 21 22.4 -1.7**
WR0 IAmb IAmb 07 21 24.2
comp=Z,20nm,1.2s
WB2 Warramunga Arr 55.92 187 P **P 07 21 22.7 -1.4**
WB2 IAmb IAmb 07 21 23.5
comp=Z,17nm,1.1s
WRA Warramunga Arr 55.92 187 P **P 07 21 22.8 -1.4**
comp=Z,4.0nm,0.4s,baz=1.8,slow=7.6,SNR=60
CTAO Charters Tower 55.95 174 P **P 07 21 23.2 -1.1**
CTAO pmax pmax
comp=Z,12nm,1.5s
CTAO Charters Tower 55.95 174 P **P 07 21 23.2 -1.1**
CTAO IAmb IAmb 07 21 34.5
comp=Z,12nm,1.4s
ARU Arti 56.90 319 *c i*P **P 07 21 30.7 -0.1**
ARU 07 23 35.8
ARU S **S 07 29 23.3 +1.4**
ARU SS **SS 07 33 05.4 -4.5**
ARU pmax pmax
comp=Z,17nm,0.6s
ARU MLR MLR
comp=Z,111nm,17.0s
ARU Arti 56.90 319 P **P 07 21 30.6 -0.1**
AB31 Akbulak array 58.32 311 *e*P **P 07 21 40.5 -0.4**
ABKAR Akbulak array 58.32 311 P **P 07 21 40.9 0.0**
AKTO Aktyubinsk 59.09 312 P **P 07 21 45.9 -0.3**
AS31 Alice Springs 59.65 187 P **P 07 21 49.6 -0.7**
ASAR Alice Springs 59.65 187 P **P 07 21 49.0 -1.3**
comp=Z,3.8nm,0.8s,baz=11,slow=7.9,SNR=28
PSA00 Pilbara Seismi 60.57 203 P **P 07 21 54.8 -1.8**
KIRV Kirov 60.87 323 *e*P **P 07 21 58.7 +0.5**
SPA0 Spitsbergen Ar 61.51 349 P **P 07 22 03.4 +1.0**
LVZ Lovozero 62.93 336 P **P 07 22 12.6 +0.5**
LVZ pmax pmax
comp=Z,17nm,1.0s
LVZ Lovozero 62.93 336 P **P 07 22 12.6 +0.5**
TMCR Tamitsa 63.50 331 *e*P **P 07 22 15.1 -0.7**
TMCR pmax pmax
comp=Z,9.0nm,0.6s
RES Resolute Bay 63.76 14 P **P 07 22 18.0 +0.6**
comp=Z,5.6nm,0.9s,baz=316,slow=5.3,SNR=12
RES Resolute Bay 63.76 14 P **P 07 22 18.3 +0.9**
RES pmax pmax
comp=Z,9.0nm,1.0s
RES Resolute Bay 63.76 14 P **P 07 22 18.3 +0.9**
RES IAmb IAmb 07 22 30.5
comp=Z,8.8nm,1.0s
GEYT Alibeck 64.00 299 P **P 07 22 19.3 -0.3**
comp=Z,2.9nm,0.8s,baz=157,slow=4.2,SNR=6.9
GEYT LR LR 07 52 01.8
comp=Z,70nm,18.9s,baz=200,slow=38
KEV Kevo 64.31 339 P **P 07 22 21.9 +0.9**
KEV pmax pmax
comp=Z,9.0nm,1.1s
KEV Kevo 64.31 339 P **P 07 22 21.9 +0.9**
KEV IAmb IAmb 07 22 22.4
comp=Z,9.2nm,1.1s
KLMR Klimovskoe 64.45 328 *e*P **P 07 22 20.7 -1.4**
KLMR pmax pmax
comp=Z,13nm,1.0s
KLMR Klimovskoe 64.45 328 *e*P **P 07 22 20.7 -1.4**
KLMR AMP 07 22 22.9
comp=Z,13nm,1.0s
ARCES ARCESS Array B 64.87 339 P **P 07 22 25.4 +0.7**
comp=Z,4.5nm,0.8s,baz=52,slow=8.6,SNR=27
ARCES LR LR 07 53 56.1
comp=Z,83nm,19.1s,baz=47,slow=39
ARE0 ARCESS Array S 64.87 339 P **P 07 22 25.5 +0.8**
YKA Yellowknife Ar 64.96 30 P **P 07 22 26.1 +0.7**
comp=Z,0.5nm,0.5s,baz=302,slow=7.5,SNR=18
YKA LR LR 07 54 00.1
comp=Z,19nm,19.0s,baz=0.0,slow=39
FORT Forrest 67.45 192 P **P 07 22 41.1 -0.6**
STKA Stephens Creek 67.47 179 P **P 07 22 41.5 -0.2**
STKA pmax pmax
comp=Z,3.0nm,1.4s
STKA Stephens Creek 67.47 179 P **P 07 22 41.5 -0.2**
OBN Obninsk 68.72 323 *i* P **P 07 22 49.5 +0.1**
OBN 07 23 14.3
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,92nm,16.0s
MORW Morawa 68.77 203 P **P 07 22 48.9 -1.0**
SUF Sumiainen 68.77 333 P **P 07 22 49.8 +0.2**
AKT Akhty 69.39 307 *e*P **P 07 22 53.1 -0.9**
AKT *e* 07 23 15.6
AKT pmax pmax
comp=Z,9.0nm,0.6s
FIA1 FINESS Array S 69.58 332 P **P 07 22 54.7 +0.1**
FIA1 IAmb IAmb 07 22 55.7
comp=Z,16nm,0.9s
FINES FINESS Array B 69.58 332 P **P 07 22 54.6 0.0**
comp=Z,7.7nm,0.8s,baz=66,slow=6.7,SNR=29
FINES LR LR 07 54 48.8
comp=Z,60nm,20.1s,baz=40,slow=37
VSU Vasula 71.18 330 *i* P **P 07 23 04.9 +0.4**
VSU pmax pmax
comp=Z,26nm,1.1s
KBZ Khabaz 71.29 311 P **P 07 23 04.7 -0.7**
comp=Z,5.1nm,0.8s,baz=6.7,slow=3.8,SNR=10
KBZ LR LR 07 56 19.1
comp=Z,52nm,20.4s,baz=42,slow=37
KBZ Khabaz 71.29 311 *ce*P **P 07 23 05.6 +0.2**
KBZ pmax pmax
comp=Z,7.0nm,1.0s
KIV Kislovodsk 71.30 311 *e*P **P 07 23 06.6 +1.0**
KIV pmax pmax
comp=Z,38nm,1.0s
KIV MLR MLR
comp=Z,134nm,18.0s
SUMG Summit 71.78 360 P **P 07 23 09.9 +1.5**
SUMG pmax pmax
comp=Z,14nm,1.3s
SUMG Summit 71.78 360 P **P 07 23 09.9 +1.5**
SUMG IAmb IAmb 07 23 22.9
comp=Z,14nm,1.3s
K05A Summer Lake 71.97 50 P **P 07 23 11.6 +1.8**
K05A IAmb IAmb 07 23 24.4
comp=Z,8.0nm,1.3s
NWAO Narrogin (SRO) 72.00 201 P **P 07 23 08.5 -1.1**
NWAO pmax pmax
comp=Z,22nm,1.3s
NWAO Narrogin (SRO) 72.00 201 P **P 07 23 08.5 -1.1**
NWAO IAmb IAmb 07 23 22.1
comp=Z,22nm,1.3s
NC405 NORSAR Array S 74.81 337 P **P 07 23 26.4 +0.4**
FFC Flin Flon 74.85 32 P **P 07 23 26.7 +0.4**
FFC pmax pmax
comp=Z,3.0nm,1.0s
FFC Flin Flon 74.85 32 P **P 07 23 26.6 +0.4**
AKASG Malin Array Be 74.90 322 P **P 07 23 26.5 -0.2**
comp=Z,4.4nm,0.6s,baz=48,slow=6.2,SNR=16
AKASG LR LR 07 59 22.4
comp=Z,121nm,18.7s,baz=80,slow=38
AKBB Malin Array Si 74.90 322 P **P 07 23 26.0 -0.6**
AKBB pmax pmax
comp=Z,7.0nm,0.7s
AKBB Malin Array Si 74.90 322 P **P 07 23 26.0 -0.6**
AKBB IAmb IAmb 07 23 27.1
comp=Z,7.5nm,0.7s
HFS Hagfors 74.91 336 P **P 07 23 26.5 0.0**
comp=Z,6.5nm,1.0s,baz=90,slow=3.0,SNR=9.0
NC204 NORSAR Array S 74.99 338 P **P 07 23 26.8 -0.2**
NC204 IAmb IAmb 07 23 28.5
comp=Z,17nm,0.9s
NB201 NORSAR Array S 75.00 337 P **P 07 23 27.0 0.0**
NB2 NORSAR Subarra 75.03 337 P **P 07 23 27.0 -0.2**
comp=Z,1.0nm,0.5s,baz=41,slow=5.9
NOA NORSAR Array B 75.03 337 P **P 07 23 27.1 -0.2**
comp=Z,6.6nm,1.0s,baz=40,slow=5.8,SNR=14
NOA LR LR 07 59 28.5
comp=Z,81nm,19.9s,baz=25,slow=38
NBO00 NORSAR Array S 75.17 337 P **P 07 23 28.2 +0.2**
NBO00 IAmb IAmb 07 23 29.5
comp=Z,16nm,1.1s
LRM Limekiln Ridge 75.22 44 P **P 07 23 29.8 +0.9**
DLMT Dillon 75.42 44 P **P 07 23 30.9 +1.0**
KVN Kaiserville 75.76 52 P **P 07 23 34.0 +1.9**
KVN Kaiserville 75.76 52 P **P 07 23 34.0 +1.9**
BOZ Bozeman (W) 75.82 44 P **P 07 23 33.6 +1.4**
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 75.82 44 P **P 07 23 33.6 +1.4**
NVAR Mina Array Bea 75.98 53 P **P 07 23 34.8 +1.4**
comp=Z,0.7nm,0.5s,baz=294,slow=5.4,SNR=11
YHL Hebgen Lake 76.52 44 P **P 07 23 37.9 +1.5**
R11A Troy Canyon, C 77.77 51 P **P 07 23 44.9 +1.5**
DUG Dugway, Tooele 78.39 49 P **P 07 23 48.4 +1.6**
DUG pmax pmax
comp=Z,4.0nm,1.2s
DUG Dugway, Tooele 78.39 49 P **P 07 23 48.4 +1.6**
PDAR Pinedale Array 78.73 45 P **P 07 23 49.5 +0.8**
comp=Z,0.7nm,0.6s,baz=16,slow=0.8,SNR=6.7
BUR08 Bucovina Ar. S 78.89 322 P **P 07 23 49.0 -0.4**
BRTR Keskin Array B 79.26 311 P **P 07 23 51.5 -0.1**
comp=Z,2.5nm,0.8s,baz=108,slow=2.7,SNR=8.1
BRTR LR LR 08 03 30.4
comp=Z,35nm,18.4s,baz=352,slow=39
BRTR Keskin Array B 79.26 311 *i* P **P 07 23 52.0 +0.5**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
P17A Butcher Ranch, 80.09 48 P **P 07 23 57.2 +1.1**
KNB Kanab 80.32 51 P **P 07 23 59.6 +2.2**
KNB pmax pmax
comp=Z,3.0nm,1.2s
KNB Kanab 80.32 51 P **P 07 23 59.6 +2.2**
SRU San Rafael Swe 80.45 48 P **P 07 23 59.1 +1.0**
SRU pmax pmax
comp=Z,3.0nm,0.6s
SRU San Rafael Swe 80.45 48 P **P 07 23 59.1 +1.0**
VYHS Vyhne 81.38 325 *e*P **P 07 24 03.3 +0.7**
VYHS Vyhne 81.38 325 *e*P **P 07 24 03.3 +0.7**
BRG Berggiesshubel 81.78 329 *e*PKP P 07 24 18.2 +14
comp=Z,3.2nm,0.8s
VRAC Vranov 81.81 327 P **P 07 24 05.8 +1.0**
comp=Z,1.4nm,0.6s,baz=23,slow=8.7,SNR=3.2
CLL Collm 81.83 330 *i* P **P 07 24 04.7 -0.2**
CLL *e*PcP **PcP 07 24 09.0 -1.5**
CLL *e*pP **pP 07 24 17.0 +1.2**
CLL Collm 81.83 330 P **P 07 24 04.6 -0.3**
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL Collm 81.83 330 P **P 07 24 04.6 -0.3**
CLL IAmb IAmb 07 24 05.7

comp=Z,9.8nm,1.1s
GOPC GO Pecny, Ondr 82.14 328 *e*P **P** **07 24 07.2 +0.6**
GOPC GO Pecny, Ondr 82.14 328 *e*P **P** **07 24 07.2 +0.6**
CSS Mathiatis 82.40 308 P **P** **07 24 10.5 +2.3**
CSS IAmb IAmb 07 24 10.8
comp=Z,5.6nm,0.6s
KHC Kasperske Hory 83.25 328 *e*P **P** **07 24 11.6 -0.8**
KHC *e*pP **sP** **07 24 25.6 -1.7**
KHC Kasperske Hory 83.25 328 *c*eP **P** **07 24 13.3 +0.9**
KHC pmax pmax
comp=Z,11nm,1.3s
KHC Kasperske Hory 83.25 328 P **P** **07 24 11.9 -0.5**
VTS Vitosha 83.33 319 P **P** **07 24 14.2 +1.1**
VTS pmax pmax
comp=Z,9.0nm,1.3s
VTS Vitosha 83.33 319 P **P** **07 24 14.2 +1.1**
VTS IAmb IAmb 07 24 14.9
comp=Z,8.7nm,1.3s
GERES GERESS Array B 83.41 328 P **P** **07 24 13.1 -0.2**
comp=Z,1.1nm,0.6s,baz=44,slow=4.1,SNR=8.8
GERES LR LR 08 03 44.9
comp=Z,32nm,20.3s,baz=69,slow=37
F33A 5 Mile Ranch, 83.66 36 P **P** **07 24 14.8 +0.3**
F33A IAmb IAmb 07 24 18.4
comp=Z,5.0nm,0.9s
EKA Eskdalemuir Ar 84.02 340 P **P** **07 24 16.4 +0.3**
comp=Z,0.9nm,0.6s,baz=40,slow=6.6,SNR=4.2
PERS Pernice 84.46 326 *i* P **P** **07 24 18.7 +0.1**
CRES Cresnjev 84.91 325 *i* P **P** **07 24 20.6 -0.3**
ECSD EROS Data Cent 85.04 38 P **P** **07 24 21.6 +0.1**
ECSD IAmb IAmb 07 24 24.2
comp=Z,7.1nm,1.4s
PRED Cave del Predi 85.30 327 P **P** **07 24 22.7 -0.3**
PRED IAmb IAmb 07 24 37.7
comp=Z,2.9nm,0.8s
ANMO Albuquerque 85.61 49 P **P** **07 24 25.8 +0.9**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
ANMO Albuquerque 85.61 49 P **P** **07 24 25.8 +0.9**
BFO Black Forest 86.05 330 P **P** **07 24 26.0 -0.5**
BFO pmax pmax
comp=Z,7.0nm,1.0s
BFO Black Forest 86.05 330 P **P** **07 24 26.0 -0.5**
BFO IAmb IAmb 07 24 27.2
comp=Z,6.8nm,1.0s
SCHQ Schefferville 86.50 16 LR LR 08 04 53.3
comp=Z,23nm,21.1s,baz=336,slow=37
TXAR Lajitas Array 91.12 52 P **P** **07 24 51.8 +0.7**
comp=Z,0.4nm,0.5s,baz=276,slow=3.1,SNR=7.1
P43A Skaggs, Pawnee 91.60 37 P **P** **07 24 52.3 -0.6**
U40A Yelliville 92.44 41 P **P** **07 24 56.7 -0.2**
U40A IAmb IAmb 07 24 57.8
comp=Z,4.7nm,0.9s
KEST Kesra 95.63 322 LR LR 08 12 29.0
comp=Z,60nm,18.5s,baz=298,slow=38
ESDC Sonseca Array 98.08 333 LR LR 08 13 51.7
comp=Z,36nm,18.5s,baz=20,slow=38
JTS Las Juntas de 116.91 52 PKIKP **PKiKP** **07 30 32.6 +1.4**
JTS Las Juntas de 116.91 52 **PKiKP** **07 30 32.6 +1.4**
TORD Torodi Ar. Bea 117.79 314 PKP **PKPdf** **07 30 31.7 -1.1**
comp=Z,0.7nm,0.5s,baz=67,slow=1.3,SNR=6.1
QSPA South Pole Qui 125.69 180 **PKPdf** **07 30 45.4 -1.0**
H03N2 Juan Fernandez 147.32 97 T T 10 16 04.4
baz=290,slow=76,SNR=9.8
H03N3 Juan Fernandez 147.33 97 T T 10 16 09.0
baz=290,slow=76,SNR=17
H03N1 Juan Fernandez 147.33 97 T T 10 16 10.2
baz=290,slow=76,SNR=20
LPAZ La Paz 147.60 60 PKPbc **PKPbc** **07 31 31.4 -0.1**
comp=Z,3.0nm,0.6s,baz=281,slow=2.6,SNR=21
LPAZ La Paz 147.60 60 **PKPbc** **07 31 31.7 +0.2**
MNMC Minye Minye 148.38 66 **PKPbc** **07 31 33.7 +0.6**

*IDC **28** 07:24:09.5±2.0, 49°.25N×19°.98E, h0km, mb3.4/1, mb1 3.3/4, mb1mx3.1/35, mbtmp3.2/4, ML2.6/2, MS2.4/1, Ms1 2.4/1, ms1mx1.9/32, Error ellipse: s-maj=30.9km s-min=14.2km az=149.0*
*VIE **28** 07:24:16.7±1.1, 50°.29N×18°.98E, h0km, mb2.2/2, ml2.4/3, Error ellipse: s-maj=13.2km s-min=5.5km az=116.0 4 km N of Katowice Suspected Mining induced.*
*IPEC **28** 07:24:18.3±0.3, 50°.26N×18°.75E, h0km, ML2.0/4, Error ellipse: s-maj=2.6km s-min=1.8km az=130.0*
*PRU **28** 07:24:19.0±0.0, 50°.25N×18°.72E, h0km*
ISC 28 07:24:17.3±0.8, 50°.26N±0°.04×18°.78E±0°.03, h0km, n31, σ0s91/53, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.59**	**224**	*e*Pg	**Pb**	**07 24 30.4**	**-0.1**
OKC				*e*SG	**Sg**	**07 24 36.8**	**+0.5**
comp=Z,66nm,1.0s							
OJC	**Ojcow**	**0.65**	**94**	*e*Pg	**Pg**	**07 24 31.2**	**+1.4**
OJC				*e*Sg	**Sb**	**07 24 40.5**	**-0.7**
MORC	**Moravsky Berou**	**0.94**	**239**	*e*PG	**Pg**	**07 24 36.0**	**+0.7**
MORC				*e*SG	**Sg**	**07 24 47.1**	**-0.3**
MORC	**Moravsky Berou**	**0.94**	**239**	*e*Pg	**Pg**	**07 24 35.9**	**+0.7**
baz=58							
MORC				*e*Sg	**Sg**	**07 24 47.1**	**-0.3**
22nm,0.3s,baz=58							
LANS	**Liptovska Anna**	**1.20**	**158**	*e*PG	**Pn**	**07 24 41.7**	**+0.3**
LANS				*e*SG	**Sb**	**07 24 57.9**	**+0.9**
LANS				*e*LG	Lg	07 25 00.2	
NIE	**Niedzica**	**1.30**	**130**	*e*Pg	**Pn**	**07 24 43.2**	**+0.5**
NIE				*e*Sg	**Sn**	**07 25 02.0**	**+1.3**
DPC	**Dobruska-Polom**	**1.58**	**274**	*e*PG	**Pb**	**07 24 47.4**	**0.0**
DPC				*e*SG	**Sg**	**07 25 09.0**	**+0.9**
comp=Z,22nm,0.8s							
JAVC	**Velka Javorina**	**1.58**	**208**	*e*PN	**Pn**	**07 24 47.2**	**+0.5**
JAVC				*e*SG	**Sn**	**07 25 07.6**	**-0.3**
JAVC	**Velka Javorina**	**1.58**	**208**	*e*Pn	**Pn**	**07 24 47.2**	**+0.5**
baz=26							
JAVC				*e*Sg	**Sn**	**07 25 07.5**	**-0.3**
12nm,0.6s,baz=26							
OSTC	**Ostas**	**1.67**	**281**	*e*PG	**Pg**	**07 24 50.1**	**+0.8**
OSTC				*e*SG	**Sg**	**07 25 12.0**	**+1.1**
comp=Z,27nm,1.2s							
KSP	**Ksiaz**	**1.69**	**291**	*e*Pg	**Pg**	**07 24 51.2**	**+1.5**
KSP				*e*Sg	**Sg**	**07 25 12.7**	**+1.1**
VRAC	**Vranov**	**1.71**	**237**	Pg	**Pn**	**07 24 49.3**	**+0.9**
2.7nm,0.3s,baz=59,slow=17,SNR=17							
VRAC				Lg	Lg	07 25 12.1	
4.4nm,0.3s,baz=143,slow=18,SNR=10.0							
VRAC	**Vranov**	**1.71**	**237**	*e*PN	**Pn**	**07 24 49.1**	**+0.7**
VRAC				*e*SG	**Sn**	**07 25 11.3**	**+0.3**
VRAC	**Vranov**	**1.71**	**237**	*e*Pn	**Pn**	**07 24 49.0**	**+0.7**
baz=55							
VRAC				*e*Sg	**Sn**	**07 25 11.2**	**+0.3**
11nm,0.3s,baz=55							
VYHS	**Vyhne**	**1.77**	**179**	*e*PN	**Pn**	**07 24 49.7**	**+0.5**
VYHS				*e*SN	**Sb**	**07 25 13.4**	**0.0**
CHVC	**Chvalec**	**1.77**	**282**	*e*PG	**Pb**	**07 24 50.6**	**-0.1**
CHVC				*e*SG	**Sg**	**07 25 15.0**	**+0.7**
comp=Z,32nm,1.1s							
KRUC	**Moravsky**	**1.96**	**233**	*e*PN	**Pn**	**07 24 52.5**	**+0.7**
KRUC				*e*SG	**Sb**	**07 25 19.2**	**+0.3**
KRUC	**Moravsky**	**1.96**	**233**	*e*Pn	**Pn**	**07 24 52.5**	**+0.7**
baz=51							
KRUC				*e*Sg	**Sb**	**07 25 19.1**	**+0.2**
7.1nm,0.2s,baz=51							
MODS	**Modra-Piesok**	**2.13**	**208**	*e*PG	**Pg**	**07 24 58.4**	**+0.2**
MODS				*e*LG	Lg	07 25 29.7	
CRVS	**Cervenica-Dubn**	**2.21**	**127**	*e*PG	**Pg**	**07 24 59.7**	**0.0**
GOPC	**GO Pecny, Ondr**	**2.60**	**264**	*e*PG	**Pb**	**07 25 04.9**	**+0.2**
GOPC				*e*SG	**Sg**	**07 25 39.8**	**-0.9**
comp=Z,9.8nm,0.6s							
PRU	**Pruhonice**	**2.74**	**266**	*e*PG	**Pb**	**07 25 07.8**	**+0.6**
PRU				*e*SG	**Sg**	**07 25 44.5**	**-0.9**
comp=Z,6.5nm,0.6s							
CONA	**Conrad Observa**	**3.02**	**221**	*e*Pn	**Pn**	**07 25 07.5**	**+1.0**
0.5nm,0.2s							
CONA				*i* Sn	**Sn**	**07 25 45.8**	**+2.3**
1.6nm,0.2s							
BRG	**Berggiesshubel**	**3.15**	**283**	PG	**Pg**	**07 25 17.1**	**-0.5**
BRG				SG	**Sg**	**07 26 00.7**	**+2.4**
8.9nm,0.5s							
KHC	**Kasperske Hory**	**3.56**	**253**	*e*PN	**Pn**	**07 25 14.5**	**+0.6**
KHC				*e*SN	**Sn**	**07 25 55.5**	**-1.2**
KHC				*e*SG	**Sg**	**07 26 11.2**	**-0.6**
comp=Z,13nm,1.1s							
GERES	**GERESS Array B**	**3.60**	**249**	Pn	**Pn**	**07 25 14.8**	**+0.4**
0.3nm,0.3s,baz=64,slow=14,SNR=5.1							
GERES				Pg	**Pg**	**07 25 25.1**	**-1.2**
0.7nm,0.3s,baz=65,slow=17,SNR=9.6							
GERES				Lg	Lg	07 26 13.4	
1.4nm,0.3s,baz=64,slow=27,SNR=7.8							
MOA	**Molln**	**3.83**	**233**	*e*Sn	**Sn**	**07 26 03.6**	**+0.3**
2.6nm,0.2s							
HFS	**Hagfors**	**10.31**	**346**	LR	LR	07 31 34.8	
comp=Z,20nm,19.1s,baz=115,slow=39							
FINES	**FINESS Array B**	**11.92**	**17**	Pn	**Pn**	**07 27 06.0**	**-2.3**
0.1nm,0.3s,baz=196,slow=11,SNR=7.2							
ARCES	**ARCESS Array B**	**19.60**	**7**	Pn	**P**	**07 28 45.9**	**-0.8**
0.5nm,0.7s,baz=183,slow=15,SNR=1.7							
TORD	**Torodi Ar. Bea**	**39.56**	**207**	P	P	07 31 37.2	-13
0.3nm,0.6s,baz=19,slow=9.2,SNR=1.8							

*SNET **28** 07:29:35.4±0.9, 12°.61N×87°.89W, h62km±10km, ML3.2*
*INET **28** 07:29:35.2, 12°.57N×87°.79W, h62km, ML3.7*
ISC 28 07:29:34.5±4.3, 12°.5N±0°.3×87°.84W±0°.10, h61km±30km, n15, σ0s37/21, 1C-2D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.75**	**1**	*e*P	**Pn**	**07 29 49.4**	**-0.2**
CNCH				*e*S	**Sn**	**07 30 01.2**	**+0.7**
LCND	**La Caada**	**0.79**	**357**	*e*P	**Pn**	**07 29 49.3**	**-0.5**
LCND				⇓*e*P		07 29 49.6	
LCND				*e*S	**Sn**	**07 30 01.5**	**+0.4**
LCND				IAML		07 30 06.6	
comp=Z,2μm,0.3s							
LCY	**Lacayo**	**1.00**	**334**	*e*P	**Pn**	**07 29 52.6**	**-0.1**
RANC	**El Ranchito**	**1.01**	**335**	*e*P	**Pn**	**07 29 52.9**	**+0.1**
ALJI	**Alcalda de J**	**1.07**	**319**	⇑*e*P	**Pn**	**07 29 53.1**	**-0.3**
ALJI				IAML		07 30 09.7	
comp=Z,812nm,0.2s							
TECA	**Tecapa**	**1.16**	**327**	*e*P	**Pn**	**07 29 54.8**	**-0.1**
TECA				*e*S	**Sn**	**07 30 09.8**	**-0.2**
COEB	**Comit de Eme**	**1.18**	**326**	*e*P	**Pn**	**07 29 54.8**	**-0.2**
COEB				IAML		07 30 12.2	
comp=Z,430nm,0.4s							
FAGO	**Alcalda de S**	**1.20**	**348**	*e*P	**Pn**	**07 29 54.8**	**-0.4**
FAGO				IAML		07 30 12.2	
comp=Z,302nm,0.4s							
PAVA	**Las Pavas**	**1.59**	**318**	*e*P	**Pn**	**07 30 00.6**	**0.0**
PAVA				IAML		07 30 26.7	
comp=Z,173nm,0.2s							
LFRS	**El Faro**	**1.62**	**313**	*e*P	**Pn**	**07 30 00.8**	**-0.1**
LFRS				*e*S	**Sn**	**07 30 20.8**	**0.0**
TGUH	**Tegucigalpa,Un**	**1.63**	**20**	⇓*e*P	**Pn**	**07 30 01.2**	**+0.1**
TGUH				*e*S	**Sn**	**07 30 20.8**	**-0.2**
LBRS	**Las Brisas**	**1.68**	**316**	*e*P	**Pn**	**07 30 02.5**	**+0.8**
UEES	**Universidad Ev**	**1.81**	**311**	*e*P	**Pn**	**07 30 03.8**	**+0.4**
UEES				*e*S	**Sn**	**07 30 25.1**	**-0.2**
JAYA	**Jayaque - finc**	**1.93**	**306**	*e*P	**Pn**	**07 30 04.9**	**-0.2**
JAYA				IAML		07 30 32.6	
comp=Z,416nm,0.2s							
TACO	**Tacachico**	**2.06**	**315**	*e*P	**Pn**	**07 30 06.7**	**-0.1**
TACO				IAML		07 30 36.6	
comp=Z,42nm,0.5s							

*NNC **28** 07:48:55.7±4.8, 48°.63N×77°.96E, h0km, mb2.8, mpv2.4, Error ellipse: s-maj=63.3km s-min=14.0km az=66.0, Suspected Mining explosion.*
SOME 28 07:48:51.1, 50°.25N×82°.00E, h20km, 4C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KURBB	**Kurchatov Arra**	**2.25**	**281**	⇑Pn	Pb	07 49 30.5	-0.5
2.8nm,0.3s							
KURBB				⇓Sn	Sb	07 49 58.5	+0.1
12nm,0.5s							
ZSN	**Zaisan**	**3.38**	**145**	*e*P	Pb	07 49 48.2	-2.1
11nm,0.1s							
ZSN				*e*S	Sb	07 50 28.1	-2.9
5.0nm,0.2s							
MAKZ	**Makanchi**	**3.44**	**180**	⇑Pg	Pb	07 49 53.8	+2.4
MAKZ				⇓Lg	Lg	07 50 39.6	
0.8nm,0.3s							
MK31	**Makanchi Array**	**3.46**	**177**	⇑Pn	Pb	07 49 52.9	+1.2
0.1nm,0.2s,baz=62,slow=11,SNR=17							
MK31				⇑Lg	Lg	07 50 44.4	
1.3nm,0.5s,baz=309,slow=26,SNR=9.5							
KAPS	**Kapalarasan**	**5.28**	**201**	*e*P	Pb	07 50 32.8	+10
0.5nm,0.1s							
KAPS				*e*S	Sb	07 51 46.1	+20
2.4nm,0.0s							

*IDC **28** 07:53:28.4±3.5, 28°.68S×178°.06W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/32, mbtmp3.7/2, MS4.0/4, Ms1 4.0/4, ms1mx3.2/38, Error ellipse: s-maj=78.9km s-min=16.5km az=57.0*
*NEIC **28** 07:53:32.9±2.4, 28°.65S±0°.07×177°.8W±0°.1, h35km±2km, mb4.4/7, Error ellipse: s-maj=24.8km s-min=3.3km az=118.0*
ISC 28 07:53:33.1±0.9, 28°.67S±0°.08×177°.8W±0°.1, h35km, n20, σ1s82/17, mb4.3/7, MS4.0/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.58**	**187**	Pn	**Pn**	**07 53 44.8**	**-0.1**
199nm,0.3s,baz=97,slow=9.3,SNR=9.6							
RAO				Sn	**Sn**	**07 53 53.4**	**+0.2**
1μm,0.3s,baz=222,slow=17,SNR=13							
RAO				LR	LR	07 54 05.1	
comp=Z,133nm,21.2s,baz=151,slow=63							
RAO	**Raoul Island**	**0.58**	**187**		**Pn**	**07 53 45.0**	**+0.1**
RAO				Sn	**Sn**	**07 53 55.1**	**+1.9**
OUZ	**Omahuta**	**9.77**	**226**		**Pn**	**07 55 48.1**	**-3.1**
BKZ	**Black Stump Fm**	**11.47**	**203**	Pn	**Pn**	**07 56 15.5**	**+1.1**
NIUE	**Niue**	**11.98**	**39**	Pn	**Pn**	**07 56 21.4**	**0.0**
ARMA	**Armidale**	**26.59**	**259**	P	**P**	**07 59 08.4**	**+0.1**
CTAO	**Charters Tower**	**33.71**	**277**	P	**P**	**08 00 14.8**	**+3.6**
CTAO				IAmb	IAmb	08 00 16.0	
comp=Z,13nm,1.5s							
ASAR	**Alice Springs**	**43.37**	**265**	P	**P**	**08 01 31.1**	**-1.3**
comp=Z,0.6nm,0.7s,baz=106,slow=7.2,SNR=8.0							
WR0	**Warramunga Arr**	**44.02**	**270**	P	**P**	**08 01 38.2**	**+0.6**
WR0				IAmb	IAmb	08 01 44.5	
comp=Z,10.0nm,1.4s							
WB2	**Warramunga Arr**	**44.20**	**270**	P	**P**	**08 01 39.7**	**+0.7**
WRA	**Warramunga Arr**	**44.20**	**270**	P	**P**	**08 01 37.9**	**-1.2**
comp=Z,0.5nm,0.3s,baz=110,slow=8.1,SNR=11							
WB0	**Warramunga Arr**	**44.22**	**271**	P	**P**	**08 01 39.6**	**+0.4**
WB0				IAmb	IAmb	08 01 39.8	
comp=Z,3.0nm,1.1s							
VNDA	**Vanda**	**49.82**	**186**	P	**P**	**08 02 22.1**	**0.0**
VNDA				IAmb	IAmb	08 02 36.3	
comp=Z,4.6nm,1.4s							
FITZ	**Fitzroy Crossi**	**52.53**	**268**	P	**P**	**08 02 40.1**	**-3.1**
FITZ				IAmb	IAmb	08 02 41.6	
comp=Z,9.5nm,1.1s							
RPN	**Rapa Nui**	**59.77**	**106**	LR	LR	08 21 52.2	
comp=Z,281nm,20.2s,baz=10.0,slow=28							
QSPA	**South Pole Qui**	**61.43**	**180**	P	**P**	**08 03 43.4**	**-2.3**
PFO	**Pinyon Flats O**	**84.93**	**47**	LR	LR	08 36 44.8	
comp=Z,55nm,19.5s,baz=255,slow=30							
BBB	**Bella Bella**	**91.51**	**28**	LR	LR	08 37 54.6	
comp=Z,45nm,21.7s,baz=208,slow=29							
PDAR	**Pinedale Array**	**94.79**	**43**	LR	LR	08 44 54.9	
comp=Z,67nm,18.3s,baz=132,slow=32							
FINES	**FINESS Array B**	**143.57**	**341**	PKP	PKPbc	08 13 01.9	+1.0
comp=Z,1.3nm,0.4s,baz=62,slow=3.3,SNR=20							

*IDC **28** 07:55:02.6±0.6, 63°.66S×172°.51E, h0km, mb4.5/7, mb1 4.6/8, mb1mx4.4/26, mbtmp4.4/8, ML3.6/1, MS4.2/14, Ms1 4.2/14, ms1mx4.0/26, Error ellipse: s-maj=29.2km s-min=16.8km az=54.0*
*GCMT **28** 07:55:04.5±0.3, 63°.69S±0°.02×172°.54E±0°.05, h19km±2km, MW5.1/80, Moment Tensor Solution. s22,c23; s80,c105; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.51±.28; Mθθ=3.68±.21; Mφφ=-2.18±.17; Mrθ=-4.82±.71; Mrφ=-0.02±.12; Mθφ=0.46±.42; Best double couple: M=5.51200×10^16 NP1:φ=293.00000°, δ16.00000°, λ=-60.00000°. NP2: φ=82.00000°, δ76.00000°, λ=-98.00000°. Principal axes: T 6.5650, Plg31.0000°, Azm178.0000°; N -2.1150, Plg8.0000°, Azm84.0000°; P -4.4600, Plg58.0000°, Azm341.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **28** 07:55:04.5±2.6, 63°.7S±0°.1×172°.7E±0°.3, h10km±1km, mb4.7/18 Error ellipse: s-maj=24.1km s-min=18.4km az=75.0*
ISC 28 07:55:04.4±0.5, 63°.72S±0°.08×172°.5E±0°.1, h10km, n77, σ1s15/45, mb4.7/13, MS4.2/16, 1C-1D, Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.26**	**189**	LR	LR	08 02 43.1	
comp=Z,2μm,20.7s,baz=24,slow=32							
VNDA	**Vanda**	**14.26**	**189**	Pn	**Pn**	**07 58 25.6**	**-0.4**
WHZ	**Wether Hill Ro**	**18.05**	**350**		**P**	**07 59 16.0**	**+0.4**
DCZ	**Deep Cove**	**18.55**	**348**		**Pn**	**07 59 23.8**	**+2.6**
DCZ				IAmb	IAmb	07 59 36.5	
comp=Z,48nm,1.3s							
ODZ	**Otahua Downs**	**18.75**	**356**	P	**Pn**	**07 59 24.4**	**+0.8**
LBZ	**Lake Benmore**	**19.42**	**355**	P	**Pn**	**07 59 33.0**	**+1.3**
LBZ				IAmb	IAmb	07 59 46.3	
comp=Z,87nm,1.5s							
RPZ	**Rata Peaks**	**20.07**	**357**	P	**P**	**07 59 36.4**	**-1.2**
comp=Z,0.2nm,0.3s,baz=28,slow=18,SNR=1.9							
RPZ				LR	LR	08 06 05.1	
comp=Z,1μm,19.5s,baz=200,slow=33							
OXZ	**Oxford**	**20.44**	**359**	P	Pn	07 59 46.3	+2.6
CASY	**Casey**	**25.38**	**236**	P	**P**	**08 00 33.0**	**+1.8**
CASY				IAmb	IAmb	08 00 36.7	
comp=Z,8.6nm,0.9s							
QSPA	**South Pole Qui**	**26.36**	**180**	P	**P**	**08 00 40.7**	**+0.3**
comp=Z,13nm,1.0s,baz=25,slow=5.0,SNR=20							
QSPA				LR	LR	08 09 44.9	
comp=Z,915nm,18.6s,baz=29,slow=33							
QSPA	**South Pole Qui**	**26.36**	**180**	P	**P**	**08 00 40.9**	**+0.4**
QSPA				IAmb	IAmb	08 00 43.7	
comp=Z,29nm,1.2s							
STKA	**Stephens Creek**	**37.30**	**314**	LR	LR	08 14 23.5	
comp=Z,210nm,20.6s,baz=154,slow=31							
MAW	**Mawson**	**39.67**	**214**	P	**P**	**08 02 35.3**	**-0.5**
comp=Z,2.0nm,0.8s,baz=110,slow=6.6,SNR=3.6							
MAW				LR	LR	08 17 53.0	
comp=Z,380nm,20.4s,baz=128,slow=34							
MAW	**Mawson**	**39.67**	**214**	P	**P**	**08 02 37.2**	**+1.3**
DZM	**Mont Dzumac**	**41.83**	**352**	*e*LR	LR	08 14 19.8	
comp=Z,786nm,28.6s,baz=200							
SYO	**Syowa Base**	**43.44**	**203**	⇓*e*P	**P**	**08 03 06.0**	**-0.7**
SYO	**Syowa Base**	**43.44**	**203**	⇑*e*pP	pP	08 03 09.0	-0.2
SNAA	**Sanae**	**44.84**	**182**	P	**P**	**08 03 18.0**	**0.0**
SNAA				IAmb	IAmb	08 03 25.3	
comp=Z,8.0nm,1.1s							
H01W1	**Cape Leeuwin H**	**45.43**	**281**	T	T	08 52 20.2	
baz=148,slow=76,SNR=74							
H01W2	**Cape Leeuwin H**	**45.43**	**281**	T	T	08 52 19.2	
baz=148,slow=76,SNR=90							
H01W3	**Cape Leeuwin H**	**45.45**	**281**	T	T	08 52 20.1	
baz=148,slow=76,SNR=78							
NWAO	**Narrogin (SRO)**	**45.77**	**285**	LR	LR	08 17 44.4	
comp=Z,480nm,21.4s,baz=140,slow=30							
ASAR	**Alice Springs**	**47.45**	**309**	P	**P**	**08 03 39.0**	**-0.1**
comp=Z,5.3nm,0.9s,baz=159,slow=7.4,SNR=24							
ASAR				PcP	**PcP**	**08 05 10.4**	**+1.1**
comp=Z,1.4nm,1.0s,baz=156,slow=3.9,SNR=6.3							
ASAR				LR	LR	08 21 54.5	
comp=Z,170nm,18.1s,baz=149,slow=34							
AS31	**Alice Springs**	**47.45**	**309**	P	**P**	**08 03 40.3**	**+1.2**
TBI	**Tubuai**	**47.53**	**50**	*e*LQ	LQ	08 14 34.9	
comp=Z,502nm,27.8s							
TBI				*e*LR	LR	08 16 45.0	
comp=Z,227nm,27.0s,baz=198							
TBI	**Tubuai**	**47.53**	**50**	*e*T	T	08 54 09.2	
comp=Z,30nm,0.3s							
WR0	**Warramunga Arr**	**50.66**	**312**		**P**	**08 04 04.5**	**+0.8**
WR0				IAmb	IAmb	08 04 06.3	
comp=Z,17nm,1.2s							
WB2	**Warramunga Arr**	**50.74**	**311**	P	**P**	**08 04 05.3**	**+1.0**
WB2				IAmb	IAmb	08 04 06.2	
comp=Z,11nm,1.1s							
WRA	**Warramunga Arr**	**50.75**	**311**	P	**P**	**08 04 02.6**	**-1.7**
comp=Z,14nm,1.0s,baz=163,slow=6.6,SNR=11							
WRA				PcP	**PcP**	**08 05 20.1**	**-1.1**
comp=Z,2.1nm,0.8s,baz=164,slow=3.2,SNR=8.6							
WRA				LR	LR	08 23 37.3	
comp=Z,360nm,19.5s,baz=155,slow=34							
WRAB	**Tennant Creek**	**50.75**	**311**	P	**P**	**08 04 05.8**	**+1.4**
WRAB				IAmb	IAmb	08 04 06.2	
comp=Z,6.7nm,1.1s							
WB0	**Warramunga Arr**	**50.89**	**311**	P	**P**	**08 04 04.3**	**-1.1**
WB0				IAmb	IAmb	08 04 07.2	
comp=Z,12nm,1.1s							
TVO	**Taravao**	**52.77**	**48**	*e*T	T	09 00 42.0	
comp=Z,5.4nm,0.3s							
PAE	**Paea**	**52.77**	**47**	*e*T	T	09 00 42.6	
comp=Z,5.9nm,0.4s							
PPT2	**Papeete2**	**52.84**	**47**	*e*LQ	LQ	08 16 37.7	
comp=Z,281nm,23.8s							
PPT2				*e*LR	LR	08 19 20.9	
comp=Z,271nm,25.5s,baz=191							
PPT2	**Papeete2**	**52.84**	**47**	*e*T	T	09 00 47.6	
comp=Z,8.8nm,0.3s							
PPT	**Papeete**	**52.86**	**47**	LR	LR	08 21 17.3	
comp=Z,109nm,19.0s,baz=198,slow=30							
TIAR	**Tiarei**	**52.95**	**48**	*e*T	T	09 00 55.6	
comp=Z,2.4nm,0.3s							
MEH	**Mehetia**	**53.08**	**49**	*e*T	T	09 01 04.9	
comp=Z,26nm,0.3s							
RKT	**Rikitea**	**53.20**	**66**	*e*T	T	09 01 12.2	
comp=Z,16nm,0.3s							
FITZ	**Fitzroy Crossi**	**55.54**	**303**	LR	LR	08 27 03.6	
comp=Z,220nm,18.8s,baz=178,slow=35							
PLCA	**Paso Flores**	**64.60**	**131**	P	**P**	**08 05 41.2**	**-0.4**
comp=Z,8.9nm,1.0s,baz=195,slow=9.7,SNR=3.4							
PLCA	**Paso Flores**	**64.60**	**131**	P	**P**	**08 05 42.0**	**+0.4**
LC01	**Cunco**	**65.80**	**130**	P	**P**	**08 05 50.7**	**+1.4**
H03S2	**Juan Fernandez**	**67.76**	**122**	T	T	09 20 31.2	
baz=204,slow=74,SNR=39							
H03S1	**Juan Fernandez**	**67.76**	**122**	T	T	09 20 33.6	
baz=204,slow=74,SNR=40							
H03S3	**Juan Fernandez**	**67.78**	**122**	T	T	09 20 25.3	
baz=204,slow=74,SNR=44							
H03N3	**Juan Fernandez**	**68.10**	**121**	T	T	09 20 48.6	
baz=232,slow=75,SNR=16							
**H03N2

comp=Z,3.2nm,0.8s,baz=130,slow=3.9,SNR=6.7
SCHQ Schefferville 149.50 79 PKPbc **PKPbc 08 14 52.3 -0.1**
comp=Z,6.9nm,1.1s,baz=259,slow=4.1,SNR=5.7
SCHQ Schefferville 149.50 79 PKiKP 08 14 53.8 +0.3
AKASG Malin Array Be 156.64 253 PKPab **PKPab 08 15 28.4 +0.8**
comp=Z,0.2nm,0.4s,baz=113,slow=2.5,SNR=4.1
ARCES ARCESS Array B 165.83 309 PKPab **PKPab 08 16 05.0 -2.4**
comp=Z,1.6nm,0.9s,baz=78,slow=20,SNR=2.6

*IDC **28** 07:58:21.7±1.4,55°.27N×165°.50E,h0km,mb3.7/9, mb1 4.0/10,mb1mx3.7/45,mbtmp3.8/10,ML3.3/1,MS3.0/4, Ms1 3.0/4,ms1mx2.7/43,Error ellipse: s-maj=56.9km s-min=18.3km az=168.0*
*KRSC **28** 07:58:22.4±2.1,54°.97N×165°.50E,h40km±15km,ML4.1*
*MOS **28** 07:58:25.1±1.2,55°.05N×165°.55E,h44km,mb4.4/5,Error ellipse: s-maj=7.8km s-min=6.1km az=155.5*
*NEIC **28** 07:58:27.2±1.4,55°.2N±0°.2×165°.4E±0°.2,h34km±7km, mb4.2/25,Error ellipse: s-maj=25.5km s-min=9.9km az=156.0*
ISC 28 07:58:24.1±1.3,55°.01N±0°.04×165°.54E±0°.05,h18km±7km, n129,σ1$48/157,mb4.1/20,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.32**	**51**	*eP*		**Pg**		**07 58 30.5**	**-0.4**
BKI				*eS*		**Sg**		**07 58 35.2**	**-0.2**
BKI	**Bering**	**0.32**	**51**	PN		**Pg**		**07 58 30.5**	**-0.4**
KBTR	**Krutoberegovo**	**1.96**	**309**	*eP*		**Pn**		**07 58 54.2**	**-2.3**
KBTR				*eS*		**Sn**		**07 59 17.3**	**-3.3**
KBTR	**Krutoberegovo**	**1.96**	**309**	PN		**Pn**		**07 58 54.2**	**-2.3**
KBTR				S		**Sn**		**07 59 17.3**	**-3.3**
KBG	**Krutoberegovo**	**2.04**	**309**	*eP*		**Pn**		**07 58 57.1**	**-0.4**
KBG				*eS*		**Sn**		**07 59 20.4**	**-2.1**
KBG	**Krutoberegovo**	**2.04**	**309**	PN		**Pn**		**07 58 57.1**	**-0.4**
KBG				S		**Sn**		**07 59 20.4**	**-2.1**
SMKR	**Semkarok**	**2.79**	**306**	*eP*		**Pn**		**07 59 07.7**	**-0.2**
SMKR				*eS*		**Sn**		**07 59 41.4**	**+0.2**
SMKR	**Semkarok**	**2.79**	**306**	PN		**Pn**		**07 59 07.7**	**-0.2**
SMKR				S		**Sn**		**07 59 41.4**	**+0.2**
BDR	**Baidarnaya**	**2.91**	**304**	*eP*		**Pn**		**07 59 09.9**	**+0.4**
BDR	**Baidarnaya**	**2.91**	**304**	PN		**Pn**		**07 59 09.9**	**+0.4**
BZGR	**Bezymyannyi-Gr**	**2.91**	**291**	*eP*		**Pn**		**07 59 10.6**	**+0.9**
BZGR				*eS*		**Sn**		**07 59 46.2**	**+1.9**
BZGR	**Bezymyannyi-Gr**	**2.91**	**291**	PN		**Pn**		**07 59 10.6**	**+0.9**
BZGR				S		**Sn**		**07 59 46.2**	**+1.9**
LGNR	**Loginova**	**2.96**	**293**	*eP*		**Pn**		**07 59 11.6**	**+1.1**
LGNR	**Loginova**	**2.96**	**293**	PN		**Pn**		**07 59 11.6**	**+1.1**
TUMD	**Tumrok D**	**2.96**	**276**	*eP*		**Pn**		**07 59 11.0**	**+0.7**
TUMD				*eS*		**Sn**		**07 59 44.8**	**-0.6**
SRKR	**Sorokina**	**2.97**	**306**	*eP*		**Pn**		**07 59 10.8**	**+0.4**
SRKR	**Sorokina**	**2.97**	**306**	PN		**Pn**		**07 59 10.8**	**+0.4**
KZV	**Kizimen**	**3.02**	**274**	*eP*		**Pn**		**07 59 11.3**	**+0.1**
KZV				*eS*		**Sn**		**07 59 47.6**	**+0.6**
KZV	**Kizimen**	**3.02**	**274**	PN		**Pn**		**07 59 11.3**	**+0.1**
KZV				S		**Sn**		**07 59 47.6**	**+0.6**
BZWR	**Bezymyannyi-We**	**3.03**	**291**	*eP*		**Pn**		**07 59 12.5**	**+1.2**
BZWR				*eS*		**Sn**		**07 59 48.8**	**+1.6**
BZWR	**Bezymyannyi-We**	**3.03**	**291**	PN		**Pn**		**07 59 12.5**	**+1.2**
BZWR				S		**Sn**		**07 59 48.8**	**+1.6**
KRSR	**Krestovskiy**	**3.07**	**295**	*eP*		**Pn**		**07 59 12.7**	**+0.8**
KRSR	**Krestovskiy**	**3.07**	**295**	PN		**Pn**		**07 59 12.7**	**+0.8**
KIRR	**Kirishev**	**3.11**	**290**	*eP*		**Pn**		**07 59 13.5**	**+1.1**
KIRR				*eS*		**Sn**		**07 59 49.3**	**+0.2**
KIRR	**Kirishev**	**3.11**	**290**	PN		**Pn**		**07 59 13.5**	**+1.1**
KIRR				S		**Sn**		**07 59 49.3**	**+0.2**
TUMR	**Tumrok**	**3.11**	**277**	*eP*		**Pn**		**07 59 13.0**	**+0.6**
TUMR				*eS*		**Sn**		**07 59 47.8**	**-1.3**
TUMR	**Tumrok**	**3.11**	**277**	PN		**Pn**		**07 59 13.0**	**+0.6**
TUMR				S		**Sn**		**07 59 47.8**	**-1.3**
KMNR	**Kamenistaya**	**3.12**	**286**	*eP*		**Pn**		**07 59 13.7**	**+1.2**
KMNR	**Kamenistaya**	**3.12**	**286**	PN		**Pn**		**07 59 13.7**	**+1.2**
KPT	**Kopyto**	**3.18**	**290**	*eP*		**Pn**		**07 59 14.5**	**+1.2**
KPT	**Kopyto**	**3.18**	**290**	PN		**Pn**		**07 59 14.5**	**+1.2**
KOZ	**Kozyrevsk**	**3.39**	**290**	*eP*		**Pn**		**07 59 18.1**	**+2.0**
KOZ	**Kozyrevsk**	**3.39**	**290**	PN		**Pn**		**07 59 18.1**	**+2.0**
SRDR	**Sredinnyy**	**3.55**	**294**	*eP*		**Pn**		**07 59 19.7**	**+1.3**
SRDR				*eS*		**Sn**		**07 59 59.6**	**-0.3**
SRDR	**Sredinnyy**	**3.55**	**294**	PN		**Pn**		**07 59 19.7**	**+1.3**
SRDR				S		**Sn**		**07 59 59.6**	**-0.3**
KII	**Karymskiy**	**3.68**	**257**	*eP*		**Pn**		**07 59 21.5**	**+1.3**
KII	**Karymskiy**	**3.68**	**257**	PN		**Pn**		**07 59 21.5**	**+1.3**
SPN	**Mys Shipunski**	**3.77**	**242**	*eP*		**Pn**		**07 59 21.0**	**-0.4**
SPN				*eS*		**Sn**		**08 00 02.1**	**-3.2**
SPN	**Mys Shipunski**	**3.77**	**242**	PN		**Pn**		**07 59 21.0**	**-0.4**
NLC	**Nalytchevo**	**4.09**	**246**	*eP*		**Pn**		**07 59 26.6**	**+0.9**
NLC				*eS*		**Sn**		**08 00 11.2**	**-1.8**
NLC	**Nalytchevo**	**4.09**	**246**	PN		**Pn**		**07 59 26.6**	**+0.9**
SDLR	**Sedlovina**	**4.28**	**249**	*eP*		**Pn**		**07 59 29.7**	**+1.2**
SDLR				*eS*		**Sn**		**08 00 16.1**	**-1.9**
SDLR	**Sedlovina**	**4.28**	**249**	PN		**Pn**		**07 59 29.7**	**+1.2**
SMAR	**Somma**	**4.33**	**249**	*eP*		**Pn**		**07 59 30.6**	**+1.3**
SMAR				*eS*		**Sn**		**08 00 17.7**	**-1.7**
SMAR	**Somma**	**4.33**	**249**	PN		**Pn**		**07 59 30.6**	**+1.3**
KRER	**Koryakskii**	**4.34**	**250**	*eP*		**Pn**		**07 59 31.2**	**+1.8**
KRER				*eS*		**Sn**		**08 00 18.8**	**-0.9**
KRER	**Koryakskii**	**4.34**	**250**	PN		**Pn**		**07 59 31.2**	**+1.8**
KRER				S		**Sn**		**08 00 18.8**	**-0.9**
UGLR	**Uglovaya**	**4.35**	**248**	*eP*		**Pn**		**07 59 30.9**	**+1.5**
UGLR				*eS*		**Sn**		**08 00 19.0**	**-0.6**
UGLR	**Uglovaya**	**4.35**	**248**	PN		**Pn**		**07 59 30.9**	**+1.5**
UGLR				S		**Sn**		**08 00 19.0**	**-0.6**
AVH	**Avacha**	**4.37**	**249**	*eP*		**Pn**		**07 59 31.4**	**+1.8**
AVH				*eS*		**Sn**		**08 00 20.0**	**-0.1**
AVH	**Avacha**	**4.37**	**249**	PN		**Pn**		**07 59 31.4**	**+1.8**
AVH				S		**Sn**		**08 00 20.0**	**-0.1**
KRX	**Arik**	**4.37**	**251**	*eP*		**Pn**		**07 59 31.3**	**+1.5**
KRX	**Arik**	**4.37**	**251**	PN		**Pn**		**07 59 31.3**	**+1.5**
KOK	**Koryaka**	**4.41**	**250**	*eP*		**Pn**		**07 59 31.5**	**+1.3**
KOK	**Koryaka**	**4.41**	**250**	PN		**Pn**		**07 59 31.5**	**+1.3**
OSSR	**Ossora**	**4.46**	**343**	*eP*		**Pn**		**07 59 30.5**	**-0.3**
OSSR	**Ossora**	**4.46**	**343**	PN		**Pn**		**07 59 30.5**	**-0.3**
DALK	**Dalny**	**4.47**	**246**	*eP*		**Pn**		**07 59 32.2**	**+1.3**
DALK				*eS*		**Sn**		**08 00 19.6**	**-2.8**
DALK	**Dalny**	**4.47**	**246**	PN		**Pn**		**07 59 32.2**	**+1.3**
PET	**Petropavlovsk**	**4.52**	**247**	*eP*		**Pn**		**07 59 32.5**	**+0.8**
PET				*eS*		**Sn**		**08 00 21.4**	**-2.4**
PET	**Petropavlovsk**	**4.52**	**247**	*ePn*		**Pn**		**07 59 34.1**	**+2.4**
PET				MLR		MLR			
	comp=Z,100nm,17.0s								
PET	**Petropavlovsk**	**4.52**	**247**	Pn		**Pn**		**07 59 33.7**	**+2.0**
KRMR	**Karymshinskiy**	**4.89**	**247**	*eP*		**Pn**		**07 59 38.7**	**+1.9**
KRMR	**Karymshinskiy**	**4.89**	**247**	PN		**Pn**		**07 59 38.7**	**+1.9**
RUS	**Russkaya**	**4.91**	**241**	*eP*		**Pn**		**07 59 36.2**	**-0.7**
RUS				*eS*		**Sn**		**08 00 28.6**	**-4.6**
RUS	**Russkaya**	**4.91**	**241**	PN		**Pn**		**07 59 36.2**	**-0.7**
PEA0B	**Petropavlovsk-**	**5.00**	**251**	PN		**Pn**		**07 59 40.1**	**+1.9**
PEA0B	**Petropavlovsk-**	**5.00**	**251**			**Pn**		**07 59 40.1**	**+1.9**
PETK	**Petropavlovsk-**	**5.00**	**251**	Pn		**Pn**		**07 59 39.8**	**+1.6**
	comp=Z,5.7nm,0.3s,baz=70,slow=18,SNR=58								
PETK				Sn		**Sn**		**08 00 34.7**	**-0.8**
	comp=Z,4.4nm,0.3s,baz=41,slow=24,SNR=7.4								
PETK				LR		LR		08 01 50.8	
	comp=Z,67nm,19.3s,baz=53,slow=41								
MTVR	**Mutnovka**	**5.05**	**243**	*eP*		**Pn**		**07 59 40.0**	**+1.0**
MTVR				*eS*		**Sn**		**08 00 34.2**	**-2.7**
MTVR	**Mutnovka**	**5.05**	**243**	PN		**Pn**		**07 59 40.0**	**+1.0**
GRL	**Gorelyy**	**5.07**	**244**	*eP*		**Pn**		**07 59 40.5**	**+1.2**
GRL	**Gorelyy**	**5.07**	**244**	PN		**Pn**		**07 59 40.5**	**+1.2**
ASAK	**Asacha**	**5.25**	**243**	*eP*		**Pn**		**07 59 44.0**	**+2.3**
ASAK				*eS*		**Sn**		**08 00 40.6**	**-1.2**
ASAK	**Asacha**	**5.25**	**243**	PN		**Pn**		**07 59 44.0**	**+2.3**
KDTR	**Khodutka, Kamc**	**5.50**	**237**	*eP*		**Pn**		**07 59 44.9**	**-0.1**
KDTR				*eS*		**Sn**		**08 00 43.7**	**-4.0**
KDTR	**Khodutka, Kamc**	**5.50**	**237**	PN		**Pn**		**07 59 44.9**	**-0.1**
MIPR	**Malaya Ipel'ka**	**5.90**	**246**	*eP*		**Pn**		**07 59 53.2**	**+2.6**
MIPR	**Malaya Ipel'ka**	**5.90**	**246**	PN		**Pn**		**07 59 53.2**	**+2.6**
ATKA	**Atka Island**	**12.35**	**95**	Pn		**Pn**		**08 01 20.6**	**+1.7**
RSO	**Redoubt South**	**22.61**	**59**	P		**P**		**08 03 24.8**	**+1.0**
OHAK	**Old Harbor**	**22.81**	**67**	P		**P**		**08 03 23.9**	**-1.8**
KDAK	**Kodiak Island**	**23.07**	**66**	P		**P**		**08 03 26.3**	**-2.0**
	comp=Z,3.7nm,0.7s,baz=256,slow=3.9,SNR=11								
KDAK	**Kodiak Island**	**23.07**	**66**	P		**P**		**08 03 26.8**	**-1.6**
KDAK				*pmax*		*pmax*			
	comp=Z,20nm,1.4s								
KDAK	**Kodiak Island**	**23.07**	**66**	P		**P**		**08 03 26.8**	**-1.6**
KDAK				IAmb		IAmb		08 03 37.9	
	comp=Z,20nm,1.4s								
CNPM	**China Poot**	**23.48**	**61**	P		**P**		**08 03 31.5**	**-1.0**
CNPM				IAmb		IAmb		08 03 46.8	
	comp=Z,20nm,1.4s								
SUA	**Susitna One**	**23.51**	**56**	P		**P**		**08 03 33.5**	**+0.6**
COLD	**Coldfoot**	**24.00**	**42**	P		**P**		**08 03 37.6**	**+0.2**
COLD				IAmb		IAmb		08 03 39.2	
	comp=Z,5.6nm,1.0s								
USRK	**Ussuriysk Ar.**	**24.05**	**257**	LR		LR		08 14 42.3	
	comp=Z,46nm,19.1s,baz=144,slow=41								
WRH	**Wood River Hil**	**24.64**	**49**	P		**P**		**08 03 43.1**	**-0.1**
CCB	**Clear Creek Bu**	**24.77**	**48**	P		**P**		**08 03 43.8**	**-0.5**
CCB				IAmb		IAmb		08 03 46.0	
	comp=Z,4.9nm,0.9s								
IL31		**25.16**	**48**	P		**P**		**08 03 47.1**	**-0.8**
IL31				IAmb		IAmb		08 03 49.7	
	comp=Z,4.4nm,1.0s								
ILAR	**Eielson Array**	**25.16**	**48**	P		**P**		**08 03 45.0**	**-3.0**
	comp=Z,2.2nm,0.9s,baz=259,slow=8.8,SNR=8.1								
EGAK	**Eagle**	**27.61**	**48**	P		**P**		**08 04 08.9**	**-1.1**
INK	**Inuvik**	**30.36**	**40**	P		**P**		**08 04 34.2**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=253,slow=4.9,SNR=3.6								
INK	**Inuvik**	**30.36**	**40**	P		**P**		**08 04 34.9**	**+0.5**
INK				*pmax*		*pmax*			
	comp=Z,7.0nm,1.5s								
INK	**Inuvik**	**30.36**	**40**	P		**P**		**08 04 34.9**	**+0.5**
INK				IAmb		IAmb		08 04 48.1	
	comp=Z,6.5nm,1.5s								
KSRS	**Korea Array**	**30.90**	**251**	LR		LR		08 16 34.8	
	comp=Z,8.8nm,19.6s,baz=165,slow=35								
H11N2	**WAKE ISLAND Hy**	**35.23**	**178**	T		T		08 42 48.8	
	baz=359,slow=76,SNR=338								
H11N3	**WAKE ISLAND Hy**	**35.25**	**178**	T		T		08 42 49.1	
	baz=359,slow=76,SNR=316								
H11N1	**WAKE ISLAND Hy**	**35.25**	**178**	T		T		08 42 50.1	
	baz=359,slow=76,SNR=304								
H11S1	**WAKE ISLAND Hy**	**36.45**	**178**	T		T		08 44 21.5	
	baz=359,slow=76,SNR=16								
H11S3	**WAKE ISLAND Hy**	**36.46**	**178**	T		T		08 44 23.7	
	baz=359,slow=76,SNR=13								
H11S2	**WAKE ISLAND Hy**	**36.46**	**178**	T		T		08 44 28.5	
	baz=359,slow=76,SNR=12								
SONM	**Songino Array**	**36.58**	**284**	P		**P**		**08 05 26.5**	**-2.3**
	comp=Z,0.2nm,0.5s,baz=60,slow=8.5,SNR=1.7								
YKA	**Yellowknife Ar**	**39.55**	**46**	P		**P**		**08 05 53.5**	**0.0**
	comp=Z,0.7nm,0.4s,baz=296,slow=7.8,SNR=8.3								
WALA	**Waterton Lakes**	**47.32**	**62**	P		**P**		**08 06 55.7**	**-0.8**
YBH	**Yreka Blue Hor**	**47.38**	**75**	P		**P**		**08 06 58.2**	**+1.2**
YBH				*pmax*		*pmax*			
	comp=Z,4.0nm,1.4s								
YBH	**Yreka Blue Hor**	**47.38**	**75**	P		**P**		**08 06 58.2**	**+1.2**
YBH				IAmb		IAmb		08 07 13.1	
	comp=Z,3.6nm,1.4s								
KMRM	**Mail Ridge**	**47.84**	**77**	P		**P**		**08 07 02.2**	**+1.5**
JTMT	**Jette**	**47.97**	**64**	P		**P**		**08 07 02.4**	**+0.8**
MKAR	**Makanchi Array**	**50.18**	**297**	P		**P**		**08 07 18.4**	**0.0**
	comp=Z,0.2nm,0.6s,baz=48,slow=5.4,SNR=2.7								
PAHR	**Pah Rah Range**	**50.61**	**75**	P		**P**		**08 07 22.5**	**+0.6**
PNTR	**Pine Nut**	**50.92**	**75**	P		**P**		**08 07 26.3**	**+2.0**
PNTR				IAmb		IAmb		08 07 26.9	
	comp=Z,2.2nm,0.6s								
WAKR	**Walker**	**51.42**	**76**	P		**P**		**08 07 29.4**	**+1.3**
WAKR				IAmb		IAmb		08 07 29.7	
	comp=Z,2.0nm,0.6s								
NVAR	**Mina Array Bea**	**52.10**	**75**	P		**P**		**08 07 33.3**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=299,slow=7.8,SNR=11								
TGY	**Tagaytay City**	**53.43**	**238**	LR		LR		08 30 27.1	
	comp=Z,54nm,20.6s,baz=80,slow=36								
R11A	**Troy Canyon, C**	**53.67**	**73**	P		**P**		**08 07 46.1**	**+1.4**
PDAR	**Pinedale Array**	**53.79**	**65**	P		**P**		**08 07 45.8**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=316,slow=4.1,SNR=7.9								
TPNV	**Topopah Spring**	**54.30**	**75**	P		**P**		**08 07 50.4**	**+1.1**
TPNV				*pmax*		*pmax*			
	comp=Z,5.0nm,1.3s								
TPNV	**Topopah Spring**	**54.30**	**75**	P		**P**		**08 07 50.4**	**+1.1**
TPNV				IAmb		IAmb		08 07 51.2	
	comp=Z,5.1nm,1.3s								
MSU	**Marysvale**	**55.42**	**71**	P		**P**		**08 07 59.1**	**+1.7**
MSU	**Marysvale**	**55.42**	**71**	P		**P**		**08 07 59.1**	**+1.7**
PV21	**Cone Mtn., Par**	**57.11**	**69**	P		**P**		**08 08 11.4**	**+1.9**
PV21				IAmb		IAmb		08 08 29.6	
	comp=Z,3.0nm,1.2s								
ISCO	**Idaho Springs**	**57.99**	**65**	P		**P**		**08 08 16.8**	**+1.0**
ISCO				*pmax*		*pmax*			
	comp=Z,3.0nm,1.3s								
ISCO	**Idaho Springs**	**57.99**	**65**	P		**P**		**08 08 16.8**	**+1.0**
ISCO				IAmb		IAmb		08 08 17.8	
	comp=Z,2.7nm,1.2s								
TX31	**Lajitas Ar. Si**	**66.95**	**72**	P		**P**		**08 09 16.5**	**+0.9**
TX32	**Lajitas Array**	**66.95**	**72**	P		**P**		**08 09 16.3**	**+0.7**
TX32				IAmb		IAmb		08 09 29.7	
	comp=Z,1.8nm,1.1s								
TXAR	**Lajitas Array**	**66.95**	**72**	P		**P**		**08 09 15.5**	**-0.1**
	comp=Z,0.6nm,0.6s,baz=291,slow=3.8,SNR=8.4								

*IDC **28** 08:05:14.9±0.7,55°.69S×27°.91W,h0km,mb4.2/5, mb1 4.3/6,mb1mx3.9/39,mbtmp4.3/6,ML5.0/1,Error ellipse: s-maj=34.2km s-min=20.2km az=86.0*
*NEIC **28** 08:05:30.6±1.2,55°.9S±0°.1×27°.5W±0°.2,h124km±7km, mb4.1/7,Error ellipse: s-maj=22.3km s-min=7.1km az=220.0*
ISC 28 08:05:29.4±0.6,55°.9S±0°.1×27°.5W±0°.1,h112km,n27, σ0$69/27,mb4.2/8,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.41**	**283**	Pn		**Pn**	**Pn**	**08 06 48.1**	**+0.5**
SNAA	**Sanae**	**18.99**	**156**	P		**P**	**P**	**08 09 42.0**	**+0.3**
	4.9nm,0.3s,baz=315,slow=11,SNR=51								
SNAA	**Sanae**	**18.99**	**156**	P		**P**	**P**	**08 09 42.1**	**+0.3**
QSPA	**South Pole Qui**	**34.40**	**180**	P		**P**	**P**	**08 12 05.4**	**-0.1**
	2.5nm,0.6s,baz=21,slow=2.9,SNR=31								
QSPA	**South Pole Qui**	**34.40**	**180**	P		**P**		**08 12 05.5**	**-0.1**
QSPA				IAmb		IAmb		08 12 08.2	
	comp=Z,3.0nm,0.8s								
MAW	**Mawson**	**40.41**	**144**	P		**P**	**P**	**08 12 55.4**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=252,slow=7.1,SNR=6.8								
MAW	**Mawson**	**40.41**	**144**	P		**P**	**P**	**08 12 56.1**	**+0.3**
VNDA	**Vanda**	**46.77**	**183**	P		**P**	**P**	**08 13 46.9**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=182,slow=4.1,SNR=4.3								
VNDA	**Vanda**	**46.77**	**183**	P		**P**		**08 13 47.0**	**+0.3**
VNDA				IAmb		IAmb		08 13 48.5	
	comp=Z,2.2nm,0.9s								
LPAZ	**La Paz**	**50.13**	**305**	P		**P**		**08 14 14.4**	**+0.6**
LPAZ				IAmb		IAmb		08 14 32.9	
	comp=Z,3.2nm,1.3s								
CASY	**Casey**	**54.15**	**160**	P		**P**		**08 14 42.7**	**+0.5**
CASY				IAmb		IAmb		08 14 43.5	
	comp=Z,3.0nm,0.9s								
MATP	**Matopo**	**54.38**	**73**	P		**P**		**08 14 44.5**	**-0.2**
	comp=Z,1.6nm,0.6s,baz=212,slow=6.6,SNR=5.5								
TOA0	**Torodi Ar. Sit**	**72.96**	**30**	P		**P**		**08 16 48.2**	**+1.8**
TOA0				IAmb		IAmb		08 16 48.9	
	comp=Z,4.8nm,0.9s								
TORD	**Torodi Ar. Bea**	**72.96**	**30**	P		**P**		**08 16 47.5**	**+1.1**
	comp=Z,2.8nm,0.6s,baz=202,slow=6.2,SNR=22								
FINES	**FINESS Array B**	**124.28**	**28**	PKP		**PKPdf**	**PKPdf**	**08 24 12.6**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=216,slow=1.6,SNR=6.4								
ARCES	**ARCESS Array B**	**130.82**	**22**	PKP		**PKPdf**	**PKPdf**	**08 24 25.4**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=122,slow=1.6,SNR=7.5								
YKA	**Yellowknife Ar**	**135.91**	**318**	PKP		**PKPdf**	**PKPdf**	**08 24 34.6**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=128,slow=2.3,SNR=6.6								
INK	**Inuvik**	**145.54**	**321**	PKPbc		**PKPdf**	**PKPdf**	**08 24 52.1**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=39,slow=2.2,SNR=5.6								
INK	**Inuvik**	**145.54**	**321**				**PKPab**	**08 24 52.9**	**-0.5**
RIDG	**Independent Ri**	**148.75**	**310**				**PKiKP**	**08 25 02.6**	**-0.9**
IL31		**149.86**	**312**				**PKiKP**	**08 25 04.8**	**-0.8**
ILAR	**Eielson Array**	**149.86**	**312**	PKPbc			**PKPbc**	**08 25 04.2**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=139,slow=2.2,SNR=26								
RND	**Reindeer**	**150.41**	**309**				**PKiKP**	**08 25 06.3**	**-0.6**
KDAK	**Kodiak Island**	**150.58**	**297**	PKPbc			**PKPbc**	**08 25 06.0**	**-0.6**
	comp=Z,2.2nm,0.4s,baz=223,slow=3.1,SNR=12								
KDAK	**Kodiak Island**	**150.58**	**297**				**PKPbc**	**08 25 05.6**	**-1.0**
SONM	**Songino Array**	**150.88**	**86**	PKPbc			**PKPbc**	**08 25 07.7**	**-0.2**
	comp=Z,2.2nm,0.4s,baz=220,slow=3.7,SNR=15								
BPAW	**Bear Paw Mtn.**	**151.48**	**310**				**PKPbc**	**08 25 08.0**	**-0.6**

*NEIC **28** 08:09:06.9±1.9,63°.12S±0°.08×173°.1E±0°.6,h10km±2km, mb4.4/7,Error ellipse: s-maj=48.8km s-min=6.8km az=74.0*
*IDC **28** 08:09:06.3±3.4,63°.55S×171°.86E,h0km,mb4.1/2, mb1 4.3/3,mb1mx3.9/24,mbtmp4.0/3,ML3.5/1,MS3.7/2, Ms1 3.7/2,ms1mx3.2/23,Error ellipse: s-maj=130.3km s-min=40.6km az=74.0*
ISC 28 08:09:06.1±1.4,63°.3S±0°.1×172°.8E±0°.4,h10km,n26, σ2$50/14,mb4.2/5,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**14.69**	**189**	Pn		**Pn**	**Pn**	**08 12 29.1**	**-4.4**
	0.2nm,0.3s,baz=16,slow=14,SNR=7.2								
VNDA	**Vanda**	**14.69**	**189**	Pn		**Pn**	**Pn**	**08 12 32.5**	**-1.1**
MQZ	**McQueen's Vall**	**19.64**	**360**	P		**P**	**P**	**08 13 34.0**	**-0.7**
RPZ	**Rata Peaks**	**19.66**	**356**	P		**P**	**P**	**08 13 33.7**	**-1.2**
RPZ				IAmb		IAmb	IAmb	08 13 40.3	
	comp=Z,31nm,1.4s								
OXZ	**Oxford**	**20.03**	**358**	P		**P**	**P**	**08 13 36.0**	**-3.0**
OXZ				IAmb		IAmb	IAmb	08 13 38.0	
	comp=Z,11nm,0.5s								
QSPA	**South Pole Qui**	**26.78**	**180**	LR		LR	LR	08 23 02.2	
	comp=Z,209nm,19.3s,baz=34,slow=32								
QSPA	**South Pole Qui**	**26.78**	**180**	P		**P**	**P**	**08 14 51.1**	**+5.2**
MAW	**Mawson**	**40.07**	**214**	LR		LR	LR	08 34 38.6	
	comp=Z,80nm,18.1s,baz=58,slow=39								
H01W1	**Cape Leeuwin H**	**45.47**	**280**	T		T		09 06 20.7	
	baz=148,slow=76,SNR=31								
H01W2	**Cape Leeuwin H**	**45.47**	**280**	T		T		09 06 20.8	
	baz=148,slow=76,SNR=24								
H01W3	**Cape Leeuwin H**	**45.48**	**280**	T		T		09 06 21.9	
	baz=148,slow=76,SNR=34								
ASAR	**Alice Springs**	**47.28**	**308**	P		**P**	**P**	**08 17 39.6**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=147,slow=7.4,SNR=7.6								
WR0	**Warramunga Arr**	**50.48**	**311**	P		**P**	**P**	**08 18 05.2**	**+1.2**
WR0				IAmb		IAmb	IAmb	08 18 06.0	
	comp=Z,5.2nm,1.1s								
WB2	**Warramunga Arr**	**50.56**	**311**	P		**P**	**P**	**08 18 06.3**	**+1.7**
WRA	**Warramunga Arr**	**50.56**	**311**	P		**P**	**P**	**08 18 04.7**	**0.0**
	comp=Z,3.1nm,0.9s,baz=160,slow=6.2,SNR=5.6								
WRAB	**Tennant Creek**	**50.57**	**311**	P		**P**	**P**	**08 18 05.5**	**+0.8**
WRAB				IAmb		IAmb	IAmb	08 18 15.6	
	comp=Z,12nm,1.4s								
WB0	**Warramunga Arr**	**

NUBE IAML 08 17 24.2
comp=Z,199nm,0.5s
EDLM Las Mercedes 4.04 121 *eP* **Pn 08 16 48.9 +0.1**
EDPN Palmar Norte 4.33 124 *eP* **Pn 08 16 51.7 -0.8**
CCIG Comitan 6.89 315 Pn **Pn 08 17 30.1 +2.3**
BCIP Isla Barro Col 7.48 107 *eP* **Pn 08 17 37.8 +2.0**
TEIG Tepich 8.83 353 Pn **Pn 08 17 56.5 +2.2**
comp=Z,0.2nm,0.3s,baz=139,slow=19,SNR=2.4
TEIG Tepich 8.83 353 Pn 08 17 56.2 +1.9
CMIG Matias Romero 9.43 308 Pn **Pn 08 18 03.5 +1.0**
comp=Z,4.7nm,0.3s,baz=136,slow=8.9,SNR=62
DBBC Dabeiba 11.59 111 *eP* **Pn 08 18 33.0 +0.8**
SJCC San Jacinto, C 11.80 96 *eP* **Pn 08 18 33.9 -1.2**
UREC San Jos de Ur 11.96 107 *eP* **Pn 08 18 41.0 +3.7**
ZARC Zaragoza, Cauc 12.68 107 *eP* **Pn 08 18 48.1 +1.1**
TLIG Tlapa 12.68 300 Pn **Pn 08 18 49.4 +2.3**
YOTC Yotoco, Valle 12.95 124 *eP* **Pn 08 18 48.3 -2.6**
SMLC San Martn de 13.07 100 *eP* **P 08 18 57.7 -4.1**
GUY2C Guyana, Caldas 13.13 117 *eP* **P 08 19 04.4 +1.6**
RREF El Recreo 13.30 118 *eP* **P 08 19 07.0 +2.1**
PTBC PUERTO BERRIO, 13.38 110 *eP* **P 08 19 03.3 -1.9**
TOLC Tolima 13.48 119 *eP* **P 08 19 08.7 +2.1**
BBAC Balboa, Cauca 13.51 133 *eP* **Pn 08 18 58.5 -0.1**
ORTC Ortega, Tolima 13.90 122 *eP* **P 08 19 10.0 -1.0**
OCAC Ocana 13.93 102 *eP* **P 08 19 08.0 -3.4**
MARP Paez Belalcaza 13.94 127 *eP* **P 08 19 13.8 +2.1**
GCUF Volcan Galeras 14.00 136 *eP* **Pn 08 19 06.5 +0.9**
UNM Universidad Na 14.06 305 Pn **Pn 08 19 08.8 +2.8**
SPBC San Pablo de B 14.08 113 *eP* **P 08 19 13.5 +0.4**
ROSC El Rosal 14.22 116 Pn **Pn 08 19 10.3 +1.9**
comp=Z,0.7nm,0.3s,baz=242,slow=22,SNR=1.2
ROSC LR LR 08 24 29.6
comp=Z,374nm,19.6s,baz=317,slow=38
ROSC El Rosal 14.22 116 P 08 19 15.8 +0.9
PRAC Prado 14.31 121 *eP* **Pn 08 19 10.5 +1.2**
BARC Barichara 14.54 108 *eP* **P 08 19 19.1 +0.7**
PAMC Pamplona, Colo 14.76 105 *eP* **Pn 08 19 16.6 +0.9**
URIC Uribia, Colomb 14.79 87 P **P 08 19 18.7 -2.2**
CHIC Chingaza 14.84 116 *eP* **Pn 08 19 19.0 +2.3**
RUSC La Rusia 14.89 110 *eP* **Pn 08 19 07.7 +2.2**
RUSC La Rusia 14.89 110 P 08 19 20.0 -2.4
VILC Villavicencio, 15.12 118 *eP* **P 08 19 24.6 0.0**
MOIG Morelia 15.87 303 P 08 19 32.6 -0.4
MOIG IAmb IAmb 08 19 34.5
comp=Z,67nm,0.9s
MACC Macarena, Meta 16.04 124 *eP* **P 08 19 33.3 -1.5**
PTGC Puerto Gaitan, 16.45 115 *eP* **Pn 08 19 36.6 -0.5**
GUVC San Jose del G 16.83 121 *eP* **P 08 19 42.7 -0.8**
ZAIG Zacatecas 18.59 309 Pn 08 20 06.2 +2.4
346A Big Creek Wild 19.99 354 P **Pn 08 20 20.3 +0.2**
346A IAmb IAmb 08 20 21.2
comp=Z,47nm,1.0s
441A DeRidder 20.05 345 P Pn 08 20 21.4 +0.6
352A Blakely 20.06 5 P Pn 08 20 21.0 +0.1
352A IAmb IAmb 08 20 22.6
comp=Z,66nm,1.1s
HKT Hockley 20.16 337 P Pn 08 20 21.6 -0.4
HKT IAmb IAmb 08 20 25.6
comp=Z,53nm,1.3s
TIGA Tifton 20.18 9 P Pn 08 20 22.9 +0.5
baz=190,SNR=8.9
TIGA Tifton 20.18 9 P **P 08 20 21.1 +0.9**
ATAH Atahualpa 20.36 154 LR LR 08 27 23.4
comp=Z,523nm,18.8s,baz=334,slow=34
833A Chaparral WMA, 20.39 327 P **P 08 20 23.1 +0.7**
baz=143,SNR=17
833A Chaparral WMA, 20.39 327 P **P 08 20 22.6 +0.1**
833A IAmb IAmb 08 20 28.6
comp=Z,47nm,1.0s
342A Flagon Creek P 20.44 347 IAmb IAmb 08 20 29.5
comp=Z,70nm,1.2s
250A Grady 20.47 2 IAmb IAmb 08 20 26.5
comp=Z,43nm,1.1s
VBMS Vicksburg 20.94 352 P Pn 08 20 31.6 +0.3
baz=170
VBMS Vicksburg 20.94 352 P Pn 08 20 31.0 -0.3
VBMS IAmb IAmb 08 20 33.0
comp=Z,44nm,1.1s
146A Union 21.20 355 IAmb IAmb 08 20 35.7
comp=Z,61nm,1.0s
NATX Nacogdoches 21.42 342 P **P 08 20 35.0 +1.5**
baz=159
NATX Nacogdoches 21.42 342 P **P 08 20 34.6 +1.1**
NATX IAmb IAmb 08 20 41.3
comp=Z,47nm,0.9s
LRAL Lakeview Retre 21.51 0 P **P 08 20 36.3 +1.8**
baz=180,SNR=26
LRAL Lakeview Retre 21.51 0 P **P 08 20 35.6 +1.1**
LRAL IAmb IAmb 08 20 38.8
comp=Z,30nm,0.9s
435B Jarrell 21.59 335 P **P 08 20 37.5 +2.1**
baz=151
435B Jarrell 21.59 335 IAmb IAmb 08 20 45.4
comp=Z,31nm,1.2s
Z47A Carrollton 21.70 358 P **P 08 20 37.8 +1.4**
Z47A IAmb IAmb 08 20 48.1
comp=Z,25nm,0.9s
Z51A Franklin 21.87 4 IAmb IAmb 08 20 42.8
comp=Z,50nm,1.1s
GOGA Godfrey 22.14 8 P **P 08 20 42.8 +1.6**
baz=189,SNR=19
GOGA Godfrey 22.14 8 P **P 08 20 42.8 +1.6**
GOGA IAmb IAmb 08 20 44.7
comp=Z,33nm,0.9s
JCT Junction City 22.34 330 P **P 08 20 43.5 0.0**
baz=146
JCT Junction City 22.34 330 IAmb IAmb 08 20 56.7
comp=Z,58nm,1.5s
Y49A Blount Mountai 22.34 1 IAmb IAmb 08 20 46.3
comp=Z,51nm,1.1s
Z41A Richland Creek 22.36 347 P **P 08 20 44.9 +1.3**
baz=165
Z41A Richland Creek 22.36 347 IAmb IAmb 08 20 48.7
comp=Z,33nm,1.1s
Z56A Williston 22.43 13 P **P 08 20 47.2 +2.9**
baz=195
Z56A Williston 22.43 13 IAmb IAmb 08 20 49.5
comp=Z,39nm,1.0s
Y45A Yeager Farm, C 22.45 355 IAmb IAmb 08 21 04.9
comp=Z,38nm,1.1s
Y52A Lilburn 22.51 7 P **P 08 20 47.0 +1.7**
Y52A IAmb IAmb 08 20 48.2
comp=Z,53nm,1.1s
Z57A Bowman 22.55 14 P **P 08 20 48.1 +2.4**
baz=196
Z58A St. Stephen 22.81 16 P **P 08 20 50.5 +2.2**
baz=198
WLAR White Oak Lake 22.84 347 IAmb IAmb 08 20 50.8
comp=Z,28nm,1.1s
Y56A Pelion 22.89 12 P **P 08 20 51.1 +1.9**
baz=194
Y55A Saluda 22.92 11 P **P 08 20 51.1 +1.6**
baz=193,SNR=8.2
FPAL Fort Paine 23.05 3 P **P 08 20 51.2 +0.3**
FPAL IAmb IAmb 08 20 51.9
comp=Z,30nm,1.4s
OXF Oxford 23.09 355 P **P 08 20 51.1 -0.1**
baz=174,SNR=12
X51A Calhoun 23.13 5 IAmb IAmb 08 20 54.4
comp=Z,20nm,0.8s
X54A Belton 23.42 10 P **P 08 20 55.7 +1.2**
baz=192
PLAL Pickwick Lake 23.47 358 P **P 08 20 54.5 -0.4**
PLAL IAmb IAmb 08 20 56.0
comp=Z,25nm,1.1s
X55A Gracelyn & Ava 23.48 11 P **P 08 20 56.3 +1.3**
baz=193,SNR=5.3
X40A Basin Creek Fa 23.55 348 P **P 08 20 55.7 0.0**
baz=166,SNR=5.5
TX32 Lajitas Array 23.59 321 P **P 08 20 57.1 +0.7**
TX32 IAmb IAmb 08 21 10.7
comp=Z,24nm,0.9s
TXAR Lajitas Array 23.59 321 P **P 08 20 57.2 +0.9**
comp=Z,7.7nm,0.8s,baz=135,slow=11,SNR=70
TXAR PcP **PcP 08 24 41.9 +1.3**
comp=Z,4.0nm,0.9s,baz=143,slow=3.8,SNR=11
X56A White Oak 23.62 13 P **P 08 20 57.8 +1.4**
baz=195,SNR=5.7
W45A Hickory Valley 23.71 356 IAmb IAmb 08 20 58.2
comp=Z,26nm,0.9s
SWET Sewanee 23.71 2 IAmb IAmb 08 20 59.0
comp=Z,44nm,1.0s
Z35A Perchaven, San 23.72 338 IAmb IAmb 08 21 16.0
comp=Z,17nm,0.9s
W50A Signal Mountai 23.73 4 IAmb IAmb 08 20 59.9
comp=Z,41nm,0.9s
UALR University of 23.74 349 IAmb IAmb 08 20 58.3
comp=Z,41nm,1.2s
MIAR Mount Ida 23.77 347 P **P 08 20 57.6 -0.2**
baz=164,SNR=15
MIAR Mount Ida 23.77 347 P **P 08 20 57.0 -0.7**
X57A Johnson Farm, 23.81 14 P **P 08 20 59.8 +1.6**
baz=197,SNR=6.3
BIRD Birdtown, Kers 23.89 14 IAmb IAmb 08 21 02.1
comp=Z,26nm,1.0s
W54A Cherokee Point 23.98 10 P **P 08 21 01.2 +1.5**
baz=192,SNR=15
CPCT Cooper Cave 24.04 5 IAmb IAmb 08 21 03.6
comp=Z,42nm,0.9s
ABTX Abilene, Hawle 24.06 333 P **P 08 21 00.8 +0.3**
baz=149
ABTX Abilene, Hawle 24.06 333 IAmb IAmb 08 21 11.8
comp=Z,26nm,1.1s
X58A Rowland 24.09 16 P **P 08 21 01.9 +1.2**
baz=199
X58A Rowland 24.09 16 IAmb IAmb 08 21 13.4
comp=Z,39nm,1.2s
W41B Gary Mavity, V 24.11 350 P **P 08 21 00.7 -0.2**
baz=168,SNR=11
W41B Gary Mavity, V 24.11 350 IAmb IAmb 08 21 01.7
comp=Z,30nm,1.4s
H06E1 SOCORRO T-PHAS 24.13 291 T T 08 45 59.2
SNR=60
V48A Smith Brothers 24.21 1 P **P 08 21 01.0 -0.8**
V48A IAmb IAmb 08 21 05.0
comp=Z,16nm,0.8s
WHAR Wooly Hollow 24.23 350 IAmb IAmb 08 21 03.7
comp=Z,24nm,1.2s
TKL Tuckaleechee C 24.32 7 P **P 08 21 02.2 -0.6**
comp=Z,31nm,1.0s,baz=183,slow=11,SNR=21
TKL LR LR 08 31 58.1
comp=Z,208nm,18.2s,baz=95,slow=41
TKL Tuckaleechee C 24.32 7 IAmb IAmb 08 21 06.5
comp=Z,48nm,1.1s
W56A Indian Trail 24.34 13 P **P 08 21 04.3 +1.3**
baz=195,SNR=6.8
V51A Loudon 24.40 5 IAmb IAmb 08 21 06.8
comp=Z,27nm,0.8s
W39A Magazine 24.44 347 P **P 08 21 04.1 +0.1**
baz=164,SNR=6.1
V53A Saluda 24.45 8 IAmb IAmb 08 21 08.0
comp=Z,25nm,0.9s
W57A Gilead 24.49 14 P **P 08 21 05.2 +0.9**
baz=197
W57A Gilead 24.49 14 P **P 08 21 04.8 +0.4**
W57A IAmb IAmb 08 21 06.9
comp=Z,42nm,1.4s
W58A Raeford 24.56 16 P **P 08 21 05.7 +0.7**
baz=199
CLTN Cemars of Leba 24.57 1 IAmb IAmb 08 21 07.6
comp=Z,38nm,0.9s
WVT Waverly 24.61 359 P **P 08 21 03.9 -1.5**
baz=178
WVT Waverly 24.61 359 P **P 08 21 04.1 -1.4**
V54A Nebo 24.69 10 P **P 08 21 07.4 +1.1**
baz=192,SNR=11
V55A Taylorsville 24.90 11 P **P 08 21 09.3 +1.2**
baz=194,SNR=5.3
V55A Taylorsville 24.90 11 IAmb IAmb 08 21 10.1
comp=Z,22nm,1.1s
V56A Mocksville 25.01 13 P **P 08 21 10.4 +1.3**
baz=195,SNR=6.5
U49A Red Boiling Sp 25.01 2 IAmb IAmb 08 21 12.1
comp=Z,29nm,1.0s
TZTN Tazewell 25.22 7 P **P 08 21 11.7 +0.7**
baz=188
TZTN Tazewell 25.22 7 P **P 08 21 10.7 -0.3**
TZTN IAmb IAmb 08 21 14.9
comp=Z,14nm,0.8s
V57A Coltrane Farms 25.24 14 P **P 08 21 12.0 +0.8**
baz=197,SNR=6.4
V58A Windy Hill, Pi 25.32 15 P **P 08 21 12.4 +0.5**
baz=198,SNR=12
V58A Windy Hill, Pi 25.32 15 IAmb IAmb 08 21 13.5
comp=Z,31nm,0.9s
U40A Yellville 25.37 349 P **P 08 21 12.2 -0.2**
baz=167,SNR=15
U40A Yellville 25.37 349 IAmb IAmb 08 21 13.0
comp=Z,19nm,0.9s
NNA Nana 25.38 156 LR LR 08 29 51.6
comp=Z,159nm,18.9s,baz=339,slow=33
LPIG La Paz 25.41 303 LR LR 08 31 48.6
comp=Z,180nm,18.0s,baz=106,slow=38
PBMO Poplar Bluff 25.43 354 IAmb IAmb 08 21 13.1
comp=Z,18nm,1.1s
U54A Nelsons Funny 25.44 10 P **P 08 21 14.0 +0.9**
baz=192
U54A Nelsons Funny 25.44 10 IAmb IAmb 08 21 17.1
comp=Z,18nm,0.8s
T47A Sharon Grove 25.46 360 IAmb IAmb 08 21 13.6
comp=Z,22nm,0.9s
HHAR Hobbs 25.52 347 P **P 08 21 13.3 -0.4**
V59A Middlesex 25.53 17 P **P 08 21 14.4 +0.6**
baz=200,SNR=5.6
WMOK Wichita Mounta 25.54 337 P **P 08 21 15.2 +1.2**
baz=153,SNR=25
U56A King 25.55 13 P **P 08 21 15.3 +1.4**
baz=195
U56A King 25.55 13 IAmb IAmb 08 21 18.8
comp=Z,34nm,1.1s
U55A TA2, Sparta 25.56 11 P **P 08 21 15.1 +0.9**
baz=194
TUL1 Leonard 25.63 343 P **P 08 21 14.9 +0.2**
baz=160,SNR=15
TUL1 Leonard 25.63 343 IAmb IAmb 08 21 17.8
comp=Z,38nm,1.0s
T53A Wise 25.78 8 P **P 08 21 16.8 +0.7**
baz=190
V60A Jim Taylor Roa 25.82 19 P **P 08 21 17.8 +1.4**
baz=202
U57A Blanch 25.87 14 P **P 08 21 18.1 +1.3**
baz=197,SNR=8.7
T54A Tazewell 26.01 10 P **P 08 21 19.0 +0.7**
baz=192,SNR=6.1
U58A Oxford 26.03 16 P **P 08 21 19.1 +0.8**
baz=199
MGMO Mountain Grove 26.05 351 P **P 08 21 17.0 -1.5**
U59A Littleton 26.21 17 P **P 08 21 19.2 -0.7**
baz=201
T55A Pulaski 26.21 11 P **P 08 21 21.0 +0.9**
baz=194,SNR=5.4
S44A Carbondale 26.23 356 IAmb IAmb 08 21 20.6
comp=Z,19nm,1.1s
T56A Rocky Mt 26.28 13 P **P 08 21 22.2 +1.6**
baz=196
MNTX Cornudas Mount 26.32 323 P **P 08 21 21.5 +0.5**
baz=136,SNR=7.0
MNTX Cornudas Mount 26.32 323 IAmb IAmb 08 21 33.8
comp=Z,22nm,1.2s
BLA Blacksburg 26.37 12 P **P 08 21 22.8 +1.4**
baz=195
BLA Blacksburg 26.37 12 IAmb IAmb 08 21 23.5
comp=Z,21nm,1.1s
T57A Hurt 26.43 14 P **P 08 21 22.9 +0.9**
baz=197,SNR=6.6
T57A Hurt 26.43 14 IAmb IAmb 08 21 23.7
comp=Z,17nm,0.9s
VWCC Virginia Weste 26.50 13 P **P 08 21 22.4 -0.1**
S53A Williamson 26.53 9 P **P 08 21 23.4 +0.6**
baz=191
T58A Grand View Acr 26.56 15 P **P 08 21 23.6 +0.5**
baz=199,SNR=5.9
MSTX Muleshoe 26.63 330 P **P 08 21 24.1 +0.1**
baz=144,SNR=9.4
MSTX Muleshoe 26.63 330 P **P 08 21 23.7 -0.3**
WCI Wyandotte Cave 26.71 1 P **P 08 21 24.1 -0.3**
baz=182
WCI Wyandotte Cave 26.71 1 P **P 08 21 23.7 -0.7**
WCI IAmb IAmb 08 21 25.0
comp=Z,15nm,0.8s
S39A Bolivar 26.75 349 IAmb IAmb 08 21 25.0
comp=Z,19nm,0.8s
S54A Dingess, Beckl 26.77 10 P **P 08 21 25.8 +0.7**
baz=192
CCM Cathedral Cave 26.78 353 P **P 08 21 24.2 -1.0**
baz=171
CCM Cathedral Cave 26.78 353 P **P 08 21 24.1 -1.0**
CCM IAmb IAmb 08 21 25.9
comp=Z,22nm,1.1s
R49A Shelbyville 26.81 3 IAmb IAmb 08 21 35.8
comp=Z,25nm,1.4s
T59A Double "B" Far 26.85 17 P **P 08 21 26.5 +0.8**
baz=201,SNR=5.1
T59A Double "B" Far 26.85 17 IAmb IAmb 08 21 28.0
comp=Z,18nm,1.1s
AMTX Amarillo 26.87 333 P **P 08 21 28.1 +2.1**
baz=147
AMTX Amarillo 26.87 333 IAmb IAmb 08 21 44.2
comp=Z,21nm,0.9s
S55A Lewisburg 26.90 12 P **P 08 21 27.2 +1.0**
baz=194,SNR=5.7
S56A Natural Bridge 27.00 13 P **P 08 21 28.5 +1.3**
baz=196,SNR=5.6
U32A Winter Ranch, 27.08 339 P **P 08 21 29.1 +1.2**
R54A Victor 27.20 11 P **P 08 21 29.5 +0.6**
baz=193,SNR=5.9
S57A Dark Hollow, R 27.23 14 P **P 08 21 29.5 +0.4**
baz=197
S58A Poland Farm, P 27.31 16 P **P 08 21 30.7 +0.9**
baz=199
S58A Poland Farm, P 27.31 16 IAmb IAmb 08 21 31.3
comp=Z,13nm,0.9s
Q44A Meyer Farm, Va 27.42 357 IAmb IAmb 08 21 31.1
comp=Z,21nm,0.9s
R55A Marlinton 27.47 12 P **P 08 21 32.6 +1.2**
baz=195,SNR=8.0
R55A Marlinton 27.47 12 IAmb IAmb 08 21 33.3
comp=Z,22nm,0.9s
R58B Mineral 27.69 16 P **P 08 21 34.4 +1.1**
baz=200
R58B Mineral 27.69 16 P **P 08 21 34.0 +0.7**
R56A Bull Pasture M 27.74 13 P **P 08 21 35.0 +1.3**
baz=196,SNR=7.0
Q52A Bidwell 27.76 8 P **P 08 21 34.5 +0.6**
baz=190,SNR=13
Q53A Leroy 27.77 9 P **P 08 21 34.9 +0.9**
baz=192,SNR=7.2
R57A Stanardsville 27.84 15 P **P 08 21 35.5 +0.9**
baz=198,SNR=9.3
P48A Milroy 27.97 3 IAmb IAmb 08 21 35.9
comp=Z,20nm,1.1s
R58A Rapidan 27.97 15 P **P 08 21 36.8 +1.1**
baz=199
Q54A Coxs Mills 28.01 10 P **P 08 21 36.9 +0.8**
baz=193,SNR=13
Q54A Coxs Mills 28.01 10 IAmb IAmb 08 21 37.6
comp=Z,23nm,0.9s
P49A Miami Univ. Ec 28.08 4 P **P 08 21 36.1 -0.6**
baz=185,SNR=6.4
P49A Miami Univ. Ec 28.08 4 IAmb IAmb 08 21 37.1
comp=Z,13nm,0.8s
Q55A Buckhannon 28.16 12 P **P 08 21 38.5 +1.0**
baz=194,SNR=10
P51A Williamsport 28.18 7 P **P 08 21 37.6 0.0**
baz=188,SNR=6.0
P51A Williamsport 28.18 7 IAmb IAmb 08 21 39.1
comp=Z,12nm,0.8s
P40A Paris 28.34 352 P **P 08 21 37.3 -1.8**
121A Cookes Peak, D 28.35 321 IAmb IAmb 08 21 56.1
comp=Z,23nm,1.4s
Q56A Snyder Ridge, 28.39 13 P **P 08 21 41.1 +1.5**
baz=196
P53A Whipple 28.41 9 P **P 08 21 40.5 +0.9**
baz=192,SNR=13
P52A Corning 28.44 8 P **P 08 21 40.1 +0.2**
baz=190,SNR=16
Q57A Strasburg 28.57 14 P **P 08 21 42.0 +0.9**
baz=198
O44A Mansfield 28.64 358 IAmb IAmb 08 21 41.4
comp=Z,14nm,0.7s
Q58A Fox Den Farm, 28.66 15 P **P 08 21 42.0 +0.1**
baz=199
P38A Dawn 28.67 350 IAmb IAmb 08 21 41.8
comp=Z,24nm,1.2s
P54A Burton 28.67 11 P **P 08 21 42.1 +0.1**
baz=193
P55A Reedsville 28.71 12 P **P 08 21 43.1 +0.7**
baz=195,SNR=7.2
O49A Covington 28.76 4 IAmb IAmb 08 21 43.9
comp=Z,18nm,0.8s
MCWV Mont Chateau 28.85 12 P **P 08 21 44.2 +0.6**
baz=195
MCWV Mont Chateau 28.85 12 P **P 08 21 43.5 -0.1**
O51A Pataskala 28.89 7 P **P 08 21 44.1 +0.2**
baz=189,SNR=11
P56A Dayton Farm, R 28.91 13 P **P 08 21 45.6 +1.5**
baz=197,SNR=14
ACSO Alum Creek Sta 28.93 7 P **P 08 21 44.4 +0.1**
baz=188,SNR=11
ACSO Alum Creek Sta 28.93 7 IAmb IAmb 08 21 45.7
comp=Z,22nm,0.8s
O52A Adamsville 28.96 8 P **P 08 21 44.9 +0.4**
baz=190,SNR=11
O52A Adamsville 28.96 8 IAmb IAmb 08 21 46.1
comp=Z,27nm,0.9s
HDIL Hopedale 29.09 357 P **P 08 21 45.1 -0.5**
baz=176,SNR=5.9
HDIL Hopedale 29.09 357 IAmb IAmb 08 21 45.8
comp=Z,26nm,1.0s
P57A Homestead Farm 29.09 15 P **P 08 21 47.3 +1.6**
baz=198,SNR=15
O53A New Philadelph 29.18 9 P **P 08 21 47.0 +0.5**
baz=192,SNR=13
O54A Avella 29.26 11 P **P 08 21 47.8 +0.6**
baz=193
O54A Avella 29.26 11 IAmb IAmb 08 21 48.2
comp=Z,15nm,1.0s
P58A Pank, Wackersv 29.28 16 P **P 08 21 48.7 +1.4**
baz=200,SNR=6.7
ANMO Albuquerque 29.31 326 P **P 08 21 49.8 +1.9**
baz=138
ANMO Albuquerque 29.31 326 P **P 08 21 49.4 +1.4**
comp=Z,1.6nm,0.8s,baz=140,slow=8.1,SNR=7.3
ANMO PcP **PcP 08 24 55.6 +1.7**
comp=Z,2.0nm,0.9s,baz=176,slow=7.5,SNR=4.1
ANMO Albuquerque 29.31 326 P **P 08 21 49.3 +1.4**
SDMD Soldier's Deli 29.33 16 IAmb IAmb 08 21 49.9
comp=Z,13nm,1.0s
PTGA Pitinga 29.53 112 LR LR 08 35 28.8
comp=Z,179nm,19.4s,baz=294,slow=40
P59A Jarrettsville 29.63 17 P **P 08 21 51.8 +1.3**
baz=201,SNR=5.8
N51A Ashland 29.68 7 P **P 08 21 50.9 0.0**
baz=189,SNR=5.7
N51A Ashland 29.68 7 IAmb IAmb 08 21 52.0
comp=Z,24nm,1.1s
O56A Blue Knob Stat 29.70 13 P **P 08 21 51.6 +0.3**
baz=197,SNR=5.6
O56A Blue Knob Stat 29.70 13 IAmb IAmb 08 21 53.7
comp=Z,26nm,1.4s
N53A Lisbon 29.79 10 P **P 08 21 52.4 +0.5**
baz=192
O57A Amberson 29.87 15 P **P 08 21 53.7 +1.1**
baz=199,SNR=10
O58A Lewisberry 29.97 16 P **P 08 21 54.8 +1.2**
baz=200,SNR=6.5
T25A Trinidad 29.98 332 P **P 08 21 55.9 +2.1**
baz=144
T25A Trinidad 29.98 332 IAmb IAmb 08 22 07.0
comp=Z,17nm,1.4s
MVL Millersville 30.01 17 IAmb IAmb 08 21 55.9
comp=Z,18nm,1.0s
N54A Moraine State 30.08 11 P **P 08 21 55.0 +0.5**
baz=194,SNR=5.3
N54A Moraine State 30.08 11 IAmb IAmb 08 21 55.6
comp=Z,20nm,1.1s
N55A Marion Center 30.11 12 P **P 08 21 55.1 +0.4**
baz=196
PAGS Pennsylvania G 30.12 16 P **P 08 21 55.5 +0.7**
SSPA Standing Stone 30.21 14 P **P 08 21 56.5 +0.9**
baz=198
O59A Robesonia 30.35 17 P **P 08 21 58.1 +1.3**
baz=201,SNR=20
N56A West Decatur 30.39 13 P **P 08 21 58.1 +0.9**
baz=197,SNR=17
N57A Milroy 30.41 14 P **P 08 21 58.3 +0.9**
baz=198,SNR=9.5
M53A WI Miller and 30.43 10 P **P 08 21 58.1 +0.6**
baz=192,SNR=16
L48A N Adams 30.50 4 IAmb IAmb 08 21 58.1
comp=Z,18nm,1.0s
O60A Telford 30.58 18 P **P 08 21 59.7 +0.9**
baz=203
L44A Lake County Fo 30.65 359 P **P 08 21 58.3 -1.2**
baz=178
M54A Oil Creek Stat 30.67 11 P **P 08 21 59.9 +0.2**
baz=194,SNR=6.5
M54A Oil Creek Stat 30.67 11 IAmb IAmb 08 22 00.6
comp=Z,16nm,0.8s
N58A Sunbury 30.70 16 P **P 08 22 00.7 +0.8**
baz=200,SNR=12

L50A	Kingsville baz=188	30.73	6	P	P	08 21 59.8	-0.4		
L40A	Anamosa comp=Z,16nm,0.9s	30.74	354	IAmb	IAmb	08 22 00.6			
M55A	Ridgway baz=196,SNR=7.5	30.81	12	P	P	08 22 01.2	+0.3		
M55A M55A	Ridgway	30.81	12	P IAmb	P IAmb	08 22 00.8 08 22 02.1	-0.2		
AAM	Ann Arbor comp=Z,15nm,0.8s	30.91	5	IAmb	IAmb	08 22 02.4			
M56A	Emporium baz=197,SNR=18	30.95	13	P	P	08 22 02.6	+0.4		
SDCO	Great Sand Dun baz=143,SNR=7.0	30.98	331	P	P	08 22 04.1	+1.3		
SDCO	Great Sand Dun	30.98	331	P	P	08 22 03.3	+0.5		
L53A	Girard baz=193,SNR=18	31.00	10	P	P	08 22 02.8	+0.2		
N59A	State Game Lan baz=202,SNR=19	31.03	17	P	P	08 22 04.1	+1.2		
M57A	Sunshine Farm, baz=199,SNR=16	31.06	15	P	P	08 22 04.1	+1.0		
BRNJ	Basking Ridge comp=Z,25nm,1.1s	31.17	19	IAmb	IAmb	08 22 06.3			
N60A	Cedar Hill Far baz=203,SNR=6.4	31.18	18	P	P	08 22 05.1	+0.9		
ERPA	Erie baz=193,SNR=5.4	31.20	10	P	P	08 22 04.6	+0.3		
M58A	Price's Panora baz=200,SNR=7.1	31.26	16	P	P	08 22 05.8	+0.9		
214A	Organ Pipe Nat baz=125	31.30	315	P	P	08 22 08.6	+3.2		
W18A	Petrified Fore baz=134	31.30	323	P	P	08 22 08.5	+2.9		
K49A	Clarkson baz=187,SNR=12	31.41	5	P	P	08 22 05.5	-0.6		
L54A	Sinclairville baz=194,SNR=5.7	31.44	11	P	P	08 22 06.5	0.0		
K50A	Casco baz=188	31.48	6	P	P	08 22 06.3	-0.4		
K50A	Casco comp=Z,16nm,0.7s	31.48	6	IAmb	IAmb	08 22 06.9			
JFWS	Jewell Farm baz=174,SNR=5.6	31.50	356	P	P	08 22 05.9	-1.1		
JFWS	Jewell Farm comp=Z,13nm,0.9s	31.50	356	IAmb	IAmb	08 22 06.8			
K38A	Parkersburg comp=Z,24nm,1.2s	31.50	352	IAmb	IAmb	08 22 06.8			
ODNJ	Ogdensburg comp=Z,14nm,1.1s	31.52	18	IAmb	IAmb	08 22 08.6			
L55A	Hinsdale baz=196,SNR=7.0	31.57	12	P	P	08 22 07.8	+0.1		
KSPA	Keystone Colle comp=Z,19nm,0.9s	31.62	16	IAmb	IAmb	08 22 09.6			
S22A	4UR Ranch, Cre baz=141	31.63	329	P	P	08 22 09.6	+1.1		
S22A	4UR Ranch, Cre comp=Z,13nm,1.3s	31.63	329	IAmb	IAmb	08 22 21.6			
PAL	Palisades baz=205	31.67	19	P	P	08 22 09.3	+0.9		
PAL PAL	Palisades	31.67	19	P IAmb	P IAmb	08 22 08.8 08 22 09.9	+0.3		
M59A	Waymart comp=Z,16nm,0.9s	31.70	17	P	P	08 22 09.6	+0.9		
L56A	Greenwood baz=202,SNR=13	31.71	14	P	P	08 22 09.0	+0.1		
K52A	Tillsonburg baz=198,SNR=14	31.73	9	P	P	08 22 08.7	-0.3		
M60A	Port Jervis baz=192	31.74	18	P	P	08 22 09.8	+0.7		
L57A	Andrews Acres baz=204,SNR=12	31.75	15	P	P	08 22 09.8	+0.5		
J48A	Bridge Port baz=199,SNR=11	31.89	5	P	P	08 22 09.7	-0.7		
K54A	Basiliko Farm, baz=186,SNR=7.3	31.92	12	P	P	08 22 10.7	0.0		
M61A	Granite Spring baz=196	31.99	19	P	P	08 22 11.8	+0.5		
J49A	Marlette baz=205	32.01	5	P	P	08 22 10.3	-1.1		
WSPT	Westport, CT baz=187,SNR=5.8	32.01	20	IAmb	IAmb	08 22 12.7			
L58A	Harry Jones Me comp=Z,16nm,1.1s	32.05	16	P	P	08 22 12.5	+0.6		
MVCO	Mesa Verde baz=201,SNR=12	32.05	16	P	P	08 22 13.6	+1.1		
BINY	Binghamton baz=138,SNR=6.5	32.09	327	P	P	08 22 13.6	+0.8		
BINY	Binghamton baz=201,SNR=14	32.16	16	P	P	08 22 12.9	+0.1		
K55A	Perry baz=197,SNR=9.5	32.16	13	P	P	08 22 12.6	-0.2		
J52A	Paris baz=192,SNR=7.7	32.22	9	P	P	08 22 13.0	-0.3		
K56A	Middlesex baz=198,SNR=16	32.30	14	P	P	08 22 14.2	+0.2		
M62A	Hamden baz=206	32.40	20	P	P	08 22 15.3	+0.5		
L59A	Walton baz=202,SNR=10	32.41	17	P	P	08 22 15.8	+0.8		
I46A	Reed City baz=183	32.44	2	P	P	08 22 13.4	-1.7		
KSCT	Kent School, K comp=Z,10nm,1.1s	32.46	19	IAmb	IAmb	08 22 17.3			
L60A	Shokan baz=204,SNR=8.0	32.47	18	P	P	08 22 16.2	+0.7		
I45A	Fountain baz=181	32.51	1	P	P	08 22 14.8	-1.0		
K57A	Scipio Center baz=199,SNR=7.6	32.52	15	P	P	08 22 16.2	+0.2		
I47A	Gladwin baz=185,SNR=13	32.56	3	P	P	08 22 15.1	-1.1		
WUAZ	Wupatki baz=132,SNR=5.2	32.56	321	P	P	08 22 20.7	+4.1		
WUAZ WUAZ	Wupatki	32.56	321	P IAmb	P IAmb	08 22 17.9 08 22 30.4	+1.3		
J54A	comp=Z,10nm,1.0s Appleton baz=195	32.57	11	P	P	08 22 16.4	+0.1		
I49A	Point Hope baz=188,SNR=5.2	32.61	6	P	P	08 22 15.6	-1.1		
M63A	Gales Ferry baz=208	32.66	21	P	P	08 22 18.2	+1.0		
I51A	Listowel baz=191,SNR=17	32.69	8	P	P	08 22 17.0	-0.4		
J55A	Hilton baz=197	32.73	13	P	P	08 22 17.5	-0.3		
K58A	Earlville baz=201,SNR=11	32.78	16	P	P	08 22 18.6	+0.3		
L61A	Hillsdale 1, H baz=205	32.86	19	P	P	08 22 19.8	+0.9		
I53A	Kortright Cn E baz=193	32.93	10	P	P	08 22 19.5	+0.1		
J56A	Wolcott baz=198,SNR=54	32.96	14	P	P	08 22 19.8	+0.1		
PV13	Radium Mtn., P comp=Z,20nm,1.2s	32.97	328	IAmb	IAmb	08 22 33.3			
K59A	Cooperstown baz=202,SNR=14	33.01	17	P	P	08 22 20.6	+0.4		
PV03	Paradox Valley comp=Z,11nm,0.9s	33.05	328	IAmb	IAmb	08 22 33.2			
I52A	Shelburne baz=192,SNR=13	33.07	9	P	P	08 22 20.7	-0.1		
PV18	Skein Mesa, Pa comp=Z,11nm,0.8s	33.08	328	IAmb	IAmb	08 22 34.6			
PV07	Paradox Valley comp=Z,17nm,1.2s	33.08	328	IAmb	IAmb	08 22 34.4			
PV11 PV11	David Mesa, Pa	33.10	328	P IAmb	P IAmb	08 22 22.2 08 22 35.6	+0.9		
H47A	comp=Z,11nm,0.7s Mio baz=185,SNR=5.7	33.16	4	P	P	08 22 20.6	-0.8		
PV19	Morning Glory comp=Z,9.3nm,0.8s	33.16	328	IAmb	IAmb	08 22 33.6			
PV20	West Nyswonger comp=Z,18nm,1.1s	33.18	328	IAmb	IAmb	08 22 34.9			
PV22 PV22	Blue Mesa, Par	33.23	328	P IAmb	P IAmb	08 22 23.3 08 22 35.5	+0.9		
ECSD	comp=Z,9.9nm,1.0s EROS Data Cent baz=163,SNR=14	33.24	347	P	P	08 22 21.2	-1.0		
ECSD	EROS Data Cent comp=Z,12nm,0.9s	33.24	347	IAmb	IAmb	08 22 21.8			
PV23	Carpenter Ridg comp=Z,13nm,0.9s	33.28	328	IAmb	IAmb	08 22 35.8			
J57A	Williamstown baz=200,SNR=20	33.29	15	P	P	08 22 22.5	-0.2		
LPAZ	La Paz	33.31	145	LR	LR	08 36 37.4			

	comp=Z,210nm,19.3s,baz=345,slow=38						
L61B	Northampton baz=206	33.37	20	P	P	08 22 23.1	-0.3
K61A	Williamstown baz=205,SNR=9.3	33.38	19	P	P	08 22 24.3	+0.8
J58A	Remsen baz=201,SNR=11	33.43	16	P	P	08 22 24.1	+0.2
G45A	Sutton Bay baz=182	33.52	2	P	P	08 22 23.3	-1.3
PECO PECO	Prince Edward	33.55	13	P IAmb	P IAmb	08 22 23.8 08 22 25.7	-1.1
I55A	comp=Z,16nm,1.0s Frankford baz=197,SNR=14	33.67	12	P	P	08 22 25.4	-0.6
H52A	Wyevale baz=193,SNR=13	33.68	9	P	P	08 22 25.7	-0.3
K62A	Royalston baz=207,SNR=5.6	33.71	20	P	P	08 22 26.7	+0.4
K62A	Royalston comp=Z,18nm,1.1s	33.71	20	IAmb	IAmb	08 22 27.6	
N23A	Red Feather La	33.73	334	P	P	08 22 27.0	+0.1
J59A	Piesco baz=202,SNR=11	33.74	17	P	P	08 22 26.5	-0.1
J59A	Piesco comp=Z,16nm,1.1s	33.74	17	IAmb	IAmb	08 22 27.3	
G47A	Hillman baz=186,SNR=6.8	33.75	4	P	P	08 22 25.6	-1.0
I58A	Old Forge baz=202,SNR=11	33.82	16	P	P	08 22 27.4	+0.1
G40A	Rib Lake comp=Z,16nm,0.9s	33.84	356	IAmb	IAmb	08 22 27.0	
H53A	Bobcaygeon baz=195,SNR=24	33.84	11	P	P	08 22 27.1	-0.3
J60A	Lant Hill Farm baz=204,SNR=6.1	33.85	18	P	P	08 22 28.2	+0.7
I57A	Carthage baz=200,SNR=5.7	33.87	15	P	P	08 22 27.5	-0.2
K63A	Dunstable baz=208	33.97	21	P	P	08 22 29.2	+0.6
DELO	Deloro Mine comp=Z,18nm,1.5s	33.97	12	IAmb	IAmb	08 22 38.5	
IKP	In-Ko-Pah, Jac baz=122	34.02	313	P	P	08 22 32.6	+3.4
SPMN	Marine on St. baz=170,SNR=9.9	34.04	353	P	P	08 22 27.5	-1.6
BC3	Big Chuckawall baz=124,SNR=6.6	34.09	315	P	P	08 22 32.9	+3.0
H55A	Tweed baz=197,SNR=9.0	34.10	13	P	P	08 22 29.1	-0.6
F45A	CMU Biological baz=183	34.17	2	P	P	08 22 29.9	-0.4
O20A	White River Ci baz=141,SNR=8.6	34.17	330	P	P	08 22 32.2	+1.6
O20A O20A	White River Ci	34.17	330	P IAmb	P IAmb	08 22 31.5 08 22 45.6	+0.9
J61A	comp=Z,13nm,0.9s Chester baz=206,SNR=7.8	34.22	19	P	P	08 22 31.4	+0.7
I59A	Olmsteadville baz=203,SNR=10	34.22	17	P	P	08 22 30.7	-0.1
H56A	Elgin baz=199,SNR=20	34.34	14	P	P	08 22 31.6	-0.2
J62A	Henniker baz=207,SNR=5.5	34.35	20	P	P	08 22 32.8	+1.0
G53A	Haliburton baz=195,SNR=16	34.36	11	P	P	08 22 31.3	-0.6
MONP2	Monument Peak baz=122	34.37	313	P	P	08 22 35.2	+2.8
H57A	Richville baz=200,SNR=7.2	34.43	15	P	P	08 22 32.3	-0.2
I60A	Shoreham baz=204	34.44	18	P	P	08 22 33.0	+0.4
F49A	Sandvld baz=189,SNR=7.1	34.49	6	P	P	08 22 31.7	-1.3
F48A	Evansville baz=188,SNR=6.4	34.50	6	P	P	08 22 32.0	-1.2
J63A	Strafford baz=208	34.65	21	P	P	08 22 34.6	+0.2
BELC	Belle Mtn. Jos baz=124	34.66	315	P	P	08 22 37.3	+2.4
H58A	Gabriels baz=202,SNR=11	34.71	16	P	P	08 22 34.6	-0.4
G54A	Lake Saint Pet baz=195,SNR=19	34.73	11	P	P	08 22 34.5	-0.6
F36A	Milaca comp=Z,13nm,0.9s	34.76	352	IAmb	IAmb	08 22 34.6	
XPFO	Pion Flat	34.77	314	P	P	08 22 38.5	+2.7
PFO	Pinyon Flats O baz=123	34.77	314	P	P	08 22 38.5	+2.7
PFO	Pinyon Flats O	34.77	314	P	P	08 22 38.7	+2.9
LONY	Lake Ozonia baz=202,SNR=18	34.79	16	P	P	08 22 35.5	-0.1
LONY	Lake Ozonia	34.79	16	P	P	08 22 35.2	-0.5
G55A	Calabogie baz=198,SNR=6.5	34.87	13	P	P	08 22 36.0	-0.3
F52A	Sundridge baz=193,SNR=7.2	34.89	10	P	P	08 22 35.8	-0.7
F51A	Arnstein baz=192	34.93	9	P	P	08 22 35.8	-1.1
H59A	Cadyville baz=203,SNR=5.1	35.05	17	P	P	08 22 37.3	-0.6
MSU	Marysvale	35.06	325	P	P	08 22 39.7	+1.4
E47A	Iron Bridge baz=186,SNR=19	35.07	5	P	P	08 22 37.0	-1.0
TMUT	Trail Mountain	35.07	327	P	P	08 22 39.5	+1.0
I62A	Tamworth baz=207,SNR=5.3	35.09	20	P	P	08 22 38.8	+0.6
G57A	Newington baz=201	35.13	15	P	P	08 22 38.3	-0.3
E48A	Lockeyer baz=188,SNR=13	35.19	6	P	P	08 22 38.3	-0.8
FRNY	Flat Rock comp=Z,19nm,1.4s	35.26	17	IAmb	IAmb	08 22 40.4	
H60A	Morristown baz=205	35.27	18	P	P	08 22 39.6	-0.2
ALGO	Algonquin Park baz=195,SNR=17	35.27	11	P	P	08 22 39.1	-0.7
MURC	Murrieta baz=122	35.29	314	P	P	08 22 43.4	+3.2
E50A	Wahnapitae baz=191,SNR=6.3	35.30	8	P	P	08 22 38.9	-1.1
ORIO	Orleans, Innes baz=200,SNR=6.7	35.33	14	P	P	08 22 39.8	-0.5
HEC	Hector,Ludlow baz=124	35.35	316	P	P	08 22 44.4	+3.6
G58A	Ormstown baz=202,SNR=5.3	35.42	16	P	P	08 22 40.8	-0.2
K22A	Casper baz=146	35.42	335	P	P	08 22 43.6	+2.3
K22A	Casper comp=Z,17nm,1.4s	35.42	335	IAmb	IAmb	08 22 53.8	
D46A	Sault St. Mari baz=185,SNR=5.5	35.45	4	P	P	08 22 40.2	-1.1
E52A	Mattawa baz=194,SNR=11	35.48	10	P	P	08 22 40.5	-1.1
H61A	Lyndonville baz=206	35.48	19	P	P	08 22 41.8	+0.1
F55A	Otter Lake baz=198,SNR=7.4	35.50	13	P	P	08 22 41.2	-0.5
I63A	Otisfield baz=208	35.50	21	P	P	08 22 42.2	+0.5
I63A	Otisfield comp=Z,9.9nm,0.9s	35.50	21	IAmb	IAmb	08 22 43.2	
E51A	G1948 Merrick baz=193,SNR=16	35.59	9	P	P	08 22 42.0	-0.5
G59A	Clarenceville baz=204	35.60	17	P	P	08 22 42.7	+0.2
D47A	Chapleau baz=187,SNR=10	35.68	5	P	P	08 22 42.0	-1.3
RSSD	Black Hills	35.72	339	P	P	08 22 45.6	+1.7
E53A	Dumoine, Ponti baz=196,SNR=11	35.75	11	P	P	08 22 43.2	-0.7
E54A	Lac Daplat, Po baz=196,SNR=12	35.90	12	P	P	08 22 44.5	-0.6
D48A	Paudash Townsh baz=189,SNR=21	35.91	6	P	P	08 22 44.0	-1.3
BFSC	Mount Baldy Ra baz=122	35.95	314	P	P	08 22 48.9	+2.9
D49A	Beulah Townshi baz=189,SNR=23	36.06	7	P	P	08 22 45.5	-1.0
D51A	Lot 18 Range I baz=193,SNR=9.3	36.15	9	P	P	08 22 46.2	-1.1
E55A	Montcerf-Lytto baz=198	36.15	13	P	P	08 22 46.6	-0.6
D50A	G1974 Best Tow baz=192,SNR=11	36.15	8	P	P	08 22 46.2	-1.1
D52A	ZEK Kipawa Sen baz=194,SNR=18	36.19	10	P	P	08 22 46.9	-0.7

H63A	New Sharon baz=209	36.22	21	P	P	08 22 48.7	+0.8
G61A	St-Isidore-de- baz=206	36.28	19	P	P	08 22 48.7	+0.3
D53A	Lac Vacive, Po baz=196,SNR=18	36.42	11	P	P	08 22 49.2	-0.4
D53A	Lac Vacive, Po comp=Z,16nm,0.8s	36.42	11	IAmb	IAmb	08 22 50.0	
F59A	Saint Guilaume baz=204	36.42	17	P	P	08 22 49.3	-0.2
E56A	St. Veronique baz=200	36.47	14	P	P	08 22 49.6	-0.5
H64A	Troy baz=210	36.49	22	P	P	08 22 50.9	+0.6
TPNV	Topopah Spring baz=127	36.52	319	P	P	08 22 53.0	+2.2
G62A	West of Eustis baz=208,SNR=8.0	36.54	20	P	P	08 22 51.2	+0.5
G62A	West of Eustis comp=Z,20nm,1.1s	36.54	20	IAmb	IAmb	08 22 52.1	
E57A	Chemin Saint G baz=201	36.56	15	P	P	08 22 50.1	-0.8
D32A	Dogwood Acres, comp=Z,19nm,1.0s	36.57	349	IAmb	IAmb	08 22 50.1	
DUG	Dugway, Tooele baz=134	36.58	326	P	P	08 22 52.9	+1.6
EYMN	Ely baz=173	36.60	355	P	P	08 22 49.5	-1.6
LRMC	Laurel Mtn Rad baz=123	36.63	316	P	P	08 22 53.5	+1.7
FURC	Furnace Creek, baz=126	36.64	318	P	P	08 22 55.1	+3.5
D54A	Lac Fusel, La baz=197,SNR=16	36.69	12	P	P	08 22 51.1	-0.8
E58A	La Victoria baz=203,SNR=6.1	36.76	16	P	P	08 22 52.1	-0.4
G63A	Kingsbury baz=209	36.76	21	P	P	08 22 52.4	-0.2
F60A	Warwick baz=205	36.77	18	P	P	08 22 51.8	-0.7
D55A	Sainte-Anne-du baz=199,SNR=24	36.82	13	P	P	08 22 51.9	-1.1
MPMC	Manual Prospec baz=124	36.82	317	P	P	08 22 55.5	+2.1
BW06	Boulder Array baz=141	36.84	332	P	P	08 22 53.6	+0.1
PDAR	Pinedale Array comp=Z,1.1nm,0.7s,baz=123,slow=10,SNR=12	36.84	332	P	P	08 22 53.6	+0.1
PDAR				PcP	PcP	08 25 15.8	+1.0
H65A	comp=Z,1.7nm,0.9s,baz=131,slow=4.5,SNR=5.5 Eastbrook baz=212	36.90	23	P	P	08 22 53.9	+0.2
HWUT	Hardware Ranch	36.94	329	P	P	08 22 54.6	+0.3
R11A	Troy Canyon, C baz=129	36.96	321	P	P	08 22 57.0	+2.5
PKME	Peaks-Kenny Pk baz=210,SNR=5.4	37.01	21	P	P	08 22 55.0	+0.4
PKME PKME	Peaks-Kenny Pk	37.01	21	P IAmb	P IAmb	08 22 54.5 08 22 55.8	-0.1
D56A	comp=Z,14nm,0.9s ZEC Mazanza, M baz=200,SNR=5.3	37.01	14	P	P	08 22 53.7	-0.9
G64A	Maxfield baz=210	37.19	22	P	P	08 22 56.1	-0.1
D57A	Chemin Vers le baz=202,SNR=5.2	37.19	15	P	P	08 22 55.8	-0.4
H66A	Whiting baz=213	37.33	23	P	P	08 22 57.6	+0.3
F63A	Nahmakanta, Br baz=210	37.45	21	P	P	08 22 58.4	0.0
VLDQ	Val d'Or comp=Z,17nm,1.2s	37.46	11	IAmb	IAmb	08 22 58.5	
AGMN	Agassiz Nation baz=166,SNR=13	37.49	350	P	P	08 22 57.6	-1.0
AGMN	Agassiz Nation comp=Z,14nm,0.9s	37.49	350	IAmb	IAmb	08 22 58.9	
D58A	Chemin du LacG baz=203,SNR=5.7	37.53	16	P	P	08 22 58.6	-0.4
AHID AHID	Auburn Hatcher	37.57	331	P IAmb	P IAmb	08 22 59.4 08 23 12.0	-0.3
G65A	comp=Z,11nm,1.1s Princeton baz=212	37.58	23	P	P	08 22 59.9	+0.4
G65A	Princeton comp=Z,20nm,1.3s	37.58	23	IAmb	IAmb	08 23 01.4	
VES	Vestal, Richgr baz=122	37.79	315	P	P	08 23 03.9	+2.5
LATQ	La Tuque baz=203	37.82	16	P	P	08 23 01.3	-0.2
LATQ	La Tuque	37.82	16	P	P	08 23 01.0	-0.5
F64A	Sherman baz=211	37.86	21	P	P	08 23 02.1	+0.3
E62A	Clayton Lake baz=208	38.11	20	P	P	08 23 03.6	-0.3
E62A	Clayton Lake comp=Z,17nm,1.3s	38.11	20	IAmb	IAmb	08 23 04.8	
ELK	Elko	38.31	325	P	P	08 23 07.3	+1.4
E63A	Oxbow baz=210	38.31	21	P	P	08 23 05.8	+0.1
IMW	Indian Meadow	38.36	332	P	P	08 23 06.0	-0.4
LSQQ	Lebel-sur-Quev baz=196	38.45	11	P	P	08 23 05.8	-1.0
E64A	Bridgewater baz=211	38.52	21	P	P	08 23 07.4	0.0
NV11	Mina Array Sit	38.62	320	P	P	08 23 10.2	+1.6
D62A	Allapoint, All baz=209,SNR=5.6	38.67	20	P	P	08 23 08.1	-0.5
D62A	Allapoint, All comp=Z,13nm,1.0s	38.67	20	IAmb	IAmb	08 23 09.4	
LAO	LASA Array baz=149	38.71	339	P	P	08 23 09.8	+0.7
NVAR	Mina Array Bea comp=Z,3.1nm,0.8s,baz=129,slow=6.7,SNR=28	38.71	319	P	P	08 23 10.3	+1.0
NVAR				PcP	PcP	08 25 22.0	+1.3
KVN	comp=Z,2.5nm,0.8s,baz=137,slow=3.5,SNR=9.8 Kaiserville	38.95	320	P	P	08 23 12.5	+1.2
D63A	Stockholm baz=210	38.95	21	P	P	08 23 11.2	+0.2
LMN	Caledonia Moun comp=Z,21nm,1.1s	39.21	25	IAmb	IAmb	08 23 14.5	
QLMT	Earthquake Lak	39.30	332	P	P	08 23 15.2	+1.0
ULM	Lac du Bonnet comp=Z,12nm,0.8s,baz=168,slow=7.7,SNR=7.6	39.39	351	P	P	08 23 13.0	-1.6
ULM	Lac du Bonnet comp=Z,16nm,0.9s	39.39	351	IAmb	IAmb	08 23 13.6	
DGMT	Dagmar baz=153	39.61	342	P	P	08 23 16.1	-0.4
DGMT	Dagmar comp=Z,16nm,1.1s	39.61	342	IAmb	IAmb	08 23 27.4	
CHGQ	Chibougamau baz=200,SNR=5.6	39.79	13	P	P	08 23 16.8	-1.1
HLID	Hailey baz=135	39.80	329	P	P	08 23 19.2	+0.8
CMB	Columbia Colle	39.84	317	P	P	08 23 18.5	-0.1
BOZ	Bozeman (W) baz=141	39.98	333	P	P	08 23 20.4	+0.6
VCNR	Virginia City	40.07	320	P	P	08 23 23.3	+2.6
LRM	Limekiln Ridge	40.52	333	P	P	08 23 14.3	-10
EGMT	Eagleton baz=145	41.14	337	P	P	08 23 29.1	-0.2
MSO	Missoula	41.96	332	P	P	08 23 37.4	+1.4
F10A	Beach Ranch, E	42.92	329	P	P	08 23 43.3	-0.6
KMRM KMRM	Mail Ridge	43.19	318	P IAmb	P IAmb	08 23 46.2 08 23 50.0	+0.1
YBH	comp=Z,13nm,0.9s Yreka Blue Hor comp=Z,72nm,21.9s,baz=150,slow=37	43.37	321	LR	LR	08 42 29.3	
KHMM	Horse Mountain	43.55	319	P	P	08 23 51.0	+2.0
I04A	Tendick Farm, baz=126	44.36	323	P	P	08 23 55.3	-0.1
D08A	Wollman Farm,	44.52	329	P	P	08 23 56.6	+0.1
E07A E07A	Sunnyside	44.66	328	P IAmb	P IAmb	08 23 58.1 08 24 01.8	+0.4
C09A	comp=Z,14nm,0.7s Chrisman Ranch	44.70	330	P	P	08 23 57.7	-0.4
B08A	Colville Reser	45.60	330	P	P	08 24 04.7	-0.5
SCHQ	Schefferville comp=Z,5.5nm,0.7s,baz=225,slow=7.1,SNR=9.6	46.16	16	P	P	08 24 06.8	-2.6
SCHQ				LR	LR	08 43 08.6	
SCHQ	comp=Z,220nm,20.9s,baz=160,slow=36 Schefferville	46.16	16	P	P	08 24 07.6	-1.9
SCHQ				IAmb	IAmb	08 24 08.6	
BDFB	comp=Z,15nm,1.2s Brasilia	47.11	124	P	P	08 24 17.3	-0.1
BDFB	comp=Z,5.8nm,0.7s,baz=256,slow=11,SNR=9.1			LR	LR	08 44 36.8	
	comp=Z,305nm,19.7s,baz=295,slow=37						

BDFB	**Brasilia**	**47.11**	**124**	P	**P**	**08 24 17.8**	**+0.3**
CPUP	**Villa Florida**	**47.38**	**143**	P	**P**	**08 24 22.8**	**+3.5**
	comp=Z,2.6nm,0.8s,baz=46,slow=4.1,SNR=3.0						
CPUP	**Villa Florida**	**47.38**	**143**	IAmb	IAmb	08 24 24.2	
	comp=Z,15nm,1.5s						
LLLB	**Lillooet**	**48.35**	**331**	P	**P**	**08 24 26.9**	**+0.3**
LLLB				IAmb	IAmb	08 24 40.0	
	comp=Z,12nm,1.1s						
PLCA	**Paso Flores**	**54.10**	**165**	P	**P**	**08 25 09.4**	**-0.4**
	comp=Z,4.8nm,1.1s,baz=327,slow=11,SNR=4.3						
PLCA	**Paso Flores**	**54.10**	**165**	P	**P**	**08 25 09.2**	**-0.5**
PLCA				IAmb	IAmb	08 25 26.0	
	comp=Z,11nm,1.2s						
YKA	**Yellowknife Ar**	**54.69**	**345**	P	**P**	**08 25 12.1**	**-1.6**
	comp=Z,3.3nm,0.9s,baz=137,slow=7.6,SNR=30						
YKA				PcP	**PcP**	**08 26 15.8**	**-0.2**
	comp=Z,1.5nm,0.9s,baz=144,slow=3.8,SNR=6.0						
YKA				LR	LR	08 51 09.9	
	comp=Z,46nm,19.3s,baz=0.0,slow=39						
DLBC	**Dease Lake**	**56.99**	**335**	P	**P**	**08 25 30.2**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=151,slow=23,SNR=1.9						
DLBC				PcP	**PcP**	**08 26 25.7**	**+0.6**
	comp=Z,2.9nm,0.9s,baz=133,slow=3.6,SNR=3.9						
INK	**Inuvik**	**64.29**	**343**	P	**P**	**08 26 18.8**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=124,slow=13,SNR=4.3						
INK	**Inuvik**	**64.29**	**343**	P	**P**	**08 26 18.4**	**-1.4**
INK				IAmb	IAmb	08 26 20.4	
	comp=Z,8.3nm,1.2s						
ILAR	**Eielson Array**	**67.10**	**336**	P	**P**	**08 26 37.2**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=112,slow=4.1,SNR=7.9						
RND	**Reindeer**	**67.39**	**335**	P	**P**	**08 26 39.8**	**-0.2**
RND				IAmb	IAmb	08 26 42.0	
	comp=Z,8.2nm,1.0s						
SUMG	**Summit**	**67.49**	**14**	P	**P**	**08 26 39.3**	**-1.5**
SUMG				IAmb	IAmb	08 26 41.3	
	comp=Z,7.3nm,1.1s						
COLD	**Coldfoot**	**69.28**	**338**	P	**P**	**08 26 52.7**	**+1.1**
	baz=111						
ESDC	**Sonseca Array**	**77.54**	**52**	P	**P**	**08 27 38.0**	**-2.9**
	comp=Z,0.5nm,0.7s,baz=276,slow=4.3,SNR=4.2						
BILL	**Bilibino**	**85.60**	**339**	P	**P**	**08 28 22.7**	**-0.1**
BILL				IAmb	IAmb	08 28 24.4	
	comp=Z,7.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**86.29**	**77**	LR	LR	09 03 57.4	
	comp=Z,146nm,20.4s,baz=170,slow=34						
NRIK	**Noril'sk**	**99.35**	**2**	LR	LR	09 16 02.8	
	comp=Z,139nm,20.0s,baz=86,slow=37						
SONM	**Songino Array**	**119.80**	**350**	PKP	**PKPdf**	**08 34 34.7**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=90,slow=1.5,SNR=4.7						
KSRS	**Korea Array**	**121.33**	**328**	PKP	**PKPdf**	**08 34 37.5**	**-0.6**
	comp=Z,1.9nm,0.7s,baz=26,slow=1.2,SNR=9.4						
LZH	**Lanzhou**	**131.64**	**348**	*e*PKP	**PKPdf**	**08 34 58.0**	**-0.1**
LZH				pPKP	pPKPdf	08 35 09.5	-2.0
LZH				sPKP		08 35 13.3	
LZH				LR	LR		
	comp=N,100nm,18.1s						
LZH				LR	LR		
	comp=E,110nm,18.0s						
LZH				LR	LR		
	comp=Z,160nm,20.3s						
ASAR	**Alice Springs**	**139.21**	**247**	PKhKP	**PKPdf**	**08 35 11.4**	**-0.9**
	comp=Z,0.5nm,0.7s,baz=105,slow=2.0,SNR=5.1						
WRAB	**Tennant Creek**	**139.31**	**253**	PKPdf	**PKPdf**	**08 35 13.3**	**+0.8**
WRA	**Warramunga Arr**	**139.32**	**253**	PKhKP	**PKPdf**	**08 35 11.8**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=85,slow=1.9,SNR=1.7						
SLVN	**Son La**	**145.71**	**342**		**PKPab**	**08 35 24.7**	**+0.1**
SOEI	**Soe**	**149.14**	**270**	PKPbc	**PKPbc**	**08 35 33.5**	**-0.7**
CHTO	**Chiang Mai**	**149.38**	**349**		**PKPbc**	**08 35 34.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**149.72**	**349**	PKP	**PKPdf**	**08 35 31.0**	**+0.4**
	comp=Z,8.0nm,0.8s,baz=355,slow=3.0,SNR=33						
CMAR				PKPbc	**PKiKP**	**08 35 36.1**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=358,slow=40,SNR=12						
PBKT	**Sadao Pong**	**151.07**	**344**	PKPbc	**PKiKP**	**08 35 39.3**	**+0.3**

*IDC **28** 08:22:44.9±3.0,63.°63S×172.°52E,h0km,mb3.9/3, mb1 4.1/4,mb1mx3.8/27,mbtmp3.9/4,ML3.0/1,MS3.7/6, Ms1 3.7/6,ms1mx3.3/21,Error ellipse: s-maj=126.9km s-min=26.6km az=71.0*

ISC 28 08:22:45.5±3.0,63.°6S×172.°8E±0.°7,h10km,n24, σ0s94/6,mb4.1/3,MS3.8/5,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.38**	**190**	Pn	**Pn**	**08 26 08.2**	**-0.5**
	0.1nm,0.3s,baz=19,slow=16,SNR=10						
VNDA				LR	LR	08 30 23.4	
	comp=Z,176nm,21.9s,baz=20,slow=32						
RPZ	**Rata Peaks**	**19.98**	**356**	LR	LR	08 34 07.1	
	comp=Z,185nm,18.9s,baz=201,slow=34						
QSPA	**South Pole Qui**	**26.46**	**180**	P	**P**	**08 28 23.1**	**+0.7**
	2.1nm,0.9s,baz=7.9,slow=6.8,SNR=5.2						
QSPA				LR	LR	08 37 16.0	
	comp=Z,109nm,19.6s,baz=30,slow=33						
DZM	**Mont Dzumac**	**41.76**	**351**	*e*LR	LR	08 42 17.5	
	comp=Z,80nm,22.4s						
DZM	**Mont Dzumac**	**41.76**	**351**	LR	LR	08 47 49.7	
	comp=Z,114nm,19.2s,baz=214,slow=36						
PMSA	**Palmer Station**	**45.26**	**150**	LR	LR	08 46 22.8	
	comp=Z,94nm,18.9s,baz=223,slow=31						
H01W1	**Cape Leeuwin H**	**45.55**	**280**	T	T	09 20 02.2	
	baz=148,slow=76,SNR=43						
H01W2	**Cape Leeuwin H**	**45.55**	**280**	T	T	09 20 02.6	
	baz=148,slow=76,SNR=36						
H01W3	**Cape Leeuwin H**	**45.56**	**280**	T	T	09 20 03.5	
	baz=148,slow=76,SNR=27						
NWAO	**Narrogin (SRO)**	**45.87**	**285**	LR	LR	08 45 01.4	
	comp=Z,124nm,21.9s,baz=158,slow=29						
TBI	**Tubuai**	**47.36**	**50**	*e*T	T	09 21 55.4	
	6.7nm,0.3s						
ASAR	**Alice Springs**	**47.49**	**309**	P	**P**	**08 31 20.9**	**+0.4**
	1.5nm,0.9s,baz=157,slow=8.8,SNR=7.3						
WRA	**Warramunga Arr**	**50.79**	**311**	P	**P**	**08 31 45.4**	**-0.4**
	10.0nm,1.0s,baz=168,slow=7.1,SNR=4.8						
PPT2	**Papeete2**	**52.68**	**47**	*e*LR	LR	08 47 17.3	
	comp=Z,117nm,24.5s						
RKT	**Rikitea**	**53.03**	**66**	*e*T	T	09 29 00.0	
	5.3nm,0.3s						
H03S2	**Juan Fernandez**	**67.69**	**121**	T	T	09 48 05.3	
	baz=205,slow=74,SNR=13						
H03S1	**Juan Fernandez**	**67.69**	**121**	T	T	09 48 06.7	
	baz=205,slow=74,SNR=11						
H03S3	**Juan Fernandez**	**67.71**	**121**	T	T	09 48 11.8	
	baz=205,slow=74,SNR=12						
H08S2	**Diego Garcia H**	**87.78**	**257**	T	T	10 12 56.9	
	baz=153,slow=76,SNR=90						
H08S1	**Diego Garcia H**	**87.78**	**257**	T	T	10 12 57.2	
	baz=153,slow=76,SNR=28						
H08S3	**Diego Garcia H**	**87.80**	**257**	T	T	10 12 58.4	
	baz=153,slow=76,SNR=85						
H06S1	**SOCORRO T**	**100.65**	**69**	T	T	10 28 42.6	
	SNR=7.1						
NRIK	**Noril'sk**	**145.43**	**321**	PKPbc	**PKPbc**	**08 42 20.9**	**-0.9**
	7.7nm,0.9s,baz=138,slow=2.3,SNR=5.9						
BRTR	**Keskin Array B**	**146.13**	**245**	PKPbc	**PKPab**	**08 42 26.6**	**+0.9**
	0.7nm,0.7s,baz=174,slow=4.3,SNR=4.2						

*IDC **28** 08:25:24.1±1.0,56.°04N×156.°51W,h0km,mb3.9/11, mb1 4.1/14,mb1mx3.7/64,mbtmp3.9/14,ML4.0/3,MS2.4/2, Ms1 2.4/2,ms1mx2.3/40,Error ellipse: s-maj=27.3km s-min=18.2km az=17.0*
*NEIC **28** 08:25:30.7±2.2,56.°01N±0.°06×156.°06W±0.°07,h56km±6km, Error ellipse: s-maj=8.4km s-min=5.4km az=159.0*
*AEIC **28** 08:25:31.8±2.0,55.°95N±0.°03×156.°07W±0.°06,h61km±6km, ML3.6/135,mb3.9/4(NEIC),Error ellipse: s-maj=5.9km s-min=3.4km az=47.0*

ISC 28 08:25:31.5±0.8,56.°09N±0.°06×156.°07W±0.°04,h55km±9km, n155,σ1s38/164,mb4.0/13,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHIR	**Chirikof Islan**	**0.37**	**137**		**Pn**	**08 25 41.5**	**-0.1**
CHIR					**Sn**	**08 25 49.0**	**0.0**
SII	**Sitkinak Islan**	**1.15**	**65**		**Pn**	**08 25 51.9**	**+0.6**
SII					**Sn**	**08 26 07.3**	**+1.3**
PLK3	**Peulik 3**	**1.61**	**356**		**Pn**	**08 25 59.0**	**+1.5**
PLK3					**Sn**	**08 26 20.5**	**+3.4**
PLBL	**Peulik Blue Cr**	**1.67**	**346**		**Pn**	**08 25 60.0**	**+1.7**
PLK2	**Peulik 2**	**1.68**	**355**		**Pn**	**08 26 00.3**	**+1.8**
PLK2					**Sn**	**08 26 23.4**	**+4.5**
VNSG	**Veniaminof 6**	**1.69**	**272**		**Pn**	**08 25 58.6**	**0.0**
VNSG					**Sn**	**08 26 18.9**	**-0.3**
VNHG	**Veniaminof 1**	**1.74**	**276**		**Pn**	**08 25 59.4**	**+0.1**
PLK1	**Peulik 1**	**1.74**	**350**		**Pn**	**08 26 00.7**	**+1.5**
VNNF	**Veniaminof 3**	**1.82**	**277**		**Pn**	**08 26 01.1**	**+0.5**
VNSS	**Veniaminof 8**	**1.90**	**276**		**Pn**	**08 26 02.1**	**+0.5**
VNSS					**Sn**	**08 26 23.9**	**-0.5**
OHAK	**Old Harbor**	**1.91**	**52**		**Pn**	**08 26 02.0**	**+0.5**
VNWF	**Veniaminof 8**	**1.96**	**273**		**Pn**	**08 26 02.3**	**0.0**
VNFG	**Fog Glacier, M**	**1.96**	**277**		**Pn**	**08 26 03.1**	**+0.8**
PLK5	**Peulik 5**	**1.96**	**347**		**Pn**	**08 26 04.1**	**+1.9**
KJL	**Kejulik**	**1.99**	**8**		**Pn**	**08 26 03.9**	**+1.2**
CAHL	**Cahill**	**2.01**	**12**		**Pn**	**08 26 04.4**	**+1.3**
KABU	**Katmai Buttres**	**2.23**	**11**		**Pn**	**08 26 07.6**	**+1.6**
KCG	**Knife Ck. Glac**	**2.28**	**13**		**Pn**	**08 26 08.3**	**+1.6**
CNBA	**Chernabura Isl**	**2.37**	**239**		**Pn**	**08 26 06.4**	**-1.5**
CNBA					**Sn**	**08 26 33.6**	**-2.2**
KAWH	**Katmai**	**2.40**	**16**		**Pn**	**08 26 09.4**	**+1.1**
KAHG	**Katmai Hook Gl**	**2.55**	**18**		**Pn**	**08 26 11.5**	**+1.1**
KDAK	**Kodiak Island**	**2.56**	**47**	Pn	**Pn**	**08 26 10.0**	**-0.3**
	19nm,0.3s,baz=223,slow=4.0,SNR=2544						
KDAK				Sn	**Sn**	**08 26 37.4**	**-2.8**
	21nm,0.3s,baz=186,slow=22,SNR=14						
KDAK				LR	LR	08 27 01.9	
	comp=Z,79nm,20.2s,baz=266,slow=35						
KDAK	**Kodiak Island**	**2.56**	**47**		**Pn**	**08 26 10.6**	**+0.3**
SDPT	**Sand Point**	**2.60**	**255**		**Pn**	**08 26 10.1**	**-0.9**
SDPT					**Sn**	**08 26 39.7**	**-1.6**
KAHC	**Katmai Hardscr**	**2.63**	**12**		**Pn**	**08 26 12.5**	**+1.0**
PS4A	**Pavlof South-4**	**3.36**	**260**		**Pn**	**08 26 20.6**	**-0.8**
PS4A					**Sn**	**08 26 57.7**	**-2.2**
HAG	**Hague Volcano**	**3.39**	**259**		**Pn**	**08 26 21.6**	**-0.3**
DOL	**Dolgoi Island**	**3.42**	**256**		**Pn**	**08 26 20.9**	**-1.3**
AUH	**Augustine H**	**3.57**	**22**		**Pn**	**08 26 26.2**	**+1.9**
AUW	**Augustine West**	**3.57**	**22**		**Pn**	**08 26 26.2**	**+2.0**
AUP	**Augustine Pinn**	**3.58**	**22**		**Pn**	**08 26 26.0**	**+1.6**
AU22	**Augustine Moun**	**3.59**	**23**		**Pn**	**08 26 25.3**	**+0.7**
ILS	**Iliamna Low So**	**4.19**	**21**		**Pn**	**08 26 34.3**	**+1.4**
IVE	**Iliamna Volcan**	**4.26**	**21**		**Pn**	**08 26 35.0**	**+1.2**
ILW	**Iliamna West**	**4.27**	**20**		**Pn**	**08 26 35.4**	**+1.3**
HOM	**Homer**	**4.29**	**32**		**Pn**	**08 26 35.3**	**+1.2**
CNPM	**China Poot**	**4.31**	**35**		**Pn**	**08 26 35.0**	**+0.6**
FALS	**False Pass**	**4.36**	**257**		**Pn**	**08 26 34.3**	**-0.8**
BRLK	**Bradley Lake**	**4.60**	**35**		**Pn**	**08 26 38.5**	**0.0**
BRSE	**Bradley Lake S**	**4.63**	**36**		**Pn**	**08 26 39.0**	**+0.1**
RED	**Redoubt Volcan**	**4.68**	**20**		**Pn**	**08 26 41.1**	**+1.6**
RDSO	**Redoubt South**	**4.71**	**20**		**Pn**	**08 26 41.6**	**+1.5**
RSO	**Redoubt South**	**4.72**	**20**		**Pn**	**08 26 41.6**	**+1.4**
RDWB	**Redoubt West**	**4.73**	**20**		**Pn**	**08 26 41.4**	**+1.1**
SSBA	**Shishaldin**	**4.77**	**257**		**Pn**	**08 26 39.8**	**-1.1**
RDJH	**Redoubt Jeurge**	**4.83**	**20**		**Pn**	**08 26 42.9**	**+1.3**
SVW2	**Sparrevohn**	**5.03**	**3**		**Pn**	**08 26 44.5**	**+0.2**
WESE	**West Dahl East**	**5.13**	**255**		**Pn**	**08 26 44.8**	**-1.0**
WEBT	**Westdahl Beart**	**5.18**	**257**		**Pn**	**08 26 44.6**	**-1.8**
WESP	**Westdahl Peak**	**5.20**	**256**		**Pn**	**08 26 45.7**	**-0.9**
SEW	**Seward**	**5.34**	**38**		**Pn**	**08 26 47.8**	**-0.6**
CAPN	**Captain Cook N**	**5.35**	**27**		**Pn**	**08 26 49.9**	**+1.2**
SLKM	**Skilak Lake**	**5.40**	**32**		**Pn**	**08 26 49.2**	**-0.1**
SPU	**Mount Spurr**	**5.52**	**21**		**Pn**	**08 26 51.8**	**+0.8**
O22K	**Cooper Landing**	**5.53**	**35**		**Pn**	**08 26 51.2**	**+0.1**
STLK	**Strandline Lak**	**5.85**	**20**		**Pn**	**08 26 55.7**	**+0.1**
AKSA	**Akutan Strait**	**5.86**	**254**		**Pn**	**08 26 53.7**	**-1.9**
AKUT	**Akutan**	**5.90**	**255**	Pn	**Pn**	**08 26 56.4**	**+0.2**
FIS	**Fire Island**	**5.92**	**29**		**Pn**	**08 26 56.8**	**+0.4**
AKBBA	**Akutan Broad B**	**6.00**	**255**		**Pn**	**08 26 56.1**	**-1.5**
SUA	**Susitna One**	**6.06**	**25**		**Pn**	**08 26 58.6**	**+0.2**
MID	**Middleton Isla**	**6.19**	**53**	Pn	**Pn**	**08 27 00.9**	**+0.8**
PWL	**Port Wells**	**6.27**	**37**		**Pn**	**08 27 00.8**	**-0.5**
SKT	**Skwentna**	**6.35**	**20**		**Pn**	**08 27 02.5**	**+0.1**
UNV	**Unalaska Valle**	**6.42**	**254**		**Pn**	**08 27 01.4**	**-1.8**
MNAT	**Makushin Natee**	**6.50**	**255**		**Pn**	**08 27 02.9**	**-1.4**
MSW	**Makushin Switc**	**6.54**	**255**		**Pn**	**08 27 03.1**	**-1.8**
MREP	**Makushin Rep't**	**6.56**	**254**		**Pn**	**08 27 03.2**	**-2.0**
PMR	**Palmer**	**6.58**	**30**		**Pn**	**08 27 04.8**	**-0.7**
HIN	**Hinchinbrook I**	**6.64**	**46**		**Pn**	**08 27 05.6**	**-0.7**
KNK	**Knik Glacier**	**6.64**	**33**		**Pn**	**08 27 05.8**	**-0.6**
GLI	**Glacier Island**	**6.72**	**41**		**Pn**	**08 27 06.3**	**-1.0**
GHO	**Glory Hole Cre**	**6.79**	**30**		**Pn**	**08 27 08.6**	**+0.1**
TT01	**Tatalina**	**6.84**	**0**		**Pn**	**08 27 10.0**	**+1.0**
FID	**Port Fidalgo**	**6.87**	**43**		**Pn**	**08 27 08.0**	**-1.4**
SML	**Sawmill**	**6.99**	**32**		**Pn**	**08 27 10.8**	**-0.3**
EYAK	**Cordova Ski Ar**	**7.03**	**46**		**Pn**	**08 27 10.9**	**-0.8**
PPLA	**Purkeypile**	**7.11**	**15**	Pn	**Pn**	**08 27 14.3**	**+1.5**
SCM	**Sheep Creek Mo**	**7.32**	**35**		**Pn**	**08 27 15.1**	**-0.5**
RAGM	**Ragged Mountai**	**7.39**	**50**		**Pn**	**08 27 15.7**	**-0.9**
OKTU	**Okmok Mt. Tuli**	**7.44**	**254**		**Pn**	**08 27 14.7**	**-2.7**
WAT1	**Susitna Watana**	**7.76**	**26**		**Pn**	**08 27 21.2**	**-0.4**
WAT6	**Susitna Watana**	**7.77**	**30**		**Pn**	**08 27 21.8**	**-0.2**
WAT2	**Susitna Watana**	**7.87**	**26**		**Pn**	**08 27 22.7**	**-0.5**
TRF	**Thorofare Moun**	**7.93**	**19**		**Pn**	**08 27 23.6**	**-0.6**
GRIN	**Grindle Hills**	**7.94**	**53**		**Pn**	**08 27 23.9**	**-0.1**
KHIT	**Khitrov Hills**	**8.04**	**52**		**Pn**	**08 27 24.8**	**-0.7**
RND	**Reindeer**	**8.19**	**23**		**Pn**	**08 27 26.9**	**-0.6**
WAX	**Waxell Ridge**	**8.22**	**52**		**Pn**	**08 27 27.5**	**-0.5**
CRQM	**Cirque**	**8.24**	**50**		**Pn**	**08 27 28.8**	**+0.5**
DHY	**Denali Highway**	**8.27**	**29**		**Pn**	**08 27 27.8**	**-1.0**
GLB	**Gilahina Butte**	**8.32**	**45**		**Pn**	**08 27 28.6**	**-0.7**
VRDI	**Verde Repeater**	**8.35**	**47**		**Pn**	**08 27 28.9**	**-0.9**
TGL	**Tana Glacier**	**8.37**	**51**		**Pn**	**08 27 30.9**	**+0.9**
BPAW	**Bear Paw Mtn.**	**8.42**	**15**		**Pn**	**08 27 30.0**	**-0.7**
MCK	**McKinley**	**8.46**	**22**		**Pn**	**08 27 29.6**	**-1.5**
ISLE	**Juniper Island**	**8.51**	**52**		**Pn**	**08 27 31.3**	**-0.8**
MESA	**MESA**	**8.52**	**55**		**Pn**	**08 27 32.6**	**+0.5**
BAGL	**Bagley Icefiel**	**8.58**	**53**		**Pn**	**08 27 32.2**	**-0.6**
MCARA	**McCarthy VSAT**	**8.60**	**47**		**Pn**	**08 27 33.7**	**+0.5**
KIAG	**Kiagna River**	**8.65**	**50**		**Pn**	**08 27 33.5**	**-0.5**
YAH	**Yahtse**	**8.68**	**55**		**Pn**	**08 27 33.5**	**-0.9**
BALM	**Baldy**	**8.71**	**50**		**Pn**	**08 27 34.6**	**-0.1**
PTPK	**Patty Peak**	**8.73**	**49**		**Pn**	**08 27 34.6**	**-0.6**
PAX	**Paxson**	**8.74**	**34**		**Pn**	**08 27 35.3**	**+0.1**
GRNC	**Granite Creek**	**8.83**	**52**		**Pn**	**08 27 35.8**	**-0.6**
RKAV	**Rock Avalanche**	**8.84**	**55**		**Pn**	**08 27 36.2**	**-0.3**
CHX	**Chaix Hills**	**8.86**	**57**		**Pn**	**08 27 35.6**	**-1.1**
TABL	**Table Mountain**	**8.99**	**55**		**Pn**	**08 27 38.0**	**-0.5**
BARN	**Barnard Glacie**	**9.02**	**51**		**Pn**	**08 27 38.5**	**-0.4**
CTGM	**Chitina Glacie**	**9.12**	**52**		**Pn**	**08 27 39.2**	**-1.1**
NEA2	**Nenana**	**9.20**	**19**		**Pn**	**08 27 39.8**	**-1.5**
LOGN	**Logan Glacier**	**9.20**	**53**		**Pn**	**08 27 40.7**	**-0.8**
PCA	**Pinnacle**	**9.20**	**58**		**Pn**	**08 27 42.3**	**-0.2**
WRH	**Wood River Hil**	**9.29**	**22**		**Pn**	**08 27 40.0**	**-2.4**
MENT	**Mentasta**	**9.29**	**37**		**Pn**	**08 27 43.1**	**+0.6**
HDA	**Harding Lake**	**9.48**	**25**		**Pn**	**08 27 44.1**	**-1.1**
CCB	**Clear Creek Bu**	**9.50**	**22**		**Pn**	**08 27 43.4**	**-2.0**
RIDG	**Independent Ri**	**9.50**	**32**		**Pn**	**08 27 45.3**	**-0.2**
PNL	**Peninsula**	**9.57**	**61**		**Pn**	**08 27 45.7**	**-0.7**
DOT	**Dot Lake**	**9.67**	**34**		**Pn**	**08 27 48.3**	**+0.5**
TCOL	**CIGO, UAF Yank**	**9.69**	**21**		**Pn**	**08 27 47.0**	**-0.9**
COLA	**College**	**9.69**	**21**		**Pn**	**08 27 46.4**	**-1.5**
MDM	**Murphy Dome**	**9.69**	**20**		**Pn**	**08 27 46.3**	**-1.7**
YUK2	**White River**	**9.71**	**48**		**Pn**	**08 27 48.9**	**+0.6**
IL31		**9.81**	**24**		**Pn**	**08 27 47.8**	**-1.7**
ILAR	**Eielson Array**	**9.81**	**24**	Pn	**Pn**	**08 27 47.6**	**-1.9**
	1.4nm,0.3s,baz=218,slow=13,SNR=35						
ILAR				Sn	**Sn**	**08 29 30.4**	**-7.7**
	0.2nm,0.3s,baz=3.6,slow=22,SNR=1.5						
ILAR				LR	LR	08 30 58.8	
	comp=Z,18nm,21.5s,baz=156,slow=34						
YUK3	**Moose Creek**	**9.86**	**48**		**Pn**	**08 27 51.1**	**+0.5**
EGAK	**Eagle**	**11.37**	**34**		**Pn**	**08 28 10.8**	**-0.2**
DAWY	**Dawson**	**11.51**	**39**	Pn	**Pn**	**08 28 13.4**	**+0.5**
JIS	**Juneau Island**	**11.96**	**70**		**Pn**	**08 28 20.7**	**+1.8**
WHY	**Whitehorse**	**12.00**	**59**		**Pn**	**08 28 21.1**	**+1.4**
EPYK	**Eagle Plains**	**13.81**	**34**	Pn	**Pn**	**08 28 45.1**	**+0.9**
DLBC	**Dease Lake**	**14.25**	**70**	Pn	**Pn**	**08 28 51.0**	**+0.8**
	0.5nm,0.3s,baz=255,slow=8.1,SNR=9.0						
DLBC	**Dease Lake**	**14.25**	**70**		**Pn**	**08 28 52.2**	**+2.0**
INK	**Inuvik**	**16.00**	**31**	Pn	**Pn**	**08 29 11.7**	**-0.8**
	0.3nm,0.3s,baz=217,slow=14,SNR=28						
INK	**Inuvik**	**16.00**	**31**		**Pn**	**08 29 13.5**	**+0.9**
INK				IAmb	IAmb	08 29 20.2	
	comp=Z,6.9nm,0.8s						
YKA	**Yellowknife Ar**	**21.80**	**56**	P	**P**	**08 30 19.4**	**+0.9**
	comp=Z,3.4nm,0.9s,baz=274,slow=9.9,SNR=18						
KRMB	**Red Mountain**	**25.42**	**111**	P	**P**	**08 30 57.0**	**+3.1**
NVAR	**Mina Array Bea**	**30.61**	**109**	P	**P**	**08 31 41.6**	**+1.2**
	comp=Z,0.2nm,0.5s,baz=306,slow=7.7,SNR=3.2						
R11A	**Troy Canyon, C**	**32.13**	**106**	P	**P**	**08 31 56.3**	**+2.7**
TPNV	**Topopah Spring**	**32.80**	**109**	P	**P**	**08 32 02.4**	**+2.9**
TPNV				IAmb	IAmb	08 32 03.3	
	comp=Z,2.7nm,1.1s						
TXAR	**Lajitas Array**	**45.39**	**104**	P	**P**	**08 33 45.7**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=304,slow=6.3,SNR=5.0						
ARCES	**ARCESS Array B**	**54.67**	**359**	P	**P**	**08 34 54.0**	**-0.2**
	comp=Z,2.5nm,1.0s,baz=21,slow=7.0,SNR=7.4						
ZALV	**Zalesovo Beam**	**59.55**	**323**	P	**P**	**08 35 28.1**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=0.0,slow=4.4,SNR=3.9						
NB2	**NORSAR Subarra**	**62.78**	**7**	P	P	08 36 07.9	+17
	comp=Z,0.9nm,0.8s,baz=352,slow=6.9						
FINES	**FINESS Array B**	**62.79**	**359**	P	**P**	**08 35 50.3**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=5.2,slow=6.3,SNR=4.3						
KURBB	**Kurchatov Arra**	**64.43**	**325**	P	**P**	**08 36 01.1**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=29,slow=6.1,SNR=6.5						
BVAR	**Borovoye Array**	**64.73**	**331**	P	**P**	**08 36 03.4**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=34,slow=11,SNR=7.5						
MKAR	**Makanchi Array**	**66.44**	**320**	P	**P**	**08 36 13.8**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=47,slow=6.8,SNR=6.1						
AKTO	**Aktyubinsk**	**70.13**	**338**	P	**P**	**08 36 37.5**	**-0.1**
	comp=Z,2.0nm,0.7s,baz=5.9,slow=4.0,SNR=4.9						
CMAR	**Chiang Mai Arr**	**82.93**	**292**	P	**P**	**08 37 50.1**	**-0.3**
	comp=Z,0.8nm,0.3s,baz=14,slow=4.6,SNR=2.5						
KEST	**Kesra**	**87.70**	**12**	LR	LR	09 19 37.0	
	comp=Z,131nm,20.7s,baz=114,slow=37						
QSPA	**South Pole Qui**	**145.88**	**180**	PKPbc	**PKPbc**	**08 45 03.0**	**-0.2**
	comp=Z,4.5nm,0.7s,baz=141,slow=0.3,SNR=28						
QSPA	**South Pole Qui**	**145.88**	**180**		**PKPbc**	**08 45 03.2**	**0.0**

*IDC **28** 08:37:06.9±0.8,63.°77S×172.°62E,h0km,mb4.1/4, mb1 4.2/5,mb1mx4.0/25,mbtmp4.0/5,ML3.3/1,MS4.0/8, Ms1 4.0/8,ms1mx3.8/17,Error ellipse: s-maj=43.6km s-min=23.7km az=60.0*
*NEIC **28** 08:37:08.6±0.6,63.°67S±0.°04×172.°7E±0.°4,h10km±1km, mb4.6/8,Error ellipse: s-maj=29.6km s-min=5.4km az=98.0*

ISC 28 08:37:08.7±0.7,63.°7S±0.°1×172.°7E±0.°2,h10km,n50, σ0s86/24,mb4.5/7,MS3.9/10,Balleny Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**14.27**	**190**	Pn	**Pn**	**08 40 29.2**	**-1.1**
	0.1nm,0.3s,baz=17,slow=15,SNR=19						
VNDA				LR	LR	08 44 46.2	
	comp=Z,722nm,20.4s,baz=25,slow=32		

CNJI	**Cibinong**	**2.27**	**294**	P		**Pn**	**09 16 26.5**	**+0.1**
NGJI	**Ngawi**	**2.38**	**69**	P		**Pn**	**09 16 30.1**	**+2.2**
NGJI				S		**Sn**	**09 16 58.6**	**+2.3**
UWJI	**Ujung Watu**	**2.48**	**44**	P		**Pn**	**09 16 29.6**	**+0.3**
SKJI	**Sukabumi**	**2.91**	**294**	P		Pn	09 16 52.9	+18
DBJI	**Dramaga**	**2.96**	**304**	P		Pn	09 16 41.5	+5.7
GRJI	**Gresik**	**3.48**	**68**	P		**Pn**	**09 16 44.0**	**+1.3**
XMIS	**Christmas Isla**	**4.18**	**237**			Pn	09 16 49.5	-2.7
XMIS						Sn	09 17 30.9	-9.0
JAGI	**Jajag, Banyuwa**	**4.88**	**93**			**Pn**	**09 17 02.9**	**+1.1**
JAGI				Sn		**Sn**	**09 17 56.9**	**-0.1**
MNAI	**Manna**	**7.32**	**301**	Pn		**Pn**	**09 17 37.6**	**+2.6**
TTSI	**Tana Toraja**	**11.73**	**65**	P		Pn	09 18 53.0	+18
GIRL	**Giralia**	**15.12**	**162**	Pn		**Pn**	**09 19 16.0**	**-3.6**
MRSI	**Marisa**	**15.34**	**56**	P		P	**09 19 28.9**	**+3.6**
FITZ	**Fitzroy Crossi**	**18.74**	**123**	P		**P**	**09 20 04.3**	**+1.5**
	0.2nm,0.3s,baz=143,slow=22,SNR=1.2							
FITZ				S		S	09 23 17.7	-14
	0.1nm,0.3s,baz=145,slow=17,SNR=1.9							
FITZ	**Fitzroy Crossi**	**18.74**	**123**			**Pn**	**09 20 05.2**	**+1.0**
KNRA	**Kununurra**	**20.48**	**113**	P		**P**	**09 20 22.5**	**+0.8**
KNRA				IAmb		IAmb	09 20 23.2	
	comp=Z,11nm,0.8s							
FAKI	**Fak Fak**	**23.51**	**78**	P		**P**	**09 20 52.0**	**-1.2**
WB0	**Warramunga Arr**	**26.93**	**118**	P		**P**	**09 21 25.1**	**+1.0**
WB0				IAmb		IAmb	09 21 28.6	
	comp=Z,7.5nm,1.5s							
WRA	**Warramunga Arr**	**26.95**	**118**	P		**P**	**09 21 24.9**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=248,slow=12,SNR=9.9							
WRAB	**Tennant Creek**	**26.96**	**118**	P		**P**	**09 21 25.4**	**+1.0**
WB2	**Warramunga Arr**	**26.96**	**118**	P		**P**	**09 21 25.2**	**+0.8**
WB2				IAmb		IAmb	09 21 34.8	
	comp=Z,4.7nm,1.1s							
WR0	**Warramunga Arr**	**27.14**	**118**	P		**P**	**09 21 27.1**	**+1.2**
WR0				IAmb		IAmb	09 21 40.9	
	comp=Z,12nm,1.4s							
AS31	**Alice Springs**	**28.19**	**126**	P		**P**	**09 21 36.2**	**+0.9**
ASAR	**Alice Springs**	**28.19**	**126**	P		**P**	**09 21 36.3**	**+1.0**
	comp=Z,0.9nm,0.4s,baz=304,slow=9.1,SNR=27							
ASAR				PcP		**PcP**	**09 24 48.2**	**+1.0**
	comp=Z,0.9nm,0.3s,baz=305,slow=2.2,SNR=10.0							
COEN	**Coen**	**33.77**	**103**	P		**P**	**09 22 25.0**	**+0.5**
COEN				IAmb		IAmb	09 22 26.2	
	comp=Z,14nm,1.4s							
BBOO	**Buckleboo**	**34.87**	**138**	P		**P**	**09 22 34.7**	**+1.0**
H08S2	**Diego Garcia H**	**36.38**	**268**	T		T	10 01 22.0	
	baz=93,slow=75,SNR=2.4							
H08S3	**Diego Garcia H**	**36.39**	**268**	T		T	10 01 22.8	
	baz=93,slow=75,SNR=2.6							
H08S1	**Diego Carcia H**	**36.40**	**268**	T		T	10 01 29.5	
	baz=93,slow=75,SNR=2.1							
STKA	**Stephens Creek**	**38.19**	**133**	P		**P**	**09 23 03.6**	**+1.6**
	comp=Z,2.2nm,0.4s,baz=316,slow=7.3,SNR=14							
STKA				LR		LR	09 40 46.7	
	comp=Z,117nm,18.2s,baz=225,slow=39							
STKA	**Stephens Creek**	**38.19**	**133**	P		**P**	**09 23 04.2**	**+2.2**
STKA				IAmb		IAmb	09 23 18.7	
	comp=Z,4.1nm,1.5s							
SONM	**Songino Array**	**55.87**	**358**	P		**P**	**09 25 17.3**	**-2.1**
	comp=Z,0.6nm,0.4s,baz=173,slow=7.7,SNR=3.6							
USRK	**Ussuriysk Ar.**	**56.10**	**20**	P		**P**	**09 25 18.2**	**-2.8**
	comp=Z,1.2nm,0.8s,baz=183,slow=10.0,SNR=3.3							
ARSB	**Arslanbob**	**59.48**	**329**	P		**P**	**09 25 43.3**	**-1.6**
MK31	**Makanchi Array**	**59.80**	**339**	P		**P**	**09 25 45.4**	**-1.4**
MK31				IAmb		IAmb	09 25 48.0	
	comp=Z,0.8nm,0.6s							
MKAR	**Makanchi Array**	**59.80**	**339**	P		**P**	**09 25 44.8**	**-2.0**
	comp=Z,1.1nm,0.5s,baz=154,slow=7.6,SNR=11							
KURK	**Kurchatov**	**64.41**	**339**	P		**P**	**09 26 16.9**	**-0.6**
KURK				IAmb		IAmb	09 26 17.4	
	comp=Z,2.4nm,1.0s							
ZALV	**Zalesovo Beam**	**65.28**	**344**	P		**P**	**09 26 21.2**	**-1.9**
	comp=Z,1.0nm,0.3s,baz=172,slow=2.9,SNR=2.1							
PETK	**Petropavlovsk-**	**73.61**	**28**	P		**P**	**09 27 13.1**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=208,slow=4.5,SNR=5.1							
MATP	**Matopo**	**78.53**	**251**	P		**P**	**09 27 44.7**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=78,slow=5.8,SNR=3.8							
BOSA	**Boshof**	**80.84**	**242**	P		**P**	**09 27 57.6**	**+2.0**
	comp=Z,0.8nm,0.4s,baz=184,slow=13,SNR=1.6							
QSPA	**South Pole Qui**	**81.77**	**180**	P		**P**	**09 28 01.3**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=143,slow=3.1,SNR=7.3							
QSPA	**South Pole Qui**	**81.77**	**180**	P		**P**	**09 28 01.3**	**+1.6**
BR131	**Keskin Array S**	**84.29**	**311**	P		**P**	**09 28 13.4**	**+0.1**
BR131				IAmb		IAmb	09 28 14.1	
	comp=Z,3.8nm,0.7s							
BRTR	**Keskin Array B**	**84.29**	**311**	P		**P**	**09 28 13.3**	**0.0**
	comp=Z,3.6nm,0.8s,baz=136,slow=7.3,SNR=10							
KARP	**Karpathos**	**88.33**	**306**	P		**P**	**09 28 34.0**	**+0.9**
AKASG	**Malin Array Be**	**90.02**	**321**	P		**P**	**09 28 39.2**	**-1.4**
	comp=Z,2.2nm,0.6s,baz=89,slow=4.5,SNR=5.8							
FINES	**FINESS Array B**	**93.89**	**331**	P		**P**	**09 28 57.1**	**-1.1**
	comp=Z,2.0nm,1.1s,baz=95,slow=2.3,SNR=3.8							
FINES				LR		LR	10 17 20.9	
	comp=Z,24nm,19.2s,baz=123,slow=39							
ARCES	**ARCESS Array B**	**95.45**	**339**	P		**P**	**09 29 03.9**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=91,slow=6.1,SNR=6.4							
PPT2	**Papeete2**	**98.09**	**109**	*e*T		T	09 28 34.0	
	comp=Z,2.0nm,0.3s							
TVO	**Taravao**	**98.35**	**109**	*e*T		T	09 28 27.9	
	comp=Z,1.5nm,0.3s							
YKA	**Yellowknife Ar**	**117.22**	**21**	PKP		**PKiKP**	**09 34 25.2**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=308,slow=1.0,SNR=16							
NVAR	**Mina Array Bea**	**127.80**	**47**	PKP		**PKiKP**	**09 34 47.8**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=289,slow=2.8,SNR=2.4							
TXAR	**Lajitas Array**	**142.66**	**51**	PKhKP		PKPpre	09 35 10.8	
	comp=Z,0.3nm,0.6s,baz=211,slow=2.0,SNR=8.3							

*ROM **28** 09:55:08.8±0.2,41.911N±0.010×15.25E±0.01,h2km±1km, ML2.5,Error ellipse: s-maj=0.9km s-min=0.7km az=148.0*
ISC 28 09:55:08.9±1.2,41.94N±0.03×15.27E±0.03,h8km±10km, n36,σ0s56/50,Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TREM	**Isole Tremiti**	**0.26**	**44**	P	**Pb**	**09 55 15.7**	**-0.1**
TREM				S	**Sb**	**09 55 20.4**	**0.0**
TREM				AML	AML		
	comp=E,1630μm,0.6s						
TREM				AML	AML		
	comp=N,1745μm,0.6s						
MELA	**Melanico ??? S**	**0.26**	**205**	P	**Pg**	**09 55 14.1**	**0.0**
MELA				S	**Sg**	**09 55 17.9**	**+0.4**
CIGN	**Sant'Elia a Pi**	**0.40**	**224**	P	**Pg**	**09 55 16.7**	**+0.1**
SGRT	**San Giovanni R**	**0.40**	**118**	P	**Pg**	**09 55 16.4**	**-0.3**
SGRT				S	**Sb**	**09 55 23.4**	**-1.2**
FRES	**Fresagrandinar**	**0.45**	**274**	P	**Pg**	**09 55 18.2**	**+0.5**
GATE	**Gambatesa**	**0.51**	**213**	P	**Pb**	**09 55 19.6**	**-0.4**
MSAG	**Monte S. Angel**	**0.53**	**115**	P	**Pg**	**09 55 18.9**	**-0.2**
MSAG				AML	AML		
	comp=E,432μm,0.5s						
MSAG				AML	AML		
	comp=E,431μm,0.5s						
MSAG				AML	AML		
	comp=N,864μm,1.2s						
TRIV	**Trivento**	**0.57**	**252**	P	**Pg**	**09 55 20.1**	**+0.2**
MOCO	**Biccari - m.te**	**0.58**	**189**	P	**Pg**	**09 55 19.9**	**-0.2**
BSSO	**Busso**	**0.64**	**232**	P	**Pg**	**09 55 21.1**	**-0.3**
SACR	**S. Croce Del S**	**0.69**	**218**	P	**Pb**	**09 55 22.7**	**-0.6**
SGTA	**Sant Agata di**	**0.81**	**175**	P	**Pg**	**09 55 24.9**	**-0.3**
MIDA	**Miranda**	**0.82**	**249**	P	**Pg**	**09 55 24.6**	**-0.1**
CAPA	**Cerignola FG**	**0.88**	**152**	P	**Pb**	**09 55 26.2**	**-0.3**
CAPA				AML	AML		
	comp=E,220μm,0.8s						
CAPA				AML	AML		
	comp=N,159μm,0.5s						
VITU	**Vitulano (BN)**	**0.90**	**213**	P	**Pb**	**09 55 27.1**	**+0.3**
CAFE	**Carife**	**0.91**	**182**	P	**Pb**	**09 55 26.9**	**-0.1**
VAGA	**Valle Agricola**	**0.94**	**236**	P	**Pg**	**09 55 26.4**	**-0.5**
VAGA				AML	AML		
	comp=E,196μm,0.5s						
VAGA				AML	AML		
	comp=N,204μm,0.4s						
SNAL	**S. Angelo Dei**	**1.01**	**183**	P	**Pg**	**09 55 28.0**	**-0.4**
VULT	**Monte Vulture**	**1.02**	**165**	P	**Pb**	**09 55 28.9**	**+0.1**
VULT				AML	AML		
	comp=E,276μm,0.4s						
VULT				AML	AML		
	comp=N,368μm,0.3s						
MRVN	**Minervino Murg**	**1.12**	**141**	P	**Pg**	**09 55 30.1**	**-0.3**
MRVN				S	**Sb**	**09 55 45.8**	**+0.5**
MRVN				AML	AML		
	comp=E,124μm,0.8s						
MRVN				AML	AML		
	comp=N,121μm,1.2s						
PALZ	**Palazzo San Ge**	**1.12**	**152**	P	**Pb**	**09 55 30.4**	**-0.2**
PALZ				AML	AML		
	comp=N,262μm,1.5s						
PALZ				AML	AML		
	comp=E,302μm,0.7s						
MRLC	**Muro Lucano**	**1.19**	**172**	P	**Pn**	**09 55 32.3**	**+0.3**
ACER	**Acerenza**	**1.26**	**156**	P	**Pb**	**09 55 32.8**	**-0.1**
ACER				S	**Sn**	**09 55 51.2**	**+1.2**
AMUR	**Altamura**	**1.44**	**135**	P	**Pn**	**09 55 34.8**	**-0.5**
AMUR				S	**Sn**	**09 55 55.5**	**+1.1**
AMUR				AML	AML		
	comp=E,159μm,0.2s						
AMUR				AML	AML		
	comp=N,152μm,1.2s						
HVAR	**Hvar**	**1.51**	**35**	*e*Pg	**Pn**	**09 55 36.7**	**+0.3**
HVAR				Sg	**Sn**	**09 55 55.2**	**-1.0**
MIGL	**Miglionico**	**1.60**	**146**	P	**Pg**	**09 55 39.0**	**-0.6**
MIGL				AML	AML		
	comp=E,268μm,0.5s						
MIGL				AML	AML		
	comp=N,310μm,0.6s						
MATE	**Matera**	**1.68**	**140**	P	**Pb**	**09 55 40.2**	**+0.1**
ZIRJ	**Zirje**	**1.73**	**9**	*e*Pg	**Pn**	**09 55 39.8**	**+0.4**
ZIRJ				Sg	**Sn**	**09 56 01.0**	**-0.7**
MAKA	**Makarska**	**1.86**	**43**	*e*Pn	**Pn**	**09 55 41.7**	**+0.6**
MAKA				Sg	**Sn**	**09 56 05.7**	**+0.8**
MORI	**Morici**	**1.95**	**9**	*e*Pn	**Pn**	**09 55 42.1**	**-0.2**
MORI				Sn	**Sn**	**09 56 07.8**	**+0.8**
DUGI	**Dugi Otok**	**2.06**	**356**	*e*Pn	**Pn**	**09 55 43.8**	**0.0**
DUGI				Sn	**Sn**	**09 56 09.6**	**-0.1**
RICI	**Ricice**	**2.07**	**41**	*e*Pn	**Pn**	**09 55 44.8**	**+0.8**
RICI				Sn	**Sn**	**09 56 11.0**	**+0.9**
KIJV	**Kijevo**	**2.23**	**22**	*e*Pn	**Pn**	**09 55 47.0**	**+0.8**
KIJV				Sn	**Sn**	**09 56 14.6**	**+0.7**
NVLJ	**Novalja**	**2.64**	**354**	*e*Pn	**Pn**	**09 55 51.5**	**-0.3**
NVLJ				Sn	**Sn**	**09 56 24.0**	**+0.1**
BRJN	**Brijuni**	**3.17**	**340**	*e*Pn	**Pn**	**09 55 58.4**	**-0.7**
BRJN				Sn	**Sn**	**09 56 36.3**	**-0.7**
GMB	**Gambarie**	**3.79**	**173**	AML	AML		
	comp=E,1100μm,0.5s						
GMB				AML	AML		
	comp=N,1175μm,1.5s						

*IDC **28** 10:14:27.4±2.2,6.01N×126.81E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.4/43,mbtmp3.6/4,Error ellipse: s-maj=190.9km s-min=22.7km az=67.0*
*MAN **28** 10:14:30.5,5.32N×126.37E,h25km,mb4.6,ML3.5,MS3.4*
ISC 28 10:14:35.2±2.1,5.5N±0.1×126.2E±0.1,h48km±22km,n11,
σ2s30/15,mb3.6/4,2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.81**	**324**	*e*P	**Pn**	**10 14 48.9**	**-1.4**
DDMP				*e*S	**Sn**	**10 15 01.2**	**-0.2**
GSPH	**General Santos**	**1.39**	**297**	*e*P	**Pn**	**10 14 56.0**	**-2.3**
MATI	**Mati**	**1.49**	**3**	*e*P	**Pn**	**10 14 56.7**	**-2.9**
MATI				*e*S	**Sn**	**10 15 21.4**	**+3.5**
DMPH	**Davao City--Mi**	**1.76**	**337**	*e*P	**Pn**	**10 15 02.5**	**-0.9**
DMPH				*e*S	Sn	10 15 31.8	+7.2
KCP	**Kidapawan**	**1.90**	**325**	*e*P	**Pn**	**10 15 05.1**	**-0.1**
KCP				*i* S	Sn	10 15 37.2	+9.1
SKMP	**Bagumbayan, Su**	**1.96**	**303**	*e*P	**Pn**	**10 15 05.3**	**-0.7**
SKMP				*e*S	**Sn**	**10 15 31.8**	**+2.5**
BUKP	**Musuan**	**2.67**	**335**	*e*P	**Pn**	**10 15 15.6**	**-0.1**
BUKP				*e*S	**Sn**	**10 15 49.6**	**+2.8**
WRA	**Warramunga Arr**	**26.47**	**163**	P	**P**	**10 20 09.6**	**+1.5**
	1.5nm,0.7s,baz=344,slow=10,SNR=10.0						
ASAR	**Alice Springs**	**29.90**	**166**	P	**P**	**10 20 40.8**	**+2.1**
	0.5nm,0.7s,baz=345,slow=6.7,SNR=5.5						
MKAR	**Makanchi Array**	**55.85**	**325**	P	**P**	**10 24 06.2**	**-1.8**
	0.3nm,0.5s,baz=124,slow=8.9,SNR=3.2						
KURBB	**Kurchatov Arra**	**60.02**	**327**	P	**P**	**10 24 34.7**	**-2.3**
	0.5nm,0.8s,baz=126,slow=6.2,SNR=5.7						

*IDC **28** 10:18:36.5±0.7,8.76S×125.66E,h0km,mb4.2/11, mb1 4.3/12,mb1mx4.1/30,mbtmp4.2/12,ML5.2/4,MS3.4/7, Ms1 3.5/7,ms1mx3.1/22,Error ellipse: s-maj=26.0km s-min=13.0km az=87.0*
*NEIC **28** 10:18:44.6±2.3,9.13S±0.07×125.45E±0.06,h85km±9km, mb4.3/20,Error ellipse: s-maj=10.9km s-min=8.5km az=196.0*
*DJA **28** 10:18:45.5±0.4,9°S±2"×12°5E±", h37km±6km,M4.7/13, mB5.3/6,mb4.8/13,MLv4.8/12,Mw(mB)4.7/6*
ISC 28 10:18:41.8±0.4,9.05S±0.04×125.56E±0.04,h35km,n88,
σ2s77/99,mb4.4/21,MS3.5/3,1C,Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**1.45**	**241**	P	**Pn**	**10 19 07.2**	**+1.5**
SOEI				S	**Sn**	**10 19 28.4**	**+4.8**
SOEI	**Soe**	**1.45**	**241**		**Pn**	**10 19 08.3**	**+2.7**
SOEI				Sn	**Sn**	**10 19 25.9**	**+2.3**
BATI	**Baumata**	**2.19**	**238**	Pn	**Pn**	**10 19 18.8**	**+3.0**
	664nm,0.3s,baz=98,slow=3.0,SNR=296						
BATI				Sn	**Sn**	**10 19 44.4**	**+2.7**
	614nm,0.3s,baz=269,slow=23,SNR=44						
BATI	**Baumata**	**2.19**	**238**	P	**Pn**	**10 19 17.4**	**+1.6**
BATI				S	**Sn**	**10 19 43.8**	**+2.1**
MMRI	**Maumere**	**3.31**	**277**	P	**Pn**	**10 19 33.1**	**+2.0**
MMRI				S	**Sn**	**10 20 07.5**	**-1.7**
MMRI	**Maumere**	**3.31**	**277**	Pn	**Pn**	**10 19 32.8**	**+1.7**
MMRI				Sn	**Sn**	**10 20 10.3**	**+1.1**
EDFI	**Ende, Flores**	**3.83**	**274**	P	**Pn**	**10 19 40.4**	**+2.0**
EDFI				S	**Sn**	**10 20 20.6**	**-1.8**
BBSI	**Bau Bau**	**4.62**	**320**	P	**Pn**	**10 19 52.7**	**+3.6**
BASI	**Baing, Sumba**	**5.05**	**256**	P	**Pn**	**10 19 56.2**	**+1.2**
WBSI	**Waikabubak, Su**	**6.12**	**264**	P	**Pn**	**10 20 12.2**	**+2.5**
	1.1nm2μm126nm,0.7s						
MTN	**Manton Dam**	**6.64**	**125**	P	**Pn**	**10 20 21.3**	**+4.3**
	baz=6.7,SNR=35						
MTN				S	**Sn**	**10 21 31.2**	**-0.3**
	baz=6.7						
MTN	**Manton Dam**	**6.64**	**125**	Pn	**Pn**	**10 20 21.2**	**+4.2**
MTN				Sn	**Sn**	**10 21 31.9**	**+0.3**
SANI	**Sanana**	**6.97**	**4**	P	Pn	10 20 26.6	+5.2
	0.3nm1μm74nm,0.9s						
KAPI	**Kappang**	**7.02**	**304**	Pn	**Pn**	**10 20 26.2**	**+4.1**
	3.2nm,0.3s,baz=145,slow=8.6,SNR=7.9						
KAPI				LR	LR	10 23 03.8	
	comp=Z,308nm,21.7s,baz=114,slow=38						
BNSI	**Bone**	**7.12**	**310**	P	**Pn**	**10 20 26.6**	**+3.1**
	0.3nm86nm,0.9s						
KNRA	**Kununurra**	**7.29**	**155**	P	**Pn**	**10 20 28.0**	**+2.2**
	baz=7.2,SNR=180						
KNRA	**Kununurra**	**7.29**	**155**	Pn	**Pn**	**10 20 28.4**	**+2.6**
KNRA				Sn	**Sn**	**10 21 47.4**	**0.0**
SPSI	**Sidrap Palu**	**7.66**	**311**	P	**Pn**	**10 20 33.6**	**+2.7**
	0.1nm26nm,0.7s						
KDU	**Kakadu**	**7.69**	**119**	P	**Pn**	**10 20 35.0**	**+3.6**
	baz=7.7,SNR=58						
KDU				S	**Sn**	**10 21 55.9**	**-1.4**
	baz=7.7						
PLAI	**Plampang**	**7.69**	**271**	P	**Pn**	**10 20 32.2**	**+0.8**
	0.5nm98nm,0.5s						
TTSI	**Tana Toraja**	**8.26**	**316**	P	**Pn**	**10 20 42.3**	**+3.2**
	1μm27nm,0.8s						
LUWI	**Luwuk**	**8.43**	**341**	P	Pn	10 20 46.1	+4.7
	99nm,0.9s						
LUWI	**Luwuk**	**8.43**	**341**	Pn	**Pn**	**10 20 46.0**	**+4.5**
FITZ	**Fitzroy Crossi**	**8.99**	**180**	P	**Pn**	**10 20 50.0**	**+0.8**
	baz=8.9,SNR=114						
FITZ				S	**Sn**	**10 22 24.5**	**-4.8**
	baz=8.9						
FITZ	**Fitzroy Crossi**	**8.99**	**180**	Pn	**Pn**	**10 20 50.6**	**+1.4**
	21nm,0.3s,baz=8.8,slow=9.6,SNR=178						
FITZ				Sn	**Sn**	**10 22 25.7**	**-3.6**
	35nm,0.3s,baz=175,slow=3.4,SNR=22						
FITZ				LR	LR	10 24 47.9	
	comp=Z,131nm,20.6s,baz=5.5,slow=40						
FITZ	**Fitzroy Crossi**	**8.99**	**180**	Pn	**Pn**	**10 20 50.0**	**+0.8**
FITZ					**Sn**	**10 22 25.4**	**-3.9**
FAKI	**Fak Fak**	**9.02**	**48**	Pn	Pn	10 20 54.2	+4.7
JAGI	**Jajag, Banyuwa**	**11.29**	**272**	Pn	**Pn**	**10 21 17.0**	**-3.8**
PSA00	**Pilbara Seismi**	**13.61**	**203**	Pn	**Pn**	**10 21 51.8**	**-0.6**
WB0	**Warramunga Arr**	**13.66**	**142**	Pn	**Pn**	**10 21 51.8**	**-1.3**
WRAB	**Tennant Creek**	**13.76**	**143**		**Pn**	**10 21 53.4**	**-1.1**
WRA	**Warramunga Arr**	**13.76**	**143**	Pn	**Pn**	**10 21 53.3**	**-1.1**
	12nm,0.3s,baz=319,slow=13,SNR=120						
WRA				Sn	**Sn**	**10 24 17.8**	**-8.3**
	4.0nm,0.3s,baz=329,slow=22,SNR=8.5						
WB2	**Warramunga Arr**	**13.77**	**143**	Pn	**Pn**	**10 21 53.4**	**-1.2**
WR0	**Warramunga Arr**	**13.89**	**142**	Pn	**Pn**	**10 21 55.1**	**-1.2**
UGM	**Wanagama**	**14.92**	**273**	Pn	**Pn**	**10 22 08.8**	**-1.4**
AS31	**Alice Springs**	**16.58**	**152**		**Pn**	**10 22 31.7**	**0.0**
AS31				IAmb	IAmb	10 22 42.8	
	comp=Z,10.0nm,0.7s						
ASAR	**Alice Springs**	**16.58**	**152**	Pn	**Pn**	**10 22 31.5**	**-0.2**
	comp=Z,4.6nm,0.3s,baz=317,slow=10,SNR=243						
ASAR				Sn	**Sn**	**10 25 25.5**	**-9.4**
	comp=Z,1.5nm,0.3s,baz=323,slow=20,SNR=8.1						
ASAR				LR	LR	10 29 18.9	
	comp=Z,139nm,18.7s,baz=312,slow=38						
GIRL	**Giralia**	**17.34**	**217**	P	**P**	**10 22 42.7**	**+0.5**
	baz=17,SNR=3.1						
CISI	**Cisompet, Garu**	**17.62**	**274**	P	**Pn**	**10 22 43.3**	**-1.5**
KKM	**Kota Kinabalu**	**17.65**	**328**	P	**Pn**	**10 22 44.5**	**-0.7**
KKM				IAmb	IAmb	10 22 49.8	
	comp=Z,30nm,1.1s						
LEM	**Lembang**	**17.91**	**276**	LR	LR	10 29 32.8	
	comp=Z,227nm,21.1s,baz=103,slow=36						
COEN	**Coen**	**17.93**	**107**	P	**P**	**10 22 51.4**	**+2.6**
	baz=18,SNR=6.5						
COEN	**Coen**	**17.93**	**107**	P	**Pn**	**10 22 48.3**	**-0.2**
MEEK	**Meekatharra**	**18.69**	**200**	P	**Pn**	**10 22 59.3**	**+1.6**
	baz=19,SNR=6.9						
MTSU	**Mount Surprise**	**20.33**	**118**	P	Pn	10 23 19.2	+1.9
	baz=20,SNR=46						
FORT	**Forrest**	**21.74**	**174**	P	**P**	**10 23 33.3**	**+3.1**
MORW	**Morawa**	**21.83**	**203**	P	**P**	**10 23 32.2**	**+1.0**
	baz=22,SNR=4.8						
MORW	**Morawa**	**21.83**	**203**	P	**P**	**10 23 32.4**	**+1.2**
MORW				IAmb	IAmb	10 23 46.7	
	comp=Z,13nm,1.0s						
KMBL	**Kambalda**	**22.47**	**188**	P	**P**	**10 23 39.6**	**+1.6**
	baz=22,SNR=5.7						
CTA	**Charters Tower**	**22.81**	**121**	P	**P**	**10 23 45.0**	**+3.2**
	comp=Z,8.0nm,0.9s,baz=292,slow=12,SNR=10						
CTAO	**Charters Tower**	**22.81**	**121**	P	**P**	**10 23 43.6**	**+1.9**
CTAO				IAmb	IAmb	10 23 55.2	
	comp=Z,45nm,1.5s						
BLDU	**Ballidu**	**22.99**	**200**	P	**P**	**10 23 44.3**	**+0.8**
	baz=23,SNR=14						
KLBR	**Kellerberrin**	**23.57**	**197**	P	**P**	**10 23 50.5**	**+1.3**
	baz=24,SNR=4.4						
MUN	**Mundaring**	**24.41**	**200**	P	**P**	**10 23 58.2**	**+1.2**
	baz=24,SNR=6.3						
QLP	**Quilpie**	**24.84**	**137**	P	**P**	**10 24 02.3**	**+1.3**
	baz=25,SNR=5.0						
NWAO	**Narrogin (SRO)**	**24.98**	**197**	P	**P**	**10 24 03.8**	**+1.6**
	baz=25,SNR=4.9						
NWAO	**Narrogin (SRO)**	**24.98**	**197**	P	**P**	**10 24 03.5**	**+1.3**
	comp=Z,13nm,0.7s,baz=29,slow=7.1,SNR=8.2						
NWAO				S	**S**	**10 28 33.6**	**+10**
	comp=Z,9.4nm,0.9s,baz=238,slow=12,SNR=2.2						
NWAO	**Narrogin (SRO)**	**24.98**	**197**	P	**P**	**10 24 03.2**	**+1.1**
STKA	**Stephens Creek**	**27.16**	**149**	P	**P**	**10 24 24.9**	**+3.0**
	comp=Z,1.9nm,0.4s,baz=324,slow=11,SNR=2.8						
STKA				LR	LR	10 37 15.8	
	comp=Z,199nm,19.8s,baz=279,slow=41						
CMAR	**Chiang Mai Arr**	**37.91**	**316**	P	**P**	**10 25 54.9**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=144,slow=7.1,SNR=5.1						
CMAR				LR	LR	10 45 49.2	
	comp=Z,62nm,18.4s,baz=186,slow=43						
KSRS	**Korea Array**	**46.31**	**3**	LR	LR	10 47 02.3	
	comp=Z,28nm,19.9s,baz=202,slow=37						
MJAR	**Matsushiro Arr**	**46.88**	**14**	P	**P**	**10 27 06.7**	**-2.0**
	comp=Z,1.5nm,0.8s,baz=189,slow=9.5,SNR=3.7						
MAT	**Matsushiro**	**46.88**	**14**	P	**P**	**10 27 05.5**	**-3.2**
PALK	**Pallekele**	**47.55**	**288**	P	**P**	**10 27 10.3**	**-4.0**
LZH	**Lanzhou**	**49.34**	**337**	P	**P**	**10 27 27.8**	**-0.1**
LZH				pP	sP	10 27 53.0	+10
LZH				sP	pP	10 28 01.5	+23
LZH				PP	**PP**	**10 29 25.3**	**+3.1**
LZH				pmax	pmax		
	comp=Z,17nm,1.3s						
LZH				pmax	pmax		
	comp=Z,53nm,6.2s						
HHC

BBOJ	**La Paz, Jacaqu**	**4.29**	**283**	P		**Pn**	**10 50 57.7**	**+2.9**
YJA	**Yavi**	**4.42**	**201**	P		**Pn**	**10 50 58.5**	**+1.9**
YJA				S		**Sn**	**10 51 51.3**	**+2.9**
LPAZ	**La Paz**	**4.46**	**292**	Pn		**Pn**	**10 50 58.2**	**+1.1**
	6.1nm,0.3s,baz=115,slow=11,SNR=73							
LPAZ				Pg		**Pb**	**10 51 10.1**	**+2.4**
	20nm,0.3s,baz=111,slow=14,SNR=17							
LPAZ				Sn		**Sn**	**10 51 49.6**	**+0.1**
	18nm,0.3s,baz=246,slow=18,SNR=2.0							
LPAZ				Lg		Lg	10 52 04.8	
	23nm,0.3s,baz=217,slow=22,SNR=4.9							
LPAZ				LR		LR	10 52 45.8	
	comp=Z,293nm,20.8s,baz=120,slow=40							
LPAZ	**La Paz**	**4.46**	**292**	P		**Pn**	**10 50 58.8**	**+1.6**
LPAZ				S		**Sn**	**10 51 49.9**	**+0.5**
LPAZ				AML		AML	10 52 17.2	
	416nm,0.8s							
LPAZ	**La Paz**	**4.46**	**292**	Sn		**Sn**	**10 51 50.2**	**+0.8**
LPAZ	**La Paz**	**4.46**	**292**	Pn		**Pn**	**10 50 58.0**	**+0.8**
LPAZ	**La Paz**	**4.46**	**292**	*eP*		**Pn**	**10 50 58.3**	**+1.1**
LPAZ				*eS*		**Sn**	**10 51 50.5**	**+1.0**
LPAZ	**La Paz**	**4.46**	**292**	*eP*		**Pn**	**10 50 58.3**	**+1.1**
LPAZ				*eS*		**Sn**	**10 51 50.5**	**+1.0**
BBOB	**La Paz, Bander**	**4.52**	**294**	P		**Pn**	**10 50 59.8**	**+1.9**
BBOD	**La Paz, Gloria**	**4.75**	**286**	P		**Pn**	**10 51 03.5**	**+2.3**
BS09	**Huarina**	**4.92**	**291**	P		**Pn**	**10 51 05.3**	**+1.9**
PTLB	**Pontes e Lacer**	**5.18**	**61**	*eS*		**Sn**	**10 52 06.8**	**+0.5**
PTLB	**Pontes e Lacer**	**5.18**	**61**	*eS*		**Sn**	**10 52 06.8**	**+0.5**
GO01	**Chusmiza**	**5.33**	**251**			**Pn**	**10 51 09.8**	**+0.7**
PB08	**IPOC Station P**	**5.45**	**246**	P		**Pn**	**10 51 11.1**	**+0.4**
PB08	**IPOC Station P**	**5.45**	**246**			**Pn**	**10 51 11.2**	**+0.6**
PB11	**IPOC Station P**	**5.78**	**252**	P		**Pn**	**10 51 15.5**	**+0.6**
PB11	**IPOC Station P**	**5.78**	**252**	Pn		**Pn**	**10 51 15.9**	**+1.0**
PB01	**IPOC Station P**	**6.12**	**240**	P		**Pn**	**10 51 19.2**	**-0.4**
PB01	**IPOC Station P**	**6.12**	**240**			**Pn**	**10 51 21.2**	**+1.6**
VILB	**Vilhena**	**6.14**	**35**	*eP*		**Pn**	**10 51 21.4**	**+1.6**
VILB				*eS*		**Sn**	**10 52 30.9**	**+0.8**
VILB	**Vilhena**	**6.14**	**35**	*eP*		**Pn**	**10 51 21.4**	**+1.6**
VILB				*eS*		**Sn**	**10 52 30.9**	**+0.8**
PSGCX	**Pisagua**	**6.16**	**254**	Pn		**Pn**	**10 51 21.6**	**+1.5**
PB12	**IPOC Station P**	**6.20**	**264**	Pn		**Pn**	**10 51 22.6**	**+2.0**
PB09	**IPOC Station P**	**6.32**	**233**			**Pn**	**10 51 24.8**	**+2.4**
LVC	**Limon Verde**	**6.60**	**225**	Pn		**Pn**	**10 51 28.3**	**+1.9**
	2.8nm,0.3s,baz=10,slow=7.1,SNR=13							
LVC	**Limon Verde**	**6.60**	**225**	*eP*		**Pn**	**10 51 26.3**	**0.0**
LVC	**Limon Verde**	**6.60**	**225**	*eP*		**Pn**	**10 51 26.3**	**0.0**
PB07	**IPOC Station P**	**6.78**	**236**	Pn		**Pn**	**10 51 30.1**	**+1.4**
PB06	**IPOC Station P**	**7.12**	**228**	P		**Pn**	**10 51 31.4**	**-2.0**
PB06	**IPOC Station P**	**7.12**	**228**	Pn		**Pn**	**10 51 34.6**	**+1.2**
PB15	**IPOC Station P**	**7.38**	**225**			**Pn**	**10 51 37.8**	**+0.8**
AQDB	**Aquidauana**	**8.06**	**109**	P		**Pn**	**10 51 47.4**	**+1.3**
AQDB	**Aquidauana**	**8.06**	**109**	*eP*		**Pn**	**10 51 47.4**	**+1.3**
AQDB				*eS*		**Sn**	**10 53 18.1**	**+0.7**
AQDB	**Aquidauana**	**8.06**	**109**	*eP*		**Pn**	**10 51 47.4**	**+1.3**
AQDB				*eS*		**Sn**	**10 53 18.1**	**+0.7**
SALV	**Santo Antonio**	**8.07**	**76**	*eP*		**Pn**	**10 51 47.0**	**+0.7**
SALV	**Santo Antonio**	**8.07**	**76**	*eP*		**Pn**	**10 51 47.0**	**+0.7**
GO02	**Mina Guanaco**	**8.89**	**216**	Pn		**Pn**	**10 51 57.6**	**-0.3**
SAML	**Samuel**	**9.04**	**4**			**Pn**	**10 51 59.6**	**0.0**
AC02	**Maricunga**	**10.04**	**208**	Pn		**Pn**	**10 52 13.6**	**-0.2**
CPUP	**Villa Florida**	**10.23**	**145**	Pn		**Pn**	**10 52 18.4**	**+2.5**
	0.2nm,0.3s,baz=331,slow=16,SNR=1.3							
CPUP				Lg		Lg	10 55 16.0	
	0.4nm,0.3s,baz=243,slow=19,SNR=4.1							
CPUP				LR		LR	10 56 08.4	
	comp=Z,59nm,18.0s,baz=348,slow=37							
C2SB	**Chapadao do Su**	**10.47**	**96**	*eP*		**Pn**	**10 52 19.3**	**+0.1**
C2SB				*eS*		**Sn**	**10 54 17.7**	**+1.2**
C2SB	**Chapadao do Su**	**10.47**	**96**	*eP*		**Pn**	**10 52 19.3**	**+0.1**
C2SB				*eS*		**Sn**	**10 54 17.7**	**+1.2**
CLDB	**Colider**	**10.54**	**49**	P		**Pn**	**10 52 19.1**	**-1.1**
CLDB	**Colider**	**10.54**	**49**	*eP*		**Pn**	**10 52 20.1**	**0.0**
CLDB				*eS*		**Sn**	**10 54 20.2**	**+1.8**
CLDB	**Colider**	**10.54**	**49**	*eP*		**Pn**	**10 52 20.1**	**0.0**
CLDB				*eS*		**Sn**	**10 54 20.2**	**+1.8**
ARAG	**Araguaiana, MT**	**11.74**	**80**	*eP*		**Pn**	**10 52 36.6**	**+0.1**
ARAG	**Araguaiana, MT**	**11.74**	**80**	*eP*		**Pn**	**10 52 36.6**	**+0.1**
ITRB	**Iturama**	**12.87**	**100**	*eP*		**Pn**	**10 52 52.6**	**+0.6**
ITRB				*eS*		**Sn**	**10 55 17.0**	**+1.6**
ITRB	**Iturama**	**12.87**	**100**	*eP*		**Pn**	**10 52 52.6**	**+0.6**
ITRB				*eS*		**Sn**	**10 55 17.0**	**+1.6**
NPGB	**Novo Progresso**	**13.69**	**38**	*eP*		**Pn**	**10 53 02.9**	**-0.4**
NPGB				*eS*		**Sn**	**10 55 36.0**	**+0.6**
NPGB	**Novo Progresso**	**13.69**	**38**	*eP*		**Pn**	**10 53 02.9**	**-0.4**
NPGB				*eS*		**Sn**	**10 55 36.0**	**+0.6**
CFA	**Coronel Fontan**	**14.10**	**196**	Pn		**Pn**	**10 53 06.8**	**-2.1**
	0.2nm,0.3s,baz=171,slow=15,SNR=5.7							
CFA				LR		LR	10 57 54.1	
	comp=Z,87nm,19.7s,baz=32,slow=34							
BDFB	**Brasilia**	**15.33**	**83**	Pn		**Pn**	**10 53 25.0**	**-0.6**
	0.5nm,0.3s,baz=263,slow=17,SNR=5.2							
BDFB				Lg		Lg	10 57 53.9	
	0.4nm,0.3s,baz=162,slow=19,SNR=1.8							
BDFB				LR		LR	10 59 28.9	
	comp=Z,87nm,21.7s,baz=292,slow=38							
BDFB	**Brasilia**	**15.33**	**83**	Pn		**Pn**	**10 53 24.7**	**-1.0**
VAO	**Valinhos**	**16.56**	**110**	*eP*		**P**	**10 53 43.3**	**-0.7**
VAO	**Valinhos**	**16.56**	**110**	*eP*		**P**	**10 53 43.3**	**-0.7**
MT01	**Popeta**	**17.12**	**201**	P		**Pn**	**10 53 48.5**	**+0.1**
PTGA	**Pitinga**	**17.60**	**13**	P		**Pn**	**10 53 53.5**	**-1.0**
	0.4nm,0.3s,baz=217,slow=20,SNR=3.8							
PTGA				S		**Sn**	**10 57 12.9**	**+2.3**
	0.5nm,0.3s,baz=345,slow=20,SNR=2.6							
PTGA				Lg		Lg	10 58 49.9	
	0.2nm,0.3s,baz=292,slow=19,SNR=3.2							
PTGA				LR		LR	11 01 09.7	
	comp=Z,68nm,21.8s,baz=150,slow=39							
PTGA	**Pitinga**	**17.60**	**13**			**Pn**	**10 53 55.2**	**+0.7**
PTGA	**Pitinga**	**17.60**	**13**	*eP*		**Pn**	**10 53 55.0**	**+0.5**
PTGA	**Pitinga**	**17.60**	**13**	*eP*		**Pn**	**10 53 55.0**	**+0.5**
MALB	**Monte Alegre**	**18.61**	**31**	*eP*		**P**	**10 54 06.5**	**-0.2**
MALB	**Monte Alegre**	**18.61**	**31**	*eP*		**P**	**10 54 06.5**	**-0.2**
LC01	**Cunco**	**21.95**	**197**	P		**P**	**10 54 40.8**	**-2.0**
LC01					IAmb	IAmb	10 54 53.1	
	comp=Z,21nm,1.2s							
GCUF	**Volcan Galeras**	**23.30**	**324**	*eP*		**P**	**10 54 58.4**	**+0.7**
BBAC	**Balboa, Cauca**	**23.90**	**325**	*eP*		**P**	**10 55 03.5**	**+0.1**
PRAC	**Prado**	**24.19**	**332**	*eP*		**P**	**10 55 06.9**	**+1.0**
CHIC	**Chingaza**	**24.54**	**336**	*eP*		**P**	**10 55 09.7**	**+0.3**
YOTC	**Yotoco, Valle**	**25.11**	**329**	*eP*		**P**	**10 55 13.2**	**-1.1**
RREF	**El Recreo**	**25.45**	**332**	*eP*		**P**	**10 55 21.0**	**+3.1**
RUSC	**La Rusia**	**25.46**	**338**	*eP*		**P**	**10 55 18.3**	**+0.5**
RUSC	**La Rusia**	**25.46**	**338**	P		**P**	**10 55 17.8**	**0.0**
MDP	**Montagnes des**	**25.49**	**27**	P		**P**	**10 55 18.7**	**+1.1**
	comp=Z,18nm,1.2s,baz=202,slow=11,SNR=2.1							
MDP				LR		LR	11 04 51.5	
	comp=Z,57nm,20.8s,baz=154,slow=36							
SPBC	**San Pablo de B**	**25.60**	**336**	*eP*		**P**	**10 55 19.2**	**+0.5**
GUY2C	**Guyana, Caldas**	**25.75**	**333**	*eP*		**P**	**10 55 21.5**	**+1.0**
PTBC	**PUERTO BERRIO,**	**26.56**	**336**	*eP*		**P**	**10 55 25.6**	**-1.8**
CBOC	**Ciudad Bolivar**	**26.61**	**332**	*eP*		**P**	**10 55 27.2**	**-0.7**
PAMC	**Pamplona, Colo**	**26.68**	**340**	*eP*		**P**	**10 55 28.6**	**-0.3**
ZARC	**Zaragoza, Cauc**	**27.59**	**336**	*eP*		**P**	**10 55 33.2**	**-3.4**
RCBR	**Riachuelo**	**29.84**	**69**	LR		LR	11 08 56.7	
	comp=Z,79nm,18.9s,baz=228,slow=39							
SJCC	**San Jacinto, C**	**29.92**	**337**	*eP*		**P**	**10 55 58.5**	**+1.1**
ZAIG	**Zacatecas**	**55.48**	**315**	P		**P**	**10 59 23.0**	**-1.6**
X48A	**Hartselle**	**56.67**	**337**	P		**P**	**10 59 31.2**	**-1.3**
X48A					IAmb	IAmb	10 59 31.8	
	comp=Z,5.6nm,1.0s							
WVT	**Waverly**	**58.45**	**337**	P		**P**	**10 59 42.8**	**-2.3**
WVT					IAmb	IAmb	10 59 44.2	
	comp=Z,6.0nm,0.8s							
T47A	**Sharon Grove**	**58.96**	**338**	P		**P**	**10 59 46.7**	**-1.8**
T47A					IAmb	IAmb	10 59 51.3	
	comp=Z,6.5nm,0.9s							
MIAR	**Mount Ida**	**59.44**	**332**	P		**P**	**10 59 50.4**	**-1.6**
MIAR					IAmb	IAmb	10 59 51.0	
	comp=Z,3.3nm,0.8s							
LCAR	**Lake Charles**	**59.69**	**334**	P		**P**	**10 59 52.0**	**-1.6**
LCAR					IAmb	IAmb	10 59 52.7	
	comp=Z,4.9nm,0.9s							
PBMO	**Poplar Bluff**	**60.01**	**335**	P		**P**	**10 59 54.1**	**-1.8**
HPIG		**60.37**	**317**	P		**P**	**10 59 57.7**	**-1.1**
HPIG					IAmb	IAmb	10 59 58.2	
	comp=Z,5.5nm,1.3s							
M56A	**Emporium**	**60.68**	**348**	P		**P**	**10 59 59.8**	**-0.6**
M56A					IAmb	IAmb	11 00 00.9	
	comp=Z,6.7nm,0.8s							
TX31	**Lajitas Ar. Si**	**60.78**	**320**	P		**P**	**11 00 00.5**	**-1.0**
TX31					IAmb	IAmb	11 00 05.3	
	comp=Z,4.8nm,1.1s							
TX32	**Lajitas Array**	**60.78**	**320**	P		**P**	**11 00 00.3**	**-1.1**
TXAR	**Lajitas Array**	**60.78**	**320**	P		**P**	**11 00 00.2**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=146,slow=6.8,SNR=11							
ABTX	**Abilene, Hawle**	**60.91**	**326**	P		**P**	**11 00 01.2**	**-1.0**
ABTX					IAmb	IAmb	11 00 02.1	
	comp=Z,3.6nm,0.8s							
BINY	**Binghamton**	**60.96**	**350**	P		**P**	**11 00 02.7**	**+0.4**
MGMO	**Mountain Grove**	**61.08**	**334**	P		**P**	**11 00 01.9**	**-1.3**
MGMO					IAmb	IAmb	11 00 02.6	
	comp=Z,7.8nm,1.2s							
M53A	**WI Miller and**	**61.19**	**346**	P		**P**	**11 00 03.8**	**0.0**
CCM	**Cathedral Cave**	**61.44**	**336**	P		**P**	**11 00 03.5**	**-2.1**
CCM					IAmb	IAmb	11 00 08.1	
	comp=Z,5.4nm,0.9s							
K58A	**Earlville**	**61.45**	**350**	P		**P**	**11 00 06.1**	**+0.5**
X34A	**Smith Ranch, M**	**61.52**	**328**	P		**P**	**11 00 05.3**	**-0.9**
FNO	**Franklin**	**61.83**	**329**	P		**P**	**11 00 07.8**	**-0.5**
S39A	**Bolivar**	**61.98**	**334**	P		**P**	**11 00 07.2**	**-2.0**
S39A					IAmb	IAmb	11 00 08.4	
	comp=Z,4.8nm,0.6s							
N47A	**Urbana**	**62.02**	**341**	P		**P**	**11 00 08.2**	**-1.3**
R40A	**Maddies Statio**	**62.05**	**335**	P		**P**	**11 00 07.5**	**-2.2**
R40A					IAmb	IAmb	11 00 09.4	
	comp=Z,5.9nm,0.7s							
P40A	**Paris**	**63.03**	**336**	P		**P**	**11 00 14.7**	**-1.5**
P40A					IAmb	IAmb	11 00 15.2	
	comp=Z,8.0nm,1.2s							
MNTX	**Cornudas Mount**	**63.50**	**321**	P		**P**	**11 00 18.6**	**-1.0**
MNTX					IAmb	IAmb	11 00 19.3	
	comp=Z,5.5nm,1.5s							
MSTX	**Muleshoe**	**63.64**	**324**	P		**P**	**11 00 19.6**	**-0.9**
MSTX					IAmb	IAmb	11 00 24.0	
	comp=Z,5.8nm,0.9s							
P38A	**Dawn**	**63.70**	**335**	P		**P**	**11 00 19.0**	**-1.7**
P38A					IAmb	IAmb	11 00 19.6	
	comp=Z,8.6nm,0.9s							
AMTX	**Amarillo**	**63.73**	**326**	P		**P**	**11 00 19.6**	**-1.5**
R32A	**Long Quarter,**	**64.99**	**330**	P		**P**	**11 00 28.2**	**-0.9**
ANMO	**Albuquerque**	**66.43**	**323**	P		**P**	**11 00 38.1**	**-0.7**
L34A	**Svendsen Farm,**	**66.84**	**334**	P		**P**	**11 00 39.3**	**-1.7**
KSCO	**Kaye Shedlock'**	**67.36**	**328**	P		**P**	**11 00 43.3**	**-1.2**
KSCO					IAmb	IAmb	11 00 45.4	
	comp=Z,6.2nm,0.9s							
SDCO	**Great Sand Dun**	**67.91**	**325**	P		**P**	**11 00 48.2**	**-0.1**
SDCO					IAmb	IAmb	11 00 49.1	
	comp=Z,2.5nm,0.8s							
MVCO	**Mesa Verde**	**69.20**	**323**	P		**P**	**11 00 54.0**	**-2.2**
MVCO					IAmb	IAmb	11 00 57.0	
	comp=Z,5.5nm,0.9s							
PV01	**Paradox Valley**	**69.89**	**324**	P		**P**	**11 00 59.3**	**-1.1**
U15A	**North Rim**	**70.91**	**320**	P		**P**	**11 01 07.5**	**+0.6**
KNB	**Kanab**	**71.61**	**320**	P		**P**	**11 01 12.1**	**+1.1**
TOA0	**Torodi Ar. Sit**	**71.67**	**69**	P		**P**	**11 01 12.2**	**+0.7**
TOA0					IAmb	IAmb	11 01 29.3	
	comp=Z,5.2nm,1.2s							
TORD	**Torodi Ar. Bea**	**71.67**	**69**	P		**P**	**11 01 11.6**	**+0.1**
	comp=Z,2.2nm,0.7s,baz=254,slow=5.9,SNR=11							
RDMU	**Red Mountain**	**72.14**	**325**	P		**P**	**11 01 14.2**	**+0.1**
QSPA	**South Pole Qui**	**72.15**	**180**	P		**P**	**11 01 13.8**	**+0.1**
QSPA					IAmb	IAmb	11 01 17.1	
	comp=Z,4.5nm,1.2s							
MSU	**Marysvale**	**72.21**	**322**	P		**P**	**11 01 15.3**	**+0.7**
PD31	**Pinedale Array**	**73.67**	**327**	P		**P**	**11 01 23.1**	**0.0**
PDAR	**Pinedale Array**	**73.67**	**327**	P		**P**	**11 01 22.5**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=124,slow=8.5,SNR=10.0							
BW06	**Boulder Array**	**73.67**	**327**	P		**P**	**11 01 23.4**	**+0.2**
TPNV	**Topopah Spring**	**73.69**	**319**	P		**P**	**11 01 24.3**	**+1.0**
BGU	**Big Grassy Mou**	**74.31**	**323**	P		**P**	**11 01 27.2**	**+0.4**
IMW	**Indian Meadow**	**75.18**	**327**	P		**P**	**11 01 30.6**	**-1.4**
IMW					IAmb	IAmb	11 01 33.0	
	comp=Z,3.4nm,0.8s							
FLWY	**Flagg Ranch**	**75.19**	**327**	P		**P**	**11 01 30.0**	**-1.9**
FLWY					IAmb	IAmb	11 01 40.3	
	comp=Z,3.8nm,0.9s							
YNE	**Yellowstone No**	**75.48**	**328**	P		**P**	**11 01 32.7**	**-1.0**
YHH	**Holmes Hill**	**75.76**	**327**	P		**P**	**11 01 34.0**	**-1.3**
NVAR	**Mina Array Bea**	**75.88**	**319**	P		**P**	**11 01 35.7**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=143,slow=5.7,SNR=6.1							
YHL	**Hebgen Lake**	**75.97**	**327**	P		**P**	**11 01 36.4**	**-0.1**
YERR	**Yerington**	**76.80**	**319**	P		**P**	**11 01 41.9**	**+0.7**
HLID	**Hailey**	**76.82**	**325**	P		**P**	**11 01 41.5**	**+0.3**
HLID					IAmb	IAmb	11 01 42.7	
	comp=Z,3.0nm,0.8s							
MCMT	**McKenzie Canyo**	**76.82**	**327**	P		**P**	**11 01 41.4**	**+0.1**
PNTR	**Pine Nut**	**77.09**	**319**	P		**P**	**11 01 44.5**	**+1.6**
PNTR					IAmb	IAmb	11 01 44.7	
	comp=Z,4.0nm,0.9s							
PAHR	**Pah Rah Range**	**77.32**	**319**	P		**P**	**11 01 45.2**	**+1.2**
PAHR					IAmb	IAmb	11 01 45.8	
	comp=Z,4.2nm,1.1s							
MFID	**Camas Ranch**	**77.51**	**324**	P		**P**	**11 01 45.5**	**+0.5**
MFID					IAmb	IAmb	11 01 50.1	
	comp=Z,2.8nm,0.8s							
J08A	**Circle Bar Ran**	**78.97**	**323**	P		**P**	**11 01 51.5**	**-1.7**
BMO	**Blue Mountains**	**79.24**	**324**	P		**P**	**11 01 53.0**	**-1.5**
ESDC	**Sonseca Array**	**80.03**	**43**	P		**P**	**11 01 57.8**	**-1.1**
	comp=Z,0.9nm,0.8s,baz=237,slow=5.7,SNR=7.0							
YKA	**Yellowknife Ar**	**89.60**	**339**	P		**P**	**11 02 46.3**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=117,slow=4.2,SNR=36							
ASAR	**Alice Springs**	**135.09**	**203**	PKP		**PKPdf**	**11 09 09.4**	**-0.1**
	comp=Z,0.5nm,0.7s,baz=151,slow=2.2,SNR=5.5							
ZALV	**Zalesovo Beam**	**136.75**	**27**	PKP		**PKPdf**	**11 09 11.2**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=336,slow=3.2,SNR=6.4							
WRA	**Warramunga Arr**	**138.27**	**206**	PKP		**PKPdf**	**11 09 15.1**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=146,slow=1.3,SNR=1.5							
MKAR	**Makanchi Array**	**140.02**	**37**	PKP		**PKPdf**	**11 09 17.5**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=254,slow=2.1,SNR=4.6							
SONM	**Songino Array**	**149.21**	**13**	PKPbc		**PKPbc**	**11 09 38.3**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=276,slow=1.6,SNR=10							
USRK	**Ussuriysk Ar.**	**150.71**	**336**	PKPbc		**PKPbc**	**11 09 41.7**	**+0.1**
	comp=Z,6.1nm,0.8s,baz=357,slow=1.3,SNR=18							
KSRS	**Korea Array**	**158.06**	**334**	PKPab		**PKPab**	**11 10 19.7**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=27,slow=5.6,SNR=5.9							
LZH	**Lanzhou**	**158.96**	**29**	*ePKP*		**PKPdf**	**11 09 43.5**	**-4.4**
LZH				pPKP	sPKPdf		11 09 56.5	+3.4
LZH				sPKP			11 10 01.3	
LZH				PKP		**PKPab**	**11 10 22.8**	**-1.2**
LZH				LR	LR			
	comp=N,52nm,18.2s							
LZH				LR	LR			
	comp=E,65nm,18.0s							
LZH				LR	LR			
	comp=Z,79nm,20.3s							

IDC ***28*** *10:51:38.7±1.4,5°.63S×149°.99E, h0km, mb4.1/3, mb1 4.3/5, mb1mx3.7/27, mbtmp4.2/5, ML3.0/2, Error ellipse: s-maj=69.7km s-min=18.4km az=139.0*
NEIC ***28*** *10:51:41.2±1.2,5°.5S±0°.2×150°.0E±0°.2, h21km±8km, mb4.1/8, Error ellipse: s-maj=42.5km s-min=7.9km az=130.0*

ISC 28 10:51:43.4±0.9,5°.6S±0°.2×150°.0E±0°.2, h35km, n17,
σ1s04/20, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.40**	**58**	Pn		**Pn**	**10 52 20.0**	**-0.2**
	27nm,0.3s,baz=243,slow=3.8,SNR=21							
KRVT				Sn		**Sn**	**10 52 51.2**	**+2.8**
	45nm,0.3s,baz=313,slow=23,SNR=5.7							
RABL	**Rabaul**	**2.58**	**58**			**Pn**	**10 52 22.2**	**-0.5**
PMG	**Port Moresby**	**4.72**	**216**	Pn		**Pn**	**10 52 52.2**	**+0.1**
	13nm,0.3s,baz=50,slow=7.0,SNR=31							
PMG				Sn		**Sn**	**10 53 46.2**	**+0.5**
	5.0nm,0.3s,baz=88,slow=18,SNR=5.1							
PMG	**Port Moresby**	**4.72**	**216**			**Pn**	**10 52 52.4**	**+0.3**
PMG						**Sn**	**10 53 46.8**	**+1.1**
COEN	**Coen**	**10.69**	**218**	Pn		**Pn**	**10 54 13.0**	**-1.1**
MTN	**Manton Dam**	**19.94**	**247**	P		**Pn**	**10 56 14.2**	**-0.2**
MTN					IAmb	IAmb	10 56 24.6	
	comp=Z,29nm,1.5s							
WB0	**Warramunga Arr**	**20.71**	**226**	P		**P**	**10 56 21.2**	**+0.4**
WB0					IAmb	IAmb	10 56 24.7	
	comp=Z,7.2nm,1.1s							
WR0	**Warramunga Arr**	**20.73**	**225**	P		**P**	**10 56 20.9**	**-0.2**
WRAB	**Tennant Creek**	**20.85**	**225**	P		**P**	**10 56 22.1**	**-0.2**
WRAB					IAmb	IAmb	10 56 25.9	
	comp=Z,5.5nm,0.6s							
WB2	**Warramunga Arr**	**20.85**	**225**	P		**P**	**10 56 22.1**	**-0.3**
WB2					IAmb	IAmb	10 56 23.0	
	comp=Z,5.3nm,0.7s							
WRA	**Warramunga Arr**	**20.86**	**225**	P		**P**	**10 56 22.1**	**-0.4**
	comp=Z,4.1nm,0.5s,baz=52,slow=10,SNR=25							
KNRA	**Kununurra**	**23.11**	**243**	P		**P**	**10 56 48.7**	**+2.2**
AS31	**Alice Springs**	**23.73**	**219**	P		**P**	**10 56 51.9**	**-0.6**
ASAR	**Alice Springs**	**23.73**	**219**	P		**P**	**10 56 51.6**	**-0.9**
	comp=Z,1.1nm,0.3s,baz=53,slow=9.0,SNR=60							
FITZ	**Fitzroy Crossi**	**26.82**	**240**	P		**P**	**10 57 21.3**	**+0.6**
	comp=Z,2.3nm,0.4s,baz=67,slow=10,SNR=18							
FITZ	**Fitzroy Crossi**	**26.82**	**240**	P		**P**	**10 57 21.5**	**+0.8**
TORD	**Torodi Ar. Bea**	**147.84**	**286**	PKPbc		**PKPbc**	**11 11 25.8**	**0.0**
	comp=Z,0.4nm,0.5s,baz=59,slow=3.4,SNR=3.0							

IDC ***28*** *10:58:19.3±1.7, 17°.88S×63°.73W, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.6/24, mbtmp3.8/4, ML3.7/2, MS2.8/1, Ms1 2.9/1, ms1mx2.6/23, Error ellipse: s-maj=49.2km s-min=26.9km az=177.0*
NEIC ***28*** *10:58:23.7±1.4, 17°.99S±0°.10×63°.8W±0°.1, h35km±8km, mb4.2/1, Error ellipse: s-maj=20.8km s-min=12.8km az=112.0*

ISC 28 10:58:20.5±1.1, 17°.98S±0°.10×63°.7W±0°.1, h10km, n14,
σ0s90/15, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LPAZ	**La Paz**	**4.52**	**291**	Pn		**Pn**	**10 59 29.7**	**0.0**
	2.1nm,0.3s,baz=109,slow=11,SNR=18							
LPAZ				Pg		**Pb**	**10 59 41.4**	**+0.9**
	4.4nm,0.3s,baz=100,slow=12,SNR=9.1							
LPAZ				Lg		Lg	11 00 36.8	
	4.5nm,0.3s,baz=233,slow=20,SNR=3.9							
LPAZ				LR		LR	11 01 26.6	
	comp=Z,91nm,18.1s,baz=47,slow=42							
LPAZ	**La Paz**	**4.52**	**291**			**Pn**	**10 59 28.8**	**-0.9**
GO01	**Chusmiza**	**5.43**	**251**			**Pn**	**10 59 41.6**	**-0.5**
PB11	**IPOC Station P**	**5.87**	**252**	Pn		**Pn**	**10 59 47.5**	**-0.4**
PB01	**IPOC Station P**	**6.22**	**240**			**Pn**	**10 59 52.5**	**0.0**
PSGCX	**Pisagua**	**6.26**	**254**	Pn		**Pn**	**10 59 52.3**	**-0.8**
PB09	**IPOC Station P**	**6.42**	**233**			**Pn**	**10 59 56.0**	**+0.6**
LVC	**Limon Verde**	**6.69**	**226**	Pn		**Pn**	**11 00 00.1**	**+0.9**
	1.5nm,0.3s,baz=30,slow=9.2,SNR=7.7							
LVC	**Limon Verde**	**6.69**	**226**			**Pn**	**11 00 00.4**	**+1.2**
SAML	**Samuel**	**9.00**	**4**	Pn		**Pn**	**11 00 31.4**	**+0.7**
AC02	**Maricunga**	**10.12**	**209**	Pn		**Pn**	**11 00 44

baz=155,slow=76,SNR=55
H08S1 Diego Carcia H 89.13 254 T T 13 01 41.7
baz=155,slow=76,SNR=14
H08S3 Diego Garcia H 89.14 254 T T 13 01 43.7
baz=155,slow=76,SNR=79
BDFB Brasilia 92.63 137 LR LR 12 03 55.6
comp=Z,28nm,18.0s,baz=45,slow=36
ILAR Eielson Array 132.24 20 PKP **PKPdf 11 28 09.5 -1.5**
comp=Z,0.4nm,0.7s,baz=242,slow=1.9,SNR=2.1
KBZ Khabaz 146.85 252 PKPbc **PKPab 11 28 40.2 -1.2**
comp=Z,0.5nm,0.3s,baz=63,slow=2.3,SNR=1.9
BRTR Keskin Array B 146.97 238 PKPbc **PKPbc 11 28 40.2 -0.5**
comp=Z,2.2nm,0.8s,baz=197,slow=4.6,SNR=6.9
NRIK Noril'sk 147.72 318 PKPbc **PKPbc 11 28 41.1 -0.6**
comp=Z,1.7nm,0.5s,baz=211,slow=1.9,SNR=2.2
SCHQ Schefferville 147.92 78 PKPbc **PKiKP 11 28 43.0 -1.5**
comp=Z,3.2nm,0.8s,baz=270,slow=5.1,SNR=5.1
SCHQ Schefferville 147.92 78 PKiKP 11 28 44.1 -0.4
ESDC Sonseca Array 154.51 178 PKPbc **PKiKP 11 28 59.4 +0.7**
comp=Z,0.5nm,0.7s,baz=193,slow=1.6,SNR=4.1

*ATH **28** 11:17:55.9,38.74N×26.14E,h30km±1km,ML2.9/4, Error ellipse: s-maj=2.4km s-min=0.8km az=266.0*
*THE **28** 11:17:56.9,38.75N×26.16E,h13km±1km,ML2.8/4, Error ellipse: s-maj=1.7km s-min=0.4km az=270.0*
*ISK **28** 11:17:56.3,38.75N×26.22E,h5km,ML3.1/22*
*DDA **28** 11:17:56.1,38.75N×26.22E,h4km±3km,ML3.0*

ISC 28 11:17:56.2±0.9,38.75N±0.02×26.22E±0.02,h16km±7km, n52,σ0.88/76,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KRBN	**Karaburun**	**0.30**	**121**		**Pg**	**Pg**	**11 18 03.0**	**+0.4**
KRBN					SG	**Sg**	**11 18 07.6**	**+0.6**
CHOS	**Chios island**	**0.39**	**200**	P	**Pg**	**Pg**	**11 18 04.5**	**+0.4**
CHOS				S	**Sg**	**Sg**	**11 18 09.9**	**+0.4**
	2μm,0.3s							
CHOS	**Chios island**	**0.39**	**200**	P	**Pg**	**Pg**	**11 18 04.4**	**+0.4**
CHOS				S	**Sg**	**Sg**	**11 18 10.0**	**+0.5**
CHOS				AML	AML	AML	11 18 12.6	
	comp=E,4758μm,0.3s							
CHOS				AML	AML	AML	11 18 14.7	
	comp=N,2538μm,0.2s							
CHOS	**Chios island**	**0.39**	**200**	PG	**Pg**	**Pg**	**11 18 04.5**	**+0.4**
URLA	**Izmir**	**0.49**	**143**	PG	**Pg**	**Pg**	**11 18 06.2**	**+0.2**
URLA				SG	**Sg**	**Sg**	**11 18 13.1**	**+0.6**
URLA	**Izmir**	**0.49**	**143**	*i* P	**Pg**	**Pg**	**11 18 06.1**	**+0.1**
URLA				*i* S	**Sg**	**Sg**	**11 18 10.5**	**-2.0**
PRK	**Paraskevi**	**0.49**	**4**	P	**Pb**	**Pb**	**11 18 06.9**	**+0.3**
PRK				S	**Sb**	**Sb**	**11 18 14.4**	**+0.8**
	comp=N,2μm,0.4s							
PRK	**Paraskevi**	**0.49**	**4**	P	**Pb**	**Pb**	**11 18 07.0**	**+0.4**
PRK				S	**Sb**	**Sb**	**11 18 14.7**	**+1.1**
PRK				AML	AML	AML	11 18 17.7	
	comp=E,3178μm,0.5s							
PRK				AML	AML	AML	11 18 19.0	
	comp=N,2981μm,0.3s							
SIGR	**SIGRI**	**0.54**	**328**	P	**Pg**	**Pg**	**11 18 07.0**	**+0.1**
SIGR				S	**Sb**	**Sb**	**11 18 14.8**	**-0.1**
	comp=N,1μm,0.5s							
SIGR	**SIGRI**	**0.54**	**328**	P	**Pg**	**Pg**	**11 18 06.9**	**+0.1**
SIGR				S	**Sb**	**Sb**	**11 18 15.1**	**+0.2**
SIGR				AML	AML	AML	11 18 16.1	
	comp=E,2313μm,0.5s							
SIGR				AML	AML	AML	11 18 19.1	
	comp=N,2681μm,0.5s							
SIGR	**SIGRI**	**0.54**	**328**	PG	**Pg**	**Pg**	**11 18 07.1**	**+0.1**
DKL	**Dikili**	**0.62**	**59**	PG	**Pg**	**Pg**	**11 18 08.7**	**+0.3**
DKL				SG	**Sb**	**Sb**	**11 18 18.2**	**+1.0**
AYVA	**Ayvalik**	**0.67**	**33**	*i* P	**Pg**	**Pg**	**11 18 09.0**	**-0.2**
AYVA				*i* S	**Sg**	**Sg**	**11 18 16.8**	**-1.3**
AYVA				IAML			11 18 21.0	
	comp=N,828nm,0.6s							
AYVA				IAML			11 18 21.0	
	comp=E,514nm,0.3s							
ZEDA	**zmir-Bergama**	**0.70**	**72**	*i* P	**Pg**	**Pg**	**11 18 10.0**	**+0.1**
ZEDA				*i* S	**Sg**	**Sg**	**11 18 17.3**	**-1.9**
ZEDA				IAML			11 18 23.0	
	comp=N,498nm,0.4s							
DGB	**zmir**	**0.87**	**143**	*i* P	**Pg**	**Pg**	**11 18 12.4**	**-0.7**
DGB				*i* S	**Sg**	**Sg**	**11 18 23.0**	**-1.5**
DGB				IAML			11 18 27.0	
	comp=N,542nm,0.7s							
DGB				IAML			11 18 28.0	
	comp=E,427nm,0.3s							
BAYC	**CANAKKALE_Bayr**	**1.02**	**14**	*i* P	**Pb**	**Pb**	**11 18 15.3**	**-0.2**
BAYC				*i* S	**Sb**	**Sb**	**11 18 26.8**	**-2.0**
BAYC				IAML			11 18 33.0	
	comp=E,232nm,0.7s							
EZN	**Ezine**	**1.08**	**4**	P	**Pb**	**Pb**	**11 18 16.4**	**-0.1**
EZN	**Ezine**	**1.08**	**4**	PG	**Pn**	**Pn**	**11 18 17.2**	**+0.5**
BOZC	**Bozcaada**	**1.10**	**353**	PN	**Pg**	**Pg**	**11 18 17.6**	**+0.2**
BOZC				SN	**Sn**	**Sn**	**11 18 33.0**	**+1.2**
BOZC	**Bozcaada**	**1.10**	**353**	*i* P	**Pb**	**Pb**	**11 18 17.2**	**+0.4**
BOZC				*i* S	**Sb**	**Sb**	**11 18 30.2**	**-0.7**
SMG	**Samos**	**1.15**	**155**	P	**Pb**	**Pb**	**11 18 17.4**	**-0.3**
SMG				S	**Sn**	**Sn**	**11 18 34.2**	**+1.1**
	comp=E,1μm,0.4s							
SMG	**Samos**	**1.15**	**155**	P	**Pb**	**Pb**	**11 18 18.1**	**+0.4**
SMG				S	**Sg**	**Sg**	**11 18 33.5**	**+0.1**
SMG				AML	AML	AML	11 18 35.3	
	comp=E,2618μm,0.4s							
SMG				AML	AML	AML	11 18 35.3	
	comp=N,1646μm,0.3s							
AKS	**Akhisar**	**1.25**	**84**	PN	**Pg**	**Pg**	**11 18 20.7**	**+0.4**
AKHS	**Akhisar**	**1.25**	**84**	*i* P	**Pg**	**Pg**	**11 18 20.6**	**+0.3**
AKHS				*i* S	**Sb**	**Sb**	**11 18 33.9**	**-1.5**
GCAM	**G?zelcaml?**	**1.32**	**142**	PN	**Pg**	**Pg**	**11 18 21.9**	**+0.3**
GCAM	**G?zelcaml?**	**1.32**	**142**	*i* P	**Pg**	**Pg**	**11 18 21.3**	**-0.3**
GCAM				*i* S	**Sb**	**Sb**	**11 18 34.0**	**-3.2**
GCAM				IAML			11 18 40.0	
	comp=N,434nm,0.7s							
GCAM				IAML			11 18 40.0	
	comp=E,180nm,0.5s							
STEP	**BALIKESIR_Sava**	**1.32**	**61**	*i* P	**Pg**	**Pg**	**11 18 21.6**	**0.0**
STEP				*i* S	**Sb**	**Sb**	**11 18 36.9**	**-0.6**
STEP				IAML			11 18 41.0	
	comp=N,327nm,0.6s							
STEP				IAML			11 18 42.0	
	comp=E,569nm,0.3s							
LIA	**Limnos Island**	**1.40**	**325**	P	**Pn**	**Pn**	**11 18 21.1**	**0.0**
LIA	**Limnos Island**	**1.40**	**325**	P	**Pn**	**Pn**	**11 18 20.9**	**-0.2**
GADA	**Gvkgeada**	**1.46**	**350**	PN	**Pg**	**Pg**	**11 18 24.6**	**+0.3**
BALY	**Balya**	**1.47**	**47**	*i* P	**Pb**	**Pb**	**11 18 23.2**	**0.0**
BALY				*i* S	**Sn**	**Sn**	**11 18 39.8**	**-1.3**
BALY				IAML			11 18 47.0	
	comp=N,310nm,0.4s							
BALY				IAML			11 18 47.0	
	comp=E,226nm,0.5s							
AYDB	**Zeytinkoy-Aydi**	**1.54**	**121**	PN	**Pb**	**Pb**	**11 18 24.7**	**+0.3**
BALB	**Balikesir**	**1.56**	**55**	PN	**Pb**	**Pb**	**11 18 25.4**	**+0.6**
KARY	**Karystos**	**1.58**	**243**	P	**Pn**	**Pn**	**11 18 22.8**	**-0.7**
GELI	**Tayfur-Gelibol**	**1.66**	**7**	PN	**Pb**	**Pb**	**11 18 27.2**	**+0.8**
KYMI	**Kymi, Euboea I**	**1.67**	**267**	P	**Pn**	**Pn**	**11 18 24.4**	**-0.4**
LPK	**Lapseki**	**1.67**	**14**	PN	**Pb**	**Pb**	**11 18 27.4**	**+0.8**
AYDN	**Tasoluk**	**1.70**	**129**	*i* P	**Pn**	**Pn**	**11 18 26.4**	**+1.1**
GONE	**Gonen-Balikesi**	**1.72**	**41**	PN	**Pb**	**Pb**	**11 18 27.5**	**0.0**
APE	**Apeiranthos**	**1.77**	**198**	P	**Pn**	**Pn**	**11 18 25.8**	**-0.4**
SMTH	**Samothraki Isl**	**1.80**	**343**	P	**Pn**	**Pn**	**11 18 26.8**	**+0.2**
MANT	**Manisa**	**1.85**	**97**	*i* P	**Pb**	**Pb**	**11 18 30.4**	**+0.6**
MANT				*i* S	**Sn**	**Sn**	**11 18 52.1**	**+1.4**
BODT	**Bodrum**	**1.89**	**153**	P	**Pn**	**Pn**	**11 18 28.5**	**+0.6**
BODT	**Bodrum**	**1.89**	**153**	PN	**Pb**	**Pb**	**11 18 30.5**	**+0.1**
DION	**Dionisos Attik**	**1.92**	**250**	P	**Pn**	**Pn**	**11 18 27.8**	**-0.5**
KULA	**Kula-Manisa**	**1.93**	**96**	PN	**Pb**	**Pb**	**11 18 31.4**	**+0.4**
ERIK	**Erikli-Kesan**	**1.93**	**7**	PN	**Pb**	**Pb**	**11 18 30.4**	**-0.6**
DEMI	**Demirci**	**1.97**	**81**	*i* P	**Pb**	**Pb**	**11 18 33.1**	**+1.4**
DEMI				*i* S	**Sn**	**Sn**	**11 18 55.3**	**+1.9**
ENEZ	**Enez**	**1.98**	**358**	PN	**Pb**	**Pb**	**11 18 31.4**	**-0.5**
EDC	**Edincik**	**2.04**	**38**	PN	**Pb**	**Pb**	**11 18 31.9**	**-1.0**
RKY	**Sarkoy-Tekirda**	**2.07**	**21**	PN	**Pb**	**Pb**	**11 18 33.6**	**+0.1**
MRMT	**Marmara Adasi**	**2.13**	**29**	PN	**Pb**	**Pb**	**11 18 33.4**	**-1.1**

*IDC **28** 11:21:50.0±1.2,11.22S×166.01E,h0km,mb3.9/7, mb1 4.1/8,mb1mx3.8/29,mbtmp3.9/8,ML3.7/1,MS3.5/3, Ms1 3.6/3,ms1mx2.9/27, Error ellipse: s-maj=48.3km s-min=22.0km az=137.0*
*NEIC **28** 11:21:58.5±1.0,11.52S±0.04×166.0E±0.1,h65km±9km, mb4.3/11, Error ellipse: s-maj=15.5km s-min=6.1km az=98.0*

ISC 28 11:21:55.6±0.8,11.41S±0.08×166.1E±0.1,h37km,n25, σ1.34/24,mb4.2/13,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SANVU	**Saraoutou**	**4.14**	**165**			**Pn**	**11 22 58.1**	**+1.7**
SANVU					Sn	**Sn**	**11 23 45.7**	**+2.0**
HNR	**Honiara**	**6.38**	**287**	LR	LR		11 25 58.9	
	comp=Z,79nm,20.4s,baz=151,slow=40							
HNR	**Honiara**	**6.38**	**287**	Pn		**Pn**	**11 23 29.1**	**+1.9**
DZM	**Mont Dzumac**	**10.60**	**178**	Pn		**Pn**	**11 24 26.0**	**+0.8**
	0.5nm,0.3s,baz=335,slow=19,SNR=18							
DZM					Sn	**Sn**	**11 26 19.7**	**-3.0**
	0.2nm,0.3s,baz=131,slow=20,SNR=3.4							
DZM	**Mont Dzumac**	**10.60**	**178**			**Pn**	**11 24 26.4**	**+1.2**
CTA	**Charters Tower**	**20.96**	**243**	P		**P**	**11 26 36.6**	**+1.0**
	3.0nm,0.7s,baz=65,slow=9.7,SNR=6.9							
WB0	**Warramunga Arr**	**31.62**	**251**	P		**P**	**11 28 14.2**	**-1.2**
WB0				IAmb	IAmb	IAmb	11 28 15.2	
	comp=Z,3.9nm,0.8s							
WRAB	**Tennant Creek**	**31.69**	**251**	P		**P**	**11 28 15.3**	**-0.7**
WRAB				IAmb	IAmb	IAmb	11 28 26.6	
	comp=Z,7.0nm,1.2s							
WB2	**Warramunga Arr**	**31.69**	**251**	P		**P**	**11 28 14.8**	**-1.3**
WRA	**Warramunga Arr**	**31.70**	**251**	P		**P**	**11 28 15.2**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=82,slow=9.1,SNR=3.0							
AS31	**Alice Springs**	**32.96**	**244**	P		**P**	**11 28 25.8**	**-1.4**
ASAR	**Alice Springs**	**32.96**	**244**	P		**P**	**11 28 25.8**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=68,slow=9.9,SNR=28							
FITZ	**Fitzroy Crossi**	**39.64**	**255**	P		**P**	**11 29 24.3**	**+0.1**
FITZ				IAmb	IAmb	IAmb	11 29 29.2	
	comp=Z,7.6nm,1.4s							
CMAR	**Chiang Mai Arr**	**72.60**	**294**	LR		LR	12 07 11.6	
	comp=Z,82nm,18.0s,baz=198,slow=38							
QSPA	**South Pole Qui**	**78.59**	**180**	P		**P**	**11 33 52.1**	**-1.3**
QSPA				IAmb	IAmb	IAmb	11 34 05.4	
	comp=Z,4.6nm,1.1s							
VRDI	**Verde Repeater**	**82.52**	**22**	P		**P**	**11 34 14.9**	**+0.5**
VRDI				IAmb	IAmb	IAmb	11 34 22.8	
	comp=Z,2.1nm,0.8s							
HDA	**Harding Lake**	**83.47**	**19**	P		**P**	**11 34 20.0**	**+0.9**
ILAR	**Eielson Array**	**83.74**	**18**	P		**P**	**11 34 20.2**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=248,slow=4.8,SNR=10							
DOT	**Dot Lake**	**83.89**	**20**	P		**P**	**11 34 22.2**	**+0.9**
DOT				IAmb	IAmb	IAmb	11 34 22.4	
	comp=Z,1.9nm,0.8s							
EGAK	**Eagle**	**85.59**	**20**	P		**P**	**11 34 30.7**	**+0.9**
EGAK				IAmb	IAmb	IAmb	11 34 31.3	
	comp=Z,2.1nm,0.6s							
DAWY	**Dawson**	**85.77**	**21**	P		**P**	**11 34 31.1**	**+0.4**
NVAR	**Mina Array Bea**	**85.98**	**50**	P		**P**	**11 34 32.7**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=244,slow=9.9,SNR=3.7							
PDAR	**Pinedale Array**	**93.53**	**47**	LR		LR	12 10 32.6	
	comp=Z,30nm,19.2s,baz=208,slow=31							
MKAR	**Makanchi Array**	**94.04**	**317**	P		**P**	**11 35 08.9**	**-1.2**
	comp=Z,0.5nm,0.8s,baz=100,slow=6.7,SNR=3.6							
YKA	**Yellowknife Ar**	**95.13**	**27**	P		**P**	**11 35 13.8**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=262,slow=5.3,SNR=4.3							

*NIED **28** 11:25:47.7,36.82N×143.37E,h51km,MW3.4,Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=0.82; Mθθ=0.34; Mϕϕ1.16; Mrθ=0.74; Mθϕ0.37; Mϕr0.73; Fault plane solution: M0 1.50000×10^14 NP1: ϕs159.00000°,δ69.00000°,λ-126.00000°. NP2: ϕs43.00000°,δ40.00000°,λ-33.00000°.*

JMA 28 11:25:47.7±0.2,36.82N×143.36E,h51km,M3.5,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**2.06**	**286**	P		Pn	11 26 20.8	+0.9
JFK				S		Sn	11 26 45.1	+0.7
ONAJ	**Iwakimizuishiy**	**2.07**	**279**	P		Pn	11 26 21.4	+1.3
ONAJ				S		Sn	11 26 45.9	+1.2
JIKH	**Ishinomakibobu**	**2.12**	**315**	P		Pn	11 26 21.6	+1.0
JIKH				S		Sn	11 26 46.0	+0.3
JMST	**Minamisoumatoc**	**2.17**	**295**	P		Pn	11 26 22.5	+1.2
JMST				S		Sn	11 26 48.2	+1.2
JHO	**Hitachi**	**2.25**	**266**	P		Pn	11 26 23.2	+0.7
JFT	**Otama**	**2.51**	**287**	P		Pn	11 26 28.0	+1.9
JFT				S		Sn	11 26 57.2	+1.7
JMK	**Ichinoseki**	**2.72**	**322**	P		Pn	11 26 30.0	+1.1
JMK				S		Sn	11 27 01.9	+1.4
BSO1	**Boso 1**	**2.90**	**223**	*e*S		Sn	11 27 05.8	+1.5
JOM	**Ohasama**	**3.11**	**329**	P		Pn	11 26 35.6	+1.4
JOM				S		Sn	11 27 11.2	+1.0
JYK	**Kaneyama**	**3.17**	**312**	P		Pn	11 26 37.1	+2.1
JYK				*e*S		Sn	11 27 14.0	+2.5
JAG	**Ashikaga**	**3.17**	**264**	P		Pn	11 26 36.4	+1.4
JRY	**Ryogami san**	**3.68**	**259**	P		Pn	11 26 43.2	+1.0
JRY				*e*S		Sn	11 27 23.9	-0.4
JKB	**Kayabe**	**5.37**	**341**	P		Pn	11 27 06.9	+1.7
JCH	**Churui**	**5.79**	**0**	P		Pn	11 27 09.7	-1.2
JCH				*e*S		Sn	11 28 12.2	-3.7

*ATH **28** 11:29:01.0,38.73N×26.18E,h32km,ML3.4/8, Error ellipse: s-maj=1.4km s-min=0.7km az=92.0*
*ISK **28** 11:29:02.1,38.71N×25.93E,h17km,ML3.4/9*
*DDA **28** 11:29:02.1,38.79N×26.30E,h25km±1km,MW3.6*
*THE **28** 11:29:02.3,38.75N×26.17E,h14km,ML3.4/5, Error ellipse: s-maj=1.1km s-min=0.4km az=271.0*

ISC 28 11:29:01.6±0.9,38.75N±0.01×26.20E±0.02,h14km±8km, n111,σ1.07/143,3C-1D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHOS	**Chios island**	**0.38**	**198**	P		**Pg**	**11 29 09.8**	**+0.4**
CHOS				S		**Sg**	**11 29 15.3**	**+0.7**
	9μm,0.2s							
CHOS	**Chios island**	**0.38**	**198**	P		**Pg**	**11 29 09.8**	**+0.4**
CHOS				S		**Sg**	**11 29 15.3**	**+0.7**
CHOS				AML	AML	AML	11 29 17.5	
	comp=N,11844μm,0.2s							
CHOS				AML	AML	AML	11 29 18.0	
	comp=E,25156μm,0.3s							
CHOS	**Chios island**	**0.38**	**198**	PG		**Pg**	**11 29 09.8**	**+0.4**
CHOS				SG		**Sg**	**11 29 15.0**	**+0.4**
PRK	**Paraskevi**	**0.50**	**6**	P		**Pb**	**11 29 12.4**	**+0.3**
PRK				S		**Sb**	**11 29 20.3**	**+1.1**
	comp=E,6μm,0.4s							
PRK	**Paraskevi**	**0.50**	**6**	P		**Pb**	**11 29 12.4**	**+0.3**
PRK				S		**Sb**	**11 29 20.6**	**+1.3**
PRK				AML	AML	AML	11 29 23.0	
	comp=E,12182μm,0.5s							
PRK				AML	AML	AML	11 29 24.3	
	comp=N,10476μm,0.4s							
URLA	**Izmir**	**0.50**	**142**	*i* P		**Pg**	**11 29 11.5**	**+0.1**
URLA				*i* S		**Sg**	**11 29 16.3**	**-1.8**
URLA				IAML			11 29 19.0	
	comp=N,1μm,0.6s							
URLA				IAML			11 29 19.0	
	comp=E,2μm,0.3s							
SIGR	**SIGRI**	**0.53**	**330**	P		**Pg**	**11 29 12.2**	**+0.1**
SIGR				S		**Sb**	**11 29 20.4**	**+0.1**
	comp=E,4μm,0.5s							
SIGR	**SIGRI**	**0.53**	**330**	P		**Pg**	**11 29 12.2**	**+0.1**
SIGR				S		**Sb**	**11 29 20.5**	**+0.3**
SIGR				AML	AML		11 29 21.5	
	comp=E,9281μm,0.5s							
SIGR				AML	AML		11 29 24.4	
	comp=N,8646μm,0.6s							
SIGR	**SIGRI**	**0.53**	**330**	PG		**Pg**	**11 29 12.1**	**0.0**
SIGR				SG		**Sb**	**11 29 20.1**	**-0.2**
PSRA	**Psara**	**0.54**	**248**	P		**Pg**	**11 29 12.6**	**+0.3**
PSRA				S		**Sb**	**11 29 20.2**	**-0.3**
PSRA				AML	AML		11 29 23.0	
	comp=E,14371μm,0.3s							
PSRA				AML	AML		11 29 23.8	
	comp=N,14770μm,0.2s							
AYVA	**Ayvalik**	**0.67**	**34**	*i* P		**Pg**	**11 29 14.6**	**-0.2**
AYVA				*i* S		**Sg**	**11 29 22.5**	**-1.1**
AYVA				IAML			11 29 26.0	
	comp=N,3μm,0.3s							
AYVA				IAML			11 29 26.0	
	comp=E,2μm,0.5s							
ZEDA	**zmir-Bergama**	**0.71**	**72**	*i* P		**Pg**	**11 29 15.5**	**0.0**
ZEDA				*i* S		**Sg**	**11 29 23.1**	**-1.8**
ZEDA				IAML			11 29 28.0	
	comp=N,2μm,0.5s							
ZEDA				IAML			11 29 29.0	
	comp=E,1μm,0.6s							
DGB	**zmir**	**0.88**	**142**	*i* P		**Pb**	**11 29 18.1**	**-0.5**
DGB				*i* S		**Sb**	**11 29 26.8**	**-3.4**
DGB				IAML			11 29 32.0	
	comp=N,2μm,0.4s							
DGB				IAML			11 29 33.0	
	comp=E,2μm,0.2s							
BAYC	**CANAKKALE_Bayr**	**1.02**	**15**	*i* P		**Pb**	**11 29 20.6**	**-0.5**
BAYC				*i* S		**Sb**	**11 29 31.7**	**-2.7**
BAYC				IAML			11 29 38.0	
	comp=N,733nm,0.2s							
BAYC				IAML			11 29 39.0	
	comp=E,749nm,0.5s							
EZN	**Ezine**	**1.08**	**5**	P		**Pb**	**11 29 21.6**	**-0.4**
EZN				S		**Sg**	**11 29 36.7**	**+0.3**
	comp=E,1μm,0.4s							
BOZC	**Bozcaada**	**1.09**	**354**	PN		**Pg**	**11 29 23.1**	**+0.4**
BOZC				SN		**Sn**	**11 29 39.4**	**+2.0**
BOZC	**Bozcaada**	**1.09**	**354**	*i* P		**Pb**	**11 29 22.4**	**+0.1**
BOZC				*i* P		**Pb**	**11 29 22.4**	**+0.1**
BOZC				*i* S		**Sb**	**11 29 35.0**	**-1.4**
BOZC				*i* S		**Sg**	**11 29 35.6**	**-1.5**
BOZC				IAML			11 29 39.0	
	comp=E,612nm,0.9s							
BOZC				IAML			11 29 40.0	
	comp=N,760nm,0.7s							
BOZC				IAML			11 29 40.0	
	comp=N,524nm,0.3s							
BOZC				IAML			11 29 40.0	
	comp=E,430nm,0.3s							
SMG	**Samos**	**1.16**	**154**	P		**Pn**	**11 29 22.8**	**-0.5**
SMG				S		**Sg**	**11 29 39.3**	**+0.4**
	comp=E,5μm,0.4s							
SMG	**Samos**	**1.16**	**154**	P		**Pn**	**11 29 22.4**	**-0.9**
SMG				S		**Sb**	**11 29 38.3**	**+0.1**
SMG				AML	AML	AML	11 29 40.6	
	comp=E,10546μm,0.4s							
SMG				AML	AML	AML	11 29 42.3	
	comp=N,8109μm,0.4s							
EFSA	**Agios Efstrati**	**1.23**	**310**	P		**Pn**	**11 29 23.8**	**-0.6**
AKHS	**Akhisar**	**1.26**	**84**	*i* P		**Pb**	**11 29 25.9**	**+0.7**
AKHS				*i* S		**Sb**	**11 29 40.4**	**-0.9**
AKHS				IAML			11 29 45.0	
	comp=E,449nm,0.5s							
AKS	**Akhisar**	**1.26**	**84**	PN		**Pg**	**11 29 28.7**	**+2.8**
GCAM	**G?zelcaml?**	**1.33**	**142**	PN		**Pg**	**11 29 28.2**	**+1.1**
GCAM	**G?zelcaml?**	**1.33**	**142**	*i* P		**Pb**	**11 29 26.4**	**+0.2**
GCAM				*i* S		**Sn**	**11 29 43.1**	**0.0**
GCAM				IAML			11 29 46.0	
	comp=E,790nm,0.8s							
STEP	**BALIKESIR_Sava**	**1.33**	**62**	*i* P		**Pn**	**11 29 25.8**	**0.0**
STEP				*i* S		**Sn**	**11 29 40.9**	**-2.4**
STEP				IAML			11 29 46.0	
	comp=N,1μm,0.6s							
GOMA	**Golmarmara-Man**	**1.34**	**91**	PN		**Pg**	**11 29 29.4**	**+2.0**
LIA	**Limnos Island**	**1.39**	**326**	P		**Pn**	**11 29 26.3**	**-0.3**
LIA	**Limnos Island**	**1.39**	**326**	P		**Pn**	**11 29 26.2**	**-0.4**
LIA				S		**Sn**	**11 29 44.5**	**-0.2**
LIA				AML	AML	AML	11 29 50.7	
	comp=E,1261μm,0.7s							
LIA				AML	AML	AML	11 29 50.8	
	comp=N,1586μm,0.6s							
GOKA	**anakkale-Gk**	**1.46**	**351**	*i* P		**Pb**	**11 29 28.4**	**0.0**
GOKA				IAML			11 29 51.0	
	comp=N,693nm,0.6s							
GOKA				IAML			11 29 54.0	
	comp=E,771nm,0.4s							
GADA	**Gvkgeada**	**1.46**	**351**	P		**Pn**	**11 29 27.5**	**0.0**
GADA	**Gvkgeada**	**1.46**	**351**	PN		**Pg**	**11 29 29.6**	**0.0**
TNSA	**Tinos**	**1.46**	**214**	P		**Pn**	**11 29 26.8**	**-0.8**
BALY	**Balya**	**1.48**	**48**	*i* P		**Pn**	**11 29 27.8**	**0.0**
BALY				*i* S		**Sn**	**11 29 46.9**	**-0.1**
BALY				IAML			11 29 52.0	
	comp=N,1μm,0.4s							
BALY				IAML			11 29 53.0	
	comp=E,826nm,0.5s							
AYDB	**Zeytinkoy-Aydi**	**1.55**	**121**	PN		**Pg**	**11 29 31.9**	**+0.5**
KARY	**Karystos**	**1.56**	**243**	P		**Pn**	**11 29 28.3**	**-0.7**
KARY	**Karystos**	**1.56**	**243**	P		**Pn**	**11 29 28.2**	**-0.7**
BALB	**Balikesir**	**1.58**	**55**	PN		**Pg**	**11 29 32.2**	**+0.3**
KYMI	**Kymi, Euboea I**	**1.65**	**267**	P		**Pn**	**11 29 30.1**	**0.0**
KYMI	**Kymi, Euboea I**	**1.65**	**267**	P		**Pn**	**11 29 29.7**	**-0.5**
KYMI				AML	AML	AML	11 30 01.8	
	comp=N,506μm,0.5s							
KYMI				AML	AML	AML	11 30 01.8	
	comp=E,530μm,0.6s							
GELI	**Tayfur-Gelibol**	**1.66**	**7**	PN		**Pb**	**11 29 32.4**	**+0.5**
LPK	**Lapseki**	**1.68**	**15**	PN		**Pb**	**11 29 33.2**	**+1.0**
APE	**Apeiranthos**	**1.76**	**198**	P		**Pn**	**11 29 31.2**	**-0.5**
APE	**Apeiranthos**	**1.76**	**198**	P		**Pn**	**11 29 31.1**	**-0.6**
APE				AML	A

MMB	**Musomiste**	**3.41**	**327**	*i* P		**Pn**	**11 29 55.5**	**+1.1**
VTS	**Vitosha**	**4.47**	**331**	⇑P		**Pn**	**11 30 11.3**	**+2.2**
VTS	**Vitosha**	**4.47**	**331**	*i* P		**Pn**	**11 30 12.9**	**+3.8**
SZH	**Strazhica**	**4.51**	**357**	*i* P		**Pn**	**11 30 10.3**	**+0.8**
MPEP	**Malo Peshtene**	**4.96**	**339**	*i* P		**Pn**	**11 30 16.7**	**+1.0**
VRI	**Vrincioaia**	**7.12**	**3**	⇑P		**Pn**	**11 30 49.5**	**+4.2**

OSPL 28 11:34:59.0±3.0, 18°.81N×69°.40W, h110km±28km, ML3.7, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BON1	**Bonao**	**0.95**	**278**	*e*S	Sn	11 35 33.4	-1.9
BANI	**BANI**	**1.00**	**245**	*i* P	Pn	11 35 18.1	-2.2
BANI				IAML		11 35 43.5	
	comp=Z,484nm,0.4s						
PCDR	**Punta Cana, DR**	**1.01**	**107**	*i* P	Pn	11 35 19.2	-1.1
PCDR				*e*S	Sn	11 35 34.7	-1.8
PCDR				IAML		11 35 40.8	
	comp=Z,1µm,0.5s						
SC01	**Santiago de lo**	**1.39**	**296**	*i* P	Pn	11 35 22.8	-1.8
SC01				IAML		11 35 47.3	
	comp=Z,817nm,0.8s						
SDDR	**Presa de Saban**	**1.79**	**276**	*i* P	Pn	11 35 29.7	+0.3
SDDR				IAML		11 35 57.9	
	comp=Z,647nm,0.4s						
AGPR	**Aguadilla, PR**	**2.20**	**99**	*i* P	Pn	11 35 32.8	-1.8
AGPR				*e*S	Sn	11 35 58.9	-2.9
AGPR				IAML		11 36 00.3	
	comp=Z,587nm,0.3s						

SVSA 28 11:35:54.6±0.9, 40°.28N×29°.57W, h5km, MD4.0, ML3.0, 1C, Error ellipse: s-maj=11.1km s-min=5.0km az=79.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**1.55**	**235**	*e*S	Sn	11 36 26.5	-17
SRBC	**Serra Branca**	**1.71**	**136**	*e*P	Pn	11 36 20.1	-5.0
SRBC				*e*S	Sn	11 36 39.6	-7.8
SRBC				A	A	11 36 44.0	
	77nm,0.3s						
PGRA	**Graciosa**	**1.75**	**135**	⇑P	Pn	11 36 20.3	-5.3
PGRA				*e*S	Sn	11 36 40.9	-7.4
PGRA				A	A	11 36 42.5	
	32nm,0.4s						
PCED	**Cedros**	**1.78**	**158**	*e*S	Sn	11 36 40.9	-8.2
PCED				A	A	11 36 45.1	
	32nm,0.4s						
CALA	**Caldeira**	**1.83**	**158**	*e*P	Pn	11 36 22.4	-4.3
CALA				*e*S	Sn	11 36 42.3	-8.0
CALA				A	A	11 36 45.6	
	58nm,0.1s						
ROSA	**Rosais**	**1.87**	**146**	*e*P	Pn	11 36 22.5	-4.7
ROSA				*e*S	Sn	11 36 43.0	-8.2
PICO	**Pico**	**1.99**	**153**	*e*P	Pn	11 36 24.4	-4.5
PICO				*e*S	Sn	11 36 46.7	-7.5
PICO				A	A	11 36 49.3	
	38nm,0.4s						
PCAN	**Candelaria**	**2.00**	**155**	*e*P	Pn	11 36 24.4	-4.7
PCAN				*e*S	Sn	11 36 46.7	-7.8
PCAN				A	A	11 36 49.9	
	61nm,0.1s						
PMAN	**Manadas**	**2.01**	**145**	*e*P	Pn	11 36 24.3	-4.8
ADH	**Angra Heroismo**	**2.43**	**131**	*e*P	Pn	11 36 30.4	-4.5
PSCM	**Serra do Cume**	**2.47**	**129**	*e*P	Pn	11 36 30.8	-4.7

IDC 28 11:41:26.8±14.0, 14°.93S×165°.46E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/32, mbtmp3.8/4, ML3.4/1, Error ellipse: s-maj=239.6km s-min=36.9km az=54.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.16**	**173**	Pn	Pn	11 43 13.0	0.0
	0.6nm,0.3s,baz=80,slow=11,SNR=9.2						
DZM				Sn	Sn	11 44 36.3	+1.1
	0.3nm,0.3s,baz=143,slow=20,SNR=2.3						
STKA	**Stephens Creek**	**27.55**	**228**	P	P	11 47 15.8	+0.3
	2.3nm,0.8s,baz=78,slow=9.3,SNR=3.6						
WRA	**Warramunga Arr**	**30.08**	**256**	P	P	11 47 37.8	-0.4
	0.4nm,0.6s,baz=87,slow=8.9,SNR=1.1						
ASAR	**Alice Springs**	**30.97**	**249**	P	P	11 47 46.1	0.0
	0.6nm,0.3s,baz=80,slow=8.9,SNR=16						

*ATH **28** 11:54:07.2, 38°.73N×26°.18E, h29km±1km, ML2.9/5, Error ellipse: s-maj=2.3km s-min=0.9km az=271.0*
*ISK **28** 11:54:07.4, 38°.76N×26°.23E, h6km, ML3.1/8*
*THE **28** 11:54:08.5, 38°.74N×26°.09E, h16km, ML2.9/4, Error ellipse: s-maj=1.4km s-min=0.4km az=266.0*
*DDA **28** 11:54:10.6, 38°.85N×26°.43E, h7km±3km, ML3.0*

ISC 28 11:54:07.2±1.0, 38°.77N±0°.02×26°.26E±0°.02, h10km±9km, n40, σ0°90/64, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBN	**Karaburun**	**0.29**	**128**	PG	**Pb**	**11 54 14.3**	**-0.2**
KRBN				SG	**Sb**	**11 54 18.3**	**-1.1**
CHOS	**Chios island**	**0.42**	**203**	P	**Pg**	**11 54 15.8**	**+0.4**
CHOS				S	**Sg**	**11 54 21.3**	**+0.4**
	3µm,0.3s						
CHOS	**Chios island**	**0.42**	**203**	P	**Pg**	**11 54 15.8**	**+0.4**
CHOS				S	**Sg**	**11 54 21.2**	**+0.3**
CHOS				AML	AML	11 54 23.5	
	comp=N,4056µm,0.3s						
CHOS				AML	AML	11 54 24.0	
	comp=E,6334µm,0.3s						
CHOS	**Chios island**	**0.42**	**203**	PG	**Pg**	**11 54 15.8**	**+0.4**
PRK	**Paraskevi**	**0.47**	**1**	P	**Pb**	**11 54 18.4**	**+0.7**
PRK				S	**Sb**	**11 54 26.9**	**+2.2**
	comp=E,2µm,0.6s						
PRK	**Paraskevi**	**0.47**	**1**	P	**Pb**	**11 54 18.4**	**+0.7**
PRK				S	**Sb**	**11 54 26.2**	**+1.5**
PRK				AML	AML	11 54 29.1	
	comp=E,3312µm,0.5s						
PRK				AML	AML	11 54 30.3	
	comp=N,2620µm,0.6s						
URLA	**Izmir**	**0.49**	**147**	PG	**Pb**	**11 54 17.4**	**-0.5**
URLA				SG	**Sb**	**11 54 24.5**	**-0.6**
URLA	**Izmir**	**0.49**	**147**	*i* P	**Pb**	**11 54 17.5**	**-0.3**
URLA				*i* S	**Sg**	**11 54 22.3**	**-0.8**
SIGR	**SIGRI**	**0.54**	**324**	P	**Pg**	**11 54 18.3**	**+0.6**
SIGR				S	**Sb**	**11 54 26.1**	**-0.5**
	comp=N,1µm,0.5s						
SIGR	**SIGRI**	**0.54**	**324**	P	**Pg**	**11 54 18.3**	**+0.6**
SIGR				S	**Sb**	**11 54 26.5**	**-0.1**
SIGR				AML	AML	11 54 27.5	
	comp=E,2614µm,0.5s						
SIGR				AML	AML	11 54 30.5	
	comp=N,2532µm,0.5s						
SIGR	**SIGRI**	**0.54**	**324**	PG	**Pg**	**11 54 18.1**	**+0.4**
DKL	**Dikili**	**0.59**	**59**	PG	**Pb**	**11 54 19.7**	**+0.2**
PSRA	**Psara**	**0.59**	**247**	P	**Pg**	**11 54 18.5**	**-0.1**
PSRA				S	**Sg**	**11 54 26.5**	**+0.1**
PSRA				AML	AML	11 54 29.0	
	comp=E,3014µm,0.3s						
PSRA				AML	AML	11 54 29.9	
	comp=N,2656µm,0.4s						
AYVA	**Ayvalik**	**0.63**	**32**	*i* P	**Pb**	**11 54 20.4**	**+0.1**
AYVA				*i* S	**Sg**	**11 54 27.5**	**-0.2**
AYVA				IAML		11 54 32.0	
	comp=N,819nm,0.7s						
ZEDA	**zmir-Bergama**	**0.67**	**73**	*i* P	**Pb**	**11 54 21.4**	**+0.5**
ZEDA				*i* S	**Sg**	**11 54 27.9**	**-0.9**
BAYC	**CANAKKALE_Bayr**	**0.99**	**13**	*i* P	**Pn**	**11 54 27.3**	**+0.1**
BAYC				*i* S	**Sg**	**11 54 37.1**	**-2.2**
EZN	**Ezine**	**1.05**	**3**	P	**Pb**	**11 54 27.8**	**+0.3**
EZN	**Ezine**	**1.05**	**3**	PG	**Pg**	**11 54 27.5**	**+0.1**
BOZC	**Bozcaada**	**1.08**	**352**	PN	**Pn**	**11 54 28.8**	**+0.4**
BOZC				SN	**Sn**	**11 54 44.6**	**+1.1**
BOZC	**Bozcaada**	**1.08**	**352**	*i* P	**Pb**	**11 54 28.3**	**+0.3**
BOZC				*i* S	**Sg**	**11 54 38.8**	**-3.2**
SMG	**Samos**	**1.15**	**157**	P	**Pn**	**11 54 29.5**	**+0.1**
SMG				S	**Sn**	**11 54 45.5**	**+0.2**
	comp=N,1µm,0.4s						
SMG	**Samos**	**1.15**	**157**	P	**Pb**	**11 54 29.4**	**+0.1**
SMG				S	**Sb**	**11 54 44.5**	**+0.2**
SMG				AML	AML	11 54 46.6	
	comp=E,3210µm,0.4s						
SMG				AML	AML	11 54 48.3	
	comp=N,2132µm,0.4s						
AKS	**Akhisar**	**1.22**	**84**	PN	**Pg**	**11 54 31.3**	**+0.7**
STEP	**BALIKESIR_Sava**	**1.29**	**62**	*i* P	**Pg**	**11 54 31.8**	**0.0**
STEP				*i* S	**Sb**	**11 54 48.1**	**0.0**
STEP				IAML		11 54 52.0	
	comp=N,457nm,0.6s						
STEP				IAML		11 54 53.0	
	comp=E,632nm,0.3s						
LIA	**Limnos Island**	**1.40**	**324**	P	**Pn**	**11 54 31.8**	**-1.0**
LIA	**Limnos Island**	**1.40**	**324**	P	**Pb**	**11 54 33.5**	**0.0**
BALY	**Balya**	**1.43**	**47**	*i* P	**Pg**	**11 54 35.5**	**+0.8**
BALY				*i* S	**Sn**	**11 54 50.0**	**-2.2**
BALY				IAML		11 54 58.0	
	comp=N,355nm,0.4s						
BALY				IAML		11 54 58.0	
	comp=E,213nm,0.5s						
GADA	**Gvkgeada**	**1.45**	**349**	P	**Pn**	**11 54 33.2**	**-0.2**
BALB	**Balikesir**	**1.53**	**55**	PN	**Pg**	**11 54 36.2**	**-0.3**
BALB				SN	**Sg**	**11 54 57.5**	**+1.2**
GONE	**Gonen-Balikesi**	**1.69**	**40**	PN	**Pb**	**11 54 38.0**	**-0.3**
KYMI	**Kymi, Euboea I**	**1.70**	**266**	P	**Pn**	**11 54 37.7**	**+0.8**
SMTH	**Samothraki Isl**	**1.79**	**342**	P	**Pn**	**11 54 38.0**	**-0.2**
SMTH	**Samothraki Isl**	**1.79**	**342**	P	**Pn**	**11 54 37.9**	**-0.2**
APE	**Apeiranthos**	**1.79**	**199**	P	**Pn**	**11 54 37.1**	**-1.2**
MANT	**Manisa**	**1.82**	**98**	*i* P	**Pg**	**11 54 42.3**	**+0.2**
MANT				*i* S	**Sb**	**11 55 04.4**	**+0.7**
KULA	**Kula-Manisa**	**1.90**	**97**	P	**Pb**	**11 54 41.8**	**-0.2**
BODT	**Bodrum**	**1.90**	**154**	P	**Pn**	**11 54 40.1**	**+0.4**
BDRM	**Kayabasi**	**1.94**	**151**	*i* P	**Pn**	**11 54 41.2**	**+0.9**
BDRM				*i* P	**Pn**	**11 54 41.2**	**+0.9**
BDRM				*i* S	**Pn**	**11 54 41.8**	**+1.5**
BDRM				*i* S	**Pn**	**11 54 41.9**	**+1.5**
BDRM				IAML		11 55 48.0	
	comp=E,113nm,1.9s						
DION	**Dionisos Attik**	**1.96**	**250**	P	**Pn**	**11 54 39.7**	**-0.7**
ALN	**Alexandroupoli**	**2.13**	**356**	P	**Pn**	**11 54 43.2**	**+0.4**

*ATH **28** 12:06:12.2, 38°.74N×26°.20E, h26km±2km, ML2.6/5, Error ellipse: s-maj=3.3km s-min=1.0km az=277.0*
*ISK **28** 12:06:12.2, 38°.75N×26°.21E, h7km, ML2.8/13*
*THE **28** 12:06:13.1, 38°.75N×26°.10E, h12km, ML2.5/4, Error ellipse: s-maj=1.3km s-min=0.3km az=269.0*
*DDA **28** 12:06:14.9, 38°.66N×26°.40E, h7km±3km, ML2.7*

ISC 28 12:06:12.1±1.0, 38°.74N±0°.02×26°.16E±0°.03, h29km±8km, n37, σ1°41/59, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBN	**Karaburun**	**0.34**	**115**	PG	**Pb**	**12 06 18.9**	**-1.1**
KRBN				SG	**Sb**	**12 06 23.8**	**-1.5**
CHOS	**Chios island**	**0.36**	**194**	P	**Pb**	**12 06 20.5**	**+0.2**
CHOS				S	**Sn**	**12 06 25.8**	**-1.9**
	1µm,0.3s						
CHOS	**Chios island**	**0.36**	**194**	P	**Pb**	**12 06 20.5**	**+0.2**
CHOS				S	**Sn**	**12 06 26.0**	**-1.7**
CHOS				AML	AML	12 06 27.0	
	comp=N,1414µm,0.4s						
CHOS				AML	AML	12 06 28.7	
	comp=E,2908µm,0.4s						
CHOS	**Chios island**	**0.36**	**194**	PG	**Pb**	**12 06 20.6**	**+0.2**
URLA	**Izmir**	**0.51**	**138**	PG	**Pn**	**12 06 22.3**	**-1.2**
URLA				SG	**Sn**	**12 06 28.9**	**-2.3**
URLA	**Izmir**	**0.51**	**138**	*i* P	**Pn**	**12 06 22.2**	**-1.3**
URLA				*i* S	**Sn**	**12 06 27.1**	**-4.1**
PSRA	**Psara**	**0.51**	**247**	P	**Pn**	**12 06 23.5**	**+0.1**
PSRA				S	**Sn**	**12 06 31.8**	**+0.6**
PSRA				AML	AML	12 06 33.3	
	comp=N,1551µm,0.3s						
PSRA				AML	AML	12 06 34.5	
	comp=E,1981µm,0.2s						
PRK	**Paraskevi**	**0.51**	**9**	P	**Pb**	**12 06 23.1**	**+0.4**
PRK				S	**Sb**	**12 06 30.8**	**+0.9**
	comp=E,662nm,0.5s						
PRK	**Paraskevi**	**0.51**	**9**	P	**Pb**	**12 06 23.0**	**+0.4**
PRK				S	**Sb**	**12 06 30.6**	**+0.7**
PRK				AML	AML	12 06 33.7	
	comp=E,1360µm,0.5s						
PRK				AML	AML	12 06 35.0	
	comp=N,1234µm,0.4s						
SIGR	**SIGRI**	**0.53**	**333**	P	**Pn**	**12 06 22.9**	**-0.8**
SIGR				S	**Sn**	**12 06 30.3**	**-1.4**
	comp=N,522nm,0.5s						
SIGR	**SIGRI**	**0.53**	**333**	P	**Pn**	**12 06 22.8**	**-0.9**
SIGR				S	**Sn**	**12 06 31.7**	**-0.1**
SIGR				AML	AML	12 06 32.0	
	comp=E,1041µm,0.6s						
SIGR				AML	AML	12 06 35.1	
	comp=N,1066µm,0.4s						
SIGR	**SIGRI**	**0.53**	**333**	PG	**Pn**	**12 06 22.9**	**-0.8**
SIGR				SG	**Sn**	**12 06 31.5**	**-0.2**
DKL	**Dikili**	**0.67**	**60**	PG	**Pn**	**12 06 24.6**	**+1.0**
DKL				SG	**Sn**	**12 06 34.4**	**-0.7**
AYVA	**Ayvalik**	**0.70**	**36**	*i* P	**Pn**	**12 06 25.2**	**-0.9**
AYVA				*i* S	**Sn**	**12 06 32.3**	**-3.7**
AYVA				IAML		12 06 37.0	
	comp=N,458nm,0.6s						
AYVA				IAML		12 06 37.0	
	comp=E,235nm,0.3s						
ZEDA	**zmir-Bergama**	**0.75**	**72**	*i* P	**Pn**	**12 06 26.9**	**+0.2**
ZEDA				*i* S	**Sn**	**12 06 35.1**	**-2.0**
ZEDA				IAML		12 06 39.0	
	comp=N,260nm,0.6s						
DGB	**zmir**	**0.89**	**140**	*i* P	**Pn**	**12 06 28.6**	**0.0**
DGB				*i* S	**Sn**	**12 06 38.3**	**-2.3**
DGB				IAML		12 06 43.0	
	comp=N,300nm,0.4s						
DGB				IAML		12 06 44.0	
	comp=E,293nm,0.2s						
BAYC	**CANAKKALE_Bayr**	**1.04**	**16**	*i* P	**Pb**	**12 06 31.6**	**0.0**
BAYC				*i* S	**Sn**	**12 06 44.0**	**-0.5**
BAYC				IAML		12 06 49.0	
	comp=E,136nm,0.7s						
BAYC				IAML		12 06 50.0	
	comp=N,105nm,0.2s						
EZN	**Ezine**	**1.09**	**7**	P	**Pb**	**12 06 32.8**	**+0.4**
EZN	**Ezine**	**1.09**	**7**	PN	**Pb**	**12 06 32.8**	**+0.4**
BOZC	**Bozcaada**	**1.10**	**356**	PN	**Pb**	**12 06 33.3**	**+0.7**
SMG	**Samos**	**1.16**	**153**	P	**Pb**	**12 06 34.7**	**+1.2**
SMG				S	**Sb**	**12 06 51.0**	**+2.9**
	comp=N,625nm,0.3s						
SMG	**Samos**	**1.16**	**153**	P	**Pb**	**12 06 34.2**	**+0.8**
SMG				S	**Sb**	**12 06 50.1**	**+2.0**
SMG				AML	AML	12 06 51.4	
	comp=E,1464µm,0.4s						
SMG				AML	AML	12 06 51.4	
	comp=N,1043µm,0.3s						
GCAM	**G?zelcaml?**	**1.34**	**141**	PN	**Pb**	**12 06 37.9**	**+1.4**
GCAM	**G?zelcaml?**	**1.34**	**141**	*i* P	**Pb**	**12 06 37.5**	**+1.0**
GCAM				*i* S	**Sn**	**12 06 50.2**	**-1.4**
GCAM				IAML		12 06 56.0	
	comp=N,223nm,0.5s						
STEP	**BALIKESIR_Sava**	**1.37**	**62**	*i* P	**Pn**	**12 06 36.2**	**+0.9**
STEP				*i* S	**Sn**	**12 06 51.9**	**-0.6**
STEP				IAML		12 06 57.0	
	comp=N,190nm,0.7s						
STEP				IAML		12 06 58.0	
	comp=E,289nm,0.3s						
LIA	**Limnos Island**	**1.39**	**327**	P	**Pb**	**12 06 36.7**	**-0.6**
LIA	**Limnos Island**	**1.39**	**327**	P	**Pb**	**12 06 37.9**	**+0.6**
BALY	**Balya**	**1.51**	**48**	*i* P	**Pn**	**12 06 39.0**	**+1.8**
BALY				*i* S	**Sn**	**12 06 56.1**	**+0.1**
BALY				IAML		12 07 03.0	
	comp=N,151nm,0.3s						
BALY				IAML		12 07 03.0	
	comp=E,108nm,0.4s						
AYDB	**Zeytinkoy-Aydi**	**1.57**	**120**	PN	**Pn**	**12 06 40.9**	**+2.7**
BALB	**Balikesir**	**1.61**	**55**	PN	**Pb**	**12 06 41.2**	**+0.1**
GELI	**Tayfur-Gelibol**	**1.68**	**8**	PN	**Pb**	**12 06 42.9**	**+0.6**
LPK	**Lapseki**	**1.70**	**16**	PN	**Pb**	**12 06 42.7**	**+0.1**
GONE	**Gonen-Balikesi**	**1.76**	**42**	PN	**Pb**	**12 06 43.3**	**-0.4**
SMTH	**Samothraki Isl**	**1.80**	**344**	P	**Pb**	**12 06 42.4**	**-2.0**
MANT	**Manisa**	**1.89**	**97**	*i* P	**Pb**	**12 06 46.3**	**+0.2**
MANT				*i* S	**Sn**	**12 07 06.0**	**+0.3**
BODT	**Bodrum**	**1.90**	**151**	PN	**Pb**	**12 06 45.7**	**-0.5**
MRMT	**Marmara Adasi**	**2.17**	**30**	PN	**Pn**	**12 06 48.4**	**+2.1**

MAN 28 12:09:12.7, 13°.64N×120°.79E, h28km, mb3.8, ML2.5, MS2.0, 2C, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.22**	**131**	⇑*e*P	Pb	12 09 14.0	-5.0
PGP				*i* S	Sb	12 09 16.0	-7.2
LUBP	**Lubang**	**0.53**	**280**	*e*P	Pn	12 09 24.2	-0.3
LUBP				*e*S	Sn	12 09 33.9	+1.4
LQP	**Lukban**	**0.87**	**57**	⇑*e*P	Pn	12 09 29.0	-0.3
LQP				*e*S	Sn	12 09 41.2	+0.1
SJMP	**San Jose**	**1.22**	**164**	*e*P	Pn	12 09 33.7	-0.3
SJMP				*e*S	Sn	12 09 50.0	+0.5
BUSP	**Coron**	**1.73**	**199**	*e*P	Pb	12 09 44.6	+0.8
BUSP				*e*S	Sb	12 10 05.9	+0.8

*MEX **28** 12:17:15.8±0.5, 15°.15N×92°.00W, h16km±1km, MD4.0*
*NEIC **28** 12:17:17.1±3.1, 15°.214N±0°.009×92°.01W±0°.01, h2km±6km, Error ellipse: s-maj=2.2km s-min=1.2km az=110.0*

ISC 28 12:17:17.0±1.4, 15°.19N±0°.04×92°.05W±0°.05, h8km±11km, n14, σ1°17/25, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.35**	**217**		**Pb**	**12 17 24.5**	**-1.0**
THIG					**Sb**	**12 17 31.1**	**-0.1**
THIG		**0.35**	**217**	*e*P	**Pg**	**12 17 24.3**	**+0.4**
THIG				*i* S	**Sb**	**12 17 30.4**	**-0.9**
CCIG	**Comitan**	**1.09**	**356**		**Pg**	**12 17 37.1**	**-0.9**
CCIG					**Sb**	**12 17 52.4**	**-0.3**
CCIG	**Comitan**	**1.09**	**356**	*e*P	**Pg**	**12 17 37.0**	**-0.9**
CCIG				*e*S	**Sb**	**12 17 52.4**	**-0.3**
PCIG		**1.24**	**294**		**Pn**	**12 17 39.5**	**-1.1**
PCIG					**Sg**	**12 17 57.6**	**+0.6**
PCIG		**1.24**	**294**	*e*P	**Pn**	**12 17 39.5**	**-1.1**
PCIG				*e*S	**Sg**	**12 17 57.6**	**+0.6**
TGIG		**1.89**	**327**		**Pn**	**12 17 50.5**	**+0.8**
TGIG					**Sn**	**12 18 12.6**	**-1.1**
TGIG		**1.89**	**327**	*e*P	**Pn**	**12 17 50.5**	**+0.8**
TGIG				*e*S	**Sn**	**12 18 12.6**	**-1.1**
CMIG	**Matias Romero**	**3.31**	**305**		**Pn**	**12 18 11.3**	**+2.1**
CMIG					**Sb**	**12 18 56.4**	**-0.3**
CMIG	**Matias Romero**	**3.31**	**305**	*e*P	**Pn**	**12 18 11.3**	**+2.1**
CMIG				*e*S	**Sb**	**12 18 56.4**	**-0.3**
TEIG	**Tepich**	**6.16**	**35**	Pn	**Pn**	**12 18 47.7**	**-0.7**
TEIG				Sn	**Sn**	**12 19 58.7**	**-0.4**
MATN	**Matagalpa**	**6.35**	**110**	Pn	**Pn**	**12 18 52.3**	**+1.2**
T47A	**Sharon Grove**	**22.15**	**11**	P	**P**	**12 22 14.5**	**+1.2**
T47A				IAmb	IAmb	12 22 29.1	
	comp=Z,3.2nm,0.8s						
U54A	**Nelsons Funny**	**23.12**	**21**	P	**P**	**12 22 26.1**	**+2.4**
U54A				IAmb	IAmb	12 22 33.8	
	comp=Z,22nm,1.5s						

*IDC **28** 12:48:58.7±2.0, 7°.03S×155°.16E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/20, mbtmp3.8/4, Error ellipse: s-maj=72.6km s-min=33.7km az=130.0*
*NEIC **28** 12:49:04.8±1.7, 6°.9S±0°.2×154°.9E±0°.1, h35km±2km, mb4.2/4, Error ellipse: s-maj=40.7km s-min=9.4km az=149.0*

ISC 28 12:49:05.6±1.3, 6°.9S±0°.3×154°.9E±0°.3, h41km, n9, σ1°07/9, mb4.0/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WR0	**Warramunga Arr**	**23.67**	**235**	P	**P**	**12 54 13.9**	**+0.3**
WR0				IAmb	IAmb	12 54 20.0	
	comp=Z,15nm,1.4s						
WB0	**Warramunga Arr**	**23.69**	**235**	P	**P**	**12 54 11.7**	**-2.2**
WB0				IAmb	IAmb	12 54 20.5	
	comp=Z,8.1nm,1.2s						
WB2	**Warramunga Arr**	**23.81**	**235**	P	**P**	**12 54 15.2**	**+0.2**
WRA	**Warramunga Arr**	**23.82**	**235**	P	**P**	**12 54 14.6**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=60,slow=9.6,SNR=2.9						
ASAR	**Alice Springs**	**26.19**	**228**	P	**P**	**12 54 36.1**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=62,slow=8.6,SNR=5.1						
CMAR	**Chiang Mai Arr**	**60.70**	**296**	P	**P**	**12 59 14.1**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=124,slow=6.1,SNR=5.9						
QSPA	**South Pole Qui**	**83.07**	**180**	P	**P**	**13 01 27.5**	**+0.7**
YKA	**Yellowknife Ar**	**96.28**	**28**	P	**P**	**13 02 28.9**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=267,slow=4.8,SNR=5.0						
TORD	**Torodi Ar. Bea**	**152.95**	**285**	PKPbc	**PKPbc**	**13 08 59.4**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=58,slow=3.5,SNR=3.4						

*IDC **28** 12:59:41.4±2.8, 4°.28N×93°.32E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.5/37, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=72.0km s-min=27.6km az=48.0*
*NEIC **28** 12:59:42.2±2.2, 4°.10N±0°.06×93°.1E±0°.1, h28km±7km, mb4.2/3, Error ellipse: s-maj=17.8km s-min=5.7km az=66.0*

ISC 28 12:59:41.0±1.0, 4°.1N±0°.1×93°.09E±0°.09, h19km, n18, σ1°53/16, mb3.9/5, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**5.26**	**121**	Pn	**Pn**	**13 00 57.1**	**-1.5**
GSI				Sn	**Sn**	**13 01 56.9**	**-1.9**
PSI	**Prapat**	**5.96**	**102**	Pn	**Pn**	**13 01 08.9**	**+0.4**
	2.1nm,0.3s,baz=358,slow=2.2,SNR=8.2						
PSI				Sn	**Sn**	**13 02 17.7**	**+1.4**
	1.1nm,0.3s,baz=360,slow=18,SNR=3.7						
RPSI	**Rantau Prapat**	**5.99**	**103**		**Pn**	**13 01 08.9**	**+0.2**
RPSI					**Sn**	**13 02 17.7**	**+1.0**
RPSI	**Rantau Prapat**	**5.99**	**103**	Pn	**Pn**	**13 01 08.8**	**+0.2**
KULM	**Kulim**	**7.64**	**81**	Pn	**Pn**	**13 01 30.9**	**-0.4**
KULM				Sn	**Sn**	**13 02 55.0**	**-2.5**
IPM	**Ipoh**	**7.93**	**87**	Pn	**Pn**	**13 01 34.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**15.41**	**21**	Pn	**Pn**	**13 03 16.9**	**-0.6**
	0.1nm,0.3s,baz=211,slow=14,SNR=1.5						
H08S2	**Diego Garcia H**	**23.61**	**241**	T	T	13 30 30.6	
	baz=60,slow=75,SNR=16						
H08S3	**Diego Garcia H**	**23.61**	**241**	T	T	13 30 38.0	
	baz=60,slow=75,SNR=18						
H08S1	**Diego Garcia H**	**23.63**	**241**	T	T	13 30 17.6	
	baz=60,slow=75,SNR=8.8						
H01W3	**Cape Leeuwin H**	**43.51**	**155**	T	T	13 54 28.4	
	baz=331

PSI	**Prapat**	**6.41**	**100**	Pn		**Pn**	**13 04 41.3**	**+0.4**
	3.8nm,0.3s,baz=360,slow=9.0,SNR=10							
PSI				Sn		**Sn**	**13 05 51.2**	**-1.8**
	1.8nm,0.3s,baz=180,slow=9.3,SNR=3.9							
PSI				LR		LR	13 07 14.4	
	comp=Z,464nm,18.6s,baz=0.5,slow=39							
RPSI	**Rantau Prapat**	**6.43**	**101**	Pn		**Pn**	**13 04 41.4**	**+0.4**
RPSI	**Rantau Prapat**	**6.43**	**101**			**Pn**	**13 04 41.3**	**+0.3**
RPSI						**Sn**	**13 05 51.2**	**-2.1**
PBSI	**Pulau Batu**	**6.90**	**125**	P		**Pn**	**13 04 46.4**	**-1.2**
	1.2nm311nm,0.8s							
MNSI	**Mandailing Nat**	**7.62**	**114**	P		**Pn**	**13 04 57.8**	**+0.3**
	0.4nm2µm47nm,0.4s							
KULM	**Kulim**	**8.15**	**80**	Pn		**Pn**	**13 05 04.5**	**-0.2**
KULM	**Kulim**	**8.15**	**80**	P		**Pn**	**13 05 04.0**	**-0.7**
IPM	**Ipoh**	**8.43**	**86**	Pn		**Pn**	**13 05 07.8**	**-0.7**
IPM	**Ipoh**	**8.43**	**86**	P		**Pn**	**13 05 08.0**	**-0.5**
MYKOM	**Kota Tinggi**	**11.43**	**100**	P		**Pn**	**13 05 50.0**	**+0.3**
CMAR	**Chiang Mai Arr**	**15.75**	**23**	Pn		**Pn**	**13 06 47.1**	**-1.0**
	0.1nm,0.3s,baz=218,slow=14,SNR=10.0							
CMAR				LR		LR	13 12 27.6	
	comp=Z,208nm,19.4s,baz=254,slow=36							
HYB	**Hyderabad**	**19.24**	**315**	*i* P		**P**	**13 07 30.0**	**-0.3**
HYB				*e*S		**Sn**	**13 11 03.0**	**-3.3**
SBUM	**Sibu**	**19.64**	**94**	P		**Pn**	**13 07 37.0**	**+0.7**
QIZ	**Qiongzhong**	**22.59**	**47**	P		P	13 08 16.0	+10
QIZ				S		Sn	13 12 23.3	-3.4
QIZ				pmax		pmax		
	comp=Z,18nm,1.0s							
QIZ				LR		LR		
	comp=N,590nm,16.1s							
QIZ				LR		LR		
	comp=E,320nm,12.4s							
QIZ				LR		LR		
	comp=Z,180nm,17.7s							
H08S3	**Diego Garcia H**	**23.10**	**240**	T		T	13 34 03.8	
	baz=60,slow=76,SNR=38							
H08S2	**Diego Garcia H**	**23.11**	**240**	T		T	13 34 02.8	
	baz=60,slow=76,SNR=33							
H08S1	**Diego Garcia H**	**23.12**	**240**	T		T	13 33 42.0	
	baz=60,slow=76,SNR=24							
KMI	**Kunming**	**23.25**	**24**	P		**P**	**13 08 15.8**	**+2.3**
KMI				pmax		pmax		
	comp=Z,5.0nm,0.7s							
LSA	**Lhasa**	**25.70**	**357**	P		P	13 08 45.8	+9.4
LSA				pmax		pmax		
	comp=Z,35nm,1.1s							
MYLDM	**Lahad Datu**	**25.85**	**86**	P		**P**	**13 08 39.4**	**+2.0**
MYLDM				IAmb		IAmb	13 08 51.2	
	comp=Z,62nm,1.3s							
GYA	**Guiyang**	**26.17**	**30**	*e*P		P	13 08 52.8	+13
GYA				pmax		pmax		
	comp=Z,9.0nm,0.9s							
XAN	**Xi'an**	**33.62**	**25**	P		P	13 09 54.5	+8.3
XAN				pP		pwP	13 10 01.8	+1.1
XAN				S		**S**	**13 15 04.8**	**-1.9**
XAN				SS		**SnSn**	**13 17 10.5**	**-1.4**
XAN				pmax		pmax		
	comp=Z,12nm,1.1s							
XAN				pmax		pmax		
	comp=Z,67nm,8.8s							
XAN				LR		LR		
	comp=N,340nm,14.7s							
XAN				LR		LR		
	comp=E,380nm,17.7s							
XAN				LR		LR		
	comp=Z,250nm,15.7s							
GTA	**Gaotai**	**35.95**	**10**	*e*P		P	13 10 16.5	+10
GTA				pP		pwP	13 10 20.0	-0.9
GTA				sP		sP	13 10 23.0	+4.2
GTA				pmax		pmax		
	comp=Z,9.0nm,0.9s							
H01W3	**Cape Leeuwin H**	**43.57**	**154**	T		T	13 58 22.5	
	baz=331							
H01W2	**Cape Leeuwin H**	**43.58**	**154**	T		T	13 58 29.1	
	baz=331,slow=74							
H01W1	**Cape Leeuwin H**	**43.59**	**154**	T		T	13 58 25.0	
	baz=331,slow=74							
MK31	**Makanchi Array**	**43.66**	**350**	P		**P**	**13 11 09.7**	**-0.4**
MK31				IAmb		IAmb	13 11 21.8	
	comp=Z,1.6nm,0.8s							
MKAR	**Makanchi Array**	**43.66**	**350**	P		**P**	**13 11 10.0**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=161,slow=7.7,SNR=8.4							
MKAR				LR		LR	13 33 05.9	
	comp=Z,53nm,18.4s,baz=168,slow=41							
SONM	**Songino Array**	**45.36**	**13**	P		**P**	**13 11 24.8**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=196,slow=9.9,SNR=3.7							
SONM				LR		LR	13 32 18.1	
	comp=Z,83nm,18.5s,baz=194,slow=39							
GEYT	**Alibeck**	**46.24**	**322**	LR		LR	13 31 37.7	
	comp=Z,69nm,19.8s,baz=130,slow=37							
KSRS	**Korea Array**	**46.48**	**39**	P		**P**	**13 11 33.2**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=233,slow=14,SNR=4.5							
KSRS				LR		LR	13 31 32.3	
	comp=Z,76nm,21.2s,baz=236,slow=37							
WRA	**Warramunga Arr**	**47.35**	**122**	P		**P**	**13 11 40.0**	**+0.2**
	comp=Z,3.0nm,0.9s,baz=300,slow=8.7,SNR=2.0							
ASAR	**Alice Springs**	**48.68**	**126**	LR		LR	13 34 14.6	
	comp=Z,79nm,18.2s,baz=320,slow=38							
ZALV	**Zalesovo Beam**	**50.30**	**354**	P		**P**	**13 12 01.9**	**+0.1**
	comp=Z,2.4nm,0.4s,baz=186,slow=8.4,SNR=14							
ZALV				LR		LR	13 35 12.4	
	comp=Z,59nm,20.9s,baz=156,slow=38							
MJAR	**Matsushiro Arr**	**52.98**	**46**	LR		LR	13 36 51.7	
	comp=Z,52nm,18.1s,baz=225,slow=38							
USRK	**Ussuriysk Ar.**	**53.02**	**35**	P		**P**	**13 12 22.8**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=248,slow=6.1,SNR=1.6							
AKTO	**Aktyubinsk**	**54.75**	**334**	LR		LR	13 36 27.6	
	comp=Z,49nm,21.4s,baz=147,slow=37							
STKA	**Stephens Creek**	**58.57**	**131**	LR		LR	13 38 38.3	
	comp=Z,80nm,18.8s,baz=212,slow=36							
KBZ	**Khabaz**	**59.05**	**320**	LR		LR	13 41 50.6	
	comp=Z,22nm,18.2s,baz=98,slow=39							
BRTR	**Keskin Array B**	**63.91**	**313**	P		**P**	**13 13 38.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=121,slow=7.2,SNR=1.8							
KIRV	**Kirov**	**63.99**	**336**	LR		LR	13 42 30.1	
	comp=Z,39nm,20.1s,baz=66,slow=37							
NRIK	**Noril'sk**	**65.43**	**358**	LR		LR	13 47 22.5	
	comp=Z,63nm,18.2s,baz=196,slow=41							
LSZ	**Lusaka**	**66.53**	**252**	LR		LR	13 38 16.4	
	comp=Z,68nm,19.4s,baz=136,slow=32							
BOSA	**Boshof**	**72.19**	**238**	LR		LR	13 42 02.1	
	comp=Z,34nm,18.9s,baz=73,slow=32							
FINES	**FINESS Array B**	**75.51**	**333**	LR		LR	13 49 50.6	
	comp=Z,48nm,20.7s,baz=142,slow=37							
ARCES	**ARCESS Array B**	**78.48**	**341**	LR		LR	13 53 00.2	
	comp=Z,45nm,20.7s,baz=96,slow=38							
GERES	**GERESS Array B**	**79.77**	**319**	P		**P**	**13 15 14.3**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=93,slow=5.3,SNR=6.7							
NOA	**NORSAR Array B**	**82.43**	**331**	LR		LR	13 53 48.5	
	comp=Z,34nm,20.4s,baz=90,slow=37							
VNDA	**Vanda**	**89.37**	**168**	LR		LR	13 49 46.5	
	comp=Z,65nm,19.6s,baz=308,slow=31							
DBIC	**Dimbokro**	**96.94**	**277**	LR		LR	13 57 22.1	
	comp=Z,47nm,20.4s,baz=88,slow=34							

MAN 28 13:19:03.1,9.95N×125.95E,h18km,mb4.4,ML3.3,MS3.0, 2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**0.48**	**250**	⇓*e*P	Pb	13 19 13.6	+0.5
SCPH				*e*S	Sn	13 19 23.9	+0.8
MSLP	**Maasin**	**1.09**	**280**	*e*P	Pb	13 19 22.6	-0.8
MSLP				*e*S	Sg	13 19 38.5	0.0
CGP	**Cagayan de Oro**	**1.94**	**220**	⇑*e*P	Pn	13 19 35.1	0.0
CGP				*e*S	Sn	13 20 00.3	+1.3
TBP	**Tagbilaran**	**2.07**	**263**	*i* P	Pn	13 19 37.9	+0.9
BUKP	**Musuan**	**2.24**	**203**	*e*P	Pn	13 19 39.8	+0.5
BUKP				*e*S	Sb	13 20 10.8	+0.3
CNP	**Catarman**	**2.84**	**334**	*e*P	Pn	13 19 45.2	-2.3
CNP				*e*S	Sn	13 20 20.9	-0.4
CNOP	**Candoni, Negro**	**3.26**	**268**	*e*P	Pn	13 19 53.5	+0.1
RCP	**Roxas**	**3.53**	**297**	⇑*e*P	Pn	13 19 59.1	+2.1

MEX 28 13:19:22.3±0.5,27.88N×111.99W,h4km,MD3.8,1D,Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SRIG	**Santa Rosalia**	**0.60**	**202**	⇓*e*P	Pg	13 19 33.2	-0.7
SRIG				*e*S	Sg	13 19 42.5	+0.7
HSIG		**1.46**	**39**	*e*P	Pn	13 19 46.3	-3.1
HSIG				*e*S	Sb	13 20 03.7	-5.2

*IDC **28** 13:23:58.1±0.7,17.88S×63.86W,h0km,mb4.1/8, mb1 4.3/13,mb1mx4.1/30,mbtmp4.1/13,ML4.0/5,MS3.1/5, Ms1 3.1/5,ms1mx2.9/27,Error ellipse: s-maj=21.9km s-min=14.0km az=22.0*
*VAO **28** 13:24:00.8±0.4,17.95S×63.77W,h10km,mb4.7*
*SCB **28** 13:24:01.0±1.0,18.05S×63.85W,h241km±20km,ML4.2/2, Error ellipse: s-maj=5.9km s-min=3.9km az=1.0*
*NEIC **28** 13:24:03.1±1.9,17.99S±0.08×63.89W±0.09,h36km±6km, mb4.3/7, Error ellipse: s-maj=12.7km s-min=11.6km az=69.0*

ISC 28 13:23:59.4±0.5,18.02S±0.05×63.83W±0.04,h10km,n87, σ1§53/99,mb4.3/11,Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BBOE	**La Paz, Chanca**	**4.14**	**286**	P	**Pn**	**13 25 05.2**	**+2.0**
BBOJ	**La Paz, Jacaqu**	**4.29**	**283**	P	**Pn**	**13 25 07.6**	**+2.4**
YJA	**Yavi**	**4.43**	**201**	P	**Pn**	**13 25 07.9**	**+0.8**
YJA				S	**Sn**	**13 25 58.5**	**-0.5**
YJA				AML	AML	13 26 07.5	
	303nm,0.4s						
LPAZ	**La Paz**	**4.45**	**292**	Pn	**Pn**	**13 25 08.2**	**+0.6**
	2.9nm,0.3s,baz=108,slow=8.8,SNR=46						
LPAZ				Pg	**Pb**	**13 25 18.8**	**+0.6**
	7.6nm,0.3s,baz=134,slow=13,SNR=14						
LPAZ				Sn	**Sn**	**13 26 00.3**	**+0.5**
	5.6nm,0.3s,baz=43,slow=19,SNR=1.7						
LPAZ				Lg	Lg	13 26 17.2	
	15nm,0.3s,baz=208,slow=14,SNR=4.2						
LPAZ				LR	LR	13 27 18.9	
	comp=Z,110nm,20.5s,baz=128,slow=46						
LPAZ	**La Paz**	**4.45**	**292**	P	**Pn**	**13 25 09.7**	**+2.1**
LPAZ				S	**Sn**	**13 26 00.0**	**+0.1**
LPAZ				AML	AML	13 26 09.4	
	78nm,0.8s						
LPAZ	**La Paz**	**4.45**	**292**	Pn	**Pn**	**13 25 08.3**	**+0.7**
LPAZ	**La Paz**	**4.45**	**292**	*e*P	**Pn**	**13 25 09.8**	**+2.2**
LPAZ				*e*S	**Sn**	**13 26 02.1**	**+2.2**
LPAZ	**La Paz**	**4.45**	**292**	*e*P	**Pn**	**13 25 09.8**	**+2.2**
LPAZ				*e*S	**Sn**	**13 26 02.1**	**+2.2**
BBOB	**La Paz, Bander**	**4.51**	**294**	P	**Pn**	**13 25 10.1**	**+1.7**
BBOD	**La Paz, Gloria**	**4.75**	**286**	P	**Pn**	**13 25 14.1**	**+2.4**
PTLB	**Pontes e Lacer**	**5.17**	**61**	*e*P	**Pn**	**13 25 18.8**	**+1.8**
PTLB				*e*S	**Sn**	**13 26 17.6**	**+0.8**
PTLB	**Pontes e Lacer**	**5.17**	**61**	*e*P	**Pn**	**13 25 18.8**	**+1.8**
PTLB				*e*S	**Sn**	**13 26 17.6**	**+0.8**
GO01	**Chusmiza**	**5.34**	**251**		**Pn**	**13 25 20.7**	**+1.1**
PB08	**IPOC Station P**	**5.46**	**246**	P	**Pn**	**13 25 21.9**	**+0.7**
PB08	**IPOC Station P**	**5.46**	**246**		**Pn**	**13 25 23.1**	**+1.9**
MNMC	**Minye Minye**	**5.58**	**258**	P	**Pn**	**13 25 22.8**	**0.0**
MNMC	**Minye Minye**	**5.58**	**258**		**Pn**	**13 25 23.4**	**+0.7**
MNMC					**Pn**	**13 25 24.2**	**+1.4**
PB11	**IPOC Station P**	**5.78**	**252**	P	**Pn**	**13 25 25.4**	**0.0**
PB11	**IPOC Station P**	**5.78**	**252**	Pn	**Pn**	**13 25 25.9**	**+0.5**
VILB	**Vilhena**	**6.13**	**35**	*e*P	**Pn**	**13 25 31.0**	**+0.8**
VILB				*e*S	**Sn**	**13 26 40.2**	**-0.3**
VILB	**Vilhena**	**6.13**	**35**	*e*P	**Pn**	**13 25 31.0**	**+0.8**
VILB				*e*S	**Sn**	**13 26 40.2**	**-0.3**
PB09	**IPOC Station P**	**6.33**	**233**		Pn	13 25 26.5	-6.4
LVC	**Limon Verde**	**6.60**	**225**	Pn	**Pn**	**13 25 37.9**	**+1.0**
	3.0nm,0.3s,baz=60,slow=11,SNR=20						
LVC				LR	LR	13 28 34.3	
	comp=Z,144nm,20.5s,baz=40,slow=41						
LVC	**Limon Verde**	**6.60**	**225**	*e*P	**Pn**	**13 25 38.3**	**+1.4**
LVC	**Limon Verde**	**6.60**	**225**	*e*P	**Pn**	**13 25 38.3**	**+1.4**
PB06	**IPOC Station P**	**7.12**	**228**	P	**Pn**	**13 25 43.7**	**-0.2**
PB15	**IPOC Station P**	**7.38**	**225**		**Pn**	**13 25 48.8**	**+1.2**
AQDB	**Aquidauana**	**8.06**	**109**	P	**Pn**	**13 25 56.1**	**-0.6**
AQDB	**Aquidauana**	**8.06**	**109**	*e*S	**Sn**	**13 27 29.7**	**+1.8**
AQDB	**Aquidauana**	**8.06**	**109**	*e*S	**Sn**	**13 27 29.7**	**+1.8**
SALV	**Santo Antonio**	**8.07**	**76**	*e*P	**Pn**	**13 25 57.4**	**+0.6**
SALV				*e*S	**Sn**	**13 27 27.9**	**-0.2**
SALV	**Santo Antonio**	**8.07**	**76**	*e*P	**Pn**	**13 25 57.4**	**+0.6**
SALV				*e*S	**Sn**	**13 27 27.9**	**-0.2**
SAML	**Samuel**	**9.04**	**4**		**Pn**	**13 26 10.4**	**+0.4**
AC02	**Maricunga**	**10.05**	**208**	Pn	**Pn**	**13 26 22.8**	**-1.5**
CPUP	**Villa Florida**	**10.23**	**145**	Pn	**Pn**	**13 26 28.2**	**+1.9**
	0.5nm,0.3s,baz=333,slow=12,SNR=6.2						
CPUP				Lg	Lg	13 29 27.4	
	1.2nm,0.3s,baz=11,slow=4.2,SNR=3.6						
C2SB	**Chapadao do Su**	**10.46**	**96**	*e*S	**Sn**	**13 28 28.9**	**+1.9**
C2SB	**Chapadao do Su**	**10.46**	**96**	*e*S	**Sn**	**13 28 28.9**	**+1.9**
CLDB	**Colider**	**10.53**	**49**	P	**Pn**	**13 26 29.1**	**-1.5**
CLDB	**Colider**	**10.53**	**49**	*e*P	**Pn**	**13 26 29.8**	**-0.8**
CLDB				*e*S	**Sn**	**13 28 28.5**	**-0.2**
CLDB	**Colider**	**10.53**	**49**	*e*P	**Pn**	**13 26 29.8**	**-0.8**
CLDB				*e*S	**Sn**	**13 28 28.5**	**-0.2**
ARAG	**Araguaiana, MT**	**11.73**	**80**	*e*S	**Sn**	**13 28 57.8**	**-0.4**
ARAG	**Araguaiana, MT**	**11.73**	**80**	*e*S	**Sn**	**13 28 57.8**	**-0.4**
NPGB	**Novo Progresso**	**13.68**	**38**	*e*P	**Pn**	**13 27 12.8**	**-0.9**
NPGB				*e*S	**Sn**	**13 29 46.4**	**+0.6**
NPGB	**Novo Progresso**	**13.68**	**38**	*e*P	**Pn**	**13 27 12.8**	**-0.9**
NPGB				*e*S	**Sn**	**13 29 46.4**	**+0.6**
CFA	**Coronel Fontan**	**14.11**	**196**	Pn	Pn	13 27 16.1	-3.4
	0.4nm,0.3s,baz=21,slow=12,SNR=4.6						
BDFB	**Brasilia**	**15.33**	**83**	Pn	**Pn**	**13 27 35.0**	**-1.1**
	0.4nm,0.3s,baz=259,slow=17,SNR=5.0						
BDFB				LR	LR	13 33 09.9	
	comp=Z,114nm,21.9s,baz=236,slow=36						
VA03	**San Esteban**	**15.88**	**201**		**Pn**	**13 27 40.7**	**-2.6**
VA03				IAmb	IAmb	13 27 45.8	
	comp=Z,18nm,0.6s						
MT02	**Curacav**	**16.54**	**202**		**Pn**	**13 27 47.4**	**-4.1**
MT02				IAmb	IAmb	13 27 52.8	
	comp=Z,17nm,1.0s						
PTGA	**Pitinga**	**17.59**	**13**	P	**Pn**	**13 28 03.6**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=204,slow=18,SNR=2.2						
PTGA				Lg	Lg	13 33 13.9	
	comp=Z,0.3nm,0.3s,baz=285,slow=22,SNR=4.3						
MACC	**Macarena, Meta**	**22.33**	**333**	*e*P	**P**	**13 28 58.0**	**+0.5**
GARC	**Garzon, Huila**	**23.13**	**329**	*e*P	**P**	**13 29 05.1**	**-1.2**
PRAC	**Prado**	**24.19**	**332**	*e*P	**P**	**13 29 14.0**	**-2.3**
ORTC	**Ortega, Tolima**	**24.52**	**332**	*e*P	**P**	**13 29 18.7**	**-0.7**
CHIC	**Chingaza**	**24.53**	**336**	*e*P	**P**	**13 29 19.9**	**+0.1**
ROSC	**El Rosal**	**24.96**	**335**	P	**P**	**13 29 25.2**	**+1.5**
	comp=Z,5.8nm,0.4s,baz=108,slow=20,SNR=3.9						
ROSC	**El Rosal**	**24.96**	**335**	IAmb	IAmb	13 29 32.9	
	comp=Z,11nm,0.8s						
YOTC	**Yotoco, Valle**	**25.10**	**329**	*e*P	**P**	**13 29 22.1**	**-2.6**
RREF	**El Recreo**	**25.45**	**332**	*e*P	**P**	**13 29 30.5**	**+2.1**
RUSC	**La Rusia**	**25.45**	**338**	*e*P	**P**	**13 29 27.4**	**-0.8**
RUSC	**La Rusia**	**25.45**	**338**	P	**P**	**13 29 27.3**	**-1.0**
MDP	**Montagnes des**	**25.49**	**27**	P	**P**	**13 29 27.6**	**-0.4**
	comp=Z,4.4nm,0.8s,baz=216,slow=8.7,SNR=1.4						
MDP				LR	LR	13 38 48.3	
	comp=Z,46nm,18.9s,baz=144,slow=35						
SPBC	**San Pablo de B**	**25.60**	**336**	*e*P	**P**	**13 29 30.1**	**+1.0**
GUY2C	**Guyana, Caldas**	**25.75**	**333**	*e*P	**P**	**13 29 30.9**	**0.0**
BARC	**Barichara**	**26.14**	**339**	*e*P	**P**	**13 29 30.7**	**-3.5**
CBOC	**Ciudad Bolivar**	**26.60**	**332**	*e*P	**P**	**13 29 36.9**	**-1.4**
DBBC	**Dabeiba**	**27.71**	**333**	*e*P	**P**	**13 29 49.6**	**+1.3**
RCBR	**Riachuelo**	**29.84**	**69**	LR	LR	13 41 49.5	
	comp=Z,61nm,20.6s,baz=218,slow=36						
TXAR	**Lajitas Array**	**60.78**	**320**	P	**P**	**13 34 10.2**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=148,slow=7.1,SNR=7.8						
WMOK	**Wichita Mounta**	**62.10**	**328**	P	P	13 34 18.4	-2.2
WMOK				IAmb	IAmb	13 34 19.7	
	comp=Z,2.0nm,0.7s						
SDCO	**Great Sand Dun**	**67.91**	**325**	P	**P**	**13 34 56.8**	**-1.9**
SDCO				IAmb	IAmb	13 35 00.3	
	comp=Z,1.6nm,0.8s						
TORD	**Torodi Ar. Bea**	**71.67**	**69**	P	**P**	**13 35 21.8**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=258,slow=5.7,SNR=12						
PDAR	**Pinedale Array**	**73.67**	**327**	P	**P**	**13 35 32.4**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=122,slow=8.5,SNR=7.1						
NVAR	**Mina Array Bea**	**75.88**	**319**	P	**P**	**13 35 46.1**	**-0.4**
	comp=Z,0.9nm,1.0s,baz=129,slow=6.1,SNR=5.1						
TSUM	**Tsumeb**	**76.42**	**106**	P	**P**	**13 35 50.8**	**+0.8**
	comp=Z,4.3nm,0.8s,baz=242,slow=7.5,SNR=5.1						
ESDC	**Sonseca Array**	**80.03**	**43**	P	**P**	**13 36 09.9**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=240,slow=5.5,SNR=7.9						
YKA	**Yellowknife Ar**	**89.59**	**339**	P	**P**	**13 36 56.3**	**-0.6**
	comp=Z,3.5nm,0.8s,baz=118,slow=4.1,SNR=38						
ASAR	**Alice Springs**	**135.10**	**203**	PKP	**PKPdf**	**13 43 18.9**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=143,slow=1.7,SNR=7.5						
KURBB	**Kurchatov Array**	**135.81**	**34**	PKP	**PKPdf**	**13 43 20.3**	**0.0**
	comp=Z,0.5nm,0.4s,baz=303,slow=2.4,SNR=5.2						
ZALV	**Zalesovo Beam**	**136.75**	**27**	PKP	**PKPdf**	**13 43 21.7**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=303,slow=2.8,SNR=7.4						
WRA	**Warramunga Arr**	**138.27**	**206**	PKP	**PKPdf**	**13 43 26.2**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=158,slow=1.7,SNR=1.8						
MKAR	**Makanchi Array**	**140.01**	**37**	PKP	**PKPdf**	**13 43 28.4**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=9.6,slow=0.5,SNR=3.4						
ASAJ	**Asahikawa**	**145.79**	**325**	PKPbc	**PKPdf**	**13 43 38.7**	**+0.3**
	comp=Z,8.2nm,0.9s,baz=283,slow=9.0,SNR=7.4						
KLR	**Kul'dur**	**146.41**	**341**	PKPbc	**PKPdf**	**13 43 40.0**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=342,slow=4.0,SNR=11						
SONM	**Songino Array**	**149.20**	**13**	PKPbc	**PKPdf**	**13 43 48.2**	**+4.0**
	comp=Z,2.0nm,0.6s,baz=277,slow=0.8,SNR=10						
USRK	**Ussuriysk Ar.**	**150.70**	**336**	PKPbc	**PKPdf**	**13 43 51.8**	**+5.3**
	comp=Z,5.1nm,0.7s,baz=43,slow=2.7,SNR=13						
KSRS	**Korea Array**	**158.06**	**334**	PKPab	**PKPab**	**13 44 30.2**	**0.0**
	comp=Z,1.4nm,0.9s,baz=20,slow=3.3,SNR=4.6						
LZH	**Lanzhou**	**158.96**	**29**	*e*PKP	PKPdf	13 43 52.5	-5.8
LZH				pPKP	sPKPdf	13 44 07.0	+3.4
LZH				sPKP		13 44 12.3	
LZH				PKP	**PKPab**	**13 44 31.5**	**-2.9**

*NNC **28** 13:26:28.0±0.3,50.01N×78.62E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=5.4km s-min=1.4km az=84.0, Suspected Mining explosion.*
*ASRS **28** 13:26:30.5±0.5,50°N±3'×7°9E±°,h10km,MLh3.8/8, smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID smi:org.gfz-potsdam.de/geofon/iasp91 confirmed*

ISC 28 13:26:29.6±0.8,50.15N±0.04×78.80E±0.04,h0km,n50, σ1§46/67,18C-8D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR07	**Kurchatov Arra**	**0.47**	**338**	⇑P	**Pg**	**13 26 39.2**	**+0.6**
KUR07				⇑S	**Sb**	**13 26 47.7**	**-0.5**
KUR14	**Kurchatov Arra**	**0.48**	**344**	⇑P	**Pg**	**13 26 39.3**	**+0.4**
KUR14				⇑S	**Sb**	**13 26 48.1**	**-0.5**
KUR06	**Kurchatov Arra**	**0.49**	**339**	⇑P	**Pg**	**13 26 39.5**	**+0.6**
KUR06				⇑S	**Sb**	**13 26 48.4**	**-0.3**
KUR15	**Kurchatov Arra**	**0.49**	**342**	⇑P	**Pg**	**13 26 39.5**	**+0.5**
KUR15				⇑S	**Sb**	**13 26 48.4**	**-0.5**
KURBB	**Kurchatov Arra**	**0.50**	**340**	⇑P	**Pg**	**13 26 39.7**	**+0.5**
	41nm,0.4s						
KURBB				⇑S	**Sb**	**13 26 49.0**	**-0.2**
	136nm,0.7s						
KUR16	**Kurchatov Arra**	**0.51**	**338**	⇑P	**Pg**	**13 26 39.8**	**+0.3**
KUR16				⇓S	**Sb**	**13 26 48.3**	**-1.2**
KUR05	**Kurchatov Arra**	**0.52**	**342**	P	**Pg**	**13 26 40.0**	**+0.5**
KUR05				S	**Sb**	**13 26 49.2**	**-0.5**
KUR17	**Kurchatov Arra**	**0.53**	**337**	⇑P	**Pg**	**13 26 39.8**	**+0.1**
KUR17				⇑S	**Sb**	**13 26 48.5**	**-1.4**
KUR04	**Kurchatov Arra**	**0.54**	**343**	P	**Pg**	**13 26 40.7**	**+0.8**
KUR04				S	**Sb**	**13 26 49.8**	**-0.5**
KURK	**Kurchatov**	**0.58**	**349**	P	**Pg**	**13 26 41.3**	**+0.6**
KURK				S	**Sb**	**13 26 51.6**	**+0.2**
BRZS	**Berezniki**	**3.94**	**270**	Pg	**Pb**	**13 27 39.6**	**-0.4**
	7.4nm,0.3s						
BRZS				Lg	Lg	13 28 29.9	
	13nm,0.3s						
MAKZ	**Makanchi**	**3.96**	**146**	P	**Pn**	**13 27 28.7**	**-2.9**
MAKZ	**Makanchi**	**3.96**	**146**	⇓Pn	**Pn**	**13 27 30.3**	**-1.3**
	0.2nm,0.2s						
MAKZ				⇑Pg	**Pb**	**13 27 37.5**	**-2.7**
	4.0nm,0.6s						
MAKZ				⇓Lg	Lg	13 28 30.6	
	22nm,0.6s						
MK31	**Makanchi Array**	**4.08**	**144**	⇑Pn	**Pn**	**13 27 32.0**	**-1.3**
	0.1nm,

	0.4nm,0.5s					
DGS				Lg	Lg	13 30 08.4
	17nm,0.4s					
TNSS	**Tian-Shan**	**7.23**	**191**	Pg	**Pb**	**13 28 38.1 +2.0**
	1.6nm,0.4s					
TNSS				Lg	Lg	13 30 10.1
	12nm,0.8s					
SGDS	**Sogindy**	**7.28**	**205**	Pg	**Pb**	**13 28 38.6 +1.8**
	2.4nm,0.5s					
SGDS				Lg	Lg	13 30 11.2
	5.4nm,0.6s					
KST	**Kastek**	**7.37**	**196**	Pg	**Pb**	**13 28 40.4 +2.0**
	3.6nm,0.4s					
KST				Lg	Lg	13 30 14.3
	12nm,0.5s					
TKM2	**Tokmak 2**	**7.56**	**198**	⇓Lg	Lg	13 30 23.9
	7.2nm,0.7s					
MRKS	**Merke**	**8.34**	**210**	Pg	**Pb**	**13 28 57.8 +2.9**
	1.7nm,0.2s					
MRKS				Lg	Lg	13 30 44.0
	4.7nm,0.4s					

SJA 28 13:29:04.5±0.9,31°22S×68°51W,h112^{km}±2^{km},ML3.7, MW3.7,1D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
RTLL	**Cerro Villicun**	**0.11**	**166**	*i* P		Pn	13 29 20.5	+0.5
RTLL				*e*S		Sn	13 29 32.4	+0.8
RTLL				IAML			13 29 33.8	
	comp=Z,1μm,0.1s							
AMOG	**MOGNA**	**0.28**	**2**	*i* P		Pn	13 29 21.4	+0.9
AMOG				⇓*e*S		Sn	13 29 32.7	+0.3
AMOG				IAML			13 29 37.0	
	comp=Z,964nm,0.4s							
ZON	**Zonda**	**0.35**	**205**	*i* P		Pn	13 29 21.4	+0.6
ZON				*e*S		Sn	13 29 33.8	+0.8
ZON				IAML			13 29 34.3	
	comp=Z,907nm,0.2s							
CFA	**Coronel Fontan**	**0.44**	**149**	*i* P		Pn	13 29 21.9	+0.7
CFA				*e*S		Sn	13 29 34.3	+0.5
CFA				IAML			13 29 35.0	
	comp=Z,2μm,0.1s							
RTCV	**Cerro Valdivia**	**0.64**	**183**	*i* P		Pn	13 29 23.2	+0.6
RTCV				IAML			13 29 38.8	
	comp=Z,405nm,2.0s							
ACCO	**Cerro Coronel**	**0.80**	**323**	*i* P		Pn	13 29 25.3	+1.1
ACCO				IAML			13 29 43.2	
	comp=Z,2μm,0.9s							
RTLS	**Leoncito**	**0.89**	**229**	*i* P		Pn	13 29 26.6	+1.6
RTLS				*e*S		Sn	13 29 42.1	+1.6
RTLS				IAML			13 29 44.2	
	comp=Z,1μm,0.3s							
AROD	**Rodeo**	**1.34**	**321**	*i* P		Pn	13 29 31.5	+1.6
ACAN	**Cantantal**	**1.54**	**133**	*i* P		Pn	13 29 33.4	+1.5
ACAN				IAML			13 29 55.9	
	comp=Z,313nm,0.4s							
AGUA	**GUANDACOL**	**1.73**	**0**	*i* P		Pn	13 29 36.1	+1.8
AGUA				IAML			13 30 02.6	
	comp=Z,593nm,0.2s							
APLL	**PUNTA DE LOS L**	**1.89**	**65**	*i* P		Pn	13 29 37.5	+1.3
VCA	**Vinchina**	**2.49**	**6**	*i* P		Pn	13 29 46.1	+2.0
VCA				IAML			13 30 22.9	
	comp=Z,324nm,0.2s							
MRA	**San Martin**	**2.66**	**117**	*i* P		Pn	13 29 47.1	+1.0
MRA				IAML			13 30 22.0	
	comp=Z,329nm,0.8s							
PEL	**Peldehue**	**2.66**	**223**	*i* P		Pn	13 29 47.6	+1.5
ROC1	**El Roble**	**2.76**	**230**	*i* P		Pn	13 29 48.4	+0.9
TCA	**Tanti**	**3.35**	**93**	*i* P		Pn	13 29 56.1	+0.8
TCA				IAML			13 30 51.5	
	comp=Z,240nm,0.7s							
LAMA	**Las Malvinas**	**3.75**	**189**	*i* P		Pn	13 30 01.1	+0.6
GO03	**Copiap**	**3.92**	**337**	*i* P		Pn	13 30 03.6	+0.7
COIS	**El Sosneado**	**3.98**	**193**	*i* P		Pn	13 30 05.0	+1.3
PUMA	**Malargue**	**4.33**	**190**	*i* P		Pn	13 30 09.4	+1.0
EDS3	**Malargue**	**4.60**	**189**	*i* P		Pn	13 30 13.0	+1.0
GO05	**Huala**	**4.75**	**216**	*i* P		Pn	13 30 12.5	-1.4
PB15	**IPOC Station P**	**8.03**	**354**	*i* P		Pn	13 30 58.2	-0.4
PB15				IAML			13 32 30.8	
	comp=Z,19nm,0.3s							
PB05	**IPOC Station P**	**8.47**	**349**	*i* P		Pn	13 31 01.7	-2.8
PB05				IAML			13 32 51.3	
	comp=Z,25nm,2.3s							

NIED ***28*** *13:49:43.0,43°.67N×147°.92E,h0^{km},MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M$_{rr}$1.03; M$_{θθ}$-0.21; M$_{φφ}$-0.82; M$_{rθ}$0.42; M$_{rφ}$0.98; M$_{θφ}$0.55; Fault plane solution: M$_0$1.53000×10^{15} NP1: φ$_s$353.00000°,δ58.00000°,λ131.00000°. NP2: φ$_s$114.00000°,δ50.00000°,λ44.00000°.*

JMA ***28*** *13:49:42.9±0.3,43°.67N×147°.92E,h0^{km},M4.3*

MOS ***28*** *13:49:43.7±1.2,43°.97N×148°.17E,h44^{km},mb4.5/20,Error ellipse: s-maj=7.4km s-min=6.6km az=90.1*

BGR ***28*** *13:49:43.7±0.0,43°.68N×148°.41E,h33^{km},mb4.6*

SKHL ***28*** *13:49:44.3±0.7,43°.86N×148°.22E,h52^{km}±1^{km},mb4.8/13*

NEIC ***28*** *13:49:47.0±1.9,44°.07N±0°.09×148°.1E±0°.1,h56^{km}±6^{km}, mb4.4/46,Error ellipse: s-maj=14.4km s-min=7.9km az=142.0*

IDC ***28*** *13:49:50.3±2.1,44°.23N×148°.04E,h75^{km}±18^{km},mb3.8/22, mb1 3.9/27,mb1mx3.8/39,mbtmp4.0/27,MS3.3/16, Ms1 3.3/16,ms1mx3.1/46,Error ellipse: s-maj=19.6km s-min=11.3km az=162.0*

ISC 28 13:49:46.0±1.1,43°.99N±0°.06×148°.08E±0°.06,h47^{km}±8^{km}, n224,σ1^{s}26/231,mb4.3/77,MS3.3/12,8C-2D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
KUR	**Kuril'sk**	**1.25**	**353**	*i* P		**Pn**	**13 50 06.4**	**-0.6**
KUR				AMB	AMB		13 50 09.8	
	200nm,0.4s							
KUR				AMB	AMB		13 50 09.8	
	560nm,0.4s							
KUR				*i* S		**Sn**	**13 50 22.9**	**+0.2**
KUR				A	A		13 50 24.2	
	2μm,0.4s							
KUR				A	A		13 50 24.2	
	3μm,0.4s							
KUR	**Kuril'sk**	**1.25**	**353**	*c* iPN		**Pn**	**13 50 06.4**	**-0.6**
KUR				*i* S		**Sn**	**13 50 23.4**	**+0.7**
KUR				pmax	pmax			
	comp=Z,563nm,0.4s							
KUR				pmax	pmax			
	comp=E,359nm,0.2s							
KUR				pmax	pmax			
	comp=N,199nm,0.3s							
KUR				smax	smax			
	comp=E,3μm,0.6s							
KUR				smax	smax			
	comp=N,2μm,0.2s							
YUK	**Yuzh-Kuril'sk**	**1.60**	**272**	*i* P		**Pn**	**13 50 10.9**	**-0.8**
YUK				AMB	AMB		13 50 13.0	
	comp=N,620nm,0.3s							
YUK				*i* S		**Sn**	**13 50 30.8**	**-0.4**
YUK				A	A		13 50 34.3	
	comp=N,1μm,0.4s							
YUK				A	A		13 50 34.3	
	comp=N,2μm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.60**	**272**	*d* iPN		**Pn**	**13 50 10.8**	**-0.9**
YUK				*i* S		**Sn**	**13 50 30.7**	**-0.4**
YUK				pmax	pmax			
	comp=Z,1231μm,0.2s							
YUK				pmax	pmax			
	comp=N,211μm,0.1s							
YUK				pmax	pmax			
	comp=E,342μm,0.1s							
YUK				smax	smax			
	comp=N,2μm,0.2s							
YUK				smax	smax			
	comp=E,6μm,0.2s							
LAGR	**Lagunnoye**	**1.65**	**273**	*e*P		**Pn**	**13 50 11.3**	**-1.2**
LAGR				AMB	AMB		13 50 18.0	
	comp=E,670nm,0.4s							
LAGR				*i* S		**Sn**	**13 50 32.3**	**-0.2**
LAGR				A	A		13 50 38.0	
	comp=E,3μm,0.4s							
LAGR				A	A		13 50 38.0	
	comp=E,2μm,0.4s							
LAGR	**Lagunnoye**	**1.65**	**273**	*e*PN		**Pn**	**13 50 11.3**	**-1.2**
LAGR				*i* S		**Sn**	**13 50 32.3**	**-0.2**
LAGR				pmax	pmax			
	comp=Z,674nm,0.3s							
LAGR				pmax	pmax			
	comp=N,403nm,0.1s							
LAGR				pmax	pmax			
	comp=E,632nm,0.1s							
LAGR				smax	smax			
	comp=N,12μm,0.4s							
LAGR				smax	smax			
	comp=E,8μm,0.3s							
GRPR	**Tuman**	**1.66**	**271**	*e*P		**Pn**	**13 50 11.8**	**-0.8**
GRPR				AMB	AMB		13 50 16.0	
	comp=E,620nm,0.4s							
GRPR				*i* S		**Sn**	**13 50 31.9**	**-0.9**
GRPR				A	A		13 50 36.5	
	comp=E,1μm,0.4s							
GRPR				A	A		13 50 36.5	
	comp=E,2μm,0.4s							
GRPR	**Tuman**	**1.66**	**271**	*e*PN		**Pn**	**13 50 11.8**	**-0.8**
GRPR				*i* S		**Sn**	**13 50 31.9**	**-0.9**
GRPR				pmax	pmax			
	comp=Z,618nm,0.2s							
GRPR				smax	smax			
	comp=N,9μm,0.4s							
GRPR				smax	smax			
	comp=E,5μm,0.4s							
NEM2	**Nemuro 2**	**1.81**	**251**	P		**Pn**	**13 50 12.7**	**-1.9**
NEM2				*e*S		**Sn**	**13 50 34.5**	**-1.8**
NMR	**Nemuro--Hokkai**	**1.81**	**251**	*e*P		**Pn**	**13 50 12.9**	**-1.6**
NMR				*i* S		**Sn**	**13 50 34.9**	**-1.6**
NMR	**Nemuro--Hokkai**	**1.81**	**251**	*e*PN		**Pn**	**13 50 12.7**	**-2.0**
NMR				*i* S		**Sn**	**13 50 34.9**	**-1.6**
JRA	**Rausu**	**2.13**	**270**	P		**Pn**	**13 50 18.9**	**-0.2**
JNSB	**Nemuroshibetsu**	**2.23**	**266**	P		**Pn**	**13 50 20.3**	**-0.1**
JNSB				*e*S		**Sn**	**13 50 46.8**	**+0.1**
JKHN	**Kushirohamanak**	**2.31**	**248**	P		**Pn**	**13 50 20.1**	**-1.3**
JNK	**Nakash**	**2.47**	**262**	P		**Pn**	**13 50 23.0**	**-0.6**
JNK				*e*S		**Sn**	**13 50 52.7**	**+0.2**
JAK	**Akkeshi**	**2.65**	**249**	P		**Pn**	**13 50 24.6**	**-1.6**
JAK				*e*S		**Sn**	**13 50 55.2**	**-1.9**
JTKR	**Abashiri--Toko**	**3.01**	**271**	P		**Pn**	**13 50 31.6**	**+0.5**
JAR	**Ashorobuto**	**3.20**	**259**	P		**Pn**	**13 50 34.2**	**+0.4**
JAR				*e*S		**Sn**	**13 51 12.6**	**+1.9**
JOB	**Onbets**	**3.27**	**252**	P		**Pn**	**13 50 34.2**	**-0.5**
JMP	**Maruseppu**	**3.40**	**272**	P		**Pn**	**13 50 37.5**	**+1.0**
JCH	**Churui**	**3.71**	**250**	P		**Pn**	**13 50 39.8**	**-0.9**
JCH				*e*S		**Sn**	**13 51 22.3**	**-0.7**
JKK2	**Kamakawa 2**	**3.85**	**270**	P		**Pn**	**13 50 44.5**	**+1.8**
JKA	**Kamikawa-asahi**	**3.95**	**274**	*e*P		**Pn**	**13 50 46.3**	**+2.3**
JKA	**Kamikawa-asahi**	**3.95**	**274**			**Pn**	**13 50 45.7**	**+1.7**
ASAJ	**Asahikawa**	**3.95**	**274**	P		**Pn**	**13 50 46.3**	**+2.2**
	comp=E,2.1nm,0.3s,baz=82,slow=14,SNR=21							
ASAJ				S		**Sn**	**13 51 35.1**	**+6.0**
	comp=E,14nm,0.3s,baz=234,slow=14,SNR=2.8							
ASAJ				LR	LR		13 52 34.2	
	comp=E,272nm,18.8s,baz=63,slow=42							
ASAJ	**Asahikawa**	**3.95**	**274**	P		**Pn**	**13 50 46.1**	**+2.1**
ERM	**Erimo**	**4.11**	**243**	PN		**Pn**	**13 50 47.4**	**+1.2**
ERM	**Erimo**	**4.11**	**243**	Pn		**Pn**	**13 50 47.4**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.77**	**310**	*e*P		**Pn**	**13 50 56.8**	**+1.5**
YSS				AMB	AMB		13 50 57.6	
	comp=E,70nm,0.3s							
YSS				*e*S		**Sn**	**13 51 49.2**	**-0.1**
YSS				A	A		13 51 50.8	
	comp=E,140nm,0.7s							
YSS				A	A		13 51 50.8	
	comp=E,190nm,0.7s							
YSS	**Yuzh-Sakhalins**	**4.77**	**310**	*e*PN		**Pn**	**13 50 56.6**	**+1.3**
YSS				pmax	pmax			
	comp=N,20nm,0.4s							
YSS				pmax	pmax			
	comp=E,20nm,0.4s							
YSS				pmax	pmax			
	comp=Z,40nm,0.4s							
YSS				MLR	MLR			
	comp=N,100nm,16.0s							
YSS				MLR	MLR			
	comp=E,100nm,16.0s							
YSS				MLR	MLR			
	comp=Z,200nm,16.0s							
YSS	**Yuzh-Sakhalins**	**4.77**	**310**	Pn		**Pn**	**13 50 56.1**	**+0.8**
TYV	**Tymovskoe**	**7.79**	**334**	*e*P		**Pn**	**13 51 39.8**	**+3.1**
TYV				AMB	AMB		13 51 43.6	
TYV	**Tymovskoe**	**7.79**	**334**	*e*PN		Pn	13 51 42.1	+5.4
TYV				*e*S		Sn	13 53 14.8	+11
TYV				pmax	pmax			
	comp=Z,14nm,0.7s							
TYV				smax	smax			
	comp=E,12nm,1.4s							
TEY	**Ternei**	**8.27**	**281**	*e*P		**Pn**	**13 51 45.3**	**+2.1**
TEY	**Ternei**	**8.27**	**281**	⇑*e*PN		Pn	13 51 50.3	+7.1
TEY				pmax	pmax			
	comp=E,10.0nm,0.7s							
TEY				pmax	pmax			
	comp=Z,20nm,0.7s							
SKR	**Severo-Kuril's**	**8.63**	**36**	*e*P		**Pn**	**13 51 47.7**	**-0.4**
SKR	**Severo-Kuril's**	**8.63**	**36**	*e*PN		Pn	13 51 42.7	-5.4
SKR				pmax	pmax			
	comp=Z,39nm,1.1s							
SKR				MLR	MLR			
	comp=Z,100nm,14.0s							
SKR				MLR	MLR			
	comp=Z,100nm,13.0s							
OKH	**Okha**	**10.15**	**342**	*e*P		**Pn**	**13 52 11.2**	**+2.4**
NKL	**Nikolayevsk**	**10.39**	**335**	*e*P		**Pn**	**13 52 14.4**	**+2.3**
NKL				AMB	AMB		13 52 16.9	
	comp=Z,30nm,0.8s							
GRNR	**Gornyy**	**10.41**	**315**	*e*PN		**Pn**	**13 52 10.0**	**-2.4**
GRNR				MLR	MLR			
	comp=E,80nm,14.0s							
GRNR				MLR	MLR			
	comp=N,60nm,16.0s							
GRNR				MLR	MLR			
	comp=Z,60nm,17.0s							
MAJO	**Matsushiro**	**10.59**	**229**	*i* PN		**Pn**	**13 52 13.6**	**-1.4**
MAJO	**Matsushiro**	**10.59**	**229**	Pn		**Pn**	**13 52 13.0**	**-2.0**
MJAR	**Matsushiro Arr**	**10.59**	**229**	P		**Pn**	**13 52 13.3**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=26,slow=14,SNR=26							
MJAR				S		**Sn**	**13 54 16.6**	**+4.5**
	comp=Z,0.1nm,0.3s,baz=239,slow=20,SNR=4.5							
MJAR				LR	LR		13 56 50.4	
	comp=Z,68nm,19.8s,baz=75,slow=39							
MJB9	**Matsu-Tunnel**	**10.59**	**229**	Pn		**Pn**	**13 52 12.9**	**-2.1**
PEA0B	**Petropavlovsk-**	**11.12**	**31**	PN		**Pn**	**13 52 20.8**	**-1.3**
PEA0B	**Petropavlovsk-**	**11.12**	**31**	Pn		**Pn**	**13 52 20.8**	**-1.3**
PETK	**Petropavlovsk-**	**11.12**	**31**	P		**Pn**	**13 52 22.2**	**0.0**
	comp=Z,0.4nm,0.3s,baz=198,slow=14,SNR=12							
PETK				LR	LR		13 56 31.4	
	comp=Z,93nm,20.8s,baz=239,slow=37							
USRK	**Ussuriysk Ar.**	**11.58**	**277**	P		**Pn**	**13 52 31.4**	**+2.9**
	baz=88,slow=15,SNR=3.9							
KLR	**Kul'dur**	**12.38**	**301**	P		**Pn**	**13 52 42.3**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=93,slow=9.9,SNR=4.4							
KLR				LR	LR		13 57 40.5	
	comp=Z,94nm,18.5s,baz=106,slow=38							
KLR	**Kul'dur**	**12.38**	**301**	*e*P		**Pn**	**13 52 40.8**	**+1.4**
KLR	**Kul'dur**	**12.38**	**301**	*i* PN		**Pn**	**13 52 40.8**	**+1.4**
KLR				pmax	pmax			
	comp=Z,2.0nm,0.9s							
EKMR	**Ekimchan**	**13.50**	**318**	*e*P		**Pn**	**13 52 55.5**	**+0.8**
EKMR				AMB	AMB		13 53 04.0	
	comp=Z,6.0nm,0.8s							
MA2	**Magadan**	**15.69**	**5**	LR	LR		13 59 16.9	
	comp=Z,101nm,18.1s,baz=159,slow=37							
BMKR	**Bomnak**	**16.44**	**317**	*e*P		**Pn**	**13 53 32.2**	**-0.9**
BMKR				AMB	AMB		13 53 37.0	
	comp=Z,8.0nm,1.0s							
KSRS	**Korea Array**	**16.60**	**254**	P		**P**	**13 53 37.6**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=61,slow=13,SNR=6.6							
KSRS				LR	LR		13 59 15.6	
	comp=Z,66nm,21.4s,baz=86,slow=34							
ZEA	**Zeya**	**16.76**	**313**	*e*P		**Pn**	**13 53 35.0**	**-2.2**
ZEA				AMB	AMB		13 53 40.2	
	comp=Z,10.0nm,1.0s							
ZEA	**Zeya**	**16.76**	**313**	*e*P		**P**	**13 53 39.0**	**+0.2**
ZEA				pmax	pmax			
	comp=Z,12nm,1.0s							
KROS	**Kirovskiy**	**17.23**	**315**	*e*P		**Pn**	**13 53 40.8**	**-2.2**
KROS				AMB	AMB		13 53 41.3	
	comp=Z,4.0nm,0.8s							
JNU	**Nakatsue**	**17.25**	**237**	Pn		**P**	**13 53 43.7**	**-0.7**
YAK	**Yakutsk**	**21.05**	**336**	AMB	AMB		13 54 23.2	
YAK	**Yakutsk**	**21.05**	**336**	*e*P		**P**	**13 54 23.2**	**-2.4**
YAK				pmax	pmax			
	comp=Z,9.0nm,0.8s							
YAK				pmax	pmax			
	comp=N,3.0nm,0.9s							
YAK				pmax	pmax			
	comp=E,2.0nm,0.9s							
BILL	**Bilibino**	**25.94**	**16**	*e*P		**P**	**13 55 15.6**	**+2.1**
BILL	**Bilibino**	**25.94**	**16**	*i* P		**P**	**13 55 15.6**	**+2.1**
BILL				pmax	pmax			
	comp=Z,4.0nm,1.1s							
H11N2	**WAKE ISLAND Hy**	**28.86**	**141**	T		T	14 26 33.1	
	baz=332,slow=76,SNR=371							
H11N1	**WAKE ISLAND Hy**	**28.87**	**141**	T		T	14 26 29.9	
	baz=332,slow=76,SNR=320							
H11N3	**WAKE ISLAND Hy**	**28.87**	**141**	T		T	14 26 30.8	
	baz=332,slow=76,SNR=162							
SONM	**Songino Array**	**29.00**	**292**	P		**P**	**13 55 41.8**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=76,slow=6.6,SNR=3.2							
SONM				LR	LR		14 08 31.1	
	comp=Z,57nm,18.1s,baz=144,slow=39							
TIXI	**Tiksi**	**29.26**	**348**	*i* P		**P**	**13 55 44.0**	**+0.9**
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.0s							
WHN	**Wuhan**	**29.79**	**255**	*e*P		**P**	**13 55 48.0**	**-0.2**
WHN				S		**S**	**14 00 39.5**	**-1.9**
WHN				LR	LR			
	comp=Z,330nm,17.0s							
H11S1	**WAKE ISLAND Hy**	**29.84**	**142**	T		T	14 27 27.9	
	baz=332,slow=76,SNR=623							
H11S3	**WAKE ISLAND Hy**	**29.84**	**143**	T		T	14 27 35.0	
	baz=332,slow=76,SNR=501							
H11S2	**WAKE ISLAND Hy**	**29.86**	**142**	T		T	14 27 29.3	
	baz=332,slow=76,SNR=434							
TLY	**Talaya**	**30.40**	**301**	LR		LR	14 07 17.6	
	comp=Z,44nm,21.8s,baz=92,slow=35							
TLY	**Talaya**	**30.40**	**301**	*i* P		**P**	**13 55 52.0**	**-1.5**
TLY				pmax	pmax			
	comp=Z,1.0nm,0.9s							
XAN	**Xi'an**	**31.75**	**265**	P		**P**	**13 56 07.5**	**+2.0**
XAN				pP	sP		13 56 20.5	-2.7
XAN				pmax	pmax			
	comp=Z,4.0nm,1.3s							
GTA	**Gaotai**	**35.91**	**280**	*e*P		**P**	**13 56 42.5**	**+0.7**
GTA				pP	pP		13 56 47.3	-6.8
GTA				sP	sP		13 56 49.8	-10
GTA				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KDAK	**Kodiak Island**	**38.59**	**48**	P		**P**	**13 57 04.3**	**+0.3**
	comp=Z,3.4nm,0.7s,baz=248,slow=5.4,SNR=1.6							
KDAK	**Kodiak Island**	**38.59**	**48**	P		**P**	**13 57 03.9**	**-0.2**
KDAK				pmax	pmax			
	comp=Z,52nm,1.7s							
KDAK	**Kodiak Island**	**38.59**	**48**	P		**P**	**13 57 03.9**	**-0.2**
SPU	**Mount Spurr**	**38.65**	**42**	P		**P**	**13 57 05.3**	**+0.7**
HOM	**Homer**	**38.92**	**45**	P		**P**	**13 57 05.2**	**-1.6**
BPAW	**Bear Paw Mtn.**	**39.12**	**37**	P		**P**	**13 57 09.5**	**+1.0**
BPAW				IAmb	IAmb		13 58 28.0	
	comp=Z,9.3nm,1.7s							
SUA	**Susitna One**	**39.27**	**42**	P		**P**	**13 57 09.5**	**-0.3**
NRIK	**Noril'sk**	**39.36**	**331**	LR		LR	14 16 39.7	
	comp=Z,34nm,18.1s,baz=34,slow=41							
COLD	**Coldfoot**	**39.59**	**33**	P		**P**	**13 57 11.2**	**-1.1**
COLD				IAmb	IAmb		13 57 13.6	
	comp=Z,5.5nm,1.1s							
TOLK	**Toolik Lake Re**	**39.94**	**30**	P		**P**	**13 57 15.1**	**-0.2**
TOLK				IAmb	IAmb		13 57 40.4	
	comp=Z,15nm,1.9s							
SEW	**Seward**	**39.99**	**44**	P		**P**	**13 57 14.7**	**-0.9**
WRH	**Wood River Hil**	**40.38**	**37**	P		**P**	**13 57 18.8**	**-0.1**
SML	**Sawmill**	**40.40**	**41**	P		**P**	**13 57 18.9**	**-0.2**
SML				IAmb	IAmb		13 57 20.3	
	comp=Z,5.9nm,0.8s							
COLA	**College**	**40.48**	**36**	*i* P		**P**	**13 57 20.4**	**+0.7**
COLA				pmax	pmax			
	comp=Z,7.0nm,0.9s							
CCB	**Clear Creek Bu**	**40.51**	**37**	P		**P**	**13 57 20.0**	**+0.2**
CCB				IAmb	IAmb		13 57 47.9	
	comp=Z,12nm,1.8s							
DHY	**Denali Highway**	**40.76**	**39**	P		**P**	**13 57 21.1**	**-1.1**
DHY				IAmb	IAmb		13 57 24.1	
	comp=Z,7.8nm,1.4s							
SCM	**Sheep Creek Mo**	**40.87**	**41**	P		**P**	**13 57 21.6**	**-1.5**
SCM				pmax	pmax			
	comp=Z,11nm,1.3s							
SCM	**Sheep Creek Mo**	**40.87**	**41**	P		**P**	**13 57 21.6**	**-1.5**
SCM				IAmb	IAmb		13 58 11.6	
	comp=Z,11nm,1.3s							
HDA	**Harding Lake**	**40.88**	**37**	P		**P**	**13 57 22.3**	**-0.7**
HDA				IAmb	IAmb		13 57 23.8	
	comp=Z,3.4nm,0.6s							
IL31		**40.90**	**36**	P		**P**	**13 57 21.7**	**-1.4**
IL31				IAmb	IAmb		13 57 25.5	
	comp=Z,3.4nm,0.7s							
ILAR	**Eielson Array**	**40.90**	**36**	P		**P**	**13 57 23.3**	**+0.2**
	comp=Z,2.2nm,0.7s,baz=260,slow=7.4,SNR=22							
GLI	**Glacier Island**	**41.08**	**42**	P		**P**	**13 57 22.8**	**-1.8**
GLI				IAmb	IAmb		13 58 51.0	
	comp=Z,9.7nm,1.0s							
ZALV	**Zalesovo Beam**	**41.39**	**307**	P		**P**	**13 57 27.7**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=96,slow=10,SNR=2.1							
ZALV				PcP		**PcP**	**13 59 24.6**	**0.0**
	comp=Z,1.5nm,0.3s,baz=66,slow=3.7,SNR=4.5							
ZALV				LR	LR		14 15 42.8	
	comp=Z,33nm,18.4s,baz=54,slow=38							
HIN	**Hinchinbrook I**	**41.42**	**43**	P		**P**	**13 57 26.8**	**-0.8**
PRP	**Porcupine Dome**	**41.44**	**35**	P		**P**	**13 57 27.0**	**-0.8**
PRP				IAmb	IAmb		13 57 29.5	
	comp=Z,6.2nm,0.7s							
FYU	**Fort Yukon**	**41.53**	**34**	P		**P**	**13 57 28.4**	**+0.1**
PAX	**Paxson**	**41.63**	**39**	P		**P**	**13 57 28.6**	**-0.7**
PAX				pmax	pmax			
	comp=Z,4.0nm,1.1s							
PAX	**Paxson**	**41.63**	**39**	P		**P**	**13 57 28.6**	**-0.7**
RIDG	**Independent Ri**	**41.85**	**38**	P		**P**	**13 57 30.0**	**-1.0**
RIDG				IAmb	IAmb		13 57 32.4	
	comp=Z,5.7nm,1.0s							
DOT	**Dot Lake**	**42.20**	**38**	P		**P**	**13 57 33.4**	**-0.5**
DOT				IAmb	IAmb		13 57 51.3	
	comp=Z,18nm,2.0s							
SCRK	**Sand Creek**	**42.20**	**37**	P		**P**	**13 57 33.4**	**-0.6**
**MEN

KURK	**Kurchatov**	**45.95**	**304**	P	**P**	**13 58 01.6**	**-2.4**
KURK				IAmb	IAmb	13 58 06.0	
	comp=Z,11nm,1.6s						
CMAR	**Chiang Mai Arr**	**48.24**	**254**	P	**P**	**13 58 22.8**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=36,slow=7.2,SNR=2.7						
CMAR				LR	LR	14 20 55.6	
	comp=Z,30nm,19.9s,baz=190,slow=39						
JIRN	**Jiri**	**51.59**	**273**	*e*P	**P**	**13 58 48.1**	**+0.1**
	comp=Z,6.8nm,0.4s						
RAMN	**Ramite**	**51.71**	**272**	*e*P	**P**	**13 58 48.7**	**-0.1**
	comp=Z,19nm,0.5s						
AAK	**Ala-Archa**	**51.86**	**296**	*e*P	**P**	**13 58 49.7**	**+0.1**
AAK	**Ala-Archa**	**51.86**	**296**	*ce*P	**P**	**13 58 49.7**	**+0.1**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
PKI	**Pulchoki**	**52.20**	**274**	*e*P	**P**	**13 58 52.1**	**-0.4**
	comp=Z,6.1nm,0.6s						
DMN	**Daman**	**52.40**	**274**	*e*P	**P**	**13 58 53.9**	**0.0**
	comp=Z,14nm,0.6s						
DANN	**Dangsing**	**52.94**	**276**	*e*P	**P**	**13 58 58.4**	**+0.5**
	comp=Z,21nm,0.7s						
KOLN	**Koldanda**	**53.39**	**275**	*e*P	**P**	**13 59 01.3**	**+0.1**
	comp=Z,9.6nm,0.7s						
HNR	**Honiara**	**54.25**	**166**	LR	LR	14 23 08.0	
	comp=Z,24nm,18.5s,baz=205,slow=37						
ARU	**Arti**	**54.63**	**317**	*e*P	**P**	**13 59 09.4**	**-0.1**
ARU	**Arti**	**54.63**	**317**	*d i*P	**P**	**13 59 09.2**	**-0.3**
ARU						14 01 10.6	
ARU				S	**S**	**14 06 46.3**	**+0.7**
ARU				SS	**SS**	**14 10 24.1**	**-4.1**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA	**Yellowknife Ar**	**55.23**	**34**	P	**P**	**13 59 14.0**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=302,slow=7.3,SNR=18						
ARCES	**ARCESS Array B**	**59.25**	**340**	P	**P**	**13 59 41.5**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=46,slow=7.9,SNR=11						
WRA	**Warramunga Arr**	**64.86**	**194**	P	**P**	**14 00 23.1**	**+3.0**
	comp=Z,0.7nm,0.9s,baz=11,slow=8.3,SNR=1.6						
GEYT	**Ailbeck**	**64.91**	**299**	P	**P**	**14 00 20.8**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=24,slow=9.0,SNR=4.0						
FINES	**FINESS Array B**	**64.96**	**333**	P	**P**	**14 00 19.4**	**-0.9**
	comp=Z,3.7nm,0.5s,baz=42,slow=7.5,SNR=45						
FINES	**FINESS Array B**	**64.96**	**333**	*i*P	**P**	**14 00 19.1**	**-1.3**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.5s						
OBN	**Obninsk**	**65.52**	**324**	*e*P	**P**	**14 00 25.1**	**+1.1**
OBN	**Obninsk**	**65.52**	**324**	*i*P	**P**	**14 00 25.1**	**+1.1**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KVN	**Kaiserville**	**66.62**	**58**	P	**P**	**14 00 30.2**	**-1.5**
KVN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KVN	**Kaiserville**	**66.62**	**58**	P	**P**	**14 00 30.2**	**-1.5**
KVN				IAmb	IAmb	14 00 33.1	
	comp=Z,2.5nm,0.9s						
NVAR	**Mina Array Bea**	**66.88**	**58**	P	**P**	**14 00 34.1**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=292,slow=7.3,SNR=18						
ASAR	**Alice Springs**	**68.57**	**194**	P	**P**	**14 00 46.7**	**+2.9**
	comp=Z,0.3nm,0.8s,baz=6.5,slow=6.1,SNR=1.8						
TPNV	**Topopah Spring**	**69.08**	**59**	P	**P**	**14 00 45.7**	**-1.5**
TPNV				pmax	pmax		
	comp=Z,3.0nm,1.1s						
TPNV	**Topopah Spring**	**69.08**	**59**	P	**P**	**14 00 45.7**	**-1.5**
PDAR	**Pinedale Array**	**69.24**	**50**	P	**P**	**14 00 48.3**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=276,slow=2.8,SNR=6.5						
NB2	**NORSAR Subarra**	**69.62**	**339**	P	**P**	**14 00 49.0**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=29,slow=6.5						
NOA	**NORSAR Array B**	**69.62**	**339**	P	**P**	**14 00 49.4**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=33,slow=6.5,SNR=18						
NOA				LR	LR	14 34 26.4	
	comp=Z,18nm,20.2s,baz=140,slow=39						
KIV	**Kislovodsk**	**70.10**	**312**	*e*P	**P**	**14 00 53.6**	**+0.4**
KIV	**Kislovodsk**	**70.10**	**312**	*e*P	**P**	**14 00 53.6**	**+0.4**
KIV				MLR	MLR		
	comp=Z,73nm,18.0s						
KBZ	**Khabaz**	**70.14**	**312**	P	**P**	**14 00 54.1**	**+0.8**
	comp=Z,6.6nm,0.7s,baz=67,slow=6.0,SNR=14						
KBZ				LR	LR	14 36 21.9	
	comp=Z,37nm,18.1s,baz=47,slow=40						
KBZ	**Khabaz**	**70.14**	**312**	*e*P	**P**	**14 00 53.3**	**0.0**
KBZ	**Khabaz**	**70.14**	**312**	*ce*P	**P**	**14 00 53.3**	**0.0**
KBZ				pmax	pmax		
	comp=Z,9.0nm,0.8s						
ZEI	**Tsey**	**70.22**	**311**	*e*P	**P**	**14 00 52.9**	**-1.3**
SRU	**San Rafael Swe**	**71.10**	**54**	P	**P**	**14 00 57.3**	**-2.3**
SRU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
SRU	**San Rafael Swe**	**71.10**	**54**	P	**P**	**14 00 57.2**	**-2.3**
AKASG	**Malin Array Be**	**71.78**	**324**	P	**P**	**14 01 02.6**	**-0.6**
	comp=Z,3.2nm,0.5s,baz=38,slow=6.1,SNR=20						
AKASG	**Malin Array Be**	**71.78**	**324**	*i*P	**P**	**14 01 02.5**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,4.0nm,0.6s						
AKBB	**Malin Array Si**	**71.78**	**324**	P	**P**	**14 01 01.7**	**-1.4**
AKBB				pmax	pmax		
	comp=Z,7.0nm,0.9s						
AKBB	**Malin Array Si**	**71.78**	**324**	P	**P**	**14 01 01.7**	**-1.4**
PV17	**East Wray Mesa**	**72.57**	**54**	P	**P**	**14 01 07.9**	**-0.5**
PV17				IAmb	IAmb	14 01 09.4	
	comp=Z,4.5nm,0.6s						
BUR08	**Bucovina Ar. S**	**75.82**	**324**		**P**	**14 01 27.2**	**+0.2**
BUR08				IAmb	IAmb	14 01 27.9	
	comp=Z,5.1nm,0.8s						
OJC	**Ojcow**	**75.92**	**329**	*e*P	**P**	**14 01 28.0**	**+0.5**
ANMO	**Albuquerque**	**76.32**	**55**	*ce*P	**P**	**14 01 29.6**	**-0.6**
ANMO				pmax	pmax		
	comp=Z,3.0nm,1.6s						
NIE	**Niedzica**	**76.38**	**328**	*e*P	**P**	**14 01 31.1**	**+0.9**
KSP	**Ksiaz**	**76.68**	**331**	*e*P	**P**	**14 01 32.2**	**+0.5**
CHVC	**Chvalec**	**76.98**	**331**	*e*P	**P**	**14 01 33.6**	**+0.2**
DPC	**Dobruska-Polom**	**77.08**	**331**	*e*P	**P**	**14 01 34.4**	**+0.3**
DPC	**Dobruska-Polom**	**77.08**	**331**	*e*P	**P**	**14 01 34.4**	**+0.3**
MORC	**Moravsky Berou**	**77.12**	**330**	*e*P	**P**	**14 01 34.4**	**+0.1**
CLL	**Collm**	**77.41**	**333**	⇑ *i*P	**P**	**14 01 35.6**	**-0.2**
	comp=Z,11nm,0.6s						
CLL	**Collm**	**77.41**	**333**	⇑ *i*P	**P**	**14 01 35.6**	**-0.2**
CLL				pmax	pmax		
	comp=Z,11nm,0.6s						
CLL	**Collm**	**77.41**	**333**	P	**P**	**14 01 33.7**	**-2.1**
BRG	**Berggiesshubel**	**77.47**	**332**	*e*PKP	**P**	**14 01 35.8**	**-0.3**
	comp=Z,5.3nm,1.2s						
BRG	**Berggiesshubel**	**77.47**	**332**	*e*P	**P**	**14 01 35.8**	**-0.3**
BRG				pmax	pmax		
	comp=Z,5.0nm,1.2s						
VYHS	**Vyhne**	**77.70**	**328**	*e*P	**P**	**14 01 37.8**	**+0.3**
VYHS	**Vyhne**	**77.70**	**328**	*e*P	**P**	**14 01 37.8**	**+0.3**
JAVC	**Velka Javorina**	**77.83**	**329**	*e*P	**P**	**14 01 39.3**	**+1.0**
VRAC	**Vranov**	**77.86**	**330**	*e*P	**P**	**14 01 38.7**	**+0.4**
BRTR	**Keskin Array B**	**77.86**	**314**	P	**P**	**14 01 39.2**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=52,slow=2.7,SNR=3.8						
GOPC	**GO Pecny, Ondr**	**77.99**	**331**	*e*P	**P**	**14 01 39.4**	**+0.3**
GOPC	**GO Pecny, Ondr**	**77.99**	**331**	*e*P	**P**	**14 01 39.4**	**+0.3**
PRU	**Pruhonice**	**78.01**	**331**	*e*P	**P**	**14 01 39.4**	**+0.2**
PRU	**Pruhonice**	**78.01**	**331**	*e*P	**P**	**14 01 39.4**	**+0.2**
KRUC	**Moravsky**	**78.13**	**330**	*e*P	**P**	**14 01 40.0**	**+0.1**
KHC	**Kasperske Hory**	**79.07**	**332**	*e*P	**P**	**14 01 45.3**	**+0.2**
KHC	**Kasperske Hory**	**79.07**	**332**	P	**P**	**14 01 44.9**	**-0.2**
KHC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KHC	**Kasperske Hory**	**79.07**	**332**	P	**P**	**14 01 44.9**	**-0.2**
GERES	**GERESS Array B**	**79.27**	**331**	P	**P**	**14 01 46.1**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=40,slow=6.0,SNR=12						
GERES				LR	LR	14 40 33.7	
	comp=Z,29nm,18.6s,baz=284,slow=38						
CONA	**Conrad Observa**	**79.28**	**330**	*e*P	**P**	**14 01 46.9**	**+0.6**
	comp=Z,2.6nm,0.7s						
GRF	**Grafenberg Arr**	**79.38**	**333**	*e*P	**P**	**14 01 47.0**	**+0.3**
	comp=Z,9.0nm,1.1s,baz=29,slow=4.7						
ARSA	**Arzberg**	**79.97**	**329**	*i*P	**P**	**14 01 49.9**	**-0.1**
	comp=Z,1.0nm,0.5s						
SOKA	**Soboth**	**80.64**	**329**	*e*P	**P**	**14 01 53.6**	**-0.1**
	comp=Z,4.2nm,0.8s						
PERS	**Pernice**	**80.64**	**329**	*i*P	**P**	**14 01 53.7**	**+0.1**
KBA	**Koelnbreinsper**	**80.91**	**331**	*e*P	**P**	**14 01 55.7**	**+0.5**
	comp=Z,3.6nm,0.6s						
OBKA	**Obir**	**80.95**	**330**	*i*P	**P**	**14 01 54.9**	**-0.4**
	comp=Z,1.6nm,0.5s						
GOLS	**Golise**	**80.98**	**329**	*i*P	**P**	**14 01 55.2**	**-0.2**
WATA	**Walderalm**	**81.30**	**332**	*e*P	**P**	**14 01 57.5**	**+0.2**
	comp=Z,2.4nm,0.5s						
WTTA	**Wattenberg**	**81.34**	**332**	*i*P	**P**	**14 01 57.7**	**+0.2**
	comp=Z,6.6nm,0.9s						
RETA	**Reutte**	**81.44**	**332**	*e*P	**P**	**14 01 58.2**	**+0.3**
	comp=Z,5.3nm,1.1s						
VISS	**Visnje**	**81.45**	**329**	*e*P	**P**	**14 01 57.2**	**-0.7**
MOTA	**Moosalm**	**81.45**	**332**	*i*P	**P**	**14 01 57.7**	**-0.3**
	comp=Z,5.7nm,1.0s						
ABTA	**Abfaltersbach**	**81.48**	**331**	*i*P	**P**	**14 01 58.3**	**+0.1**
	comp=Z,3.5nm,1.1s						
SQTA	**Sankt Quirin**	**81.53**	**332**	*e*P	**P**	**14 01 58.6**	**+0.2**
	comp=Z,3.2nm,0.7s						
FETA	**Feichten**	**81.86**	**332**	*e*PcP	**P**	**14 02 01.0**	**+0.8**
	comp=Z,3.9nm,1.2s						
DAVA	**Damuels**	**81.91**	**333**	*e*P	**P**	**14 02 00.6**	**+0.1**
	comp=Z,5.8nm,0.8s						
TX31	**Lajitas Ar. Si**	**81.96**	**57**	P	**P**	**14 02 00.8**	**-0.2**
TX32	**Lajitas Array**	**81.96**	**57**	P	**P**	**14 02 00.7**	**-0.3**
TX32				IAmb	IAmb	14 02 01.9	
	comp=Z,2.2nm,0.8s						
TXAR	**Lajitas Array**	**81.96**	**57**	P	**P**	**14 02 01.4**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=299,slow=4.0,SNR=30						
ESDC	**Sonseca Array**	**92.98**	**339**	P	**P**	**14 02 54.6**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=20,slow=4.1,SNR=4.3						
TORD	**Torodi Ar. Bea**	**115.41**	**323**	PKP	**PKiKP**	**14 08 21.8**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=51,slow=1.8,SNR=2.0						
H03N2	**Juan Fernandez**	**142.29**	**90**	T	T	16 48 10.1	
	baz=305,slow=77,SNR=7.9						
H03N3	**Juan Fernandez**	**142.31**	**90**	T	T	16 48 17.2	
	baz=305,slow=77,SNR=17						
H03N1	**Juan Fernandez**	**142.31**	**90**	T	T	16 48 16.1	
	baz=305,slow=77,SNR=13						

JMA ***28*** *13:59:51.4±0.4, 43.°70N×147.°90E, h0km, M3.8*
SKHL ***28*** *13:59:51.7±0.3, 43.°86N×148.°26E, h73km±7km, mb4.3/5*
MOS ***28*** *13:59:52.6±1.7, 44.°06N×148.°01E, h72km, mb4.3/4, Error ellipse: s-maj=13.4km s-min=12.4km az=30.2*

ISC 28 13:59:52.1±2.0, 43.°94N±0.°09×148.°2E±0.°1, h59km±14km, n42, σ1§27/58, mb4.1/6, 1C-1D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.31**	**351**	*i*	P	**Pn**	**Pn**	**14 00 14.6**	**+0.4**
KUR					AMB	AMB	AMB	14 00 16.7	
	190nm,0.4s								
KUR				*i*	S	**Sn**	**Sn**	**14 00 31.6**	**+0.8**
KUR					A	A	A	14 00 34.3	
	460nm,0.3s								
KUR					A	A	A	14 00 34.3	
	490nm,0.3s								
KUR	**Kuril'sk**	**1.31**	**351**	*c i*	PN	**Pn**	**Pn**	**14 00 14.7**	**+0.5**
KUR				*i*	S	**Sn**	**Sn**	**14 00 31.5**	**+0.8**
KUR					pmax	pmax			
	comp=E,88nm,0.3s								
KUR					pmax	pmax			
	comp=Z,176nm,0.3s								
KUR					pmax	pmax			
	comp=N,91nm,0.2s								
KUR					smax	smax			
	comp=N,441nm,0.2s								
KUR					smax	smax			
	comp=E,159nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**1.67**	**274**	*i*	P	**Pn**	**Pn**	**14 00 19.1**	**0.0**
YUK					AMB	AMB	AMB	14 00 20.3	
	comp=E,190nm,0.4s								
YUK				*i*	S	**Sn**	**Sn**	**14 00 39.5**	**+0.1**
YUK					A	A	A	14 00 43.6	
	comp=E,540nm,0.4s								
YUK					A	A	A	14 00 43.6	
	comp=E,730nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**1.67**	**274**	*e*	PN	**Pn**	**Pn**	**14 00 19.0**	**0.0**
YUK				*i*	S	**Sn**	**Sn**	**14 00 39.0**	**-0.4**
YUK					pmax	pmax			
	comp=Z,210μm,0.2s								
YUK					pmax	pmax			
	comp=E,103μm,0.1s								
YUK					smax	smax			
	comp=N,580nm,0.2s								
YUK					smax	smax			
	comp=E,950nm,0.2s								
LAGR	**Lagunnoye**	**1.73**	**275**	*e*	P	**Pn**	**Pn**	**14 00 19.6**	**-0.2**
LAGR					AMB	AMB	AMB	14 00 22.0	
	comp=E,140nm,0.4s								
LAGR				*i*	S	**Sn**	**Sn**	**14 00 40.9**	**+0.2**
LAGR					A	A	A	14 00 45.0	
	comp=E,770nm,0.5s								
LAGR					A	A	A	14 00 45.0	
	comp=E,550nm,0.5s								
LAGR	**Lagunnoye**	**1.73**	**275**	*e*	PN	**Pn**	**Pn**	**14 00 19.6**	**-0.2**
LAGR				*i*	S	**Sn**	**Sn**	**14 00 40.6**	**-0.1**
LAGR					pmax	pmax			
	comp=N,50nm,0.1s								
LAGR					pmax	pmax			
	comp=E,37nm,0.1s								
LAGR					pmax	pmax			
	comp=Z,140nm,0.1s								
LAGR					smax	smax			
	comp=N,968nm,0.2s								
LAGR					smax	smax			
	comp=E,554nm,0.2s								
GRPR	**Tuman**	**1.73**	**273**	*e*	P	**Pn**	**Pn**	**14 00 20.0**	**+0.2**
GRPR					AMB	AMB	AMB	14 00 23.0	
	comp=E,130nm,0.4s								
GRPR				*i*	S	**Sn**	**Sn**	**14 00 41.3**	**+0.3**
GRPR					A	A	A	14 00 44.0	
	comp=E,520nm,0.4s								
GRPR					A	A	A	14 00 44.0	
	comp=E,610nm,0.4s								
GRPR	**Tuman**	**1.73**	**273**	*e*	PN	**Pn**	**Pn**	**14 00 20.1**	**+0.2**
GRPR				*i*	S	**Sn**	**Sn**	**14 00 41.3**	**+0.3**
GRPR					pmax	pmax			
	comp=E,29nm,0.2s								
GRPR					pmax	pmax			
	comp=Z,127nm,0.2s								
GRPR					smax	smax			
	comp=N,518nm,0.2s								
GRPR					smax	smax			
	comp=E,614nm,0.4s								
NEM2	**Nemuro 2**	**1.85**	**253**	P		**Pn**	**Pn**	**14 00 21.0**	**-0.5**
NEM2				*e*	S	**Sn**	**Sn**	**14 00 42.8**	**-1.0**
NMR	**Nemuro--Hokkai**	**1.86**	**253**	*e*	P	**Pn**	**Pn**	**14 00 22.0**	**+0.4**
NMR				*i*	S	**Sn**	**Sn**	**14 00 44.7**	**+0.6**
NMR	**Nemuro--Hokkai**	**1.86**	**253**	*e*	PN	**Pn**	**Pn**	**14 00 21.6**	**0.0**
NMR				*i*	S	**Sn**	**Sn**	**14 00 45.0**	**+0.9**
JRA	**Rausu**	**2.20**	**271**	P		**Pn**	**Pn**	**14 00 27.3**	**+1.0**
JRA				*e*	S	**Sn**	**Sn**	**14 00 53.8**	**+1.4**
JNSB	**Nemuroshibetsu**	**2.30**	**267**	P		**Pn**	**Pn**	**14 00 28.6**	**+1.1**
JKHN	**Kushirohamanak**	**2.35**	**250**	P		**Pn**	**Pn**	**14 00 28.6**	**+0.3**
JKHN				*e*	S	**Sn**	**Sn**	**14 00 56.0**	**0.0**
JNK	**Nakash**	**2.53**	**263**	P		**Pn**	**Pn**	**14 00 31.2**	**+0.5**
JNK				*e*	S	**Sn**	**Sn**	**14 01 00.3**	**0.0**
AKK	**Akkeshi**	**2.59**	**250**	*e*	P	**Pn**	**Pn**	**14 00 32.2**	**+0.6**
AKK				*e*	S	**Sn**	**Sn**	**14 01 01.5**	**-0.4**
JAK	**Akkeshi**	**2.70**	**251**	P		**Pn**	**Pn**	**14 00 33.2**	**+0.2**
JTKR	**Abashiri--Toko**	**3.08**	**272**	P		**Pn**	**Pn**	**14 00 40.1**	**+1.9**
JAR	**Ashorobuto**	**3.26**	**260**	P		**Pn**	**Pn**	**14 00 42.3**	**+1.6**
JOB	**Onbets**	**3.33**	**253**	P		**Pn**	**Pn**	**14 00 42.5**	**+0.9**
JOB				*e*	S	**Sn**	**Sn**	**14 01 21.0**	**+1.2**
JMP	**Maruseppu**	**3.48**	**273**	P		**Pn**	**Pn**	**14 00 46.4**	**+2.7**
JCH	**Churui**	**3.75**	**251**	P		**Pn**	**Pn**	**14 00 49.1**	**+1.6**
ERM	**Erimo**	**4.15**	**244**	*d i*	PN	**Pn**	**Pn**	**14 00 56.3**	**+3.4**
JNBK	**Urakawa-nobuka**	**4.30**	**249**	P		**Pn**	**Pn**	**14 00 56.6**	**+1.7**
YSS	**Yuzh-Sakhalins**	**4.86**	**310**	*e*	P	**Pn**	**Pn**	**14 01 03.6**	**+1.0**
YSS					AMB	AMB	AMB	14 01 04.7	
	comp=E,10.0nm,0.5s								
YSS	**Yuzh-Sakhalins**	**4.86**	**310**	*e*	PN	**Pn**	**Pn**	**14 01 04.1**	**+1.5**
MAJO	**Matsushiro**	**10.60**	**229**	*i*	PN	**Pn**	**Pn**	**14 02 22.6**	**+1.4**
KLR	**Kul'dur**	**12.47**	**301**	*e*	P	**Pn**	**Pn**	**14 02 44.3**	**-2.3**
KLR	**Kul'dur**	**12.47**	**301**	*i*	PN	**Pn**	**Pn**	**14 02 44.3**	**-2.3**
KLR					pmax	pmax			
	comp=Z,1.0nm,1.0s								
BILL	**Bilibino**	**25.98**	**15**	*e*	P	**P**	**P**	**14 05 19.0**	**+0.2**
BILL	**Bilibino**	**25.98**	**15**	*i*	P	**P**	**P**	**14 05 19.0**	**+0.2**
BILL					pmax	pmax			
	comp=Z,3.0nm,1.3s								
KURK	**Kurchatov**	**46.04**	**304**	*e*	P	**P**	**P**	**14 08 11.4**	**+1.9**
KURK	**Kurchatov**	**46.04**	**304**	*i*	P	**P**	**P**	**14 08 11.4**	**+1.9**
KURK					pmax	pmax			
	comp=Z,1.0nm,1.1s								
AAK	**Ala-Archa**	**51.94**	**296**	*e*	P	**P**	**P**	**14 08 55.9**	**+0.9**
AAK	**Ala-Archa**	**51.94**	**296**	*i*	P	**P**	**P**	**14 08 55.9**	**+0.9**
ARU	**Arti**	**54.71**	**317**	*i*	P	**P**	**P**	**14 09 12.5**	**-2.4**
ARU					pmax	pmax			
	comp=Z,3.0nm,1.1s								
OBN	**Obninsk**	**65.60**	**324**	*e*	P	**P**	**P**	**14 10 28.2**	**-1.1**
OBN	**Obninsk**	**65.60**	**324**	*i*	P	**P**	**P**	**14 10 26.8**	**-2.5**
OBN				*i*				14 10 59.2	
OBN				*i*				14 12 51.2	
OBN					pmax	pmax			
	comp=Z,4.0nm,0.8s								
KIV	**Kislovodsk**	**70.19**	**312**	*e*	P	**P**	**P**	**14 10 59.7**	**+1.2**
KIV	**Kislovodsk**	**70.19**	**312**	*e*	P	**P**	**P**	**14 10 59.7**	**+1.2**
KIV				pmax		pmax	pmax		
	comp=Z,11nm,1.0s								
KBZ	**Khabaz**	**70.23**	**312**	*e*	P	**P**	**P**	**14 10 59.9**	**+1.3**
KBZ	**Khabaz**	**70.23**	**312**	*i*	P	**P**	**P**	**14 10 59.9**	**+1.3**
KBZ				pmax		pmax	pmax		
	comp=Z,2.0nm,1.0s								

IDC ***28*** *14:19:15.2±0.9, 54.°69S×31.°51W, h0km, mb4.0/5, mb1 4.2/5, mb1mx3.9/23, mbtmp4.1/5, Error ellipse: s-maj=44.8km s-min=22.7km az=66.0*
NEIC ***28*** *14:19:16.3±2.8, 54.°9S±0.°1×32.°0W±0.°2, h10km±1km, mb4.7/21, Error ellipse: s-maj=21.5km s-min=13.2km az=205.0*

ISC 28 14:19:15.8±0.6, 54.°9S±0.°1×32.°02W±0.°09, h10km, n42, σ1§26/42, mb4.7/13, South Georgia Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**2.68**	**282**			Pn	**Pn**	**14 20 00.2**	**+1.3**
HOPE						Sn	**Sn**	**14 20 32.7**	**+1.3**
EFI	**East Falkland**	**15.87**	**271**			Pn	**Pn**	**14 22 58.8**	**-0.2**
EFI						IAmb	IAmb	14 23 14.6	
	comp=Z,70nm,1.4s								
PMSA	**Palmer Station**	**18.64**	**225**	P		P	**P**	**14 23 29.5**	**-3.8**
PMSA						IAmb	IAmb	14 23 44.2	
	comp=Z,117nm,1.4s								
MG01	**Puerto William**	**20.33**	**255**	P		P	**P**	**14 23 50.3**	**-1.5**
SNAA	**Sanae**	**20.92**	**154**	P		Pn	**Pn**	**14 24 01.4**	**+0.7**
	comp=Z,2.6nm,0.9s,baz=297,slow=11,SNR=9.5								
SNAA	**Sanae**	**20.92**	**154**	P		P	**P**	**14 23 59.6**	**+1.5**
BO02	**Sierra Bellavi**	**33.46**	**291**	P		P	**P**	**14 25 53.9**	**-1.0**
BO02						IAmb	IAmb	14 26 12.6	
	comp=Z,12nm,1.3s								
GO05	**Huala**	**33.92**	**289**	P		P	**P**	**14 25 56.3**	**-2.6**
CPUP	**Villa Florida**	**34.05**	**317**	P		P	**P**	**14 25 58.8**	**-1.2**
MT01	**Popeta**	**34.42**	**291**	P		P	**P**	**14 26 02.9**	**-0.2**
MT01						IAmb	IAmb	14 26 09.8	
	comp=Z,19nm,1.5s								
QSPA	**South Pole Qui**	**35.33**	**180**	P		P	**P**	**14 26 13.4**	**+2.5**
	comp=Z,1.1nm,0.8s,baz=197,slow=4.8,SNR=2.2								
QSPA	**South Pole Qui**	**35.33**	**180**	P		P	**P**	**14 26 11.7**	**+0.8**
CO02	**Combarbal**	**36.34**	**295**	P		P	**P**	**14 26 20.2**	**+0.3**
CO02						IAmb	IAmb	14 26 25.9	
	comp=Z,24nm,1.4s								
CO01	**Juntas del Tor**	**36.85**	**297**	P		P	**P**	**14 26 26.1**	**+1.8**
AC05	**El Transito**	**37.86**	**298**	P		P	**P**	**14 26 34.5**	**+1.7**
AC05						IAmb	IAmb	14 26 36.6	
	comp=Z,22nm,1.5s								
BDFB	**Brasilia**	**41.12**	**336**	P		P	**P**	**14 27 00.8**	**+0.8**
	comp=Z,2.0nm,0.5s,baz=164,slow=9.4,SNR=3.8								
BDFB	**Brasilia**	**41.12**	**336**	P		P	**P**	**14 27 00.4**	**+0.4**
LVC	**Limon Verde**	**42.38**	**305**	P		P	**P**	**14 27 09.7**	**-0.9**
LVC						IAmb	IAmb	14 27 11.1	
	comp=Z,23nm,1.5s								
PB06	**IPOC Station P**	**42.61**	**304**	P		P	**P**	**14 27 12.6**	**+0.3**
PB06						IAmb	IAmb	14 27 14.1	
	comp=Z,16nm,1.0s								
MAW	**Mawson**	**42.66**	**146**	P		P	**P**	**14 27 11.5**	**-0.4**
PB09	**IPOC Station P**	**43.23**	**305**	P		P	**P**	**14 27 16.7**	**-0.6**
PB09						IAmb	IAmb	14 27 26.5	
	comp=Z,36nm,1.5s								
PB01	**IPOC Station P**	**43.99**	**305**	P		P	**P**	**14 27 23.7**	**+0.4**
PB01						IAmb	IAmb	14 27 25.2	
	comp=Z,6.0nm,0.7s								
GO01	**Chusmiza**	**45.04**	**306**	P		P	**P**	**14 27 33.1**	**+0.9**
GO01						IAmb	IAmb	14 27 34.0	
	comp=Z,14nm,1.4s								
MNMC	**Minye Minye**	**45.69**	**306**	P		P	**P**	**14 27 38.3**	**+1.2**
LPAZ	**La Paz**	**47.51**	**310**	P		P	**P**	**14 27 53.3**	**+1.4**
	comp=Z

3.8nm,1.0s,baz=21,slow=4.2,SNR=6.5
QSPA LR LR 14 51 53.8
comp=Z,129nm,21.3s,baz=36,slow=33
MAW Mawson 39.86 214 LR LR 15 00 19.9
comp=Z,113nm,18.6s,baz=64,slow=34
DZM Mont Dzumac 41.85 351 *e*LR LR 14 56 57.4
comp=Z,142nm,25.1s
PMSA Palmer Station 45.12 149 LR LR 15 01 46.7
comp=Z,70nm,18.6s,baz=101,slow=32
H01W1 Cape Leeuwin H 45.72 280 T T 15 34 52.8
baz=148,slow=76,SNR=48
H01W2 Cape Leeuwin H 45.73 280 T T 15 34 53.2
baz=148,slow=76,SNR=36
H01W3 Cape Leeuwin H 45.74 280 T T 15 34 54.0
baz=148,slow=76,SNR=38
RAR Rarotonga 46.18 36 LR LR 15 01 50.9
comp=Z,55nm,19.6s,baz=194,slow=32
TBI Tubuai 47.28 49 *e*LR LR 14 59 39.2
comp=Z,83nm,28.8s
TBI Tubuai 47.28 49 *e*T T 15 36 25.5
15nm,0.3s
ASAR Alice Springs 47.67 308 P P 14 46 10.6 +0.7
0.9nm,0.9s,baz=154,slow=7.1,SNR=6.4
WRA Warramunga Arr 50.96 311 P P 14 46 33.8 -1.2
1.4nm,1.0s,baz=160,slow=6.7,SNR=1.5
TVO Taravao 52.53 47 *e*T T 15 42 58.7
1.8nm,0.3s
PPT2 Papeete2 52.60 47 *e*LR LR 15 02 08.0
comp=Z,84nm,26.0s
PPT2 Papeete2 52.60 47 *e*T T 15 43 04.2
3.5nm,0.3s
RKT Rikitea 52.91 65 *e*T T 15 43 27.1
6.1nm,0.3s
H03S2 Juan Fernandez 67.52 121 T T 16 02 59.2
baz=205,slow=74,SNR=8.4
H03S1 Juan Fernandez 67.52 121 T T 16 03 00.5
baz=205,slow=74,SNR=9.1
H03S3 Juan Fernandez 67.53 121 T T 16 02 57.4
baz=205,slow=74,SNR=7.0
BOSA Boshof 84.58 208 LR LR 15 25 50.7
comp=Z,46nm,18.2s,baz=118,slow=34
H08S2 Diego Garcia H 87.92 257 T T 16 27 40.0
baz=153,slow=76,SNR=102
H08S1 Diego Garcia H 87.93 257 T T 16 27 50.5
baz=153,slow=76,SNR=68
H08S3 Diego Garcia H 87.94 257 T T 16 27 41.6
baz=153,slow=76,SNR=87

*NEIC **28** 14:40:14.8±2.1, 19°.56N±0°.08×65°.09W±0°.07, h38km±46km, Error ellipse: s-maj=13.2km s-min=6.1km az=218.0*
*RSPR **28** 14:40:17.0, 19°.46N×65°.20W, h75km±8km, MD3.1/4*
ISC 28 14:40:12.5±1.9, 19°.63N±0°.09×65°.09W±0°.06, h23km, n36, σ0.88/43, 10C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.33**	**188**	*i*P	eP	**Pb**	**14 40 37.2**	**+0.5**
CUPR	**Culebra, Puert**	**1.33**	**188**	*e*S		**Sn**	**14 40 52.7**	**+0.1**
CUPR	**Culebra, Puert**	**1.33**	**188**			**Pb**	**14 40 37.2**	**+0.5**
CUPR						**Sn**	**14 40 52.7**	**+0.1**
CBYP	**Canovanas**	**1.54**	**208**	*i*P	eP	**Pn**	**14 40 38.9**	**+0.4**
CBYP	**Canovanas**	**1.54**	**208**	*i*P	eP	**Pn**	**14 40 38.9**	**+0.4**
CBYP					*e*S	**Sn**	**14 40 56.9**	**-1.0**
CBYP	**Canovanas**	**1.54**	**208**			**Pn**	**14 40 38.9**	**+0.4**
CBYP						**Sn**	**14 40 56.5**	**-1.4**
MTP	**Monte Pirata**	**1.59**	**196**	i	eP	**Pn**	**14 40 40.5**	**+1.3**
MTP	**Monte Pirata**	**1.59**	**196**	*e*S		**Sn**	**14 40 58.1**	**-0.9**
MTP	**Monte Pirata**	**1.59**	**196**			**Pn**	**14 40 40.5**	**+1.3**
MTP						**Sn**	**14 40 58.1**	**-0.9**
GCPR	**Guaynabo City**	**1.62**	**216**			**Pn**	**14 40 40.4**	**+0.8**
HUMP	**Col San Antoni**	**1.65**	**206**	*i*P	eP	**Pn**	**14 40 40.7**	**+0.7**
HUMP	**Col San Antoni**	**1.65**	**206**			**Pn**	**14 40 40.7**	**+0.7**
EMPR	**Esperanza - Ma**	**1.78**	**230**	i	eP	**Pn**	**14 40 42.5**	**+0.7**
EMPR	**Esperanza - Ma**	**1.78**	**230**	*e*S		**Sn**	**14 41 02.9**	**-0.9**
EMPR	**Esperanza - Ma**	**1.78**	**230**			**Pn**	**14 40 42.5**	**+0.7**
EMPR						**Sn**	**14 41 02.9**	**-0.9**
SJG	**San Juan**	**1.82**	**214**			**Pn**	**14 40 43.0**	**+0.7**
PDPR	**Patillas Dam,**	**1.83**	**209**			**Pn**	**14 40 41.8**	**-0.8**
IGPR	**InterUniversit**	**1.92**	**210**	i	eP	**Pn**	**14 40 44.6**	**+0.9**
IGPR	**InterUniversit**	**1.92**	**210**	*e*S		**Sn**	**14 41 05.7**	**-1.5**
AOPR	**Arecibo Observ**	**2.03**	**231**	i	eP	**Pn**	**14 40 45.8**	**+0.5**
AOPR	**Arecibo Observ**	**2.03**	**231**	*e*S		**Sn**	**14 41 09.1**	**-0.8**
AOPR	**Arecibo Observ**	**2.03**	**231**			**Pn**	**14 40 45.8**	**+0.5**
AOPR						**Sn**	**14 41 09.1**	**-0.8**
OBIP	**Obispado Ponce**	**2.14**	**223**	i	eP	**Pn**	**14 40 47.7**	**+1.0**
OBIP	**Obispado Ponce**	**2.14**	**223**	*e*S		**Sn**	**14 41 10.9**	**-1.6**
OBIP	**Obispado Ponce**	**2.14**	**223**			**Pn**	**14 40 47.7**	**+1.0**
OBIP						**Sn**	**14 41 10.9**	**-1.6**
AGPR	**Aguadilla, PR**	**2.24**	**239**	Pn		**Pn**	**14 40 47.6**	**-0.5**
LSP	**Las Mesas**	**2.38**	**233**	i	eP	**Pn**	**14 40 51.2**	**+1.1**
LSP	**Las Mesas**	**2.38**	**233**			**Pn**	**14 40 51.2**	**+1.1**
MPR	**Mayaguez**	**2.40**	**234**	Pn		**Pn**	**14 40 50.0**	**-0.4**
MLPR	**Magueyes Islan**	**2.48**	**229**	i	eP	**Pn**	**14 40 52.0**	**+0.5**
MLPR	**Magueyes Islan**	**2.48**	**229**			**Pn**	**14 40 52.0**	**+0.5**
SABA	**Saba**	**2.66**	**139**	Pn		**Pn**	**14 40 53.6**	**-0.4**
SEUS	**St. Eustatius**	**2.92**	**136**	Pn		**Pn**	**14 40 57.4**	**-0.1**
DR12	**Loma Pena Alta**	**4.14**	**259**	Pn		**Pn**	**14 41 13.9**	**-0.5**
SDDR	**Presa de Saban**	**5.89**	**265**	Pn		**Pn**	**14 41 39.5**	**+1.1**
GRTK	**Grand Turk**	**5.96**	**289**	Pn		**Pn**	**14 41 40.1**	**+0.7**

*RSPR **28** 14:43:52.0, 19°.39N×65°.34W, h106km±3km, MD3.4/10*
*NEIC **28** 14:43:51.5±1.5, 19°.60N±0°.10×65°.31W±0°.06, h37km±46km, Error ellipse: s-maj=14.6km s-min=7.7km az=198.0*
*OSPL **28** 14:43:52.0±0.3, 18°.87N×69°.22W, h83km±11km, ML3.1*
ISC 28 14:43:50.6±2.0, 19°.51N±0°.09×65°.36W±0°.06, h16km, n43, σ0.46/53, 13C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CUPR	**Culebra, Puert**	**1.19**	**177**	i	eP	**Pb**	**14 44 12.8**	**-0.1**
CUPR	**Culebra, Puert**	**1.19**	**177**	*e*S		**Sg**	**14 44 29.7**	**+0.4**
CUPR	**Culebra, Puert**	**1.19**	**177**			**Pb**	**14 44 12.8**	**-0.1**
CUPR						**Sg**	**14 44 29.7**	**+0.4**
TBVI	**Tortola**	**1.29**	**147**	i	eP	**Pb**	**14 44 14.5**	**0.0**
TBVI	**Tortola**	**1.29**	**147**	*e*S		**Sg**	**14 44 32.3**	**-0.1**
TBVI	**Tortola**	**1.29**	**147**			**Pb**	**14 44 14.5**	**0.0**
TBVI						**Sg**	**14 44 32.3**	**-0.1**
CBYP	**Canovanas**	**1.32**	**201**	i	eP	**Pn**	**14 44 14.2**	**-0.2**
CBYP	**Canovanas**	**1.32**	**201**	i	eP	**Pn**	**14 44 14.2**	**-0.2**
CBYP	**Canovanas**	**1.32**	**201**			**Pn**	**14 44 14.2**	**-0.2**
GCPR	**Guaynabo City**	**1.38**	**210**			**Pn**	**14 44 14.7**	**-0.5**
MTP	**Monte Pirata**	**1.41**	**188**	i	eP	**Pn**	**14 44 16.1**	**+0.4**
MTP	**Monte Pirata**	**1.41**	**188**	*e*S		**Sb**	**14 44 34.5**	**0.0**
MTP	**Monte Pirata**	**1.41**	**188**			**Pn**	**14 44 16.1**	**+0.4**
MTP						**Sb**	**14 44 34.5**	**0.0**
HUMP	**Col San Antoni**	**1.44**	**199**	i	eP	**Pn**	**14 44 16.2**	**+0.2**
HUMP	**Col San Antoni**	**1.44**	**199**	i	eP	**Pn**	**14 44 16.3**	**+0.2**
HUMP	**Col San Antoni**	**1.44**	**199**	*e*S		**Sn**	**14 44 34.6**	**+0.1**
HUMP	**Col San Antoni**	**1.44**	**199**			**Pn**	**14 44 16.3**	**+0.2**
HUMP						**Sn**	**14 44 34.6**	**+0.1**
EMPR	**Esperanza - Ma**	**1.51**	**228**	i	eP	**Pn**	**14 44 17.4**	**+0.3**
EMPR	**Esperanza - Ma**	**1.51**	**228**	*e*S		**Sb**	**14 44 37.7**	**+0.5**
EMPR	**Esperanza - Ma**	**1.51**	**228**			**Pn**	**14 44 17.4**	**+0.3**
EMPR						**Sb**	**14 44 37.7**	**+0.5**
SJG	**San Juan**	**1.58**	**209**			**Pn**	**14 44 18.2**	**+0.2**
PDPR	**Patillas Dam,**	**1.61**	**203**	i	eP	**Pn**	**14 44 18.3**	**-0.1**
PDPR	**Patillas Dam,**	**1.61**	**203**	*e*S		**Sn**	**14 44 39.1**	**+0.2**
PDPR	**Patillas Dam,**	**1.61**	**203**			**Pn**	**14 44 18.3**	**-0.1**
PDPR						**Sn**	**14 44 39.1**	**+0.2**
IGPR	**InterUniversit**	**1.69**	**205**	i	eP	**Pn**	**14 44 19.4**	**-0.1**
IGPR	**InterUniversit**	**1.69**	**205**			**Pn**	**14 44 20.2**	**+0.7**
AOPR	**Arecibo Observ**	**1.75**	**229**	i	eP	**Pn**	**14 44 20.5**	**+0.1**
AOPR	**Arecibo Observ**	**1.75**	**229**	*e*S		**Sn**	**14 44 42.9**	**+0.4**
AOPR	**Arecibo Observ**	**1.75**	**229**			**Pn**	**14 44 20.5**	**+0.1**
AOPR						**Sn**	**14 44 42.9**	**+0.4**
CDVI	**St. Croix**	**1.83**	**162**			**Pb**	**14 44 22.7**	**-1.1**
OBIP	**Obispado Ponce**	**1.88**	**219**	i	eP	**Pn**	**14 44 21.9**	**-0.1**
OBIP	**Obispado Ponce**	**1.88**	**219**	*e*S		**Sn**	**14 44 45.4**	**0.0**
OBIP	**Obispado Ponce**	**1.88**	**219**			**Pn**	**14 44 22.5**	**+0.4**
OBIP	**Obispado Ponce**	**1.88**	**219**			**Sn**	**14 44 45.4**	**0.0**
AGPR	**Aguadilla, PR**	**1.96**	**238**	*i*	P	**Pn**	**14 44 23.3**	**+0.1**
AGPR					*e*S	**Sn**	**14 44 46.5**	**-1.0**
AGPR					IAML		14 44 56.6	
	comp=Z,136nm,1.1s							
MPR	**Mayaguez**	**2.12**	**233**	*i*	P	**Pn**	**14 44 23.8**	**-1.7**
MPR					IAML		14 45 02.7	
	comp=Z,118nm,1.4s							
MLPR	**Magueyes Islan**	**2.21**	**227**	i	eP	**Pn**	**14 44 26.4**	**-0.3**
MLPR	**Magueyes Islan**	**2.21**	**227**	*e*S		**Sn**	**14 44 53.1**	**-0.6**
MLPR	**Magueyes Islan**	**2.21**	**227**			**Pn**	**14 44 26.4**	**-0.3**
MLPR						**Sn**	**14 44 53.1**	**-0.6**
CRPR	**Cabo Rojo, PR**	**2.23**	**228**	i	eP	**Pn**	**14 44 26.7**	**-0.2**
CRPR	**Cabo Rojo, PR**	**2.23**	**228**	*e*S		**Sn**	**14 44 53.7**	**-0.5**
CRPR	**Cabo Rojo, PR**	**2.23**	**228**			**Pn**	**14 44 26.7**	**-0.2**
CRPR						**Sn**	**14 44 53.7**	**-0.5**
SDDR	**Presa de Saban**	**5.63**	**266**			**Pn**	**14 45 14.7**	**+0.9**

*IDC **28** 14:49:52.5±1.1, 29°.98S×177°.41W, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.8/23, mbtmp4.1/4, MS3.4/2, Ms1 3.4/2, ms1mx2.9/20, Error ellipse: s-maj=31.7km s-min=18.0km az=69.0*
*NEIC **28** 14:49:55.3±0.7, 30°.0S±0°.1×177°.4W±0°.2, h22km±2km, mb4.4/8, Error ellipse: s-maj=27.1km s-min=16.0km az=64.0*
ISC 28 14:49:57.7±1.2, 30°.0S±0°.1×177°.5W±0°.2, h35km, n24, σ0.58/19, mb4.3/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.84**	**333**		Pn	**Pn**	**14 50 12.7**	**-0.2**
	630nm,0.3s,baz=96,slow=9.7,SNR=18							
RAO					Sn	**Sn**	**14 50 25.0**	**+1.0**
	2μm,0.3s,baz=105,slow=20,SNR=9.1							
RAO					LR	LR	14 50 26.9	
	comp=Z,266nm,18.2s,baz=90,slow=40							
DZM	**Mont Dzumac**	**16.45**	**295**	LR		LR	14 58 30.1	
	comp=Z,144nm,18.0s,baz=206,slow=31							
HNR	**Honiara**	**29.39**	**309**	LR		LR	15 04 19.8	
	comp=Z,64nm,22.0s,baz=194,slow=30							
CTAO	**Charters Tower**	**34.18**	**278**	P		**P**	**14 56 39.9**	**0.0**
CTAO					IAmb	IAmb	14 56 42.3	
	comp=Z,8.0nm,1.2s							
STKA	**Stephens Creek**	**35.01**	**256**	P		**P**	**14 56 47.8**	**+0.8**
	comp=Z,1.5nm,0.4s,baz=99,slow=12,SNR=6.4							
STKA	**Stephens Creek**	**35.01**	**256**	P		**P**	**14 56 46.7**	**-0.2**
AS31	**Alice Springs**	**43.58**	**266**	P		**P**	**14 57 58.1**	**-0.5**
ASAR	**Alice Springs**	**43.58**	**266**	P		**P**	**14 57 58.2**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=106,slow=7.2,SNR=30							
WR0	**Warramunga Arr**	**44.35**	**272**	P		**P**	**14 58 04.6**	**-0.2**
WB2	**Warramunga Arr**	**44.53**	**271**	P		**P**	**14 58 05.7**	**-0.5**
WB2					IAmb	IAmb	14 58 09.3	
	comp=Z,4.4nm,0.8s							
WRA	**Warramunga Arr**	**44.54**	**271**	P		**P**	**14 58 06.4**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=110,slow=8.1,SNR=93							
WB0	**Warramunga Arr**	**44.56**	**272**	P		**P**	**14 58 05.5**	**-1.0**
WB0					IAmb	IAmb	14 58 07.3	
	comp=Z,4.9nm,1.1s							
FORT	**Forrest**	**46.59**	**255**	P		**P**	**14 58 21.7**	**-0.7**
QSPA	**South Pole Qui**	**60.11**	**180**	P		**P**	**15 00 02.3**	**+1.0**
	comp=Z,2.1nm,1.1s,baz=45,slow=1.4,SNR=7.5							
QSPA	**South Pole Qui**	**60.11**	**180**	IAmb		IAmb	15 00 17.8	
	comp=Z,3.0nm,1.1s							
H03S2	**Juan Fernandez**	**80.31**	**123**	T		T	16 31 40.6	
	baz=239,slow=74,SNR=3.3							
H03S1	**Juan Fernandez**	**80.32**	**123**	T		T	16 31 39.2	
	baz=239,slow=74,SNR=3.5							
H03S3	**Juan Fernandez**	**80.33**	**123**	T		T	16 31 36.0	
	baz=239,slow=74,SNR=4.5							
BVAR	**Borovoye Array**	**126.43**	**316**	PKP		**PKPdf**	**15 08 56.1**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=96,slow=4.3,SNR=2.3							
FINES	**FINESS Array B**	**144.92**	**340**	PKP		**PKPab**	**15 09 29.2**	**-0.3**
	comp=Z,4.7nm,0.6s,baz=58,slow=4.0,SNR=33							
NB2	**NORSAR Subarra**	**148.42**	**352**	PKP		**PKPbc**	**15 09 39.4**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=9.8,slow=2.7							
NOA	**NORSAR Array B**	**148.42**	**352**	PKPbc		**PKPbc**	**15 09 39.5**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=15,slow=4.5,SNR=4.1							
HFS	**Hagfors**	**148.94**	**349**	PKPbc		**PKPbc**	**15 09 40.9**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=75,slow=1.7,SNR=5.5							
GERES	**GERESS Array B**	**159.33**	**339**	PKPab		**PKPab**	**15 10 29.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=15,slow=5.5,SNR=5.5							

*IDC **28** 15:24:25.3±1.5, 30°.43S×178°.67W, h0km, mb4.1/5, mb1 4.2/5, mb1mx3.9/23, mbtmp4.1/5, MS2.9/1, Ms1 2.9/1, ms1mx2.5/22, Error ellipse: s-maj=42.1km s-min=29.0km az=40.0*
*NEIC **28** 15:24:32.2±0.7, 30°.5S±0°.1×178°.8W±0°.2, h47km±8km, mb4.6/9, Error ellipse: s-maj=29.3km s-min=19.2km az=103.0*
ISC 28 15:24:45.7±1.1, 30°.88S±0°.08×179°.3W±0°.2, h150km, n68, σ2.22/84, mb4.3/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.96**	**196**	P		**Pn**	**15 26 28.1**	**+3.0**
MXZ				S		**Sn**	**15 27 42.3**	**-0.7**
WMGZ	**Waiomatatini S**	**7.18**	**195**	P		Pn	15 26 32.8	+4.7
WMGZ				S		**Sn**	**15 27 50.0**	**+1.6**
HAZ	**Te Kaha**	**7.28**	**199**	P		**Pn**	**15 26 33.9**	**+4.6**
HAZ				S		**Sn**	**15 27 53.2**	**+2.5**
PKGZ	**Pakihiroa**	**7.33**	**197**	P		**Pn**	**15 26 33.9**	**+3.9**
PKGZ				S		**Sn**	**15 27 53.7**	**+1.7**
WCZ	**Waipu Caves**	**7.35**	**225**	P		Pn	15 26 40.9	+11
PUZ	**Puketiti**	**7.46**	**195**	P		**Pn**	**15 26 34.9**	**+3.1**
PUZ				S		**Sn**	**15 27 55.5**	**+0.4**
RUGZ	**Raukumara Rang**	**7.50**	**199**	P		**Pn**	**15 26 36.7**	**+4.2**
RUGZ				S		**Sn**	**15 27 55.1**	**-1.3**
TWGZ	**Tauwhareparae**	**7.62**	**197**	P		**Pn**	**15 26 37.9**	**+3.9**
TWGZ				S		**Sn**	**15 27 59.5**	**+0.3**
CNGZ	**Carnagh Statio**	**7.87**	**195**	P		**Pn**	**15 26 40.2**	**+3.1**
CNGZ				S		**Sn**	**15 27 58.9**	**-6.0**
MWZ	**Matawai**	**7.89**	**199**	P		**Pn**	**15 26 40.1**	**+2.6**
MWZ				S		**Sn**	**15 28 05.9**	**+0.4**
TKGZ	**Te Karaka**	**7.91**	**197**	P		**Pn**	**15 26 39.7**	**+2.0**
TKGZ				S		**Sn**	**15 28 06.2**	**+0.4**
URZ	**Urewera**	**7.94**	**201**	P		**Pn**	**15 26 41.9**	**+3.7**
URZ				S		**Sn**	**15 28 05.9**	**-0.8**
MUGZ	**Murupara**	**8.25**	**202**	P		**Pn**	**15 26 45.5**	**+3.1**
MUGZ				S		**Sn**	**15 28 14.2**	**+0.1**
RTZ	**Ruatahuna**	**8.31**	**201**	P		**Pn**	**15 26 44.9**	**+1.7**
RTZ				S		**Sn**	**15 28 14.7**	**-1.0**
SNGZ	**Shannon Statio**	**8.36**	**199**	P		**Pn**	**15 26 46.2**	**+2.4**
SNGZ				S		**Sn**	**15 28 14.9**	**-1.9**
RAHZ	**Arahi**	**8.56**	**199**	P		**Pn**	**15 26 48.5**	**+2.1**
RAHZ				S		**Sn**	**15 28 20.3**	**-1.2**
MTHZ	**Maungataniwha**	**8.57**	**201**	P		**Pn**	**15 26 49.9**	**+3.2**
MTHZ				S		**Sn**	**15 28 22.2**	**+0.3**
NMHZ	**Naumai**	**8.81**	**200**	P		**Pn**	**15 26 51.3**	**+1.5**
NMHZ				S		**Sn**	**15 28 27.7**	**+0.1**
ARHZ	**Aropaoanui**	**8.90**	**199**	P		**Pn**	**15 26 52.8**	**+1.8**
ARHZ				S		**Sn**	**15 28 26.4**	**-3.4**
BKZ	**Black Stump Fm**	**8.97**	**202**	P		**Pn**	**15 26 52.9**	**+1.0**
BKZ				S		**Sn**	**15 28 26.8**	**-4.6**
HIZ	**Hauiti**	**9.02**	**211**	P		Pn	15 27 02.3	+10
MCHZ	**McNeill Hill**	**9.16**	**200**	P		**Pn**	**15 26 56.1**	**+1.7**
MCHZ				S		**Sn**	**15 28 33.8**	**-2.2**
KWHZ	**Kaweka Forest**	**9.22**	**201**	P		Pn	15 27 00.1	+4.8
KWHZ				S		**Sn**	**15 28 35.8**	**-1.8**
FWVZ	**Far West T-bar**	**9.37**	**206**	P		**Pn**	**15 27 02.1**	**+4.6**
BHHZ	**Black Hill Sta**	**9.40**	**203**	P		**Pn**	**15 26 58.7**	**+1.0**
BHHZ				S		**Sn**	**15 28 38.4**	**-3.5**
MOVZ	**Moawhango**	**9.43**	**204**	P		**Pn**	**15 27 01.9**	**+3.8**
MOVZ				S		**Sn**	**15 28 38.5**	**-4.2**
KAHZ	**Kahuranaki**	**9.43**	**198**	P		**Pn**	**15 26 58.3**	**+0.2**
KRHZ	**Kereru**	**9.44**	**201**	P		**Pn**	**15 26 58.0**	**-0.2**
KRHZ				S		**Sn**	**15 28 38.6**	**-4.2**
PXZ	**Pawanui**	**9.66**	**198**	P		**Pn**	**15 27 02.0**	**+0.9**
PNHZ	**Pukenui**	**9.74**	**201**	P		**Pn**	**15 27 01.8**	**-0.4**
TSZ	**Takapari Road**	**9.95**	**202**	P		**Pn**	**15 27 03.0**	**+1.1**
WAZ	**Wanganui**	**10.02**	**206**	P		**Pn**	**15 27 08.5**	**+2.7**
DVHZ	**Dannevirke**	**10.10**	**200**	P		**Pn**	**15 27 09.0**	**+2.1**
POWZ	**Post Office Ro**	**10.31**	**202**	P		**Pn**	**15 27 11.3**	**+1.6**
BFZ	**Birch Farm**	**10.44**	**199**	P		**Pn**	**15 27 09.7**	**-1.6**
MRZ	**Mangatainoka R**	**10.62**	**202**	P		**Pn**	**15 27 11.5**	**-2.2**
TIWZ	**Tintock**	**10.63**	**200**	P		**Pn**	**15 27 13.8**	**-0.1**
HOWZ	**Holdsworth Sta**	**10.85**	**201**	P		**Pn**	**15 27 16.0**	**-0.8**
TMWZ	**Te Maipa**	**10.93**	**200**	P		**Pn**	**15 27 17.1**	**-0.7**
KIW	**Kapiti Island**	**11.02**	**204**	P		**Pn**	**15 27 19.8**	**+0.8**
MTW	**Mount Morrison**	**11.09**	**201**	P		**Pn**	**15 27 19.5**	**-0.5**
DUWZ	**D'Urville Isla**	**11.33**	**207**	P		**Pn**	**15 27 24.1**	**+0.9**
MSWZ	**Moikau Station**	**11.41**	**201**	P		**Pn**	**15 27 24.2**	**+0.1**
BHW	**Baring Head**	**11.52**	**203**	P		**Pn**	**15 27 24.1**	**-1.4**
BHW	**Baring Head**	**11.52**	**203**	Pn		**Pn**	**15 27 22.6**	**-2.9**
PLWZ	**Palliser**	**11.54**	**201**	P		**Pn**	**15 27 25.6**	**-0.3**
TCW	**Tory Channel**	**11.55**	**205**	P		**Pn**	**15 27 25.2**	**-0.7**
KHZ	**Kahutara**	**12.87**	**205**	P		**Pn**	**15 27 42.4**	**-0.6**
OXZ	**Oxford**	**14.22**	**207**	Pn		Pn	15 27 54.0	-6.2
SANVU	**Saraoutou**	**19.74**	**318**	P		P	15 28 54.0	-10
CAN	**Canberra**	**26.89**	**252**	P		**P**	**15 30 11.7**	**-0.9**
CTAO	**Charters Tower**	**32.81**	**281**	P		**P**	**15 31 05.9**	**+0.9**
STKA	**Stephens Creek**	**33.31**	**258**	P		**P**	**15 31 10.7**	**+1.5**
	4.8nm,0.6s,baz=103,slow=12,SNR=12							
STKA	**Stephens Creek**	**33.31**	**258**	IAmb		IAmb	15 32 00.7	
	comp=Z,13nm,1.9s							
AS31	**Alice Springs**	**42.00**	**268**	P		**P**	**15 32 22.0**	**-0.3**
ASAR	**Alice Springs**	**42.00**	**268**	P		**P**	**15 32 22.2**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=105,slow=7.5,SNR=22							
WR0	**Warramunga Arr**	**42.85**	**273**	P		**P**	**15 32 28.9**	**-0.3**
WR0					IAmb	IAmb	15 32 48.9	
	comp=Z,9.5nm,1.2s							
WB2	**Warramunga Arr**	**43.02**	**273**	P		**P**	**15 32 30.1**	**-0.4**
WB2					IAmb	IAmb	15 33 01.4	
	comp=Z,32nm,1.8s							
WRA	**Warramunga Arr**	**43.03**	**273**	P		**P**	**15 32 30.6**	**0.0**
	comp=Z,1.6nm,0.4s,baz=110,slow=8.1,SNR=6.4							
WB0	**Warramunga Arr**	**43.06**	**274**	P		**P**	**15 32 30.7**	**-0.2**
WB0					IAmb	IAmb	15 32 38.1	
	comp=Z,22nm,1.7s							
VNDA	**Vanda**	**47.51**	**185**	P		**P**	**15 33 05.2**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=344,slow=7.4,SNR=2.0							
GUMO	**Guam**	**56.07**	**317**	LR		LR	15 56 51.7	
	comp=Z,12nm,19.4s,baz=174,slow=35							
QSPA	**South Pole Qui**	**59.23**	**180**	P		**P**	**15 34 31.3**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=216,slow=3.8,SNR=16							
QSPA	**South Pole Qui**	**59.23**	**180**	P		**P**	**15 34 31.1**	**+0.2**
QSPA					IAmb	IAmb	15 36 27.2	
	comp=Z,13nm,1.8s							
ARCES	**ARCESS Array B**	**138.82**	**347**	PKP		**PKPdf**	**15 43 52.8**	**-0.2**
	comp=Z,1.5nm,1.0s,baz=46,slow=2.6,SNR=4.0							
FINES	**FINESS Array B**	**145.21**	**339**	PKP		**PKPbc**	**15 44 02.8**	**-1.8**
	comp=Z,1.9nm,0.4s,baz=60,slow=3.4,SNR=37							
NB2	**NORSAR Subarra**	**149.05**	**350**	PKP		**PKPbc**	**15 44 13.3**	**-2.1**
	comp=Z,0.4nm,0.5s,baz=12,slow=2.5							
NOA	**NORSAR Array B**	**149.05**	**350**	PKPbc		**PKPbc**	**15 44 13.3**	**-2.1**
	comp=Z,0.7nm,0.6s,baz=14,slow=4.1,SNR=4.1							

*NEIC **28** 15:47:42.0±1.5, 20°.35S±0°.04×69°.75W±0°.05, h55km±7km, Error ellipse: s-maj=6.8km s-min=5.4km az=98.0*
*GUC **28** 15:47:42.6±0.7, 20°.34S×69°.68W, h46km±3km, ML4.2*
*IDC **28** 15:47:45.9±2.2, 20°.38S×69°.30W, h88km±20km, mb3.4/4, mb1 3.7/6, mb1mx3.4/27, mbtmp3.9/6, MS3.0/5, Ms1 3.0/5, ms1mx2.8/17, Error ellipse: s-maj=42.2km s-min=17.2km az=95.0*
ISC 28 15:47:41.5±0.8, 20°.32S±0°.02×69°.73W±0°.04, h50km±7km, n57, σ1.19/66, mb3.8/3, 3C-6D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.38**	**278**	i	P	**Pn**	**15 47 52.1**	**+0.7**
TA02					*e*S	**Sn**	**15 47 59.5**	**+1.1**
TA01	**Diego Aracena**	**0.49**	**240**	i	P	**Pn**	**15 47 52.9**	**+0.3**
TA01					*e*S	**Sn**	**15 48 00.8**	**+0.2**
TA01	**Diego Aracena**	**0.49**	**240**			**Pn**	**15 47 52.8**	**+0.3**
PB11	**IPOC Station P**	**0.56**	**7**	*e*P		**Pn**	**15 47 54.0**	**+0.3**
PB11					*e*S	**Sn**	**15 48 03.2**	**+0.8**
PB11					IAML		15 48 04.8	
	comp=N,36μm,0.4s							
PB11

baz=102,slow=74,SNR=57
H11S3 WAKE ISLAND Hyl 26.98 278 T T 18 26 18.3
baz=102,slow=74,SNR=54
H11N3 WAKE ISLAND Hyl 27.01 280 T T 18 26 16.8
baz=101,slow=74,SNR=48
H11N2 WAKE ISLAND Hyl 27.03 280 T T 18 26 17.3
baz=101,slow=74,SNR=55
H11N1 WAKE ISLAND Hyl 27.03 280 T T 18 26 18.0
baz=101,slow=74,SNR=49
MKAR Makanchi Array 145.12 34 PKP **PKPbc 16 07 13.0 -0.1**
comp=Z,0.9nm,0.6s,baz=307,slow=3.6,SNR=10.0

*OSPL **28** 16:00:09.7±1.5, 18.98N×69.28W, h91km, ML2.8*
*NEIC **28** 16:00:20.6±1.0, 18.1N±0.1×68.27W±0.07, h61km±17km, Error ellipse: s-maj=21.4km s-min=8.5km az=191.0*
*RSPR **28** 16:00:21.5, 18.05N×68.28W, h61km±2km, MD2.9/5*
ISC 28 16:00:16.1±2.3, 18.1N±0.2×68.4W±0.1, h95km, n21, σ1s54/28, 6C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.42**	**7**	*i*eP	**Pn**	**16 00 32.2**	**+1.4**
PCDR	**Punta Cana, DR**	**0.42**	**7**		**Pn**	**16 00 32.2**	**+1.4**
PCDR					**Sn**	**16 00 41.5**	**-0.3**
PCDR	**Punta Cana, DR**	**0.42**	**7**	*i*P	**Pn**	**16 00 29.4**	**-1.4**
PCDR				*e*S	**Sn**	**16 00 41.2**	**-0.6**
PCDR				IAML		16 00 43.4	
	comp=Z,112nm,1.8s						
IDE	**Isla Desecheo**	**0.96**	**72**	*i*eP	**Pn**	**16 00 36.2**	**+0.5**
IDE	**Isla Desecheo**	**0.96**	**72**	*e*S	**Sn**	**16 00 48.2**	**-2.2**
IDE	**Isla Desecheo**	**0.96**	**72**		**Pn**	**16 00 36.2**	**+0.5**
IDE					**Sn**	**16 00 48.2**	**-2.2**
CRPR	**Cabo Rojo, PR**	**1.27**	**94**	*i*eP	**Pn**	**16 00 40.6**	**+1.4**
CRPR	**Cabo Rojo, PR**	**1.27**	**94**	*e*S	**Sn**	**16 00 54.7**	**+1.0**
CRPR	**Cabo Rojo, PR**	**1.27**	**94**		**Pn**	**16 00 40.6**	**+1.4**
CRPR					**Sn**	**16 00 54.7**	**-2.0**
AGPR	**Aguadilla, PR**	**1.31**	**73**	*i*eP	**Pn**	**16 00 41.0**	**+1.2**
AGPR	**Aguadilla, PR**	**1.31**	**73**	*e*S	**Sn**	**16 00 56.7**	**-1.0**
AGPR	**Aguadilla, PR**	**1.31**	**73**		**Pn**	**16 00 41.0**	**+1.2**
AGPR					**Sn**	**16 00 56.7**	**-1.0**
AGPR	**Aguadilla, PR**	**1.31**	**73**	*i*P	**Pn**	**16 00 41.7**	**+1.9**
AGPR				IAML		16 01 06.0	
	comp=Z,75nm,1.6s						
MLPR	**Magueyes Islan**	**1.33**	**95**	*e*S	**Sn**	**16 00 56.3**	**-1.7**
MLPR	**Magueyes Islan**	**1.33**	**95**		**Sn**	**16 00 56.3**	**-1.7**
AOPR	**Arecibo Observ**	**1.62**	**81**	*i*eP	**Pn**	**16 00 45.5**	**+1.8**
AOPR	**Arecibo Observ**	**1.62**	**81**	*e*S	**Sn**	**16 01 03.4**	**-1.2**
AOPR	**Arecibo Observ**	**1.62**	**81**		**Pn**	**16 00 45.5**	**+1.8**
AOPR					**Sn**	**16 01 03.4**	**-1.2**
EMPR	**Esperanza - Ma**	**1.85**	**78**	*i*eP	**Pn**	**16 00 48.3**	**+1.7**
EMPR	**Esperanza - Ma**	**1.85**	**78**	*e*S	**Sn**	**16 01 09.2**	**-0.5**
EMPR	**Esperanza - Ma**	**1.85**	**78**		**Pn**	**16 00 48.3**	**+1.7**
EMPR					**Sn**	**16 01 09.2**	**-0.5**

*NEIC **28** 16:03:23.7±1.1, 62.98N±0.04×151.15W±0.09, h128km±4km, Error ellipse: s-maj=6.0km s-min=5.6km az=80.0*
*UNK **28** 16:03:23.0, 62.95N×151.12W, h126km*
*AEIC **28** 16:03:23.3±1.0, 62.96N±0.04×151.12W±0.08, h128km±4km, ML3.9/152, mb4.4/4(NEIC), Mwr4.0/24(NEIC), Error ellipse: s-maj=5.7km s-min=4.4km az=133.0*
*IDC **28** 16:03:23.4±1.7, 63.15N×151.13W, h128km±14km, mb3.6/24, mb1 3.8/28, mb1mx3.7/36, mbtmp4.0/28, Error ellipse: s-maj=16.2km s-min=10.5km az=28.0*
*NEIC **28** 16:03:24, 62.93N×150.88W, h120km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}1.01; $M_{\theta\theta}$-0.85; $M_{\phi\phi}$-0.16; $M_{r\theta}$0.83; $M_{r\phi}$-0.36; $M_{\theta\phi}$0.29; Fault plane solution: M_o1.34000×10^{15} NP1:ϕ_s244.40000°, δ24.44000°, λ85.43000°. NP2:ϕ_s69.42000°, δ65.65000°, λ92.07000°. Principal axes: T 1.3416, Plg69.0000°, Azm344.0000°; N -0.0044, Plg2.0000°, Azm249.0000°; P -1.3372, Plg21.0000°, Azm158.0000°;*
ISC 28 16:03:23.1±0.6, 62.97N±0.03×151.15W±0.04, h130km±5km, n276, σ0s85/291, mb3.9/24, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PPLA	**Purkeypile**	**0.48**	**261**	Pn	**Pn**	**16 03 42.2**	**-0.1**
PPLA	**Purkeypile**	**0.48**	**261**		**Sn**	**16 03 56.5**	**-0.2**
CAST	**Castle Rocks**	**0.62**	**317**		**Pn**	**16 03 42.7**	**-0.3**
TRF	**Thorofare Moun**	**0.62**	**39**		**Pn**	**16 03 42.9**	**-0.2**
TRF	**Thorofare Moun**	**0.62**	**39**	Sn	**Sn**	**16 03 58.2**	**-0.1**
SKT	**Skwentna**	**1.01**	**190**		**Pn**	**16 03 45.7**	**-0.5**
SKT				Sn	**Sn**	**16 04 02.9**	**-0.7**
CHUM	**Lake Minchumin**	**1.05**	**331**		**Pn**	**16 03 46.7**	**+0.2**
CHUM					**Sn**	**16 04 04.0**	**-0.3**
RND	**Reindeer**	**1.13**	**66**		**Pn**	**16 03 47.3**	**0.0**
RND	**Reindeer**	**1.13**	**66**	Sn	**Sn**	**16 04 05.1**	**-0.7**
BPAW	**Bear Paw Mtn.**	**1.13**	**4**		**Pn**	**16 03 47.1**	**-0.2**
BPAW					**Sn**	**16 04 04.6**	**-1.2**
WAT2	**Susitna Watana**	**1.17**	**89**		**Pn**	**16 03 47.5**	**-0.3**
WAT2					**Sn**	**16 04 06.0**	**-0.6**
WAT1	**Susitna Watana**	**1.20**	**96**		**Pn**	**16 03 47.9**	**-0.1**
WAT1					**Sn**	**16 04 06.3**	**-0.6**
MCK	**McKinley**	**1.26**	**52**		**Pn**	**16 03 48.8**	**+0.2**
MCK	**McKinley**	**1.26**	**52**	Sn	**Sn**	**16 04 07.3**	**-0.7**
STLK	**Strandline Lak**	**1.51**	**193**		**Pn**	**16 03 51.0**	**-0.4**
SUA	**Susitna One**	**1.53**	**173**		**Pn**	**16 03 51.4**	**-0.2**
GHO	**Glory Hole Cre**	**1.59**	**138**		**Pn**	**16 03 52.0**	**-0.3**
GHO	**Glory Hole Cre**	**1.59**	**138**	Sn	**Sn**	**16 04 14.1**	**-0.5**
WAT6	**Susitna Watana**	**1.62**	**103**		**Pn**	**16 03 52.1**	**-0.5**
PMR	**Palmer**	**1.68**	**145**		**Pn**	**16 03 52.5**	**-0.6**
DHY	**Denali Highway**	**1.72**	**85**	Pn	**Pn**	**16 03 54.0**	**+0.1**
SPCG	**Spurr Capps Gl**	**1.74**	**194**		**Pn**	**16 03 53.5**	**-0.5**
SML	**Sawmill**	**1.76**	**130**		**Pn**	**16 03 53.7**	**-0.6**
SPNN	**North Nagishla**	**1.77**	**205**		**Pn**	**16 03 54.2**	**-0.3**
SPU	**Mount Spurr**	**1.85**	**194**	Pn	**Pn**	**16 03 54.7**	**-0.6**
NEA2	**Nenana**	**1.87**	**29**	P	**Pn**	**16 03 55.3**	**-0.1**
	baz=210,SNR=402						
NEA2				S	**Sn**	**16 04 18.8**	**-1.4**
	baz=210						
NEA2	**Nenana**	**1.87**	**29**		**Pn**	**16 03 55.2**	**-0.3**
FIS	**Fire Island**	**1.89**	**166**		**Pn**	**16 03 56.2**	**+0.6**
KNK	**Knik Glacier**	**2.01**	**140**		**Pn**	**16 03 56.5**	**-0.7**
WRH	**Wood River Hil**	**2.03**	**41**		**Pn**	**16 03 57.4**	**0.0**
MLY	**Manley**	**2.08**	**5**		**Pn**	**16 03 58.0**	**+0.1**
SCM	**Sheep Creek Mo**	**2.12**	**121**		**Pn**	**16 03 57.9**	**-0.7**
CAPN	**Captain Cook N**	**2.21**	**180**	P	**Pn**	**16 04 01.5**	**+1.8**
	baz=0.5,SNR=50						
CAPN				S	**Sn**	**16 04 30.7**	**+3.1**
	baz=0.5						
CAPN	**Captain Cook N**	**2.21**	**180**		**Pn**	**16 04 01.3**	**+1.7**
TTA	**Tatalina**	**2.22**	**271**		**Pn**	**16 03 59.6**	**-0.3**
TT01	**Tatalina**	**2.23**	**270**		**Pn**	**16 03 59.6**	**-0.2**
CCB	**Clear Creek Bu**	**2.24**	**40**		**Pn**	**16 03 59.9**	**-0.1**
HDA	**Harding Lake**	**2.36**	**51**	P	**Pn**	**16 04 01.4**	**-0.1**
	baz=234,SNR=49						
HDA				S	**Sn**	**16 04 30.5**	**-0.6**
	baz=234						
HDA	**Harding Lake**	**2.36**	**51**		**Pn**	**16 04 01.4**	**-0.1**
MDM	**Murphy Dome**	**2.37**	**32**		**Pn**	**16 04 01.7**	**0.0**
TCOL	**CIGO, UAF Yank**	**2.40**	**36**	P	**Pn**	**16 04 02.0**	**+0.2**
	baz=218,SNR=12						
TCOL				S	**Sn**	**16 04 31.0**	**-0.7**
	baz=218						
TCOL	**CIGO, UAF Yank**	**2.40**	**36**		**Pn**	**16 04 02.1**	**+0.2**
COLA	**College**	**2.40**	**36**	Pn	**Pn**	**16 04 02.1**	**+0.1**
PS10	**TAPS Pump St10**	**2.48**	**77**		**Pn**	**16 04 03.9**	**+0.9**
PS08	**TAPS Pump Stn8**	**2.49**	**49**		**Pn**	**16 04 03.5**	**+0.4**
PWL	**Port Wells**	**2.50**	**147**		**Pn**	**16 04 02.5**	**-0.8**
SLKM	**Skilak Lake**	**2.51**	**169**		**Pn**	**16 04 02.9**	**-0.6**
RDJH	**Redoubt Jeurge**	**2.52**	**199**		**Pn**	**16 04 03.4**	**-0.2**
O22K	**Cooper Landing**	**2.59**	**164**	P	**Pn**	**16 04 04.0**	**-0.3**
	baz=346,SNR=52						
O22K				S	**Sn**	**16 04 33.8**	**-2.3**
	baz=346						
O22K	**Cooper Landing**	**2.59**	**164**		**Pn**	**16 04 04.1**	**-0.3**
PAX	**Paxson**	**2.59**	**88**		**Pn**	**16 04 04.6**	**0.0**
IL31		**2.61**	**44**		**Pn**	**16 04 04.5**	**-0.1**
ILAR	**Eielson Array**	**2.61**	**44**	P	**Pn**	**16 04 04.5**	**-0.2**
	9.4nm,0.3s,baz=226,slow=12,SNR=514						
ILAR				S	**Sn**	**16 04 34.0**	**-2.6**
	9.3nm,0.3s,baz=208,slow=13,SNR=4.4						
RDWB	**Redoubt West**	**2.62**	**199**		**Pn**	**16 04 04.7**	**-0.2**
RSO	**Redoubt South**	**2.63**	**198**	Pn	**Pn**	**16 04 05.0**	**-0.2**
PS07	**TAPS Pump Stn7**	**2.66**	**27**		**Pn**	**16 04 05.3**	**0.0**
RED	**Redoubt Volcan**	**2.68**	**198**		**Pn**	**16 04 05.2**	**-0.4**
POKR	**Poker Plat Res**	**2.70**	**36**	P	**Pn**	**16 04 06.1**	**+0.3**
	baz=218,SNR=31						
POKR	**Poker Plat Res**	**2.70**	**36**		**Pn**	**16 04 06.0**	**+0.2**
PS11	**TAPS Pump St11**	**2.78**	**106**		**Pn**	**16 04 07.3**	**+0.5**
SVW2	**Sparrevohn**	**2.81**	**230**		**Pn**	**16 04 06.7**	**-0.5**
GLI	**Glacier Island**	**2.84**	**136**	Pn	**Pn**	**16 04 06.7**	**-0.9**
JPK	**Jack Peak**	**2.88**	**130**		**Pn**	**16 04 07.5**	**-0.7**
RIDG	**Independent Ri**	**2.94**	**72**	Pn	**Pn**	**16 04 09.0**	**0.0**
VMT	**TAPS Tl Valdez**	**2.94**	**128**		**Pn**	**16 04 07.8**	**-1.1**
PS06	**TAPS Pump Stn6**	**2.96**	**11**		**Pn**	**16 04 09.4**	**+0.3**
SEW	**Seward**	**2.99**	**163**		**Pn**	**16 04 08.8**	**-0.7**
ILW	**Iliamna West**	**3.07**	**199**		**Pn**	**16 04 10.6**	**-0.3**
IVE	**Iliamna Volcan**	**3.10**	**198**		**Pn**	**16 04 10.9**	**-0.1**
FID	**Port Fidalgo**	**3.14**	**133**		**Pn**	**16 04 10.3**	**-1.2**
ILS	**Iliamna Low So**	**3.16**	**198**		**Pn**	**16 04 12.0**	**+0.1**
PS12	**TAPS Pump St12**	**3.19**	**115**		**Pn**	**16 04 11.0**	**-1.1**
IM01	**Indian Mountai**	**3.23**	**341**		**Pn**	**16 04 12.8**	**+0.1**
DOT	**Dot Lake**	**3.27**	**75**	Pn	**Pn**	**16 04 12.7**	**-0.4**
HOM	**Homer**	**3.33**	**184**	Pn	**Pn**	**16 04 14.6**	**+0.5**
SCRK	**Sand Creek**	**3.37**	**69**	Pn	**Pn**	**16 04 14.2**	**-0.3**
MENT	**Mentasta**	**3.40**	**87**		**Pn**	**16 04 14.7**	**-0.1**
HIN	**Hinchinbrook I**	**3.40**	**137**		**Pn**	**16 04 14.0**	**-1.0**
EYAK	**Cordova Ski Ar**	**3.54**	**131**		**Pn**	**16 04 16.1**	**-0.5**
PRP	**Porcupine Dome**	**3.54**	**41**	Pn	**Pn**	**16 04 16.7**	**-0.1**
GLB	**Gilahina Butte**	**3.77**	**111**		**Pn**	**16 04 19.0**	**-0.8**
GLB	**Gilahina Butte**	**3.77**	**111**		**Pn**	**16 04 19.2**	**-0.5**
AU22	**Augustine Moun**	**3.77**	**197**		**Pn**	**16 04 19.6**	**-0.2**
AUW	**Augustine West**	**3.79**	**198**		**Pn**	**16 04 20.1**	**+0.1**
AUH	**Augustine H**	**3.79**	**198**		**Pn**	**16 04 19.9**	**-0.2**
PS05	**TAPS Pump Stn5**	**3.86**	**3**		**Pn**	**16 04 21.4**	**+0.6**
GOAT	**Goat Mountain**	**3.88**	**125**		**Pn**	**16 04 20.4**	**-0.9**
VRDI	**Verde Repeater**	**4.02**	**112**		**Pn**	**16 04 22.0**	**-1.2**
VRDI	**Verde Repeater**	**4.02**	**112**		**Pn**	**16 04 22.4**	**-0.8**
RAGM	**Ragged Mountai**	**4.03**	**127**	Pn	**Pn**	**16 04 22.7**	**-0.5**
MCARA	**McCarthy VSAT**	**4.13**	**109**	Pn	**Pn**	**16 04 24.3**	**-0.2**
MID	**Middleton Isla**	**4.25**	**145**	Pn	**Pn**	**16 04 25.7**	**-0.4**
BC03		**4.27**	**85**		**Pn**	**16 04 25.6**	**-0.6**
COLD	**Coldfoot**	**4.29**	**5**	P	**Pn**	**16 04 27.0**	**+0.4**
	baz=186,SNR=87						
COLD	**Coldfoot**	**4.29**	**5**		**Pn**	**16 04 26.9**	**+0.4**
CRQM	**Cirque**	**4.40**	**117**		**Pn**	**16 04 27.8**	**-0.4**
CRQM	**Cirque**	**4.40**	**117**	Pn	**Pn**	**16 04 27.5**	**-0.7**
FYU	**Fort Yukon**	**4.41**	**32**		**Pn**	**16 04 28.4**	**+0.3**
PTPK	**Patty Peak**	**4.46**	**110**		**Pn**	**16 04 28.8**	**-0.3**
TGL	**Tana Glacier**	**4.52**	**116**	Pn	**Pn**	**16 04 28.9**	**-0.9**
KHIT	**Khitrov Hills**	**4.54**	**120**		**Pn**	**16 04 28.9**	**-1.1**
BALM	**Baldy**	**4.58**	**111**	Pn	**Pn**	**16 04 29.7**	**-0.9**
GRIN	**Grindle Hills**	**4.61**	**122**		**Pn**	**16 04 30.5**	**-0.4**
KIAG	**Kiagna River**	**4.63**	**112**		**Pn**	**16 04 30.1**	**-1.2**
WAX	**Waxell Ridge**	**4.69**	**119**	Pn	**Pn**	**16 04 30.8**	**-1.2**
BGLC	**Bering Glacier**	**4.73**	**124**		**Pn**	**16 04 32.6**	**+0.2**
KAHC	**Katmai Hardscr**	**4.73**	**205**		**Pn**	**16 04 32.7**	**0.0**
EGAK	**Eagle**	**4.77**	**63**		**Pn**	**16 04 32.6**	**-0.4**
KAHG	**Katmai Hook Gl**	**4.79**	**202**		**Pn**	**16 04 34.2**	**+0.8**
ISLE	**Juniper Island**	**4.81**	**116**	Pn	**Pn**	**16 04 32.2**	**-1.4**
BARN	**Barnard Glacie**	**4.87**	**109**	Pn	**Pn**	**16 04 34.2**	**-0.2**
YUK2	**White River**	**4.94**	**99**		**Pn**	**16 04 35.6**	**+0.2**
BAGL	**Bagley Icefiel**	**4.97**	**116**		**Pn**	**16 04 35.0**	**-0.8**
GRNC	**Granite Creek**	**4.99**	**113**		**Pn**	**16 04 34.9**	**-1.2**
CTGM	**Chitina Glacie**	**5.05**	**109**	Pn	**Pn**	**16 04 36.6**	**-0.2**
CYK	**Cape Yakataga**	**5.06**	**121**		**Pn**	**16 04 36.8**	**-0.1**
KCG	**Knife Ck. Glac**	**5.07**	**204**		**Pn**	**16 04 37.5**	**+0.4**
YUK3	**Moose Creek**	**5.12**	**99**		**Pn**	**16 04 38.1**	**+0.2**
KABU	**Katmai Buttres**	**5.14**	**205**		**Pn**	**16 04 38.3**	**+0.3**
YAH	**Yahtse**	**5.19**	**116**		**Pn**	**16 04 37.7**	**-1.1**
MESA	**MESA**	**5.21**	**118**		**Pn**	**16 04 38.6**	**-0.5**
BM03	**Burnt Mountain**	**5.24**	**29**		**Pn**	**16 04 39.4**	**0.0**
KDAK	**Kodiak Island**	**5.26**	**188**	P	**Pn**	**16 04 36.8**	**-2.7**
	12nm,0.3s,baz=24,slow=10,SNR=120						
KDAK				S	**Sn**	**16 05 33.7**	**-5.3**
	37nm,0.3s,baz=143,slow=21,SNR=22						
KDAK	**Kodiak Island**	**5.26**	**188**		**Pn**	**16 04 37.9**	**-1.6**
LOGN	**Logan Glacier**	**5.26**	**110**		**Pn**	**16 04 39.5**	**-0.2**
CAHL	**Cahill**	**5.34**	**204**		**Pn**	**16 04 41.3**	**+0.5**
DAWY	**Dawson**	**5.38**	**73**	Pn	**Pn**	**16 04 40.7**	**-0.4**
TABL	**Table Mountain**	**5.39**	**114**	Pn	**Pn**	**16 04 40.3**	**-1.3**
PS04	**TAPS Pump Stn4**	**5.52**	**7**		**Pn**	**16 04 44.1**	**+1.1**
CHX	**Chaix Hills**	**5.62**	**117**		**Pn**	**16 04 43.9**	**-0.6**
TOLK	**Toolik Lake Re**	**5.73**	**6**	P	**Pn**	**16 04 47.7**	**+1.9**
	baz=187,SNR=15						
TOLK	**Toolik Lake Re**	**5.73**	**6**	Pn	**Pn**	**16 04 47.3**	**+1.5**
PLK5	**Peulik 5**	**5.74**	**212**		**Pn**	**16 04 47.4**	**+1.4**
PLK2	**Peulik 2**	**5.82**	**208**		**Pn**	**16 04 48.1**	**+1.0**
PLK1	**Peulik 1**	**5.85**	**210**		**Pn**	**16 04 48.2**	**+0.7**
PLK3	**Peulik 3**	**5.88**	**208**		**Pn**	**16 04 48.8**	**+0.9**
PCA	**Pinnacle**	**5.95**	**114**	Pn	**Pn**	**16 04 48.9**	**0.0**
YUK6	**Outpost Mounta**	**6.36**	**103**		**Pn**	**16 04 54.1**	**-0.5**
ANM	**Nome**	**6.50**	**290**		**Pn**	**16 04 55.7**	**-0.5**
YUK5	**Granite Creek**	**6.51**	**101**		**Pn**	**16 04 56.0**	**-0.5**
PNL	**Peninsula**	**6.55**	**115**		**Pn**	**16 04 56.6**	**-0.3**
YUK7	**Dusty Glacier**	**6.64**	**106**		**Pn**	**16 04 58.4**	**0.0**
HYT	**Haines Junctio**	**6.80**	**102**		**Pn**	**16 04 59.9**	**-0.4**
RDOG	**Red Dog Mine**	**7.05**	**321**	Pn	**Pn**	**16 05 04.8**	**+1.2**
EPYK	**Eagle Plains**	**7.06**	**55**	P	**Pn**	**16 05 02.5**	**-1.2**
	baz=243,SNR=12						
CHIR	**Chirikof Islan**	**7.53**	**200**		**Pn**	**16 05 07.0**	**-3.0**
PLBC	**Pleasant Camp**	**7.95**	**110**		**Pn**	**16 05 15.4**	**-0.4**
WHY	**Whitehorse**	**8.04**	**99**	Pn	**Pn**	**16 05 16.7**	**-0.3**
SKAG	**Skagway**	**8.40**	**108**	Pn	**Pn**	**16 05 21.4**	**-0.3**
INK	**Inuvik**	**9.01**	**46**	P	**Pn**	**16 05 29.6**	**-0.2**
	0.5nm,0.3s,baz=245,slow=13,SNR=12						
BESE	**Bessie Mountai**	**9.10**	**112**		**Pn**	**16 05 29.6**	**-1.5**
JIS	**Juneau Island**	**9.47**	**112**		**Pn**	**16 05 35.5**	**-0.6**
SIT	**Sitka**	**9.88**	**120**		**Pn**	**16 05 40.7**	**-0.8**
DLBC	**Dease Lake**	**11.28**	**104**	P	**Pn**	**16 05 59.6**	**-0.7**
	0.4nm,0.3s,baz=297,slow=12,SNR=11						
A36M	**Sachs Harbour**	**13.28**	**36**	P	**P**	**16 06 31.8**	**+0.6**
	baz=240,SNR=6.3						
YKA	**Yellowknife Ar**	**16.61**	**75**	P	**Pn**	**16 07 07.5**	**-0.4**
	1.3nm,0.3s,baz=286,slow=9.5,SNR=43						
YKA				PcP	**PcP**	**16 11 49.6**	**+0.3**
	0.1nm,0.3s,baz=284,slow=1.1,SNR=7.1						
RES	**Resolute Bay**	**22.33**	**36**	P	**P**	**16 08 08.4**	**-1.1**
	1.4nm,0.4s,baz=255,slow=13,SNR=9.1						
RES	**Resolute Bay**	**22.33**	**36**	IAmb	IAmb	16 08 41.5	
	comp=Z,16nm,1.2s						
K02D	**Willamette Mer**	**25.87**	**129**	P	**P**	**16 08 45.5**	**+3.1**
	baz=331						
TIXI	**Tiksi**	**29.67**	**321**	P	**P**	**16 09 14.8**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=90,slow=8.1,SNR=2.2						
TIXI				PcP	**PcP**	**16 12 16.1**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=58,slow=4.7,SNR=4.4						
PDAR	**Pinedale Array**	**31.41**	**110**	P	**P**	**16 09 32.5**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=328,slow=5.3,SNR=7.3						
PDAR				PcP	**PcP**	**16 12 22.0**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=85,slow=3.1,SNR=3.8						
NVAR	**Mina Array Bea**	**31.56**	**126**	P	**P**	**16 09 34.2**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=320,slow=8.3,SNR=4.4						
NVAR				PcP	**PcP**	**16 12 23.1**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=300,slow=2.0,SNR=4.0						
YAK	**Yakutsk**	**34.42**	**305**	P	**P**	**16 09 57.1**	**-0.2**
	comp=Z,3.0nm,0.6s,baz=0.0,slow=0.0,SNR=2.4						
YAK	**Yakutsk**	**34.42**	**305**	IAmb	IAmb	16 09 58.2	
	comp=Z,5.7nm,0.6s						
EYMN	**Ely**	**35.54**	**86**	P	**P**	**16 10 08.6**	**+1.4**
	baz=317						
WUAZ	**Wupatki**	**36.78**	**119**	P	**P**	**16 10 20.7**	**+2.7**
	baz=331						
D46A	**Sault St. Mari**	**39.72**	**81**	P	**P**	**16 10 43.0**	**+0.7**
	baz=319						
D47A	**Chapleau**	**40.01**	**81**	P	**P**	**16 10 44.8**	**+0.1**
	baz=319						
E47A	**Iron Bridge**	**40.39**	**81**	P	**P**	**16 10 48.4**	**+0.6**
	baz=319						
D48A	**Paudash Townsh**	**40.51**	**79**	P	**P**	**16 10 49.3**	**+0.6**
	baz=319						
SCHQ	**Schefferville**	**41.26**	**61**	P	**P**	**16 10 53.9**	**-1.0**
	comp=Z,2.9nm,0.9s,baz=322,slow=12,SNR=2.4						
SCHQ	**Schefferville**	**41.26**	**61**	IAmb	IAmb	16 12 15.5	
	comp=Z,18nm,1.6s						
D50A	**G1974 Best Tow**	**41.39**	**78**	P	**P**	**16 10 56.7**	**+0.7**
	baz=319						
NRIK	**Norilsk**	**41.63**	**333**	P	**P**	**16 10 58.1**	**+0.5**
	comp=Z,3.0nm,0.4s,baz=50,slow=5.1,SNR=8.6						
D51A	**Lot 18 Range I**	**41.66**	**78**	P	**P**	**16 10 58.6**	**+0.4**
	baz=319						
CHGQ	**Chibougamau**	**41.74**	**71**	P	**P**	**16 10 58.4**	**-0.4**
	baz=318						
E51A	**G1948 Merrick**	**42.03**	**78**	P	**P**	**16 11 01.6**	**+0.4**
	baz=320						
D52A	**ZEK Kipawa Sen**	**42.17**	**77**	P	**P**	**16 11 02.9**	**+0.5**
	baz=320,SNR=6.4						
D53A	**Lac Vacive, Po**	**42.41**	**76**	P	**P**	**16 11 04.8**	**+0.5**
	baz=320						
E52A	**Mattawa**	**42.59**	**78**	P	**P**	**16 11 06.3**	**+0.6**
	baz=320						
D54A	**Lac Fusel, La**	**42.82**	**75**	P	**P**	**16 11 08.0**	**+0.4**
	baz=320						
E53A	**Dumoine, Ponti**	**42.96**	**77**	P	**P**	**16 11 09.2**	**+0.4**
	baz=320,SNR=5.7						
ALGO	**Algonquin Park**	**43.12**	**78**	P	**P**	**16 11 10.2**	**+0.2**
	baz=320						
E54A	**Lac Daplat, Po**	**43.13**	**76**	P	**P**	**16 11 10.4**	**+0.3**
	baz=320,SNR=5.4						
D55A	**Sainte-Anne-du**	**43.44**	**75**	P	**P**	**16 11 12.9**	**+0.3**
	baz=320						
I51A	**Listowel**	**43.45**	**82**	P	**P**	**16 11 14.0**	**+1.3**
	baz=321						
G54A	**Lake Saint Pet**	**43.53**	**78**	P	**P**	**16 11 13.5**	**+0.1**
	baz=321						
D56A	**ZEC Mazanza, M**	**43.73**	**74**	P	**P**	**16 11 15.0**	**+0.1**
	baz=320						
U40A	**Yellville**	**44.04**	**99**	P	**P**	**16 11 17.6**	**+0.1**
	baz=326						
D57A	**Chemin Vers le**	**44.14**	**73**	P	**P**	**16 11 18.4**	**+0.2**
	baz=320						
G55A	**Calabogie**	**44.25**	**77**	P	**P**	**16 11 19.3**	**+0.2**
	baz=321						
O48A	**Farmland**	**44.37**	**89**	P	**P**	**16 11 20.3**	**+0.2**
	baz=323,SNR=9.4						
E57A	**Chemin Saint G**	**44.49**	**74**	P	**P**	**16 11 21.3**	**+0.3**
	baz=321						
D58A	**Chemin du LacG**	**44.52**	**73**	P	**P**	**16 11 21.3**	**+0.1**
	baz=320						
TXAR	**Lajitas Array**	**45.32**	**115**	P	**P**	**16 11 29.6**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=324,slow=5.8,SNR=13						
TXAR				PcP	**PcP**	**16 13 05.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=264,slow=2.7,SNR=4.2						
M53A	**WI Miller and**	**45.47**	**84**	P	**P**	**16 11 29.9**	**+1.2**
	baz=323						
O51A	**Pataskala**	**45.62**	**86**	P	**P**	**16 11 30.7**	**+0.7**
	baz=324						
LONY	**Lake Ozonia**	**45.70**	**76**	P	**P**	**16 11 30.3**	**-0.2**
	baz=322						
E60A	**Ste Agathe de**	**45.71**	**72**	P	**P**	**16 11 30.9**	**+0.4**
	baz=321						
F60A	**Warwick**	**45.80**	**73**	P	**P**	**16 11 31.3**	**+0.1**
	baz=321						
M54A	**Oil Creek Stat**	**45.87**	**83**	P	**P**	**16 11 32.6**	**+0.6**
	baz=323						
L55A	**Hinsdale**	**45.89**	**81**	P	**P**	**16 11 32.8**	**+0.6**
	baz=323						
N53A	**Lisbon**	**

comp=Z,0.2nm,0.3s,baz=353,slow=4.1,SNR=4.6
KBZ Khabaz 73.06 349 P **P 16 14 37.7 -0.6**
comp=Z,1.1nm,0.5s,baz=0.0,slow=5.1,SNR=2.5
ESDC Sonseca Array 74.38 26 P **P 16 14 45.8 -0.4**
comp=Z,0.5nm,0.7s,baz=350,slow=7.0,SNR=3.0
GEYT Alibeck 76.74 337 P **P 16 14 59.9 +0.2**
comp=Z,1.0nm,0.6s,baz=333,slow=2.3,SNR=4.2
BRTR Keskin Array B 77.58 356 P **P 16 15 04.7 +0.3**
comp=Z,0.7nm,0.6s,baz=4.7,slow=4.3,SNR=2.5
GUN Gumba 78.80 311 *e*P **P 16 15 11.9 +0.3**
comp=Z,13nm,0.7s
JIRN Jiri 78.92 310 *e*P **P 16 15 13.0 +0.7**
comp=Z,41nm,0.6s
KKN Kakani 79.12 311 *e*P **P 16 15 13.6 +0.4**
comp=Z,11nm,0.5s
DANN Dangsing 79.12 313 *e*P **P 16 15 13.9 +0.6**
comp=Z,39nm,0.7s
GKN Gorkha 79.14 312 *e*P **P 16 15 13.6 +0.3**
comp=Z,16nm,0.3s
PKIN Phulchoki 79.28 311 *e*P **P 16 15 14.0 -0.1**
comp=Z,5.4nm,0.4s
PKI Pulchoki 79.28 311 *e*P **P 16 15 14.2 0.0**
comp=Z,3.3nm,0.4s
RAMN Ramite 79.43 310 *e*P **P 16 15 15.1 +0.2**
comp=Z,9.6nm,0.5s
KOLN Koldanda 79.71 313 *e*P **P 16 15 16.5 +0.1**
comp=Z,6.4nm,0.6s
CMAR Chiang Mai Arr 82.40 296 P **P 16 15 30.6 +0.1**
comp=Z,1.0nm,0.6s,baz=360,slow=6.4,SNR=11
BOSA Boshof 145.56 6 PKPbc **PKPdf 16 22 45.1 -0.2**
comp=Z,2.9nm,0.9s,baz=355,slow=3.6,SNR=5.5

TAP 28 16:11:10.2,24°.26N×121°.69E,h8km,ML2.4,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.12**	**225**	*e*P	Pg	16 11 13.7	+0.9
	baz=225						
NACB				*e*S	Sg	16 11 16.3	+1.5
	baz=225						
ENA	**Nanau**	**0.17**	**16**	*i* P	Pg	16 11 14.6	+0.9
	baz=18						
ENA				*e*S	Sg	16 11 17.5	+1.3
	baz=18						
ETLH	**Xiulin Townshi**	**0.20**	**254**	*e*P	Pg	16 11 15.3	+1.2
	baz=254						
ETLH				*e*S	Sg	16 11 18.9	+1.9
	baz=254						
TWD	**Chiawan**	**0.20**	**205**	P	Pg	16 11 14.9	+0.8
	baz=203						
TWD				S	Sg	16 11 18.2	+1.2
	baz=203						
HWA	**Hwalien**	**0.29**	**195**	*e*P	Pb	16 11 16.9	-0.8
	baz=193						
NNSB	**Datong**	**0.33**	**301**	*e*P	Pb	16 11 18.1	-0.2
	baz=300						
NNSH	**Datong**	**0.33**	**301**	*e*P	Pb	16 11 17.9	-0.4
	baz=300						
NNS	**Nan Shan**	**0.34**	**302**	P	Pb	16 11 18.3	-0.3
	baz=302						
NDT	**Datong Townshi**	**0.38**	**335**	*e*P	Pb	16 11 18.9	-0.2
	baz=334						
NDT				*e*S	Sb	16 11 24.5	-0.7
	baz=334						
TWC	**Suao**	**0.38**	**23**	P	Pb	16 11 18.5	-0.6
	baz=24						
TWC				*e*S	Sb	16 11 24.7	-0.4
	baz=24						
ENTT	**Nioudou**	**0.39**	**343**	*e*P	Pb	16 11 19.1	-0.3
	baz=344						
ENTT				*e*S	Sb	16 11 25.1	-0.6
	baz=344						
WHF	**Hehuan Shan**	**0.41**	**254**	P	Pb	16 11 19.1	-0.7
	baz=252						
WHF				*e*S	Sb	16 11 25.2	-1.2
	baz=252						
TWE	**Neicheng**	**0.46**	**357**	*e*P	Pb	16 11 20.2	-0.4
	baz=359						
TWE				*e*S	Sb	16 11 28.1	+0.6
	baz=359						
TDCB	**Techi**	**0.48**	**269**	*e*P	Pb	16 11 21.1	+0.1
	baz=268						
TDCB				*e*S	Sb	16 11 28.3	-0.1
	baz=268						
YHNB	**Yeheng**	**0.50**	**325**	*e*P	Pb	16 11 21.3	+0.1
	baz=324						
YHNB				*e*S	Sb	16 11 28.7	0.0
	baz=324						
ESL	**Shilin**	**0.50**	**208**	*e*P	Pb	16 11 21.0	-0.3
	baz=206						
ESL				*e*S	Sb	16 11 28.9	+0.2
	baz=206						
CHGB	**Renai**	**0.51**	**247**	*e*P	Pb	16 11 21.2	-0.3
	baz=247						
CHGB				*e*S	Sb	16 11 29.6	+0.4
	baz=247						
NSK	**Sanguang**	**0.51**	**324**	*e*P	Pb	16 11 21.4	-0.1
	baz=324						
NSK				*e*S	Sb	16 11 29.0	-0.1
	baz=324						
NWLT	**Wulai**	**0.54**	**342**	*e*P	Pb	16 11 22.0	0.0
	baz=341						
NWLT				*e*S	Sb	16 11 30.3	+0.3
	baz=341						
EGFH	**Guangfu**	**0.64**	**202**	*e*P	Pb	16 11 23.2	-0.3
	baz=202						
EGFH				*e*S	Sb	16 11 33.8	+1.2
	baz=202						
WHP	**Taichung City**	**0.68**	**272**	*e*P	Pb	16 11 24.0	-0.3
	baz=271						
WHP				*e*S	Sb	16 11 33.7	-0.3
	baz=271						
VWDT	**VWDT**	**0.71**	**225**	*e*P	Pb	16 11 24.8	-0.1
	baz=224						
VWDT				*e*S	Sb	16 11 35.6	+0.8
	baz=224						
HGSD	**Ruisui**	**0.80**	**198**	*e*P	Pb	16 11 26.7	+0.3
	baz=197						
HGSD				*e*S	Sb	16 11 37.9	+0.5
	baz=197						

TAP 28 16:11:14.4,24°.25N×121°.71E,h10km,ML2.4,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.13**	**233**	*e*P	Pg	16 11 17.8	+0.3
	baz=232						
NACB				*e*S	Sg	16 11 20.8	+1.2
	baz=232						
ENA	**Nanau**	**0.18**	**10**	P	Pg	16 11 19.0	+0.8
	baz=12						
ENA				*e*S	Sg	16 11 22.0	+1.2
	baz=12						
TWD	**Chiawan**	**0.20**	**211**	P	Pg	16 11 19.4	+0.8
	baz=208						
TWD				*e*S	Sg	16 11 22.6	+1.1
	baz=208						
ETLH	**Xiulin Townshi**	**0.21**	**257**	*e*P	Pg	16 11 19.9	+1.0
	baz=257						
ETLH				*e*S	Sg	16 11 23.4	+1.5
	baz=257						
HWA	**Hwalien**	**0.29**	**199**	*e*P	Pb	16 11 21.6	-0.2
	baz=197						
HWA				*e*S	Sb	16 11 26.4	-0.3
	baz=197						
HWA	**Hwalien**	**0.29**	**199**	*e*S	Pb	16 11 22.0	+0.3
	baz=193						
NNSB	**Datong**	**0.34**	**301**	*e*P	Pb	16 11 22.4	-0.4
	baz=300						
NNSB				*e*S	Sb	16 11 27.8	-0.6
	baz=300						
NNSB	**Datong**	**0.34**	**301**	*e*S	Pb	16 11 22.7	-0.1
	baz=300						
NNSH	**Datong**	**0.34**	**301**	*e*P	Pb	16 11 22.6	-0.2
	baz=300						
NNSH				*e*S	Sb	16 11 27.7	-0.7
	baz=300						
NNSH	**Datong**	**0.34**	**301**	*e*S	Pb	16 11 22.6	-0.2
	baz=300						
NNS	**Nan Shan**	**0.36**	**301**	P	Pb	16 11 22.8	-0.2
	baz=301						
NNS				*e*S	Sb	16 11 28.1	-0.6
	baz=301						
NNS	**Nan Shan**	**0.36**	**301**	S	Pb	16 11 23.1	+0.1
	baz=302						
TWC	**Suao**	**0.38**	**20**	P	Pb	16 11 22.7	-0.6
	baz=21						
TWC				*e*S	Sb	16 11 28.4	-0.8
	baz=21						
NDT	**Datong Townshi**	**0.39**	**333**	*e*P	Pb	16 11 23.5	0.0
	baz=332						
NDT				*e*S	Sb	16 11 29.6	0.0
	baz=332						
ENTT	**Nioudou**	**0.41**	**341**	*e*P	Pb	16 11 23.7	-0.1
	baz=342						
ENTT				*e*S	Sb	16 11 29.8	-0.3
	baz=342						
WHF	**Hehuan Shan**	**0.42**	**255**	*e*P	Pb	16 11 23.7	-0.5
	baz=254						
WHF				*e*S	Sb	16 11 30.0	-0.8
	baz=254						
TWE	**Neicheng**	**0.47**	**355**	*e*P	Pb	16 11 24.8	-0.1
	baz=357						
TWE				*e*S	Sb	16 11 31.6	-0.2
	baz=357						
TWT	**Tachien**	**0.49**	**270**	*e*P	Pb	16 11 25.3	+0.1
	baz=269						
TWT				*e*S	Sb	16 11 32.5	0.0
	baz=269						
TDCB	**Techi**	**0.50**	**270**	*e*P	Pb	16 11 25.6	+0.1
	baz=269						
TDCB				*e*S	Sb	16 11 32.6	-0.3
	baz=269						
ESL	**Shilin**	**0.50**	**210**	*e*P	Pg	16 11 24.7	+0.4
	baz=209						
ESL				*e*S	Sb	16 11 32.5	-0.3
	baz=209						
YHNB	**Yeheng**	**0.51**	**324**	*e*P	Pb	16 11 25.9	+0.2
	baz=323						
YHNB				*e*S	Sb	16 11 33.2	-0.1
	baz=323						
CHGB	**Renai**	**0.52**	**249**	*e*P	Pb	16 11 25.8	-0.1
	baz=248						
CHGB				*e*S	Sb	16 11 33.4	-0.2
	baz=248						
NSK	**Sanguang**	**0.53**	**323**	*e*P	Pb	16 11 25.8	-0.1
	baz=323						
NSK				*e*S	Sb	16 11 33.6	0.0
	baz=323						
NWLT	**Wulai**	**0.55**	**340**	*e*P	Pb	16 11 26.5	+0.2
	baz=340						
NWLT				*e*S	Sb	16 11 33.8	-0.6
	baz=340						
EGFH	**Guangfu**	**0.64**	**204**	*e*P	Pb	16 11 27.7	+0.1
	baz=203						
EGFH				*e*S	Sb	16 11 36.5	-0.1
	baz=203						
WHP	**Taichung City**	**0.70**	**272**	*e*P	Pb	16 11 29.4	+0.6
	baz=271						
WHP				*e*S	Sb	16 11 39.1	+0.7
	baz=271						
VWDT	**VWDT**	**0.72**	**226**	*e*P	Pb	16 11 29.3	+0.2
	baz=226						
VWDT				*e*S	Sb	16 11 39.6	+0.6
	baz=226						
TIPB	**Shuangxi**	**0.72**	**8**	*e*P	Pb	16 11 29.0	-0.2
	baz=8.0						
TIPB				*e*S	Sb	16 11 38.7	-0.6
	baz=8.0						
LIOB	**Emei**	**0.74**	**302**	*e*P	Pb	16 11 30.2	+0.7
	baz=301						
LIOB				*e*S	Sn	16 11 41.2	-1.3
	baz=301						
NSTT	**Nanjuang**	**0.75**	**300**	*e*P	Pb	16 11 29.8	+0.3
	baz=300						
NSTT				*e*S	Sb	16 11 40.9	+1.1
	baz=300						
DPDB	**Guoxing**	**0.75**	**253**	*e*P	Pb	16 11 29.9	+0.3
	baz=252						
DPDB				*e*S	Sb	16 11 40.6	+0.7
	baz=252						
HGSD	**Ruisui**	**0.80**	**199**	*e*P	Pb	16 11 30.8	+0.3
	baz=198						
HGSD				*e*S	Sb	16 11 42.6	+1.2
	baz=198						
SSLB	**Suanglung**	**0.83**	**236**	*e*P	Pb	16 11 31.2	+0.2
	baz=236						
SSLB				*e*S	Sb	16 11 42.3	0.0
	baz=236						
YULB	**Yu-li**	**0.94**	**204**	*e*P	Pb	16 11 33.0	+0.2
	baz=203						
YULB				*e*S	Sn	16 11 46.4	-0.8
	baz=203						

IGIL ***28*** *16:17:59.5,37°.35N×7°.56W,h19km,ML0.8*
INMG 28 16:17:59.2±1.8,37°.34N×7°.55W,h18km±5km,ML0.9, 1C-1D,Error ellipse: s-maj=14.3km s-min=5.2km az=108.0,Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVAQ	**Vaqueiros**	**0.14**	**294**	*e*Pg	Pg	16 18 03.6	+0.2
PVAQ				*e*Sg	Sg	16 18 06.7	+0.4
PVAQ				A	A	16 18 06.9	
	9.9nm,0.2s						
PBDV	**Barranco-do-Ve**	**0.32**	**252**	*e*Pg	Pg	16 18 04.9	-1.2
PBDV				*e*Sg	Sg	16 18 10.3	-0.5
PBDV				A	A	16 18 10.9	
	3.4nm,0.9s						
PCVE	**Castro Verde**	**0.48**	**307**	*e*Pg	Pg	16 18 08.3	-0.7
PCVE				*e*Sg	Sg	16 18 14.7	-0.9
PCVE				A	A	16 18 18.2	
	3.1nm,0.2s						
MESJ	**Messejana**	**0.73**	**313**	*e*P	Pb	16 18 12.3	-1.0
MESJ				*e*S	Sb	16 18 21.7	-1.2
MESJ				AML	AML	16 18 26.6	
	comp=E,2.9nm,0.1s						
MESJ	**Messejana**	**0.73**	**313**	*e*Pg	Pb	16 18 12.3	-1.0
MESJ				*e*Sg	Sb	16 18 22.0	-0.9
MESJ				A	A	16 18 28.0	
	comp=E,2.4nm,0.4s						
MORF	**Marmelete**	**0.88**	**268**	*e*S	Sb	16 18 27.0	-0.3
PTEO	**Sao Teotonio**	**0.95**	**283**	*e*S	Sb	16 18 29.7	+0.2
PNCL	**Nicolau / Gran**	**1.09**	**315**	*e*S	Sb	16 18 32.3	-1.1
PMTG	**Montargil**	**1.80**	**343**	*e*Sg	Sb	16 18 54.8	+0.9

UNK ***28*** *16:24:35.8,51°.91N×178°.38E,h108km*
MOS ***28*** *16:24:35.7±1.1,52°.04N×178°.40E,h120km,mb4.6/26, Error ellipse: s-maj=8.6km s-min=6.2km az=117.2*
NEIC ***28*** *16:24:36.8±1.7,51°.95N±0°.09×178°.43E±0°.09, h119km±4km,mb4.6/129,ML4.2/33(AEIC),Error ellipse: s-maj=13.2km s-min=8.0km az=176.0*
IDC ***28*** *16:24:36.6±0.6,52°.09N×178°.44E,h117km±4km,mb4.1/33, mb1 4.2/36,mb1mx4.1/49,mbtmp4.5/36,MS3.1/8, Ms1 3.1/8,ms1mx2.8/44,Error ellipse: s-maj=11.7km s-min=7.6km az=167.0*
AEIC ***28*** *16:24:37.0±2.3,51°.85N±0°.10×178°.36E±0°.09, h116km±4km,Error ellipse: s-maj=13.7km s-min=8.1km az=181.0*
ISC 28 16:24:36.4±0.5,52°.00N±0°.06×178°.49E±0°.04,h116km±3km, h116km:pP-P,n355,σ1s30/367,mb4.5/116,13C-4D,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.04**	**150**		**Pn**	**16 24 52.2**	**+0.1**
LSSA	**Little Sitkin**	**0.06**	**163**		**Pn**	**16 24 52.4**	**+0.2**
LSPA	**Little Sitkin**	**0.07**	**131**		**Pn**	**16 24 52.5**	**+0.3**
CETU	**Semis' Tuman**	**0.62**	**93**		**Pn**	**16 24 55.6**	**+0.9**
CEAP	**Semis' Anvil P**	**0.67**	**90**		**Pn**	**16 24 56.1**	**+1.1**
CESW	**Semis' Southwe**	**0.67**	**98**		**Pn**	**16 24 55.5**	**+0.5**
CERAA	**Semis' Rag'd T**	**0.75**	**97**		**Pn**	**16 24 56.3**	**+0.7**
AMKA	**Amchitka**	**0.81**	**141**		**Pn**	**16 24 56.1**	**0.0**
AMKA					**Sn**	**16 25 10.2**	**-0.8**
GAEA	**Gareloi East**	**1.73**	**96**		**Pn**	**16 25 07.1**	**+0.9**
TASE	**Tanaga Southea**	**2.16**	**93**		**Pn**	**16 25 12.4**	**+0.8**
TAFP	**Tanaga Falls P**	**2.19**	**91**		**Pn**	**16 25 12.6**	**+0.7**
TAFP					**Sn**	**16 25 39.9**	**+0.8**
TAPA	**Tanaga Point A**	**2.30**	**93**		**Pn**	**16 25 14.0**	**+0.6**
KIMD	**Kanaga Island**	**2.66**	**94**		**Pn**	**16 25 18.6**	**+0.6**
KICM	**Kanaga Island**	**2.67**	**90**		**Pn**	**16 25 18.9**	**+0.8**
KIKV	**Kanaga Island**	**2.69**	**91**		**Pn**	**16 25 19.0**	**+0.6**
SMY	**Shemya**	**2.79**	**287**	P	**Pn**	**16 25 18.5**	**-1.1**
SMY						16 25 51.6	
SMY	**Shemya**	**2.79**	**287**	Pn	**Pn**	**16 25 18.5**	**-1.1**
ADK	**Adak**	**2.99**	**90**	P	**Pn**	**16 25 22.7**	**+0.4**
ADK	**Adak**	**2.99**	**90**	Pn	**Pn**	**16 25 22.7**	**+0.4**
ADAG	**Mount Adagdak**	**3.04**	**89**		**Pn**	**16 25 23.6**	**+0.6**
GSTD	**Great Sitkin T**	**3.32**	**87**		**Pn**	**16 25 26.9**	**+0.2**
GSTD					**Sn**	**16 26 05.9**	**+0.3**
GSTR	**Great Sitkin T**	**3.37**	**86**	Pn	**Pn**	**16 25 28.1**	**+0.8**
GSMY	**Great Sitkin M**	**3.37**	**87**		**Pn**	**16 25 27.8**	**+0.5**
ATKA	**Atka Island**	**4.52**	**85**	Pn	**Pn**	**16 25 43.4**	**+0.8**
KOFP	**Korovin Flat P**	**4.58**	**84**		**Pn**	**16 25 44.5**	**+1.0**
KOSE	**Korovin Southe**	**4.61**	**83**		**Pn**	**16 25 44.7**	**+0.8**
NIKH	**Nikolski High**	**7.79**	**78**	Pn	**Pn**	**16 26 28.3**	**+1.4**
OKSP	**Okmok Steeple**	**8.14**	**76**		**Pn**	**16 26 34.2**	**+2.5**
OKCE	**Okmok Cone E**	**8.23**	**75**		**Pn**	**16 26 35.6**	**+2.7**
SPIA	**Saint Paul Isl**	**8.34**	**47**	Pn	**Pn**	**16 26 37.3**	**+3.1**
UNV	**Unalaska Valle**	**9.25**	**73**	Pn	**Pn**	**16 26 48.4**	**+1.8**
AKUT	**Akutan**	**9.71**	**71**	Pn	**Pn**	**16 26 56.1**	**+3.4**
PET	**Petropavlovsk**	**12.13**	**283**	P	**Pn**	**16 27 25.8**	**+0.7**
PET	**Petropavlovsk**	**12.13**	**283**	Pn	**Pn**	**16 27 25.8**	**+0.7**
PEA0B	**Petropavlovsk-**	**12.70**	**283**	*i* P	**Pn**	**16 27 32.0**	**-0.6**
PEA0B	**Petropavlovsk-**	**12.70**	**283**	Pn	**Pn**	**16 27 35.1**	**+2.5**
PETK	**Petropavlovsk-**	**12.70**	**283**	P	**Pn**	**16 27 32.6**	**0.0**
	0.9nm,0.3s,baz=94,slow=19,SNR=38						
PETK				S	**Sn**	**16 29 45.1**	**-7.0**
	0.9nm,0.3s,baz=93,slow=36,SNR=4.1						
PETK				LR	LR	16 32 49.2	
	comp=Z,22nm,18.1s,baz=60,slow=39						
SDPT	**Sand Point**	**12.90**	**67**	Pn	**Pn**	**16 27 35.0**	**-0.2**
SKR	**Severo-Kuril's**	**14.04**	**273**	*ce*P	**Pn**	**16 27 49.2**	**-0.7**
SVW2	**Sparrevohn**	**16.84**	**47**	P	**P**	**16 28 27.4**	**+2.4**
OHAK	**Old Harbor**	**17.09**	**61**	P	**P**	**16 28 26.2**	**-1.5**
OHAK				IAmb	IAmb	16 28 28.5	
	comp=Z,39nm,1.2s						
BILL	**Bilibino**	**17.14**	**344**	*ce*P	**Pn**	**16 28 30.1**	**+1.7**
BILL				pmax	pmax		
	comp=Z,30nm,0.9s						
BILL	**Bilibino**	**17.14**	**344**	P	**Pn**	**16 28 30.7**	**+2.3**
BILL				IAmb	IAmb	16 28 31.9	
	comp=Z,24nm,0.8s						
MA2	**Magadan**	**17.23**	**307**	P	**P**	**16 28 28.1**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=110,slow=8.1,SNR=4.7						
MA2	**Magadan**	**17.23**	**307**	*i* P	**P**	**16 28 28.8**	**-0.5**
MA2				pmax	pmax		
	comp=Z,11nm,0.9s						
MA2	**Magadan**	**17.23**	**307**	IAmb	IAmb	16 28 32.4	
	comp=Z,24nm,1.0s						
KDAK	**Kodiak Island**	**17.53**	**59**	P	**P**	**16 28 31.0**	**-1.6**
	comp=Z,10nm,0.3s,baz=267,slow=2.6,SNR=74						
KDAK				S	**Sn**	**16 31 39.5**	**-8.9**
	comp=Z,0.1nm,0.3s,baz=107,slow=19,SNR=2.0						
KDAK				LR	LR	16 35 27.1	
	comp=Z,56nm,19.0s,baz=250,slow=37						
KDAK	**Kodiak Island**	**17.53**	**59**	P	**P**	**16 28 31.3**	**-1.3**
KDAK				S	**Sn**	**16 31 39.5**	**-8.9**
KDAK				pmax	pmax		
	comp=Z,29nm,1.0s						
KDAK	**Kodiak Island**	**17.53**	**59**	P	**P**	**16 28 31.3**	**-1.3**
KDAK				IAmb	IAmb	16 28 34.9	
	comp=Z,29nm,0.9s						
RSO	**Redoubt South**	**17.96**	**51**	P	**Pn**	**16 28 40.5**	**+2.0**
SPU	**Mount Spurr**	**18.49**	**49**	Pn	**Pn**	**16 28 46.6**	**+2.0**
CNPM	**China Poot**	**18.49**	**54**	P	**Pn**	**16 28 44.1**	**-0.5**
CAPN	**Captain Cook N**	**18.80**	**50**	P	**Pn**	**16 28 48.5**	**+0.3**
	baz=256						
SKT	**Skwentna**	**18.96**	**47**	P	**Pn**	**16 28 51.0**	**+0.8**
PPLA	**Purkeypile**	**18.99**	**44**	P	**Pn**	**16 28 51.7**	**+1.1**
SUA	**Susitna One**	**19.17**	**48**	P	**Pn**	**16 28 53.1**	**+0.4**
SUA				IAmb	IAmb	16 28 56.9	
	comp=Z,37nm,0.9s						
O22K	**Cooper Landing**	**19.42**	**52**	P	**P**	**16 28 54.1**	**+0.9**
	baz=258,SNR=18						
SEW	**Seward**	**19.48**	**53**	P	**P**	**16 28 54.4**	**+0.5**
SEW				IAmb	IAmb	16 28 57.3	
	comp=Z,36nm,0.9s						
BPAW	**Bear Paw Mtn.**	**19.94**	**41**	P	**Pn**	**16 29 01.1**	**-0.5**
BPAW				IAmb	IAmb	16 29 01.9	
	comp=Z,18nm,0.9s						
PMR	**Palmer**	**19.95**	**49**	P	**Pn**	**16 29 00.5**	**-1.2**
PMR				pmax	pmax		
	comp=Z,12nm,0.4s						
PMR	**Palmer**	**19.95**	**49**	P	**Pn**	**16 29 00.5**	**-1.2**
PMR				IAmb	IAmb	16 29 10.8	
	comp=Z,12nm,0.4s						
TRF	**Thorofare Moun**	**19.99**	**43**	P	**Pn**	**16 29 01.3**	**-1.0**
TRF				IAmb	IAmb	16 29 04.0	
	comp=Z,25nm,0.8s						
GHO	**Glory Hole Cre**	**20.09**	**48**	P	**P**	**16 29 01.8**	**+1.2**
GHO				IAmb	IAmb	16 29 05.2	
	comp=Z,18nm,0.6s						
KNK	**Knik Glacier**	**20.22**	**49**	P	**P**	**16 29 03.2**	**+1.3**
KNK				IAmb	IAmb	16 29 05.7	
	comp=Z,27nm,0.7s						
RND	**Reindeer**	**20.58**	**44**	P	**P**	**16 29 07.4**	**+1.6**
RND				pmax	pmax		
	comp=Z,8.0nm,0.7s						
RND	**Reindeer**	**20.58**	**44**	P	**P**	**16 29 07.4**	**+1.6**
GLI	**Glacier Island**	**20.77**	**51**	P	**P**	**16 29 08.0**	**+0.2**
NEA2	**Nenana**	**20.90**	**40**	P	**P**	**16 29 10.5**	**+1.4**
	baz=248,SNR=21						
HIN	**Hinchinbrook I**	**20.98**	**53**	P	**P**	**16 29 10.8**	**+0.8**
HIN				IAmb	IAmb	16 29 11.6	
	comp=Z,30nm,0.8s						
FID	**Port Fidalgo**	**21.05**	**52**	P	**P**	**16 29 10.7**	**0.0**
FID				IAmb	IAmb	16 29 13.4	
	comp=Z,30nm,0.8s						
WRH	**Wood River Hil**	**21.25**	**41**	P	**P**	**16 29 12.8**	**-0.1**
EYAK	**Cordova Ski Ar**	**21.37**	**52**	P	**P**	**16 29 15.3**	**+1.2**
EYAK				IAmb	IAmb	16 29 17.1	
	comp=Z,14nm,0.8s						
MDM	**Murphy Dome**	**21.37**	**40**	P	**P**	**16 29 15.7**	**+1.5**
CCB	**Clear Creek Bu**	**21.43**	**41**	P	**P**	**16 29 15.4**	**+0.7**
COLA	**College**	**21.49**	**40**	*i* P	**P**	**16 29 16.6**	**+1.2**
COLA				pmax	pmax		
	comp=Z,14nm,1.0s						
COLD	**Coldfoot**	**21.62**	**33**	P	**P**	**16 29 17.6**	**+0.8**
	baz=241						
COLD	**Coldfoot**	**21.62**	**33**	P	**P**	**16 29 17.9**	**+1.1**
HDA	**Harding Lake**	**21.70**	**42**	P	**P**	**16 29 18.1**	**+0.5**
	baz=252,SNR=9.6						
HDA	**Harding Lake**	**21.70**	**42**	P	**P**	**16 29 18.2**	**+0.5**
POKR	**Poker Flat Res**	**21.75**	**40**	P	**P**	**16 29 19.0**	**+0.9**
	baz=249,SNR=6.8						
IL31		**21.84**	**41**	P	**P**	**16 29 19.5**	**+0.4**
ILAR	**Eielson Array**	**21.84**	**41**	P	**P**	**16 29 17.6**	**-1.6**
	comp=Z,1.5nm,0.5s,baz=248,slow=8.7,SNR=29						
ILAR				PcP	**PcP**	**16 33 12.3**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=270,slow=3.4,SNR=4.7						
ILAR				ScP	**ScP**	**16 36 37.2**	**-3.0**
	comp=Z,1.2nm,0.7s,baz=274,slow=3.1,SNR=10						
RAGM	**Ragged Mountai**	**21.88**	**53**	P	**P**	**16 29 20.9**	**+1.3**
PAX	**Paxson**	**21.94**	**46**	P	**P**	**16 29 20.8**	**+0.5**
PAX				pmax	pmax		
	comp=Z,14nm,0.8s						
PAX	**Paxson**	**21.94**	**46**	P	**P**	**16 29 20.8**	**+0.5**
PAX				IAmb	IAmb	16 29 22.5	
	comp=Z,14nm,0.8s						
TYV	**Tymovskoe**	**22.23**	**281**	*e*P	**P**	**16 29 24.3**	**+1.0**
TYV				pmax	pmax		
	comp=Z,14nm,1.0s						
RIDG	**Independent Ri**	**22.40**	**44**	P	**P**	**16 29 24.6**	**-0.4**
GLB	**Gilahina Butte**	**22.43**	**50**	P	**P**	**16 29 26.0**	**+0.8**
GLB				IAmb	IAmb	16 29 29.3	
	comp=Z,20nm,1.0s						
TOLK	**Toolik Lake Re**	**22.55**	**30**	P	**P**	**16 29 28.0**	**+1.6**
	baz=238						
VRDI	**Verde Repeater**	**22.57**	**51**	P	**P**	**16 29 27.4**	**+0.6**
VRDI				IAmb	IAmb	16 29 30.4	
	comp=Z,14nm,0.6s						
CRQM	**Cirque**	**22.67**	**52**	P

FYU Fort Yukon 23.11 37 P P 16 29 32.3 +0.5
FYU IAmb IAmb 16 29 35.2
comp=Z,14nm,0.8s
MESA MESA 23.22 54 P P 16 29 34.1 +1.0
MESA IAmb IAmb 16 29 36.6
comp=Z,43nm,1.2s
YAH Yahtse 23.33 53 P P 16 29 35.6 +1.5
CTGM Chitina Glacie 23.57 52 P P 16 29 37.2 +1.0
YSS Yuzh-Sakhalins 23.59 272 ⇓ iP P 16 29 37.5 +1.1
YSS e 16 29 59.7
YSS eS S 16 33 42.7 +0.9
YSS e 16 34 22.8
YSS pmax pmax
comp=Z,30nm,0.7s
YSS pmax pmax
comp=N,10.0nm,0.6s
YSS pmax pmax
comp=E,20nm,0.8s
YSS MLR MLR
comp=Z,100nm,14.0s
YSS Yuzh-Sakhalins 23.59 272 P P 16 29 37.3 +1.0
YSS IAmb IAmb 16 29 39.2
comp=Z,26nm,0.8s
TABL Table Mountain 23.63 53 P P 16 29 37.8 +0.9
DAWY Dawson 24.83 45 IAmb IAmb 16 29 51.3
comp=Z,16nm,0.8s
JKA Kamikawa-asahi 25.04 266 IAmb IAmb 16 29 51.2
comp=Z,14nm,0.8s
ASAJ Asahikawa 25.04 266 P P 16 29 48.5 -1.1
comp=Z,10nm,0.7s,baz=76,slow=11,SNR=18
ERM Erimo 25.84 261 *i* P **P 16 29 56.8 0.0**
ERM pmax pmax
comp=Z,4.0nm,0.5s
GRNR Gornyy 26.02 284 ⇓ iP P 16 29 58.5 +0.2
GRNR pmax pmax
comp=E,6.0nm,0.7s
GRNR pmax pmax
comp=Z,10.0nm,1.0s
GRNR MLR MLR
comp=E,100nm,15.0s
GRNR MLR MLR
comp=N,50nm,14.0s
GRNR MLR MLR
comp=Z,40nm,17.0s
EPYK Eagle Plains 26.34 40 P P 16 30 01.9 +0.8
baz=259
EPYK Eagle Plains 26.34 40 ScP ScP 16 36 52.8 +0.2
YAK Yakutsk 27.73 310 P P 16 30 11.8 -1.6
comp=Z,2.2nm,0.3s,baz=237,slow=2.9,SNR=4.8
YAK Yakutsk 27.73 310 *eP* **P 16 30 11.4 -2.1**
YAK pmax pmax
comp=Z,6.0nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.4s
YAK pmax pmax
comp=E,5.0nm,1.3s
YAK Yakutsk 27.73 310 P P 16 30 12.5 -0.9
YAK **P 16 30 13.2 -0.2**
YAK IAmb IAmb 16 30 14.0
comp=Z,7.6nm,0.7s
INK Inuvik 27.93 36 P P 16 30 14.2 -1.0
comp=Z,2.5nm,0.5s,baz=251,slow=8.6,SNR=19
INK Inuvik 27.93 36 P P 16 30 16.5 +1.4
INK pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 27.93 36 P P 16 30 16.5 +1.4
INK ScP ScP **16 36 56.7 -0.5**
TIXI Tiksi 29.26 330 P P 16 30 24.4 -2.6
comp=Z,1.0nm,0.3s,baz=129,slow=13,SNR=3.3
TIXI PcP PcP **16 33 30.2 -0.4**
comp=Z,1.4nm,0.5s,baz=113,slow=3.9,SNR=6.8
TIXI ScP ScP **16 37 00.0 -1.3**
comp=Z,4.3nm,0.7s,baz=104,slow=4.0,SNR=16
TIXI Tiksi 29.26 330 *ce* P **P 16 30 27.8 +0.9**
TIXI pmax pmax
comp=Z,3.0nm,1.2s
TIXI Tiksi 29.26 330 IAmb IAmb 16 30 29.4
comp=Z,3.0nm,1.1s
KLR Kul'dur 29.39 283 P P 16 30 27.8 -0.5
comp=Z,11nm,0.4s,baz=63,slow=8.6,SNR=59
KLR Kul'dur 29.39 283 *ce* P **P 16 30 28.1 -0.2**
KLR pmax pmax
comp=Z,10.0nm,0.4s
DLBC Dease Lake 29.43 57 P P 16 30 28.9 +0.3
comp=Z,2.5nm,0.6s,baz=333,slow=3.7,SNR=6.7
A36M Sachs Harbour 31.37 30 P P 16 30 47.7 +2.2
baz=261
USA0B Ussuriysk Arra 31.55 274 P P 16 30 47.0 -0.4
USA0B pmax pmax
comp=Z,8.0nm,0.7s
USA0B Ussuriysk Arra 31.55 274 P P 16 30 47.0 -0.4
USA0B IAmb IAmb 16 30 47.8
comp=Z,7.6nm,0.7s
USRK Ussuriysk Ar. 31.55 274 P P 16 30 47.0 -0.4
comp=Z,8.1nm,0.7s,baz=61,slow=6.9,SNR=24
USRK PcP PcP **16 33 37.8 +0.6**
comp=Z,4.0nm,0.6s,baz=56,slow=1.8,SNR=10.0
MAT Matsushiro 32.24 257 P P 16 30 54.1 +0.5
MJAR Matsushiro Arr 32.24 257 P P 16 30 53.3 -0.3
comp=Z,2.0nm,0.6s,baz=44,slow=6.6,SNR=13
MJAR PcP PcP **16 33 39.5 +0.4**
comp=Z,0.9nm,0.5s,baz=81,slow=1.4,SNR=11
MJAR LR LR 16 42 25.0
comp=Z,11nm,21.9s,baz=250,slow=33
H11N2 WAKE ISLAND Hy 33.46 200 T T 17 06 37.1
baz=11,slow=76
H11N3 WAKE ISLAND Hy 33.47 200 T T 17 06 40.9
baz=11,slow=76
H11N1 WAKE ISLAND Hy 33.48 200 T T 17 06 32.8
baz=11,slow=76
H11S1 WAKE ISLAND Hy 34.69 200 T T 17 08 07.5
baz=11,slow=76
H11S2 WAKE ISLAND Hy 34.70 200 T T 17 07 59.1
baz=11,slow=76
H11S3 WAKE ISLAND Hy 34.70 200 T T 17 08 15.9
baz=11,slow=76
YKA Yellowknife Ar 36.03 47 P P 16 31 26.9 +1.0
comp=Z,3.1nm,0.6s,baz=282,slow=8.2,SNR=26
YKA ScP ScP **16 37 23.4 -1.5**
comp=Z,0.7nm,0.8s,baz=295,slow=3.9,SNR=6.2
YKA LR LR 16 46 50.2
comp=Z,39nm,19.0s,baz=0.0,slow=37
BOD Bodaibo 36.24 305 *eP* **P 16 31 26.9 -0.9**
D03D Eldon 37.12 73 P P 16 31 37.1 +1.7
baz=299
KSRS Korea Array 37.96 268 P P 16 31 43.6 +1.2
comp=Z,6.0nm,1.0s,baz=57,slow=8.5,SNR=18
KSRS PcP PcP **16 33 56.8 +1.0**
comp=Z,2.2nm,0.8s,baz=46,slow=3.5,SNR=11
TJN Taejon 38.99 267 *ce* **P 16 31 51.8 +0.7**
NEW Newport 40.24 69 P P 16 32 01.5 0.0
baz=300
NEW Newport 40.24 69 P P 16 32 01.1 -0.4
NEW pmax pmax
comp=Z,7.0nm,1.0s
NEW Newport 40.24 69 P P 16 32 01.1 -0.4
NEW IAmb IAmb 16 32 02.0
comp=Z,7.4nm,1.0s
KHMM Horse Mountain 40.33 82 P P 16 32 04.4 +2.0
KHMM IAmb IAmb 16 32 05.0
comp=Z,4.6nm,0.6s
L04D Klamath Falls 40.42 80 P P 16 32 04.4 +1.2
baz=305
YBH Yreka Blue Hor 40.45 81 P P 16 32 05.0 +1.6
YBH pmax pmax
comp=Z,3.0nm,0.9s
YBH Yreka Blue Hor 40.45 81 P P 16 32 05.0 +1.6
J05D Fort Rock, OR 40.46 78 P P 16 32 04.9 +1.4
baz=304
M02C Callahan 40.56 81 P P 16 32 06.9 +2.7
baz=306
N02D Trinity Center 40.90 82 P P 16 32 09.2 +2.2
baz=306
M04C Macdoel 40.95 80 P P 16 32 09.0 +1.5
baz=306,SNR=5.3
O02D Mt. Diablo Mer 41.32 83 P P 16 32 12.2 +1.7
baz=307
MOD Modoc Plateau 41.82 79 P P 16 32 15.9 +1.3
MOD IAmb IAmb 16 32 17.1
comp=Z,4.7nm,0.6s
O03E Paynes Creek 41.85 82 P P 16 32 15.6 +0.8
baz=307,SNR=7.6
MSO Missoula 42.83 69 P P 16 32 22.1 -0.5
baz=303
NRIK Noril'sk 43.01 329 P P 16 32 23.3 -0.4
comp=Z,6.7nm,0.8s,baz=58,slow=6.2,SNR=6.8
BJI Beijing 43.60 280 P P 16 32 29.3 +0.6
BJI pmax pmax
comp=Z,7.0nm,0.6s
PAHR Pah Rah Range 43.69 81 P P 16 32 29.4 -0.3
PAHR IAmb IAmb 16 32 32.3
comp=Z,8.7nm,1.4s
PNTR Pine Nut 43.94 82 P P 16 32 33.3 +1.5
PNTR IAmb IAmb 16 32 33.9
comp=Z,12nm,1.1s
CMB Columbia Colle 44.11 83 P P 16 32 34.5 +1.5
CMB pmax pmax
comp=Z,5.0nm,1.2s
CMB Columbia Colle 44.11 83 P P 16 32 34.5 +1.5
YERR Yerington 44.22 82 P P 16 32 34.2 +0.2
YERR IAmb IAmb 16 32 36.1
comp=Z,9.6nm,1.3s
TLY Talaya 44.30 301 *i* P **P 16 32 34.6 +0.4**
TLY pmax pmax
comp=Z,4.0nm,0.6s
HLID Hailey 44.39 73 P P 16 32 35.3 +0.1
baz=306
HLID Hailey 44.39 73 ScP ScP 16 37 58.1 0.0
WAKR Walker 44.40 82 IAmb IAmb 16 32 37.3
comp=Z,4.2nm,0.5s
ULN Ulaanbaatar 44.47 294 *ce* P **P 16 32 35.9 +0.1**
ULN pmax pmax
comp=Z,8.0nm,1.1s
ULN Ulaanbaatar 44.47 294 P P 16 32 35.4 -0.4
ULN IAmb IAmb 16 32 36.5
comp=Z,6.8nm,0.5s
MCMT McKenzie Canyo 44.58 71 P P 16 32 36.8 0.0
BOZ Bozeman (W) 44.85 69 P P 16 32 38.5 -0.4
baz=305,SNR=5.2
SONM Songino Array 44.85 295 P P 16 32 39.1 +0.3
comp=Z,6.3nm,0.5s,baz=62,slow=8.1,SNR=39
SONM PcP PcP **16 34 18.6 +0.1**
comp=Z,2.7nm,0.7s,baz=76,slow=2.5,SNR=9.6
SONM ScP ScP **16 38 01.1 +1.2**
comp=Z,1.8nm,0.8s,baz=43,slow=3.1,SNR=9.5
SONM LR LR 16 50 53.9
comp=Z,27nm,21.1s,baz=148,slow=35
RYN Ryan 44.88 81 IAmb IAmb 16 32 41.2
comp=Z,5.7nm,0.4s
NVAR Mina Array Bea 45.14 82 P P 16 32 42.4 +1.0
comp=Z,1.9nm,0.5s,baz=293,slow=7.9,SNR=35
NVAR pP pP **16 33 08.2 +0.2**
comp=Z,2.0nm,0.6s,baz=297,slow=7.3,SNR=7.8
NVAR PcP PcP **16 34 20.2 +0.4**
comp=Z,0.6nm,0.6s,baz=297,slow=4.0,SNR=1.7
NVAR ScP ScP **16 37 59.4 -2.0**
comp=Z,0.6nm,0.8s,baz=302,slow=4.5,SNR=4.3
MDPB Devils Postpil 45.17 83 IAmb IAmb 16 32 43.9
comp=Z,7.8nm,1.3s
ZAK Zakamensk 45.18 299 *eP* **P 16 32 41.1 -0.3**
ZAK *e* 16 34 20.0
ZAK pmax pmax
comp=Z,4.0nm,1.2s
TIA Tai'an 45.42 275 P P 16 32 43.5 +0.2
TIA pmax pmax
comp=Z,20nm,0.5s
MOY Mondy 45.70 302 *eP* **P 16 32 45.8 +0.3**
MOY pmax pmax
comp=Z,13nm,1.6s
HHC Hu-ho-hao-te 45.90 284 *eP* **P 16 32 48.0 +0.9**
HHC pmax pmax
comp=Z,19nm,0.9s
HHC pmax pmax
comp=Z,51nm,5.2s
VES Vestal, Richgr 46.31 85 P P 16 32 51.4 +1.1
baz=311
RLMT Red Lodge 46.48 68 P P 16 32 51.4 -0.4
baz=306
CWC Cottonwood Cre 46.54 84 P P 16 32 53.4 +1.1
baz=310
GRAC Grapevine Rang 46.62 82 P P 16 32 54.2 +1.4
baz=310
GUMO Guam 46.84 228 P P 16 32 53.2 -1.3
comp=Z,12nm,0.3s,baz=63,slow=1.9,SNR=8.2
GUMO Guam 46.84 228 P P 16 32 53.2 -1.3
GUMO pmax pmax
comp=Z,67nm,1.3s
GUMO Guam 46.84 228 IAmb IAmb 16 32 53.7
comp=Z,67nm,1.3s
R11A Troy Canyon, C 46.85 80 P P 16 32 55.3 +0.6
baz=309,SNR=9.6
NJ2 Nanjing 47.12 269 *eP* **P 16 32 55.8 -0.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
FURC Furnace Creek, 47.27 83 P P 16 32 59.1 +1.4
baz=310
TPNV Topoah Spring 47.34 82 P P 16 32 59.3 +0.8
baz=310
DUG Dugway, Tooele 47.37 76 P P 16 32 59.4 +0.8
baz=308,SNR=7.2
DUG Dugway, Tooele 47.37 76 IAmb IAmb 16 32 60.0
comp=Z,8.3nm,1.4s
BW06 Boulder Array 47.72 71 P P 16 33 01.5 +0.1
baz=307
PDAR Pinedale Array 47.72 71 P P 16 33 01.0 -0.4
comp=Z,1.0nm,0.5s,baz=322,slow=3.7,SNR=14
PDAR pP pP **16 33 28.6 +0.3**
comp=Z,2.1nm,0.7s,baz=291,slow=2.5,SNR=5.3
O20A White River Ci 50.13 73 P P 16 33 20.6 +0.8
baz=310
O20A White River Ci 50.13 73 IAmb IAmb 16 33 21.4
comp=Z,4.6nm,0.6s
E28A Huff 50.42 62 ScP ScP 16 38 17.2 -6.1
PV17 East Wray Mesa 50.89 75 IAmb IAmb 16 33 26.2
comp=Z,4.0nm,0.5s
WHN Wuhan 50.94 271 ⇓ iP P 16 33 25.8 +0.1
WHN pmax pmax
comp=Z,56nm,0.5s
PV03 Paradox Valley 50.97 75 IAmb IAmb 16 33 27.9
comp=Z,3.4nm,0.4s
PV13 Radium Mtn., P 51.05 75 IAmb IAmb 16 33 27.5
comp=Z,6.9nm,0.6s
WUAZ Wupatki 51.25 80 P P 16 33 29.1 +0.8
baz=312
SSLB Suanglung 51.74 260 P P 16 33 31.6 -0.2
YULB Yu-li 51.82 259 P P 16 33 32.6 +0.2
YULB IAmb IAmb 16 33 37.7
comp=Z,8.0nm,0.7s
XAN Xi'an 51.89 279 P P 16 33 32.5 -0.4
XAN pmax pmax
comp=Z,10.0nm,0.8s
XAN LR LR
comp=N,120nm,16.3s
XAN LR LR
comp=E,130nm,17.4s
TPUB Ta-pu 52.30 260 P P 16 33 36.6 +0.6
ZALV Zalesovo Beam 52.37 312 P P 16 33 35.1 -0.9
comp=E,1.1nm,0.3s,baz=50,slow=5.9,SNR=8.8
ZALV PcP PcP **16 34 46.1 +0.7**
comp=E,5.0nm,0.7s,baz=30,slow=3.9,SNR=16
ZALV ScP ScP **16 38 31.9 +0.4**
comp=E,0.7nm,0.6s,baz=76,slow=6.1,SNR=4.3
SUMG Summit 53.08 13 P P 16 33 42.3 +0.7
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 53.08 13 P P 16 33 42.3 +0.7
SUMG IAmb IAmb 16 33 43.1
comp=Z,7.6nm,0.9s
LZH Lanzhou 53.59 284 ⇓ P P 16 33 46.3 +0.8
LZH pP pP 16 34 11.8 -1.1
LZH sP sP 16 34 24.5 -1.2
LZH PP PP **16 35 50.3 +3.3**
LZH pmax pmax
comp=Z,21nm,1.3s
LZH pmax pmax
comp=Z,85nm,7.4s
GTA Gaotai 53.77 290 ⇓ P P 16 33 47.3 +0.6
GTA pP pP 16 34 16.0 +2.3
GTA sP sP 16 34 30.0 +3.6
GTA pmax pmax
comp=Z,22nm,0.7s
DGZ Jazzator, Alta 53.81 306 *i* P **P 16 33 47.1 +0.2**
DGZ pmax pmax
comp=Z,6.0nm,0.9s
ARCES ARCESS Array B 57.17 349 P P 16 34 09.2 -1.3
comp=Z,1.6nm,0.4s,baz=25,slow=8.6,SNR=19
ARCES pP pP **16 34 38.2 +0.8**
comp=Z,1.6nm,0.7s,baz=24,slow=6.8,SNR=2.8
KURK Kurchatov 57.36 312 *ce* P **P 16 34 11.9 -0.1**
KURK pmax pmax
comp=Z,7.0nm,0.5s
KURK Kurchatov 57.36 312 ScP 16 38 54.0 +0.6
KURK Kurchatov 57.36 312 P P 16 34 12.2 +0.2
KURBB Kurchatov Arra 57.46 312 ScP ScP 16 38 54.0 +0.1
comp=Z,0.4nm,0.4s,baz=48,slow=4.3,SNR=6.1
KURBB Kurchatov Arra 57.46 312 P P 16 34 12.2 -0.5
MNTX Cornudas Mount 57.50 79 P P 16 34 14.3 +1.0
baz=315
WMQ Urumqi 57.58 301 *eP* **P 16 34 16.8 +3.0**
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ pmax pmax
comp=Z,120nm,5.9s
WMQ LR LR
comp=N,450nm,29.0s
WMQ LR LR
comp=E,180nm,28.9s
WMQ LR LR
comp=Z,110nm,29.1s
MK31 Makanchi Array 58.31 307 P P 16 34 18.3 -0.5
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MK31 Makanchi Array 58.31 307 P P 16 34 18.3 -0.5
MK31 IAmb IAmb 16 34 18.9
comp=Z,5.2nm,0.6s
MKAR Makanchi Array 58.31 307 P P 16 34 18.1 -0.7
comp=Z,8.4nm,0.7s,baz=48,slow=6.0,SNR=92
MAKZ Makanchi 58.46 307 P P 16 34 19.6 -0.2
MAKZ pmax pmax
comp=Z,9.0nm,0.6s
MAKZ Makanchi 58.46 307 P P 16 34 19.6 -0.2
GYA Guiyang 58.59 274 *eP* **P 16 34 21.5 +0.4**
GYA pP pP 16 34 47.3 -1.6
GYA pmax pmax
comp=Z,8.0nm,0.9s
TGY Tagaytay City 59.19 252 P P 16 34 25.4 +0.1
comp=Z,73nm,0.3s,baz=122,slow=15,SNR=2.2
BVA0 Borovoye Array 59.31 318 P P 16 34 25.5 0.0
BVAR Borovoye Array 59.31 318 LR LR 17 01 07.1
comp=Z,14nm,18.6s,baz=108,slow=37
BRVK Borovoye 59.33 318 P P 16 34 26.2 +0.5
BRVK pmax pmax
comp=Z,16nm,0.6s
BRVK Borovoye 59.33 318 P P 16 34 26.2 +0.5
SVE Sverdlovsk 60.14 326 *eP* **P 16 34 32.3 +1.1**
SVE pmax pmax
comp=Z,21nm,1.1s
TMCR Tamitsa 60.15 341 *eP* **P 16 34 28.7 -2.4**
TMCR pmax pmax
comp=Z,6.0nm,0.4s
TX31 Lajitas Ar. Si 60.21 80 P P 16 34 33.0 +0.7
TX31 IAmb IAmb 16 34 33.3
comp=Z,4.7nm,0.6s
TX32 Lajitas Array 60.21 80 P P 16 34 32.7 +0.5
TXAR Lajitas Array 60.21 80 P P 16 34 32.7 +0.5
comp=Z,1.3nm,0.5s,baz=307,slow=5.3,SNR=33
TXAR pP pP **16 34 59.7 -0.4**
comp=Z,1.2nm,0.6s,baz=289,slow=3.9,SNR=4.6
TXAR ScP ScP **16 39 05.8 -0.8**
comp=Z,0.5nm,0.8s,baz=291,slow=3.6,SNR=4.3
SCHQ Schefferville 60.54 37 P P 16 34 33.9 -0.1
comp=Z,1.8nm,0.5s,baz=288,slow=6.5,SNR=3.6
SCHQ LR LR 17 01 48.6
comp=Z,46nm,18.6s,baz=103,slow=37
ARU Arti 61.17 327 *c iP* **P 16 34 38.7 +0.6**
ARU 16 35 19.1
ARU S S **16 42 50.7 +2.6**
ARU SS SS **16 46 48.9 -0.1**
ARU pmax pmax
comp=Z,28nm,1.0s
ARU Arti 61.17 327 P P 16 34 39.2 +1.0
CHGQ Chibougamau 61.19 45 P P 16 34 37.5 -1.0
baz=318
E51A G1948 Merrick 61.33 50 P P 16 34 38.5 -0.9
baz=316
D53A Lac Vacive, Po 61.77 49 P P 16 34 41.9 -0.5
baz=317
OTUK Ortayu 61.99 313 P P 16 34 43.6 -0.2
PDGK Podgornoye 62.17 305 P P 16 34 44.8 -0.4
KIRV Kirov 62.26 333 *eP* **P 16 34 46.7 +1.4**
G53A Haliburton 62.77 51 P P 16 34 49.4 +0.3
baz=317
W41B Gary Mavity, V 62.79 67 P P 16 34 48.7 -0.6
baz=316
KLMR Klimovskoe 62.80 339 *eP* **P 16 34 47.9 -1.0**
KLMR pmax pmax
comp=Z,4.0nm,0.9s
KLMR Klimovskoe 62.80 339 *eP* **P 16 34 48.0 -1.0**
KLMR AMP 16 34 50.3
comp=Z,4.0nm,0.9s
D55A Sainte-Anne-du 62.85 48 P P 16 34 49.0 -0.5
baz=318
E56A St. Veronique 63.40 48 P P 16 34 52.6 -0.6
baz=318
D57A Chemin Vers le 63.57 47 P P 16 34 53.7 -0.5
baz=319
D58A Chemin du LacG 63.96 46 P P 16 34 56.0 -0.9
baz=319
TKM2 Tokmak 2 64.40 307 P P 16 35 00.6 +0.5
SNR=7.5
TKM2 Tokmak 2 64.40 307 P P 16 35 00.0 -0.1
USP Ospenovka 64.68 308 P P 16 35 02.3 +0.6
SNR=10.0
FINES FINESS Array B 64.78 346 P P 16 35 01.0 -0.9
comp=Z,1.8nm,0.4s,baz=14,slow=7.6,SNR=43
FINES pP pP **16 35 30.2 +0.9**
comp=Z,1.1nm,0.6s,baz=350,slow=2.3,SNR=2.0
AAK Ala-Archa 65.15 308 P P 16 35 05.5 +0.6
SNR=6.0
AAK Ala-Archa 65.15 308 *ce* **P P 16 35 05.4 +0.6**
AAK pmax pmax
comp=Z,6.0nm,0.6s
AAK Ala-Archa 65.15 308 P P 16 35 05.4 +0.6
KZA Kyzart 65.20 307 P P 16 35 06.3 +0.8
SNR=9.7
K56A Middlesex 65.20 52 P P 16 35 05.1 +0.1
baz=319
EKS2 Erkin-Say 65.48 308 P P 16 35 07.9 +0.9
SNR=6.8
L56A Greenwood 65.51 52 P P 16 35 07.7 +0.7
baz=319
K57A Scipio Center 65.57 51 P P 16 35 07.4 0.0
baz=319
AML Almayashu 65.92 308 P P 16 35 11.2 +1.0
SNR=8.1
G61A St-Isidore-de- 65.95 47 P P 16 35 09.4 -0.4
baz=321
J59A Piesco 65.97 50 P P 16 35 09.2 -0.8
baz=320
I59A Olmsteadville 66.02 49 P P 16 35 09.6 -0.6
baz=320
D63A Stockholm 66.08 43 P P 16 35 10.5 0.0
baz=322
AB31 Akbulak array 66.41 321 *eP* **P 16 35 12.9 +0.3**
ABKAR Akbulak array 66.41 321 P P 16 35 13.4 +0.9
ABKAR IAmb IAmb 16 35 13.7
comp=Z,9.8nm,1.1s
G62A West of Eustis 66.45 46 P P 16 35 12.9 0.0
baz=321
SSPA Standing Stone 66.48 54 P P 16 35 13.7 +0.6
baz=319
M58A Price's Panora 66.63 52 P P 16 35 14.4 +0.3
baz=320
H62A Milan 66.67 47 P P 16 35 14.1 -0.3
baz=321
E64A Bridgewater 66.69 44 P P 16 35 13.7 -0.7
baz=322
F63A Nahmakanta, Br 66.70 45 P P 16 35 14.1 -0.4
baz=322
KK31 Karatay Array 66.71 311 *i* P **P 16 35 14.7 +0.1**
KKAR Karatay Array 66.71 311 P P 16 35 15.3 +0.6
KKAR pmax pmax
comp=Z,9.0nm,0.7s
KKAR Karatay Array 66.71 311 P P 16 35 15.2 +0.6
KKAR IAmb IAmb 16 35 15.6
comp=Z,8.5nm,0.7s
KSH Kashi 66.76 305 *eP* **P 16 35 19.5 +4.3**
KSH pP pwP 16 35 47.5 +2.3
KSH pmax pmax
comp=Z,24nm,0.5s
KSH pmax pmax
comp=Z,270nm,4.8s
KSH LR LR
comp=N,1μm,10.4s
KSH LR LR
comp=E,480nm,10.6s
KSH LR LR
comp=Z,110nm,16.9s
NB2 NORSAR Subarra 66.85 353 P P 16 35 14.3 -0.9

comp=Z,0.7nm,0.6s,baz=11,slow=6.5

NOA	**NORSAR Array B**	**66.85**	**353**	P		**P**	**16 35 14.8**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=2.7,slow=5.7,SNR=9.8							
NOA				pP		**PcP**	**16 35 43.1**	**0.0**
	comp=Z,2.0nm,0.9s,baz=8.4,slow=6.4,SNR=4.5							
F64A	**Sherman**	**66.90**	**44**	P		**P**	**16 35 15.2**	**-0.5**
	baz=322							
O57A	**Amberson**	**66.93**	**54**	P		**P**	**16 35 16.5**	**+0.4**
	baz=319							
G63A	**Kingsbury**	**66.93**	**46**	P		**P**	**16 35 15.4**	**-0.6**
	baz=322							
N59A	**State Game Lan**	**67.31**	**52**	P		**P**	**16 35 18.8**	**+0.3**
	baz=320							
H66A	**Whiting**	**68.20**	**44**	P		**P**	**16 35 23.7**	**-0.2**
	baz=323							
SHL	**Shillong**	**68.26**	**284**	P		**P**	**16 35 24.6**	**-0.2**
SHL				pmax		pmax		
	comp=Z,30nm,1.2s							
SHL	**Shillong**	**68.26**	**284**	P		**P**	**16 35 24.6**	**-0.2**
OBN	**Obninsk**	**68.67**	**338**	*i* P		**P**	**16 35 25.4**	**-1.2**
OBN				*i* *PP		**pwP**	**16 35 56.9**	**-0.2**
OBN				pmax		pmax		
	comp=Z,7.0nm,0.9s							
CM31	**Chiang Mai Arr**	**69.28**	**274**	P		**P**	**16 35 31.3**	**+0.3**
CM31				IAmb		IAmb	16 35 32.0	
	comp=Z,9.6nm,1.2s							
CMAR	**Chiang Mai Arr**	**69.28**	**274**	P		**P**	**16 35 31.1**	**+0.1**
	comp=Z,2.8nm,0.5s,baz=24,slow=7.0,SNR=25							
TAPN	**Taplejung**	**69.41**	**288**	*e*P		**P**	**16 35 32.6**	**+0.5**
	comp=Z,50nm,0.7s							
GUN	**Gumba**	**70.06**	**290**	*e*P		**P**	**16 35 36.8**	**+0.7**
	comp=Z,102nm,0.4s							
JIRN	**Jiri**	**70.06**	**289**	*e*P		**P**	**16 35 37.0**	**+0.8**
	comp=Z,87nm,0.6s							
RAMN	**Ramite**	**70.36**	**289**	*e*P		**P**	**16 35 38.4**	**+0.6**
	comp=Z,72nm,0.6s							
KKN	**Kakani**	**70.49**	**290**	*e*P		**P**	**16 35 39.3**	**+0.7**
	comp=Z,62nm,0.6s							
PKI	**Pulchoki**	**70.58**	**290**	*e*P		**P**	**16 35 39.7**	**+0.4**
	comp=Z,57nm,0.6s							
PKIN	**Phulchoki**	**70.59**	**290**	*e*P		**P**	**16 35 39.6**	**+0.3**
	comp=Z,61nm,0.5s							
GKN	**Gorkha**	**70.71**	**291**	*e*P		**P**	**16 35 40.2**	**+0.4**
	comp=Z,58nm,0.6s							
DMN	**Daman**	**70.73**	**290**	*e*P		**P**	**16 35 40.7**	**+0.6**
	comp=Z,44nm,0.9s							
DANN	**Dangsing**	**70.95**	**292**	*e*P		**P**	**16 35 42.2**	**+0.7**
	comp=Z,110nm,0.7s							
KOLN	**Koldanda**	**71.48**	**291**	*e*P		**P**	**16 35 44.8**	**+0.2**
	comp=Z,48nm,0.8s							
NIL	**Nilore**	**72.66**	**303**	P		**P**	**16 35 52.2**	**+0.9**
NIL				pmax		pmax		
	comp=Z,18nm,1.0s							
NIL	**Nilore**	**72.66**	**303**	P		**P**	**16 35 52.2**	**+0.9**
SBUM	**Sibu**	**73.62**	**252**	P		**P**	**16 35 56.9**	**-0.2**
SBUM				IAmb		IAmb	16 35 58.3	
	comp=Z,5.4nm,0.7s							
KBL	**Kabul**	**74.11**	**306**	P		**P**	**16 35 59.1**	**-0.9**
KBL				pmax		pmax		
	comp=Z,16nm,0.8s							
KBL	**Kabul**	**74.11**	**306**	P		**P**	**16 35 59.1**	**-0.9**
AKASG	**Malin Array Be**	**74.41**	**340**	P		**P**	**16 36 00.4**	**-0.8**
AKASG				pP		**pwP**	**16 36 31.5**	**-0.8**
	comp=Z,3.2nm,0.4s,baz=21,slow=6.2,SNR=4.6							
AKASG	**Malin Array Be**	**74.41**	**340**	*i* P		**P**	**16 36 02.7**	**+1.5**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AKBB	**Malin Array Si**	**74.41**	**340**	*ce*P		**P**	**16 36 01.2**	**0.0**
AKBB	**Malin Array Si**	**74.41**	**340**	IAmb		IAmb	16 36 02.5	
	comp=Z,6.1nm,0.6s							
MTN	**Manton Dam**	**76.42**	**228**	P		**P**	**16 36 13.0**	**0.0**
GEYT	**Alibeck**	**76.47**	**315**	P		**P**	**16 36 13.9**	**+0.7**
	comp=Z,2.4nm,0.6s,baz=343,slow=4.6,SNR=11							
GEYT				LR		LR	17 13 08.7	
	comp=Z,25nm,19.0s,baz=75,slow=38							
KIV	**Kislovodsk**	**77.08**	**329**	*e*P		**P**	**16 36 17.4**	**+0.8**
KIV				pmax		pmax		
	comp=Z,32nm,1.0s							
KBZ	**Khabaz**	**77.22**	**329**	P		**P**	**16 36 17.9**	**+0.7**
	comp=Z,4.7nm,0.8s,baz=115,slow=3.9,SNR=8.7							
KBZ	**Khabaz**	**77.22**	**329**	*ce*P		**P**	**16 36 18.6**	**+1.4**
KBZ				pmax		pmax		
	comp=Z,6.0nm,0.9s							
KOLS	**Kolonicke sedl**	**77.42**	**344**	*e*P		**P**	**16 36 19.6**	**+1.3**
KOLS				pmax		pmax		
	comp=Z,2.0nm,0.8s							
KOLS	**Kolonicke sedl**	**77.42**	**344**	*e*P		**P**	**16 36 19.6**	**+1.3**
AKT	**Akhty**	**77.56**	**324**	*e*P		**P**	**16 36 20.4**	**+1.0**
AKT				*e*			16 36 30.4	
AKT				*e**PP		**pP**	**16 36 47.2**	**-0.9**
AKT				pmax		pmax		
	comp=Z,10.0nm,0.6s							
ZEI	**Tsey**	**77.73**	**328**	*e*P		**P**	**16 36 20.1**	**-0.3**
ZEI				pmax		pmax		
	comp=Z,11nm,0.5s							
ZKTA	**Zakatala**	**77.82**	**325**	P		**P**	**16 36 21.7**	**+1.0**
SEKA	**Sheki**	**77.99**	**325**	P		**P**	**16 36 21.8**	**+0.1**
BUR08	**Bucovina Ar. S**	**78.13**	**342**	P		**P**	**16 36 22.9**	**+0.5**
DOU	**Dourbes**	**78.14**	**356**	P		**P**	**16 36 22.4**	**+0.1**
MNGR	**Mingechevir, A**	**78.41**	**324**	P		**P**	**16 36 24.4**	**+0.5**
WLF	**Walferdange**	**78.50**	**355**	P		**P**	**16 36 24.5**	**+0.2**
GERES	**GERESS Array B**	**78.69**	**356**	P		**P**	**16 36 25.8**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=42,slow=4.2,SNR=4.5							
GANJ	**Ganja**	**78.80**	**325**	P		**P**	**16 36 26.1**	**0.0**
LKRN	**Lenkeran, Azer**	**79.60**	**322**	P		**P**	**16 36 31.6**	**+1.2**
NAX	**Nakhchivan**	**80.39**	**325**	P		**P**	**16 36 34.5**	**-0.3**
WB0	**Warramunga Arr**	**81.15**	**222**	IAmb		IAmb	16 36 39.3	
	comp=Z,9.1nm,0.8s							
WR0	**Warramunga Arr**	**81.26**	**221**	P		**P**	**16 36 39.1**	**-0.3**
WR0				IAmb		IAmb	16 36 39.8	
	comp=Z,8.5nm,0.7s							
WRAB	**Tennant Creek**	**81.31**	**222**	*ce*P		**P**	**16 36 39.7**	**0.0**
WRAB				pmax		pmax		
	comp=Z,34nm,2.7s							
WB2	**Warramunga Arr**	**81.32**	**222**	P		**P**	**16 36 39.7**	**-0.1**
WB2				IAmb		IAmb	16 36 40.3	
	comp=Z,7.7nm,0.8s							
WRA	**Warramunga Arr**	**81.33**	**222**	P		**P**	**16 36 39.3**	**-0.5**
	comp=Z,6.8nm,0.6s,baz=32,slow=6.0,SNR=10							
FITZ	**Fitzroy Crossi**	**83.55**	**230**	P		**P**	**16 36 51.5**	**+0.2**
	comp=Z,8.7nm,0.7s,baz=35,slow=5.1							
FITZ	**Fitzroy Crossi**	**83.55**	**230**	IAmb		IAmb	16 36 52.6	
	comp=Z,8.3nm,0.8s							
BRTR	**Keskin Array B**	**83.65**	**333**	P		**P**	**16 36 52.4**	**+0.4**
	comp=Z,1.3nm,0.5s,baz=53,slow=1.8,SNR=5.7							
BRTR	**Keskin Array B**	**83.65**	**333**	*i* P		**P**	**16 36 52.7**	**+0.8**
BRTR				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**84.84**	**220**	P		**P**	**16 36 58.1**	**+0.3**
	comp=Z,3.3nm,0.8s,baz=22,slow=5.2,SNR=44							
STKA	**Stephens Creek**	**89.57**	**211**	P		**P**	**16 37 20.9**	**+0.6**
	comp=Z,8.6nm,0.8s,baz=351,slow=5.2,SNR=18							
STKA	**Stephens Creek**	**89.57**	**211**	IAmb		IAmb	16 37 21.6	
	comp=Z,7.1nm,1.4s							
TORD	**Torodi Ar. Bea**	**115.06**	**357**	PKP		**PKiKP**	**16 43 02.6**	**-1.3**
	comp=Z,1.4nm,0.5s,baz=359,slow=2.2,SNR=13							
DBIC	**Dimbokro**	**121.49**	**4**	PKP		**PKPdf**	**16 43 15.4**	**-0.8**
	comp=Z,3.1nm,0.7s,baz=331,slow=2.0,SNR=13							
BDFB	**Brasilia**	**128.36**	**63**	PKP		**PKPdf**	**16 43 28.0**	**-1.4**
	comp=Z,0.9nm,0.4s,baz=216,slow=8.7,SNR=1.9							
VNDA	**Vanda**	**129.67**	**185**	PKP		**PKPdf**	**16 43 30.2**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=241,slow=4.1,SNR=3.0							
CPUP	**Villa Florida**	**131.18**	**81**	SKPbc		**SKPbc**	**16 46 47.5**	**-0.8**
	comp=Z,2.5nm,0.7s,baz=22,slow=2.5,SNR=4.4							
PLCA	**Paso Flores**	**132.76**	**105**	PKP		**PKPdf**	**16 43 37.2**	**+0.2**
	comp=Z,1.1nm,0.5s,baz=219,slow=6.8,SNR=3.4							
PLCA				SKPbc		**SKPbc**	**16 46 53.5**	**0.0**
	comp=Z,1.3nm,0.5s,baz=312,slow=2.2,SNR=6.4							
MAW	**Mawson**	**145.94**	**218**	PKPbc		**PKPbc**	**16 44 01.0**	**+0.1**
	comp=Z,8.0nm,0.5s,baz=105,slow=4.3,SNR=19							
MAW	**Mawson**	**145.94**	**218**	PKP2		**PKPbc**	**16 44 01.0**	**+0.1**
BOSA	**Boshof**	**149.29**	**309**	PKPbc		**PKPbc**	**16 44 11.7**	**+0.4**
	comp=Z,11nm,0.5s,baz=42,slow=2.1,SNR=49							

IDC ***28*** *16:37:09.6±1.2,26°.22N×89°.51E,h0km,mb3.5/9, mb1 3.7/10,mb1mx3.5/45,mbtmp3.5/10,ML3.3/1,MS3.2/2, Ms1 3.2/2,ms1mx2.6/42,Error ellipse: s-maj=49.3km s-min=19.0km az=56.0*

DMN ***28*** *16:37:14.9±0.4,26°.16N×89°.85E,h10km,Ml4.5/3,Error ellipse: s-maj=19.9km s-min=8.4km az=24.0*

ISC 28 16:37:15.7±0.8,26°.4N±0°.1×89°.86E±0°.09,h35km,n25, σ1ˢ04/28,mb3.5/9,India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**2.15**	**297**	*e*Pn			**Pn**	**16 37 50.9**	**+1.6**
TAPN				*e*Sn			**Sn**	**16 38 16.3**	**+1.3**
ODAN	**Odare**	**2.26**	**283**	*e*Pn			**Pn**	**16 37 51.8**	**+1.0**
ODAN				*e*Sn			**Sn**	**16 38 18.9**	**+1.3**
RAMN	**Ramite**	**2.97**	**282**	*e*Pn			**Pn**	**16 38 01.5**	**+0.9**
RAMN				*e*Sn			**Sn**	**16 38 35.5**	**+0.4**
	590nm,0.3s								
JIRN	**Jiri**	**3.51**	**292**	*e*Pn			**Pn**	**16 38 09.5**	**+1.4**
GUN	**Gumba**	**3.86**	**294**	*e*Pn			**Pn**	**16 38 14.3**	**+1.4**
GUN				*e*Sn			**Sn**	**16 38 57.7**	**+0.5**
	374nm,0.5s								
PKI	**Pulchoki**	**4.14**	**288**	*e*Pn			**Pn**	**16 38 17.2**	**+0.4**
PKI				*e*Sn			**Sn**	**16 39 03.6**	**-0.6**
	136nm,0.4s								
PKIN	**Phulchoki**	**4.16**	**288**	*e*Pn			**Pn**	**16 38 17.2**	**+0.3**
KKN	**Kakani**	**4.32**	**290**	*e*Pn			**Pn**	**16 38 19.8**	**+0.7**
DMN	**Daman**	**4.41**	**287**	*e*Pn			**Pn**	**16 38 20.7**	**+0.3**
GKN	**Gorkha**	**4.92**	**290**	*e*Pn			**Pn**	**16 38 28.3**	**+0.9**
KOLN	**Koldanda**	**5.75**	**285**	*e*Pn			**Pn**	**16 38 38.7**	**0.0**
DANN	**Dangsing**	**5.77**	**291**	*e*Pn			**Pn**	**16 38 38.8**	**-0.3**
PYUN	**Piuthan**	**6.35**	**287**	*e*Pn			**Pn**	**16 38 46.0**	**-1.0**
CMAR	**Chiang Mai Arr**	**11.51**	**131**	Pn			**Pn**	**16 39 58.5**	**+0.9**
	0.1nm,0.3s,baz=323,slow=14,SNR=2.0								
MKAR	**Makanchi Array**	**21.25**	**346**	P			**P**	**16 41 57.3**	**-1.4**
	0.8nm,0.6s,baz=160,slow=11,SNR=9.8								
SONM	**Songino Array**	**25.06**	**27**	P			**P**	**16 42 38.8**	**+2.0**
	0.2nm,0.3s,baz=220,slow=8.8,SNR=2.2								
KURBB	**Kurchatov Arra**	**25.73**	**343**	P			**P**	**16 42 41.8**	**-0.8**
	0.9nm,0.7s,baz=162,slow=9.0,SNR=7.7								
ZALV	**Zalesovo Beam**	**27.80**	**354**	P			**P**	**16 43 00.8**	**-0.5**
	0.5nm,0.5s,baz=207,slow=6.0,SNR=2.2								
KIRV	**Kirov**	**42.78**	**330**	LR			LR	17 05 16.2	
	comp=Z,25nm,18.2s,baz=145,slow=39								
AKASG	**Malin Array Be**	**51.63**	**315**	LR			LR	17 10 35.9	
	comp=Z,27nm,20.2s,baz=0.0,slow=39								
FINES	**FINESS Array B**	**54.70**	**328**	P			**P**	**16 46 40.6**	**-0.5**
	0.9nm,0.7s,baz=127,slow=8.9,SNR=3.5								
GERES	**GERESS Array B**	**61.74**	**313**	P			**P**	**16 47 29.5**	**-1.2**
	0.1nm,0.4s,baz=93,slow=7.9,SNR=4.4								
NOA	**NORSAR Array B**	**61.84**	**327**	P			**P**	**16 47 29.6**	**-1.4**
	0.5nm,0.7s,baz=93,slow=4.9,SNR=3.3								
WRA	**Warramunga Arr**	**63.10**	**132**	P			**P**	**16 47 39.5**	**-0.5**
	0.3nm,0.5s,baz=323,slow=7.0,SNR=1.5								
ASAR	**Alice Springs**	**65.49**	**136**	P			**P**	**16 47 55.3**	**-0.3**
	0.3nm,0.7s,baz=317,slow=6.4,SNR=1.8								

TAP ***28*** *16:45:10.7,24°.24N×121°.74E,h14km,ML3.3,C*
JMA ***28*** *16:45:10.6,24°.20N×121°.67E,h16km,M2.5*

ISC 28 16:45:10.7±1.0,24°.23N±0°.01×121°.77E±0°.02,h7km±8km, n114,σ0ˢ61/189,17D,Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.17**	**251**	⇓*i* P			**Pg**	**16 45 14.2**	**0.0**
	baz=236								
NACB				S			**Sg**	**16 45 16.6**	**0.0**
	baz=236								
ENA	**Nanau**	**0.20**	**352**	⇓*i* P			**Pg**	**16 45 15.2**	**+0.4**
	baz=3.0								
ENA				*e*S			**Sg**	**16 45 18.1**	**+0.6**
	baz=3.0								
TWD	**Chiawan**	**0.22**	**227**	*i* P			**Pg**	**16 45 15.4**	**+0.3**
	baz=218								
TWD				*e*S			**Sg**	**16 45 18.5**	**+0.4**
	baz=218								
ETLH	**Xiulin Townshi**	**0.27**	**265**	⇓*i* P			**Pg**	**16 45 15.8**	**-0.2**
	baz=263								
ETLH				*e*S			**Sg**	**16 45 18.7**	**-0.9**
	baz=263								
HWA	**Hwalien**	**0.29**	**211**	*e*P			**Pb**	**16 45 17.6**	**-0.8**
	baz=213								
HWA				*e*S			**Sb**	**16 45 22.1**	**-1.4**
	baz=213								
TWC	**Suao**	**0.38**	**10**	⇓*i* P			**Pg**	**16 45 18.6**	**+0.4**
	baz=12								
TWC				*e*S			**Sg**	**16 45 23.9**	**+0.6**
	baz=12								
NNSB	**Datong**	**0.41**	**299**	⇓*i* P			**Pg**	**16 45 18.6**	**-0.1**
	baz=300								
NNSB				*e*S			**Sg**	**16 45 23.6**	**-0.5**
	baz=300								
NNSH	**Datong**	**0.41**	**299**	⇓*i* P			**Pg**	**16 45 18.6**	**-0.1**
	baz=300								
NNSH				*e*S			**Sg**	**16 45 23.6**	**-0.5**
	baz=300								
NNS	**Nan Shan**	**0.42**	**300**	⇓*i* P			**Pg**	**16 45 18.8**	**-0.2**
	baz=301								
NNS				*e*S			**Sg**	**16 45 24.1**	**-0.4**
	baz=301								
NDT	**Datong Townshi**	**0.44**	**327**	⇓*i* P			**Pg**	**16 45 19.5**	**+0.2**
	baz=330								
NDT				S			**Sg**	**16 45 25.3**	**+0.2**
	baz=330								
ENTT	**Nioudou**	**0.45**	**335**	⇓*i* P			**Pg**	**16 45 19.6**	**+0.1**
	baz=339								
ENTT				*e*S			**Sg**	**16 45 25.6**	**+0.2**
	baz=339								
WHF	**Hehuan Shan**	**0.47**	**260**	⇓*i* P			**Pg**	**16 45 19.7**	**-0.3**
	baz=258								
WHF				*e*S			**Sg**	**16 45 25.6**	**-0.6**
	baz=258								
TWE	**Neicheng**	**0.50**	**349**	⇓*i* P			**Pg**	**16 45 20.5**	**+0.1**
	baz=353								
TWE				*e*S			**Sg**	**16 45 27.2**	**+0.2**
	baz=353								
ESL	**Shilin**	**0.52**	**217**	*i* P			**Pg**	**16 45 20.6**	**-0.1**
	baz=220								
ESL				*e*S			**Sg**	**16 45 27.5**	**0.0**
	baz=220								
ILA	**Ilan**	**0.53**	**358**	P			**Pg**	**16 45 21.5**	**+0.4**
	baz=355								
ILA				*e*S			**Sb**	**16 45 29.3**	**-1.1**
	baz=355								
TWT	**Tachien**	**0.55**	**273**	*i* P			**Pg**	**16 45 21.5**	**+0.2**
	baz=272								
TWT				*e*S			**Sg**	**16 45 28.5**	**0.0**
	baz=272								
TDCB	**Techi**	**0.56**	**273**	⇓*i* P			**Pg**	**16 45 21.6**	**0.0**
	baz=272								
TDCB				S			**Sg**	**16 45 28.1**	**-0.9**
	baz=272								
YHNB	**Yeheng**	**0.57**	**320**	⇓*i* P			**Pg**	**16 45 21.8**	**0.0**
	baz=322								
YHNB				*e*S			**Sg**	**16 45 28.7**	**-0.5**
	baz=322								
CHGB	**Renai**	**0.57**	**253**	⇓*i* P			**Pg**	**16 45 21.7**	**-0.1**
	baz=247								
CHGB				*e*S			**Sg**	**16 45 29.0**	**-0.3**
	baz=247								
NSK	**Sanguang**	**0.58**	**320**	⇓*i* P			**Pg**	**16 45 21.9**	**-0.1**
	baz=322								
NSK				*e*S			**Sg**	**16 45 29.2**	**-0.5**
	baz=322								
NWLT	**Wulai**	**0.60**	**336**	⇓*i* P			**Pg**	**16 45 22.3**	**0.0**
	baz=343								
NWLT				*e*S			**Sg**	**16 45 29.5**	**-0.6**
	baz=343								
OWD	**Renai**	**0.61**	**243**	*e*P			**Pg**	**16 45 22.9**	**+0.4**
	baz=242								
OWD				*e*S			**Sg**	**16 45 29.6**	**-0.9**
	baz=242								
NTC	**Toucheng**	**0.62**	**5**	⇓*i* P			**Pg**	**16 45 23.0**	**+0.2**
	baz=6.0								
NTC				S			**Sg**	**16 45 31.0**	**+0.1**
	baz=6.0								
EGS		**0.63**	**13**	*e*P			**Pb**	**16 45 23.5**	**-0.6**
	baz=21								
EGS				*e*S			**Sb**	**16 45 32.2**	**-0.9**
	baz=21								
EGFH	**Guangfu**	**0.64**	**210**	*e*P			**Pg**	**16 45 23.3**	**+0.2**
	baz=221								
EGFH				*e*S			**Sg**	**16 45 31.9**	**+0.4**
	baz=221								
TIPB	**Shuangxi**	**0.74**	**4**	*e*P			**Pb**	**16 45 25.3**	**-0.7**
	baz=5.0								
TIPB				*e*S			**Sg**	**16 45 34.0**	**-0.7**
	baz=5.0								
VWDT	**VWDT**	**0.75**	**231**	P			**Pg**	**16 45 25.0**	**-0.1**
	baz=230								
VWDT				*e*S			**Sg**	**16 45 35.5**	**+0.7**
	baz=230								
WHP	**Taichung City**	**0.76**	**274**	P			**Pg**	**16 45 25.2**	**-0.1**
	baz=274								
WHP				S			**Sg**	**16 45 34.9**	**-0.2**
	baz=274								
NHDH	**Xindian Distri**	**0.76**	**343**	*e*P			**Pb**	**16 45 26.0**	**-0.4**
	baz=344								
NHDH				*e*S			**Sg**	**16 45 34.8**	**-0.6**
	baz=344								
TWA	**Mucha**	**0.77**	**347**	*e*P			**Pg**	**16 45 24.8**	**-0.7**
	baz=349								
TWA				*e*S			**Sg**	**16 45 35.9**	**+0.4**
	baz=349								
WLTB	**Daxi**	**0.78**	**323**	*e*P			**Pg**	**16 45 25.6**	**-0.1**
	baz=324								
WLTB				*e*S			**Sg**	**16 45 36.4**	**+0.4**
	baz=324								
DPDB	**Guoxing**	**0.80**	**256**	*e*P			**Pg**	**16 45 26.0**	**-0.1**
	baz=255								
TWB1	**Santiao Chiao**	**0.80**	**14**	*e*P			**Pb**	**16 45 26.3**	**-0.6**
	baz=15								
TWB1				*e*S			**Sg**	**16 45 36.2**	**-0.3**
	baz=15								
HGSD	**Ruisui**	**0.80**	**204**	*e*P			**Pb**	**16 45 27.2**	**+0.2**
	baz=192								
HGSD				*e*S			**Sn**	**16 45 40.6**	**0.0**
	baz=192								
LIOB	**Emei**	**0.81**	**301**	*e*P			**Pg**	**16 45 26.3**	**+0.1**
	baz=302								
LIOB				*e*S			**Sg**	**16 45 36.6**	**-0.1**
	baz=302								
NSTT	**Nanjuang**	**0.81**	**300**	*e*P			**Pg**	**16 45 26.2**	**-0.1**
	baz=300								
NSTT				*e*S			**Sg**	**16 45 36.2**	**-0.7**
	baz=300								
EHY	**Hungye**	**0.83**	**210**	*e*P			**Pg**	**16 45 26.9**	**+0.2**
	baz=220								
EHY				*e*S			**Sg**	**16 45 37.4**	**-0.1**
	baz=220								
TAP1	**Taipei**	**0.84**	**344**	*e*P			**Pb**	**16 45 27.6**	**0.0**
	baz=345								
TAP1				*e*S			**Sb**	**16 45 38.7**	**-0.4**
	baz=345								
NWF	**Wu-fen Shan**	**0.84**	**0**	*e*P			**Pg**	**16 45 27.1**	**+0.2**
	baz=354								
NWF				*e*S			**Sb**	**16 45 38.6**	**-0.6**
	baz=354								
WFSB	**Wu-fen Shan**	**0.84**	**0**	*e*P			**Pb**	**16 45 27.2**	**-0.4**
	baz=354								
WFSB				*e*S			**Sg**	**16 45 37.0**	**-0.8**
	baz=354								
TAP	**Taipei**	**0.84**	**343**	*e*P			**Pg**	**16 45 26.6**	**-0.4**
	baz=345								
TAP				*e*S			**Sg**	**16 45 38.3**	**+0.4**
	baz=345								
SSLB	**Suanglung**	**0.87**	**240**	*e*P			**Pg**	**16 45 27.0**	**-0.5**
	baz=239								
SSLB				*e*S			**Sg**	**16 45 37.4**	**-1.4**
	baz=239								
SMLT	**Sun Moon Lake**	**0.87**	**247**	*e*P			**Pg**	**16 45 27.1**	**-0.3**
	baz=239								
SMLT				*e*S			**Sg**	**16 45 39.0**	**+0.3**
	baz=239								
TYC	**Yuchr**	**0.90**	**249**	*e*P			**Pg**	**16 45 27.5**	**-0.5**
	baz=241								
TYC				*e*S			**Sg**	**16 45 39.3**	**-0.4**
	baz=241								
NCUH	**Zhongli**	**0.91**	**324**	*e*P			**Pb**	**16 45 28.9**	**0.0**
	baz=325								
NCUH				*e*S			**Sb**	**16 45 40.8**	**-0.4**
	baz=325								
NCU	**National Centr**	**0.91**	**324**	*e*P			**Pb**	**16 45 28.8**	**0.0**
	baz=325								
NCU				*e*S			**Sb**	**16 45 42.0**	**+0.8**
	baz=325								
SBCB	**Hsinchu**	**0.91**	**308**	*e*P			**Pg**	**16 45 28.0**	**-0.2**
	baz=309								
SBCB				*e*S			**Sg**	**16 45 40.7**	**+0.6**
	baz=309								
TWQ1	**Liyutan**	**0.92**	**278**	*e*P			**Pb**	**16 45 29.5**	**+0.5**
	baz=278								
TWQ1				*e*S			**Sg**	**16 45 41.1**	**+0.7**
	baz=278								
TWS1	**Kuangyinshan**	**0.93**	**340**	*e*P			**Pb**	**16 45 29.1**	**0.0**
	baz=341								
HSN	**Hsinchu**	**0.93**	**308**	*e*S			**Sb**	**16 45 42.9**	**+1.2**
	baz=303								
YM01	**YM01**	**0.93**	**349**	*e*P			**Pb**	**16 45 29.5**	**+0.2**
	baz=349								
YM01				*e*S			**Sg**	**16 45 39.5**	**-1.2**
	baz=349								
YULB	**Yu-li**	**0.94**	**208**	*e*P			**Pg**	**16 45 27.2**	**-1.6**
	baz=217								
YULB				*e*S			**Sg**	**16 45 41.5**	**+0.5**
	baz=217								
NSY	**Sanyi**	**0.94**	**282**	*e*P			**Pn**	**16 45 30.4**	**-0.1**
	baz=282								
NSY				*e*S			**Sb**	**16 45 42.7**	**+0.6**
	baz=282								
YM10	**YM10**	**0.94**	**348**	P			**Pb**	**16 45 29.5**	**0.0

	baz=256							
CHN4	**Tsaushan**	**1.39**	**231**	*e*P		**Pb**	**16 45 37.2**	**+0.2**
	baz=232							
TPUB	**Ta-pu**	**1.40**	**229**	*e*P		**Pn**	**16 45 36.3**	**-0.4**
	baz=231							
TPUB				*e*S		**Sn**	**16 45 56.4**	**+1.0**
	baz=231							
WTCT	**Ta-ch'eng**	**1.41**	**255**	*e*P		**Pn**	**16 45 36.5**	**-0.4**
	baz=256							
WTCT				*e*S		**Sn**	**16 45 56.5**	**+0.8**
	baz=256							
STYT	**Tauyuan**	**1.41**	**221**	*e*P		**Pn**	**16 45 36.4**	**-0.5**
	baz=222							
PCYT	**Pengchaiyu**	**1.42**	**11**	*e*P		**Pb**	**16 45 37.5**	**-0.1**
	baz=9.0							
CHY	**Chiayi**	**1.43**	**240**	*e*P		**Pn**	**16 45 37.6**	**+0.4**
	baz=227							
WTP	**Ta-pu**	**1.45**	**228**	*e*P		**Pn**	**16 45 37.5**	**+0.1**
	baz=230							
WTP				*e*S		**Sb**	**16 45 55.6**	**-1.0**
	baz=230							
TWK	**Hsinying**	**1.52**	**231**	*e*P		**Pn**	**16 45 38.9**	**+0.6**
	baz=232							
WSF	**Szhu**	**1.54**	**248**	*e*P		**Pn**	**16 45 39.0**	**+0.4**
	baz=258							
WSF				*e*S		**Sg**	**16 46 00.3**	**+0.1**
	baz=258							
SNST	**Tainan City**	**1.54**	**230**	*e*P		**Pb**	**16 45 40.0**	**+0.3**
	baz=231							
TWG	**Pinlang**	**1.54**	**205**	*e*P		**Pn**	**16 45 36.9**	**-1.8**
	baz=191							
TWGBT	**Beinan**	**1.54**	**204**	*e*P		**Pn**	**16 45 38.3**	**-0.4**
	baz=191							
WLGB	**Puzi**	**1.54**	**241**	*e*P		**Pb**	**16 45 39.4**	**-0.2**
	baz=243							
WLGB				*e*S		**Sg**	**16 46 01.9**	**+1.5**
	baz=243							
CHN1	**Nanshi**	**1.54**	**228**	*e*P		**Pb**	**16 45 39.8**	**+0.1**
	baz=231							
CHN1				*e*S		**Sg**	**16 46 00.5**	**+0.1**
	baz=231							
SGST	**Jiashian**	**1.58**	**224**	*e*P		**Pn**	**16 45 38.3**	**-0.9**
	baz=226							
SGST				*e*S		**Sb**	**16 46 01.2**	**+0.7**
	baz=226							
SLGT	**Liugui**	**1.61**	**220**	*e*P		**Pn**	**16 45 39.8**	**+0.2**
	baz=224							
SLGT				*e*S		**Sn**	**16 46 01.3**	**+0.8**
	baz=224							
IRIF	**Iriomote-Funau**	**1.79**	**86**	P		**Pn**	**16 45 42.7**	**+0.7**
IRIF				*e*S		**Sb**	**16 46 06.5**	**0.0**
ECL	**Taimali**	**1.79**	**205**	*e*P		**Pn**	**16 45 41.6**	**-0.5**
	baz=193							
SSD	**Sandimen**	**1.81**	**216**	*e*P		**Pb**	**16 45 43.5**	**-0.7**
	baz=229							
MASBT	**Mashibuluo**	**1.92**	**213**	*e*P		**Pn**	**16 45 45.0**	**+1.1**
	baz=217							
EAST	**Anshuo**	**2.02**	**205**	*e*P		**Pn**	**16 45 45.2**	**-0.1**
	baz=194							
SSPT	**Xinbi**	**2.06**	**213**	*e*P		**Pn**	**16 45 47.0**	**+1.2**
	baz=197							
SCZT	**Fangliau**	**2.13**	**210**	*e*P		**Pn**	**16 45 47.5**	**+0.7**
	baz=196							
PNG	**Penghu**	**2.13**	**252**	*e*P		**Pn**	**16 45 46.4**	**-0.4**
	baz=253							
PHUB	**P'eng-hu**	**2.14**	**251**	*e*P		**Pn**	**16 45 45.8**	**-1.0**
	baz=251							
WDGT	**Dungji**	**2.16**	**244**	*e*P		**Pn**	**16 45 47.6**	**+0.4**
	baz=245							
JIJ	**Ishigaki jima**	**2.17**	**86**	P		**Pn**	**16 45 48.1**	**+0.9**
JIJ				*e*S		**Sn**	**16 46 15.0**	**+0.7**
PTTC	**Pingtan**	**2.22**	**305**	*e*P		**Pn**	**16 45 47.2**	**-0.7**
	baz=305							
VWUC	**VWUC**	**2.25**	**290**	*e*P		**Pn**	**16 45 46.9**	**-1.4**
	baz=277							
JISG	**Ishigakijimahi**	**2.34**	**81**	P		**Pn**	**16 45 50.5**	**+0.9**
VCHM	**Qimei**	**2.38**	**245**	*e*P		**Pn**	**16 45 50.2**	**+0.1**
	baz=233							
MATB	**Ma-tsu**	**2.53**	**320**	*e*P		**Pn**	**16 45 52.1**	**-0.2**
	baz=319							
PTMZ	**Houxiangcun**	**2.55**	**289**	*e*P		**Pn**	**16 45 51.6**	**-0.8**
	baz=289							
XPSS	**Dashiqiu**	**3.04**	**332**	*e*P		**Pn**	**16 45 59.2**	**-0.1**
	baz=331							
KNMB	**Chin-men Tao**	**3.10**	**275**	*e*P		**Pn**	**16 45 58.8**	**-1.2**
	baz=274							
AXDP	**Jialang**	**3.53**	**282**	*e*P		**Pn**	**16 46 05.0**	**-1.0**
	baz=280							
ZPLA	**Ao Xicun**	**3.69**	**266**	*e*P		**Pn**	**16 46 07.3**	**-0.9**
	baz=264							

IDC 28 16:53:11.5±4.1, 31°.34N×140°.68E, h0km, mb3.4/4, mb1 3.5/5, mb1mx3.3/46, mbtmp3.3/5, ML2.2/1, Error ellipse: s-maj=163.7km s-min=23.0km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**5.58**	**339**	Pn		Pn	16 54 35.5	-0.3
	0.1nm,0.3s,baz=142,slow=11,SNR=10							
MJAR				Sn		Sn	16 55 39.5	-1.2
	0.0nm,0.3s,baz=121,slow=23,SNR=1.9							
MKAR	**Makanchi Array**	**46.83**	**307**	P		P	17 01 43.6	+0.6
	0.2nm,0.5s,baz=91,slow=8.7,SNR=1.6							
KURBB	**Kurchatov Arra**	**49.19**	**312**	P		P	17 02 00.9	-0.3
	0.3nm,0.5s,baz=90,slow=7.5,SNR=4.4							
WRA	**Warramunga Arr**	**51.35**	**188**	P		P	17 02 17.2	-0.7
	0.5nm,0.8s,baz=4.9,slow=7.6,SNR=1.4							
ASAR	**Alice Springs**	**55.08**	**188**	P		P	17 02 45.4	+0.2
	0.2nm,0.5s,baz=359,slow=5.4,SNR=1.8							

*NEIC **28** 17:23:47.0±1.5, 35°.58S×71°.49W×0°.09, h107km±6km, Error ellipse: s-maj=10.8km s-min=5.8km az=109.0*
*GUC **28** 17:23:48.0±0.6, 35°.46S×71°.66W, h114km±4km, ML4.1*
ISC 28 17:23:46.7±1.5, 35°.56S±0°.05×71°.52W±0°.07, h109km±12km, n35, σ0s89/54, 7C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GO05	**Huala**	**0.65**	**329**	↑*i*P		**Pn**	**17 24 05.2**	**+0.6**
GO05				*i* S		**Sn**	**17 24 18.2**	**+0.1**
GO05				IAML			17 24 19.9	
	comp=N,4μm,0.2s							
GO05	**Huala**	**0.65**	**329**	Pn		**Pn**	**17 24 05.2**	**+0.6**
GO05				Sn		**Sn**	**17 24 18.1**	**0.0**
BO02	**Sierra Bellavi**	**0.98**	**38**			**Pn**	**17 24 07.9**	**+0.1**
BO02				Sn		**Sn**	**17 24 22.7**	**-0.9**
BI02	**San Fabin de**	**1.12**	**170**	Pn		**Pn**	**17 24 09.1**	**-0.1**
BI02				Sn		**Sn**	**17 24 24.8**	**-1.4**
MT01	**Popeta**	**1.71**	**8**	↑*i*P		**Pn**	**17 24 16.8**	**+0.7**
MT01				*i* S		**Sn**	**17 24 37.9**	**-0.5**
MT01				IAML			17 24 41.3	
	comp=N,2μm,0.4s							
MT01	**Popeta**	**1.71**	**8**			**Pn**	**17 24 16.8**	**+0.7**
BI03	**Tigo**	**1.76**	**223**	*e*P		**Pn**	**17 24 17.6**	**+1.0**
BI03				*i* S		**Sn**	**17 24 40.8**	**+1.2**
BI03				IAML			17 24 41.3	
	comp=N,1μm,0.4s							
BI03	**Tigo**	**1.76**	**223**	Pn		**Pn**	**17 24 16.9**	**+0.3**
BI03				Sn		**Sn**	**17 24 38.5**	**-1.1**
LMEL	**Las Melosas**	**2.03**	**33**	↑*i*P		**Pn**	**17 24 21.5**	**+1.3**
LMEL				*i* S		**Sn**	**17 24 47.0**	**+1.2**
LMEL				IAML			17 24 48.1	
	comp=E,1μm,0.3s							
MT03	**Universidad Ad**	**2.23**	**22**	↓*i*P		**Pn**	**17 24 23.4**	**+0.7**
MT03				*i* S		**Sn**	**17 24 50.3**	**0.0**
MT03				IAML			17 24 52.5	
	comp=E,1μm,0.2s							
STL	**Santa Lucia**	**2.24**	**19**	*e*P		**Pn**	**17 24 23.3**	**+0.5**
STL				*i* S		**Sn**	**17 24 50.1**	**-0.3**
STL				IAML			17 24 52.6	
	comp=E,761nm,0.4s							
MT05	**Renca**	**2.26**	**17**	Pn		**Pn**	**17 24 23.9**	**+0.8**
MT05				Sn		**Sn**	**17 24 50.4**	**-0.6**
CLCH	**Cerro Calan**	**2.31**	**21**	↑*i*P		**Pn**	**17 24 24.6**	**+0.8**
CLCH				*i* S		**Sn**	**17 24 51.9**	**-0.2**
CLCH				IAML			17 24 54.4	
	comp=E,1μm,0.2s							
MT02	**Curacav**	**2.32**	**8**	↑*i*P		**Pn**	**17 24 24.7**	**+0.9**
MT02				*e*S		**Sn**	**17 24 51.2**	**-1.0**
MT02				IAML			17 24 53.9	
	comp=N,551nm,0.2s							
MT02	**Curacav**	**2.32**	**8**	Pn		**Pn**	**17 24 24.8**	**+0.9**
MT02				Sn		**Sn**	**17 24 50.4**	**-1.8**
PEL	**Peldehue**	**2.51**	**16**	↑*i*P		**Pn**	**17 24 27.2**	**+0.9**
PEL				*i* S		**Sn**	**17 24 56.1**	**-0.6**
PEL				IAML			17 24 58.9	
	comp=E,932nm,0.3s							
PEL	**Peldehue**	**2.51**	**16**			**Pn**	**17 24 27.3**	**+0.9**
PEL				Sn		**Sn**	**17 24 56.1**	**-0.6**
ROC1	**El Roble**	**2.62**	**9**			**Pn**	**17 24 28.6**	**+0.7**
ROCH	**El Roble**	**2.62**	**9**	↓*i*P		**Pn**	**17 24 28.9**	**+1.0**
ROCH				*e*S		**Sn**	**17 24 59.1**	**-0.5**
ROCH				IAML			17 25 03.7	
	comp=N,2μm,0.4s							
VA03	**San Esteban**	**2.91**	**16**	↑*i*P		**Pn**	**17 24 32.3**	**+0.7**
VA03				*i* S		**Sn**	**17 25 05.3**	**-0.7**
VA03				IAML			17 25 09.3	
	comp=E,941nm,0.1s							
VA03	**San Esteban**	**2.91**	**16**			**Pn**	**17 24 32.3**	**+0.7**
LC01	**Cunco**	**3.34**	**185**	*e*P		**Pn**	**17 24 37.5**	**+0.3**
LC01	**Cunco**	**3.34**	**185**	Pn		**Pn**	**17 24 37.5**	**+0.3**
CO02	**Combarbal**	**4.37**	**6**	*e*P		**Pn**	**17 24 51.4**	**+0.2**
CO02				*i* S		**Sn**	**17 25 39.7**	**-1.5**
CO02	**Combarbal**	**4.37**	**6**			**Pn**	**17 24 51.5**	**+0.4**
ZON	**Zonda**	**4.66**	**31**	Pn		**Pn**	**17 24 56.0**	**+1.0**
CO03	**El Pedregal**	**4.76**	**9**			**Pn**	**17 24 57.3**	**+0.8**
PLCA	**Paso Flores**	**5.22**	**172**			**Pn**	**17 25 03.2**	**+0.8**
GO04	**Tololo Observa**	**5.41**	**7**	Pn		**Pn**	**17 25 05.8**	**+0.5**
CO01	**Juntas del Tor**	**5.70**	**13**			**Pn**	**17 25 11.1**	**+1.9**
AC05	**El Transito**	**6.79**	**9**			**Pn**	**17 25 23.8**	**-0.1**
LL01	**San Ignacio de**	**6.84**	**186**	Pn		**Pn**	**17 25 24.0**	**-0.3**
AC04	**Llanos de Chal**	**7.35**	**3**	Pn		**Pn**	**17 25 29.2**	**-2.2**
GO03	**Copiap**	**8.02**	**8**	Pn		**Pn**	**17 25 40.5**	**-0.1**
AC02	**Maricunga**	**8.94**	**14**	Pn		**Pn**	**17 25 54.1**	**+0.7**

*IDC **28** 17:23:53.0±0.8, 9°.29S×159°.05E, h0km, mb4.1/8, mb1 4.2/9, mb1mx3.8/42, mbtmp4.0/9, MS3.2/4, Ms1 3.2/4, ms1mx2.8/31, Error ellipse: s-maj=26.5km s-min=9.1km az=4.0*
*NEIC **28** 17:23:54.4±0.8, 9°.3S±0°.2×159°.09E±0°.04, h7km±6km, mb4.5/7, Error ellipse: s-maj=21.8km s-min=6.0km az=184.0*
ISC 28 17:23:56.8±0.7, 9°.4S±0°.1×159°.2E±0°.1, h27km, n22, σ0s91/19, mb4.2/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**0.79**	**96**	Pg		**Pn**	**17 24 11.1**	**-1.0**
	910nm,0.3s,baz=221,slow=13,SNR=126							
HNR				Lg		Lg	17 24 21.9	
	3μm,0.3s,baz=90,slow=20,SNR=21							
HNR				LR		LR	17 24 24.8	
	comp=Z,424nm,20.8s,baz=268,slow=36							
KRVT	**Keravat (AS076**	**8.67**	**305**	LR		LR	17 29 47.7	
	comp=Z,145nm,18.3s,baz=100,slow=42							
PMG	**Port Moresby**	**11.84**	**269**	LR		LR	17 30 40.1	
	comp=Z,118nm,19.0s,baz=112,slow=35							
PATS	**Pohnpei**	**16.10**	**357**	Pn		**Pn**	**17 27 41.2**	**-0.3**
JAY	**Jayapura**	**19.56**	**289**	P		**P**	**17 28 21.8**	**-1.0**
	baz=126,slow=19,SNR=0.8							
WR0	**Warramunga Arr**	**26.01**	**243**	P		**P**	**17 29 28.3**	**+0.5**
WR0				IAmb		IAmb	17 29 36.3	
	comp=Z,11nm,1.1s							
WB0	**Warramunga Arr**	**26.07**	**244**	P		**P**	**17 29 28.5**	**+0.1**
WB0				IAmb		IAmb	17 29 48.1	
	comp=Z,20nm,1.8s							
WB2	**Warramunga Arr**	**26.17**	**243**	P		**P**	**17 29 27.8**	**-1.4**
WB2				IAmb		IAmb	17 30 15.9	
	comp=Z,27nm,1.8s							
WRA	**Warramunga Arr**	**26.18**	**244**	P		**P**	**17 29 29.3**	**0.0**
	comp=Z,1.4nm,0.5s,baz=70,slow=9.8,SNR=15							
STKA	**Stephens Creek**	**27.71**	**214**	P		**P**	**17 29 42.8**	**-0.2**
	comp=Z,2.5nm,0.8s,baz=27,slow=15,SNR=2.9							
STKA	**Stephens Creek**	**27.71**	**214**	P		**P**	**17 29 43.8**	**+0.9**
STKA				IAmb		IAmb	17 30 02.7	
	comp=Z,8.1nm,1.8s							
AS31	**Alice Springs**	**28.01**	**236**	P		**P**	**17 29 45.8**	**-0.1**
ASAR	**Alice Springs**	**28.01**	**236**	P		**P**	**17 29 44.9**	**-0.9**
	comp=Z,1.0nm,0.6s,baz=64,slow=10.0,SNR=16							
ASAR				PcP		**PcP**	**17 33 01.2**	**+0.6**
	comp=Z,0.3nm,0.8s,baz=80,slow=2.7,SNR=1.8							
RAO	**Raoul Island**	**29.22**	**136**	LR		LR	17 40 05.3	
	comp=Z,70nm,19.0s,baz=105,slow=33							
KNRA	**Kununurra**	**30.30**	**255**	P		**P**	**17 30 06.4**	**+0.2**
KNRA				IAmb		IAmb	17 30 51.9	
	comp=Z,30nm,1.6s							
FITZ	**Fitzroy Crossi**	**33.65**	**251**	P		**P**	**17 30 34.8**	**-0.8**
	comp=Z,2.6nm,0.9s,baz=85,slow=11,SNR=2.0							
PPT	**Papeete**	**50.40**	**105**	LR		LR	17 52 56.8	
	comp=Z,19nm,18.1s,baz=184,slow=34							
ILAR	**Eielson Array**	**84.09**	**20**	P		**P**	**17 36 23.9**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=261,slow=4.9,SNR=4.8							
MKAR	**Makanchi Array**	**87.89**	**318**	P		**P**	**17 36 43.5**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=97,slow=6.5,SNR=12							
NVAR	**Mina Array Bea**	**89.96**	**51**	P		**P**	**17 36 56.1**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=270,slow=5.4,SNR=3.1							
NRIK	**Noril'sk**	**92.31**	**340**	P		**P**	**17 37 05.0**	**+0.8**
	comp=Z,1.7nm,0.4s,baz=117,slow=2.3,SNR=1.7							
GERES	**GERESS Array B**	**131.16**	**330**	PKP		**PKPdf**	**17 43 07.6**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=321,slow=1.4,SNR=2.4							

*IDC **28** 17:53:48.6±4.9, 52°.06N×178°.33E, h114km±46km, mb3.5/13, mb1 3.6/15, mb1mx3.4/42, mbtmp3.9/15, Error ellipse: s-maj=38.8km s-min=12.3km az=177.0*
*NEIC **28** 17:53:49.8±1.0, 51°.97N±0°.09×178°.35E±0°.10, h128km±2km, Error ellipse: s-maj=13.2km s-min=7.7km az=203.0*
*AEIC **28** 17:53:50.3±1.3, 51°.87N±0°.09×178°.30E±0°.06, h131km±3km, mb4.0/11(NEIC), Error ellipse: s-maj=13.2km s-min=4.7km az=192.0*
ISC 28 17:53:49.5±0.7, 52°.0N±0°.1×178°.31E±0°.04, h127km±6km, n47, σ1s08/51, mb3.8/16, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LSNW	**Little Sitkin**	**0.14**	**116**			**Pn**	**17 54 07.0**	**+0.2**
LSNW						**Sn**	**17 54 20.5**	**+0.6**
LSSA	**Little Sitkin**	**0.15**	**123**			**Pn**	**17 54 07.2**	**+0.3**
LSPA	**Little Sitkin**	**0.18**	**115**			**Pn**	**17 54 07.0**	**+0.1**
LSPA						**Sn**	**17 54 21.6**	**+1.6**
CETU	**Semis' Tuman**	**0.73**	**95**			**Pn**	**17 54 10.3**	**+0.5**
CEAP	**Semis' Anvil P**	**0.78**	**92**			**Pn**	**17 54 10.8**	**+0.6**
CESW	**Semis' Southwe**	**0.79**	**99**			**Pn**	**17 54 10.2**	**0.0**
CERB	**Semis' Cerberu**	**0.82**	**97**			**Pn**	**17 54 11.0**	**+0.5**
CERAA	**Semis' Rag'd T**	**0.86**	**98**			**Pn**	**17 54 11.0**	**+0.2**
AMKA	**Amchitka**	**0.90**	**136**			**Pn**	**17 54 11.5**	**+0.4**
AMKA	**Amchitka**	**0.90**	**136**			**Sn**	**17 54 26.9**	**-0.7**
GAEA	**Gareloi East**	**1.84**	**97**			**Pn**	**17 54 21.8**	**+0.4**
TASE	**Tanaga Southea**	**2.27**	**94**			**Pn**	**17 54 26.9**	**+0.2**
TAFP	**Tanaga Falls P**	**2.30**	**92**			**Pn**	**17 54 26.8**	**-0.2**
TAFP						**Sn**	**17 54 55.4**	**-0.3**
TAPA	**Tanaga Point A**	**2.41**	**94**			**Pn**	**17 54 28.4**	**0.0**
SMY	**Shemya**	**2.67**	**287**			**Sn**	**17 55 05.6**	**+1.4**
SMY	**Shemya**	**2.67**	**287**			**Pn**	**17 54 32.4**	**+0.8**
KIMD	**Kanaga Island**	**2.77**	**94**			**Pn**	**17 54 33.0**	**0.0**
KIKV	**Kanaga Island**	**2.80**	**91**			**Pn**	**17 54 33.8**	**+0.4**
ADK	**Adak**	**3.10**	**91**			**Pn**	**17 54 36.4**	**-0.8**
GSTD	**Great Sitkin T**	**3.42**	**87**			**Pn**	**17 54 41.1**	**-0.4**
GSTR	**Great Sitkin T**	**3.48**	**87**			**Pn**	**17 54 42.3**	**+0.1**
PETK	**Petropavlovsk-**	**12.58**	**283**	P		**Pn**	**17 56 43.8**	**-0.1**
	0.1nm,0.3s,baz=96,slow=15,SNR=2.6							
PETK				S		**Sn**	**17 58 56.5**	**-5.9**
	0.2nm,0.3s,baz=102,slow=18,SNR=1.2							
KDAK	**Kodiak Island**	**17.61**	**59**	P		**P**	**17 57 44.6**	**-1.2**
	1.6nm,0.3s,baz=166,slow=3.8,SNR=20							
KDAK	**Kodiak Island**	**17.61**	**59**	P		**P**	**17 57 44.5**	**-1.2**
CNPM	**China Poot**	**18.56**	**54**	P		**P**	**17 57 56.5**	**+0.3**
SKT	**Skwentna**	**19.02**	**47**	P		**Pn**	**17 58 02.9**	**-0.4**
SKT				IAmb		IAmb	17 58 11.1	
	comp=Z,4.4nm,0.8s							
SUA	**Susitna One**	**19.23**	**49**	P		**Pn**	**17 58 04.9**	**-1.0**
SUA				IAmb		IAmb	17 58 09.3	
	comp=Z,6.3nm,0.9s							
ILAR	**Eielson Array**	**21.89**	**41**	P		**P**	**17 58 31.5**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=248,slow=7.9,SNR=8.3							
DOT	**Dot Lake**	**22.77**	**45**	P		**P**	**17 58 40.5**	**-0.3**
EGAK	**Eagle**	**24.26**	**43**	P		**P**	**17 58 55.1**	**+0.9**
EGAK				IAmb		IAmb	17 58 56.1	
	comp=Z,5.1nm,0.8s							
DAWY	**Dawson**	**24.88**	**45**	P		**P**	**17 59 00.7**	**+0.7**
DAWY				IAmb		IAmb	17 59 03.8	
	comp=Z,3.3nm,0.7s							
YAK	**Yakutsk**	**27.63**	**310**	P		**P**	**17 59 25.2**	**+0.6**
	comp=Z,2.5nm,0.4s,baz=133,slow=0.4,SNR=2.9							
YAK	**Yakutsk**	**27.63**	**310**	P		**P**	**17 59 25.0**	**+0.4**
YAK				IAmb		IAmb	17 59 35.5	
	comp=Z,4.6nm,0.8s							
INK	**Inuvik**	**27.97**	**36**	P		**P**	**17 59 28.6**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=297,slow=4.5,SNR=1.8							
INK	**Inuvik**	**27.97**	**36**	P		**P**	**17 59 28.2**	**+0.6**
INK				IAmb		IAmb	17 59 54.8	
	comp=Z,7.5nm,1.6s							
KLR	**Kul'dur**	**29.27**	**283**	P		**P**	**17 59 39.9**	**+0.5**
	comp=Z,1.2nm,0.3s,baz=57,slow=9.3,SNR=8.3							
USRK	**Ussuriysk Ar.**	**31.44**	**274**	P		**P**	**17 59 58.9**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=47,slow=12,SNR=4.5							
YKA	**Yellowknife Ar**	**36.09**	**47**	P		**P**	**18 00 38.5**	**0.0**
	comp=Z,0.7nm,0.5s,baz=279,slow=7.5,SNR=5.3							
SONM	**Songino Array**	**44.74**	**295**	P		**P**	**18 01 50.5**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=68,slow=7.3,SNR=8.2							
KVN	**Kaiserville**	**44.98**	**81**	P		**P**	**18 01 53.1**	**+1.1**
NVAR	**Mina Array Bea**	**45.24**	**81**	P		**P**	**18 01 54.9**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=292,slow=8.0,SNR=6.2							
PDAR	**Pinedale Array**	**47.81**	**71**	P		**P**	**18 02 13.3**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=306,slow=7.7,SNR=4.0							
MK31	**Makanchi Array**	**58.21**	**306**	P		**P**	**18 03 29.6**	**-0.4**
MK31				IAmb		IAmb	18 03 44.6	
	comp=Z,1.3nm,1.4s							
MKAR	**Makanchi Array**	**58.21**	**306**	P		**P**	**18 03 29.6**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=53,slow=6.0,SNR=12							
TXAR	**Lajitas Array**	**60.32**	**79**	P		**P**	**18 03 45.1**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=298,slow=5.1,SNR=8.2							
FINES	**FINESS Array B**	**64.73**	**346**	P		**P**	**18 04 13.5**	**0.0**
	comp=Z,1.7nm,1.1s,baz=53,slow=5.4,SNR=1.6							
AKASG	**Malin Array Be**	**74.35**	**340**	P		**P**	**18 05 13.7**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=21,slow=6.0,SNR=3.1							

TAP 28 18:03:36.1, 24°.26N×121°.70E, h7km±1km, ML1.1, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NACB	**Ninganchiao**	**0.13**	**228**	P		Pg	18 03 39.7	+0.9
	baz=227							
NACB				*e*S		Sg	18 03 42.2	+1.6
	baz=227							
ENA	**Nanau**	**0.17**	**13**	P		Pg	18 03 40.6	+1.0
	baz=15							
ENA				*e*S		Sg	18 03 43.4	+1.4
	baz=15							
TWD	**Chiawan**	**0.20**	**207**	*e*P		Pg	18 03 40.8	+0.7
	baz=205							
TWD				*e*S		Sg	18 03 43.9	+1.1
	baz=205							
ETLH	**Xiulin Townshi**	**0.20**	**255**	*e*P		Pg	18 03 41.4	+1.2
	baz=255							
ETLH				*e*S		Sg	18 03 44.7	+1.7
	baz=255							
NNSH	**Datong**	**0.33**	**301**	*e*P		Pb	18 03 43.6	-0.8
	baz=300							
NNSH				*e*S		Sb	18 03 49.3	-0.7
	baz=300							
NNSB	**Datong**	**0.33**	**301**	*e*P		Pb	18 03 43.9	-0.6
	baz=300							
NNSB				*e*S		Sb	18 03 49.3	-0.7
	baz=300							
NNS	**Nan Shan**	**0.35**	**301**	*e*P		Pb	18 03 44.3	-0.4
	baz=301							
NDT	**Datong Townshi**	**0.38**	**334**	*e*P		Pb	18 03 45.1	-0.1
	baz=333							
NDT				*e*S		Sb	18 03 51.1	-0.2
	baz=333							
ENTT	**Nioudou**	**0.40**	**343**	*e*P		Pb	18 03 45.0	-0.5
	baz=343							
ENTT				*e*S		Sb	18 03 51.1	-0.7
	baz=343							
WHF	**Hehuan Shan**	**0.41**	**254**	*e*P		Pb	18 03 45.5	-0.4
	baz=253							
TDCB	**Techi**	**0.49**	**269**	*e*P		Pb	18 03 46.8	-0.4
	baz=269							
YHNB	**Yeheng**	**0.50**	**324**	*e*P		Pb	18 03 47.4	+0.1
	baz=324							

JMA 28 18:03:51.6±0.2, 24°.85N×123°.32E, h26km, M1.3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
YOJ	**Yonaguni jima**	**0.48**	**216**	P		Pb	18 04 01.2	-0.3
YOJ				*e*S		Sb	18 04 07.7	-0.5
JYNG	**Yonagunijimaku**	**0.52**	**221**	P		Pb	18 04 02.1	-0.1
JYNG				*e*S		Sb	18 04 09.1	-0.4
IRIF	**Iriomote-Funau**

		baz=261									
ETLH					S		Sg	18 17 31.7	-0.9		
		baz=261									
HWA	**Hwalien**		**0.32**	**218**	*e*P		Pb	18 17 30.1	+0.1		
		baz=201									
HWA					*e*S		Sb	18 17 35.0	-0.1		
		baz=201									
TWC	**Suao**		**0.37**	**4**	*e*P		Pb	18 17 31.1	+0.3		
		baz=11									
TWC					*e*S		Sb	18 17 36.3	-0.4		
		baz=11									
NNSB	**Datong**		**0.45**	**296**	*e*P		Pb	18 17 31.1	-0.9		
		baz=301									
NNSB					*e*S		Sg	18 17 36.1	-0.7		
		baz=301									
NNSH	**Datong**		**0.45**	**296**	*e*P		Pb	18 17 31.1	-0.9		
		baz=300									
NNSH					S		Sg	18 17 36.1	-0.7		
		baz=300									
NNS	**Nan Shan**		**0.46**	**297**	P		Pb	18 17 31.2	-1.1		
		baz=302									
NNS					*e*S		Sg	18 17 36.4	-0.8		
		baz=302									
NDT	**Datong Townshi**		**0.46**	**323**	*i* P		Pb	18 17 32.1	-0.2		
		baz=331									
NDT					*i* S		Sg	18 17 37.9	+0.6		
		baz=331									
ENTT	**Nioudou**		**0.47**	**330**	*e*P		Pb	18 17 32.2	-0.1		
		baz=340									
ENTT					*e*S		Sb	18 17 38.1	-1.2		
		baz=340									
TWE	**Neicheng**		**0.51**	**344**	P		Pb	18 17 33.2	+0.2		
		baz=1.0									
TWE					*e*S		Sb	18 17 39.8	-0.6		
		baz=1.0									
WHF	**Hehuan Shan**		**0.52**	**260**	P		Pb	18 17 32.2	-1.2		
		baz=257									
WHF					*e*S		Sg	18 17 38.1	-1.0		
		baz=257									
ESL	**Shilin**		**0.55**	**220**	*e*P		Pb	18 17 33.0	-0.7		
		baz=220									
ESL					*e*S		Sg	18 17 40.0	-0.1		
		baz=220									
TWT	**Tachien**		**0.59**	**272**	*e*P		Pb	18 17 34.0	-0.6		
		baz=271									
TWT					*e*S		Sg	18 17 41.1	-0.4		
		baz=271									
YHNB	**Yeheng**		**0.59**	**317**	P		Pb	18 17 34.3	-0.3		
		baz=323									
YHNB					*e*S		Sg	18 17 41.5	0.0		
		baz=323									
TDCB	**Techi**		**0.61**	**272**	*e*P		Pb	18 17 34.0	-0.8		
		baz=271									
TDCB					*e*S		Sg	18 17 40.5	-1.4		
		baz=271									
NSK	**Sanguang**		**0.61**	**316**	*e*P		Pb	18 17 34.5	-0.4		
		baz=322									
NSK					*e*S		Sg	18 17 41.6	-0.5		
		baz=322									
NWLT	**Wulai**		**0.61**	**332**	*e*P		Pb	18 17 34.9	0.0		
		baz=339									
NWLT					*e*S		Sg	18 17 42.1	-0.1		
		baz=339									
EGS			**0.62**	**9**	*e*P		Pn	18 17 35.6	-1.2		
		baz=25									
EGS					*e*S		Sn	18 17 45.1	-1.7		
		baz=25									
CHGB	**Renai**		**0.62**	**254**	*e*P		Pb	18 17 34.3	-0.8		
		baz=243									
CHGB					*e*S		Sg	18 17 41.7	-0.6		
		baz=243									
NTC	**Toucheng**		**0.62**	**1**	*e*P		Pn	18 17 35.4	-1.5		
		baz=8.0									
NTC					*e*S		Sb	18 17 43.6	-0.1		
		baz=8.0									
OWD	**Renai**		**0.65**	**245**	*e*P		Pb	18 17 35.2	-0.4		
		baz=235									
EGFH	**Guangfu**		**0.67**	**213**	*e*P		Pb	18 17 35.8	0.0		
		baz=213									
EGFH					*e*S		Sb	18 17 45.6	+0.5		
		baz=213									
TIPB	**Shuangxi**		**0.73**	**0**	*i* P		Pn	18 17 37.9	-0.7		
		baz=358									
TIPB					*e*S		Sb	18 17 46.4	-0.7		
		baz=358									
NHDH	**Xindian Distri**		**0.77**	**340**	*e*P		Pn	18 17 37.9	-1.2		
		baz=345									
NHDH					*e*S		Sb	18 17 47.7	-0.5		
		baz=345									
TWA	**Mucha**		**0.77**	**344**	*e*P		Pn	18 17 38.4	-0.7		
		baz=350									
TWA					*e*S		Sb	18 17 48.4	+0.2		
		baz=350									
TWB1	**Santiao Chiao**		**0.79**	**11**	*e*P		Pn	18 17 38.7	-0.4		
		baz=17									
TWB1					*e*S		Sb	18 17 48.9	+0.4		
		baz=17									
VWDT	**VWDT**		**0.79**	**233**	*e*P		Pb	18 17 37.5	-0.3		
		baz=228									
VWDT					*e*S		Sb	18 17 48.0	-0.5		
		baz=228									
WHP	**Taichung City**		**0.80**	**273**	*e*P		Pb	18 17 37.7	-0.4		
		baz=273									
WHP					*e*S		Sg	18 17 47.5	-0.6		
		baz=273									
WLTB	**Daxi**		**0.81**	**320**	*e*P		Pn	18 17 38.8	-0.6		
		baz=324									
WLTB					*e*S		Sb	18 17 48.9	-0.2		
		baz=324									
HGSD	**Ruisui**		**0.82**	**206**	*e*P		Pn	18 17 39.5	-0.2		
		baz=214									
HGSD					*e*S		Sn	18 17 51.3	-0.5		
		baz=214									
NWF	**Wu-fen Shan**		**0.83**	**357**	*e*P		Pn	18 17 40.3	+0.4		
		baz=4.0									
WFSB	**Wu-fen Shan**		**0.83**	**357**	P		Pn	18 17 39.3	-0.5		
		baz=355									
WFSB					*e*S		Sn	18 17 51.2	-0.9		
		baz=355									
LIOB	**Emei**		**0.84**	**299**	*e*P		Pb	18 17 38.8	0.0		
		baz=302									
LIOB					*e*S		Sg	18 17 49.8	+0.5		
		baz=302									
DPDB	**Guoxing**		**0.84**	**256**	*e*P		Pb	18 17 38.4	-0.4		
		baz=255									
DPDB					*e*S		Sg	18 17 48.5	-0.9		
		baz=255									
NSTT	**Nanjuang**		**0.85**	**298**	*e*P		Pb	18 17 39.0	+0.1		
		baz=300									
NSTT					*e*S		Sg	18 17 48.0	-1.5		
		baz=300									
TAP	**Taipei**		**0.85**	**340**	*e*P		Pn	18 17 40.0	-0.1		
		baz=346									
TAP					*e*S		Sb	18 17 50.9	+0.5		
		baz=346									
EHY	**Hungye**		**0.86**	**212**	*e*P		Pb	18 17 38.9	-0.1		
		baz=206									
SSLB	**Suanglung**		**0.91**	**241**	*e*P		Pb	18 17 39.4	-0.6		
		baz=238									
SSLB					*e*S		Sg	18 17 49.8	-1.7		
		baz=238									
SMLT	**Sun Moon Lake**		**0.91**	**248**	*e*P		Pb	18 17 39.6	-0.5		
		baz=236									
SMLT					*e*S		Sg	18 17 52.0	+0.4		
		baz=236									
NCUH	**Zhongli**		**0.93**	**322**	*e*P		Pn	18 17 41.2	0.0		
		baz=325									
NCUH					*e*S		Sn	18 17 54.2	-0.4		
		baz=325									
NCU	**National Centr**		**0.93**	**322**	*e*P		Pb	18 17 40.1	-0.3		
		baz=326									
NCU					*e*S		Sn	18 17 54.6	0.0		
		baz=326									
YM01	**YM01**		**0.94**	**346**	P		Pn	18 17 41.8	+0.5		
		baz=4.0									
TWS1	**Kuangyinshan**		**0.94**	**337**	*e*P		Pn	18 17 41.9	+0.6		
		baz=350									
TWS1					*e*S		Sn	18 17 55.8	+1.1		
		baz=350									
SBCB	**Hsinchu**		**0.94**	**306**	*e*P		Pn	18 17 41.2	-0.1		
		baz=309									
SBCB					*e*S		Sb	18 17 54.1	+1.1		
		baz=309									
YM10	**YM10**		**0.95**	**346**	P		Pn	18 17 42.0	+0.5		
		baz=351									
YM04	**YM04**		**0.95**	**344**	*e*P		Pn	18 17 41.2	-0.2		
		baz=349									
YM04					*e*S		Sn	18 17 54.3	-0.8		
		baz=349									
YM11	**YM11**		**0.95**	**346**	*e*P		Pn	18 17 43.0	+1.5		
		baz=4.0									
YM05	**YM05**		**0.95**	**346**	*e*P		Pn	18 17 42.0	+0.5		
		baz=351									
HSN	**Hsinchu**		**0.96**	**306**	*e*P		Pn	18 17 41.6	+0.1		
		baz=301									
HSN					*e*S		Sb	18 17 53.4	-0.1		
		baz=301									
YULB	**Yu-li**		**0.97**	**210**	*e*P		Pn	18 17 41.8	+0.2		
		baz=214									
YULB					*e*S		Sn	18 17 54.9	-0.5		
		baz=214									
YM08	**YM08**		**0.97**	**348**	P		Pn	18 17 42.1	+0.4		
		baz=5.0									
YM03	**YM03**		**0.97**	**345**	P		Pn	18 17 42.3	+0.5		
		baz=339									
NSY	**Sanyi**		**0.98**	**281**	*e*P		Pn	18 17 42.9	+0.9		
		baz=281									
NTST	**Danshui**		**0.99**	**340**	*e*P		Pn	18 17 42.8	+0.9		
		baz=352									
NTST					*e*S		Sn	18 17 57.0	+1.1		
		baz=352									
ANP	**Anpu**		**0.99**	**344**	*e*P		Pn	18 17 43.1	+1.0		
		baz=349									
NMLH	**Miaoli**		**0.99**	**288**	*e*P		Pn	18 17 42.8	+0.9		
		baz=289									
TWF1	**Yuli**		**1.00**	**209**	*e*P		Pn	18 17 41.8	-0.3		
		baz=214									
TWF1					*e*S		Sb	18 17 55.5	+0.8		
		baz=214									
WHYT	**Xinyi Township**		**1.03**	**239**	P		Pn	18 17 42.6	-0.1		
		baz=243									
WHYT					*e*S		Sg	18 17 54.8	-0.7		
		baz=243									
PTSB	**Yuanli**		**1.04**	**282**	*e*P		Pn	18 17 42.9	+0.2		
		baz=282									
JYNG	**Yonagunijimaku**		**1.05**	**78**	P		Pn	18 17 45.0	+2.3		
JYNG					*e*S		Sn	18 18 01.1	+3.7		
TCU	**Taichung**		**1.05**	**266**	*e*P		Pn	18 17 44.0	+1.2		
		baz=265									
TCU					*e*S		Sn	18 17 58.2	+0.8		
		baz=265									
TWY	**Chenhua**		**1.06**	**349**	*e*P		Pn	18 17 44.6	+1.7		
		baz=340									
WJS	**Zhushan**		**1.08**	**248**	*e*P		Pn	18 17 43.5	+0.3		
		baz=241									
WJS					*e*S		Sn	18 17 58.6	+0.4		
		baz=241									
WDJ	**Dajia District**		**1.08**	**276**	*e*P		Pn	18 17 43.9	+0.7		
		baz=276									
WDJ					*e*S		Sg	18 17 57.3	+0.3		
		baz=276									
WNT	**Mingjian**		**1.10**	**251**	*e*P		Pn	18 17 44.0	+0.6		
		baz=246									
WNT					*e*S		Sb	18 17 58.8	+1.3		
		baz=246									
YOJ	**Yonaguni jima**		**1.11**	**78**	P		Pn	18 17 45.7	+2.1		
YOJ					*e*S		Sn	18 18 01.6	+2.7		
WCHH	**Zhanghua**		**1.16**	**263**	*e*P		Pn	18 17 45.6	+1.3		
		baz=262									
WCHH					*e*S		Sn	18 18 01.0	+0.8		
		baz=262									
ALS	**Alishan**		**1.18**	**232**	P		Pn	18 17 45.0	+0.2		
		baz=230									
ALS					*e*S		Sn	18 18 02.3	+1.2		
		baz=230									
CHKT	**Chengkung**		**1.21**	**200**	*e*P		Pn	18 17 44.8	-0.1		
		baz=182									
CHN5	**Tsauling**		**1.22**	**239**	*e*P		Pn	18 17 46.3	+1.0		
		baz=238									
CHN5					*e*S		Sn	18 18 02.7	+0.8		
		baz=238									
ELDTW	**Lidau**		**1.27**	**215**	*e*P		Pn	18 17 45.8	-0.2		
		baz=211									
WGK	**Gukeng**		**1.27**	**245**	*e*P		Pb	18 17 47.2	+1.0		
		baz=244									
WGK					*e*S		Sn	18 18 03.8	+0.8		
		baz=244									
WDLH	**Douliu**		**1.29**	**245**	*e*P		Pb	18 17 47.2	+0.7		
		baz=244									
WDLH					*e*S		Sn	18 18 05.7	+2.2		
		baz=244									
RLNB	**Erlin**		**1.38**	**256**	*e*P		Pg	18 17 48.0	-0.6		
		baz=255									
PCYT	**Pengchaiyu**		**1.41**	**9**	*e*P		Pb	18 17 49.3	+0.8		
		baz=13									
CHN2	**Minshiung**		**1.42**	**241**	*e*P		Pg	18 17 50.0	+0.7		
		baz=240									
CHN2					*e*S		Sn	18 18 10.1	+3.5		
		baz=240									
TPUB	**Ta-pu**		**1.43**	**230**	*e*P		Pg	18 17 49.4	-0.3		
		baz=217									
TPUB					*e*S		Sn	18 18 08.8	+1.8		
		baz=217									
STYT	**Tauyuan**		**1.45**	**223**	*e*P		Pg	18 17 48.7	-1.2		
		baz=221									
STYT					*e*S		Sn	18 18 09.2	+1.9		
		baz=221									
WTCT	**Ta-ch'eng**		**1.46**	**256**	*e*P		Pg	18 17 49.5	-0.6		
		baz=255									
WTCT					*e*S		Sg	18 18 09.0	0.0		
		baz=255									
CHY	**Chiayi**		**1.48**	**240**	*e*P		Pg	18 17 50.7	+0.3		
		baz=239									
CHY					*e*S		Sg	18 18 09.2	-0.4		
		baz=239									
WTP	**Ta-pu**		**1.48**	**229**	P		Pg	18 17 50.2	-0.3		
		baz=217									
WTP					*e*S		Sg	18 18 09.8	0.0		
		baz=217									
TWK	**Hsinying**		**1.56**	**232**	*e*P		Pg	18 17 51.5	-0.5		
		baz=232									
TWK					*e*S		Sg	18 18 11.5	-0.7		
		baz=232									
TWG	**Pinlang**		**1.57**	**206**	*e*P		Pg	18 17 51.7	-0.5		
		baz=206									
TWG					*e*S		Sg	18 18 13.0	+0.5		
		baz=206									
TWGBT	**Beinan**		**1.57**	**206**	*e*P		Pn	18 17 49.1	-0.8		
		baz=188									
SNST	**Tainan City**		**1.58**	**231**	*e*P		Pg	18 17 52.3	-0.2		
		baz=214									
CHN1	**Nanshi**		**1.58**	**229**	*e*P		Pg	18 17 51.3	-1.1		
		baz=229									
CHN1					*e*S		Sg	18 18 12.4	-0.6		
		baz=229									
WSF	**Szhu**		**1.58**	**248**	*e*P		Pg	18 17 51.9	-0.6		
		baz=257									
WSF					*e*S		Sg	18 18 12.8	-0.2		
		baz=257									
WLGB	**Puzi**		**1.58**	**242**	*e*P		Pg	18 17 52.0	-0.5		
		baz=241									
WLGB					*e*S		Sg	18 18 14.4	+1.3		
		baz=241									
SGST	**Jiashian**		**1.61**	**225**	*e*P		Pb	18 17 51.2	-0.7		
		baz=224									
SGST					*e*S		Sg	18 18 13.6	-0.5		
		baz=224									
SLGT	**Liugui**		**1.64**	**221**	*e*P		Pg	18 17 52.5	-1.1		
		baz=220									
CHN8	**Yiju**		**1.72**	**239**	*e*P		Pb	18 17 53.5	-0.2		
		baz=238									
IRIF	**Iriomote-Funau**		**1.74**	**86**	P		Pg	18 17 55.5	-0.1		
ECL	**Taimali**		**1.81**	**206**	*e*P		Pb	18 17 54.5	-0.9		
		baz=191									
SSD	**Sandimen**		**1.84**	**217**	*e*P		Pg	18 17 56.0	-1.4		
		baz=215									
MASBT	**Mashibluo**		**1.95**	**214**	*e*P		Pb	18 17 56.5	-1.1		
		baz=214									
JKRS	**Kuro-shima**		**2.00**	**89**	S		Sg	18 18 27.2	+0.9		
EAST	**Anshuo**		**2.05**	**206**	*e*P		Pn	18 17 57.3	+0.7		
		baz=193									
SSPT	**Xinbi**		**2.09**	**214**	*e*P		Pb	18 17 60.0	-0.1		
		baz=214									
JIJ	**Ishigaki jima**		**2.12**	**86**	P		Pg	18 17 59.6	-3.2		
JIJ					*e*S		Sg	18 18 27.3	-3.0		
SCZT	**Fangliau**		**2.16**	**211**	*e*P		Pb	18 18 00.6	-0.6		
		baz=211									
PNG	**Penghu**		**2.18**	**253**	*e*P		Pn	18 17 58.8	+0.5		
		baz=252									
WDGT	**Dungji**		**2.21**	**244**	*e*P		Pn	18 17 60.0	+1.3		
		baz=244									
JISG	**Ishigakijimahi**		**2.30**	**81**	*e*S		Sg	18 18 34.3	-1.6		
WLCH	**Liuqiu**		**2.30**	**216**	*e*P		Pb	18 18 02.7	-0.9		
		baz=217									
ZPLA	**Ao Xicun**		**3.73**	**266**	*e*P		Pn	18 18 20.0	+0.3		
		baz=264									

IDC ***28*** *18:45:39.1±0.6,32.°05N×58.°99E,h0km,mb4.0/28, mb1 4.1/36,mb1mx4.1/51,mbtmp4.1/36,ML3.7/8,MS3.5/21, Ms1 3.5/21,ms1mx3.3/48,Error ellipse: s-maj=13.3km s-min=11.1km az=2.0*

TEH ***28*** *18:45:39.2,32.°17N×58.°93E,h7km,ML4.5*

NEIC ***28*** *18:45:40.5±2.0,32.°09N±0.°06×59.°00E±0.°08,h10km±4km, mb4.4/59,mb_Lg4.5(TEH),Error ellipse: s-maj=9.9km s-min=8.0km az=110.0*

MOS ***28*** *18:45:40.1±1.3,31.°95N×58.°98E,h20km,mb4.4/25,Error ellipse: s-maj=4.9km s-min=3.7km az=79.3*

THR ***28*** *18:45:40.0±0.4,32.°11N×58.°99E,h18km±2km,ML4.6*

NNC ***28*** *18:45:46.5±18.0,32.°34N×58.°95E,h26km±92km,mb4.0, Error ellipse: s-maj=105.1km s-min=19.9km az=22.0*

ISC 28 18:45:40.7±0.3,32.°12N±0.°03×58.°95E±0.°03,h10km,n355, σ**1§69/346,mb4.3/88,MS3.5/22,28C-8D,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSRN	**Basiran**	**0.21**	**135**	*e*Pg	**Pg**	**18 45 44.8**	**-0.5**
BSRN				*e*Sg	**Sg**	**18 45 48.6**	**+0.2**
BSRN				IAML		18 45 49.1	
	comp=N,118μm,0.4s						
BSRN				IAML		18 45 49.1	
	comp=E,185μm,0.3s						
BSRN	**Basiran**	**0.21**	**135**	*e*Pg	**Pg**	**18 45 44.8**	**-0.5**
IKOO	**Kooshah**	**0.31**	**9**	*e*Pg	**Pg**	**18 45 45.0**	**-2.1**
IKOO				*e*Sg	**Sg**	**18 45 49.0**	**-2.3**
IKOO				*e*		18 45 50.2	
ITEG	**Tejag**	**0.79**	**348**	*e*Pg	**Pg**	**18 45 53.8**	**-2.3**
IDAH	**Dahanechah**	**1.00**	**51**	*e*Pg	**Pb**	**18 45 58.5**	**-1.7**
IDAH				*e*		18 46 04.5	
NHDN	**Nehbandan**	**1.19**	**127**	*e*Pg	**Pg**	**18 46 02.7**	**-0.8**
IMON	**Monand**	**1.23**	**29**	*e*		18 46 08.7	
IMON				*e*Pg	**Pn**	**18 46 02.6**	**-1.6**
AFRZ	**Afriz**	**1.30**	**3**	*e*		18 46 24.4	
AFRZ				*e*Pg	**Pn**	**18 46 03.0**	**-2.2**
SHRT	**Shahrakht**	**1.90**	**36**	*e*Pg	**Pb**	**18 46 13.8**	**-1.7**
SHRT	**Shahrakht**	**1.90**	**36**	*e*Pg	**Pb**	**18 46 13.8**	**-1.7**
TPRV	**Parvadeh(Tabas**	**2.11**	**296**	*e*Pn	**Pb**	**18 46 16.6**	**-2.6**
TKDS	**Koohdasht(Taba**	**2.14**	**315**	*e*Pn	**Pb**	**18 46 16.9**	**-2.8**
TABS	**Tabas**	**2.17**	**315**	*e*Pn	**Pb**	**18 46 17.7**	**-2.4**
TABS				IAML		18 46 53.5	
	comp=N,1μm,0.5s						
TABS	**Tabas**	**2.17**	**315**	*e*Pn	**Pb**	**18 46 17.7**	**-2.4**
CHMN	**Cheshme madani**	**2.55**	**209**	*e*Pn	**Pn**	**18 46 23.4**	**+0.9**
TNSJ	**Nastanj**	**2.69**	**314**	*e*Pn	**Pb**	**18 46 25.2**	**-3.9**
KHGB	**Koh Gabri**	**2.74**	**231**	*e*Pn	**Pb**	**18 46 26.4**	**-3.5**
KHGB				*e*		18 47 21.7	
TVBK	**TV Kerman**	**2.83**	**222**	*e*Pn	**Pb**	**18 46 28.1**	**-3.5**
KRBR	**Kerman**	**2.84**	**222**	IAML		18 47 17.1	
	comp=N,2μm,0.6s						
KRBR				IAML		18 47 22.2	
	comp=E,2μm,0.5s						
IBAF	**Bafgh**	**2.92**	**261**	*e*Pn	**Pn**	**18 46 28.4**	**+1.0**
IBAF				*e*		18 47 23.5	
ZHSF	**Zahedan**	**2.95**	**147**	*e*Pn	**Pn**	**18 46 27.8**	**0.0**
ZHSF	**Zahedan**	**2.95**	**147**	*e*Pn	**Pn**	**18 46 27.8**	**0.0**
SZD1	**Zahaedan-tmp**	**3.10**	**147**	*e*Pn	**Pn**	**18 46 30.7**	**+0.9**
NGRK	**Negar Kerman**	**3.12**	**218**	*e*Pn	**Pn**	**18 46 31.8**	**+1.5**
NGRK				*e*		18 47 29.6	
HRA	**Herat**	**3.57**	**50**	Pn	**Pn**	**18 46 37.3**	**+0.9**
YZKH	**Yazd**	**3.70**	**275**	*e*Pn	**Pn**	**18 46 39.4**	**+1.3**
YZKH	**Yazd**	**3.70**	**275**	*e*Pn	**Pn**	**18 46 39.4**	**+1.3**
IMEH	**Mehriz**	**3.76**	**260**	*e*Pn	**Pn**	**18 46 40.5**	**+1.5**
ICHK	**Chekchek**	**3.85**	**273**	*e*Pn	**Pn**	**18 46 41.5**	**+1.2**
JRKH	**Jarkhoshk**	**3.96**	**17**	*e*Pn	**Pn**	**18 46 42.7**	**+1.1**
KHNJ	**Kahnooj**	**4.29**	**195**	*e*Pn	**Pn**	**18 46 48.1**	**+1.9**
IMYA	**Miami**	**4.32**	**12**	*e*Pn	**Pn**	**18 46 47.7**	**+1.0**
IPAY	**Payeh**	**4.32**	**1**	*e*Pn	**Pn**	**18 46 48.1**	**+1.4**
SBZV	**Sabzevar**	**4.40**	**346**	*e*Pn	**Pn**	**18 46 48.7**	**+0.9**
ISAD	**Sadrabad**	**4.47**	**269**	*e*Pn	**Pn**	**18 46 50.2**	**+1.3**
IAKL	**Akhelmad**	**4.48**	**358**	*e*Pn	**Pn**	**18 46 49.9**	**+1.0**
SHRO	**Shahrood**	**4.57**	**329**	*e*Pn	**Pn**	**18 46 50.9**	**+0.9**
SHRO	**Shahrood**	**4.57**	**329**	*e*Pn	**Pn**	**18 46 50.9**	**+0.9**
IKRD	**Kardeh**	**4.66**	**356**	*e*Pn	**Pn**	**18 46 53.0**	**+1.6**
ISFR	**Sfrayin**	**4.99**	**351**	*e*Pn	**Pn**	**18 46 57.4**	**+1.5**
IBND	**Bandar-abas**	**5.10**	**205**	*e*Pn	**Pn**	**18 46 58.3**	**+1.1**
GENO	**Geno**	**5.28**	**208**	*e*Pn	**Pn**	**18 47 00.8**	**+0.9**
IEMG	**Emamgholi**	**5.29**	**357**	*e*Pn	**Pn**	**18 47 00.6**	**+0.5**
IANJ	**Anjilo**	**5.36**	**310**	*e*Pn	**Pn**	**18 47 01.8**	**+0.8**
IRAM	**Ramesheh**	**5.59**	**269**	*e*Pn	**Pn**	**18 47 05.1**	**+1.0**
IZEF	**Zefreh**	**5.64**	**280**	*e*Pn	**Pn**	**18 47 06.3**	**+1.4**
ASHT	**Ashkhabad**	**5.83**	**356**	P	Pn	18 47 09.9	+2.7
ASHT	**Ashkhabad**	**5.83**	**356**	Pn	Pn	18 47 09.9	+2.7
GEYT	**Alibeck**	**5.84**	**354**	Pn	**Pn**	**18 47 08.6**	**+1.2**
	comp=E,3.3nm,0.3s,baz=185,slow=19,SNR=23						
GEYT				Sn	**Sn**	**18 48 15.8**	**+1.4**
	baz=315,slow=52,SNR=1.7						
GEYT				LR	LR	18 49 51.4	
	comp=E,333nm,20.4s,baz=50,slow=43						
GYA0	**ALIBECK ARRAY**	**5.84**	**354**	P	**Pn**	**18 47 08.1**	**+0.7**
GYA0B	**ALIBECK ARRAY**	**5.84**	**354**	⇑Pn	**Pn**	**18 47 08.1**	**+0.7**
GYA0B				⇓Lg	Lg	18 48 45.6	
GYA0B	**ALIBECK ARRAY**	**5.84**	**354**	Pn	**Pn**	**18 47 08.5**	**+1.2**
IMND	**Minoodasht**	**5.90**	**331**	*e*Pn	**Pn**	**18 47 09.2**	**+1.1**
LAR1	**LAR**	**5.95**	**223**	*e*Pn	**Pn**	**18 47 11.1**	**+2.1**
ILAS	**Lasjerd**

GROC pmax pmax
comp=Z,10.0nm,0.5s
AKH Akhalkalaki 15.45 311 P **Pn 18 49 16.3 -2.6**
AKH pmax pmax
comp=Z,11nm,1.2s
AKH Akhalkalaki 15.45 311 Pn **Pn 18 49 16.3 -2.6**
SMLA Simla 15.56 89 *eP* **Pn 18 49 16.0 -4.1**
KSH Kashi 15.65 57 *eP* **P 18 49 25.0 -0.6**
KSH pmax pmax
comp=Z,19nm,0.8s
ZEI Tsey 15.98 316 *eP* **P 18 49 31.6 +2.3**
ZEI pmax pmax
comp=Z,17nm,1.1s
AAK Ala-Archa 16.19 45 Pn **Pn 18 49 26.7 -1.8**
comp=Z,0.3nm,0.3s,baz=236,slow=5.2,SNR=4.7
AAK LR LR 18 56 35.8
comp=Z,389nm,20.1s,baz=232,slow=40
AAK Ala-Archa 16.19 45*ceP* **P 18 49 29.6 -2.0**
AAK pmax pmax
comp=Z,9.0nm,1.0s
AAK Ala-Archa 16.19 45 Pn **Pn 18 49 26.6 -1.9**
FRU1 Bishkek 16.37 45 P **P 18 49 30.9 -2.7**
FRU1 pmax pmax
comp=Z,24nm,1.2s
FRU1 Bishkek 16.37 45 Pn **P 18 49 30.9 -2.7**
FRU1 IAmb IAmb 18 49 59.4
comp=Z,24nm,1.1s
SGDS Sogindy 16.75 43 *eP* **P 18 49 37.7 -0.1**
baz=44
SGDS LR LR 18 56 30.4
comp=Z,80nm,12.2s,baz=44
SGDS Sogindy 16.75 43 *eP* **P 18 49 37.7 -0.1**
SGDS MLR MLR
comp=Z,79nm,12.0s
NEY Neytrino 16.95 316 *i* P **P 18 49 41.5 +1.4**
NEY pmax pmax
comp=Z,3.0nm,0.8s
TKM2 Tokmak 2 17.02 46 ⇑P **P 18 49 42.4 +1.5**
comp=Z,10nm,1.1s
TKM2 Tokmak 2 17.02 46 P **P 18 49 42.4 +1.5**
KBZ Khabaz 17.13 317 P **P 18 49 42.8 +0.9**
comp=Z,0.2nm,0.3s,baz=118,slow=8.0,SNR=9.8
KBZ Khabaz 17.13 317*ceP* **P 18 49 43.7 +1.9**
KBZ pmax pmax
comp=Z,8.0nm,0.9s
AB31 Akbulak array 17.14 2 P **P 18 49 39.4 -2.5**
comp=Z,2.9nm,0.7s,baz=185,slow=14,SNR=29
AB31 Akbulak array 17.14 2 P **P 18 49 39.4 -2.5**
ABKAR Akbulak array 17.14 2 Pn 18 49 39.0 -1.2
KVAR Kislovodsk Arr 17.39 317 P **P 18 49 45.9 +1.1**
baz=73,slow=20,SNR=1.6
KIV Kislovodsk 17.39 317 *eP* **P 18 49 47.4 +2.6**
KIV pmax pmax
comp=Z,75nm,1.1s
KIV MLR MLR
comp=Z,66nm,14.0s
KIV Kislovodsk 17.39 317 P 18 49 42.8 -2.0
KIV IAmb IAmb 18 49 50.6
comp=Z,22nm,1.0s
BTLS Baital 17.45 38 *eP* **P 18 49 47.2 +1.8**
baz=39
BTLS LR LR 18 56 38.5
comp=Z,34nm,10.7s,baz=39
BTLS Baital 17.45 38 *eP* **P 18 49 47.2 +1.8**
BTLS MLR MLR
comp=Z,34nm,11.0s
KDJ Kajisay 17.61 50 P **P 18 49 45.7 -1.7**
KDJ pmax pmax
comp=Z,11nm,1.0s
KDJ Kajisay 17.61 50 P 18 49 45.7 -1.7
TARG Taragay, Kyrgy 17.84 52 P 18 49 49.4 -0.8
TNSS Tian-Shan 17.92 47 *eP* **P 18 49 52.6 +1.6**
baz=48
TNSS Tian-Shan 17.92 47 *eP* **P 18 49 52.6 +1.6**
AAA Alma-Ata 17.99 47 LR LR 18 56 37.2
comp=Z,102nm,13.5s,baz=48
KUU Kurty 18.02 44 *eP* **P 18 49 53.4 +1.7**
baz=45
KUU LR LR 18 56 35.1
comp=Z,94nm,10.8s,baz=45
KUU Kurty 18.02 44 *eP* **P 18 49 53.3 +1.7**
KUU MLR MLR
comp=Z,94nm,11.0s
MDOK Medeo 18.05 47 *eP* **P 18 49 54.5 +2.4**
comp=Z,39nm,0.8s,baz=48
MDOK LR LR 18 56 33.8
comp=Z,127nm,13.1s,baz=48
MDOK Medeo 18.05 47 *eP* **P 18 49 54.5 +2.4**
MDOK pmax pmax
comp=Z,39nm,0.8s
MDOK MLR MLR
comp=Z,127nm,13.0s
AKTO Aktyubinsk 18.31 358 P **P 18 49 56.3 +1.5**
comp=Z,0.3nm,0.3s,baz=194,slow=11,SNR=11
AKTO LR LR 18 58 09.6
comp=Z,194nm,19.2s,baz=166,slow=41
AKTO Aktyubinsk 18.31 358 ⇑P **P 18 49 56.7 +1.8**
comp=Z,5.6nm,0.9s
CHKK Chushkaly 18.38 45 *eP* **P 18 49 58.4 +2.7**
baz=46
CHKK Chushkaly 18.38 45 *eP* **P 18 49 58.4 +2.7**
GAZ Gaziantep 18.57 292 P **Pn 18 49 58.2 +0.1**
PRZ Przheval'sk 18.58 51 P **Pn 18 49 56.6 -1.6**
PRZ pmax pmax
comp=Z,19nm,1.5s
PRZ Przheval'sk 18.58 51 P **Pn 18 49 56.6 -1.6**
ASF Jabal al Asfar 18.67 276 P **Pn 18 50 00.9 +1.6**
comp=Z,0.3nm,0.3s,baz=74,slow=2.3,SNR=12
SATY Saty 18.85 49 *eP* **Pn 18 50 03.5 +1.9**
comp=Z,2.5nm,0.7s,baz=50
SATY LR LR 18 57 27.6
comp=Z,37nm,11.8s,baz=50
SATY Saty 18.85 49 *eP* **Pn 18 50 03.4 +1.9**
SATY pmax pmax
comp=Z,2.0nm,0.7s
SATY MLR MLR
comp=Z,37nm,12.0s
SOC Sochi 18.97 313 *eP* **Pn 18 50 05.8 +3.0**
SOC *e* 18 53 38.5
SOC MLR MLR
comp=Z,53nm,12.0s
OTUK Ortayu 19.04 28 ⇓P **Pn 18 50 04.3 +0.7**
comp=Z,9.3nm,1.0s
OTUK Ortayu 19.04 28 P **Pn 18 50 04.3 +0.7**
KPKS Kokpek 19.23 48 *eP* **Pn 18 50 07.8 +1.8**
baz=49
KPKS LR LR 18 57 13.3
comp=Z,72nm,13.1s,baz=49
KPKS Kokpek 19.23 48 *eP* **Pn 18 50 07.8 +1.8**
KPKS MLR MLR
comp=Z,72nm,13.0s
UZB Uzynbulak 19.29 50 *eP* **Pn 18 50 08.5 +1.6**
baz=50
UZB LR LR 18 57 08.3
comp=Z,47nm,12.5s,baz=50
UZB Uzynbulak 19.29 50 *eP* **Pn 18 50 08.4 +1.6**
UZB MLR MLR
comp=Z,47nm,12.0s
SHLS Shalkode 19.58 50 *eP* **Pn 18 50 13.3 +3.0**
comp=Z,3.1nm,0.6s,baz=51
SHLS Shalkode 19.58 50 *eP* **Pn 18 50 13.2 +3.0**
SHLS pmax pmax
comp=Z,3.0nm,0.6s
PDGK Podgornoye 19.68 50 ⇑P **Pn 18 50 11.7 +0.2**
comp=Z,4.5nm,1.0s
PDGK Podgornoye 19.68 50 P **Pn 18 50 11.7 +0.2**
MMAI Mount Meron Ar 19.86 279 P **Pn 18 50 14.2 +0.5**
comp=Z,0.1nm,0.3s,baz=76,slow=12,SNR=4.3
TDK Taldyqorghan 19.86 44 *eP* **Pn 18 50 14.8 +1.3**
baz=45
TDK LR LR 18 57 56.8
comp=Z,265nm,14.9s,baz=45
TDK Taldyqorghan 19.86 44 *eP* **Pn 18 50 14.8 +1.3**
TDK MLR MLR
comp=Z,265nm,15.0s
SOCY Socotra 20.36 194 P **P 18 50 12.5 -5.0**
BRZS Berezniki 20.57 26 *eP* Pn 18 50 21.2 -0.7
comp=Z,4.6nm,0.8s,baz=26
BRZS LR LR 18 58 45.8
comp=Z,40nm,8.6s,baz=26
BRZS Berezniki 20.57 26 *eP* Pn 18 50 21.1 -0.7
BRZS pmax pmax
comp=Z,5.0nm,0.8s
BRZS MLR MLR
comp=Z,40nm,9.0s
EIL Elat 20.73 270 P Pn 18 50 23.4 -0.4
comp=Z,7.3nm,1.0s,baz=51,slow=11,SNR=5.3
EIL LR LR 19 00 07.0
comp=Z,106nm,18.4s,baz=87,slow=42
ANN Anapa 21.00 313 *eP* Pn 18 50 26.4 -0.4
ANN *eS* Sn 18 54 20.8 -3.2
ANN pmax pmax
comp=Z,37nm,0.9s
KOLN Koldanda 21.78 95 *eP* **P 18 50 34.8 +1.8**
comp=Z,43nm,1.2s
BR131 Keskin Array S 21.81 297 P **P 18 50 34.4 +1.2**
BR131 pmax pmax
comp=Z,15nm,1.2s
BR131 Keskin Array S 21.81 297 P **P 18 50 34.4 +1.2**
BR131 IAmb IAmb 18 50 37.5
comp=Z,15nm,1.1s
BRTR Keskin Array B 21.81 297 P **P 18 50 35.0 +1.9**
comp=Z,8.3nm,1.0s,baz=133,slow=8.7,SNR=27
BRTR Keskin Array B 21.81 297*ceP* **P 18 50 35.5 +2.4**
BRTR pmax pmax
comp=Z,8.0nm,1.0s
DAMY Dhamar 21.95 221 P **P 18 50 36.3 +1.4**
DAMY IAmb IAmb 18 50 43.6
comp=Z,25nm,1.0s
BVA0 Borovoye Array 22.48 18 P **P 18 50 41.3 +1.3**
comp=Z,15nm,1.1s,baz=200,slow=10,SNR=51
BVA0 Borovoye Array 22.48 18 P **P 18 50 41.3 +1.3**
BVAR Borovoye Array 22.48 18 P **P 18 50 41.1 +1.1**
comp=Z,7.8nm,0.9s,baz=200,slow=11,SNR=20
BVAR PcP **PcP 18 54 33.8 -0.2**
comp=Z,0.9nm,0.8s,baz=221,slow=5.7,SNR=3.2
BVAR LR LR 19 00 45.1
comp=Z,286nm,18.7s,baz=198,slow=40
ANTO Ankara 22.48 297 P **P 18 50 41.6 +1.4**
ANTO pmax pmax
comp=Z,15nm,1.1s
ANTO Ankara 22.48 297 P **P 18 50 41.6 +1.4**
ANTO IAmb IAmb 18 50 45.9
comp=Z,15nm,1.1s
BRVK Borovoye 22.48 18 *i* P **P 18 50 41.3 +1.3**
BRVK pmax pmax
comp=Z,12nm,1.0s
BRVK Borovoye 22.48 18 P **P 18 50 40.7 +0.7**
BRVK IAmb IAmb 18 50 48.3
comp=Z,9.1nm,0.9s
GKN Gorkha 22.59 94 *eP* **P 18 50 42.2 +0.5**
comp=Z,33nm,0.9s
MAKZ Makanchi 22.94 44 P **P 18 50 44.9 -0.1**
MAKZ pmax pmax
comp=Z,43nm,1.6s
MAKZ Makanchi 22.94 44 P **P 18 50 44.9 -0.1**
DMN Daman 23.10 94 *eP* **P 18 50 47.3 +0.2**
comp=Z,35nm,1.3s
MK31 Makanchi Array 23.11 44 P **P 18 50 48.4 +1.6**
comp=Z,2.5nm,0.7s,baz=232,slow=10,SNR=24
MK31 Makanchi Array 23.11 44 P **P 18 50 47.3 +0.5**
MK31 pmax pmax
comp=Z,5.0nm,1.1s
MK31 Makanchi Array 23.11 44 P **P 18 50 47.3 +0.5**
MKAR Makanchi Array 23.11 44 P **P 18 50 48.7 +1.9**
comp=Z,1.6nm,0.5s,baz=238,slow=10.0,SNR=26
MKAR PcP **PcP 18 54 34.7 -0.7**
comp=Z,0.4nm,0.7s,baz=248,slow=3.2,SNR=2.5
MKAR LR LR 19 01 08.2
comp=Z,183nm,20.5s,baz=235,slow=40
MKAR Makanchi Array 23.11 44*ceP* **P 18 50 49.0 +2.2**
MKAR pmax pmax
comp=Z,2.0nm,0.5s
KKN Kakani 23.20 94 *eP* **P 18 50 48.7 +0.7**
comp=Z,32nm,0.9s
PKIN Phulchoki 23.36 94 *eP* **P 18 50 50.3 +0.6**
comp=Z,42nm,1.1s
PKI Pulchoki 23.37 94 *eP* **P 18 50 50.1 +0.2**
comp=Z,37nm,1.1s
KURBB Kurchatov Arra 23.49 32 P **P 18 50 51.9 +1.4**
comp=Z,2.3nm,0.2s,baz=230,slow=9.7,SNR=22
KURBB Kurchatov Arra 23.49 32 ⇑P **P 18 50 52.5 +2.0**
comp=Z,12nm,1.2s
KURK Kurchatov 23.60 32*ceP* **P 18 50 52.9 +1.3**
KURK pmax pmax
comp=Z,9.0nm,1.0s
KURK Kurchatov 23.60 32 P **P 18 50 51.7 +0.2**
KURK IAmb IAmb 18 50 56.9
comp=Z,14nm,1.3s
MDUB Mudurnu 23.80 298 P **P 18 50 53.9 +0.2**
ISP Isparta 23.93 292 P **P 18 50 55.4 +0.4**
ISP pmax pmax
comp=Z,18nm,0.7s
ISP Isparta 23.93 292 P **P 18 50 55.4 +0.4**
SEM Semipalatinsk 24.15 35 *eP* **P 18 50 58.1 +1.0**
baz=35
SEM LR LR 19 00 32.8
comp=Z,79nm,13.3s,baz=35
SEM Semipalatinsk 24.15 35 *eP* **P 18 50 58.1 +1.0**
SEM MLR MLR
comp=Z,79nm,13.0s
ARU Arti 24.31 359 P **P 18 50 60.0 +1.7**
comp=Z,0.5nm,0.4s,baz=23,slow=1.8,SNR=5.0
ARU LR LR 19 02 11.1
comp=Z,62nm,18.0s,baz=120,slow=41
ARU Arti 24.31 359*c i*P **P 18 51 01.2 +3.0**
ARU 18 51 33.1
ARU 18 51 44.1
ARU PPP PPP **18 55 22.0 +5.0**
ARU S **S**
ARU SS **SnSn 18 56 10.0 +10**
ARU pmax pmax
comp=Z,10.0nm,1.6s
ARU Arti 24.31 359 P **P 18 50 57.0 -1.3**
ARU IAmb IAmb 18 51 18.6
comp=Z,5.9nm,0.8s
ELL Elmali 24.34 289 P **P 18 50 59.2 +0.3**
ELL Elmali 24.34 289 P **P 18 50 59.2 +0.3**
RAMN Ramite 24.57 95 *eP* **P 18 51 01.9 +0.7**
comp=Z,20nm,0.7s
SVE Sverdlovsk 24.73 2 *eP* **P 18 51 04.0 +1.9**
SVE pmax pmax
comp=Z,8.0nm,1.0s
ZSN Zaisan 24.96 45 *eP* **P 18 51 07.1 +2.8**
baz=45
ZSN LR LR 19 01 52.5
comp=Z,65nm,10.0s,baz=45
ZSN Zaisan 24.96 45 *eP* **P 18 51 07.1 +2.8**
ZSN MLR MLR
comp=Z,65nm,10.0s
ODAN Odare 25.27 95 *eP* **P 18 51 08.7 +1.2**
comp=Z,32nm,0.8s
ATD Arta Tunnel 25.30 219 LR LR 19 02 35.9
comp=Z,111nm,21.1s,baz=7.0,slow=40
KARP Karpathos 26.56 286 P **P 18 51 18.6 -0.3**
TIRR Tirgusor 26.79 306 P **P 18 51 20.2 -0.6**
TIRR pmax pmax
comp=Z,28nm,0.9s
TIRR Tirgusor 26.79 306 P **P 18 51 20.2 -0.6**
TOPG Topolog 26.93 307 ⇑P **P 18 51 23.3 +1.2**
DGZ Jazzator, Alta 27.54 42 *i* P **P 18 51 29.7 +2.0**
DGZ pmax pmax
comp=Z,2.0nm,0.6s
OBN Obninsk 27.89 332 *i* P **P 18 51 31.0 +0.5**
OBN *i* 18 52 25.1
OBN pmax pmax
comp=Z,5.0nm,1.0s
SORM Soroca 28.10 314 ⇓P **P 18 51 32.9 +0.4**
SORM Soroca 28.10 314 ⇓P **P 18 51 32.9 +0.4**
PLOR Plostina 28.39 308 ⇑P **P 18 51 37.4 +2.2**
PLOR Plostina 28.39 308 ⇑P **P 18 51 37.4 +2.2**
IDI Anoyia 28.43 286 P **P 18 51 34.5 -1.2**
ZAA0 Zalesovo Array 28.59 33 P **P 18 51 36.3 -0.6**
ZAA0 IAmb IAmb 18 51 40.1
comp=Z,4.6nm,0.6s
ZALV Zalesovo Beam 28.59 33 P **P 18 51 37.5 +0.6**
comp=Z,4.6nm,0.5s,baz=238,slow=9.1,SNR=24
ZALV LR LR 19 05 15.4
comp=Z,26nm,21.1s,baz=264,slow=41
ZALV Zalesovo Beam 28.59 33 *i* P **P 18 51 37.9 +1.1**
ZALV pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 28.72 319 P **P 18 51 38.8 +0.8**
comp=Z,0.9nm,0.4s,baz=118,slow=8.7,SNR=12
AKASG Malin Array Be 28.72 319 *i* P **P 18 51 39.7 +1.7**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 28.72 319 P **P 18 51 37.6 -0.4**
AKBB pmax pmax
comp=Z,10.0nm,1.2s
AKBB Malin Array Si 28.72 319 P **P 18 51 37.6 -0.4**
AKBB IAmb IAmb 18 51 41.1
comp=Z,10nm,1.1s
MLR Muntele Rosu 28.76 307 P **P 18 51 41.2 +2.6**
comp=Z,5.0nm,0.8s,baz=60,slow=9.6,SNR=8.0
MLR Muntele Rosu 28.76 307 ⇑P P 18 51 41.6 +3.0
MLR Muntele Rosu 28.76 307 P **P 18 51 40.1 +1.5**
MLR pmax pmax
comp=Z,9.0nm,1.0s
MLR Muntele Rosu 28.76 307 P **P 18 51 40.1 +1.5**
MLR IAmb IAmb 18 51 44.6
comp=Z,8.8nm,1.0s
BIZ Bicaz 29.09 310 ⇑P **P 18 51 42.8 +1.4**
DOPR Dopca 29.27 308 ⇑P **P 18 51 44.6 +1.6**
ARR Arges 29.62 306 ⇑P **P 18 51 47.9 +1.8**
BURAR Bucovina Array 29.88 311 ⇑P **P 18 51 49.5 +1.0**
BURAR Bucovina Array 29.88 311 ⇑P **P 18 51 49.5 +1.0**
BUR08 Bucovina Ar. S 29.90 311 P **P 18 51 48.8 +0.2**
BUR08 IAmb IAmb 18 51 52.3
comp=Z,3.9nm,0.8s
VTS Vitosha 30.06 301 ⇑P P 18 51 54.6 +4.4
VTS Vitosha 30.06 301 ⇑P P 18 51 54.6 +4.4
DRGR 31.27 309 ⇓P **P 18 52 03.1 +2.3**
DRGR 31.27 309 ⇓P **P 18 52 03.1 +2.3**
KLMR Klimovskoe 31.45 342 *eP* **P 18 52 02.6 +0.6**
KLMR pmax pmax
comp=Z,10.0nm,1.0s
KLMR Klimovskoe 31.45 342 *eP* **P 18 52 02.6 +0.6**
KLMR AMP 18 52 05.2
comp=Z,10.0nm,1.0s
UZH Uzhgorod 32.06 312 ⇓*i*P **P 18 52 09.5 +2.0**
UZH *i* 18 52 11.9
UZH *e* 18 52 18.0
KOLS Kolonicke sedl 32.16 312 *eP* **P 18 52 10.3 +1.8**
KOLS pmax pmax
comp=Z,7.0nm,1.0s
KOLS Kolonicke sedl 32.16 312 *eP* **P 18 52 10.3 +1.8**
DIVS Divibare 32.61 303 P **P 18 52 13.7 +1.1**
DIVS IAmb IAmb 18 52 17.5
comp=Z,3.6nm,1.1s
CRVS Cervenica-Dubn 32.66 312 *eP* **P 18 52 15.5 +2.6**
CRVS pmax pmax
comp=Z,10.0nm,1.3s
CRVS Cervenica-Dubn 32.66 312 *eP* **P 18 52 15.5 +2.6**
PDG Podgorica 32.95 300 P **P 18 52 15.8 +0.3**
PDG IAmb IAmb 18 52 41.2
comp=Z,5.4nm,1.2s
PSZ Piszkesteto 33.41 310 P **P 18 52 18.8 -0.7**
PSZ pmax pmax
comp=Z,4.0nm,0.8s
PSZ Piszkesteto 33.41 310 P **P 18 52 18.8 -0.7**
PSZ IAmb IAmb 18 52 23.4
comp=Z,3.8nm,0.8s
NIE Niedzica 33.54 312 *eP* **P 18 52 22.4 +1.8**
GTA Gaotai 33.73 66 ⇑P **P 18 52 24.5 +2.1**
GTA pP sP 18 52 28.8 +1.5
GTA sP pP 18 52 32.0 +6.1
GTA pmax pmax
comp=Z,8.0nm,1.0s
GTA pmax pmax
comp=Z,58nm,4.9s
GTA LR LR
comp=N,120nm,17.8s
GTA LR LR
comp=E,87nm,17.5s
GTA LR LR
comp=Z,110nm,17.1s
OJC Ojcow 34.08 314 *eP* **P 18 52 26.4 +1.2**
VYHS Vyhne 34.23 310 *eP* **P 18 52 27.5 +0.9**
VYHS pmax pmax
comp=Z,5.0nm,1.1s
VYHS Vyhne 34.23 310 *eP* **P 18 52 27.5 +0.9**
MODS Modra-Piesok 35.22 310 *eP* **P 18 52 36.4 +1.3**
MODS pmax pmax
comp=Z,6.0nm,1.1s
MODS Modra-Piesok 35.22 310 *eP* **P 18 52 36.4 +1.3**
MORC Moravsky Berou 35.37 312 P **P 18 52 36.1 -0.3**
MORC pmax pmax
comp=Z,6.0nm,1.2s
MORC Moravsky Berou 35.37 312 P **P 18 52 36.1 -0.3**
MORC IAmb IAmb 18 52 39.2
comp=Z,5.7nm,1.2s
VRAC Vranov 35.86 311 LR LR 19 09 58.6
comp=Z,26nm,18.6s,baz=124,slow=41
CONA Conrad Observa 36.06 309 *eP* **P 18 52 43.3 +0.8**
comp=Z,2.2nm,0.8s
ARSA Arzberg 36.18 308 *ep*P pP 18 52 44.4 -2.4
comp=Z,6.5nm,1.2s
FINES FINESS Array B 36.25 334 P **P 18 52 44.0 +0.3**
comp=Z,1.4nm,0.5s,baz=129,slow=9.5,SNR=15
FINES FINESS Array B 36.25 334 *i* P **P 18 52 45.5 +1.8**
FINES pmax pmax
comp=Z,1.0nm,0.5s
MOY Mondy 36.25 45 *eP* **P 18 52 46.9 +2.8**
DPC Dobruska-Polom 36.27 313 *eP* **P 18 52 47.0 +2.9**
DPC Dobruska-Polom 36.27 313 *eP* **P 18 52 47.0 +2.9**
OSTC Ostas 36.38 313 *eP* **P 18 52 46.6 +1.5**
OSTC *ex* x 18 52 56.5
KSP Ksiaz 36.41 314 *eP* **P 18 52 46.5 +1.2**
CHVC Chvalec 36.49 313 *eP* **P 18 52 47.2 +1.2**
UPC Upice 36.50 313 *eP* **P 18 52 48.1 +2.1**
UPC Upice 36.50 313 *eP* **P 18 52 48.1 +2.1**
MOA Molln 37.11 308 *eP* **P 18 52 52.2 +0.8**
comp=Z,3.3nm,0.9s
AQU L'Aquila 37.28 299 P **P 18 52 53.5 +0.6**
AQU pmax pmax
comp=Z,7.0nm,0.8s
AQU L'Aquila 37.28 299 P **P 18 52 53.5 +0.6**
AQU IAmb IAmb 18 53 30.0
comp=Z,6.7nm,0.8s
PRED Cave del Predi 37.41 306 P **P 18 52 52.4 -1.5**
KBA Koelnbreinsper 37.63 307 *eP* **P 18 52 55.5 -0.4**
comp=Z,3.7nm,1.0s
GEC2 GERESS Array S 37.64 310 P **P 18 52 55.3 -0.5**
GEC2 IAmb IAmb 18 52 59.2
comp=Z,8.5nm,1.0s
GERES GERESS Array B 37.64 310 P **P 18 52 55.6 -0.3**
comp=Z,5.2nm,0.9s,baz=106,slow=7.5,SNR=27
GERES PcP **PcP 18 55 13.1 -0.2**
comp=Z,0.9nm,0.6s,baz=79,slow=5.1,SNR=2.8
KHC Kasperske Hory 37.76 310 *eP* **P 18 52 57.3 +0.4**
KHC AMS AMS 19 19 10.0
comp=Z,100nm,9.6s
KHC Kasperske Hory 37.76 310*ceP* **P 18 52 58.6 +1.7**
KHC pmax pmax
comp=Z,7.0nm,1.3s
KHC Kasperske Hory 37.76 310 P **P 18 52 56.3 -0.6**
BRG Berggiesshubel 37.86 313 *eP* P 18 53 01.7 +4.1
comp=Z,4.2nm,1.1s
BRG Berggiesshubel 37.86 313 *eP* P 18 53 01.7 +4.1
BRG pmax pmax
comp=Z,4.0nm,1.1s
ABTA Abfaltersbach 38.16 306 *eP* **P 18 53 00.3 0.0**
comp=Z,4.9nm,0.9s
CHTO Chiang Mai 38.25 100 P **P 18 52 59.6 -1.6**
CHTO pmax pmax
comp=Z,11nm,1.4s
CHTO Chiang Mai 38.25 100 P **P 18 52 59.6 -1.6**
CHTO IAmb IAmb 18 53 02.6
comp=Z,10nm,1.4s
CM31 Chiang Mai Arr 38.41 101 P **P 18 53 00.1 -2.5**
CM31 IAmb IAmb 18 53 07.6
comp=Z,7.7nm,1.3s
CMAR Chiang Mai Arr 38.41 101 P **P 18 53 01.9 -0.7**
comp=Z,1.0nm,0.8s,baz=288,slow=7.9,SNR=7.6
CMAR PcP **PcP 18 55 16.2 +0.2**
comp=Z,0.9nm,0.7s,baz=286,slow=4.5,SNR=7.2
CMAR LR LR 19 11 50.5
comp=Z,83nm,19.8s,baz=204,slow=41
CMAR Chiang Mai Arr 38.41 101 *i* P **P 18 53 03.2 +0.6**
CMAR pmax pmax
comp=Z,1.0nm,0.8s
CLL Collm 38.53 314 *i* P **P 18 53 04.5 +1.3**
comp=Z,15nm,1.0s
CLL *e*PP **PnPn 18 54 36.0 +2.8**
CLL Collm 38.53 314 *i* P **P 18 53 04.5 +1.3**
CLL pmax pmax
comp=Z,15nm,1.0s
CLL Collm 38.53 314 P **P 18 53 04.0 +0.7**
CLL IAmb IAmb 18 53 07.4
comp=Z,16nm,1.1s
WTTA Wattenberg 38.81 307 *eP* **P 18 53 06.2 +0.4**
comp=Z,12nm,1.0s
WATA Walderalm 38.85 307 *eP* **P 18 53 06.2 0.0**
comp=Z,4.4nm,0.7s
SONM Songino Array 38.96 52 P **P 18 53 07.9 +0.9**
comp=Z,0.5nm,0.6s,baz=276,slow=8.8,SNR=4.9
SONM LR LR 19 11 06.5

comp=Z,95nm,19.5s,baz=262,slow=39
SQTA Sankt Quirin 39.09 307 *e*P P **18 53 07.5 -0.6**
comp=Z,6.9nm,1.0s
MOTA Moosalm 39.17 307 *e*P P **18 53 08.7 -0.1**
comp=Z,6.7nm,1.2s
FETA Feichten 39.40 307 *e*P P **18 53 11.2 +0.4**
comp=Z,7.8nm,1.0s
ULN Ulaanbaatar 39.40 52*ce*P P **18 53 12.8 +2.0**
ULN pmax pmax
comp=Z,3.0nm,1.7s
RETA Reutte 39.42 307 *e*P P **18 53 10.8 0.0**
comp=Z,2.5nm,0.5s
DAVOX Davos/Dischmat 39.97 306 P P **18 53 15.2 -0.4**
comp=Z,1.2nm,0.6s,baz=84,slow=19,SNR=2.8
DAVA Damuels 40.00 307 *e*P P **18 53 15.9 +0.1**
comp=Z,6.3nm,0.8s
NRIK Noril'sk 40.62 15 P P **18 53 20.2 -0.2**
comp=Z,4.9nm,0.9s,baz=256,slow=4.2,SNR=2.3
NRIK LR LR 19 12 53.9
comp=Z,96nm,18.7s,baz=216,slow=40
HFS Hagfors 40.80 327 P P **18 53 21.1 -0.8**
comp=Z,3.5nm,0.8s,baz=111,slow=8.1,SNR=11
KEST Kesra 40.97 289 P P **18 53 24.6 +0.8**
comp=Z,7.1nm,0.9s,baz=304,slow=2.9,SNR=5.2
KEST Kesra 40.97 289 P P **18 53 24.0 +0.2**
KEST IAmb IAmb 18 53 28.3
comp=Z,12nm,1.1s
XAN Xi'an 41.59 73 P P **18 53 28.8 -0.1**
XAN pP sP 18 53 37.5 +3.7
XAN pmax pmax
comp=Z,5.0nm,1.2s
XAN LR LR
comp=N,160nm,17.7s
XAN LR LR
comp=E,67nm,15.2s
XAN LR LR
comp=Z,130nm,14.1s
XAN Xi'an 41.59 73 P P **18 53 27.3 -1.6**
XAN pmax pmax
comp=Z,6.0nm,1.3s
XAN Xi'an 41.59 73 P P **18 53 27.2 -1.6**
KEV Kevo 41.70 344 P P **18 53 29.3 +0.1**
KEV pmax pmax
comp=Z,22nm,1.6s
KEV Kevo 41.70 344 P P **18 53 29.3 +0.1**
KEV IAmb IAmb 18 54 01.7
comp=Z,22nm,1.6s
SENIN Lac Senin/Sane 41.73 305 P P **18 53 31.0 +1.0**
ECH Echery 41.89 308 P P **18 53 29.6 -1.6**
ECH pmax pmax
comp=Z,5.0nm,0.9s
ECH Echery 41.89 308 P P **18 53 29.6 -1.6**
ECH IAmb IAmb 18 53 33.9
comp=Z,5.1nm,0.9s
ARCES ARCESS Array B 41.90 343 P P **18 53 29.9 -1.0**
comp=Z,1.9nm,0.8s,baz=139,slow=9.5,SNR=7.6
ARCES LR LR 19 13 02.2
comp=Z,89nm,18.4s,baz=114,slow=39
ARE0 ARCESS Array S 41.90 343 P P **18 53 33.2 +2.3**
NC405 NORSAR Array S 42.07 328 P P **18 53 32.8 +0.4**
MBAR Mbarara 42.08 225*ce*P P 18 53 38.3 +5.1
MBAR pmax pmax
comp=Z,9.0nm,2.5s
NB2 NORSAR Subarra 42.27 328 P P **18 53 33.4 -0.7**
comp=Z,0.7nm,0.7s,baz=112,slow=8.6
NOA NORSAR Array B 42.27 328 P P **18 53 33.1 -1.0**
comp=Z,1.8nm,0.9s,baz=113,slow=8.1,SNR=4.5
NOA LR LR 19 13 14.5
comp=Z,34nm,18.8s,baz=90,slow=39
BOD Bodaibo 45.00 38 *e*P P **18 53 56.5 +0.4**
BOD *e* 18 54 01.6
EKA Eskdalemuir Ar 48.62 318 P P **18 54 24.0 -0.4**
comp=Z,0.2nm,0.3s,baz=99,slow=8.2,SNR=5.3
EKA PcP **PcP 18 55 49.1 -0.8**
comp=Z,1.4nm,0.8s,baz=107,slow=4.5,SNR=2.6
ESDC Sonseca Array 50.60 297 P P **18 54 39.3 -0.5**
comp=Z,0.5nm,0.7s,baz=68,slow=6.1,SNR=3.1
YAK Yakutsk 53.23 34 *e*P P **18 54 58.9 -0.1**
YAK pmax pmax
comp=Z,8.0nm,0.8s
TIXI Tiksi 53.55 22 *i*P P **18 55 00.5 -0.7**
TIXI pmax pmax
comp=Z,3.0nm,1.2s
TIXI Tiksi 53.55 22 P P **18 55 00.0 -1.2**
TOA0 Torodi Ar. Sit 55.48 264 P P **18 55 15.5 -0.6**
TOA0 IAmb IAmb 18 55 16.2
comp=Z,7.2nm,1.0s
TORD Torodi Ar. Bea 55.48 264 P P **18 55 15.4 -0.6**
comp=Z,4.0nm,0.8s,baz=54,slow=7.1,SNR=18
TORD LR LR 19 20 50.6
comp=Z,54nm,18.2s,baz=110,slow=38
KLR Kul'dur 55.67 49*ce*P P **18 55 16.1 -0.8**
KLR pmax pmax
comp=Z,2.0nm,1.0s
KSRS Korea Array 55.76 64 P P **18 55 16.8 -1.0**
comp=Z,1.8nm,0.8s,baz=278,slow=7.0,SNR=9.4
KSRS LR LR 19 22 01.4
comp=Z,84nm,18.6s,baz=272,slow=39
SUMG Summit 61.86 340 P P **18 55 59.9 -0.2**
SUMG pmax pmax
comp=Z,9.0nm,0.9s
SUMG Summit 61.86 340 P P **18 55 59.9 -0.2**
YSS Yuzh-Sakhalins 63.38 50 *e*P P **18 56 10.2 0.0**
YSS pmax pmax
comp=Z,8.0nm,1.0s
MJAR Matsushiro Arr 63.83 62 P P **18 56 13.0 -0.4**
comp=Z,1.6nm,1.1s,baz=282,slow=6.5,SNR=3.2
MJAR LR LR 19 25 17.8
comp=Z,35nm,21.1s,baz=230,slow=37
MJAR Matsushiro Arr 63.83 62 P P **18 56 13.0 -0.4**
DBIC Dimbokro 64.33 261 LR LR 19 26 25.1
comp=Z,34nm,20.9s,baz=42,slow=38
BILL Bilibino 66.72 23 *i*P P **18 56 33.0 +1.4**
BILL pmax pmax
comp=Z,2.0nm,1.2s
BOSA Boshof 68.36 212 P P **18 56 42.8 +0.2**
comp=Z,1.5nm,0.8s,baz=72,slow=8.5,SNR=3.8
BOSA LR LR 19 28 01.7
comp=Z,48nm,19.1s,baz=36,slow=37
BOSA Boshof 68.36 212 P P **18 56 42.1 -0.5**
BOSA pmax pmax
comp=Z,13nm,1.5s
BOSA Boshof 68.36 212 P P **18 56 42.1 -0.5**
PETK Petropavlovsk- 69.86 39 LR LR 19 30 01.7
comp=Z,41nm,19.5s,baz=242,slow=38
COLD Coldfoot 78.53 11 P P **18 57 41.9 0.0**
COLD IAmb IAmb 18 57 45.2
comp=Z,2.9nm,0.9s
INK Inuvik 79.45 5 P P **18 57 46.7 -0.1**
INK pmax pmax
comp=Z,6.0nm,1.1s
INK Inuvik 79.45 5 P P **18 57 46.7 -0.1**
INK IAmb IAmb 18 57 49.6
comp=Z,6.3nm,1.1s
ILAR Eielson Array 81.33 11 P P **18 57 56.7 -0.4**
comp=Z,0.7nm,0.9s,baz=317,slow=3.5,SNR=7.0
EGAK Eagle 82.15 9 P P **18 58 01.6 +0.3**
EGAK IAmb IAmb 18 58 04.3
comp=Z,5.0nm,1.0s
SCRK Sand Creek 82.52 10 P P **18 58 03.3 -0.2**
SCRK IAmb IAmb 18 58 06.7
comp=Z,7.0nm,1.1s
DOT Dot Lake 82.82 10 P P **18 58 05.1 +0.2**
DOT IAmb IAmb 18 58 09.3
comp=Z,3.9nm,0.8s
DAWY Dawson 83.05 8 P P **18 58 06.1 -0.1**
DAWY IAmb IAmb 18 58 09.0
comp=Z,5.2nm,0.9s
SUA Susitna One 83.68 14 P P **18 58 08.8 -0.7**
YKA Yellowknife Ar 85.58 357 P P **18 58 19.1 +0.3**
comp=Z,3.1nm,0.8s,baz=358,slow=5.3,SNR=18
HYT Haines Junctio 86.42 8 P P **18 58 23.7 +0.4**
WRA Warramunga Arr 88.74 114 P P **18 58 34.5 -0.4**
comp=Z,0.6nm,0.6s,baz=319,slow=4.4,SNR=4.8
WRA Warramunga Arr 88.74 114 *i*P P 18 58 38.5 +3.6
WRA pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 90.53 118 P P **18 58 42.0 -1.2**
comp=Z,0.8nm,0.8s,baz=310,slow=5.2,SNR=7.3
B35A Bob, Littlefor 96.23 342 P P **18 59 08.1 -1.0**
SNAA Sanae 112.02 198*c i*PKIKP **PKiKP 19 04 19.0 +3.7**
SNAA pmax pmax
comp=Z,10.0nm,2.5s

*IDC **28** 19:09:44.6±0.9, 37°.47N×22°.78E, h0km, mb3.6/11,*

mb1 3.6/16, mb1mx3.5/39, mbtmp3.5/16, ML3.7/5, MS2.8/4, Ms1 2.8/4, ms1mx2.4/44, Error ellipse: s-maj=18.0km s-min=15.4km az=73.0
*DDA **28** 19:09:47.7, 37°.43N×22°.90E, h12km±1km, MW3.7*
*ATH **28** 19:09:47.2, 37°.46N×22°.85E, h20km±1km, ML3.7/25, Error ellipse: s-maj=1.5km s-min=0.6km az=149.0*
*THE **28** 19:09:47.6, 37°.47N×22°.85E, h5km, ML3.7/12, Error ellipse: s-maj=0.9km s-min=0.3km az=287.0*
*ISK **28** 19:09:47.1, 37°.49N×22°.79E, h21km, ML3.9/15*
*HLW **28** 19:09:51.5, 37°.23N×24°.09E, h6km±13km, Md4.2, Ml4.1*
ISC 28 19:09:47.4±0.8, 37°.47N±0°.02×22°.84E±0°.02, h19km±2km, n176, σ1°20/214, mb3.6/11, 5C-5D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KRND	**KRANIDI**	**0.26**	**110**	P		**Pg**	**19 09 52.9**	**-0.5**
KRND				S		**Sg**	**19 09 57.0**	**-0.5**
	22μm,0.5s							
KRND	**KRANIDI**	**0.26**	**110**	P		**Pg**	**19 09 52.9**	**-0.5**
KRND				S		**Sg**	**19 09 57.2**	**-0.3**
KRND				AML	AML		19 09 58.7	
	comp=E,43350μm,0.6s							
KRND				AML	AML		19 10 00.6	
	comp=N,48097μm,0.4s							
DID	**Didima**	**0.32**	**84**	P		**Pg**	**19 09 53.8**	**-0.6**
DID				S		**Sg**	**19 09 59.0**	**-0.1**
	comp=N,35μm,0.7s							
DID	**Didima**	**0.32**	**84**	P		**Pg**	**19 09 53.8**	**-0.6**
DID				S		**Sg**	**19 09 58.9**	**-0.1**
DID				AML	AML		19 09 59.5	
	comp=N,66598μm,0.8s							
DID				AML	AML		19 10 01.5	
	comp=E,67752μm,0.6s							
VLX	**Vlachokerasia**	**0.38**	**255**	P		**Pg**	**19 09 55.8**	**+0.2**
VLX				S		**Sg**	**19 10 01.0**	**-0.1**
	comp=E,31μm,0.5s							
VLX	**Vlachokerasia**	**0.38**	**255**	P		**Pg**	**19 09 55.7**	**+0.2**
VLX				S		**Sg**	**19 10 01.0**	**-0.1**
VLX				AML	AML		19 10 02.9	
	comp=N,64253μm,0.5s							
VLX				AML	AML		19 10 03.0	
	comp=E,53331μm,0.5s							
TRIP	**Tripoli**	**0.46**	**277**	P		**Pg**	**19 09 57.0**	**+0.2**
TRIP				S		**Sg**	**19 10 03.0**	**-0.2**
	comp=E,13μm,0.4s							
TRIP	**Tripoli**	**0.46**	**277**	P		**Pg**	**19 09 57.1**	**+0.2**
TRIP				S		**Sg**	**19 10 02.9**	**-0.3**
TRIP				AML	AML		19 10 04.1	
	comp=N,29873μm,0.5s							
TRIP				AML	AML		19 10 05.7	
	comp=E,20511μm,0.4s							
LOUT	**Loutraki**	**0.52**	**11**	P		**Pg**	**19 09 57.8**	**-0.3**
LOUT				S		**Sb**	**19 10 05.9**	**+0.7**
	comp=E,8μm,0.5s							
LOUT	**Loutraki**	**0.52**	**11**	P		**Pg**	**19 09 57.8**	**-0.3**
LOUT				S		**Sb**	**19 10 05.8**	**+0.6**
LOUT				AML	AML		19 10 09.6	
	comp=N,2983μm,0.5s							
LOUT				AML	AML		19 10 10.1	
	comp=E,3261μm,0.5s							
LTK	**Loutraki**	**0.56**	**10**	P		**Pg**	**19 09 58.3**	**-0.4**
LTK				S		**Sb**	**19 10 07.0**	**+0.9**
	comp=E,11μm,0.6s							
LTK	**Loutraki**	**0.56**	**10**	P		**Pg**	**19 09 58.3**	**-0.4**
LTK				S		**Sb**	**19 10 07.0**	**+0.9**
LTK				AML	AML		19 10 07.6	
	comp=E,26342μm,0.6s							
LTK				AML	AML		19 10 10.3	
	comp=N,19573μm,0.6s							
GUR	**Goura**	**0.61**	**319**	P		**Pb**	**19 09 59.4**	**-0.1**
GUR				S		**Sb**	**19 10 08.4**	**+0.8**
	comp=N,9μm,0.2s							
GUR	**Goura**	**0.61**	**319**	P		**Pb**	**19 09 59.4**	**-0.1**
GUR				AML	AML		19 10 09.4	
	comp=N,15146μm,0.3s							
GUR				AML	AML		19 10 11.1	
	comp=E,18625μm,0.2s							
VLI	**Velíai**	**0.76**	**174**	P		**Pb**	**19 10 01.6**	**-0.4**
VLI				S		**Sb**	**19 10 12.4**	**+0.5**
	comp=E,8μm,0.3s							
VLI	**Velíai**	**0.76**	**174**	P		**Pb**	**19 10 01.7**	**-0.3**
VLI				S		**Sb**	**19 10 11.8**	**-0.1**
VLI				AML	AML		19 10 14.5	
	comp=E,20927μm,0.2s							
VLI				AML	AML		19 10 14.6	
	comp=N,30292μm,0.4s							
VILL	**Villía**	**0.78**	**28**	P		**Pb**	**19 10 02.1**	**-0.4**
VILL				S		**Sg**	**19 10 14.1**	**+0.8**
	comp=N,572nm,0.7s							
PROD	**Prodromos**	**0.79**	**3**	P		**Pb**	**19 10 02.6**	**+0.1**
PROD	**Prodromos**	**0.79**	**3**	P		**Pb**	**19 10 02.6**	**+0.1**
PROD				AML	AML		19 10 16.7	
	comp=E,8559μm,0.3s							
PROD				AML	AML		19 10 17.1	
	comp=N,10452μm,0.6s							
ITM	**Ithomi**	**0.79**	**248**	P		**Pb**	**19 10 03.0**	**+0.4**
ITM				S		**Sb**	**19 10 13.0**	**+0.2**
	comp=N,5μm,0.5s							
ITM	**Ithomi**	**0.79**	**248**	P		**Pb**	**19 10 02.9**	**+0.4**
ITM				S		**Sb**	**19 10 12.9**	**+0.1**
ITM				AML	AML		19 10 13.2	
	comp=E,9231μm,0.3s							
ITM				AML	AML		19 10 17.4	
	comp=N,9696μm,0.7s							
ITM	**Ithomi**	**0.79**	**248**	PG		**Pb**	**19 10 02.9**	**+0.4**
ITM				SG		**Sb**	**19 10 12.8**	**+0.1**
KLV	**Kalavryta, Ach**	**0.79**	**316**	P		**Pb**	**19 10 02.4**	**-0.2**
KLV	**Kalavryta, Ach**	**0.79**	**316**	P		**Pb**	**19 10 02.3**	**-0.2**
KLV				AML	AML		19 10 14.5	
	comp=N,3947μm,0.4s							
KLV				AML	AML		19 10 18.1	
	comp=E,6584μm,0.6s							
MNVA	**Monemvasia**	**0.80**	**169**	P		**Pb**	**19 10 03.1**	**+0.5**
VIL2	**Platees**	**0.81**	**24**	P		**Pb**	**19 10 02.4**	**-0.5**
VIL2				S		**Sg**	**19 10 14.1**	**0.0**
VIL2				AML	AML		19 10 18.9	
	comp=E,8862μm,0.6s							
VIL2				AML	AML		19 10 21.5	
	comp=N,9905μm,0.8s							
VLY	**Voula,Athens**	**0.84**	**63**	P		**Pb**	**19 10 02.9**	**-0.6**
VLY	**Voula,Athens**	**0.84**	**63**	P		**Pb**	**19 10 02.9**	**-0.6**
VLY				S		**Sg**	**19 10 15.2**	**0.0**
VLY				AML	AML		19 10 17.8	
	comp=N,13021μm,0.8s							
VLY				AML	AML		19 10 22.8	
	comp=E,9709μm,0.4s							
ATH	**Athens Observa**	**0.85**	**54**	P		**Pb**	**19 10 03.6**	**0.0**
ATH	**Athens Observa**	**0.85**	**54**	P		**Pb**	**19 10 03.6**	**0.0**
ATH				S		**Sg**	**19 10 16.0**	**+0.6**
ATH				AML	AML		19 10 20.1	
	comp=E,6915μm,0.3s							
ATH				AML	AML		19 10 21.6	
	comp=N,7160μm,0.5s							
ATHU	**Athens Univers**	**0.89**	**56**	P		**Pb**	**19 10 04.1**	**-0.2**
ATHU	**Athens Univers**	**0.89**	**56**	P		**Pb**	**19 10 04.7**	**+0.4**
ATHU				S		**Sg**	**19 10 17.1**	**+0.4**
ATHU				AML	AML		19 10 23.2	
	comp=E,1944μm,0.8s							
ATHU				AML	AML		19 10 23.7	
	comp=N,2607μm,0.9s							
AMT	**Artemida-Makis**	**0.90**	**274**	P		**Pb**	**19 10 04.7**	**+0.2**
AMT				S		**Sn**	**19 10 18.1**	**+0.4**
	comp=N,7μm,0.5s							
AMT	**Artemida-Makis**	**0.90**	**274**	P		**Pb**	**19 10 04.8**	**+0.3**
AMT				S		**Sg**	**19 10 16.8**	**-0.2**
AMT				AML	AML		19 10 20.9	
	comp=N,14270μm,0.4s							
AMT				AML	AML		19 10 23.0	
	comp=E,10480μm,0.5s							
ALIK	**Aliki, Aigiali**	**0.98**	**324**	P		**Pb**	**19 10 06.0**	**+0.3**
PTL	**Penteli**	**0.99**	**54**	P		**Pb**	**19 10 06.1**	**+0.1**
PTL	**Penteli**	**0.99**	**54**	P		**Pb**	**19 10 06.1**	**+0.1**
PTL				S		**Sn**	**19 10 20.4**	**+0.5**
PTL				AML	AML		19 10 21.8	
	comp=N,4734μm,0.6s							
PTL				AML	AML		19 10 25.8	
	comp=E,5805μm,0.8s							
DRO	**Drossia**	**1.02**	**298**	P		**Pb**	**19 10 06.7**	**+0.2**
DRO	**Drossia**	**1.02**	**298**	P		**Pb**	**19 10 06.7**	**+0.2**
DRO				AML	AML		19 10 24.3	
	comp=N,7966μm,0.4s							
DRO				AML	AML		19 10 30.4	
	comp=E,2452μm,0.6s							
LAKA	**Lakka**	**1.03**	**318**	P		**Pb**	**19 10 06.6**	**0.0**
PYL	**PYLOS**	**1.05**	**237**	P		**Pb**	**19 10 07.4**	**+0.4**
PYL	**PYLOS**	**1.05**	**237**	P		**Pb**	**19 10 07.3**	**+0.4**
PYL				AML	AML		19 10 24.1	
	comp=E,5592μm,0.4s							
PYL				AML	AML		19 10 30.0	
	comp=N,6458μm,0.7s							
DION	**Dionisos Attik**	**1.05**	**55**	P		**Pb**	**19 10 07.1**	**0.0**
DION	**Dionisos Attik**	**1.05**	**55**	P		**Pb**	**19 10 07.3**	**+0.2**
DION				S		**Sg**	**19 10 22.3**	**+0.5**
DION				AML	AML		19 10 23.2	
	comp=E,15760μm,0.6s							
DION				AML	AML		19 10 24.6	
	comp=N,10645μm,0.6s							
KALE	**Kalithea**	**1.07**	**329**	P		**Pn**	**19 10 07.7**	**+0.2**
KALE				S		**Sg**	**19 10 23.0**	**+0.6**
	comp=N,2μm,0.7s							
KALE	**Kalithea**	**1.07**	**329**	P		**Pn**	**19 10 07.7**	**+0.2**
KALE				AML	AML		19 10 28.8	
	comp=E,4822μm,0.6s							
KALE				AML	AML		19 10 31.0	
	comp=N,4798μm,0.7s							
TRIZ	**Trizonia**	**1.08**	**326**	P		**Pn**	**19 10 07.8**	**+0.3**
TRIZ	**Trizonia**	**1.08**	**326**	P		**Pn**	**19 10 07.7**	**+0.3**
SERG	**Sergoula**	**1.13**	**327**	P		**Pb**	**19 10 08.7**	**+0.4**
SERG	**Sergoula**	**1.13**	**327**	P		**Pb**	**19 10 08.9**	**+0.6**
LKR	**Lokris**	**1.18**	**6**	P		**Pb**	**19 10 09.5**	**+0.3**
LKR	**Lokris**	**1.18**	**6**	P		**Pb**	**19 10 09.6**	**+0.4**
LKR				AML	AML		19 10 28.0	
	comp=E,5235μm,0.7s							
LKR				AML	AML		19 10 33.5	
	comp=N,3892μm,0.9s							
EFP	**Efpalio**	**1.21**	**322**	P		**Pb**	**19 10 09.9**	**+0.3**
EFP	**Efpalio**	**1.21**	**322**	P		**Pb**	**19 10 09.9**	**+0.3**
KTHA	**Kythira Island**	**1.23**	**172**	P		**Pn**	**19 10 10.2**	**+0.6**
KTHA	**Kythira Island**	**1.23**	**172**	P		**Pb**	**19 10 10.5**	**+0.5**
KTHA				AML	AML		19 10 28.3	
	comp=N,6975μm,0.3s							
KTHA				AML	AML		19 10 31.1	
	comp=E,12709μm,0.4s							
KTHA	**Kythira Island**	**1.23**	**172**	PN		**Pb**	**19 10 10.6**	**+0.5**
KTHA				SN		**Sn**	**19 10 26.4**	**+0.8**
RLS	**Riolos of Patr**	**1.24**	**299**	P		**Pb**	**19 10 10.3**	**+0.1**
RLS	**Riolos of Patr**	**1.24**	**299**	P		**Pb**	**19 10 10.3**	**+0.1**
AXAR	**Agios Charalam**	**1.30**	**354**	P		**Pb**	**19 10 11.9**	**+0.6**
ANX	**Ano Chora**	**1.33**	**327**	P		**Pb**	**19 10 12.4**	**+0.5**
ANX	**Ano Chora**	**1.33**	**327**	P		**Pb**	**19 10 12.5**	**+0.5**
ANX				S		**Sg**	**19 10 31.1**	**+0.4**
ANX				AML	AML		19 10 37.1	
	comp=N,5036μm,0.6s							
ANX				AML	AML		19 10 38.5	
	comp=E,4427μm,0.9s							
SERI	**Serifos**	**1.35**	**103**	P		**Pb**	**19 10 12.1**	**+0.1**
MRKA	**Markates**	**1.36**	**25**	P		**Pn**	**19 10 11.9**	**+0.5**
MRKA	**Markates**	**1.36**	**25**	P		**Pn**	**19 10 11.9**	**+0.5**
MRKA				AML	AML		19 10 37.9	
	comp=N,3750μm,0.8s							
MRKA				AML	AML		19 10 40.4	
	comp=E,2698μm,0.9s							
KARY	**Karystos**	**1.38**	**66**	P		**Pn**	**19 10 12.2**	**+0.5**
KARY	**Karystos**	**1.38**	**66**	P		**Pb**	**19 10 12.8**	**+0.2**
MHLO	**Agia Marina, M**	**1.47**	**122**	P		**Pn**	**19 10 13.6**	**+0.7**
KYMI	**Kymi, Euboea I**	**1.52**	**40**	P		**Pn**	**19 10 14.2**	**+0.6**
KYMI	**Kymi, Euboea I**	**1.52**	**40**	P		**Pn**	**19 10 14.1**	**+0.4**
PVO	**Paravola**	**1.54**	**318**	P		**Pb**	**19 10 15.8**	**+0.4**
PVO	**Paravola**	**1.54**	**318**	P		**Pg**	**19 10 16.7**	**-0.5**
AGG	**Agios Georgios**	**1.60**	**346**	P		**Pb**	**19 10 16.3**	**-0.1**
AGG	**Agios Georgios**	**1.60**	**346**	P		**Pb**	**19 10 16.9**	**+0.5**
AGG	**Agios Georgios**	**1.60**	**346**	PN		**Pn**	**19 10 14.4**	**-0.3**
AGG	**Agios Georgios**	**1.60**	**346**	*i* P		**Pb**	**19 10 16.0**	**-0.4**
AGG				*i* S		**Sb**	**19 10 37.7**	**+1.5**
MAKR	**Makrakomi, Fth**	**1.64**	**340**	P		**Pb**	**19 10 17.1**	**+0.1**
MAKR	**Makrakomi, Fth**	**1.64**	**340**	P		**Pb**	**19 10 17.6**	**+0.6**
ANKY	**Antikythira Is**	**1.65**	**167**	P		**Pn**	**19 10 16.1**	**+0.9**
ANKY	**Antikythira Is**	**1.65**	**167**	P		**Pn**	**19 10 16.2**	**+0.9**
EVR	**Evrytania**	**1.66**	**331**	P		**Pb**	**19 10 17.3**	**-0.1**
EVR	**Evrytania**	**1.66**	**331**	P		**Pb**	**19 10 17.4**	**-0.1**
SKIA	**Skiathos**	**1.76**	**16**	P		**Pn**	**19 10 18.1**	**+1.2**
SKIA	**Skiathos**	**1.76**	**16**	P		**Pn**	**19 10 18.1**	**+1.2**
NEO	**Neokhori**	**1.85**	**9**	P		**Pn**	**19 10 19.3**	**+1.1**
AOS	**Alonnisos**	**1.88**	**25**	P		**Pn**	**19 10 19.1**	**+0.6**
AOS	**Alonnisos**	**1.88**	**25**	PN		**Pn**	**19 10 18.9**	**+0.4**
XOR	**Xorichti**	**1.91**	**8**	P		**Pn**	**19 10 20.0**	**+1.0**
VLS	**Valsamata**	**1.92**	**292**	P		**Pb**	**19 10 21.1**	**-0.7**
RODP	**Rodopos**	**2.05**	**159**	P		**Pn**	**19 10 21.9**	**+1.1**
FSK	**Fiskardo**	**2.05**	**299**	P		**Pb**	**19 10 22.8**	**-1.3**
FSK	**Fiskardo**	**2.05**	**299**	P		**Pb**	**19 10 23.8**	**-0.3**
LKD2	**Lefkada island**	**2.17**	**308**	P		**Pb**	**19 10 24.7**	**-1.3**
CHAN	**Chania**	**2.18**	**153**	P		**Pn**	**19 10 23.6**	**+1.0**
APE	**Apeiranthos**	**2.18**	**100**	PN		**Pn**	**19 10 23.8**	**+1.1**
APE	**Apeiranthos**	**2.18**	**100**	*i* P		**Pn**	**19 10 23.1**	**+0.3**
APE				*i* S		**Sn**	**19 10 42.6**	**-6.6**
THL	**Klokotos Trika**	**2.19**	**343**	P		**Pn**	**19 10 24.6**	**+1.9**
IMMV	**Iera Moni Meta**	**2.21**	**155**	P		**Pn**	**19 10 24.0**	**+1.0**
IMMV	**Iera Moni Meta**	**2.21**	**155**	PN		**Pn**	**19 10 24.2**	**+1.2**
VAM	**Vamos**	**2.33**	**152**	P		**Pn**	**19 10 26.2**	**+1.4**
KNDR	**Palaiochora Ch**	**2.34**	**163**	PN		**Pn**	**19 10 25.0**	**+0.2**
SANT	**Santorini**	**2.37**	**117**	*i* P		**Pg**	**19 10 33.0**	**+0.1**
PAIG	**Paliouri**	**2.54**	**15**	P		**Pn**	**19 10 28.3**	**+0.8**
LIT	**Litokhoron**	**2.64**	**354**	P		**Pn**	**19 10 30.6**	**+1.6**
CHOS	**Chios island**	**2.70**	**69**	PN		**Pn**	**19 10 31.0**	**+1.2**
KPRO	**Kipourio**	**2.73**	**335**	P		**Pn**	**19 10 32.5**	**+2.1**
IDI	**Anoyia**	**2.74**	**142**	P		**Pn**	**19 10 30.8**	**+0.4**
IDI	**Anoyia**	**2.74**	**142**	Pn		**Pn**	**19 10 31.9**	**+1.5**
	comp=E,4.9nm,0.3s,baz=258,slow=12,SNR=27							
IDI				Sn		**Sn**	**19 11 03.7**	**+0.8**
	comp=E,20nm,0.3s,baz=295,slow=15,SNR=7.8							
IDI	**Anoyia**	**2.74**	**142**	PN		**Pn**	**19 10 31.1**	**+0.7**
GVDS	**Gavdos**	**2.81**	**159**	PN		**Pn**	**19 10 32.9**	**+1.6**
GVD	**Gavdhos**	**2.81**	**159**	PN		**Pn**	**19 10 33.0**	**+1.6**
HRKL	**Herakleio**	**2.82**	**139**	PN		**Pn**	**19 10 33.0**	**+1.5**
PLG	**Polygyros**	**2.93**	**9**	P		**Pn**	**19 10 34.0**	**+0.9**
SIGR	**SIGRI**	**2.94**	**53**	PN		**Pn**	**19 10 34.1**	**+1.1**
URLA	**Izmir**	**3.10**	**72**	PN		**Pn**	**19 10 36.6**	**+1.3**
URLA	**Izmir**	**3.10**	**72**	*i* P		**Pn**	**19 10 36.5**	**+1.3**
URLA				*i* S		**Sn**	**19 11 12.2**	**+0.4**
HORT	**Hortiatis**	**3.13**	**4**	P		**Pn**	**19 10 36.8**	**+1.0**
HORT	**Hortiatis**	**3.13**	**4**	PN		**Pn**	**19 10 36.7**	**+1.0**
LAST	**Lasithi**	**3.14**	**137**	P		**Pn**	**19 10 37.4**	**+1.5**
DGB	**zmir**	**3.25**	**79**	*i* P		**Pn**	**19 10 36.6**	**-0.8**
DGB				*i* S		**Sn**	**19 11 15.8**	**+0.2**
BODT	**Bodrum**	**3.59**	**95**	PN		**Pn**	**19 10 43.7**	**+1.7**
EZN	**Ezine**	**3.60**	**48**	PN		**Pn**	**19 10 43.9**	**+1.8**
ZKR	**Zakros**	**3.60**	**130**	PN		**Pn**	**19 10 44.6**	**+2.4**
GADA	**Gukgeada**	**3.61**	**40**	PN		**Pn**	**19 10 43.8**	**+1.5**
BAYC	**CANAKKALE_Bayr**	**3.68**	**51**	*i* P		**Pn**	**19 10 41.7**	**-1.6**
KNT	**Kendrikon**	**3.68**	**1**	PN		**Pn**	**19 10 44.8**	**+1.5**
VAY	**Valandovo**	**3.85**	**357**	*i* Pn		**Pn**	**19 10 48.3**	**+2.7**
KARP	**Karpathos**	**3.97**	**118**	PN		**Pn**	**19 10 49.4**	**+2.0**
MMB	**Musomiste**	**4.17**	**9**	P		**Pn**	**19 10 50.9**	**+0.9**
ALN	**Alexandroupoli**	**4.23**	**35**	PN		**Pn**	**19 10 51.8**	**

SWA2					AMP			19 13 00.0	
	baz=171								
SWA2					S		Sn	19 13 16.6	-8.1
	baz=171								
DOPR	**Dopca**	**8.70**	**12**	⇓	P		**Pn**	**19 11 54.1**	**+1.9**
BRTR	**Keskin Array B**	**8.75**	**72**		Pn		**Pn**	**19 11 56.1**	**+3.2**
	comp=E,0.2nm,0.3s,baz=256,slow=13,SNR=2.3								
DUGI	**Dugi Otok**	**8.79**	**320**		*e*Pn		**Pn**	**19 11 53.5**	**+0.1**
DUGI					Sn		**Sn**	**19 13 27.4**	**-4.5**
PLOR	**Plostina**	**8.84**	**18**	⇑	P		Pn	19 11 59.7	+5.6
VRI	**Vrincioaia**	**8.87**	**18**	⇓	P		**Pn**	**19 11 58.1**	**+3.6**
BIZ	**Bicaz**	**9.76**	**13**	⇑	P		**Pn**	**19 12 09.8**	**+3.1**
BRJN	**Brijuni**	**10.10**	**320**		*e*Pn		**Pn**	**19 12 11.1**	**-0.2**
BRJN					Sn		**Sn**	**19 13 59.4**	**-4.6**
BURAR	**Bucovina Array**	**10.29**	**9**	⇑	P		Pn	19 12 27.1	+13
GLL	**Jalalah**	**10.80**	**134**		P		Pn	19 12 17.0	-4.0
	baz=138								
MMAI	**Mount Meron Ar**	**11.19**	**110**		Pn		**Pn**	**19 12 26.6**	**+0.2**
	comp=E,0.7nm,0.3s,baz=352,slow=22,SNR=1.7								
MMAI					Sn		**Sn**	**19 14 30.0**	**-1.0**
	comp=E,0.5nm,0.3s,baz=298,slow=32,SNR=1.8								
SUZ	**Suez**	**11.27**	**130**		P		Pn	19 12 22.3	-5.2
	baz=132								
HFRF	**Wahat Farafira**	**11.28**	**154**		P		**Pn**	**19 12 26.7**	**-0.9**
	baz=159								
HFRF					AMP			19 14 00.0	
	baz=159								
HFRF					S		Sn	19 14 19.5	-14
	baz=159								
EIL	**Elat**	**12.74**	**124**		Sn		Sn	19 15 00.2	-8.6
	comp=E,0.2nm,0.3s,baz=333,slow=16,SNR=2.4								
GERES	**GERESS Array B**	**13.17**	**333**		Pn		**Pn**	**19 12 54.7**	**+1.3**
	comp=E,0.1nm,0.3s,baz=140,slow=12,SNR=2.6								
DAVOX	**Davos/Dischmat**	**13.37**	**318**		LR		LR	19 19 27.6	
	comp=E,30nm,20.7s,baz=194,slow=44								
ESDC	**Sonseca Array**	**21.05**	**284**		P		**P**	**19 14 30.1**	**-0.1**
	comp=E,0.3nm,0.6s,baz=85,slow=12,SNR=2.2								
HFS	**Hagfors**	**23.42**	**348**		P		**P**	**19 14 54.6**	**-0.5**
	comp=E,1.7nm,0.7s,baz=156,slow=11,SNR=8.7								
HFS					LR		LR	19 24 22.6	
	comp=E,23nm,18.3s,baz=184,slow=38								
FINES	**FINESS Array B**	**24.08**	**4**		P		**P**	**19 15 00.7**	**-0.7**
	comp=E,0.8nm,0.8s,baz=187,slow=13,SNR=4.2								
FINES					LR		LR	19 24 06.1	
	comp=E,21nm,20.3s,baz=212,slow=36								
NB2	**NORSAR Subarra**	**24.70**	**346**		P		**P**	**19 15 07.7**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=162,slow=10								
NOA	**NORSAR Array B**	**24.70**	**346**		P		**P**	**19 15 07.5**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=159,slow=10,SNR=7.0								
EKA	**Eskdalemuir Ar**	**25.07**	**324**		P		**P**	**19 15 10.6**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=125,slow=9.1,SNR=8.8								
TORD	**Torodi Ar. Bea**	**30.71**	**223**		P		**P**	**19 16 01.7**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=30,slow=8.9,SNR=4.0								
ARCES	**ARCESS Array B**	**32.15**	**2**		P		**P**	**19 16 13.0**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=164,slow=5.8,SNR=3.7								
DBIC	**Dimbokro**	**39.68**	**226**		P		**P**	**19 17 17.1**	**-1.3**
	comp=Z,2.4nm,0.8s,baz=321,slow=13,SNR=1.4								
MKAR	**Makanchi Array**	**44.11**	**58**		P		**P**	**19 17 55.0**	**+0.7**
	comp=Z,0.3nm,0.7s,baz=272,slow=7.1,SNR=6.4								
ZALV	**Zalesovo Beam**	**44.80**	**48**		P		**P**	**19 17 58.6**	**-1.0**
	comp=Z,1.2nm,0.6s,baz=280,slow=10,SNR=2.9								
YKA	**Yellowknife Ar**	**74.67**	**341**		P		**P**	**19 21 25.7**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=26,slow=6.2,SNR=2.2								

IDC ***28*** *19:14:46.1±10.0, 30.08S×177.31W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/18, mbtmp3.6/2, Error ellipse: s-maj=475.4km s-min=56.8km az=155.0*

NEIC ***28*** *19:14:49.3±1.0, 29.97S±0.06×177.6W±0.2, h10km±2km, mb4.3/9, Error ellipse: s-maj=30.9km s-min=9.9km az=86.0*

ISC 28 19:14:52.4±1.6, 30.0S±0.1×177.6W±0.3, h35km, n15, σ1s56/15, mb4.2/5, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.78**	**341**			Pn	**Pn**	**19 15 05.8**	**-1.1**
BSWZ	**Blackbirch Sta**	**13.57**	**208**			Pn	**Pn**	**19 17 60.0**	**-2.3**
THZ	**Tophouse**	**14.02**	**211**			Pn	**Pn**	**19 18 08.3**	**-0.2**
LTZ	**Lake Taylor**	**15.12**	**210**			Pn	**Pn**	**19 18 21.6**	**-1.7**
LTZ						IAmb	IAmb	19 18 37.7	
	comp=Z,22nm,1.3s								
RPZ	**Rata Peaks**	**16.40**	**210**			Pn	**Pn**	**19 18 36.2**	**-3.5**
RPZ						IAmb	IAmb	19 18 37.1	
	comp=Z,21nm,1.2s								
CTAO	**Charters Tower**	**34.05**	**278**		P	P	**P**	**19 21 34.1**	**+0.7**
STKA	**Stephens Creek**	**34.88**	**256**		P	P	**P**	**19 21 41.0**	**+0.4**
AS31	**Alice Springs**	**43.45**	**266**		P	P	**P**	**19 22 52.9**	**+0.7**
ASAR	**Alice Springs**	**43.45**	**266**		P	P	**P**	**19 22 52.7**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=103,slow=7.3,SNR=7.1								
WR0	**Warramunga Arr**	**44.22**	**272**		P	P	**P**	**19 22 59.2**	**+0.8**
WR0						IAmb	IAmb	19 23 10.9	
	comp=Z,4.5nm,1.2s								
WB2	**Warramunga Arr**	**44.39**	**272**		P	P	**P**	**19 22 60.0**	**+0.1**
WRA	**Warramunga Arr**	**44.40**	**272**		P	P	**P**	**19 23 01.5**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=110,slow=8.2,SNR=1.7								
CASY	**Casey**	**55.65**	**208**		P	P	**P**	**19 24 25.2**	**+0.7**
CASY						IAmb	IAmb	19 24 26.0	
	comp=Z,6.3nm,1.4s								
QSPA	**South Pole Qui**	**60.12**	**180**		P	P	**P**	**19 24 57.4**	**+1.3**
QSPA						IAmb	IAmb	19 25 13.5	
	comp=Z,4.3nm,1.4s								
FINES	**FINESS Array B**	**144.87**	**340**		PKPbc		**PKPab**	**19 34 23.2**	**-0.9**
	comp=Z,1.3nm,0.8s,baz=33,slow=3.2,SNR=9.6								

NNC 28 19:20:37.4±4.7, 36.95N×70.67E, h0km, mb3.9, mpv3.5, 1C-3D, Error ellipse: s-maj=40.5km s-min=37.7km az=112.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.15**	**359**			P	Pn	19 22 11.2	+1.7
	0.8nm,0.3s,baz=199,slow=18,SNR=30								
KK31						S	Sn	19 23 21.8	+1.3
	3.0nm,0.3s,baz=183,slow=21,SNR=21								
AAK	**Ala-Archa**	**6.40**	**26**	⇑		P	Pn	19 22 13.6	+0.5
	1.5nm,0.5s								
AAK				⇓		S	Sn	19 23 27.6	+0.7
	6.6nm,0.6s								
TKM2	**Tokmak 2**	**7.06**	**31**	⇓		P	Pn	19 22 21.3	-0.9
	4.2nm,0.6s								
AB31	**Akbulak array**	**14.56**	**331**	⇓		P	Pn	19 24 01.6	-3.1
	1.4nm,0.7s,baz=141,slow=13,SNR=12								

NEIC ***28*** *19:52:13.1±1.6, 5.88S±0.07×145.75E±0.08, h102km±6km, mb4.6/73, Error ellipse: s-maj=12.3km s-min=9.5km az=74.0*

IDC ***28*** *19:52:13.9±1.7, 5.90S×145.70E, h111km±16km, mb4.2/17, mb1 4.3/23, mb1mx4.1/42, mbtmp4.6/23, MS3.1/4, Ms1 3.1/4, ms1mx2.8/32, Error ellipse: s-maj=16.2km s-min=10.0km az=87.0*

DJA ***28*** *19:52:14.3±0.4, 6˚S±3˚×14˚6E±˚, h105km±5km, M4.7/25, mb4.8/25, mB5.0/7, MLv4.9/4, Mw(mB)4.4/7, Mwp5.5/1*

ISC 28 19:52:13.6±0.4, 5.95S±0.04×145.75E±0.06, h109km, n152, σ1s08/156, mb4.6/69, 8D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.71**	**158**			P	**Pn**	**19 53 09.4**	**+0.3**
	233nm,0.3s,baz=356,slow=6.2,SNR=897								
PMG						S	**Sn**	**19 53 50.7**	**-1.4**
	228nm,0.3s,baz=350,slow=6.0,SNR=32								
JAY	**Jayapura**	**6.07**	**304**			P	**Pn**	**19 53 40.1**	**-0.9**
	4.1nm,0.3s,baz=130,slow=7.3,SNR=34								
JAY						S	**Sn**	**19 54 54.2**	**+4.9**
	1.4nm,0.3s,baz=295,slow=21,SNR=1.1								
JAY	**Jayapura**	**6.07**	**304**			P	**Pn**	**19 53 39.9**	**-1.2**
	0.1nm312nm31nm,0.9s								
KRVT	**Keravat (AS076**	**6.46**	**76**			P	**Pn**	**19 53 48.8**	**+2.4**
	4.6nm,0.3s,baz=276,slow=3.2,SNR=7.6								
GENI	**Genyem**	**6.48**	**301**			P	**Pn**	**19 53 45.1**	**-1.5**
	0.7nm89nm,0.6s								
RABL	**Rabaul**	**6.63**	**75**			Pn	**Pn**	**19 53 48.7**	**+0.1**
COEN	**Coen**	**8.35**	**197**			Pn	**Pn**	**19 54 13.8**	**+1.7**
COEN						Sn	**Sn**	**19 55 43.3**	**-1.4**
FAKI	**Fak Fak**	**13.79**	**282**			Pn	**Pn**	**19 55 25.3**	**+0.7**
CTA	**Charters Tower**	**14.07**	**178**		P		**Pn**	**19 55 29.8**	**+1.6**
	0.1nm,0.3s,baz=341,slow=18,SNR=2.6								
CTA						S	**Sn**	**19 58 02.0**	**-1.3**
	0.4nm,0.3s,baz=268,slow=23,SNR=4.2								
CTAO	**Charters Tower**	**14.07**	**178**				**P**	**19 55 32.3**	**-0.2**
SIJI	**Sorong**	**15.30**	**289**		P		**Pn**	**19 55 43.6**	**-0.3**
	15nm,0.3s,baz=124,slow=4.6,SNR=18								

MTN	**Manton Dam**	**15.96**	**244**				**Pn**	**19 55 52.7**	**+0.7**
WB0	**Warramunga Arr**	**17.62**	**218**				**P**	**19 56 11.8**	**-0.1**
WR0	**Warramunga Arr**	**17.68**	**217**		P		**P**	**19 56 12.1**	**-0.4**
WR0					IAmb		IAmb	19 56 21.7	
	comp=Z,26nm,0.9s								
WB2	**Warramunga Arr**	**17.78**	**217**		P		**P**	**19 56 13.6**	**0.0**
WRA	**Warramunga Arr**	**17.79**	**218**		P		**P**	**19 56 12.9**	**-0.8**
	comp=Z,2.1nm,0.3s,baz=41,slow=10,SNR=38								
WRA					S		**S**	**19 59 26.8**	**-6.1**
	comp=Z,0.1nm,0.3s,baz=40,slow=23,SNR=4.3								
KNRA	**Kununurra**	**19.27**	**239**		P		**P**	**19 56 29.6**	**-0.2**
KNRA					IAmb		IAmb	19 56 34.5	
	comp=Z,26nm,0.8s								
GUMO	**Guam**	**19.43**	**357**		LR		LR	20 03 44.2	
	comp=Z,12nm,21.0s,baz=158,slow=36								
GUMO	**Guam**	**19.43**	**357**		P		**P**	**19 56 31.0**	**-0.5**
GUMO					IAmb		IAmb	19 56 39.0	
	comp=E,41nm,1.1s								
EIDS	**Eidsvold**	**19.98**	**166**		P		**P**	**19 56 38.0**	**+0.5**
EIDS					IAmb		IAmb	19 56 41.6	
	comp=Z,15nm,0.7s								
AS31	**Alice Springs**	**20.98**	**212**		P		**P**	**19 56 48.2**	**-0.2**
ASAR	**Alice Springs**	**20.98**	**212**		P		**P**	**19 56 48.5**	**+0.1**
	comp=Z,10nm,0.8s,baz=41,slow=8.3,SNR=98								
ASAR					S		**S**	**20 00 35.0**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=28,slow=22,SNR=3.0								
ASAR					LR		LR	20 05 28.2	
	comp=Z,125nm,19.6s,baz=22,slow=38								
SOEI	**Soe**	**21.61**	**259**		P		**P**	**19 56 56.3**	**+1.1**
SOEI					IAmb		IAmb	19 57 12.7	
	comp=Z,24nm,0.8s								
BATI	**Baumata**	**22.26**	**258**		P		**P**	**19 57 02.3**	**+0.3**
	comp=Z,24nm,0.7s,baz=97,slow=8.1,SNR=1.9								
KMSI	**Cibinong**	**22.67**	**286**		P		**P**	**19 57 06.4**	**+0.2**
	comp=Z,1μmcomp=Z,116nm,0.7s								
FITZ	**Fitzroy Crossi**	**23.04**	**237**		P		**P**	**19 57 08.2**	**-1.5**
	comp=Z,20nm,0.6s,baz=52,slow=11,SNR=52								
FITZ	**Fitzroy Crossi**	**23.04**	**237**		P		**P**	**19 57 09.3**	**-0.4**
LUWI	**Luwuk**	**23.44**	**281**		P		**P**	**19 57 14.1**	**+0.6**
LUWI					IAmb		IAmb	19 57 16.0	
	comp=Z,33nm,0.7s								
EDFI	**Ende, Flores**	**24.02**	**262**		P		**P**	**19 57 17.5**	**-1.3**
	comp=Z,15nm,0.5s								
MRSI	**Marisa**	**24.61**	**284**		P		**P**	**19 57 23.6**	**-0.4**
	comp=Z,23nm,0.6s								
ARMA	**Armidale**	**24.97**	**168**		P		**P**	**19 57 28.4**	**+1.1**
WSI	**Waingapu**	**25.48**	**260**		P		**P**	**19 57 32.6**	**+0.7**
	comp=Z,241nm,0.8s								
STKA	**Stephens Creek**	**26.09**	**188**		P		**P**	**19 57 37.1**	**-0.1**
	comp=Z,16nm,0.8s,baz=6.2,slow=8.8,SNR=39								
STKA					LR		LR	20 08 35.2	
	comp=Z,68nm,18.1s,baz=18,slow=38								
STKA	**Stephens Creek**	**26.09**	**188**		P		**P**	**19 57 37.5**	**+0.3**
BBOO	**Buckleboo**	**28.21**	**197**		P		**P**	**19 57 56.2**	**-0.1**
MYLDM	**Lahad Datu**	**29.36**	**292**		P		**P**	**19 58 07.5**	**+0.9**
MYLDM					IAmb		IAmb	19 58 18.8	
	comp=Z,18nm,1.0s								
CAN	**Canberra**	**29.39**	**175**		P		**P**	**19 58 07.3**	**+0.6**
PSA00	**Pilbara Seismi**	**29.49**	**236**		P		**P**	**19 58 07.6**	**-0.1**
PSA00					IAmb		IAmb	19 58 10.3	
	comp=Z,14nm,0.9s								
TOO	**Toolangi**	**31.48**	**180**		P		**P**	**19 58 26.4**	**+1.3**
TOO					IAmb		IAmb	19 58 43.3	
	comp=Z,12nm,1.1s								
KKM	**Kota Kinabalu**	**31.79**	**291**		P		**P**	**19 58 28.0**	**-0.2**
JCJ	**Chichijima**	**33.03**	**354**		P		**P**	**19 58 36.8**	**-1.8**
KSM	**Kuching**	**36.14**	**281**		P		**P**	**19 59 07.0**	**+1.3**
KSM					IAmb		IAmb	19 59 08.4	
	comp=Z,8.1nm,1.0s								
MORW	**Morawa**	**36.28**	**227**		P		**P**	**19 59 07.4**	**+0.6**
YOJ	**Yonaguni jima**	**37.47**	**325**		P		**P**	**19 59 16.9**	**+0.1**
YULB	**Yu-li**	**37.69**	**322**		P		**P**	**19 59 18.0**	**-0.7**
YULB					IAmb		IAmb	19 59 19.7	
	comp=Z,4.5nm,0.6s								
NWAO	**Narrogin (SRO)**	**37.74**	**221**		P		**P**	**19 59 19.0**	**0.0**
TPUB	**Ta-pu**	**38.04**	**321**		P		**P**	**19 59 20.2**	**-1.4**
TPUB					IAmb		IAmb	19 59 21.2	
	comp=Z,7.7nm,0.8s								
TATO	**Taipei**	**38.75**	**323**		P		**P**	**19 59 27.6**	**0.0**
JHJ2	**Mitsune**	**39.25**	**352**		P		**P**	**19 59 30.1**	**-1.5**
JHJ	**Hachijo jima 2**	**39.26**	**352**		P		**P**	**19 59 29.4**	**-2.3**
	comp=Z,56nm,0.3s,baz=248,slow=18,SNR=2.2								
MYKOM	**Kota Tinggi**	**42.53**	**279**		P		**P**	**19 59 59.2**	**+0.3**
MYKOM					IAmb		IAmb	20 00 00.3	
	comp=Z,5.1nm,0.7s								
MJAR	**Matsushiro Ar**	**42.85**	**351**		P		**P**	**19 59 59.4**	**-1.6**
	comp=Z,2.8nm,0.4s,baz=168,slow=9.5,SNR=24								
MAJO	**Matsushiro**	**42.85**	**351**		P		**P**	**19 59 59.8**	**-1.3**
MAJO					IAmb		IAmb	20 00 00.6	
	comp=Z,14nm,1.1s								
MJB9	**Matsu-Tunnel**	**42.85**	**351**		P		**P**	**19 59 59.7**	**-1.4**
MJB9					IAmb		IAmb	20 00 00.6	
	comp=Z,16nm,1.2s								
QIZ	**Qiongzhong**	**43.21**	**306**		P		**P**	**20 00 04.0**	**-0.2**
QIZ					IAmb		IAmb	20 00 05.2	
	comp=Z,12nm,0.9s								
DCZ	**Deep Cove**	**43.55**	**158**		P		**P**	**20 00 06.8**	**+0.2**
DCZ					IAmb		IAmb	20 00 13.5	
	comp=Z,17nm,1.1s								
RPZ	**Rata Peaks**	**43.71**	**153**		P		**P**	**20 00 09.2**	**+1.3**
	comp=Z,8.7nm,0.6s,baz=298,slow=4.2,SNR=8.9								
RPZ	**Rata Peaks**	**43.71**	**153**		P		**P**	**20 00 08.9**	**+1.0**
WHZ	**Wether Hill Ro**	**44.21**	**158**		P		**P**	**20 00 12.6**	**+0.7**
IPM	**Ipoh**	**45.84**	**282**		P		**P**	**20 00 25.5**	**+0.2**
IPM					IAmb		IAmb	20 00 26.8	
	comp=Z,9.5nm,1.0s								
KSRS	**Korea Array**	**46.27**	**340**		LR		LR	20 17 31.0	
	comp=Z,23nm,18.2s,baz=207,slow=33								
KULM	**Kulim**	**46.38**	**283**		P		**P**	**20 00 29.6**	**+0.1**
KULM					IAmb		IAmb	20 00 30.7	
	comp=Z,6.0nm,0.7s								
WHN	**Wuhan**	**47.12**	**322**		P		**P**	**20 00 35.8**	**+0.8**
ERM	**Erimo**	**47.79**	**357**		P		**P**	**20 00 40.0**	**+0.1**
GSI	**Gunungsitoli**	**48.63**	**277**		P		**P**	**20 00 46.4**	**-0.6**
GSI					IAmb		IAmb	20 00 47.5	
	comp=Z,12nm,1.0s								
SLVN	**Son La**	**49.18**	**305**		P		**P**	**20 00 52.3**	**+1.2**
SLVN					IAmb		IAmb	20 00 53.4	
	comp=Z,7.8nm,1.0s								
PBKT	**Sadao Pong**	**49.61**	**298**		P		**P**	**20 00 54.9**	**+0.6**
PBKT					IAmb		IAmb	20 00 56.5	
	comp=Z,3.3nm,0.6s								
GYA	**Guiyang**	**49.72**	**312**		*e*P		**P**	**20 00 56.0**	**+0.9**
GYA					pP		pP	20 01 21.0	0.0
GYA					pmax		pmax		
	comp=Z,5.0nm,0.8s								
ENH	**Enshi**	**50.04**	**318**		P		**P**	**20 00 57.1**	**-0.3**
ENH					IAmb		IAmb	20 00 57.9	
	comp=Z,6.2nm,0.7s								
USA0B	**Ussuriysk Arra**	**51.43**	**347**		P		**P**	**20 01 07.2**	**-0.3**
USRK	**Ussuriysk Ar.**	**51.43**	**347**		P		**P**	**20 01 07.3**	**-0.2**
	comp=Z,5.5nm,0.5s,baz=173,slow=7.7,SNR=32								
KMI	**Kunming**	**51.98**	**308**	⇓	*e*P		**P**	**20 01 13.8**	**+1.5**
KMI					pmax		pmax		
	comp=Z,8.0nm,0.8s								
KMI	**Kunming**	**51.98**	**308**		P		**P**	**20 01 12.6**	**+0.3**
KMI					IAmb		IAmb	20 01 14.7	
	comp=Z,8.4nm,1.0s								
CM31	**Chiang Mai Arr**	**52.13**	**299**		P		**P**	**20 01 14.3**	**+1.1**
CMAR	**Chiang Mai Arr**	**52.13**	**299**		P		**P**	**20 01 14.5**	**+1.3**
	comp=Z,13nm,0.6s,baz=120,slow=5.8,SNR=88								
CHTO	**Chiang Mai**	**52.27**	**299**		P		**P**	**20 01 15.0**	**+0.8**
CHTO					IAmb		IAmb	20 01 16.4	
	comp=Z,7.6nm,0.8s								
YSS	**Yuzh-Sakhalins**	**52.73**	**357**		P		**P**	**20 01 17.0**	**-0.1**
YSS					IAmb		IAmb	20 01 18.8	
	comp=Z,9.0nm,1.0s								
XAN	**Xi'an**	**52.85**	**321**		P		**P**	**20 01 17.8**	**-0.6**
XAN					pmax		pmax		
	comp=Z,13nm,0.8s								
XAN					LR		LR		
	comp=N,130nm,16.3s								
XAN					LR		LR		
	comp=E,120nm,17.4s								
XAN					LR		LR		
	comp=Z,150nm,16.3s								
XAN	**Xi'an**	**52.85**	**321**		P		**P**	**20 01 18.0**	**-0.4**
KLR	**Kul'dur**	**56.29**	**349**		P		**P**	**20 01 42.5**	**-0.3**
	comp=Z,3.6nm,0.6s,baz=188,slow=3.9,SNR=13								
PEA0B	**Petropavlovsk-**	**59.70**	**8**		P		**P**	**20 02 06.7**	**+0.2**
PETK	**Petropavlovsk-**	**59.70**	**8**		P		**P**	**20 02 06.8**	**+0.3**
	comp=Z,3.9nm,0.4s,baz=174,slow=8.0,SNR=18								
SHL	**Shillong**	**60.94**	**303**		P		**P**	**20 02 16.3**	**+0.5**
GTA	**Gaotai**	**61.91**	**321**	⇓	P		**P**	**20 02 22.5**	**+0.5**
GTA					pmax		pmax		
	comp=Z,7.0nm,0.7s								
GTA					pmax		pmax		
	comp=Z,33nm,4.9s								
GTA					LR		LR		
	comp=N,83nm,14.6s								
GTA					LR		LR		
	comp=E,55nm,16.2s								
GTA					LR		LR		
	comp=Z,56nm,16.5s								
LSA	**Lhasa**	**63.21**	**307**		P		**P**	**20 02 33.0**	**+1.7**
LSA					pmax		pmax		
	comp=Z,56nm,1.2s								
LSA	**Lhasa**	**63.21**	**307**		P		**P**	**20 02 31.9**	**+0.6**
ULN	**Ulaanbaatar**	**63.47**	**332**		P		**P**	**20 02 32.4**	**+0.1**
ULN					IAmb		IAmb	20 02 33.1	
	comp=Z,4.3nm,0.6s								
SONM	**Songino Array**	**63.76**	**332**		P		**P**	**20 02 34.4**	**+0.3**
	comp=Z,2.2nm,0.6s,baz=151,slow=5.5,SNR=15								
CASY	**Casey**	**64.98**	**195**		P		**P**	**20 02 42.2**	**+0.6**
CASY					IAmb		IAmb	20 02 42.7	
	comp=Z,6.9nm,0.7s								
TAPN	**Taplejung**	**65.08**	**304**		*e*P		**P**	**20 02 44.3**	**+1.0**
	comp=Z,2.0nm,0.5s								
ODAN	**Odare**	**65.17**	**303**		*e*P		**P**	**20 02 44.7**	**+0.9**
	comp=Z,21nm,0.5s								
RAMN	**Ramite**	**65.86**	**303**		*e*P		**P**	**20 02 49.2**	**+0.9**
	comp=Z,14nm,0.4s								
GUN	**Gumba**	**66.80**	**304**		*e*P		**P**	**20 02 55.3**	**+0.9**
	comp=Z,52nm,0.5s								
PKI	**Pulchoki**	**67.07**	**303**		*e*P		**P**	**20 02 56.5**	**+0.4**
	comp=Z,19nm,0.9s								
PKIN	**Phulchoki**	**67.08**	**303**		*e*P		**P**	**20 02 56.4**	**+0.3**
	comp=Z,13nm,0.7s								
KKN	**Kakani**	**67.25**	**303**		*e*P		**P**	**20 02 57.9**	**+0.8**
	comp=Z,17nm,0.6s								
DMN	**Daman**	**67.33**	**303**		*e*P		**P**	**20 02 58.6**	**+0.9**
	comp=Z,33nm,0.7s								
GKN	**Gorkha**	**67.86**	**303**		*e*P		**P**	**20 03 01.4**	**+0.6**
	comp=Z,26nm,0.6s								
KOLN	**Koldanda**	**68.65**	**303**		*e*P		**P**	**20 03 06.5**	**+0.7**
	comp=Z,28nm,0.7s								
DANN	**Dangsing**	**68.70**	**303**		*e*P		**P**	**20 03 06.5**	**+0.2**
	comp=Z,35nm,0.6s								
VNDA	**Vanda**	**72.04**	**176**		P		**P**	**20 03 26.3**	**+0.9**
	comp=Z,2.8nm,0.9s,baz=327,slow=7.1,SNR=20								
VNDA	**Vanda**	**72.04**	**176**		P		**P**	**20 03 26.1**	**+0.8**
ZSN	**Zaisan**	**75.35**	**322**		*e*P		**P**	**20 03 45.1**	**-0.1**
	comp=Z,1.2nm,1.0s,baz=322								
MK31	**Makanchi Array**	**76.66**	**321**		P		**P**	**20 03 53.0**	**+0.3**
MKAR	**Makanchi Array**	**76.66**	**321**		P		**P**	**20 03 53.0**	**+0.4**
	comp=Z,3.8nm,0.7s,baz=99,slow=7.0,SNR=24								
MAKZ	**Makanchi**	**76.87**	**321**		P		**P**	**20 03 53.8**	**0.0**
MAKZ					IAmb		IAmb	20 03 54.9	
	comp=Z,9.3nm,1.2s								
SHLS	**Shalkode**	**77.14**	**317**		*e*P		**P**	**20 03 54.5**	**-1.0**
	comp=Z,1.7nm,0.4s,baz=316								
UZB	**Uzynbulak**	**77.43**	**316**	⇓	*i*P		**P**	**20 03 57.8**	**+0.5**
	comp=Z,4.2nm,0.6s,baz=316								
PRZ	**Przheval'sk**	**77.63**	**316**		P		**P**	**20 03 59.5**	**+1.1**
TARG	**Taragay, Kyrgy**	**77.80**	**315**		P		**P**	**20 03 59.8**	**+0.2**
TARG					IAmb		IAmb	20 04 01.6	
	comp=Z,5.1nm,0.7s

NNC 28 20:39:04.1±3.1, 36°78N×70°86E, h150km±82km, mb2.8, mpv3.6, 2C-2D, Error ellipse: s-maj=31.8km s-min=19.6km az=29.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.32**	**358**	P	Pn	20 40 34.5	-0.6
	2.4nm,0.2s,baz=177,slow=12,SNR=36						
KK31				⇑S	Sn	20 41 47.1	+0.8
	2.2nm,0.5s,baz=180,slow=22,SNR=11						
AAK	**Ala-Archa**	**6.49**	**24**	⇑P	Pn	20 40 38.0	+0.6
	2.2nm,0.6s						
AAK				⇓S	Sn	20 41 50.6	+0.1
	5.0nm,0.8s						
TKM2	**Tokmak 2**	**7.13**	**29**	⇓P	Pn	20 40 45.9	-0.1
	1.7nm,0.6s						
AB31	**Akbulak array**	**14.79**	**331**	P	Pn	20 42 25.7	0.0
	0.3nm,0.4s,baz=157,slow=7.7,SNR=6.4						

IDC 28 21:04:21.9±3.8, 29°83S×178°22W, h0km, mb3.5/2, mb1 3.7/2, mb1mx3.5/22, mbtmp3.5/2, Error ellipse: s-maj=104.8km s-min=16.9km az=132.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.63**	**24**	Pn	Pn	21 04 37.9	-0.3
	baz=288,slow=19						
RAO				Sn	Sn	21 04 50.4	+1.5
	baz=270,slow=5.6						
ASAR	**Alice Springs**	**42.95**	**266**	P	P	21 12 23.7	+0.7
	0.5nm,1.0s,baz=104,slow=7.1,SNR=2.1						
WRA	**Warramunga Arr**	**43.89**	**272**	P	P	21 12 29.7	-0.8
	0.7nm,0.7s,baz=110,slow=8.1,SNR=6.8						
FINES	**FINESS Array B**	**144.55**	**340**	PKP	PKPdf	21 23 59.5	-0.1
	0.5nm,0.5s,baz=58,slow=3.4,SNR=7.4						

MAN 28 21:07:04.8, 6°34N×125°05E, h21km, mb3.5, ML2.2, MS1.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSPH	**General Santos**	**0.26**	**201**	*e*P	Pn	21 07 12.5	-1.1
GSPH				*e*S	Sn	21 07 20.4	+1.4
SKMP	**Bagumbayan, Su**	**0.53**	**290**	*e*P	Pb	21 07 15.8	+0.4
SKMP				*e*S	Sn	21 07 26.7	+1.3
DDMP	**Don Marcelino,**	**0.70**	**109**	*e*P	Pb	21 07 18.3	0.0
DDMP				*e*S	Sn	21 07 33.7	+4.0

*IDC **28** 21:22:43.6±1.2, 21°17S×169°60E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.7/37, mbtmp3.7/6, ML3.1/1, MS2.1/1, Ms1 2.1/1, ms1mx2.0/30, Error ellipse: s-maj=42.5km s-min=24.1km az=158.0*

ISC 28 21:22:48.2±1.0, 21°1S±0°3×169°6E±0°1, h30km, n8, σ0°96/9, mb3.8/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**3.06**	**252**	Pn	**Pn**	**21 23 33.7**	**-1.0**
	2.3nm,0.3s,baz=133,slow=20,SNR=50						
DZM				LR	LR	21 24 03.5	
	comp=Z,31nm,21.0s,baz=74,slow=26						
DZM				Sn	**Sn**	**21 24 11.6**	**+1.2**
	5.2nm,0.3s,baz=125,slow=21,SNR=7.0						
WRA	**Warramunga Arr**	**32.98**	**266**	P	**P**	**21 29 20.4**	**-0.3**
	0.4nm,0.5s,baz=100,slow=8.6,SNR=5.3						
ASAR	**Alice Springs**	**33.03**	**259**	P	**P**	**21 29 20.8**	**-0.4**
	1.2nm,0.8s,baz=93,slow=8.7,SNR=8.3						
QSPA	**South Pole Qui**	**68.93**	**180**	P	**P**	**21 33 50.5**	**+0.2**
	0.7nm,0.7s,baz=304,slow=3.6,SNR=5.3						
NVAR	**Mina Array Bea**	**89.81**	**48**	P	**P**	**21 35 43.7**	**-0.7**
	0.2nm,0.5s,baz=224,slow=7.6,SNR=2.5						
ILAR	**Eielson Array**	**91.94**	**17**	P	**P**	**21 35 54.2**	**+0.8**
	0.3nm,0.6s,baz=226,slow=4.7,SNR=2.5						
BRG	**Berggiesshubel**	**144.70**	**333**	*i* PKP	**PKPdf**	**21 42 23.0**	**+1.1**
	4.4nm,0.9s						
GERES	**GERESS Array B**	**146.30**	**331**	PKPbc	**PKPbc**	**21 42 25.5**	**-0.5**
	0.4nm,0.6s,baz=20,slow=4.3,SNR=5.0						

*IDC **28** 21:53:55.8±0.6, 60°52S×26°62W, h0km, mb4.3/9, mb1 4.3/9, mb1mx4.2/25, mbtmp4.2/9, MS3.0/1, Ms1 3.0/1, ms1mx2.6/17, Error ellipse: s-maj=23.9km s-min=18.8km az=73.0*

*NEIC **28** 21:54:02.6±1.0, 60°6S±0°1×26°6W±0°3, h52km±4km, mb4.8/36, Error ellipse: s-maj=21.7km s-min=13.0km az=46.0*

ISC 28 21:54:01.7±0.5, 60°7S±0°1×26°5W±0°1, h50km, n60, σ1°71/54, mb4.8/25, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**8.37**	**316**	Pn	**Pn**	**21 55 59.7**	**-0.5**
VNA1	**Neumayer--Stat**	**12.43**	**151**	P	**Pn**	**21 56 51.5**	**-4.0**
VNA3	**Neumayer Olymp**	**12.54**	**154**	P	**Pn**	**21 56 53.1**	**-4.0**
SNAA	**Sanae**	**14.43**	**149**	P	**Pn**	**21 57 18.4**	**-4.3**
SNAA	**Sanae**	**14.43**	**149**	Pn	Pn	21 57 16.5	-6.2
	0.7nm,0.3s,baz=317,slow=17,SNR=17						
SNAA				Sn	Sn	21 59 48.5	-13
	0.1nm,0.3s,baz=34,slow=3.6,SNR=2.5						
SNAA				LR	LR	22 01 27.7	
	comp=Z,50nm,18.4s,baz=9.0,slow=31						
SNAA	**Sanae**	**14.43**	**149**		**Pn**	**21 57 18.5**	**-4.3**
QSPA	**South Pole Qui**	**29.54**	**180**	P	**P**	**22 00 03.5**	**+2.3**
	2.2nm,0.8s,baz=199,slow=0.9,SNR=24						
QSPA	**South Pole Qui**	**29.54**	**180**	P	**P**	**22 00 04.1**	**+2.9**
PLCA	**Paso Flores**	**33.42**	**286**	P	**P**	**22 00 33.8**	**-1.6**
	1.5nm,0.8s,baz=130,slow=10,SNR=5.0						
PLCA	**Paso Flores**	**33.42**	**286**	IAmb	IAmb	22 00 38.0	
	comp=Z,1.8nm,0.8s						
LC01	**Cunco**	**35.50**	**287**	P	**P**	**22 00 48.5**	**-4.7**
BO02	**Sierra Bellavi**	**38.34**	**292**	P	**P**	**22 01 17.5**	**0.0**
GO05	**Huala**	**38.68**	**291**	P	**P**	**22 01 19.9**	**-0.4**
GO05				IAmb	IAmb	22 01 21.4	
	comp=Z,7.4nm,0.6s						
MT01	**Popeta**	**39.32**	**292**	P	**P**	**22 01 25.3**	**-0.3**
MT01				IAmb	IAmb	22 01 25.7	
	comp=Z,6.0nm,0.4s						
PEL	**Peldehue**	**39.67**	**294**	P	**P**	**22 01 28.7**	**+0.1**
PEL				IAmb	IAmb	22 01 30.0	
	comp=Z,16nm,0.8s						
MT02	**Curacav**	**39.78**	**293**	P	**P**	**22 01 29.1**	**-0.4**
MT02				IAmb	IAmb	22 01 35.9	
	comp=Z,12nm,1.1s						
VA03	**San Esteban**	**39.93**	**294**	P	**P**	**22 01 31.1**	**+0.4**
VA03				IAmb	IAmb	22 01 32.5	
	comp=Z,20nm,1.1s						
ZON	**Zonda**	**40.13**	**297**	P	**P**	**22 01 32.7**	**+0.2**
ZON				IAmb	IAmb	22 01 34.6	
	comp=Z,10nm,1.1s						
CPUP	**Villa Florida**	**40.25**	**315**	P	**P**	**22 01 32.6**	**-0.7**
	comp=Z,2.3nm,0.4s,baz=157,slow=7.6,SNR=9.8						
CO03	**El Pedregal**	**41.62**	**296**	P	**P**	**22 01 44.8**	**0.0**
VNDA	**Vanda**	**41.94**	**183**	P	**P**	**22 01 49.0**	**+2.3**
	comp=Z,1.0nm,0.7s,baz=188,slow=7.3,SNR=14						
VNDA	**Vanda**	**41.94**	**183**	P	**P**	**22 01 50.3**	**+3.6**
CO01	**Juntas del Tor**	**42.10**	**297**	P	**P**	**22 01 49.7**	**+0.8**
GO04	**Tololo Observa**	**42.24**	**296**	P	**P**	**22 01 50.2**	**+0.2**
GO04				IAmb	IAmb	22 01 59.8	
	comp=Z,22nm,1.1s						
AC05	**El Transito**	**43.16**	**297**	P	**P**	**22 01 57.8**	**+0.4**
AC04	**Llanos de Chal**	**44.06**	**297**	P	**P**	**22 02 04.5**	**+0.1**
AC04				IAmb	IAmb	22 02 05.4	
	comp=Z,20nm,0.8s						
AC02	**Maricunga**	**44.41**	**300**	P	**P**	**22 02 08.6**	**+0.8**
AC02				IAmb	IAmb	22 02 09.1	
	comp=Z,15nm,0.7s						
AC01	**Pan de Azucar**	**45.64**	**299**	P	**P**	**22 02 16.2**	**-0.8**
GO02	**Mina Guanaco**	**46.08**	**301**	P	**P**	**22 02 20.9**	**+0.1**
BOSA	**Boshof**	**46.96**	**71**	P	**P**	**22 02 27.5**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=226,slow=8.0,SNR=4.0						
PB10	**IPOC Station P**	**47.94**	**301**	P	**P**	**22 02 34.8**	**-0.2**
LVC	**Limon Verde**	**48.05**	**303**	P	**P**	**22 02 36.6**	**+0.4**
LVC				IAmb	IAmb	22 02 36.9	
	comp=Z,7.0nm,0.6s						
PB04	**IPOC Station P**	**48.81**	**302**	P	**P**	**22 02 41.3**	**-0.6**
PB09	**IPOC Station P**	**48.91**	**303**	P	**P**	**22 02 43.5**	**+0.9**
PB07	**IPOC Station P**	**49.24**	**303**	P	**P**	**22 02 45.4**	**+0.2**
PB01	**IPOC Station P**	**49.69**	**303**	P	**P**	**22 02 48.7**	**+0.2**
PB08	**IPOC Station P**	**50.36**	**304**	P	**P**	**22 02 54.3**	**+0.4**
PB08				IAmb	IAmb	22 02 55.2	
	comp=Z,6.4nm,0.9s						
GO01	**Chusmiza**	**50.80**	**304**	P	**P**	**22 02 57.6**	**+0.3**
GO01				IAmb	IAmb	22 02 58.6	
	comp=Z,8.9nm,0.6s						
PB11	**IPOC Station P**	**50.90**	**304**	P	**P**	**22 02 57.5**	**-0.3**
PB11				IAmb	IAmb	22 02 57.8	
	comp=Z,12nm,0.9s						
PSGCX	**Pisagua**	**51.24**	**303**	P	**P**	**22 02 59.8**	**-0.4**
PSGCX				IAmb	IAmb	22 03 00.0	
	comp=Z,11nm,0.9s						
MNMC	**Minye Minye**	**51.45**	**304**	P	**P**	**22 03 02.1**	**+0.2**
LPAZ	**La Paz**	**53.43**	**307**	P	**P**	**22 03 17.1**	**+0.1**
	comp=Z,5.2nm,0.5s,baz=122,slow=4.9,SNR=46						
LPAZ	**La Paz**	**53.43**	**307**	P	**P**	**22 03 17.0**	**-0.1**
LPAZ				IAmb	IAmb	22 03 17.6	
	comp=Z,6.3nm,0.6s						
H10N1	**ASCENSION HYDR**	**53.50**	**15**	T	T	23 01 17.5	
	baz=186						
H10N3	**ASCENSION HYDR**	**53.50**	**15**	T	T	23 01 13.9	
	baz=186,slow=74,SNR=13						
H10N2	**ASCENSION HYDR**	**53.52**	**15**	T	T	23 01 16.9	
	baz=186,slow=74,SNR=5.8						
SAML	**Samuel**	**58.38**	**316**	P	**P**	**22 03 50.7**	**-1.0**
SAML				IAmb	IAmb	22 03 51.3	
	comp=Z,6.6nm,0.8s						
DBIC	**Dimbokro**	**69.28**	**23**	P	**P**	**22 05 03.7**	**+0.4**
	comp=Z,3.5nm,0.7s,baz=163,slow=7.0,SNR=4.1						
DBIC	**Dimbokro**	**69.28**	**23**	IAmb	IAmb	22 05 12.5	
	comp=Z,7.8nm,1.1s						
TOA0	**Torodi Ar. Sit**	**76.96**	**28**	P	**P**	**22 05 49.9**	**+1.3**
TOA0				IAmb	IAmb	22 05 50.7	
	comp=Z,9.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**76.96**	**28**	P	**P**	**22 05 49.8**	**+1.2**
	comp=Z,7.8nm,0.7s,baz=198,slow=6.2,SNR=45						
ASAR	**Alice Springs**	**94.44**	**162**	P	**P**	**22 07 17.7**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=180,slow=5.3,SNR=5.0						
NVAR	**Mina Array Bea**	**123.44**	**290**	PKP	**PKiKP**	**22 12 55.8**	**+2.9**
	comp=Z,0.5nm,0.6s,baz=184,slow=4.0,SNR=4.3						
FINES	**FINESS Array B**	**128.31**	**29**	PKP	**PKiKP**	**22 13 01.7**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=224,slow=5.3,SNR=7.3						
ARCES	**ARCESS Array B**	**135.11**	**23**	PKP	**PKPdf**	**22 13 13.6**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=212,slow=4.3,SNR=4.6						
YKA	**Yellowknife Ar**	**139.78**	**314**	PKP	**PKiKP**	**22 13 23.2**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=142,slow=2.1,SNR=2.4						
INK	**Inuvik**	**149.51**	**316**	PKPbc	**PKiKP**	**22 13 44.0**	**-0.5**
	comp=Z,2.5nm,0.5s,baz=24,slow=2.4,SNR=12						
EPYK	**Eagle Plains**	**149.91**	**311**		**PKiKP**	**22 13 44.8**	**-0.7**
SONM	**Songino Array**	**150.34**	**94**	PKPbc	**PKiKP**	**22 13 47.4**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=241,slow=2.5,SNR=4.3						
ILAR	**Eielson Array**	**153.28**	**305**	PKPbc	**PKiKP**	**22 13 53.0**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=159,slow=2.3,SNR=8.6						

IDC 28 22:01:21.1±3.0, 29°87S×177°21W, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/42, mbtmp3.6/2, MS3.4/1, Ms1 3.4/1, ms1mx2.7/21, Error ellipse: s-maj=64.9km s-min=27.3km az=62.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.87**	**315**	Pn	Pn	22 01 41.5	+0.9
	550nm,0.3s,baz=90,slow=8.7,SNR=24						
RAO				Sn	Sn	22 01 53.5	-0.6
	392nm,0.3s,baz=48,slow=22,SNR=7.3						
KRVT	**Keravat (AS076**	**38.63**	**305**	LR	LR	22 21 35.7	
	comp=Z,53nm,18.5s,baz=246,slow=31						
ASAR	**Alice Springs**	**43.82**	**266**	P	P	22 09 29.6	+0.4
	0.5nm,0.7s,baz=103,slow=7.4,SNR=9.4						
WRA	**Warramunga Arr**	**44.77**	**271**	P	P	22 09 35.9	-0.9
	0.7nm,0.5s,baz=111,slow=7.8,SNR=17						
FINES	**FINESS Array B**	**144.88**	**341**	PKP	PKPab	22 20 58.2	-0.3
	0.5nm,0.6s,baz=29,slow=3.2,SNR=7.9						

*NEIC **28** 22:11:40.6±2.0, 22°5S±0°1×179°5W±0°2, h569km±7km, mb4.4/19, Error ellipse: s-maj=22.5km s-min=14.2km az=116.0*

*IDC **28** 22:11:43.2±6.2, 22°57S×179°61W, h587km±73km, mb3.2/7, mb1 3.4/8, mb1mx3.0/39, mbtmp4.2/8, Error ellipse: s-maj=65.5km s-min=31.4km az=151.0*

ISC 28 22:11:41.4±0.7, 22°6S±0°1×179°5W±0°1, h579km, n38, σ1°02/36, mb4.1/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**5.35**	**334**	P	**P**	**22 13 16.3**	**+0.1**
NIUE	**Niue**	**9.57**	**70**	P	**P**	**22 13 53.9**	**-1.7**
AFI	**Afiamalu**	**11.29**	**42**	P	**P**	**22 14 10.6**	**-2.4**
DZM	**Mont Dzumac**	**13.05**	**270**	P	**P**	**22 14 30.3**	**-0.8**
	0.3nm,0.3s,baz=97,slow=19,SNR=2.7						
OUZ	**Omahuta**	**13.98**	**204**	P	**P**	**22 14 41.6**	**+1.4**
BKZ	**Black Stump Fm**	**16.90**	**191**	P	**P**	**22 15 06.4**	**-1.3**
BKZ				IAmb	IAmb	22 15 16.9	
	comp=Z,19nm,1.2s						
BFZ	**Birch Farm**	**18.41**	**190**	P	**P**	**22 15 20.9**	**-0.7**
MSWZ	**Moikau Station**	**19.31**	**192**	P	**P**	**22 15 29.2**	**-0.5**
BHW	**Barking Head**	**19.38**	**193**	P	**P**	**22 15 30.6**	**+0.4**
QRZ	**Quartz Range**	**19.41**	**199**	P	**P**	**22 15 31.2**	**+0.6**
PLWZ	**Palliser**	**19.45**	**192**	P	**P**	**22 15 30.2**	**-0.8**
NNZ	**Nelson**	**19.54**	**196**	P	**P**	**22 15 31.0**	**-0.8**
NNZ				IAmb	IAmb	22 15 33.6	
	comp=Z,18nm,1.1s						
TUWZ	**Tuamarina**	**19.60**	**195**	P	**P**	**22 15 33.2**	**+0.9**
BSWZ	**Blackbirch Sta**	**19.89**	**195**	P	**P**	**22 15 34.2**	**-0.7**
THZ	**Tophouse**	**20.18**	**197**	P	**P**	**22 15 37.2**	**-0.4**
THZ				IAmb	IAmb	22 15 44.8	
	comp=Z,13nm,1.0s						
KHZ	**Kahutara**	**20.63**	**195**	P	**P**	**22 15 41.1**	**-0.4**
KHZ				IAmb	IAmb	22 15 51.2	
	comp=Z,6.8nm,1.0s						
LTZ	**Lake Taylor**	**21.30**	**197**	P	**P**	**22 15 47.6**	**0.0**
LTZ				IAmb	IAmb	22 15 52.9	
	comp=Z,16nm,1.2s						
WKZ	**Wanaka**	**24.13**	**200**	P	**P**	**22 16 12.0**	**-0.7**
WKZ				IAmb	IAmb	22 16 27.1	
	comp=Z,19nm,1.2s						
WHZ	**Wether Hill Ro**	**25.42**	**201**	P	**P**	**22 16 25.6**	**+1.4**
ARMA	**Armidale**	**26.97**	**247**	P	**P**	**22 16 38.3**	**+0.1**
EIDS	**Eidsvold**	**27.03**	**258**	P	**P**	**22 16 37.4**	**-1.2**
EIDS				IAmb	IAmb	22 16 42.1	
	comp=Z,5.2nm,0.9s						
CAN	**Canberra**	**30.25**	**238**	P	**P**	**22 17 07.3**	**+0.9**
CAN				IAmb	IAmb	22 17 08.6	
	comp=Z,15nm,1.1s						
CTA	**Charters Tower**	**31.99**	**268**	P	**P**	**22 17 22.4**	**+0.9**
	comp=Z,2.3nm,0.5s,baz=99,slow=13,SNR=3.8						
CTAO	**Charters Tower**	**31.99**	**268**	P	**P**	**22 17 22.0**	**+0.6**
CTAO				IAmb	IAmb	22 17 23.5	
	comp=Z,4.9nm,0.9s						
TOO	**Toolangi**	**33.59**	**236**	P	**P**	**22 17 35.4**	**+0.6**
TOO				IAmb	IAmb	22 17 39.8	
	comp=Z,5.8nm,0.9s						
STKA	**Stephens Creek**	**35.69**	**246**	P	**P**	**22 17 52.0**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=80,slow=9.8,SNR=4.1						
BBOO	**Buckleboo**	**40.43**	**245**	P	**P**	**22 18 30.2**	**-0.4**
AS31	**Alice Springs**	**42.75**	**259**	P	**P**	**22 18 47.5**	**-1.6**
ASAR	**Alice Springs**	**42.75**	**259**	P	**P**	**22 18 49.4**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=104,slow=7.4,SNR=23						
WR0	**Warramunga Arr**	**42.82**	**265**	P	**P**	**22 18 48.8**	**-0.8**
WB0	**Warramunga Arr**	**42.99**	**265**	P	**P**	**22 18 50.2**	**-0.8**
WB0				IAmb	IAmb	22 18 51.5	
	comp=Z,8.0nm,1.1s						
WB2	**Warramunga Arr**	**42.99**	**265**	P	**P**	**22 18 50.2**	**-0.8**
WRA	**Warramunga Arr**	**43.01**	**265**	P	**P**	**22 18 51.0**	**-0.1**
	comp=Z,2.4nm,0.7s,baz=90,slow=5.8,SNR=59						
PETK	**Petropavlovsk-**	**77.93**	**346**	P	**P**	**22 22 40.8**	**+0.8**
	comp=Z,6.6nm,1.0s,baz=190,slow=7.3,SNR=3.2						
NVAR	**Mina Array Bea**	**83.46**	**44**	P	**P**	**22 23 10.7**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=219,slow=7.7,SNR=3.8						
LTY	**Liberty**	**87.32**	**36**		pwP	22 25 32.0	-2.2
TXAR	**Lajitas Array**	**89.31**	**58**	P	**P**	**22 23 39.0**	**+1.8**
	comp=Z,0.6nm,0.8s,baz=211,slow=6.7,SNR=6.7						
AKASG	**Malin Array Be**	**144.11**	**329**	PKP	PKPbc	22 30 10.9	-0.3
	comp=Z,0.5nm,0.4s,baz=46,slow=4.4,SNR=1.9						

*TIR **28** 22:30:08.5, 39°44N×20°18E, h1km, Md2.5/4*
*THE **28** 22:30:08.7, 39°52N×20°44E, h16km±1km, ML2.3/3, Error ellipse: s-maj=1.8km s-min=0.6km az=357.0*
*ATH **28** 22:30:08.9, 39°60N×20°45E, h19km±3km, ML2.1/5, Error ellipse: s-maj=3.5km s-min=1.1km az=348.0*

ISC 28 22:30:09.0±1.0, 39°56N±0°03×20°46E±0°02, h17km±8km, n29, σ0°95/48, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAN	**Janina**	**0.32**	**72**	P	**Pg**	**22 30 15.5**	**-0.4**
JAN				S	**Sb**	**22 30 21.4**	**+0.2**
	1μm,0.2s						
JAN	**Janina**	**0.32**	**72**	P	**Pg**	**22 30 15.5**	**-0.4**
JAN				S	**Sg**	**22 30 20.7**	**+0.2**
JAN				AML	AML	22 30 22.1	
	comp=E,3586μm,0.2s						
JAN				AML	AML	22 30 22.4	
	comp=N,2266μm,0.2s						
SRN	**Sarande**	**0.48**	**313**	P	**Pg**	**22 30 18.1**	**-0.5**
SRN				S	**Sb**	**22 30 25.6**	**-0.1**
	comp=N,240nm,0.3s						
SRN	**Sarande**	**0.48**	**313**	*i* PG	**Pg**	**22 30 18.0**	**-0.7**
SRN				*i* SG	**Sb**	**22 30 25.9**	**+0.2**
KEK	**Kerkira**	**0.53**	**287**	P	**Pg**	**22 30 18.7**	**-0.9**
KEK				S	**Sb**	**22 30 27.3**	**0.0**
	comp=N,418nm,0.3s						
KEK	**Kerkira**	**0.53**	**287**	P	**Pg**	**22 30 18.8**	**-0.9**
KEK				S	**Sb**	**22 30 27.5**	**+0.2**
KEK				AML	AML	22 30 30.7	
	comp=N,873μm,0.4s						
KEK				AML	AML	22 30 34.7	
	comp=E,793μm,0.3s						
LKD2	**Lefkada island**	**0.78**	**168**	P	**Pg**	**22 30 23.1**	**-1.2**
LKD2	**Lefkada island**	**0.78**	**168**	*i* PG	**Pb**	**22 30 23.9**	**-0.3**
LKD2				*i* SG	**Sn**	**22 30 35.7**	**-0.9**
LKD2	**Lefkada island**	**0.78**	**168**	P	**Pb**	**22 30 23.9**	**-0.3**
LKD2				S	**Sn**	**22 30 36.7**	**+0.1**
KPRO	**Kipourio**	**0.80**	**60**	P	**Pb**	**22 30 24.0**	**-0.6**
KPRO	**Kipourio**	**0.80**	**60**	P	**Pb**	**22 30 23.9**	**-0.6**
KPRO				S	**Sb**	**22 30 35.5**	**+0.4**
PENT	**Pentalofos**	**0.82**	**39**	P	**Pb**	**22 30 24.2**	**-0.8**
PENT				S	**Sb**	**22 30 35.2**	**-0.6**
PENT				AML	AML	22 30 41.6	
	comp=E,150μm,0.3s						
PENT				AML	AML	22 30 42.0	
	comp=N,117μm,0.3s						
NEST	**Nestorio**	**0.97**	**28**	P	**Pb**	**22 30 27.6**	**+0.1**
NEST	**Nestorio**	**0.97**	**28**	P	**Pb**	**22 30 27.5**	**+0.1**
FSK	**Fiskardo**	**1.10**	**176**	P	**Pg**	**22 30 30.8**	**+0.5**
PDO	**Prodromos**	**1.11**	**149**	P	**Pg**	**22 30 30.2**	**-0.3**
PDO				S	**Sn**	**22 30 49.6**	**+2.2**
PDO				AML	AML	22 30 55.6	
	comp=E,148μm,0.5s						
PDO				AML	AML	22 30 57.8	
	comp=N,171μm,0.5s						
VLO	**Vlora**	**1.17**	**321**	*i* PG	**Pg**	**22 30 34.2**	**+2.5**
VLO				*i* SG	**Sg**	**22 30 49.5**	**+2.5**
THL	**Klokotos Trika**	**1.20**	**89**	P	**Pg**	**22 30 32.2**	**0.0**
THL				S	**Sg**	**22 30 48.4**	**+0.4**
THL				AML	AML	22 30 54.1	
	comp=E,104μm,0.5s						
THL				AML	AML	22 30 54.4	
	comp=N,62μm,0.6s						
EVR	**Evrytania**	**1.23**	**121**	P	**Pg**	**22 30 33.3**	**+0.5**
VLS	**Valsamata**	**1.38**	**176**	P	**Pg**	**22 30 35.4**	**-0.3**
AGG	**Agios Georgios**	**1.55**	**110**	P	**Pg**	**22 30 38.0**	**-0.8**
SCTE	**Santa Cesarea**	**1.62**	**289**	*i* PN	**Pb**	**22 30 37.6**	**-0.8**
SCTE				*i* SN	**Sb**	**22 30 59.3**	**+0.8**
DBRK	**Dubrovnik**	**3.57**	**331**	*e*Pn	**Pn**	**22 31 03.7**	**+0.2**
STON	**Ston**	**3.91**	**329**	*e*Pn	**Pn**	**22 31 09.1**	**+0.8**
STON				Sn	**Sn**	**22 31 52.6**	**-1.1**
RICI	**Ricice**	**4.66**	**329**	*e*Pn	**Pn**	**22 31 18.5**	**-0.1**
RICI				Sn	**Sn**	**22 32 10.5**	**-1.7**
KIJV	**Kijevo**	**5.38**	**327**	*e*Pn	**Pn**	**22 31 29.2**	**+0.8**
ZIRJ	**Zirje**	**5.46**	**320**	*e*Pn	**Pn**	**22 31 29.8**	**+0.3**
ZIRJ				Sn	**Sn**	**22 32 30.4**	**-1.4**
MORI	**Morici**	**5.58**	**322**	*e*Pn	**Pn**	**22 31 31.6**	**+0.4**
MORI				Sn	**Sn**	**22 32 33.6**	**-1.3**
DUGI	**Dugi Otok**	**5.99**	**319**	*e*Pn	**Pn**	**22 31 37.3**	**+0.4**
DUGI				Sn	**Sn**	**22 32 43.3**	**-1.8**

IDC 28 22:36:47.4±2.8, 11°86S×123°55E, h0km, mb3.2/1, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, ML3.5/2, Error ellipse: s-maj=223.2km s-min=34.6km az=50.0, South of Timor

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.12**	**129**	Pn	Pn	22 39 55.1	0.0
	0.4nm,0.3s,baz=307,slow=14,SNR=17						
WRA				Sn	Sn	22 42 11.9	-10
	0.7nm,0.3s,baz=302,slow=25,SNR=11						
ASAR	**Alice Springs**	**15.32**	**141**	Pn	Pn	22 40 25.1	0.0
	0.1nm,0.3s,baz=316,slow=12,SNR=7.0						
ASAR				Sn	Sn	22 43 04.6	-11
	0.3nm,0.3s,baz=309,slow=21,SNR=9.0						
MKAR	**Makanchi Array**	**69.07**	**331**	P	P	22 47 55.2	0.0
	0.1nm,0.5s,baz=152,slow=6.5,SNR=1.9						

ZHN	**Zhinishke**	**2.18**	**240**	*eP*	**Pb**	**22 54 57.5**	**+0.1**
	216nm,0.5s							
ZHN				*eS*	**Sb**	**22 55 25.8**	**+1.1**
	100nm,0.3s							
ZHN	**Zhinishke**	**2.18**	**240**	Pg	**Pb**	**22 54 57.4**	**+0.1**
	216nm,0.5s							
ZHN				Lg	Lg	22 55 25.8		
	100nm,0.3s							
KURS	**Kuram**	**2.21**	**249**	*eP*	**Pb**	**22 54 58.5**	**+0.8**
	28nm,0.4s							
KURS				*eS*	**Sg**	**22 55 27.9**	**-0.3**
	131nm,0.9s							
KURS	**Kuram**	**2.21**	**249**	Pg	**Pb**	**22 54 58.5**	**+0.8**
	28nm,0.4s							
KURS				Lg	Lg	22 55 27.9		
	131nm,0.9s							
SATY	**Saty**	**2.26**	**238**	*eP*	**Pb**	**22 54 59.5**	**+0.9**
	95nm,0.3s							
SATY				*eS*	**Sg**	**22 55 29.2**	**-0.7**
	255nm,0.3s							
SATY	**Saty**	**2.26**	**238**	Pg	**Pb**	**22 54 59.5**	**+0.9**
	95nm,0.3s							
SATY				Lg	Lg	22 55 29.2		
	255nm,0.3s							
ARXS	**Arharly**	**2.29**	**269**	*eP*	**Pb**	**22 54 58.4**	**-0.7**
	170nm,0.3s							
ARXS				*eS*	**Sb**	**22 55 27.8**	**+0.1**
	314nm,0.8s							
ARXS	**Arharly**	**2.29**	**269**	Pg	**Pb**	**22 54 58.4**	**-0.7**
	170nm,0.3s							
ARXS				Lg	Lg	22 55 27.8		
	314nm,0.8s							
MAKZ	**Makanchi**	**2.60**	**15**	⇑Pn	**Pn**	**22 55 00.4**	**+0.4**
	8.6nm,0.5s							
MAKZ				⇓Lg	Lg	22 55 34.9		
	39nm,1.0s							
MK31	**Makanchi Array**	**2.65**	**19**	Pn	**Pn**	**22 55 01.1**	**+0.4**
	1.4nm,0.2s,baz=200,slow=13,SNR=564							
MK31				⇑Lg	Lg	22 55 38.2		
	42nm,0.6s,baz=199,slow=28,SNR=16							
MKAR	**Makanchi Array**	**2.65**	**19**	Pn	**Pn**	**22 55 01.3**	**+0.6**
	6.0nm,0.3s,baz=201,slow=14,SNR=312							
MKAR				Lg	Lg	22 55 34.8		
	21nm,0.3s,baz=202,slow=16,SNR=8.6							
CHKK	**Chushkaly**	**2.93**	**263**	*eP*	**Pb**	**22 55 10.3**	**+0.2**
	16nm,0.5s							
CHKK				*eS*	**Sb**	**22 55 47.8**	**+1.6**
	135nm,0.5s							
CHKK	**Chushkaly**	**2.93**	**263**	Pg	**Pb**	**22 55 10.3**	**+0.2**
	16nm,0.5s							
CHKK				Lg	Lg	22 55 47.8		
	135nm,0.5s							
KOTS	**Kotyrbulak**	**3.02**	**251**	*eP*	**Pb**	**22 55 12.1**	**+0.5**
	84nm,0.3s							
KOTS				*eS*	**Sb**	**22 55 51.2**	**+2.4**
	239nm,0.7s							
KOTS	**Kotyrbulak**	**3.02**	**251**	Pg	**Pb**	**22 55 12.1**	**+0.5**
	84nm,0.3s							
KOTS				Lg	Lg	22 55 51.2		
	239nm,0.7s							
MDOK	**Medeo**	**3.09**	**250**	*eP*	**Pg**	**22 55 15.4**	**-1.0**
	52nm,0.5s							
MDOK				*eS*	**Sg**	**22 55 57.0**	**+0.5**
	48nm,0.6s							
MDOK	**Medeo**	**3.09**	**250**	⇓Pn	**Pn**	**22 55 08.0**	**+1.2**
	12nm,0.4s							
MDOK				⇓Pg	**Pg**	**22 55 15.5**	**-1.0**
	43nm,0.6s							
MDOK				⇑Lg	Lg	22 55 57.6		
	48nm,0.6s							
KNDC	**Almaty**	**3.12**	**251**	⇑Pg	**Pg**	**22 55 16.3**	**-0.9**
	32nm,0.4s							
KNDC				⇓Lg	Lg	22 55 55.4		
	62nm,0.5s							
AAA	**Alma-Ata**	**3.16**	**251**	*eP*	**Pb**	**22 55 15.6**	**+1.6**
	40nm,0.4s							
AAA				*eS*	**Sg**	**22 55 56.9**	**-1.9**
	47nm,0.5s							
AAA	**Alma-Ata**	**3.16**	**251**	Pg	**Pb**	**22 55 15.6**	**+1.6**
	16nm,0.2s							
AAA				Lg	Lg	22 55 56.9		
	47nm,0.5s							
KTBS	**Karatobe**	**3.18**	**261**	*eP*	**Pb**	**22 55 14.7**	**+0.4**
	26nm,0.5s							
KTBS				*eS*	**Sb**	**22 55 55.3**	**+2.0**
	144nm,0.8s							
KTBS	**Karatobe**	**3.18**	**261**	Pg	**Pb**	**22 55 14.7**	**+0.4**
	26nm,0.5s							
KTBS				Lg	Lg	22 55 55.3		
	144nm,0.8s							
TNSS	**Tian-Shan**	**3.21**	**248**	*eP*	**Pb**	**22 55 15.3**	**+0.3**
	32nm,0.6s							
TNSS				*eS*	**Sb**	**22 55 56.3**	**+1.8**
	58nm,0.6s							
TNSS	**Tian-Shan**	**3.21**	**248**	Pg	**Pb**	**22 55 15.3**	**+0.3**
	32nm,0.6s							
TNSS				Lg	Lg	22 55 56.3		
	58nm,0.6s							
KUU	**Kurty**	**3.39**	**265**	*eP*	**Pb**	**22 55 17.7**	**-0.1**
	44nm,0.5s							
KUU				*eS*	**Sb**	**22 56 00.8**	**+1.4**
	62nm,0.7s							
KUU	**Kurty**	**3.39**	**265**	Pg	**Pb**	**22 55 17.7**	**-0.1**
	44nm,0.5s							
KUU				Lg	Lg	22 56 00.8		
	62nm,0.7s							
MTBS	**Maitube**	**3.52**	**252**	*eP*	**Pb**	**22 55 21.0**	**+0.9**
	37nm,0.3s							
MTBS				*eS*	**Sb**	**22 56 06.2**	**+3.0**
	60nm,0.4s							
MTBS	**Maitube**	**3.52**	**252**	Pg	**Pb**	**22 55 21.0**	**+0.9**
	37nm,0.3s							
MTBS				Lg	Lg	22 56 06.2		
	60nm,0.4s							
KST	**Kastek**	**3.87**	**253**	*eP*	**Pb**	**22 55 28.5**	**+2.3**
	50nm,0.6s							
KST				*eS*	**Sg**	**22 56 19.4**	**-2.3**
	64nm,0.8s							
KST	**Kastek**	**3.87**	**253**	Pg	**Pb**	**22 55 28.5**	**+2.3**
	50nm,0.6s							
KST				Lg	Lg	22 56 19.4		
	64nm,0.8s							
KRBS	**Karabastau**	**3.90**	**263**	*eP*	**Pb**	**22 55 26.6**	**+0.1**
	18nm,0.4s							
KRBS				*eS*	**Sb**	**22 56 15.7**	**+1.7**
	14nm,0.5s							
KRBS	**Karabastau**	**3.90**	**263**	Pg	**Pb**	**22 55 26.6**	**+0.1**
	18nm,0.4s							
KRBS				Lg	Lg	22 56 15.7		
	14nm,0.5s							
DGS	**Degeres**	**3.94**	**256**	*eP*	**Pb**	**22 55 27.4**	**+0.1**
	0.6nm,0.6s							
DGS				*eS*	**Sb**	**22 56 17.5**	**+2.3**
	71nm,0.9s							
DGS	**Degeres**	**3.94**	**256**	Pg	**Pb**	**22 55 27.4**	**+0.1**
	0.6nm,0.6s							
DGS				Lg	Lg	22 56 17.5		
	71nm,0.9s							
ULHL	**Ulahol**	**4.04**	**241**	P	**Pn**	**22 55 22.6**	**+2.5**
	SNR=16							
ZSN	**Zaisan**	**4.14**	**39**	*eP*	**Pb**	**22 55 30.9**	**+0.1**
	14nm,0.5s							
ZSN				*eS*	**Sb**	**22 56 23.2**	**+2.2**
	29nm,0.8s							
ZSN	**Zaisan**	**4.14**	**39**	Pg	**Pb**	**22 55 30.8**	**+0.1**
	14nm,0.5s							
ZSN				Lg	Lg	22 56 23.2		
	29nm,0.8s							
TKM2	**Tokmak 2**	**4.17**	**253**	P	**Pb**	**22 55 32.5**	**+1.3**
	SNR=24							
TKM2	**Tokmak 2**	**4.17**	**253**	⇑Pn	**Pn**	**22 55 22.9**	**+1.2**
	0.6nm,0.2s							
TKM2				⇓Pg	**Pb**	**22 55 32.5**	**+1.3**
	21nm,0.5s							
TKM2				⇑Lg	Lg	22 56 28.7		
	52nm,0.8s							
CHMS	**Chumysh**	**4.72**	**256**	P	**Pb**	**22 55 41.3**	**+0.7**
	SNR=7.0							
KZA	**Kyzart**	**4.76**	**244**	P	**Pg**	**22 55 46.2**	**-2.4**
	SNR=6.9							
USP	**Ospenovka**	**4.83**	**260**	P	**Pb**	**22 55 42.9**	**+0.6**
	SNR=5.9							
AAK	**Ala-Archa**	**5.03**	**253**	Pn	**Pn**	**22 55 34.6**	**+1.2**
	0.4nm,0.3s,baz=26,slow=11,SNR=1.8							
AAK				Pg	**Pb**	**22 55 45.2**	**-0.6**
	3.4nm,0.3s,baz=76,slow=6.3,SNR=9.5							
AAK				Lg	Lg	22 56 49.2		
	baz=9.2,slow=12,SNR=1.3							

AAK	**Ala-Archa**	**5.03**	**253**	⇓Pg	**Pb**	**22 55 48.4**	**+2.6**
	7.3nm,0.5s							
AAK				⇓Lg	Lg	22 56 56.3		
	30nm,0.8s							
UCH	**Uchtor**	**5.18**	**249**	P	**Pb**	**22 55 51.2**	**+2.7**
	SNR=10							
KURBB	**Kurchatov Arra**	**6.55**	**346**	Pn	**Pn**	**22 55 52.5**	**-1.6**
	0.2nm,0.3s,baz=170,slow=12,SNR=11							
KURBB				Sn	**Sn**	**22 57 05.6**	**-3.5**
	0.2nm,0.3s,baz=161,slow=21,SNR=4.0							
KURBB				Lg	Lg	22 57 37.4		
	0.3nm,0.3s,baz=199,slow=29,SNR=7.6							
KURBB	**Kurchatov Arra**	**6.55**	**346**	⇑Pn	**Pn**	**22 55 54.1**	**0.0**
	4.6nm,0.9s							
KURBB				⇑Sn	**Sn**	**22 57 10.5**	**+1.3**
	8.9nm,0.8s							
KURBB				⇓Lg	Lg	22 57 43.5		
	41nm,0.7s							
OTUK	**Ortayu**	**7.19**	**306**	⇓Pn	**Pn**	**22 56 01.3**	**-1.7**
	2.8nm,0.6s							
OTUK				⇑Lg	Lg	22 58 05.2		
	17nm,1.2s							
KK31	**Karatay Array**	**7.70**	**265**	Pn	**Pn**	**22 56 11.0**	**+0.9**
	0.3nm,0.4s,baz=63,slow=14,SNR=5.7							
KK31				⇓Pg	Pb	22 56 36.6	+5.4	
	1.8nm,0.6s,baz=72,slow=17,SNR=4.0							
KK31				⇑Lg	Lg	22 58 22.1		
	4.9nm,0.6s,baz=73,slow=28,SNR=7.6							
ZALV	**Zalesovo Beam**	**9.97**	**13**	Pn	**Pn**	**22 56 40.0**	**-1.1**
	0.7nm,0.3s,baz=195,slow=14,SNR=10							
ZALV				Lg	Lg	22 59 27.9		
	1.3nm,0.3s,baz=194,slow=24,SNR=3.0							
BVA0	**Borovoye Array**	**11.20**	**325**	⇑Lg	Lg	23 00 10.8		
	3.4nm,0.8s,baz=134,slow=22,SNR=3.5							
BVAR	**Borovoye Array**	**11.20**	**325**	Pn	**Pn**	**22 56 55.0**	**-2.9**
	0.1nm,0.3s,baz=141,slow=12,SNR=2.2							
BVAR				Lg	Lg	23 00 05.3		
	0.1nm,0.3s,baz=138,slow=25,SNR=3.6							
SONM	**Songino Array**	**17.94**	**70**	P	**Pn**	**22 58 29.0**	**+1.5**
	0.2nm,0.3s,baz=263,slow=12,SNR=2.2							
NRIK	**Noril'sk**	**25.33**	**5**	P	**P**	**22 59 44.0**	**-0.5**
	1.8nm,0.4s,baz=180,slow=5.1,SNR=2.2							
WSAR	**Wadi Sarin**	**27.90**	**228**	LR	LR	23 12 46.9		
	comp=Z,52nm,18.7s,baz=187,slow=40							
NB2	**NORSAR Subarra**	**43.22**	**318**	P	**P**	**23 02 18.5**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=80,slow=8.6							
NOA	**NORSAR Array B**	**43.22**	**318**	P	**P**	**23 02 18.5**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=80,slow=8.1,SNR=2.5							
TORD	**Torodi Ar. Bea**	**73.32**	**272**	P	**P**	**23 05 49.2**	**-0.9**
	comp=Z,0.2nm,0.4s,baz=40,slow=6.0,SNR=5.5							
ASAR	**Alice Springs**	**83.14**	**133**	P	**P**	**23 06 44.0**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=334,slow=5.4,SNR=2.0							

IDC 28 22:56:05.9±2.0, 6.86S×129.30E, h0km, mb4.1/1, mb1 3.6/3, mb1mx3.3/28, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=120.7km s-min=30.9km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.89**	**160**	Pn		Pn	22 59 24.0	-0.3
	0.2nm,0.3s,baz=339,slow=13,SNR=9.6							
WRA				Sn		Sn	23 01 45.9	-13
	0.4nm,0.3s,baz=336,slow=22,SNR=8.2							
ASAR	**Alice Springs**	**17.28**	**166**	P		Pn	23 00 09.1	+0.2
	0.1nm,0.3s,baz=344,slow=10.0,SNR=5.7							
ASAR				S		Sn	23 03 08.4	-13
	0.1nm,0.3s,baz=350,slow=26,SNR=2.7							
MKAR	**Makanchi Array**	**67.73**	**327**	P		P	23 07 05.3	0.0
	0.7nm,0.4s,baz=134,slow=6.5,SNR=16							

KRSC 28 23:19:34.8±1.6, 48.75N×157.61E, h7km±39km, ML4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.17**	**334**	*eP*		Pn	23 20 12.3	+1.1
SKR				*eS*		Sn	23 20 39.5	+1.2
PAU	**Pauzhetka**	**2.77**	**350**	*eP*		Pb	23 20 22.2	-2.4
PAU				*eS*		Sb	23 20 57.1	-1.6
KDTR	**Khodutka, Kamc**	**3.08**	**5**	*eP*		Pn	23 20 26.6	+2.8
KDTR				*eS*		Sn	23 21 03.2	+2.3
ASAK	**Asacha**	**3.65**	**3**	*eP*		Pn	23 20 35.0	+3.3
ASAK				*eS*		Sb	23 21 21.0	-3.0
RUS	**Russkaya**	**3.74**	**9**	*eP*		Pn	23 20 36.2	+3.4
RUS				*eS*		Sn	23 21 21.5	+4.5
MTVR	**Mutnovka**	**3.76**	**5**	*eP*		Pn	23 20 36.6	+3.3
MTVR				*eS*		Sn	23 21 21.0	+3.2
GRL	**Gorelyy**	**3.82**	**4**	*eP*		Pn	23 20 37.5	+3.4
GRL				*eS*		Sn	23 21 22.4	+3.1
KRMR	**Karymshinskiy**	**4.10**	**4**	*eP*		Pn	23 20 42.0	+4.2
KRMR				*eS*		Sn	23 21 31.4	+5.4
DALK	**Dalny**	**4.35**	**9**	*eP*		Pn	23 20 44.1	+2.9
UGLR	**Uglovaya**	**4.53**	**9**	*eP*		Pn	23 20 48.8	+4.9
AVH	**Avacha**	**4.58**	**9**	*eP*		Pn	23 20 48.7	+4.2
KOK	**Koryaka**	**4.60**	**8**	*eP*		Pn	23 20 49.4	+4.7
KRER	**Koryakskii**	**4.62**	**9**	*eP*		Pn	23 20 50.1	+5.0
KRX	**Arik**	**4.67**	**8**	*eP*		Pn	23 20 51.0	+5.3
TUMR	**Tumrok**	**6.73**	**12**	*eP*		Pn	23 21 18.7	+4.7

NIED ***28*** *23:25:40.5, 36.95N×141.22E, h56km, MW3.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.50; Mθθ0.04; Mφφ-0.54; Mrθ-0.11; Mθφ-0.10; Mφr-1.33; Fault plane solution: M₀1.44000×10¹⁴ NP1: φs185.00000°, δ79.00000°, λ88.00000°. NP2:φs14.00000°, δ11.00000°, λ99.00000°.*

JMA 28 23:25:40.4±0.1, 36.95N×141.22E, h56km±1km, M3.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.37**	**294**	P		Pn	23 25 50.5	-0.3
ONAJ				S		Sn	23 25 57.8	-0.5
JFK	**Kawauchi**	**0.50**	**327**	P		Pn	23 25 51.9	-0.2
JFK				S		Sn	23 26 00.0	-0.6
JFFD	**Fukushimafurud**	**0.55**	**285**	P		Pn	23 25 52.5	-0.1
JFFD				S		Sn	23 26 00.8	-0.6
JHO	**Hitachi**	**0.62**	**237**	P		Pn	23 25 53.3	-0.2
JHO				S		Sn	23 26 02.5	-0.5
JFT	**Otama**	**0.91**	**309**	P		Pn	23 25 57.9	+0.8
JFT				S		Sn	23 26 10.3	+1.0
JMM	**Marumori**	**0.98**	**340**	P		Pn	23 25 57.9	-0.1
JMM				S		Sn	23 26 10.9	0.0
JFY	**Yanaizu**	**1.29**	**291**	P		Pn	23 26 02.9	+0.7
JOU	**Okura**	**1.48**	**343**	P		Pn	23 26 05.5	+0.7
JOU				*eS*		Sn	23 26 23.7	+0.6
JIO	**Ouri**	**1.50**	**4**	P		Pn	23 26 05.1	0.0
JIO				S		Sn	23 26 23.0	-0.6
JAG	**Ashikaga**	**1.51**	**250**	P		Pn	23 26 05.5	+0.3
JYS	**Shirataka**	**1.57**	**324**	P		Pn	23 26 06.9	+1.0
JYS				S		Sn	23 26 26.8	+1.7
JKT	**Katashina**	**1.59**	**264**	P		Pn	23 26 07.5	+1.2
MAT	**Matsushiro**	**2.45**	**261**	P		Pn	23 26 19.5	+1.5
MAT				S		Sn	23 26 49.2	+2.4

IDC 28 23:47:18.9±1.9, 7.21S×129.54E, h0km, mb3.9/1, mb1 4.1/5, mb1mx3.5/49, mbtmp4.0/5, ML3.9/4, Error ellipse: s-maj=51.4km s-min=27.3km az=82.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**6.53**	**242**	Pn		Pn	23 48 57.9	+1.5
	8.6nm,0.3s,baz=84,slow=4.8,SNR=7.5							
BATI				Sn		Sn	23 50 04.2	-7.5
	17nm,0.3s,baz=106,slow=20,SNR=8.5							
FITZ	**Fitzroy Crossi**	**11.47**	**199**	Pn		Pn	23 50 02.3	-1.9
	1.5nm,0.3s,baz=17,slow=12,SNR=46							
FITZ				Sn		Sn	23 51 58.0	-15
	1.0nm,0.3s,baz=92,slow=21,SNR=2.5							
WRA	**Warramunga Arr**	**13.49**	**160**	Pn		Pn	23 50 32.4	+0.6
	0.3nm,0.3s,baz=341,slow=13,SNR=2.1							
WRA				Sn		Sn	23 52 49.4	-13
	0.5nm,0.3s,baz=335,slow=22,SNR=7.8							
ASAR	**Alice Springs**	**16.89**	**166**	Pn		Pn	23 51 17.6	+0.6
	0.2nm,0.3s,baz=342,slow=10.0,SNR=18							
ASAR				Sn		Sn	23 54 13.2	-12
	0.4nm,0.3s,baz=326,slow=15,SNR=6.4							
MKAR	**Makanchi Array**	**68.15**	**327**	P		P	23 58 20.9	-0.1
	0.5nm,0.4s,baz=125,slow=7.6,SNR=10.0							

ISU ***28*** *23:54:05.0, 41.60N×69.50E, h10km*
KRNET ***28*** *23:54:51.9±0.1, 41.55N×69.45E, h35km, mb3.2*
NNC ***28*** *23:54:52.7±1.2, 41.58N×69.70E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=8.7km s-min=5.7km az=63.0*
SOME ***28*** *23:54:53.2, 41.60N×69.83E, h5km*

ISC 28 23:54:51.0±1.2, 41.62N±0.02×69.40E±0.03, h6km±9km, n43, σ2.918/78, 34C-9D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.31**	**195**	⇑*i*P		Pb	23 54 58.9	0.0
	baz=8.0							
TAS				⇑*i*S		Sb	23 55 04.8	+0.6
	baz=8.0							
TAS	**Tashkent**	**0.31**	**195**	*eP*		Pg	23 54 58.0	+1.1
TAS				*eS*		Sb	23 55 03.9	-0.3
CHRV	**Charvak**	**0.41**	**87**	*eP*		Pg	23 54 56.6	-2.3
CHRV				*eS*		Sg	23 55 00.0	-4.3
IUG	**Iuzhnay**	**0.70**	**42**	*eP*		Pg	23 55 04.8	+0.3
	17nm,0.4s							
IUG				*eS*		Sg	23 55 13.4	-0.3
	361nm,0.2s							
IUG	**Iuzhnay**	**0.70**	**42**	P		Pg	23 55 04.8	+0.3
	17nm,0.4s							
IUG				S		Sg	23 55 13.4	-0.3
	361nm,0.2s							
CHM	**Chimkent**	**0.71**	**12**	*eP*		Pn	23 55 08.6	+1.0
	151nm,0.2s							
CHM				*eS*		Sn	23 55 18.9	-0.1
	534nm,0.3s							
BRLS	**Boroldoy**	**1.44**	**13**	*eP*		Pn	23 55 15.3	-2.4
	15nm,0.1s							
BRLS				*eS*		Sb	23 55 31.5	-5.5
	365nm,0.3s							
BRLS	**Boroldoy**	**1.44**	**13**	P		Pn	23 55 15.3	-2.4
	31nm,0.3s							
BRLS				S		Sb	23 55 31.5	-5.5
	365nm,0.3s							
KK31	**Karatay Array**	**1.69**	**29**	P		Pb	23 55 22.7	+0.2
	50nm,0.5s,baz=212,slow=30,SNR=344							
KK31				⇑S		Sg	23 55 45.4	0.0
	22nm,0.3s,baz=288,slow=30,SNR=7.5							
BTK	**Batken**	**1.90**	**145**	⇓*i*P		Pn	23 55 22.6	-1.4
	baz=45							
BTK				⇓*i*S		Sn	23 55 45.5	-2.7
	baz=45							
DZA	**Taraz**	**1.91**	**48**	*eP*		Pb	23 55 26.4	+0.1
	133nm,0.3s							
DZA				*eS*		Sb	23 55 50.0	-0.5
	412nm,0.2s							
ARK	**Arkit**	**1.93**	**84**	⇑*i*P		Pn	23 55 23.8	-0.6
	baz=82							
ARK				⇑*i*S		Sn	23 55 47.3	-1.7
	baz=82							
ARK	**Arkit**	**1.93**	**84**	*i* P		Pn	23 55 24.4	0.0
ARK				*i* S		Sn	23 55 49.2	+0.2
FRG	**Fergana**	**2.00**	**115**	*i* P		Pb	23 55 28.3	+0.5
FRG				*i* S		Sg	23 55 57.3	+2.0
CHMI	**Chimion**	**2.10**	**129**	*i* P		Pn	23 55 26.9	+0.2
CHMI				*i* S		Sb	23 55 54.8	-1.0
ARSB	**Arslanbob**	**2.71**	**95**	⇑*i*P		Pn	23 55 34.7	-0.5
	baz=94							
ARSB				⇑*i*S		Sn	23 56 06.2	-2.1
	baz=94							
OHH	**Osh**	**2.78**	**112**	⇑*i*P		Pn	23 55 35.5	-0.6
	baz=11							
OHH				⇑*i*S		Sn	23 56 07.3	-2.8
	baz=11							
MRKS	**Merke**	**3.06**	**67**	*eP*		Pb	23 55 43.5	-2.3
	25nm,0.8s							
MRKS				*eS*		Sn	23 56 19.3	+2.4
	57nm,0.6s							
MRKS	**Merke**	**3.06**	**67**	Pg		Pb	23 55 43.5	-2.3
	25nm,0.8s							
MRKS				Lg		Lg	23 56 19.3	
	57nm,0.6s							
AML	**Almayashu**	**3.25**	**80**	⇑*eP*		Pn	23 55 42.5	-0.3
	baz=78							
AML				⇑*i*S		Sn	23 56 19.3	-2.7
	baz=78							
EKS2	**Erkin-Say**	**3.42**	**71**	⇓*i*P		Pn	23 55 45.4	+0.5
	baz=69							
EKS2				⇓*i*S		Sn	23 56 23.9	-1.9
	baz=69							
UCH	**Uchtor**	**3.86**	**79**	⇑*i*P		Pn	23 55 51.4	+0.1
	baz=78							
UCH				⇑*i*S		Sn	23 56 34.0	-3.2
	baz=78							
AAK	**Ala-Archa**	**3.92**	**73**	⇑*i*P		Pn	23 55 52.3	+0.4
	baz=72							
AAK				⇑*i*S		Sn	23 56 35.9	-2.4
	baz=72							
AAK	**Ala-Archa**	**3.92**	**73**	⇑Pn		Pn	23 55 52.0	+0.1
	3.2nm,0.7s							
AAK				⇓Pg		Pb	23 56 01.7	+1.1
	6.5nm,0.7s							
AAK				⇓Lg		Lg	23 56 51.4	
	23nm,0.8s							
FRU1	**Bishkek**	**4.06**	**71**	⇓*i*P		Pn	23 55 53.8	+0.1
	baz=70							
FRU1				⇓*i*S		Sn	23 56 39.2	-2.4
	baz=70							
USP	**Ospenovka**	**4.11**	**65**	⇑*i*P		Pn	23 55 54.7	+0.3
	baz=64							
USP				⇑*i*S		Sn	23 56 40.8	-2.1
	baz=64							
CHMS	**Chumysh**	**4.20**	**69**	⇑*i*P		Pn	23 55 55.7	+0.1
	baz=68							
CHMS				⇑*i*S		Sn	23 56 42.5	-2.5
	baz=68							
SGDS	**Sogindy**	**4.27**	**63**	Pg		Pb	23 56 06.8	+0.2
	4.5nm,0.8s							
SGDS				Lg		Lg	23 56 59.3	
	18nm,0.7s							
KZA	**Kyzart**	**4.39**	**82**	⇑*i*P		Pn	23 55 58.2	-0.4
	baz=81							
KZA				⇑*i*S		Sn	23 56 46.5	-3.7
	baz=81							
TKM2	**Tokmak 2**	**4.78**	**72**	⇑*i*P		Pn	23 56 03.9	+0.2
	baz=71							
TKM2				⇑*i*S		Sn	23 56 56.3	-3.1
	baz=71							
TKM2	**Tokmak 2**	**4.78**	**72**	⇑Pn		Pn	23 56 03.5	-0.2
	1.1nm,0.7s							
TKM2				⇑Pg		Pb	23 56 17.3

OTUK	**Ortayu**	**6.94**	**16**	⇑Pn	**Pn**	**23 56 34.4**	**+1.2**
	1.5nm,0.8s							
OTUK				⇑Sn	**Sn**	**23 57 55.3**	**+2.9**
	3.7nm,0.8s							
OTUK				⇑Lg	Lg	23 58 32.7		
	5.8nm,0.6s							
AB01	**Akbulak array**	**10.12**	**322**	⇑P	**Pn**	**23 57 17.9**	**+1.2**
	0.7nm,0.4s							
AB31	**Akbulak array**	**10.12**	**322**	⇑S	**Sn**	**23 59 08.7**	**-1.7**
	2.1nm,0.6s							

IDC 28 23:56:52.1±3.6,5.84S×152.74E,h0km,mb3.4/2, mb1 3.8/2,mb1mx3.3/47,mbtmp3.5/2,Error ellipse: s-maj=89.3km s-min=27.1km az=96.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**1.68**	**335**	Pn	Pb	23 57 23.6	-0.3
	47nm,0.3s,baz=135,slow=1.4,SNR=14						
KRVT				Sn	Sn	23 57 40.6	-4.4
	135nm,0.3s,baz=204,slow=4.2,SNR=28						
KRVT				LR	LR	23 58 10.7	
	comp=Z,96nm,20.7s,baz=271,slow=47						
WRA	**Warramunga Arr**	**22.73**	**230**	P	P	00 01 55.7	-0.3
	0.9nm,0.8s,baz=53,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**25.36**	**224**	P	P	00 02 21.5	+0.3
	0.8nm,0.6s,baz=58,slow=8.8,SNR=12						
WHN	**Wuhan**	**51.56**	**317**	P	P	00 05 55.0	-5.2
TORD	**Torodi Ar. Bea**	**150.56**	**286**	PKPbc	PKPbc	00 16 45.9	-1.2
	0.7nm,1.0s,baz=96,slow=1.9,SNR=2.2						

*IDC **28** 23:59:26.8±0.6,43.80N×148.12E,h0km,mb4.3/31, mb1 4.4/37,mb1mx4.2/69,mbtmp4.2/37,ML3.2/6,MS3.3/9, Ms1 3.3/9,ms1mx3.0/38,Error ellipse: s-maj=15.6km s-min=12.2km az=160.0*

*SKHL **28** 23:59:28.6±0.8,43.58N×148.42E,h35km±4km,mb4.8/9*

*MOS **28** 23:59:30.3±1.0,43.77N×148.18E,h35km,mb4.8/48,Error ellipse: s-maj=6.7km s-min=5.3km az=110.5*

*NIED **28** 23:59:30.1,43.63N×147.88E,h0km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.13; Mθθ0.03; Mφφ-1.16; Mrθ0.55; Mθφ-0.37; Mφr0.71; Fault plane solution: M0 1.50000×10^15 NP1:φs29.00000°, δ64.00000°,λ103.00000°. NP2:φs181.00000°,δ29.00000°, λ65.00000°.*

*JMA **28** 23:59:30.1±0.4,43.63N×147.88E,h0km,M4.4*

*NEIC **28** 23:59:32.0±1.2,43.70N±0.09×148.2E±0.1,h37km±7km, mb4.6/114,Error ellipse: s-maj=14.8km s-min=10.2km az=135.0*

*BGR **28** 23:59:31.7±0.0,43.68N×148.13E,h33km,mb4.7*

ISC 28 23:59:29.9±0.6,43.71N±0.06×148.17E±0.05,h21km±4km, n383,σ0s89/393,mb4.6/150,MS3.4/9,17C-13D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.53**	**352**	*i* P	**Pn**	**23 59 55.5**	**-0.6**
KUR				AMB	AMB	23 59 58.1	
	170nm,0.3s						
KUR				AMB	AMB	23 59 58.1	
	400nm,0.3s						
KUR				*e*S	**Sb**	**00 00 16.2**	**-0.4**
KUR				A	A	00 00 19.7	
	1μm,0.4s						
KUR				A	A	00 00 19.7	
	2μm,0.4s						
KUR	**Kuril'sk**	**1.53**	**352**	*e*PN	**Pn**	**23 59 54.7**	**-1.4**
KUR				*e*S	**Sb**	**00 00 16.2**	**-0.4**
KUR				pmax	pmax		
	comp=E,169nm,0.4s						
KUR				pmax	pmax		
	comp=Z,356nm,0.4s						
KUR				pmax	pmax		
	comp=N,267nm,0.2s						
KUR				smax	smax		
	comp=N,397nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.70**	**282**	*i* P	**Pn**	**23 59 58.3**	**0.0**
YUK				AMB	AMB	23 59 59.5	
	comp=N,150nm,0.4s						
YUK				AMB	AMB	23 59 59.5	
	comp=N,800nm,0.4s						
YUK				*i* S	**Sb**	**00 00 20.9**	**-0.3**
YUK				A	A	00 00 21.4	
	comp=N,3μm,0.5s						
YUK				A	A	00 00 21.4	
	comp=N,2μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.70**	**282**	*c i*PN	**Pn**	**23 59 58.4**	**+0.1**
YUK				*i* S	**Sb**	**00 00 21.0**	**-0.3**
YUK				pmax	pmax		
	comp=E,149μm,0.3s						
YUK				pmax	pmax		
	comp=Z,953μm,0.3s						
YUK				pmax	pmax		
	comp=N,45μm,0.2s						
YUK				smax	smax		
	comp=N,3μm,0.3s						
YUK				smax	smax		
	comp=E,2μm,0.3s						
GRPR	**Tuman**	**1.75**	**280**	*e*P	**Pn**	**23 59 58.7**	**-0.4**
GRPR				AMB	AMB	00 00 03.4	
	comp=E,650nm,0.3s						
GRPR				*i* S	**Sb**	**00 00 22.5**	**-0.4**
GRPR				A	A	00 00 23.5	
	comp=E,4μm,0.6s						
GRPR				A	A	00 00 23.5	
	comp=E,3μm,0.6s						
GRPR	**Tuman**	**1.75**	**280**	*e*PN	**Pn**	**23 59 58.7**	**-0.4**
GRPR				*i* S	**Sb**	**00 00 22.5**	**-0.4**
GRPR				pmax	pmax		
	comp=E,529nm,0.3s						
GRPR				pmax	pmax		
	comp=Z,648nm,0.3s						
GRPR				pmax	pmax		
	comp=N,354nm,0.2s						
GRPR				smax	smax		
	comp=N,7μm,0.6s						
GRPR				smax	smax		
	comp=E,3μm,0.4s						
LAGR	**Lagunnoye**	**1.75**	**282**	*e*P	**Pn**	**23 59 59.1**	**0.0**
LAGR				AMB	AMB	00 00 05.1	
	comp=E,560nm,0.3s						
LAGR				*i* S	**Sb**	**00 00 22.0**	**-0.9**
LAGR				A	A	00 00 26.4	
	comp=E,4μm,0.6s						
LAGR				A	A	00 00 26.4	
	comp=E,2μm,0.6s						
LAGR	**Lagunnoye**	**1.75**	**282**	*e*PN	**Pn**	**23 59 59.1**	**0.0**
LAGR				*i* S	**Sb**	**00 00 22.0**	**-0.9**
LAGR				pmax	pmax		
	comp=Z,560nm,0.3s						
LAGR				pmax	pmax		
	comp=E,331nm,0.2s						
LAGR				smax	smax		
	comp=N,6μm,0.5s						
LAGR				smax	smax		
	comp=E,4μm,0.4s						
NEM2	**Nemuro 2**	**1.80**	**260**	P	**Pn**	**23 59 59.2**	**-0.5**
NEM2				*e*S	**Sn**	**00 00 20.1**	**-1.7**
NMR	**Nemuro--Hokkai**	**1.81**	**260**	*i* P	**Pn**	**23 59 59.0**	**-0.8**
NMR				*i* S	**Sn**	**00 00 22.4**	**+0.3**
NMR	**Nemuro--Hokkai**	**1.81**	**260**	*i* PN	**Pn**	**23 59 59.4**	**-0.4**
NMR				*i* S	**Sn**	**00 00 22.4**	**+0.3**
JRA	**Rausu**	**2.21**	**277**	P	**Pn**	**00 00 05.9**	**+0.5**
JRA				*e*S	**Sn**	**00 00 31.7**	**-0.4**
JKHN	**Kushirohamanak**	**2.28**	**255**	P	**Pn**	**00 00 06.9**	**+0.6**
JNSB	**Nemuroshibetsu**	**2.29**	**273**	P	**Pn**	**00 00 06.3**	**-0.2**
JNK	**Nakash**	**2.51**	**268**	P	**Pn**	**00 00 09.8**	**+0.4**
JAK	**Akkeshi**	**2.63**	**255**	P	**Pn**	**00 00 11.2**	**+0.1**
JTKR	**Abashiri--Toko**	**3.09**	**276**	P	**Pn**	**00 00 17.3**	**-0.2**
JAR	**Ashorobuto**	**3.23**	**264**	P	**Pn**	**00 00 19.7**	**+0.4**
JOB	**Onbets**	**3.26**	**257**	P	**Pn**	**00 00 20.8**	**+1.0**
JMP	**Maruseppu**	**3.49**	**276**	P	**Pn**	**00 00 24.0**	**+1.0**
JCH	**Churui**	**3.68**	**254**	P	**Pn**	**00 00 26.5**	**+0.9**
JKK2	**Kamakawa 2**	**3.93**	**274**	P	**Pn**	**00 00 31.2**	**+2.2**
JKA	**Kamikawa-asahi**	**4.04**	**278**	Pn	**Pn**	**00 00 31.8**	**+1.2**
ASAJ	**Asahikawa**	**4.04**	**278**	Pn	**Pn**	**00 00 31.5**	**+0.9**
	comp=E,4.4nm,0.3s,baz=88,slow=13,SNR=29						
ASAJ				Sn	**Sb**	**00 01 27.7**	**-1.1**
	baz=206,slow=32,SNR=1.4						
ASAJ	**Asahikawa**	**4.04**	**278**	PN	**Pn**	**00 00 31.8**	**+1.2**
ERM	**Erimo**	**4.05**	**247**	*de*PN	**Pn**	**00 00 33.0**	**+2.3**
ERM				pmax	pmax		
	comp=Z,60nm,0.6s						
ERM	**Erimo**	**4.05**	**247**	Pn	**Pn**	**00 00 31.6**	**+0.9**
JFR	**Furan**	**4.10**	**264**	P	**Pn**	**00 00 33.1**	**+1.8**
JSE	**Soyaes**	**4.19**	**289**	P	**Pn**	**00 00 34.4**	**+1.8**
JNBK	**Urakawa-nobuka**	**4.22**	**252**	P	**Pn**	**00 00 33.5**	**+0.5**
JWK2	**Keihoku**	**4.76**	**292**	P	**Pn**	**00 00 44.4**	**+4.0**
JEW	**Eniwo**	**4.98**	**262**	P	**Pn**	**00 00 46.0**	**+2.6**
YSS	**Yuzh-Sakhalins**	**5.00**	**312**	*e*P	**Pn**	**00 00 45.9**	**+2.2**
YSS				AMB	AMB	00 00 46.3	
	comp=Z,40nm,0.4s						
YSS				*e*S	**Sn**	**00 01 43.0**	**+2.1**
YSS				A	A	00 01 46.8	
	comp=Z,50nm,0.6s						
YSS				A	A	00 01 46.8	
	comp=Z,30nm,0.6s						
YSS	**Yuzh-Sakhalins**	**5.00**	**312**	||*i*PN	**Pn**	**00 00 45.9**	**+2.2**
YSS				*e*S	**Sn**	**00 01 43.0**	**+2.1**
YSS				pmax	pmax		
	comp=Z,40nm,0.4s						
YSS				MLR	MLR		
	comp=Z,400nm,12.0s						
YSS				MLR	MLR		
	comp=N,300nm,13.0s						
YSS				MLR	MLR		
	comp=E,200nm,16.0s						
YSS	**Yuzh-Sakhalins**	**5.00**	**312**	Pn	**Pn**	**00 00 45.2**	**+1.4**
TEY	**Ternei**	**8.39**	**283**	*e*P	**Pn**	**00 01 33.1**	**+2.9**
TEY				AMB	AMB	00 01 38.3	
	comp=E,20nm,1.0s						
TEY	**Ternei**	**8.39**	**283**	⇑*e*PN	Pn	00 01 37.6	+7.4
TEY				pmax	pmax		
	comp=Z,20nm,1.0s						
SKR	**Severo-Kuril's**	**8.82**	**35**	*e*P	**Pn**	**00 01 35.5**	**-0.6**
SKR				AMB	AMB	00 01 38.1	
	comp=Z,40nm,0.8s						
SKR	**Severo-Kuril's**	**8.82**	**35**	*e*PN	**Pn**	**00 01 36.5**	**+0.4**
SKR				pmax	pmax		
	comp=Z,34nm,0.8s						
SKR				MLR	MLR		
	comp=Z,180nm,14.4s						
SKR				MLR	MLR		
	comp=Z,280nm,15.3s						
MJB9	**Matsu-Tunnel**	**10.46**	**230**	Pn	**Pn**	**00 01 58.7**	**+0.1**
MAJO	**Matsushiro**	**10.46**	**230**	PN	**Pn**	**00 01 59.0**	**+0.4**
MAJO	**Matsushiro**	**10.46**	**230**	Pn	**Pn**	**00 01 59.0**	**+0.4**
MJAR	**Matsushiro Arr**	**10.46**	**230**	Pn	**Pn**	**00 01 58.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=32,slow=13,SNR=9.4						
MJAR				LR	LR	00 06 43.1	
	comp=Z,141nm,18.1s,baz=30,slow=42						
PEA0B	**Petropavlovsk-**	**11.32**	**31**	PN	**Pn**	**00 02 10.6**	**+0.2**
PEA0B	**Petropavlovsk-**	**11.32**	**31**	Pn	**Pn**	**00 02 10.6**	**+0.2**
PETK	**Petropavlovsk-**	**11.32**	**31**	Pn	**Pn**	**00 02 09.9**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=206,slow=15,SNR=8.2						
USA0B	**Ussuriysk Arra**	**11.68**	**278**	*i* PN	**Pn**	**00 02 16.9**	**+1.7**
USA0B	**Ussuriysk Arra**	**11.68**	**278**	Pn	**Pn**	**00 02 14.8**	**-0.3**
USRK	**Ussuriysk Ar.**	**11.68**	**278**	Pn	**Pn**	**00 02 15.6**	**+0.4**
	baz=84,slow=14,SNR=6.5						
USRK				LR	LR	00 06 40.9	
	comp=Z,69nm,18.6s,baz=54,slow=37						
INU	**Inuyama**	**11.99**	**230**	Pn	**Pn**	**00 02 19.8**	**+0.3**
MSHR	**Mys Shultsa**	**12.48**	**271**	*i* PN	**Pn**	**00 02 29.6**	**+3.4**
MSHR				pmax	pmax		
	comp=Z,5.0nm,0.8s						
KLR	**Kul'dur**	**12.58**	**302**	Pn	**Pn**	**00 02 27.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=96,slow=13,SNR=1.5						
KLR				LR	LR	00 07 34.3	
	comp=Z,128nm,18.1s,baz=118,slow=39						
KLR	**Kul'dur**	**12.58**	**302**	*e*P	**Pn**	**00 02 30.0**	**+2.4**
KLR	**Kul'dur**	**12.58**	**302**	*ce*PN	**Pn**	**00 02 30.2**	**+2.6**
KLR				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KSRS	**Korea Array**	**16.58**	**255**	Pn	**Pn**	**00 03 21.2**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=64,slow=11,SNR=5.8						
KSRS				LR	LR	00 09 51.9	
	comp=Z,87nm,18.9s,baz=32,slow=38						
BMKR	**Bomnak**	**16.69**	**318**	*e*P	**Pn**	**00 03 22.0**	**-0.3**
ZEA	**Zeya**	**17.00**	**313**	*e*P	**Pn**	**00 03 24.8**	**-1.4**
ZEA	**Zeya**	**17.00**	**313**	*e*P	**P**	**00 03 27.2**	**-0.7**
ZEA				pmax	pmax		
	comp=Z,14nm,1.2s						
ZEA				MLR	MLR		
	comp=Z,300nm,15.0s						
JNU	**Nakatsue**	**17.15**	**238**	LR	LR	00 10 39.4	
	comp=Z,87nm,19.4s,baz=24,slow=39						
KROS	**Kirovskiy**	**17.47**	**315**	*e*P	**Pn**	**00 03 31.0**	**-1.1**
YAK	**Yakutsk**	**21.33**	**336**	*e*P	**P**	**00 04 10.8**	**-4.4**
YAK				pmax	pmax		
	comp=Z,21nm,0.8s						
YAK				pmax	pmax		
	comp=N,3.0nm,0.7s						
JOW	**Kunigami**	**23.30**	**230**	P	**P**	**00 04 35.3**	**-1.1**
BJI	**Beijing**	**24.02**	**272**	P	**P**	**00 04 44.5**	**+1.3**
BJI				pmax	pmax		
	comp=Z,15nm,0.8s						
BJT	**Baijiatuau**	**24.03**	**272**	P	**P**	**00 04 45.2**	**+1.8**
BJT				pmax	pmax		
	comp=Z,11nm,0.8s						
BJT	**Baijiatuau**	**24.03**	**272**	P	**P**	**00 04 45.1**	**+1.8**
BJT				IAmb	IAmb	00 04 45.2	
	comp=Z,11nm,0.8s						
TIA	**Tai'an**	**24.84**	**263**	P	**P**	**00 04 51.0**	**+0.2**
TIA				pmax	pmax		
	comp=Z,11nm,0.8s						
NJ2	**Nanjing**	**25.77**	**253**	*e*P	**P**	**00 04 59.3**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
BILL	**Bilibino**	**26.20**	**15**	*e*P	**P**	**00 05 03.0**	**+0.3**
BILL	**Bilibino**	**26.20**	**15**	*e*P	**P**	**00 05 03.0**	**+0.3**
BILL				*e*		00 05 43.6	
BILL				*e*PPP	PPP	00 05 54.6	
BILL				*e*		00 08 28.0	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
BILL				MLR	MLR		
	comp=Z,75nm,18.0s						
ATKA	**Atka Island**	**26.34**	**58**	P	**P**	**00 05 03.5**	**-0.6**
ATKA				IAmb	IAmb	00 05 17.0	
	comp=Z,30nm,1.2s						
HHC	**Hu-ho-hao-te**	**27.09**	**277**	*e*P	**P**	**00 05 13.8**	**+2.6**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
HHC				pmax	pmax		
	comp=Z,33nm,4.9s						
H11N2	**WAKE ISLAND Hy**	**28.60**	**141**	T	T	00 36 03.8	
	baz=331,slow=75,SNR=150						
H11N1	**WAKE ISLAND Hy**	**28.61**	**141**	T	T	00 36 02.2	
	baz=331,slow=75,SNR=134						
H11N3	**WAKE ISLAND Hy**	**28.62**	**141**	T	T	00 36 05.5	
	baz=331,slow=75,SNR=137						
ULN	**Ulaanbaatar**	**28.72**	**293**	*e*P	**P**	**00 05 26.2**	**+0.4**
ULN	**Ulaanbaatar**	**28.72**	**293**	*ce*P	**P**	**00 05 26.2**	**+0.4**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Songino Array**	**29.16**	**293**	P	**P**	**00 05 28.6**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=84,slow=8.8,SNR=12						
SONM				LR	LR	00 18 13.8	
	comp=Z,58nm,21.0s,baz=74,slow=39						
TIXI	**Tiksi**	**29.55**	**348**	*e*P	**P**	**00 05 32.6**	**0.0**
TIXI	**Tiksi**	**29.55**	**348**	*i* P	**P**	**00 05 32.6**	**0.0**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TIXI				MLR	MLR		
	comp=Z,54nm,15.0s						
H11S1	**WAKE ISLAND Hy**	**29.58**	**142**	T	T	00 37 19.5	
	baz=332,slow=76,SNR=339						
H11S3	**WAKE ISLAND Hy**	**29.59**	**142**	T	T	00 37 20.6	
	baz=332,slow=76,SNR=213						
H11S2	**WAKE ISLAND Hy**	**29.60**	**142**	T	T	00 37 21.2	
	baz=332,slow=76,SNR=188						
GAMB	**Gambell**	**30.32**	**35**	P	**P**	**00 05 39.5**	**+0.1**
XAN	**Xi'an**	**31.79**	**266**	P	P	00 06 00.0	+7.1
XAN				pP	pwP	00 06 12.5	+10
XAN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
CNBA	**Chernabura Isl**	**35.06**	**53**	P	**P**	**00 06 21.6**	**+0.5**
RDOG	**Red Dog Mine**	**35.19**	**29**	P	P	**00 06 23.9**	**+1.8**
RDOG				IAmb	IAmb	00 06 33.6	
	comp=Z,5.8nm,0.6s						
GTA	**Gaotai**	**36.03**	**280**	*e*P	**P**	**00 06 31.5**	**+1.8**
GTA				pP	pP	00 06 36.0	+0.9
GTA				sP	pwP	00 06 39.5	+0.3
GTA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
GTA				pmax	pmax		
	comp=Z,19nm,4.6s						
GTA				LR	LR		
	comp=N,62nm,13.6s						
GTA				LR	LR		
	comp=E,110nm,14.9s						
GTA				LR	LR		
	comp=Z,170nm,14.3s						
TTA	**Tatalina**	**36.99**	**39**	P	**P**	**00 06 38.2**	**+0.6**
TTA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TTA	**Tatalina**	**36.99**	**39**	P	**P**	**00 06 38.2**	**+0.6**
CD2	**Chengdu**	**37.14**	**265**	*e*P	**P**	**00 06 39.0**	**-0.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
KDAK	**Kodiak Island**	**38.73**	**47**	P	**P**	**00 06 52.2**	**0.0**
KDAK				pmax	pmax		
	comp=Z,13nm,0.8s						
KDAK	**Kodiak Island**	**38.73**	**47**	P	**P**	**00 06 52.2**	**0.0**
KDAK				IAmb	IAmb	00 07 02.2	
	comp=Z,12nm,0.8s						
COLD	**Coldfoot**	**39.79**	**32**		**P**	**00 07 01.9**	**+0.9**
WRH	**Wood River Hil**	**40.57**	**37**	P	**P**	**00 07 08.3**	**+0.8**
COLA	**College**	**40.67**	**36**	*i* P	**P**	**00 07 08.4**	**+0.2**
COLA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
CCB	**Clear Creek Bu**	**40.69**	**36**	P	**P**	**00 07 09.2**	**+0.8**
HDA	**Harding Lake**	**41.07**	**37**	P	**P**	**00 07 11.8**	**+0.2**
HDA				IAmb	IAmb	00 07 21.6	
	comp=Z,7.8nm,0.6s						
IL31		**41.08**	**36**	P	**P**	**00 07 11.4**	**-0.2**
ILAR	**Eielson Array**	**41.08**	**36**	P	**P**	**00 07 11.6**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=265,slow=8.4,SNR=15						
ZALV	**Zalesovo Beam**	**41.61**	**307**	P	**P**	**00 07 15.1**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=82,slow=7.3,SNR=3.0						
ZALV				PcP	**PcP**	**00 09 12.4**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=72,slow=4.8,SNR=7.2						
ZALV				LR	LR	00 25 26.2	
	comp=Z,30nm,20.2s,baz=80,slow=38						
FYU	**Fort Yukon**	**41.73**	**33**	P	**P**	**00 07 18.6**	**+1.7**
FYU				IAmb	IAmb	00 07 29.3	
	comp=Z,12nm,0.8s						
DOT	**Dot Lake**	**42.38**	**38**	P	**P**	**00 07 22.5**	**+0.1**
SCRK	**Sand Creek**	**42.39**	**37**	P	**P**	**00 07 22.7**	**+0.2**
WMQ	**Urumqi**	**42.79**	**292**	*e*P	**P**	**00 07 27.0**	**+1.0**
WMQ				pP	pP	00 07 32.3	+0.8
WMQ				pmax	pmax		
	comp=Z,14nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,92nm,5.3s						
WMQ				LR	LR		
	comp=N,470nm,28.9s						
WMQ				LR	LR		
	comp=E,840nm,29.1s						
WMQ				LR	LR		
	comp=Z,170nm,29.1s						
VRDI	**Verde Repeater**	**42.95**	**41**	P	**P**	**00 07 27.5**	**+0.3**
CRQM	**Cirque**	**43.17**	**42**	P	**P**	**00 07 30.3**	**+1.3**
CRQM				IAmb	IAmb	00 07 40.2	
	comp=Z,18nm,0.8s						
BALM	**Baldy**	**43.51**	**41**	P	**P**	**00 07 32.0**	**+0.4**
ISLE	**Juniper Island**	**43.59**	**42**	P	**P**	**00 07 33.6**	**+1.3**
ISLE				IAmb	IAmb	00 07 45.5	
	comp=Z,11nm,1.0s						
BARN	**Barnard Glacie**	**43.84**	**41**	P	**P**	**00 07 34.2**	**-0.2**
BARN				IAmb	IAmb	00 07 45.4	
	comp=Z,9.3nm,0.8s						
CTGM	**Chitina Glacie**	**44.01**	**41**	P	**P**	**00 07 36.6**	**+0.9**
CTGM				IAmb	IAmb	00 07 46.7	
	comp=Z,14nm,1.0s						
TABL	**Table Mountain**	**44.20**	**42**	P	**P**	**00 07 37.9**	**+0.6**
TABL				IAmb	IAmb	00 07 47.9	
	comp=Z,10nm,0.8s						
EPYK	**Eagle Plains**	**45.15**	**33**	P	**P**	**00 07 45.9**	**+1.3**
EPYK				IAmb	IAmb	00 07 55.8	
	comp=Z,11nm,0.8s						
MK31	**Makanchi Array**	**45.25**	**298**	P	**P**	**00 07 45.6**	**-0.1**
MK31				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MK31	**Makanchi Array**	**45.25**	**298**	P	**P**	**00 07 45.6**	**-0.1**
MK31				IAmb	IAmb	00 07 46.4	
	comp=Z,5.4nm,0.7s						
MKAR	**Makanchi Array**	**45.25**	**298**	P	**P**	**00 07 45.6**	**-0.1**
	comp=Z,4.4nm,0.6s,baz=80,slow=8.8,SNR=47						
MKAR				PcP	**PcP**	**00 09 25.8**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=66,slow=5.2,SNR=2.3						
MKAR				LR	LR	00 27 51.0	
	comp=Z,60nm,20.0s,baz=63,slow=38						
MAKZ	**Makanchi**	**45.45**	**298**	P	**P**	**00 07 47.2**	**0.0**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,0.8s						
MAKZ	**Makanchi**	**45.45**	**298**	P	**P**	**00 07 47.2**	**0.0**
MAKZ				IAmb	IAmb	00 07 48.0	
	comp=Z,6.4nm,0.8s						
HYT	**Haines Junctio**	**45.87**	**41**	P	**P**	**00 07 52.3**	**+1.8**
INK	**Inuvik**	**46.06**	**30**	P	**P**	**00 07 52.4**	**+0.7**
	comp=Z,6.8nm,0.6s,baz=300,slow=5.5,SNR=22						
INK	**Inuvik**	**46.06**	**30**	P	**P**	**00 07 52.8**	**+1.1**
INK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
INK	**Inuvik**	**46.06**	**30**	P	**P**	**00 07 52.8**	**+1.1**
INK				IAmb	IAmb	00 07 53.2	
	comp=Z,7.1nm,0.7s						
KURK	**Kurchatov**	**46.16**	**304**	*e*P	**P**	**00 07 52.3**	**-0.4**
KURK	**Kurchatov**	**46.16**	**304**	*de*P	**P**	**00 07 52.3**	**-0.4**
KURK				pmax	pmax		
	comp=Z,11nm,1.8s						
KURK	**Kurchatov**	**46.16**	**304**	P	**P**	**00 07 51.7**	**-1.0**
KURK				IAmb	IAmb	00 07 53.0	
	comp=Z,4.3nm,0.8s						
KURBB	**Kurchatov Arra**	**46.24**	**304**	P	**P**	**00 07 51.7**	**-1.7**
	comp=Z,2.3nm,0.4s,baz=74,slow=8.6,SNR=19						
KURBB				PcP	**PcP**	**00 09 28.6**	**0.0**
	comp=Z,0.3nm,0.2s,baz=84,slow=3.1,SNR=5.7						
CMAR	**Chiang Mai Arr**	**48.22**	**255**	P	**P**	**00 08 09.8**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=40,slow=7.3,SNR=7.0						
CMAR				LR	LR	00 28 42.8	
	comp=Z,33nm,18.0s,baz=335,slow=36						
CMAR	**Chiang Mai Arr**	**48.22**	**255**	*ce*P	**P**	**00 08 10.8**	**+1.6**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FAKI	**Fak Fak**	**48.58**	**201**	P	**P**	**00 08 12.9**	**+1.0**
SHL	**Shillong**	**48.77**	**267**	P	**P**	**00 08 13.7**	**+0.2**
SHL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SHL	**Shillong**	**48.77**	**267**	P	**P**	**00 08 13.7**	**+0.2**
BVAR	**Borovoye Array**	**50.09**	**310**	P	**P**	**00 08 23.1**	**0.0**
	comp=Z,2.4nm,0.6s,baz=80,slow=10,SNR=22						
BVAR				PcP	**PcP**	**00 09 42.6**	**+0.1**
	comp=Z,1.2nm,0.7s,baz=72,slow=4.8,SNR=4.6						
BRVK	**Borovoye**	**50.14**	**310**	*e*P	**P**	**00 08 23.2**	**-0.2**

DMN **Daman** 52.48 274 *eP* P 00 08 42.0 +0.3
EKS2 **Erkin-Say** 52.49 296 P P 00 08 41.9 +0.5
SNR=9.9
AML **Almayashu** 52.80 296 P P 00 08 45.0 +1.0
SNR=7.5
DANN **Dangsing** 53.03 276 *eP* P 00 08 46.4 +0.6
comp=Z,81nm,0.7s
KOLN **Koldanda** 53.48 275 *eP* P 00 08 49.5 +0.5
comp=Z,16nm,0.5s
PYUN **Piuthan** 53.73 276 *eP* P 00 08 51.3 +0.5
comp=Z,24nm,0.4s
KK31 **Karatay Array** 54.38 298 IAmb IAmb 00 08 55.8
comp=Z,7.0nm,0.7s
KKAR **Karatay Array** 54.38 298 IAmb IAmb 00 08 55.8
comp=Z,7.0nm,0.7s
RES **Resolute Bay** 54.79 17 P P 00 08 57.2 -0.4
RES pmax pmax
comp=Z,6.0nm,1.0s
RES **Resolute Bay** 54.79 17 P P 00 08 57.2 -0.4
RES IAmb IAmb 00 08 58.3
comp=Z,5.5nm,1.0s
ARU **Arti** 54.88 317 P P 00 08 57.6 -0.9
comp=Z,1.7nm,0.3s,baz=56,slow=3.7,SNR=12
ARU **Arti** 54.88 317 *d iP* P 00 08 57.4 -1.1
ARU 00 10 58.7
ARU S S 00 16 38.8 +0.4
ARU pmax pmax
comp=Z,4.0nm,0.5s
ARU **Arti** 54.88 317 P P 00 08 57.4 -1.1
KBS **Kingsbay** 54.94 351 P P 00 08 58.9 +0.3
KBS pmax pmax
comp=Z,7.0nm,1.1s
KBS **Kingsbay** 54.94 351 P P 00 08 58.9 +0.3
KBS IAmb IAmb 00 09 09.2
comp=Z,7.3nm,1.1s
YKA **Yellowknife Ap** 55.42 34 P P 00 09 02.6 +0.3
comp=Z,0.8nm,0.5s,baz=298,slow=6.8,SNR=6.4
NIL **Nilore** 57.51 287 P P 00 09 17.9 +0.3
NIL pmax pmax
comp=Z,10.0nm,0.7s
NIL **Nilore** 57.51 287 P P 00 09 17.9 +0.3
CHGR **Chuyangaron** 57.55 294 P P 00 09 17.9 0.0
ABKAR **Akbulak array** 57.66 309 P P 00 09 18.6 +0.2
KIRV **Kirov** 58.07 322 P P 00 09 20.5 -0.7
comp=Z,7.9nm,0.5s,baz=54,slow=4.2,SNR=6.7
AKTO **Aktyubinsk** 58.12 311 P P 00 09 21.1 -0.5
comp=Z,3.4nm,0.6s,baz=66,slow=8.9,SNR=15
NLWA **Neilton Lookou** 58.48 53 P P 00 09 24.6 +0.3
NLWA IAmb IAmb 00 09 29.7
comp=Z,11nm,1.1s
KEV **Kevo** 59.01 340 P P 00 09 25.7 -1.8
KEV pmax pmax
comp=Z,2.0nm,0.8s
KEV **Kevo** 59.01 340 P P 00 09 25.7 -1.8
ARCES **ARCESS Array B** 59.54 340 P P 00 09 29.0 -2.2
comp=Z,0.5nm,0.4s,baz=51,slow=7.5,SNR=15
ARCES PcP PcP 00 10 18.4 0.0
comp=Z,0.5nm,0.5s,baz=65,slow=5.3,SNR=4.0
KBL **Kabul** 59.89 290 P P 00 09 34.0 -0.5
KBL pmax pmax
comp=Z,6.0nm,0.6s
KBL **Kabul** 59.89 290 P P 00 09 34.0 -0.5
PMBI **Palembang** 60.58 232 P P 00 09 37.9 -1.1
GSI **Gunungsitoli** 61.59 241 P P 00 09 45.1 -0.8
NEW **Newport** 61.80 49 P P 00 09 46.9 -0.1
NEW pmax pmax
comp=Z,2.0nm,0.9s
NEW **Newport** 61.80 49 P P 00 09 46.9 -0.1
SUMG **Summit** 63.92 2 P P 00 10 00.7 -0.4
SUMG pmax pmax
comp=Z,8.0nm,0.7s
SUMG **Summit** 63.92 2 P P 00 10 00.7 -0.4
WR0 **Warramunga Arr** 64.58 194 P P 00 10 06.0 +0.4
WR0 IAmb IAmb 00 10 06.8
comp=Z,9.2nm,1.1s
WRA **Warramunga Arr** 64.60 194 P P 00 10 05.4 -0.4
comp=Z,2.6nm,0.8s,baz=18,slow=7.3,SNR=6.7
FITZ **Fitzroy Crossi** 64.89 204 P P 00 10 07.5 -0.1
FITZ IAmb IAmb 00 10 09.8
comp=Z,6.2nm,1.1s
GEYT **Alibeck** 65.10 299 P P 00 10 09.1 +0.1
comp=Z,2.3nm,0.7s,baz=119,slow=1.9,SNR=7.4
GYA0 **ALIBECK ARRAY** 65.10 299 P P 00 10 09.0 0.0
GYA0B **ALIBECK ARRAY** 65.10 299 P P 00 10 09.0 0.0
GYA0B IAmb IAmb 00 10 10.7
comp=Z,3.3nm,0.6s
FIA1 **FINESS Array S** 65.24 333 P P 00 10 07.9 -1.5
FIA1 IAmb IAmb 00 10 09.3
comp=Z,3.8nm,0.6s
FINES **FINESS Array B** 65.24 333 P P 00 10 07.8 -1.6
comp=Z,2.7nm,0.5s,baz=46,slow=6.6,SNR=49
FFC **Flin Flon** 65.29 37 P P 00 10 10.2 +0.3
FFC pmax pmax
comp=Z,6.0nm,1.0s
FFC **Flin Flon** 65.29 37 P P 00 10 10.2 +0.3
FFC IAmb IAmb 00 10 20.3
comp=Z,6.1nm,1.0s
FCC **Fort Churchill** 65.68 30 P P 00 10 11.8 -0.5
FCC pmax pmax
comp=Z,12nm,1.1s
FCC **Fort Churchill** 65.68 30 P P 00 10 11.8 -0.5
OBN **Obninsk** 65.78 324 *eP* P 00 10 13.3 +0.3
OBN **Obninsk** 65.78 324 *eP* P 00 10 12.3 -0.7
OBN *e* 00 10 42.5
OBN *e* 00 12 36.9
OBN pmax pmax
comp=Z,7.0nm,1.3s
OBN MLR MLR
comp=Z,62nm,15.0s
LRM **Limekiln Ridge** 65.82 49 P P 00 10 14.0 +0.2
EGMT **Eagleton** 65.89 46 P P 00 10 13.3 -0.7
SCO **Scoresbysund** 65.89 356 P P 00 10 13.5 0.0
SCO pmax pmax
comp=Z,17nm,1.0s
SCO **Scoresbysund** 65.89 356 P P 00 10 13.5 0.0
BOZ **Bozeman (W)** 66.41 49 P P 00 10 18.2 +0.7
BOZ pmax pmax
comp=Z,4.0nm,0.7s
BOZ **Bozeman (W)** 66.41 49 P P 00 10 18.1 +0.7
BOZ IAmb IAmb 00 10 28.1
comp=Z,4.1nm,0.7s
KVN **Kaiserville** 66.71 58 P P 00 10 21.2 +1.6
KVN pmax pmax
comp=Z,4.0nm,1.1s
KVN **Kaiserville** 66.71 58 P P 00 10 21.2 +1.6
NVAR **Mina Array Bea** 66.97 58 P P 00 10 21.8 +0.6
comp=Z,1.0nm,0.7s,baz=295,slow=7.0,SNR=8.1
ASAR **Alice Springs** 68.32 194 P P 00 10 30.2 +0.8
comp=Z,1.3nm,0.7s,baz=11,slow=6.6,SNR=18
R11A **Troy Canyon, C** 68.69 57 P P 00 10 31.7 -0.3
DUG **Dugway, Tooele** 69.17 54 P P 00 10 35.0 +0.1
DUG pmax pmax
comp=Z,3.0nm,1.2s
DUG **Dugway, Tooele** 69.17 54 P P 00 10 35.0 +0.1
PDAR **Pinedale Array** 69.37 50 P P 00 10 36.0 -0.2
comp=Z,0.6nm,0.5s,baz=277,slow=2.5,SNR=5.9
NC303 **NORSAR Array S** 69.70 339 P P 00 10 37.4 -0.2
NC303 IAmb IAmb 00 10 52.7
comp=Z,5.7nm,1.0s
NC405 **NORSAR Array S** 69.71 339 P P 00 10 37.2 -0.5
NC204 **NORSAR Array S** 69.81 340 P P 00 10 37.8 -0.6
NC204 IAmb IAmb 00 10 49.5
comp=Z,9.6nm,1.0s
NB201 **NORSAR Array S** 69.87 339 P P 00 10 38.2 -0.6
NB2 **NORSAR Subarra** 69.90 339 P P 00 10 38.5 -0.4
comp=Z,2.6nm,0.5s,baz=32,slow=6.5
NOA **NORSAR Array B** 69.90 339 P P 00 10 38.0 -0.9
comp=Z,2.7nm,0.5s,baz=32,slow=6.6,SNR=22
HFS **Hagfors** 70.01 338 P P 00 10 39.3 -0.2
comp=Z,4.6nm,0.5s,baz=46,slow=6.4,SNR=33
NBO00 **NORSAR Array S** 70.02 339 P P 00 10 39.1 -0.6
NC602 **NORSAR Array S** 70.08 339 P P 00 10 38.9 -1.0
NC602 IAmb IAmb 00 10 46.4
comp=Z,7.6nm,1.0s
NAO01 **NORSAR Array S** 70.15 339 P P 00 10 40.4 -0.1
NAO01 IAmb IAmb 00 10 49.6
comp=Z,7.0nm,1.0s
KVAR **Kislovodsk Arr** 70.33 312 P P 00 10 42.1 +0.2
comp=Z,2.8nm,0.6s,baz=80,slow=17,SNR=4.4
KIV **Kislovodsk** 70.33 312 ⇑P P 00 10 43.7 +1.8
KIV **Kislovodsk** 70.33 312 *eP* P 00 10 43.2 +1.2
KIV **Kislovodsk** 70.33 312 *eP* P 00 10 43.2 +1.2
KIV pmax pmax
comp=Z,44nm,1.1s
KIV **Kislovodsk** 70.33 312 P P 00 10 41.6 -0.4

KBZ **Khabaz** 70.37 312 P P 00 10 43.0 +0.9
comp=Z,6.4nm,0.8s,baz=60,slow=7.0,SNR=14
KBZ **Khabaz** 70.37 312 *eP* P 00 10 43.0 +0.9
KBZ **Khabaz** 70.37 312 *ceP* P 00 10 43.0 +0.9
KBZ pmax pmax
comp=Z,7.0nm,0.9s
ZEI **Tsey** 70.45 311 *eP* P 00 10 41.4 -1.5
ZEI pmax pmax
comp=Z,8.0nm,0.9s
TBLG **Delisi** 70.69 310 P P 00 10 43.7 -0.4
TBLG pmax pmax
comp=Z,9.0nm,0.7s
TBLG **Delisi** 70.69 310 P P 00 10 43.7 -0.4
MTPU **Mount Pierson** 70.94 55 P P 00 10 46.6 +0.6
SRU **San Rafael Swe** 71.22 54 P P 00 10 48.0 +0.5
SRU pmax pmax
comp=Z,3.0nm,0.7s
SRU **San Rafael Swe** 71.22 54 P P 00 10 48.0 +0.5
BORG **Borgarnes** 71.56 355 P P 00 10 49.3 +0.4
BORG pmax pmax
comp=Z,16nm,1.0s
BORG **Borgarnes** 71.56 355 P P 00 10 49.3 +0.4
AKASG **Malin Array Be** 72.04 324 P P 00 10 51.5 -0.5
comp=Z,14nm,0.6s,baz=38,slow=6.0,SNR=42
AKBB **Malin Array Si** 72.04 324 *ceP* P 00 10 51.3 -0.7
SORM **Soroca** 74.35 323 ⇓P P 00 11 05.4 -0.3
BEL **Belsk** 74.52 329 *eP* P 00 11 07.3 +0.6
UOSS **Minazif** 74.56 290 P P 00 11 07.0 -0.3
UOSS IAmb IAmb 00 11 11.8
comp=Z,7.7nm,1.1s
GKP **Gorka Klasztor** 74.62 332 *eP* P 00 11 07.1 -0.1
ECSD **EROS Data Cent** 75.50 43 P P 00 11 13.4 +0.9
KWP **Kalwaria Pacla** 75.54 327 *eP* P 00 11 13.1 +0.5
BUR08 **Bucovina Ar. S** 76.08 324 IAmb IAmb 00 11 27.6
comp=Z,3.6nm,0.7s
BIR **Birlad** 76.09 322 ⇓P P 00 11 16.8 +1.0
BURAR **Bucovina Array** 76.10 324 ⇓P P 00 11 16.3 +0.3
OJC **Ojcow** 76.19 329 *eP* P 00 11 16.8 +0.5
BIZ **Bicaz** 76.24 323 ⇓P P 00 11 17.2 +0.5
BSEG **Bad Segeberg** 76.26 336 *eP* P 00 11 17.4 +0.8
comp=Z,11nm,0.8s,baz=30,slow=5.5
TESR **Tescani** 76.34 323 ⇑P P 00 11 17.2 -0.1
RUE **Ruedersdorf** 76.43 333 *eP* P 00 11 18.3 +0.8
comp=Z,18nm,1.0s,baz=30,slow=5.5
NIE **Niedzica** 76.65 328 *eP* P 00 11 19.6 +0.6
CFR **Carcaliu** 76.69 321 ⇓P P 00 11 19.4 +0.2
TRPA **Tarpa** 76.80 326 ⇑P P 00 11 20.2 +0.5
TOPG **Topolog** 76.81 321 ⇓P P 00 11 20.4 +0.4
ARCR **ARCALIA** 76.88 324 ⇓P P 00 11 21.5 +1.2
KSP **Ksiaz** 76.96 331 *eP* P 00 11 21.1 +0.5
HARR **Harsova** 77.16 321 ⇑P P 00 11 21.7 -0.1
OSTC **Ostas** 77.22 331 *eP* P 00 11 22.2 0.0
OSTC *ex* x 00 11 33.1
CHVC **Chvalec** 77.25 331 *eP* P 00 11 22.1 -0.2
CHVC *ex* x 00 11 30.5
UPC **Upice** 77.34 331 *eP* P 00 11 23.5 +0.7
UPC **Upice** 77.34 331 *eP* P 00 11 23.5 +0.7
DPC **Dobruska-Polom** 77.36 331 *eP* P 00 11 23.3 +0.4
DPC **Dobruska-Polom** 77.36 331 *eP* P 00 11 23.3 +0.4
MORC **Moravsky Berou** 77.39 330 *eP* P 00 11 23.4 +0.2
MORC **Moravsky Berou** 77.39 330 P P 00 11 23.8 +0.6
MORC pmax pmax
comp=Z,8.0nm,1.1s
MORC **Moravsky Berou** 77.39 330 IAmb IAmb 00 11 25.1
comp=Z,5.5nm,1.0s
SCHQ **Schefferville** 77.41 20 P P 00 11 22.5 -0.6
comp=Z,1.5nm,0.7s,baz=316,slow=7.3,SNR=4.7
SCHQ **Schefferville** 77.41 20 P P 00 11 22.9 -0.2
MLR **Muntele Rosu** 77.44 322 P P 00 11 23.8 +0.2
MLR pmax pmax
comp=Z,3.0nm,0.5s
MLR **Muntele Rosu** 77.44 322 P P 00 11 23.8 +0.2
MLR IAmb IAmb 00 11 26.1
comp=Z,2.5nm,0.5s
NRDL **Niedersach Rie** 77.58 335 *eP* P 00 11 24.6 +0.7
comp=Z,9.5nm,1.2s,baz=30,slow=5.5
CLL **Collm** 77.68 333 ⇑*iP* P 00 11 24.3 -0.4
comp=Z,14nm,1.0s
CLL *i* 00 11 28.3
CLL *i* pP **sP** 00 11 33.3 +1.0
CLL *e*PP **PP** 00 14 20.0 +0.8
CLL Collm 77.68 333 ⇑*iP* **P** 00 11 24.3 -0.4
CLL *i* 00 11 33.3
CLL pmax pmax
comp=Z,14nm,1.0s
CLL **Collm** 77.68 333 *eP* P 00 11 25.0 +0.3
comp=Z,14nm,1.1s,baz=30,slow=5.5
ASSE **Asse, Remlinge** 77.72 335 *eP* P 00 11 25.4 +0.7
comp=Z,6.8nm,1.0s,baz=30,slow=5.5
BRG **Berggiesshubel** 77.74 332 *eP* P 00 11 24.7 -0.3
comp=Z,3.6nm,1.0s
BRG **Berggiesshubel** 77.74 332 *eP* P 00 11 24.7 -0.3
BRG pmax pmax
comp=Z,4.0nm,1.0s
BRG **Berggiesshubel** 77.74 332 *eP* P 00 11 25.3 +0.3
comp=Z,3.6nm,1.0s,baz=30,slow=5.5
PVCC **Panska Ves** 77.82 332 *eP* P 00 11 26.1 +0.6
PVCC **Panska Ves** 77.82 332 *eP* P 00 11 26.1 +0.6
E43A **Lone Tree Farm** 77.87 36 P P 00 11 25.0 -0.8
E43A IAmb IAmb 00 11 36.0
comp=Z,8.1nm,0.9s
FBE **Freiberg** 77.90 333 *eP* P 00 11 26.5 +0.7
comp=Z,6.7nm,0.9s,baz=30,slow=5.5
VYHS **Vyhne** 77.97 328 *eP* P 00 11 26.7 +0.4
VYHS pmax pmax
comp=Z,2.0nm,0.8s
CLZ **Clausthal** 78.06 335 *eP* P 00 11 27.8 +0.9
comp=Z,27nm,1.6s,baz=30,slow=5.5
BRTR **Keskin Array B** 78.10 314 P P 00 11 26.1 -1.3
comp=Z,1.2nm,0.7s,baz=132,slow=1.8,SNR=4.9
BRTR **Keskin Array B** 78.10 314 *iP* P 00 11 27.7 +0.3
BRTR pmax pmax
comp=Z,1.0nm,0.7s
JAVC **Velka Javorina** 78.11 329 *eP* P 00 11 28.7 +1.5
VRAC **Vranov** 78.13 330 ⇓P P 00 11 28.0 +0.8
VRAC **Vranov** 78.13 330 *eP* P 00 11 27.5 +0.3
VRAC *e* 00 11 37.2
VRAC Vranov 78.13 330 P P 00 11 27.8 +0.6
VRAC pmax pmax
comp=Z,6.0nm,1.1s
GOPC **GO Pecny, Ondr** 78.26 331 *eP* P 00 11 28.2 +0.2
GOPC *ex* x 00 11 37.4
GOPC **GO Pecny, Ondr** 78.26 331 *eP* P 00 11 28.2 +0.2
GOPC *e* 00 11 37.4
PRU **Pruhonice** 78.28 331 *eP* P 00 11 27.6 -0.4
PRU *ex* x 00 11 37.4
PRU Pruhonice 78.28 331 *eP* P 00 11 27.6 -0.4
PRU *e* 00 11 37.4
EKA **Eskdalemuir Ar** 78.37 344 P P 00 11 28.1 -0.3
comp=Z,2.3nm,0.5s,baz=18,slow=5.2,SNR=13
ESK **Eskdalemuir** 78.39 344 P P 00 11 28.5 0.0
ESK pmax pmax
comp=Z,12nm,1.0s
ESK **Eskdalemuir** 78.39 344 P P 00 11 28.5 0.0
ESK IAmb IAmb 00 11 44.7
comp=Z,12nm,1.0s
KRUC **Moravsky** 78.41 330 *eP* P 00 11 28.9 +0.2
IBBN **Ibbenburen** 78.44 336 *eP* P 00 11 29.3 +0.5
comp=Z,15nm,1.0s,baz=30,slow=5.5
GTTG **Gottingen** 78.45 335 *eP* P 00 11 29.7 +0.8
comp=Z,9.3nm,0.8s,baz=30,slow=5.5
MOX **Moxa** 78.70 333 P P 00 11 30.7 +0.3
MOX pmax pmax
comp=Z,6.0nm,1.7s
MOX **Moxa** 78.70 333 *eP* P 00 11 30.9 +0.5
comp=Z,8.4nm,1.3s,baz=30,slow=5.5
GUNZ **Gunzen** 78.71 333 *eP* P 00 11 31.0 +0.6
comp=Z,10.0nm,1.6s,baz=30,slow=5.5
PBCC **Pribram** 78.73 332 *eP* P 00 11 30.4 -0.1
PBCC *ex* x 00 11 39.5
WERN **Wernitzgruen** 78.76 333 *eP* P 00 11 31.4 +0.7
comp=Z,5.0nm,1.2s,baz=30,slow=5.5
UBBA **Unterbreizbach** 79.07 334 *eP* P 00 11 32.7 +0.5
comp=Z,5.0nm,0.8s,baz=30,slow=5.5
MANZ **Manzenberg** 79.11 333 *eP* P 00 11 33.2 +0.5
comp=Z,9.9nm,1.7s,baz=30,slow=5.5
BZS **Buzias** 79.20 325 ⇑P P 00 11 32.5 -0.6
ROTZ **Rotzenmuhle** 79.27 333 *eP* P 00 11 34.2 +0.7
comp=Z,4.7nm,1.2s,baz=30,slow=5.5
KHC **Kasperske Hory** 79.35 332 *eP* P 00 11 33.9 -0.1
KHC *ex* x 00 11 43.0
KHC Kasperske Hory 79.35 332 *ceP* P 00 11 34.3 +0.3
KHC pmax pmax
comp=Z,12nm,0.7s

GEC2 **GERESS Array S** 79.55 331 P P 00 11 34.8 -0.3
GEC2 **GERESS Array S** 79.55 331 *eP* P 00 11 35.4 +0.2
comp=Z,2.2nm,0.7s,baz=30,slow=5.5
GERES **GERESS Array B** 79.55 331 P P 00 11 34.9 -0.3
comp=Z,1.9nm,0.6s,baz=35,slow=5.9,SNR=25
CONA **Conrad Observa** 79.55 330 *i P* P 00 11 35.5 +0.3
comp=Z,4.0nm,0.6s
WET **Wettzell** 79.58 332 *eP* P 00 11 36.1 +0.9
comp=Z,4.5nm,0.8s,baz=30,slow=5.5
GRA1 **Grafenberg Arr** 79.66 333 P P 00 11 36.0 +0.4
GRA1 IAmb IAmb 00 11 46.1
comp=Z,7.3nm,0.7s
GRF **Grafenberg Arr** 79.66 333 P P 00 11 36.0 +0.4
GRF pmax pmax
comp=Z,7.0nm,0.7s
GRF **Grafenberg Arr** 79.66 333 *eP* P 00 11 36.6 +1.0
comp=Z,7.0nm,0.7s,baz=30,slow=5.5
MOA **Molln** 80.19 330 *i P* P 00 11 37.9 -0.7
comp=Z,2.2nm,0.8s
ARSA **Arzberg** 80.24 329 *i P* P 00 11 39.1 +0.3
comp=Z,1.1nm,0.7s
BSTI **Sart Tilman** 80.60 337 P P 00 11 41.5 +0.9
BSTI PcP pP 00 11 46.9 +0.5
RJOB **Jochberg** 80.81 331 *eP* P 00 11 41.8 -0.1
comp=Z,14nm,2.1s,baz=30,slow=5.5
BCLA **Clavier** 80.82 337 P P 00 11 41.0 -0.8
BCLA PcP pP 00 11 47.9 +0.4
VTS **Vitosha** 80.90 322 ⇓P P 00 11 43.3 +0.7
SOKA **Soboth** 80.91 329 *i P* P 00 11 42.4 0.0
comp=Z,2.0nm,0.8s,SNR=5.2
BGES **Gesves** 80.91 337 P P 00 11 42.4 +0.1
D53A **Lac Vacive, Po** 80.93 30 P P 00 11 41.2 -1.2
FUR **Furstenfeldbru** 80.96 332 *eP* P 00 11 43.3 +0.7
comp=Z,8.9nm,1.1s,baz=30,slow=5.5
DSB **Dublin** 80.97 345 P P 00 11 42.4 -0.2
SNF **Seneffe** 81.03 338 P P 00 11 42.5 -0.4
BMRD **Maredsous** 81.08 337 P P 00 11 42.6 -0.5
BMRD PcP PcP 00 11 49.2 -0.3
STU **Stuttgart** 81.11 334 *eP* P 00 11 43.8 +0.4
comp=Z,6.4nm,0.9s,baz=30,slow=5.5
KBA **Koelnbreinsper** 81.18 331 *i P* P 00 11 43.6 -0.4
comp=Z,7.8nm,0.9s
OBKA **Obir** 81.23 330 *i P* P 00 11 42.5 -1.7
comp=Z,4.4nm,1.2s
WATA **Walderalm** 81.58 332 *i P* P 00 11 45.9 -0.2
comp=Z,4.1nm,0.5s,SNR=7.7
WTTA **Wattenberg** 81.62 332 *i P* P 00 11 46.6 +0.2
comp=Z,2.9nm,0.5s,SNR=9.6
RETA **Reutte** 81.72 332 *i P* P 00 11 46.7 -0.1
comp=Z,2.8nm,0.7s
MOTA **Moosalm** 81.73 332 *i P* P 00 11 46.7 -0.2
comp=Z,1.1nm,0.9s
ZOU **Zoufplan** 81.76 331 P P 00 11 46.0 -1.2
BFO **Black Forest** 81.78 334 P P 00 11 46.9 -0.1
BFO pmax pmax
comp=Z,3.0nm,0.9s
BFO **Black Forest** 81.78 334 P P 00 11 46.9 -0.1
BFO **Black Forest** 81.78 334 *eP* P 00 11 47.3 +0.3
comp=Z,3.2nm,0.9s,baz=30,slow=5.5
CSS **Mathiatis** 81.80 311 P P 00 11 47.2 -0.1
CSS IAmb IAmb 00 11 52.1
comp=Z,5.1nm,1.0s
SQTA **Sankt Quirin** 81.80 332 *i P* P 00 11 46.8 -0.5
comp=Z,3.5nm,0.7s
TX31 **Lajitas Ar. Si** 82.05 57 P P 00 11 49.1 +0.2
TX31 IAmb IAmb 00 12 07.2
comp=Z,7.2nm,1.1s
TX32 **Lajitas Array** 82.05 57 P P 00 11 48.8 -0.1
TXAR **Lajitas Array** 82.05 57 P P 00 11 49.2 +0.4
comp=Z,0.5nm,0.5s,baz=298,slow=4.1,SNR=10
FETA **Feichten** 82.14 332 *i P* P 00 11 49.3 +0.3
comp=Z,3.7nm,1.2s
DAVA **Damuels** 82.19 333 *i P* P 00 11 48.4 -0.9
comp=Z,6.0nm,0.9s
ECH **Echery** 82.24 335 P P 00 11 48.5 -0.9
ECH pmax pmax
comp=Z,5.0nm,1.0s
ECH **Echery** 82.24 335 P P 00 11 48.5 -0.9
ECH IAmb IAmb 00 11 51.1
comp=Z,4.5nm,1.0s
ELL **Elmali** 82.27 314 P P 00 11 49.4 -0.5
ELL pmax pmax
comp=Z,19nm,0.9s
ELL **Elmali** 82.27 314 P P 00 11 49.4 -0.5
FUORN **Ofenpass-Fuorn** 82.64 332 P P 00 11 51.7 -0.1
FUORN IAmb IAmb 00 11 53.5
comp=Z,5.6nm,1.1s
CTI **Castel Tesino** 82.66 331 P P 00 11 50.9 -0.9
CTI pmax pmax
comp=Z,2.0nm,0.8s
CTI **Castel Tesino** 82.66 331 P P 00 11 50.9 -0.9
PDG **Podgorica** 82.78 325 P P 00 11 51.8 -0.5
PDG IAmb IAmb 00 11 52.5
comp=Z,4.2nm,0.7s
D62A **Allapoint, All** 83.79 25 P P 00 11 57.0 -0.4
D62A IAmb IAmb 00 12 09.8
comp=Z,4.7nm,1.1s
SENIN **Lac Senin/Sane** 83.84 334 P P 00 11 57.8 -0.2
SENIN IAmb IAmb 00 11 58.6
comp=Z,2.8nm,0.7s
E62A **Clayton Lake** 84.06 25 P P 00 11 58.7 -0.1
E62A IAmb IAmb 00 11 59.0
comp=Z,2.9nm,0.8s
MOQ **Mont Orford** 84.35 27 P P 00 12 00.2 -0.2
BATG **Bathurst New B** 84.49 23 P P 00 12 01.1 +0.1
SGRT **San Giovanni R** 84.79 326 P P 00 12 01.1 -1.5
SGRT IAmb IAmb 00 12 14.7
comp=Z,9.1nm,1.1s
OSSC **Osservatorio P** 84.99 330 P P 00 12 03.1 -0.5
OSSC IAmb IAmb 00 12 04.1
comp=Z,7.5nm,1.2s
F64A **Sherman** 85.10 25 P P 00 12 03.8 -0.3
F64A IAmb IAmb 00 12 22.5
comp=Z,3.6nm,1.1s
BNI **Bardonecchia** 85.21 334 P P 00 12 04.5 -0.3
BNI pmax pmax
comp=Z,5.0nm,1.1s
BNI **Bardonecchia** 85.21 334 P P 00 12 04.5 -0.3
BNI IAmb IAmb 00 12 11.0
comp=Z,5.0nm,1.1s
H62A **Milan** 85.37 27 P P 00 12 05.8 +0.3
SSB **Saint Sauveur** 85.67 335 P P 00 12 04.9 -2.1
SSB pmax pmax
comp=Z,4.0nm,1.0s
SSB **Saint Sauveur** 85.67 335 P P 00 12 04.9 -2.1
SSB IAmb IAmb 00 12 08.5
comp=Z,4.1nm,1.0s
IDI **Anoyia** 85.95 317 P P 00 12 08.4 -0.2
LMN **Caledonia Moun** 86.14 22 P P 00 12 09.1 -0.1
LMN IAmb IAmb 00 12 19.3
comp=Z,3.0nm,0.6s
TIP **Timpagrande** 86.53 324 P P 00 12 10.2 -1.2
TIP IAmb IAmb 00 12 24.6
comp=Z,3.0nm,1.0s
ESDC **Sonseca Array** 93.26 339 P P 00 12 43.1 +0.2
comp=Z,1.0nm,1.2s,baz=24,slow=4.5,SNR=2.0
H03N2 **Juan Fernandez** 142.23 91 T T 02 58 01.0
baz=305,slow=77,SNR=3.9
H03N3 **Juan Fernandez** 142.24 91 T T 02 58 01.6
baz=305,slow=77,SNR=7.1
H03N1 **Juan Fernandez** 142.24 91 T T 02 57 59.9
baz=305,slow=77,SNR=7.2
SNAA **Sanae** 148.64 197 PKPbc **PKPbc** 00 19 13.8 -0.4
comp=Z,1.2nm,0.8s,baz=60,slow=4.6,SNR=4.0
BDFB **Brasilia** 148.81 31 PKPbc **PKPbc** 00 19 15.7 -0.6
comp=Z,1.5nm,0.6s,baz=120,slow=5.4,SNR=3.4

JMA ***29*** *00:06:03.3±0.1, 23°.80N×121°.57E, h38km±2km, M3.9*
TAP ***29*** *00:06:04.1, 23°.82N×121°.60E, h40km, ML4.0, C*
ISC 29 00:06:04.2±0.9, 23°.81N±0°.02×121°.60E±0°.02, h33km±3km,
n110, σ0°77/180, 14C-10D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ESL	**Shilin**	**0.16**	**272**	P		**Pb**	**00 06 10.5**	**+0.2**
	baz=267							
ESL				*e*S		**Sb**	**00 06 14.9**	**+0.4**
	baz=267							
HWA	**Hwalien**	**0.17**	**0**	*eP*		**Pb**	**00 06 11.4**	**+0.9**
	baz=10.0							
HWA				*e*S		**Sb**	**00 06 17.2**	**+2.5**
	baz=10.0							
TWD	**Chiawan**	**0.27**	**358**	⇑*iP*		**Pn**	**00 06 11.9**	**+0.1**
	baz=352							
TWD				*e*S		**Sb**	**00 06 17.4**	**+0.9**

	baz=352								
HGSD	**Ruisui**	**0.35**	**208**	⇓	*i*	P	**Pn**	**00 06 13.4**	**+0.4**
	baz=219								
HGSD					*e*	S	**Sn**	**00 06 20.3**	**+1.5**
	baz=219								
NACB	**Ninganchiao**	**0.36**	**359**	⇑	*i*	P	**Pb**	**00 06 12.5**	**-0.2**
	baz=349								
NACB					*e*	S	**Sb**	**00 06 18.7**	**+0.1**
	baz=349								
EHY	**Hungye**	**0.40**	**221**	⇓	*i*	P	**Pb**	**00 06 12.7**	**-0.6**
	baz=219								
EHY					*e*	S	**Sb**	**00 06 18.5**	**-0.9**
	baz=219								
VWDT	**VWDT**	**0.43**	**263**	⇓	*i*	P	**Pb**	**00 06 14.0**	**+0.4**
	baz=258								
VWDT					*e*	S	**Sb**	**00 06 20.3**	**+0.2**
	baz=258								
WHF	**Hehuan Shan**	**0.46**	**317**	⇑	*i*	P	**Pb**	**00 06 14.2**	**-0.2**
	baz=311								
WHF					*e*	S	**Sb**	**00 06 21.0**	**-0.5**
	baz=311								
CHGB	**Renai**	**0.47**	**303**	⇑	*i*	P	**Pb**	**00 06 14.7**	**+0.2**
	baz=305								
CHGB					*e*	S	**Sb**	**00 06 21.3**	**-0.2**
	baz=305								
YULB	**Yu-li**	**0.50**	**214**	⇑	*i*	P	**Pb**	**00 06 13.9**	**-0.9**
	baz=221								
YULB					*e*	S	**Sb**	**00 06 20.7**	**-1.4**
	baz=221								
TWF1	**Yuli**	**0.53**	**212**		*i*	P	**Pb**	**00 06 14.4**	**-0.9**
	baz=218								
TWF1					*e*	S	**Sb**	**00 06 21.8**	**-1.1**
	baz=218								
TWT	**Tachien**	**0.59**	**319**	⇑	*i*	P	**Pn**	**00 06 16.6**	**+0.2**
	baz=317								
TWT					*e*	S	**Sb**	**00 06 24.6**	**-0.1**
	baz=317								
SSLB	**Suanglung**	**0.60**	**268**	⇓	*i*	P	**Pn**	**00 06 15.9**	**-0.4**
	baz=270								
SSLB					*e*	S	**Sb**	**00 06 24.7**	**+0.1**
	baz=270								
TDCB	**Techi**	**0.60**	**317**	⇑	*i*	P	**Pb**	**00 06 16.6**	**+0.1**
	baz=317								
TDCB					*e*	S	**Sb**	**00 06 24.4**	**-0.6**
	baz=317								
ENA	**Nanau**	**0.63**	**11**	⇑	*i*	P	**Pn**	**00 06 16.3**	**-0.5**
	baz=1.0								
ENA					*e*	S	**Sb**	**00 06 24.7**	**-0.8**
	baz=1.0								
SMLT	**Sun Moon Lake**	**0.65**	**277**	⇓	*i*	P	**Pn**	**00 06 17.1**	**0.0**
	baz=278								
SMLT					*e*	S	**Sn**	**00 06 27.3**	**+1.0**
	baz=278								
NNSB	**Datong**	**0.65**	**342**	⇑	*i*	P	**Pn**	**00 06 16.7**	**-0.5**
	baz=346								
NNSB					*e*	S	**Sb**	**00 06 25.2**	**-1.0**
	baz=346								
NNSH	**Datong**	**0.65**	**342**		*i*	P	**Pn**	**00 06 16.7**	**-0.5**
	baz=346								
NNSH					*e*	S	**Sb**	**00 06 25.2**	**-1.1**
	baz=346								
NNS	**Nan Shan**	**0.66**	**342**	⇑	*i*	P	**Pn**	**00 06 16.9**	**-0.5**
	baz=346								
NNS					*e*	S	**Sb**	**00 06 25.5**	**-1.1**
	baz=346								
TYC	**Yuchr**	**0.69**	**278**	⇓	*i*	P	**Pn**	**00 06 17.5**	**-0.1**
	baz=282								
TYC					*e*	S	**Sn**	**00 06 28.0**	**+0.8**
	baz=282								
CHKT	**Chengkung**	**0.74**	**197**		*e*	P	**Pn**	**00 06 17.9**	**-0.4**
	baz=187								
CHKT					*e*	S	**Sn**	**00 06 28.7**	**+0.3**
	baz=187								
ALS	**Alishan**	**0.79**	**248**		*e*	P	**Pn**	**00 06 19.5**	**+0.2**
	baz=248								
ALS					*e*	S	**Sn**	**00 06 29.9**	**-0.2**
	baz=248								
WJS	**Zhushan**	**0.80**	**271**	⇓	*i*	P	**Pb**	**00 06 19.9**	**+0.2**
	baz=271								
WJS					*e*	S	**Sb**	**00 06 31.0**	**+0.7**
	baz=271								
ELDTW	**Lidau**	**0.82**	**221**		*e*	P	**Pn**	**00 06 18.5**	**-1.0**
	baz=216								
ELDTW					*e*	S	**Sn**	**00 06 29.0**	**-1.6**
	baz=216								
ENTT	**Nioudou**	**0.83**	**358**	⇑	*i*	P	**Pn**	**00 06 19.2**	**-0.4**
	baz=357								
TWC	**Suao**	**0.83**	**16**		*e*	P	**Pn**	**00 06 19.4**	**-0.1**
	baz=9.0								
WNT	**Mingjian**	**0.84**	**275**	⇓	*i*	P	**Pb**	**00 06 20.7**	**+0.3**
	baz=274								
WNT					*e*	S	**Sb**	**00 06 32.6**	**+1.1**
	baz=274								
CHN5	**Tsauling**	**0.87**	**256**		*i*	P	**Pn**	**00 06 20.7**	**+0.4**
	baz=256								
CHN5					*e*	S	**Sb**	**00 06 33.4**	**+1.0**
	baz=256								
YHNB	**Yeheng**	**0.88**	**346**	⇑	*i*	P	**Pn**	**00 06 20.4**	**0.0**
	baz=353								
YHNB					*e*	S	**Sn**	**00 06 31.4**	**-0.7**
	baz=353								
NSK	**Sanguang**	**0.89**	**345**	⇑	*i*	P	**Pn**	**00 06 20.5**	**0.0**
	baz=352								
NSK					*e*	S	**Sn**	**00 06 31.7**	**-0.7**
	baz=352								
TWE	**Neicheng**	**0.91**	**4**		P		**Pn**	**00 06 20.3**	**-0.3**
	baz=4.0								
TCU	**Taichung**	**0.91**	**292**	⇓	*i*	P	**Pb**	**00 06 21.9**	**+0.3**
	baz=291								
TCU					*e*	S	**Sb**	**00 06 36.0**	**+2.6**
	baz=291								
TWQ1	**Liyutan**	**0.93**	**305**	⇓	*i*	P	**Pb**	**00 06 22.1**	**+0.2**
	baz=305								
TWQ1					*e*	S	**Sb**	**00 06 34.6**	**+0.7**
	baz=305								
WGK	**Gukeng**	**0.96**	**263**		*e*	P	**Pn**	**00 06 22.1**	**+0.7**
	baz=263								
WGK					*e*	S	**Sb**	**00 06 35.8**	**+1.0**
	baz=263								
WDLH	**Douliu**	**0.98**	**263**		*e*	P	**Pn**	**00 06 22.4**	**+0.7**
	baz=263								
WDLH					*e*	S	**Sb**	**00 06 36.1**	**+0.7**
	baz=263								
NSTT	**Nanjuang**	**0.99**	**326**	⇑	*i*	P	**Pb**	**00 06 22.9**	**+0.1**
	baz=325								
NSTT					*e*	S	**Sb**	**00 06 35.3**	**-0.2**
	baz=325								
WCHH	**Zhanghua**	**0.99**	**286**		*e*	P	**Pb**	**00 06 23.1**	**+0.1**
	baz=285								
WCHH					*e*	S	**Sb**	**00 06 36.4**	**+0.7**
	baz=285								
TPUB	**Ta-pu**	**1.03**	**241**		*e*	P	**Pn**	**00 06 23.2**	**+0.9**
	baz=241								
TPUB					*e*	S	**Sb**	**00 06 36.7**	**0.0**
	baz=241								
CHN4	**Tsaushan**	**1.03**	**244**		*e*	P	**Pb**	**00 06 23.4**	**-0.2**
	baz=244								
CHN4					*e*	S	**Sb**	**00 06 37.6**	**+0.7**
	baz=244								
NMLH	**Miaoli**	**1.04**	**315**		*e*	P	**Pb**	**00 06 23.5**	**-0.2**
	baz=313								
NMLH					*e*	S	**Sb**	**00 06 37.2**	**+0.2**
	baz=313								
NTC	**Toucheng**	**1.06**	**11**		*e*	P	**Pn**	**00 06 22.7**	**-0.1**
	baz=360								
NTC					*e*	S	**Sb**	**00 06 38.0**	**+0.3**
	baz=360								
WTP	**Ta-pu**	**1.07**	**239**		*e*	P	**Pn**	**00 06 23.7**	**+0.9**
	baz=238								
WTP					*e*	S	**Sb**	**00 06 37.9**	**+0.1**
	baz=238								
TWGBT	**Beinan**	**1.10**	**206**		*e*	P	**Pn**	**00 06 21.5**	**-1.7**
	baz=200								
TWGBT					*e*	S	**Sn**	**00 06 36.7**	**-0.5**
	baz=200								
TWG	**Pinlang**	**1.10**	**207**		*e*	P	**Pn**	**00 06 21.6**	**-1.7**
	baz=197								
CHY	**Chiayi**	**1.12**	**254**		*e*	P	**Pn**	**00 06 24.4**	**+0.8**
	baz=255								
CHY					*e*	S	**Sb**	**00 06 39.8**	**+0.4**
	baz=255								
TTN	**Taitung**	**1.13**	**202**		*e*	P	**Pn**	**00 06 23.3**	**-0.3**
	baz=193								
SBCB	**Hsinchu**	**1.13**	**330**		*e*	P	**Pb**	**00 06 24.8**	**-0.4**
	baz=316								
SBCB					*e*	S	**Sb**	**00 06 40.2**	**+0.6**
	baz=316								
RLNB	**Erlin**	**1.14**	**274**		*e*	P	**Pb**	**00 06 24.9**	**-0.5**
	baz=274								
RLNB					*e*	S	**Sb**	**00 06 40.3**	**+0.4**
	baz=274								
HSN	**Hsinchu**	**1.15**	**330**		*e*	P	**Pn**	**00 06 24.6**	**+0.7**
	baz=319								
HSN					*e*	S	**Sb**	**00 06 40.9**	**+0.8**
	baz=319								
TWK	**Hsinying**	**1.16**	**242**		*e*	P	**Pn**	**00 06 24.9**	**+0.8**
	baz=243								
TWK					*e*	S	**Sb**	**00 06 40.5**	**+0.1**
	baz=243								
CHN1	**Nanshi**	**1.17**	**238**		*e*	P	**Pn**	**00 06 25.3**	**+1.1**
	baz=239								
CHN1					*e*	S	**Sn**	**00 06 40.0**	**+1.0**
	baz=239								
TWA	**Mucha**	**1.17**	**359**		*e*	P	**Pn**	**00 06 24.4**	**+0.2**
	baz=5.0								
TWA					*e*	S	**Sn**	**00 06 38.5**	**-0.5**
	baz=5.0								
SGST	**Jiashian**	**1.18**	**233**		*e*	P	**Pn**	**00 06 24.9**	**+0.4**
	baz=233								
SGST					*e*	S	**Sn**	**00 06 40.6**	**+1.1**
	baz=233								
WTCT	**Ta-ch'eng**	**1.21**	**273**		*e*	P	**Pn**	**00 06 25.8**	**+1.0**
	baz=273								
WTCT					*e*	S	**Sb**	**00 06 42.3**	**+0.4**
	baz=273								
NCUH	**Zhongli**	**1.22**	**342**		*e*	P	**Pn**	**00 06 25.8**	**+0.9**
	baz=340								
NCUH					*e*	S	**Sb**	**00 06 42.0**	**-0.1**
	baz=340								
NCU	**National Centr**	**1.22**	**342**		*e*	P	**Pn**	**00 06 25.8**	**+0.9**
	baz=340								
NCU					*e*	S	**Sb**	**00 06 41.9**	**-0.2**
	baz=340								
TAP	**Taipei**	**1.23**	**356**		*e*	P	**Pn**	**00 06 23.7**	**-1.3**
	baz=353								
TAP					*e*	S	**Sn**	**00 06 40.9**	**+0.4**
	baz=353								
TWB1	**Santiao Chiao**	**1.25**	**16**		*e*	P	**Pn**	**00 06 26.1**	**+0.8**
	baz=25								
TWB1					*e*	S	**Sn**	**00 06 41.9**	**+1.0**
	baz=25								
WMLT	**Mailiao**	**1.27**	**270**		*e*	P	**Pn**	**00 06 26.5**	**+1.0**
	baz=269								
NWF	**Wu-fen Shan**	**1.27**	**7**		*e*	P	**Pn**	**00 06 26.0**	**+0.3**
	baz=354								
NWF					*e*	S	**Sn**	**00 06 42.7**	**+1.1**
	baz=354								
WFSB	**Wu-fen Shan**	**1.27**	**7**		*e*	P	**Pn**	**00 06 26.2**	**+0.6**
	baz=6.0								
WSF	**Szhu**	**1.28**	**263**		*e*	P	**Pn**	**00 06 26.5**	**+0.8**
	baz=263								
WSF					*e*	S	**Sb**	**00 06 43.6**	**-0.1**
	baz=263								
TWS1	**Kuangyinshan**	**1.30**	**353**		*e*	P	**Pn**	**00 06 26.5**	**+0.5**
	baz=3.0								
TWS1					*e*	S	**Sn**	**00 06 42.2**	**0.0**
	baz=3.0								
YM01	**YM01**	**1.33**	**359**		*e*	P	**Pn**	**00 06 26.5**	**-0.1**
	baz=356								
YM01					*e*	S	**Sn**	**00 06 42.7**	**-0.5**
	baz=356								
YM04	**YM4**	**1.34**	**357**		*e*	P	**Pn**	**00 06 26.4**	**-0.2**
	baz=357								
YM10	**YM10**	**1.34**	**358**		*e*	P	**Pn**	**00 06 26.6**	**-0.1**
	baz=355								
YM10					*e*	S	**Sn**	**00 06 42.5**	**-0.9**
	baz=355								
ECL	**Taimali**	**1.34**	**207**		*e*	P	**Pn**	**00 06 25.1**	**-1.5**
	baz=199								
CHN3	**Shinhua**	**1.35**	**238**		*e*	S	**Sb**	**00 06 47.1**	**+1.3**
	baz=239								
YM05	**YM05**	**1.35**	**359**		*e*	P	**Pn**	**00 06 26.5**	**-0.3**
	baz=355								
YM05					*e*	S	**Sn**	**00 06 43.1**	**-0.5**
	baz=355								
YM11	**YM11**	**1.35**	**359**		*e*	P	**Pn**	**00 06 26.9**	**+0.1**
	baz=357								
CHN8	**Yiju**	**1.36**	**250**		*e*	P	**Pn**	**00 06 28.2**	**+1.4**
	baz=251								
CHN8					*e*	S	**Sb**	**00 06 45.2**	**-0.8**
	baz=251								
NTST	**Danshui**	**1.36**	**354**		*e*	P	**Pn**	**00 06 27.4**	**+0.6**
	baz=352								
YM03	**YM03**	**1.37**	**358**		*e*	P	**Pn**	**00 06 27.0**	**0.0**
	baz=356								
JYNG	**Yonagunijimaku**	**1.38**	**62**		P		**Pn**	**00 06 27.8**	**+0.7**
JYNG					S		**Sn**	**00 06 45.6**	**+1.3**
SSD	**Sandimen**	**1.38**	**220**		*e*	P	**Pn**	**00 06 28.3**	**+1.1**
	baz=222								
SSD					*e*	S	**Sb**	**00 06 46.7**	**-0.1**
	baz=222								
SCLT	**Jiali**	**1.44**	**244**		*e*	S	**Sb**	**00 06 47.8**	**-0.6**
	baz=245								
YOJ	**Yonaguni jima**	**1.44**	**63**		P		**Pn**	**00 06 28.6**	**+0.7**
YOJ					S		**Sb**	**00 06 47.4**	**-1.0**
SGLT	**Jiouru**	**1.49**	**224**		*e*	P	**Pb**	**00 06 31.9**	**+0.7**
	baz=224								
MASBT	**Mashibuluo**	**1.49**	**217**		*e*	P	**Pn**	**00 06 28.4**	**-0.2**
	baz=218								
EAST	**Anshuo**	**1.58**	**206**		*e*	P	**Pn**	**00 06 28.6**	**-1.4**
	baz=198								
TAW	**Tawu**	**1.58**	**204**		*e*	P	**Pn**	**00 06 31.5**	**+1.6**
	baz=196								
SCZT	**Fangliau**	**1.69**	**213**		*e*	P	**Pn**	**00 06 32.2**	**+0.8**
	baz=227								
PCYT	**Pengchaiyu**	**1.86**	**13**		*e*	P	**Pn**	**00 06 33.2**	**-0.6**
	baz=359								
WDGT	**Dungji**	**1.87**	**253**		*e*	P	**Pn**	**00 06 33.6**	**-0.2**
	baz=253								
PHUB	**P'eng-hu**	**1.89**	**261**		*e*	P	**Pn**	**00 06 34.1**	**0.0**
	baz=262								
PHUB					*e*	S	**Sn**	**00 06 56.8**	**0.0**
	baz=262								
PNG	**Penghu**	**1.89**	**263**		*e*	P	**Pn**	**00 06 34.3**	**+0.1**
	baz=264								
PNG					S		**Sn**	**00 06 56.8**	**-0.1**
	baz=264								
TWK1	**Hengchun**	**2.00**	**202**		*e*	P	**Pn**	**00 06 36.3**	**+0.7**
	baz=194								
TWKBT	**Hengchun**	**2.00**	**202**		*e*	P	**Pn**	**00 06 34.9**	**-0.7**
	baz=194								
TSEB	**Hengchuen, Pin**	**2.01**	**199**		*e*	P	**Pn**	**00 06 36.3**	**+0.6**
	baz=193								
IRIF	**Iriomote-Funau**	**2.01**	**74**		P		**Pn**	**00 06 36.5**	**+0.7**
IRIF					S		**Sn**	**00 07 01.1**	**+1.2**
HATJ	**Hateruma jima**	**2.03**	**83**		P		**Pn**	**00 06 36.6**	**+0.6**
HATJ					S		**Sn**	**00 07 01.1**	**+0.8**
VCHM	**Qimei**	**2.08**	**254**		*e*	P	**Pn**	**00 06 36.5**	**-0.3**
	baz=253								
JKRS	**Kuro-shima**	**2.24**	**79**		P		**Pn**	**00 06 40.0**	**+1.1**
JKRS					S		**Sn**	**00 07 06.7**	**+1.2**
VWUC	**VWUC**	**2.29**	**301**		*e*	P	**Pn**	**00 06 38.8**	**-0.8**
	baz=301								
PTTC	**Pingtan**	**2.37**	**316**		*e*	P	**Pn**	**00 06 40.2**	**-0.5**
	baz=315								
JIJ	**Ishigaki jima**	**2.38**	**76**		P		**Pn**	**00 06 41.3**	**+0.4**
JIJ					S		**Sn**	**00 07 08.9**	**-0.2**
PTMZ	**Houxiangcun**	**2.58**	**299**		*e*	P	**Pn**	**00 06 42.9**	**-0.6**
	baz=298								
JISG	**Ishigakijimahi**	**2.59**	**72**		P		**Pn**	**00 06 44.1**	**+0.3**
JISG					S		**Sn**	**00 07 13.5**	**-0.6**
MATB	**Ma-tsu**	**2.78**	**328**		*e*	P	**Pn**	**00 06 45.6**	**-0.8**
	baz=327								
JTJ	**Tarama**	**2.95**	**73**		S		**Sn**	**00 07 23.6**	**+0.7**
KNM	**Kinmen**	**2.96**	**282**		*e*	P	**Pn**	**00 06 49.9**	**+1.0**
	baz=281								
KNMB	**Chin-men Tao**	**3.01**	**283**		*e*	P	**Pn**	**00 06 49.1**	**-0.5**
	baz=282								
LYJJ	**Jianjiangzhen**	**3.20**	**329**		*e*	P	**Pn**	**00 06 51.3**	**-0.8**
	baz=329								
XPSS	**Dashiqiu**	**3.36**	**338**		*e*	P	**Pn**	**00 06 53.2**	**-1.2**
	baz=348								
JIRB	**Irabujima**	**3.41**	**72**		S		**Sn**	**00 07 33.8**	**-0.6**
AXDP	**Jialang**	**3.49**	**289**		*e*	P	**Pn**	**00 06 55.6**	**-0.5**
	baz=288								
JIKM	**Ikemajima**	**3.50**	**71**		*e*	S	**Sn**	**00 07 36.8**	**+0.1**
JMJ2	**Miyako jima3**	**3.52**	**74**		*e*	S	**Sn**	**00 07 38.6**	**+1.5**
ZPLA	**Ao Xicun**	**3.53**	**273**		*e*	P	**Pn**	**00 06 56.6**	**0.0**
	baz=271								
ZZJH	**Jiuhuzhen**	**3.69**	**281**		*e*	P	**Pn**	**00 06 57.9**	**-0.9**
	baz=280								

*IDC **29** 00:12:15.9±2.8, 50°.99N×172°.43W, h0km, mb3.6/5, mb1 3.8/7, mb1mx3.5/48, mbtmp3.6/7, ML3.3/2, Error ellipse: s-maj=61.7km s-min=32.2km az=21.0*

*NEIC **29** 00:12:17.2±1.4, 50°.55N±0°.04×173°.11W±0°.10, h23km±7km, Error ellipse: s-maj=9.4km s-min=5.6km az=68.0*
*AEIC **29** 00:12:17.0±1.6, 50°.56N±0°.05×173°.30W±0°.09, h8km±5km, ML3.2/21, mb3.6/3(NEIC), Error ellipse: s-maj=8.7km s-min=6.4km az=68.0*

ISC 29 00:12:17.4±1.1, 50°.4N±0°.1×173°.07W±0°.05, h35km, n30, σ0s89/34, mb3.8/5, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
ATKA	**Atka Island**	**1.91**	**339**			**Pn**	**00 12 46.5**	**-0.9**
ATKA						**Sn**	**00 13 09.5**	**-0.7**
KOFP	**Korovin Flat P**	**1.96**	**341**			**Pn**	**00 12 47.9**	**-0.2**
KOSE	**Korovin Southe**	**2.01**	**343**			**Pn**	**00 12 48.9**	**0.0**
KOSE						**Sn**	**00 13 13.9**	**+1.1**
KONE	**Korovin Northe**	**2.07**	**342**			**Pn**	**00 12 49.5**	**-0.1**
GSMY	**Great Sitkin M**	**2.48**	**312**			**Pn**	**00 12 54.6**	**-0.6**
GSTR	**Great Sitkin T**	**2.51**	**313**			**Pn**	**00 12 55.6**	**-0.1**
GSTD	**Great Sitkin T**	**2.53**	**311**			**Pn**	**00 12 55.6**	**-0.4**
GSTD						**Sn**	**00 13 25.2**	**-0.3**
ETKA	**Kagalaska Isla**	**2.54**	**306**			**Pn**	**00 12 55.8**	**-0.3**
ADK	**Adak**	**2.70**	**304**	Pn		**Pn**	**00 12 58.0**	**-0.3**
ADK					Sn	**Sn**	**00 13 28.9**	**-0.9**
ADAG	**Mount Adagdak**	**2.71**	**306**			**Pn**	**00 12 58.7**	**+0.3**
KIRH	**Kanaga Island**	**2.93**	**302**			**Pn**	**00 13 01.4**	**0.0**
KIMD	**Kanaga Island**	**2.95**	**299**			**Pn**	**00 13 01.5**	**-0.2**
KIKV	**Kanaga Island**	**2.96**	**301**			**Pn**	**00 13 02.0**	**+0.1**
KICM	**Kanaga Island**	**3.00**	**301**			**Pn**	**00 13 02.2**	**-0.1**
TAFP	**Tanaga Falls P**	**3.43**	**297**			**Pn**	**00 13 08.9**	**+0.6**
TAFP						**Sn**	**00 13 48.1**	**+0.5**
TASE	**Tanaga Southea**	**3.43**	**296**			**Pn**	**00 13 09.0**	**+0.7**
NIKH	**Nikolski High**	**3.65**	**44**	Pn		**Pn**	**00 13 10.1**	**-1.3**
AMKA	**Amchitka**	**4.92**	**284**	Pn		**Pn**	**00 13 29.4**	**+0.7**
AKUT	**Akutan**	**5.81**	**48**	Pn		**Pn**	**00 13 43.5**	**+2.6**
SPIA	**Saint Paul Isl**	**6.96**	**13**	Pn		**Pn**	**00 13 57.1**	**+0.4**
KDAK	**Kodiak Island**	**14.05**	**51**	Pn		Pn	00 15 29.0	-4.7
	0.2nm,0.3s,baz=212,slow=9.5,SNR=2.3							
CNPM	**China Poot**	**15.42**	**45**	Pn		**Pn**	**00 15 52.2**	**+0.1**
CNPM				IAmb		IAmb	00 16 02.8	
	comp=Z,13nm,1.0s							
PPLA	**Purkeypile**	**16.85**	**34**	Pn		**P**	**00 16 12.5**	**+0.3**
PPLA				IAmb		IAmb	00 16 28.5	
	comp=Z,2.6nm,1.0s							
ILAR	**Eielson Array**	**19.86**	**34**	P		**P**	**00 16 42.3**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=237,slow=9.3,SNR=5.3							
SCRK	**Sand Creek**	**20.54**	**38**	P		**P**	**00 16 53.2**	**+0.7**
SCRK				IAmb		IAmb	00 17 03.0	
	comp=Z,3.1nm,1.1s							
PDAR	**Pinedale Array**	**43.10**	**75**	P		**P**	**00 20 14.2**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=336,slow=3.3,SNR=4.3							
TXAR	**Lajitas Array**	**55.17**	**85**	P		**P**	**00 21 46.2**	**-0.2**
	comp=Z,0.2nm,0.7s,baz=293,slow=4.8,SNR=2.1							
ARCES	**ARCESS Array B**	**59.58**	**353**	P		**P**	**00 22 18.1**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=16,slow=9.3,SNR=5.2							
FINES	**FINESS Array B**	**67.43**	**350**	P		**P**	**00 23 08.3**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=0.0,slow=4.2,SNR=3.8							
HFS	**Hagfors**	**69.66**	**356**	P		**P**	**00 23 23.4**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=16,slow=7.5,SNR=1.2							

*IDC **29** 00:13:40.0±1.3, 39°.51N×20°.49E, h0km, mb3.4/6, mb1 3.5/9, mb1mx3.4/40, mbtmp3.4/9, ML3.4/3, MS2.8/2, Ms1 2.8/2, ms1mx2.1/37, Error ellipse: s-maj=23.4km s-min=18.8km az=96.0*
*ATH **29** 00:13:41.8, 39°.58N×20°.42E, h14km±2km, ML3.0/13, Error ellipse: s-maj=2.0km s-min=0.8km az=3.0*
*TIR **29** 00:13:42.0, 39°.54N×20°.35E, h26km, Md3.3/7*
*THE **29** 00:13:42.6, 39°.55N×20°.44E, h0km±2km, ML3.2/4, Error ellipse: s-maj=2.9km s-min=0.6km az=189.0*

ISC 29 00:13:42.1±0.9, 39°.57N±0°.02×20°.43E±0°.02, h19km±2km, n141, σ1s43/167, mb3.5/6, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res
JAN	**Janina**	**0.34**	**76**	P		**Pg**	**00 13 48.7**	**-0.6**
JAN				S		**Sb**	**00 13 54.5**	**-0.1**
	14μm,0.4s							
JAN	**Janina**	**0.34**	**76**	P		**Pg**	**00 13 48.6**	**-0.8**
JAN				S		**Sg**	**00 13 54.1**	**-0.1**
JAN				AML		AML	00 13 55.3	
	comp=N,18796μm,0.4s							
JAN				AML		AML	00 13 55.3	
	comp=E,35347μm,0.4s							
SRN	**Sarande**	**0.45**	**313**	P		**Pg**	**00 13 51.0**	**-0.2**
SRN				S		**Sb**	**00 13 58.9**	**+1.1**
	comp=E,2μm,0.4s							
SRN	**Sarande**	**0.45**	**313**	*i*	PG	**Pg**	**00 13 51.0**	**-0.2**
SRN				*i*	SG	**Sb**	**00 13 58.4**	**+0.6**
KEK	**Kerkira**	**0.50**	**286**	P		**Pg**	**00 13 52.0**	**-0.3**
KEK				S		**Sb**	**00 14 00.7**	**+1.4**
	comp=E,4μm,0.2s							
KEK	**Kerkira**	**0.50**	**286**	P		**Pg**	**00 13 51.9**	**-0.3**
KEK				S		**Sg**	**00 13 59.2**	**+0.1**
KEK				AML		AML	00 14 03.9	
	comp=N,9036μm,0.3s							
KEK				AML		AML	00 14 05.7	
	comp=E,7302μm,0.2s							
MEV	**Metsovon**	**0.65**	**71**	P		**Pb**	**00 13 54.6**	**-0.3**
MEV	**Metsovon**	**0.65**	**71**	P		**Pb**	**00 13 54.5**	**-0.5**
LKD2	**Lefkada island**	**0.81**	**167**	P		**Pb**	**00 13 56.9**	**-0.6**
LKD2	**Lefkada island**	**0.81**	**167**	*i*	PG	**Pb**	**00 13 56.9**	**-0.6**
LKD2				*i*	SG	**Sn**	**00 14 09.9**	**0.0**
LKD2	**Lefkada island**	**0.81**	**167**	P		**Pb**	**00 13 56.9**	**-0.6**
LKD2				S		**Sn**	**00 14 09.3**	**-0.7**
LKD2				AML		AML	00 14 18.2	
	comp=E,1560μm,0.4s		

EVR					AML	AML	00 14 32.4	
	comp=E,721µm,0.4s							
KZN	**Kozani**	**1.27**	**54**	P		**Pn**	**00 14 05.1**	**+0.2**
PVO	**Paravola**	**1.28**	**138**	P		**Pg**	**00 14 06.7**	**-0.2**
PVO	**Paravola**	**1.28**	**138**	P		**Pg**	**00 14 06.4**	**-0.5**
PVO				S		**Sg**	**00 14 24.0**	**+0.3**
PVO					AML	AML	00 14 30.9	
	comp=E,900µm,0.6s							
PVO					AML	AML	00 14 34.6	
	comp=N,1132µm,0.7s							
KEF5	**Kardakata, Kep**	**1.29**	**179**	P		**Pb**	**00 14 05.7**	**-0.1**
VLS	**Valsamata**	**1.40**	**175**	P		**Pb**	**00 14 07.9**	**+0.3**
VLS	**Valsamata**	**1.40**	**175**	P		**Pb**	**00 14 07.9**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.44**	**112**	P		**Pb**	**00 14 08.6**	**+0.3**
MAKR	**Makrakomi, Fth**	**1.44**	**112**	P		**Pb**	**00 14 08.6**	**+0.3**
ANX	**Ano Chora**	**1.52**	**130**	P		**Pg**	**00 14 10.9**	**-0.5**
ANX					AML	AML	00 14 39.9	
	comp=N,881µm,0.4s							
ANX					AML	AML	00 14 42.5	
	comp=E,822µm,0.6s							
OHR	**Ohrid**	**1.56**	**10**	*i* Pn		**Pg**	**00 14 12.1**	**0.0**
AGG	**Agios Georgios**	**1.58**	**110**	P		**Pb**	**00 14 10.7**	**0.0**
AGG	**Agios Georgios**	**1.58**	**110**	P		**Pb**	**00 14 11.0**	**+0.3**
EFP	**Efpalio**	**1.62**	**134**	P		**Pb**	**00 14 12.2**	**+0.7**
EFP	**Efpalio**	**1.62**	**134**	P		**Pg**	**00 14 12.5**	**-0.9**
LIT	**Litokhoron**	**1.67**	**71**	P		**Pb**	**00 14 12.6**	**+0.3**
RLS	**Riolos of Patr**	**1.72**	**151**	P		**Pb**	**00 14 13.0**	**0.0**
RLS	**Riolos of Patr**	**1.72**	**151**	P		**Pb**	**00 14 13.1**	**+0.1**
SERG	**Sergoula**	**1.72**	**132**	P		**Pb**	**00 14 13.1**	**0.0**
SERG	**Sergoula**	**1.72**	**132**	P		**Pg**	**00 14 14.3**	**-0.9**
TRIZ	**Trizonia**	**1.76**	**133**	P		**Pb**	**00 14 13.1**	**-0.7**
TRIZ	**Trizonia**	**1.76**	**133**	P		**Pg**	**00 14 14.9**	**-1.1**
KALE	**Kalithea**	**1.78**	**131**	P		**Pb**	**00 14 14.3**	**+0.1**
TIR	**Tirane**	**1.82**	**347**	P		**Pb**	**00 14 15.2**	**+0.3**
TIR	**Tirane**	**1.82**	**347**	*i* PN		**Pb**	**00 14 15.2**	**+0.3**
TIR				*i* SN		**Sg**	**00 14 40.9**	**+0.1**
DRO	**Drossia**	**1.91**	**148**	P		**Pb**	**00 14 15.9**	**-0.4**
AXAR	**Agios Charalam**	**1.91**	**114**	P		**Pb**	**00 14 16.1**	**-0.3**
KLV	**Kalavryta, Ach**	**2.04**	**138**	P		**Pb**	**00 14 17.7**	**-0.8**
PHP	**Peshkopia**	**2.11**	**0**	*i* SN		**Pb**	**00 14 20.0**	**+0.3**
PHP				*i* PN		**Sb**	**00 14 46.7**	**+1.1**
XOR	**Xorichti**	**2.15**	**95**	P		**Pb**	**00 14 18.9**	**-1.5**
NEO	**Neokhori**	**2.18**	**96**	P		**Pb**	**00 14 19.9**	**-1.1**
LKR	**Lokris**	**2.20**	**114**	P		**Pb**	**00 14 21.0**	**-0.4**
GUR	**Goura**	**2.22**	**137**	P		**Pb**	**00 14 21.2**	**-0.5**
HORT	**Hortiatis**	**2.29**	**63**	P		**Pn**	**00 14 20.8**	**+1.8**
SKIA	**Skiathos**	**2.39**	**99**	P		**Pb**	**00 14 23.3**	**-1.2**
VAY	**Valandovo**	**2.39**	**42**	*i* Pn		**Pb**	**00 14 23.8**	**-0.8**
KNT	**Kendrikon**	**2.47**	**49**	P		**Pb**	**00 14 23.7**	**-2.1**
KNT	**Kendrikon**	**2.47**	**49**	P		**Pb**	**00 14 23.8**	**-2.0**
PUK	**Puka**	**2.50**	**351**	*i* SN		**Pn**	**00 14 24.2**	**+2.4**
PUK				*i* PN		**Sb**	**00 14 57.6**	**+0.8**
TRIP	**Tripoli**	**2.50**	**144**	P		**Pb**	**00 14 24.9**	**-1.5**
SKO	**Skopje**	**2.52**	**17**	*i* Pn		**Pb**	**00 14 24.7**	**-2.0**
MRKA	**Markates**	**2.61**	**108**	P		**Pb**	**00 14 26.1**	**-2.1**
DRME	**Dracevica, Mon**	**2.77**	**341**	*e*Pn		**Pn**	**00 14 27.2**	**+1.7**
BCI	**Bajram Curri**	**2.80**	**355**	*i* SN		**Pn**	**00 14 29.2**	**+3.3**
PDG	**Podgorica**	**2.99**	**343**	*e*Pn		**Pn**	**00 14 30.4**	**+2.0**
ORI	**Oriolo Calabro**	**3.10**	**280**	P		**Pb**	**00 14 34.6**	**-2.0**
ORI					AML	AML		
	comp=E,316µm,0.4s							
BAI	**Bari**	**3.11**	**301**	*e*Pn		**Pn**	**00 14 31.3**	**+1.1**
SG1	**Sgolgore (BA)**	**3.14**	**295**	*e*Pn		**Pn**	**00 14 31.8**	**+1.3**
SALB	**San Lorenzo Be**	**3.16**	**277**	AML		AML		
	comp=N,106µm,0.3s							
AMUR	**Altamura**	**3.21**	**296**	S		**Sn**	**00 15 10.0**	**+0.6**
HCY	**Herceg Novi**	**3.22**	**334**	*e*Pn		**Pn**	**00 14 32.0**	**+0.3**
T0702	**Acquaformosa (**	**3.36**	**274**	S		**Pb**	**00 14 38.0**	**-3.0**
T0721	**Laino Castello**	**3.45**	**277**	S		**Pb**	**00 14 39.0**	**-3.6**
TREB	**Trebinje**	**3.51**	**334**	*e*Pn		**Pn**	**00 14 35.1**	**-0.5**
DBRK	**Dubrovnik**	**3.54**	**332**	*e*Pn		**Pn**	**00 14 36.4**	**+0.4**
DBRK					Sn	**Sn**	**00 15 17.6**	**+0.3**
BRY	**Bratogost**	**3.62**	**337**	*e*Pn		**Pn**	**00 14 38.3**	**+1.1**
PALZ	**Palazzo San Ge**	**3.68**	**293**	P		**Pn**	**00 14 39.7**	**+1.7**
PALZ					AML	AML		
	comp=E,268µm,1.0s							
PALZ					AML	AML		
	comp=N,236µm,1.2s							
STON	**Ston**	**3.88**	**329**	P		**Sn**	**00 15 26.7**	**+0.9**
STON	**Ston**	**3.88**	**329**	*e*Pn		**Pn**	**00 14 41.0**	**+0.2**
STON	**Ston**	**3.88**	**329**	*e*Pn		**Pn**	**00 14 40.7**	**0.0**
MRLC	**Muro Lucano**	**3.96**	**289**	AML		AML		
	comp=E,56µm,0.5s							
MRLC					AML	AML		
	comp=N,64µm,0.5s							
CMPR	**Campora**	**4.01**	**282**	S		**Pn**	**00 14 46.0**	**+3.5**
CDRU	**Civita di Ruta**	**4.04**	**285**	S		**Pn**	**00 14 47.0**	**+4.0**
MSAG	**Monte S. Angel**	**4.05**	**303**	S		**Sn**	**00 15 29.0**	**-1.0**
RUDO	**Rudo**	**4.12**	**349**	*e*Pn		**Pn**	**00 14 46.0**	**+2.0**
SGRT	**San Giovanni R**	**4.17**	**303**	P		**Pn**	**00 14 46.2**	**+1.4**
SGRT				S		**Sn**	**00 15 33.0**	**-0.2**
SGRT					AML	AML		
	comp=E,98µm,1.1s							
BBLS	**Lazići**	**4.36**	**350**	*e*Pn		**Pb**	**00 14 56.8**	**-1.2**
MAKA	**Makarska**	**4.51**	**326**	*e*Pn		**Pn**	**00 14 50.1**	**+0.8**
MAKA				Sn		**Sn**	**00 15 41.0**	**-0.2**
DIVS	**Divibare**	**4.53**	**356**	*e*Pn		**Pn**	**00 14 50.8**	**+1.0**
RICI	**Ricice**	**4.63**	**329**	*e*Pn		**Pn**	**00 14 51.4**	**+0.3**
HAPS	**Han Pijesak,BI**	**4.64**	**347**	*e*Pn		**Pn**	**00 14 51.0**	**+0.3**
KIJV	**Kijevo**	**5.35**	**327**	*e*Pn		**Pn**	**00 15 02.2**	**+1.3**
KIJV				Sn		**Sn**	**00 16 00.6**	**-1.5**
ZIRJ	**Zirje**	**5.43**	**320**	*e*Pn		**Pn**	**00 15 01.8**	**-0.1**
ZIRJ				Sn		**Sn**	**00 16 02.7**	**-1.2**
MGRS	**Mrkonjic Grad**	**5.44**	**334**	*e*Pn		**Pn**	**00 15 04.6**	**+2.4**
INTR	**Introdacqua**	**5.52**	**298**	P		**Pn**	**00 15 06.4**	**+3.1**
INTR				AML		AML		
INTR				AML		AML		
	comp=E,43µm,0.7s							
INTR				AML		AML		
MORI	**Morici**	**5.55**	**322**	*e*Pn		**Pn**	**00 15 04.3**	**+0.6**
MORI				Sn		**Sn**	**00 16 05.2**	**-1.8**
IDI	**Anoyia**	**5.56**	**139**	Pn		**Pn**	**00 15 04.5**	**+0.7**
	comp=E,0.3nm,0.3s,baz=118,slow=21,SNR=0.9							
IDI				Sn		**Sn**	**00 16 03.6**	**-3.7**
	comp=E,0.6nm,0.3s,baz=93,slow=22,SNR=1.0							
FRGS	**Fruska Gora**	**5.60**	**356**	*e*Pn		**Pn**	**00 15 05.4**	**+1.1**
BLY	**Banja Luka**	**5.70**	**336**	*e*Pn		**Pn**	**00 15 05.8**	**0.0**
FAGN	**Fagnano**	**5.84**	**300**	P		**Pn**	**00 15 11.9**	**+4.2**
FAGN				AML		AML		
	comp=E,82µm,0.5s							
DUGI	**Dugi Otok**	**5.96**	**319**	*e*Pn		**Pn**	**00 15 10.2**	**+0.8**
DUGI				Sn		**Sn**	**00 16 16.0**	**-1.1**
RMP	**Rome, Mte Porz**	**6.28**	**293**	P		Pn	00 15 08.3	-5.5
RMP				AML		AML		
	comp=N,234µm,0.3s							
RMP				AML		AML		
	comp=E,221µm,0.3s							
MTCE	**Montecelio**	**6.32**	**295**	S		**Pg**	**00 15 41.0**	**-2.1**
CSP1	**Cessapalombo**	**6.47**	**305**	P		**Pn**	**00 15 20.3**	**+3.9**
CSP1				AML		AML		
	comp=N,345µm,1.6s							
NVLJ	**Novalja**	**6.47**	**322**	*e*Pn		**Pn**	**00 15 17.2**	**+0.9**
NVLJ				Sn		**Sn**	**00 16 27.4**	**-2.2**
EL6	**Elcito**	**6.66**	**307**	P		**Pn**	**00 15 16.1**	**-2.8**
MORH	**Mrgy, Hungar**	**6.76**	**349**	*e*Pn		**Pn**	**00 15 18.9**	**-1.4**
MURB	**Monte Urbino**	**6.99**	**304**	P		Pn	00 15 18.4	-5.1
MPAG	**Monte Paganucc**	**7.03**	**308**	P		**Pn**	**00 15 19.6**	**-4.4**
BOJS	**Bojanci**	**7.05**	**329**	*i* Pn		**Pn**	**00 15 25.1**	**+0.9**
BOJS				eSn		**Sn**	**00 16 42.9**	**-0.9**
MLR	**Muntele Rosu**	**7.18**	**33**	Pn		**Pn**	**00 15 29.7**	**+3.5**
	comp=N,0.4nm,0.3s,baz=344,slow=7.4,SNR=9.0							
MLR				LR		LR	00 19 08.9	
	comp=N,56nm,19.2s,baz=100,slow=46							
PE3	**Peglio**	**7.23**	**307**	P		**Pn**	**00 15 28.4**	**+1.6**
CRES	**Cresnjev**	**7.24**	**331**	*e*Pn		**Pn**	**00 15 26.9**	**0.0**
BRJN	**Brijuni**	**7.27**	**319**	*e*Pn		**Pn**	**00 15 28.1**	**+0.8**
BRJN				Sn		**Sn**	**00 16 47.0**	**-2.3**
CEY	**Cerknica**	**7.58**	**326**	*e*Pn		**Pn**	**00 15 32.3**	**+0.7**
SFI	**Santa Sofia**	**7.74**	**307**	P		Pn	00 15 28.0	-5.7
LJU	**Ljubljana**	**7.78**	**328**	*e*Pn		**Pn**	**00 15 35.0**	**+0.7**
SOKA	**Soboth**	**8.12**	**333**	*i* Pn		**Pn**	**00 15 39.4**	**+0.4**
	comp=N,1.3nm,0.6s							
OBKA	**Obir**	**8.16**	**330**	*i* Pn		**Pn**	**00 15 41.6**	**+2.1**
	comp=N,1.9nm,0.7s							
ARSA	**Arzberg**	**8.46**	**337**	*i* Pn		**Pn**	**00 15 44.5**	**+0.8**
	comp=N,0.3nm,0.3s							
MYKA	**Terra Mystica**	**8.62**	**327**	*i* Pn		**Pn**	**00 15 46.7**	**+0.9**
	comp=N,0.5nm,0.3s							
KBA	**Koelnbreinsper**	**9.10**	**328**	*i* Pn		**Pn**	**00 15 53.0**	**+0.5**
	comp=N,2.5nm,1.1s							
ABTA	**Abfaltersbach**	**9.21**	**324**	*i* Pn		**Pn**	**00 15 55.8**	**+1.9**
	comp=N,1.4nm,0.5s							
MOA	**Molln**	**9.39**	**334**	*i* Pn		**Pn**	**00 15 58.5**	**+2.0**
	comp=N,0.6nm,0.3s							
WTTA	**Wattenberg**	**9.99**	**323**	*i* Pn		**Pn**	**00 16 06.5**	**+1.8**
	comp=N,0.8nm,0.5s							
WATA	**Walderalm**	**10.07**	**323**	*i* Pn		**Pn**	**00 16 09.1**	**+3.3**
	comp=N,1.2nm,0.4s							
SQTA	**Sankt Quirin**	**10.16**	**322**	*i* Pn		**Pn**	**00 16 09.3**	**+2.3**
	comp=N,0.6nm,0.4s							
MOTA	**Moosalm**	**10.30**	**322**	*i* Pn		**Pn**	**00 16 09.6**	**+0.7**
	comp=N,2.9nm,1.1s							
GERES	**GERESS Array B**	**10.45**	**335**	Pn		**Pn**	**00 16 14.4**	**+3.5**
	comp=N,0.1nm,0.3s,baz=118,slow=5.1,SNR=4.3							
HFS	**Hagfors**	**21.01**	**351**	P		**P**	**00 18 24.2**	**-0.1**
	comp=N,0.8nm,0.5s,baz=189,slow=8.0,SNR=4.3							
FINES	**FINESS Array B**	**22.17**	**7**	P		**P**	**00 18 36.3**	**-0.4**
	comp=N,0.8nm,0.7s,baz=170,slow=12,SNR=4.5							
NOA	**NORSAR Array B**	**22.24**	**348**	P		**P**	**00 18 37.4**	**-0.1**
	comp=N,0.3nm,0.6s,baz=166,slow=10,SNR=2.2							
AKTO	**Aktyubinsk**	**28.42**	**55**	LR		LR	00 32 55.6	
	comp=N,21nm,19.6s,baz=335,slow=41							
TORD	**Torodi Ar. Bea**	**31.08**	**217**	P		**P**	**00 20 00.1**	**+1.0**
	comp=N,0.6nm,0.6s,baz=24,slow=10,SNR=6.0							
MKAR	**Makanchi Array**	**44.65**	**60**	P		**P**	**00 21 53.4**	**0.0**
	comp=N,0.7nm,0.5s,baz=271,slow=8.2,SNR=10							
ZALV	**Zalesovo Beam**	**44.82**	**49**	P		**P**	**00 21 54.0**	**-0.6**
	comp=N,0.4nm,0.4s,baz=274,slow=8.0,SNR=2.6							

ROM 29 00:14:25.7±0.1, 38°248N±0°003×15°035E±0°003, h9km, ML1.5/8, Error ellipse: s-maj=0.3km s-min=0.1km az=228.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res	
				Op		ISC	h	m	s	ISC
VPL	**Vulcano Piano**	**0.14**	**343**	P		Pg	00	14	29.3	+0.5
VPL				S		Sg	00	14	31.7	+0.8
VPL					AML	AML				
	comp=E,1315µm,0.5s									
VPL					AML	AML				
	comp=N,1075µm,0.7s									
MILZ	**Milazzo**	**0.16**	**81**	P		Pg	00	14	29.7	+0.6
MILZ				S		Sg	00	14	32.2	+0.8
MILZ					AML	AML				
	comp=E,100µm,0.7s									
MILZ					AML	AML				
	comp=E,100µm,0.7s									
MILZ					AML	AML				
	comp=N,92µm,0.7s									
NOV	**Novara**	**0.23**	**160**	P		Pg	00	14	31.5	+1.1
NOV				S		Sg	00	14	35.2	+1.5
NOV					AML	AML				
	comp=E,168µm,0.3s									
NOV					AML	AML				
	comp=N,99µm,0.8s									
NOV					AML	AML				
	comp=N,99µm,0.8s									
MUCR	**Ucria**	**0.24**	**212**	P		Pg	00	14	31.2	+0.6
MUCR				S		Sg	00	14	35.2	+1.3
MUCR					AML	AML				
	comp=N,144µm,0.4s									
MUCR					AML	AML				
	comp=E,72µm,0.4s									
MCSR	**Castroreale**	**0.25**	**137**	P		Pg	00	14	31.4	+0.6
MCSR				S		Sg	00	14	35.6	+1.5
MCSR					AML	AML				
	comp=N,452µm,0.3s									
MCSR					AML	AML				
	comp=E,290µm,0.4s									
MPNC	**Port Mandanici**	**0.27**	**112**	P		Pg	00	14	31.9	+0.7
MPNC				S		Sb	00	14	36.7	-0.8
MPNC					AML	AML				
	comp=E,121µm,0.3s									
MPNC					AML	AML				
	comp=N,170µm,1.5s									
AIO	**Antillo**	**0.32**	**150**	P		Pb	00	14	33.1	-0.5
AIO				S		Sb	00	14	37.8	-1.1
AIO					AML	AML				
	comp=E,51µm,1.6s									
AIO					AML	AML				
	comp=N,95µm,0.2s									
MSRU	**Castanea**	**0.37**	**88**	P		Pg	00	14	33.7	+0.6
MSRU				S		Sb	00	14	39.5	-1.0
MSRU					AML	AML				
	comp=N,69µm,1.5s									
MSRU					AML	AML				
	comp=E,84µm,0.6s									
MSFR	**San Fratello**	**0.41**	**239**	P		Pg	00	14	34.4	+0.6
IFIL	**Filicudi I Eol**	**0.48**	**311**	P		Pg	00	14	35.6	+0.5
IFIL				S		Sb	00	14	43.2	-0.5
SSY	**Sortino**	**1.09**	**178**	AML		AML				
	comp=E,62µm,0.4s									
SSY					AML	AML				
	comp=N,109µm,0.8s									
PLAC	**Placanica**	**1.12**	**79**	AML		AML				
	comp=E,63µm,0.4s									
PLAC					AML	AML				
	comp=N,71µm,1.1s									
MEU	**Monte Lauro**	**1.15**	**184**	AML		AML				
	comp=N,142µm,1.2s									
MEU					AML	AML				
	comp=E,109µm,1.1s									
HAVL	**Avola**	**1.29**	**177**	AML		AML				
	comp=N,138µm,1.3s									
HAVL					AML	AML				
	comp=E,99µm,0.3s									
SERS	**Sersale**	**1.52**	**58**	AML		AML				
	comp=E,53µm,1.2s									
SERS					AML	AML				
	comp=N,53µm,1.0s									
HPAC	**Pachino**	**1.55**	**178**	AML		AML				
	comp=E,104µm,0.7s									
CELI	**Celico**	**1.63**	**44**	AML		AML				
	comp=E,112µm,1.6s									
CELI					AML	AML				
	comp=N,118µm,0.9s									

*IDC **29** 00:44:12.2±6.0, 52°31N×178°60E, h98km±58km, mb3.2/6, mb1 3.6/8, mb1mx3.2/59, mbtmp3.7/8, ML3.8/2, Error ellipse: s-maj=68.2km s-min=16.8km az=175.0*
*AEIC **29** 00:44:13.1±1.7, 51°87N±0°08×178°38E±0°05, h118km±3km, ML3.2/30, Error ellipse: s-maj=11.4km s-min=3.9km az=164.0*
*NEIC **29** 00:44:13.2±1.2, 51°94N±0°10×178°50E±0°07, h117km±3km, Error ellipse: s-maj=14.1km s-min=6.1km az=186.0*

ISC 29 00:44:13.3±0.7, 52°0N±0°1×178°48E±0°05, h117km±6km, n34, σ0°85/39, mb3.5/6, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res	
				Op		ISC	h	m	s	ISC
LSNW	**Little Sitkin**	**0.04**	**148**			**Pn**	**00**	**44**	**28.5**	**-0.7**
LSSA	**Little Sitkin**	**0.06**	**161**			**Pn**	**00**	**44**	**28.6**	**-0.7**
LSSA						**Sn**	**00**	**44**	**41.1**	**-0.1**
LSPA	**Little Sitkin**	**0.07**	**130**			**Pn**	**00**	**44**	**28.8**	**-0.5**
LSPA						**Sn**	**00**	**44**	**42.2**	**+1.0**
CETU	**Semis' Tuman**	**0.63**	**93**			**Pn**	**00**	**44**	**31.8**	**+0.1**
CEAP	**Semis' Anvil P**	**0.68**	**90**			**Pn**	**00**	**44**	**32.2**	**+0.1**
CESW	**Semis' Southwe**	**0.68**	**98**			**Pn**	**00**	**44**	**31.7**	**-0.3**
CERAA	**Semis' Rag'd T**	**0.75**	**97**			**Pn**	**00**	**44**	**32.5**	**-0.2**
AMKA	**Amchitka**	**0.81**	**141**			**Pn**	**00**	**44**	**33.1**	**0.0**
AMKA						**Sn**	**00**	**44**	**48.1**	**0.0**
GAEA	**Gareloi East**	**1.73**	**96**			**Pn**	**00**	**44**	**43.3**	**+0.1**
TASE	**Tanaga Southea**	**2.16**	**93**			**Pn**	**00**	**44**	**48.3**	**-0.3**
TAFP	**Tanaga Falls P**	**2.19**	**91**			**Pn**	**00**	**44**	**48.5**	**-0.5**
TAFP						**Sn**	**00**	**45**	**16.2**	**0.0**
TAPA	**Tanaga Point A**	**2.30**	**93**			**Pn**	**00**	**44**	**50.0**	**-0.4**
KIMD	**Kanaga Island**	**2.67**	**94**			**Pn**	**00**	**44**	**54.5**	**-0.5**
KICM	**Kanaga Island**	**2.67**	**90**			**Pn**	**00**	**44**	**54.9**	**-0.2**
KIKV	**Kanaga Island**	**2.69**	**91**			**Pn**	**00**	**44**	**55.4**	**0.0**
SMY	**Shemya**	**2.78**	**287**			**Pn**	**00**	**44**	**55.1**	**-1.4**
SMY						**Sn**	**00**	**45**	**29.8**	**0.0**
ADK	**Adak**	**2.99**	**90**			**Pn**	**00**	**44**	**58.9**	**-0.4**
ADK	**Adak**	**2.99**	**90**	Sn		**Sn**	**00**	**45**	**35.8**	**+1.0**
GSTD	**Great Sitkin T**	**3.32**	**87**			**Pn**	**00**	**45**	**02.6**	**-1.0**
GSTR	**Great Sitkin T**	**3.37**	**86**			**Pn**	**00**	**45**	**03.9**	**-0.4**
GSMY	**Great Sitkin M**	**3.37**	**87**			**Pn**	**00**	**45**	**03.7**	**-0.6**
ATKA	**Atka Island**	**4.52**	**85**			**Pn**	**00**	**45**	**19.5**	**-0.1**
KOFP	**Korovin Flat P**	**4.58**	**84**			**Pn**	**00**	**45**	**20.4**	**-0.1**
NIKH	**Nikolski High**	**7.79**	**78**			**Pn**	**00**	**46**	**04.9**	**+1.1**
SPIA	**Saint Paul Isl**	**8.34**	**47**	Pn		**Pn**	**00**	**46**	**13.3**	**+2.1**
UNV	**Unalaska Valle**	**9.26**	**73**	Pn		**Pn**	**00**	**46**	**24.4**	**+0.8**
PETK	**Petropavlovsk-**	**12.69**	**283**	P		**Pn**	**00**	**47**	**09.2**	**-0.2**
	0.5nm,0.3s,baz=90,slow=16,SNR=5.6									

KDAK	**Kodiak Island**	**17.53**	**59**	P		**P**	**00 48 07.3**	**-2.1**
	1.6nm,0.3s,baz=273,slow=5.7,SNR=31							
KLR	**Kul'dur**	**29.39**	**283**	P		**P**	**00 50 04.7**	**-0.4**
	0.8nm,0.4s,baz=60,slow=7.6,SNR=4.5							
MJAR	**Matsushiro Arr**	**32.24**	**257**	P		**P**	**00 50 32.5**	**+2.1**
	0.7nm,0.3s,baz=54,slow=8.5,SNR=7.4							
NVAR	**Mina Array Bea**	**45.14**	**82**	P		**P**	**00 52 18.6**	**+0.4**
	0.3nm,0.5s,baz=298,slow=7.8,SNR=3.3							
PDAR	**Pinedale Array**	**47.72**	**71**	P		**P**	**00 52 37.0**	**-1.2**
	0.3nm,0.4s,baz=329,slow=4.6,SNR=3.9							
MKAR	**Makanchi Array**	**58.31**	**307**	P		**P**	**00 53 56.3**	**+0.7**
	0.1nm,0.5s,baz=54,slow=10,SNR=1.9							
TXAR	**Lajitas Array**	**60.22**	**80**	P		**P**	**00 54 08.7**	**-0.4**
	0.3nm,0.5s,baz=310,slow=4.9,SNR=5.7							

*SOME **29** 00:55:01.7, 39°77N×73°72E, h5km*
*BJI **29** 00:55:04.5±0.0, 39°53N×74°02E, h6km, mB3.9/1, mb4.0/3, ML3.6/5*
*IDC **29** 00:55:04.3±0.9, 39°38N×74°18E, h0km, mb3.9/13, mb1 4.0/19, mb1mx3.7/61, mbtmp3.8/19, ML3.1/8, MS2.8/1, Ms1 2.8/1, ms1mx2.2/47, Error ellipse: s-maj=17.1km s-min=14.6km az=141.0*
*KRNET **29** 00:55:06.1±0.1, 39°57N×74°11E, h1km, mb4.3*
*NNC **29** 00:55:09.7±1.6, 39°69N×74°14E, h0km, mb4.6, mpv4.3, Error ellipse: s-maj=11.9km s-min=7.6km az=173.0*

ISC 29 00:55:07.8±2.7, 39°47N±0°06×74°10E±0°03, h17km±18km, n75, σ2°04/103, mb3.8/13, 22C-35D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res	
				Op		ISC	h	m	s	ISC
KSH	**Kashi**	**1.45**	**88**	Pg		Pn	00	55	27.5	-5.8
KSH				Sg		Sn	00	55	43.5	-8.5
KSH				smax		smax				
	comp=N,2µm,0.5s									
KSH				smax		smax				
	comp=E,2µm,0.7s									
OHH	**Osh**	**1.46**	**316**	⇑*i*P		**Pn**	**00**	**55**	**32.3**	**-1.2**
	baz=14									
OHH				⇑*i*S		**Sn**	**00**	**55**	**51.5**	**-0.7**
	baz=14									
ARSB	**Arslanbob**	**2.04**	**336**	⇓*e*P		**Pn**	**00**	**55**	**42.6**	**+1.1**
	baz=34									
ARSB				⇓*i*S		**Sn**	**00**	**56**	**08.0**	**+1.4**
	baz=34									
BTK	**Batken**	**2.60**	**284**	⇓*i*P		**Pn**	**00**	**55**	**52.0**	**+2.9**
	baz=82									
BTK				⇓*i*S		**Sb**	**00**	**56**	**24.4**	**-1.3**
	baz=82									
AML	**Almayashu**	**2.67**	**353**	⇓*i*P		**Pn**	**00**	**55**	**51.7**	**+1.2**
	baz=53									
AML				⇓*i*S		**Sn**	**00**	**56**	**23.9**	**+1.2**
	baz=53									
AML	**Almayashu**	**2.67**	**353**	P		**Pn**	**00**	**55**	**52.4**	**+2.0**
	SNR=70									
KZA	**Kyzart**	**2.75**	**18**	⇓*i*P		**Pn**	**00**	**55**	**52.8**	**+1.4**
	baz=19									
KZA				⇓*i*S		**Sn**	**00**	**56**	**26.4**	**+2.0**
	baz=19									
KZA	**Kyzart**	**2.75**	**18**	P		**Pn**	**00**	**55**	**53.1**	**+1.7**
	SNR=45									
UCH	**Uchtor**	**2.77**	**6**	⇑*i*P		**Pn**	**00**	**55**	**53.3**	**+1.5**
	baz=7.0									
UCH				⇑*i*S		**Sn**	**00**	**56**	**27.0**	**+1.9**
	baz=7.0									
UCH	**Uchtor**	**2.77**	**6**	P		**Pn**	**00**	**55**	**53.7**	**+1.8**
	SNR=457									
ARK	**Arkit**	**2.84**	**326**	⇓*i*P		**Pn**	**00**	**55**	**53.8**	**+1.4**
	baz=24									
ARK	

IUG	**Iuzhnay**	**4.09**	**312**	*eP*		**Pn**	**00 56 12.1**	**+2.5**
	29nm,0.3s							
IUG				*eS*		**Sn**	**00 57 03.0**	**+6.0**
	238nm,0.9s							
TAS	**Tashkent**	**4.11**	**298**	⇓*iP*		**Pn**	**00 56 12.1**	**+2.2**
TAS	baz=97			⇓*iS*		**Sn**	**00 56 59.6**	**+2.0**
	baz=97							
ANVS	**Anan'yevo**	**4.26**	**38**	⇓*eP*		**Pn**	**00 56 14.8**	**+2.7**
ANVS	baz=39			⇓*iS*		**Sn**	**00 57 03.4**	**+1.8**
	baz=39							
MDOK	**Medeo**	**4.30**	**30**	⇑Pn		**Pn**	**00 56 14.7**	**+2.1**
	7.8nm,0.6s							
MDOK				⇓Pg		**Pb**	**00 56 22.8**	**-0.3**
	54nm,0.8s							
MDOK				⇓Lg		Lg	00 57 18.8	
	156nm,0.8s							
KNDC	**Almaty**	**4.32**	**29**	⇑Pg		**Pb**	**00 56 23.9**	**+0.6**
	144nm,0.7s							
KNDC				⇓Lg		Lg	00 57 18.7	
	486nm,1.1s							
PRZ	**Przheval'sk**	**4.43**	**46**	⇑*iP*		**Pn**	**00 56 17.1**	**+2.7**
	baz=47							
PRZ				⇑*iS*		**Sn**	**00 57 07.9**	**+2.3**
	baz=47							
CHM	**Chimkent**	**4.44**	**311**	*eP*		**Pn**	**00 56 17.4**	**+3.1**
	81nm,0.4s							
CHM				*eS*		**Sn**	**00 57 12.1**	**+6.4**
	326nm,0.5s							
KK31	**Karatay Array**	**4.53**	**324**	⇑Pn		**Pn**	**00 56 16.6**	**+1.0**
	8.9nm,0.4s,baz=130,slow=12,SNR=297							
KK31				⇓Pg		**Pb**	**00 56 27.1**	**+0.3**
	8.2nm,0.3s,baz=145,slow=16,SNR=9.1							
KK31				⇑Sn		**Sn**	**00 57 10.1**	**+2.3**
	24nm,0.6s,baz=44,slow=79,SNR=4.5							
KK31				⇑Lg		Lg	00 57 26.6	
	16nm,0.5s							
BRLS	**Borolday**	**4.79**	**319**	*eP*		**Pn**	**00 56 20.1**	**+0.9**
	50nm,0.5s							
BRLS				*eS*		**Sn**	**00 57 16.7**	**+2.4**
	79nm,0.5s							
BRLS	**Borolday**	**4.79**	**319**	Pg		**Pb**	**00 56 32.9**	**+1.5**
	50nm,0.5s							
BRLS				Lg		Lg	00 57 34.2	
	79nm,0.5s							
SATY	**Saty**	**4.83**	**41**	Pg		**Pb**	**00 56 33.3**	**+1.2**
	36nm,0.6s							
SATY				Lg		Lg	00 57 35.0	
	117nm,1.3s							
PDGK	**Podgornoye**	**5.59**	**45**	⇓Pn		**Pn**	**00 56 31.3**	**+1.1**
	7.2nm,0.7s							
PDGK				⇓Pg		**Pb**	**00 56 45.5**	**+0.5**
	43nm,1.0s							
PDGK				⇓Lg		Lg	00 57 57.8	
	72nm,1.0s							
CHCP	**Chirah Chowk**	**5.84**	**187**	P		Pn	00 56 40.3	+6.7
THW	**Thamme Wali**	**6.93**	**197**	P		Pn	00 56 55.4	+6.8
MKAR	**Makanchi Array**	**9.45**	**37**	Pn		**Pn**	**00 57 25.2**	**+2.1**
	0.1nm,0.3s,baz=225,slow=15,SNR=4.7							
MKAR				LR		LR	01 01 18.2	
	comp=Z,57nm,21.9s,baz=219,slow=39							
WMQ	**Urumqi**	**11.06**	**62**	*eP*		**Pn**	**00 57 46.3**	**+1.1**
KURBB	**Kurchatov Arra**	**11.58**	**4**	Pn		**Pn**	**00 57 50.2**	**-1.9**
	0.0nm,0.3s,baz=203,slow=12,SNR=3.1							
GEYT	**Alibeck**	**12.59**	**268**	Pn		**Pn**	**00 58 04.8**	**-1.3**
	0.7nm,0.3s,baz=93,slow=12,SNR=5.7							
BVAR	**Borovoye Array**	**13.80**	**351**	Pn		**Pn**	**00 58 21.3**	**-1.2**
	0.5nm,0.3s,baz=154,slow=12,SNR=15							
AKTO	**Aktyubinsk**	**15.77**	**319**	Pn		**Pn**	**00 58 46.6**	**-2.3**
	0.4nm,0.3s,baz=133,slow=14,SNR=12							
ZALV	**Zalesovo Beam**	**16.21**	**23**	Pn		**Pn**	**00 58 53.2**	**-1.4**
	0.1nm,0.3s,baz=204,slow=15,SNR=2.9							
ARU	**Arti**	**19.82**	**334**	P		**P**	**00 59 38.4**	**+1.0**
	0.0nm,0.3s,baz=178,slow=8.7,SNR=5.6							
GTA	**Gaotai**	**19.84**	**82**	*eP*		**P**	**00 59 39.5**	**+1.6**
GTA				pP		pP	00 59 45.3	+1.5
GTA				sP		sP	00 59 48.3	+1.8
GTA				pmax		pmax		
	comp=Z,7.0nm,1.0s							
SONM	**Songino Array**	**24.67**	**60**	P		**P**	**01 00 27.0**	**-0.7**
	0.4nm,0.4s,baz=290,slow=6.0,SNR=2.1							
MLR	**Muntele Rosu**	**35.59**	**296**	P		**P**	**01 02 05.8**	**+1.4**
	1.4nm,0.6s,baz=345,slow=11,SNR=6.3							
FINES	**FINESS Array B**	**36.49**	**323**	P		**P**	**01 02 11.6**	**-0.1**
	1.4nm,0.4s,baz=117,slow=9.5,SNR=33							
ARCES	**ARCESS Array B**	**39.40**	**335**	P		**P**	**01 02 36.2**	**+0.1**
	0.9nm,0.5s,baz=107,slow=9.5,SNR=16							
HFS	**Hagfors**	**42.32**	**320**	P		**P**	**01 03 00.1**	**-0.2**
	1.9nm,0.5s,baz=105,slow=9.7,SNR=11							
GERES	**GERESS Array B**	**43.29**	**303**	P		**P**	**01 03 09.1**	**+0.6**
	0.8nm,0.6s,baz=60,slow=7.9,SNR=7.0							
NB2	**NORSAR Subarra**	**43.55**	**321**	P		**P**	**01 03 09.6**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=91,slow=8.6							
NOA	**NORSAR Array B**	**43.55**	**321**	P		**P**	**01 03 09.7**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=90,slow=7.9,SNR=5.6							
ESDC	**Sonseca Array**	**58.26**	**297**	P		**P**	**01 05 01.1**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=56,slow=7.2,SNR=11							
TORD	**Torodi Ar. Bea**	**68.22**	**269**	P		**P**	**01 06 06.9**	**-0.8**
	comp=Z,1.5nm,0.5s,baz=49,slow=5.5,SNR=22							
ILAR	**Eielson Array**	**71.24**	**17**	P		**P**	**01 06 24.0**	**-1.5**
	comp=Z,0.5nm,0.7s,baz=321,slow=5.4,SNR=6.1							
YKA	**Yellowknife Ar**	**78.14**	**4**	P		**P**	**01 07 03.9**	**-1.7**
	comp=Z,1.1nm,0.7s,baz=346,slow=4.6,SNR=3.7							
WRA	**Warramunga Arr**	**81.56**	**124**	P		**P**	**01 07 23.6**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=328,slow=5.3,SNR=1.5							
ASAR	**Alice Springs**	**84.02**	**127**	P		**P**	**01 07 36.8**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=319,slow=4.8,SNR=4.3							

IDC 29 00:55:51.1±5.5, 19°.43S×175°.67W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.5/38, mbtmp3.7/2, Error ellipse: s-maj=354.1km s-min=43.3km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.90**	**255**	P	P		01 04 23.6	-0.2
	1.1nm,0.7s,baz=89,slow=8.1,SNR=9.3							
WRA	**Warramunga Arr**	**46.93**	**261**	P	P		01 04 23.9	0.0
	0.7nm,0.7s,baz=96,slow=8.5,SNR=2.3							
ARCES	**ARCESS Array B**	**128.25**	**351**	PKP		PKPdf	01 14 58.3	-0.6
	3.7nm,1.2s,baz=46,slow=2.6,SNR=6.0							
GERES	**GERESS Array B**	**149.70**	**348**	PKPbc		PKPbc	01 15 42.8	-0.2
	0.7nm,0.7s,baz=43,slow=4.4,SNR=5.8							

*IDC **29** 00:56:21.6±0.4, 39°.40N×111°.30W, h0km, mb4.2/21, mb1 4.3/29, mb1mx4.2/60, mbtmp4.1/29, ML3.3/6, MS3.3/11, Ms1 3.4/11, ms1mx3.0/43, Error ellipse: s-maj=8.2km s-min=8.0km az=136.0*

*UUSS **29** 00:56:22.2±1.7, 39°.44N±0°.03×111°.44W±0°.04, h9km±8km, ML4.2/30, mb4.5/2(NEIC), Mwr4.0/75(NEIC), Error ellipse: s-maj=5.3km s-min=3.5km az=152.0*

*NEIC **29** 00:56:22.3±1.3, 39°.47N±0°.03×111°.41W±0°.03, h2km±5km, Error ellipse: s-maj=5.3km s-min=3.0km az=145.0*

*NEIC **29** 00:56:22.3, 39°.45N×111°.44W, h5km, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}=1.39; $M_{\theta\theta}$=0.01; $M_{\phi\phi}$=1.38; $M_{r\theta}$=0.29; $M_{\theta\phi}$=0.36; $M_{\phi r}$=0.17; Fault plane solution: M_o=1.47000×10^{15} NP1:ϕ_s=3.97000°, δ=41.10000°, λ=-105.03000°. NP2:ϕ_s=203.58000°, δ=50.59000°, λ=-77.26000°. Principal axes: T 1.4852, Plg5.0000°, Azm285.0000°; N -0.0311, Plg10.0000°, Azm15.0000°; P -1.4540, Plg79.0000°, Azm169.0000°;*

*ANF **29** 00:56:24.0±0.3, 39°.44N×111°.41W, h5km, ML4.5/17, ML4.5/17 Error ellipse: s-maj=4.5km s-min=3.2km az=160.0*

ISC 29 00:56:22.6±1.1, 39°.47N±0°.02×111°.44W±0°.02, h2km±7km, n222, σ1§61/244, mb4.2/34, MS3.5/4, Utah

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TMUT	**Trail Mountain**	**0.25**	**134**			**Pg**	**00 56 26.9**	**-0.6**
TMUT				Sg		**Sg**	**00 56 30.8**	**-0.1**
P17A	**Butcher Ranch,**	**0.55**	**90**			**Pg**	**00 56 32.3**	**-0.8**
P17A				Sg		**Sg**	**00 56 39.5**	**-0.6**
MPU	**Maple Canyon**	**0.56**	**345**			**Pg**	**00 56 33.2**	**-0.2**
Q16A	**Castle Valley**	**0.59**	**159**	Pg		**Pg**	**00 56 32.8**	**-1.2**
Q16A				Sg		**Sg**	**00 56 40.2**	**-1.5**
NLU	**North Lily Min**	**0.68**	**315**			**Pg**	**00 56 35.9**	**+0.1**
SRU	**San Rafael Swe**	**0.80**	**117**			**Pg**	**00 56 36.6**	**-1.4**
SRU				Sg		**Sg**	**00 56 46.5**	**-1.9**
MSU	**Marysvale**	**1.12**	**211**	Pg		**Pg**	**00 56 42.6**	**-1.4**
JLU	**Jordanelle**	**1.13**	**360**			**Pb**	**00 56 44.7**	**-0.3**
TCRU	**Three Creeks R**	**1.16**	**222**	Pg		**Pg**	**00 56 44.1**	**-0.9**
CTU	**Camp Tracy**	**1.24**	**349**			**Pg**	**00 56 46.5**	**+0.1**
DUG	**Dugway, Tooele**	**1.28**	**305**	P		**Pg**	**00 56 46.3**	**-0.8**
	baz=125,SNR=1000							
DUG	**Dugway, Tooele**	**1.28**	**305**			**Pg**	**00 56 46.5**	**-0.6**
MTPU	**Mount Pierson**	**1.54**	**202**			**Pn**	**00 56 50.1**	**-1.4**
TCUT	**Toone Canyon**	**1.64**	**1**			**Pn**	**00 56 52.9**	**+0.1**
RDMU	**Red Mountain**	**1.81**	**52**			**Pb**	**00 56 55.6**	**-1.0**
BGU	**Big Grassy Mou**	**1.89**	**321**			**Pn**	**00 56 54.8**	**-1.3**
SPUT	**South Promonto**	**1.99**	**338**			**Pn**	**00 56 56.8**	**-0.6**
PV09	**Paradox Valley**	**2.05**	**118**			**Pb**	**00 56 58.9**	**-1.8**
PSUT	**Pine Spring**	**2.10**	**244**			**Pn**	**00 56 59.3**	**+0.3**
PV21	**Cone Mtn., Par**	**2.13**	**115**			**Pn**	**00 56 59.8**	**+0.4**
HWUT	**Hardware Ranch**	**2.13**	**358**			**Pn**	**00 56 59.6**	**+0.2**
PKCU	**Pink Cliffs**	**2.14**	**199**			**Pn**	**00 57 00.0**	**+0.4**
PV23	**Carpenter Ridg**	**2.15**	**117**	Pn		**Pb**	**00 57 00.6**	**-1.8**
PV10	**Paradox Valley**	**2.17**	**120**			**Pb**	**00 57 01.1**	**-1.7**
PV14	**Lion Creek, Pa**	**2.19**	**119**	Pn		**Pn**	**00 57 00.1**	**-0.1**
PV20	**West Nyswonger**	**2.24**	**120**			**Pn**	**00 57 01.1**	**+0.2**
PV19	**Morning Glory**	**2.24**	**120**			**Pn**	**00 57 01.8**	**+0.9**
PV04	**Paradox Valley**	**2.25**	**118**			**Pn**	**00 57 01.6**	**+0.5**
PV22	**Blue Mesa, Par**	**2.27**	**114**			**Pn**	**00 57 01.6**	**+0.2**
SZCU	**Shurtz Canyon**	**2.27**	**215**	Pn		**Pn**	**00 57 01.6**	**+0.2**
PV05	**Paradox Valley**	**2.30**	**126**			**Pn**	**00 57 02.3**	**+0.5**
PV11	**David Mesa, Pa**	**2.32**	**119**			**Pn**	**00 57 02.4**	**+0.4**
PV18	**Skein Mesa, Pa**	**2.33**	**121**	Pn		**Pn**	**00 57 02.4**	**+0.2**
PV07	**Paradox Valley**	**2.41**	**114**	Pn		**Pn**	**00 57 03.6**	**+0.3**
PV13	**Radium Mtn., P**	**2.43**	**122**			**Pn**	**00 57 03.7**	**+0.1**
CCUT	**Cedar City**	**2.44**	**219**	Pn		**Pn**	**00 57 04.2**	**+0.5**
HVU	**Hansel Valley**	**2.52**	**337**			**Pn**	**00 57 04.4**	**-0.3**
O20A	**White River Ci**	**2.55**	**74**	P		**Pb**	**00 57 07.3**	**-1.9**
	baz=255,SNR=1000							
O20A					Sb	**Sg**	**00 57 42.3**	**-2.4**
	baz=255							
KNB	**Kanab**	**2.68**	**204**	Pn		**Pn**	**00 57 07.7**	**+0.8**
LCMT	**Little Creek M**	**2.84**	**211**	Pn		**Pn**	**00 57 09.7**	**+0.6**
U15A	**North Rim**	**3.11**	**193**	Pn		**Pn**	**00 57 13.3**	**+0.3**
ELK	**Elko**	**3.17**	**295**	Pn		**Pn**	**00 57 13.9**	**+0.1**
MVCO	**Mesa Verde**	**3.23**	**133**	P		**Pn**	**00 57 14.4**	**-0.2**
	baz=315,SNR=217							
MVCO					Sb	**Sb**	**00 58 01.7**	**+0.9**
	baz=315							
MVCO	**Mesa Verde**	**3.23**	**133**	Pn		**Pn**	**00 57 14.5**	**-0.1**
R11A	**Troy Canyon, C**	**3.42**	**252**	P		**Pn**	**00 57 18.5**	**+1.4**
	baz=70,SNR=148							
R11A					Sb	**Sb**	**00 58 09.2**	**+3.1**
	baz=70							
R11A	**Troy Canyon, C**	**3.42**	**252**	Pn		**Pn**	**00 57 18.2**	**+1.1**
BW06	**Boulder Array**	**3.59**	**23**	P		**Pn**	**00 57 20.0**	**+0.5**
	baz=204,SNR=48							
BW06					Sb	**Sg**	**00 58 15.0**	**-2.8**
	baz=204							
BW06	**Boulder Array**	**3.59**	**23**			**Pn**	**00 57 19.9**	**+0.5**
PDAR	**Pinedale Array**	**3.59**	**23**	Pn		**Pn**	**00 57 19.9**	**+0.4**
	12nm,0.3s,baz=207,slow=14,SNR=105							
PDAR					Lg	Lg	00 58 16.1	
	26nm,0.3s,baz=187,slow=23,SNR=1.5							
RWWY	**Rawlins**	**3.91**	**54**	Pn		**Pn**	**00 57 24.3**	**+0.4**
WUAZ	**Wupatki**	**3.95**	**179**	P		**Pn**	**00 57 24.9**	**+0.6**
	baz=359,SNR=108							
WUAZ					Sb	**Sb**	**00 58 23.0**	**+1.7**
	baz=359							
WUAZ	**Wupatki**	**3.95**	**179**	Pn		**Pn**	**00 57 24.9**	**+0.6**
S22A	**4UR Ranch, Cre**	**4.00**	**114**	Pn		**Pn**	**00 57 25.4**	**+0.2**
	baz=297,SNR=128							
S22A					Pb	**Pb**	**00 57 35.8**	**+1.7**
	baz=297							
S22A					Sb	**Sb**	**00 58 25.2**	**+2.2**
	baz=297							
TPAW	**Teton Pass**	**4.03**	**5**	Pn		**Pn**	**00 57 26.6**	**+1.0**
FXWY	**Fox Creek**	**4.17**	**4**	Pn		**Pn**	**00 57 28.0**	**+0.5**
IMW	**Indian Meadow**	**4.44**	**5**	Pn		**Pn**	**00 57 32.0**	**+0.8**
N23A	**Red Feather La**	**4.45**	**70**	Pn		**Pn**	**00 57 32.9**	**+1.7**
	baz=253,SNR=31							
N23A					Pb	**Pb**	**00 57 42.1**	**+0.5**
	baz=253							
N23A					Sb	**Sb**	**00 58 36.8**	**+1.1**
	baz=253							
N23A	**Red Feather La**	**4.45**	**70**	Pn		**Pn**	**00 57 33.0**	**+1.7**
ISCO	**Idaho Springs**	**4.51**	**84**	Pn		**Pn**	**00 57 34.0**	**+1.7**
	baz=267,SNR=43							
ISCO					Pb	**Pb**	**00 57 44.5**	**+1.8**
	baz=267							
ISCO					Sb	**Sb**	**00 58 41.0**	**+3.3**
	baz=267							
ISCO	**Idaho Springs**	**4.51**	**84**	Pn		**Pn**	**00 57 33.8**	**+1.5**
TPNV	**Topopah Spring**	**4.55**	**238**	P		**Pn**	**00 57 33.4**	**+0.8**
	baz=55,SNR=46							
TPNV	**Topopah Spring**	**4.55**	**238**	Pn		**Pn**	**00 57 33.6**	**+1.0**
W18A	**Petrified Fore**	**4.55**	**162**	Pn		**Pn**	**00 57 33.4**	**+0.6**
	baz=343,SNR=5.4							
W18A					Pb	**Pb**	**00 57 44.2**	**+0.8**
	baz=343							
W18A					Sb	**Sb**	**00 58 40.8**	**+2.0**
	baz=343							
W18A	**Petrified Fore**	**4.55**	**162**			**Pn**	**00 57 33.6**	**+0.9**
FLWY	**Flagg Ranch**	**4.64**	**7**			**Pn**	**00 57 34.2**	**+0.3**
HLID	**Hailey**	**4.65**	**332**	P		**Pn**	**00 57 35.5**	**+1.4**
	baz=151,SNR=41							
HLID	**Hailey**	**4.65**	**332**	Pn		**Pn**	**00 57 35.0**	**+0.9**
K22A	**Casper**	**4.89**	**48**	Pn		**Pn**	**00 57 38.9**	**+1.6**
	baz=231,SNR=16							
K22A					Pb	**Pb**	**00 57 50.6**	**+1.6**
	baz=231							
K22A					Sb	**Sb**	**00 58 51.7**	**+3.3**
	baz=231							
K22A	**Casper**	**4.89**	**48**			**Pn**	**00 57 39.3**	**+2.0**
Q24A	**Divide**	**4.92**	**94**	Pn		**Pn**	**00 57 39.1**	**+1.3**
	baz=278							
Q24A					Pb	**Pb**	**00 57 52.3**	**+2.7**
	baz=278							
Q24A					Sb	**Sb**	**00 58 52.9**	**+3.7**
	baz=278							
Q24A	**Divide**	**4.92**	**94**	Pn		**Pn**	**00 57 38.9**	**+1.1**
PHWY	**Pilot Hill**	**4.92**	**66**	Pn		**Pn**	**00 57 35.1**	**-2.8**
SDCO	**Great Sand Dun**	**4.96**	**108**	Pn		**Pn**	**00 57 38.5**	**+0.1**
	baz=292,SNR=36							
SDCO					Pb	**Pb**	**00 57 51.1**	**+0.7**
	baz=292							
SDCO					Sn	**Sn**	**00 58 38.3**	**+1.8**
	baz=292							
SDCO					Sb	**Sb**	**00 58 55.2**	**+4.5**
	baz=292							
X16A	**Lo Mia Camp, P**	**5.05**	**180**	Pn		**Pn**	**00 57 40.7**	**+1.3**
GRAC	**Grapevine Rang**	**5.28**	**244**	P		**Pn**	**00 57 45.2**	**+2.7**
	baz=60							
NV11	**Mina Array Sit**	**5.33**	**261**	Pn		**Pn**	**00 57 45.7**	**+2.3**
TUQ	**Turquoise Moun**	**5.38**	**223**	P		**Pn**	**00 57 45.2**	**+1.2**
	baz=40,SNR=19							
NVAR	**Mina Array Bea**	**5.45**	**261**	Pn		**Pn**	**00 57 46.8**	**+1.8**
	1.2nm,0.3s,baz=84,slow=13,SNR=17							
NVAR					Lg	Lg	00 59 16.5	
	12nm,0.3s,baz=86,slow=29,SNR=6.7							
NVAR					LR	LR	00 59 60.0	
	comp=Z,475nm,19.0s,baz=46,slow=40							
GMRC	**Granite Mounta**	**5.76**	**217**	P		**Pn**	**00 57 49.7**	**+0.4**
	baz=35							
RLMT	**Red Lodge**	**5.87**	**15**	P		**Pn**	**00 57 52.5**	**+1.7**
	baz=196,SNR=17							
MPMC	**Manual Prospec**	**5.88**	**236**	P		**Pn**	**00 57 52.9**	**+2.0**
	baz=53,SNR=21							
GSC	**Goldstone, Bar**	**5.96**	**227**	P		**Pn**	**00 57 54.2**	**+2.3**
	baz=44,SNR=12							
T25A	**Trinidad**	**6.00**	**111**	Pn		**Pn**	**00 57 54.3**	**+1.7**
	baz=295,SNR=9.4							
T25A					Pb	**Pb**	**00 58 10.8**	**+2.7**
	baz=295							
T25A					Sb	**Sb**	**00 59 26.9**	**+6.5**
	baz=295							
ANMO	**Albuquerque**	**6.02**	**137**	P		**Pn**	**00 57 51.7**	**-1.1**
	baz=320							
ANMO					Sb	**Sb**	**00 59 25.3**	**+4.3**
	baz=320							
ANMO	**Albuquerque**	**6.02**	**137**	Pn		**Pn**	**00 57 51.7**	**-1.1**
	12nm,0.3s,baz=320,slow=12,SNR=165							
ANMO					Lg	Lg	00 59 25.4	
	27nm,0.3s,baz=75,slow=15,SNR=8.9							
ANMO					LR	LR	01 00 38.1	
	comp=Z,129nm,20.5s,baz=326,slow=44							
ANMO	**Albuquerque**	**6.02**	**137**	Pn		**Pn**	**00 57 51.6**	**-1.3**
HEC	**Hector,Ludlow**	**6.06**	**222**	P		**Pn**	**00 57 54.1**	**+0.8**
	baz=39,SNR=5.1							
BOZ	**Bozeman (W)**	**6.12**	**359**	P		**Pn**	**00 57 57.7**	**+3.5**
	baz=179,SNR=7.0							
PAHR	**Pah Rah Range**	**6.14**	**275**	Pn		**Pn**	**00 57 56.9**	**+2.5**
PNTR	**Pine Nut**	**6.34**	**269**			**Pn**	**00 57 59.1**	**+1.8**
VCNR	**Virginia City**	**6.36**	**271**	Pn		**Pn**	**00 57 59.9**	**+2.4**
LRM	**Limekiln Ridge**	**6.39**	**354**	Pn		**Pn**	**00 57 60.0**	**+2.0**
Y22D	**IRIS PASSCAL I**	**6.50**	**145**	Sb		**Sb**	**00 59 40.8**	**+6.2**
	baz=327							
J08A	**Circle Bar Ran**	**6.56**	**309**	Pn		**Pn**	**00 58 01.2**	**+1.1**
KSCO	**Kaye Shedlock'**	**6.86**	**91**	P		**Pn**	**00 58 06.0**	**+1.7**
	baz=276,SNR=6.1							
KSCO					Sb	**Sb**	**00 59 52.7**	**+7.7**
	baz=276							
PFO	**Pinyon Flats O**	**7.11**	**216**	Pn		**Pn**	**00 58 08.5**	**+0.9**
	0.2nm,0.3s,baz=45,slow=15,SNR=2.0							
PFO					LR	LR	01 01 01.5	
	comp=Z,79nm,19.1s,baz=314,slow=39							
MOD	**Modoc Plateau**	**7.16**	**293**	Pn		**Pn**	**00 58 10.6**	**+2.2**
TUC	**Tucson**	**7.17**	**176**	Sb		**Sb**	**00 59 58.4**	**+4.6**
	baz=356							
RSSD	**Black Hills**	**7.22**	**48**	P		**Pn**	**00 58 09.5**	**+0.1**
	baz=232							
RSSD	**Black Hills**	**7.22**	**48**	Pn		**Pn**	**00 58 09.2**	**-0.2**
AFDM	**Forest Hills D**	**7.42**	**269**	Pn		**Pn**	**00 58 14.1**	**+2.2**
MSO	**Missoula**	**7.58**	**347**	P		Pn	00 58 19.7	+5.6
	baz=165,SNR=7.3							
MSO	**Missoula**	**7.58**	**347**	Pn		**Pn**	**00 58 16.2**	**+2.1**
214A	**Organ Pipe Nat**	**7.58**	**189**	Pb		Pb	00 58 40.1	+5.3
	baz=8.1							
O03E	**Paynes Creek**	**8.01**	**279**	P		**Pn**	**00 58 23.8**	**+3.8**
	baz=93							
LAO	**LASA Array**	**8.16**	**26**	P		**Pn**	**00 58 22.0**	**-0.1**
	baz=210,SNR=14							
LAO	**LASA Array**	**8.16**	**26**	Pn		**Pn**	**00 58 22.2**	**+0.1**
O02D	**Mt. Diablo Mer**	**8.76**	**278**	P		**Pn**	**00 58 34.1**	**+3.8**
	baz=91							
YBH	**Yreka Blue Hor**	**8.86**	**288**	Pn		**Pn**	**00 58 34.5**	**+2.8**
	0.2nm,0.3s,baz=96,slow=9.2,SNR=11							
YBH					LR	LR	01 02 40.0	
	comp=Z,172nm,18.4s,baz=70,slow=42							
CBKS	**Cedar Bluff**	**9.12**	**90**	P		**Pn**	**00 58 35.9**	**+0.6**
	baz=278,SNR=5.6							
CBKS	**Cedar Bluff**	**9.12**	**90**	Pn		**Pn**	**00 58 34.6**	**-0.7**
MNTX	**Cornudas Mount**	**9.19**	**146**	P		**Pn**	**00 58 37.1**	**+0.9**
	baz=329							
MNTX	**Cornudas Mount**	**9.19**	**146**	Pn		**Pn**	**00 58 37.0**	**+0.7**
NEW	**Newport**	**9.69**	**337**	P		**Pn**	**00 58 46.1**	**+3.1**
	baz=153							
NEW	**Newport**	**9.69**	**337**	Pn		**Pn**	**00 58 45.1**	**+2.0**
	0.2nm,0.3s,baz=153,slow=15,SNR=4.3							
NEW					LR	LR	01 02 47.8	
	comp=Z,149nm,20.1s,baz=137,slow=39							
K02D	**Willamette Mer**	**9.77**	**293**	P		Pn	00 58 50.7	+6.5
	baz=105							
R32A	**Long Quarter,**	**9.98**	**92**	Pn		**Pn**	**00 58 45.6**	**-1.4**
K31A	**O'Neill**	**10.09**	**68**	Pn		**Pn**	**00 58 47.1**	**-1.4**
DGMT	**Dagmar**	**10.39**	**28**	P		**Pn**	**00 58 52.5**	**-0.1**
	baz=213							
ECSD	**EROS Data Cent**	**11.89**	**64**	P		**Pn**	**00 59 11.7**	**-1.4**
	baz=254,SNR=14							
TXAR	**Lajitas Array**	**11.97**	**145**	Pn		**Pn**	**00 59 14.6**	**+0.2**
	0.1nm,0.3s,baz=332,slow=12,SNR=17							
TXAR					Lg	Lg	01 02 36.5	
	0.5nm,0.3s,baz=344,slow=30,SNR=9.1							
TXAR					LR	LR	01 04 01.6	
	comp=Z,195nm,18.0s,baz=0.0,slow=39							
MIAR	**Mount Ida**	**15.09**	**103**	P		**Pn**	**00 59 57.4**	**+0.6**
	baz=294							
ULM	**Lac du Bonnet**	**15.39**	**40**	Pn		**Pn**	**00 59 59.5**	**-1.2**
	0.7nm,0.3s,baz=236,slow=13,SNR=3.4							
CCM	**Cathedral Cave**	**15.82**	**89**	P		**Pn**	**01 00 06.1**	**-0.3**
	baz=281							
W41B	**Gary Mavity, V**	**15.86**	**100**	P		**P**	**01 00

D55A	**Sainte-Anne-du**	**27.08**	**62**	P	**P**	**01 02 06.0**	**-0.5**
	baz=267						
J58A	**Remsen**	**27.26**	**70**	P	**P**	**01 02 08.6**	**+0.5**
	baz=274						
E56A	**St. Veronique**	**27.36**	**63**	P	**P**	**01 02 08.4**	**-0.6**
	baz=268						
I58A	**Old Forge**	**27.46**	**69**	P	**P**	**01 02 09.2**	**-0.7**
	baz=274						
D57A	**Chemin Vers le**	**28.16**	**62**	P	**P**	**01 02 15.5**	**-0.6**
	baz=268						
D58A	**Chemin du LacG**	**28.85**	**62**	P	**P**	**01 02 21.4**	**-0.9**
	baz=269						
E64A	**Bridgewater**	**32.34**	**63**	P	**P**	**01 02 52.4**	**-0.7**
	baz=274						
ILAR	**Eielson Array**	**32.61**	**333**	P	**P**	**01 02 56.6**	**+1.4**
	2.0nm,0.7s,baz=138,slow=7.1,SNR=23						
ILAR				LR	LR	01 17 24.3	
	comp=Z,71nm,19.0s,baz=114,slow=39						
SCHQ	**Schefferville**	**33.36**	**48**	P	**P**	**01 03 01.1**	**-0.8**
	3.9nm,1.0s,baz=217,slow=6.5,SNR=4.1						
PETK	**Petropavlovsk-**	**60.12**	**316**	P	**P**	**01 06 32.3**	**+1.1**
	6.0nm,0.9s,baz=90,slow=10,SNR=7.5						
ARCES	**ARCESS Array B**	**66.81**	**15**	P	**P**	**01 07 15.0**	**-0.2**
	2.8nm,0.6s,baz=318,slow=5.4,SNR=22						
LPAZ	**La Paz**	**68.63**	**135**	P	**P**	**01 07 26.6**	**-1.4**
	1.1nm,0.6s,baz=291,slow=3.2,SNR=5.1						
LPAZ	**La Paz**	**68.63**	**135**	IAmb	IAmb	01 07 29.4	
	comp=Z,1.4nm,0.8s						
NB2	**NORSAR Subarra**	**69.52**	**26**	P	**P**	**01 07 32.0**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=310,slow=6.5						
NOA	**NORSAR Array B**	**69.52**	**26**	P	**P**	**01 07 32.3**	**-0.1**
	comp=Z,2.5nm,0.8s,baz=312,slow=6.4,SNR=7.5						
FINES	**FINESS Array B**	**73.68**	**20**	P	**P**	**01 07 56.8**	**-0.6**
	comp=Z,3.0nm,0.7s,baz=351,slow=6.4,SNR=15						
PUL	**Pulkovo**	**76.20**	**19**	*e*P	**P**	**01 08 10.4**	**-1.5**
VSU	**Vasula**	**76.38**	**21**	*e*P	**P**	**01 08 11.8**	**-1.2**
ESDC	**Sonseca Array**	**77.11**	**49**	P	**P**	**01 08 16.2**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=298,slow=6.3,SNR=7.3						
KLMR	**Klimovskoe**	**77.24**	**14**	*e*P	**P**	**01 08 16.6**	**-1.2**
KLMR				AMP		01 08 20.9	
	comp=Z,15nm,1.3s						
CLL	**Collm**	**77.40**	**32**	*e*P	**P**	**01 08 19.0**	**+0.1**
PABE	**Paberze**	**78.05**	**24**	*e*P	**P**	**01 08 22.3**	**-0.1**
IZAR	**Zarasai**	**78.54**	**23**	*e*P	**P**	**01 08 25.5**	**+0.3**
ISAL	**Salakas**	**78.66**	**23**	*e*P	**P**	**01 08 25.5**	**-0.2**
IIGN	**Ignalina**	**78.88**	**23**	*e*P	**P**	**01 08 27.1**	**+0.1**
USRK	**Ussuriysk Ar.**	**78.99**	**319**	P	**P**	**01 08 28.4**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=32,slow=4.7,SNR=7.4						
MOTA	**Moosalm**	**79.57**	**36**	*i* pP	**P**	**01 08 30.1**	**-1.1**
	comp=Z,2.3nm,0.9s						
GERES	**GERESS Array B**	**79.57**	**33**	P	**P**	**01 08 30.9**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=328,slow=4.7,SNR=12						
FETA	**Feichten**	**79.64**	**36**	*i* P	**P**	**01 08 29.5**	**-2.0**
	comp=Z,2.8nm,1.2s						
SQTA	**Sankt Quirin**	**79.71**	**36**	*i* pP	**P**	**01 08 31.0**	**-0.9**
	comp=Z,3.9nm,0.9s						
WATA	**Walderalm**	**79.79**	**35**	*i* P	**P**	**01 08 29.3**	**-3.0**
	comp=Z,2.7nm,1.0s						
WTTA	**Wattenberg**	**79.87**	**35**	*i* pP	**P**	**01 08 33.0**	**+0.1**
	comp=Z,2.1nm,0.8s						
MOA	**Molln**	**80.58**	**34**	*i* pP	**P**	**01 08 36.3**	**-0.2**
	comp=Z,3.5nm,1.4s						
ABTA	**Abfaltersbach**	**80.65**	**35**	*i* P	**P**	**01 08 34.3**	**-2.6**
	comp=Z,2.4nm,1.0s						
CONA	**Conrad Observa**	**81.19**	**33**	*i* P	**P**	**01 08 36.8**	**-3.0**
	comp=Z,2.3nm,0.9s						
ARSA	**Arzberg**	**81.58**	**33**	*i* P	**P**	**01 08 39.7**	**-2.1**
	comp=Z,0.1nm,0.4s						
OBKA	**Obir**	**81.74**	**34**	*i* pP	**P**	**01 08 42.2**	**-0.5**
	comp=Z,3.1nm,0.6s						
SOKA	**Soboth**	**81.82**	**34**	*i* pP	**P**	**01 08 41.9**	**-1.2**
	comp=Z,4.6nm,1.1s						
CPUP	**Villa Florida**	**82.66**	**133**	P	**P**	**01 08 46.6**	**-0.8**
	comp=Z,3.4nm,0.8s,baz=316,slow=3.5,SNR=3.8						
CPUP	**Villa Florida**	**82.66**	**133**	IAmb	IAmb	01 08 48.0	
	comp=Z,8.2nm,1.1s						
AKASG	**Malin Array Be**	**83.80**	**24**	P	**P**	**01 08 52.3**	**-0.9**
	comp=Z,2.7nm,0.7s,baz=327,slow=4.2,SNR=8.3						
ZALV	**Zalesovo Beam**	**85.90**	**350**	P	**P**	**01 09 03.7**	**0.0**
	comp=Z,0.5nm,0.4s,baz=356,slow=4.3,SNR=2.3						
KSRS	**Korea Array**	**86.01**	**317**	P	**P**	**01 09 04.8**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=57,slow=4.6,SNR=5.3						
SONM	**Songino Array**	**86.79**	**336**	P	**P**	**01 09 08.7**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=28,slow=3.8,SNR=4.4						
HHC	**Hu-ho-hao-te**	**90.96**	**329**	*e*P	**P**	**01 09 29.3**	**+1.0**
HHC				pmax	pmax		
	comp=Z,13nm,0.9s						
HHC				pmax	pmax		
	comp=Z,46nm,5.0s						
MKAR	**Makanchi Array**	**93.24**	**351**	P	**P**	**01 09 37.9**	**-0.7**
	comp=Z,0.5nm,0.7s,baz=350,slow=6.6,SNR=4.4						
KBZ	**Khabaz**	**93.99**	**18**	P	**P**	**01 09 40.6**	**-1.4**
	comp=Z,2.1nm,0.9s,baz=216,slow=2.1,SNR=4.8						
WMQ	**Urumqi**	**95.30**	**346**	*e*P	**P**	**01 09 48.3**	**+0.1**
LZH	**Lanzhou**	**98.07**	**332**	*e*P	**P**	**01 09 57.8**	**-3.2**
LZH				pP	Pdif	01 09 59.5	-1.5
LZH				sP	PcP	01 10 00.3	-0.7
LZH				pmax	pmax		
	comp=Z,16nm,1.4s						
LZH				pmax	pmax		
	comp=Z,49nm,5.5s						
ASAR	**Alice Springs**	**123.28**	**265**	PKP	**PKPdf**	**01 15 20.6**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=56,slow=2.4,SNR=11						
MAW	**Mawson**	**151.64**	**175**	PKPbc	**PKPbc**	**01 16 15.7**	**-1.6**
	comp=Z,3.6nm,0.9s,baz=244,slow=4.3,SNR=5.6						

ASRS 29 00:57:36.1±0.3,50°N±2°×9°1E±°,h10km,MLh3.5/14,
smi:org.gfz-potsdam.de/geofon/LOCSAT earthModelID
smi:org.gfz-potsdam.de/geofon/tab confirmed,
Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**1.85**	**267**	Pg	Pb	00 58 09.1	-1.0
CUR				Sg	Sb	00 58 34.3	+0.9
ULGR	**Ulagan, Altay**	**2.12**	**282**	Pg	Pb	00 58 14.9	+0.2
ULGR				Sg	Sg	00 58 43.0	-1.2
AKAR	**Aktash**	**2.31**	**273**	Pg	Pb	00 58 17.5	-0.4
AKAR				Sg	Sg	00 58 48.8	-1.6
CHBI	**Chibit, Altay**	**2.39**	**273**	Pg	Pb	00 58 18.9	-0.3
CHBI				Sg	Sb	00 58 49.4	+0.6
DGZ	**Jazzator, Alta**	**2.51**	**259**	Pg	Pb	00 58 20.7	-0.6
DGZ				Sg	Sb	00 58 54.2	+1.9
KZLR	**Kyzyl**	**2.51**	**53**	Pg	Pb	00 58 21.2	-0.1
KZLR				Sg	Sb	00 58 53.1	+0.9
DJOS	**Djoyskaya Sosn**	**2.56**	**2**	Pg	Pg	00 58 24.1	-1.0
DJOS				Sg	Sg	00 58 57.9	-0.3
CERR	**Cheremushki**	**2.62**	**2**	Pg	Pg	00 58 27.3	+1.1
CERR				Sg	Sg	00 58 58.2	-1.9
TBTR	**Tabat**	**2.71**	**353**	Pg	Pg	00 58 26.5	-1.5
TBTR				Sg	Sg	00 59 01.5	-1.5
ARDR	**Aradan**	**2.72**	**30**	Pg	Pg	00 58 26.6	-1.5
ARDR				Sg	Sg	00 59 01.2	-2.1
ARTR	**Artybash**	**2.94**	**304**	Pg	Pg	00 58 30.6	-1.8
ARTR				Sg	Sg	00 59 09.0	-1.4
VEH	**Verkhnyaya Baz**	**3.07**	**350**	Sg	Sn	00 59 03.0	+1.5
TUNR	**Tungur**	**3.15**	**270**	Pg	Pb	00 58 31.8	-0.3
TUNR				Sg	Sg	00 59 14.0	-3.1
TASR	**Tashtagol**	**3.28**	**322**	Pg	Pg	00 58 37.2	-1.6
TASR				Sg	Sg	00 59 18.2	-3.0
ABNR	**Abakan**	**3.49**	**2**	Pg	Pb	00 58 40.4	+2.5
ABNR				Sg	Sg	00 59 27.2	-0.9
LUZB	**Luzhba, Kemero**	**3.71**	**338**	Pg	Pg	00 58 45.5	-1.7
LUZB				Sg	Sg	00 59 33.6	-1.6
TDJR	**Todzha**	**3.74**	**53**	Pn	Pn	00 58 36.2	+2.3
TDJR				Pg	Pg	00 58 47.2	-0.5
TDJR				Sg	Sg	00 59 32.7	-3.5
GALT	**Gorno-Altaysk,**	**3.75**	**299**	Pg	Pb	00 58 44.7	+2.4
GALT				Sg	Sg	00 59 34.1	-2.2
SHRR	**Shira**	**4.31**	**352**	Pg	Pg	00 58 56.5	-2.0
SHRR				Sg	Sg	00 59 52.2	-2.0
ELT	**Eltsovka**	**4.33**	**316**	Pn	Pn	00 58 40.9	-1.0
ELT				Pg	Pb	00 58 53.9	+1.7
ELT				Sg	Sg	00 59 55.3	+0.4
MINR	**Mina**	**5.00**	**20**	Pg	Pg	00 59 11.2	-0.6
MINR				Sg	Sg	01 00 16.4	-0.2
ORY	**Orie**	**5.32**	**25**	Sg	Sg	01 00 20.2	-6.6
SALR	**Pechorkino, Sa**	**5.38**	**323**	Sg	Sg	01 00 25.0	-3.6
SHTK	**Zheleznogorsk-**	**6.27**	**12**	Sg	Sb	01 00 46.5	+6.4
MOY	**Mondy**	**6.33**	**73**	Sg	Sg	01 00 52.6	-6.6
NVSII	**Novosibirsk**	**6.70**	**316**	Sg	Sg	01 01 07.7	-3.3

*IDC **29** 00:58:19.5±1.3,58.63°×25.83°W,h0km,mb4.0/2,*
mb1 4.1/2,mb1mx3.7/22,mbtmp4.0/2,Error ellipse:
s-maj=105.5km s-min=33.5km az=100.0
ISC 29 00:58:35.2±1.5,59.1°S±0.2°×22.6°W±0.5,h100km,n6,
σ1s94/6,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.04**	**158**	P	**Pn**	**01 01 36.3**	**+0.1**
VNA3	**Neumayer Olymp**	**13.29**	**162**	P	**Pn**	**01 01 38.4**	**-1.2**
SNAA	**Sanae**	**14.94**	**155**	P	**Pn**	**01 02 02.3**	**+1.5**
VNDA	**Vanda**	**43.59**	**181**	P	**P**	**01 06 27.9**	**-0.7**
	1.4nm,0.9s,baz=177,slow=6.0,SNR=8.1						
TORD	**Torodi Ar. Bea**	**74.68**	**25**	P	**P**	**01 10 02.4**	**-1.1**
	1.3nm,0.7s,baz=197,slow=6.3,SNR=6.1						
ILAR	**Eielson Array**	**153.95**	**306**	PKPbc	**PKPdf**	**01 18 15.6**	**+2.4**
	2.3nm,0.9s,baz=116,slow=2.1,SNR=13						

*NEIC **29** 01:03:49.7±2.0, 15.7°N±0.1°×147.7°E±0.1°,h10km±2km,*
mb4.3/3, Error ellipse: s-maj=22.3km s-min=17.6km
az=98.0
*IDC **29** 01:03:50.9±2.2, 15.82N×147.38E,h0km,mb3.9/8,*
mb1 4.0/9,mb1mx3.7/56,mbtmp3.9/9,ML3.6/1,Error
ellipse: s-maj=53.4km s-min=31.5km az=126.0
ISC 29 01:03:52.5±1.7,15.8N±0.1°×147.3E±0.2,h10km,n15,
σ1s20/15,mb4.1/10,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**3.19**	**227**	Pn	**Pn**	**01 04 43.7**	**+1.0**
	7.0nm,0.3s,baz=330,slow=4.0,SNR=11						
GUMO				Sn	**Sn**	**01 05 18.3**	**-2.5**
	20nm,0.3s,baz=136,slow=24,SNR=8.9						
GUMO	**Guam**	**3.19**	**227**		**Sn**	**01 05 21.7**	**+0.9**
JCJ	**Chichijima**	**12.31**	**338**	Pn	**Pn**	**01 06 46.7**	**+0.2**
PATS	**Pohnpei**	**14.01**	**128**	Pn	Pn	01 07 02.4	-8.8
MJAR	**Matsushiro Arr**	**22.19**	**340**	P	**P**	**01 08 48.9**	**0.0**
	0.4nm,0.3s,baz=166,slow=11,SNR=2.0						
KLR	**Kul'dur**	**35.68**	**343**	P	**P**	**01 10 49.9**	**-0.9**
	0.9nm,0.3s,baz=109,slow=4.3,SNR=5.8						
SONM	**Songino Array**	**46.35**	**322**	P	**P**	**01 12 20.1**	**+1.2**
	0.6nm,0.5s,baz=123,slow=5.3,SNR=2.4						
MK31	**Makanchi Array**	**61.56**	**315**	P	**P**	**01 14 11.0**	**+1.0**
MK31				IAmb	IAmb	01 15 05.5	
	comp=Z,4.4nm,1.6s						
MKAR	**Makanchi Array**	**61.56**	**315**	P	**P**	**01 14 10.7**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=86,slow=8.4,SNR=5.2						
MAKZ	**Makanchi**	**61.78**	**315**	P	**P**	**01 14 09.6**	**-1.9**
MAKZ				IAmb	IAmb	01 14 27.5	
	comp=Z,2.0nm,1.1s						
KURK	**Kurchatov**	**64.43**	**319**	P	**P**	**01 14 28.2**	**-0.8**
KURBB	**Kurchatov Arra**	**64.48**	**319**	P	**P**	**01 14 29.6**	**+0.3**
	comp=Z,4.2nm,0.8s,baz=99,slow=6.6,SNR=40						
ILAR	**Eielson Array**	**65.60**	**25**	P	**P**	**01 14 36.4**	**0.0**
	comp=Z,0.6nm,0.8s,baz=247,slow=5.6,SNR=5.1						
ARCES	**ARCESS Array B**	**85.71**	**343**	P	**P**	**01 16 31.8**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=69,slow=6.6,SNR=8.3						
FINES	**FINESS Array B**	**90.14**	**336**	P	**P**	**01 16 51.6**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=76,slow=4.6,SNR=8.1						

IDC 29 01:05:06.2±3.4,10.79S×161.42E,h0km,mb3.7/3,
mb1 4.0/4,mb1mx3.6/37,mbtmp3.9/4,ML4.0/1,MS3.4/4,
Ms1 3.4/4,ms1mx2.9/25,Error ellipse: s-maj=59.7km
s-min=31.2km az=82.0,Bougainville-Solomon Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.98**	**313**	Pn	Pn	01 05 40.7	-0.3
	75nm,0.3s,baz=166,slow=9.1,SNR=21						
HNR				Sn	Sb	01 06 07.8	-0.6
	202nm,0.3s,baz=272,slow=23,SNR=7.4						
DZM	**Mont Dzumac**	**12.21**	**157**	LR	LR	01 11 17.7	
	comp=Z,88nm,18.2s,baz=16,slow=30						
PMG	**Port Moresby**	**14.11**	**274**	LR	LR	01 13 38.9	
	comp=Z,132nm,18.8s,baz=90,slow=36						
CTA	**Charters Tower**	**17.28**	**236**	P	P	01 09 10.2	-0.5
	0.3nm,0.3s,baz=72,slow=10,SNR=7.4						
WRA	**Warramunga Arr**	**27.61**	**248**	P	P	01 10 56.6	+0.9
	1.6nm,1.0s,baz=70,slow=10,SNR=4.5						
WRA				LR	LR	01 22 13.7	
	comp=Z,84nm,18.6s,baz=225,slow=37						
ASAR	**Alice Springs**	**29.16**	**240**	P	P	01 11 08.1	-1.4
	0.4nm,0.7s,baz=62,slow=10,SNR=4.3						
ASAR				LR	LR	01 21 56.4	
	comp=Z,84nm,18.2s,baz=31,slow=35						
H11S2	**WAKE ISLAND Hy**	**29.56**	**10**	T	T	01 41 55.1	
	baz=189,slow=76,SNR=30						
H11S3	**WAKE ISLAND Hy**	**29.56**	**10**	T	T	01 41 55.6	
	baz=189,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**29.57**	**10**	T	T	01 41 58.2	
	baz=189,slow=76,SNR=20						
MKAR	**Makanchi Array**	**90.45**	**318**	P	P	01 18 10.2	+0.2
	0.3nm,0.5s,baz=101,slow=4.8,SNR=4.0						

*THR **29** 01:09:29.3±0.3,34.12N×48.14E,h18km±4km, ML4.0*
*TEH **29** 01:09:30.9,33.98N×48.21E,h15km,ML4.1*
*IDC **29** 01:09:30.7±1.0,33.88N×48.07E,h0km,mb3.7/14,*
mb1 3.8/22,mb1mx3.6/54,mbtmp3.7/22,ML3.6/8,MS3.2/18,
Ms1 3.2/18,ms1mx3.1/40,Error ellipse: s-maj=2.6km
s-min=13.1km az=173.0
*NEIC **29** 01:09:31.1±2.7,34.00N±0.04×48.28E±0.05,h27km±6km,*
Error ellipse: s-maj=6.8km s-min=6.0km az=142.0
*OMAN **29** 01:09:44.3±5.0,33.84N×49.12E,h202km,mb4.5/11,Error*
ellipse: s-maj=240.1km s-min=67.0km az=287.0
ISC 29 01:09:30.2±1.3,33.95N±0.03×48.25E±0.02,h12km±9km,
n122,σ2s57/125,mb4.0/30,MS3.1/12,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDOB	**Doab**	**0.17**	**200**	*e*Pg	**Pb**	**01 09 35.3**	**-0.2**
IDOB				*e*		01 09 39.2	
HSAM	**Samen**	**0.40**	**48**	*e*Pg	**Pb**	**01 09 39.0**	**-0.4**
HSAM				*e*		01 09 46.6	
HSAM	**Samen**	**0.40**	**48**	Pg	**Pb**	**01 09 39.0**	**-0.4**
IKMR	**Kamar-syah**	**0.44**	**165**	*e*Pg	**Pb**	**01 09 40.2**	**+0.2**
IKMR				*e*Sg	**Sb**	**01 09 47.9**	**+1.4**
IKMR				*e*		01 09 48.6	
IKFM	**Kafar-mosalman**	**0.54**	**218**	*e*Pg	**Pg**	**01 09 41.3**	**+0.6**
IKFM				*e*		01 09 51.8	
BMDN	**Meydan**	**0.55**	**119**	*e*Pg	**Pb**	**01 09 42.5**	**+0.4**
BMDN				*e*		01 09 54.1	
BMDN	**Meydan**	**0.55**	**119**	Pg	**Pb**	**01 09 42.4**	**+0.4**
IBZA	**Bozab**	**0.61**	**329**	*e*Pg	**Pg**	**01 09 41.7**	**-0.6**
IBZA				*e*		01 09 58.2	
IKOM	**Komasi**	**0.65**	**291**	*e*Pg	**Pg**	**01 09 42.3**	**-0.7**
IKOM				*e*		01 09 59.7	
IALM	**Almabolaq**	**0.92**	**356**	*e*Pg	**Pg**	**01 09 47.1**	**-0.9**
KER	**Kermanshah**	**1.02**	**296**	*e*Pg	**Pg**	**01 09 49.1**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.05**	**289**	*e*Pg	**Pg**	**01 09 49.3**	**-1.3**
KCHF				*e*		01 10 16.5	
KCHF	**Cheshme Sefid,**	**1.05**	**289**		**Pg**	**01 09 49.3**	**-1.3**
HAGD	**Aghdareh**	**1.15**	**40**	*e*Pg	**Pg**	**01 09 52.0**	**-0.3**
HAGD				*e*		01 10 10.5	
HAGD	**Aghdareh**	**1.15**	**40**		**Pg**	**01 09 52.0**	**-0.3**
IVIS	**Veis**	**1.29**	**297**	*e*Pg	**Pn**	**01 09 53.7**	**-0.6**
IVIS				*e*		01 10 21.6	
KHMZ	**Khomeyn**	**1.44**	**98**	*e*Pg	**Pg**	**01 09 58.1**	**+0.1**
IGHG	**Ghaleghazi**	**1.44**	**286**	*e*Pg	**Pb**	**01 09 57.4**	**+0.2**
IGHG				*e*		01 10 25.4	
ASAO	**Ashtian**	**1.59**	**67**	*e*Pg	**Pb**	**01 09 59.2**	**-0.6**
ASAO				IAML		01 10 31.8	
	comp=N,1μm,0.6s						
ASAO	**Ashtian**	**1.59**	**67**	*e*Pg	**Pb**	**01 09 59.2**	**-0.6**
ASAO	**Ashtian**	**1.59**	**67**		**Pb**	**01 09 59.1**	**-0.6**
IDHR	**Dehrash**	**1.71**	**297**	*e*Pg	**Pg**	**01 10 02.6**	**-0.5**
IDHR				*e*		01 10 32.6	
IRAZ	**Razeghan**	**2.01**	**43**	*e*		01 10 43.7	
IRAZ				*e*Pn	**Pb**	**01 10 06.9**	**0.0**
QABG	**Abgarm-Qazvin**	**2.08**	**32**	*e*Pn	**Pb**	**01 10 07.5**	**-0.6**
QABG	**Abgarm-Qazvin**	**2.08**	**32**	Pn	**Pb**	**01 10 07.4**	**-0.6**
IPIR	**Pirpir**	**2.55**	**119**	*e*Pn	**Pb**	**01 10 15.5**	**-0.6**
IPIR				*e*		01 10 21.0	
GHVR	**GHOM**	**2.58**	**77**	*e*Pn	**Pn**	**01 10 12.5**	**+0.5**
GHVR	**GHOM**	**2.58**	**77**	*e*Pn	**Pn**	**01 10 12.5**	**+0.5**
IMHD	**Mahdasht**	**2.64**	**48**	*e*Pn	**Pb**	**01 10 16.3**	**-1.3**
IMHD				*e*		01 10 56.8	
JHBN	**Jahan bin**	**2.66**	**129**	*e*Pn	**Pb**	**01 10 18.0**	**+0.1**
ROKH	**ROKH**	**2.83**	**124**	*e*Pn	**Pb**	**01 10 19.3**	**-1.6**

IKLH	**Kolahrood**	**2.85**	**102**	*e*Pn	**Pb**	**01 10 19.1**	**-2.1**
IHSB	**Hasanabad**	**2.91**	**58**	*e*	Pg	01 10 34.4	+8.4
IGZV	**Ghazvin**	**2.92**	**33**	*e*Pn	**Pb**	**01 10 21.3**	**-1.2**
IGZV				*e*		01 11 07.4	
CHTH	**Charan**	**3.07**	**50**	*e*Pg	**Pb**	**01 10 24.0**	**-1.0**
CHTH				*e*Sg	**Sb**	**01 11 04.0**	**+1.4**
QALM	**Alamut, Qazvin**	**3.17**	**38**	*e*Pn	**Pb**	**01 10 23.9**	**-2.7**
QALM				*e*		01 11 12.2	
IZEF	**Zefreh**	**3.57**	**106**	*e*Pn	**Pn**	**01 10 29.6**	**+3.8**
IRAM	**Ramesheh**	**4.08**	**120**	*e*Pn	**Pn**	**01 10 36.5**	**+3.8**
ISHM	**Shahmirzad**	**4.54**	**64**	*e*Pn	**Pn**	**01 10 43.2**	**+4.0**
ITBZ	**Tabriz**	**4.60**	**339**	*e*Pn	**Pn**	**01 10 42.8**	**+2.9**
ISAD	**Sadrabad**	**5.00**	**112**	*e*Pn	**Pn**	**01 10 49.1**	**+3.6**
TPRV	**Parvadeh(Tabas**	**7.11**	**95**	*e*Pn	**Pn**	**01 11 18.5**	**+4.3**
TBLG	**Delisi**	**8.25**	**341**	Pn	**Pn**	**01 11 27.9**	**-1.9**
AKH	**Akhalkalaki**	**8.35**	**335**	Pn	**Pn**	**01 11 30.4**	**-0.8**
GEYT	**Alibeck**	**8.94**	**61**	Pn	Pn	01 11 44.9	+5.7
	comp=N,0.1nm,0.3s,baz=250,slow=12,SNR=2.2						
GYA0B	**ALIBECK ARRAY**	**8.94**	**61**	Pn	**Pn**	**01 11 37.9**	**-1.3**
GAZ	**Gaziantep**	**9.55**	**293**	Pn	**Pn**	**01 11 47.7**	**+0.1**
ASF	**Jabal al Asfar**	**9.69**	**263**	Pn	**Pn**	**01 11 50.5**	**+0.9**
	comp=N,0.4nm,0.3s,baz=46,slow=7.8,SNR=3.8						
BANOM	**Banah**	**10.61**	**137**	P	**Pn**	**01 12 04.2**	**+2.0**
	SNR=13						
BANOM				S	**Sn**	**01 14 00.3**	**-0.7**
KBZ	**Khabaz**	**10.62**	**338**	LR	LR	01 15 46.8	
	comp=N,49nm,19.1s,baz=161,slow=35						
MMAI	**Mount Meron Ar**	**10.77**	**269**	Pn	**Pn**	**01 12 03.9**	**-0.4**
	comp=N,0.2nm,0.3s,baz=68,slow=16,SNR=1.8						
MMAI				LR	LR	01 17 15.2	
	comp=N,132nm,20.2s,baz=135,slow=44						
MDH	**Madha**	**11.10**	**139**	P	**Pn**	**01 12 10.6**	**+1.7**
MDH				S	**Sn**	**01 14 07.2**	**-5.8**
UOSS	**Minazif**	**11.33**	**140**	P	**Pn**	**01 12 12.8**	**+0.7**
UOSS				S	**Sn**	**01 14 14.6**	**-4.1**
HATD	**Hatta, Dubai**	**11.39**	**141**	P	**Pn**	**01 12 15.4**	**+2.6**
HATD				S	**Sn**	**01 14 16.4**	**-3.7**
ASHO	**Ashiyiah**	**11.47**	**142**	P	**Pn**	**01 12 15.7**	**+1.8**
	SNR=10						
ASHO				S	**Sn**	**01 14 19.2**	**-2.9**
HRA	**Herat**	**11.61**	**84**	Pn	**Pn**	**01 12 14.4**	**-1.5**
EIL	**Elat**	**12.08**	**253**	Pn	**Pn**	**01 12 22.8**	**+0.5**
	comp=N,0.3nm,0.3s,baz=28,slow=10.0,SNR=3.6						
EIL				LR	LR	01 17 00.2	
	comp=N,84nm,20.9s,baz=80,slow=38						
SOHO	**SOHO**	**12.16**	**141**	P	**Pn**	**01 12 26.8**	**+3.4**
SOHO				S	**Sn**	**01 14 37.5**	**-1.6**
ARQ	**Araqi**	**12.82**	**143**	P	**Pn**	**01 12 33.8**	**+1.4**
	SNR=7.8						
ARQ				S	**Sn**	**01 14 52.5**	**-2.6**
HOQ	**Hoqain**	**13.02**	**140**	P	**Pn**	**01 12 38.5**	**+3.3**
HOQ				S	**Sn**	**01 14 54.9**	**-5.2**
BRTR	**Keskin Array B**	**13.04**	**300**	Pn	**Pn**	**01 12 38.9**	**+3.4**
	comp=N,0.0nm,0.3s,baz=113,slow=11,SNR=4.3						
BRTR				LR	LR	01 18 29.8	
	comp=N,53nm,19.5s,baz=92,slow=42						
SMDO	**Samad**	**13.84**	**139**	P	**Pn**	**01 12 47.0**	**+0.6**
SMDO				S	**Sn**	**01 15 18.2**	**-2.0**
WSAR	**Wadi Sarin**	**14.03**	**137**	Pn	**Pn**	**01 12 51.7**	**+2.9**
	comp=N,1.6nm,0.3s,baz=331,slow=12,SNR=9.4						
WSAR				LR	LR	01 18 48.9	
	comp=N,215nm,20.8s,baz=342,slow=40						
JMDO	**Jabal Madar**	**14.43**	**141**	P	**Pn**	**01 12 53.6**	**-0.8**
WBK	**Wadi Bani Khal**

HFS	**Hagfors**	**34.53**	**330**	P	**P**	**01 16 19.3**	**+1.1**
	comp=Z,1.1nm,0.5s,baz=116,slow=10,SNR=8.8							
HFS				LR	LR	01 31 13.3		
	comp=Z,39nm,21.6s,baz=132,slow=38							
NOA	**NORSAR Array B**	**36.05**	**330**	LR	LR	01 32 35.0		
	comp=Z,31nm,20.5s,baz=125,slow=38							
ARCES	**ARCESS Array B**	**37.82**	**347**	P	**P**	**01 16 50.3**	**+4.0**
	comp=Z,1.3nm,0.9s,baz=159,slow=10,SNR=6.7							
NRIK	**Noril'sk**	**41.59**	**20**	LR	LR	01 38 59.0		
	comp=Z,32nm,18.6s,baz=170,slow=42							
ESDC	**Sonseca Array**	**41.70**	**294**	P	**P**	**01 17 21.7**	**+2.6**
	comp=Z,0.7nm,0.9s,baz=73,slow=8.0,SNR=3.9							
ESDC				LR	LR	01 36 45.2		
	comp=Z,36nm,18.1s,baz=95,slow=39							
TORD	**Torodi Ar. Bea**	**46.96**	**255**	P	**P**	**01 18 01.6**	**+0.3**
	comp=Z,0.8nm,0.6s,baz=62,slow=6.6,SNR=15							
TORD				LR	LR	01 40 52.8		
	comp=Z,52nm,18.0s,baz=145,slow=40							
CMAR	**Chiang Mai Arr**	**47.57**	**96**	P	**P**	**01 18 07.8**	**+1.7**
	comp=Z,0.7nm,0.5s,baz=292,slow=8.5,SNR=4.4							
CMAR				LR	LR	01 42 39.6		
	comp=Z,37nm,20.4s,baz=70,slow=42							
KSRS	**Korea Array**	**62.93**	**62**	P	**P**	**01 19 59.5**	**+3.0**
	comp=Z,0.6nm,0.6s,baz=301,slow=6.7,SNR=2.5							
USRK	**Ussuriysk Ar.**	**63.17**	**53**	P	**P**	**01 20 01.4**	**+3.4**
	comp=Z,0.9nm,0.7s,baz=288,slow=3.8,SNR=4.1							
BOSA	**Boshof**	**65.92**	**202**	LR	LR	01 50 53.4		
	comp=Z,93nm,18.3s,baz=63,slow=38							

*IDC **29** 01:15:18.4±1.1,38˚.79N×27˚.34E,h0^{km},mb3.4/4, mb1 3.6/11,mb1mx3.4/41,mbtmp3.5/11,ML3.2/7,MS2.7/1, Ms1 2.7/1,ms1mx2.1/37,Error ellipse: s-maj=16.4km s-min=16.3km az=82.0*

*ISK **29** 01:15:19.4,38˚.86N×27˚.17E,h16^{km},ML4.0/49*

*ATH **29** 01:15:19.9,38˚.83N×27˚.18E,h39^{km}±1^{km},ML3.8/6, Error ellipse: s-maj=2.3km s-min=0.9km az=264.0*

*NEIC **29** 01:15:19.9±1.9,38˚.84N±0˚.05×27˚.20E±0˚.04,h18^{km}±8^{km}, Error ellipse: s-maj=7.7km s-min=4.9km az=197.0*

*DDA **29** 01:15:20.3,38˚.83N×27˚.14E,h10^{km},MW3.9*

*THE **29** 01:15:21.7,38˚.83N×27˚.17E,h22^{km}±1^{km},ML3.8/6, Error ellipse: s-maj=1.6km s-min=0.5km az=8.0*

*SOF **29** 01:15:24.4,39˚.35N×26˚.91E,h2^{km},MD3.8*

ISC 29 01:15:19.9±0.8,38˚.84N±0˚.02×27˚.18E±0˚.02,h12^{km}±6^{km}, n202,σ0.97/235,mb3.4/4,13C-6D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZEDA	**zmir-Bergama**	**0.15**	**328**	*i* P	**Pg**	**01 15 23.2**	**-0.3**
ZEDA				*i* S	**Sg**	**01 15 25.5**	**-0.5**
ZEDA				IAML		01 15 26.0	
	comp=N,19μm,0.5s						
DKL	**Dikili**	**0.32**	**318**	PG	**Pg**	**01 15 26.2**	**-0.1**
DKL				SG	**Sg**	**01 15 31.0**	**+0.4**
DKL	**Dikili**	**0.32**	**318**	Pg	**Pg**	**01 15 26.3**	**0.0**
DKL				Sg	**Sg**	**01 15 31.0**	**+0.4**
AKS	**Akhisar**	**0.50**	**85**	PG	**Pb**	**01 15 30.1**	**-0.4**
AKS				SG	**Sb**	**01 15 37.4**	**-0.4**
AKHS	**Akhisar**	**0.50**	**85**	*i* P	**Pg**	**01 15 30.0**	**+0.4**
AKHS				IAML		01 15 37.0	
	comp=E,4μm,0.4s						
AKHS				*i* S	**Sb**	**01 15 37.4**	**-0.4**
KRBN	**Karaburun**	**0.55**	**244**	PG	**Pg**	**01 15 30.8**	**+0.2**
KRBN				SG	**Sb**	**01 15 39.1**	**0.0**
KRBN	**Karaburun**	**0.55**	**244**	Pg	**Pg**	**01 15 30.7**	**+0.2**
KRBN				Sg	**Sb**	**01 15 39.2**	**0.0**
GOMA	**Golmarmara-Man**	**0.59**	**102**	PG	**Pg**	**01 15 31.6**	**+0.2**
GOMA	**Golmarmara-Man**	**0.59**	**102**	Pg	**Pb**	**01 15 32.1**	**-0.1**
AYVA	**Ayvalik**	**0.60**	**321**	*i* P	**Pg**	**01 15 31.5**	**-0.1**
AYVA				*i* S	**Sg**	**01 15 39.8**	**+0.1**
AYVA				IAML		01 15 45.0	
	comp=E,3μm,0.6s						
AYVA				IAML		01 15 46.0	
	comp=N,5μm,0.4s						
URLA	**Izmir**	**0.66**	**224**	PG	**Pg**	**01 15 32.4**	**-0.4**
URLA	**Izmir**	**0.66**	**224**	*i* P	**Pg**	**01 15 32.4**	**-0.4**
URLA				IAML		01 15 46.0	
	comp=E,11μm,0.7s						
URLA				IAML		01 15 47.0	
	comp=N,6μm,0.7s						
STEP	**BALIKESIR_Sava**	**0.68**	**38**	*i* P	**Pg**	**01 15 32.9**	**-0.3**
STEP				*i* S	**Sg**	**01 15 42.1**	**-0.1**
STEP				IAML		01 15 46.0	
	comp=E,9μm,0.3s						
STEP				IAML		01 15 49.0	
	comp=N,4μm,0.4s						
PRK	**Paraskevi**	**0.82**	**300**	P	**Pb**	**01 15 36.3**	**+0.3**
PRK				S	**Sn**	**01 15 48.4**	**-0.8**
	comp=N,9μm,0.6s						
PRK	**Paraskevi**	**0.82**	**300**	P	**Pb**	**01 15 36.3**	**+0.3**
PRK				S	**Sn**	**01 15 48.2**	**-0.9**
PRK				AML	AML	01 15 50.7	
	comp=N,18239μm,0.5s						
PRK				AML	AML	01 15 51.8	
	comp=E,16008μm,0.6s						
DGB	**zmir**	**0.82**	**197**	*i* P	**Pg**	**01 15 35.4**	**-0.3**
DGB				*i* S	**Sg**	**01 15 46.5**	**+0.1**
DGB				IAML		01 15 50.0	
	comp=N,8μm,0.5s						
DGB				IAML		01 15 50.0	
	comp=E,5μm,0.3s						
BALY	**Balya**	**0.96**	**21**	*i* P	**Pg**	**01 15 37.7**	**-0.8**
BALY				*i* S	**Sn**	**01 15 52.3**	**-0.6**
BALY				IAML		01 15 54.0	
	comp=N,10μm,0.5s						
BALY				IAML		01 15 55.0	
	comp=E,3μm,0.5s						
BALB	**Balikesir**	**0.97**	**34**	PG	**Pg**	**01 15 38.0**	**-0.6**
BALB	**Balikesir**	**0.97**	**34**	Pg	**Pg**	**01 15 38.0**	**-0.6**
CHOS	**Chios island**	**0.99**	**243**	P	**Pg**	**01 15 38.6**	**-0.4**
CHOS				S	**Sb**	**01 15 52.4**	**+0.5**
	comp=E,14μm,0.4s						
CHOS	**Chios island**	**0.99**	**243**	P	**Pg**	**01 15 38.5**	**-0.4**
CHOS				S	**Sb**	**01 15 52.5**	**+0.5**
CHOS				AML	AML	01 15 54.3	
	comp=N,22099μm,0.4s						
CHOS				AML	AML	01 15 54.7	
	comp=E,33475μm,0.4s						
CHOS	**Chios island**	**0.99**	**243**	PG	**Pg**	**01 15 38.7**	**-0.3**
BAYC	**CANAKKALE_Bayr**	**1.03**	**332**	*i* P	**Pb**	**01 15 39.5**	**-0.1**
BAYC				IAML		01 15 54.0	
	comp=E,4μm,0.5s						
BAYC				IAML		01 15 54.0	
	comp=N,3μm,0.4s						
AYDB	**Zeytinkoy-Aydi**	**1.05**	**148**	PG	**Pb**	**01 15 40.1**	**+0.1**
AYDB	**Zeytinkoy-Aydi**	**1.05**	**148**		**Pb**	**01 15 40.1**	**+0.1**
SIGR	**SIGRI**	**1.10**	**290**	P	**Pb**	**01 15 40.5**	**-0.3**
SIGR				S	**Sg**	**01 15 55.4**	**+0.1**
	comp=N,2μm,0.4s						
SIGR	**SIGRI**	**1.10**	**290**	P	**Pb**	**01 15 40.1**	**-0.6**
SIGR				S	**Sg**	**01 15 55.4**	**+0.1**
SIGR	**SIGRI**	**1.10**	**290**	PN	**Pb**	**01 15 40.4**	**-0.3**
MANT	**Manisa**	**1.13**	**107**	*i* P	**Pb**	**01 15 41.5**	**0.0**
MANT				IAML		01 15 57.0	
	comp=E,2μm,0.3s						
MANT				IAML		01 15 58.0	
	comp=N,2μm,0.3s						
MANT	**Manisa**	**1.13**	**107**	Pn	**Pg**	**01 15 41.7**	**0.0**
GCAM	**G?zelcaml?**	**1.14**	**178**	PN	**Pb**	**01 15 41.3**	**-0.1**
GCAM	**G?zelcaml?**	**1.14**	**178**	*i* P	**Pb**	**01 15 41.3**	**-0.1**
GCAM				IAML		01 15 59.0	
	comp=E,2μm,0.4s						
GCAM				IAML		01 16 00.0	
	comp=N,2μm,0.3s						
SMG	**Samos**	**1.16**	**194**	P	**Pb**	**01 15 41.0**	**-0.9**
SMG				S	**Sb**	**01 15 57.1**	**+0.3**
	comp=N,6μm,0.3s						
SMG	**Samos**	**1.16**	**194**	P	**Pb**	**01 15 41.0**	**-0.9**
SMG				S	**Sg**	**01 15 57.3**	**+0.1**
SMG				AML	AML	01 16 00.9	
	comp=N,14762μm,0.3s						
SMG				AML	AML	01 16 02.4	
	comp=E,10704μm,0.3s						
EZN	**Ezine**	**1.19**	**326**	P	**Pn**	**01 15 41.8**	**-0.5**
EZN				S	**Sb**	**01 15 57.4**	**-0.3**
	comp=E,4μm,0.6s						
EZN	**Ezine**	**1.19**	**326**	PN	**Pn**	**01 15 41.2**	**-1.1**
KULA	**Kula-Manisa**	**1.20**	**105**	P	**Pn**	**01 15 42.5**	**-0.1**
KULA				S	**Sb**	**01 15 57.7**	**-0.5**
KULA	**Kula-Manisa**	**1.20**	**105**	PN	**Pn**	**01 15 42.5**	**-0.1**
DEMI	**Demirci**	**1.22**	**80**	*i* P	**Pn**	**01 15 42.5**	**-0.2**
DEMI				IAML		01 16 00.0	
	comp=E,3μm,0.3s						
DEMI				IAML		01 16 02.0	
	comp=N,2μm,0.3s						
DURS	**Dursunbey**	**1.26**	**52**	*i* P	**Pn**	**01 15 42.9**	**-0.5**
DURS				IAML		01 16 06.0	
	comp=N,1μm,0.5s						
DURS				IAML		01 16 06.0	
	comp=E,3μm,0.5s						
GONE	**Gonen-Balikesi**	**1.27**	**18**	PN	**Pn**	**01 15 42.8**	**-0.6**
PSRA	**Psara**	**1.30**	**257**	P	**Pn**	**01 15 43.1**	**-0.7**
PSRA				S	**Sb**	**01 16 00.2**	**-0.6**
PSRA				AML	AML	01 16 04.1	
	comp=E,8965μm,0.4s						
PSRA				AML	AML	01 16 04.9	
	comp=N,6920μm,0.3s						
BOZC	**Bozcaada**	**1.33**	**319**	PN	**Pn**	**01 15 43.4**	**-0.9**
BOZC	**Bozcaada**	**1.33**	**319**	*i* P	**Pn**	**01 15 43.8**	**-0.5**
BOZC				*i* S	**Sb**	**01 16 00.6**	**-1.2**
BOZC				IAML		01 16 04.0	
	comp=E,1μm,0.6s						
BOZC				IAML		01 16 05.0	
	comp=N,1μm,0.5s						
DST	**Dursunbey**	**1.35**	**55**	PN	**Pn**	**01 15 43.9**	**-0.8**
SIMA	**Simav-Kutahya**	**1.43**	**80**	PN	**Pn**	**01 15 45.4**	**-0.3**
USAK	**Uak-Merkez**	**1.44**	**94**	*i* P	**Pn**	**01 15 46.0**	**+0.1**
USAK				*i* S	**Sn**	**01 16 04.0**	**-0.8**
KNL	**Balıkesir**	**1.46**	**10**	*i* P	**Pb**	**01 15 46.8**	**-0.2**
KNL				IAML		01 16 08.0	
	comp=E,3μm,0.6s						
KNL				IAML		01 16 10.0	
	comp=N,2μm,0.4s						
DIDI	**Didim-Aydin**	**1.46**	**178**	PN	**Pn**	**01 15 46.1**	**+0.1**
LPK	**Lapseki**	**1.57**	**348**	PN	**Pn**	**01 15 46.8**	**-0.7**
EDC	**Edincik**	**1.60**	**19**	PN	**Pn**	**01 15 47.3**	**-0.6**
SHAP	**Saphane-Kutahy**	**1.60**	**83**	PN	**Pn**	**01 15 47.8**	**-0.3**
GELI	**Tayfur-Gelibol**	**1.65**	**341**	PN	**Pn**	**01 15 48.0**	**-0.7**
GOKA	**anakkale-Gk**	**1.67**	**324**	*i* P	**Pn**	**01 15 48.9**	**0.0**
GOKA				*i* S	**Sn**	**01 16 09.1**	**-1.2**
GOKA				IAML		01 16 10.0	
	comp=N,5μm,0.4s						
GOKA				IAML		01 16 10.0	
	comp=E,3μm,0.4s						
GADA	**Gvkgeada**	**1.68**	**324**	P	**Pn**	**01 15 48.7**	**-0.3**
GADA				S	**Sn**	**01 16 09.8**	**-0.6**
	comp=E,2μm,0.5s						
GADA	**Gvkgeada**	**1.68**	**324**	PN	**Pn**	**01 15 48.3**	**-0.7**
GEDZ	**Gediz**	**1.75**	**83**	PN	**Pn**	**01 15 49.9**	**-0.2**
BODT	**Bodrum**	**1.77**	**177**	P	**Pn**	**01 15 49.6**	**-0.8**
BODT	**Bodrum**	**1.77**	**177**	PN	**Pn**	**01 15 49.6**	**-0.8**
BDRM	**Kayabasi**	**1.78**	**173**	*i* P	**Pn**	**01 15 50.8**	**+0.3**
BDRM				*i* P	**Pb**	**01 15 52.0**	**-0.5**
BDRM				IAML		01 16 21.0	
	comp=E,705nm,0.8s						
BDRM				IAML		01 16 21.0	
	comp=E,830nm,0.8s						
BDRM				IAML		01 16 22.0	
	comp=N,597nm,0.5s						
MRMT	**Marmara Adasi**	**1.79**	**10**	PN	**Pn**	**01 15 49.5**	**-1.2**
ORLT	**Orhaneli**	**1.79**	**47**	PN	**Pn**	**01 15 50.1**	**-0.6**
RKY	**Sarkoy-Tekirda**	**1.85**	**360**	PN	**Pn**	**01 15 51.1**	**-0.3**
SART	**Tekirdag**	**1.85**	**0**	*i* P	**Pn**	**01 15 51.2**	**-0.3**
SART				*i* S	**Sn**	**01 16 14.5**	**-0.3**
LIA	**Limnos Island**	**1.88**	**305**	P	**Pn**	**01 15 51.8**	**+0.1**
LIA	**Limnos Island**	**1.88**	**305**	P	**Pn**	**01 15 51.6**	**-0.1**
LIA				S	**Sn**	**01 16 13.9**	**-1.5**
LIA				AML	AML	01 16 24.4	
	comp=N,985μm,0.5s						
LIA				AML	AML	01 16 25.0	
	comp=E,1364μm,0.5s						
TVSB	**Tavsanli**	**1.88**	**70**	PN	**Pn**	**01 15 51.6**	**-0.3**
ERIK	**Erikli-Kesan**	**1.90**	**345**	PN	**Pn**	**01 15 51.7**	**-0.4**
YER	**Yerkesik**	**1.91**	**153**	P	**Pn**	**01 15 52.5**	**+0.2**
YER	**Yerkesik**	**1.91**	**153**	PN	**Pn**	**01 15 52.1**	**-0.2**
MDNY	**Mudanya-Bursa**	**2.02**	**40**	PN	**Pn**	**01 15 52.9**	**-0.8**
ENEZ	**Enez**	**2.06**	**338**	P	**Pn**	**01 15 54.7**	**+0.5**
ENEZ	**Enez**	**2.06**	**338**	PN	**Pn**	**01 15 53.6**	**-0.6**
SMTH	**Samothraki Isl**	**2.07**	**323**	P	**Pn**	**01 15 54.2**	**-0.2**
SMTH	**Samothraki Isl**	**2.07**	**323**	P	**Pn**	**01 15 54.0**	**-0.4**
SMTH				S	**Sn**	**01 16 18.4**	**-1.7**
SMTH				AML	AML	01 16 31.5	
	comp=N,1095μm,0.6s						
SMTH				AML	AML	01 16 35.3	
	comp=E,1752μm,0.6s						
KOSK	**Kos Island**	**2.09**	**184**	P	**Pn**	**01 15 55.1**	**+0.4**
KOSK	**Kos Island**	**2.09**	**184**	PN	**Pn**	**01 15 54.8**	**+0.1**
DAT	**Datca**	**2.13**	**171**	P	**Pn**	**01 15 54.9**	**-0.4**
DAT	**Datca**	**2.13**	**171**	PN	**Pn**	**01 15 55.6**	**+0.3**
ARMT	**Armutlu**	**2.16**	**36**	PN	**Pn**	**01 15 54.9**	**-0.8**
TKR	**Tekirdag**	**2.17**	**7**	PN	**Pn**	**01 15 55.2**	**-0.6**
APE	**Apeiranthos**	**2.19**	**217**	P	**Pn**	**01 15 55.4**	**-0.8**
APE	**Apeiranthos**	**2.19**	**217**	⇑P	**Pb**	**01 15 59.0**	**-0.5**
APE	**Apeiranthos**	**2.19**	**217**	PN	**Pn**	**01 15 56.5**	**+0.3**
GEMT	**Gemlik**	**2.23**	**44**	PN	**Pn**	**01 15 55.8**	**-0.8**
ALN	**Alexandroupoli**	**2.23**	**337**	P	**Pn**	**01 15 56.9**	**+0.2**
ALN	**Alexandroupoli**	**2.23**	**337**	P	**Pn**	**01 15 56.7**	**0.0**
ALN	**Alexandroupoli**	**2.23**	**337**	PN	**Pn**	**01 15 56.3**	**-0.4**
ALN	**Alexandroupoli**	**2.23**	**337**	Pn	**Pn**	**01 15 56.4**	**-0.4**
BOTS	**Marmara Eregli**	**2.24**	**16**	PN	**Pn**	**01 15 56.3**	**-0.4**
AMGA	**Amorgos Island**	**2.25**	**207**	P	**Pn**	**01 15 55.7**	**-1.2**
TURN	**Turunc**	**2.26**	**150**	PN	**Pn**	**01 15 56.5**	**-0.5**
UKOP	**Uzunkopru-Edir**	**2.33**	**350**	PN	**Pn**	**01 15 57.9**	**0.0**
CRLT	**Corlu**	**2.33**	**10**	PN	**Pn**	**01 15 57.8**	**-0.2**
KYMI	**Kymi, Euboea I**	**2.42**	**266**	P	**Pn**	**01 15 58.6**	**-0.6**
AUBOZ	**BOZOYUK**	**2.46**	**63**	PN	**Pn**	**01 15 59.4**	**-0.4**
AVCI	**Avcilar-stanb**	**2.46**	**28**	PN	**Pn**	**01 15 59.6**	**-0.2**
CAVI	**Cavuskoy**	**2.47**	**56**	PN	**Pn**	**01 15 59.8**	**-0.2**
HVHR	**Bakirkoy-Istan**	**2.48**	**30**	PN	**Pn**	**01 15 59.8**	**-0.3**
YLVH	**Yalova**	**2.51**	**42**	PN	**Pn**	**01 16 00.4**	**0.0**
SLVT	**Silivri**	**2.52**	**18**	PN	**Pn**	**01 16 00.0**	**-0.6**
ADVT	**Abdulvahap**	**2.54**	**50**	PN	**Pn**	**01 16 00.1**	**-0.8**
TUZL	**Tuzla-Istanbul**	**2.54**	**38**	PN	**Pn**	**01 16 00.8**	**-0.1**
AOS	**Alonnisos**	**2.59**	**278**	P	**Pn**	**01 16 01.6**	**0.0**
AOS	**Alonnisos**	**2.59**	**278**	PN	**Pn**	**01 16 01.2**	**-0.4**
THAS	**Thassos island**	**2.59**	**314**	P	**Pn**	**01 16 01.3**	**-0.3**
CTKS	**Kestanelik-??a**	**2.60**	**23**	PN	**Pn**	**01 16 01.6**	**-0.1**
RDO	**Rodhopi**	**2.63**	**332**	P	**Pn**	**01 16 02.1**	**0.0**
RDO	**Rodhopi**	**2.63**	**332**	P	**Pn**	**01 16 02.5**	**+0.4**
RDO	**Rodhopi**	**2.63**	**332**	PN	**Pn**	**01 16 01.8**	**-0.3**
BGKT	**Bogazkoy**	**2.64**	**27**	PN	**Pn**	**01 16 01.8**	**-0.5**
KAVV	**Kandilli-Istan**	**2.65**	**32**	PN	**Pn**	**01 16 01.3**	**-1.1**
ISK	**Istanbul-Kandi**	**2.65**	**32**	P	**Pn**	**01 16 01.1**	**-1.1**
ISK	**Istanbul-Kandi**	**2.65**	**32**	PN	**Pn**	**01 16 01.4**	**-1.0**
DION	**Dionisos Attik**	**2.66**	**254**	P	**Pn**	**01 16 02.2**	**-0.4**
PTL	**Penteli**	**2.72**	**254**	P	**Pn**	**01 16 03.0**	**-0.4**
MRKA	**Markates**	**2.81**	**268**	P	**Pn**	**01 16 04.4**	**-0.3**
SANT	**Santorini**	**2.82**	**210**	Pn	**Pn**	**01 16 04.1**	**-0.7**
VLY	**Voula,Athens**	**2.84**	**251**	P	**Pn**	**01 16 04.7**	**-0.3**
SKIA	**Skiathos**	**2.91**	**278**	P	**Pn**	**01 16 06.0**	**0.0**
PAIG	**Paliouri**	**2.92**	**293**	P	**Pn**	**01 16 06.0**	**-0.2**
PAIG	**Paliouri**	**2.92**	**293**	P	**Pn**	**01 16 06.0**	**-0.2**
ELL	**Elmali**	**3.00**	**133**		**Pn**	**01 16 05.4**	**-2.0**
EDRB	**Edirne**	**3.02**	**354**	P	**Pn**	**01 16 07.1**	**-0.5**
KDZ	**Kurdzhali**	**3.12**	**335**	P	**Pn**	**01 16 09.0**	**+0.2**
VIL2	**Platees**	**3.13**	**260**	P	**Pn**	**01 16 08.4**	**-0.6**
DID	**Didima**	**3.38**	**248**	P	**Pn**	**01 16 12.2**	**-0.3**
RZN	**Rozhen**	**3.41**	**327**	P	**Pn**	**01 16 13.6**	**+0.5**
DIM	**Dimitrovgrad**	**3.45**	**339**	P	**Pn**	**01 16 13.1**	**-0.2**
MDUB	**Mudurnu**	**3.50**	**61**	Pn	**Pn**	**01 16 14.1**	**-0.2**
AXAR	**Agios Charalam**	**3.53**	**270**	P	**Pn**	**01 16 14.7**	**+0.2**
NVR	**Nevrokopi**	**3.57**	**316**	P	**Pn**	**01 16 15.5**	**+0.4**
NVR	**Nevrokopi**	**3.57**	**316**	P	**Pn**	**01 16 15.3**	**+0.2**
SRS	**Serrai**	**3.58**	**311**	P	**Pn**	**01 16 15.2**	**+0.1**
HORT	**Hortiatis**	**3.60**	**300**	P	**Pn**	**01 16 16.1**	**+0.5**
AGG	**Agios Georgios**	**3.79**	**274**	P	**Pn**	**01 16 18.6**	**+0.6**
AGG	**Agios Georgios**	**3.79**	**274**	Pn	**Pn**	**01 16 17.8**	**-0.2**
MMB	**Musomiste**	**3.81**	**317**	P	**Pn**	**01 16 18.3**	**-0.1**
GUR	**Goura**	**3.91**	**258**	P	**Pn**	**01 16 19.7**	**-0.1**
KALE	**Kalithea**	**3.97**	**265**	P	**Pn**	**01 16 20.8**	**+0.2**
IDI	**Anoyia**	**3.99**	**208**	Pn	**Pn**	**01 16 20.7**	**-0.2**
	comp=E,1.1nm,0.3s,baz=310,slow=8.9,SNR=10						
IDI				Sn	**Sn**	**01 17 06.8**	**-0.7**
	comp=E,5.2nm,0.3s,baz=330,slow=17,SNR=6.6						
IDI				LR	LR	01 18 07.8	
	comp=E,88nm,18.8s,baz=67,slow=42						
IDI	**Anoyia**	**3.99**	**208**	Pn	**Pn**	**01 16 22.5**	**+1.7**
KNT	**Kendrikon**	**4.03**	**307**	P	**Pn**	**01 16 22.1**	**+0.8**
KNT	**Kendrikon**	**4.03**	**307**	P	**Pn**	**01 16 22.2**	**+0.8**
SERG	**Sergoula**	**4.03**	**266**	P	**Pn**	**01 16 22.1**	**+0.7**
ELND	**Elena**	**4.21**	**347**	⇓P	**Pn**	**01 16 24.3**	**+0.5**
VAY	**Valandovo**	**4.32**	**307**	*i* Pn	**Pn**	**01 16 26.8**	**+1.5**
KKB	**Krupnik**	**4.35**	**315**	P	**Pn**	**01 16 26.4**	**+0.6**
PRD	**Provadia**	**4.36**	**2**	P	**Pn**	**01 16 26.5**	**+0.6**
BR231	**Keskin MP Arra**	**4.45**	**75**	Pn	**Pn**	**01 16 27.7**	**+0.4**
ITM	**Ithomi**	**4.47**	**250**	Pn	**Pn**	**01 16 27.1**	**-0.3**
ANTO	**Ankara**	**4.47**	**75**	Pn	**Pn**	**01 16 27.7**	**+0.2**
RAZG	**Razgrad**	**4.75**	**354**	⇓P	**Pn**	**01 16 31.8**	**+0.5**
VTS	**Vitosha**	**4.82**	**323**	⇑P	**Pn**	**01 16 33.6**	**+1.3**
VTS	**Vitosha**	**4.82**	**323**	P	**Pn**	**01 16 32.8**	**+0.4**
VTS	**Vitosha**	**4.82**	**323**	Pn	**Pn**	**01 16 33.0**	**+0.6**
PLVB	**Pleven**	**4.94**	**338**	⇑P	**Pn**	**01 16 35.3**	**+1.4**
BR131	**Keskin Array S**	**5.09**	**78**	Pn	**Pn**	**01 16 36.5**	**+0.4**
BRTR	**Keskin Array B**	**5.09**	**78**	Pn	**Pn**	**01 16 36.6**	**+0.6**
	comp=E,1.7nm,0.3s,baz=255,slow=14,SNR=44						
BRTR				Sn	**Sn**	**01 17 32.7**	**-2.1**
	comp=E,1.0nm,0.3s,baz=261,slow=25,SNR=4.1						
ILGA	**Ilgaz**	**5.49**	**64**	Pn	**Pn**	**01 16 39.8**	**-1.8**
TIRR	**Tirgusor**	**5.69**	**9**	⇑P	**Pn**	**01 16 44.2**	**0.0**
TIRR	**Tirgusor**	**5.69**	**9**		**Pn**	**01 16 43.4**	**-0.8**
TLBR	**Topalu**	**5.74**	**6**	⇑P	**Pn**	**01 16 45.3**	**+0.4**
HARR	**Harsova**	**5.88**	**5**	⇓P	**Pn**	**01 16 47.7**	**+1.0**
TIR	**Tirane**	**6.14**	**296**		**Pn**	**01 16 48.4**	**-2.0**
MLR	**Muntele Rosu**	**6.71**	**353**	Pn	**Pn**	**01 16 59.5**	**+1.2**
	comp=E,0.2nm,0.3s,baz=208,slow=4.8,SNR=8.1						
MLR				Sn	**Sn**	**01 18 16.2**	**+1.5**
	comp=E,1.5nm,0.3s,baz=102,slow=20,SNR=4.3						
MLR	**Muntele Rosu**	**6.71**	**353**	⇑P	**Pn**	**01 17 00.2**	**+1.9**
MLR	**Muntele Rosu**	**6.71**	**353**	Pn	**Pn**	**01 16 57.1**	**-1.2**
SCTE	**Santa Cesarea**	**6.85**	**283**	Pn	**Pn**	**01 17 00.0**	**-0.1**
PDG	**Podgorica**	**7.01**	**303**	⇑P	**Pn**	**01 17 04.6**	**+2.3**
PDG	**Podgorica**	**7.01**	**303**	Pn	**Pn**	**01 16 60.0**	**-2.3**
PLOR	**Plostina**	**7.02**	**357**	⇑P	**Pn**	**01 17 04.0**	**+1.5**
VRI	**Vrincioaia**	**7.03**	**357**	⇑P	**Pn**	**01 17 04.7**	**+2.1**
LOT	**Lotru**	**7.07**	**340**	⇑P	**Pn**	**01 17 04.2**	**+0.9**
GHRR		**7.22**	**1**	⇑P	**Pn**	**01 17 07.0**	**+1.8**
DOPR	**Dopca**	**7.25**	**350**	⇓P	**Pn**	**01 17 06.9**	**+1.4**
OZUR		**7.33**	**352**	⇓P	**Pn**	**01 17 08.1**	**+1.4**
DIVS	**Divibare**	**7.53**	**317**		**Pn**	**01 17 08.4**	**-1.1**
TESR	**Tescani**	**7.68**	**357**	⇑P	**Pn**	**01 17 12.3**	**+0.8**
TIP	**Timpagrande**	**8.12**	**276**	Pn	**Pn**	**01 17 16.9**	**-0.7**
BIZ	**Bicaz**	**8.14**	**355**	⇑P	**Pn**	**01 17 18.8**	**+1.0**
MMAI	**Mount Meron Ar**	**8.84**	**129**	Pn	**Pn**	**01 17 25.4**	**-2.2**
	comp=E,0.8nm,0.3s,baz=314,slow=12,SNR=5.4						
BURAR	**Bucovina Array**	**8.89**	**351**	⇓P	**Pn**	**01 17 30.7**	**+2.5**
BUR08	**Bucovina Ar. S**	**8.92**	**351**		**Pn**	**01 17 26.6**	**-1.9**
PAOL	**Paolisi**	**9.93**	**287**		**Pn**	**01 17 42.0**	**-0.5**
VAE	**Valguarnera**	**10.15**	**266**	Pn	**Pn**	**01 17 49.4**	**+4.0**
	comp=E,0.3nm,0.3s,baz=75,slow=16,SNR=1.5						
INTR	**Introdacqua**	**10.61**	**292**		**Pn**	**01 17 50.6**	**-1.0**
NRCA	**Norcia**	**11.38**	**295**	Pn	**Pn**	**01 17 59.9**	**-2.3**
ZOU	**Zoufplan**	**12.97**	**311**		**Pn**	**01 18 21.5**	**-2.7**
ABTA	**Abf

CCOB	**Coe Ranch Numb**	**1.21**	**111**			Pn	01 51 55.4	0.0
GSNM	**Snow Mountain**	**1.24**	**356**			Pn	01 51 55.7	-0.2
JELB	**Ellicott, Sant**	**1.27**	**127**			Pb	01 51 56.5	0.0
GRTM	**Round Top Moun**	**1.27**	**15**			Pg	01 51 57.4	+0.2
MNRC	**McLaughlin Min**	**1.28**	**23**			Pn	01 51 55.6	-0.8
CADM	**Anderson Res.**	**1.28**	**114**			Pn	01 51 56.0	-0.3
ARN	**Arnold Ranch**	**1.29**	**106**			Pn	01 51 56.0	-0.5
HOPS	**Hopland Field**	**1.29**	**0**			Pn	01 51 55.9	-0.6
HOPS	**Hopland Field**	**1.29**	**0**	Pn		Pb	01 51 57.1	+0.2
GHLM	**Highland Sprin**	**1.33**	**2**			Pn	01 51 56.4	-0.8
HLPM	**Lions Peak**	**1.33**	**119**			Pb	01 51 57.4	-0.2
HCOM	**Corn Cob Canyo**	**1.37**	**126**			Pg	01 51 58.9	-0.1
CBC	**Chamberlain**	**1.37**	**124**			Pb	01 51 58.7	+0.4
GHOM	**Hamilton Openi**	**1.38**	**345**			Pb	01 51 58.5	0.0
HSPM	**Sheep**	**1.38**	**115**			Pn	01 51 57.6	-0.2
HERM	**Elkhorn Road**	**1.42**	**129**			Pb	01 51 58.8	-0.3
GHS	**Gilroy Hot Spr**	**1.44**	**114**			Pn	01 51 58.2	-0.4
HMOM	**Monterey**	**1.45**	**139**			Pb	01 51 59.1	-0.4
ANZ	**Anzar Road**	**1.45**	**124**			Pn	01 51 58.5	-0.1
CMPM	**Mikes Peak**	**1.45**	**103**			Pn	01 51 58.7	-0.1
HTUM	**Tustin Road**	**1.45**	**127**			Pn	01 51 58.8	+0.1
HJGM	**San Juan Grade**	**1.51**	**126**			Pn	01 51 59.5	0.0
HFEM	**San Felipe**	**1.52**	**118**			Pn	01 51 59.6	-0.2
GNAM	**Navarro Ridge**	**1.55**	**344**			Pn	01 51 59.3	-0.8
HPCM	**Pacheco Lake**	**1.58**	**114**			Pn	01 52 00.4	-0.1
FRP	**Fremont Peak**	**1.59**	**126**			Pn	01 52 00.5	-0.2
SAO	**San Andreas Ge**	**1.61**	**125**			Pn	01 52 00.8	-0.1
SAO	**San Andreas Ge**	**1.61**	**125**	Pn		Pn	01 52 00.7	-0.2
SLD	**San Luis Dam**	**1.61**	**112**			Pn	01 52 01.0	+0.1
BPCNC	**Pine Canyon**	**1.62**	**134**			Pn	01 52 01.5	+0.4
BSRM	**Salinas Radio**	**1.63**	**129**			Pn	01 52 01.4	+0.3
BVYM	**Vineyard**	**1.64**	**125**			Pn	01 52 01.6	+0.2
GTSM	**Trough Springs**	**1.65**	**13**			Pn	01 52 01.3	-0.2
HJSM	**John Smith Roa**	**1.68**	**121**			Pn	01 52 02.6	+0.7
BCGM	**Cienega Road**	**1.71**	**125**			Pn	01 52 02.6	+0.4
AASM	**Arroyo Seco**	**1.72**	**65**			Pn	01 52 01.0	-1.4
GTC	**Three Chop Rid**	**1.73**	**348**			Pn	01 52 02.6	0.0
SCZ	**Santa Cruz**	**1.74**	**129**			Pn	01 52 02.8	+0.1
BJOM	**Mount Johnson**	**1.78**	**127**			Pn	01 52 03.7	+0.5
BJCM	**Johnson Can.**	**1.78**	**130**			Pn	01 52 03.4	+0.1
HAST	**Hastings Reser**	**1.80**	**136**			Pn	01 52 04.0	+0.4
BPOM	**Post Ranch**	**1.81**	**144**			Pn	01 52 04.4	+0.7
SUTB	**Sutter Butte**	**1.83**	**33**			Pn	01 52 03.0	-1.0
OSUM	**Sutter Buttes**	**1.84**	**31**			Pn	01 52 02.8	-1.2
MNHB	**New Hogan Dam**	**1.85**	**76**			Pn	01 52 03.4	-0.8
BCWM	**Chews Ridge**	**1.85**	**138**			Pn	01 52 05.0	+0.6
BSMM	**Soledad Missio**	**1.87**	**134**			Pn	01 52 04.8	+0.3
BVL	**Bear Valley**	**1.89**	**126**			Pn	01 52 05.0	+0.2
BEMM	**Emmet**	**1.90**	**123**			Pn	01 52 04.9	0.0
BAPM	**Anderson Peak**	**1.92**	**142**			Pn	01 52 06.0	+0.8
KFPM	**Farley Peak**	**1.95**	**352**			Pn	01 52 05.5	-0.1
BSGM	**Shirttail Gulc**	**1.95**	**131**			Pn	01 52 05.8	+0.2
BAVM	**Antelope Valle**	**1.95**	**122**			Pn	01 52 06.1	+0.5
BPIM	**Pinnacles**	**1.96**	**128**			Pn	01 52 05.8	+0.2
MCUB	**Copperopolis B**	**1.97**	**81**			Pn	01 52 05.3	-0.6
BBGB	**Big Mountain B**	**1.98**	**124**			Pn	01 52 06.8	+0.6
BRMM	**Rolling Bench**	**2.00**	**115**			Pn	01 52 06.7	+0.4
KCPM	**Cahto Peak**	**2.02**	**349**	Pn		Pb	01 52 08.3	-1.1
AFDM	**Forest Hills D**	**2.08**	**53**			Pn	01 52 06.3	-1.0
BMSM	**Mercy Hot Spri**	**2.11**	**119**			Pn	01 52 09.2	+1.4
KIPM	**Iron Peak**	**2.12**	**352**			Pn	01 52 08.7	+0.6
MYLM	**Yosemite Lake**	**2.14**	**98**			Pn	01 52 07.9	-0.3
CMB	**Columbia Colle**	**2.16**	**80**			Pn	01 52 08.6	+0.1
CMB	**Columbia Colle**	**2.16**	**80**	Pn		Pn	01 52 08.2	-0.4
LRC	**Lone Oak Road**	**2.19**	**131**			Pn	01 52 09.4	+0.5
PCCM	**Crazy Canyon**	**2.23**	**136**			Pn	01 52 10.1	+0.6
PHRM	**Hernandez Vall**	**2.23**	**126**			Pn	01 52 10.1	+0.4
PAPM	**Alder Peak**	**2.26**	**142**			Pn	01 52 10.8	+0.8
PMPB	**Monarch Peak**	**2.36**	**128**	Pn		Pn	01 52 12.6	+1.4
PHCM	**Hearst Castle**	**2.55**	**142**			Pb	01 52 17.6	-0.8
KMRM	**Mail Ridge**	**2.56**	**349**	Pn		Pn	01 52 15.2	+1.2
PSMM	**Smith Mountain**	**2.58**	**129**			Pn	01 52 15.3	+1.0
MHDM	**Hidden Dam**	**2.61**	**102**			Pn	01 52 14.7	+0.1
LTCM	**Tuscan Springs**	**2.61**	**16**			Pb	01 52 19.8	+0.4
PHPM	**Hope Ranch**	**2.63**	**130**			Pn	01 52 15.3	+0.3
MMIM	**Miami Mountain**	**2.67**	**95**			Pn	01 52 16.2	+0.6
PKD	**Bear Valley Ra**	**2.69**	**130**			Pn	01 52 16.1	+0.3
WAKR	**Walker**	**2.99**	**73**			Pn	01 52 22.4	+2.3
PAGB	**Antelope Grade**	**3.01**	**130**	Pn		Pn	01 52 20.9	+0.7
PNTR	**Pine Nut**	**3.07**	**62**			Pn	01 52 22.7	+1.5
VCNR	**Virginia City**	**3.13**	**58**			Pn	01 52 23.5	+1.5
MDPB	**Devils Postpil**	**3.18**	**90**			Pn	01 52 22.7	-0.1
OMMB	**Old Mammoth Mi**	**3.24**	**90**			Pn	01 52 24.9	+1.2
YERR	**Yerington**	**3.28**	**66**	Pn		Pn	01 52 24.6	+0.5
PAHR	**Pah Rah Range**	**3.52**	**54**	Pn		Pn	01 52 27.8	+0.5
RYN	**Ryan**	**3.71**	**14**			Pn	01 52 30.9	+1.0
KRMB	**Red Mountain**	**3.87**	**351**	Pn		Pn	01 52 32.9	+0.8
NV11	**Mina Array Sit**	**3.96**	**78**	Pn		Pn	01 52 35.2	+1.8
KVN	**Kaiserville**	**4.14**	**70**	Pn		Pn	01 52 35.2	-0.7
ISA	**Isabella, Lake**	**4.23**	**117**			Pn	01 52 39.2	+2.2

MAN 29 02:02:46.6, 9°.82N × 123°.91E, h8km, mb4.2, ML3.0, MS2.7, 4D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.13**	**199**	*eP*	Pg	02 02 50.1	+0.7
TBP				*i S*	Sg	02 02 53.6	+2.2
LLP	**Lapu-Lapu**	**0.50**	**7**	*i P*	Pg	02 02 56.0	-0.3
LLP				*i S*	Sg	02 03 03.5	+0.6
SNPH	**Sibulan**	**0.81**	**235**	*i P*	Pb	02 03 02.8	-0.1
SNPH				*i S*	Sg	02 03 13.2	+0.4
MSLP	**Maasin**	**0.99**	**71**	*eP*	Pg	02 03 05.5	-0.1
MSLP				*eS*	Sn	02 03 20.5	-0.5
DCPH	**Dipolog City**	**1.34**	**204**	*eP*	Pn	02 03 10.7	-0.9
DCPH				*eS*	Sn	02 03 29.5	-0.1
OCLP	**Ormoc**	**1.41**	**29**	*eP*	Pn	02 03 11.8	-0.8
OCLP				*eS*	Sg	02 03 31.7	-0.2
GUIM	**Jordan**	**1.52**	**302**	*eP*	Pn	02 03 12.6	-1.5
GUIM				*eS*	Sb	02 03 34.5	-0.1
PAGZ	**Pagadian**	**2.02**	**195**	*eP*	Pn	02 03 20.4	-0.6
PAGZ				*eS*	Sn	02 03 47.4	+0.9
RCP	**Roxas**	**2.07**	**327**	*eP*	Pn	02 03 22.4	+0.6
RCP				*eS*	Sb	02 03 49.5	-0.9
BUKP	**Musuan**	**2.24**	**149**	*eP*	Pn	02 03 25.3	+1.3
BUKP				*eS*	Sn	02 03 48.1	-3.8

*IDC **29** 02:15:13.3±1.2, 34°.21N × 25°.21E, h0km, mb3.6/5, mb1 3.7/11, mb1mx3.5/41, mbtmp3.6/11, ML3.8/5, MS2.7/1, Ms1 2.7/1, ms1mx2.0/40, Error ellipse: s-maj=19.5km s-min=18.3km az=41.0*

*HLW **29** 02:15:17.6, 34°.17N × 25°.43E, h16km±16km, Md4.0, Ml4.1*

*ATH **29** 02:15:18.2, 34°.30N × 25°.24E, h39km±2km, ML3.4/8, Error ellipse: s-maj=3.6km s-min=1.6km az=358.0*

*ISK **29** 02:15:18.4, 34°.33N × 25°.32E, h59km, ML3.6/22*

*THE **29** 02:15:19.4, 34°.23N × 25°.26E, h60km±11km, ML3.5/4, Error ellipse: s-maj=11.7km s-min=1.4km az=349.0*

*NIC **29** 02:15:21.2±0.0, 34°.21N × 25°.97E, h0km±8km, Ml3.4/1*

*GII **29** 02:15:25.7±0.4, 34°.07N × 25°.95E, h40km, MD3.5/2*

ISC 29 02:15:13.9±1.5, 34°.17N±0°.04 × 25°.31E±0°.04, h11km±9km, n148, σ2°26/174, mb3.8/5, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.94**	**334**	P	**Pn**	**02 15 34.4**	**+1.4**
SIVA	**Sivas**	**0.94**	**334**	P	**Pn**	**02 15 34.2**	**+1.2**
SIVA				S	**Sn**	**02 15 45.4**	**-1.0**
SIVA				AML	AML	02 15 52.9	
	comp=N,14266μm,0.6s						
SIVA				AML	AML	02 15 54.0	
	comp=E,16868μm,0.7s						
LAST	**Lasithi**	**1.00**	**8**	P	**Pn**	**02 15 35.5**	**+1.5**
LAST				S	**Sn**	**02 15 49.3**	**+1.3**
	comp=E,3μm,0.8s						
LAST	**Lasithi**	**1.00**	**8**	P	**Pn**	**02 15 35.4**	**+1.5**
LAST				S	**Sn**	**02 15 48.2**	**+0.2**
LAST				AML	AML	02 15 52.4	
	comp=E,5352μm,0.7s						
LAST				AML	AML	02 15 58.9	
	comp=N,6382μm,0.8s						
TMBK	**Timbaki Herakl**	**1.00**	**334**	P	**Pn**	**02 15 35.7**	**+1.8**
TMBK				S	**Sn**	**02 15 48.5**	**+0.5**
	comp=N,2μm,0.6s						
NPS	**Neapolis**	**1.12**	**13**	P	**Pn**	**02 15 37.7**	**+2.2**
NPS				S	**Sn**	**02 15 53.0**	**+2.1**
	comp=N,2μm,0.8s						
NPS	**Neapolis**	**1.12**	**13**	P	**Pn**	**02 15 37.6**	**+2.0**
NPS				S	**Sn**	**02 15 52.0**	**+1.1**
NPS				AML	AML	02 16 00.1	
	comp=N,3564μm,0.8s						
NPS				AML	AML	02 16 00.4	
	comp=E,3209μm,0.6s						
KSTL	**Kastelli Herak**	**1.15**	**350**	P	**Pn**	**02 15 36.4**	**+0.5**
KSTL				S	**Sb**	**02 15 50.3**	**-0.3**
HRKL	**Herakleio**	**1.15**	**352**	P	**Pn**	**02 15 38.4**	**+2.5**
HRKL	**Herakleio**	**1.15**	**352**	PG	**Pn**	**02 15 36.8**	**+0.9**
IDI	**Anoyia**	**1.16**	**343**	P	**Pn**	**02 15 37.8**	**+1.6**
IDI	**Anoyia**	**1.16**	**343**	Pn	**Pn**	**02 15 38.0**	**+1.8**
	comp=E,65nm,0.3s,baz=182,slow=8.4,SNR=265						
IDI				Sn	**Sn**	**02 15 52.7**	**+0.5**
	comp=E,72nm,0.3s,baz=248,slow=17,SNR=12						
IDI	**Anoyia**	**1.16**	**343**	P	**Pn**	**02 15 37.8**	**+1.6**
IDI				S	**Sn**	**02 15 52.0**	**-0.1**
IDI				AML	AML	02 15 58.5	
	comp=N,1610μm,0.5s						
IDI				AML	AML	02 15 59.7	
	comp=E,2232μm,0.5s						
IDI	**Anoyia**	**1.16**	**343**	PG	**Pn**	**02 15 37.2**	**+1.0**
ZKR	**Zakros**	**1.20**	**38**	P	**Pn**	**02 15 40.1**	**+3.4**
ZKR	**Zakros**	**1.20**	**38**	P	**Pn**	**02 15 39.8**	**+3.1**
ZKR				S	**Sb**	**02 15 53.7**	**+1.4**
ZKR				AML	AML	02 16 05.9	
	comp=E,2028μm,0.7s						
ZKR				AML	AML	02 16 06.5	
	comp=N,1343μm,0.8s						
ZKR	**Zakros**	**1.20**	**38**	PG	**Pn**	**02 15 38.0**	**+1.3**
ZKR	**Zakros**	**1.20**	**38**	P	**Pn**	**02 15 40.2**	**+3.4**
ZKR				S	**Sg**	**02 15 52.0**	**-0.7**
GVD	**Gavdhos**	**1.21**	**304**	P	**Pn**	**02 15 39.2**	**+2.5**
GVD				S	**Sn**	**02 15 54.3**	**+1.3**
	comp=N,2μm,0.5s						
GVD	**Gavdhos**	**1.21**	**304**	P	**Pn**	**02 15 39.2**	**+2.5**
GVD				S	**Sn**	**02 15 53.5**	**+0.5**
GVD				AML	AML	02 16 00.4	
	comp=E,4764μm,0.6s						
GVD				AML	AML	02 16 03.6	
	comp=N,4227μm,0.4s						
GVD	**Gavdhos**	**1.21**	**304**	PN	**Pn**	**02 15 38.9**	**+2.2**
GVD				SN	**Sn**	**02 15 54.1**	**+1.1**
GVDS	**Gavdos**	**1.21**	**304**	P	**Pn**	**02 15 39.4**	**+2.7**
GVDS	**Gavdos**	**1.21**	**304**	PN	**Pn**	**02 15 39.2**	**+2.5**
STIA	**Sitia Lasithi**	**1.21**	**32**	P	**Pn**	**02 15 39.3**	**+2.5**
PRNS	**Prines Rethymn**	**1.36**	**331**	P	**Pn**	**02 15 41.5**	**+2.7**
VAM	**Vamos**	**1.53**	**324**	P	**Pb**	**02 15 43.5**	**+1.2**
VAM	**Vamos**	**1.53**	**324**	P	**Pb**	**02 15 43.2**	**+0.9**
VAM				AML	AML	02 16 11.7	
	comp=E,2359μm,0.8s						
VAM				AML	AML	02 16 15.1	
	comp=N,2054μm,0.7s						
IMMV	**Iera Moni Meta**	**1.68**	**320**	P	**Pg**	**02 15 45.6**	**-0.7**
IMMV	**Iera Moni Meta**	**1.68**	**320**	P	**Pg**	**02 15 45.6**	**-0.7**
IMMV				AML	AML	02 16 22.4	
	comp=N,1802μm,0.8s						
IMMV				AML	AML	02 16 23.4	
	comp=E,2520μm,0.9s						
IMMV	**Iera Moni Meta**	**1.68**	**320**	PN	**Pg**	**02 15 45.2**	**-1.1**
CHAN	**Chania**	**1.70**	**323**	P	**Pg**	**02 15 44.9**	**-1.6**
KNDR	**Palaiochora Ch**	**1.70**	**309**	PN	**Pg**	**02 15 46.4**	**-0.2**
RODP	**Rodopos**	**1.88**	**318**	P	**Pg**	**02 15 48.3**	**-1.7**
RODP	**Rodopos**	**1.88**	**318**	PN	**Pg**	**02 15 47.9**	**-2.1**
THR6	**Thira Island,**	**2.18**	**2**	P	**Pn**	**02 15 51.7**	**+1.6**
THR6	**Thira Island,**	**2.18**	**2**	P	**Pb**	**02 15 52.6**	**-0.8**
SANT	**Santorini**	**2.20**	**3**	PN	**Pn**	**02 15 51.5**	**+1.1**
THR3	**Thira Island,**	**2.23**	**2**	P	**Pb**	**02 15 53.5**	**-0.8**
THR8	**Santorini-Mono**	**2.23**	**4**	P	**Pn**	**02 15 52.2**	**+1.4**
THR8	**Santorini-Mono**	**2.23**	**4**	P	**Pn**	**02 15 52.3**	**+1.5**
THR5	**Thira Island,**	**2.24**	**1**	P	**Pn**	**02 15 52.3**	**+1.4**
THR5	**Thira Island,**	**2.24**	**1**	P	**Pn**	**02 15 52.5**	**+1.6**
THR2	**Thira Island,**	**2.27**	**3**	P	**Pn**	**02 15 53.0**	**+1.6**
MHLO	**Agia Marina, M**	**2.62**	**344**	P	**Pn**	**02 15 57.5**	**+1.4**
MHLA	**Plaka, Milos I**	**2.67**	**345**	P	**Pn**	**02 15 58.7**	**+1.9**
KTHA	**Kythira Island**	**2.77**	**319**	P	**Pb**	**02 16 00.5**	**-3.0**
KTHA	**Kythira Island**	**2.77**	**319**	PN	**Pb**	**02 16 00.6**	**-3.0**
APE	**Apeiranthos**	**2.90**	**4**	P	**Pn**	**02 16 01.6**	**+1.6**
APE	**Apeiranthos**	**2.90**	**4**	PN	**Pn**	**02 16 01.4**	**+1.4**
APE				SN	**Sn**	**02 16 33.0**	**-1.8**
KOSK	**Kos Island**	**2.91**	**27**	PN	**Pn**	**02 16 02.0**	**+1.8**
SERI	**Serifos**	**3.06**	**348**	P	**Pn**	**02 16 03.4**	**+1.2**
ARG	**Arkhangelos**	**3.08**	**48**	P	**Pn**	**02 16 06.3**	**+3.8**
ARG	**Arkhangelos**	**3.08**	**48**	PN	**Pn**	**02 16 04.3**	**+1.8**
ARG	**Arkhangelos**	**3.08**	**48**	P	**Pn**	**02 16 06.1**	**+3.6**
ARG				S	**Sn**	**02 16 40.5**	**+1.2**
DAT	**Datca**	**3.15**	**35**	P	**Pn**	**02 16 06.1**	**+2.5**
DAT	**Datca**	**3.15**	**35**	PN	**Pn**	**02 16 05.5**	**+1.9**
VLI	**Veliai**	**3.19**	**323**	P	**Pn**	**02 16 05.2**	**+1.2**
BODT	**Bodrum**	**3.31**	**29**	PN	**Pn**	**02 16 07.7**	**+2.0**
DID	**Didima**	**3.73**	**334**	P	**Pn**	**02 16 11.8**	**+0.4**
DALY	**Dalyan (Mula)**	**3.80**	**45**	PN	**Pn**	**02 16 15.0**	**+2.7**
TURN	**Turunc**	**3.81**	**44**	PN	**Pn**	**02 16 11.1**	**-1.4**
YER	**Yerkesik**	**3.82**	**39**	P	**Pn**	**02 16 15.7**	**+2.9**
YER	**Yerkesik**	**3.82**	**39**	PN	**Pn**	**02 16 15.0**	**+2.2**
GCAM	**G?zlecaml?**	**3.85**	**23**	PN	**Pn**	**02 16 15.4**	**+2.3**
VLY	**Voula,Athens**	**3.87**	**342**	P	**Pn**	**02 16 14.9**	**+1.5**
FETY	**Fethiye**	**3.94**	**50**	P	**Pn**	**02 16 16.9**	**+2.5**
FETY	**Fethiye**	**3.94**	**50**	PN	**Pn**	**02 16 16.8**	**+2.4**
ATHU	**Athens Univers**	**3.98**	**342**	P	**Pn**	**02 16 16.2**	**+1.3**
KSL	**Kastellorizon**	**4.02**	**59**	P	**Pn**	**02 16 18.1**	**+2.6**
KSL				S	**Sn**	**02 17 02.1**	**-0.4**
KSL				AML	AML	02 17 10.0	
	comp=E,0.2nm,0.9s						
KSL				AML	AML	02 17 10.0	
	comp=E,0.2nm,0.9s						
KSL				AML	AML	02 17 12.1	
	comp=E,0.1nm,1.2s						
KSL				AML	AML	02 17 12.1	
	comp=E,0.1nm,1.2s						
DION	**Dionisos Attik**	**4.05**	**344**	P	**Pn**	**02 16 17.5**	**+1.6**
ITM	**Ithomi**	**4.07**	**318**	PN	**Pn**	**02 16 17.3**	**+1.2**
TRIP	**Tripoli**	**4.16**	**325**	P	**Pn**	**02 16 19.4**	**+2.0**
CHOS	**Chios island**	**4.25**	**8**	PN	**Pn**	**02 16 19.7**	**+1.1**
URLA	**Izmir**	**4.31**	**14**	PN	**Pn**	**02 16 21.4**	**+2.0**
AYDB	**Zeytinkoy-Aydi**	**4.31**	**28**	PN	**Pn**	**02 16 21.8**	**+2.3**
GUR	**Goura**	**4.46**	**328**	P	**Pn**	**02 16 21.9**	**+0.4**
ELL	**Elmali**	**4.55**	**54**	PN	**Pn**	**02 16 25.9**	**+3.0**
ELL	**Elmali**	**4.55**	**54**	P	**Pn**	**02 16 26.0**	**+3.2**
DRO	**Drossia**	**4.76**	**323**	P	**Pn**	**02 16 27.5**	**+1.8**
SWA2		**4.92**	**178**	P	**Pn**	**02 16 31.7**	**+4.0**
	baz=179						
SWA2				AMP		02 17 00.0	
	baz=179						
SWA2				S	**Sn**	**02 17 24.9**	**+0.3**
	baz=179						
OSC1	**CSNet OBS 1**	**5.01**	**96**	P	**Pn**	**02 16 30.8**	**+1.8**
OSC1				S	**Sn**	**02 17 25.6**	**-1.4**
KULA	**Kula-Manisa**	**5.11**	**31**	PN	**Pn**	**02 16 32.8**	**+2.3**
ANTB	**Antalya**	**5.14**	**57**	PN	**Pn**	**02 16 34.4**	**+3.6**
AGG	**Agios Georgios**	**5.40**	**335**	PN	**Pn**	**02 16 35.3**	**+0.9**
BCK	**Bucak**	**5.40**	**51**	PN	**Pn**	**02 16 38.3**	**+3.8**
SIMA	**Simav-Kutahya**	**5.72**	**30**	PN	**Pn**	**02 16 41.6**	**+2.7**
AKMS	**Akamas**	**5.86**	**80**	P	**Pn**	**02 16 41.9**	**+1.2**
NATA	**Nata**	**6.03**	**82**	P	**Pn**	**02 16 45.6**	**+2.5**
ALFC	**Alefka**	**6.09**	**79**	P	**Pn**	**02 16 45.6**	**+1.7**
TVSB	**Tavsanli**	**6.23**	**31**	PN	**Pn**	**02 16 48.4**	**+2.5**
SZAC	**Souni**	**6.29**	**83**	P	**Pn**	**02 16 48.3**	**+1.7**
ASGA	**Asgata**	**6.59**	**82**	P	**Pn**	**02 16 52.2**	**+1.5**
HORT	**Hortiatis**	**6.65**	**345**	PN	**Pn**	**02 16 53.2**	**+1.6**
CSS	**Mathiatis**	**6.67**	**81**	Pn	**Pn**	**02 16 53.5**	**+1.7**
CSS	**Mathiatis**	**6.67**	**81**	P	**Pn**	**02 16 53.7**	**+1.9**
MVOU	**Mavrovouni**	**6.92**	**81**	P	**Pn**	**02 16 57.3**	**+2.0**
KOT	**Kottamia**	**6.97**	**126**	P	**Pn**	**02 16 59.3**	**+3.3**
	baz=126						
KOT				AMP		02 18 00.0	
	baz=126						
KOT				S	**Sn**	**02 18 12.9**	**-2.4**
	baz=126						
HSAF	**As Saff**	**6.99**	**129**	P	**Pn**	**02 16 59.5**	**+3.3**
	baz=129						
GLL	**Jalalah**	**7.12**	**128**	P	**Pn**	**02 17 00.8**	**+2.8**
	baz=129						
HFRF	**Wahat Farafira**	**7.46**	**159**	P	**Pn**	**02 17 06.1**	**+3.4**
	baz=159						
SUZ	**Suez**	**7.71**	**122**	P	**Pn**	**02 17 08.6**	**+2.4**
	baz=122						
KZIT	**Kziot**	**8.34**	**110**	Pn	**Pn**	**02 17 17.0**	**+2.3**
KZIT				Sn	**Sn**	**02 18 44.9**	**-4.0**
MMAI	**Mount Meron Ar**	**8.50**	**95**	Pn	**Pn**	**02 17 20.2**	**+3.1**
	comp=E,0.9nm,0.3s,baz=291,slow=12,SNR=1.7						
MMAI				Sn	**Sn**	**02 18 50.2**	**-2.9**
	comp=E,4.0nm,0.3s,baz=270,slow=22,SNR=5.4						
GEM	**Giv'at Ha'Em**	**8.69**	**93**	Pn	**Pn**	**02 17 22.1**	**+2.6**
GRB	**Gharib**	**8.70**	**131**	P	**Pn**	**02 17 22.6**	**+2.9**
	baz=131						
NATI	**Neve Ativ**	**8.74**	**93**	Pn	**Pn**	**02 17 23.6**	**+3.4**
NATI				Sn	**Sn**	**02 18 54.9**	**-3.8**
HMDT	**Nahal Hemdat**	**8.78**	**100**	Pn	**Pn**	**02 17 23.6**	**+2.9**
HMDT				Sn	**Sn**	**02 18 55.4**	**-4.2**
DSI	**Dead Sea**	**8.86**	**104**	Pn	**Pn**	**02 17 24.6**	**+2.7**
KRMI	**Paran Flat**	**8.95**	**114**	Pn	**Pn**	**02 17 25.6**	**+2.4**
PRNI	**Paran**	**9.05**	**112**	Pn	**Pn**	**02 17 27.8**	**+3.2**
PRNI				Sn	**Sn**	**02 19 01.6**	**-4.9**
GHAJ	**Ghor Haditha**	**9.10**	**105**	Pn	**Pn**	**02 17 27.8**	**+2.6**
HRFI	**Mount Harif**	**9.23**	**114**	Pn	**Pn**	**02 17 29.8**	**+2.9**
MBRI	**Mt Berech**	**9.25**	**116**	Pn	**Pn**	**02 17 29.9**	**+2.5**
MBRI				Sn	**Sn**	**02 19 07.4**	**-4.1**
EIL	**Elat**	**9.35**	**116**	Pn	**Pn**	**02 17 30.6**	**+2.0**
	comp=E,0.8nm,0.3s,baz=337,slow=4.8,SNR=10						
EIL				Sn	**Sn**	**02 19 09.1**	**-4.6**
	comp=E,0.9nm,0.3s,baz=62,slow=22,SNR=3.5						
EIL	**Elat**	**9.35**	**116**	Pn	**Pn**	**02 17 30.8**	**+2.2**
VAE	**Valguarnera**	**9.44**	**294**	Pn	**Pn**	**02 17 30.6**	**+0.8**
	comp=E,0.1nm,0.3s,baz=164,slow=23,SNR=3.1						
VAE				Sn	**Sn**	**02 19 09.8**	**-6.2**
	comp=E,0.7nm,0.3s,baz=196,slow=14,SNR=3.5						
GTR	**Jabal at Tayr**	**9.76**	**151**	P	**Pn**	**02 17 38.2**	**+3.9**
	baz=151						
DBRK	**Dubrovnik**	**10.17**	**329**	*e*Pn	**Pn**	**02 17 36.4**	**-3.4**
DBRK				Sn	Sn	02 19 20.0	-14
STON	**Ston**	**10.53**	**328**	*e*Pn	**Pn**	**02 17 41.5**	**-3.1**
STON				Sn	Sn	02 19 29.1	-13
MAKA	**Makarska**	**11.16**	**327**	*e*Pn	**Pn**	**02 17 50.4**	**-3.0**
MAKA				Sn	Sn	02 19 44.6	-13
RICI	**Ricice**	**11.27**	**328**	*e*Pn	**Pn**	**02 17 52.2**	**-2.7**
RICI				Sn	Sn	02 19 49.0	-12
KIJV	**Kijevo**	**12.00**	**328**	*e*Pn	**Pn**	**02 18 01.7**	**-3.1**
KIJV				Sn	Sn	02 20 07.0	-12
ZIRJ	**Zirje**	**12.08**	**324**	*e*Pn	**Pn**	**02 18 03.6**	**-2.4**
ZIRJ				Sn	Sn	02 20 07.3	-13
MORI	**Morici**	**12.21**	**325**	*e*Pn	**Pn**	**02 18 05.0**	**-2.7**
MORI				Sn	Sn	02 20 11.4	-12
DUGI	**Dugi Otok**	**12.62**	**324**	*e*Pn	**Pn**	**02 18 11.3**	**-2.0**
DUGI				Sn	Sn	02 20 21.3	-12
NVLJ	**Novalja**	**13.13**	**325**	*e*Pn	**Pn**	**02 18 17.5**	**-2.8**
NVLJ				Sn	Sn	02 20 33.8	-13
SOKA	**Soboth**	**14.72**	**331**	*i* pP	P	02 19 00.5	+12
	comp=E,0.4nm,0.3s						
**O

*JMA **29** 02:57:43.1±0.2,23°.95N×122°.86E,h27km±5km,M2.7*
ISC 29 02:57:41.8±1.1,**23°.86N**±0°.04×**122°.88E**±0°.02,**h20**km±6km,
n66,σ0**s71**/121,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.59**	**6**	P	**Pb**	**02 57 53.3**	**-0.3**
JYNG				S	**Sb**	**02 57 59.9**	**-1.7**
YOJ	**Yonaguni jima**	**0.61**	**11**	P	**Pb**	**02 57 53.7**	**-0.2**
YOJ				*e*S	**Sb**	**02 58 00.8**	**-1.4**
HATJ	**Hateruma jima**	**0.87**	**77**	P	**Pn**	**02 57 58.9**	**0.0**
HATJ				S	**Sn**	**02 58 10.5**	**-0.4**
IRIF	**Iriomote-Funau**	**0.91**	**58**	P	**Pn**	**02 57 59.1**	**-0.3**
IRIF				*e*S	**Sn**	**02 58 11.5**	**-0.4**
JKRS	**Kuro-shima**	**1.10**	**70**	P	**Pn**	**02 58 02.8**	**+0.8**
HWA	**Hwalien**	**1.17**	**276**	P	**Pb**	**02 58 03.9**	**+0.5**
	baz=278						
HWA				*e*S	**Sb**	**02 58 19.4**	**+1.2**
	baz=278						
ENA	**Nanau**	**1.19**	**299**	P	**Pb**	**02 58 04.8**	**+1.2**
	baz=301						
ENA				S	**Sb**	**02 58 19.4**	**+0.9**
	baz=301						
TWD	**Chiawan**	**1.20**	**281**	*e*P	**Pb**	**02 58 04.0**	**+0.2**
	baz=283						
TWD				S	**Sn**	**02 58 18.1**	**-0.9**
	baz=283						
TWC	**Suao**	**1.20**	**309**	*i* P	**Pb**	**02 58 04.5**	**+0.5**
	baz=311						
TWC				*i* S	**Sb**	**02 58 20.0**	**+1.0**
	baz=311						
NACB	**Ninganchiao**	**1.22**	**285**	P	**Pn**	**02 58 03.5**	**-0.2**
	baz=287						
NACB				S	**Sb**	**02 58 19.4**	**-0.1**
	baz=287						
JIJ	**Ishigaki jima**	**1.26**	**66**	P	**Pn**	**02 58 05.2**	**+1.0**
JIJ				S	**Sb**	**02 58 21.7**	**+1.1**
EGS		**1.31**	**319**	P	**Pn**	**02 58 05.6**	**+0.6**
	baz=321						
EGS				S	**Sb**	**02 58 22.6**	**+0.5**
	baz=321						
ETLH	**Xiulin Townshi**	**1.33**	**286**	P	**Pn**	**02 58 05.6**	**+0.3**
	baz=287						
ETLH				S	**Sn**	**02 58 22.2**	**-0.1**
	baz=287						
ESL	**Shilin**	**1.33**	**268**	P	**Pn**	**02 58 05.2**	**0.0**
	baz=270						
ESL				S	**Sn**	**02 58 21.4**	**-0.8**
	baz=270						
EGFH	**Guangfu**	**1.34**	**262**	*e*S	**Sn**	**02 58 22.6**	**-0.1**
	baz=264						
ILA	**Ilan**	**1.37**	**311**	S	**Sb**	**02 58 24.7**	**+0.7**
	baz=313						
NTC	**Toucheng**	**1.38**	**316**	*e*P	**Pb**	**02 58 07.6**	**+0.7**
	baz=318						
NTC				*e*S	**Sb**	**02 58 24.3**	**+0.1**
	baz=318						
HGSD	**Ruisui**	**1.39**	**255**	P	**Pn**	**02 58 05.4**	**-0.6**
	baz=256						
HGSD				S	**Sn**	**02 58 23.2**	**-0.4**
	baz=256						
TWE	**Neicheng**	**1.40**	**308**	P	**Pb**	**02 58 07.8**	**+0.5**
	baz=310						
TWE				S	**Sb**	**02 58 25.3**	**+0.5**
	baz=310						
TWB1	**Santiao Chiao**	**1.41**	**325**	P	**Pn**	**02 58 06.0**	**-0.3**
	baz=327						
TWB1				S	**Sb**	**02 58 24.3**	**-0.6**
	baz=327						
ENTT	**Nioudou**	**1.43**	**303**	P	**Pn**	**02 58 07.4**	**+0.7**
	baz=305						
ENTT				*e*S	**Sb**	**02 58 24.9**	**-0.7**
	baz=305						
NDT	**Datong Townshi**	**1.45**	**301**	*i* P	**Pb**	**02 58 08.8**	**+0.6**
	baz=303						
NDT				S	**Sb**	**02 58 26.5**	**+0.3**
	baz=303						
TIPB	**Shuangxi**	**1.47**	**319**	P	**Pn**	**02 58 07.2**	**0.0**
	baz=321						
TIPB				S	**Sb**	**02 58 26.7**	**0.0**
	baz=321						
EHY	**Hungye**	**1.47**	**257**	P	**Pn**	**02 58 06.4**	**-0.8**
	baz=257						
EHY				*e*S	**Sn**	**02 58 25.5**	**-0.4**
	baz=257						
NNSB	**Datong**	**1.48**	**293**	P	**Pn**	**02 58 08.2**	**+0.8**
	baz=294						
NNSB				S	**Sb**	**02 58 26.9**	**-0.3**
	baz=294						
NNSH	**Datong**	**1.48**	**293**	*e*P	**Pn**	**02 58 08.0**	**+0.6**
	baz=294						
NNSH				*e*S	**Sb**	**02 58 27.1**	**-0.1**
	baz=294						
JISG	**Ishigakijimahi**	**1.49**	**61**	P	**Pn**	**02 58 08.5**	**+1.0**
JISG				*e*S	**Sn**	**02 58 26.1**	**-0.3**
NNS	**Nan Shan**	**1.50**	**293**	P	**Pb**	**02 58 08.8**	**-0.2**
	baz=295						
NNS				*e*S	**Sn**	**02 58 26.5**	**-0.1**
	baz=295						
WHF	**Hehuan Shan**	**1.51**	**281**	*i* P	**Pn**	**02 58 08.3**	**+0.3**
	baz=283						
WHF				S	**Sn**	**02 58 26.5**	**-0.7**
	baz=283						
YULB	**Yu-li**	**1.52**	**253**	P	**Pn**	**02 58 08.3**	**+0.3**
	baz=253						
YULB				*e*S	**Sn**	**02 58 27.6**	**+0.4**
	baz=253						
TWF1	**Yuli**	**1.54**	**251**	*i* P	**Pn**	**02 58 08.4**	**+0.3**
	baz=252						
TWF1				S	**Sn**	**02 58 26.7**	**-0.8**
	baz=252						
NWLT	**Wulai**	**1.56**	**306**	*e*P	**Pb**	**02 58 10.2**	**+0.3**
	baz=308						
NWLT				*e*S	**Sb**	**02 58 29.4**	**+0.1**
	baz=308						
OWD	**Renai**	**1.56**	**274**	*e*P	**Pn**	**02 58 08.6**	**0.0**
	baz=275						
OWD				*e*S	**Sn**	**02 58 27.5**	**-0.8**
	baz=275						
NWF	**Wu-fen Shan**	**1.57**	**321**	P	**Pb**	**02 58 09.8**	**-0.4**
	baz=322						
NWF				S	**Sb**	**02 58 29.3**	**-0.4**
	baz=322						
WFSB	**Wu-fen Shan**	**1.57**	**321**	*e*P	**Pb**	**02 58 09.8**	**-0.4**
	baz=322						
WFSB				*e*S	**Sb**	**02 58 29.1**	**-0.5**
	baz=322						
CHGB	**Renai**	**1.57**	**278**	P	**Pn**	**02 58 09.4**	**+0.6**
	baz=279						
CHGB				S	**Sb**	**02 58 29.6**	**-0.4**
	baz=279						
YHNB	**Yeheng**	**1.59**	**301**	*e*P	**Pb**	**02 58 10.4**	**-0.2**
	baz=302						
YHNB				*e*S	**Sb**	**02 58 30.8**	**+0.4**
	baz=302						
VWDT	**VWDT**	**1.60**	**267**	P	**Pn**	**02 58 09.2**	**+0.3**
	baz=268						
VWDT				S	**Sn**	**02 58 28.3**	**-0.6**
	baz=268						
TWT	**Tachien**	**1.61**	**285**	*e*P	**Pn**	**02 58 10.2**	**+1.0**
	baz=286						
TWT				*e*S	**Sb**	**02 58 30.2**	**-0.7**
	baz=286						
NSK	**Sanguang**	**1.61**	**301**	P	**Pn**	**02 58 09.6**	**+0.5**
	baz=302						
NSK				S	**Sb**	**02 58 30.2**	**-0.7**
	baz=302						
TDCB	**Techi**	**1.62**	**284**	*e*P	**Pn**	**02 58 10.0**	**+0.6**
	baz=286						
TDCB				*e*S	**Sb**	**02 58 30.4**	**-0.9**
	baz=286						
TWA	**Mucha**	**1.63**	**314**	*e*P	**Pb**	**02 58 10.7**	**-0.5**
	baz=315						
TWA				S	**Sn**	**02 58 29.8**	**0.0**
	baz=315						
NHDH	**Xindian Distri**	**1.66**	**312**	*e*P	**Pn**	**02 58 09.2**	**-0.5**
	baz=313						
NHDH				*e*S	**Sb**	**02 58 31.6**	**-0.5**
	baz=313						
TAP1	**Taipei**	**1.71**	**314**	*e*S	**Sb**	**02 58 33.0**	**-0.6**
	baz=315						
SSLB	**Suanglung**	**1.77**	**268**	*e*P	**Pn**	**02 58 11.7**	**+0.4**
	baz=269						
SSLB				*e*S	**Sn**	**02 58 32.6**	**-0.6**
	baz=269						
SMLT	**Sun Moon Lake**	**1.81**	**271**	*e*P	**Pn**	**02 58 12.1**	**+0.1**
	baz=272						
SMLT				*e*S	**Sn**	**02 58 33.4**	**-1.0**
	baz=272						
WHP	**Taichung City**	**1.82**	**284**	*e*P	**Pn**	**02 58 13.5**	**+1.5**
	baz=285						
WHP				*e*S	**Sb**	**02 58 35.6**	**-1.2**
	baz=285						
ELDTW	**Lidau**	**1.84**	**249**	*e*P	**Pn**	**02 58 12.5**	**+0.2**
	baz=249						
JTJ	**Tarama**	**1.84**	**64**	P	**Pb**	**02 58 14.8**	**+0.1**
TYC	**Yuchr**	**1.85**	**272**	*e*P	**Pn**	**02 58 12.9**	**+0.5**
	baz=273						
TYC				*e*S	**Sn**	**02 58 34.6**	**-0.6**
	baz=273						
LIOB	**Emei**	**1.88**	**295**	*e*S	**Sn**	**02 58 35.2**	**-0.6**
	baz=296						
NSTT	**Nanjuang**	**1.88**	**295**	*e*S	**Sn**	**02 58 35.2**	**-0.7**
	baz=296						
PCYT	**Pengchaiyu**	**1.91**	**338**	*e*P	**Pn**	**02 58 14.5**	**+1.3**
	baz=339						
PCYT				*e*S	**Sn**	**02 58 37.3**	**+0.6**
	baz=339						
ALS	**Alishan**	**1.93**	**260**	P	**Pn**	**02 58 15.5**	**+1.7**
	baz=260						
ALS				*e*S	**Sn**	**02 58 36.9**	**-0.8**
	baz=260						
TTN	**Taitung**	**1.94**	**236**	*e*P	**Pn**	**02 58 14.1**	**+0.6**
	baz=235						
TTN				*e*S	**Sn**	**02 58 36.5**	**-0.8**
	baz=235						
TWGBT	**Beinan**	**1.95**	**238**	*e*P	**Pn**	**02 58 13.9**	**+0.1**
	baz=238						
TWGBT				*e*S	**Sn**	**02 58 36.5**	**-1.2**
	baz=238						
TWG	**Pinlang**	**1.96**	**239**	P	**Pn**	**02 58 14.1**	**+0.2**
	baz=238						
TWG				S	**Sn**	**02 58 36.9**	**-0.9**
	baz=238						
SBCB	**Hsinchu**	**1.96**	**299**	*e*P	**Pn**	**02 58 14.9**	**+1.0**
	baz=300						
SBCB				*e*S	**Sn**	**02 58 38.3**	**+0.3**
	baz=300						
WJS	**Zhushan**	**1.97**	**269**	*e*P	**Pn**	**02 58 14.9**	**+0.8**
	baz=270						
WJS				*e*S	**Sn**	**02 58 37.9**	**-0.3**
	baz=270						
WNT	**Mingjian**	**2.01**	**271**	*e*P	**Pn**	**02 58 15.5**	**+0.9**
	baz=272						
WNT				*e*S	**Sn**	**02 58 38.7**	**-0.5**
	baz=272						
CHN5	**Tsauling**	**2.04**	**263**	*e*P	**Pn**	**02 58 15.9**	**+0.9**
	baz=264						
CHN5				*e*S	**Sn**	**02 58 38.7**	**-1.2**
	baz=264						
STYT	**Tauyuan**	**2.07**	**251**	*e*P	**Pn**	**02 58 16.1**	**+0.7**
	baz=251						
STYT				*e*S	**Sn**	**02 58 39.5**	**-1.1**
	baz=251						
CHN4	**Tsaushan**	**2.16**	**257**	*e*P	**Pn**	**02 58 18.4**	**+1.7**
	baz=257						
WTP	**Ta-pu**	**2.17**	**254**	*e*P	**Pn**	**02 58 17.6**	**+0.8**
	baz=254						
SLGT	**Liugui**	**2.23**	**248**	*e*P	**Pn**	**02 58 18.4**	**+0.8**
	baz=248						
CHN1	**Nanshi**	**2.26**	**253**	*e*P	**Pn**	**02 58 19.0**	**+0.9**
	baz=253						
CHN1				*e*S	**Sn**	**02 58 44.6**	**-0.8**
	baz=253						

*JMA **29** 03:10:27.6±0.1,43°.47N×145°.84E,h104km±1km,M3.4*
*SKHL **29** 03:10:27.1±0.3,43°.43N×146°.00E,h104km±5km,mb4.5/4,*
msh5.4/4
ISC 29 03:10:26.5±1.9,**43°.48N**±0°.07×**145°.89E**±0°.07,
h111km±10km,**n17**,σ0**s46**/31,**Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.15**	**225**	P	**Pn**	**03 10 42.2**	**+0.4**
NEM2				*e*S	**Sn**	**03 10 53.0**	**-0.3**
NMR	**Nemuro--Hokkai**	**0.16**	**229**	*i* P	**Pn**	**03 10 41.8**	**0.0**
NMR				*i* S	**Sn**	**03 10 52.9**	**-0.5**
GRPR	**Tuman**	**0.53**	**350**	*e*P	**Pn**	**03 10 44.0**	**+0.4**
GRPR				AMB	AMB	03 10 45.2	
	130nm,0.2s						
GRPR				*i* S	**Sn**	**03 10 56.2**	**-0.2**
GRPR				A	A	03 10 57.9	
	1μm,0.4s						
GRPR				A	A	03 10 57.9	
	700nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**0.56**	**358**	*i* P	**Pn**	**03 10 44.0**	**+0.2**
YUK				AMB	AMB	03 10 44.4	
	210nm,0.2s						
YUK				*i* S	**Sn**	**03 10 56.7**	**-0.1**
YUK				A	A	03 10 57.7	
	2μm,0.5s						
YUK				A	A	03 10 57.7	
	2μm,0.5s						
LAGR	**Lagunnoye**	**0.59**	**352**	*e*P	**Pn**	**03 10 44.0**	**0.0**
LAGR				AMB	AMB	03 10 45.0	
	150nm,0.3s						
LAGR				*i* S	**Sn**	**03 10 57.0**	**-0.2**
LAGR				A	A	03 10 57.0	
	800nm,0.4s						
LAGR				A	A	03 10 57.0	
	1μm,0.4s						
JKHN	**Kushirohamanak**	**0.66**	**234**	P	**Pn**	**03 10 45.1**	**+0.5**
JKHN				*e*S	**Sn**	**03 10 58.3**	**+0.1**
JNSB	**Nemuroshibetsu**	**0.71**	**295**	P	**Pn**	**03 10 45.5**	**+0.5**
JRA	**Rausu**	**0.73**	**310**	P	**Pn**	**03 10 45.4**	**+0.3**
JRA				*e*S	**Sn**	**03 10 59.0**	**-0.1**
JNK	**Nakash**	**0.86**	**278**	P	**Pn**	**03 10 46.5**	**+0.2**
AKK	**Akkeshi**	**0.89**	**240**	*i* P	**Pn**	**03 10 46.9**	**+0.3**
AKK				*i* S	**Sn**	**03 11 01.3**	**-0.5**
JAK	**Akkeshi**	**1.00**	**242**	P	**Pn**	**03 10 47.9**	**+0.3**
JAK				*e*S	**Sn**	**03 11 03.5**	**-0.1**
JTKR	**Abashiri--Toko**	**1.52**	**290**	P	**Pn**	**03 10 53.8**	**+0.3**
JTKR				*e*S	**Sn**	**03 11 13.6**	**-0.5**
JAR	**Ashorobuto**	**1.56**	**264**	P	**Pn**	**03 10 54.8**	**+0.8**
JOB	**Onbets**	**1.61**	**250**	P	**Pn**	**03 10 55.3**	**+0.7**
JOB				*e*S	**Sn**	**03 11 15.7**	**-0.3**
JMP	**Maruseppu**	**1.91**	**287**	P	**Pn**	**03 10 58.7**	**+0.3**
JMP				*e*S	**Sn**	**03 11 22.2**	**-0.5**
JCH	**Churui**	**2.04**	**246**	P	**Pn**	**03 11 00.2**	**+0.2**
JCH				*e*S	**Sn**	**03 11 24.5**	**-1.2**
KUR	**Kuril'sk**	**2.26**	**38**	*e*P	**Pn**	**03 11 03.0**	**+0.3**
KUR				AMB	AMB	03 11 04.1	
	40nm,0.3s						
KUR				*i* S	**Sn**	**03 11 30.0**	**-0.5**
KUR				A	A	03 11 34.6	
	90nm,0.3s						
KUR				A	A	03 11 34.6	
	140nm,0.3s						

*JMA **29** 04:11:06.6±0.1,24°.40N×122°.00E,h62km±2km,M2.6*
*TAP **29** 04:11:07.1,24°.46N×122°.03E,h50km,ML3.4,D*
ISC 29 04:11:08.2±1.2,**24°.44N**±0°.02×**122°.07E**±0°.02,**h42**km±8km,
n90,σ0**s94**/173,**6C-1D**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWC	**Suao**	**0.26**	**310**	⇑*i*P	**Pn**	**04 11 16.1**	**-0.1**
	baz=313						
TWC				*i* S	**Sn**	**04 11 22.2**	**+0.5**
	baz=313						
ENA	**Nanau**	**0.30**	**267**	⇑*i*P	**Pn**	**04 11 16.3**	**-0.2**
	baz=266						
ENA				*i* S	**Sn**	**04 11 23.1**	**+0.7**
	baz=266						
EGS		**0.42**	**343**	*i* P	**Pn**	**04 11 18.1**	**+0.1**
	baz=348						
EGS				S	**Sn**	**04 11 25.5**	**+0.7**
	baz=348						
ILA	**Ilan**	**0.43**	**318**	P	**Pn**	**04 11 18.2**	**+0.1**
	baz=324						
ILA				*i* S	**Sn**	**04 11 26.3**	**+1.2**
	baz=324						
TWE	**Neicheng**	**0.46**	**307**	⇑*i*P	**Pn**	**04 11 18.1**	**-0.3**
	baz=309						
TWE				*i* S	**Sn**	**04 11 25.7**	**+0.1**
	baz=309						
NTC	**Toucheng**	**0.46**	**332**	*e*P	**Pn**	**04 11 18.5**	**0.0**
	baz=341						
NTC				*e*S	**Sn**	**04 11 25.6**	**-0.2**
	baz=341						
ENTT	**Nioudou**	**0.50**	**293**	⇑*i*P	**Pn**	**04 11 18.6**	**-0.4**
	baz=286						
ENTT				*i* S	**Sn**	**04 11 26.4**	**-0.2**
	baz=286						
NACB	**Ninganchiao**	**0.51**	**238**	⇑P	**Pn**	**04 11 18.3**	**-0.8**
	baz=226						
NACB				S	**Sn**	**04 11 26.8**	**0.0**
	baz=226						
NDT	**Datong Townshi**	**0.53**	**288**	*i* P	**Pn**	**04 11 19.0**	**-0.4**
	baz=283						
NDT				*i* S	**Sn**	**04 11 27.1**	**-0.2**
	baz=283						
TWD	**Chiawan**	**0.56**	**230**	P	**Pn**	**04 11 19.1**	**-0.7**
	baz=218						
TWD				S	**Sn**	**04 11 28.4**	**+0.3**
	baz=218						
TWB1	**Santiao Chiao**	**0.57**	**353**	*i* P	**Pn**	**04 11 19.1**	**-0.8**
	baz=357						
TWB1				*i* S	**Sn**	**04 11 27.0**	**-1.2**
	baz=357						
TIPB	**Shuangxi**	**0.57**	**337**	⇑*i*P	**Pn**	**04 11 19.4**	**-0.6**
	baz=340						
TIPB				S	**Sn**	**04 11 27.5**	**-0.8**
	baz=340						
ETLH	**Xiulin Townshi**	**0.58**	**246**	P	**Pn**	**04 11 19.6**	**-0.5**
	baz=243						
ETLH				S	**Sn**	**04 11 28.9**	**+0.2**
	baz=243						
NWLT	**Wulai**	**0.61**	**303**	P	**Pn**	**04 11 20.2**	**-0.3**
	baz=307						
NWLT				S	**Sn**	**04 11 29.1**	**-0.2**
	baz=307						
NNSB	**Datong**	**0.62**	**269**	P	**Pn**	**04 11 20.0**	**-0.7**
	baz=258						
NNSB				S	**Sn**	**04 11 28.7**	**-1.0**
	baz=258						
NNSH	**Datong**	**0.62**	**269**	*i* P	**Pn**	**04 11 20.3**	**-0.4**
	baz=258						
NNSH				*i* S	**Sn**	**04 11 29.1**	**-0.6**
	baz=258						
HWA	**Hwalien**	**0.63**	**222**	P	**Pn**	**04 11 19.6**	**-1.1**
	baz=209						
HWA				*e*S	**Sn**	**04 11 30.4**	**+0.8**
	baz=209						
NNS	**Nan Shan**	**0.63**	**270**	*i* P	**Pn**	**04 11 20.2**	**-0.6**
	baz=258						
NNS				*i* S	**Sn**	**04 11 29.2**	**-0.7**
	baz=258						
YHNB	**Yeheng**	**0.67**	**290**	⇓P	**Pn**	**04 11 20.8**	**-0.5**
	baz=288						
YHNB				S	**Sn**	**04 11 30.0**	**-0.7**
	baz=288						
NWF	**Wu-fen Shan**	**0.68**	**337**	*i* P	**Pn**	**04 11 20.7**	**-0.7**
	baz=349						
NWF				*i* S	**Sn**	**04 11 30.1**	**-0.8**
	baz=349						
WFSB	**Wu-fen Shan**	**0.68**	**337**	P	**Pn**	**04 11 20.7**	**-0.6**
	baz=349						
WFSB				S	**Sn**	**04 11 30.2**	**-0.6**
	baz=349						
NSK	**Sanguang**	**0.69**	**290**	*i* P	**Pn**	**04 11 21.0**	**-0.5**
	baz=288						
NSK				*i* S	**Sn**	**04 11 30.7**	**-0.4**
	baz=288						
TWA	**Mucha**	**0.69**	**321**	P	**Pn**	**04 11 21.4**	**-0.1**
	baz=322						
TWA				*i* S	**Sn**	**04 11 31.7**	**+0.5**
	baz=322						
NHDH	**Xindian Distri**	**0.71**	**316**	*i* P	**Pn**	**04 11 21.8**	**-0.1**
	baz=325						
NHDH				*i* S	**Sn**	**04 11 32.3**	**+0.6**
	baz=325						
TAP1	**Taipei**	**0.77**	**320**	*e*S	**Sn**	**04 11 33.4**	**+0.4**
	baz=320						
WHF	**Hehuan Shan**	**0.79**	**248**	*i* P	**Pn**	**04 11 22.6**	**-0.7**
	baz=244						
WHF				*i* S	**Sn**	**04 11 33.5**	**-0.6**
	baz=244						
JYNG	**Yonagunijimaku**	**0.80**	**89**	P	**Pn**	**04 11 23.2**	**+0.2**
JYNG				*e*S	**Sn**	**04 11 34.6**	**+0.8**
YM01	**YM01**	**0.83**	**327**	P	**Pn**	**04 11 22.8**	**-0.7**
	baz=338						
YM01				S	**Sn**	**04 11 33.3**	**-1.4**
	baz=338						
TWT	**Tachien**	**0.83**	**257**	P	**Pn**	**04 11 23.5**	**-0.2**
	baz=249						
TWT				*i* S	**Sn**	**04 11 34.9**	**0.0**
	baz=249						
YM10	**YM10**	**0.84**	**327**	P	**Pn**	**04 11 23.4**	**-0.3**
	baz=338						
YM10				S	**Sn**	**04 11 34.1**	**-0.9**
	baz=338						
WLTB	**Daxi**	**0.84**	**299**	P	**Pn**	**04 11 23.4**	**-0.2**
	baz=288						
WLTB				S	**Sn**	**04 11 35.3**	**+0.5**
	baz=288						
YM05	**YM05**	**0.85**	**328**	P	**Pn**	**04 11 22.6**	**-1.2**
	baz=328						
YM05				S	**Sn**	**04 11 34.6**	**-0.5**
	baz=328						
TDCB	**Techi**	**0.85**	**257**	P	**Pn**	**04 11 23.8**	**-0.1**
	baz=249						
TDCB				S	**Sn**	**04 11 34.0**	**-1.2**
	baz=249						
ESL	**Shilin**	**0.85**	**223**	P	**Pn**	**04 11 22.9**	**-0.9**
	baz=231						
ESL				S	**Sn**	**04 11 34.2**	**-0.9**
	baz=231						
YM04	**YM04**	**0.85**	**326**	P	**Pn**	**04 11 22.9**	**-0.9**
	baz=338						
YM04				S	**Sn**	**04 11 34.1**	**-1.1**
	baz=338						
YM08	**YM08**	**0.86**	**330**	*e*P	**Pn**	**04 11 23.0**	**-0.9**
	baz=331						
YM08				S	**Sn**	**04 11 33.1**	**-2.2**
	baz=331						
YOJ	**Yonaguni jima**	**0.86**	**89**	P	**Pn**	**04 11 23.9**	**+0.1**
YOJ				*e*S	**Sn**	**04 11 36.1**	**+0.8**
YM03	**YM03**	**0.88**	**327**	P	**Pn**	**04 11 23.4**	**-0.7**
	baz=328						
YM03				*e*S	**Sn**	**04 11 35.3**	**-0.4**
	baz=328						
TWS1	**Kuangyinshan**	**0.88**	**318**	*i* P	**Pn**	**04 11 23.8**	**-0.4**
	baz=328						
TWS1				*i* S	**Sn**	**04 11 36.5**	**+0.7**
	baz=328						
CHGB	**Renai**	**0.90**	**245**	P	**Pn**	**04 11 24.3**	**-0.3**
	baz=233						
CHGB				S	**Sn**	**04 11 36.1**	**-0.4**
	baz=233						
NTST	**Danshui**	**0.91**	**322**	P	**Pn**	**04 11 24.1**	**-0.4**
	baz=332						
NTST				S	**Sn**	**04 11 36.3**	**-0.2**
	baz=332						
TWY	**Chenhua**	**0.93**	**333**	P	**Pn**	**04 11 24.9**	**+0.1**
	baz=334						
TWY				S	**Sn**	**04 11 36.9**	**-0.1**
	baz=334						
OWD	**Renai**	**0.95**	**239**	P	**Pn**	**04 11 25.1**	**-0.1**
	baz=227						
OWD				S	**Sn**	**04 11 37.2**	**-0.4**
	baz=227						
NCUH	**Zhongli**	**0.96**	**303**	*e*P	**Pn**	**04 11 24.5**	**-0.6**
	baz=302						
NCUH				*e*S	**Sn**	**04 11 37.8**	**+0.2**
	baz=302						
EGFH	**Guangfu**	**0.97**	**217**	P	**Pn**	**04 11 24.5**	**-0.8**
	baz=226						
EGFH				S	**Sn**	**04 11 36.5**	**-1.4**
	baz=226						
LIOB	**Emei**	**0.98**	**282**	*i* P	**Pn**	**04 11 25.3**	**-0.2**
	baz=280						
LIOB				*i* S	**Sn**	**04 11 38.9**	**+0.8**
	baz=280						
NSTT	**Nanjuang**	**0.99**	**281**	*i* P	**Pn**	**04 11 25.6**	**0.0**
	baz=279						
NSTT				*i* S	**Sn**	**04 11 38.9**	**+0.5**
	baz=279						
WHP	**Taichung City**	**1.03**	**261**	*i* P	**Pn**	**04 11 26.8**	**+0.5**
	baz=254						
WHP				*i* S	**Sn**	**04 11 39.9**	**+0.2**
	baz=254						
VWDT	**VWDT**	**1.09**	**231**	P	**Pn**	**04 11 26.8**	**-0.1**
	baz=219						
VWDT				S	**Sn**	**04 11 40.2**	**-0.6**
	baz=219						
HGSD	**Ruisui**	**1.11**	**212**	*e*P	**Pn**	**04 11 26.6**	**-0.7**
	baz=198						
HGSD				S	**Sn**	**04 11 42.2**	**+0.7**
	baz=198						

DPDB	**Guoxing**	**1.12**	**249**	*i* P	**Pn**	**04**	**11**	**27.6 +0.1**
	baz=240							
DPDB				S	**Sn**	**04**	**11**	**42.9 +1.3**
	baz=240							
EHY	**Hungye**	**1.16**	**216**	*i* P	**Pn**	**04**	**11**	**26.2 -1.7**
	baz=224							
EHY				*e*S	**Sn**	**04**	**11**	**41.2 -1.3**
	baz=224							
NMLH	**Miaoli**	**1.17**	**275**	*e*P	**Pn**	**04**	**11**	**28.5 +0.5**
	baz=272							
NMLH				S	**Sn**	**04**	**11**	**44.6 +1.9**
	baz=272							
PCYT	**Pengchaiyu**	**1.18**	**0**	*i* P	**Pn**	**04**	**11**	**27.0 -1.3**
	baz=3.0							
PCYT				*i* S	**Sn**	**04**	**11**	**42.7 -0.4**
	baz=3.0							
TWQ1	**Liyutan**	**1.18**	**266**	P	**Pn**	**04**	**11**	**29.3 +1.0**
	baz=262							
TWQ1				S	**Sn**	**04**	**11**	**43.7 +0.5**
	baz=262							
NSY	**Sanyi**	**1.19**	**269**	P	**Pn**	**04**	**11**	**27.6 -0.8**
	baz=266							
NSY				S	**Sn**	**04**	**11**	**43.7 +0.3**
	baz=266							
SMLT	**Sun Moon Lake**	**1.20**	**243**	*i* P	**Pn**	**04**	**11**	**29.4 +0.8**
	baz=231							
SMLT				S	**Sn**	**04**	**11**	**44.2 +0.4**
	baz=231							
SSLB	**Suanglung**	**1.21**	**237**	P	**Pn**	**04**	**11**	**28.9 +0.2**
	baz=229							
SSLB				S	**Sn**	**04**	**11**	**43.9 0.0**
	baz=229							
TYC	**Yuchr**	**1.23**	**244**	P	**Pn**	**04**	**11**	**29.3 +0.4**
	baz=233							
TYC				S	**Sn**	**04**	**11**	**45.4 +1.1**
	baz=233							
YULB	**Yu-li**	**1.26**	**214**	*e*P	**Pn**	**04**	**11**	**27.7 -1.7**
	baz=221							
YULB				S	**Sn**	**04**	**11**	**42.9 -2.2**
	baz=221							
TWF1	**Yuli**	**1.29**	**213**	*i* P	**Pn**	**04**	**11**	**28.1 -1.7**
	baz=221							
TWF1				*i* S	**Sn**	**04**	**11**	**44.8 -1.1**
	baz=221							
TCU	**Taichung**	**1.30**	**257**	*e*S	**Sn**	**04**	**11**	**46.9 +0.8**
	baz=254							
WHYT	**Xinyi Township**	**1.34**	**236**	*e*P	**Pn**	**04**	**11**	**31.4 +1.0**
	baz=229							
WHYT				*e*S	**Sn**	**04**	**11**	**48.0 +1.1**
	baz=229							
WJS	**Zhushan**	**1.37**	**243**	*e*P	**Pn**	**04**	**11**	**31.0 +0.2**
	baz=230							
WJS				S	**Sn**	**04**	**11**	**49.9 +2.2**
	baz=230							
WNT	**Mingjian**	**1.38**	**246**	*e*P	**Pn**	**04**	**11**	**31.7 +0.7**
	baz=243							
WNT				*e*S	**Sn**	**04**	**11**	**49.4 +1.3**
	baz=243							
WCHH	**Zhanghua**	**1.42**	**256**	*e*P	**Pn**	**04**	**11**	**31.7 +0.2**
	baz=252							
WCHH				*e*S	**Sn**	**04**	**11**	**49.9 +0.9**
	baz=252							
ALS	**Alishan**	**1.48**	**231**	*i* P	**Pn**	**04**	**11**	**33.2 +0.6**
	baz=219							
ALS				*i* S	**Sn**	**04**	**11**	**50.3 -0.6**
	baz=219							
CHKT	**Chengkung**	**1.48**	**206**	P	**Pn**	**04**	**11**	**30.6 -1.8**
	baz=193							
CHKT				S	**Sn**	**04**	**11**	**48.0 -2.5**
	baz=193							
IRIF	**Iriomote-Funau**	**1.52**	**94**	P	**Pn**	**04**	**11**	**32.3 -0.6**
IRIF				S	**Sn**	**04**	**11**	**51.7 +0.2**
CHN5	**Tsauling**	**1.52**	**237**	P	**Pn**	**04**	**11**	**33.8 +0.8**
	baz=224							
CHN5				S	**Sn**	**04**	**11**	**52.2 +0.5**
	baz=224							
ELDTW	**Lidau**	**1.58**	**218**	P	**Pn**	**04**	**11**	**32.7 -1.1**
	baz=215							
ELDTW				S	**Sn**	**04**	**11**	**51.5 -1.6**
	baz=215							
WDLH	**Douliu**	**1.59**	**242**	*e*P	**Pn**	**04**	**11**	**34.0 +0.2**
	baz=229							
WDLH				S	**Sn**	**04**	**11**	**54.9 +1.8**
	baz=229							
HATJ	**Hateruma jima**	**1.63**	**103**	P	**Pn**	**04**	**11**	**35.7 +1.3**
HATJ				*e*S	**Sn**	**04**	**11**	**55.6 +1.4**
RLNB	**Erlin**	**1.65**	**251**	*e*S	**Sn**	**04**	**11**	**54.7 0.0**
	baz=259							
CHN2	**Minshiung**	**1.71**	**238**	P	**Pn**	**04**	**11**	**37.0 +1.5**
	baz=235							
CHN2				S	**Sn**	**04**	**11**	**58.9 +2.6**
	baz=235							
CHN4	**Tsaushan**	**1.73**	**231**	P	**Pn**	**04**	**11**	**37.6 +1.8**
	baz=219							
CHN4				*e*S	**Sn**	**04**	**11**	**58.5 +1.8**
	baz=219							
TPUB	**Ta-pu**	**1.74**	**229**	*e*P	**Pn**	**04**	**11**	**37.1 +1.2**
	baz=217							
TPUB				*e*S	**Sn**	**04**	**11**	**57.7 +0.8**
	baz=217							
STYT	**Tauyuan**	**1.75**	**224**	P	**Pn**	**04**	**11**	**35.9 -0.2**
	baz=215							
STYT				S	**Sn**	**04**	**11**	**57.5 +0.3**
	baz=215							
CHY	**Chiayi**	**1.77**	**238**	*e*P	**Pn**	**04**	**11**	**37.0 +0.7**
	baz=235							
CHY				*e*S	**Sn**	**04**	**11**	**59.2 +1.6**
	baz=235							
JKRS	**Kuro-shima**	**1.78**	**96**	P	**Pn**	**04**	**11**	**37.1 +0.6**
JKRS				S	**Sn**	**04**	**11**	**59.0 +1.1**
WTP	**Ta-pu**	**1.79**	**228**	*e*P	**Pn**	**04**	**11**	**37.0 +0.5**
	baz=217							
WTP				*e*S	**Sn**	**04**	**12**	**00.2 +2.1**
	baz=217							
TWG	**Pinlang**	**1.85**	**210**	*e*P	**Pn**	**04**	**11**	**37.0 -0.5**
	baz=200							
TWG				*e*S	**Sn**	**04**	**11**	**57.1 -2.6**
	baz=200							
TWGBT	**Beinan**	**1.85**	**209**	*e*P	**Pn**	**04**	**11**	**35.9 -1.6**
	baz=200							
TWGBT				*e*S	**Sn**	**04**	**11**	**57.5 -2.2**
	baz=200							
TWK	**Hsinying**	**1.86**	**231**	*e*P	**Pn**	**04**	**11**	**37.8 +0.2**
	baz=228							
TWK				*e*S	**Sn**	**04**	**12**	**01.3 +1.4**
	baz=228							
CHN1	**Nanshi**	**1.89**	**229**	*e*P	**Pn**	**04**	**11**	**38.8 +0.8**
	baz=226							
CHN1				*e*S	**Sn**	**04**	**12**	**01.1 +0.6**
	baz=226							
JIJ	**Ishigaki jima**	**1.90**	**92**	P	**Pn**	**04**	**11**	**38.1 +0.1**
JIJ				S	**Sn**	**04**	**12**	**00.1 -0.6**
SLGT	**Liugui**	**1.94**	**222**	*e*P	**Pn**	**04**	**11**	**40.1 +1.4**
	baz=220							
JISG	**Ishigakijimahi**	**2.05**	**86**	S	**Sn**	**04**	**12**	**04.2 -0.3**
SSD	**Sandimen**	**2.14**	**218**	*e*P	**Pn**	**04**	**11**	**42.2 +0.7**
	baz=216							
MASBT	**Mashibuluo**	**2.25**	**216**	*e*P	**Pn**	**04**	**11**	**43.3 +0.4**
	baz=214							

IDC 29 04:14:35.0±6.3, 29°33S × 177°09W, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.5/22, mbtmp3.5/2, Error ellipse: s-maj=407.5km s-min=80.4km az=165.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.97**	**265**	P	P	04 22 44.8	+0.5
	0.7nm,1.0s,baz=102,slow=7.5,SNR=4.3						
WRA	**Warramunga Arr**	**44.86**	**271**	P	P	04 22 50.6	-0.8
	0.9nm,0.8s,baz=113,slow=8.1,SNR=2.1						
FINES	**FINESS Array B**	**144.40**	**341**	PKP	PKPdf	04 34 11.9	-0.6
	0.6nm,0.6s,baz=66,slow=3.5,SNR=4.7						

*IDC **29** 04:24:27.2±1.0, 39°.96N × 15°.51E, h0km, mb3.7/6, mb1 3.8/12, mb1mx3.6/51, mbtmp3.7/12, ML3.6/5, MS2.9/7, Ms1 2.9/7, ms1mx2.6/49, Error ellipse: s-maj=20.4km s-min=14.6km az=108.0*

*NEIC **29** 04:24:28.7±1.9, 39°.90N±0°.04×15°.64E±0°.07, h12km±8km, Error ellipse: s-maj=7.9km s-min=6.1km az=69.0*

*ROM **29** 04:24:28.0±0.1, 39°.898N±0°.004×15°.588E±0°.007, h9km, ML3.8/1, Error ellipse: s-maj=0.6km s-min=0.2km az=254.0*

*LDG **29** 04:24:28.8±0.1, 39°.92N×15°.64E, h10km, Ml2.5/5, Error ellipse: s-maj=3.1km s-min=2.2km az=31.0*

*THE **29** 04:24:42.0, 40°.07N×16°.71E, h19km±22km, ML3.2/4, Error ellipse: s-maj=27.7km s-min=2.4km az=266.0*

ISC 29 04:24:27.4±1.0, 39°.84N±0°.02×15°.55E±0°.02, h9km±7km, n234, σ1s91/256, mb4.0/8, MS2.8/3, 9C-5D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUC	**Castrocucco**	**0.26**	**54**	P	**Pg**	**04 24 32.6**	**0.0**
CUC				S	**Sg**	**04 24 35.6**	**-0.5**
CUC				AML	AML		
CUC				AML	AML		
CUC				AML	AML		
CUC				AML	AML		
BULG	**Bulgheria - Ca**	**0.27**	**331**	P	**Pb**	**04 24 34.3**	**-0.1**
BULG				AML	AML		
	comp=N,40300μm,0.9s						
BULG				AML	AML		
	comp=N,40350μm,0.9s						
BULG				AML	AML		
	comp=E,22300μm,0.5s						
BULG				AML	AML		
	comp=N,42050μm,0.9s						
BULG				AML	AML		
	comp=E,21000μm,0.5s						
BULG				AML	AML		
	comp=N,40300μm,0.9s						
BULG				AML	AML		
	comp=E,22300μm,0.5s						
BULG				AML	AML		
	comp=N,42050μm,0.9s						
MGR	**Morigerati**	**0.30**	**1**	P	**Pb**	**04 24 33.6**	**-1.3**
MGR				S	**Sg**	**04 24 37.4**	**0.0**
MGR				AML	AML		
	comp=E,75200μm,0.2s						
MGR				AML	AML		
	comp=E,75150μm,0.2s						
MGR				AML	AML		
	comp=N,46700μm,0.1s						
MGR				AML	AML		
	comp=E,83000μm,0.2s						
MGR				AML	AML		
	comp=N,56050μm,1.3s						
MGR				AML	AML		
	comp=E,75200μm,0.2s						
MGR				AML	AML		
	comp=N,46750μm,0.1s						
MGR				AML	AML		
	comp=N,46700μm,0.1s						
MGR				AML	AML		
	comp=E,75150μm,0.2s						
MGR				AML	AML		
	comp=N,56050μm,1.3s						
MMN	**Mormanno**	**0.34**	**82**	AML	AML		
MMN				AML	AML		
T0721	**Laino Castello**	**0.34**	**74**	P	**Pb**	**04 24 34.7**	**-1.0**
T0721				S	**Sg**	**04 24 39.3**	**+0.5**
T0721				AML	AML		
T0721				AML	AML		
T0721				AML	AML		
T0721				AML	AML		
SIRI	**Monte Sirino -**	**0.42**	**36**	P	**Pg**	**04 24 35.8**	**+0.1**
SIRI				S	**Sg**	**04 24 41.6**	**+0.3**
SIRI				AML	AML		
	comp=N,41500μm,0.5s						
SIRI				AML	AML		
	comp=E,69650μm,0.3s						
SIRI				AML	AML		
	comp=N,42850μm,0.5s						
SIRI				AML	AML		
	comp=E,67350μm,0.3s						
SIRI				AML	AML		
	comp=E,69650μm,0.3s						
SIRI				AML	AML		
	comp=E,67350μm,0.3s						
SIRI				AML	AML		
	comp=N,42850μm,0.5s						
T0702	**Acquaformosa (**	**0.43**	**106**	P	**Pb**	**04 24 37.0**	**-0.2**
T0702				S	**Sb**	**04 24 42.9**	**-0.9**
T0702				AML	AML		
	comp=E,10700μm,1.6s						
T0702				AML	AML		
	comp=N,42450μm,0.3s						
T0702				AML	AML		
	comp=N,42500μm,0.3s						
T0702				AML	AML		
	comp=E,10650μm,1.6s						
T0702				AML	AML		
	comp=N,42500μm,0.3s						
T0702				AML	AML		
	comp=E,10690μm,1.6s						
CET2	**Cetraro**	**0.44**	**135**	P	**Pn**	**04 24 38.3**	**-1.6**
CET2				S	**Sb**	**04 24 45.1**	**+1.0**
CET2				AML	AML		
	comp=E,32500μm,0.2s						
CET2				AML	AML		
	comp=N,50350μm,0.5s						
CET2				AML	AML		
	comp=N,50350μm,0.5s						
CET2				AML	AML		
	comp=E,32500μm,0.2s						
MTSN	**Montesano sull**	**0.45**	**20**	P	**Pb**	**04 24 36.3**	**-1.3**
MTSN				S	**Sb**	**04 24 43.1**	**-1.4**
MTSN				AML	AML		
	comp=E,44400μm,0.7s						
MTSN				AML	AML		
	comp=E,44400μm,0.7s						
MTSN				AML	AML		
	comp=N,45750μm,0.4s						
T0701	**Viggianello (P**	**0.46**	**71**	P	**Pb**	**04 24 37.0**	**-0.7**
CMPR	**Campora**	**0.51**	**339**	P	**Pb**	**04 24 37.6**	**-1.0**
CMPR				S	**Sb**	**04 24 44.8**	**-1.3**
MCEL	**Monticello**	**0.52**	**22**	P	**Pg**	**04 24 37.3**	**-0.2**
MCEL				S	**Sg**	**04 24 44.7**	**+0.2**
MCEL				AML	AML		
	comp=E,24950μm,0.3s						
MCEL				AML	AML		
	comp=N,23150μm,0.5s						
MCEL				AML	AML		
	comp=N,24000μm,0.5s						
MCEL				AML	AML		
	comp=E,24950μm,0.3s						
MCEL				AML	AML		
	comp=N,23200μm,0.5s						
MCEL				AML	AML		
	comp=E,25650μm,0.3s						
MCEL				AML	AML		
	comp=N,23200μm,0.5s						
MCEL				AML	AML		
	comp=E,24950μm,0.3s						
SLCN	**Sala Consilina**	**0.55**	**7**	P	**Pb**	**04 24 38.4**	**-0.9**
SLCN				AML	AML		
	comp=E,666μm,1.3s						
SLCN				AML	AML		
	comp=N,34350μm,0.5s						
SLCN				AML	AML		
	comp=E,33000μm,0.7s						
SLCN				AML	AML		
	comp=N,670μm,1.5s						
SLCN				AML	AML		
	comp=E,666μm,1.3s						
SLCN				AML	AML		
	comp=N,34350μm,0.5s						
SALB	**San Lorenzo Be**	**0.62**	**86**	P	**Pb**	**04 24 39.3**	**-1.0**
SALB				S	**Sg**	**04 24 47.8**	**+0.3**
SALB				AML	AML		
	comp=N,13350μm,0.6s						
SALB				AML	AML		
	comp=E,17400μm,0.6s						
SALB				AML	AML		
	comp=N,12700μm,0.6s						
SALB				AML	AML		
	comp=N,13400μm,0.6s						
SALB				AML	AML		
	comp=E,17000μm,0.6s						
SALB				AML	AML		
	comp=E,17400μm,0.6s						
TDS	**Terranova Siba**	**0.64**	**106**	P	**Pb**	**04 24 40.4**	**-0.3**
TDS				AML	AML		
	comp=E,3625μm,1.0s						
TDS				AML	AML		
	comp=N,3835μm,1.1s						
CDRU	**Civita di Ruta**	**0.67**	**344**	P	**Pg**	**04 24 39.9**	**-0.5**
CDRU				S	**Sg**	**04 24 49.3**	**0.0**
CDRU				AML	AML		
	comp=E,21950μm,0.8s						
CDRU				AML	AML		
	comp=N,12200μm,0.7s						
CDRU				AML	AML		
	comp=E,21950μm,0.8s						
ORI	**Oriolo Calabro**	**0.73**	**72**	P	**Pb**	**04 24 41.5**	**-0.7**
ORI				AML	AML		
	comp=E,28700μm,0.5s						
ORI				AML	AML		
	comp=N,22650μm,0.4s						
ORI				AML	AML		
	comp=N,22650μm,0.4s						
CAR1	**CAROLEI**	**0.78**	**139**	P	**Pn**	**04 24 44.5**	**-0.1**
CAR1				AML	AML		
	comp=E,35700μm,0.3s						
CAR1				AML	AML		
	comp=E,39850μm,0.3s						
CAR1				AML	AML		
	comp=N,37300μm,0.8s						
CAR1				AML	AML		
	comp=N,39000μm,0.8s						
CAR1				AML	AML		
	comp=N,37300μm,0.8s						
CAR1				AML	AML		
	comp=E,35700μm,0.3s						
CAR1				AML	AML		
	comp=E,39850μm,0.3s						
PZUN	**Potenza**	**0.83**	**14**	P	**Pb**	**04 24 43.2**	**-0.8**
PZUN				AML	AML		
	comp=N,5035μm,0.6s						
PZUN				AML	AML		
	comp=N,5040μm,0.6s						
PZUN				AML	AML		
	comp=E,4685μm,0.7s						
PZUN				AML	AML		
	comp=N,5005μm,0.6s						
PZUN				AML	AML		
	comp=E,4665μm,0.7s						
CRAC	**Craco**	**0.86**	**52**	P	**Pb**	**04 24 44.0**	**-0.5**
CRAC				AML	AML		
	comp=E,19600μm,0.6s						
CRAC				AML	AML		
	comp=N,16700μm,1.0s						
CRAC				AML	AML		
	comp=N,16700μm,1.0s						
CRAC				AML	AML		
	comp=E,19600μm,0.6s						
CELI	**Celico**	**0.86**	**120**	P	**Pn**	**04 24 45.0**	**-0.8**
CELI				S	**Sn**	**04 24 57.9**	**-0.7**
CELI				AML	AML		
	comp=N,7135μm,0.4s						
CELI				AML	AML		
	comp=E,21350μm,0.6s						
CELI				AML	AML		
	comp=N,17900μm,0.4s						
CELI				AML	AML		
	comp=N,17900μm,0.4s						
CELI				AML	AML		
	comp=E,8515μm,0.6s						
CELI				AML	AML		
	comp=E,21350μm,0.6s						
MRLC	**Muro Lucano**	**0.92**	**357**	P	**Pb**	**04 24 44.8**	**-0.7**
MRLC				AML	AML		
	comp=E,3530μm,0.6s						
MRLC				AML	AML		
	comp=E,3970μm,0.6s						
MRLC				AML	AML		
	comp=N,3955μm,0.9s						
MRLC				AML	AML		
	comp=N,3690μm,0.8s						
MCRV	**Calabrutti - M**	**0.98**	**343**	P	**Pg**	**04 24 45.6**	**-0.8**
MCRV				AML	AML		
	comp=E,3960μm,0.6s						
MCRV				AML	AML		
	comp=N,4590μm,1.1s						
ACER	**Acerenza**	**0.99**	**18**	P	**Pg**	**04 24 45.7**	**-0.8**
ACER				AML	AML		
	comp=N,7965μm,1.0s						
ACER				AML	AML		
	comp=N,7650μm,1.0s						
ACER				AML	AML		
	comp=E,7320μm,0.7s						
ACER				AML	AML		
	comp=E,6850μm,0.7s						
ACER				AML	AML		
	comp=N,7655μm,1.0s						
MIGL	**Miglionico**	**1.02**	**42**	P	**Pg**	**04 24 45.8**	**-1.3**
MIGL				AML	AML		
	comp=E,15950μm,0.5s						
MIGL				AML	AML		
	comp=N,13300μm,0.5s						
MIGL				AML	AML		
	comp=E,15950μm,0.5s						
PIPA	**Pietrapaola**	**1.04**	**110**	P	**Pn**	**04 24 48.2**	**+0.1**
PIPA				AML	AML		
	comp=N,3325μm,0.9s						
PIPA				AML	AML		
	comp=E,2710μm,0.4s						
PIPA				AML	AML		
	comp=N,3455μm,0.5s						
PIPA				AML	AML		
	comp=E,2655μm,0.4s						
IST3	**Stromboli F**	**1.07**	**193**	P	**Pn**	**04 24 50.3**	**+1.8**
SNAL	**S. Angelo Dei**	**1.11**	**347**	P	**Pb**	**04 24 48.5**	**-0.4**
SNAL				AML	AML		
	comp=E,4615μm,0.6s						
SNAL				AML	AML		
	comp=N,5955μm,1.0s						
SNAL				AML	AML		
	comp=N,5645μm,1.6s						
SNAL				AML	AML		
	comp=E,4580μm,0.7s						
SNAL				AML	AML		
	comp=N,5960μm,1.0s						
VULT	**Monte Vulture**	**1.11**	**3**	P	**Pn**	**04 24 49.1**	**-0.2**
VULT				AML	AML		
	comp=N,4770μm,0.8s						
VULT				AML	AML		
	comp=E,2890μm,0.8s						
VULT				AML	AML		
	comp=N,4770μm,0.8s						
VULT				AML	AML		
	comp=E,3020μm,0.8s						
VULT				AML	AML		
	comp=E,2890μm,0.8s						
VULT				AML	AML		
	comp=E,3025μm,0.8s						
VULT				AML	AML		
	comp=N,4915μm,0.8s						
PALZ	**Palazzo San Ge**	**1.15**	**16**	P	**Pg**	**04 24 48.2**	**-1.2**
PALZ				AML	AML		
	comp=E,7490μm,1.4s						
PALZ				AML	AML		
	comp=N,5995μm,0.8s						
TIP	**Timpagrande**	**1.15**	**125**	P	**Pn**	**04 24 50.0**	**+0.4**
TIP				AML	AML		
	comp=E,1595μm,0.6s						
TIP				AML	AML		
	comp=N,3510μm,0.7s						
TIP				AML	AML		
	comp=E,1875μm,0.6s						
TIP				AML	AML		
	comp=N,4425μm,0.8s						
TIP	**Timpagrande**	**1.15**	**125**	Pn	**Pn**	**04 24 49.5**	**-0.1**
SERS	**Sersale**	**1.20**	**132**	P	**Pn**	**04 24 50.8**	**+0.5**
SERS				AML	AML		
	comp=N,2025μm,0.4s						
SERS				AML	AML		
	comp=E,2215μm,0.4s						
SERS				AML	AML		
	comp=N,2815μm,0.4s						
SERS				AML	AML		
	comp=E,2690μm,0.5s						
MATE	**Matera**	**1.20**	**47**	P	**Pg**	**04 24 48.7**	**-1.7**
MATE				AML	AML		
	comp=N,4835μm,0.6s						
MATE				AML	AML		
	comp=E,3360μm,0.7s						
CAFE	**Carife**	**1.21**	**349**	P	**Pn**	**04 24 50.2**	**-0.3**
CAFE				AML	AML		
	comp=E,4045μm,0.6s						
CAFE				AML	AML		
	comp=N,3215μm,0.7s						
CAFE				AML	AML		
	comp=N,3240μm,0.7s						
CAFE				AML	AML		
	comp=E,4160μm,0.6s						
CAFE				AML	AML		

	comp=E,4100µm,0.6s										
CAFE					AML	AML					
	comp=E,4220µm,0.6s										
CAFE					AML	AML					
	comp=N,3220µm,0.7s										
CAFE					AML	AML					
	comp=N,3245µm,0.7s										
GRI	**Girifalco**	**1.22**	**146**		P	**Pn**	**04 24 50.8**	**+0.2**			
GRI					AML	AML					
	comp=E,7675µm,0.5s										
GRI					AML	AML					
	comp=N,5865µm,0.4s										
LTRZ	**Laterza**	**1.24**	**52**		P	**Pg**	**04 24 49.1**	**-2.1**			
LTRZ					AML	AML					
	comp=N,3890µm,1.0s										
LTRZ					AML	AML					
	comp=E,2745µm,0.7s										
LADO	**San Nicola del**	**1.24**	**116**		P	**Pn**	**04 24 51.7**	**+0.9**			
LADO					AML	AML					
	comp=E,2050µm,0.9s										
LADO					AML	AML					
	comp=N,1955µm,0.7s										
JOPP	**Joppolo**	**1.26**	**168**		P	**Pn**	**04 24 52.2**	**+1.1**			
JOPP					AML	AML					
	comp=E,3555µm,1.5s										
JOPP					AML	AML					
	comp=N,2565µm,0.2s										
MRVN	**Minervino Murg**	**1.32**	**22**		P	**Pg**	**04 24 51.1**	**-1.6**			
MRVN					AML	AML					
	comp=E,3615µm,1.3s										
MRVN					AML	AML					
	comp=N,2230µm,0.5s										
OVO	**Vesuviano**	**1.32**	**319**		P	**Pb**	**04 24 52.8**	**+0.5**			
OVO					AML	AML					
	comp=N,7610µm,0.7s										
OVO					AML	AML					
	comp=E,5630µm,0.7s										
SG1	**Sgolgore (BA)**	**1.32**	**41**	*e*Pg		**Pn**	**04 24 51.9**	**-0.1**			
SG1				Sg		**Sn**	**04 25 12.6**	**+2.9**			
NL9	**Nola**	**1.32**	**325**	P		**Pb**	**04 24 52.4**	**0.0**			
CAPA	**Cerignola FG**	**1.33**	**9**	P		**Pn**	**04 24 51.8**	**-0.3**			
CAPA					AML	AML					
	comp=N,4730µm,0.9s										
CAPA					AML	AML					
	comp=E,5380µm,0.8s										
AMUR	**Altamura**	**1.34**	**37**	P		**Pn**	**04 24 51.4**	**-0.9**			
AMUR					AML	AML					
	comp=E,2920µm,0.5s										
AMUR					AML	AML					
	comp=N,2820µm,0.7s										
MRB1	**Monte Rocchett**	**1.36**	**341**	P		**Pb**	**04 24 54.7**	**+1.7**			
MRB1					AML	AML					
	comp=E,3260µm,0.7s										
MRB1					AML	AML					
	comp=E,3220µm,1.6s										
MRB1					AML	AML					
	comp=N,3755µm,0.7s										
MRB1					AML	AML					
	comp=N,3630µm,0.7s										
PAOL	**Paolisi**	**1.41**	**328**	P		**Pg**	**04 24 53.6**	**-0.8**			
PAOL					AML	AML					
	comp=E,1555µm,0.9s										
PAOL					AML	AML					
	comp=N,1790µm,0.7s										
PAOL					AML	AML					
	comp=E,1570µm,0.8s										
PAOL					AML	AML					
	comp=N,1895µm,0.7s										
PAOL	**Paolisi**	**1.41**	**328**			**Pg**	**04 24 53.7**	**-0.6**			
LLI	**Lipari**	**1.47**	**199**	P		**Pg**	**04 24 56.0**	**+0.4**			
LLI					AML	AML					
	comp=E,14400µm,1.2s										
LLI					AML	AML					
	comp=N,18450µm,0.5s										
LLI					AML	AML					
	comp=N,18450µm,0.5s										
NOCI	**Noci**	**1.50**	**50**	P		**Pn**	**04 24 54.1**	**-0.4**			
NOCI					AML	AML					
	comp=N,3370µm,0.7s										
NOCI					AML	AML					
	comp=E,2710µm,0.8s										
VITU	**Vitulano (BN)**	**1.51**	**333**	P		**Pg**	**04 24 55.2**	**-1.2**			
VITU					AML	AML					
	comp=E,2445µm,0.7s										
VITU					AML	AML					
	comp=N,1840µm,0.6s										
VITU					AML	AML					
	comp=E,772µm,0.6s										
VITU					AML	AML					
	comp=N,1775µm,0.9s										
VPL	**Vulcano Piano**	**1.52**	**197**	P		**Pg**	**04 24 56.6**	**0.0**			
VPL					AML	AML					
	comp=N,5660µm,0.8s										
VPL					AML	AML					
	comp=E,4095µm,0.5s										
PLAC	**Placanica**	**1.55**	**153**	P		**Pg**	**04 24 56.3**	**-0.9**			
PLAC					AML	AML					
	comp=E,5765µm,0.6s										
PLAC					AML	AML					
	comp=N,5375µm,0.6s										
PLAC					AML	AML					
	comp=E,6580µm,0.6s										
PLAC					AML	AML					
	comp=N,6725µm,0.6s										
MSRU	**Castanea**	**1.57**	**181**	P		**Pg**	**04 24 56.8**	**-0.8**			
MSRU					AML	AML					
	comp=E,4835µm,0.4s										
MSRU					AML	AML					
	comp=N,3650µm,1.1s										
IACL	**Alicudi**	**1.60**	**216**	P		**Pg**	**04 24 57.1**	**-1.0**			
IACL					AML	AML					
	comp=N,1490µm,0.8s										
IACL					AML	AML					
	comp=E,1360µm,0.8s										
CEL	**Celeste**	**1.60**	**170**	P		**Pg**	**04 24 57.4**	**-0.7**			
CEL	**Celeste**	**1.60**	**170**	Pn		**Pg**	**04 24 56.7**	**-1.4**			
MSCL	**Scilla**	**1.62**	**173**	AML		AML					
	comp=N,6040µm,0.6s										
MSCL					AML	AML					
	comp=E,5365µm,0.7s										
BAI	**Bari**	**1.62**	**38**	*e*Pg		**Pn**	**04 24 55.9**	**-0.2**			
BAI				Sg		**Sg**	**04 25 20.5**	**+0.9**			
ATN	**Antennamare**	**1.68**	**182**	P		**Pg**	**04 24 58.1**	**-1.5**			
ATN					AML	AML					
	comp=E,2µm,1.1s										
ATN					AML	AML					
	comp=N,4010µm,0.6s										
GMB	**Gambarie**	**1.68**	**172**	P		**Pg**	**04 24 58.3**	**-1.4**			
GMB					AML	AML					
	comp=E,10450µm,1.5s										
GMB					AML	AML					
	comp=N,7105µm,1.4s										
MPNC	**Port Mandanici**	**1.70**	**185**	P		**Pb**	**04 24 58.4**	**-0.4**			
MPNC					AML	AML					
	comp=E,4355µm,0.6s										
MPNC					AML	AML					
	comp=N,3925µm,0.8s										
PIGN	**Pignataro Magg**	**1.71**	**323**	AML		AML					
	comp=E,658µm,1.2s										
PIGN					AML	AML					
	comp=N,672µm,1.1s										
MCSR	**Castroreale**	**1.79**	**188**	P		**Pb**	**04 24 59.6**	**-0.7**			
MCSR					AML	AML					
	comp=N,2535µm,0.4s										
MCSR					AML	AML					
	comp=E,2685µm,0.5s										
MODR	**Mondragone**	**1.82**	**316**	P		**Pb**	**04 24 59.5**	**-1.4**			
MODR					AML	AML					
	comp=E,514µm,1.0s										
MODR					AML	AML					
	comp=N,584µm,1.0s										
NOV	**Novara**	**1.84**	**190**	AML		AML					
	comp=E,1450µm,0.7s										
NOV					AML	AML					
	comp=N,1075µm,0.6s										
MTTG	**Motta San Giov**	**1.84**	**176**	P		**Pb**	**04 25 00.7**	**-0.5**			
MUCR	**Ucria**	**1.87**	**197**	P		**Pb**	**04 25 01.3**	**-0.4**			
MUCR					AML	AML					
	comp=E,678µm,0.5s										
MUCR					AML	AML					
	comp=N,1080µm,0.7s										
MSAG	**Monte S. Angel**	**1.89**	**8**	P		**Pn**	**04 24 59.6**	**-0.3**			
MSAG					AML	AML					
	comp=E,1450µm,1.2s										
MSAG					AML	AML					
	comp=N,1870µm,0.5s										
MSAG					AML	AML					
	comp=E,1540µm,1.2s										
MSAG					AML	AML					
	comp=N,1920µm,0.5s										
MELA	**Melanico ??? S**	**1.89**	**350**	P		**Pb**	**04 25 00.7**	**-1.3**			
MELA					AML	AML					
	comp=E,1520µm,0.7s										
MELA					AML	AML					
	comp=N,1555µm,1.3s										
MELA					AML	AML					
	comp=E,1590µm,0.7s										
MELA					AML	AML					
	comp=N,1640µm,1.3s										
MPAZ	**Palizzi**	**1.92**	**169**	P		**Pb**	**04 25 02.1**	**-0.4**			
MPAZ					AML	AML					
	comp=E,1985µm,0.5s										
MPAZ					AML	AML					
	comp=N,1665µm,1.5s										
SGRT	**San Giovanni R**	**1.92**	**4**	P		**Pn**	**04 24 59.5**	**-0.8**			
SGRT					AML	AML					
	comp=E,1054µm,0.7s										
SGRT					AML	AML					
	comp=N,1043µm,0.5s										
SGRT	**San Giovanni R**	**1.92**	**4**	Pn		**Pn**	**04 25 00.3**	**0.0**			
MSFR	**San Fratello**	**1.95**	**203**	P		**Pb**	**04 25 02.6**	**-0.5**			
MSFR					AML	AML					
	comp=E,216µm,0.8s										
MSFR					AML	AML					
	comp=N,246µm,1.3s										
EMSG	**Monte Spagnolo**	**2.07**	**193**	AML		AML					
	comp=E,2305µm,0.6s										
EMSG					AML	AML					
	comp=N,2465µm,0.5s										
EPZF	**Pizzo Felice**	**2.08**	**195**	AML		AML					
	comp=N,1885µm,0.5s										
EPZF					AML	AML					
	comp=E,1690µm,0.5s										
GIB	**Gibilmanna**	**2.20**	**213**	P		**Pb**	**04 25 06.0**	**-1.2**			
GIB					AML	AML					
	comp=N,561µm,0.7s										
GIB					AML	AML					
	comp=E,593µm,0.6s										
SCTE	**Santa Cesarea**	**2.26**	**83**	P		**Pn**	**04 24 04.9**	**+0.1**			
SCTE					AML	AML					
	comp=E,758µm,0.5s										
SCTE					AML	AML					
	comp=N,944µm,0.7s										
SCTE	**Santa Cesarea**	**2.26**	**83**	Pn		**Pn**	**04 25 06.2**	**+1.3**			
ESML	**S. M. di Licod**	**2.28**	**193**	AML		AML					
	comp=N,1064µm,1.6s										
ESML					AML	AML					
	comp=E,1044µm,1.1s										
TREM	**Isole Tremiti**	**2.28**	**359**	AML		AML					
	comp=N,1290µm,0.7s										
TREM					AML	AML					
	comp=E,1270µm,0.7s										
ECNV	**Catenanuova**	**2.33**	**196**	AML		AML					
	comp=N,1155µm,1.0s										
ECNV					AML	AML					
	comp=E,613µm,0.8s										
GIUL	**Giuliano Di Ro**	**2.45**	**315**	AML		AML					
	comp=N,215µm,0.9s										
GIUL					AML	AML					
	comp=E,242µm,1.6s										
INTR	**Introdacqua**	**2.50**	**331**	Pn		**Pb**	**04 25 10.0**	**-2.4**			
ALJA	**Alia**	**2.52**	**214**	AML		AML					
	comp=E,232µm,1.2s										
ALJA					AML	AML					
	comp=N,234µm,0.7s										
VAE	**Valguarnera**	**2.52**	**201**	Pn		**Pb**	**04 25 12.6**	**-0.2**			
	comp=N,4.0nm,0.3s,baz=92,slow=4.3,SNR=11										
HLNI	**Lentini**	**2.54**	**192**	P		**Pb**	**04 25 11.3**	**-1.8**			
HLNI					AML	AML					
	comp=E,388µm,0.9s										
HLNI					AML	AML					
	comp=N,348µm,0.5s										
HAGA	**Augusta**	**2.57**	**187**	P		**Pb**	**04 25 11.7**	**-1.9**			
HCRL	**Carlentini**	**2.58**	**189**	P		**Pb**	**04 25 12.4**	**-1.4**			
HCRL					AML	AML					
	comp=E,1105µm,0.5s										
HCRL					AML	AML					
	comp=N,880µm,0.6s										
AGST	**Augusta-Monte**	**2.59**	**186**	P		**Pb**	**04 25 11.8**	**-2.1**			
AGST					AML	AML					
	comp=E,1380µm,0.4s										
AGST					AML	AML					
	comp=N,1135µm,0.5s										
CORL	**Corleone**	**2.62**	**223**	AML		AML					
	comp=N,202µm,1.3s										
CORL					AML	AML					
	comp=E,221µm,1.0s										
CORL	**Corleone**	**2.62**	**223**	Pn		**Pb**	**04 25 12.4**	**-2.0**			
SSY	**Sortino**	**2.71**	**188**	AML		AML					
	comp=N,981µm,1.2s										
SSY					AML	AML					
	comp=E,658µm,0.6s										
MEU	**Monte Lauro**	**2.78**	**190**	AML		AML					
	comp=N,694µm,0.4s										
MEU					AML	AML					
	comp=E,556µm,0.6s										
HBSP	**Bosco Santo Pi**	**2.83**	**197**	AML		AML					
	comp=N,646µm,0.6s										
HBSP					AML	AML					
	comp=E,1029µm,0.9s										
HAVL	**Avola**	**2.90**	**187**	AML		AML					
	comp=N,490µm,1.1s										
HAVL					AML	AML					
	comp=E,436µm,0.8s										
CLTB	**Caltabellotta**	**2.90**	**220**	Pn		**Pb**	**04 25 17.4**	**-1.9**			
AQU	**L'Aquila**	**2.99**	**328**	Pn		**Pn**	**04 25 16.3**	**+1.3**			
AQU	**L'Aquila**	**2.99**	**328**	*e*Pn		**Pb**	**04 25 18.4**	**-2.4**			
FIAM	**Fiamignano**	**3.04**	**324**	AML		AML					
	comp=N,130µm,0.9s										
FIAM					AML	AML					
	comp=E,198µm,0.8s										
KEK	**Kerkira**	**3.28**	**91**	P		**Pn**	**04 25 19.9**	**+1.0**			
KEK					S	Sn	04 25 49.3	-8.7			
	comp=E,150nm,0.6s										
HCY	**Herceg Novi**	**3.43**	**40**	*e*Pn		**Pn**	**04 25 20.2**	**-0.7**			
SRN	**Sarande**	**3.43**	**88**	P		**Pn**	**04 25 22.4**	**+1.5**			
STON	**Ston**	**3.44**	**27**	AML		AML					
	comp=E,130µm,0.8s										
STON					AML	AML					
	comp=N,154µm,0.9s										
STON	**Ston**	**3.44**	**27**	*e*Pn		**Pn**	**04 25 20.2**	**-0.7**			
STON					Sn	**Sn**	**04 25 58.7**	**-3.1**			
STON	**Ston**	**3.44**	**27**	*e*Pn		**Pn**	**04 25 19.8**	**-1.2**			
DBRK	**Dubrovnik**	**3.44**	**34**	*e*Pn		**Pn**	**04 25 20.5**	**-0.5**			
DBRK					Sn	**Sn**	**04 25 58.4**	**-3.5**			
NRCA	**Norcia**	**3.51**	**329**			**Pn**	**04 25 23.9**	**+1.8**			
TREB	**Trebinje**	**3.57**	**35**	*e*Pn		**Pn**	**04 25 22.2**	**-0.6**			
DRME	**Dracevica, Mon**	**3.62**	**48**	*e*Pn		**Pn**	**04 25 23.4**	**-0.1**			
TIR	**Tirane**	**3.62**	**64**	P		**Pn**	**04 25 24.2**	**+0.7**			
TIR	**Tirane**	**3.62**	**64**			**Pn**	**04 25 23.5**	**0.0**			
MAKA	**Makarska**	**3.62**	**17**	*e*Pn		**Pn**	**04 25 23.1**	**-0.4**			
MAKA					Sn	**Sn**	**04 26 04.5**	**-1.8**			
BRY	**Bratogost**	**3.80**	**35**	*e*Pn		**Pn**	**04 25 25.3**	**-0.8**			
ZIRJ	**Zirje**	**3.81**	**1**	*e*Pn		**Pn**	**04 25 26.6**	**+0.4**			
PDG	**Podgorica**	**3.81**	**46**	Pn		**Pn**	**04 25 25.7**	**-0.5**			
PDG	**Podgorica**	**3.81**	**46**	*e*Pn		**Pn**	**04 25 26.2**	**0.0**			
RICI	**Ricice**	**3.84**	**18**	*e*Pn		**Pn**	**04 25 26.6**	**0.0**			
RICI					Sn	**Sn**	**04 26 09.7**	**-2.2**			
PUK	**Puka**	**3.96**	**55**	AML		AML					
	comp=N,148µm,1.1s										
PUK					AML	AML					
	comp=E,130µm,0.6s										
MORI	**Morici**	**4.02**	**2**	*e*Pn		**Pn**	**04 25 28.6**	**-0.5**			
MORI					Sn	**Sn**	**04 26 13.7**	**-2.6**			
WDD	**Wied Dalam**	**4.08**	**192**			**Pn**	**04 25 32.3**	**+2.4**			
LKD2	**Lefkada island**	**4.10**	**103**	P		**Pn**	**04 25 31.6**	**+1.4**			
LKD2					S	**Sn**	**04 26 12.0**	**-6.3**			
	comp=E,100nm,0.8s										
MURB	**Monte Urbino**	**4.10**	**327**	Pn		**Pn**	**04 25 30.8**	**+0.6**			
PHP	**Peshkopia**	**4.15**	**62**	P		**Pn**	**04 25 31.4**	**+0.5**			
PHP					S	Sn	04 26 10.2	-9.3			
DUGI	**Dugi Otok**	**4.16**	**355**	*e*Pn		**Pn**	**04 25 31.5**	**+0.5**			
KIJV	**Kijevo**	**4.21**	**8**	*e*Pn		**Pn**	**04 25 32.4**	**+0.7**			
KIJV					Sn	**Sn**	**04 26 18.1**	**-2.9**			
KPRO	**Kipourio**	**4.47**	**87**	P		**Pn**	**04 25 36.8**	**+1.4**			
PDO	**Prodromos**	**4.55**	**104**	P		**Pn**	**04 25 38.4**	**+2.0**			
PDO					S	**Sn**	**04 26 23.3**	**-6.0**			
	comp=E,142nm,0.5s										
MGRS	**Mrkonjic Grad**	**4.71**	**14**	*e*Pn		**Pn**	**04 25 40.5**	**+1.9**			
RUDO	**Rudo**	**4.74**	**36**	*e*Pn		**Pn**	**04 25 38.7**	**-0.2**			
NVLJ	**Novalja**	**4.75**	**354**	*e*Pn		**Pn**	**04 25 39.6**	**+0.6**			
VSL	**Villasalto**	**4.77**	**268**	P		**Pn**	**04 25 39.4**	**0.0**			
KZN	**Kozani**	**4.80**	**82**	P		**Pn**	**04 25 41.7**	**+1.9**			
PVO	**Paravola**	**4.80**	**103**	P		**Pn**	**04 25 42.1**	**+2.3**			
OSSC	**Osservatorio P**	**4.89**	**320**	Pn		**Pn**	**04 25 40.7**	**-0.3**			
EVR	**Evrytania**	**4.94**	**99**	P		**Pn**	**04 25 44.7**	**+2.9**			
HAPS	**Han Pijesak,BI**	**4.94**	**30**	*e*Pn		**Pn**	**04 25 41.6**	**-0.3**			
BBLS	**Lazići**	**4.95**	**34**	*e*Pn		**Pn**	**04 25 41.9**	**0.0**			
SKO	**Skopje**	**4.95**	**63**	*i* Pn		**Pn**	**04 25 42.9**	**+1.1**			
THL	**Klokotos Trika**	**5.00**	**91**	P		**Pn**	**04 25 44.9**	**+2.4**			
BLY	**Banja Luka**	**5.05**	**13**	*e*Pn		**Pn**	**04 25 44.9**	**+1.6**			
ANX	**Ano Chora**	**5.11**	**102**	P		**Pn**	**04 25 46.9**	**+2.8**			
EFP	**Efpalio**	**5.14**	**104**	P		**Pn**	**04 25 47.0**	**+2.5**			
DRO	**Drossia**	**5.17**	**109**	P		**Pn**	**04 25 48.2**	**+3.4**			
MAKR	**Makrakomi, Fth**	**5.17**	**97**	P		**Pn**	**04 25 47.8**	**+3.0**			
BRJN	**Brijuni**	**5.23**	**346**	*e*Pn		**Pn**	**04 25 47.4**	**+1.7**			
SERG	**Sergoula**	**5.26**	**104**	P		**Pn**	**04 25 48.6**	**+2.5**			
TRIZ	**Trizonia**	**5.29**	**104**	P		**Pn**	**04 25 49.2**	**+2.8**			
AGG	**Agios Georgios**	**5.32**	**97**	P		**Pn**	**04 25 49.4**	**+2.5**			
AGG					S	**Sn**	**04 26 42.1**	**-6.2**			
	comp=E,62nm,1.0s										
AGG	**Agios Georgios**	**5.32**	**97**	Pn		**Pn**	**04 25 47.0**	**+0.1**			
KALE	**Kalithea**	**5.33**	**104**	P		**Pn**	**04 25 49.8**	**+2.7**			
LIT	**Litokhoron**	**5.34**	**85**	P		**Pn**	**04 25 49.2**	**+2.0**			
DIVS	**Divibare**	**5.39**	**36**			**Pn**	**04 25 47.8**	**-0.2**			
DIVS	**Divibare**	**5.39**	**36**	*e*Pn		**Pn**	**04 25 47.5**	**-0.5**			
VAY	**Valandovo**	**5.55**	**72**	*e*Pn		**Pn**	**04 25 48.7**	**-1.3**			
PGF	**Pioggiola**	**5.63**	**301**	*e*Pn		**Pn**	**04 25 52.1**	**+0.8**			
PGF					*e*Sn	**Sn**	**04 26 51.5**	**-4.6**			
	comp=E,2.9nm,0.5s										
BOJS	**Bojanci**	**5.67**	**358**	*i* Pn		**Pn**	**04 25 52.8**	**+1.1**			
BOJS					*e*Sn	**Sn**	**04 26 57.0**	**+0.3**			
	comp=Z,44nm,1.1s										
ITM	**Ithomi**	**5.67**	**116**	Pn		**Pn**	**04 25 54.2**	**+2.5**			
KNT	**Kendrikon**	**5.76**	**74**	P		**Pn**	**04 25 53.8**	**+0.8**			
CEY	**Cerknica**	**5.95**	**352**	*e*Pn		**Pn**	**04 25 57.6**	**+2.0**			
VISS	**Visnje**	**5.98**	**355**	*e*Pn		**Pn**	**04 25 57.5**	**+1.4**			
VISS					*e*Sn	**Sn**	**04 27 03.6**	**-1.0**			
	comp=Z,73nm,1.8s										
CRES	**Cresnjev**	**5.98**	**359**	*e*Pn		**Pn**	**04 25 57.1**	**+1.1**			
FRGS	**Fruska Gora**	**6.18**	**29**	*e*Pn		**Pn**	**04 25 57.2**	**-1.5**			
LJU	**Ljubljana**	**6.25**	**353**	*e*Pn		**Pn**	**04 26 00.3**	**+0.7**			
KALN	**Kalnik**	**6.32**	**6**	*e*Pn		**Pn**	**04 26 01.3**	**+0.6**			
KEST	**Kesra**	**6.40**	**232**	Pn		**Pn**	**04 26 03.6**	**+1.8**			
	comp=Z,0.4nm,0.3s,baz=342,slow=5.9,SNR=5.2										
VTS	**Vitosha**	**6.43**	**62**	⇑P		**Pn**	**04 26 03.4**	**+1.1**			
VTS	**Vitosha**	**6.43**	**62**	Pn		**Pn**	**04 26 01.6**	**-0.7**			
OBKA	**Obir**	**6.71**	**354**	*i* Pn		**Pn**	**04 26 07.3**	**+1.3**			
	comp=Z,3.6nm,0.4s										
OBKA					*i* Sn	**Sn**	**04 27 23.3**	**+0.8**			
	comp=Z,5.4nm,0.4s										
MDVR	**Moldovita**	**6.73**	**41**	P		**Pn**	**04 26 08.1**	**+1.9**			
PRED	**Cave del Predi**	**6.76**	**348**	Pn		**Pn**	**04 26 06.2**	**-0.5**			
MORH	**Mrgy, Hungar**	**6.76**	**19**	*e*Pn		**Pn**	**04 26 03.6**	**-3.1**			
CTI	**Castel Tesino**	**6.83**	**337**	Pn		**Pn**	**04 26 06.6**	**-1.2**			
SOKA	**Soboth**	**6.84**	**357**	*i* Pn		**Pn**	**04 26 09.7**	**+1.7**			
	comp=Z,0.4nm,0.2s										
SOKA					*i* Sn	**Sn**	**04 27 25.7**	**-0.3**			
	comp=Z,1.8nm,0.5s										
SALO	**Salr**	**6.86**	**329**			**Pn**	**04 26 10.2**	**+2.1**			
MYKA	**Terra Mystica**	**6.93**	**349**	*i* Pn		**Pn**	**04 26 11.5**	**+2.4**			
	comp=Z,1.0nm,0.3s										
MYKA					*i* Sn	**Sn**	**04 27 29.4**	**+1.4**			
	comp=Z,4.1nm,0.6s										
ZOU	**Zoufplan**	**6.97**	**345**	Pn		**Pn**	**04 26 11.2**	**+1.5**			
HERR	**Herculane**	**7.16**	**43**	⇑P		**Pn**	**04 26 12.4**	**+0.2**			
ABTA	**Abfaltersbach**	**7.25**	**343**	*i* Pn		**Pn**	**04 26 16.0**	**+2.5**			
	comp=Z,0.7nm,0.3s										
ABTA					*i* Sn	**Sn**	**04 27 35.7**	**-0.2**			
	comp=Z,5.9nm,0.7s										
SBF	**Sospel**	**7.27**	**306**	*e*Pn		**Pn**	**04 26 12.4**	**-1.3**			
SBF					*e*Sn	**Sn**	**04 27 31.6**	**-4.7**			
	comp=Z,0.4nm,0.3s										
BZS	**Buzias**	**7.30**	**36**	⇑P		**Pn**	**04 26 15.2**	**+1.1**			
ARSA	**Arzberg**	**7.41**	**360**	*i* Pn		**Pn**	**04 26 18.1**	**+2.4**			
	comp=Z,0.6nm,0.2s										
ARSA					*i* Sn	**Sn**	**04 27 37.6**	**-2.1**			
	comp=Z,1.8nm,0.5s										
KBA	**Koelnbreinsper**	**7.41**	**348**	*i* Pn		**Pn**	**04 26 17.8**	**+2.0**			
	comp=Z,0.1nm,0.1s										
KBA					*i* Sn	**Sn**	**04 27 42.2**	**+2.2**			
	comp=Z,0.4nm,0.1s										
LMR	**La Mourre**	**7.62**	**300**	*e*Pn		**Pn**	**04 26 18.1**	**-0.4**			
LMR					*e*Sn	**Sn**	**04 27 40.2**	**-4.7**			
	comp=Z,0.4nm,0.3s										
FRF	**La Foret Royal**	**7.62**	**302**	*e*Pn		**Pn**	**04 26 17.2**	**-1.4**			
FRF					*e*Sn	**Sn**	**04 27 39.1**	**-5.9**			
	comp=Z,0.2nm,0.3s										
PLVB	**Pleven**	**7.67**	**60**	⇓P		**Pn**	**04 26 21.5**	**+2.4**			
FUORN	**Ofenpass-Fuorn**	**7.79**	**332**	Pn		**Pn**	**04 26 20.7**	**-0.5**			
WTTA	**Wattenberg**	**7.94**	**340**	*i* Pn		**Pn**	**04 26 26.2**	**+3.1**			
	comp=Z,0.7nm,0.5s										
WTTA					*i* Sn	**Sn**	**04 27 56.1**	**+3.0**			
	comp=Z,8.3nm,0.7s										
FETA	**Feichten**	**7.99

comp=Z,39nm,18.5s,baz=212,slow=47
NOA NORSAR Array B 21.39 354 P **P** **04 29 14.5 -0.6**
comp=Z,1.0nm,0.9s,baz=168,slow=11,SNR=3.8
FINES FINESS Array B 22.58 13 P **P** **04 29 28.3 +0.6**
comp=Z,3.2nm,0.9s,baz=185,slow=11,SNR=3.6
TORD Torodi Ar. Bea 29.26 209 P **P** **04 30 31.4 +1.6**
comp=Z,0.5nm,0.6s,baz=15,slow=9.8,SNR=4.3
ARCES ARCESS Array B 30.23 7 LR LR 04 42 19.6
comp=Z,28nm,18.2s,baz=254,slow=36
GEYT Alibeck 32.97 79 LR LR 04 47 39.4
comp=Z,17nm,20.1s,baz=165,slow=42
BRVK Borovoye 39.01 52 P **P** **04 31 54.6 +0.7**
BRVK IAmb IAmb 04 31 55.7
comp=Z,4.1nm,0.7s
ZALV Zalesovo Beam 47.48 49 P **P** **04 33 02.7 +0.3**
comp=Z,1.1nm,0.6s,baz=280,slow=8.7,SNR=4.8
MAKZ Makanchi 47.53 59 P **P** **04 33 03.5 +0.7**
MK31 Makanchi Array 47.74 59 P **P** **04 33 05.2 +0.7**
MK31 IAmb IAmb 04 33 05.6
comp=Z,1.4nm,0.6s
MKAR Makanchi Array 47.74 59 P **P** **04 33 05.1 +0.6**
comp=Z,2.2nm,0.6s,baz=285,slow=6.8,SNR=29
SONM Songino Array 62.36 50 P **P** **04 34 50.2 -0.1**
comp=Z,0.4nm,0.5s,baz=261,slow=5.7,SNR=3.0

BJI ***29*** *04:51:12.7±0.0,22.6°65N×102.3°30E,h10km,mb3.9/2, ML3.9/4*
IDC ***29*** *04:51:14.5±2.4,22.1°71N×102.4°24E,h0km,mb3.5/2, mb1 3.5/3,mb1mx3.3/39,mbtmp3.4/3,ML4.1/1,MS2.7/2, Ms1 2.8/2,ms1mx2.6/24,Error ellipse: s-maj=49.9km s-min=19.6km az=112.0*
ISC 29 04:51:13.0±0.8,22°47N±0.6'07°×102°5E±0.1',h10km,n14, σ3s20/24,1D,Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.66**	**5**	*ie*Pn	**Pb**		**04 52 00.5**	**-0.3**
KMI				Pg	Pg		04 52 08.0	+4.1
KMI				Sg	**Sg**		**04 52 35.3**	**-3.1**
KMI				smax	smax			
	comp=N,280nm,0.9s							
KMI				smax	smax			
	comp=E,240nm,1.2s							
PAYA	**Payao**	**3.94**	**219**	P	**Pn**		**04 52 16.0**	**+2.3**
PAYA				Pg	**Pg**		**04 52 27.4**	**-1.2**
PAYA				Sg	**Sg**		**04 53 17.5**	**-2.2**
CMMT	**Chiang Mai**	**4.92**	**223**	P	**Pn**		**04 52 26.4**	**-0.7**
CMMT				Sg	**Sg**		**04 53 47.0**	**-4.2**
CM09	**Chiang Mai Arr**	**5.17**	**220**	P	**Pn**		**04 52 33.1**	**+2.5**
CM09				Pg	**Pg**		**04 52 51.1**	**-1.1**
CM09				Sg	**Sg**		**04 53 57.3**	**-2.0**
CMAR	**Chiang Mai Arr**	**5.19**	**220**	Pn	**Pn**		**04 52 33.3**	**+2.5**
	comp=E,1.6nm,0.3s,baz=32,slow=12,SNR=9.8							
CMAR				Pg	**Pg**		**04 52 51.6**	**-0.9**
	comp=E,2.5nm,0.3s,baz=31,slow=18,SNR=76							
CMAR				Lg	Lg		04 54 00.6	
	comp=E,2.6nm,0.3s,baz=32,slow=36,SNR=7.5							
CMAR				LR	LR		04 54 05.3	
	comp=E,30nm,21.4s,baz=195,slow=33							
CM04	**Chiang Mai Arr**	**5.22**	**220**	P	**Pn**		**04 52 33.7**	**+2.6**
CM04				Pg	**Pg**		**04 52 51.9**	**-1.1**
CM05	**Chiang Mai Arr**	**5.24**	**220**	P	**Pn**		**04 52 33.8**	**+2.4**
GYA	**Guiyang**	**5.50**	**43**	Pn	**Pn**		**04 52 38.5**	**+3.4**
GYA				Sn	**Sb**		**04 53 47.0**	**-8.4**
GYA				Sg	**Sg**		**04 54 06.5**	**-3.2**
GYA				smax	smax			
	comp=E,160nm,0.8s							
GYA				smax	smax			
	comp=E,73nm,0.9s							
PHIT	**Phitsanulok**	**5.60**	**201**	P	**Pn**		**04 52 39.4**	**+3.0**
XAN	**Xi'an**	**12.84**	**25**	P	**Pn**		**04 54 19.8**	**+4.1**
XAN				pP			04 54 25.8	
XAN				S	**Sn**		**04 56 43.5**	**+4.7**
XAN				pmax	pmax			
	comp=E,4.0nm,1.2s							
WMQ	**Urumqi**	**24.56**	**334**	*e*P	**P**		**04 56 31.5**	**-1.6**
SONM	**Songino Array**	**25.50**	**6**	P	**P**		**04 56 42.7**	**+1.1**
	comp=E,0.4nm,0.5s,baz=207,slow=11,SNR=1.7							
KSRS	**Korea Array**	**26.51**	**50**	LR	LR		05 07 12.5	
	comp=E,38nm,18.3s,baz=219,slow=36							
MKAR	**Makanchi Array**	**29.25**	**331**	P	**P**		**04 57 15.2**	**0.0**
	comp=E,0.3nm,0.5s,baz=134,slow=8.3,SNR=4.8							

BJI ***29*** *04:59:29.9±0.0,32.°09N×109.°17W,h5km,mB5.7/21, mb5.4/23,Ms5.6/18,Ms7 5.3/4*
NEIC ***29*** *04:59:32,32.°56N×109.°14W,h10km,Moment Tensor Solution. Moment tensor: Scale 10^16Nm; Mrr=7.20; Mθθ=0.74; Mφφ 7.94; Mrθ=-2.58; Mθφ 3.36; Mφr 0.66; Fault plane solution: M0 8.72000×10^16 NP1:φs177.89000°, δ48.48000°,λ=-120.71000°. NP2:φs39.75000°,δ49.93000°, λ=-60.02000°. Principal axes: T 9.0900, Plg1.0000°, Azm109.0000°; N -0.7846, Plg22.0000°, Azm199.0000°; P -8.3054, Plg68.0000°, Azm17.0000°;*
ANF ***29*** *04:59:33.1±0.3,32.°53N×109.°13W,h5km,ML6.2/14 Error ellipse: s-maj=3.9km s-min=2.1km az=5.0*
MOS ***29*** *04:59:33.5±0.9,32.°61N×109.°07W,h10km,mb5.6/65, MS5.1/42,Error ellipse: s-maj=6.4km s-min=4.8km az=102.0*
IDC ***29*** *04:59:33.4±0.4,32.°59N×109.°11W,h0km,mb5.0/30, mb1 5.1/37,mb1mx5.1/42,mbtmp5.0/37,ML4.5/8,MS4.7/24, Ms1 4.7/24,ms1mx4.6/42,Error ellipse: s-maj=10.5km s-min=6.2km az=42.0*
UNK ***29*** *04:59:33.6,32.°61N×109.°15W,h5km*
BGR ***29*** *04:59:34.4±0.0,31.°99N×108.°78W,h16km,mb5.6, mB_BB5.8,Ms5.1*
NEIC ***29*** *04:59:35.4±1.4,32.°58N±0.°06×109.°17W±0.°05,h6km±3km, mb5.4/88,Ms_20 5.0/392,Mwr5.2/36,Mww5.3, Mwc5.3(GCMT),Error ellipse: s-maj=8.5km s-min=6.1km az=192.0*
GCMT ***29*** *04:59:36.5±0.1,32.°66N±0.°01×109.°12W±0.°01,h14km, MW5.3/148,Moment Tensor Solution. s115,c174; s148,c279; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.86±.02; Mθθ=0.21±.02; Mφφ 1.07±.01; Mrθ=0.23±.03; Mθφ 0.41±.01; Mφr=0.07±.03; Best double couple: M0 1.06600×10^17 NP1:φs178.00000°,δ44.00000°, λ=-117.00000°. NP2:φs33.00000°,δ51.00000°, λ=-67.00000°. Principal axes: T 1.1970, Plg4.0000°, Azm107.0000°; N -0.2610, Plg18.0000°, Azm198.0000°; P -0.9360, Plg71.0000°, Azm5.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC ***29*** *04:59:37,32.°65N×109.°13W,h13km,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.84; Mθθ=0.27; Mφφ 1.11; Mrθ=-0.41; Mθφ 0.42; Mφr=0.12; Fault plane solution: M0 1.17000×10^17 NP1:φs43.00000°, δ52.00000°,λ=-49.00000°. NP2:φs168.00000°,δ53.00000°, λ=-130.00000°. Principal axes: T 1.2291, Plg0.0000°, Azm286.0000°; N -0.1350, Plg31.0000°, Azm195.0000°; P -1.0941, Plg59.0000°, Azm16.0000°;*
NEIC ***29*** *04:59:42,32.°61N×109.°15W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr=0.80; Mθθ=0.13; Mφφ 0.93; Mrθ=0.54; Mθφ 0.49; Mφr 0.33; Fault plane solution: M0 1.18000×10^17 NP1:φs356.00000°, δ37.00000°,λ=-131.00000°. NP2:φs224.00000°, δ63.00000°,λ=-63.00000°. Principal axes: T 1.2518, Plg14.0000°, Azm295.0000°; N -0.1497, Plg24.0000°, Azm31.0000°; P -1.1020, Plg62.0000°, Azm176.0000°;*
ISC 29 04:59:34.8±0.4,32°59N±0.°03×109°08W±0.°02,h11km±2km, h12km:pP-P,n1102,σ1s49/1059,mb5.4/183,MS5.0/250, 20C-34D,Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
121A	**Cookes Peak, D**	**1.10**	**93**	P	**Pb**		**04 59 55.2**	**-0.7**
	baz=274,SNR=1000							
121A				S	**Sn**		**05 00 11.0**	**-0.5**
	baz=274							
121A	**Cookes Peak, D**	**1.10**	**93**	Pg	**Pg**		**04 59 55.5**	**-0.5**
121A				Sg	**Sn**		**05 00 12.0**	**+0.5**
TUC	**Tucson**	**1.47**	**259**	P	**Pn**		**04 59 59.1**	**-2.1**
	baz=77							
TUC				S	**Sn**		**05 00 19.6**	**-0.8**
	baz=77							
TUC	**Tucson**	**1.47**	**259**	P	**Pn**		**04 59 59.2**	**-2.0**
TUC				Sg	**Sn**		**05 00 18.6**	**-1.7**
Y22D	**IRIS PASSCAL I**	**2.34**	**50**	P	**Pn**		**05 00 13.1**	**-0.1**
	baz=232,SNR=324							
Y22D				Sn	**Sn**		**05 00 43.5**	**+1.4**
	baz=232							
Y22D				Sb	**Sg**		**05 00 50.3**	**+0.3**
	baz=232							
Y22D	**IRIS PASSCAL I**	**2.34**	**50**			**Pn**	**05 00 13.2**	**-0.1**
BNM	**Barren Site**	**2.58**	**52**	Pn		**Pn**	**05 00 15.9**	**-0.8**
W18A	**Petrified Fore**	**2.58**	**348**	Pn		**Pn**	**05 00 16.1**	**-0.5**
	baz=169,SNR=711							
W18A				Pb		**Pb**	**05 00 21.6**	**+0.5**
	baz=169							
W18A				Sb		**Sb**	**05 00 55.0**	**+2.1**
	baz=169							
W18A	**Petrified Fore**	**2.58**	**348**			**Pn**	**05 00 16.2**	**-0.4**
X16A	**Lo Mia Camp, P**	**2.68**	**313**			**Pn**	**05 00 17.3**	**-0.7**
ANMO	**Albuquerque**	**3.21**	**42**	Pn		**Pn**	**05 00 24.4**	**-0.9**
	baz=224							
ANMO				Pb		**Pb**	**05 00 33.1**	**+1.2**
	baz=224							
ANMO				Sb		**Sg**	**05 01 15.0**	**-2.9**
	baz=224							
ANMO	**Albuquerque**	**3.21**	**42**	Pn		**Pn**	**05 00 24.3**	**-0.9**
	74nm,0.3s,baz=216,slow=11,SNR=697							
ANMO				Sn		**Sn**	**05 01 02.3**	**-1.3**
	294nm,0.3s,baz=202,slow=16,SNR=5.8							
ANMO				Lg		Lg	05 01 16.1	
	1μm,0.3s,baz=334,slow=14,SNR=6.5							
ANMO	**Albuquerque**	**3.21**	**42**	*de*P		**Pn**	**05 00 24.4**	**-0.9**
ANMO				pmax		pmax		
	comp=Z,846nm,0.6s							
ANMO	**Albuquerque**	**3.21**	**42**	Pn		**Pn**	**05 00 24.5**	**-0.8**
214A	**Organ Pipe Nat**	**3.22**	**260**	P		**Pn**	**05 00 23.1**	**-2.2**
	baz=77,SNR=501							
214A				Sb		**Sb**	**05 01 12.8**	**+1.6**
	baz=77							
214A	**Organ Pipe Nat**	**3.22**	**260**	Pn		**Pn**	**05 00 23.3**	**-2.0**
MNTX	**Cornudas Mount**	**3.26**	**105**	Pn		**Pn**	**05 00 25.2**	**-0.6**
	baz=287,SNR=880							
MNTX				Pb		**Pb**	**05 00 33.1**	**+0.4**
	baz=287							
MNTX				Sn		**Sn**	**05 01 04.4**	**-0.3**
	baz=287							
MNTX				Sb		**Sg**	**05 01 15.0**	**-4.6**
	baz=287							
MNTX	**Cornudas Mount**	**3.26**	**105**	Pn		**Pn**	**05 00 25.3**	**-0.6**
WUAZ	**Wupatki**	**3.48**	**328**	Pn		**Pn**	**05 00 29.0**	**0.0**
	baz=147,SNR=108							
WUAZ				Pb		**Pb**	**05 00 37.6**	**+1.0**
	baz=147							
WUAZ				Sb		**Sb**	**05 01 21.4**	**+2.5**
	baz=147							
WUAZ	**Wupatki**	**3.48**	**328**	Pn		**Pn**	**05 00 29.1**	**0.0**
Y14A	**Wickenburg**	**3.55**	**293**	Pn		**Pn**	**05 00 28.4**	**-1.5**
HSIG		**3.90**	**205**	Pn		**Pn**	**05 00 32.4**	**-2.2**
113A	**Mohawk Valley,**	**3.95**	**274**	Pn		**Pn**	**05 00 33.5**	**-1.8**
GDL2	**Guadalupe Moun**	**4.01**	**94**	Pn		**Pn**	**05 00 37.2**	**+0.9**
CLNB	**Carlsbad**	**4.41**	**93**	Pn		**Pn**	**05 00 43.3**	**+1.5**
CPRX	**Cap Rock**	**4.42**	**83**	Pn		**Pn**	**05 00 42.3**	**+0.5**
PDMCI	**Parker Dam,Lak**	**4.56**	**293**	P		**Pn**	**05 00 42.8**	**-0.9**
	baz=111,SNR=454							
PDMCI				S		**Sn**	**05 01 33.8**	**-2.8**
	baz=111							
MVCO	**Mesa Verde**	**4.63**	**6**	P		**Pn**	**05 00 44.3**	**-0.6**
	baz=187,SNR=176							
MVCO				Sb		**Sb**	**05 01 57.1**	**+5.0**
	baz=187							
MVCO	**Mesa Verde**	**4.63**	**6**	Pn		**Pn**	**05 00 44.5**	**-0.5**
U15A	**North Rim**	**4.65**	**326**	Pn		**Pn**	**05 00 45.1**	**-0.1**
Y12C	**Blythe**	**4.71**	**286**	P		**Pn**	**05 00 44.5**	**-1.1**
	baz=103,SNR=112							
Y12C				S		**Sn**	**05 01 38.5**	**-1.7**
	baz=103							
Y12C				Sb		**Sb**	**05 01 59.5**	**+5.6**
	baz=103							
Y12C	**Blythe**	**4.71**	**286**	Pn		**Pn**	**05 00 44.4**	**-1.3**
W13A	**Hualapai Mount**	**4.71**	**303**	Pn		**Pn**	**05 00 45.7**	**-0.3**
GLA	**Glamis**	**4.86**	**277**	P		**Pn**	**05 00 46.3**	**-1.5**
	baz=94,SNR=62							
GLA				S		**Sn**	**05 01 42.4**	**-1.6**
	baz=94							
GLA	**Glamis**	**4.86**	**277**	P		**Pn**	**05 00 46.2**	**-1.6**
GLA	**Glamis**	**4.86**	**277**	Pn		**Pn**	**05 00 46.1**	**-1.6**
NEE2	**Needles Airpor**	**5.10**	**297**	P		**Pn**	**05 00 50.2**	**-0.8**
	baz=114,SNR=49							
NEE2				S		**Sn**	**05 01 48.6**	**-1.3**
	baz=114							
IRM	**Iron Mountain**	**5.31**	**289**	P		**Pn**	**05 00 52.7**	**-1.2**
	baz=106,SNR=167							
IRM				Sb		**Sb**	**05 02 19.3**	**+8.1**
	baz=106							
BC3	**Big Chuckawall**	**5.45**	**283**	P		**Pn**	**05 00 54.1**	**-1.9**
	baz=100,SNR=159							
MSTX	**Muleshoe**	**5.46**	**74**	P		**Pn**	**05 00 56.5**	**+0.3**
	baz=257,SNR=85							
MSTX				Sb		**Sg**	**05 02 22.9**	**-7.3**
	baz=257							
MSTX	**Muleshoe**	**5.46**	**74**	Pn		**Pn**	**05 00 56.6**	**+0.3**
S22A	**4UR Ranch, Cre**	**5.46**	**19**	Pn		**Pn**	**05 00 57.1**	**+0.8**
	baz=201,SNR=36							
S22A				Pb		**Pb**	**05 01 07.5**	**-2.9**
	baz=201							
S22A				Sb		**Sg**	**05 02 24.4**	**-5.9**
	baz=201							
S22A	**4UR Ranch, Cre**	**5.46**	**19**	Pn		**Pn**	**05 00 55.8**	**-0.6**
PV05	**Paradox Valley**	**5.47**	**360**			**Pn**	**05 00 56.4**	**-0.1**
PKCU	**Pink Cliffs**	**5.52**	**332**	Pn		**Pn**	**05 00 58.0**	**+0.9**
SWSC	**Sam W. Stewart**	**5.67**	**275**	P		**Pn**	**05 00 57.8**	**-1.1**
	baz=92,SNR=28							
TX32	**Lajitas Array**	**5.67**	**123**	Pn		**Pn**	**05 00 59.0**	**-0.1**
TXAR	**Lajitas Array**	**5.67**	**123**	Pn		**Pn**	**05 00 58.9**	**-0.2**
	comp=Z,10nm,0.3s,baz=280,slow=10,SNR=416							
TXAR				Sn		**Sn**	**05 02 05.2**	**+1.0**
	comp=Z,78nm,0.3s,baz=310,slow=18,SNR=4.6							
TXAR				Lg		Lg	05 02 32.9	
	comp=Z,230nm,0.3s,baz=284,slow=26,SNR=11							
TXAR				LR		LR	05 03 37.9	
	comp=Z,10μm,19.2s,baz=0.0,slow=43							
PV15	**Paradox Valley**	**5.76**	**5**	Pn		**Pn**	**05 00 58.7**	**-1.7**
GMRC	**Granite Mounta**	**5.90**	**294**	P		**Pn**	**05 01 01.1**	**-1.1**
	baz=110,SNR=174							
GMRC				Sn		**Sn**	**05 02 08.7**	**-1.2**
	baz=110							
GMRC				Sb		**Sg**	**05 02 39.7**	**-4.6**
	baz=110							
SDCO	**Great Sand Dun**	**5.92**	**29**	Pn		**Pn**	**05 01 03.6**	**+1.0**
	baz=211,SNR=55							
SDCO				Pb		**Pb**	**05 01 22.2**	**+4.0**
	baz=211							
SDCO				Sb		**Sg**	**05 02 37.8**	**-7.1**
	baz=211							
SDCO	**Great Sand Dun**	**5.92**	**29**	Pn		**Pn**	**05 01 02.7**	**+0.1**
SRIG	**Santa Rosalia**	**5.92**	**208**	Pn		**Pn**	**05 01 01.6**	**-0.8**
IKP	**In-Ko-Pah, Jac**	**5.93**	**272**	P		**Pn**	**05 01 01.1**	**-1.4**
	baz=88,SNR=45							
PV22	**Blue Mesa, Par**	**5.94**	**2**	Pn		**Pn**	**05 01 01.8**	**-1.0**
T25A	**Trinidad**	**5.95**	**39**	Pn		**Pn**	**05 01 03.4**	**+0.5**
	baz=222,SNR=97							
T25A				Pb		**Pg**	**05 01 24.0**	**-4.6**
	baz=222							
T25A				Sb		**Sg**	**05 02 41.6**	**-4.1**
	baz=222							
T25A	**Trinidad**	**5.95**	**39**	Pn		**Pn**	**05 01 03.6**	**+0.7**
BELC	**Belle Mtn. Jos**	**5.96**	**286**	Pn		**Pn**	**05 01 01.3**	**-1.7**
	baz=102,SNR=61							
BELC				S		**Sn**	**05 02 08.7**	**-2.6**
	baz=102							
PV21	**Cone Mtn., Par**	**5.96**	**1**	Pn		**Pn**	**05 01 02.2**	**-0.9**
CCUT	**Cedar City**	**6.07**	**326**	Pn		**Pn**	**05 01 06.2**	**+1.6**
MONP2	**Monument Peak**	**6.19**	**275**	P		**Pn**	**05 01 04.7**	**-1.5**
	baz=91,SNR=91							
MONP2				S		**Sn**	**05 02 13.5**	**-3.6**
	baz=91							
I57US	**PINON FLAT INF**	**6.27**	**281**	*i*			05 30 30.0	
	baz=100,slow=308,SNR=1.3							
PFO	**Pinyon Flats O**	**6.27**	**281**	P		**Pn**	**05 01 05.5**	**-1.8**
	baz=97,SNR=50							
PFO				S		**Sn**	**05 02 15.3**	**-3.7**
	baz=97							
PFO	**Pinyon Flats O**	**6.27**	**281**	Pn		**Pn**	**05 01 05.4**	**-1.8**
	comp=Z,7.3nm,0.3s,baz=90,slow=13,SNR=97							
PFO				Sn		**Sn**	**05 02 14.7**	**-4.4**
	comp=Z,19nm,0.3s,baz=26,slow=23,SNR=10.0							
PFO				Lg		Lg	05 02 52.9	
	comp=Z,21nm,0.3s,baz=2.6,slow=12,SNR=4.8							
PFO	**Pinyon Flats O**	**6.27**	**281**	*i* P		**Pn**	**05 01 05.7**	**-1.6**
PFO	**Pinyon Flats O**	**6.27**	**281**	Pn		**Pn**	**05 01 05.6**	**-1.8**
TUQ	**Turquoise Moun**	**6.35**	**298**	P		**Pn**	**05 01 07.9**	**-0.5**
	baz=115,SNR=86							
TUQ				Sn		**Sn**	**05 02 18.1**	**-2.8**
	baz=115							
TUQ				Sb		**Sg**	**05 02 51.8**	**-6.8**
	baz=115							
SHPR	**Sheep Range**	**6.35**	**310**	Pn		**Pn**	**05 01 08.8**	**+0.4**
HPIG		**6.37**	**151**	Pn		**Pn**	**05 01 09.2**	**+0.4**
BAR	**Barrett**	**6.40**	**273**	Pn		**Pn**	**05 01 07.9**	**-1.1**
HEC	**Hector,Ludlow**	**6.44**	**292**	P		**Pn**	**05 01 08.5**	**-1.1**
	baz=108,SNR=86							
HEC				Sb		**Sg**	**05 02 55.4**	**-6.2**
	baz=108							
Q16A	**Castle Valley**	**6.54**	**346**	Pn		**Pn**	**05 01 11.0**	**0.0**
AMTX	**Amarillo**	**6.58**	**68**	P		**Pn**	**05 01 11.4**	**0.0**
	baz=252							
AMTX				Sb		**Sg**	**05 02 58.7**	**-7.3**
	baz=252							
AMTX	**Amarillo**	**6.58**	**68**	Pn		**Pn**	**05 01 11.5**	**0.0**
SRU	**San Rafael Swe**	**6.61**	**350**	P		**Pn**	**05 01 10.9**	**-1.1**
SRU	**San Rafael Swe**	**6.61**	**350**	Pn		**Pn**	**05 01 10.9**	**-1.1**
BBRC	**Big Bear Solar**	**6.76**	**286**	P		**Pn**	**05 01 13.2**	**-0.9**
	baz=102,SNR=13							
109C	**Camp Elliot, M**	**6.76**	**275**	P		**Pn**	**05 01 14.2**	**+0.2**
	baz=90,SNR=15							
SHOC	**Shoshone, Teco**	**6.81**	**301**	P		**Pn**	**05 01 14.9**	**+0.3**
	baz=117,SNR=45							
MURC	**Murrieta**	**6.88**	**281**	P		**Pn**	**05 01 15.8**	**+0.3**
	baz=96,SNR=9.8							
MURC				S		**Sn**	**05 02 30.5**	**-3.4**
	baz=96							
TMUT	**Trail Mountain**	**6.91**	**346**	Pn		**Pn**	**05 01 16.1**	**-0.2**
GSC	**Goldstone, Bar**	**6.96**	**295**	P		**Pn**	**05 01 15.8**	**-1.0**
	baz=111,SNR=91							
RRX	**Edison Barstow**	**6.97**	**291**	P		**Pn**	**05 01 16.1**	**-0.8**
	baz=107,SNR=8.4							
RRX				S		**Sn**	**05 02 36.7**	**+0.6**
	baz=107							
P17A	**Butcher Ranch,**	**7.00**	**349**	Pn		**Pn**	**05 01 16.1**	**-1.2**
PSUT	**Pine Spring**	**7.09**	**328**	Pn		**Pn**	**05 01 19.1**	**+0.5**
Q24A	**Divide**	**7.12**	**26**	P		**Pn**	**05 01 21.6**	**+2.5**
	baz=208							
Q24A				Pb		**Pb**	**05 01 39.0**	**+0.5**
	baz=208							
TPNV	**Topopah Spring**	**7.32**	**308**	P		**Pn**	**05 01 23.2**	**+1.4**
	baz=125,SNR=152							
TPNV				Sb		**Sg**	**05 03 23.3**	**-6.5**
	baz=125							
TPNV	**Topopah Spring**	**7.32**	**308**	P		**Pn**	**05 01 23.2**	**+1.4**
TPNV	**Topopah Spring**	**7.32**	**308**	Pn		**Pn**	**05 01 23.2**	**+1.4**
FURC	**Furnace Creek,**	**7.49**	**303**	P		**Pn**	**05 01 24.9**	**+1.0**
	baz=119,SNR=83							
O20A	**White River Ci**	**7.56**	**5**	P		**Pn**	**05 01 24.8**	**-0.3**
	baz=186,SNR=8.6							
O20A	**White River Ci**	**7.56**	**5**	Pn		**Pn**	**05 01 24.7**	**-0.3**
LRMC	**Laurel Mtn Rad**	**7.70**	**294**	P		**Pn**	**05 01 26.0**	**-0.9**
	baz=110,SNR=25							
ISCO	**Idaho Springs**	**7.72**	**20**	P		**Pn**	**05 01 30.6**	**+3.2**
	baz=203,SNR=30							
MPMC	**Manual Prospec**	**7.76**	**299**	P		**Pn**	**05 01 27.7**	**-0.1**
	baz=114,SNR=79							
EDW2	**Edwards Air Fo**	**7.76**	**290**	P		**Pn**	**05 01 26.7**	**-1.1**
	baz=105,SNR=7.2							
R11A	**Troy Canyon, C**	**7.82**	**319**	P		**Pn**	**05 01 30.3**	**+1.7**
	baz=136,SNR=54							
DECC	**Green Verdugo**	**7.91**	**285**	P		**Pn**	**05 01 30.2**	**+0.5**
	baz=100							
DECC				S		**Sn**	**05 02 59.8**	**+0.6**
	baz=100							
ABTX	**Abilene, Hawle**	**7.97**	**87**	P		**Pn**	**05 01 30.5**	**0.0**
	baz=272,SNR=28							
ABTX	**Abilene, Hawle**	**7.97**	**87**	Pn		**Pn**	**05 01 30.0**	**-0.5**
RDMU	**Red Mountain**	**7.97**	**357**	Pn		**Pn**	**05 01 29.6**	**-1.2**
GRAC	**Grapevine Rang**	**8.11**	**305**	P		**Pn**	**05 01 34.4**	**+2.0**
	baz=121,SNR=77							
DUG	**Dugway, Tooele**	**8.16**	**339**	P		**Pn**	**05 01 36.1**	**+2.8**
	baz=158							
JCT	**Junction City**	**8.20**	**102**	P		**Pn**	**05 01 34.3**	**+0.6**
	baz=287,SNR=32							
JCT	**Junction City**	**8.20**	**102**	P		**Pn**	**05 01 34.2**	**+0.6**
JCT	**Junction City**	**8.20**	**102**	Pn		**Pn**	**05 01 34.2**	**+0.5**
KSCO	**Kaye Shedlock'**	**8.28**	**37**	P		**Pn**	**05 01 39.3**	**+4.5**
	baz=222,SNR=47							
OSI	**Osito Audit: C**	**8.29**	**287**	P		**Pn**	**05 01 34.9**	**0.0**
	baz=102							
CWC	**Cottonwood Cre**	**8.36**	**300**	P		**Pn**	**05 01 36.1**	**+0.2**
	baz=115							
ISA	**Isabella, Lake**	**8.37**	**294**	P		**Pn**	**05 01 35.3**	**-0.7**
	baz=109,SNR=28							
ISA				S		**Sn**	**05 03 07.6**	**-2.8**
	baz=109							
ISA	**Isabella, Lake**	**8.37**	**294**	P		**Pn**	**05 01 35.2**	**-0.8**
ISA	**Isabella, Lake**	**8.37**	**294**	Pn		**Pn**	**05 01 35.2**	**-0.8**
ARVC	**Arvin**	**8.49**	**290**	P		**Pn**	**05 01 38.2**	**+0.6**
	baz=105,SNR=7.3							
LPIG	**La Paz**	**8.53**	**188**	Pn		**Pn**	**05 01 39.5**	**+1.3**
	comp=Z,3.2nm,0.3s,baz=204,slow=3.1,SNR=6.4							
LPIG				LR		LR	05 04 50.1	
	comp=Z,4μm,21.4s,baz=9.5,slow=37							
N23A	**Red Feather La**	**8.66**	**16**	P		**Pn**	**05 01 44.1**	**+3.9**
	baz=198,SNR=19							
TIN	**Tinemaha, Big**	**8.74**	**303**	P		**Pn**	**05 01 43.7**	**+2.5**
	baz=118,SNR=34							
WMOK	**Wichita Mounta**	**8.85**	**73**	P		**Pn**	**05 01 42.4**	**-0.2**
	baz=259,SNR=20							
WMOK	**Wichita Mounta**	**8.85**	**73**	P		**Pn**	**05 01 42.0**	**-0.6**
WMOK	**Wichita Mounta**	**8.85**	**73**	Pn		**Pn**	**05 01 42.0**	**-0.6**
VES	**Vestal, Richgr**

MIAR Mount Ida 13.08 77 P Pn 05 02 39.6 -0.9
baz=266,SNR=45
BOZ Bozeman (W) 13.14 352 P Pn 05 02 45.2 +3.9
baz=171,SNR=82
O02D Mt. Diablo Mer 13.38 308 P P 05 02 51.0 -3.2
baz=120
M04C Macdoel 13.68 316 P P 05 02 58.4 +0.8
baz=128,SNR=17
X40A Basin Creek Fa 13.69 78 P Pn 05 02 45.9 -2.8
baz=267
Z41A Richland Creek 13.70 83 P Pn 05 02 46.8 -2.1
baz=272
N02D Trinity Center 13.74 311 P P 05 02 55.7 -2.5
baz=123,SNR=19
U40A Yellville 13.91 70 P Pn 05 02 49.9 -1.8
baz=259,SNR=19
M02C Callahan 14.07 313 P P 05 02 59.1 -2.7
baz=124,SNR=35
K04D Chiloquin, OR 14.17 319 P P 05 03 06.1 +3.1
baz=131
YBH Yreka Blue Hor 14.17 314 Pn Pn 05 02 59.2 +3.7
comp=Z,0.3nm,0.3s,baz=138,slow=6.4,SNR=34
YBH Lg Lg 05 07 00.5
baz=43,slow=23,SNR=7.2
YBH LR LR 05 07 55.6
comp=Z,5µm,19.8s,baz=133,slow=36
L04D Klamath Falls 14.22 316 P P 05 03 03.6 0.0
baz=128,SNR=58
W41B Gary Mavity, V 14.22 75 P Pn 05 02 54.7 -1.4
baz=264,SNR=18
SUSD Miller 14.23 31 P Pn 05 02 57.8 +1.7
baz=217
J05D Fort Rock, OR 14.33 322 P P 05 03 02.3 -2.5
baz=134,SNR=29
MSO Missoula 14.70 347 P P 05 03 07.1 -1.7
baz=164,SNR=56
ECSD EROS Data Cent 14.81 38 P Pn 05 03 03.5 -0.6
baz=226,SNR=32
I05D Terrebonne, OR 15.13 324 P P 05 03 14.4 +0.7
baz=137,SNR=14
K02D Willamette Mer 15.31 315 P P 05 03 14.1 -1.6
baz=127
EGMT Eagleton 15.43 358 P P 05 03 16.1 -0.8
baz=178,SNR=26
CCM Cathedral Cave 15.54 64 P Pn 05 03 13.0 -0.8
baz=255
SCIA State Center 15.67 49 P P 05 03 21.0 +1.5
baz=239,SNR=15
VBMS Vicksburg 15.69 86 P P 05 03 19.0 -0.8
baz=276,SNR=10
I03D Drain, OR 15.75 319 P P 05 03 19.8 -0.6
baz=130
G05D Wamic, OR 15.79 327 P P 05 03 23.0 +2.1
baz=139,SNR=8.6
H04D Lebanon 15.97 322 P P 05 03 22.7 -0.2
baz=134,SNR=7.5
DGMT Dagmar 16.29 12 P P 05 03 26.2 -0.2
baz=195,SNR=12
OXF Oxford 16.52 78 P P 05 03 30.4 +1.5
baz=269
G03D McMinnville, O 16.72 323 P P 05 03 31.1 0.0
baz=134
NEW Newport 16.79 341 P P 05 03 31.8 -0.2
baz=156,SNR=169
NEW Newport 16.79 341 Pn P 05 03 31.7 -0.3
comp=Z,1.6nm,0.3s,baz=158,slow=12,SNR=99
NEW LR LR 05 11 01.8
comp=Z,1µm,18.4s,baz=162,slow=41
MDND Maddock 16.85 23 P Pn 05 03 31.8 +1.3
baz=209,SNR=16
HDIL Hopedale 17.75 58 P Pn 05 03 40.7 -1.0
baz=250,SNR=53
WVT Waverly 17.90 73 P P 05 03 44.7 +0.5
baz=265
JFWS Jewell Farm 18.07 50 P Pn 05 03 44.8 -1.0
baz=242,SNR=67
D03D Eldon 18.33 329 P P 05 03 51.0 +2.1
baz=140,SNR=7.3
AGMN Agassiz Nation 18.60 29 P Pn 05 03 52.4 +0.3
baz=217,SNR=22
A04D Lummi Island 19.09 332 P Pn 05 03 59.8 +1.7
baz=143,SNR=11
SFIN Lafayette 19.28 60 P Pn 05 04 00.8 +0.3
baz=253,SNR=18
L44A Lake County Fo 19.31 54 P Pn 05 04 00.6 -0.2
baz=247,SNR=28
WCI Wyandotte Cave 19.39 67 P Pn 05 04 02.3 +0.5
baz=260
CMIG Matias Romero 20.07 137 P Pn 05 04 10.3 +0.3
comp=Z,33nm,0.7s,baz=324,slow=9.4,SNR=28
ULM Lac du Bonnet 20.18 25 P P 05 04 09.1 -0.1
comp=Z,88nm,1.1s,baz=214,slow=11,SNR=42
ULM Lg Lg 05 10 05.5
comp=Z,20nm,1.1s,baz=288,slow=20,SNR=3.3
ULM LR LR 05 12 34.3
comp=Z,6µm,21.9s,baz=214,slow=39
ULM Lac du Bonnet 20.18 25*d* P P 05 04 08.8 -0.3
X51A Calhoun 20.27 78 IAMs_20 IAMs_20 05 12 08.5
comp=Z,6µm,18.0s
EYMN Ely 20.31 36 P P 05 04 11.3 +0.7
baz=227,SNR=40
152A Waverly Hall 20.52 83 IAMs_20 IAMs_20 05 11 54.0
comp=Z,4µm,18.0s
O48A Farmland 20.68 62 P P 05 04 14.7 +0.1
baz=256,SNR=8.3
P49A Miami Univ. Ec 20.85 64 P P 05 04 17.2 +0.7
baz=258,SNR=18
W52A Murphy 21.03 76 IAMs_20 IAMs_20 05 12 30.6
comp=Z,3µm,19.0s
TKL Tuckaleechee C 21.16 75 P P 05 04 20.6 +0.7
comp=Z,45nm,1.0s,baz=240,slow=7.9,SNR=38
I45A Fountain 21.19 51 P P 05 04 21.2 +1.1
baz=245,SNR=10
V52A Sevierville 21.31 74 IAMs_20 IAMs_20 05 11 47.9
comp=Z,3µm,20.0s
TZTN Tazewell 21.37 72 P P 05 04 23.1 +0.9
baz=267,SNR=109
TZTN Tazewell 21.37 72 IAMs_20 IAMs_20 05 12 16.6
comp=Z,4µm,18.0s
S51A Beattyville 21.42 69 IAMs_20 IAMs_20 05 12 35.0
comp=Z,5µm,19.0s
GOGA Godfrey 21.49 81 P P 05 04 24.1 +0.7
baz=275,SNR=23
I46A Reed City 21.67 52 P P 05 04 25.8 +0.5
baz=246,SNR=21
Q51A Peebles 21.80 66 IAMs_20 IAMs_20 05 12 26.9
comp=Z,4µm,19.0s
G45A Suttons Bay 22.00 49 P P 05 04 29.7 +0.9
baz=244,SNR=17
P51A Williamsport 22.09 65 P P 05 04 30.9 +1.0
baz=260,SNR=21
T53A Wise 22.21 71 P P 05 04 32.1 +0.8
baz=267,SNR=31
TEIG Tepich 22.29 118 LR LR 05 14 53.9
comp=Z,573nm,19.0s,baz=245,slow=41
ACSO Alum Creek Sta 22.30 63 P P 05 04 32.9 +0.8
baz=258,SNR=41
ACSO Alum Creek Sta 22.30 63 IAMs_20 IAMs_20 05 12 14.9
comp=Z,4µm,18.0s
I47A Gladwin 22.32 52 P P 05 04 32.9 +0.6
baz=248,SNR=59
X54A Belton 22.32 78 P P 05 04 33.7 +1.3
baz=273,SNR=82
AAM Ann Arbor 22.32 57 P P 05 04 33.5 +1.2
baz=253,SNR=19
F45A CMU Biological 22.38 47 P P 05 04 33.5 +0.6
baz=242,SNR=22
W54A Cherokee Point 22.46 76 P P 05 04 35.1 +1.2
baz=271,SNR=65
O51A Pataskala 22.56 63 P P 05 04 35.6 +0.7
baz=259,SNR=43
S53A Williamson 22.59 69 P P 05 04 35.9 +0.7
baz=265,SNR=23
K49A Clarkson 22.61 56 P P 05 04 36.0 +0.6
baz=252,SNR=12
G46A Petoskey 22.62 49 P P 05 04 36.7 +1.2
baz=244,SNR=15
Q52A Bidwell 22.62 66 P P 05 04 36.3 +0.8
baz=262,SNR=18
V54A Nebo 22.65 74 P P 05 04 36.5 +0.7
baz=270,SNR=56
H47A Mio 22.75 51 P P 05 04 37.3 +0.4
baz=247,SNR=38
U54A Nelsons Funny 22.76 72 P P 05 04 38.0 +0.8
baz=268,SNR=31
PAULI Pauline 22.77 77 IAMs_20 IAMs_20 05 13 25.7
comp=Z,3µm,20.0s
Y55A Saluda 22.79 79 P P 05 04 38.3 +1.0
baz=274,SNR=38
R53A Hurricane 22.79 68 P P 05 04 38.5 +1.2
baz=264,SNR=23
P52A Corning 22.83 64 P P 05 04 37.9 +0.1
baz=261,SNR=56
P52A Corning 22.83 64 IAMs_20 IAMs_20 05 12 46.0
comp=Z,3µm,19.0s
L50A Kingsville 22.85 58 P P 05 04 40.0 +2.0
baz=254,SNR=9.4
N51A Ashland 22.89 61 P P 05 04 39.6 +1.2
baz=257,SNR=6.5
X55A Gracelyn & Ava 22.94 78 P P 05 04 39.3 +0.4
baz=273,SNR=20
T54A Tazewell 22.98 71 P P 05 04 39.8 +0.3
baz=267,SNR=30
J49A Marlette 23.02 55 P P 05 04 39.5 -0.2
baz=251,SNR=12
M51A Elyria 23.13 60 P P 05 04 42.0 +1.2
baz=257,SNR=11
O52A Adamsville 23.14 63 P P 05 04 41.2 +0.3
baz=260,SNR=16
Q53A Leroy 23.18 67 P P 05 04 41.8 +0.4
baz=263,SNR=16
G47A Hillman 23.21 50 P P 05 04 42.3 +0.7
baz=246,SNR=16
S54A Dingus, Beckl 23.24 69 P P 05 04 44.6 +2.6
baz=266,SNR=13
V55A Taylorsville 23.24 74 P P 05 04 42.8 +0.8
baz=270,SNR=34
V55A Taylorsville 23.24 74 IAMs_20 IAMs_20 05 13 50.1
comp=Z,4µm,19.0s
P53A Whipple 23.37 65 P P 05 04 43.8 +0.5
baz=262,SNR=13
U55A TA2, Sparta 23.39 73 P P 05 04 44.2 +0.7
baz=265,SNR=77
I49A Point Hope 23.43 54 P P 05 04 44.0 +0.2
baz=250,SNR=17
I49A Point Hope 23.43 54 P P 05 04 44.2 +0.4
X56A White Oak 23.43 78 P P 05 04 45.7 +1.7
baz=273,SNR=15
R54A Victor 23.53 68 P P 05 04 45.8 +0.9
baz=265,SNR=11
T55A Pulaski 23.62 71 P P 05 04 46.8 +1.0
baz=268,SNR=26
O53A New Philadelph 23.63 63 P P 05 04 45.8 0.0
baz=260,SNR=23
157A Early Branch 23.63 82 P P 05 04 48.0 +2.1
baz=278,SNR=11
Q54A Coxs Mills 23.73 66 P P 05 04 46.8 -0.1
baz=263,SNR=18
W56A Indian Trail 23.77 76 P P 05 04 47.3 +0.1
baz=272,SNR=17
M52A Chesterland 23.78 60 P P 05 04 47.3 0.0
baz=257,SNR=6.5
Z57A Bowman 23.80 81 P P 05 04 49.3 +1.7
baz=276,SNR=11
V56A Mocksville 23.83 74 P P 05 04 47.9 +0.1
baz=271,SNR=24
D46A Sault St. Mari 23.85 46 P P 05 04 48.2 +0.3
baz=242
S55A Lewisburg 23.88 69 P P 05 04 48.9 +0.6
baz=266,SNR=23
BLA Blacksburg 23.91 71 P P 05 04 49.3 +0.7
baz=268,SNR=38
U56A King 23.92 73 P P 05 04 49.2 +0.6
baz=270,SNR=22
U56A King 23.92 73 IAMs_20 IAMs_20 05 13 18.0
comp=Z,3µm,18.0s
K51A Iona Station 23.97 57 P P 05 04 49.3 +0.2
baz=254
BBB Bella Bella 23.97 330 LR LR 05 14 26.6
comp=Z,2µm,19.0s,baz=142,slow=37
Y57A Sumter 23.99 79 P P 05 04 51.4 +2.0
baz=275,SNR=12
Y57A Sumter 23.99 79 IAMs_20 IAMs_20 05 14 23.1
comp=Z,4µm,18.0s
N53A Lisbon 24.01 62 P P 05 04 50.1 +0.6
baz=259,SNR=29
P54A Burton 24.08 65 P P 05 04 50.5 +0.3
baz=262,SNR=21
E47A Iron Bridge 24.11 47 P P 05 04 50.9 +0.5
baz=244,SNR=12
X57A Johnson Farm, 24.21 78 P P 05 04 52.1 +0.7
baz=274,SNR=8.1
T56A Rocky Mt 24.22 71 P P 05 04 52.0 +0.5
baz=268,SNR=21
R55A Marlinton 24.22 68 P P 05 04 52.2 +0.7
baz=265,SNR=14
DWPF Disney Wildern 24.25 93 P P 05 04 53.0 +1.2
baz=288
O54A Avis 24.25 64 P P 05 04 52.1 +0.4
baz=261,SNR=17
W57A Gilead 24.25 76 P P 05 04 52.1 +0.3
baz=272,SNR=32
M53A WI Miller and 24.26 61 P P 05 04 52.1 +0.3
baz=258,SNR=25
NHSC New Hope 24.26 81 P P 05 04 53.2 +1.4
baz=277,SNR=6.8
F48A Evansville 24.27 49 P P 05 04 52.7 +0.9
baz=246,SNR=8.0
158A Hollywood 24.29 82 P P 05 04 53.1 +0.9
baz=278
Q55A Buckhannon 24.32 67 P P 05 04 52.6 +0.2
baz=264,SNR=17
V57A Coltrane Farms 24.41 74 P P 05 04 53.2 -0.1
baz=271,SNR=64
D47A Chapleau 24.49 46 P P 05 04 53.9 0.0
baz=243,SNR=48
Z58A St. Stephen 24.54 80 P P 05 04 55.6 +1.2
baz=276,SNR=8.8
K52A Tillsonburg 24.55 57 P P 05 04 54.6 +0.2
baz=255
P55A Reedsville 24.57 65 P P 05 04 54.7 0.0
baz=263,SNR=43
MCWV Mont Chateau 24.58 65 P P 05 04 55.1 +0.4
baz=262,SNR=39
Y58A Scranton 24.60 79 P P 05 04 56.1 +1.1
baz=275
Y58A Scranton 24.60 79 IAMs_20 IAMs_20 05 12 52.2
comp=Z,5µm,20.0s
F49A Sandfield 24.61 50 P P 05 04 55.6 +0.6
baz=247,SNR=39
S56A Natural Bridge 24.61 70 P P 05 04 55.7 +0.6
baz=267,SNR=21
I51A Listowel 24.62 55 P P 05 04 55.9 +0.8
baz=252,SNR=27
N54A Moraine State 24.67 62 P P 05 04 56.0 +0.4
baz=260,SNR=80
L53A Girard 24.67 59 P P 05 04 55.7 +0.2
baz=257,SNR=10
U57A Blanch 24.76 73 P P 05 04 56.5 +0.1
baz=270,SNR=48
R56A Bull Pasture M 24.79 68 P P 05 04 57.3 +0.6
baz=266,SNR=14
E48A Lockeyer 24.82 48 P P 05 04 57.4 +0.6
baz=246,SNR=64
X58A Rowland 24.82 77 P P 05 04 57.3 +0.4
baz=274,SNR=12
J52A Paris 24.84 56 P P 05 04 57.8 +0.8
baz=254,SNR=21
T57A Hurt 24.84 71 P P 05 04 57.4 +0.4
baz=269,SNR=55
W58A Raeford 24.88 76 P P 05 04 57.8 +0.3
baz=273,SNR=24
ERPA Erie 24.91 59 P P 05 04 58.6 +0.9
baz=257
V58A Windy Hill, Pi 24.95 74 P P 05 04 56.7 -1.4
baz=271,SNR=28
V58A Windy Hill, Pi 24.95 74 IAMs_20 IAMs_20 05 13 18.3
comp=Z,3µm,18.0s
Q56A Snyder Ridge, 25.01 67 P P 05 04 59.3 +0.6
baz=264
M54A Oil Creek Stat 25.02 61 P P 05 04 59.0 +0.3
baz=259,SNR=36
O55A Ligonier 25.07 64 P P 05 04 59.4 +0.3
baz=262
Y59A Loris 25.25 79 P P 05 05 01.8 +1.0
baz=275,SNR=7.9
Y59A Loris 25.25 79 IAMs_20 IAMs_20 05 13 41.4
comp=Z,3µm,22.0s
I52A Shelburne 25.28 55 P P 05 05 01.8 +0.7
baz=253,SNR=8.5
P56A Dayton Farm, R 25.33 66 P P 05 05 01.6 +0.1
baz=264,SNR=11
D48A Paudash Townsh 25.34 47 P P 05 05 01.6 +0.1
baz=245,SNR=31
N55A Marion Center 25.39 63 P P 05 05 02.3 +0.3
baz=261,SNR=38
U58A Oxford 25.40 73 P P 05 05 02.5 +0.3
baz=270,SNR=13
T58A Grand View Acr 25.41 72 P P 05 05 02.1 -0.1
baz=269,SNR=13
L54A Sinclairville 25.42 59 P P 05 05 02.5 +0.2
baz=258,SNR=8.6
X59A McDuffie Farm, 25.43 77 P P 05 05 02.6 +0.2
baz=274,SNR=6.0
R57A Stanardsville 25.47 68 P P 05 05 03.6 +0.8
baz=266,SNR=8.8
W59A Clinton 25.52 76 P P 05 05 04.0 +0.8
baz=273,SNR=6.3
I53A Kortright Cn E 25.61 56 P P 05 05 04.5 +0.5
baz=254
Q57A Strasburg 25.61 67 P P 05 05 04.8 +0.7
baz=265
O56A Blue Knob Stat 25.63 64 P P 05 05 04.5 +0.2
baz=262,SNR=33
H52A Wyevale 25.65 54 P P 05 05 04.9 +0.5
baz=252,SNR=6.8
D49A Beulah Townshi 25.66 47 P P 05 05 04.4 +0.1
baz=245,SNR=17
V59A Middlesex 25.66 74 P P 05 05 05.0 +0.5
baz=272,SNR=16
M55A Ridgway 25.67 61 P P 05 05 04.9 +0.3
baz=260,SNR=18
E50A Wahnapitae 25.70 49 P P 05 05 05.1 +0.3
baz=248,SNR=17
Y60A Bolivia 25.79 78 IAMs_20 IAMs_20 05 15 28.7
comp=Z,3µm,18.0s
S58A Poland Farm, P 25.81 70 P P 05 05 06.0 +0.1
baz=268
R58A Rapidan 25.88 69 P P 05 05 08.3 +1.8
baz=267
N56A West Decatur 25.93 63 P P 05 05 07.0 0.0
baz=261,SNR=14
K54A Basiliko Farm, 25.95 59 P P 05 05 07.5 +0.3
baz=258,SNR=8.9
R58B Mineral 25.96 69 P P 05 05 10.0 +2.8
baz=268
P57A Homestead Farm 25.96 66 P P 05 05 06.9 -0.3
baz=264,SNR=8.8
CNNC Cliffs of the 25.97 76 P P 05 05 08.3 +0.9
baz=273
CNNC Cliffs of the 25.97 76 IAMs_20 IAMs_20 05 15 33.3
comp=Z,5µm,18.0s
U59A Littleton 26.01 73 P P 05 05 07.9 +0.2
baz=271
L55A Hinsdale 26.05 60 P P 05 05 08.1 +0.1
baz=259,SNR=12
F51A Arnstein 26.05 51 P P 05 05 08.4 +0.3
baz=250,SNR=22
M56A Emporium 26.11 61 P P 05 05 08.6 +0.1
baz=260,SNR=16
W60A Pink Hill 26.12 76 P P 05 05 09.1 +0.4
baz=274
SNET Serv Nac Est T 26.13 131 IAMs_20 IAMs_20 05 16 06.5
comp=Z,3µm,20.0s
J54A Appleton 26.14 57 P P 05 05 09.5 +0.7
baz=256
Q58A Fox Den Farm, 26.17 67 P P 05 05 10.0 +0.8
baz=266
SADO Sadowa 26.20 54 P P 05 05 09.2 0.0
comp=Z,18nm,1.1s,baz=267,slow=11,SNR=17
SSPA Standing Stone 26.20 63 P P 05 05 09.7 +0.3
baz=262
T59A Double "B" Far 26.20 72 P P 05 05 09.5 +0.2
baz=270
O57A Amberson 26.33 64 P P 05 05 10.9 +0.3
baz=263,SNR=13
CBN Corbin Frederi 26.37 69 P P 05 05 12.3 +1.4
baz=268
F52A Sundridge 26.40 51 P P 05 05 11.2 +0.1
baz=250,SNR=17
K55A Perry 26.43 59 P P 05 05 11.8 +0.3
baz=258
V60A Jim Taylor Roa 26.45 74 P P 05 05 12.2 +0.5
baz=272
N57A Milroy 26.46 63 P P 05 05 11.9 +0.1
baz=262,SNR=13
P58A Pank, Wackersv 26.51 66 P P 05 05 13.1 +0.9
baz=265
U60A Pendleton 26.52 73 P P 05 05 12.4 +0.2
baz=271
H53A Bobcaygeon 26.52 54 P P 05 05 12.6 +0.4
baz=254,SNR=11
E51A G1948 Merrick 26.54 50 P P 05 05 12.4 0.0
baz=249,SNR=13
D50A G1974 Best Tow 26.56 48 P P 05 05 11.8 -0.7
baz=247,SNR=27
R59A King George, V 26.57 69 P P 05 05 15.5 +2.8
baz=268
G53A Haliburton 26.65 53 P P 05 05 13.4 0.0
baz=253,SNR=29
L56A Greenwood 26.68 60 P P 05 05 13.7 -0.1
baz=260,SNR=18
J55A Hilton 26.72 57 P P 05 05 14.6 +0.5
baz=257,SNR=6.2
D51A Lot 18 Range I 26.82 49 P P 05 05 14.8 -0.2
baz=248,SNR=22
M57A Sunshine Farm, 26.86 62 P P 05 05 15.7 +0.3
baz=261,SNR=15
O58A Lewisberry 26.86 65 P P 05 05 15.6 +0.2
baz=264,SNR=6.8
S60A Water View 26.92 70 P P 05 05 16.2 +0.3
baz=269
K56A Middlesex 26.96 59 P P 05 05 16.7 +0.4
baz=259
E52A Mattawa 27.00 51 P P 05 05 16.8 +0.3
baz=260,SNR=32
V61A Roper 27.01 74 IAMs_20 IAMs_20 05 15 55.9
comp=Z,3µm,19.0s
I55A Frankford 27.05 55 P P 05 05 17.2 +0.2
baz=255,SNR=11
G54A Lake Saint Pet 27.09 53 P P 05 05 17.5 +0.1
baz=253,SNR=23
N58A Sunbury 27.11 63 P P 05 05 17.3 -0.2
baz=263,SNR=9.6
TGUH Tegucigalpa,Un 27.13 128 IAMs_20 IAMs_20 05 17 39.0
comp=Z,3µm,18.0s
L57A Andrews Acres 27.18 61 P P 05 05 16.7 -1.5
baz=260,SNR=7.7
P59A Jarrettsville 27.19 66 P P 05 05 18.7 +0.4
baz=265
ALGO Algonquin Park 27.29 52 P P 05 05 19.3 +0.2
baz=252,SNR=36
M58A Price's Panora 27.37 62 P P 05 05 19.9 0.0
baz=262,SNR=11
D52A ZEK Kipawa Sen 27.40 49 P P 05 05 20.3 +0.2
baz=249,SNR=34
J56A Wolcott 27.41 58 P P 05 05 20.9 +0.7
baz=258,SNR=5.4
O59A Robesonia 27.45 64 P P 05 05 20.4 -0.2
baz=264
PECO Prince Edward 27.46 56 IAMs_20 IAMs_20 05 14 42.5
comp=Z,2µm,21.0s
H55A Tweed 27.48 55 P P 05 05 21.4 +0.6
baz=255,SNR=10
V62A Hyde County Ai 27.53 75 IAMs_20 IAMs_20 05 16 21.6
comp=Z,3µm,19.0s
K57A Scipio Center 27.55 59 P P 05 05 21.4 -0.1
baz=259
E53A Dumoine, Ponti 27.68 51 P P 05 05 23.1 +0.5
baz=251
N59A State Game Lan 27.83 63 P P 05 05 23.6 -0.4
baz=263,SNR=8.4
BINY Binghamton 27.84 60 P P 05 05 23.9 -0.3
baz=261,SNR=7.5
D53A Lac Vacive, Po 27.89 50 P P 05 05 25.0 +0.4
baz=250,SNR=36
L58A Harry Jones Me 27.92 61 P P 05 05 25.3 +0.4
baz=261,SNR=9.2
G55A Calabogie 27.98 54 P P 05 05 26.2 +0.8
baz=254,SNR=17
E54A Lac Daplat, Po 28.01 51 P P 05 05 26.3 +0.7
baz=252
O60A Telford 28.04 64 P P 05 05 25.9 0.0
baz=265,SNR=8.4
J57A Williamstown 28.05 58 P P 05 05 26.5 +0.6
baz=259
H56A Elgin 28.13 55 P P 05 05 26.8 +0.2
baz=256,SNR=8.3
M59A Waymart 28.16 62 P P 05 05 27.0 0.0
baz=262,SNR=7.3
K58A Earlville 28.18 59 P P 05 05 27.0 -0.2
baz=260,SNR=8.5
N60A Cedar Hill Far 28.33 63 P P 05 05 28.5 +0.1
baz=264,SNR=8.3

F55A	**Otter Lake**	**28.39**	**53**	P		**P**		**05 05 29.9**	**+1.0**	
	baz=254,SNR=7.5									
CRAG	**Craig**	**28.40**	**331**	IAMs_20		IAMs_20		05 15 30.5		
	comp=Z,3μm,18.0s									
I57A	**Carthage**	**28.40**	**57**	P		**P**		**05 05 29.4**	**+0.2**	
	baz=258,SNR=7.2									
L59A	**Walton**	**28.53**	**61**	P		**P**		**05 05 31.0**	**+0.6**	
	baz=262,SNR=8.0									
J58A	**Remsen**	**28.55**	**58**	P		**P**		**05 05 31.0**	**+0.5**	
	baz=259									
D54A	**Lac Fusel, La**	**28.58**	**50**	P		**P**		**05 05 30.8**	**0.0**	
	baz=251,SNR=20									
H57A	**Richville**	**28.70**	**56**	P		**P**		**05 05 32.4**	**+0.6**	
	baz=257,SNR=9.3									
M60A	**Port Jervis**	**28.73**	**62**	P		**P**		**05 05 32.5**	**+0.4**	
	baz=264,SNR=11									
WRAK	**Wrangell Islan**	**28.76**	**333**	IAMs_20		IAMs_20		05 17 05.0		
	comp=Z,2μm,19.0s									
E55A	**Montcerf-Lytto**	**28.76**	**52**	P		**P**		**05 05 33.1**	**+0.8**	
	baz=253,SNR=10.0									
K59A	**Cooperstown**	**28.76**	**59**	P		**P**		**05 05 32.5**	**+0.1**	
	baz=261									
I58A	**Old Forge**	**28.84**	**58**	P		**P**		**05 05 33.1**	**+0.1**	
	baz=259,SNR=11									
ORIO	**Orleans, Innes**	**28.85**	**54**	P		**P**		**05 05 33.9**	**+0.8**	
	baz=255,SNR=8.9									
LSQQ	**Lebel-sur-Quev**	**29.06**	**46**	P		**P**		**05 05 34.5**	**-0.3**	
	baz=248									
L60A	**Shokan**	**29.11**	**61**	P		**P**		**05 05 35.9**	**+0.5**	
	baz=263,SNR=6.1									
G57A	**Newington**	**29.13**	**55**	P		**P**		**05 05 35.6**	**+0.1**	
	baz=256									
J59A	**Piesco**	**29.13**	**58**	P		**P**		**05 05 35.8**	**+0.2**	
	baz=260,SNR=8.1									
CPNY	**Central Park**	**29.18**	**64**	IAMs_20		IAMs_20		05 16 33.1		
	comp=Z,5μm,22.0s									
PAL	**Palisades**	**29.24**	**63**	P		**P**		**05 05 36.6**	**0.0**	
	baz=265									
LONY	**Lake Ozonia**	**29.30**	**56**	P		**P**		**05 05 37.5**	**+0.4**	
	baz=258,SNR=9.8									
D55A	**Sainte-Anne-du**	**29.31**	**51**	P		**P**		**05 05 37.6**	**+0.4**	
	baz=253,SNR=24									
M61A	**Granite Spring**	**29.37**	**63**	P		**P**		**05 05 37.3**	**-0.5**	
	baz=264									
E56A	**St. Veronique**	**29.46**	**52**	P		**P**		**05 05 39.2**	**+0.6**	
	baz=254,SNR=20									
DLBC	**Dease Lake**	**29.47**	**338**	P		**P**		**05 05 40.0**	**+1.4**	
	comp=Z,30nm,1.1s,baz=163,slow=4.8,SNR=26									
DLBC				PcP		**PcP**		**05 08 44.5**	**+0.7**	
	comp=Z,15nm,1.1s,baz=149,slow=5.9,SNR=5.2									
DLBC				LR		LR		05 16 47.1		
	comp=Z,3μm,18.4s,baz=140,slow=35									
DLBC	**Dease Lake**	**29.47**	**338**	IAMs_20		IAMs_20		05 16 48.6		
	comp=Z,4μm,20.0s									
H58A	**Gabriels**	**29.54**	**56**	P		**P**		**05 05 40.0**	**+0.8**	
	baz=258									
L61A	**Hillsdale 1, H**	**29.63**	**61**	P		**P**		**05 05 40.6**	**+0.5**	
	baz=263									
I59A	**Olmsteadville**	**29.64**	**58**	P		**P**		**05 05 40.2**	**+0.1**	
	baz=260									
G58A	**Ormstown**	**29.78**	**55**	P		**P**		**05 05 42.0**	**+0.6**	
	baz=257,SNR=9.9									
D56A	**ZEC Mazanza, M**	**29.79**	**51**	P		**P**		**05 05 41.3**	**-0.1**	
	baz=253,SNR=13									
J60A	**Lant Hill Farm**	**29.87**	**59**	P		**P**		**05 05 41.6**	**-0.6**	
	baz=261									
K61A	**Williamstown**	**29.90**	**60**	P		**P**		**05 05 42.9**	**+0.5**	
	baz=262									
H59A	**Cadyville**	**29.93**	**56**	P		**P**		**05 05 43.6**	**+0.9**	
	baz=259,SNR=5.6									
E57A	**Chemin Saint G**	**30.02**	**52**	P		**P**		**05 05 44.1**	**+0.6**	
	baz=255,SNR=18									
M62A	**Hamden**	**30.04**	**62**	P		**P**		**05 05 43.2**	**-0.4**	
	baz=265,SNR=11									
I60A	**Shoreham**	**30.06**	**58**	P		**P**		**05 05 43.9**	**+0.1**	
	baz=260,SNR=9.2									
YKA	**Yellowknife Ar**	**30.13**	**355**	P		**P**		**05 05 44.5**	**+0.3**	
	comp=Z,19nm,1.0s,baz=170,slow=8.6,SNR=90									
YKA				PcP		**PcP**		**05 08 46.0**	**+0.7**	
	comp=Z,4.1nm,0.8s,baz=163,slow=3.1,SNR=11									
YKA				LR		LR		05 18 24.6		
	comp=Z,2μm,19.4s,baz=0.0,slow=38									
L61B	**Northampton**	**30.30**	**61**	P		**P**		**05 05 47.7**	**+1.7**	
	baz=263									
D57A	**Chemin Vers le**	**30.35**	**51**	P		**P**		**05 05 46.5**	**+0.1**	
	baz=254,SNR=25									
G59A	**Clarenceville**	**30.37**	**55**	P		**P**		**05 05 47.3**	**+0.8**	
	baz=258,SNR=7.5									
SIT	**Sitka**	**30.38**	**331**	IAMs_20		IAMs_20		05 16 31.1		
	comp=Z,2μm,20.0s									
J61A	**Chester**	**30.52**	**59**	P		**P**		**05 05 48.4**	**+0.5**	
	baz=262									
VT1	**Waterbury**	**30.53**	**57**	IAMs_20		IAMs_20		05 16 34.7		
	comp=Z,2μm,19.0s									
E58A	**La Victoria**	**30.59**	**53**	P		**P**		**05 05 48.8**	**+0.3**	
	baz=256,SNR=17									
H60A	**Morristown**	**30.61**	**56**	P		**P**		**05 05 49.7**	**+1.0**	
	baz=260,SNR=7.9									
K62A	**Royalston**	**30.66**	**60**	P		**P**		**05 05 47.9**	**-1.2**	
	baz=263									
M63A	**Gales Ferry**	**30.67**	**63**	P		**P**		**05 05 49.3**	**0.0**	
	baz=266,SNR=6.3									
F59A	**Saint Guilaume**	**30.81**	**54**	P		**P**		**05 05 51.4**	**+1.0**	
	baz=257,SNR=7.4									
JIS	**Juneau Island**	**30.86**	**334**			**P**		**05 05 51.4**	**+0.7**	
JIS				IAMs_20		IAMs_20		05 19 06.6		
	comp=Z,3μm,21.0s									
CHGQ	**Chibougamau**	**30.95**	**46**	P		**P**		**05 05 51.5**	**-0.1**	
	baz=249,SNR=18									
G60A	**Masonville**	**30.96**	**55**	P		**P**		**05 05 52.4**	**+0.6**	
	baz=259,SNR=9.9									
D58A	**Chemin du LacG**	**31.04**	**52**	P		**P**		**05 05 52.8**	**+0.4**	
	baz=255,SNR=19									
MOQ	**Mont Orford**	**31.06**	**55**	P		**P**		**05 05 53.0**	**+0.3**	
BRYW	**Bryant College**	**31.09**	**62**	P		**P**		**05 05 52.8**	**-0.2**	
LBNH	**Lisbon**	**31.10**	**57**	P		**P**		**05 05 54.5**	**+1.5**	
	baz=261,SNR=9.4									
HRV	**Adam Dziewonsk**	**31.14**	**61**	P		**P**		**05 05 54.5**	**+1.1**	
	baz=264									
HRV	**Adam Dziewonsk**	**31.14**	**61**	P		**P**		**05 05 54.2**	**+0.9**	
HRV				pmax		pmax				
	comp=Z,25nm,1.2s									
HRV	**Adam Dziewonsk**	**31.14**	**61**	P		**P**		**05 05 54.2**	**+0.9**	
H61A	**Lyndonville**	**31.15**	**57**	P		**P**		**05 05 54.9**	**+1.4**	
	baz=260,SNR=10									
LATQ	**La Tuque**	**31.18**	**51**	P		**P**		**05 05 54.2**	**+0.5**	
	baz=255,SNR=8.4									
LATQ	**La Tuque**	**31.18**	**51**	P		**P**		**05 05 54.8**	**+1.2**	
K63A	**Dunstable**	**31.18**	**60**	P		**P**		**05 05 54.8**	**+1.1**	
	baz=264,SNR=5.1									
BESE	**Bessie Mountai**	**31.25**	**334**	P		**P**		**05 05 55.0**	**+0.8**	
BESE				IAmb		IAmb		05 05 57.9		
	comp=Z,95nm,1.8s									
BESE				IAMs_20		IAMs_20		05 19 17.9		
	comp=Z,3μm,21.0s									
M64A	**Tiverton**	**31.31**	**62**	P		**P**		**05 05 55.3**	**+0.4**	
	baz=266,SNR=5.6									
F60A	**Warwick**	**31.40**	**54**	P		**P**		**05 05 56.1**	**+0.4**	
	baz=258,SNR=9.1									
BCX	**Boston College**	**31.40**	**61**	IAMs_20		IAMs_20		05 15 52.0		
	comp=Z,2μm,19.0s									
JTS	**Las Juntas de**	**31.43**	**129**	*i* P		**P**		**05 05 58.3**	**+2.1**	
JTS				pmax		pmax				
	comp=Z,18nm,1.1s									
I62A	**Tamworth**	**31.46**	**58**	P		**P**		**05 05 57.5**	**+1.3**	
	baz=262,SNR=7.4									
I62A	**Tamworth**	**31.46**	**58**	P		**P**		**05 05 57.1**	**+0.9**	
G61A	**St-Isidore-de-**	**31.56**	**55**	P		**P**		**05 05 57.6**	**+0.6**	
	baz=260,SNR=8.7									
J63A	**Strafford**	**31.57**	**59**	P		**P**		**05 05 58.5**	**+1.4**	
	baz=263									
H62A	**Milan**	**31.70**	**57**	P		**P**		**05 05 59.3**	**+1.0**	
	baz=261									
H62A	**Milan**	**31.70**	**57**	P		**P**		**05 05 59.1**	**+0.8**	
H62A				PcP		**PcP**		**05 08 50.3**	**+0.4**	
D59A	**Saint-Raymond**	**31.71**	**52**	P		**P**		**05 05 59.1**	**+0.8**	
	baz=256									
E60A	**Ste Agathe de**	**31.83**	**53**	P		**P**		**05 05 59.7**	**+0.4**	
	baz=258,SNR=13									
I63A	**Otisfield**	**32.03**	**58**	P		**P**		**05 06 02.1**	**+0.9**	
	baz=262,SNR=6.4									
SKAG	**Skagway**	**32.05**	**335**	P		**P**		**05 06 00.8**	**-0.4**	
SKAG				IAMs_20		IAMs_20		05 18 02.0		
	comp=Z,3μm,22.0s									
F61A	**St Evariste**	**32.06**	**54**	P		**P**		**05 06 02.4**	**+1.0**	
	baz=259,SNR=11									
G62A	**West of Eustis**	**32.24**	**56**	P		**P**		**05 06 03.6**	**+0.5**	
	baz=260,SNR=7.5									
G62A	**West of Eustis**	**32.24**	**56**	P		**P**		**05 06 03.1**	**+0.1**	
G62A				PcP		**PcP**		**05 08 51.4**	**0.0**	
D60A	**Saint Jean D'O**	**32.30**	**52**	P		**P**		**05 06 03.8**	**+0.4**	
	baz=258,SNR=14									
E61A	**Lac Etchemin**	**32.49**	**53**	P		**P**		**05 06 05.6**	**+0.3**	
	baz=259,SNR=11									
H63A	**New Sharon**	**32.50**	**57**	P		**P**		**05 06 07.0**	**+1.7**	
	baz=262,SNR=6.5									
I64A	**Boothbay**	**32.69**	**58**	P		**P**		**05 06 08.3**	**+1.4**	
	baz=263									
F62A	**Pittston Farm,**	**32.75**	**55**	P		**P**		**05 06 08.7**	**+1.3**	
	baz=260,SNR=12									
WHY	**Whitehorse**	**32.77**	**337**	IAMs_20		IAMs_20		05 17 56.8		
	comp=Z,2μm,20.0s									
G63A	**Kingsbury**	**32.86**	**56**	P		**P**		**05 06 07.8**	**-0.6**	
	baz=262,SNR=8.5									
H64A	**Troy**	**33.08**	**57**	P		**P**		**05 06 11.7**	**+1.4**	
	baz=263,SNR=6.1									
PKME	**Peaks-Kenny Pk**	**33.11**	**56**	P		**P**		**05 06 11.1**	**+0.5**	
	baz=262,SNR=6.5									
PKME	**Peaks-Kenny Pk**	**33.11**	**56**	P		**P**		**05 06 10.8**	**+0.1**	
PKME				PcP		**PcP**		**05 08 54.6**	**+0.9**	
E62A	**Clayton Lake**	**33.18**	**53**	P		**P**		**05 06 12.3**	**+1.0**	
	baz=259,SNR=19									
E62A	**Clayton Lake**	**33.18**	**53**	IAMs_20		IAMs_20		05 19 03.8		
	comp=Z,2μm,19.0s									
F63A	**Nahmakanta, Br**	**33.31**	**55**	P		**P**		**05 06 13.7**	**+1.3**	
	baz=261,SNR=15									
G64A	**Maxfield**	**33.48**	**56**	P		**P**		**05 06 15.2**	**+1.3**	
	baz=262,SNR=14									
D62A	**Allapoint, All**	**33.59**	**53**	P		**P**		**05 06 15.9**	**+1.1**	
	baz=259,SNR=13									
HYT	**Haines Junctio**	**33.79**	**335**	P		**P**		**05 06 17.3**	**+0.7**	
HYT				IAmb		IAmb		05 06 20.5		
	comp=Z,70nm,1.3s									
HYT				PcP		**PcP**		**05 08 56.2**	**+0.7**	
HYT				IAMs_20		IAMs_20		05 20 37.9		
	comp=Z,4μm,20.0s									
F64A	**Sherman**	**33.85**	**55**	P		**P**		**05 06 17.8**	**+0.7**	
	baz=262,SNR=15									
E63A	**Oxbow**	**33.89**	**54**	P		**P**		**05 06 18.3**	**+0.8**	
	baz=261,SNR=31									
E64A	**Bridgewater**	**34.30**	**54**	P		**P**		**05 06 22.0**	**+1.1**	
	baz=261,SNR=15									
G65A	**Princeton**	**34.31**	**56**	P		**P**		**05 06 22.2**	**+1.2**	
	baz=263,SNR=7.5									
PCA	**Pinnacle**	**34.33**	**333**	P		**P**		**05 06 21.6**	**+0.5**	
PCA				IAmb		IAmb		05 06 24.9		
	comp=Z,54nm,1.2s									
PCA				PcP		**PcP**		**05 08 57.4**	**+0.4**	
PCA				IAMs_20		IAMs_20		05 19 39.2		
	comp=Z,2μm,18.0s									
EMMW	**East Machias**	**34.33**	**57**	P		**P**		**05 06 22.4**	**+1.2**	
EMMW				IAmb		IAmb		05 06 24.0		
	comp=Z,74nm,1.4s									
EMMW				IAMs_20		IAMs_20		05 18 50.4		
	comp=Z,3μm,20.0s									
H66A	**Whiting**	**34.44**	**57**	P		**P**		**05 06 23.7**	**+1.5**	
	baz=264,SNR=5.7									
TABL	**Table Mountain**	**34.89**	**333**	P		**P**		**05 06 28.1**	**+1.9**	
TABL				IAMs_20		IAMs_20		05 21 07.0		
	comp=Z,2μm,18.0s									
MESA	**MESA**	**35.05**	**332**	IAMs_20		IAMs_20		05 21 09.2		
	comp=Z,2μm,19.0s									
YAH	**Yahtse**	**35.08**	**332**	IAMs_20		IAMs_20		05 19 56.0		
	comp=Z,3μm,19.0s									
CTGM	**Chitina Glacie**	**35.29**	**333**	IAMs_20		IAMs_20		05 22 22.7		
	comp=Z,2μm,18.0s									
ISLE	**Juniper Island**	**35.45**	**332**	IAMs_20		IAMs_20		05 20 07.1		
	comp=Z,3μm,18.0s									
BARN	**Barnard Glacie**	**35.47**	**333**	IAMs_20		IAMs_20		05 22 29.5		
	comp=Z,1μm,18.0s									
WAX	**Waxell Ridge**	**35.57**	**332**	IAMs_20		IAMs_20		05 20 59.0		
	comp=Z,2μm,18.0s									
BALM	**Baldy**	**35.72**	**333**	IAMs_20		IAMs_20		05 21 35.1		
	comp=Z,2μm,19.0s									
TGL	**Tana Glacier**	**35.74**	**332**	P		**P**		**05 06 34.6**	**+1.2**	
TGL				IAMs_20		IAMs_20		05 21 39.6		
	comp=Z,2μm,18.0s									
CRQM	**Cirque**	**35.86**	**332**	IAMs_20		IAMs_20		05 21 25.3		
	comp=Z,2μm,19.0s									
MCARA	**McCarthy VSAT**	**36.19**	**333**	IAMs_20		IAMs_20		05 21 56.5		
	comp=Z,2μm,19.0s									
VRDI	**Verde Repeater**	**36.27**	**333**	IAMs_20		IAMs_20		05 21 49.5		
	comp=Z,2μm,18.0s									
SDDR	**Presa de Saban**	**36.43**	**102**	P		**P**		**05 06 41.0**	**+1.3**	
GLB	**Gilahina Butte**	**36.53**	**333**	IAMs_20		IAMs_20		05 21 06.5		
	comp=Z,2μm,18.0s									
SC01	**Santiago de lo**	**36.68**	**101**	P		**P**		**05 06 42.3**	**+0.6**	
DAWY	**Dawson**	**36.69**	**338**	P		**P**		**05 06 41.7**	**+0.4**	
DAWY				IAMs_20		IAMs_20		05 20 13.3		
	comp=Z,2μm,19.0s									
EYAK	**Cordova Ski Ar**	**36.81**	**330**	IAMs_20		IAMs_20		05 21 06.8		
	comp=Z,3μm,18.0s									
SCHQ	**Schefferville**	**36.99**	**40**	P		**P**		**05 06 44.0**	**0.0**	
	comp=Z,68nm,1.0s,baz=256,slow=7.4,SNR=53									
SCHQ				LR		LR		05 20 45.5		
	comp=Z,2μm,19.6s,baz=254,slow=34									
SCHQ	**Schefferville**	**36.99**	**40**	P		**P**		**05 06 43.8**	**-0.2**	
SCHQ				IAMs_20		IAMs_20		05 21 29.2		
	comp=Z,2μm,19.0s									
HIN	**Hinchinbrook I**	**37.04**	**330**	IAMs_20		IAMs_20		05 20 41.1		
	comp=Z,2μm,18.0s									
FID	**Port Fidalgo**	**37.22**	**330**	IAMs_20		IAMs_20		05 21 37.7		
	comp=Z,2μm,22.0s									
MENT	**Mentasta**	**37.40**	**335**	IAMs_20		IAMs_20		05 21 49.4		
	comp=Z,2μm,18.0s									
GLI	**Glacier Island**	**37.54**	**330**	IAMs_20		IAMs_20		05 21 27.3		
	comp=Z,1μm,18.0s									
EPYK	**Eagle Plains**	**37.62**	**342**	P		**P**		**05 06 50.9**	**+1.7**	
	baz=140,SNR=43									
EPYK	**Eagle Plains**	**37.62**	**342**	P		**P**		**05 06 51.0**	**+1.7**	
EPYK				IAmb		IAmb		05 06 52.5		
	comp=Z,94nm,1.2s									
EPYK				IAMs_20		IAMs_20		05 21 47.5		
	comp=Z,3μm,20.0s									
EGAK	**Eagle**	**37.73**	**338**	IAMs_20		IAMs_20		05 21 04.0		
	comp=Z,2μm,18.0s									
DOT	**Dot Lake**	**37.96**	**335**	IAMs_20		IAMs_20		05 21 19.2		
	comp=Z,2μm,19.0s									
PAX	**Paxson**	**38.06**	**334**	IAMs_20		IAMs_20		05 20 36.9		
	comp=Z,2μm,19.0s									
SCM	**Sheep Creek Mo**	**38.14**	**332**	IAMs_20		IAMs_20		05 20 42.1		
	comp=Z,2μm,22.0s									
RIDG	**Independent Ri**	**38.30**	**335**	IAMs_20		IAMs_20		05 21 38.0		
	comp=Z,3μm,21.0s									
INK	**Inuvik**	**38.43**	**346**	P		**P**		**05 06 56.4**	**+0.4**	
	comp=Z,14nm,1.1s,baz=130,slow=6.1,SNR=4.8									
INK				LR		LR		05 24 42.6		
	comp=Z,906nm,20.3s,baz=154,slow=39									
INK	**Inuvik**	**38.43**	**346**	P		**P**		**05 06 56.4**	**+0.4**	
INK				pmax		pmax				
	comp=Z,34nm,1.3s									
INK	**Inuvik**	**38.43**	**346**	IAmb		IAmb		05 06 58.6		
	comp=Z,34nm,1.3s									
INK				IAMs_20		IAMs_20		05 21 08.9		
	comp=Z,2μm,18.0s									
O22K	**Cooper Landing**	**38.47**	**329**	P		**P**		**05 06 59.6**	**+3.2**	
	baz=118									
SML	**Sawmill**	**38.53**	**331**	IAMs_20		IAMs_20		05 21 04.5		
	comp=Z,2μm,19.0s									
KDAK	**Kodiak Island**	**38.68**	**324**	P		**P**		**05 06 59.5**	**+1.4**	
	comp=Z,32nm,1.0s,baz=127,slow=5.7,SNR=16									
KDAK				LR		LR		05 21 16.1		
	comp=Z,891nm,21.2s,baz=116,slow=34									
GHO	**Glory Hole Cre**	**38.76**	**331**	IAMs_20		IAMs_20		05 21 12.5		
	comp=Z,2μm,21.0s									
SII	**Sitkinak Islan**	**39.08**	**322**	IAMs_20		IAMs_20		05 20 26.3		
	comp=Z,1μm,21.0s									
SUA	**Susitna One**	**39.37**	**330**	IAMs_20		IAMs_20		05 21 58.7		
	comp=Z,1μm,19.0s									
HDA	**Harding Lake**	**39.44**	**335**	P		**P**		**05 07 06.4**	**+1.9**	
	baz=126,SNR=27									
RND	**Reindeer**	**39.58**	**333**	IAMs_20		IAMs_20		05 21 45.1		
	comp=Z,3μm,18.0s									
CHIR	**Chirikof Islan**	**39.62**	**320**	IAMs_20		IAMs_20		05 21 13.9		
	comp=Z,2μm,19.0s									
ILAR	**Eielson Array**	**39.63**	**336**	P		**P**		**05 07 07.9**	**+1.8**	
	comp=Z,18nm,1.0s,baz=136,slow=6.8,SNR=104									
ILAR				PcP		**PcP**		**05 09 13.8**	**+1.0**	
	comp=Z,5.7nm,1.0s,baz=159,slow=2.2,SNR=5.6									
MCK	**McKinley**	**39.78**	**334**	IAMs_20		IAMs_20		05 21 39.5		
	comp=Z,2μm,21.0s									
CCB	**Clear Creek Bu**	**39.88**	**335**	IAMs_20		IAMs_20		05 23 25.8		
	comp=Z,2μm,18.0s									
WRH	**Wood River Hil**	**39.88**	**335**	IAMs_20		IAMs_20		05 21 25.9		
	comp=Z,1μm,19.0s									
SKT	**Skwentna**	**39.94**	**330**	IAMs_20		IAMs_20		05 23 00.8		
	comp=Z,1μm,20.0s									
POKR	**Poker Plat Res**	**40.02**	**336**	P		**P**		**05 07 11.6**	**+2.2**	
	baz=126,SNR=9.3									
COLA	**College**	**40.02**	**335**	*d* P		**P**		**05 07 10.6**	**+1.3**	
COLA				pmax		pmax				
	comp=Z,58nm,1.2s									
COLA	**College**	**40.02**	**335**	IAMs_20		IAMs_20		05 24 23.8		
	comp=Z,2μm,20.0s									
TCOL	**CIGO, UAF Yank**	**40.03**	**335**	P		**P**		**05 07 11.5**	**+2.2**	
	baz=125,SNR=9.6									
SMLC	**San Martn de**	**40.11**	**118**	*e* P		**P**		**05 07 11.5**	**+0.9**	
TRF	**Thorofare Moun**	**40.16**	**333**	IAMs_20		IAMs_20		05 22 35.3		
	comp=Z,3μm,20.0s									
FYU	**Fort Yukon**	**40.19**	**339**	IAMs_20		IAMs_20		05 22 19.8		
	comp=Z,2μm,19.0s									
NEA2	**Nenana**	**40.30**	**335**	P		**P**		**05 07 13.3**	**+1.6**	
	baz=123,SNR=12									
A36M	**Sachs Harbour**	**40.38**	**352**	P		**P**		**05 07 13.0**	**+0.8**	
	baz=159,SNR=12									
PPLA	**Purkeypile**	**40.64**	**331**	P		**P**		**05 07 16.5**	**+1.9**	
PPLA				IAmb		IAmb		05 07 17.9		
	comp=Z,66nm,1.0s									
PPLA				IAMs_20		IAMs_20		05 22 24.1		
	comp=Z,1μm,21.0s									
CBOC	**Ciudad Bolivar**	**40.70**	**124**	*e* P		**P**		**05 07 16.1**	**+0.4**	
BPAW	**Bear Paw Mtn.**	**40.75**	**333**	P		**P**		**05 07 17.1**	**+1.7**	
BPAW				IAMs_20		IAMs_20		05 23 07.0		
	comp=Z,2μm,20.0s									
HELC	**Santa Helena**	**40.81**	**123**	*e* P		**P**		**05 07 18.4**	**+1.6**	
MLY	**Manley**	**41.14**	**335**	IAMs_20		IAMs_20		05 22 01.2		
	comp=Z,1μm,20.0s									
PTBC	**PUERTO BERRIO,**	**41.34**	**121**	*e* P		**P**		**05 07 21.2**	**+0.4**	
GUY2C	**Guyana, Caldas**	**41.60**	**124**	*e* P		**P**		**05 07 24.7**	**+1.2**	
YOTC	**Yotoco, Valle**	**41.81**	**126**	*e* P		**P**		**05 07 25.2**	**+0.4**	
RREF	**El Recreo**	**41.84**	**124**	*e* P		**P**		**05 07 27.5**	**+1.9**	
TOLC	**Tolima**	**42.09**	**124**	*e* P		**P**		**05 07 29.2**	**+1.9**	
ANIL	**Santa Ana**	**42.09**	**124**	*e* P		**P**		**05 07 28.8**	**+1.4**	
COLD	**Coldfoot**	**42.15**	**338**	P		**P**		**05 07 29.3**	**+2.4**	
	baz=124,SNR=21									
COLD	**Coldfoot**	**42.15**	**338**	IAMs_20		IAMs_20		05 25 01.8		
	comp=Z,2μm,22.0s									
BARC	**Barichara**	**42.23**	**120**	*e* P		**P**		**05 07 28.8**	**+0.4**	
TTA	**Tatalina**	**42.23**	**330**	P		**P**		**05 07 28.0**	**+0.4**	
ROSC	**El Rosal**	**42.61**	**123**	P		**P**		**05 07 33.2**	**+1.6**	
	comp=Z,12nm,0.8s,baz=16,slow=5.2,SNR=17									
ROSC				LR		LR		05 28 29.1		
	comp=Z,476nm,18.1s,baz=332,slow=41									
ORTC	**Ortega, Tolima**	**42.62**	**125**	*e* P		**P**		**05 07 32.5**	**+1.2**	
BBAC	**Balboa, Cauca**	**42.65**	**129**	*e* P		**P**		**05 07 34.0**	**+2.3**	
RES	**Resolute Bay**	**42.75**	**6**	LR		LR		05 25 04.8		
	comp=Z,788nm,18.8s,baz=176,slow=36									
RES	**Resolute Bay**	**42.75**	**6**	P		**P**		**05 07 30.9**	**-0.7**	
RES				pmax		pmax				
	comp=Z,17nm,1.1s									
RES	**Resolute Bay**	**42.75**	**6**	IAMs_20		IAMs_20		05 24 53.6		
	comp=Z,1μm,20.0s									
RUSC	**La Rusia**	**42.77**	**121**	*e* P		**P**		**05 07 33.4**	**+0.4**	
RUSC	**La Rusia**	**

BORG **Borgarnes** 60.10 30 IAMs_20 IAMs_20 05 35 07.9
comp=Z,1µm,18.0s
SAML **Samuel** 60.16 125 P P 05 09 40.4 -2.3
SAML pmax pmax
comp=Z,41nm,1.4s
SAML MLR MLR
comp=Z,600nm,18.0s
SAML **Samuel** 60.16 125 P P 05 09 40.4 -2.3
SAML IAmb IAmb 05 09 45.9
comp=Z,40nm,1.4s
SAML **Samuel** 60.16 125 IAMs_20 IAMs_20 05 37 31.3
comp=Z,585nm,18.0s
MALB **Monte Alegre** 62.04 112 eP P 05 09 55.4 -0.1
MALB epP pP 05 09 58.9 -0.7
MALB eS S 05 18 14.8 -5.5
MALB **Monte Alegre** 62.04 112 eP P 05 09 55.4 -0.1
MALB epP pP 05 09 58.9 -0.7
MALB eS S 05 18 14.8 -5.5
LPAZ **La Paz** 62.43 135 P P 05 09 58.5 -0.2
comp=Z,6.6nm,1.0s,baz=354,slow=8.1,SNR=13
LPAZ LR LR 05 36 39.7
comp=Z,651nm,19.0s,baz=316,slow=36
LPAZ **La Paz** 62.43 135 P P 05 09 58.1 -0.6
LPAZ pmax pmax
comp=Z,22nm,1.5s
LPAZ **La Paz** 62.43 135 P P 05 09 58.1 -0.6
LPAZ **La Paz** 62.43 135 eP P 05 09 58.1 -0.6
LPAZ **La Paz** 62.43 135 eP P 05 09 58.1 -0.6
PPT **Papeete** 63.15 224 LR LR 05 31 26.8
comp=Z,478nm,18.0s,baz=22,slow=30
PPT2 **Papeete2** 63.17 224 eS S 05 18 35.9 +1.5
comp=Z,127nm,29.2s
PPT2 eLQ LQ 05 26 08.1
comp=Z,639nm,24.5s
PPT2 eLR LR 05 28 49.0
comp=Z,415nm,21.8s,baz=31
KBS **Kingsbay** 63.78 11 P P 05 10 06.7 +0.5
KBS pmax pmax
comp=Z,120nm,1.8s
KBS MLR MLR
comp=Z,2µm,18.0s
KBS **Kingsbay** 63.78 11 P P 05 10 06.7 +0.5
KBS **Kingsbay** 63.78 11 IAMs_20 IAMs_20 05 38 06.3
comp=Z,2µm,18.0s
MNMC **Minye Minye** 63.81 138 P P 05 10 07.8 +0.3
MNMC IAmb IAmb 05 10 09.4
comp=Z,37nm,1.1s
GO01 **Chusmiza** 64.47 138 P P 05 10 12.6 +0.6
GO01 IAmb IAmb 05 10 14.2
comp=Z,48nm,1.7s
NPGB **Novo Progresso** 64.51 118 eP P 05 10 11.2 -0.7
NPGB epP pP 05 10 15.0 -1.0
NPGB **Novo Progresso** 64.51 118 eP P 05 10 11.2 -0.7
NPGB epP pP 05 10 15.0 -1.0
SPA0 **Spitsbergen Ar** 64.94 11 P P 05 10 14.3 +0.5
VILB **Vilhena** 65.05 126 eP P 05 10 15.2 -0.2
VILB **Vilhena** 65.05 126 eP P 05 10 15.2 -0.2
HSPB **Hornsund (broa** 65.57 12 eP P 05 10 18.5 +0.6
HSPB eL L 05 39 02.2
comp=Z,1µm,19.4s
PB07 **IPOC Station P** 65.73 140 P P 05 10 20.3 +0.4
PET **Petropavlovsk** 65.98 319 eP P 05 10 20.3 -0.6
PET eS S 05 19 03.0 -5.2
PET pmax pmax
comp=Z,200nm,10.7s
PET MLR MLR
comp=Z,700nm,16.0s
PET MLR MLR
comp=Z,900nm,17.0s
CMLA **Cha da Macela** 66.30 59 IAMs_20 IAMs_20 05 36 32.5
comp=Z,916nm,20.0s
PEA0B **Petropavlovsk-** 66.48 319 P P 05 10 23.9 -0.2
PEA0B pmax pmax
comp=Z,42nm,1.1s
PEA0B **Petropavlovsk-** 66.48 319 P P 05 10 23.9 -0.2
PEA0B IAmb IAmb 05 10 36.5
comp=Z,42nm,1.1s
PEA0B IAMs_20 IAMs_20 05 38 47.0
comp=Z,523nm,19.0s
PETK **Petropavlovsk-** 66.48 319 P P 05 10 25.1 +1.0
comp=Z,20nm,0.8s,baz=87,slow=11,SNR=15
PETK LR LR 05 39 16.7
comp=Z,382nm,19.7s,baz=58,slow=36
CLDB **Colider** 66.72 121 eP P 05 10 25.6 -0.6
CLDB epP pP 05 10 29.0 -1.3
CLDB **Colider** 66.72 121 eP P 05 10 25.6 -0.6
CLDB epP pP 05 10 29.0 -1.3
LVC **Limon Verde** 66.98 140 P P 05 10 29.5 +1.5
LVC pmax pmax
comp=Z,66nm,1.8s
LVC **Limon Verde** 66.98 140 P P 05 10 29.5 +1.5
LVC IAmb IAmb 05 10 40.3
comp=Z,66nm,1.8s
LVC **Limon Verde** 66.98 140 eP P 05 10 27.6 -0.4
LVC epP pP 05 10 29.9 -2.3
LVC **Limon Verde** 66.98 140 eP P 05 10 27.6 -0.4
LVC epP pP 05 10 29.9 -2.3
MA2 **Magadan** 67.31 327 ceP P 05 10 30.2 +0.9
MA2 pmax pmax
comp=Z,32nm,1.7s
MA2 **Magadan** 67.31 327 P P 05 10 30.4 +1.1
MA2 IAMs_20 IAMs_20 05 41 33.4
comp=Z,754nm,19.0s
PTLB **Pontes e Lacer** 67.55 127 eP P 05 10 30.9 -0.3
PTLB epP pP 05 10 34.2 -1.3
PTLB eS S 05 19 23.6 -4.3
PTLB **Pontes e Lacer** 67.55 127 eP P 05 10 30.9 -0.3
PTLB epP pP 05 10 34.2 -1.3
PTLB eS S 05 19 23.6 -4.3
TBI **Tubuai** 67.68 220 eS S 05 19 27.8 -1.5
comp=Z,85nm,27.5s
TBI eLQ LQ 05 28 05.7
comp=Z,345nm,26.5s
TBI eLR LR 05 30 54.7
comp=Z,245nm,23.5s,baz=26
PRPB **Parauapebas** 68.18 113 eP P 05 10 35.9 +0.5
PRPB **Parauapebas** 68.18 113 eP P 05 10 35.9 +0.5
SKR **Severo-Kuril's** 68.37 317 eP P 05 10 34.7 -1.3
SKR pmax pmax
comp=Z,100nm,3.0s
SKR MLR MLR
comp=Z,200nm,16.0s
TIXI **Tiksi** 68.50 343 ceP P 05 10 35.9 -0.6
TIXI pmax pmax
comp=Z,59nm,1.3s
TIXI MLR MLR
comp=Z,567nm,17.0s
TIXI **Tiksi** 68.50 343 P P 05 10 35.7 -0.8
TIXI IAMs_20 IAMs_20 05 43 33.6
comp=Z,696nm,18.0s
GO02 **Mina Guanaco** 68.67 142 P P 05 10 39.0 +0.4
SALV **Santo Antonio** 70.22 125 eP P 05 10 48.3 +0.4
SALV **Santo Antonio** 70.22 125 eP P 05 10 48.3 +0.4
ROSB **Rosrio** 70.73 107 eP P 05 10 51.9 +0.7
ROSB epP pP 05 10 55.6 +0.2
ROSB **Rosrio** 70.73 107 eP P 05 10 51.9 +0.7
ROSB epP pP 05 10 55.6 +0.2
DSB **Dublin** 71.53 38 IAMs_20 IAMs_20 05 40 31.4
comp=Z,909nm,18.0s
SMTB **Santa Maria do** 71.57 114 eP P 05 10 57.2 +0.9
SMTB **Santa Maria do** 71.57 114 eP P 05 10 57.2 +0.9
ESK **Eskdalemuir** 72.07 35 P P 05 10 59.0 +0.3
ESK pmax pmax
comp=Z,74nm,1.2s
ESK **Eskdalemuir** 72.07 35 P P 05 10 59.0 +0.3
ESK **Eskdalemuir** 72.07 35 IAMs_20 IAMs_20 05 41 11.6
comp=Z,1µm,19.0s
GO04 **Tololo Observa** 72.20 146 P P 05 10 60.0 0.0
ARAG **Araguaiana, MT** 72.82 122 eP P 05 11 04.4 +0.7
ARAG **Araguaiana, MT** 72.82 122 eP P 05 11 04.4 +0.7
ARCES **ARCESS Array B** 72.94 15 P P 05 11 03.5 -0.1
comp=Z,14nm,0.8s,baz=325,slow=4.9,SNR=71
ARCES LR LR 05 44 21.1
comp=Z,667nm,18.3s,baz=329,slow=37
ARE0 **ARCESS Array S** 72.94 15 P P 05 11 03.8 +0.1
CO02 **Combarbal** 72.96 146 P P 05 11 05.3 +1.0
PEXB **Peixe** 73.06 117 eP P 05 11 05.5 +0.4
PEXB **Peixe** 73.06 117 eP P 05 11 05.5 +0.4
KEV **Kevo** 73.09 15 P P 05 11 04.4 -0.1
KEV pmax pmax
comp=Z,51nm,1.1s
KEV MLR MLR
comp=Z,500nm,20.0s
KEV **Kevo** 73.09 15 P P 05 11 04.4 -0.1
comp=Z,51nm,1.1s
KEV IAMs_20 IAMs_20 05 42 41.4
comp=Z,515nm,20.0s
AQDB **Aquidauana** 73.40 128 eP P 05 11 07.5 +0.5
AQDB **Aquidauana** 73.40 128 eP P 05 11 07.5 +0.5
ZON **Zonda** 74.35 145 IAMs_20 IAMs_20 05 32 46.8
comp=Z,1µm,21.0s
NC204 **NORSAR Array S** 74.55 26 P P 05 11 13.2 -0.1
NC204 IAmb IAmb 05 11 15.3
comp=Z,96nm,1.7s
YAK **Yakutsk** 74.55 335 eP P 05 11 13.7 +0.5
YAK pmax pmax
comp=Z,50nm,1.3s
YAK pmax pmax
comp=N,18nm,1.4s
YAK pmax pmax
comp=E,33nm,1.3s
YAK MLR MLR
comp=Z,752nm,19.0s
YAK MLR MLR
comp=N,444nm,18.0s
YAK **Yakutsk** 74.55 335 P P 05 11 13.2 0.0
PMOZ **Porto Moniz, M** 74.59 61 eP P 05 11 16.1 +2.0
comp=N,172nm,1.5s
PMOZ eS S 05 21 01.3 +12
PMOZ **Porto Moniz, M** 74.59 61 eLR LR 05 35 45.7
comp=N,491nm,18.0s
PMAR **Madeira** 74.84 61 eP P 05 11 17.5 +1.8
comp=N,215nm,1.3s
NB2 **NORSAR Subarra** 74.87 26 P P 05 11 15.1 0.0
comp=Z,134nm,2.0s,baz=307,slow=5.9
NB2 **NORSAR Subarra** 74.87 26 P P 05 11 15.1 0.0
baz=307,slow=5.9
NOA **NORSAR Array B** 74.87 26 P P 05 11 15.4 +0.2
comp=Z,6.6nm,1.0s,baz=308,slow=5.9,SNR=11
NAO01 **NORSAR Array S** 74.88 26 P P 05 11 15.9 +0.8
FUL **Funchal** 74.90 61 eP P 05 11 17.1 +1.4
comp=Z,148nm,1.6s
PMPS **Porto Santo** 75.11 60 eP P 05 11 18.8 +1.9
comp=Z,99nm,1.8s
KONO **Kongsberg** 75.17 27 P P 05 11 17.8 +1.0
KONO pmax pmax
comp=Z,76nm,1.6s
KONO MLR MLR
comp=Z,700nm,19.0s
KONO **Kongsberg** 75.17 27 P P 05 11 17.8 +1.0
KONO IAmb IAmb 05 11 19.0
comp=Z,76nm,1.6s
KONO **Kongsberg** 75.17 27 IAMs_20 IAMs_20 05 45 18.9
comp=Z,701nm,19.0s
BDFB **Brasilia** 75.53 119 P P 05 11 21.0 +1.3
comp=Z,8.8nm,1.2s,baz=320,slow=4.7,SNR=6.4
BDFB LR LR 05 50 51.7
comp=Z,202nm,18.5s,baz=304,slow=41
BDFB **Brasilia** 75.53 119 P P 05 11 21.0 +1.3
BDFB pmax pmax
comp=Z,28nm,1.5s
BDFB **Brasilia** 75.53 119 P P 05 11 21.0 +1.3
TYV **Tymovskoe** 75.70 322 eP P 05 11 20.9 +0.9
TYV pmax pmax
comp=Z,200nm,3.5s
TYV pmax pmax
comp=Z,29nm,1.2s
BO02 **Sierra Bellavi** 76.07 148 P P 05 11 23.1 +0.8
BO02 IAmb IAmb 05 11 28.0
comp=Z,49nm,1.2s
PGAV **Gavieira, Arco** 76.17 49 eP P 05 11 25.4 +2.4
PGAV **Gavieira, Arco** 76.17 49 eLR LR 05 37 48.9
comp=Z,922nm,18.0s
LVZ **Lovozero** 76.19 13 ceP P 05 11 23.1 +0.5
LVZ pmax pmax
comp=Z,84nm,1.2s
LVZ **Lovozero** 76.19 13 P P 05 11 23.2 +0.5
LVZ IAMs_20 IAMs_20 05 45 40.4
comp=Z,740nm,20.0s
APA **Apatity** 76.23 14 ⇓iP P 05 11 19.8 -2.9
APA pmax pmax
comp=Z,14nm,1.1s
APA MLR MLR
comp=Z,600nm,14.0s
ITRB **Iturama** 76.51 124 eP P 05 11 26.7 +1.6
ITRB **Iturama** 76.51 124 eP P 05 11 26.7 +1.6
CPUP **Villa Florida** 76.56 134 P P 05 11 25.7 +0.5
comp=Z,11nm,0.9s,baz=324,slow=8.3,SNR=13
CPUP LR LR 05 46 31.4
comp=Z,284nm,18.1s,baz=342,slow=37
CPUP **Villa Florida** 76.56 134 P P 05 11 25.2 +0.1
CPUP pmax pmax
comp=Z,67nm,1.6s
CPUP **Villa Florida** 76.56 134 P P 05 11 25.2 +0.1
CPUP IAmb IAmb 05 11 30.4
comp=Z,67nm,1.6s
PVRL **Vila Real** 76.89 49 eP P 05 11 27.6 +0.6
comp=Z,38nm,1.4s
IPMB **Ipameri, GO** 76.90 121 eP P 05 11 28.2 +0.9
IPMB **Ipameri, GO** 76.90 121 eP P 05 11 28.2 +0.9
COI **Coimbra** 77.00 51 eP P 05 11 28.9 +1.3
comp=Z,65nm,1.4s
COI **Coimbra** 77.00 51 IAMs_20 IAMs_20 05 43 24.1
comp=Z,771nm,20.0s
PCAS **Casmilo, Conde** 77.02 51 eP P 05 11 25.0 -2.8
comp=Z,58nm,1.5s
MUD **Monsted U'grnd** 77.06 30 iP P 05 11 28.0 +0.4
comp=Z,800nm,13.0s
MUD **Monsted U'grnd** 77.06 30 iP P 05 11 28.0 +0.4
MUD MLR MLR
comp=Z,810nm,13.0s
PVIS **Viseu** 77.07 50 eP P 05 11 27.4 -0.7
comp=Z,67nm,1.4s
PCMB **Pacaembu** 77.17 126 eP P 05 11 29.3 +0.6
PCMB eS S 05 21 15.2 -2.9
PCMB **Pacaembu** 77.17 126 eP P 05 11 29.3 +0.6
PCMB eS S 05 21 15.2 -2.9
PBRG **Braganca** 77.23 48 eP P 05 11 28.6 -0.3
MVO **Moncorvo** 77.39 49 eP P 05 11 30.0 +0.1
comp=Z,52nm,1.5s
MVO eS S 05 21 24.2 +3.9
MVO **Moncorvo** 77.39 49 eLR LR 05 38 08.1
comp=Z,742nm,20.0s
BI02 **San Fabin de** 77.44 150 P P 05 11 30.5 +0.6
NRIK **Noril'sk** 77.64 354 P P 05 11 30.8 +0.2
comp=Z,31nm,1.1s,baz=43,slow=3.3,SNR=20
YUK **Yuzh-Kuril'sk** 77.69 315 eP P 05 11 24.3 -7.1
YUK iS S 05 21 16.6 -6.7
YUK pmax pmax
comp=Z,178nm,1.0s
YUK pmax pmax
comp=E,73nm,0.6s
PCBR **Castelo Branco** 77.80 50 eP P 05 11 32.7 +0.6
YSS **Yuzh-Sakhalins** 77.86 318 keP P 05 11 32.6 +0.3
YSS e*SP sP 05 11 39.1 +1.0
YSS e 05 14 30.2
YSS ePPP PPP 05 16 15.0
YSS eS S 05 21 28.2 +3.2
YSS pmax pmax
comp=Z,200nm,2.9s
YSS pmax pmax
comp=Z,50nm,1.1s
YSS MLR MLR
comp=Z,400nm,14.0s
YSS MLR MLR
comp=N,300nm,15.0s
YSS MLR MLR
comp=E,200nm,14.0s
YSS **Yuzh-Sakhalins** 77.86 318 P P 05 11 32.1 -0.2
YSS IAmb IAmb 05 11 34.2
comp=Z,59nm,1.1s
YSS IAMs_20 IAMs_20 05 47 39.1
comp=Z,396nm,18.0s
JANB **Januaria** 77.92 117 eP P 05 11 34.0 +0.9
JANB epP pP 05 11 37.5 +0.2
JANB **Januaria** 77.92 117 eP P 05 11 34.0 +0.9
JANB epP pP 05 11 37.5 +0.2
PNCL **Nicolau / Gran** 78.02 52 eP P 05 11 33.7 +0.3
comp=Z,45nm,1.6s
PMRV **Marv??o** 78.08 51 eP P 05 11 33.9 +0.2
comp=Z,32nm,1.4s
PMRV **Marv??o** 78.08 51 eLR LR 05 39 26.1
comp=Z,559nm,20.0s
SKMB **Sankelmark Bun** 78.30 31 eP P 05 11 36.5 +1.9
comp=Z,102nm,1.3s,baz=312,slow=5.3
PFVI **Vila Bisbo** 78.34 53 IAMs_20 IAMs_20 05 41 09.8
comp=Z,954nm,21.0s
MORF **Marmelete** 78.37 53 eP P 05 11 35.3 -0.2
MORF AMb AMB 05 11 39.0
comp=Z,63nm,1.5s
MORF **Marmelete** 78.37 53 eP P 05 11 35.2 -0.2
MORF **Marmelete** 78.37 53 eP P 05 11 35.5 +0.1
comp=Z,64nm,1.8s
MESJ **Messejana** 78.38 53 eP P 05 11 35.4 +0.1
MESJ AMb AMB 05 11 38.0
comp=Z,40nm,1.5s
MESJ **Messejana** 78.38 53 eP P 05 11 35.4 +0.1
MESJ **Messejana** 78.38 53 eP P 05 11 36.6 +1.3
comp=Z,40nm,1.8s
UCC **Uccle** 78.39 36 IAMs_20 IAMs_20 05 45 37.0
comp=Z,622nm,19.0s
SNF **Seneffe** 78.53 37 P P 05 11 36.6 +0.7
comp=Z,26nm,1.7s
BB19B **Bebedouro** 78.70 124 eP P 05 11 38.1 +0.8
BB19B **Bebedouro** 78.70 124 eP P 05 11 38.1 +0.8
BMRD **Maredsous** 78.91 37 P P 05 11 38.4 +0.4
comp=Z,40nm,1.6s
GRNR **Gornyy** 78.94 324 ⇓iP P 05 11 38.6 +0.4
GRNR pmax pmax
comp=Z,9.0nm,1.1s
GRNR MLR MLR
comp=Z,270nm,17.0s
DOU **Dourbes** 78.95 37 P P 05 11 38.6 +0.4
comp=Z,27nm,1.8s
PVAQ **Vaqueiros** 78.95 53 eP P 05 11 39.1 +0.6
comp=Z,39nm,1.9s
PVAQ **Vaqueiros** 78.95 53 eLR LR 05 38 09.9
comp=Z,466nm,20.0s
PVAQ **Vaqueiros** 78.95 53 IAMs_20 IAMs_20 05 45 02.8
comp=Z,545nm,20.0s
CLF **Chambon-Foret** 78.98 40 P P 05 11 38.9 +0.4
CLF IAMs_20 IAMs_20 05 41 37.8
comp=Z,821nm,20.0s
BGES **Gesves** 79.02 37 P P 05 11 39.3 +0.7
comp=Z,38nm,1.7s
BEBN **Eben Emael** 79.05 36 P P 05 11 39.3 +0.5
IBBN **Ibbenburen** 79.10 34 eP P 05 11 40.2 +1.2
comp=Z,121nm,1.4s,baz=312,slow=5.3
BCLA **Clavier** 79.10 36 P P 05 11 39.5 +0.5
comp=Z,36nm,1.7s
BSTI **Sart Tilman** 79.13 36 P P 05 11 40.0 +0.7
comp=Z,15nm,1.6s
BSEG **Bad Segeberg** 79.21 32 eP P 05 11 41.2 +1.6
comp=Z,150nm,1.4s,baz=312,slow=5.3
BSEG epP sP 05 11 45.9 +0.6
baz=312,slow=5.2
MEM **Membach** 79.33 36 P P 05 11 40.9 +0.6
comp=Z,43nm,1.5s
BUG **Bochum-Univer** 79.42 35 eP P 05 11 41.7 +0.9
comp=Z,68nm,1.5s,baz=312,slow=5.3
FIA1 **FINESS Array S** 79.48 20 P P 05 11 40.2 -0.8
FIA1 IAmb IAmb 05 11 42.8
comp=Z,71nm,1.2s
FINES **FINESS Array B** 79.48 20 P P 05 11 41.7 +0.7
comp=Z,20nm,1.0s,baz=341,slow=4.0,SNR=37
FINES LR LR 05 46 50.8
comp=Z,818nm,19.6s,baz=319,slow=36
BHOU **Houvegnez** 79.49 36 P P 05 11 41.7 +0.4
comp=Z,24nm,2.1s
JKA **Kamikawa-asahi** 79.58 316 P P 05 11 41.1 -0.7
JKA IAmb IAmb 05 11 44.0
comp=Z,57nm,1.3s
ASAJ **Asahikawa** 79.59 316 P P 05 11 41.1 -0.8
ASAJ pmax pmax
comp=Z,57nm,1.3s
AHRW **Bad Neuenahr-A** 79.91 36 eP P 05 11 44.7 +1.2
comp=Z,79nm,1.5s,baz=312,slow=5.3
PAB **San Pablo** 79.98 49 P P 05 11 45.0 +0.8
PAB pmax pmax
comp=Z,52nm,1.6s
PAB **San Pablo** 79.98 49 P P 05 11 45.0 +0.8
PAB IAmb IAmb 05 11 46.2
comp=Z,52nm,1.6s
PAB **San Pablo** 79.98 49 IAMs_20 IAMs_20 05 45 45.0
comp=Z,609nm,19.0s
WLF **Walferdange** 80.00 37 P P 05 11 44.9 +0.9
comp=Z,54nm,1.6s
WLF **Walferdange** 80.00 37 P P 05 11 44.9 +0.9
WLF pmax pmax
comp=Z,82nm,1.2s
WLF MLR MLR
comp=Z,800nm,18.0s
WLF **Walferdange** 80.00 37 P P 05 11 44.9 +0.9
WLF IAmb IAmb 05 11 46.4
comp=Z,82nm,1.2s
WLF IAMs_20 IAMs_20 05 47 18.5
comp=Z,777nm,18.0s
WLF **Walferdange** 80.00 37 eP P 05 11 45.3 +1.3
comp=Z,107nm,1.3s,baz=312,slow=5.3
NRDL **Niedersach Rie** 80.07 33 eP P 05 11 45.7 +1.5
comp=Z,110nm,1.3s,baz=312,slow=5.3
NRDL epP sP 05 11 50.7 +0.7
baz=312,slow=5.2
RGN **Rugen** 80.09 30 IAMs_20 IAMs_20 05 48 25.3
comp=Z,556nm,18.0s
RGN **Rugen** 80.09 30 eP P 05 11 46.3 +2.0
comp=Z,91nm,1.3s,baz=312,slow=5.3
TMCR **Tamitsa** 80.14 14 eP P 05 11 44.1 -0.3
TMCR pmax pmax
comp=Z,61nm,1.3s
ESDC **Sonseca Array** 80.16 49 P P 05 11 45.1 -0.1
comp=Z,10.0nm,1.2s,baz=306,slow=5.9,SNR=21
ESDC LR LR 05 44 38.6
comp=Z,568nm,19.3s,baz=300,slow=34
ERM **Erimo** 80.47 314 ceP P 05 11 48.2 +1.6
ERM pmax pmax
comp=Z,12nm,1.1s
ERM **Erimo** 80.47 314 P P 05 11 46.9 +0.3
ERM IAmb IAmb 05 11 49.0
comp=Z,62nm,1.1s
ASSE **Asse, Remlinge** 80.57 33 eP P 05 11 48.2 +1.3
comp=Z,89nm,1.2s,baz=312,slow=5.3
CLZ **Clausthal** 80.63 33 eP P 05 11 48.8 +1.4
comp=Z,78nm,1.4s,baz=312,slow=5.3
GTTG **Gottingen** 80.63 34 eP P 05 11 48.6 +1.2
comp=Z,43nm,1.3s,baz=312,slow=5.3
GDU01 **Guandu, BA** 80.74 113 eP P 05 11 49.5 +1.1
GDU01 **Guandu, BA** 80.74 113 eP P 05 11 49.5 +1.1
TNS **Taunus Mts** 80.78 35 eP P 05 11 49.2 +0.9
comp=Z,61nm,1.6s,baz=312,slow=5.3
VAO **Valinhos** 81.06 124 eP P 05 11 51.3 +1.3
VAO **Valinhos** 81.06 124 eP P 05 11 51.3 +1.3
SPB **Sao Paulo** 81.12 125 eP P 05 11 51.2 +1.0
SPB epP pP 05 11 54.6 +0.1
SPB **Sao Paulo** 81.12 125 eP P 05 11 51.2 +1.0
SPB epP pP 05 11 54.6 +0.1
UBBA **Unterbreizbach** 81.14 34 eP P 05 11 51.2 +1.2
comp=Z,64nm,1.6s,baz=312,slow=5.3
PLCA **Paso Flores** 81.18 151 P P 05 11 51.5 +1.3
comp=Z,17nm,1.0s,baz=335,slow=6.3,SNR=28
PLCA **Paso Flores** 81.18 151 P P 05 11 51.0 +0.7
PLCA pmax pmax
comp=Z,31nm,1.1s
PLCA **Paso Flores** 81.18 151 P P 05 11 51.0 +0.7
PLCA IAmb IAmb 05 11 52.7
comp=Z,31nm,1.1s
PLCA **Paso Flores** 81.18 151 eP P 05 11 51.7 +1.4
PLCA **Paso Flores** 81.18 151 eP P 05 11 51.7 +1.4
ZEA **Zeya** 81.19 330 eP P 05 11 50.2 -0.1
ZEA pmax pmax
comp=Z,64nm,1.4s
ZEA MLR MLR
comp=E,400nm,14.0s
ZEA MLR MLR
comp=Z,1µm,14.0s
ZEA MLR MLR
comp=N,500nm,16.0s
ECH **Echery** 81.44 37 P P 05 11 51.3 -0.5
ECH pmax pmax
comp=Z,33nm,1.2s
ECH MLR MLR
comp=Z,1µm,18.0s
ECH **Echery** 81.44 37 P P 05 11 51.3 -0.5
ECH IAmb IAmb 05 11 53.6
comp=Z,33nm,1.2s
ECH IAMs_20 IAMs_20 05 47 50.5
comp=Z,1µm,18.0s
RSA **Sarsar** 81.61 54 P P 05 11 56.0 +3.1
SNR=6.9
RSA P P 05 11 56.0 +3.1
SNR=6.9
PET01 **Itanhaem-SP** 81.69 126 eP P 05 11 54.0 +0.8
PET01 **Itanhaem-SP** 81.69 126 eP P 05 11 54.0 +0.8
NEUB **Neuenburg** 81.70 33 eP P 05 11 54.3 +1.2
comp=Z,73nm,1.3s,baz=312,slow=5.3

NEUB *e*pP **sP** **05 11 59.0 +0.2**
baz=312,slow=5.2
RUE **Ruedersdorf** **81.72** **31** *e*P **P** **05 11 54.2 +1.1**
RUE **Ruedersdorf** **81.72** **31** *e*P **P** **05 11 54.3 +1.1**
comp=Z,389nm,2.7s,baz=312,slow=5.3
RUE *e*pP **sP** **05 11 59.2 +0.4**
baz=312,slow=5.2
LL01 **San Ignacio de** **81.85** **153** P **P** **05 11 54.5 +0.8**
LL01 IAmb IAmb 05 11 58.8
comp=Z,30nm,1.2s
LL01 IAMs_20 IAMs_20 05 41 09.4
comp=Z,1µm,18.0s
SSB **Saint Sauveur** **81.91** **41** IAMs_20 IAMs_20 05 46 51.2
comp=Z,1µm,19.0s
BFO **Black Forest** **81.96** **37** P **P** **05 11 55.2 +0.7**
BFO pmax pmax
comp=Z,37nm,1.2s
BFO MLR MLR
comp=Z,1µm,18.0s
BFO **Black Forest** **81.96** **37** P **P** **05 11 55.2 +0.7**
BFO IAmb IAmb 05 11 56.2
comp=Z,37nm,1.2s
BFO **Black Forest** **81.96** **37** *e*P **P** **05 11 55.2 +0.7**
comp=Z,44nm,1.3s,baz=312,slow=5.3
BFO *e*pP **PcP** **05 11 59.9 -0.2**
baz=312,slow=5.2
MOX **Moxa** **82.01** **34** *e*P **P** **05 11 55.9 +1.2**
comp=Z,41nm,1.4s,baz=312,slow=5.3
MOX *e*pP **PcP** **05 12 00.5 +0.2**
baz=312,slow=5.2
MOX *e*L L 05 47 12.1
comp=Z,872nm,20.1s
VSU **Vasula** **82.08** **22** *e*P **P** **05 11 55.4 +0.5**
STU **Stuttgart** **82.10** **36** IAMs_20 IAMs_20 05 48 36.0
comp=Z,921nm,19.0s
STU **Stuttgart** **82.10** **36** *e*P **P** **05 11 56.1 +0.9**
comp=Z,54nm,1.4s,baz=312,slow=5.3
CLL **Collm** **82.19** **32**⇓ *i*P **P** **05 11 56.1 +0.5**
comp=Z,80nm,1.6s
CLL *e*PP **PP** **05 15 03.0 -0.2**
CLL *e*PS **PnS** **05 22 58.0 -1.0**
CLL Lm MLR 05 47 00.0
comp=Z,700nm,20.5s
CLL **Collm** **82.19** **32**⇓ *i*P **P** **05 11 56.1 +0.5**
CLL pmax pmax
comp=Z,80nm,1.6s
CLL MLR MLR
comp=Z,700nm,20.5s
CLL **Collm** **82.19** **32** IAMs_20 IAMs_20 05 47 42.1
comp=Z,670nm,20.0s
CLL **Collm** **82.19** **32** *e*P **P** **05 11 56.5 +0.9**
comp=Z,80nm,1.6s,baz=312,slow=5.3
OUK **Oukaimeden** **82.20** **58** P **P** **05 11 58.1 +1.5**
SNR=6.5
OUK P **P** **05 11 58.1 +1.5**
SNR=6.5
KLR **Kul'dur** **82.23** **325** *de*P **P** **05 11 56.4 +0.5**
KLR pmax pmax
comp=Z,38nm,1.8s
KLR MLR MLR
comp=Z,346nm,16.0s
PLN **Plauen** **82.37** **33** *e*P **P** **05 11 57.7 +1.0**
comp=Z,49nm,1.6s,baz=312,slow=5.3
TEY **Ternei** **82.44** **319**⇓ *e*P **P** **05 11 56.8 -0.2**
TEY pmax pmax
comp=E,10.0nm,1.2s
TEY pmax pmax
comp=N,10.0nm,1.1s
TEY pmax pmax
comp=Z,40nm,1.2s
GRA1 **Grafenberg Arr** **82.47** **34** IAMs_20 IAMs_20 05 46 48.7
comp=Z,812nm,19.0s
GRF **Grafenberg Arr** **82.47** **34** *e*P **P** **05 11 58.7 +1.5**
comp=Z,105nm,1.6s,baz=312,slow=5.3
GRF *e*L L 05 46 48.9
comp=Z,793nm,20.3s
GUNZ **Gunzen** **82.54** **33** *e*P **P** **05 11 58.7 +1.1**
comp=Z,66nm,1.5s,baz=312,slow=5.3
TANN **Tannenbergstha** **82.56** **33** *e*P **P** **05 11 58.8 +1.1**
comp=Z,132nm,1.6s,baz=312,slow=5.3
WERN **Wernitzgruen** **82.61** **33** *e*P **P** **05 11 59.2 +1.3**
comp=Z,96nm,1.6s,baz=312,slow=5.3
FBE **Freiberg** **82.62** **33** *e*P **P** **05 11 59.2 +1.3**
comp=Z,95nm,1.6s,baz=312,slow=5.3
GKP **Gorka Klasztor** **82.63** **29** *e*P **P** **05 11 58.7 +0.9**
GKP *e*L L 05 50 16.2
comp=Z,774nm,17.6s
NKC **Novy Kostel** **82.68** **33** *e*P **P** **05 11 58.8 +0.5**
NKC AMS AMS 05 47 10.0
comp=Z,900nm,19.2s
NKC **Novy Kostel** **82.68** **33** *e*P **P** **05 11 58.8 +0.5**
NKC MLR MLR
comp=Z,900nm,19.2s
MANZ **Manzenberg** **82.69** **34** *e*P **P** **05 11 59.4 +1.1**
comp=Z,44nm,1.6s,baz=312,slow=5.3
SENIN **Lac Senin/Sane** **82.71** **39** P **P** **05 11 59.0 +0.3**
SENIN IAMs_20 IAMs_20 05 48 24.2
comp=Z,748nm,18.0s
BSFB **Barra de Sao F** **82.85** **118** *e*P **P** **05 12 00.7 +1.2**
BSFB *e*S **S** **05 22 14.8 -3.3**
BSFB **Barra de Sao F** **82.85** **118** *e*P **P** **05 12 00.7 +1.2**
BSFB *e*S **S** **05 22 14.8 -3.3**
ROTZ **Rotzenmuhle** **82.89** **34** *e*P **P** **05 12 00.5 +1.2**
comp=Z,45nm,1.4s,baz=312,slow=5.3
BRG **Berggiesshubel** **82.92** **32** *i* P **P** **05 12 00.2 +0.7**
comp=Z,84nm,1.6s
BRG PP **PP** **05 15 09.0 -0.2**
BRG S **S** **05 22 23.0 +5.0**
BRG SS SS 05 27 54.0 +14
comp=N,347nm,17.0s
comp=E,524nm,16.3s
comp=Z,992nm,15.5s
BRG **Berggiesshubel** **82.92** **32** *i* P **P** **05 12 00.2 +0.7**
BRG 05 15 09.0
BRG S **S** **05 22 23.0 +5.0**
BRG pmax pmax
comp=Z,84nm,1.6s
BRG MLR MLR
comp=N,347nm,17.0s
BRG MLR MLR
comp=E,524nm,16.3s
BRG MLR MLR
comp=Z,992nm,15.5s
BRG **Berggiesshubel** **82.92** **32** *e*P **P** **05 12 00.6 +1.2**
comp=Z,83nm,1.6s,baz=312,slow=5.3
BOD **Bodaibo** **82.94** **338** *e*P **P** **05 11 58.7 -0.7**
BOD pmax pmax
comp=Z,81nm,1.4s
CZD **Col de Zad** **83.18** **55** P **P** **05 12 04.0 +2.5**
SNR=5.5
BNI **Bardonecchia** **83.22** **40** IAMs_20 IAMs_20 05 45 44.9
comp=Z,844nm,19.0s
CART **Cartagena** **83.26** **50** P **P** **05 12 01.3 -0.1**
CART IAMs_20 IAMs_20 05 44 48.6
comp=Z,612nm,20.0s
UBR **Ueberruh** **83.28** **36** *e*P **P** **05 12 02.9 +1.4**
comp=Z,70nm,1.4s,baz=312,slow=5.3
KLMR **Klimovskoe** **83.41** **15** *e*P **P** **05 12 00.7 -1.1**
KLMR pmax pmax
comp=Z,90nm,1.4s
KLMR **Klimovskoe** **83.41** **15** *e*P **P** **05 12 00.7 -1.1**
KLMR AMP 05 12 03.8
comp=Z,90nm,1.4s
KLMR LQ LQ 05 41 55.3
KLMR LQ LQ 05 41 55.3
KLMR LR LR 05 45 31.5
DAVA **Damuels** **83.43** **37** *i* P **P** **05 12 03.2 +0.8**
comp=Z,35nm,1.1s,SNR=13
PVCC **Panska Ves** **83.45** **32** *e*P **P** **05 12 03.3 +1.1**
PVCC *ex* x 05 12 11.0
PVCC AMS AMS 05 51 10.0
comp=Z,700nm,15.6s
PVCC **Panska Ves** **83.45** **32** *e*P **P** **05 12 03.3 +1.1**
PVCC *e* 05 12 11.0
PVCC MLR MLR
comp=Z,700nm,15.6s
PABE **Paberze** **83.51** **25** *e*P **P** **05 12 03.1 +0.8**
FUR **Furstenfeldbru** **83.54** **36** *e*P **P** **05 12 04.4 +1.6**
comp=Z,198nm,1.4s,baz=312,slow=5.3
WET **Wettzell** **83.64** **34** *e*P **P** **05 12 04.5 +1.2**
comp=Z,59nm,1.5s,baz=312,slow=5.3
TUE **Stuetta** **83.70** **38** IAMs_20 IAMs_20 05 48 24.5
comp=Z,1µm,20.0s
PRA **Prague** **83.71** **33** *e*P **P** **05 12 04.7 +1.2**
PRA AMS AMS 05 48 20.0
comp=Z,500nm,21.4s
PRA **Prague** **83.71** **33** *e*P **P** **05 12 04.7 +1.2**
PRA MLR MLR
comp=Z,500nm,21.4s
RETA **Reutte** **83.74** **36** *i* P **P** **05 12 04.9 +1.1**
comp=Z,33nm,1.4s,SNR=13
PBCC **Pribram** **83.78** **33** *e*P **P** **05 12 04.5 +0.6**
PBCC *ex* x 05 12 10.2
PRU **Pruhonice** **83.82** **33** *e*P **P** **05 12 04.6 +0.5**
PRU *e*pP **sP** **05 12 10.2 +0.4**
PRU *e*S S 05 22 12.6 -15
PRU AMS AMS 05 48 50.0
comp=Z,1µm,20.9s
PRU **Pruhonice** **83.82** **33** *e*P **P** **05 12 04.6 +0.5**
PRU *e* 05 12 10.2
PRU MLR MLR
comp=Z,1µm,20.9s
KHC **Kasperske Hory** **83.98** **34** *e*P **P** **05 12 04.8 -0.2**
KHC *ex* x 05 12 16.3
KHC *e*S **S** **05 22 29.2 +0.4**
KHC AMS AMS 05 49 00.0
comp=Z,1µm,19.6s
KHC **Kasperske Hory** **83.98** **34** *e*P **P** **05 12 04.8 -0.2**
KHC *e*S **S** **05 22 29.2 +0.4**
KHC MLR MLR
comp=Z,1µm,19.6s
KHC **Kasperske Hory** **83.98** **34** P **P** **05 12 05.5 +0.5**
KHC IAMs_20 IAMs_20 05 49 16.4
comp=Z,379nm,19.0s
GOPC **GO Pecny, Ondr** **83.98** **33** *e*P **P** **05 12 05.6 +0.6**
GOPC *e*pP **sP** **05 12 11.5 +0.8**
GOPC AMS AMS 05 48 40.0
comp=Z,900nm,21.3s
GOPC **GO Pecny, Ondr** **83.98** **33** *e*P **P** **05 12 05.6 +0.6**
GOPC *e* 05 12 11.5
GOPC MLR MLR
comp=Z,900nm,21.3s
KSP **Ksiaz** **83.99** **31** *e*P **P** **05 12 05.8 +0.8**
KSP *e*L L 05 50 37.8
comp=Z,616nm,18.0s
GOLM **Goulmima** **83.99** **56** P **P** **05 12 08.0 +2.5**
SNR=6.0
GOLM P **P** **05 12 08.0 +2.5**
SNR=6.0
MOTA **Moosalm** **84.01** **36** *i* P **P** **05 12 06.2 +0.9**
comp=Z,121nm,1.3s,SNR=66
FETA **Feichten** **84.04** **37** *i* pP **P** **05 12 06.8 +1.3**
comp=Z,55nm,1.4s,SNR=20
CHVC **Chvalec** **84.07** **32** *e*P **P** **05 12 06.1 +0.7**
CHVC *ex* x 05 12 17.7
CHVC AMS AMS 05 48 00.0
comp=Z,600nm,18.7s
FUORN **Ofenpass-Fuorn** **84.08** **37** IAMs_20 IAMs_20 05 49 23.3
comp=Z,746nm,18.0s
IZAR **Zarasai** **84.10** **24** *e*P **P** **05 12 06.3 +0.8**
UPC **Upice** **84.11** **32** *e*P **P** **05 12 06.3 +0.7**
UPC AMS AMS 05 52 40.0
comp=Z,800nm,15.3s
UPC **Upice** **84.11** **32** *e*P **P** **05 12 06.3 +0.7**
UPC MLR MLR
comp=Z,800nm,15.3s
SQTA **Sankt Quirin** **84.15** **36** *i* pP **P** **05 12 07.4 +1.4**
comp=Z,131nm,1.3s,SNR=65
OSTC **Ostas** **84.16** **32** *e*P **P** **05 12 06.5 +0.6**
OSTC *ex* x 05 12 11.8
OSTC AMS AMS 05 48 00.0
comp=Z,600nm,16.5s
ISAL **Salakas** **84.21** **24** *e*P **P** **05 12 06.9 +1.0**
GEC2 **GERESS Array S** **84.23** **34** IAMs_20 IAMs_20 05 50 27.2
comp=Z,779nm,19.0s
GEC2 **GERESS Array S** **84.23** **34** *e*P **P** **05 12 07.2 +0.8**
comp=Z,72nm,1.3s,baz=312,slow=5.3
GERES **GERESS Array B** **84.23** **34** P **P** **05 12 06.7 +0.3**
comp=Z,22nm,1.0s,baz=324,slow=3.4,SNR=116
WATA **Walderalm** **84.25** **36** *i* P **P** **05 12 07.5 +0.9**
comp=Z,106nm,1.3s,SNR=43
WTTA **Wattenberg** **84.33** **36** *i* P **P** **05 12 08.0 +1.0**
comp=Z,107nm,1.4s,SNR=42
DPC **Dobruska-Polom** **84.36** **32** *e*P **P** **05 12 07.8 +0.9**
DPC *e*pP **sP** **05 12 12.9 +0.2**
DPC *e*S **S** **05 22 34.3 +1.6**
DPC AMS AMS 05 51 50.0
comp=Z,700nm,14.6s
DPC **Dobruska-Polom** **84.36** **32** *e*P **P** **05 12 07.8 +0.9**
DPC *e* 05 12 12.9
DPC *e*S **S** **05 22 34.3 +1.6**
DPC MLR MLR
comp=Z,700nm,14.6s
SUW **Suwalki** **84.40** **26** *e*P **P** **05 12 06.9 0.0**
SUW *e*L L 05 49 19.4
comp=Z,692nm,20.0s
ZGR **Zagora** **84.41** **58** P **P** **05 12 10.0 +2.4**
SNR=11
ZGR P **P** **05 12 10.0 +2.4**
SNR=11
IIGN **Ignalina** **84.42** **24** *e*P **P** **05 12 07.3 +0.3**
RJOB **Jochberg** **84.57** **35** *e*P **P** **05 12 08.1 0.0**
comp=Z,37nm,1.1s,baz=312,slow=5.3
TREC **Trest** **84.74** **33** *e*P **P** **05 12 09.1 +0.2**
TREC *e*pP **sP** **05 12 14.6 0.0**
TREC AMS AMS 05 49 10.0
comp=Z,1µm,19.9s
TREC **Trest** **84.74** **33** *e*P **P** **05 12 09.1 +0.2**
TREC *e* 05 12 14.6
TREC MLR MLR
comp=Z,1µm,19.9s
SALO **Salr** **84.89** **38** IAMs_20 IAMs_20 05 49 20.8
comp=Z,1µm,21.0s
ABTA **Abfaltersbach** **85.12** **36** *i* P **P** **05 12 11.8 +0.9**
comp=Z,45nm,1.4s,SNR=16
BEL **Belsk** **85.15** **29** *e*P **P** **05 12 11.3 +0.6**
BEL *e*L L 05 50 29.4
comp=Z,633nm,20.1s
CTI **Castel Tesino** **85.17** **37** IAMs_20 IAMs_20 05 50 29.2
comp=Z,1µm,18.0s
MOA **Molln** **85.20** **34** *i* P **P** **05 12 11.7 +0.5**
comp=Z,52nm,1.5s,SNR=41
MSSA **Maissana** **85.23** **39** IAMs_20 IAMs_20 05 46 55.0
comp=Z,437nm,21.0s
VRAC **Vranov** **85.24** **32**⇓ P **P** **05 12 11.8 +0.4**
VRAC **Vranov** **85.24** **32**⇓ *i*P **P** **05 12 11.7 +0.4**
KBA **Koelnbreinsper** **85.30** **35** *i* P **P** **05 12 12.6 +0.7**
comp=Z,41nm,1.5s,SNR=16
MORC **Moravsky Berou** **85.32** **31**⇓ P **P** **05 12 12.2 +0.5**
MORC **Moravsky Berou** **85.32** **31**⇓ *i*P **P** **05 12 11.9 +0.1**
MORC **Moravsky Berou** **85.32** **31** IAMs_20 IAMs_20 05 48 56.7
comp=Z,643nm,18.0s
KRUC **Moravsky** **85.33** **33**⇓ *i*P **P** **05 12 11.6 -0.1**
PRMA **PARMA** **85.35** **39** IAMs_20 IAMs_20 05 49 07.2
comp=Z,743nm,19.0s
ZOU **Zoufplan** **85.48** **36** IAMs_20 IAMs_20 05 50 20.4
comp=Z,714nm,20.0s
USA0B **Ussuriysk Arra** **85.48** **321** P **P** **05 12 13.2 +0.6**
USA0B pmax pmax
comp=Z,36nm,1.1s
USA0B **Ussuriysk Arra** **85.48** **321** P **P** **05 12 13.2 +0.6**
USA0B IAmb IAmb 05 12 14.5
comp=Z,36nm,1.1s
USA0B IAMs_20 IAMs_20 05 48 30.8
comp=Z,392nm,20.0s
USRK **Ussuriysk Ar.** **85.48** **321** P **P** **05 12 13.5 +0.9**
comp=Z,19nm,0.9s,baz=46,slow=4.9,SNR=42
OKC **Ostrava-Krasne** **85.54** **31** *e*P **P** **05 12 13.5 +0.7**
OKC *ep*P **sP** **05 12 18.8 +0.3**
OKC AMS AMS 05 51 50.0
comp=Z,600nm,14.9s
OKC **Ostrava-Krasne** **85.54** **31** *e*P **P** **05 12 13.5 +0.7**
OKC *e* 05 12 18.8
OKC MLR MLR
comp=Z,600nm,14.9s
MICGM **Minsk** **85.67** **24** *e* **P** **05 12 13.0 -0.3**
MNK **Minsk** **85.67** **24** *e*P **P** **05 12 13.0 -0.3**
MYKA **Terra Mystica** **85.76** **36** *i* P **P** **05 12 14.2 +0.1**
comp=Z,16nm,1.1s,SNR=8.8
VLC **Villacollemand** **85.80** **39** IAMs_20 IAMs_20 05 46 01.0
comp=Z,682nm,22.0s
PRED **Cave del Predi** **85.85** **36** IAMs_20 IAMs_20 05 50 43.2
comp=Z,1µm,19.0s
CONA **Conrad Observa** **85.90** **34** *i* P **P** **05 12 15.1 +0.4**
comp=Z,26nm,1.6s,SNR=16
OJC **Ojcow** **85.96** **30** *e*P **P** **05 12 14.7 -0.2**
OJC *e*L L 05 46 44.8
comp=Z,338nm,22.9s
ZCCA **Zocca** **85.98** **38** P **P** **05 12 16.4 +1.2**
JAVC **Velka Javorina** **86.05** **32**⇓ *i*P **P** **05 12 16.6 +1.2**
CADS **Cadrg** **86.09** **36** *i* P **P** **05 12 15.5 -0.2**
SMOL **Smolenice** **86.19** **32** *e*P **P** **05 12 16.8 +0.7**
SMOL pmax pmax
comp=Z,41nm,2.0s
SMOL **Smolenice** **86.19** **32** *e*P **P** **05 12 16.8 +0.7**
ARSA **Arzberg** **86.23** **34** *i* P **P** **05 12 15.6 -0.7**
comp=Z,14nm,1.4s,SNR=10
MODS **Modra-Piesok** **86.23** **33** *e*P **P** **05 12 15.7 -0.6**
MODS pmax pmax
comp=Z,101nm,1.9s
MODS **Modra-Piesok** **86.23** **33** *e*P **P** **05 12 15.7 -0.6**
ZST **Bratislava** **86.28** **33** *e*P **P** **05 12 16.7 +0.2**
ZST pmax pmax
comp=Z,129nm,2.1s
ZST **Bratislava** **86.28** **33** *e*P **P** **05 12 16.6 +0.1**
OBKA **Obir** **86.29** **35** *i* P **P** **05 12 16.7 0.0**
comp=Z,38nm,1.3s,SNR=14
SOKA **Soboth** **86.40** **35** *i* P **P** **05 12 16.8 -0.4**
comp=Z,44nm,1.4s,SNR=25
MDJ **Mudanjiang** **86.46** **322** IAMs_20 IAMs_20 05 50 57.2
comp=Z,332nm,19.0s
TRI **Trieste** **86.47** **36** IAMs_20 IAMs_20 05 47 25.5
comp=Z,684nm,21.0s
PERS **Pernice** **86.47** **35** *i* P **P** **05 12 17.1 -0.5**
LANS **Liptovska Anna** **86.62** **31** *e*P **P** **05 12 19.6 +1.4**
LANS pmax pmax
comp=Z,12nm,1.6s
LANS **Liptovska Anna** **86.62** **31** *e*P **P** **05 12 19.6 +1.4**
OSSC **Osservatorio P** **86.69** **39** IAMs_20 IAMs_20 05 49 55.6
comp=Z,525nm,20.0s
NIE **Niedzica** **86.78** **30** *e*P **P** **05 12 18.9 -0.1**
NIE *e*L L 05 47 20.7
comp=Z,276nm,22.3s
MJAR **Matsushiro Arr** **86.83** **312** P **P** **05 12 19.8 +0.4**
comp=Z,10nm,1.0s,baz=27,slow=3.8,SNR=21
MAJO **Matsushiro** **86.83** **312** *i* P **P** **05 12 19.1 -0.4**
MAJO pmax pmax
comp=Z,16nm,0.9s
MAJO **Matsushiro** **86.83** **312** P **P** **05 12 19.0 -0.4**
MAJO IAmb IAmb 05 12 20.7
comp=Z,26nm,1.1s
MAT **Matsushiro** **86.83** **312** P **P** **05 12 19.4 0.0**
MAT S **S** **05 22 54.6 -2.8**
MJB9 **Matsu-Tunnel** **86.83** **312** P **P** **05 12 19.9 +0.5**
MJB9 IAmb IAmb 05 12 20.7
comp=Z,26nm,1.1s
VYHS **Vyhne** **86.84** **32** *e*P **P** **05 12 19.4 +0.1**
VYHS pmax pmax
comp=Z,71nm,2.2s
VYHS **Vyhne** **86.84** **32** *e*P **P** **05 12 19.4 +0.1**
MSHR **Mys Shultsa** **87.02** **320** *de*P **P** **05 12 20.8 +0.6**
MSHR pmax pmax
comp=Z,27nm,1.4s
BOJS **Bojanci** **87.35** **36** *i* P **P** **05 12 21.8 +0.1**
BOJS *e*S **S** **05 22 55.2 -6.8**
KIRV **Kirov** **87.41** **11** *e*P **P** **05 12 22.0 +0.3**
MOS **Moscow** **87.53** **18** *e*P **P** **05 12 19.6 -2.8**
MOS pmax pmax
comp=Z,30nm,0.8s
MOS MLR MLR
comp=Z,2µm,18.0s
KWP **Kalwaria Pacla** **87.62** **29** *e*P **P** **05 12 23.3 +0.3**
KWP *e*L L 05 51 43.0
comp=Z,463nm,20.1s
HIA **Hailar** **87.65** **330** P **P** **05 12 23.4 +0.2**
HIA pmax pmax
comp=Z,48nm,1.2s
HIA MLR MLR
comp=Z,700nm,18.0s
HIA **Hailar** **87.65** **330** P **P** **05 12 23.4 +0.2**
HIA **Hailar** **87.65** **330** IAMs_20 IAMs_20 05 51 07.0
comp=Z,729nm,18.0s
CRVS **Cervenica-Dubn** **87.67** **30** *e*P **P** **05 12 23.7 +0.4**
CRVS pmax pmax
comp=Z,50nm,1.6s
CRVS **Cervenica-Dubn** **87.67** **30** *e*P **P** **05 12 23.7 +0.4**
PSZ **Piszkesteto** **87.74** **32**⇑ P **P** **05 12 24.2 +0.5**
PSZ **Piszkesteto** **87.74** **32** P **P** **05 12 24.1 +0.4**
PSZ pmax pmax
comp=Z,35nm,1.2s
PSZ MLR MLR
comp=Z,900nm,20.0s
PSZ **Piszkesteto** **87.74** **32** P **P** **05 12 24.1 +0.4**
PSZ IAmb IAmb 05 12 25.8
comp=Z,35nm,1.2s
PSZ IAMs_20 IAMs_20 05 51 47.7
comp=Z,877nm,20.0s
OBN **Obninsk** **87.80** **19** *de*P **P** **05 12 23.8 +0.1**
OBN *e* 05 12 26.4
OBN *e* 05 15 48.8
OBN *e*PPP PPP 05 17 53.6
OBN *i* S **SKSac** **05 22 50.8 -0.8**
OBN *e*SS **SS** **05 28 53.8 +2.6**
OBN pmax pmax
comp=Z,85nm,2.1s
OBN MLR MLR
comp=Z,893nm,18.0s
OBN **Obninsk** **87.80** **19** IAMs_20 IAMs_20 05 52 04.5
comp=Z,1µm,18.0s
KOLS **Kolonicke sedl** **87.98** **30** *e*P **P** **05 12 24.9 +0.1**
KOLS pmax pmax
comp=Z,10.0nm,1.3s
KOLS **Kolonicke sedl** **87.98** **30** *e*P **P** **05 12 24.9 +0.1**
LVV **L'vov** **88.01** **28** *e*P **P** **05 12 24.9 0.0**
LVV *e* 05 15 51.4
LVV *e*S **S** **05 23 00.5 -7.7**
LVV MLR MLR
comp=Z,700nm,17.0s
VSL **Villasalto** **88.38** **43** IAMs_20 IAMs_20 05 50 29.6
comp=Z,467nm,19.0s
AQU **L'Aquila** **88.64** **39** IAMs_20 IAMs_20 05 51 16.2
comp=Z,574nm,19.0s
TRPA **Tarpa** **88.72** **30**⇓ P **P** **05 12 28.5 +0.3**
CN2 **Changchun** **89.14** **324** *e*P **P** **05 12 30.8 +0.5**
CN2 *e*S **S** **05 23 17.0 -2.1**
CN2 SS **SS** **05 29 12.0 +0.6**
CN2 pmax pmax
comp=Z,20nm,1.4s
CN2 pmax pmax
comp=Z,200nm,8.0s
CN2 LR LR
comp=Z,400nm,15.0s
CN2 LR LR
comp=Z,500nm,15.0s
AKASG **Malin Array Be** **89.26** **25** P **P** **05 12 30.1 -0.6**
comp=Z,6.7nm,0.9s,baz=323,slow=4.0,SNR=24
AKASG **Malin Array Be** **89.26** **25** *i* P **P** **05 12 30.1 -0.6**
AKASG pmax pmax
comp=Z,9.0nm,0.9s
AKBB **Malin Array Si** **89.26** **25** P **P** **05 12 29.7 -1.0**
AKBB pmax pmax
comp=Z,20nm,1.2s
AKBB **Malin Array Si** **89.26** **25** P **P** **05 12 29.7 -1.0**
AKBB IAmb IAmb 05 12 31.5
comp=Z,20nm,1.1s
SIRR **Siria** **89.78** **32**⇓ P **P** **05 12 33.9 +0.6**
DRGR **89.83** **31**⇓ P **P** **05 12 33.2 -0.4**
PAOL **Paolisi** **90.19** **39** IAMs_20 IAMs_20 05 51 01.3
comp=Z,627nm,19.0s
BURAR **Bucovina Array** **90.24** **29**⇓ P **P** **05 12 35.8 +0.3**
BZS **Buzias** **90.26** **32**⇓ P **P** **05 12 35.3 -0.2**
CJR **Cluj-Napoca** **90.28** **30**⇑ P **P** **05 12 36.0 +0.4**
ARCR **ARCALIA** **90.30** **30**⇑ P **P** **05 12 35.1 -0.5**
SVE **Sverdlovsk** **90.51** **6** *e*P **P** **05 12 37.5 +1.1**
SVE pmax pmax
comp=Z,34nm,1.8s
DEV **Deva** **90.62** **31**⇑ P **P** **05 12 37.7 +0.5**
DIVS **Divibare** **90.67** **34** IAMs_20 IAMs_20 05 54 24.4
comp=Z,534nm,19.0s
LPSR **Galich'ya Gora** **90.68** **19** *e*P **P** **05 12 37.4 +0.1**
LPSR pmax pmax
comp=Z,40nm,1.1s
ARU **Arti** **90.71** **7** *c* *i*P **P** **05 12 37.7 +0.3**
ARU 05 16 11.4
ARU S **SKSac** **05 23 08.4 -0.4**
ARU pmax pmax
comp=Z,33nm,1.3s
ARU **Arti** **90.71** **7** P **P** **05 12 37.9 +0.5**
ARU IAmb IAmb 05 12 39.4
comp=Z,30nm,1.2s
ARU IAMs_20 IAMs_20 05 56 44.8
comp=Z,672nm,18.0s
PRAR **RASCA** **90.85** **29**⇑ P **P** **05 12 37.2 -1.1**
KEST **Kesra** **90.88** **46** P **P** **05 12 39.6 +1.0**
comp=Z,31nm,1.1s,baz=230,slow=1.6,SNR=18
KEST **Kesra** **90.88** **46** P **P** **05 12 38.9 +0.2**

KEST					IAMs_20	IAMs_20	05 51 02.1		
	comp=Z,456nm,21.0s								
MDVR	**Moldovita**	**90.94**	**33**	⇑	P	**P**	**05 12 38.4**	**-0.4**	
BIZ	**Bicaz**	**91.14**	**29**	⇓	P	**P**	**05 12 39.9**	**+0.3**	
HERR	**Herculane**	**91.19**	**32**	⇑	P	**P**	**05 12 39.7**	**-0.2**	
TLY	**Talaya**	**91.30**	**340**		*e*P	**P**	**05 12 41.7**	**+1.5**	
TLY					*e*S	**SKSac**	**05 23 14.1**	**+1.6**	
TLY					pmax	pmax			
	comp=Z,120nm,1.6s								
TLY					MLR	MLR			
	comp=Z,981nm,19.0s								
TLY	**Talaya**	**91.30**	**340**		P	**P**	**05 12 40.8**	**+0.6**	
TLY					IAMs_20	IAMs_20	05 53 45.2		
	comp=Z,432nm,19.0s								
LOT	**Lotru**	**91.34**	**31**	⇓	P	**P**	**05 12 39.6**	**-1.1**	
PDG	**Podgorica**	**91.57**	**36**	⇓	P	**P**	**05 12 41.6**	**0.0**	
PDG	**Podgorica**	**91.57**	**36**		IAMs_20	IAMs_20	05 51 48.4		
	comp=Z,592nm,21.0s								
MATE	**Matera**	**91.59**	**38**	⇑	P	**P**	**05 12 42.3**	**+0.5**	
DOPR	**Dopca**	**91.62**	**30**	⇑	P	**P**	**05 12 41.7**	**-0.1**	
OZUR		**91.69**	**30**	⇑	P	**P**	**05 12 41.5**	**-0.7**	
ARR	**Arges**	**91.78**	**31**	⇓	P	**P**	**05 12 42.5**	**-0.2**	
VOIR		**91.90**	**30**	⇑	P	**P**	**05 12 43.3**	**0.0**	
MOY	**Mondy**	**92.04**	**342**		*e*P	**P**	**05 12 45.4**	**+1.6**	
MOY					pmax	pmax			
	comp=Z,54nm,2.4s								
MLR	**Muntele Rosu**	**92.24**	**30**	⇓	P	**P**	**05 12 45.0**	**+0.1**	
MLR	**Muntele Rosu**	**92.24**	**30**		P	**P**	**05 12 44.9**	**+0.1**	
MLR					pmax	pmax			
	comp=Z,40nm,1.4s								
MLR					MLR	MLR			
	comp=Z,900nm,18.0s								
MLR	**Muntele Rosu**	**92.24**	**30**		P	**P**	**05 12 44.9**	**+0.1**	
MLR					IAmb	IAmb	05 12 46.2		
	comp=Z,40nm,1.4s								
MLR					IAMs_20	IAMs_20	05 56 11.7		
	comp=Z,902nm,18.0s								
VORD	**Divnogorie**	**92.25**	**19**		*e*P	**P**	**05 12 43.5**	**-1.1**	
VORD					pmax	pmax			
	comp=Z,30nm,1.2s								
VRI	**Vrincioaia**	**92.26**	**29**	⇓	P	**P**	**05 12 45.1**	**+0.2**	
KSRS	**Korea Array**	**92.36**	**318**		P	**P**	**05 12 47.0**	**+1.7**	
	comp=Z,7.5nm,1.0s,baz=62,slow=4.9,SNR=26								
ZAK	**Zakamensk**	**92.56**	**340**		*e*P	**P**	**05 12 47.1**	**+0.9**	
ZAK					pmax	pmax			
	comp=Z,18nm,1.3s								
TIR	**Tirane**	**92.68**	**36**		IAMs_20	IAMs_20	05 52 49.8		
	comp=Z,696nm,21.0s								
TIP	**Timpagrande**	**92.69**	**39**	⇓	P	**P**	**05 12 46.2**	**-0.8**	
TIP	**Timpagrande**	**92.69**	**39**		IAMs_20	IAMs_20	05 54 11.4		
	comp=Z,762nm,20.0s								
VRH	**Novokhopyorsk**	**92.69**	**18**		*e*P	**P**	**05 12 46.8**	**+0.2**	
VRH					pmax	pmax			
	comp=Z,30nm,1.0s								
CEL	**Celeste**	**92.89**	**40**		IAMs_20	IAMs_20	05 58 53.8		
	comp=Z,365nm,18.0s								
ZAA0	**Zalesovo Array**	**92.98**	**352**		P	**P**	**05 12 47.9**	**-0.1**	
ZAA0					IAmb	IAmb	05 12 49.8		
	comp=Z,20nm,1.3s								
ZAA0					IAMs_20	IAMs_20	05 57 39.5		
	comp=Z,350nm,19.0s								
ZALV	**Zalesovo Beam**	**92.98**	**352**		P	**P**	**05 12 48.9**	**+0.9**	
	comp=Z,2.2nm,0.5s,baz=10,slow=4.6,SNR=16								
VTS	**Vitosha**	**93.32**	**33**		IAMs_20	IAMs_20	05 53 53.5		
	comp=Z,576nm,20.0s								
CFR	**Carcaliu**	**93.40**	**29**	⇓	P	**P**	**05 12 49.5**	**-0.5**	
ULN	**Ulaanbaatar**	**93.60**	**337**		P	**P**	**05 12 51.9**	**+0.8**	
ULN					pmax	pmax			
	comp=Z,28nm,1.3s								
ULN					MLR	MLR			
	comp=Z,700nm,19.0s								
ULN	**Ulaanbaatar**	**93.60**	**337**		P	**P**	**05 12 51.9**	**+0.8**	
ULN					IAmb	IAmb	05 12 53.8		
	comp=Z,28nm,1.2s								
ULN	**Ulaanbaatar**	**93.60**	**337**		IAMs_20	IAMs_20	05 57 32.8		
	comp=Z,663nm,19.0s								
TOPG	**Topolog**	**93.74**	**29**	⇓	P	**P**	**05 12 51.6**	**-0.1**	
SONM	**Songino Array**	**93.84**	**337**		P	**P**	**05 12 53.4**	**+1.2**	
	comp=Z,7.8nm,1.0s,baz=22,slow=3.2,SNR=41								
WDD	**Wied Dalam**	**93.85**	**43**		IAMs_20	IAMs_20	05 55 15.5		
	comp=Z,325nm,18.0s								
TIRR	**Tirgusor**	**94.10**	**29**	⇑	P	**P**	**05 12 53.3**	**0.0**	
DL2	**Dalian**	**94.69**	**323**		P	P	05 13 01.5	+5.4	
DL2					pmax	pmax			
	comp=Z,25nm,1.1s								
DL2					LR	LR			
	comp=N,570nm,22.0s								
DL2					LR	LR			
	comp=E,610nm,19.2s								
DL2					LR	LR			
	comp=Z,370nm,16.9s								
BRVK	**Borovoye**	**94.71**	**0**		P	**P**	**05 12 56.7**	**+0.8**	
BRVK					pmax	pmax			
	comp=Z,24nm,1.2s								
BRVK	**Borovoye**	**94.71**	**0**		P	**P**	**05 12 56.6**	**+0.8**	
BRVK					IAmb	IAmb	05 12 58.4		
	comp=Z,24nm,1.1s								
BRVK					IAMs_20	IAMs_20	06 01 05.3		
	comp=Z,812nm,18.0s								
ALN	**Alexandroupoli**	**95.96**	**33**		IAMs_20	IAMs_20	05 57 37.6		
	comp=Z,595nm,19.0s								
BJT	**Baijiatuan**	**96.49**	**327**		IAMs_20	IAMs_20	06 04 35.3		
	comp=Z,993nm,20.0s								
TAM	**Tamanrasset**	**96.77**	**58**		P	**P**	**05 13 05.7**	**-0.4**	
TAM					pmax	pmax			
	comp=Z,19nm,1.6s								
TAM					MLR	MLR			
	comp=Z,500nm,18.0s								
TAM	**Tamanrasset**	**96.77**	**58**		P	**P**	**05 13 05.7**	**-0.4**	
TAM					IAmb	IAmb	05 13 08.5		
	comp=Z,19nm,1.6s								
TAM					IAMs_20	IAMs_20	05 58 01.4		
	comp=Z,459nm,18.0s								
KURK	**Kurchatov**	**96.78**	**355**		P	**P**	**05 13 05.5**	**+0.2**	
KURK					pmax	pmax			
	comp=Z,15nm,1.4s								
KURK	**Kurchatov**	**96.78**	**355**		P	**P**	**05 13 05.5**	**+0.2**	
KURK					IAmb	IAmb	05 13 07.2		
	comp=Z,15nm,1.4s								
KURK	**Kurchatov**	**96.78**	**355**		IAMs_20	IAMs_20	06 03 30.0		
	comp=Z,679nm,18.0s								
ITM	**Ithomi**	**96.88**	**37**		IAMs_20	IAMs_20	05 57 00.3		
	comp=Z,570nm,20.0s								
ANN	**Anapa**	**97.17**	**23**		*e*P	**P**	**05 13 03.7**	**-3.5**	
ANN					*e**PP	**PcP**	**05 13 07.7**	**+0.4**	
ANN					*e*S	**SKSac**	**05 23 40.4**	**-4.0**	
ANN					pmax	pmax			
	comp=Z,38nm,1.1s								
ANN					MLR	MLR			
	comp=E,422nm,18.0s								
ANN					MLR	MLR			
	comp=N,1μm,18.0s								
ANN					MLR	MLR			
	comp=Z,2μm,17.0s								
HHC	**Hu-ho-hao-te**	**97.85**	**330**		*e*P	Pdif	05 13 11.3	+0.7	
HHC					pmax	pmax			
	comp=Z,9.0nm,0.9s								
HHC					pmax	pmax			
	comp=Z,37nm,5.2s								
ABKAR	**Akbulak array**	**97.93**	**7**		P	**P**	**05 13 10.0**	**-0.6**	
ABKAR					IAmb	IAmb	05 13 12.5		
	comp=Z,13nm,1.1s								
GOF	**Gofitskoye**	**98.67**	**20**	⇑	*e*P	Pdif	05 13 14.9	+0.9	
SOC	**Sochi**	**99.00**	**22**		*e*P	**Pdif**	**05 13 12.3**	**-3.2**	
SOC					*e*		05 17 15.8		
SOC					*e*S	**SKSac**	**05 23 50.6**	**-3.2**	
SOC					*e*SS	**SS**	**05 31 33.0**	**+1.4**	
SOC					MLR	MLR			
	comp=Z,957nm,16.0s								
ILGA	**Ilgaz**	**99.08**	**28**		IAMs_20	IAMs_20	06 01 18.5		
	comp=Z,441nm,20.0s								
KIV	**Kislovodsk**	**99.58**	**20**		*e*P	**Pdif**	**05 13 18.7**	**+0.5**	
KIV					pmax	pmax			
	comp=Z,20nm,1.1s								
KIV					MLR	MLR			
	comp=Z,2μm,20.0s								
KIV	**Kislovodsk**	**99.58**	**20**		IAMs_20	IAMs_20	05 59 19.1		
	comp=Z,650nm,19.0s								
ANTO	**Ankara**	**99.72**	**29**		IAMs_20	IAMs_20	06 01 27.6		
	comp=Z,562nm,18.0s								
TOC7	**Torodi Ar. Sit**	**99.80**	**68**		IAMs_20	IAMs_20	05 57 12.4		
	comp=Z,585nm,18.0s								
TOB5	**Torodi Ar. Sit**	**99.81**	**68**		IAMs_20	IAMs_20	05 56 55.6		
	comp=Z,540nm,19.0s								
TOB1	**Torodi Ar. Sit**	**99.81**	**68**		IAMs_20	IAMs_20	05 57 04.7		
	comp=Z,546nm,18.0s								
TOC1	**Torodi Ar. Sit**	**99.81**	**68**		IAMs_20	IAMs_20	05 57 04.7		
	comp=Z,689nm,18.0s								
TOB4	**Torodi Ar. Sit**	**99.82**	**68**		IAMs_20	IAMs_20	05 57 13.9		
	comp=Z,558nm,18.0s								
TOC5	**Torodi Ar. Sit**	**99.82**	**68**		IAMs_20	IAMs_20	05 56 55.9		
	comp=Z,650nm,19.0s								
TOA0	**Torodi Ar. Sit**	**99.82**	**68**		IAMs_20	IAMs_20	05 57 14.0		
	comp=Z,569nm,18.0s								
TOA3	**Torodi Ar. Sit**	**99.82**	**68**		IAMs_20	IAMs_20	05 57 14.0		
	comp=Z,559nm,18.0s								
TOA2	**Torodi Ar. Sit**	**99.83**	**68**		IAMs_20	IAMs_20	05 57 14.1		
	comp=Z,601nm,18.0s								
TOB3	**Torodi Ar. Sit**	**99.83**	**68**		IAMs_20	IAMs_20	05 57 13.3		
	comp=Z,563nm,19.0s								
TOC2	**Torodi Ar. Sit**	**99.84**	**68**		IAMs_20	IAMs_20	05 57 13.3		
	comp=Z,593nm,18.0s								
TOC4	**Torodi Ar. Sit**	**99.84**	**68**		IAMs_20	IAMs_20	05 56 56.5		
	comp=Z,558nm,19.0s								
KBZ	**Khabaz**	**99.85**	**20**		P	**Pdif**	**05 13 20.6**	**+1.3**	
	comp=Z,3.4nm,1.0s,baz=300,slow=2.4,SNR=7.1								
KBZ	**Khabaz**	**99.85**	**20**		*ce*P	**Pdif**	**05 13 20.7**	**+1.5**	
KBZ					pmax	pmax			
	comp=Z,10.0nm,1.3s								
TOC3	**Torodi Ar. Sit**	**99.85**	**68**		IAMs_20	IAMs_20	05 57 13.7		
	comp=Z,549nm,19.0s								
BFZ	**Birch Farm**	**100.27**	**228**		IAMs_20	IAMs_20	05 48 04.8		
	comp=Z,893nm,18.0s								
MKAR	**Makanchi Array**	**100.32**	**352**		P	**Pdif**	**05 13 21.5**	**+0.2**	
	comp=Z,2.0nm,1.0s,baz=15,slow=5.0,SNR=15								
MKAR					PKKPbc	**PKKPbc**	**05 29 35.7**	**-2.4**	
	comp=Z,0.6nm,0.9s,baz=133,slow=5.1,SNR=3.9								
ISP	**Isparta**	**100.47**	**31**		IAMs_20	IAMs_20	06 00 46.2		
	comp=Z,457nm,19.0s								
NJ2	**Nanjing**	**101.37**	**320**		*e*P	**Pdif**	**05 13 24.5**	**-1.8**	
NJ2					pmax	pmax			
	comp=Z,8.0nm,0.5s								
MAK	**Makhachkala**	**101.81**	**17**		*e*P	**Pdif**	**05 13 21.6**	**-6.4**	
MAK					*i*		05 17 47.0		
MAK					*e*PS	PS	05 26 42.1	-0.2	
MAK					pmax	pmax			
	comp=Z,72nm,1.0s								
MAK					MLR	MLR			
	comp=Z,647nm,18.0s								
WMQ	**Urumqi**	**102.42**	**348**		*e*P	**Pdif**	**05 13 32.3**	**+1.5**	
WMQ					pmax	pmax			
	comp=Z,13nm,0.7s								
WMQ					pmax	pmax			
	comp=Z,60nm,3.7s								
WMQ					LR	LR			
	comp=Z,180nm,18.1s								
WMQ					LR	LR			
	comp=Z,320nm,22.3s								
QRZ	**Quartz Range**	**102.72**	**230**		IAMs_20	IAMs_20	05 54 07.6		
	comp=Z,582nm,19.0s								
XAN	**Xi'an**	**104.69**	**328**		Pdif	**Pdif**	**05 13 39.5**	**-1.6**	
XAN					PP	**PP**	**05 17 59.8**	**+0.2**	
XAN					LR	LR			
	comp=Z,590nm,18.1s								
XAN					LR	LR			
	comp=Z,1μm,18.6s								
TARG	**Taragay, Kyrgy**	**105.77**	**355**		IAMs_20	IAMs_20	06 08 00.0		
	comp=Z,934nm,20.0s								
ASHT	**Ashkhabad**	**108.86**	**10**		IAMs_20	IAMs_20	06 07 30.2		
	comp=Z,459nm,19.0s								
CD2	**Chengdu**	**109.61**	**330**		Pdif	**Pdif**	**05 14 01.0**	**-2.0**	
CD2					S	**Sdif**	**05 26 12.3**	**-3.0**	
CD2					LR	LR			
	comp=Z,820nm,21.1s								
GYA	**Guiyang**	**112.12**	**326**		PKP	**PKiKP**	**05 18 11.0**	**+0.1**	
GYA					PP	**PP**	**05 19 00.5**	**+6.5**	
GYA					SS	SS	05 34 37.8	+6.0	
GYA					AMB	AMB			
	comp=Z,120nm,4.3s								
VNDA	**Vanda**	**121.35**	**195**		PKP	**PKiKP**	**05 18 27.7**	**+0.8**	
	comp=Z,0.9nm,0.9s,baz=316,slow=3.7,SNR=4.8								
WRA	**Warramunga Arr**	**122.48**	**266**		PKP	**PKPdf**	**05 18 30.6**	**-0.1**	
	comp=Z,3.9nm,0.9s,baz=42,slow=1.4,SNR=7.6								
CMAR	**Chiang Mai Arr**	**122.59**	**328**		PKP	**PKPdf**	**05 18 31.1**	**+0.2**	
	comp=Z,5.0nm,1.0s,baz=340,slow=2.6,SNR=22								
VNA3	**Neumayer Olymp**	**123.50**	**157**		PKPdf	**PKPdf**	**05 18 29.2**	**-1.9**	
VNA2	**Neumayer--Watz**	**124.23**	**157**		PKiKP	**PKiKP**	**05 18 35.9**	**+3.2**	
ASAR	**Alice Springs**	**124.44**	**262**		PKP	**PKPdf**	**05 18 33.9**	**-0.5**	
	comp=Z,3.9nm,1.0s,baz=67,slow=1.9,SNR=14								
SNAA	**Sanae**	**125.68**	**158**		PKPdf	**PKPdf**	**05 18 35.1**	**-0.3**	
SNAA	**Sanae**	**125.68**	**158**		PKIKP	**PKPdf**	**05 18 35.0**	**-0.3**	
SNAA	**Sanae**	**125.68**	**158**		PKPdf	**PKPdf**	**05 18 35.0**	**-0.4**	
FURI	**Furi**	**128.55**	**42**		IAMs_20	IAMs_20	06 14 48.7		
	comp=Z,691nm,20.0s								
TSUM	**Tsumeb**	**130.67**	**88**		PKPdf	**PKiKP**	**05 18 47.5**	**+0.1**	
KMBO	**Kilima Mbogo**	**135.48**	**52**		PKP	**PKiKP**	**05 18 58.1**	**+0.7**	
	comp=Z,2.4nm,0.5s,baz=32,slow=7.1,SNR=7.7								
LSZ	**Lusaka**	**137.63**	**76**		PKIKP	**PKPdf**	**05 18 58.2**	**-1.4**	
LSZ	**Lusaka**	**137.63**	**76**		PKPdf	**PKPdf**	**05 18 58.1**	**-1.4**	
CASY	**Casey**	**138.88**	**203**		PKPdf	**PKPdf**	**05 18 59.7**	**-0.5**	
SYO	**Syowa Base**	**139.46**	**163**	‖	*e*pPdiff	pPdif	05 16 18.6	-0.2	
BOSA	**Boshof**	**140.73**	**97**		PKP	**PKPdf**	**05 19 04.3**	**-0.6**	
	comp=Z,3.6nm,0.9s,baz=261,slow=4.0,SNR=3.9								
MAW	**Mawson**	**144.63**	**175**		PKP	PKPbc	05 19 09.4	+0.2	
	comp=Z,61nm,1.0s,baz=196,slow=4.4,SNR=71								
MAW	**Mawson**	**144.63**	**175**		PKIKP	**PKPab**	**05 19 09.0**	**0.0**	
MAW	**Mawson**	**144.63**	**175**		PKPdf	**PKPab**	**05 19 09.0**	**0.0**	
MAW					IAMs_20	IAMs_20	06 35 00.7		
	comp=Z,180nm,20.0s								
MSEY	**Mahe Island**	**148.70**	**31**		PKP2	**PKiKP**	**05 19 24.6**	**+0.3**	
MSEY	**Mahe Island**	**148.70**	**31**		PKPbc	**PKiKP**	**05 19 24.6**	**+0.3**	

NEIC 29 05:08:43.7±0.7, 32.55N±0.04°×109.06W±0.03°, h5km±1km, ML3.5/22, Error ellipse: s-maj=7.1km s-min=4.3km az=182.0, Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
121A	**Cookes Peak, D**	**1.08**	**91**		Pg	05 09 04.2	-0.2
121A					Sn	05 09 20.7	-0.3
TUC	**Tucson**	**1.48**	**261**	Pn	Pn	05 09 11.1	0.0
TUC				Sn	Sn	05 09 30.1	-0.8
TUC					Sg	05 09 31.1	-0.1
TUC				IAML		05 09 31.1	
	676nm,0.5s						
LENM	**Lemitar**	**2.37**	**47**		Pn	05 09 21.0	-2.5
LENM				Sn	Sn	05 09 53.2	+0.1
BNM	**Barren Site**	**2.58**	**51**	Pn	Pn	05 09 24.6	-1.8
W18A	**Petrified Fore**	**2.62**	**348**		Pn	05 09 27.4	+0.5
W18A				IAML		05 10 14.4	
	comp=E,207nm,0.9s						
X16A	**Lo Mia Camp, P**	**2.73**	**314**		Pn	05 09 28.4	+0.1
X16A				IAML		05 10 19.7	
	comp=N,129nm,2.0s						
ANMO	**Albuquerque**	**3.23**	**42**	Pn	Pn	05 09 35.1	0.0
MNTX	**Cornudas Mount**	**3.23**	**104**	Pn	Pn	05 09 35.3	+0.2
MNTX				IAML		05 10 33.6	
	comp=N,85nm,1.9s						
214A	**Organ Pipe Nat**	**3.23**	**260**	Pn	Pn	05 09 34.9	-0.3
214A				IAML		05 09 59.5	
	comp=N,107nm,4.3s						
214A				IAML		05 10 29.3	
	comp=E,119nm,0.7s						
WUAZ	**Wupatki**	**3.53**	**328**		Pg	05 09 49.9	-1.4
Y14A	**Wickenburg**	**3.58**	**294**		Pn	05 09 39.4	-0.6
Y14A				IAML		05 10 11.2	
	comp=N,86nm,3.4s						
Y14A				IAML		05 11 05.3	
	comp=E,102nm,4.3s						
W13A	**Hualapai Mount**	**4.75**	**304**	Pn	Pn	05 09 56.1	-0.1
W13A				IAML		05 10 51.1	
	comp=E,55nm,3.8s						
W13A				IAML		05 11 37.0	
	comp=N,50nm,3.9s						
SHPR	**Sheep Range**	**6.40**	**310**	Pn	Pn	05 10 19.3	+0.6

NEIC 29 05:17:27.4±1.9, 59.18N±0.05°×145.79W±0.03°, h26km±9km, Error ellipse: s-maj=7.7km s-min=2.5km az=178.0

AEIC 29 05:17:26.9±1.6, 59.13N±0.04°×145.71W±0.05°, h12km±6km, ML2.9/81, Error ellipse: s-maj=6.1km s-min=2.4km az=145.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MID	**Middleton Isla**	**0.44**	**313**		Pg	05 17 36.0	+0.5
MID					Sg	05 17 42.1	+0.8
HIN	**Hinchinbrook I**	**1.33**	**343**		Pn	05 17 49.0	-2.2
HIN					Sb	05 18 05.5	-3.2
RAGM	**Ragged Mountai**	**1.36**	**22**		Pn	05 17 49.6	-2.1
RAGM					Sb	05 18 07.4	-2.2
EYAK	**Cordova Ski Ar**	**1.42**	**359**		Pn	05 17 50.1	-2.3
EYAK	**Cordova Ski Ar**	**1.42**	**359**		Sn	05 18 08.0	-2.9
EYAK	**Cordova Ski Ar**	**1.42**	**359**		Sn	05 18 08.2	-2.7
GOAT	**Goat Mountain**	**1.53**	**18**		Pn	05 17 52.2	-1.8
GOAT					Sn	05 18 11.9	-2.0
BGLC	**Bering Glacier**	**1.58**	**50**		Pn	05 17 53.0	-1.6
FID	**Port Fidalgo**	**1.67**	**347**		Pn	05 17 53.7	-2.1
GRIN	**Grindle Hills**	**1.67**	**45**		Pn	05 17 54.2	-1.7
GRIN					Sn	05 18 15.8	-1.4
KHIT	**Khitrov Hills**	**1.81**	**42**		Pn	05 17 55.7	-2.1
KHIT					Sn	05 18 19.2	-1.6
GLI	**Glacier Island**	**1.88**	**339**		Pn	05 17 56.4	-2.4
CYK	**Cape Yakataga**	**1.90**	**58**		Sn	05 18 21.1	-1.5
WAX	**Waxell Ridge**	**1.96**	**46**		Pn	05 17 57.9	-2.0
JPK	**Jack Peak**	**1.98**	**347**		Pn	05 17 57.9	-2.2
VMT	**TAPS TI Valdez**	**1.98**	**351**		Pn	05 17 58.8	-1.3
CRQM	**Cirque**	**2.08**	**37**		Pn	05 17 59.8	-1.9
SEW	**Seward**	**2.14**	**299**		Pn	05 18 00.5	-1.7
PWL	**Port Wells**	**2.18**	**324**		Pn	05 18 00.3	-2.5
MESA	**MESA**	**2.18**	**60**		Pn	05 18 00.9	-2.0
TGL	**Tana Glacier**	**2.18**	**40**		Pn	05 18 01.4	-1.6
ISLE	**Juniper Island**	**2.25**	**48**		Pn	05 17 59.6	-4.3
BAGL	**Bagley Icefiel**	**2.28**	**52**		Pn	05 18 02.4	-1.8
YAH	**Yahtse**	**2.36**	**57**		Pn	05 18 03.8	-1.7
VRDI	**Verde Repeater**	**2.38**	**27**		Pn	05 18 04.1	-1.8
KIAG	**Kiagna River**	**2.46**	**42**		Pn	05 18 04.9	-2.0
GLB	**Gilahina Butte**	**2.50**	**21**		Pn	05 18 05.8	-1.5
RKAV	**Rock Avalanche**	**2.50**	**60**		Pn	05 18 05.8	-1.6
BALM	**Baldy**	**2.55**	**40**		Pn	05 18 06.3	-1.7
GRNC	**Granite Creek**	**2.56**	**49**		Pn	05 18 06.5	-1.7
PTPK	**Patty Peak**	**2.62**	**37**		Pn	05 18 07.5	-1.6
MCARA	**McCarthy VSAT**	**2.62**	**30**		Pn	05 18 08.2	-0.8
TABL	**Table Mountain**	**2.66**	**58**		Pn	05 18 07.9	-1.7
SLKM	**Skilak Lake**	**2.66**	**303**		Pn	05 18 07.7	-1.9
KNK	**Knik Glacier**	**2.67**	**330**		Pn	05 18 08.3	-1.2
BARN	**Barnard Glacie**	**2.80**	**45**		Pn	05 18 10.1	-1.5
SCM	**Sheep Creek Mo**	**2.82**	**344**		Pn	05 18 10.3	-1.5
CNPM	**China Poot**	**2.86**	**280**		Pn	05 18 11.0	-1.2
CTGM	**Chitina Glacie**	**2.86**	**48**		Pn	05 18 11.2	-1.2
LOGN	**Logan Glacier**	**2.91**	**52**		Pn	05 18 11.2	-1.8
PCA	**Pinnacle**	**2.93**	**68**		Pn	05 18 12.6	-0.7
PS11	**TAPS Pump St11**	**2.96**	**2**		Pn	05 18 12.4	-1.1
SML	**Sawmill**	**2.98**	**335**		Pn	05 18 13.1	-0.8
PMR	**Palmer**	**3.00**	**327**		Pn	05 18 14.4	+0.4
GHO	**Glory Hole Cre**	**3.09**	**330**		Pn	05 18 14.8	-0.6
PNL	**Peninsula**	**3.27**	**78**		Pn	05 18 16.1	-1.8
SUA	**Susitna One**	**3.43**	**315**		Pn	05 18 18.1	-1.9
YUK2	**White River**	**3.59**	**40**		Pn	05 18 21.8	-0.6
WAT6	**Susitna Watana**	**3.60**	**345**		Pn	05 18 21.2	-1.2
YUK3	**Moose Creek**	**3.71**	**42**		Pn	05 18 23.4	-0.7
RED	**Redoubt Volcan**	**3.80**	**293**		Pn	05 18 24.0	-1.1
RSO	**Redoubt South**	**3.80**	**294**	Pn	Pn	05 18 25.1	-0.2
PAX	**Paxson**	**3.85**	**2**		Pn	05 18 24.4	-1.5
KDAK	**Kodiak Island**	**3.86**	**252**		Pn	05 18 25.7	-0.2
KDAK	**Kodiak Island**	**3.86**	**252**		Pn	05 18 26.0	+0.1
STLK	**Strandline Lak**	**3.86**	**311**		Pn	05 18 24.5	-1.5
MENT	**Mentasta**	**3.94**	**13**	Pn	Pn	05 18 27.4	+0.3
SKT	**Skwentna**	**4.05**	**317**		Pn	05 18 28.5	-0.1
SPNN	**North Nagishla**	**4.14**	**306**		Pn	05 18 29.5	-0.4
YUK4	**Talbot Arm**	**4.16**	**55**		Pn	05 18 30.2	0.0
BC03		**4.38**	**24**		Pn	05 18 31.4	-1.6
OHAK	**Old Harbor**	**4.45**	**248**		Pn	05 18 34.1	+0.1
HYT	**Haines Junctio**	**4.46**	**64**	Pn	Pn	05 18 33.1	-1.1
RND	**Reindeer**	**4.55**	**342**		Pn	05 18 34.8	-0.6
DOT	**Dot Lake**	**4.60**	**9**		Pn	05 18 35.1	-1.0
RIDG	**Independent Ri**	**4.64**	**5**		Pn	05 18 35.8	-0.9
TRF	**Thorofare Moun**	**4.86**	**335**		Pn	05 18 39.8	0.0
MCK	**McKinley**	**4.87**	**343**	Pn	Pn	05 18 39.4	-0.3
PPLA	**Purkeypile**	**4.92**	**323**		Pn

Principal axes: T 2.8640, Plg66.0000°, Azm188.0000°; N 0.1160, Plg16.0000°, Azm57.0000°; P -2.9770, Plg17.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

NEIC ***29*** *05:56:36, 24.49N, 142.83E, h60km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr 2.01; Mθθ -1.13; Mϕϕ -0.88; Mrθ -1.82; Mrϕ -1.48; Mθϕ -0.41; Fault plane solution: Mo 2.95000×10^18 NP1:ϕs 26.00000°, δ 31.00000°, λ 53.00000°. NP2:ϕs 247.00000°, δ 66.00000°, λ 110.00000°. Principal axes: T 2.8621, Plg64.0000°, Azm190.0000°; N 0.1733, Plg18.0000°, Azm59.0000°; P -3.0354, Plg19.0000°, Azm322.0000°;*

NEIC ***29*** *05:56:36, 24.50N, 142.92E, h60km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr 2.06; Mθθ -1.47; Mϕϕ -0.59; Mrθ -1.88; Mrϕ -1.32; Mθϕ -0.14; Fault plane solution: Mo 2.94000×10^18 NP1:ϕs 34.00000°, δ 30.00000°, λ 54.00000°. NP2:ϕs 254.00000°, δ 66.00000°, λ 109.00000°. Principal axes: T 2.9215, Plg64.0000°, Azm196.0000°; N 0.0433, Plg18.0000°, Azm66.0000°; P -2.9647, Plg19.0000°, Azm330.0000°;*

BGR ***29*** *05:56:37.4 0.0, 25.81N, 142.62E, h50km 1km, mb5.7, mB_BB6.0, Ms6.0*

NEIC ***29*** *05:56:44.3, 24.71N, 143.01E, h54km, Moment Tensor Solution. Moment tensor: Scale 10^18Nm; Mrr 2.54; Mθθ -1.35; Mϕϕ -1.18; Mrθ -2.11; Mθϕ -1.62; Mrϕ -0.80; Fault plane solution: Mo 3.54000×10^18 NP1:ϕs 241.42000°, δ 65.35000°, λ 104.11000°. NP2:ϕs 30.35000°, δ 28.18000°, λ 62.03000°. Principal axes: T 3.4630, Plg67.0000°, Azm177.0000°; N 0.1527, Plg13.0000°, Azm55.0000°; P -3.6158, Plg19.0000°, Azm321.0000°;*

ISC 29 05:56:32.9 0.3, 24.45N 0.02, 142.66E 0.03, h60 km 2km, h60 km: pP-P, n2231, σ1 91/2405, mb6.0/505, MS5.9/569, 61C-91D, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**2.22**	**349**	↓P	**Pn**	**05 57 08.7**	**+1.4**
JHH2				*eS*	**Sn**	**05 57 36.4**	**+2.9**
CBIJ	**Chichi jima**	**2.67**	**351**	↓P	**Pn**	**05 57 14.6**	**+1.2**
CBIJ				S	**Sn**	**05 57 46.7**	**+2.1**
JCJ	**Chichijima**	**2.67**	**351**	Pn	**Pn**	**05 57 13.9**	**+0.4**
JAOM	**Aogashimamukai**	**8.38**	**343**	P	**Pn**	**05 58 30.9**	**-0.7**
JHCJ	**Hachijojimakas**	**8.95**	**344**	P	**Pn**	**05 58 37.1**	**-2.3**
JHCJ				*eS*	**Sn**	**06 00 14.5**	**-4.2**
JHJ2	**Mitsune**	**8.98**	**345**	P	**Pn**	**05 58 38.6**	**-1.2**
JHJ2	**Mitsune**	**8.98**	**345**	Pn	**Pn**	**05 58 39.8**	**-0.1**
JHJ2				Sn	**Sn**	**06 00 17.1**	**-2.4**
JHJ	**Hachijo jima 2**	**9.00**	**344**	Pn	**Pn**	**05 58 39.7**	**-0.4**
	318nm,0.3s,baz=244,slow=5.9,SNR=57						
JHJ				Sn	**Sn**	**06 00 16.2**	**-3.7**
	459nm,0.3s,baz=67,slow=20,SNR=6.1						
JMKN	**Mikurajimanish**	**9.78**	**345**	P	**Pn**	**05 58 50.9**	**+0.1**
JKO	**Kozu shima**	**10.18**	**343**	P	**Pn**	**05 58 56.8**	**+0.6**
BSO1	**Boso 1**	**10.27**	**352**	P	**Pn**	**05 58 55.5**	**-1.5**
JSKK	**Shikinejimakit**	**10.30**	**344**	P	**Pn**	**05 58 58.2**	**+0.4**
JSKK				S	**Sn**	**06 00 49.9**	**-1.8**
JKDJ	**Kitadaitoujima**	**10.40**	**281**	P	**Pn**	**05 59 03.1**	**+3.9**
JMZ	**Minamidaito 2**	**10.45**	**280**	P	**Pn**	**05 59 03.6**	**+3.6**
JTHY	**Toshimahigashi**	**10.46**	**344**	P	**Pn**	**05 58 59.5**	**-0.5**
BSO3	**Boso 3**	**10.48**	**350**	P	**Pn**	**05 58 58.1**	**-2.0**
JIM2	**Oshima 3**	**10.61**	**345**	P	**Pn**	**05 59 01.2**	**-0.9**
BSO4	**Boso 4**	**10.70**	**350**	P	**Pn**	**05 59 00.6**	**-2.6**
BSO4				*eS*	**Sn**	**06 00 56.0**	**-5.3**
JIZS	**Izushimoda**	**10.75**	**343**	P	**Pn**	**05 59 04.0**	**0.0**
JKUC	**kamogawauchiur**	**10.88**	**349**	P	**Pn**	**05 59 03.8**	**-2.0**
JKUC				S	**Sn**	**06 00 58.5**	**-7.5**
JSG	**Sagara**	**10.90**	**340**	P	**Pn**	**05 59 07.3**	**+1.2**
JHTM	**Izuhatsuma**	**10.94**	**344**	P	**Pn**	**05 59 06.1**	**-0.5**
JMMH	**Miemihama**	**10.98**	**330**	P	**Pn**	**05 59 08.3**	**+1.1**
AJI	**Ajiro2**	**11.00**	**344**	P	**Pn**	**05 59 06.7**	**-0.7**
AJI				S	**Sn**	**06 01 08.3**	**-0.6**
GUMO	**Guam**	**11.00**	**169**	Pn	**Pn**	**05 59 08.0**	**+0.4**
	15nm,0.3s,baz=284,slow=3.4,SNR=28						
GUMO	**Guam**	**11.00**	**169**	P	**Pn**	**05 59 09.0**	**+1.4**
GUMO	**Guam**	**11.00**	**169**		**Pn**	**05 59 09.0**	**+1.4**
JKKS	**Kakegawashinom**	**11.04**	**339**	P	**Pn**	**05 59 08.6**	**+0.7**
JIE	**Ise**	**11.18**	**334**	P	**Pn**	**05 59 10.4**	**+0.5**
JOD2	**Odawara 2**	**11.21**	**345**	P	**Pn**	**05 59 08.7**	**-1.6**
JOD2				S	**Sn**	**06 01 12.8**	**-1.3**
HMMJ	**Hamamatsu 2**	**11.22**	**339**	P	**Pn**	**05 59 09.7**	**-0.7**
JAA	**Atsumi**	**11.22**	**336**	P	**Pn**	**05 59 10.4**	**0.0**
JKN2	**Miekihoku**	**11.23**	**332**	P	**Pn**	**05 59 10.7**	**+0.2**
JFNN	**Fujinakano**	**11.25**	**343**	P	**Pn**	**05 59 11.0**	**+0.2**
JFNN				S	**Sn**	**06 01 16.3**	**+1.4**
SHZ3	**Shizuoka 3**	**11.26**	**341**	P	**Pn**	**05 59 10.9**	**-0.1**
JSMT	**Sammumatsuo**	**11.32**	**351**	P	**Pn**	**05 59 11.1**	**-0.6**
JSMT				S	**Sn**	**06 01 12.8**	**-3.8**
JYZW	**Yoshizawa**	**11.34**	**339**	P	**Pn**	**05 59 11.8**	**-0.3**
TOK	**Tokyo**	**11.48**	**348**	P	**Pn**	**05 59 13.5**	**-0.4**
TOK				S	**Sn**	**06 01 17.1**	**-2.3**
JSGW	**Sagamiharawaka**	**11.51**	**346**	P	**Pn**	**05 59 12.4**	**-2.0**
JSGW				S	**Sn**	**06 01 16.6**	**-4.7**
JYN	**Shimob**	**11.57**	**343**	P	**Pn**	**05 59 14.4**	**-0.9**
JYN				S	**Sn**	**06 01 22.1**	**-0.8**
TSUJ	**Tsu 2**	**11.57**	**333**	P	**Pn**	**05 59 17.0**	**+1.8**
JIHU	**Itakohorinouch**	**11.62**	**351**	P	**Pn**	**05 59 15.8**	**-0.1**
JIHU				S	**Sn**	**06 01 20.7**	**-3.4**
JNY	**Yasuok**	**11.64**	**340**	P	**Pn**	**05 59 15.6**	**-0.6**
JAO	**Obara**	**11.75**	**338**	P	**Pn**	**05 59 16.8**	**-0.9**
INU	**Inuyama**	**11.91**	**337**	Pn	**Pn**	**05 59 19.0**	**-0.9**
JICN	**Ichinomiyachia**	**11.93**	**336**	P	**Pn**	**05 59 21.8**	**+1.7**
JRY	**Ryogami san**	**11.97**	**345**	P	**Pn**	**05 59 18.6**	**-2.2**
JRY				S	**Sn**	**06 01 28.3**	**-4.4**
JHYU	**Hitachinakayam**	**11.98**	**352**	P	**Pn**	**05 59 19.9**	**-0.9**
JHYU				S	**Sn**	**06 01 25.9**	**-7.0**
JGF	**Kuroka**	**12.02**	**339**	P	**Pn**	**05 59 20.7**	**-0.7**
JNT	**Takato**	**12.04**	**342**	P	**Pn**	**05 59 20.3**	**-1.4**
JNT				S	**Sn**	**06 01 37.0**	**+2.6**
JYTA	**Yamagatataniai**	**12.23**	**337**	P	**Pn**	**05 59 24.8**	**+0.6**
JAG	**Ashikaga**	**12.25**	**348**	P	**Pn**	**05 59 21.0**	**-3.5**
JAG				S	**Sn**	**06 01 30.9**	**-8.5**
JHO	**Hitachi**	**12.25**	**352**	P	**Pn**	**05 59 20.0**	**-4.5**
JHO				S	**Sn**	**06 01 30.7**	**-8.8**
JFM	**Mihama**	**12.46**	**334**	P	**Pn**	**05 59 28.3**	**+1.0**
JFM				S	**Sn**	**06 01 52.0**	**+7.5**
JNG	**Nsakai**	**12.55**	**343**	P	**Pn**	**05 59 26.3**	**-2.3**
JNG				S	**Sn**	**06 01 45.8**	**-0.9**
JGK	**Kuni**	**12.56**	**345**	P	**Pn**	**05 59 27.4**	**-1.3**
JGK				S	**Sn**	**06 01 41.7**	**-5.2**
JGN	**Niukaw**	**12.60**	**340**	P	**Pn**	**05 59 27.8**	**-1.6**
JGN				S	**Sn**	**06 01 50.3**	**+2.2**
JKT	**Katashina**	**12.62**	**347**	P	**Pn**	**05 59 26.4**	**-3.2**
JKT				S	**Sn**	**06 01 40.3**	**-8.3**
MJAR	**Matsushiro Arr**	**12.64**	**343**	Pn	**Pn**	**05 59 27.2**	**-2.7**
	16nm,0.3s,baz=161,slow=11,SNR=476						
MJAR				Sn	**Sn**	**06 01 48.5**	**-0.5**
	4.7nm,0.3s,baz=171,slow=16,SNR=4.1						
MAJO	**Matsushiro**	**12.65**	**343**	*d* iP	**Pn**	**05 59 27.3**	**-2.6**
MAJO	**Matsushiro**	**12.65**	**343**	Pn	**Pn**	**05 59 26.8**	**-3.1**
MAT	**Matsushiro**	**12.65**	**343**	P	**Pn**	**05 59 27.0**	**-2.9**
MAT				*eS*	**Sn**	**06 01 43.2**	**-5.9**
MAT	**Matsushiro**	**12.65**	**343**	P	**Pn**	**05 59 28.3**	**-1.6**
MAT				S	**Sn**	**06 01 45.2**	**-3.9**
MJB9	**Matsu-Tunnel**	**12.65**	**343**	Pn	**Pn**	**05 59 26.8**	**-3.1**
JSB	**Shiboa**	**12.70**	**350**	P	**Pn**	**05 59 28.7**	**-1.9**
JSB				S	**Sn**	**06 01 43.5**	**-6.8**
JTT	**Ttatey**	**12.95**	**341**	P	**Pn**	**05 59 31.4**	**-2.6**
JKG	**Kaga**	**12.98**	**337**	P	**Pn**	**05 59 34.9**	**+0.4**
JHK	**Hiroka**	**13.13**	**347**	P	**Pn**	**05 59 33.1**	**-3.4**
JHK				S	**Sn**	**06 01 54.1**	**-6.8**
JJN	**Nakama**	**13.19**	**344**	P	**Pn**	**05 59 34.6**	**-2.7**
JJN				S	**Sn**	**06 01 59.9**	**-2.3**
JOW	**Kunigami**	**13.19**	**283**	Pn	**Pn**	**05 59 39.3**	**+1.9**
	2.7nm,0.3s,baz=74,slow=14,SNR=29						
JOW	**Kunigami**	**13.19**	**283**	Pn	**Pn**	**05 59 38.8**	**+1.4**
JJH	**Hakui**	**13.42**	**339**	P	**Pn**	**05 59 39.6**	**-0.8**
JNU	**Nakatsue**	**13.46**	**313**	Pn	**Pn**	**05 59 42.8**	**+1.8**
	4.5nm,0.3s,baz=119,slow=6.5,SNR=76						
JNU	**Nakatsue**	**13.46**	**313**		**Pn**	**05 59 44.4**	**+3.4**
JIZZ	**Izumozaki**	**13.47**	**346**	P	**Pn**	**05 59 39.1**	**-2.0**
JIZZ				S	**Sn**	**06 02 05.7**	**-3.4**
JNS	**Sasagawa**	**13.63**	**349**	P	**Pn**	**05 59 40.4**	**-2.8**
JNS				S	**Sn**	**06 02 04.7**	**-8.2**
JSZ	**Suzu**	**13.72**	**342**	P	**Pn**	**05 59 42.1**	**-2.4**
JSD	**Sado**	**14.05**	**346**	P	**Pn**	**05 59 44.2**	**-4.7**
JAGN	**Aguni-jima**	**14.08**	**282**	P	**P**	**05 59 53.5**	**-1.8**
JHG	**Hegura jima**	**14.22**	**341**	P	**Pn**	**05 59 49.2**	**-2.0**
JHG				S	**Sn**	**06 02 26.3**	**-1.1**
JAW	**Awa shima**	**14.26**	**349**	P	**Pn**	**05 59 48.5**	**-3.1**
ERM	**Erimo**	**17.52**	**1**	*d* iP	**P**	**06 00 33.8**	**+0.5**
ERM				pmax	pmax		
	comp=Z,313nm,1.0s						
ERM	**Erimo**	**17.52**	**1**	P	**Pn**	**06 00 32.8**	**-0.2**
ERM				IAmb	IAmb	06 00 43.4	
	comp=Z,1μm,1.0s						
TJN	**Taejon**	**17.73**	**316**	*d* iP	**Pn**	**06 00 35.3**	**-0.2**
YOJ	**Yonaguni jima**	**17.89**	**274**	P	**P**	**06 00 36.8**	**-0.8**
YOJ				pmax	pmax		
	comp=Z,1μm,1.2s						
YOJ	**Yonaguni jima**	**17.89**	**274**	P	**P**	**06 00 36.8**	**-0.8**
YOJ				IAmb	IAmb	06 00 44.2	
	comp=Z,1μm,1.2s						
KSRS	**Korea Array**	**18.07**	**319**	P	**Pn**	**06 00 40.7**	**+1.0**
	comp=Z,15nm,0.3s,baz=137,slow=11,SNR=176						
KSRS				LR	LR	06 07 10.0	
	comp=Z,60μm,21.6s,baz=134,slow=35						
KSRS				ScP	**ScP**	**06 08 41.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=167,slow=2.2,SNR=4.0						
KSRS				PKiKP	**PKiKP**	**06 13 03.1**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=82,slow=0.4,SNR=5.1						
KS19	**Wonju Array Si**	**18.14**	**319**	P	**P**	**06 00 40.2**	**0.0**
INCN	**Inchon**	**18.87**	**317**	P	**P**	**06 00 48.5**	**+0.2**
INCN				P	**P**	**06 00 48.5**	**+0.2**
INCN	**Inchon**	**18.87**	**317**	P	**P**	**06 00 46.7**	**-1.6**
INCN				pmax	pmax		
	comp=Z,922nm,1.0s						
INCN	**Inchon**	**18.87**	**317**	P	**P**	**06 00 46.7**	**-1.6**
INCN				IAmb	IAmb	06 00 56.1	
	comp=Z,922nm,1.0s						
NMR	**Nemuro--Hokkai**	**19.04**	**7**	↑*i*P	**Pn**	**06 00 51.9**	**+0.6**
NMR				*eS*	S	06 04 10.9	-12
NACB	**Ninganchiao**	**19.20**	**274**	P	**P**	**06 00 51.7**	**-0.2**
TATO	**Taipei**	**19.24**	**276**	P	**Pn**	**06 00 56.4**	**+2.6**
TATO				P	**Pn**	**06 00 56.4**	**+2.6**
TATO	**Taipei**	**19.24**	**276**	P	**P**	**06 00 52.8**	**+0.4**
TATO				IAmb	IAmb	06 01 12.0	
	comp=Z,1μm,1.2s						
YHNB	**Yeheng**	**19.36**	**275**	P	**Pn**	**06 00 54.9**	**-0.5**
YHNB				IAmb	IAmb	06 01 12.4	
	comp=Z,1μm,1.2s						
BBP	**Basco**	**19.54**	**262**	*eP*	**Pn**	**06 00 59.8**	**+2.5**
YULB	**Yu-li**	**19.56**	**271**	P	**Pn**	**06 00 57.5**	**-0.1**
ASAJ	**Asahikawa**	**19.62**	**360**	P	**Pn**	**06 00 57.6**	**-0.6**
	comp=Z,24nm,0.3s,baz=213,slow=12,SNR=76						
ASAJ				S	**S**	**06 04 27.5**	**-7.0**
	comp=Z,4.8nm,0.3s,baz=272,slow=29,SNR=2.4						
ASAJ				LR	LR	06 07 49.2	
	comp=Z,16μm,21.9s,baz=198,slow=34						
ASAJ				P3KPbc		06 35 17.5	
	comp=Z,0.4nm,0.3s,baz=342,slow=6.1,SNR=11						
ASAJ	**Asahikawa**	**19.62**	**360**	P	**Pn**	**06 00 57.6**	**-0.6**
ASAJ				pmax	pmax		
	comp=Z,2μm,1.2s						
JKA	**Kamikawa-asahi**	**19.62**	**360**	P	**Pn**	**06 00 57.6**	**-0.6**
JKA	**Kamikawa-asahi**	**19.62**	**360**	IAmb	IAmb	06 01 12.8	
	comp=Z,2μm,1.2s						
GRPR	**Tuman**	**19.66**	**7**	*eP*	**Pn**	**06 01 00.6**	**+2.0**
GRPR				*eS*	**S**	**06 04 25.9**	**-9.4**
GRPR				pmax	pmax		
	comp=Z,871nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**19.71**	**7**	*eP*	**Pn**	**06 00 59.6**	**+0.4**
YUK				*i*S	**S**	**06 04 28.6**	**-7.7**
YUK				pmax	pmax		
	comp=Z,693nm,0.8s						
YUK				pmax	pmax		
	comp=N,148nm,0.3s						
YUK				pmax	pmax		
	comp=E,123nm,0.3s						
YUK				pmax	pmax		
	comp=Z,3μm,2.5s						
LAGR	**Lagunnoye**	**19.72**	**7**	*eP*	**Pn**	**06 01 01.2**	**+1.8**
LAGR				*eS*	**S**	**06 04 27.7**	**-8.8**
LAGR				pmax	pmax		
	comp=Z,1μm,0.8s						
SSLB	**Suanglung**	**19.82**	**273**	Pn	**Pn**	**06 01 01.9**	**+1.1**
SSLB				IAmb	IAmb	06 01 17.0	
	comp=Z,569nm,1.0s						
TWG	**Pinlang**	**19.84**	**270**	P	**Pn**	**06 01 02.8**	**+1.7**
SSE	**Sheshan**	**20.10**	**294**	P	**P**	**06 01 02.5**	**+0.8**
SSE				sP	**pwP**	**06 01 17.5**	**+0.1**
SSE				S	**S**	**06 04 46.5**	**+2.2**
SSE				pmax	pmax		
	comp=Z,470nm,1.0s						
SSE				pmax	pmax		
	comp=Z,4μm,3.5s						
SSE				LR	LR		
	comp=Z,9μm,19.9s						
SSE	**Sheshan**	**20.10**	**294**	P	**P**	**06 01 02.0**	**+0.3**
SSE				IAmb	IAmb	06 01 10.2	
	comp=Z,2μm,1.1s						
SSE	**Sheshan**	**20.10**	**294**	IAMs_20	IAMs_20	06 05 41.1	
	comp=Z,15μm,21.0s						
SGCP	**Mt. Cagua**	**20.16**	**256**	*eP*	Pn	06 01 04.9	+0.2
TPUB	**Ta-pu**	**20.18**	**271**		Pn	06 01 05.0	0.0
MSHR	**Mys Shultsa**	**20.43**	**335**	*d* iP	**P**	**06 01 06.1**	**+1.0**
MSHR				pmax	pmax		
	comp=Z,200nm,0.7s						
PVCP	**Virac**	**20.53**	**242**	*eP*	Pn	06 01 08.6	-0.6
CVP	**Callao Caves**	**20.56**	**255**	↓iP	Pn	06 01 11.8	+2.3
VLA	**Vladivostok**	**20.63**	**337**	*d* iP	**P**	**06 01 06.4**	**-0.9**
VLA				pmax	pmax		
	comp=Z,392nm,0.6s						
CNP	**Catarman**	**20.76**	**238**	*eP*	Pn	06 01 11.4	-0.5
APYP	**Conner**	**21.01**	**256**	*eP*	**P**	**06 01 12.6**	**+1.1**
TEY	**Ternei**	**21.12**	**348**	↑*e*P	**P**	**06 01 14.0**	**+1.5**
TEY				*eS*	**S**	**06 05 03.1**	**-1.0**
TEY				pmax	pmax		
	comp=N,290nm,1.6s						
TEY				pmax	pmax		
	comp=Z,470nm,2.4s						
TEY				pmax	pmax		
	comp=Z,19μm,2.5s						
TEY				pmax	pmax		
	comp=E,4μm,2.3s						
TEY				pmax	pmax		
	comp=N,15μm,2.4s						
TEY				MLR	MLR		
	comp=E,10μm,13.0s						
TEY				MLR	MLR		
	comp=N,14μm,18.0s						
TEY				MLR	MLR		
	comp=Z,16μm,22.0s						
KUR	**Kuril'sk**	**21.16**	**10**	*d* iP	**P**	**06 01 14.6**	**+1.6**
KUR				*e*		06 01 37.9	
KUR				*i*S	Sn	06 05 13.4	-1.3
KUR				*e*SS	**SnSn**	**06 05 44.3**	**+13**
KUR				pmax	pmax		
	comp=Z,8μm,2.9s						
KUR				pmax	pmax		
	comp=Z,2μm,1.2s						
KUR				pmax	pmax		
	comp=N,1μm,1.3s						
KUR				pmax	pmax		
	comp=E,1μm,1.8s						
KUR				MLR	MLR		
	comp=N,6μm,12.0s						
KUR				MLR	MLR		
	comp=E,7μm,12.0s						
KUR				MLR	MLR		
	comp=Z,10μm,12.0s						
USA0B	**Ussuriysk Arra**	**21.55**	**339**	P	**P**	**06 01 15.7**	**-1.4**
USA0B				pmax	pmax		
	comp=Z,710nm,1.0s						
USA0B				MLR	MLR		
	comp=Z,33μm,20.0s						
USA0B	**Ussuriysk Arra**	**21.55**	**339**	P	**P**	**06 01 15.7**	**-1.4**
USA0B				IAmb	IAmb	06 01 22.5	
	comp=Z,710nm,0.9s						
USRK	**Ussuriysk Ar.**	**21.55**	**339**	P	**P**	**06 01 15.7**	**-1.4**
	comp=Z,314nm,0.7s,baz=149,slow=12,SNR=402						
USRK				ScP	**ScP**	**06 08 50.5**	**+1.1**
	comp=Z,3.3nm,0.8s,baz=115,slow=2.1,SNR=4.6						
USRK				LR	LR	06 09 07.5	
	comp=Z,26μm,19.3s,baz=150,slow=35						
USRK				P3KPbc		06 35 09.2	
	comp=Z,7.4nm,0.8s,baz=317,slow=3.7,SNR=19						
ABRA	**Dolores**	**21.56**	**256**	*eP*	**P**	**06 01 17.5**	**+0.1**
BALP	**Baler**	**21.59**	**250**	*eP*	**P**	**06 01 19.5**	**+1.7**
SIPP	**Brgy, Tapao**	**21.68**	**257**	↑*e*P	**P**	**06 01 20.5**	**+1.7**
OCLP	**Ormoc**	**21.71**	**235**	*eP*	**P**	**06 01 21.7**	**+2.5**
QZH	**Quanzhou**	**21.87**	**276**	↑*i*P	**P**	**06 01 21.8**	**+1.1**
QZH				S	**S**	**06 05 16.8**	**-2.4**
QZH				pmax	pmax		
	comp=Z,420nm,1.2s						
QZH				pmax	pmax		
	comp=Z,6μm,9.8s						
QZH				LR	LR		
	comp=Z,8μm,19.6s						
QZH				LR	LR		
	comp=Z,18μm,19.9s						
QZH				LR	LR		
	comp=Z,23μm,21.8s						
KNMB	**Chin-men Tao**	**22.09**	**275**	P	**P**	**06 01 22.8**	**-0.3**
KNMB				IAmb	IAmb	06 01 28.7	
	comp=Z,664nm,1.0s						
MSLP	**Maasin**	**22.13**	**233**	*eP*	**P**	**06 01 25.3**	**+1.7**
SMPP	**San Manuel, Pa**	**22.18**	**252**	*eP*	**P**	**06 01 23.7**	**-0.5**
NJ2	**Nanjing**	**22.27**	**295**	↓*i*P	**P**	**06 01 24.5**	**-0.5**
NJ2				pP	**pP**	**06 01 34.0**	**-3.4**
NJ2				sP	**pwP**	**06 01 40.0**	**-0.8**
NJ2				PP	**PnPn**	**06 01 52.5**	**+2.7**
NJ2				S	**S**	**06 05 23.5**	**-2.8**
NJ2				sS	Sn	06 05 40.3	-1.1
NJ2				SS	**SnSn**	**06 06 03.5**	**+5.7**
NJ2				pmax	pmax		
	comp=Z,650nm,2.0s						
NJ2				pmax	pmax		
	comp=Z,11μm,3.5s						
NJ2				LR	LR		
	comp=Z,20μm,20.4s						
NJ2				LR	LR		
	comp=Z,21μm,22.5s						
NJ2				LR	LR		
	comp=Z,44μm,24.6s						
LQP	**Lukban**	**22.40**	**247**	↑*e*P	**P**	**06 01 26.9**	**+0.2**
YSS	**Yuzh-Sakhalins**	**22.46**	**0**	κ *i*P	**P**	**06 01 27.7**	**+0.9**
YSS				*e**PP	**pP**	**06 01 38.8**	**-0.5**
YSS				*e**SP	**sP**	**06 01 44.7**	**-1.8**
YSS				*e*		06 01 49.1	
YSS				*eS*	**S**	**06 05 24.2**	**-5.1**
YSS				pmax	pmax		
	comp=Z,540nm,2.0s						
YSS				pmax	pmax		
	comp=Z,8μm,5.4s						
YSS				smax	smax		
	comp=N,29μm,8.6s						
YSS				MLR	MLR		
	comp=N,12μm,16.0s						
YSS				MLR	MLR		
	comp=E,9μm,18.0s						
YSS	**Yuzh-Sakhalins**	**22.46**	**0**	P	**P**	**06 01 27.8**	**+0.9**
YSS				IAmb	IAmb	06 01 41.8	
	comp=Z,928nm,0.8s						
BOAC	**Boac**	**22.48**	**245**	*eP*	**P**	**06 01 29.4**	**+2.0**
BOLP	**Bolinao**	**22.75**	**254**	*eP*	**P**	**06 01 31.8**	**+1.5**
MDJ	**Mudanjiang**	**22.76**	**335**	P	**P**	**06 01 28.5**	**-1.6**
MDJ				pP	pP	06 01 38.5	-4.0
MDJ				S	**S**	**06 05 36.3**	**+1.8**
MDJ				pmax	pmax		
	comp=Z,180nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,14μm,4.3s						
MDJ				LR	LR		
	comp=Z,25μm,24.6s						
MDJ				LR	LR		
	comp=Z,21μm,22.0s						
MDJ				LR	LR		
	comp=Z,53μm,27.7s						
MDJ	**Mudanjiang**	**22.76**	**335**	IAMs_20	IAMs_20	06 09 07.6	
	comp=Z,37μm,22.0s						
RCP	**Roxas**	**22.83**	**239**	↑*e*P	**P**	**06 01 31.1**	**0.0**
WAKE	**Wake Island**	**22.84**	**98**	P	**P**	**06 01 30.6**	**-0.6**
DL2	**Dalian**	**22.90**	**314**	↓*i*P	**P**	**06 01 28.8**	**-2.8**
DL2				PP	**PnPn**	**06 01 59.8**	**+1.4**
DL2				S	**S**	**06 05 32.0**	**-4.9**
DL2				pmax	pmax		
	comp=Z,230nm,0.7s						
DL2				pmax	pmax		
	comp=Z,5μm,5.4s						
DL2				LR	LR		
	comp=Z,18μm,20.2s						
DL2				LR	LR		
	comp=Z,15μm,24.3s						
DL2				LR	LR		
	comp=Z,34μm,31.8s						
TGY	**Tagaytay City**	**22.91**	**247**	P	**P**	**06 01 31.8**	**-0.1**
	comp=Z,208nm,0.4s,baz=337,slow=9.3,SNR=11						
TGY				LR	LR	06 09 14.7	
	comp=Z,12μm,21.8s,baz=62,slow=33						
H11N1	**WAKE ISLAND Hy**	**22.93**	**97**	P	**P**	**06 01 33.6**	**+1.7**
	baz=269,slow=12,SNR=134						
H11N2	**WAKE ISLAND Hy**	**22.93**	**97**	P	**P**	**06 01 32.2**	**+0.3**
	baz=269,slow=12,SNR=109						
OTRP	**Odiongan**	**22.94**	**242**	*eP*	**P**	**06 01 35.2**	**+3.0**
H11N3	**WAKE ISLAND Hy**	**22.95**	**97**	P	**P**	**06 01 31.9**	**-0.2**
	baz=269,slow=12,SNR=126						
PATS	**Pohnpei**	**23.06**	**137**	P	**P**	**06 01 33.5**	**+0.1**
PGP	**Puerto Galera**	**23.20**	**246**	↑*e*P	**P**	**06 01 34.3**	**-0.5**
MATI	**Mati**	**23.45**	**225**	*eP*	**P**	**06 01 36.8**	**-0.4**
SNY	**Shenyang**	**23.48**	**322**	↑P	**P**	**06 01 35.5**	**-1.7**
SNY				S	**S**	**06 05 44.3**	**-2.0**
SNY				pmax	pmax		
	comp=Z,470nm,1.3s						
SNY				LR	LR		
	comp=Z,24μm,23.1s						
SNY				LR	LR		
	comp=Z,16μm,23.7s						
SNY				LR	LR		
	comp=Z,64μm,29.9s						
GUIM	**Jordan**	**23.52**	**238

TYV *e*S **S** **06 06 40.7 +8.6**
TYV pmax pmax
comp=Z,125nm,1.2s
TYV pmax pmax
comp=Z,2μm,5.0s
TYV smax smax
comp=E,24nm,1.8s
TYV MLR MLR
comp=E,15μm,15.0s
TYV MLR MLR
comp=Z,14μm,18.0s
GRNR Gornyy 26.71 351⇑ *i*P **P** **06 02 07.9 +1.4**
GRNR *e*S **S** **06 06 44.9 +7.2**
GRNR pmax pmax
comp=E,30nm,0.7s
GRNR pmax pmax
comp=N,70nm,0.9s
GRNR pmax pmax
comp=Z,130nm,0.8s
GRNR smax smax
comp=N,9,0nm,0.6s
GRNR MLR MLR
comp=N,12μm,17.0s
GZH Guangzhou 26.84 273 P **P** **06 02 06.3 -1.6**
GZH S **S** **06 06 35.3 -4.9**
GZH LR LR
comp=N,24μm,17.9s
GZH LR LR
comp=N,13μm,13.9s
JAY Jayapura 26.87 184 P **P** **06 02 06.5 -1.7**
comp=N,66nm,0.7s,baz=308,slow=4.1,SNR=30
JAY LR LR 06 10 47.0
comp=N,22μm,21.9s,baz=10.0,slow=32
JAY Jayapura 26.87 184 P **P** **06 02 06.7 -1.5**
comp=N,20μmcomp=N,3μmcomp=N,107nm,2.2s
GENI Genyem 26.99 185 P **P** **06 02 07.5 -1.7**
comp=N,38μmcomp=N,10μmcomp=N,314nm,2.0s
BJT Baijiatuau 27.12 311 P **P** **06 02 08.4 -1.8**
BJT pmax pmax
comp=Z,274nm,0.8s
BJT MLR MLR
comp=Z,19μm,20.0s
BJT Baijiatuau 27.12 311 P **P** **06 02 08.4 -1.8**
BJT IAmb IAmb 06 02 14.1
comp=Z,274nm,0.8s
BJI Beijing 27.13 311 P **P** **06 02 08.3 -2.0**
BJI S **S** **06 06 42.5 -1.8**
BJI pmax pmax
comp=Z,380nm,1.1s
BJI LR LR
comp=Z,16μm,22.7s
BJI LR LR
comp=Z,16μm,21.4s
BJI LR LR
comp=Z,35μm,29.8s
SIJI Sorong 27.49 205 P **P** **06 02 11.8 -1.9**
comp=Z,34nm,0.5s,baz=1.2,slow=11,SNR=22
SIJI LR LR 06 10 45.1
comp=Z,32μm,21.6s,baz=48,slow=31
TNTI Ternate 27.81 214 P **P** **06 02 14.2 -2.4**
comp=Z,12μmcomp=Z,6μmcomp=Z,209nm,2.5s
TNTI Ternate 27.81 214 P **P** **06 02 14.7 -1.8**
TNTI IAmb IAmb 06 02 19.0
comp=Z,410nm,1.5s
SKR Severo-Kuril's 28.18 18 *e*P **P** **06 02 20.7 +1.1**
SKR *e*S **S** **06 07 00.7 0.0**
SKR pmax pmax
comp=Z,1μm,4.0s
SKR MLR MLR
comp=Z,5μm,18.0s
SKR MLR MLR
comp=N,4μm,14.0s
SKR MLR MLR
comp=E,5μm,12.0s
KWAJ Kwajalein Atol 28.45 119 P **P** **06 02 22.6 +0.3**
KWAJ pmax pmax
comp=Z,694nm,1.3s
KWAJ Kwajalein Atol 28.45 119 P **P** **06 02 22.6 +0.3**
KWAJ IAmb IAmb 06 02 36.7
comp=Z,694nm,1.3s
NKL Nikolayevsk 28.70 358 *e*P **P** **06 02 25.5 +1.4**
NKL *e* 06 05 31.2
NKL *e*S **S** **06 07 07.2 -1.5**
NKL pmax pmax
comp=Z,255nm,1.4s
NKL pmax pmax
comp=Z,861nm,3.2s
TIY Taiyuan 28.93 304 *e*P **P** **06 02 26.5 +0.1**
TIY pP **pP** **06 02 39.0 -1.4**
TIY PP **PnPn** **06 03 20.3 -0.3**
TIY PcP **PcP** **06 05 33.3 -1.0**
TIY S **S** **06 07 14.0 +1.1**
TIY sS **sS** **06 07 38.0 +1.4**
TIY pmax pmax
comp=Z,2μm,1.9s
TIY LR LR
comp=Z,4μm,9.3s
TIY LR LR
comp=Z,10μm,17.5s
TIY LR LR
comp=Z,33μm,26.5s
FAKI Fak Fak 29.03 202 P **P** **06 02 25.1 -2.4**
KMSI Cibinong 29.84 220 P **P** **06 02 34.2 -0.4**
comp=Z,341nm,0.9s
RABL Rabaul 29.93 161 P **P** **06 02 35.3 -0.1**
RABL IAmb IAmb 06 02 36.2
comp=Z,488nm,0.9s
ENH Enshi 29.96 289 P **P** **06 02 35.1 -0.5**
ENH IAmb IAmb 06 02 39.1
comp=Z,266nm,0.8s
KRVT Keravat (AS076 30.00 161 P **P** **06 02 34.7 -1.3**
comp=Z,208nm,0.9s,baz=118,slow=1.6,SNR=14
KRVT LR LR 06 15 43.4
comp=Z,6μm,18.6s,baz=348,slow=38
MYLDM Lahad Datu 30.11 234 P **P** **06 02 38.0 +1.0**
MYLDM IAmb IAmb 06 02 42.4
comp=Z,523nm,1.3s
HIA Hailar 30.59 330 P **P** **06 02 39.8 -1.1**
HIA pmax pmax
comp=Z,268nm,1.0s
HIA MLR MLR
comp=Z,29μm,22.0s
HIA Hailar 30.59 330 P **P** **06 02 39.8 -1.1**
HIA IAmb IAmb 06 02 43.8
comp=Z,268nm,1.0s
HIA Hailar 30.59 330 IAMs_20 IAMs_20 06 14 03.5
comp=Z,29μm,22.0s
HHC Hu-ho-hao-te 30.66 310 *e*P **P** **06 02 41.0 -0.8**
HHC pP pP 06 02 53.0 -2.8
HHC sP pwP 06 02 58.3 -1.1
HHC PP **PnPn** **06 03 42.3 -1.1**
HHC S **S** **06 07 38.5 -1.6**
HHC sS sS 06 07 58.5 -5.4
HHC pmax pmax
comp=Z,35nm,1.2s
HHC pmax pmax
comp=Z,1μm,5.6s
HHC LR LR
comp=Z,4μm,19.0s
HHC LR LR
comp=Z,11μm,21.6s
HHC LR LR
comp=Z,17μm,21.6s
PEA0B Petropavlovsk- 30.79 18 P **P** **06 02 44.6 +1.9**
PEA0B pmax pmax
comp=Z,175nm,1.3s
PEA0B Petropavlovsk- 30.79 18 P **P** **06 02 44.6 +1.9**
PETK Petropavlovsk- 30.79 18 P **P** **06 02 43.4 +0.7**
comp=Z,14nm,0.6s,baz=205,slow=6.4,SNR=18
PETK PcP **PcP** **06 05 39.5 +0.8**
comp=Z,22nm,0.9s,baz=197,slow=4.5,SNR=4.1
PETK LR LR 06 13 52.4
comp=Z,11μm,21.6s,baz=204,slow=34
XAN Xi'an 30.83 296 P **P** **06 02 42.8 -0.5**
XAN PP **PnPn** **06 03 48.0 +2.4**
XAN S **S** **06 07 39.8 -3.1**
XAN SS **ScP** **06 09 26.3 +9.4**
XAN pmax pmax
comp=Z,300nm,1.5s
XAN pmax pmax
comp=Z,5μm,4.1s
XAN LR LR
comp=Z,21μm,20.1s
XAN LR LR
comp=Z,17μm,27.0s
XAN LR LR
comp=Z,34μm,30.4s
XAN Xi'an 30.83 296 P **P** **06 02 42.8 -0.5**
XAN pmax pmax
comp=Z,494nm,1.4s
XAN MLR MLR
comp=Z,6μm,20.0s
XAN Xi'an 30.83 296 P **P** **06 02 42.8 -0.5**
XAN IAmb IAmb 06 03 00.8
comp=Z,494nm,1.4s
QIZ Qiongzhong 30.91 266 P **P** **06 02 44.5 +0.4**
QIZ sP **pwP** **06 03 01.3 -0.1**
QIZ PP **PnPn** **06 03 45.5 -1.3**
QIZ S **S** **06 07 43.5 -0.7**
QIZ pmax pmax
comp=Z,750nm,9.8s
QIZ LR LR
comp=Z,24μm,26.5s
QIZ LR LR
comp=Z,9μm,22.1s
QIZ LR LR
comp=Z,16μm,29.4s
QIZ Qiongzhong 30.91 266 P **P** **06 02 44.7 +0.6**
QIZ Qiongzhong 30.91 266 IAMs_20 IAMs_20 06 12 33.7
comp=Z,18μm,21.0s
SANI Sanana 30.92 214 P **P** **06 02 40.7 -3.4**
comp=Z,5μmcomp=Z,110nm,1.3s
PET Petropavlovsk 30.99 19κ *i*P **P** **06 02 47.1 +2.7**
PET *e**SP **sP** **06 03 07.4 +2.7**
PET *e* 06 03 49.0
PET *i* S **S** **06 07 47.5 +2.7**
PET pmax pmax
comp=Z,183nm,1.5s
PET pmax pmax
comp=Z,2μm,4.1s
PET pmax pmax
comp=Z,3μm,14.5s
PET pmax pmax
comp=Z,2μm,13.7s
PET MLR MLR
comp=Z,19μm,18.0s
PET MLR MLR
comp=Z,15μm,16.0s
PET Petropavlovsk 30.99 19 P **P** **06 02 45.1 +0.7**
MRSI Marisa 31.15 223 P **P** **06 02 45.8 -0.4**
comp=Z,17μmcomp=Z,9μmcomp=Z,404nm,1.6s
KKM Kota Kinabalu 31.29 239 P **P** **06 02 46.8 -0.8**
KKM IAmb IAmb 06 02 51.7
comp=Z,254nm,1.2s
ZEA Zeya 31.45 342*d**e*P **P** **06 02 48.6 +0.1**
ZEA *e*PPP PPP 06 04 13.0
ZEA *e*S **S** **06 07 51.0 -1.0**
ZEA *e*SSS SSS 06 10 07.5
ZEA pmax pmax
comp=Z,6μm,4.0s
ZEA pmax pmax
comp=E,2μm,3.0s
ZEA pmax pmax
comp=N,3μm,4.0s
ZEA pmax pmax
comp=E,320nm,1.0s
ZEA pmax pmax
comp=N,1μm,1.4s
ZEA pmax pmax
comp=Z,2μm,1.4s
ZEA smax smax
comp=Z,3μm,8.0s
ZEA smax smax
comp=N,10μm,12.0s
ZEA MLR MLR
comp=Z,50μm,22.0s
BTO Baotou 31.66 309 *e*P **P** **06 02 50.5 -0.1**
BTO *e*PP **PP** **06 04 01.3 -1.7**
LUWI Luwuk 31.85 220 P **P** **06 02 50.0 -2.3**
comp=Z,16μmcomp=Z,6μmcomp=Z,378nm,1.3s
LUWI Luwuk 31.85 220 P **P** **06 02 50.3 -2.0**
LUWI IAmb IAmb 06 02 53.7
comp=Z,597nm,1.3s
SPMM Sapulut 31.94 236 P **P** **06 02 53.0 -0.2**
GYA Guiyang 32.50 281 ⇓P **P** **06 02 58.3 +0.2**
GYA pP pP 06 03 13.0 +0.8
GYA sP pwP 06 03 16.0 +0.4
GYA PP **PP** **06 04 12.5 +0.1**
GYA S **S** **06 08 06.8 -2.4**
GYA SS **SnSn** **06 10 08.0 +0.4**
GYA ScS **ScS** **06 13 21.8 -0.7**
GYA pmax pmax
comp=Z,190nm,1.5s
GYA pmax pmax
comp=Z,2μm,3.5s
GYA LR LR
comp=Z,6μm,17.3s
GYA LR LR
comp=Z,12μm,23.7s
GYA LR LR
comp=Z,22μm,22.2s
MPSI Mapaga 32.56 226 P **P** **06 02 58.4 -0.2**
comp=Z,16μmcomp=Z,4μmcomp=Z,90nm,1.5s
PMG Port Moresby 33.94 172 P **P** **06 03 08.9 -1.6**
comp=Z,569nm,0.5s,baz=52,slow=5.7,SNR=103
PMG Port Moresby 33.94 172*c* *i*P **P** **06 03 08.6 -1.9**
PMG pmax pmax
comp=Z,559nm,0.6s
PMG Port Moresby 33.94 172 P **P** **06 03 08.6 -1.9**
SAUI Saumlaki 34.09 200 P **P** **06 03 11.3 -0.5**
DLV T Lat 34.66 255 P **P** **06 03 17.6 +0.5**
CD2 Chengdu 34.92 289 P **P** **06 03 19.0 0.0**
CD2 pP pP 06 03 29.5 -3.7
CD2 sP pwP 06 03 36.5 0.0
CD2 PP **PP** **06 04 38.3 -0.8**
CD2 S **S** **06 08 45.5 -0.9**
CD2 sS sS 06 09 07.5 -2.8
CD2 pmax pmax
comp=Z,500nm,0.5s
CD2 pmax pmax
comp=Z,3μm,4.3s
CD2 LR LR
comp=Z,37μm,18.6s
CD2 LR LR
comp=Z,24μm,23.0s
CD2 LR LR
comp=Z,22μm,25.0s
TTSI Tana Toraja 35.21 222 P **P** **06 03 21.1 -0.5**
comp=Z,16μmcomp=Z,3μmcomp=Z,72nm,1.7s
LZH Lanzhou 35.26 298⇑ ⇑P **P** **06 03 22.5 +0.5**
LZH sP pP 06 03 36.3 +0.1
LZH PP **PP** **06 04 44.5 +1.6**
LZH S **S** **06 08 50.0 -1.7**
LZH sS sS 06 09 14.0 -1.6
LZH SS **SnSn** **06 11 11.8 -2.5**
LZH ScS **ScS** **06 13 37.3 +0.5**
LZH pmax pmax
comp=Z,310nm,1.3s
LZH pmax pmax
comp=Z,5μm,4.8s
LZH LR LR
comp=Z,17μm,13.2s
LZH LR LR
comp=Z,20μm,13.5s
LZH LR LR
comp=Z,26μm,17.0s
CIT Chita 35.35 329 *e*P **P** **06 03 24.0 +1.6**
CIT *e* 06 03 30.4
CIT *e* 06 03 40.5
CIT pmax pmax
comp=Z,1μm,2.4s
MA2 Magadan 35.56 7 P **P** **06 03 25.0 +0.9**
comp=Z,34nm,0.7s,baz=194,slow=9.8,SNR=24
MA2 Magadan 35.56 7*d* *i*P **P** **06 03 26.2 +2.1**
MA2 pmax pmax
comp=Z,265nm,1.8s
MA2 MLR MLR
comp=Z,15μm,21.0s
MA2 Magadan 35.56 7 P **P** **06 03 24.8 +0.7**
MA2 IAmb IAmb 06 03 38.0
comp=Z,158nm,1.1s
BKB Balikpapan 35.75 228 P **P** **06 03 24.7 -1.5**
comp=Z,17μmcomp=Z,15μmcomp=Z,381nm,1.2s
BKB Balikpapan 35.75 228 P **P** **06 03 24.9 -1.3**
BKB IAmb IAmb 06 03 43.5
comp=Z,319nm,0.9s
SLVN Son La 35.76 273 P **P** **06 03 26.5 +0.2**
MIDW Midway 35.91 75 P **P** **06 03 28.1 +0.6**
MIDW IAmb IAmb 06 03 30.9
comp=Z,439nm,1.1s
SPSI Sidrap Palu 35.97 221 P **P** **06 03 27.4 -0.7**
comp=Z,16μmcomp=Z,9μmcomp=Z,385nm,0.9s
BNSI Bone 36.11 220 P **P** **06 03 28.2 -1.1**
comp=Z,12μmcomp=Z,447nm,2.3s
KMI Kunming 36.16 280⇑ *i*P **P** **06 03 32.0 +2.1**
KMI pP pP 06 03 42.5 -1.6
KMI sP pwP 06 03 45.5 -2.1
KMI S **S** **06 09 03.5 -2.3**
KMI sS sS 06 09 31.3 +1.5
KMI pmax pmax
comp=Z,230nm,1.0s
KMI pmax pmax
comp=Z,2μm,5.5s
KMI LR LR
comp=Z,19μm,22.0s
KMI LR LR
comp=Z,13μm,23.0s
KMI LR LR
comp=Z,23μm,22.9s
KMI Kunming 36.16 280 P **P** **06 03 31.2 +1.3**
KMI pmax pmax
comp=Z,302nm,1.2s
KMI MLR MLR
comp=Z,19μm,22.0s
KMI Kunming 36.16 280 P **P** **06 03 31.2 +1.3**
KMI IAmb IAmb 06 03 34.2
comp=Z,302nm,1.2s
KMI Kunming 36.16 280 IAMs_20 IAMs_20 06 17 38.0
comp=Z,19μm,22.0s
ULN Ulaanbaatar 36.56 319 P **P** **06 03 31.6 -1.4**
ULN P **P** **06 03 31.6 -1.4**
ULN S **S** **06 09 07.9 -3.5**
ULN S **S** **06 09 07.9 -3.5**
ULN Ulaanbaatar 36.56 319*d* *i*P **P** **06 03 31.9 -1.1**
ULN pmax pmax
comp=Z,422nm,1.6s
ULN Ulaanbaatar 36.56 319 P **P** **06 03 31.8 -1.1**
ULN **P** **06 03 32.0 -1.0**
SBUM Sibu 36.63 238 P **P** **06 03 33.4 -0.3**
SBUM IAmb IAmb 06 03 37.6
comp=Z,219nm,1.3s
SBUM Sibu 36.63 238 P **P** **06 03 34.0 +0.3**
KAPI Kappang 36.81 220 LR LR 06 17 01.2
comp=Z,5μm,21.0s,baz=51,slow=34
KAPI Kappang 36.81 220 P **P** **06 03 34.7 -0.6**
KAPI pmax pmax
comp=Z,299nm,1.2s
KAPI Kappang 36.81 220 P **P** **06 03 34.7 -0.6**
KAPI IAmb IAmb 06 03 39.8
comp=Z,299nm,1.1s
KAPI Kappang 36.81 220 IAMs_20 IAMs_20 06 16 39.6
comp=Z,6μm,20.0s
MTKI Muara Teweh, K 36.91 231 P **P** **06 03 34.6 -1.5**
comp=Z,7μmcomp=Z,102nm,1.0s
SMY Shemya 36.91 32 P **P** **06 03 37.2 +1.5**
SMY pmax pmax
comp=Z,520nm,1.5s
SMY Shemya 36.91 32 P **P** **06 03 37.2 +1.5**
SMY IAmb IAmb 06 03 40.4
comp=Z,520nm,1.5s
SONM Songino Array 36.94 318 P **P** **06 03 35.5 -0.7**
comp=Z,21nm,0.5s,baz=128,slow=7.5,SNR=69
SONM PP **PP** **06 05 05.8 +4.6**
comp=Z,23nm,0.9s,baz=121,slow=7.5,SNR=5.0
SONM ScP **ScP** **06 09 41.9 +3.6**
comp=Z,3.5nm,0.8s,baz=259,slow=0.7,SNR=2.6
SONM LR LR 06 19 12.4
comp=Z,34μm,21.8s,baz=129,slow=37
SONM P3KPbc 06 34 04.7
comp=Z,2.6nm,0.9s,baz=298,slow=3.2,SNR=11
TARA Tarawa 37.19 124 P **P** **06 03 39.2 +0.7**
TARA Tarawa 37.19 124 IAMs_20 IAMs_20 06 15 51.1
comp=Z,18μm,22.0s
HNR Honiara 37.67 151 P **P** **06 03 41.0 -1.5**
comp=Z,284nm,0.8s,baz=167,slow=22,SNR=15
HNR LR LR 06 19 06.0
comp=Z,5μm,19.4s,baz=320,slow=36
HNR Honiara 37.67 151 P **P** **06 03 40.8 -1.7**
HNR pmax pmax
comp=Z,749nm,1.0s
HNR MLR MLR
comp=Z,22μm,21.0s
HNR Honiara 37.67 151 P **P** **06 03 40.8 -1.7**
HNR Honiara 37.67 151 IAMs_20 IAMs_20 06 18 13.1
comp=Z,22μm,21.0s
KBKI Kotabaru 37.74 227 P **P** **06 03 42.5 -0.6**
comp=Z,123nm,0.8s
COEN Coen 38.18 179 P **P** **06 03 45.8 -0.9**
SOEI Soe 38.45 210 P **P** **06 03 48.5 -0.7**
comp=Z,15μmcomp=Z,10μmcomp=Z,539nm,0.8s
SOEI Soe 38.45 210 P **P** **06 03 47.1 -2.1**
SOEI IAmb IAmb 06 04 02.1
comp=Z,312nm,0.8s
SOEI IAMs_20 IAMs_20 06 17 21.8
comp=Z,17μm,22.0s
MMRI Maumere 38.45 214 P **P** **06 03 48.9 -0.2**
comp=Z,20μmcomp=Z,22μmcomp=Z,925nm,2.3s
MMRI Maumere 38.45 214 P **P** **06 03 48.1 -1.0**
YAK Yakutsk 38.59 350 LR LR 06 20 04.6
comp=Z,30μm,21.1s,baz=156,slow=37
YAK Yakutsk 38.59 350*c* *i*P **P** **06 03 50.1 +0.4**
YAK *e**PP **pwP** **06 04 08.3 +0.7**
YAK *e* 06 05 20.4
YAK *e*S **S** **06 09 41.1 -0.2**
YAK *e*SS **SS** **06 12 29.8 -3.3**
YAK *e*SSS SSS 06 13 01.3
YAK pmax pmax
comp=Z,902nm,1.0s
YAK pmax pmax
comp=N,894nm,1.3s
YAK pmax pmax
comp=E,217nm,1.2s
YAK pmax pmax
comp=Z,2μm,2.5s
YAK pmax pmax
comp=E,603nm,1.8s
YAK pmax pmax
comp=N,3μm,2.2s
YAK smax smax
comp=N,5μm,2.8s
YAK smax smax
comp=E,2μm,3.0s
YAK Yakutsk 38.59 350 P **P** **06 03 49.5 -0.2**
KSM Kuching 38.72 239 P **P** **06 03 50.5 -1.0**
MTN Manton Dam 38.74 198 P **P** **06 03 49.6 -1.9**
EDFI Ende, Flores 38.83 214 P **P** **06 03 51.0 -1.4**
comp=E,11μmcomp=E,8μmcomp=E,300nm,1.1s
GTA Gaotai 38.93 303 ⇓P **P** **06 03 52.3 -0.8**
GTA pP pP 06 04 05.5 -1.8
GTA sP pwP 06 04 10.5 -0.5
GTA PP **PnPn** **06 05 28.5 +2.5**
GTA S **S** **06 09 42.5 -4.9**
GTA sS sS 06 10 07.8 -3.7
GTA ScS **ScS** **06 13 56.3 -1.0**
GTA pmax pmax
comp=E,190nm,2.0s
GTA pmax pmax
comp=E,3μm,5.3s
GTA LR LR
comp=E,9μm,19.7s
GTA LR LR
comp=E,15μm,24.4s
GTA LR LR
comp=E,21μm,22.8s
BATI Baumata 39.12 211 P **P** **06 03 53.5 -1.2**
comp=E,154nm,0.4s,baz=98,slow=2.3,SNR=19
BATI LR LR 06 19 55.2
comp=E,5μm,21.1s,baz=30,slow=36
BATI Baumata 39.12 211 P **P** **06 03 53.3 -1.4**
comp=E,9μmcomp=E,5μmcomp=E,313nm,0.8s
BOD Bodaibo 39.13 336 *e*P **P** **06 03 52.7 -1.6**
BOD pmax pmax
comp=Z,631nm,1.9s
PBKT Sadao Pong 39.71 267 P **P** **06 04 00.9 +1.3**
ZAK Zakamensk 39.90 321 *e*P **P** **06 03 59.8 -1.2**
ZAK pmax pmax
comp=Z,183nm,2.0s
IRK Irkutsk 40.20 324 *e*P **P** **06 04 02.1 -1.2**
IRK pmax pmax
comp=Z,637nm,3.4s
TLY Talaya 40.27 323 P **P** **06 04 04.4 +0.4**
comp=Z,33nm,0.6s,baz=134,slow=7.0,SNR=25
TLY LR LR 06 20 55.5
comp=Z,20μm,22.0s,baz=114,slow=36
TLY Talaya 40.27 323 P **P** **06 04 03.3 -0.6**
TLY P **P** **06 04 03.3 -0.6**
TLY Talaya 40.27 323*d* *i*P **P** **06 04 02.5 -1.5**

TLY eS S 06 10 06.8 -0.2
TLY eSS ScS 06 13 45.6 -19
TLY pmax pmax
comp=Z,629nm,1.7s
TLY MLR MLR
comp=Z,41µm,17.0s
TLY Talaya 40.27 323 P P 06 04 04.1 +0.1
PBKI Pangkalan Bun 40.44 232 P P 06 04 03.9 -1.8
comp=Z,11µmcomp=Z,708nm,1.3s
BASI Baing, Sumba 40.65 215 P P 06 04 04.6 -2.7
comp=Z,9µmcomp=Z,723nm,1.0s
WBSI Waikabubak, Su 40.79 217 P P 06 04 04.6 -4.0
comp=Z,3µmcomp=Z,207nm,0.9s
CHTO Chiang Mai 40.90 271 P P 06 04 10.0 +0.4
CHTO S S 06 10 19.1 +2.1
CHTO Chiang Mai 40.90 271 P P 06 04 09.9 +0.4
CHTO pmax pmax
comp=Z,93nm,1.0s
CHTO Chiang Mai 40.90 271 P P 06 04 09.9 +0.4
CM31 Chiang Mai Arr 40.99 270 P P 06 04 11.9 +1.6
SNR=22
CM31 Chiang Mai Arr 40.99 270 P P 06 04 11.6 +1.3
CMAR Chiang Mai Arr 40.99 270 P P 06 04 11.6 +1.3
comp=Z,51nm,0.7s,baz=62,slow=7.5,SNR=137
CMAR S S 06 10 20.3 +1.8
comp=Z,2.5nm,0.3s,baz=58,slow=14,SNR=4.8
CMAR LR LR 06 19 55.7
comp=Z,10µm,21.8s,baz=127,slow=34
PLAI Plampang 41.03 219 P P 06 04 09.2 -1.3
comp=Z,16µmcomp=Z,11µmcomp=Z,497nm,2.1s
ADK Adak 41.28 38 P P 06 04 13.1 +0.9
ADK pmax pmax
comp=Z,194nm,1.3s
ADK Adak 41.28 38 P P 06 04 13.1 +0.9
ADK Adak 41.28 38 IAms_20 IAms_20 06 18 07.2
comp=Z,17µm,21.0s
MOY Mondy 41.75 322 eP P 06 04 15.3 -0.9
MOY e 06 06 00.9
MOY pmax pmax
comp=Z,652nm,3.6s
SRBI Singaraja 41.98 223 P P 06 04 17.4 -0.9
comp=Z,19µmcomp=Z,9µmcomp=Z,202nm,1.7s
LKP Lekhapani 42.02 284 IAmb IAmb 06 04 22.0
comp=Z,519nm,1.1s
KNRA Kunumurra 42.13 200 P P 06 04 18.0 -1.4
KNRA IAmb IAmb 06 04 22.7
comp=Z,163nm,0.8s
ATKA Atka Island 42.81 38 P P 06 04 25.1 +0.5
ATKA IAMs_20 IAMs_20 06 18 29.7
comp=Z,13µm,22.0s
JAGI Jajag, Banyuwa 42.94 224 P P 06 04 25.8 -0.4
comp=Z,15µmcomp=Z,6µmcomp=Z,253nm,1.0s
JAGI Jajag, Banyuwa 42.94 224 P P 06 04 25.1 -1.0
JAGI IAmb IAmb 06 04 28.0
comp=Z,268nm,1.2s
TPI Tanjungpandan 43.45 236 P P 06 04 29.9 -0.4
comp=Z,4µmcomp=Z,119nm,2.0s
TPRI Tanjung Pinang 43.67 243 P P 06 04 32.7 +0.6
comp=Z,70µmcomp=Z,172nm,1.7s
MYKOM Kota Tinggi 43.73 245 IAMs_20 IAMs_20 06 22 48.2
comp=Z,5µm,19.0s
MYKOM Kota Tinggi 43.73 245 P P 06 04 34.0 +1.5
ZIRO ZIRO 43.76 285 eP P 06 04 34.1 +1.2
ZIRO IAmb IAmb 06 04 36.3
comp=Z,192nm,0.8s
KOHI KOHIMA 43.79 282 eP P 06 04 32.5 -0.6
KOHI IAmb IAmb 06 04 35.3
comp=Z,27nm,0.7s
NGJI Ngawi 43.88 228 P P 06 04 34.9 +1.2
comp=Z,16µmcomp=Z,142nm,1.0s
PPBI Pangkal Pinang 44.24 238 P P 06 04 36.9 +0.3
comp=Z,10µmcomp=Z,198nm,2.2s
SMRI Semarang 44.35 229 P P 06 04 36.8 -0.7
comp=Z,14µmcomp=Z,8µmcomp=Z,201nm,2.5s
SMRI Semarang 44.35 229 P P 06 04 36.3 -1.2
CTA Charters Tower 44.41 175 P P 06 04 37.0 -0.9
comp=Z,206nm,0.6s,baz=357,slow=8.8,SNR=108
CTAO Charters Tower 44.41 175 P P 06 04 36.9 -0.9
CTAO pmax pmax
comp=Z,450nm,0.9s
CTAO MLR MLR
comp=Z,7µm,21.0s
CTAO Charters Tower 44.41 175 P P 06 04 36.9 -0.9
CTAO IAmb IAmb 06 04 41.6
comp=Z,450nm,0.9s
DSRI Dabo 44.44 242 P P 06 04 39.8 +1.5
WOJI Wonogiri, Jawa 44.59 228 P P 06 04 40.8 +1.5
comp=Z,6µmcomp=Z,81nm,1.2s
KULM Kulim 44.60 252 P P 06 04 39.3 -0.2
KULM IAmb IAmb 06 04 44.5
comp=Z,362nm,1.3s
KULM Kulim 44.60 252 P P 06 04 41.0 +1.5
IPM Ipoh 44.68 250 P P 06 04 40.4 +0.2
IPM IAmb IAmb 06 04 44.6
comp=Z,254nm,1.2s
IPM Ipoh 44.68 250 P P 06 04 42.0 +1.8
WB0 Warramunga Arr 44.68 191 P P 06 04 38.5 -1.5
WB0 IAMs_20 IAMs_20 06 22 26.0
comp=Z,12µm,22.0s
WB7 Warramunga Arr 44.76 191 IAMs_20 IAMs_20 06 21 39.5
comp=Z,17µm,22.0s
WB6 Warramunga Arr 44.77 191 IAMs_20 IAMs_20 06 21 52.4
comp=Z,13µm,22.0s
WC2 Warramunga Arr 44.84 191 IAMs_20 IAMs_20 06 21 54.3
comp=Z,14µm,21.0s
WC1 Warramunga Arr 44.84 191 IAMs_20 IAMs_20 06 24 52.1
comp=Z,12µm,19.0s
WR0 Warramunga Arr 44.84 191 P P 06 04 39.8 -1.5
WR0 IAMs_20 IAMs_20 06 22 31.4
comp=Z,13µm,22.0s
WR9 Warramunga Arr 44.85 191 IAMs_20 IAMs_20 06 22 31.4
comp=Z,13µm,22.0s
WR8 Warramunga Arr 44.85 191 IAMs_20 IAMs_20 06 22 31.4
comp=Z,13µm,22.0s
WR7 Warramunga Arr 44.85 191 IAMs_20 IAMs_20 06 22 31.5
comp=Z,12µm,22.0s
WRAB Tennant Creek 44.85 191c *i* P P 06 04 40.1 -1.3
WRAB pmax pmax
comp=Z,2µm,1.3s
WRAB MLR MLR
comp=Z,16µm,22.0s
WRAB Tennant Creek 44.85 191 P P 06 04 40.0 -1.3
WRAB Tennant Creek 44.85 191 IAMs_20 IAMs_20 06 21 54.5
comp=Z,15µm,22.0s
WR3 Warramunga Arr 44.86 191 IAMs_20 IAMs_20 06 21 55.8
comp=Z,14µm,22.0s
WB2 Warramunga Arr 44.86 191 P P 06 04 40.1 -1.3
WR1 Warramunga Arr 44.86 191 IAMs_20 IAMs_20 06 21 43.8
comp=Z,18µm,22.0s
WR2 Warramunga Arr 44.86 191 IAMs_20 IAMs_20 06 21 55.8
comp=Z,13µm,22.0s
WRA Warramunga Arr 44.86 191 P P 06 04 40.4 -1.1
comp=Z,378nm,0.7s,baz=13,slow=7.9,SNR=147
WRA PcP PcP 06 06 24.1 +1.8
comp=Z,142nm,0.8s,baz=4.9,slow=3.6,SNR=6.8
WRA S S 06 11 12.4 -2.5
comp=Z,12nm,0.8s,baz=11,slow=14,SNR=4.9
WRA LR LR 06 22 16.7
comp=Z,8µm,19.8s,baz=5.0,slow=34
WRA P4KPbc 06 42 32.8
comp=Z,1.7nm,0.7s,baz=12,slow=4.6,SNR=5.9
WB1 Warramunga Ar. 44.88 191 IAMs_20 IAMs_20 06 24 51.0
comp=Z,16µm,22.0s
UGM Wanagama 44.91 228 IAMs_20 IAMs_20 06 22 14.3
comp=Z,5µm,22.0s
JOHN Johnston Islan 45.23 90 P P 06 04 44.6 +0.1
FITZ Fitzroy Crossi 45.43 203 P P 06 04 44.9 -1.0
comp=Z,356nm,0.9s,baz=26,slow=9.4,SNR=110
FITZ Fitzroy Crossi 45.43 203 P P 06 04 45.1 -0.8
PMBI Palembang 45.77 239 P P 06 04 49.5 +0.7
comp=Z,15µmcomp=Z,802nm,1.4s
PMBI Palembang 45.77 239 P P 06 04 50.2 +1.4
SHL Shillong 45.80 283 eP P 06 04 49.7 +0.6
SHL IAmb IAmb 06 04 52.1
comp=Z,195nm,0.5s
SHL Shillong 45.80 283 P P 06 04 49.7 +0.6
SNR=84
SHL Shillong 45.80 283 P P 06 04 49.9 +0.8
SHL IAMs_20 IAMs_20 06 24 03.7
comp=Z,19µm,22.0s
LSA Lhasa 45.86 288 P P 06 04 51.8 +1.9
LSA pP pP 06 05 00.5 -4.1
LSA S S 06 11 34.8 +4.5
LSA ScS ScS 06 14 43.5 +2.4
LSA pmax pmax
comp=Z,57nm,0.9s
LSA pmax pmax
comp=Z,5µm,5.0s
LSA LR LR
comp=Z,10µm,22.1s
LSA LR LR
comp=Z,30µm,27.8s
LSA LR LR
comp=Z,61µm,27.1s
LSA Lhasa 45.86 288 P P 06 04 51.8 +1.9
LSA pmax pmax
comp=Z,513nm,1.5s
LSA MLR MLR
comp=Z,11µm,22.0s
LSA Lhasa 45.86 288 P P 06 04 51.8 +1.9
LSA IAmb IAmb 06 05 08.6
comp=Z,513nm,1.5s
BILL Bilibino 45.94 12d *i* P P 06 04 50.5 +1.1
BILL e*PP pP 06 05 00.6 -3.2
BILL e*SP pwP 06 05 05.6 -2.3
BILL e 06 06 22.0
BILL e 06 06 45.0
BILL ePPP PPP 06 07 18.4
BILL pmax pmax
comp=Z,389nm,1.5s
BILL Bilibino 45.94 12 P P 06 04 50.1 +0.8
BILL IAmb IAmb 06 04 53.4
comp=Z,448nm,1.4s
NIKH Nikolski High 46.12 39 P P 06 04 51.5 +0.5
SANVU Saraoutou 46.33 146 P P 06 04 51.7 -1.4
CBJI Citeko 46.47 233 P P 06 04 56.4 +2.2
comp=Z,13µmcomp=Z,467nm,0.6s
CISI Cisompet, Garu 46.54 231 P P 06 04 53.1 -1.8
comp=Z,9µmcomp=Z,7µmcomp=Z,343nm,0.6s
CISI Cisompet, Garu 46.54 231 P P 06 04 52.4 -2.5
CISI IAmb IAmb 06 04 55.8
comp=Z,242nm,1.0s
DBJI Dramaga 46.63 233 P P 06 04 55.2 -0.3
comp=Z,20µmcomp=Z,681nm,2.4s
AGT Agartala 46.68 280⇓ *i* P P 06 04 57.0 +1.1
AGT IAmb IAmb 06 05 05.6
comp=Z,179nm,0.6s
CNJI Cibinong 46.87 232 P P 06 04 57.5 +0.2
comp=Z,5µmcomp=Z,295nm,0.9s
BKNI Bangkinang 46.87 246 P P 06 04 58.7 +1.3
comp=Z,10µmcomp=Z,12µmcomp=Z,449nm,1.4s
BKNI Bangkinang 46.87 246 P P 06 04 58.1 +0.6
SKJI Sukabumi 47.07 233 P P 06 04 59.1 +0.1
comp=Z,8µmcomp=Z,344nm,1.3s
SDSI Sungai Dareh 47.26 244 P P 06 05 01.3 +0.8
comp=Z,5µmcomp=Z,177nm,0.9s
TSI Tuntungan 47.29 251 P P 06 05 01.6 +0.9
comp=Z,8µmcomp=Z,7µmcomp=Z,158nm,1.0s
PSI Prapat 47.34 250 P P 06 05 01.7 +0.5
PSI pmax pmax
comp=Z,242nm,1.2s
RPSI Rantau Prapat 47.39 250 P P 06 05 01.7 +0.3
RPSI IAmb IAmb 06 05 05.6
comp=Z,242nm,1.2s
UNV Unalaska Valle 47.73 38 P P 06 05 04.3 +0.8
UNV IAmb IAmb 06 05 06.2
comp=Z,268nm,1.5s
UNV IAMs_20 IAMs_20 06 22 35.0
comp=Z,14µm,21.0s
MNSI Mandailing Nat 47.83 247 P P 06 05 05.3 +0.4
comp=Z,6µmcomp=Z,234nm,0.9s
LHMI Lhok Sumawe 47.85 254 P P 06 05 04.7 -0.3
LHMI IAmb IAmb 06 05 22.8
comp=Z,131nm,0.7s
KRAR Krasnoyarsk 47.85 325⇑ *i* P P 06 05 03.9 -0.6
TIXI Tiksi 47.87 354 S S 06 11 59.5 +2.6
comp=Z,6.6nm,0.8s,baz=220,slow=23,SNR=8.5
TIXI LR LR 06 26 20.4
comp=Z,15µm,21.6s,baz=162,slow=37
TIXI Tiksi 47.87 354d *i* P P 06 05 04.5 +0.1
TIXI pmax pmax
comp=Z,399nm,1.4s
TIXI MLR MLR
comp=Z,15µm,22.0s
TIXI Tiksi 47.87 354 P P 06 05 05.1 +0.7
TIXI IAmb IAmb 06 05 22.7
comp=Z,158nm,0.7s
KCSI Kotacane, Aceh 47.96 252 P P 06 05 05.7 -0.2
comp=Z,2µmcomp=Z,148nm,1.1s
MNAI Manna 48.08 239 P P 06 05 07.0 +0.2
MNAI Manna 48.08 239 P P 06 05 05.6 -1.2
DGPR DIGLIPUR 48.16 266 eP P 06 05 08.3 +0.9
DGPR IAmb IAmb 06 05 12.5
comp=Z,116nm,0.6s
AKUT Akutan 48.23 38 P P 06 05 08.4 +1.0
AKUT IAmb IAmb 06 05 11.0
comp=Z,231nm,1.1s
AKUT IAMs_20 IAMs_20 06 22 50.2
comp=Z,12µm,21.0s
FUNA Funafuti 48.42 128 P P 06 05 09.3 -0.1
WMQ Urumqi 48.49 308 P P 06 05 10.3 +0.6
WMQ pP pP 06 05 23.5 -0.9
WMQ PP PP 06 07 03.3 +0.5
WMQ S S 06 12 04.0 -2.6
WMQ sS sS 06 12 29.3 -2.1
WMQ ScS ScS 06 14 56.8 -0.3
WMQ SS SS 06 15 35.0 -1.9
WMQ pmax pmax
comp=Z,380nm,1.7s
WMQ pmax pmax
comp=Z,3µm,3.7s
WMQ LR LR
comp=Z,4µm,20.9s
WMQ LR LR
comp=Z,10µm,21.9s
WMQ LR LR
comp=Z,27µm,21.9s
WMQ Urumqi 48.49 308 P P 06 05 10.3 +0.6
WMQ pmax pmax
comp=Z,1µm,1.5s
WMQ MLR MLR
comp=Z,15µm,22.0s
WMQ Urumqi 48.49 308 P P 06 05 10.3 +0.6
WMQ Urumqi 48.49 308 IAMs_20 IAMs_20 06 26 13.6
comp=Z,15µm,22.0s
AS31 Alice Springs 48.58 191 P P 06 05 08.7 -1.8
ASAR Alice Springs 48.58 191 P P 06 05 08.7 -1.8
comp=Z,66nm,0.6s,baz=16,slow=14,SNR=195
ASAR PcP PcP 06 06 37.0 +1.6
comp=Z,31nm,0.8s,baz=14,slow=3.8,SNR=6.6
ASAR S S 06 12 07.2 -0.7
comp=Z,13nm,1.0s,baz=19,slow=19,SNR=7.7
ASAR LR LR 06 24 33.2
comp=Z,14µm,21.5s,baz=18,slow=35
ASAR P4KPbc 06 42 48.2
comp=Z,1.7nm,0.7s,baz=14,slow=4.7,SNR=11
TPTI 48.60 252 P P 06 05 10.8 -0.1
comp=Z,500nmcomp=Z,39nm,1.0s
MLSI Meulaboh, Aceh 48.79 253 P P 06 05 14.0 +1.7
comp=Z,147nm,1.2s
TAPN Taplejung 49.18 286 eP P 06 05 16.8 +1.3
comp=Z,217nm,0.8s
GSI Gunungsitoli 49.26 249 P P 06 05 16.1 +0.2
comp=Z,29µmcomp=Z,965nm,1.1s
GSI Gunungsitoli 49.26 249 P P 06 05 15.7 -0.2
GAMB Gambell 49.32 25 P P 06 05 17.6 +2.0
SISI Saibi 49.41 245 P P 06 05 17.1 +0.1
comp=Z,5µmcomp=Z,168nm,1.0s
DGZ Jazzator, Alta 49.42 315d *i* P P 06 05 16.6 -0.2
DGZ pmax pmax
comp=Z,737nm,1.5s
DGZ MLR MLR
comp=Z,24µm,18.0s
PPSI Pulau Pagai 49.47 243 P P 06 05 18.4 +0.9
comp=Z,13µmcomp=Z,14µmcomp=Z,623nm,1.1s
ODAN Odare 49.55 285 eP P 06 05 19.5 +1.2
XMIS Christmas Isla 50.10 230 P P 06 05 20.5 -1.7
XMIS IAmb IAmb 06 05 39.2
comp=Z,123nm,1.1s
EIDS Eidsvold 50.19 170 P P 06 05 21.7 -1.0
EIDS IAMs_20 IAMs_20 06 23 41.3
comp=Z,12µm,22.0s
RAMN Ramite 50.23 286 eP P 06 05 24.5 +1.1
comp=Z,197nm,0.8s
JIRN Jiri 50.46 287 eP P 06 05 26.8 +1.5
comp=Z,703nm,0.7s
MBWA Marble Bar 50.52 208 P P 06 05 24.0 -1.2
MBWA IAmb IAmb 06 05 29.3
comp=Z,332nm,1.3s
MBWA Marble Bar 50.52 208 IAMs_20 IAMs_20 06 26 11.8
comp=Z,5µm,22.0s
GUN Gumba 50.69 287 eP P 06 05 28.4 +1.4
ZSN Zaisan 50.80 312⇓ *i* P P 06 05 27.0 -0.3
comp=Z,745nm,2.4s,baz=312
ZSN *i* S S 06 12 37.2 -1.5
baz=312
ZSN LR LR 06 27 11.7
comp=Z,3µm,14.0s,baz=312
ZSN Zaisan 50.80 312d *i* P P 06 05 26.9 -0.3
ZSN *i* S S 06 12 37.2 -1.5
ZSN pmax pmax
comp=Z,745nm,2.4s
ZSN MLR MLR
comp=Z,3µm,14.0s
PSA00 Pilbara Seismi 50.84 208 P P 06 05 26.4 -1.2
PSA00 IAmb IAmb 06 05 31.7
comp=Z,300nm,1.1s
PKI Pulchoki 51.16 287 eP P 06 05 31.3 +0.8
comp=Z,139nm,0.6s
PKIN Phulchoki 51.17 287 eP P 06 05 31.1 +0.6
comp=Z,148nm,0.7s
KKN Kakani 51.23 287 eP P 06 05 31.9 +0.9
comp=Z,219nm,0.7s
DMN Daman 51.42 287 eP P 06 05 33.3 +0.9
comp=Z,132nm,0.6s
BOK Bokaro 51.49 282 eP P 06 05 34.3 +1.6
BOK IAmb IAmb 06 05 38.3
comp=Z,246nm,0.7s
SDPT Sand Point 51.51 38 P P 06 05 32.4 +0.1
SDPT IAmb IAmb 06 05 51.8
comp=Z,236nm,0.9s
SDPT IAMs_20 IAMs_20 06 25 13.9
comp=Z,12µm,20.0s
DZM Mont Dzumac 51.70 152 P P 06 05 33.2 -1.0
comp=Z,180nm,0.7s,baz=0.4,slow=8.1,SNR=22
DZM LR LR 06 26 00.9
comp=Z,6µm,21.4s,baz=335,slow=34
GKN Gorkha 51.76 287 eP P 06 05 35.7 +0.9
ZAA0 Zalesovo Array 51.77 320 P P 06 05 32.9 -1.4
ZAA0 IAmb IAmb 06 05 36.1
comp=Z,124nm,0.8s
ZAA0 IAMs_20 IAMs_20 06 27 36.3
comp=Z,15µm,22.0s
ZALV Zalesovo Beam 51.77 320 P P 06 05 33.0 -1.3
comp=Z,92nm,0.7s,baz=99,slow=6.7,SNR=133
ZALV LR LR 06 27 58.2
comp=Z,12µm,21.6s,baz=100,slow=36
ZALV PKPPKP P'P'df 06 36 03.7 -10
comp=Z,1.5nm,0.8s,baz=276,slow=4.2,SNR=3.7
ZALV P4KPbc 06 43 02.8
comp=Z,0.7nm,0.5s,baz=138,slow=4.7,SNR=4.0
ZALV Zalesovo Beam 51.77 320 P P 06 05 33.0 -1.3
CNBA Chernabura Isl 51.90 38 P P 06 05 34.9 -0.3
KNTN Kanton 51.91 115 P P 06 05 35.7 -0.1
ANM Nome 52.14 26 P P 06 05 37.9 +1.0
ANM pmax pmax
comp=Z,100nm,1.1s
ANM Nome 52.14 26 P P 06 05 37.9 +1.0
DANN Dangsing 52.46 288 eP P 06 05 41.6 +1.4
comp=Z,568nm,0.6s
MK31 Makanchi Array 52.51 311 P P 06 05 39.6 -0.3
MK31 pmax pmax
comp=Z,113nm,0.8s
MK31 Makanchi Array 52.51 311 P P 06 05 39.6 -0.3
MK31 IAmb IAmb 06 05 42.5
comp=Z,113nm,0.8s
MKAR Makanchi Array 52.51 311 P P 06 05 39.3 -0.6
comp=Z,109nm,0.6s,baz=92,slow=9.4,SNR=352
MKAR S S 06 13 01.0 -1.1
comp=Z,16nm,1.2s,baz=94,slow=18,SNR=6.9
MKAR LR LR 06 29 38.6
comp=Z,14µm,20.0s,baz=88,slow=38
MKAR PKPPKP **P'P'df** 06 36 08.7 -4.4
comp=Z,0.4nm,0.2s,baz=132,slow=2.1,SNR=28
MKAR P4KPbc 06 43 05.7
comp=Z,0.3nm,0.5s,baz=99,slow=4.8,SNR=4.4
MKAR Makanchi Array 52.51 311c e P P 06 05 39.2 -0.7
MKAR pmax pmax
comp=Z,109nm,0.6s
KEKH Kekaha 52.70 80 P P 06 05 42.5 +0.9
KOLN Koldanda 52.70 287 eP P 06 05 42.9 +1.0
comp=Z,297nm,0.7s
MAKZ Makanchi 52.72 311 P P 06 05 41.1 -0.4
MAKZ pmax pmax
comp=Z,171nm,0.8s
MAKZ MLR MLR
comp=Z,15µm,20.0s
MAKZ Makanchi 52.72 311 P P 06 05 41.1 -0.4
MAKZ IAmb IAmb 06 05 44.1
comp=Z,171nm,0.8s
PYUN Piuthan 53.17 288 eP P 06 05 46.4 +1.1
comp=Z,383nm,0.6s
SEM Semipalatinsk 54.10 316 *i* P P 06 05 50.3 -1.5
comp=Z,690nm,1.8s,baz=315
SEM *i* S S 06 13 20.1 -3.9
baz=315
SEM LR LR 06 28 23.1
comp=Z,5µm,19.3s,baz=315
SEM Semipalatinsk 54.10 316 *i* P P 06 05 50.2 -1.5
SEM *i* S S 06 13 20.1 -3.9
SEM pmax pmax
comp=Z,690nm,1.8s
SEM MLR MLR
comp=Z,5µm,19.0s
OPA Opana 54.30 80 P P 06 05 53.4 0.0
OPA pmax pmax
comp=Z,995nm,1.4s
OPA Opana 54.30 80 P P 06 05 53.4 0.0
OPA IAMs_20 IAMs_20 06 23 51.1
comp=Z,11µm,22.0s
CHIR Chirikof Islan 54.30 38 P P 06 05 53.5 +0.7
CHIR IAmb IAmb 06 05 56.7
comp=Z,142nm,0.8s
CHIR IAMs_20 IAMs_20 06 27 04.2
comp=Z,11µm,20.0s
MSVF Nonsavu 54.30 137⇓ *i* P P 06 05 54.4 +1.0
MSVF pmax pmax
comp=Z,571nm,2.3s
MSVF Nonsavu 54.30 137 P P 06 05 54.3 +0.9
MSVF IAmb IAmb 06 05 56.7
comp=Z,170nm,0.9s
GIRL Giralia 54.35 213 P P 06 05 56.8 +3.3
KIP Kipapa 54.36 80 P P 06 05 55.0 +1.2
KIP pmax pmax
comp=Z,625nm,1.2s
KIP Kipapa 54.36 80 P P 06 05 55.0 +1.2
HON Honolulu 54.40 81 P P 06 05 54.9 +0.8
HON pmax pmax
comp=Z,671nm,1.1s
HON Honolulu 54.40 81 P P 06 05 54.9 +0.8
PDGK Podgornoye 54.44 307 P P 06 05 53.6 -0.7
SHLS Shalkode 54.46 307⇓ *i* P P 06 05 51.8 -2.6
comp=Z,528nm,2.1s,baz=306
SHLS *i* S S 06 13 22.8 -6.2
baz=306
SHLS LR LR 06 29 57.4
comp=Z,714nm,12.6s,baz=306
SHLS Shalkode 54.46 307d *i* P P 06 05 51.8 -2.6
SHLS *i* S S 06 13 22.7 -6.2
SHLS pmax pmax
comp=Z,528nm,2.1s
SHLS MLR MLR
comp=Z,714nm,13.0s
RDOG Red Dog Mine 54.50 22 P P 06 05 55.7 +1.6
RDOG IAmb IAmb 06 05 59.0
comp=Z,401nm,1.5s
CHLP Challavanipeta 54.52 276 eP P 06 05 55.8 +0.8
CHLP IVmB_BB 06 06 12.5
comp=Z,1µm,2.0s
CHLP IVMs_BB IVMs_BB 06 27 20.9
comp=Z,1µm,29.7s
UZB Uzynbulak 54.78 307⇓ *i* P P 06 05 56.3 -0.5
comp=Z,407nm,2.2s,baz=306
UZB *i* S S 06 13 31.7 -1.6
baz=306
UZB LR LR 06 31 05.3
comp=Z,524nm,13.2s,baz=306
UZB Uzynbulak 54.78 307d *i* P P 06 05 56.2 -0.5
UZB *i* S S 06 13 31.7 -1.6
UZB pmax pmax
comp=Z,407nm,2.2s
UZB MLR MLR
comp=Z,524nm,13.0s
KPKS Kokpek 55.02 307⇓ *i* P P 06 05 58.0 -0.5
comp=Z,541nm,2.2s,baz=307
KPKS *i* S S 06 13 34.5 -1.9
baz=307
KPKS LR LR 06 30 20.3

comp=Z,2µm,13.7s,baz=307
KPKS Kokpek 55.02 307 *d* iP **P** **06 05 57.9 -0.5**
KPKS *i* S **S** **06 13 34.4 -1.9**
KPKS pmax pmax
comp=Z,541nm,2.2s
KPKS MLR MLR
comp=Z,2µm,14.0s
KURK Kurchatov 55.16 316 P **P** **06 05 58.5 -0.7**
KURK S **S** **06 13 34.4 -3.3**
KURK Kurchatov 55.16 316 P **P** **06 05 58.7 -0.4**
KURK pmax pmax
comp=Z,274nm,0.8s
KURK MLR MLR
comp=Z,27µm,21.0s
KURK Kurchatov 55.16 316 P **P** **06 05 58.7 -0.4**
TDK Taldyqorghan 55.18 309 *i* P **P** **06 05 59.5 -0.1**
comp=Z,1µm,2.3s,baz=309
TDK *i* S **S** **06 13 36.3 -2.1**
baz=309
TDK LR LR 06 31 11.4
comp=Z,5µm,16.5s,baz=309
TDK Taldyqorghan 55.18 309 *i* P **P** **06 05 59.4 -0.1**
TDK *i* S **S** **06 13 36.2 -2.1**
TDK pmax pmax
comp=Z,1µm,2.3s
TDK MLR MLR
comp=Z,5µm,17.0s
KURBB Kurchatov Arra 55.21 316 S **S** **06 13 37.4 -1.0**
comp=Z,14nm,1.2s,baz=92,slow=11,SNR=12
KURBB PKPPKP **P'P'df** **06 36 10.6 +1.6**
comp=Z,2.2nm,0.8s,baz=275,slow=2.4,SNR=6.5
KURBB Kurchatov Arra 55.21 316 P **P** **06 05 58.5 -1.0**
SII Sitkinak Islan 55.21 37 P **P** **06 05 59.9 +0.5**
SII IAmb IAmb 06 06 02.9
comp=Z,159nm,0.8s
ARMA Armidale 55.23 171 P **P** **06 05 59.0 -1.0**
ARMA IAmb IAmb 06 06 13.8
comp=Z,236nm,1.4s
SATY Saty 55.24 307 *i* S **S** **06 13 37.5 -1.9**
baz=306
SATY LR LR 06 30 35.3
comp=Z,577nm,13.4s,baz=306
NRIK Noril'sk 55.26 339 P **P** **06 05 59.7 +0.1**
comp=Z,151nm,0.6s,baz=110,slow=8.3,SNR=78
NRIK LR LR 06 31 02.2
comp=Z,15µm,18.1s,baz=116,slow=37
PRZ Przheval'sk 55.27 306 P **P** **06 06 01.9 +1.5**
PRZ pmax pmax
comp=Z,463nm,1.0s
PRZ MLR MLR
comp=Z,8µm,19.0s
PRZ Przheval'sk 55.27 306 P **P** **06 06 01.9 +1.5**
PRZ IAmb IAmb 06 06 04.8
comp=Z,463nm,1.0s
PRZ IAMs_20 IAMs_20 06 31 11.4
comp=Z,8µm,19.0s
LGTI Lohaghat 55.29 290 *e*P P 06 06 05.6 +5.2
PTH Pithoragarh 55.29 290 *e*P **P** **06 06 03.1 +2.4**
SVW2 Sparrevohn 55.30 31 P **P** **06 06 01.5 +1.5**
SVW2 IAmb IAmb 06 06 04.4
comp=Z,175nm,1.3s
TTA Tatalina 55.52 29 P **P** **06 06 02.8 +1.1**
TTA pmax pmax
comp=Z,97nm,1.3s
TTA Tatalina 55.52 29 P **P** **06 06 02.8 +1.1**
TARG Taragay, Kyrgy 55.75 305 P **P** **06 06 04.5 +0.5**
TARG IAmb IAmb 06 06 08.4
comp=Z,228nm,1.1s
OHAK Old Harbor 55.79 36 P **P** **06 06 04.3 +0.8**
KHLH Kahului Airpor 55.93 81 P **P** **06 06 06.1 +1.0**
STKA Stephens Creek 56.02 181 P **P** **06 06 04.2 -1.3**
comp=Z,195nm,0.7s,baz=352,slow=7.9,SNR=120
STKA LR LR 06 31 03.8
comp=Z,10µm,21.6s,baz=359,slow=37
STKA P4KPbc 06 43 20.8
comp=Z,3.0nm,0.7s,baz=308,slow=3.8,SNR=4.3
STKA Stephens Creek 56.02 181 P **P** **06 06 04.2 -1.3**
STKA pmax pmax
comp=Z,66nm,0.9s
STKA MLR MLR
comp=Z,2µm,22.0s
STKA Stephens Creek 56.02 181 P **P** **06 06 04.2 -1.3**
HLK Haleakala 56.13 81 P **P** **06 06 10.2 +3.3**
KDJ Kajisay 56.19 305 P **P** **06 06 07.8 +0.8**
KDJ pmax pmax
comp=Z,180nm,1.1s
KDJ Kajisay 56.19 305 P **P** **06 06 07.8 +0.8**
KDJ IAmb IAmb 06 06 10.3
comp=Z,180nm,1.1s
MDOK Medeo 56.23 307 *i* P **P** **06 06 07.5 +0.3**
baz=306
MDOK *i* S **S** **06 13 51.5 -1.1**
baz=306
MDOK LR LR 06 30 58.2
comp=Z,3µm,18.6s,baz=306
MDOK Medeo 56.23 307 *i* P **P** **06 06 07.4 +0.3**
MDOK *i* S **S** **06 13 51.5 -1.1**
MDOK MLR MLR
comp=Z,3µm,19.0s
CHKK Chushkaly 56.23 308 *i* P **P** **06 06 06.3 -0.7**
baz=307
CHKK Chushkaly 56.23 308 *i* P **P** **06 06 06.3 -0.7**
KDAK Kodiak Island 56.24 36 P **P** **06 06 07.2 +0.5**
comp=Z,44nm,0.7s,baz=263,slow=4.0,SNR=88
KDAK Kodiak Island 56.24 36 P **P** **06 06 07.7 +1.0**
KDAK pmax pmax
comp=Z,144nm,1.0s
KDAK Kodiak Island 56.24 36 P **P** **06 06 07.7 +1.0**
KDAK IAmb IAmb 06 06 21.9
comp=Z,144nm,1.0s
TNSS Tian-Shan 56.31 307 *i* P **P** **06 06 08.4 +0.4**
baz=306
TNSS Tian-Shan 56.31 307 *i* P **P** **06 06 08.4 +0.4**
AAA Alma-Ata 56.32 307 ⇓ *i* P **P** **06 06 08.4 +0.7**
comp=Z,541nm,1.9s,baz=307
AAA *e*S **S** **06 13 53.3 -0.3**
baz=307
AAA LR LR 06 31 02.6
comp=Z,3µm,18.4s,baz=307
AAA Alma-Ata 56.32 307 *e*P **P** **06 06 08.5 +0.7**
AAA *e*S **S** **06 13 55.4 +1.8**
AAA pmax pmax
comp=Z,2µm,2.0s
AAA smax smax
comp=N,4µm,10.4s
FORT Forrest 56.67 195 P **P** **06 06 09.2 -0.9**
FORT IAMs_20 IAMs_20 06 29 42.6
comp=Z,11µm,22.0s
MTBS Maitube 56.68 307 *e*P **P** **06 06 10.4 0.0**
baz=306
MTBS Maitube 56.68 307 *e*P **P** **06 06 10.3 0.0**
KUU Kurty 56.70 308 ⇓ *i* P **P** **06 06 10.1 -0.3**
comp=Z,1µm,1.8s,baz=307
KUU *i* S **S** **06 13 56.8 -1.8**
baz=307
KUU LR LR 06 30 19.4
comp=Z,10µm,23.0s,baz=307
KUU Kurty 56.70 308 *d* iP **P** **06 06 10.0 -0.3**
KUU *i* S **S** **06 13 56.7 -1.8**
KUU pmax pmax
comp=Z,1µm,1.8s
KUU MLR MLR
comp=Z,10µm,23.0s
KHLU Kahalu`u 56.78 82 P **P** **06 06 11.9 +0.5**
KHLU IAMs_20 IAMs_20 06 25 11.9
comp=Z,8µm,21.0s
HUH Hualalai 56.80 82 P **P** **06 06 14.6 +2.8**
HUH IAmb IAmb 06 06 32.5
comp=Z,218nm,1.2s
HPAH Hawaii Prepara 56.83 81 P **P** **06 06 12.1 +0.4**
ULHL Ulahol 56.88 306 P **P** **06 06 12.6 +0.7**
SNR=16
JBP Jabalpur 56.91 283 ⇓ *e*P **P** **06 06 15.3 +3.2**
JBP *e*S **S** **06 14 03.6 +1.9**
HOM Homer 56.97 33 IAMs_20 IAMs_20 06 27 34.4
comp=Z,10µm,21.0s
DDI Dehra Dun 56.99 291 *ex* **P** **06 06 15.5 +2.8**
DDI IAmb IAmb 06 06 23.1
comp=Z,110nm,0.7s
POHA Pohakuloa 57.06 82 P **P** **06 06 13.7 +0.2**
MWH Moku'aweowe 57.08 82 P **P** **06 06 14.0 0.0**
MLOA Mauna Loa Obse 57.08 82 P **P** **06 06 14.1 +0.3**
PVM Polavaram 57.11 275 *e*P **P** **06 06 14.0 +0.5**
PVM IVmB_BB 06 06 30.8
comp=Z,959nm,1.9s
PVM IVMs_BB IVMs_BB 06 26 12.3
comp=Z,920nm,29.6s
KHU Kahuku 57.13 82 P **P** **06 06 15.2 +1.2**
KHU pmax pmax
comp=Z,1µm,1.5s
KHU Kahuku 57.13 82 P **P** **06 06 15.2 +1.2**
KHU IAMs_20 IAMs_20 06 25 36.2
comp=Z,8µm,21.0s
HMH Humu'ula Sheep 57.15 82 P **P** **06 06 15.7 +1.5**
CNPM China Poot 57.16 34 P **P** **06 06 13.4 0.0**
CNPM IAmb IAmb 06 06 17.3
comp=Z,114nm,0.8s
CNPM IAMs_20 IAMs_20 06 28 11.5
comp=Z,11µm,21.0s
PPLA Purkeypile 57.23 30 P **P** **06 06 15.6 +1.7**
PPLA IAmb IAmb 06 06 28.2
comp=Z,161nm,1.2s
AIN Ainahou 57.24 82 P **P** **06 06 15.4 +0.7**
MLH Mauna Loa 57.27 82 P **P** **06 06 14.8 -0.2**
BBOO Buckleboo 57.29 187 P **P** **06 06 13.6 -0.8**
BBOO IAmb IAmb 06 06 16.0
comp=Z,127nm,0.8s
TKM2 Tokmak 2 57.30 306 P **P** **06 06 15.3 +0.4**
SNR=157
TKM2 Tokmak 2 57.30 306 P **P** **06 06 14.7 -0.2**
KSH Kashi 57.33 302 P **P** **06 06 18.5 +3.5**
KSH S **S** **06 14 10.8 +3.7**
KSH ScS **ScS** **06 15 59.0 -0.3**
KSH SS **SS** **06 18 02.0 +5.0**
KSH pmax pmax
comp=Z,39nm,0.5s
KSH pmax pmax
comp=Z,9µm,8.4s
KSH LR LR
comp=Z,10µm,13.0s
KSH LR LR
comp=Z,8µm,14.6s
KSH LR LR
comp=Z,8µm,17.2s
CAPN Captain Cook N 57.37 32 P **P** **06 06 16.5 +1.8**
baz=262
SKT Skwentna 57.37 31 P **P** **06 06 15.1 +0.3**
SKT IAmb IAmb 06 06 18.0
comp=Z,118nm,1.0s
SKT IAMs_20 IAMs_20 06 28 44.9
comp=Z,8µm,21.0s
HLP Hilina Pali 57.39 82 P **P** **06 06 15.7 0.0**
PUH Pauahi 57.45 82 P **P** **06 06 16.6 +0.5**
STCH Steam Cracks 57.53 82 P **P** **06 06 17.0 +0.4**
SMLA Simla 57.59 292 *e*P **P** **06 06 17.2 +0.4**
SMLA IAmb IAmb 06 06 20.6
comp=Z,125nm,0.9s
KZA Kyzart 57.62 306 P **P** **06 06 19.0 +1.6**
SNR=178
SUA Susitna One 57.66 31 P **P** **06 06 17.6 +0.6**
SUA IAmb IAmb 06 06 19.9
comp=Z,102nm,1.2s
COCO West Island 57.68 236 P P 06 06 31.4 +14
A21K Barrow 57.77 19 P **P** **06 06 19.2 +1.8**
baz=250
A21K S **S** **06 14 14.6 +2.9**
baz=250
KBK Karagaybulak 57.80 306 P **P** **06 06 21.4 +3.1**
SNR=38
CHMS Chumysh 57.91 307 P **P** **06 06 19.5 +0.6**
SNR=61
SGDS Sogindy 57.97 307 ⇓ *i* P **P** **06 06 19.0 -0.4**
comp=Z,408nm,2.3s,baz=307
SGDS *i* S **S** **06 14 11.6 -3.7**
baz=307
SGDS Sogindy 57.97 307 *d* iP **P** **06 06 18.9 -0.4**
SGDS *i* S **S** **06 14 11.6 -3.7**
SGDS pmax pmax
comp=Z,408nm,2.3s
BPAW Bear Paw Mtn. 57.97 28 P **P** **06 06 20.2 +1.3**
BPAW IAmb IAmb 06 06 23.1
comp=Z,259nm,1.4s
FRU1 Bishkek 58.02 306 P **P** **06 06 20.6 +0.9**
FRU1 pmax pmax
comp=Z,150nm,0.9s
FRU1 MLR MLR
comp=Z,10µm,19.0s
FRU1 Bishkek 58.02 306 P **P** **06 06 20.6 +0.9**
FRU1 IAmb IAmb 06 06 22.9
comp=Z,150nm,0.8s
FRU1 IAMs_20 IAMs_20 06 33 03.9
comp=Z,10µm,19.0s
O22K Cooper Landing 58.03 33 P **P** **06 06 20.1 +0.7**
baz=263
O22K S **S** **06 14 14.0 -1.3**
baz=263
NDI New Delhi 58.04 290 *e*P **P** **06 06 22.0 +2.0**
USP Ospenovka 58.08 307 P **P** **06 06 20.1 0.0**
SNR=82
SEW Seward 58.12 33 P **P** **06 06 20.6 +0.6**
SEW IAmb IAmb 06 06 24.3
comp=Z,260nm,1.2s
SEW IAMs_20 IAMs_20 06 28 53.9
comp=Z,8µm,21.0s
AAK Ala-Archa 58.13 306 LR LR 06 32 50.7
comp=Z,8µm,21.0s,baz=70,slow=38
AAK Ala-Archa 58.13 306 P **P** **06 06 21.3 +0.6**
SNR=41
AAK Ala-Archa 58.13 306 *i* P **P** **06 06 21.1 +0.5**
SNR=44
AAK Ala-Archa 58.13 306 P **P** **06 06 20.9 +0.2**
AAK S **S** **06 14 17.4 -0.3**
AAK Ala-Archa 58.13 306 P **P** **06 06 21.2 +0.6**
AAK pmax pmax
comp=Z,78nm,0.9s
AAK MLR MLR
comp=Z,10µm,21.0s
AAK Ala-Archa 58.13 306 P **P** **06 06 21.2 +0.6**
AAK IAmb IAmb 06 06 39.1
comp=Z,78nm,0.8s
AAK Ala-Archa 58.13 306 IAMs_20 IAMs_20 06 32 27.1
comp=Z,10µm,21.0s
UCH Uchtor 58.16 306 P **P** **06 06 22.0 +0.8**
SNR=270
MYLAV Mylavaram 58.16 275 *e*P **P** **06 06 21.6 +0.7**
MYLAV IVmB_BB 06 06 44.0
comp=Z,888nm,1.3s
MYLAV IVMs_BB IVMs_BB 06 26 07.2
comp=Z,953nm,34.6s
BHK Bhakra 58.17 293 *e*P **P** **06 06 24.0 +3.1**
BHK *ex* x 06 07 01.8
TRF Thorofare Moun 58.17 29 P **P** **06 06 21.0 +0.5**
TRF IAmb IAmb 06 06 23.8
comp=Z,202nm,1.1s
BTLS Baital 58.27 309 ⇓ *i* P **P** **06 06 21.0 -0.4**
comp=Z,515nm,2.4s,baz=309
BTLS *e*S **S** **06 14 17.1 -2.0**
baz=309
BTLS LR LR 06 32 02.6
comp=Z,1µm,13.8s,baz=309
BTLS Baital 58.27 309 *d* iP **P** **06 06 20.9 -0.4**
BTLS *e*S **S** **06 14 17.0 -2.0**
BTLS pmax pmax
comp=Z,515nm,2.4s
BTLS MLR MLR
comp=Z,1µm,14.0s
PMR Palmer 58.45 31 P **P** **06 06 22.8 +0.5**
PMR pmax pmax
comp=Z,216nm,1.0s
PMR Palmer 58.45 31 P **P** **06 06 22.8 +0.5**
PMR IAmb IAmb 06 06 25.1
comp=Z,216nm,1.0s
THN Thein Dam 58.56 294 *e*P **P** **06 06 27.5 +3.9**
THN *ex* x 06 16 06.0
GHO Glory Hole Cre 58.57 31 P **P** **06 06 23.9 +0.7**
GHO IAmb IAmb 06 06 37.3
comp=Z,255nm,1.3s
AFI Afiamalu 58.58 126 P **P** **06 06 21.5 -2.4**
AFI pmax pmax
comp=Z,226nm,1.1s
AFI Afiamalu 58.58 126 P **P** **06 06 21.5 -2.4**
AFI IAmb IAmb 06 06 26.1
comp=Z,226nm,1.1s
AFI Afiamalu 58.58 126 IAMs_20 IAMs_20 06 25 54.8
comp=Z,11µm,22.0s
EKS2 Erkin-Say 58.66 306 P **P** **06 06 24.3 0.0**
SNR=92
RPR Rampur 58.72 278 *e*P **P** **06 06 24.9 0.0**
RPR IVmB_BB 06 06 46.0
comp=Z,634nm,1.9s
RPR IVMs_BB IVMs_BB 06 29 32.5
comp=Z,1µm,28.4s
KNK Knik Glacier 58.75 32 P **P** **06 06 25.1 +0.6**
KNK IAMs_20 IAMs_20 06 29 34.4
comp=Z,11µm,22.0s
AML Almayashu 58.77 306 P **P** **06 06 26.1 +0.7**
SNR=30
RND Reindeer 58.80 29 P **P** **06 06 24.8 0.0**
RND pmax pmax
comp=Z,100nm,0.8s
RND Reindeer 58.80 29 P **P** **06 06 24.8 0.0**
RND IAmb IAmb 06 06 27.1
comp=Z,100nm,0.8s
RND IAMs_20 IAMs_20 06 29 46.6
comp=Z,8µm,22.0s
MCK McKinley 58.81 29 P **P** **06 06 25.3 +0.5**
MCK pmax pmax
comp=Z,290nm,1.2s
MCK MLR MLR
comp=Z,7µm,19.0s
MCK McKinley 58.81 29 P **P** **06 06 25.3 +0.5**
MCK IAMs_20 IAMs_20 06 36 02.9
comp=Z,7µm,19.0s
SML Sawmill 58.85 31 P **P** **06 06 25.7 +0.5**
COLD Coldfoot 58.87 25 P **P** **06 06 27.0 +1.9**
baz=259
COLD S **S** **06 14 28.6 +2.4**
baz=259
COLD Coldfoot 58.87 25 P **P** **06 06 27.1 +1.9**
COLD IAmb IAmb 06 06 29.9
comp=Z,169nm,1.1s
NEA2 Nenana 58.88 28 P **P** **06 06 26.1 +0.8**
baz=262,SNR=156
NEA2 S **S** **06 14 26.7 +0.3**
baz=262
BRZS Berezniki 58.95 315 *e*P **P** **06 06 25.4 -0.7**
comp=Z,649nm,1.8s,baz=315
BRZS *e*S **S** **06 14 25.0 -2.8**
baz=315
BRZS LR LR 06 31 54.6
comp=Z,4µm,15.0s,baz=315
BRZS Berezniki 58.95 315 *e*P **P** **06 06 25.3 -0.7**
BRZS *e*S **S** **06 14 25.0 -2.8**
BRZS pmax pmax
comp=Z,649nm,1.8s
BRZS MLR MLR
comp=Z,4µm,15.0s
MORW Morawa 59.05 207 P **P** **06 06 26.1 -0.7**
MORW IAmb IAmb 06 06 29.9
comp=Z,105nm,1.0s
ADKI Addanki 59.06 274 *e*P **P** **06 06 28.3 +1.1**
ADKI IVmBBB 06 06 50.3
comp=Z,851nm,2.2s
ADKI IVMs_BB IVMs_BB 06 26 51.9
comp=Z,855nm,27.8s
BHPL Bhopal 59.16 283 *e*P **P** **06 06 29.1 +1.2**
BHPL IAmb IAmb 06 06 45.4
comp=Z,186nm,1.3s
OTUK Ortayu 59.25 313 P **P** **06 06 27.6 -0.5**
WRH Wood River Hil 59.28 28 P **P** **06 06 28.2 +0.2**
WRH IAmb IAmb 06 06 45.9
comp=Z,152nm,1.3s
MDM Murphy Dome 59.28 28 P **P** **06 06 29.5 +1.4**
SCM Sheep Creek Mo 59.33 31 P **P** **06 06 29.4 +0.9**
SCM pmax pmax
comp=Z,513nm,1.2s
SCM Sheep Creek Mo 59.33 31 P **P** **06 06 29.4 +0.9**
SCM IAMs_20 IAMs_20 06 28 57.6
comp=Z,8µm,22.0s
GLI Glacier Island 59.36 32 P **P** **06 06 29.2 +0.5**
TOLK Toolik Lake Re 59.38 23 P **P** **06 06 30.5 +1.8**
baz=259,SNR=110
TOLK S **S** **06 14 35.3 +2.5**
baz=259
TOLK Toolik Lake Re 59.38 23 P **P** **06 06 30.6 +1.8**
TOLK IAmb IAmb 06 06 33.4
comp=Z,131nm,0.9s
ARSB Arslanbob 59.39 305 P **P** **06 06 29.7 +0.3**
ARSB pmax pmax
comp=Z,580nm,1.4s
ARSB Arslanbob 59.39 305 P **P** **06 06 29.7 +0.3**
CCB Clear Creek Bu 59.42 28 P **P** **06 06 29.4 +0.4**
CCB IAmb IAmb 06 06 33.2
comp=Z,188nm,1.5s
CCB IAMs_20 IAMs_20 06 27 57.0
comp=Z,9µm,22.0s
TCOL CIGO, UAF Yank 59.43 28 P **P** **06 06 30.4 +1.4**
baz=262,SNR=9.3
TCOL S **S** **06 14 34.0 +0.7**
baz=262
NJS Nagarjunasagar 59.43 275 *e*P **P** **06 06 30.2 +0.4**
NJS IVmB_BB 06 06 52.2
comp=Z,910nm,2.0s
NJS IVMsBB 06 27 01.8
comp=Z,912nm,29.3s
COLA College 59.43 28 P **P** **06 06 29.6 +0.6**
COLA pmax pmax
comp=Z,55nm,0.7s
COLA College 59.43 28 P **P** **06 06 29.6 +0.6**
SRSP Sriramsagar 59.56 278 *e*P **P** **06 06 30.4 -0.3**
SRSP IVmB_BB 06 06 51.7
comp=Z,813nm,2.0s
SRSP IVMs_BB IVMs_BB 06 30 20.1
comp=Z,895nm,29.0s
HIN Hinchinbrook I 59.62 33 P **P** **06 06 31.4 +1.0**
MID Middleton Isla 59.64 34 P **P** **06 06 30.7 +0.2**
MID pmax pmax
comp=Z,413nm,1.2s
MID Middleton Isla 59.64 34 P **P** **06 06 30.7 +0.2**
POKR Poker Plat Res 59.64 27 P **P** **06 06 31.2 +0.7**
baz=263,SNR=30
POKR S **S** **06 14 36.7 +0.5**
baz=263
FID Port Fidalgo 59.65 33 P **P** **06 06 31.2 +0.5**
CAN Canberra 59.75 174 P **P** **06 06 31.2 -0.4**
CAN pmax pmax
comp=Z,504nm,1.1s
CAN Canberra 59.75 174 P **P** **06 06 31.2 -0.4**
CAN IAMs_20 IAMs_20 06 29 37.9
comp=Z,9µm,22.0s
HDA Harding Lake 59.76 28 P **P** **06 06 31.3 -0.1**
baz=264,SNR=67
HDA S **S** **06 14 36.7 -1.0**
baz=264
HDA Harding Lake 59.76 28 P **P** **06 06 31.5 +0.2**
HDA IAmb IAmb 06 06 34.1
comp=Z,98nm,1.1s
HDA IAMs_20 IAMs_20 06 29 51.0
comp=Z,7µm,22.0s
IL31 59.83 28 P **P** **06 06 31.7 -0.1**
IL31 IAmb IAmb 06 06 34.5
comp=Z,153nm,1.1s
ILAR Eielson Array 59.83 28 P **P** **06 06 31.5 -0.3**
comp=Z,87nm,1.0s,baz=259,slow=5.4,SNR=358
ILAR LR LR 06 30 25.9
comp=Z,5µm,21.1s,baz=257,slow=34
ILAR P4KPbc 06 43 37.4
comp=Z,0.9nm,1.0s,baz=262,slow=4.4,SNR=6.0
HYB Hyderabad 59.84 277 *i* P **P** **06 06 33.0 +0.4**
HYB *e*S **S** **06 14 40.0 -0.1**
HYB Hyderabad 59.84 277 *e*P **P** **06 06 32.8 +0.2**
HYB IAmb IAmb 06 06 35.4
comp=Z,57nm,1.1s
HYBB Hyderabad (bro 59.84 277 *e*P **P** **06 06 32.9 +0.3**
HYBB IVmBBB 06 06 54.8
comp=Z,827nm,2.1s
HYBB IVMs_BB IVMs_BB 06 31 17.9
comp=Z,1µm,25.9s
SRLM Srisailam 59.95 275 *e*P **P** **06 06 33.4 -0.1**
SRLM IVmB_BB 06 06 54.7
comp=Z,1µm,1.9s
SRLM IVMs_BB IVMs_BB 06 27 17.1
comp=Z,931nm,25.7s
EYAK Cordova Ski Ar 60.00 33 P **P** **06 06 34.2 +1.2**
EYAK IAmb IAmb 06 06 50.8
comp=Z,305nm,1.5s
EYAK IAMs_20 IAMs_20 06 28 59.4
comp=Z,11µm,22.0s
SKHT Srikalahasti 60.01 272 *e*P **P** **06 06 34.7 +0.9**
SKHT IVmB_BB 06 06 56.6
comp=Z,956nm,1.8s
SKHT IVMs_BB IVMs_BB 06 29 10.9
comp=Z,755nm,25.0s
BVAR Borovoye Array 60.28 319 S **S** **06 14 44.4 -0.4**
comp=Z,6.1nm,1.0s,baz=81,slow=9.2,SNR=5.9
BVAR LR LR 06 33 34.4
comp=Z,9µm,19.2s,baz=28,slow=37
BVAR PKPPKP 06 36 02.8

comp=Z,2.2nm,0.7s,baz=282,slow=2.9,SNR=6.1
PAX Paxson 60.28 30 P **P** **06 06 35.8 +0.8**
PAX pmax pmax
comp=Z,98nm,0.9s
PAX Paxson 60.28 30 P **P** **06 06 35.8 +0.8**
PAX IAmb IAmb 06 06 38.7
comp=Z,98nm,0.9s
PAX IAMs_20 IAMs_20 06 30 24.9
comp=Z,10μm,21.0s
BRVK Borovoye 60.35 319 P **P** **06 06 35.2 -0.3**
BRVK S **S** **06 14 42.8 -2.9**
BRVK Borovoye 60.35 319 P **P** **06 06 35.1 -0.4**
BRVK pmax pmax
comp=Z,280nm,0.7s
BRVK MLR MLR
comp=Z,10μm,19.0s
BRVK Borovoye 60.35 319 P **P** **06 06 35.1 -0.4**
BRVK Borovoye 60.35 319 IAMs_20 IAMs_20 06 33 23.3
comp=Z,10μm,19.0s
NIL Nilore 60.37 296 P **P** **06 06 37.2 +1.1**
NIL pmax pmax
comp=Z,387nm,1.2s
NIL Nilore 60.37 296 P **P** **06 06 37.2 +1.1**
DZA Taraz 60.42 307⇓ *i* P **P** **06 06 36.3 -0.1**
comp=Z,84nm,1.5s,baz=307
DZA *e* S **S** **06 14 47.2 +0.2**
baz=307
DZA LR LR 06 33 11.3
comp=Z,1μm,18.5s,baz=307
DZA Taraz 60.42 307 *d i* P **P** **06 06 36.2 -0.1**
DZA *e* S **S** **06 14 47.2 +0.2**
DZA pmax pmax
comp=Z,84nm,1.5s
DZA MLR MLR
comp=Z,1μm,19.0s
PRP Porcupine Dome 60.48 27 P **P** **06 06 36.3 -0.1**
RAGM Ragged Mountai 60.52 33 P **P** **06 06 37.9 +1.2**
RAGM IAmb IAmb 06 06 41.3
comp=Z,144nm,0.8s
RAGM IAMs_20 IAMs_20 06 29 59.3
comp=Z,9μm,21.0s
RIDG Independent Ri 60.62 29 P **P** **06 06 37.8 +0.5**
RIDG IAmb IAmb 06 06 40.6
comp=Z,135nm,0.7s
FYU Fort Yukon 60.71 26 P **P** **06 06 39.8 +2.0**
AJM Ajmer 60.77 288⇓ *i* P **P** **06 06 40.0 +1.1**
DOT Dot Lake 60.96 29 P **P** **06 06 40.0 +0.4**
DOT IAmb IAmb 06 06 42.9
comp=Z,199nm,1.2s
DOT IAMs_20 IAMs_20 06 29 41.7
comp=Z,7μm,22.0s
GLB Gilahina Butte 60.98 32 P **P** **06 06 40.7 +1.0**
GLB IAmb IAmb 06 06 44.4
comp=Z,206nm,1.4s
KK31 Karatay Array 60.99 307 P **P** **06 06 40.1 -0.1**
KK31 pmax pmax
comp=Z,228nm,0.9s
KK31 Karatay Array 60.99 307 P **P** **06 06 40.1 -0.1**
KKAR Karatay Array 60.99 307 P **P** **06 06 40.1 -0.1**
KKAR pmax pmax
comp=Z,228nm,0.9s
KKAR Karatay Array 60.99 307 P **P** **06 06 40.1 -0.1**
SCRK Sand Creek 61.02 29 P **P** **06 06 40.7 +0.7**
MENT Mentasta 61.08 30 P **P** **06 06 41.6 +1.2**
MENT IAmb IAmb 06 06 56.6
comp=Z,173nm,1.5s
MENT IAMs_20 IAMs_20 06 31 30.9
comp=Z,7μm,20.0s
VRDI Verde Repeater 61.15 32 P **P** **06 06 41.9 +0.8**
VRDI IAmb IAmb 06 06 58.9
comp=Z,125nm,1.1s
VRDI IAMs_20 IAMs_20 06 29 26.7
comp=Z,11μm,22.0s
BTK Batken 61.19 304 P **P** **06 06 41.9 +0.3**
BTK pmax pmax
comp=Z,135nm,1.4s
BTK MLR MLR
comp=Z,11μm,22.0s
BTK Batken 61.19 304 P **P** **06 06 41.9 +0.3**
BTK IAmb IAmb 06 06 44.3
comp=Z,135nm,1.4s
BTK IAMs_20 IAMs_20 06 37 47.0
comp=Z,11μm,22.0s
CRQM Cirque 61.29 33 P **P** **06 06 43.1 +1.1**
CRQM IAMs_20 IAMs_20 06 30 27.2
comp=Z,10μm,20.0s
MCARA McCarthy VSAT 61.36 32 P **P** **06 06 43.8 +1.5**
MCARA IAmb IAmb 06 06 55.6
comp=Z,173nm,0.9s
MCARA IAMs_20 IAMs_20 06 29 33.3
comp=Z,8μm,22.0s
KLRI Killari 61.40 278 *e* P **P** **06 06 42.9 -0.4**
KLRI IVmB_BB 06 06 59.6
comp=Z,805nm,2.0s
KLRI IVMs_BB IVMs_BB 06 28 50.8
comp=Z,1μm,28.4s
WAX Waxell Ridge 61.43 33 P **P** **06 06 44.3 +1.5**
WAX IAmb IAmb 06 06 46.7
comp=Z,134nm,0.8s
WAX IAMs_20 IAMs_20 06 30 49.2
comp=Z,10μm,21.0s
TGL Tana Glacier 61.44 33 P **P** **06 06 44.3 +1.3**
TGL IAmb IAmb 06 06 46.6
comp=Z,185nm,1.0s
IUG Iuzhnay 61.48 306 *e* P **P** **06 06 43.3 -0.2**
comp=Z,54nm,1.4s,baz=306
IUG *i* S **S** **06 15 01.2 +0.7**
baz=306
IUG LR LR 06 33 19.2
comp=Z,388nm,17.8s,baz=306
IUG Iuzhnay 61.48 306 *e* P **P** **06 06 43.3 -0.2**
IUG *i* S **S** **06 15 01.2 +0.7**
IUG pmax pmax
comp=Z,54nm,1.4s
IUG MLR MLR
comp=Z,388nm,18.0s
BRLS Borolday 61.49 307 *i* S **S** **06 15 00.9 +0.3**
baz=307
BALM Baldy 61.68 32 P **P** **06 06 45.3 +0.7**
BALM IAmb IAmb 06 06 47.9
comp=Z,91nm,1.0s
BALM IAMs_20 IAMs_20 06 29 53.9
comp=Z,10μm,22.0s
ISLE Juniper Island 61.68 33 P **P** **06 06 45.8 +1.1**
ISLE IAmb IAmb 06 06 50.4
comp=Z,144nm,1.0s
TOO Toolangi 61.75 177 P **P** **06 06 45.5 +0.4**
TOO pmax pmax
comp=Z,445nm,1.0s
TOO MLR MLR
comp=Z,9μm,21.0s
TOO Toolangi 61.75 177 P **P** **06 06 45.5 +0.4**
TOO IAMs_20 IAMs_20 06 33 40.8
comp=Z,9μm,21.0s
CHM Chimkent 61.77 306⇓ *e* P P 06 06 55.1 +10
comp=Z,213nm,1.8s,baz=306
CHM *e* S S 06 15 13.7 +10
baz=306
CHM LR LR 06 33 40.4
comp=Z,1μm,24.8s,baz=306
CHM Chimkent 61.77 306 *d e* P P 06 06 55.1 +10
CHM *e* S S 06 15 13.7 +10
CHM pmax pmax
comp=Z,213nm,1.8s
CHM MLR MLR
comp=Z,1μm,25.0s
URV Uravakonda 61.82 274 *e* P **P** **06 06 45.8 -0.3**
URV IVmBBB 06 07 08.4
comp=Z,1μm,2.2s
URV IVMs_BB IVMs_BB 06 28 23.0
comp=Z,873nm,28.8s
XMAS Kiritimati 61.87 101 P **P** **06 06 47.4 +1.0**
MESA MESA 61.88 33 P **P** **06 06 46.7 +0.7**
MESA IAmb IAmb 06 06 50.0
comp=Z,178nm,0.9s
MESA IAMs_20 IAMs_20 06 32 22.1
comp=Z,9μm,20.0s
YAH Yahtse 61.98 33 P **P** **06 06 47.8 +1.1**
YAH IAmb IAmb 06 06 50.6
comp=Z,129nm,1.1s
YAH IAMs_20 IAMs_20 06 31 15.7
comp=Z,10μm,21.0s
NWAO Narrogin (SRO) 61.99 204 P **P** **06 06 46.0 -0.8**
comp=Z,121nm,0.6s,baz=32,slow=7.6,SNR=54
NWAO Narrogin (SRO) 61.99 204 P **P** **06 06 46.5 -0.3**
NWAO pmax pmax
comp=Z,345nm,1.3s
NWAO MLR MLR
comp=Z,4μm,22.0s
NWAO Narrogin (SRO) 61.99 204 P **P** **06 06 46.5 -0.3**
NWAO Narrogin (SRO) 61.99 204 P **P** **06 06 46.5 -0.3**
BARN Barnard Glacie 62.01 32 P **P** **06 06 48.2 +1.2**
CTGM Chitina Glacie 62.17 32 P **P** **06 06 49.3 +1.4**
CTGM IAmb IAmb 06 06 51.6
comp=Z,100nm,1.0s
TABL Table Mountain 62.27 33 P **P** **06 06 50.0 +1.3**
TABL IAmb IAmb 06 07 03.3
comp=Z,130nm,1.0s
TABL IAMs_20 IAMs_20 06 33 19.6
comp=Z,10μm,20.0s
EGAK Eagle 62.28 28 P **P** **06 06 49.0 +0.6**
EGAK IAMs_20 IAMs_20 06 31 19.5
comp=Z,7μm,21.0s
PCA Pinnacle 62.72 33 P **P** **06 06 53.0 +1.5**
PCA IAmb IAmb 06 06 57.3
comp=Z,127nm,0.8s
DAWY Dawson 63.04 29 P **P** **06 06 54.8 +1.2**
DAWY IAmb IAmb 06 07 12.4
comp=Z,165nm,1.4s
DAWY IAMs_20 IAMs_20 06 30 12.7
comp=Z,8μm,21.0s
NIUE Niue 63.29 129 P **P** **06 06 54.3 -1.4**
KBL Kabul 63.61 298 P **P** **06 06 58.2 +0.3**
SNR=112
KBL P **P** **06 06 58.2 +0.3**
SNR=112
KBL Kabul 63.61 298 P **P** **06 06 58.3 +0.3**
KBL pmax pmax
comp=Z,270nm,1.0s
KBL Kabul 63.61 298 P **P** **06 06 58.3 +0.3**
KBL IAmb IAmb 06 07 16.5
comp=Z,270nm,1.0s
POO Poona 63.73 279 *e* P **P** **06 06 59.0 +0.2**
POO *e* P **P** **06 06 59.3 +0.4**
POO IAmb IAmb 06 07 06.5
comp=Z,44nm,0.8s
POO *ex* x 06 15 26.0
KAD Karad 63.82 278 ⇓ *i* P **P** **06 06 59.3 -0.1**
HYT Haines Junctio 64.05 32 P **P** **06 07 02.0 +1.7**
HYT IAmb IAmb 06 07 04.8
comp=Z,182nm,1.0s
HYT IAMs_20 IAMs_20 06 32 56.5
comp=Z,9μm,21.0s
EPYK Eagle Plains 64.12 26 P **P** **06 07 01.9 +1.4**
baz=272,SNR=237
EPYK S **S** **06 15 34.9 +2.2**
baz=272
EPYK Eagle Plains 64.12 26 P **P** **06 07 01.0 +0.4**
BOM Bombay 64.55 280 *i* P P 06 07 09.8 +5.8
BOM *ex* x 06 15 42.2
BOM *e* S **S** **06 15 42.2 +2.9**
GOA Goa 64.75 276 *e* P **P** **06 07 07.0 +1.5**
GOA IAmb IAmb 06 07 13.7
comp=Z,44nm,0.8s
H01W3 Cape Leeuwin H 64.91 206 P **P** **06 07 08.1 +2.4**
baz=42,slow=6.6,SNR=3.9
H01W1 Cape Leeuwin H 64.92 206 P **P** **06 07 06.7 +1.0**
baz=42,slow=6.6,SNR=3.1
H01W2 Cape Leeuwin H 64.93 206 P **P** **06 07 07.2 +1.4**
baz=42,slow=6.6,SNR=2.3
INK Inuvik 65.25 24 P **P** **06 07 08.5 +0.7**
INK pmax pmax
comp=Z,284nm,1.4s
INK Inuvik 65.25 24 P **P** **06 07 08.5 +0.7**
INK IAmb IAmb 06 07 12.2
comp=Z,284nm,1.4s
SKAG Skagway 65.26 34 P **P** **06 07 09.7 +1.7**
SKAG IAmb IAmb 06 07 26.7
comp=Z,118nm,1.2s
WHY Whitehorse 65.35 32 P **P** **06 07 10.1 +1.4**
WHY IAmb IAmb 06 07 12.9
comp=Z,102nm,1.0s
RAO Raoul Island 65.47 142 LR LR 06 30 54.9
comp=Z,3μm,21.9s,baz=318,slow=32
SIT Sitka 65.55 36 P **P** **06 07 10.6 +0.7**
SIT pmax pmax
comp=Z,65nm,1.2s
SIT Sitka 65.55 36 P **P** **06 07 10.6 +0.7**
SVE Sverdlovsk 65.58 323 *c i* P **P** **06 07 10.0 -0.2**
SVE *e* S **S** **06 15 47.9 -3.0**
SVE *e* 06 20 07.7
SVE pmax pmax
comp=Z,381nm,1.9s
SVE MLR MLR
comp=Z,10μm,21.0s
BESE Bessie Mountai 65.61 35 P **P** **06 07 11.9 +1.5**
BESE IAmb IAmb 06 07 29.6
comp=Z,188nm,1.1s
BESE IAMs_20 IAMs_20 06 32 01.8
comp=Z,8μm,21.0s
JIS Juneau Island 65.89 35 P **P** **06 07 13.7 +1.6**
JIS IAmb IAmb 06 07 31.5
comp=Z,217nm,1.1s
JIS IAMs_20 IAMs_20 06 34 31.3
comp=Z,8μm,20.0s
OUZ Omahuta 66.19 153 P **P** **06 07 15.4 +1.2**
OUZ IAmb IAmb 06 07 17.7
comp=Z,228nm,1.1s
ARU Arti 66.78 323 *d i* P **P** **06 07 17.4 -0.4**
ARU 06 07 46.7
ARU 06 09 43.7
ARU PPP PPP 06 11 18.9
ARU S **S** **06 16 08.7 +3.3**
ARU 06 17 05.9
ARU SS **SS** **06 20 20.1 -3.6**
ARU pmax pmax
comp=Z,678nm,1.8s
ARU MLR MLR
comp=Z,10μm,21.0s
ARU Arti 66.78 323 P **P** **06 07 17.1 -0.8**
ARU IAmb IAmb 06 07 20.2
comp=Z,211nm,1.0s
CRAG Craig 67.01 38 P **P** **06 07 19.8 +0.5**
CRAG IAmb IAmb 06 07 37.8
comp=Z,173nm,1.5s
TAU Tasmania Unive 67.16 176 P **P** **06 07 20.0 -0.3**
TAU pmax pmax
comp=Z,503nm,1.0s
TAU MLR MLR
comp=Z,7μm,21.0s
TAU Tasmania Unive 67.16 176 P **P** **06 07 20.0 -0.3**
TAU IAMs_20 IAMs_20 06 37 11.1
comp=Z,7μm,21.0s
AB31 Akbulak array 67.25 315 *i* P **P** **06 07 20.4 -0.6**
ABKAR Akbulak array 67.25 315 P **P** **06 07 20.6 -0.4**
ABKAR IAmb IAmb 06 07 23.3
comp=Z,143nm,0.7s
WRAK Wrangell Islan 67.27 37 P **P** **06 07 22.1 +1.2**
WRAK IAmb IAmb 06 07 25.1
comp=Z,127nm,1.2s
A36M Sachs Harbour 67.62 20 P **P** **06 07 24.8 +2.0**
baz=280
A36M S **S** **06 16 15.5 +0.6**
baz=280
DIB Dawson Inlet, 67.80 40 P **P** **06 07 23.8 -0.5**
H02S1 DAWSON INLET T 67.80 40 T T 07 20 22.4
SNR=11
MOBC Moresby Island 68.11 40 P **P** **06 07 26.8 +0.4**
MOBC IAmb IAmb 06 07 44.0
comp=Z,192nm,1.5s
DLBC Dease Lake 68.13 34 P **P** **06 07 28.3 +1.9**
DLBC IAmb IAmb 06 07 45.4
comp=Z,171nm,1.2s
DLBC IAMs_20 IAMs_20 06 32 34.5
comp=Z,9μm,22.0s
AKTO Aktyubinsk 68.23 317 S **S** **06 16 21.5 -1.6**
comp=Z,3.5nm,1.0s,baz=200,slow=23,SNR=5.9
HRA Herat 69.09 299 P **P** **06 07 33.7 +0.7**
KMRZ Kaimai 69.41 152 P **P** **06 07 36.8 +2.2**
TGRZ Tauranga 69.45 152 P **P** **06 07 37.1 +2.4**
HIZ Hauiti 69.53 154 P **P** **06 07 35.8 +0.6**
HIZ IAmb IAmb 06 07 37.9
comp=Z,361nm,1.1s
OPRZ Ohinepanea 69.67 152 P **P** **06 07 38.0 +2.0**
OMRZ Omania 69.81 152 P **P** **06 07 37.4 +0.4**
WHRZ Whale Island 69.86 152 P **P** **06 07 39.8 +2.5**
MKRZ Makatiti 69.88 152 P **P** **06 07 38.9 +1.4**
HRRZ Handcock Road 70.02 152 P **P** **06 07 38.8 +0.6**
RATZ Rangitukua 70.20 153 P **P** **06 07 42.2 +2.8**
MXZ Matakaoa Point 70.21 151 P **P** **06 07 37.9 -1.4**
MXZ IAmb IAmb 06 07 39.5
comp=Z,147nm,0.9s
MXZ IAMs_20 IAMs_20 06 35 03.9
comp=Z,7μm,22.0s
URZ Urewera 70.26 152 P **P** **06 07 38.1 -1.5**
URZ Urewera 70.26 152 P **P** **06 07 38.0 -1.7**
URZ IAmb IAmb 06 07 40.2
comp=Z,289nm,1.1s
URZ IAMs_20 IAMs_20 06 34 43.9
comp=Z,8μm,21.0s
RUGZ Raukumara Rang 70.26 151 P **P** **06 07 38.1 -1.7**
WMGZ Waiomatatini S 70.47 151 P **P** **06 07 39.9 -1.0**
BBB Bella Bella 70.62 41 LR LR 06 32 28.7
comp=Z,3μm,21.3s,baz=293,slow=30
QRZ Quartz Range 70.63 156 P **P** **06 07 41.0 -0.9**
QRZ IAmb IAmb 06 07 44.4
comp=Z,179nm,0.8s
BKZ Black Stump Fm 70.76 153 P **P** **06 07 41.0 -1.8**
BKZ IAmb IAmb 06 07 43.6
comp=Z,459nm,1.3s
ASHT Ashkhabad 71.10 304 IAMs_20 IAMs_20 06 43 34.2
comp=Z,6μm,20.0s
KIRV Kirov 71.12 326 *i* P **P** **06 07 44.7 0.0**
NNZ Nelson 71.28 156 P **P** **06 07 44.8 -1.0**
NNZ IAmb IAmb 06 07 46.9
comp=Z,119nm,0.7s
GEYT Alibeck 71.31 304 P **P** **06 07 47.0 +0.7**
comp=Z,31nm,0.9s,baz=72,slow=1.9,SNR=52
GEYT LR LR 06 42 15.8
comp=Z,4μm,19.9s,baz=40,slow=38
GYA0B ALIBECK ARRAY 71.31 304 P **P** **06 07 47.1 +0.8**
GYA0B IAMs_20 IAMs_20 06 43 39.7
comp=Z,8μm,21.0s
THZ Tophouse 71.59 157 P **P** **06 07 46.3 -1.4**
THZ IAmb IAmb 06 07 50.5
comp=Z,130nm,0.8s
TUWZ Tuamarina 71.68 156 P **P** **06 07 45.9 -2.3**
SNZO South Karori 71.86 155 P **P** **06 07 47.6 -1.7**
SNZO IAmb IAmb 06 07 49.8
comp=Z,293nm,0.9s
SNZO South Karori 71.86 155 IAMs_20 IAMs_20 06 35 23.6
comp=Z,7μm,22.0s
BSWZ Blackbirch Sta 71.90 156 P **P** **06 07 48.2 -1.4**
BFZ Birch Farm 71.94 154 P **P** **06 07 48.3 -1.4**
BFZ IAmb IAmb 06 07 50.6
comp=Z,293nm,1.1s
BFZ IAMs_20 IAMs_20 06 35 45.5
comp=Z,6μm,22.0s
BHW Baring Head 72.01 155 P **P** **06 07 48.4 -1.8**
CMWZ Cape Campbell 72.06 156 P **P** **06 07 49.6 -0.8**
RAR Rarotonga 72.06 124 LR LR 06 32 51.6
comp=Z,6μm,21.4s,baz=311,slow=30
RAR Rarotonga 72.06 124 P **P** **06 07 51.6 +0.7**
RAR pmax pmax
comp=Z,238nm,1.2s
RAR Rarotonga 72.06 124 P **P** **06 07 51.6 +0.7**
RAR IAmb IAmb 06 07 53.9
comp=Z,238nm,1.2s
RAR Rarotonga 72.06 124 IAMs_20 IAMs_20 06 32 29.1
comp=Z,8μm,21.0s
FOZ Fox Glacier 72.11 160 P **P** **06 07 48.9 -1.8**
FOZ IAmb IAmb 06 07 52.1
comp=Z,353nm,1.3s
MSWZ Moikau Station 72.17 155 P **P** **06 07 49.1 -2.1**
LTZ Lake Taylor 72.26 158 P **P** **06 07 50.6 -1.1**
LTZ IAmb IAmb 06 07 53.8
comp=Z,135nm,0.8s
PLWZ Palliser 72.30 155 P **P** **06 07 50.4 -1.6**
KHZ Kahutara 72.39 156 P **P** **06 07 50.3 -2.1**
KHZ IAmb IAmb 06 07 53.0
comp=Z,180nm,0.8s
HOPEN Hopen 72.49 347 *e* P **P** **06 07 54.5 +1.8**
HOPEN IVmB_BB 06 08 10.6
comp=Z,6μm,2.7s
HOPEN *e* S **S** **06 17 14.7 +2.8**
HOPEN IVMs_BB IVMs_BB 06 40 11.2
comp=Z,7μm,24.6s
OXZ Oxford 72.66 158 P **P** **06 07 52.3 -1.7**
OXZ IAmb IAmb 06 07 55.7
comp=Z,157nm,0.8s
RPZ Rata Peaks 72.67 159 P **P** **06 07 53.0 -1.1**
comp=Z,149nm,0.9s,baz=25,slow=4.5,SNR=19
RPZ LR LR 06 37 19.0
comp=Z,4μm,21.9s,baz=350,slow=34
RPZ Rata Peaks 72.67 159 P **P** **06 07 52.4 -1.7**
RPZ IAmb IAmb 06 07 57.0
comp=Z,501nm,1.5s
RPZ IAMs_20 IAMs_20 06 36 34.7
comp=Z,7μm,22.0s
LBZ Lake Benmore 72.99 160 P **P** **06 07 54.8 -1.2**
LBZ IAmb IAmb 06 07 57.1
comp=Z,235nm,1.3s
SPA0 Spitsbergen Ar 73.05 350 P **P** **06 07 56.2 +0.2**
SPA0 Spitsbergen Ar 73.05 350 *e* P **P** **06 07 58.0 +2.0**
SPA0 *e* S **SKiKP** **06 17 20.8 -2.1**
SPITS Spitsbergen Ar 73.05 350 LR LR 06 42 06.6
comp=Z,11μm,20.4s,baz=35,slow=37
MQZ McQueen's Vall 73.20 158 P **P** **06 07 56.4 -0.8**
MQZ IAmb IAmb 06 07 58.3
comp=Z,304nm,1.4s
KBS Kingsbay 73.21 351 *d i* P **P** **06 07 59.3 +2.4**
KBS pmax pmax
comp=Z,95nm,0.7s
KBS Kingsbay 73.21 351 IAMs_20 IAMs_20 06 42 09.7
comp=Z,5μm,19.0s
KBS Kingsbay 73.21 351 *e* P **P** **06 07 59.5 +2.6**
KBS *e* PP **PP** **06 10 41.2 +1.1**
KBS *e* S **SKiKP** **06 17 21.8 -1.3**
KBS *e* SS **SS** **06 22 04.8 +3.2**
KBS IVMsBB 06 35 38.1
comp=Z,3μm,32.2s
MLZ Mavora Lakes 73.25 162 P **P** **06 07 57.0 -0.6**
MLZ IAMs_20 IAMs_20 06 36 31.0
comp=Z,6μm,21.0s
NOR Nord 73.64 357⇓ *i* P **P** **06 08 01.0 +1.6**
comp=Z,108nm,1.5s
comp=Z,4μm,20.0s
NOR Nord 73.64 357⇓ *i* P **P** **06 08 01.0 +1.6**
NOR pmax pmax
comp=Z,110nm,1.5s
NOR MLR MLR
comp=Z,4μm,20.0s
WHZ Wether Hill Ro 73.69 162 P **P** **06 07 59.6 -0.4**
ODZ Otahua Downs 73.72 160 P **P** **06 08 00.8 +0.6**
ODZ IAmb IAmb 06 08 03.1
comp=Z,238nm,1.5s
HSPB Hornsund (broa 73.95 349 *e* P **P** **06 08 03.6 +2.3**
HSPB *e* S **S** **06 17 29.2 +0.8**
HSPB *e* L L 06 41 16.9
comp=Z,21μm,23.2s
HSPB Hornsund (broa 73.95 349 *e* P **P** **06 08 03.0 +1.7**
HSPB IVmBBB 06 08 05.7
comp=Z,3μm,1.7s
HSPB *e* PP **PP** **06 10 48.3 +1.9**
HSPB *e* S **S** **06 17 28.8 +0.4**
HSPB IVMs_BB IVMs_BB 06 41 21.1
comp=Z,6μm,23.4s
LVZ Lovozero 74.08 338 *d i* P **P** **06 08 03.7 +1.5**
LVZ pmax pmax
comp=Z,341nm,1.9s
LVZ Lovozero 74.08 338 P **P** **06 08 02.3 +0.1**
LVZ IAMs_20 IAMs_20 06 43 13.3
comp=Z,6μm,20.0s
YKA Yellowknife Ar 74.26 28 P **P** **06 08 03.7 +0.4**
comp=Z,47nm,0.6s,baz=293,slow=6.0,SNR=293
YKA LR LR 06 40 14.5
comp=Z,2μm,21.0s,baz=0.0,slow=35
TMCR Tamitsa 74.39 334 *e* P **P** **06 08 03.8 -0.2**
TMCR *e* S **S** **06 17 35.8 +2.2**
TMCR pmax pmax
comp=Z,422nm,1.4s
PGC Sidney 74.51 43 P **P** **06 08 06.7 +1.7**
RES Resolute Bay 74.52 13 LR LR 06 42 42.6
comp=Z,2μm,21.6s,baz=318,slow=37
RES Resolute Bay 74.52 13 P **P** **06 08 05.4 +0.8**
RES pmax pmax
comp=Z,76nm,0.9s
RES MLR MLR
comp=Z,5μm,22.0s
RES Resolute Bay 74.52 13 P **P** **06 08 05.3 +0.8**
APA Apatity 74.65 336⇓ *i* P **P** **06 08 05.9 +0.4**
APA *i* 06 08 20.8
APA *i* 06 10 53.0
APA *i* PPP PPP 06 12 40.0
APA *i* S **S** **06 17 34.0 -2.4**
APA *i* 06 18 07.0

APA *i* SS **SS** **06 22 32.0 +8.2**
APA pmax pmax
comp=Z,237nm,0.7s
NLWA Neilton Lookou 74.66 45 P **P** **06 08 06.2 +0.2**
NLWA IAmb IAmb 06 08 10.4
comp=Z,156nm,1.1s
NLWA IAMs_20 IAMs_20 06 33 31.0
comp=Z,7μm,21.0s
LLLB Lillooet 74.81 41 P **P** **06 08 08.2 +1.3**
LLLB IAmb IAmb 06 08 10.7
comp=Z,130nm,1.0s
BJO1 Bjornoya 74.89 347 *e*P **P** **06 08 08.1 +1.3**
BJO1 IVmBBB 06 08 10.7
comp=Z,2μm,3.9s
BJO1 *e*S **S** **06 17 41.0 +2.1**
BJO1 *e*SS **SS** **06 22 27.5 +0.3**
BJO1 IVMs_BB IVMs_BB 06 42 32.6
comp=Z,7μm,22.9s
A04D Lummi Island 74.95 43 P **P** **06 08 08.9 +1.3**
baz=290,SNR=10
A04D S **S** **06 17 43.2 +2.8**
baz=290
KLMR Klimovskoe 75.08 330 *d* *i*P **P** **06 08 09.2 +1.1**
KLMR *e* 06 10 56.8
KLMR *e*S **S** **06 17 45.0 +3.6**
KLMR pmax pmax
comp=Z,259nm,1.4s
KLMR MLR MLR
comp=Z,8μm,20.0s
KLMR Klimovskoe 75.08 330 ⇓ *i*P **P** **06 08 09.2 +1.1**
KLMR ⇓ *i*P **P** **06 08 09.2 +1.1**
KLMR ⇓ *i*P **P** **06 08 09.2 +1.1**
KLMR AMP 06 08 12.3
comp=Z,259nm,1.4s
KLMR *e*PP **PP** **06 10 56.9 +0.6**
KLMR *e*S **S** **06 17 45.1 +3.6**
KLMR *e*S **S** **06 17 45.1 +3.6**
KLMR LQ LQ 06 34 35.7
KLMR LQ LQ 06 34 35.7
KLMR LR LR 06 38 26.3
KLMR AMP 06 43 18.4
comp=Z,8μm,19.6s
D03D Eldon 75.11 44 P **P** **06 08 10.5 +2.0**
baz=290,SNR=44
D03D S **S** **06 17 46.6 +4.2**
baz=290
E03A Lebam 75.14 45 P **P** **06 08 09.4 +0.7**
E03A IAmb IAmb 06 08 12.9
comp=Z,188nm,0.9s
E03A IAMs_20 IAMs_20 06 36 28.8
comp=Z,7μm,20.0s
F03A Seaside 75.36 46 P **P** **06 08 10.9 +0.9**
F03A IAmb IAmb 06 08 14.8
comp=Z,448nm,1.4s
F03A IAMs_20 IAMs_20 06 36 32.5
comp=Z,6μm,21.0s
D04E Lakebay 75.44 45 P **P** **06 08 12.5 +2.1**
baz=290,SNR=6.8
B05A Bryant 75.49 43 P **P** **06 08 12.1 +1.4**
baz=290,SNR=40
B05A S **S** **06 17 48.3 +1.8**
baz=290
WBK Wadi Bani Khal 75.53 288 P **P** **06 08 15.0 +3.6**
SNR=9.1
WSAR Wadi Sarin 75.60 289 LR LR 06 42 10.9
comp=Z,2μm,21.8s,baz=102,slow=36
WSAR Wadi Sarin 75.60 289 P **P** **06 08 14.6 +2.8**
SNR=10
KEV Kevo 75.61 341 P **P** **06 08 11.9 +0.9**
KEV pmax pmax
comp=Z,229nm,1.2s
KEV MLR MLR
comp=Z,14μm,20.0s
KEV Kevo 75.61 341 P **P** **06 08 11.8 +0.9**
KEV IAmb IAmb 06 08 15.8
comp=Z,229nm,1.2s
F04D Rainier, OR 75.66 46 P **P** **06 08 13.8 +2.1**
baz=290
B06A Marblemount 75.78 43 P **P** **06 08 13.5 +1.2**
E04D Cinebar 75.79 45 P **P** **06 08 14.0 +1.6**
baz=290,SNR=24
E04D S **S** **06 17 54.0 +4.2**
baz=290
I02D Swisshome 75.79 48 P **P** **06 08 14.3 +1.9**
baz=290,SNR=6.9
I02D S **S** **06 17 53.7 +3.7**
baz=290
G03D McMinnville, O 75.80 47 P **P** **06 08 14.1 +1.5**
baz=290,SNR=7.7
G03D S **S** **06 17 52.9 +2.9**
baz=290
BIDO Bidbid 75.93 290 P **P** **06 08 16.6 +2.9**
SNR=20
D05A Enumclaw 75.94 44 P **P** **06 08 14.9 +1.7**
COR Corvallis 75.99 47 P **P** **06 08 16.4 +2.8**
COR pmax pmax
comp=Z,469nm,1.5s
COR Corvallis 75.99 47 P **P** **06 08 16.4 +2.8**
COR IAmb IAmb 06 08 18.8
comp=Z,469nm,1.4s
COR Corvallis 75.99 47 IAMs_20 IAMs_20 06 40 38.3
comp=Z,6μm,20.0s
J01E Myrtle Point 76.06 49 P **P** **06 08 15.7 +1.7**
baz=290
J01E S **S** **06 17 54.4 +1.5**
baz=290
HAMF Hammerfest 76.06 343 *e*P **P** **06 08 14.7 +1.2**
HAMF IVmB_BB 06 08 17.4
comp=Z,2μm,2.1s
HAMF *e*S **S** **06 17 55.1 +3.1**
HAMF IVMs_BB IVMs_BB 06 41 04.4
comp=Z,3μm,29.3s
F04A Amboy 76.10 46 P **P** **06 08 15.9 +1.7**
F04A IAmb IAmb 06 08 18.5
comp=Z,220nm,0.9s
SMDO Samad 76.16 289 P **P** **06 08 17.6 +2.5**
SNR=7.9
ARCES ARCESS Array B 76.17 341 P **P** **06 08 14.8 +0.7**
comp=Z,80nm,0.6s,baz=70,slow=7.0,SNR=303
ARCES PKP2ab 06 35 18.9
comp=Z,2.1nm,1.1s,baz=22,slow=3.9,SNR=3.8
ARCES LR LR 06 46 52.1
comp=Z,12μm,19.6s,baz=68,slow=40
ARE0 ARCESS Array S 76.17 341 P **P** **06 08 15.0 +0.8**
ARE0 ARCESS Array S 76.17 341 *e*P **P** **06 08 15.2 +1.0**
ARE0 IVmB_BB 06 08 17.4
comp=Z,3μm,1.9s
ARE0 *e*S **S** **06 17 53.4 +0.1**
ARE0 IVMs_BB IVMs_BB 06 46 28.9
comp=Z,4μm,19.7s
LON Longmire 76.20 45 P **P** **06 08 15.5 +0.6**
LON pmax pmax
comp=Z,50nm,0.9s
LON Longmire 76.20 45 P **P** **06 08 15.5 +0.6**
LON IAMs_20 IAMs_20 06 34 30.9
comp=Z,5μm,22.0s
I03D Drain, OR 76.27 48 P **P** **06 08 16.8 +1.6**
baz=291
I03D S **S** **06 17 58.4 +3.1**
baz=291
JMDO Jabal Madar 76.36 289 P **P** **06 08 18.4 +2.2**
SNR=7.8
C06D Leavenworth 76.36 43 P **P** **06 08 17.4 +1.7**
baz=291
C06D S **S** **06 17 58.8 +2.6**
baz=291
H04D Lebanon 76.39 47 P **P** **06 08 17.6 +1.7**
baz=291,SNR=26
H04D S **S** **06 17 59.4 +2.9**
baz=291
K02D Willamette Mer 76.41 49 P **P** **06 08 17.2 +1.0**
baz=291,SNR=36
HOQ Hoqain 76.61 290 P **P** **06 08 20.1 +2.6**
SNR=17
BANOM Banah 76.64 293 P **P** **06 08 20.3 +2.6**
KRMB Red Mountain 76.65 50 P **P** **06 08 19.5 +1.9**
H04A Detroit Lake 76.70 47 P **P** **06 08 18.8 +1.1**
H04A IAmb IAmb 06 08 21.9
comp=Z,254nm,1.1s
H04A IAMs_20 IAMs_20 06 34 28.1
comp=Z,5μm,22.0s
SHME Shamm 76.73 293 *i* P **P** **06 08 20.2 +2.0**
SNR=26
F05D White Salmon 76.74 46 P **P** **06 08 19.4 +1.5**
baz=291,SNR=17
F05D S **S** **06 18 01.4 +1.0**
baz=291
LTY Liberty 76.75 44 P **P** **06 08 18.7 +0.7**
JCC Jacoby Creek, 76.82 51 P **P** **06 08 19.4 +1.0**
JCC IAmb IAmb 06 08 23.3
comp=Z,375nm,1.4s
I04A Tendick Farm, 76.87 48 P **P** **06 08 19.6 +0.9**
baz=291,SNR=61
I04A S **S** **06 18 03.0 +1.0**
baz=291
MSFE Esma-Masafi 76.96 292 *i* P **P** **06 08 21.2 +1.7**
SNR=7.1
MHTO MHTO 76.98 287 P **P** **06 08 21.6 +2.0**
SNR=17
KHMM Horse Mountain 77.01 51 P **P** **06 08 21.1 +1.4**
KHMM IAMs_20 IAMs_20 06 33 43.6
comp=Z,5μm,22.0s
UOSS Minazif 77.07 292 *i* P **P** **06 08 21.3 +1.2**
UOSS Minazif 77.07 292 P **P** **06 08 21.9 +1.8**
UOSS Minazif 77.07 292 P **P** **06 08 20.3 +0.2**
G05D Wamic, OR 77.07 46 P **P** **06 08 21.0 +1.2**
baz=292,SNR=19
SOHO SOHO 77.08 291 *i* P **P** **06 08 21.1 +0.9**
SNR=38
KTK1 Kautokeino 77.13 341 *e*P **P** **06 08 20.5 +0.9**
KTK1 IVmB_BB 06 08 22.4
comp=Z,2μm,2.1s
KTK1 *e*S **S** **06 18 04.5 +0.7**
HATD Hatta, Dubai 77.17 292 *i* P **P** **06 08 22.3 +1.7**
SNR=15
B08A Colville Reser 77.17 43 P **P** **06 08 21.0 +0.7**
B08A IAmb IAmb 06 08 23.7
comp=Z,108nm,0.8s
KMRM Mail Ridge 77.26 52 P **P** **06 08 21.7 +0.7**
KMRM IAmb IAmb 06 08 25.2
comp=Z,121nm,1.0s
KMRM IAMs_20 IAMs_20 06 34 32.5
comp=Z,7μm,22.0s
J04D Umpqua Nationa 77.28 48 P **P** **06 08 22.5 +1.3**
baz=292,SNR=49
J04D S **S** **06 18 10.0 +3.3**
baz=292
ASHO Ashiyiah 77.28 291 *i* P **P** **06 08 23.5 +2.1**
SNR=17
ASHO Ashiyiah 77.28 291 P **P** **06 08 23.6 +2.3**
SNR=11
MAK Makhachkala 77.33 311 *e*P **P** **06 08 16.8 -4.4**
MAK *e* 06 11 12.4
MAK *e*S **S** **06 18 00.4 -6.3**
MAK *e*SS **SS** **06 23 07.1 +1.6**
MAK *e*SSS SSS 06 26 28.0
MAK pmax pmax
comp=Z,290nm,1.4s
MAK MLR MLR
comp=Z,14μm,17.0s
ARQ Araqi 77.38 290 P **P** **06 08 24.4 +2.5**
SNR=15
I05D Terrebonne, OR 77.39 47 P **P** **06 08 22.8 +1.2**
baz=292,SNR=37
I05D S **S** **06 18 09.4 +1.8**
baz=292
TULEG Thule 77.41 7 P **P** **06 08 21.9 +0.9**
TULEG IAmb IAmb 06 08 27.2
comp=Z,166nm,1.3s
TULEG IAMs_20 IAMs_20 06 47 14.2
comp=Z,5μm,20.0s
YBH Yreka Blue Hor 77.42 50 LR LR 06 36 07.0
comp=Z,4μm,21.2s,baz=290,slow=31
YBH Yreka Blue Hor 77.42 50 P **P** **06 08 23.1 +1.3**
YBH pmax pmax
comp=Z,340nm,1.5s
YBH Yreka Blue Hor 77.42 50 P **P** **06 08 23.1 +1.3**
YBH IAmb IAmb 06 08 26.5
comp=Z,340nm,1.4s
YBH IAMs_20 IAMs_20 06 35 23.3
comp=Z,5μm,21.0s
M02C Callahan 77.44 50 P **P** **06 08 23.2 +1.2**
baz=292,SNR=56
M02C S **S** **06 18 11.3 +3.1**
baz=292
NAZ Nazwa, Dubai 77.51 292 *i* P **P** **06 08 24.6 +2.1**
SNR=8.6
NAZ Nazwa, Dubai 77.51 292 P **P** **06 08 24.8 +2.2**
SNR=14
L04D Klamath Falls 77.52 49 P **P** **06 08 23.7 +1.2**
baz=292,SNR=57
E07A Sunnyside 77.53 44 P **P** **06 08 22.9 +0.6**
E07A IAmb IAmb 06 08 26.1
comp=Z,102nm,0.8s
E07A IAMs_20 IAMs_20 06 35 02.9
comp=Z,6μm,22.0s
KCPM Cahto Peak 77.54 52 P **P** **06 08 23.3 +0.6**
FAQ Al Faqa, Dubai 77.66 292 *i* P **P** **06 08 24.9 +1.6**
SNR=8.1
N02D Trinity Center 77.70 51 P **P** **06 08 24.8 +1.4**
baz=292,SNR=52
N02D S **S** **06 18 13.2 +2.1**
baz=292
AKT Akhty 77.72 310 *e*P **P** **06 08 25.5 +1.9**
AKT *e* 06 08 34.7
AKT *e* 06 11 23.3
AKT *e* 06 18 09.1
AKT pmax pmax
comp=Z,86nm,0.7s
F07A Phinny Hill Vi 77.73 45 P **P** **06 08 24.5 +1.1**
F07A IAmb IAmb 06 08 27.2
comp=Z,130nm,1.2s
F07A IAMs_20 IAMs_20 06 38 21.3
comp=Z,6μm,19.0s
K04D Chiloquin, OR 77.75 49 P **P** **06 08 25.0 +1.3**
baz=292,SNR=30
K04D S **S** **06 18 14.2 +2.6**
baz=292
ALNE Al Ain 77.77 291 *i* P **P** **06 08 25.7 +1.7**
SNR=11
HAWA Hanford 77.80 45 P **P** **06 08 24.9 +1.1**
HAWA IAMs_20 IAMs_20 06 35 22.0
comp=Z,6μm,21.0s
VRH Novokhopyorsk 77.81 321 *e*P **P** **06 08 24.2 +0.5**
VRH *e*S **S** **06 18 06.5 -5.2**
VRH pmax pmax
comp=Z,570nm,2.0s
VRH pmax pmax
comp=Z,250nm,0.8s
VRH smax smax
comp=E,6μm,11.5s
VRH MLR MLR
comp=Z,12μm,23.0s
J05D Fort Rock, OR 77.85 48 P **P** **06 08 25.7 +1.4**
baz=292,SNR=104
J05D S **S** **06 18 14.8 +2.0**
baz=292
PINE Pine Mountain 77.86 47 P **P** **06 08 25.8 +1.3**
PINE IAMs_20 IAMs_20 06 41 40.9
comp=Z,5μm,19.0s
D08A Wollman Farm, 77.93 44 P **P** **06 08 25.5 +1.0**
D08A IAmb IAmb 06 08 28.0
comp=Z,98nm,0.9s
D08A IAMs_20 IAMs_20 06 35 37.4
comp=Z,6μm,22.0s
O02D Mt. Diablo Mer 77.93 51 P **P** **06 08 26.3 +1.5**
baz=292,SNR=48
O02D S **S** **06 18 16.1 +2.4**
baz=292
WDC Whiskeytown Da 77.96 51 P **P** **06 08 25.8 +1.0**
WDC pmax pmax
comp=Z,158nm,1.3s
WDC Whiskeytown Da 77.96 51 P **P** **06 08 25.8 +1.0**
WDC IAmb IAmb 06 08 28.4
comp=Z,158nm,1.3s
WDC IAMs_20 IAMs_20 06 34 58.7
comp=Z,6μm,22.0s
TRO Tromso 77.97 343 *e*P **P** **06 08 24.7 +0.5**
TRO IVmB_BB 06 08 28.1
comp=Z,2μm,2.0s
TRO *e*PP **PP** **06 11 21.2 +0.8**
TRO *e*S **S** **06 18 12.3 -0.4**
TRO *e*SS **SS** **06 23 11.2 -2.7**
TRO IVMs_BB IVMs_BB 06 47 33.1
comp=Z,3μm,20.9s
M04C Macdoel 78.00 50 P **P** **06 08 26.3 +1.1**
baz=292,SNR=67
C09A Chrisman Ranch 78.04 43 P **P** **06 08 26.0 +0.9**
E08A Dider Farm, El 78.06 44 P **P** **06 08 24.9 -0.3**
E08A IAMs_20 IAMs_20 06 35 06.9
comp=Z,6μm,22.0s
MOS Moscow 78.13 326 *e*P **P** **06 08 23.8 -1.6**
MOS *e* 06 08 34.4
MOS *i* S **S** **06 18 11.9 -3.0**
MOS *e* 06 18 31.0
MOS pmax pmax
comp=Z,1μm,2.2s
MOS pmax pmax
comp=Z,388nm,1.8s
MOS smax smax
comp=N,4μm,5.0s
MOS smax smax
comp=E,2μm,5.7s
MOS MLR MLR
comp=N,5μm,19.0s
MOS MLR MLR
comp=E,5μm,19.0s
MOS MLR MLR
comp=Z,9μm,19.0s
PPT Papeete 78.14 116 P **P** **06 08 26.9 +0.9**
comp=Z,336nm,1.1s,baz=318,slow=5.2,SNR=23
PPT LR LR 06 39 56.1
comp=Z,2μm,18.1s,baz=292,slow=33
PPT2 Papeete2 78.15 116 *e*P **P** **06 08 26.8 +0.6**
comp=Z,414nm,1.2s
PPT2 *e*S **S** **06 18 12.0 -4.4**
comp=Z,5μm,29.2s
PPT2 Papeete2 78.15 116 *e*LR LR 06 32 46.5
comp=Z,21μm,31.2s,baz=309
PPTF Pamatai, Papee 78.16 116 P **P** **06 08 26.7 +0.5**
HOPS Hopland Field 78.17 53 P **P** **06 08 27.0 +1.1**
HOPS IAMs_20 IAMs_20 06 36 57.3
comp=Z,5μm,21.0s
PAE Paea 78.19 116 *e*P **P** **06 08 26.6 +0.3**
comp=Z,76nm,1.4s
AJN Ajban 78.24 292 *i* P **P** **06 08 28.0 +1.4**
SNR=15
AJN Ajban 78.24 292 P **P** **06 08 28.5 +2.0**
SNR=13
K05A Summer Lake 78.30 48 P **P** **06 08 28.2 +1.3**
K05A IAMs_20 IAMs_20 06 39 45.5
comp=Z,6μm,20.0s
TIAR Tiarei 78.33 115 *e*P **P** **06 08 27.5 +0.4**
comp=Z,116nm,1.1s
DAG Danmarks Havn 78.36 356 ⇓ *i*P **P** **06 08 27.8 +1.5**
DAG *i* 06 08 43.5
DAG Danmarks Havn 78.36 356 ⇓ *i*P **P** **06 08 27.8 +1.5**
DAG *i* 06 08 43.5
GROC Groznyy 78.40 312 *e*P **P** **06 08 28.6 +1.5**
GROC *e* 06 08 38.1
GROC *e*S **S** **06 18 15.8 -2.5**
GROC pmax pmax
comp=Z,191nm,1.4s
GDXM Geysers 78.44 53 P **P** **06 08 29.4 +1.8**
GDXM IAmb IAmb 06 08 32.2
comp=Z,189nm,1.2s
GDXM IAMs_20 IAMs_20 06 39 30.5
comp=Z,6μm,20.0s
TVO Taravao 78.52 116 *e*P **P** **06 08 28.9 +0.7**
NEW Newport 78.57 42 P **P** **06 08 28.9 +0.9**
baz=294
NEW Newport 78.57 42 LR LR 06 37 51.1
comp=Z,2μm,20.3s,baz=298,slow=32
NEW Newport 78.57 42 P **P** **06 08 29.0 +0.9**
NEW pmax pmax
comp=Z,78nm,0.9s
NEW Newport 78.57 42 P **P** **06 08 28.9 +0.9**
O03E Paynes Creek 78.59 51 P **P** **06 08 28.8 +0.4**
baz=292,SNR=99
O03E S **S** **06 18 20.5 -0.2**
baz=292
G08A Pilot Rock 78.59 45 P **P** **06 08 29.5 +1.1**
MCCM Marconi Confer 78.62 53 P **P** **06 08 29.3 +0.8**
MCCM IAmb IAmb 06 08 32.4
comp=Z,450nm,1.4s
MCCM IAMs_20 IAMs_20 06 39 57.5
comp=Z,4μm,20.0s
E09A Wood Farm, Sta 78.63 44 P **P** **06 08 29.2 +0.8**
E09A IAMs_20 IAMs_20 06 36 09.1
comp=Z,7μm,22.0s
I07A Izee 78.71 47 P **P** **06 08 30.0 +1.0**
I07A IAMs_20 IAMs_20 06 35 43.3
comp=Z,5μm,22.0s
LPSR Galich'ya Gora 78.80 323 *e*P **P** **06 08 29.3 +0.2**
LPSR *e*S **S** **06 18 17.9 -4.3**
LPSR pmax pmax
comp=Z,470nm,1.8s
LPSR pmax pmax
comp=Z,1μm,2.0s
LPSR smax smax
comp=E,4μm,6.1s
LPSR MLR MLR
comp=Z,8μm,19.0s
OBN Obninsk 78.94 326 *d* *i*P **P** **06 08 30.4 +0.5**
OBN *e* 06 08 38.6
OBN *e**SP **pP** **06 08 44.3 -1.2**
OBN *e*PPP PPP 06 13 16.3
OBN *i* S **S** **06 18 20.0 -3.6**
OBN SS **SS** **06 23 28.2 -0.9**
OBN pmax pmax
comp=Z,391nm,1.7s
OBN MLR MLR
comp=Z,11μm,19.0s
OBN Obninsk 78.94 326 P **P** **06 08 30.1 +0.3**
OBN IAmb IAmb 06 08 46.5
comp=Z,420nm,1.4s
MOD Modoc Plateau 79.02 49 P **P** **06 08 31.6 +0.8**
MOD IAmb IAmb 06 08 34.9
comp=Z,152nm,1.1s
MOD IAMs_20 IAMs_20 06 39 29.6
comp=Z,5μm,20.0s
VORR Voronezh 79.04 322 ⇑ *i*P **P** **06 08 29.0 -1.5**
VORR pmax pmax
comp=Z,500nm,2.0s
ORV Oroville 79.08 52 P **P** **06 08 31.1 +0.1**
ORV pmax pmax
comp=Z,273nm,1.3s
ORV Oroville 79.08 52 P **P** **06 08 31.1 +0.1**
ORV IAmb IAmb 06 08 34.7
comp=Z,273nm,1.3s
VORD Divnogorie 79.30 321 *e*P **P** **06 08 32.3 +0.4**
VORD *e* 06 08 33.7
VORD *e*S **S** **06 18 19.8 -7.8**
VORD pmax pmax
comp=Z,100nm,0.8s
VORD smax smax
comp=E,360nm,4.8s
VORD MLR MLR
comp=Z,2μm,12.0s
F10A Beach Ranch, E 79.43 44 P **P** **06 08 33.8 +0.8**
F10A IAMs_20 IAMs_20 06 36 12.3
comp=Z,7μm,22.0s
MEH Mehetia 79.54 115 *e*P **P** **06 08 34.2 +0.5**
comp=Z,159nm,1.5s
J08A Circle Bar Ran 79.68 47 P **P** **06 08 35.5 +1.1**
J08A IAmb IAmb 06 08 38.6
comp=Z,258nm,1.2s
J08A IAMs_20 IAMs_20 06 43 18.0
comp=Z,4μm,19.0s
TBLG Delisi 79.69 311 P **P** **06 08 35.1 +0.8**
TBLG pmax pmax
comp=Z,32nm,0.7s
TBLG Delisi 79.69 311 P **P** **06 08 35.1 +0.8**
AFDM Forest Hills D 79.70 52 P **P** **06 08 35.0 +0.6**
ZEI Tsey 79.84 312 *e*P **P** **06 08 32.6 -2.7**
ZEI *e*S **S** **06 18 31.9 -2.2**
ZEI pmax pmax
comp=Z,64nm,0.8s
ZEI MLR MLR
comp=Z,17μm,19.0s
ZEI MLR MLR
comp=E,11μm,19.0s
ZEI MLR MLR
comp=N,6μm,16.0s
BMO Blue Mountains 79.84 45 P **P** **06 08 35.9 +0.7**
BMO pmax pmax
comp=Z,341nm,1.5s
BMO Blue Mountains 79.84 45 P **P** **06 08 35.9 +0.7**
BMO IAmb IAmb 06 08 39.4
comp=Z,341nm,1.5s
BMO IAMs_20 IAMs_20 06 39 37.2
comp=Z,5μm,21.0s
MCQ Macquarie Isla 79.87 170 P **P** **06 08 34.3 -0.3**
MCQ pmax pmax
comp=Z,383nm,1.4s
MCQ Macquarie Isla 79.87 170 P **P** **06 08 34.3 -0.3**
MCQ IAmb IAmb 06 08 51.3

	comp=Z,383nm,1.4s								
N2IH	**Innhavet**	**79.89**	**342**	*e*P		**P**		**06 08 35.7**	**+0.9**
WVOR	**Wild Horse Val**	**79.94**	**48**	P		**P**		**06 08 36.1**	**+0.3**
WVOR				pmax	pmax				
	comp=Z,308nm,1.4s								
WVOR	**Wild Horse Val**	**79.94**	**48**	P		**P**		**06 08 36.0**	**+0.3**
WVOR				IAmb	IAmb			06 08 40.0	
	comp=Z,308nm,1.4s								
WVOR				IAMs_20	IAMs_20			06 40 49.1	
	comp=Z,5µm,20.0s								
STEI	**Steigen**	**80.11**	**342**	*e*P		**P**		**06 08 36.7**	**+0.8**
STEI				IVmBBB				06 08 40.0	
	comp=Z,3µm,2.5s								
STEI				*e*PP		**PP**		**06 11 39.5**	**+1.4**
STEI				*e*S		**S**		**06 18 32.5**	**-3.0**
STEI				IVMs_BB	IVMs_BB			06 46 40.6	
	comp=Z,3µm,21.9s								
N2VI	**Vinje**	**80.12**	**343**	*e*P		**P**		**06 08 37.4**	**+1.4**
KBZ	**Khabaz**	**80.12**	**314**	P		**P**		**06 08 37.4**	**+0.8**
	comp=Z,81nm,0.9s,baz=81,slow=2.0,SNR=72								
KBZ				LR	LR			06 46 53.0	
	comp=Z,14µm,21.7s,baz=60,slow=38								
KBZ	**Khabaz**	**80.12**	**314**	*c i*P		**P**		**06 08 37.0**	**+0.5**
WALA	**Waterton Lakes**	**80.17**	**40**	P		**P**		**06 08 38.2**	**+1.3**
WALA				IAmb	IAmb			06 08 40.9	
	comp=Z,118nm,0.8s								
KIV	**Kislovodsk**	**80.17**	**314**	⇑P		**P**		**06 08 37.7**	**+0.8**
KIV	**Kislovodsk**	**80.17**	**314**	*i* P		**P**		**06 08 37.3**	**+0.4**
	SNR=67								
KIV	**Kislovodsk**	**80.17**	**314**	*e*P		**P**		**06 08 38.5**	**+1.6**
KIV				*e*S		**S**		**06 18 40.5**	**+3.2**
KIV				*e*SS		**SS**		**06 23 52.5**	**+4.2**
KIV				pmax	pmax				
	comp=Z,211nm,1.0s								
KIV				pmax	pmax				
	comp=Z,1µm,4.4s								
KIV				MLR	MLR				
	comp=Z,32µm,19.0s								
KIV	**Kislovodsk**	**80.17**	**314**	P		**P**		**06 08 37.4**	**+0.5**
KIV				IAmb	IAmb			06 08 41.1	
	comp=Z,230nm,1.4s								
SAO	**San Andreas Ge**	**80.20**	**54**	P		**P**		**06 08 37.8**	**+0.7**
SAO				pmax	pmax				
	comp=Z,158nm,1.3s								
SAO	**San Andreas Ge**	**80.20**	**54**	P		**P**		**06 08 37.8**	**+0.7**
SAO				IAMs_20	IAMs_20			06 35 59.4	
	comp=Z,6µm,22.0s								
RUBR	**Rubicon Trail**	**80.24**	**52**	P		**P**		**06 08 37.8**	**+0.2**
RUBR				IAmb	IAmb			06 08 41.6	
	comp=Z,248nm,1.1s								
N2TV	**TYrnvik**	**80.39**	**342**	*e*P		**P**		**06 08 38.1**	**+0.7**
N2ST	**Straumen**	**80.40**	**342**	*e*P		**P**		**06 08 38.1**	**+0.6**
LOF	**Lofoten**	**80.43**	**343**	*e*P		**P**		**06 08 38.8**	**+1.1**
LOF				IVmB_BB				06 08 54.6	
	comp=Z,3µm,3.2s								
LOF				*e*PP		**PP**		**06 11 41.4**	**+0.6**
LOF				*e*S		**S**		**06 18 37.5**	**-1.4**
LOF				*e*SS		**SS**		**06 23 47.1**	**-3.6**
LOF				IVMs_BB	IVMs_BB			06 44 23.9	
	comp=Z,2µm,22.6s								
FAUS	**Fauske**	**80.47**	**342**	*e*P		**P**		**06 08 38.6**	**+0.7**
FAUS				IVmB_BB				06 08 41.7	
	comp=Z,3µm,1.9s								
FAUS				*e*PP		**PP**		**06 11 42.6**	**+1.5**
FAUS				*e*S		**S**		**06 18 38.2**	**-1.1**
FAUS				IVMs_BB	IVMs_BB			06 47 24.6	
	comp=Z,5µm,20.8s								
CMB	**Columbia Colle**	**80.48**	**53**	P		**P**		**06 08 39.3**	**+0.7**
CMB				pmax	pmax				
	comp=Z,435nm,1.4s								
CMB	**Columbia Colle**	**80.48**	**53**	P		**P**		**06 08 39.3**	**+0.7**
CMB				IAmb	IAmb			06 08 42.6	
	comp=Z,434nm,1.4s								
CMB				IAMs_20	IAMs_20			06 41 10.4	
	comp=Z,4µm,19.0s								
FIA1	**FINESS Array S**	**80.50**	**334**	P		**P**		**06 08 38.4**	**+0.2**
FIA1				IAmb	IAmb			06 08 54.1	
	comp=Z,383nm,1.4s								
FINES	**FINESS Array B**	**80.50**	**334**	P		**P**		**06 08 38.0**	**-0.2**
	comp=Z,96nm,0.5s,baz=70,slow=5.1,SNR=188								
FINES				PKKPbc	**PKKPbc**			**06 27 20.0**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=101,slow=1.9,SNR=3.8								
FINES	**FINESS Array B**	**80.50**	**334**	*i* P		**P**		**06 08 38.0**	**-0.2**
FINES				pmax	pmax				
	comp=Z,96nm,0.5s								
VCNR	**Virginia City**	**80.50**	**51**	P		**P**		**06 08 40.0**	**+1.1**
VCNR				IAMs_20	IAMs_20			06 37 32.1	
	comp=Z,4µm,21.0s								
JTMT	**Jette**	**80.52**	**42**	P		**P**		**06 08 39.9**	**+1.1**
JTMT				IAmb	IAmb			06 08 43.1	
	comp=Z,324nm,1.3s								
PAHR	**Pah Rah Range**	**80.53**	**51**	P		**P**		**06 08 40.1**	**+1.1**
PAHR				IAmb	IAmb			06 08 42.9	
	comp=Z,153nm,1.1s								
PNTR	**Pine Nut**	**80.62**	**51**	P		**P**		**06 08 40.7**	**+1.1**
PNTR				IAmb	IAmb			06 08 43.2	
	comp=Z,134nm,0.9s								
NBB08	**Skaug oppvekst**	**80.65**	**342**	*e*P		**P**		**06 08 39.4**	**+0.6**
AKH	**Akhalkalaki**	**80.67**	**311**	⇓P		**P**		**06 08 41.7**	**+1.9**
AKH	**Akhalkalaki**	**80.67**	**311**	P		**P**		**06 08 40.4**	**+0.6**
AKH				pmax	pmax				
	comp=Z,130nm,1.4s								
AKH				MLR	MLR				
	comp=Z,19µm,19.0s								
AKH	**Akhalkalaki**	**80.67**	**311**	P		**P**		**06 08 40.4**	**+0.6**
N2SV	**S rvYgen**	**80.74**	**343**	*e*P		**P**		**06 08 40.3**	**+1.0**
PMPB	**Monarch Peak**	**80.90**	**54**	P		**P**		**06 08 41.9**	**+0.9**
PMPB				IAMs_20	IAMs_20			06 36 06.8	
	comp=Z,5µm,21.0s								
YERR	**Yerington**	**80.92**	**51**	P		**P**		**06 08 42.0**	**+0.8**
YERR				IAmb	IAmb			06 08 45.3	
	comp=Z,103nm,0.8s								
YERR				IAMs_20	IAMs_20			06 41 36.1	
	comp=Z,4µm,20.0s								
WAKR	**Walker**	**80.97**	**52**	P		**P**		**06 08 42.5**	**+1.0**
WAKR				IAMs_20	IAMs_20			06 39 08.6	
	comp=Z,4µm,19.0s								
N2VA	**Vr_y**	**80.99**	**343**	*e*P		**P**		**06 08 40.9**	**+0.2**
NBB05	**Inndyr**	**81.06**	**342**	*e*P		**P**		**06 08 41.2**	**+0.2**
MSO	**Missoula**	**81.13**	**43**	P		**P**		**06 08 42.2**	**+0.1**
	baz=296,SNR=48								
MSO	**Missoula**	**81.13**	**43**	P		**P**		**06 08 42.1**	**+0.1**
NBB30	**Finnes**	**81.19**	**342**	*e*P		**P**		**06 08 42.7**	**+1.0**
TBI	**Tubuai**	**81.19**	**121**	*e*P		**P**		**06 08 43.0**	**+0.6**
	comp=Z,1µm,1.5s								
TBI	**Tubuai**	**81.19**	**121**	*e*S		**S**		**06 18 44.7**	**-3.5**
	comp=Z,5µm,29.8s								
TBI	**Tubuai**	**81.19**	**121**	*e*LQ		LQ		06 30 09.7	
	comp=Z,7µm,33.5s								
TBI				*e*LR		LR		06 33 40.7	
	comp=Z,20µm,34.0s,baz=303								
TBI	**Tubuai**	**81.19**	**121**	*e*T		T		07 37 43.5	
	comp=Z,3.3nm,0.3s								
NBB17	**Glomfjord BYr**	**81.24**	**342**	*e*P		**P**		**06 08 43.4**	**+1.4**
N2RO	**R_st**	**81.25**	**343**	*e*P		**P**		**06 08 42.9**	**+0.9**
KARS	**Kars**	**81.28**	**311**	*e*P		**P**		**06 08 45.9**	**+2.9**
CLDR	**Caldiran**	**81.31**	**309**	*e*P		**P**		**06 08 44.2**	**+0.9**
MFID	**Camas Ranch**	**81.41**	**46**	P		**P**		**06 08 44.4**	**+0.8**
MFID				IAmb	IAmb			06 08 47.9	
	comp=Z,360nm,1.4s								
MFID				IAMs_20	IAMs_20			06 40 03.8	
	comp=Z,4µm,22.0s								
PAGB	**Antelope Grade**	**81.50**	**55**	P		**P**		**06 08 45.4**	**+1.3**
PAGB				IAMs_20	IAMs_20			06 36 12.8	
	comp=Z,6µm,22.0s								
MOR8	**Moi Rana**	**81.54**	**341**	*e*P		**P**		**06 08 43.2**	**-0.5**
MOR8				IVmB_BB				06 09 11.4	
	comp=Z,3µm,2.7s								
MOR8				*e*PP		**PP**		**06 11 49.6**	**-0.5**
MOR8				*e*S		**S**		**06 18 46.0**	**-4.6**
MOR8				*e*SS		**SS**		**06 24 00.3**	**-7.1**
MOR8				IVMs_BB	IVMs_BB			06 44 43.0	
	comp=Z,5µm,25.3s								
RYN	**Ryan**	**81.58**	**51**	P		**P**		**06 08 45.5**	**+0.8**
RYN				IAmb	IAmb			06 08 48.8	
	comp=Z,261nm,1.5s								
MDPB	**Devils Postpil**	**81.59**	**53**	P		**P**		**06 08 46.0**	**+1.1**
MDPB				IAmb	IAmb			06 08 48.9	
	comp=Z,133nm,1.2s								
OMMB	**Old Mammoth Mi**	**81.65**	**53**	P		**P**		**06 08 46.0**	**+0.8**
OMMB				IAmb	IAmb			06 08 49.4	
	comp=Z,133nm,1.2s								
KONS	**Konsvik**	**81.70**	**342**	*e*P		**P**		**06 08 45.0**	**+0.6**
KONS				*e*PP		**PP**		**06 11 52.5**	**+1.2**
KONS				*e*S		**S**		**06 18 55.8**	**+3.7**
KVN	**Kaiserville**	**81.70**	**51**	P		**P**		**06 08 46.0**	**+0.7**
KVN				pmax	pmax				
	comp=Z,102nm,0.9s								
KVN	**Kaiserville**	**81.70**	**51**	P		**P**		**06 08 46.0**	**+0.7**
KVN				IAmb	IAmb			06 08 49.4	
	comp=Z,102nm,0.9s								
AGRB	**Hanur-Agry**	**81.78**	**310**	*e*P		**P**		**06 08 45.9**	**+0.2**
SENK	**Senkaya-Erzuru**	**81.81**	**311**	*e*P		**P**		**06 08 46.9**	**+1.0**
NVAR	**Mina Array Bea**	**81.82**	**52**	P		**P**		**06 08 46.7**	**+0.7**
	comp=Z,82nm,0.9s,baz=269,slow=5.1,SNR=163								
NVAR				PKKPbc	**PKKPbc**			**06 27 17.4**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=141,slow=2.1,SNR=3.7								
NVAR				PKP2ab				06 35 13.0	
	comp=Z,0.4nm,0.7s,baz=113,slow=3.4,SNR=4.1								
NVAR				LR	LR			06 41 21.1	
	comp=Z,2µm,19.4s,baz=284,slow=33								
BATM	**Batumi**	**81.82**	**312**	⇓P		**P**		**06 08 47.0**	**+1.3**
STOK	**Stokkvaagen**	**81.84**	**342**	*e*P		**P**		**06 08 45.6**	**+0.4**
STOK				*e*S		**S**		**06 18 54.7**	**+1.1**
SMMC	**Simmler**	**81.86**	**55**	P		**P**		**06 08 47.0**	**+1.0**
	baz=294,SNR=9.3								
VOG	**Valley Oaks Go**	**81.91**	**54**	P		**P**		**06 08 46.5**	**+0.4**
	baz=294,SNR=6.1								
VSU	**Vasula**	**81.91**	**331**	*e*P		**P**		**06 08 46.5**	**+0.8**
VSU				*e*S		**S**		**06 18 47.6**	**-7.0**
VSU	**Vasula**	**81.91**	**331**	*d i*P		**P**		**06 08 45.9**	**+0.2**
VSU				pmax	pmax				
	comp=Z,939nm,1.9s								
VANB	**Van**	**81.91**	**309**	*e*P		**P**		**06 08 48.5**	**+2.2**
NV11	**Mina Array Sit**	**81.92**	**52**	P		**P**		**06 08 47.1**	**+0.7**
NV11				IAmb	IAmb			06 08 50.6	
	comp=Z,120nm,1.1s								
NV11				IAMs_20	IAMs_20			06 42 25.6	
	comp=Z,4µm,20.0s								
BCA	**Borcka**	**81.94**	**312**	⇑P		**P**		**06 08 47.6**	**+1.4**
BCA	**Borcka**	**81.94**	**312**	*e*P		**P**		**06 08 46.8**	**+0.5**
TAOE	**Nuku Hiva Isla**	**82.14**	**103**	*e*S		**S**		**06 18 52.5**	**-6.1**
	comp=Z,4µm,24.4s								
TAOE	**Nuku Hiva Isla**	**82.14**	**103**	*e*LQ		LQ		06 31 02.4	
	comp=Z,8µm,27.3s								
TAOE				*e*LR		LR		06 34 25.0	
	comp=Z,16µm,26.3s,baz=300								
TAOE	**Nuku Hiva Isla**	**82.14**	**103**	IAMs_20	IAMs_20			06 36 49.3	
	comp=Z,4µm,22.0s								
PKM	**Mcpherson Peak**	**82.17**	**55**	P		**P**		**06 08 48.9**	**+1.0**
	baz=294,SNR=40								
SOC	**Sochi**	**82.27**	**314**	*e*P		**P**		**06 08 46.6**	**-1.3**
SOC				*e*				06 11 55.9	
SOC				*e*PPP		PPP		06 13 44.4	
SOC				*e*S		**S**		**06 18 56.8**	**-2.1**
SOC				*e*SS		**SS**		**06 24 25.0**	**+5.6**
SOC				*e*SSS		SSS		06 27 49.7	
SOC				pmax	pmax				
	comp=Z,107nm,0.9s								
SOC				MLR	MLR				
	comp=Z,12µm,19.0s								
HLID	**Hailey**	**82.27**	**46**	P		**P**		**06 08 49.1**	**+0.9**
	baz=296								
HLID	**Hailey**	**82.27**	**46**	P		**P**		**06 08 49.0**	**+0.8**
AKDM	**Akdamar-Van**	**82.32**	**309**	*e*P		**P**		**06 08 49.7**	**+1.2**
CUKT	**Cukurca**	**82.32**	**307**	*e*P		**P**		**06 08 48.5**	**0.0**
VES	**Vestal, Richgr**	**82.32**	**54**	P		**P**		**06 08 48.4**	**0.0**
	baz=295,SNR=78								
KOPR	**Koprukoy-ERZUR**	**82.40**	**310**	*e*P		**P**		**06 08 50.2**	**+1.3**
SBC	**Santa Barbara**	**82.43**	**56**	P		**P**		**06 08 50.1**	**+1.2**
	baz=294,SNR=5.3								
TIN	**Tinemaha, Big**	**82.44**	**53**	P		**P**		**06 08 50.1**	**+0.9**
	baz=295,SNR=32								
LRM	**Limekiln Ridge**	**82.50**	**43**	P		**P**		**06 08 50.2**	**+0.7**
DLMT	**Dillon**	**82.62**	**43**	P		**P**		**06 08 50.5**	**+0.6**
DLMT				IAmb	IAmb			06 08 54.1	
	comp=Z,140nm,1.2s								
SCZ2	**Santa Cruz Isl**	**82.67**	**56**	P		**P**		**06 08 50.8**	**+0.6**
	baz=294,SNR=6.3								
JMIC	**Jan Mayen**	**82.69**	**351**	*e*P		**P**		**06 08 52.4**	**+2.9**
JMIC				*e*SKSac		**SKSac**		**06 19 08.2**	**+2.7**
JMIC				IVMs_BB	IVMs_BB			06 39 54.4	
	comp=Z,2µm,32.9s								
MCMT	**McKenzie Canyo**	**82.71**	**44**	P		**P**		**06 08 51.1**	**+0.6**
ARVC	**Arvin**	**82.81**	**55**	P		**P**		**06 08 51.5**	**+0.6**
	baz=295,SNR=18								
CWC	**Cottonwood Cre**	**82.81**	**53**	P		**P**		**06 08 51.6**	**+0.5**
	baz=295								
ISA	**Isabella, Lake**	**82.85**	**54**	P		**P**		**06 08 51.0**	**-0.2**
	baz=295,SNR=33								
ISA	**Isabella, Lake**	**82.85**	**54**	P		**P**		**06 08 51.0**	**-0.2**
ISA				pmax	pmax				
	comp=Z,108nm,1.2s								
ISA	**Isabella, Lake**	**82.85**	**54**	P		**P**		**06 08 51.0**	**-0.2**
ISA				IAMs_20	IAMs_20			06 37 51.4	
	comp=Z,6µm,22.0s								
GURO	**Guroymak-BITLI**	**82.89**	**309**	*e*P		**P**		**06 08 52.6**	**+1.1**
ELK	**Elko**	**82.97**	**48**	LR	LR			06 39 50.1	
	comp=Z,4µm,21.4s,baz=281,slow=31								
ELK	**Elko**	**82.97**	**48**	P		**P**		**06 08 52.8**	**+0.8**
ELK				pmax	pmax				
	comp=Z,91nm,1.0s								
ELK	**Elko**	**82.97**	**48**	P		**P**		**06 08 52.8**	**+0.8**
ELK				IAMs_20	IAMs_20			06 42 25.1	
	comp=Z,4µm,20.0s								
VRTB	**Varto-Mus**	**83.04**	**310**	*e*P		**P**		**06 08 53.9**	**+1.7**
SIRT	**Sirnak**	**83.05**	**308**	*e*P		**P**		**06 08 53.3**	**+1.0**
SNCC	**San Nicolas Is**	**83.07**	**57**	P		**P**		**06 08 52.6**	**+0.3**
	baz=295								
SNCC	**San Nicolas Is**	**83.07**	**57**	P		**P**		**06 08 52.4**	**+0.1**
SNCC				IAmb	IAmb			06 08 56.1	
	comp=Z,281nm,1.1s								
SNCC				IAMs_20	IAMs_20			06 38 20.3	
	comp=Z,5µm,20.0s								
EGMT	**Eagleton**	**83.09**	**40**	P		**P**		**06 08 52.9**	**+0.7**
	baz=299								
EGMT	**Eagleton**	**83.09**	**40**	P		**P**		**06 08 53.1**	**+0.8**
GRAC	**Grapevine Rang**	**83.09**	**53**	P		**P**		**06 08 53.3**	**+0.8**
	baz=295,SNR=44								
OSI	**Osito Audit: C**	**83.10**	**55**	P		**P**		**06 08 53.2**	**+0.7**
	baz=295,SNR=12								
OSI	**Osito Audit: C**	**83.10**	**55**	P		**P**		**06 08 53.3**	**+0.8**
OSI				IAmb	IAmb			06 08 55.8	
	comp=Z,94nm,0.9s								
OSI				IAMs_20	IAMs_20			06 38 06.1	
	comp=Z,6µm,22.0s								
BOZ	**Bozeman (W)**	**83.12**	**43**	P		**P**		**06 08 53.3**	**+0.8**
	baz=298,SNR=100								
BOZ	**Bozeman (W)**	**83.12**	**43**	P		**P**		**06 08 53.3**	**+0.8**
BOZ				pmax	pmax				
	comp=Z,63nm,1.0s								
BOZ	**Bozeman (W)**	**83.12**	**43**	P		**P**		**06 08 53.3**	**+0.8**
ANN	**Anapa**	**83.19**	**316**	*e*P		**P**		**06 08 50.8**	**-1.8**
ANN				*e*PP		**PcP**		**06 09 01.2**	**+4.1**
ANN				*e*				06 12 01.0	
ANN				*e*PPP		PPP		06 13 54.1	
ANN				*e*S		**S**		**06 19 08.9**	**+0.8**
ANN				pmax	pmax				
	comp=Z,334nm,1.7s								
ANN				MLR	MLR				
	comp=N,11µm,21.0s								
ANN				MLR	MLR				
	comp=Z,8µm,20.0s								
ANN				MLR	MLR				
	comp=E,3µm,17.0s								
SUMG	**Summit**	**83.22**	**0**	*i* P		**P**		**06 08 53.6**	**+0.8**
	comp=E,181nm,0.9s								
SUMG				*i*				06 09 12.2	
	comp=Z,19µm,23.0s								
SUMG	**Summit**	**83.22**	**0**	*i* P		**P**		**06 08 53.6**	**+0.8**
SUMG				*i*				06 09 12.2	
SUMG				pmax	pmax				
	comp=Z,180nm,0.9s								
SUMG				MLR	MLR				
	comp=Z,19µm,23.0s								
SUMG	**Summit**	**83.22**	**0**	P		**P**		**06 08 53.7**	**+0.9**
KARO	**Karlova-Bingo**	**83.26**	**310**	*e*P		**P**		**06 08 55.7**	**+2.3**
KTUT	**Trabzon**	**83.40**	**312**	*e*P		**P**		**06 08 54.9**	**+1.1**
MPMC	**Manual Prospec**	**83.41**	**53**	P		**P**		**06 08 54.8**	**+0.5**
	baz=295,SNR=130								
NSS	**Namsos**	**83.44**	**341**	*e*P		**P**		**06 08 53.7**	**+0.2**
NSS				IVmB_BB				06 08 56.5	
	comp=Z,1µm,1.8s								
NSS				*e*PP		**PP**		**06 12 06.2**	**+0.6**
NSS				*e*SKSac		**S**		**06 19 08.1**	**-1.9**
NSS				*e*SS		**SS**		**06 24 31.5**	**-4.0**
NSS				IVMs_BB	IVMs_BB			06 45 42.7	
	comp=Z,7µm,25.7s								
LRMC	**Laurel Mtn Rad**	**83.51**	**54**	P		**P**		**06 08 55.1**	**+0.4**
	baz=295,SNR=61								
EDW2	**Edwards Air Fo**	**83.53**	**55**	P		**P**		**06 08 55.4**	**+0.6**
	baz=295,SNR=51								
DECC	**Green Verdugo**	**83.55**	**55**	P		**P**		**06 08 55.1**	**+0.3**
	baz=295,SNR=16								
YEDI	**Yedisu-Bingol**	**83.55**	**310**	*e*P		**P**		**06 08 55.4**	**+0.5**
MICGM	**Minsk**	**83.59**	**328**	⇓*e*P		**P**		**06 08 55.0**	**+0.5**
MICGM				PM				06 08 57.0	
	comp=Z,0.8nm,1.5s								
MICGM				*e*PP		**PP**		**06 12 10.0**	**+2.9**
MICGM				*e*PPP		PPP		06 14 04.0	
MICGM				*e*S		**S**		**06 19 10.0**	**-1.9**
MICGM				SM				06 19 11.0	
	comp=E,7.6nm,12.0s								
MICGM				*e*PS				06 20 00.0	
MICGM				*e*SS		SS		06 27 10.0	
MICGM				*e*SSS		SSS		06 29 08.0	
MICGM				*e*LQ		LQ		06 37 54.0	
MICGM				LQM				06 40 36.0	
	comp=N,10nm,20.0s								
MICGM				*e*LR		LR		06 41 12.0	
MICGM				LRM		MLR		06 45 58.0	
	comp=N,7.6nm,18.0s								
MICGM				LRM		MLR		06 46 32.0	
	comp=Z,25nm,24.0s								
MICGM				LRM		MLR		06 46 42.0	
	comp=E,6.4nm,24.0s								
MICGM				LRM		MLR		06 46 46.0	
	comp=Z,14nm,24.0s								
MNK	**Minsk**	**83.59**	**328**	⇓*e*P		**P**		**06 08 55.0**	**+0.5**
MNK				*e*				06 12 10.0	
MNK				*e*PPP		PPP		06 14 04.0	
MNK				*e*S		**S**		**06 19 10.0**	**-1.9**
MNK				*e*PS		**PnS**		**06 20 00.0**	**-10**
MNK				pmax	pmax				
	comp=Z,750nm,1.5s								
MNK				smax	smax				
	comp=E,8µm,12.0s								
MNK				MLR	MLR				
	comp=Z,8µm,18.0s								
MNK				MLR	MLR				
	comp=Z,25µm,24.0s								
QLMT	**Earthquake Lak**	**83.60**	**44**	P		**P**		**06 08 56.4**	**+1.3**
BNGB	**Bingl**	**83.66**	**310**	*e*P		**P**		**06 08 56.1**	**+0.7**
SVAN	**Silvan-Diyarba**	**83.66**	**309**	*e*P		**P**		**06 08 56.2**	**+0.9**
IZAR	**Zarasai**	**83.67**	**329**	*e*P		**P**		**06 08 56.6**	**+0.7**
IZAR				*e*S		**S**		**06 19 11.3**	**-1.3**
FURC	**Furnace Creek,**	**83.69**	**53**	P		**P**		**06 08 56.1**	**+0.8**
	baz=296,SNR=79								
PASC	**Pasadena Art C**	**83.69**	**55**	P		**P**		**06 08 56.1**	**+0.6**
PASC				IAmb	IAmb			06 08 59.0	
	comp=Z,217nm,1.4s								
YHL	**Hebgen Lake**	**83.75**	**43**	P		**P**		**06 08 57.4**	**+1.4**
FFC	**Flin Flon**	**83.75**	**32**	P		**P**		**06 08 56.1**	**+0.7**
FFC				pmax	pmax				
	comp=Z,284nm,1.3s								
FFC	**Flin Flon**	**83.75**	**32**	P		**P**		**06 08 56.1**	**+0.7**
FFC				IAmb	IAmb			06 08 59.5	
	comp=Z,284nm,1.3s								
MWC	**Mount Wilson**	**83.77**	**55**	P		**P**		**06 08 56.4**	**+0.3**
MWC				pmax	pmax				
	comp=Z,86nm,1.0s								
MWC	**Mount Wilson**	**83.77**	**55**	P		**P**		**06 08 56.4**	**+0.3**
R11A	**Troy Canyon, C**	**83.78**	**51**	P		**P**		**06 08 56.7**	**+0.6**
	baz=296,SNR=168								
R11A	**Troy Canyon, C**	**83.78**	**51**	P		**P**		**06 08 56.7**	**+0.6**
R11A				IAmb	IAmb			06 09 00.3	
	comp=Z,265nm,1.5s								
R11A				IAMs_20	IAMs_20			06 43 41.8	
	comp=Z,4µm,19.0s								
YHB	**Horse Butte**	**83.79**	**44**	P		**P**		**06 08 57.1**	**+1.0**
FMP	**Fort Macarthur**	**83.80**	**56**	P		**P**		**06 08 56.2**	**+0.2**
	baz=295								
ISAL	**Salakas**	**83.83**	**329**	*e*P		**P**		**06 08 56.5**	**+0.8**
CIS	**Catalina Islan**	**83.84**	**56**	P		**P**		**06 08 56.5**	**+0.2**
	baz=295,SNR=13								
NACGM	**Naroch**	**83.90**	**328**	*e*P		**P**		**06 08 55.0**	**-1.1**
NACGM				*e*P		**PcP**		**06 08 56.0**	**-4.0**
NACGM				*e*PP		**PP**		**06 12 06.0**	**-3.6**
NACGM				*e*PPP		PPP		06 14 02.0	
NACGM				*e*S		**S**		**06 19 09.0**	**-5.9**
NACGM				*e*SS		**SS**		**06 24 44.0**	**+1.3**
NACGM				*e*SSS		SSS		06 28 14.0	
NACGM				*e*LQ		LQ		06 37 36.0	
NACGM				*e*LR		LR		06 43 46.0	
NACGM				LRM		MLR		06 46 38.0	
	comp=Z,43nm,24.0s								
IIGN	**Ignalina**	**83.91**	**329**	*e*P		**P**		**06 08 56.6**	**+0.5**
IIGN				*e*S		**SKSac**		**06 19 12.8**	**-1.2**
TPNV	**Topopah Spring**	**83.

SNOW IAmb IAmb 06 09 05.4
comp=Z,153nm,1.4s
SCO Scoresbysund 84.70 355 *i* P **P** **06 09 01.0 +1.1**
comp=Z,117nm,1.4s
comp=Z,5µm,22.0s
SCO Scoresbysund 84.70 355 *i* P **P** **06 09 01.0 +1.1**
SCO pmax pmax
comp=Z,120nm,1.4s
SCO MLR MLR
comp=Z,5µm,22.0s
SCO Scoresbysund 84.70 355 P **P** **06 09 02.6 +2.8**
SCO IAmb IAmb 06 09 07.3
comp=Z,121nm,1.4s
SCO IAMs_20 IAMs_20 06 48 37.7
comp=Z,5µm,22.0s
HEC Hector,Ludlow 84.79 54 P **P** **06 09 01.6 +0.5**
baz=296,SNR=56
FCC Fort Churchill 84.79 26 P **P** **06 09 00.3 -0.2**
FCC pmax pmax
comp=Z,43nm,0.9s
FCC Fort Churchill 84.79 26 P **P** **06 09 00.3 -0.2**
AHID Auburn Hatcher 84.79 45 P **P** **06 09 02.0 +0.8**
AHID IAmb IAmb 06 09 05.3
comp=Z,216nm,1.3s
AHID IAMs_20 IAMs_20 06 39 36.1
comp=Z,6µm,22.0s
RLMT Red Lodge 84.81 43 P **P** **06 09 02.6 +1.4**
baz=300,SNR=145
RLMT Red Lodge 84.81 43 P **P** **06 09 02.8 +1.5**
RLMT IAmb IAmb 06 09 05.4
comp=Z,141nm,0.8s
TUQ Turquoise Moun 84.82 53 P **P** **06 09 02.0 +0.6**
baz=296,SNR=58
PABE Paberze 84.86 330 *e*P **P** **06 09 01.3 +0.4**
PABE *e*S **SKSac** **06 19 17.9 -2.1**
DUG Dugway, Tooele 84.87 48 P **P** **06 09 02.2 +0.7**
baz=298,SNR=165
DUG Dugway, Tooele 84.87 48 P **P** **06 09 02.1 +0.6**
DUG pmax pmax
comp=Z,372nm,1.4s
DUG Dugway, Tooele 84.87 48 P **P** **06 09 02.1 +0.6**
DUG IAMs_20 IAMs_20 06 44 33.3
comp=Z,5µm,20.0s
SVRC Sivrice-ELAZID 84.89 310 *e*P **P** **06 09 04.2 +2.5**
TBLU Trondheim 84.89 340 *e*P **P** **06 09 00.3 -0.7**
TBLU *e*PP **PP** **06 12 16.7 -0.7**
TBLU *e*SKSac **SKSac** **06 19 19.2 -0.9**
TBLU *e*SS **SS** **06 24 48.5 -8.4**
TBLU IVMs_BB IVMs_BB 06 46 07.6
comp=Z,6µm,25.8s
SHPR Sheep Range 84.90 52 P **P** **06 09 02.6 +0.8**
SHPR IAmb IAmb 06 09 06.0
comp=Z,176nm,1.2s
PSUT Pine Spring 84.91 50 P **P** **06 09 02.4 +0.5**
AKASG Malin Array Be 85.00 324 P **P** **06 09 01.4 -0.4**
comp=Z,88nm,0.5s,baz=51,slow=5.3,SNR=27
AKASG PKKPbc **PKKPbc** **06 27 08.3 -1.1**
comp=Z,0.7nm,0.4s,baz=272,slow=2.6,SNR=6.4
AKASG LR LR 06 49 44.8
comp=Z,9µm,19.1s,baz=60,slow=38
AKASG Malin Array Be 85.00 324 *i* P **P** **06 09 00.2 -1.5**
AKASG pmax pmax
comp=Z,88nm,0.5s
AKBB Malin Array Si 85.00 324 P **P** **06 09 01.2 -0.6**
AKBB pmax pmax
comp=Z,136nm,0.6s
AKBB Malin Array Si 85.00 324 P **P** **06 09 01.1 -0.6**
AKBB IAmb IAmb 06 09 04.2
comp=Z,136nm,0.6s
HWUT Hardware Ranch 85.04 46 P **P** **06 09 03.2 +0.7**
109C Camp Elliot, M 85.06 56 P **P** **06 09 02.7 +0.3**
baz=296,SNR=21
109C Camp Elliot, M 85.06 56 P **P** **06 09 03.2 +0.8**
109C IAmb IAmb 06 09 06.1
comp=Z,190nm,1.3s
109C IAMs_20 IAMs_20 06 39 30.0
comp=Z,4µm,21.0s
SIM Simferopol' 85.18 317 *d i* P **P** **06 09 04.2 +1.4**
SIM *e* 06 12 28.0
SIM *i* S **SKSac** **06 19 21.6 -1.0**
SIM *e*SS **SS** **06 25 07.0 +4.8**
SIM pmax pmax
comp=Z,105nm,0.6s
SIM pmax pmax
comp=Z,420nm,11.3s
PFO Pinyon Flats O 85.23 55 P **P** **06 09 03.8 +0.4**
baz=296,SNR=91
PFO Pinyon Flats O 85.23 55 LR LR 06 39 41.6
comp=Z,6µm,21.5s,baz=278,slow=30
PFO Pinyon Flats O 85.23 55 *c i* P **P** **06 09 03.8 +0.4**
PFO pmax pmax
comp=Z,388nm,1.3s
PFO Pinyon Flats O 85.23 55 P **P** **06 09 03.8 +0.4**
PFO IAmb IAmb 06 09 07.2
comp=Z,277nm,1.2s
PFO Pinyon Flats O 85.23 55 IAMs_20 IAMs_20 06 38 43.5
comp=Z,6µm,22.0s
XPFO Pion Flat 85.23 55 P **P** **06 09 03.8 +0.4**
XPFO IAmb IAmb 06 09 07.2
comp=Z,252nm,1.2s
XPFO Pion Flat 85.23 55 IAMs_20 IAMs_20 06 38 43.5
comp=Z,6µm,22.0s
GMRC Granite Mounta 85.30 54 P **P** **06 09 04.2 +0.4**
baz=296,SNR=107
RSDY Resadiye-TOKAT 85.31 312 *e*P **P** **06 09 03.1 -0.5**
CTU Camp Tracy 85.35 47 P **P** **06 09 04.6 +0.6**
TCUT Toone Canyon 85.38 47 P **P** **06 09 04.9 +0.7**
BELC Belle Mtn. Jos 85.40 55 P **P** **06 09 04.4 +0.1**
baz=296,SNR=52
PBUR Paburge 85.46 331 *e*P **P** **06 09 03.7 -0.2**
BAR Barrett 85.47 56 P **P** **06 09 05.2 +0.6**
BAR IAmb IAmb 06 09 07.4
comp=Z,125nm,1.1s
BAR IAMs_20 IAMs_20 06 39 31.1
comp=Z,4µm,21.0s
MALT Malatya 85.53 310 *e*P **P** **06 09 05.8 +1.0**
MONP2 Monument Peak 85.57 56 P **P** **06 09 05.5 +0.2**
baz=296,SNR=57
JLU Jordanelle 85.59 47 P **P** **06 09 06.0 +0.7**
CCUT Cedar City 85.71 51 P **P** **06 09 06.8 +0.9**
MPU Maple Canyon 85.75 48 P **P** **06 09 06.7 +0.6**
SVSK Karacayir 85.76 312 *e*P **P** **06 09 06.7 +0.9**
BW06 Boulder Array 85.78 45 P **P** **06 09 06.3 +0.1**
baz=300,SNR=52
BW06 Boulder Array 85.78 45 P **P** **06 09 06.2 +0.1**
BW06 IAmb IAmb 06 09 09.8
comp=Z,102nm,1.4s
PD31 Pinedale Array 85.78 45 P **P** **06 09 06.4 +0.2**
PD31 IAmb IAmb 06 09 09.7
comp=Z,93nm,1.4s
PDAR Pinedale Array 85.78 45 P **P** **06 09 06.2 0.0**
comp=Z,61nm,1.1s,baz=276,slow=2.8,SNR=93
PDAR PKKPbc **PKKPbc** **06 27 06.5 -1.1**
comp=Z,1.3nm,0.8s,baz=116,slow=6.9,SNR=6.7
PDAR PKPPKP **P'P'df** **06 35 17.5 +0.5**
comp=Z,0.5nm,0.8s,baz=76,slow=6.3,SNR=4.4
PDAR LR LR 06 41 03.3
comp=Z,5µm,21.8s,baz=316,slow=31
LAO LASA Array 85.84 40 P **P** **06 09 07.2 +1.0**
baz=302,SNR=170
LAO LASA Array 85.84 40 P **P** **06 09 07.2 +1.0**
LAO IAMs_20 IAMs_20 06 45 25.5
comp=Z,4µm,21.0s
KVT Kavak 85.84 313 *e*P **P** **06 09 08.4 +2.2**
SZCU Shurtz Canyon 85.88 51 P **P** **06 09 07.4 +0.7**
IKP In-Ko-Pah, Jac 85.91 56 P **P** **06 09 07.2 +0.4**
baz=296,SNR=47
BC3 Big Chuckawall 85.96 55 P **P** **06 09 07.6 +0.6**
baz=297,SNR=97
IRM Iron Mountain 85.96 54 P **P** **06 09 07.5 +0.6**
baz=297,SNR=44
NC405 NORSAR Array S 86.00 338 P **P** **06 09 06.8 +0.3**
HFS Hagfors 86.01 337 PKKPbc PKKPbc 06 27 04.0 -3.3
comp=Z,1.6nm,0.6s,baz=129,slow=4.0,SNR=5.7
SWSC Sam W. Stewart 86.02 56 P **P** **06 09 07.3 +0.1**
baz=297,SNR=48
NC303 NORSAR Array S 86.03 339 P **P** **06 09 06.9 +0.2**
LCMT Little Creek M 86.04 51 P **P** **06 09 08.2 +0.8**
DGMT Dagmar 86.05 38 P **P** **06 09 07.4 +0.3**
baz=303,SNR=19
DGMT Dagmar 86.05 38 P **P** **06 09 07.3 +0.2**
DGMT Dagmar 86.05 38 IAMs_20 IAMs_20 06 44 48.9
comp=Z,4µm,21.0s
DARE Darende-Malaty 86.07 311 *e*P **P** **06 09 08.5 +1.0**
ILULI Ilulissat 86.07 5 IAMs_20 IAMs_20 06 51 10.3
comp=Z,5µm,20.0s
comp=Z,2µm,27.2s
RWWY Rawlins 87.83 45 P **P** **06 09 17.1 +0.9**
RWWY IAmb IAmb 06 09 20.0
comp=Z,206nm,1.3s
RWWY IAMs_20 IAMs_20 06 44 47.6
comp=Z,6µm,22.0s
O20A White River Ci 87.96 46 P **P** **06 09 17.0 +0.3**
baz=301,SNR=68
O20A White River Ci 87.96 46 P **P** **06 09 16.9 +0.2**
O20A IAmb IAmb 06 09 20.5
comp=Z,148nm,1.3s
O20A IAMs_20 IAMs_20 06 41 32.0
comp=Z,4µm,22.0s
CEYT Ceyhan 88.02 310 *e*P **P** **06 09 16.2 -0.6**
WUAZ Wupatki 88.08 52 P **P** **06 09 18.2 +0.8**
baz=299
WUAZ Wupatki 88.08 52 P **P** **06 09 18.3 +0.9**
WUAZ IAmb IAmb 06 09 22.4
comp=Z,211nm,1.2s
BR131 Keskin Array S 88.11 313 P **P** **06 09 16.8 -0.6**
SNR=15
BR131 Keskin Array S 88.11 313 P **P** **06 09 16.6 -0.8**
BR131 pmax pmax
comp=Z,37nm,0.7s
BR131 Keskin Array S 88.11 313 P **P** **06 09 16.6 -0.8**
BRTR Keskin Array B 88.11 313 P **P** **06 09 16.8 -0.6**
comp=Z,32nm,0.7s,baz=93,slow=2.8,SNR=60
BRTR PKKPbc **PKKPbc** **06 27 03.5 +1.6**
comp=Z,2.4nm,0.7s,baz=204,slow=3.9,SNR=6.0
BRTR LR LR 06 53 13.3
comp=Z,3µm,19.6s,baz=34,slow=39
PV09 Paradox Valley 88.18 48 P **P** **06 09 18.6 +0.6**
LVV L'vov 88.24 325 *e*P **P** **06 09 17.9 +0.3**
LVV *e* 06 12 46.3
LVV *e*S **S** **06 19 55.6 -1.9**
SUE Sulen 88.24 341 *e*P **P** **06 09 18.2 +0.9**
SUE IVmB_BB 06 09 35.7
comp=Z,3µm,4.4s
SUE *e*PP **PP** **06 12 44.5 +0.1**
SUE *e*SKSac **SKSac** **06 19 39.5 -1.2**
SUE *e*SS **SS** **06 25 40.0 -5.8**
SUE IVMs_BB IVMs_BB 06 48 13.6
comp=Z,5µm,27.9s
TLCR 88.25 320 ⇓P **P** **06 09 17.6 -0.2**
PV21 Cone Mtn., Par 88.26 48 P **P** **06 09 18.7 +0.5**
SFJD Kangerlussuaq 88.29 5 *i* P **P** **06 09 18.0 +0.6**
comp=Z,570nm,26.0s
SFJD Kangerlussuaq 88.29 5 P **P** **06 09 18.2 +0.8**
SFJD pmax pmax
comp=Z,72nm,1.0s
SFJD MLR MLR
comp=Z,3µm,20.0s
SFJD Kangerlussuaq 88.29 5 P **P** **06 09 18.2 +0.8**
SFJD IAmb IAmb 06 09 35.8
comp=Z,72nm,1.0s
PV23 Carpenter Ridg 88.29 48 P **P** **06 09 18.9 +0.5**
PV23 IAMs_20 IAMs_20 06 47 12.9
comp=Z,4µm,21.0s
PV10 Paradox Valley 88.31 48 P **P** **06 09 19.6 +1.1**
PV10 IAMs_20 IAMs_20 06 48 17.6
comp=Z,4µm,20.0s
PV14 Lion Creek, Pa 88.32 48 P **P** **06 09 19.1 +0.5**
PV14 IAMs_20 IAMs_20 06 47 14.8
comp=Z,5µm,22.0s
BIR Birlad 88.34 321 ⇑P **P** **06 09 19.1 +1.0**
PV20 West Nyswonger 88.37 48 P **P** **06 09 19.7 +0.9**
PV19 Morning Glory 88.38 48 P **P** **06 09 19.5 +0.7**
KARA Karaisali 88.38 310 *e*P **P** **06 09 18.7 +0.1**
PV04 Paradox Valley 88.39 48 P **P** **06 09 19.9 +1.1**
PV04 IAMs_20 IAMs_20 06 47 16.7
comp=Z,4µm,20.0s
YAYX Yaylak 88.39 312 *e*P **P** **06 09 17.9 -0.8**
PV22 Blue Mesa, Par 88.40 48 P **P** **06 09 19.8 +0.9**
PV22 IAMs_20 IAMs_20 06 47 14.8
comp=Z,5µm,20.0s
PV17 East Wray Mesa 88.41 48 P **P** **06 09 19.4 +0.5**
PV05 Paradox Valley 88.42 49 P **P** **06 09 19.7 +0.7**
PV11 David Mesa, Pa 88.46 48 P **P** **06 09 20.1 +1.0**
PV11 IAMs_20 IAMs_20 06 47 29.4
comp=Z,4µm,20.0s
PV18 Skein Mesa, Pa 88.46 48 P **P** **06 09 20.0 +0.9**
PV18 IAMs_20 IAMs_20 06 46 12.5
comp=Z,4µm,22.0s
PV12 Saucer Basin, 88.50 48 P **P** **06 09 20.3 +0.9**
PV12 IAMs_20 IAMs_20 06 47 29.5
comp=Z,6µm,22.0s
PV03 Paradox Valley 88.50 48 P **P** **06 09 19.7 +0.4**
PV03 IAMs_20 IAMs_20 06 47 20.5
comp=Z,4µm,21.0s
PRAR RASCA 88.50 322 ⇑P **P** **06 09 19.3 +0.4**
RSSD Black Hills 88.52 41 P **P** **06 09 19.4 +0.1**
baz=303
RSSD Black Hills 88.52 41 P **P** **06 09 19.6 +0.2**
RSSD pmax pmax
comp=Z,73nm,1.1s
RSSD MLR MLR
comp=Z,4µm,20.0s
RSSD Black Hills 88.52 41 P **P** **06 09 19.6 +0.2**
RSSD IAmb IAmb 06 09 24.1
comp=Z,73nm,1.1s
RSSD Black Hills 88.52 41 IAMs_20 IAMs_20 06 50 23.4
comp=Z,3µm,20.0s
PV07 Paradox Valley 88.54 48 P **P** **06 09 20.6 +1.0**
PV07 IAmb IAmb 06 09 23.5
comp=Z,157nm,1.4s
PV07 IAMs_20 IAMs_20 06 47 20.6
comp=Z,4µm,20.0s
X16A Lo Mia Camp, P 88.56 53 P **P** **06 09 20.7 +1.0**
X16A IAmb IAmb 06 09 24.2
comp=Z,123nm,1.1s
ASK Askoy 88.56 340 *e*P **P** **06 09 19.9 +1.0**
ASK *e*SKSac **SKSac** **06 19 45.6 +2.9**
ODD1 Odda 88.56 340 *e*P **P** **06 09 20.6 +1.6**
ODD1 *e*SKSac **SKSac** **06 19 44.4 +1.5**
PV13 Radium Mtn., P 88.57 48 P **P** **06 09 20.0 +0.3**
PV13 IAmb IAmb 06 09 24.1
comp=Z,78nm,0.8s
ANTO Ankara 88.60 314 ⇓P **P** **06 09 19.5 -0.1**
ANTO Ankara 88.60 314 P **P** **06 09 19.4 -0.2**
ANTO pmax pmax
comp=Z,41nm,0.6s
ANTO Ankara 88.60 314 P **P** **06 09 19.4 -0.2**
ANTO IAmb IAmb 06 09 22.0
comp=Z,41nm,0.6s
ANTO Ankara 88.60 314 IAMs_20 IAMs_20 06 53 19.0
comp=Z,6µm,21.0s
PV02 Paradox Valley 88.60 48 P **P** **06 09 20.7 +0.8**
PV02 IAmb IAmb 06 09 25.5
comp=Z,133nm,1.2s
BER Bergen 88.60 340 *e*P **P** **06 09 19.0 0.0**
BER IVmB_BB 06 09 37.7
comp=Z,2µm,4.0s
BER *e*PP **PP** **06 12 48.9 +1.6**
BER *e*SKSac **SKSac** **06 19 41.1 -1.8**
BER *e*SS **SS** **06 25 50.4 -0.7**
BER IVMs_BB IVMs_BB 06 48 38.6
comp=Z,5µm,27.7s
LOD Lodumlu 88.61 314 *e*P **P** **06 09 20.8 +1.2**
BEL Belsk 88.61 328 *e*P **P** **06 09 19.4 +0.2**
BEL *e*S **SKSac** **06 19 40.6 -2.7**
BEL *e*L L 06 49 30.7
comp=Z,15µm,24.0s
AFSR Afar-Bala (An 88.63 313 *e*P **P** **06 09 19.6 -0.2**
CFR Carcaliu 88.66 320 ⇑P **P** **06 09 19.4 -0.2**
TOPG Topolog 88.68 320 ⇑P **P** **06 09 19.8 0.0**
PV15 Paradox Valley 88.70 48 P **P** **06 09 21.3 +0.9**
PV15 IAmb IAmb 06 09 24.2
comp=Z,134nm,1.2s
214A Organ Pipe Nat 88.72 55 P **P** **06 09 21.2 +0.9**
baz=298
214A Organ Pipe Nat 88.72 55 P **P** **06 09 21.1 +0.9**
PV01 Paradox Valley 88.75 48 P **P** **06 09 20.8 +0.3**
PV01 IAMs_20 IAMs_20 06 47 28.1
comp=Z,4µm,21.0s
TESR Tescani 88.76 322 ⇓P **P** **06 09 19.9 -0.2**
TIRR Tirgusor 88.89 319 ⇑P **P** **06 09 21.5 +0.7**
TIRR Tirgusor 88.89 319 P **P** **06 09 20.5 -0.3**
TIRR pmax pmax
comp=Z,72nm,1.0s
TIRR MLR MLR
comp=Z,21µm,22.0s
TIRR Tirgusor 88.89 319 P **P** **06 09 20.5 -0.3**
TIRR IAmb IAmb 06 09 24.2
comp=Z,72nm,1.0s
BUR08 Bucovina Ar. S 88.91 323 P **P** **06 09 20.9 0.0**

MSU Marysvale 86.09 49 P **P** **06 09 08.6 +0.9**
MSU Marysvale 86.09 49 P **P** **06 09 08.6 +0.9**
SUW Suwalki 86.12 329 *e*P **P** **06 09 06.8 -0.4**
SUW *e*S **SKSac** **06 19 24.6 -3.5**
SUW *e*L L 06 42 43.1
comp=Z,13µm,33.6s
DOMB Dombas 86.17 340 *e*P **P** **06 09 07.5 +0.1**
DOMB IVmB_BB 06 09 23.6
comp=Z,3µm,3.6s
DOMB *e*PP **PP** **06 12 28.8 +1.0**
DOMB *e*SKSac **SKSac** **06 19 25.0 -3.2**
DOMB *e*SS **SS** **06 25 15.6 -0.1**
DOMB IVMs_BB IVMs_BB 06 46 48.0
comp=Z,6µm,28.0s
NB201 NORSAR Array S 86.18 339 P **P** **06 09 07.3 -0.2**
NC204 NORSAR Array S 86.19 339 P **P** **06 09 07.2 -0.4**
NB2 NORSAR Subarra 86.22 339 P **P** **06 09 06.8 -0.9**
comp=Z,249nm,1.2s,baz=44,slow=5.1
NB2 NORSAR Subarra 86.22 339 P **P** **06 09 06.8 -0.9**
baz=44,slow=5.1
NOA NORSAR Array B 86.22 339 *e*P **P** **06 09 07.2 -0.4**
comp=Z,37nm,0.8s,baz=47,slow=4.7,SNR=126
NOA PP **PP** **06 12 28.0 -0.3**
comp=Z,8.6nm,0.7s,baz=39,slow=7.8,SNR=3.7
NOA PKKPbc **PKKPbc** **06 27 06.5 -0.5**
comp=Z,1.1nm,0.7s,baz=227,slow=2.5,SNR=6.0
NOA LR LR 06 51 38.7
comp=Z,5µm,19.7s,baz=40,slow=38
MOL Molde 86.23 341 *e*P **P** **06 09 08.2 +0.6**
MOL IVmB_BB 06 09 26.3
comp=Z,3µm,3.3s
MOL *e*PP **PP** **06 12 30.0 +1.8**
MOL *e*SKSac **SKSac** **06 19 28.8 +0.4**
MOL *e*SS **SS** **06 25 14.7 -1.8**
MOL IVMs_BB IVMs_BB 06 47 17.3
comp=Z,6µm,24.6s
MTPU Mount Pierson 86.31 50 P **P** **06 09 10.1 +1.1**
NC602 NORSAR Array S 86.33 338 P **P** **06 09 07.7 -0.5**
NC602 IAmb IAmb 06 09 12.8
comp=Z,172nm,1.5s
NC602 NORSAR Array S 86.33 338 *e*P **P** **06 09 08.2 0.0**
NC602 *e*PP **PP** **06 12 29.5 +0.3**
NC602 *e*SKSac **SKSac** **06 19 26.7 -2.5**
NC602 IVMs_BB IVMs_BB 06 42 26.0
comp=Z,3µm,32.9s
KNB Kanab 86.34 51 P **P** **06 09 10.1 +1.2**
KNB pmax pmax
comp=Z,594nm,1.2s
KNB Kanab 86.34 51 P **P** **06 09 10.1 +1.2**
NBO00 NORSAR Array S 86.37 339 P **P** **06 09 08.4 0.0**
NBO00 IAmb IAmb 06 09 13.4
comp=Z,187nm,1.2s
TMUT Trail Mountain 86.38 48 P **P** **06 09 10.0 +0.7**
W13A Hualapai Mount 86.46 53 P **P** **06 09 10.2 +0.6**
W13A IAmb IAmb 06 09 12.9
comp=Z,96nm,1.1s
W13A IAMs_20 IAMs_20 06 39 59.0
comp=Z,5µm,22.0s
NAO01 NORSAR Array S 86.47 339 P **P** **06 09 08.8 0.0**
NAO01 IAmb IAmb 06 09 17.7
comp=Z,224nm,1.4s
PKCU Pink Cliffs 86.50 50 P **P** **06 09 11.7 +1.8**
Q16A Castle Valley 86.59 49 P **P** **06 09 11.1 +0.9**
Y12C Blythe 86.61 54 P **P** **06 09 10.7 +0.6**
baz=297,SNR=38
Y12C Blythe 86.61 54 P **P** **06 09 10.8 +0.7**
P17A Butcher Ranch, 86.61 48 P **P** **06 09 10.7 +0.5**
PDMCI Parker Dam,Lak 86.64 54 P **P** **06 09 10.9 +0.7**
baz=297,SNR=62
AKN Aaknes 86.69 341 *e*P **P** **06 09 10.5 +0.6**
AKN *e*PP **PP** **06 12 33.0 +1.0**
AKN *e*SKSac **SKSac** **06 19 32.5 +1.0**
AKN IVMs_BB IVMs_BB 06 47 16.8
comp=Z,7µm,27.0s
GLA Glamis 86.70 55 P **P** **06 09 11.3 +0.7**
baz=297,SNR=82
GLA Glamis 86.70 55 P **P** **06 09 11.4 +0.8**
GLA pmax pmax
comp=Z,418nm,1.3s
GLA Glamis 86.70 55 P **P** **06 09 11.4 +0.8**
GLA IAMs_20 IAMs_20 06 39 19.4
comp=Z,5µm,22.0s
RDMU Red Mountain 86.86 47 P **P** **06 09 12.1 +0.6**
SARI SarD1z-Kayseri 86.88 311 *e*P **P** **06 09 11.4 -0.2**
SORM Soroca 86.89 322 ⇓P **P** **06 09 10.4 -0.7**
GAZ Gaziantep 86.92 310 *e*P **P** **06 09 13.3 +1.7**
GAZ Gaziantep 86.92 310 P **P** **06 09 11.6 -0.1**
SRU San Rafael Swe 86.94 48 P **P** **06 09 12.2 +0.4**
SRU pmax pmax
comp=Z,97nm,0.8s
SRU San Rafael Swe 86.94 48 P **P** **06 09 12.2 +0.4**
KMRS Kahramanmaras 86.98 310 *e*P **P** **06 09 11.5 -0.4**
U15A North Rim 86.99 51 P **P** **06 09 13.2 +0.9**
U15A IAmb IAmb 06 09 15.8
comp=Z,143nm,0.9s
BNN Bunyan 87.06 312 *e*P **P** **06 09 12.0 -0.4**
OSL Oslo 87.19 338 *e*P **P** **06 09 12.4 0.0**
OSL IVmBBB 06 09 15.3
comp=Z,1µm,1.8s
OSL *e*SKSac **SKSac** **06 19 30.9 -3.6**
OSL *e*SS **SS** **06 25 27.2 -3.5**
OSL IVMs_BB IVMs_BB 06 51 50.5
comp=Z,3µm,18.7s
KIS Kishinev 87.25 321 ⇑ *i* P **P** **06 09 09.0 -3.9**
comp=Z,350nm,6.8s
KIS Kishinev 87.25 321 ⇓ *i* PP PP 06 12 39.0 +2.0
KIS *i* S **SKSac** **06 19 29.0 -6.4**
KIS Kishinev 87.25 321 *i* PS **S** **06 19 48.0 -0.2**
KIS *e*LR LR 06 41 29.0
comp=Z,2µm,21.0s
KIS Kishinev 87.25 321 *c i* P **P** **06 09 09.2 -3.7**
KIS *i* 06 12 38.8
KIS *i* S **SKSac** **06 19 29.2 -6.2**
KIS *i* PS **S** **06 19 48.0 -0.2**
KIS pmax pmax
comp=Z,350nm,6.8s
KIS MLR MLR
comp=N,2µm,17.0s
MILM Milestii Mici 87.30 321 ⇑P **P** **06 09 13.5 +0.4**
ILGA Ilgaz 87.39 314 P **P** **06 09 14.3 +0.3**
SKAR Skarslia 87.44 339 *e*P **P** **06 09 14.0 +0.4**
SKAR *e*PP **PP** **06 12 39.8 +1.7**
SKAR *e*SKSac **SKSac** **06 19 36.1 0.0**
SKAR *e*SS **SS** **06 25 31.1 -3.2**
SKAR IVMs_BB IVMs_BB 06 46 57.9
comp=Z,4µm,29.0s
113A Mohawk Valley, 87.62 55 P **P** **06 09 15.4 +0.4**
113A IAMs_20 IAMs_20 06 40 09.8
comp=Z,4µm,22.0s
Y14A Wickenburg 87.64 54 P **P** **06 09 16.0 +0.8**
Y14A IAMs_20 IAMs_20 06 40 30.3
comp=Z,6µm,22.0s
HYA Hoyanger 87.72 340 *e*P **P** **06 09 15.4 +0.5**
HYA *e*PP **PP** **06 12 41.0 +0.7**
HYA *e*SKSac **SKSac** **06 19 40.1 +2.5**
FOO Floro 87.73 341 *e*P **P** **06 09 14.6 -0.2**
FOO IVmB_BB 06 09 33.5
comp=Z,3µm,5.8s
FOO *e*PP **PP** **06 12 41.6 +1.4**
FOO *e*SKSac **SKSac** **06 19 34.4 -3.3**
FOO *e*SS **SS** **06 25 33.0 -5.3**
FOO IVMs_BB IVMs_BB 06 47 47.1
comp=Z,4µm,27.2s
KOZT Kozan 87.74 310 *e*P **P** **06 09 14.7 -0.8**
K22A Casper 87.77 44 P **P** **06 09 16.1 +0.4**
baz=302,SNR=38
K22A Casper 87.77 44 P **P** **06 09 16.1 +0.4**
K22A IAmb IAmb 06 09 18.7
comp=Z,78nm,1.2s
K22A IAMs_20 IAMs_20 06 43 38.8
comp=Z,5µm,22.0s
KONO Kongsberg 87.79 338 P **P** **06 09 15.4 +0.2**
KONO pmax pmax
comp=Z,68nm,1.4s
KONO Kongsberg 87.79 338 P **P** **06 09 15.4 +0.2**
KONO Kongsberg 87.79 338 IAMs_20 IAMs_20 06 53 23.2
comp=Z,5µm,20.0s
KONO Kongsberg 87.79 338 *e*P **P** **06 09 15.5 +0.3**
KONO IVmB_BB 06 09 33.0
comp=Z,1µm,4.4s
KONO *e*PP **PP** **06 12 42.3 +1.4**
KONO *e*SKSac **SKSac** **06 19 35.7 -2.4**
KONO *e*SS **SS** **06 25 32.7 -6.7**
KONO IVMs_BB IVMs_BB 06 46 08.5

BUR08 IAmb IAmb 06 09 38.0
comp=Z,52nm,0.8s
BURAR **Bucovina Array** 88.92 323 ⇓P **P** **06 09 21.1 +0.1**
MDND **Maddock** 88.94 37 P **P** **06 09 21.6 +0.7**
baz=306
MDND **Maddock** 88.94 37 P **P** **06 09 22.3 +1.3**
MDND IAmb IAmb 06 09 40.8
comp=Z,190nm,1.3s
MDND IAMs_20 IAMs_20 06 50 07.2
comp=Z,4μm,20.0s
MERS **Mersin** 88.95 310 *e*P **P** **06 09 21.3 0.0**
ODBI **Odobesti** 88.95 321 ⇑P **P** **06 09 21.9 +0.9**
SULT **Sultanhani-AKS** 88.97 312 *e*P **P** **06 09 22.5 +1.1**
BLS5 **Blasjo** 89.00 339 *e*P **P** **06 09 22.2 +1.2**
BLS5 *e*PP **PP** **06 12 52.3 +1.7**
BLS5 *e*SKSac **SKSac** **06 19 43.2 -2.3**
BLS5 *e*PS PS 06 21 06.6 -9.2
BLS5 *e*SS **SS** **06 25 51.5 -5.6**
BLS5 IVMs_BB IVMs_BB 06 47 14.7
comp=Z,4μm,27.5s
KWP **Kalwaria Pacla** 89.03 326 *e*P **P** **06 09 21.4 +0.1**
KWP *e*S **SKSac** **06 19 44.1 -2.0**
KWP *e*L L 06 48 37.3
comp=Z,17μm,26.7s
HARR **Harsova** 89.05 320 ⇓P **P** **06 09 21.6 +0.1**
BSD **Bornholm Skovb** 89.06 333 *i* P **P** **06 09 21.6 +0.3**
comp=Z,60nm,0.8s
BSD *i* 06 12 48.8
comp=Z,8μm,24.0s
BSD **Bornholm Skovb** 89.06 333 *i* P **P** **06 09 21.6 +0.3**
BSD *i* 06 12 48.8
BSD pmax pmax
comp=Z,60nm,0.8s
BSD MLR MLR
comp=Z,8μm,24.0s
N23A **Red Feather La** 89.06 45 P **P** **06 09 23.1 +1.1**
baz=302,SNR=70
N23A **Red Feather La** 89.06 45 P **P** **06 09 23.0 +1.0**
N23A IAmb IAmb 06 09 25.9
comp=Z,157nm,1.1s
N23A IAMs_20 IAMs_20 06 45 38.1
comp=Z,5μm,22.0s
TLBR **Topalu** 89.06 319 ⇑P **P** **06 09 21.8 +0.2**
E28A **Huff** 89.08 38 P **P** **06 09 22.9 +1.2**
E28A IAMs_20 IAMs_20 06 47 16.1
comp=Z,5μm,22.0s
VRI **Vrincioaia** 89.08 321 ⇓P **P** **06 09 21.6 -0.1**
PLOR **Plostina** 89.14 321 ⇑P **P** **06 09 22.0 +0.1**
PHWY **Pilot Hill** 89.16 44 P **P** **06 09 23.2 +0.7**
PHWY IAmb IAmb 06 09 25.8
comp=Z,80nm,1.2s
PHWY IAMs_20 IAMs_20 06 41 55.6
comp=Z,4μm,21.0s
HOMB **Homborsund** 89.20 338 *e*P **P** **06 09 22.1 +0.2**
HOMB *e*SKSac **SKSac** **06 19 44.1 -2.5**
HOMB *e*SS **SS** **06 25 56.1 -3.8**
HOMB IVMs_BB IVMs_BB 06 55 00.6
comp=Z,4μm,20.8s
MVCO **Mesa Verde** 89.26 49 P **P** **06 09 23.3 +0.3**
baz=300
MVCO **Mesa Verde** 89.26 49 P **P** **06 09 23.6 +0.6**
MVCO IAmb IAmb 06 09 27.1
comp=Z,166nm,1.3s
MVCO IAMs_20 IAMs_20 06 47 25.8
comp=Z,6μm,20.0s
GKP **Gorka Klasztor** 89.32 331 *e*P **P** **06 09 22.5 -0.1**
GKP *e*S **SKSac** **06 19 44.2 -3.3**
GKP *e*L L 06 46 39.1
comp=Z,12μm,29.3s
MDUB **Mudurnu** 89.33 315 *e*P **P** **06 09 22.8 -0.2**
MDUB **Mudurnu** 89.33 315 P **P** **06 09 23.0 0.0**
KIZK **Mersin** 89.40 310 *e*P **P** **06 09 24.2 +0.9**
ULM **Lac du Bonnet** 89.42 33 P **P** **06 09 23.4 +0.3**
comp=Z,9.5nm,0.6s,baz=327,slow=5.0,SNR=12
ULM LR LR 06 50 41.1
comp=Z,2μm,19.1s,baz=318,slow=36
ULM **Lac du Bonnet** 89.42 33 P **P** **06 09 23.7 +0.6**
ULM pmax pmax
comp=Z,36nm,1.0s
ULM **Lac du Bonnet** 89.42 33 P **P** **06 09 23.7 +0.6**
ULM IAMs_20 IAMs_20 06 56 55.5
comp=Z,3μm,20.0s
W18A **Petrified Fore** 89.44 51 P **P** **06 09 24.5 +0.7**
baz=300
W18A **Petrified Fore** 89.44 51 IAMs_20 IAMs_20 06 45 39.7
comp=Z,4μm,20.0s
ICOR **Ion Corvin** 89.45 319 ⇓P **P** **06 09 24.7 +1.4**
PSN **Preselentsi** 89.49 319 P **P** **06 09 25.0 +1.5**
OZUR 89.49 322 ⇑P **P** **06 09 24.2 +0.6**
KMY **Karmoy** 89.55 340 *e*P **P** **06 09 24.4 +0.9**
KMY *e*SKSac **SKSac** **06 19 47.8 -0.8**
NEHR **Nehoiu** 89.58 321 ⇑P **P** **06 09 24.1 0.0**
SNART **Snartemo** 89.59 338 *e*P **P** **06 09 23.9 +0.2**
SNART *e*PP **PP** **06 12 57.3 +2.0**
SNART *e*SKSac **SKSac** **06 19 50.4 +1.6**
SILI **Silifke-Mersin** 89.61 310 *e*P **P** **06 09 24.5 +0.2**
KOLS **Kolonicke sedl** 89.69 325 *e*P **P** **06 09 24.4 0.0**
KOLS *e* 06 12 57.6
KOLS *e*S **SKSac** **06 19 47.3 -2.6**
KOLS MLR MLR
comp=Z,9μm,26.7s
KOLS **Kolonicke sedl** 89.69 325 *e*P **P** **06 09 24.4 0.0**
KOLS *e*PP **PP** **06 12 57.6 +1.2**
KOLS *e*S **SKSac** **06 19 47.3 -2.6**
KOLS *e*L L 06 49 14.5
ARCR **ARCALIA** 89.70 323 ⇑P **P** **06 09 24.0 -0.5**
KIZT **Kizilcal** 89.72 313 *e*P **P** **06 09 24.8 -0.1**
KEBE **Keben-Mersin** 89.72 310 *e*P **P** **06 09 25.5 +0.6**
MLR **Muntele Rosu** 89.75 321 PKKPbc PKKPbc 06 26 57.5 -0.6
comp=Z,5.5nm,0.9s,baz=170,slow=3.1,SNR=8.0
MLR **Muntele Rosu** 89.75 321 ⇓P **P** **06 09 25.3 +0.3**
MLR **Muntele Rosu** 89.75 321 P **P** **06 09 25.0 +0.1**
MLR pmax pmax
comp=Z,31nm,1.1s
MLR MLR MLR
comp=Z,9μm,22.0s
MLR **Muntele Rosu** 89.75 321 P **P** **06 09 25.0 +0.1**
DOPR **Dopca** 89.79 322 ⇓P **P** **06 09 25.5 +0.5**
GULT **Gulveren** 89.79 315 *e*P **P** **06 09 27.9 +2.7**
BMR **Baia Mare** 89.81 324 ⇑P **P** **06 09 25.9 +0.9**
ISCO **Idaho Springs** 89.86 46 P **P** **06 09 26.7 +0.9**
baz=302
ISCO **Idaho Springs** 89.86 46 P **P** **06 09 26.8 +0.9**
ISCO pmax pmax
comp=Z,68nm,1.4s
ISCO **Idaho Springs** 89.86 46 P **P** **06 09 26.8 +0.9**
ISCO IAMs_20 IAMs_20 06 43 59.2
comp=Z,5μm,21.0s
EREN **Erenkoy** 89.86 309 *e*P **P** **06 09 26.8 +1.3**
UZH **Uzhgorod** 89.86 325 ⇓*i*P **P** **06 09 25.6 +0.4**
UZH *i* 06 12 55.5
UZH *i* 06 19 45.4
UZH *i*S **S** **06 20 12.2 -0.6**
UZH *i*PS **PnS** **06 21 15.2 -10**
UZH *e*SS **SS** **06 26 06.4 -3.8**
GOET **G??ttrup** 89.88 337 *i* P **P** **06 09 26.4 +1.3**
comp=Z,253nm,1.2s
GOET *e* 06 12 57.3
KONT **Konya--Tatoy** 89.88 312 *e*P **P** **06 09 26.4 +0.8**
TEVE **Tevekalti-Mers** 89.91 310 *e*P **P** **06 09 25.5 -0.3**
SECR 89.94 321 ⇑P **P** **06 09 26.0 +0.3**
SULR 90.04 320 ⇓P **P** **06 09 27.5 +1.3**
TRPA **Tarpa** 90.04 325 ⇓P **P** **06 09 26.4 +0.4**
TUC **Tucson** 90.06 54 P **P** **06 09 27.6 +1.0**
baz=299
TUC **Tucson** 90.06 54 IAMs_20 IAMs_20 06 41 37.2
comp=Z,6μm,22.0s
RGN **Rugen** 90.12 333 *e*P **P** **06 09 26.3 0.0**
RGN *e*SP SP 06 21 16.4 -3.9
OJC **Ojcow** 90.13 327 *e*P **P** **06 09 25.7 -0.8**
OJC *e*S **SKSac** **06 19 49.8 -2.6**
OJC *e*L L 06 50 44.4
comp=Z,11μm,24.2s
S22A **4UR Ranch, Cre** 90.13 48 P **P** **06 09 28.0 +0.9**
baz=302,SNR=92
S22A **4UR Ranch, Cre** 90.13 48 P **P** **06 09 27.9 +0.9**
S22A IAMs_20 IAMs_20 06 48 49.5
comp=Z,6μm,21.0s
PRD **Provadia** 90.21 319 P **P** **06 09 26.0 -0.9**
ANGG **Ammassalik, Gr** 90.22 0 P **P** **06 09 26.8 +0.3**
BORG **Borgarnes** 90.23 353 P **P** **06 09 27.5 +0.9**
BORG **Borgarnes** 90.23 353 P **P** **06 09 27.5 +0.9**
BORG IAmb IAmb 06 09 45.3
comp=Z,129nm,1.3s

ADVT **Abdulvahap** 90.29 315 *e*P **P** **06 09 26.4 -1.0**
TEKE **Tekeli-Mersin** 90.29 310 *e*P **P** **06 09 26.3 -1.2**
VOIR 90.29 321 ⇓P **P** **06 09 27.9 +0.5**
CJR **Cluj-Napoca** 90.34 323 ⇓P **P** **06 09 27.6 0.0**
NIE **Niedzica** 90.39 327 *e*P **P** **06 09 27.3 -0.4**
NIE *e*S **SKSac** **06 19 53.6 -0.5**
NIE *e*L L 06 46 58.7
comp=Z,6μm,30.4s
LFK **Lefkose** 90.44 309 *e*P **P** **06 09 27.9 -0.4**
SGRR **Singureni** 90.47 320 ⇑P **P** **06 09 28.8 +0.6**
ARR **Arges** 90.57 322 ⇑P **P** **06 09 29.5 +0.8**
Q24A **Divide** 90.61 46 P **P** **06 09 30.0 +0.7**
baz=303
AGMN **Agassiz Nation** 90.65 35 P **P** **06 09 29.1 +0.2**
baz=309
AGMN **Agassiz Nation** 90.65 35 P **P** **06 09 29.2 +0.2**
AGMN IAmb IAmb 06 09 31.8
comp=Z,60nm,0.9s
AGMN IAMs_20 IAMs_20 06 50 02.3
comp=Z,4μm,21.0s
CSS **Mathiatis** 90.74 309 P **P** **06 09 29.3 -0.3**
D32A **Dogwood Acres,** 90.77 36 IAMs_20 IAMs_20 06 46 40.5
comp=Z,5μm,21.0s
SHUT **Suhut-Afyon** 90.77 313 *e*P **P** **06 09 30.3 +0.5**
DRGR 90.78 323 ⇑P **P** **06 09 29.5 -0.1**
GAZI **Gazipasa** 90.80 311 *e*P **P** **06 09 28.6 -1.3**
KECS **Kecovo** 90.89 326 *e*P **P** **06 09 30.3 +0.3**
KECS *e* 06 09 46.3
KECS pmax pmax
comp=Z,32nm,0.7s
KECS **Kecovo** 90.89 326 *e*P **P** **06 09 30.3 +0.3**
KECS *e* 06 09 46.3
LEF **Lefka** 90.97 310 *e*P **P** **06 09 30.5 -0.2**
LANS **Liptovska Anna** 90.98 327 *e*P **P** **06 09 31.3 +0.8**
LANS pmax pmax
comp=Z,37nm,0.6s
LANS **Liptovska Anna** 90.98 327 *e*P **P** **06 09 31.3 +0.8**
LANS *e*PP **PP** **06 13 08.2 +1.5**
LOT **Lotru** 91.01 322 ⇑P **P** **06 09 30.8 0.0**
SDCO **Great Sand Dun** 91.02 47 P **P** **06 09 32.0 +0.7**
baz=302,SNR=138
SDCO **Great Sand Dun** 91.02 47 P **P** **06 09 31.9 +0.7**
SDCO IAmb IAmb 06 09 35.5
comp=Z,174nm,1.5s
SDCO IAMs_20 IAMs_20 06 49 24.2
comp=Z,4μm,19.0s
SZH **Strazhica** 91.05 319 P **P** **06 09 31.5 +0.6**
ISP **Isparta** 91.18 313 P **P** **06 09 31.7 0.0**
ISP pmax pmax
comp=Z,12nm,0.8s
ISP MLR MLR
comp=Z,4μm,22.0s
ISP **Isparta** 91.18 313 P **P** **06 09 31.7 0.0**
ISP **Isparta** 91.18 313 IAMs_20 IAMs_20 06 54 07.7
comp=Z,4μm,22.0s
OKC **Ostrava-Krasne** 91.18 328 *e*P **P** **06 09 31.0 -0.3**
OKC *e*SP **pwP** **06 09 51.8 +0.6**
OKC *e*SKS **SKSac** **06 19 57.3 -1.1**
OKC AMS AMS 06 53 30.0
comp=Z,11μm,20.8s
OKC **Ostrava-Krasne** 91.18 328 *e*P **P** **06 09 31.0 -0.3**
OKC *e* 06 09 51.8
OKC *e* 06 19 57.3
OKC MLR MLR
comp=Z,11μm,20.8s
SUSD **Miller** 91.33 39 P **P** **06 09 32.1 0.0**
baz=307,SNR=11
SUSD **Miller** 91.33 39 P **P** **06 09 32.8 +0.6**
SUSD IAMs_20 IAMs_20 06 50 39.5
comp=Z,4μm,21.0s
SRIG **Santa Rosalia** 91.34 59 P **P** **06 09 33.8 +1.2**
DAMY **Dhamar** 91.37 287 P **P** **06 09 34.6 +1.3**
DAMY IAmb IAmb 06 09 45.0
comp=Z,75nm,1.5s
RUE **Ruedersdorf** 91.39 332 *e*P **P** **06 09 33.1 +0.9**
RUE *e*SP SP 06 21 30.4 -4.0
KSP **Ksiaz** 91.39 329 *e*P **P** **06 09 31.7 -0.6**
KSP *e*S **SKSac** **06 19 58.7 -0.9**
KSP *e*L L 06 44 19.6
comp=Z,12μm,34.7s
VLAD **Vladila** 91.51 321 ⇓P **P** **06 09 34.1 +1.1**
MORC **Moravsky Berou** 91.52 328 ⇓P **P** **06 09 33.3 +0.3**
MORC **Moravsky Berou** 91.52 328 *e*P **P** **06 09 32.5 -0.5**
MORC *e*PP **PP** **06 13 12.8 +1.9**
MORC *e*S **SKSac** **06 20 00.1 -0.4**
MORC *e* 06 21 28.4
MORC **Moravsky Berou** 91.52 328 P **P** **06 09 32.5 -0.5**
MORC pmax pmax
comp=Z,30nm,0.8s
MORC MLR MLR
comp=Z,12μm,21.0s
MORC **Moravsky Berou** 91.52 328 P **P** **06 09 32.5 -0.5**
HSIG 91.53 57 P **P** **06 09 34.1 +0.7**
HSIG IAMs_20 IAMs_20 06 41 57.4
comp=Z,5μm,22.0s
PSZ **Piszkesteto** 91.56 326 ⇑P **P** **06 09 33.7 +0.5**
PSZ **Piszkesteto** 91.56 326 P **P** **06 09 33.1 -0.1**
PSZ pmax pmax
comp=Z,88nm,1.0s
PSZ MLR MLR
comp=Z,11μm,20.0s
PSZ **Piszkesteto** 91.56 326 P **P** **06 09 33.1 -0.1**
PSZ IAmb IAmb 06 09 38.5
comp=Z,88nm,1.0s
OSTC **Ostas** 91.62 329 *e*P **P** **06 09 33.9 +0.5**
OSTC *e*x x 06 09 54.2
OSTC *e*SKS **SKSac** **06 19 57.7 -3.3**
OSTC AMS AMS 06 55 00.0
comp=Z,9μm,17.3s
SIRR **Siria** 91.67 323 ⇑P **P** **06 09 33.9 +0.2**
CHVC **Chvalec** 91.68 329 *e*P **P** **06 09 34.2 +0.5**
CHVC *e*x x 06 09 55.8
CHVC AMS AMS 06 55 00.0
comp=Z,8μm,17.4s
B35A **Bob, Littlefor** 91.71 34 P **P** **06 09 34.2 +0.4**
B35A IAMs_20 IAMs_20 06 45 31.0
comp=Z,5μm,22.0s
DPC **Dobruska-Polom** 91.71 329 *e*P **P** **06 09 34.1 +0.2**
DPC *e*SP **sP** **06 09 55.8 -0.3**
DPC *e*SKS **SKSac** **06 19 55.2 -6.4**
DPC AMS AMS 06 54 50.0
comp=Z,9μm,18.4s
DPC **Dobruska-Polom** 91.71 329 *e*P **P** **06 09 34.1 +0.2**
DPC *e* 06 19 55.2
DPC MLR MLR
comp=Z,9μm,18.4s
VYHS **Vyhne** 91.72 326 *e*P **P** **06 09 34.2 +0.3**
VYHS pmax pmax
comp=Z,90nm,0.8s
VYHS **Vyhne** 91.72 326 *e*P **P** **06 09 34.2 +0.3**
VYHS **Vyhne** 91.72 326 *e*S **SKSac** **06 20 01.3 -0.3**
VYHS *e*L L 06 48 06.6
UPC **Upice** 91.75 329 *e*P **P** **06 09 34.2 +0.2**
UPC *e*SP **sP** **06 09 55.9 -0.3**
UPC *e*SKS **SKSac** **06 19 55.8 -5.9**
UPC AMS AMS 06 55 00.0
comp=Z,9μm,17.3s
UPC **Upice** 91.75 329 *e*P **P** **06 09 34.2 +0.2**
UPC *e* 06 19 55.8
UPC MLR MLR
comp=Z,9μm,17.3s
PLVB **Pleven** 91.75 320 ⇑P **P** **06 09 34.5 +0.3**
BSEG **Bad Segeberg** 91.78 334 *e*P **P** **06 09 34.1 +0.1**
comp=Z,46nm,0.8s,baz=42,slow=4.6
BSEG *e*pP **pP** **06 09 48.6 -1.3**
baz=42,slow=4.6
SRE **Strehaia** 91.80 322 ⇓P **P** **06 09 35.3 +0.9**
ANMO **Albuquerque** 91.84 50 P **P** **06 09 35.9 +0.9**
baz=302
ANMO **Albuquerque** 91.84 50 *c i*P **P** **06 09 35.9 +0.9**
ANMO pmax pmax
comp=Z,147nm,1.0s
ANMO MLR MLR
comp=Z,11μm,20.0s
ANMO **Albuquerque** 91.84 50 P **P** **06 09 35.6 +0.6**
ANMO **Albuquerque** 91.84 50 IAMs_20 IAMs_20 06 47 58.2
comp=Z,4μm,20.0s
F33A **5 Mile Ranch,** 91.96 37 P **P** **06 09 35.5 +0.4**
F33A IAMs_20 IAMs_20 06 49 40.2
comp=Z,4μm,22.0s
Y22D **IRIS PASSCAL I** 91.97 51 P **P** **06 09 36.9 +1.4**
baz=301
Y22D **IRIS PASSCAL I** 91.97 51 IAMs_20 IAMs_20 06 43 17.7
comp=Z,4μm,21.0s

JAVC **Velka Javorina** 92.06 327 *e*P **P** **06 09 36.1 +0.6**
JAVC **Velka Javorina** 92.06 327 *e*S **SKSac** **06 20 05.8 +2.2**
T25A **Trinidad** 92.08 47 P **P** **06 09 36.9 +0.8**
baz=303,SNR=71
T25A **Trinidad** 92.08 47 P **P** **06 09 37.0 +1.0**
T25A IAMs_20 IAMs_20 06 50 45.2
comp=Z,4μm,21.0s
BZS **Buzias** 92.10 323 ⇑P **P** **06 09 35.2 -0.5**
BNM **Barren Site** 92.14 51 P **P** **06 09 37.2 +0.8**
121A **Cookes Peak, D** 92.14 53 P **P** **06 09 37.8 +1.4**
121A IAMs_20 IAMs_20 06 43 02.4
comp=Z,5μm,22.0s
ELL **Elmali** 92.17 312 P **P** **06 09 38.1 +1.7**
ELL pmax pmax
comp=Z,68nm,0.8s
ELL MLR MLR
comp=Z,16μm,22.0s
ELL **Elmali** 92.17 312 P **P** **06 09 38.1 +1.7**
ELL IAmb IAmb 06 09 46.6
comp=Z,68nm,0.8s
KSCO **Kaye Shedlock'** 92.22 45 P **P** **06 09 37.0 +0.4**
baz=304
KSCO **Kaye Shedlock'** 92.22 45 P **P** **06 09 37.1 +0.5**
VRAC **Vranov** 92.29 328 ⇓P **P** **06 09 37.0 +0.5**
VRAC **Vranov** 92.29 328 *e*P **P** **06 09 36.2 -0.3**
VRAC *e*PP **PP** **06 13 16.7 -0.2**
VRAC *e*S **SKSac** **06 20 03.9 -0.9**
VRAC *e* 06 21 38.5
ALN **Alexandroupoli** 92.35 317 P **P** **06 09 35.6 -1.3**
ALN pmax pmax
comp=Z,21nm,1.0s
ALN **Alexandroupoli** 92.35 317 P **P** **06 09 35.6 -1.3**
ALN IAMs_20 IAMs_20 06 56 11.5
comp=Z,5μm,22.0s
PVCC **Panska Ves** 92.40 330 *e*P **P** **06 09 37.0 0.0**
PVCC *e*x x 06 09 47.5
PVCC *e*SKS **SKSac** **06 19 58.8 -6.5**
PVCC AMS AMS 06 50 00.0
comp=Z,8μm,26.4s
PVCC **Panska Ves** 92.40 330 *e*P **P** **06 09 37.0 0.0**
PVCC *e* 06 09 47.5
PVCC *e* 06 19 58.8
PVCC MLR MLR
comp=Z,8μm,26.4s
SMOL **Smolenice** 92.42 327 *e*P **P** **06 09 37.4 +0.3**
SMOL **Smolenice** 92.42 327 *e*P **P** **06 09 37.4 +0.3**
BRG **Berggiesshubel** 92.45 330 *i* P **P** **06 09 36.9 -0.3**
comp=Z,9.2nm,0.6s
BRG *i* 06 09 39.7
comp=Z,28nm,0.8s
BRG PP PP 06 13 08.0 -10
BRG SKS **SKSac** **06 20 06.0 +0.5**
BRG S **SKKSac** **06 20 25.0 +1.8**
comp=N,8μm,26.3s
comp=E,8μm,21.8s
comp=Z,9μm,23.8s
BRG **Berggiesshubel** 92.45 330 *i* P **P** **06 09 36.9 -0.3**
BRG 06 20 06.0
BRG S **SKKSac** **06 20 25.0 +1.8**
BRG pmax pmax
comp=Z,9.0nm,0.6s
BRG MLR MLR
comp=N,8μm,26.3s
BRG MLR MLR
comp=E,8μm,21.8s
BRG MLR MLR
comp=Z,9μm,23.8s
BRG **Berggiesshubel** 92.45 330 *e*P **P** **06 09 37.3 +0.1**
comp=Z,34nm,0.8s,baz=42,slow=4.6
BRG *e*pP **pP** **06 09 52.1 -1.1**
baz=42,slow=4.6
K31A **O'Neill** 92.53 40 P **P** **06 09 38.3 +0.5**
K31A IAMs_20 IAMs_20 06 50 13.5
comp=Z,5μm,20.0s
KRUC **Moravsky** 92.55 328 *e*P **P** **06 09 37.1 -0.6**
KRUC *e*PP **PP** **06 13 17.8 -1.2**
KRUC *e*S **SKSac** **06 20 05.4 -0.8**
KRUC *e* 06 21 40.2
CLL **Collm** 92.56 331 *e*P **P** **06 09 38.0 +0.3**
comp=Z,33nm,0.8s
CLL *i* pP **pP** **06 09 52.1 -1.6**
CLL *i* sP **pwP** **06 09 57.3 -0.2**
comp=Z,84nm,1.1s
CLL *i* PP **PP** **06 13 19.8 +0.9**
comp=Z,159nm,1.7s
CLL *e*PPP PPP 06 15 22.0
CLL *e*SKSac **SKSac** **06 20 03.0 -3.1**
CLL *e*SKKSac **SKKSac** **06 20 21.0 -3.0**
CLL *e*sSKSac **S** **06 20 31.0 -6.2**
CLL *e*S **ScS** **06 20 40.0 +0.8**
CLL *e*SP SPn 06 21 49.0 +0.2
CLL *e*PPS PPS 06 22 27.0
CLL *e*SS **SS** **06 26 48.0 -0.7**
CLL *i* PKKPdf **PKKPbc** **06 26 51.1 +0.1**
comp=Z,36nm,2.0s
CLL *e* 06 27 48.0
CLL *e* 06 31 42.0
CLL *e*SSSS 06 34 18.0
CLL *e*PKPPKPdf 06 34 58.0
CLL *e*SKPPKPdf 06 38 30.0
CLL Lm MLR 06 53 00.0
comp=Z,9μm,21.1s
CLL **Collm** 92.56 331 *e*P **P** **06 09 38.0 +0.3**
CLL *i* *PP **pP** **06 09 52.1 -1.6**
CLL *i* 06 13 19.8
CLL *e* 06 20 03.0
CLL *e*S **S** **06 20 31.0 -6.2**
CLL *i* 06 26 51.1
CLL pmax pmax
comp=Z,33nm,0.8s
CLL pmax pmax
comp=Z,159nm,1.7s
CLL pmax pmax
comp=Z,36nm,2.0s
CLL MLR MLR
comp=Z,9μm,21.1s
CLL **Collm** 92.56 331 P **P** **06 09 36.5 -1.1**
CLL IAmb IAmb 06 09 54.6
comp=Z,37nm,0.9s
CLL **Collm** 92.56 331 *e*P **P** **06 09 37.6 -0.1**
comp=Z,30nm,0.8s,baz=42,slow=4.6
CLL *e*pP **pP** **06 09 52.4 -1.3**
baz=42,slow=4.6
MDVR **Moldovita** 92.57 322 ⇓P **P** **06 09 38.1 +0.1**
MODS **Modra-Piesok** 92.58 327 *e*P **P** **06 09 37.1 -0.8**
MODS pmax pmax
comp=Z,138nm,1.6s
MODS **Modra-Piesok** 92.58 327 *e*P **P** **06 09 37.1 -0.8**
MODS **Modra-Piesok** 92.58 327 *e*S **SKSac** **06 20 05.9 -0.6**
MODS *e*L L 06 54 44.1
FBE **Freiberg** 92.68 331 *e*P **P** **06 09 38.7 +0.5**
comp=Z,42nm,0.8s,baz=42,slow=4.6
FBE *e*pP **pP** **06 09 53.1 -1.1**
baz=42,slow=4.6
GOPC **GO Pecny, Ondr** 92.73 329 *e*P **P** **06 09 38.6 0.0**
GOPC *e*sP **sP** **06 10 00.2 -0.6**
GOPC *e*SKS **SKSac** **06 20 01.9 -5.3**
GOPC AMS AMS 06 55 30.0
comp=Z,9μm,17.3s
GOPC **GO Pecny, Ondr** 92.73 329 *e*P **P** **06 09 38.6 0.0**
GOPC *e* 06 20 01.9
GOPC MLR MLR
comp=Z,9μm,17.3s
PRA **Prague** 92.79 330 *e*P **P** **06 09 40.0 +1.3**
PRA *e*sP **pwP** **06 09 58.8 +0.2**
PRA *e*SKS **SKSac** **06 20 04.0 -3.4**
PRA AMS AMS 06 55 40.0
comp=Z,4μm,17.0s
PRA **Prague** 92.79 330 *e*P **P** **06 09 40.0 +1.3**
PRA *e* 06 09 58.8
PRA *e* 06 20 04.0
PRA MLR MLR
comp=Z,4μm,17.0s
ZST **Bratislava** 92.79 327 *e*P **P** **06 09 39.4 +0.6**
ZST *e*S **SKSac** **06 20 04.8 -2.7**
ZST **Bratislava** 92.79 327 *e*P **P** **06 09 39.4 +0.6**
PRU **Pruhonice** 92.79 329 *e*P **P** **06 09 38.9 +0.1**
PRU *e*pP **pP** **06 09 53.8 -1.0**
PRU *e*SKS **SKSac** **06 20 00.0 -7.5**
PRU AMS AMS 06 55 40.0
comp=Z,9μm,17.1s
PRU **Pruhonice** 92.79 329 *e*P **P** **06 09 38.9 +0.1**
PRU *e* 06 09 53.8
PRU *e* 06 20 00.0

PRU MLR MLR
comp=Z,9µm,17.1s
TREC Trest 92.83 329 *e*P **P** **06 09 39.2 +0.2**
TREC *es*P **sP** **06 10 00.5 -0.7**
TREC *e*SKS **SKSac** **06 20 03.3 -4.5**
TREC AMS AMS 06 52 00.0
comp=Z,12µm,22.4s
TREC Trest 92.83 329 *e*P **P** **06 09 39.2 +0.2**
TREC *e* 06 10 00.5
TREC *e* 06 20 03.3
TREC MLR MLR
comp=Z,12µm,22.4s
NRDL Niedersach Rie 92.93 333 *e*P **P** **06 09 39.5 +0.2**
comp=Z,72nm,2.0s,baz=42,slow=4.6
NRDL *ep*P **pP** **06 09 54.0 -1.2**
baz=42,slow=4.6
ASSE Asse, Remlinge 92.96 333 *e*P **P** **06 09 39.6 +0.2**
comp=Z,30nm,1.3s,baz=42,slow=4.6
ASSE *ep*P **pP** **06 09 54.2 -1.2**
baz=42,slow=4.6
DALY Dalyan (Mula) 92.98 313 *e*P P **06** 09 34.1 -5.8
VTS Vitosha 93.03 320 ⇑P **P** **06 09 40.7 +0.5**
VTS Vitosha 93.03 320 P **P** **06 09 40.0 -0.2**
VTS Vitosha 93.03 320 P **P** **06 09 40.4 +0.2**
VTS pmax pmax
comp=Z,23nm,1.1s
VTS Vitosha 93.03 320 P **P** **06 09 40.4 +0.2**
VTS IAMs_20 IAMs_20 06 56 04.3
comp=Z,3µm,19.0s
ECSD EROS Data Cent 93.10 39 P **P** **06 09 40.3 -0.1**
baz=308,SNR=46
ECSD EROS Data Cent 93.10 39 P **P** **06 09 40.6 +0.2**
ECSD IAmb IAmb 06 09 43.8
comp=Z,144nm,1.2s
ECSD EROS Data Cent 93.10 39 IAMs_20 IAMs_20 06 51 29.3
comp=Z,5µm,20.0s
EYMN Ely 93.10 33 P **P** **06 09 40.4 +0.1**
baz=312
EYMN Ely 93.10 33 P **P** **06 09 40.9 +0.6**
EYMN IAmb IAmb 06 09 43.8
comp=Z,110nm,1.4s
EYMN Ely 93.10 33 IAMs_20 IAMs_20 06 52 21.0
comp=Z,3µm,19.0s
NEUB Neuenburg 93.17 332 *e*P **P** **06 09 40.8 +0.3**
comp=Z,37nm,0.8s,baz=42,slow=4.6
NEUB *ep*P **pP** **06 09 55.1 -1.4**
baz=42,slow=4.6
PBCC Pribram 93.26 329 *e*P **P** **06 09 40.8 -0.2**
PBCC *ex* x 06 09 59.7
PBCC *e*SKS **SKSac** **06 20 03.0 -7.1**
CLZ Clausthal 93.30 333 *e*P **P** **06 09 41.4 +0.3**
comp=Z,30nm,0.8s,baz=42,slow=4.6
MMB Musomiste 93.36 319 P **P** **06 09 40.0 -1.6**
TANN Tannenbergstha 93.44 331 *e*P **P** **06 09 41.9 +0.1**
comp=Z,57nm,1.4s,baz=42,slow=4.6
TANN *ep*P **pP** **06 09 56.5 -1.3**
baz=42,slow=4.6
F36A Milaca 93.44 36 P **P** **06 09 41.9 0.0**
F36A IAMs_20 IAMs_20 06 51 28.1
comp=Z,4µm,21.0s
EPT El Paso 93.46 53 IAMs_20 IAMs_20 06 44 04.2
comp=Z,4µm,21.0s
PLN Plauen 93.52 331 *e*P **P** **06 09 42.3 +0.1**
comp=Z,14nm,0.8s,baz=42,slow=4.6
PLN *ep*P **pP** **06 09 56.9 -1.3**
baz=42,slow=4.6
GUNZ Gunzen 93.53 331 *e*P **P** **06 09 42.6 +0.3**
comp=Z,28nm,0.8s,baz=42,slow=4.6
GUNZ *ep*P **pP** **06 09 57.0 -1.2**
baz=42,slow=4.6
WERN Wernitzgruen 93.57 331 *e*P **P** **06 09 42.8 +0.4**
comp=Z,23nm,0.8s,baz=42,slow=4.6
WERN *ep*P **pP** **06 09 57.4 -1.0**
baz=42,slow=4.6
NKC Novy Kostel 93.57 331 *e*P **P** **06 09 43.1 +0.7**
NKC *ep*P **pP** **06 09 58.6 +0.2**
NKC *e*SKS **SKSac** **06 20 08.4 -3.5**
NKC AMS AMS 06 54 40.0
comp=Z,6µm,18.3s
NKC Novy Kostel 93.57 331 *e*P **P** **06 09 43.1 +0.7**
NKC *e* 06 09 58.6
NKC *e* 06 20 08.4
NKC MLR MLR
comp=Z,6µm,18.3s
CONA Conrad Observa 93.58 327 *i* PcP **P** **06 09 42.8 +0.1**
comp=Z,12nm,0.5s,SNR=36
CONA *i* PP **PP** **06 13 28.4 +1.2**
comp=Z,35nm,1.4s
CONA *i* PKKPdf **PKKPdf** **06 26 46.5 +0.6**
comp=Z,6.3nm,1.7s
BGNE Belgrade 93.62 41 P **P** **06 09 43.1 +0.3**
baz=307
BGNE Belgrade 93.62 41 P **P** **06 09 43.0 +0.1**
BGNE IAMs_20 IAMs_20 06 51 23.4
comp=Z,4µm,21.0s
MOX Moxa 93.65 331 *e*P **P** **06 09 42.8 +0.1**
comp=Z,21nm,0.9s,baz=42,slow=4.6
MOX *ep*P **pP** **06 09 57.5 -1.2**
baz=42,slow=4.6
MOX *e*L L 06 53 12.9
comp=Z,5µm,22.0s
CASY Casey 93.68 192 P **P** **06 09 42.2 0.0**
GTTG Gottingen 93.69 333 *e*P **P** **06 09 43.0 +0.1**
comp=Z,17nm,0.8s,baz=42,slow=4.6
KHC Kasperske Hory 93.84 329 *e*P **P** **06 09 43.6 -0.1**
KHC *ep*P **pP** **06 09 58.0 -1.7**
KHC *es*P **sP** **06 10 05.3 -0.6**
KHC *e*PP **PP** **06 13 31.0 +1.9**
KHC *e*SKS **SKSac** **06 20 03.6 -10**
KHC AMS AMS 06 56 10.0
comp=Z,10µm,17.1s
KHC Kasperske Hory 93.84 329 P **P** **06 09 43.3 -0.4**
KHC pmax pmax
comp=Z,12nm,0.8s
KHC Kasperske Hory 93.84 329 P **P** **06 09 43.3 -0.4**
KHC IAMs_20 IAMs_20 06 56 32.5
comp=Z,4µm,18.0s
MANZ Manzenberg 93.90 331 *e*P **P** **06 09 44.3 +0.3**
comp=Z,30nm,1.4s,baz=42,slow=4.6
MANZ *ep*P **pP** **06 09 58.8 -1.1**
baz=42,slow=4.6
DIVS Divibare 93.95 323 P **P** **06 09 43.8 -0.6**
E38A The Farm, Brul 93.97 34 P **P** **06 09 44.8 +0.4**
E38A IAmb IAmb 06 09 46.9
comp=Z,46nm,0.8s
GEC2 GERESS Array S 93.99 329 P **P** **06 09 44.1 -0.4**
GEC2 GERESS Array S 93.99 329 *e*P **P** **06 09 44.3 -0.2**
comp=Z,48nm,1.3s,baz=42,slow=4.6
GERES GERESS Array B 93.99 329 P **P** **06 09 43.9 -0.5**
comp=Z,16nm,0.7s,baz=41,slow=4.7,SNR=83
GERES PKKPbc **PKKPdf** **06 26 44.2 -1.0**
comp=Z,1.5nm,0.7s,baz=222,slow=1.8,SNR=8.8
GERES PKPPKP **P'P'df** **06 34 55.8 -5.4**
comp=Z,0.2nm,0.6s,baz=286,slow=1.0,SNR=3.5
GERES LR LR 06 54 50.8
comp=Z,6µm,19.9s,baz=52,slow=37
ROTZ Rotzenmuhle 94.02 330 *e*P **P** **06 09 44.9 +0.5**
comp=Z,24nm,1.0s,baz=42,slow=4.6
ROTZ *ep*P **pP** **06 09 59.4 -1.0**
baz=42,slow=4.6
IBBN Ibbenburen 94.02 334 *e*P **P** **06 09 44.4 0.0**
comp=Z,45nm,0.8s,baz=42,slow=4.6
WET Wettzell 94.16 330 *e*P **P** **06 09 45.4 +0.3**
comp=Z,67nm,1.8s,baz=42,slow=4.6
WET *ep*P **pP** **06 09 59.9 -1.2**
baz=42,slow=4.6
CBKS Cedar Bluff 94.19 44 P **P** **06 09 45.3 -0.2**
baz=306
CBKS Cedar Bluff 94.19 44 P **P** **06 09 45.6 +0.1**
CBKS pmax pmax
comp=Z,248nm,1.5s
CBKS Cedar Bluff 94.19 44 P **P** **06 09 45.6 +0.1**
CBKS IAMs_20 IAMs_20 06 48 01.6
comp=Z,5µm,22.0s
IVI Ivigtut 94.20 5 IAMs_20 IAMs_20 06 56 05.1
comp=Z,4µm,21.0s
VAY Valandovo 94.21 319 *i* P **P** **06 09 46.0 +0.5**
ARSA Arzberg 94.22 327 *i* PcP **P** **06 09 45.2 -0.3**
comp=Z,9.0nm,0.7s,SNR=24
ARSA *i* PP **PP** **06 13 32.8 +0.7**
comp=Z,34nm,1.6s
ARSA *i* PKKPdf **PKKPdf** **06 26 45.0 +0.3**
comp=Z,2.0nm,0.6s
UBBA Unterbreizbach 94.22 332 *e*P **P** **06 09 45.6 +0.5**
comp=Z,14nm,0.9s,baz=42,slow=4.6
UBBA *ep*P **pP** **06 09 60.0 -1.2**
baz=42,slow=4.6
SPMN Marine on St. 94.24 36 P **P** **06 09 45.8 +0.2**
baz=311,SNR=13
SPMN S **S** **06 20 51.3 -0.9**
baz=311
SPMN Marine on St. 94.24 36 P **P** **06 09 46.3 +0.7**
SPMN IAmb IAmb 06 09 48.4
comp=Z,45nm,1.1s
SPMN IAMs_20 IAMs_20 06 52 04.3
comp=Z,4µm,21.0s
MNTX Cornudas Mount 94.32 52 P **P** **06 09 46.9 +0.7**
baz=302
MNTX Cornudas Mount 94.32 52 P **P** **06 09 47.0 +0.7**
MNTX IAmb IAmb 06 09 51.2
comp=Z,103nm,1.4s
L34A Svendsen Farm, 94.33 40 P **P** **06 09 45.9 -0.1**
L34A IAMs_20 IAMs_20 06 48 24.2
comp=Z,4µm,22.0s
MOA Molln 94.42 328 *i* PcP **P** **06 09 46.2 -0.1**
comp=Z,15nm,0.6s,SNR=22
MOA *i* PP **PP** **06 13 35.0 +1.4**
comp=Z,19nm,1.0s
MOA *i* PKKPbc **PKKPbc** **06 26 46.2 +0.1**
comp=Z,1.4nm,0.6s
NRS Narsarsuaq 94.45 4 IAMs_20 IAMs_20 06 55 49.5
comp=Z,5µm,21.0s
N33A J Bar K, Exete 94.45 41 P **P** **06 09 46.9 +0.2**
N33A IAmb IAmb 06 09 49.0
comp=Z,75nm,1.0s
SKO Skopje 94.47 320 *i* P **P** **06 09 47.4 +0.7**
KALN Kalnik 94.51 326 P **P** **06 09 46.4 -0.4**
GRA1 Grafenberg Arr 94.51 331 P **P** **06 09 47.1 +0.4**
GRA1 IAmb IAmb 06 10 02.8
comp=Z,146nm,1.5s
GRF Grafenberg Arr 94.51 331 P **P** **06 09 47.1 +0.4**
GRF pmax pmax
comp=Z,146nm,1.5s
GRF MLR MLR
comp=Z,6µm,21.0s
GRF Grafenberg Arr 94.51 331 *e*P **P** **06 09 47.2 +0.4**
comp=Z,30nm,1.0s,baz=42,slow=4.6
GRF *ep*P **pP** **06 10 01.7 -1.0**
baz=42,slow=4.6
GRF *e*L L 06 55 36.5
comp=Z,5µm,21.9s
KARP Karpathos 94.69 312 IAMs_20 IAMs_20 06 59 11.6
comp=Z,4µm,22.0s
MOSL Moslavina 94.70 325 P **P** **06 09 48.5 +0.8**
I37A Lemond, Waseca 94.71 37 P **P** **06 09 48.1 +0.4**
I37A IAMs_20 IAMs_20 06 49 03.9
comp=Z,5µm,22.0s
GDL2 Guadalupe Moun 94.78 52 P **P** **06 09 49.3 +0.8**
PERS Pernice 94.84 327 *e*P **P** **06 09 47.1 -1.2**
PERS *i* 06 09 49.4
PERS *i* 06 10 02.1
PERS *i* PP **PP** **06 13 38.5 +1.6**
PERS *e*SKSac **SKSac** **06 20 15.1 -3.8**
PERS *e*SP SP 06 22 06.9 -6.0
PERS *e*SS **SS** **06 27 19.0 -2.7**
SOKA Soboth 94.85 327 *i* PcP **P** **06 09 48.0 -0.4**
comp=Z,12nm,0.6s,SNR=29
SOKA *i* PP **PP** **06 13 40.5 +3.4**
comp=Z,36nm,1.4s
SOKA *i* PKKPbc **PKKPdf** **06 26 43.9 +0.2**
comp=Z,4.1nm,1.7s
BUG Bochum--Univer 94.88 334 *e*P **P** **06 09 48.2 -0.1**
comp=Z,25nm,1.2s,baz=42,slow=4.6
BUG *ep*P **pP** **06 10 02.8 -1.6**
baz=42,slow=4.6
SLBS Sierra La Lagu 94.90 61 P **P** **06 09 49.1 0.0**
SLBS IAmb IAmb 06 09 53.1
comp=Z,60nm,1.1s
PTJ Puntijarka 94.91 326 P **P** **06 09 49.3 +0.6**
MSTX Muleshoe 94.93 49 P **P** **06 09 48.9 -0.2**
baz=304
MSTX S **S** **06 20 57.3 -1.6**
baz=304
MSTX Muleshoe 94.93 49 P **P** **06 09 49.3 +0.2**
MSTX IAMs_20 IAMs_20 06 51 22.9
comp=Z,4µm,20.0s
R32A Long Quarter, 95.06 44 P **P** **06 09 49.7 +0.2**
R32A IAmb IAmb 06 09 53.4
comp=Z,130nm,1.4s
R32A IAMs_20 IAMs_20 06 48 50.9
comp=Z,4µm,22.0s
D41A Chassel 95.15 32 P **P** **06 09 50.8 +1.1**
D41A IAmb IAmb 06 09 53.7
comp=Z,72nm,1.2s
D41A IAMs_20 IAMs_20 06 54 51.2
comp=Z,4µm,21.0s
AMTX Amarillo 95.17 48 P **P** **06 09 50.8 +0.6**
baz=305
AMTX Amarillo 95.17 48 P **P** **06 09 50.9 +0.7**
AMTX IAmb IAmb 06 09 55.0
comp=Z,106nm,1.2s
AMTX IAMs_20 IAMs_20 06 50 22.1
comp=Z,4µm,20.0s
OBKA Obir 95.21 327 *i* PcP **P** **06 09 50.1 0.0**
comp=Z,12nm,0.7s,SNR=9.0
OBKA *i* PP **PP** **06 13 41.0 +1.1**
comp=Z,57nm,1.4s
OBKA *i* PKKPbc **PKKPdf** **06 26 43.4 +0.4**
comp=Z,12nm,1.4s
TNS Taunus Mts 95.32 332 *e*P **P** **06 09 50.6 +0.1**
comp=Z,11nm,0.9s,baz=42,slow=4.6
TNS *ep*P **pP** **06 10 05.2 -1.3**
baz=42,slow=4.6
EKA Eskdalemuir Ar 95.33 341 PKKPbc PKKPbc 06 26 42.5 -1.4
comp=Z,1.9nm,0.7s,baz=244,slow=2.7,SNR=7.0
SANT Santorini 95.35 314 IAMs_20 IAMs_20 06 57 42.0
comp=Z,3µm,21.0s
OHR Ohrid 95.39 320 *i* P **P** **06 09 52.0 +1.0**
KBA Koelnbreinsper 95.40 328 *i* PcP **P** **06 09 51.3 +0.2**
comp=Z,18nm,0.6s,SNR=13
KBA *i* PP **PP** **06 13 37.5 -3.9**
comp=Z,71nm,1.6s
KBA *i* PKKPbc **PKKPdf** **06 26 41.2 -1.6**
comp=Z,1.5nm,0.5s
PDG Podgorica 95.44 322 ⇑P **P** **06 09 50.9 -0.2**
PDG Podgorica 95.44 322 P **P** **06 09 50.1 -0.9**
PDG IAMs_20 IAMs_20 06 57 37.0
comp=Z,5µm,21.0s
N35A Tabor 95.45 40 P **P** **06 09 51.5 +0.3**
N35A IAmb IAmb 06 09 54.4
comp=Z,122nm,1.2s
N35A IAMs_20 IAMs_20 06 55 35.8
comp=Z,3µm,20.0s
COWI Conover 95.54 33 P **P** **06 09 51.8 +0.3**
LJU Ljubljana 95.54 327 *i* P **P** **06 09 50.4 -1.1**
LJU *i* 06 09 52.2
LJU *i* 06 10 05.1
LJU *e*PP **PP** **06 13 44.0 +1.7**
LJU *e* 06 15 37.7
LJU *e* 06 17 31.2
LJU *i* SKSac **SKSac** **06 20 19.1 -3.5**
LJU *i* S **S** **06 21 01.4 -2.1**
LJU *e*SP **SP** **06 22 16.3 -4.3**
LJU *e*SS **SS** **06 27 29.4 -2.1**
BOJS Bojanci 95.55 326 *i* P **P** **06 09 50.5 -1.0**
MYKA Terra Mystica 95.57 327 *i* PcP **P** **06 09 50.9 -0.8**
comp=Z,14nm,0.6s,SNR=12
MYKA *i* PP **PP** **06 13 42.4 -0.2**
comp=Z,58nm,1.6s
MYKA *i* PKKPdf **PKKPbc** **06 26 42.8 -0.3**
comp=Z,2.9nm,0.9s
G40A Rib Lake 95.58 34 P **P** **06 09 52.3 +0.6**
FUR Furstenfeldbru 95.60 330 *e*P **P** **06 09 52.1 +0.3**
comp=Z,61nm,1.1s,baz=42,slow=4.6
FUR *ep*P **pP** **06 10 06.6 -1.2**
baz=42,slow=4.6
AHRW Bad Neuenahr-A 95.65 333 *e*P **P** **06 09 52.1 +0.2**
comp=Z,77nm,1.9s,baz=42,slow=4.6
AHRW *ep*P **pP** **06 10 06.6 -1.3**
baz=42,slow=4.6
PRED Cave del Predi 95.74 327 P **P** **06 09 52.9 +0.4**
AGG Agios Georgios 95.76 317 IAMs_20 IAMs_20 06 55 45.7
comp=Z,4µm,22.0s
TIR Tirane 95.78 320 P **P** **06 09 54.4 +1.7**
TIR pmax pmax
comp=Z,23nm,0.7s
TIR Tirane 95.78 320 P **P** **06 09 54.4 +1.7**
DBRK Dubrovnik 95.91 322 P **P** **06 09 51.9 -1.3**
RICI Ricice 95.92 323 P **P** **06 09 51.8 -1.4**
K38A Parkersburg 95.95 38 P **P** **06 09 54.2 +0.8**
K38A IAmb IAmb 06 09 56.1
comp=Z,44nm,1.0s
ZOU Zoufplan 95.95 328 P **P** **06 09 51.5 -2.1**
KSU1 Kansas State U 95.96 42 P **P** **06 09 53.4 -0.2**
baz=308
KSU1 Kansas State U 95.96 42 P **P** **06 09 53.4 -0.2**
KSU1 IAmb IAmb 06 09 56.0
comp=Z,62nm,0.8s
KIJV Kijevo 95.97 324 P **P** **06 09 52.8 -0.7**
BEBN Eben Emael 96.01 334 P **P** **06 09 55.5 +2.0**
STON Ston 96.02 323 P **P** **06 09 53.9 +0.2**
MEM Membach 96.03 334 P **P** **06 09 55.2 +1.6**
ABTA Abfaltersbach 96.04 328 *i* PcP **P** **06 09 52.8 -1.1**
comp=Z,16nm,0.7s,SNR=13
ABTA *i* PP **PP** **06 13 45.0 -1.2**
comp=Z,24nm,1.8s
ABTA *i* PKKPdf **PKKPbc** **06 26 42.3 +0.3**
comp=Z,5.3nm,0.8s
WATA Walderalm 96.06 329 *i* PcP **P** **06 09 54.3 +0.2**
comp=Z,8.6nm,0.6s,SNR=9.5
WATA *i* PP **PP** **06 13 42.4 -4.1**
comp=Z,43nm,1.5s
WATA *i* PKKPdf **PKKPdf** **06 26 41.4 -0.1**
comp=Z,3.4nm,0.6s
WTTA Wattenberg 96.09 329 *i* PcP **P** **06 09 53.3 -0.9**
comp=Z,2.8nm,0.5s
WTTA *i* PP **PP** **06 13 44.2 -2.5**
comp=Z,30nm,1.1s
WTTA *i* PKKPbc **PKKPdf** **06 26 40.1 -1.5**
comp=Z,9.7nm,0.8s
U32A Winter Ranch, 96.09 46 P **P** **06 09 54.5 +0.3**
U32A IAmb IAmb 06 09 57.3
comp=Z,57nm,1.1s
U32A IAMs_20 IAMs_20 06 48 33.2
comp=Z,5µm,20.0s
STU Stuttgart 96.09 331 P **P** **06 09 54.1 +0.1**
STU pmax pmax
comp=Z,47nm,1.1s
STU MLR MLR
comp=Z,5µm,21.0s
STU Stuttgart 96.09 331 P **P** **06 09 54.1 +0.1**
STU IAmb IAmb 06 10 10.4
comp=Z,47nm,1.1s
STU IAMs_20 IAMs_20 06 56 33.9
comp=Z,5µm,21.0s
STU Stuttgart 96.09 331 *e*P **P** **06 09 54.0 +0.1**
comp=Z,92nm,1.8s,baz=42,slow=4.6
STU *ep*P **pP** **06 10 08.5 -1.4**
baz=42,slow=4.6
MAKA Makarska 96.12 323 P **P** **06 09 52.0 -2.1**
SCIA State Center 96.19 38 P **P** **06 09 54.9 +0.4**
baz=311
SCIA State Center 96.19 38 P **P** **06 09 55.3 +0.7**
SCIA IAmb IAmb 06 09 57.6
comp=Z,75nm,1.1s
SCIA IAMs_20 IAMs_20 06 55 16.1
comp=Z,4µm,20.0s
BSTI Sart Tilman 96.22 334 P **P** **06 09 56.4 +1.9**
BHOU Houvegnez 96.23 334 P **P** **06 09 56.5 +2.0**
MOTA Moosalm 96.28 329 *i* PcP **P** **06 09 54.7 -0.3**
comp=Z,5.5nm,0.6s
MOTA *i* PP **PP** **06 13 43.9 -4.3**
comp=Z,47nm,1.3s
MOTA *i* PKKPdf **PKKPdf** **06 26 40.8 -0.4**
comp=Z,9.2nm,1.5s
F42A Maple Grove Fa 96.28 33 P **P** **06 09 55.1 +0.3**
F42A IAMs_20 IAMs_20 06 53 20.2
comp=Z,4µm,21.0s
STAL STALIGIAL 96.29 328 P **P** **06 09 54.4 -0.6**
I40A Norwalk 96.29 36 P **P** **06 09 55.4 +0.4**
SQTA Sankt Quirin 96.32 329 *i* PcP **P** **06 09 54.9 -0.2**
comp=Z,9.2nm,0.8s,SNR=6.7
SQTA *i* PP **PP** **06 13 46.3 -2.1**
comp=Z,36nm,1.2s
SQTA *i* PKKPbc **PKKPdf** **06 26 39.3 -1.8**
comp=Z,3.2nm,0.5s
RETA Reutte 96.33 329 *i* PcP **P** **06 09 55.4 +0.2**
comp=Z,1.2nm,0.3s,SNR=7.6
RETA *i* PP **PP** **06 13 49.8 +1.3**
comp=Z,38nm,1.5s
RETA *i* PKKPbc **PKKPdf** **06 26 40.3 -0.7**
comp=Z,5.9nm,0.9s
E43A Lone Tree Farm 96.40 32 IAMs_20 IAMs_20 06 53 30.3
comp=Z,4µm,22.0s
MORI Morici 96.43 324 P **P** **06 09 54.5 -1.1**
UBR Ueberruh 96.49 330 *e*P **P** **06 09 55.8 -0.1**
comp=Z,19nm,1.2s,baz=42,slow=4.6
UBR *ep*P **pP** **06 10 10.8 -1.1**
baz=42,slow=4.6
UCC Uccle 96.53 335 P **P** **06 09 55.3 -0.5**
BGES Gesves 96.57 334 P **P** **06 09 57.3 +1.3**
HPIG 96.61 57 P **P** **06 09 57.0 0.0**
HPIG IAMs_20 IAMs_20 06 46 23.9
comp=Z,4µm,20.0s
ZIRJ Zirje 96.61 324 P **P** **06 09 55.3 -1.1**
DUGI Dugi Otok 96.69 325 P **P** **06 09 57.3 +0.6**
FETA Feichten 96.69 329 *i* PcP **P** **06 09 56.8 -0.1**
comp=Z,7.0nm,0.7s,SNR=7.6
FETA *i* PP **PP** **06 13 49.4 -1.9**
comp=Z,34nm,1.3s
FETA *i* PKKPbc **PKKPbc** **06 26 39.4 -0.9**
comp=Z,5.1nm,1.0s
WLF Walferdange 96.70 333 P **P** **06 09 58.9 +2.2**
WLF Walferdange 96.70 333 P **P** **06 09 58.0 +1.3**
WLF pmax pmax
comp=Z,60nm,1.3s
WLF Walferdange 96.70 333 P **P** **06 09 58.0 +1.3**
WLF IAmb IAmb 06 10 13.7
comp=Z,60nm,1.3s
WLF Walferdange 96.70 333 *e*P **P** **06 09 57.1 +0.5**
comp=Z,74nm,1.7s,baz=42,slow=4.6
WLF *ep*P **pP** **06 10 11.8 -0.9**
baz=42,slow=4.6
BMRD Maredsous 96.76 334 P **P** **06 09 58.4 +1.5**
SNF Seneffe 96.79 335 P **P** **06 09 59.4 +2.3**
BFO Black Forest 96.80 331 P **P** **06 09 56.6 -0.6**
BFO pmax pmax
comp=Z,25nm,1.0s
BFO Black Forest 96.80 331 P **P** **06 09 56.6 -0.6**
BFO Black Forest 96.80 331 *e*P **P** **06 09 57.1 -0.1**
comp=Z,92nm,2.0s,baz=42,slow=4.6
BFO *ep*P **pP** **06 10 11.7 -1.6**
baz=42,slow=4.6
TX31 Lajitas Ar. Si 96.83 54 P **P** **06 09 58.4 +0.6**
TX32 Lajitas Array 96.83 54 P **P** **06 09 58.4 +0.6**
TX32 IAmb IAmb 06 10 01.9
comp=Z,85nm,1.4s
TXAR Lajitas Array 96.83 54 P **P** **06 09 58.3 +0.5**
comp=Z,18nm,0.9s,baz=279,slow=1.9,SNR=59
TXAR PKKPbc **PKKPbc** **06 26 39.6 +0.3**
comp=Z,1.6nm,0.8s,baz=116,slow=4.3,SNR=8.5
TXAR LR LR 06 47 11.4
comp=Z,3µm,21.7s,baz=0.0,slow=31
DAVA Damuels 96.89 330 *i* PcP **P** **06 09 57.9 +0.1**
comp=Z,8.1nm,0.7s,SNR=8.9
DAVA *i* PP **PP** **06 13 51.7 -1.1**
comp=Z,38nm,1.8s
DAVA *i* PKKPdf **PKKPbc** **06 26 39.2 -0.6**
comp=Z,3.3nm,0.7s
N38A Joes South For 96.90 39 P **P** **06 09 57.8 +0.1**
N38A IAmb IAmb 06 10 00.9
comp=Z,67nm,1.2s
N38A IAMs_20 IAMs_20 06 52 59.0
comp=Z,4µm,20.0s
CTI Castel Tesino 96.96 328 P **P** **06 09 56.4 -1.7**
CTI pmax pmax
comp=Z,18nm,0.6s
CTI MLR MLR
comp=Z,13µm,22.0s
CTI Castel Tesino 96.96 328 P **P** **06 09 56.4 -1.7**
DOU Dourbes 96.99 334 P **P** **06 09 59.5 +1.5**
SCHQ Schefferville 97.08 17 P **P** **06 09 58.3 0.0**
comp=Z,7.9nm,0.7s,baz=327,slow=4.2,SNR=15
SCHQ PKKPbc **PKKPbc** **06 26 38.4 -0.9**
comp=Z,2.6nm,0.6s,baz=195,slow=3.3,SNR=7.0
SCHQ LR LR 06 57 29.9
comp=Z,4µm,20.7s,baz=348,slow=38
SCHQ Schefferville 97.08 17 P Pdif 06 09 59.0 +0.6
SCHQ IAMs_20 IAMs_20 06 57 39.9
comp=Z,4µm,20.0s
ITM Ithomi 97.14 316 P **P** **06 09 57.9 -1.1**
ITM IAmb IAmb 06 10 13.0
comp=Z,32nm,0.9s
ITM IAMs_20 IAMs_20 06 55 40.1
comp=Z,4µm,22.0s
JFWS Jewell Farm 97.16 36 P **P** **06 09 58.6 -0.3**
baz=313
JFWS Jewell Farm 97.16 36 P Pdif 06 09 59.2 +0.2

JFWS pmax pmax
comp=Z,30nm,1.3s
JFWS MLR MLR
comp=Z,4µm,21.0s
JFWS Jewell Farm 97.16 36 P Pdif 06 09 59.2 +0.3
JFWS Jewell Farm 97.16 36 IAMs_20 IAMs_20 06 53 33.5
comp=Z,4µm,21.0s
I42A Draeger Farm, 97.19 35 P Pdif 06 09 59.4 +0.3
FUORN Ofenpass-Fuorn 97.20 329 P Pdif 06 09 59.4 0.0
FUORN IAmb IAmb 06 10 15.2
comp=Z,68nm,1.4s
L40A Anamosa 97.20 37 P Pdif 06 09 59.4 +0.3
L40A IAmb IAmb 06 10 02.3
comp=Z,77nm,1.4s
L40A IAMs_20 IAMs_20 06 50 52.9
comp=Z,4µm,21.0s
WMOK Wichita Mounta 97.20 47 P **P** **06 09 59.2 -0.1**
baz=306
WMOK Wichita Mounta 97.20 47 P Pdif 06 09 59.7 +0.3
WMOK pmax pmax
comp=Z,20nm,1.0s
WMOK Wichita Mounta 97.20 47 P Pdif 06 09 59.7 +0.3
WMOK Wichita Mounta 97.20 47 IAMs_20 IAMs_20 06 49 57.7
comp=Z,3µm,22.0s
DAVOX Davos/Dischmat 97.26 329 PKKPbc PKKPbc 06 26 38.8 0.0
comp=Z,2.7nm,0.9s,baz=178,slow=6.0,SNR=4.8
T35A Sooner Cattle 97.36 44 P **P** **06 09 59.9 -0.1**
T35A IAmb IAmb 06 10 02.5
comp=Z,53nm,1.4s
ECH Echery 97.40 332 P **P** **06 09 59.3 -0.6**
ECH pmax pmax
comp=Z,35nm,1.4s
ECH Echery 97.40 332 P **P** **06 09 59.3 -0.6**
SCTE Santa Cesarea 97.42 320 P **P** **06 09 59.6 -0.5**
D46A Sault St. Mari 97.42 30 P Pdif 06 10 00.1 +0.1
baz=318,SNR=7.2
D46A S **S** **06 21 19.4 -0.2**
baz=318
P38A Dawn 97.48 40 P **P** **06 10 00.2 -0.2**
P38A IAmb IAmb 06 10 02.8
comp=Z,42nm,1.1s
F45A CMU Biological 97.61 32 P Pdif 06 10 01.1 +0.2
baz=317
F45A S **S** **06 21 22.2 +0.9**
baz=317
OKCFA Oklahoma City 97.67 46 IAMs_20 IAMs_20 06 47 29.0
comp=Z,4µm,21.0s
E46A Sault Ste Mari 97.69 31 P Pdif 06 10 02.0 +0.8
D47A Chapleau 97.72 30 P **P** **06 10 01.4 0.0**
baz=319
D47A S **S** **06 21 20.8 -1.5**
baz=319
TUE Stuetta 97.73 330 P **P** **06 10 00.9 -0.8**
FNO Franklin 97.80 46 P Pdif 06 10 03.0 +0.9
SGRT San Giovanni R 97.84 323 IAMs_20 IAMs_20 06 59 28.4
comp=Z,5µm,20.0s
ABTX Abilene, Hawle 97.85 49 P Pdif 06 10 02.8 +0.5
baz=306
ABTX Abilene, Hawle 97.85 49 P Pdif 06 10 03.1 +0.8
ABTX IAmb IAmb 06 10 05.9
comp=Z,103nm,1.4s
X34A Smith Ranch, M 97.91 46 P Pdif 06 10 02.9 +0.4
G45A Suttons Bay 98.02 32 IAMs_20 IAMs_20 06 52 36.0
comp=Z,4µm,22.0s
L42A Oliver, Polo 98.09 37 P Pdif 06 10 03.6 +0.5
L42A IAMs_20 IAMs_20 06 52 03.4
comp=Z,5µm,21.0s
E47A Iron Bridge 98.09 30 P Pdif 06 10 03.3 +0.2
baz=319,SNR=7.8
E47A S **S** **06 21 23.9 -1.5**
baz=319
W35A Tecumseh 98.21 46 P Pdif 06 10 04.1 +0.3
D48A Paudash Townsh 98.21 29 P **P** **06 10 03.3 -0.3**
baz=320,SNR=8.9
D48A S **S** **06 21 23.3 -3.1**
baz=320
N41A Harden Midland 98.31 38 IAMs_20 IAMs_20 06 51 39.5
comp=Z,3µm,20.0s
K43A Burlington 98.32 35 IAMs_20 IAMs_20 06 50 16.4
comp=Z,5µm,22.0s
D49A Beulah Townshi 98.33 29 P Pdif 06 10 04.2 +0.1
baz=320,SNR=5.9
D49A S **S** **06 21 24.2 -3.2**
baz=320
P40A Paris 98.41 40 P Pdif 06 10 04.8 +0.1
P40A IAMs_20 IAMs_20 06 53 56.3
comp=Z,4µm,20.0s
TUL1 Leonard 98.44 44 Pdiff Pdif 06 10 05.1 +0.3
baz=308,SNR=5.6
TUL1 S **S** **06 21 26.8 -1.9**
baz=308
TUL1 Leonard 98.44 44 P **P** **06 10 04.1 -0.7**
I45A Fountain 98.45 33 IAMs_20 IAMs_20 06 59 58.8
comp=Z,4µm,22.0s
NRCA Norcia 98.51 325 P **P** **06 10 05.0 -0.1**
MURB Monte Urbino 98.51 326 P Pdif 06 10 05.7 +0.6
E48A Lockeyer 98.58 30 Pdiff **P** **06 10 05.2 0.0**
baz=320
E48A S **S** **06 21 27.9 -1.6**
baz=320
INTR Introdacqua 98.67 324 P Pdif 06 10 06.1 +0.3
GLMI Grayling 98.68 32 IAMs_20 IAMs_20 06 51 57.4
comp=Z,4µm,22.0s
AQU L'Aquila 98.70 325 P Pdif 06 10 06.1 +0.2
AQU pmax pmax
comp=Z,30nm,0.9s
AQU L'Aquila 98.70 325 P Pdif 06 10 06.1 +0.2
AQU IAmb IAmb 06 10 11.0
comp=Z,30nm,0.9s
LSQQ Lebel-sur-Quev 98.72 25 Pdiff **P** **06 10 05.4 -0.4**
baz=324
SENIN Lac Senin/Sane 98.75 331 P **P** **06 10 05.7 -0.6**
G47A Hillman 98.78 31 Pdiff Pdif 06 10 06.7 +0.5
baz=318,SNR=9.1
J45A Montague 98.81 34 IAMs_20 IAMs_20 07 01 41.2
comp=Z,3µm,21.0s
S39A Bolivar 98.85 42 **P** **06 10 06.0 -0.7**
S39A IAMs_20 IAMs_20 06 54 13.1
comp=Z,5µm,21.0s
F48A Evansville 98.87 30 Pdiff **P** **06 10 06.5 0.0**
baz=319
L44A Lake County Fo 98.91 36 IAMs_20 IAMs_20 06 50 22.1
comp=Z,5µm,22.0s
JCT Junction City 98.98 51 Pdiff Pdif 06 10 07.8 +0.4
baz=305
JCT Junction City 98.98 51 P **P** **06 10 07.4 0.0**
JCT pmax pmax
comp=Z,27nm,0.8s
JCT Junction City 98.98 51 P **P** **06 10 07.4 0.0**
JCT IAmb IAmb 06 10 10.5
comp=Z,27nm,0.8s
PAOL Paolisi 98.98 323 P **P** **06 10 06.2 -1.1**
CHGQ Chibougamau 99.00 23 Pdiff **P** **06 10 06.5 -0.5**
baz=326,SNR=8.1
U38A Gravette 99.00 43 P **Pdif** **06 10 07.3 0.0**
U38A IAMs_20 IAMs_20 06 55 34.1
comp=Z,4µm,21.0s
TIP Timpagrande 99.00 320 ⇓P Pdif 06 10 07.7 +0.3
TIP Timpagrande 99.00 320 P **P** **06 10 07.2 -0.2**
H47A Mio 99.04 32 Pdiff **Pdif** **06 10 08.5 +1.2**
baz=318
H47A S **S** **06 21 34.5 +1.0**
baz=318
Z35A Perchaven, San 99.06 47 **Pdif** **06 10 07.8 +0.2**
D50A G1974 Best Tow 99.07 28 Pdiff **Pdif** **06 10 07.1 -0.3**
baz=322
D50A S **S** **06 21 31.2 -2.4**
baz=322
R40A Maddies Statio 99.10 41 **Pdif** **06 10 07.2 -0.5**
R40A IAMs_20 IAMs_20 06 53 07.5
comp=Z,3µm,22.0s
F49A Sandfield 99.18 30 Pdiff **Pdif** **06 10 07.6 -0.3**
baz=320
F49A S **S** **06 21 34.3 -0.2**
baz=320
E50A Wahnapitae 99.26 29 Pdiff **Pdif** **06 10 08.9 +0.7**
baz=321
E50A S **S** **06 21 34.3 -0.9**
baz=321
HDIL Hopedale 99.29 37 IAMs_20 IAMs_20 06 51 08.0
comp=Z,5µm,22.0s
VLDQ Val d'Or 99.30 26 **Pdif** **06 10 06.8 -1.5**
VLDQ IAMs_20 IAMs_20 07 00 04.6
comp=Z,4µm,20.0s
I47A Gladwin 99.32 32 Pdiff **Pdif** **06 10 09.5 +0.9**
baz=318
I47A Gladwin 99.32 32 P **Pdif** **06 10 09.4 +0.8**
I47A IAmb IAmb 06 10 12.4
comp=Z,49nm,1.4s
I47A IAMs_20 IAMs_20 06 55 21.6
comp=Z,4µm,20.0s
D51A Lot 18 Range I 99.32 28 Pdiff **Pdif** **06 10 08.1 -0.4**
baz=322
HHAR Hobbs 99.37 43 P **Pdif** **06 10 08.3 -0.7**
HHAR IAMs_20 IAMs_20 06 51 06.1
comp=Z,5µm,21.0s
M44A Midewin, Midew 99.39 36 IAMs_20 IAMs_20 06 53 48.7
comp=Z,4µm,21.0s
X37A Clayton 99.53 45 IAMs_20 IAMs_20 06 49 32.3
comp=Z,5µm,22.0s
E51A G1948 Merrick 99.71 28 Pdiff **Pdif** **06 10 10.1 -0.1**
baz=322
WHTX Lake Whitney, 99.72 48 IAMs_20 IAMs_20 06 55 48.5
comp=Z,3µm,21.0s
J47A Sumner 99.74 33 IAMs_20 IAMs_20 06 55 23.8
comp=Z,4µm,20.0s
P43A Skaggs, Pawnee 99.79 38 IAMs_20 IAMs_20 07 02 23.5
comp=Z,3µm,20.0s
D52A ZEK Kipawa Sen 99.82 27 Pdiff **Pdif** **06 10 10.2 -0.5**
baz=323
MGMO Mountain Grove 99.84 42 IAMs_20 IAMs_20 06 56 19.2
comp=Z,4µm,21.0s
CCM Cathedral Cave 99.86 40 Pdiff **Pdif** **06 10 11.5 +0.4**
baz=312
CCM Cathedral Cave 99.86 40 IAMs_20 IAMs_20 06 56 12.6
comp=Z,3µm,20.0s
U40A Yellville 100.00 43 Pdiff **Pdif** **06 10 11.3 -0.5**
baz=310,SNR=7.7
U40A Yellville 100.00 43 IAMs_20 IAMs_20 06 55 03.6
comp=Z,5µm,22.0s
F51A Arnstein 100.00 29 Pdiff **Pdif** **06 10 11.5 0.0**
baz=321
O44A Mansfield 100.02 37 IAMs_20 IAMs_20 06 53 04.6
comp=Z,5µm,22.0s
D53A Lac Vacive, Po 100.03 27 Pdiff **Pdif** **06 10 11.3 -0.4**
baz=323
SLM Saint Louis 100.06 39 IAMs_20 IAMs_20 06 55 04.8
comp=Z,4µm,21.0s
W39A Magazine 100.16 44 Pdiff **Pdif** **06 10 12.9 +0.4**
baz=310
W39A Magazine 100.16 44 IAMs_20 IAMs_20 06 54 20.0
comp=Z,4µm,21.0s
I49A Point Hope 100.19 32 IAMs_20 IAMs_20 06 54 33.6
comp=Z,3µm,20.0s
E52A Mattawa 100.26 28 Pdiff **Pdif** **06 10 12.3 -0.4**
baz=322
435B Jarrell 100.35 49 IAMs_20 IAMs_20 06 53 04.3
comp=Z,3µm,20.0s
F52A Sundridge 100.36 28 Pdiff **Pdif** **06 10 13.2 +0.1**
baz=322
D54A Lac Fusel, La 100.39 26 Pdiff **Pdif** **06 10 13.0 -0.3**
baz=324
833A Chaparral WMA, 100.50 52 Pdiff **Pdif** **06 10 15.8 +1.6**
baz=305
Q44A Meyer Farm, Va 100.58 39 IAMs_20 IAMs_20 06 56 09.4
comp=Z,3µm,20.0s
E53A Dumoine, Ponti 100.61 27 Pdiff **Pdif** **06 10 13.8 -0.5**
baz=323
SFIN Lafayette 100.61 36 IAMs_20 IAMs_20 06 57 58.2
comp=Z,3µm,20.0s
MIAR Mount Ida 100.71 44 Pdiff **Pdif** **06 10 15.6 +0.6**
baz=310
FCAR Ozark Folk Cen 100.75 42 IAMs_20 IAMs_20 06 55 13.4
comp=Z,3µm,21.0s
E54A Lac Daplat, Po 100.76 27 Pdiff **Pdif** **06 10 13.8 -1.1**
baz=324
ALGO Algonquin Park 100.78 28 Pdiff **Pdif** **06 10 14.0 -1.1**
baz=323
L48A N Adams 100.88 34 IAMs_20 IAMs_20 07 01 32.1
comp=Z,4µm,20.0s
D55A Sainte-Anne-du 100.97 25 Pdiff **Pdif** **06 10 15.4 -0.4**
baz=325
N47A Urbana 101.00 35 IAMs_20 IAMs_20 06 51 56.4
comp=Z,4µm,21.0s
AAM Ann Arbor 101.01 33 IAMs_20 IAMs_20 06 56 25.4
comp=Z,4µm,21.0s
H52A Wyevale 101.02 29 Pdiff **Pdif** **06 10 16.7 +0.6**
baz=321
P46A Rosedale 101.09 37 IAMs_20 IAMs_20 06 53 57.9
comp=Z,4µm,21.0s
W41B Gary Mavity, V 101.14 43 Pdiff **Pdif** **06 10 18.3 +1.4**
baz=311
K50A Casco 101.17 32 IAMs_20 IAMs_20 06 53 22.4
comp=Z,5µm,22.0s
PBMO Poplar Bluff 101.19 41 IAMs_20 IAMs_20 07 05 07.9
comp=Z,3µm,20.0s
G54A Lake Saint Pet 101.21 28 Pdiff **Pdif** **06 10 17.7 +0.7**
baz=323
OLIL Olney 101.21 38 IAMs_20 IAMs_20 06 52 20.1
comp=Z,4µm,22.0s
X40A Basin Creek Fa 101.21 44 Pdiff **Pdif** **06 10 19.3 +2.2**
baz=310
X40A Basin Creek Fa 101.21 44 IAMs_20 IAMs_20 06 56 56.9
comp=Z,4µm,21.0s
D56A ZEC Mazanza, M 101.22 25 Pdiff **Pdif** **06 10 16.9 -0.1**
baz=326
SADO Sedowa 101.25 29 IAMs_20 IAMs_20 06 53 27.2
comp=Z,4µm,20.0s
S44A Carbondale 101.27 40 IAMs_20 IAMs_20 06 55 41.8
comp=Z,4µm,21.0s
735A Kenedy 101.33 51 IAMs_20 IAMs_20 06 48 04.4
comp=Z,4µm,22.0s
UALR University of 101.34 43 IAMs_20 IAMs_20 06 54 46.1
comp=Z,4µm,21.0s
E56A St. Veronique 101.53 26 Pdiff **Pdif** **06 10 17.2 -1.1**
baz=326
D57A Chemin Vers le 101.58 25 Pdiff **Pdif** **06 10 18.1 -0.5**
baz=326
H53A Bobcaygeon 101.65 29 Pdiff **Pdif** **06 10 19.9 +1.0**
baz=322
NATX Nacogdoches 101.75 47 IAMs_20 IAMs_20 06 54 02.0
comp=Z,5µm,21.0s
N49A Columbus Grove 101.76 34 IAMs_20 IAMs_20 07 02 12.3
comp=Z,4µm,20.0s
J52A Paris 101.83 31 Pdiff **Pdif** **06 10 20.2 +0.4**
baz=321
HBAR Harrisburg 101.87 42 IAMs_20 IAMs_20 06 52 18.0
comp=Z,4µm,22.0s
PVMO Portageville 101.87 41 IAMs_20 IAMs_20 06 57 34.9
comp=Z,3µm,20.0s
PENMO Penman 101.89 41 IAMs_20 IAMs_20 06 58 14.4
comp=Z,3µm,20.0s
D58A Chemin du LacG 101.89 24 Pdiff **Pdif** **06 10 20.2 +0.2**
baz=327
PLVO Plevna 101.92 28 IAMs_20 IAMs_20 06 54 30.0
comp=Z,3µm,21.0s
M50A Fremont 101.98 33 IAMs_20 IAMs_20 06 56 54.2
comp=Z,3µm,21.0s
E57A Chemin Saint G 101.99 25 Pdiff **Pdif** **06 10 20.9 +0.4**
baz=326
LPAR Lepanto 102.05 42 IAMs_20 IAMs_20 06 52 58.9
comp=Z,3µm,22.0s
HKT Hockley 102.06 49 IAMs_20 IAMs_20 06 53 56.2
comp=Z,4µm,19.0s
T45A Paducah 102.08 40 IAMs_20 IAMs_20 06 56 07.4
comp=Z,3µm,20.0s
DELO Deloro Mine 102.11 28 IAMs_20 IAMs_20 06 53 48.0
comp=Z,4µm,20.0s
CAF Calviac 102.15 333 *e*P **Pdif** **06 10 24.7 +3.5**
CAF pmax pmax
comp=Z,51nm,1.9s
P48A Milroy 102.17 36 IAMs_20 IAMs_20 06 52 45.3
comp=Z,4µm,22.0s
O49A Covington 102.22 35 IAMs_20 IAMs_20 07 01 44.5
comp=Z,3µm,22.0s
CCAR Cane Creek 102.25 44 IAMs_20 IAMs_20 06 57 24.4
comp=Z,4µm,20.0s
VNDA Vanda 102.39 176 P **Pdif** **06 10 21.1 -0.2**
comp=Z,1.9nm,0.8s,baz=310,slow=6.9,SNR=11
X43A Marvell 102.42 43 IAMs_20 IAMs_20 06 56 38.5
comp=Z,4µm,22.0s
P49A Miami Univ. Ec 102.49 36 IAMs_20 IAMs_20 07 00 41.9
comp=Z,3µm,20.0s
WDD Wied Dalam 102.55 319 IAMs_20 IAMs_20 07 01 45.2
comp=Z,3µm,22.0s
MET Memphis--Engin 102.60 42 IAMs_20 IAMs_20 06 53 02.3
comp=Z,3µm,22.0s
N51A Ashland 102.68 33 IAMs_20 IAMs_20 07 00 27.6
comp=Z,3µm,21.0s
LFF La Frestale 102.69 333 *e*P **Pdif** **06 10 26.0 +2.5**
LFF pmax pmax
comp=Z,6.0nm,0.6s
M52A Chesterland 102.71 32 IAMs_20 IAMs_20 06 56 13.4
comp=Z,4µm,20.0s
D61A St Aubert, Com 102.77 22 Pdiff **Pdif** **06 10 27.0 +3.2**
baz=330
PECO Prince Edward 102.85 28 IAMs_20 IAMs_20 06 54 10.5
comp=Z,5µm,22.0s
ACSO Alum Creek Sta 102.89 34 IAMs_20 IAMs_20 07 02 26.1
comp=Z,4µm,20.0s
ERPA Erie 102.93 31 IAMs_20 IAMs_20 06 56 49.9
comp=Z,4µm,21.0s
T47A Sharon Grove 102.99 39 IAMs_20 IAMs_20 06 58 48.4
comp=Z,3µm,20.0s
J55A Hilton 103.02 29 IAMs_20 IAMs_20 06 53 27.2
comp=Z,5µm,22.0s
M53A WI Miller and 103.12 32 IAMs_20 IAMs_20 06 56 36.1
comp=Z,4µm,22.0s
K54A Basiliko Farm, 103.15 30 Pdiff **Pdif** **06 10 26.5 +0.9**
baz=322
R49A Shelbyville 103.15 37 IAMs_20 IAMs_20 06 55 30.3
comp=Z,4µm,21.0s
L54A Sinclairville 103.15 31 Pdiff **Pdif** **06 10 26.0 +0.3**
baz=321
WVT Waverly 103.17 40 Pdiff **Pdif** **06 10 25.8 -0.1**
baz=314
WVT Waverly 103.17 40 IAMs_20 IAMs_20 07 02 15.2
comp=Z,4µm,21.0s
ALLY Allegheny Colle 103.22 32 IAMs_20 IAMs_20 06 57 10.6
comp=Z,3µm,20.0s
OXF Oxford 103.33 42 Pdiff **Pdif** **06 10 27.7 +1.1**
baz=312
WVNY West Valley, N 103.34 30 IAMs_20 IAMs_20 06 52 58.9
comp=Z,5µm,22.0s
441A DeRidder 103.36 47 IAMs_20 IAMs_20 06 55 12.8
comp=Z,4µm,22.0s
P51A Williamsport 103.40 35 IAMs_20 IAMs_20 06 52 28.8
comp=Z,4µm,22.0s
J56A Wolcott 103.43 29 IAMs_20 IAMs_20 07 05 32.1
comp=Z,3µm,20.0s
E62A Clayton Lake 103.50 22 Pdiff **Pdif** **06 10 27.2 0.0**
baz=330
N53A Lisbon 103.53 33 IAMs_20 IAMs_20 06 54 54.9
comp=Z,5µm,22.0s
F61A St Evariste 103.54 23 Pdiff **Pdif** **06 10 28.3 +1.0**
baz=329
M54A Oil Creek Stat 103.55 31 Pdiff **Pdif** **06 10 28.5 +1.0**
baz=321
M54A Oil Creek Stat 103.55 31 IAMs_20 IAMs_20 06 53 36.5
comp=Z,3µm,20.0s
O52A Adamsville 103.55 34 IAMs_20 IAMs_20 06 57 54.7
comp=Z,3µm,20.0s
L55A Hinsdale 103.60 30 Pdiff **Pdif** **06 10 28.9 +1.2**
baz=322
R50A Paris 103.61 36 IAMs_20 IAMs_20 06 53 15.5
comp=Z,4µm,22.0s
Y45A Yeager Farm, C 103.68 43 IAMs_20 IAMs_20 06 53 56.0
comp=Z,4µm,21.0s
O53A New Philadelph 103.77 33 Pdiff **Pdif** **06 10 29.1 +0.7**
baz=320
O53A New Philadelph 103.77 33 IAMs_20 IAMs_20 06 54 55.3
comp=Z,4µm,22.0s
P52A Corning 103.77 34 IAMs_20 IAMs_20 07 00 18.4
comp=Z,3µm,20.0s
PLAL Pickwick Lake 103.81 41 IAMs_20 IAMs_20 06 57 17.3
comp=Z,3µm,21.0s
N54A Moraine State 103.82 32 Pdiff **Pdif** **06 10 29.3 +0.6**
baz=321
N54A Moraine State 103.82 32 IAMs_20 IAMs_20 06 57 08.6
comp=Z,4µm,22.0s
F62A Pittston Farm, 103.97 23 Pdiff **Pdif** **06 10 30.3 +1.1**
baz=330
NCB Newcomb 103.98 27 IAMs_20 IAMs_20 07 00 46.2
comp=Z,5µm,22.0s
M55A Ridgway 104.01 31 Pdiff **Pdif** **06 10 31.9 +2.4**
baz=322
M55A Ridgway 104.01 31 IAMs_20 IAMs_20 07 04 35.4
comp=Z,3µm,18.0s
V48A Smith Brothers 104.03 40 IAMs_20 IAMs_20 06 57 35.8
comp=Z,4µm,22.0s
L56A Greenwood 104.03 30 Pdiff **Pdif** **06 10 30.1 +0.5**
baz=323
L56A Greenwood 104.03 30 IAMs_20 IAMs_20 06 54 17.0
comp=Z,4µm,21.0s
J58A Remsen 104.04 28 IAMs_20 IAMs_20 06 55 32.0
comp=Z,5µm,21.0s
CLTN Cedars of Leba 104.06 39 IAMs_20 IAMs_20 06 58 16.8
comp=Z,3µm,22.0s
U49A Red Boiling Sp 104.08 38 IAMs_20 IAMs_20 06 54 57.1
comp=Z,4µm,22.0s
VBMS Vicksburg 104.16 44 IAMs_20 IAMs_20 06 56 48.9
comp=Z,4µm,21.0s
O54A Avella 104.23 33 IAMs_20 IAMs_20 06 58 13.5
comp=Z,4µm,20.0s
T50A Nancy 104.24 38 IAMs_20 IAMs_20 06 56 06.4
comp=Z,5µm,21.0s
P53A Whipple 104.25 34 IAMs_20 IAMs_20 06 53 57.3
comp=Z,4µm,22.0s
I59A Olmsteadville 104.27 26 Pdiff **Pdif** **06 10 31.2 +0.6**
baz=326
M56A Emporium 104.27 30 Pdiff **Pdif** **06 10 30.9 +0.3**
baz=322
G62A West of Eustis 104.35 24 IAMs_20 IAMs_20 06 59 38.9
comp=Z,4µm,22.0s
K58A Earlville 104.37 28 Pdiff **Pdif** **06 10 34.0 +2.9**
baz=324
K58A Earlville 104.37 28 IAMs_20 IAMs_20 07 00 01.8
comp=Z,4µm,22.0s
H61A Lyndonville 104.41 25 Pdiff **Pdif** **06 10 32.0 +0.7**
baz=328
I60A Shoreham 104.46 26 Pdiff **Pdif** **06 10 34.3 +2.9**
baz=327
KMBO Kilima Mbogo 104.48 275 Pdiff **Pdif** **06 10 32.7 +0.3**
comp=Z,3.1nm,1.0s,baz=166,slow=3.4,SNR=3.9
P54A Burton 104.62 33 Pdiff **Pdif** **06 10 32.9 +0.6**
baz=320
N56A West Decatur 104.66 31 Pdiff **Pdif** **06 10 32.7 +0.2**
baz=322
LBNH Lisbon 104.66 25 IAMs_20 IAMs_20 07 01 46.2
comp=Z,5µm,22.0s
BINY Binghamton 104.68 29 Pdiff **Pdif** **06 10 32.9 +0.4**
baz=324
BINY Binghamton 104.68 29 IAMs_20 IAMs_20 06 55 17.1
comp=Z,4µm,20.0s
ACCN Adirondack Com 104.69 27 IAMs_20 IAMs_20 06 58 40.1
comp=Z,4µm,21.0s
X48A Hartselle 104.79 41 IAMs_20 IAMs_20 06 57 44.2
comp=Z,4µm,21.0s
146A Union 104.80 43 IAMs_20 IAMs_20 06 57 39.8
comp=Z,4µm,20.0s
M57A Sunshine Farm, 104.86 30 Pdiff **Pdif** **06 10 33.8 +0.5**
baz=323
L58A Harry Jones Me 104.87 29 Pdiff **Pdif** **06 10 33.7 +0.4**
baz=324
SWET Sewanee 104.91 39 IAMs_20 IAMs_20 06 58 02.2
comp=Z,3µm,22.0s
Q54A Coxs Mills 104.92 34 Pdiff **Pdif** **06 10 35.1 +1.6**
baz=320
Q54A Coxs Mills 104.92 34 IAMs_20 IAMs_20 07 03 40.8
comp=Z,4µm,21.0s
G64A Maxfield 104.95 22 Pdiff **Pdif** **06 10 33.7 +0.1**
baz=331
P55A Reedsville 105.02 33 Pdiff **Pdif** **06 10 35.8 +1.7**
baz=321
Z47A Carrollton 105.03 42 IAMs_20 IAMs_20 06 55 08.8
comp=Z,3µm,22.0s
O56A Blue Knob Stat 105.04 31 Pdiff **Pdif** **06 10 34.8 +0.6**
baz=322
O56A Blue Knob Stat 105.04 31 IAMs_20 IAMs_20 06 58 05.8
comp=Z,4µm,21.0s
SSPA Standing Stone 105.07 31 Pdiff **Pdif** **06 10 34.9 +0.7**
baz=322
L59A Walton 105.10 28 Pdiff **Pdif** **06 10 36.7 +2.3**
baz=325
L59A Walton 105.10 28 IAMs_20 IAMs_20 06 59 28.0
comp=Z,4µm,22.0s
N57A Milroy 105.13 31 Pdiff **Pdif** **06 10 35.4 +0.9**
baz=323
MAHO Mahon 105.15 328 PP **PKiKP** **06 14 45.5 -3.2**
I62A Tamworth 105.20 25 IAMs_20 IAMs_20 06 59 36.4
comp=Z,4µm,20.0s
W50A Signal Mountai 105.28 39 IAMs_20 IAMs_20 07 00 08.0
comp=Z,3µm,20.0s
KSPA Keystone Colle 105.30 29 IAMs_20 IAMs_20 06 57 42.4
comp=Z,4µm,22.0s
TZTN Tazewell 105.30 37 IAMs_20 IAMs_20 06 59 10.4
comp=Z,4µm,22.0s
I63A Otisfield 105.33 24 IAMs_20 IAMs_20 06 57 39.9
comp=Z,4µm,22.0s
346A Big Creek Wild 105.38 44 IAMs_20 IAMs_20 06 58 18.2
comp=Z,4µm,21.0s
CPCT Cooper Cave 105.55 38 IAMs_20 IAMs_20 06 55 44.1

comp=Z,4µm,21.0s
S54A Dingess, Beckl 105.57 35 IAMs_20 IAMs_20 06 57 19.1
FPAL Fort Paine 105.57 40 IAMs_20 IAMs_20 06 58 22.8
comp=Z,3µm,21.0s
KEST Kesra 105.62 322 PKKPbc PKKPbc 06 26 15.2 +1.0
comp=Z,2.9nm,0.7s,baz=234,slow=5.9,SNR=4.9
KEST Kesra 105.62 322 IAMs_20 IAMs_20 07 07 27.4
comp=Z,3µm,18.0s
Q56A Snyder Ridge, 105.69 33 IAMs_20 IAMs_20 06 58 59.3
comp=Z,3µm,19.0s
UNM Universidad Na 105.71 60 IAMs_20 IAMs_20 06 55 21.2
comp=Z,3µm,21.0s
V52A Sevierville 105.79 38 IAMs_20 IAMs_20 06 56 54.3
comp=Z,3µm,20.0s
LRAL Lakeview Retre 105.80 42 IAMs_20 IAMs_20 06 56 26.0
comp=Z,3µm,21.0s
R55A Marlinton 105.81 34 IAMs_20 IAMs_20 07 04 38.5
comp=Z,4µm,20.0s
TKL Tuckaleechee C 105.82 38 IAMs_20 IAMs_20 06 56 57.2
comp=Z,5µm,22.0s
EMMW East Machias 105.87 22 IAMs_20 IAMs_20 06 59 31.1
comp=Z,4µm,22.0s
P57A Homestead Farm 105.92 32 IAMs_20 IAMs_20 06 55 01.1
comp=Z,4µm,22.0s
W52A Murphy 106.14 38 IAMs_20 IAMs_20 06 56 12.8
comp=Z,4µm,20.0s
QUA2 Belchertown 106.14 26 IAMs_20 IAMs_20 06 58 44.6
comp=Z,3µm,20.0s
U54A Nelsons Funny 106.26 36 IAMs_20 IAMs_20 07 02 51.5
comp=Z,3µm,22.0s
HRV Adam Dziewonsk 106.27 26 IAMs_20 IAMs_20 07 02 25.6
comp=Z,4µm,22.0s
MVL Millersville 106.29 30 IAMs_20 IAMs_20 07 07 33.8
comp=Z,3µm,20.0s
V53A Saluda 106.35 37 IAMs_20 IAMs_20 06 59 53.0
comp=Z,4µm,20.0s
BLA Blacksburg 106.47 35 IAMs_20 IAMs_20 07 04 01.2
comp=Z,3µm,21.0s
PSUB Penn St. - Bra 106.76 30 IAMs_20 IAMs_20 06 55 53.1
comp=Z,3µm,21.0s
BG3 Lake Jocassee 106.78 38 IAMs_20 IAMs_20 06 55 51.5
comp=Z,3µm,22.0s
Y52A Lilburn 106.95 39 IAMs_20 IAMs_20 07 02 01.3
comp=Z,3µm,20.0s
V55A Taylorsville 107.08 36 IAMs_20 IAMs_20 07 05 37.4
comp=Z,3µm,20.0s
U56A King 107.15 35 IAMs_20 IAMs_20 06 55 47.1
comp=Z,3µm,21.0s
CBN Corbin Frederi 107.23 32 IAMs_20 IAMs_20 07 01 14.9
comp=Z,3µm,20.0s
Q60A Greensboro 107.32 31 IAMs_20 IAMs_20 07 08 13.2
comp=Z,4µm,21.0s
152A Waverly Hall 107.42 41 IAMs_20 IAMs_20 06 59 13.9
comp=Z,4µm,20.0s
PAULI Pauline 107.52 37 IAMs_20 IAMs_20 07 02 13.2
comp=Z,3µm,20.0s
KMSC Kings Mountain 107.55 37 IAMs_20 IAMs_20 07 03 43.8
comp=Z,3µm,22.0s
GOGA Godfrey 107.62 39 IAMs_20 IAMs_20 07 02 21.1
comp=Z,3µm,20.0s
R61A Willards 108.10 31 IAMs_20 IAMs_20 06 56 18.7
comp=Z,4µm,22.0s
UCM Universidad Co 108.17 333 PP **PP** **06 15 17.7 +0.5**
UCM Universidad Co 108.17 333 PS PS 06 24 27.0 -15
V58A Windy Hill, Pi 108.23 35 IAMs_20 IAMs_20 06 55 30.7
comp=Z,4µm,22.0s
W57A Gilead 108.26 36 IAMs_20 IAMs_20 06 58 53.6
comp=Z,4µm,22.0s
T60A Surry 108.38 32 IAMs_20 IAMs_20 06 56 37.4
comp=Z,4µm,22.0s
BIRD Birdtown, Kers 108.39 36 IAMs_20 IAMs_20 06 58 24.1
comp=Z,3µm,22.0s
S61A Accomac 108.46 31 IAMs_20 IAMs_20 07 08 52.4
comp=Z,3µm,21.0s
U59A Littleton 108.48 34 IAMs_20 IAMs_20 07 00 57.1
comp=Z,3µm,20.0s
MAW Mawson 108.56 203 Pdiff **Pdif** **06 10 50.5 +1.7**
comp=Z,9.1nm,1.1s,baz=62,slow=5.5,SNR=8.6
MAW PKiKP **PKiKP** **06 14 54.5 +0.5**
comp=Z,3.7nm,0.7s,baz=136,slow=2.6,SNR=6.4
MAW PP **PP** **06 15 19.1 -1.4**
comp=Z,6.5nm,0.9s,baz=60,slow=9.2,SNR=7.7
MAW PKKPbc **PKKPbc** **06 26 05.5 -0.6**
comp=Z,5.6nm,0.8s,baz=273,slow=5.2,SNR=9.1
PGAV Gavieira, Arco 108.65 338 *e*PP **PP** **06 15 23.2 +2.5**
PGAV Gavieira, Arco 108.65 338 *e*LR LR 06 48 23.4
comp=Z,5µm,26.0s
PCAB Cabril 108.79 337 *e*PP **PP** **06 15 24.3 +2.7**
Z56A Williston 108.88 38 IAMs_20 IAMs_20 06 57 56.2
comp=Z,4µm,22.0s
Y57A Sumter 108.90 37 IAMs_20 IAMs_20 06 58 52.7
comp=Z,3µm,22.0s
MVO Moncorvo 108.91 336 *e*PP **PP** **06 15 24.9 +2.3**
MVO *e*SKSac **SKSac** **06 21 28.7 +2.4**
MVO Moncorvo 108.91 336 *e*LR LR 06 49 02.9
comp=Z,4µm,24.0s
TIGA Tifton 108.97 41 IAMs_20 IAMs_20 07 02 30.9
comp=Z,3µm,20.0s
ESDC Sonseca Array 109.00 333 Pdiff **Pdif** **06 10 54.1 +2.3**
comp=Z,0.4nm,0.8s,baz=18,slow=3.5,SNR=2.1
ESDC PP **PP** **06 15 21.0 -2.3**
comp=Z,4.6nm,0.7s,baz=21,slow=6.6,SNR=5.9
ESDC PKKPbc **PKKPbc** **06 26 04.7 +0.8**
comp=Z,1.7nm,0.7s,baz=204,slow=3.2,SNR=10
X58A Rowland 109.06 36 IAMs_20 IAMs_20 07 04 10.8
comp=Z,3µm,20.0s
U61A Possum Corner 109.16 33 IAMs_20 IAMs_20 06 57 10.1
comp=Z,4µm,21.0s
V60A Jim Taylor Roa 109.20 34 IAMs_20 IAMs_20 07 00 50.3
comp=Z,3µm,20.0s
255A Hazlehurst 109.27 40 IAMs_20 IAMs_20 07 01 16.8
comp=Z,3µm,20.0s
CNNC Cliffs of the 109.30 34 IAMs_20 IAMs_20 07 06 42.8
comp=Z,4µm,20.0s
553A Crawfordville 109.35 42 IAMs_20 IAMs_20 07 00 55.1
comp=Z,4µm,20.0s
Y58A Scranton 109.38 36 IAMs_20 IAMs_20 06 59 04.3
comp=Z,3µm,22.0s
CART Cartagena 109.46 330 PP **PP** **06 15 28.9 +2.3**
CART Cartagena 109.46 330 PS PS 06 24 41.5 -14
PVIS Viseu 109.62 337 *e*PP **PP** **06 15 30.9 +3.2**
NHSC New Hope 109.70 37 IAMs_20 IAMs_20 07 01 45.0
comp=Z,4µm,21.0s
Y59A Loris 109.74 36 IAMs_20 IAMs_20 07 09 09.8
comp=Z,3µm,19.0s
V62A Hyde County Ai 110.02 33 IAMs_20 IAMs_20 07 01 42.7
comp=Z,4µm,21.0s
Y60A Bolivia 110.08 35 IAMs_20 IAMs_20 07 06 18.7
comp=Z,3µm,20.0s
PCBR Castelo Branco 110.23 336 *e*PP **PP** **06 15 38.2 +6.2**
COI Coimbra 110.25 337 *e*PP **PP** **06 15 35.5 +3.3**
COI *e*SKSac **SKSac** **06 21 33.5 +1.7**
COI *e*SS SS 06 31 09.3 +15
COI Coimbra 110.25 337 IAMs_20 IAMs_20 07 11 33.4
comp=Z,4µm,20.0s
456A Hilliard 110.41 40 IAMs_20 IAMs_20 06 58 45.0
comp=Z,3µm,21.0s
PCAS Casmilo, Conde 110.42 337 *e*PP **PP** **06 15 32.5 -0.9**
PCAS *e*SKSac **SKSac** **06 21 28.3 -4.2**
PMRV Marv??o 110.56 336 *e*PP **PP** **06 15 36.4 +1.9**
PMRV *e*SKSac **SKSac** **06 21 35.8 +2.7**
PMRV Marv??o 110.56 336 *e*LR LR 06 49 48.2
comp=Z,5µm,20.0s
PSBE So Bento 111.00 337 *e*PP **PP** **06 15 40.7 +3.1**
PSBE *e*SKSac **SKSac** **06 21 37.3 +2.3**
656A Willston 111.09 42 IAMs_20 IAMs_20 07 01 38.0
comp=Z,4µm,21.0s
PMTG Montargil 111.19 336 *e*PP **PP** **06 15 38.9 0.0**
PMTG *e*SKSac **SKSac** **06 21 38.9 +3.2**
EVO Evora 111.58 336 PP **PP** **06 15 37.1 -4.7**
EVO Evora 111.58 336 PS PS 06 25 00.4 -15
EVO Evora 111.58 336 *e*PP **PP** **06 15 45.0 +3.3**
EMAL Malaga-Limoner 111.66 332 PP **PP** **06 15 40.2 -2.2**
EMAL Malaga-Limoner 111.66 332 PS PS 06 25 02.5 -13
PMAFR Mafra 111.67 337 *e*PP **PP** **06 15 44.2 +1.8**
PMAFR *e*SKSac **SKSac** **06 21 40.5 +2.8**
LIS Lisbon 111.84 337 *e*PP **PP** **06 15 44.9 +1.3**
LIS *e*SKSac **SKSac** **06 21 39.4 +1.2**
LIS AMS AMS 07 01 16.9
comp=N,6µm,20.9s
LIS Lisbon 111.84 337 *e*PP **PP** **06 15 50.8 +7.3**
PBEJ Beja 111.97 335 *e*PP **PP** **06 15 44.3 -0.2**
PNCL Nicolau / Gran 112.14 336 *e*PP **PP** **06 15 45.5 -0.2**
PNCL *e*SKSac **SKSac** **06 21 39.8 +0.3**
MELI Melilla 112.23 330 PP **PP** **06 15 48.3 +1.8**
MELI Melilla 112.23 330 PS PS 06 25 06.4 -15
MESJ Messejana 112.26 335 *e*PP **PP** **06 15 47.8 +1.2**
MESJ *e*SKSac **SKSac** **06 21 41.2 +1.1**
MESJ AMS AMS 07 08 20.9
comp=Z,5µm,24.4s
MESJ Messejana 112.26 335 *e*PP **PP** **06 15 47.7 +1.1**
PCVE Castro Verde 112.38 335 *e*PP **PP** **06 15 50.2 +2.7**
PVAQ Vaqueiros 112.45 335 *e*PP **PP** **06 15 48.9 +0.9**
PVAQ *e*SKSac **SKSac** **06 21 41.9 +1.1**
PVAQ Vaqueiros 112.45 335 *e*LR LR 06 50 55.5
comp=Z,5µm,24.0s
SFS San Fernando 112.66 333 PP **PP** **06 15 50.1 +0.7**
SFS San Fernando 112.66 333 PS PS 06 25 10.4 -15
DWPF Disney Wildern 112.66 42 IAMs_20 IAMs_20 07 03 35.8
comp=Z,4µm,20.0s
PBDV Barranco-do-Ve 112.68 335 *e*PP **PP** **06 15 49.9 +0.3**
PBDV *e*SKSac **SKSac** **06 21 42.0 +0.2**
PTEO Sao Teotonio 112.71 336 *e*PP **PP** **06 15 54.9 +5.1**
CEU Ceuta 112.80 332 PP **PP** **06 15 49.0 -1.4**
CEU Ceuta 112.80 332 PS PS 06 25 12.2 -14
MORF Marmelete 112.90 335 *e*PP **PP** **06 15 52.4 +1.2**
MORF *e*SKSac **SKSac** **06 21 43.8 +1.1**
MORF AMS AMS 07 08 34.1
comp=N,5µm,22.0s
MORF Marmelete 112.90 335 *e*PP **PP** **06 15 56.4 +5.2**
MORF *e*SKSac **SKSac** **06 21 45.6 +2.9**
PVLZ Peæn de 112.94 331 PP **PP** **06 15 51.2 -0.4**
PVLZ Peæn de 112.94 331 PS PS 06 25 09.8 -18
CCIG Comitan 112.95 58 IAMs_20 IAMs_20 06 55 36.8
comp=Z,3µm,21.0s
PFVI Vila Bisbo 113.11 335 *e*PP **PP** **06 15 58.5 +5.8**
PFVI *e*SKSac **SKSac** **06 21 45.0 +1.5**
TDRA Tendrara 113.66 328 P **PP** **06 16 03.0 +5.9**
SNR=5.3
TDRA P **PP** **06 16 03.0 +5.9**
SNR=5.3
QSPA South Pole Qui 114.23 180 PKP PKPdf 06 15 03.9 -1.1
comp=Z,13nm,0.9s,baz=322,slow=1.6,SNR=17
QSPA South Pole Qui 114.23 180 PKiKP **PKiKP** **06 15 05.1 +0.2**
QSPA South Pole Qui 114.23 180 IAMs_20 IAMs_20 07 01 45.9
comp=Z,4µm,21.0s
061Z Ochoppi 114.61 43 IAMs_20 IAMs_20 07 04 16.4
comp=Z,3µm,20.0s
IFR Ifrane 114.70 331 PP PP 06 15 54.6 -10
IFR Ifrane 114.70 331 PS PS 06 25 30.2 -14
MDT Midelt 115.06 330 PKKPbc PKKPbc 06 25 44.3 +0.5
comp=Z,2.2nm,0.8s,baz=159,slow=6.1,SNR=4.2
CZD Col de Zad 115.07 330 P **PP** **06 16 13.0 +5.9**
SNR=5.2
AVE Averroes 115.89 332 PP PP 06 16 03.7 -8.7
AVE Averroes 115.89 332 PS PS 06 25 40.7 -14
ARF Arif 116.03 329 P **PP** **06 16 20.0 +6.3**
SNR=8.5
SYO Syowa Base 117.27 203 ⇑ *i* PKPdf **PKPdf** **06 15 10.6 0.0**
SYO Syowa Base 117.27 203 ⇑ *e*pPKPdf pPKPdf 06 15 23.8 -3.4
TGUH Tegucigalpa,Un 118.03 57 PKPdf **PKPdf** **06 15 13.7 -0.2**
LSZ Lusaka 118.17 265 PKP **PKPdf** **06 15 13.3 -0.8**
comp=Z,20nm,0.7s,baz=52,slow=2.1,SNR=6.8
LSZ PKKPbc **PKKPab** **06 25 34.2 -1.4**
comp=Z,2.5nm,0.6s,baz=230,slow=3.1,SNR=3.9
PMPST Porto Santo, M 119.39 340 *e*PP PP 06 16 40.2 +3.7
PMPST *e*SKSac **SKSac** **06 22 10.3 +3.3**
PMPS Porto Santo 119.41 340 *e*PP PP 06 16 43.4 +6.8
MATP Matopo 119.51 260 PKP **PKPdf** **06 15 15.8 -0.8**
comp=Z,15nm,0.9s,baz=73,slow=2.2,SNR=17
MATP PKKPbc **PKKPab** **06 25 29.3 -0.2**
comp=Z,8.3nm,1.0s,baz=247,slow=3.4,SNR=9.5
PMOZ Porto Moniz, M 119.89 340 *e*PP PP 06 16 40.8 +0.7
PMOZ Porto Moniz, M 119.89 340 *e*SS SS 06 33 18.3 +18
PMOZ Porto Moniz, M 119.89 340 *e*LR LR 06 54 10.1
comp=Z,4µm,24.0s
FUL Funchal 119.96 340 *e*PP PP 06 16 42.3 +1.9
ACON Acoyapa 120.92 58 **PKPdf** **06 15 19.1 -0.2**
JTS Las Juntas de 122.11 59 PKiKP **PKPdf** **06 15 21.6 -0.1**
JTS Las Juntas de 122.11 59 PKPdf **PKPdf** **06 15 21.6 -0.1**
MTDJ Mount Denham 122.26 46 **PKPdf** **06 15 21.6 -0.4**
MTDJ IAMs_20 IAMs_20 07 17 19.5
comp=Z,2µm,20.0s
GTBY Guantanamo Bay 122.57 43 PKPdf **PKPdf** **06 15 21.8 -0.6**
GTBY IAMs_20 IAMs_20 07 05 48.4
comp=Z,3µm,22.0s
GRTK Grand Turk 123.73 39 IAMs_20 IAMs_20 07 16 43.4
comp=Z,3µm,22.0s
BOSA Boshof 124.39 251 PKP **PKPdf** **06 15 25.7 0.0**
comp=Z,12nm,0.7s,baz=57,slow=1.6,SNR=18
SC01 Santiago de lo 125.60 40 **PKiKP** **06 15 28.6 +0.1**
SDDR Presa de Saban 125.61 41 **PKPdf** **06 15 28.0 -0.3**
NVL N'lazarevskaya 125.86 198 *e*PKiKP **PKPdf** **06 15 27.1 0.0**
NVL *e*PS PS 06 27 19.1 -4.2
NVL *e*SS SS 06 34 41.7 +25
NVL pmax pmax
comp=Z,20nm,0.8s
NVL MLR MLR
comp=Z,3µm,21.0s
TOC2 Torodi Ar. Sit 126.60 310 IAMs_20 IAMs_20 07 19 52.8
comp=Z,2µm,20.0s
TOC1 Torodi Ar. Sit 126.60 310 IAMs_20 IAMs_20 07 19 51.8
comp=Z,3µm,20.0s
TOC3 Torodi Ar. Sit 126.61 310 IAMs_20 IAMs_20 07 19 54.1
comp=Z,2µm,20.0s
TOB1 Torodi Ar. Sit 126.61 310 IAMs_20 IAMs_20 07 23 11.2
comp=Z,3µm,22.0s
TOA2 Torodi Ar. Sit 126.62 310 IAMs_20 IAMs_20 07 19 52.3
comp=Z,2µm,20.0s
TOA0 Torodi Ar. Sit 126.62 310 PKPdf **PKPdf** **06 15 29.6 -0.6**
TOA0 IAMs_20 IAMs_20 07 19 52.4
comp=Z,2µm,20.0s
TOB3 Torodi Ar. Sit 126.62 310 IAMs_20 IAMs_20 07 19 52.4
comp=Z,2µm,20.0s
TOC7 Torodi Ar. Sit 126.62 310 IAMs_20 IAMs_20 07 23 11.4
comp=Z,3µm,22.0s
TORD Torodi Ar. Bea 126.62 310 PKP **PKPdf** **06 15 29.7 -0.6**
comp=Z,11nm,0.8s,baz=14,slow=2.2,SNR=21
TORD PP **PP** **06 17 26.4 0.0**
comp=Z,6.7nm,0.7s,baz=23,slow=7.2,SNR=2.9
TORD PKKPbc **PKKPab** **06 25 01.8 +0.9**
comp=Z,0.6nm,0.6s,baz=253,slow=2.6,SNR=4.5
TOA3 Torodi Ar. Sit 126.63 310 IAMs_20 IAMs_20 07 19 52.6
comp=Z,2µm,20.0s
TOB5 Torodi Ar. Sit 126.63 310 IAMs_20 IAMs_20 07 23 11.6
comp=Z,3µm,22.0s
TOB4 Torodi Ar. Sit 126.64 310 IAMs_20 IAMs_20 07 19 52.8
comp=Z,2µm,20.0s
TOC4 Torodi Ar. Sit 126.64 310 IAMs_20 IAMs_20 07 19 53.8
comp=Z,2µm,20.0s
TOC5 Torodi Ar. Sit 126.65 310 IAMs_20 IAMs_20 07 23 12.1
comp=Z,3µm,22.0s
BCIP Isla Barro Col 126.75 56 PKiKP **PKPdf** **06 15 29.5 -1.0**
BCIP Isla Barro Col 126.75 56 PKPdf **PKPdf** **06 15 29.5 -1.0**
BCIP IAMs_20 IAMs_20 07 05 55.5
comp=Z,2µm,21.0s
SUR Sutherland 128.78 247 IAMs_20 IAMs_20 07 10 37.9
comp=Z,2µm,20.0s
SNAA Sanae 128.91 193 PKPdf **PKPdf** **06 15 26.8 -6.2**
SNAA Sanae 128.91 193 PKhKP PKPpre 06 15 22.3
comp=Z,2.0nm,0.6s,baz=125,slow=4.1,SNR=5.8
SNAA PKP **PKPdf** **06 15 32.5 -0.5**
comp=Z,30nm,0.9s,baz=189,slow=3.8,SNR=33
SNAA PP **PP** **06 17 40.0 -0.7**
comp=Z,8.4nm,1.0s,baz=131,slow=9.1,SNR=3.8
SNAA Sanae 128.91 193 PKiKP **PKPdf** **06 15 32.5 -0.5**
SNAA MLR MLR
comp=Z,4µm,21.0s
TSUM Tsumeb 129.01 265 PKP **PKPdf** **06 15 35.0 +0.2**
comp=Z,16nm,1.1s,baz=303,slow=3.0,SNR=5.7
TSUM Tsumeb 129.01 265 PKPdf **PKPdf** **06 15 34.9 +0.1**
OBIP Obispado Ponce 129.03 37 **PKPdf** **06 15 34.5 -0.2**
GCPR Guaynabo City 129.09 36 **PKPdf** **06 15 34.0 -0.9**
ICMP Isla Caja de M 129.20 37 PKPdf **PKPdf** **06 15 33.9 -1.2**
SJG San Juan 129.22 36 *e*P **PKPdf** **06 15 33.5 -1.6**
SJG San Juan 129.22 36 PKiKP **PKPdf** **06 15 34.8 -0.3**
SJG MLR MLR
comp=Z,3µm,22.0s
SJG San Juan 129.22 36 **PKPdf** **06 15 34.8 -0.3**
SJG San Juan 129.22 36 IAMs_20 IAMs_20 07 13 30.7
comp=Z,3µm,22.0s
PDPR Patillas Dam, 129.37 36 **PKPdf** **06 15 34.3 -1.1**
MTP Monte Pirata 129.55 36 PKPdf **PKPdf** **06 15 35.1 -0.7**
SJCC San Jacinto, C 129.71 52 *e*P **PKPdf** **06 15 35.9 -0.4**
CDVI St. Croix 130.25 35 **PKPdf** **06 15 36.9 -0.2**
VNA2 Neumayer--Watz 130.42 192 PKPdf **PKPdf** **06 15 35.7 -0.1**
VNA3 Neumayer Olymp 130.59 191 PKPdf **PKPdf** **06 15 32.2 -3.9**
URIC Uribia, Colomb 130.65 47 *e*P **PKPdf** **06 15 37.3 -0.6**
VNA1 Neumayer--Stat 130.81 192 PKPdf **PKPdf** **06 15 32.0 -4.5**
SMRT St. Maarten 130.87 33 PKPdf **PKPdf** **06 15 37.7 -0.6**
DBBC Dabeiba 130.87 55 *e*P **PKPdf** **06 15 38.2 -0.3**
UREC San Jos de Ur 130.90 54 *e*P **PKPdf** **06 15 35.2 -3.3**
SMLC San Martn de 131.25 52 *e*P **PKPdf** **06 15 39.3 +0.2**
PIZC Pizarro, Choco 131.30 59 *e*P **PKiKP** **06 15 40.6 +0.5**
ZARC Zaragoza, Cauc 131.56 54 *e*P **PKPdf** **06 15 38.5 -1.2**
CBOC Ciudad Bolivar 131.77 56 *e*P **PKPdf** **06 15 39.6 -0.7**
MALC Bahia Malaga 131.91 59 *e*P **PKPdf** **06 15 40.9 +0.5**
HELC Santa Helena 131.92 56 *e*P **PKPdf** **06 15 38.3 -2.5**
OCAC Ocana 132.18 52 *e*P **PKPdf** **06 15 40.7 -0.3**
HATO Hato, Curacao 132.26 44 IAMs_20 IAMs_20 07 12 38.3
comp=Z,2µm,21.0s
PTBC PUERTO BERRIO 132.49 54 *e*P **PKPdf** **06 15 40.0 -1.5**
GUY2C Guyana, Caldas 132.67 57 *e*P **PKPdf** **06 15 42.0 -0.4**
YOTC Yotoco, Valle 132.70 59 *e*P **PKPdf** **06 15 36.7 -5.3**
RREF El Recreo 132.89 57 *e*P **PKPdf** **06 15 43.2 +0.2**
PAC1 Pacto, Paraso 132.94 65 *e*P **PKPdf** **06 15 42.4 -0.1**
ANIL Santa Ana 133.11 57 *e*P **PKPdf** **06 15 43.2 +0.2**
TOLC Tolima 133.11 57 *e*P **PKPdf** **06 15 40.8 -2.2**
BBAC Balboa, Cauca 133.18 62 *e*P **PKiKP** **06 15 44.1 -0.1**
PAMC Pamplona, Colo 133.24 52 *e*P **PKPdf** **06 15 43.5 +0.1**
CUSE Cuicocha Este 133.24 64 *e*P **PKiKP** **06 15 44.1 -0.5**
SPBC San Pablo de B 133.37 55 *e*P **PKPdf** **06 15 41.7 -1.6**
BARC Barichara 133.40 53 *e*P **PKiKP** **06 15 44.6 0.0**
GCUF Volcan Galeras 133.57 62 *e*P **PKiKP** **06 15 45.2 -0.1**
ORTC Ortega, Tolima 133.60 58 *e*P **PKPdf** **06 15 42.3 -1.3**
SOTA Rioblanco 133.62 61 *e*P **PKPdf** **06 15 42.5 -1.7**
PCON Cinco Dias 133.67 61 *e*P **PKiKP** **06 15 45.4 -0.2**
MARP Paez Belalcaza 133.71 60 *e*P **PKPdf** **06 15 44.4 +0.3**
ROSC El Rosal 133.71 56 PKP **PKPdf** **06 15 44.9 +0.6**
comp=Z,35nm,0.7s,baz=60,slow=2.2,SNR=22
ROSC El Rosal 133.71 56 *e*P **PKPdf** **06 15 44.0 -0.2**
ROSC El Rosal 133.71 56 PKPdf **PKPdf** **06 15 43.4 -0.9**
ROSC IAMs_20 IAMs_20 07 10 41.7
comp=Z,3µm,22.0s
RUSC La Rusia 133.94 54 *e*P **PKPdf** **06 15 43.8 -1.0**
PRAC Prado 134.00 58 *e*P **PKPdf** **06 15 43.4 -1.0**
BETC Betania 134.21 59 *e*P **PKPdf** **06 15 45.3 +0.5**
CHIC Chingaza 134.29 56 *e*P **PKPdf** **06 15 45.5 +0.1**
GARC Garzon, Huila 134.47 60 *e*P **PKPdf** **06 15 45.3 -0.2**
PUAC Puerto Asis, P 134.59 63 *e*P **PKPdf** **06 15 44.7 -0.8**
FDF Fort de France 134.65 33 IAMs_20 IAMs_20 07 20 30.1
comp=Z,2µm,21.0s
VILC Villavicencio, 134.65 56 *e*P **PKPdf** **06 15 38.2 -7.5**
DBIC Dimbokro 135.74 310 PKP **PKPdf** **06 15 47.6 +0.1**
comp=Z,9.7nm,0.7s,baz=8.3,slow=3.2,SNR=10
DBIC PP **PP** **06 18 25.7 +0.4**
comp=Z,14nm,0.9s,baz=14,slow=6.3,SNR=3.6
PTGC Puerto Gaitan, 135.77 55 *e*P **PKPdf** **06 15 41.5 -6.2**
MACC Macarena, Meta 135.79 58 *e*P **PKPdf** **06 15 45.3 -2.4**
TIC Toumodi 135.87 310 *e*PKP2 **PKPdf** **06 15 45.8 -2.0**
KIC Kosan Boka 135.87 310 *e*PKP2 **PKPdf** **06 15 47.1 -0.7**
comp=Z,44nm,1.2s
LIC Lamto 136.17 310 *e*PKP2 **PKPdf** **06 15 46.1 -2.2**
comp=Z,86nm,1.6s
PCRV Puerto La Cruz 136.47 41 PKP **PKPdf** **06 15 48.8 -0.1**
comp=Z,30nm,0.7s
PLCV Puerto La Cruz 136.51 41 **PKPdf** **06 15 48.8 -0.2**
GRGR Grenville 136.57 36 IAMs_20 IAMs_20 07 15 20.5
comp=Z,3µm,22.0s
ATAH Atahualpa 137.12 73 PKhKP PKPpre 06 15 41.5
comp=Z,13nm,0.8s,baz=348,slow=1.6,SNR=7.1
ATAH PKP **PKPdf** **06 15 51.5 +0.9**
comp=Z,39nm,0.9s,baz=344,slow=3.3,SNR=13
NNA Nana 140.63 79 PKhKP PKPpre 06 15 48.9
comp=Z,28nm,0.9s,baz=322,slow=5.8,SNR=7.7
NNA Nana 140.63 79 IAMs_20 IAMs_20 07 05 45.9
comp=Z,2µm,20.0s
USHA Ushuaia 141.93 151 PKP **PKiKP** **06 15 59.5 -1.0**
comp=Z,24nm,0.8s,baz=259,slow=0.9,SNR=4.4
COYC Coyhaique 144.99 136 PKPbc 06 16 02.7 0.0
BI04 Isla Mocha 146.09 123 *e*P **PKPbc** **06 16 06.1 -0.2**
MDP Montagnes des 147.06 29 PKPbc **PKPbc** **06 16 09.7 -0.1**
comp=Z,199nm,0.9s,baz=294,slow=2.0,SNR=37
BI03 Tigo 147.10 121 *e*P **PKPbc** **06 16 08.2 -1.1**
BI03 Tigo 147.10 121 **PKPbc** **06 16 09.4 +0.1**
LC01 Cunco 147.49 125 *e*P **PKPdf** **06 16 07.2 -0.5**
PTGA Pitinga 147.82 46 PKPbc **PKPdf** **06 16 09.8 +0.8**
comp=Z,221nm,0.9s,baz=304,slow=5.2,SNR=49
PTGA Pitinga 147.82 46 PKPbc **PKPdf** **06 16 09.2 +0.2**
PTGA IAMs_20 IAMs_20 07 23 02.8
comp=Z,2µm,22.0s
PTGA Pitinga 147.82 46 *e*P **PKPbc** **06 16 12.5 +0.5**
PTGA Pitinga 147.82 46 *e*P **PKPbc** **06 16 12.5 +0.5**
PLCA Paso Flores 147.89 128 PKPbc **PKPbc** **06 16 10.9 -0.5**
comp=Z,157nm,0.7s,baz=236,slow=3.7,SNR=92
PLCA PKKP **PKKPdf** **06 25 07.7 +2.8**
comp=Z,3.6nm,1.1s,baz=268,slow=1.7,SNR=2.9
PLCA Paso Flores 147.89 128 PKiKP **PKPdf** **06 16 08.9 +0.5**
PLCA Paso Flores 147.89 128 PKPdf **PKPdf** **06 16 08.9 +0.5**
PLCA Paso Flores 147.89 128 *e*P **PKPbc** **06 16 11.6 +0.1**
PLCA Paso Flores 147.89 128 *e*P **PKPbc** **06 16 11.6 +0.1**
GO05 Huala 148.32 117 *e*P **PKPdf** **06 16 09.2 -0.1**
GO05 Huala 148.32 117 PKPdf **PKPdf** **06 16 10.9 +1.7**
BI02 San Fabin de 148.51 121 *e*P **PKPdf** **06 16 09.8 +0.2**
BI02 San Fabin de 148.51 121 PKPdf **PKPdf** **06 16 09.6 0.0**
BI02 IAMs_20 IAMs_20 07 08 56.3
comp=Z,3µm,22.0s
EFI East Falkland 148.52 155 PKP2 **PKPbc** **06 16 11.2 -1.4**
EFI MLR MLR
comp=Z,3µm,21.0s
EFI East Falkland 148.52 155 **PKPbc** **06 16 11.2 -1.4**
AP01 Chacalluta 148.74 85 IAMs_20 IAMs_20 07 16 41.9
comp=Z,2µm,22.0s
PB12 IPOC Station P 148.82 86 PKPdf **PKPdf** **06 16 10.6 +0.1**
MT01 Popeta 149.05 115 **PKPdf** **06 16 10.3 -0.1**
MACA Manacapuru-AM 149.10 50 *e*P **PKPbc** **06 16 14.9 -0.4**
MACA Manacapuru-AM 149.10 50 *e*P **PKPbc** **06 16 14.9 -0.4**
MT02 Curacav 149.23 114 ⇑ *i* P **PKPdf** **06 16 12.0 +1.2**
MT02 Curacav 149.23 114 PKPdf **PKPdf** **06 16 10.6 -0.2**
MT02 PKPbc **PKPbc** **06 16 15.2 +0.2**
PSGCX Pisagua 149.27 87 PKPdf **PKPdf** **06 16 12.1 +0.8**
BO02 Sierra Bellavi 149.28 117 ⇑ *i* P **PKPdf** **06 16 12.0 +1.1**
BO02 Sierra Bellavi 149.28 117 **PKPdf** **06 16 11.2 +0.3**
BO02 PKPbc **PKiKP** **06 16 16.0 -0.4**
ROC1 El Roble 149.37 114 **PKPdf** **06 16 11.1 -0.2**
ROCH El Roble 149.38 114 *e*P **PKPdf** **06 16 11.1 -0.1**
TA02 Huaiquique 149.43 89 *i* P **PKPdf** **06 16 13.3 +1.9**
TA01 Diego Aracena 149.46 89 *i* P **PKPdf** **06 16 11.0 -0.4**
TA01 Diego Aracena 149.46 89 PKPdf **PKPdf** **06 16 12.6 +1.2**
RCDM Rinconada Maip 149.48 115 *i* P **PKPdf** **06 16 05.9 -5.2**
MT05 Renca 149.55 115 PKPdf **PKPdf** **06 16 11.3 0.0**
CO02 Combarbal 149.56 110 ⇑ *i* P **PKPdf** **06 16 12.3 +0.8**
CO02 Combarbal 149.56 110 **PKPdf** **06 16 11.6 +0.1**
AC04 Llanos de Chal 149.59 104 **PKPbc** **06 16 16.2 +0.1**
PEL Peldehue 149.62 114 *e*P **PKPdf** **06 16 08.6 -2.9**
PEL Peldehue 149.62 114 **PKPdf** **06 16 11.4 -0.1**
PEL PKPbc **PKPbc** **06 16 16.4 +0.3**
MNMC Minye Minye 149.63 86 **PKPdf** **06 16 13.0 +0.9**
PB10 IPOC Station P 149.68 95 **PKiKP** **06 16 17.2 -0.2**
PB10 PKPab **PKPab** **06 16 19.9 -1.9**
MT03 Universidad Ad 149.72 115 *e*P **PKPdf** **06 16 12.1 +0.4**
PB11 IPOC Station P 149.74 88 PKPdf **PKPdf** **06 16 11.9 -0.2**
VA03 San Esteban 149.79 114 ⇓ *i* P **PKPdf** **06 16 12.0 +0.2**
VA03 San Esteban 149.79 114 **PKPdf** **06 16 11.9 +0.2**
VA03 PKPbc **PKPbc** **06 16 17.1 +0.5**
GO04 Tololo Observa 149.80 108 PKPdf **PKPdf** **06 16 13.9 +1.8**
PB04 IPOC Station P 149.85 93 ⇑ *i* P **PKPdf** **06 16 14.1 +1.9**
CO03 El Pedregal 149.86 110 ⇑ *i* P **PKPdf** **06 16 12.4 +0.5**
CO03 El Pedregal 149.86 110 **PKPdf** **06 16 12.1 +0.2**
LMEL Las Melosas 149.92 116 *i* P **PKPdf** **06 16 13.2 +1.1**
AC01 Pan de Azucar 149.93 100 **PKPbc** **06 16 17.2 +0.2**
PB07 IPOC Station P 149.98 91 *e*P **PKPdf** **06 16 09.9 -2.6**
PB07 IPOC Station P 149.98 91 PKPdf **PKPdf** **06 16 13.9 +1.4**
PB07 PKPab **PKiKP** **06 16 20.7 +2.4**
LPAZ La Paz 150.07 80 PKP **PKPdf

	comp=Z,2μm,21.0s							
AC05	**El Transito**	**150.30**	**106**		PKPdf	**PKPdf**	**06 16 13.8**	**+1.0**
GO03	**Copiap**	**150.32**	**103**			**PKPdf**	**06 16 15.0**	**+2.3**
CO01	**Juntas del Tor**	**150.42**	**108**			**PKPdf**	**06 16 14.3**	**+1.2**
PB06	**IPOC Station P**	**150.44**	**93**	⇑	*iP*	**PKPdf**	**06 16 13.1**	**-0.1**
PB06	**IPOC Station P**	**150.44**	**93**			**PKPdf**	**06 16 13.7**	**+0.5**
PB09	**IPOC Station P**	**150.58**	**91**		*i* P	**PKPdf**	**06 16 15.6**	**+2.2**
PB09	**IPOC Station P**	**150.58**	**91**			**PKPdf**	**06 16 14.4**	**+1.0**
PB15	**IPOC Station P**	**150.62**	**94**		*i* P	**PKPdf**	**06 16 11.8**	**-1.7**
PB15	**IPOC Station P**	**150.62**	**94**		PKPdf	**PKPdf**	**06 16 15.3**	**+1.8**
SAML	**Samuel**	**150.93**	**62**		PKIKP	**PKPdf**	**06 16 14.3**	**+0.3**
SAML	**Samuel**	**150.93**	**62**			**PKPdf**	**06 16 14.3**	**+0.3**
SAML	**Samuel**	**150.93**	**62**		IAMs_20	IAMs_20	07 14 51.0	
	comp=Z,3μm,22.0s							
SAML	**Samuel**	**150.93**	**62**		*e*P	**PKPbc**	**06 16 17.4**	**-2.3**
SAML	**Samuel**	**150.93**	**62**		*e*P	**PKPbc**	**06 16 17.4**	**-2.3**
LVC	**Limon Verde**	**151.03**	**93**		PKP	**PKPdf**	**06 16 14.7**	**+0.3**
	comp=Z,7.2nm,0.9s,baz=106,slow=1.4,SNR=8.8							
LVC					PKPbc	**PKiKP**	**06 16 20.8**	**+0.1**
	comp=Z,239nm,1.0s,baz=286,slow=2.4,SNR=50							
LVC	**Limon Verde**	**151.03**	**93**		PKIKP	**PKPdf**	**06 16 13.8**	**-0.5**
LVC	**Limon Verde**	**151.03**	**93**			**PKPdf**	**06 16 13.8**	**-0.5**
LVC	**Limon Verde**	**151.03**	**93**		*e*P	**PKPbc**	**06 16 17.4**	**-2.8**
LVC	**Limon Verde**	**151.03**	**93**		*e*P	**PKPbc**	**06 16 17.4**	**-2.8**
AC02	**Maricunga**	**151.28**	**102**		PKPdf	**PKPdf**	**06 16 14.5**	**-0.3**
ZON	**Zonda**	**151.51**	**111**		PKIKP	**PKPdf**	**06 16 14.6**	**+0.2**
ZON	**Zonda**	**151.51**	**111**			**PKPdf**	**06 16 14.6**	**+0.2**
CFA	**Coronel Fontan**	**151.88**	**112**		PKP	**PKPdf**	**06 16 14.1**	**-0.9**
	comp=Z,28nm,1.0s,baz=258,slow=3.2,SNR=28							
CFA					PKPbc	**PKPbc**	**06 16 21.5**	**0.0**
	comp=Z,111nm,0.7s,baz=274,slow=2.6,SNR=41							
VCA	**Vinchina**	**152.12**	**106**		*i* P	**PKPdf**	**06 16 16.2**	**+0.7**
MALB	**Monte Alegre**	**152.21**	**39**		*e*P	**PKPbc**	**06 16 20.0**	**-2.7**
MALB	**Monte Alegre**	**152.21**	**39**		*e*P	**PKPbc**	**06 16 20.0**	**-2.7**
ITTB	**Itaituba**	**153.31**	**44**		*e*P	**PKPdf**	**06 16 20.6**	**+3.0**
ITTB	**Itaituba**	**153.31**	**44**		*e*P	**PKPdf**	**06 16 20.6**	**+3.0**
NPGB	**Novo Progresso**	**155.56**	**48**		*e*P	**PKPdf**	**06 16 21.0**	**+0.3**
NPGB	**Novo Progresso**	**155.56**	**48**		*e*P	**PKPdf**	**06 16 21.0**	**+0.3**
VILB	**Vilhena**	**155.56**	**66**		*e*P	**PKPdf**	**06 16 23.9**	**+3.3**
VILB	**Vilhena**	**155.56**	**66**		*e*P	**PKPdf**	**06 16 23.9**	**+3.3**
SIV	**San Ignacio**	**156.22**	**74**		PKP	**PKPdf**	**06 16 21.6**	**+0.1**
	comp=Z,15nm,1.0s,baz=312,slow=0.8,SNR=29							
ROSB	**Rosrio**	**157.59**	**18**		*e*P	**PKPdf**	**06 16 27.2**	**+3.9**
ROSB	**Rosrio**	**157.59**	**18**		*e*P	**PKPdf**	**06 16 27.2**	**+3.9**
PTLB	**Pontes e Lacer**	**157.67**	**70**		*e*P	**PKPdf**	**06 16 27.1**	**+3.9**
PTLB	**Pontes e Lacer**	**157.67**	**70**		*e*P	**PKPdf**	**06 16 27.1**	**+3.9**
CLDB	**Colider**	**157.87**	**56**		*e*P	**PKPdf**	**06 16 25.9**	**+2.3**
CLDB	**Colider**	**157.87**	**56**		*e*P	**PKPdf**	**06 16 25.9**	**+2.3**
PRPB	**Parauapebas**	**158.24**	**35**		*e*P	**PKPdf**	**06 16 26.7**	**+2.6**
PRPB	**Parauapebas**	**158.24**	**35**		*e*P	**PKPdf**	**06 16 26.7**	**+2.6**
SALV	**Santo Antonio**	**160.80**	**67**		*e*P	**PKPdf**	**06 16 29.9**	**+3.0**
SALV	**Santo Antonio**	**160.80**	**67**		*e*P	**PKPdf**	**06 16 29.9**	**+3.0**
SMTB	**Santa Maria do**	**161.67**	**34**		*e*P	**PKPdf**	**06 16 32.1**	**+4.2**
SMTB	**Santa Maria do**	**161.67**	**34**		*e*P	**PKPdf**	**06 16 32.1**	**+4.2**
CPUP	**Villa Florida**	**161.84**	**100**		PKP	**PKPdf**	**06 16 27.3**	**-0.5**
	comp=Z,15nm,1.1s,baz=107,slow=0.4,SNR=9.6							
CPUP	**Villa Florida**	**161.84**	**100**		PKIKP	**PKPdf**	**06 16 27.5**	**-0.2**
CPUP							06 17 14.1	
CPUP	**Villa Florida**	**161.84**	**100**			**PKPdf**	**06 16 27.5**	**-0.2**
CPUP						**PKPab**	**06 17 14.1**	**+0.4**
OGAUY	**Aigu**	**161.97**	**127**		*e*P	**PKPdf**	**06 16 32.6**	**+5.0**
OGAUY	**Aigu**	**161.97**	**127**		*e*P	**PKPdf**	**06 16 32.6**	**+5.0**
ITQB	**Itaqui**	**162.06**	**111**		*e*P	**PKPdf**	**06 16 32.0**	**+4.2**
ITQB	**Itaqui**	**162.06**	**111**		*e*P	**PKPdf**	**06 16 32.0**	**+4.2**
AQDB	**Aquidauana**	**162.58**	**81**		*e*P	**PKPdf**	**06 16 31.7**	**+3.0**
AQDB	**Aquidauana**	**162.58**	**81**		*e*P	**PKPdf**	**06 16 31.7**	**+3.0**
ARAG	**Araguaiana, MT**	**163.87**	**60**		*e*P	**PKPdf**	**06 16 34.4**	**+4.4**
ARAG	**Araguaiana, MT**	**163.87**	**60**		*e*P	**PKPdf**	**06 16 34.4**	**+4.4**
PLTB	**Pedras Altas**	**163.92**	**121**		*e*P	**PKPdf**	**06 16 33.4**	**+3.7**
PLTB	**Pedras Altas**	**163.92**	**121**		*e*P	**PKPdf**	**06 16 33.4**	**+3.7**
CPSB	**Cacapava Do Su**	**164.53**	**116**		*e*P	**PKPdf**	**06 16 33.6**	**+3.4**
CPSB	**Cacapava Do Su**	**164.53**	**116**		*e*P	**PKPdf**	**06 16 33.6**	**+3.4**
TRCB	**Terra Rica**	**165.88**	**86**		*e*P	**PKPdf**	**06 16 36.0**	**+4.3**
TRCB	**Terra Rica**	**165.88**	**86**		*e*P	**PKPdf**	**06 16 36.0**	**+4.3**
SDBA	**SAO DESIDERIO**	**166.04**	**32**		*e*P	**PKPdf**	**06 16 36.3**	**+4.4**
SDBA	**SAO DESIDERIO**	**166.04**	**32**		*e*P	**PKPdf**	**06 16 36.3**	**+4.4**
BDFB	**Brasilia**	**166.69**	**51**		PKP	**PKPdf**	**06 16 31.9**	**-0.6**
	comp=Z,9.9nm,1.0s,baz=306,slow=1.1,SNR=10							
BDFB	**Brasilia**	**166.69**	**51**		PKIKP	**PKPdf**	**06 16 33.0**	**+0.5**
BDFB							06 17 35.5	
BDFB	**Brasilia**	**166.69**	**51**			**PKPdf**	**06 16 33.0**	**+0.5**
BDFB					PKPab	**PKPab**	**06 17 35.5**	**+0.2**
PCMB	**Pacaembu**	**166.88**	**80**		*e*P	**PKPdf**	**06 16 36.2**	**+3.8**
PCMB	**Pacaembu**	**166.88**	**80**		*e*P	**PKPdf**	**06 16 36.2**	**+3.8**
CNLB	**Canela**	**167.01**	**115**		*e*P	**PKPdf**	**06 16 35.8**	**+3.5**
CNLB	**Canela**	**167.01**	**115**		*e*P	**PKPdf**	**06 16 35.8**	**+3.5**
ITRB	**Iturama**	**167.04**	**71**		*e*P	**PKPdf**	**06 16 36.5**	**+3.9**
ITRB	**Iturama**	**167.04**	**71**		*e*P	**PKPdf**	**06 16 36.5**	**+3.9**
IPMB	**Ipameri, GO**	**168.00**	**60**		*e*P	**PKPdf**	**06 16 36.0**	**+2.6**
IPMB	**Ipameri, GO**	**168.00**	**60**		*e*P	**PKPdf**	**06 16 36.0**	**+2.6**
JANB	**Januaria**	**168.59**	**36**		*e*P	**PKPdf**	**06 16 38.1**	**+4.3**
JANB	**Januaria**	**168.59**	**36**		*e*P	**PKPdf**	**06 16 38.1**	**+4.3**
FRTB	**Fartura**	**168.76**	**87**		*e*P	**PKPdf**	**06 16 36.6**	**+2.9**
FRTB	**Fartura**	**168.76**	**87**		*e*P	**PKPdf**	**06 16 36.6**	**+2.9**
GDU01	**Guandu, BA**	**169.12**	**12**		*e*P	**PKPdf**	**06 16 38.3**	**+4.2**
GDU01	**Guandu, BA**	**169.12**	**12**		*e*P	**PKPdf**	**06 16 38.3**	**+4.2**
BB19B	**Bebedouro**	**169.14**	**74**		*e*P	**PKPdf**	**06 16 38.4**	**+4.4**
BB19B	**Bebedouro**	**169.14**	**74**		*e*P	**PKPdf**	**06 16 38.4**	**+4.4**
PARB	**Paraibuna**	**172.34**	**83**		*e*P	**PKPdf**	**06 16 40.1**	**+4.5**
PARB	**Paraibuna**	**172.34**	**83**		*e*P	**PKPdf**	**06 16 40.1**	**+4.5**
NAN01	**Guarapari, ES**	**172.93**	**22**		*e*P	**PKPdf**	**06 16 38.4**	**+2.5**
NAN01	**Guarapari, ES**	**172.93**	**22**		*e*P	**PKPdf**	**06 16 38.4**	**+2.5**

*NNC **29** 06:02:52.9±0.8, 42.˚71N×79.˚26E, h0km, mb3.2, mpv3.0,*
Error ellipse: s-maj=5.6km s-min=2.5km az=149.0
*SOME **29** 06:02:53.7, 42.˚73N×79.˚27E, h20km*
*KRNET **29** 06:02:55.7±0.1, 42.˚74N×79.˚12E, h21km, mb2.3*

ISC 29 06:02:53.1±1.3, 42.˚71N±0.˚03×79.˚24E±0.˚03, h1km±11km, n36, σ0°91/66, 14C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
UZB	**Uzynbulak**	**0.46**	**340**	⇓	*e*P	**Pg**	**06 03 02.4**	**+0.4**
	2.2nm,0.1s							
UZB					*e*S	**Sg**	**06 03 08.8**	**+0.8**
	22nm,0.2s							
UZB	**Uzynbulak**	**0.46**	**340**		P	**Pg**	**06 03 02.4**	**+0.4**
	4.6nm,0.2s							
UZB					S	**Sg**	**06 03 08.8**	**+0.8**
	20nm,0.2s							
SHLS	**Shalkode**	**0.47**	**20**		*e*P	**Pn**	**06 03 06.2**	**-1.0**
	17nm,0.1s							
SHLS					*e*S	**Sb**	**06 03 15.4**	**+3.4**
	73nm,0.3s							
SHLS	**Shalkode**	**0.47**	**20**		P	**Pn**	**06 03 06.2**	**-1.0**
	17nm,0.1s							
SHLS					S	**Sb**	**06 03 15.4**	**+3.4**
	73nm,0.3s							
PDGK	**Podgornoye**	**0.65**	**17**		P	**Pg**	**06 03 05.5**	**0.0**
	1.9nm,0.1s							
PDGK					S	**Sg**	**06 03 14.1**	**+0.2**
	3.5nm,0.4s							
PDGK	**Podgornoye**	**0.65**	**17**	⇑	P	**Pg**	**06 03 05.2**	**-0.3**
	1.8nm,0.4s							
PDGK				⇓	S	**Sg**	**06 03 14.2**	**+0.3**
	3.2nm,0.3s							
PRZ	**Przheval'sk**	**0.66**	**250**	⇓	*i*P	**Pb**	**06 03 07.1**	**-0.5**
	baz=44							
PRZ				⇓	*i*S	**Sg**	**06 03 15.2**	**+0.9**
	baz=44							
KPKS	**Kokpek**	**0.86**	**332**		*e*P	**Pg**	**06 03 09.4**	**-0.1**
	5.6nm,0.1s							
KPKS					*e*S	**Sg**	**06 03 20.9**	**+0.2**
	15nm,0.4s							
KTMS	**Ketmen**	**1.10**	**48**		*e*P	**Pg**	**06 03 13.5**	**-0.7**
	3.2nm,0.0s							
KTMS					*e*S	**Sg**	**06 03 27.9**	**-0.5**
	6.5nm,0.1s							
KTMS	**Ketmen**	**1.10**	**48**		P	**Pg**	**06 03 13.5**	**-0.7**
	3.2nm,0.0s							
KTMS					S	**Sg**	**06 03 28.0**	**-0.5**
	6.5nm,0.1s							
ANVS	**Anan'yevo**	**1.16**	**274**	⇑	*i*P	**Pb**	**06 03 15.7**	**-0.4**
	baz=73							
ANVS				⇑	*i*S	**Sb**	**06 03 30.2**	**-1.5**
	baz=73							
TARG	**Taragay, Kyrgy**	**1.45**	**228**	⇑	*i*P	**Pg**	**06 03 21.4**	**+0.5**
	baz=25							
TARG				⇑	*i*S	**Sg**	**06 03 40.3**	**+0.7**
	baz=25							
MNBS	**Baschi**	**1.50**	**336**		*e*P	**Pb**	**06 03 21.2**	**-0.6**
	4.8nm,0.1s							
MNBS					*e*S	**Sb**	**06 03 41.0**	**-0.4**
	25nm,0.2s							
MNBS	**Baschi**	**1.50**	**336**		P	**Pb**	**06 03 21.2**	**-0.6**
	4.8nm,0.1s							
MNBS					S	**Sb**	**06 03 41.0**	**-0.4**
	25nm,0.2s							
KDJ	**Kajisay**	**1.63**	**250**	⇑	*i*P	**Pb**	**06 03 23.8**	**-0.3**
	baz=48							
KDJ				⇑	*i*S	**Sb**	**06 03 44.3**	**-1.0**
	baz=48							
KOTS	**Kotyrbulak**	**1.65**	**289**		*e*P	**Pb**	**06 03 24.0**	**-0.4**
	6.0nm,0.1s							
KOTS					*e*S	**Sb**	**06 03 45.9**	**+0.2**
	25nm,0.3s							
KOTS	**Kotyrbulak**	**1.65**	**289**		P	**Pb**	**06 03 24.0**	**-0.4**
	6.0nm,0.1s							
KOTS					S	**Sg**	**06 03 46.4**	**+0.4**
	25nm,0.3s							
DJR	**Jarkent**	**1.67**	**14**		*e*P	**Pb**	**06 03 24.4**	**-0.3**
	1.9nm,0.1s							
DJR					*e*S	**Sg**	**06 03 46.3**	**-0.5**
	3.8nm,0.2s							
DJR	**Jarkent**	**1.67**	**14**		P	**Pb**	**06 03 24.4**	**-0.3**
	2.0nm,0.1s							
DJR					S	**Sg**	**06 03 46.3**	**-0.5**
	4.6nm,0.2s							
MDOK	**Medeo**	**1.67**	**286**	⇓	P	**Pn**	**06 03 23.1**	**-0.6**
	1.0nm,0.4s							
MDOK				⇑	S	**Sb**	**06 03 45.9**	**-0.5**
	2.5nm,0.5s							
ARXS	**Arharly**	**1.82**	**326**		*e*P	**Pb**	**06 03 26.7**	**-0.6**
	11nm,0.3s							
ARXS					*e*S	**Sb**	**06 03 50.9**	**+0.2**
	11nm,0.3s							
ARXS	**Arharly**	**1.82**	**326**		P	**Pb**	**06 03 26.7**	**-0.6**
	11nm,0.3s							
ARXS					S	**Sb**	**06 03 50.9**	**+0.2**
	11nm,0.3s							
CHKK	**Chushkaly**	**2.00**	**306**		*e*P	**Pb**	**06 03 29.5**	**-0.8**
	2.9nm,0.3s							
CHKK					*e*S	**Sb**	**06 03 55.5**	**-0.3**
	11nm,0.2s							
CHKK	**Chushkaly**	**2.00**	**306**		Pg	**Pb**	**06 03 29.5**	**-0.8**
	3.0nm,0.4s							
CHKK					Lg	Lg	06 03 55.5	
	11nm,0.2s							
KTBS	**Karatobe**	**2.12**	**299**	⇓	*e*P	**Pb**	**06 03 31.6**	**-0.8**
	5.1nm,0.3s							
KTBS					*e*S	**Sb**	**06 03 59.3**	**+0.1**
	15nm,0.3s							
KTBS	**Karatobe**	**2.12**	**299**		Pg	**Pb**	**06 03 31.5**	**-0.8**
	5.1nm,0.3s							
KTBS					Lg	Lg	06 03 59.3	
	15nm,0.3s							
ULHL	**Ulahol**	**2.27**	**259**	⇓	*e*P	**Pb**	**06 03 33.2**	**-1.7**
	baz=58							
ULHL				⇓	*i*S	**Sn**	**06 04 00.7**	**+0.1**
	baz=58							
KST	**Kastek**	**2.43**	**279**		*e*P	**Pb**	**06 03 38.0**	**+0.3**
	8.2nm,0.5s							
KST					*e*S	**Sg**	**06 04 10.5**	**-0.7**
	4.8nm,0.3s							
KST	**Kastek**	**2.43**	**279**		Pg	**Pb**	**06 03 38.0**	**+0.3**
	8.2nm,0.5s							
KST					Lg	Lg	06 04 10.5	
	4.8nm,0.3s							
BOOM	**Boomskoye usch**	**2.44**	**266**	⇑	*i*P	**Pn**	**06 03 35.6**	**+1.3**
	baz=65							
BOOM				⇑	*i*S	**Sn**	**06 04 04.5**	**-0.5**
	baz=65							
KAPS	**Kapalarasan**	**2.58**	**2**		*e*P	**Pb**	**06 03 40.1**	**0.0**
	1.8nm,0.5s							
KAPS					*e*S	**Sb**	**06 04 13.3**	**+0.9**
	3.1nm,0.2s							
KAPS	**Kapalarasan**	**2.58**	**2**		Pg	**Pb**	**06 03 40.2**	**0.0**
	1.8nm,0.5s							
KAPS					Lg	Lg	06 04 13.2	
	3.4nm,0.5s							
DGS	**Degeres**	**2.60**	**283**		*e*P	**Pb**	**06 03 40.4**	**-0.1**
	4.4nm,0.4s							
DGS					*e*S	**Sb**	**06 04 14.3**	**+1.2**
	4.7nm,0.5s							
DGS	**Degeres**	**2.60**	**283**		Pg	**Pb**	**06 03 40.4**	**-0.1**
	4.4nm,0.4s							
DGS					Lg	Lg	06 04 14.3	
	4.7nm,0.5s							
TKM2	**Tokmak 2**	**2.69**	**276**	⇑	Pg	**Pb**	**06 03 41.4**	**-0.7**
	0.8nm,0.4s							
TKM2				⇑	Lg	Lg	06 04 17.4	
	1.4nm,0.5s							
KZA	**Kyzart**	**3.02**	**259**	⇑	*i*P	**Pn**	**06 03 43.8**	**+1.3**
	baz=58							
KZA				⇑	*i*S	**Sn**	**06 04 19.6**	**+0.1**
	baz=58							

*NEIC **29** 06:10:05.7±1.0, 32.˚57N±0.˚05×109.˚10W±0.˚03, h5km±1km, Mwr4.0/28, Error ellipse: s-maj=9.1km s-min=4.3km az=195.0*
*NEIC **29** 06:10:05.7, 32.˚57N×109.˚10W, h12km, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=0.48; Mθθ=0.71; Mφφ 1.19; Mrθ=0.54; Mrφ0.20; Mθφ0.02; Fault plane solution: M0 1.19000×10¹⁵ NP1:ϕs=147.91000°, δ62.70000°, λ=-151.55000°. NP2:ϕs=43.96000°, δ64.96000°, λ=-30.41000°. Principal axes: T 1.2135, Plg1.0000°, Azm96.0000°; N -0.0557, Plg51.0000°, Azm188.0000°; P -1.1577, Plg39.0000°, Azm5.0000°;*
*IDC **29** 06:10:06.1±1.4, 32.˚30N×109.˚34W, h0km, mb3.7/1, mb1 4.1/4, mb1mx3.6/64, mbtmp3.6/4, ML3.6/2, MS4.5/1, Ms1 4.4/1, ms1mx3.2/41 Error ellipse: s-maj=31.0km s-min=9.9km az=44.0*

ISC 29 06:10:07.2±0.9, 32.˚54N±0.˚06×109.˚11W±0.˚04, h10km, n30, σ1§18/31, Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
121A	**Cookes Peak, D**	**1.12**	**90**		Pn	**Pb**	**06 10 28.5**	**-0.3**
121A					Sn	**Sg**	**06 10 44.0**	**+0.7**
TUC	**Tucson**	**1.44**	**261**			**Pn**	**06 10 33.2**	**-0.2**
TUC					Sg	**Sn**	**06 10 51.1**	**-1.3**
Y22D	**IRIS PASSCAL I**	**2.39**	**49**		Pn	**Pn**	**06 10 46.4**	**-0.2**
LENM	**Lemitar**	**2.41**	**47**		Pn	**Pn**	**06 10 43.7**	**-3.3**
BNM	**Barren Site**	**2.63**	**52**		Pn	**Pn**	**06 10 48.7**	**-1.2**
W18A	**Petrified Fore**	**2.63**	**349**		Pn	**Pn**	**06 10 49.2**	**-0.7**
X16A	**Lo Mia Camp, P**	**2.71**	**315**		Pn	**Pn**	**06 10 50.6**	**-0.4**
X16A					Sn	**Sn**	**06 11 22.2**	**-1.6**
214A	**Organ Pipe Nat**	**3.19**	**261**		Pn	**Pn**	**06 10 56.5**	**-1.0**
ANMO	**Albuquerque**	**3.26**	**42**		Pn	**Pn**	**06 10 57.3**	**-1.4**
MNTX	**Cornudas Mount**	**3.27**	**104**		Pn	**Pn**	**06 10 58.1**	**-0.5**
MNTX					Sn	**Sn**	**06 11 36.2**	**-1.4**
WUAZ	**Wupatki**	**3.52**	**328**		Pn	**Pn**	**06 11 00.8**	**-1.3**
Y14A	**Wickenburg**	**3.55**	**294**		Pn	**Pn**	**06 11 01.7**	**-0.8**
HSIG		**3.85**	**205**		Pn	**Pn**	**06 11 05.2**	**-1.3**
113A	**Mohawk Valley,**	**3.94**	**275**		Pn	**Pn**	**06 11 07.0**	**-0.7**
GDL2	**Guadalupe Moun**	**4.03**	**94**			**Pn**	**06 11 09.7**	**+0.6**
Y12C	**Blythe**	**4.70**	**286**		Pn	**Pn**	**06 11 17.3**	**-0.9**
W13A	**Hualapai Mount**	**4.73**	**304**		Pn	**Pn**	**06 11 18.6**	**-0.2**
GLA	**Glamis**	**4.84**	**278**			**Pn**	**06 11 19.2**	**-1.0**
MSTX	**Muleshoe**	**5.50**	**73**			Pn	06 11 36.7	+7.4
TX31	**Lajitas Ar. Si**	**5.66**	**123**		Pn	**Pn**	**06 11 32.1**	**+0.6**
TX32	**Lajitas Array**	**5.66**	**123**		Pn	**Pn**	**06 11 32.0**	**+0.5**
TXAR	**Lajitas Array**	**5.66**	**123**		Pn	**Pn**	**06 11 32.2**	**+0.7**
	1.3nm,0.3s,baz=291,slow=18,SNR=63							
TXAR					Lg	Lg	06 13 06.4	
	22nm,0.3s,baz=302,slow=31,SNR=13							
XPFO	**Pion Flat**	**6.26**	**282**		Pn	**Pn**	**06 11 38.8**	**-1.0**
PFO	**Pinyon Flats O**	**6.26**	**282**		Pn	**Pn**	**06 11 38.9**	**-0.9**
HPIG		**6.33**	**151**		Pn	**Pn**	**06 11 41.5**	**+0.6**
SHPR	**Sheep Range**	**6.37**	**310**		Pn	**Pn**	**06 11 41.6**	**+0.2**
NVAR	**Mina Array Bea**	**9.52**	**311**		Pn	**Pn**	**06 12 26.1**	**+1.4**
	0.1nm,0.3s,baz=127,slow=20,SNR=1.7							
NVAR					Lg	Lg	06 15 06.7	
	0.3nm,0.3s,baz=132,slow=35,SNR=2.7							
PDAR	**Pinedale Array**	**10.22**	**358**		Pn	Pn	06 12 41.4	+7.3
	baz=180,slow=13,SNR=1.8							
PDAR					Lg	Lg	06 15 31.7	
	1.2nm,0.3s,baz=170,slow=27,SNR=7.4							
ULM	**Lac du Bonnet**	**20.23**	**25**		LR	LR	06 21 39.1	
	comp=Z,1μm,21.5s,baz=90,slow=34							
ILAR	**Eielson Array**	**39.67**	**336**		P	**P**	**06 17 41.0**	**+1.9**
	1.3nm,1.1s,baz=120,slow=6.4,SNR=5.0							

*JMA **29** 06:10:25.9±0.1, 24.˚38N×122.˚34E, h74km±2km, M2.7*

*TAP **29** 06:10:26.0, 24.˚45N×122.˚36E, h77km, ML3.6, C*

ISC 29 06:10:26.7±1.2, 24.˚44N±0.˚03×122.˚37E±0.˚02, h68km±7km, n109, σ0§80/193, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
TWC	**Suao**	**0.51**	**290**	⇑	*i*P	**Pn**	**06 10 39.2**	**-0.2**
	baz=292							
TWC					*i* S	**Sn**	**06 10 48.8**	**+0.1**
	baz=292							
JYNG	**Yonagunijimaku**	**0.52**	**89**		P	**Pn**	**06 10 39.5**	**0.0**
JYNG					*e*S	**Sn**	**06 10 49.6**	**+0.7**
EGS		**0.57**	**315**		*i* P	**Pn**	**06 10 40.1**	**+0.1**
	baz=306							
EGS					S	**Sn**	**06 10 50.2**	**+0.4**
	baz=306							
ENA	**Nanau**	**0.58**	**269**		*i* P	**Pn**	**06 10 40.1**	**0.0**
	baz=264							
ENA					*i* S	**Sn**	**06 10 50.9**	**+1.0**
	baz=264							
YOJ	**Yonaguni jima**	**0.58**	**88**		P	**Pn**	**06 10 40.5**	**+0.4**
YOJ					*e*S	**Sn**	**06 10 50.8**	**+0.8**
NTC	**Toucheng**	**0.65**	**310**		*e*P	**Pn**	**06 10 40.4**	**-0.4**
	baz=315							
NTC					S	**Sn**	**06 10 51.6**	**+0.4**
	baz=315							
ILA	**Ilan**	**0.66**	**300**		*i* P	**Pn**	**06 10 41.0**	**+0.1**
	baz=303							
ILA					*i* S	**Sn**	**06 10 51.9**	**+0.4**
	baz=303							
TWB1	**Santiao Chiao**	**0.67**	**328**		P	**Pn**	**06 10 40.4**	**-0.7**
	baz=321							
TWB1					*i* S	**Sn**	**06 10 50.8**	**-0.8**
	baz=321							
TWE	**Neicheng**	**0.70**	**294**		*i* P	**Pn**	**06 10 41.5**	**+0.1**
	baz=295							
TWE					*i* S	**Sn**	**06 10 52.6**	**+0.3**
	baz=295							
TIPB	**Shuangxi**	**0.73**	**317**		P	**Pn**	**06 10 41.7**	**-0.1**
	baz=314							
TIPB					S	**Sn**	**06 10 52.6**	**-0.4**
	baz=314							
NACB	**Ninganchiao**	**0.76**	**250**		P	**Pn**	**06 10 41.5**	**-0.6**
	baz=243							
NACB					S	**Sn**	**06 10 53.7**	**+0.2**
	baz=243							
ENTT	**Nioudou**	**0.76**	**285**		*i* P	**Pn**	**06 10 42.7**	**+0.5**
	baz=288							
ENTT					S	**Sn**	**06 10 54.5**	**+0.9**
	baz=288							
TWD	**Chiawan**	**0.80**	**243**	⇑	*i*P	**Pn**	**06 10 42.1**	**-0.4**
	baz=235							
TWD					*i* S	**Sn**	**06 10 54.1**	**-0.1**
	baz=235							
NDT	**Datong Townshi**	**0.80**	**282**		*i* P	**Pn**	**06 10 43.1**	**+0.5**
	baz=275							
NDT					*i* S	**Sn**	**06 10 55.2**	**+0.7**
	baz=275							
NWF	**Wu-fen Shan**	**0.83**	**320**		*i* P	**Pn**	**06 10 42.8**	**-0.3**
	baz=312							
NWF					*i* S	**Sn**	**06 10 54.6**	**-0.6**
	baz=312							
WFSB	**Wu-fen Shan**	**0.83**	**320**		P	**Pn**	**06 10 42.8**	**-0.2**
	baz=312							
WFSB					S	**Sn**	**06 10 54.9**	**-0.1**
	baz=312							
HWA	**Hwalien**	**0.84**	**237**		P	**Pn**	**06 10 42.8**	**-0.3**

OWD				S		Sn	06 11 02.9	-0.5
	baz=240							
NCU	**National Centr**	**1.20**	**296**	*e*S		Sn	06 11 03.4	0.0
	baz=285							
NCUH	**Zhongli**	**1.20**	**296**	*e*S		Sn	06 11 03.6	+0.3
	baz=295							
PCYT	**Pengchaiyu**	**1.22**	**347**	P		Pn	06 10 47.5	-0.3
	baz=337							
PCYT				*e*S		Sn	06 11 04.1	+0.4
	baz=337							
IRIF	**Iriomote-Funau**	**1.24**	**95**	P		Pn	06 10 48.1	-0.1
IRIF				S		Sn	06 11 04.7	+0.5
LIOB	**Emei**	**1.25**	**280**	P		Pn	06 10 48.0	-0.4
	baz=279							
LIOB				S		Sn	06 11 04.8	+0.2
	baz=279							
NSTT	**Nanjuang**	**1.27**	**279**	P		Pn	06 10 48.8	+0.3
	baz=278							
NSTT				S		Sn	06 11 05.2	+0.3
	baz=278							
HGSD	**Ruisui**	**1.28**	**223**	P		Pn	06 10 48.3	-0.4
	baz=222							
HGSD				S		Sn	06 11 04.8	-0.4
	baz=222							
WHP	**Taichung City**	**1.31**	**263**	P		Pn	06 10 50.2	+1.0
	baz=260							
WHP				S		Sn	06 11 06.8	+0.7
	baz=260							
VWDT	**VWDT**	**1.32**	**239**	P		Pn	06 10 49.3	+0.2
	baz=233							
VWDT				S		Sn	06 11 05.4	-0.6
	baz=233							
EHY	**Hungye**	**1.34**	**226**	P		Pn	06 10 48.3	-1.2
	baz=225							
EHY				*e*S		Sn	06 11 05.0	-1.5
	baz=225							
HATJ	**Hateruma jima**	**1.36**	**106**	P		Pn	06 10 50.5	+0.8
HATJ				S		Sn	06 11 08.1	+1.1
DPDB	**Guoxing**	**1.38**	**253**	P		Pn	06 10 51.0	+0.9
	baz=250							
DPDB				S		Sn	06 11 08.6	+0.9
	baz=250							
YULB	**Yu-li**	**1.43**	**224**	P		Pn	06 10 49.6	-1.1
	baz=231							
YULB				S		Sn	06 11 07.5	-1.3
	baz=231							
NMLH	**Miaoli**	**1.45**	**274**	*e*P		Pn	06 10 51.7	+0.9
	baz=273							
NMLH				*e*S		Sn	06 11 09.6	+0.5
	baz=273							
SSLB	**Suanglung**	**1.45**	**244**	P		Pn	06 10 51.1	+0.1
	baz=239							
SSLB				S		Sn	06 11 09.1	-0.1
	baz=239							
SMLT	**Sun Moon Lake**	**1.46**	**248**	P		Pn	06 10 51.4	+0.3
	baz=243							
SMLT				S		Sn	06 11 10.7	+1.2
	baz=243							
TWQ1	**Liyutan**	**1.46**	**267**	P		Pn	06 10 52.0	+0.9
	baz=266							
TWQ1				S		Sn	06 11 09.8	+0.3
	baz=266							
TWF1	**Yuli**	**1.46**	**223**	P		Pn	06 10 50.2	-0.9
	baz=230							
TWF1				S		Sn	06 11 09.0	-0.5
	baz=230							
NSY	**Sanyi**	**1.47**	**269**	*e*P		Pn	06 10 51.9	+0.7
	baz=268							
NSY				S		Sn	06 11 10.2	+0.5
	baz=268							
TYC	**Yuchr**	**1.48**	**249**	P		Pn	06 10 52.2	+0.8
	baz=243							
TYC				S		Sn	06 11 10.7	+0.7
	baz=243							
JKRS	**Kuro-shima**	**1.50**	**97**	P		Pn	06 10 52.1	+0.5
JKRS				S		Sn	06 11 11.2	+0.8
PTSB	**Yuanli**	**1.52**	**271**	S		Sn	06 11 11.2	+0.4
	baz=270							
WHYT	**Xinyi Township**	**1.57**	**242**	*e*P		Pn	06 10 53.5	+0.9
	baz=240							
WHYT				*e*S		Sn	06 11 13.0	+0.8
	baz=240							
TCU	**Taichung**	**1.58**	**260**	*e*S		Sn	06 11 13.0	+0.9
	baz=270							
WDJ	**Dajia District**	**1.58**	**267**	*e*P		Pn	06 10 53.0	+0.4
	baz=266							
WDJ				*e*S		Sn	06 11 12.8	+0.4
	baz=266							
JIJ	**Ishigaki jima**	**1.61**	**92**	P		Pn	06 10 53.1	0.0
JIJ				S		Sn	06 11 12.3	-0.8
CHKT	**Chengkung**	**1.62**	**215**	P		Pn	06 10 51.9	-1.3
	baz=208							
CHKT				S		Sn	06 11 11.2	-2.0
	baz=208							
WJS	**Zhushan**	**1.62**	**248**	P		Pn	06 10 54.7	+1.5
	baz=240							
WJS				S		Sn	06 11 15.3	+1.9
	baz=240							
WNT	**Mingjian**	**1.64**	**250**	*i* P		Pn	06 10 55.2	+1.7
	baz=261							
WNT				*i* S		Sn	06 11 15.7	+2.0
	baz=261							
WCHH	**Zhanghua**	**1.69**	**258**	*e*S		Sn	06 11 15.4	+0.4
	baz=269							
ALS	**Alishan**	**1.71**	**238**	*e*P		Pn	06 10 55.6	+1.0
	baz=230							
ALS				S		Sn	06 11 16.0	+0.3
	baz=230							
ELDTW	**Lidau**	**1.76**	**225**	P		Pn	06 10 54.4	-0.8
	baz=222							
ELDTW				S		Sn	06 11 14.8	-1.9
	baz=222							
CHN5	**Tsauling**	**1.76**	**242**	P		Pn	06 10 56.0	+0.9
	baz=233							
CHN5				S		Sn	06 11 18.6	+1.8
	baz=233							
JISG	**Ishigakijimahi**	**1.77**	**85**	P		Pn	06 10 55.0	-0.2
JISG				S		Sn	06 11 16.3	-0.5
WGK	**Gukeng**	**1.82**	**246**	*e*S		Sn	06 11 19.8	+1.8
	baz=245							
WDLH	**Douliu**	**1.84**	**246**	*e*P		Pn	06 10 56.6	+0.5
	baz=258							
WDLH				*e*S		Sn	06 11 19.0	+0.6
	baz=258							
RLNB	**Erlin**	**1.92**	**254**	*e*P		Pn	06 10 58.3	+1.1
	baz=253							
RLNB				*e*S		Sn	06 11 20.6	+0.3
	baz=253							
STYT	**Tauyuan**	**1.95**	**230**	P		Pn	06 10 58.4	+0.7
	baz=229							
STYT				S		Sn	06 11 21.7	+0.4
	baz=229							
CHN2	**Minshiung**	**1.96**	**243**	*e*S		Sn	06 11 23.9	+2.6
	baz=255							
CHN4	**Tsaushan**	**1.96**	**237**	P		Pn	06 10 59.0	+1.3
	baz=236							
CHN4				S		Sn	06 11 23.0	+1.7
	baz=236							
TPUB	**Ta-pu**	**1.96**	**235**	*e*P		Pn	06 10 58.1	+0.4
	baz=234							
TPUB				*e*S		Sn	06 11 21.8	+0.4
	baz=234							
WTP	**Ta-pu**	**2.00**	**234**	*e*P		Pn	06 10 58.6	+0.2
	baz=233							
WTP				*e*S		Sn	06 11 23.8	+1.3
	baz=233							
TWGBT	**Beinan**	**2.00**	**217**	*e*P		Pn	06 10 57.7	-0.7
	baz=222							
TWGBT				*e*S		Sn	06 11 20.2	-2.3
	baz=222							
TWG	**Pinlang**	**2.00**	**217**	P		Pn	06 10 57.8	-0.5
	baz=222							
TWG				S		Sn	06 11 20.1	-2.5
	baz=222							
CHY	**Chiayi**	**2.02**	**243**	*e*P		Pn	06 10 59.0	+0.5
	baz=254							
CHY				*e*S		Sn	06 11 23.6	+0.9
	baz=254							
TWK	**Hsinying**	**2.08**	**236**	*e*P		Pn	06 11 00.1	+0.7
	baz=236							
TWK				*e*S		Sn	06 11 24.8	+0.3
	baz=236							
CHN1	**Nanshi**	**2.10**	**234**	*e*P		Pn	06 11 00.7	+1.0
	baz=233							
CHN1				*e*S		Sn	06 11 25.3	+0.4
	baz=233							
SGST	**Jiashian**	**2.12**	**231**	*e*P		Pn	06 11 00.5	+0.5
	baz=240							
JTJ	**Tarama**	**2.13**	**84**	P		Pn	06 11 00.7	+0.7
JTJ				*e*S		Sn	06 11 25.5	0.0
SLGT	**Liugui**	**2.14**	**228**	*e*P		Pn	06 11 01.7	+1.5
	baz=228							
SLGT				*e*S		Sn	06 11 27.2	+1.4
	baz=228							
ECL	**Taimali**	**2.25**	**216**	*e*P		Pn	06 11 00.4	-1.3
	baz=215							
SSD	**Sandimen**	**2.32**	**224**	*e*P		Pn	06 11 02.9	+0.2
	baz=223							
MASBT	**Masibuluo**	**2.42**	**222**	*e*P		Pn	06 11 04.5	+0.5
	baz=221							
TAW	**Tawu**	**2.48**	**214**	*e*P		Pn	06 11 04.0	-0.8
	baz=213							
JIRB	**Irabujima**	**2.58**	**81**	P		Pn	06 11 06.5	+0.4
JIRB				*e*S		Sn	06 11 36.4	+0.1
PTTC	**Pingtan**	**2.59**	**295**	*e*P		Pn	06 11 04.8	-1.4
	baz=285							
SCZT	**Fangliau**	**2.61**	**218**	*e*P		Pn	06 11 07.1	+0.5
	baz=231							
JIKM	**Ikemajima**	**2.66**	**79**	*e*S		Sn	06 11 38.5	+0.2
JMJ2	**Miyako jima3**	**2.71**	**83**	*e*S		Sn	06 11 39.2	-0.3
VWUC	**VWUC**	**2.72**	**282**	*e*P		Pn	06 11 07.2	-0.8
	baz=281							
PHUB	**P'eng-hu**	**2.72**	**251**	*e*P		Pn	06 11 06.5	-1.6
	baz=250							
WDGT	**Dungji**	**2.75**	**245**	*e*P		Pn	06 11 08.4	0.0
	baz=245							
MATB	**Ma-tsu**	**2.78**	**308**	*e*P		Pn	06 11 08.2	-0.6
	baz=298							
PTMZ	**Houxiangcun**	**3.02**	**282**	*e*P		Pn	06 11 11.4	-0.7
	baz=281							
LYJJ	**Jianjiangzhen**	**3.16**	**312**	*e*P		Pn	06 11 13.5	-0.5
	baz=312							

IDC 29 06:33:34.3±3.0, 6°69S×128°57E, h0km, mb3.5/1, mb1 3.8/3, mb1mx3.4/39, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=300.5km s-min=33.2km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.31**	**158**	Pn	Pn	06 36 58.1	-0.4
	0.3nm,0.3s,baz=335,slow=14,SNR=2.4						
WRA				Sn	Sn	06 39 23.8	-14
	0.4nm,0.3s,baz=339,slow=23,SNR=3.2						
ASAR	**Alice Springs**	**17.64**	**164**	P	Pn	06 37 42.0	+0.3
	0.4nm,0.3s,baz=345,slow=9.9,SNR=21						
MKAR	**Makanchi Array**	**67.20**	**327**	P	P	06 44 30.4	0.0
	0.3nm,0.4s,baz=116,slow=7.8,SNR=2.7						

MAN 29 06:54:42.2, 13°01N×119°54E, h28km, mb4.4, ML3.2, MS3.0,2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.99**	**44**	*e*P	Pn	06 54 59.1	-1.2
LUBP				*e*S	Sn	06 55 08.6	-4.8
PGP	**Puerto Galera**	**1.46**	**70**	*e*P	Pn	06 55 07.3	+0.6
PGP				*e*S	Sn	06 55 25.6	+0.6
SJMP	**San Jose**	**1.64**	**109**	*e*P	Pn	06 55 10.3	+1.1
SJMP				*e*S	Sn	06 55 29.2	-0.1
ENPP	**El Nido**	**1.80**	**184**	*e*P	Pn	06 55 12.1	+0.6
ENPP				*e*S	Sn	06 55 33.2	-0.2
LQP	**Lukban**	**2.23**	**60**	*e*P	Pn	06 55 11.8	-5.8
BOAC	**Boac**	**2.29**	**79**	*e*S	Pn	06 55 18.9	+0.8
CUYO	**Cuyo Island**	**2.59**	**146**	*e*P	Pn	06 55 23.5	+1.1

*PMR **29** 06:58:44±1.5, 63°.52N±0°.02×148°.54W±0°.05, h10km±1km, Error ellipse: s-maj=4.1km s-min=2.8km az=89.0*
*AEIC **29** 06:58:44±1.4, 63°.49N±0°.02×148°.56W±0°.04, h9km±3km, ML4.4/133, mb4.7/115(NEIC), Mwr4.2/38(NEIC), Error ellipse: s-maj=2.9km s-min=2.1km az=59.0*
*NEIC **29** 06:58:44.1±1.5, 63°.48N±0°.02×148°.55W±0°.05, h12km±3km, Error ellipse: s-maj=3.3km s-min=2.5km az=79.0*
*UNK **29** 06:58:44.0, 63°.49N×148°.56W, h9km*
*NEIC **29** 06:58:44, 63°.49N×148°.56W, h16km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr 1.61; Mθθ-1.36; Mϕϕ-0.25; Mrθ 0.62; Mrϕ-1.30; Mθϕ 0.86; Fault plane solution: M0 2.25000×10^15^ NP1: ϕs 42.85000°, δ 60.38000°, λ 73.42000°. NP2: ϕs 253.92000°, δ 33.57000°, λ 116.66000°. Principal axes: T 1.9499, Plg 70.0000°, Azm 277.0000°; N 0.5083, Plg 14.0000°, Azm 51.0000°; P -2.4582, Plg 14.0000°, Azm 145.0000°;*
*IDC **29** 06:58:46.2±1.7, 63°.70N×148°.59W, h22km±10km, mb4.1/23, mb1 4.2/27, mb1mx4.1/51, mbtmp4.2/27, ML3.9/4 Error ellipse: s-maj=10.6km s-min=9.3km az=55.0*

ISC 29 06:58:44.4±0.9, 63°.50N±0°.02×148°.57W±0°.03, h15km±5km, n480, σ1°30/487, mb4.7/90, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RND	**Reindeer**	**0.16**	**235**	Pg	**Pg**	06 58 48.0	-0.5
RND				Sg	**Sg**	06 58 50.8	-0.4
MCK	**McKinley**	**0.29**	**326**	Pg	**Pb**	06 58 51.1	-0.2
TRF	**Thorofare Moun**	**0.77**	**267**	Pg	**Pg**	06 58 58.8	-0.7
TRF					**Sg**	06 59 09.5	-0.2
WAT6	**Susitna Watana**	**0.99**	**157**		**Pb**	06 59 01.8	-1.6
WAT6					**Sg**	06 59 16.6	0.0
WRH	**Wood River Hil**	**1.00**	**12**		**Pg**	06 59 03.7	0.0
WRH					**Sb**	06 59 16.6	+0.2
NEA2	**Nenana**	**1.12**	**349**	P	**Pb**	06 59 05.4	-0.1
	baz=168,SNR=1000						
NEA2	**Nenana**	**1.12**	**349**		**Pb**	06 59 05.4	-0.1
NEA2					**Sn**	06 59 20.9	+0.1
HDA	**Harding Lake**	**1.16**	**37**	P	**Pn**	06 59 06.1	0.0
	baz=218,SNR=1000						
HDA	**Harding Lake**	**1.16**	**37**		**Pn**	06 59 06.2	0.0
CCB	**Clear Creek Bu**	**1.20**	**16**		**Pn**	06 59 06.5	-0.2
CCB					**Sb**	06 59 22.3	0.0
BPAW	**Bear Paw Mtn.**	**1.23**	**301**		**Pn**	06 59 07.2	+0.1
BPAW					**Sb**	06 59 23.0	-0.1
PS10	**TAPS Pump St10**	**1.26**	**92**		**Pn**	06 59 07.1	-0.4
PS08	**TAPS Pump Stn8**	**1.30**	**35**		**Pn**	06 59 08.2	+0.1
PS09	**TAPS Pump Stn9**	**1.32**	**69**		**Pb**	06 59 08.8	-0.1
TCOL	**CIGO, UAF Yank**	**1.42**	**12**	P	**Pn**	06 59 09.8	+0.2
	baz=193,SNR=1000						
TCOL	**CIGO, UAF Yank**	**1.42**	**12**		**Pn**	06 59 09.8	+0.2
COLA	**College**	**1.42**	**12**		**Sn**	06 59 09.9	+0.3
COLA	**College**	**1.42**	**12**		**Sn**	06 59 27.7	-0.3
I53US	**FAIRBANKS INFR**	**1.42**	**12**	Pg	**Pb**	06 59 10.4	-0.1
	baz=192,slow=24,SNR=0.4						
I53US				Lg	Lg	06 59 28.2	
	baz=193,slow=25						
MDM	**Murphy Dome**	**1.48**	**6**		**Pg**	06 59 12.2	-0.5
IL31		**1.48**	**29**		**Pn**	06 59 10.7	+0.2
IL31				Sn	**Sb**	06 59 30.1	0.0
ILAR	**Eielson Array**	**1.48**	**29**	Pg	**Pn**	06 59 10.2	-0.3
	199nm,0.3s,baz=212,slow=15,SNR=1400						
ILAR				Lg	Lg	06 59 29.6	
	2μm,0.3s,baz=211,slow=28,SNR=111						
PAX	**Paxson**	**1.50**	**109**		**Pn**	06 59 10.6	-0.2
PAX	**Paxson**	**1.50**	**109**	Sn	**Sn**	06 59 30.1	0.0
CAST	**Castle Rocks**	**1.58**	**269**		**Pn**	06 59 12.4	+0.5
RIDG	**Independent Ri**	**1.68**	**80**		**Pn**	06 59 14.1	+0.8
POKR	**Poker Plat Res**	**1.70**	**16**	P	**Pn**	06 59 13.9	+0.3
	baz=197,SNR=327						
POKR	**Poker Plat Res**	**1.70**	**16**		**Pn**	06 59 13.9	+0.3
CHUM	**Lake Minchumin**	**1.71**	**285**		**Pn**	06 59 13.5	-0.2
GHO	**Glory Hole Cre**	**1.74**	**186**		**Pn**	06 59 13.4	-0.7
PPLA	**Purkeypile**	**1.75**	**251**		**Pb**	06 59 15.6	-0.6
SCM	**Sheep Creek Mo**	**1.76**	**161**		**Pn**	06 59 13.8	-0.7
SCM				Sn	**Sn**	06 59 36.5	-0.1
MLY	**Manley**	**1.81**	**329**	Pn	**Pn**	06 59 15.1	0.0
PS07	**TAPS Pump Stn7**	**1.83**	**4**		**Pn**	06 59 15.9	+0.6
PMR	**Palmer**	**1.93**	**188**		**Pn**	06 59 16.0	-0.6
PMR	**Palmer**	**1.93**	**188**	Sn	**Sb**	06 59 42.4	-0.6
PS11	**TAPS Pump St11**	**2.01**	**134**		**Pb**	06 59 19.6	-1.1
DOT	**Dot Lake**	**2.02**	**84**		**Pn**	06 59 18.5	+0.6
SKT	**Skwentna**	**2.04**	**223**		**Pn**	06 59 18.4	+0.1
SKT				Sn	**Sn**	06 59 44.7	+1.2
KNK	**Knik Glacier**	**2.09**	**179**		**Pn**	06 59 18.6	-0.2
KNK	**Knik Glacier**	**2.09**	**179**	Sn	**Sn**	06 59 45.6	+1.0
SCRK	**Sand Creek**	**2.10**	**75**	Pn	**Pn**	06 59 19.0	0.0
MENT	**Mentasta**	**2.27**	**102**		**Pn**	06 59 22.9	+1.6
SUA	**Susitna One**	**2.28**	**207**		**Pn**	06 59 22.6	+1.1
PRP	**Porcupine Dome**	**2.42**	**32**		**Pn**	06 59 24.1	+0.6
PS06	**TAPS Pump Stn6**	**2.42**	**349**		**Pn**	06 59 24.1	+0.7
FIS	**Fire Island**	**2.48**	**199**		**Pn**	06 59 26.2	+2.0
STLK	**Strandline Lak**	**2.51**	**219**		**Pn**	06 59 25.1	+0.4
PS12	**TAPS Pump St12**	**2.58**	**140**		**Pn**	06 59 27.4	+1.9
VMT	**TAPS Tl Valdez**	**2.63**	**156**		**Pn**	06 59 27.5	+1.2
PWL	**Port Wells**	**2.65**	**178**		**Pn**	06 59 27.5	+1.0
GLI	**Glacier Island**	**2.71**	**165**		**Pn**	06 59 28.3	+0.9
SPCG	**Spurr Capps Gl**	**2.73**	**218**		**Pn**	06 59 28.9	+1.1
SPNN	**North Nagishla**	**2.87**	**224**		**Pn**	06 59 30.7	+1.0
FID	**Port Fidalgo**	**2.92**	**159**		**Pn**	06 59 30.2	-0.2
CAPN	**Captain Cook N**	**2.99**	**205**	P	**Pb**	06 59 35.0	-2.3
	baz=23						
CAPN	**Captain Cook N**	**2.99**	**205**		**Pn**	06 59 33.8	+2.6
GLB	**Gilahina Butte**	**3.02**	**131**		**Pn**	06 59 32.8	+1.1
O22K	**Cooper Landing**	**3.07**	**191**	P	**Pn**	06 59 34.5	+2.1
	baz=9.8						
BC03		**3.10**	**95**		**Pn**	06 59 33.1	+0.5
SLKM	**Skilak Lake**	**3.10**	**195**		**Pn**	06 59 34.2	+1.4
EYAK	**Cordova Ski Ar**	**3.24**	**155**		**Pn**	06 59 35.8	+1.1
HIN	**Hinchinbrook I**	**3.26**	**162**		**Pn**	06 59 36.0	+1.0
VRDI	**Verde Repeater**	**3.30**	**131**		**Pn**	06 59 37.3	+1.7
IM05	**Indian Mountai**	**3.33**	**321**		**Pn**	06 59 36.8	+0.9
MCARA	**McCarthy VSAT**	**3.34**	**127**		**Pn**	06 59 38.5	+2.5
FYU	**Fort Yukon**	**3.39**	**23**		**Pn**	06 59 37.6	+0.9
TTA	**Tatalina**	**3.42**	**264**	Pn	**Pn**	06 59 37.8	+0.6
TT01	**Tatalina**	**3.43**	**263**		**Pn**	06 59 36.8	-0.5
SEW	**Seward**	**3.43**	**187**		**Pn**	06 59 38.5	+1.2
PS05	**TAPS Pump Stn5**	**3.44**	**346**		**Pn**	06 59 38.8	+1.3
EGAK	**Eagle**	**3.49**	**65**		**Pn**	06 59 38.3	+0.2
RDJH	**Redoubt Jeurge**	**3.53**	**216**		**Pn**	06 59 40.1	+1.4
RAGM	**Ragged Mountai**	**3.62**	**148**		**Pn**	06 59 40.5	+0.6
RSO	**Redoubt South**	**3.63**	**215**		**Pn**	06 59 40.7	+0.6
RDWB	**Redoubt West**	**3.63**	**216**		**Pn**	06 59 42.1	+1.9
PTPK	**Patty Peak**	**3.67**	**126**		**Pn**	06 59 43.1	+2.3
RED	**Redoubt Volcan**	**3.67**	**215**		**Pn**	06 59 42.2	+1.6
BVCY	**Beaver Creek**	**3.68**	**104**		**Pn**	06 59 41.5	+0.7
CRQM	**Cirque**	**3.75**	**135**		**Pn**	06 59 42.9	+1.1
COLD	**Coldfoot**	**3.81**	**350**	P	**Pn**	06 59 43.5	+1.1
	baz=169,SNR=104						
COLD	**Coldfoot**	**3.81**	**350**		**Pn**	06 59 43.5	+1.1
BALM	**Baldy**	**3.81**	**128**		**Pn**	06 59 44.0	+1.3
TGL	**Tana Glacier**	**3.85**	**133**		**Pn**	06 59 43.0	-0.1
KIAG	**Kiagna River**	**3.89**	**129**		**Pn**	06 59 44.9	+1.2
YUK2	**White River**	**3.96**	**112**		**Pn**	06 59 46.0	+1.4
KHIT	**Khitrov Hills**	**3.96**	**138**		**Pn**	06 59 45.6	+1.0
BARN	**Barnard Glacie**	**4.05**	**124**		**Pn**	06 59 48.7	+2.8
SVW2	**Sparrevohn**	**4.06**	**237**		**Pn**	06 59 46.3	+0.3
GRIN	**Grindle Hills**	**4.07**	**140**		**Pn**	06 59 48.0	+1.9
ILW	**Iliamna West**	**4.07**	**214**		**Pn**	06 59 48.8	+2.6
WAX	**Waxell Ridge**	**4.08**	**136**		**Pn**	06 59 47.4	+1.2
IVE	**Iliamna Volcan**	**4.08**	**213**		**Pn**	06 59 48.3	+2.0
DAWY	**Dawson**	**4.11**	**78**		**Pn**	06 59 47.0	+0.3
YUK3	**Moose Creek**	**4.12**	**111**		**Pn**	06 59 48.2	+1.2
ISLE	**Juniper Island**	**4.12**	**132**		**Pn**	06 59 46.8	-0.2
ILS	**Iliamna Low So**	**4.14**	**213**		**Pn**	06 59 49.8	+2.6
CNPM	**China Poot**	**4.18**	**199**		**Pn**	06 59 49.5	+1.9
MID	**Middleton Isla**	**4.22**	**164**		**Pn**	06 59 49.0	+0.9
CTGM	**Chitina Glacie**	**4.23**	**124**		**Pn**	06 59 50.4	+2.0
GRNC	**Granite Creek**	**4.23**	**128**		**Pn**	06 59 50.5	+2.0
BM03	**Burnt Mountain**	**4.27**	**21**		**Pn**	06 59 49.7	+0.9
BAGL	**Bagley Icefiel**	**4.29**	**132**		**Pn**	06 59 50.3	+1.3
LOGN	**Logan Glacier**	**4.45**	**124**		**Pn**	06 59 53.3	+2.1
YAH	**Yahtse**	**4.50**	**131**		**Pn**	06 59 54.0	+1.8
MESA	**MESA**	**4.57**	**134**		**Pn**	06 59 53.7	+0.6
TABL	**Table Mountain**	**4.66**	**128**		**Pn**	06 59 55.9	+1.7
RKAV	**Rock Avalanche**	**4.68**	**130**		**Pn**	06 59 56.3	+1.7
AU22	**Augustine Moun**	**4.73**	**211**		**Pn**	06 59 57.8	+2.7
AUP	**Augustine Pinn**	**4.76**	**212**		**Pn**	06 59 58.4	+2.9
CHX	**Chaix Hills**	**4.94**	**131**		**Pn**	06 59 59.7	+1.7
PS04	**TAPS Pump Stn4**	**4.96**	**357**		**Pn**	07 00 00.1	+1.8
TOLK	**Toolik Lake Re**	**5.18**	**356**	P	**Pn**	07 00 03.5	+2.1
	baz=175,SNR=195						
TOLK	**Toolik Lake Re**	**5.18**	**356**		**Pn**	07 00 03.5	+2.1
PCA	**Pinnacle**	**5.21**	**127**		**Pn**	07 00 03.5	+1.7
YUK6	**Outpost Mounta**	**5.42**	**114**		**Pn**	07 00 06.3	+1.6
YUK7	**Dusty Glacier**	**5.74**	**116**		**Pn**	07 00 11.3	+2.1
KAHC	**Katmai Hardscr**	**5.78**	**216**		**Pn**	07 00 11.4	+1.8
EPYK	**Eagle Plains**	**5.80**	**55**	P	**Pn**	07 00 10.0	+0.1
	baz=246,SNR=406						
EPYK	**Eagle Plains**	**5.80**	**55**		**Pn**	07 00 10.2	+0.4
PNL	**Peninsula**	**5.82**	**127**		**Pn**	07 00 11.4	+1.3
HYT	**Haines Junctio**	**5.83**	**112**		**Pn**	07 00 13.6	+3.2
KDAK	**Kodiak Island**	**6.06**	**201**	Pn	**Pn**	07 00 13.4	+0.1
	2.3nm,0.3s,baz=46,slow=6.9,SNR=76						
KDAK				Sn	**Sn**	07 01 20.8	-1.5
	13nm,0.3s,baz=266,slow=20,SNR=6.4						
KABU	**Katmai Buttres**	**6.18**	**215**		**Pn**	07 00 17.1	+2.0
CAHL	**Cahill**	**6.38**	**214**		**Pn**	07 00 19.9	+2.2
OHAK	**Old Harbor**	**6.71**	**203**		**Pn**	07 00 22.7	+0.4
PS01	**TAPS Pump Stn**	**6.79**	**360**		**Pn**	07 00 25.1	+1.7
WHY	**Whitehorse**	**7.03**	**108**		**Pn**	07 00 27.8	+1.0
PLBC	**Pleasant Camp**	**7.11**	**119**		**Pn**	07 00 29.3	+1.6
RDOG	**Red Dog Mine**	**7.45**	**314**	Pn	**Pn**	07 00 33.7	+1.3
ANM	**Nome**	**7.45**	**286**		**Pn**	07 00

BOZ Bozeman (W) 27.36 113 P **P** **07 04 30.9 +2.1**
baz=324
MCMT McKenzie Canyo 27.49 116 P **P** **07 04 30.9 +0.8**
MFID Camas Ranch 27.50 121 P **P** **07 04 30.8 +0.8**
HLID Hailey 27.92 119 P **P** **07 04 36.0 +2.2**
baz=328,SNR=8.7
HLID Hailey 27.92 119 P **P** **07 04 34.0 +0.2**
O03E Paynes Creek 28.10 133 P **P** **07 04 37.9 +2.5**
baz=335
YHL Hebgen Lake 28.15 114 P **P** **07 04 36.4 +0.4**
RLMT Red Lodge 28.72 111 P **P** **07 04 42.1 +1.1**
baz=324,SNR=5.8
H17A Grant Village 28.77 114 P **P** **07 04 45.5 +4.0**
baz=325
LAO LASA Array 28.78 106 P **P** **07 04 43.4 +2.1**
baz=321
FXWY Fox Creek 29.21 115 P **P** **07 04 44.8 -0.5**
BW06 Boulder Array 30.53 114 P **P** **07 04 59.3 +2.2**
baz=326,SNR=10
PDAR Pinedale Array 30.53 114 P **P** **07 04 59.5 +2.5**
comp=Z,5.2nm,0.8s,baz=328,slow=7.0,SNR=46
PDAR PcP **PcP** **07 07 55.8 +0.2**
comp=Z,0.8nm,0.8s,baz=86,slow=1.3,SNR=3.8
ULM Lac du Bonnet 30.71 90 P **P** **07 04 58.4 +0.1**
ULM IAmb IAmb 07 04 59.8
comp=Z,5.7nm,0.7s
NVAR Mina Array Bea 30.96 130 P **P** **07 05 03.4 +2.5**
comp=Z,2.8nm,0.8s,baz=312,slow=7.6,SNR=20
NVAR PcP **PcP** **07 07 57.7 +1.0**
comp=Z,1.5nm,0.7s,baz=273,slow=1.5,SNR=8.2
DUG Dugway, Tooele 31.41 121 P **P** **07 05 07.4 +2.6**
baz=330
RSSD Black Hills 31.75 106 P **P** **07 05 09.8 +2.1**
baz=323
RSSD Black Hills 31.75 106 P **P** **07 05 07.8 +0.1**
RSSD IAmb IAmb 07 05 10.5
comp=Z,9.4nm,0.8s
K22A Casper 31.88 111 P **P** **07 05 10.8 +1.8**
baz=325
R11A Troy Canyon, C 31.99 126 P **P** **07 05 11.9 +2.0**
baz=333,SNR=8.1
AGMN Agassiz Nation 32.14 93 P **P** **07 05 11.9 +1.0**
baz=318,SNR=5.9
AGMN Agassiz Nation 32.14 93 P **P** **07 05 10.8 0.0**
AGMN IAmb IAmb 07 05 12.4
comp=Z,10nm,0.7s
D32A Dogwood Acres, 32.49 96 P **P** **07 05 14.8 +0.8**
TPNV Topopah Spring 33.00 128 P **P** **07 05 20.9 +2.2**
baz=334
TPNV Topopah Spring 33.00 128 P **P** **07 05 17.0 -1.7**
FURC Furnace Creek, 33.22 129 P **P** **07 05 22.9 +2.5**
baz=335
O20A White River Ci 33.28 115 P **P** **07 05 23.2 +2.0**
baz=328,SNR=5.4
O20A White River Ci 33.28 115 P **P** **07 05 20.2 -0.9**
MPMC Manual Prospec 33.37 131 P **P** **07 05 24.7 +2.7**
baz=335
ISA Isabella, Lake 33.40 132 P **P** **07 05 25.1 +3.0**
baz=336
N23A Red Feather La 33.58 112 P **P** **07 05 25.7 +1.8**
baz=327
SHPR Sheep Range 33.79 127 P **P** **07 05 28.3 +2.7**
F33A 5 Mile Ranch, 33.80 96 P **P** **07 05 25.3 -0.2**
F33A IAmb IAmb 07 05 31.8
comp=Z,11nm,1.2s
LRMC Laurel Mtn Rad 33.83 131 P **P** **07 05 28.3 +2.3**
baz=336
GSC Goldstone, Bar 34.29 130 P **P** **07 05 32.5 +2.6**
baz=335
EYMN Ely 34.36 89 P **P** **07 05 31.3 +1.0**
baz=318,SNR=11
EYMN Ely 34.36 89 P **P** **07 05 30.9 +0.7**
PV22 Blue Mesa, Par 34.42 117 P **P** **07 05 31.2 0.0**
PV22 IAmb IAmb 07 05 34.4
comp=Z,7.8nm,0.9s
PV07 Paradox Valley 34.56 117 P **P** **07 05 32.5 +0.1**
PV07 IAmb IAmb 07 05 35.5
comp=Z,7.4nm,0.9s
ISCO Idaho Springs 34.64 113 P **P** **07 05 35.6 +2.5**
baz=328
F36A Milaca 35.02 94 P **P** **07 05 36.5 +0.5**
F36A IAmb IAmb 07 05 37.9
comp=Z,13nm,0.9s
GMRC Granite Mounta 35.16 129 P **P** **07 05 40.0 +2.6**
baz=335
ECSD EROS Data Cent 35.30 99 P **P** **07 05 39.3 +0.8**
baz=322,SNR=7.4
ECSD EROS Data Cent 35.30 99 P **P** **07 05 38.4 -0.1**
ECSD IAmb IAmb 07 05 40.1
comp=Z,12nm,1.2s
E38A The Farm, Brul 35.34 91 P **P** **07 05 39.2 +0.5**
E38A IAmb IAmb 07 05 44.5
comp=Z,12nm,0.9s
Q24A Divide 35.53 113 P **P** **07 05 43.2 +2.4**
baz=328
MVCO Mesa Verde 35.68 118 P **P** **07 05 44.0 +1.9**
baz=330
MVCO Mesa Verde 35.68 118 P **P** **07 05 42.0 0.0**
SPMN Marine on St. 35.84 94 P **P** **07 05 44.3 +1.3**
baz=321,SNR=8.8
SPMN Marine on St. 35.84 94 P **P** **07 05 43.5 +0.5**
S22A 4UR Ranch, Cre 35.89 116 P **P** **07 05 46.5 +2.6**
baz=330,SNR=6.0
IRM Iron Mountain 35.90 129 P **P** **07 05 46.2 +2.5**
baz=335
WUAZ Wupatki 36.06 123 P **P** **07 05 47.8 +2.7**
baz=333,SNR=5.4
SUMG Summit 36.32 29 *i* P **P** **07 05 47.0 -0.3**
SUMG Summit 36.32 29 P **P** **07 05 47.4 0.0**
SUMG IAmb IAmb 07 05 53.8
comp=Z,8.3nm,1.1s
SDCO Great Sand Dun 36.43 114 P **P** **07 05 50.6 +2.1**
baz=329,SNR=9.7
I37A Lemond, Waseca 36.51 96 P **P** **07 05 49.9 +1.0**
MONP2 Monument Peak 36.62 131 P **P** **07 05 52.4 +2.4**
baz=336
L34A Svendsen Farm, 36.82 101 P **P** **07 05 51.9 +0.5**
G40A Rib Lake 36.97 91 IAmb IAmb 07 05 54.3
comp=Z,12nm,0.7s
I40A Norwalk 37.85 93 P **P** **07 06 00.6 +0.4**
I40A IAmb IAmb 07 06 02.1
comp=Z,9.4nm,0.8s
CBKS Cedar Bluff 37.94 107 P **P** **07 06 02.9 +1.8**
baz=327
CBKS Cedar Bluff 37.94 107 P **P** **07 06 03.1 +2.0**
CBKS IAmb IAmb 07 06 03.6
comp=Z,13nm,0.8s
ANMO Albuquerque 38.46 118 P **P** **07 06 08.1 +2.5**
baz=331
D46A Sault St. Mari 38.49 84 P **P** **07 06 05.9 +0.3**
baz=320
R32A Long Quarter, 38.71 106 P **P** **07 06 07.8 +0.3**
R32A IAmb IAmb 07 06 09.7
comp=Z,16nm,0.9s
214A Organ Pipe Nat 38.72 127 P **P** **07 06 10.1 +2.5**
baz=335
E46A Sault Ste Mari 38.77 85 P **P** **07 06 08.3 +0.4**
D47A Chapleau 38.78 83 P **P** **07 06 08.4 +0.5**
baz=319
JFWS Jewell Farm 38.79 94 P **P** **07 06 08.2 +0.1**
baz=322
JFWS Jewell Farm 38.79 94 P **P** **07 06 08.1 0.0**
JFWS IAmb IAmb 07 06 09.3
comp=Z,7.5nm,0.7s
L40A Anamosa 39.03 95 P **P** **07 06 10.5 +0.4**
L40A IAmb IAmb 07 06 11.3
comp=Z,9.2nm,0.5s
KSU1 Kansas State U 39.06 103 P **P** **07 06 11.5 +1.1**
baz=326
KSU1 Kansas State U 39.06 103 P **P** **07 06 11.2 +0.9**
KSU1 IAmb IAmb 07 06 12.0
comp=Z,19nm,1.1s
TUC Tucson 39.13 125 P **P** **07 06 13.4 +2.3**
baz=334
E47A Iron Bridge 39.16 84 P **P** **07 06 11.9 +0.8**
baz=320
D48A Paudash Townsh 39.27 82 P **P** **07 06 12.4 +0.3**
baz=319
G46A Petoskey 39.33 87 P **P** **07 06 13.5 +1.0**
baz=321
K43A Burlington 39.82 92 P **P** **07 06 16.3 -0.3**
K43A IAmb IAmb 07 06 23.2
comp=Z,29nm,1.1s
F48A Evansville 39.94 84 P **P** **07 06 17.5 -0.1**
baz=320
P38A Dawn 39.98 100 P **P** **07 06 18.6 +0.6**
P38A IAmb IAmb 07 06 24.7
comp=Z,11nm,1.0s
D50A G1974 Best Tow 40.15 80 P **P** **07 06 20.2 +0.8**
baz=320
D51A Lot 18 Range I 40.41 80 P **P** **07 06 21.7 +0.2**
baz=320
AMTX Amarillo 40.46 112 P **P** **07 06 24.1 +1.9**
baz=330
CHGQ Chibougamau 40.46 73 P **P** **07 06 21.6 -0.3**
baz=318
I47A Gladwin 40.49 87 P **P** **07 06 23.3 +1.1**
baz=322
I47A Gladwin 40.49 87 P **P** **07 06 22.9 +0.7**
I47A IAmb IAmb 07 06 24.1
comp=Z,16nm,1.1s
P40A Paris 40.72 99 P **P** **07 06 23.5 -0.6**
P40A IAmb IAmb 07 06 25.4
comp=Z,12nm,1.1s
E51A G1948 Merrick 40.78 81 P **P** **07 06 25.2 +0.6**
baz=320
MSTX Muleshoe 40.80 114 P **P** **07 06 26.9 +1.9**
baz=331
MSTX Muleshoe 40.80 114 P **P** **07 06 25.8 +0.8**
MSTX IAmb IAmb 07 06 27.5
comp=Z,7.6nm,0.8s
D52A ZEK Kipawa Sen 40.92 80 P **P** **07 06 25.9 +0.2**
baz=320,SNR=5.8
T35A Sooner Cattle 40.92 105 P **P** **07 06 24.8 -1.1**
T35A IAmb IAmb 07 06 27.4
comp=Z,14nm,1.4s
D53A Lac Vacive, Po 41.16 79 P **P** **07 06 27.5 -0.2**
baz=320
E52A Mattawa 41.34 80 P **P** **07 06 29.0 -0.2**
baz=320
D54A Lac Fusel, La 41.56 78 P **P** **07 06 30.9 -0.1**
baz=320
J49A Marlette 41.63 87 P **P** **07 06 32.6 +1.1**
baz=322
E53A Dumoine, Ponti 41.71 79 P **P** **07 06 32.3 +0.1**
baz=320
MNTX Cornudas Mount 41.74 119 P **P** **07 06 34.5 +1.9**
baz=333
WMOK Wichita Mounta 41.80 109 P **P** **07 06 34.4 +1.3**
baz=329
WMOK Wichita Mounta 41.80 109 P **P** **07 06 33.6 +0.6**
ALGO Algonquin Park 41.87 80 P **P** **07 06 33.3 -0.2**
baz=321
E54A Lac Daplat, Po 41.88 79 P **P** **07 06 34.3 +0.7**
baz=320
L48A N Adams 42.17 89 P **P** **07 06 36.4 +0.4**
I51A Listowel 42.22 85 P **P** **07 06 37.4 +1.0**
baz=322
SFIN Lafayette 42.23 93 P **P** **07 06 37.1 +0.5**
baz=324
U38A Gravette 42.25 103 P **P** **07 06 36.1 -0.6**
CCM Cathedral Cave 42.28 99 P **P** **07 06 36.9 -0.1**
baz=326
N47A Urbana 42.46 91 IAmb IAmb 07 06 39.3
comp=Z,19nm,0.6s
D56A ZEC Mazanza, M 42.47 77 P **P** **07 06 38.1 -0.3**
baz=320
MGMO Mountain Grove 42.58 101 P **P** **07 06 38.9 -0.5**
E56A St. Veronique 42.74 77 P **P** **07 06 39.5 -1.1**
baz=321
P46A Rosedale 42.80 94 P **P** **07 06 41.1 0.0**
P46A IAmb IAmb 07 06 42.5
comp=Z,18nm,0.7s
U40A Yellville 42.99 102 P **P** **07 06 42.7 -0.1**
baz=327
U40A Yellville 42.99 102 P **P** **07 06 42.0 -0.8**
N49A Columbus Grove 43.10 90 P **P** **07 06 44.3 +0.7**
N49A IAmb IAmb 07 06 44.8
comp=Z,14nm,0.7s
TRQ Mont Tremblant 43.20 77 P **P** **07 06 43.9 -0.5**
O48A Farmland 43.20 91 P **P** **07 06 44.5 +0.1**
baz=324,SNR=9.0
E57A Chemin Saint G 43.23 77 P **P** **07 06 44.2 -0.4**
baz=321
D58A Chemin du LacG 43.25 75 P **P** **07 06 43.8 -0.9**
baz=321
S44A Carbondale 43.47 97 P **P** **07 06 46.9 +0.4**
S44A IAmb IAmb 07 06 47.8
comp=Z,16nm,0.6s
BLO Bloomington 43.47 94 P **P** **07 06 46.6 0.0**
W39A Magazine 43.56 104 P **P** **07 06 47.8 +0.5**
baz=328
O49A Covington 43.63 91 P **P** **07 06 47.4 -0.4**
O49A IAmb IAmb 07 06 48.7
comp=Z,14nm,0.7s
PBMO Poplar Bluff 43.70 99 P **P** **07 06 48.4 0.0**
PBMO IAmb IAmb 07 06 49.4
comp=Z,11nm,0.8s
N51A Ashland 43.92 88 P **P** **07 06 50.9 +0.7**
baz=324
P49A Miami Univ. Ec 43.99 92 P **P** **07 06 50.2 -0.5**
baz=325
HENM Henderson Moun 44.18 98 P **P** **07 06 52.7 +0.4**
ACSO Alum Creek Sta 44.20 90 P **P** **07 06 53.1 +0.7**
baz=328,SNR=5.9
ACSO Alum Creek Sta 44.20 90 P **P** **07 06 52.3 -0.1**
MIAR Mount Ida 44.20 104 P **P** **07 06 53.0 +0.5**
baz=328
MIAR Mount Ida 44.20 104 P **P** **07 06 52.2 -0.2**
M53A WI Miller and 44.26 86 P **P** **07 06 53.6 +0.7**
baz=324
N52A McGinn's Farm, 44.31 88 P **P** **07 06 53.7 +0.4**
baz=324
ALLY Alegheny Colle 44.33 86 P **P** **07 06 53.5 0.0**
ALLY IAmb IAmb 07 06 55.1
comp=Z,28nm,1.2s
WCI Wyandotte Cave 44.35 94 P **P** **07 06 54.0 +0.4**
baz=326
WCI Wyandotte Cave 44.35 94 P **P** **07 06 53.7 +0.1**
WCI IAmb IAmb 07 06 54.3
comp=Z,9.2nm,0.6s
O51A Pataskala 44.44 89 P **P** **07 06 54.8 +0.5**
baz=324,SNR=12
TXAR Lajitas Array 44.51 118 P **P** **07 06 57.1 +2.0**
comp=Z,2.2nm,0.7s,baz=327,slow=7.2,SNR=31
F60A Warwick 44.53 75 P **P** **07 06 54.5 -0.5**
baz=322
UALR University of 44.54 103 P **P** **07 06 55.4 +0.2**
X40A Basin Creek Fa 44.57 103 P **P** **07 06 55.8 +0.4**
baz=328
M54A Oil Creek Stat 44.66 86 P **P** **07 06 56.9 +0.8**
baz=324
M54A Oil Creek Stat 44.66 86 IAmb IAmb 07 07 02.6
comp=Z,7.6nm,0.9s
L55A Hinde 44.66 84 P **P** **07 06 57.4 +1.2**
baz=323
N53A Lisbon 44.70 87 P **P** **07 06 56.9 +0.5**
baz=324,SNR=6.0
O52A Adamsville 44.81 89 P **P** **07 06 57.8 +0.5**
baz=324
Q51A Peebles 45.02 91 P **P** **07 06 58.9 0.0**
JCT Junction City 45.06 113 P **P** **07 07 00.8 +1.3**
baz=332
JCT Junction City 45.06 113 P **P** **07 07 00.8 +1.3**
JCT IAmb IAmb 07 07 10.1
comp=Z,7.3nm,1.1s
P52A Corning 45.06 89 P **P** **07 06 59.6 +0.3**
baz=325
M55A Ridgway 45.09 85 P **P** **07 07 00.3 +0.7**
baz=324
M56A Emporium 45.34 84 P **P** **07 07 02.4 +0.8**
baz=324
WVT Waverly 45.40 97 P **P** **07 07 02.6 +0.6**
baz=327
WVT Waverly 45.40 97 P **P** **07 07 02.1 +0.1**
WVT IAmb IAmb 07 07 03.5
comp=Z,5.8nm,0.7s
O54A Avella 45.41 87 P **P** **07 07 01.9 -0.1**
baz=324,SNR=9.3
O54A Avella 45.41 87 P **P** **07 07 01.1 -1.0**
P53A Whipple 45.52 89 P **P** **07 07 03.2 +0.3**
baz=325
P53A Whipple 45.52 89 P **P** **07 07 02.4 -0.6**
P53A IAmb IAmb 07 07 03.9
comp=Z,12nm,0.8s
N55A Marion Center 45.55 86 P **P** **07 07 03.5 +0.3**
baz=324
Q52A Bidwell 45.55 90 P **P** **07 07 03.2 0.0**
baz=325,SNR=7.1
P54A Burton 45.83 88 P **P** **07 07 05.6 +0.1**
baz=325,SNR=5.3
O55A Ligonier 45.87 86 P **P** **07 07 05.8 +0.1**
baz=324
Q53A Leroy 45.97 89 P **P** **07 07 06.5 0.0**
baz=325,SNR=7.9
T50A Nancy 45.99 94 IAmb IAmb 07 07 08.2
comp=Z,15nm,1.0s
U49A Red Boiling Sp 45.99 95 P **P** **07 07 06.8 +0.1**
S51A Beattyville 46.04 92 P **P** **07 07 06.9 -0.2**
S51A IAmb IAmb 07 07 08.0
comp=Z,12nm,0.8s
OXF Oxford 46.05 100 P **P** **07 07 08.2 +1.0**
baz=328
OXF Oxford 46.05 100 P **P** **07 07 07.6 +0.4**
MCWV Mont Chateau 46.07 87 P **P** **07 07 07.9 +0.6**
baz=325
CLTN Cedars of Leba 46.10 96 P **P** **07 07 08.1 +0.5**
CLTN IAmb IAmb 07 07 09.8
comp=Z,10nm,0.9s
O56A Blue Knob Stat 46.15 86 P **P** **07 07 08.3 +0.4**
baz=324
SSPA Standing Stone 46.15 85 P **P** **07 07 07.4 -0.6**
baz=324
V48A Smith Brothers 46.17 97 P **P** **07 07 07.7 -0.5**
V48A IAmb IAmb 07 07 14.5
comp=Z,11nm,1.1s
Q54A Coxs Mills 46.18 89 P **P** **07 07 08.3 +0.2**
baz=325
P55A Reedsville 46.20 87 P **P** **07 07 08.8 +0.4**
baz=325,SNR=5.4
R53A Hurricane 46.21 90 P **P** **07 07 08.7 +0.3**
baz=325
R53A Hurricane 46.21 90 P **P** **07 07 08.2 -0.2**
PKME Peaks-Kenny Pk 46.24 74 P **P** **07 07 08.2 -0.3**
baz=322
PLAL Pickwick Lake 46.25 98 P **P** **07 07 08.7 -0.1**
PLAL IAmb IAmb 07 07 15.4
comp=Z,8.0nm,1.1s
Q55A Buckhannon 46.51 88 P **P** **07 07 11.2 +0.4**
baz=325
O57A Amberson 46.61 85 P **P** **07 07 11.8 +0.2**
baz=324
S53A Williamson 46.66 91 P **P** **07 07 12.4 +0.4**
baz=326
R54A Victor 46.76 89 P **P** **07 07 12.8 0.0**
baz=325
Q56A Snyder Ridge, 46.87 87 P **P** **07 07 14.1 +0.5**
baz=325
Q56A Snyder Ridge, 46.87 87 IAmb IAmb 07 07 15.0
comp=Z,13nm,1.2s
S54A Dingess, Beckl 46.93 90 P **P** **07 07 14.2 0.0**
baz=326
TZTN Tazewell 46.97 93 P **P** **07 07 15.2 +0.8**
baz=326,SNR=6.4
TZTN Tazewell 46.97 93 P **P** **07 07 13.8 -0.6**
T53A Wise 47.06 92 P **P** **07 07 15.4 +0.3**
baz=326
R55A Marlinton 47.07 89 P **P** **07 07 15.6 +0.3**
baz=325
X48A Hartselle 47.15 98 IAmb IAmb 07 07 17.0
comp=Z,6.3nm,0.7s
USRK Ussuriysk Ar. 47.16 285 P **P** **07 07 16.6 +0.9**
comp=Z,1.1nm,0.7s,baz=28,slow=8.6,SNR=4.0
ARCES ARCESS Array B 47.18 3 P **P** **07 07 15.0 -0.6**
comp=Z,1.6nm,0.6s,baz=359,slow=8.5,SNR=14
R56A Bull Pasture M 47.29 88 P **P** **07 07 17.2 +0.2**
baz=325
S55A Lewisburg 47.32 89 P **P** **07 07 17.6 +0.4**
baz=326
T54A Tazewell 47.42 91 P **P** **07 07 18.3 +0.3**
baz=326
V52A Sevierville 47.53 94 P **P** **07 07 18.7 -0.1**
V52A IAmb IAmb 07 07 20.1
comp=Z,5.7nm,0.7s
Q58A Fox Den Farm, 47.62 86 P **P** **07 07 19.9 +0.4**
baz=325
FPAL Fort Paine 47.72 96 P **P** **07 07 20.0 -0.2**
Z47A Carrollton 47.76 100 P **P** **07 07 20.4 -0.1**
U54A Nelsons Funny 47.76 91 P **P** **07 07 21.4 +0.8**
baz=326,SNR=5.2
S56A Natural Bridge 47.82 89 P **P** **07 07 21.6 +0.6**
baz=326
BLA Blacksburg 47.82 90 P **P** **07 07 21.6 +0.6**
baz=326
Y49A Blount Mountai 47.93 98 P **P** **07 07 22.4 +0.5**
Y49A IAmb IAmb 07 07 23.4
comp=Z,9.9nm,0.8s
U55A TA2, Sparta 48.12 91 P **P** **07 07 24.0 +0.6**
baz=326,SNR=9.1
T56A Rocky Mt 48.14 89 P **P** **07 07 23.9 +0.3**
baz=326
V54A Nebo 48.32 92 P **P** **07 07 25.7 +0.8**
baz=327,SNR=8.0
CBN Corbin Frederi 48.37 86 P **P** **07 07 26.1 +0.9**
baz=326
R59A King George, V 48.48 86 P **P** **07 07 27.1 +1.0**
baz=326
T57A Hurt 48.52 89 P **P** **07 07 26.5 +0.1**
baz=326
S58A Poland Farm, P 48.55 87 P **P** **07 07 27.6 +1.0**
baz=326
U56A King 48.55 90 P **P** **07 07 27.2 +0.6**
baz=326
V55A Taylorsville 48.59 91 P **P** **07 07 27.4 +0.5**
baz=327
S59A Mechanicsville 48.77 86 P **P** **07 07 29.4 +1.2**
baz=326
W54A Cherokee Point 48.79 93 P **P** **07 07 29.2 +0.7**
baz=327
T58A Grand View Acr 48.88 88 P **P** **07 07 29.4 +0.3**
baz=326
Z51A Franklin 48.94 97 P **P** **07 07 29.9 +0.2**
V56A Mocksville 48.95 91 P **P** **07 07 30.2 +0.6**
baz=327
U57A Blanch 48.95 89 P **P** **07 07 30.4 +0.7**
baz=326
Y52A Lilburn 48.98 95 P **P** **07 07 30.4 +0.5**
KMSC Kings Mountain 49.13 92 P **P** **07 07 31.4 +0.3**
baz=327
X54A Belton 49.16 93 P **P** **07 07 32.2 +0.8**
baz=327,SNR=5.6
PAULI Pauline 49.18 93 P **P** **07 07 32.0 +0.5**
W56A Indian Trail 49.47 91 P **P** **07 07 34.2 +0.5**
baz=327
HODGE Hodges 49.47 93 P **P** **07 07 34.0 +0.2**
X55A Gracelyn & Ava 49.55 93 P **P** **07 07 35.0 +0.6**
baz=327,SNR=5.5
250A Grady 49.59 99 IAmb IAmb 07 07 35.8
comp=Z,8.3nm,0.7s
GOGA Godfrey 49.62 95 P **P** **07 07 35.3 +0.4**
baz=328
152A Waverly Hall 49.69 97 P **P** **07 07 34.8 -0.6**
U59A Littleton 49.71 88 P **P** **07 07 36.5 +1.0**
baz=326
W57A Gilead 49.72 91 P **P** **07 07 36.0 +0.4**
baz=327
X56A White Oak 49.80 92 P **P** **07 07 36.8 +0.6**
baz=327,SNR=12
JSC Jenkinsville 49.88 93 P **P** **07 07 36.9 +0.1**
JSC IAmb IAmb 07 07 38.1
comp=Z,9.3nm,0.7s
Y55A Saluda 49.90 93 P **P** **07 07 37.6 +0.7**
baz=328,SNR=7.5
BIRD Birdtown, Kers 49.93 92 P **P** **07 07 37.9 +0.7**
BIRD IAmb IAmb 07 07 38.5
comp=Z,10nm,0.8s
V59A Middlesex 49.99 89 P **P** **07 07 38.4 +0.7**
baz=327
W58A Raeford 50.17 90 P **P** **07 07 39.6 +0.6**
baz=327
X57A Johnson Farm, 50.25 91 P **P** **07 07 40.5 +0.9**
baz=327
Y56A Pelion 50.27 93 P **P** **07 07 40.7 +0.9**
baz=328
Y57A Sumter 50.49 92 P **P** **07 07 42.1 +0.7**
baz=327
Z56A Williston 50.63 93 P **P** **07 07 43.3 +0.7**
baz=328
MJAR Matsushiro Arr 50.65 274 P **P** **07 07 44.0 +1.4**
comp=Z,1.5nm,0.8s,baz=9.2,slow=6.3,SNR=4.7
Z57A Bowman 50.96 93 P **P** **07 07 45.7 +0.8**
baz=328
Y59A Loris 51.20 91 P **P** **07 07 47.6 +0.9**
baz=327
TIGA Tifton 51.24 97 P **P** **07 07 47.5 +0.4**
baz=329
NHSC New Hope 51.35 92 P **P** **07 07 49.1 +1.2**
baz=328
SONM Songino Array 54.41 307 P **P** **07 08 10.9 +0.4**
comp=Z,0.9nm,0.6s,baz=3.8,slow=4.6,SNR=3.6

KSRS	**Korea Array**	**54.44**	**284**	P		**P**	**07 08 10.9**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=26,slow=7.0,SNR=7.7							
NOA	**NORSAR Array B**	**54.84**	**12**	P		**P**	**07 08 12.4**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=350,slow=7.5,SNR=2.4							
FINES	**FINESS Array B**	**55.31**	**3**	P		**P**	**07 08 15.5**	**-1.1**
	comp=Z,1.0nm,0.5s,baz=5.0,slow=7.7,SNR=12							
ZALV	**Zalesovo Beam**	**55.76**	**325**	P		**P**	**07 08 19.1**	**-0.9**
	comp=Z,1.8nm,0.4s,baz=24,slow=5.7,SNR=6.9							
HHC	**Hu-ho-hao-te**	**58.40**	**299**	*eP*		**P**	**07 08 41.3**	**+2.3**
HHC					pmax	pmax		
	comp=Z,12nm,0.9s							
HHC					pmax	pmax		
	comp=Z,300nm,5.7s							
ARU	**Arti**	**58.58**	**343**	P		**P**	**07 08 39.2**	**-0.7**
BRVK	**Borovoye**	**59.89**	**334**	P		**P**	**07 08 48.1**	**-0.8**
BRVK					IAmb	IAmb	07 08 49.5	
	comp=Z,6.1nm,1.2s							
KURK	**Kurchatov**	**60.26**	**328**	P		**P**	**07 08 50.4**	**-1.1**
NJ2	**Nanjing**	**62.95**	**288**	*eP*		**P**	**07 09 10.0**	**+0.1**
NJ2					pmax	pmax		
	comp=Z,7.0nm,0.5s							
MK31	**Makanchi Array**	**62.95**	**323**	P		**P**	**07 09 07.8**	**-2.1**
MKAR	**Makanchi Array**	**62.95**	**323**	P		**P**	**07 09 08.2**	**-1.6**
	comp=Z,1.2nm,0.4s,baz=48,slow=6.9,SNR=20							
MAKZ	**Makanchi**	**63.02**	**323**	P		**P**	**07 09 09.2**	**-1.1**
JOW	**Kunigami**	**63.32**	**277**	P		**P**	**07 09 11.7**	**-0.8**
WMQ	**Urumqi**	**64.13**	**318**	*eP*		**P**	**07 09 20.8**	**+3.1**
WMQ					pmax	pmax		
	comp=Z,10.0nm,0.7s							
WMQ					pmax	pmax		
	comp=Z,260nm,7.1s							
XAN	**Xi'an**	**65.34**	**297**	P		P	07 09 20.5	-5.2
XAN					pP	pP	07 09 28.5	-2.4
XAN					pmax	pmax		
	comp=Z,6.0nm,0.6s							
XAN					LR	LR		
	comp=N,350nm,18.6s							
XAN					LR	LR		
	comp=E,520nm,14.7s							
XAN					LR	LR		
	comp=Z,530nm,17.7s							
ABKAR	**Akbulak array**	**65.36**	**340**	P		**P**	**07 09 24.8**	**-0.7**
ABKAR					IAmb	IAmb	07 09 25.7	
	comp=Z,5.7nm,0.6s							
AKASG	**Malin Array Be**	**66.13**	**2**	P		**P**	**07 09 29.8**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=1.7,slow=6.3,SNR=9.4							
GERES	**GERESS Array B**	**67.13**	**13**	P		**P**	**07 09 37.2**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=1.4,slow=5.3,SNR=5.1							
DAVA	**Damuels**	**68.25**	**16**	*i* P		**P**	**07 09 44.3**	**+0.1**
	comp=Z,6.9nm,1.4s							
MOTA	**Moosalm**	**68.34**	**15**	*i* P		**P**	**07 09 44.3**	**-0.5**
	comp=Z,3.7nm,1.3s							
WATA	**Walderalm**	**68.40**	**14**	*i* P		**P**	**07 09 41.7**	**-3.4**
	comp=Z,4.7nm,1.3s							
SQTA	**Sankt Quirin**	**68.47**	**15**	*i* P		**P**	**07 09 41.3**	**-4.2**
	comp=Z,3.5nm,0.8s							
WTTA	**Wattenberg**	**68.48**	**14**	*i* P		**P**	**07 09 41.7**	**-3.9**
	comp=Z,4.0nm,0.9s							
KBA	**Koelnbreinsper**	**68.84**	**13**	*i* P		**P**	**07 09 44.7**	**-3.2**
	comp=Z,5.2nm,1.1s							
BUR08	**Bucovina Ar. S**	**69.10**	**5**	P		**P**	**07 09 48.9**	**-0.5**
KK31	**Karatay Array**	**69.31**	**330**	P		**P**	**07 09 49.8**	**-0.8**
KK31					IAmb	IAmb	07 09 50.4	
	comp=Z,3.2nm,0.9s							
KKAR	**Karatay Array**	**69.31**	**330**	P		**P**	**07 09 49.7**	**-1.0**
KKAR					IAmb	IAmb	07 09 50.4	
	comp=Z,3.2nm,0.9s							
SOKA	**Soboth**	**69.41**	**12**	*i* pP		**P**	**07 09 51.9**	**+0.6**
	comp=Z,5.9nm,1.6s							
OBKA	**Obir**	**69.53**	**12**	*i* P		**P**	**07 09 51.3**	**-0.8**
	comp=Z,4.0nm,0.6s							
KBZ	**Khabaz**	**72.73**	**351**	P		**P**	**07 10 10.9**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=34,slow=11,SNR=2.5							
GYA	**Guiyang**	**72.93**	**295**	*eP*		P	07 10 18.0	+5.0
GYA					pmax	pmax		
	comp=Z,7.0nm,0.5s							
ESDC	**Sonseca Array**	**73.38**	**28**	P		**P**	**07 10 14.8**	**-0.6**
	comp=Z,3.7nm,0.7s,baz=342,slow=6.0,SNR=20							
SMLC	**San Martn de**	**75.26**	**100**	*eP*		**P**	**07 10 25.6**	**-1.0**
DBBC	**Dabeiba**	**75.91**	**103**	*eP*		**P**	**07 10 30.7**	**+0.4**
ZARC	**Zaragoza, Cauc**	**76.08**	**101**	*eP*		**P**	**07 10 30.9**	**-0.4**
OCAC	**Ocana**	**76.10**	**100**	*eP*		**P**	**07 10 31.3**	**-0.2**
GEYT	**Alibeck**	**76.70**	**339**	P		**P**	**07 10 34.2**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=308,slow=7.4,SNR=4.6							
HELC	**Santa Helena**	**76.95**	**103**	*eP*		**P**	**07 10 36.2**	**-0.3**
CBOC	**Ciudad Bolivar**	**77.03**	**103**	*eP*		**P**	**07 10 34.7**	**-2.1**
PTBC	**PUERTO BERRIO,**	**77.11**	**101**	*eP*		**P**	**07 10 36.4**	**-0.6**
BARC	**Barichara**	**77.62**	**100**	*eP*		**P**	**07 10 40.2**	**0.0**
NIL	**Nilore**	**77.64**	**325**	P		**P**	**07 10 39.4**	**-0.5**
NIL					IAmb	IAmb	07 10 39.5	
	comp=Z,7.1nm,0.8s							
GUY2C	**Guyana, Caldas**	**77.88**	**103**	*eP*		**P**	**07 10 41.9**	**0.0**
SPBC	**San Pablo de B**	**78.07**	**101**	*eP*		**P**	**07 10 42.1**	**-0.4**
RRBC	**El Recreo**	**78.18**	**102**	*eP*		**P**	**07 10 43.9**	**+0.1**
RUSC	**La Rusia**	**78.29**	**100**	*eP*		**P**	**07 10 44.0**	**-0.2**
RUSC	**La Rusia**	**78.29**	**100**	P		**P**	**07 10 44.2**	**0.0**
TOLC	**Tolima**	**78.47**	**103**	*eP*		**P**	**07 10 44.7**	**-0.3**
YOTC	**Yotoco, Valle**	**78.56**	**104**	*eP*		**P**	**07 10 43.6**	**-1.7**
ROSC	**El Rosal**	**78.68**	**102**	P		**P**	**07 10 47.3**	**+1.1**
	comp=Z,12nm,0.6s,baz=108,slow=11,SNR=5.7							
ROSC	**El Rosal**	**78.68**	**102**	P			**07 10 46.7**	**+0.5**
ORTC	**Ortega, Tolima**	**79.11**	**103**	*eP*		**P**	**07 10 47.0**	**-1.2**
CHIC	**Chingaza**	**79.13**	**102**	*eP*		**P**	**07 10 48.4**	**-0.3**
PRAC	**Prado**	**79.44**	**103**	*eP*		**P**	**07 10 49.0**	**-1.0**
BBAC	**Balboa, Cauca**	**79.93**	**106**	*eP*		**P**	**07 10 52.0**	**-0.9**
CMAR	**Chiang Mai Arr**	**83.20**	**298**	P		**P**	**07 11 09.2**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=0.2,slow=5.2,SNR=4.2							
PTGA	**Pitinga**	**90.02**	**92**	P		**P**	**07 11 42.7**	**-0.6**
	comp=Z,4.1nm,0.7s,baz=352,slow=9.3,SNR=6.5							
PTGA	**Pitinga**	**90.02**	**92**	P		**P**	**07 11 43.5**	**+0.3**
PTGA					IAmb	IAmb	07 11 44.2	
	comp=Z,8.7nm,1.0s							
NNA	**Nana**	**92.68**	**112**	P		**P**	**07 11 55.6**	**+0.1**
	comp=Z,6.3nm,0.7s,baz=18,slow=3.2,SNR=2.0							
NNA	**Nana**	**92.68**	**112**	P		**P**	**07 11 56.1**	**+0.6**
VNDA	**Vanda**	**144.00**	**196**	PKP		PKPbc	07 18 15.4	+0.3
	comp=Z,4.7nm,0.9s,baz=352,slow=3.6,SNR=30							
BOSA	**Boshof**	**144.88**	**9**	PKP		**PKPab**	**07 18 17.8**	**-1.6**
	comp=Z,2.7nm,0.7s,baz=16,slow=4.3,SNR=8.7							
CASY	**Casey**	**148.39**	**229**			**PKPbc**	**07 18 28.0**	**-0.3**
QSPA	**South Pole Qui**	**153.31**	**180**			**PKPbc**	**07 18 40.0**	**-0.1**
QSPA					PKPab	**PKPab**	**07 18 52.9**	**+0.6**

*IDC **29** 07:04:47.5±1.1, 13°.33N×120°.15E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.5/40, mbtmp3.8/5, Error ellipse: s-maj=21.2km s-min=12.2km az=125.0*
*MAN **29** 07:04:54.8, 13°.53N×120°.46E, h45km, mb4.6, ML3.5, MS3.3*
MAN Intensity II - Puerto Galera Oriental Mindoro.
ISC 29 07:04:55.2±0.9, 13°.53N±0°.04×120°.46E±0°.05, h60km±7km, n20, σ0s87/29, mb4.0/5, 3C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.29**	**314**	*eP*	**Pn**	**07 05 06.0**	**+0.7**
LUBP				*eS*	**Sn**	**07 05 12.4**	**-0.2**
PGP	**Puerto Galera**	**0.48**	**93**	⇑*eP*	**Pn**	**07 05 06.2**	**-0.8**
PGP				*i* S	**Sn**	**07 05 15.6**	**+0.1**
TGY	**Tagaytay City**	**0.73**	**39**	Pg	**Pn**	**07 05 10.2**	**+0.3**
	851nm,0.3s,baz=238,slow=9.5,SNR=66						
TGY				Lg	Lg	07 05 21.6	
	3µm,0.3s,baz=135,slow=22,SNR=20						
TGY	**Tagaytay City**	**0.73**	**39**	⇓*eP*	**Pn**	**07 05 10.4**	**+0.5**
TGY				*eS*	**Sn**	**07 05 21.4**	**+0.7**
LQP	**Lukban**	**1.20**	**61**	⇑*iP*	**Pn**	**07 05 15.6**	**-0.4**
LQP				*i* S	**Sn**	**07 05 32.0**	**+0.5**
SJMP	**San Jose**	**1.24**	**149**	*eP*	**Pn**	**07 05 16.7**	**+0.3**
SJMP				*eS*	**Sn**	**07 05 32.8**	**+0.6**
BOAC	**Boac**	**1.34**	**93**	*eP*	**Pn**	**07 05 16.6**	**-1.2**
BOAC				*eS*	**Sn**	**07 05 33.6**	**-1.1**
POLP	**Polilio Island**	**1.86**	**50**	*eP*	**Pn**	**07 05 24.5**	**-0.3**
OTRP	**Odiongan**	**1.91**	**127**	*eP*	**Pn**	**07 05 26.0**	**+0.5**
OTRP				*eS*	**Sn**	**07 05 49.0**	**+0.6**
GQP	**Guinayangan**	**1.96**	**79**	⇑*eP*	**Pn**	**07 05 27.7**	**+1.5**
GQP				*i* S	**Sn**	**07 05 50.6**	**+0.9**
BALP	**Baler**	**2.45**	**26**	*eP*	**Pn**	**07 05 33.0**	**+0.2**
ENPP	**El Nido**	**2.52**	**204**	*eP*	**Pn**	**07 05 34.4**	**+0.6**
ENPP				*eS*	**Sn**	**07 06 02.3**	**-1.0**
CUYO	**Cuyo Island**	**2.72**	**168**	*eP*	**Pn**	**07 05 36.5**	**+0.1**
RCP	**Roxas**	**2.97**	**131**	⇓*eP*	**Pn**	**07 05 41.7**	**+1.8**
CNOP	**Candoni, Negro**	**4.25**	**150**	*eP*	**Pn**	**07 05 58.6**	**+1.1**
WRA	**Warramunga Arr**	**35.95**	**157**	P	**P**	**07 11 48.9**	**-1.4**
	1.1nm,0.3s,baz=331,slow=10,SNR=6.0						
SONM	**Songino Array**	**36.16**	**344**	P	**P**	**07 11 52.0**	**+0.2**
	1.1nm,0.5s,baz=170,slow=10,SNR=5.3						
ASAR	**Alice Springs**	**39.23**	**160**	P	**P**	**07 12 17.4**	**-0.6**
	1.0nm,0.5s,baz=339,slow=6.9,SNR=27						
MKAR	**Makanchi Array**	**46.03**	**324**	P	**P**	**07 13 13.8**	**+0.9**
	0.5nm,0.5s,baz=127,slow=8.5,SNR=7.6						
ZALV	**Zalesovo Beam**	**49.10**	**333**	P	**P**	**07 13 35.8**	**-0.6**
	0.6nm,0.4s,baz=120,slow=8.5,SNR=3.0						

*TIR **29** 07:14:02.0, 42°.92N×21°.09E, h6km, Md3.0/4*
*PRU **29** 07:14:03.8±0.0, 42°.87N×21°.11E, h0km*
*RHSSO **29** 07:14:04.8±0.6, 42°.86N×21°.02E, h4km±2km, ML3.2/10*
*PDG **29** 07:14:04.7±0.4, 42°.86N×21°.00E, h12km, MD3.2/1, ML3.2/13, Error ellipse: s-maj=0.5km s-min=0.5km az=0.0*
*BEO **29** 07:14:04.9±0.3, 42°.83N×20°.98E, h5km±2km, ML3.3/15*
*THE **29** 07:14:05.3, 42°.95N×20°.95E, h20km±12km, ML3.2/1, Error ellipse: s-maj=17.2km s-min=1.4km az=341.0*
*SKO **29** 07:14:05.5, 42°.85N×21°.01E, h4km*
*SOF **29** 07:14:07.7, 42°.64N×21°.24E, h11km, MD3.3*
ISC 29 07:14:04.9±1.0, 42°.88N±0°.02×21°.01E±0°.01, h9km±8km, n116, σ1s20/195, 22C-14D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELS	**Selova**	**0.35**	**13**	*ePg*	**Pg**	**07 14 12.1**	**+0.2**
SELS				*eSg*	**Sg**	**07 14 17.1**	**+0.5**
BARS	**Barje**	**0.59**	**96**	*ePg*	**Pg**	**07 14 16.8**	**+0.4**
BARS				*eSg*	**Sg**	**07 14 24.6**	**+0.4**
IVA	**Berane**	**0.82**	**270**	⇑*iPg*	**Pg**	**07 14 19.6**	**-1.2**
IVA				*i* Sg	**Sb**	**07 14 32.5**	**-0.2**
PVY	**Plav**	**0.83**	**250**	⇓*iPg*	**Pg**	**07 14 19.7**	**-1.1**
PVY				*i* Sg	**Sb**	**07 14 32.6**	**-0.2**
SJES	**Sjenica**	**0.85**	**297**	*ePg*	**Pg**	**07 14 20.8**	**-0.6**
SJES				*eSg*	**Sg**	**07 14 31.1**	**-1.4**
BCI	**Bajram Curri**	**0.86**	**234**	*ePG*	**Pg**	**07 14 20.2**	**-1.4**
BCI				*i* SG	**Sb**	**07 14 33.5**	**-0.2**
BOVS	**Bovan**	**0.91**	**34**	*ePg*	**Pb**	**07 14 23.0**	**+0.1**
BOVS				*eSg*	**Sb**	**07 14 35.6**	**+0.5**
SKO	**Skopje**	**0.96**	**161**	*i* Pg	**Pg**	**07 14 22.4**	**-0.9**
SKO				*i* Sg	**Sg**	**07 14 35.2**	**-0.5**
SKO				*eLg*	Lg	07 14 36.9	
	comp=E,40nm,0.3s						
GRUS	**Gruza**	**1.03**	**348**	*ePg*	**Pb**	**07 14 25.0**	**0.0**
GRUS				*eSg*	**Sn**	**07 14 39.8**	**-0.4**
KOME	**Kolasin**	**1.10**	**269**	⇓*iPg*	**Pg**	**07 14 25.1**	**-1.0**
KOME				*i* Sg	**Sn**	**07 14 41.8**	**-0.2**
BOSS	**Bosilegrad**	**1.15**	**109**	*ePg*	**Pg**	**07 14 26.8**	**-0.1**
BOSS				*eSg*	**Sg**	**07 14 40.3**	**-1.5**
PUK	**Puka**	**1.18**	**225**	*i* PN	**Pg**	**07 14 27.0**	**-0.5**
PUK				*i* SN	**Sn**	**07 14 45.0**	**+1.2**
ZAPS	**Zavoj**	**1.25**	**71**	*ePg*	**Pg**	**07 14 29.6**	**+0.6**
ZAPS				*eSg*	**Sg**	**07 14 45.3**	**+0.1**
PHP	**Peshkopia**	**1.27**	**200**	P	**Pn**	**07 14 27.4**	**-1.4**
PHP				S	**Sg**	**07 14 45.7**	**+0.1**
PHP	**Peshkopia**	**1.27**	**200**	*i* PN	**Pn**	**07 14 27.6**	**-1.3**
PHP				*i* SN	**Sn**	**07 14 46.4**	**+0.5**
PLE	**Pljevlja**	**1.27**	**291**	⇑*iPg*	**Pn**	**07 14 28.1**	**-0.9**
PLE				*i* Sg	**Sn**	**07 14 48.3**	**+2.0**
PDG	**Podgorica**	**1.37**	**252**	*ePn*	**Pn**	**07 14 29.4**	**-0.8**
PDG				*eSg*	**Sb**	**07 14 47.4**	**-0.9**
PDG	**Podgorica**	**1.37**	**252**	⇑P	**Pn**	**07 14 29.4**	**-0.8**
PDG				⇓S	**Sb**	**07 14 46.7**	**-1.6**
PDG	**Podgorica**	**1.37**	**252**	⇑*iPg*	**Pn**	**07 14 29.2**	**-1.0**
PDG				*eSg*	**Sb**	**07 14 48.2**	**-0.1**
TTG	**Podgorica**	**1.37**	**252**	⇓*iPg*	**Pn**	**07 14 29.4**	**-0.8**
TTG				*i* Sg	**Sg**	**07 14 50.9**	**+1.9**
SVIS	**Svilajnac**	**1.40**	**6**	*ePg*	**Pg**	**07 14 29.9**	**+0.2**
SVIS				*eSg*	**Sg**	**07 14 51.6**	**+1.8**
RUDO	**Rudo**	**1.41**	**302**	*ePg*	**Pn**	**07 14 30.0**	**-0.8**
RUDO				*eSg*	**Sn**	**07 14 49.9**	**+0.4**
TRUS	**Trudelj**	**1.42**	**342**	*ePg*	**Pn**	**07 14 30.7**	**-0.2**
TRUS				*eSg*	**Sg**	**07 14 51.9**	**+1.4**
DIVS	**Divibare**	**1.43**	**329**	*ePg*	**Pn**	**07 14 31.1**	**0.0**
DIVS				*eSg*	**Sb**	**07 14 50.3**	**+0.2**
DIVS	**Divibare**	**1.43**	**329**	⇑*iPg*	**Pn**	**07 14 30.9**	**-0.2**
DIVS				*eSg*	**Sg**	**07 14 51.0**	**+0.1**
NKY	**Niksic**	**1.49**	**268**	⇑*iPg*	**Pn**	**07 14 32.3**	**+0.4**
NKY				*i* Sg	**Sg**	**07 14 53.6**	**+0.9**
DRME	**Dracevica, Mon**	**1.52**	**244**	⇓*iPg*	**Pn**	**07 14 32.3**	**+0.1**
DRME				*i* Sg	**Sg**	**07 14 54.8**	**+1.1**
DRME	**Dracevica, Mon**	**1.52**	**244**	*ePg*	**Pn**	**07 14 31.6**	**-0.7**
DRME				*eSg*	**Sb**	**07 14 53.0**	**+0.4**
NKME	**Niksic**	**1.52**	**267**	⇑*iPg*	**Pb**	**07 14 32.9**	**-0.4**
NKME				*i* Sg	**Sg**	**07 14 54.5**	**+0.7**
BBLS	**Lazi?i**	**1.53**	**311**	*ePn*	**Pn**	**07 14 32.5**	**-0.1**
BBLS				*eSg*	**Sg**	**07 14 54.8**	**+0.6**
BBLS	**Lazi?i**	**1.53**	**311**	⇑*iPg*	**Pn**	**07 14 32.5**	**-0.1**
BBLS				*eSg*	**Sb**	**07 14 53.7**	**+0.6**
CEME	**Cevo**	**1.58**	**259**	⇓*iPg*	**Pn**	**07 14 33.2**	**0.0**
CEME				*i* Sg	**Sg**	**07 14 56.2**	**+0.5**
ULC	**Ulcinj**	**1.60**	**236**	⇑*iPn*	**Pn**	**07 14 33.5**	**+0.1**
ULC				*i* Sn	**Sg**	**07 14 56.6**	**+0.4**
KUBS	**Kucevo**	**1.61**	**17**	*ePn*	**Pb**	**07 14 34.7**	**-0.1**
KUBS				*eSg*	**Sg**	**07 14 57.1**	**+0.5**
VTS	**Vitosha**	**1.66**	**98**	*ePn*	**Pn**	**07 14 34.7**	**+0.4**
VTS	**Vitosha**	**1.66**	**98**	⇑P	**Pn**	**07 14 34.7**	**+0.4**
VTS				⇑S	**Sb**	**07 14 56.5**	**-0.2**
VTS	**Vitosha**	**1.66**	**98**	P	**Pn**	**07 14 34.8**	**+0.4**
BUM	**Brajici-Budva**	**1.67**	**251**	⇓*iPn*	**Pn**	**07 14 34.9**	**+0.5**
BUM				*i* Sn	**Sg**	**07 14 58.4**	**-0.1**
TIR	**Tirane**	**1.75**	**210**	*i* PN	**Pg**	**07 14 39.8**	**+1.3**
TIR				*i* SN	**Sg**	**07 15 03.4**	**+2.2**
OHR	**Ohrid**	**1.77**	**185**	*i* Pn	**Pn**	**07 14 36.6**	**+0.8**
OHR				*i* Sn	**Sg**	**07 15 01.2**	**-0.6**
OHR				*eLg*	Lg	07 15 02.7	
	comp=E,259nm,0.5s						
BRY	**Bratogost**	**1.82**	**272**	⇓*iPn*	**Pn**	**07 14 36.9**	**+0.4**
BRY				*i* Sn	**Sb**	**07 15 01.7**	**+0.3**
BRY	**Bratogost**	**1.82**	**272**	*ePn*	**Pn**	**07 14 37.1**	**+0.6**
BRY				*eSn*	**Sn**	**07 14 59.6**	**-0.2**
KKB	**Krupnik**	**1.84**	**123**	P	**Pb**	**07 14 37.8**	**-0.9**
KKB	**Krupnik**	**1.84**	**123**	Pg	**Pg**	**07 14 40.2**	**+0.1**
HCY	**Herceg Novi**	**1.91**	**258**	⇓*iPn*	**Pn**	**07 14 37.7**	**+0.1**
HCY				*i* Sn	**Sb**	**07 15 03.8**	**0.0**
HCY	**Herceg Novi**	**1.91**	**258**	*ePn*	**Pn**	**07 14 38.6**	**+1.0**
HCY				*eSn*	**Sn**	**07 15 02.6**	**+0.9**
HAPS	**Han Pijesak,Bl**	**1.93**	**310**	*ePn*	**Pn**	**07 14 37.1**	**-0.9**
HAPS				*eSg*	**Sg**	**07 15 07.1**	**+0.8**
HAPS	**Han Pijesak,Bl**	**1.93**	**310**	*ePn*	**Pn**	**07 14 37.3**	**-0.7**
HAPS				*eSn*	**Sn**	**07 15 03.4**	**+1.0**
VAY	**Valandovo**	**1.94**	**143**	*ePn*	**Pn**	**07 14 37.9**	**-0.1**
VAY	**Valandovo**	**1.94**	**143**	*i* Pn	**Pn**	**07 14 38.2**	**+0.1**
VAY				*i* Sn	**Sg**	**07 15 08.2**	**+1.0**
VAY				*eLg*	Lg	07 15 08.6	
	comp=E,70nm,0.6s						
TREB	**Trebinje**	**1.97**	**266**	*ePn*	**Pn**	**07 14 38.5**	**+0.1**
TREB				*eSg*	**Sb**	**07 15 06.1**	**+0.6**
TREB	**Trebinje**	**1.97**	**266**	*ePn*	**Pn**	**07 14 39.3**	**+0.9**
TREB				*eSn*	**Sn**	**07 15 03.7**	**+0.5**
MDVR	**Moldovita**	**1.97**	**15**	⇑P	**Pn**	**07 14 39.2**	**+0.7**
MDVR				⇑S	**Sn**	**07 15 04.4**	**+1.0**
BEO	**Beograd**	**1.97**	**349**	*ePn*	**Pb**	**07 14 40.1**	**-0.9**
BEO				*eSg*	**Sg**	**07 15 07.9**	**-0.4**
PUNG	**Punghina**	**1.98**	**44**	⇓P	**Pb**	**07 14 40.3**	**-0.7**
PUNG				⇑S	**Sb**	**07 15 06.2**	**-0.4**
TEKS	**Tekeris**	**1.99**	**328**	*ePn*	**Pn**	**07 14 39.1**	**+0.3**
TEKS				*eSg*	**Sg**	**07 15 09.4**	**+0.6**
TEKS	**Tekeris**	**1.99**	**328**	*ePn*	**Pn**	**07 14 39.0**	**+0.3**
TEKS				*eSn*	**Sb**	**07 15 05.2**	**-1.0**
DBRK	**Dubrovnik**	**2.12**	**265**	*ePn*	**Pb**	**07 14 42.4**	**-1.1**
DBRK				Sn	**Sb**	**07 15 10.6**	**+0.7**
KNT	**Kendrikon**	**2.22**	**140**	P	**Pn**	**07 14 42.0**	**+0.1**
HRUL	**Herculane**	**2.25**	**26**	⇑P	**Pn**	**07 14 42.5**	**+0.3**
SRE	**Strehaia**	**2.39**	**41**	⇑P	**Pn**	**07 14 45.1**	**+0.8**
SRE				⇑S	**Sb**	**07 15 16.5**	**-1.2**
MMB	**Musomiste**	**2.39**	**122**	P	**Pg**	**07 14 50.4**	**-0.3**
STON	**Ston**	**2.44**	**271**	*ePn*	**Pn**	**07 14 46.4**	**+1.6**
STON				Sn	**Sb**	**07 15 19.1**	**+0.1**
STON	**Ston**	**2.44**	**271**	*ePn*	**Pn**	**07 14 46.1**	**+1.3**
STON				*eSn*	**Sn**	**07 15 15.9**	**+1.2**
FRGS	**Fruska Gora**	**2.44**	**340**	*ePn*	**Pn**	**07 14 45.2**	**+0.2**
FRGS	**Fruska Gora**	**2.44**	**340**	*ePn*	**Pn**	**07 14 44.8**	**-0.2**
SRS	**Serrai**	**2.60**	**132**	P	**Pn**	**07 14 47.5**	**+0.3**
NVR	**Nevrokopi**	**2.61**	**125**	P	**Pn**	**07 14 47.5**	**+0.2**
NVR				S	**Sn**	**07 15 19.6**	**+0.4**
	comp=E,185nm,0.7s						
KTI	**Kastanea**	**2.62**	**161**	P	**Pn**	**07 14 46.8**	**-0.7**
KZN	**Kozani**	**2.63**	**167**	P	**Pn**	**07 14 47.9**	**+0.3**
PLVB	**Pleven**	**2.69**	**78**	⇑P	**Pn**	**07 14 49.4**	**+1.1**
PLVB				⇓S	**Sn**	**07 15 21.5**	**+0.5**
BZS	**Buzias**	**2.77**	**9**	⇓P	**Pn**	**07 14 50.0**	**+0.5**
RICI	**Ricice**	**2.90**	**284**	*ePn*	**Pn**	**07 14 53.5**	**+2.1**
RICI				Sn	**Sn**	**07 15 28.9**	**+2.5**
MAKA	**Makarska**	**2.95**	**279**	*ePn*	**Pn**	**07 14 53.7**	**+1.7**
MGRS	**Mrkonjic Grad**	**3.24**	**300**	*ePn*	**Pn**	**07 14 57.3**	**+1.3**
BLY	**Banja Luka**	**3.34**	**305**	*ePn*	**Pn**	**07 14 57.8**	**+0.4**
SIRR	**Siria**	**3.42**	**8**	⇑P	**Pn**	**07 14 58.0**	**-0.5**
KIJV	**Kijevo**	**3.54**	**290**	*ePn*	**Pn**	**07 15 02.2**	**+2.1**
KIJV				Sn	**Sn**	**07 15 45.1**	**+3.1**
PAIG	**Paliouri**	**3.56**	**145**	P	**Pn**	**07 15 00.5**	**+0.1**
ARR	**Arges**	**3.60**	**45**	⇑P	**Pn**	**07 15 02.2**	**+1.2**
MORH	**Mrgy, Hungar**	**3.74**	**334**	*ePn*	**Pn**	**07 15 02.7**	**-0.1**
RDO	**Rodhopi**	**3.79**	**116**	P	**Pn**	**07 15 04.6**	**+1.1**
MORI	**Morici**	**3.99**	**286**	*ePn*	**Pn**	**07 15 07.6**	**+1.3**
MORI				Sn	**Sn**	**07 15 54.8**	**+1.6**
ZIRJ	**Zirje**	**4.00**	**283**	*ePn*	**Pn**	**07 15 08.3**	**+2.0**
ZIRJ				Sn	**Sn**	**07 15 55.4**	**+2.1**
DRGR		**4.10**	**17**	⇑P	**Pn**	**07 15 08.8**	**+1.0**
MOSL	**Moslavina**	**4.10**	**313**	*ePn*	**Pn**	**07 15 08.1**	**+0.3**
MLR	**Muntele Rosu**	**4.41**	**52**	⇓P	**Pn**	**07 15 13.3**	**+1.3**
DUGI	**Dugi Otok**	**4.48**	**286**	*ePn*	**Pn**	**07 15 14.6**	**+1.7**
DUGI				Sn	**Sn**	**07 16 07.2**	**+2.1**
KALN	**Kalnik**	**4.61**	**317**	*ePn*	**Pn**	**07 15 15.1**	**+0.3**
KALN				Sn	**Sn**	**07 16 08.5**	**+0.2**
BEHE	**Becsehely**	**4.69**	**321**	*ePn*	**Pn**	**07 15 16.6**	**+0.7**
BEHE				*eSn*	**Sn**	**07 16 10.1**	**-0.4**
PTJ	**Puntijarka**	**4.72**	**312**	*ePn*	**Pn**	**07 15 16.2**	**-0.1**
PTJ				Sn	**Sn**	**07 16 10.8**	**-0.3**
NVLJ	**Novalja**	**4.76**	**293**	*ePn*	**Pn**	**07 15 18.4**	**+1.7**
NVLJ				Sn	**Sn**	**07 16 14.3**	**+2.3**
OZLJ	**Ozalj**	**4.83**	**306**	*ePn*	**Pn**	**07 15 18.5**	**+0.7**
CRES	**Cresnjev**	**4.96**	**308**	*ePn*	**Pn**	**07 15 20.1**	**+0.6**
CRES	**Cresnjev**	**4

BCI	**Bajram Curri**	**0.87**	**235**	*i* PG	**Pg**	**07 17 14.7**	**-0.7**
BCI				*i* SG	**Sn**	**07 17 29.6**	**-1.3**
BOVS	**Bovan**	**0.91**	**33**	*e*Pg	**Pg**	**07 17 16.6**	**+0.5**
BOVS				*e*Sg	**Sg**	**07 17 28.7**	**+0.8**
SKO	**Skopje**	**0.95**	**161**	⇓*i*Pg	**Pg**	**07 17 16.4**	**-0.5**
SKO				*i* Sg	**Sb**	**07 17 30.2**	**-0.5**
SKO				*e*Lg	Lg	07 17 32.1	
	comp=N,50nm,0.3s						
GRUS	**Gruza**	**1.04**	**347**	*e*Pg	**Pg**	**07 17 18.9**	**+0.3**
GRUS				*e*Sg	**Sg**	**07 17 32.7**	**+0.6**
KOME	**Kolasin**	**1.11**	**269**	⇑*i*Pg	**Pg**	**07 17 19.0**	**-1.0**
KOME				*i* Sg	**Sb**	**07 17 35.7**	**+0.3**
BOSS	**Bosilegrad**	**1.14**	**109**	*e*Pg	**Pg**	**07 17 20.4**	**0.0**
BOSS				*e*Sg	**Sg**	**07 17 34.5**	**-0.6**
PUK	**Puka**	**1.18**	**226**	*i* PN	**Pg**	**07 17 20.8**	**-0.5**
PUK				*i* SN	**Sn**	**07 17 39.4**	**+0.8**
ZAPS	**Zavoj**	**1.24**	**71**	*e*Pg	**Pn**	**07 17 23.1**	**+0.2**
ZAPS				*e*Sg	**Sn**	**07 17 40.0**	**-0.1**
PHP	**Peshkopia**	**1.27**	**200**	*i* PN	**Pg**	**07 17 21.5**	**-1.4**
PHP				*i* SN	**Sb**	**07 17 39.9**	**+0.2**
PLE	**Pljevlja**	**1.28**	**291**	⇓*i*Pg	**Pg**	**07 17 21.9**	**-1.3**
PLE				*i* Sg	**Sn**	**07 17 42.2**	**+1.0**
PDG	**Podgorica**	**1.38**	**252**	*e*Pn	**Pb**	**07 17 25.1**	**+0.1**
PDG				*e*Sg	**Sn**	**07 17 44.2**	**+0.8**
PDG	**Podgorica**	**1.38**	**252**	⇑P	**Pn**	**07 17 24.5**	**-0.1**
PDG				⇓S	**Sn**	**07 17 44.0**	**+0.6**
PDG	**Podgorica**	**1.38**	**252**	⇓*i*Pg	**Pn**	**07 17 22.9**	**-1.8**
PDG				*e*Sg	**Sg**	**07 17 43.2**	**+0.2**
TTG	**Podgorica**	**1.38**	**252**	⇑*i*Pg	**Pn**	**07 17 23.5**	**-1.2**
TTG				*i* Sg	**Sn**	**07 17 44.6**	**+1.2**
SVIS	**Svilajnac**	**1.40**	**6**	*e*Pg	**Pb**	**07 17 25.3**	**0.0**
SVIS				*e*Sg	**Sb**	**07 17 43.0**	**-0.5**
TRUS	**Trudelj**	**1.42**	**342**	*e*Pg	**Pn**	**07 17 24.5**	**-0.8**
TRUS				*e*Sg	**Sg**	**07 17 44.8**	**+0.4**
DIVS	**Divibare**	**1.44**	**329**	*e*Pg	**Pn**	**07 17 24.9**	**-0.7**
DIVS				*e*Sg	**Sb**	**07 17 44.1**	**-0.7**
DIVS	**Divibare**	**1.44**	**329**	*e*Pg	**Pn**	**07 17 24.8**	**-0.8**
DIVS				*e*Sg	**Sg**	**07 17 45.3**	**+0.5**
NKY	**Niksic**	**1.50**	**268**	⇓*i*Pg	**Pn**	**07 17 25.7**	**-0.7**
NKY				*i* Sg	**Sg**	**07 17 48.4**	**+1.7**
DRME	**Dracevica, Mon**	**1.52**	**244**	⇑*i*Pg	**Pn**	**07 17 25.9**	**-0.8**
DRME				*i* Sg	**Sg**	**07 17 48.8**	**+1.2**
DRME	**Dracevica, Mon**	**1.52**	**244**	⇓*i*Pg	**Pn**	**07 17 26.4**	**-0.3**
DRME				*e*Sg	**Sb**	**07 17 47.2**	**0.0**
NKME	**Niksic**	**1.53**	**267**	⇑*i*Pg	**Pn**	**07 17 26.4**	**-0.4**
NKME				*i* Sg	**Sg**	**07 17 48.9**	**+1.1**
BBLS	**Lazići**	**1.54**	**311**	*e*Pg	**Pn**	**07 17 26.6**	**-0.4**
BBLS				*e*Sg	**Sg**	**07 17 48.8**	**+0.6**
BBLS	**Lazići**	**1.54**	**311**	*e*Pg	**Pn**	**07 17 26.3**	**-0.7**
BBLS				*e*Sg	**Sg**	**07 17 48.8**	**+0.6**
CEME	**Cevo**	**1.59**	**259**	⇑*i*Pg	**Pn**	**07 17 27.3**	**-0.3**
CEME				*i* Sg	**Sg**	**07 17 50.0**	**+0.3**
ULC	**Ulcinj**	**1.60**	**236**	⇓*i*Pg	**Pn**	**07 17 27.6**	**-0.2**
ULC				*i* Sg	**Sg**	**07 17 50.5**	**+0.4**
KUBS	**Kucevo**	**1.61**	**17**	*e*Pg	**Pn**	**07 17 27.0**	**-0.9**
KUBS				*e*Sg	**Sb**	**07 17 50.0**	**+0.4**
VTS	**Vitosha**	**1.65**	**98**	*e*Pg	**Pn**	**07 17 28.7**	**+0.2**
VTS				*e*Sg	**Sb**	**07 17 50.6**	**-0.2**
VTS	**Vitosha**	**1.65**	**98**	⇑P	**Pn**	**07 17 28.6**	**+0.1**
VTS				⇑S	**Sn**	**07 17 50.1**	**-0.1**
VTS	**Vitosha**	**1.65**	**98**	P	**Pn**	**07 17 28.8**	**+0.2**
BUM	**Brajici-Budva**	**1.68**	**251**	⇑*i*Pn	**Pn**	**07 17 28.9**	**+0.1**
BUM				*i* Sn	**Sg**	**07 17 52.3**	**-0.2**
TIR	**Tirane**	**1.75**	**210**	*i* PN	**Pg**	**07 17 31.8**	**-0.4**
TIR				*i* SN	**Sg**	**07 17 55.4**	**+0.4**
OHR	**Ohrid**	**1.77**	**186**	*i* Pn	**Pn**	**07 17 30.0**	**-0.1**
OHR				*i* Sn	**Sb**	**07 17 53.6**	**-0.7**
OHR				*e*Lg	Lg	07 17 56.7	
	comp=E,286nm,0.5s						
KKB	**Krupnik**	**1.83**	**123**	P	**Pb**	**07 17 31.7**	**-0.9**
KKB	**Krupnik**	**1.83**	**123**	Pg	**Pg**	**07 17 34.2**	**+0.6**
BRY	**Bratogost**	**1.83**	**272**	⇓*i*Pn	**Pn**	**07 17 30.7**	**-0.3**
BRY				*i* Sn	**Sb**	**07 17 55.8**	**-0.3**
BRY	**Bratogost**	**1.83**	**272**	*e*Pn	**Pn**	**07 17 30.8**	**-0.3**
BRY				*e*Sn	**Sn**	**07 17 55.2**	**+0.5**
HCY	**Herceg Novi**	**1.92**	**258**	⇓*i*Pn	**Pn**	**07 17 31.7**	**-0.4**
HCY				*i* Sn	**Sb**	**07 17 58.3**	**-0.1**
HCY	**Herceg Novi**	**1.92**	**258**	*e*Pn	**Pn**	**07 17 32.2**	**+0.1**
VAY	**Valandovo**	**1.93**	**143**	*e*Pn	**Pn**	**07 17 31.7**	**-0.6**
VAY	**Valandovo**	**1.93**	**143**	⇓*i*Pn	**Pn**	**07 17 31.9**	**-0.3**
VAY				*i* Sn	**Sg**	**07 18 01.3**	**+0.6**
VAY				*e*Lg	Lg	07 18 02.4	
	comp=N,66nm,0.6s						
HAPS	**Han Pijesak,Bl**	**1.94**	**309**	*e*Pn	**Pn**	**07 17 31.2**	**-1.3**
HAPS	**Han Pijesak,Bl**	**1.94**	**309**	*e*Pn	**Pn**	**07 17 31.2**	**-1.3**
HAPS				*e*Sn	**Sn**	**07 17 56.9**	**-0.4**
MDVR	**Moldovita**	**1.97**	**14**	⇑P	**Pn**	**07 17 33.3**	**+0.4**
MDVR				⇑S	**Sn**	**07 17 57.2**	**-0.9**
PUNG	**Punghina**	**1.97**	**44**	⇑P	**Pn**	**07 17 33.0**	**+0.2**
BEO	**Beograd**	**1.98**	**348**	*e*Pn	**Pb**	**07 17 34.3**	**-0.9**
BEO				*e*Sg	**Sg**	**07 18 01.7**	**-0.4**
TREB	**Trebinje**	**1.98**	**266**	*e*Pn	**Pn**	**07 17 32.4**	**-0.5**
TREB	**Trebinje**	**1.98**	**266**	*e*Pn	**Pn**	**07 17 32.4**	**-0.5**
TREB				*e*Sn	**Sn**	**07 17 58.4**	**+0.3**
TEKS	**Tekeris**	**2.00**	**328**	*e*Pn	**Pn**	**07 17 32.9**	**-0.3**
TEKS				*e*Sg	**Sg**	**07 18 02.4**	**-0.4**
TEKS	**Tekeris**	**2.00**	**328**	*e*Pn	**Pn**	**07 17 32.8**	**-0.4**
TEKS				*e*Sn	**Sn**	**07 17 58.7**	**+0.0**
DBRK	**Dubrovnik**	**2.13**	**265**	*e*Pn	**Pn**	**07 17 36.2**	**+1.2**
DBRK					**Sb**	**07 18 05.2**	**+0.6**
HERR	**Herculane**	**2.24**	**26**	⇑P	**Pn**	**07 17 36.3**	**-0.3**
PGB	**Panagyurishte**	**2.34**	**97**	Pg	**Pg**	**07 17 46.2**	**+2.8**
MMB	**Musomiste**	**2.38**	**122**	P	**Pg**	**07 17 43.9**	**-0.4**
SRE	**Strehaia**	**2.38**	**41**	⇑P	**Pn**	**07 17 39.1**	**+0.5**
SRE				⇑S	**Sb**	**07 18 10.6**	**-1.3**
FRGS	**Fruska Gora**	**2.45**	**339**	*e*Pn	**Pn**	**07 17 38.6**	**-0.8**
FRGS	**Fruska Gora**	**2.45**	**339**	*e*Pn	**Pn**	**07 17 38.8**	**-0.6**
STON	**Ston**	**2.45**	**271**	*e*Pn	**Pn**	**07 17 41.0**	**+1.7**
STON					**Sb**	**07 18 12.9**	**-0.7**
STON	**Ston**	**2.45**	**271**	*e*Pn	**Pn**	**07 17 40.3**	**+1.0**
STON				*e*Sn	**Sn**	**07 18 10.9**	**+1.2**
PLVB	**Pleven**	**2.68**	**78**	⇑P	**Pn**	**07 17 43.2**	**+0.6**
BZS	**Buzias**	**2.77**	**9**	⇑P	**Pn**	**07 17 44.1**	**+0.2**
RICI	**Ricice**	**2.92**	**284**	*e*Pn	**Pn**	**07 17 47.5**	**+1.6**
RICI					**Sn**	**07 18 23.9**	**+2.5**
MAKA	**Makarska**	**2.96**	**279**	*e*Pn	**Pn**	**07 17 48.1**	**+1.6**
MAKA					**Sn**	**07 18 25.1**	**+2.7**
MGRS	**Mrkonjic Grad**	**3.25**	**300**	*e*Pn	**Pn**	**07 17 51.0**	**+0.5**
BLY	**Banja Luka**	**3.35**	**305**	*e*Pn	**Pn**	**07 17 51.6**	**-0.2**
BLY				*e*Sn	**Sn**	**07 18 31.7**	**-0.4**
SIRR	**Siria**	**3.42**	**7**	⇓P	**Pn**	**07 17 53.4**	**+0.5**
KIJV	**Kijevo**	**3.55**	**290**	*e*Pn	**Pn**	**07 17 56.5**	**+1.9**
KIJV					**Sn**	**07 18 38.6**	**+1.6**
ARR	**Arges**	**3.60**	**45**	⇑P	**Pn**	**07 17 56.1**	**+0.8**
MORH	**Mrgy, Hungar**	**3.75**	**334**	*e*Pn	**Pn**	**07 17 56.7**	**-0.6**
MORI	**Morici**	**4.00**	**286**	*e*Pn	**Pn**	**07 18 01.6**	**+0.9**
MORI					**Sn**	**07 18 49.3**	**+1.2**
ZIRJ	**Zirje**	**4.01**	**283**	*e*Pn	**Pn**	**07 18 01.3**	**+0.5**
ZIRJ					**Sn**	**07 18 49.6**	**+1.4**
DRGR		**4.10**	**16**	⇑P	**Pn**	**07 18 01.9**	**-0.2**
MOSL	**Moslavina**	**4.11**	**313**	*i* Pn	**Pn**	**07 18 02.0**	**-0.3**
MLR	**Muntele Rosu**	**4.40**	**52**	⇓P	**Pn**	**07 18 07.4**	**+1.1**
DUGI	**Dugi Otok**	**4.49**	**286**	*e*Pn	**Pn**	**07 18 08.7**	**+1.3**
DUGI					**Sn**	**07 19 02.1**	**+2.0**
KALN	**Kalnik**	**4.62**	**316**	*e*Pn	**Pn**	**07 18 09.4**	**+0.2**
PTJ	**Puntijarka**	**4.73**	**312**	*e*Pn	**Pn**	**07 18 11.3**	**+0.5**
NVLJ	**Novalja**	**4.77**	**293**	*e*Pn	**Pn**	**07 18 12.9**	**+1.6**
CRES	**Cresnjev**	**4.97**	**308**	*e*Pn	**Pn**	**07 18 14.0**	**0.0**
CRES	**Cresnjev**	**4.97**	**308**	⇑*i*Pn	**Pn**	**07 18 13.7**	**-0.3**
GOLS	**Golise**	**4.98**	**311**	*e*Pn	**Pn**	**07 18 14.1**	**-0.1**
PSZ	**Piszkesteto**	**5.11**	**351**	⇓P	**Pn**	**07 18 15.7**	**-0.3**
LEGS	**Legarje**	**5.12**	**309**	*e*Pn	**Pn**	**07 18 16.1**	**+0.1**
VISS	**Visnje**	**5.32**	**306**	*e*Pn	**Pn**	**07 18 19.2**	**+0.4**
CEY	**Cerknica**	**5.53**	**303**	⇑*i*Pn	**Pn**	**07 18 22.0**	**+0.2**
LJU	**Ljubljana**	**5.63**	**306**	⇑*i*Pn	**Pn**	**07 18 23.2**	**+0.1**
BRJN	**Brijuni**	**5.64**	**294**	*e*Pn	**Pn**	**07 18 24.2**	**+1.0**
BRJN					**Sn**	**07 19 28.5**	**+0.2**
SOKA	**Soboth**	**5.71**	**314**	Pn	**Pn**	**07 18 24.0**	**-0.3**
	comp=N,0.6nm,0.2s,SNR=6.2						
SOKA				*i* Sn	**Sn**	**07 19 31.5**	**+1.0**
	comp=N,1.2nm,0.3s						
VYHS	**Vyhne**	**5.83**	**345**	*e*PN	**Pn**	**07 18 26.1**	**+0.3**
VYHS				*e*SN	**Sn**	**07 19 30.6**	**-2.5**
ARSA	**Arzberg**	**5.86**	**320**	Pn	**Pn**	**07 18 26.4**	**+0.1**
	comp=N,5.2nm,0.3s,SNR=9.8						
ARSA				*i* Sn	**Sn**	**07 19 35.4**	**+1.4**
	comp=N,2.0nm,0.3s						
OBKA	**Obir**	**5.88**	**310**	Pn	**Pn**	**07 18 27.4**	**+0.9**
	comp=N,5.0nm,0.4s,SNR=5.5						
OBKA				*i* Sn	**Sn**	**07 19 36.4**	**+2.0**
	comp=N,3.2nm,0.6s						
MODS	**Modra-Piesok**	**6.10**	**336**	*e*PN	**Pn**	**07 18 29.0**	**-0.5**
MODS				*e*SN	**Sn**	**07 19 33.2**	**-6.5**
MODS				*e*LG	Lg	07 19 39.8	
KOLS	**Kolonicke sedl**	**6.12**	**8**	*e*PN	**Pn**	**07 18 29.9**	**0.0**
KOLS				*e*		07 33 04.0	
KOLS				*e*PP		08 12 20.0	
CONA	**Conrad Observa**	**6.22**	**326**	Pn	**Pn**	**07 18 31.9**	**+0.6**
	comp=N,1.4nm,0.3s,SNR=4.3						
CONA				*i* Sn	**Sn**	**07 19 43.8**	**+0.8**
	comp=N,1.5nm,0.4s						
KBA	**Koelnbreinsper**	**6.88**	**310**	*i* Pn	**Pn**	**07 18 41.0**	**+0.6**
	comp=N,1.4nm,0.2s						
KBA				*i* Sn	**Sn**	**07 20 00.3**	**+1.0**
	comp=N,0.6nm,0.3s						
MOA	**Molln**	**6.89**	**319**	*i* Pn	**Pn**	**07 18 40.3**	**-0.1**
	comp=N,0.2nm,0.1s						
MOA				*i* Sn	**Sn**	**07 20 02.1**	**+2.9**
	comp=N,2.0nm,0.3s						
ABTA	**Abfaltersbach**	**7.19**	**306**	*i* Pn	**Pn**	**07 18 45.3**	**+0.7**
	comp=N,3.3nm,0.5s						
WTTA	**Wattenberg**	**7.96**	**307**	*i* Pn	**Pn**	**07 18 56.6**	**+1.3**
	comp=N,3.9nm,0.3s						
WATA	**Walderalm**	**8.04**	**307**	*i* Pn	**Pn**	**07 18 57.5**	**+1.2**
	comp=N,3.1nm,0.2s						
KHC	**Kasperske Hory**	**8.12**	**323**	*e*PN	**Pn**	**07 18 56.1**	**-1.3**
KHC				*e*SN	**Sn**	**07 20 29.0**	**-0.6**
SQTA	**Sankt Quirin**	**8.20**	**305**	*i* Pn	**Pn**	**07 18 59.7**	**+1.2**
	comp=N,5.3nm,0.6s						
SQTA				*i* Sn	**Sn**	**07 20 32.1**	**+0.5**
	comp=N,0.8nm,0.3s						
MOTA	**Moosalm**	**8.32**	**306**	*i* Pn	**Pn**	**07 19 01.2**	**+1.1**
	comp=N,1.5nm,0.2s						
MOTA				*i* Sn	**Sn**	**07 20 33.8**	**-0.9**
	comp=N,0.9nm,0.4s						
FETA	**Feichten**	**8.40**	**303**	*i* Pn	**Pn**	**07 19 02.0**	**+0.8**
	comp=N,0.8nm,0.4s						
RETA	**Reutte**	**8.59**	**306**	*i* Pn	**Pn**	**07 19 04.4**	**+0.6**
	comp=N,0.9nm,0.3s						

IDC ***29*** *07:19:19.7±0.4, 1°.39N×126°.28E, h0km, mb4.7/31, mb1 4.7/33, mb1mx4.7/42, mbtmp4.7/33, ML4.5/2, MS3.9/5, Ms1 4.0/5, ms1mx3.5/48, Error ellipse: s-maj=16.5km s-min=9.3km az=71.0*

MOS ***29*** *07:19:20.9±0.9, 1°.38N×126°.22E, h22km, mb5.1/56, Error ellipse: s-maj=9.2km s-min=4.6km az=116.4*

NEIC ***29*** *07:19:22.0±1.6, 1°.41N±0°.07×126°.28E±0°.05, h19km±3km, mb5.0/100, Error ellipse: s-maj=11.5km s-min=6.3km az=209.0*

BJI ***29*** *07:19:24.0±0.0, 1°.60N×126°.50E, h34km, mB5.2/32, mb4.8/54, Ms4.6/11, Ms7 4.6/10*

DJA ***29*** *07:19:27.4±0.3, 1°.N±2°×12°.6E±°, h48km±3km, M5.0/61, mb5.1/61, mB5.5/22, MLv5.2/13, Mw(mB)5.0/22*

KLM ***29*** *07:19:27.0, 1°.38N×126°.48E, h64km, mb4.9*

ISC 29 07:19:26.1±0.2, 1°.39N±0°.03×126°.32E±0°.04, h47km, n386, σ1=42/411, mb4.9/122, MS4.2/8, 27C-8D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.21**	**120**	P	**Pn**	**07 19 45.6**	**-1.1**
TNTI	**Ternate**	**1.21**	**120**	Pn	**Pn**	**07 19 46.1**	**-0.6**
TNTI				Sn	**Sn**	**07 20 00.3**	**-1.6**
MNI	**Manado**	**1.48**	**272**	P	**Pn**	**07 19 51.5**	**+1.1**
KMSI	**Cibinong**	**2.48**	**251**	P	**Pn**	**07 20 05.0**	**+1.0**
SANI	**Sanana**	**3.43**	**186**	P	**Pn**	**07 20 17.7**	**+0.5**
LUWI	**Luwuk**	**4.29**	**236**	P	**Pn**	**07 20 30.8**	**+1.8**
LUWI	**Luwuk**	**4.29**	**236**	Pn	**Pn**	**07 20 31.8**	**+2.8**
MRSI	**Marisa**	**4.47**	**258**	P	**Pn**	**07 20 32.5**	**+1.1**
DDMP	**Don Marcelino,**	**4.72**	**353**	*e*P	**Pn**	**07 20 35.6**	**+0.7**
DDMP				*e*S	**Sn**	**07 21 27.2**	**-1.2**
GSPI	**General Santos**	**4.86**	**344**	*e*P	**Pn**	**07 20 40.5**	**+3.6**
SKMP	**Bagumbayan, Su**	**5.40**	**341**	*e*P	**Pn**	**07 20 44.4**	**+0.3**
SKMP				*e*S	**Sn**	**07 21 44.2**	**-0.8**
SIJI	**Sorong**	**5.43**	**114**	Pn	**Pn**	**07 20 44.4**	**-0.2**
	4.7nm,0.3s,baz=313,slow=6.9,SNR=9.6						
SIJI				LR	LR	07 23 15.2	
	comp=Z,1μm,19.8s,baz=284,slow=43						
MATI	**Mati**	**5.52**	**359**	*e*P	**Pn**	**07 20 47.6**	**+1.8**
MATI				*e*S	**Sn**	**07 21 46.9**	**-1.2**
MPSI	**Mapaga**	**6.51**	**261**	P	**Pn**	**07 21 01.2**	**+1.8**
	0.8nm2μm226nm,0.8s						
BUKP	**Musuan**	**6.57**	**349**	*e*P	**Pn**	**07 21 00.3**	**+0.1**
BUKP				*e*S	**Sn**	**07 22 18.1**	**+4.1**
PAGZ	**Pagadian**	**7.05**	**336**	*e*P	**Pn**	**07 21 07.5**	**+0.7**
PAGZ				*e*S	**Sn**	**07 22 19.2**	**-6.6**
FAKI	**Fak Fak**	**7.31**	**126**	P	**Pn**	**07 21 11.3**	**+0.9**
	0.5nm207nm,0.9s						
FAKI	**Fak Fak**	**7.31**	**126**	Pn	**Pn**	**07 21 09.5**	**-0.9**
BBSI	**Bau Bau**	**7.79**	**209**	P	Pn	07 21 29.1	+12
TTSI	**Tana Toraja**	**7.85**	**236**	P	**Pn**	**07 21 19.6**	**+1.8**
	1.2nm4μm331nm,0.7s						
SPSI	**Sidrap Palu**	**8.44**	**231**	P	**Pn**	**07 21 27.6**	**+1.8**
	3μm275nm,1.1s						
BNSI	**Bone**	**8.46**	**227**	P	**Pn**	**07 21 28.4**	**+2.2**
	0.7nm2μm251nm,0.8s						
MYLDM	**Lahad Datu**	**8.67**	**296**		**Pn**	**07 21 28.1**	**-0.9**
MYLDM				Sn	**Sn**	**07 23 01.7**	**-3.8**
KAPI	**Kappang**	**9.14**	**226**	Pn	**Pn**	**07 21 38.7**	**+3.2**
	10nm,0.3s,baz=24,slow=6.2,SNR=25						
KAPI	**Kappang**	**9.14**	**226**	P	**Pn**	**07 21 32.8**	**-2.7**
KAPI	**Kappang**	**9.14**	**226**	Pn	**Pn**	**07 21 32.8**	**-2.7**
CNOP	**Candoni, Negro**	**9.15**	**337**	*e*P	**Pn**	**07 21 39.0**	**+3.4**
RCP	**Roxas**	**10.71**	**341**	⇑*e*P	Pn	07 22 10.2	+13
EDFI	**Ende, Flores**	**11.08**	**205**	P	**Pn**	**07 22 02.4**	**+0.2**
	26nm,0.6s						
KKM	**Kota Kinabalu**	**11.09**	**295**	Pn	**Pn**	**07 22 04.8**	**+2.4**
KBKI	**Kotabaru**	**11.17**	**245**	P	**Pn**	**07 22 03.5**	**+0.2**
	1μm64nm,1.0s						
SOEI	**Soe**	**11.26**	**190**	P	Pn	07 22 12.1	+7.5
BATI	**Baumata**	**11.82**	**193**	Pn	Pn	07 22 18.8	+6.5
	5.4nm,0.3s,baz=321,slow=16,SNR=2.4						
BATI	**Baumata**	**11.82**	**193**	P	Pn	07 22 17.1	+4.9
	26nm,0.5s						
PLAI	**Plampang**	**13.25**	**220**	P	**P**	**07 22 41.7**	**+1.3**
SBUM	**Sibu**	**14.13**	**274**		**P**	**07 22 48.9**	**-1.3**
GENI	**Genyem**	**14.40**	**106**	P	**Pn**	**07 22 49.4**	**+2.1**
	68nm,0.8s						
JAY	**Jayapura**	**14.89**	**105**	Pn	**P**	**07 22 58.7**	**0.0**
	1.1nm,0.3s,baz=297,slow=6.8,SNR=9.6						
JAY				LR	LR	07 28 05.8	
	comp=Z,631nm,18.6s,baz=308,slow=35						
JAY	**Jayapura**	**14.89**	**105**	P	**P**	**07 22 57.3**	**-1.4**
	22nm,0.9s						
KMMI	**Kalianget**	**14.91**	**236**	P	**P**	**07 23 02.7**	**+3.9**
DNP	**Denpasar**	**14.92**	**228**	P	P	07 23 05.5	+6.5
MTN	**Manton Dam**	**14.93**	**161**	P	**Pn**	**07 22 53.0**	**-1.2**
	baz=15,SNR=15						
MTN	**Manton Dam**	**14.93**	**161**	Pn	**Pn**	**07 22 53.0**	**-1.2**
KDU	**Kakadu**	**15.26**	**157**	P	**Pn**	**07 22 56.7**	**-1.9**
	baz=15,SNR=7.7						
JAGI	**Jajag, Banyuwa**	**15.59**	**231**	P	**P**	**07 23 07.6**	**+1.2**
	125nm,0.9s						
JAGI	**Jajag, Banyuwa**	**15.59**	**231**	P	**P**	**07 23 09.8**	**+3.3**
JAGI				IAmb	IAmb	07 23 11.3	
	comp=Z,109nm,0.9s						
KSM	**Kuching**	**16.01**	**270**		**P**	**07 23 13.2**	**+2.1**
KSM				IAmb	IAmb	07 23 20.9	
	comp=Z,102nm,1.1s						
KNRA	**Kununurra**	**17.13**	**172**	P	**Pn**	**07 23 22.5**	**+0.3**
	baz=17,SNR=28						
KNRA	**Kununurra**	**17.13**	**172**	P	**Pn**	**07 23 22.6**	**+0.3**
KNRA				IAmb	IAmb	07 23 27.5	
	comp=Z,140nm,0.8s						
NGJI	**Ngawi**	**17.19**	**239**	P	P	07 23 32.7	+8.6
WOJI	**Wonogiri, Jawa**	**17.89**	**239**	P	P	07 23 43.3	+11
TPI	**Tanjungpandan**	**19.11**	**258**	P	**Pn**	**07 23 47.8**	**+1.3**
	comp=Z,42nm,0.9s						
FITZ	**Fitzroy Crossi**	**19.38**	**182**	P	**P**	**07 23 47.4**	**-0.7**
	baz=20,SNR=39						
FITZ	**Fitzroy Crossi**	**19.38**	**182**	P	**P**	**07 23 47.6**	**-0.5**
	comp=Z,2.9nm,0.3s,baz=15,slow=8.2,SNR=41						
FITZ	**Fitzroy Crossi**	**19.38**	**182**	P	**P**	**07 23 47.5**	**-0.7**
LEM	**Lembang**	**20.37**	**246**	P	**P**	**07 23 58.0**	**-1.3**
	comp=Z,15nm,0.4s,baz=338,slow=18,SNR=3.7						
LEM	**Lembang**	**20.37**	**246**	P	**P**	**07 23 58.0**	**-1.3**
PPBI	**Pangkal Pinang**	**20.49**	**260**	P	**P**	**07 24 00.4**	**+0.1**
	comp=Z,21μmcomp=Z,28nm,0.6s						
CISI	**Cisompet, Garu**	**20.49**	**244**	P	**P**	**07 23 58.0**	**-2.4**
CISI				IAmb	IAmb	07 24 12.0	
	comp=Z,176nm,1.5s						
DLV	**T Lat**	**20.56**	**301**	P	**P**	**07 24 02.1**	**+0.8**
DLV				IAmb	IAmb	07 24 15.9	
	comp=Z,62nm,1.2s						
DSRI	**Dabo**	**21.82**	**265**	P	**P**	**07 24 17.9**	**+3.2**
TWG	**Pinlang**	**21.91**	**347**	P	**P**	**07 24 13.2**	**-2.2**
YULB	**Yu-li**	**22.41**	**348**	P	**P**	**07 24 18.1**	**-2.8**
MYKOM	**Kota Tinggi**	**22.47**	**271**	P	**P**	**07 24 22.8**	**+1.2**
MYKOM				IAmb	IAmb	07 24 26.5	
	comp=Z,69nm,1.0s						
MYKOM	**Kota Tinggi**	**22.47**	**271**	P	**P**	**07 24 23.0**	**+1.4**
WB0	**Warramunga Arr**	**22.47**	**160**	P	**P**	**07 24 20.1**	**-1.4**
TPUB	**Ta-pu**	**22.47**	**346**	P	**P**	**07 24 20.0**	**-1.5**
TPUB				IAmb	IAmb	07 24 26.8	
	comp=Z,64nm,0.7s						
WRAB	**Tennant Creek**	**22.61**	**160**	*d*iP	**P**	**07 24 22.1**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,88nm,0.7s						
WRAB	**Tennant Creek**	**22.61**	**160**	P	**P**	**07 24 21.9**	**-1.1**
WRA	**Warramunga Arr**	**22.61**	**160**	P	**P**	**07 24 21.6**	**-1.5**
	comp=Z,86nm,0.6s,baz=338,slow=11,SNR=104						
WRA				S	**S**	**07 28 26.5**	**-1.3**
	comp=Z,10nm,0.9s,baz=336,slow=21,SNR=9.9						
WRA				ScP	**ScP**	**07 31 51.7**	**+2.7**
	comp=Z,0.8nm,0.3s,baz=0.7,slow=2.3,SNR=7.8						
COEN	**Coen**	**22.61**	**133**	P	**P**	**07 24 21.2**	**-2.0**
	baz=23,SNR=20						
COEN	**Coen**	**22.61**	**133**	P	**P**	**07 24 21.3**	**-1.8**
WB2	**Warramunga Arr**	**22.62**	**160**	P	**P**	**07 24 21.7**	**-1.4**
WR0	**Warramunga Arr**	**22.70**	**160**	P	**P**	**07 24 22.0**	**-2.0**
SSLB	**Suanglung**	**22.86**	**347**	P	**P**	**07 24 23.9**	**-1.8**
SSLB				IAmb	IAmb	07 24 35.9	
	comp=Z,24nm,0.7s						
MBWA	**Marble Bar**	**23.32**	**196**	P	**P**	**07 24 29.2**	**-1.0**
PMG	**Port Moresby**	**23.36**	**118**	P	**P**	**07 24 30.1**	**-0.7**
	comp=Z,30nm,0.8s,baz=323,slow=14,SNR=5.2						
PMG				LR	LR	07 35 05.6	
	comp=Z,463nm,19.4s,baz=350,slow=40						
PMG	**Port Moresby**	**23.36**	**118**	P	**P**	**07 24 29.4**	**-1.3**
PMG				pmax	pmax		
	comp=Z,32nm,0.9s						
PMG	**Port Moresby**	**23.36**	**118**	P	**P**	**07 24 29.4**	**-1.3**
PMG				IAmb	IAmb	07 24 34.8

BLDU Ballidu 33.12 195 P P 07 25 57.6 -0.3
baz=33,SNR=33
KLBR Kellerberrin 33.79 193 P P 07 26 03.8 +0.1
baz=34,SNR=23
MUN Mundaring 34.54 195 P P 07 26 10.6 +0.4
baz=35,SNR=8.6
RMQ Roma 35.17 144 P P 07 26 15.2 -0.5
baz=35,SNR=5.1
NWAO Narrogin (SRO) 35.20 193 P P 07 26 16.2 +0.4
baz=35,SNR=22
NWAO Narrogin (SRO) 35.20 193 P P 07 26 15.0 -0.8
NWAO pmax pmax
comp=Z,26nm,0.7s
NWAO Narrogin (SRO) 35.20 193 P P 07 26 14.9 -1.0
NWAO Narrogin (SRO) 35.20 193 P P 07 26 15.0 -0.8
NWAO IAmb IAmb 07 26 17.3
comp=Z,26nm,0.7s
INU Inuyama 35.22 15 P P 07 26 15.0 -1.0
INU IAmb IAmb 07 26 27.6
comp=Z,20nm,1.1s
BBOO Buckleboo 35.24 166 P P 07 26 15.9 -0.2
baz=35,SNR=17
BBOO Buckleboo 35.24 166 P P 07 26 16.0 -0.2
EIDS Eidsvold 35.81 140 P P 07 26 20.9 -0.3
baz=36,SNR=3.6
EIDS Eidsvold 35.81 140 P P 07 26 20.7 -0.5
EIDS IAmb IAmb 07 26 23.5
comp=Z,44nm,1.5s
KSRS Korea Array 35.92 2 P P 07 26 23.0 +1.0
comp=Z,6.1nm,0.8s,baz=180,slow=9.8,SNR=17
KSRS PcP **PcP** 07 28 49.1 +0.9
comp=Z,1.5nm,0.7s,baz=194,slow=3.1,SNR=5.3
STKA Stephens Creek 36.12 158 P P 07 26 23.9 +0.2
baz=36,SNR=36
STKA Stephens Creek 36.12 158 P P 07 26 23.8 0.0
comp=Z,25nm,0.7s,baz=328,slow=9.4,SNR=48
STKA Stephens Creek 36.12 158 P P 07 26 23.2 -0.6
STKA pmax pmax
comp=Z,6.0nm,0.8s
STKA Stephens Creek 36.12 158 P P 07 26 23.2 -0.6
CD2 Chengdu 36.31 326 *e*P P 07 26 26.0 +0.4
XAN Xi'an 36.33 335 P P 07 26 25.5 -0.2
XAN pmax pmax
comp=Z,14nm,0.8s
XAN Xi'an 36.33 335 P P 07 26 24.0 -1.7
XAN pmax pmax
comp=Z,10.0nm,0.7s
XAN Xi'an 36.33 335 P P 07 26 23.9 -1.7
XAN IAmb IAmb 07 26 31.7
comp=Z,9.8nm,0.7s
HTT Hallett 36.62 162 P P 07 26 28.6 +0.6
baz=37,SNR=8.8
MJAR Matsushiro Arr 36.67 16 P P 07 26 27.7 -0.8
comp=Z,5.1nm,0.7s,baz=180,slow=9.7,SNR=15
MJAR LR LR 07 41 39.8
comp=Z,171nm,20.9s,baz=190,slow=36
MAJO Matsushiro 36.67 16 ⇓*i*P P 07 26 27.9 -0.6
MAJO pmax pmax
comp=Z,31nm,2.7s
MAJO Matsushiro 36.67 16 P P 07 26 27.9 -0.6
MAT Matsushiro 36.67 16 P P 07 26 27.4 -1.0
MJB9 Matsu-Tunnel 36.67 16 P P 07 26 27.4 -1.1
RKGY Rocky Gully 36.87 193 P P 07 26 31.7 +1.6
baz=37,SNR=30
CMSA Cobar Meteorol 37.56 152 P P 07 26 36.1 +0.1
baz=38,SNR=16
DL2 Dalian 37.58 354 P P 07 26 37.0 +0.9
DL2 pmax pmax
comp=Z,45nm,0.7s
BJT Baijiatuau 39.54 348 P P 07 26 51.6 -1.0
BJT pmax pmax
comp=Z,8.0nm,0.7s
BJT Baijiatuau 39.54 348 P P 07 26 51.6 -1.0
BJI Beijing 39.56 348 P P 07 26 53.8 +1.1
BJI pmax pmax
comp=Z,11nm,0.6s
ARMA Armidale 39.77 145 P P 07 26 56.0 +1.2
baz=40,SNR=20
ARMA Armidale 39.77 145 P P 07 26 55.4 +0.6
ARMA IAmb IAmb 07 26 58.9
comp=Z,37nm,0.8s
LZH Lanzhou 40.33 331 *e*P P 07 27 00.3 +0.9
LZH pP pP 07 27 10.8 -0.7
LZH sP pwP 07 27 14.5 +0.8
LZH *e*PP **PnPn** 07 28 38.0 +1.1
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,97nm,5.4s
LZH LR LR
comp=Z,420nm,13.5s
LZH LR LR
comp=Z,440nm,13.3s
LZH LR LR
comp=Z,700nm,16.8s
ARPS Mount Arapiles 40.61 161 P P 07 27 02.4 +0.9
baz=41,SNR=18
SHL Shillong 40.97 309 P P 07 27 04.1 -0.8
SHL pmax pmax
comp=Z,13nm,0.7s
SHL Shillong 40.97 309 P P 07 27 04.1 -0.8
HHC Hu-ho-hao-te 41.49 343 *e*P P 07 27 09.5 +0.7
HHC pmax pmax
comp=Z,11nm,1.0s
HHC pmax pmax
comp=Z,76nm,5.5s
MGCD Mangrove Creek 41.60 148 P P 07 27 09.3 -0.4
baz=42,SNR=4.4
CAN Canberra 42.23 152 P P 07 27 16.3 +1.4
CAN pmax pmax
comp=Z,26nm,0.8s
CAN Canberra 42.23 152 P P 07 27 16.3 +1.4
CAN IAmb IAmb 07 27 17.5
comp=Z,26nm,0.8s
CNB Canberra Magne 42.40 152 P P 07 27 16.3 0.0
baz=42,SNR=8.4
TOO Toolangi 42.64 157 P P 07 27 17.5 -0.6
baz=43,SNR=4.3
USA0B Ussuriysk Arra 42.92 6 P P 07 27 20.3 0.0
USA0B pmax pmax
comp=Z,12nm,0.8s
USA0B Ussuriysk Arra 42.92 6 P P 07 27 20.2 0.0
USRK Ussuriysk Ar. 42.92 6 P P 07 27 20.9 +0.6
comp=Z,9.1nm,0.7s,baz=198,slow=9.2,SNR=19
MDJ Mudanjiang 43.14 3 P P 07 27 22.8 +0.8
MDJ pP pP 07 27 32.8 -1.5
MDJ sP sP 07 27 36.8 -2.8
MDJ pmax pmax
comp=Z,10.0nm,0.7s
SANVU Saraoutou 43.74 114 P P 07 27 29.2 +2.0
TEY Ternei 44.40 10 *e*P P 07 27 32.9 +0.8
GTA Gaotai 44.90 331 *e*P P 07 27 37.8 +1.4
GTA pP pP 07 27 44.8 -3.9
GTA sP pwP 07 27 48.8 -2.2
GTA PcP **PcP** 07 29 19.0 +1.6
GTA pmax pmax
comp=Z,6.0nm,0.8s
DZM Mont Dzumac 45.56 123 P P 07 27 40.0 -1.9
RAMN Ramite 45.80 307 *e*P P 07 27 43.6 -0.2
comp=Z,15nm,0.6s
JIRN Jiri 46.44 308 *e*P P 07 27 47.8 -1.3
comp=Z,16nm,0.4s
GUN Gumba 46.80 308 *e*P P 07 27 51.0 -0.8
comp=Z,23nm,0.4s
PKI Pulchoki 47.02 307 *e*P P 07 27 52.2 -1.3
comp=Z,6.9nm,0.5s
YSS Yuzh-Sakhalins 47.59 15 *e*P P 07 27 58.4 +1.2
YSS pmax pmax
comp=Z,10.0nm,1.1s
KLR Kul'dur 47.89 5*c* *i*P P 07 27 59.5 0.0
KLR pmax pmax
comp=Z,9.0nm,0.9s
KOLN Koldanda 48.55 307 *e*P P 07 28 04.3 -1.0
comp=Z,33nm,0.7s
DANN Dangsing 48.67 307 *e*P P 07 28 05.1 -1.2
comp=Z,42nm,0.5s
PYUN Piuhan 49.18 307 *e*P P 07 28 09.5 -0.6
comp=Z,56nm,0.6s
ULN Ulaanbaatar 49.21 343 ⇑*i*P P 07 28 10.8 +0.9
ULN pmax pmax
comp=Z,6.0nm,0.8s
ULN Ulaanbaatar 49.21 343 P P 07 28 08.9 -1.0
SONM Songino Array 49.38 342 P P 07 28 11.8 +0.6
comp=Z,4.2nm,0.7s,baz=160,slow=8.7,SNR=19
HYB Hyderabad 49.56 292 *i* P P 07 28 13.5 +0.6

GRNR Gornyy 49.94 8 ⇑*i*P P 07 28 15.9 +0.7
GRNR pmax pmax
comp=Z,4.0nm,0.9s
GRNR MLR MLR
comp=E,210nm,15.0s
GRNR MLR MLR
comp=Z,260nm,13.0s
TLY Talaya 53.62 343 P P 07 28 43.8 +1.1
comp=Z,3.7nm,0.7s,baz=200,slow=14,SNR=3.0
TLY Talaya 53.62 343 *e*P P 07 28 42.1 -0.6
TLY pmax pmax
comp=Z,11nm,1.1s
TLY Talaya 53.62 343 P P 07 28 41.1 -1.5
WMQ Urumqi 54.41 326 *e*P P 07 28 50.0 +1.3
WMQ pP pP 07 29 01.3 0.0
WMQ pmax pmax
comp=Z,21nm,0.9s
WMQ pmax pmax
comp=Z,38nm,5.5s
MOY Mondy 54.44 341 *e*P P 07 28 51.2 +2.5
BOD Bodaibo 57.11 352 *e*P P 07 29 07.9 +0.3
BOD pmax pmax
comp=Z,13nm,1.0s
PETK Petropavlovsk- 57.74 22 P P 07 29 12.6 +0.5
comp=Z,5.2nm,0.7s,baz=174,slow=2.3,SNR=9.3
ZSN Zaisan 58.25 328 ⇑*i*P P 07 29 15.1 -0.8
comp=Z,1.7nm,0.8s,baz=328
ZSN Zaisan 58.25 328 ⇑*i*P P 07 29 15.1 -0.8
ZSN pmax pmax
comp=Z,2.0nm,0.8s
DGZ Jazzator, Alta 58.43 331 ⇓*i*P P 07 29 18.3 +1.1
DGZ pmax pmax
comp=Z,4.0nm,0.7s
SHLS Shalkode 58.89 321 ⇑*i*P P 07 29 18.3 -2.3
comp=Z,5.4nm,0.9s,baz=321
SHLS Shalkode 58.89 321 ⇑*i*P P 07 29 18.3 -2.3
SHLS pmax pmax
comp=Z,5.0nm,0.9s
PDGK Podgornoye 58.97 322 P P 07 29 20.2 -0.9
NIL Nilore 59.05 309 P P 07 29 21.4 -0.3
NIL pmax pmax
comp=Z,10.0nm,0.7s
NIL Nilore 59.05 309 P P 07 29 21.4 -0.3
NIL IAmb IAmb 07 29 37.2
comp=Z,10nm,0.7s
UZB Uzynbulak 59.16 321 ⇑*i*P P 07 29 21.8 -0.8
comp=Z,2.6nm,0.9s,baz=321
UZB Uzynbulak 59.16 321 ⇑*i*P P 07 29 21.7 -0.8
UZB pmax pmax
comp=Z,3.0nm,0.9s
PRZ Przheval'sk 59.22 320 P P 07 29 22.1 -0.8
PRZ pmax pmax
comp=Z,14nm,0.8s
PRZ Przheval'sk 59.22 320 P P 07 29 22.1 -0.8
PRZ IAmb IAmb 07 29 27.8
comp=Z,14nm,0.8s
TARG Taragay, Kyrgy 59.23 319 P P 07 29 22.1 -1.2
MK31 Makanchi Array 59.25 326 P P 07 29 22.3 -0.5
MK31 pmax pmax
comp=Z,6.0nm,0.6s
MK31 Makanchi Array 59.25 326 P P 07 29 22.3 -0.5
MK31 IAmb IAmb 07 29 28.7
comp=Z,6.1nm,0.6s
MKAR Makanchi Array 59.25 326 P P 07 29 22.5 -0.3
comp=Z,6.9nm,0.5s,baz=120,slow=7.9,SNR=70
KSH Kashi 59.42 316 *e*P P 07 29 25.0 +0.7
KSH S S 07 37 28.3 -2.0
KSH SS SS 07 41 25.3 -0.7
KSH pmax pmax
comp=Z,9.0nm,0.8s
KSH pmax pmax
comp=Z,240nm,8.8s
KSH LR LR
comp=Z,670nm,15.0s
KSH LR LR
comp=Z,600nm,13.9s
KSH LR LR
comp=Z,440nm,10.5s
MAKZ Makanchi 59.43 326 P P 07 29 23.6 -0.5
MAKZ pmax pmax
comp=Z,10.0nm,0.5s
MAKZ Makanchi 59.43 326 P P 07 29 23.6 -0.5
SATY Saty 59.50 321 ⇑*i*P P 07 29 24.4 -0.5
comp=Z,5.5nm,0.7s,baz=321
SATY Saty 59.50 321 ⇑*i*P P 07 29 24.3 -0.5
SATY pmax pmax
comp=Z,5.0nm,0.7s
KPKS Kokpek 59.54 321 ⇑*i*P P 07 29 24.3 -0.8
comp=Z,7.2nm,0.8s,baz=321
KPKS Kokpek 59.54 321 ⇑*i*P P 07 29 24.2 -0.8
KPKS pmax pmax
comp=Z,7.0nm,0.8s
KDJ Kajisay 59.83 319 P P 07 29 26.6 -0.5
KDJ pmax pmax
comp=Z,9.0nm,0.9s
KDJ Kajisay 59.83 319 P P 07 29 26.6 -0.5
KDJ IAmb IAmb 07 29 31.4
comp=Z,9.4nm,0.8s
LBZ Lake Benmore 60.00 145 P P 07 29 28.4 +0.4
THZ Tophouse 60.13 141 P P 07 29 28.8 -0.3
MDOK Medeo 60.42 320 ⇑*i*P P 07 29 30.5 -0.6
baz=320
MDOK Medeo 60.42 320 ⇑*i*P P 07 29 30.5 -0.6
TNSS Tian-Shan 60.42 320 *i* P P 07 29 31.4 0.0
baz=320
TNSS Tian-Shan 60.42 320 *i* P P 07 29 31.4 0.0
TDK Taldyqorghan 60.51 323 *e*P P 07 29 31.4 -0.2
comp=Z,9.9nm,0.8s,baz=322
TDK Taldyqorghan 60.51 323 *e*P P 07 29 31.3 -0.2
TDK pmax pmax
comp=Z,10.0nm,0.8s
YAK Yakutsk 60.54 2 P P 07 29 29.9 -1.4
comp=Z,12nm,0.5s,baz=217,slow=0.7,SNR=5.3
YAK Yakutsk 60.54 2 *e*P P 07 29 31.4 +0.1
YAK pmax pmax
comp=Z,16nm,0.8s
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK Yakutsk 60.54 2 P P 07 29 30.1 -1.2
TUWZ Tuamarina 60.60 140 P P 07 29 31.4 -0.8
CHKK Chushkaly 60.80 321 ⇑*i*P P 07 29 32.5 -1.1
baz=321
CHKK Chushkaly 60.80 321 ⇑*i*P P 07 29 32.4 -1.1
MA2 Magadan 61.06 14 P P 07 29 33.7 -1.2
MA2 pmax pmax
comp=Z,22nm,0.9s
MA2 Magadan 61.06 14 P P 07 29 33.7 -1.2
URZ Urewera 61.14 136 P P 07 29 34.9 -1.0
BKZ Black Stump Fm 61.14 137 P P 07 29 34.3 -1.7
KUU Kurty 61.22 321 ⇑*i*P P 07 29 35.7 -0.7
comp=Z,6.9nm,0.6s,baz=321
KUU Kurty 61.22 321 ⇑*i*P P 07 29 35.7 -0.7
KUU pmax pmax
comp=Z,7.0nm,0.6s
TKM2 Tokmak 2 61.23 320 P P 07 29 36.2 -0.5
AAK Ala-Archa 61.82 319 P P 07 29 41.0 +0.4
comp=Z,1.6nm,0.3s,baz=140,slow=6.6,SNR=4.0
AAK Ala-Archa 61.82 319 P P 07 29 40.2 -0.5
AAK pmax pmax
comp=Z,7.0nm,1.0s
AAK Ala-Archa 61.82 319 P P 07 29 40.2 -0.5
SGDS Sogindy 62.11 320 *e*P P 07 29 41.2 -1.3
baz=320
SGDS Sogindy 62.11 320 *e*P P 07 29 41.1 -1.3
ARSB Arslanbob 62.26 317 P P 07 29 42.3 -1.3
ARSB pmax pmax
comp=Z,17nm,1.4s
ARSB Arslanbob 62.26 317 P P 07 29 42.3 -1.3
ARSB IAmb IAmb 07 29 47.6
comp=Z,17nm,1.4s
SEM Semipalatinsk 62.47 329 *e*P P 07 29 44.9 0.0
baz=328
SEM Semipalatinsk 62.47 329 *e*P P 07 29 44.8 0.0
ZAA0 Zalesovo Array 62.48 334 P P 07 29 43.6 -1.0
ZALV Zalesovo Beam 62.48 334 P P 07 29 43.5 -1.2
comp=Z,2.8nm,0.4s,baz=139,slow=5.7,SNR=15
ZALV Zalesovo Beam 62.48 334 *i* P P 07 29 44.5 -0.1
ZALV pmax pmax
comp=Z,3.0nm,0.4s
KBL Kabul 62.63 309 P P 07 29 45.5 -0.8
KBL pmax pmax
comp=Z,8.0nm,0.6s
KBL Kabul 62.63 309 P P 07 29 45.5 -0.8
KBL IAmb IAmb 07 29 47.4
comp=Z,8.1nm,0.6s

BTLS Baital 63.21 321 *e*P P 07 29 48.6 -1.1
comp=Z,1.5nm,0.6s,baz=321
BTLS Baital 63.21 321 *e*P P 07 29 48.5 -1.1
BTLS pmax pmax
comp=Z,2.0nm,0.6s
BTK Batken 63.26 315 P P 07 29 49.6 -0.6
BTK pmax pmax
comp=Z,8.0nm,0.5s
BTK Batken 63.26 315 P P 07 29 49.6 -0.6
BTK IAmb IAmb 07 29 55.2
comp=Z,8.2nm,0.5s
KURBB Kurchatov Arra 63.49 328 P P 07 29 50.5 -0.9
KURK Kurchatov 63.49 328 *c* *i*P P 07 29 50.8 -0.6
KURK pmax pmax
comp=Z,31nm,0.8s
KURK Kurchatov 63.49 328 P P 07 29 50.2 -1.1
IUG luzhnay 64.61 317 *e*P P 07 29 58.6 -0.5
baz=317
IUG *e*S S 07 38 35.5 -0.3
IUG luzhnay 64.61 317 *e*P P 07 29 58.6 -0.5
IUG *e*S S 07 38 35.4 -0.3
KK31 Karatay Array 64.67 318 P P 07 29 58.9 -0.4
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KK31 Karatay Array 64.67 318 P P 07 29 58.9 -0.4
KK31 IAmb IAmb 07 30 04.1
comp=Z,5.5nm,0.7s
KKAR Karatay Array 64.67 318 P P 07 29 59.1 -0.2
KKAR pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 64.67 318 P P 07 29 59.1 -0.2
KKAR IAmb IAmb 07 30 04.2
comp=Z,5.5nm,0.7s
BRZS Berezniki 66.36 325 *e*P P 07 30 09.5 -0.7
comp=Z,4.4nm,0.6s,baz=325
BRZS Berezniki 66.36 325 *e*P P 07 30 09.4 -0.7
BRZS pmax pmax
comp=Z,4.0nm,0.6s
AMKA Amchitka 66.67 33 P P 07 30 13.1 +1.1
CASY Casey 68.46 187 P P 07 30 22.7 -0.2
CASY IAmb IAmb 07 30 24.3
comp=Z,11nm,0.8s
BRVK Borovoye 69.13 328 *c* *i*P P 07 30 27.1 -0.3
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 69.13 328 P P 07 30 27.1 -0.3
BRVK IAmb IAmb 07 30 30.0
comp=Z,10nm,0.7s
BILL Bilibino 71.91 15 *e*P P 07 30 46.1 +2.0
BILL pmax pmax
comp=Z,4.0nm,1.0s
GEYT Alibeck 72.05 309 P P 07 30 45.3 -0.3
comp=Z,4.8nm,0.8s,baz=132,slow=6.2,SNR=7.5
GYA0 ALIBECK ARRAY 72.05 309 P P 07 30 46.0 +0.4
GYA0B ALIBECK ARRAY 72.05 309 P P 07 30 43.8 -1.8
NRIK Noril'sk 72.59 347 P P 07 30 48.5 +0.3
comp=Z,11nm,0.6s,baz=144,slow=6.8,SNR=14
AB31 Akbulak array 73.70 321 *i* P P 07 30 54.5 -0.6
ABKAR Akbulak array 73.70 321 P P 07 30 54.3 -0.8
ABKAR IAmb IAmb 07 30 57.9
comp=Z,9.8nm,0.8s
AKTO Aktyubinsk 75.23 322 P P 07 31 04.1 +0.1
comp=Z,10nm,0.6s,baz=111,slow=6.8,SNR=14
SVE Sverdlovsk 75.73 329 ⇓*e*P P 07 31 06.5 -0.2
SVE pmax pmax
comp=Z,36nm,1.1s
ARU Arti 76.69 328 P P 07 31 11.3 -0.8
comp=Z,4.9nm,0.6s,baz=98,slow=2.4,SNR=19
ARU Arti 76.69 328 *c* *i*P P 07 31 11.5 -0.6
ARU S S 07 40 57.2 +1.9
ARU SS SS 07 45 47.5 -4.2
ARU pmax pmax
comp=Z,15nm,0.8s
ARU Arti 76.69 328 P P 07 31 11.6 -0.6
ARU IAmb IAmb 07 31 12.5
comp=Z,14nm,0.8s
AKT Akhty 80.53 312 *e*P P 07 31 33.9 +0.1
AKT *e* 07 31 40.4
AKT pmax pmax
comp=Z,7.0nm,0.5s
VNDA Vanda 81.17 173 P P 07 31 36.3 0.0
comp=Z,10nm,0.6s,baz=314,slow=6.6,SNR=71
VNDA Vanda 81.17 173 P P 07 31 36.1 -0.2
VNDA pmax pmax
comp=Z,10.0nm,0.7s
VNDA Vanda 81.17 173 P P 07 31 36.1 -0.2
VNDA IAmb IAmb 07 31 40.2
comp=Z,9.6nm,0.7s
MAW Mawson 81.43 200 P P 07 31 38.9 +1.1
baz=82,SNR=8.4
MAW Mawson 81.43 200 P P 07 31 38.9 +1.1
comp=Z,5.3nm,0.7s,baz=62,slow=5.7,SNR=13
MAW Mawson 81.43 200 P P 07 31 38.5 +0.7
MAW pmax pmax
comp=Z,2.0nm,1.0s
MAW Mawson 81.43 200 P P 07 31 38.5 +0.7
KIRV Kirov 82.00 329 P P 07 31 40.9 0.0
comp=Z,11nm,0.5s,baz=106,slow=6.5,SNR=5.3
ZEI Tsey 83.49 313 *e*P P 07 31 47.6 -1.8
ZEI pmax pmax
comp=Z,11nm,0.5s
AKH Akhalkalaki 83.70 311 P P 07 31 48.6 -1.9
AKH pmax pmax
comp=Z,18nm,0.9s
AKH Akhalkalaki 83.70 311 P P 07 31 48.6 -1.9
KDAK Kodiak Island 84.07 32 P P 07 31 52.0 +0.2
KDAK pmax pmax
comp=Z,13nm,1.0s
KDAK Kodiak Island 84.07 32 P P 07 31 52.0 +0.2
KDAK IAmb IAmb 07 31 57.7
comp=Z,13nm,0.9s
GOF Gofitskoye 84.27 315 ⇑*e*P P 07 31 54.3 +1.3
KBZ Khabaz 84.28 314 P P 07 31 53.3 +0.2
comp=Z,7.2nm,0.8s,baz=139,slow=5.1,SNR=11
KBZ Khabaz 84.28 314 ⇓*i*P P 07 31 53.6 +0.5
KIV Kislovodsk 84.45 314 *e*P P 07 31 55.5 +1.4
KIV pmax pmax
comp=Z,39nm,1.0s
CNPM China Poot 84.97 30 P P 07 31 56.2 -0.1
CNPM IAmb IAmb 07 32 04.7
comp=Z,11nm,0.8s
SUA Susitna One 85.40 29 P P 07 31 58.2 -0.3
SUA IAmb IAmb 07 32 01.1
comp=Z,8.7nm,0.8s
VRH Novokhopyorsk 85.53 321 *e*P P 07 31 58.8 -0.4
VRH pmax pmax
comp=Z,40nm,0.9s
PMR Palmer 86.18 28 P P 07 32 02.1 -0.1
PMR pmax pmax
comp=Z,4.0nm,0.7s
PMR Palmer 86.18 28 P P 07 32 02.1 -0.1
COLD Coldfoot 86.19 23 P P 07 32 01.8 -0.4
COLD IAmb IAmb 07 32 05.8
comp=Z,6.3nm,0.8s
RND Reindeer 86.44 27 P P 07 32 02.7 -0.9
RND pmax pmax
comp=Z,4.0nm,0.8s
RND Reindeer 86.44 27 P P 07 32 02.7 -0.9
TOLK Toolik Lake Re 86.56 21 P P 07 32 05.1 +1.0
TOLK IAmb IAmb 07 32 07.5
comp=Z,5.2nm,0.8s
SOC Sochi 86.58 313 *e*P P 07 32 03.0 -1.6
SOC *e*PPP PPP 07 37 18.5
SOC *e*S **SKSac** 07 42 26.3 -1.3
SOC *e*SS SS 07 48 18.8 -0.8
SOC pmax pmax
comp=Z,13nm,0.6s
KLMR Klimovskoe 87.23 331 *e*P P 07 32 07.3 -0.1
KLMR pmax pmax
comp=Z,17nm,0.9s
KLMR Klimovskoe 87.23 331 *e*P P 07 32 07.3 -0.1
KLMR AMP 07 32 11.9
comp=Z,17nm,0.9s
LPSR Galich'ya Gora 87.32 322 *e*P P 07 32 08.5 +0.5
LPSR pmax pmax
comp=Z,20nm,0.8s
HDA Harding Lake 87.34 26 P P 07 32 06.6 -1.2
ILAR Eielson Array 87.38 25 P P 07 32 07.6 -0.4
comp=Z,0.7nm,0.6s,baz=234,slow=5.3,SNR=6.5
TMCR Tamitsa 88.01 334 *e*P P 07 32 09.4 -1.6
RIDG Independent Ri 88.24 26 P P 07 32 11.5 -0.8
RIDG IAmb IAmb 07 32 14.0
comp=Z,4.9nm,0.7s
DOT Dot Lake 88.59 27 P P 07 32 12.9 -1.0

OBN	**Obninsk**	**88.73**	**325**	*e*P		**P**	**07 32 14.1**	**-0.5**
OBN				pmax		pmax			
	comp=Z,12nm,0.5s								
KMBO	**Kilima Mbogo**	**89.10**	**269**	P		**P**	**07 32 19.1**	**+1.5**
	comp=Z,1.2nm,0.7s,baz=76,slow=16,SNR=6.4								
KMBO	**Kilima Mbogo**	**89.10**	**269**	P		**P**	**07 32 16.5**	**-1.1**
KMBO				pmax		pmax			
	comp=Z,5.0nm,1.0s								
KMBO	**Kilima Mbogo**	**89.10**	**269**	P		**P**	**07 32 16.5**	**-1.1**
BARN	**Barnard Glacie**	**89.78**	**29**	P		**P**	**07 32 22.4**	**+2.8**
BARN				IAmb		IAmb	07 32 22.7		
	comp=Z,5.1nm,0.8s								
SYO	**Syowa Base**	**90.11**	**201**⇑	*e*P		**P**	**07 32 19.0**	**-1.8**
SYO	**Syowa Base**	**90.11**	**201**⇓	*e*PcP		**PcP**	**07 32 22.2**	**+0.2**
SIM	**Simferopol'**	**90.59**	**315**	*e*P		**P**	**07 32 23.9**	**+0.3**
SIM				pmax		pmax			
	comp=Z,14nm,0.7s								
DAWY	**Dawson**	**90.64**	**26**	P		**P**	**07 32 23.6**	**+0.1**
QSPA	**South Pole Qui**	**91.31**	**180**	P		**P**	**07 32 27.0**	**+0.4**
QSPA				IAmb		IAmb	07 32 32.3		
	comp=Z,4.7nm,0.8s								
CSS	**Mathiatis**	**91.67**	**305**	P		**P**	**07 32 27.8**	**-1.1**
ARCES	**ARCESS Array B**	**92.49**	**340**	P		**P**	**07 32 30.6**	**-1.2**
	comp=Z,4.0nm,0.8s,baz=74,slow=5.2,SNR=16								
SKAG	**Skagway**	**93.06**	**30**	IAmb		IAmb	07 32 38.6		
	comp=Z,4.7nm,0.8s								
WHY	**Whitehorse**	**93.11**	**29**	P		**P**	**07 32 35.4**	**+0.4**
WHY				IAmb		IAmb	07 32 37.3		
	comp=Z,4.5nm,1.1s								
AKASG	**Malin Array Be**	**93.44**	**321**	P		**P**	**07 32 36.2**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=66,slow=4.7,SNR=8.1								
FINES	**FINESS Array B**	**93.69**	**332**	P		**P**	**07 32 38.1**	**+0.6**
	comp=Z,3.5nm,0.6s,baz=74,slow=5.9,SNR=18								
MLR	**Muntele Rosu**	**96.29**	**316**	P		**P**	**07 32 49.0**	**-1.0**
MLR				pmax		pmax			
	comp=Z,6.0nm,1.0s								
MLR	**Muntele Rosu**	**96.29**	**316**	P		**P**	**07 32 49.0**	**-1.0**
MLR				IAmb		IAmb	07 32 55.1		
	comp=Z,6.2nm,1.0s								
BUR08	**Bucovina Ar. S**	**96.47**	**318**	P		**P**	**07 32 50.1**	**-0.6**
BUR08				IAmb		IAmb	07 32 59.2		
	comp=Z,5.8nm,1.0s								
NB2	**NORSAR Subarra100.69**		**333**	P		**Pdif**	**07 33 12.7**	**+3.5**
	comp=Z,1.1nm,0.8s,baz=72,slow=4.4								
NB2	**NORSAR Subarra100.69**		**333**	P		**Pdif**	**07 33 12.7**	**+3.5**
	baz=72,slow=4.4								
NOA	**NORSAR Array B100.69**		**333**	P		**Pdif**	**07 33 10.7**	**+1.5**
	comp=Z,0.6nm,0.6s,baz=69,slow=4.6,SNR=4.1								
YKA	**Yellowknife Ar**	**101.78**	**24**	P		**Pdif**	**07 33 13.5**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=295,slow=4.2,SNR=4.5								
GERES	**GERESS Array B**	**103.65**	**321**	Pdiff		**Pdif**	**07 33 27.8**	**+5.1**
	comp=Z,0.5nm,0.7s,baz=73,slow=4.6,SNR=4.3								
NVAR	**Mina Array Bea**	**108.76**	**49**	PKKP		**PKKPab**	**07 49 12.7**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=144,slow=4.8,SNR=4.9								
PDAR	**Pinedale Array**	**113.37**	**42**	PKKPbc		PKKPbc	07 48 51.0	+5.3	
	comp=Z,0.8nm,0.8s,baz=118,slow=7.2,SNR=6.2								
ECSD	**EROS Data Cent**	**120.93**	**35**			**PKPdf**	**07 38 12.0**	**-1.7**	
SCHQ	**Schefferville**	**122.93**	**9**	PKP		**PKiKP**	**07 38 17.2**	**-0.2**	
	comp=Z,2.3nm,0.7s,baz=326,slow=1.5,SNR=7.3								
TORD	**Torodi Ar. Bea**	**123.22**	**287**	PKP		**PKiKP**	**07 38 19.6**	**+0.5**	
	comp=Z,2.3nm,0.7s,baz=42,slow=2.2,SNR=11								
TORD				PKKPbc		**PKKPab**	**07 48 09.2**	**-0.1**	
	comp=Z,0.9nm,0.6s,baz=278,slow=3.6,SNR=4.6								
JFWS	**Jewell Farm**	**125.00**	**32**	PKIKP		**PKPdf**	**07 38 20.3**	**-1.3**	
JFWS	**Jewell Farm**	**125.00**	**32**			**PKPdf**	**07 38 20.2**	**-1.3**	
E46A	**Sault Ste Mari**	**125.33**	**26**			**PKPdf**	**07 38 20.8**	**-1.3**	
JCT	**Junction City**	**125.87**	**50**	PKIKP		**PKPdf**	**07 38 22.6**	**-1.0**	
JCT	**Junction City**	**125.87**	**50**			**PKPdf**	**07 38 22.6**	**-1.0**	
S39A	**Bolivar**	**126.58**	**39**			**PKPdf**	**07 38 24.0**	**-0.8**	
L48A	**N Adams**	**128.67**	**29**			**PKPdf**	**07 38 27.9**	**-0.7**	
EFI	**East Falkland**	**129.76**	**176**⇑	*i*PKIKP		**PKPdf**	**07 38 30.2**	**-0.1**	
DBIC	**Dimbokro**	**130.62**	**280**	PKP		**PKPdf**	**07 38 33.0**	**0.0**	
	comp=Z,4.5nm,0.9s,baz=178,slow=16,SNR=1.8								
T50A	**Nancy**	**132.09**	**34**			**PKPdf**	**07 38 34.3**	**-0.9**	
PLCA	**Paso Flores**	**137.96**	**161**	PKP		**PKiKP**	**07 38 47.2**	**-0.9**	
	comp=Z,2.8nm,0.9s,baz=319,slow=4.0,SNR=4.2								
PLCA	**Paso Flores**	**137.96**	**161**	PKIKP		**PKPdf**	**07 38 45.8**	**-0.4**	
PLCA	**Paso Flores**	**137.96**	**161**			**PKPdf**	**07 38 45.8**	**-0.4**	
BO02	**Sierra Bellavi**	**143.14**	**156**			**PKPdf**	**07 38 54.1**	**-1.6**	
PEL	**Peldehue**	**144.60**	**155**	PKIKP		PKPbc	07 38 57.3	+0.3	
PEL	**Peldehue**	**144.60**	**155**			PKPbc	07 38 57.3	+0.3	
ROC1	**El Roble**	**144.61**	**154**			**PKPab**	**07 38 55.8**	**-1.3**	
VA03	**San Esteban**	**144.99**	**155**			**PKPab**	**07 38 56.2**	**-2.1**	
CO02	**Combarbal**	**146.12**	**153**	PKPdf		**PKPdf**	**07 38 58.5**	**-2.5**	
CO02						**PKPab**	**07 39 03.3**	**+0.8**	
CO03	**El Pedregal**	**146.57**	**153**			**PKPab**	**07 39 03.8**	**-0.5**	
ZON	**Zonda**	**146.82**	**156**	PKP2		**PKPbc**	**07 39 04.3**	**+0.3**	
ZON	**Zonda**	**146.82**	**156**			**PKPbc**	**07 39 04.2**	**+0.3**	
CO01	**Juntas del Tor**	**147.57**	**153**			**PKPbc**	**07 39 07.2**	**+0.8**	
AC05	**El Transito**	**148.44**	**151**			**PKiKP**	**07 39 09.7**	**-0.4**	
AC02	**Maricunga**	**150.67**	**151**			**PKiKP**	**07 39 16.1**	**+0.9**	
GO02	**Mina Guanaco**	**151.81**	**148**	PKPdf		**PKPdf**	**07 39 10.2**	**-0.4**	
GO02						**PKiKP**	**07 39 18.7**	**+1.3**	
GO02				PKPab		**sPKPdf**	**07 39 27.9**	**-2.0**	
CPUP	**Villa Florida**	**154.96**	**172**	PKPbc		**PKiKP**	**07 39 24.4**	**+1.0**	
	comp=Z,2.3nm,0.8s,baz=106,slow=2.6,SNR=3.2								
CPUP				PKPab		**PKPab**	**07 39 39.9**	**+1.1**	
	comp=Z,5.4nm,0.9s,baz=124,slow=4.9,SNR=5.1								
CPUP	**Villa Florida**	**154.96**	**172**	PKIKP		**PKPdf**	**07 39 13.9**	**-0.8**	
CPUP				PKP		**PKiKP**	**07 39 23.7**	**+0.3**	
CPUP	**Villa Florida**	**154.96**	**172**	PKPdf		**PKPdf**	**07 39 13.8**	**-0.8**	
CPUP						**PKiKP**	**07 39 23.7**	**+0.3**	
CPUP						**PKPab**	**07 39 39.8**	**+1.1**	
LPAZ	**La Paz**	**159.46**	**137**	PKP		**PKPdf**	**07 39 22.9**	**+1.5**	
	comp=Z,1.4nm,0.8s,baz=186,slow=4.2,SNR=6.2								
LPAZ				PKPab		**PKPab**	**07 40 01.8**	**+2.6**	
	comp=Z,1.4nm,0.5s,baz=111,slow=1.5,SNR=7.5								
LPAZ	**La Paz**	**159.46**	**137**	PKIKP		**PKPdf**	**07 39 17.7**	**-3.7**	
LPAZ				PKP		**PKPab**	**07 39 59.0**	**-0.2**	
LPAZ	**La Paz**	**159.46**	**137**			**PKPdf**	**07 39 17.6**	**-3.7**	
LPAZ						**PKPab**	**07 39 59.0**	**-0.2**	

NNC 29 07:19:38.9±0.3, 50.00N×78.72E, h0km, mb3.5, mpv3.1, 15C-10D, Error ellipse: s-maj=10.8km s-min=1.7km az=76.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.60**	**348**	⇓P	Pg	07 19 50.7	+0.4
KUR07				⇓S	Sg	07 19 59.2	+1.1
KUR06	**Kurchatov Arra**	**0.61**	**348**	⇓P	Pg	07 19 51.1	+0.4
KUR06				⇓S	Sg	07 19 59.7	+1.1
KUR14	**Kurchatov Arra**	**0.62**	**353**	⇑P	Pg	07 19 51.0	+0.2
KUR14				⇓S	Sg	07 19 59.6	+0.8
KUR15	**Kurchatov Arra**	**0.63**	**351**	⇑P	Pg	07 19 51.0	+0.1
KUR15				⇓S	Sg	07 20 00.1	+1.1
KURBB	**Kurchatov Arra**	**0.63**	**349**	⇑P	Pg	07 19 51.4	+0.3
	30nm,0.4s						
KURBB				⇓S	Sg	07 20 00.3	+1.0
	152nm,0.5s						
KUR16	**Kurchatov Arra**	**0.64**	**347**	⇓P	Pg	07 19 51.5	+0.3
KUR16				⇑S	Sg	07 20 00.6	+1.0
KUR17	**Kurchatov Arra**	**0.65**	**346**	⇑P	Pg	07 19 51.9	+0.5
KUR17				⇑S	Sg	07 20 01.1	+1.2
KUR05	**Kurchatov Arra**	**0.65**	**350**	⇑P	Pg	07 19 51.6	+0.2
KUR05				⇑S	Sg	07 20 00.6	+0.7
KUR04	**Kurchatov Arra**	**0.67**	**350**	⇑P	Pg	07 19 52.1	+0.3
KUR04				⇓S	Sg	07 20 01.5	+1.0
KURK	**Kurchatov**	**0.72**	**355**	⇑P	Pg	07 19 52.6	0.0
	12nm,0.4s						
KURK				⇓S	Sg	07 20 02.6	+0.6
	28nm,0.7s						
MAKZ	**Makanchi**	**3.86**	**145**	⇑Pg	Pb	07 20 49.1	+1.2
	1.2nm,0.3s						
MAKZ				⇑Lg	Lg	07 21 39.3	
	9.1nm,0.6s						
MK31	**Makanchi Array**	**4.00**	**142**	⇑Pn	Pn	07 20 43.5	+2.1
	0.2nm,0.2s,baz=324,slow=10.0,SNR=80						
MK31				⇑Pg	Pb	07 20 52.3	+2.1
	1.2nm,0.3s,baz=327,slow=15,SNR=6.6						
MK31				⇓Lg	Lg	07 21 44.6	
	4.9nm,0.5s,baz=328,slow=27,SNR=7.9						
KAPS	**Kapalarasan**	**4.74**	**175**	Pg	Pb	07 21 04.8	+1.9
	2.2nm,0.4s						
KAPS				Lg	Lg	07 22 07.6	
	8.8nm,0.4s						
DJR	**Jarkent**	**5.72**	**172**	Pg	Pg	07 21 24.4	-4.0
	3.9nm,0.3s						
DJR				Lg	Lg	07 22 42.0	
	3.6nm,0.5s						
KUU	**Kurty**	**6.32**	**196**	Pg	Pb	07 21 33.0	+3.2
	1.2nm,0.6s						
KUU				Lg	Lg	07 22 55.8	
	6.9nm,0.7s						

JMA ***29*** *07:32:53.9±0.1, 37.46N×141.43E, h32km±1km, M3.8*
JMA Felt II J1.
NEIC ***29*** *07:32:55.1±2.2, 37.42N±0.06×141.61E±0.08, h43km±9km, mb4.4/2, Error ellipse: s-maj=12.2km s-min=4.1km az=137.0*
IDC ***29*** *07:32:55.1±2.6, 37.39N×141.59E, h40km±25km, mb3.5/7, mb1 3.6/10, mb1mx3.4/50, mbtmp3.7/10, ML3.8/2, Error ellipse: s-maj=20.2km s-min=15.7km az=97.0*
ISC 29 07:32:53.2±1.7, 37.44N±0.04×141.47E±0.08, h26km±11km, n39, σ1♦35/47, mb3.9/9, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.48**	**261**	P	**Pb**	**07 33 03.4**	**+0.3**
JFK				S	**Sb**	**07 33 09.9**	**0.0**
JMST	**Minamisoumatoc**	**0.54**	**301**	P	**Pb**	**07 33 04.1**	**0.0**
JMST				S	**Sb**	**07 33 11.0**	**-0.6**
ONAJ	**Iwakimizuishiy**	**0.64**	**238**	P	**Pb**	**07 33 05.8**	**+0.1**
ONAJ				*e*S	**Sb**	**07 33 14.1**	**-0.2**
JMM	**Marumori**	**0.68**	**308**	P	**Pb**	**07 33 06.3**	**-0.2**
JMM				S	**Sb**	**07 33 15.0**	**-0.6**
JFFD	**Fukushimafurud**	**0.81**	**244**	P	**Pn**	**07 33 08.4**	**-0.5**
JFFD				S	**Sn**	**07 33 18.5**	**-1.6**
JFT	**Otama**	**0.91**	**275**	P	**Pb**	**07 33 10.6**	**+0.3**
JFT				S	**Sb**	**07 33 22.0**	**+0.1**
JIO	**Ouri**	**1.01**	**355**	P	**Pn**	**07 33 11.5**	**-0.3**
JIO				S	**Sn**	**07 33 23.6**	**-1.6**
JHO	**Hitachi**	**1.10**	**221**	P	**Pn**	**07 33 12.2**	**-0.8**
JHO				S	**Sn**	**07 33 25.3**	**-2.0**
JOU	**Okura**	**1.12**	**326**	P	**Pb**	**07 33 13.8**	**-0.1**
JOU				S	**Sb**	**07 33 28.1**	**0.0**
JYS	**Shirataka**	**1.36**	**305**	P	**Pb**	**07 33 17.4**	**-0.5**
JYS				S	**Sb**	**07 33 35.0**	**+0.1**
JFY	**Yanaizu**	**1.41**	**269**	P	**Pb**	**07 33 18.6**	**-0.2**
JFY				S	**Sb**	**07 33 36.6**	**+0.3**
MJAR	**Matsushiro Arr**	**2.76**	**252**	P	**Pn**	**07 33 37.5**	**+1.7**
	0.5nm,0.3s,baz=81,slow=16,SNR=31						
MJAR				S	**Sb**	**07 34 12.2**	**-3.0**
	1.4nm,0.3s,baz=179,slow=35,SNR=2.4						
MAJO	**Matsushiro**	**2.76**	**252**		**Pn**	**07 33 38.2**	**+2.3**
MAT	**Matsushiro**	**2.76**	**252**	P	**Pn**	**07 33 38.0**	**+2.2**
MAT				S	**Sb**	**07 34 13.0**	**-2.3**
MJB9	**Matsu-Tunnel**	**2.76**	**252**		**Pn**	**07 33 38.2**	**+2.3**
INU	**Inuyama**	**4.16**	**241**		**Pn**	**07 33 57.0**	**+2.0**
JHJ2	**Mitsune**	**4.53**	**198**	Pn	**Pn**	**07 34 02.2**	**+2.1**
JHJ2				Sn	**Sn**	**07 34 52.6**	**+0.7**
JHJ	**Hachijo jima 2**	**4.53**	**198**	P	**Pn**	**07 34 01.1**	**+1.0**
	14nm,0.3s,baz=296,slow=22,SNR=7.0						
JHJ				S	**Sn**	**07 34 51.3**	**-0.6**
	25nm,0.3s,baz=128,slow=24,SNR=7.2						
ERM	**Erimo**	**4.75**	**15**	Pn	**Pn**	**07 34 02.9**	**-0.2**
ERM				Sn	**Sn**	**07 34 59.0**	**+1.7**
JKA	**Kamikawa-asahi**	**6.72**	**7**		**Pn**	**07 34 30.4**	**+0.2**
ASAJ	**Asahikawa**	**6.72**	**7**	P	**Pn**	**07 34 30.4**	**+0.2**
	1.8nm,0.3s,baz=215,slow=13,SNR=16						
USRK	**Ussuriysk Ar.**	**9.85**	**316**	P	Pn	07 35 19.0	+5.9
	baz=130,slow=16,SNR=4.4						
USRK	**Ussuriysk Ar.**	**9.85**	**316**		Pn	07 35 19.0	+5.9
SONM	**Songino Array**	**27.60**	**303**	P	**P**	**07 38 38.8**	**+0.4**
	0.3nm,0.4s,baz=96,slow=7.4,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**28.32**	**122**	T	T	08 08 59.4	
	baz=315,slow=76,SNR=65						
H11N1	**WAKE ISLAND Hy**	**28.33**	**122**	T	T	08 08 52.5	
	baz=315,slow=76,SNR=116						
H11N3	**WAKE ISLAND Hy**	**28.34**	**122**	T	T	08 09 00.9	
	baz=315,slow=76,SNR=78						
H11S1	**WAKE ISLAND Hy**	**29.05**	**124**	T	T	08 09 49.4	
	baz=316,slow=76,SNR=101						
H11S3	**WAKE ISLAND Hy**	**29.05**	**124**	T	T	08 09 55.7	
	baz=316,slow=76,SNR=88						
H11S2	**WAKE ISLAND Hy**	**29.06**	**124**	T	T	08 09 57.1	
	baz=316,slow=76,SNR=63						
ZALV	**Zalesovo Beam**	**41.67**	**312**	P	**P**	**07 40 39.4**	**0.0**
	0.8nm,0.6s,baz=114,slow=6.5,SNR=3.6						
MKAR	**Makanchi Array**	**43.94**	**302**	P	**P**	**07 40 58.2**	**+0.3**
	0.6nm,0.7s,baz=87,slow=11,SNR=6.8						
KURK	**Kurchatov**	**45.72**	**308**	P	**P**	**07 41 13.2**	**+1.3**
KURK				IAmb	IAmb	07 41 21.5	
	comp=Z,5.0nm,0.8s						
RND	**Reindeer**	**48.31**	**34**	P	**P**	**07 41 33.0**	**+0.9**
RND				IAmb	IAmb	07 41 45.2	
	comp=Z,3.4nm,0.9s						
ILAR	**Eielson Array**	**49.12**	**33**	P	**P**	**07 41 40.0**	**+1.8**
	comp=Z,0.5nm,0.9s,baz=269,slow=5.4,SNR=5.8						
WRA	**Warramunga Arr**	**57.47**	**188**	P	**P**	**07 42 40.6**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=4.6,slow=7.3,SNR=0.7						
FINES	**FINESS Array B**	**68.47**	**332**	P	**P**	**07 43 53.4**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=53,slow=7.4,SNR=5.8						
AKASG	**Malin Array Be**	**74.00**	**322**	P	**P**	**07 44 26.1**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=44,slow=5.9,SNR=5.9						
GCMT	**Greycliff**	**75.38**	**43**	P	**P**	**07 44 30.9**	**-3.7**

IDC ***29*** *07:33:32.2±3.3, 30.01S×177.28W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.8/32, mbtmp4.1/4, Error ellipse: s-maj=63.1km s-min=27.3km az=76.0*
NEIC ***29*** *07:33:36.3±2.1, 29.6S±0.1×177.07W±0.08, h35km±2km, mb4.5/9, Error ellipse: s-maj=21.8km s-min=5.8km az=29.0*
ISC 29 07:33:32.9±1.3, 29.5S±0.2×176.8W±0.1, h24km, n17, σ1♦40/18, mb4.5/8, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.00**	**285**	Pn	**Pn**	**07 33 53.5**	**+2.0**
	116nm,0.3s,baz=277,slow=21,SNR=2.0						
RAO				Sn	**Sn**	**07 34 06.8**	**+1.9**
	331nm,0.3s,baz=89,slow=16,SNR=5.7						
RAO	**Raoul Island**	**1.00**	**285**		**Pn**	**07 33 53.0**	**+1.5**
RAO					**Sb**	**07 34 02.9**	**-1.6**
URZ	**Urewera**	**10.08**	**208**	Pn	**Pn**	**07 35 56.2**	**+0.1**
CTA	**Charters Tower**	**34.70**	**277**	P	**P**	**07 40 22.1**	**+1.0**
	1.1nm,0.3s,baz=126,slow=8.7,SNR=1.6						
CTAO	**Charters Tower**	**34.70**	**277**	P	**P**	**07 40 21.8**	**+0.7**
STKA	**Stephens Creek**	**35.69**	**255**	P	**P**	**07 40 27.8**	**-1.7**
	3.4nm,0.8s,baz=100,slow=11,SNR=3.5						
STKA	**Stephens Creek**	**35.69**	**255**	P	**P**	**07 40 28.1**	**-1.4**
ASAR	**Alice Springs**	**44.20**	**265**	P	**P**	**07 41 38.8**	**-1.5**
	0.5nm,0.7s,baz=99,slow=7.3,SNR=4.7						
WR0	**Warramunga Arr**	**44.93**	**271**	P	**P**	**07 41 46.2**	**+0.1**
WR0				IAmb	IAmb	07 41 58.0	
	comp=Z,16nm,1.5s						
WB2	**Warramunga Arr**	**45.10**	**271**	P	**P**	**07 41 46.9**	**-0.6**
WB2				IAmb	IAmb	07 41 49.6	
	comp=Z,8.6nm,1.1s						
WRA	**Warramunga Arr**	**45.11**	**271**	P	**P**	**07 41 46.9**	**-0.7**
	comp=Z,2.9nm,0.3s,baz=110,slow=8.0,SNR=42						
WB0	**Warramunga Arr**	**45.13**	**271**	P	**P**	**07 41 47.1**	**-0.6**
WB0				IAmb	IAmb	07 42 05.4	
	comp=Z,8.4nm,1.2s						
QSPA	**South Pole Qui**	**60.59**	**180**	P	**P**	**07 43 43.0**	**+1.6**
QSPA				IAmb	IAmb	07 43 50.7	
	comp=Z,5.8nm,1.4s						
LUWI	**Luwuk**	**63.96**	**285**	P	**P**	**07 44 03.1**	**-1.4**
KKM	**Kota Kinabalu**	**73.28**	**287**	P	**P**	**07 45 01.6**	**-1.3**
JOW	**Kunigami**	**76.85**	**311**	P	**P**	**07 45 23.8**	**+0.8**
FINES	**FINESS Array B**	**144.66**	**341**	PKP	PKPbc	07 53 09.8	+4.1
	comp=Z,0.8nm,0.7s,baz=46,slow=4.0,SNR=2.0						

IDC 29 07:39:24.6±4.0, 7.87S×153.54E, h0km, mb3.5/2, mb1 3.8/2, mb1mx3.4/27, mbtmp3.6/2, Error ellipse: s-maj=188.1km s-min=54.0km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.13**	**235**	P	P	07 44 22.5	+0.5
	1.9nm,0.8s,baz=59,slow=9.9,SNR=5.5						
ASAR	**Alice Springs**	**24.51**	**228**	P	P	07 44 45.6	-0.4
	1.0nm,0.8s,baz=62,slow=9.8,SNR=8.3						
TORD	**Torodi Ar. Bea**	**151.84**	**283**	PKPbc	PKPbc	07 59 22.4	-0.1
	1.2nm,0.9s,baz=60,slow=3.1,SNR=3.7						

IDC ***29*** *07:52:54.0±0.2, 55.52S×28.38W, h0km, mb5.8/36, mb1 5.7/37, mb1mx5.7/37, mbtmp5.8/37, ML6.4/1, MS6.9/26, Ms1 6.9/26, ms1mx6.6/33, Error ellipse: s-maj=11.8km s-min=8.9km az=34.0*
KEA ***29*** *07:52:54.8±0.0, 53.30S×28.50W, h33km, mB6.2/1, MS5.7/1*
BJI ***29*** *07:52:54.6±0.0, 55.57S×28.56W, h10km, mB6.8/39, Ms7.2/84, Ms7 7.1/76*
MOS ***29*** *07:52:55.0±1.0, 55.56S×28.70W, h10km, mb6.4/43, MS7.0/54, Error ellipse: s-maj=14.9km s-min=8.6km az=106.1 Broadband fault plane solution: P waves. NP1:♦s118.00000°, δ7.00000°, λ61.00000°. NP2: ♦s327.00000°, δ84.00000°, λ94.00000°. Principal axes: T Plg51.0000°, Azm241.0000°; N Plg4.0000°, Azm146.0000°; P Plg38.0000°, Azm54.0000°;*
NEIC ***29*** *07:52:55.2±1.6, 55.47S±0.08×28.4W±0.1, h8km±1km, mb6.3/179, Ms_20 7.0/951, Mwb6.8/38, Mwc6.8/179, Mww6.9, Mwc6.9(GCMT) Error ellipse: s-maj=14.4km s-min=11.3km az=199.0*
UNK ***29*** *07:52:56.9, 55.51S×28.45W, h16km*
NEIC ***29*** *07:52:56.7, 55.51S×28.46W, h11km, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr0.70; Mθθ-0.89; Mθφ 0.19; Mrθ-0.64; Mφφ 1.01; Mφr 1.15; Fault plane solution: Mo 1.85000×10¹⁹ NP1:♦s82.74000°, δ34.87000°, λ25.67000°. NP2:♦s331.21000°, δ75.66000°, λ122.13000°. Principal axes: T 1.6349, Plg49.0000°, Azm276.0000°; N 0.3721, Plg31.0000°, Azm142.0000°; P -2.0070, Plg24.0000°, Azm37.0000°;*
PMR ***29*** *07:52:57.1±1.9, 55.46S±0.08×28.5W±0.1, h35km±1km Error ellipse: s-maj=14.0km s-min=10.9km az=208.0*
HON ***29*** *07:52:58.1±1.8, 55.46S±0.08×28.5W±0.1, h25km±2km, Error ellipse: s-maj=12.0km s-min=9.5km az=198.0*
NEIC ***29*** *07:53:02, 55.16S×28.39W, h26km, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr0.90; Mθθ-0.93; Mφφ 0.04; Mrθ-1.32; Mφφ 1.12; Mφr 1.55; Fault plane solution: Mo 2.50000×10¹⁹ NP1:♦s92.00000°, δ22.00000°, λ43.00000°. NP2:♦s321.00000°, δ76.00000°, λ106.00000°. Principal axes: T 2.1421, Plg56.0000°, Azm252.0000°; N 0.6107, Plg16.0000°, Azm137.0000°; P -2.7528, Plg29.0000°, Azm38.0000°;*
NEIC ***29*** *07:53:05, 55.37S×28.35W, h19km, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr0.96; Mθθ-0.90; Mφφ -0.06; Mrθ-0.99; Mφφ 1.05; Mφr 1.77; Fault plane solution: Mo 2.47000×10¹⁹ NP1:♦s92.00000°, δ24.00000°, λ35.00000°. NP2:♦s329.00000°, δ76.00000°, λ110.00000°. Principal axes: T 2.3041, Plg54.0000°, Azm264.0000°; N 0.2988, Plg20.0000°, Azm144.0000°; P -2.6029, Plg28.0000°, Azm43.0000°;*
GCMT ***29*** *07:53:05.2±0.0, 55.34S×28.31W, h21km, MW6.8/182, Moment Tensor Solution. s182,c469; s176,c810; Duration: 6s5 Moment tensor: Scale 10¹⁹Nm; Mrr0.96±.01; Mθθ-0.94±.01; Mθφ-0.02±.01; Mrθ-0.99±.02; Mφφ 1.01±.00; Mφr 1.72±.02; Best double couple: Mo 2.41100×10¹⁹ NP1:♦s91.00000°, δ25.00000°, λ35.00000°. NP2:♦s328.00000°, δ76.00000°, λ110.00000°. Principal axes: T 2.2720, Plg54.0000°, Azm263.0000°; N 0.2790, Plg20.0000°, Azm143.0000°; P -2.5500, Plg28.0000°, Azm42.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=125s. Triangular moment-rate function*
NEIC ***29*** *07:53:10.6, 55.15S×28.38W, h23km, Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr1.01; Mθθ-0.86; Mθφ-0.14; Mrθ-1.03; Mφφ 0.95; Mφr 1.63; Fault plane solution: Mo 2.33000×10¹⁹ NP1:♦s325.85000°, δ75.01000°, λ106.94000°. NP2:♦s96.18000°, δ22.48000°, λ42.57000°. Principal axes: T 2.1911, Plg57.0000°, Azm258.0000°; N 0.2843, Plg16.0000°, Azm141.0000°; P -2.4753, Plg28.0000°, Azm42.0000°;*
ISC 29 07:52:57.0±0.3, 55.47S±0.03×28.39W±0.03, h15km±1km, h18km; pP-P, n2154, σ2♦10/2337, mb6.2/157, MS7.0/569, 79C-44D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.83**	**281**	P	**Pn**	**07 54 08.6**	**-0.3**
HOPE						07 55 00.0	
HOPE	**Hope Point**	**

CNLB eS S 08 04 13.2 +0.3
LL01 San Ignacio de 31.19 276 P P 07 59 14.5 -0.7
LL01 IAMs_20 IAMs_20 08 11 02.0
comp=Z,336µm,22.0s
PLCA Paso Flores 31.23 280 P P 07 59 14.2 -1.4
comp=Z,73nm,1.0s,baz=140,slow=8.3,SNR=34
PLCA S S 08 04 23.2 +1.9
comp=Z,5.5nm,0.8s,baz=333,slow=10,SNR=1.0
PLCA LR LR 08 12 56.2
comp=Z,171µm,18.3s,baz=128,slow=38
PLCA Paso Flores 31.23 280 P P 07 59 14.2 -1.4
PLCA S S 08 04 23.2 +1.9
PLCA pmax pmax
comp=Z,320nm,1.4s
PLCA Paso Flores 31.23 280 P P 07 59 14.2 -1.4
PLCA Paso Flores 31.23 280 eP P 07 59 14.4 -1.2
PLCA Paso Flores 31.23 280 eP P 07 59 14.4 -1.2
SYO Syowa Base 32.46 142⇑ eP P 07 59 21.4 -4.6
SYO Syowa Base 32.46 142⇓ iPP P 07 59 24.4 -1.6
SYO Syowa Base 32.46 142⇑ iSP P 07 59 27.2 +1.2
SYO Syowa Base 32.46 142 i PnPn PnPn 08 00 30.0 -2.9
SYO Syowa Base 32.46 142⇓ iPP PP 08 00 36.2 -3.0
ITQB Itaqui 32.70 310 eP P 07 59 28.4 -0.1
ITQB Itaqui 32.70 310 eP P 07 59 28.4 -0.1
LC01 Cunco 33.23 282 P P 07 59 28.1 -5.0
LC01 IAMs_20 IAMs_20 08 14 49.0
comp=Z,209µm,18.0s
PET01 Itanhaem-SP 34.12 328 eP P 07 59 40.9 0.0
PET01 eS S 08 05 07.3 +1.1
PET01 Itanhaem-SP 34.12 328 eP P 07 59 40.9 0.0
PET01 eS S 08 05 07.3 +1.1
EDS3 Malargue 34.12 288 i P P 07 59 40.3 -0.8
BI02 San Fabin de 34.49 285 P P 07 59 42.5 -1.6
BI02 IAMs_20 IAMs_20 08 12 25.8
comp=Z,218µm,21.0s
ESAR Angra dos Reis 34.53 333 eP P 07 59 44.8 +0.3
ESAR Angra dos Reis 34.53 333 eP P 07 59 44.8 +0.3
PARB Paraibuna 34.54 331 eP P 07 59 44.3 -0.4
PARB eS S 08 05 12.6 -0.3
PARB Paraibuna 34.54 331 eP P 07 59 44.3 -0.4
PARB eS S 08 05 12.6 -0.3
MAN01 Angra dos Reis 34.56 334 eP P 07 59 44.9 +0.1
MAN01 eS S 08 05 13.8 +0.6
MAN01 Angra dos Reis 34.56 334 eP P 07 59 44.9 +0.1
MAN01 eS S 08 05 13.8 +0.6
MRA San Martin 34.76 296 i P P 07 59 45.5 -1.0
QSPA South Pole Qui 34.78 180 P P 07 59 46.3 -0.1
comp=Z,86nm,0.6s,baz=193,slow=3.7,SNR=400
QSPA LR LR 08 13 39.1
comp=Z,192µm,18.8s,baz=189,slow=36
QSPA South Pole Qui 34.78 180 P P 07 59 45.6 -0.9
SPB Sao Paulo 34.82 328 eP P 07 59 47.4 +0.5
SPB Sao Paulo 34.82 328 eP P 07 59 47.8 +0.9
SPB eS S 08 05 16.7 -0.4
SPB Sao Paulo 34.82 328 eP P 07 59 47.8 +0.9
SPB eS S 08 05 16.7 -0.4
CAM01 Campos-RJ 35.03 338 eP P 07 59 48.4 -0.4
CAM01 eS S 08 05 19.9 -0.4
CAM01 Campos-RJ 35.03 338 eP P 07 59 48.4 -0.4
CAM01 eS S 08 05 19.9 -0.4
TCA Tanti 35.06 298⇑ iP P 07 59 48.6 -0.5
TCA Tanti 35.06 298 i P P 07 59 48.5 -0.7
TCA i P P 07 59 48.5 -0.7
VAO Valinhos 35.24 329 eP P 07 59 51.3 +0.6
VAO eS S 08 05 24.0 +0.3
VAO Valinhos 35.24 329 eP P 07 59 51.3 +0.6
VAO eS S 08 05 24.0 +0.3
BI03 Tigo 35.33 283 P P 07 59 50.3 -1.0
BI03 IAMs_20 IAMs_20 08 16 13.9
comp=Z,284µm,18.0s
BO02 Sierra Bellavi 35.60 288⇑ iP P 07 59 51.7 -2.1
BO02 Sierra Bellavi 35.60 288 P P 07 59 51.9 -1.9
ACAN Cantantal 35.63 294 i P P 07 59 52.9 -1.1
FRTB Fartura 35.72 325 eP P 07 59 55.4 +0.6
FRTB eS S 08 05 31.3 +0.4
FRTB Fartura 35.72 325 eP P 07 59 55.4 +0.6
FRTB eS S 08 05 31.3 +0.4
CPUP Villa Florida 35.92 312 P P 07 59 55.2 -1.2
comp=Z,149nm,0.8s,baz=148,slow=7.0,SNR=110
CPUP ScP ScP 08 06 10.4 +2.0
comp=Z,56nm,1.1s,baz=138,slow=5.7,SNR=4.6
CPUP LR LR 08 13 29.7
comp=Z,189µm,20.8s,baz=158,slow=34
CPUP Villa Florida 35.92 312 eP P 07 59 55.3 -1.1
CPUP Villa Florida 35.92 312 P P 07 59 55.9 -0.5
CPUP pmax pmax
comp=Z,626nm,1.0s
CPUP Villa Florida 35.92 312 P P 07 59 55.9 -0.5
CPUP IAmb IAmb 08 00 02.1
comp=Z,626nm,0.9s
CPUP Villa Florida 35.92 312 eP P 07 59 55.6 -0.8
CPUP Villa Florida 35.92 312 eP P 07 59 55.6 -0.8
LMEL Las Melosas 36.01 289⇑ iP P 07 59 56.2 -1.1
GO05 Huala 36.07 286⇑ iP P 07 59 55.9 -1.7
GO05 Huala 36.07 286 P P 07 59 56.2 -1.5
GO05 IAmb IAmb 08 00 02.8
comp=Z,291nm,0.8s
GO05 Huala 36.07 286 i P P 07 59 56.5 -1.2
MT03 Universidad Ad 36.44 289⇑ iP P 07 59 60.0 -1.0
BSCB Bom Sucesso 36.55 334 eP P 08 00 01.0 -0.9
BSCB Bom Sucesso 36.55 334 eP P 08 00 01.0 -0.9
STL Santa Lucia 36.56 289⇑ iP P 08 00 01.1 -0.8
MT01 Popeta 36.56 288 P P 08 00 00.4 -1.4
MT01 IAmb IAmb 08 00 07.2
comp=Z,729nm,1.2s
MT05 Renca 36.64 289 P P 08 00 01.9 -0.7
MT05 IAmb IAmb 08 00 18.2
comp=Z,827nm,1.1s
RTCV Cerro Valdivia 36.66 293 i P P 08 00 01.3 -1.5
CFA Coronel Fontan 36.71 294 P P 08 00 01.3 -1.8
comp=Z,162nm,0.7s,baz=145,slow=9.3,SNR=155
CFA LR LR 08 15 04.6
comp=Z,304µm,20.6s,baz=144,slow=36
CFA Coronel Fontan 36.71 294 i P P 08 00 01.9 -1.3
PEL Peldehue 36.80 290⇑ iP P 08 00 03.2 -0.8
PEL Peldehue 36.80 290 P P 08 00 03.3 -0.7
PEL pmax pmax
comp=Z,668nm,0.8s
PEL MLR MLR
comp=Z,142µm,22.0s
PEL Peldehue 36.80 290 P P 08 00 03.3 -0.7
PEL IAmb IAmb 08 00 13.0
comp=Z,668nm,0.8s
PEL Peldehue 36.80 290 i P P 08 00 03.7 -0.3
SJA San Juan 36.94 294 i P P 08 00 05.3 +0.2
MT02 Curacav 36.96 289⇑ iP P 08 00 04.5 -0.8
MT02 Curacav 36.96 289 P P 08 00 04.3 -0.9
MT02 IAmb IAmb 08 00 29.4
comp=Z,418nm,0.9s
ZON Zonda 36.98 293 P P 08 00 04.8 -0.7
ZON pmax pmax
comp=Z,383nm,0.8s
ZON MLR MLR
comp=Z,318µm,20.0s
ZON Zonda 36.98 293 P P 08 00 04.8 -0.7
ZON IAmb IAmb 08 00 20.9
comp=Z,383nm,0.8s
ZON IAMs_20 IAMs_20 08 15 02.8
comp=Z,318µm,20.0s
ZON Zonda 36.98 293 i P P 08 00 04.5 -1.0
VA03 San Esteban 37.02 290 eP P 08 00 03.7 -2.2
VA03 San Esteban 37.02 290 P P 08 00 05.6 -0.3
VA03 IAMs_20 IAMs_20 08 12 55.6
comp=Z,205µm,21.0s
RTLL Cerro Villicun 37.05 294 i P P 08 00 05.5 -0.6
RTLS Leoncito 37.11 292 i P P 08 00 06.7 -0.2
ROC1 El Roble 37.11 289 P P 08 00 06.0 -0.8
ROC1 El Roble 37.11 289 eP P 08 00 06.5 -0.3
ROCH El Roble 37.11 289⇑ iP P 08 00 06.2 -0.6
RIB01 Linhares ES 37.23 341 eP P 08 00 07.8 +0.2
RIB01 eS S 08 05 54.5 +0.6
RIB01 Linhares ES 37.23 341 eP P 08 00 07.8 +0.2
RIB01 eS S 08 05 54.5 +0.6
TRCB Terra Rica 37.27 321 eP P 08 00 07.8 -0.2
TRCB eS S 08 05 54.0 -0.6
TRCB Terra Rica 37.27 321 eP P 08 00 07.8 -0.2
TRCB eS S 08 05 54.0 -0.6
BB19B Bebedouro 37.53 328 eP P 08 00 10.1 -0.2
BB19B eS S 08 05 58.2 -0.4
BB19B Bebedouro 37.53 328 eP P 08 00 10.1 -0.2
BB19B eS S 08 05 58.2 -0.4
BSFB Barra de Sao F 37.78 341 eP P 08 00 12.3 0.0
BSFB eS S 08 06 02.3 0.0
BSFB Barra de Sao F 37.78 341 eP P 08 00 12.3 0.0
BSFB eS S 08 06 02.3 0.0
ACLC CERRO LA CRUZ 37.79 297 i P P 08 00 11.8 -0.8
PCMB Pacaembu 37.89 324 eP P 08 00 13.0 -0.2
PCMB eS S 08 06 03.8 -0.2
PCMB Pacaembu 37.89 324 eP P 08 00 13.0 -0.2
PCMB eS S 08 06 03.8 -0.2
ACCO Cerro Coronel 37.94 294 i P P 08 00 14.3 +0.3
SJMB Sao Joao De Ma 37.97 340 eP P 08 00 13.4 -0.5
SJMB eS S 08 06 03.9 -1.3
SJMB Sao Joao De Ma 37.97 340 eP P 08 00 13.4 -0.5
SJMB eS S 08 06 03.9 -1.3
ACO1 Cuesta del Vie 38.30 294 i P P 08 00 16.9 0.0
CO02 Combarbal 38.47 291⇑ iP P 08 00 18.1 -0.1
CO02 Combarbal 38.47 291 P P 08 00 18.2 -0.1
AROD Rodeo 38.49 294 i P P 08 00 19.0 +0.4
AGUA GUANDACOL 38.53 296 i P P 08 00 18.2 -0.4
CO03 El Pedregal 38.60 292 P P 08 00 19.2 0.0
CO03 IAmb IAmb 08 00 36.5
comp=Z,2µm,2.0s
CO03 IAMs_20 IAMs_20 08 14 37.3
comp=Z,319µm,21.0s
NAN01 Guarapari, ES 38.61 342 eP P 08 00 18.3 -1.0
NAN01 Guarapari, ES 38.61 342 eP P 08 00 18.3 -1.0
CO01 Juntas del Tor 38.97 293 P P 08 00 23.6 +1.2
CO01 IAMs_20 IAMs_20 08 14 35.5
comp=Z,319µm,22.0s
VCA Vinchina 38.99 297 i P P 08 00 23.6 +1.0
GO04 Tololo Observa 39.18 292 P P 08 00 23.7 -0.6
GO04 IAmb IAmb 08 00 38.7
comp=Z,1µm,1.4s
GO04 IAMs_20 IAMs_20 08 16 17.8
comp=Z,285µm,19.0s
GO04 Tololo Observa 39.18 292 i P P 08 00 23.7 -0.6
ITRB Iturama 39.37 326 eP P 08 00 25.7 0.0
ITRB eS S 08 06 27.4 +1.0
ITRB Iturama 39.37 326 eP P 08 00 25.7 0.0
ITRB eS S 08 06 27.4 +1.0
AC05 El Transito 39.97 294⇑ iP P 08 00 30.9 +0.1
AC05 El Transito 39.97 294 P P 08 00 31.1 +0.3
AC05 IAmb IAmb 08 00 38.0
comp=Z,985nm,1.4s
AC05 IAMs_20 IAMs_20 08 15 29.9
comp=Z,264µm,21.0s
IPMB Ipameri, GO 40.35 330 eP P 08 00 33.9 0.0
IPMB eS S 08 06 40.8 -0.4
IPMB Ipameri, GO 40.35 330 eP P 08 00 33.9 0.0
IPMB eS S 08 06 40.8 -0.4
AQDB Aquidauana 40.52 319 eP P 08 00 34.1 -1.1
AQDB eS S 08 06 43.7 +0.2
AQDB Aquidauana 40.52 319 eP P 08 00 34.1 -1.1
AQDB eS S 08 06 43.7 +0.2
AC04 Llanos de Chal 40.89 294 eP P 08 00 32.1 -6.2
AC04 Llanos de Chal 40.89 294 P P 08 00 38.5 +0.2
AC04 IAmb IAmb 08 01 01.7
comp=Z,553nm,0.9s
AC04 IAMs_20 IAMs_20 08 16 40.8
comp=Z,246µm,20.0s
VA04 Juan Fernndez 40.90 281 P P 08 00 37.9 -0.3
GO03 Copiap 40.95 295⇑ iP P 08 00 38.3 -0.5
GO03 Copiap 40.95 295 P P 08 00 38.4 -0.4
GO03 Copiap 40.95 295 i P P 08 00 38.0 -0.8
AC02 Maricunga 41.01 297⇑ iP P 08 00 31.9 -7.8
AC02 Maricunga 41.01 297 P P 08 00 40.5 +0.7
AC02 IAmb IAmb 08 01 00.3
comp=Z,919nm,1.3s
MAW Mawson 41.02 144 P P 08 00 38.3 -0.5
baz=41,SNR=32
MAW Mawson 41.02 144 P P 08 00 38.1 -0.6
comp=Z,86nm,0.8s,baz=244,slow=6.9,SNR=23
MAW ScP ScP 08 06 27.4 +0.3
comp=Z,108nm,1.1s,baz=255,slow=7.2,SNR=13
MAW LR LR 08 18 19.9
comp=Z,99µm,18.1s,baz=254,slow=37
MAW Mawson 41.02 144 P P 08 00 38.3 -0.5
MAW pmax pmax
comp=Z,49nm,1.0s
MAW MLR MLR
comp=Z,28µm,18.0s
MAW Mawson 41.02 144 P P 08 00 38.3 -0.5
C2SB Chapadao do Su 41.06 323 eP P 08 00 39.8 +0.2
C2SB eS S 08 06 51.9 +0.3
C2SB Chapadao do Su 41.06 323 eP P 08 00 39.8 +0.2
C2SB eS S 08 06 51.9 +0.3
SUR Sutherland 41.16 77 P P 08 00 41.0 +0.4
comp=Z,198nm,1.0s,baz=228,slow=5.4,SNR=25
SUR LR LR 08 13 30.5
comp=Z,114µm,20.5s,baz=215,slow=30
SUR Sutherland 41.16 77 P P 08 00 41.0 +0.4
SUR P P 08 00 41.0 +0.4
SUR S S 08 06 55.4 +2.2
SUR S S 08 06 55.4 +2.2
SUR Sutherland 41.16 77 P P 08 00 40.6 0.0
SUR Sutherland 41.16 77 IAMs_20 IAMs_20 08 12 59.8
comp=Z,174µm,22.0s
JANB Januaria 42.16 337 eP P 08 00 48.3 -0.5
JANB eS S 08 07 08.2 +0.1
JANB Januaria 42.16 337 eP P 08 00 48.3 -0.5
JANB eS S 08 07 08.2 +0.1
HJA Humahuaca 42.24 305 eP P 08 00 49.5 -0.2
HJA i S PP 08 02 30.1 +3.4
AC01 Pan de Azucar 42.32 296⇑ iP P 08 00 42.5 -7.5
AC01 Pan de Azucar 42.32 296 P P 08 00 49.0 -1.0
AC01 IAmb IAmb 08 00 56.9
comp=Z,668nm,1.1s
BDFB Brasilia 42.53 331 P P 08 00 52.0 +0.2
comp=Z,48nm,0.6s,baz=144,slow=4.8,SNR=42
BDFB LR LR 08 18 26.9
comp=Z,145µm,18.8s,baz=163,slow=36
BDFB Brasilia 42.53 331 P P 08 00 52.0 +0.2
BDFB pmax pmax
comp=Z,497nm,1.4s
BDFB MLR MLR
comp=Z,184µm,18.0s
BDFB Brasilia 42.53 331 P P 08 00 52.0 +0.2
BDFB IAMs_20 IAMs_20 08 18 33.4
comp=Z,184µm,18.0s
GDU01 Guandu, BA 42.56 344 eP P 08 00 50.9 -1.0
GDU01 eS S 08 07 12.6 -1.2
GDU01 Guandu, BA 42.56 344 eP P 08 00 50.9 -1.0
GDU01 eS S 08 07 12.6 -1.2
GO02 Mina Guanaco 42.62 298⇑ iP P 08 00 52.2 -0.6
GO02 Mina Guanaco 42.62 298 P P 08 00 53.1 +0.3
GO02 IAMs_20 IAMs_20 08 17 03.4
comp=Z,162µm,21.0s
SHEL Horse Pasture 43.10 33 P P 08 00 56.2 -0.2
SHEL pmax pmax
comp=Z,1µm,1.2s
SHEL Horse Pasture 43.10 33 P P 08 00 56.2 -0.2
SHEL IAmb IAmb 08 01 19.1
comp=Z,1µm,1.1s
SHEL Horse Pasture 43.10 33 IAMs_20 IAMs_20 08 13 58.0
comp=Z,149µm,19.0s
YJA Yavi 43.17 305 i P P 08 00 57.4 0.0
ARAG Araguaiana, MT 43.58 326 eP P 08 01 00.3 0.0
ARAG eS S 08 07 30.2 +1.3
ARAG Araguaiana, MT 43.58 326 eP P 08 01 00.3 0.0
ARAG eS S 08 07 30.2 +1.3
PB15 IPOC Station P 44.19 300⇑ iP P 08 01 01.9 -3.4
PB15 IPOC Station P 44.19 300 P P 08 01 05.5 +0.1
PB15 IAmb IAmb 08 01 41.9
comp=Z,330nm,1.0s
PB15 IAMs_20 IAMs_20 08 17 55.1
comp=Z,151µm,21.0s
PB15 IPOC Station P 44.19 300 i P P 08 01 05.7 +0.4
LVC Limon Verde 44.42 301 P P 08 01 07.9 +0.6
comp=Z,316nm,1.1s,baz=140,slow=3.5,SNR=52
LVC LR LR 08 18 26.4
comp=Z,101µm,22.0s,baz=160,slow=34
LVC Limon Verde 44.42 301 P P 08 01 08.0 +0.6
LVC pmax pmax
comp=Z,530nm,1.0s
LVC Limon Verde 44.42 301 P P 08 01 08.0 +0.6
LVC IAmb IAmb 08 01 14.6
comp=Z,530nm,1.0s
LVC Limon Verde 44.42 301 i P P 08 01 07.5 +0.2
LVC Limon Verde 44.42 301 eP P 08 01 08.0 +0.6
LVC eS S 08 07 42.1 +0.4
LVC Limon Verde 44.42 301 eP P 08 01 08.0 +0.6
LVC eS S 08 07 42.1 +0.4
PB10 IPOC Station P 44.48 298⇑ iP P 08 00 57.9 -9.5
PB10 IPOC Station P 44.48 298 P P 08 01 06.8 -0.5
PB10 IAmb IAmb 08 01 13.7
comp=Z,926nm,1.5s
PB10 IPOC Station P 44.48 298 i P P 08 01 06.5 -0.9
PB06 IPOC Station P 44.66 300⇑ iP P 08 01 01.6 -7.5
PB06 IPOC Station P 44.66 300 P P 08 01 09.1 0.0
PB06 IAmb IAmb 08 01 15.7
comp=Z,307nm,1.0s
PB06 IAMs_20 IAMs_20 08 18 10.6
comp=Z,152µm,21.0s
PB06 IPOC Station P 44.66 300 i P P 08 01 08.9 -0.2
SALV Santo Antonio 44.71 321 eP P 08 01 09.2 0.0
SALV Santo Antonio 44.71 321 eP P 08 01 09.2 0.0
PB05 IPOC Station P 44.85 299⇑ iP P 08 01 03.1 -7.4
PB05 IPOC Station P 44.85 299 i P P 08 01 10.2 -0.3
SDBA SAO DESIDERIO 44.86 337 eP P 08 01 09.7 -0.8
SDBA SAO DESIDERIO 44.86 337 eP P 08 01 09.7 -0.8
PB04 IPOC Station P 45.26 300⇑ iP P 08 01 02.2 -12
PB04 IPOC Station P 45.26 300 P P 08 01 13.7 -0.2
PB04 IAmb IAmb 08 01 21.0
comp=Z,990nm,1.4s
PB04 IAMs_20 IAMs_20 08 18 39.5
comp=Z,147µm,21.0s
PB04 IPOC Station P 45.26 300 i P P 08 01 14.0 +0.1
PB09 IPOC Station P 45.27 301 eP P 08 01 07.0 -6.9
PB09 IPOC Station P 45.27 301 P P 08 01 13.9 0.0
PB09 IAmb IAmb 08 01 32.7
comp=Z,744nm,1.1s
PB09 IPOC Station P 45.27 301 i P P 08 01 14.2 +0.3
PB03 IPOC Station P 45.31 300 eP P 08 01 01.6 -13
PB03 IPOC Station P 45.31 300 i P P 08 01 14.2 +0.1
PB07 IPOC Station P 45.65 301⇑ iP P 08 01 16.0 -0.9
PB07 IPOC Station P 45.65 301 P P 08 01 16.8 -0.1
PB07 IAmb IAmb 08 01 23.6
comp=Z,622nm,1.0s
PB07 IPOC Station P 45.65 301 i P P 08 01 17.2 +0.3
PB02 IPOC Station P 45.99 301⇑ iP P 08 01 19.1 -0.5
PB02 IPOC Station P 45.99 301 i P P 08 01 19.3 -0.2
PB01 IPOC Station P 46.03 301⇑ iP P 08 01 06.6 -13
PB01 IPOC Station P 46.03 301 P P 08 01 19.8 -0.1
PB01 IAMs_20 IAMs_20 08 19 50.9
comp=Z,176µm,21.0s
PB01 IPOC Station P 46.03 301 i P P 08 01 20.4 +0.6
PTLB Pontes e Lacer 46.41 317 eP P 08 01 22.2 -0.5
PTLB eS S 08 08 09.3 -0.4
PTLB Pontes e Lacer 46.41 317 eP P 08 01 22.2 -0.5
PTLB eS S 08 08 09.3 -0.4
BOSA Boshof 46.50 77 P P 08 01 22.6 -0.9
comp=Z,139nm,1.0s,baz=212,slow=7.9,SNR=45
BOSA ScP ScP 08 06 50.9 +0.6
comp=Z,38nm,1.1s,baz=164,slow=5.0,SNR=3.4
BOSA S S 08 08 08.1 -3.0
comp=Z,3.6nm,0.9s,baz=277,slow=21,SNR=1.0
BOSA LR LR 08 16 37.2
comp=Z,209µm,21.6s,baz=220,slow=31
BOSA Boshof 46.50 77 i P P 08 01 22.5 -1.0
BOSA Boshof 46.50 77 i P P 08 01 22.5 -1.0
BOSA Boshof 46.50 77 i P P 08 01 22.5 -1.0
BOSA Boshof 46.50 77 P P 08 01 22.8 -0.7
BOSA pmax pmax
comp=Z,362nm,0.9s
BOSA Boshof 46.50 77 P P 08 01 22.8 -0.7
BOSA IAmb IAmb 08 01 32.9
comp=Z,362nm,0.8s
PB08 IPOC Station P 46.64 302 P P 08 01 24.7 -0.2
PB08 IAmb IAmb 08 01 32.4
comp=Z,451nm,0.9s
PB08 IPOC Station P 46.64 302 i P P 08 01 24.7 -0.2
SIV San Ignacio 46.69 314 P P 08 01 24.0 -0.9
comp=Z,60nm,1.1s,baz=164,slow=7.3,SNR=84
TA01 Diego Aracena 46.77 301 P P 08 01 25.5 0.0
TA01 IAmb IAmb 08 01 32.2
comp=Z,394nm,1.1s
GO01 Chusmiza 47.06 303 P P 08 01 28.4 0.0
GO01 IAMs_20 IAMs_20 08 20 12.3
comp=Z,126µm,20.0s
VNDA Vanda 47.12 183 P P 08 01 27.1 -0.5
comp=Z,116nm,0.7s,baz=188,slow=5.8,SNR=392
VNDA S S 08 08 22.5 +3.8
comp=Z,5.1nm,1.0s,baz=217,slow=23,SNR=1.6
PB11 IPOC Station P 47.20 302 P P 08 01 29.4 +0.3
PB11 IPOC Station P 47.20 302 i P P 08 01 29.0 -0.1
PSGCX Pisagua 47.57 302 P P 08 01 31.7 -0.2
PSGCX IAmb IAmb 08 01 38.3
comp=Z,349nm,1.1s
PSGCX Pisagua 47.57 302 i P P 08 01 31.7 -0.2
MNMC Minye Minye 47.72 303 P P 08 01 33.1 -0.1
MNMCX Minye Minye 47.72 303 i P P 08 01 33.8 +0.6
PB12 IPOC Station P 48.51 302 P P 08 01 38.6 -0.6
PB12 IPOC Station P 48.51 302 i P P 08 01 38.4 -0.8
CRZF Crozet Islands 48.67 115 P P 08 01 42.0 +2.0
ASCN Ascension 48.71 19 P P 08 01 38.2 -2.3
H10N1 ASCENSION HYDR 48.77 18 T T 08 55 03.7
baz=190,slow=75,SNR=74
H10N3 ASCENSION HYDR 48.77 18 T T 08 55 03.6
baz=190,slow=75,SNR=85
H10N2 ASCENSION HYDR 48.79 18 T T 08 55 02.5
baz=190,slow=75,SNR=46
SMTB Santa Maria do 48.91 334 eP P 08 01 42.1 -0.1
SMTB eS S 08 08 45.5 +0.1
SMTB Santa Maria do 48.91 334 eP P 08 01 42.1 -0.1
SMTB eS S 08 08 45.5 +0.1
VILB Vilhena 49.09 317 eP P 08 01 42.8 -0.8
VILB eS S 08 08 47.5 -0.5
VILB Vilhena 49.09 317 eP P 08 01 42.8 -0.8
VILB eS S 08 08 47.5 -0.5
CLDB Colider 49.41 323 eP P 08 01 43.8 -2.2
CLDB eS S 08 08 51.9 -0.5
CLDB Colider 49.41 323 eP P 08 01 43.8 -2.2
CLDB eS S 08 08 51.9 -0.5
LPAZ La Paz 49.49 306 P P 08 01 47.1 -0.2
comp=Z,182nm,0.8s,baz=143,slow=5.9,SNR=308
LPAZ S S 08 08 56.6 +2.0
comp=Z,3.4nm,0.6s,baz=321,slow=18,SNR=1.7
LPAZ LR LR 08 21 12.2
comp=Z,75µm,21.4s,baz=163,slow=34
LPAZ La Paz 49.49 306 P P 08 01 47.5 +0.2
LPAZ pmax pmax
comp=Z,498nm,0.9s
LPAZ La Paz 49.49 306 P P 08 01 47.5 +0.2
LPAZ IAmb IAmb 08 01 54.1
comp=Z,498nm,0.8s
LPAZ La Paz 49.49 306 i P P 08 01 48.0 +0.8
LPAZ La Paz 49.49 306 eP P 08 01 47.1 -0.2
LPAZ eS S 08 08 54.4 -0.2
LPAZ La Paz 49.49 306 eP P 08 01 47.1 -0.2
LPAZ eS S 08 08 54.4 -0.2
RCBR Riachuelo 49.87 350 P P 08 01 49.4 -0.1
comp=Z,31nm,0.7s,baz=181,slow=8.5,SNR=11
RCBR S S 08 08 52.5 -6.3
comp=Z,12nm,1.0s,baz=52,slow=7.2,SNR=1.6
RCBR Riachuelo 49.87 350 P P 08 01 48.9 -0.6
RCBR pmax pmax
comp=Z,732nm,1.6s
RCBR Riachuelo 49.87 350 P P 08 01 48.9 -0.6
RCBR IAmb IAmb 08 02 08.2
comp=Z,732nm,1.6s
RCBR Riachuelo 49.87 350 IAMs_20 IAMs_20 08 19 39.7
comp=Z,116µm,19.0s
RCBR Riachuelo 49.87 350 eP P 08 01 49.5 0.0
RCBR eS S 08 08 58.9 +0.1
RCBR Riachuelo 49.87 350 eP P 08 01 49.5 0.0
RCBR eS S 08 08 58.9 +0.1
TSUM Tsumeb 50.00 62 P P 08 01 50.1 -0.6
comp=Z,97nm,1.0s,baz=195,slow=8.2,SNR=45
TSUM S S 08 08 49.8 -11
comp=Z,3.2nm,0.8s,baz=124,slow=19,SNR=1.4
TSUM LR LR 08 20 30.7
comp=Z,103µm,18.3s,baz=224,slow=33
TSUM Tsumeb 50.00 62 P P 08 01 50.2 -0.5
TSUM IAmb IAmb 08 01 57.4
comp=Z,340nm,1.1s
PRPB Parauapebas 52.06 333 eP P 08 02 06.0 0.0
PRPB Parauapebas 52.06 333 eP P 08 02 06.0 0.0
NPGB Novo Progresso 52.85 326 eP P 08 02 11.0 -0.8
NPGB eS S 08 09 40.4 +0.5
NPGB Novo Progresso 52.85 326 eP P 08 02 11.0 -0.8
NPGB eS S 08 09 40.4 +0.5
SAML Samuel 53.91 316 P P 08 02 19.0 -0.6
SAML pmax pmax
comp=Z,379nm,0.9s
SAML Samuel 53.91 316 P P 08 02 19.0 -0.6
SAML IAmb IAmb 08 02 25.2
comp=Z,379nm,0.9s
SAML Samuel 53.91 316 eP P 08 02 18.6 -1.1

SAML	**Samuel**	**53.91**	**316**	*e*P		**P**	**08 02 18.6**	**-1.1**
ROSB	**Rosrio**	**53.94**	**340**	*e*P		**P**	**08 02 19.6**	**-0.1**
ROSB				*e*S		**S**	**08 09 55.9**	**+1.2**
ROSB	**Rosrio**	**53.94**	**340**	*e*P		**P**	**08 02 19.6**	**-0.1**
ROSB				*e*S		**S**	**08 09 55.9**	**+1.2**
CASY	**Casey**	**54.68**	**161**	P		**P**	**08 02 24.4**	**-0.2**
CASY				IAmb		IAmb	08 02 31.7	
	comp=Z,218nm,0.9s							
MATP	**Matopo**	**54.77**	**74**	P		**P**	**08 02 24.7**	**-1.3**
	comp=Z,164nm,1.0s,baz=220,slow=7.3,SNR=50							
MATP	**Matopo**	**54.77**	**74**	*i* P		**P**	**08 02 25.2**	**-0.8**
MATP	**Matopo**	**54.77**	**74**	*i* P		**P**	**08 02 25.2**	**-0.8**
MATP	**Matopo**	**54.77**	**74**	*i* P		**P**	**08 02 25.2**	**-0.8**
ITTB	**Itaituba**	**55.49**	**326**	*e*P		**P**	**08 02 30.6**	**-0.4**
ITTB				*e*S		**S**	**08 10 15.0**	**-0.6**
ITTB	**Itaituba**	**55.49**	**326**	*e*P		**P**	**08 02 30.6**	**-0.4**
ITTB				*e*S		**S**	**08 10 15.0**	**-0.6**
PAF	**Port-aux-Franc**	**55.51**	**128**	IAMs_20		IAMs_20	08 24 37.6	
	comp=Z,137µm,19.0s							
NNA	**Nana**	**57.37**	**300**	P		**P**	**08 02 44.6**	**+0.1**
	comp=Z,114nm,1.1s,baz=150,slow=4.5,SNR=15							
NNA	**Nana**	**57.37**	**300***c*	*i*P		**P**	**08 02 44.4**	**-0.1**
NNA				pmax		pmax		
	comp=Z,1µm,2.6s							
NNA				MLR		MLR		
	comp=Z,128µm,17.0s							
NNA	**Nana**	**57.37**	**300**	P		**P**	**08 02 44.1**	**-0.4**
NNA				IAmb		IAmb	08 02 51.2	
	comp=Z,548nm,1.2s							
NNA	**Nana**	**57.37**	**300**	IAMs_20		IAMs_20	08 30 06.7	
	comp=Z,85µm,18.0s							
MALB	**Monte Alegre**	**57.42**	**329**	*e*P		**P**	**08 02 45.0**	**+0.2**
MALB				*e*S		**S**	**08 10 42.3**	**+1.2**
MALB	**Monte Alegre**	**57.42**	**329**	*e*P		**P**	**08 02 45.0**	**+0.2**
MALB				*e*S		**S**	**08 10 42.3**	**+1.2**
MACA	**Manacapuru-AM**	**58.29**	**321**	*e*P		**P**	**08 02 49.3**	**-1.6**
MACA				*e*S		**S**	**08 10 53.1**	**+0.7**
MACA	**Manacapuru-AM**	**58.29**	**321**	*e*P		**P**	**08 02 49.3**	**-1.6**
MACA				*e*S		**S**	**08 10 53.1**	**+0.7**
LSZ	**Lusaka**	**58.81**	**70**	S		**S**	**08 10 58.0**	**-1.5**
	comp=Z,1.8nm,0.2s,baz=167,slow=14,SNR=1.4							
LSZ	**Lusaka**	**58.81**	**70**	P		**P**	**08 02 54.1**	**-0.6**
LSZ				P		**P**	**08 02 54.1**	**-0.6**
LSZ				S		**S**	**08 10 54.0**	**-5.5**
LSZ				S		**S**	**08 10 54.0**	**-5.5**
LSZ	**Lusaka**	**58.81**	**70**	P		**P**	**08 02 53.9**	**-0.8**
LSZ				pmax		pmax		
	comp=Z,211nm,1.3s							
LSZ				MLR		MLR		
	comp=Z,164µm,18.0s							
LSZ	**Lusaka**	**58.81**	**70**	P		**P**	**08 02 53.9**	**-0.8**
PTGA	**Pitinga**	**60.30**	**323**	P		**P**	**08 03 03.1**	**-1.7**
	comp=Z,39nm,0.8s,baz=157,slow=6.7,SNR=29							
PTGA				S		**S**	**08 11 14.6**	**-3.9**
	comp=Z,2.5nm,0.7s,baz=205,slow=23,SNR=1.0							
PTGA	**Pitinga**	**60.30**	**323**	P		**P**	**08 03 03.4**	**-1.3**
PTGA	**Pitinga**	**60.30**	**323**	*e*P		**P**	**08 03 03.5**	**-1.3**
PTGA				*e*S		**S**	**08 11 19.2**	**+0.7**
PTGA	**Pitinga**	**60.30**	**323**	*e*P		**P**	**08 03 03.5**	**-1.3**
PTGA				*e*S		**S**	**08 11 19.2**	**+0.7**
FOMA	**Nahampoana Res**	**61.59**	**93**	P		**P**	**08 03 17.7**	**+4.1**
	SNR=5.1							
FOMA	**Nahampoana Res**	**61.59**	**93**	P		**P**	**08 03 13.6**	**+0.1**
FOMA				IAmb		IAmb	08 03 18.0	
	comp=Z,272nm,1.1s							
ATAH	**Atahualpa**	**62.31**	**301**	P		**P**	**08 03 20.2**	**+1.3**
	comp=Z,99nm,0.9s,baz=146,slow=4.6,SNR=36							
RPN	**Rapa Nui**	**63.08**	**261**	P		**P**	**08 03 23.2**	**-0.3**
	comp=Z,128nm,0.7s,baz=114,slow=8.9,SNR=3.2							
RPN	**Rapa Nui**	**63.08**	**261**	P		**P**	**08 03 22.4**	**-1.1**
RPN				pmax		pmax		
	comp=Z,1µm,1.4s							
RPN	**Rapa Nui**	**63.08**	**261**	P		**P**	**08 03 22.4**	**-1.1**
RPN	**Rapa Nui**	**63.08**	**261**	IAMs_20		IAMs_20	08 25 10.5	
	comp=Z,116µm,18.0s							
MDP	**Montagnes des**	**63.61**	**333**	P		**P**	**08 03 26.1**	**-0.9**
	comp=Z,60nm,1.0s,baz=168,slow=7.5,SNR=15							
MDP				S		**S**	**08 11 58.6**	**-1.6**
	comp=Z,6.4nm,0.9s,baz=84,slow=6.4,SNR=0.7							
LIC	**Lamto**	**64.46**	**26**	*e*P		**P**	**08 03 30.8**	**-1.8**
	comp=Z,188nm,1.2s							
LIC	**Lamto**	**64.46**	**26**	*e*P		**P'P'bc**	**08 32 24.6**	**+3.9**
	comp=Z,44nm,1.2s							
KIC	**Kosan Boka**	**64.66**	**26**	*e*P		**P**	**08 03 31.8**	**-2.1**
	comp=Z,94nm,1.1s							
KIC	**Kosan Boka**	**64.66**	**26**	*e*P		**P'P'bc**	**08 32 23.3**	**+3.1**
	comp=Z,60nm,1.6s							
TIC	**Toumodi**	**64.87**	**26**	*e*P		P	08 03 30.0	-5.3
TIC	**Toumodi**	**64.87**	**26**	*e*P		**P'P'bc**	**08 32 23.0**	**+3.4**
DBIC	**Dimbokro**	**64.93**	**26**	P		**P**	**08 03 34.9**	**-0.7**
	comp=Z,94nm,0.9s,baz=175,slow=7.2,SNR=20							
DBIC				S		**S**	**08 12 11.9**	**-4.6**
	comp=Z,3.7nm,0.8s,baz=223,slow=13,SNR=1.3							
DBIC				LR		LR	08 25 07.8	
	comp=Z,60µm,20.8s,baz=184,slow=30							
DBIC	**Dimbokro**	**64.93**	**26**	P		**P**	**08 03 34.8**	**-0.9**
DBIC				pmax		pmax		
	comp=Z,396nm,1.3s							
DBIC	**Dimbokro**	**64.93**	**26**	P		**P**	**08 03 34.8**	**-0.9**
DBIC				IAmb		IAmb	08 03 54.8	
	comp=Z,396nm,1.3s							
ABPO	**Ambohimpanom**	**66.42**	**89**	P		**P**	**08 03 46.7**	**+1.2**
ABPO				pmax		pmax		
	comp=Z,256nm,1.2s							
ABPO	**Ambohimpanom**	**66.42**	**89**	P		**P**	**08 03 46.7**	**+1.2**
ABPO				IAmb		IAmb	08 03 51.0	
	comp=Z,256nm,1.1s							
PUAC	**Puerto Asis, P**	**68.17**	**307**	*e*P		**P**	**08 03 56.2**	**-0.3**
MACC	**Macarena, Meta**	**68.37**	**310**	*e*P		**P**	**08 03 56.2**	**-1.5**
CUSE	**Cuicocha Este**	**68.80**	**305**	*e*P		**P**	**08 03 59.5**	**-1.4**
PAC1	**Pacto, Paraso**	**68.95**	**304**	*e*P		**P**	**08 04 01.4**	**-0.1**
GCUF	**Volcan Galeras**	**69.12**	**306**	*e*P		**P**	**08 04 01.9**	**-1.1**
GARC	**Garzon, Huila**	**69.14**	**308**	*e*P		**P**	**08 04 00.7**	**-2.0**
PTGC	**Puerto Gaitan,**	**69.48**	**313**	*e*P		**P**	**08 04 02.3**	**-2.3**
BETC	**Betania**	**69.55**	**309**	*e*P		**P**	**08 04 03.5**	**-1.6**
RER	**Riviere de l'E**	**69.56**	**98**	P		**P**	**08 04 09.1**	**+4.0**
	SNR=11							
RER	**Riviere de l'E**	**69.56**	**98**	P		**P**	**08 04 06.5**	**+1.4**
RER				IAMs_20		IAMs_20	08 29 44.6	
	comp=Z,106µm,19.0s							
SOTA	**Rioblanco**	**69.59**	**307**	*e*P		**P**	**08 04 06.4**	**+0.5**
PCON	**Cinco Dias**	**69.67**	**308**	*e*P		**P**	**08 04 06.0**	**-0.4**
BBAC	**Balboa, Cauca**	**69.78**	**307**	*e*P		**P**	**08 04 05.0**	**-1.7**
MARP	**Paez Belalcaza**	**69.93**	**308**	*e*P		**P**	**08 04 05.7**	**-1.9**
VILC	**Villavicencio,**	**70.07**	**311**	*e*P		**P**	**08 04 07.4**	**-0.9**
MCQ	**Macquarie Isla**	**70.22**	**185**	IAMs_20		IAMs_20	08 37 03.0	
	comp=Z,89µm,18.0s							
PRAC	**Prado**	**70.23**	**310**	*e*P		P	08 04 03.9	-5.3
MBO	**M'Bour**	**70.26**	**12**	P		**P**	**08 04 09.4**	**+0.2**
MBO	**M'Bour**	**70.26**	**12**	IAMs_20		IAMs_20	08 27 48.2	
	comp=Z,77µm,21.0s							
CHIC	**Chingaza**	**70.55**	**311**	*e*P		**P**	**08 04 09.7**	**-1.9**
ORTC	**Ortega, Tolima**	**70.56**	**309**	*e*P		**P**	**08 04 09.7**	**-1.5**
ORIV	**Oritupano**	**70.62**	**323**	*e*P		P	08 04 03.3	-8.2
ROSC	**El Rosal**	**70.99**	**311**	P		**P**	**08 04 13.9**	**-0.3**
	comp=Z,63nm,1.0s,baz=162,slow=3.4,SNR=30							
ROSC				S		**S**	**08 13 28.3**	**-1.6**
	comp=Z,1.9nm,0.3s,baz=133,slow=20,SNR=1.2							
ROSC				LR		LR	08 35 32.5	
	comp=Z,81µm,22.0s,baz=180,slow=36							
ROSC	**El Rosal**	**70.99**	**311**	*e*P		**P**	**08 04 13.4**	**-0.9**
ROSC	**El Rosal**	**70.99**	**311**	P		**P**	**08 04 14.0**	**-0.2**
ROSC				IAmb		IAmb	08 04 20.7	
	comp=Z,269nm,0.9s							
ROSC				IAMs_20		IAMs_20	08 35 44.2	
	comp=Z,88µm,18.0s							
YOTC	**Yotoco, Valle**	**71.11**	**308**	*e*P		**P**	**08 04 12.6**	**-2.1**
ANIL	**Santa Ana**	**71.15**	**310**	*e*P		**P**	**08 04 11.3**	**-3.8**
TOLC	**Tolima**	**71.20**	**310**	*e*P		**P**	**08 04 13.4**	**-2.0**
TAMC	**Tame, Arauca**	**71.36**	**314**	*e*P		**P**	**08 04 14.3**	**-1.8**
RUSC	**La Rusia**	**71.41**	**312**	*e*P		**P**	**08 04 14.9**	**-2.1**
RUSC	**La Rusia**	**71.41**	**312**	P		**P**	**08 04 14.8**	**-2.1**
TRN	**Trinidad (W)**	**71.43**	**326**	*e*P		**P**	**08 04 15.5**	**-0.8**
RREF	**El Recreo**	**71.49**	**310**	*e*P		**P**	**08 04 16.0**	**-1.5**
MALC	**Bahia Malaga**	**71.58**	**308**	*e*P		**P**	**08 04 17.4**	**0.0**
SPBC	**San Pablo de B**	**71.61**	**311**	*e*P		**P**	**08 04 14.0**	**-3.7**
TPR	**Prospect**	**71.74**	**326**	*e*P		**P**	**08 04 21.2**	**+3.0**
TOSP	**Speyside**	**71.77**	**327**	*e*P		**P**	**08 04 15.5**	**-2.9**
GUY2C	**Guyana, Caldas**	**71.79**	**310**	*e*P		**P**	**08 04 16.8**	**-2.4**
PLMC	**San Jos del P**	**71.91**	**309**	*e*P		**P**	**08 04 16.8**	**-2.6**
PLCV	**Puerto La Cruz**	**72.05**	**322**	P		**P**	**08 04 20.3**	**+0.2**
PCRV	**Puerto La Cruz**	**72.08**	**322**	P		**P**	**08 04 20.3**	**0.0**
	comp=Z,216nm,1.1s,baz=127,slow=1.8,SNR=43							
PCRV				S		**S**	**08 13 39.6**	**-2.0**
	comp=Z,6.3nm,0.9s,baz=176,slow=21,SNR=1.3							
BARC	**Barichara**	**72.08**	**313**	*e*P		**P**	**08 04 17.5**	**-3.1**
BAUV	**El Baul**	**72.17**	**319**	*e*P		**P**	**08 04 19.5**	**-1.3**
PIZC	**Pizarro, Choco**	**72.44**	**308**	*e*P		**P**	**08 04 21.7**	**-0.8**
MBAR	**Mbarara**	**72.50**	**64**	P		**P**	**08 04 25.6**	**+2.5**
MBAR				S		**SKiKP**	**08 13 52.8**	**-4.5**
MBAR	**Mbarara**	**72.50**	**64***d*	*i*P		**P**	**08 04 24.9**	**+1.8**
MBAR				pmax		pmax		
	comp=Z,158nm,1.4s							
MBAR				MLR		MLR		
	comp=Z,83µm,16.0s							
MBAR	**Mbarara**	**72.50**	**64**	P		**P**	**08 04 24.4**	**+1.2**
PAMC	**Pamplona, Colo**	**72.55**	**313**	*e*P		**P**	**08 04 21.4**	**-2.3**
PTBC	**PUERTO BERRIO,**	**72.57**	**311**	*e*P		**P**	**08 04 19.2**	**-4.1**
CBOC	**Ciudad Bolivar**	**72.64**	**310**	*e*P		**P**	**08 04 20.6**	**-3.3**
HELC	**Santa Helena**	**72.72**	**310**	*e*P		**P**	**08 04 21.4**	**-3.2**
TOA0	**Torodi Ar. Sit**	**72.89**	**31**	P		**P**	**08 04 25.3**	**+0.2**
	SNR=65							
TOA0				P		**P**	**08 04 25.3**	**+0.2**
	SNR=65							
TOA0				S		**S**	**08 13 47.1**	**-3.7**
TOA0				S		**S**	**08 13 47.1**	**-3.7**
TOA0	**Torodi Ar. Sit**	**72.89**	**31**	P		**P**	**08 04 24.5**	**-0.6**
TOA0				IAmb		IAmb	08 04 31.7	
	comp=Z,450nm,1.0s							
TORD	**Torodi Ar. Bea**	**72.89**	**31**	P		**P**	**08 04 24.0**	**-1.1**
	comp=Z,217nm,0.9s,baz=201,slow=6.6,SNR=203							
TORD				S		**S**	**08 13 45.5**	**-5.3**
	comp=Z,1.3nm,1.1s,baz=258,slow=18,SNR=1.7							
TORD				LR		LR	08 29 38.9	
	comp=Z,238µm,21.7s,baz=195,slow=30							
GRGR	**Grenville**	**72.91**	**326**	*e*P		**P**	**08 04 22.6**	**-2.6**
GRGR	**Grenville**	**72.91**	**326**	P		**P**	**08 04 24.9**	**-0.4**
GRGR				IAMs_20		IAMs_20	08 37 12.0	
	comp=Z,63µm,18.0s							
SDV	**Santo Domingo**	**73.12**	**316**	P		**P**	**08 04 26.4**	**-0.3**
GCMP	**Grenada, Carri**	**73.17**	**326**	*e*P		**P**	**08 04 27.9**	**+1.2**
BBGH	**Gun Hill**	**73.21**	**328**	*e*P		**P**	**08 04 27.7**	**+0.7**
BBGH	**Gun Hill**	**73.21**	**328**	IAMs_20		IAMs_20	08 38 56.1	
	comp=Z,90µm,20.0s							
ZARC	**Zaragoza, Cauc**	**73.60**	**311**	*e*P		**P**	**08 04 26.6**	**-2.8**
OCAC	**Ocana**	**73.62**	**313**	*e*P		**P**	**08 04 25.4**	**-4.2**
DBBC	**Dabeiba**	**73.76**	**310**	*e*P		**P**	**08 04 28.5**	**-1.9**
SVCV	**St. Vincent, C**	**73.82**	**327**	*e*P		**P**	**08 04 31.8**	**+1.2**
SVB	**Belmont**	**73.85**	**327**	*e*P		**P**	**08 04 28.1**	**-2.7**
SVB	**Belmont**	**73.85**	**327**	P		**P**	**08 04 30.0**	**-0.8**
SVB				IAmb		IAmb	08 04 40.2	
	comp=Z,193nm,0.9s							
PAYG	**Puerto Ayora**	**73.87**	**293**	P		**P**	**08 04 31.5**	**+0.5**
PAYG	**Puerto Ayora**	**73.87**	**293**	IAMs_20		IAMs_20	08 32 04.3	
	comp=Z,98µm,22.0s							
UREC	**San Jos de Ur**	**74.12**	**311**	*e*P		**P**	**08 04 29.8**	**-2.6**
MCLT	**Moule a Chique**	**74.17**	**327**	*e*P		**P**	**08 04 31.6**	**-1.0**
MCLT	**Moule a Chique**	**74.17**	**327**	P		**P**	**08 04 31.8**	**-0.8**
MCLT				IAmb		IAmb	08 04 42.5	
	comp=Z,564nm,1.1s							
SLDE	**Delcer**	**74.29**	**327**	*e*P		P	08 04 38.9	+5.5
SMLC	**San Martn de**	**74.44**	**313**	*e*P		**P**	**08 04 31.2**	**-3.0**
SLBI	**Saint Lucia, B**	**74.47**	**327**	*e*P		**P**	**08 04 33.6**	**-0.7**
PTAC	**Punta Ardita,**	**74.58**	**309**	*e*P		**P**	**08 04 34.7**	**-0.3**
MPOM	**Morne Pois Mar**	**74.83**	**327**	*e*P		**P**	**08 04 37.0**	**+0.6**
BIM	**Bigot**	**74.97**	**327**	*e*P		**P**	**08 04 34.8**	**-2.5**
RODM	**Citronelle, R**	**75.03**	**103**	IAMs_20		IAMs_20	08 30 33.1	
	comp=Z,82µm,20.0s							
ILAM	**Ilet Lapin Mar**	**75.15**	**327**	*e*P		**P**	**08 04 35.3**	**-3.0**
FDF	**Fort de France**	**75.20**	**327**	*e*P		**P**	**08 04 37.5**	**-1.1**
FDF	**Fort de France**	**75.20**	**327**	P		**P**	**08 04 38.5**	**-0.1**
FDF				pmax		pmax		
	comp=Z,384nm,1.2s							
FDF				MLR		MLR		
	comp=Z,43µm,22.0s							
FDF	**Fort de France**	**75.20**	**327**	P		**P**	**08 04 38.5**	**-0.1**
FDF				IAmb		IAmb	08 04 50.6	
	comp=Z,384nm,1.2s							
ARGC	**Ariguani, Magd**	**75.47**	**313**	*e*P		**P**	**08 04 37.8**	**-2.4**
LCBC	**Los crdobas,**	**75.47**	**311**	*e*P		**P**	**08 04 39.3**	**-0.9**
KMBO	**Kilima Mbogo**	**75.47**	**70**	P		P	08 04 45.8	+5.2
	comp=Z,26nm,1.1s,baz=213,slow=7.3,SNR=19							
KMBO				S		S	08 14 30.0	+9.5
	comp=Z,0.6nm,0.5s,baz=246,slow=24,SNR=1.4							
KMBO				LR		LR	08 36 56.4	
	comp=Z,186µm,18.5s,baz=196,slow=35							
KMBO	**Kilima Mbogo**	**75.47**	**70**	P		**P**	**08 04 43.6**	**+3.0**
KMBO				P		**P**	**08 04 43.6**	**+3.0**
KMBO				S		S	08 14 35.0	+14
KMBO				S		S	08 14 35.0	+14
KMBO	**Kilima Mbogo**	**75.47**	**70**	P		**P**	**08 04 42.8**	**+2.2**
KMBO				pmax		pmax		
	comp=Z,251nm,1.9s							
KMBO	**Kilima Mbogo**	**75.47**	**70**	P		**P**	**08 04 42.8**	**+2.2**
HATO	**Hato, Curacao**	**75.49**	**319**	P		**P**	**08 04 40.2**	**0.0**
CAPC	**Capurgana**	**75.70**	**310**	*e*P		**P**	**08 04 39.8**	**-1.7**
DPMT	**Pointe Michel**	**75.76**	**327**	*e*P		**P**	**08 04 46.2**	**+4.5**
DLPL	**La Plaine**	**75.79**	**327**	*e*P		**P**	**08 04 39.9**	**-2.1**
MDN	**Morne-Daniel**	**75.82**	**327**	*e*P		P	08 04 47.1	+5.0
SJCC	**San Jacinto, C**	**75.89**	**312**	*e*P		**P**	**08 04 41.4**	**-1.2**
DSLB	**Salisbury**	**75.94**	**327**	*e*P		**P**	**08 04 41.7**	**-1.1**
DWS	**Wesley**	**76.03**	**327**	*e*P		**P**	**08 04 44.4**	**+1.1**
MDPO	**Dominica; Chan**	**76.08**	**327**	*e*P		**P**	**08 04 44.0**	**+0.4**
URIC	**Uribia, Colomb**	**76.22**	**316**	*e*P		**P**	**08 04 41.0**	**-3.5**
URIC	**Uribia, Colomb**	**76.22**	**316**	P		**P**	**08 04 41.6**	**-2.8**
MAGL	**Barre de l'ile**	**76.38**	**327**	*e*P		**P**	**08 04 41.9**	**-3.4**
MAGL	**Barre de l'ile**	**76.38**	**327**	P		**P**	**08 04 44.6**	**-0.7**
TDBA	**Terre de Bas,**	**76.40**	**327**	*e*P		**P**	**08 04 42.5**	**-2.9**
TBG	**Guadaloupe-3**	**76.40**	**327**	*e*P		**P**	**08 04 47.8**	**+2.4**
CBE	**Ff, Capester**	**76.59**	**327**	*e*P		**P**	**08 04 43.1**	**-3.4**
SMRC	**Santa Marta, M**	**76.63**	**314**	*e*P		**P**	**08 04 45.5**	**-1.3**
ABD	**La Joyeuse, An**	**76.94**	**327**	*e*P		**P**	**08 04 46.8**	**-1.7**
ABD	**La Joyeuse, An**	**76.94**	**327**	P		**P**	**08 04 48.2**	**-0.2**
BCIP	**Isla Barro Col**	**77.27**	**308**	*e*P		**P**	**08 04 49.5**	**-0.9**
BCIP	**Isla Barro Col**	**77.27**	**308**	P		**P**	**08 04 50.2**	**-0.3**
BCIP				pmax		pmax		
	comp=Z,350nm,1.3s							
BCIP	**Isla Barro Col**	**77.27**	**308**	P		**P**	**08 04 50.1**	**-0.3**
BCIP				IAmb		IAmb	08 05 32.9	
	comp=Z,350nm,1.2s							
MLYT	**Lee's Yard**	**77.39**	**327**	*e*P		**P**	**08 04 51.0**	**0.0**
NVDO	**Nevis, Disaste**	**77.90**	**327**	*e*		**P**	**08 04 54.2**	**+0.4**
PYZ	**Puysegur Point**	**77.94**	**191**	IAMs_20		IAMs_20	08 38 41.4	
	comp=Z,76nm,19.0s							
WHZ	**Wether Hill Ro**	**78.07**	**192**	P		**P**	**08 04 53.9**	**-0.7**
SKI	**Saint Kitts**	**78.14**	**327**	*e*P		**P**	**08 04 54.5**	**-0.6**
SKI	**Saint Kitts**	**78.14**	**327**	P		**P**	**08 04 54.6**	**-0.6**
SKI				pmax		pmax		
	comp=Z,601nm,0.9s							
SKI				MLR		MLR		
	comp=Z,57µm,21.0s							
SKI	**Saint Kitts**	**78.14**	**327**	P		**P**	**08 04 54.6**	**-0.6**
SKI				IAMs_20		IAMs_20	08 42 36.0	
	comp=Z,57µm,21.0s							
ANWB	**Willy Bob**	**78.16**	**328**	*e*P		**P**	**08 04 54.0**	**-1.2**
ANWB	**Willy Bob**	**78.16**	**328**	P		**P**	**08 04 54.6**	**-0.6**
SEUS	**St. Eustatius**	**78.36**	**326**	*e*P		**P**	**08 04 52.2**	**-4.2**
SEUS	**St. Eustatius**	**78.36**	**326**	P		**P**	**08 04 56.1**	**-0.2**
SABA	**Saba**	**78.56**	**326**	*e*P		P	08 04 48.8	-8.7
SABA	**Saba**	**78.56**	**326**	P		**P**	**08 04 57.2**	**-0.3**
SABA				IAMs_20		IAMs_20	08 40 52.3	
	comp=Z,57µm,19.0s							
MLZ	**Mavora Lakes**	**78.57**	**192**	P		**P**	**08 04 56.9**	**-0.5**
MLZ				IAmb		IAmb	08 05 10.7	
	comp=Z,393nm,1.5s							
ODZ	**Otahua Downs**	**78.57**	**194**	P		**P**	**08 04 57.2**	**-0.2**
ODZ				IAMs_20		IAMs_20	08 34 57.9	
	comp=Z,79µm,21.0s							
SMRT	**St. Maarten**	**78.92**	**327**	*e*P		**P**	**08 04 58.0**	**-1.5**
SMRT	**St. Maarten**	**78.92**	**327**	P		**P**	**08 04 58.9**	**-0.5**
SMRT				IAmb		IAmb	08 05 04.9	
	comp=Z,310nm,0.9s							
SMRT				IAMs_20		IAMs_20	08 43 37.6	
	comp=Z,57µm,18.0s							
WKZ	**Wanaka**	**78.99**	**193**	IAMs_20		IAMs_20	08 36 10.1	
	comp=Z,82µm,20.0s							
CDVI	**St. Croix**	**79.18**	**325**	*e*P		**P**	**08 04 56.3**	**-4.5**
CDVI	**St. Croix**	**79.18**	**325**	P		**P**	**08 05 00.1**	**-0.7**
CDVI				IAmb		IAmb	08 05 14.8	
	comp=Z,194nm,0.8s							
LBZ	**Lake Benmore**	**79.28**	**193**	P		**P**	**08 04 60.0**	**-1.3**
LBZ				IAMs_20		IAMs_20	08 35 41.6	
	comp=Z,83µm,21.0s							
MQZ	**McQueen's Vall**	**79.59**	**195**	P		**P**	**08 05 02.0**	**-1.0**
MQZ				IAMs_20		IAMs_20	08 37 42.1	
	comp=Z,87µm,19.0s							
MTP	**Monte Pirata**	**79.76**	**324**	P		**P**	**08 05 02.8**	**-1.2**
MTP				IAmb		IAmb	08 05 13.8	
	comp=Z,319nm,1.2s							
RPZ	**Rata Peaks**	**79.82**	**194**	P		**P**	**08 05 03.3**	**-1.0**
	comp=Z,70nm,1.0s,baz=163,slow=4.7,SNR=2.0							
RPZ	**Rata Peaks**	**79.82**	**194**	IAmb		IAmb	08 05 12.8	
	comp=Z,172nm,1.0s							
RPZ				IAMs_20		IAMs_20	08 38 32.0	
	comp=Z,66µm,20.0s							
PDPR	**Patillas Dam,**	**79.84**	**324**	P		**P**	**08 05 03.0**	**-1.5**
CUPR	**Culebra, Puert**	**79.87**	**325**	P		**P**	**08 05 03.7**	**-0.9**
CUPR				IAmb		IAmb	08 05 10.9	
	comp=Z,354nm,0.9s							
ICMP	**Isla Caja de M**	**79.89**	**323**	P		**P**	**08 05 03.2**	**-1.5**
HUMP	**Col San Antoni**	**79.90**	**324**	P		**P**	**08 05 03.7**	**-1.1**
SJG	**San Juan**	**79.97**	**324**	*e*P		**P**	**08 05 00.4**	**-4.7**
SJG	**San Juan**	**79.97**	**324**	P		**P**	**08 05 04.2**	**-0.9**
SJG				pmax		pmax		
	comp=Z,396nm,1.7s							
SJG				MLR		MLR		
	comp=Z,42µm,19.0s							
SJG	**San Juan**	**79.97**	**324**	P		**P**	**08 05 04.2**	**-0.9**
HDC	**Heredia**	**79.98**	**304**	P		**P**	**08 05 06.3**	**+0.8**
HDC				IAmb		IAmb	08 05 17.4	
	comp=Z,626nm,1.1s							
CBYP	**Canovanas**	**80.02**	**324**	P		**P**	**08 05 04.1**	**-1.4**
CBYP				IAmb		IAmb	08 05 10.9	
	comp=Z,284nm,1.1s							
OXZ	**Oxford**	**80.06**	**195**	P		**P**	**08 05 06.0**	**+0.5**
OXZ				IAMs_20		IAMs_20	08 41 06.3	
	comp=Z,70µm,19.0s							
OBIP	**Obispado Ponce**	**80.06**	**323**	P		**P**	**08 05 04.0**	**-1.6**
GCPR	**Guaynabo City**	**80.13**	**324**	P		**P**	**08 05 04.8**	**-1.2**
GCPR				IAmb		IAmb	08 05 13.2	
	comp=Z,412nm,1.1s							
MLPR	**Magueyes Islan**	**80.14**	**323**	P		**P**	**08 05 04.5**	**-1.6**
CRPR	**Cabo Rojo, PR**	**80.20**	**323**	P		**P**	**08 05 05.1**	**-1.3**
CRPR				IAmb		IAmb	08 05 11.9	
	comp=Z,278nm,1.0s							
AOPR	**Arecibo Observ**	**80.40**	**323**	P		**P**	**08 05 04.8**	**-2.7**
MPR	**Mayaguez**	**80.40**	**323**	P		**P**	**08 05 07.1**	**-0.4**
EMPR	**Esperanza - Ma**	**80.44**	**324**	P		**P**	**08 05 06.1**	**-1.6**
LTZ	**Lake Taylor**	**80.56**	**195**	P		**P**	**08 05 07.3**	**-1.0**
LTZ				IAmb		IAmb	08 05 21.5	

TBI	**Tubuai**	**86.91**	**232**	*e*PP		PP		08 09 02.6	-0.7	
	comp=Z,7µm,26.0s									
TBI				*e*S		**S**		**08 16 17.6**	**-1.1**	
	comp=Z,66µm,27.2s									
TBI	**Tubuai**	**86.91**	**232**	*e*LQ		LQ		08 29 40.5		
	comp=Z,33µm,30.8s									
TBI				*e*LR		LR		08 33 20.6		
	comp=Z,129µm,30.2s,baz=156									
DESE	**Dese**	**87.04**	**66**	*i* P		**P**		**08 05 42.7**	**+0.6**	
DESE				*e*S		**S**		**08 16 19.0**	**-1.6**	
NWAO	**Narrogin (SRO)**	**87.16**	**152**	P		**P**		**08 05 40.8**	**-1.3**	
	baz=87,SNR=8.4									
NWAO	**Narrogin (SRO)**	**87.16**	**152**	P		**P**		**08 05 40.6**	**-1.5**	
	comp=Z,43nm,0.9s,baz=182,slow=4.8,SNR=15									
NWAO				S		**SKSac**		**08 16 06.0**	**-2.9**	
	comp=Z,2.0nm,0.6s,baz=16,slow=20,SNR=1.3									
NWAO	**Narrogin (SRO)**	**87.16**	**152**	P		**P**		**08 05 45.6**	**+3.4**	
NWAO				P		**P**		**08 05 45.6**	**+3.4**	
NWAO				S		**SKSac**		**08 16 07.1**	**-1.8**	
NWAO				S		**SKSac**		**08 16 07.1**	**-1.8**	
NWAO	**Narrogin (SRO)**	**87.16**	**152**	P		**P**		**08 05 41.6**	**-0.5**	
NWAO				pmax		pmax				
	comp=Z,211nm,1.6s									
NWAO	**Narrogin (SRO)**	**87.16**	**152**	P		**P**		**08 05 41.6**	**-0.5**	
NWAO				IAmb		IAmb		08 05 51.9		
	comp=Z,261nm,1.6s									
NWAO	**Narrogin (SRO)**	**87.16**	**152**	P		**P**		**08 05 41.6**	**-0.5**	
NWAO				IAmb		IAmb		08 05 51.9		
	comp=Z,210nm,1.6s									
TOO	**Toolangi**	**87.17**	**175**	P		**P**		**08 05 40.4**	**-1.7**	
	baz=87,SNR=8.1									
TOO	**Toolangi**	**87.17**	**175**	P		**P**		**08 05 41.1**	**-1.1**	
TOO				pmax		pmax				
	comp=Z,74nm,1.2s									
TOO				MLR		MLR				
	comp=Z,88µm,19.0s									
TOO	**Toolangi**	**87.17**	**175**	P		**P**		**08 05 41.1**	**-1.1**	
TTIG	**Tnine Tigouga,**	**87.36**	**17**	P		P		08 05 48.0	+5.0	
	SNR=11									
TTIG				P		P		08 05 48.0	+5.0	
	SNR=11									
ZGR	**Zagora**	**87.45**	**20**	P		**P**		**08 05 47.0**	**+3.6**	
	SNR=35									
ZGR				P		**P**		**08 05 47.0**	**+3.6**	
	SNR=35									
OUZ	**Omahuta**	**87.73**	**198**	P		**P**		**08 05 44.0**	**-0.8**	
OUZ				IAmb		IAmb		08 05 57.5		
	comp=Z,398nm,1.5s									
OUZ				IAMs_20		IAMs_20		08 42 04.4		
	comp=Z,60µm,20.0s									
MUN	**Mundaring**	**87.77**	**150**	P		**P**		**08 05 43.7**	**-1.4**	
	baz=88,SNR=35									
OUZM	**OUZ**	**88.01**	**18**	P		**P**		**08 05 50.0**	**+3.9**	
	SNR=35									
OUZM				P		**P**		**08 05 50.0**	**+3.9**	
	SNR=35									
OUK	**Oukaimeden**	**88.11**	**17**	P		**P**		**08 05 51.0**	**+4.2**	
	SNR=31									
OUK				P		**P**		**08 05 51.0**	**+4.2**	
	SNR=31									
TZRR	**Tazzarine**	**88.11**	**20**	P		**P**		**08 05 51.0**	**+4.5**	
	SNR=14									
TZRR				P		**P**		**08 05 51.0**	**+4.5**	
	SNR=14									
FUL	**Funchal**	**88.32**	**10**	*e*P		**P**		**08 05 47.4**	**+0.1**	
	comp=Z,276nm,1.9s									
FUL	**Funchal**	**88.32**	**10**	*e*T		T		09 43 39.1		
TEND	**Ethiopian Broa**	**88.32**	**66**	*e*P		**P**		**08 05 51.5**	**+3.7**	
TEND				*e*S		**SKSac**		**08 16 22.6**	**+6.6**	
PMAR	**Madeira**	**88.39**	**10**	*e*P		**P**		**08 05 49.5**	**+1.6**	
	comp=Z,307nm,1.8s									
PMOZ	**Porto Moniz, M**	**88.46**	**9**	P		P		08 05 55.2	+7.1	
	SNR=13									
PMOZ	**Porto Moniz, M**	**88.46**	**9**	*e*P		**P**		**08 05 48.2**	**+0.1**	
	comp=Z,210nm,2.4s									
PMOZ	**Porto Moniz, M**	**88.46**	**9**	*e*PP		PP		08 09 22.0	+5.3	
PMOZ				*e*S		**S**		**08 16 28.6**	**-4.3**	
PMOZ	**Porto Moniz, M**	**88.46**	**9**	*e*LR		LR		08 32 45.7		
	comp=Z,30µm,20.0s									
PMOZ	**Porto Moniz, M**	**88.46**	**9**	*e*T		T		09 43 46.6		
KLBR	**Kellerberrin**	**88.56**	**152**	P		**P**		**08 05 47.7**	**-1.1**	
	baz=88,SNR=35									
PMPS	**Porto Santo**	**88.78**	**10**	*e*P		**P**		**08 05 50.3**	**+0.9**	
	comp=Z,608nm,1.8s									
ARF	**Arif**	**89.00**	**20**	P		**P**		**08 05 53.0**	**+2.3**	
	SNR=16									
ATD	**Arta Tunnel**	**89.07**	**68**	S		**SKSac**		**08 16 19.7**	**-0.8**	
	comp=Z,2.1nm,0.3s,baz=310,slow=22,SNR=1.4									
ATD	**Arta Tunnel**	**89.07**	**68**	P		**P**		**08 05 54.8**	**+3.5**	
	SNR=14									
ATD				S		**SKSac**		**08 16 26.6**	**+6.1**	
BLDU	**Ballidu**	**89.20**	**150**	P		**P**		**08 05 50.8**	**-1.1**	
	baz=89,SNR=18									
CCIG	**Comitan**	**89.27**	**301**	P		**P**		**08 05 52.3**	**0.0**	
CCIG				IAmb		IAmb		08 06 46.2		
	comp=Z,331nm,1.5s									
CCIG				IAMs_20		IAMs_20		08 44 53.9		
	comp=Z,61µm,19.0s									
CAN	**Canberra**	**89.54**	**178**	P		**P**		**08 05 52.2**	**-1.2**	
CAN				pmax		pmax				
	comp=Z,282nm,1.6s									
CAN				MLR		MLR				
	comp=Z,86µm,18.0s									
CAN	**Canberra**	**89.54**	**178**	P		**P**		**08 05 52.2**	**-1.2**	
CAN				IAmb		IAmb		08 06 06.9		
	comp=Z,282nm,1.6s									
KMBL	**Kambalda**	**89.84**	**155**	P		**P**		**08 05 54.0**	**-0.9**	
	baz=90,SNR=17									
DGAR	**Diego Garcia**	**90.05**	**103**	P		P		08 06 02.1	+6.1	
AVE	**Averroes**	**90.22**	**17**	ǁ *i*P		**P**		**08 05 56.7**	**+0.4**	
AVE	**Averroes**	**90.22**	**17**	PS		PS		08 17 54.2	-3.5	
MDT	**Midelt**	**90.27**	**20**	P		**P**		**08 05 58.2**	**+1.6**	
	comp=Z,30nm,0.9s,baz=214,slow=3.3,SNR=36									
MDT	**Midelt**	**90.27**	**20**	P		**P**		**08 05 59.0**	**+2.4**	
	SNR=34									
CZD	**Col de Zad**	**90.39**	**19**	P		**P**		**08 06 01.0**	**+3.6**	
	SNR=12									
MORW	**Morawa**	**90.46**	**149**	P		**P**		**08 05 56.5**	**-1.3**	
	baz=90,SNR=6.6									
MORW	**Morawa**	**90.46**	**149**	P		**P**		**08 05 57.2**	**-0.6**	
ZHG	**ZHG**	**90.50**	**18**	P		**P**		**08 06 01.0**	**+3.4**	
	SNR=18									
HTT	**Hallett**	**90.79**	**169**	P		**P**		**08 05 58.2**	**-1.1**	
	baz=90,SNR=17									
TEIG	**Tepich**	**90.82**	**306**	P		**P**		**08 05 59.6**	**+0.3**	
	comp=Z,222nm,0.8s,baz=139,slow=0.7,SNR=38									
TEIG				S		**SKSac**		**08 16 29.6**	**-0.6**	
TEIG	**Tepich**	**90.82**	**306**	P		**P**		**08 05 59.8**	**+0.5**	
IFR	**Ifrane**	**90.85**	**19**	ǁ *i*P		**P**		**08 05 59.7**	**+0.3**	
IFR	**Ifrane**	**90.85**	**19**	PS		PS		08 17 57.2	-7.8	
RTC	**Rabat Centre**	**90.99**	**18**	P		P		08 06 04.6	+4.9	
	SNR=12									
TDRA	**Tendrara**	**91.01**	**22**	P		**P**		**08 06 03.0**	**+2.8**	
	SNR=58									
MEH	**Mehetia**	**91.01**	**236**	*e*P		**P**		**08 06 01.5**	**+1.0**	
	comp=Z,26nm,1.1s									
RIV	**Riverview**	**91.06**	**180**	P		**P**		**08 05 58.7**	**-1.8**	
	baz=91,SNR=3.1									
BBOO	**Buckleboo**	**91.07**	**167**	P		**P**		**08 06 00.6**	**0.0**	
BBOO				IAmb		IAmb		08 06 13.7		
	comp=Z,191nm,1.5s									
CMIG	**Matias Romero**	**91.31**	**299**	P		**P**		**08 06 01.8**	**+0.1**	
	comp=Z,56nm,0.9s,baz=124,slow=4.4,SNR=22									
CMIG				S		**SKSac**		**08 16 29.6**	**-3.7**	
	comp=Z,3.1nm,0.9s,baz=252,slow=18,SNR=1.6									
CMIG				LR		LR		08 43 15.9		
	comp=Z,37µm,20.5s,baz=138,slow=33									
SICH	**Sidi Chahed**	**91.38**	**19**	P		**P**		**08 06 06.0**	**+4.4**	
	SNR=11									
TVO	**Taravao**	**91.65**	**235**	*e*P		**P**		**08 06 04.8**	**+1.3**	
MGCD	**Mangrove Creek**	**91.67**	**180**	P		**P**		**08 06 01.1**	**-2.3**	
	baz=91,SNR=5.5									
RAO	**Raoul Island**	**91.67**	**206**	LR		LR		08 40 17.8		
	comp=Z,36µm,21.3s,baz=165,slow=31									
FORT	**Forrest**	**91.76**	**160**	P		**P**		**08 06 02.9**	**-0.8**	
FORT				IAmb		IAmb		08 06 17.6		
	comp=Z,191nm,1.2s									
FORT				IAMs_20		IAMs_20		08 46 56.2		
	comp=Z,58µm,18.0s									
TIAR	**Tiarei**	**91.89**	**235**	*e*P		**P**		**08 06 05.6**	**+1.1**	
	comp=Z,25nm,1.3s									
PPTF	**Pamatai, Papee**	**91.96**	**235**	IAMs_20		IAMs_20		08 41 26.1		
	comp=Z,58µm,19.0s									
PPT2	**Papeete2**	**91.97**	**235**	*e*P		**P**		**08 06 06.3**	**+1.3**	
	comp=Z,70nm,1.3s									
PPT2	**Papeete2**	**91.97**	**235**	*e*PP		PP		08 09 44.0	+0.1	
	comp=Z,9µm,24.5s									
PPT2				*e*SKSac		**SKSac**		**08 16 34.7**	**-2.8**	
	comp=Z,16µm,25.2s									
PPT2	**Papeete2**	**91.97**	**235**	*e*PS		PS		08 18 19.6	+2.5	
	comp=Z,49µm,27.5s									
PPT2	**Papeete2**	**91.97**	**235**	*e*LQ		LQ		08 31 46.9		
	comp=Z,40µm,29.5s									
PPT2				*e*LR		LR		08 35 39.8		
	comp=Z,103µm,24.5s,baz=152									
PPT	**Papeete**	**91.98**	**235**	P		**P**		**08 06 04.7**	**-0.3**	
	comp=Z,42nm,1.0s,baz=97,slow=12,SNR=4.0									
PPT				LR		LR		08 41 19.1		
	comp=Z,46µm,18.2s,baz=178,slow=32									
RSA	**Sarsar**	**92.05**	**18**	P		**P**		**08 06 09.0**	**+4.3**	
	SNR=20									
PSMA	**Santa Maria**	**92.14**	**3**	*e*P		P		08 06 10.0	+5.0	
	comp=Z,280nm,1.3s									
PSMA	**Santa Maria**	**92.14**	**3**	*e*T		T		09 47 34.0		
PSMN	**Pico do Norte,**	**92.16**	**3**	*e*P		**P**		**08 06 07.3**	**+2.2**	
	comp=Z,317nm,1.1s									
PSMN	**Pico do Norte,**	**92.16**	**3**	*e*LQ		LQ		08 30 01.5		
PSMN				*e*LR		LR		08 35 18.4		
	comp=Z,9µm,20.4s									
CHEFC	**Chefchaouen**	**92.36**	**19**	P		P		08 06 11.0	+4.8	
	SNR=15									
061Z	**Ochoppi**	**92.55**	**314**	P		**P**		**08 06 08.5**	**+1.3**	
061Z				IAMs_20		IAMs_20		08 50 38.5		
	comp=Z,41µm,18.0s									
STKA	**Stephens Creek**	**92.58**	**171**	P		**P**		**08 06 06.1**	**-1.4**	
	baz=92,SNR=16									
STKA	**Stephens Creek**	**92.58**	**171**	P		**P**		**08 06 06.4**	**-1.1**	
	comp=Z,12nm,0.9s,baz=154,slow=7.9,SNR=9.4									
STKA				PP		**PP**		**08 09 43.3**	**-4.7**	
	comp=Z,19nm,1.2s,baz=143,slow=7.7,SNR=3.5									
STKA				S		**SKSac**		**08 16 35.6**	**-4.8**	
	comp=Z,3.8nm,1.1s,baz=122,slow=23,SNR=1.9									
STKA				PKKPbc		**PKKPbc**		**08 23 17.9**	**+0.3**	
	comp=Z,5.1nm,0.9s,baz=342,slow=9.6,SNR=3.4									
STKA				LR		LR		08 46 37.6		
	comp=Z,58µm,19.7s,baz=179,slow=35									
STKA	**Stephens Creek**	**92.58**	**171**	P		**P**		**08 06 06.1**	**-1.4**	
STKA				pmax		pmax				
	comp=Z,62nm,2.0s									
STKA				MLR		MLR				
	comp=Z,22µm,19.0s									
STKA	**Stephens Creek**	**92.58**	**171**	P		**P**		**08 06 06.1**	**-1.4**	
PVLZ	**Peæn de**	**92.61**	**20**	ǁ *i*P		**P**		**08 06 08.4**	**+1.2**	
PVLZ	**Peæn de**	**92.61**	**20**	PS		PS		08 18 23.6	-0.5	
BBSR	**BB Station**	**92.85**	**330**	P		**P**		**08 06 08.5**	**+0.1**	
BBSR				IAmb		IAmb		08 06 29.2		
	comp=Z,113nm,1.2s									
CMLA	**Cha da Macela**	**92.90**	**2**	*e*P		**P**		**08 06 12.7**	**+4.2**	
	comp=Z,180nm,1.1s									
CMLA	**Cha da Macela**	**92.90**	**2**	*e*LQ		LQ		08 30 36.2		
CMLA				*i* LR		LR		08 35 06.0		
	comp=Z,6µm,22.4s									
GRON	**Grota Negra**	**92.91**	**2**	*e*P		**P**		**08 06 12.3**	**+3.7**	
	comp=Z,96nm,1.0s									
BART	**Pico Bartolome**	**92.92**	**3**	*e*P		**P**		**08 06 10.7**	**+2.0**	
	comp=Z,138nm,1.1s									
BART	**Pico Bartolome**	**92.92**	**3**	*e*T		T		09 48 41.1		
PCALD	**Caldeiras da R**	**92.94**	**2**	*e*P		**P**		**08 06 11.2**	**+2.5**	
	comp=Z,270nm,1.3s									
PSET	**Sete Cidades**	**92.96**	**2**	*e*P		**P**		**08 06 12.2**	**+3.4**	
	comp=Z,93nm,1.2s									
PSET	**Sete Cidades**	**92.96**	**2**	*e*LQ		LQ		08 30 36.4		
PSET				*i* LR		LR		08 35 06.0		
	comp=Z,7µm,19.7s									
MELI	**Melilla**	**93.00**	**21**	ǁ *i*P		**P**		**08 06 08.5**	**-0.5**	
MELI	**Melilla**	**93.00**	**21**	PS		PS		08 18 26.5	-1.8	
CEU	**Ceuta**	**93.12**	**19**	ǁ *i*P		**P**		**08 06 09.8**	**+0.3**	
CEU	**Ceuta**	**93.12**	**19**	PS		PS		08 18 25.8	-3.9	
RAR	**Rarotonga**	**93.18**	**225**	LR		LR		08 43 58.5		
	comp=Z,5µm,18.2s,baz=192,slow=33									
RAR	**Rarotonga**	**93.18**	**225**	P		**P**		**08 06 09.5**	**-0.9**	
RAR				pmax		pmax				
	comp=Z,292nm,1.9s									
RAR	**Rarotonga**	**93.18**	**225**	P		**P**		**08 06 09.5**	**-0.9**	
RAR				IAmb		IAmb		08 06 23.0		
	comp=Z,292nm,1.9s									
CMSA	**Cobar Meteorol**	**93.19**	**175**	P		**P**		**08 06 09.0**	**-1.4**	
	baz=93,SNR=7.0									
060A	**Indiantown**	**93.37**	**315**	P		**P**		**08 06 10.9**	**-0.1**	
060A				IAMs_20		IAMs_20		08 47 31.2		
	comp=Z,62µm,21.0s									
OTSS	**Djebel Tessala**	**93.43**	**22**	P		P		08 06 18.0	+6.8	
MEEK	**Meekatharra**	**93.49**	**151**	P		**P**		**08 06 09.4**	**-2.5**	
	baz=93,SNR=11									
SFS	**San Fernando**	**93.52**	**18**	ǁ *i*P		**P**		**08 06 14.0**	**+2.6**	
SFS	**San Fernando**	**93.52**	**18**	PS		PS		08 18 37.4	+3.2	
SFS	**San Fernando**	**93.52**	**18**	IAMs_20		IAMs_20		08 43 08.0		
	comp=Z,69µm,21.0s									
PCAN	**Candelaria**	**93.57**	**360**	*e*P		**P**		**08 06 06.9**	**-4.7**	
	comp=Z,45nm,0.5s									
PICO	**Pico**	**93.61**	**360**	*e*P		P		08 06 16.9	+5.1	
	comp=Z,398nm,1.2s									
ODJA	**Bouhanifia**	**93.62**	**23**	P		P		08 06 17.0	+5.0	
CALA	**Caldeira**	**93.69**	**360**	*e*P		**P**		**08 06 17.0**	**+4.8**	
	comp=Z,393nm,1.3s									
PCED	**Cedros**	**93.73**	**360**	*e*P		**P**		**08 06 14.3**	**+2.0**	
	comp=Z,56nm,1.3s									
PMAN	**Manadas**	**93.74**	**0**	*e*P		**P**		**08 06 16.2**	**+3.9**	
	comp=Z,433nm,1.1s									
PFVI	**Vila Bisbo**	**93.75**	**16**	P		P		08 06 17.6	+5.2	
	SNR=5.7									
PFVI	**Vila Bisbo**	**93.75**	**16**	*e*P		**P**		**08 06 12.6**	**+0.2**	
	comp=Z,354nm,1.9s									
PFVI	**Vila Bisbo**	**93.75**	**16**	*e*PP		**PP**		**08 10 02.4**	**+4.0**	
PFVI				*e*SKSac		**SKSac**		**08 16 48.1**	**+2.2**	
PFVI				*i* LQ		LQ		08 17 19.3		
PFVI	**Vila Bisbo**	**93.75**	**16**	IAMs_20		IAMs_20		08 42 39.1		
	comp=Z,60µm,22.0s									
PSCM	**Serra do Cume**	**93.81**	**1**	*e*P		**P**		**08 06 16.9**	**+4.2**	
	comp=Z,66nm,1.0s									
ROSA	**Rosais**	**93.82**	**0**	*e*P		**P**		**08 06 15.8**	**+3.0**	
	comp=Z,258nm,1.3s									
ROSA	**Rosais**	**93.82**	**0**	*e*LQ		LQ		08 30 16.6		
ROSA				*e*LR		LR		08 36 00.4		
	comp=Z,5µm,19.7s									
MORF	**Marmelete**	**93.94**	**16**	*e*P		**P**		**08 06 13.1**	**-0.3**	
MORF				*e*PP		**PP**		**08 09 60.0**	**0.0**	
MORF				*e*SKSac		**SKSac**		**08 16 48.3**	**+1.2**	
MORF				*e*SS		**SS**		**08 23 45.2**	**+2.1**	
MORF				AMS		AMS		08 48 44.4		
	comp=Z,47µm,13.6s									
MORF	**Marmelete**	**93.94**	**16**	*e*P		**P**		**08 06 13.1**	**-0.3**	
MORF				*e*				08 09 59.9		
MORF				*e*				08 16 48.2		
MORF				*e*SS		SS		08 23 45.2	+2.1	
MORF	**Marmelete**	**93.94**	**16**	*e*P		**P**		**08 06 14.9**	**+1.5**	
	comp=Z,198nm,2.0s									
MORF	**Marmelete**	**93.94**	**16**	*e*PP		**PP**		**08 10 01.6**	**+1.6**	
MORF				*e*SKSac		**SKSac**		**08 16 48.6**	**+1.5**	
MORF				*e*SS		**SS**		**08 23 44.5**	**+1.4**	
OJBR	**Djebel Berber**	**93.97**	**23**	P		**P**		**08 06 16.0**	**+2.4**	
OJGS	**Djebel Guires**	**93.99**	**23**	P		**P**		**08 06 15.0**	**+1.3**	
PBDV	**Barranco-do-Ve**	**94.00**	**16**	*e*P		**P**		**08 06 14.5**	**+0.9**	
	comp=Z,185nm,2.0s									
PBDV	**Barranco-do-Ve**	**94.00**	**16**	*e*SKSac		**SKSac**		**08 16 50.6**	**+3.3**	
PBDV				*i* LQ		LQ		08 17 30.6		
EMAL	**Malaga-Limoner**	**94.13**	**19**	ǁ *i*P		**P**		**08 06 14.2**	**0.0**	
EMAL	**Malaga-Limoner**	**94.13**	**19**	PS		PS		08 18 30.7	-10	
PGRA	**Graciosa**	**94.13**	**0**	*e*P		**P**		**08 06 18.1**	**+3.9**	
	comp=Z,258nm,1.6s									
PGRA	**Graciosa**	**94.13**	**0**	*e*LQ		LQ		08 31 03.7		
PGRA				*i* LR		LR		08 35 35.7		
	comp=Z,5µm,22.0s									
SRBC	**Serra Branca**	**94.14**	**0**	*e*P		**P**		**08 06 13.3**	**-0.9**	
	comp=Z,207nm,0.7s									
PTEO	**Teo Tenorio**	**94.17**	**16**	*e*P		**P**		**08 06 14.4**	**+0.1**	
	comp=Z,202nm,1.8s									
PVAQ	**Vaqueiros**	**94.19**	**16**	P		P		08 06 19.7	+5.2	
	SNR=10									
PVAQ	**Vaqueiros**	**94.19**	**16**	*e*P		**P**		**08 06 15.8**	**+1.4**	
	comp=Z,241nm,2.0s									
PVAQ	**Vaqueiros**	**94.19**	**16**	*e*SKSac		**SKSac**		**08 16 50.8**	**+2.6**	
PVAQ				*i* LQ		LQ		08 17 32.3		
PVAQ	**Vaqueiros**	**94.19**	**16**	*e*LR		LR		08 37 08.6		
	comp=Z,41µm,18.0s									
PVAQ	**Vaqueiros**	**94.19**	**16**	IAMs_20		IAMs_20		08 43 56.6		
	comp=Z,43µm,20.0s									
PCVE	**Castro Verde**	**94.36**	**16**	*e*P		**P**		**08 06 16.2**	**+1.0**	
	comp=Z,146nm,1.9s									
PCVE	**Castro Verde**	**94.36**	**16**	*e*PP		PP		08 10 12.5	+9.4	
PCVE				*e*SKSac		**SKSac**		**08 16 53.2**	**+4.0**	
PCVE				*i* LQ		LQ		08 17 30.8		
ARMA	**Armidale**	**94.46**	**180**	P		**P**		**08 06 14.4**	**-2.0**	
	baz=94,SNR=4.0									
ARMA	**Armidale**	**94.46**	**180**	P		**P**		**08 06 15.2**	**-1.2**	
ARMA				IAMs_20		IAMs_20		08 52 30.0		
	comp=Z,55µm,19.0s									
OKGL	**Djebel Kef Gue**	**94.47**	**23**	P		**P**		**08 06 16.0**	**+0.1**	
H07S1	**FLORES T-PHASE**	**94.51**	**358**	*e*P		**P**		**08 06 17.8**	**+1.9**	
MESJ	**Messejana**	**94.53**	**16**	*e*P		**P**		**08 06 15.8**	**-0.2**	
MESJ				*e*PP		**PP**		**08 10 04.5**	**0.0**	
MESJ				*e*SKSac		**SKSac**		**08 16 51.2**	**+1.1**	
MESJ				AMS		AMS		08 43 29.2		
	comp=Z,55µm,20.5s									
MESJ	**Messejana**	**94.53**	**16**	*e*P		**P**		**08 06 15.8**	**-0.2**	
MESJ				*e*				08 10 04.4		
MESJ				*e*				08 16 51.2		
MESJ	**Messejana**	**94.53**	**16**	*e*P		**P**		**08 06 16.7**	**+0.7**	
	comp=Z,155nm,2.1s									
PNCL	**Nicolau / Gran**	**94.75**	**16**	*e*P		**P**		**08 06 17.0**	**0.0**	
	comp=Z,159nm,2.1s									
PNCL	**Nicolau / Gran**	**94.75**	**16**	*e*SKSac		**SKSac**		**08 16 52.9**	**+1.7**	
PNCL				*i* LQ		LQ		08 17 36.8		
PNCL				*e*SS		**SS**		**08 23 53.5**	**-1.0**	
TAOE	**Nuku Hiva Isla**	**94.75**	**247**	*e*PP		**PP**		**08 10 00.8**	**-5.2**	
	comp=Z,8µm,24.6s									
TAOE	**Nuku Hiva Isla**	**94.75**	**247**	*e*SS		SS		08 23 55.9	+1.8	
	comp=Z,18µm,24.8s									
TAOE				*e*LQ		LQ		08 32 52.3		
	comp=Z,44µm,25.8s									
TAOE				*e*LR		LR		08 36 54.7		
	comp=Z,84µm,28.1s									
TAOE	**Nuku Hiva Isla**	**94.75**	**247**	IAMs_20		IAMs_20		08 39 00.8		
	comp=Z,61µm,21.0s									
DWPF	**Disney Wildern**	**94.76**	**315**	P		**P**		**08 06 17.5**	**+0.2**	
	baz=153									
DWPF	**Disney Wildern**	**94.76**	**315**	P		**P**		**08 06 17.3**	**0.0**	
DWPF				IAmb		IAmb		08 06 24.3		
	comp=Z,113nm,1.1s									
DWPF	**Disney Wildern**	**94.76**	**315**	IAMs_20		IAMs_20		08 48 24.9		
	comp=Z,55µm,21.0s									
PBEJ	**Beja**	**94.77**	**16**	*e*P		**P**		**08 06 18.2**	**+1.1**	
	comp=Z,127nm,2.2s									
HORN	**Hornachuelos**	**95.03**	**18**	P		**P**		**08 06 22.5**	**+4.2**	
	SNR=24									
EVO	**Evora**	**95.24**	**16**	ǁ *i*P		P		08 06 30.7	+11	
EVO	**Evora**	**95.24**	**16**	PS		PS		08 18 50.1	-3.0	
EVO	**Evora**	**95.24**	**16**	*e*P		**P**		**08 06 19.5**	**+0.2**	
	comp=Z,138nm,2.0s									
EVO	**Evora**	**95.24**	**16**	*e*PP		**PP**		**08 10 09.2**	**-0.8**	
LIS	**Lisbon**	**95.25**	**15**	*e*P		**P**		**08 06 19.1**	**-0.2**	
LIS				*e*SKSac		**SKSac**		**08 16 55.0**	**+1.1**	
LIS				*e*SS		**SS**		**08 24 03.7**	**+2.1**	
LIS				AMS		AMS		08 44 04.7		
	comp=Z,52µm,21.5s									
LIS	**Lisbon**	**95.25**	**15**	*e*P		**P**		**08 06 19.0**	**-0.2**	
LIS				*e*				08 16 55.0		
LIS				*e*SS		SS		08 24 03.6	+2.0	
LIS	**Lisbon**	**95.25**	**15**	*e*P		**P**		**08 06 23.9**	**+4.6**	
	comp=Z,168nm,1.5s									
LIS	**Lisbon**	**95.25**	**15**	*e*PP		**PP**		**08 10 09.1**	**-0.9**	
UNM	**Universidad Na**	**95

comp=Z,39µm,18.0s
255A Hazlehurst 98.55 316 P **P** **08 06 34.4 0.0**
255A IAmb IAmb 08 06 43.2
comp=Z,86nm,1.4s
255A IAMs_20 IAMs_20 08 49 59.1
comp=Z,67µm,22.0s
PGAV Gavieira, Arco 98.56 15 *e*P Pdif 08 06 35.9 +1.5
comp=Z,40nm,1.6s
PGAV Gavieira, Arco 98.56 15 *e*PP **PP** **08 10 35.9 +0.2**
PGAV *e*SKSac **SKSac** **08 17 13.1 +1.9**
PGAV *i* LQ LQ 08 18 05.2
PGAV *e*SS **SS** **08 24 56.5 +7.9**
PGAV Gavieira, Arco 98.56 15 *e*LR LR 08 38 43.8
comp=Z,61µm,20.0s
TIGA Tifton 98.56 315 Pdiff **P** **08 06 33.8 -0.7**
baz=152
TIGA Tifton 98.56 315 P **P** **08 06 33.7 -0.8**
TIGA IAmb IAmb 08 06 52.8
comp=Z,188nm,1.7s
PSAC3 Pilbara Seismi 98.58 150 IAMs_20 IAMs_20 08 57 48.5
comp=Z,43µm,18.0s
PSAB3 Pilbara Seismi 98.62 150 IAMs_20 IAMs_20 08 57 57.4
comp=Z,43µm,19.0s
PSAD2 Pilbara Seismi 98.62 150 IAMs_20 IAMs_20 08 58 06.6
comp=Z,49µm,19.0s
PSAA1 Pilbara Seismi 98.63 150 IAMs_20 IAMs_20 08 57 49.7
comp=Z,42µm,18.0s
PSAB1 Pilbara Seismi 98.63 150 IAMs_20 IAMs_20 08 57 49.8
comp=Z,40µm,18.0s
PSAA3 Pilbara Seismi 98.63 150 IAMs_20 IAMs_20 08 57 48.8
comp=Z,43µm,18.0s
PSA00 Pilbara Seismi 98.63 150 IAMs_20 IAMs_20 08 57 48.9
comp=Z,41µm,18.0s
157A Early Branch 98.63 317 Pdiff Pdif 08 06 36.1 +1.3
baz=153
PSAA2 Pilbara Seismi 98.64 150 IAMs_20 IAMs_20 08 57 58.1
comp=Z,39µm,18.0s
PBRG Braganca 98.64 16 *e*P **P** **08 06 34.0 -0.6**
comp=Z,55nm,1.7s
PBRG Braganca 98.64 16 *e*PP **PP** **08 10 36.4 +0.2**
PBRG *e*SKSac **SKSac** **08 17 15.2 +3.8**
PBRG *i* LQ LQ 08 18 16.1
PSAB2 Pilbara Seismi 98.65 150 IAMs_20 IAMs_20 08 57 58.4
comp=Z,40µm,18.0s
PSAC2 Pilbara Seismi 98.66 150 IAMs_20 IAMs_20 08 57 58.5
comp=Z,44µm,18.0s
PSAC1 Pilbara Seismi 98.66 150 IAMs_20 IAMs_20 08 51 03.6
comp=Z,41µm,19.0s
NHSC New Hope 98.70 318 Pdiff **P** **08 06 34.7 -0.3**
baz=153
451A Vernon 98.73 313 P **P** **08 06 34.4 -0.8**
451A IAmb IAmb 08 06 42.2
comp=Z,135nm,1.2s
PSAD1 Pilbara Seismi 98.74 150 IAMs_20 IAMs_20 08 51 06.7
comp=Z,46µm,19.0s
Z58A St. Stephen 98.77 319 Pdiff Pdif 08 06 36.1 +0.7
baz=153
Y60A Bolivia 98.77 320 Pdiff Pdif 08 06 36.0 +0.7
baz=154
MBWA Marble Bar 98.99 150 P Pdif 08 06 41.0 +4.2
MAHO Mahon 99.00 25 ‖ *i*P **P** **08 06 37.1 +0.9**
MAHO Mahon 99.00 25 PS PS 08 19 18.9 -15
Y59A Loris 99.00 320 Pdiff **P** **08 06 38.0 +1.7**
baz=154
Z57A Bowman 99.07 318 Pdiff **Pdif** **08 06 36.4 -0.3**
baz=153
352A Blakely 99.14 314 P **Pdif** **08 06 36.8 -0.3**
352A IAmb IAmb 08 06 43.5
comp=Z,58nm,1.1s
352A IAMs_20 IAMs_20 08 52 32.1
comp=Z,52µm,20.0s
X60A Albert Glenn T 99.20 320 Pdiff **Pdif** **08 06 39.5 +2.2**
baz=154
Y58A Scranton 99.22 319 Pdiff **Pdif** **08 06 39.4 +2.1**
baz=153
Z56A Williston 99.35 317 Pdiff **Pdif** **08 06 37.8 -0.2**
baz=153
V62A Hyde County Ai 99.36 322 IAMs_20 IAMs_20 08 51 35.9
comp=Z,52µm,20.0s
W61A Ground Anchor 99.38 321 Pdiff **Pdif** **08 06 38.3 +0.3**
baz=154
154A Montrose 99.40 316 P **Pdif** **08 06 37.8 -0.4**
154A IAmb IAmb 08 06 45.4
comp=Z,76nm,1.3s
154A IAMs_20 IAMs_20 08 49 39.8
comp=Z,64µm,22.0s
X59A McDuffie Farm, 99.42 320 Pdiff **Pdif** **08 06 37.9 -0.3**
baz=154
EIDS Eidsvold 99.49 180 P **Pdif** **08 06 37.3 -1.7**
EIDS IAMs_20 IAMs_20 08 52 53.2
comp=Z,59µm,19.0s
W60A Pink Hill 99.53 321 Pdiff **Pdif** **08 06 39.2 +0.6**
baz=154
VAE Valguarnera 99.54 33 P **Pdif** **08 06 40.1 +1.3**
comp=Z,3.4nm,0.3s,baz=262,slow=6.0,SNR=3.9
Y57A Sumter 99.59 318 Pdiff **Pdif** **08 06 39.0 0.0**
baz=153
X58A Rowland 99.68 319 Pdiff **Pdif** **08 06 41.1 +1.7**
baz=154
Y56A Pelion 99.74 318 Pdiff **Pdif** **08 06 40.0 +0.3**
baz=153
ASAR Alice Springs 99.74 164 P **Pdif** **08 06 38.0 -2.3**
comp=Z,15nm,1.0s,baz=184,slow=3.9,SNR=43
ASAR PP **PP** **08 10 42.7 -0.8**
comp=Z,16nm,1.0s,baz=188,slow=6.5,SNR=6.5
ASAR PKKPbc **PKKPbc** **08 22 59.1 +0.8**
comp=Z,4.6nm,0.8s,baz=17,slow=2.6,SNR=13
ASAR PKPPKP P'P'df 08 31 10.7 -12
comp=Z,2.7nm,1.0s,baz=6.0,slow=1.5,SNR=7.1
ASAR LR LR 08 50 26.1
comp=Z,52µm,19.1s,baz=189,slow=35
ASAR Alice Springs 99.74 164 P **Pdif** **08 06 38.0 -2.3**
CNNC Cliffs of the 99.76 321 Pdiff **Pdif** **08 06 40.1 +0.4**
baz=154
V61A Roper 99.79 322 Pdiff **Pdif** **08 06 41.6 +1.8**
baz=155
X57A Johnson Farm, 99.88 319 Pdiff **Pdif** **08 06 40.9 +0.6**
baz=153
W59A Clinton 99.89 320 Pdiff **Pdif** **08 06 40.4 +0.1**
baz=154
V60A Jim Taylor Roa 100.01 322 Pdiff **Pdif** **08 06 41.1 +0.3**
baz=154
V60A Jim Taylor Roa 100.01 322 IAMs_20 IAMs_20 08 51 38.9
comp=Z,38µm,20.0s
W58A Raeford 100.05 320 Pdiff **Pdif** **08 06 40.7 -0.4**
baz=154
Y55A Saluda 100.08 317 Pdiff **Pdif** **08 06 41.4 +0.2**
baz=152
250A Grady 100.13 313 IAMs_20 IAMs_20 08 58 53.1
comp=Z,45µm,18.0s
BIRD Birdtown, Kers 100.17 319 IAMs_20 IAMs_20 08 52 05.3
comp=Z,40µm,21.0s
U61A Possum Corner 100.23 322 Pdiff **Pdif** **08 06 40.8 -1.0**
baz=155
U61A Possum Corner 100.23 322 IAMs_20 IAMs_20 08 51 50.8
comp=Z,47µm,21.0s
GOGA Godfrey 100.25 316 Pdiff **Pdif** **08 06 41.5 -0.5**
baz=152
GOGA Godfrey 100.25 316 IAMs_20 IAMs_20 08 51 46.1
comp=Z,38µm,21.0s
X56A White Oak 100.25 318 Pdiff **Pdif** **08 06 41.2 -0.8**
baz=153
V59A Middlesex 100.36 321 Pdiff **Pdif** **08 06 41.8 -0.5**
baz=154
W57A Gilead 100.45 319 Pdiff **Pdif** **08 06 42.4 -0.4**
baz=153
X55A Gracelyn & Ava 100.47 318 Pdiff **Pdif** **08 06 42.8 -0.1**
baz=152
HODGE Hodges 100.50 317 IAMs_20 IAMs_20 08 51 00.7
comp=Z,46µm,22.0s
EIL Elat 100.52 52 PP **PP** **08 10 46.5 -4.1**
comp=Z,11nm,1.0s,baz=158,slow=5.0,SNR=3.5
U60A Pendleton 100.61 322 Pdiff **Pdif** **08 06 43.4 0.0**
baz=154
W56A Indian Trail 100.66 319 Pdiff **Pdif** **08 06 44.0 +0.2**
baz=153
V58A Windy Hill, Pi 100.70 320 Pdiff **Pdif** **08 06 43.9 0.0**
baz=154
CEL Celeste 100.72 34 IAMs_20 IAMs_20 08 46 41.8
comp=Z,62µm,22.0s
U59A Littleton 100.72 321 Pdiff **Pdif** **08 06 44.3 +0.4**
baz=154
X54A Belton 100.82 317 Pdiff **Pdif** **08 06 44.6 +0.1**
baz=152
PAULI Pauline 100.84 318 IAMs_20 IAMs_20 08 51 54.0
comp=Z,39µm,22.0s
Y52A Lilburn 100.88 316 IAMs_20 IAMs_20 08 52 36.9
comp=Z,52µm,20.0s

KMSC Kings Mountain 100.94 318 Pdiff **Pdif** **08 06 45.0 0.0**
baz=153
KMSC Kings Mountain 100.94 318 IAMs_20 IAMs_20 08 51 22.6
comp=Z,42µm,22.0s
V57A Coltrane Farms 101.02 320 Pdiff **Pdif** **08 06 44.1 -1.2**
baz=153
U58A Oxford 101.03 321 Pdiff **Pdif** **08 06 45.1 -0.2**
baz=154
T60A Surry 101.06 323 Pdiff **Pdif** **08 06 45.7 +0.3**
baz=154
T60A Surry 101.06 323 IAMs_20 IAMs_20 08 52 13.7
comp=Z,50µm,20.0s
T59A Double "B" Far 101.19 322 Pdiff **Pdif** **08 06 45.7 -0.3**
baz=154
IDI Anoyia 101.20 42 PP **PP** **08 10 55.7 -0.1**
comp=Z,11nm,0.9s,baz=242,slow=8.2,SNR=3.5
W54A Cherokee Point 101.22 318 Pdiff **Pdif** **08 06 46.1 -0.2**
baz=152
V56A Mocksville 101.22 319 Pdiff **Pdif** **08 06 46.2 0.0**
baz=153
U57A Blanch 101.35 320 Pdiff **Pdif** **08 06 46.9 +0.2**
baz=153
LRAL Lakeview Retre 101.36 313 Pdiff **Pdif** **08 06 45.9 -1.0**
baz=150
LRAL Lakeview Retre 101.36 313 IAMs_20 IAMs_20 08 57 55.4
comp=Z,51µm,18.0s
T58A Grand View Acr 101.52 321 Pdiff **Pdif** **08 06 47.2 -0.3**
baz=154
V55A Taylorsville 101.53 319 Pdiff **Pdif** **08 06 46.9 -0.7**
baz=153
V55A Taylorsville 101.53 319 IAMs_20 IAMs_20 08 52 32.1
comp=Z,47µm,22.0s
S60A Water View 101.54 323 Pdiff **Pdif** **08 06 46.9 -0.6**
baz=154
KVTX Kingsville 101.60 302 IAMs_20 IAMs_20 08 55 22.6
comp=Z,38µm,18.0s
U56A King 101.66 319 Pdiff **Pdif** **08 06 48.4 +0.3**
baz=153
DZM Mont Dzumac 101.74 194 P **Pdif** **08 06 47.6 -1.6**
comp=Z,4.3nm,0.9s,baz=87,slow=21,SNR=1.8
V54A Nebo 101.74 318 Pdiff **Pdif** **08 06 48.3 -0.3**
baz=152
S59A Mechanicsville 101.81 322 Pdiff **Pdif** **08 06 49.0 +0.2**
baz=154
X51A Calhoun 101.81 315 IAMs_20 IAMs_20 08 52 01.5
comp=Z,49µm,22.0s
T57A Hurt 101.82 321 Pdiff **Pdif** **08 06 48.7 -0.2**
baz=153
TIP Timpagrande 101.84 34 ⇑P **Pdif** **08 06 52.8 +3.8**
TIP Timpagrande 101.84 34 ⇓P **PP** **08 10 54.3 -6.2**
TIP Timpagrande 101.84 34 IAMs_20 IAMs_20 08 48 05.2
comp=Z,60µm,22.0s
W52A Murphy 101.90 316 IAMs_20 IAMs_20 08 50 34.0
comp=Z,45µm,22.0s
S58A Poland Farm, P 101.94 322 Pdiff **Pdif** **08 06 49.6 +0.2**
baz=154
V53A Saluda 101.97 317 IAMs_20 IAMs_20 08 58 32.9
comp=Z,43µm,18.0s
R60A Leonardtown, M 102.02 323 Pdiff **Pdif** **08 06 50.1 +0.5**
baz=154
U55A TA2, Sparta 102.04 319 Pdiff **Pdif** **08 06 49.8 -0.1**
baz=153
T56A Rocky Mt 102.13 320 Pdiff **Pdif** **08 06 50.6 +0.3**
baz=153
R59A King George, V 102.14 323 Pdiff **Pdif** **08 06 49.3 -0.9**
baz=154
VBMS Vicksburg 102.15 310 Pdiff **Pdif** **08 06 50.0 -0.5**
baz=149
R58B Mineral 102.19 322 Pdiff **Pdif** **08 06 50.9 +0.4**
baz=154
R58B Mineral 102.19 322 IAMs_20 IAMs_20 08 52 58.8
comp=Z,41µm,21.0s
CBN Corbin Frederi 102.23 323 Pdiff **Pdif** **08 06 50.6 -0.1**
baz=154
KARP Karpathos 102.31 43 IAMs_20 IAMs_20 08 51 21.7
comp=Z,62µm,21.0s
TKL Tuckaleechee C 102.34 317 PP **PP** **08 11 04.4 +0.1**
TKL PKKPbc **PKKPbc** **08 22 48.8 -3.0**
comp=Z,25nm,1.1s,baz=158,slow=11,SNR=8.3
comp=Z,1.5nm,0.6s,baz=125,slow=4.1,SNR=1.8
TKL Tuckaleechee C 102.34 317 IAMs_20 IAMs_20 08 50 55.5
comp=Z,59µm,22.0s
U54A Nelsons Funny 102.35 319 Pdiff **Pdif** **08 06 51.0 -0.3**
baz=152
U54A Nelsons Funny 102.35 319 IAMs_20 IAMs_20 08 52 54.8
comp=Z,45µm,22.0s
S57A Dark Hollow, R 102.39 321 Pdiff **Pdif** **08 06 51.4 0.0**
baz=153
Q60A Greensboro 102.43 324 Pdiff **Pdif** **08 06 51.5 0.0**
baz=155
Q60A Greensboro 102.43 324 IAMs_20 IAMs_20 08 57 04.1
comp=Z,37µm,19.0s
BLA Blacksburg 102.44 320 Pdiff **Pdif** **08 06 51.9 +0.3**
baz=153
T55A Pulaski 102.49 320 Pdiff **Pdif** **08 06 50.8 -1.1**
baz=153
R58A Rapidan 102.54 322 Pdiff **Pdif** **08 06 51.9 -0.1**
baz=154
S56A Natural Bridge 102.54 321 Pdiff **Pdif** **08 06 51.9 -0.2**
baz=153
W50A Signal Mountai 102.55 315 IAMs_20 IAMs_20 08 51 49.0
comp=Z,39µm,22.0s
Q59A Harwood 102.58 323 Pdiff **Pdif** **08 06 52.0 -0.2**
baz=154
P61A Hammonton 102.69 325 Pdiff **Pdif** **08 06 51.9 -0.7**
baz=155
V51A Loudon 102.69 316 IAMs_20 IAMs_20 08 52 08.8
comp=Z,48µm,22.0s
R57A Stanardsville 102.72 322 Pdiff **Pdif** **08 06 52.6 -0.2**
baz=154
T54A Tazewell 102.73 319 Pdiff **Pdif** **08 06 52.8 -0.2**
baz=152
SWET Sewanee 102.81 315 IAMs_20 IAMs_20 08 52 35.9
comp=Z,54µm,22.0s
PAOL Paolisi 102.85 32 IAMs_20 IAMs_20 08 51 60.0
comp=Z,42µm,20.0s
S55A Lewisburg 102.96 320 Pdiff **Pdif** **08 06 53.8 -0.2**
baz=153
833A Chaparral WMA, 102.98 301 Pdiff **Pdif** **08 06 53.7 -0.6**
baz=147
O61A Allentown 102.99 325 Pdiff **Pdif** **08 06 53.5 -0.5**
baz=155
Q58A Fox Den Farm, 103.00 323 Pdiff **Pdif** **08 06 53.7 -0.4**
baz=154
APE Apeiranthos 103.02 42 ⇑P **PP** **08 11 08.8 -0.6**
T53A Wise 103.02 318 Pdiff **Pdif** **08 06 53.7 -0.6**
baz=152
TZTN Tazewell 103.03 317 Pdiff **Pdif** **08 06 53.5 -0.8**
baz=152
P60A Greenville 103.09 325 Pdiff **Pdif** **08 06 54.5 +0.1**
baz=155
R56A Bull Pasture M 103.13 321 Pdiff **Pdif** **08 06 56.1 +1.3**
baz=153
Y45A Yeager Farm, C 103.14 312 IAMs_20 IAMs_20 08 59 58.7
comp=Z,39µm,18.0s
P59A Jarrettsville 103.18 324 Pdiff **Pdif** **08 06 54.6 -0.1**
baz=154
R55A Harlinton 103.28 321 Pdiff **Pdif** **08 06 55.8 +0.4**
baz=153
M64A Tiverton 103.28 328 Pdiff **Pdif** **08 06 56.9 +1.7**
baz=157
S54A Dingess, Beckl 103.28 320 Pdiff **Pdif** **08 06 54.9 -0.5**
baz=152
S54A Dingess, Beckl 103.28 320 IAMs_20 IAMs_20 08 54 52.6
comp=Z,37µm,20.0s
Q57A Strasburg 103.34 322 Pdiff **Pdif** **08 06 55.7 +0.2**
baz=154
P58A Pank, Wackersv 103.36 323 Pdiff **Pdif** **08 06 55.5 -0.2**
baz=154
M63A Gales Ferry 103.40 328 Pdiff **Pdif** **08 06 55.9 +0.2**
baz=156
N62A Caumsett State 103.41 327 Pdiff **Pdif** **08 06 55.0 -0.8**
baz=156
CPNY Central Park 103.44 326 IAMs_20 IAMs_20 08 54 41.0
comp=Z,45µm,19.0s
WR2 Warramunga Arr 103.46 163 IAMs_20 IAMs_20 08 52 50.1
comp=Z,48µm,18.0s
WR1 Warramunga Arr 103.46 163 IAMs_20 IAMs_20 08 52 58.1
comp=Z,48µm,19.0s
WRA Warramunga Arr 103.46 163 Pdiff **Pdif** **08 06 54.5 -2.3**
comp=Z,3.1nm,0.9s,baz=197,slow=4.2,SNR=7.8
WRA PP **PP** **08 11 11.0 -0.6**
comp=Z,11nm,1.0s,baz=193,slow=5.5,SNR=8.6
WRA PKKPbc **PKKPbc** **08 22 47.4 -0.3**
comp=Z,4.9nm,0.7s,baz=354,slow=2.8,SNR=5.6
WR4 Warramunga Arr 103.46 163 IAMs_20 IAMs_20 08 52 50.2
comp=Z,56µm,19.0s
O60A Telford 103.47 325 Pdiff **Pdif** **08 06 56.4 +0.3**
baz=155
FITZ Fitzroy Crossi 103.48 155 Pdiff **Pdif** **08 06 56.7 -0.1**
comp=Z,2.2nm,0.7s,baz=74,slow=16,SNR=1.8
FITZ PP **PP** **08 11 10.4 -1.4**
comp=Z,5.4nm,1.0s,baz=243,slow=16,SNR=1.7
FITZ Fitzroy Crossi 103.48 155 IAMs_20 IAMs_20 08 52 40.9
comp=Z,38µm,19.0s
WC2 Warramunga Arr 103.48 163 IAMs_20 IAMs_20 08 52 40.6
comp=Z,55µm,19.0s
WB3 Warramunga Arr 103.48 163 IAMs_20 IAMs_20 08 52 58.6
comp=Z,57µm,19.0s
S53A Williamson 103.48 319 Pdiff **Pdif** **08 06 55.2 -1.1**
baz=152
PLAL Pickwick Lake 103.48 313 IAMs_20 IAMs_20 08 54 45.8
comp=Z,55µm,20.0s
R54A Victor 103.50 320 Pdiff **Pdif** **08 06 55.5 -0.8**
baz=152
N61A South Mountain 103.51 326 Pdiff **Pdif** **08 06 57.3 +1.0**
baz=155
ASF Jabal al Asfar 103.52 52 PP **PP** **08 11 08.0 -5.3**
comp=Z,7.4nm,1.0s,baz=174,slow=3.6,SNR=4.3
L64A Middleborough 103.53 329 Pdiff **Pdif** **08 06 54.4 -1.9**
baz=157
WB5 Warramunga Arr 103.53 163 IAMs_20 IAMs_20 08 52 50.6
comp=Z,47µm,19.0s
BRNJ Basking Ridge 103.53 326 IAMs_20 IAMs_20 08 56 42.3
comp=Z,35µm,20.0s
WB6 Warramunga Arr 103.55 163 IAMs_20 IAMs_20 08 53 00.5
comp=Z,54µm,19.0s
MMAI Mount Meron Ar 103.56 51 Pdiff **Pdif** **08 07 02.2 +5.4**
comp=Z,0.5nm,0.3s,baz=195,slow=6.0,SNR=3.6
MMAI PP **PP** **08 11 09.0 -4.6**
comp=Z,3.3nm,0.6s,baz=203,slow=8.2,SNR=6.5
WB7 Warramunga Arr 103.57 163 IAMs_20 IAMs_20 08 52 52.3
comp=Z,48µm,19.0s
YLE Yale 103.59 327 IAMs_20 IAMs_20 08 52 25.9
comp=Z,36µm,20.0s
WB8 Warramunga Arr 103.59 163 IAMs_20 IAMs_20 08 52 53.6
comp=Z,54µm,19.0s
P57A Homestead Farm 103.60 323 Pdiff **Pdif** **08 06 56.1 -0.6**
baz=154
PAL Palisades 103.61 326 Pdiff **Pdif** **08 06 56.4 -0.2**
baz=155
PAL Palisades 103.61 326 IAMs_20 IAMs_20 08 54 44.7
comp=Z,40µm,20.0s
NATX Nacogdoches 103.62 307 Pdiff **Pdif** **08 06 56.6 -0.3**
baz=148
WB9 Warramunga Arr 103.62 163 IAMs_20 IAMs_20 08 53 13.2
comp=Z,56µm,19.0s
Q56A Snyder Ridge, 103.62 322 Pdiff **Pdif** **08 06 56.2 -0.6**
baz=153
V48A Smith Brothers 103.62 315 IAMs_20 IAMs_20 08 53 36.4
comp=Z,60µm,22.0s
OXF Oxford 103.64 312 Pdiff **Pdif** **08 06 55.0 -2.0**
baz=149
OXF Oxford 103.64 312 IAMs_20 IAMs_20 08 55 12.9
comp=Z,34µm,20.0s
WB0 Warramunga Arr 103.64 163 IAMs_20 IAMs_20 08 53 03.9
comp=Z,54µm,19.0s
L63A North Scituate 103.69 328 Pdiff **Pdif** **08 06 56.4 -0.6**
baz=156
M62A Hamden 103.69 327 Pdiff **Pdif** **08 06 56.6 -0.4**
baz=156
BRYW Bryant College 103.72 328 IAMs_20 IAMs_20 08 53 49.2
comp=Z,44µm,19.0s
O59A Robesonia 103.72 324 Pdiff **Pdif** **08 06 57.1 -0.2**
baz=154
O58A Lewisberry 103.80 324 Pdiff **Pdif** **08 06 57.2 -0.4**
baz=154
M61A Granite Spring 103.85 326 Pdiff **Pdif** **08 06 57.6 -0.1**
baz=156
N60A Cedar Hill Far 103.87 325 Pdiff **Pdif** **08 06 56.8 -1.1**
baz=155
U49A Red Boiling Sp 103.87 316 IAMs_20 IAMs_20 08 59 40.1
comp=Z,38µm,18.0s
Q55A Buckhannon 103.89 321 Pdiff **Pdif** **08 07 00.2 +2.1**
baz=153
P56A Dayton Farm, R 103.91 322 Pdiff **Pdif** **08 06 57.6 -0.4**
baz=153
T50A Nancy 103.94 317 IAMs_20 IAMs_20 08 51 57.0
comp=Z,46µm,22.0s
BCX Boston College 103.99 329 IAMs_20 IAMs_20 08 53 35.5
comp=Z,55µm,20.0s
R53A Hurricane 103.99 319 Pdiff **Pdif** **08 06 58.3 -0.2**
baz=152
R53A Hurricane 103.99 319 IAMs_20 IAMs_20 08 54 00.3
comp=Z,44µm,21.0s
S51A Beattyville 104.00 318 IAMs_20 IAMs_20 08 55 27.6
comp=Z,40µm,21.0s
Z41A Richland Creek 104.04 309 Pdiff **Pdif** **08 06 58.8 0.0**
baz=148
O57A Amberson 104.12 323 Pdiff **Pdif** **08 06 57.8 -1.2**
baz=154
M60A Port Jervis 104.13 326 Pdiff **Pdif** **08 06 58.7 -0.3**
baz=155
N59A State Game Lan 104.13 325 Pdiff **Pdif** **08 06 58.7 -0.4**
baz=154
Q54A Coxs Mills 104.16 320 Pdiff **Pdif** **08 06 58.2 -0.9**
baz=152
Q54A Coxs Mills 104.16 320 IAMs_20 IAMs_20 08 53 59.7
comp=Z,39µm,20.0s
435B Jarrell 104.16 304 Pdiff **Pdif** **08 06 59.3 -0.1**
baz=147
SSB Saint Sauveur 104.17 23 IAMs_20 IAMs_20 08 55 06.9
comp=Z,40µm,18.0s
P55A Reedsville 104.26 321 Pdiff **Pdif** **08 06 59.4 -0.3**
baz=153
HRV Adam Dziewonsk 104.26 329 Pdiff **Pdif** **08 06 59.2 -0.4**
baz=156
X43A Marvell 104.27 311 IAMs_20 IAMs_20 08 58 40.6
comp=Z,38µm,19.0s
QUA2 Belchertown 104.29 328 IAMs_20 IAMs_20 08 50 36.9
comp=Z,43µm,20.0s
Q53A Leroy 104.30 320 Pdiff **Pdif** **08 06 58.5 -1.4**
baz=152
MURB Monte Urbino 104.31 30 IAMs_20 IAMs_20 08 53 51.5
comp=Z,48µm,18.0s
WVT Waverly 104.37 314 Pdiff **Pdif** **08 06 58.8 -1.4**
baz=150
N58A Sunbury 104.38 324 Pdiff **Pdif** **08 06 59.1 -1.0**
baz=154
N58A Sunbury 104.38 324 IAMs_20 IAMs_20 08 57 54.6
comp=Z,33µm,20.0s
MET Memphis--Engin 104.38 312 IAMs_20 IAMs_20 08 56 29.6
comp=Z,33µm,19.0s
MCWV Mont Chateau 104.40 321 Pdiff **Pdif** **08 06 59.9 -0.4**
baz=153
K63A Dunstable 104.42 329 Pdiff **Pdif** **08 06 58.6 -1.6**
baz=156
MSSA Maissana 104.47 27 IAMs_20 IAMs_20 08 53 25.9
comp=Z,38µm,18.0s
O56A Blue Knob Stat 104.49 323 Pdiff **Pdif** **08 06 59.6 -1.2**
baz=153
O56A Blue Knob Stat 104.49 323 IAMs_20 IAMs_20 08 51 34.7
comp=Z,41µm,22.0s
L61B Northampton 104.55 328 Pdiff **Pdif** **08 06 59.6 -1.2**
baz=156
P54A Burton 104.58 321 Pdiff **Pdif** **08 06 58.2 -2.8**
baz=152
SLBS Sierra La Lagu 104.58 290 IAMs_20 IAMs_20 08 49 21.1
comp=Z,41µm,21.0s
L61A Hillsdale 1, H 104.58 327 Pdiff **Pdif** **08 07 02.6 +1.6**
baz=156
N57A Milroy 104.58 324 Pdiff **Pdif** **08 07 02.3 +1.3**
baz=154
M59A Waymart 104.59 325 Pdiff **Pdif** **08 07 03.3 +2.2**
baz=155
SSPA Standing Stone 104.59 323 Pdiff **Pdif** **08 07 02.3 +1.3**
baz=154
CTA Charters Tower 104.61 175 Pdiff **Pdif** **08 07 02.5 +0.6**
comp=Z,5.8nm,1.0s,baz=189,slow=13,SNR=2.8
CTA PP **PP** **08 11 19.9 -0.2**
comp=Z,5.9nm,0.9s,baz=224,slow=11,SNR=2.3
L60A Shokan 104.61 326 Pdiff **Pdif** **08 07 03.5 +2.4**
baz=155
K62A Royalston 104.61 328 Pdiff **Pdif** **08 07 04.1 +3.1**
baz=156
K62A Royalston 104.61 328 IAMs_20 IAMs_20 08 54 24.9
comp=Z,56µm,19.0s
Q52A Bidwell 104.66 319 Pdiff **Pdif** **08 07 03.2 +1.7**
baz=152
O55A Ligonier 104.69 322 Pdiff **Pdif** **08 07 01.1 -0.5**
baz=153
M58A Price's Panora 104.77 325 Pdiff **Pdif** **08 07 03.0 +1.1**
baz=154
P53A Whipple 104.80 320 Pdiff **Pdif** **08 07 00.6 -1.4**
baz=152
P53A Whipple 104.80 320 IAMs_20 IAMs_20 08 54 18.8
comp=Z,43µm,21.0s

TIR	Tirane	104.81	36		IAMs_20	IAMs_20	09 02 03.9		
	comp=Z,32µm,19.0s								
J63A	Strafford	104.83	329		Pdiff	Pdif	08 07 03.4	+1.4	
	baz=157								
OHR	Ohrid	104.91	36	*i*	P	PP	08 11 21.8	-1.7	
K61A	Williamstown	104.93	327		Pdiff	Pdif	08 07 00.8	-1.7	
	baz=156								
M57A	Sunshine Farm,	104.96	324		Pdiff	Pdif	08 07 03.3	+0.6	
	baz=154								
M57A	Sunshine Farm,	104.96	324		IAMs_20	IAMs_20	08 58 21.0		
	comp=Z,38µm,20.0s								
JCT	Junction City	104.96	302		Pdiff	Pdif	08 07 02.8	-0.2	
	baz=146								
N56A	West Decatur	104.98	323		Pdiff	Pdif	08 07 02.1	-0.7	
	baz=153								
J62A	Henniker	104.99	329		Pdiff	Pdif	08 07 02.9	+0.2	
	baz=156								
I64A	Boothbay	105.00	330		Pdiff	Pdif	08 07 02.7	0.0	
	baz=157								
L59A	Walton	105.05	326		Pdiff	Pdif	08 07 02.8	-0.3	
	baz=155								
O54A	Avella	105.05	321		Pdiff	Pdif	08 07 03.0	-0.1	
	baz=152								
PRMA	PARMA	105.09	27		IAMs_20	IAMs_20	08 50 28.4		
	comp=Z,56µm,20.0s								
N55A	Marion Center	105.09	323		Pdiff	Pdif	08 07 03.6	+0.2	
	baz=153								
X40A	Basin Creek Fa	105.10	309		Pdiff	Pdif	08 07 03.1	-0.4	
	baz=148								
WHTX	Lake Whitney,	105.10	305		Pdiff	Pdif	08 07 03.2	-0.4	
	baz=147								
TRY	Troy	105.10	327		IAMs_20	IAMs_20	08 51 36.4		
	comp=Z,39µm,21.0s								
Q51A	Peebles	105.12	319		IAMs_20	IAMs_20	08 53 40.2		
	comp=Z,45µm,22.0s								
UALR	University of	105.12	310		IAMs_20	IAMs_20	08 59 16.1		
	comp=Z,35µm,19.0s								
EMMW	East Machias	105.14	332		IAMs_20	IAMs_20	08 55 16.8		
	comp=Z,42µm,20.0s								
GNAR	Gosnell	105.14	312		IAMs_20	IAMs_20	09 01 01.6		
	comp=Z,50µm,18.0s								
H66A	Whiting	105.17	332		Pdiff	Pdif	08 07 04.4	+0.9	
	baz=158								
L58A	Harry Jones Me	105.17	325		Pdiff	Pdif	08 07 03.5	-0.2	
	baz=154								
PEBM	Pemiscott Bayo	105.20	313		IAMs_20	IAMs_20	08 56 01.2		
	comp=Z,54µm,20.0s								
P52A	Corning	105.20	320		Pdiff	Pdif	08 07 03.2	-0.6	
	baz=152								
P52A	Corning	105.20	320		IAMs_20	IAMs_20	08 55 04.4		
	comp=Z,46µm,21.0s								
J61A	Chester	105.33	328		Pdiff	Pdif	08 07 05.1	+0.9	
	baz=156								
H65A	Eastbrook	105.34	332		Pdiff	Pdif	08 07 06.8	+2.5	
	baz=158								
GGN	Saint George	105.36	333		IAMs_20	IAMs_20	08 55 04.4		
	comp=Z,43µm,20.0s								
BINY	Binghamton	105.36	325		Pdiff	Pdif	08 07 05.5	+1.1	
	baz=154								
I63A	Otisfield	105.39	330		Pdiff	Pdif	08 07 02.8	-1.7	
	baz=157								
I63A	Otisfield	105.39	330		IAMs_20	IAMs_20	08 54 34.6		
	comp=Z,53µm,19.0s								
O53A	New Philadelph	105.41	321		Pdiff	Pdif	08 07 03.9	-0.9	
	baz=152								
P51A	Williamsport	105.41	319		Pdiff	Pdif	08 07 04.0	-0.8	
	baz=151								
P51A	Williamsport	105.41	319		IAMs_20	IAMs_20	08 55 02.9		
	comp=Z,39µm,21.0s								
W41B	Gary Mavity, V	105.42	310		Pdiff	Pdif	08 07 04.3	-0.6	
	baz=148								
W41B	Gary Mavity, V	105.42	310		IAMs_20	IAMs_20	08 59 30.0		
	comp=Z,39µm,19.0s								
M56A	Emporium	105.44	323		Pdiff	Pdif	08 07 05.6	+0.7	
	baz=153								
I62A	Tamworth	105.45	329		Pdiff	Pdif	08 07 03.9	-0.9	
	baz=156								
L57A	Andrews Acres	105.46	325		Pdiff	Pdif	08 07 05.8	+0.8	
	baz=154								
MIAR	Mount Ida	105.47	309		Pdiff	Pdif	08 07 02.7	-2.5	
	baz=148								
J60A	Lant Hill Farm	105.49	328		Pdiff	Pdif	08 07 03.3	-1.7	
	baz=155								
K59A	Cooperstown	105.51	326		Pdiff	Pdif	08 07 04.4	-0.8	
	baz=155								
O52A	Adamsville	105.52	320		Pdiff	Pdif	08 07 03.9	-1.3	
	baz=152								
O52A	Adamsville	105.52	320		IAMs_20	IAMs_20	08 54 39.8		
	comp=Z,38µm,22.0s								
LMN	Caledonia Moun	105.53	334		IAMs_20	IAMs_20	08 55 57.1		
	comp=Z,50µm,19.0s								
WHAR	Wooly Hollow	105.54	310		IAMs_20	IAMs_20	08 59 23.0		
	comp=Z,31µm,19.0s								
H64A	Troy	105.55	331		Pdiff	Pdif	08 07 01.6	-3.6	
	baz=157								
WCI	Wyandotte Cave	105.56	316		Pdiff	Pdif	08 07 04.0	-1.5	
	baz=150								
PDG	Podgorica	105.58	35	⇑	P	Pdif	08 07 13.0	+7.6	
PDG	Podgorica	105.58	35	⇓	P	PP	08 11 30.0	+1.6	
PDG	Podgorica	105.58	35		IAMs_20	IAMs_20	08 51 26.4		
	comp=Z,42µm,21.0s								
N54A	Moraine State	105.60	322		Pdiff	Pdif	08 07 07.0	+1.4	
	baz=152								
ISP	Isparta	105.61	45		IAMs_20	IAMs_20	08 54 06.6		
	comp=Z,43µm,21.0s								
G65A	Princeton	105.62	332		Pdiff	Pdif	08 07 05.0	-0.5	
	baz=158								
G65A	Princeton	105.62	332		IAMs_20	IAMs_20	08 55 30.6		
	comp=Z,44µm,20.0s								
M55A	Ridgway	105.63	323		Pdiff	Pdif	08 07 04.6	-1.1	
	baz=153								
ACCN	Adirondack Com	105.70	327		IAMs_20	IAMs_20	08 51 31.1		
	comp=Z,51µm,21.0s								
LCAR	Lake Charles	105.71	312		IAMs_20	IAMs_20	08 57 29.6		
	comp=Z,35µm,20.0s								
K58A	Earlville	105.76	326		Pdiff	Pdif	08 07 07.3	+1.1	
	baz=154								
K58A	Earlville	105.76	326		IAMs_20	IAMs_20	08 53 35.1		
	comp=Z,36µm,20.0s								
N53A	Lisbon	105.77	321		Pdiff	Pdif	08 07 07.4	+1.1	
	baz=152								
H63A	New Sharon	105.80	330		Pdiff	Pdif	08 07 10.1	+3.8	
	baz=157								
L56A	Greenwood	105.82	324		Pdiff	Pdif	08 07 05.9	-0.6	
	baz=154								
O51A	Pataskala	105.83	320		Pdiff	Pdif	08 07 05.4	-1.2	
	baz=151								
SKO	Skopje	105.89	36	*i*	P	PP	08 11 31.0	+0.3	
TXAR	Lajitas Array	105.92	299		Pdiff	Pdif	08 07 07.8	+0.4	
	comp=Z,2.8nm,0.9s,baz=152,slow=7.7,SNR=12								
TXAR					PKiKP	PKiKP	08 11 18.7	-1.0	
	comp=Z,6.2nm,1.1s,baz=145,slow=6.6,SNR=4.6								
TXAR					PKKPbc	PKKPbc	08 22 42.1	+1.3	
	comp=Z,1.9nm,1.0s,baz=260,slow=2.7,SNR=5.2								
LBNH	Lisbon	105.95	329		Pdiff	Pdif	08 07 07.1	+0.1	
	baz=156								
FCAR	Ozark Folk Cen	105.97	311		IAMs_20	IAMs_20	09 00 52.6		
	comp=Z,44µm,18.0s								
M54A	Oil Creek Stat	105.97	322		Pdiff	Pdif	08 07 07.1	-0.1	
	baz=153								
G64A	Maxfield	105.99	332		Pdiff	Pdif	08 07 10.5	+3.3	
	baz=158								
I60A	Shoreham	106.00	328		Pdiff	Pdif	08 07 05.7	-1.5	
	baz=155								
PBMO	Poplar Bluff	106.00	312		IAMs_20	IAMs_20	08 56 35.5		
	comp=Z,57µm,20.0s								
K57A	Scipio Center	106.01	325		Pdiff	Pdif	08 07 06.9	-0.4	
	baz=154								
J59A	Piesco	106.03	327		Pdiff	Pdif	08 07 06.1	-1.4	
	baz=155								
J59A	Piesco	106.03	327		IAMs_20	IAMs_20	08 52 15.4		
	comp=Z,44µm,21.0s								
H62A	Milan	106.04	330		Pdiff	Pdif	08 07 10.2	+2.8	
	baz=156								
ACSO	Alum Creek Sta	106.04	320		Pdiff	Pdif	08 07 06.9	-0.6	
	baz=151								
ACSO	Alum Creek Sta	106.04	320		IAMs_20	IAMs_20	08 55 49.6		
	comp=Z,36µm,22.0s								
N52A	McGinn's Farm,	106.08	321		Pdiff	Pdif	08 07 07.3	-0.4	
	baz=152								
P49A	Miami Univ. Ec	106.08	318		Pdiff	Pdif	08 07 04.9	-2.8	
	baz=151								
P49A	Miami Univ. Ec	106.08	318		IAMs_20	IAMs_20	08 56 25.7		
	comp=Z,35µm,20.0s								
G63A	Kingsbury	106.10	331		Pdiff	Pdif	08 07 07.9	+0.3	
	baz=157								
W39A	Magazine	106.11	309		Pdiff	Pdif	08 07 07.8	-0.1	
	baz=148								
W39A	Magazine	106.11	309		IAMs_20	IAMs_20	08 59 56.3		
	comp=Z,44µm,19.0s								
I59A	Olmsteadville	106.13	327		Pdiff	Pdif	08 07 09.4	+1.6	
	baz=155								
PKME	Peaks-Kenny Pk	106.15	331		Pdiff	Pdif	08 07 11.9	+4.1	
	baz=157								
PKME	Peaks-Kenny Pk	106.15	331		IAMs_20	IAMs_20	08 52 41.1		
	comp=Z,36µm,20.0s								
L55A	Hinsdale	106.15	324		Pdiff	Pdif	08 07 08.0	-0.1	
	baz=153								
J58A	Remsen	106.18	326		Pdiff	Pdif	08 07 07.8	-0.3	
	baz=154								
J58A	Remsen	106.18	326		IAMs_20	IAMs_20	08 53 13.3		
	comp=Z,37µm,21.0s								
H61A	Lyndonville	106.22	329		Pdiff	Pdif	08 07 11.1	+2.8	
	baz=156								
K56A	Middlesex	106.24	325		Pdiff	Pdif	08 07 06.0	-2.4	
	baz=154								
ALLY	Alegheny Colle	106.27	322		IAMs_20	IAMs_20	08 52 09.6		
	comp=Z,35µm,21.0s								
M53A	WI Miller and	106.27	322		Pdiff	Pdif	08 07 07.6	-1.0	
	baz=152								
M53A	WI Miller and	106.27	322		IAMs_20	IAMs_20	08 52 35.6		
	comp=Z,38µm,22.0s								
MMB	Musomiste	106.34	38	*eP*		Pdif	08 07 10.0	+1.1	
KKB	Krupnik	106.36	38	*eP*		Pdif	08 07 14.0	+5.1	
I58A	Old Forge	106.38	327		Pdiff	Pdif	08 07 08.2	-0.8	
	baz=155								
NCB	Newcomb	106.40	327		IAMs_20	IAMs_20	08 52 02.1		
	comp=Z,41µm,21.0s								
WVNY	West Valley, N	106.41	324		IAMs_20	IAMs_20	08 55 32.4		
	comp=Z,42µm,21.0s								
N51A	Ashland	106.42	320		Pdiff	Pdif	08 07 07.7	-1.5	
	baz=151								
N51A	Ashland	106.42	320		IAMs_20	IAMs_20	08 55 05.6		
	comp=Z,40µm,21.0s								
TUE	Stratta	106.44	26		IAMs_20	IAMs_20	08 51 55.9		
	comp=Z,52µm,20.0s								
F64A	Sherman	106.44	332		Pdiff	Pdif	08 07 11.5	+2.4	
	baz=158								
F64A	Sherman	106.44	332		IAMs_20	IAMs_20	08 56 06.4		
	comp=Z,43µm,20.0s								
G62A	West of Eustis	106.45	330		Pdiff	Pdif	08 07 09.5	+0.3	
	baz=157								
J57A	Williamstown	106.45	326		Pdiff	Pdif	08 07 09.0	-0.2	
	baz=154								
J57A	Williamstown	106.45	326		IAMs_20	IAMs_20	08 53 44.5		
	comp=Z,36µm,20.0s								
BLO	Bloomington	106.47	316		IAMs_20	IAMs_20	08 57 14.8		
	comp=Z,33µm,20.0s								
H60A	Morristown	106.47	329		Pdiff	Pdif	08 07 11.5	+2.2	
	baz=156								
F63A	Nahmakanta, Br	106.50	332		Pdiff	Pdif	08 07 08.7	-0.8	
	baz=157								
F63A	Nahmakanta, Br	106.50	332		IAMs_20	IAMs_20	08 56 26.9		
	comp=Z,36µm,20.0s								
L54A	Sinclairville	106.50	323		Pdiff	Pdif	08 07 11.1	+1.5	
	baz=153								
O49A	Covington	106.51	319		IAMs_20	IAMs_20	08 55 58.9		
	comp=Z,41µm,20.0s								
K55A	Perry	106.52	324		Pdiff	Pdif	08 07 09.9	+0.3	
	baz=153								
ALN	Alexandroupoli	106.56	40		IAMs_20	IAMs_20	08 51 55.4		
	comp=Z,37µm,22.0s								
L53A	Girard	106.58	322		Pdiff	Pdif	08 07 10.2	+0.3	
	baz=152								
M52A	Chesterland	106.60	321		Pdiff	Pdif	08 07 08.1	-1.9	
	baz=152								
M52A	Chesterland	106.60	321		IAMs_20	IAMs_20	08 53 09.4		
	comp=Z,36µm,22.0s								
J56A	Wolcott	106.61	325		Pdiff	Pdif	08 07 09.6	-0.4	
	baz=154								
J56A	Wolcott	106.61	325		IAMs_20	IAMs_20	08 59 26.6		
	comp=Z,33µm,20.0s								
K54A	Basiliko Farm,	106.62	324		Pdiff	Pdif	08 07 08.6	-1.5	
	baz=153								
ERPA	Erie	106.63	323		Pdiff	Pdif	08 07 10.6	+0.5	
	baz=152								
ABTX	Abilene, Hawle	106.66	303		Pdiff	Pdif	08 07 10.2	-0.3	
	baz=146								
U40A	Yellville	106.68	311		Pdiff	Pdif	08 07 10.1	-0.4	
	baz=148								
U40A	Yellville	106.68	311		IAMs_20	IAMs_20	09 01 15.4		
	comp=Z,44µm,18.0s								
M51A	Elyria	106.71	321		Pdiff	Pdif	08 07 09.0	-1.5	
	baz=152								
OLIL	Olney	106.72	315		IAMs_20	IAMs_20	09 01 26.4		
	comp=Z,34µm,18.0s								
G61A	St-Isidore-de-	106.79	330		Pdiff	Pdif	08 07 10.4	-0.3	
	baz=156								
H58A	Gabriels	106.79	328		Pdiff	Pdif	08 07 14.3	+3.5	
	baz=155								
FUORN	Ofenpass-Fuorn	106.81	27		IAMs_20	IAMs_20	08 51 04.7		
	comp=Z,44µm,22.0s								
I57A	Carthage	106.82	326		Pdiff	Pdif	08 07 09.7	-1.2	
	baz=154								
E64A	Bridgewater	106.82	333		Pdiff	Pdif	08 07 13.4	+2.6	
	baz=158								
H59A	Cadyville	106.85	328		Pdiff	Pdif	08 07 13.2	+2.2	
	baz=155								
G60A	Masonville	106.86	329		Pdiff	Pdif	08 07 10.8	-0.3	
	baz=156								
DAVOX	Davos/Dischmat	106.86	26		Pdiff	Pdif	08 07 15.9	+4.6	
	comp=Z,3.3nm,0.9s,baz=340,slow=10,SNR=3.4								
DAVOX					PKiKP	PKiKP	08 11 22.3	+1.3	
	comp=Z,6.0nm,0.9s,baz=184,slow=2.3,SNR=3.9								
DAVOX					PKKPbc	PKKPbc	08 22 40.2	+1.6	
	comp=Z,4.5nm,0.9s,baz=182,slow=18,SNR=4.8								
O48A	Farmland	106.88	318		Pdiff	Pdif	08 07 09.3	-2.0	
	baz=150								
TRI	Trieste	106.90	29		IAMs_20	IAMs_20	08 50 37.3		
	comp=Z,47µm,22.0s								
J55A	Hilton	106.91	325		Pdiff	Pdif	08 07 11.8	+0.5	
	baz=153								
J55A	Hilton	106.91	325		IAMs_20	IAMs_20	08 56 48.7		
	comp=Z,45µm,20.0s								
F62A	Pittston Farm,	106.91	331		Pdiff	Pdif	08 07 11.6	+0.4	
	baz=157								
F62A	Pittston Farm,	106.91	331		IAMs_20	IAMs_20	08 53 15.4		
	comp=Z,42µm,21.0s								
E63A	Oxbow	106.98	332		IAMs_20	IAMs_20	08 56 11.6		
	comp=Z,38µm,20.0s								
FRNY	Flat Rock	106.99	328		IAMs_20	IAMs_20	08 55 35.9		
	comp=Z,51µm,19.0s								
MEDO	Medina	107.03	324		IAMs_20	IAMs_20	08 55 16.9		
	comp=Z,38µm,22.0s								
VTS	Vitosha	107.08	37	⇑	P	Pdif	08 07 22.6	+10	
VTS	Vitosha	107.08	37	⇑	P	PKiKP	08 11 21.6	+0.1	
VTS	Vitosha	107.08	37	*eP*		Pdif	08 07 13.0	+0.7	
VTS	Vitosha	107.08	37	⇑	P	Pdif	08 07 22.6	+10	
M50A	Fremont	107.09	320		IAMs_20	IAMs_20	08 55 36.3		
	comp=Z,44µm,21.0s								
N49A	Columbus Grove	107.09	319		IAMs_20	IAMs_20	08 55 41.3		
	comp=Z,35µm,21.0s								
LONY	Lake Ozonia	107.10	327		Pdiff	Pdif	08 07 14.1	+2.0	
	baz=155								
LONY	Lake Ozonia	107.10	327		IAMs_20	IAMs_20	08 52 22.1		
	comp=Z,49µm,22.0s								
MGMO	Mountain Grove	107.10	311		IAMs_20	IAMs_20	08 57 19.5		
	comp=Z,46µm,20.0s								
PQI	Presque Isle	107.10	333		IAMs_20	IAMs_20	08 56 16.9		
	comp=Z,38µm,20.0s								
BOJS	Bojanci	107.14	31	*i*	Pdiff	Pdif	08 07 13.6	+1.3	
BOJS				*i*	PP	PP	08 11 33.8	-6.0	
BATG	Bathurst New B	107.17	334		IAMs_20	IAMs_20	08 55 53.5		
	comp=Z,52µm,19.0s								
J54A	Appleton	107.19	324		Pdiff	Pdif	08 07 13.3	+0.8	
	baz=153								
J54A	Appleton	107.19	324		IAMs_20	IAMs_20	08 55 33.1		
	comp=Z,37µm,22.0s								
H57A	Richville	107.20	327		Pdiff	Pdif	08 07 14.1	+1.6	
	baz=154								
Q44A	Meyer Farm, Va	107.23	315		IAMs_20	IAMs_20	08 55 47.0		
	comp=Z,45µm,21.0s								
PECO	Prince Edward	107.24	325		IAMs_20	IAMs_20	08 54 30.4		
	comp=Z,39µm,21.0s								
F61A	St Evariste	107.27	330		Pdiff	Pdif	08 07 15.9	+3.1	
	baz=156								
FETA	Feichten	107.30	27	*i*	pPdiff	Pdif	08 07 21.0	+7.8	
	comp=Z,3.6nm,1.0s								
FETA				*i*	pPKiKP	PKiKP	08 11 24.0	+2.2	
	comp=Z,27nm,1.4s								
FETA				*i*	PKKPbc	PKKPbc	08 22 37.2	0.0	
	comp=Z,7.5nm,1.3s								
DAVA	Damuels	107.33	26	*i*	pPdiff	Pdif	08 07 22.1	+8.8	
	comp=Z,9.8nm,1.3s								
DAVA				*i*	PKiKP	PKiKP	08 11 23.4	+1.6	
	comp=Z,33nm,1.2s								
DAVA				*i*	PKKPbc	PKKPbc	08 22 31.2	-5.9	
	comp=Z,10nm,1.4s								
CADS	Cadrg	107.37	29	*i*	Pdiff	Pdif	08 07 15.6	+2.2	
CADS				*i*	PP	PP	08 11 37.3	-4.3	
CADS				*e*	SKSac	SKSac	08 17 52.7	+0.6	
G58A	Ormstown	107.41	328		Pdiff	Pdif	08 07 13.9	+0.5	
	baz=155								
LJU	Ljubljana	107.42	30	*i*	Pdiff	Pdif	08 07 14.3	+0.8	
LJU				*e*	PP	PP	08 11 35.5	-6.4	
LJU				*e*	SKSac	SKSac	08 17 54.1	+1.9	
LJU				*e*			08 18 44.6		
LJU				*e*	Sdiff	Sdif	08 19 23.6	+7.7	
LJU				*e*	PS	PS	08 20 59.8	-2.9	
LJU				*e*			08 21 56.0		
LJU				*e*	SS	SS	08 26 50.5	+0.1	
LJU				*i*			08 26 58.4		
LJU				*e*			08 30 54.8		
CCM	Cathedral Cave	107.43	313		Pdiff	Pdif	08 07 13.1	-0.7	
	baz=148								
E62A	Clayton Lake	107.46	332		Pdiff	Pdif	08 07 14.5	+0.8	
	baz=157								
E62A	Clayton Lake	107.46	332		IAMs_20	IAMs_20	08 56 56.2		
	comp=Z,40µm,20.0s								
K52A	Tillsonburg	107.46	322		Pdiff	Pdif	08 07 12.9	-0.8	
	baz=152								
D63A	Stockholm	107.47	333		Pdiff	Pdif	08 07 14.7	+1.0	
	baz=158								
ABTA	Abfaltersbach	107.51	28	*i*	pPdiff	Pdif	08 07 22.3	+8.3	
	comp=Z,7.6nm,1.3s								
ABTA				*i*	pPKiKP	pPKiKP	08 11 24.5	-1.7	
	comp=Z,19nm,1.4s								
ABTA				*i*	PKKPbc	PKKPbc	08 22 33.4	-3.1	
	comp=Z,9.3nm,1.1s								
ECH	Echery	107.54	24		IAMs_20	IAMs_20	08 51 36.9		
	comp=Z,41µm,21.0s								
F60A	Warwick	107.54	330		Pdiff	Pdif	08 07 15.7	+1.7	
	baz=156								
E61A	Lac Etchemin	107.55	331		Pdiff	Pdif	08 07 17.7	+3.6	
	baz=156								
L50A	Kingsville	107.56	321		Pdiff	Pdif	08 07 13.0	-1.2	
	baz=151								
H56A	Elgin	107.59	326		Pdiff	Pdif	08 07 15.8	+1.5	
	baz=154								
TUL1	Leonard	107.60	308		Pdiff	Pdif	08 07 14.0	-0.6	
	baz=147								
TUL1	Leonard	107.60	308		IAMs_20	IAMs_20	09 00 50.7		
	comp=Z,37µm,19.0s								
SQTA	Sankt Quirin	107.61	27	*i*	pPdiff	Pdif	08 07 19.5	+5.1	
	comp=Z,10nm,0.6s								
SQTA				*i*	PKiKP	PKiKP	08 11 22.0	-0.3	
	comp=Z,40nm,1.4s								
SQTA				*i*	PKKPdf	PKKPab	08 22 48.5	+1.1	
	comp=Z,9.1nm,1.4s								
G57A	Newington	107.66	327		Pdiff	Pdif	08 07 16.0	+1.5	
	baz=154								
F59A	Saint Guilaume	107.67	329		Pdiff	Pdif	08 07 17.0	+2.4	
	baz=155								
K51A	Iona Station	107.69	322		Pdiff	Pdif	08 07 16.8	+2.0	
	baz=152								
MOTA	Moosalm	107.69	27	*i*	pPdiff	Pdif	08 07 22.3	+7.4	
	comp=Z,8.9nm,1.2s								
MOTA				*i*	PKiKP	PKiKP	08 11 24.4	+2.0	
	comp=Z,31nm,1.3s								
MOTA				*i*	PKKPbc	PKKPbc	08 22 36.7	+0.8	
	comp=Z,11nm,1.2s								
MYKA	Terra Mystica	107.71	29	*i*	pPdiff	Pdif	08 07 22.3	+7.4	
	comp=Z,4.5nm,1.1s								
MYKA				*i*	pPKiKP	PKiKP	08 11 26.4	+4.0	
	comp=Z,8.8nm,1.3s								
MYKA				*i*	PKKPbc	PKKPbc	08 22 34.1	-1.6	
	comp=Z,5.7nm,0.9s								
I55A	Frankford	107.71	325		Pdiff	Pdif	08 07 16.4	+1.6	
	baz=153								
SFIN	Lafayette	107.73	317		Pdiff	Pdif	08 07 15.9	+0.9	
	baz=149								
SFIN	Lafayette	107.73	317		IAMs_20	IAMs_20	08 57 46.3		
	comp=Z,33µm,19.0s								
RETA	Reutte	107.74	27	*i*	Pdiff	Pdif	08 07 15.6	+0.6	
	comp=Z,4.4nm,1.0s								
RETA				*i*	PKiKP	PKiKP	08 11 23.5	+1.0	
	comp=Z,39nm,1.5s								
RETA				*i*	PKKPbc	PKKPbc	08 22 35.4	-0.4	
	comp=Z,8.1nm,1.1s								
D62A	Allapoint, All	107.76	332		Pdiff	Pdif	08 07 16.8	+1.9	
	baz=157								
D62A	Allapoint, All	107.76	332		IAMs_20	IAMs_20	08 57 06.1		
	comp=Z,34µm,20.0s								
WTTA	Wattenberg	107.76	27	*i*	pPdiff	Pdif	08 07 25.5	+10	
	comp=Z,8.6nm,1.0s								
WTTA				*i*	PKiKP	PKiKP	08 11 24.0	+1.4	
	comp=Z,31nm,1.1s								
WTTA				*i*	PKKPbc	PKKPbc	08 22 37.4	+1.6	
	comp=Z,14nm,1.6s								
E60A	Ste Agathe de	107.76	330		Pdi

PUNG **Punghina** 108.44 36 ⇓P PP 08 11 46.6 -2.7
D59A **Saint-Raymond** 108.45 330 Pdiff Pdif 08 07 20.1 +2.0
baz=156
I51A **Listowel** 108.47 323 Pdiff Pdif 08 07 20.3 +2.1
baz=152
MDVR **Moldovita** 108.48 35 ⇓P PP 08 11 48.0 -1.7
BRTR **Keskin Array B** 108.50 46 Pdiff Pdif 08 07 27.0 +8.3
comp=Z,1.3nm,0.7s,baz=228,slow=7.4,SNR=5.0
BRTR PKiKP PKiKP 08 11 24.8 +0.6
comp=Z,2.7nm,0.9s,baz=198,slow=6.5,SNR=3.9
BRTR PP PP 08 11 51.3 +1.3
comp=Z,9.3nm,0.9s,baz=183,slow=8.7,SNR=6.2
BRTR PKKPbc PKKPbc 08 22 32.5 -0.6
comp=Z,1.2nm,0.7s,baz=202,slow=0.8,SNR=2.1
E57A **Chemin Saint G** 108.58 328 Pdiff Pdif 08 07 19.8 +1.1
baz=155
SZH **Strazhica** 108.59 39 *e*P Pdif 08 07 20.0 +1.2
WLF **Walferdange** 108.67 23 PP PP 08 11 51.6 +0.7
WLF **Walferdange** 108.67 23 IAMs_20 IAMs_20 08 52 53.8
comp=Z,42μm,20.0s
SADO **Sadowa** 108.69 324 PKiKP PKiKP 08 11 24.8 +0.6
comp=Z,8.4nm,1.0s,baz=174,slow=6.0,SNR=2.7
SADO PP PP 08 11 52.2 +1.1
comp=Z,18nm,0.9s,baz=162,slow=5.4,SNR=6.6
SADO PKKPbc PKKPbc 08 22 32.0 -0.5
comp=Z,2.9nm,0.7s,baz=213,slow=18,SNR=3.1
SADO **Sadowa** 108.69 324 IAMs_20 IAMs_20 08 57 40.6
comp=Z,36μm,20.0s
MNTX **Cornudas Mount** 108.70 299 Pdiff Pdif 08 07 20.8 +1.1
baz=144
MNTX **Cornudas Mount** 108.70 299 IAMs_20 IAMs_20 08 54 00.5
comp=Z,43μm,20.0s
SRIG **Santa Rosalia** 108.72 291 IAMs_20 IAMs_20 08 50 06.1
comp=Z,39μm,21.0s
F55A **Otter Lake** 108.73 327 Pdiff Pdif 08 07 20.3 +1.0
baz=154
DOU **Dourbes** 108.74 22 PP PP 08 11 50.2 -1.2
HDIL **Hopedale** 108.75 315 Pdiff Pdif 08 07 21.6 +2.0
baz=148
HDIL **Hopedale** 108.75 315 IAMs_20 IAMs_20 09 03 05.2
comp=Z,38μm,19.0s
HERR **Herculane** 108.80 36 ⇑P Pdif 08 07 12.0 -7.7
HERR **Herculane** 108.80 36 ⇑P PKiKP 08 11 26.9 +2.5
ARSA **Arzberg** 108.81 30 *i* Pdiff Pdif 08 07 19.4 -0.2
comp=Z,4.7nm,1.0s
ARSA *e*PKiKP PKiKP 08 11 25.9 +1.5
comp=Z,11nm,1.1s
ARSA *i* PKKPab PKKPab 08 22 43.4 +1.3
comp=Z,6.5nm,1.4s
H52A **Wyevale** 108.82 324 Pdiff Pdif 08 07 21.0 +1.2
baz=152
G53A **Haliburton** 108.83 325 Pdiff Pdif 08 07 21.5 +1.7
baz=153
J49A **Marlette** 108.83 321 Pdiff Pdif 08 07 21.2 +1.4
baz=151
D58A **Chemin du LacG** 108.83 330 Pdiff Pdif 08 07 20.7 +0.9
baz=155
SRE **Strehaia** 108.87 36 ⇑P PP 08 11 47.5 -5.0
G54A **Lake Saint Pet** 108.90 325 Pdiff Pdif 08 07 19.2 -0.9
baz=153
M44A **Midewin, Midew** 108.97 317 IAMs_20 IAMs_20 08 57 50.4
comp=Z,33μm,20.0s
E56A **St. Veronique** 108.97 328 Pdiff Pdif 08 07 22.0 +1.7
baz=154
BMRD **Maredsous** 108.97 22 PP PP 08 11 50.8 -2.3
SMRI **Semarang** 108.98 136 IAMs_20 IAMs_20 08 53 40.1
comp=Z,38μm,20.0s
MOA **Molln** 109.00 29 *i* pPdiff pPdif 08 07 26.1 +1.6
comp=Z,3.9nm,0.9s
MOA *e*PKiKP PKiKP 08 11 27.1 +2.3
comp=Z,8.5nm,1.1s
MOA *i* PKKPbc PKKPbc 08 22 33.6 +2.0
comp=Z,13nm,1.4s
P40A **Paris** 109.01 313 IAMs_20 IAMs_20 08 58 13.0
comp=Z,50μm,20.0s
D57A **Chemin Vers le** 109.05 329 Pdiff Pdif 08 07 19.3 -1.4
baz=155
PRD **Provadia** 109.06 40 *e*P Pdif 08 07 24.0 +3.1
JAGI **Jajag, Banyuwa** 109.08 140 IAMs_20 IAMs_20 08 53 59.3
comp=Z,32μm,20.0s
COPA **Copaceanca** 109.10 38 ⇑P PP 08 11 51.1 -3.0
BGES **Gesves** 109.12 22 PP PP 08 11 53.5 -0.7
BGES x x 08 12 06.8
BZS **Buzias** 109.19 35 ⇓P Pdif 08 07 26.5 +5.1
BZS **Buzias** 109.19 35 ⇓P PP 08 11 53.3 -1.5
BZS **Buzias** 109.19 35 ⇓P Pdif 08 07 26.5 +5.1
I49A **Point Hope** 109.22 322 Pdiff Pdif 08 07 21.4 -0.2
baz=151
MSTX **Muleshoe** 109.26 302 Pdiff Pdif 08 07 22.2 0.0
baz=145
J47A **Sunmer** 109.33 320 IAMs_20 IAMs_20 08 59 57.7
comp=Z,37μm,19.0s
D56A **ZEC Mazanza, M** 109.34 328 Pdiff Pdif 08 07 23.2 +1.1
baz=154
BSTI **Sart Tilman** 109.41 22 PP PP 08 11 56.1 -0.1
AMTX **Amarillo** 109.48 303 Pdiff Pdif 08 07 23.7 +0.6
baz=145
AMTX **Amarillo** 109.48 303 IAMs_20 IAMs_20 08 57 12.2
comp=Z,33μm,19.0s
CONA **Conrad Observa** 109.52 30 *i* pPdiff pPdif 08 07 26.4 -0.5
comp=Z,5.3nm,1.1s
CONA pPKiKP pPKiKP 08 11 28.1 -1.7
comp=Z,7.4nm,1.5s
CONA *i* PKKPbc PKKPbc 08 22 32.0 +1.9
comp=Z,16nm,1.3s
D55A **Sainte-Anne-du** 109.53 328 Pdiff Pdif 08 07 21.5 -1.3
baz=154
MEM **Membach** 109.53 22 PP PP 08 11 57.0 -0.1
MEM x x 08 12 12.6
E54A **Lac Daplat, Po** 109.53 326 Pdiff Pdif 08 07 25.5 +2.6
baz=153
L44A **Lake County Fo** 109.59 317 Pdiff Pdif 08 07 22.6 -0.7
baz=149
L44A **Lake County Fo** 109.59 317 IAMs_20 IAMs_20 08 55 30.4
comp=Z,36μm,22.0s
BEBN **Eben Emael** 109.63 22 PP PP 08 11 56.9 -1.0
BEBN x x 08 12 13.5
E53A **Dumoine, Ponti** 109.63 326 Pdiff Pdif 08 07 21.8 -1.5
baz=153
F52A **Sundridge** 109.65 325 Pdiff Pdif 08 07 23.9 +0.5
baz=152
ILGA **Ilgaz** 109.66 45 IAMs_20 IAMs_20 08 56 13.2
comp=Z,51μm,20.0s
P38A **Dawn** 109.71 312 IAMs_20 IAMs_20 08 58 29.7
comp=Z,44μm,20.0s
LOT **Lotru** 109.75 36 ⇑P PP 08 11 57.5 -1.6
GEC2 **GERESS Array S** 109.76 28 *e*PP PP 08 11 58.3 -0.7
GERES **GERESS Array B** 109.76 28 Pdiff Pdif 08 07 30.1 +6.1
comp=Z,0.1nm,0.3s,baz=225,slow=1.3,SNR=3.9
GERES PKiKP PKiKP 08 11 25.6 -0.6
comp=Z,3.7nm,0.9s,baz=217,slow=6.5,SNR=8.1
GERES PKKPbc PKKPbc 08 22 28.0 -1.3
comp=Z,1.4nm,0.8s,baz=40,slow=2.3,SNR=4.9
MTN **Manton Dam** 109.80 159 IAMs_20 IAMs_20 08 59 02.1
comp=Z,36μm,20.0s
DEV **Deva** 109.85 35 ⇑P PKiKP 08 11 35.6 +9.2
DSB **Dublin** 109.87 14 IAMs_20 IAMs_20 08 57 42.6
comp=Z,32μm,19.0s
E52A **Mattawa** 109.87 325 Pdiff Pdif 08 07 21.4 -3.0
baz=152
GRF **Grafenberg Arr** 109.89 26 *e*PP PP 08 12 00.7 +0.8
I47A **Gladwin** 109.89 320 Pdiff Pdif 08 07 19.6 -4.9
baz=150
F51A **Arnstein** 109.97 324 Pdiff Pdif 08 07 24.5 -0.3
baz=152
ARR **Arges** 109.98 37 ⇓P PKiKP 08 11 28.9 +2.1
KHC **Kasperske Hory** 109.99 28 *e*PDIFF Pdif 08 07 23.2 -1.7
KHC *ex* x 08 11 29.0
KHC *e*PP PP 08 11 51.5 -9.0
KHC *e*SKS SKSac 08 18 02.9 -0.2
KHC *e*PS PS 08 21 22.9 -5.8
KHC *e*PKKP PKKPbc 08 22 28.5 0.0
KHC *ex* x 08 22 41.5
KHC AMS AMS 08 51 20.0
comp=Z,132μm,23.0s
KHC **Kasperske Hory** 109.99 28 *e*P Pdif 08 07 23.2 -1.7
KHC *e* 08 18 02.9
KHC *e*PS PS 08 21 22.9 -5.8
KHC *e* 08 22 28.5
KHC *e* 08 22 41.5
KHC MLR MLR
comp=Z,132μm,23.0s
KHC **Kasperske Hory** 109.99 28 IAMs_20 IAMs_20 08 52 16.9
comp=Z,50μm,22.0s
D54A **Lac Fusel, La** 110.01 327 Pdiff Pdif 08 07 22.5 -2.5
baz=153

J45A **Montague** 110.08 319 IAMs_20 IAMs_20 08 56 54.6
comp=Z,34μm,20.0s
L42A **Oliver, Polo** 110.13 316 IAMs_20 IAMs_20 08 55 39.7
comp=Z,41μm,22.0s
I46A **Reed City** 110.17 320 Pdiff Pdif 08 07 22.5 -3.3
baz=150
VOIR 110.18 37 ⇓P PKiKP 08 11 35.0 +7.9
WLF1 **Llynfaes** 110.19 15 *e*P Pdif 08 07 23.4 -2.2
WLF1 IAMs_20 IAMs_20 08 49 52.8
comp=Z,106μm,22.6s
D53A **Lac Vacive, Po** 110.27 326 IAMs_20 IAMs_20 08 54 31.1
comp=Z,45μm,20.0s
WPS **Cemaes, Angles** 110.28 15 *e*P Pdif 08 07 23.9 -2.0
WPS IAMs_20 IAMs_20 08 49 55.3
comp=Z,49μm,21.6s
H47A **Mio** 110.29 321 Pdiff Pdif 08 07 23.3 -3.0
baz=150
PMBI **Palembang** 110.32 129 IAMs_20 IAMs_20 08 53 23.0
comp=Z,50μm,20.0s
MODS **Modra-Piesok** 110.33 31 *e*PP PP 08 12 04.6 +1.6
STNC **Stoke** 110.34 16 *e*P Pdif 08 07 22.1 -4.1
STNC IAMs_20 IAMs_20 08 50 45.1
comp=Z,42μm,23.6s
E51A **G1948 Merrick** 110.36 325 Pdiff Pdif 08 07 24.6 -2.0
baz=152
D52A **ZEK Kipawa Sen** 110.40 326 Pdiff Pdif 08 07 25.9 -0.9
baz=152
BATI **Baumata** 110.51 150 PKiKP PKiKP 08 11 30.5 +1.7
comp=Z,27nm,0.8s,baz=256,slow=16,SNR=1.7
TIRR **Tirgusor** 110.52 40 ⇑P PKiKP 08 11 30.6 +2.9
MLR **Muntele Rosu** 110.54 38 Pdiff Pdif 08 07 34.9 +7.3
comp=Z,5.7nm,1.0s,baz=77,slow=5.8,SNR=4.5
MLR PKiKP PKiKP 08 11 28.6 +0.8
comp=Z,7.5nm,1.1s,baz=302,slow=4.5,SNR=4.0
MLR **Muntele Rosu** 110.54 38 ⇑P Pdif 08 07 33.9 +6.3
MLR **Muntele Rosu** 110.54 38 ⇑P PKiKP 08 11 29.8 +2.0
MLR **Muntele Rosu** 110.54 38 IAMs_20 IAMs_20 08 55 01.5
comp=Z,47μm,20.0s
BZK **Bozkurt** 110.54 45 ⇑P PP 08 12 00.0 -4.5
F49A **Sandfield** 110.54 323 Pdiff Pdif 08 07 24.9 -2.5
baz=151
I45A **Fountain** 110.54 319 Pdiff Pdif 08 07 26.4 -1.0
baz=149
I45A **Fountain** 110.54 319 IAMs_20 IAMs_20 09 00 36.7
comp=Z,34μm,19.0s
121A **Cookes Peak, D** 110.58 298 Pdiff Pdif 08 07 28.6 +0.4
baz=144
DRGR 110.59 35 ⇓P Pdif 08 07 33.8 +6.1
DRGR 110.59 35 ⇑P PKiKP 08 11 28.8 +1.0
DRGR 110.59 35 ⇓P Pdif 08 07 33.8 +6.1
PBCC **Pribram** 110.60 28 *e*PDIFF Pdif 08 07 33.1 +5.5
PBCC *e*PP PP 08 11 53.0 -12
PBCC *e*SKS SKSac 08 18 06.0 +0.5
PBCC *e*PS PS 08 21 35.3 +0.9
PBCC *e*PKKP PKKPab 08 22 38.4 +4.4
KSU1 **Kansas State U** 110.61 309 Pdiff Pdif 08 07 25.2 -2.7
baz=146
KSU1 **Kansas State U** 110.61 309 IAMs_20 IAMs_20 09 00 31.3
comp=Z,29μm,19.0s
GLMI **Grayling** 110.63 321 IAMs_20 IAMs_20 09 00 33.7
comp=Z,30μm,20.0s
UBBA **Unterbreizbach** 110.64 25 *e*PP PP 08 12 04.9 -0.2
TREC **Trest** 110.65 29 *e*PDIFF Pdif 08 07 25.2 -2.6
TREC *e*PP PP 08 11 58.2 -7.1
TREC *e*SKS SKSac 08 18 04.9 -0.9
TREC *e*PS PS 08 21 34.2 -0.7
TREC AMS AMS 08 53 10.0
comp=Z,101μm,20.8s
TREC **Trest** 110.65 29 *e*P Pdif 08 07 25.2 -2.6
TREC *e* 08 18 04.9
TREC *e*PS PS 08 21 34.2 -0.7
TREC MLR MLR
comp=Z,101μm,20.8s
G47A **Hillman** 110.66 321 Pdiff Pdif 08 07 27.3 -0.6
baz=150
E50A **Wahnapitae** 110.67 324 Pdiff Pdif 08 07 25.2 -2.8
baz=151
KRUC **Moravsky** 110.69 30 *e*PDIFF Pdif 08 07 28.2 +0.2
KRUC *e*PP PP 08 12 04.7 -0.9
KRUC *e*SKS SKSac 08 18 05.5 -0.4
KRUC *e*PS PS 08 21 31.6 -3.6
KRUC *e*SS SS 08 27 33.6 -0.9
NKC **Novy Kostel** 110.70 27 *e*PDIFF Pdif 08 07 26.5 -1.5
NKC *e*PP PP 08 11 59.4 -6.3
NKC *e*SKS SKSac 08 18 09.0 +3.1
NKC *e*PS PS 08 21 35.2 -0.1
NKC AMS AMS 08 51 10.0
comp=Z,56μm,23.7s
NKC **Novy Kostel** 110.70 27 *e*P Pdif 08 07 26.5 -1.5
NKC *e* 08 18 09.0
NKC *e*PS PS 08 21 35.2 -0.1
NKC MLR MLR
comp=Z,56μm,23.7s
LBWR **Ladybower, Pea** 110.72 17 *e*P Pdif 08 07 26.4 -1.6
LBWR IAMs_20 IAMs_20 08 53 16.5
comp=Z,56μm,22.9s
WERN **Wernitzgruen** 110.73 27 *e*PP PP 08 12 05.8 -0.1
F48A **Evansville** 110.79 323 Pdiff Pdif 08 07 27.2 -1.3
baz=150
GUNZ **Gunzen** 110.79 27 *e*PP PP 08 12 06.1 -0.2
L40A **Anamosa** 110.80 315 IAMs_20 IAMs_20 09 04 19.4
comp=Z,33μm,19.0s
D51A **Lot 18 Range I** 110.81 325 Pdiff Pdif 08 07 26.5 -2.1
baz=152
PLN **Plauen** 110.86 26 *e*PP PP 08 12 06.0 -0.8
MOX **Moxa** 110.87 26 *e*PP PP 08 12 06.2 -0.7
TANN **Tannenbergstha** 110.87 27 *e*PP PP 08 12 06.7 -0.2
JAVC **Velka Javorina** 110.88 31 *e*PDIFF Pdif 08 07 30.7 +1.8
JAVC *e*PP PP 08 12 06.3 -0.7
JAVC *e*SKS SKSac 08 18 07.6 +0.8
JAVC *e*PS PS 08 21 38.8 +1.8
VYHS **Vyhne** 110.89 32 *e*P Pdif 08 07 35.3 +6.4
VYHS *e* 08 11 27.9
VYHS *e* 08 12 10.3
VYHS *e* 08 18 10.7
VYHS *e*PS PS 08 21 44.7 +7.7
VYHS *e*SS SS 08 27 50.6 +13
VYHS **Vyhne** 110.89 32 *e*PDIFF Pdif 08 07 35.3 +6.4
VYHS *e* 08 11 27.9
VYHS *e*PP PP 08 12 10.3 +3.2
VRAC **Vranov** 110.97 30 PKiKP PKiKP 08 11 29.0 +0.6
comp=Z,6.6nm,0.9s,baz=201,slow=6.7,SNR=6.3
VRAC PKKPbc PKKPbc 08 22 27.6 +2.3
comp=Z,2.9nm,0.9s,baz=17,slow=19,SNR=2.4
VRAC **Vranov** 110.97 30 ⇓P PKiKP 08 11 24.8 -3.6
VRAC **Vranov** 110.97 30 *e*PDIFF Pdif 08 07 30.9 +1.6
VRAC *e*PP PP 08 12 06.8 -0.8
VRAC *e*SKS SKSac 08 18 07.2 +0.1
VRAC *e*PS PS 08 21 38.3 +0.5
VRAC *e*SS SS 08 27 35.5 -2.7
VRAC **Vranov** 110.97 30 *i* PKiKP PKiKP 08 11 29.0 +0.6
R32A **Long Quarter,** 110.99 308 IAMs_20 IAMs_20 09 05 07.3
comp=Z,28μm,18.0s
GOPC **GO Pecny, Ondr** 111.03 28 *e*PDIFF Pdif 08 07 30.5 +1.0
GOPC *e*PP PP 08 11 57.1 -11
GOPC *e*SKS SKSac 08 18 02.3 -5.0
GOPC *e*PS PS 08 21 37.6 -0.6
GOPC *e*PKKP PKKPab 08 22 35.9 +3.7
GOPC AMS AMS 08 52 00.0
comp=Z,90μm,22.2s
GOPC **GO Pecny, Ondr** 111.03 28 *e*P Pdif 08 07 30.5 +1.0
GOPC *e* 08 18 02.3
GOPC *e*PS PS 08 21 37.6 -0.6
GOPC MLR MLR
comp=Z,90μm,22.2s
PRU **Pruhonice** 111.03 28 *e*PDIFF Pdif 08 07 25.2 -4.2
PRU *e*PP PP 08 11 58.2 -10
PRU *e*SKS SKSac 08 17 59.8 -7.4
PRU *e*PS PS 08 21 38.8 +0.6
PRU AMS AMS 08 51 50.0
comp=Z,99μm,22.6s
PRU **Pruhonice** 111.03 28 *e*P Pdif 08 07 25.2 -4.2
PRU *e*PS PS 08 21 38.8 +0.6
PRU MLR MLR
comp=Z,99μm,22.6s
D50A **G1974 Best Tow** 111.03 325 Pdiff Pdif 08 07 27.3 -2.2
baz=152
CFR **Carcaliu** 111.04 39 ⇓P PKiKP 08 11 31.4 +2.8
URV **Uravakonda** 111.05 94 *e*Pdif Pdif 08 07 34.5 +4.0
URV *e*PKiKP PKiKP 08 11 31.1 +1.5
URV *e*PP PP 08 12 08.7 +0.3
URV *e*SKSac SKSac 08 18 09.2 +0.1
URV IVMs_BB IVMs_BB 08 52 19.9
comp=Z,11μm,18.2s

PRA **Prague** 111.07 28 *e*PDIFF Pdif 08 07 25.2 -4.4
PRA *e*PP PP 08 11 59.0 -9.3
PRA *e*SKS SKSac 08 18 09.0 +1.6
PRA *e*PS PS 08 21 33.5 -5.1
PRA AMS AMS 08 52 40.0
comp=Z,46μm,21.7s
PRA **Prague** 111.07 28 *e*P Pdif 08 07 25.2 -4.4
PRA *e* 08 18 09.0
PRA *e*PS PS 08 21 33.5 -5.1
PRA MLR MLR
comp=Z,46μm,21.7s
PLOR **Plostina** 111.09 38 ⇑P PKiKP 08 11 31.5 +2.8
IOMK **Kirk Michael** 111.11 15 *e*P Pdif 08 07 28.9 -0.8
IOMK IAMs_20 IAMs_20 08 54 48.2
comp=Z,74μm,18.7s
VLDQ **Val d'Or** 111.11 327 IAMs_20 IAMs_20 08 58 38.1
comp=Z,49μm,19.0s
JFWS **Jewell Farm** 111.13 316 Pdiff Pdif 08 07 29.6 -0.5
baz=148
JFWS **Jewell Farm** 111.13 316 IAMs_20 IAMs_20 08 57 31.1
comp=Z,34μm,21.0s
VRI **Vrincioaia** 111.14 38 ⇑P Pdif 08 07 34.6 +4.5
VRI **Vrincioaia** 111.14 38 ⇑P PKiKP 08 11 30.6 +1.8
VRI **Vrincioaia** 111.14 38 ⇑P Pdif 08 07 34.6 +4.5
G45A **Suttons Bay** 111.19 320 Pdiff Pdif 08 07 28.2 -2.1
baz=149
E48A **Lockeyer** 111.20 323 Pdiff Pdif 08 07 30.9 +0.5
baz=151
Y22D **IRIS PASSCAL I** 111.38 299 Pdiff Pdif 08 07 31.7 +0.1
baz=143
ARCR **ARCALIA** 111.39 36 ⇑P PKiKP 08 11 31.8 +2.6
I42A **Draeger Farm,** 111.43 317 IAMs_20 IAMs_20 08 57 23.2
comp=Z,33μm,21.0s
SKHT **Srikalahasti** 111.47 97 *e*Pdif Pdif 08 07 34.5 +2.3
SKHT *e*PKiKP PKiKP 08 11 31.4 +1.1
SKHT *e*PP PP 08 12 11.8 +0.6
SKHT *e*SKSac SKSac 08 18 13.0 +2.3
SKHT IVMs_BB IVMs_BB 08 46 21.2
comp=Z,8μm,25.9s
SCIA **State Center** 111.48 313 Pdiff Pdif 08 07 31.6 -0.1
baz=146
H43A **Windswept, Lux** 111.49 319 IAMs_20 IAMs_20 08 56 01.7
comp=Z,33μm,21.0s
PVCC **Panska Ves** 111.53 28 *e*PDIFF Pdif 08 07 33.1 +1.5
PVCC *e*PP PP 08 11 59.0 -13
PVCC *e*PS PS 08 21 44.5 +1.8
PVCC AMS AMS 08 51 50.0
comp=Z,60μm,22.4s
PVCC **Panska Ves** 111.53 28 *e*P Pdif 08 07 33.1 +1.5
PVCC *e*PS PS 08 21 44.5 +1.8
PVCC MLR MLR
comp=Z,60μm,22.4s
E47A **Iron Bridge** 111.56 323 Pdiff Pdif 08 07 30.8 -1.1
baz=150
BMR **Baia Mare** 111.62 35 ⇑P PKiKP 08 11 18.6 -11
N35A **Tabor** 111.64 311 IAMs_20 IAMs_20 08 59 43.6
comp=Z,44μm,21.0s
KESW **Keswick, Cumbr** 111.64 16 *e*P Pdif 08 07 29.5 -2.5
KESW IAMs_20 IAMs_20 08 50 58.9
comp=Z,49μm,21.8s
MORC **Moravsky Berou** 111.67 30 ⇑P PKiKP 08 11 32.6 +2.9
MORC **Moravsky Berou** 111.67 30 *e*PDIFF Pdif 08 07 34.0 +1.6
MORC *e*PP PP 08 12 10.3 -2.3
MORC *e*SKS SKSac 08 18 10.6 +0.6
MORC *e*PS PS 08 21 45.4 +1.2
MORC *e*SS SS 08 27 46.3 -1.2
MORC **Moravsky Berou** 111.67 30 IAMs_20 IAMs_20 08 53 42.3
comp=Z,50μm,22.0s
TESR **Tescani** 111.67 38 ⇑P PKiKP 08 11 31.0 +1.3
CLZ **Clausthal** 111.67 25 *e*PP PP 08 12 10.4 -2.3
BRG **Berggiesshubel** 111.67 27 PDIFF Pdif 08 07 37.0 +4.7
BRG **Berggiesshubel** 111.67 27 P Pdif 08 07 37.0 +4.7
BRG **Berggiesshubel** 111.67 27 *e*PP PP 08 12 12.4 -0.3
GAL1 **Galloway** 111.68 14 *e*P Pdif 08 07 30.1 -2.1
GAL1 IAMs_20 IAMs_20 08 54 54.5
comp=Z,40μm,19.8s
BOM **Bombay** 111.68 88 *i* P Pdif 08 07 39.4 +6.3
BOM AMb AMB 08 07 54.1
comp=Z,195nm,11.7s
BOM *e*S PP 08 12 12.9 +0.1
D48A **Paudash Townsh** 111.69 324 Pdiff Pdif 08 07 28.9 -3.5
baz=151
F45A **CMU Biological** 111.69 321 Pdiff Pdif 08 07 30.5 -2.0
baz=149
CLGH **Cloghs, Cushen** 111.69 14 *e*P Pdif 08 07 25.9 -6.3
CLGH IAMs_20 IAMs_20 08 49 45.5
comp=Z,47μm,22.7s
CBKS **Cedar Bluff** 111.77 307 Pdiff Pdif 08 07 34.1 +1.0
baz=145
CHGQ **Chibougamau** 111.80 330 Pdiff Pdif 08 07 32.5 -0.4
baz=154
CLL **Collm** 111.83 27 *e*Pdif Pdif 08 07 37.0 +4.0
CLL *i* PKiKP PKiKP 08 11 31.3 +1.4
comp=Z,20nm,1.2s
CLL *e*PP PP 08 12 14.0 +0.3
comp=Z,273nm,3.0s
CLL *e*PPP PPP 08 14 36.0
CLL *e*SKSac SKSac 08 18 14.0 +3.6
CLL *e*SKKSac SKKSac 08 19 16.0 +1.9
CLL *e*Sdif Sdif 08 20 05.0 +13
CLL *e*PS PS 08 21 47.0 +1.5
CLL *e*PKKPbc PKKPbc 08 22 25.0 +2.6
comp=Z,9.0nm,0.9s
CLL *e*PKKPab PKKPab 08 22 34.0 +5.4
comp=Z,25nm,1.5s
CLL *i* PKKPdf PKKPdf 08 22 42.4 +0.3
comp=Z,14nm,1.1s
CLL *e*PPS PPS 08 22 58.0
CLL *e* 08 24 07.0
CLL *e*SS SS 08 27 48.0 -1.5
CLL *e*SSS SSS 08 31 54.0
CLL *e*SSSS 08 35 30.0
CLL Lm MLR 08 55 00.0
comp=N,26μm,20.4s
CLL Lm MLR 08 55 00.0
comp=E,30μm,19.5s
CLL Lm MLR 08 55 00.0
comp=Z,40μm,19.6s
CLL Lm(360 10 10 00.0
comp=N,6μm,22.0s
CLL Lm(360 10 10 00.0
comp=E,3μm,20.9s
CLL Lm(360 10 10 00.0
comp=Z,9μm,21.9s
CLL **Collm** 111.83 27 *i* PKIKP PKiKP 08 11 31.3 +1.4
CLL *e* 08 12 14.0
CLL *e* 08 18 14.0
CLL pmax pmax
comp=Z,20nm,1.2s
CLL pmax pmax
comp=Z,273nm,3.0s
CLL MLR MLR
comp=Z,40μm,19.6s
CLL **Collm** 111.83 27 IAMs_20 IAMs_20 08 55 29.6
comp=Z,39μm,20.0s
DPC **Dobruska-Polom** 111.84 29 *e*PDIFF Pdif 08 07 35.8 +2.7
DPC *e*PP PP 08 12 03.4 -10
DPC *e*SKS SKSac 08 18 05.1 -5.5
DPC *e*PS PS 08 21 44.6 -1.1
DPC *e*PKKP PKKPbc 08 22 25.1 +2.7
DPC AMS AMS 08 54 00.0
comp=Z,41μm,20.3s
DPC **Dobruska-Polom** 111.84 29 *e*P Pdif 08 07 35.8 +2.7
DPC *e*PS PS 08 21 44.6 -1.1
DPC MLR MLR
comp=Z,41μm,20.3s
ANMO **Albuquerque** 111.84 300 Pdiff Pdif 08 07 33.9 +0.2
baz=143
ANMO **Albuquerque** 111.84 300 Pdiff Pdif 08 07 35.0 +1.3
comp=Z,0.6nm,0.3s,baz=187,slow=5.9,SNR=5.7
ANMO PKiKP PKiKP 08 11 32.3 +1.5
comp=Z,4.9nm,0.9s,baz=149,slow=5.8,SNR=4.2
ANMO PP PP 08 12 13.7 -0.6
comp=Z,3.8nm,0.9s,baz=141,slow=6.1,SNR=2.0
ANMO PKKPbc PKKPbc 08 22 24.7 +2.6
comp=Z,6.4nm,0.9s,baz=301,slow=3.0,SNR=12
ANMO **Albuquerque** 111.84 300 ⇑*i*PKIKP PKiKP 08 11 32.2 +1.5
ANMO MLR MLR
comp=Z,34μm,16.0s
ANMO **Albuquerque** 111.84 300 IAMs_20 IAMs_20 08 56 09.7
comp=Z,42μm,19.0s
BIZ **Bicaz** 111.85 37 ⇓P PKiKP 08 11 37.9 +7.8
OKC **Ostrava-Krasne** 111.89 30 *e*PDIFF Pdif 08 07 31.8 -1.5
OKC *e*PP PP 08 12 02.9 -11
OKC *e*SKS SKSac 08 18 11.3 +0.6

OKC *ePS* **PS** **08 21 41.5 -4.6**
OKC AMS AMS 08 51 40.0
comp=Z,29µm,24.5s
OKC Ostrava-Krasne 111.89 30 *eP* **Pdif** **08 07 31.8 -1.5**
OKC *e* 08 18 11.3
OKC *ePS* **PS** **08 21 41.5 -4.6**
OKC MLR MLR
comp=Z,29µm,24.5s
UPC Upice 111.90 29 *ePDIFF* **Pdif** **08 07 37.1 +3.8**
UPC *ePP* PP 08 12 01.9 -12
UPC *eSKS* **SKSac** **08 18 06.9 -3.9**
UPC *ePS* **PS** **08 21 47.1 +0.9**
UPC AMS AMS 08 52 40.0
comp=Z,72µm,21.6s
UPC Upice 111.90 29 *eP* **Pdif** **08 07 37.1 +3.8**
UPC *e* 08 18 06.9
UPC *ePS* **PS** **08 21 47.1 +0.9**
UPC MLR MLR
comp=Z,72µm,21.6s
K38A Parkersburg 111.92 314 IAMs_20 IAMs_20 08 57 20.5
comp=Z,56µm,22.0s
TUC Tucson 111.93 295 Pdiff **Pdif** **08 07 33.5 -0.6**
baz=143
TUC Tucson 111.93 295 IAMs_20 IAMs_20 09 00 30.9
comp=Z,35µm,19.0s
POO Poona 111.97 89 *ex* **PP** **08 12 18.0 +2.9**
CHVC Chvalec 111.98 29 *ePDIFF* **Pdif** **08 07 31.8 -1.9**
CHVC *ePP* PP 08 12 05.3 -10
CHVC *ePS* **PS** **08 21 56.5 +9.5**
CHVC AMS AMS 08 52 40.0
comp=Z,71µm,21.8s
NEWG New Galloway 111.99 15 *eP* **Pdif** **08 07 31.2 -2.4**
NEWG IAMs_20 IAMs_20 08 55 23.1
comp=Z,45µm,19.9s
OSTC Ostas 112.00 29 *ePDIFF* **Pdif** **08 07 34.5 +0.7**
OSTC *ePP* PP 08 12 05.4 -10
OSTC *eSKS* **SKSac** **08 18 10.8 -0.4**
OSTC *ePS* **PS** **08 21 46.2 -0.9**
OSTC *ePKKP* **PKKPbc** **08 22 23.5 +1.6**
OSTC AMS AMS 08 52 40.0
comp=Z,59µm,22.1s
D47A Chapleau 112.02 323 Pdiff **Pdif** **08 07 33.3 -0.7**
baz=150
CRVS Cervenica-Dubn 112.05 33 *ePP* **PP** **08 12 18.2 +2.8**
UZH Uzhgorod 112.07 34 *eP* **Pdif** **08 07 36.6 +2.5**
UZH *e* 08 12 15.0
UZH *e* 08 18 11.4
UZH *ePS* **PS** **08 21 44.0 -3.8**
I40A Norwalk 112.09 316 IAMs_20 IAMs_20 08 59 21.7
comp=Z,42µm,20.0s
BURAR Bucovina Array 112.14 36 ⇑*P* **PP** **08 12 13.8 -2.3**
NIE Niedzica 112.15 32 *ePP* **PP** **08 12 14.5 -1.7**
NIE *eSP* SP 08 21 53.5 +6.8
NIE *eSS* SS 08 28 09.5 +15
NIE *eL* L 08 53 58.3
comp=Z,64µm,22.9s
D46A Sault St. Mari 112.20 322 Pdiff **Pdif** **08 07 32.4 -2.3**
baz=150
NRDL Niedersach Rie 112.21 24 *ePP* **PP** **08 12 14.8 -1.6**
KSP Ksiaz 112.28 29 *ePKPdf* **PKiKP** **08 11 30.9 +0.1**
KSP *ePP* **PP** **08 12 14.5 -2.4**
KSP *eSP* SP 08 21 59.0 +11
KSP *eSS* SS 08 28 09.2 +14
KSP *eL* L 08 52 56.6
comp=Z,78µm,22.9s
N33A J Bar K, Exete 112.32 310 IAMs_20 IAMs_20 09 00 33.6
comp=Z,38µm,21.0s
ESK Eskdalemuir 112.33 15 *eP* **Pdif** **08 07 35.0 -0.1**
ESK IAMs_20 IAMs_20 08 51 05.6
comp=Z,49µm,22.7s
ESK Eskdalemuir 112.33 15 IAMs_20 IAMs_20 08 57 46.7
comp=Z,42µm,18.0s
RCLA Racherla 112.42 95 *ePdif* **Pdif** **08 07 38.8 +2.3**
RCLA *ePKiKP* **PKiKP** **08 11 32.6 +0.5**
RCLA *ePP* **PP** **08 12 19.2 +1.0**
RCLA *eSKSac* **SKSac** **08 18 14.4 -0.2**
RCLA IVMs_BB IVMs_BB 08 54 07.3
comp=Z,23µm,17.9s
RPSI Rantau Prapat 112.53 121 **PKiKP** **08 11 32.6 +0.1**
RPSI **PKKPbc** **08 22 23.8 +4.7**
T25A Trinidad 112.60 303 Pdiff **Pdif** **08 07 36.4 -0.7**
baz=143
PSI Prapat 112.62 121 PKiKP **PKiKP** **08 11 32.6 -0.3**
comp=Z,12nm,1.0s,baz=180,slow=8.3,SNR=4.4
PSI PKKPbc **PKKPbc** **08 22 23.8 +4.8**
comp=Z,14nm,1.0s,baz=180,slow=5.8,SNR=4.7
214A Organ Pipe Nat 112.70 293 Pdiff **Pdif** **08 07 36.5 -0.9**
baz=142
OJC Ojcow 112.72 31 *ePKPdf* **PKiKP** **08 11 33.2 +1.6**
OJC *ePP* **PP** **08 12 17.4 -2.7**
OJC *eSP* SP 08 21 54.7 +2.9
OJC *eSS* SS 08 28 17.7 +16
OJC *eL* L 08 53 37.7
comp=Z,39µm,22.8s
MILM Milestii Mici 112.78 39 ⇑*P* **PKiKP** **08 11 33.8 +2.0**
KIS Kishinev 112.85 39 ⇑*iP* **Pdif** **08 07 43.0 +5.4**
comp=Z,400nm,13.2s
KIS Kishinev 112.85 39 *i* PKP **PKiKP** **08 11 37.0 +5.0**
KIS Kishinev 112.85 39 *i* PP **PP** **08 12 18.0 -3.0**
comp=Z,2µm,5.6s
KIS ⇓*iSKS* **SKSac** **08 18 07.5 -7.2**
KIS ⇓*iSKKS* **SKKSac** **08 19 20.0 -1.3**
KIS Kishinev 112.85 39 ⇓*iPS* PS 08 21 55.0 +0.1
KIS *eLR* LR 08 51 20.0
comp=Z,5µm,17.0s
KIS Kishinev 112.85 39*c iP* **Pdif** **08 07 43.4 +5.8**
KIS *i* PS **PS** **08 21 55.0 +0.1**
KIS pmax pmax
comp=Z,400nm,13.2s
L34A Svendsen Farm, 112.86 311 IAMs_20 IAMs_20 08 58 50.9
comp=Z,51µm,21.0s
SRLM Srisailam 112.90 95 *ePdif* **Pdif** **08 07 43.4 +4.7**
SRLM *ePKiKP* **PKiKP** **08 11 34.4 +1.3**
SRLM *ePP* **PP** **08 12 22.1 +0.5**
SRLM *eSKSac* **SKSac** **08 18 17.2 +0.8**
SRLM IVMs_BB IVMs_BB 08 52 04.8
comp=Z,14µm,18.9s
LAWE Loch Awe, Argy 112.94 14 *eP* **Pdif** **08 07 36.4 -1.4**
LAWE IAMs_20 IAMs_20 08 55 14.7
comp=Z,38µm,19.4s
KWP Kalwaria Pacla 113.08 33 *ePP* **PP** **08 12 20.9 -1.8**
KWP *eSP* SP 08 21 57.7 +2.5
KWP *eSS* SS 08 28 24.2 +18
KWP *eL* L 08 55 11.6
comp=Z,47µm,23.7s
SIM Simferopol' 113.09 43 *eP* **Pdif** **08 07 45.0 +6.3**
SIM *i* 08 12 24.5
SIM pmax pmax
comp=Z,3µm,9.6s
RUE Ruedersdorf 113.10 27 *eP* **PKiKP** **08 11 35.0 +2.8**
KLRI Killari 113.17 92 *ePdif* **Pdif** **08 07 44.5 +4.6**
KLRI *ePKiKP* **PKiKP** **08 11 35.6 +2.0**
KLRI *ePP* **PP** **08 12 23.1 -0.5**
KLRI IVMs_BB IVMs_BB 08 54 58.1
comp=Z,16µm,18.4s
KSCO Kaye Shedlock' 113.26 305 Pdiff **Pdif** **08 07 40.4 +0.6**
baz=144
INVG Invergeldie, C 113.29 14 *eP* **Pdif** **08 07 35.9 -3.4**
INVG IAMs_20 IAMs_20 08 51 08.7
comp=Z,48µm,23.4s
ADKI Addanki 113.31 96 *ePdif* **Pdif** **08 07 49.2 +8.8**
ADKI *ePKiKP* **PKiKP** **08 11 35.6 +1.8**
ADKI *ePP* **PP** **08 12 22.8 -1.6**
ADKI *eSKSac* **SKSac** **08 18 19.6 +1.6**
ADKI IVMs_BB IVMs_BB 08 51 42.5
comp=Z,8µm,18.9s
BCA Borcka 113.31 50 ⇑*P* **PKiKP** **08 11 36.0 +2.9**
COWI Conover 113.38 319 IAMs_20 IAMs_20 09 04 13.8
comp=Z,28µm,18.0s
NJS Nagarjunasagar 113.50 95 *ePdif* **Pdif** **08 07 45.5 +4.2**
NJS *ePKiKP* **PKiKP** **08 11 36.1 +1.9**
NJS *ePP* **PP** **08 12 26.6 +0.8**
NJS *eSKSac* **SKSac** **08 18 18.6 -0.2**
NJS IVMs_BB IVMs_BB 08 52 22.7
comp=Z,11µm,19.8s
SDCO Great Sand Dun 113.61 303 Pdiff **Pdif** **08 07 41.0 -0.6**
baz=143
W18A Petrified Fore 113.61 298 Pdiff **Pdif** **08 07 41.6 0.0**
baz=142
SORM Soroca 113.65 38 ⇑*P* **PKiKP** **08 11 35.1 +1.6**
LVV L'vov 113.67 34 *i* PKIKP **PKiKP** **08 11 34.3 +0.8**
LVV *e* 08 12 27.7
LVV *e* 08 18 16.6
LVV *eSS* SS 08 28 17.2 +3.3
LVV MLR MLR
comp=Z,51µm,22.0s
LHMI Lhok Sumawe 113.73 117 IAMs_20 IAMs_20 08 56 05.5
comp=Z,35µm,19.0s
HYB Hyderabad 113.77 94 *i* Pdif **Pdif** **08 07 48.0 +5.5**
HYB *e* 08 11 36.0
HYB *ePP* **PP** **08 12 28.0 +0.2**
HYB *eSKS* **SKSac** **08 18 20.0 +0.2**
HYB *eSKKS* **SKKSac** **08 19 30.0 +1.1**
HYB *eSdif* Sdif 08 20 12.0 +1.9
HYB *e* 08 22 12.0
HYB *ePKKP* **PKKPbc** **08 22 17.0 +1.9**
HYB *e* 08 23 44.0
HYB *eSS* **SS** **08 28 12.0 -3.6**
HYB *eLR* LR
comp=Z,41nm,20.0s
HYBB Hyderabad (bro 113.77 94 *ePdif* **Pdif** **08 07 45.9 +3.4**
HYBB *ePKPdf* **PKiKP** **08 11 34.8 +0.1**
HYBB *ePP* **PP** **08 12 26.6 -1.1**
HYBB *eSKSac* **SKSac** **08 18 23.0 +3.1**
HYBB IVMs_BB IVMs_BB 08 54 18.1
comp=Z,14µm,18.2s
X16A Lo Mia Camp, P 113.93 296 IAMs_20 IAMs_20 08 57 39.8
comp=Z,45µm,19.0s
KPL Plockton 113.95 13 *eP* **Pdif** **08 07 41.0 -1.2**
KPL IAMs_20 IAMs_20 08 56 51.5
comp=Z,42µm,19.3s
SPMN Marine on St. 114.07 316 Pdiff **Pdif** **08 07 42.2 -0.9**
baz=146
SPMN Marine on St. 114.07 316 IAMs_20 IAMs_20 08 59 29.0
comp=Z,35µm,20.0s
MYKOM Kota Tinggi 114.08 126 IAMs_20 IAMs_20 08 53 49.3
comp=Z,40µm,19.0s
AKH Akhalkalaki 114.11 52 ⇓*P* **PP** **08 12 24.3 -6.1**
KAPI Kappang 114.23 145 PKKPbc PKKPbc 08 22 15.4 +1.9
comp=Z,7.9nm,0.5s,baz=330,slow=2.8,SNR=5.2
SOC Sochi 114.23 48 *i* P **Pdif** **08 07 46.2 +2.3**
SOC *i* 08 11 36.2
SOC *i* 08 12 29.2
SOC *i* PS **PKKPbc** **08 22 12.4 -1.6**
SOC *eSS* SS 08 28 28.3 +6.7
SOC pmax pmax
comp=Z,11nm,0.6s
SOC MLR MLR
comp=Z,20µm,18.0s
S22A 4UR Lanch, Cre 114.25 302 Pdiff **Pdif** **08 07 44.6 +0.1**
baz=142
ANN Anapa 114.28 45 *eP* **Pdif** **08 07 44.3 +0.3**
ANN *i* 08 11 36.2
ANN *e* 08 12 31.9
ANN *ePPP* PPP 08 14 57.5
ANN *e* 08 18 22.3
ANN *eSS* SS 08 28 20.9 -1.3
ANN pmax pmax
comp=Z,31nm,0.9s
ANN pmax pmax
comp=N,22nm,0.8s
ANN pmax pmax
comp=Z,50nm,1.3s
ANN pmax pmax
comp=E,31nm,1.4s
SCHQ Schefferville 114.36 337 PKP PKPdf 08 11 33.4 -1.2
comp=E,9.6nm,0.9s,baz=168,slow=2.6,SNR=12
SCHQ PKKPbc **PKKPbc** **08 22 11.8 -2.2**
comp=E,1.7nm,0.7s,baz=323,slow=9.2,SNR=1.5
SCHQ Schefferville 114.36 337 PKPdf 08 11 33.7 -1.0
SCHQ IAMs_20 IAMs_20 08 56 11.8
comp=Z,45µm,19.0s
Q24A Divide 114.40 304 Pdiff **Pdif** **08 07 45.7 +0.5**
baz=143
ECSD EROS Data Cent 114.41 312 Pdiff **Pdif** **08 07 46.2 +1.5**
baz=145
MYLAV Mylavaram 114.41 96 *ePdif* **Pdif** **08 07 51.5 +6.2**
MYLAV *ePKPdf* **PKiKP** **08 11 37.4 +1.5**
MYLAV *ePP* **PP** **08 12 31.1 -1.1**
MYLAV *eSKSac* **SKSac** **08 18 24.8 +2.6**
MYLAV IVMs_BB IVMs_BB 08 56 27.6
comp=Z,11µm,17.9s
K31A O'Neill 114.42 310 IAMs_20 IAMs_20 09 01 47.2
comp=Z,42µm,20.0s
BEL Belsk 114.44 31 *ePP* **PP** **08 12 29.4 -2.9**
BEL *eSS* SS 08 28 23.5 -0.5
BEL *eL* L 08 53 44.2
comp=Z,50µm,25.0s
GLA Glamis 114.61 293 Pdiff **Pdif** **08 07 44.3 -1.7**
baz=142
GLA Glamis 114.61 293 IAMs_20 IAMs_20 08 53 12.9
comp=Z,32µm,21.0s
KNTN Kanton 114.62 221 IAMs_20 IAMs_20 08 58 26.9
comp=Z,33µm,19.0s
MVCO Mesa Verde 114.64 300 Pdiff **Pdif** **08 07 48.5 +2.3**
baz=142
MVCO Mesa Verde 114.64 300 IAMs_20 IAMs_20 08 58 46.8
comp=Z,40µm,19.0s
GKP Gorka Klasztor 114.72 28 *ePKPdf* **PKiKP** **08 11 36.8 +1.5**
GKP *ePP* **PP** **08 12 32.1 -2.1**
GKP *eSP* SP 08 22 10.6 +0.7
GKP *eSS* **SS** **08 28 25.9 -1.7**
GKP *eL* L 08 53 24.8
comp=Z,73µm,24.1s
WUAZ Wupatki 114.75 297 Pdiff **Pdif** **08 07 44.6 -2.1**
baz=142
SRSP Sriramsagar 114.85 93 *ePdif* **Pdif** **08 07 52.4 +5.1**
SRSP *ePKPdf* **PKiKP** **08 11 38.1 +1.3**
SRSP *ePP* **PP** **08 12 36.2 +0.8**
SRSP *eSKSac* **SKSac** **08 18 25.1 +1.2**
SRSP IVMs_BB IVMs_BB 08 53 12.9
comp=Z,8µm,18.6s
RGN Rugen 114.87 25 *eP* **PKiKP** **08 11 42.6 +7.1**
RGN Rugen 114.87 25 IAMs_20 IAMs_20 08 57 49.7
comp=Z,43µm,21.0s
F36A Milaca 114.88 316 IAMs_20 IAMs_20 08 58 49.4
comp=Z,35µm,22.0s
BNSI Bone 114.92 145 PKP PKPdf 08 11 39.5 +2.4
HNR Honiara 114.96 189 IAMs_20 IAMs_20 08 55 50.5
comp=Z,38µm,20.0s
IKP In-Ko-Pah, Jac 114.98 292 Pdiff **Pdif** **08 07 46.5 -1.1**
baz=141
Y12C Blythe 115.00 293 Pdiff **Pdif** **08 07 50.3 +2.8**
baz=141
Y12C Blythe 115.00 293 IAMs_20 IAMs_20 09 01 01.1
comp=Z,31µm,19.0s
SWSC Sam W. Stewart 115.04 292 Pdiff **Pdif** **08 07 47.4 -0.3**
baz=141
IPM Ipoh 115.10 122 IAMs_20 IAMs_20 08 53 06.6
comp=Z,43µm,20.0s
IPM Ipoh 115.10 122 P **PKiKP** **08 11 39.0 +1.6**
SPSI Sidrap Palu 115.22 144 PKP **PKPdf** **08 11 39.8 +2.1**
PDMCI Parker Dam,Lak 115.23 294 Pdiff **Pdif** **08 07 50.6 +2.0**
baz=141
PMG Port Moresby 115.26 175 PKP **PKiKP** **08 11 37.6 -0.1**
comp=Z,42nm,1.1s,baz=196,slow=2.8,SNR=4.8
PMG PP **PP** **08 12 38.0 +0.8**
comp=Z,10nm,0.8s,baz=323,slow=15,SNR=1.5
PMG Port Moresby 115.26 175 ⇑*i*PKIKP **PKPdf** **08 11 38.7 +1.0**
PMG Port Moresby 115.26 175 PKiKP **PKPdf** **08 11 41.4 +3.6**
ISCO Idaho Springs 115.28 304 Pdiff **Pdif** **08 07 49.6 +0.5**
baz=142
ISCO Idaho Springs 115.28 304 PKIKP **PKPdf** **08 11 37.0 -0.3**
ISCO Idaho Springs 115.28 304 **PKPdf** **08 11 37.0 -0.3**
ISCO IAMs_20 IAMs_20 09 06 23.9
comp=Z,26µm,18.0s
MONP2 Monument Peak 115.33 292 Pdiff **Pdif** **08 07 51.9 +2.6**
baz=141
RPR Rampur 115.33 93 *ePdif* **Pdif** **08 07 51.2 +1.8**
RPR *ePKPdf* **PKiKP** **08 11 38.9 +1.3**
RPR *ePP* **PP** **08 12 39.9 +1.1**
RPR *eSKSac* **SKSac** **08 18 27.7 +1.9**
RPR IVMs_BB IVMs_BB 08 55 41.5
comp=Z,9µm,18.6s
PVM Polavaram 115.37 96 *ePdif* **Pdif** **08 07 54.5 +4.9**
PVM *ePKPdf* **PKiKP** **08 11 38.9 +1.2**
PVM *ePP* **PP** **08 12 38.7 -0.3**
PVM *eSKSac* **SKSac** **08 18 28.3 +2.4**
PVM IVMs_BB IVMs_BB 08 48 41.9
comp=Z,8µm,24.0s
ZEI Tsey 115.40 51 *i* PKIKP **PKiKP** **08 11 38.2 +0.9**
ZEI *e* 08 12 39.9
ZEI *e* 08 18 25.4
ZEI *ePS* **PKKPab** **08 22 19.6 +5.5**
ZEI pmax pmax
comp=Z,24nm,1.5s
PV01 Paradox Valley 115.40 301 **PKPdf** **08 11 37.3 -0.3**
PV01 IAMs_20 IAMs_20 09 04 52.9
comp=Z,33µm,19.0s
BC3 Big Chuckawall 115.41 293 Pdiff **Pdif** **08 07 50.1 +0.6**
baz=141
PV15 Paradox Valley 115.52 301 **PKPdf** **08 11 36.8 -1.0**
PV15 IAMs_20 IAMs_20 09 03 31.1
comp=Z,38µm,18.0s
PV02 Paradox Valley 115.54 301 **PKPdf** **08 11 36.8 -0.9**
PV02 IAMs_20 IAMs_20 09 04 38.6
comp=Z,32µm,18.0s
PV13 Radium Mtn., P 115.54 301 **PKPdf** **08 11 36.9 -0.9**
PV13 IAMs_20 IAMs_20 08 59 45.7
comp=Z,32µm,19.0s
PV05 Paradox Valley 115.62 300 **PKiKP** **08 11 38.3 +0.4**
PV05 IAMs_20 IAMs_20 08 59 45.4
comp=Z,40µm,20.0s
KULM Kulim 115.62 121 P **PKiKP** **08 11 40.0 +1.6**
PV03 Paradox Valley 115.63 301 IAMs_20 IAMs_20 08 59 31.0
comp=Z,32µm,18.0s
IRM Iron Mountain 115.64 293 Pdiff **Pdif** **08 07 50.2 -0.3**
baz=141
PV18 Skein Mesa, Pa 115.65 301 **PKPdf** **08 11 37.3 -0.6**
PV18 IAMs_20 IAMs_20 08 59 48.7
comp=Z,34µm,19.0s
PV12 Saucer Basin, 115.66 301 IAMs_20 IAMs_20 09 04 50.7
comp=Z,40µm,18.0s
MUD Monsted U'grnd 115.67 22 *i* P **PKiKP** **08 11 40.2 +3.2**
MUD *i* 08 12 34.6
comp=Z,44µm,20.0s
MUD Monsted U'grnd 115.67 22 *ePKIKP* **PKiKP** **08 11 40.2 +3.2**
MUD MLR MLR
comp=Z,44µm,20.0s
PV07 Paradox Valley 115.67 301 **PKiKP** **08 11 38.1 +0.1**
PV07 IAMs_20 IAMs_20 09 04 52.3
comp=Z,34µm,18.0s
PV11 David Mesa, Pa 115.68 301 IAMs_20 IAMs_20 08 59 59.3
comp=Z,36µm,20.0s
109C Camp Elliot, M 115.69 291 Pdiff **Pdif** **08 07 52.0 +1.4**
baz=141
109C Camp Elliot, M 115.69 291 **PKiKP** **08 11 38.5 +0.6**
PV17 East Wray Mesa 115.70 300 **PKPdf** **08 11 37.5 -0.6**
PV17 IAMs_20 IAMs_20 08 59 41.0
comp=Z,45µm,19.0s
KBZ Khabaz 115.71 50 PKP **PKiKP** **08 11 38.5 +0.9**
comp=Z,8.5nm,0.9s,baz=138,slow=1.5,SNR=10
KBZ Khabaz 115.71 50 ⇓*i*PKIKP **PKiKP** **08 11 39.4 +1.8**
W13A Hualapai Mount 115.71 295 **PKPdf** **08 11 37.3 -0.9**
PV19 Morning Glory 115.74 301 **PKiKP** **08 11 38.5 +0.4**
PV19 IAMs_20 IAMs_20 08 59 41.9
comp=Z,37µm,18.0s
PV20 West Nyswonger 115.76 301 IAMs_20 IAMs_20 08 59 51.4
comp=Z,34µm,19.0s
PV04 Paradox Valley 115.77 301 IAMs_20 IAMs_20 09 04 53.6
comp=Z,39µm,18.0s
BSD Bornholm Skovb 115.77 26 *i* P **PKiKP** **08 11 41.4 +4.1**
comp=Z,34µm,20.0s
BSD Bornholm Skovb 115.77 26 *ePKIKP* **PKiKP** **08 11 41.4 +4.1**
BSD MLR MLR
comp=Z,34µm,20.0s
KIV Kislovodsk 115.80 49 ⇓*P* **PKiKP** **08 11 40.7 +2.8**
KIV Kislovodsk 115.80 49 *eP* **Pdif** **08 07 52.0 +1.0**
KIV *i* 08 11 38.7
KIV *e* 08 12 42.8
KIV *e* 08 18 27.9
KIV *ePS* **PS** **08 22 24.1 +1.8**
KIV *eSS* SS 08 28 46.1 +3.7
KIV *eSSS* SSS 08 33 03.4
KIV pmax pmax
comp=Z,80nm,1.1s
KIV MLR MLR
comp=Z,96µm,21.0s
KIV Kislovodsk 115.80 49 **PKiKP** **08 11 38.0 +0.1**
KIV IAMs_20 IAMs_20 09 02 06.8
comp=Z,36µm,20.0s
PV14 Lion Creek, Pa 115.81 301 IAMs_20 IAMs_20 08 59 53.8
comp=Z,43µm,20.0s
EYMN Ely 115.81 318 Pdiff **Pdif** **08 07 50.9 +0.1**
baz=146
EYMN Ely 115.81 318 **PKPdf** **08 11 36.7 -1.0**
EYMN Ely 115.81 318 IAMs_20 IAMs_20 09 03 31.1
comp=Z,30µm,19.0s
PV10 Paradox Valley 115.82 301 **PKPdf** **08 11 37.7 -0.7**
PV22 Blue Mesa, Par 115.82 301 IAMs_20 IAMs_20 08 59 42.1
comp=Z,34µm,18.0s
NEE2 Needles Airpor 115.84 294 Pdiff **Pdif** **08 07 53.1 +1.9**
baz=141
PV23 Carpenter Ridg 115.86 301 **PKPdf** **08 11 37.7 -0.7**
PV23 IAMs_20 IAMs_20 08 59 56.2
comp=Z,38µm,19.0s
TPFO Pinon Flats 115.90 292 Pdiff **Pdif** **08 07 52.8 +1.1**
baz=141
XPFO Pion Flat 115.91 292 IAMs_20 IAMs_20 08 59 51.1
comp=Z,27µm,18.0s
PFO Pinyon Flats O 115.91 292 Pdiff **Pdif** **08 07 52.8 +1.1**
baz=141
PFO Pinyon Flats O 115.91 292 PKP **PKiKP** **08 11 40.1 +1.6**
comp=Z,13nm,1.1s,baz=204,slow=2.5,SNR=8.2
PFO PP **PP** **08 12 43.6 +0.6**
comp=Z,6.9nm,1.0s,baz=138,slow=9.3,SNR=3.9
PFO PKKPbc **PKKPab** **08 22 11.4 -1.3**
comp=Z,3.1nm,1.0s,baz=105,slow=17,SNR=2.9
PFO Pinyon Flats O 115.91 292 ⇑*i*PKIKP **PKiKP** **08 11 40.2 +1.7**
PFO MLR MLR
comp=Z,20µm,17.0s
PFO Pinyon Flats O 115.91 292 **PKiKP** **08 11 38.6 +0.1**
PFO Pinyon Flats O 115.91 292 IAMs_20 IAMs_20 08 59 52.1
comp=Z,27µm,18.0s
PFO Pinyon Flats O 115.91 292 **PKKPab** **08 22 11.4 -1.3**
U15A North Rim 115.93 297 **PKPdf** **08 11 38.4 -0.2**
U15A IAMs_20 IAMs_20 08 58 47.8
comp=Z,40µm,20.0s
PV21 Cone Mtn., Par 115.93 301 IAMs_20 IAMs_20 09 03 53.0
comp=Z,32µm,18.0s
BELC Belle Mtn. Jos 115.97 293 Pdiff **Pdif** **08 07 52.8 +0.7**
baz=141
SUSD Miller 115.97 311 Pdiff **Pdif** **08 07 51.0 -0.7**
baz=144
F33A 5 Mile Ranch, 115.98 314 **PKPdf** **08 11 37.2 -0.9**
F33A IAMs_20 IAMs_20 09 02 08.6
comp=Z,41µm,20.0s
AKT Akhty 116.09 54 *i* PKIKP **PKiKP** **08 11 39.5 +0.9**
AKT *e* 08 12 47.8
AKT *e* 08 15 16.0
AKT pmax pmax
comp=Z,78nm,1.4s
AKASG Malin Array Be 116.14 37 PKP **PKPdf** **08 11 36.5 -1.6**
comp=Z,9.5nm,0.9s,baz=242,slow=1.8,SNR=19
AKASG PP **PP** **08 12 44.7 +0.5**
comp=Z,0.8nm,0.4s,baz=296,slow=0.4,SNR=4.0
AKASG PKKPab **PKKPab** **08 22 11.9 +2.0**
comp=Z,0.9nm,0.5s,baz=27,slow=5.1,SNR=6.7
AKBB Malin Array Si 116.14 37 PKIKP **PKPdf** **08 11 36.9 -1.3**
AKBB Malin Array Si 116.14 37 **PKPdf** **08 11 36.9 -1.3**
AKBB IAMs_20 IAMs_20 08 57 39.6
comp=Z,50µm,22.0s
GOET G??ttrup 116.22 22 *i* P **PKiKP** **08 11 44.6 +6.5**
comp=Z,183nm,1.0s
MURC Murrieta 116.29 291 Pdiff **Pdif** **08 07 54.1 +0.8**
baz=141
N23A Red Feather La 116.30 304 Pdiff **Pdif** **08 07 53.9 +0.4**
baz=142
N23A Red Feather La 116.30 304 **PKPdf** **08 11 39.0 -0.3**
PHWY Pilot Hill 116.39 305 IAMs_20 IAMs_20 09 10 14.3
comp=Z,27µm,18.0s
GMRC Granite Mounta 116.39 293 Pdiff **Pdif** **08 07 51.9 -2.0**
baz=141
GROC Groznyy 116.57 52 *i* PKIKP **PKPdf** **08 11 37.8 -1.5**
GROC *e* 08 12 47.6
GROC *e* 08 15 20.5
GROC *ePS* **PKKPdf** **08 22 34.8 +2.2**
GROC pmax pmax
comp=Z,70nm,1.2s
BBRC Big Bear Solar 116.65 292 Pdiff **Pdif** **08 07 57.9 +2.7**
baz=141
KSM Kuching 116.65 132 PKPdf **PKPdf** **08 11 38.5 -2.0**
BKB Balikpapan 116.74 140 IAMs_20 IAMs_20 08 59 44.3
comp=Z,46µm,19.0s
HEC Hector,Ludlow 116.78 293 Pdiff **Pdif** **08 07 53.7 -1.8**
baz=141
CIS Catalina Islan 116.78 290 Pdiff **Pdif** **08 07 56.5 +0.9**
baz=141
O20A White River Ci 116.80 302 Pdiff **Pdif** **08 07 53.8 -1.9**
baz=141
O20A White River Ci 116.80 302 **PKPdf** **08 11 39.3 -0.8**
GOF Gofitskoye 116.84 49⇑*ePKIKP* **PKiKP** **08 11 41.3 +1.6**
B35A Bob, Littlefor 117.00 317 PKPdf **PKPdf** **08 11 39.7 -0.3**
SNART Snartemo 117.02 20 *ePdif* **Pdif** **08 07 55.9 +0.1**
SNART *ePKPdf* **PKiKP** **08 11 40.6 +1.0**

SNART ePP PP 08 12 49.9 -0.3
SNART eSKSac SKSac 08 18 28.0 -2.1
SNART eSP SP 08 22 32.9 +2.2
SNART eSS SS 08 28 60.0 +2.4
SNART IVMs_BB IVMs_BB 08 54 08.1
comp=Z,29µm,22.5s
BFSC Mount Baldy Ra 117.03 292 Pdiff **Pdif** **08 07 59.7 +3.0**
baz=140
TUQ Turquoise Moun 117.03 294 Pdiff **Pdif** **08 07 57.5 +0.8**
baz=140
SUW Suwalki 117.05 31 ePKPdf **PKPdf** **08 11 38.1 -1.7**
SUW ePP PP 08 12 47.4 -3.2
SUW eSP SP 08 22 38.7 +7.5
SUW eSS SS 08 28 53.6 -4.6
SUW eL L 08 55 06.3
comp=Z,44µm,24.9s
SRU San Rafael Swe 117.12 300 PKIKP **PKPdf** **08 11 39.8 -0.9**
SRU San Rafael Swe 117.12 300 **PKPdf** **08 11 39.8 -0.9**
MTPU Mount Pierson 117.12 298 **PKPdf** **08 11 40.7 -0.3**
MAK Makhachkala 117.15 53 eP **Pdif** **08 07 54.3 -2.5**
MAK ePS **PKKPdf** **08 22 37.4 +6.0**
MAK eSS SS 08 28 59.4 -0.4
HOMB Homborsund 117.21 21 ePdif **Pdif** **08 07 56.6 -0.1**
HOMB ePKPdf **PKiKP** **08 11 41.2 +1.2**
HOMB ePP PP **08 12 48.7 -2.9**
HOMB eSKSac **SKSac** **08 18 30.9 +0.2**
HOMB eSP SP **08 22 32.7 +0.3**
HOMB eSS SS **08 29 03.9 +3.8**
HOMB IVMs_BB IVMs_BB 08 56 11.1
comp=Z,14µm,21.6s
MWC Mount Wilson 117.22 291 IAMs_20 IAMs_20 09 00 24.0
comp=Z,27µm,19.0s
PASC Pasadena Art C 117.25 291 PKPdf **PKPdf** **08 11 40.4 -0.5**
Q16A Castle Valley 117.29 299 **PKPdf** **08 11 40.6 -0.5**
D32A Dogwood Acres, 117.32 314 IAMs_20 IAMs_20 09 08 29.0
comp=Z,33µm,19.0s
GSC Goldstone, Bar 117.39 293 PKIKP **PKPdf** **08 11 41.2 0.0**
GSC Goldstone, Bar 117.39 293 PKPdf **PKPdf** **08 11 41.2 0.0**
GSC IAMs_20 IAMs_20 08 54 11.4
comp=Z,33µm,21.0s
DECC Green Verdugo 117.39 291 Pdiff **Pdif** **08 07 59.9 +1.7**
baz=140
KMY Karmoy 117.46 19 ePP PP 08 12 52.7 -0.6
KMY eSKSac **SKSac** **08 18 31.1 -0.5**
KMY eSP **SP** **08 22 32.2 -2.4**
KMY eSS **SS** **08 29 03.2 -0.1**
P17A Butcher Ranch, 117.51 300 **PKiKP** **08 11 41.7 +0.3**
RWWY Rawlins 117.52 304 **PKPdf** **08 11 40.6 -0.9**
RWWY IAMs_20 IAMs_20 09 00 38.0
comp=Z,31µm,20.0s
EDW2 Edwards Air Fo 117.69 292 Pdiff **Pdif** **08 08 02.7 +3.1**
baz=140
CHLP Challavanipeta 117.75 98 ePdif **Pdif** **08 08 05.0 +4.9**
CHLP ePKiKP **PKiKP** **08 11 43.7 +1.4**
CHLP ePP **PP** **08 12 58.4 +2.7**
CHLP eSKSac **SKSac** **08 18 37.9 +3.1**
CHLP IVMs_BB IVMs_BB 08 53 59.4
comp=Z,7µm,21.1s
RDMU Red Mountain 117.78 302 **PKPdf** **08 11 41.5 -0.5**
AGMN Agassiz Nation 117.79 316 Pdiff **Pdif** **08 08 03.1 +3.5**
baz=144
AGMN Agassiz Nation 117.79 316 PKPdf **PKPdf** **08 11 40.6 -0.8**
AGMN IAMs_20 IAMs_20 09 00 11.5
comp=Z,34µm,22.0s
OSI Osito Audit: C 117.88 291 Pdiff **Pdif** **08 08 00.1 -0.3**
baz=140
BLS5 Blasjo 117.88 19 ePdif **Pdif** **08 08 01.6 +1.9**
BLS5 ePP **PP** **08 12 56.0 -0.3**
BLS5 eSKSac **SKSac** **08 18 36.0 +2.7**
BLS5 eSP **SP** **08 22 41.7 +3.2**
BLS5 eSS **SS** **08 29 08.8 -0.1**
BLS5 IVMs_BB IVMs_BB 09 02 43.1
comp=Z,10µm,18.2s
K22A Casper 117.94 305 Pdiff **Pdif** **08 08 03.3 +2.7**
baz=141
K22A Casper 117.94 305 **PKPdf** **08 11 40.9 -1.3**
K22A IAMs_20 IAMs_20 09 05 27.3
comp=Z,31µm,18.0s
RSSD Black Hills 117.95 308 Pdiff **Pdif** **08 08 03.8 +3.1**
baz=142
RSSD Black Hills 117.95 308 PKIKP **PKPdf** **08 11 41.0 -1.2**
RSSD Black Hills 117.95 308 PKPdf **PKPdf** **08 11 41.0 -1.2**
RSSD Black Hills 117.95 308 IAMs_20 IAMs_20 09 09 22.5
comp=Z,40µm,18.0s
LRMC Laurel Mtn Rad 117.99 292 Pdiff **Pdif** **08 08 04.1 +3.1**
baz=140
ARVC Arvin 118.33 291 Pdiff **Pdif** **08 08 04.7 +2.4**
baz=140
MPMC Manual Prospec 118.33 293 Pdiff **Pdif** **08 08 02.8 +0.3**
baz=140
SBUM Sibu 118.33 134 PKPdf **PKPdf** **08 11 42.4 -1.3**
SBUM IAMs_20 IAMs_20 08 58 53.1
comp=Z,30µm,20.0s
SBUM Sibu 118.33 134 P **PKiKP** **08 11 45.0 +1.3**
TPNV Topopah Spring 118.36 295 Pdiff **Pdif** **08 08 02.3 -0.3**
baz=140
TPNV Topopah Spring 118.36 295 PKIKP **PKiKP** **08 11 43.2 0.0**
TPNV Topopah Spring 118.36 295 **PKiKP** **08 11 43.1 0.0**
MPU Maple Canyon 118.36 300 **PKPdf** **08 11 42.8 -0.3**
ODD1 Odda 118.37 19 ePdif **Pdif** **08 08 05.8 +3.9**
ODD1 epPKPdf **pPKPdf** **08 11 46.8 +0.5**
ODD1 ePP **PP** **08 12 58.2 -1.5**
ODD1 eSKSac **SKSac** **08 18 35.1 0.0**
ODD1 ePS **PS** **08 22 47.1 +2.0**
ODD1 eSS **SS** **08 29 18.1 +2.8**
E28A Huff 118.41 312 PKPdf **PKPdf** **08 11 41.8 -1.0**
E28A IAMs_20 IAMs_20 09 04 05.7
comp=Z,41µm,20.0s
GEYT Alibeck 118.41 64 PKP **PKiKP** **08 11 43.2 +0.1**
comp=Z,14nm,1.1s,baz=241,slow=4.9,SNR=15
GEYT PP **PP** **08 12 59.2 -1.1**
comp=Z,6.3nm,1.0s,baz=266,slow=3.9,SNR=1.4
GYA0B ALIBECK ARRAY 118.41 64 PKPdf **PKPdf** **08 11 42.3 -0.7**
PBUR Paburge 118.44 29 eP **PKiKP** **08 11 44.0 +1.6**
ISA Isabella, Lake 118.54 292 Pdiff **Pdif** **08 08 06.1 +2.7**
baz=140
ISA Isabella, Lake 118.54 292 PKIKP **PKPdf** **08 11 43.4 0.0**
ISA MLR MLR
comp=Z,42µm,19.0s
ISA Isabella, Lake 118.54 292 **PKPdf** **08 11 43.4 0.0**
ISA IAMs_20 IAMs_20 09 01 36.0
comp=Z,42µm,19.0s
ASHT Ashkhabad 118.56 64 IAMs_20 IAMs_20 09 05 29.7
comp=Z,38µm,18.0s
PABE Paberze 118.57 31 eP **PKiKP** **08 11 43.7 +1.0**
BER Bergen 118.57 18 ePdif **Pdif** **08 08 07.6 +5.0**
BER ePKPdf **PKiKP** **08 11 44.6 +2.1**
BER ePP **PP** **08 13 01.0 -0.1**
BER eSKSac **SKSac** **08 18 38.1 +2.5**
BER eSP SP 08 22 48.5 +3.8
BER eSS **SS** **08 29 19.0 +1.3**
BER IVMs_BB IVMs_BB 08 59 21.1
comp=Z,12µm,19.5s
ASK Askoy 118.64 18 epPKPdf **pPKPdf** **08 11 46.9 +0.2**
ASK eSKSac **SKSac** **08 18 36.9 +1.0**
ASK ePS **PS** **08 22 50.5 +3.2**
ASK eSS **SS** **08 29 15.1 -3.5**
ASK IVMs_BB IVMs_BB 08 59 13.3
comp=Z,12µm,21.9s
KONO Kongsberg 118.70 21 ⇑ *i* PKIKP **PKiKP** **08 11 43.8 +0.9**
KONO Kongsberg 118.70 21 IAMs_20 IAMs_20 08 58 04.2
comp=Z,41µm,22.0s
KONO Kongsberg 118.70 21 ePdif **Pdif** **08 08 07.1 +3.7**
KONO epPKPdf **pPKPdf** **08 11 47.0 +0.1**
KONO IVmBBB 08 11 52.7
comp=Z,568nm,3.3s
KONO ePP **PP** **08 13 01.9 0.0**
KONO eSKSac **SKSac** **08 18 37.0 +0.8**
KONO ePS **PS** **08 22 50.2 +2.3**
KONO eSS **SS** **08 29 18.7 -0.8**
KONO IVMs_BB IVMs_BB 09 02 27.1
comp=Z,13µm,17.2s
JLU Jordanelle 118.72 300 **PKPdf** **08 11 43.7 -0.2**
NACGM Naroch 118.90 33 eP **PKPdf** **08 11 40.0 -3.3**
NACGM eP **PKPdf** **08 11 40.0 -3.3**
NACGM eP **PP** **08 13 00.0 -3.4**
NACGM eP PP 08 15 22.0
NACGM eSKS **SKSac** **08 18 32.0 -5.1**
NACGM eSKKS **SKKSac** **08 20 05.0 +3.5**
NACGM eSKKKS 08 20 46.0
NACGM eP **PS** **08 22 42.0 -7.9**
NACGM eSS **SS** **08 29 12.0 -10**
NACGM eSSS SSS 08 34 42.0
NACGM eLQ LQ 08 47 22.0
NACGM eLR LR 08 53 26.0
NACGM LRM MLR 09 00 12.0
comp=E,36nm,20.0s
NACGM LRM MLR 09 00 18.0
comp=E,25nm,18.0s
NACGM LRM MLR 09 00 28.0
comp=Z,52nm,20.0s
NACGM LRM MLR 09 00 36.0
comp=Z,69nm,24.0s
NACGM LRM MLR 09 00 44.0
comp=N,19nm,20.0s
MNK Minsk 118.91 34 ePKIKP **PKPdf** **08 11 40.0 -3.4**
MNK *e* 08 18 32.0
MNK MLR MLR
comp=Z,69µm,24.0s
CWC Cottonwood Cre 118.93 293 Pdiff **Pdif** **08 08 07.2 +2.1**
baz=140
CTU Camp Tracy 118.94 300 PKPdf **PKPdf** **08 11 43.9 -0.2**
LUWI Luwuk 118.94 147 PKPdf **PKPdf** **08 11 43.3 -1.6**
MDND Maddock 118.95 313 IAMs_20 IAMs_20 09 04 08.2
comp=Z,33µm,20.0s
GRAC Grapevine Rang 118.97 294 Pdiff **Pdif** **08 08 07.9 +2.7**
baz=140
R11A Troy Canyon, C 119.08 296 Pdiff **Pdif** **08 08 06.8 +1.0**
baz=140
R11A Troy Canyon, C 119.08 296 IAMs_20 IAMs_20 09 03 11.3
comp=Z,26µm,18.0s
DUG Dugway, Tooele 119.08 299 Pdiff **Pdif** **08 08 05.9 +0.1**
baz=140
DUG Dugway, Tooele 119.08 299 PKIKP **PKPdf** **08 11 43.9 -0.5**
DUG MLR MLR
comp=Z,39µm,19.0s
DUG Dugway, Tooele 119.08 299 PKPdf **PKPdf** **08 11 43.9 -0.5**
DUG IAMs_20 IAMs_20 09 02 45.4
comp=Z,39µm,19.0s
TCUT Toone Canyon 119.09 301 **PKPdf** **08 11 44.5 -0.1**
SUE Sulen 119.10 18 ePdif **Pdif** **08 08 02.3 -2.7**
SUE ePKPdf **PKiKP** **08 11 44.1 +0.6**
SUE ePP **PP** **08 13 03.5 -1.2**
SUE eSKSac **SKSac** **08 18 38.2 +0.8**
SUE eSP SP 08 22 51.0 +1.6
SUE eSS **SS** **08 29 26.7 +2.2**
SUE IVMs_BB IVMs_BB 09 04 09.9
comp=Z,11µm,16.6s
IIGN Ignalina 119.11 32 eP **PKPdf** **08 11 43.1 -0.6**
OSL Oslo 119.20 21 ePdif **Pdif** **08 08 08.5 +3.0**
OSL epPKPdf **pPKPdf** **08 11 48.6 +0.8**
OSL ePP **PP** **08 13 04.5 -0.9**
OSL eSKSac **SKSac** **08 18 39.6 +1.7**
OSL ePS **PS** **08 22 55.0 +2.6**
OSL eSS **SS** **08 29 23.8 -2.0**
OSL IVMs_BB IVMs_BB 08 56 57.3
comp=Z,17µm,21.6s
ISAL Salakas 119.27 32 eP **PKiKP** **08 11 44.3 +0.2**
ULM Lac du Bonnet 119.36 317 PKP **PKPdf** **08 11 42.6 -1.8**
comp=Z,27nm,0.9s,baz=122,slow=2.5,SNR=8.4
ULM PP **PP** **08 13 03.9 -2.8**
comp=Z,57nm,1.0s,baz=137,slow=5.8,SNR=8.5
ULM Lac du Bonnet 119.36 317 PKIKP **PKiKP** **08 11 45.0 +0.6**
ULM MLR MLR
comp=Z,33µm,20.0s
ULM Lac du Bonnet 119.36 317 PKPdf **PKiKP** **08 11 45.0 +0.6**
ULM IAMs_20 IAMs_20 09 03 23.0
comp=Z,33µm,20.0s
SKAR Skarslia 119.40 20 ePdif **Pdif** **08 08 03.1 -3.4**
SKAR ePKPdf **PKiKP** **08 11 45.6 +1.3**
SKAR ePP **PP** **08 13 07.5 +0.7**
SKAR eSKSac **SKSac** **08 18 40.9 +2.2**
SKAR eSP **SP** **08 22 55.6 +3.4**
SKAR eSS **SS** **08 29 30.7 +2.2**
SKAR IVMs_BB IVMs_BB 08 55 56.5
comp=Z,9µm,23.7s
IZAR Zarasai 119.45 32 eP **PKiKP** **08 11 45.0 +0.6**
HYA Hoyanger 119.46 18 ePdif **Pdif** **08 08 05.8 -0.8**
HYA ePP **PP** **08 13 04.4 -2.7**
HYA eSKSac **SKSac** **08 18 36.3 -2.4**
HYA eSP SP 08 22 54.9 +2.3
HYA eSS **SS** **08 29 30.5 +1.4**
HYA IVMs_BB IVMs_BB 09 05 36.1
comp=Z,7µm,17.3s
PD31 Pinedale Array 119.46 303 **PKPdf** **08 11 43.4 -1.8**
PDAR Pinedale Array 119.46 303 PKP **PKPdf** **08 11 43.3 -1.9**
comp=Z,6.2nm,0.8s,baz=142,slow=4.9,SNR=17
PDAR PKKPbc **PKKPbc** **08 21 56.2 +0.4**
comp=Z,4.5nm,1.0s,baz=343,slow=2.0,SNR=8.4
BW06 Boulder Array 119.46 303 Pdiff **Pdif** **08 08 04.7 -2.8**
baz=140
BW06 Boulder Array 119.46 303 **PKPdf** **08 11 43.8 -1.4**
BW06 IAMs_20 IAMs_20 09 02 28.4
comp=Z,34µm,19.0s
HWUT Hardware Ranch 119.54 301 PKPdf **PKPdf** **08 11 44.4 -0.9**
HWUT IAMs_20 IAMs_20 09 05 42.6
comp=Z,37µm,18.0s
FOO Floro 119.66 18 ePdif **Pdif** **08 08 08.0 +0.5**
FOO ePP **PP** **08 13 06.4 -2.1**
FOO eSKSac **SKSac** **08 18 38.4 -1.0**
FOO eSP **SP** **08 22 55.3 +1.0**
FOO eSS **SS** **08 29 32.7 +1.0**
FOO IVMs_BB IVMs_BB 08 57 49.9
comp=Z,11µm,19.0s
BGU Big Grassy Mou 119.75 300 PKPdf **PKPdf** **08 11 45.7 0.0**
HFS Hagfors 120.01 23 PKP **PKPdf** **08 11 43.8 -1.6**
comp=Z,10nm,0.8s,baz=151,slow=3.4,SNR=12
HFS PP **PP** **08 13 05.7 -5.3**
comp=Z,17nm,1.1s,baz=186,slow=8.7,SNR=2.4
HFS PKKPbc **PKKPab** **08 21 52.3 -0.3**
comp=Z,2.6nm,0.5s,baz=60,slow=5.8,SNR=13
BORG Borgarnes 120.01 3 IAMs_20 IAMs_20 08 59 30.9
comp=Z,37µm,20.0s
NAO01 NORSAR Array S 120.06 21 **PKPdf** **08 11 45.4 0.0**
NC602 NORSAR Array S 120.10 21 ePdif **Pdif** **08 08 11.6 +2.1**
NC602 ePKPdf **PKiKP** **08 11 46.3 +0.7**
NC602 ePP **PP** **08 13 10.2 -1.4**
NC602 eSKSac **SKSac** **08 18 41.5 +0.5**
NC602 ePS **PS** **08 23 02.3 +1.8**
NC602 eSS **SS** **08 29 36.1 -1.4**
NC602 IVMs_BB IVMs_BB 08 57 34.2
comp=Z,16µm,23.2s
PMPB Monarch Peak 120.19 291 IAMs_20 IAMs_20 09 00 11.6
comp=Z,30µm,18.0s
AHID Auburn Hatcher 120.20 302 **PKPdf** **08 11 44.8 -1.7**
AHID IAMs_20 IAMs_20 09 02 36.9
comp=Z,33µm,20.0s
NBO00 NORSAR Array S 120.21 21 **PKiKP** **08 11 45.8 0.0**
HVU Hansel Valley 120.27 300 PKIKP **PKPdf** **08 11 45.8 -0.9**
HVU Hansel Valley 120.27 300 **PKPdf** **08 11 45.8 -0.9**
OMMB Old Mammoth Mi 120.29 293 PKPdf **PKPdf** **08 11 46.9 -0.1**
OMMB IAMs_20 IAMs_20 08 57 14.3
comp=Z,31µm,22.0s
NB2 NORSAR Subarra 120.31 21 PKPdf **PKPdf** **08 11 44.7 -1.2**
comp=Z,165nm,2.5s,baz=202,slow=1.9
NB2 NORSAR Subarra 120.31 21 PKPdf **PKPdf** **08 11 44.7 -1.2**
baz=202,slow=1.9
NOA NORSAR Array B 120.31 21 PKP **PKPdf** **08 11 44.9 -1.1**
comp=Z,12nm,0.9s,baz=205,slow=1.9,SNR=19
NOA SKP **SKPdf** **08 15 21.2 +0.7**
comp=Z,6.0nm,1.0s,baz=198,slow=1.8,SNR=3.6
NOA PKKPbc **PKKPab** **08 21 51.0 -0.4**
comp=Z,7.1nm,1.0s,baz=27,slow=3.1,SNR=9.7
NB201 NORSAR Array S 120.33 21 PKPdf **PKPdf** **08 11 44.3 -1.7**
NC204 NORSAR Array S 120.43 21 PKPdf **PKPdf** **08 11 45.2 -1.0**
NV11 Mina Array Sit 120.47 294 PKPdf **PKPdf** **08 11 46.5 -0.7**
NC303 NORSAR Array S 120.51 21 **PKPdf** **08 11 45.5 -0.8**
NVAR Mina Array Bea 120.54 294 PKP **PKPdf** **08 11 47.4 0.0**
comp=Z,13nm,1.0s,baz=138,slow=3.4,SNR=21
NVAR PKKPbc **PKKPab** **08 21 54.2 +1.7**
comp=Z,2.5nm,1.0s,baz=29,slow=2.1,SNR=4.2
AKN Aaknes 120.54 18 ePdif **Pdif** **08 08 12.1 +0.7**
AKN ePKPdf **PKPdf** **08 11 46.3 0.0**

AKN ePP **PP** **08 13 14.2 -0.4**
AKN eSKSac **SKSac** **08 18 47.0 +4.5**
AKN eSP SP 08 23 02.7 +0.4
AKN eSS **SS** **08 29 43.9 +0.7**
AKN IVMs_BB IVMs_BB 08 55 36.2
comp=Z,8µm,20.8s
RABL Rabaul 120.54 181 IAMs_20 IAMs_20 09 02 48.2
comp=Z,28µm,20.0s
SNOW Snow King Moun 120.56 303 **PKPdf** **08 11 46.9 -0.4**
SNOW IAMs_20 IAMs_20 09 02 47.5
comp=Z,33µm,20.0s
TPAW Teton Pass 120.67 303 PKPdf **PKPdf** **08 11 47.3 -0.2**
TPAW IAMs_20 IAMs_20 09 02 49.5
comp=Z,28µm,19.0s
ELK Elko 120.71 298 PKP **PKPdf** **08 11 47.5 -0.3**
comp=Z,17nm,1.0s,baz=166,slow=1.2,SNR=15
ELK Elko 120.71 298 PKIKP **PKPdf** **08 11 47.4 -0.3**
ELK MLR MLR
comp=Z,33µm,20.0s
ELK Elko 120.71 298 PKPdf **PKPdf** **08 11 47.4 -0.3**
ELK IAMs_20 IAMs_20 09 02 07.4
comp=Z,33µm,20.0s
DOMB Dombas 120.80 19 ePdif **Pdif** **08 08 12.3 -0.4**
DOMB ePP **PP** **08 13 16.4 0.0**
DOMB eSKSac **SKSac** **08 18 44.2 +0.7**
DOMB ePS **PS** **08 23 10.2 +3.4**
DOMB eSS **SS** **08 29 43.0 -3.5**
DOMB IVMs_BB IVMs_BB 09 05 18.7
comp=Z,13µm,17.7s
RYN Ryan 120.81 294 **PKiKP** **08 11 48.3 +0.4**
FXWY Fox Creek 120.82 303 PKPdf **PKPdf** **08 11 47.2 -0.5**
KVN Kaiserville 120.90 295 PKIKP **PKPdf** **08 11 47.6 -0.4**
KVN Kaiserville 120.90 295 **PKPdf** **08 11 47.5 -0.4**
LAO LASA Array 120.91 308 PKPdf **PKPdf** **08 11 47.0 -0.6**
SAO San Andreas Ge 120.95 291 IAMs_20 IAMs_20 08 59 32.1
comp=Z,32µm,19.0s
ANGG Ammassalik, Gr 120.97 356 IAMs_20 IAMs_20 08 53 05.2
comp=Z,43µm,21.0s
IMW Indian Meadow 120.97 303 PKPdf **PKPdf** **08 11 47.7 -0.4**
IMW IAMs_20 IAMs_20 09 07 21.5
comp=Z,30µm,20.0s
FLWY Flagg Ranch 121.00 304 **PKPdf** **08 11 47.3 -0.7**
FLWY IAMs_20 IAMs_20 09 05 15.1
comp=Z,32µm,19.0s
MOL Molde 121.00 18 ePdif **Pdif** **08 08 16.0 +2.5**
MOL ePKPdf **pPKPdf** **08 11 50.0 -1.2**
MOL ePP **PP** **08 13 17.2 -0.5**
MOL ePS **PS** **08 23 11.3 +2.8**
MOL eSS SS 08 29 48.8 -0.2
MOL IVMs_BB IVMs_BB 08 57 00.2
comp=Z,13µm,20.5s
RLMT Red Lodge 121.11 305 Pdiff **Pdif** **08 08 14.3 -0.4**
baz=139
RLMT Red Lodge 121.11 305 PKPdf **PKPdf** **08 11 47.6 -0.6**
RLMT IAMs_20 IAMs_20 09 11 53.1
comp=Z,38µm,18.0s
VRH Novokhopyorsk 121.14 44 *i* PKIKP **PKPdf** **08 11 46.7 -1.1**
VRH *e* 08 18 43.6
VRH eSP SP 08 23 12.8 +4.6
VRH pmax pmax
comp=Z,50nm,1.0s
VRH MLR MLR
comp=Z,22µm,22.0s
LPSR Galich'ya Gora 121.17 41 *i* PKIKP **PKiKP** **08 11 48.3 +0.4**
LPSR *e* 08 18 43.6
LPSR eSP SP 08 23 15.7 +7.3
LPSR pmax pmax
comp=Z,40nm,1.0s
LPSR MLR MLR
comp=Z,26µm,22.0s
H17A Grant Village 121.17 304 Pdiff **Pdif** **08 08 14.0 -1.1**
baz=139
H17A Grant Village 121.17 304 **PKiKP** **08 11 48.5 -0.1**
WAKR Walker 121.19 294 **PKPdf** **08 11 48.4 -0.2**
WAKR IAMs_20 IAMs_20 08 56 38.5
comp=Z,36µm,22.0s
LKWY Lake 121.22 304 IAMs_20 IAMs_20 09 06 53.0
comp=Z,40µm,20.0s
CMB Columbia Colle 121.34 292 PKIKP **PKPdf** **08 11 48.5 -0.2**
CMB Columbia Colle 121.34 292 **PKPdf** **08 11 48.5 -0.2**
CMB IAMs_20 IAMs_20 08 57 18.4
comp=Z,35µm,21.0s
GENI Genyem 121.37 167 PKP **PKPdf** **08 11 49.1 -0.4**
DGMT Dagmar 121.38 311 PKPdf **PKPdf** **08 11 47.8 -0.6**
DGMT Dagmar 121.38 311 IAMs_20 IAMs_20 09 04 26.3
comp=Z,44µm,21.0s
SIJI Sorong 121.43 156 PKP **PKPdf** **08 11 48.1 -1.6**
comp=Z,20nm,0.7s,baz=154,slow=22,SNR=2.8
YERR Yerington 121.44 294 **PKiKP** **08 11 49.3 +0.1**
JAY Jayapura 121.52 167 PKP **PKPdf** **08 11 48.7 -1.2**
comp=Z,32nm,0.9s,baz=269,slow=4.5,SNR=7.1
JAY Jayapura 121.52 167 PKP **PKPdf** **08 11 48.9 -1.0**
YHH Holmes Hill 121.60 304 **PKPdf** **08 11 48.9 -0.4**
KBL Kabul 121.66 74 IAMs_20 IAMs_20 09 02 26.7
comp=Z,33µm,22.0s
PNTR Pine Nut 121.71 294 **PKPdf** **08 11 49.5 -0.1**
PNTR IAMs_20 IAMs_20 09 03 15.0
comp=Z,24µm,18.0s
YHB Horse Butte 121.73 304 **PKiKP** **08 11 49.6 -0.1**
GCMT Greycliff 121.80 306 **PKPdf** **08 11 49.0 -0.4**
YHL Hebgen Lake 121.80 304 PKPdf **PKiKP** **08 11 50.3 +0.4**
NDI New Delhi 121.81 85 *ex* **PKiKP** **08 11 57.0 +7.0**
VSU Vasula 121.89 31 *eP* **PKPdf** **08 11 47.5 -1.5**
VSU Vasula 121.89 31 ⇑ *i* PKIKP **PKiKP** **08 11 51.3 +2.2**
VCNR Virginia City 121.89 294 **PKiKP** **08 11 50.5 +0.4**
QLMT Earthquake Lak 121.91 304 PKPdf **PKiKP** **08 11 50.4 +0.5**
RUBR Rubicon Trail 121.97 293 IAMs_20 IAMs_20 08 58 07.7
comp=Z,29µm,21.0s
PAHR Pah Rah Range 122.05 294 PKPdf **PKPdf** **08 11 50.1 -0.1**
PAHR IAMs_20 IAMs_20 09 05 56.0
comp=Z,27µm,18.0s
SPMM Sapulut 122.08 137 P **PKiKP** **08 11 53.0 +1.9**
TBLU Trondheim 122.13 19 ePKPdf **PKiKP** **08 11 50.9 +1.4**
TBLU eP **PP** **08 13 26.9 +1.5**
TBLU eSKSac **SKSac** **08 18 50.6 +2.8**
TBLU eSP SP 08 23 21.7 +5.3
TBLU eSS **SS** **08 30 08.2 +4.8**
TBLU IVMs_BB IVMs_BB 08 58 56.2
comp=Z,9µm,20.6s
OBN Obninsk 122.30 38 PKP **PKPdf** **08 11 49.1 -0.8**
comp=Z,11nm,0.9s,baz=194,slow=2.3,SNR=16
OBN Obninsk 122.30 38 ⇓ *i* PKIKP **PKiKP** **08 11 50.0 0.0**
OBN *i* 08 13 24.7
OBN ePPP PPP 08 16 01.6
OBN *i* 08 18 45.1
OBN pmax pmax
comp=Z,74nm,1.1s
AFDM Forest Hills D 122.32 293 PKPdf **PKiKP** **08 11 50.7 0.0**
AFDM IAMs_20 IAMs_20 09 02 34.9
comp=Z,26µm,19.0s
HLID Hailey 122.40 301 PKPdf **PKiKP** **08 11 50.9 0.0**
HLID IAMs_20 IAMs_20 09 04 12.2
comp=Z,27µm,20.0s
BOZ Bozeman (W) 122.57 304 Pdiff **Pdif** **08 08 20.0 -1.1**
baz=138
BOZ Bozeman (W) 122.57 304 PKIKP **PKPdf** **08 11 50.9 0.0**
BOZ Bozeman (W) 122.57 304 **PKPdf** **08 11 50.9 0.0**
MCMT McKenzie Canyo 122.58 303 **PKiKP** **08 11 51.2 -0.1**
MCCM Marconi Confer 122.74 291 IAMs_20 IAMs_20 09 03 54.9
comp=Z,26µm,19.0s
DLMT Dillon 122.85 303 **PKiKP** **08 11 51.8 +0.1**
DLMT IAMs_20 IAMs_20 09 02 34.2
comp=Z,28µm,21.0s
FRB Frobisher Bay 122.87 340 PKP **PKPdf** **08 11 49.8 -0.9**
comp=Z,64nm,1.0s
FRB PKKPbc **PKKPab** **08 21 39.6 -0.6**
comp=Z,3.3nm,0.7s,baz=64,slow=7.8,SNR=1.7
MFID Camas Ranch 122.99 300 PKPdf **PKPdf** **08 11 51.6 -0.2**
MFID IAMs_20 IAMs_20 09 05 01.7
comp=Z,32µm,20.0s
ORV Oroville 123.05 293 IAMs_20 IAMs_20 09 02 55.1
comp=Z,33µm,19.0s
LRM Limekiln Ridge 123.12 304 **PKiKP** **08 11 52.3 -0.1**
MOS Moscow 123.17 38 eP **Pdif** **08 08 19.2 -4.0**
MOS *i* 08 11 50.1
MOS *e* 08 18 49.6
MOS pmax pmax
comp=Z,87nm,1.2s
MOS pmax pmax
comp=Z,100nm,1.4s
MOS MLR MLR
comp=Z,17µm,19.0s
GDXM Geysers 123.18 291 IAMs_20 IAMs_20 09 01 12.7
comp=Z,39µm,20.0s

KKM	**Kota Kinabalu**	123.20	136		IAMs_20	IAMs_20	09 02 51.1		
	comp=Z,33µm,20.0s								
MYLDM	**Lahad Datu**	123.28	139		IAMs_20	IAMs_20	09 16 34.9		
	comp=Z,26µm,19.0s								
SFJD	**Kangerlussuaq**	123.28	350	*i* P		**PKiKP**	**08 11 51.9**	**+0.3**	
	comp=Z,3µm,20.0s								
SFJD	**Kangerlussuaq**	123.28	350	*i* PKIKP		**PKiKP**	**08 11 51.9**	**+0.3**	
SFJD				MLR		MLR			
	comp=Z,3µm,20.0s								
SFJD	**Kangerlussuaq**	123.28	350	PKPdf		**PKiKP**	**08 11 52.1**	**+0.4**	
NIL	**Nilore**	123.32	78	PKIKP		**PKPdf**	**08 11 52.0**	**-0.6**	
NIL				MLR		MLR			
	comp=Z,52µm,22.0s								
NIL	**Nilore**	123.32	78	PKPdf		**PKPdf**	**08 11 52.0**	**-0.6**	
BHK	**Bhakra**	123.42	82	*ex*		**PKPdf**	**08 11 57.4**	**+4.5**	
HOPS	**Hopland Field**	123.46	291		IAMs_20	IAMs_20	09 01 20.1		
	comp=Z,39µm,20.0s								
EGMT	**Eagleton**	123.50	307	PKPdf		**PKPdf**	**08 11 51.9**	**-0.7**	
NSS	**Namsos**	123.62	20	*e*Pdif		**Pdif**	**08 08 19.7**	**-5.3**	
NSS				*e*PKPdf		**PKPdf**	**08 11 51.9**	**-0.2**	
NSS				IVmBBB			08 12 02.1		
	comp=Z,682nm,1.2s								
NSS				*e*PP		**PP**	**08 13 35.5**	**+0.1**	
NSS				*e*SKSac		**SKSac**	**08 18 52.2**	**-0.4**	
NSS				*e*SP		**SP**	**08 23 32.5**	**+3.0**	
NSS				*e*SS		**SS**	**08 30 23.0**	**+0.8**	
NSS				IVMs_BB		IVMs_BB	09 06 19.1		
	comp=Z,8µm,17.8s								
WVOR	**Wild Horse Val**	123.67	297		IAMs_20	IAMs_20	09 01 04.9		
	comp=Z,29µm,21.0s								
PUL	**Pulkovo**	124.02	31	*e*P		**PKiKP**	**08 11 53.4**	**+0.1**	
MOD	**Modoc Plateau**	124.14	296	PKPdf		**PKPdf**	**08 11 54.0**	**-0.1**	
MOD				IAMs_20		IAMs_20	09 07 42.1		
	comp=Z,24µm,18.0s								
FINES	**FINESS Array B**	124.19	28	PKP		**PKPdf**	**08 11 52.3**	**-1.0**	
	comp=Z,49nm,0.8s,baz=198,slow=1.8,SNR=53								
FINES				SKP		**SKPdf**	**08 15 28.1**	**+0.4**	
	comp=Z,5.0nm,0.8s,baz=130,slow=5.6,SNR=4.1								
FINES				PKKPbc		**PKKPab**	**08 21 34.7**	**-0.3**	
	comp=Z,3.9nm,0.8s,baz=58,slow=3.4,SNR=4.8								
FIA1	**FINESS Array S**	124.19	28	PKPdf		**PKPdf**	**08 11 52.2**	**-1.1**	
KCPM	**Cahto Peak**	124.24	292		IAMs_20	IAMs_20	09 01 33.6		
	comp=Z,26µm,20.0s								
J08A	**Circle Bar Ran**	124.26	298		IAMs_20	IAMs_20	09 01 50.4		
	comp=Z,27µm,20.0s								
WDC	**Whiskeytown Da**	124.34	293	PKIKP		**PKPdf**	**08 11 53.9**	**-0.4**	
WDC				MLR		MLR			
	comp=Z,15µm,21.0s								
WDC	**Whiskeytown Da**	124.34	293	PKPdf		**PKPdf**	**08 11 53.9**	**-0.4**	
MSO	**Missoula**	124.56	304			**PKPdf**	**08 11 54.2**	**-0.5**	
PYUN	**Piuthan**	124.65	90	*e*P		**PKPdf**	**08 11 55.6**	**0.0**	
KMRM	**Mail Ridge**	124.69	292		IAMs_20	IAMs_20	09 01 50.3		
	comp=Z,31µm,20.0s								
KOLN	**Koldanda**	124.75	91	*e*P		**PKPdf**	**08 11 54.3**	**-1.5**	
	comp=Z,233nm,1.0s								
BMO	**Blue Mountains**	124.76	300	PKIKP		**PKPdf**	**08 11 54.5**	**-0.6**	
BMO				MLR		MLR			
	comp=Z,30µm,20.0s								
BMO	**Blue Mountains**	124.76	300			**PKPdf**	**08 11 54.5**	**-0.6**	
BMO				IAMs_20		IAMs_20	09 06 25.7		
	comp=Z,30µm,20.0s								
K05A	**Summer Lake**	125.03	296	PKPdf		**PKiKP**	**08 11 56.0**	**-0.2**	
K05A				IAMs_20		IAMs_20	09 04 49.8		
	comp=Z,25µm,19.0s								
KHMM	**Horse Mountain**	125.18	293	PKPdf		**PKPdf**	**08 11 56.0**	**-0.1**	
FFC	**Flin Flon**	125.19	317	PKIKP		**PKPdf**	**08 11 54.8**	**-0.7**	
FFC				MLR		MLR			
	comp=Z,24µm,19.0s								
FFC	**Flin Flon**	125.19	317			**PKPdf**	**08 11 54.8**	**-0.7**	
FFC	**Flin Flon**	125.19	317		IAMs_20	IAMs_20	09 04 59.9		
	comp=Z,23µm,19.0s								
YBH	**Yreka Blue Hor**	125.26	294	PKP		**PKPdf**	**08 11 55.1**	**-1.0**	
	comp=Z,10nm,0.8s,baz=331,slow=0.8,SNR=14								
YBH	**Yreka Blue Hor**	125.26	294	PKPdf		**PKPdf**	**08 11 55.1**	**-1.0**	
DANN	**Dangsing**	125.28	90	*e*P		**PKPdf**	**08 11 55.5**	**-1.4**	
	comp=Z,307nm,1.1s								
JCC	**Jacoby Creek,**	125.29	292		IAMs_20	IAMs_20	09 06 48.1		
	comp=Z,27µm,18.0s								
I07A	**Izee**	125.30	298			**PKPdf**	**08 11 56.4**	**+0.1**	
I07A				IAMs_20		IAMs_20	09 07 40.9		
	comp=Z,25µm,20.0s								
JTMT	**Jette**	125.39	304	PKPdf		**PKPdf**	**08 11 55.1**	**-1.2**	
PBKT	**Sadao Pong**	125.40	115	PKPdf		**PKPdf**	**08 11 55.1**	**-1.9**	
PBKT				IAMs_20		IAMs_20	09 04 00.2		
	comp=Z,31µm,19.0s								
FCC	**Fort Churchill**	125.41	324	PKIKP		**PKPdf**	**08 11 53.9**	**-1.8**	
FCC				MLR		MLR			
	comp=Z,51µm,19.0s								
FCC	**Fort Churchill**	125.41	324	PKPdf		**PKPdf**	**08 11 53.9**	**-1.8**	
STOK	**Stokkvaagen**	125.43	19	*ep*PKPdf		**pPKPdf**	**08 12 00.4**	**+0.8**	
STOK				*e*SP		SP	08 23 44.7	-0.7	
STOK				*e*SS		**SS**	**08 30 43.8**	**-1.2**	
ILULI	**Ilulissat**	125.48	350	*i* P		**PKiKP**	**08 11 56.4**	**+0.5**	
ILULI	**Ilulissat**	125.48	350	PKIKP		**PKPdf**	**08 11 55.0**	**-0.5**	
ILULI	**Ilulissat**	125.48	350			**PKPdf**	**08 11 55.0**	**-0.5**	
DMN	**Daman**	125.48	92	*e*P		**PKPdf**	**08 11 56.3**	**-1.0**	
	comp=Z,201nm,1.2s								
GKN	**Gorkha**	125.51	91	*e*P		**PKPdf**	**08 11 56.5**	**-0.7**	
	comp=Z,264nm,1.1s								
F10A	**Beach Ranch, E**	125.53	301	PKPdf		**PKPdf**	**08 11 55.4**	**-1.2**	
F10A				IAMs_20		IAMs_20	09 06 56.0		
	comp=Z,26µm,19.0s								
MOR8	**Moi Rana**	125.56	20	*e*Pdif		**Pdif**	**08 08 36.6**	**+2.9**	
MOR8				*e*PKPdf		**PKiKP**	**08 11 56.6**	**+0.3**	
MOR8				*e*PP		**PP**	**08 13 48.2**	**-0.2**	
MOR8				*e*SKSac		**SKSac**	**08 19 01.8**	**+3.0**	
MOR8				*e*PS		PS	08 23 52.7	+3.8	
MOR8				*e*SS		**SS**	**08 30 49.3**	**+2.6**	
MOR8				IVMs_BB		IVMs_BB	09 05 22.3		
	comp=Z,11µm,18.7s								
NBB40	**Tonnes**	125.59	19	*e*P		**PKPdf**	**08 11 55.3**	**-0.5**	
KONS	**Konsvik**	125.60	19	*e*PKPdf		**PKiKP**	**08 11 57.6**	**+1.4**	
KONS				*e*PP		**PP**	**08 13 48.9**	**+0.3**	
KONS				*e*SP		SP	08 23 50.0	+3.1	
PKIN	**Phulchoki**	125.62	92	*e*P		**PKPdf**	**08 11 56.6**	**-0.9**	
	comp=Z,222nm,1.3s								
PKI	**Pulchoki**	125.62	92	*e*P		**PKPdf**	**08 11 56.6**	**-1.0**	
	comp=Z,173nm,1.2s								
SCO	**Scoresbysund**	125.74	3	*i* P		**PKiKP**	**08 11 58.9**	**+2.5**	
SCO	**Scoresbysund**	125.74	3	*i* PKIKP		**PKiKP**	**08 11 58.9**	**+2.5**	
SCO	**Scoresbysund**	125.74	3	IAMs_20		IAMs_20	09 04 03.2		
	comp=Z,25µm,20.0s								
PINE	**Pine Mountain**	125.82	297	PKPdf		**PKiKP**	**08 11 57.6**	**-0.1**	
PINE				IAMs_20		IAMs_20	09 00 56.6		
	comp=Z,33µm,22.0s								
RAMN	**Ramite**	125.83	94	*e*P		**PKiKP**	**08 11 58.4**	**+0.1**	
	comp=Z,234nm,1.1s								
G08A	**Pilot Rock**	125.89	299	IAMs_20		IAMs_20	09 03 46.6		
	comp=Z,34µm,20.0s								
CM31	**Chiang Mai Arr**	125.91	111			**PKPdf**	**08 11 57.1**	**-0.9**	
CMAR	**Chiang Mai Arr**	125.91	111	PKP		**PKPdf**	**08 11 57.0**	**-1.0**	
	comp=Z,44nm,1.0s,baz=233,slow=3.6,SNR=48								
CMAR				PP		**PP**	**08 13 51.0**	**-0.1**	
	comp=Z,8.9nm,0.9s,baz=232,slow=6.7,SNR=4.1								
CMAR				PKKPbc		**PKKPab**	**08 21 34.7**	**+2.6**	
	comp=Z,3.0nm,0.9s,baz=346,slow=2.2,SNR=3.9								
CMAR	**Chiang Mai Arr**	125.91	111	PKIKP		**PKPdf**	**08 11 57.0**	**-1.0**	
NBB17	**Glomfjord BΨr**	126.03	19	*e*PKPdf		**PKiKP**	**08 11 57.6**	**+0.5**	
NBB17				*e*PP		**PP**	**08 13 51.7**	**+0.2**	
NBB30	**Finnes**	126.13	19	*e*PKPdf		**PKiKP**	**08 11 57.1**	**-0.2**	
NBB30				*e*PP		**PP**	**08 13 52.6**	**+0.4**	
JIRN	**Jiri**	126.14	93	*e*P		**PKPdf**	**08 11 57.5**	**-1.2**	
	comp=Z,312nm,1.0s								
GUN	**Gumba**	126.15	92	*e*P		**PKPdf**	**08 11 57.4**	**-1.2**	
	comp=Z,368nm,1.2s								
WALA	**Waterton Lakes**	126.15	306	PKPdf		**PKPdf**	**08 11 56.6**	**-1.1**	
CHTO	**Chiang Mai**	126.20	111	PKIKP		**PKPdf**	**08 11 56.5**	**-2.0**	
CHTO	**Chiang Mai**	126.20	111			**PKPdf**	**08 11 56.5**	**-2.0**	
CHTO	**Chiang Mai**	126.20	111	IAMs_20		IAMs_20	08 58 38.3		
	comp=Z,41µm,20.0s								
ODAN	**Odare**	126.20	95	*e*P		**PKPdf**	**08 11 58.5**	**-0.1**	
	comp=Z,186nm,1.1s								
NBB05	**Inndyr**	126.24	19	*e*PKPdf		**PKiKP**	**08 11 57.6**	**+0.1**	
NBB05	**Inndyr**	126.24	19	*e*PP		PP	08 13 53.3	+0.4	
N2RO	**R¸st**	126.32	18	*e*PKPdf		**PKiKP**	**08 11 58.3**	**+0.7**	
N2RO				*e*PP		**PP**	**08 13 53.1**	**-0.3**	
E09A	**Wood Farm, Sta**	126.36	301			**PKPdf**	**08 11 57.4**	**-0.6**	
E09A				IAMs_20		IAMs_20	09 03 48.0		
	comp=Z,33µm,21.0s								
N2VA	**Vr¸y**	126.56	18	*e*PKPdf		**PKiKP**	**08 11 58.8**	**+0.7**	
N2VA				*e*PP		**PP**	**08 13 54.6**	**-0.3**	
DDMP	**Don Marcelino,**	126.60	147	*e*P		PKPdf	08 11 49.8	-10	
BTK	**Batken**	126.65	71	PKIKP		**PKPdf**	**08 11 58.0**	**-0.9**	
BTK	**Batken**	126.65	71			**PKPdf**	**08 11 58.0**	**-0.9**	
NBB08	**Skaug oppvekst**	126.67	19	*e*PKPdf		**PKiKP**	**08 11 58.5**	**+0.2**	
NBB08	**Skaug oppvekst**	126.67	19	*e*PP		PP	08 13 56.0	+0.4	
MLOA	**Mauna Loa Obse**	126.72	250			**PKPdf**	**08 11 59.2**	**-0.8**	
TAS	**Tashkent**	126.74	69	IAMs_20		IAMs_20	09 03 52.7		
	comp=Z,44µm,22.0s								
TAPN	**Taplejung**	126.76	94	*e*P		**PKPdf**	**08 11 59.8**	**0.0**	
FAUS	**Fauske**	126.78	19	*e*Pdif		**Pdif**	**08 08 43.5**	**+4.4**	
FAUS				*e*PKPdf		**PKiKP**	**08 11 59.4**	**+0.8**	
FAUS				*e*PP		**PP**	**08 13 55.8**	**-0.7**	
FAUS				*e*SKSac		**SKSac**	**08 19 04.1**	**+1.6**	
FAUS				*e*SP		SP	08 23 59.4	+2.1	
FAUS				*e*SS		**SS**	**08 31 03.7**	**+1.8**	
FAUS				IVMs_BB		IVMs_BB	09 01 14.3		
	comp=Z,10µm,24.3s								
E08A	**Dider Farm, El**	126.79	300	PKPdf		**PKPdf**	**08 11 58.3**	**-0.5**	
E08A				IAMs_20		IAMs_20	09 08 55.4		
	comp=Z,28µm,20.0s								
F07A	**Phinny Hill Vi**	126.80	299			**PKPdf**	**08 11 58.9**	**+0.1**	
F07A				IAMs_20		IAMs_20	09 01 19.2		
	comp=Z,40µm,21.0s								
N2ST	**Straumen**	126.81	20	*e*PKPdf		**PKiKP**	**08 11 59.5**	**+0.9**	
N2ST				*e*PP		**PP**	**08 13 56.6**	**-0.1**	
N2SV	**S¸rv¥gen**	126.81	18	*e*PKPdf		**PKiKP**	**08 11 58.8**	**+0.2**	
N2SV				*e*PP		**PP**	**08 13 56.2**	**-0.4**	
N2TV	**T¥rnvik**	126.92	19	*e*PKPdf		**PKiKP**	**08 11 59.9**	**+1.1**	
N2TV				*e*PP		**PP**	**08 13 57.3**	**-0.1**	
JMIC	**Jan Mayen**	126.95	8	*e*Pdif		**Pdif**	**08 08 43.7**	**+3.9**	
JMIC				*e*PKPdf		**PKiKP**	**08 12 00.3**	**+1.5**	
JMIC				*e*PP		**PP**	**08 13 55.1**	**-2.5**	
JMIC				*e*SKSac		**SKSac**	**08 19 07.6**	**+4.7**	
JMIC				*e*SS		**SS**	**08 31 06.6**	**+2.7**	
JMIC				IVMs_BB		IVMs_BB	09 05 27.9		
	comp=Z,8µm,17.1s								
HAWA	**Hanford**	126.95	300	PKPdf		**PKPdf**	**08 11 58.5**	**-0.6**	
HAWA				IAMs_20		IAMs_20	09 05 51.7		
	comp=Z,34µm,20.0s								
H04A	**Detroit Lake**	127.08	297	PKPdf		**PKPdf**	**08 11 57.9**	**-1.6**	
H04A				IAMs_20		IAMs_20	09 08 05.1		
	comp=Z,32µm,19.0s								
NEW	**Newport**	127.10	303	PKP		**PKPdf**	**08 11 58.2**	**-1.2**	
	comp=Z,13nm,1.0s,baz=230,slow=1.7,SNR=11								
NEW	**Newport**	127.10	303	PKIKP		**PKPdf**	**08 11 57.5**	**-1.9**	
NEW	**Newport**	127.10	303	PKPdf		**PKPdf**	**08 11 57.5**	**-1.9**	
LOF	**Lofoten**	127.12	18	*e*Pdif		**Pdif**	**08 08 45.5**	**+5.0**	
LOF				*e*PKPdf		**PKiKP**	**08 11 59.9**	**+0.6**	
LOF				*e*PP		**PP**	**08 13 58.8**	**+0.1**	
LOF				*e*SKSac		**SKSac**	**08 19 03.5**	**0.0**	
LOF				*e*SP		SP	08 24 00.2	0.0	
LOF				*e*SS		**SS**	**08 31 05.7**	**-0.4**	
LOF				IVMs_BB		IVMs_BB	09 02 08.1		
	comp=Z,6µm,18.9s								
D08A	**Wollman Farm,**	127.12	301	PKPdf		**PKPdf**	**08 11 58.9**	**-0.5**	
D08A				IAMs_20		IAMs_20	09 04 09.1		
	comp=Z,29µm,21.0s								
E07A	**Sunnyside**	127.23	300	IAMs_20		IAMs_20	09 01 38.5		
	comp=Z,33µm,21.0s								
STEI	**Steigen**	127.25	19	*e*Pdif		**Pdif**	**08 08 42.4**	**+1.2**	
STEI				*e*PKPdf		**PKiKP**	**08 11 59.5**	**0.0**	
STEI				IVmBBB			08 12 07.2		
	comp=Z,1µm,7.7s								
STEI				*e*PP		**PP**	**08 13 59.9**	**+0.3**	
STEI				*e*SKSac		**SKSac**	**08 19 06.3**	**+2.4**	
STEI				*e*SP		SP	08 24 02.6	+1.3	
STEI				*e*SS		**SS**	**08 31 06.5**	**-1.2**	
STEI				IVMs_BB		IVMs_BB	09 02 06.3		
	comp=Z,11µm,21.6s								
KCP	**Kidapawan**	127.26	146‖	*e*P		**PKPdf**	**08 11 58.6**	**-2.2**	
C09A	**Chrisman Ranch**	127.33	302	PKPdf		**PKPdf**	**08 11 57.7**	**-2.1**	
C09A				IAMs_20		IAMs_20	09 11 51.6		
	comp=Z,34µm,19.0s								
N2VI	**Vinje**	127.41	18	*e*PKPdf		**PKiKP**	**08 11 59.5**	**-0.3**	
N2VI				*e*PP		**PP**	**08 14 00.1**	**-0.5**	
N2IH	**Innhavet**	127.42	19	*e*PKPdf		**PKiKP**	**08 11 59.7**	**-0.1**	
N2IH				*e*PP		**PP**	**08 14 00.4**	**-0.2**	
PAGZ	**Pagadian**	127.48	144	*e*P		**PKPdf**	**08 12 00.1**	**-1.1**	
AKTO	**Aktyubinsk**	127.53	54	PKP		**PKPdf**	**08 11 59.2**	**-0.9**	
	comp=Z,88nm,1.1s,baz=181,slow=2.8,SNR=48								
AKTO				SKPbc		SKPbc	08 15 15.9		
	comp=Z,33nm,1.1s,baz=161,slow=9.2,SNR=5.1								
MATI	**Mati**	127.56	148	*e*P		**PKPdf**	**08 12 01.4**	**+0.1**	
CHM	**Chimkent**	127.60	68	*e*PKP		**PKiKP**	**08 12 08.1**	**+7.0**	
	baz=68								
CHM				LR		LR	09 06 29.5		
	comp=Z,5µm,19.7s,baz=68								
CHM	**Chimkent**	127.60	68	*e*PKIKP		**PKiKP**	**08 12 08.0**	**+7.0**	
CHM				MLR		MLR			
	comp=Z,5µm,20.0s								
IUG	**luzhnay**	127.71	68	*e*PKP		**PKiKP**	**08 12 02.1**	**+0.6**	
	baz=68								
IUG				*e*PP		**PP**	**08 14 04.2**	**+0.9**	
	baz=68								
IUG				*e*PPP		PPP	08 16 48.1		
	baz=68								
IUG				LR		LR	09 11 26.9		
	comp=Z,1µm,17.8s,baz=68								
IUG	**luzhnay**	127.71	68	*e*PKIKP		**PKiKP**	**08 12 02.0**	**+0.6**	
IUG				*e*			08 14 04.1		
IUG				*e*PPP		PPP	08 16 48.1		
KLMR	**Klimovskoe**	127.73	35	*e*PKIKP		**PKPdf**	**08 11 59.4**	**-0.6**	
KLMR				*e*			08 14 03.6		
KLMR				*e*			08 19 09.5		
KLMR				*e*PS		PS	08 24 09.3	+1.3	
KLMR				pmax		pmax			
	comp=Z,162nm,1.4s								
KLMR	**Klimovskoe**	127.73	35	*e*PKPdf		**PKPdf**	**08 11 59.5**	**-0.6**	
KLMR				AMP			08 12 11.2		
	comp=Z,162nm,1.4s								
KLMR				*e*PP		**PP**	**08 14 03.7**	**+0.8**	
KLMR				*e*SKSac		**SKSac**	**08 19 09.5**	**+3.9**	
KLMR				*e*SKSac		**SKSac**	**08 19 09.5**	**+3.9**	
KLMR				*e*SKKSac		**SKKSac**	**08 21 03.6**	**+5.4**	
KLMR				*e*SKKSac		**SKKSac**	**08 21 03.6**	**+5.4**	
KLMR				*e*PS		**PS**	**08 24 09.4**	**+1.4**	
KLMR				*e*PS		**PS**	**08 24 09.4**	**+1.4**	
KLMR				LQ		LQ	08 58 29.9		
KLMR				LQ		LQ	08 58 29.9		
KLMR				LR		LR	09 08 56.9		
KLMR				AMP			09 14 05.5		
	comp=Z,23µm,17.7s								
SHL	**Shillong**	127.74	99	PKIKP		**PKPdf**	**08 11 59.9**	**-1.6**	
SHL	**Shillong**	127.74	99	PKPdf		**PKPdf**	**08 11 59.9**	**-1.6**	
SUMG	**Summit**	127.95	356	*i* P		**PKiKP**	**08 12 02.4**	**+1.1**	
	comp=Z,377nm,1.0s								
	comp=Z,93µm,18.0s								
SUMG	**Summit**	127.95	356	PKIKP		**PKPdf**	**08 12 00.5**	**-0.2**	
SUMG	**Summit**	127.95	356	PKPdf		**PKPdf**	**08 12 00.5**	**-0.2**	
SUMG				IAMs_20		IAMs_20	09 03 00.6		
	comp=Z,37µm,19.0s								
BUKP	**Musuan**	128.06	146	*e*P		**PKPdf**	**08 12 01.8**	**-0.5**	
F04A	**Amboy**	128.07	298	PKPdf		**PKPdf**	**08 12 00.9**	**-0.4**	
F04A				IAMs_20		IAMs_20	09 11 03.3		
	comp=Z,24µm,20.0s								
LTY	**Liberty**	128.12	300			**PKPdf**	**08 12 00.9**	**-0.5**	
LTY				IAMs_20		IAMs_20	09 13 17.4		
	comp=Z,37µm,19.0s								
BRLS	**Borolday**	128.22	67	*e*PKP		**PKiKP**	**08 12 02.4**	**0.0**	
	baz=68								
BRLS				*e*SKS		**SKSdf**	**08 19 09.2**	**-3.2**	
	baz=68								
BRLS				*e*PS		PS	08 24 11.6	-1.2	
	baz=68								
BRLS				*e*SS		**SS**	**08 31 21.1**	**+0.4**	
	baz=68								
BRLS	**Boroldav**	128.22	67	*e*PKIKP		**PKiKP**	**08 12 02.3**	**0.0**	
BRLS				*e*			08 19 09.1		
BRLS				*e*PS		**PS**	**08 24 11.5**	**-1.3**	
BRLS				*e*SS		SS	08 31 21.1	+0.4	
B08A	**Colville Reser**	128.23	302	PKPdf		**PKPdf**	**08 12 01.1**	**-0.5**	
B08A				IAMs_20		IAMs_20	09 04 29.4		
	comp=Z,40µm,22.0s								
LON	**Longmire**	128.33	299	PKIKP		**PKPdf**	**08 12 00.8**	**-1.0**	
LON				MLR		MLR			
	comp=Z,27µm,20.0s								
LON	**Longmire**	128.33	299			**PKPdf**	**08 12 00.8**	**-1.0**	
LON				IAMs_20		IAMs_20	09 05 11.2		
	comp=Z,27µm,20.0s								
KK31	**Karatay Array**	128.63	68	PKIKP		**PKPdf**	**08 12 01.8**	**-0.7**	
KK31	**Karatay Array**	128.63	68	PKPdf		**PKPdf**	**08 12 01.8**	**-0.7**	
KKAR	**Karatay Array**	128.63	68	PKIKP		**PKPdf**	**08 12 01.8**	**-0.7**	
KKAR	**Karatay Array**	128.63	68	PKPdf		**PKPdf**	**08 12 01.8**	**-0.7**	
F03A	**Seaside**	128.65	297	IAMs_20		IAMs_20	09 11 27.5		
	comp=Z,25µm,20.0s								
ARSB	**Arslanbob**	128.71	71	PKIKP		**PKPdf**	**08 12 02.7**	**-0.1**	
ARSB	**Arslanbob**	128.71	71			**PKPdf**	**08 12 02.7**	**-0.1**	
D05A	**Enumclaw**	128.72	299			**PKPdf**	**08 12 02.3**	**-0.2**	
D05A				IAMs_20		IAMs_20	09 05 24.5		
	comp=Z,27µm,21.0s								
DZA	**Taraz**	128.91	69	*e*PKP		**PKiKP**	**08 12 04.0**	**+0.2**	
	baz=69								
DZA				*e*PP		**PP**	**08 14 11.4**	**+0.4**	
	baz=69								
DZA				LR		LR	09 10 43.7		
	comp=Z,6µm,17.5s,baz=69								
DZA	**Taraz**	128.91	69	*e*PKIKP		**PKiKP**	**08 12 03.9**	**+0.2**	
DZA				*e*			08 14 11.4		
PNT	**Penticton**	129.02	303	PKHKP		PKPpre	08 11 49.5		
KSH	**Kashi**	129.07	75	*e*PKP		**PKPdf**	**08 12 00.0**	**-3.6**	
KSH				PP		**PP**	**08 14 10.5**	**-1.7**	
KSH				AMB		AMB			
	comp=Z,12µm,9.6s								
KSH				LR		LR			
	comp=Z,20µm,16.3s								
KSH				LR		LR			
	comp=Z,21µm,17.2s								
CNOP	**Candoni, Negro**	129.07	142	*e*P		**PKPdf**	**08 12 01.7**	**-2.4**	
ENPP	**El Nido**	129.16	138	*e*P		**PKiKP**	**08 12 10.5**	**+5.5**	
B06A	**Marblemount**	129.38	301			**PKPdf**	**08 12 02.6**	**-1.1**	
B06A				IAMs_20		IAMs_20	09 13 41.9		
	comp=Z,31µm,20.0s								
TRO	**Tromso**	129.41	19	*e*PKPdf		**PKPdf**	**08 12 03.0**	**-0.1**	
TRO				*e*PP		**PP**	**08 14 14.2**	**+0.5**	
TRO				*e*SP		SP	08 24 18.1	-2.0	
TRO				*e*SS		**SS**	**08 31 37.3**	**+2.9**	
TRO				IVMs_BB		IVMs_BB	09 04 37.0		
	comp=Z,13µm,20.0s								
CUYO	**Cuyo Island**	129.44	140	*e*P		**PKPdf**	**08 12 04.8**	**-0.1**	
KIRV	**Kirov**	129.59	42	PKP		**PKPdf**	**08 12 03.1**	**-0.6**	
	comp=Z,65nm,1.0s,baz=261,slow=1.6,SNR=24								
KIRV				PP		**PP**	**08 14 13.9**	**-1.1**	
	comp=Z,11nm,0.7s,baz=268,slow=1.6,SNR=4.4								
KIRV				SKPbc		SKPbc	08 15 25.6	+0.8	
	comp=Z,125nm,1.1s,baz=43,slow=0.9,SNR=7.8								
AML	**Almayashu**	129.65	71	P		**PKPdf**	**08 12 04.4**	**-0.5**	
	SNR=20								
TMCR	**Tamitsa**	129.73	31	*e*PKIKP		**PKPdf**	**08 12 03.0**	**-0.8**	
TMCR				pmax		pmax			
	comp=Z,296nm,1.0s								
KTK1	**Kautokeino**	129.76	22	*e*Pdif		**Pdif**	**08 08 54.2**	**+1.9**	
KTK1				*e*PKPdf		**PKPdf**	**08 12 02.7**	**-1.0**	
KTK1				*e*PP		**PP**	**08 14 15.6**	**-0.4**	
KTK1				*e*SP		SP	08 24 22.9	-0.2	

BTLS e 08 14 30.7
BTLS ePPP PPP 08 17 21.2
ARU Arti 131.81 48 PKhKP PKPpre 08 11 54.9
comp=Z,0.6nm,0.3s,baz=253,slow=3.4,SNR=4.5
ARU PKP **PKPdf 08 12 07.5 -0.5**
comp=Z,22nm,0.9s,baz=217,slow=2.4,SNR=15
ARU SKPbc **SKPab 08 15 33.5 -0.2**
comp=Z,22nm,1.1s,baz=182,slow=4.1,SNR=5.5
ARU Arti 131.81 48 *i* PKIKP **PKPdf 08 12 07.5 -0.5**
ARU PPP PPP 08 17 19.8
ARU MLR MLR
comp=Z,55µm,23.0s
ARU Arti 131.81 48 PKPdf 08 12 07.8 -0.2
ARU IAMs_20 IAMs_20 09 10 29.4
comp=Z,42µm,21.0s
QIZ Qiongzhong 131.93 122 PKP **PKPdf 08 12 09.8 +0.4**
QIZ PP **PP 08 14 34.3 +4.0**
QIZ PKS 08 15 44.0
QIZ SS SS 08 32 10.5 +4.8
QIZ AMB AMB
comp=Z,3µm,12.8s
QIZ LR LR
comp=Z,22µm,19.1s
QIZ LR LR
comp=Z,17µm,20.6s
QIZ LR LR
comp=Z,30µm,17.7s
QIZ Qiongzhong 131.93 122 PKPdf 08 12 08.4 -1.1
QIZ Qiongzhong 131.93 122 IAMs_20 IAMs_20 09 09 29.5
comp=Z,36µm,19.0s
TNSS Tian-Shan 132.02 72 *i* PKP **PKiKP 08 12 10.3 -0.1**
baz=72
TNSS Tian-Shan 132.02 72 *i* PKIKP **PKiKP 08 12 10.3 -0.1**
AAA Alma-Ata 132.12 72 *e*PKP **PKiKP 08 12 10.8 +0.5**
baz=72
AAA *e*PP **PP 08 14 33.0 +1.0**
baz=72
AAA *e*PPP PPP 08 17 24.3
baz=72
AAA LR LR 09 11 15.4
comp=Z,11µm,18.7s,baz=72
AAA Alma-Ata 132.12 72 *e*PKIKP **PKiKP 08 12 10.7 +0.5**
AAA *e* 08 14 32.9
AAA *e*PPP PPP 08 17 24.2
DAG Danmarks Havn 132.12 3 *i* P **PKPdf 08 12 08.5 +0.5**
comp=Z,96nm,1.3s
DAG Danmarks Havn 132.12 3 *i* PKIKP **PKPdf 08 12 08.5 +0.5**
DAG pmax pmax
comp=Z,96nm,1.3s
MDOK Medeo 132.16 72 *e*PKP **PKiKP 08 12 09.9 -0.5**
baz=72
MDOK *e*PP **PP 08 14 32.2 -0.1**
baz=72
MDOK LR LR 09 11 23.1
comp=Z,12µm,18.0s,baz=72
MDOK Medeo 132.16 72 *e*PKIKP **PKPdf 08 12 09.8 +0.5**
MDOK *e* 08 14 32.2
KUU Kurty 132.27 71 *e*PKP **PKiKP 08 12 10.2 -0.3**
baz=71
KUU *e*PP **PP 08 14 33.6 +0.8**
baz=71
KUU LR LR 09 12 58.4
comp=Z,13µm,17.8s,baz=71
KUU Kurty 132.27 71 *e*PKIKP **PKiKP 08 12 10.1 -0.3**
KUU *e* 08 14 33.6
TGY Tagaytay City 132.39 138 PKP **PKPdf 08 12 10.3 -0.2**
comp=Z,112nm,0.5s,baz=149,slow=12,SNR=1.3
TGY SKPbc **SKPbc 08 15 35.8 -0.6**
comp=Z,492nm,1.0s,baz=264,slow=3.8,SNR=6.4
PRZ Przheval'sk 132.44 74 PKIKP **PKPdf 08 12 09.8 -0.1**
PRZ MLR MLR
comp=Z,54µm,22.0s
PRZ Przheval'sk 132.44 74 PKPdf **PKPdf 08 12 09.8 -0.1**
CHKK Chushkaly 132.59 71 *e*PKP **PKPdf 08 12 10.5 +0.5**
baz=71
CHKK Chushkaly 132.59 71 *e*PKIKP **PKPdf 08 12 10.5 +0.5**
LQP Lukban 132.63 139⇑ *e*P **PKiKP 08 12 12.2 0.0**
SATY Saty 132.83 73 *e*PKP **PKPdf 08 12 11.0 +0.4**
baz=73
SATY *e*PP **PP 08 14 36.6 +0.1**
baz=73
SATY LR LR 09 14 08.3
comp=Z,5µm,16.3s,baz=73
SATY Saty 132.83 73 *e*PKIKP **PKPdf 08 12 11.0 +0.4**
SATY *e* 08 14 36.6
SVE Sverdlovsk 132.95 49*c* *i*PKIKP **PKPdf 08 12 10.4 +0.3**
SVE *e* 08 37 12.5
SVE pmax pmax
comp=Z,330nm,1.6s
SVE MLR MLR
comp=Z,57µm,22.0s
PVCP Virac 133.10 142 *e*P **PKiKP 08 12 12.6 -0.3**
UZB Uzynbulak 133.23 73 *e*PKP **PKiKP 08 12 12.4 -0.2**
baz=74
UZB *e*PP **PP 08 14 40.5 +1.4**
baz=74
UZB LR LR 09 13 50.5
comp=Z,5µm,15.7s,baz=74
UZB Uzynbulak 133.23 73 *e*PKIKP **PKiKP 08 12 12.4 -0.2**
UZB *e* 08 14 40.4
KPKS Kokpek 133.25 73 *e*PKP **PKiKP 08 12 12.0 -0.6**
baz=73
KPKS *e*PP **PP 08 14 39.3 +0.1**
baz=73
KPKS LR LR 09 13 37.8
comp=Z,12µm,17.5s,baz=73
KPKS Kokpek 133.25 73 *e*PKIKP **PKiKP 08 12 11.9 -0.6**
KPKS *e* 08 14 39.2
KMI Kunming 133.36 110 *e*Pdif **Pdif 08 09 13.0 +3.3**
KMI PKP **PKPdf 08 12 12.5 +0.2**
KMI sPKP 08 12 19.8
KMI PKP **sPKPdf 08 12 20.0 +2.3**
KMI PP **PP 08 14 39.8 -0.1**
KMI Kunming 133.36 110 PKP **PKPdf 08 12 12.5 +0.2**
KMI sPKP 08 12 19.8
KMI PP **PP 08 14 39.8 -0.1**
KMI SKKS 08 21 38.0
KMI SS **SS 08 32 23.0 -0.9**
KMI AMB AMB
comp=Z,4µm,10.6s
KMI LR LR
comp=Z,19µm,18.8s
KMI LR LR
comp=Z,23µm,19.5s
KMI LR LR
comp=Z,25µm,19.6s
KMI Kunming 133.36 110 IAMs_20 IAMs_20 09 06 50.4
comp=Z,27µm,20.0s
SHLS Shalkode 133.47 74 *e*PKP **PKiKP 08 12 13.6 +0.5**
baz=74
SHLS *e*PP **PP 08 14 42.2 +1.6**
baz=74
SHLS LR LR 09 11 26.9
comp=Z,9µm,17.8s,baz=74
SHLS Shalkode 133.47 74 *e*PKIKP **PKiKP 08 12 13.5 +0.5**
SHLS *e* 08 14 42.2
SHLS MLR MLR
comp=Z,9µm,18.0s
BJO1 Bjornoya 133.48 16 *e*PKPdf **PKiKP 08 12 11.9 0.0**
BJO1 IVmB_BB 08 12 19.2
comp=Z,3µm,2.5s
BJO1 *e*PP **PP 08 14 41.7 +1.8**
BJO1 *e*SKPdf **SKPdf 08 15 45.2 +0.4**
BJO1 *e*SS **SS 08 32 26.2 +2.2**
BJO1 IVMs_BB IVMs_BB 09 10 11.6
comp=Z,7µm,18.1s
TDK Taldyqorghan 134.11 71 *e*PKP **PKiKP 08 12 13.8 -0.4**
baz=71
TDK *e*PP **PP 08 14 45.0 +0.4**
baz=71
TDK *e*SP SP 08 25 06.6 +4.5
baz=71
TDK *e*SS **SS 08 32 39.0 +6.3**
baz=71
TDK LR LR 09 14 59.1
comp=Z,18µm,16.6s,baz=71
TDK Taldyqorghan 134.11 71 *e*PKIKP **PKiKP 08 12 13.7 -0.4**
TDK *e* 08 14 45.0
TDK *e*SP SP 08 25 06.5 +4.5
TDK *e*SS **SS 08 32 39.0 +6.3**
BALP Baler 134.13 138 *e*P **PKiKP 08 12 15.8 +0.9**
SMPP San Manuel, Pa 134.16 136 *e*P **PKiKP 08 12 15.0 -0.1**
TULEG Thule 134.24 348 PKPdf **PKPdf 08 12 12.7 +0.7**
BRZS Berezniki 134.30 62 *e*PKP **PKiKP 08 12 14.0 -0.3**
baz=62
BRZS *e*PP **PP 08 14 46.2 +0.6**
baz=62
BRZS LR LR 09 13 41.6
comp=Z,8µm,18.6s,baz=62
BRZS Berezniki 134.30 62 *e*PKIKP **PKiKP 08 12 14.0 -0.3**
BRZS *e* 08 14 46.2
BBB Bella Bella 134.99 301 PKP **PKPdf 08 12 13.3 -0.8**
comp=Z,34nm,1.0s,baz=195,slow=9.7,SNR=2.3
BRVK Borovoye 135.01 58*c* *i*PKIKP **PKPdf 08 12 13.6 -0.5**
BVAR Borovoye Array 135.04 58 PKhKP PKPpre 08 12 02.0
comp=Z,0.5nm,0.4s,baz=232,slow=42,SNR=3.6
BVAR PKP **PKPdf 08 12 13.4 -0.8**
comp=Z,96nm,1.1s,baz=270,slow=1.2,SNR=22
BVAR SKPbc **SKPbc 08 15 43.6 -0.3**
comp=Z,36nm,1.0s,baz=225,slow=1.9,SNR=7.0
HSPB Hornsund (broa 135.06 13 *e*PKPdf **PKiKP 08 12 21.5 +6.5**
HSPB *e*PP **SKPdf 08 15 42.6 -5.1**
HSPB *e*SP **SKKPbc 08 24 49.0 -1.7**
HSPB *e*S **SS 08 32 48.3 +5.4**
HSPB Hornsund (broa 135.06 13 *e*Pdif **Pdif 08 09 19.8 +4.1**
HSPB *e*PKPdf **PKPdf 08 12 13.8 +0.2**
HSPB *e*SKPdf **SKPdf 08 15 50.5 +2.8**
HSPB *e*SP **SKKPbc 08 24 55.6 +5.0**
HSPB *e*SS **SS 08 32 46.5 +3.6**
HSPB IVMs_BB IVMs_BB 09 08 43.1
comp=Z,9µm,18.2s
YKA Yellowknife Ar 135.29 319 PKhKP PKPpre 08 11 58.8
comp=Z,1.4nm,0.6s,baz=121,slow=3.8,SNR=11
YKA PKP **PKPdf 08 12 13.9 -0.5**
comp=Z,86nm,0.9s,baz=124,slow=2.3,SNR=34
YKA PP **PP 08 14 49.4 -2.2**
comp=Z,29nm,1.0s,baz=123,slow=6.3,SNR=9.0
YKA SKPbc **SKPbc 08 15 41.8 -2.5**
comp=Z,15nm,0.9s,baz=130,slow=4.0,SNR=3.1
YKA PKKP **PKKPdf 08 21 55.9 -1.1**
comp=Z,1.8nm,0.9s,baz=316,slow=1.7,SNR=3.8
HOPEN Hopen 136.00 16 *e*Pdif **Pdif 08 09 23.0 +3.1**
HOPEN *e*PKPdf **PKiKP 08 12 17.1 +0.1**
HOPEN *e*PP **PP 08 14 54.9 -1.0**
HOPEN *e*SS SS 08 32 57.8 +3.5
HOPEN IVMs_BB IVMs_BB 09 07 21.4
comp=Z,9µm,20.8s
SPA0 Spitsbergen Ar 136.14 12 PKPdf **PKPdf 08 12 13.4 -2.2**
SPA0 Spitsbergen Ar 136.14 12 *e*PKPdf **PKPdf 08 12 11.6 -4.0**
SPA0 *e*PP **PP 08 14 58.0 +1.3**
SPA0 *e*SKPdf **SKiKP 08 15 52.4 0.0**
KBS Kingsbay 136.27 10⇑ *i*PKIKP **PKiKP 08 12 17.1 -0.4**
KBS Kingsbay 136.27 10 IAMs_20 IAMs_20 09 03 46.3
comp=Z,29µm,21.0s
KBS Kingsbay 136.27 10 *e*Pdif **Pdif 08 09 22.2 +1.1**
KBS *e*PKPdf **PKPdf 08 12 16.6 +0.8**
KBS *e*PP **PP 08 14 56.7 -0.8**
KBS *e*SS SS 08 32 52.7 -4.7
KBS IVMs_BB IVMs_BB 09 03 34.8
comp=Z,9µm,19.8s
GYA Guiyang 136.52 113⇓ PKP **PKPdf 08 12 18.3 +0.3**
GYA PP **PP 08 15 00.0 +0.3**
GYA SKKS 08 21 51.3
GYA SS **SS 08 32 57.8 -3.7**
GYA LR LR
comp=Z,16µm,18.1s
GYA LR LR
comp=Z,11µm,17.8s
GYA LR LR
comp=Z,25µm,18.5s
NOR Nord 136.98 3 *i* P **PKPdf 08 12 15.9 -1.2**
NOR Nord 136.98 3 *i* PKIKP **PKPdf 08 12 15.9 -1.2**
GZH Guangzhou 137.07 123 PKP **PKiKP 08 12 21.3 +0.6**
GZH PP **PP 08 15 08.5 +5.7**
GZH LR LR
comp=Z,29µm,20.1s
GZH LR LR
comp=Z,28µm,19.0s
RES Resolute Bay 137.07 339 PKhKP PKPpre 08 12 09.5
comp=Z,16nm,1.0s,baz=108,slow=4.1,SNR=8.8
RES PKP **PKiKP 08 12 18.7 -0.5**
comp=Z,96nm,0.9s,baz=311,slow=1.8,SNR=18
RES SKPbc **SKPbc 08 15 51.7 +2.2**
comp=Z,28nm,1.1s,baz=80,slow=3.6,SNR=3.6
RES Resolute Bay 137.07 339 IAMs_20 IAMs_20 09 14 49.0
comp=Z,30µm,20.0s
MAKZ Makanchi 137.19 71 IAMs_20 IAMs_20 09 17 44.7
comp=Z,22µm,20.0s
MKAR Makanchi Array 137.35 72 PKhKP PKPpre 08 12 08.3
comp=Z,1.9nm,0.6s,baz=240,slow=2.3,SNR=13
MKAR PKP **PKPdf 08 12 17.1 -1.7**
comp=Z,17nm,0.9s,baz=228,slow=0.5,SNR=21
MKAR SKPbc **SKPbc 08 15 51.3 +0.1**
comp=Z,76nm,1.2s,baz=270,slow=2.4,SNR=11
KURBB Kurchatov Arra 137.67 65 PKhKP PKPpre 08 12 10.8
comp=Z,6.7nm,0.6s,baz=237,slow=3.3,SNR=22
KURBB PP **PP 08 15 08.3 +1.5**
comp=Z,9.3nm,1.1s,baz=234,slow=5.3,SNR=3.7
KURBB SKPbc **SKPbc 08 15 52.9 +1.0**
comp=Z,64nm,1.1s,baz=234,slow=3.6,SNR=10
KURK Kurchatov 137.77 65⇑ *i*PKIKP **PKPdf 08 12 19.9 +0.6**
SEM Semipalatinsk 138.44 66 *e*PKP **PKPdf 08 12 21.4 +0.5**
baz=66
SEM *e*PP **PP 08 15 12.1 +0.2**
baz=66
SEM LR LR 09 16 33.2
comp=Z,10µm,18.2s,baz=66
SEM Semipalatinsk 138.44 66 *e*PKIKP **PKPdf 08 12 21.4 +0.5**
SEM *e* 08 15 12.0
WMQ Urumqi 138.46 79 *e*PKP **PKPdf 08 12 21.3 +0.4**
WMQ PP **PP 08 15 16.5 +4.6**
WMQ PKS 08 15 58.0
WMQ SKKS 08 22 05.0
WMQ SS **SS 08 33 27.8 +3.1**
WMQ AMB AMB
comp=Z,4µm,8.9s
WMQ LR LR
comp=Z,14µm,24.5s
WMQ LR LR
comp=Z,9µm,24.5s
WMQ LR LR
comp=Z,36µm,24.5s
WMQ Urumqi 138.46 79 IAMs_20 IAMs_20 09 19 29.2
comp=Z,28µm,19.0s
CD2 Chengdu 138.47 106 PKP **PKPdf 08 12 19.8 -1.6**
CD2 PP **PP 08 15 09.8 -2.1**
CD2 SKS **SKSdf 08 19 31.8 +0.6**
CD2 SKKS **SKKSac 08 22 02.0 -3.1**
CD2 SS **SS 08 33 26.8 +2.1**
CD2 AMB AMB
comp=Z,16µm,11.8s
CD2 LR LR
comp=Z,38µm,22.1s
CD2 LR LR
comp=Z,24µm,24.0s
CD2 LR LR
comp=Z,35µm,21.6s
ZSN Zaisan 139.14 72 *e*PKP **PKiKP 08 12 23.1 -1.1**
baz=72
ZSN *e*PP **PP 08 15 17.0 +1.0**
baz=72
ZSN LR LR 09 16 59.9
comp=Z,5µm,16.7s,baz=72
ZSN Zaisan 139.14 72 *e*PKIKP **PKiKP 08 12 23.1 -1.1**
ZSN *e* 08 15 17.0
CRAG Craig 139.31 302 PKPdf 08 12 22.6 +0.7
DLBC Dease Lake 139.43 308 PKhKP PKPpre 08 12 13.1
comp=Z,11nm,0.9s,baz=151,slow=3.0,SNR=7.4
DLBC SKPbc **SKPbc 08 15 57.7 +1.0**
comp=Z,43nm,1.1s,baz=82,slow=3.4,SNR=4.6
DLBC Dease Lake 139.43 308 IAMs_20 IAMs_20 09 12 31.6
comp=Z,34µm,21.0s
WRAK Wrangell Islan 139.44 304 IAMs_20 IAMs_20 09 15 36.1
comp=Z,35µm,21.0s
TPUB Ta-pu 140.55 132 IAMs_20 IAMs_20 09 09 52.0
comp=Z,22µm,20.0s
KNMB Chin-men Tao 140.59 128 IAMs_20 IAMs_20 09 19 00.3
comp=Z,25µm,19.0s
YULB Yu-li 140.91 133 PKPdf 08 12 25.4 -0.6
YULB IAMs_20 IAMs_20 09 18 36.5
comp=Z,28µm,18.0s
ENH Enshi 141.05 113 IAMs_20 IAMs_20 09 14 22.0
comp=Z,25µm,20.0s
QZH Quanzhou 141.09 128 *i* PKP **PKPdf 08 12 21.0 -5.2**
QZH PP **PP 08 15 27.5 -0.1**
QZH AMB AMB
comp=Z,5µm,10.2s
QZH LR LR
comp=Z,17µm,17.7s
QZH LR LR
comp=Z,5µm,16.6s
QZH LR LR
comp=Z,22µm,17.7s
SSLB Suanglung 141.12 132 IAMs_20 IAMs_20 09 10 18.0
comp=Z,32µm,20.0s
SIT Sitka 141.18 304 PKIKP **PKPdf 08 12 22.8 -2.5**
SIT MLR MLR
comp=Z,34µm,20.0s
SIT Sitka 141.18 304 PKPdf 08 12 22.8 -2.5
SIT IAMs_20 IAMs_20 09 15 13.0
comp=Z,35µm,20.0s
BESE Bessie Mountai 141.70 306 IAMs_20 IAMs_20 09 23 07.7
comp=Z,33µm,19.0s
NACB Ninganchiao 141.73 132 IAMs_20 IAMs_20 09 10 50.2
comp=Z,33µm,21.0s
YHNB Yeheng 142.07 132 IAMs_20 IAMs_20 09 15 51.4
comp=Z,27µm,20.0s
WAKE Wake Island 142.12 204 IAMs_20 IAMs_20 09 04 39.8
comp=Z,35µm,22.0s
SKAG Skagway 142.33 307 IAMs_20 IAMs_20 09 19 10.3
comp=Z,25µm,18.0s
LZH Lanzhou 142.38 101⇑ PKP **PKPdf 08 12 27.8 -0.6**
LZH sPKP 08 12 37.5
LZH PP **PP 08 15 37.5 +1.5**
LZH SKKS 08 22 25.5
LZH SS **SS 08 34 10.3 -0.4**
LZH AMB AMB
comp=Z,13µm,9.5s
TATO Taipei 142.39 132 IAMs_20 IAMs_20 09 15 57.8
comp=Z,20µm,20.0s
GTA Gaotai 142.43 93⇓ PKP **PKPdf 08 12 25.8 -2.6**
GTA pPKP sPKPdf 08 12 33.5 -0.3
GTA sPKP 08 12 37.5
GTA PP **PP 08 15 37.5 +1.2**
GTA PKS 08 16 07.0
GTA SKKS 08 22 25.3
GTA SS **SS 08 34 08.3 -3.0**
GTA AMB AMB
comp=Z,6µm,9.4s
GTA LR LR
comp=Z,19µm,20.3s
GTA LR LR
comp=Z,18µm,21.6s
GTA LR LR
comp=Z,27µm,22.5s
WHY Whitehorse 142.66 309 IAMs_20 IAMs_20 09 15 38.1
comp=Z,33µm,20.0s
ZALV Zalesovo Beam 142.72 64 PKhKP PKPpre 08 12 23.8
comp=Z,12nm,0.5s,baz=245,slow=3.8,SNR=33
ZALV SKPbc **SKPbc 08 16 03.1 -2.1**
comp=Z,37nm,1.1s,baz=276,slow=2.7,SNR=4.8
XAN Xi'an 143.67 108 PKP PKPbc 08 12 28.8 +0.7
XAN SKKS 08 22 32.3
XAN SS **SS 08 34 21.5 -3.7**
XAN LR LR
comp=Z,22µm,21.6s
XAN LR LR
comp=Z,20µm,19.6s
XAN LR LR
comp=Z,34µm,22.6s
XAN Xi'an 143.67 108 PKIKP PKPbc 08 12 28.9 +0.8
XAN Xi'an 143.67 108 PKPbc 08 12 28.9 +0.7
XAN Xi'an 143.67 108 IAMs_20 IAMs_20 09 11 42.3
comp=Z,26µm,20.0s
WHN Wuhan 143.77 118⇓ PKP **PKPdf 08 12 29.8 -1.0**
WHN SKKS 08 22 35.0
WHN SS **SS 08 34 30.3 +4.2**
WHN AMB AMB
comp=Z,25µm,14.9s
WHN LR LR
comp=Z,43µm,17.8s
WHN LR LR
comp=Z,29µm,19.1s
WHN LR LR
comp=Z,90µm,19.0s
YKU2 Yakutat 144.34 305 IAMs_20 IAMs_20 09 16 49.7
comp=Z,19µm,19.0s
PCA Pinnacle 144.85 306 PKPbc 08 12 31.3 +0.2
PCA IAMs_20 IAMs_20 09 18 37.1
comp=Z,29µm,19.0s
INK Inuvik 144.93 321 PKP **PKPab 08 12 30.7 -0.3**
comp=Z,682nm,1.0s,baz=82,slow=3.6,SNR=254
INK SKPbc **SKiKP 08 16 10.6 0.0**
comp=Z,54nm,1.1s,baz=68,slow=22,SNR=4.7
INK Inuvik 144.93 321 PKIKP **PKPab 08 12 30.6 -0.3**
INK MLR MLR
comp=Z,52µm,19.0s
INK Inuvik 144.93 321 PKPdf **PKPab 08 12 30.6 -0.3**
TABL Table Mountain 145.40 306 PKPbc 08 12 32.7 -0.3
TABL IAMs_20 IAMs_20 09 17 58.4
comp=Z,29µm,21.0s
EPYK Eagle Plains 145.54 317 PKPdf **PKPdf 08 12 32.3 -0.5**
YAH Yahtse 145.64 306 PKPbc 08 12 33.9 +0.1
CTGM Chitina Glacie 145.68 307 PKPbc 08 12 33.6 -0.2
CTGM IAMs_20 IAMs_20 09 21 39.0
comp=Z,30µm,20.0s
BARN Barnard Glacie 145.86 307 PKPdf 08 12 32.4 -1.3
BARN IAMs_20 IAMs_20 09 21 40.8
comp=Z,28µm,20.0s
DAWY Dawson 145.90 313 PKPdf **PKPdf 08 12 32.6 -0.9**
ISLE Juniper Island 146.00 306 PKPdf **PKPdf 08 12 34.0 +0.1**
ISLE IAMs_20 IAMs_20 09 21 17.6
comp=Z,32µm,19.0s
BALM Baldy 146.16 307 PKPdf 08 12 32.3 -1.9
BALM IAMs_20 IAMs_20 09 17 04.8
comp=Z,31µm,21.0s
WAX Waxell Ridge 146.19 306 PKPdf 08 12 32.5 -1.6
TGL Tana Glacier 146.28 306 PKPdf 08 12 32.4 -1.9
CRQM Cirque 146.43 306 PKPdf 08 12 34.1 -0.6
VRDI Verde Repeater 146.74 307 IAMs_20 IAMs_20 09 18 02.9
comp=Z,30µm,20.0s
JOW Kunigami 146.75 140 PKPbc **PKPbc 08 12 36.9 -0.8**
comp=Z,26nm,1.1s,baz=160,slow=12,SNR=15
JOW Kunigami 146.75 140 PKPdf **PKPbc 08 12 37.0 -0.8**
EGAK Eagle 146.84 314 PKPdf 08 12 33.7 -1.3
EGAK IAMs_20 IAMs_20 09 16 53.2
comp=Z,23µm,20.0s
GLB Gilahina Butte 146.97 307 PKPdf 08 12 33.5 -1.9
GLB IAMs_20 IAMs_20 09 19 02.1
comp=Z,32µm,20.0s
RAGM Ragged Mountai 147.01 305 PKPdf 08 12 34.4 -1.1
NJ2 Nanjing 147.22 122 *e*PKPbc **PKPdf 08 12 37.5 +0.8**
NJ2 PKPab **pPKPbc 08 12 43.3 +0.3**
NJ2 PP **PP 08 16 03.5 -0.9**
NJ2 SKKS 08 22 55.0
NJ2 LR LR
comp=Z,28µm,19.8s
NJ2 LR LR
comp=Z,11µm,19.4s
NJ2 LR LR
comp=Z,32µm,18.4s
MENT Mentasta 147.40 310 PKPdf 08 12 34.7 -1.3
MENT PKPab **pPKPab 08 12 45.3 +0.7**
MID Middleton Isla 147.46 303 PKIKP **PKPdf 08 12 36.4 +0.3**
MID Middleton Isla 147.46 303 PKPdf **PKPdf 08 12 36.4 +0.3**
SSE Sheshan 147.53 126 PKPbc **PKPdf 08 12 38.0 +0.8**
SSE SS SS 08 35 07.5 -1.2
SSE LR LR
comp=Z,6µm,18.0s
SSE LR LR
comp=Z,10µm,19.0s
SSE LR LR
comp=Z,4µm,19.6s
EYAK Cordova Ski Ar 147.56 305 PKPdf **PKPdf 08 12 37.1 +0.8**
DOT Dot Lake 147.75 311 PKPdf 08 12 37.6 +0.9
SCRK Sand Creek 147.81 312 PKPdf **PKPdf 08 12 36.3 -0.5**
HIN Hinchinbrook I 147.86 305 PKPdf 08 12 36.8 -0.1
FID Port Fidalgo 147.97 305 PKPdf 08 12 36.9 -0.1
FID PKPab **sPKPab 08 12 47.9 -0.5**
FID IAMs_20 IAMs_20 09 19 14.8
comp=Z,30µm,20.0s
PAX Paxson 148.18 310 IAMs_20 IAMs_20 09 17 10.4
comp=Z,27µm,21.0s
GLI Glacier Island 148.30 305 PKPdf 08 12 37.5 -0.1
GLI IAMs_20 IAMs_20 09 22 02.2
comp=Z,27µm,21.0s
TIY Taiyuan 148.30 108 *e*PKPbc **PKPbc 08 12 40.3 -1.5**
TIY PKPab **sPKPbc 08 12 47.0 -0.2**
TIY LR LR
comp=Z,19µm,18.6s
TIY LR LR
comp=Z,15µm,18.0s
TIY LR LR
comp=Z,22µm,19.5s
SCM Sheep Creek Mo 148.69 307 PKIKP **PKPdf 08 12 38.4 +0.1**

SCM					MLR	MLR		
	comp=Z,26µm,20.0s							
SCM	**Sheep Creek Mo**	**148.69**	**307**		**PKPdf**	**PKPdf**	**08 12 38.4**	**+0.1**
SCM					PKPab	**pPKPab**	**08 12 49.8**	**-0.1**
SCM					IAMs_20	IAMs_20	09 22 00.3	
	comp=Z,26µm,20.0s							
FYU	**Fort Yukon**	**148.90**	**316**		PKPdf	**PKPdf**	**08 12 38.6**	**+0.3**
FYU					PKPab	**pPKPab**	**08 12 50.0**	**-0.5**
FYU					IAMs_20	IAMs_20	09 21 57.1	
	comp=Z,24µm,20.0s							
NRIK	**Noril'sk**	**148.98**	**38**		PKPbc	**PKPbc**	**08 12 42.1**	**-0.3**
	comp=Z,89nm,0.9s,baz=105,slow=0.1,SNR=29							
BTO	**Baotou**	**149.00**	**101**	*e*	PKPbc	**PKPdf**	**08 12 37.8**	**-1.7**
KNK	**Knik Glacier**	**149.09**	**306**			**PKPdf**	**08 12 38.2**	**-0.7**
KNK					IAMs_20	IAMs_20	09 27 56.1	
	comp=Z,25µm,19.0s							
SEW	**Seward**	**149.17**	**303**		PKPdf	**PKPdf**	**08 12 38.1**	**-0.9**
HDA	**Harding Lake**	**149.17**	**312**		IAMs_20	IAMs_20	09 19 29.3	
	comp=Z,29µm,20.0s							
ILAR	**Eielson Array**	**149.22**	**313**		PKPbc	**PKPbc**	**08 12 42.8**	**-0.4**
	comp=Z,692nm,1.0s,baz=126,slow=1.8,SNR=110							
GHO	**Glory Hole Cre**	**149.40**	**306**			**PKPdf**	**08 12 38.6**	**-0.8**
GHO					IAMs_20	IAMs_20	09 13 04.9	
	comp=Z,25µm,21.0s							
PMR	**Palmer**	**149.45**	**306**		IAMs_20	IAMs_20	09 24 40.6	
	comp=Z,23µm,19.0s							
CCB	**Clear Creek Bu**	**149.58**	**312**		IAMs_20	IAMs_20	09 19 21.6	
	comp=Z,20µm,21.0s							
COLA	**College**	**149.65**	**313**		PKIKP	**PKPdf**	**08 12 38.5**	**-1.1**
COLA					MLR	MLR		
	comp=Z,27µm,21.0s							
COLA	**College**	**149.65**	**313**		PKPdf	**PKPdf**	**08 12 38.5**	**-1.1**
COLA	**College**	**149.65**	**313**		IAMs_20	IAMs_20	09 17 40.4	
	comp=Z,27µm,21.0s							
TIA	**Tai'an**	**149.66**	**115**		PKPbc	**PKPdf**	**08 12 40.3**	**-0.3**
TIA					LR	LR		
	comp=Z,19µm,18.1s							
TIA					LR	LR		
	comp=Z,15µm,20.1s							
TIA					LR	LR		
	comp=Z,23µm,20.1s							
WRH	**Wood River Hil**	**149.67**	**312**		IAMs_20	IAMs_20	09 19 44.4	
	comp=Z,30µm,20.0s							
MDM	**Murphy Dome**	**149.82**	**313**			**PKPdf**	**08 12 38.8**	**-1.1**
CNPM	**China Poot**	**149.85**	**302**		PKPdf	**PKPdf**	**08 12 39.2**	**-0.9**
CNPM					PKPab	**sPKPbc**	**08 12 52.3**	**+2.0**
MCK	**McKinley**	**149.88**	**310**		PKPdf	**PKPdf**	**08 12 39.5**	**-0.6**
MCK					PKPab	**PKPab**	**08 12 52.4**	**+1.8**
KDAK	**Kodiak Island**	**149.95**	**298**		PKPbc	**PKPbc**	**08 12 44.8**	**-0.4**
	comp=Z,234nm,1.0s,baz=136,slow=1.8,SNR=55							
KDAK	**Kodiak Island**	**149.95**	**298**		IAMs_20	IAMs_20	09 21 07.9	
	comp=Z,34µm,21.0s							
HHC	**Hu-ho-hao-te**	**150.03**	**102**	*e*	PKPbc	**PKPdf**	**08 12 39.5**	**-1.6**
HHC					PP	**PP**	**08 16 22.8**	**+1.6**
HHC					SKKS		08 23 10.8	
HHC					SS	**SS**	**08 35 38.3**	**+0.8**
HHC					AMB	AMB		
	comp=Z,2µm,5.9s							
HHC					LR	LR		
	comp=Z,9µm,18.2s							
HHC					LR	LR		
	comp=Z,12µm,19.8s							
HHC					LR	LR		
	comp=Z,15µm,19.8s							
HOM	**Homer**	**150.08**	**302**			**PKPdf**	**08 12 40.4**	**-0.1**
HOM					PKPab	**PKPab**	**08 12 53.2**	**+1.7**
OHAK	**Old Harbor**	**150.11**	**296**		PKPdf	**PKPdf**	**08 12 39.9**	**-0.7**
OHAK					IAMs_20	IAMs_20	09 16 13.7	
	comp=Z,31µm,20.0s							
SUA	**Susitna One**	**150.16**	**305**			**PKPdf**	**08 12 40.3**	**-0.3**
SUA					IAMs_20	IAMs_20	09 23 34.5	
	comp=Z,24µm,19.0s							
MOY	**Mondy**	**150.25**	**76**	*e*	PKIKP	**PKPdf**	**08 12 38.6**	**-2.5**
MOY					pmax	pmax		
	comp=Z,2µm,2.8s							
SII	**Sitkinak Islan**	**150.34**	**295**		PKPdf	**PKPdf**	**08 12 42.3**	**+1.3**
TOLK	**Toolik Lake Re**	**150.80**	**320**		IAMs_20	IAMs_20	09 21 58.2	
	comp=Z,25µm,19.0s							
CHIR	**Chirikof Islan**	**150.82**	**293**		PKPdf	**PKPdf**	**08 12 41.8**	**+0.1**
BPAW	**Bear Paw Mtn.**	**150.84**	**311**		IAMs_20	IAMs_20	09 19 13.8	
	comp=Z,23µm,20.0s							
ZAK	**Zakamensk**	**150.91**	**80**	*e*	PKIKP	**PKPdf**	**08 12 41.1**	**-1.1**
ZAK					pmax	pmax		
	comp=Z,243nm,1.3s							
SONM	**Songino Array**	**151.37**	**86**		PKP	**PKPdf**	**08 12 41.8**	**-1.2**
	comp=Z,20nm,1.1s,baz=215,slow=1.2,SNR=34							
SONM					PKPbc	**sPKPdf**	**08 12 48.2**	**-0.2**
	comp=Z,223nm,1.0s,baz=222,slow=3.2,SNR=64							
TLY	**Talaya**	**151.72**	**77**		PKPbc	**PKPbc**	**08 12 49.2**	**-0.4**
	comp=Z,94nm,0.8s,baz=220,slow=3.7,SNR=38							
TLY	**Talaya**	**151.72**	**77**	*c i*	PKIKP	**PKPdf**	**08 12 41.2**	**-2.1**
TLY				*i*			08 12 47.5	
TLY	**Talaya**	**151.72**	**77**		PKPdf	**PKPdf**	**08 12 43.2**	**-0.1**
TLY						**PKiKP**	**08 12 50.6**	**+0.6**
TLY					PKPab	**PKPab**	**08 12 58.0**	**-0.7**
ULN	**Ulaanbaatar**	**151.76**	**87**		PKIKP	**PKPdf**	**08 12 42.5**	**-1.1**
ULN	**Ulaanbaatar**	**151.76**	**87**		PKPdf	**PKPdf**	**08 12 42.5**	**-1.1**
BJT	**Baijiatuau**	**151.98**	**109**		IAMs_20	IAMs_20	09 16 33.5	
	comp=Z,24µm,22.0s							
BJI	**Beijing**	**152.00**	**109**		PKPbc	**PKPdf**	**08 12 44.5**	**+0.5**
BJI					PP	**PP**	**08 16 31.0**	**-1.2**
BJI					SKKS		08 23 18.5	
BJI					SS	**SS**	**08 36 00.5**	**+1.6**
BJI					LR	LR		
	comp=Z,14µm,18.5s							
BJI					LR	LR		
	comp=Z,13µm,18.9s							
IRK	**Irkutsk**	**152.32**	**77**	*e*	PKIKP	**PKPdf**	**08 12 44.7**	**+0.6**
IRK					pmax	pmax		
	comp=Z,693nm,2.4s							
SVW2	**Sparrevohn**	**152.34**	**304**		PKPdf	**PKPdf**	**08 12 41.4**	**-2.5**
SVW2					IAMs_20	IAMs_20	09 22 23.8	
	comp=Z,26µm,20.0s							
CNBA	**Chernabura Isl**	**152.56**	**289**			**PKPdf**	**08 12 43.0**	**-1.3**
CNBA					PKPbc	**PKiKP**	**08 12 53.1**	**+1.5**
SDPT	**Sand Point**	**153.22**	**290**		PKPdf	**PKPdf**	**08 12 43.8**	**-1.5**
SDPT						**PKiKP**	**08 12 54.9**	**+2.0**
SDPT					IAMs_20	IAMs_20	09 24 48.5	
	comp=Z,28µm,20.0s							
JNU	**Nakatsue**	**153.38**	**138**		PKPbc	**PKPbc**	**08 12 52.1**	**-1.8**
	comp=Z,56nm,0.8s,baz=350,slow=2.2,SNR=22							
JNU	**Nakatsue**	**153.38**	**138**		PKPdf	**PKPdf**	**08 12 46.8**	**+0.4**
JNU					PKPbc	**PKiKP**	**08 12 55.3**	**+1.2**
JNU					PKPab	**PKPab**	**08 13 06.1**	**+0.1**
JNU					IAMs_20	IAMs_20	09 18 14.3	
	comp=Z,22µm,20.0s							
DL2	**Dalian**	**154.03**	**117**		PKPbc	**PKPdf**	**08 12 45.0**	**-2.0**
DL2					SKKS		08 23 30.0	
DL2					AMB	AMB		
	comp=Z,4µm,10.4s							
DL2					LR	LR		
	comp=Z,22µm,20.2s							
DL2					LR	LR		
	comp=Z,23µm,20.6s							
FALS	**False Pass**	**154.64**	**287**		PKPdf	**PKPdf**	**08 12 46.4**	**-0.8**
FALS						**PKiKP**	**08 12 56.3**	**+0.5**
FALS					PKPab	**PKPab**	**08 13 11.4**	**+0.6**
INCN	**Inchon**	**155.33**	**126**		PKIKP	**PKPdf**	**08 12 46.0**	**-2.9**
INCN	**Inchon**	**155.33**	**126**			**PKPdf**	**08 12 46.0**	**-2.9**
HJU	**Haeju**	**155.36**	**124**		P	**PKPdf**	**08 12 49.9**	**+1.0**
RDOG	**Red Dog Mine**	**155.76**	**319**		PKPdf	**PKPdf**	**08 12 46.4**	**-2.1**
KSRS	**Korea Array**	**155.89**	**129**		PKP	**PKPdf**	**08 12 47.9**	**-1.7**
	comp=Z,6.8nm,1.0s,baz=225,slow=0.9,SNR=19							
KS19	**Wonju Array Si**	**155.90**	**128**			**PKPdf**	**08 12 49.5**	**-0.2**
KS19					PKPab	**PKPab**	**08 13 15.1**	**-1.6**
JHJ2	**Mitsune**	**156.17**	**155**		IAMs_20	IAMs_20	09 29 27.0	
	comp=Z,20µm,21.0s							
PYAG	**Pyongyang**	**156.18**	**123**		PKPbc	**PKPdf**	**08 12 47.2**	**-2.7**
PYAG					PP	**PP**	**08 16 52.6**	**-3.0**
SUJ	**Sinuiju**	**156.38**	**119**		PKPbc	**PKPdf**	**08 12 47.3**	**-2.8**
PYS	**Pyongsong**	**156.38**	**123**		PKPbc	**PKPdf**	**08 12 47.4**	**-2.8**
NIKH	**Nikolski High**	**156.97**	**280**		IAMs_20	IAMs_20	09 39 17.4	
	comp=Z,26µm,20.0s							
ANM	**Nome**	**157.11**	**311**		IAMs_20	IAMs_20	09 23 08.6	
	comp=Z,28µm,21.0s							
SNY	**Shenyang**	**157.19**	**115**	⇑	PKP	**PKPdf**	**08 12 49.0**	**-2.1**
SNY					SS	SS	08 36 51.5	-3.7
SNY					AMB	AMB		
	comp=Z,2µm,9.0s							
SNY					LR	LR		
	comp=Z,21µm,18.1s							
SNY					LR	LR		
	comp=Z,11µm,17.7s							
SNY					LR	LR		
	comp=Z,24µm,20.1s							
CIT	**Chita**	**157.42**	**83**	*e*	PKIKP	**PKPdf**	**08 12 55.0**	**+3.8**
INU	**Inuyama**	**157.51**	**147**		PKPdf	**PKPdf**	**08 12 50.9**	**-0.9**
INU					IAMs_20	IAMs_20	09 33 29.2	
	comp=Z,20µm,20.0s							
HHU	**Hamhung**	**157.71**	**124**		PKPbc	**PKPdf**	**08 12 49.0**	**-2.8**
HHU					PP	PP	08 17 19.3	+15
KGE	**Kanggye**	**158.06**	**121**		P	**PKPdf**	**08 12 50.2**	**-2.1**
MAJO	**Matsushiro**	**158.97**	**149**		PKIKP	**PKPdf**	**08 12 52.1**	**-1.5**
MAJO	**Matsushiro**	**158.97**	**149**		PKPdf	**PKPdf**	**08 12 52.1**	**-1.5**
MAJO	**Matsushiro**	**158.97**	**149**		IAMs_20	IAMs_20	09 19 39.8	
	comp=Z,23µm,22.0s							
MAT	**Matsushiro**	**158.97**	**149**		PKP	**PKPdf**	**08 12 50.5**	**-3.1**
MJAR	**Matsushiro Arr**	**158.97**	**149**		PKP	**PKPdf**	**08 12 51.8**	**-1.8**
	comp=Z,16nm,1.1s,baz=203,slow=1.0,SNR=24							
MJAR					PP	**PP**	**08 17 05.8**	**-4.8**
	comp=Z,0.8nm,0.3s,baz=223,slow=16,SNR=4.8							
MJB9	**Matsu-Tunnel**	**158.97**	**149**		PKPdf	**PKPdf**	**08 12 52.1**	**-1.5**
BOD	**Bodaibo**	**159.37**	**68**	*e*	PKIKP	**PKPdf**	**08 12 50.5**	**-2.8**
BOD					pmax	pmax		
	comp=Z,200nm,1.6s							
CN2	**Changchun**	**159.56**	**114**	*e*	PKP	**PKPdf**	**08 12 51.3**	**-2.7**
CN2					PP	**PP**	**08 17 15.0**	**+0.7**
CN2					SS	SS	08 37 19.0	-1.4
CN2					AMB	AMB		
	comp=Z,4µm,14.0s							
CN2					LR	LR		
	comp=Z,15µm,18.0s							
CN2					LR	LR		
	comp=Z,22µm,18.0s							
CN2					LR	LR		
	comp=Z,17µm,20.0s							
GAMB	**Gambell**	**159.94**	**309**			**PKPab**	**08 13 33.3**	**-0.1**
CHJN	**Chongjin**	**160.25**	**125**		P	**PKPdf**	**08 12 59.7**	**+4.9**
ADK	**Adak**	**160.97**	**272**		PKIKP	**PKPdf**	**08 12 52.9**	**-2.3**
ADK	**Adak**	**160.97**	**272**		PKPdf	**PKPdf**	**08 12 52.9**	**-2.3**
TIXI	**Tiksi**	**161.10**	**22**		PKPab	**PKPab**	**08 13 38.1**	**-0.2**
	comp=Z,16nm,0.8s,baz=3.5,slow=5.8,SNR=4.2							
TIXI					PP	**PP**	**08 17 19.9**	**-2.0**
	comp=Z,16nm,1.0s,baz=327,slow=2.8,SNR=9.0							
TIXI	**Tiksi**	**161.10**	**22**		PKIKP	**PKPdf**	**08 12 52.5**	**-2.3**
TIXI							08 13 38.4	
TIXI	**Tiksi**	**161.10**	**22**		PKPdf	**PKPdf**	**08 12 52.5**	**-2.3**
TIXI						**PKPab**	**08 13 38.4**	**+0.2**
MDJ	**Mudanjiang**	**162.25**	**119**		PKP	**PKPdf**	**08 12 55.5**	**-1.3**
MDJ					PP	**PP**	**08 17 25.3**	**-3.4**
MDJ					SS	SS	08 37 44.5	-4.0
MDJ					AMB	AMB		
	comp=Z,4µm,12.9s							
MDJ					LR	LR		
	comp=Z,17µm,19.9s							
MDJ					LR	LR		
	comp=Z,16µm,21.1s							
MDJ					LR	LR		
	comp=Z,39µm,20.7s							
USA0B	**Ussuriysk Arra**	**163.12**	**124**		PKIKP	**PKPdf**	**08 12 55.3**	**-2.4**
USA0B	**Ussuriysk Arra**	**163.12**	**124**			**PKPdf**	**08 12 55.3**	**-2.4**
USRK	**Ussuriysk Ar.**	**163.12**	**124**		PKP	**PKPdf**	**08 12 57.9**	**+0.2**
	comp=Z,12nm,1.1s,baz=236,slow=2.1,SNR=22							
USRK					PKPab	**PKPab**	**08 13 49.0**	**+1.1**
	comp=Z,20nm,1.0s,baz=244,slow=4.7,SNR=7.6							
ERM	**Erimo**	**165.44**	**154**		PKIKP	**PKPdf**	**08 12 59.4**	**-0.4**
ERM	**Erimo**	**165.44**	**154**			**PKPdf**	**08 12 59.4**	**-0.4**
BILL	**Bilibino**	**165.67**	**337**	*c i*	PKIKP	**PKPdf**	**08 12 52.9**	**-6.3**
BILL				*e*			08 17 46.7	
BILL				*e*			08 20 03.5	
BILL				*e*	SS	SS	08 38 25.4	+2.6
BILL				*e*	SSS	SSS	08 44 52.5	
BILL					pmax	pmax		
	comp=Z,34nm,1.1s							
BILL	**Bilibino**	**165.67**	**337**			**PKPdf**	**08 12 54.3**	**-4.9**
ZEA	**Zeya**	**165.80**	**87**	*i*	PKIKP	**PKPdf**	**08 12 57.8**	**-1.9**
ZEA				*e*			08 17 49.0	
ZEA				*e*			08 38 30.0	
ZEA					pmax	pmax		
	comp=Z,330nm,2.0s							
ZEA					pmax	pmax		
	comp=Z,3µm,8.0s							
ZEA					pmax	pmax		
	comp=Z,11µm,16.0s							
ZEA					pmax	pmax		
	comp=E,2µm,13.0s							
TEY	**Ternei**	**165.85**	**131**	⇓	PKIKP	**PKPdf**	**08 13 00.6**	**+0.6**
TEY				*e*			08 17 43.7	
TEY					pmax	pmax		
	comp=N,10.0nm,1.2s							
TEY					pmax	pmax		
	comp=E,10.0nm,1.2s							
TEY					pmax	pmax		
	comp=Z,10.0nm,1.8s							
KLR	**Kul'dur**	**166.37**	**109**		PKP	**PKPdf**	**08 12 58.8**	**-1.6**
	comp=Z,8.2nm,1.0s,baz=177,slow=1.5,SNR=17							
KLR					PKPab	**PKPab**	**08 14 02.1**	**0.0**
	comp=Z,9.4nm,0.8s,baz=198,slow=4.9,SNR=4.7							
KLR					PP	**PP**	**08 17 48.5**	**-1.8**
	comp=Z,2.3nm,0.8s,baz=239,slow=6.1,SNR=3.7							
YAK	**Yakutsk**	**166.91**	**51**		PKP	**PKPdf**	**08 12 59.0**	**-1.3**
	comp=Z,3.7nm,0.3s,baz=140,slow=1.1,SNR=1.0							
YAK	**Yakutsk**	**166.91**	**51**	*e*	PKIKP	**PKPdf**	**08 12 59.0**	**-1.3**
YAK				*e*			08 17 51.0	
YAK					pmax	pmax		
	comp=Z,5µm,6.9s							
YAK					pmax	pmax		
	comp=N,933nm,6.8s							
YAK					pmax	pmax		
	comp=E,755nm,7.6s							
YAK	**Yakutsk**	**166.91**	**51**			**PKPdf**	**08 12 57.6**	**-2.7**
ASAJ	**Asahikawa**	**167.24**	**149**		PKP	**PKPdf**	**08 12 59.7**	**-1.5**
	comp=E,26nm,1.2s,baz=237,slow=6.8,SNR=7.9							
JKA	**Kamikawa-asahi**	**167.24**	**149**			**PKPdf**	**08 12 59.7**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**167.97**	**160**	*i*	PKP2	**PKPab**	**08 14 10.3**	**+1.2**
YUK				*i*			08 17 53.8	
KUR	**Kuril'sk**	**169.48**	**165**	*d i*	PKIKP	**PKPdf**	**08 13 04.8**	**+2.2**
KUR				*e*	PPP	PPP	08 22 10.8	
KUR				*e*	SS	SS	08 39 02.1	+1.2
GRNR	**Gornyy**	**169.73**	**111**	⇑	PKIKP	**PKPdf**	**08 13 01.0**	**-1.6**
GRNR				*e*			08 18 04.8	
GRNR					pmax	pmax		
	comp=Z,20nm,1.3s							
YSS	**Yuzh-Sakhalins**	**169.83**	**143**	*c i*	PKIKP	**PKPdf**	**08 13 00.6**	**-2.2**
YSS				*e*			08 18 05.5	
YSS				*e*			08 20 04.5	
YSS				*e*	SS	SS	08 39 01.8	-3.1
YSS					pmax	pmax		
	comp=Z,110nm,1.2s							
YSS					pmax	pmax		
	comp=Z,5µm,5.9s							
YSS					pmax	pmax		
	comp=Z,8µm,16.0s							
YSS					pmax	pmax		
	comp=N,2µm,15.0s							
YSS					pmax	pmax		
	comp=E,2µm,13.0s							
YSS	**Yuzh-Sakhalins**	**169.83**	**143**			**PKPdf**	**08 13 00.1**	**-2.7**
YSS					PKPab	**pPKPab**	**08 14 20.1**	**-1.1**
NKL	**Nikolayevsk**	**173.19**	**105**	*e*	PKIKP	**PKPdf**	**08 13 04.0**	**-0.2**
NKL				*e*			08 18 20.4	
NKL				*e*	PPP	PPP	08 22 35.4	
SKR	**Severo-Kuril's**	**174.49**	**211**	*i*	PKIKP	**PKPdf**	**08 13 02.1**	**-2.6**
SKR				*e*			08 18 26.1	
SKR				*e*	SS	SS	08 39 41.3	-8.9
PEA0B	**Petropavlovsk-**	**175.72**	**239**		PKIKP	**PKPdf**	**08 13 02.4**	**-2.6**
PEA0B	**Petropavlovsk-**	**175.72**	**239**			**PKPdf**	**08 13 02.4**	**-2.6**
PETK	**Petropavlovsk-**	**175.72**	**239**		PKP	**PKPdf**	**08 13 04.1**	**-0.9**
	comp=E,35nm,1.0s,baz=134,slow=4.3,SNR=13							
PETK					PKPab	**PKPab**	**08 14 41.5**	**-1.9**
	comp=E,4.0nm,0.7s,baz=96,slow=9.5,SNR=1.4							
MA2	**Magadan**	**175.86**	**6**		PKPab	**PKPab**	**08 14 45.0**	**+1.3**
	comp=E,28nm,1.1s,baz=40,slow=4.6,SNR=5.0							
MA2	**Magadan**	**175.86**	**6**		PKIKP	**PKPdf**	**08 13 01.2**	**-3.6**
MA2	**Magadan**	**175.86**	**6**		PKPdf	**PKPdf**	**08 13 01.2**	**-3.6**
MA2						**pPKPab**	**08 14 48.3**	**+0.5**

IDC 29 07:57:51.5±1.0,55°19S×28°19W,h0km,mb4.7/2,
mb1 4.8/3,mb1mx4.3/39,mbtmp4.8/3,ML4.9/1,Error
ellipse: s-maj=49.8km s-min=35.7km az=55.0,South
Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.77**	**156**	P	P	08 02 23.3	+0.6
	3.3nm,0.3s,baz=288,slow=15,SNR=1.6						
LPAZ	**La Paz**	**49.41**	**306**	P	P	08 06 43.6	0.0
	7.7nm,0.7s,baz=189,slow=4.1,SNR=2.6						
TORD	**Torodi Ar. Bea**	**72.59**	**31**	P	P	08 09 20.8	+0.5
	6.7nm,0.8s,baz=199,slow=6.4,SNR=7.3						
FINES	**FINESS Array B**	**123.88**	**28**	PKP	PKPdf	08 16 49.0	-0.9
	1.5nm,0.5s,baz=214,slow=1.5,SNR=4.0						
ARCES	**ARCESS Array B**	**130.35**	**22**	PKP	PKPdf	08 17 01.3	-0.8
	1.2nm,0.7s,baz=230,slow=2.2,SNR=0.8						
YKA	**Yellowknife Ar**	**135.14**	**319**	PKP	PKPdf	08 17 11.3	+0.1
	1.6nm,0.8s,baz=119,slow=2.7,SNR=1.0						
INK	**Inuvik**	**144.77**	**322**	PKP	PKPab	08 17 27.0	-0.5
	13nm,0.9s,baz=133,slow=4.4,SNR=1.9						
ILAR	**Eielson Array**	**149.11**	**313**	PKPbc	PKPbc	08 17 39.8	-0.3
	12nm,0.8s,baz=120,slow=2.1,SNR=6.4						
KDAK	**Kodiak Island**	**149.91**	**298**	PKPbc	PKPbc	08 17 42.1	-0.1
	4.3nm,0.5s,baz=269,slow=18,SNR=2.4						
SONM	**Songino Array**	**151.24**	**86**	PKPbc	PKPbc	08 17 45.3	-0.7
	4.9nm,0.9s,baz=226,slow=3.6,SNR=1.8						

IDC ***29*** *07:58:28.6±0.9,55°.44S×28°.27W,h0km,mb4.8/4,*
mb1 4.8/5,mb1mx4.4/36,mbtmp4.8/5,ML4.8/1,Error
ellipse: s-maj=42.8km s-min=29.0km az=34.0
NEIC ***29*** *07:58:30.1±0.9,55°.5S±0°.2×28°.3W±0°.2,h10km±1km,*
mb5.2/20,Error ellipse: s-maj=32.5km s-min=7.1km
az=205.0

ISC 29 07:58:30.1±0.7,55°.5S±0°.2×28°.4W±0°.1,h10km,n37,
σ0s71/37,mb5.0/13,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.82**	**281**	Pn	**Pn**	**07 59 43.4**	**+0.9**
HOPE				Sn	**Sn**	**08 00 36.4**	**-1.9**
SNAA	**Sanae**	**19.53**	**156**	P	**P**	**08 02 57.0**	**-0.3**
	2.8nm,0.3s,baz=282,slow=12,SNR=1.4						
SNAA	**Sanae**	**19.53**	**156**	P	**P**	**08 02 57.8**	**+0.5**
SPB	**Sao Paulo**	**34.84**	**328**	P	**P**	**08 05 21.2**	**+0.1**
CPUP	**Villa Florida**	**35.93**	**312**	P	**P**	**08 05 30.5**	**+0.1**
CPUP				IAmb	IAmb	08 05 33.1	
	comp=Z,45nm,1.4s						
GO05	**Huala**	**36.06**	**286**	P	**P**	**08 05 31.0**	**-0.5**
GO05				IAmb	IAmb	08 05 35.2	
	comp=Z,32nm,1.2s						
MT01	**Popeta**	**36.55**	**288**	P	**P**	**08 05 35.6**	**-0.1**
MT01				IAmb	IAmb	08 05 42.0	
	comp=Z,41nm,1.4s						
CFA	**Coronel Fontan**	**36.70**	**294**	P	**P**	**08 05 36.8**	**-0.3**
	comp=Z,5.0nm,0.5s,baz=214,slow=11,SNR=1.5						
PEL	**Peldehue**	**36.80**	**290**	P	**P**	**08 05 38.3**	**+0.4**
PEL				IAmb	IAmb	08 05 42.2	
	comp=Z,32nm,1.1s						
MT02	**Curacav**	**36.95**	**289**	P	**P**	**08 05 39.5**	**+0.3**
MT02				IAmb	IAmb	08 05 42.5	
	comp=Z,44nm,1.4s						
VA03	**San Esteban**	**37.02**	**290**	P	**P**	**08 05 39.8**	**0.0**
CO01	**Juntas del Tor**	**38.96**	**293**	P	**P**	**08 05 58.5**	**+2.0**
AC05	**El Transito**	**39.97**	**294**	P	**P**	**08 06 05.0**	**+0.3**
AC04	**Llanos de Chal**	**40.89**	**294**	P	**P**	**08 06 11.8**	**-0.4**
AC04				IAmb	IAmb	08 06 21.4	
	comp=Z,91nm,1.2s						
GO02	**Mina Guanaco**	**42.62**	**298**	P	**P**	**08 06 25.9**	**-0.8**
GO02				IAmb	IAmb	08 06 38.6	
	comp=Z,90nm,1.4s						
PB15	**IPOC Station P**	**44.19**	**300**	P	**P**	**08 06 39.3**	**0.0**
LVC	**Limon Verde**	**44.42**	**301**	P	**P**	**08 06 41.8**	**+0.5**
PB09	**IPOC Station P**	**45.27**	**301**	P	**P**	**08 06 48.2**	**+0.3**
PB01	**IPOC Station P**	**46.03**	**301**	P	**P**	**08 06 55.0**	**+1.2**
GO01	**Chusmiza**	**47.06**	**303**	P	**P**	**08 07 03.5**	**+1.1**
MNMC	**Minye Minye**	**47.72**	**303**	P	**P**	**08 07 08.3**	**+1.1**
MNMC				IAmb	IAmb	08 07 16.9	
	comp=Z,30nm,0.9s						
LPAZ	**La Paz**	**49.49**	**306**	P	**P**	**08 07 21.6**	**+0.3**
	comp=Z,15nm,0.9s,baz=229,slow=13,SNR=3.3						
LPAZ	**La Paz**	**49.49**	**306**	P	**P**	**08 07 22.2**	**+0.9**
LPAZ				IAmb	IAmb	08 07 22.5	
	comp=Z,19nm,0.8s						
PLCV	**Puerto La Cruz**	**72.06**	**322**	P	**P**	**08 09 54.5**	**+0.3**
PCRV	**Puerto La Cruz**	**72.09**	**322**	P	**P**	**08 09 54.5**	**+0.1**
	comp=Z,4.1nm,0.4s,baz=342,slow=3.2,SNR=1.2						
TOA0	**Torodi Ar. Sit**	**72.92**	**31**	P	**P**	**08 09 59.0**	**-0.4**
TOA0				IAmb	IAmb	08 10 00.6	

IDC 29 08:16:11.4±1.0, 55°38'S × 28°07'W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/20, mbtmp3.9/4, ML4.2/1, Error ellipse: s-maj=45.2km s-min=27.2km az=82.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.56**	**156**	P	P	08 20 40.5	+0.1
	0.6nm,0.3s,baz=311,slow=11,SNR=3.5						
VNDA	**Vanda**	**47.22**	**183**	P	P	08 24 45.2	-0.1
	1.1nm,0.8s,baz=180,slow=8.1,SNR=5.8						
LPAZ	**La Paz**	**49.58**	**306**	P	P	08 25 04.7	-0.2
	1.1nm,0.7s,baz=132,slow=3.6,SNR=2.8						
TORD	**Torodi Ar. Bea**	**72.72**	**30**	P	P	08 27 41.2	+0.1
	1.3nm,0.5s,baz=200,slow=6.7,SNR=14						
ILAR	**Eielson Array**	**149.29**	**313**	PKPbc	PKPbc	08 36 00.1	-0.5
	1.7nm,0.8s,baz=119,slow=1.8,SNR=10.0						
SONM	**Songino Array**	**151.18**	**86**	PKPbc	PKPbc	08 36 05.3	-0.5
	0.5nm,0.5s,baz=216,slow=4.0,SNR=2.8						

JMA ***29*** *08:18:54.2±0.1, 38°93'N × 141°92'E, h51km±1km, M3.8*
JMA Felt I J1.
IDC ***29*** *08:18:56.6±2.5, 38°88'N × 141°95'E, h75km±22km, mb3.5/5, mb1 3.6/9, mb1mx3.3/47, mbtmp3.7/9, Error ellipse: s-maj=31.0km s-min=15.6km az=110.0*

ISC 29 08:18:54.7±1.2, 38°91'N±0'05×141°96'E±0'09, h46km±9km, n26, σ2s11/31, mb3.9/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**0.28**	**307**	P	Pn	**08 19 03.2**	**-0.1**
OFUJ				S	Sn	**08 19 09.2**	**-0.1**
JKMT	**Kesennumamotoy**	**0.39**	**255**	P	Pn	**08 19 04.1**	**-0.3**
JKMT				S	Sn	**08 19 10.8**	**-0.4**
JMK	**Ichinoseki**	**0.58**	**274**	P	Pn	**08 19 06.2**	**-0.5**
JMK				S	Sn	**08 19 14.6**	**-0.6**
JIO	**Ouri**	**0.66**	**226**	P	Pn	**08 19 07.1**	**-0.6**
JIO				S	Sn	**08 19 15.9**	**-1.2**
JOM	**Ohasama**	**0.76**	**318**	P	Pn	**08 19 08.6**	**-0.5**
JOM				S	Sn	**08 19 19.0**	**-0.6**
JRG	**Rokugo**	**1.14**	**296**	P	Pn	**08 19 13.4**	**-0.8**
JRG				*e*S	Sn	**08 19 27.8**	**-0.9**
JOU	**Okura**	**1.15**	**242**	P	Pn	**08 19 13.6**	**-0.8**
JOU				S	Sn	**08 19 27.7**	**-1.3**
JYK	**Kaneyama**	**1.25**	**271**	P	Pn	**08 19 15.0**	**-0.7**
JMM	**Marumori**	**1.39**	**222**	P	Pn	**08 19 16.5**	**-1.1**
JMM				*e*S	Sn	**08 19 33.7**	**-1.1**
JANG	**Nango**	**1.50**	**347**	P	Pn	**08 19 18.3**	**-0.9**
MJAR	**Matsushiro Arr**	**3.80**	**233**	P	Pn	**08 19 52.1**	**+1.4**
	0.5nm,0.3s,baz=36,slow=12,SNR=27						
MJAR				S	Sn	**08 20 41.0**	**+6.9**
	0.1nm,0.3s,baz=52,slow=46,SNR=1.7						
MAT	**Matsushiro**	**3.80**	**233**	P	Pn	**08 19 51.8**	**+1.1**
MAT				*e*S	Sn	**08 20 38.3**	**+4.2**
ASAJ	**Asahikawa**	**5.22**	**5**	P	Pn	**08 20 10.9**	**+0.7**
	0.8nm,0.3s,baz=174,slow=10,SNR=6.1						
ASAJ				S	Sn	**08 21 12.5**	**+3.3**
	0.8nm,0.3s,baz=13,slow=32,SNR=4.3						
USRK	**Ussuriysk Ar.**	**9.15**	**308**	P	Pn	**08 21 06.9**	**+2.9**
	baz=114,slow=14,SNR=5.0						
KSRS	**Korea Array**	**11.14**	**267**	P	Pn	**08 21 35.0**	**+3.6**
	0.1nm,0.3s,baz=81,slow=16,SNR=2.4						
H11N2	**WAKE ISLAND Hy**	**28.80**	**124**	T	T	08 55 16.7	
	baz=317,slow=75,SNR=278						
H11N1	**WAKE ISLAND Hy**	**28.80**	**124**	T	T	08 55 13.8	
	baz=317,slow=75,SNR=312						
H11N3	**WAKE ISLAND Hy**	**28.81**	**124**	T	T	08 55 14.4	
	baz=317,slow=75,SNR=274						
H11S1	**WAKE ISLAND Hy**	**29.57**	**126**	T	T	08 56 11.1	
	baz=318,slow=76,SNR=116						
H11S3	**WAKE ISLAND Hy**	**29.57**	**126**	T	T	08 56 09.9	
	baz=318,slow=76,SNR=181						
H11S2	**WAKE ISLAND Hy**	**29.59**	**126**	T	T	08 56 11.0	
	baz=318,slow=76,SNR=107						
ZALV	**Zalesovo Beam**	**40.99**	**311**	P	P	**08 26 32.1**	**-0.8**
	1.4nm,0.6s,baz=74,slow=6.5,SNR=3.1						
MKAR	**Makanchi Array**	**43.51**	**301**	P	P	**08 26 52.3**	**-1.3**
	1.9nm,0.7s,baz=85,slow=9.7,SNR=7.4						
ILAR	**Eielson Array**	**47.69**	**33**	P	P	**08 27 26.7**	**+0.5**
	0.3nm,0.6s,baz=273,slow=7.2,SNR=2.1						
WRA	**Warramunga Arr**	**58.98**	**188**	P	P	**08 28 47.9**	**-1.7**
	1.2nm,1.0s,baz=4.7,slow=6.9,SNR=7.4						
FINES	**FINESS Array B**	**67.36**	**332**	P	P	**08 29 43.0**	**-1.7**
	1.2nm,0.6s,baz=23,slow=8.2,SNR=4.9						

MOS ***29*** *08:21:02.9±1.0, 55°48S × 28°40W, h10km, mb5.3/20, Error ellipse: s-maj=18.0km s-min=11.1km az=113.8*
IDC ***29*** *08:21:02.6±0.5, 55°44S × 28°19W, h0km, mb4.9/15, mb1 4.9/17, mb1mx4.8/24, mbtmp4.9/17, ML5.0/2, Error ellipse: s-maj=16.3km s-min=13.7km az=49.0*
NEIC ***29*** *08:21:04.2±1.2, 55°5S±0'1 × 28°29W±0'06, h10km±1km, mb5.1/52, Error ellipse: s-maj=18.1km s-min=5.0km az=190.0*

ISC 29 08:21:08.4±0.3, 55°47S±0'06 × 28°38W±0'05, h45km, n267, σ1s08/277, mb5.1/36, 11C-5D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.83**	**281**	P	Pn	**08 22 17.3**	**-1.2**
HOPE						08 23 11.2	
HOPE	**Hope Point**	**4.83**	**281**	Pn	Pn	**08 22 17.3**	**-1.2**
HOPE				Sn	Sn	**08 23 11.2**	**-1.9**
VNA1	**Neumayer--Stat**	**17.59**	**158**	P	P	**08 25 10.5**	**+0.2**
VNA3	**Neumayer Olymp**	**17.76**	**160**	P	Pn	**08 25 10.3**	**-1.7**
EFI	**East Falkland**	**17.96**	**270**	⇓*i*P	P	**08 25 14.8**	**+0.2**
EFI				pmax	pmax		
	comp=Z,46nm,0.7s						
EFI	**East Falkland**	**17.96**	**270**		P	**08 25 14.6**	**0.0**
VNA2	**Neumayer--Watz**	**17.98**	**158**	P	P	**08 25 14.7**	**0.0**
	baz=316,slow=11						
SNAA	**Sanae**	**19.55**	**156**	P	P	**08 25 31.5**	**-0.3**
SNAA	**Sanae**	**19.55**	**156**	P	P	**08 25 31.6**	**-0.3**
	comp=Z,13nm,0.3s,baz=304,slow=9.2,SNR=159						
SNAA	**Sanae**	**19.55**	**156**	⇓*i*P	P	**08 25 31.8**	**-0.1**
SNAA				pmax	pmax		
	comp=Z,56nm,0.8s						
SNAA	**Sanae**	**19.55**	**156**	P	P	**08 25 31.3**	**-0.5**
SNAA				IAmb	IAmb	08 25 34.1	
	comp=Z,69nm,0.7s						
PMSA	**Palmer Station**	**19.78**	**228**	P	Pn	**08 25 35.4**	**-0.9**
	comp=Z,1.5nm,0.3s,baz=79,slow=16,SNR=2.2						
PMSA	**Palmer Station**	**19.78**	**228**	P	P	**08 25 35.1**	**+0.7**
PMSA				IAmb	IAmb	08 25 43.2	
	comp=Z,149nm,1.2s						
USHA	**Ushuaia**	**22.68**	**255**	P	P	**08 26 07.3**	**+1.6**
	comp=Z,5.2nm,0.4s,baz=113,slow=17,SNR=2.0						
NVL	**N'lazarevskaya**	**23.12**	**147**	*e*P	P	**08 26 09.0**	**-1.0**
NVL				pmax	pmax		
	comp=Z,11nm,0.7s						
PLCA	**Paso Flores**	**31.24**	**280**	P	P	**08 27 24.6**	**+1.1**
PLCA				pmax	pmax		
	comp=Z,5.0nm,1.4s						
PLCA	**Paso Flores**	**31.24**	**280**	P	P	**08 27 24.6**	**+1.1**
SYO	**Syowa Base**	**32.46**	**142**	⇑*i*pP	P	**08 27 34.3**	**+0.5**
SYO	**Syowa Base**	**32.46**	**142**	⇓*i*sP	P	**08 27 35.2**	**+1.4**
SYO	**Syowa Base**	**32.46**	**142**	*e*PnPn	PnPn	08 28 36.0	-5.7
QSPA	**South Pole Qui**	**34.78**	**180**	P	P	**08 27 55.0**	**+0.8**
	comp=Z,19nm,0.7s,baz=196,slow=2.2,SNR=7.9						
QSPA	**South Pole Qui**	**34.78**	**180**	P	P	**08 27 54.6**	**+0.3**
QSPA				IAmb	IAmb	08 27 58.3	
	comp=Z,20nm,0.7s						
VAO	**Valinhos**	**35.24**	**329**	*e*P	P	**08 27 58.3**	**-0.2**
VAO	**Valinhos**	**35.24**	**329**	*e*P	P	**08 27 58.3**	**-0.2**
CPUP	**Villa Florida**	**35.92**	**312**	P	P	**08 28 03.6**	**-0.6**
	comp=Z,7.7nm,0.8s,baz=151,slow=7.6,SNR=9.2						
CPUP	**Villa Florida**	**35.92**	**312**	P	P	**08 28 03.8**	**-0.4**
CPUP				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CPUP	**Villa Florida**	**35.92**	**312**	P	P	**08 28 03.8**	**-0.4**
GO05	**Huala**	**36.08**	**286**	P	P	**08 28 05.4**	**-0.2**
MT01	**Popeta**	**36.57**	**288**	P	P	**08 28 09.4**	**-0.3**
MT05	**Renca**	**36.65**	**289**	P	P	**08 28 11.5**	**+1.0**
MT05				IAmb	IAmb	08 28 25.3	
	comp=Z,56nm,1.4s						
CFA	**Coronel Fontan**	**36.71**	**294**	P	P	**08 28 10.9**	**-0.1**
	comp=Z,11nm,0.9s,baz=157,slow=6.4,SNR=5.7						
PEL	**Peldehue**	**36.81**	**290**	P	P	**08 28 12.2**	**+0.3**
PEL				pmax	pmax		
	comp=Z,29nm,0.7s						
PEL	**Peldehue**	**36.81**	**290**	P	P	**08 28 12.2**	**+0.3**
PEL				IAmb	IAmb	08 28 23.2	
	comp=Z,29nm,0.7s						
MT02	**Curacav**	**36.97**	**289**	P	P	**08 28 13.9**	**+0.8**
MT02				IAmb	IAmb	08 28 24.8	
	comp=Z,32nm,1.2s						
ZON	**Zonda**	**36.99**	**293**	P	P	**08 28 13.6**	**+0.2**
ZON				pmax	pmax		
	comp=Z,20nm,0.6s						
ZON	**Zonda**	**36.99**	**293**	P	P	**08 28 13.6**	**+0.2**
ZON				IAmb	IAmb	08 28 24.2	
	comp=Z,20nm,0.6s						
VA03	**San Esteban**	**37.03**	**290**	P	P	**08 28 14.3**	**+0.6**
VA03				IAmb	IAmb	08 28 27.8	
	comp=Z,29nm,0.8s						
ROC1	**El Roble**	**37.12**	**289**	P	P	**08 28 16.3**	**+1.6**
BSFB	**Barra de Sao F**	**37.78**	**341**	*e*P	P	**08 28 18.4**	**-1.7**
BSFB	**Barra de Sao F**	**37.78**	**341**	*e*P	P	**08 28 18.4**	**-1.7**
SJMB	**Sao Joao De Ma**	**37.97**	**340**	*e*P	P	**08 28 20.9**	**-0.8**
SJMB	**Sao Joao De Ma**	**37.97**	**340**	*e*P	P	**08 28 20.9**	**-0.8**
CO02	**Combarbal**	**38.48**	**291**	P	P	**08 28 27.4**	**+1.4**
CO02				IAmb	IAmb	08 28 40.6	
	comp=Z,29nm,0.9s						
CO03	**El Pedregal**	**38.60**	**292**	P	P	**08 28 28.0**	**+1.0**
CO01	**Juntas del Tor**	**38.97**	**293**	P	P	**08 28 31.8**	**+1.5**
GO04	**Tololo Observa**	**39.19**	**292**	P	P	**08 28 32.6**	**+0.5**
AC05	**El Transito**	**39.98**	**294**	P	P	**08 28 39.0**	**+0.4**
AC05				IAmb	IAmb	08 28 52.8	
	comp=Z,35nm,1.0s						
IPMB	**Ipameri, GO**	**40.36**	**330**	*e*P	P	**08 28 41.5**	**-0.2**
IPMB	**Ipameri, GO**	**40.36**	**330**	*e*P	P	**08 28 41.5**	**-0.2**
AQDB	**Aquidauana**	**40.52**	**319**	*e*P	P	**08 28 43.0**	**+0.1**
AQDB	**Aquidauana**	**40.52**	**319**	*e*P	P	**08 28 43.0**	**+0.1**
AC04	**Llanos de Chal**	**40.90**	**294**	P	P	**08 28 47.6**	**+1.5**
MAW	**Mawson**	**41.01**	**144**	P	P	**08 28 46.3**	**-0.2**
	comp=Z,9.7nm,0.7s,baz=236,slow=7.3,SNR=22						
MAW	**Mawson**	**41.01**	**144**	P	P	**08 28 46.7**	**+0.2**
MAW				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MAW	**Mawson**	**41.01**	**144**	P	P	**08 28 46.7**	**+0.2**
AC02	**Maricunga**	**41.02**	**297**	P	P	**08 28 49.8**	**+2.2**
AC02				IAmb	IAmb	08 29 00.4	
	comp=Z,51nm,1.2s						
C2SB	**Chapadao do Su**	**41.06**	**323**	*e*P	P	**08 28 48.0**	**+0.6**
C2SB	**Chapadao do Su**	**41.06**	**323**	*e*P	P	**08 28 48.0**	**+0.6**
SUR	**Sutherland**	**41.15**	**77**	P	P	**08 28 48.9**	**+0.6**
	comp=Z,11nm,0.8s,baz=212,slow=12,SNR=5.0						
SUR	**Sutherland**	**41.15**	**77**	P	P	**08 28 49.5**	**+1.2**
SUR				IAmb	IAmb	08 28 59.5	
	comp=Z,34nm,1.3s						
JANB	**Januaria**	**42.17**	**337**	*e*P	P	**08 28 55.5**	**-1.0**
JANB	**Januaria**	**42.17**	**337**	*e*P	P	**08 28 55.5**	**-1.0**
BDFB	**Brasilia**	**42.53**	**331**	P	P	**08 29 00.0**	**+0.4**
	comp=Z,5.5nm,0.8s,baz=174,slow=4.3,SNR=9.0						
BDFB	**Brasilia**	**42.53**	**331**	P	P	**08 29 00.5**	**+1.0**
BDFB				pmax	pmax		
	comp=Z,16nm,1.3s						
BDFB	**Brasilia**	**42.53**	**331**	P	P	**08 29 00.5**	**+1.0**
GO02	**Mina Guanaco**	**42.63**	**298**	P	P	**08 29 02.1**	**+1.6**
GO02				IAmb	IAmb	08 29 12.7	
	comp=Z,71nm,1.4s						
ARAG	**Araguaiana, MT**	**43.59**	**326**	*e*P	P	**08 29 09.0**	**+1.0**
ARAG	**Araguaiana, MT**	**43.59**	**326**	*e*P	P	**08 29 09.0**	**+1.0**
LVC	**Limon Verde**	**44.43**	**301**	P	P	**08 29 17.4**	**+2.3**
	comp=Z,11nm,0.6s,baz=188,slow=0.4,SNR=9.9						
LVC	**Limon Verde**	**44.43**	**301**	P	P	**08 29 18.5**	**+3.4**
LVC				pmax	pmax		
	comp=Z,28nm,1.0s						
LVC	**Limon Verde**	**44.43**	**301**	P	P	**08 29 18.5**	**+3.4**
LVC				IAmb	IAmb	08 29 32.8	
	comp=Z,28nm,0.9s						
LVC	**Limon Verde**	**44.43**	**301**	*e*P	P	**08 29 16.8**	**+1.7**
LVC	**Limon Verde**	**44.43**	**301**	*e*P	P	**08 29 16.8**	**+1.7**
SALV	**Santo Antonio**	**44.72**	**321**	*e*P	P	**08 29 17.2**	**+0.2**
SALV	**Santo Antonio**	**44.72**	**321**	*e*P	P	**08 29 17.2**	**+0.2**
PB09	**IPOC Station P**	**45.28**	**301**	P	P	**08 29 25.2**	**+3.5**
PB09				IAmb	IAmb	08 29 34.5	
	comp=Z,42nm,1.3s						
PB01	**IPOC Station P**	**46.04**	**301**	P	P	**08 29 29.2**	**+1.7**
PB01				IAmb	IAmb	08 29 45.6	
	comp=Z,20nm,0.8s						
PTLB	**Pontes e Lacer**	**46.41**	**317**	*e*P	P	**08 29 31.1**	**+0.7**
PTLB	**Pontes e Lacer**	**46.41**	**317**	*e*P	P	**08 29 31.1**	**+0.7**
BOSA	**Boshof**	**46.49**	**77**	P	P	**08 29 30.8**	**-0.4**
	comp=Z,15nm,0.8s,baz=211,slow=7.7,SNR=23						
BOSA	**Boshof**	**46.49**	**77**	P	P	**08 29 30.7**	**-0.4**
BOSA				pmax	pmax		
	comp=Z,20nm,0.9s						
BOSA	**Boshof**	**46.49**	**77**	P	P	**08 29 30.7**	**-0.4**
BOSA				IAmb	IAmb	08 29 31.3	
	comp=Z,20nm,0.8s						
PB08	**IPOC Station P**	**46.64**	**302**	P	P	**08 29 33.9**	**+1.2**
PB08				IAmb	IAmb	08 29 52.2	
	comp=Z,15nm,0.8s						
GO01	**Chusmiza**	**47.07**	**303**	P	P	**08 29 36.9**	**+0.8**
VNDA	**Vanda**	**47.12**	**183**	P	P	**08 29 36.6**	**+1.3**
	comp=Z,14nm,0.7s,baz=188,slow=6.7,SNR=87						
VNDA	**Vanda**	**47.12**	**183**	P	P	**08 29 36.4**	**+1.1**
VNDA				pmax	pmax		
	comp=Z,14nm,0.7s						
VNDA	**Vanda**	**47.12**	**183**	P	P	**08 29 36.4**	**+1.1**
VNDA				IAmb	IAmb	08 29 37.7	
	comp=Z,14nm,0.7s						
PB11	**IPOC Station P**	**47.21**	**302**	P	P	**08 29 36.9**	**+0.1**
PSGCX	**Pisagua**	**47.58**	**302**	P	P	**08 29 39.6**	**0.0**
MNMC	**Minye Minye**	**47.72**	**303**	P	P	**08 29 42.7**	**+1.8**
H10N1	**ASCENSION HYDR**	**48.77**	**18**	T	T	09 23 06.4	
	baz=209,slow=78,SNR=2.5						
H10N3	**ASCENSION HYDR**	**48.77**	**18**	T	T	09 23 07.8	
	baz=209,slow=78,SNR=14						
H10N2	**ASCENSION HYDR**	**48.78**	**18**	T	T	09 23 07.4	
	baz=209,slow=78,SNR=10						
SMTB	**Santa Maria do**	**48.92**	**334**	*e*P	P	**08 29 50.9**	**+1.0**
SMTB	**Santa Maria do**	**48.92**	**334**	*e*P	P	**08 29 50.9**	**+1.0**
VILB	**Vilhena**	**49.10**	**317**	*e*P	P	**08 29 52.1**	**+0.8**
VILB	**Vilhena**	**49.10**	**317**	*e*P	P	**08 29 52.1**	**+0.8**
LPAZ	**La Paz**	**49.49**	**306**	P	P	**08 29 56.6**	**+1.6**
	comp=Z,11nm,0.8s,baz=147,slow=5.9,SNR=17						
LPAZ	**La Paz**	**49.49**	**306**	P	P	**08 29 56.4**	**+1.4**
LPAZ				pmax	pmax		
	comp=Z,16nm,0.9s						
LPAZ	**La Paz**	**49.49**	**306**	P	P	**08 29 56.4**	**+1.4**
LPAZ				IAmb	IAmb	08 30 11.9	
	comp=Z,16nm,0.8s						
LPAZ	**La Paz**	**49.49**	**306**	*e*P	P	**08 29 56.7**	**+1.8**
LPAZ	**La Paz**	**49.49**	**306**	*e*P	P	**08 29 56.7**	**+1.8**
RCBR	**Riachuelo**	**49.87**	**350**	P	P	**08 29 57.2**	**+0.1**
RCBR				pmax	pmax		
	comp=Z,27nm,1.2s						
RCBR	**Riachuelo**	**49.87**	**350**	P	P	**08 29 57.2**	**+0.1**
RCBR				IAmb	IAmb	08 30 01.5	
	comp=Z,26nm,1.2s						
TSUM	**Tsumeb**	**50.00**	**62**	P	P	**08 29 58.2**	**0.0**
TSUM				IAmb	IAmb	08 29 58.8	
	comp=Z,18nm,0.9s						
NPGB	**Novo Progresso**	**52.86**	**326**	*e*P	P	**08 30 19.6**	**+0.2**
NPGB	**Novo Progresso**	**52.86**	**326**	*e*P	P	**08 30 19.6**	**+0.2**
SAML	**Samuel**	**53.92**	**316**	P	P	**08 30 27.8**	**+0.6**
SAML				pmax	pmax		
	comp=Z,14nm,1.0s						
SAML	**Samuel**	**53.92**	**316**	P	P	**08 30 27.8**	**+0.6**
SAML				IAmb	IAmb	08 30 34.5	
	comp=Z,14nm,1.0s						
CASY	**Casey**	**54.68**	**161**	P	P	**08 30 32.7**	**+0.5**
CASY				IAmb	IAmb	08 30 33.6	
	comp=Z,22nm,0.9s						
NNA	**Nana**	**57.38**	**300**	⇑*i*P	P	**08 30 51.6**	**-0.6**
NNA				pmax	pmax		
	comp=Z,44nm,1.4s						
LSZ	**Lusaka**	**58.80**	**70**	P	P	**08 31 01.9**	**-0.3**
LSZ				pmax	pmax		
	comp=Z,13nm,1.0s						
LSZ	**Lusaka**	**58.80**	**70**	P	P	**08 31 01.9**	**-0.3**
LSZ				IAmb	IAmb	08 31 04.2	
	comp=Z,13nm,1.0s						
PTGA	**Pitinga**	**60.30**	**323**	P	P	**08 31 12.1**	**-0.3**
RPN	**Rapa Nui**	**63.09**	**261**	P	P	**08 31 31.9**	**+0.8**
RPN				pmax	pmax		
	comp=Z,205nm,1.2s						
RPN	**Rapa Nui**	**63.09**	**261**	P	P	**08 31 31.9**	**+0.8**
DBIC	**Dimbokro**	**64.93**	**26**	P	P	**08 31 43.5**	**+0.4**
	comp=Z,18nm,0.8s,baz=172,slow=8.3,SNR=11						
DBIC	**Dimbokro**	**64.93**	**26**	P	P	**08 31 43.5**	**+0.4**
DBIC				pmax	pmax		
	comp=Z,20nm,0.9s						
DBIC	**Dimbokro**	**64.93**	**26**	P	P	**08 31 43.5**	**+0.4**
ABPO	**Ambohimpanom**	**66.41**	**89**	P	P	**08 31 54.0**	**+1.0**
ABPO				pmax	pmax		
	comp=Z,25nm,1.1s						
ABPO	**Ambohimpanom**	**66.41**	**89**	P	P	**08 31 54.0**	**+1.0**
MBAR	**Mbarara**	**72.49**	**64**	⇑P	P	**08 32 32.0**	**+1.5**
MBAR				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MBAR	**Mbarara**	**72.49**	**64**	P	P	**08 32 31.1**	**+0.5**
TOA0	**Torodi Ar. Sit**	**72.89**	**31**	P	P	**08 32 33.0**	**+0.4**
TORD	**Torodi Ar. Bea**	**72.89**	**31**	P	P	**08 32 33.1**	**+0.6**
	comp=Z,49nm,0.6s,baz=202,slow=6.5,SNR=308						
JTS	**Las Juntas de**	**80.63**	**304**	⇑*i*P	P	**08 33 16.4**	**+0.1**
JTS				pmax	pmax		
	comp=Z,17nm,1.2s						
ACON	**Acoyapa**	**82.20**	**304**	P	P	**08 33 24.8**	**+0.3**
TAM	**Tamanrasset**	**83.14**	**31**	P	P	**08 33 30.2**	**+0.8**
TAM				pmax	pmax		
	comp=Z,19nm,1.1s						
TAM	**Tamanrasset**	**83.14**	**31**	P	P	**08 33 30.2**	**+0.8**
TAM				IAmb	IAmb	08 33 33.0	
	comp=Z,19nm,1.1s						
MATN	**Matagalpa**	**83.39**	**304**	P	P	**08 33 31.8**	**+1.0**
H08S1	**Diego Garcia H**	**89.86**	**103**	T	T	10 12 22.3	
	baz=219,slow=76,SNR=5.9						
H08S2	**Diego Garcia H**	**89.87**	**103**	T	T	10 12 22.4	
	baz=219,slow=76,SNR=7.8						
H08S3	**Diego Garcia H**	**89.88**	**103**	T	T	10 12 23.0	
	baz=219,slow=76,SNR=9.2						
TEIG	**Tepich**	**90.82**	**306**	P	P	**08 34 07.8**	**+1.2**
ESDC	**Sonseca Array**	**97.04**	**19**	P	P	**08 34 36.2**	**+1.4**
	comp=Z,1.0nm,0.8s,baz=176,slow=4.5,SNR=5.9						
ASAR	**Alice Springs**	**99.74**	**164**	P	Pdif	**08 34 46.5**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=187,slow=3.9,SNR=11						
ASAR				PP	PP	**08 38 49.6**	**-1.6**
	comp=Z,1.5nm,0.9s,baz=178,slow=8.5,SNR=6.3						
ASAR				PKKP	PKKPdf	**08 51 07.8**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=6.3,slow=2.4,SNR=6.8						
ANN	**Anapa**	**114.28**	**45**	*i* PKIKP	PKPdf	08 39 33.7	-8.2
ANN				pmax	pmax		
	comp=Z,63nm,1.5s						
PMG	**Port Moresby**	**115.26**	**175**	⇑*i*PKIKP	**PKPdf**	**08 39 45.4**	**+0.5**
KBZ	**Khabaz**	**115.70**	**50**	*d i*PKIKP	**PKiKP**	**08 39 45.7**	**+1.0**
KIV	**Kislovodsk**	**115.80**	**49**	*e*PKIKP	**PKPdf**	**08 39 44.7**	**-0.4**
KIV				pmax	pmax		
	comp=Z,12nm,1.0s						
AKASG	**Malin Array Be**	**116.13**	**37**	PKP	**PKPdf**	**08 39 44.7**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=171,slow=0.8,SNR=5.1						
PSUT	**Pine Spring**	**118.35**	**297**		**PKiKP**	**08 39 51.8**	**+1.4**
KONO	**Kongsberg**	**118.70**	**21**	⇑*i*PKIKP	**PKiKP**	**08 39 53.9**	**+3.9**
ULM	**Lac du Bonnet**	**119.37**	**317**	⇓*i*PKIKP	**PKiKP**	**08 39 52.1**	**+0.5**
PDAR	**Pinedale Array**	**119.47**	**303**	PKP	**PKPdf**	**08 39 52.1**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=141,slow=7.2,SNR=5.1						
HWUT	**Hardware Ranch**	**119.55**	**301**	PKPdf	**PKiKP**	**08 39 52.9**	**+0.3**
NB2	**NORSAR Subarra**	**120.30**	**21**	PKPdf	**PKiKP**	**08 39 53.4**	**+0.2**
	comp=Z,2.6nm,1.1s,baz=202,slow=1.9						
NOA	**NORSAR Array B**	**120.30**	**21**	PKP	**PKiKP**	**08 39 53.6**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=201,slow=1.6,SNR=6.1						
NVAR	**Mina Array Bea**	**120.55**	**294**	PKP	**PKiKP**	**08 39 56.0**	**+1.3**
	comp=Z,0.7nm,0.7s,baz=135,slow=2.8,SNR=5.9						
FXWY	**Fox Creek**	**120.83**	**303**	PKPdf	**PKiKP**	**08 39 55.3**	**+0.2**
OBN	**Obninsk**	**122.30**	**38**	*e*PKIKP	**PKiKP**	**08 39 58.4**	**+1.2**
OBN				*e*		08 41 33.2	
OBN				*e*PPP	PPP	08 44 08.1	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.9s						
DLMT	**Dillon**	**122.86**	**303**		**PKiKP**	**08 39 59.8**	**+0.9**
WVOR	**Wild Horse Val**	**123.68**	**297**	PKIKP	**PKiKP**	**08 40 01.6**	**+1.0**
WVOR	**Wild Horse Val**	**123.68**	**297**		**PKiKP**	**08 40 01.6**	**+1.0**
FINES	**FINESS Array B**	**124.19**	**28**	PKP	**PKiKP**	**08 40 00.6**	**-0.1**
	comp=Z,8.2nm,0.7s,baz=167,slow=1.9,SNR=40						
J08A	**Circle Bar Ran**	**124.27**	**298**		**PKiKP**	**08 40 02.6**	**+0.9**
MSO	**Missoula**	**124.57**	**304**		**PKiKP**	**08 40 02.4**	**+0.2**
BMO	**Blue Mountains**	**124.77**	**300**	PKIKP	**PKiKP**	**08 40 02.7**	**+0.1**
BMO	**Blue Mountains**	**124.77**	**300**		**PKiKP**	**08 40 02.7**	**+0.1**
K05A	**Summer Lake**	**

VRDI	Verde Repeater	146.74	307			PKPab	08 40 44.8	-0.7
EGAK	Eagle	146.85	314			PKPdf	08 40 42.0	-0.2
GLB	Gilahina Butte	146.97	307			PKPbc	08 40 44.8	+0.1
RAGM	Ragged Mountai	147.01	305			PKPab	08 40 45.7	-0.7
NJ2	Nanjing	147.22	122	*e*P		PKPbc	08 40 45.3	-0.9
NJ2					pmax	pmax		
	comp=Z,18nm,0.5s							
MENT	Mentasta	147.41	310			PKPab	08 40 46.9	-1.0
EYAK	Cordova Ski Ar	147.57	305			PKiKP	08 40 47.9	-0.4
DOT	Dot Lake	147.76	311	PKPdf		PKPdf	08 40 43.9	+0.2
DOT						PKPbc	08 40 48.2	+1.5
SCRK	Sand Creek	147.81	312	PKPdf		PKPdf	08 40 44.6	+0.6
SCRK						PKiKP	08 40 48.1	-0.8
HIN	Hinchinbrook I	147.87	305			PKPbc	08 40 46.0	-1.1
FID	Port Fidalgo	147.97	305	PKPdf		PKPbc	08 40 46.0	-1.3
FID						PKiKP	08 40 48.9	-0.2
FID				PKPab		PKPab	08 40 54.1	+3.9
PAX	Paxson	148.18	310	PKP2		PKiKP	08 40 49.0	-0.6
PAX	Paxson	148.18	310			PKiKP	08 40 49.0	-0.6
PAX				PKPab		PKPab	08 40 54.9	+3.8
GLI	Glacier Island	148.30	305			PKPdf	08 40 45.8	+1.1
GLI				PKPbc		PKiKP	08 40 49.8	0.0
SCM	Sheep Creek Mo	148.69	307	PKIKP		PKPbc	08 40 47.9	-1.4
SCM							08 40 51.1	
SCM	Sheep Creek Mo	148.69	307	PKPdf		PKPbc	08 40 47.9	-1.4
SCM						PKiKP	08 40 51.1	+0.4
PRP	Porcupine Dome	148.82	314			PKiKP	08 40 50.4	-0.5
FYU	Fort Yukon	148.91	316			PKiKP	08 40 51.0	+0.2
NRIK	Noril'sk	148.97	38	PKPbc		PKiKP	08 40 50.4	-0.6
	comp=Z,18nm,0.9s,baz=334,slow=0.2,SNR=16							
KNK	Knik Glacier	149.09	306			PKiKP	08 40 51.7	+0.2
SEW	Seward	149.17	303			PKiKP	08 40 51.2	-0.3
HDA	Harding Lake	149.18	312			PKiKP	08 40 51.2	-0.3
IL31		149.23	313	PKPdf		PKPdf	08 40 44.5	-1.5
IL31						PKiKP	08 40 51.1	-0.4
ILAR	Eielson Array	149.23	313	PKPbc		PKiKP	08 40 51.1	-0.4
	comp=Z,25nm,0.9s,baz=122,slow=1.5,SNR=73							
GHO	Glory Hole Cre	149.41	306			PKiKP	08 40 52.0	-0.1
PMR	Palmer	149.45	306	PKIKP		PKPdf	08 40 45.7	-0.8
PMR				PKP		PKiKP	08 40 52.4	+0.3
PMR	Palmer	149.45	306	PKPdf		PKPdf	08 40 45.7	-0.8
PMR				PKPbc		PKiKP	08 40 52.4	+0.3
CCB	Clear Creek Bu	149.59	312			PKiKP	08 40 52.0	-0.3
COLA	College	149.65	313	PKP2		PKiKP	08 40 52.3	-0.1
COLA	College	149.65	313			PKiKP	08 40 52.3	-0.1
RND	Reindeer	149.78	310	PKP2		PKiKP	08 40 53.1	+0.2
RND	Reindeer	149.78	310			PKiKP	08 40 53.1	+0.2
MDM	Murphy Dome	149.83	313			PKiKP	08 40 53.0	+0.1
CNPM	China Poot	149.85	302			PKiKP	08 40 53.1	+0.1
MCK	McKinley	149.88	310	PKP2		PKiKP	08 40 53.6	+0.6
MCK	McKinley	149.88	310			PKiKP	08 40 53.6	+0.6
KDAK	Kodiak Island	149.96	298	PKP2		PKiKP	08 40 53.4	+0.1
KDAK	Kodiak Island	149.96	298			PKiKP	08 40 53.4	+0.1
HHC	Hu-ho-hao-te	150.02	102	*e*P		PKPbc	08 40 51.5	-1.8
OHAK	Old Harbor	150.12	296			PKiKP	08 40 54.1	+0.5
SUA	Susitna One	150.17	305			PKiKP	08 40 54.1	+0.3
MOY	Mondy	150.24	76	*e*PKIKP		PKPdf	08 40 47.4	-0.9
MOY				pmax	pmax			
	comp=Z,47nm,1.7s							
TRF	Thorofare Moun	150.42	309			PKiKP	08 40 54.3	0.0
SKT	Skwentna	150.66	306			PKiKP	08 40 55.1	+0.4
BPAW	Bear Paw Mtn.	150.84	311	PKPdf		PKPdf	08 40 48.6	-0.1
BPAW				PKPbc		PKiKP	08 40 55.7	+0.7
BPAW				PKPab		PKPab	08 41 05.6	+3.7
RSO	Redoubt South	150.85	303			PKiKP	08 40 55.8	+0.5
ZAK	Zakamensk	150.90	80	*e*PKIKP		PKPbc	08 40 54.7	-0.4
ZAK				pmax	pmax			
	comp=Z,13nm,1.0s							
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.1s							
PPLA	Purkeypile	151.15	308			PKiKP	08 40 56.6	+0.8
SONM	Songino Array	151.36	86	PKPbc		PKiKP	08 40 56.4	-0.3
	comp=Z,19nm,0.9s,baz=224,slow=2.4,SNR=55							
ULN	Ulaanbaatar	151.75	87	PKIKP		PKPdf	08 40 50.3	-0.5
ULN				PKP		PKiKP	08 40 57.5	-0.1
ULN	Ulaanbaatar	151.75	87	PKPdf		PKPdf	08 40 50.3	-0.5
ULN						PKiKP	08 40 57.5	-0.1
TTA	Tatalina	152.88	307	PKIKP		PKiKP	08 41 00.5	+1.2
TTA							08 41 10.7	
TTA	Tatalina	152.88	307			PKiKP	08 41 00.5	+1.2
TTA				PKPab		PKPab	08 41 10.7	+0.2
KSRS	Korea Array	155.88	128	PKP		PKPdf	08 40 56.5	-0.2
	comp=Z,0.8nm,0.7s,baz=178,slow=2.1,SNR=5.6							
BOD	Bodaibo	159.36	68	*e*PKP2		PKPab	08 41 38.4	0.0
BOD				pmax	pmax			
	comp=Z,11nm,1.6s							
BILL	Bilibino	165.67	337	*e*PKIKP		PKPdf	08 41 07.2	+0.8
BILL				*e*PPP		PPP	08 49 44.7	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.1s							

*IDC **29** 08:23:29.2± 1.0, 55.2°S × 28.6°W, h0 km, mb4.3/6, mb1 4.4/7, mb1mx4.1/25, mbtmp4.3/7, ML4.6/1, Error ellipse: s-maj=41.4km s-min=23.7km az=53.0*
*NEIC **29** 08:23:30.9± 1.4, 55.3°S± 0.1° × 28.6°W± 0.0°, 8, h10 km± 1 km, mb4.6/20, Error ellipse: s-maj=23.2km s-min=7.2km az=190.0*

ISC 29 08:23:30.8± 0.7, 55.3°S± 0.1° × 28.7°W± 0.1°, h10 km, n35, σ 0.82/36, mb 4.5/15, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
HOPE	Hope Point	4.65	280	Pn		Pn	08 24 41.2	+0.3
HOPE				Sn		Sn	08 25 34.1	-0.8
SNAA	Sanae	19.75	156	P		P	08 28 00.1	-0.4
	1.7nm,0.3s,baz=292,slow=9.8,SNR=3.2							
SNAA	Sanae	19.75	156	P		P	08 28 00.6	+0.1
BI02	San Fabin de	34.30	285	P		P	08 30 16.9	-0.3
BI02				IAmb		IAmb	08 30 18.1	
	comp=Z,6.2nm,1.2s							
SPB	Sao Paulo	34.61	329	P		P	08 30 20.0	+0.1
SPB				IAmb		IAmb	08 30 25.4	
	comp=Z,10nm,1.1s							
QSPA	South Pole Qui	34.93	180	P		P	08 30 21.6	-0.9
QSPA				IAmb		IAmb	08 30 34.9	
	comp=Z,7.6nm,0.8s							
BO02	Sierra Bellavi	35.41	288	P		P	08 30 26.7	-0.2
BO02				IAmb		IAmb	08 30 36.6	
	comp=Z,8.1nm,0.7s							
CPUP	Villa Florida	35.70	312	P		P	08 30 29.1	-0.2
	comp=Z,4.7nm,0.8s,baz=141,slow=10,SNR=6.4							
CPUP	Villa Florida	35.70	312	P		P	08 30 29.3	0.0
CPUP				IAmb		IAmb	08 30 37.3	
	comp=Z,11nm,1.4s							
GO05	Huala	35.88	286	P		P	08 30 30.0	-0.8
MT01	Popeta	36.37	288	P		P	08 30 34.6	-0.4
MT01				IAmb		IAmb	08 30 38.5	
	comp=Z,17nm,1.2s							
CFA	Coronel Fontan	36.50	294	P		P	08 30 33.8	-2.3
	comp=Z,5.6nm,0.9s,baz=118,slow=4.4,SNR=4.5							
PEL	Peldehue	36.61	290	P		P	08 30 37.7	+0.6
MT02	Curacav	36.76	289	P		P	08 30 38.8	+0.5
MT02				IAmb		IAmb	08 30 47.9	
	comp=Z,16nm,1.2s							
VA03	San Esteban	36.83	290	P		P	08 30 39.6	+0.6
VA03				IAmb		IAmb	08 30 47.2	
	comp=Z,8.2nm,1.2s							
ROC1	El Roble	36.91	289	P		P	08 30 40.2	+0.3
CO02	Combarbal	38.27	291	P		P	08 30 52.0	+0.7
CO01	Juntas del Tor	38.76	293	P		P	08 30 57.7	+2.2
GO02	Mina Guanaco	42.41	298	P		P	08 31 26.3	+0.4
GO02				IAmb		IAmb	08 31 38.3	
	comp=Z,25nm,1.4s							
LVC	Limon Verde	44.21	301	P		P	08 31 40.4	0.0
	comp=Z,3.7nm,0.6s,baz=262,slow=6.0,SNR=2.1							
LVC	Limon Verde	44.21	301	P		P	08 31 40.6	+0.2
LVC				IAmb		IAmb	08 31 53.3	
	comp=Z,5.3nm,0.8s							
GO01	Chusmiza	46.85	303	P		P	08 32 02.6	+1.2
GO01				IAmb		IAmb	08 32 07.0	
	comp=Z,4.8nm,0.8s							
VNDA	Vanda	47.26	183	P		P	08 32 04.1	+0.6
	comp=Z,1.4nm,0.6s,baz=162,slow=7.6,SNR=1.9							
VNDA	Vanda	47.26	183	P		P	08 32 04.8	+1.3
MNMC	Minye Minye	47.50	303	P		P	08 32 07.3	+1.0
LPAZ	La Paz	49.27	306	P		P	08 32 21.1	+0.7
	comp=Z,3.1nm,0.5s,baz=146,slow=4.1,SNR=3.0							
LPAZ	La Paz	49.27	306	P		P	08 32 21.1	+0.7
SAML	Samuel	53.70	316	P		P	08 32 52.0	-0.8
TOA0	Torodi Ar. Sit	72.84	31	P		P	08 34 59.9	+0.3
TORD	Torodi Ar. Bea	72.84	31	P		P	08 34 59.2	-0.4
	comp=Z,1.1nm,0.7s,baz=201,slow=6.7,SNR=2.1							
FINES	FINESS Array B	124.13	28	PKP		PKPdf	08 42 27.2	-0.9
	comp=Z,5.5nm,1.1s,baz=180,slow=2.6,SNR=2.5							
YKA	Yellowknife Ar	135.07	319	PKP		PKPdf	08 42 48.5	-0.3
	comp=Z,0.4nm,0.6s,baz=120,slow=1.9,SNR=2.8							
IL31		149.01	313			PKPbc	08 43 17.9	+0.5
ILAR	Eielson Array	149.01	313	PKPbc		PKPbc	08 43 17.5	0.0
	comp=Z,5.0nm,0.6s,baz=120,slow=1.8,SNR=13							
TOLK	Toolik Lake Re	150.58	320			PKiKP	08 43 22.1	+0.1

NEIC 29 08:25:19.1± 1.2, 32.6°N± 0.7° × 109.1°W± 0.0°, 4, h5 km± 2 km, ML3.4/28, Error ellipse: s-maj=12.5km s-min=4.5km az=166.0, Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
121A	Cookes Peak, D	1.16	93			Pg	08 25 41.2	-0.1
121A						Sg	08 25 57.1	+0.1
TUC	Tucson	1.41	258	Pn		Pn	08 25 45.7	+0.2
TUC				Sn		Sn	08 26 04.7	+0.1
TUC				IAML			08 26 05.9	
	585nm,0.3s							
TUC				IAML			08 26 07.0	
	419nm,0.3s							
Y22D	IRIS PASSCAL I	2.37	51			Pn	08 25 58.8	0.0
LENM	Lemitar	2.40	49			Pn	08 25 55.9	-3.3
W18A	Petrified Fore	2.55	349			Pn	08 26 02.0	+0.7
W18A				IAML			08 26 41.0	
	comp=N,272nm,0.3s							
W18A				IAML			08 26 48.5	
	comp=E,244nm,1.4s							
BNM	Barren Site	2.61	53	Pn		Pn	08 26 01.5	-0.7
X16A	Lo Mia Camp, P	2.63	314			Pn	08 26 02.9	+0.5
X16A				IAML			08 26 50.2	
	comp=N,86nm,0.6s							
214A	Organ Pipe Nat	3.17	259	Pn		Pn	08 26 09.2	-0.5
214A				IAML			08 27 01.9	
	comp=E,158nm,0.5s							
214A				IAML			08 27 05.1	
	comp=N,102nm,0.5s							
ANMO	Albuquerque	3.24	43	Pn		Pn	08 26 10.3	-0.4
MNTX	Cornudas Mount	3.32	105	Pn		Pn	08 26 11.1	-0.7
MNTX				Sn		Sn	08 26 50.5	-1.2
MNTX				IAML			08 27 04.5	
	comp=N,69nm,0.4s							
WUAZ	Wupatki	3.44	328	Pn		Pn	08 26 13.3	-0.2
Y14A	Wickenburg	3.49	293			Pn	08 26 13.8	-0.3
Y14A				IAML			08 27 12.1	
	comp=E,71nm,0.4s							
Y14A				IAML			08 27 14.4	
	comp=N,68nm,0.3s							
GDL2	Guadalupe Moun	4.07	94	Pn		Pn	08 26 21.0	-1.1
Y12C	Blythe	4.64	286	Pn		Pn	08 26 29.8	-0.1
Y12C				IAML			08 27 51.8	
	comp=E,28nm,0.5s							
Y12C				IAML			08 27 58.4	
	comp=N,38nm,0.7s							
W13A	Hualapai Mount	4.66	304	Pn		Pn	08 26 31.2	+0.9
GLA	Glamis	4.80	277	Pn		Pn	08 26 32.1	+0.1
GLA				IAML			08 28 06.7	
	comp=N,37nm,0.5s							
GLA				IAML			08 28 09.4	
	comp=E,40nm,0.8s							
MSTX	Muleshoe	5.51	74	Pn		Pn	08 26 42.8	+0.8
TX31	Lajitas Ar. Si	5.73	123			Pn	08 26 45.9	+1.0
TX32	Lajitas Array	5.73	123			Pn	08 26 46.0	+1.1
T25A	Trinidad	5.97	39	Pn		Pn	08 26 49.3	+1.0
PFO	Pinyon Flats O	6.21	281	Pn		Pn	08 26 51.0	-0.6
SHPR	Sheep Range	6.30	310	Pn		Pn	08 26 54.1	+1.3

*IDC **29** 08:25:52.5± 0.7, 55.2°S × 28.4°W, h0 km, mb4.4/8, mb1 4.5/9, mb1mx4.2/28, mbtmp4.4/9, ML4.7/1, Error ellipse: s-maj=25.9km s-min=18.6km az=56.0*
*NEIC **29** 08:25:54.5± 1.2, 55.3°S± 0.1° × 28.6°W± 0.2°, 8, h10 km± 1 km, mb4.7/22, Error ellipse: s-maj=24.9km s-min=15.9km az=200.0*

ISC 29 08:25:53.9± 0.5, 55.4°S± 0.1° × 28.6°W± 0.0°, 9, h10 km, n65, σ 1.15/66, mb 4.7/17, 1C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
HOPE	Hope Point	4.66	280	Pn		Pn	08 27 04.7	+0.6
HOPE				Sn		Sn	08 27 55.5	-2.7
SNAA	Sanae	19.72	156	P		P	08 30 23.4	+0.2
	2.1nm,0.3s,baz=315,slow=12,SNR=16							
SNAA	Sanae	19.72	156	P		P	08 30 23.2	0.0
SYO	Syowa Base	32.65	142	*e*P		P	08 32 22.0	-3.4
QSPA	South Pole Qui	34.90	180	P		P	08 32 46.3	+1.0
	13nm,1.0s,baz=20,slow=3.8,SNR=6.2							
QSPA	South Pole Qui	34.90	180	P		P	08 32 47.4	+2.1
BO02	Sierra Bellavi	35.42	288			S	08 38 21.6	-3.1
CPUP	Villa Florida	35.73	312	P		P	08 32 52.2	-0.3
	6.2nm,0.9s,baz=44,slow=20,SNR=2.0							
CPUP	Villa Florida	35.73	312	P		P	08 32 53.3	+0.7
GO05	Huala	35.89	286	P		P	08 32 53.5	-0.5
GO05				IAmb		IAmb	08 33 03.4	
	comp=Z,10.0nm,0.9s							
MT01	Popeta	36.38	288	P		P	08 32 58.0	-0.1
MT01				IAmb		IAmb	08 33 09.2	
	comp=Z,20nm,1.4s							
CFA	Coronel Fontan	36.52	294	P		P	08 32 59.8	+0.4
	comp=Z,1.5nm,0.5s,baz=134,slow=3.6,SNR=4.2							
PEL	Peldehue	36.62	290	P		P	08 33 01.6	+1.4
PEL				IAmb		IAmb	08 33 02.1	
	comp=Z,10nm,0.7s							
MT02	Curacav	36.78	289	P		P	08 33 02.3	+0.8
MT02				IAmb		IAmb	08 33 10.0	
	comp=Z,22nm,1.2s							
VA03	San Esteban	36.84	290	P		P	08 33 04.1	+1.9
CO02	Combarbal	38.29	291	P		P	08 33 15.6	+1.2
CO02				IAmb		IAmb	08 33 19.3	
	comp=Z,24nm,1.2s							
CO03	El Pedregal	38.41	292	P		P	08 33 17.0	+1.6
CO01	Juntas del Tor	38.78	294	P		P	08 33 20.8	+2.0
AC05	El Transito	39.78	294	P		P	08 33 27.8	+0.8
AC05				IAmb		IAmb	08 33 38.6	
	comp=Z,24nm,1.2s							
GO02	Mina Guanaco	42.43	298	P		P	08 33 50.1	+1.1
GO02				IAmb		IAmb	08 34 02.0	
	comp=Z,22nm,1.4s							
LVC	Limon Verde	44.23	301	P		P	08 34 05.2	+1.6
	comp=Z,3.8nm,0.6s,baz=136,slow=3.6,SNR=2.5							
LVC	Limon Verde	44.23	301	P		P	08 34 05.5	+1.9
LVC				IAmb		IAmb	08 34 08.1	
	comp=Z,6.4nm,0.9s							
PB08	IPOC Station P	46.45	303	P		P	08 34 23.1	+1.8
PB08				IAmb		IAmb	08 34 26.4	
	comp=Z,6.0nm,1.0s							
BOSA	Boshof	46.62	78	P		P	08 34 21.2	-1.0
	comp=Z,3.4nm,1.0s,baz=147,slow=5.4,SNR=1.6							
BOSA	Boshof	46.62	78	P		P	08 34 22.2	-0.1
BOSA				IAmb		IAmb	08 34 30.0	
	comp=Z,15nm,1.5s							
GO01	Chusmiza	46.87	303	P		P	08 34 26.0	+1.3
GO01				IAmb		IAmb	08 34 36.0	
	comp=Z,5.7nm,0.9s							
VNDA	Vanda	47.23	183	P		P	08 34 26.7	+0.4
	comp=Z,2.5nm,0.7s,baz=192,slow=5.3,SNR=6.8							
VNDA	Vanda	47.23	183	P		P	08 34 27.1	+0.9
MNMC	Minye Minye	47.52	303	P		P	08 34 30.8	+1.2
LPAZ	La Paz	49.29	306	P		P	08 34 44.8	+1.1
	comp=Z,4.8nm,0.6s,baz=144,slow=4.9,SNR=6.0							
LPAZ	La Paz	49.29	306	P		P	08 34 44.8	+1.1
TOA0	Torodi Ar. Sit	72.87	31	P		P	08 37 22.4	-0.5
TORD	Torodi Ar. Bea	72.87	31	P		P	08 37 22.7	-0.1
	comp=Z,5.3nm,0.7s,baz=201,slow=5.9,SNR=12							
FINES	FINESS Array B	124.16	28	PKP		PKPdf	08 44 50.4	-0.8
	comp=Z,0.8nm,0.5s,baz=180,slow=1.9,SNR=9.2							
G08A	Pilot Rock	125.70	300	PKPdf		PKPdf	08 44 55.2	+0.4
ARCES	ARCESS Array B	130.60	22	PKP		PKPdf	08 45 02.6	-0.7
	comp=Z,2.1nm,0.8s,baz=188,slow=0.9,SNR=7.2							
YKA	Yellowknife Ar	135.10	319	PKP		PKPdf	08 45 11.7	-0.2
	comp=Z,1.9nm,0.9s,baz=120,slow=2.4,SNR=6.8							
INK	Inuvik	144.74	322			PKPab	08 45 28.5	+0.4
EPYK	Eagle Plains	145.35	318			PKPbc	08 45 29.6	-0.7
DAWY	Dawson	145.71	313			PKPdf	08 45 30.9	-0.2
EGAK	Eagle	146.65	314			PKPdf	08 45 34.0	+1.4
DOT	Dot Lake	147.56	311			PKPbc	08 45 37.8	+0.9
SCRK	Sand Creek	147.62	312			PKPbc	08 45 37.8	+0.6
RIDG	Independent Ri	147.92	311			PKPbc	08 45 39.1	+1.2
PAX	Paxson	147.98	310			PKPbc	08 45 39.1	+1.0
SCM	Sheep Creek Mo	148.50	307			PKPbc	08 45 40.6	+1.1
PRP	Porcupine Dome	148.62	314			PKPbc	08 45 40.5	+0.7
FYU	Fort Yukon	148.71	316			PKiKP	08 45 41.1	-0.1
HDA	Harding Lake	148.98	312			PKPbc	08 45 40.7	+0.2
IL31		149.03	313			PKPbc	08 45 41.2	+0.6
ILAR	Eielson Array	149.03	313	PKPbc		PKPbc	08 45 40.5	-0.1
	comp=Z,13nm,0.8s,baz=128,slow=2.0,SNR=33							
GHO	Glory Hole Cre	149.21	307			PKPbc	08 45 42.1	+0.8
CCB	Clear Creek Bu	149.39	312			PKPbc	08 45 41.4	-0.1
COLA	College	149.46	313			PKPbc	08 45 41.8	+0.1
WRH	Wood River Hil	149.48	312			PKPbc	08 45 42.1	+0.3
RND	Reindeer	149.58	310			PKiKP	08 45 43.3	+0.1
MCK	McKinley	149.69	310			PKPbc	08 45 43.0	+0.6
SUA	Susitna One	149.97	306			PKiKP	08 45 44.4	+0.3
TRF	Thorofare Moun	150.22	310			PKPbc	08 45 44.5	+0.7
SKT	Skwentna	150.46	306			PKPbc	08 45 45.0	+0.8
TOLK	Toolik Lake Re	150.61	320			PKPbc	08 45 45.3	+0.8
BPAW	Bear Paw Mtn.	150.65	311			PKPbc	08 45 45.1	+0.5
COLD	Coldfoot	150.74	317	PKPbc		PKiKP	08 45 45.9	+0.5
PPLA	Purkeypile	150.95	308			PKPbc	08 45 45.9	+0.3
SONM	Songino Array	151.51	86	PKPbc		PKPbc	08 45 46.8	-0.5
	comp=Z,3.8nm,0.8s,baz=229,slow=3.7,SNR=9.8							

*IDC **29** 08:28:53.5± 0.4, 55.3°S × 28.5°W, h0 km, mb4.8/20, mb1 4.8/21, mb1mx4.7/35, mbtmp4.8/21, ML5.4/1, Error ellipse: s-maj=17.6km s-min=11.7km az=40.0*
*NEIC **29** 08:28:55.2± 1.1, 55.4°S± 0.1° × 28.5°W± 0.2°, 2, h10 km± 1 km, mb5.1/55, Error ellipse: s-maj=19.8km s-min=13.5km az=204.0*
*MOS **29** 08:28:55.9± 1.2, 55.4°S × 28.6°W, h22 km, mb5.3/13, Error ellipse: s-maj=19.9km s-min=11.8km az=120.1*
*BJI **29** 08:28:55.0± 0.0, 55.6°S × 28.9°W, h10 km, Ms5.3/1, Ms7 5.0/1*

ISC 29 08:28:55.1± 0.3, 55.36°S± 0.07° × 28.53°W± 0.06°, h10 km, n301, σ 0.99/299, mb 5.1/42, 7C-6D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
HOPE	Hope Point	4.73	280	P		Pn	08 30 06.6	+0.3
HOPE							08 30 58.6	
HOPE	Hope Point	4.73	280	Pn		Pn	08 30 06.6	+0.3
HOPE				Sn		Sn	08 30 58.6	-2.6
VNA1	Neumayer--Stat	17.72	158	P		P	08 33 02.4	0.0
EFI	East Falkland	17.88	270	*i*P		Pn	08 33 04.1	+0.5
VNA3	Neumayer Olymp	17.89	160	P		Pn	08 33 03.8	+0.1
VNA2	Neumayer--Watz	18.12	158	P		P	08 33 06.7	0.0
	baz=310,slow=13							
SNAA	Sanae	19.68	156	P		P	08 33 23.5	-0.4
SNAA	Sanae	19.68	156	P		P	08 33 23.7	-0.3
	11nm,0.3s,baz=307,slow=9.9,SNR=74							
SNAA	Sanae	19.68	156	*i*P		P	08 33 23.3	-0.6
SNAA				pmax	pmax			
	comp=Z,63nm,1.0s							
SNAA	Sanae	19.68	156	P		P	08 33 23.9	0.0
SNAA				IAmb		IAmb	08 33 27.6	
	comp=Z,90nm,1.1s							
PLCA	Paso Flores	31.13	280	P		P	08 35 12.1	-1.7
	comp=Z,2.8nm,1.0s,baz=108,slow=6.4,SNR=2.9							
PLCA	Paso Flores	31.13	280	P		P	08 35 14.3	+0.6
PLCA				pmax	pmax			
	comp=Z,8.0nm,1.2s							
PLCA	Paso Flores	31.13	280	P		P	08 35 14.3	+0.6
SYO	Syowa Base	32.59	142	*e*P		P	08 35 23.4	-2.7
SYO	Syowa Base	32.59	142	*i*PnPn	PnPn		08 36 28.0	-5.4
BI02	San Fabin de	34.39	285	P		P	08 35 41.7	-0.5
MAN01	Angra dos Reis	34.43	334	*e*P		P	08 35 44.5	+1.8
MAN01	Angra dos Reis	34.43	334	*e*P		P	08 35 44.5	+1.8
SPB	Sao Paulo	34.69	329	P		P	08 35 46.2	+1.4
SPB				IAmb		IAmb	08 35 47.7	
	comp=Z,51nm,1.2s							
SPB	Sao Paulo	34.69	329	*e*P		P	08 35 46.2	+1.4
SPB	Sao Paulo	34.69	329	*e*P		P	08 35 46.2	+1.4
QSPA	South Pole Qui	34.89	180	P		P	08 35 46.8	+0.4
	comp=Z,7.8nm,0.6s,baz=195,slow=1.2,SNR=12							
QSPA	South Pole Qui	34.89	180	P		P	08 35 47.1	+0.8
QSPA				IAmb		IAmb	08 35 48.0	
	comp=Z,39nm,1.5s							
VAO	Valinhos	35.11	330	*e*P		P	08 35 49.4	+0.9
VAO	Valinhos	35.11	330	*e*P		P	08 35 49.4

BDFB	**Brasilia**	**42.39**	**332**	P		**P**		**08 36 51.1**	**+1.4**
BDFB				pmax		pmax			
	comp=Z,13nm,1.0s								
BDFB	**Brasilia**	**42.39**	**332**	P		**P**		**08 36 51.1**	**+1.4**
GO02	**Mina Guanaco**	**42.50**	**298**	P		**P**		**08 36 51.9**	**+1.1**
GO02				IAmb		IAmb		08 36 52.9	
	comp=Z,90nm,1.5s								
ARAG	**Araguaiana, MT**	**43.45**	**326**	*eP*		**P**		**08 36 59.1**	**+1.0**
ARAG	**Araguaiana, MT**	**43.45**	**326**	*eP*		**P**		**08 36 59.1**	**+1.0**
LVC	**Limon Verde**	**44.30**	**301**	P		**P**		**08 37 05.9**	**+0.5**
	comp=Z,18nm,0.9s,baz=169,slow=5.7,SNR=11								
LVC	**Limon Verde**	**44.30**	**301**	P		**P**		**08 37 06.8**	**+1.5**
LVC				pmax		pmax			
	comp=Z,20nm,1.0s								
LVC	**Limon Verde**	**44.30**	**301**	P		**P**		**08 37 06.8**	**+1.5**
LVC	**Limon Verde**	**44.30**	**301**	*eP*		**P**		**08 37 06.3**	**+1.0**
LVC	**Limon Verde**	**44.30**	**301**	*eP*		**P**		**08 37 06.3**	**+1.0**
SALV	**Santo Antonio**	**44.58**	**321**	*eP*		**P**		**08 37 07.7**	**+0.5**
SALV	**Santo Antonio**	**44.58**	**321**	*eP*		**P**		**08 37 07.7**	**+0.5**
PB09	**IPOC Station P**	**45.15**	**301**	P		**P**		**08 37 12.7**	**+0.8**
PB07	**IPOC Station P**	**45.52**	**301**	P		**P**		**08 37 15.5**	**+0.6**
PB07				IAmb		IAmb		08 37 20.6	
	comp=Z,36nm,1.3s								
PB01	**IPOC Station P**	**45.91**	**302**	P		**P**		**08 37 18.9**	**+1.1**
PTLB	**Pontes e Lacer**	**46.27**	**317**	*eP*		**P**		**08 37 20.9**	**+0.3**
PTLB	**Pontes e Lacer**	**46.27**	**317**	*eP*		**P**		**08 37 20.9**	**+0.3**
PB08	**IPOC Station P**	**46.51**	**303**	P		**P**		**08 37 23.7**	**+0.8**
PB08				IAmb		IAmb		08 37 27.3	
	comp=Z,23nm,1.0s								
BOSA	**Boshof**	**46.55**	**78**	P		**P**		**08 37 22.7**	**-0.2**
	comp=Z,10nm,0.9s,baz=214,slow=8.0,SNR=11								
BOSA	**Boshof**	**46.55**	**78**	P		**P**		**08 37 23.1**	**+0.3**
BOSA				pmax		pmax			
	comp=Z,18nm,1.0s								
BOSA	**Boshof**	**46.55**	**78**	P		**P**		**08 37 23.1**	**+0.3**
BOSA				IAmb		IAmb		08 37 23.9	
	comp=Z,18nm,1.0s								
SIV	**San Ignacio**	**46.55**	**315**	P		**P**		**08 37 22.5**	**-0.3**
	comp=Z,4.3nm,0.8s,baz=156,slow=8.9,SNR=12								
TA01	**Diego Aracena**	**46.65**	**301**	P		**P**		**08 37 23.8**	**+0.3**
GO01	**Chusmiza**	**46.94**	**303**	P		**P**		**08 37 27.2**	**+0.8**
PB11	**IPOC Station P**	**47.08**	**302**	P		**P**		**08 37 27.3**	**+0.2**
VNDA	**Vanda**	**47.22**	**183**	P		**P**		**08 37 28.0**	**+0.6**
	comp=Z,6.7nm,0.7s,baz=185,slow=6.2,SNR=18								
VNDA	**Vanda**	**47.22**	**183**	P		**P**		**08 37 28.1**	**+0.7**
VNDA				pmax		pmax			
	comp=Z,7.0nm,0.8s								
VNDA	**Vanda**	**47.22**	**183**	P		**P**		**08 37 28.1**	**+0.7**
PSGCX	**Pisagua**	**47.45**	**302**	P		**P**		**08 37 29.4**	**-0.5**
PSGCX				IAmb		IAmb		08 37 30.8	
	comp=Z,22nm,1.0s								
H10S2	**ASCENSION HYDR**	**47.58**	**19**	T		T		09 29 32.1	
	baz=30,slow=74,SNR=10.0								
H10S3	**ASCENSION HYDR**	**47.58**	**19**	T		T		09 29 29.2	
	baz=190,slow=74,SNR=15								
MNMC	**Minye Minye**	**47.59**	**303**	P		**P**		**08 37 31.3**	**+0.1**
H10N1	**ASCENSION HYDR**	**48.69**	**19**	T		T		09 30 53.4	
	baz=190,slow=75,SNR=3.8								
H10N3	**ASCENSION HYDR**	**48.69**	**19**	T		T		09 30 57.1	
	baz=190,slow=75,SNR=11								
H10N2	**ASCENSION HYDR**	**48.71**	**19**	T		T		09 30 57.1	
	baz=190,slow=75,SNR=9.4								
SMTB	**Santa Maria do**	**48.78**	**335**	*eP*		**P**		**08 37 39.7**	**-0.5**
SMTB	**Santa Maria do**	**48.78**	**335**	*eP*		**P**		**08 37 39.7**	**-0.5**
VILB	**Vilhena**	**48.96**	**317**	*eP*		**P**		**08 37 40.9**	**-0.6**
VILB	**Vilhena**	**48.96**	**317**	*eP*		**P**		**08 37 40.9**	**-0.6**
CLDB	**Colider**	**49.28**	**324**	*eP*		**P**		**08 37 43.2**	**-0.8**
CLDB	**Colider**	**49.28**	**324**	*eP*		**P**		**08 37 43.2**	**-0.8**
LPAZ	**La Paz**	**49.36**	**306**	P		**P**		**08 37 46.3**	**+1.0**
	comp=Z,19nm,0.6s,baz=146,slow=5.5,SNR=42								
LPAZ	**La Paz**	**49.36**	**306**	P		**P**		**08 37 45.3**	**0.0**
LPAZ				pmax		pmax			
	comp=Z,29nm,0.8s								
LPAZ	**La Paz**	**49.36**	**306**	P		**P**		**08 37 45.3**	**0.0**
LPAZ	**La Paz**	**49.36**	**306**	*eP*		**P**		**08 37 45.3**	**0.0**
LPAZ	**La Paz**	**49.36**	**306**	*eP*		**P**		**08 37 45.3**	**0.0**
TSUM	**Tsumeb**	**50.02**	**63**	P		**P**		**08 37 49.7**	**0.0**
	comp=Z,3.9nm,0.7s,baz=197,slow=5.5,SNR=7.1								
TSUM	**Tsumeb**	**50.02**	**63**	P		**P**		**08 37 50.1**	**+0.4**
PRPB	**Parauapebas**	**51.93**	**333**	*eP*		**P**		**08 38 04.7**	**+0.7**
PRPB	**Parauapebas**	**51.93**	**333**	*eP*		**P**		**08 38 04.7**	**+0.7**
NPGB	**Novo Progresso**	**52.72**	**326**	*eP*		**P**		**08 38 09.8**	**-0.1**
NPGB	**Novo Progresso**	**52.72**	**326**	*eP*		**P**		**08 38 09.8**	**-0.1**
SAML	**Samuel**	**53.78**	**316**	P		**P**		**08 38 17.0**	**-0.6**
SAML				pmax		pmax			
	comp=Z,38nm,1.2s								
SAML	**Samuel**	**53.78**	**316**	P		**P**		**08 38 17.0**	**-0.6**
SAML				IAmb		IAmb		08 38 18.6	
	comp=Z,38nm,1.2s								
CASY	**Casey**	**54.81**	**161**	P		**P**		**08 38 24.0**	**-0.5**
PAF	**Port-aux-Franc**	**55.64**	**128**	P		**P**		**08 38 31.5**	**+0.8**
PAF	**Port-aux-Franc**	**55.64**	**128**	P		**P**		**08 38 31.5**	**+0.8**
NNA	**Nana**	**57.25**	**300**	⇓ *i* P		**P**		**08 38 42.3**	**-0.4**
NNA				pmax		pmax			
	comp=Z,131nm,1.7s								
NNA	**Nana**	**57.25**	**300**	P		**P**		**08 38 42.5**	**-0.1**
MALB	**Monte Alegre**	**57.29**	**329**	*eP*		**P**		**08 38 43.6**	**+0.8**
MALB	**Monte Alegre**	**57.29**	**329**	*eP*		**P**		**08 38 43.6**	**+0.8**
LSZ	**Lusaka**	**58.84**	**71**	P		**P**		**08 38 53.8**	**-0.1**
LSZ				pmax		pmax			
	comp=Z,8.0nm,0.9s								
LSZ	**Lusaka**	**58.84**	**71**	P		**P**		**08 38 53.8**	**-0.1**
PTGA	**Pitinga**	**60.16**	**323**	P		**P**		**08 39 02.1**	**-0.8**
	comp=Z,6.7nm,0.7s,baz=158,slow=9.3,SNR=10								
PTGA	**Pitinga**	**60.16**	**323**	P		**P**		**08 39 02.2**	**-0.7**
PTGA	**Pitinga**	**60.16**	**323**	*eP*		**P**		**08 39 02.2**	**-0.7**
PTGA	**Pitinga**	**60.16**	**323**	*eP*		**P**		**08 39 02.2**	**-0.7**
ATAH	**Atahualpa**	**62.19**	**301**	P		**P**		**08 39 18.1**	**+1.0**
	comp=Z,12nm,0.9s,baz=114,slow=6.4,SNR=6.0								
LIC	**Lamto**	**64.40**	**26**	*eP*		**P**		**08 39 30.7**	**-0.5**
	comp=Z,65nm,1.1s								
LIC	**Lamto**	**64.40**	**26**	*eP*		**P**		**08 39 30.6**	**-0.6**
	comp=Z,77nm,1.3s								
KIC	**Kosan Boka**	**64.60**	**26**	*eP*		**P**		**08 39 31.8**	**-0.7**
	comp=Z,46nm,1.2s								
KIC	**Kosan Boka**	**64.60**	**26**	*eP*		**P**		**08 39 31.6**	**-0.9**
	comp=Z,37nm,1.1s								
TIC	**Toumodi**	**64.80**	**26**	*eP*		**P**		**08 39 33.5**	**-0.4**
TIC	**Toumodi**	**64.80**	**26**	*eP*		**P**		**08 39 33.4**	**-0.4**
DBIC	**Dimbokro**	**64.87**	**26**	P		**P**		**08 39 33.9**	**-0.3**
	comp=Z,8.9nm,0.9s,baz=209,slow=20,SNR=3.7								
DBIC	**Dimbokro**	**64.87**	**26**	P		**P**		**08 39 34.5**	**+0.3**
DBIC				pmax		pmax			
	comp=Z,25nm,1.2s								
DBIC	**Dimbokro**	**64.87**	**26**	P		**P**		**08 39 34.5**	**+0.3**
DBIC				IAmb		IAmb		08 39 34.7	
	comp=Z,25nm,1.1s								
SOTA	**Rioblanco**	**69.46**	**307**	*eP*		**P**		**08 40 04.9**	**+0.8**
BBAC	**Balboa, Cauca**	**69.65**	**307**	*eP*		**P**		**08 40 04.6**	**-0.3**
PRAC	**Prado**	**70.10**	**310**	*eP*		**P**		**08 40 06.4**	**-1.0**
ORTC	**Ortega, Tolima**	**70.43**	**310**	*eP*		**P**		**08 40 08.8**	**-0.7**
ROSC	**El Rosal**	**70.86**	**311**	P		**P**		**08 40 12.6**	**+0.1**
	comp=Z,7.0nm,0.6s,baz=110,slow=8.0,SNR=5.9								
ROSC	**El Rosal**	**70.86**	**311**	P		**P**		**08 40 12.1**	**-0.4**
ROSC				IAmb		IAmb		08 40 13.2	
	comp=Z,17nm,1.1s								
YOTC	**Yotoco, Valle**	**70.98**	**309**	*eP*		**P**		**08 40 10.6**	**-2.3**
TOLC	**Tolima**	**71.07**	**310**	*eP*		**P**		**08 40 11.3**	**-2.3**
RUSC	**La Rusia**	**71.28**	**313**	*eP*		**P**		**08 40 13.7**	**-1.4**
RUSC	**La Rusia**	**71.28**	**313**	P		**P**		**08 40 13.4**	**-1.7**
SPBC	**San Pablo de B**	**71.48**	**311**	*eP*		**P**		**08 40 12.7**	**-3.2**
GUY2C	**Guyana, Caldas**	**71.66**	**310**	*eP*		**P**		**08 40 13.8**	**-3.6**
PLCV	**Puerto La Cruz**	**71.91**	**322**	P		**P**		**08 40 18.8**	**+0.5**
PCRV	**Puerto La Cruz**	**71.94**	**322**	P		**P**		**08 40 18.8**	**+0.3**
	comp=Z,24nm,0.7s,baz=179,slow=2.6,SNR=17								
PTBC	**PUERTO BERRIO,**	**72.44**	**312**	*eP*		**P**		**08 40 18.1**	**-3.4**
CBOC	**Ciudad Bolivar**	**72.51**	**310**	*eP*		**P**		**08 40 19.9**	**-2.2**
MBAR	**Mbarara**	**72.52**	**64**	⇓ *i* P		**P**		**08 40 25.7**	**+3.4**
MBAR				pmax		pmax			
	comp=Z,12nm,1.3s								
TOA0	**Torodi Ar. Sit**	**72.84**	**31**	P		**P**		**08 40 24.1**	**+0.2**
TORD	**Torodi Ar. Bea**	**72.84**	**31**	P		**P**		**08 40 24.2**	**+0.4**
	comp=Z,30nm,0.7s,baz=201,slow=6.6,SNR=125								
SDV	**Santo Domingo**	**72.99**	**316**	P		**P**		**08 40 24.8**	**-0.2**
ZARC	**Zaragoza, Cauc**	**73.47**	**312**	*eP*		**P**		**08 40 24.7**	**-2.9**
DBBC	**Dabeiba**	**73.63**	**310**	*eP*		**P**		**08 40 28.5**	**-0.1**
SMLC	**San Martn de**	**74.31**	**313**	*eP*		**P**		**08 40 30.4**	**-2.1**
CBYP	**Canovanas**	**79.89**	**324**	P		**P**		**08 41 03.6**	**-0.3**
CBYP				IAmb		IAmb		08 41 06.5	
	comp=Z,21nm,1.1s								
JTS	**Las Juntas de**	**80.50**	**304**	⇑ *i* P		**P**		**08 41 08.7**	**+1.5**
JTS				pmax		pmax			
	comp=Z,45nm,2.8s								
ATD	**Arta Tunnel**	**89.10**	**68**	P		**P**		**08 41 50.5**	**0.0**
ATD				IAmb		IAmb		08 41 51.1	
	comp=Z,16nm,1.1s								
ASAR	**Alice Springs**	**99.87**	**164**	P		**Pdif**		**08 42 37.8**	**-2.1**
	comp=Z,1.5nm,1.1s,baz=193,slow=3.8,SNR=4.7								
PMG	**Port Moresby**	**115.37**	**175**	⇓ *i* PKIKP		**PKPdf**		**08 47 38.5**	**+1.5**
KBZ	**Khabaz**	**115.70**	**50**	⇑ *i* PKIKP		**PKPdf**		**08 47 36.0**	**-0.6**
MSU	**Marysvale**	**117.36**	**299**	PKIKP		**PKPdf**		**08 47 40.4**	**+0.1**
MSU	**Marysvale**	**117.36**	**299**	PKPdf		**PKPdf**		**08 47 40.4**	**+0.1**
PSUT	**Pine Spring**	**118.22**	**297**	PKPdf		**PKPdf**		**08 47 41.5**	**-0.5**
ULM	**Lac du Bonnet**	**119.23**	**317**	⇓ *i* PKIKP		**PKIKP**		**08 47 45.1**	**+1.8**
PDAR	**Pinedale Array**	**119.33**	**303**	PKIP		**PKPdf**		**08 47 42.6**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=136,slow=6.4,SNR=4.4								
HWUT	**Hardware Ranch**	**119.42**	**301**	PKPdf		**PKPdf**		**08 47 43.9**	**-0.2**
NOA	**NORSAR Array B**	**120.23**	**21**	PKP		**PKPdf**		**08 47 44.4**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=196,slow=1.7,SNR=3.3								
NVAR	**Mina Array Bea**	**120.43**	**294**	PKP		**PKPdf**		**08 47 46.3**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=187,slow=2.8,SNR=5.8								
FXWY	**Fox Creek**	**120.69**	**303**	PKPdf		**PKPdf**		**08 47 46.5**	**-0.1**
IMW	**Indian Meadow**	**120.85**	**303**			**PKPdf**		**08 47 47.1**	**+0.1**
YHL	**Hebgen Lake**	**121.68**	**304**			**PKiKP**		**08 47 48.9**	**+0.3**
OBN	**Obninsk**	**122.26**	**38**	*e* PKIKP		**PKPdf**		**08 47 48.1**	**-0.7**
OBN				*e*				08 49 23.8	
OBN				pmax		pmax			
	comp=Z,4.0nm,0.7s								
DLMT	**Dillon**	**122.73**	**304**			**PKPdf**		**08 47 50.5**	**+0.2**
WVOR	**Wild Horse Val**	**123.56**	**297**	PKIKP		**PKiKP**		**08 47 52.7**	**+0.5**
WVOR	**Wild Horse Val**	**123.56**	**297**			**PKiKP**		**08 47 52.7**	**+0.5**
MOD	**Modoc Plateau**	**124.02**	**296**	PKPdf		**PKPdf**		**08 47 53.1**	**+0.2**
FINES	**FINESS Array B**	**124.13**	**28**	PKP		**PKPdf**		**08 47 51.6**	**-0.6**
	comp=Z,3.3nm,0.7s,baz=218,slow=2.2,SNR=13								
J08A	**Circle Bar Ran**	**124.14**	**298**			**PKPdf**		**08 47 53.2**	**+0.2**
MSO	**Missoula**	**124.44**	**304**			**PKPdf**		**08 47 53.1**	**-0.4**
BMO	**Blue Mountains**	**124.64**	**300**	PKIKP		**PKPdf**		**08 47 53.9**	**-0.1**
BMO	**Blue Mountains**	**124.64**	**300**			**PKPdf**		**08 47 53.9**	**-0.1**
I07A	**Izee**	**125.18**	**298**			**PKiKP**		**08 47 55.7**	**+0.3**
F10A	**Beach Ranch, E**	**125.41**	**301**			**PKPdf**		**08 47 55.0**	**-0.4**
PINE	**Pine Mountain**	**125.70**	**297**	PKPdf		**PKiKP**		**08 47 56.9**	**+0.4**
G08A	**Pilot Rock**	**125.77**	**300**	PKPdf		**PKPdf**		**08 47 56.2**	**+0.1**
CMAR	**Chiang Mai Arr**	**126.02**	**111**	PKP		**PKPdf**		**08 47 56.8**	**-0.5**
	comp=Z,2.5nm,0.9s,baz=233,slow=3.6,SNR=8.4								
KLMR	**Klimovskoe**	**127.69**	**35**	*e* PKIKP		**PKPdf**		**08 47 56.7**	**-2.4**
KLMR				pmax		pmax			
	comp=Z,16nm,1.3s								
KLMR	**Klimovskoe**	**127.69**	**35**	*e* PKPdf		**PKPdf**		**08 47 56.7**	**-2.4**
KLMR				AMP				08 48 00.5	
	comp=Z,16nm,1.3s								
KLMR				*e* PP		**PP**		**08 49 55.7**	**-5.9**
SUMG	**Summit**	**127.83**	**356**	*i* P		**PKPdf**		**08 47 59.0**	**-0.6**
	comp=Z,23nm,1.1s								
SUMG	**Summit**	**127.83**	**356**	*i* PKIKP		**PKPdf**		**08 47 59.0**	**-0.6**
SUMG				pmax		pmax			
	comp=Z,23nm,1.1s								
ARSB	**Arslanbob**	**128.74**	**71**	PKIKP		**PKPdf**		**08 48 01.3**	**-0.7**
ARSB	**Arslanbob**	**128.74**	**71**			**PKPdf**		**08 48 01.2**	**-0.7**
KSH	**Kashi**	**129.12**	**75**	*e* PKP		**PKPdf**		**08 48 02.5**	**-0.2**
TMCR	**Tamitsa**	**129.68**	**31**	*e* PKIKP		**PKPdf**		**08 48 02.5**	**-0.2**
TMCR				pmax		pmax			
	comp=Z,42nm,1.3s								
AAK	**Ala-Archa**	**130.47**	**71**	⇑ *i* PKIKP		**PKPdf**		**08 48 05.2**	**0.0**
ARCES	**ARCESS Array B**	**130.59**	**22**	PKP		**PKPdf**		**08 48 03.8**	**-0.6**
	comp=Z,7.3nm,0.9s,baz=240,slow=2.4,SNR=20								
ARU	**Arti**	**131.80**	**48**	*i* PKIKP		**PKPdf**		**08 48 07.4**	**+0.4**
SVE	**Sverdlovsk**	**132.94**	**49**	*e* PKIKP		**PKPdf**		**08 48 09.8**	**+0.6**
SVE				pmax		pmax			
	comp=Z,37nm,1.6s								
BRVK	**Borovoye**	**135.02**	**58**	⇑ *i* PKIKP		**PKPdf**		**08 48 13.5**	**+0.3**
BRVK	**Borovoye**	**135.02**	**58**	PKPdf		**PKPdf**		**08 48 13.1**	**-0.1**
YKA	**Yellowknife Ar**	**135.15**	**319**	PKP		**PKPdf**		**08 48 12.8**	**-0.3**
	comp=Z,6.5nm,0.8s,baz=125,slow=2.2,SNR=22								
MKAR	**Makanchi Array**	**137.39**	**72**	PKP		**PKPdf**		**08 48 17.9**	**0.0**
	comp=Z,0.3nm,0.5s,baz=261,slow=1.5,SNR=4.2								
KURK	**Kurchatov**	**137.79**	**65**	⇑ *i* PKIKP		**PKPdf**		**08 48 18.1**	**-0.3**
WMQ	**Urumqi**	**138.51**	**79**	*e* PKP		**PKiKP**		**08 48 21.3**	**-0.9**
CD2	**Chengdu**	**138.57**	**106**	PKP		**PKPdf**		**08 48 20.0**	**-0.6**
DLBC	**Dease Lake**	**139.30**	**308**	PKPdf		**PKPdf**		**08 48 21.0**	**-0.1**
LZH	**Lanzhou**	**142.48**	**101**	*e* PKP		**PKPdf**		**08 48 28.5**	**+0.8**
LZH				pPKP		PKiKP		08 48 32.0	+1.3
LZH				sPKP				08 48 33.3	
LZH				LR		LR			
	comp=Z,170nm,17.9s								
LZH				LR		LR			
	comp=Z,170nm,18.1s								
LZH				LR		LR			
	comp=Z,240nm,20.2s								
GTA	**Gaotai**	**142.51**	**93**	*e* PKP		**PKiKP**		**08 48 30.3**	**-0.4**
GTA				pPKP		sPKPdf		08 48 34.0	+3.9
GTA				sPKP				08 48 37.0	
ZALV	**Zalesovo Beam**	**142.74**	**64**	PKhKP		PKPpre		08 48 22.9	
	comp=Z,1.4nm,0.4s,baz=242,slow=3.2,SNR=6.2								
HYT	**Haines Junctio**	**143.77**	**308**	PKPdf		PKPbc		08 48 27.9	+1.1
XAN	**Xi'an**	**143.78**	**108**	PKP		PKPab		08 48 27.0	+0.2
XAN				pPKP		sPKPdf		08 48 32.5	+0.1
PCA	**Pinnacle**	**144.73**	**306**			PKPbc		08 48 30.3	+0.6
INK	**Inuvik**	**144.79**	**321**	PKIKP		PKPbc		08 48 29.8	+0.3
INK	**Inuvik**	**144.79**	**321**	PKPdf		PKPbc		08 48 29.8	+0.3
TABL	**Table Mountain**	**145.27**	**307**			**PKPab**		**08 48 31.9**	**+0.2**
EPYK	**Eagle Plains**	**145.40**	**318**			**PKPdf**		**08 48 31.6**	**0.0**
YAH	**Yahtse**	**145.51**	**306**			**PKPdf**		**08 48 32.3**	**+0.1**
CTGM	**Chitina Glacie**	**145.55**	**307**			**PKPab**		**08 48 32.8**	**+0.1**
BARN	**Barnard Glacie**	**145.73**	**307**			**PKPab**		**08 48 33.5**	**+0.1**
DAWY	**Dawson**	**145.77**	**313**	PKPdf		**PKPdf**		**08 48 32.8**	**+0.4**
ISLE	**Juniper Island**	**145.88**	**306**	PKPdf		**PKPdf**		**08 48 33.2**	**+0.4**
BALM	**Baldy**	**146.04**	**307**			**PKPdf**		**08 48 33.2**	**+0.2**
WAX	**Waxell Ridge**	**146.06**	**306**			**PKPab**		**08 48 34.6**	**+0.1**
TGL	**Tana Glacier**	**146.16**	**307**			**PKPdf**		**08 48 33.0**	**-0.2**
CRQM	**Cirque**	**146.30**	**306**			**PKPbc**		**08 48 34.6**	**-0.2**
MCARA	**McCarthy VSAT**	**146.47**	**308**			**PKPbc**		**08 48 34.6**	**-0.4**
VRDI	**Verde Repeater**	**146.61**	**307**			**PKPdf**		**08 48 32.9**	**-1.1**
EGAK	**Eagle**	**146.71**	**314**			**PKPbc**		**08 48 35.3**	**-0.3**
GLB	**Gilahina Butte**	**146.84**	**307**			**PKPbc**		**08 48 36.2**	**+0.1**
RAGM	**Ragged Mountai**	**146.88**	**305**			**PKPbc**		**08 48 36.7**	**+0.4**
MENT	**Mentasta**	**147.27**	**310**			**PKPbc**		**08 48 37.2**	**-0.1**
NJ2	**Nanjing**	**147.35**	**122**	*e* PKPbc		**PKPdf**		**08 48 36.0**	**+0.1**
EYAK	**Cordova Ski Ar**	**147.44**	**305**	PKPdf		**PKPdf**		**08 48 36.5**	**+1.4**
EYAK				PKPbc		**PKPbc**		**08 48 38.6**	**+0.9**
DOT	**Dot Lake**	**147.62**	**311**			**PKPdf**		**08 48 33.8**	**-1.6**
DOT				PKPbc		**PKPbc**		**08 48 38.7**	**+0.5**
SCRK	**Sand Creek**	**147.68**	**312**	PKPdf		**PKPdf**		**08 48 34.6**	**-1.1**
SCRK						**PKPbc**		**08 48 38.9**	**+0.5**
HIN	**Hinchinbrook I**	**147.74**	**305**	PKPdf		**PKPdf**		**08 48 35.2**	**-0.5**
HIN						**PKPbc**		**08 48 39.3**	**+0.7**
FID	**Port Fidalgo**	**147.84**	**305**			**PKPbc**		**08 48 39.7**	**+0.8**
RIDG	**Independent Ri**	**147.98**	**311**			**PKPdf**		**08 48 34.3**	**-1.8**
RIDG				PKPbc		**PKPbc**		**08 48 40.1**	**+0.9**
PAX	**Paxson**	**148.05**	**310**	PKP2		**PKPbc**		**08 48 39.6**	**+0.1**
PAX	**Paxson**	**148.05**	**310**			**PKPbc**		**08 48 39.6**	**+0.1**
GLI	**Glacier Island**	**148.17**	**305**			**PKPbc**		**08 48 39.9**	**+0.2**
SCM	**Sheep Creek Mo**	**148.56**	**307**	PKP2		**PKiKP**		**08 48 41.8**	**-0.5**
SCM	**Sheep Creek Mo**	**148.56**	**307**			**PKiKP**		**08 48 41.8**	**-0.5**
PRP	**Porcupine Dome**	**148.68**	**314**			**PKPbc**		**08 48 41.3**	**+0.2**
FYU	**Fort Yukon**	**148.77**	**316**	PKPdf		**PKPdf**		**08 48 36.5**	**-0.7**
FYU				PKPbc		**PKiKP**		**08 48 42.3**	**-0.2**
NRIK	**Noril'sk**	**148.94**	**38**	PKPbc		**PKPbc**		**08 48 41.1**	**-0.3**
	comp=Z,9.5nm,0.9s,baz=116,slow=2.1,SNR=8.8								
KNK	**Knik Glacier**	**148.96**	**306**	PKPdf		**PKPdf**		**08 48 37.9**	**+0.2**
KNK						**PKPbc**		**08 48 41.1**	**-0.6**
SML	**Sawmill**	**149.01**	**307**			**PKPbc**		**08 48 42.3**	**+0.3**
HDA	**Harding Lake**	**149.04**	**312**			**PKPbc**		**08 48 41.7**	**-0.2**
SEW	**Seward**	**149.04**	**303**			**PKPbc**		**08 48 42.1**	**+0.2**
IL31		**149.09**	**313**			**PKPbc**		**08 48 42.0**	**+0.2**
ILAR	**Eielson Array**	**149.09**	**313**	PKPbc		**PKPbc**		**08 48 42.0**	**0.0**
	comp=Z,54nm,0.8s,baz=128,slow=2.2,SNR=101								
ILAR	**Eielson Array**	**149.09**	**313**	PKP2		**PKPbc**		**08 48 42.0**	**0.0**
GHO	**Glory Hole Cre**	**149.27**	**307**			**PKPbc**		**08 48 42.9**	**+0.3**
PMR	**Palmer**	**149.32**	**306**	PKHKP		**PKPdf**		**08 48 35.6**	**-2.6**
PMR	**Palmer**	**149.32**	**306**	PKPdf		**PKPdf**		**08 48 35.6**	**-2.6**
CCB	**Clear Creek Bu**	**149.45**	**312**			**PKPbc**		**08 48 42.8**	**0.0**
COLA	**College**	**149.52**	**313**	PKP2		**PKPbc**		**08 48 42.9**	**0.0**
COLA	**College**	**149.52**	**313**			**PKPbc**		**08 48 42.9**	**0.0**
WRH	**Wood River Hil**	**149.54**	**312**			**PKPdf**		**08 48 36.2**	**-2.2**
WRH				PKPbc		**PKPbc**		**08 48 43.4**	**+0.3**
RND	**Reindeer**	**149.64**	**310**	PKP2		**PKPbc**		**08 48 43.8**	**+0.4**
RND	**Reindeer**	**149.64**	**310**			**PKPbc**		**08 48 43.8**	**+0.4**
MDM	**Murphy Dome**	**149.69**	**313**			**PKPbc**		**08 48 43.4**	**-0.1**
CNPM	**China Poot**	**149.72**	**302**			**PKPbc**		**08 48 44.1**	**+0.4**
MCK	**McKinley**	**149.75**	**310**	PKP2		**PKPbc**		**08 48 44.0**	**+0.4**
MCK	**McKinley**	**149.75**	**310**			**PKPbc**		**08 48 44.0**	**+0.4**
KDAK	**Kodiak Island**	**149.83**	**298**	PKP2		**PKPbc**		**08 48 44.4**	**+0.5**
KDAK	**Kodiak Island**	**149.83**	**298**			**PKPbc**		**08 48 44.4**	**+0.5**
HOM	**Homer**	**149.96**	**302**			**PKiKP**		**08 48 45.2**	**+0.1**
OHAK	**Old Harbor**	**149.99**	**297**			**PKPbc**		**08 48 44.3**	**0.0**
SUA	**Susitna One**	**150.03**	**306**			**PKPbc**		**08 48 45.0**	**+0.5**
HHC	**Hu-ho-hao-te**	**150.13**	**102**	*e* PKPbc		**PKPdf**		**08 48 42.5**	**+2.1**
TRF	**Thorofare Moun**	**150.28**	**310**			**PKPbc**		**08 48 45.6**	**+0.5**
MOY	**Mondy**	**150.30**	**76**	*e* PKIKP

VNDA	Vanda	47.33	183	P	P	08 41 06.7	+0.7
PSGCX	Pisagua	47.45	302	P	P	08 41 07.8	+0.1
MNMC	Minye Minye	47.59	303	P	P	08 41 09.3	+0.3
LPAZ	La Paz	49.35	306	P	P	08 41 23.8	+0.8
	comp=Z,3.6nm,0.5s,baz=88,slow=8.7,SNR=11						
LPAZ	La Paz	49.35	306	P	P	08 41 23.0	0.0
LPAZ				IAmb	IAmb	08 41 25.3	
	comp=Z,4.8nm,0.6s						
TOA0	Torodi Ar. Sit	72.72	31	P	P	08 44 01.6	+0.8
TOA0				IAmb	IAmb	08 44 05.7	
	comp=Z,4.6nm,0.9s						
TORD	Torodi Ar. Bea	72.72	31	P	P	08 44 02.2	+1.4
	comp=Z,3.0nm,0.6s,baz=203,slow=6.4,SNR=5.4						
FINES	FINESS Array B	124.01	28	PKP	PKPdf	08 51 29.1	-0.6
	comp=Z,0.8nm,0.6s,baz=124,slow=0.7,SNR=4.6						
ARCES	ARCESS Array B	130.46	22	PKP	PKPdf	08 51 40.5	-1.4
	comp=Z,0.5nm,0.6s,baz=256,slow=0.4,SNR=6.1						
YKA	Yellowknife Ar	135.12	319	PKP	PKPdf	08 51 50.6	-0.2
	comp=Z,0.7nm,0.6s,baz=116,slow=2.3,SNR=6.2						
INK	Inuvik	144.75	322		PKPdf	08 52 08.0	-0.1
DOT	Dot Lake	147.60	311		PKPdf	08 52 13.7	+0.5
DOT				PKPbc	PKPbc	08 52 16.6	+0.6
SCM	Sheep Creek Mo	148.55	307	PKPdf	PKPdf	08 52 15.4	+0.5
ILAR	Eielson Array	149.07	313	PKPbc	PKPbc	08 52 19.6	-0.1
	comp=Z,6.6nm,0.6s,baz=132,slow=1.8,SNR=15						
CCB	Clear Creek Bu	149.43	312		PKPbc	08 52 20.5	0.0
WRH	Wood River Hil	149.52	312		PKPbc	08 52 20.8	0.0
SKT	Skwentna	150.51	307	PKPdf	PKPdf	08 52 19.0	+1.1
SKT					PKPbc	08 52 23.0	-0.3
COLD	Coldfoot	150.77	317		PKiKP	08 52 24.7	+0.3
SONM	Songino Array	151.36	86	PKPbc	PKPbc	08 52 25.0	-0.9
	comp=Z,1.3nm,0.7s,baz=239,slow=2.5,SNR=4.4						

IDC 29 08:39:13.7±1.4, 55°.26S×28°.25W, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.6/32, mbtmp3.8/3, ML4.0/1, Error ellipse: s-maj=55.6km s-min=34.9km az=61.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	Sanae	19.71	156	P	P	08 43 44.4	0.0
	0.4nm,0.3s,baz=309,slow=13,SNR=7.6						
LPAZ	La Paz	49.42	306	P	P	08 48 05.7	-0.2
	0.7nm,0.8s,baz=162,slow=6.4,SNR=2.5						
TORD	Torodi Ar. Bea	72.67	31	P	P	08 50 43.1	0.0
	1.4nm,0.8s,baz=205,slow=7.5,SNR=5.2						
ILAR	Eielson Array	149.13	313	PKPbc	PKPbc	08 59 01.9	-0.4
	1.3nm,0.7s,baz=92,slow=1.3,SNR=13						

IDC 29 08:41:07.5±0.7, 55°.20S×28°.36W, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/31, mbtmp4.1/9, ML4.6/1, Error ellipse: s-maj=25.9km s-min=17.7km az=63.0
NEIC 29 08:41:08.9±2.0, 55°.30S±0°.08×28°.5W±0°.2, h10km±1km, mb4.5/13, Error ellipse: s-maj=20.9km s-min=3.4km az=50.0
ISC 29 08:41:08.7±0.6, 55°.2S±0°.1×28°.48W±0°.09, h10km, n32, σ1§19/33, mb4.4/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	4.74	278	Pn	Pn	08 42 19.9	-0.1
HOPE				Sn	Sn	08 43 14.5	-0.5
VNA1	Neumayer--Stat	17.84	158	P	P	08 45 21.2	+3.9
VNA3	Neumayer Olymp	18.02	160	P	P	08 45 19.1	-0.2
SNAA	Sanae	19.79	156	P	P	08 45 38.4	-0.4
SNAA	Sanae	19.79	156	P	P	08 45 38.6	-0.3
	1.6nm,0.3s,baz=289,slow=12,SNR=24						
SNAA	Sanae	19.79	156	P	P	08 45 38.5	-0.4
QSPA	South Pole Qui	35.03	180	P	P	08 48 01.5	+0.4
	3.9nm,0.7s,baz=185,slow=2.6,SNR=16						
QSPA	South Pole Qui	35.03	180	P	P	08 48 01.6	+0.4
QSPA				IAmb	IAmb	08 48 05.6	
	comp=Z,4.6nm,0.8s						
CPUP	Villa Florida	35.72	312	P	P	08 48 07.0	-0.3
	comp=Z,3.8nm,0.9s,baz=172,slow=8.1,SNR=3.1						
CPUP	Villa Florida	35.72	312	P	P	08 48 06.8	-0.4
CPUP				IAmb	IAmb	08 48 13.3	
	comp=Z,18nm,1.4s						
GO05	Huala	35.95	286	P	P	08 48 09.1	-0.1
CFA	Coronel Fontan	36.56	294	P	P	08 48 14.8	+0.2
	comp=Z,1.4nm,0.7s,baz=151,slow=11,SNR=2.5						
MT02	Curacav	36.83	289	P	P	08 48 17.9	+1.1
MT02				IAmb	IAmb	08 48 26.8	
	comp=Z,11nm,1.0s						
MAW	Mawson	41.25	144	P	P	08 48 52.5	-0.8
GO02	Mina Guanaco	42.46	298	P	P	08 49 05.9	+1.9
GO02				IAmb	IAmb	08 49 07.5	
	comp=Z,14nm,1.2s						
PB01	IPOC Station P	45.86	301	P	P	08 49 33.1	+2.1
PB01				IAmb	IAmb	08 49 36.2	
	comp=Z,5.1nm,0.9s						
SIV	San Ignacio	46.48	314	P	P	08 49 36.6	+0.7
	comp=Z,0.6nm,0.8s,baz=98,slow=18,SNR=2.1						
BOSA	Boshof	46.49	78	P	P	08 49 36.3	+0.2
	comp=Z,1.2nm,0.7s,baz=280,slow=7.6,SNR=1.4						
BOSA	Boshof	46.49	78	P	P	08 49 36.7	+0.7
VNDA	Vanda	47.36	183	P	P	08 49 43.0	+0.9
	comp=Z,1.5nm,0.6s,baz=189,slow=6.1,SNR=17						
VNDA	Vanda	47.36	183	P	P	08 49 43.1	+1.0
LPAZ	La Paz	49.30	306	P	P	08 49 59.6	+1.1
	comp=Z,1.7nm,0.6s,baz=212,slow=6.0,SNR=11						
LPAZ	La Paz	49.30	306	P	P	08 49 59.6	+1.1
LPAZ				IAmb	IAmb	08 50 09.3	
	comp=Z,3.7nm,1.0s						
TOA0	Torodi Ar. Sit	72.71	31	P	P	08 52 37.4	+0.7
TOA0				IAmb	IAmb	08 52 39.2	
	comp=Z,8.0nm,1.2s						
TORD	Torodi Ar. Bea	72.71	31	P	P	08 52 36.8	+0.1
	comp=Z,1.8nm,0.6s,baz=200,slow=6.4,SNR=15						
CAN	Canberra	89.79	178	P	P	08 54 05.1	-2.2
SRU	San Rafael Swe	116.95	300		PKPdf	08 59 51.1	-2.0
FINES	FINESS Array B	124.00	28	PKP	PKPdf	09 00 05.1	-0.5
	comp=Z,1.2nm,0.7s,baz=197,slow=4.4,SNR=4.3						
ARCES	ARCESS Array B	130.45	22	PKP	PKPdf	09 00 17.1	-0.7
	comp=Z,0.6nm,0.8s,baz=219,slow=1.6,SNR=5.4						
YKA	Yellowknife Ar	135.07	319	PKP	PKiKP	09 00 27.6	-0.5
	comp=Z,0.2nm,0.6s,baz=129,slow=2.3,SNR=4.1						
ILAR	Eielson Array	149.02	313	PKPbc	PKiKP	09 00 56.4	-0.3
	comp=Z,4.0nm,0.8s,baz=120,slow=2.9,SNR=5.9						
SONM	Songino Array	151.40	86	PKPbc	PKPbc	09 01 02.0	+0.1
	comp=Z,1.7nm,0.7s,baz=212,slow=3.2,SNR=6.0						

IDC 29 08:51:59.6±0.8, 55°.39S×28°.32W, h0km, mb4.0/5, mb1 4.2/6, mb1mx3.9/24, mbtmp4.0/6, ML4.5/1, Error ellipse: s-maj=37.4km s-min=19.5km az=72.0
NEIC 29 08:52:01.4±0.9, 55°.41S±0°.07×28°.5W±0°.2, h10km±1km, mb4.5/17, Error ellipse: s-maj=19.8km s-min=10.9km az=100.0
ISC 29 08:52:01.2±0.7, 55°.4S±0°.1×28°.4W±0°.1, h10km, n32, σ0§58/32, mb4.4/13, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	4.79	280		Pn	08 53 13.2	-0.2
SNAA	Sanae	19.62	156	P	P	08 56 28.9	-0.5
	1.3nm,0.3s,baz=266,slow=15,SNR=39						
SNAA	Sanae	19.62	156	P	P	08 56 29.2	-0.2
QSPA	South Pole Qui	34.85	180	P	P	08 58 52.2	+0.1
	1.2nm,0.6s,baz=208,slow=1.4,SNR=13						
QSPA	South Pole Qui	34.85	180	P	P	08 58 52.5	+0.4
BO02	Sierra Bellavi	35.57	288	P	P	08 58 58.8	+0.3
BO02				IAmb	IAmb	08 59 06.6	
	comp=Z,8.8nm,1.1s						
CPUP	Villa Florida	35.86	312	P	P	08 59 00.7	-0.3
	comp=Z,1.2nm,0.6s,baz=138,slow=6.5,SNR=3.9						
CPUP	Villa Florida	35.86	312	P	P	08 59 00.6	-0.4
GO05	Huala	36.03	286	P	P	08 59 01.0	-1.5
MT01	Popeta	36.52	288	P	P	08 59 05.6	-1.0
MT02	Curacav	36.92	289	P	P	08 59 10.1	+0.1
MT02				IAmb	IAmb	08 59 12.6	
	comp=Z,5.4nm,0.9s						
CO02	Combarbal	38.43	291	P	P	08 59 22.9	-0.1
CO02				IAmb	IAmb	08 59 30.3	
	comp=Z,20nm,1.3s						
CO01	Juntas del Tor	38.92	293	P	P	08 59 28.6	+1.4
AC05	El Transito	39.92	294	P	P	08 59 36.2	+0.7
AC05				IAmb	IAmb	08 59 40.7	
	comp=Z,14nm,1.2s						
GO02	Mina Guanaco	42.57	298	P	P	08 59 57.2	-0.2
GO02				IAmb	IAmb	09 00 08.1	
	comp=Z,21nm,1.4s						
PB01	IPOC Station P	45.98	301	P	P	09 00 24.9	+0.4
GO01	Chusmiza	47.01	303	P	P	09 00 33.7	+0.6
GO01				IAmb	IAmb	09 00 36.2	
	comp=Z,5.2nm,1.0s						
VNDA	Vanda	47.18	183	P	P	09 00 33.4	+0.2
	comp=Z,1.0nm,0.7s,baz=188,slow=5.3,SNR=9.6						
VNDA	Vanda	47.18	183	P	P	09 00 33.7	+0.5
MNMC	Minye Minye	47.66	303	P	P	09 00 38.4	+0.5
LPAZ	La Paz	49.43	306	P	P	09 00 52.3	+0.3
	comp=Z,2.6nm,0.6s,baz=120,slow=6.1,SNR=21						
LPAZ	La Paz	49.43	306	P	P	09 00 52.5	+0.6
LPAZ				IAmb	IAmb	09 00 52.8	
	comp=Z,3.1nm,0.7s						
SAML	Samuel	53.85	316	P	P	09 01 24.3	+0.1
SAML				IAmb	IAmb	09 01 24.5	
	comp=Z,2.5nm,0.7s						
TOA0	Torodi Ar. Sit	72.85	31	P	P	09 03 30.2	+0.3
TOA0				IAmb	IAmb	09 03 41.6	
	comp=Z,4.6nm,1.1s						
TORD	Torodi Ar. Bea	72.85	31	P	P	09 03 30.1	+0.2
	comp=Z,0.7nm,0.5s,baz=205,slow=5.9,SNR=7.2						
ARCES	ARCESS Array B	130.60	22	PKP	PKPdf	09 11 10.0	-0.6
	comp=Z,0.8nm,0.9s,baz=253,slow=0.9,SNR=1.6						
YKA	Yellowknife Ar	135.22	319	PKP	PKPdf	09 11 19.8	+0.4
	comp=Z,0.5nm,0.7s,baz=135,slow=2.4,SNR=4.4						
RIDG	Independent Ri	148.05	311		PKPbc	09 11 46.0	+0.5
ILAR	Eielson Array	149.16	313	PKPbc	PKPbc	09 11 48.0	-0.3
	comp=Z,3.0nm,0.8s,baz=128,slow=2.1,SNR=26						
RND	Reindeer	149.71	310		PKPbc	09 11 50.4	+0.6
BPAW	Bear Paw Mtn.	150.78	311	PKPbc	PKPbc	09 11 52.0	-0.2
SONM	Songino Array	151.38	86	PKPbc	PKPbc	09 11 53.5	-0.8
	comp=Z,0.7nm,0.5s,baz=216,slow=6.1,SNR=3.7						

IDC 29 08:52:44.7±0.7, 55°.35S×28°.56W, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.1/24, mbtmp4.3/10, ML4.8/1, Error ellipse: s-maj=24.7km s-min=17.3km az=63.0
NEIC 29 08:52:46.9±0.9, 55°.36S±0°.05×28°.6W±0°.1, h10km±1km, mb4.5/18, Error ellipse: s-maj=15.0km s-min=5.7km az=121.0
ISC 29 08:52:46.5±0.5, 55°.35S±0°.09×28°.73W±0°.08, h10km, n53, σ0§94/55, mb4.3/14, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	4.62	280		Pn	08 53 55.6	-0.7
HOPE				Sn	Sn	08 54 47.8	-2.0
VNA1	Neumayer--Stat	17.78	158	P	P	08 56 58.6	+4.1
VNA3	Neumayer Olymp	17.95	160	P	P	08 56 57.6	+1.2
VNA2	Neumayer--Watz	18.18	157	P	Pn	08 56 58.4	-0.2
SNAA	Sanae	19.74	156	P	P	08 57 15.1	-1.0
SNAA	Sanae	19.74	156	P	P	08 57 15.2	-0.9
	2.9nm,0.3s,baz=282,slow=12,SNR=17						
SNAA	Sanae	19.74	156	P	P	08 57 15.1	-1.0
SNAA				IAmb	IAmb	08 57 18.6	
	comp=Z,11nm,0.6s						
QSPA	South Pole Qui	34.91	180	P	P	08 59 37.9	-0.1
	comp=Z,2.0nm,0.7s,baz=244,slow=3.3,SNR=3.3						
QSPA	South Pole Qui	34.91	180	P	P	08 59 38.4	+0.4
CPUP	Villa Florida	35.69	313	P	P	08 59 44.8	-0.1
	comp=Z,1.6nm,0.5s,baz=138,slow=6.9,SNR=4.4						
CPUP	Villa Florida	35.69	313	P	P	08 59 45.4	+0.5
CPUP				IAmb	IAmb	08 59 48.8	
	comp=Z,15nm,1.5s						
CO03	El Pedregal	38.37	292	P	P	09 00 08.7	+1.0
CO03				IAmb	IAmb	09 00 18.2	
	comp=Z,11nm,1.4s						
CO01	Juntas del Tor	38.74	294	P	P	09 00 12.1	+1.0
CO01				IAmb	IAmb	09 00 17.1	
	comp=Z,6.0nm,0.9s						
GO04	Tololo Observa	38.95	293	P	P	09 00 13.6	+0.8
GO04				IAmb	IAmb	09 00 19.7	
	comp=Z,18nm,1.2s						
AC05	El Transito	39.74	294	P	P	09 00 19.9	+0.6
MAW	Mawson	41.23	144	P	P	09 00 29.6	-1.4
	comp=Z,0.9nm,0.6s,baz=290,slow=19,SNR=2.3						
MAW	Mawson	41.23	144	P	P	09 00 30.0	-1.0
SUR	Sutherland	41.31	77	P	P	09 00 32.7	+0.4
BDFB	Brasilia	42.32	332	P	P	09 00 40.2	-0.4
	comp=Z,2.1nm,0.7s,baz=195,slow=20,SNR=4.7						
BDFB	Brasilia	42.32	332	P	P	09 00 41.7	+1.2
PB01	IPOC Station P	45.80	302	P	P	09 01 08.1	-0.4
PB01				IAmb	IAmb	09 01 19.0	
	comp=Z,10.0nm,1.1s						
BOSA	Boshof	46.66	78	P	P	09 01 14.2	-0.9
	comp=Z,2.6nm,0.8s,baz=216,slow=6.5,SNR=7.2						
BOSA	Boshof	46.66	78	P	P	09 01 14.9	-0.2
BOSA				IAmb	IAmb	09 01 28.8	
	comp=Z,12nm,1.4s						
VNDA	Vanda	47.23	183	P	P	09 01 18.9	0.0
	comp=Z,1.5nm,0.7s,baz=180,slow=5.9,SNR=7.8						
VNDA	Vanda	47.23	183	P	P	09 01 19.7	+0.7
VNDA				IAmb	IAmb	09 01 20.3	
	comp=Z,1.8nm,0.8s						
MNMC	Minye Minye	47.48	303	P	P	09 01 22.8	+0.9
LPAZ	La Paz	49.26	306	P	P	09 01 36.6	+0.7
	comp=Z,3.6nm,0.6s,baz=132,slow=4.9,SNR=15						
LPAZ	La Paz	49.26	306	P	P	09 01 36.9	+0.9
LPAZ				IAmb	IAmb	09 01 37.4	
	comp=Z,4.1nm,0.6s						
TSUM	Tsumeb	50.12	63	P	P	09 01 41.1	-0.8
	comp=Z,2.1nm,0.8s,baz=194,slow=11,SNR=2.2						
SAML	Samuel	53.69	316	P	P	09 02 08.3	-0.1
SAML				IAmb	IAmb	09 02 10.6	
	comp=Z,3.3nm,0.9s						
CASY	Casey	54.86	161	P	P	09 02 16.2	-0.1
TOA0	Torodi Ar. Sit	72.88	31	P	P	09 04 15.8	+0.3
TORD	Torodi Ar. Bea	72.88	31	P	P	09 04 15.4	-0.1
	comp=Z,11nm,0.7s,baz=201,slow=6.5,SNR=31						
FINES	FINESS Array B	124.17	28	PKP	PKPdf	09 11 42.9	-0.9
	comp=Z,1.5nm,0.6s,baz=168,slow=2.6,SNR=11						
ARCES	ARCESS Array B	130.61	22	PKP	PKPdf	09 11 55.2	-0.7
	comp=Z,3.7nm,0.9s,baz=174,slow=0.8,SNR=9.3						
YKA	Yellowknife Ar	135.06	319	PKP	PKPdf	09 12 03.9	-0.5
	comp=Z,2.7nm,0.8s,baz=121,slow=2.1,SNR=14						
DAWY	Dawson	145.67	313		PKPdf	09 12 23.7	+0.1
EGAK	Eagle	146.62	314		PKPbc	09 12 26.6	-0.2
MENT	Mentasta	147.17	310		PKPab	09 12 30.4	+0.1
DOT	Dot Lake	147.52	311		PKPbc	09 12 30.0	+0.6
SCRK	Sand Creek	147.58	312		PKPbc	09 12 30.1	+0.4
RIDG	Independent Ri	147.88	311		PKPbc	09 12 31.3	+0.8
PAX	Paxson	147.95	310		PKPdf	09 12 29.0	+1.5
PAX				PKPbc	PKPbc	09 12 31.2	+0.6
SEW	Seward	148.94	303		PKPbc	09 12 33.7	+0.6
ILAR	Eielson Array	149.00	313	PKPbc	PKPbc	09 12 32.9	-0.3
	comp=Z,17nm,0.7s,baz=130,slow=2.0,SNR=52						
GHO	Glory Hole Cre	149.17	307		PKPbc	09 12 34.3	+0.5
RND	Reindeer	149.54	310		PKPbc	09 12 35.3	+0.7
CNPM	China Poot	149.62	302		PKPbc	09 12 35.4	+0.6
OHAK	Old Harbor	149.88	297		PKPbc	09 12 36.0	+0.5
SUA	Susitna One	149.93	306		PKPbc	09 12 36.5	+0.8
SKT	Skwentna	150.42	306		PKPbc	09 12 37.0	+0.2
PPLA	Purkeypile	150.92	308		PKPbc	09 12 38.3	+0.2
SONM	Songino Array	151.55	86	PKPbc	PKPbc	09 12 39.3	-0.7
	comp=Z,2.9nm,0.7s,baz=230,slow=2.5,SNR=13						

BJI 29 08:54:43.4±0.0, 52°.02N×178°.31E, h85km, mB6.2/8, mb5.0/50, Ms6.1/5, Ms7 6.0/5
AEIC 29 08:54:45±1.7, 51°.61N±0°.06×178°.43E±0°.07, h88km±3km, ML4.7/33, mb4.8/270(NEIC), Error ellipse: s-maj=9.2km s-min=5.7km az=168.0
UNK 29 08:54:45.7, 51°.76N×178°.49E, h90km
MOS 29 08:54:45.9±1.1, 51°.78N×178°.49E, h112km, mb4.8/56, Error ellipse: s-maj=7.3km s-min=5.4km az=123.0
IDC 29 08:54:45.6±0.4, 51°.84N×178.53E, h93km±3km, mb4.2/37, mb1 4.4/39, mb1mx4.3/49, mbtmp4.6/39, Error ellipse: s-maj=12.0km s-min=6.6km az=171.0
NEIC 29 08:54:45.4±1.5, 51°.72N±0°.06×178°.50E±0°.07, h95km±4km, Error ellipse: s-maj=9.5km s-min=5.6km az=206.0
ISC 29 08:54:45.5±0.4, 51°.76N±0°.05×178°.49E±0°.03, h94km±3km, h94km:pP-P,n684, σ0§97/671, mb4.8/196, 40C-23D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	Little Sitkin	0.19	4		Pn	08 54 58.8	-0.2
LSPA	Little Sitkin	0.20	14		Pn	08 54 58.9	-0.1
LSNW	Little Sitkin	0.21	4		Pn	08 54 58.8	-0.2
AMKA	Amchitka	0.64	127		Pn	08 55 04.4	+2.7
AMKA				Sn	Sn	08 55 13.2	-0.7
CETU	Semis' Tuman	0.65	72		Pn	08 55 02.1	+0.1
CESW	Semis' Southwe	0.68	78		Pn	08 55 01.9	-0.2
CEAP	Semis' Anvil P	0.71	70		Pn	08 55 02.6	+0.2
CERAA	Semis' Rag'd T	0.75	79		Pn	08 55 02.7	-0.2
GAEA	Gareloi East	1.71	88		Pn	08 55 14.1	0.0
TASE	Tanaga Southea	2.15	87		Pn	08 55 19.8	-0.1
TAFP	Tanaga Falls P	2.19	85		Pn	08 55 20.1	-0.2
TAFP					Sn	08 55 46.3	-0.7
TAPA	Tanaga Point A	2.29	87		Pn	08 55 21.6	-0.1
KIMD	Kanaga Island	2.65	88		Pn	08 55 26.3	-0.1
KICM	Kanaga Island	2.68	85		Pn	08 55 26.8	0.0
KICM					Sn	08 55 57.7	-0.7
KIKV	Kanaga Island	2.69	86		Pn	08 55 26.6	-0.3
KIWB	Kanaga Island	2.71	86		Pn	08 55 26.7	-0.4
SMY	Shemya	2.87	291	P	Pn	08 55 28.6	-0.6
SMY						08 56 02.1	
SMY	Shemya	2.87	291	Pn	Pn	08 55 28.6	-0.6
SMY				Sn	Sn	08 56 02.1	-0.9
ADK	Adak	3.00	86	P	Pn	08 55 30.5	-0.4
ADK						08 56 05.8	
ADK	Adak	3.00	86	Pn	Pn	08 55 30.5	-0.4
ADK				Sn	Sn	08 56 05.8	-0.2
GSTD	Great Sitkin T	3.33	83		Pn	08 55 34.8	-0.8
GSMY	Great Sitkin M	3.39	83		Pn	08 55 35.5	-0.7
GSTR	Great Sitkin T	3.39	82	Pn	Pn	08 55 35.8	-0.5
ATKA	Atka Island	4.54	82	Pn	Pn	08 55 51.4	-0.4
KOFP	Korovin Flat P	4.61	81		Pn	08 55 52.9	+0.2
KOSE	Korovin Southe	4.64	80		Pn	08 55 53.2	0.0
NIKH	Nikolski High	7.84	76	Pn	Pn	08 56 37.9	+1.3
OKSP	Okmok Steeple	8.20	74		Pn	08 56 42.3	+0.7
OKNC	Okmok New Cone	8.32	73		Pn	08 56 43.9	+0.7
SPIA	Saint Paul Isl	8.50	46	Pn	Pn	08 56 47.5	+1.9
SPIA					Sn	08 58 19.3	-0.4
UNV	Unalaska Valle	9.32	71		Pn	08 56 57.6	-0.8
AKUT	Akutan	9.79	70	Pn	Pn	08 57 03.5	+0.3
FALS	False Pass	11.25	67	Pn	Pn	08 57 24.0	+1.0
PET	Petropavlovsk	12.18	284	eP	Pn	08 57 34.6	-0.9
PET				eS	Sn	08 59 49.1	-0.1
PET				pmax	pmax		
	comp=Z,45nm,0.7s						
PET	Petropavlovsk	12.18	284	Pn	Pn	08 57 35.0	-0.5
PEA0B	Petropavlovsk-	12.76	284	P	Pn	08 57 42.6	-0.5
PEA0B						08 59 59.5	
PEA0B	Petropavlovsk-	12.76	284	Pn	Pn	08 57 42.6	-0.5
PEA0B					Sn	08 59 59.5	-3.7
PETK	Petropavlovsk-	12.76	284	P	Pn	08 57 44.0	+0.8
	comp=Z,2.9nm,0.3s,baz=104,slow=14,SNR=47						
PETK				S	Sn	08 59 57.6	-5.6
	comp=Z,3.4nm,0.3s,baz=82,slow=33,SNR=6.9						
PETK				PcP	PcP	09 03 11.9	+0.7
	comp=Z,0.4nm,0.3s,baz=135,slow=3.6,SNR=3.8						
PETK	Petropavlovsk-	12.76	284	P	Pn	08 57 44.0	+0.8
SDPT	Sand Point	12.99	66	Pn	Pn	08 57 44.5	-1.7
CNBA	Chernabura Isl	13.45	68	Pn	Pn	08 57 49.2	-3.0
SKR	Severo-Kuril's	14.06	274	eP	Pn	08 58 02.2	+2.1
SKR				pmax	pmax		
	comp=Z,90nm,1.4s						
SKR				pmax	pmax		
	comp=Z,1μm,6.8s						
SKR				MLR	MLR		
	comp=E,2μm,14.0s						
ANM	Nome	15.33	27	P	P	08 58 19.3	+0.4
ANM				pmax	pmax		
	comp=Z,36nm,1.2s						
ANM	Nome	15.33	27		P	08 58 19.3	+0.4
CHIR	Chirikof Islan	15.78	65	Pn	Pn	08 58 19.1	-3.0
SII	Sitkinak Islan	16.64	63		Pn	08 58 31.7	-1.1
SVW2	Sparrevohn	17.00	47		P	08 58 39.3	+1.9
SVW2				IAmb	IAmb	08 58 44.0	
	comp=Z,27nm,0.6s						
OHAK	Old Harbor	17.20	60	IAmb	IAmb	08 58 40.1	
	comp=Z,42nm,0.5s						
BILL	Bilibino	17.38	345	⇓iP	Pn	08 58 44.0	+2.5
BILL				pmax	pmax		
	comp=Z,21nm,1.0s						
MA2	Magadan	17.38	308	⇓iP	P	08 58 40.8	-0.8
MA2				pmax	pmax		
	comp=Z,8.0nm,1.1s						
TTA	Tatalina	17.58	41	IAmb	IAmb	08 58 47.1	
	comp=Z,41nm,0.9s						
KDAK	Kodiak Island	17.65	59	P	P	08 58 42.2	-2.4
	comp=Z,8.9nm,0.3s,baz=233,slow=3.2,SNR=121						
KDAK	Kodiak Island	17.65	59	P	P	08 58 42.2	-2.4
KDAK				pmax	pmax		
	comp=Z,52nm,0.7s						
KDAK	Kodiak Island	17.65	59		P	08 58 42.2	-2.4
KDAK				IAmb	IAmb	08 58 47.2	
	comp=Z,52nm,0.7s						
RDOG	Red Dog Mine	18.67	22		Pn	08 58 57.6	+0.5
SKT	Skwentna	19.12	46	P	Pn

BALM IAmb IAmb 08 59 45.4
comp=Z,28nm,0.8s
FYU Fort Yukon 23.30 37 IAmb IAmb 08 59 47.5
comp=Z,36nm,0.8s
MESA MESA 23.36 53 P **P 08 59 45.2 -0.3**
YAH Yahtse 23.47 53 P **P 08 59 46.4 -0.2**
YAH IAmb IAmb 08 59 48.6
comp=Z,43nm,0.7s
BARN Barnard Glacie 23.57 51 P **P 08 59 47.3 -0.1**
YSS Yuzh-Sakhalins 23.61 272 *eP* **P 08 59 49.0 +1.4**
YSS pmax pmax
comp=Z,20nm,0.9s
CTGM Chitina Glacie 23.72 51 P **P 08 59 48.4 -0.3**
PCA Pinnacle 24.20 54 P **P 08 59 52.4 -0.5**
JKA Kamikawa-asahi 25.03 266 P **P 09 00 01.1 +0.6**
JKA IAmb IAmb 09 00 02.7
comp=Z,30nm,0.8s
ASAJ Asahikawa 25.03 266 P **P 09 00 01.7 +1.2**
comp=Z,28nm,0.8s,baz=58,slow=6.7,SNR=24
ASAJ Asahikawa 25.03 266 P **P 09 00 01.1 +0.6**
ASAJ pmax pmax
comp=Z,31nm,0.8s
HYT Haines Junctio 25.58 52 P **P 09 00 06.5 +1.1**
HYT IAmb IAmb 09 00 10.3
comp=Z,34nm,0.8s
ERM Erimo 25.81 262 ⇓ *i*P **P 09 00 05.3 -2.3**
ERM pmax pmax
comp=Z,23nm,1.3s
EPYK Eagle Plains 26.52 39 P **P 09 00 13.8 0.0**
baz=259,SNR=16
EPYK Eagle Plains 26.52 39 IAmb IAmb 09 00 14.8
comp=Z,19nm,0.8s
SKAG Skagway 26.70 55 P **P 09 00 16.4 +0.9**
WHY Whitehorse 26.87 52 P **P 09 00 17.3 +0.2**
BESE Bessie Mountai 27.02 57 P **P 09 00 18.4 -0.1**
JIS Juneau Island 27.30 58 P **P 09 00 21.3 +0.5**
JIS IAmb IAmb 09 00 22.6
comp=Z,20nm,1.0s
YAK Yakutsk 27.89 311 *i*P **P 09 00 26.2 +0.2**
YAK pmax pmax
comp=Z,11nm,1.0s
INK Inuvik 28.12 36 P **P 09 00 28.6 +0.7**
comp=Z,3.9nm,0.6s,baz=242,slow=11,SNR=21
INK PcP **PcP 09 03 38.5 -1.0**
comp=Z,1.8nm,0.6s,baz=90,slow=7.1,SNR=2.6
INK ScP **ScP 09 07 11.5 -0.1**
comp=Z,2.3nm,0.7s,baz=272,slow=4.0,SNR=6.2
INK Inuvik 28.12 36 P **P 09 00 28.7 +0.7**
INK pmax pmax
comp=Z,7.0nm,0.9s
INK Inuvik 28.12 36 P **P 09 00 28.7 +0.7**
KLR Kul'dur 29.45 284 P **P 09 00 40.4 +0.3**
comp=Z,12nm,0.6s,baz=65,slow=7.9,SNR=71
KLR Kul'dur 29.45 284 ⇓ *i*P **P 09 00 40.3 +0.3**
KLR pmax pmax
comp=Z,14nm,0.7s
TIXI Tiksi 29.47 331 PcP **PcP 09 03 42.1 -0.8**
comp=Z,4.1nm,0.6s,baz=121,slow=2.0,SNR=5.3
DLBC Dease Lake 29.55 57 P **P 09 00 41.4 +0.5**
comp=Z,2.9nm,0.6s,baz=291,slow=10,SNR=8.2
DLBC Dease Lake 29.55 57 P **P 09 00 41.7 +0.8**
ZEA Zeya 30.53 294 *eP* **P 09 00 48.8 -0.7**
ZEA pmax pmax
comp=Z,29nm,1.0s
A36M Sachs Harbour 31.57 30 P **P 09 01 00.3 +1.9**
baz=261
USA0B Ussuriysk Arra 31.57 275 P **P 09 00 58.5 -0.3**
USA0B pmax pmax
comp=Z,6.0nm,0.9s
USA0B Ussuriysk Arra 31.57 275 P **P 09 00 58.5 -0.3**
USRK Ussuriysk Ar. 31.57 275 P **P 09 00 58.7 -0.1**
comp=Z,5.3nm,0.8s,baz=59,slow=7.7,SNR=18
USRK pP **pP 09 01 20.3 +0.3**
comp=Z,2.9nm,0.7s,baz=70,slow=7.7,SNR=4.5
USRK PcP **PcP 09 03 49.6 +0.7**
comp=Z,4.4nm,0.7s,baz=31,slow=3.9,SNR=6.8
MJAR Matsushiro Arr 32.20 258 P **P 09 01 05.0 +0.7**
comp=Z,5.3nm,0.8s,baz=50,slow=7.0,SNR=22
MJAR PcP **PcP 09 03 50.7 0.0**
comp=Z,1.0nm,0.6s,baz=56,slow=1.9,SNR=3.1
MAJO Matsushiro 32.20 258 ⇓ *i*P **P 09 01 05.2 +0.9**
MAJO pmax pmax
comp=Z,24nm,1.2s
MAJO Matsushiro 32.20 258 P **P 09 01 05.4 +1.1**
MAJO IAmb IAmb 09 01 06.3
comp=Z,17nm,0.9s
MAT Matsushiro 32.20 258 P **P 09 01 05.2 +0.9**
MJB9 Matsu-Tunnel 32.20 258 P **P 09 01 05.3 +1.0**
MJB9 IAmb IAmb 09 01 06.8
comp=Z,20nm,1.0s
VLA Vladivostok 32.20 273 ⇓ *i*P **P 09 01 04.1 -0.1**
VLA pmax pmax
comp=Z,11nm,0.9s
MDJ Mudanjiang 32.84 277 P **P 09 01 09.8 -0.1**
MDJ pmax pmax
comp=Z,7.0nm,0.5s
MDJ pmax pmax
comp=Z,2µm,13.7s
H11N2 WAKE ISLAND Hy 33.24 200 T T 09 36 27.9
baz=11,slow=76,SNR=36
H11N3 WAKE ISLAND Hy 33.25 200 T T 09 36 34.5
baz=11,slow=76,SNR=59
H11N1 WAKE ISLAND Hy 33.26 200 T T 09 36 31.6
baz=11,slow=76,SNR=56
KIP Kipapa 35.36 140 ⇓ *i*P **P 09 01 32.1 +0.3**
KIP pmax pmax
comp=Z,72nm,0.9s
KIP Kipapa 35.36 140 P **P 09 01 30.9 -0.9**
YKA Yellowknife Ar 36.19 46 P **P 09 01 38.7 +0.2**
comp=Z,5.5nm,0.5s,baz=283,slow=7.9,SNR=50
YKA PcP **PcP 09 04 01.6 -0.1**
comp=Z,0.9nm,0.5s,baz=290,slow=3.3,SNR=6.3
YKA ScP **ScP 09 07 38.0 -1.2**
comp=Z,2.8nm,0.9s,baz=293,slow=3.4,SNR=14
BOD Bodaibo 36.38 305 *eP* **P 09 01 39.9 -0.3**
BOD pmax pmax
comp=Z,13nm,0.9s
LLLB Lillooet 36.48 68 P **P 09 01 41.7 +0.5**
LLLB IAmb IAmb 09 01 42.6
comp=Z,5.4nm,0.7s
HIA Hailar 36.57 290 ⇑ *i*P **P 09 01 42.1 +0.2**
HIA pmax pmax
comp=Z,9.0nm,0.9s
HIA Hailar 36.57 290 P **P 09 01 41.9 -0.1**
HIA IAmb IAmb 09 01 43.2
comp=Z,10nm,0.7s
A05A Maple Falls 37.08 70 P **P 09 01 47.2 +0.9**
D03D Eldon 37.18 73 P **P 09 01 48.2 +1.1**
baz=299,SNR=7.1
B05A Bryant 37.42 71 P **P 09 01 49.2 +0.1**
baz=298
KSRS Korea Array 37.95 268 P **P 09 01 55.1 +1.5**
comp=Z,6.7nm,0.8s,baz=58,slow=8.4,SNR=40
KSRS PcP **PcP 09 04 08.3 +0.8**
comp=Z,2.1nm,0.8s,baz=52,slow=3.0,SNR=9.1
E04D Cinebar 37.98 74 P **P 09 01 54.9 +1.2**
baz=300
D05A Enumclaw 38.01 73 P **P 09 01 54.3 +0.3**
D05A IAmb IAmb 09 01 56.7
comp=Z,17nm,0.9s
LON Longmire 38.33 73 P **P 09 01 57.0 +0.2**
LON pmax pmax
comp=Z,7.0nm,0.7s
LON Longmire 38.33 73 P **P 09 01 57.0 +0.2**
LON IAmb IAmb 09 01 59.0
comp=Z,7.1nm,0.7s
F04A Amboy 38.38 75 P **P 09 01 57.9 +0.7**
LTY Liberty 38.75 72 P **P 09 02 00.1 -0.3**
H04D Lebanon 38.92 77 P **P 09 02 02.9 +1.1**
baz=302
JNU Nakatsue 38.96 260 P **P 09 02 03.7 +1.5**
TJN Taejon 38.98 267 ⇑ *i*P **P 09 02 03.7 +1.4**
B08A Colville Reser 38.99 70 P **P 09 02 01.6 -0.8**
B08A IAmb IAmb 09 02 03.8
comp=Z,9.7nm,0.8s
I03D Drain, OR 39.00 78 P **P 09 02 03.9 +1.5**
baz=303
H04A Detroit Lake 39.17 76 P **P 09 02 04.4 +0.6**
H04A IAmb IAmb 09 02 06.3
comp=Z,12nm,0.8s
K02D Willamette Mer 39.36 80 P **P 09 02 06.7 +1.2**
baz=304
G05D Wamic, OR 39.40 75 P **P 09 02 06.4 +0.6**
baz=302
I04A Tendick Farm, 39.52 78 P **P 09 02 07.7 +0.9**
baz=303,SNR=5.2

HAWA Hanford 39.86 72 P **P 09 02 09.8 +0.3**
HAWA IAmb IAmb 09 02 11.0
comp=Z,9.2nm,0.7s
I05D Terrebonne, OR 39.87 76 P **P 09 02 10.2 +0.6**
baz=303
C09A Chrisman Ranch 39.89 70 P **P 09 02 09.4 -0.3**
C09A IAmb IAmb 09 02 10.9
comp=Z,9.8nm,0.5s
F07A Phinny Hill Vi 39.89 73 P **P 09 02 09.7 0.0**
J04D Umpqua Nationa 40.01 78 P **P 09 02 12.2 +1.2**
baz=304
RES Resolute Bay 40.09 24 P **P 09 02 11.4 +0.4**
comp=Z,4.2nm,1.1s,baz=253,slow=14,SNR=8.4
RES Resolute Bay 40.09 24 IAmb IAmb 09 02 12.7
comp=Z,13nm,1.3s
NEW Newport 40.32 69 P **P 09 02 12.8 -0.6**
baz=300,SNR=16
NEW Newport 40.32 69 P **P 09 02 12.7 -0.6**
comp=Z,14nm,0.8s,baz=298,slow=8.4,SNR=27
NEW Newport 40.32 69 IAmb IAmb 09 02 14.5
comp=Z,14nm,0.8s
PINE Pine Mountain 40.41 77 P **P 09 02 16.2 +1.9**
L04D Klamath Falls 40.46 80 P **P 09 02 15.9 +1.2**
baz=305,SNR=8.2
YBH Yreka Blue Hor 40.49 80 P **P 09 02 15.6 +0.8**
comp=Z,16nm,0.9s,baz=260,slow=6.0,SNR=38
YBH pP **pP 09 02 37.7 +1.0**
comp=Z,11nm,0.7s,baz=319,slow=5.2,SNR=7.2
YBH Yreka Blue Hor 40.49 80 IAmb IAmb 09 02 18.4
comp=Z,18nm,0.9s
J05D Fort Rock, OR 40.51 77 P **P 09 02 16.2 +1.1**
baz=304,SNR=7.6
K04D Chiloquin, OR 40.57 79 P **P 09 02 17.2 +1.6**
baz=304
M02C Callahan 40.60 81 P **P 09 02 17.4 +1.6**
baz=305
G08A Pilot Rock 40.78 74 P **P 09 02 16.6 -0.7**
N02D Trinity Center 40.93 81 P **P 09 02 20.5 +2.0**
baz=306,SNR=5.0
M04C Macdoel 40.99 80 P **P 09 02 20.5 +1.4**
baz=305,SNR=18
K05A Summer Lake 41.03 78 IAmb IAmb 09 02 21.9
comp=Z,10nm,0.7s
I07A Izee 41.12 75 P **P 09 02 19.7 -0.4**
I07A IAmb IAmb 09 02 22.2
comp=Z,11nm,0.8s
WDC Whiskeytown Da 41.26 82 P **P 09 02 20.9 -0.2**
WDC pmax pmax
comp=Z,12nm,0.9s
WDC Whiskeytown Da 41.26 82 P **P 09 02 20.9 -0.2**
WDC IAmb IAmb 09 02 23.9
comp=Z,12nm,0.9s
O02D Mt. Diablo Mer 41.35 82 P **P 09 02 23.7 +1.7**
baz=307,SNR=6.4
WALA Waterton Lakes 41.76 66 P **P 09 02 24.9 -0.4**
WALA IAmb IAmb 09 02 26.2
comp=Z,12nm,0.6s
MOD Modoc Plateau 41.86 79 P **P 09 02 26.1 -0.1**
MOD IAmb IAmb 09 02 27.9
comp=Z,12nm,0.7s
O03E Paynes Creek 41.89 82 P **P 09 02 27.0 +0.7**
baz=307,SNR=25
BMO Blue Mountains 42.01 73 IAmb IAmb 09 02 28.6
comp=Z,9.3nm,0.8s
J08A Circle Bar Ran 42.14 76 P **P 09 02 28.0 -0.4**
ORV Oroville 42.52 82 P **P 09 02 31.5 +0.2**
ORV pmax pmax
comp=Z,12nm,0.7s
ORV Oroville 42.52 82 P **P 09 02 31.5 +0.2**
ORV IAmb IAmb 09 02 33.6
comp=Z,12nm,0.7s
WVOR Wild Horse Val 42.57 77 P **P 09 02 31.6 -0.3**
WVOR pmax pmax
comp=Z,5.0nm,0.9s
WVOR Wild Horse Val 42.57 77 P **P 09 02 31.6 -0.3**
MSO Missoula 42.91 69 P **P 09 02 33.7 -0.9**
baz=302,SNR=7.8
MSO Missoula 42.91 69 IAmb IAmb 09 02 34.4
comp=Z,7.2nm,0.6s
AFDM Forest Hills D 43.21 83 P **P 09 02 36.8 -0.2**
NRIK Noril'sk 43.21 329 P **P 09 02 37.5 +1.0**
comp=Z,3.9nm,0.7s,baz=63,slow=12,SNR=3.7
NRIK PcP **PcP 09 04 24.9 +0.9**
comp=Z,6.7nm,0.9s,baz=64,slow=4.3,SNR=4.3
BJI Beijing 43.64 280 P **P 09 02 42.0 +1.6**
BJI pmax pmax
comp=Z,11nm,0.6s
BJT Baijiatuau 43.66 280 P **P 09 02 39.0 -1.5**
BJT pmax pmax
comp=Z,9.0nm,0.8s
BJT Baijiatuau 43.66 280 P **P 09 02 39.0 -1.5**
BJT IAmb IAmb 09 02 42.4
comp=Z,9.0nm,0.8s
PAHR Pah Rah Range 43.72 81 P **P 09 02 41.8 +0.5**
PAHR IAmb IAmb 09 02 43.4
comp=Z,17nm,1.0s
VCNR Virginia City 43.81 81 P **P 09 02 42.5 +0.5**
VCNR IAmb IAmb 09 02 44.6
comp=Z,18nm,0.9s
CMB Columbia Colle 44.13 83 P **P 09 02 43.9 -0.5**
CMB pmax pmax
comp=Z,12nm,1.2s
CMB Columbia Colle 44.13 83 P **P 09 02 43.9 -0.5**
CMB IAmb IAmb 09 02 46.6
comp=Z,12nm,1.1s
YERR Yerington 44.25 81 IAmb IAmb 09 02 47.9
comp=Z,14nm,0.9s
TLY Talaya 44.42 301 ⇓ *i*P **P 09 02 47.2 +0.7**
TLY pmax pmax
comp=Z,16nm,1.7s
WAKR Walker 44.43 82 P **P 09 02 47.1 +0.2**
WAKR IAmb IAmb 09 02 50.0
comp=Z,14nm,0.9s
HLID Hailey 44.45 73 P **P 09 02 46.4 -0.7**
baz=305,SNR=20
HLID Hailey 44.45 73 P **P 09 02 47.0 0.0**
ULN Ulaanbaatar 44.57 295 ⇓ *i*P **P 09 02 48.5 +0.6**
ULN pmax pmax
comp=Z,11nm,0.8s
ULN Ulaanbaatar 44.57 295 P **P 09 02 48.0 +0.1**
ULN IAmb IAmb 09 02 49.6
comp=Z,10nm,0.8s
MCMT McKenzie Canyo 44.65 71 P **P 09 02 48.2 -0.5**
EGMT Eagleton 44.66 65 P **P 09 02 47.6 -0.9**
baz=303,SNR=7.4
EGMT Eagleton 44.66 65 IAmb IAmb 09 02 49.4
comp=Z,11nm,0.9s
RYN Ryan 44.91 81 P **P 09 02 50.9 +0.1**
RYN IAmb IAmb 09 02 53.0
comp=Z,15nm,0.9s
BOZ Bozeman (W) 44.93 69 P **P 09 02 50.0 -0.8**
baz=304,SNR=40
BOZ Bozeman (W) 44.93 69 IAmb IAmb 09 02 51.0
comp=Z,14nm,0.7s
SONM Songino Array 44.96 295 P **P 09 02 52.0 +1.0**
comp=Z,8.5nm,0.7s,baz=58,slow=9.6,SNR=38
SONM PcP **PcP 09 04 30.8 +0.2**
comp=Z,5.1nm,0.7s,baz=68,slow=2.6,SNR=9.6
SONM ScP **ScP 09 08 14.4 +0.2**
comp=Z,2.2nm,0.9s,baz=89,slow=1.2,SNR=7.1
SONM Songino Array 44.96 295 P **P 09 02 52.0 +1.0**
NVAR Mina Array Bea 45.17 81 P **P 09 02 53.6 +0.8**
comp=Z,12nm,0.8s,baz=292,slow=7.7,SNR=68
NVAR pP **pP 09 03 15.6 +0.5**
comp=Z,17nm,0.8s,baz=293,slow=8.0,SNR=14
NVAR PcP **PcP 09 04 32.4 +0.8**
comp=Z,3.8nm,0.7s,baz=296,slow=3.8,SNR=4.5
NVAR ScP **ScP 09 08 15.5 +0.2**
comp=Z,3.2nm,0.9s,baz=293,slow=4.5,SNR=11
MDPB Devils Postpil 45.19 83 P **P 09 02 54.0 +0.9**
MDPB IAmb IAmb 09 02 56.3
comp=Z,18nm,0.9s
OMMB Old Mammoth Mi 45.25 83 P **P 09 02 54.5 +0.8**
OMMB IAmb IAmb 09 02 56.9
comp=Z,16nm,1.0s
NV11 Mina Array Sit 45.26 81 IAmb IAmb 09 02 55.2
comp=Z,9.8nm,0.9s
ZAK Zakamensk 45.30 299 *eP* **P 09 02 53.6 0.0**
ZAK pmax pmax
comp=Z,6.0nm,1.1s
QLMT Earthquake Lak 45.48 70 P **P 09 02 54.5 -0.8**
YHL Hebgen Lake 45.61 70 P **P 09 02 55.5 -0.9**
ELK Elko 45.62 77 P **P 09 02 56.8 +0.4**
comp=Z,3.7nm,0.6s,baz=302,slow=7.9,SNR=26
ELK pP **pP 09 03 18.9 +0.3**
comp=Z,5.1nm,0.7s,baz=279,slow=8.2,SNR=7.5

ELK PcP **PcP 09 04 33.9 +0.8**
comp=Z,3.8nm,0.9s,baz=309,slow=6.6,SNR=2.4
YHB Horse Butte 45.66 70 P **P 09 02 56.0 -0.6**
HHC Hu-ho-hao-te 45.96 284 *eP* **P 09 03 00.0 +1.1**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,350nm,5.9s
TIN Tinemaha, Big 46.08 83 P **P 09 03 01.8 +1.9**
baz=310,SNR=6.2
YPP Pitchstone Pla 46.17 70 P **P 09 03 00.7 -0.1**
H17A Grant Village 46.23 70 P **P 09 03 02.0 +0.8**
baz=306
IMW Indian Meadow 46.31 71 P **P 09 03 01.2 -0.6**
VES Vestal, Richgr 46.33 85 P **P 09 03 02.0 +0.2**
baz=310,SNR=11
FLWY Flagg Ranch 46.34 70 P **P 09 03 02.3 +0.3**
FLWY IAmb IAmb 09 03 03.2
comp=Z,11nm,0.8s
HVU Hansel Valley 46.48 74 P **P 09 03 03.2 +0.2**
HVU pmax pmax
comp=Z,12nm,0.8s
HVU Hansel Valley 46.48 74 P **P 09 03 03.2 +0.2**
CWC Cottonwood Cre 46.57 83 P **P 09 03 04.6 +0.9**
baz=310
RLMT Red Lodge 46.57 68 P **P 09 03 03.4 -0.3**
baz=306,SNR=8.6
GRAC Grapevine Rang 46.65 82 P **P 09 03 06.5 +2.2**
baz=310
SNOW Snow King Moun 46.67 71 P **P 09 03 04.6 0.0**
ISA Isabella, Lake 46.83 84 P **P 09 03 06.4 +0.7**
baz=311
ISA Isabella, Lake 46.83 84 P **P 09 03 05.7 0.0**
ISA pmax pmax
comp=Z,5.0nm,0.8s
ISA Isabella, Lake 46.83 84 P **P 09 03 05.7 0.0**
BGU Big Grassy Mou 46.84 75 P **P 09 03 05.9 0.0**
R11A Troy Canyon, C 46.89 80 P **P 09 03 06.6 +0.3**
baz=309,SNR=23
R11A Troy Canyon, C 46.89 80 IAmb IAmb 09 03 07.9
comp=Z,7.4nm,0.8s
NJ2 Nanjing 47.12 269 *eP* **P 09 03 08.0 +0.1**
NJ2 pmax pmax
comp=Z,15nm,0.5s
MPMC Manual Prospec 47.18 83 P **P 09 03 09.1 +0.5**
baz=310,SNR=8.5
FURC Furnace Creek, 47.30 82 P **P 09 03 10.1 +0.9**
baz=310,SNR=11
OSI Osito Audit: C 47.36 86 P **P 09 03 10.5 +0.7**
baz=311
OSI Osito Audit: C 47.36 86 IAmb IAmb 09 03 11.0
comp=Z,13nm,0.9s
TPNV Topopah Spring 47.37 81 P **P 09 03 10.7 +0.6**
baz=310,SNR=30
DUG Dugway, Tooele 47.42 76 P **P 09 03 10.8 +0.5**
baz=308,SNR=8.5
DUG Dugway, Tooele 47.42 76 IAmb IAmb 09 03 11.4
comp=Z,6.6nm,0.6s
LRMC Laurel Mtn Rad 47.43 84 P **P 09 03 10.5 0.0**
baz=311
KRAR Krasnoyarsk 47.55 311 ⇓ *i*P **P 09 03 11.2 +0.2**
EDW2 Edwards Air Fo 47.63 85 P **P 09 03 11.2 -0.8**
baz=311
TCUT Toone Canyon 47.70 74 P **P 09 03 12.2 -0.4**
CTU Camp Tracy 47.75 75 P **P 09 03 12.4 -0.6**
BW06 Boulder Array 47.79 71 P **P 09 03 12.5 -0.8**
baz=307,SNR=15
BW06 Boulder Array 47.79 71 IAmb IAmb 09 03 13.8
comp=Z,7.7nm,0.8s
PD31 Pinedale Array 47.79 71 IAmb IAmb 09 03 13.8
comp=Z,7.1nm,0.8s
PDAR Pinedale Array 47.79 71 P **P 09 03 12.6 -0.7**
comp=Z,7.5nm,0.7s,baz=303,slow=3.7,SNR=72
PDAR pP **pP 09 03 35.0 -0.8**
comp=Z,3.8nm,0.6s,baz=305,slow=5.2,SNR=6.3
PDAR ScP **ScP 09 08 24.8 -1.4**
comp=Z,1.0nm,0.9s,baz=49,slow=0.1,SNR=4.1
PSUT Pine Spring 47.83 78 P **P 09 03 13.8 +0.2**
DECC Green Verdugo 47.84 86 P **P 09 03 14.5 +1.0**
baz=312
JLU Jordanelle 47.99 74 P **P 09 03 14.5 -0.4**
SHOC Shoshone, Teco 48.03 83 P **P 09 03 15.8 +0.8**
baz=311,SNR=13
GSC Goldstone, Bar 48.09 84 P **P 09 03 16.2 +0.7**
baz=311,SNR=23
GSC Goldstone, Bar 48.09 84 IAmb IAmb 09 03 17.8
comp=Z,24nm,1.2s
BFSC Mount Baldy Ra 48.26 85 P **P 09 03 17.7 +0.8**
baz=312,SNR=6.4
TUQ Turquoise Moun 48.55 83 P **P 09 03 19.5 +0.4**
baz=311,SNR=5.9
HEC Hector,Ludlow 48.69 84 P **P 09 03 20.2 0.0**
baz=312
BBRC Big Bear Solar 48.70 85 P **P 09 03 21.5 +1.1**
baz=312
CCUT Cedar City 48.75 79 P **P 09 03 21.1 +0.3**
SZCU Shurtz Canyon 48.89 79 P **P 09 03 22.0 +0.2**
TMUT Trail Mountain 48.95 76 P **P 09 03 22.5 +0.2**
MURC Murrieta 48.98 86 P **P 09 03 22.8 +0.5**
baz=312
RDMU Red Mountain 49.13 73 P **P 09 03 23.5 -0.1**
GMRC Granite Mounta 49.14 83 P **P 09 03 24.0 +0.4**
baz=312,SNR=9.6
PFO Pinyon Flats O 49.42 85 P **P 09 03 25.9 +0.2**
baz=312
PFO Pinyon Flats O 49.42 85 P **P 09 03 25.7 -0.1**
comp=Z,1.9nm,0.6s,baz=326,slow=6.1,SNR=7.1
PFO pP **pP 09 03 47.7 -0.5**
comp=Z,7.9nm,1.1s,baz=293,slow=6.0,SNR=5.6
PFO PcP **PcP 09 04 47.1 +0.5**
comp=Z,3.4nm,1.0s,baz=293,slow=4.3,SNR=3.8
PFO Pinyon Flats O 49.42 85 ⇑ *i*P **P 09 03 26.0 +0.2**
PFO pmax pmax
comp=Z,15nm,1.6s
BELC Belle Mtn. Jos 49.45 84 P **P 09 03 25.8 -0.2**
baz=312,SNR=6.6
109C Camp Elliot, M 49.51 86 P **P 09 03 27.3 +1.0**
baz=313
K22A Casper 49.63 69 P **P 09 03 26.3 -1.0**
baz=308
K22A Casper 49.63 69 IAmb IAmb 09 03 27.4
comp=Z,5.2nm,0.8s
IRM Iron Mountain 49.87 83 P **P 09 03 29.5 +0.5**
baz=312,SNR=5.8
MONP2 Monument Peak 49.93 86 P **P 09 03 29.5 -0.3**
baz=313
BC3 Big Chuckawall 50.02 84 P **P 09 03 30.3 0.0**
baz=312
RSSD Black Hills 50.16 66 P **P 09 03 30.0 -1.4**
baz=308
O20A White River Ci 50.19 73 P **P 09 03 30.7 -1.0**
baz=309,SNR=14
O20A White River Ci 50.19 73 IAmb IAmb 09 03 32.9
comp=Z,9.9nm,0.7s
PDMCI Parker Dam,Lak 50.39 83 P **P 09 03 33.7 +0.8**
baz=312,SNR=5.4
Y12C Blythe 50.53 83 P **P 09 03 34.6 +0.7**
baz=312
Y12C Blythe 50.53 83 IAmb IAmb 09 03 36.3
comp=Z,9.0nm,0.9s
PV21 Cone Mtn., Par 50.76 75 IAmb IAmb 09 03 39.6
comp=Z,7.7nm,1.0s
PV23 Carpenter Ridg 50.81 75 P **P 09 03 35.9 -0.5**
PV23 IAmb IAmb 09 03 43.3
comp=Z,9.3nm,0.7s
GLA Glamis 50.81 84 P **P 09 03 36.4 +0.2**
baz=313
PV14 Lion Creek, Pa 50.85 75 P **P 09 03 36.1 -0.6**
PV14 IAmb IAmb 09 03 39.5
comp=Z,7.8nm,0.6s
ULM Lac du Bonnet 50.87 56 P **P 09 03 35.0 -1.4**
comp=Z,6.8nm,0.7s,baz=308,slow=5.9,SNR=3.5
ULM Lac du Bonnet 50.87 56 P **P 09 03 35.6 -0.7**
ULM pmax pmax
comp=Z,7.0nm,0.8s
ULM Lac du Bonnet 50.87 56 P **P 09 03 35.6 -0.7**
ULM IAmb IAmb 09 03 36.1
comp=Z,6.8nm,0.8s
PV22 Blue Mesa, Par 50.89 75 IAmb IAmb 09 03 38.9
comp=Z,11nm,0.8s
PV20 West Nyswonger 50.90 75 IAmb IAmb 09 03 39.9
comp=Z,6.0nm,0.6s
PV04 Paradox Valley 50.91 75 P **P 09 03 36.4 -0.6**
PV04 IAmb IAmb 09 03 38.2
comp=Z,9.0nm,1.0s
PV19 Morning Glory 50.91 75 P **P 09 03 37.0 -0.1**
PV19 IAmb IAmb 09 03 37.5

WHN Wuhan 50.95 271 ⇑P P 09 03 37.8 +0.7
PV05 Paradox Valley 50.99 75 IAmb IAmb 09 03 42.7
comp=Z,6.5nm,0.7s
PV18 Skein Mesa, Pa 51.00 75 IAmb IAmb 09 03 39.8
comp=Z,14nm,0.9s
PV12 Saucer Basin, 51.02 75 IAmb IAmb 09 03 40.1
comp=Z,9.4nm,0.9s
PV03 Paradox Valley 51.03 75 P P 09 03 37.4 -0.5
PV03 IAmb IAmb 09 03 39.5
comp=Z,7.3nm,0.6s
PV07 Paradox Valley 51.03 75 P P 09 03 37.6 -0.4
PV07 IAmb IAmb 09 03 40.0
comp=Z,5.8nm,0.8s
N23A Red Feather La 51.07 71 P P 09 03 37.4 -0.9
baz=309
PV13 Radium Mtn., P 51.11 75 P P 09 03 38.1 -0.4
PV02 Paradox Valley 51.13 75 IAmb IAmb 09 03 55.8
comp=Z,12nm,0.8s
PV15 Paradox Valley 51.20 75 P P 09 03 38.9 -0.3
PV15 IAmb IAmb 09 03 43.0
comp=Z,6.6nm,0.8s
PV01 Paradox Valley 51.28 75 IAmb IAmb 09 03 59.5
comp=Z,4.4nm,0.7s
WUAZ Wupatki 51.29 79 P P 09 03 40.7 +0.9
baz=312,SNR=6.3
WUAZ Wupatki 51.29 79 P P 09 03 40.4 +0.5
WUAZ IAmb IAmb 09 03 41.5
comp=Z,13nm,1.2s
Y14A Wickenburg 51.34 82 P P 09 03 40.5 +0.4
Y14A IAmb IAmb 09 03 42.5
comp=Z,8.2nm,1.2s
SSLB Suanglung 51.70 260 P P 09 03 42.5 -0.3
MVCO Mesa Verde 51.92 76 P P 09 03 44.4 -0.2
baz=311
MVCO Mesa Verde 51.92 76 P P 09 03 44.6 -0.1
XAN Xi'an 51.93 279 P P 09 03 44.3 -0.2
XAN pmax pmax
comp=Z,14nm,0.9s
XAN LR LR
comp=Z,11µm,21.7s
XAN LR LR
comp=Z,8µm,20.6s
XAN LR LR
comp=Z,22µm,21.6s
XAN Xi'an 51.93 279 P P 09 03 44.5 0.0
XAN pmax pmax
comp=Z,9.0nm,0.7s
XAN Xi'an 51.93 279 P P 09 03 44.5 0.0
XAN IAmb IAmb 09 03 45.0
comp=Z,8.6nm,0.7s
ISCO Idaho Springs 51.96 72 P P 09 03 45.0 0.0
baz=310
ISCO Idaho Springs 51.96 72 P P 09 03 44.8 -0.2
ISCO pmax pmax
comp=Z,2.0nm,0.9s
ISCO Idaho Springs 51.96 72 P P 09 03 44.8 -0.2
X16A Lo Mia Camp, P 51.98 81 P P 09 03 45.3 +0.3
X16A IAmb IAmb 09 03 47.5
comp=Z,6.7nm,1.0s
ZALV Zalesovo Beam 52.53 312 P P 09 03 48.1 -0.5
comp=Z,2.2nm,0.4s,baz=60,slow=5.8,SNR=7.0
ZALV PcP PcP 09 04 58.1 +0.4
comp=Z,4.7nm,0.9s,baz=29,slow=3.4,SNR=5.1
ZALV ScP ScP 09 08 47.3 +1.3
comp=Z,0.8nm,0.4s,baz=54,slow=2.6,SNR=3.8
S22A 4UR Ranch, Cre 52.57 74 P P 09 03 50.1 +0.5
baz=311,SNR=7.5
S22A 4UR Ranch, Cre 52.57 74 P P 09 03 49.4 -0.1
214A Organ Pipe Nat 52.80 84 P P 09 03 51.5 +0.5
baz=314
SUMG Summit 53.31 13 *i* P P 09 03 54.7 +0.1
comp=Z,41nm,0.9s
SUMG *e* 09 04 18.6
SUMG Summit 53.31 13 P P 09 03 54.7 +0.1
SUMG pmax pmax
comp=Z,18nm,1.0s
SUMG Summit 53.31 13 P P 09 03 54.7 +0.1
SDCO Great Sand Dun 53.37 73 P P 09 03 55.7 +0.3
baz=311,SNR=8.3
LZH Lanzhou 53.65 284 *e*P P 09 03 58.5 +1.2
LZH pP pP 09 04 21.0 +0.8
LZH sP sP 09 04 31.5 +0.7
LZH *e*PP PP 09 06 02.8 +4.1
LZH pmax pmax
comp=Z,23nm,1.3s
TUC Tucson 53.81 82 P P 09 03 58.8 +0.4
baz=314
TUC Tucson 53.81 82 P P 09 03 59.3 +0.9
TUC pmax pmax
comp=Z,6.0nm,1.0s
TUC Tucson 53.81 82 P P 09 03 59.3 +0.9
GTA Gaotai 53.85 290 ⇓P P 09 03 59.5 +0.8
GTA pP pP 09 04 24.0 +2.4
GTA sP sP 09 04 32.8 +0.7
GTA pmax pmax
comp=Z,24nm,0.6s
DGZ Jazzator, Alta 53.96 307 ⇓*i*P P 09 04 00.0 +0.7
DGZ pmax pmax
comp=Z,9.0nm,1.0s
ENH Enshi 54.16 275 P P 09 04 00.7 -0.2
KSCO Kaye Shedlock' 54.23 70 P P 09 04 02.1 +0.7
baz=311
KSCO Kaye Shedlock' 54.23 70 P P 09 04 01.9 +0.5
KSCO IAmb IAmb 09 04 02.7
comp=Z,10nm,0.9s
T25A Trinidad 54.42 73 P P 09 04 03.3 +0.4
baz=312,SNR=10.0
T25A Trinidad 54.42 73 IAmb IAmb 09 04 05.4
comp=Z,8.2nm,0.9s
EYMN Ely 54.56 56 P P 09 04 02.7 -0.8
baz=310
EYMN Ely 54.56 56 P P 09 04 03.0 -0.5
EYMN IAmb IAmb 09 04 03.9
comp=Z,6.5nm,0.7s
ECSD EROS Data Cent 54.56 62 P P 09 04 01.7 -1.9
baz=311
ANMO Albuquerque 54.66 77 P P 09 04 05.1 +0.4
baz=313
ANMO Albuquerque 54.66 77 ⇑*i*P P 09 04 05.4 +0.7
ANMO pmax pmax
comp=Z,2.0nm,0.9s
SPMN Marine on St. 55.65 59 P P 09 04 10.1 -1.3
baz=311
ZSN Zaisan 56.72 306 *e*P P 09 04 19.1 +0.1
baz=306
ZSN *e*PcP PcP 09 05 13.8 -0.2
baz=306
ZSN Zaisan 56.72 306 *e*P P 09 04 19.1 +0.1
ZSN *e* 09 05 13.7
SEM Semipalatinsk 56.97 311 *i* P P 09 04 20.1 -0.9
baz=311
SEM Semipalatinsk 56.97 311 *i* P P 09 04 20.1 -0.9
ARCES ARCESS Array B 57.41 349 P P 09 04 22.4 -1.1
comp=Z,1.4nm,0.5s,baz=28,slow=7.9,SNR=15
KURK Kurchatov 57.52 312 ⇓*i*P P 09 04 24.8 +0.3
KURK pmax pmax
comp=Z,15nm,0.7s
KURK Kurchatov 57.52 312 P P 09 04 24.3 -0.2
MNTX Cornudas Mount 57.54 79 P P 09 04 25.8 +0.8
baz=314,SNR=12
MNTX Cornudas Mount 57.54 79 P P 09 04 25.4 +0.4
MNTX IAmb IAmb 09 04 26.5
comp=Z,6.6nm,1.0s
KURBB Kurchatov Arra 57.62 312 P P 09 04 25.5 +0.2
SCIA State Center 57.65 62 P P 09 04 25.9 +0.3
baz=313
SCIA State Center 57.65 62 P P 09 04 24.6 -1.0
I40A Norwalk 57.70 59 P P 09 04 25.3 -0.6
I40A IAmb IAmb 09 04 25.5
comp=Z,6.1nm,0.6s
WMQ Urumqi 57.70 301 *e*P P 09 04 29.5 +3.5
WMQ pmax pmax
comp=Z,8.0nm,0.9s
WMQ LR LR
comp=Z,3µm,16.9s
WMQ LR LR
comp=Z,5µm,15.9s
WMQ LR LR
comp=Z,5µm,20.9s
U32A Winter Ranch, 58.12 70 P P 09 04 28.4 -0.7
U32A IAmb IAmb 09 04 29.2
comp=Z,6.2nm,0.8s
N38A Joes South For 58.39 63 P P 09 04 29.8 -1.0
MK31 Makanchi Array 58.46 307 *i*P P 09 04 30.6 -0.6
MK31 Makanchi Array 58.46 307 P P 09 04 30.6 -0.6
MK31 IAmb IAmb 09 04 31.7
comp=Z,6.2nm,0.7s
MKAR Makanchi Array 58.46 307 P P 09 04 30.9 -0.4
comp=Z,7.9nm,0.6s,baz=50,slow=6.6,SNR=95
JFWS Jewell Farm 58.57 59 P P 09 04 30.9 -1.1
baz=313,SNR=5.5
JFWS Jewell Farm 58.57 59 P P 09 04 30.5 -1.5
JFWS pmax pmax
comp=Z,9.0nm,0.6s
JFWS Jewell Farm 58.57 59 P P 09 04 30.5 -1.5
MAKZ Makanchi 58.60 307 P P 09 04 31.9 -0.3
MAKZ pmax pmax
comp=Z,12nm,0.7s
MAKZ Makanchi 58.60 307 P P 09 04 31.9 -0.3
GYA Guiyang 58.61 274 ⇑P P 09 04 33.0 +0.4
GYA pP pP 09 04 54.3 -1.6
GYA sP sP 09 05 03.5 -2.8
GYA pmax pmax
comp=Z,11nm,0.7s
L40A Anamosa 58.63 61 P P 09 04 31.4 -1.0
D47A Chapleau 59.36 52 P P 09 04 36.9 -0.5
baz=314,SNR=6.6
WMOK Wichita Mounta 59.39 72 P P 09 04 37.7 -0.2
baz=314
BVA0 Borovoye Array 59.49 318 *i* P P 09 04 38.6 +0.4
BRVK Borovoye 59.51 318 P P 09 04 38.9 +0.6
BRVK pmax pmax
comp=Z,15nm,0.5s
BRVK Borovoye 59.51 318 P P 09 04 38.9 +0.6
E47A Iron Bridge 59.70 52 P P 09 04 39.4 -0.3
baz=315
G46A Petoskey 59.70 54 P P 09 04 39.3 -0.5
baz=314
D48A Paudash Townsh 59.91 51 P P 09 04 40.3 -0.9
baz=315
D49A Beulah Townshi 60.06 51 P P 09 04 41.5 -0.6
baz=315
E48A Lockeyer 60.23 52 P P 09 04 43.1 -0.2
baz=315
TX32 Lajitas Array 60.25 79 IAmb IAmb 09 04 45.5
comp=Z,7.0nm,0.9s
TXAR Lajitas Array 60.25 79 P P 09 04 44.3 +0.4
comp=Z,4.4nm,0.5s,baz=303,slow=5.1,SNR=75
TXAR pP pP 09 05 06.9 -0.2
comp=Z,4.3nm,0.7s,baz=301,slow=4.5,SNR=9.1
TUL1 Leonard 60.32 69 P P 09 04 43.4 -0.8
baz=315
TUL1 Leonard 60.32 69 P P 09 04 43.7 -0.4
TUL1 IAmb IAmb 09 04 44.2
comp=Z,6.0nm,0.8s
SVE Sverdlovsk 60.34 326 *e*P P 09 04 45.1 +1.1
SVE pmax pmax
comp=Z,19nm,1.1s
F48A Evansville 60.47 53 P P 09 04 44.1 -0.8
baz=315
HDIL Hopedale 60.72 61 P P 09 04 45.6 -1.2
baz=315
BRZS Berezniki 60.73 315 *e*P P 09 04 46.7 -0.1
baz=315
BRZS *e*PcP PcP 09 05 29.5 -0.3
baz=315
BRZS Berezniki 60.73 315 *e*P P 09 04 46.6 -0.1
BRZS *e* 09 05 29.4
SCHQ Schefferville 60.73 37 P P 09 04 46.4 -0.3
comp=Z,3.6nm,0.5s,baz=326,slow=5.8,SNR=19
SCHQ Schefferville 60.73 37 IAmb IAmb 09 04 47.4
comp=Z,9.3nm,1.2s
HPIG 60.74 83 P P 09 04 48.1 +0.7
U38A Gravette 60.76 67 IAmb IAmb 09 04 46.4
comp=Z,4.1nm,0.6s
F49A Sandfld 60.80 52 P P 09 04 46.9 -0.3
baz=316
D50A G1974 Best Tow 60.86 50 P P 09 04 46.4 -1.2
baz=316
D51A Lot 18 Range I 61.13 50 P P 09 04 48.3 -1.2
baz=316
CHGQ Chibougamau 61.36 45 P P 09 04 49.4 -1.5
baz=318,SNR=5.9
ARU Arti 61.37 327 *d i*P P 09 04 51.8 +0.9
ARU *PP pP 09 05 16.5 +2.3
ARU 09 05 31.5
ARU S S 09 13 07.9 +4.1
ARU SS SS 09 17 02.8 -2.1
ARU pmax pmax
comp=Z,28nm,0.7s
ARU Arti 61.37 327 P P 09 04 51.4 +0.5
CCM Cathedral Cave 61.40 64 P P 09 04 49.9 -1.5
baz=315
E51A G1948 Merrick 61.48 50 P P 09 04 50.5 -1.3
baz=316
TDK Taldyqorghan 61.65 307 *e*P P 09 04 53.4 +0.4
baz=308
TDK Taldyqorghan 61.65 307 *e*P P 09 04 53.4 +0.4
D52A ZEK Kipawa Sen 61.67 49 P P 09 04 51.5 -1.6
baz=317
U40A Yellville 61.69 66 P P 09 04 52.0 -1.4
baz=315,SNR=5.7
U40A Yellville 61.69 66 IAmb IAmb 09 04 53.5
comp=Z,5.3nm,0.8s
D53A Lac Vacive, Po 61.93 49 P P 09 04 53.6 -1.2
baz=317
W39A Magazine 61.98 68 P P 09 04 54.8 -0.5
baz=315
W39A Magazine 61.98 68 P P 09 04 54.5 -0.9
W39A IAmb IAmb 09 04 59.2
comp=Z,6.6nm,1.1s
KMI Kunming 62.00 276 ⇓*e*P P 09 04 58.5 +2.6
KMI sP sP 09 05 27.8 -1.9
KMI pmax pmax
comp=Z,9.0nm,0.5s
KMI LR LR
comp=Z,7µm,16.3s
KMI LR LR
comp=Z,8µm,17.0s
KMI LR LR
comp=Z,11µm,17.7s
SFIN Lafayette 62.03 60 P P 09 04 54.9 -0.7
baz=316,SNR=8.0
SFIN Lafayette 62.03 60 P P 09 04 54.5 -1.1
E52A Mattawa 62.06 50 P P 09 04 53.7 -2.0
baz=317
F52A Sundridge 62.09 51 P P 09 04 55.1 -0.9
baz=317
PDGK Podgornoye 62.31 306 P P 09 04 57.4 -0.2
D54A Lac Fusel, La 62.36 48 P P 09 04 56.2 -1.6
baz=317
FCAR Ozark Folk Cen 62.44 66 P P 09 04 56.9 -1.5
SHLS Shalkode 62.45 305 *e*P P 09 04 57.4 -1.1
baz=305
SHLS *e*S S 09 13 16.6 -1.6
baz=305
SHLS Shalkode 62.45 305 *e*P P 09 04 57.4 -1.1
SHLS *e*S S 09 13 16.5 -1.6
E53A Dumoine, Ponti 62.46 49 P P 09 04 56.7 -1.7
baz=317
MIAR Mount Ida 62.56 68 P P 09 04 58.9 -0.3
baz=316,SNR=7.9
MIAR Mount Ida 62.56 68 P P 09 04 59.0 -0.3
MIAR pmax pmax
comp=Z,13nm,1.2s
MIAR Mount Ida 62.56 68 P P 09 04 59.0 -0.3
MIAR IAmb IAmb 09 05 00.2
comp=Z,12nm,1.1s
KPKS Kokpek 62.62 306 ⇑*i*P P 09 05 00.1 +0.4
baz=306
KPKS Kokpek 62.62 306 ⇑*i*P P 09 05 00.0 +0.4
E54A Lac Daplat, Po 62.64 49 P P 09 04 58.0 -1.5
baz=317
OLIL Olney 62.66 62 P P 09 04 59.1 -0.7
UZB Uzynbulak 62.68 306 *e*P P 09 05 00.0 -0.1
baz=306
UZB Uzynbulak 62.68 306 *e*P P 09 05 00.0 -0.1
I51A Listowel 62.71 53 P P 09 05 00.3 +0.2
baz=317
PBMO Poplar Bluff 62.76 65 IAmb IAmb 09 04 60.0
comp=Z,6.6nm,0.8s
W41B Gary Mavity, V 62.88 67 P P 09 05 00.5 -0.8
baz=316,SNR=6.1
W41B Gary Mavity, V 62.88 67 IAmb IAmb 09 05 01.3
comp=Z,10nm,1.1s
G53A Haliburton 62.92 51 P P 09 05 00.8 -0.7
baz=317,SNR=5.5
SADO Sadowa 62.93 51 P P 09 05 01.8 +0.3
comp=Z,2.2nm,0.8s,baz=353,slow=11,SNR=3.4
SADO Sadowa 62.93 51 P P 09 05 00.9 -1.6
D55A Sainte-Anne-du 63.01 48 P P 09 05 00.6 -1.4
baz=318,SNR=5.8
KLMR Klimovskoe 63.02 339 *e*P P 09 05 01.3 -0.6
KLMR pmax pmax
comp=Z,6.0nm,0.9s
KLMR Klimovskoe 63.02 339 *e*P P 09 05 01.3 -0.6
KLMR AMP 09 05 03.3
comp=Z,6.0nm,0.9s
X40A Basin Creek Fa 63.03 68 P P 09 05 01.9 -0.5
baz=316
SATY Saty 63.05 306 *e*P P 09 05 02.9 +0.4
baz=306
SATY Saty 63.05 306 *e*P P 09 05 02.9 +0.4
O48A Farmland 63.15 58 P P 09 05 01.6 -1.4
baz=316
CHKK Chushkaly 63.18 307 *e*P P 09 05 02.9 -0.4
baz=308
CHKK Chushkaly 63.18 307 *e*P P 09 05 02.8 -0.4
J52A Paris 63.39 53 P P 09 05 03.1 -1.5
baz=317
WLAR White Oak Lake 63.45 69 P P 09 05 05.1 0.0
WLAR IAmb IAmb 09 05 05.7
comp=Z,12nm,0.7s
KUU Kurty 63.47 308 *i* P P 09 05 04.6 -0.5
baz=308
KUU *e*PcP PcP 09 05 40.2 -0.9
baz=308
KUU Kurty 63.47 308 *i* P P 09 05 04.6 -0.5
KUU *e* 09 05 40.1
E56A St. Veronique 63.56 48 P P 09 05 03.9 -1.7
baz=318
MDOK Medeo 63.65 307 *i* P P 09 05 06.9 +0.4
baz=307
MDOK Medeo 63.65 307 *i* P P 09 05 06.9 +0.4
AAA Alma-Ata 63.69 307 *e*P P 09 05 06.2 -0.5
baz=307
AAA Alma-Ata 63.69 307 *e*P P 09 05 06.1 -0.5
D57A Chemin Vers le 63.73 47 P P 09 05 05.3 -1.5
baz=319
BTLS Baital 63.73 310 ⇑*i*P P 09 05 06.1 -0.7
baz=310
BTLS Baital 63.73 310 ⇑*i*P P 09 05 06.9 +0.1
G55A Calabogie 63.73 50 P P 09 05 05.4 -1.4
baz=318
TNSS Tian-Shan 63.80 307 *e*P P 09 05 08.2 +0.4
baz=307
TNSS Tian-Shan 63.80 307 *e*P P 09 05 08.2 +0.4
MTBS Maitube 63.99 307 *i* P P 09 05 09.1 +0.4
baz=307
MTBS Maitube 63.99 307 *i* P P 09 05 09.0 +0.4
WCI Wyandotte Cave 64.00 61 P P 09 05 08.5 -0.2
baz=317
WCI Wyandotte Cave 64.00 61 P P 09 05 08.5 -0.2
WCI pmax pmax
comp=Z,5.0nm,0.8s
WCI Wyandotte Cave 64.00 61 P P 09 05 08.5 -0.2
H55A Tweed 64.04 50 P P 09 05 08.0 -0.8
baz=318
I55A Frankford 64.04 51 P P 09 05 07.7 -1.2
baz=318
E57A Chemin Saint G 64.06 47 P P 09 05 07.8 -1.2
baz=319
D58A Chemin du LacG 64.12 46 P P 09 05 07.5 -1.8
baz=319
KDJ Kajisay 64.35 306 P P 09 05 11.3 +0.1
KDJ pmax pmax
comp=Z,14nm,0.6s
KDJ Kajisay 64.35 306 P P 09 05 11.3 +0.1
TKM2 Tokmak 2 64.55 308 P P 09 05 13.3 +0.8
SNR=8.5
TKM2 Tokmak 2 64.55 308 P P 09 05 12.9 +0.4
O51A Pataskala 64.57 57 P P 09 05 11.6 -0.8
baz=317
SGDS Sogindy 64.63 309 ⇑*i*P P 09 05 13.6 +0.7
baz=309
SGDS Sogindy 64.63 309 ⇑*i*P P 09 05 13.5 +0.7
WVT Waverly 64.68 63 P P 09 05 12.7 -0.4
baz=317
ULHL Ulahol 64.73 307 P P 09 05 14.5 +0.8
SNR=7.0
K54A Basiliko Farm, 64.74 53 P P 09 05 12.7 -0.7
baz=319
USP Ospenovka 64.83 308 P P 09 05 15.2 +1.1
SNR=17
K55A Perry 64.96 52 P P 09 05 14.4 -0.5
baz=318
OXF Oxford 64.97 66 P P 09 05 14.3 -0.7
baz=317
OXF Oxford 64.97 66 P P 09 05 14.7 -0.3
OXF pmax pmax
comp=Z,29nm,1.3s
OXF Oxford 64.97 66 P P 09 05 14.7 -0.3
O52A Adamsville 64.99 57 P P 09 05 14.0 -1.1
baz=318
Q51A Peebles 65.00 58 P P 09 05 14.7 -0.5
FINES FINESS Array B 65.01 346 P P 09 05 13.6 -1.3
comp=Z,1.5nm,0.5s,baz=28,slow=7.2,SNR=14
FINES pP pP 09 05 38.6 +0.1
comp=Z,3.0nm,0.9s,baz=36,slow=10.0,SNR=2.5
FINES FINESS Array B 65.01 346 *i* P P 09 05 14.3 -0.6
FINES pmax pmax
comp=Z,2.0nm,0.5s
KBK Karagaybulak 65.07 308 P P 09 05 16.8 +1.0
SNR=5.5
F59A Saint Guilaume 65.11 47 P P 09 05 14.1 -1.7
baz=320
L55A Hinsdale 65.19 53 P P 09 05 15.9 -0.5
baz=318
O53A New Philadelph 65.22 56 P P 09 05 15.5 -1.1
baz=318
AAK Ala-Archa 65.30 308 P P 09 05 18.3 +1.0
SNR=6.0
AAK Ala-Archa 65.30 308 ⇓*i*P P 09 05 18.1 +0.8
AAK pmax pmax
comp=Z,9.0nm,0.6s
AAK Ala-Archa 65.30 308 P P 09 05 17.9 +0.6
AAK IAmb IAmb 09 05 18.6
comp=Z,9.8nm,0.7s
E60A Ste Agathe de 65.31 46 P P 09 05 15.8 -1.3
baz=320
K56A Middlesex 65.35 52 P P 09 05 17.1 -0.3
baz=319
KZA Kyzart 65.35 307 P P 09 05 19.1 +1.1
SNR=7.3
CLTN Cedars of Leba 65.54 62 IAmb IAmb 09 05 19.1
comp=Z,8.9nm,0.8s
EKS2 Erkin-Say 65.64 308 P P 09 05 20.5 +1.1
SNR=15
L56A Greenwood 65.65 52 P P 09 05 18.4 -1.0
baz=319,SNR=9.0
ZAIG Zacatecas 65.70 84 P P 09 05 20.2 0.0
K57A Scipio Center 65.72 51 P P 09 05 18.9 -0.9
baz=319
D62A Allapoint, All 65.81 44 P P 09 05 19.6 -0.7
baz=321
M56A Emporium 65.83 53 P P 09 05 19.9 -0.7
baz=319
E62A Clayton Lake 65.97 44 P P 09 05 19.1 -2.2
baz=321
AML Almayashu 66.08 308 P P 09 05 23.6 +1.1
SNR=11
Q53A Leroy 66.08 57 P P 09 05 21.5 -0.7
baz=318
L57A Andrews Acres 66.10 52 P P 09 05 21.9 -0.4
baz=319
K58A Earlville 66.11 51 P P 09 05 21.5 -0.8
baz=319
J59A Piesco 66.13 50 P P 09 05 20.9 -1.5
baz=320
I59A Olmsteadville 66.17 49 P P 09 05 21.3 -1.3
baz=320
R53A Hurricane 66.25 58 P P 09 05 22.0 -1.3
baz=318
F62A Pittston Farm, 66.33 45 P P 09 05 21.9 -1.8
baz=321
BINY Binghamton 66.38 51 P P 09 05 23.2 -0.8
baz=319
AKTO Aktyubinsk 66.38 323 P P 09 05 24.7 +0.9
M57A Sunshine Farm, 66.47 53 P P 09 05 23.9 -0.7
baz=319
M57A Sunshine Farm, 66.47 53 P P 09 05 24.2 -0.4
M57A IAmb IAmb 09 05 26.7
comp=Z,9.9nm,1.2s
L58A Harry Jones Me 66.56 51 P P 09 05 24.5 -0.7
baz=319
ABKAR Akbulak array 66.59 321 P P 09 05 25.9 +0.7
ABKAR IAmb IAmb 09 05 27.2
comp=Z,20nm,1.2s

E63A	**Oxbow**	**66.60**	**44**	P		**P**	**09 05 24.0**	**-1.3**
	baz=322							
G62A	**West of Eustis**	**66.61**	**46**	P		**P**	**09 05 24.4**	**-1.0**
	baz=321							
Z47A	**Carrollton**	**66.69**	**66**	P		**P**	**09 05 25.1**	**-1.0**
Z47A				IAmb		IAmb	09 05 26.6	
	comp=Z,20nm,1.2s							
N57A	**Milroy**	**66.69**	**53**	P		**P**	**09 05 25.3**	**-0.7**
	baz=319							
Q55A	**Buckhannon**	**66.73**	**56**	P		**P**	**09 05 26.6**	**+0.3**
	baz=319							
W50A	**Signal Mountai**	**66.75**	**62**	P		**P**	**09 05 25.5**	**-1.0**
M58A	**Price's Panora**	**66.77**	**52**	P		**P**	**09 05 26.0**	**-0.5**
	baz=319							
J60A	**Lant Hill Farm**	**66.81**	**49**	P		**P**	**09 05 25.6**	**-1.1**
	baz=320							
H62A	**Milan**	**66.83**	**47**	P		**P**	**09 05 25.7**	**-1.1**
	baz=321							
E64A	**Bridgewater**	**66.86**	**44**	P		**P**	**09 05 25.6**	**-1.4**
	baz=322							
F63A	**Nahmakanta, Br**	**66.86**	**45**	P		**P**	**09 05 25.8**	**-1.2**
	baz=321							
KK31	**Karatay Array**	**66.86**	**311**	P		**P**	**09 05 27.5**	**+0.4**
KK31				pmax		pmax		
	comp=Z,11nm,0.7s							
KK31	**Karatay Array**	**66.86**	**311**	P		**P**	**09 05 27.5**	**+0.4**
KK31				IAmb		IAmb	09 05 28.4	
	comp=Z,11nm,0.7s							
KKAR	**Karatay Array**	**66.86**	**311**	IAmb		IAmb	09 05 28.4	
	comp=Z,11nm,0.7s							
KSH	**Kashi**	**66.90**	**305**	*e*P		**P**	**09 05 31.8**	**+4.3**
KSH				sP		sP	09 06 06.3	+4.7
KSH				pmax		pmax		
	comp=Z,26nm,0.7s							
T53A	**Wise**	**66.94**	**59**	P		**P**	**09 05 27.5**	**-0.3**
	baz=318							
ARSB	**Arslanbob**	**67.03**	**308**	IAmb		IAmb	09 05 30.3	
	comp=Z,15nm,1.1s							
N58A	**Sunbury**	**67.05**	**53**	P		**P**	**09 05 27.7**	**-0.6**
	baz=319							
O57A	**Amberson**	**67.06**	**54**	P		**P**	**09 05 27.8**	**-0.6**
	baz=319							
F64A	**Sherman**	**67.07**	**44**	P		**P**	**09 05 27.2**	**-1.0**
	baz=322							
FPAL	**Fort Paine**	**67.08**	**63**	P		**P**	**09 05 27.6**	**-1.0**
NB2	**NORSAR Subarra**	**67.08**	**353**	P		**P**	**09 05 27.4**	**-0.8**
	comp=Z,2.8nm,0.9s,baz=10.0,slow=6.5							
NOA	**NORSAR Array B**	**67.08**	**353**	P		**P**	**09 05 27.4**	**-0.8**
	comp=Z,1.8nm,0.9s,baz=12,slow=6.8,SNR=7.6							
NOA				pP		**pP**	**09 05 51.2**	**-0.7**
	comp=Z,5.0nm,1.0s,baz=7.9,slow=6.3,SNR=6.9							
G63A	**Kingsbury**	**67.10**	**46**	P		**P**	**09 05 27.5**	**-1.1**
	baz=321							
PKME	**Peaks-Kenny Pk**	**67.12**	**45**	P		**P**	**09 05 27.7**	**-1.0**
	baz=321							
M59A	**Waymart**	**67.14**	**52**	P		**P**	**09 05 27.8**	**-1.1**
	baz=320							
TKL	**Tuckaleechee C**	**67.26**	**61**	P		**P**	**09 05 28.4**	**-1.2**
	comp=Z,1.9nm,0.7s,baz=252,slow=1.5,SNR=5.5							
T54A	**Tazewell**	**67.39**	**59**	P		**P**	**09 05 30.2**	**-0.4**
	baz=319							
N59A	**State Game Lan**	**67.45**	**52**	P		**P**	**09 05 30.2**	**-0.7**
	baz=320							
O58A	**Lewisberry**	**67.49**	**53**	P		**P**	**09 05 30.3**	**-0.8**
	baz=320							
M60A	**Port Jervis**	**67.70**	**51**	P		**P**	**09 05 31.4**	**-0.9**
	baz=320							
O59A	**Robesonia**	**67.71**	**53**	P		**P**	**09 05 31.8**	**-0.7**
	baz=320							
N60A	**Cedar Hill Far**	**67.82**	**52**	P		**P**	**09 05 32.3**	**-0.8**
	baz=320							
IUG	**luzhnay**	**67.83**	**310**	⇑*i*P		**P**	**09 05 34.4**	**+1.0**
	baz=310							
IUG	**luzhnay**	**67.83**	**310**	⇑*i*P		**P**	**09 05 34.3**	**+1.0**
S56A	**Natural Bridge**	**67.99**	**57**	P		**P**	**09 05 33.4**	**-0.8**
	baz=319							
Q58A	**Fox Den Farm,**	**68.00**	**55**	P		**P**	**09 05 33.4**	**-0.8**
	baz=320							
P59A	**Jarrettsville**	**68.12**	**53**	P		**P**	**09 05 33.9**	**-1.1**
	baz=320							
V54A	**Nebo**	**68.16**	**60**	P		**P**	**09 05 34.9**	**-0.4**
	baz=319							
H66A	**Whiting**	**68.37**	**44**	P		**P**	**09 05 35.1**	**-1.3**
	baz=322							
250A	**Grady**	**68.61**	**65**	IAmb		IAmb	09 05 37.8	
	comp=Z,8.9nm,0.8s							
X54A	**Belton**	**68.85**	**61**	P		**P**	**09 05 39.2**	**-0.5**
	baz=319							
OBN	**Obninsk**	**68.89**	**338**	*e*P		**P**	**09 05 40.4**	**+0.9**
OBN				pmax		pmax		
	comp=Z,5.0nm,0.4s							
KMSC	**Kings Mountain**	**68.96**	**60**	P		**P**	**09 05 39.5**	**-0.8**
	baz=319							
CHTO	**Chiang Mai**	**69.03**	**274**	P		**P**	**09 05 41.0**	**+0.1**
CHTO				pmax		pmax		
	comp=Z,10.0nm,0.9s							
CHTO	**Chiang Mai**	**69.03**	**274**	P		**P**	**09 05 41.0**	**+0.1**
CHTO				IAmb		IAmb	09 05 42.1	
	comp=Z,9.9nm,0.9s							
GOGA	**Godfrey**	**69.10**	**62**	P		**P**	**09 05 40.2**	**-1.0**
	baz=319							
CM31	**Chiang Mai Arr**	**69.30**	**274**	IAmb		IAmb	09 05 44.0	
	comp=Z,12nm,0.7s							
CMAR	**Chiang Mai Arr**	**69.30**	**274**	P		**P**	**09 05 43.0**	**+0.4**
	comp=Z,9.1nm,0.7s,baz=266,slow=6.9,SNR=41							
CMAR				pP		**pP**	**09 06 06.0**	**-0.5**
	comp=Z,3.0nm,0.8s,baz=30,slow=8.5,SNR=3.2							
CMAR	**Chiang Mai Arr**	**69.30**	**274**	*ce*P		**P**	**09 05 43.0**	**+0.4**
CMAR				pmax		pmax		
	comp=Z,10.0nm,0.7s							
X55A	**Gracelyn & Ava**	**69.31**	**60**	P		**P**	**09 05 41.8**	**-0.7**
	baz=319							
TAPN	**Taplejung**	**69.48**	**288**	*e*P		**P**	**09 05 44.3**	**+0.3**
	comp=Z,81nm,0.9s							
MRSI	**Marisa**	**69.57**	**243**	P		**P**	**09 05 44.3**	**0.0**
	comp=Z,47nm,1.0s							
Y55A	**Saluda**	**69.59**	**61**	P		**P**	**09 05 43.2**	**-1.0**
	baz=319							
X56A	**White Oak**	**69.61**	**60**	P		**P**	**09 05 43.6**	**-0.8**
	baz=319							
ODAN	**Odare**	**70.04**	**288**	*e*P		**P**	**09 05 48.1**	**+0.7**
	comp=Z,26nm,0.8s							
GUN	**Gumba**	**70.14**	**290**	*e*P		**P**	**09 05 49.1**	**+1.0**
	comp=Z,71nm,0.5s							
JIRN	**Jiri**	**70.15**	**290**	*e*P		**P**	**09 05 49.1**	**+0.9**
RAMN	**Ramite**	**70.44**	**289**	*e*P		**P**	**09 05 50.5**	**+0.7**
	comp=Z,80nm,0.7s							
PKI	**Pulchoki**	**70.67**	**290**	*e*P		**P**	**09 05 51.9**	**+0.6**
	comp=Z,35nm,0.6s							
PKIN	**Phulchoki**	**70.67**	**290**	*e*P		**P**	**09 05 52.0**	**+0.7**
	comp=Z,41nm,0.6s							
Z57A	**Bowman**	**70.70**	**61**	P		**P**	**09 05 51.0**	**+0.1**
	baz=320							
GKN	**Gorkha**	**70.79**	**291**	*e*P		**P**	**09 05 52.5**	**+0.6**
DMN	**Daman**	**70.82**	**290**	*e*P		**P**	**09 05 53.0**	**+0.9**
	comp=Z,46nm,0.9s							
DANN	**Dangsing**	**71.04**	**292**	*e*P		**P**	**09 05 54.3**	**+0.8**
	comp=Z,106nm,0.8s							
KOLN	**Koldanda**	**71.57**	**291**	*e*P		**P**	**09 05 57.1**	**+0.5**
	comp=Z,48nm,0.9s							
NIL	**Nilore**	**72.79**	**303**	P		**P**	**09 06 04.8**	**+1.2**
NIL				pmax		pmax		
	comp=Z,42nm,1.3s							
NIL	**Nilore**	**72.79**	**303**	P		**P**	**09 06 04.8**	**+1.2**
SBUM	**Sibu**	**73.56**	**252**	IAmb		IAmb	09 06 09.6	
	comp=Z,6.8nm,0.7s							
TTSI	**Tana Toraja**	**73.66**	**243**	P		**P**	**09 06 07.7**	**-1.1**
	comp=Z,30nm,1.5s							
KBL	**Kabul**	**74.25**	**306**	P		**P**	**09 06 12.4**	**0.0**
KBL				pmax		pmax		
	comp=Z,21nm,0.9s							
KBL	**Kabul**	**74.25**	**306**	P		**P**	**09 06 12.4**	**0.0**
AKASG	**Malin Array Be**	**74.64**	**340**	P		**P**	**09 06 13.5**	**-0.5**
	comp=Z,3.1nm,0.5s,baz=21,slow=6.4,SNR=14							
AKASG				pP		**pP**	**09 06 38.0**	**0.0**
	comp=Z,3.4nm,0.5s,baz=24,slow=6.2,SNR=6.0							
AKBB	**Malin Array Si**	**74.64**	**340**	⇑*i*P		**P**	**09 06 13.6**	**-0.4**
KSM	**Kuching**	**75.47**	**253**	P		**P**	**09 06 19.2**	**-0.1**
KSM				IAmb		IAmb	09 06 20.1	
	comp=Z,11nm,0.7s							
GOF	**Gofitskoye**	**76.19**	**329**	⇑*e*P		**P**	**09 06 24.1**	**+1.1**
GEYT	**Alibeck**	**76.64**	**315**	P		**P**	**09 06 26.6**	**+0.9**
	comp=Z,6.7nm,1.0s,baz=330,slow=5.1,SNR=12							
GYA0B	**ALIBECK ARRAY**	**76.64**	**315**	P		**P**	**09 06 26.3**	**+0.6**
GYA0B				IAmb		IAmb	09 06 27.7	
	comp=Z,18nm,1.3s							
CTAO	**Charters Tower**	**76.91**	**211**	P		**P**	**09 06 27.0**	**-0.2**
CTAO				pmax		pmax		
	comp=Z,16nm,0.9s							
CTAO	**Charters Tower**	**76.91**	**211**	P		**P**	**09 06 27.0**	**-0.2**
CTAO				IAmb		IAmb	09 06 28.4	
	comp=Z,16nm,0.8s							
SORM	**Soroca**	**77.25**	**340**	⇑P		**P**	**09 06 27.7**	**-1.2**
SORM	**Soroca**	**77.25**	**340**	⇑P		**P**	**09 06 27.7**	**-1.2**
KIV	**Kislovodsk**	**77.29**	**329**	*e*P		**P**	**09 06 29.6**	**+0.3**
KIV				pmax		pmax		
	comp=Z,23nm,1.0s							
EDFI	**Ende, Flores**	**77.41**	**238**	P		**P**	**09 06 26.7**	**-3.6**
KBZ	**Khabaz**	**77.42**	**329**	P		**P**	**09 06 30.5**	**+0.6**
	comp=Z,5.5nm,0.8s,baz=77,slow=2.7,SNR=14							
KBZ	**Khabaz**	**77.42**	**329**	*ce*P		**P**	**09 06 31.8**	**+1.9**
KOLS	**Kolonicke sedl**	**77.65**	**344**	*e*P		**P**	**09 06 32.4**	**+1.3**
KOLS				pmax		pmax		
	comp=Z,4.0nm,1.0s							
KOLS	**Kolonicke sedl**	**77.65**	**344**	*e*P		**P**	**09 06 32.4**	**+1.3**
HRA	**Herat**	**77.69**	**311**	P		**P**	**09 06 32.6**	**+0.6**
HRA				IAmb		IAmb	09 06 33.5	
	comp=Z,9.1nm,0.7s							
ZEI	**Tsey**	**77.93**	**328**	*e*P		**P**	**09 06 33.8**	**+0.7**
ZEI				pmax		pmax		
	comp=Z,11nm,0.5s							
BUR08	**Bucovina Ar. S**	**78.36**	**342**	P		**P**	**09 06 35.8**	**+0.6**
TRPA	**Tarpa**	**78.38**	**344**	⇓P		**P**	**09 06 35.2**	**+0.1**
BURAR	**Bucovina Array**	**78.38**	**342**	⇑P		**P**	**09 06 35.9**	**+0.5**
BURAR	**Bucovina Array**	**78.38**	**342**	⇑P		**P**	**09 06 35.9**	**+0.5**
KHC	**Kasperske Hory**	**78.66**	**350**	⇓*i*P		**P**	**09 06 37.3**	**+0.5**
KHC				pmax		pmax		
	comp=Z,4.0nm,1.0s							
IPM	**Ipoh**	**78.74**	**263**	P		**P**	**09 06 37.2**	**-0.5**
IPM				IAmb		IAmb	09 06 37.9	
	comp=Z,12nm,0.7s							
BIZ	**Bicaz**	**78.86**	**341**	⇑P		**P**	**09 06 38.5**	**+0.6**
GERES	**GERESS Array B**	**78.93**	**350**	P		**P**	**09 06 38.9**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=14,slow=5.0,SNR=3.7							
ARCR	**ARCALIA**	**79.06**	**342**	⇑P		**P**	**09 06 40.2**	**+1.3**
DRGR		**79.64**	**343**	⇓P		**P**	**09 06 42.4**	**+0.2**
DRGR		**79.64**	**343**	⇓P		**P**	**09 06 42.4**	**+0.2**
VRI	**Vrincioaia**	**79.75**	**340**	⇑P		**P**	**09 06 42.8**	**+0.1**
VRI	**Vrincioaia**	**79.75**	**340**	⇑P		**P**	**09 06 42.8**	**+0.1**
TLCR		**79.95**	**339**	⇑P		**P**	**09 06 43.0**	**-0.7**
TLCR		**79.95**	**339**	⇑P		**P**	**09 06 43.0**	**-0.7**
MLR	**Muntele Rosu**	**80.27**	**341**	⇑P		**P**	**09 06 47.1**	**+1.4**
MLR	**Muntele Rosu**	**80.27**	**341**	⇑P		**P**	**09 06 47.1**	**+1.4**
VOIR		**80.51**	**341**	⇑P		**P**	**09 06 47.7**	**+0.8**
VOIR		**80.51**	**341**	⇑P		**P**	**09 06 47.7**	**+0.8**
WRAB	**Tennant Creek**	**81.14**	**222**	⇑*i*P		**P**	**09 06 50.2**	**-0.1**
WRAB				pmax		pmax		
	comp=Z,34nm,1.9s							
WB2	**Warramunga Arr**	**81.15**	**222**	P		**P**	**09 06 49.2**	**-1.2**
WB2				IAmb		IAmb	09 06 50.9	
	comp=Z,17nm,0.9s							
WRA	**Warramunga Arr**	**81.15**	**222**	P		**P**	**09 06 49.7**	**-0.7**
	comp=Z,9.1nm,0.8s,baz=30,slow=5.8,SNR=29							
WRA				pP		**pP**	**09 07 14.2**	**-0.5**
	comp=Z,3.0nm,0.7s,baz=30,slow=5.8,SNR=3.7							
WRA	**Warramunga Arr**	**81.15**	**222**	*ce*P		**P**	**09 06 48.5**	**-1.9**
WRA				pmax		pmax		
	comp=Z,10.0nm,0.8s							
PRED	**Cave del Predi**	**81.32**	**350**	P		**P**	**09 06 52.6**	**+1.4**
PSI	**Prapat**	**81.35**	**264**	P		**P**	**09 06 50.9**	**-0.9**
PSI				pmax		pmax		
	comp=Z,27nm,0.9s							
RPSI	**Rantau Prapat**	**81.43**	**263**	P		**P**	**09 06 50.9**	**-1.2**
MNSI	**Mandailing Nat**	**82.51**	**262**	P		**P**	**09 06 56.0**	**-1.8**
	comp=Z,24nm,0.6s							
DIVS	**Divibare**	**82.72**	**345**	P		**P**	**09 06 58.4**	**-0.2**
BR131	**Keskin Array S**	**83.87**	**333**	⇑*i*P		**P**	**09 07 04.7**	**+0.1**
BRTR	**Keskin Array B**	**83.87**	**333**	P		**P**	**09 07 05.1**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=83,slow=3.2,SNR=5.7							
BRTR	**Keskin Array B**	**83.87**	**333**	*ce*P		**P**	**09 07 04.6**	**0.0**
BRTR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
AS31	**Alice Springs**	**84.66**	**220**	P		**P**	**09 07 08.4**	**0.0**
ASAR	**Alice Springs**	**84.66**	**220**	P		**P**	**09 07 08.6**	**+0.1**
	comp=Z,9.6nm,0.8s,baz=20,slow=5.2,SNR=93							
ASAR				pP		**pP**	**09 07 33.3**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=26,slow=5.7,SNR=2.9							
JTS	**Las Juntas de**	**86.03**	**79**	⇑*i*P		**P**	**09 07 13.7**	**-1.9**
JTS				pmax		pmax		
	comp=Z,19nm,1.5s							
STKA	**Stephens Creek**	**89.36**	**211**	P		**P**	**09 07 31.8**	**+0.9**
	comp=Z,15nm,0.7s,baz=349,slow=6.3,SNR=40							
STKA	**Stephens Creek**	**89.36**	**211**	IAmb		IAmb	09 07 32.9	
	comp=Z,4.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**115.30**	**357**	PKP		**PKiKP**	**09 13 15.1**	**-1.0**
	comp=Z,1.5nm,0.6s,baz=344,slow=2.3,SNR=9.0							
DBIC	**Dimbokro**	**121.73**	**4**	PKP		**PKPdf**	**09 13 27.6**	**-0.9**
	comp=Z,2.2nm,0.4s,baz=46,slow=2.0,SNR=6.4							
H03N2	**Juan Fernandez**	**122.88**	**104**	T		T	11 28 18.0	
	baz=314,slow=77,SNR=8.8							
H03N1	**Juan Fernandez**	**122.89**	**104**	T		T	11 28 18.9	
	baz=314,slow=77,SNR=14							
H03N3	**Juan Fernandez**	**122.89**	**104**	T		T	11 28 32.5	
	baz=314,slow=77,SNR=8.3							
BDFB	**Brasilia**	**128.46**	**63**	PKP		**PKPdf**	**09 13 41.0**	**-0.3**
	comp=Z,3.2nm,0.9s,baz=336,slow=0.6,SNR=4.4							
BDFB	**Brasilia**	**128.46**	**63**	PKIKP		**PKPdf**	**09 13 41.4**	**+0.1**
BDFB	**Brasilia**	**128.46**	**63**			**PKPdf**	**09 13 41.4**	**+0.1**
VNDA	**Vanda**	**129.43**	**185**	PKP		**PKiKP**	**09 13 42.0**	**0.0**
	comp=Z,0.8nm,0.7s,baz=358,slow=2.7,SNR=5.1							
PLCA	**Paso Flores**	**132.70**	**105**	PKP		**PKPdf**	**09 13 48.7**	**+0.1**
	comp=Z,2.1nm,0.7s,baz=123,slow=12,SNR=4.3							
PLCA	**Paso Flores**	**132.70**	**105**	PKIKP		**PKiKP**	**09 13 49.4**	**-0.4**
PLCA	**Paso Flores**	**132.70**	**105**			**PKiKP**	**09 13 49.4**	**-0.4**
USHA	**Ushuaia**	**141.25**	**122**	PKP		**PKPdf**	**09 14 03.9**	**+0.1**
	comp=Z,10nm,0.5s,baz=36,slow=2.1,SNR=2.2							
QSPA	**South Pole Qui**	**141.52**	**180**	PKhKP		PKPpre	09 13 58.8	
	comp=Z,3.3nm,0.7s,baz=339,slow=0.4,SNR=22							
TSUM	**Tsumeb**	**144.21**	**328**	PKP		PKPbc	09 14 08.8	+0.1
	comp=Z,7.2nm,0.8s							
TSUM	**Tsumeb**	**144.21**	**328**			PKPbc	09 14 09.5	+0.8
MAW	**Mawson**	**145.75**	**218**	PKPbc		**PKPbc**	**09 14 11.9**	**0.0**
	comp=Z,14nm,0.6s,baz=79,slow=4.1,SNR=47							
BOSA	**Boshof**	**149.44**	**309**	PKPbc		**PKPbc**	**09 14 23.8**	**+0.3**
	comp=Z,9.5nm,0.6s,baz=37,slow=2.8,SNR=52							
BOSA	**Boshof**	**149.44**	**309**			**PKiKP**	**09 14 24.1**	**-0.4**
SYO	**Syowa Base**	**154.10**	**213**	⇓*e*P		PKPdf	09 14 15.0	-9.4
SYO	**Syowa Base**	**154.10**	**213**	⇓*e*P		**PKPdf**	**09 14 23.6**	**-0.8**
SYO	**Syowa Base**	**154.10**	**213**	⇓*e*P		**PKPbc**	**09 14 29.6**	**-3.0**
SYO	**Syowa Base**	**154.10**	**213**	⇓*e*P		**PKiKP**	**09 14 34.4**	**+1.8**
SNAA	**Sanae**	**160.01**	**179**	PKP		**PKPdf**	**09 14 30.7**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=166,slow=0.6,SNR=5.0							
SNAA	**Sanae**	**160.01**	**179**	PKIKP		**PKPdf**	**09 14 31.0**	**-0.9**
SNAA	**Sanae**	**160.01**	**179**			**PKPdf**	**09 14 31.0**	**-0.9**

*IDC **29** 08:56:56.3±0.6, 55°.21S×28°.26W, h0km, mb4.5/10, mb1 4.6/11, mb1mx4.3/26, mbtmp4.5/11, ML4.7/1, Error ellipse: s-maj=23.7km s-min=15.5km az=55.0*
*NEIC **29** 08:56:58.3±1.5, 55°.3S±0°.1×28°.4W±0°.2, h10km±1km, mb4.7/26, Error ellipse: s-maj=18.1km s-min=15.1km az=206.0*

ISC 29 08:56:57.9±0.5, 55°.25S±0°.10×28°.39W±0°.09, h10km, n65, σt 03/64, mb4.7/16, 3C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.79**	**278**		**Pn**	**08 58 10.2**	**+0.2**
HOPE				Sn	**Sn**	**08 59 02.2**	**-3.2**
VNA1	**Neumayer--Stat**	**17.79**	**158**	P	**P**	**09 01 08.4**	**+2.5**
VNA3	**Neumayer Olymp**	**17.97**	**160**	P	**P**	**09 01 07.9**	**-0.2**
VNA2	**Neumayer--Watz**	**18.19**	**158**	P	**P**	**09 01 10.9**	**+0.5**
SNAA	**Sanae**	**19.75**	**156**	P	**P**	**09 01 27.1**	**-0.4**
SNAA	**Sanae**	**19.75**	**156**	P	**P**	**09 01 27.2**	**-0.4**
	2.1nm,0.3s,baz=302,slow=10,SNR=24						
SNAA	**Sanae**	**19.75**	**156**	P	**P**	**09 01 27.4**	**-0.2**
PMSA	**Palmer Station**	**19.93**	**227**	P	P	09 01 20.5	-8.9
PMSA				IAmb	IAmb	09 01 21.9	
	comp=Z,104nm,1.4s						
SYO	**Syowa Base**	**32.63**	**142**	⇑*e*P	**P**	**09 03 27.3**	**-2.0**
SYO	**Syowa Base**	**32.63**	**142**	*e*PnPn	PnPn	09 04 34.0	-2.8
SYO	**Syowa Base**	**32.63**	**142**	⇑*e*PP	PP	09 04 40.0	-2.8
QSPA	**South Pole Qui**	**35.00**	**180**	P	**P**	**09 03 50.8**	**+0.6**
	comp=Z,6.4nm,0.6s,baz=200,slow=2.2,SNR=36						
QSPA	**South Pole Qui**	**35.00**	**180**	P	**P**	**09 03 50.8**	**+0.6**
QSPA				IAmb	IAmb	09 03 51.9	
	comp=Z,9.0nm,0.7s						
CPUP	**Villa Florida**	**35.77**	**312**	P	**P**	**09 03 56.6**	**-0.3**
	comp=Z,5.4nm,0.5s,baz=155,slow=8.1,SNR=14						
CPUP	**Villa Florida**	**35.77**	**312**	P	**P**	**09 03 57.0**	**+0.1**
CPUP				IAmb	IAmb	09 03 57.5	
	comp=Z,12nm,1.0s						
GO05	**Huala**	**36.01**	**286**	P	**P**	**09 03 58.6**	**-0.3**
MT01	**Popeta**	**36.49**	**288**	P	**P**	**09 04 03.0**	**-0.1**
MT01				IAmb	IAmb	09 04 04.3	
	comp=Z,12nm,1.0s						
CFA	**Coronel Fontan**	**36.62**	**294**	P	**P**	**09 04 03.8**	**-0.4**
	comp=Z,3.0nm,0.6s,baz=135,slow=8.6,SNR=7.3						
PEL	**Peldehue**	**36.73**	**289**	P	**P**		
PEL				IAmb	IAmb	09 04 07.2	
	comp=Z,17nm,0.8s						
MT02	**Curacav**	**36.89**	**289**	P	**P**	**09 04 07.0**	**+0.6**
VA03	**San Esteban**	**36.95**	**290**	P	**P**	**09 04 09.1**	**+2.0**
ROC1	**El Roble**	**37.04**	**289**	P	**P**	**09 04 09.0**	**+1.0**
CO02	**Combarbal**	**38.40**	**291**	P	**P**	**09 04 20.6**	**+1.2**
CO02				IAmb	IAmb	09 04 27.4	
	comp=Z,30nm,1.4s						
CO01	**Juntas del Tor**	**38.88**	**293**	P	**P**	**09 04 26.0**	**+2.4**
GO04	**Tololo Observa**	**39.09**	**292**	P	**P**	**09 04 27.3**	**+1.9**
GO04				IAmb	IAmb	09 04 29.0	
	comp=Z,23nm,1.2s						
AC05	**El Transito**	**39.88**	**294**	P	**P**	**09 04 32.8**	**+1.0**
AC02	**Maricunga**	**40.91**	**297**	P	**P**	**09 04 42.0**	**+1.3**
MAW	**Mawson**	**41.20**	**144**	P	**P**	**09 04 41.5**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=330,slow=14,SNR=3.8						
MAW	**Mawson**	**41.20**	**144**	P	**P**	**09 04 42.1**	**+0.1**
BDFB	**Brasilia**	**42.33**	**331**	P	**P**	**09 04 53.6**	**+1.6**
LVC	**Limon Verde**	**44.31**	**301**	P	**P**	**09 05 08.7**	**+0.4**
	comp=Z,3.1nm,0.5s,baz=180,slow=5.1,SNR=2.3						
LVC	**Limon Verde**	**44.31**	**301**	P	**P**	**09 05 09.2**	**+0.9**
LVC				IAmb	IAmb	09 05 13.9	
	comp=Z,16nm,1.3s						
BOSA	**Boshof**	**46.45**	**78**	P	**P**	**09 05 24.3**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=188,slow=5.1,SNR=5.7						
BOSA	**Boshof**	**46.45**	**78**	P	**P**	**09 05 24.6**	**-0.3**
BOSA				IAmb	IAmb	09 05 32.4	
	comp=Z,10nm,1.3s						
GO01	**Chusmiza**	**46.94**	**303**	P	**P**	**09 05 30.8**	**+1.6**
VNDA	**Vanda**	**47.34**	**183**	P	**P**	**09 05 31.8**	**+0.7**
	comp=Z,4.5nm,0.6s,baz=188,slow=7.0,SNR=37						
VNDA	**Vanda**	**47.34**	**183**	P	**P**	**09 05 32.0**	**+0.8**
VNDA				IAmb	IAmb	09 05 32.9	
	comp=Z,5.7nm,0.7s						
PSGCX	**Pisagua**	**47.45**	**302**	P	**P**	**09 05 33.0**	**+0.3**
MNMC	**Minye Minye**	**47.60**	**302**	P	**P**	**09 05 35.4**	**+1.3**
LPAZ	**La Paz**	**49.36**	**306**	P	**P**	**09 05 48.6**	**+0.5**
	comp=Z,2.7nm,0.5s,baz=131,slow=5.5,SNR=20						
LPAZ	**La Paz**	**49.36**	**306**	P	**P**	**09 05 48.6**	**+0.5**
LPAZ				IAmb	IAmb	09 05 49.9	
	comp=Z,9.2nm,1.1s						
SAML	**Samuel**	**53.75**	**316**	P	**P**	**09 06 20.3**	**+0.1**
SAML				IAmb	IAmb	09 06 21.4	
	comp=Z,9.5nm,1.2s						
CASY	**Casey**	**54.89**	**161**	P	**P**	**09 06 28.2**	**+0.3**
CASY				IAmb	IAmb	09 06 29.4	
	comp=Z,5.3nm,0.8s						
TOA0	**Torodi Ar. Sit**	**72.70**	**31**	P	**P**	**09 08 25.5**	**-0.3**
TOA0				IAmb	IAmb	09 08 29.3	
	comp=Z,6.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.70**	**31**	P	**P**	**09 08 25.3**	**-0.5**
	comp=Z,6.1nm,0.6s,baz=201,slow=6.8,SNR=25						
ASAR	**Alice Springs**	**99.95**	**164**	P	**Pdif**	**09 10 41.1**	**-2.0**
	comp=Z,0.6

PAX	Paxson	148.05	310		PKPbc	09 19 09.5 +0.8
IL31		149.08	313		PKPbc	09 19 11.7 +0.6
ILAR	Eielson Array	149.08	313	PKPbc	PKPbc	09 19 11.1 -0.1
	comp=Z,3.8nm,0.6s,baz=120,slow=1.8,SNR=12					
MCK	McKinley	149.75	311		PKiKP	09 19 14.0 +0.1
TOLK	Toolik Lake Re	150.63	320		PKiKP	09 19 15.7 +0.1
BPAW	Bear Paw Mtn.	150.71	311		PKiKP	09 19 15.6 -0.2
SONM	Songino Array	151.31	86	PKPbc	PKPbc	09 19 17.1 -0.2
	comp=Z,1.0nm,0.6s,baz=226,slow=4.6,SNR=3.8					

IDC ***29*** *09:10:42.9±0.9, 55°.28S×27°.88W, h0km, mb4.1/5, mb1 4.3/6, mb1mx4.0/24, mbtmp4.1/6, ML4.3/1, Error ellipse: s-maj=32.4km s-min=21.8km az=67.0*
NEIC ***29*** *09:10:44.8±1.0, 55°.3S±0°.1×28°.0W±0°.2, h10km±1km, mb4.6/10, Error ellipse: s-maj=26.6km s-min=18.6km az=37.0*

ISC 29 09:10:47.1±0.7, 55°.4S±0°.1×28°.2W±0°.1, h26km, n38, σ1s07/35, mb4.5/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	4.94	279	Pn	Pn	09 11 57.0	-2.5
SNAA	Sanae	19.60	156	PKPab	P	09 15 11.3	-1.6
SNAA	Sanae	19.60	156	P	P	09 15 11.1	-1.9
	0.9nm,0.3s,baz=311,slow=14,SNR=17						
SNAA	Sanae	19.60	156	P	P	09 15 11.2	-1.7
PLCA	Paso Flores	31.34	280	P	P	09 17 06.1	+0.9
	5.9nm,1.0s,baz=328,slow=5.7,SNR=7.3						
PLCA	Paso Flores	31.34	280	P	P	09 17 08.3	+3.0
PLCA				IAmb	IAmb	09 17 10.2	
	comp=Z,8.7nm,1.0s						
QSPA	South Pole Qui	34.89	180	P	P	09 17 36.1	0.0
	comp=Z,1.8nm,0.5s,baz=73,slow=7.9,SNR=2.2						
QSPA	South Pole Qui	34.89	180	P	P	09 17 36.5	+0.4
QSPA				IAmb	IAmb	09 17 51.6	
	comp=Z,7.2nm,1.2s						
CPUP	Villa Florida	35.94	312	P	P	09 17 44.6	-0.6
CPUP				IAmb	IAmb	09 17 52.1	
	comp=Z,16nm,1.4s						
MT02	Curacav	37.05	289	P	P	09 17 55.5	+0.9
ROC1	El Roble	37.20	289	P	P	09 17 56.7	+0.5
PB04	IPOC Station P	45.32	299	P	P	09 19 04.0	+1.1
GO01	Chusmiza	47.11	302	P	P	09 19 18.1	+0.8
GO01				IAmb	IAmb	09 19 18.3	
	comp=Z,3.8nm,0.7s						
VNDA	Vanda	47.24	183	P	P	09 19 18.0	+0.9
	comp=Z,1.2nm,0.7s,baz=189,slow=5.6,SNR=8.1						
VNDA	Vanda	47.24	183	P	P	09 19 18.4	+1.3
MNMC	Minye Minye	47.77	302	P	P	09 19 22.6	+0.4
MNMC				IAmb	IAmb	09 19 31.6	
	comp=Z,7.4nm,1.0s						
H10N1	ASCENSION HYDR	48.62	18	T	T	10 12 51.6	
	baz=189						
H10N3	ASCENSION HYDR	48.62	18	T	T	10 12 45.8	
	baz=189						
H10N2	ASCENSION HYDR	48.64	18	T	T	10 12 43.8	
	baz=189						
LPAZ	La Paz	49.53	306	P	P	09 19 36.1	-0.1
	comp=Z,1.8nm,0.6s,baz=136,slow=4.9,SNR=10						
LPAZ	La Paz	49.53	306		P	09 19 36.2	0.0
TOA0	Torodi Ar. Sit	72.73	31	P	P	09 22 12.4	-0.3
TOA0				IAmb	IAmb	09 22 23.4	
	comp=Z,6.1nm,1.2s						
TORD	Torodi Ar. Bea	72.73	31	P	P	09 22 11.6	-1.1
	comp=Z,1.3nm,0.7s,baz=199,slow=5.9,SNR=7.4						
YKA	Yellowknife Ar	135.29	319	PKP	PKPdf	09 30 02.8	+0.1
	comp=Z,0.4nm,0.7s,baz=107,slow=2.3,SNR=3.8						
DOT	Dot Lake	147.78	311		PKPbc	09 30 28.6	+0.5
SCRK	Sand Creek	147.83	312		PKPbc	09 30 28.6	+0.4
RIDG	Independent Ri	148.14	311		PKPbc	09 30 29.6	+0.5
PAX	Paxson	148.21	310		PKPbc	09 30 30.0	+0.7
DHY	Denali Highway	149.07	309		PKPdf	09 30 28.9	+1.5
IL31		149.24	313		PKPbc	09 30 32.2	+0.6
ILAR	Eielson Array	149.24	313	PKPbc	PKPbc	09 30 31.6	-0.1
	comp=Z,4.6nm,0.7s,baz=132,slow=2.3,SNR=44						
CCB	Clear Creek Bu	149.61	312		PKPbc	09 30 32.6	0.0
WRH	Wood River Hil	149.69	312		PKPbc	09 30 32.9	+0.1
RND	Reindeer	149.80	310		PKiKP	09 30 34.2	0.0
TRF	Thorofare Moun	150.44	310		PKPbc	09 30 35.2	+0.3
TOLK	Toolik Lake Re	150.80	320		PKiKP	09 30 36.1	0.0
BPAW	Bear Paw Mtn.	150.87	311		PKPbc	09 30 35.6	-0.1
SONM	Songino Array	151.23	86	PKPbc	PKPbc	09 30 37.2	0.0
	comp=Z,0.6nm,0.6s,baz=200,slow=2.8,SNR=4.7						

ATH ***29*** *09:11:03.1, 34°.29N×25°.23E, h27km±2km, ML2.8/3, Error ellipse: s-maj=4.4km s-min=1.5km az=356.0*
HLW ***29*** *09:11:03.3, 34°.14N×25°.46E, h10km±10km, Md3.8, MI3.5*
THE ***29*** *09:11:04.5, 34°.36N×25°.20E, h0km±1km, ML2.7/3, Error ellipse: s-maj=3.0km s-min=1.0km az=168.0*

ISC 29 09:11:02.9±1.4, 34°.22N±0°.04×25°.24E±0°.04, h23km±15km, n22, σ1s08/34, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	Sivas	0.87	336	P	Pb	09 11 19.1	-0.3
SIVA				S	Sb	09 11 29.5	-1.1
	1μm,0.6s						
SIVA	Sivas	0.87	336	P	Pb	09 11 19.3	-0.1
SIVA				S	Sb	09 11 29.8	-0.9
SIVA				AML	AML	09 11 37.7	
	comp=N,2157μm,0.5s						
SIVA				AML	AML	09 11 38.4	
	comp=E,3057μm,0.6s						
LAST	Lasithi	0.96	12	P	Pb	09 11 20.4	-0.5
LAST				S	Sn	09 11 34.2	+0.1
	comp=E,398nm,0.8s						
LAST	Lasithi	0.96	12	P	Pb	09 11 20.4	-0.5
LAST				S	Sn	09 11 33.5	-0.6
LAST				AML	AML	09 11 37.1	
	comp=E,696μm,0.7s						
LAST				AML	AML	09 11 42.8	
	comp=N,930μm,1.0s						
NPS	Neapolis	1.08	16	P	Pb	09 11 22.6	-0.4
NPS				S	Sn	09 11 37.1	0.0
KSTL	Kastelli Herak	1.09	353	P	Pn	09 11 21.6	-1.2
KSTL				S	Sb	09 11 34.6	-2.3
HRKL	Herakleio	1.10	354	P	Pb	09 11 23.4	+0.2
IDI	Anoyia	1.10	345	P	Pn	09 11 22.8	-0.3
IDI	Anoyia	1.10	345	P	Pn	09 11 22.8	-0.3
IDI				S	Sn	09 11 37.6	-0.1
GVD	Gavdhos	1.14	303	P	Pb	09 11 24.1	+0.3
GVD				S	Sn	09 11 40.3	+2.0
	comp=N,360nm,0.5s						
GVD	Gavdhos	1.14	303	P	Pb	09 11 24.2	+0.3
GVD				S	Sn	09 11 40.0	+1.7
GVD				AML	AML	09 11 43.8	
	comp=N,625μm,0.5s						
GVD				AML	AML	09 11 47.0	
	comp=E,894μm,0.4s						
GVDS	Gavdos	1.14	304	P	Pb	09 11 24.2	+0.3
ZKR	Zakros	1.20	42	P	Pb	09 11 25.4	+0.4
ZKR	Zakros	1.20	42	P	Pb	09 11 25.2	+0.2
ZKR				S	Sb	09 11 41.9	+1.8
STIA	Sitia Lasithi	1.20	35	P	Pb	09 11 26.1	+1.1
STIA				S	Sb	09 11 41.9	+1.8
PRNS	Prines Rethymn	1.30	332	P	Pb	09 11 26.8	+0.2
VAM	Vamos	1.46	324	P	Pn	09 11 28.5	+0.6
IMMV	Iera Moni Meta	1.62	320	P	Pn	09 11 30.6	+0.6
SLUM	Salum	2.72	181	P	Pn	09 11 46.0	+0.9
	baz=185						
SWA2		4.96	178	P	Pn	09 12 16.4	+0.4
	baz=181						
SWA2				AMP		09 13 00.0	
	baz=181						
SWA2				S	Sn	09 13 09.9	-2.9
	baz=181						
GLL	Jalalah	7.18	128	P	Pn	09 12 46.2	-0.4
	baz=128						
HFRF	Wahat Farafira	7.53	159	P	Pn	09 12 51.0	-0.2
	baz=159						

IDC ***29*** *09:11:25.5±1.3, 55°.54S×28°.22W, h0km, mb3.8/4, mb1 3.9/5, mb1mx3.7/23, mbtmp3.8/5, ML3.9/1, Error ellipse: s-maj=51.4km s-min=26.1km az=83.0*
NEIC ***29*** *09:11:26.7±1.2, 55°.6S±0°.1×28°.4W±0°.2, h6km±3km, mb4.4/8, Error ellipse: s-maj=20.8km s-min=11.9km az=204.0*

ISC 29 09:11:27.6±0.7, 55°.6S±0°.1×28°.5W±0°.1, h10km, n14, σ0s90/14, mb4.1/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	4.81	283	Pn	Pn	09 12 40.1	+0.2
EFI	East Falkland	17.91	270		P	09 15 37.0	0.0
EFI				IAmb	IAmb	09 15 40.8	
	comp=Z,25nm,1.1s						
SNAA	Sanae	19.44	156	P	P	09 15 53.2	-0.6
	comp=Z,0.4nm,0.3s,baz=293,slow=13,SNR=1.4						
SNAA	Sanae	19.44	156		Pn	09 15 55.2	+0.2
QSPA	South Pole Qui	34.64	180	P	P	09 18 16.5	-0.2
	comp=Z,0.6nm,0.4s,baz=203,slow=7.9,SNR=1.1						
QSPA	South Pole Qui	34.64	180	P	P	09 18 16.6	-0.2
QSPA				IAmb	IAmb	09 18 29.1	
	comp=Z,3.7nm,1.0s						
PB06	IPOC Station P	44.69	300		P	09 19 41.1	+0.3
BOSA	Boshof	46.57	77	P	P	09 19 57.5	+2.0
BOSA				IAmb	IAmb	09 20 10.2	
	comp=Z,8.6nm,1.2s						
VNDA	Vanda	46.98	183	P	P	09 19 58.2	+0.2
	comp=Z,0.8nm,0.7s,baz=164,slow=7.4,SNR=1.8						
LPAZ	La Paz	49.53	306	P	P	09 20 19.0	0.0
	comp=Z,1.0nm,0.7s,baz=143,slow=5.1,SNR=1.9						
LPAZ	La Paz	49.53	306	P	P	09 20 19.4	+0.3
ABPO	Ambohimpanom	66.47	89	P	P	09 22 16.7	-0.6
TOA0	Torodi Ar. Sit	73.04	31	P	P	09 22 56.0	-1.4
TOA0				IAmb	IAmb	09 23 09.6	
	comp=Z,6.0nm,1.4s						
TORD	Torodi Ar. Bea	73.04	31	P	P	09 22 56.2	-1.3
	comp=Z,1.1nm,0.5s,baz=205,slow=6.5,SNR=5.7						

IDC 29 09:11:28.2±4.5, 5°.83S×153°.17E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.2/34, mbtmp3.4/2, Error ellipse: s-maj=225.6km s-min=54.7km az=124.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.06	231	P	P	09 16 35.6	+0.1
	1.0nm,0.8s,baz=56,slow=9.5,SNR=3.7						
ASAR	Alice Springs	25.66	224	P	P	09 16 59.5	-0.5
	0.5nm,0.7s,baz=56,slow=7.9,SNR=5.4						
TORD	Torodi Ar. Bea	150.96	287	PKPbc	PKPbc	09 31 24.2	+0.1
	0.4nm,0.8s,baz=72,slow=2.2,SNR=2.2						

IDC ***29*** *09:11:31.5±0.7, 13°.89N×120°.78E, h191km±7km, mb3.3/8, mb1 3.4/8, mb1mx3.1/40, mbtmp3.8/8, Error ellipse: s-maj=42.5km s-min=12.3km az=63.0*
MAN ***29*** *09:11:33.1, 13°.89N×120°.58E, h165km, mb4.3, ML3.1, MS2.8*

ISC 29 09:11:31.6±0.8, 13°.86N±0°.06×120°.60E±0°.08, h187km±6km, n19, σ1s01/26, mb3.5/8, 2C-2D, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	Lubang	0.36	249	eP	Pn	09 11 56.8	+0.1
LUBP				eS	Sn	09 12 14.5	-1.6
TGY	Tagaytay City	0.41	54	P	Pn	09 11 57.3	+0.3
	228nm,0.3s,baz=263,slow=3.6,SNR=16						
TGY	Tagaytay City	0.41	54	‖eP	Pn	09 11 57.8	+0.8
PGP	Puerto Galera	0.50	136	‖eP	Pn	09 11 57.1	-0.3
PGP				i S	Sn	09 12 16.4	-0.7
LQP	Lukban	0.95	75	i P	Pn	09 12 00.3	+0.4
LQP				i S	Sn	09 12 24.5	+2.7
BOAC	Boac	1.28	108	eP	Pn	09 12 02.5	+0.2
SJMP	San Jose	1.48	160	eP	Pn	09 12 04.1	0.0
SJMP				eS	Sn	09 12 28.0	-1.3
GQP	Guinayangan	1.80	88	‖eP	Pn	09 12 07.4	+0.3
BUSP	Coron	1.89	192	eP	Pn	09 12 09.3	+1.2
BUSP				eS	Sn	09 12 37.0	+0.6
OTRP	Odiongan	2.04	137	eP	Pn	09 12 10.9	+1.2
OTRP				eS	Sn	09 12 38.9	-0.3
ENPP	El Nido	2.88	204	eP	Pn	09 12 20.3	+1.1
ENPP				eS	Sn	09 12 56.5	+0.1
CMAR	Chiang Mai Arr	21.29	285	P	P	09 16 04.8	+1.1
	1.1nm,0.8s,baz=107,slow=8.3,SNR=5.4						
SONM	Songino Array	35.87	344	P	P	09 18 13.9	+0.3
	0.4nm,0.6s,baz=157,slow=9.4,SNR=1.4						
WRA	Warramunga Arr	36.21	158	P	P	09 18 16.0	-0.7
	0.3nm,0.3s,baz=326,slow=10,SNR=12						
ASAR	Alice Springs	39.51	161	P	P	09 18 43.4	-0.8
	0.5nm,0.3s,baz=335,slow=8.3,SNR=25						
MKAR	Makanchi Array	45.84	324	P	P	09 19 35.5	+0.5
	0.5nm,0.3s,baz=116,slow=7.8,SNR=14						
ZALV	Zalesovo Beam	48.87	333	P	P	09 19 57.2	-1.0
	0.9nm,0.4s,baz=141,slow=4.8,SNR=3.6						
KURBB	Kurchatov Arra	50.00	326	P	P	09 20 07.3	+0.5
	1.4nm,0.6s,baz=134,slow=7.5,SNR=8.3						
ARCES	ARCESS Array B	78.90	339	P	P	09 23 12.9	-0.8
	0.5nm,0.6s,baz=74,slow=6.7,SNR=6.7						

IDC ***29*** *09:12:25.2±1.5, 54°.70S×26°.92W, h0km, mb3.8/2, mb1 3.9/3, mb1mx3.6/23, mbtmp3.8/3, ML4.0/1, Error ellipse: s-maj=59.9km s-min=37.4km az=60.0*
NEIC ***29*** *09:12:27.2±2.4, 54°.8S±0°.1×27°.1W±0°.2, h10km±1km, mb4.4/9, Error ellipse: s-maj=27.6km s-min=18.9km az=41.0*

ISC 29 09:12:26.8±0.8, 54°.8S±0°.1×27°.1W±0°.2, h10km, n18, σ0s86/18, mb4.0/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.48	272	Pn	Pn	09 13 47.6	-0.8
SNAA	Sanae	19.89	158	P	P	09 16 57.9	-0.1
	0.4nm,0.3s,baz=315,slow=18,SNR=2.2						
SNAA	Sanae	19.89	158	P	P	09 16 57.8	-0.1
SPB	Sao Paulo	34.64	326		P	09 19 15.9	-0.2
QSPA	South Pole Qui	35.46	180	P	P	09 19 22.4	-0.7
QSPA				IAmb	IAmb	09 19 32.0	
	comp=Z,3.1nm,1.2s						
CO01	Juntas del Tor	39.38	291	P	P	09 19 57.8	+1.1
CO01				IAmb	IAmb	09 20 04.9	
	comp=Z,4.3nm,1.1s						
PB01	IPOC Station P	46.31	299	P	P	09 20 53.6	+0.9
PB01				IAmb	IAmb	09 21 03.7	
	comp=Z,14nm,1.4s						
PB08	IPOC Station P	46.90	301	P	P	09 20 57.7	0.0
PB08				IAmb	IAmb	09 21 11.3	
	comp=Z,11nm,1.4s						
MNMC	Minye Minye	47.98	301	P	P	09 21 05.4	-0.6
LPAZ	La Paz	49.69	304	P	P	09 21 19.1	-0.4
	comp=Z,0.7nm,0.6s,baz=121,slow=5.9,SNR=1.3						
LPAZ	La Paz	49.69	304	P	P	09 21 19.4	-0.1
CASY	Casey	55.08	161	P	P	09 21 58.7	+0.5
CASY				IAmb	IAmb	09 22 16.1	
	comp=Z,7.8nm,1.5s						
TORD	Torodi Ar. Bea	71.94	30	P	P	09 23 49.2	-1.0
	comp=Z,0.8nm,0.8s,baz=189,slow=4.3,SNR=2.3						
IL31		149.29	313	PKPbc	PKiKP	09 32 15.5	+0.2
ILAR	Eielson Array	149.29	313	PKPbc	PKiKP	09 32 14.8	-0.6
	comp=Z,0.4nm,0.5s,baz=104,slow=1.9,SNR=1.2						
KDAK	Kodiak Island	150.27	298	PKPbc	PKiKP	09 32 19.3	+1.8
TOLK	Toolik Lake Re	150.74	321	PKPbc	PKiKP	09 32 19.8	+1.5
BPAW	Bear Paw Mtn.	150.94	311	PKPbc	PKiKP	09 32 19.5	+0.7

IDC ***29*** *09:29:37.0±1.3, 55°.29S×27°.94W, h0km, mb3.8/2, mb1 3.8/3, mb1mx3.6/24, mbtmp3.8/3, ML3.9/1, Error ellipse: s-maj=73.4km s-min=27.5km az=91.0*
NEIC ***29*** *09:29:38.8±1.4, 55°.3S±0°.1×28°.1W±0°.2, h10km±1km, mb4.2/6, Error ellipse: s-maj=27.1km s-min=17.8km az=41.0*

ISC 29 09:29:41.2±0.9, 55°.3S±0°.1×28°.2W±0°.1, h26km, n13, σ0s81/13, mb3.9/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	4.90	279	Pn	Pn	09 30 51.9	-1.1
EFI	East Falkland	18.06	269		P	09 33 50.9	+0.6
EFI				IAmb	IAmb	09 33 53.2	
	comp=Z,38nm,1.2s						
SNAA	Sanae	19.66	156	P	P	09 34 06.5	-1.3
	comp=Z,0.3nm,0.3s,baz=319,slow=12,SNR=12						
SNAA	Sanae	19.66	156	P	P	09 34 07.0	-0.8
QSPA	South Pole Qui	34.95	180	P	P	09 36 30.6	-0.1
	comp=Z,0.6nm,0.6s,baz=4.2,slow=1.3,SNR=6.8						
QSPA	South Pole Qui	34.95	180	P	P	09 36 30.9	+0.2
VNDA	Vanda	47.29	183	P	P	09 38 12.6	+0.9
VNDA				IAmb	IAmb	09 38 16.3	
	comp=Z,0.6nm,0.7s						
LPAZ	La Paz	49.47	306	P	P	09 38 30.8	+1.0
LPAZ				IAmb	IAmb	09 38 36.2	
	comp=Z,2.7nm,1.3s						
CASY	Casey	54.81	161	P	P	09 39 08.6	+0.4
CASY				IAmb	IAmb	09 39 21.5	
	comp=Z,7.7nm,1.4s						
TOA0	Torodi Ar. Sit	72.69	31	P	P	09 41 06.8	+0.2
TORD	Torodi Ar. Bea	72.69	31	P	P	09 41 06.1	-0.5
	comp=Z,0.6nm,0.4s,baz=204,slow=6.4,SNR=8.4						
ILAR	Eielson Array	149.19	313	PKPbc	PKPbc	09 49 25.4	-0.3
	comp=Z,0.8nm,0.8s,baz=122,slow=2.8,SNR=6.3						
SONM	Songino Array	151.25	86	PKPbc	PKPbc	09 49 30.8	-0.6
	comp=Z,0.3nm,0.4s,baz=261,slow=2.8,SNR=4.7						

IDC ***29*** *09:30:47.7±0.6, 55°.37S×28°.22W, h0km, mb4.3/11, mb1 4.3/12, mb1mx4.2/24, mbtmp4.3/12, ML4.4/1, MS5.3/1, Ms1 5.3/1, ms1mx4.5/24, Error ellipse: s-maj=22.1km s-min=16.3km az=66.0*
NEIC ***29*** *09:30:49.8±1.4, 55°.4S±0°.1×28°.1W±0°.1, h10km±1km, mb4.7/22, Error ellipse: s-maj=18.6km s-min=13.9km az=178.0*

ISC 29 09:30:52.0±0.5, 55°.38S±0°.09×28°.17W±0°.09, h26km, n72, σ0s96/69, mb4.7/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	Hope Point	4.94	279	Pn	Pn	09 32 03.1	-1.2
VNA1	Neumayer--Stat	17.62	158	P	P	09 34 59.1	+3.0
VNA3	Neumayer Olymp	17.80	160	P	Pn	09 34 55.5	-2.1
VNA2	Neumayer--Watz	18.02	158	P	Pn	09 34 57.5	-2.7
EFI	East Falkland	18.08	269		P	09 35 01.9	+0.5
EFI				IAmb	IAmb	09 35 18.6	
	comp=Z,44nm,1.4s						
SNAA	Sanae	19.58	156	P	P	09 35 17.6	-0.1
SNAA	Sanae	19.58	156	P	P	09 35 17.2	-0.5
	comp=Z,1.1nm,0.3s,baz=304,slow=10.0,SNR=20						
SNAA	Sanae	19.58	156	P	P	09 35 17.7	+0.1
QSPA	South Pole Qui	34.87	180	P	P	09 37 40.8	0.0
	comp=Z,4.1nm,0.5s,baz=348,slow=0.6,SNR=31						
QSPA	South Pole Qui	34.87	180	P	P	09 37 41.6	+0.8
QSPA				IAmb	IAmb	09 37 56.3	
	comp=Z,14nm,1.4s						
CPUP	Villa Florida	35.95	312	P	P	09 37 49.0	-1.2
	comp=Z,8.3nm,0.9s,baz=145,slow=7.5,SNR=8.3						
CPUP	Villa Florida	35.95	312	P	P	09 37 49.2	-1.1
MT01	Popeta	36.65	288		P	09 37 56.4	+0.1
MT01				IAmb	IAmb	09 38 14.1	
	comp=Z,16nm,1.2s						
MT02	Curacav	37.05	289	P	P	09 38 02.7	+3.1
CO01	Juntas del Tor	39.05	293	P	P	09 38 19.6	+2.9
ACO1	El Transito	40.05	294	P	P	09 38 25.2	+0.3
SUR	Sutherland	41.01	77	P	P	09 38 32.9	0.0
	comp=Z,5.4nm,0.9s,baz=172,slow=7.1,SNR=2.1						
SUR	Sutherland	41.01	77	P	P	09 38 33.5	+0.5
MAW	Mawson	41.02	144	P	P	09 38 31.7	-0.6
	comp=Z,1.0nm,0.6s,baz=259,slow=12,SNR=1.8						
MAW	Mawson	41.02	144	P	P	09 38 33.1	+0.8
BDFB	Brasilia	42.51	331	P	P	09 38 44.3	-0.9
	comp=Z,1.6nm,0.9s,baz=168,slow=20,SNR=1.9						
BDFB	Brasilia	42.51	331	P	P	09 38 45.6	+0.4
GO02	Mina Guanaco	42.69	298	P	P	09 38 47.4	+0.5
GO02				IAmb	IAmb	09 38 58.9	
	comp=Z,25nm,1.3s						
LVC	Limon Verde	44.49	301	P	P	09 39 02.4	+1.0
LVC				IAmb	IAmb	09 39 03.8	
	comp=Z,19nm,1.4s						
PB01	IPOC Station P	46.09	301	P	P	09 39 14.6	+0.8
PB01				IAmb	IAmb	09 39 15.9	
	comp=Z,9.0nm,0.8s						
BOSA	Boshof	46.35	77	P	P	09 39 15.5	-0.4
	comp=Z,2.4nm,0.8s,baz=160,slow=5.9,SNR=3.9						
BOSA	Boshof	46.35	77	P	P	09 39 16.3	+0.5
BOSA				IAmb	IAmb	09 39 28.8	
	comp=Z,6.7nm,1.1s						
PB08	IPOC Station P	46.70	302	P	P	09 39 20.0	+1.1
PB08				IAmb	IAmb	09 39 24.7	
	comp=Z,9.4nm,1.0s						
GO01	Chusmiza	47.12	302	P	P	09 39 23.0	+0.7
VNDA	Vanda	47.21	183	P	P	09 39 21.8	-0.1
	comp=Z,3.2nm,0.7s,baz=187,slow=6.8,SNR=24						
VNDA				LR	LR	09 57 02.7	
	comp=Z,3μm,19.6s,baz=254,slow=33						
VNDA	Vanda	47.21	183	P	P	09 39 22.2	+0.4
VNDA				IAmb	IAmb	09 39 24.2	
	comp=Z,4.1nm,0.8s						
MNMC	Minye Minye	47.77	302	P	P	09 39 28.2	+1.0
H10N1	ASCENSION HYDR	48.65	18	T	T	10 32 59.8	
	baz=189						
H10N3	ASCENSION HYDR	48.65	18	T	T	10 32 47.7	
	baz=189						
H10N2	ASCENSION HYDR	48.66	18	T	T	10 32 54.4	
	baz=189						
LPAZ	La Paz	49.54	306	P	P	09 39 40.7	-0.5
	comp=Z,3.8nm,0.5s,baz=142,slow=4.7,SNR=20						
LPAZ	La Paz	49.54	306	P	P	09 39 40.9	-0.3
LPAZ				IAmb	IAmb	09 39 42.8	
	comp=Z,17nm,1.3s						
TSUM	Tsumeb	49.85	62	P	P	09 39 42.8	-0.2
	comp=Z,1.1nm,0.6s,baz=246,slow=19,SNR=1.4						
TSUM	Tsumeb	49.85	62	P	P	09 39 43.3	+0.4
TSUM				IAmb	IAmb	09 40 01.8	
	comp=Z,5.2nm,1.0s						
CASY	Casey	54.72	161	P	P	09 40 19.3	+0.9
CASY				IAmb	IAmb	09 40 29.4	
	comp=Z,7.2nm,0.8s						
TOA0	Torodi Ar. Sit	72.75	31	P	P	09 42 18.0	+0.2
TORD	Torodi Ar. Bea	72.75	31	P	P	09 42 17.8	+0.1
	comp=Z,3.9nm,0.7s,baz=202,slow=6.3,SNR=18						
ASAR	Alice Springs	99.79	163	P	Pdif	09 44 32.6	-1.3
	comp=Z,0.4nm,0.7s,baz=177,slow=4.0,SNR=5.6						
FINES	FINESS Array B	124.05	28	PKP	PKPdf	09 49 46.1	-0.3
	comp=Z,1.9nm,0.8s,baz=146,slow=1.4,SNR=6.5						
BMO	Blue Mountains	124.83	300		PKiKP	09 49 49.1	+0.2
G08A	Pilot Rock

comp=Z,3.9nm,0.6s
QSPA South Pole Qui 34.95 180 P **P** 09 44 20.4 -1.0
comp=Z,0.6nm,0.4s,baz=226,slow=1.7
QSPA South Pole Qui 34.95 180 P **P** 09 44 22.4 +1.0
GO05 Huala 35.95 286 P **P** 09 44 29.2 -0.9
GO05 IAmb IAmb 09 44 40.8
comp=Z,12nm,1.2s
MT01 Popeta 36.44 288 P **P** 09 44 33.6 -0.8
MT01 IAmb IAmb 09 44 48.2
comp=Z,16nm,1.4s
MT02 Curacav 36.84 289 P **P** 09 44 37.9 +0.2
MT02 IAmb IAmb 09 44 50.4
comp=Z,24nm,1.4s
ROC1 El Roble 36.99 289 P **P** 09 44 39.9 +0.6
CO02 Combarbal 38.35 291 P **P** 09 44 51.8 +1.1
SUR Sutherland 41.19 77 P **P** 09 45 13.6 -0.8
comp=Z,3.3nm,0.8s,baz=252,slow=19
SUR Sutherland 41.19 77 P **P** 09 45 14.9 +0.5
MAW Mawson 41.19 144 P **P** 09 45 12.8 -1.0
comp=Z,1.0nm,0.7s,baz=254,slow=14,SNR=1.7
MAW Mawson 41.19 144 P **P** 09 45 13.9 +0.1
GO02 Mina Guanaco 42.48 298 P **P** 09 45 25.9 +0.8
GO02 IAmb IAmb 09 45 26.6
comp=Z,12nm,0.6s
VNDA Vanda 47.28 183 P **P** 09 46 03.1 +0.7
comp=Z,0.7nm,0.6s,baz=183,slow=6.2,SNR=13
VNDA Vanda 47.28 183 P **P** 09 46 03.4 +1.0
VNDA IAmb IAmb 09 46 23.2
comp=Z,1.6nm,1.1s
LPAZ La Paz 49.33 306 P **P** 09 46 20.4 +0.8
comp=Z,1.4nm,0.7s,baz=166,slow=8.3,SNR=1.9
LPAZ La Paz 49.33 306 P **P** 09 46 20.4 +0.8
LPAZ IAmb IAmb 09 46 34.8
comp=Z,4.3nm,1.4s
TORD Torodi Ar. Bea 72.79 31 P **P** 09 48 57.9 -0.2
comp=Z,0.7nm,0.6s,baz=198,slow=6.1,SNR=6.1
TAU Tasmania Unive 82.09 177 P **P** 09 49 49.5 -0.4
ILAR Eielson Array 149.06 313 PKPbc **PKPbc** 09 57 16.6 +0.2
comp=Z,1.4nm,0.6s,baz=118,slow=1.6,SNR=20
SONM Songino Array 151.43 86 PKPbc **PKPbc** 09 57 22.8 -0.1
comp=Z,0.6nm,0.6s,baz=252,slow=2.9,SNR=2.7

*IDC **29** 09:38:55.6±0.8, 55°.31S×28°.67W, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/24, mbtmp3.9/7, ML4.3/1, Error ellipse: s-maj=39.4km s-min=20.1km az=68.0*
*NEIC **29** 09:38:57.3±1.3, 55°.3S±0°.1×28°.7W±0°.2, h10km±1km, mb4.5/11, Error ellipse: s-maj=27.3km s-min=14.8km az=40.0*
ISC 29 09:38:57.4±0.7, **55°.3S**±0°.1×**28°.7W**±0°.1, **h10**km, **n24,** σ**0s65/23, mb4.2/9, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.64**	**279**	Pn	**Pn**	**09 40 07.2**	**-0.3**
SNAA	**Sanae**	**19.78**	**156**	P	**P**	**09 43 26.8**	**-0.5**
	0.9nm,0.3s,baz=310,slow=11,SNR=9.3						
SNAA	**Sanae**				**P**	**09 43 26.9**	**-0.4**
QSPA	**South Pole Qui**	**34.96**	**180**	P	**P**	**09 45 49.0**	**-0.3**
	1.2nm,0.6s,baz=162,slow=12,SNR=2.4						
QSPA	**South Pole Qui**	**34.96**	**180**	P	**P**	**09 45 49.9**	**+0.6**
QSPA				IAmb	IAmb	09 45 56.7	
	comp=Z,11nm,1.5s						
CPUP	**Villa Florida**	**35.68**	**312**	P	**P**	**09 45 55.1**	**-0.5**
	comp=Z,2.2nm,0.8s,baz=137,slow=9.2,SNR=1.8						
CPUP	**Villa Florida**	**35.68**	**312**	P	**P**	**09 45 55.4**	**-0.3**
CPUP				IAmb	IAmb	09 46 07.5	
	comp=Z,4.0nm,1.0s						
GO05	**Huala**	**35.87**	**286**		**P**	**09 45 58.2**	**+0.9**
MT01	**Popeta**	**36.36**	**288**		**P**	**09 46 00.6**	**-0.8**
MT01				IAmb	IAmb	09 46 12.4	
	comp=Z,21nm,1.4s						
MT02	**Curacav**	**36.75**	**289**	P	**P**	**09 46 04.7**	**-0.1**
CO02	**Combarbal**	**38.27**	**291**	P	**P**	**09 46 18.7**	**+0.9**
CO02				IAmb	IAmb	09 46 32.9	
	comp=Z,25nm,1.2s						
MAW	**Mawson**	**41.25**	**144**	P	**P**	**09 46 42.4**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=294,slow=10.0,SNR=1.9						
MAW	**Mawson**	**41.25**	**144**	P	**P**	**09 46 42.9**	**+0.9**
VNDA	**Vanda**	**47.29**	**183**	P	**P**	**09 47 28.9**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=177,slow=5.9,SNR=5.2						
VNDA	**Vanda**	**47.29**	**183**	P	**P**	**09 47 31.0**	**+0.8**
VNDA				IAmb	IAmb	09 47 38.5	
	comp=Z,1.3nm,0.8s						
LPAZ	**La Paz**	**49.26**	**306**	P	**P**	**09 47 47.0**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=238,slow=10,SNR=3.3						
LPAZ	**La Paz**	**49.26**	**306**	P	**P**	**09 47 47.8**	**+1.0**
LPAZ				IAmb	IAmb	09 48 04.6	
	comp=Z,6.1nm,1.4s						
TOA0	**Torodi Ar. Sit**	**72.82**	**31**	P	**P**	**09 50 26.1**	**0.0**
TOA0				IAmb	IAmb	09 50 29.3	
	comp=Z,4.6nm,1.2s						
TORD	**Torodi Ar. Bea**	**72.82**	**31**	P	**P**	**09 50 25.6**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=196,slow=6.7,SNR=6.0						
ARCES	**ARCESS Array B**	**130.55**	**22**	PKP	**PKPdf**	**09 58 06.5**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=199,slow=5.2,SNR=5.7						
INK	**Inuvik**	**144.69**	**322**	PKP	**PKPab**	**09 58 31.4**	**0.0**
	comp=Z,1.4nm,0.9s,baz=74,slow=9.2,SNR=2.1						
INK	**Inuvik**	**144.69**	**322**		PKPbc	09 58 31.7	+0.2
ILAR	**Eielson Array**	**149.99**	**313**	PKPbc	**PKPbc**	**09 58 44.0**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=117,slow=1.6,SNR=15						
SONM	**Songino Array**	**151.51**	**86**	PKPbc	**PKPbc**	**09 58 50.5**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=224,slow=4.0,SNR=3.1						

IDC 29 09:42:19.8±1.2, **55°.29S**×**28°.06W**, **h0**km, **mb3.6/4, mb1 3.7/5, mb1mx3.6/25, mbtmp3.6/5, ML3.5/1, Error ellipse: s-maj=53.9km s-min=25.7km az=77.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.64**	**156**	P	P	09 46 49.8	+0.1
	0.1nm,0.3s,baz=292,slow=12,SNR=5.5						
QSPA	**South Pole Qui**	**34.97**	**180**	P	P	09 49 12.8	-0.6
	0.7nm,0.7s,baz=199,slow=4.8,SNR=2.1						
VNDA	**Vanda**	**47.31**	**183**	P	P	09 50 54.8	+0.4
	0.3nm,0.5s,baz=166,slow=3.0,SNR=2.1						
LPAZ	**La Paz**	**49.53**	**306**	P	P	09 51 13.0	+0.1
	0.3nm,0.4s,baz=237,slow=15,SNR=2.0						
TORD	**Torodi Ar. Bea**	**72.64**	**30**	P	P	09 53 49.0	0.0
	0.5nm,0.7s,baz=196,slow=5.7,SNR=2.6						
ILAR	**Eielson Array**	**149.24**	**313**	PKPbc	PKPbc	10 02 08.1	-0.7
	0.7nm,0.7s,baz=123,slow=1.8,SNR=5.6						

*IDC **29** 09:43:06.7±0.6, 55°.38S×28°.03W, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.1/23, mbtmp4.2/10, ML4.6/1, Error ellipse: s-maj=23.3km s-min=18.3km az=63.0*
*NEIC **29** 09:43:08.7±1.4, 55°.3S±0°.1×28°.0W±0°.2, h10km±1km, mb4.6/16, Error ellipse: s-maj=23.5km s-min=17.4km az=199.0*
ISC 29 09:43:11.0±0.5, **55°.3S**±0°.1×**28°.1W**±0°.1, **h26**km, **n46,** σ**0s87/46, mb4.4/13, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.99**	**279**		**Pn**	**09 44 23.2**	**-0.9**
VNA1	**Neumayer--Stat**	**17.64**	**158**	P	**P**	**09 47 18.1**	**+2.8**
VNA3	**Neumayer Olymp**	**17.83**	**161**	P	**P**	**09 47 17.4**	**0.0**
VNA2	**Neumayer--Watz**	**18.04**	**158**	P	**P**	**09 47 19.5**	**-0.3**
SNAA	**Sanae**	**19.60**	**156**	P	**P**	**09 47 36.5**	**-0.4**
SNAA	**Sanae**	**19.60**	**156**	P	**P**	**09 47 36.2**	**-0.6**
	1.8nm,0.3s,baz=293,slow=9.8,SNR=29						
SNAA	**Sanae**	**19.60**	**156**	P	**P**	**09 47 36.2**	**-0.6**
QSPA	**South Pole Qui**	**34.92**	**180**	P	**P**	**09 50 00.1**	**-0.1**
	2.6nm,0.6s,baz=133,slow=0.4,SNR=17						
QSPA	**South Pole Qui**	**34.92**	**180**	P	**P**	**09 50 00.4**	**+0.2**
CPUP	**Villa Florida**	**35.68**	**312**	P	**P**	**09 50 08.6**	**-0.7**
	2.6nm,1.0s,baz=180,slow=14,SNR=2.0						
CPUP	**Villa Florida**	**35.97**	**312**	P	**P**	**09 50 09.0**	**-0.4**
CPUP				IAmb	IAmb	09 50 22.1	
	comp=Z,15nm,1.4s						
CFA	**Coronel Fontan**	**36.82**	**293**	P	**P**	**09 50 16.1**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=129,slow=10,SNR=2.2						
CO02	**Combarbal**	**38.60**	**291**	P	**P**	**09 50 31.8**	**0.0**
CO03	**El Pedregal**	**38.72**	**291**	P	**P**	**09 50 33.8**	**+1.0**
CO03				IAmb	IAmb	09 50 44.6	
	comp=Z,24nm,1.5s						
GO02	**Mina Guanaco**	**42.72**	**298**	P	**P**	**09 51 06.3**	**+0.2**
GO02				IAmb	IAmb	09 51 25.0	
	comp=Z,16nm,1.5s						
LVC	**Limon Verde**	**44.51**	**300**	P	**P**	**09 51 22.8**	**+2.2**
LVC				IAmb	IAmb	09 51 37.7	
	comp=Z,5.3nm,0.8s						
PB01	**IPOC Station P**	**46.12**	**301**	P	**P**	**09 51 34.0**	**+1.0**
BOSA	**Boshof**	**46.28**	**77**	P	**P**	**09 51 33.5**	**-0.8**
	comp=Z,2.3nm,0.8s,baz=226,slow=9.6,SNR=4.2						
BOSA	**Boshof**	**46.28**	**77**	P	**P**	**09 51 34.3**	**0.0**
BOSA				IAmb	IAmb	09 51 40.5	
	comp=Z,9.1nm,1.4s						
PB08	**IPOC Station P**	**46.72**	**302**	P	**P**	**09 51 39.4**	**+1.3**
GO01	**Chusmiza**	**47.15**	**302**	P	**P**	**09 51 42.5**	**+0.9**
GO01				IAmb	IAmb	09 51 43.3	
	comp=Z,4.6nm,0.7s						
VNDA	**Vanda**	**47.26**	**183**	P	**P**	**09 51 40.0**	**-1.2**
	comp=Z,1.6nm,0.7s,baz=146,slow=4.3,SNR=12						
VNDA	**Vanda**	**47.26**	**183**	P	**P**	**09 51 42.4**	**+1.2**
MNMC	**Minye Minye**	**47.80**	**302**	P	**P**	**09 51 47.4**	**+1.0**
LPAZ	**La Paz**	**49.56**	**306**	P	**P**	**09 52 00.7**	**+0.4**
	comp=Z,2.5nm,0.5s,baz=142,slow=5.2,SNR=16						
LPAZ	**La Paz**	**49.56**	**306**	P	**P**	**09 52 01.1**	**+0.8**
LPAZ				IAmb	IAmb	09 52 01.4	
	comp=Z,3.3nm,0.7s						
TSUM	**Tsumeb**	**49.77**	**62**	P	**P**	**09 52 01.1**	**-0.3**
SAML	**Samuel**	**53.95**	**315**	P	**P**	**09 52 32.4**	**0.0**
MATP	**Matopo**	**54.55**	**74**	P	**P**	**09 52 36.8**	**-0.1**
	comp=Z,1.1nm,0.5s,baz=227,slow=8.1,SNR=2.6						
TOA0	**Torodi Ar. Sit**	**72.68**	**30**	P	**P**	**09 54 36.9**	**+0.6**
TOA0				IAmb	IAmb	09 54 37.3	
	comp=Z,6.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**72.68**	**30**	P	**P**	**09 54 36.6**	**+0.3**
	comp=Z,4.3nm,0.8s,baz=201,slow=6.4,SNR=16						
ASAR	**Alice Springs**	**99.82**	**163**	P	**Pdif**	**09 56 51.1**	**-1.8**
	comp=Z,0.3nm,0.7s,baz=178,slow=4.6,SNR=4.1						
FINES	**FINESS Array B**	**123.98**	**28**	PKP	**PKPdf**		
	comp=Z,0.7nm,0.6s,baz=164,slow=9.3,SNR=5.4						
ARCES	**ARCESS Array B**	**130.46**	**22**	PKP	**PKPdf**	**10 02 17.3**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=204,slow=1.2,SNR=8.0						
YKA	**Yellowknife Ar**	**135.31**	**319**	PKP	**PKPdf**	**10 02 26.8**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=138,slow=1.7,SNR=4.7						
DOT	**Dot Lake**	**147.80**	**311**		**PKPbc**	**10 02 51.6**	**-0.4**
SCRK	**Sand Creek**	**147.86**	**312**		**PKPbc**	**10 02 52.8**	**+0.6**
RIDG	**Independent Ri**	**148.16**	**311**		**PKPbc**	**10 02 53.8**	**+0.8**
PAX	**Paxson**	**148.23**	**310**		**PKPbc**	**10 02 54.2**	**+1.0**
IL31		**149.27**	**313**		**PKPbc**	**10 02 55.9**	**+0.3**
ILAR	**Eielson Array**	**149.27**	**313**	PKPbc	**PKPbc**	**10 02 55.8**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=127,slow=2.2,SNR=23						
WRH	**Wood River Hil**	**149.72**	**312**		**PKPbc**	**10 02 57.2**	**+0.4**
RND	**Reindeer**	**149.83**	**310**		**PKiKP**	**10 02 58.2**	**+0.1**
TOLK	**Toolik Lake Re**	**150.81**	**320**		**PKiKP**	**10 03 00.2**	**+0.2**
BPAW	**Bear Paw Mtn.**	**150.89**	**311**		**PKPbc**	**10 03 00.0**	**+0.3**
SONM	**Songino Array**	**151.17**	**86**	PKPbc	**PKPbc**	**10 03 00.3**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=250,slow=2.0,SNR=5.1						

IDC 29 09:53:18.1±1.1, **55°.35S**×**28°.15W**, **h0**km, **mb3.6/4, mb1 3.7/4, mb1mx3.6/21, mbtmp3.6/4, Error ellipse: s-maj=54.9km s-min=27.0km az=86.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QSPA	**South Pole Qui**	**34.91**	**180**	P	P	10 00 11.1	0.0
	0.6nm,0.5s,baz=206,slow=1.7,SNR=7.9						
VNDA	**Vanda**	**47.25**	**183**	P	P	10 01 52.0	-0.2
	0.2nm,0.3s,baz=150,slow=11,SNR=2.0						
LPAZ	**La Paz**	**49.52**	**306**	P	P	10 02 10.9	-0.2
	0.5nm,0.6s,baz=162,slow=3.2,SNR=2.1						
TORD	**Torodi Ar. Bea**	**72.72**	**31**	P	P	10 04 47.7	0.0
	0.5nm,0.6s,baz=206,slow=5.2,SNR=4.7						
ILAR	**Eielson Array**	**149.24**	**313**	PKPbc	PKPbc	10 13 06.7	-0.4
	0.7nm,0.6s,baz=98,slow=1.4,SNR=9.5						

*IDC **29** 09:55:09.6±0.8, 55°.32S×27°.92W, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/21, mbtmp4.1/4, Error ellipse: s-maj=40.1km s-min=23.1km az=88.0*
*NEIC **29** 09:55:11.2±0.9, 55°.3S±0°.2×27°.8W±0°.2, h10km±1km, mb4.4/9, Error ellipse: s-maj=27.5km s-min=19.5km az=30.0*
ISC 29 09:55:13.5±0.7, **55°.3S**±0°.1×**28°.0W**±0°.1, **h26**km, **n29,** σ**0s84/26, mb4.4/7, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.02**	**278**	Pn	**Pn**	**09 56 25.0**	**-2.1**
SNAA	**Sanae**	**19.60**	**156**	P	**P**	**09 59 39.0**	**-0.5**
PLCA	**Paso Flores**	**31.43**	**280**		**P**	**10 01 33.8**	**+1.3**
QSPA	**South Pole Qui**	**34.94**	**180**	P	**P**	**10 02 02.6**	**-0.3**
	1.0nm,0.4s,baz=188,slow=1.8,SNR=14						
QSPA	**South Pole Qui**	**34.94**	**180**	P	**P**	**10 02 03.2**	**+0.3**
CO01	**Juntas del Tor**	**39.11**	**293**	P	**P**	**10 02 41.0**	**+2.2**
CO01				IAmb	IAmb	10 02 41.7	
	comp=Z,10nm,1.3s						
AC05	**El Transito**	**40.12**	**294**	P	**P**	**10 02 46.9**	**-0.2**
AC05				IAmb	IAmb	10 03 05.7	
	comp=Z,17nm,1.4s						
PB09	**IPOC Station P**	**45.39**	**301**	P	**P**	**10 03 30.9**	**+1.1**
VNDA	**Vanda**	**47.29**	**183**	P	**P**	**10 03 44.1**	**+0.2**
	comp=Z,0.9nm,0.7s,baz=181,slow=5.6,SNR=7.2						
VNDA	**Vanda**	**47.29**	**183**	P	**P**	**10 03 44.8**	**+0.8**
VNDA				IAmb	IAmb	10 03 55.9	
	comp=Z,1.5nm,0.9s						
MNMC	**Minye Minye**	**47.82**	**302**	P	**P**	**10 03 49.8**	**+0.7**
H10N1	**ASCENSION HYDR**	**48.55**	**18**	T	T	10 57 07.4	
	baz=191						
H10N3	**ASCENSION HYDR**	**48.55**	**18**	T	T	10 57 04.3	
H10N2	**ASCENSION HYDR**	**48.57**	**18**	T	T	10 57 06.7	
	baz=191						
LPAZ	**La Paz**	**49.58**	**306**	P	**P**	**10 04 03.2**	**+0.2**
	comp=Z,1.8nm,0.5s,baz=124,slow=5.1,SNR=15						
LPAZ	**La Paz**	**49.58**	**306**	P	**P**	**10 04 03.3**	**+0.3**
LPAZ				IAmb	IAmb	10 04 03.6	
	comp=Z,2.2nm,0.7s						
TOA0	**Torodi Ar. Sit**	**72.64**	**30**	P	**P**	**10 06 37.8**	**-0.8**
TOA0				IAmb	IAmb	10 06 42.3	
	comp=Z,11nm,1.5s						
TORD	**Torodi Ar. Bea**	**72.64**	**30**	P	**P**	**10 06 38.9**	**+0.3**
	comp=Z,2.3nm,0.5s,baz=202,slow=6.2,SNR=22						
FINES	**FINESS Array B**	**123.94**	**28**	PKP	**PKiKP**	**10 14 07.7**	**-0.3**
	comp=Z,2.6nm,1.0s,baz=226,slow=5.0,SNR=5.5						
ARCES	**ARCESS Array B**	**130.43**	**22**	PKP	**PKPdf**	**10 14 19.7**	**-0.2**
	comp=Z,1.3nm,0.8s,baz=228,slow=1.5,SNR=5.4						
SCRK	**Sand Creek**	**147.87**	**312**		**PKPbc**	**10 14 55.4**	**+0.5**
RIDG	**Independent Ri**	**148.18**	**311**		**PKiKP**	**10 14 56.6**	**-0.7**
IL31		**149.28**	**313**		**PKPbc**	**10 14 58.6**	**+0.4**
ILAR	**Eielson Array**	**149.28**	**313**	PKPbc	**PKPbc**	**10 14 58.5**	**+0.2**
	comp=Z,3.0nm,0.7s,baz=115,slow=1.8,SNR=26						
CCB	**Clear Creek Bu**	**149.65**	**312**		**PKPbc**	**10 14 59.0**	**-0.2**
WRH	**Wood River Hil**	**149.73**	**312**		**PKPbc**	**10 14 59.4**	**0.0**
RND	**Reindeer**	**149.85**	**310**		**PKiKP**	**10 15 00.4**	**-0.4**
TOLK	**Toolik Lake Re**	**150.82**	**320**		**PKiKP**	**10 15 02.3**	**-0.3**
SONM	**Songino Array**	**151.13**	**86**	PKPbc	**PKiKP**	**10 15 03.4**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=275,slow=0.4,SNR=4.7						

IDC 29 09:59:07.3±1.2, **55°.40S**×**28°.09W**, **h0**km, **mb3.7/3, mb1 3.7/3, mb1mx3.6/19, mbtmp3.7/3, Error ellipse: s-maj=52.8km s-min=28.0km az=75.0, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.55**	**156**	P	P	10 03 36.2	0.0
	baz=311,slow=20						
QSPA	**South Pole Qui**	**34.85**	**180**	P	P	10 05 59.6	-0.3
	1.0nm,1.0s,baz=63,slow=5.2,SNR=1.8						
LPAZ	**La Paz**	**49.58**	**306**	P	P	10 08 00.2	-0.6
	0.7nm,0.8s,baz=153,slow=2.3,SNR=2.0						
TORD	**Torodi Ar. Bea**	**72.75**	**30**	P	P	10 10 37.0	-0.2
	0.6nm,0.7s,baz=192,slow=7.4,SNR=4.4						
ILAR	**Eielson Array**	**149.30**	**313**	PKPbc	PKPbc	10 18 56.8	+0.4
	0.5nm,0.6s,baz=98,slow=1.8,SNR=2.4						

*DJA **29** 09:59:54.0±0.2, 8°.3±3°×12°.0E±°, h531km±3km, M4.8/20, mb4.7/18, mB5.5/7, MLv4.8/20, Mw(mB)4.9/7*
*NEIC **29** 09:59:54.2±1.2, 7°.31S±0°.08×120°.37E±0°.09, h533km±5km, mb4.5/30, Error ellipse: s-maj=13.9km s-min=11.1km az=57.0*
*IDC **29** 09:59:54.4±0.9, 7°.29S×120°.34E, h534km±9km, mb3.7/16, mb1 3.7/21, mb1mx3.5/41, mbtmp4.6/21, Error ellipse: s-maj=17.0km s-min=8.2km az=72.0*
ISC 29 09:59:53.8±0.5, **7°.39S**±0°.05×**120°.39E**±0°.06, **h529**km±5km, **n124,** σ**1s31**/135, **mb4.3**/24, **2C, Flores Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDFI	**Ende, Flores**	**1.87**	**136**	P	**P**	**10 01 00.7**	**-0.4**
EDFI				S	**S**	**10 01 53.1**	**-2.6**
MMRI	**Maumere**	**2.21**	**124**	P	**P**	**10 01 02.6**	**0.0**
MMRI				S	**S**	**10 01 56.5**	**-1.9**
MMRI	**Maumere**	**2.21**	**124**		**P**	**10 01 02.7**	**+0.1**
MMRI				S	**S**	**10 01 57.2**	**-1.3**
WSI	**Waingapu**	**2.27**	**182**	P	**P**	**10 01 03.9**	**+1.1**
KAPI	**Kappang**	**2.44**	**345**	P	**P**	**10 01 05.9**	**+2.1**
	178nm,0.3s,baz=153,slow=2.9,SNR=827						
KAPI	**Kappang**	**2.44**	**345**		**P**	**10 01 06.2**	**+2.4**
KAPI				S	**S**	**10 02 03.2**	**+2.6**
WBSI	**Waikabubak, Su**	**2.45**	**204**	P	**P**	**10 01 04.8**	**+0.9**
WBSI				S	**S**	**10 01 59.2**	**-1.6**
BASI	**Baing, Sumba**	**2.82**	**176**	P	**P**	**10 01 07.4**	**+1.4**
BBSI	**Bau Bau**	**2.88**	**49**	P	**P**	**10 01 08.4**	**+2.1**
PLAI	**Plampang**	**2.96**	**241**	P	**P**	**10 01 07.9**	**+1.1**
BNSI	**Bone**	**2.98**	**355**	P	**P**	**10 01 08.9**	**+1.9**
SPSI	**Sidrap Palu**	**3.46**	**350**	P	**P**	**10 01 11.7**	**+1.5**
BATI	**Baumata**	**4.28**	**131**	P	**P**	**10 01 17.8**	**+1.4**
	72nm,0.3s,baz=246,slow=1.9,SNR=47						
BATI				S	**S**	**10 02 21.4**	**-2.4**
	60nm,0.3s,baz=233,slow=0.2,SNR=6.6						
BATI	**Baumata**	**4.28**	**131**	P	**P**	**10 01 17.5**	**+1.1**
TTSI	**Tana Toraja**	**4.35**	**352**	P	**P**	**10 01 18.4**	**+1.4**
SOEI	**Soe**	**4.50**	**122**	P	**P**	**10 01 19.1**	**+0.8**
SOEI	**Soe**	**4.50**	**122**	P	**P**	**10 01 19.4**	**+1.1**
SOEI				S	**S**	**10 02 25.4**	**-1.8**
SRBI	**Singaraja**	**5.17**	**262**	P	**P**	**10 01 24.9**	**+1.0**
	0.9nm226nm,0.8s						
JAGI	**Jajag, Banyuwa**	**6.27**	**260**	P	**P**	**10 01 33.2**	**-0.8**
	1.8nm6µm194nm,0.5s						
JAGI	**Jajag, Banyuwa**	**6.27**	**260**	P	**P**	**10 01 33.8**	**-0.1**
LUWI	**Luwuk**	**6.74**	**21**	P	**P**	**10 01 39.6**	**+1.1**
	0.2nm43nm,0.7s						
LUWI	**Luwuk**	**6.74**	**21**	P	**P**	**10 01 39.6**	**+1.1**
MPSI	**Mapaga**	**7.69**	**356**	P	**P**	**10 01 49.8**	**+1.9**
	0.2nm4µm39nm,0.9s						
SANI	**Sanana**	**7.70**	**47**	P	**P**	**10 01 48.7**	**+0.8**
	0.5nm2µm146nm,0.7s						
MRSI	**Marisa**	**7.96**	**11**	P	**P**	**10 01 52.2**	**+1.6**
	0.1nm32nm,0.6s						
KMSI	**Cibinong**	**8.68**	**25**	P	**P**	**10 01 59.9**	**+2.0**
	96nm,0.5s						
UGM	**Wanagama**	**9.79**	**266**		**P**	**10 02 09.1**	**-0.3**
SAUI	**Saumlaki**	**10.83**	**94**	P	**P**	**10 02 20.2**	**0.0**
KNRA	**Kununurra**	**11.62**	**136**	P	**P**	**10 02 29.3**	**+0.9**
FITZ	**Fitzroy Crossi**	**11.81**	**155**	P	**P**	**10 02 31.9**	**+1.6**
	0.3nm,0.3s,baz=334,slow=8.6,SNR=13						
FITZ	**Fitzroy Crossi**	**11.81**	**155**	P	**P**	**10 02 31.8**	**+1.4**
MTN	**Manton Dam**	**11.88**	**118**	P	**P**	**10 02 31.8**	**+0.7**
CISI	**Cisompet, Garu**	**12.47**	**268**	P	**P**	**10 02 36.3**	**-1.1**
	4µm165nm,0.6s						
CISI	**Cisompet, Garu**	**12.47**	**268**	P	**P**	**10 02 36.5**	**-0.9**
FAKI	**Fak Fak**	**12.62**	**70**	P	**P**	**10 02 36.3**	**-2.6**
	112nm,0.7s						
FAKI	**Fak Fak**	**12.62**	**70**	P	**P**	**10 02 36.9**	**-2.0**
SIJI	**Sorong**	**12.63**	**60**	P	**P**	**10 02 38.2**	**-0.8**
	2.4nm,0.3s,baz=252,slow=3.3,SNR=5.5						
LEM	**Lembang**	**12.69**	**272**	P	**P**	**10 02 39.8**	**+0.1**
	6.6nm,0.3s,baz=7.9,slow=14,SNR=7.3						
LEM				S	**S**	**10 04 51.9**	**-4.5**
	6.5nm,0.3s,baz=281,slow=23,SNR=2.1						
SBUM	**Sibu**	**12.72**	**320**	P	**P**	**10 02 41.6**	**+1.6**
KSM	**Kuching**	**13.36**	**311**	P	**P**	**10 02 47.5**	**+0.9**
CBJI	**Citeko**	**13.47**	**273**	P	**P**	**10 02 50.9**	**+3.1**
TPI	**Tanjungpandan**	**13.49**	**289**	P	**P**	**10 02 49.2**	**+1.2**
	87nm,0.8s						
DBJI	**Dramaga**	**13.56**	**273**	P	**P**	**10 02 48.7**	**0.0**
	20µm59nm,0.5s						
KKM	**Kota Kinabalu**	**13.98**	**343**	P	**P**	**10 02 52.4**	**-0.7**
PSA00	**Pilbara Seismi**	**14.11**	**182**	P	**P**	**10 02 55.4**	**+1.0**
XMIS	**Christmas Isla**	**14.88**	**257**	P	**P**	**10 03 01.4**	**-1.0**
PPBI	**Pangkal Pinang**	**15.12**	**289**	P	**P**	**10 03 05.7**	**+0.8**
	44µm112nm,1.1s						
WB0	**Warramunga Arr**	**18.33**	**134**	P	**P**	**10 03 36.2**	**+0.4**
WB0				IAmb	IAmb	10 03 37.1	
	comp=Z,4.7nm,0.6s						
WRA	**Warramunga Arr**	**18.41**	**134**	P	**P**	**10

ZAA0					IAmb	IAmb	10 09 59.8		
	comp=Z,6.2nm,0.7s								
ZALV	**Zalesovo Beam**	**68.05**	**338**	P		**P**	**10 09 59.0**	**-1.2**	
	comp=Z,5.3nm,0.4s,baz=139,slow=5.0,SNR=22								
PETK	**Petropavlovsk-**	**68.06**	**23**	P		**P**	**10 10 00.1**	**-0.2**	
	comp=Z,3.2nm,0.7s,baz=190,slow=7.5,SNR=5.3								
KURK	**Kurchatov**	**68.18**	**333**	P		**P**	**10 10 00.9**	**-0.2**	
MAW	**Mawson**	**71.21**	**200**	P		**P**	**10 10 19.1**	**+0.2**	
	comp=Z,1.4nm,0.5s,baz=56,slow=11,SNR=3.6								
MAW	**Mawson**	**71.21**	**200**	P		**P**	**10 10 20.4**	**+1.4**	
GEYT	**Alibeck**	**73.34**	**313**	P		**P**	**10 10 30.6**	**-1.3**	
	comp=Z,0.9nm,0.5s,baz=91,slow=8.8,SNR=3.6								
VNDA	**Vanda**	**73.36**	**171**	P		**P**	**10 10 32.4**	**+1.1**	
	comp=Z,3.3nm,0.4s,baz=318,slow=6.4,SNR=51								
VNDA	**Vanda**	**73.36**	**171**	P		**P**	**10 10 32.5**	**+1.3**	
VNDA					IAmb	IAmb	10 10 32.7		
	comp=Z,4.4nm,0.6s								
BRVK	**Borovoye**	**73.61**	**331**	P		**P**	**10 10 32.8**	**-0.2**	
SYO	**Syowa Base**	**79.85**	**201**⇑	*eP*		**P**	**10 11 04.8**	**-2.1**	
SYO	**Syowa Base**	**79.85**	**201**⇑	*eP*		**P**	**10 11 08.8**	**+1.9**	
QSPA	**South Pole Qui**	**82.60**	**180**	P		**P**	**10 11 21.8**	**+0.5**	
	comp=Z,3.3nm,0.5s,baz=233,slow=0.5,SNR=65								
QSPA	**South Pole Qui**	**82.60**	**180**	P		**P**	**10 11 22.0**	**+0.7**	
BOSA	**Boshof**	**90.98**	**241**	P		**P**	**10 12 01.9**	**-0.2**	
	comp=Z,1.1nm,0.8s,baz=76,slow=5.5,SNR=3.9								
BOSA	**Boshof**	**90.98**	**241**	P		**P**	**10 12 02.3**	**+0.3**	
BOSA					IAmb	IAmb	10 12 19.8		
	comp=Z,7.2nm,1.5s								
SNAA	**Sanae**	**92.91**	**195**	P		**P**	**10 12 10.9**	**+1.0**	
SNAA	**Sanae**	**92.91**	**195**	P		**P**	**10 12 09.7**	**-0.2**	
	comp=Z,2.6nm,0.5s,baz=175,slow=3.5,SNR=6.4								
SNAA	**Sanae**	**92.91**	**195**	P		**P**	**10 12 10.9**	**+1.0**	
SNAA					IAmb	IAmb	10 12 11.4		
	comp=Z,2.5nm,0.6s								
YKA	**Yellowknife Ar**	**112.17**	**24**	PKiKP		**PKiKP**	**10 17 27.9**	**-1.0**	
	comp=Z,0.3nm,0.4s,baz=296,slow=1.9,SNR=6.8								
NVAR	**Mina Array Bea**	**118.94**	**50**	PKP		**PKiKP**	**10 17 43.3**	**+0.3**	
	comp=Z,0.4nm,0.6s,baz=255,slow=0.9,SNR=5.1								
TORD	**Torodi Ar. Bea**	**119.52**	**281**	PKP		**PKPdf**	**10 17 43.8**	**-0.6**	
	comp=Z,1.2nm,0.5s,baz=66,slow=1.2,SNR=7.1								
HLID	**Hailey**	**120.22**	**43**	PKP		**PKiKP**	**10 17 46.5**	**+1.1**	
PDAR	**Pinedale Array**	**123.81**	**43**	PKP		**PKiKP**	**10 17 52.4**	**-0.2**	
	comp=Z,0.2nm,0.5s,baz=112,slow=3.9,SNR=3.9								
PLCA	**Paso Flores**	**131.07**	**169**	PKP		**PKPdf**	**10 18 06.2**	**+0.3**	
	comp=Z,0.7nm,0.5s,baz=346,slow=1.3,SNR=4.0								
PLCA	**Paso Flores**	**131.07**	**169**			**PKiKP**	**10 18 07.7**	**+0.8**	
TXAR	**Lajitas Array**	**133.21**	**56**	PKP		**PKPdf**	**10 18 10.5**	**+0.2**	
	comp=Z,0.7nm,0.8s,baz=253,slow=1.3,SNR=3.7								
TXAR				SKPbc		**SKPbc**	**10 20 48.2**	**-0.8**	
	comp=Z,0.2nm,0.7s,baz=242,slow=1.9,SNR=3.6								
W50A	**Signal Mountai**	**143.63**	**37**			PKPab	10 18 27.2	-0.4	
TZTN	**Tazewell**	**143.68**	**33**			PKPbc	10 18 27.8	0.0	
V51A	**Loudon**	**143.77**	**35**			PKPab	10 18 27.9	-0.3	
FPAL	**Fort Paine**	**143.90**	**38**			PKPbc	10 18 27.8	-0.8	
CPCT	**Cooper Cave**	**143.92**	**36**			PKPbc	10 18 28.2	-0.5	
LRAL	**Lakeview Retre**	**144.00**	**41**			PKPab	10 18 28.9	-0.2	
V52A	**Sevierville**	**144.17**	**34**			**PKPab**	**10 18 29.4**	**-0.2**	
TKL	**Tuckaleechee C**	**144.20**	**35**			**PKPab**	**10 18 29.5**	**-0.2**	
CPUP	**Villa Florida**	**146.41**	**184**	PKPbc		**PKPbc**	**10 18 35.8**	**-0.4**	
	comp=Z,6.1nm,0.8s,baz=164,slow=3.5,SNR=8.2								
CPUP	**Villa Florida**	**146.41**	**184**			**PKPbc**	**10 18 37.1**	**+0.8**	
BDFB	**Brasilia**	**154.40**	**207**	PKP		**PKPdf**	**10 18 45.8**	**-0.8**	
	comp=Z,1.8nm,0.6s,baz=212,slow=2.7,SNR=4.7								
BDFB	**Brasilia**	**154.40**	**207**			**PKPdf**	**10 18 45.6**	**-1.0**	
LPAZ	**La Paz**	**155.01**	**160**	PKPab		**PKPab**	**10 19 15.5**	**+0.1**	
	comp=Z,3.8nm,0.6s,baz=200,slow=3.9,SNR=15								
LPAZ	**La Paz**	**155.01**	**160**			**PKPab**	**10 19 14.3**	**-1.1**	

*ISK **29** 10:00:52.8, 36°.23N×28°.92E, h15km, ML2.9/15*
*DDA **29** 10:00:53.6, 36°.25N×28°.94E, h7km±1km, ML2.5*
*NIC **29** 10:00:53.8±0.0, 36°.15N×29°.00E, h34km±11km, Ml3.2/2*
ISC 29 10:00:52.9±1.1,**36°.18N**±0°.03×**28°.94E**±0°.02,**h14**km±9km,
n35,σ0°**95**/53,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FETY	**Fethiye**	**0.47**	**14**	PG	**Pg**	**10 01 01.7**	**-0.5**
FETY				SG	**Sg**	**10 01 08.3**	**-0.3**
FETY	**Fethiye**	**0.47**	**14**	*i* P	**Pg**	**10 01 01.8**	**-0.5**
FETY				*i* S	**Sg**	**10 01 07.7**	**-0.9**
FETY				IAML		10 01 08.0	
	comp=N,650nm,0.5s						
FETY				IAML		10 01 09.0	
	comp=E,593nm,0.3s						
KSL	**Kastellorizon**	**0.52**	**93**	P	**Pg**	**10 01 04.0**	**+0.8**
KSL				S	**Sb**	**10 01 12.1**	**+0.9**
AKAS	**Kas**	**0.54**	**84**	PG	**Pg**	**10 01 04.3**	**+0.7**
AKAS				SG	**Sb**	**10 01 12.2**	**+0.3**
AKAS	**Kas**	**0.54**	**84**	*i* P	**Pg**	**10 01 04.3**	**+0.7**
AKAS				*i* S	**Sb**	**10 01 14.0**	**+2.2**
AKAS				IAML		10 01 16.0	
	comp=E,262nm,0.5s						
AKAS				IAML		10 01 17.0	
	comp=N,335nm,0.5s						
ARG	**Arkhangelos**	**0.66**	**273**	P	**Pb**	**10 01 06.8**	**+0.7**
ARG				S	**Sn**	**10 01 18.3**	**+0.3**
DALY	**Dalyan (Mula)**	**0.68**	**340**	PG	**Pg**	**10 01 05.5**	**-0.6**
DALY				SG	**Sb**	**10 01 14.7**	**-1.0**
DALY	**Dalyan (Mula)**	**0.68**	**340**	*i* P	**Pg**	**10 01 05.5**	**-0.6**
DALY				*i* S	**Sb**	**10 01 16.2**	**+0.5**
DALY				IAML		10 01 17.0	
	comp=E,316nm,0.3s						
DALY				IAML		10 01 17.0	
	comp=N,442nm,0.7s						
TURN	**Turunc**	**0.74**	**339**	PG	**Pb**	**10 01 08.1**	**+0.5**
TURN				SG	**Sn**	**10 01 19.2**	**-0.8**
TURN	**Turunc**	**0.74**	**339**	*i* P	**Pn**	**10 01 08.2**	**-0.7**
TURN				*i* S	**Sn**	**10 01 21.3**	**+1.3**
TURN				IAML		10 01 22.0	
	comp=N,150nm,0.3s						
TURN				IAML		10 01 23.0	
	comp=E,127nm,0.6s						
ELL	**Elmali**	**0.96**	**54**	PG	**Pb**	**10 01 11.6**	**+0.1**
ELL	**Elmali**	**0.96**	**54**	P	**Pb**	**10 01 10.9**	**-0.6**
YER	**Yerkesik**	**1.09**	**331**	PG	**Pb**	**10 01 13.2**	**-0.4**
AKUM	**Antalya-Kumluc**	**1.14**	**82**	*i* P	**Pn**	**10 01 14.7**	**+0.3**
AKUM				*i* S	**Sg**	**10 01 31.3**	**+1.5**
AKUM				IAML		10 01 34.0	
	comp=E,98nm,0.3s						
GOLH	**Golhisar**	**1.17**	**25**	*i* P	**Pb**	**10 01 14.3**	**-0.6**
GOLH				*i* S	**Sn**	**10 01 33.0**	**+2.3**
GOLH				IAML		10 01 33.0	
	comp=N,286nm,0.4s						
DAT	**Datca**	**1.23**	**297**	PN	**Pn**	**10 01 15.5**	**-0.2**
DAT	**Datca**	**1.23**	**297**	*i* P	**Pn**	**10 01 15.9**	**+0.2**
DAT				*i* S	**Sg**	**10 01 33.5**	**+0.9**
TAVA	**DENIZLI_Tavas**	**1.28**	**359**	*i* P	**Pn**	**10 01 15.4**	**-0.1**
TAVA				*i* S	**Sg**	**10 01 33.7**	**-0.7**
TAVA				IAML		10 01 34.0	
	comp=N,202nm,0.2s						
TAVA				IAML		10 01 35.0	
	comp=E,204nm,0.3s						
BDRM	**Kayabasi**	**1.49**	**307**	*i* P	**Pb**	**10 01 20.7**	**+0.3**
BDRM				*i* S	**Sg**	**10 01 42.1**	**+1.0**
BDRM				IAML		10 01 43.0	
	comp=N,81nm,0.4s						
ANTB	**Antalya**	**1.56**	**62**	PN	**Pn**	**10 01 20.6**	**+0.5**
BODT	**Bodrum**	**1.58**	**304**	PN	**Pn**	**10 01 20.4**	**-0.1**
BRDR	**BURDUR-Merkez**	**1.76**	**30**	*i* P	**Pb**	**10 01 24.3**	**-0.7**
BRDR				IAML		10 01 49.0	
	comp=E,61nm,0.4s						
BRDR				IAML		10 01 49.0	
	comp=N,75nm,0.4s						
BRDR				*i* S	**Sg**	**10 01 49.2**	**-0.3**
BCK	**Bucak**	**1.84**	**45**	PN	**Pn**	**10 01 24.5**	**+0.4**
GCAM	**G?zelcaml?**	**2.04**	**318**	PN	**Pn**	**10 01 26.9**	**+0.1**
KHAL	**Karahalli**	**2.23**	**11**	*i* P	**Pn**	**10 01 29.2**	**-0.3**
KHAL				*i* S	**Sb**	**10 02 00.2**	**-0.4**
KULA	**Kula-Manisa**	**2.34**	**355**	PN	**Pn**	**10 01 30.7**	**-0.3**
SHUT	**Suhut-Afyon**	**2.69**	**28**	PN	**Pn**	**10 01 36.4**	**+0.5**
GAZI	**Gazipasa**	**2.73**	**88**	PN	**Pn**	**10 01 34.5**	**-1.8**
URLA	**Izmir**	**2.87**	**320**	PN	**Pn**	**10 01 38.5**	**+0.3**
AKMS	**Akamas**	**3.00**	**112**	P	**Pn**	**10 01 38.4**	**-1.6**
AKMS				AML	AML	10 02 13.2	
	comp=N,0.4nm,0.5s						
AKMS				AML	AML	10 02 14.3	
	comp=N,0.2nm,0.4s						
ALFC	**Alefka**	**3.15**	**108**	P	**Pn**	**10 01 40.3**	**-1.7**
ALFC				AML	AML	10 02 19.1	
	comp=N,0.1nm,0.5s						
ALFC				AML	AML	10 02 20.8	
	comp=N,0.2nm,0.6s						
OSC1	**CSNet OBS 1**	**3.29**	**144**	P	**Pn**	**10 01 42.3**	**-1.7**
OSC1				S	**Sn**	**10 02 21.2**	**-1.7**
SZAC	**Souni**	**3.52**	**113**	P	**Pn**	**10 01 45.8**	**-1.3**
ASGA	**Asgata**	**3.78**	**110**	P	**Pn**	**10 01 49.7**	**-1.0**
MVOU	**Mavrovouni**	**4.00**	**106**	P	**Pn**	**10 01 53.1**	**-0.6**

*IDC **29** 10:04:56.7±0.6, 55°.33S×27°.98W, h0km, mb4.3/7, mb1 4.5/8, mb1mx4.2/21, mbtmp4.4/8, ML4.7/1, Error ellipse: s-maj=27.5km s-min=18.8km az=73.0*
*NEIC **29** 10:04:58.6±1.4, 55°.3S±0°.1×28°.0W±0°.2, h10km±1km, mb4.6/13, Error ellipse: s-maj=24.9km s-min=17.7km az=203.0*
ISC 29 10:05:00.8±0.5,**55°.3S**±0°.1×**28°.1W**±0°.1,**h26**km,**n47**,
σ0°**68**/43,**mb4.6**/10,**1D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.98**	**279**		**Pn**	**10 06 12.5**	**-1.3**
VNA3	**Neumayer Olymp**	**17.83**	**161**	P	**Pn**	**10 09 06.5**	**-0.2**
SNAA	**Sanae**	**19.59**	**156**	P	**P**	**10 09 26.3**	**-0.4**
SNAA	**Sanae**	**19.59**	**156**	P	**P**	**10 09 26.0**	**-0.6**
	2.5nm,0.3s,baz=288,slow=11,SNR=47						
SNAA	**Sanae**	**19.59**	**156**	P	**P**	**10 09 26.2**	**-0.4**
SYO	**Syowa Base**	**32.45**	**142**⇓	*eP*	P	10 11 19.5	-8.8
QSPA	**South Pole Qui**	**34.91**	**180**	P	**P**	**10 11 50.1**	**+0.2**
	2.4nm,0.5s,baz=150,slow=2.3,SNR=13						
QSPA	**South Pole Qui**	**34.91**	**180**	P	**P**	**10 11 50.6**	**+0.6**
QSPA				IAmb	IAmb	10 11 53.6	
	comp=Z,5.8nm,0.9s						
CPUP	**Villa Florida**	**35.97**	**312**	P	**P**	**10 11 59.0**	**-0.2**
	comp=Z,5.3nm,0.9s,baz=143,slow=8.4,SNR=3.1						
MT02	**Curacav**	**37.09**	**288**	P	**P**	**10 12 10.4**	**+1.6**
MT02				IAmb	IAmb	10 12 14.4	
	comp=Z,11nm,1.1s						
CO02	**Combarbal**	**38.60**	**291**		**P**	**10 12 22.1**	**+0.5**
CO02				IAmb	IAmb	10 12 34.8	
	comp=Z,22nm,1.4s						
CO01	**Juntas del Tor**	**39.08**	**293**	P	**P**	**10 12 27.5**	**+1.6**
GO02	**Mina Guanaco**	**42.72**	**298**	P	**P**	**10 12 56.4**	**+0.4**
GO02				IAmb	IAmb	10 13 08.3	
	comp=Z,26nm,1.4s						
PB01	**IPOC Station P**	**46.12**	**301**	P	**P**	**10 13 23.1**	**+0.3**
BOSA	**Boshof**	**46.29**	**77**	P	**P**	**10 13 23.9**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=161,slow=13,SNR=2.4						
BOSA	**Boshof**	**46.29**	**77**	P	**P**	**10 13 25.2**	**+1.0**
BOSA				IAmb	IAmb	10 13 40.1	
	comp=Z,8.8nm,1.3s						
GO01	**Chusmiza**	**47.14**	**302**	P	**P**	**10 13 32.0**	**+0.7**
GO01				IAmb	IAmb	10 13 32.3	
	comp=Z,6.7nm,0.9s						
VNDA	**Vanda**	**47.26**	**183**	P	**P**	**10 13 30.8**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=179,slow=5.0,SNR=11						
VNDA	**Vanda**	**47.26**	**183**	P	**P**	**10 13 31.7**	**+0.7**
MNMC	**Minye Minye**	**47.80**	**302**	P	**P**	**10 13 37.1**	**+0.9**
H10N1	**ASCENSION HYDR**	**48.59**	**18**	T	T	11 06 59.0	
	baz=189						
H10N3	**ASCENSION HYDR**	**48.59**	**18**	T	T	11 06 52.7	
	baz=189						
H10N2	**ASCENSION HYDR**	**48.61**	**18**	T	T	11 06 52.7	
	baz=189						
LPAZ	**La Paz**	**49.56**	**306**	P	**P**	**10 13 50.5**	**+0.3**
	comp=Z,2.3nm,0.5s,baz=99,slow=6.8,SNR=20						
LPAZ	**La Paz**	**49.56**	**306**	P	**P**	**10 13 50.7**	**+0.6**
LPAZ				IAmb	IAmb	10 13 52.3	
	comp=Z,10nm,1.3s						
TOA0	**Torodi Ar. Sit**	**72.69**	**30**	P	**P**	**10 16 25.6**	**-0.6**
TORD	**Torodi Ar. Bea**	**72.69**	**30**	P	**P**	**10 16 26.3**	**+0.1**
	comp=Z,4.1nm,0.7s,baz=201,slow=6.2,SNR=24						
ASAR	**Alice Springs**	**99.81**	**163**	P	**Pdif**	**10 18 42.3**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=180,slow=4.6,SNR=4.4						
NVAR	**Mina Array Bea**	**120.65**	**294**	PKP	**PKPdf**	**10 23 50.1**	**+0.2**
	comp=Z,0.2nm,0.6s,baz=66,slow=3.3,SNR=2.1						
FINES	**FINESS Array B**	**123.99**	**28**	PKP	**PKPdf**	**10 23 54.5**	**-0.7**
	comp=Z,1.9nm,0.9s,baz=225,slow=2.4,SNR=6.7						
ARCES	**ARCESS Array B**	**130.47**	**22**	PKP	**PKPdf**	**10 24 06.5**	**-0.9**
	comp=Z,2.6nm,1.0s,baz=222,slow=1.6,SNR=7.4						
YKA	**Yellowknife Ar**	**135.31**	**319**	PKP	**PKPdf**	**10 24 16.5**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=130,slow=1.9,SNR=7.5						
MKAR	**Makanchi Array**	**137.14**	**71**	PKP	**PKPdf**	**10 24 21.2**	**+0.6**
	comp=Z,0.1nm,0.5s,baz=251,slow=4.4,SNR=1.6						
INK	**Inuvik**	**144.94**	**321**	PKP	**PKPab**	**10 24 32.0**	**-1.2**
	comp=Z,8.8nm,1.1s,baz=126,slow=2.2,SNR=11						
INK	**Inuvik**	**144.94**	**321**		**PKPab**	**10 24 33.2**	**0.0**
EGAK	**Eagle**	**146.88**	**314**		**PKPab**	**10 24 40.6**	**-0.1**
MENT	**Mentasta**	**147.46**	**310**		**PKPbc**	**10 24 41.8**	**+0.9**
NRIK	**Noril'sk**	**148.76**	**38**	PKPbc	**PKPbc**	**10 24 43.1**	**-1.0**
	comp=Z,2.1nm,0.7s,baz=107,slow=1.1,SNR=3.7						
ILAR	**Eielson Array**	**149.27**	**313**	PKPbc	**PKPbc**	**10 24 45.5**	**0.0**
	comp=Z,8.9nm,1.0s,baz=131,slow=2.0,SNR=38						
GHO	**Glory Hole Cre**	**149.47**	**307**		**PKPbc**	**10 24 46.6**	**+0.3**
RND	**Reindeer**	**149.83**	**310**		**PKiKP**	**10 24 48.0**	**0.0**
KDAK	**Kodiak Island**	**150.05**	**298**	PKPbc	**PKPbc**	**10 24 47.6**	**0.0**
	comp=Z,3.2nm,0.7s,baz=130,slow=4.8,SNR=5.4						
KDAK	**Kodiak Island**	**150.05**	**298**		**PKiKP**	**10 24 49.5**	**+1.0**
TRF	**Thorofare Moun**	**150.47**	**310**		**PKPbc**	**10 24 48.8**	**+0.1**
TOLK	**Toolik Lake Re**	**150.82**	**320**		**PKiKP**	**10 24 49.9**	**0.0**
BPAW	**Bear Paw Mtn.**	**150.89**	**311**		**PKPbc**	**10 24 49.8**	**+0.3**
SONM	**Songino Array**	**151.18**	**86**	PKPbc	**PKPbc**	**10 24 50.5**	**-0.4**
	comp=Z,2.1nm,0.7s,baz=220,slow=3.3,SNR=8.7						

*NEIC **29** 10:16:09.8±1.1, 57°.79N±0°.04×153°.64W±0°.05, h69km±7km, Error ellipse: s-maj=5.4km s-min=4.1km az=200.0*
AEIC 29 10:16:10.8±1.0,**57°.79N**±0°.04×**153°.67W**±0°.05,**h66**km±6km,
ML3.1/102,**Error ellipse: s-maj=5.3km s-min=3.4km az=194.0,Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**0.58**	**90**		Pn	10 16 23.6	-0.5
KDAK					Sn	10 16 33.3	-0.5
OHAK	**Old Harbor**	**0.60**	**160**		Pn	10 16 24.0	-0.2
KAWH	**Katmai**	**0.85**	**316**		Pn	10 16 26.3	-0.9
KAHG	**Katmai Hook Gl**	**0.85**	**327**		Pn	10 16 27.0	-0.2
KAHG					Sn	10 16 39.2	-0.1
KARR	**Katmai Rainbow**	**0.90**	**323**		Pn	10 16 27.1	-0.7
KARR					Sn	10 16 40.0	-0.5
CAHL	**Cahill**	**0.91**	**288**		Pn	10 16 27.0	-0.9
KCG	**Knife Ck. Glac**	**0.93**	**305**		Pn	10 16 27.2	-1.0
KCG					Sn	10 16 40.8	-0.2
KABU	**Katmai Buttres**	**0.98**	**300**		Pn	10 16 28.2	-0.7
KABU					Sn	10 16 42.8	+0.4
KJL	**Kejulik**	**1.05**	**286**		Pn	10 16 28.8	-0.9
KJL					Sn	10 16 43.0	-0.8
KAHC	**Katmai Hardscr**	**1.12**	**321**		Pn	10 16 29.6	-1.0
SII	**Sitkinak Islan**	**1.26**	**193**		Pn	10 16 32.0	-0.4
SII					Sn	10 16 47.8	-0.8
PLK3	**Peulik 3**	**1.40**	**267**		Pn	10 16 33.9	-0.3
PLK3					Sn	10 16 52.1	+0.3
PLK1	**Peulik 1**	**1.57**	**272**		Pn	10 16 35.9	-0.6
AUJK	**Augustine Jueg**	**1.57**	**5**		Pn	10 16 36.1	-0.4
AUP	**Augustine Pinn**	**1.59**	**5**		Pn	10 16 36.4	-0.4
AUW	**Augustine West**	**1.59**	**4**		Pn	10 16 36.4	-0.4
AU22	**Augustine Moun**	**1.60**	**6**		Pn	10 16 36.4	-0.4
PLK5	**Peulik 5**	**1.73**	**278**		Pn	10 16 37.8	-0.8
HOM	**Homer**	**2.16**	**29**		Pn	10 16 44.0	-0.3
CNPM	**China Poot**	**2.16**	**35**		Pn	10 16 43.8	-0.7
CNPM					Sn	10 17 08.4	-1.8
ILS	**Iliamna Low So**	**2.20**	**8**		Pn	10 16 44.2	-0.9
CHIR	**Chirikof Islan**	**2.24**	**209**		Pn	10 16 44.2	-1.3
IVE	**Iliamna Volcan**	**2.26**	**8**		Pn	10 16 45.0	-0.9
ILW	**Iliamna West**	**2.30**	**7**		Pn	10 16 45.5	-1.0
ILW					Sn	10 17 12.3	-1.4
RED	**Redoubt Volcan**	**2.68**	**10**		Pn	10 16 50.5	-1.1
RDSO	**Redoubt South**	**2.72**	**10**		Pn	10 16 51.2	-1.0
RSO	**Redoubt South**	**2.73**	**10**		Pn	10 16 51.7	-0.6
RDWB	**Redoubt West**	**2.74**	**9**		Pn	10 16 51.6	-0.9
RDJH	**Redoubt Jeurge**	**2.85**	**9**		Pn	10 16 53.2	-0.7
SEW	**Seward**	**3.19**	**41**		Pn	10 16 56.7	-1.7
SLKM	**Skilak Lake**	**3.26**	**32**		Pn	10 16 57.8	-1.6
CAPN	**Captain Cook N**	**3.26**	**22**		Pn	10 16 59.5	+0.2
VNHG	**Veniaminof 1**	**3.39**	**245**		Pn	10 17 01.1	-0.2
SVW2	**Sparrevohn**	**3.46**	**344**		Pn	10 17 00.9	-1.3
SPCG	**Spurr Capps Gl**	**3.62**	**13**		Pn	10 17 03.6	-0.8
SPNN	**North Nagishla**	**3.63**	**7**		Pn	10 17 03.5	-1.0
STLK	**Strandline Lak**	**3.84**	**13**		Pn	10 17 06.4	-1.0
SUA	**Susitna One**	**3.98**	**21**		Pn	10 17 08.2	-1.1
PWL	**Port Wells**	**4.12**	**39**		Pn	10 17 09.6	-1.5
SKT	**Skwentna**	**4.34**	**13**		Pn	10 17 13.1	-1.1
CNBA	**Chernabura Isl**	**4.44**	**230**		Pn	10 17 12.7	-2.7
PMR	**Palmer**	**4.46**	**29**		Pn	10 17 13.6	-2.0
KNK	**Knik Glacier**	**4.50**	**34**		Pn	10 17 14.1	-2.2
HIN	**Hinchinbrook I**	**4.53**	**52**		Pn	10 17 15.6	-1.1
GLI	**Glacier Island**	**4.58**	**45**		Pn	10 17 15.2	-2.2
GHO	**Glory Hole Cre**	**4.66**	**29**		Pn	10 17 16.9	-1.7
FID	**Port Fidalgo**	**4.74**	**48**		Pn	10 17 17.5	-2.0
EYAK	**Cordova Ski Ar**	**4.93**	**52**		Pn	10 17 21.0	-1.1
SCM	**Sheep Creek Mo**	**5.17**	**36**		Pn	10 17 24.2	-1.3
PPLA	**Purkeypile**	**5.18**	**8**		Pn	10 17 24.9	-0.8
TT01	**Tatalina**	**5.27**	**348**		Pn	10 17 26.1	-0.7
TTA	**Tatalina**	**5.29**	**348**		Pn	10 17 26.3	-0.8
RAGM	**Ragged Mountai**	**5.32**	**57**		Pn	10 17 26.6	-1.0
GOAT	**Goat Mountain**	**5.38**	**55**		Pn	10 17 27.5	-1.0
PS12	**TAPS Pump St12**	**5.69**	**46**		Pn	10 17 31.5	-1.1
GRIN	**Grindle Hills**	**5.90**	**61**		Pn	10 17 34.7	-0.8
TRF	**Thorofare Moun**	**5.92**	**15**		Pn	10 17 34.5	-1.4
KHIT	**Khitrov Hills**	**5.99**	**59**		Pn	10 17 35.3	-1.5
RND	**Reindeer**	**6.12**	**21**		Pn	10 17 37.3	-1.2
WAX	**Waxell Ridge**	**6.18**	**60**		Pn	10 17 38.4	-0.9
GLB	**Gilahina Butte**	**6.20**	**50**		Pn	10 17 38.4	-1.2
VRDI	**Verde Repeater**	**6.24**	**52**		Pn	10 17 39.2	-1.1
MCK	**McKinley**	**6.40**	**19**		Pn	10 17 41.5	-0.8
BPAW	**Bear Paw Mtn.**	**6.47**	**11**		Pn	10 17 42.3	-1.0
ISLE	**Juniper Island**	**6.47**	**59**		Pn	10 17 42.3	-1.1
MESA	**MESA**	**6.52**	**63**		Pn	10 17 43.6	-0.4
BAGL	**Bagley Icefiel**	**6.55**	**61**		Pn	10 17 43.7	-0.5
KIAG	**Kiagna River**	**6.58**	**57**		Pn	10 17 44.1	-0.9
PAX	**Paxson**	**6.60**	**35**		Pn	10 17 44.4	-0.6
BALM	**Baldy**	**6.63**	**56**		Pn	10 17 45.2	-0.4
PTPK	**Patty Peak**	**6.65**	**54**		Pn	10 17 45.0	-0.9
YAH	**Yahtse**	**6.67**	**62**		Pn	10 17 45.2	-1.0
GRNC	**Granite Creek**	**6.79**	**59**		Pn	10 17 47.1	-0.6
RKAV	**Rock Avalanche**	**6.84**	**63**		Pn	10 17 47.9	-0.5
BARN	**Barnard Glacie**	**6.95**	**57**		Pn	10 17 49.1	-0.8
TABL	**Table Mountain**	**6.98**	**62**		Pn	10 17 49.6	-0.7
CTGM	**Chitina Glacie**	**7.06**	**58**		Pn	10 17 50.1	-1.4
LOGN	**Logan Glacier**	**7.16**	**60**		Pn	10 17 51.2	-1.6
NEA2	**Nenana**	**7.18**	**16**		Pn	10 17 50.3	-2.7
WRH	**Wood River Hil**	**7.23**	**20**		Pn	10 17 50.9	-2.7
PCA	**Pinnacle**	**7.32**	**66**		Pn	10 17 53.8	-1.1
CCB	**Clear Creek Bu**	**7.44**	**20**		Pn	10 17 53.3	-3.1
YUK2	**White River**	**7.61**	**53**		Pn	10 17 58.3	-0.6
PNL	**Peninsula**	**7.67**	**70**		Pn	10 17 57.9

LOCO3				eS		Sb	10 27 56.2	+1.1
LOMA3	**Las Lomas, Chi**	**0.43**	**67**	⇓*i*P		**Pn**	**10 27 51.1**	**-0.9**
LOMA3				eS		**Sn**	**10 27 58.7**	**-0.7**
BCO2	**Palmira**	**0.52**	**30**	⇓*i*P		**Pb**	**10 27 52.2**	**+0.8**
BCO2				eS		**Sb**	**10 28 00.4**	**+1.7**
MLIR3	**Monte Lirio, C**	**0.53**	**357**	⇓*i*P		**Pb**	**10 27 52.0**	**+0.6**
MLIR3				eS		**Sn**	**10 28 01.1**	**-0.8**
BRU2	**Volcan**	**0.54**	**11**	⇓*i*P		**Pb**	**10 27 52.1**	**+0.4**
BRU2				eS		**Sn**	**10 28 01.1**	**-1.2**
BRU2	**Volcan**	**0.54**	**11**	⇓*i*P		**Pb**	**10 27 52.0**	**+0.4**
BRU2				eS		**Sb**	**10 28 00.3**	**+1.3**
PTJ1	**Puerto Jimnez**	**0.57**	**298**	*e*P		**Pg**	**10 27 51.4**	**-0.6**
PTJ1				eS		**Sb**	**10 28 00.4**	**+0.6**
PTJ1	**Puerto Jimnez**	**0.57**	**298**	*e*P		**Pg**	**10 27 51.5**	**-0.6**
PTJ1				eS		**Sb**	**10 28 01.2**	**+1.4**
BC3P	**Paso Ancho**	**0.58**	**18**	⇓*i*P		**Pb**	**10 27 52.6**	**+0.3**
BC3P				eS		**Sg**	**10 27 59.3**	**-0.9**
EDSV	**San Vito**	**0.58**	**342**	*i* P		**Pg**	**10 27 52.4**	**+0.1**
EDSV				eS		**Sb**	**10 28 00.8**	**+0.6**
CHGR2	**Aguacate**	**0.93**	**44**	*e*P		**Pb**	**10 27 58.1**	**-0.2**
CHGR2				eS		**Sb**	**10 28 10.4**	**+0.1**
EDPN	**Palmar Norte**	**0.95**	**317**	*e*P		**Pb**	**10 27 57.8**	**-0.9**
EDPN				eS		**Sb**	**10 28 11.3**	**+0.3**
DRK0	**Durika**	**1.09**	**336**	*e*P		**Pb**	**10 28 00.2**	**-0.9**
DRK0				eS		**Sb**	**10 28 13.3**	**-1.7**
DRK0	**Durika**	**1.09**	**336**	*e*P		**Pb**	**10 28 00.1**	**-0.9**
EDLM	**Las Mercedes**	**1.28**	**322**	⇓*e*P		**Pn**	**10 28 03.3**	**-0.4**
EDLM				eS		**Sn**	**10 28 20.7**	**+0.3**
EDDO	**Dominical**	**1.44**	**313**	*e*S		**Sb**	**10 28 25.4**	**+0.3**
GMAL	**Guarumal, Vera**	**1.62**	**108**	*e*P		**Pn**	**10 28 08.7**	**+0.3**
GMAL				eS		**Sb**	**10 28 30.6**	**+0.3**
GMAL	**Guarumal, Vera**	**1.62**	**108**	⇓*e*P		**Pn**	**10 28 08.5**	**+0.1**
LCR2	**La Lucha 2**	**1.89**	**321**	⇑*e*P		**Pb**	**10 28 14.1**	**-0.8**
LCR2				eS		**Sb**	**10 28 38.6**	**+0.4**
CVTR	**Volcan Turrial**	**1.99**	**331**	*e*P		**Pn**	**10 28 14.7**	**+0.9**
CACAO	**El Cacao, Vera**	**2.12**	**115**	*e*P		**Pb**	**10 28 18.6**	**0.0**
CACAO				eS		**Sg**	**10 28 48.4**	**-0.7**
HDC	**Heredia**	**2.16**	**323**	*e*P		**Pb**	**10 28 18.5**	**-0.9**
HDC				eS		**Sb**	**10 28 46.2**	**+0.2**
HDC	**Heredia**	**2.16**	**323**	*e*P		**Pb**	**10 28 18.3**	**-1.1**
HDC				eS		**Sb**	**10 28 45.4**	**-0.5**
SRA1	**San Ramn**	**2.46**	**318**	*e*P		**Pn**	**10 28 22.3**	**+2.3**
JTS	**Las Juntas de**	**2.93**	**314**	*e*P		**Pn**	**10 28 28.8**	**+2.4**
PLVR	**Palo Verde**	**3.26**	**310**	*e*P		**Pn**	**10 28 32.5**	**+1.4**
ACON	**Acoyapa**	**4.36**	**328**	*e*P		**Pn**	**10 28 47.5**	**+1.4**

*IDC **29** 10:30:57.4±1.4, 55°.48S×28°.65W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/16, mbtmp3.6/3, Error ellipse: s-maj=58.4km s-min=38.1km az=86.0*
*NEIC **29** 10:30:58.2±1.3, 55°.3S±0°.2×29°.5W±0°.2, h10km±1km, mb4.3/5, Error ellipse: s-maj=26.9km s-min=21.1km az=28.0*
ISC 29 10:31:00.8±0.8, 55°.4S±0°.1×29°.5W±0°.1, h24km, n10, σ1s99/10, mb3.9/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**4.20**	**282**	Pn		**Pn**	**10 32 01.0**	**-2.3**
EFI	**East Falkland**	**17.33**	**271**	P		**Pn**	**10 35 00.5**	**-0.3**
EFI				IAmb		IAmb	10 35 16.9	
	comp=Z,49nm,1.2s							
SNAA	**Sanae**	**19.88**	**155**			**Pn**	**10 35 29.2**	**-2.4**
QSPA	**South Pole Qui**	**34.86**	**180**			**P**	**10 37 52.0**	**+2.2**
QSPA				IAmb		IAmb	10 38 06.2	
	comp=Z,3.6nm,1.2s							
BOSA	**Boshof**	**47.09**	**79**	P		**P**	**10 39 30.0**	**-0.8**
VNDA	**Vanda**	**47.16**	**183**	P		**P**	**10 39 30.1**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=195,slow=7.3,SNR=1.9							
LPAZ	**La Paz**	**48.94**	**307**	P		**P**	**10 39 48.8**	**+3.1**
	comp=Z,1.0nm,0.9s,baz=180,slow=7.1,SNR=2.5							
CASY	**Casey**	**54.95**	**161**	P		**P**	**10 40 30.0**	**+0.8**
CASY				IAmb		IAmb	10 40 34.0	
	comp=Z,3.1nm,1.0s							
TORD	**Torodi Ar. Bea**	**73.15**	**32**	P		**P**	**10 42 28.4**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=211,slow=6.2,SNR=2.7							
ILAR	**Eielson Array**	**148.71**	**313**	PKPbc		**PKiKP**	**10 50 46.1**	**+0.3**
	comp=Z,0.3nm,0.6s,baz=114,slow=1.0,SNR=2.0							

IDC 29 10:33:28.5±1.4, 55°.32S×28°.04W, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.6/21, mbtmp3.7/4, ML4.2/1, Error ellipse: s-maj=78.3km s-min=28.4km az=90.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNAA	**Sanae**	**19.61**	**156**	P		P	10 37 57.8	-0.3
	0.7nm,0.3s,baz=302,slow=11,SNR=5.2							
QSPA	**South Pole Qui**	**34.94**	**180**	P		P	10 40 21.8	+0.1
	0.7nm,0.5s,baz=198,slow=6.4,SNR=2.0							
VNDA	**Vanda**	**47.29**	**183**	P		P	10 42 02.9	0.0
	0.6nm,0.6s,baz=185,slow=5.5,SNR=5.8							
TORD	**Torodi Ar. Bea**	**72.66**	**30**	P		P	10 44 57.9	+0.1
	0.3nm,0.6s,baz=202,slow=7.4,SNR=1.8							
ILAR	**Eielson Array**	**149.26**	**313**	PKPbc		PKPbc	10 53 16.8	-0.7
	0.7nm,0.8s,baz=119,slow=1.5,SNR=6.9							

*IDC **29** 10:34:30.9±0.9, 55°.25S×28°.41W, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/20, mbtmp3.9/6, ML4.0/1, Error ellipse: s-maj=39.5km s-min=21.3km az=73.0*
*NEIC **29** 10:34:32.8±1.2, 55°.2S±0°.1×28°.5W±0°.2, h10km±2km, mb4.2/7, Error ellipse: s-maj=27.8km s-min=18.4km az=46.0*
ISC 29 10:34:32.5±0.8, 55°.2S±0°.1×28°.5W±0°.2, h10km, n16, σ0s59/16, mb4.2/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**4.73**	**278**	Pn		**Pn**	**10 35 43.7**	**-0.1**
SNAA	**Sanae**	**19.78**	**156**	P		**P**	**10 39 02.0**	**-0.5**
	0.5nm,0.3s,baz=281,slow=13,SNR=5.8							
SNAA	**Sanae**	**19.78**	**156**	P		**P**	**10 39 02.0**	**-0.5**
QSPA	**South Pole Qui**	**35.01**	**180**	P		**P**	**10 41 24.7**	**-0.2**
	1.3nm,0.7s,baz=200,slow=3.6,SNR=6.0							
QSPA	**South Pole Qui**	**35.01**	**180**	P		**P**	**10 41 25.2**	**+0.3**
QSPA				IAmb		IAmb	10 41 34.6	
	comp=Z,4.4nm,1.1s							
CPUP	**Villa Florida**	**35.72**	**312**	P		**P**	**10 41 30.4**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=189,slow=5.2,SNR=3.5							
CPUP	**Villa Florida**	**35.72**	**312**	P		**P**	**10 41 30.7**	**-0.4**
CPUP				IAmb		IAmb	10 41 43.4	
	comp=Z,12nm,1.4s							
PB06	**IPOC Station P**	**44.50**	**300**			**P**	**10 42 44.3**	**+0.1**
VNDA	**Vanda**	**47.34**	**183**	P		**P**	**10 43 05.9**	**+0.1**
	comp=Z,0.6nm,0.8s,baz=197,slow=3.2,SNR=4.0							
VNDA	**Vanda**	**47.34**	**183**	P		**P**	**10 43 06.8**	**+1.0**
VNDA				IAmb		IAmb	10 43 07.4	
	comp=Z,1.0nm,0.9s							
LPAZ	**La Paz**	**49.31**	**306**	P		**P**	**10 43 22.9**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=185,slow=6.4,SNR=4.5							
LPAZ	**La Paz**	**49.31**	**306**	P		**P**	**10 43 23.1**	**+0.7**
LPAZ				IAmb		IAmb	10 43 30.0	
	comp=Z,2.0nm,1.0s							
TOA0	**Torodi Ar. Sit**	**72.73**	**31**	P		**P**	**10 46 01.2**	**+0.6**
TOA0				IAmb		IAmb	10 46 01.6	
	comp=Z,2.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**72.73**	**31**	P		**P**	**10 46 00.8**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=199,slow=6.0,SNR=7.7							
ILAR	**Eielson Array**	**149.03**	**313**	PKPbc		**PKPbc**	**10 54 19.4**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=128,slow=2.1,SNR=21							
SONM	**Songino Array**	**151.41**	**86**	PKPbc		**PKPbc**	**10 54 24.8**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=231,slow=3.9,SNR=3.8							

*IDC **29** 10:38:43.7±0.6, 55°.42S×28°.34W, h0km, mb4.3/7, mb1 4.4/8, mb1mx4.2/20, mbtmp4.3/8, ML4.8/1, Error ellipse: s-maj=27.0km s-min=17.2km az=67.0*
*NEIC **29** 10:38:45.5±1.3, 55°.4S±0°.1×28°.4W±0°.2, h10km±1km, mb4.6/25, Error ellipse: s-maj=24.3km s-min=16.4km az=206.0*
ISC 29 10:38:45.3±0.5, 55°.4S±0°.1×28°.35W±0°.10, h10km, n66, σ0s72/66, mb4.6/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**4.84**	**280**			**Pn**	**10 39 57.5**	**-0.6**
VNA1	**Neumayer--Stat**	**17.64**	**158**	P		**P**	**10 42 54.8**	**+3.0**
VNA3	**Neumayer Olymp**	**17.82**	**160**	P		**Pn**	**10 42 53.3**	**+0.2**
EFI	**East Falkland**	**17.98**	**270**	P		**P**	**10 42 56.3**	**+0.7**
EFI				IAmb		IAmb	10 43 11.6	
	comp=Z,59nm,1.2s							
VNA2	**Neumayer--Watz**	**18.04**	**158**	P		**P**	**10 42 56.5**	**+0.3**
SNAA	**Sanae**	**19.60**	**156**	P		**P**	**10 43 13.1**	**-0.3**
SNAA	**Sanae**	**19.60**	**156**	P		**P**	**10 43 13.2**	**-0.3**
	comp=Z,2.9nm,0.3s,baz=302,slow=11,SNR=76							
SNAA				PcP		**PcP**	**10 47 32.0**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=348,slow=12,SNR=2.5							
SNAA	**Sanae**	**19.60**	**156**	P		**P**	**10 43 13.1**	**-0.3**
QSPA	**South Pole Qui**	**34.85**	**180**	P		**P**	**10 45 36.3**	**0.0**
	comp=Z,3.4nm,0.6s,baz=201,slow=1.4,SNR=41							
QSPA	**South Pole Qui**	**34.85**	**180**	P		**P**	**10 45 36.7**	**+0.4**
BO02	**Sierra Bellavi**	**35.61**	**287**	P		**P**	**10 45 44.6**	**+1.6**
BO02				IAmb		IAmb	10 45 47.2	
	comp=Z,12nm,1.4s							
CPUP	**Villa Florida**	**35.89**	**312**	P		**P**	**10 45 45.1**	**-0.2**
	comp=Z,2.7nm,0.5s,baz=138,slow=6.1,SNR=7.0							
CPUP	**Villa Florida**	**35.89**	**312**	P		**P**	**10 45 45.2**	**-0.2**
CPUP				IAmb		IAmb	10 45 59.8	
	comp=Z,6.9nm,1.1s							
GO05	**Huala**	**36.07**	**286**	P		**P**	**10 45 45.4**	**-1.5**
GO05				IAmb		IAmb	10 45 47.7	
	comp=Z,9.6nm,0.8s							
MT01	**Popeta**	**36.56**	**288**	P		**P**	**10 45 50.0**	**-1.1**
MT02	**Curacav**	**36.96**	**289**	P		**P**	**10 45 54.1**	**-0.4**
MT02				IAmb		IAmb	10 46 07.5	
	comp=Z,21nm,1.4s							
ZON	**Zonda**	**36.98**	**293**	P		**P**	**10 45 54.3**	**-0.4**
ZON				IAmb		IAmb	10 45 55.0	
	comp=Z,6.2nm,0.7s							
VA03	**San Esteban**	**37.02**	**290**	P		**P**	**10 45 56.2**	**+1.1**
VA03				IAmb		IAmb	10 46 06.0	
	comp=Z,25nm,1.5s							
CO02	**Combarbal**	**38.47**	**291**	P		**P**	**10 46 08.0**	**+0.6**
CO02				IAmb		IAmb	10 46 21.0	
	comp=Z,12nm,0.9s							
CO03	**El Pedregal**	**38.59**	**292**	P		**P**	**10 46 09.2**	**+0.8**
CO01	**Juntas del Tor**	**38.96**	**293**	P		**P**	**10 46 13.0**	**+1.3**
AC05	**El Transito**	**39.96**	**294**	P		**P**	**10 46 20.6**	**+0.6**
AC05				IAmb		IAmb	10 46 21.0	
	comp=Z,8.3nm,0.8s							
MAW	**Mawson**	**41.06**	**144**	P		**P**	**10 46 27.5**	**-0.9**
	comp=Z,1.4nm,0.7s,baz=301,slow=12,SNR=2.7							
MAW				PcP		**PcP**	**10 48 26.9**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=270,slow=12,SNR=1.9							
MAW	**Mawson**	**41.06**	**144**	P		**P**	**10 46 27.9**	**-0.4**
GO02	**Mina Guanaco**	**42.61**	**298**	P		**P**	**10 46 42.5**	**+0.6**
PB01	**IPOC Station P**	**46.01**	**301**	P		**P**	**10 47 09.4**	**+0.4**
PB01				IAmb		IAmb	10 47 10.4	
	comp=Z,7.5nm,0.9s							
BOSA	**Boshof**	**46.46**	**78**	P		**P**	**10 47 12.8**	**+0.4**
	comp=Z,2.4nm,0.8s,baz=229,slow=14,SNR=2.6							
BOSA	**Boshof**	**46.46**	**78**	P		**P**	**10 47 13.1**	**+0.7**
PB08	**IPOC Station P**	**46.62**	**302**	P		**P**	**10 47 15.2**	**+1.2**
GO01	**Chusmiza**	**47.04**	**303**	P		**P**	**10 47 17.9**	**+0.5**
VNDA	**Vanda**	**47.19**	**183**	P		**P**	**10 47 15.1**	**+0.1**
	comp=Z,3.0nm,0.7s,baz=186,slow=6.4,SNR=27							
VNDA	**Vanda**	**47.19**	**183**	P		**P**	**10 47 17.8**	**+0.3**
VNDA				IAmb		IAmb	10 47 18.5	
	comp=Z,3.5nm,0.7s							
MNMC	**Minye Minye**	**47.70**	**303**	P		**P**	**10 47 22.8**	**+0.5**
H10N1	**ASCENSION HYDR**	**48.70**	**18**	T		T	11 40 33.7	
	baz=194,slow=25,SNR=5.7							
H10N3	**ASCENSION HYDR**	**48.70**	**18**	T		T	11 40 30.3	
	baz=194,slow=25,SNR=13							
H10N2	**ASCENSION HYDR**	**48.71**	**18**	T		T	11 40 28.3	
	baz=194,slow=25,SNR=8.4							
LPAZ	**La Paz**	**49.47**	**306**	P		**P**	**10 47 36.5**	**+0.2**
	comp=Z,5.5nm,0.6s,baz=150,slow=6.0,SNR=30							
LPAZ				PcP		**PcP**	**10 48 58.4**	**0.0**
	comp=Z,1.9nm,0.5s,baz=102,slow=2.5,SNR=4.8							
LPAZ	**La Paz**	**49.47**	**306**	P		**P**	**10 47 37.1**	**+0.7**
LPAZ				IAmb		IAmb	10 47 37.7	
	comp=Z,6.9nm,0.7s							
SAML	**Samuel**	**53.88**	**316**	P		**P**	**10 48 08.4**	**-0.2**
TOA0	**Torodi Ar. Sit**	**72.82**	**31**	P		**P**	**10 50 14.5**	**+0.6**
TOA0				IAmb		IAmb	10 50 23.0	
	comp=Z,4.6nm,0.8s							
TORD	**Torodi Ar. Bea**	**72.82**	**31**	P		**P**	**10 50 14.5**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=201,slow=6.4,SNR=18							
FINES	**FINESS Array B**	**124.11**	**28**	PKP		**PKPdf**	**10 57 41.8**	**-0.7**
	comp=Z,1.5nm,0.5s,baz=153,slow=3.4,SNR=12							
ARCES	**ARCESS Array B**	**130.58**	**22**	PKP		**PKPdf**	**10 57 53.7**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=194,slow=1.9,SNR=8.2							
SLVN	**Son La**	**130.89**	**114**			**PKPdf**	**10 57 55.8**	**-1.0**
BVAR	**Borovoye Array**	**134.98**	**58**	PKP		**PKPdf**	**10 58 03.6**	**+0.2**
	comp=Z,0.7nm,0.5s,baz=242,slow=3.2,SNR=6.0							
YKA	**Yellowknife Ar**	**135.25**	**319**	PKP		**PKPdf**	**10 58 02.9**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=135,slow=1.9,SNR=8.0							
MKAR	**Makanchi Array**	**137.30**	**71**	PKP		**PKPdf**	**10 58 08.3**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=222,slow=1.9,SNR=2.6							
KURBB	**Kurchatov Arra**	**137.62**	**65**	PKP		**PKPdf**	**10 58 08.5**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=226,slow=1.9,SNR=2.6							
KURK	**Kurchatov**	**137.72**	**65**			**PKPdf**	**10 58 08.3**	**-0.3**
INK	**Inuvik**	**144.88**	**321**			**PKPab**	**10 58 20.2**	**+0.1**
DAWY	**Dawson**	**145.87**	**313**			**PKPdf**	**10 58 22.9**	**+0.1**
EGAK	**Eagle**	**146.81**	**314**			**PKPdf**	**10 58 24.7**	**+0.5**
DOT	**Dot Lake**	**147.72**	**311**			**PKPbc**	**10 58 28.9**	**+0.2**
SCRK	**Sand Creek**	**147.78**	**312**			**PKPbc**	**10 58 29.1**	**+0.1**
RIDG	**Independent Ri**	**148.09**	**311**			**PKPbc**	**10 58 30.3**	**+0.5**
PAX	**Paxson**	**148.15**	**310**			**PKPbc**	**10 58 29.9**	**-0.1**
PRP	**Porcupine Dome**	**148.78**	**314**			**PKPbc**	**10 58 31.9**	**+0.3**
FYU	**Fort Yukon**	**148.87**	**316**			**PKPbc**	**10 58 31.9**	**+0.3**
IL31		**149.19**	**313**			**PKPbc**	**10 58 32.4**	**-0.1**
ILAR	**Eielson Array**	**149.19**	**313**	PKPbc		**PKPbc**	**10 58 32.1**	**-0.3**
	comp=Z,6.4nm,0.8s,baz=128,slow=1.9,SNR=54							
WRH	**Wood River Hil**	**149.64**	**312**			**PKPbc**	**10 58 33.4**	**-0.2**
RND	**Reindeer**	**149.74**	**310**			**PKPbc**	**10 58 34.0**	**0.0**
TRF	**Thorofare Moun**	**150.38**	**309**			**PKPbc**	**10 58 35.1**	**-0.5**
TOLK	**Toolik Lake Re**	**150.76**	**320**			**PKPbc**	**10 58 36.4**	**+0.2**
BPAW	**Bear Paw Mtn.**	**150.81**	**311**			**PKPbc**	**10 58 35.9**	**-0.5**
SONM	**Songino Array**	**151.34**	**86**	PKPbc		**PKPbc**	**10 58 37.6**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=233,slow=2.6,SNR=10							

*KRNET **29** 10:46:51.7±0.1, 39°.55N×73°.77E, mb3.1*
*SOME **29** 10:46:51.3, 39°.82N×73°.63E, h10km*
*NNC **29** 10:46:53.2±3.8, 39°.85N×73°.76E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=29.0km s-min=14.8km az=161.0*
ISC 29 10:46:52.8±1.6, 39°.72N±0°.08×73°.99E±0°.04, h10km, n29, σ2s04/46, 18C-9D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OHH	**Osh**	**1.23**	**312**	⇓*e*P		**Pb**	**10 47 15.2**	**-0.9**
	baz=22							
OHH				⇓*i*S		**Sn**	**10 47 32.4**	**-0.3**
	baz=22							
ARSB	**Arslanbob**	**1.78**	**335**	⇓*i*P		**Pg**	**10 47 26.5**	**-0.4**
	baz=41							
ARSB				⇓*i*S		**Sg**	**10 47 51.9**	**+1.9**
	baz=41							
ARLS	**Aral**	**2.16**	**7**	⇑*i*P		**Pg**	**10 47 33.1**	**-1.1**
	baz=10.0							
ARLS				⇑*i*S		**Sg**	**10 48 04.2**	**+2.1**
	baz=10.0							
AML	**Almayashu**	**2.42**	**355**	⇓*i*P		**Pb**	**10 47 36.6**	**-0.1**
	baz=59							
AML				⇓*i*S		**Sg**	**10 48 10.1**	**-0.6**
	baz=59							
BTK	**Batken**	**2.46**	**279**	⇑*i*P		**Pn**	**10 47 33.4**	**+0.3**
	baz=83							
BTK				⇑*i*S		**Sn**	**10 48 03.5**	**+0.3**
	baz=83							
AAK	**Ala-Archa**	**2.94**	**7**	⇑*e*P		**Pb**	**10 47 44.4**	**-1.0**
	baz=10.0							
AAK				⇑*i*S		**Sg**	**10 48 23.1**	**-4.2**
	baz=10.0							
AAK	**Ala-Archa**	**2.94**	**7**	⇓Pg		**Pb**	**10 47 45.6**	**+0.2**
	6.8nm,0.6s							
AAK				⇓Lg		Lg	10 48 26.3	
	14nm,0.7s							
ULHL	**Ulahol**	**3.05**	**33**	⇑*i*P		**Pb**	**10 47 46.7**	**-0.6**
	baz=34							
ULHL				⇑*i*S		**Sb**	**10 48 26.7**	**+2.1**
	baz=34							
MRKS	**Merke**	**3.08**	**350**	*e*P		**Pb**	**10 47 47.0**	**-0.7**
	6.8nm,0.5s							
MRKS				*e*S		**Sg**	**10 48 28.9**	**-2.8**
	9.3nm,0.8s							
MRKS	**Merke**	**3.08**	**350**	Pg		**Pb**	**10 47 47.0**	**-0.7**
	7.7nm,0.5s							
MRKS				Lg		Lg	10 48 28.9	
	9.3nm,0.8s							
BOOM	**Boomskoye usch**	**3.14**	**27**	⇑*e*P		**Pb**	**10 47 47.7**	**-1.1**
	baz=29							
KDJ	**Kajisay**	**3.42**	**44**	⇑*e*P		**Pb**	**10 47 51.9**	**-1.6**
	baz=44							
KDJ				⇑*i*S		**Sb**	**10 48 35.5**	**+0.4**
	baz=44							
TKM2	**Tokmak 2**	**3.42**	**20**	⇑*i*P		**Pb**	**10 47 51.3**	**-2.3**
	baz=22							
TKM2				⇑*i*S		**Sb**	**10 48 34.7**	**-0.7**
	baz=22							
TKM2	**Tokmak 2**	**3.42**	**20**	⇑Pg		**Pb**	**10 47 55.1**	**+1.5**
	2.2nm,0.6s							
TKM2				⇑Lg		Lg	10 48 38.3	
	7.1nm,0.6s							
TARG	**Taragay, Kyrgy**	**3.53**	**54**	⇑*i*P		**Pb**	**10 47 53.3**	**-2.3**
	baz=53							
TARG				⇑*i*S		**Sb**	**10 48 38.2**	**-0.5**
	baz=53							
SGDS	**Sogindy**	**3.76**	**7**	Pg		**Pb**	**10 48 00.9**	**+1.5**
SGDS				Lg		Lg	10 48 52.8	
IUG	**luzhnay**	**3.86**	**310**	*e*P		**Pn**	**10 47 56.9**	**+4.7**
	2.7nm,0.3s							
IUG				*e*S		**Sb**	**10 48 46.2**	**-1.6**
	15nm,0.5s							
IUG	**luzhnay**	**3.86**	**310**	Pg		**Pn**	**10 47 56.9**	**+4.7**
	2.7nm,0.3s							
IUG				Lg		Lg	10 48 46.2	
	15nm,0.5s							
IZV	**Izvestkoviy**	**3.86**	**30**	*e*P		**Pb**	**10 48 02.3**	**+1.3**
	5.5nm,0.7s							
IZV				*e*S		**Sg**	**10 48 54.8**	**-1.9**
	12nm,1.1s							
IZV	**Izvestkoviy**	**3.86**	**30**	Pg		**Pb**	**10 48 02.3**	**+1.3**
	5.5nm,0.7s							
IZV				Lg		Lg	10 48 54.8	
	12nm,1.1s							
MDOK	**Medeo**	**4.14**	**33**	*e*P		**Pb**	**10 48 07.3**	**+1.5**
	1.9nm,0.6s							
MDOK				*e*S		**Sg**	**10 49 03.5**	**-2.3**
	7.2nm,0.8s							
MDOK	**Medeo**	**4.14**	**33**	Pg		**Pb**	**10 48 07.4**	**+1.5**
	4.3nm,0.6s							
MDOK				Lg		Lg	10 49 03.4	
	6.2nm,0.8s							
KRBS	**Karabastau**	**4.17**	**17**	*e*P		**Pb**	**10 48 08.4**	**+2.1**
	2.9nm,0.4s							
KRBS				*e*S		**Sg**	**10 49 05.0**	**-1.7**
	6.6nm,0.8s							
KRBS	**Karabastau**	**4.17**	**17**	Pg		**Pb**	**10 48 08.4**	**+2.1**
	2.9nm,0.4s							
KRBS				Lg		Lg	10 49 05.0	
	6.6nm,0.8s							
KK31	**Karatay Array**	**4.28**	**323**	Pn		**Pn**	**10 48 00.6**	**+2.6**
	0.4nm,0.3s,baz=132,slow=14,SNR=15							
KK31				⇓Sn		**Sn**	**10 48 46.9**	**-0.9**
	1.2nm,0.5s,baz=137,slow=26,SNR=4.4							
KUU	**Kurty**	**4.53**	**22**	*e*P		**Pb**	**10 48 14.0**	**+1.7**
	1.5nm,0.3s							
KUU				*e*S		**Sg**	**10 49 14.7**	**-3.4**
	8.8nm,0.8s							
KUU	**Kurty**	**4.53**	**22**	Pg		**Pb**	**10 48 14.0**	**+1.7**
	1.5nm,0.3s							
KUU				Lg		Lg	10 49 14.7	
	8.8nm,0.8s							
BRLS	**Borolday**	**4.55**	**318**	*e*P		Pn	10 48 07.4	+5.7
	12nm,0.2s							
BRLS				*e*S		**Sb**	**10 49 03.6**	**-4.0**
	3.9nm,0.4s							
BRLS	**Borolday**	**4.55**	**318**	Pg		Pn	10 48 07.4	+5.7
	12nm,0.2s							
BRLS				Lg		Lg	10 49 03.6	
	3.9nm,0.4s							

*IDC **29** 10:48:15.5±0.7, 55°.25S×27°.94W, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.8/24, mbtmp3.8/8, ML3.7/1,

comp=Z,2.3nm,0.6s,baz=214,slow=2.7,SNR=6.0
QSPA South Pole Qui 34.98 180 P **P** 10 55 15.8 +0.8
QSPA IAmb IAmb 10 55 21.0
comp=Z,2.7nm,0.7s
CPUP Villa Florida 35.98 311 P **P** 10 55 23.4 -0.3
CPUP IAmb IAmb 10 55 23.9
comp=Z,9.4nm,1.1s
MT02 Curacav 37.14 288 P **P** 10 55 34.6 +1.0
MT02 IAmb IAmb 10 55 36.2
comp=Z,15nm,1.3s
VA03 San Esteban 37.20 289 P **P** 10 55 37.2 +2.9
VA03 IAmb IAmb 10 55 43.6
comp=Z,11nm,1.1s
CO02 Combarbal 38.65 290 P **P** 10 55 46.2 -0.2
CO02 IAmb IAmb 10 55 46.4
comp=Z,9.5nm,1.0s
PB01 IPOC Station P 46.15 301 P **P** 10 56 48.1 +0.5
PB01 IAmb IAmb 10 56 52.7
comp=Z,14nm,1.3s
GO01 Chusmiza 47.17 302 P **P** 10 56 57.3 +1.2
GO01 IAmb IAmb 10 57 06.2
comp=Z,11nm,1.3s
MNMC Minye Minye 47.83 302 P **P** 10 57 01.8 +0.8
LPAZ La Paz 49.58 305 P **P** 10 57 15.2 +0.3
comp=Z,2.8nm,0.6s,baz=166,slow=4.7,SNR=16
LPAZ La Paz 49.58 305 P **P** 10 57 15.6 +0.8
LPAZ IAmb IAmb 10 57 18.7
comp=Z,2.2nm,0.8s
TOA0 Torodi Ar. Sit 72.59 30 P **P** 10 59 50.4 +0.2
TOA0 IAmb IAmb 10 59 52.0
comp=Z,3.4nm,0.8s
TORD Torodi Ar. Bea 72.59 30 P **P** 10 59 50.4 +0.3
comp=Z,2.1nm,0.6s,baz=201,slow=6.3,SNR=19
TORD Torodi Ar. Bea 72.59 30 **P** 10 59 50.4 +0.3
FINES FINESS Array B 123.89 28 PKP **PKPdf** 11 07 19.1 -0.6
comp=Z,0.9nm,0.5s,baz=178,slow=5.2,SNR=6.7
FINES FINESS Array B 123.89 28 **PKPdf** 11 07 19.1 -0.6
YKA Yellowknife Ar 135.31 319 PKP **PKPdf** 11 07 40.8 -0.5
comp=Z,0.5nm,0.6s,baz=138,slow=1.4,SNR=4.4
YKA Yellowknife Ar 135.31 319 **PKPdf** 11 07 40.8 -0.5
INK Inuvik 144.93 321 PKP **PKPab** 11 07 57.7 -0.1
comp=Z,5.9nm,0.9s,baz=76,slow=4.3,SNR=10
EPYK Eagle Plains 145.56 318 PKPdf **PKPab** 11 08 00.5 +0.2
DAWY Dawson 145.95 313 PKPbc **PKPbc** 11 08 01.3 0.0
DOT Dot Lake 147.81 311 **PKPbc** 11 08 06.8 +0.2
SCRK Sand Creek 147.87 312 PKPbc **PKPbc** 11 08 06.8 -0.1
RIDG Independent Ri 148.18 311 PKPbc **PKPbc** 11 08 07.8 +0.2
PAX Paxson 148.25 310 **PKPbc** 11 08 07.9 +0.1
SCM Sheep Creek Mo 148.78 307 PKPbc **PKiKP** 11 08 10.3 -0.3
FYU Fort Yukon 148.94 316 PKPbc **PKPbc** 11 08 10.0 +0.7
IL31 149.28 313 PKPbc **PKPbc** 11 08 09.8 -0.4
ILAR Eielson Array 149.28 313 PKPbc **PKPbc** 11 08 10.1 -0.2
comp=Z,6.1nm,0.8s,baz=129,slow=2.2,SNR=35
ILAR Eielson Array 149.28 313 **PKPbc** 11 08 10.1 -0.2
GHO Glory Hole Cre 149.49 307 PKPbc **PKPbc** 11 08 11.3 +0.3
CCB Clear Creek Bu 149.64 312 PKPbc **PKPbc** 11 08 10.6 -0.5
KDAK Kodiak Island 150.09 298 PKPbc **PKPbc** 11 08 12.5 +0.1
BPAW Bear Paw Mtn. 150.91 311 PKPbc **PKPbc** 11 08 13.9 -0.3
SONM Songino Array 151.09 86 PKPbc **PKPbc** 11 08 15.0 -0.4
comp=Z,1.4nm,0.6s,baz=228,slow=2.0,SNR=7.3
SONM Songino Array 151.09 86 **PKPbc** 11 08 15.0 -0.4

IDC 29 10:51:06.5±2.8, 55°36S×27°96W, h0km, mb3.6/2, mb1 3.8/3, mb1mx3.6/24, mbtmp3.7/3, ML3.9/1, Error ellipse: s-maj=143.4km s-min=31.3km az=62.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.55 156**		P	P	10 55 35.0	-0.3
	0.3nm,0.3s,baz=297,slow=8.8,SNR=4.0						
VNDA	**Vanda**	**47.24 183**		P	P	10 59 40.5	+0.1
	0.4nm,0.7s,baz=188,slow=8.0,SNR=2.6						
LPAZ	**La Paz**	**49.62 306**		P	P	10 59 60.0	-0.3
	0.6nm,0.5s,baz=127,slow=5.1,SNR=2.3						
ILAR	**Eielson Array**	**149.33 313**		PKPbc	PKPbc	11 10 55.2	-0.4
	0.7nm,0.8s,baz=114,slow=1.4,SNR=4.5						

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*IDC **29** 11:07:44.0±1.0, 55°.18S×28°.40W, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.6/25, mbtmp3.7/5, ML4.0/1, Error ellipse: s-maj=46.4km s-min=23.5km az=82.0*
*NEIC **29** 11:07:45.6±1.1, 55°.1S±0°.2×28°.5W±0°.1, h10km±1km, mb4.1/6, Error ellipse: s-maj=28.3km s-min=9.9km az=183.0*
ISC 29 11:07:45.4±0.9, 55°.2S±0°.1×28°.5W±0°.2, h10km, n14, σ0s71/13, mb3.9/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.70 277**		Pn	**Pn**	**11 08 56.0**	**-0.2**
SNAA	**Sanae**	**19.88 156**		P	**P**	**11 12 15.1**	**-1.3**
	0.4nm,0.3s,baz=297,slow=14,SNR=12						
SNAA	**Sanae**	**19.88 156**		P	**P**	11 12 16.2	-0.2
LC01	**Cunco**	**33.09 281**			P	11 14 16.0	-5.2
LC01				IAmb	IAmb	11 14 26.0	
	comp=Z,2.4nm,0.9s						
QSPA	**South Pole Qui**	**35.10 180**		P	**P**	**11 14 38.7**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=186,slow=2.1,SNR=10						
QSPA	**South Pole Qui**	**35.10 180**		P	**P**	**11 14 39.3**	**+0.7**
QSPA				IAmb	IAmb	11 14 43.3	
	comp=Z,2.9nm,1.1s						
VNDA	**Vanda**	**47.44 183**		P	**P**	**11 16 19.2**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=168,slow=5.3,SNR=2.6						
VNDA	**Vanda**	**47.44 183**		P	**P**	**11 16 20.6**	**+1.2**
VNDA				IAmb	IAmb	11 16 29.4	
	comp=Z,2.5nm,1.4s						
LPAZ	**La Paz**	**49.23 306**		P	**P**	**11 16 34.8**	**+0.1**
	comp=Z,0.6nm,0.7s,baz=164,slow=7.4,SNR=2.2						
LPAZ	**La Paz**	**49.23 306**		P	**P**	**11 16 34.7**	**+0.1**
LPAZ				IAmb	IAmb	11 16 49.9	
	comp=Z,4.3nm,1.5s						
TOA0	**Torodi Ar. Sit**	**72.66 31**		P	**P**	**11 19 13.8**	**+0.7**
TORD	**Torodi Ar. Bea**	**72.66 31**		P	**P**	**11 19 13.1**	**0.0**
	comp=Z,0.5nm,0.6s,baz=202,slow=6.2,SNR=6.5						
ILAR	**Eielson Array**	**148.94 313**		PKPbc	**PKiKP**	**11 27 32.5**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=131,slow=2.3,SNR=5.5						
SONM	**Songino Array**	**151.43 86**		PKPbc	**PKiKP**	**11 27 38.7**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=228,slow=3.7,SNR=1.5						

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*IDC **29** 11:10:48.4±0.7, 55°.19S×28°.25W, h0km, mb4.0/8, mb1 4.1/9, mb1mx3.9/34, mbtmp4.0/9, ML4.3/1, Error ellipse: s-maj=27.4km s-min=17.6km az=62.0*
*NEIC **29** 11:10:51.1±1.0, 55°.2S±0°.1×28°.2W±0°.2, h15km±4km, mb4.3/12, Error ellipse: s-maj=16.8km s-min=14.2km az=158.0*
ISC 29 11:10:50.1±0.6, 55°.2S±0°.1×28°.2W±0°.1, h10km, n33, σ0s55/32, mb4.1/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.86 277**		Pn	**Pn**	**11 12 03.3**	**+0.1**
VNA3	**Neumayer Olymp**	**18.00 161**		P	**P**	**11 15 00.4**	**-0.1**
SNAA	**Sanae**	**19.77 156**		P	**P**	**11 15 19.8**	**-0.1**
SNAA	**Sanae**	**19.77 156**		P	**P**	**11 15 19.5**	**-0.4**
	0.9nm,0.3s,baz=296,slow=11,SNR=24						
SNAA	**Sanae**	**19.77 156**		P	**P**	**11 15 19.8**	**-0.1**
QSPA	**South Pole Qui**	**35.06 180**		P	**P**	**11 17 42.7**	**-0.1**
	1.1nm,0.6s,baz=204,slow=3.1,SNR=6.7						
QSPA	**South Pole Qui**	**35.06 180**		P	**P**	**11 17 42.8**	**0.0**
CPUP	**Villa Florida**	**35.79 312**		P	**P**	**11 17 48.2**	**-1.1**
	1.5nm,0.6s,baz=163,slow=6.8,SNR=4.9						
CPUP	**Villa Florida**	**35.79 312**		P	**P**	**11 17 48.6**	**-0.6**
CO01	**Juntas del Tor**	**38.93 293**			**P**	**11 18 15.8**	**-0.3**
CO01				IAmb	IAmb	11 18 25.6	
	comp=Z,4.9nm,1.1s						
MAW	**Mawson**	**41.20 144**		P	**P**	**11 18 33.9**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=98,slow=22,SNR=2.0						
MAW	**Mawson**	**41.20 144**		P	**P**	**11 18 34.7**	**+0.5**
LVC	**Limon Verde**	**44.35 301**		P	**P**	**11 19 00.6**	**-0.1**
	comp=Z,2.2nm,0.5s,baz=0.7,slow=13,SNR=1.5						
LVC	**Limon Verde**	**44.35 301**		P	**P**	**11 19 00.8**	**0.0**
LVC				IAmb	IAmb	11 19 17.4	
	comp=Z,8.5nm,1.2s						
PB01	**IPOC Station P**	**45.96 301**		P	**P**	**11 19 14.4**	**+1.2**
BOSA	**Boshof**	**46.35 78**		P	**P**	**11 19 16.1**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=190,slow=8.5,SNR=3.2						
BOSA	**Boshof**	**46.35 78**		P	**P**	**11 19 16.1**	**-0.2**
BOSA				IAmb	IAmb	11 19 28.9	
	comp=Z,3.9nm,1.3s						
VNDA	**Vanda**	**47.40 183**		P	**P**	**11 19 23.9**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=185,slow=5.9,SNR=10						
VNDA	**Vanda**	**47.40 183**		P	**P**	**11 19 24.1**	**+0.3**
VNDA				IAmb	IAmb	11 19 29.3	
	comp=Z,1.7nm,0.9s						
MNMC	**Minye Minye**	**47.63 302**		P	**P**	**11 19 27.7**	**+1.1**
LPAZ	**La Paz**	**49.39 306**		P	**P**	**11 19 40.8**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=160,slow=2.4,SNR=8.0						
LPAZ	**La Paz**	**49.39 306**		P	**P**	**11 19 41.5**	**+1.0**
LPAZ				IAmb	IAmb	11 19 53.6	
	comp=Z,3.0nm,0.7s						
TOA0	**Torodi Ar. Sit**	**72.61 31**		P	**P**	**11 22 18.2**	**+0.8**
TOA0				IAmb	IAmb	11 22 25.5	
	comp=Z,3.8nm,0.9s						
TORD	**Torodi Ar. Bea**	**72.61 31**		P	**P**	**11 22 17.6**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=201,slow=6.4,SNR=16						
INK	**Inuvik**	**144.76 322**		PKP	PKPbc	11 30 24.4	0.0
	comp=Z,1.3nm,0.9s,baz=216,slow=2.7,SNR=2.5						
INK	**Inuvik**	**144.76 322**			**PKPdf**	**11 30 25.5**	**+0.1**
RIDG	**Independent Ri**	**147.99 311**			**PKPbc**	**11 30 34.8**	**+0.6**
IL31		**149.09 313**			**PKiKP**	**11 30 37.5**	**-0.7**
ILAR	**Eielson Array**	**149.09 313**		PKPbc	**PKPbc**	**11 30 36.0**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=134,slow=2.0,SNR=13						
WRH	**Wood River Hil**	**149.54 312**			**PKPbc**	**11 30 38.2**	**+0.1**
TOLK	**Toolik Lake Re**	**150.64 320**			**PKiKP**	**11 30 41.1**	**-0.2**
BPAW	**Bear Paw Mtn.**	**150.72 311**			**PKiKP**	**11 30 41.3**	**-0.3**
SONM	**Songino Array**	**151.27 86**		PKPbc	**PKPbc**	**11 30 43.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=209,slow=2.6,SNR=2.0						

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*IDC **29** 11:15:00.4±1.3, 55°.35S×28°.10W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/38, mbtmp3.9/4, ML4.2/1, Error ellipse: s-maj=74.7km s-min=27.8km az=92.0*
*NEIC **29** 11:15:01.5±2.3, 55°.3S±0°.2×28°.2W±0°.2, h10km±1km, mb4.5/6, Error ellipse: s-maj=28.9km s-min=17.6km az=23.0*
ISC 29 11:15:01.8±0.9, 55°.3S±0°.1×28°.2W±0°.1, h10km, n13, σ0s97/13, mb4.0/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.91 279**		Pn	**Pn**	**11 16 14.8**	**-0.7**
EFI	**East Falkland**	**18.06 269**		P	**Pn**	**11 19 12.4**	**-0.1**
EFI				IAmb	IAmb	11 19 26.7	
	comp=Z,95nm,1.4s						
SNAA	**Sanae**	**19.63 156**		P	**P**	**11 19 29.3**	**-0.8**
	comp=Z,0.7nm,0.3s,baz=301,slow=13,SNR=9.4						
SNAA	**Sanae**	**19.63 156**		P	**P**	**11 19 29.5**	**-0.6**
QSPA	**South Pole Qui**	**34.91 180**		P	**P**	**11 21 52.9**	**-0.3**
	comp=Z,1.6nm,0.9s,baz=170,slow=6.1,SNR=2.9						
QSPA	**South Pole Qui**	**34.91 180**		P	**P**	**11 21 52.9**	**-0.3**
QSPA				IAmb	IAmb	11 21 53.1	
	comp=Z,3.0nm,1.3s						
PB10	**IPOC Station P**	**44.51 298**		P	**P**	**11 23 13.9**	**+0.6**
TA01	**Diego Aracena**	**46.80 301**		P	**P**	**11 23 32.0**	**+0.7**
TA01				IAmb	IAmb	11 23 41.3	
	comp=Z,17nm,1.1s						
VNDA	**Vanda**	**47.26 183**		P	**P**	**11 23 34.1**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=181,slow=5.5,SNR=2.9						
VNDA	**Vanda**	**47.26 183**		P	**P**	**11 23 36.1**	**+1.7**
VNDA				IAmb	IAmb	11 23 42.2	
	comp=Z,2.1nm,1.1s						
TORD	**Torodi Ar. Bea**	**72.73 31**		P	**P**	**11 26 28.8**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=203,slow=7.2,SNR=3.9						
ILAR	**Eielson Array**	**149.21 313**		PKPbc	**PKPbc**	**11 34 49.0**	**0.0**
	comp=Z,1.0nm,0.7s,baz=103,slow=1.5,SNR=5.0						
SONM	**Songino Array**	**151.25 86**		PKPbc	**PKiKP**	**11 34 56.8**	**+1.7**
	comp=Z,0.6nm,0.6s,baz=258,slow=2.2,SNR=2.8						

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*HLW **29** 11:19:03.9, 35°.48N×27°.84E, h2km±5km, Md4.1, Ml4.3*
*IDC **29** 11:19:05.5±0.7, 35°.29N×27°.73E, h0km, mb4.0/17, mb1 4.1/31, mb1mx3.9/72, mbtmp4.0/31, ML3.6/14, MS2.8/1, Ms1 2.8/1, ms1mx2.7/59, Error ellipse: s-maj=15.2km s-min=10.3km az=174.0*
*DDA **29** 11:19:05.4, 35°.18N×27°.70E, h11km±1km, MW4.2*
*ISK **29** 11:19:07.2, 35°.16N×27°.73E, h8km, ML4.1/20*
*NEIC **29** 11:19:07.1±3.3, 35°.19N±0°.06×27°.80E±0°.05, h10km±1km, Error ellipse: s-maj=10.3km s-min=5.3km az=207.0*
*NIC **29** 11:19:07.0±0.0, 35°.22N×27°.80E, h4km±2km, Ml3.8/5*
*ATH **29** 11:19:08.7, 35°.31N×27°.76E, h18km±1km, ML3.8/10, Error ellipse: s-maj=3.3km s-min=1.0km az=330.0*
*THE **29** 11:19:09.1, 35°.32N×27°.75E, h0km±1km, ML3.8/6, Error ellipse: s-maj=2.5km s-min=0.9km az=151.0*
*GII **29** 11:19:11.2±0.0, 35°.11N×27°.89E, h30km±3km, mb4.0/1, MD3.6/3*
ISC 29 11:19:07.6±0.8, 35°.22N±0°.03×27°.76E±0°.02, h14km±4km, n257, σ1s55/300, mb4.1/29, 8C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KARP	**Karpathos**	**0.59 304**		P	**Pb**	**11 19 19.1**	**-0.6**
KARP				S	**Sb**	**11 19 28.3**	**+0.4**
	9µm,0.8s						
KARP	**Karpathos**	**0.59 304**		P	**Pb**	**11 19 19.4**	**-0.3**
KARP				S	**Sg**	**11 19 27.0**	**+0.2**
KARP				AML	AML	11 19 31.1	
	comp=E,16593µm,0.4s						
KARP				AML	AML	11 19 32.0	
	comp=N,14767µm,0.4s						
KARP	**Karpathos**	**0.59 304**		PG	**Pb**	**11 19 19.3**	**-0.3**
KARP				SG	**Sb**	**11 19 28.2**	**+0.4**
KARP	**Karpathos**	**0.59 304**		Pg	**Pb**	**11 19 19.1**	**-0.6**
KARP				Sg	**Sb**	**11 19 27.8**	**-0.1**
KARP	**Karpathos**	**0.59 304**		↑P	**Pb**	**11 19 19.2**	**-0.6**
KARP				S	**Sb**	**11 19 28.2**	**+0.4**
KARP				AML	AML	11 19 29.8	
	comp=N,24nm,0.7s						
KARP				AML	AML	11 19 29.8	
	comp=N,24nm,0.7s						
KARP				AML	AML	11 19 39.6	
	comp=N,17nm,0.7s						
KARP				AML	AML	11 19 39.6	
	comp=N,17nm,0.7s						
ARG	**Arkhangelos**	**1.04 17**		P	**Pb**	**11 19 27.2**	**-0.2**
ARG				S	**Sn**	**11 19 42.5**	**+0.4**
	comp=N,5µm,0.8s						
ARG	**Arkhangelos**	**1.04 17**		P	**Pb**	**11 19 27.6**	**+0.2**
ARG				S	**Sg**	**11 19 40.1**	**-1.1**
ARG				AML	AML	11 19 51.1	
	comp=E,11304µm,0.6s						
ARG				AML	AML	11 19 54.3	
	comp=N,10084µm,1.0s						
ARG	**Arkhangelos**	**1.04 17**		PN	**Pn**	**11 19 28.6**	**+0.8**
ARG				SN	**Sn**	**11 19 44.3**	**+2.2**
ARG	**Arkhangelos**	**1.04 17**		↑P	**Pg**	**11 19 26.8**	**-0.8**
ZKR	**Zakros**	**1.27 266**		P	**Pg**	**11 19 31.4**	**-0.6**
ZKR				S	**Sn**	**11 19 51.8**	**+4.1**
	comp=N,3µm,0.8s						
ZKR	**Zakros**	**1.27 266**		P	**Pg**	**11 19 32.1**	**+0.2**
ZKR				S	**Sn**	**11 19 50.4**	**+2.6**
ZKR				AML	AML	11 20 02.3	
	comp=N,4065µm,0.6s						
ZKR				AML	AML	11 20 04.5	
	comp=E,6001µm,0.7s						
ZKR	**Zakros**	**1.27 266**		PN	**Pg**	**11 19 31.4**	**-0.6**
ZKR				SN	**Sn**	**11 19 48.9**	**+1.2**
ZKR	**Zakros**	**1.27 266**		↑P	**Pg**	**11 19 31.9**	**-0.1**
ZKR				AML	AML	11 19 56.6	
	comp=E,8.9nm,1.5s						
ZKR				AML	AML	11 20 04.8	
	comp=E,5.2nm,0.7s						
STIA	**Sitia Lasithi**	**1.36 270**		P	**Pg**	**11 19 34.0**	**+0.2**
DAT	**Datca**	**1.51 355**		P	**Pn**	**11 19 34.7**	**+0.3**
DAT				S	**Sb**	**11 19 55.2**	**+0.6**
DAT	**Datca**	**1.51 355**		PN	**Pg**	**11 19 35.9**	**-0.8**
DAT				SN	**Sg**	**11 19 56.9**	**+0.6**
DAT	**Datca**	**1.51 355**		*i* P	**Pn**	**11 19 32.0**	**-2.4**
DAT				*i* S	**Sg**	**11 19 59.0**	**+2.6**
MRSB	**Marmaris-Mugla**	**1.53 13**		PN	**Pg**	**11 19 36.4**	**-0.7**
DATC	**Datca-Mugla**	**1.54 357**		PN	**Pg**	**11 19 36.3**	**-0.8**
KOSK	**Kos Island**	**1.65 338**		PN	**Pb**	**11 19 38.1**	**+0.3**
DALY	**Dalyan (Mula)**	**1.75 24**		PN	**Pb**	**11 19 39.6**	**+0.1**
DALY	**Dalyan (Mula)**	**1.75 24**		*i* P	**Pb**	**11 19 39.1**	**-0.4**
DALY				*i* S	**Sg**	**11 20 08.0**	**+4.1**
DALY				IAML		11 20 11.0	
	comp=E,562nm,0.9s						
DALY				IAML		11 20 21.0	
	comp=N,976nm,0.9s						
KSL	**Kastellorizon**	**1.75 58**		P	**Pn**	**11 19 38.3**	**+0.7**
KSL	**Kastellorizon**	**1.75 58**		P	**Pb**	**11 19 39.2**	**-0.3**
KSL				S	**Sg**	**11 20 02.8**	**-1.2**
KSL				AML	AML	11 20 33.4	
	comp=N,2049µm,1.1s						
KSL				AML	AML	11 20 39.6	
	comp=E,2558µm,1.2s						
KSL	**Kastellorizon**	**1.75 58**		⇑P	**Pn**	**11 19 38.1**	**+0.5**
KSL				AML	AML	11 20 38.2	
	comp=E,4.2nm,1.6s						
KSL				AML	AML	11 20 44.8	
	comp=E,2.4nm,1.1s						
NPS	**Neapolis**	**1.76 272**		P	**Pb**	**11 19 39.5**	**-0.1**
NPS	**Neapolis**	**1.76 272**		P	**Pg**	**11 19 40.9**	**-0.3**
NPS				S	**Sg**	**11 20 03.7**	**-0.4**
NPS				AML	AML	11 20 17.5	
	comp=E,5902µm,0.9s						
NPS				AML	AML	11 20 19.5	
	comp=N,5410µm,0.7s						
FETY	**Fethiye**	**1.77 37**		P	**Pn**	**11 19 38.4**	**+0.5**
FETY	**Fethiye**	**1.77 37**		PN	**Pn**	**11 19 38.9**	**+1.0**
FETY	**Fethiye**	**1.77 37**		*i* P	**Pn**	**11 19 38.8**	**+0.8**
FETY				*i* S	**Sg**	**11 20 11.5**	**+6.8**
FETY				IAML		11 20 16.0	
	comp=N,428nm,1.7s						
TURN	**Turunc**	**1.79 22**		PN	**Pn**	**11 19 37.6**	**-0.4**
TURN	**Turunc**	**1.79 22**		*i* P	**Pn**	**11 19 37.6**	**-0.4**
TURN				*i* S	**Sn**	**11 19 59.6**	**-0.9**
AKAS	**Kas**	**1.81 56**		PN	**Pb**	**11 19 39.9**	**-0.8**
AKAS	**Kas**	**1.81 56**		*i* P	**Pb**	**11 19 39.8**	**-0.8**
AKAS				*i* S	**Sg**	**11 20 06.2**	**+0.3**
AKAS				IAML		11 20 32.0	
	comp=E,587nm,0.9s						
AKAS				IAML		11 20 35.0	
	comp=N,745nm,0.8s						
BDRM	**Kayabasi**	**1.86 352**		*i* P	**Pb**	**11 19 40.6**	**-0.8**
BDRM				*i* S	**Sg**	**11 20 06.1**	**-1.3**
BDRM				IAML		11 20 10.0	
	comp=E,647nm,0.8s						
BDRM				IAML		11 20 26.0	
	comp=N,601nm,0.7s						
LAST	**Lasithi**	**1.87 269**		P	**Pb**	**11 19 41.3**	**-0.2**
LAST	**Lasithi**	**1.87 269**		P	**Pg**	**11 19 42.6**	**-0.9**
LAST				S	**Sg**	**11 20 07.1**	**-0.5**
LAST				AML	AML	11 20 25.1	
	comp=N,4698µm,0.8s						
LAST				AML	AML	11 20 25.7	
	comp=E,3816µm,1.3s						
BODT	**Bodrum**	**1.87 349**		P	**Pn**	**11 19 40.1**	**+0.8**
BODT	**Bodrum**	**1.87 349**		PN	**Pb**	**11 19 41.0**	**-0.6**
YER	**Yerkesik**	**1.96 12**		P	**Pb**	**11 19 40.9**	**+0.4**
YER	**Yerkesik**	**1.96 12**		PN	**Pb**	**11 19 42.5**	**-0.6**
ANAF	**Anafi Island**	**1.97 306**		P	**Pn**	**11 19 41.4**	**+0.8**
ANAF	**Anafi Island**	**1.97 306**		P	**Pb**	**11 19 42.5**	**-0.8**
ANAF				AML	AML	11 20 16.2	
	comp=N,6988µm,0.5s						
ANAF				AML	AML	11 20 16.6	
	comp=E,10006µm,0.5s						
DEMR	**Demre-Antalya**	**2.02 59**		PN	**Pb**	**11 19 43.1**	**-1.0**
SANT	**Santorini**	**2.19 302**		PN	**Pn**	**11 19 45.1**	**+1.4**
SANT	**Santorini**	**2.19 302**		Pn	**Pn**	**11 19 45.4**	**+1.7**
THR8	**Santorini-Mono**	**2.20 303**		P	**Pn**	**11 19 44.9**	**+1.2**
KSTL	**Kastelli Herak**	**2.20 273**		P	**Pn**	**11 19 42.8**	**-0.9**
AMGA	**Ymorgos Island**	**2.21 317**		P	**Pn**	**11 19 45.1**	**+1.3**
THR6	**Thira Island,**	**2.23 301**		P	**Pn**	**11 19 45.5**	**+1.4**
SNT1	**Gialos, Santor**	**2.24 303**		P	**Pn**	**11 19 45.0**	**+0.8**
SNT1	**Gialos, Santor**	**2.24 303**		P	**Pb**	**11 19 46.3**	**-1.5**
THR7	**Fira-Santorini**	**2.24 303**		P	**Pn**	**11 19 45.8**	**+1.5**
THR2	**Thira island,**	**2.25 304**		P	**Pn**	**11 19 44.7**	**+0.3**
THR3	**Thira Island,**	**2.25 302**		P	**Pn**	**11 19 44.8**	**+0.3**
THR5	**Thira Island,**	**2.29 302**		P	**Pn**	**11 19 46.6**	**+1.6**
ELL	**Elmali**	**2.32 48**		PN	**Pb**	**11 19 48.0**	**-1.2**
ELL	**Elmali**	**2.32 48**		Pn	**Pb**	**11 19 47.8**	**-1.5**
IDI	**Anoyia**	**2.35 272**		P	**Pn**	**11 19 47.4**	**+1.6**
IDI	**Anoyia**	**2.35 272**		Pn	**Pn**	**11 19 47.1**	**+1.3**
	comp=E,12nm,0.3s,baz=59,slow=15,SNR=64						
IDI				Sn	**Sn**	**11 20 14.2**	**-0.4**
	comp=E,24nm,0.3s,baz=286,slow=23,SNR=6.1						
IDI				LR	LR	11 20 20.0	
	comp=E,212nm,19.4s,baz=100,slow=32						
IDI	**Anoyia**	**2.35 272**		P	**Pb**	**11 19 49.0**	**-0.7**
IDI				AML	AML	11 20 31.6	
	comp=E,1667µm,0.7s						
IDI				AML	AML	11 20 39.4	
	comp=N,1619µm,0.8s						
IDI	**Anoyia**	**2.35 272**		Pn	**Pb**	**11 19 49.1**	**-0.7**
AKUM	**Antalya-Kumluc**	**2.37 62**		*i* P	**Pn**	**11 19 47.5**	**+1.3**
AKUM				*i* S	**Sb**	**11 20 17.9**	**-1.3**
AKUM				IAML		11 20 56.0	
	comp=N,240nm,1.2s						
AKUM				IAML		11 21 13.0	
	comp=E,277nm,1.2s						
SIVA	**Sivas**	**2.42 266**		P	**Pn**	**11 19 48.5**	**+1.7**
SIVA	**Sivas**	**2.42 266**		P	**Pb**	**11 19 50.5**	**-0.4**
TAVA	**DENIZLI_Tavas**	**2.43 22**		*i* P	**Pn**	**11 19 48.6**	**+1.7**
TAVA				*i* S	**Sg**	**11 20 26.5**	**+0.9**
TAVA				IAML		11 20 41.0	
	comp=E,597nm,0.9s						
TAVA				IAML		11 20 47.0	
	comp=N,403nm,1.0s						
GOLH	**Golhisar**	**2.48 35**		*i* P	**Pb**	**11 19 50.0**	**-2.1**
GCAM	**G?zelcaml?**	**2.51 350**		PN	**Pn**	**11 19 50.2**	**+2.2**
APE	**Apeiranthos**	**2.58 316**		P	**Pn**	**11 19 50.8**	**+1.8**
APE	**Apeiranthos**	**2.58 316**		PN	**Pn**	**11 19 50.7**	**+1.7**
APE	**Apeiranthos**	**2.58 316**		⇑P	**Pn**	**11 19 50.3**	**+1.3**
**S

CSS	Mathiatis	4.58	92	Pn		Pn	11 20 17.0 +0.5
CSS	Mathiatis	4.58	92	Pn		Pn	11 20 16.6 +0.2
CSS	Mathiatis	4.58	92	⇑P		Pn	11 20 17.0 +0.5
KDHN	Kadinhani	4.80	45	*i* P		Pn	11 20 22.4 +2.7
KDHN				IAML			11 21 29.0
	comp=E,37nm,1.0s						
KDHN				IAML			11 22 05.0
	comp=N,34nm,1.7s						
MVOU	Mavrovouni	4.82	91	⇑P		Pn	11 20 20.4 +0.7
VLX	Vlachokerasia	4.84	298	P		Pn	11 20 21.7 +1.5
HBRG	Burj al`Arab	4.95	159	P		Pn	11 20 23.8 +2.2
	baz=160						
TRIP	Tripoli	4.99	299	P		Pn	11 20 23.1 +0.9
ITM	Ithomi	5.10	294	P		Pn	11 20 25.2 +1.5
KLV	Kalavryta, Ach	5.32	304	P		Pn	11 20 28.0 +1.4
KALE	Kalithea	5.51	307	P		Pn	11 20 30.7 +1.4
TRIZ	Trizonia	5.54	306	P		Pn	11 20 31.5 +1.9
EFP	Efpalio	5.68	306	P		Pn	11 20 32.5 +0.9
AGG	Agios Georgios	5.76	313	Pn		Pn	11 20 35.3 +2.5
ANX	Ano Chora	5.76	307	P		Pn	11 20 34.6 +1.8
ALN	Alexandroupoli	5.83	347	Pn		Pn	11 20 35.8 +2.3
MDUB	Mudurnu	5.91	26	Pn		Pn	11 20 37.8 +3.0
HMYD	Mayadein	5.99	154	P		Pn	11 20 37.4 +1.6
	baz=155						
EVR	Evrytania	6.02	310	P		Pn	11 20 37.7 +1.4
HNAT	Natroun	6.07	156	P		Pn	11 20 38.7 +1.7
	baz=157						
HNAT				S		Sn	11 21 47.9 +1.5
	baz=157						
ANTO	Ankara	6.13	39	Pn		Pn	11 20 39.5 +1.7
SWA2		6.27	199	P		Pn	11 20 42.1 +2.4
	baz=199						
SWA2				S		Sn	11 21 53.7 +2.6
	baz=199						
KOT	Kottamia	6.30	146	P		Pn	11 20 41.2 +1.1
	baz=147						
HSAF	As Saff	6.44	149	P		Pn	11 20 43.4 +1.3
	baz=150						
BR131	Keskin Array S	6.49	44	Pn		Pn	11 20 43.9 +1.1
BRTR	Keskin Array B	6.49	44	Pn		Pn	11 20 43.7 +0.9
	comp=N,0.5nm,0.3s,baz=219,slow=14,SNR=24						
BRTR				Sn		Sn	11 21 58.0 +1.3
	comp=N,0.3nm,0.3s,baz=202,slow=26,SNR=3.2						
GLL	Jalalah	6.54	148	P		Pn	11 20 44.7 +1.2
	baz=149						
RSH		6.56	129	P		Pn	11 20 44.0 +0.2
	baz=130						
MMA0B	Mount Meron ar	6.71	107	Pn		Pn	11 20 47.3 +1.5
MMAI	Mount Meron Ar	6.71	107	Pn		Pn	11 20 45.2 -0.6
	comp=N,7.0nm,0.3s,baz=300,slow=12,SNR=8.8						
MMAI				Sn		Sn	11 21 58.9 -3.2
	comp=N,5.9nm,0.3s,baz=274,slow=20,SNR=1.9						
GEM	Giv'at Ha'Em	6.85	105	Pn		Pn	11 20 47.8 +0.1
SUZ	Suez	6.87	140	P		Pn	11 20 49.4 +1.5
	baz=141						
NATI	Neve Ativ	6.89	104	Pn		Pn	11 20 49.2 +1.0
NATI				Sn		Sn	11 22 04.5 -1.9
MMLI	Mount Malkishu	6.96	111	Pn		Pn	11 20 49.7 +0.6
KZIT	Kziot	7.04	126	Pn		Pn	11 20 50.4 +0.1
SHMJ	Saham	7.10	108	Pn		Pn	11 20 52.2 +1.1
HMDT	Nahal Hemdat	7.12	112	Pn		Pn	11 20 52.0 +0.7
QRNJ	Al-Qirein	7.12	112	Pn		Pn	11 20 51.8 +0.5
ZNM	Zenema	7.26	142	P		Pn	11 20 54.7 +1.4
	baz=143						
YTIR	Yattir	7.26	120	Pn		Pn	11 20 53.2 -0.2
YTIR				Sn		Sn	11 22 14.0 -1.8
DSI	Dead Sea	7.34	118	Pn		Pn	11 20 54.8 +0.4
GHAJ	Ghor Haditha	7.62	119	Pn		Pn	11 20 58.7 +0.5
KRMI	Paran Flat	7.77	129	Pn		Pn	11 21 00.4 +0.1
KARJ	KARJ	7.78	119	Pn		Pn	11 20 54.3 -6.1
ZFRI	Zfri	7.78	125	Pn		Pn	11 21 01.0 +0.5
PRNI	Paran	7.80	126	Pn		Pn	11 21 00.3 -0.4
PRNI				Sn		Sn	11 22 27.1 -1.7
GAZ	Gaziantep	7.89	73			Pn	11 21 01.2 -0.7
HRFI	Mount Harif	8.02	128	Pn		Pn	11 21 03.1 -0.7
HFRF	Wahat Farafira	8.06	176	P		Pn	11 21 05.7 +1.4
	baz=177						
HFRF				AMP			11 23 00.0
	baz=177						
VTS	Vitosha	8.18	336			Pn	11 21 09.0 +2.9
ASF	Jabal al Asfar	8.20	109	Pn		Pn	11 21 06.8 +0.5
	comp=N,0.7nm,0.3s,baz=230,slow=10.0,SNR=6.9						
ASF				Sn		Sn	11 22 40.5 +1.6
	comp=N,0.3nm,0.3s,baz=297,slow=18,SNR=1.7						
EIL	Elat	8.22	130	Pn		Pn	11 21 07.2 +0.7
	comp=N,1.7nm,0.3s,baz=324,slow=3.5,SNR=13						
EIL				Sn		Sn	11 22 33.4 -5.8
	comp=N,0.8nm,0.3s,baz=335,slow=13,SNR=1.6						
EIL	Elat	8.22	130	Pn		Pn	11 21 06.5 0.0
HBST	Basata	8.41	133	P		Pn	11 21 10.4 +1.4
	baz=135						
SCTE	Santa Cesarea	8.81	306	Pn		Pn	11 21 15.4 +0.9
TIP	Timpagrande	9.62	297			Pn	11 21 24.8 -1.0
HDK1	Dakhla	9.75	171	P		Pn	11 21 29.9 +2.4
	baz=171						
PDG	Podgorica	9.78	320			Pn	11 21 30.4 +2.5
GTR	Jabal at Tayr	9.98	165	P		Pn	11 21 31.1 +0.5
	baz=166						
MLR	Muntele Rosu	10.35	353	Pn		Pn	11 21 35.6 -0.1
	comp=N,0.2nm,0.3s,baz=126,slow=17,SNR=1.6						
DBRK	Dubrovnik	10.54	318	*e*Pn		Pn	11 21 41.5 +3.2
DBRK				Sn		Sn	11 23 37.4 +1.2
DIVS	Divibare	10.69	328			Pn	11 21 44.1 +3.7
WDD	Wied Dalam	10.80	277	Pn		Pn	11 21 42.0 +0.2
STON	Ston	10.93	317	*e*Pn		Pn	11 21 46.2 +2.8
STON				Sn		Sn	11 23 45.8 +0.3
VAE	Valguarnera	11.00	286	Pn		Pn	11 21 45.0 +0.4
	comp=N,0.9nm,0.3s,baz=127,slow=5.1,SNR=1.9						
VAE				Sn		Sn	11 23 49.7 +2.3
	comp=N,1.0nm,0.3s,baz=184,slow=14,SNR=3.3						
SGRT	San Giovanni R	11.45	308	Pn		Pn	11 21 53.9 +3.2
MAKA	Makarska	11.57	317	Sn		Sn	11 24 01.4 0.0
RICI	Ricice	11.65	318	*e*Pn		Pn	11 21 55.7 +2.3
RICI				Sn		Sn	11 24 01.0 -2.2
KIJV	Kijevo	12.38	319	*e*Pn		Pn	11 22 04.8 +1.3
KIJV				Sn		Sn	11 24 17.0 -4.2
MORI	Morici	12.68	317	*e*Pn		Pn	11 22 09.8 +2.4
MORI				Sn		Sn	11 24 27.2 -1.2
INTR	Introdacqua	12.77	306	Pn		Pn	11 22 12.3 +3.5
PSZ	Piszkesteto	13.97	338			Pn	11 22 25.9 +0.7
KIV	Kislovodsk	14.43	48	P		P	11 22 39.1 +0.8
KVAR	Kislovodsk Arr	14.43	48	Pn		Pn	11 22 35.0 +3.4
	baz=263,slow=19,SNR=1.9						
KBZ	Khabaz	14.44	49	Pn		P	11 22 36.8 -1.5
	comp=N,0.1nm,0.3s,baz=203,slow=8.0,SNR=6.9						
VYHS	Vyhne	14.82	336	*e*P		P	11 22 44.5 +2.0
SOKA	Soboth	14.93	324	*i* Pn		Pn	11 22 40.6 +2.4
	comp=N,4.3nm,0.8s						
KEST	Kesra	15.01	277	Pn		Pn	11 22 39.4 0.0
	comp=N,0.1nm,0.3s,baz=315,slow=2.9,SNR=3.0						
KEST	Kesra	15.01	277	P		P	11 22 43.5 -1.3
KEST				IAmb		IAmb	11 23 01.9
	comp=Z,10nm,0.9s						
OBKA	Obir	15.04	323	*i* Pn		P	11 22 43.0 -2.1
	comp=Z,7.9nm,1.4s						
ARSA	Arzberg	15.11	326	*i* Pn		P	11 22 43.9 -2.0
	comp=Z,3.9nm,1.1s						
CONA	Conrad Observa	15.48	329	*i* Pn		P	11 22 48.8 -1.1
	comp=Z,1nm,0.8s						
AKASG	Malin Array Be	15.51	3	Pn		Pn	11 22 45.1 -0.7
	comp=Z,0.5nm,0.3s,baz=194,slow=11,SNR=3.0						
MYKA	Terra Mystica	15.58	321	*i* Pn		P	11 22 50.8 -0.3
	comp=Z,1.5nm,0.5s						
ZOU	Zoufplan	15.88	320	P		Pn	11 22 51.8 +0.9
ZOU				IAmb		IAmb	11 23 02.0
	comp=Z,14nm,1.3s						
KBA	Koelnbreinsper	16.04	322	*i* Pn		P	11 22 55.9 -0.3
	comp=Z,5.7nm,0.8s						
MOA	Molln	16.13	326	*i* Pn		P	11 22 56.2 -1.0
	comp=Z,4.0nm,1.1s						
ABTA	Abfaltersbach	16.25	320	*i* Pn		P	11 22 59.3 +0.8
	comp=Z,4.6nm,0.8s						
CTI	Castel Tesino	16.29	316	P		P	11 22 58.0 -1.0
CTI				IAmb		IAmb	11 23 15.4
	comp=Z,15nm,1.0s						
VRAC	Vranov	16.30	333	Pn		Pn	11 22 56.6 +0.6
	comp=Z,0.1nm,0.3s,baz=151,slow=11,SNR=1.3						
MORC	Moravsky Berou	16.36	336	P		P	11 22 58.6 -1.0
WTTA	Wattenberg	17.04	320	*i* Pn		P	11 23 08.7 +1.3
	comp=Z,8.7nm,0.8s						
GEC2	GERESS Array S	17.12	327	P		Pn	11 23 06.5 +0.1
GERES	GERESS Array B	17.12	327	P		Pn	11 23 07.0 +0.6
	comp=Z,0.1nm,0.3s,baz=133,slow=12,SNR=13						
WATA	Walderalm	17.12	320	*i* Pn		P	11 23 10.3 +2.1
	comp=Z,14nm,1.1s						
SQTA	Sankt Quirin	17.24	319	*i* Pn		Pn	11 23 09.0 +1.0
	comp=Z,13nm,1.3s						
DPC	Dobruska-Polom	17.26	335	*e*P		P	11 23 10.7 +1.1
DPC				*ex*		x	11 23 25.0
MOTA	Moosalm	17.37	319	*i* Pn		P	11 23 11.2 +0.2
	comp=Z,5.8nm,0.9s						
FETA	Feichten	17.38	318	*i* Pn		P	11 23 11.5 +0.4
	comp=Z,9.9nm,1.0s						
KHC	Kasperske Hory	17.38	327	*e*P		Pn	11 23 09.5 -0.2
KHC				*ex*		x	11 23 20.3
KHC	Kasperske Hory	17.38	327	P		Pn	11 23 09.5 -0.2
OSTC	Ostas	17.47	335	*e*P		P	11 23 11.8 -0.1
OSTC				*ex*		x	11 23 27.2
GOPC	GO Pecny, Ondr	17.48	331	*e*P		P	11 23 12.8 +0.8
GOPC				*ex*		x	11 23 26.1
CHVC	Chvalec	17.55	335	*e*P		P	11 23 16.3 +3.4
CHVC				*ex*		x	11 23 30.5
PBCC	Pribram	17.62	329	*e*P		P	11 23 13.8 +0.2
PBCC				*ex*		x	11 23 22.3
DAVOX	Davos/Dischmat	17.71	316	P		Pn	11 23 14.4 +0.4
	comp=Z,0.2nm,0.3s,baz=166,slow=16,SNR=2.0						
DAVA	Damuels	18.00	317	*i* Pn		P	11 23 19.9 +1.9
	comp=Z,10nm,1.1s						
BRG	Bergjesschubel	18.57	332	*e*P		P	11 23 24.2 +0.2
	comp=Z,2.7nm,1.1s						
SENIN	Lac Senin/Sane	19.02	312	P		P	11 23 29.1 -0.1
SENIN				IAmb		IAmb	11 23 36.7
	comp=Z,8.1nm,0.7s						
CLL	Collm	19.28	331	*e*P		P	11 23 32.0 +0.2
CLL				*e*pP		sP	11 23 36.0 -0.8
	comp=Z,4.0nm,1.1s						
CLL				*i* (PP)			11 23 42.1
CLL	Collm	19.28	331	P		P	11 23 32.5 +0.7
BFO	Black Forest	19.46	318	P		P	11 23 34.3 +0.5
BFO				IAmb		IAmb	11 23 51.7
	comp=Z,14nm,1.4s						
GEYT	Alibeck	24.48	75	P		P	11 24 26.6 +0.2
	comp=Z,1.0nm,0.3s,baz=336,slow=6.5,SNR=3.6						
ESDC	Sonseca Array	25.50	290	P		P	11 24 35.5 -0.1
	comp=Z,2.3nm,0.8s,baz=80,slow=9.3,SNR=14						
FINES	FINESS Array B	26.26	358	P		P	11 24 41.1 -1.0
	comp=Z,1.2nm,0.7s,baz=160,slow=12,SNR=9.2						
HFS	Hagfors	26.55	344	P		P	11 24 43.0 -1.7
	comp=Z,2.2nm,0.6s,baz=156,slow=12,SNR=9.8						
AKTO	Aktybinsk	26.66	46	P		P	11 24 45.7 -0.3
	comp=Z,3.4nm,0.7s,baz=254,slow=11,SNR=12						
KLMR	Klimovskoe	26.74	13	*e*		P	11 24 44.9 -1.6
KLMR				AMP			11 24 55.3
	comp=Z,9.0nm,1.0s						
ABKAR	Akbulak array	27.41	49	P		P	11 24 53.4 +0.8
ABKAR				IAmb		IAmb	11 25 04.6
	comp=Z,3.0nm,0.8s						
NB2	NORSAR Subarra	27.93	343	P		P	11 24 55.0 -2.2
	comp=Z,1.1nm,0.6s,baz=150,slow=11						
NOA	NORSAR Array B	27.93	343	P		P	11 24 54.9 -2.3
	comp=Z,1.2nm,0.7s,baz=141,slow=6.6,SNR=5.4						
HRA	Herat	28.25	82	P		P	11 24 58.1 -2.5
HRA				IAmb		IAmb	11 24 59.0
	comp=Z,2.4nm,0.7s						
TOA0	Torodi Ar. Sit	32.20	233	P		P	11 25 36.4 +1.0
TOA0				IAmb		IAmb	11 25 38.1
	comp=Z,6.7nm,0.9s						
TORD	Torodi Ar. Bea	32.20	233	P		P	11 25 36.0 +0.6
	comp=Z,6.6nm,0.6s,baz=35,slow=8.4,SNR=53						
ARCES	ARCESS Array B	34.39	359	P		P	11 25 53.0 -1.0
	comp=Z,1.3nm,0.7s,baz=169,slow=7.0,SNR=13						
ARE0	ARCESS Array S	34.39	359	P		P	11 25 53.5 -0.5
KURBB	Kurchatov Arra	39.43	51	P		P	11 26 38.1 +1.1
	comp=Z,2.5nm,0.8s,baz=276,slow=8.8,SNR=16						
KURK	Kurchatov	39.49	51	P		P	11 26 37.5 0.0
KURK				IAmb		IAmb	11 26 43.4
	comp=Z,3.1nm,0.8s						
DBIC	Dimbokro	41.30	234	P		P	11 26 52.4 -0.5
	comp=Z,5.7nm,0.8s,baz=26,slow=8.7,SNR=5.6						
DBIC	Dimbokro	41.30	234	P		P	11 26 53.4 +0.5
MAKZ	Makanchi	41.75	57	P		P	11 26 58.7 +2.4
MK31	Makanchi Array	41.96	57	P		P	11 26 59.1 +1.0
MKAR	Makanchi Array	41.96	57	P		P	11 26 58.9 +0.8
	comp=Z,1.6nm,0.7s,baz=277,slow=7.2,SNR=13						
SPA0	Spitsbergen Ar	43.34	357	P		P	11 27 09.0 +0.2
SPA0				IAmb		IAmb	11 27 15.3
	comp=Z,11nm,1.1s						
ZALV	Zalesovo Beam	43.43	46	P		P	11 27 09.4 -0.3
	comp=Z,0.5nm,0.3s,baz=268,slow=9.3,SNR=4.1						
WMQ	Urumqi	46.13	60	*e*P		P	11 27 33.0 +1.4
NRS	Narsarsuaq	51.90	324	P		P	11 28 13.9 -1.5
SONM	Songino Array	57.80	51	P		P	11 28 58.0 -0.5
	comp=Z,1.0nm,0.7s,baz=298,slow=8.8,SNR=6.2						
LZH	Lanzhou	60.25	65	*e*P		P	11 29 16.3 +0.5
LZH				pP		sP	11 29 19.5 -1.6
LZH				sP		pwP	11 29 21.0 -1.1
LZH				pmax		pmax	
	comp=Z,16nm,1.3s						
LZH				pmax		pmax	
	comp=Z,53nm,7.8s						
HHC	Hu-ho-hao-te	63.83	57	*e*P		P	11 29 41.0 +1.3
HHC				pmax		pmax	
	comp=Z,7.0nm,1.0s						
HHC				pmax		pmax	
	comp=Z,120nm,5.5s						
CMAR	Chiang Mai Arr	64.45	85	P		P	11 29 43.3 -0.6
	comp=Z,0.5nm,0.5s,baz=308,slow=10,SNR=1.3						
SCHQ	Schefferville	64.51	320	P		P	11 29 43.0 -0.8
	comp=Z,2.6nm,0.6s,baz=58,slow=5.7,SNR=7.2						
SCHQ	Schefferville	64.51	320	P		P	11 29 42.8 -1.0
SCHQ				IAmb		IAmb	11 29 47.7
	comp=Z,4.2nm,1.0s						
GBN	Guysborough	65.49	309	P		P	11 29 49.5 -0.7
LMN	Caledonia Moun	67.35	311	P		P	11 30 02.4 +0.2
BATG	Bathurst New B	67.46	313	P		P	11 30 03.2 +0.4
PQI	Presque Isle	68.92	313	P		P	11 30 12.4 +0.4
PQI				IAmb		IAmb	11 30 28.2
	comp=Z,4.4nm,1.1s						
D62A	Allapoint, All	69.34	314	P		P	11 30 15.7 +1.1
D62A				IAmb		IAmb	11 30 21.3
	comp=Z,4.0nm,0.9s						
F63A	Nahmakanta, Br	70.06	312	P		P	11 30 19.1 0.0
F63A				IAmb		IAmb	11 30 35.8
	comp=Z,5.9nm,1.2s						
I62A	Tamworth	72.36	311	P		P	11 30 34.0 +1.0
KSRS	Korea Array	76.55	54	P		P	11 30 56.8 -0.7
	comp=Z,0.9nm,0.8s,baz=293,slow=5.0,SNR=4.8						
YKA	Yellowknife Ar	78.03	343	P		P	11 31 04.5 -0.9
	comp=Z,0.6nm,0.8s,baz=32,slow=5.9,SNR=3.0						
DAWY	Dawson	80.52	354	P		P	11 31 19.2 +0.2
DAWY				IAmb		IAmb	11 31 23.9
	comp=Z,7.8nm,1.4s						
WRH	Wood River Hil	80.58	358	P		P	11 31 19.1 -0.2
WRH				IAmb		IAmb	11 31 23.6
	comp=Z,2.4nm,0.9s						
PPLA	Purkeypile	82.22	360	P		P	11 31 29.2 +1.0
QSPA	South Pole Qui	125.07	180	PKPdf		PKiKP	11 38 07.9 +0.9
EIDS	Eidsvold	130.66	95	PKPdf		PKPdf	11 38 16.9 -1.6

*ATH **29** 11:53:04.6, 35°.33N×26°.15E, h21km±2km, ML2.6/5, Error ellipse: s-maj=3.3km s-min=1.5km az=173.0*
*THE **29** 11:53:05.0, 35°.36N×26°.14E, h6km±4km, ML2.8/4, Error ellipse: s-maj=4.4km s-min=0.7km az=177.0*
ISC 29 11:53:04.5±1.1, 35°.39N±0°.04×26°.11E±0°.03, h8km±11km, n24, σ1°04/35, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STIA	Sitia Lasithi	0.19	184	P	Pg	11 53 08.7	+0.3
STIA				S	Sg	11 53 11.2	+0.2
ZKR	Zakros	0.29	162	P	Pg	11 53 10.1	-0.2
ZKR				S	Sg	11 53 13.7	-0.5
	4μm,0.3s						
ZKR	Zakros	0.29	162	P	Pg	11 53 10.1	-0.2
ZKR				S	Sg	11 53 13.5	-0.6
ZKR				AML	AML	11 53 13.9	
	comp=N,2549μm,0.2s						
ZKR				AML	AML	11 53 14.0	
	comp=E,14770μm,0.3s						
NPS	Neapolis	0.42	252	P	Pb	11 53 14.2	0.0
NPS				S	Sb	11 53 20.3	-0.5
	comp=E,1μm,0.1s						
NPS	Neapolis	0.42	252	P	Pb	11 53 14.3	0.0
NPS				S	Sb	11 53 20.3	-0.5
NPS				AML	AML	11 53 20.6	
	comp=N,1730μm,0.2s						
NPS				AML	AML	11 53 20.8	
	comp=E,2430μm,0.1s						
LAST	Lasithi	0.56	246	P	Pg	11 53 16.2	+0.8
LAST				S	Sb	11 53 24.3	-0.6
	comp=E,670nm,0.2s						
LAST	Lasithi	0.56	246	P	Pg	11 53 16.2	+0.8
LAST				S	Sg	11 53 23.8	+1.0
LAST				AML	AML	11 53 24.4	
	comp=N,1028μm,0.2s						
LAST				AML	AML	11 53 24.9	
	comp=E,1608μm,0.3s						
KSTL	Kastelli Herak	0.85	264	P	Pg	11 53 19.1	-1.8
KSTL				S	Sg	11 53 27.7	-4.3
KARP	Karpathos	0.87	80	P	Pg	11 53 21.0	-0.3
ANAF	Anafi Island	1.00	344	P	Pb	11 53 24.1	0.0
ANAF				S	Sb	11 53 38.7	+1.3
	comp=E,1μm,0.2s						
ANAF	Anafi Island	1.00	344	P	Pn	11 53 25.4	+0.6
IDI	Anoyia	1.00	264	P	Pb	11 53 24.4	+0.3
IDI	Anoyia	1.00	264	P	Pb	11 53 24.2	+0.1
IDI				S	Sg	11 53 38.0	+1.3
IDI				AML	AML	11 53 40.8	
	comp=E,492μm,0.2s						
IDI				AML	AML	11 53 41.3	
	comp=N,419μm,0.3s						
SANT	Santorini	1.11	332	P	Pn	11 53 26.5	+0.2
SIVA	Sivas	1.13	251	P	Pg	11 53 27.0	+0.9
SIVA				S	Sn	11 53 41.7	-0.5
SIVA				AML	AML	11 53 47.7	
	comp=E,702μm,0.8s						
SIVA				AML	AML	11 53 51.2	
	comp=N,747μm,0.6s						
THR8	Santorini-Mono	1.13	333	P	Pn	11 53 26.5	-0.1
THR3	Thira Island,	1.17	331	P	Pn	11 53 27.3	+0.2
THR5	Thira Island,	1.19	329	P	Pn	11 53 26.9	-0.6
VAM	Vamos	1.56	271	P	Pn	11 53 32.4	-0.1
VAM	Vamos	1.56	271	P	Pb	11 53 34.5	+0.9
IMMV	Iera Moni Meta	1.74	273	P	Pn	11 53 35.0	0.0
IMMV	Iera Moni Meta	1.74	273	P	Pn	11 53 35.9	+0.9
KTHA	Kythira Island	2.62	290	P	Pn	11 53 47.9	+0.7
VLI	Veliai	2.89	298	P	Pn	11 53 51.7	+0.9

*IDC **29** 12:05:37.0±0.5, 55°.40S×28°.69W, h0km, mb4.4/10, mb1 4.5/11, mb1mx4.3/26, mbtmp4.5/11, ML5.0/1, MS4.0/6, Ms1 4.0/6, ms1mx3.7/27, Error ellipse: s-maj=22.1km s-min=15.7km az=67.0*
*NEIC **29** 12:05:39.9±1.0, 55°.4S±0°.1×28°.61W±0°.09, h17km±3km, mb4.8/28, Error ellipse: s-maj=19.2km s-min=5.1km az=198.0*
ISC 29 12:05:38.8±0.4, 55°.42S±0°.09×28°.76W±0°.09, h10km, n105, σ0s84/99, mb4.8/19, MS4.1/6, 1C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	4.61	281	Pn	Pn	12 06 47.3	-1.1
VNA1	Neumayer--Stat	17.72	157	P	P	12 09 46.8	+0.7
VNA3	Neumayer Olymp	17.89	160	P	P	12 09 49.1	+1.2
SNAA	Sanae	19.68	156	P	P	12 10 07.3	-0.4
SNAA	Sanae	19.68	156	P	P	12 10 07.0	-0.7
	4.5nm,0.3s,baz=310,slow=11,SNR=51						
SNAA				LR	LR	12 17 11.5	
	comp=Z,167nm,18.2s,baz=318,slow=35						
SNAA	Sanae	19.68	156	P	P	12 10 06.6	-1.1
SNAA				IAmb	IAmb	12 10 20.2	
	comp=Z,30nm,0.8s						
PLCA	Paso Flores	31.01	281		P	12 11 56.1	-0.2
SYO	Syowa Base	32.63	142	*e*P	P	12 12 08.2	-2.0
SYO	Syowa Base	32.63	142	*e*pP	pP	12 12 13.4	+1.1
SYO	Syowa Base	32.63	142	*e*sP	sP	12 12 14.0	+0.8
QSPA	South Pole Qui	34.83	180	P	P	12 12 29.9	+0.3
	comp=Z,3.0nm,0.7s,baz=176,slow=1.5,SNR=16						
QSPA				PcP	PcP	12 15 00.4	-1.9
	comp=Z,1.6nm,0.7s,baz=204,slow=3.2,SNR=1.5						
QSPA				LR	LR	12 26 39.3	
	comp=Z,352nm,18.2s,baz=188,slow=36						
QSPA	South Pole Qui	34.83	180	P	P	12 12 30.4	+0.8
CPUP	Villa Florida	35.73	313	P	P	12 12 36.4	-1.0
	comp=Z,5.9nm,0.8s,baz=147,slow=9.0,SNR=6.2						
CPUP				LR	LR	12 26 02.8	
	comp=Z,295nm,21.3s,baz=148,slow=34						
CPUP	Villa Florida	35.73	313	P	P	12 12 36.7	-0.7
CPUP				IAmb	IAmb	12 12 46.5	
	comp=Z,22nm,1.2s						
MT01	Popeta	36.34	288	P	P	12 12 44.0	+1.3
MT01				IAmb	IAmb	12 12 52.6	
	comp=Z,22nm,1.4s						
PEL	Peldehue	36.59	290	P	P	12 12 45.3	+0.5
PEL				IAmb	IAmb	12 13 03.5	
	comp=Z,31nm,1.3s						
MT02	Curacav	36.74	289	P	P	12 12 46.0	-0.1
CO02	Combarbal	38.26	292	P	P	12 12 59.7	+0.6
CO01	Juntas del Tor	38.75	294	P	P	12 13 04.8	+1.4
CO01				IAmb	IAmb	12 13 13.2	
	comp=Z,21nm,1.2s						
GO04	Tololo Observa	38.96	293	P	P	12 13 06.3	+1.1
GO04				IAmb	IAmb	12 13 10.2	
	comp=Z,41nm,1.4s						
AC05	El Transito	39.76	295

comp=Z,2.5nm,0.7s,baz=198,slow=6.3,SNR=18
MNMC Minye Minye 47.51 303 P **P** 12 14 15.2 **+0.9**
H10N1 ASCENSION HYDR 48.79 19 T T 13 07 37.1
baz=189,slow=75,SNR=10
H10N3 ASCENSION HYDR 48.79 19 T T 13 07 33.3
baz=189,slow=75,SNR=28
H10N2 ASCENSION HYDR 48.81 19 T T 13 07 37.7
baz=189,slow=75,SNR=16
LPAZ La Paz 49.29 307 P **P** 12 14 28.8 **+0.4**
comp=Z,6.8nm,0.6s,baz=123,slow=5.1,SNR=20
LPAZ La Paz 49.29 307 P **P** 12 14 29.1 **+0.6**
LPAZ IAmb IAmb 12 14 33.0
comp=Z,8.6nm,0.7s
SAML Samuel 53.73 316 P **P** 12 15 01.8 **+0.9**
CASY Casey 54.80 161 P **P** 12 15 08.7 **+0.6**
LSZ Lusaka 58.99 71 P **P** 12 15 39.0 **+0.3**
LSZ IAmb IAmb 12 15 48.5
comp=Z,6.7nm,0.9s
DBIC Dimbokro 64.98 26 P **P** 12 16 20.1 **+1.4**
comp=Z,5.3nm,1.0s,baz=187,slow=8.1,SNR=1.4
DBIC Dimbokro 64.98 26 P **P** 12 16 20.5 **+1.9**
ROSC El Rosal 70.80 311 LR LR 12 48 16.0
comp=Z,113nm,21.7s,baz=198,slow=36
TOA0 Torodi Ar. Sit 72.96 31 P **P** 12 17 07.8 **-0.4**
TOA0 IAmb IAmb 12 17 08.8
comp=Z,11nm,0.8s
TORD Torodi Ar. Bea 72.96 31 P **P** 12 17 07.7 **-0.6**
comp=Z,5.7nm,0.4s,baz=200,slow=6.3,SNR=36
NVAR Mina Array Bea 120.33 295 PKP **PKPdf** 12 24 29.6 **-0.1**
comp=Z,0.2nm,0.5s,baz=97,slow=5.9,SNR=2.8
FXWY Fox Creek 120.61 303 **PKPdf** 12 24 29.7 **-0.5**
FINES FINESS Array B 124.25 28 PKP **PKPdf** 12 24 35.0 **-1.2**
comp=Z,1.2nm,0.5s,baz=157,slow=1.4,SNR=14
CMAR Chiang Mai Arr 126.12 112 PKP **PKPdf** 12 24 41.0 **-0.1**
comp=Z,1.0nm,0.9s,baz=236,slow=4.8,SNR=4.5
ARCES ARCESS Array B 130.69 22 PKP **PKPdf** 12 24 47.4 **-0.9**
comp=Z,2.7nm,0.9s,baz=168,slow=1.7,SNR=9.6
YKA Yellowknife Ar 135.11 319 PKP **PKPdf** 12 24 56.2 **-0.6**
comp=Z,1.2nm,0.6s,baz=120,slow=2.0,SNR=10
MAKZ Makanchi 137.37 72 PKPpre 12 24 50.5
MKAR Makanchi Array 137.53 72 PKP **PKPdf** 12 25 01.8 **-0.1**
comp=Z,0.3nm,0.6s,baz=259,slow=0.9,SNR=4.0
WMQ Urumqi 138.65 79 *e*PKP **PKPdf** 12 25 05.5 **+1.4**
LZH Lanzhou 142.60 101 *e*PKP **PKPdf** 12 25 11.5 **-0.1**
LZH pPKP sPKPdf 12 25 15.0 +0.1
LZH sPKP 12 25 16.5
LZH LR LR
comp=Z,120nm,18.3s
LZH LR LR
comp=Z,130nm,18.2s
LZH LR LR
comp=Z,160nm,20.1s
GTA Gaotai 142.65 93 *e*PKP **PKiKP** 12 25 16.8 **+2.2**
ZALV Zalesovo Beam 142.89 64 PKhKP PKPpre 12 25 06.0
comp=Z,0.8nm,0.4s,baz=225,slow=1.6,SNR=2.5
HYT Haines Junctio 143.70 308 PKPbc 12 25 10.8 +0.5
PCA Pinnacle 144.65 306 **PKPab** 12 25 13.8 **+0.8**
INK Inuvik 144.75 321 PKP **PKPab** 12 25 12.7 **-0.3**
comp=Z,10.0nm,1.0s,baz=132,slow=3.4,SNR=15
INK Inuvik 144.75 321 PKPdf **PKPab** 12 25 12.9 **-0.1**
EPYK Eagle Plains 145.36 318 **PKPbc** 12 25 15.2 **-0.1**
YAH Yahtse 145.44 306 **PKPdf** 12 25 16.3 **+0.4**
DAWY Dawson 145.71 313 **PKPdf** 12 25 15.9 **-0.1**
EGAK Eagle 146.66 314 **PKPdf** 12 25 18.7 **+1.3**
MENT Mentasta 147.21 310 **PKPbc** 12 25 21.1 **+0.3**
NJ2 Nanjing 147.43 122 PKPbc **PKPdf** 12 25 20.3 **+0.5**
DOT Dot Lake 147.56 311 **PKPdf** 12 25 21.6 **+2.5**
SCRK Sand Creek 147.62 312 **PKPbc** 12 25 21.9 **-0.1**
FID Port Fidalgo 147.77 305 **PKPbc** 12 25 22.7 **+0.3**
RIDG Independent Ri 147.92 311 **PKPbc** 12 25 23.2 **+0.4**
PAX Paxson 147.98 310 **PKPbc** 12 25 23.2 **+0.2**
SCM Sheep Creek Mo 148.49 307 **PKPbc** 12 25 24.6 **+0.3**
PRP Porcupine Dome 148.63 314 **PKPbc** 12 25 24.6 **-0.1**
FYU Fort Yukon 148.72 316 **PKPbc** 12 25 25.4 **+0.8**
SEW Seward 148.96 303 **PKPbc** 12 25 25.6 **+0.2**
IL31 149.03 313 **PKPbc** 12 25 25.6 **+0.1**
ILAR Eielson Array 149.03 313 PKPbc **PKPbc** 12 25 25.0 **-0.5**
comp=Z,10nm,0.8s,baz=121,slow=1.7,SNR=69
NRIK Noril'sk 149.07 38 PKPbc **PKPbc** 12 25 25.1 **-0.4**
comp=Z,2.7nm,0.6s,baz=234,slow=4.3,SNR=3.0
GHO Glory Hole Cre 149.20 307 **PKPbc** 12 25 26.2 **+0.1**
PMR Palmer 149.25 306 **PKPbc** 12 25 25.9 **-0.2**
CCB Clear Creek Bu 149.39 312 **PKPbc** 12 25 25.9 **-0.5**
COLA College 149.46 313 **PKPbc** 12 25 26.8 **+0.2**
WRH Wood River Hil 149.48 312 **PKPbc** 12 25 26.5 **-0.1**
RND Reindeer 149.57 310 **PKPbc** 12 25 27.4 **+0.4**
CNPM China Poot 149.64 302 **PKPbc** 12 25 27.5 **+0.3**
MCK McKinley 149.68 310 **PKPbc** 12 25 27.2 **0.0**
KDAK Kodiak Island 149.74 298 PKPbc **PKPbc** 12 25 27.5 **0.0**
comp=Z,6.2nm,0.4s,baz=198,slow=1.0,SNR=29
OHAK Old Harbor 149.90 297 **PKPbc** 12 25 28.1 **+0.2**
SUA Susitna One 149.96 306 **PKiKP** 12 25 29.8 **+0.8**
TRF Thorofare Moun 150.22 310 **PKPbc** 12 25 28.8 **+0.1**
HHC Hu-ho-hao-te 150.25 103 *e*PKPbc **PKPdf** 12 25 25.8 **+1.5**
SKT Skwentna 150.45 306 PKPdf **PKPdf** 12 25 25.0 **+1.2**
SKT **PKPbc** 12 25 29.2 **+0.1**
TOLK Toolik Lake Re 150.62 320 **PKPbc** 12 25 29.1 **-0.2**
RSO Redoubt South 150.64 303 **PKPbc** 12 25 29.4 **-0.4**
COLD Coldfoot 150.75 317 **PKPbc** 12 25 29.9 **+0.2**
PPLA Purkeypile 150.95 308 PKPdf **PKPdf** 12 25 23.1 **-1.6**
PPLA **PKPbc** 12 25 30.1 **-0.3**
SONM Songino Array 151.58 87 PKPbc **PKPbc** 12 25 31.2 **-1.2**
comp=Z,1.7nm,0.5s,baz=233,slow=3.4,SNR=9.8
TTA Tatalina 152.67 308 **PKPbc** 12 25 34.8 **+0.5**

IDC ***29*** *12:09:08.9±3.1,* ***5.70S×128.46E, h297****km±45****km,* ***mb2.7****/1,* ***mb1 2.8****/5,* ***mb1mx2.7****/49,* ***mbtmp3.5****/5,* ***Error ellipse: s-maj=68.9km s-min=20.6km az=84.0, Banda Sea***

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIJI	**Sorong**	**5.56**	**30**	P	Pn	12 10 33.1	0.0
	0.8nm,0.3s,baz=71,slow=21,SNR=1.8						
SIJI				S	S	12 11 35.4	-5.3
	1.4nm,0.3s,baz=227,slow=23,SNR=1.3						
FITZ	**Fitzroy Crossi**	**12.62**	**192**	P	Pn	12 11 59.0	-0.1
	0.1nm,0.3s,baz=12,slow=9.3,SNR=1.5						
FITZ				S	S	12 14 06.9	-12
	0.1nm,0.3s,baz=324,slow=15,SNR=1.7						
WRA	**Warramunga Arr**	**15.26**	**159**	P	P	12 12 27.2	-2.0
	0.1nm,0.3s,baz=337,slow=12,SNR=2.0						
WRA				S	S	12 14 57.6	-18
	0.1nm,0.3s,baz=336,slow=20,SNR=2.4						
ASAR	**Alice Springs**	**18.61**	**164**	P	P	12 13 06.2	+0.8
	0.1nm,0.3s,baz=344,slow=10.0,SNR=14						
MKAR	**Makanchi Array**	**66.31**	**327**	P	P	12 19 26.0	0.0
	0.2nm,0.4s,baz=131,slow=7.9,SNR=2.8						

IDC ***29*** *12:10:36.7±2.5,6.12S×151.13E,h59****km±21****km,mb3.6/6, mb1 3.9/8,mb1mx3.5/42,mbtmp3.9/8,ML1.4/1,MS2.5/1, Ms1 2.5/1,ms1mx2.5/27,Error ellipse: s-maj=70.1km s-min=17.1km az=124.0*

ISC 29 12:10:35.4±1.7,6.2S±0.3×151.1E±0.4,h43km,n10, σ1§46/12,mb3.8/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.08**	**27**	P	**Pn**	**12 11 08.4**	**+0.6**
	175nm,0.3s,baz=220,slow=1.4,SNR=107						
KRVT				S	**Sn**	**12 11 35.3**	**+2.7**
	83nm,0.3s,baz=332,slow=20,SNR=6.7						
KRVT				LR	LR	12 11 50.3	
	comp=Z,108nm,20.2s,baz=184,slow=37						
PMG	**Port Moresby**	**5.04**	**230**	P	**Pn**	**12 11 50.8**	**+2.3**
	1.0nm,0.3s,baz=53,slow=5.1,SNR=2.5						
PMG				S	**Sn**	**12 12 44.9**	**-0.6**
	2.9nm,0.3s,baz=127,slow=20,SNR=4.7						
WRA	**Warramunga Arr**	**21.26**	**228**	P	P	12 15 18.8	+0.6
	5.3nm,0.7s,baz=52,slow=11,SNR=11						
ASAR	**Alice Springs**	**23.99**	**222**	P	P	12 15 46.8	+0.6
	3.6nm,0.8s,baz=59,slow=8.9,SNR=59						
FITZ	**Fitzroy Crossi**	**27.50**	**242**	P	P	12 16 18.0	0.0
	2.0nm,0.7s,baz=45,slow=5.7,SNR=2.1						
SONM	**Songino Array**	**66.59**	**329**	P	P	12 21 20.6	-0.8
	0.3nm,0.4s,baz=123,slow=7.8,SNR=2.1						
MKAR	**Makanchi Array**	**80.25**	**319**	P	P	12 22 41.2	-0.4
	0.5nm,0.9s,baz=108,slow=5.8,SNR=3.6						
ILAR	**Eielson Array**	**84.07**	**22**	P	P	12 23 00.1	-1.2
	0.4nm,0.5s,baz=250,slow=5.5,SNR=5.3						
GERES	**GERESS Array B**	**124.31**	**327**	PKP	**PKPdf**	12 29 28.2	-1.6
	0.3nm,0.7s,baz=78,slow=3.6,SNR=3.5						
TORD	**Torodi Ar. Bea**	**149.06**	**285**	PKPbc	**PKPbc**	12 30 19.8	-0.2
	1.3nm,0.8s,baz=72,slow=2.8,SNR=5.9						

NEIC ***29*** *12:11:17.5±1.5,24.5S×0.1×179.8E±0.2,h516km±10km, mb4.5/20,Error ellipse: s-maj=20.9km s-min=18.4km az=86.0*

IDC ***29*** *12:11:20.8±4.3,24.54S×179.71E,h552km±50km, mb3.5/11,mb1 3.7/12,mb1mx3.4/41,mbtmp4.5/12,Error ellipse: s-maj=31.2km s-min=23.8km az=7.0*

ISC 29 12:11:16.5±0.9,24.6S±0.1×179.9E±0.1,h500km,n35, σ1§32/34,mb4.3/16,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**7.00**	**346**	P	P	**12 13 03.4**	**+0.4**
DZM	**Mont Dzumac**	**12.57**	**279**	P	P	**12 14 04.0**	**+2.6**
	0.9nm,0.3s,baz=72,slow=16,SNR=11						
MXZ	**Matakaoa Point**	**13.03**	**185**	P	P	**12 14 09.7**	**+3.9**
BKZ	**Black Stump Fm**	**14.84**	**190**	P	P	**12 14 24.0**	**-0.9**
BFZ	**Birch Farm**	**16.36**	**190**	P	P	**12 14 38.1**	**-2.6**
BFZ				IAmb	IAmb	12 14 38.1	
	comp=Z,27nm,1.2s						
NNZ	**Nelson**	**17.47**	**196**	P	P	**12 14 51.4**	**-0.4**
LTZ	**Lake Taylor**	**19.22**	**197**	P	P	**12 15 09.7**	**+1.7**
RPZ	**Rata Peaks**	**20.43**	**199**	P	P	**12 15 20.0**	**+1.1**
	comp=Z,23nm,1.2s,baz=34,slow=7.3,SNR=1.5						
RPZ	**Rata Peaks**	**20.43**	**199**	P	P	**12 15 21.1**	**+2.3**
EIDS	**Eidsvold**	**26.08**	**262**	P	P	**12 16 10.4**	**+0.7**
EIDS				IAmb	IAmb	12 16 17.5	
	comp=Z,7.4nm,1.2s						
CTA	**Charters Tower**	**31.35**	**271**	P	P	**12 16 56.2**	**+0.4**
	comp=Z,15nm,0.3s,baz=95,slow=11,SNR=54						
CTAO	**Charters Tower**	**31.35**	**271**	P	P	**12 16 56.5**	**+0.8**
CTAO				IAmb	IAmb	12 16 56.9	
	comp=Z,15nm,0.6s						
TAU	**Tasmania Unive**	**32.39**	**228**	P	P	**12 17 04.5**	**+0.2**
STKA	**Stephens Creek**	**34.36**	**249**	P	P	**12 17 21.2**	**+0.1**
	comp=Z,2.8nm,0.4s,baz=94,slow=11,SNR=10						
STKA	**Stephens Creek**	**34.36**	**249**	P	P	**12 17 21.2**	**+0.1**
BBOO	**Buckleboo**	**39.07**	**248**	P	P	**12 17 59.1**	**-0.9**
BBOO				IAmb	IAmb	12 17 59.9	
	comp=Z,20nm,1.2s						
AS31	**Alice Springs**	**41.80**	**261**	P	P	**12 18 21.5**	**-0.6**
ASAR	**Alice Springs**	**41.80**	**261**	P	P	**12 18 21.3**	**-0.8**
	comp=Z,1.9nm,0.4s,baz=90,slow=6.7,SNR=63						
WR0	**Warramunga Arr**	**42.05**	**267**	P	P	**12 18 23.1**	**-0.9**
WB2	**Warramunga Arr**	**42.23**	**267**	P	P	**12 18 24.6**	**-0.8**
WB2				IAmb	IAmb	12 18 24.8	
	comp=Z,9.7nm,0.5s						
WRAB	**Tennant Creek**	**42.23**	**267**	P	P	**12 18 24.5**	**-0.9**
WRAB				IAmb	IAmb	12 18 24.8	
	comp=Z,7.5nm,0.4s						
WB0	**Warramunga Arr**	**42.23**	**267**	P	P	**12 18 24.6**	**-0.8**
WB0				IAmb	IAmb	12 18 25.2	
	comp=Z,10nm,0.6s						
WRA	**Warramunga Arr**	**42.24**	**267**	P	P	**12 18 24.4**	**-1.0**
	comp=Z,4.7nm,0.3s,baz=99,slow=7.0,SNR=43						
JAY	**Jayapura**	**43.66**	**294**	P	P	**12 18 35.8**	**-0.9**
	comp=Z,3.0nm,0.5s,baz=157,slow=7.7,SNR=1.8						
FORT	**Forrest**	**45.96**	**250**	P	P	**12 18 52.8**	**-1.4**
KNRA	**Kununurra**	**48.56**	**270**	P	P	**12 19 13.7**	**-0.3**
KNRA				IAmb	IAmb	12 19 14.0	
	comp=Z,10nm,0.6s						
FITZ	**Fitzroy Crossi**	**50.65**	**266**	P	P	**12 19 28.9**	**-0.5**
	comp=Z,5.3nm,0.6s,baz=104,slow=3.5,SNR=13						
FITZ	**Fitzroy Crossi**	**50.65**	**266**	P	P	**12 19 29.1**	**-0.3**
FITZ				IAmb	IAmb	12 19 33.1	
	comp=Z,7.7nm,1.2s						
SIJI	**Sorong**	**52.52**	**289**	P	P	**12 19 41.8**	**-1.2**
	comp=Z,11nm,0.5s,baz=170,slow=23,SNR=4.0						
MORW	**Morawa**	**56.53**	**250**	P	P	**12 20 10.1**	**-1.0**
CASY	**Casey**	**59.46**	**206**	P	P	**12 20 29.2**	**-1.1**
NVAR	**Mina Array Bea**	**85.32**	**44**	P	P	**12 23 00.3**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=220,slow=6.9,SNR=4.2						
CMAR	**Chiang Mai Arr**	**89.63**	**290**	P	P	**12 23 21.7**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=134,slow=5.1,SNR=2.5						
TXAR	**Lajitas Array**	**90.89**	**58**	P	P	**12 23 27.0**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=216,slow=6.4,SNR=9.0						
HFS	**Hagfors**	**143.16**	**348**	PKP	PKPab	12 29 49.4	-1.0
	comp=Z,0.5nm,0.3s,baz=67,slow=3.9,SNR=8.7						

IDC ***29*** *12:11:18.7±0.4,55.32S×28.08W,h0km,mb4.7/14, mb1 4.7/15,mb1mx4.6/28,mbtmp4.7/15,ML4.6/1,MS4.3/10, Ms1 4.3/10,ms1mx4.0/28,Error ellipse: s-maj=18.5km s-min=14.0km az=57.0*

MOS ***29*** *12:11:20.9±1.2,55.37S×28.31W,h22km,mb5.3/14,Error ellipse: s-maj=21.8km s-min=12.5km az=115.1*

NEIC ***29*** *12:11:21.2±1.3,55.31S±0.10×28.1W±0.2,h16km±3km, mb5.1/40,Error ellipse: s-maj=15.6km s-min=12.5km az=216.0*

BJI ***29*** *12:11:21.0±0.0,55.30S×28.10W,h20km,mB5.5/2, Ms5.4/2,Ms7 5.0/3*

GCMT ***29*** *12:11:24.2±0.4,55.20S±0.04×28.08W±0.06,h30km, MW5.4/65,Moment Tensor Solution. s31,c33; s65,c79; Duration: 1§2 Moment tensor: Scale 10¹⁷Nm; Mrr1.63±.10; Mθθ-0.88±.07; Mϕϕ-0.75±.06; Mrθ-0.17±.10; Mrϕ0.31±.03; Mθϕ0.27±.08; Best double couple: M₀1.41500×10¹⁷ NP1:ϕ₁127.00000°, δ39.00000°, λ86.00000°. NP2:ϕ₂312.00000°, δ51.00000°, λ93.00000°. Principal axes: T 1.6670, Plg83.0000°, Azm243.0000°; N -0.5040, Plg3.0000°, Azm130.0000°; P -1.1630, Plg6.0000°, Azm40.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 29 12:11:22.7±0.3,55.31S±0.07×28.18W±0.07,h26km,n232, σ1§02/224,mb5.1/31,4C-7D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.92**	**279**	P	**Pn**	**12 12 33.6**	**-1.2**
HOPE	**Hope Point**	**4.92**	**279**	Pn	**Pn**	**12 12 33.5**	**-1.2**
VNA1	**Neumayer--Stat**	**17.69**	**158**	P	**Pn**	**12 15 26.4**	**-0.4**
VNA3	**Neumayer Olymp**	**17.87**	**160**	P	**Pn**	**12 15 28.4**	**-0.7**
EFI	**East Falkland**	**18.08**	**269**	*i*P	**Pn**	**12 15 31.3**	**-0.4**
EFI	**East Falkland**	**18.08**	**269**	P	P	**12 15 33.0**	**+1.1**
EFI				IAmb	IAmb	12 15 38.3	
	comp=Z,258nm,1.8s						
SNAA	**Sanae**	**19.64**	**156**	P	P	**12 15 48.7**	**-0.3**
SNAA	**Sanae**	**19.64**	**156**	P	P	**12 15 48.6**	**-0.5**
	comp=Z,1.7nm,0.3s,baz=308,slow=10.0,SNR=34						
SNAA	**Sanae**	**19.64**	**156**	*d*P	P	**12 15 48.6**	**-0.5**
SNAA				pmax	pmax		
	comp=Z,17nm,0.9s						
SNAA	**Sanae**	**19.64**	**156**	P	P	**12 15 48.2**	**-0.8**
PMSA	**Palmer Station**	**19.98**	**227**	P	**Pn**	**12 15 55.7**	**+1.3**
	comp=Z,58nm,0.9s,baz=105,slow=12,SNR=2.5						
PMSA				LR	LR	12 22 02.6	
	comp=Z,534nm,19.6s,baz=74,slow=32						
PMSA	**Palmer Station**	**19.98**	**227**	P	**Pn**	**12 15 56.0**	**+1.6**
NVL	**N'lazarevskaya**	**23.19**	**147**	*e*P	P	**12 16 31.2**	**+4.3**
NVL				pmax	pmax		
	comp=Z,14nm,0.9s						
SYO	**Syowa Base**	**32.51**	**142**	*i*eP	P	**12 17 48.4**	**-2.3**
SYO	**Syowa Base**	**32.51**	**142**	*i*epP	P	**12 17 53.8**	**+3.1**
SYO	**Syowa Base**	**32.51**	**142**	*i*esP	sP	12 17 55.4	-3.6
QSPA	**South Pole Qui**	**34.94**	**180**	P	P	**12 18 11.9**	**-0.2**
	comp=Z,15nm,0.8s,baz=203,slow=3.4,SNR=67						
QSPA	**South Pole Qui**	**34.94**	**180**	P	P	**12 18 11.9**	**-0.2**
QSPA				IAmb	IAmb	12 18 13.4	
	comp=Z,22nm,0.9s						
VAO	**Valinhos**	**35.17**	**329**	*e*P	P	**12 18 15.0**	**+0.7**
VAO	**Valinhos**	**35.17**	**329**	*e*P	P	**12 18 15.0**	**+0.7**
CPUP	**Villa Florida**	**35.90**	**312**	P	P	**12 18 20.1**	**-0.4**
	comp=Z,14nm,0.8s,baz=152,slow=8.2,SNR=19						
CPUP	**Villa Florida**	**35.90**	**312**	P	P	**12 18 20.1**	**-0.4**
CPUP				pmax	pmax		
	comp=Z,49nm,1.3s						
CPUP	**Villa Florida**	**35.90**	**312**	P	P	**12 18 20.1**	**-0.4**
CPUP				IAmb	IAmb	12 18 25.4	
	comp=Z,49nm,1.2s						
CPUP	**Villa Florida**	**35.90**	**312**	*e*P	P	**12 18 18.9**	**-1.6**
CPUP	**Villa Florida**	**35.90**	**312**	*e*P	P	**12 18 18.9**	**-1.6**
GO05	**Huala**	**36.14**	**286**	P	P	**12 18 22.7**	**+0.1**
GO05				IAmb	IAmb	12 19 25.8	
	comp=Z,30nm,1.3s						
BSCB	**Bom Sucesso**	**36.47**	**333**	*e*P	P	**12 18 26.6**	**+1.2**
BSCB	**Bom Sucesso**	**36.47**	**333**	*e*P	P	**12 18 26.6**	**+1.2**
MT01	**Popeta**	**36.63**	**288**	P	P	**12 18 26.6**	**-0.1**
MT01				IAmb	IAmb	12 18 43.2	
	comp=Z,39nm,1.4s						
CFA	**Coronel Fontan**	**36.75**	**293**	LR	LR	12 32 54.4	

comp=Z,376nm,20.6s,baz=150,slow=35
PEL Peldehue 36.87 289 P **P** 12 18 29.7 **+1.0**
PEL pmax pmax
comp=Z,27nm,0.8s
PEL Peldehue 36.87 289 P **P** 12 18 29.7 **+1.0**
PEL IAmb IAmb 12 18 30.3
comp=Z,27nm,0.8s
MT02 Curacav 37.02 288 P **P** 12 18 29.5 **-0.5**
MT02 IAmb IAmb 12 19 00.4
comp=Z,43nm,1.4s
VA03 San Esteban 37.08 290 P **P** 12 18 31.7 **+1.0**
VA03 IAmb IAmb 12 18 41.1
comp=Z,23nm,0.8s
TRCB Terra Rica 37.22 321 *e*P **P** 12 18 32.1 **+0.3**
TRCB Terra Rica 37.22 321 *e*P **P** 12 18 32.1 **+0.3**
BSFB Barra de Sao F 37.67 340 *e*P **P** 12 18 36.0 **+0.4**
BSFB Barra de Sao F 37.67 340 *e*P **P** 12 18 36.0 **+0.4**
CO01 Juntas del Tor 39.01 293 P **P** 12 18 47.6 **+0.5**
GO04 Tololo Observa 39.23 292 P **P** 12 18 48.2 **-0.7**
AC05 El Transito 40.02 294 P **P** 12 18 55.3 **-0.1**
AC05 IAmb IAmb 12 19 08.3
comp=Z,88nm,1.6s
IPMB Ipameri, GO 40.28 330 *e*P **P** 12 18 58.0 **+0.6**
IPMB Ipameri, GO 40.28 330 *e*P **P** 12 18 58.0 **+0.6**
AQDB Aquidauana 40.48 318 *e*P **P** 12 18 58.5 **-0.5**
AQDB Aquidauana 40.48 318 *e*P **P** 12 18 58.5 **-0.5**
AC04 Llanos de Chal 40.94 294 P **P** 12 19 04.0 **+1.1**
AC04 IAmb IAmb 12 19 07.8
comp=Z,70nm,1.2s
SUR Sutherland 41.00 77 P **P** 12 19 02.9 **-0.7**
comp=Z,6.7nm,0.8s,baz=202,slow=11,SNR=2.4
SUR LR LR 12 32 47.8
comp=Z,427nm,18.9s,baz=166,slow=32
SUR Sutherland 41.00 77 P **P** 12 19 04.4 **+0.8**
SUR IAmb IAmb 12 20 18.7
comp=Z,94nm,1.7s
C2SB Chapadao do Su 41.01 323 *e*P **P** 12 19 04.2 **+0.8**
C2SB Chapadao do Su 41.01 323 *e*P **P** 12 19 04.2 **+0.8**
AC02 Maricunga 41.05 297 P **P** 12 19 05.3 **+1.1**
AC02 IAmb IAmb 12 19 52.5
comp=Z,83nm,1.8s
MAW Mawson 41.08 144 P **P** 12 19 02.9 **-0.6**
comp=Z,4.0nm,0.8s,baz=258,slow=9.2,SNR=7.2
MAW Mawson 41.08 144 P **P** 12 19 03.4 **-0.1**
MAW Mawson 41.08 144 P **P** 12 19 03.4 **-0.1**
JANB Januaria 42.07 336 *e*P **P** 12 19 12.2 **0.0**
JANB Januaria 42.07 336 *e*P **P** 12 19 12.2 **0.0**
AC01 Pan de Azucar 42.36 296 P **P** 12 19 14.9 **+0.4**
AC01 IAmb IAmb 12 19 38.1
comp=Z,42nm,1.1s
BDFB Brasilia 42.45 331 P **P** 12 19 15.3 **0.0**
comp=Z,4.9nm,0.8s,baz=162,slow=5.9,SNR=7.0
BDFB Brasilia 42.45 331 P **P** 12 19 15.0 **-0.3**
BDFB pmax pmax
comp=Z,30nm,1.7s
BDFB Brasilia 42.45 331 P **P** 12 19 15.0 **-0.3**
GO02 Mina Guanaco 42.66 298 P **P** 12 19 17.9 **+0.6**
GO02 IAmb IAmb 12 19 23.2
comp=Z,68nm,1.4s
ARAG Araguaiana, MT 43.52 326 *e*P **P** 12 19 24.5 **+0.6**
ARAG Araguaiana, MT 43.52 326 *e*P **P** 12 19 24.5 **+0.6**
LVC Limon Verde 44.45 301 P **P** 12 19 32.6 **+0.8**
comp=Z,9.7nm,0.6s,baz=151,slow=4.8,SNR=5.8
LVC Limon Verde 44.45 301 P **P** 12 19 32.7 **+1.0**
LVC pmax pmax
comp=Z,31nm,1.4s
LVC Limon Verde 44.45 301 P **P** 12 19 32.7 **+1.0**
LVC Limon Verde 44.45 301 *e*P **P** 12 19 33.1 **+1.4**
LVC Limon Verde 44.45 301 *e*P **P** 12 19 33.1 **+1.4**
SALV Santo Antonio 44.66 321 *e*P **P** 12 19 32.4 **-0.7**
SALV Santo Antonio 44.66 321 *e*P **P** 12 19 32.4 **-0.7**
PB09 IPOC Station P 45.29 301 P **P** 12 19 39.8 **+1.5**
PB07 IPOC Station P 45.67 300 P **P** 12 19 42.0 **+0.7**
PB01 IPOC Station P 46.05 301 P **P** 12 19 44.7 **+0.5**
PB01 IAmb IAmb 12 19 45.9
comp=Z,25nm,0.8s
BOSA Boshof 46.34 77 P **P** 12 19 45.9 **-0.6**
comp=Z,8.7nm,0.9s,baz=198,slow=8.2,SNR=12
BOSA LR LR 12 36 04.2
comp=Z,579nm,18.6s,baz=208,slow=32
BOSA Boshof 46.34 77 P **P** 12 19 45.9 **-0.6**
BOSA pmax pmax
comp=Z,19nm,1.3s
BOSA Boshof 46.34 77 P **P** 12 19 45.9 **-0.6**
PTLB Pontes e Lacer 46.38 317 *e*P **P** 12 19 46.1 **-0.5**
PTLB Pontes e Lacer 46.38 317 *e*P **P** 12 19 46.1 **-0.5**
PB08 IPOC Station P 46.66 302 P **P** 12 19 50.4 **+1.1**
PB08 IAmb IAmb 12 19 55.1
comp=Z,16nm,0.9s
GO01 Chusmiza 47.08 302 P **P** 12 19 53.5 **+0.8**
PB11 IPOC Station P 47.22 302 P **P** 12 19 54.1 **+0.6**
VNDA Vanda 47.28 183 P **P** 12 19 53.3 **+0.2**
comp=Z,11nm,0.8s,baz=186,slow=6.9,SNR=74
VNDA Vanda 47.28 183 P **P** 12 19 53.7 **+0.6**
VNDA IAmb IAmb 12 19 54.5
comp=Z,16nm,0.9s
PSGCX Pisagua 47.59 301 P **P** 12 19 56.0 **-0.2**
MNMC Minye Minye 47.73 302 P **P** 12 19 58.4 **+0.8**
H10N1 ASCENSION HYDR 48.58 18 T T 13 13 18.9
baz=189
H10N3 ASCENSION HYDR 48.58 18 T T 13 13 11.6
baz=189,slow=74
H10N2 ASCENSION HYDR 48.60 18 T T 13 13 13.4
baz=189,slow=74
SMTB Santa Maria do 48.82 334 *e*P **P** 12 20 06.6 **+1.0**
SMTB Santa Maria do 48.82 334 *e*P **P** 12 20 06.6 **+1.0**
VILB Vilhena 49.06 317 *e*P **P** 12 20 06.2 **-1.4**
VILB Vilhena 49.06 317 *e*P **P** 12 20 06.2 **-1.4**
LPAZ La Paz 49.49 306 P **P** 12 20 11.6 **+0.1**
comp=Z,12nm,0.7s,baz=145,slow=5.9,SNR=54
LPAZ La Paz 49.49 306 P **P** 12 20 12.1 **+0.6**
LPAZ pmax pmax
comp=Z,18nm,0.8s
LPAZ La Paz 49.49 306 P **P** 12 20 12.1 **+0.6**
LPAZ IAmb IAmb 12 20 13.1
comp=Z,18nm,0.8s
LPAZ La Paz 49.49 306 *e*P **P** 12 20 12.0 **+0.5**
LPAZ La Paz 49.49 306 *e*P **P** 12 20 12.0 **+0.5**
RCBR Riachuelo 49.73 350 LR LR 12 37 40.2
comp=Z,175nm,19.4s,baz=142,slow=32
TSUM Tsumeb 49.82 62 P **P** 12 20 13.1 **-0.4**
comp=Z,4.2nm,0.7s,baz=195,slow=6.3,SNR=6.8
TSUM Tsumeb 49.82 62 P

ORTC	Ortega, Tolima	70.55	309	*e*P		P	12 22 35.3	0.0
YOTC	Yotoco, Valle	71.11	308	*e*P		P	12 22 36.2	-2.6
TOLC	Tolima	71.19	309	*e*P		P	12 22 38.6	-0.9
RUSC	La Rusia	71.39	312	*e*P		P	12 22 37.6	-3.3
RUSC	La Rusia	71.39	312	P		P	12 22 39.6	-1.3
GUY2C	Guyana, Caldas	71.78	310	*e*P		P	12 22 42.5	-0.7
PTBC	PUERTO BERRIO,	72.56	311	*e*P		P	12 22 45.0	-2.4
TOA0	Torodi Ar. Sit	72.69	31	P		P	12 22 47.7	-0.3
TORD	Torodi Ar. Bea	72.69	31	P		P	12 22 48.0	-0.1
	comp=Z,20nm,0.8s,baz=200,slow=6.2,SNR=75							
TORD				LR		LR	12 49 47.7	
	comp=Z,266nm,18.1s,baz=205,slow=32							
SMLC	San Martn de	74.42	313	*e*P		P	12 22 55.2	-3.0
KMBO	Kilima Mbogo	75.30	70	LR		LR	12 54 35.1	
	comp=Z,282nm,18.8s,baz=238,slow=34							
SJCC	San Jacinto, C	75.88	312	*e*P		P	12 23 06.9	+0.2
JTS	Las Juntas de	80.64	303	∥ *i*P		P	12 23 32.9	-0.1
JTS				pmax	pmax			
	comp=Z,16nm,1.2s							
TAM	Tamanrasset	82.94	31	P		P	12 23 47.0	+1.9
TAM				pmax	pmax			
	comp=Z,31nm,1.8s							
TAM	Tamanrasset	82.94	31	P		P	12 23 47.0	+1.9
TAM				IAmb	IAmb		12 23 51.9	
	comp=Z,31nm,1.8s							
PPT	Papeete	92.18	235	LR		LR	12 56 22.5	
	comp=Z,83nm,20.1s,baz=92,slow=29							
KEST	Kesra	96.21	30	LR		LR	13 04 28.7	
	comp=Z,178nm,20.1s,baz=216,slow=33							
ESDC	Sonseca Array	96.85	19	P		P	12 24 52.5	+1.8
	comp=Z,0.4nm,0.8s,baz=181,slow=4.2,SNR=2.5							
ASAR	Alice Springs	99.86	163	P		Pdif	12 25 03.4	-1.5
	comp=Z,1.7nm,0.9s,baz=188,slow=4.5,SNR=12							
ASAR				PP		PP	12 29 07.5	-1.2
	comp=Z,1.6nm,1.0s,baz=193,slow=7.6,SNR=4.6							
ASAR				PKKP		PKKPbc	12 41 23.1	+1.0
	comp=Z,0.3nm,0.7s,baz=34,slow=2.7,SNR=4.2							
TXAR	Lajitas Array	105.95	298	PP		PP	12 29 57.5	+1.9
	comp=Z,0.2nm,0.8s,baz=146,slow=6.6,SNR=3.5							
ANMO	Albuquerque	111.87	300	∥ *i*PKIKP		PKiKP	12 29 54.2	-0.7
ANN	Anapa	114.08	45	*e*P		Pdif	12 26 07.3	+0.1
ANN				*i*			12 29 58.9	
ANN				*e*PPP		PPP	12 33 18.5	
ANN				*e*			12 36 44.7	
ANN				*e*SSS		SSS	12 51 02.9	
ANN				pmax	pmax			
	comp=Z,52nm,1.0s							
ANN				pmax	pmax			
	comp=Z,50nm,1.1s							
KIV	Kislovodsk	115.60	49	*e*PKIKP		PKPdf	12 30 01.0	-0.6
KIV				pmax	pmax			
	comp=Z,15nm,1.1s							
SZCU	Shurtz Canyon	117.27	297			PKiKP	12 30 06.3	+1.1
MSU	Marysvale	117.51	298	PKIKP		PKiKP	12 30 05.9	+0.3
MSU	Marysvale	117.51	298			PKiKP	12 30 05.9	+0.3
TCRU	Three Creeks R	117.72	298	PKPdf		PKiKP	12 30 07.1	+1.0
RDMU	Red Mountain	117.80	302			PKPdf	12 30 05.7	-0.4
KONO	Kongsberg	118.51	21	∥ *i*PKIKP		PKiKP	12 30 07.0	+0.5
TCUT	Toone Canyon	119.12	301	PKPdf		PKiKP	12 30 09.5	+0.8
PDAR	Pinedale Array	119.47	303	PKP		PKPdf	12 30 07.3	-1.9
	comp=Z,0.3nm,0.4s,baz=151,slow=3.4,SNR=3.5							
HWUT	Hardware Ranch	119.56	301			PKPdf	12 30 09.2	-0.2
NB2	NORSAR Subarra	120.11	21	PKPdf		PKPdf	12 30 09.5	-0.1
	comp=Z,0.5nm,0.7s,baz=202,slow=1.9							
NOA	NORSAR Array B	120.11	21	PKP		PKPdf	12 30 09.6	-0.1
	comp=Z,0.7nm,0.7s,baz=203,slow=1.9,SNR=4.9							
NVAR	Mina Array Bea	120.59	294	PKP		PKiKP	12 30 11.8	+0.2
	comp=Z,1.0nm,0.8s,baz=153,slow=2.1,SNR=7.7							
TPAW	Teton Pass	120.69	303	PKPdf		PKPdf	12 30 11.4	-0.2
ELK	Elko	120.74	298	PKIKP		PKiKP	12 30 12.3	+0.4
ELK	Elko	120.74	298			PKiKP	12 30 12.3	+0.4
FXWY	Fox Creek	120.83	303	PKPdf		PKiKP	12 30 12.4	+0.5
IMW	Indian Meadow	120.99	303			PKiKP	12 30 12.2	-0.1
YHL	Hebgen Lake	121.82	304			PKiKP	12 30 14.8	+0.8
QLMT	Earthquake Lak	121.92	304	PKPdf		PKiKP	12 30 15.1	+1.1
OBN	Obninsk	122.10	38	*e*PKIKP		PKPdf	12 30 13.4	-0.1
OBN				*e*			12 31 49.0	
OBN				pmax	pmax			
	comp=Z,3.0nm,0.6s							
FRB	Frobisher Bay	122.76	340	PKP		PKPdf	12 30 14.6	0.0
	comp=Z,3.9nm,0.7s,baz=108,slow=5.1,SNR=3.7							
DLMT	Dillon	122.87	303			PKiKP	12 30 16.4	+0.6
WVOR	Wild Horse Val	123.71	297	PKIKP		PKiKP	12 30 17.8	+0.3
WVOR	Wild Horse Val	123.71	297			PKiKP	12 30 17.8	+0.3
FINES	FINESS Array B	123.99	28	PKP		PKPdf	12 30 16.7	-0.3
	comp=Z,3.3nm,0.7s,baz=134,slow=5.5,SNR=9.6							
MOD	Modoc Plateau	124.18	296			PKiKP	12 30 19.6	+1.1
CMAR	Chiang Mai Arr	125.85	111	PKP		PKiKP	12 30 22.1	-0.2
	comp=Z,2.0nm,0.9s,baz=228,slow=4.1,SNR=11							
AKTO	Aktyubinsk	127.34	53	PKP		PKPdf	12 30 23.6	-0.1
	comp=Z,2.2nm,0.9s,baz=246,slow=1.4,SNR=5.6							
KLMR	Klimovskoe	127.53	35	*e*PKIKP		PKPdf	12 30 20.6	-3.1
KLMR				pmax	pmax			
	comp=Z,11nm,1.4s							
KLMR	Klimovskoe	127.53	35	*e*PKPdf		PKPdf	12 30 20.7	-3.0
KLMR				AMP			12 30 28.2	
	comp=Z,11nm,1.4s							
KSH	Kashi	128.91	75	*e*PKP		PKPdf	12 30 27.0	-0.3
TMCR	Tamitsa	129.53	31	*e*PKIKP		PKPdf	12 30 24.4	-3.0
TMCR				pmax	pmax			
	comp=Z,8.0nm,0.4s							
AAK	Ala-Archa	130.26	71	∥ *i*PKIKP		PKiKP	12 30 30.6	0.0
ARCES	ARCESS Array B	130.46	22	PKP		PKPdf	12 30 28.9	-0.2
	comp=Z,5.2nm,0.8s,baz=222,slow=1.6,SNR=23							
ARU	Arti	131.62	48	PKP		PKPdf	12 30 30.8	-0.9
	comp=Z,0.7nm,0.3s,baz=267,slow=3.8,SNR=8.1							
ARU	Arti	131.62	48	*i* PKIKP		PKPdf	12 30 32.1	+0.4
ARU	Arti	131.62	48			PKPdf	12 30 31.5	-0.2
SVE	Sverdlovsk	132.75	48	*e*PKIKP		PKPdf	12 30 33.7	-0.1
SVE				pmax	pmax			
	comp=Z,21nm,1.5s							
BRVK	Borovoye	134.82	57	∥ *i*PKIKP		PKPdf	12 30 38.3	+0.5
BRVK	Borovoye	134.82	57			PKPdf	12 30 37.4	-0.4
YKA	Yellowknife Ar	135.25	319	PKP		PKPdf	12 30 38.5	+0.2
	comp=Z,4.2nm,0.9s,baz=124,slow=2.1,SNR=15							
MK31	Makanchi Array	137.18	71	PKIKP		PKPdf	12 30 41.7	-0.8
MK31	Makanchi Array	137.18	71			PKPdf	12 30 41.7	-0.8
MKAR	Makanchi Array	137.18	71	PKP		PKPdf	12 30 41.1	-1.4
	comp=Z,1.0nm,0.9s,baz=250,slow=2.5,SNR=7.3							
WMQ	Urumqi	138.30	78	*e*PKP		PKiKP	12 30 46.8	0.0
CD2	Chengdu	138.40	106	PKP		PKPdf	12 30 45.0	-0.3
DLBC	Dease Lake	139.43	308	PKP		PKPdf	12 30 46.9	+0.6
	comp=Z,2.2nm,0.8s,baz=58,slow=2.5,SNR=3.4							
LZH	Lanzhou	142.29	100	*e*PKP		PKPdf	12 30 53.0	+0.7
LZH				pPKP		PKiKP	12 30 56.3	+1.0
LZH				sPKP			12 30 57.5	
LZH				LR	LR			
	comp=Z,170nm,18.0s							
LZH				LR	LR			
	comp=Z,170nm,18.1s							
LZH				LR	LR			
	comp=Z,240nm,20.0s							
GTA	Gaotai	142.32	93	*e*PKP		PKiKP	12 30 54.5	-0.7
GTA				pPKP		pPKPdf	12 30 59.0	+0.1
GTA				sPKP			12 31 01.8	
ZALV	Zalesovo Beam	142.54	63	PKhKP		PKPpre	12 30 47.9	
	comp=Z,2.4nm,0.8s,baz=222,slow=2.0,SNR=4.5							
INK	Inuvik	144.88	321	PKP		PKPbc	12 30 55.1	+0.3
	comp=Z,30nm,0.9s,baz=94,slow=4.7,SNR=25							
INK	Inuvik	144.88	321			PKPab	12 30 54.6	-0.2
MCARA	McCarthy VSAT	146.59	307			PKPbc	12 31 00.7	+0.3
NJ2	Nanjing	147.20	121	*e*PKPbc		PKPdf	12 31 01.0	+0.3
RIDG	Independent Ri	148.10	311			PKPbc	12 31 04.4	-0.1
NRIK	Noril'sk	148.78	38	PKPbc		PKPbc	12 31 06.3	+0.3
	comp=Z,4.4nm,0.9s,baz=204,slow=2.7,SNR=2.7							
BTO	Baotou	148.91	101	*e*PKPbc		PKPbc	12 31 06.5	-0.9
KNK	Knik Glacier	149.09	306			PKPbc	12 31 07.0	-0.1
ILAR	Eielson Array	149.21	313	PKPbc		PKPbc	12 31 07.5	+0.2
	comp=Z,37nm,0.8s,baz=125,slow=1.8,SNR=69							
TIA	Tai'an	149.62	114	PKPbc		PKPbc	12 31 09.0	-0.2
COLA	College	149.63	313	PKP2		PKPbc	12 31 07.9	-0.3
COLA	College	149.63	313			PKPbc	12 31 07.9	-0.3
RND	Reindeer	149.76	310	PKP2		PKiKP	12 31 09.2	-0.5
RND	Reindeer	149.76	310			PKiKP	12 31 09.2	-0.5
HHC	Hu-ho-hao-te	149.94	102	*e*PKPbc		PKPdf	12 31 07.3	+2.3
KDAK	Kodiak Island	149.98	298	PKPbc		PKiKP	12 31 10.0	-0.1
	comp=Z,20nm,1.0s,baz=94,slow=3.8,SNR=7.2							
KDAK	Kodiak Island	149.98	298	PKP2		PKPbc	12 31 09.6	+0.3
KDAK	Kodiak Island	149.98	298			PKPbc	12 31 09.6	+0.3
MOY	Mondy	150.09	76	*e*PKIKP		PKPdf	12 31 04.9	0.0
MOY				pmax	pmax			
	comp=Z,55nm,1.9s							
TOLK	Toolik Lake Re	150.75	320			PKPbc	12 31 11.0	+0.1
ZAK	Zakamensk	150.76	79	*e*PKIKP		PKPbc	12 31 11.6	0.0
ZAK				pmax	pmax			
	comp=Z,16nm,1.2s							
SONM	Songino Array	151.24	86	PKP		PKPdf	12 31 06.4	-0.4
	comp=Z,0.8nm,0.8s,baz=197,slow=4.0,SNR=6.6							
SONM				PKPbc		PKPbc	12 31 12.7	-0.1
	comp=Z,13nm,1.0s,baz=220,slow=2.3,SNR=40							
ULN	Ulaanbaatar	151.63	86	PKIKP		PKPbc	12 31 13.0	-0.8
ULN	Ulaanbaatar	151.63	86			PKPbc	12 31 13.0	-0.8
CNBA	Chernabura Isl	152.62	289			PKPbc	12 31 14.9	-0.6
TTA	Tatalina	152.87	308	PKIKP		PKiKP	12 31 16.3	+0.2
TTA	Tatalina	152.87	308			PKiKP	12 31 16.3	+0.2
KSRS	Korea Array	155.89	128	PKPab		PKPab	12 31 40.5	-0.1
	comp=Z,1.9nm,1.0s,baz=211,slow=4.8,SNR=6.8							
TIXI	Tiksi	160.90	22	PKPab		PKPab	12 32 02.1	+0.6
	comp=Z,1.2nm,0.3s,baz=326,slow=5.1,SNR=1.9							
USRK	Ussuriysk Ar.	163.10	123	PKPab		PKPab	12 32 11.2	-0.6
	comp=Z,1.6nm,0.9s,baz=243,slow=6.3,SNR=4.2							
BILL	Bilibino	165.57	338	*e*PKIKP		PKPdf	12 31 24.2	+1.0
BILL				*e*			12 36 10.3	
BILL				pmax	pmax			
	comp=Z,2.0nm,1.2s							

IDC ***29*** *12:13:20.7±2.9,51°.83N×178°.37E, h0km, mb3.2/4, mb1 3.6/4, mb1mx3.3/68, mbtmp3.2/4, Error ellipse: s-maj=79.1km s-min=34.8km az=2.0*
NEIC ***29*** *12:13:33.4±0.8,51°.91N±0°.09×178°.58E±0°.07, h106km±4km, Error ellipse: s-maj=13.6km s-min=5.0km az=195.0*
AEIC ***29*** *12:13:35.0±1.1,51°.8N±0°.2×178°.63E±0°.09, h98km±4km, ML3.0/28, Error ellipse: s-maj=30.9km s-min=7.4km az=185.0*

ISC 29 12:13:33.0±1.1, 51°.8N±0°.1×178°.54E±0°.07, h107km±7km, n34, σ0s94/35, mb3.4/4, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LSSE	Little Sitkin	0.14	7		Pn	12 13 48.2	+0.3
LSSA	Little Sitkin	0.16	354		Pn	12 13 48.7	+0.7
LSPA	Little Sitkin	0.17	7		Pn	12 13 48.3	+0.4
LSPA					Sn	12 13 59.3	+0.2
LSNW	Little Sitkin	0.18	355		Pn	12 13 48.2	+0.3
CETU	Semis' Tuman	0.62	73		Pn	12 13 50.3	-0.1
AMKA	Amchitka	0.63	131		Pn	12 13 50.8	+0.3
AMKA					Sn	12 14 03.9	+0.3
CEAP	Semis' Anvil P	0.68	71		Pn	12 13 50.7	-0.2
CEAP					Sn	12 14 03.4	-0.8
CERAA	Semis' Rag'd T	0.72	80		Pn	12 13 50.9	-0.3
GAEA	Gareloi East	1.69	89		Pn	12 14 02.0	+0.2
TASE	Tanaga Southea	2.12	88		Pn	12 14 07.4	-0.1
TAFP	Tanaga Falls P	2.16	86		Pn	12 14 07.6	-0.3
TAFP					Sn	12 14 33.8	-0.8
TAPA	Tanaga Point A	2.26	88		Pn	12 14 09.4	+0.1
KIMD	Kanaga Island	2.62	89		Pn	12 14 13.8	-0.1
KICM	Kanaga Island	2.65	86		Pn	12 14 14.3	+0.1
KIKV	Kanaga Island	2.66	86		Pn	12 14 14.4	0.0
KINC	Kanaga Island	2.69	85		Pn	12 14 14.7	-0.1
KIRH	Kanaga Island	2.71	86		Pn	12 14 15.1	0.0
SMY	Shemya	2.89	291		Pn	12 14 17.0	-0.3
ADK	Adak	2.96	86		Pn	12 14 17.8	-0.5
ADAG	Mount Adagdak	3.02	85		Pn	12 14 18.8	-0.3
GSTD	Great Sitkin T	3.30	83		Pn	12 14 22.9	0.0
GSMY	Great Sitkin M	3.35	84		Pn	12 14 23.7	+0.1
GSTR	Great Sitkin T	3.36	83		Pn	12 14 23.2	-0.4
ATKA	Atka Island	4.51	82	Pn	Pn	12 14 40.3	+1.2
NIKH	Nikolski High	7.80	76	Pn	Pn	12 15 25.0	+1.2
SPIA	Saint Paul Isl	8.46	46	Pn	Pn	12 15 34.9	+2.3
AKUT	Akutan	9.75	70	Pn	Pn	12 15 52.5	+2.4
ILAR	Eielson Array	21.98	41	P	P	12 18 15.1	-2.8
	0.4nm,0.9s,baz=240,slow=8.3,SNR=1.6						
H11N2	WAKE ISLAND Hy	33.27	200	T	T	12 55 47.8	
	baz=15						
H11N3	WAKE ISLAND Hy	33.28	200	T	T	12 55 38.1	
	baz=15						
H11N1	WAKE ISLAND Hy	33.29	200	T	T	12 55 35.6	
	baz=15						
YKA	Yellowknife Ar	36.15	46	P	P	12 20 25.1	+0.6
	0.2nm,0.5s,baz=282,slow=9.0,SNR=1.9						
NVAR	Mina Array Bea	45.14	81	P	P	12 21 40.0	+1.1
	0.5nm,0.6s,baz=299,slow=8.2,SNR=5.6						
MKAR	Makanchi Array	58.47	307	P	P	12 23 17.0	-0.5
	0.2nm,0.5s,baz=62,slow=7.6,SNR=1.8						

IDC ***29*** *12:13:55.0±0.7,55°.24S×28°.24W, h0km, mb4.3/9, mb1 4.4/10, mb1mx4.2/28, mbtmp4.3/10, ML4.5/1, Error ellipse: s-maj=29.0km s-min=18.8km az=58.0*
NEIC ***29*** *12:13:56.9±2.1,55°.3S±0°.1×28°.2W±0°.2, h10km±1km, mb4.6/17, Error ellipse: s-maj=24.1km s-min=16.0km az=205.0*

ISC 29 12:13:56.8±0.6, 55°.3S±0°.1×28°.3W±0°.1, h10km, n42, σ0s90/42, mb4.5/14, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	4.87	278	Pn	Pn	12 15 10.2	+0.3
SNAA	Sanae	19.70	156	P	P	12 18 24.5	-1.4
	1.5nm,0.3s,baz=291,slow=11,SNR=6.8						
SNAA	Sanae	19.70	156	P	P	12 18 24.8	-1.1
BI02	San Fabin de	34.52	284	P	P	12 20 44.7	-0.3
BI02				IAmb	IAmb	12 20 45.5	
	comp=Z,11nm,1.4s						
QSPA	South Pole Qui	34.98	180	P	P	12 20 49.1	+0.2
	comp=Z,5.0nm,0.7s,baz=180,slow=1.8,SNR=2.8						
QSPA	South Pole Qui	34.98	180	P	P	12 20 49.0	+0.1
QSPA				IAmb	IAmb	12 20 55.5	
	comp=Z,7.0nm,0.8s						
CPUP	Villa Florida	35.84	312	P	P	12 20 56.0	-0.4
	comp=Z,4.5nm,0.8s,baz=135,slow=8.9,SNR=3.6						
CPUP	Villa Florida	35.84	312	P	P	12 20 56.8	+0.4
PEL	Peldehue	36.81	289	P	P	12 21 05.5	+0.8
PEL				IAmb	IAmb	12 21 06.1	
	comp=Z,9.2nm,0.8s						
ROC1	El Roble	37.12	289	P	P	12 21 05.3	-2.3
MAW	Mawson	41.14	144	P	P	12 21 41.4	+0.9
	comp=Z,2.4nm,0.7s,baz=243,slow=6.8,SNR=1.9						
MAW	Mawson	41.14	144	P	P	12 21 41.9	+1.4
GO02	Mina Guanaco	42.59	298	P	P	12 21 54.7	+1.4
LVC	Limon Verde	44.38	301	P	P	12 22 06.3	-1.4
	comp=Z,2.6nm,0.5s,baz=143,slow=5.1,SNR=1.7						
LVC	Limon Verde	44.38	301	P	P	12 22 07.3	-0.4
LVC				IAmb	IAmb	12 22 14.6	
	comp=Z,7.7nm,0.9s						
PB01	IPOC Station P	45.99	301	P	P	12 22 21.3	+1.1
PB01				IAmb	IAmb	12 22 22.0	
	comp=Z,7.1nm,0.8s						
BOSA	Boshof	46.38	78	P	P	12 22 23.3	0.0
	comp=Z,1.9nm,0.6s,baz=188,slow=9.4,SNR=4.3						
BOSA	Boshof	46.38	78	P	P	12 22 24.0	+0.8
PB08	IPOC Station P	46.60	302	P	P	12 22 27.0	+1.7
PB08				IAmb	IAmb	12 22 46.6	
	comp=Z,4.5nm,1.0s						
GO01	Chusmiza	47.02	302	P	P	12 22 29.9	+1.2
GO01				IAmb	IAmb	12 22 31.9	
	comp=Z,6.3nm,0.8s						
VNDA	Vanda	47.32	183	P	P	12 22 30.2	+0.3
	comp=Z,2.2nm,0.7s,baz=181,slow=4.8,SNR=3.7						
VNDA	Vanda	47.32	183	P	P	12 22 30.4	+0.6
MNMC	Minye Minye	47.67	302	P	P	12 22 34.8	+1.2
LPAZ	La Paz	49.43	306	P	P	12 22 48.3	+0.7
	comp=Z,2.9nm,0.8s,baz=185,slow=7.1,SNR=3.4						
LPAZ	La Paz	49.43	306	P	P	12 22 48.8	+1.3
LPAZ				IAmb	IAmb	12 22 48.8	
	comp=Z,3.9nm,0.8s						
SAML	Samuel	53.82	316	P	P	12 23 19.9	+0.2
TOA0	Torodi Ar. Sit	72.68	31	P	P	12 25 24.6	0.0
TOA0				IAmb	IAmb	12 25 25.2	
	comp=Z,5.5nm,1.1s						
TORD	Torodi Ar. Bea	72.68	31	P	P	12 25 24.2	-0.4
	comp=Z,3.2nm,0.8s,baz=200,slow=6.2,SNR=5.9						
ASAR	Alice Springs	99.91	163	P	Pdif	12 27 40.6	-1.2
	comp=Z,0.5nm,0.9s,baz=192,slow=4.2,SNR=2.6						
FINES	FINESS Array B	123.97	28	PKP	PKPdf	12 32 53.0	-0.7
	comp=Z,1.3nm,0.9s,baz=186,slow=2.8,SNR=1.5						
YKA	Yellowknife Ar	135.19	319	PKP	PKPdf	12 33 14.2	-0.8
	comp=Z,1.6nm,1.0s,baz=97,slow=2.3,SNR=4.7						
INK	Inuvik	144.82	322	PKP	PKPab	12 33 31.0	-0.3
	comp=Z,5.8nm,0.9s,baz=121,slow=4.3,SNR=4.2						
INK	Inuvik	144.82	322		PKPab	12 33 30.6	-0.6
SCRK	Sand Creek	147.73	312		PKPbc	12 33 40.7	+0.3
RIDG	Independent Ri	148.04	311		PKPbc	12 33 41.6	+0.6
PRP	Porcupine Dome	148.73	314		PKPbc	12 33 43.2	+0.3
IL31		149.14	313		PKPbc	12 33 43.7	0.0
ILAR	Eielson Array	149.14	313	PKPbc	PKPbc	12 33 43.7	-0.1
	comp=Z,6.3nm,0.7s,baz=127,slow=1.6,SNR=8.5						
RND	Reindeer	149.70	310		PKiKP	12 33 46.2	-0.1
SKT	Skwentna	150.59	306		PKPbc	12 33 47.8	+0.4
BPAW	Bear Paw Mtn.	150.77	311		PKPbc	12 33 47.6	-0.2
SONM	Songino Array	151.28	86	PKPbc	PKPbc	12 33 48.9	-0.8
	comp=Z,1.2nm,0.7s,baz=298,slow=1.6,SNR=4.6						

IDC ***29*** *12:19:31.4±0.8,55°.33S×27°.90W, h0km, mb4.0/7, mb1 4.0/8, mb1mx3.9/29, mbtmp4.0/8, ML4.3/1, Error ellipse: s-maj=28.8km s-min=19.2km az=64.0*
NEIC ***29*** *12:19:33.0±1.4,55°.34S±0°.09×28°.0W±0°.1, h10km±1km, mb4.3/10, Error ellipse: s-maj=19.1km s-min=7.1km az=140.0*

ISC 29 12:19:33.2±0.6, 55°.3S±0°.1×27°.9W±0°.1, h10km, n31, σ0s74/31, mb4.1/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	Hope Point	5.06	278	Pn	Pn	12 20 47.6	-1.5
VNA3	Neumayer Olymp	17.82	161	P	P	12 23 41.7	+0.1
EFI	East Falkland	18.22	269		P	12 23 48.6	+2.4
EFI				IAmb	IAmb	12 23 52.4	
	comp=Z,59nm,1.2s						
SNAA	Sanae	19.58	156	P	P	12 24 00.8	-0.2
SNAA	Sanae	19.58	156	P	P	12 24 00.5	-0.5
	comp=Z,0.9nm,0.3s,baz=293,slow=11,SNR=20						
SNAA	Sanae	19.58	156	P	P	12 24 00.8	-0.2
QSPA	South Pole Qui	34.93	180	P	P	12 26 24.5	-0.4
	comp=Z,0.8nm,0.5s,baz=180,slow=1.7,SNR=12						
QSPA	South Pole Qui	34.93	180	P	P	12 26 25.0	+0.1
QSPA				IAmb	IAmb	12 26 37.0	
	comp=Z,3.5nm,1.2s						
CO01	Juntas del Tor	39.15	293	P	P	12 27 02.2	+1.0
LVC	Limon Verde	44.57	300	P	P	12 27 46.2	+0.5
	comp=Z,3.1nm,0.5s,baz=117,slow=2.3						
LVC	Limon Verde	44.57	300	P	P	12 27 46.3	+0.6
LVC				IAmb	IAmb	12 27 52.0	
	comp=Z,5.9nm,1.0s						
BOSA	Boshof	46.20	77	P	P	12 27 58.3	0.0
	comp=Z,1.0nm,0.6s,baz=225,slow=2.9,SNR=1.1						
BOSA	Boshof	46.20	77	P	P	12 27 58.7	+0.4
SIV	San Ignacio	46.77	314	P	P	12 28 01.6	-1.1
	comp=Z,0.5nm,0.4s,baz=180,slow=2.0,SNR=2.2						
VNDA	Vanda	47.28	183	P	P	12 28 05.7	-0.3
	comp=Z,1.4nm,0.8s,baz=192,slow=6.4,SNR=9.5						
VNDA	Vanda	47.28	183	P	P	12 28 06.4	+0.4
VNDA				IAmb	IAmb	12 28 07.2	
	comp=Z,1.9nm,0.8s						
MNMC	Minye Minye	47.86	302	P	P	12 28 12.0	+0.5
LPAZ	La Paz	49.62	306	P	P	12 28 24.8	-0.6
	comp=Z,1.3nm,0.6s,baz=180,slow=9.3,SNR=4.3						
LPAZ	La Paz	49.62	306	P	P	12 28 25.4	0.0
LPAZ				IAmb	IAmb	12 28 29.0	
	comp=Z,1.8nm,0.8s						
TOA0	Torodi Ar. Sit	72.63	30	P	P	12 31 01.2	+0.5
TOA0				IAmb	IAmb	12 31 06.6	
	comp=Z,5.6nm,1.1s						
TORD	Torodi Ar. Bea	72.63	30	P	P	12 31 00.6	-0.1
	comp=Z,0.9nm,0.5s,baz=202,slow=7.1,SNR=5.6						
INK	Inuvik	144.97	321		PKPab	12 39 07.9	-0.4
MENT	Mentasta	147.51	310		PKPdf	12 39 14.5	+1.0
SCRK	Sand Creek	147.91	312		PKPbc	12 39 17.1	-0.

TWT					S		Sn	12 24 05.2	+0.7
	baz=231								
TDCB	**Techi**	**1.54**	**240**		P		**Pn**	**12 23 42.6**	**+0.6**
	baz=231								
TDCB					S		**Sn**	**12 24 04.7**	**+0.1**
	baz=231								
JIJ	**Ishigaki jima**	**1.54**	**115**		P		**Pn**	**12 23 42.2**	**+0.4**
JIJ					S		**Sn**	**12 24 03.5**	**-1.0**
JISG	**Ishigakijimahi**	**1.61**	**106**		S		**Sn**	**12 24 05.2**	**-0.5**
CHGB	**Renai**	**1.63**	**234**	*eP*			**Pn**	**12 23 43.4**	**+0.4**
	baz=230								
CHGB					*eS*		**Sn**	**12 24 06.0**	**-0.6**
	baz=230								
WHP	**Taichung City**	**1.69**	**244**		P		**Pn**	**12 23 43.9**	**+0.3**
	baz=247								
WHP					*eS*		**Sn**	**12 24 07.2**	**-0.4**
	baz=247								
HGSD	**Ruisui**	**1.88**	**215**	*eP*			**Pn**	**12 23 45.5**	**-0.2**
	baz=209								
HGSD					S		**Sn**	**12 24 11.0**	**-0.3**
	baz=209								
JTJ	**Tarama**	**1.94**	**101**	*eS*			**Sn**	**12 24 12.6**	**+0.2**
YULB	**Yu-li**	**2.03**	**217**		P		**Pn**	**12 23 46.2**	**-1.2**
	baz=220								
YULB					S		**Sn**	**12 24 12.4**	**-2.1**
	baz=220								
WHYT	**Xinyi Township**	**2.09**	**231**	*eP*			**Pn**	**12 23 49.0**	**+0.9**
	baz=236								
WHYT					S		**Sn**	**12 24 16.9**	**+1.2**
	baz=236								
ALS	**Alishan**	**2.24**	**228**	*eP*			**Pn**	**12 23 51.2**	**+1.0**
	baz=219								
ALS					S		**Sn**	**12 24 20.5**	**+1.1**
	baz=219								
CHN5	**Tsauling**	**2.27**	**231**	S			**Sn**	**12 24 20.1**	**+0.3**
	baz=236								

*IDC **29** 12:24:44.7±0.7, 55°.29S×27°.98W, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/27, mbtmp4.1/9, Error ellipse: s-maj=34.3km s-min=18.1km az=57.0*
*NEIC **29** 12:24:46.4±1.6, 55°.3S±0°.1×28°.1W±0°.2, h10km±1km, mb4.6/10, Error ellipse: s-maj=26.4km s-min=17.9km az=39.0*
ISC 29 12:24:46.3±0.7, 55°.3S±0°.1×28°.1W±0°.1, h10km, n30, σ0s82/29, mb4.3/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.98**	**278**	Pn	**Pn**	**12 26 00.3**	**-0.7**
VNA3	**Neumayer Olymp**	**17.89**	**161**	P	**P**	**12 28 55.5**	**0.0**
SNAA	**Sanae**	**19.65**	**156**	P	**P**	**12 29 15.0**	**+0.2**
SNAA	**Sanae**	**19.65**	**156**	P	**P**	**12 29 14.6**	**-0.3**
	baz=299,slow=13						
SNAA	**Sanae**	**19.65**	**156**	P	**P**	**12 29 15.0**	**+0.2**
QSPA	**South Pole Qui**	**34.98**	**180**	P	**P**	**12 31 39.0**	**+0.7**
QSPA				IAmb	IAmb	12 31 39.3	
	comp=Z,4.7nm,0.9s						
CPUP	**Villa Florida**	**35.93**	**312**	P	**P**	**12 31 45.1**	**-1.5**
	comp=Z,3.9nm,0.9s,baz=180,slow=7.8,SNR=4.4						
CPUP	**Villa Florida**	**35.93**	**312**	P	**P**	**12 31 46.4**	**-0.2**
CPUP				IAmb	IAmb	12 31 59.5	
	comp=Z,10nm,1.1s						
MT02	**Curacav**	**37.08**	**288**	P	**P**	**12 31 56.4**	**0.0**
MAW	**Mawson**	**41.07**	**144**	P	**P**	**12 32 27.3**	**-2.0**
	comp=Z,0.9nm,0.8s,baz=256,slow=8.3,SNR=1.8						
MAW	**Mawson**	**41.07**	**144**	P	**P**	**12 32 29.1**	**-0.2**
LVC	**Limon Verde**	**44.48**	**300**	P	**P**	**12 32 59.1**	**+1.1**
	comp=Z,3.4nm,0.8s,baz=72,slow=20,SNR=2.1						
LVC	**Limon Verde**	**44.48**	**300**	P	**P**	**12 32 59.6**	**+1.6**
LVC				IAmb	IAmb	12 33 06.8	
	comp=Z,13nm,1.4s						
SIV	**San Ignacio**	**46.68**	**314**	P	**P**	**12 33 14.7**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=192,slow=19,SNR=1.9						
PB08	**IPOC Station P**	**46.69**	**302**	P	**P**	**12 33 16.7**	**+1.2**
VNDA	**Vanda**	**47.33**	**183**	P	**P**	**12 33 19.8**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=189,slow=6.4,SNR=17						
VNDA	**Vanda**	**47.33**	**183**	P	**P**	**12 33 20.1**	**+0.7**
VNDA				IAmb	IAmb	12 33 20.7	
	comp=Z,3.3nm,0.9s						
MNMC	**Minye Minye**	**47.77**	**302**	P	**P**	**12 33 24.8**	**+1.0**
MNMC				IAmb	IAmb	12 33 34.7	
	comp=Z,6.6nm,0.9s						
LPAZ	**La Paz**	**49.53**	**306**	P	**P**	**12 33 38.2**	**+0.4**
	comp=Z,1.8nm,0.6s,baz=124,slow=4.3,SNR=8.8						
LPAZ	**La Paz**	**49.53**	**306**	P	**P**	**12 33 38.7**	**+1.0**
TOA0	**Torodi Ar. Sit**	**72.63**	**30**	P	**P**	**12 36 14.6**	**+0.8**
TOA0				IAmb	IAmb	12 36 18.5	
	comp=Z,11nm,1.5s						
TORD	**Torodi Ar. Bea**	**72.63**	**30**	P	**P**	**12 36 14.2**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=199,slow=6.1,SNR=11						
ASAR	**Alice Springs**	**99.88**	**163**	P	**Pdif**	**12 38 30.6**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=192,slow=4.5,SNR=2.8						
ARCES	**ARCESS Array B**	**130.40**	**22**	PKP	**PKPdf**	**12 43 55.3**	**0.0**
	comp=Z,0.6nm,0.7s,baz=204,slow=2.0,SNR=3.7						
YKA	**Yellowknife Ar**	**135.26**	**319**	PKP	**PKPdf**	**12 44 03.9**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=92,slow=0.7,SNR=3.6						
INK	**Inuvik**	**144.89**	**321**		PKPbc	12 44 21.2	+0.2
IL31		**149.23**	**313**		**PKPbc**	**12 44 33.6**	**+0.2**
ILAR	**Eielson Array**	**149.23**	**313**	PKPbc	**PKPbc**	**12 44 33.7**	**+0.2**
	comp=Z,5.0nm,0.7s,baz=115,slow=1.3,SNR=46						
CCB	**Clear Creek Bu**	**149.59**	**312**		**PKPbc**	**12 44 34.3**	**0.0**
SONM	**Songino Array**	**151.16**	**86**	PKPbc	**PKPbc**	**12 44 38.4**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=227,slow=2.8,SNR=5.4						

*JMA **29** 12:25:11.1±0.2, 24°.26N×121°.72E, h0km*
*TAP **29** 12:25:11.3, 24°.25N×121°.73E, h10km, ML2.8, C*
ISC 29 12:25:11.6±0.9, 24°.24N±0°.01×121°.73E±0°.02, h9km±6km, n96, σ0s63/178, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**0.14**	**242**	P	**Pg**	**12 25 14.7**	**-0.1**
	baz=230						
NACB				S	**Sg**	**12 25 17.2**	**+0.2**
	baz=230						
ENA	**Nanau**	**0.18**	**2**	*i* P	**Pg**	**12 25 15.3**	**-0.1**
	baz=6.0						
ENA				S	**Sg**	**12 25 18.3**	**+0.2**
	baz=6.0						
TWD	**Chiawan**	**0.20**	**218**	*i* P	**Pg**	**12 25 15.7**	**-0.1**
	baz=214						
TWD				S	**Sg**	**12 25 19.0**	**+0.3**
	baz=214						
ETLH	**Xiulin Townshi**	**0.23**	**261**	*i* P	**Pg**	**12 25 16.2**	**-0.2**
	baz=260						
ETLH				S	**Sg**	**12 25 19.8**	**+0.2**
	baz=260						
HWA	**Hwalien**	**0.29**	**204**	P	**Pb**	**12 25 18.0**	**-0.9**
	baz=201						
HWA				S	**Sb**	**12 25 22.9**	**-0.9**
	baz=201						
NNSB	**Datong**	**0.37**	**300**	*i* P	**Pg**	**12 25 18.9**	**0.0**
	baz=299						
NNSB				S	**Sg**	**12 25 24.1**	**+0.3**
	baz=299						
NNSH	**Datong**	**0.37**	**300**	P	**Pg**	**12 25 18.9**	**-0.1**
	baz=299						
NNSH				*eS*	**Sg**	**12 25 24.0**	**+0.1**
	baz=299						
TWC	**Suao**	**0.38**	**16**	P	**Pg**	**12 25 18.8**	**-0.3**
	baz=10.0						
TWC				S	**Sg**	**12 25 24.2**	**0.0**
	baz=10.0						
NNS	**Nan Shan**	**0.38**	**301**	*i* P	**Pg**	**12 25 19.1**	**-0.1**
	baz=300						
NNS				S	**Sg**	**12 25 24.5**	**+0.2**
	baz=300						
NDT	**Datong Townshi**	**0.41**	**331**	P	**Pg**	**12 25 19.6**	**0.0**
	baz=330						
NDT				S	**Sg**	**12 25 25.4**	**+0.2**
	baz=330						
WHF	**Hehuan Shan**	**0.44**	**257**	*i* P	**Pg**	**12 25 20.0**	**-0.3**
	baz=256						
WHF				S	**Sg**	**12 25 26.2**	**+0.1**
	baz=256						
ESL	**Shilin**	**0.51**	**213**	P	**Pg**	**12 25 21.1**	**-0.3**
	baz=212						
ESL				*eS*	**Sg**	**12 25 29.0**	**+0.8**
	baz=212						
TWT	**Tachien**	**0.51**	**271**	P	**Pb**	**12 25 21.8**	**-1.1**
	baz=270						
TWT				S	**Sb**	**12 25 29.3**	**-1.1**
	baz=270						
TDCB	**Techi**	**0.53**	**271**	P	**Pg**	**12 25 21.9**	**+0.1**
	baz=271						
TDCB				S	**Sg**	**12 25 28.7**	**-0.1**
	baz=271						
YHNB	**Yeheng**	**0.54**	**323**	*e*P	**Pg**	**12 25 21.9**	**-0.1**
	baz=322						
YHNB				*e*S	**Sg**	**12 25 29.4**	**+0.3**
	baz=322						
CHGB	**Renai**	**0.54**	**251**	P	**Pg**	**12 25 22.1**	**-0.1**
	baz=242						
CHGB				S	**Sg**	**12 25 29.9**	**+0.6**
	baz=242						
NSK	**Sanguang**	**0.55**	**322**	P	**Pg**	**12 25 22.1**	**-0.2**
	baz=321						
NSK				S	**Sg**	**12 25 29.7**	**+0.1**
	baz=321						
NWLT	**Wulai**	**0.57**	**338**	P	**Pg**	**12 25 22.6**	**-0.1**
	baz=338						
NWLT				S	**Sg**	**12 25 30.4**	**+0.2**
	baz=338						
OWD	**Renai**	**0.58**	**241**	S	**Sb**	**12 25 31.6**	**-0.9**
	baz=240						
NTC	**Toucheng**	**0.61**	**8**	S	**Sg**	**12 25 31.6**	**0.0**
	baz=8.0						
EGS		**0.63**	**17**	P	**Pb**	**12 25 24.6**	**-0.1**
	baz=26						
EGS				S	**Sb**	**12 25 32.4**	**-1.2**
	baz=26						
EGFH	**Guangfu**	**0.64**	**206**	P	**Pg**	**12 25 23.6**	**-0.4**
	baz=215						
EGFH				S	**Sb**	**12 25 33.4**	**-0.5**
	baz=215						
WHP	**Taichung City**	**0.72**	**273**	P	**Pb**	**12 25 25.6**	**-0.8**
	baz=272						
WHP				*e*S	**Sb**	**12 25 36.0**	**-0.4**
	baz=272						
VWDT	**VWDT**	**0.73**	**228**	P	**Pg**	**12 25 25.5**	**-0.2**
	baz=219						
VWDT				S	**Sb**	**12 25 36.6**	**+0.1**
	baz=219						
TIPB	**Shuangxi**	**0.73**	**7**	*e*P	**Pg**	**12 25 25.2**	**-0.5**
	baz=358						
TIPB				S	**Sg**	**12 25 34.6**	**-0.7**
	baz=358						
NHDH	**Xindian Distri**	**0.74**	**345**	P	**Pb**	**12 25 26.7**	**0.0**
	baz=345						
NHDH				S	**Sb**	**12 25 36.1**	**-0.8**
	baz=345						
TWA	**Mucha**	**0.75**	**349**	*e*P	**Pb**	**12 25 26.2**	**-0.6**
	baz=350						
TWA				*e*S	**Sg**	**12 25 35.9**	**+0.1**
	baz=350						
WLTB	**Daxi**	**0.75**	**324**	P	**Pb**	**12 25 26.3**	**-0.5**
	baz=324						
WLTB				S	**Sb**	**12 25 37.3**	**+0.1**
	baz=324						
DPDB	**Guoxing**	**0.77**	**254**	P	**Pg**	**12 25 24.6**	**-1.8**
	baz=254						
DPDB				S	**Sg**	**12 25 36.6**	**+0.2**
	baz=254						
LIOB	**Emei**	**0.77**	**302**	*e*P	**Pb**	**12 25 26.3**	**-0.9**
	baz=301						
LIOB				S	**Sb**	**12 25 36.8**	**-0.9**
	baz=301						
NSTT	**Nanjuang**	**0.77**	**300**	P	**Pb**	**12 25 26.8**	**-0.4**
	baz=300						
NSTT				S	**Sb**	**12 25 37.4**	**-0.4**
	baz=300						
TWB1	**Santiao Chiao**	**0.80**	**17**	P	**Pg**	**12 25 26.8**	**-0.1**
	baz=10.0						
HGSD	**Ruisui**	**0.80**	**201**	*e*P	**Pg**	**12 25 26.8**	**-0.2**
	baz=216						
HGSD				*e*S	**Sb**	**12 25 39.5**	**+0.9**
	baz=216						
EHY	**Hungye**	**0.82**	**207**	P	**Pg**	**12 25 27.1**	**-0.4**
	baz=214						
EHY				S	**Sb**	**12 25 40.1**	**+0.8**
	baz=214						
NWF	**Wu-fen Shan**	**0.83**	**3**	*e*P	**Pb**	**12 25 27.7**	**-0.5**
	baz=353						
NWF				S	**Sb**	**12 25 38.7**	**-0.8**
	baz=353						
WFSB	**Wu-fen Shan**	**0.83**	**3**	P	**Pb**	**12 25 28.4**	**+0.2**
	baz=355						
WFSB				S	**Sg**	**12 25 38.3**	**0.0**
	baz=355						
SMLT	**Sun Moon Lake**	**0.84**	**245**	*e*P	**Pg**	**12 25 27.6**	**-0.2**
	baz=235						
SMLT				S	**Sg**	**12 25 38.7**	**-0.1**
	baz=235						
SSLB	**Suanglung**	**0.84**	**238**	P	**Pg**	**12 25 27.4**	**-0.5**
	baz=238						
SSLB				*e*S	**Sg**	**12 25 39.2**	**+0.3**
	baz=238						
TYC	**Yuchr**	**0.87**	**247**	P	**Pg**	**12 25 28.0**	**-0.4**
	baz=238						
TYC				S	**Sb**	**12 25 40.9**	**+0.3**
	baz=238						
SBCB	**Hsinchu**	**0.87**	**309**	*e*P	**Pb**	**12 25 29.3**	**+0.3**
	baz=308						
SBCB				*e*S	**Sb**	**12 25 41.3**	**+0.5**
	baz=308						
NCUH	**Zhongli**	**0.88**	**325**	*e*P	**Pb**	**12 25 29.3**	**+0.3**
	baz=325						
NCUH				S	**Sg**	**12 25 42.6**	**-0.5**
	baz=325						
NCU	**National Centr**	**0.88**	**326**	*e*S	**Sb**	**12 25 40.6**	**-0.3**
	baz=325						
TWQ1	**Liyutan**	**0.88**	**277**	*e*P	**Pb**	**12 25 29.3**	**+0.2**
	baz=277						
TWQ1				*e*S	**Sb**	**12 25 41.0**	**0.0**
	baz=277						
TWS1	**Kuangyinshan**	**0.90**	**341**	*e*P	**Pn**	**12 25 30.2**	**-0.3**
	baz=350						
TWS1				S	**Sn**	**12 25 43.5**	**-0.1**
	baz=350						
YM01	**YM01**	**0.91**	**351**	P	**Pb**	**12 25 29.7**	**0.0**
	baz=350						
YM01				*e*S	**Sb**	**12 25 42.2**	**+0.3**
	baz=350						
YM10	**YM10**	**0.92**	**350**	P	**Pb**	**12 25 29.7**	**-0.2**
	baz=350						
YM10				S	**Sg**	**12 25 41.0**	**-0.4**
	baz=350						
YM04	**YM04**	**0.93**	**349**	*e*P	**Pb**	**12 25 29.9**	**+0.1**
	baz=348						
YM04				*e*S	**Sb**	**12 25 41.8**	**-0.5**
	baz=348						
YM05	**YM05**	**0.93**	**351**	P	**Pb**	**12 25 29.9**	**0.0**
	baz=350						
YM05				*e*S	**Sb**	**12 25 41.9**	**-0.5**
	baz=350						
YM11	**YM11**	**0.93**	**351**	*e*P	**Pb**	**12 25 29.9**	**0.0**
	baz=351						
YM11				*e*S	**Sb**	**12 25 41.9**	**-0.5**
	baz=351						
YULB	**Yu-li**	**0.94**	**205**	P	**Pg**	**12 25 28.8**	**-0.9**
	baz=215						
YULB				S	**Sb**	**12 25 42.6**	**0.0**
	baz=215						
YM03	**YM03**	**0.95**	**349**	P	**Pb**	**12 25 29.9**	**-0.4**
	baz=349						
YM03				*e*S	**Sb**	**12 25 42.6**	**-0.4**
	baz=349						
YM08	**YM08**	**0.95**	**352**	*e*P	**Pb**	**12 25 29.8**	**-0.5**
	baz=352						
YM08				*e*S	**Sb**	**12 25 43.1**	**+0.1**
	baz=352						
NTST	**Danshui**	**0.95**	**344**	*e*P	**Pb**	**12 25 30.3**	**0.0**
	baz=354						
NTST				*e*S	**Sb**	**12 25 43.6**	**+0.6**
	baz=354						
PTSB	**Yuanli**	**0.96**	**282**	*e*P	**Pb**	**12 25 30.3**	**-0.1**
	baz=282						
PTSB				*e*S	**Sn**	**12 25 44.9**	**-0.2**
	baz=282						
TCU	**Taichung**	**0.97**	**265**	*e*S	**Sn**	**12 25 45.3**	**0.0**
	baz=264						
WHYT	**Xinyi Township**	**0.97**	**236**	P	**Pg**	**12 25 29.9**	**-0.4**
	baz=236						
WHYT				*e*S	**Sb**	**12 25 43.9**	**+0.3**
	baz=236						
WDJ	**Dajia District**	**1.00**	**276**	*e*P	**Pg**	**12 25 30.6**	**-0.3**
	baz=276						
WDJ				*e*S	**Sb**	**12 25 44.8**	**+0.3**
	baz=276						
WJS	**Zhushan**	**1.01**	**246**	*e*S	**Sb**	**12 25 45.5**	**+0.9**
	baz=241						
WNT	**Mingjian**	**1.03**	**249**	*e*P	**Pg**	**12 25 30.7**	**-0.6**
	baz=244						
WNT				*e*S	**Sb**	**12 25 45.4**	**+0.3**
	baz=244						
TWY	**Chenhua**	**1.04**	**353**	P	**Pg**	**12 25 31.0**	**-0.6**
	baz=353						
TWY				S	**Sn**	**12 25 47.0**	**0.0**
	baz=353						
WCHH	**Zhanghua**	**1.09**	**262**	*e*S	**Sb**	**12 25 47.2**	**+0.4**
	baz=261						
ALS	**Alishan**	**1.12**	**230**	P	**Pb**	**12 25 33.2**	**-0.2**
	baz=229						
ALS				S	**Sn**	**12 25 49.3**	**-0.1**
	baz=229						
JYNG	**Yonagunijimaku**	**1.12**	**79**	P	**Pb**	**12 25 33.1**	**-0.1**
JYNG				S	**Sb**	**12 25 48.7**	**+0.8**
CHN5	**Tsauling**	**1.16**	**237**	P	**Pg**	**12 25 33.4**	**-0.5**
	baz=226						
CHN5				*e*S	**Sn**	**12 25 50.1**	**-0.1**
	baz=226						
YOJ	**Yonaguni jima**	**1.19**	**79**	P	**Pb**	**12 25 34.2**	**0.0**
YOJ				*e*S	**Sn**	**12 25 51.2**	**+0.6**
WGK	**Gukeng**	**1.21**	**243**	*e*S	**Sn**	**12 25 52.6**	**+1.5**
	baz=243						
WDLH	**Douliu**	**1.23**	**243**	P	**Pn**	**12 25 35.5**	**+0.6**
	baz=244						
WDLH				S	**Sn**	**12 25 53.4**	**+1.8**
	baz=244						
ELDTW	**Lidau**	**1.24**	**212**	P	**Pg**	**12 25 34.1**	**-1.3**
	baz=222						
ELDTW				*i* S	**Sg**	**12 25 50.6**	**-0.9**
	baz=222						
RLNB	**Erlin**	**1.30**	**255**	*e*S	**Sn**	**12 25 55.5**	**+2.0**
	baz=255						
CHN4	**Tsaushan**	**1.37**	**230**	*e*P	**Pn**	**12 25 36.5**	**-0.4**
	baz=231						
CHN4				*e*S	**Sb**	**12 25 55.2**	**+0.2**
	baz=231						
TPUB	**Ta-pu**	**1.38**	**227**	*e*P	**Pn**	**12 25 36.6**	**-0.4**
	baz=216						
TPUB				*e*S	**Sb**	**12 25 55.4**	**0.0**
	baz=216						
WTCT	**Ta-ch'eng**	**1.38**	**254**	*e*P	**Pn**	**12 25 35.7**	**-1.3**
	baz=255						
WTCT				*e*S	**Sn**	**12 25 56.5**	**+1.1**
	baz=255						
CHY	**Chiayi**	**1.41**	**239**	*e*P	**Pn**	**12 25 36.6**	**-0.8**
	baz=239						
CHY				*e*S	**Sb**	**12 25 56.0**	**-0.2**
	baz=239						
PCYT	**Pengchaiyu**	**1.41**	**12**	P	**Pn**	**12 25 36.4**	**-1.1**
	baz=12						
PCYT				S	**Sn**	**12 25 58.2**	**+1.9**
	baz=12						
WTP	**Ta-pu**	**1.43**	**226**	*e*P	**Pn**	**12 25 37.9**	**+0.2**
	baz=215						
WTP				*e*S	**Sb**	**12 25 56.5**	**-0.2**
	baz=215						
TWK	**Hsinying**	**1.50**	**230**	P	**Pg**	**12 25 40.0**	**-0.4**
	baz=231						
TWK				S	**Sg**	**12 26 00.5**	**+0.7**
	baz=231						
SNST	**Tainan City**	**1.52**	**228**	*e*P	**Pb**	**12 25 40.0**	**0.0**
	baz=230						
SNST				S	**Sg**	**12 26 01.0**	**+0.4**
	baz=230						
CHN1	**Nanshi**	**1.53**	**227**	P	**Pn**	**12 25 39.2**	**+0.1**
	baz=228						
CHN1				*e*S	**Sn**	**12 25 59.6**	**+0.5**
	baz=228						
TWG	**Pinlang**	**1.54**	**203**	*e*P	**Pn**	**12 25 38.6**	**-0.7**
	baz=204						
TWG				*e*S	**Sn**	**12 25 59.7**	**+0.4**
	baz=204						
TWGBT	**Beinan**	**1.54**	**203**	*e*P	**Pn**	**12 25 38.3**	**-0.9**
	baz=204						
TWGBT				*e*S	**Sn**	**12 25 59.7**	**+0.4**
	baz=204						
SGST	**Jiashian**	**1.56**	**223**	P	**Pb**	**12 25 40.9**	**+0.2**
	baz=224						
SGST				S	**Sg**	**12 26 02.6**	**+0.6**
	baz=224						
SLGT	**Liugui**	**1.59**	**219**	P	**Pn**	**12 25 39.6**	**-0.4**
	baz=221						
SLGT				*e*S	**Sn**	**12 26 00.8**	**0.0**
	baz=221						
CHN8	**Yiju**	**1.66**	**238**	*e*S	**Sg**	**12 26 04.9**	**0.0**
	baz=224						
SSD	**Sandimen**	**1.80**	**214**	*e*P	**Pb**	**12 25 44.1**	**-0.6**
	baz=216						
SSD				*e*S	**Sb**	**12 26 07.9**	**+0.4**
	baz=216						
IRIF	**Iriomote-Funau**	**1.82**	**87**	P	**Pn**	**12 25 42.4**	**-0.7**
MASBT	**Mashibuluo**	**1.91**	**212**	*e*P	**Pb**	**12 25 46.2**	**-0.5**
	baz=216						
MASBT				*e*S	**Sb**	**12 26 11.3**	**+0.7**
	baz=216						
EAST	**Anshuo**	**2.02**	**204**	*e*P	**Pn**	**12 25 45.4**	**-0.5**
	baz=193						
EAST				*e*S	**Sn**	**12 26 11.6**	**+0.3**
	baz=193						
JKRS	**Kuro-shima**	**2.08**	**90**	P	**Pn**	**12 25 47.8**	**+1.2**
JKRS				*e*S	**Sb**	**12 26 14.6**	**-0.8**
PNG	**Penghu**	**2.10**	**252**	*e*S	**Sn**	**12 26 14.8**	**+1.6**
	baz=252						
PHUB	**P'eng-hu**	**2.11**	**250**	*e*P	**Pn**	**12 25 47.1**	**0.0**
	baz=251						
PHUB				S	**Sn**	**12 26 13.4**	**0.0**
	baz=251						
WDGT	**Dungji**	**2.14**	**243**	*e*P	**Pn**	**12 25 47.2**	**-0.2**
	baz=245						
WDGT				*e*S	**Sn**	**12 26 15.7**	**+1.6**
	baz=245						
JIJ	**Ishigaki jima**	**2.20**	**86**	*e*S	**Sb**	**12 26 18.9**	**-0.1**
VWUC	**VWUC**	**2.21**	**290**	*e*P	**Pn**	**12 25 48.9**	**+0.5**
	baz=290						
VWUC				*e*S	**Sn**	**12 26 15.7**	**-0.1**
	baz=290						
JISG	**Ishigakijimahi**	**2.37**	**81**	*e*S	**Sn**	**12 26 21.9**	**+2.0**
MATB	**Ma-tsu**	**2.50**	**320**	*e*P	**Pn**	**12 25 53.4**	**+1.0**
	baz=318						
MATB				*e*S	**Sn**	**12 26 23.6**	**+0.6**
	baz=318						
PTMZ	**Houxiangcun**	**2.51**	**289**	*e*P	**Pn**	**12 25 53.4**	**+0.9**
	baz=289						
PTMZ				*e*S	**Sn**	**12 26 24.2**	**+1.0**
	baz=289						

*IDC **29** 12:25:42.4±1.8, 63°.93N×149°.55W, h109km±15km, mb3.4/7, mb1 3.6/9, mb1mx3.2/56, mbtmp3.7/9, Error ellipse: s-maj=26.4km s-min=17.4km az=72.0*
*NEIC **29** 12:25:44.4±1.1, 63°.86N±0°.03×148°.76W±0°.08, h117km±5km, Error ellipse: s-maj=5.2km s-min=4.2km az=111.0*
*AEIC **29** 12:25:44.8±1.0, 63°.85N±0°.03×148°.72W±0°.08, h116km±4km, ML3.2/112, mb3.9/4(NEIC), Error ellipse: s-maj=5.0km s-min=4.3km az=72.0*
ISC 29 12:25:44.3±0.7, 63°.85N±0°.03×148°.76W±0°.03, h121km±5km, n113, σ1s08/128, mb3.7/9, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCK	**McKinley**	**0.14**	**213**		**Pn**	**12 26 01.0**	**0.0**
MCK					**Sn**	**12 26 13.4**	**-0.1**
RND	**Reindeer**	**0.45**	**185**		**Pn**	**12 26 02.0**	**-0.2**
RND					**Sn**	**12 26 14.9**	**-0.7**
WRH	**Wood River Hil**	**0.69**	**25**		**Pn**	**12 26 03.7**	**+0.1**
WRH					**Sn**	**12 26 17.6**	**-0.7**
NEA2	**Nenana**	**0.76**	**350**		**Pn**	**12 26 04.3**	**+0.1**
NEA2					**Sn**	**12 26 19.0**	**-0.3**
TRF	**Thorofare Moun**	**0.79**	**240**		**Pn**	**12 26 05.3**	**+0.6**
TRF					**Sn**	**12 26 20.1**	**0.0**
CCB	**Clear Creek Bu**	**0.90**	**27**		**Pn**	**12 26 05.2**	**-0.2**
CCB					**Sn**	**12 26 20.4**	**-1.0**
HDA	**Harding Lake**	**0.97**	**54**		**Pn**	**12 26 05.8**	**-0.3**
HDA					**Sn**	**12 26 21.3**	**-1.3**
BPAW	**Bear Paw Mtn.**	**1.01**	**285**		**Pn**	**12 26 06.8**	**+0.3**
BPAW	

ILAR	**Eielson Array**	**1.23**	**41**	P		**Pn**	**12 26 08.2**	**-0.5**
	46nm,0.3s,baz=226,slow=11,SNR=1364							
ILAR				S		**Sn**	**12 26 27.1**	**-0.3**
	83nm,0.3s,baz=227,slow=17,SNR=23							
PS09	**TAPS Pump Stn9**	**1.33**	**85**			**Sn**	**12 26 29.4**	**+0.2**
WAT6	**Susitna Watana**	**1.36**	**160**			**Pn**	**12 26 10.3**	**-0.1**
WAT6						**Sn**	**12 26 30.2**	**+0.1**
POKR	**Poker Plat Res**	**1.40**	**24**			**Pn**	**12 26 10.7**	**+0.1**
PS10	**TAPS Pump St10**	**1.40**	**106**			**Pn**	**12 26 11.5**	**+0.8**
MLY	**Manley**	**1.46**	**325**			**Pn**	**12 26 11.7**	**+0.3**
PS07	**TAPS Pump Stn7**	**1.48**	**8**			**Pn**	**12 26 11.9**	**+0.4**
CAST	**Castle Rocks**	**1.55**	**255**			**Pn**	**12 26 12.5**	**+0.2**
CHUM	**Lake Minchumin**	**1.57**	**273**			**Pn**	**12 26 12.9**	**+0.4**
CHUM						**Sn**	**12 26 34.6**	**+0.5**
PAX	**Paxson**	**1.73**	**119**			**Pn**	**12 26 14.3**	**-0.2**
RIDG	**Independent Ri**	**1.74**	**92**			**Pn**	**12 26 14.5**	**-0.2**
PPLA	**Purkeypile**	**1.82**	**240**			**Pn**	**12 26 16.2**	**+0.5**
PS06	**TAPS Pump Stn6**	**2.05**	**349**			**Pn**	**12 26 18.9**	**+0.5**
GHO	**Glory Hole Cre**	**2.09**	**182**			**Pn**	**12 26 18.8**	**-0.2**
DOT	**Dot Lake**	**2.10**	**93**			**Pn**	**12 26 18.3**	**-0.7**
SCRK	**Sand Creek**	**2.12**	**84**			**Pn**	**12 26 18.7**	**-0.6**
SCM	**Sheep Creek Mo**	**2.13**	**161**			**Pn**	**12 26 19.4**	**-0.1**
PRP	**Porcupine Dome**	**2.18**	**38**			**Pn**	**12 26 20.0**	**0.0**
SKT	**Skwentna**	**2.27**	**215**			**Pn**	**12 26 21.0**	**-0.1**
PMR	**Palmer**	**2.27**	**184**			**Pn**	**12 26 21.4**	**+0.2**
PS11	**TAPS Pump St11**	**2.33**	**138**			**Pn**	**12 26 21.9**	**+0.1**
MENT	**Mentasta**	**2.45**	**110**			**Pn**	**12 26 23.5**	**0.0**
KNIK	**Knik Glacier**	**2.45**	**177**			**Pn**	**12 26 23.5**	**0.0**
SUA	**Susitna One**	**2.57**	**202**			**Pn**	**12 26 25.6**	**+0.5**
STLK	**Strandline Lak**	**2.75**	**212**			**Pn**	**12 26 27.7**	**+0.3**
PS12	**TAPS Pump St12**	**2.91**	**143**			**Pn**	**12 26 28.9**	**-0.5**
SPCG	**Spurr Capps Gl**	**2.98**	**212**			**Pn**	**12 26 30.5**	**+0.1**
JPK	**Jack Peak**	**2.98**	**159**			**Pn**	**12 26 29.7**	**-0.6**
IM05	**Indian Mountai**	**3.00**	**317**			**Pn**	**12 26 30.8**	**+0.2**
PWL	**Port Wells**	**3.01**	**176**			**Pn**	**12 26 30.5**	**-0.2**
GLI	**Glacier Island**	**3.08**	**165**			**Pn**	**12 26 30.6**	**-1.1**
SPNN	**North Nagishla**	**3.09**	**218**			**Pn**	**12 26 32.4**	**+0.5**
FYU	**Fort Yukon**	**3.10**	**27**			**Pn**	**12 26 31.9**	**0.0**
BC03		**3.23**	**101**			**Pn**	**12 26 33.0**	**-0.6**
CAPN	**Captain Cook N**	**3.29**	**201**			**Pn**	**12 26 35.8**	**+1.5**
FID	**Port Fidalgo**	**3.29**	**160**			**Pn**	**12 26 33.9**	**-0.5**
GLB	**Gilahina Butte**	**3.33**	**134**			**Pn**	**12 26 34.9**	**0.0**
TTA	**Tatalina**	**3.39**	**257**			**Pn**	**12 26 35.7**	**-0.1**
TT01	**Tatalina**	**3.40**	**257**			**Pn**	**12 26 35.9**	**0.0**
SLKM	**Skilak Lake**	**3.42**	**192**			**Pn**	**12 26 36.4**	**+0.2**
EGAK	**Eagle**	**3.44**	**71**			**Pn**	**12 26 35.4**	**-0.9**
COLD	**Coldfoot**	**3.44**	**121**			**Pn**	**12 26 36.7**	**+0.3**
EYAK	**Cordova Ski Ar**	**3.60**	**156**			**Pn**	**12 26 37.8**	**-0.7**
VRDI	**Verde Repeater**	**3.60**	**135**			**Pn**	**12 26 38.1**	**-0.6**
HIN	**Hinchinbrook I**	**3.63**	**162**			**Pn**	**12 26 38.1**	**-0.7**
MCARA	**McCarthy VSAT**	**3.63**	**130**			**Pn**	**12 26 39.7**	**+0.9**
SEW	**Seward**	**3.77**	**185**			**Pn**	**12 26 40.4**	**-0.4**
RDJH	**Redoubt Jeurge**	**3.78**	**212**			**Pn**	**12 26 42.3**	**+1.3**
GOAT	**Goat Mountain**	**3.79**	**148**			**Pn**	**12 26 40.4**	**-0.7**
BVCY	**Beaver Creek**	**3.87**	**108**			**Pn**	**12 26 42.0**	**0.0**
RDWB	**Redoubt West**	**3.88**	**211**			**Pn**	**12 26 43.2**	**+0.8**
RSO	**Redoubt South**	**3.88**	**211**			**Pn**	**12 26 43.2**	**+0.8**
RDSO	**Redoubt South**	**3.89**	**211**			**Pn**	**12 26 43.0**	**+0.5**
RED	**Redoubt Volcan**	**3.93**	**210**			**Pn**	**12 26 43.3**	**+0.5**
PTPK	**Patty Peak**	**3.96**	**130**			**Pn**	**12 26 43.5**	**+0.1**
BM03	**Burnt Mountain**	**3.97**	**24**			**Pn**	**12 26 43.4**	**-0.1**
CRQM	**Cirque**	**4.07**	**137**			**Pn**	**12 26 44.4**	**-0.5**
BALM	**Baldy**	**4.11**	**131**			**Pn**	**12 26 45.0**	**-0.3**
DAWY	**Dawson**	**4.14**	**93**			**Pn**	**12 26 45.3**	**-0.4**
YUK2	**White River**	**4.18**	**116**			**Pn**	**12 26 46.2**	**-0.1**
KIAG	**Kiagna River**	**4.18**	**132**			**Pn**	**12 26 45.6**	**-0.8**
SVW2	**Sparrevohn**	**4.20**	**232**			**Pn**	**12 26 45.7**	**-0.8**
KHIT	**Khitrov Hills**	**4.29**	**140**			**Pn**	**12 26 47.5**	**-0.2**
BARN	**Barnard Glacie**	**4.33**	**127**			**Pn**	**12 26 48.6**	**+0.3**
IVE	**Iliamna Volcan**	**4.34**	**209**			**Pn**	**12 26 48.5**	**+0.1**
YUK3	**Moose Creek**	**4.34**	**115**			**Pn**	**12 26 48.9**	**+0.4**
WAX	**Waxell Ridge**	**4.40**	**138**			**Pn**	**12 26 47.8**	**-1.4**
GRIN	**Grindle Hills**	**4.40**	**142**			**Pn**	**12 26 49.0**	**-0.2**
HOM	**Homer**	**4.42**	**199**			**Pn**	**12 26 49.9**	**+0.5**
ISLE	**Juniper Island**	**4.43**	**134**	Pn		**Pn**	**12 26 50.5**	**+0.8**
CNPM	**China Poot**	**4.50**	**196**			**Pn**	**12 26 50.3**	**-0.1**
CTGM	**Chitina Glacie**	**4.51**	**127**			**Pn**	**12 26 52.2**	**+1.5**
GRNC	**Granite Creek**	**4.53**	**131**			**Pn**	**12 26 50.8**	**-0.2**
LOGN	**Logan Glacier**	**4.72**	**127**			**Pn**	**12 26 55.5**	**+1.9**
TOLK	**Toolik Lake Re**	**4.82**	**356**			**Pn**	**12 26 55.9**	**+1.1**
MESA	**MESA**	**4.82**	**136**			**Pn**	**12 26 57.2**	**+1.4**
AU22	**Augustine Moun**	**5.00**	**208**			**Pn**	**12 26 57.6**	**+0.4**
EPYK	**Eagle Plains**	**5.68**	**58**			**Pn**	**12 27 05.9**	**-0.4**
KAHC	**Katmai Hardscr**	**6.03**	**213**			**Pn**	**12 27 11.2**	**+0.2**
HYT	**Haines Junctio**	**6.06**	**115**	Pn		**Pn**	**12 27 13.6**	**+2.1**
KDAK	**Kodiak Island**	**6.37**	**199**	P		**Pn**	**12 27 13.2**	**-2.4**
	0.6nm,0.3s,baz=41,slow=8.7,SNR=19							
KDAK				S		**Sn**	**12 28 20.4**	**-6.4**
	1.1nm,0.3s,baz=102,slow=19,SNR=1.5							
KABU	**Katmai Buttres**	**6.43**	**212**			**Pn**	**12 27 16.5**	**+0.1**
OHAK	**Old Harbor**	**7.01**	**201**			**Pn**	**12 27 20.7**	**-3.6**
INK	**Inuvik**	**7.62**	**47**	P		**Pn**	**12 27 32.5**	**+0.1**
	0.8nm,0.3s,baz=236,slow=16,SNR=30							
INK	**Inuvik**	**7.62**	**47**			**Pn**	**12 27 32.9**	**+0.5**
CHIR	**Chirikof Islan**	**8.76**	**206**	Pn		**Pn**	**12 27 45.6**	**-2.2**
YKA	**Yellowknife Ar**	**15.37**	**80**	P		**Pn**	**12 29 13.1**	**-1.2**
	0.1nm,0.3s,baz=288,slow=14,SNR=4.3							
YKA				PcP		**PcP**	**12 34 09.9**	**+0.1**
	0.1nm,0.3s,baz=269,slow=0.8,SNR=4.1							
PDAR	**Pinedale Array**	**30.76**	**114**	P		**P**	**12 31 50.5**	**+2.4**
	0.3nm,0.3s,baz=320,slow=6.3,SNR=4.7							
NVAR	**Mina Array Bea**	**31.25**	**130**	P		**P**	**12 31 54.8**	**+2.4**
	0.2nm,0.5s,baz=306,slow=7.7,SNR=4.7							
EYMN	**Ely**	**34.44**	**90**	P		**P**	**12 32 20.9**	**+1.1**
ECSD	**EROS Data Cent**	**35.45**	**99**	P		**P**	**12 32 29.2**	**+0.7**
ECSD				IAmb		IAmb	12 32 29.8	
	comp=Z,1.2nm,0.9s							
TX31	**Lajitas Ar. Si**	**44.76**	**119**	P		**P**	**12 33 48.0**	**+2.5**
TX31				IAmb		IAmb	12 33 56.6	
	comp=Z,4.5nm,1.3s							
TX32	**Lajitas Array**	**44.76**	**119**	P		**P**	**12 33 48.0**	**+2.5**
TXAR	**Lajitas Array**	**44.76**	**119**	P		**P**	**12 33 47.5**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=335,slow=6.8,SNR=7.7							
FINES	**FINESS Array B**	**54.96**	**3**	P		**P**	**12 35 00.9**	**-1.0**
	comp=Z,1.1nm,1.0s,baz=15,slow=5.8,SNR=1.5							
EKA	**Eskdalemuir Ar**	**58.21**	**22**	P		**P**	**12 35 25.2**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=337,slow=5.4,SNR=4.5							
MKAR	**Makanchi Array**	**62.61**	**323**	P		**P**	**12 35 53.0**	**-2.1**
	comp=Z,0.3nm,0.5s,baz=40,slow=7.1,SNR=5.1							
AKASG	**Malin Array Be**	**65.78**	**1**	P		**P**	**12 36 14.6**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=0.8,slow=6.5,SNR=3.2							
BOSA	**Boshof**	**144.54**	**9**	PKP		**PKPab**	**12 45 03.4**	**-1.2**
	comp=Z,0.9nm,0.6s,baz=14,slow=4.2,SNR=3.5							

*IDC **29** 12:32:45.3±0.9, 55°.35S×27°.88W, h0km, mb3.9/5, mb1 4.0/6, mb1mx3.8/26, mbtmp3.9/6, ML3.9/1, Error ellipse: s-maj=34.0km s-min=23.5km az=69.0*
*NEIC **29** 12:32:48.4±1.1, 55°.3S±0°.1×28°.1W±0°.2, h20km±3km, mb4.2/7, Error ellipse: s-maj=20.9km s-min=12.8km az=224.0*

ISC 29 12:32:49.3±0.7, 55°.4S±0°.1×28°.0W±0°.1, h26km, n25, σ0s80/25, mb4.1/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.00**	**279**	Pn	**Pn**	**12 34 01.8**	**-0.7**
VNA3	**Neumayer Olymp**	**17.81**	**161**	P	**P**	**12 36 55.5**	**+0.1**
SNAA	**Sanae**	**19.57**	**156**	P	**P**	**12 37 13.9**	**-0.9**
SNAA	**Sanae**	**19.57**	**156**	P	**P**	**12 37 12.7**	**-2.2**
	0.4nm,0.3s,baz=295,slow=11,SNR=6.9						
SNAA	**Sanae**	**19.57**	**156**	P	**P**	**12 37 14.2**	**-0.7**
SNAA				IAmb	IAmb	12 37 20.4	
	comp=Z,5.2nm,1.2s						
QSPA	**South Pole Qui**	**34.90**	**180**	P	**P**	**12 39 38.7**	**+0.4**
QSPA				IAmb	IAmb	12 39 40.6	
	comp=Z,2.9nm,0.8s						
MAW	**Mawson**	**41.00**	**144**	P	**P**	**12 40 29.7**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=249,slow=14,SNR=1.5						
MAW	**Mawson**	**41.00**	**144**	P	**P**	**12 40 30.0**	**+0.6**
BOSA	**Boshof**	**46.28**	**77**	P	**P**	**12 41 11.5**	**-1.1**
	comp=Z,1.9nm,0.8s,baz=202,slow=11,SNR=2.1						
BOSA	**Boshof**	**46.28**	**77**	P	**P**	**12 41 12.1**	**-0.4**
VNDA	**Vanda**	**47.24**	**183**	P	**P**	**12 41 19.5**	**+0.2**
	comp=Z,1.6nm,0.8s,baz=198,slow=3.9,SNR=12						
VNDA	**Vanda**	**47.24**	**183**	P	**P**	**12 41 20.5**	**+1.2**
VNDA				IAmb	IAmb	12 41 20.6	
	comp=Z,2.6nm,1.1s						
LPAZ	**La Paz**	**49.58**	**306**	P	**P**	**12 41 39.0**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=131,slow=5.6,SNR=5.6						
LPAZ	**La Paz**	**49.58**	**306**	P	**P**	**12 41 39.5**	**+0.7**
LPAZ				IAmb	IAmb	12 41 39.7	
	comp=Z,1.7nm,0.7s						
TOA0	**Torodi Ar. Sit**	**72.69**	**30**	P	**P**	**12 44 16.0**	**+1.4**
TOA0				IAmb	IAmb	12 44 19.3	
	comp=Z,6.0nm,1.3s						
TORD	**Torodi Ar. Bea**	**72.69**	**30**	P	**P**	**12 44 14.7**	**0.0**
	comp=Z,0.5nm,0.5s,baz=200,slow=7.0,SNR=4.8						
INK	**Inuvik**	**144.96**	**321**		**PKPab**	**12 52 21.8**	**+0.2**
RIDG	**Independent Ri**	**148.19**	**311**		**PKPbc**	**12 52 31.2**	**-0.1**
IL31		**149.29**	**313**		**PKiKP**	**12 52 34.6**	**-0.5**
ILAR	**Eielson Array**	**149.29**	**313**	PKPbc	**PKPbc**	**12 52 34.2**	**+0.2**
	comp=Z,2.8nm,0.9s,baz=124,slow=1.7,SNR=20						
WRH	**Wood River Hil**	**149.74**	**312**		**PKPbc**	**12 52 34.7**	**-0.4**
RND	**Reindeer**	**149.85**	**310**		**PKPbc**	**12 52 34.5**	**-1.0**
TOLK	**Toolik Lake Re**	**150.84**	**320**		**PKPbc**	**12 52 37.7**	**0.0**
BPAW	**Bear Paw Mtn.**	**150.91**	**311**		**PKPbc**	**12 52 38.1**	**+0.1**
SONM	**Songino Array**	**151.16**	**86**	PKPbc	**PKPbc**	**12 52 39.1**	**-0.1**
	comp=Z,0.4nm,0.4s,baz=205,slow=2.9,SNR=3.3						

INET 29 12:43:09.9, 12°.06N×87°.94W, h10km, ML3.5, Near coast of Nicaragua

*ATH **29** 12:49:51.6, 38°.07N×20°.42E, h17km±1km, ML2.4/3, Error ellipse: s-maj=3.4km s-min=1.2km az=22.0*
*THE **29** 12:49:52.3, 38°.11N×20°.37E, h12km, ML2.7/5, Error ellipse: s-maj=2.0km s-min=0.6km az=81.0*

ISC 29 12:49:52.1±1.1, 38°.11N±0°.05×20°.40E±0°.05, h17km±5km, n27, σ0s88/41, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARGA	**Argostoli. Kep**	**0.09**	**42**	P	**Pg**	**12 49 55.6**	**0.0**
ARGA				S	**Sg**	**12 49 57.5**	**-0.4**
ARG2	**Argostoli**	**0.10**	**44**	P	**Pg**	**12 49 55.5**	**-0.1**
ARG2				S	**Sg**	**12 49 57.7**	**-0.2**
	17μm,0.1s						
KEF3	**Kipouria, Keph**	**0.10**	**337**	P	**Pb**	**12 49 55.8**	**+0.1**
KEF3				S	**Sb**	**12 49 58.2**	**+0.2**
KEF4	**Livadi, Kephal**	**0.15**	**7**	P	**Pg**	**12 49 56.4**	**+0.2**
KEF4				S	**Sg**	**12 49 59.5**	**+0.4**
VLS	**Valsamata**	**0.17**	**65**	P	**Pg**	**12 49 56.3**	**-0.1**
VLS				S	**Sg**	**12 49 59.3**	**-0.1**
	2μm,0.1s						
VLS	**Valsamata**	**0.17**	**65**	P	**Pg**	**12 49 56.3**	**-0.1**
VLS				S	**Sg**	**12 49 59.2**	**-0.1**
VLS				AML	AML	12 49 59.2	
	comp=N,3365μm,0.1s						
VLS				AML	AML	12 49 59.3	
	comp=E,5133μm,0.2s						
KEF5	**Kardakata, Kep**	**0.18**	**18**	P	**Pg**	**12 49 56.7**	**+0.1**
KEF5				S	**Sg**	**12 49 59.7**	**0.0**
VSK1	**VASILIKIADES**	**0.33**	**23**	P	**Pg**	**12 49 59.2**	**+0.1**
VSK1				S	**Sg**	**12 50 03.9**	**+0.1**
	comp=E,2μm,0.2s						
FSK	**Fiskardo**	**0.38**	**20**	P	**Pg**	**12 49 59.9**	**0.0**
FSK				S	**Sg**	**12 50 05.7**	**+0.6**
	comp=E,592nm,0.2s						
FSK	**Fiskardo**	**0.38**	**20**	P	**Pg**	**12 49 59.9**	**0.0**
FSK				S	**Sg**	**12 50 05.8**	**+0.6**
FSK				AML	AML	12 50 06.3	
	comp=E,1579μm,0.2s						
FSK				AML	AML	12 50 06.9	
	comp=N,806μm,0.3s						
KRI1	**kERI**	**0.55**	**143**	P	**Pb**	**12 50 03.0**	**-0.3**
KRI1				S	**Sb**	**12 50 11.7**	**+0.7**
	comp=N,960nm,0.3s						
MGNA	**Meganis**	**0.63**	**29**	P	**Pg**	**12 50 04.4**	**-0.1**
LKD2	**Lefkada island**	**0.71**	**17**	P	**Pg**	**12 50 05.2**	**-0.9**
LKD2	**Lefkada island**	**0.71**	**17**	P	**Pg**	**12 50 05.7**	**-0.4**
PVO	**Paravola**	**1.02**	**60**	P	**Pg**	**12 50 11.9**	**0.0**
PVO	**Paravola**	**1.02**	**60**	P	**Pg**	**12 50 12.0**	**0.0**
PVO				AML	AML	12 50 33.4	
	comp=N,294μm,0.6s						
PVO				AML	AML	12 50 33.5	
	comp=E,304μm,0.4s						
ANX	**Ano Chora**	**1.29**	**67**	P	**Pn**	**12 50 15.6**	**+0.1**
SERG	**Sergoula**	**1.34**	**76**	P	**Pb**	**12 50 16.7**	**-0.1**
TRIZ	**Trizonia**	**1.34**	**78**	P	**Pn**	**12 50 16.6**	**+0.5**
KLV	**Kalavryta, Ach**	**1.38**	**92**	P	**Pn**	**12 50 16.9**	**+0.2**
KALE	**Kalithea**	**1.40**	**78**	P	**Pb**	**12 50 17.7**	**-0.2**
GUR	**Goura**	**1.54**	**96**	P	**Pb**	**12 50 20.1**	**-0.2**
DBRK	**Dubrovnik**	**4.87**	**340**	Sn	**Sn**	**12 52 00.5**	**-0.1**
STON	**Ston**	**5.18**	**337**	*e*Pn	**Pn**	**12 51 09.0**	**+0.1**
STON				Sn	**Sn**	**12 52 10.1**	**+1.8**
RICI	**Ricice**	**5.92**	**336**	Sn	**Sn**	**12 52 24.1**	**-2.5**
KIJV	**Kijevo**	**6.62**	**334**	*e*Pn	**Pn**	**12 51 27.6**	**-1.0**
KIJV				Sn	**Sn**	**12 52 40.6**	**-3.0**
MORI	**Morici**	**6.76**	**330**	*e*Pn	**Pn**	**12 51 31.7**	**+1.2**
MORI				Sn	**Sn**	**12 52 49.1**	**+2.0**

IDC 29 12:51:36.0±1.3, 55°.34S×27°.92W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/16, mbtmp3.7/3, Error ellipse: s-maj=56.0km s-min=35.2km az=83.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**47.26**	**183**	P	P	13 00 10.1	-0.1
	0.5nm,0.7s,baz=175,slow=4.9,SNR=4.9						
H10N1	**ASCENSION HYDR**	**48.56**	**18**	T	T	13 51 52.4	
	baz=190						
H10N3	**ASCENSION HYDR**	**48.56**	**18**	T	T	13 51 51.4	
	baz=190						
H10N2	**ASCENSION HYDR**	**48.58**	**18**	T	T	13 51 49.9	
	baz=190						
LPAZ	**La Paz**	**49.63**	**306**	P	P	13 00 29.7	-0.1
	0.9nm,0.6s,baz=127,slow=6.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**72.64**	**30**	P	P	13 03 05.2	0.0
	0.6nm,0.7s,baz=193,slow=5.9,SNR=2.6						
ILAR	**Eielson Array**	**149.33**	**313**	PKPbc	PKPbc	13 11 24.7	-0.5
	1.2nm,0.7s,baz=110,slow=2.4,SNR=12						

*IDC **29** 12:59:18.6±0.6, 55°.31S×28°.03W, h0km, mb4.3/12, mb1 4.3/13, mb1mx4.2/23, mbtmp4.3/13, ML4.5/1, MS3.8/2, Ms1 3.8/2, ms1mx3.3/19, Error ellipse: s-maj=23.2km s-min=15.3km az=62.0*
*NEIC **29** 12:59:21.8±1.6, 55°.3S±0°.1×28°.1W±0°.2, h20km±4km, mb4.6/18, Error ellipse: s-maj=18.6km s-min=13.2km az=207.0*

ISC 29 12:59:22.4±0.5, 55°.32S±0°.09×28°.11W±0°.08, h26km, n51, σ0s94/48, mb4.6/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.96**	**279**		**Pn**	**13 00 34.4**	**-0.7**
HOPE					**Sn**	**13 01 31.1**	**-0.4**
VNA3	**Neumayer Olymp**	**17.86**	**161**	P	**P**	**13 03 29.2**	**+0.1**
VNA2	**Neumayer--Watz**	**18.07**	**158**	P	**P**	**13 03 31.0**	**-0.5**
SNAA	**Sanae**	**19.62**	**156**	P	**P**	**13 03 48.2**	**-0.3**
SNAA	**Sanae**	**19.62**	**156**	P	**P**	**13 03 48.0**	**-0.6**
	1.3nm,0.3s,baz=300,slow=11,SNR=28						
SNAA	**Sanae**	**19.62**	**156**	P	**P**	**13 03 48.3**	**-0.3**
PLCA	**Paso Flores**	**31.36**	**280**	LR	LR	13 18 43.9	
	comp=Z,96nm,18.0s,baz=124,slow=37						
QSPA	**South Pole Qui**	**34.93**	**180**	P	**P**	**13 06 12.0**	**+0.3**
	4.3nm,0.6s,baz=205,slow=2.9,SNR=52						
QSPA	**South Pole Qui**	**34.93**	**180**	P	**P**	**13 06 12.6**	**+0.8**
QSPA				IAmb	IAmb	13 06 14.0	
	comp=Z,4.5nm,0.6s						
CPUP	**Villa Florida**	**35.94**	**312**	P	**P**	**13 06 20.2**	**-0.4**
	comp=Z,5.0nm,0.9s,baz=138,slow=6.3,SNR=4.3						
CPUP	**Villa Florida**	**35.94**	**312**	P	**P**	**13 06 20.6**	**+0.1**
CPUP				IAmb	IAmb	13 06 21.6	
	comp=Z,10nm,1.1s						
MT05	**Renca**	**36.74**	**289**	P	**P**	**13 06 25.8**	**-1.7**
CFA	**Coronel Fontan**	**36.79**	**293**	P	**P**	**13 06 27.3**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=133,slow=9.4,SNR=3.5						
MT02	**Curacav**	**37.06**	**288**	P	**P**	**13 06 30.9**	**+0.8**
CO01	**Juntas del Tor**	**39.05**	**293**	P	**P**	**13 06 50.4**	**+3.2**
MAW	**Mawson**	**41.05**	**144**	P	**P**	**13 07 02.8**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=227,slow=8.0,SNR=2.5						
MAW	**Mawson**	**41.05**	**144**	P	**P**	**13 07 03.1**	**+0.1**
AC02	**Maricunga**	**41.08**	**297**	P	**P**	**13 07 06.7**	**+2.3**
AC02				IAmb	IAmb	13 07 08.1	
	comp=Z,18nm,1.2s						
BDFB	**Brasilia**	**42.47**	**331**	P	**P**	**13 07 16.0**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=158,slow=11,SNR=1.7						
BDFB	**Brasilia**	**42.47**	**331**	P	**P**	**13 07 16.7**	**+1.4**
LVC	**Limon Verde**	**44.48**	**300**	P	**P**	**13 07 32.3**	**+0.5**
	comp=Z,2.8nm,0.5s,baz=130,slow=5.6,SNR=1.6						
LVC	**Limon Verde**	**44.48**	**300**	P	**P**	**13 07 32.4**	**+0.5**
LVC				IAmb	IAmb	13 07 34.0	
	comp=Z,3.5nm,0.7s						
BOSA	**Boshof**	**46.31**	**77**	P	**P**	**13 07 45.9**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=196,slow=7.4,SNR=1.9						
BOSA	**Boshof**	**46.31**	**77**	P	**P**	**13 07 45.7**	**-0.3**
BOSA				IAmb	IAmb	13 08 04.3	
	comp=Z,17nm,1.5s						
GO01	**Chusmiza**	**47.12**	**302**	P	**P**	**13 07 54.1**	**+1.3**
GO01				IAmb	IAmb	13 07 56.7	
	comp=Z,5.3nm,1.1s						
VNDA	**Vanda**	**47.28**	**183**	P	**P**	**13 07 53.2**	**+0.4**
	comp=Z,2.8nm,0.8s,baz=193,slow=6.8,SNR=19						
VNDA	**Vanda**	**47.28**	**183**	P	**P**	**13 07 53.7**	**+0.9**
VNDA				IAmb	IAmb	13 07 54.4	
	comp=Z,5.6nm,1.1s						
MNMC	**Minye Minye**	**47.77**	**302**	P	**P**	**13 07 58.8**	**+1.2**
MNMC				IAmb	IAmb	13 08 02.5	
	comp=Z,6.1nm,0.7s						
H10N1	**ASCENSION HYDR**	**48.58**	**18**	T	T	14 01 13.7	
	baz=190						
H10N3	**ASCENSION HYDR**	**48.58**	**18**	T	T	14 01 15.5	
	baz=190						
H10N2	**ASCENSION HYDR**	**48.59**	**18**	T	T	14 01 17.0	
	baz=190						
LPAZ	**La Paz**	**49.53**	**306**	P	**P**	**13 08 12.1**	**+0.5**
	comp=Z,3.1nm,0.5s,baz=131,slow=4.4,SNR=20						
LPAZ	**La Paz**	**49.53**	**306**	P	**P**	**13 08 12.5**	**+1.0**
CASY	**Casey**	**54.77**	**161**	P	**P**	**13 08 49.7**	**+0.5**
CASY				IAmb	IAmb	13 09 02.9	
	comp=Z,5.7nm,0.9s						
DBIC	**Dimbokro**	**64.72**	**26**	P	**P**	**13 09 58.1**	**-0.1**
	comp=Z,6.9nm,1.0s,baz=180,slow=2.0,SNR=2.0						
DBIC	**Dimbokro**	**64.72**	**26**	P	**P**	**13 09 58.3**	**+0.1**
TOA0	**Torodi Ar. Sit**	**72.68**	**30**	P	**P**	**13 10 48.5**	**+0.8**
TOA0				IAmb	IAmb	13 10 52.8	
	comp=Z,4.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**72.68**	**30**	P	**P**	**13 10 48.1**	**+0.3**
	comp=Z,4.7nm,0.6s,baz=202,slow=6.6,SNR=41						
TORD				LR	LR	13 35 42.0	
	comp=Z,117nm,21.9s,baz=115,slow=30						
ASAR	**Alice Springs**	**99.84**	**163**	P	**Pdif**	**13 13 03.2**	**-1.4**
	comp=Z,0.5nm,0.9s,baz=188,slow=3.2,SNR=4.8						
NVAR	**Mina Array Bea**	**120.63**	**294**	PKP	**PKiKP**	**13 18 11.8**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=98,slow=4.6,SNR=2.4						
FINES	**FINESS Array B**	**123.98**	**28**	PKP	**PKiKP**	**13 18 16.4**	**-0.5**
	comp=Z,4.1nm,1.0s,baz=141,slow=6.4,SNR=6.8						
ARCES	**ARCESS Array B**	**130.46**	**22**	PKP	**PKiKP**	**13 18 28.7**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=205,slow=2.0,SNR=8.5						
YKA	**Yellowknife Ar**	**135.28**

AP01	**Chacalluta**	**48.80 302**	P	**P**	**13 09 02.1**	**-0.3**
LPAZ	**La Paz**	**49.55 306**	P	**P**	**13 09 09.6**	**+0.7**
	comp=Z,4.5nm,0.5s,baz=122,slow=6.6,SNR=12					
LPAZ			PcP	**PcP**	**13 10 31.3**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=104,slow=4.2,SNR=1.0					
LPAZ			LR	LR	13 32 09.4	
	comp=Z,49nm,19.0s,baz=130,slow=39					
LPAZ	**La Paz**	**49.55 306**	P	**P**	**13 09 09.1**	**+0.2**
TSUM	**Tsumeb**	**49.77 62**	P	**P**	**13 09 09.1**	**-0.9**
TSUM			IAmb	IAmb	13 09 15.1	
	comp=Z,26nm,1.7s					
SAML	**Samuel**	**53.94 315**	P	**P**	**13 09 40.3**	**-0.6**
CASY	**Casey**	**54.76 161**	P	**P**	**13 09 46.5**	**+0.3**
CASY			IAmb	IAmb	13 09 47.7	
	comp=Z,7.7nm,0.8s					
DBIC	**Dimbokro**	**64.72 26**	P	**P**	**13 10 55.2**	**-0.1**
	comp=Z,3.3nm,0.8s,baz=180,slow=5.1,SNR=1.4					
TOA0	**Torodi Ar. Sit**	**72.67 30**	P	**P**	**13 11 45.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**72.67 30**	P	**P**	**13 11 45.4**	**+0.5**
	comp=Z,6.6nm,0.5s,baz=202,slow=6.6,SNR=27					
URIC	**Uribia, Colomb**	**76.24 316**	P	**P**	**13 12 06.5**	**+0.9**
ASAR	**Alice Springs**	**99.83 163**	P	**Pdif**	**13 14 00.4**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=187,slow=3.7,SNR=9.0					
ASAR			PP	**PP**	**13 18 01.6**	**-3.8**
	comp=Z,0.4nm,0.9s,baz=191,slow=5.4,SNR=4.1					
PDAR	**Pinedale Array**	**119.53 303**	PKP	**PKPdf**	**13 19 06.1**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=110,slow=3.9,SNR=1.6					
NVAR	**Mina Array Bea**	**120.65 294**	PKP	**PKiKP**	**13 19 09.8**	**+1.1**
	comp=Z,0.6nm,0.8s,baz=144,slow=3.3,SNR=4.1					
FXWY	**Fox Creek**	**120.90 303**	PKP	**PKiKP**	**13 19 09.1**	**+0.1**
FINES	**FINESS Array B**	**123.97 28**	PKP	**PKPdf**	**13 19 13.5**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=158,slow=1.9,SNR=13					
CMAR	**Chiang Mai Arr**	**125.78 111**	PKP	**PKiKP**	**13 19 19.1**	**0.0**
	comp=Z,1.2nm,0.9s,baz=230,slow=4.8,SNR=5.1					
ARCES	**ARCESS Array B**	**130.45 22**	PKP	**PKPdf**	**13 19 26.1**	**0.0**
	comp=Z,1.6nm,0.6s,baz=191,slow=1.2,SNR=12					
YKA	**Yellowknife Ar**	**135.30 319**	PKP	**PKPdf**	**13 19 35.6**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=122,slow=1.7,SNR=7.0					
MKAR	**Makanchi Array**	**137.17 71**	PKP	**PKiKP**	**13 19 40.3**	**-0.9**
	comp=Z,0.5nm,1.0s,baz=196,slow=2.5,SNR=2.7					
ZALV	**Zalesovo Beam**	**142.49 63**	PKhKP	PKPpre	13 19 41.3	
	comp=Z,0.7nm,0.5s,baz=276,slow=3.8,SNR=3.7					
HYT	**Haines Junctio**	**143.96 308**	PKPpre	**PKPdf**	**13 19 50.0**	**-1.4**
PCA	**Pinnacle**	**144.92 306**		**PKPdf**	**13 19 52.7**	**-0.3**
INK	**Inuvik**	**144.93 321**	PKP	**PKPdf**	**13 19 52.4**	**-0.2**
	comp=Z,15nm,1.0s,baz=79,slow=3.8,SNR=10					
VRDI	**Verde Repeater**	**146.80 307**		**PKPbc**	**13 19 58.6**	**+0.5**
MENT	**Mentasta**	**147.45 310**		**PKPbc**	**13 20 00.1**	**+0.4**
DOT	**Dot Lake**	**147.80 311**		**PKPbc**	**13 20 01.2**	**+0.6**
SCRK	**Sand Creek**	**147.85 312**		**PKPbc**	**13 20 01.4**	**+0.5**
RIDG	**Independent Ri**	**148.16 311**		**PKiKP**	**13 20 02.5**	**-0.8**
PAX	**Paxson**	**148.23 310**		**PKPbc**	**13 20 02.3**	**+0.5**
SCM	**Sheep Creek Mo**	**148.75 307**		**PKiKP**	**13 20 04.0**	**-0.6**
FYU	**Fort Yukon**	**148.92 316**		**PKiKP**	**13 20 04.4**	**-0.2**
SML	**Sawmill**	**149.20 307**		**PKPbc**	**13 20 04.7**	**+0.4**
SEW	**Seward**	**149.24 303**		**PKiKP**	**13 20 05.0**	**-0.5**
ILAR	**Eielson Array**	**149.26 313**	PKPbc	**PKPbc**	**13 20 04.8**	**+0.4**
	comp=Z,17nm,0.8s,baz=122,slow=2.2,SNR=22					
GHO	**Glory Hole Cre**	**149.46 307**		**PKiKP**	**13 20 05.6**	**-0.5**
CCB	**Clear Creek Bu**	**149.62 312**		**PKPbc**	**13 20 05.3**	**+0.1**
COLA	**College**	**149.69 313**		**PKPbc**	**13 20 05.5**	**+0.2**
WRH	**Wood River Hil**	**149.71 312**		**PKPbc**	**13 20 05.6**	**+0.2**
RND	**Reindeer**	**149.82 310**		**PKiKP**	**13 20 06.6**	**-0.2**
MCK	**McKinley**	**149.93 310**		**PKiKP**	**13 20 06.6**	**-0.3**
CNPM	**China Poot**	**149.93 302**		**PKPbc**	**13 20 06.5**	**+0.3**
OHAK	**Old Harbor**	**150.21 297**		**PKiKP**	**13 20 07.5**	**-0.1**
TRF	**Thorofare Moun**	**150.46 310**		**PKiKP**	**13 20 08.0**	**-0.2**
SKT	**Skwentna**	**150.71 306**		**PKPbc**	**13 20 08.1**	**+0.2**
TOLK	**Toolik Lake Re**	**150.81 320**		**PKiKP**	**13 20 08.5**	**-0.1**
BPAW	**Bear Paw Mtn.**	**150.89 311**		**PKPbc**	**13 20 08.4**	**+0.1**
COLD	**Coldfoot**	**150.95 317**		**PKiKP**	**13 20 09.3**	**+0.4**
SONM	**Songino Array**	**151.17 86**	PKPbc	**PKiKP**	**13 20 10.0**	**-0.2**
	comp=Z,3.8nm,0.7s,baz=220,slow=3.9,SNR=9.3					

UCR 29 13:06:55.1±1.9, 10.57N×83.12W, h18km±4km, MD3.6, 1C, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CVTR	**Volcan Turrial**	**0.83**	**229**	*e*P	Pb	13 07 10.6	-0.7
CVTR				*e*S	Sb	13 07 22.0	-0.3
SJS	**Escuela Geolog**	**1.11**	**236**	*e*P	Pb	13 07 15.0	-0.9
SJS				*e*S	Sb	13 07 30.1	0.0
HDC	**Heredia**	**1.13**	**240**	*i* P	Pn	13 07 15.4	-0.8
HDC				*e*S	Sb	13 07 30.5	0.0
LCR2	**La Lucha 2**	**1.20**	**227**	*e*P	Pn	13 07 15.8	-1.3
DRK0	**Durika**	**1.30**	**185**	*e*P	Pn	13 07 16.4	-2.2
EDLM	**Las Mercedes**	**1.36**	**200**	*e*P	Pn	13 07 17.5	-1.8
SRA1	**San Ramn**	**1.42**	**250**	*e*P	Pn	13 07 20.3	+0.1
SRA1				*e*S	Sb	13 07 39.6	+0.6
EDDO	**Dominical**	**1.50**	**209**	*e*P	Pn	13 07 21.1	-0.1
EDDO				*e*S	Sb	13 07 41.3	+0.2
FORC	**Fortuna**	**1.53**	**266**	*e*P	Pn	13 07 22.0	+0.5
FORC				*e*S	Sb	13 07 42.2	+0.3
ARE1	**Arenal 1**	**1.57**	**266**	*e*P	Pn	13 07 22.5	+0.4
ARE1				*e*S	Sb	13 07 43.5	+0.2
CASO	**Castillo**	**1.59**	**265**	*e*P	Pn	13 07 22.8	+0.4
CASO				*e*S	Sn	13 07 42.5	-0.1
EDPN	**Palmar Norte**	**1.63**	**192**	*e*P	Pn	13 07 23.0	0.0
EDPN				*e*S	Sn	13 07 44.0	+0.5
JTS	**Las Juntas de**	**1.82**	**261**	*e*P	Pn	13 07 25.6	0.0
JTS				*e*S	Sb	13 07 50.0	-0.4
ACAL	**Aguas Claras**	**1.88**	**272**	*e*P	Pn	13 07 25.8	-0.6
CUI	**Cuipilapa**	**2.01**	**273**	*e*P	Pn	13 07 28.1	-0.1
CUI				*e*S	Sn	13 07 53.4	+0.5
PLVR	**Palo Verde**	**2.20**	**264**	*e*P	Pn	13 07 30.8	-0.2
LAPC	**Finca la Perla**	**2.28**	**275**	*e*P	Pn	13 07 31.7	-0.2
GUAI	**GUAI**	**2.37**	**263**	*e*P	Pn	13 07 32.9	-0.1

IDC 29 13:08:49.9±1.4, 55.09S×27.87W, h0km, mb3.7/2, mb1 3.7/3, mb1mx3.6/18, mbtmp3.6/3, ML3.7/1, Error ellipse: s-maj=79.6km s-min=31.3km az=91.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.78**	**157**	P	P	13 13 21.6	+0.3
	0.2nm,0.3s,baz=315,slow=11,SNR=2.9						
VNDA	**Vanda**	**47.52**	**183**	P	P	13 17 25.8	-0.3
	0.6nm,0.9s,baz=178,slow=4.9,SNR=4.1						
TORD	**Torodi Ar. Bea**	**72.41**	**30**	P	P	13 20 17.7	0.0
	1.4nm,1.2s,baz=205,slow=7.0,SNR=4.9						
ILAR	**Eielson Array**	**149.18**	**313**	PKPbc	PKPbc	13 28 38.4	-0.4
	0.5nm,0.7s,baz=126,slow=2.5,SNR=5.6						

*IDC **29** 13:09:07.4±1.2, 55.28S×27.98W, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/19, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=52.9km s-min=28.0km az=77.0*
*NEIC **29** 13:09:09.0±0.9, 55.31S±0.06×28.0W±0.2, h10km±2km, mb4.5/6, Error ellipse: s-maj=20.2km s-min=8.4km az=111.0*
ISC 29 13:09:09.0±0.9, 55.3S±0.1×28.0W±0.1, h10km, n11, σ0s59/10, mb4.1/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.01**	**278**	Pn	**Pn**	**13 10 23.4**	**-0.7**
EFI	**East Falkland**	**18.17**	**269**	P	**P**	**13 13 22.6**	**+1.1**
SNAA	**Sanae**	**19.61**	**156**	P	**P**	**13 13 36.8**	**-0.4**
	0.4nm,0.3s,baz=297,slow=12,SNR=3.1						
TRIS	**Tristan da Cun**	**21.14**	**37**	P	**P**	**13 13 54.1**	**+0.2**
VNDA	**Vanda**	**47.30**	**183**	P	**P**	**13 17 42.1**	**+0.2**
	0.4nm,0.5s,baz=192,slow=3.3,SNR=7.6						
VNDA	**Vanda**	**47.30**	**183**	P	**P**	**13 17 42.1**	**+0.2**
VNDA				IAmb	IAmb	13 18 51.3	
	comp=Z,8.3nm,1.9s						
MNMC	**Minye Minye**	**47.81**	**302**	P	**P**	**13 17 47.1**	**+0.3**
LPAZ	**La Paz**	**49.56**	**306**	P	**P**	**13 18 00.7**	**-0.1**
	comp=Z,0.8nm,0.5s,baz=159,slow=8.6,SNR=2.9						
LPAZ	**La Paz**	**49.56**	**306**	IAmb	IAmb	13 18 01.5	
	comp=Z,12nm,1.9s						
TORD	**Torodi Ar. Bea**	**72.64**	**30**	P	**P**	**13 20 36.5**	**0.0**
	comp=Z,1.0nm,0.9s,baz=203,slow=7.0,SNR=3.7						
ILAR	**Eielson Array**	**149.27**	**313**	PKPbc	**PKPbc**	**13 28 55.9**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=125,slow=2.1,SNR=9.3						

IDC 29 13:11:10.0±1.4, 55.23S×27.81W, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.5/18, mbtmp3.6/3, ML3.6/1, Error ellipse: s-maj=77.9km s-min=31.7km az=91.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.63**	**157**	P	P	13 15 40.0	+0.3
	0.2nm,0.3s,baz=314,slow=12,SNR=3.2						
VNDA	**Vanda**	**47.37**	**183**	P	P	13 19 44.7	-0.3
	0.4nm,0.8s,baz=173,slow=6.5,SNR=2.0						
TORD	**Torodi Ar. Bea**	**72.52**	**30**	P	P	13 22 38.4	0.0
	0.5nm,0.5s,baz=203,slow=6.8,SNR=5.5						
ILAR	**Eielson Array**	**149.30**	**313**	PKPbc	PKPbc	13 30 58.7	-0.4
	1.1nm,0.6s,baz=128,slow=2.9,SNR=7.2						

*IDC **29** 13:17:18.1±0.7, 55.18S×28.24W, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.1/21, mbtmp4.2/9, ML4.1/1, Error ellipse: s-maj=25.7km s-min=17.2km az=61.0*
*NEIC **29** 13:17:19.1±0.8, 55.25S±0.1×28.3W±0.2, h8km±5km, mb4.5/8, Error ellipse: s-maj=19.8km s-min=15.2km az=195.0*
ISC 29 13:17:19.2±0.6, 55.2S±0.1×28.2W±0.1, h10km, n29, σ0s66/29, mb4.3/9, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.88**	**277**		**Pn**	**13 18 32.2**	**-0.4**
VNA3	**Neumayer Olymp**	**18.04**	**161**	P	**P**	**13 21 30.6**	**+0.5**
SNAA	**Sanae**	**19.80**	**156**	P	**P**	**13 21 49.7**	**+0.2**
SNAA	**Sanae**	**19.80**	**156**	P	**P**	**13 21 49.3**	**-0.2**
	0.3nm,0.3s,baz=314,slow=10,SNR=24						
SNAA	**Sanae**	**19.80**	**156**	P	**P**	**13 21 49.4**	**-0.2**
SNAA				IAmb	IAmb	13 22 03.7	
	comp=Z,7.3nm,0.7s						
TRIS	**Tristan da Cun**	**21.08**	**38**	P	**P**	**13 22 02.1**	**-1.4**
QSPA	**South Pole Qui**	**35.11**	**180**	P	**P**	**13 24 12.1**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=176,slow=2.0,SNR=26						
QSPA	**South Pole Qui**	**35.11**	**180**	P	**P**	**13 24 11.3**	**-1.1**
QSPA				IAmb	IAmb	13 24 13.9	
	comp=Z,19nm,1.6s						
CPUP	**Villa Florida**	**35.78**	**312**	P	**P**	**13 24 18.1**	**-0.3**
	comp=Z,2.4nm,0.7s,baz=130,slow=7.7,SNR=4.4						
CPUP	**Villa Florida**	**35.78**	**312**	P	**P**	**13 24 17.8**	**-0.5**
MT01	**Popeta**	**36.56**	**288**	P	**P**	**13 24 25.1**	**+0.1**
CFA	**Coronel Fontan**	**36.67**	**293**	P	**P**	**13 24 26.1**	**0.0**
	comp=Z,1.2nm,0.6s,baz=152,slow=5.6,SNR=4.2						
MAW	**Mawson**	**41.22**	**144**	P	**P**	**13 25 04.4**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=228,slow=12,SNR=2.2						
MAW	**Mawson**	**41.22**	**144**	P	**P**	**13 25 02.6**	**-1.0**
BOSA	**Boshof**	**46.32**	**78**	P	**P**	**13 25 45.6**	**+0.3**
	comp=Z,3.0nm,0.8s,baz=189,slow=7.3,SNR=4.6						
VNDA	**Vanda**	**47.45**	**183**	P	**P**	**13 25 53.9**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=188,slow=7.5,SNR=7.2						
LPAZ	**La Paz**	**49.38**	**306**	P	**P**	**13 26 10.3**	**+0.6**
	comp=Z,2.8nm,0.9s,baz=141,slow=6.9,SNR=8.8						
TOA0	**Torodi Ar. Sit**	**72.56**	**31**	P	**P**	**13 28 46.9**	**+0.6**
TOA0				IAmb	IAmb	13 28 48.0	
	comp=Z,4.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.56**	**31**	P	**P**	**13 28 47.0**	**+0.7**
	comp=Z,4.1nm,0.7s,baz=203,slow=6.6,SNR=19						
ASAR	**Alice Springs**	**100.03**	**163**	P	**Pdif**	**13 31 03.7**	**-1.1**
	comp=Z,0.3nm,0.8s,baz=202,slow=3.8,SNR=2.3						
SCRK	**Sand Creek**	**147.67**	**312**		**PKPbc**	**13 37 03.4**	**+0.7**
RIDG	**Independent Ri**	**147.98**	**311**		**PKPbc**	**13 37 04.2**	**+0.8**
PRP	**Porcupine Dome**	**148.66**	**315**		**PKPbc**	**13 37 05.9**	**+0.7**
IL31		**149.08**	**313**		**PKPbc**	**13 37 06.7**	**+0.7**
ILAR	**Eielson Array**	**149.08**	**313**	PKPbc	**PKiKP**	**13 37 06.8**	**-0.5**
	comp=Z,3.5nm,0.7s,baz=126,slow=2.1,SNR=19						
CCB	**Clear Creek Bu**	**149.44**	**313**		**PKPbc**	**13 37 07.5**	**+0.5**
WRH	**Wood River Hil**	**149.53**	**312**		**PKiKP**	**13 37 07.8**	**-0.5**
BPAW	**Bear Paw Mtn.**	**150.71**	**311**		**PKiKP**	**13 37 10.7**	**-0.1**
SONM	**Songino Array**	**151.24**	**86**	PKPbc	**PKiKP**	**13 37 12.5**	**0.0**
	comp=Z,1.6nm,0.8s,baz=219,slow=2.3,SNR=7.8						

*NEIC **29** 13:21:50.4±0.8, 51.84N±0.10×178.3E±0.1, h137km±4km, Error ellipse: s-maj=14.6km s-min=10.9km az=197.0*
AEIC 29 13:21:51.4±0.8, 51.9N±0.1×178.26E±0.08, h135km±4km, mb4.2/4(NEIC), **Error ellipse: s-maj=18.0km s-min=6.9km az=187.0, Rat Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.17**	**72**		Pn	13 22 09.1	-0.8
LSNW	**Little Sitkin**	**0.17**	**65**		Pn	13 22 08.9	-1.0
LSNW					Sn	13 22 23.1	-0.7
LSPA	**Little Sitkin**	**0.20**	**73**		Pn	13 22 09.4	-0.6
LSPA					Sn	13 22 23.6	-0.3
CETU	**Semis' Tuman**	**0.77**	**84**		Pn	13 22 12.2	-0.6
CESW	**Semis' Southwe**	**0.81**	**89**		Pn	13 22 12.2	-0.9
CEAP	**Semis' Anvil P**	**0.82**	**82**		Pn	13 22 12.7	-0.5
AMKA	**Amchitka**	**0.83**	**128**		Pn	13 22 12.8	-0.6
AMKA					Sn	13 22 29.0	-0.9
CERB	**Semis' Cerberu**	**0.85**	**87**		Sn	13 22 31.4	+1.2
CERAA	**Semis' Rag'd T**	**0.88**	**89**		Pn	13 22 12.9	-0.8
GAEA	**Gareloi East**	**1.86**	**92**		Pn	13 22 23.4	-0.6
TASE	**Tanaga Southea**	**2.30**	**90**		Pn	13 22 28.4	-1.0
TAFP	**Tanaga Falls P**	**2.33**	**88**		Pn	13 22 28.5	-1.2
TAFP					Sn	13 22 58.5	-0.5
TAPA	**Tanaga Point A**	**2.44**	**90**		Pn	13 22 30.3	-0.7
SMY	**Shemya**	**2.69**	**290**		Pn	13 22 32.9	-1.2
KIMD	**Kanaga Island**	**2.80**	**91**		Pn	13 22 34.4	-1.2
KICM	**Kanaga Island**	**2.82**	**88**		Pn	13 22 34.8	-1.0
KIKV	**Kanaga Island**	**2.83**	**89**		Pn	13 22 35.0	-1.0
ADK	**Adak**	**3.13**	**88**		Pn	13 22 38.3	-1.5
GSTD	**Great Sitkin T**	**3.46**	**85**		Pn	13 22 42.7	-1.6
GSTR	**Great Sitkin T**	**3.52**	**85**		Pn	13 22 43.6	-1.3
GSMY	**Great Sitkin M**	**3.52**	**85**		Pn	13 22 43.6	-1.3
ATKA	**Atka Island**	**4.67**	**83**		Pn	13 22 59.4	-0.6
NIKH	**Nikolski High**	**7.95**	**77**	Pn	Pn	13 23 43.6	-0.4
UNV	**Unalaska Valle**	**9.42**	**72**	Pn	Pn	13 24 04.0	+0.2
FALS	**False Pass**	**11.34**	**68**	Pn	Pn	13 24 29.5	+0.3
CNBA	**Chernabura Isl**	**13.54**	**69**	Pn	Pn	13 24 54.8	-3.0
OHAK	**Old Harbor**	**17.26**	**61**	P	P	13 25 41.9	-1.4
KDAK	**Kodiak Island**	**17.70**	**59**		P	13 25 46.7	-1.4
CNPM	**China Poot**	**18.67**	**54**	P	P	13 25 58.3	-0.4
CNPM				IAmb	IAmb	13 26 07.4	
	comp=Z,30nm,2.0s						
PPLA	**Purkeypile**	**19.16**	**43**	Pn	Pn	13 26 05.7	-0.7
PPLA				IAmb	IAmb	13 26 25.1	
	comp=Z,23nm,1.9s						

*IDC **29** 13:38:13.4±0.9, 55.25S×28.03W, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.8/23, mbtmp3.9/5, ML4.0/1, Error ellipse: s-maj=42.2km s-min=22.1km az=83.0*
*NEIC **29** 13:38:15.8±0.7, 55.3S±0.2×28.2W±0.3, h15km±6km, mb4.6/4, Error ellipse: s-maj=27.5km s-min=21.1km az=73.0*
ISC 29 13:38:14.8±0.9, 55.3S±0.2×28.1W±0.2, h10km, n12, σ0s48/10, mb4.2/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.95**	**278**	Pn	**Pn**	**13 39 28.8**	**-0.3**
SNAA	**Sanae**	**19.68**	**156**	P	**P**	**13 42 43.0**	**-0.6**
	0.4nm,0.3s,baz=308,slow=12,SNR=12						
SNAA	**Sanae**	**19.68**	**156**	P	**P**	**13 42 43.2**	**-0.5**
QSPA	**South Pole Qui**	**34.99**	**180**	P	**P**	**13 45 07.3**	**+0.4**
	0.9nm,0.6s,baz=198,slow=2.3,SNR=9.3						
QSPA	**South Pole Qui**	**34.99**	**180**	IAmb	IAmb	13 45 12.9	
	comp=Z,13nm,1.7s						
VNDA	**Vanda**	**47.34**	**183**	P	**P**	**13 46 48.4**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=159,slow=5.8,SNR=4.7						
VNDA	**Vanda**	**47.34**	**183**	P	**P**	**13 46 48.2**	**+0.2**
VNDA				IAmb	IAmb	13 46 52.1	
	comp=Z,10nm,2.0s						
LPAZ	**La Paz**	**49.49**	**306**	P	**P**	**13 47 06.2**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=140,slow=5.0,SNR=4.8						
LPAZ	**La Paz**	**49.49**	**306**	IAmb	IAmb	13 47 11.1	
	comp=Z,16nm,2.0s						
TORD	**Torodi Ar. Bea**	**72.63**	**30**	P	**P**	**13 49 42.5**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=203,slow=6.4,SNR=16						
ILAR	**Eielson Array**	**149.20**	**313**	PKPbc	**PKPbc**	**13 58 01.9**	**0.0**
	comp=Z,2.1nm,0.8s,baz=114,slow=2.4,SNR=20						
SONM	**Songino Array**	**151.20**	**86**	PKPbc	**PKiKP**	**13 58 07.3**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=208,slow=3.4,SNR=3.9						

*IDC **29** 13:41:21.3±0.5, 55.28S×28.21W, h0km, mb4.6/13, mb1 4.7/14, mb1mx4.5/24, mbtmp4.6/14, ML5.0/1, MS3.9/9, Ms1 3.9/9, ms1mx3.7/25, Error ellipse: s-maj=19.8km s-min=13.9km az=52.0*
*NEIC **29** 13:41:23.1±1.2, 55.27S±0.04×28.2W±0.1, h10km±1km, mb4.9/39, Error ellipse: s-maj=14.2km s-min=4.5km az=111.0*
*BJI **29** 13:41:24.0±0.0, 55.40S×28.30W, h20km, mB5.5/3, Ms5.3/2, Ms7 5.0/2*
ISC 29 13:41:22.9±0.3, 55.32S±0.07×28.29W±0.07, h10km, n148, σ0s87/143, mb4.8/25, MS4.0/10, 1C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.85**	**279**		**Pn**	**13 42 36.1**	**+0.3**
HOPE				Sn	**Sn**	**13 43 31.3**	**-0.7**
VNA1	**Neumayer--Stat**	**17.71**	**158**	P	**Pn**	**13 45 30.0**	**+0.8**
VNA3	**Neumayer Olymp**	**17.89**	**160**	P	**Pn**	**13 45 31.5**	**0.0**
EFI	**East Falkland**	**18.01**	**269**		**Pn**	**13 45 29.4**	**-3.6**
EFI				IAmb	IAmb	13 45 43.3	
	comp=Z,111nm,1.4s						
VNA2	**Neumayer--Watz**	**18.11**	**158**	P	**P**	**13 45 35.2**	**+0.8**
SNAA	**Sanae**	**19.67**	**156**	P	**P**	**13 45 51.2**	**-0.5**
SNAA	**Sanae**	**19.67**	**156**	P	**P**	**13 45 51.0**	**-0.6**
	comp=Z,4.1nm,0.3s,baz=305,slow=10,SNR=73						
SNAA	**Sanae**	**19.67**	**156**	P	**P**	**13 45 51.5**	**-0.1**
PMSA	**Palmer Station**	**19.92**	**227**	LR	LR	13 51 54.6	
	comp=Z,1um,21.3s,baz=76,slow=32						
PMSA	**Palmer Station**	**19.92**	**227**	P	**P**	**13 45 55.0**	**+0.6**
PLCA	**Paso Flores**	**31.26**	**280**	LR	LR	14 01 12.0	
	comp=Z,97nm,19.7s,baz=126,slow=38						
SYO	**Syowa Base**	**32.55**	**142**	*e*P	**P**	**13 47 52.0**	**-1.5**
SYO	**Syowa Base**	**32.55**	**142**	*e*pP	pP	13 47 55.4	+0.3
SYO	**Syowa Base**	**32.55**	**142**	*e*sP	sP	13 47 56.0	+0.2
SPB	**Sao Paulo**	**34.72**	**328**	P	**P**	**13 48 12.9**	**+0.1**
SPB				IAmb	IAmb	13 48 19.1	
	comp=Z,18nm,1.2s						
QSPA	**South Pole Qui**	**34.94**	**180**	P	**P**	**13 48 14.7**	**+0.2**
	comp=Z,8.5nm,0.6s,baz=189,slow=2.4,SNR=58						
QSPA	**South Pole Qui**	**34.94**	**180**	P	**P**	**13 48 14.6**	**0.0**
QSPA				IAmb	IAmb	13 48 16.3	
	comp=Z,13nm,0.8s						
VAO	**Valinhos**	**35.13**	**329**	*e*P	**P**	**13 48 18.3**	**+1.8**
VAO	**Valinhos**	**35.13**	**329**	*e*P	**P**	**13 48 18.3**	**+1.8**
CPUP	**Villa Florida**	**35.85**	**312**	P	**P**	**13 48 22.1**	**-0.6**
	comp=Z,11nm,0.9s,baz=140,slow=7.8,SNR=12						
CPUP				LR	LR	14 02 11.9	
	comp=Z,167nm,20.0s,baz=158,slow=35						
CPUP	**Villa Florida**	**35.85**	**312**	P	**P**	**13 48 22.0**	**-0.6**
CPUP				IAmb	IAmb	13 48 28.1	
	comp=Z,30nm,1.1s						
BSCB	**Bom Sucesso**	**36.44**	**333**	*e*P	**P**	**13 48 28.6**	**+0.9**
BSCB	**Bom Sucesso**	**36.44**	**333**	*e*P	**P**	**13 48 28.6**	**+0.9**
CFA	**Coronel Fontan**	**36.69**	**294**	P	**P**	**13 48 29.1**	**-0.8**
	comp=Z,6.7nm,0.9s,baz=149,slow=10,SNR=9.0						
PEL	**Peldehue**	**36.80**	**289**	P	**P**	**13 48 31.2**	**+0.4**
PEL				IAmb	IAmb	13 48 32.9	
	comp=Z,23nm,0.9s						
MT02	**Curacav**	**36.96**	**289**	P	**P**	**13 48 32.9**	**+0.9**
MT02				IAmb	IAmb	13 48 39.1	
	comp=Z,26nm,1.4s						
ZON	**Zonda**	**36.97**	**293**	P	**P**	**13 48 31.6**	**-0.6**
VA03	**San Esteban**	**37.02**	**290**	P	**P**	**13 48 33.9**	**+1.3**
VA03				IAmb	IAmb	13 48 50.7	
	comp=Z,26nm,1.2s						
CO01	**Juntas del Tor**	**38.95**	**293**	P	**P**	**13 48 50.2**	**+1.1**
GO04	**Tololo Observa**	**39.17**	**292**	P

comp=Z,9.5nm,0.9s
PTGA Pitinga 60.21 323 P **P** 13 51 30.3 -0.7
DBIC Dimbokro 64.77 26 P **P** 13 52 00.8 -0.6
comp=Z,6.6nm,0.9s,baz=164,slow=7.3,SNR=5.6
DBIC Dimbokro 64.77 26 P **P** 13 52 00.9 -0.5
MBO M'Bour 70.09 12 P **P** 13 52 34.4 -0.6
TOA0 Torodi Ar. Sit 72.73 31 P **P** 13 52 50.6 -0.4
TORD Torodi Ar. Bea 72.73 31 P **P** 13 52 50.6 -0.4
comp=Z,13nm,0.7s,baz=202,slow=6.5,SNR=111
ASAR Alice Springs 99.88 163 P **Pdif** 13 55 06.7 -1.0
comp=Z,0.7nm,0.7s,baz=192,slow=3.3,SNR=7.8
MSU Marysvale 117.45 298 **PKiKP** 14 00 08.7 +0.3
NVAR Mina Array Bea 120.53 294 PKP **PKiKP** 14 00 15.5 +1.1
comp=Z,0.2nm,0.5s,baz=107,slow=5.3,SNR=4.0
FXWY Fox Creek 120.78 303 **PKiKP** 14 00 15.3 +0.6
FINES FINESS Array B 124.03 28 PKP **PKPdf** 14 00 19.5 -0.4
comp=Z,1.7nm,0.6s,baz=222,slow=2.6,SNR=11
BMO Blue Mountains 124.73 300 **PKPdf** 14 00 22.4 +0.4
CMAR Chiang Mai Arr 125.91 111 PKP **PKPdf** 14 00 24.9 0.0
comp=Z,1.4nm,1.0s,baz=236,slow=4.1,SNR=6.2
ARCES ARCESS Array B 130.49 22 PKP **PKPdf** 14 00 31.9 -0.1
comp=Z,3.2nm,0.8s,baz=207,slow=1.4,SNR=13
BRVK Borovoye 134.88 57 PKPdf **PKPdf** 14 00 41.4 +0.7
YKA Yellowknife Ar 135.21 319 PKP **PKPdf** 14 00 41.3 +0.3
comp=Z,2.8nm,0.9s,baz=126,slow=1.5,SNR=8.2
MKAR Makanchi Array 137.25 71 PKP **PKPdf** 14 00 42.6 -2.8
comp=Z,0.7nm,0.8s,baz=235,slow=4.3,SNR=5.0
WMQ Urumqi 138.37 78 *e*PKP **PKPdf** 14 00 48.8 +1.2
WMQ LR LR
comp=Z,260nm,17.1s
WMQ LR LR
comp=Z,240nm,15.3s
WMQ LR LR
comp=Z,320nm,21.9s
CD2 Chengdu 138.46 106 PKP **PKPdf** 14 00 48.0 -0.2
LZH Lanzhou 142.36 100 *e*PKP **PKPdf** 14 00 55.3 0.0
LZH pPKP PKiKP 14 00 58.5 +0.2
LZH sPKP 14 01 00.3
LZH LR LR
comp=Z,150nm,18.3s
LZH LR LR
comp=Z,150nm,18.1s
LZH LR LR
comp=Z,230nm,20.2s
GTA Gaotai 142.38 93 *e*PKP **PKiKP** 14 00 58.5 +0.3
GTA pPKP sPKPdf 14 01 03.0 +6.3
GTA sPKP 14 01 05.5
ZALV Zalesovo Beam 142.60 64 PKhKP PKPpre 14 00 49.6
comp=Z,0.4nm,0.3s,baz=267,slow=2.5,SNR=2.4
ZALV PKP **PKPdf** 14 00 55.5 +0.6
comp=Z,0.7nm,0.3s,baz=224,slow=4.1,SNR=4.0
XAN Xi'an 143.66 108 PKP **PKiKP** 14 01 00.0 -0.9
XAN pPKP sPKPdf 14 01 04.3 +5.3
HYT Haines Junctio 143.85 308 PKPpre **PKPdf** 14 00 54.8 -2.3
PCA Pinnacle 144.81 306 **PKPdf** 14 00 58.5 -0.1
DAWY Dawson 145.83 313 **PKPdf** 14 01 00.5 +0.2
VRDI Verde Repeater 146.69 307 **PKPbc** 14 01 03.4 -0.3
GLB Gilahina Butte 146.92 307 **PKPbc** 14 01 04.5 +0.3
RAGM Ragged Mountai 146.96 305 **PKPbc** 14 01 05.3 +1.0
NJ2 Nanjing 147.26 122 *e*PKPbc **PKPdf** 14 01 03.8 +0.2
MENT Mentasta 147.34 310 **PKPbc** 14 01 05.9 +0.7
EYAK Cordova Ski Ar 147.52 305 **PKPbc** 14 01 06.6 +0.8
DOT Dot Lake 147.69 311 PKPbc **PKPbc** 14 01 06.5 +0.3
HIN Hinchinbrook I 147.82 305 **PKPbc** 14 01 07.5 +0.9
FID Port Fidalgo 147.92 305 **PKPbc** 14 01 08.0 +1.1
RIDG Independent Ri 148.05 311 **PKPbc** 14 01 07.7 +0.5
PAX Paxson 148.12 310 **PKPbc** 14 01 08.0 +0.5
GLI Glacier Island 148.25 305 **PKPbc** 14 01 08.4 +0.7
SCM Sheep Creek Mo 148.64 307 **PKPbc** 14 01 09.5 +0.7
BTO Baotou 148.98 101 *e*PKPbc **PKPbc** 14 01 09.3 -1.1
SML Sawmill 149.09 307 **PKPbc** 14 01 10.1 +0.2
HDA Harding Lake 149.11 312 **PKPbc** 14 01 10.1 +0.3
SEW Seward 149.13 303 **PKPbc** 14 01 10.7 +0.7
IL31 149.16 313 **PKPbc** 14 01 09.8 -0.1
ILAR Eielson Array 149.16 313 PKP **PKPdf** 14 01 03.9 -1.8
comp=Z,0.3nm,0.7s,baz=138,slow=2.4,SNR=4.0
ILAR PKPbc **PKPbc** 14 01 09.8 -0.1
comp=Z,28nm,0.9s,baz=124,slow=1.8,SNR=155
GHO Glory Hole Cre 149.35 307 **PKPbc** 14 01 10.5 -0.1
PMR Palmer 149.40 306 **PKPbc** 14 01 11.1 +0.5
CCB Clear Creek Bu 149.52 312 **PKPbc** 14 01 11.0 +0.2
COLA College 149.58 313 **PKPbc** 14 01 11.2 +0.3
RND Reindeer 149.71 310 **PKPbc** 14 01 11.7 +0.3
CNPM China Poot 149.81 302 **PKiKP** 14 01 12.6 0.0
HHC Hu-ho-hao-te 150.01 102 *e*PKPbc **PKPdf** 14 01 10.5 +2.5
OHAK Old Harbor 150.09 297 **PKiKP** 14 01 13.3 +0.1
SUA Susitna One 150.11 306 **PKiKP** 14 01 13.2 -0.1
TRF Thorofare Moun 150.35 310 PKPbc **PKiKP** 14 01 14.0 +0.2
SKT Skwentna 150.60 306 PKPbc **PKPbc** 14 01 13.5 0.0
TOLK Toolik Lake Re 150.72 320 **PKiKP** 14 01 14.4 +0.1
RSO Redoubt South 150.81 303 **PKPbc** 14 01 14.6 +0.3
COLD Coldfoot 150.86 317 **PKiKP** 14 01 15.2 +0.6
PPLA Purkeypile 151.09 308 **PKPbc** 14 01 15.3 +0.5
SONM Songino Array 151.30 86 PKP **PKPdf** 14 01 07.9 -1.9
comp=Z,0.5nm,0.8s,baz=215,slow=1.8,SNR=3.8
SONM PKPbc **PKPbc** 14 01 15.8 0.0
comp=Z,4.8nm,0.7s,baz=223,slow=3.1,SNR=26
TTA Tatalina 152.82 308 **PKiKP** 14 01 19.4 +0.6
KSRS Korea Array 155.94 128 PKPab **PKPab** 14 01 43.5 -0.1
comp=Z,0.8nm,0.8s,baz=219,slow=3.1,SNR=3.3

*THR **29** 13:49:19.5±0.3,32.10N×58.98E,h14km±2km, ML3.6*
*TEH **29** 13:49:19.0,32.18N×58.99E,h12km, ML3.5*

ISC 29 13:49:19.2±1.2,32.18N±0.02×59.03E±0.04,h1km±13km, n25,σ1s46/33,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSRN	**Basiran**	**0.23**	**159**	*e*Pg	**Pg**	**13 49 24.1**	**+0.5**
BSRN				*e*Sg	**Sg**	**13 49 27.4**	**+0.8**
BSRN	**Basiran**	**0.23**	**159**	*e*Pg	**Pg**	**13 49 24.1**	**+0.5**
IKOO	**Kooshah**	**0.24**	**355**	*e*Pg	**Pg**	**13 49 24.4**	**+0.4**
IKOO				*e*Sg	**Sg**	**13 49 28.5**	**+1.3**
IKOO				*e*		13 49 29.1	
ITEG	**Tejag**	**0.75**	**342**	*e*Pg	**Pg**	**13 49 33.5**	**-0.2**
ITEG				*e*	**Sg**	**13 49 44.2**	**+0.7**
IDAH	**Dahanechah**	**0.90**	**52**	*e*Pg	**Pn**	**13 49 38.3**	**-1.0**
IMON	**Monand**	**1.15**	**28**	*e*Pg	**Pg**	**13 49 42.1**	**+0.9**
IMON				*e*	**Sn**	**13 50 01.9**	**+2.9**
NHDN	**Nehbandan**	**1.17**	**132**	*e*Pg	**Pg**	**13 49 42.0**	**+0.3**
AFRZ	**Afriz**	**1.24**	**359**	*e*Pg	**Pg**	**13 49 42.8**	**-0.3**
SHRT	**Shahrakht**	**1.81**	**36**	*e*Pn	**Pg**	**13 49 53.5**	**-0.4**
SHRT				*e*Sg	**Sg**	**13 50 19.2**	**+1.8**
SHRT	**Shahrakht**	**1.81**	**36**	*e*Pn	**Pg**	**13 49 53.5**	**-0.4**
TKDS	**Koohdasht(Taba**	**2.15**	**312**	*e*Pn	**Pb**	**13 49 56.9**	**-2.1**
TPRV	**Parvadeh(Tabas**	**2.15**	**294**	*e*Pn	**Pb**	**13 49 56.7**	**-2.3**
TABS	**Tabas**	**2.17**	**313**	*e*Pn	**Pb**	**13 49 57.7**	**-1.8**
TABS	**Tabas**	**2.17**	**313**	*e*Pn	**Pb**	**13 49 57.7**	**-1.8**
CHMN	**Cheshme madani**	**2.64**	**209**	*e*Pn	**Pb**	**13 50 04.4**	**-3.1**
CHMN				*e*	**Sg**	**13 50 44.1**	**0.0**
KHGB	**Koh Gabri**	**2.83**	**231**	*e*	**Sg**	**13 50 54.3**	**+4.1**
KHGB				*e*Pn	**Pn**	**13 50 06.0**	**+0.2**
TVBK	**TV Kerman**	**2.93**	**222**	*e*Pn	**Pn**	**13 50 07.6**	**+0.4**
ZHSF	**Zahedan**	**2.97**	**149**	*e*Pn	**Pn**	**13 50 07.6**	**0.0**
ZHSF	**Zahedan**	**2.97**	**149**	*e*Pn	**Pn**	**13 50 07.6**	**0.0**
IBAF	**Bafgh**	**3.00**	**260**	*e*Pn	**Pn**	**13 50 08.5**	**+0.4**
NGRK	**Negar Kerman**	**3.21**	**219**	*e*Pn	**Pn**	**13 50 11.3**	**+0.2**
NGRK				*e*		13 50 22.8	
YZKH	**Yazd**	**3.76**	**274**	*e*Pn	**Pn**	**13 50 18.8**	**+0.3**
YZKH				IAML		13 51 23.5	
	comp=E,67nm,0.4s						
YZKH				IAML		13 51 23.6	
	comp=N,74nm,0.5s						
YZKH	**Yazd**	**3.76**	**274**	*e*Pn	**Pn**	**13 50 18.8**	**+0.3**
IMEH	**Mehriz**	**3.84**	**259**	*e*Pn	**Pn**	**13 50 20.2**	**+0.5**
IMEH				*e*	**Sg**	**13 51 22.6**	**-0.2**
ICHK	**Chekchek**	**3.92**	**272**	*e*Pn	**Pn**	**13 50 21.5**	**+0.8**

IDC 29 13:51:26.6±8.2,11.36S×162.01E,h0km,mb3.8/5, mb1 3.9/5,mb1mx3.6/23,mbtmp3.8/5,Error ellipse: s-maj=229.0km s-min=35.4km az=119.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.94**	**249**	P	P	13 57 18.5	-0.5
	0.7nm,0.8s,baz=80,slow=9.2,SNR=1.0						
ASAR	**Alice Springs**	**29.39**	**242**	P	P	13 57 32.7	+0.7
	0.3nm,0.7s,baz=62,slow=9.7,SNR=2.2						
H11S2	**WAKE ISLAND Hy 30.02**	**9**		T	T	14 28 36.2	
	baz=188,slow=76,SNR=11						
H11S3	**WAKE ISLAND Hy 30.02**	**9**		T	T	14 28 35.0	
	baz=188,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy 30.04**	**9**		T	T	14 28 30.1	
	baz=188,slow=76,SNR=10.0						
H11N1	**WAKE ISLAND Hy 31.25**	**9**		T	T	14 30 00.8	
	baz=188,slow=76,SNR=7.1						
H11N3	**WAKE ISLAND Hy 31.26**	**9**		T	T	14 30 05.2	
	baz=188,slow=76,SNR=8.3						
H11N2	**WAKE ISLAND Hy 31.27**	**9**		T	T	14 30 05.6	
	baz=188,slow=76,SNR=6.8						
USRK	**Ussuriysk Ar.**	**61.66**	**336**	P	P	14 01 47.1	+0.8
	1.8nm,0.8s,baz=148,slow=8.5,SNR=5.4						
SONM	**Songino Array**	**76.79**	**325**	P	P	14 03 19.5	-0.8
	0.9nm,0.7s,baz=136,slow=6.3,SNR=3.0						
MKAR	**Makanchi Array**	**91.26**	**317**	P	P	14 04 33.6	-0.5
	0.2nm,0.4s,baz=95,slow=4.5,SNR=2.4						

IDC 29 13:57:26.4±2.1,16.01S×174.95W,h0km,mb3.7/6, mb1 4.1/6,mb1mx3.8/21,mbtmp3.7/6,MS3.7/2,Ms1 3.7/2, ms1mx3.3/41,Error ellipse: s-maj=140.5km s-min=25.4km az=151.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**18.59**	**248**	LR	LR	14 07 47.5	
	comp=Z,290nm,18.7s,baz=62,slow=33						
HNR	**Honiara**	**25.33**	**282**	LR	LR	14 11 20.9	
	comp=Z,171nm,21.8s,baz=68,slow=33						
H11N3	**WAKE ISLAND Hy 39.73**	**333**		T	T	14 45 49.3	
	baz=153						
H11N1	**WAKE ISLAND Hy 39.73**	**333**		T	T	14 45 44.3	
	baz=153						
H11N2	**WAKE ISLAND Hy 39.75**	**333**		T	T	14 45 45.0	
	baz=153						
WRA	**Warramunga Arr**	**48.25**	**257**	P	P	14 06 09.1	-0.5
	1.1nm,0.9s,baz=94,slow=7.4,SNR=2.5						
ASAR	**Alice Springs**	**48.50**	**252**	P	P	14 06 11.4	-0.1
	0.8nm,0.7s,baz=84,slow=8.2,SNR=12						
NVAR	**Mina Array Bea**	**75.78**	**43**	P	P	14 09 14.2	-0.4
	0.1nm,0.3s,baz=230,slow=8.2,SNR=1.9						
TXAR	**Lajitas Array**	**82.19**	**57**	P	P	14 09 49.6	-0.2
	0.5nm,1.0s,baz=246,slow=3.8,SNR=3.4						
ILAR	**Eielson Array**	**83.33**	**12**	P	P	14 09 54.3	-0.6
	0.4nm,0.9s,baz=209,slow=7.3,SNR=2.2						
PDAR	**Pinedale Array**	**83.72**	**42**	P	P	14 09 58.4	+0.7
	0.4nm,0.5s,baz=252,slow=4.6,SNR=2.0						
GERES	**GERESS Array B**	**146.49**	**350**	PKPbc	PKPab	14 17 10.3	-0.4
	0.3nm,0.6s,baz=23,slow=5.3,SNR=2.0						

IDC 29 13:58:38.1±2.4,16.14S×175.00W,h0km,mb3.6/4, mb1 4.0/4,mb1mx3.7/21,mbtmp3.6/4,MS3.8/2,Ms1 3.8/2, ms1mx3.3/31,Error ellipse: s-maj=139.4km s-min=32.3km az=151.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPZ	**Rata Peaks**	**29.93**	**200**	LR	LR	14 14 39.2	
	comp=Z,247nm,21.0s,baz=28,slow=32						
JAY	**Jayapura**	**45.63**	**283**	LR	LR	14 24 55.0	
	comp=Z,63nm,18.4s,baz=334,slow=35						
WRA	**Warramunga Arr**	**48.18**	**258**	P	P	14 07 21.1	+0.4
	1.3nm,0.8s,baz=93,slow=7.9,SNR=3.5						
ASAR	**Alice Springs**	**48.42**	**253**	P	P	14 07 21.7	-0.8
	0.9nm,0.8s,baz=84,slow=8.2,SNR=1.7						
TXAR	**Lajitas Array**	**82.30**	**57**	P	P	14 11 02.0	-0.2
	0.5nm,1.0s,baz=240,slow=7.2,SNR=2.8						
ILAR	**Eielson Array**	**83.47**	**12**	P	P	14 11 07.2	-0.1
	0.2nm,0.6s,baz=216,slow=5.6,SNR=2.0						
GERES	**GERESS Array B**	**146.62**	**350**	PKPbc	PKPbc	14 18 21.6	-0.3
	0.4nm,0.6s,baz=15,slow=4.1,SNR=2.6						

IDC 29 13:58:55.2±1.4,55.30S×27.65W,h0km,mb3.5/2, mb1 3.7/2,mb1mx3.5/23,mbtmp3.5/2,Error ellipse: s-maj=111.6km s-min=38.2km az=103.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**47.31**	**183**	P	P	14 07 29.7	-0.1
	0.4nm,0.9s,baz=192,slow=9.3,SNR=2.1						
TORD	**Torodi Ar. Bea**	**72.53**	**30**	P	P	14 10 23.8	0.0
	0.5nm,0.5s,baz=194,slow=6.0,SNR=5.4						
ILAR	**Eielson Array**	**149.41**	**313**	PKPbc	PKPbc	14 18 44.1	-0.5
	0.4nm,0.7s,baz=119,slow=1.8,SNR=5.1						

*MOS **29** 14:20:36.5±1.3,55.55S×28.46W,h10km,mb5.7/17, MS5.5/18,Error ellipse: s-maj=19.4km s-min=10.9km az=115.5*
*UNK **29** 14:20:37.1,55.39S×28.02W,h10km*
*NEIC **29** 14:20:37.5,55.39S×28.04W,h6km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}4.27; $M_{\theta\theta}$-1.97; $M_{\phi\phi}$-2.30; $M_{r\theta}$-2.07; $M_{\theta\phi}$3.20; $M_{\phi r}$4.83; Fault plane solution: $M_0$7.18000×10^{17} NP1:ϕ_s116.91000°, δ24.59000°,λ56.90000°. NP2:ϕ_s332.55000°,δ69.60000°, λ104.03000°. Principal axes: T 6.8414, Plg63.0000°, Azm265.0000°; N 0.6397, Plg13.0000°, Azm148.0000°; P -7.4811, Plg23.0000°, Azm52.0000°;*
*NEIC **29** 14:20:37.2±1.6,55.41S±0.09×28.1W±0.1,h10km±1km, mb5.6/87,Ms_20 5.7/769,Mwb5.8/35,Mwc5.9(GCMT) Error ellipse: s-maj=15.4km s-min=12.9km az=207.0*
*BJI **29** 14:20:38.5±0.0,55.40S×28.20W,h25km, mB5.7/46, Ms6.0/61,Ms7 5.9/61*
*IDC **29** 14:20:41.1±1.4,55.41S×28.17W,h34km±9km,mb5.0/24, mb1 5.0/25,mb1mx5.0/30,mbtmp5.2/25,ML5.5/1,MS5.4/10, Ms1 5.4/10,ms1mx5.2/31,Error ellipse: s-maj=10.9km s-min=7.5km az=35.0*
*GCMT **29** 14:20:43.2±0.1,55.25S±0.01×27.95W±0.01,h13km, MW5.9/147,Moment Tensor Solution. s147,c301; s146,c366; Duration: 2±1 Moment tensor: Scale 10^{17} Nm; M_{rr}4.98±.08; $M_{\theta\theta}$-2.39±.07; $M_{\phi\phi}$-2.59±.07; $M_{r\theta}$-3.32±.21; $M_{\theta\phi}$4.54±.07; $M_{\phi r}$3.71±.21; Best double couple: $M_0$7.80300×10^{17} NP1:ϕ_s132.00000°,δ25.00000°, λ85.00000°. NP2:ϕ_s318.00000°,δ65.00000°,λ92.00000°. Principal axes: T 6.7810, Plg70.0000°, Azm233.0000°; N 2.0420, Plg2.0000°, Azm137.0000°; P -8.8240, Plg20.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
*NEIC **29** 14:20:44,55.30S×27.94W,h12km,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}5.16; $M_{\theta\theta}$-2.62; $M_{\phi\phi}$-2.54; $M_{r\theta}$-2.16; $M_{\theta\phi}$4.80; $M_{\phi r}$3.06; Fault plane solution: $M_0$7.55000×10^{17} NP1:ϕ_s124.00000°, δ31.00000°,λ74.00000°. NP2:ϕ_s323.00000°,δ61.00000°, λ100.00000°. Principal axes: T 6.2623, Plg73.0000°, Azm256.0000°; N 2.1251, Plg8.0000°, Azm138.0000°; P -8.3874, Plg15.0000°, Azm46.0000°;*

ISC 29 14:20:40.5±0.5,55.46S±0.04×28.21W±0.04,h31km±3km, h31km:pP-P,n963,σ2s13/722,mb5.5/69,MS5.7/365,6C-9D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.92**	**280**	P	**Pn**	**14 21 51.6**	**-0.6**
HOPE	**Hope Point**	**4.92**	**280**	Pn	**Pn**	**14 21 51.6**	**-0.6**
VNA1	**Neumayer--Stat**	**17.56**	**158**	P	**P**	**14 24 43.6**	**+0.3**
VNA3	**Neumayer Olymp**	**17.74**	**160**	P	**Pn**	**14 24 44.6**	**-0.1**
VNA2	**Neumayer--Watz**	**17.96**	**158**	P	**P**	**14 24 49.2**	**+1.5**
	baz=316,slow=13						
EFI	**East Falkland**	**18.06**	**270**	*i*P	**P**	**14 24 49.4**	**+0.5**
EFI				pmax	pmax		
	comp=Z,113nm,0.8s						
EFI				MLR	MLR		
	comp=Z,13μm,18.0s						
EFI	**East Falkland**	**18.06**	**270**		**P**	**14 24 49.5**	**+0.5**
EFI				IAmb	IAmb	14 24 54.2	
	comp=Z,446nm,1.4s						
SNAA	**Sanae**	**19.52**	**156**	P	**P**	**14 25 05.8**	**+0.9**
SNAA	**Sanae**	**19.52**	**156**	P	**P**	**14 25 03.8**	**-1.1**
	comp=Z,13nm,0.3s,baz=306,slow=10,SNR=132						
SNAA				S	**S**	**14 28 37.6**	**-5.7**
	baz=150,slow=1.6,SNR=1.1						
SNAA				PcP	**PcP**	**14 29 25.9**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=236,slow=21,SNR=1.9						
SNAA				LR	LR	14 31 14.5	
	comp=Z,5μm,19.5s,baz=316,slow=32						
SNAA				ScP	**ScP**	**14 32 57.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=149,slow=0.7,SNR=9.5						
SNAA	**Sanae**	**19.52**	**156**	P	**P**	**14 25 03.8**	**-1.1**
SNAA				S	**S**	**14 28 37.6**	**-5.7**
SNAA				pmax	pmax		
	comp=Z,136nm,0.9s						
SNAA	**Sanae**	**19.52**	**156**	P	**P**	**14 25 03.8**	**-1.1**
PMSA	**Palmer Station**	**19.86**	**228**	P	**Pn**	**14 25 11.8**	**+1.5**
	comp=Z,5.6nm,0.3s,baz=63,slow=8.1,SNR=18						
PMSA				LR	LR	14 31 31.2	
	comp=Z,13μm,19.3s,baz=58,slow=33						
PMSA	**Palmer Station**	**19.86**	**228**	P	**P**	**14 25 08.9**	**+0.3**
PMSA				IAmb	IAmb	14 25 18.4	
	comp=Z,281nm,0.9s						
PMSA	**Palmer Station**	**19.86**	**228**	*e*P	**Pn**	**14 25 12.2**	**+1.9**
PMSA	**Palmer Station**	**19.86**	**228**	*e*P	**Pn**	**14 25 12.2**	**+1.9**
TRIS	**Tristan da Cun**	**21.33**	**37**	P	**P**	**14 25 22.6**	**-2.1**
TRIS				IAmb	IAmb	14 25 39.0	
	comp=Z,436nm,1.5s						
MG01	**Puerto William**	**22.30**	**255**	P	**P**	**14 25 35.8**	**+0.9**
MG01				IAmb	IAmb	14 25 38.7	
	comp=Z,180nm,0.8s						
USHA	**Ushuaia**	**22.78**	**255**	P	**P**	**14 25 39.0**	**-1.0**
	comp=Z,23nm,0.9s,baz=242,slow=6.5,SNR=1.9						
USHA				S	**S**	**14 29 46.9**	**+0.2**
	comp=Z,17nm,0.8s,baz=64,slow=2.2,SNR=1.4						
USHA				LR	LR	14 32 16.6	
	comp=Z,12μm,19.6s,baz=112,slow=30						
USHA				P3KP		15 00 10.3	
	comp=Z,43nm,0.5s,baz=166,slow=0.3,SNR=5.7						
NVL	**N'lazarevskaya**	**23.07**	**147**	*e*P	**P**	**14 25 48.8**	**+5.9**
NVL				*e*S	**S**	**14 29 42.9**	**-8.6**
NVL				pmax	pmax		
	comp=Z,15nm,0.6s						
NVL				MLR	MLR		
	comp=Z,14μm,16.0s						
GO10	**Punta Arenas**	**24.81**	**257**	P	**P**	**14 26 00.6**	**+1.1**
LPA	**La Plata**	**28.98**	**303**	*e*P	P	14 26 26.0	-11
LPA				S	**S**	**14 31 27.9**	**+2.0**
LPA				SSS	SSS	14 33 08.4	
LPA				PKIKP	**PKiKP**	**14 37 18.7**	**-0.2**
LPA				SKIKS		14 40 48.8	
COYC	**Coyhaique**	**29.14**	**271**	P	**P**	**14 26 38.6**	**+0.3**
PLTB	**Pedras Altas**	**29.67**	**312**	*e*P	**P**	**14 26 44.3**	**+1.1**
PLTB	**Pedras Altas**	**29.67**	**312**	*e*P	**P**	**14 26 44.3**	**+1.1**
LL01	**San Ignacio de**	**31.29**	**276**	P	**P**	**14 26 57.5**	**+0.1**
PLCA	**Paso Flores**	**31.33**	**280**	P	**P**	**14 26 56.7**	**-1.1**
	comp=Z,9.0nm,1.0s,baz=133,slow=9.0,SNR=12						
PLCA				PcP	**PcP**	**14 29 52.6**	**+1.5**
	comp=Z,6.2nm,0.9s,baz=169,slow=9.8,SNR=3.0						
PLCA	**Paso Flores**	**31.33**	**280**	P	**P**	**14 26 57.8**	**-0.1**
SYO	**Syowa Base**	**32.41**	**142**	*i*P	**P**	**14 27 05.4**	**-1.5**
SYO	**Syowa Base**	**32.41**	**142**	*i*pP	**P**	**14 27 07.2**	**+0.3**
SYO	**Syowa Base**	**32.41**	**142**	*i*PP	PP	14 28 15.0	-5.2
PARB	**Paraibuna**	**34.58**	**331**	*e*P	**P**	**14 27 26.8**	**+0.4**
PARB	**Paraibuna**	**34.58**	**331**	*e*P	**P**	**14 27 26.8**	**+0.4**
BI02	**San Fabin de**	**34.59**	**285**	P	**P**	**14 27 26.0**	**-0.4**
MAN01	**Angra dos Reis**	**34.60**	**334**	*e*P	**P**	**14 27 26.7**	**+0.2**
MAN01	**Angra dos Reis**	**34.60**	**334**	*e*P	**P**	**14 27 26.7**	**+0.2**
QSPA	**South Pole Qui**	**34.79**	**180**	S	**S**	**14 32 56.8**	**+0.6**
	comp=Z,3.5nm,1.0s,baz=30,slow=21,SNR=1.2						
QSPA				ScP	**ScP**	**14 33 43.7**	**+0.4**
	comp=Z,3.2nm,0.7s,baz=268,slow=22,SNR=2.5						
QSPA	**South Pole Qui**	**34.79**	**180**	P	**P**		
QSPA	**South Pole Qui**	**34.79**	**180**	IAMs_20	IAMs_20	**14 27 28.1**	**+0.2**
	comp=Z,11μm,18.0s					14 42 48.9	
SPB	**Sao Paulo**	**34.87**	**328**	P	**P**	**14 27 28.2**	**-0.5**
SPB	**Sao Paulo**	**34.87**	**328**	*e*P	**P**	**14 27 29.8**	**+1.1**
SPB	**Sao Paulo**	**34.87**	**328**	*e*P	**P**	**14 27 29.8**	**+1.1**
VAO	**Valinhos**	**35.28**	**329**	*e*P	**P**	**14 27 32.2**	**-0.2**
VAO	**Valinhos**	**35.28**	**329**	*e*P	**P**	**14 27 32.2**	**-0.2**
PTGB	**Pitanga**	**35.36**	**321**	*e*P	**P**	**14 27 33.7**	**+0.6**
PTGB	**Pitanga**	**35.36**	**321**	*e*P	**P**	**14 27 33.7**	**+0.6**
BO02	**Sierra Bellavi**	**35.70**	**287**	P	**P**	**14 27 36.2**	**+0.3**
FRTB	**Fartura**	**35.77**	**325**	*e*P	**P**	**14 27 37.5**	**+0.9**
FRTB	**Fartura**	**35.77**	**325**	*e*P	**P**	**14 27 37.5**	**+0.9**
CPUP	**Villa Florida**	**35.99**	**312**	P	**P**	**14 27 37.2**	**-1.2**
	comp=Z,72nm,1.1s,baz=152,slow=8.9,SNR=36						
CPUP				PcP	**PcP**	**14 30 04.8**	**+0.3**
	comp=Z,6.6nm,0.8s,baz=116,slow=6.0,SNR=2.2						
CPUP				S	**S**	**14 33 10.3**	**-4.5**
	comp=Z,1.3nm,0.7s,baz=41,slow=16,SNR=0.8						
CPUP				ScP	**ScP**	**14 33 49.0**	**+0.9**
	comp=Z,14nm,1.2s,baz=111,slow=4.8,SNR=4.8						
CPUP				SS	**SS**	**14 35 50.5**	**-1.8**
	comp=Z,1.5nm,0.8s,baz=242,slow=14,SNR=1.3						
CPUP	**Villa Florida**	**35.99**	**312**	P	**P**	**14 27 37.8**	**-0.5**
CPUP				IAmb	IAmb	14 27 41.1	
	comp=Z,149nm,1.2s						
GO05	**Huala**	**36.16**	**286**	P	**P**	**14 27 39.1**	**-0.7**
BSCB	**Bom Sucesso**	**36.59**	**333**	*e*P	**P**	**14 27 44.3**	**+0.6**
BSCB	**Bom Sucesso**	**36.59**	**333**	*e*P	**P**	**14 27 44.3**	**+0.6**
MT01	**Popeta**	**36.65**	**288**	P	**P**	**14 27 43.3**	**-0.7**
MT01				IAmb	IAmb	14 27 47.4	
	comp=Z,188nm,1.5s						
MT05	**Renca**	**36.73**	**289**	P	**P**	**14 27 44.7**	**-0.1**
MT05				IAmb	IAmb	14 27 49.5	
	comp=Z,179nm,1.3s						
CFA	**Coronel Fontan**	**36.80**	**294**	P	**P**	**14 27 44.4**	**-0.9**
	comp=Z,72nm

AC04	Llanos de Chal	40.98	294	P		P		14 28 20.0	-0.3	
VA04	Juan Fernndez	41.00	281	P		P		14 28 21.1	+0.7	
VA04				IAmb		IAmb		14 28 23.5		
	comp=Z,165nm,1.5s									
GO03	Copiap	41.04	295	P		P		14 28 20.9	+0.1	
SUR	Sutherland	41.05	77	P		P		14 28 20.7	-0.4	
	comp=Z,33nm,0.8s,baz=223,slow=6.7,SNR=3.7									
SUR				S		S		14 34 31.8	+0.2	
	comp=Z,5.6nm,1.0s,baz=225,slow=3.3,SNR=1.8									
SUR				SS		SS		14 37 35.2	+0.9	
	comp=Z,2.8nm,0.9s,baz=236,slow=20,SNR=1.0									
SUR				LR		LR		14 42 04.5		
	comp=Z,10µm,19.8s,baz=216,slow=31									
SUR	Sutherland	41.05	77	P		P		14 28 19.8	-1.3	
SUR	Sutherland	41.05	77	IAMs_20		IAMs_20		14 41 45.9		
	comp=Z,11µm,20.0s									
AC02	Maricunga	41.09	297	P		P		14 28 21.6	-0.2	
AC02				IAmb		IAmb		14 28 26.4		
	comp=Z,109nm,1.1s									
C2SB	Chapadao do Su	41.11	323	eP		P		14 28 22.3	+0.9	
C2SB	Chapadao do Su	41.11	323	eP		P		14 28 22.3	+0.9	
JANB	Januaria	42.19	336	eP		P		14 28 30.2	-0.1	
JANB	Januaria	42.19	336	eP		P		14 28 30.2	-0.1	
AC01	Pan de Azucar	42.41	296	P		P		14 28 32.4	+0.4	
AC01				IAmb		IAmb		14 28 35.5		
	comp=Z,171nm,1.1s									
BDFB	Brasilia	42.56	331	P		P		14 28 33.3	-0.2	
	comp=Z,15nm,0.8s,baz=161,slow=5.1,SNR=27									
BDFB				S		S		14 34 52.1	-1.9	
	comp=Z,0.8nm,0.4s,baz=14,slow=24,SNR=1.1									
BDFB	Brasilia	42.56	331	P		P		14 28 32.7	-0.7	
BDFB				S		S		14 34 52.1	-1.9	
BDFB				pmax		pmax				
	comp=Z,25nm,1.0s									
BDFB				MLR		MLR				
	comp=Z,11µm,18.0s									
BDFB	Brasilia	42.56	331	P		P		14 28 32.7	-0.7	
BDFB	Brasilia	42.56	331	IAMs_20		IAMs_20		14 45 14.1		
	comp=Z,11µm,18.0s									
GO02	Mina Guanaco	42.71	298	P		P		14 28 34.2	-0.6	
SHEL	Horse Pasture	43.04	33	IAMs_20		IAMs_20		14 47 22.4		
	comp=Z,8µm,18.0s									
ARAG	Araguaiana, MT	43.63	326	eP		P		14 28 42.5	+0.6	
ARAG	Araguaiana, MT	43.63	326	eP		P		14 28 42.5	+0.6	
PB15	IPOC Station P	44.27	300	P		P		14 28 47.5	+0.2	
LVC	Limon Verde	44.50	301	P		P		14 28 51.1	+1.7	
	comp=Z,84nm,0.8s,baz=162,slow=5.6,SNR=50									
LVC				PcP		PP		14 30 34.7	+1.4	
	comp=Z,11nm,0.6s,baz=88,slow=22,SNR=1.6									
LVC				S		S		14 35 21.4	-1.4	
	comp=Z,3.5nm,0.9s,baz=209,slow=4.1,SNR=2.2									
LVC	Limon Verde	44.50	301	P		P		14 28 49.2	-0.1	
LVC	Limon Verde	44.50	301	eP		P		14 28 51.0	+1.6	
LVC	Limon Verde	44.50	301	eP		P		14 28 51.0	+1.6	
PB10	IPOC Station P	44.56	298	P		P		14 28 48.8	-0.6	
PB10				IAmb		IAmb		14 28 53.8		
	comp=Z,52nm,0.9s									
PB06	IPOC Station P	44.75	300	P		P		14 28 50.3	-0.7	
PB06				IAmb		IAmb		14 28 54.1		
	comp=Z,68nm,1.1s									
SALV	Santo Antonio	44.77	321	eP		P		14 28 51.2	+0.2	
SALV	Santo Antonio	44.77	321	eP		P		14 28 51.2	+0.2	
PB04	IPOC Station P	45.35	300	P		P		14 28 55.2	-0.6	
PB04				IAmb		IAmb		14 29 05.3		
	comp=Z,104nm,1.1s									
PB09	IPOC Station P	45.35	301	P		P		14 28 56.2	+0.3	
PB07	IPOC Station P	45.73	300	P		P		14 28 59.4	+0.6	
PB07				IAmb		IAmb		14 29 02.6		
	comp=Z,96nm,1.1s									
PEXB	Peixe	46.02	332	eP		P		14 29 01.3	+0.4	
PEXB	Peixe	46.02	332	eP		P		14 29 01.3	+0.4	
PB01	IPOC Station P	46.11	301	P		P		14 29 01.7	0.0	
BOSA	Boshof	46.39	77	P		P		14 29 02.3	-1.7	
	comp=Z,35nm,0.8s,baz=214,slow=7.0,SNR=54									
BOSA				S		S		14 35 44.2	-5.3	
	comp=Z,3.0nm,0.9s,baz=136,slow=12,SNR=2.4									
BOSA	Boshof	46.39	77	iP		P		14 29 01.8	-2.2	
BOSA	Boshof	46.39	77	iP		P		14 29 01.8	-2.2	
BOSA	Boshof	46.39	77	iP		P		14 29 01.8	-2.2	
BOSA	Boshof	46.39	77	P		P		14 29 02.1	-1.9	
BOSA				IAmb		IAmb		14 29 07.4		
	comp=Z,50nm,0.9s									
PTLB	Pontes e Lacer	46.47	317	eP		P		14 29 04.0	-0.5	
PTLB	Pontes e Lacer	46.47	317	eP		P		14 29 04.0	-0.5	
PB08	IPOC Station P	46.72	302	P		P		14 29 07.0	+0.1	
SIV	San Ignacio	46.75	314	P		P		14 29 06.2	-0.6	
	comp=Z,13nm,0.7s,baz=164,slow=7.3,SNR=73									
SIV				LR		LR		14 47 40.4		
	comp=Z,3µm,21.0s,baz=168,slow=35									
TA01	Diego Aracena	46.85	301	P		P		14 29 08.2	+0.7	
TA01				IAmb		IAmb		14 29 11.2		
	comp=Z,47nm,0.9s									
VNDA	Vanda	47.14	183	P		P		14 29 09.6	+0.6	
	comp=Z,50nm,1.0s,baz=188,slow=6.4,SNR=68									
VNDA				S		S		14 35 57.4	-1.4	
	comp=Z,0.9nm,1.0s,baz=240,slow=8.8,SNR=1.4									
VNDA				PKPPKP		P'P'df		15 00 29.0	-5.6	
	comp=Z,0.2nm,0.3s,baz=321,slow=5.0,SNR=6.0									
VNDA	Vanda	47.14	183	P		P		14 29 09.4	+0.4	
GO01	Chusmiza	47.14	303	P		P		14 29 10.2	-0.1	
PB11	IPOC Station P	47.28	302	P		P		14 29 10.5	-0.5	
H10S2	ASCENSION HYDR	47.61	18	T		T		15 21 14.8		
	baz=30,slow=74,SNR=15									
H10S3	ASCENSION HYDR	47.61	18	T		T		15 21 14.1		
	baz=190,slow=74,SNR=63									
PSGCX	Pisagua	47.65	302	P		P		14 29 13.3	-0.5	
PSGCX				IAmb		IAmb		14 29 16.6		
	comp=Z,66nm,1.0s									
MNMC	Minye Minye	47.79	302	P		P		14 29 14.3	-0.8	
CRZF	Crozet Islands	48.58	115	IAMs_20		IAMs_20		14 46 52.3		
	comp=Z,9µm,20.0s									
PB12	IPOC Station P	48.59	302	P		P		14 29 21.1	+0.1	
PB12				IAmb		IAmb		14 29 26.2		
	comp=Z,63nm,1.1s									
ASCN	Ascension	48.66	18	IAMs_20		IAMs_20		14 48 55.9		
	comp=Z,6µm,19.0s									
H10N1	ASCENSION HYDR	48.73	18	T		T		15 22 37.8		
	baz=189,slow=76,SNR=20									
H10N3	ASCENSION HYDR	48.73	18	T		T		15 22 37.2		
	baz=189,slow=76,SNR=37									
H10N2	ASCENSION HYDR	48.74	18	T		T		15 22 44.5		
	baz=189,slow=76,SNR=32									
SMTB	Santa Maria do	48.95	334	eP		P		14 29 24.0	+0.3	
SMTB	Santa Maria do	48.95	334	eP		P		14 29 24.0	+0.3	
VILB	Vilhena	49.16	317	eP		P		14 29 25.3	-0.1	
VILB	Vilhena	49.16	317	eP		P		14 29 25.3	-0.1	
CLDB	Colider	49.46	323	eP		P		14 29 26.7	-1.0	
CLDB	Colider	49.46	323	eP		P		14 29 26.7	-1.0	
LPAZ	La Paz	49.56	306	P		P		14 29 29.3	+0.2	
	comp=Z,55nm,0.7s,baz=149,slow=5.5,SNR=195									
LPAZ				PcP		PcP		14 30 51.6	+1.0	
	comp=Z,12nm,0.7s,baz=153,slow=10,SNR=1.2									
LPAZ				S		S		14 36 36.5	+1.1	
	comp=Z,0.7nm,0.7s,baz=172,slow=9.3,SNR=1.4									
LPAZ				PKP2ab				15 01 20.3		
	comp=Z,0.8nm,0.5s,baz=159,slow=4.7,SNR=5.6									
LPAZ	La Paz	49.56	306	P		P		14 29 28.8	-0.3	
LPAZ				IAmb		IAmb		14 29 32.3		
	comp=Z,73nm,0.9s									
LPAZ	La Paz	49.56	306	eP		P		14 29 29.5	+0.4	
LPAZ	La Paz	49.56	306	eP		P		14 29 29.5	+0.4	
TSUM	Tsumeb	49.91	62	P		P		14 29 29.5	-1.6	
	comp=Z,26nm,0.8s,baz=194,slow=7.8,SNR=40									
TSUM				S		S		14 36 34.8	-4.6	
	comp=Z,1.9nm,1.1s,baz=178,slow=14,SNR=1.7									
TSUM	Tsumeb	49.91	62	P		P		14 29 29.4	-1.8	
TSUM				IAmb		IAmb		14 29 34.9		
	comp=Z,40nm,0.9s									
TSUM	Tsumeb	49.91	62	IAMs_20		IAMs_20		14 49 27.6		
	comp=Z,6µm,18.0s									
PRPB	Paraupebas	52.10	332	eP		P		14 29 48.1	+0.6	
PRPB	Paraupebas	52.10	332	eP		P		14 29 48.1	+0.6	
NPGB	Novo Progresso	52.90	325	eP		P		14 29 53.3	-0.2	
NPGB	Novo Progresso	52.90	325	eP		P		14 29 53.3	-0.2	
ROSB	Rosrio	53.96	340	eP		P		14 30 01.1	-0.2	
ROSB	Rosrio	53.96	340	eP		P		14 30 01.1	-0.2	
SAML	Samuel	53.98	316	P		P		14 30 00.0	-1.3	
SAML				pmax		pmax				
	comp=Z,79nm,1.2s									
SAML	Samuel	53.98	316	P		P		14 29 60.0	-1.3	
SAML				IAmb		IAmb		14 30 09.5		
	comp=Z,79nm,1.2s									
SAML	Samuel	53.98	316	eP		P		14 30 01.4	+0.1	
SAML	Samuel	53.98	316	eP		P		14 30 01.4	+0.1	
CASY	Casey	54.66	161	P		P		14 30 05.1	-0.6	
CASY				IAmb		IAmb		14 30 12.4		
	comp=Z,71nm,1.1s									
MATP	Matopo	54.66	74	iP		P		14 29 57.4	-9.1	
MATP	Matopo	54.66	74	iP		P		14 29 57.4	-9.1	
MATP	Matopo	54.66	74	iP		P		14 29 57.4	-9.1	
ITZ	Itezhi-Tezhi	57.16	68	eP		P		14 30 27.6	+3.2	
ITZ				e				14 38 29.0		
ITZ				Lg		Lg		14 46 23.0		
NNA	Nana	57.46	299	iP		P		14 30 28.0	+1.6	
NNA				pmax		pmax				
	comp=Z,153nm,1.4s									
NNA				MLR		MLR				
	comp=Z,4µm,17.0s									
MALB	Monte Alegre	57.46	329	eP		P		14 30 26.9	+0.6	
MALB	Monte Alegre	57.46	329	eP		P		14 30 26.9	+0.6	
LSZ	Lusaka	58.71	70	P		P		14 30 33.4	-1.9	
	comp=Z,9.6nm,0.7s,baz=198,slow=10,SNR=6.6									
LSZ	Lusaka	58.71	70	P		P		14 30 33.2	-2.0	
LSZ				pmax		pmax				
	comp=Z,23nm,1.0s									
LSZ	Lusaka	58.71	70	P		P		14 30 33.2	-2.0	
PTGA	Pitinga	60.35	323	P		P		14 30 45.4	-1.0	
PTGA				LR		LR		14 56 23.7		
	comp=Z,4µm,20.0s,baz=151,slow=36									
PTGA	Pitinga	60.35	323	P		P		14 30 45.5	-0.9	
PTGA				IAMs_20		IAMs_20		14 56 52.7		
	comp=Z,6µm,18.0s									
PTGA	Pitinga	60.35	323	eP		P		14 30 46.3	-0.1	
PTGA	Pitinga	60.35	323	eP		P		14 30 46.3	-0.1	
FOMA	Nahampoana Res	61.49	93	IAMs_20		IAMs_20		14 51 45.0		
	comp=Z,6µm,21.0s									
ATAH	Atahualpa	62.40	301	S		S		14 39 30.1	+4.4	
	comp=Z,2.2nm,0.5s,baz=100,slow=18,SNR=1.1									
MDP	Montagnes des	63.64	333	P		P		14 31 07.8	-0.7	
	comp=Z,12nm,0.8s,baz=169,slow=8.7,SNR=5.9									
MDP				S		S		14 39 41.4	+1.0	
	comp=Z,26nm,1.3s,baz=5.2,slow=1.8,SNR=2.1									
MDP				LR		LR		14 57 38.1		
	comp=Z,6µm,18.2s,baz=148,slow=35									
LIC	Lamto	64.41	26	eP		P		14 31 12.4	-1.0	
	comp=Z,97nm,1.0s									
KIC	Kosan Boka	64.61	26	eP		P		14 31 13.2	-1.6	
	comp=Z,130nm,1.4s									
TIC	Toumodi	64.81	26	eP		P		14 31 14.4	-1.7	
DBIC	Dimbokro	64.88	26	P		P		14 31 15.7	-0.9	
	comp=Z,20nm,0.7s,baz=167,slow=7.8,SNR=18									
DBIC				S		S		14 39 51.5	-4.2	
	comp=Z,2.7nm,0.9s,baz=251,slow=23,SNR=0.9									
DBIC				ScS		ScS		14 41 12.4	+3.6	
	comp=Z,7.8nm,1.1s,baz=145,slow=16,SNR=1.9									
DBIC				PKPPKP		P'P'df		15 00 02.9	+6.7	
	comp=Z,10nm,1.0s,baz=38,slow=6.8,SNR=3.2									
DBIC	Dimbokro	64.88	26	P		P		14 31 15.1	-1.4	
DBIC				IAmb		IAmb		14 31 18.5		
	comp=Z,24nm,0.8s									
PUAC	Puerto Asis, P	68.25	306	eP		P		14 31 39.3	+1.2	
GUVC	San Jose del G	68.27	311	eP		P		14 31 36.3	-2.0	
MACC	Macarena, Meta	68.44	310	eP		P		14 31 38.3	-1.1	
GCUF	Volcan Galeras	69.20	306	eP		P		14 31 46.8	+2.1	
GARC	Garzon, Huila	69.21	308	eP		P		14 31 44.9	+0.5	
CRUC	La Cruz	69.32	307	eP		P		14 31 47.9	+2.6	
BETC	Betania	69.63	309	eP		P		14 31 47.1	+0.4	
SOTA	Rioblanco	69.67	307	eP		P		14 31 48.7	+1.2	
PCON	Cinco Dias	69.74	307	eP		P		14 31 49.9	+1.9	
BBAC	Balboa, Cauca	69.86	307	eP		P		14 31 49.2	+0.9	
MARP	Paez Belalcaza	70.00	308	eP		P		14 31 47.5	-1.8	
VILC	Villavicencio,	70.14	311	eP		P		14 31 50.5	+0.5	
MBO	M'Bour	70.23	12	IAMs_20		IAMs_20		15 08 32.1		
	comp=Z,4µm,18.0s									
PRAC	Prado	70.30	310	eP		P		14 31 49.0	-1.8	
CHIC	Chingaza	70.62	311	eP		P		14 31 53.3	0.0	
ORTC	Ortega, Tolima	70.63	309	eP		P		14 31 52.5	-0.3	
ROSC	El Rosal	71.06	311	P		P		14 31 56.7	+0.8	
	comp=Z,27nm,0.9s,baz=155,slow=4.2,SNR=12									
ROSC	El Rosal	71.06	311	eP		P		14 31 57.0	+1.1	
ROSC	El Rosal	71.06	311	P		P		14 31 54.6	-1.2	
ROSC				IAmb		IAmb		14 31 58.5		
	comp=Z,41nm,0.9s									
YOTC	Yotoco, Valle	71.19	308	eP		P		14 31 55.5	-0.8	
ANIL	Santa Ana	71.22	309	eP		P		14 31 56.6	-0.2	
TOLC	Tolima	71.27	310	eP		P		14 31 53.8	-3.3	
TAMC	Tame, Arauca	71.43	314	eP		P		14 31 58.8	+1.1	
RUSC	La Rusia	71.47	312	eP		P		14 31 57.1	-1.4	
RUSC	La Rusia	71.47	312	P		P		14 31 57.0	-1.4	
RREF	El Recreo	71.56	310	eP		P		14 31 59.5	+0.3	
SPBC	San Pablo de B	71.68	311	eP		P		14 31 57.9	-1.3	
TOSP	Speyside	71.81	326	P		P		14 31 58.7	-1.2	
GUY2C	Guyana, Caldas	71.86	310	eP		P		14 32 00.3	-0.5	
PLCV	Puerto La Cruz	72.10	322	P		P		14 32 02.5	+0.9	
PCRV	Puerto La Cruz	72.13	322	P		P		14 32 02.5	+0.7	
	comp=Z,46nm,0.9s,baz=131,slow=4.0,SNR=18									
BARC	Barichara	72.15	312	eP		P		14 32 00.2	-2.1	
MBAR	Mbarara	72.40	64	S		S		14 41 28.4	+2.9	
	comp=Z,1.5nm,0.2s,baz=122,slow=23,SNR=1.3									
MBAR				LR		LR		14 59 27.9		
	comp=Z,2µm,22.0s,baz=250,slow=32									
PTBC	PUERTO BERRIO,	72.64	311	eP		P		14 32 01.7	-3.2	
CBOC	Ciudad Bolivar	72.71	309	eP		P		14 32 04.0	-1.5	
HELC	Santa Helena	72.79	310	eP		P		14 32 04.0	-2.2	
TOA0	Torodi Ar. Sit	72.83	31	P		P		14 32 04.7	-1.3	
TOA0				IAmb		IAmb		14 32 06.9		
	comp=Z,42nm,0.7s									
TORD	Torodi Ar. Bea	72.83	31	P		P		14 32 05.0	-0.9	
	comp=Z,42nm,0.7s,baz=201,slow=6.0,SNR=153									
TORD				S		S		14 41 24.9	-4.9	
	comp=Z,0.2nm,0.4s,baz=136,slow=35,SNR=1.5									
SDV	Santo Domingo	73.18	316	P		P		14 32 07.6	-0.7	
SDV				IAmb		IAmb		14 32 10.6		
	comp=Z,60nm,0.9s									
ZARC	Zaragoza, Cauc	73.67	311	eP		P		14 32 08.7	-2.3	
DBBC	Dabeiba	73.83	310	eP		P		14 32 11.0	-1.0	
PAYG	Puerto Ayora	73.96	293	IAMs_20		IAMs_20		15 08 58.1		
	comp=Z,3µm,18.0s									
UREC	San Jos de Ur	74.19	311	eP		P		14 32 11.1	-2.9	
SMLC	San Martn de	74.51	313	eP		P		14 32 12.9	-2.9	
PTAC	Punta Ardita,	74.65	308	eP		P		14 32 16.7	+0.1	
KMBO	Kilima Mbogo	75.37	70	P		P		14 32 25.1	+3.9	
	comp=Z,0.4nm,0.3s,baz=46,slow=23,SNR=1.6									
KMBO				S		S		14 42 02.9	+3.8	
	comp=Z,0.4nm,0.3s,baz=226,slow=22,SNR=1.7									
KMBO	Kilima Mbogo	75.37	70	P		P		14 32 25.2	+3.9	
KMBO				S		S		14 42 02.9	+3.8	
KMBO				pmax		pmax				
	comp=Z,11nm,1.5s									
ARGC	Ariguani, Magd	75.53	313	eP		P		14 32 21.6	-0.2	
HATO	Hato, Curacao	75.55	319	IAMs_20		IAMs_20		15 03 51.4		
	comp=Z,5µm,22.0s									
SJCC	San Jacinto, C	75.96	312	eP		P		14 32 15.3	-9.0	
SMRC	Santa Marta, M	76.70	313	eP		P		14 32 23.9	-4.5	
WHZ	Wether Hill Ro	78.10	191	P		P		14 32 36.6	+0.6	
WHZ				IAmb		IAmb		14 32 50.8		
	comp=Z,105nm,1.5s									
SKI	Saint Kitts	78.18	326	P		P		14 32 35.9	-0.7	
SKI				pmax		pmax				
	comp=Z,105nm,1.0s									
SKI	Saint Kitts	78.18	326	P		P		14 32 35.9	-0.7	
ANWB	Willy Bob	78.20	327	P		P		14 32 36.3	-0.4	
SABA	Saba	78.61	326	IAMs_20		IAMs_20		15 11 42.6		
	comp=Z,3µm,19.0s									
SMRT	St. Maarten	78.96	326	IAMs_20		IAMs_20		15 10 20.8		
	comp=Z,3µm,18.0s									
CDVI	St. Croix	79.23	325	P		P		14 32 40.4	-1.9	
CDVI				IAmb		IAmb		14 32 43.0		
	comp=Z,57nm,0.9s									
LBZ	Lake Benmore	79.31	193	IAMs_20		IAMs_20		15 11 39.0		
	comp=Z,4µm,20.0s									
MQZ	McQueen's Vall	79.63	195	IAMs_20		IAMs_20		15 14 19.6		
	comp=Z,4µm,19.0s									
MTP	Monte Pirata	79.81	324	P		P		14 32 45.0	-0.4	
MTP				IAmb		IAmb		14 32 47.9		
	comp=Z,78nm,1.4s									
RPZ	Rata Peaks	79.85	194	IAMs_20		IAMs_20		15 13 30.4		
	comp=Z,4µm,21.0s									
CUPR	Culebra, Puert	79.92	324	P		P		14 32 45.5	-0.5	
CUPR				IAmb		IAmb		14 32 49.5		
	comp=Z,71nm,1.1s									
SJG	San Juan	80.02	324	P		P		14 32 46.5	-0.1	
	comp=Z,22nm,1.0s,baz=29,slow=4.0,SNR=4.2									
SJG				S		S		14 42 43.3	-5.1	
	comp=Z,4.4nm,0.7s,baz=343,slow=13,SNR=1.1									
SJG	San Juan	80.02	324	IAMs_20		IAMs_20		15 12 12.1		
	comp=Z,3µm,20.0s									
SJG	San Juan	80.02	324	IAmb		IAmb		14 32 50.5		
	comp=Z,25nm,1.0s									
CBYP	Canovanas	80.07	324	P		P		14 32 46.6	-0.3	
GCPR	Guaynabo City	80.18	324	P		P		14 32 47.5	0.0	
GCPR				IAmb		IAmb		14 32 49.5		
	comp=Z,104nm,1.2s									
LTZ	Lake Taylor	80.59	195	P		P		14 32 49.2	-0.5	
LTZ				IAmb		IAmb		14 32 57.4		
	comp=Z,51nm,1.0s									
LTZ				IAMs_20		IAMs_20		15 12 24.5		
	comp=Z,4µm,19.0s									
JTS	Las Juntas de	80.70	304	S		S		14 42 54.2	-1.7	
	comp=Z,2.6nm,0.7s,baz=18,slow=19,SNR=1.4									
JTS	Las Juntas de	80.70	304	P		P		14 32 50.5	+0.1	
JTS				S		S		14 42 54.2	-1.7	
JTS				pmax		pmax				
	comp=Z,139nm,1.5s									
JTS	Las Juntas de	80.70	304	P		P		14 32 50.5	+0.1	
THZ	Tophouse	81.50	196	IAMs_20		IAMs_20		15 15 26.9		
	comp=Z,4µm,20.0s									
SNZO	South Karori	81.64	197	IAMs_20		IAMs_20		15 05 19.0		
	comp=Z,4µm,20.0s									
SDD	Santo Domingo	81.66	320	IAMs_20		IAMs_20		15 11 22.9		
	comp=Z,5µm,20.0s									
NNZ	Nelson	81.95	196	IAMs_20		IAMs_20		15 14 42.1		
	comp=Z,5µm,21.0s									
BFZ	Birch Farm	81.98	199	IAMs_20		IAMs_20		15 13 54.1		
	comp=Z,5µm,21.0s									
ACON	Acoyapa	82.27	304	P		P		14 32 57.5	-1.2	
ACON				IAmb		IAmb		14 33 00.9		
	comp=Z,41nm,0.9s									
MOO	Moorlands	82.39	177	P		P		14 33 00.1	+1.0	
	baz=82,SNR=3.2									
SDDR	Presa de Saban	82.65	319	P		P		14 32 59.8	-0.8	
SDDR				IAmb		IAmb		14 33 12.6		
	comp=Z,44nm,1.2s									
SDDR				IAMs_20		IAMs_20		15 13 07.6		
	comp=Z,3µm,20.0s									
TAM	Tamanrasset	83.08	31	P		P		14 33 02.5	-0.4	
TAM				pmax		pmax				
	comp=Z,32nm,1.2s									
TAM	Tamanrasset	83.08	31	P		P		14 33 02.5	-0.4	
TAM				IAMs_20		IAMs_20		15 17 13.8		
	comp=Z,5µm,20.0s									
BKZ	Black Stump Fm	83.41	199	IAMs_20		IAMs_20		15 16 26.9		
	comp=Z,4µm,19.0s									
MATN	Matagalpa	83.46	304	P		P		14 33 04.4	-0.6	
MATN				IAmb		IAmb		14 33 19.6		
	comp=Z,55nm,1.0s									
CRIN	San Cristobal	83.80	303	P		P		14 33 06.7	0.0	
MTDJ	Mount Denham	84.42	314	IAMs_20		IAMs_20		15 13 46.6		
	comp=Z,3µm,19.0s									
GRTK	Grand Turk	84.91	320	IAMs_20		IAMs_20		15 13 29.8		
	comp=Z,2µm,19.0s									
GTBY	Guantanamo Bay	84.97	316	IAMs_20		IAMs_20		15 09 33.2		
	comp=Z,3µm,22.0s									
ANKE	Ethiopia-Afar	85.71	66	eP		P		14 33 20.8	+4.0	
TBI	Tubuai	87.00	232	ePP		PP		14 36 40.2	-5.2	
	comp=Z,140nm,27.0s									
TBI				eS		SKSac		14 43 54.6	+7.1	
	comp=Z,1µm,27.5s									
TBI	Tubuai	87.00	232	eLR		LR		15 00 55.2		
	comp=Z,4µm,31.

	comp=Z,3µm,20.0s								
PSBE	**So Bento**	**96.05**	**15**	*e*P	**P**	**14 34 06.3**	**+2.2**		
PSBE	**So Bento**	**96.05**	**15**	*e*SKSac	**SKSac**	**14 44 47.7**	**+10**		
PMRV	**Marv??o**	**96.18**	**16**	*e*P	**P**	**14 34 07.6**	**+2.9**		
	comp=Z,30nm,1.9s								
PMRV	**Marv??o**	**96.18**	**16**	*e*SKSac	SKSac	14 44 49.0	+11		
KEST	**Kesra**	**96.34**	**30**	P	**P**	**14 34 08.7**	**+3.1**		
	comp=Z,5.5nm,1.0s,baz=136,slow=5.7,SNR=3.1								
KEST				S	**SKSac**	**14 44 34.8**	**-4.7**		
	comp=Z,1.3nm,0.4s,baz=138,slow=2.1,SNR=5.0								
KEST	**Kesra**	**96.34**	**30**	IAmb	IAmb	14 34 20.7			
	comp=Z,23nm,1.4s								
656A	**Willston**	**96.38**	**314**	IAMs_20	IAMs_20	15 21 07.5			
	comp=Z,3µm,20.0s								
PCAS	**Casmilo, Conde**	**96.62**	**15**	*e*P	**P**	**14 34 07.7**	**+1.1**		
PCAS	**Casmilo, Conde**	**96.62**	**15**	*e*SKSac	**SKSac**	**14 44 46.1**	**+5.6**		
COI	**Coimbra**	**96.78**	**15**	*e*P	P	14 34 13.0	+5.6		
COI	**Coimbra**	**96.78**	**15**	*e*SKSac	SKSac	14 44 52.9	+12		
PAB	**San Pablo**	**96.81**	**18**	IAMs_20	IAMs_20	15 23 43.7			
	comp=Z,3µm,21.0s								
ESDC	**Sonseca Array**	**97.00**	**19**	P	**P**	**14 34 09.7**	**+1.3**		
	comp=Z,2.8nm,0.9s,baz=200,slow=3.7,SNR=11								
456A	**Hilliard**	**97.37**	**316**	IAMs_20	IAMs_20	15 20 46.7			
	comp=Z,3µm,20.0s								
UCM	**Universidad Co**	**97.75**	**19**	*e*P	**PS**	**14 46 59.4**	**-2.7**		
MVO	**Moncorvo**	**97.93**	**16**	*e*P	Pdif	14 34 15.9	+3.2		
MVO	**Moncorvo**	**97.93**	**16**	*e*SKSac	**SKSac**	**14 44 55.0**	**+7.6**		
WDD	**Wied Dalam**	**98.00**	**34**	IAMs_20	IAMs_20	15 23 46.0			
	comp=Z,3µm,18.0s								
PSAD3	**Pilbara Seismi**	**98.51**	**150**	IAMs_20	IAMs_20	15 22 35.5			
	comp=Z,3µm,19.0s								
PGAV	**Gavieira, Arco**	**98.53**	**15**	*e*P	Pdif	14 34 21.9	+6.6		
PGAV	**Gavieira, Arco**	**98.53**	**15**	*e*SKSac	**SKSac**	**14 44 57.9**	**+7.5**		
PSAD2	**Pilbara Seismi**	**98.58**	**150**	IAMs_20	IAMs_20	15 17 26.5			
	comp=Z,3µm,19.0s								
PSAA3	**Pilbara Seismi**	**98.59**	**150**	IAMs_20	IAMs_20	15 21 36.7			
	comp=Z,4µm,20.0s								
255A	**Hazlehurst**	**98.61**	**316**	IAMs_20	IAMs_20	15 21 22.5			
	comp=Z,2µm,21.0s								
PSAB2	**Pilbara Seismi**	**98.61**	**150**	IAMs_20	IAMs_20	15 21 37.3			
	comp=Z,3µm,19.0s								
PSAC2	**Pilbara Seismi**	**98.62**	**150**	IAMs_20	IAMs_20	15 23 46.4			
	comp=Z,3µm,19.0s								
PSAC1	**Pilbara Seismi**	**98.62**	**150**	IAMs_20	IAMs_20	15 18 22.5			
	comp=Z,3µm,19.0s								
TIGA	**Tifton**	**98.63**	**315**	IAMs_20	IAMs_20	15 17 59.0			
	comp=Z,3µm,22.0s								
Y60A	**Bolivia**	**98.83**	**320**	IAMs_20	IAMs_20	15 27 17.1			
	comp=Z,2µm,20.0s								
MAHO	**Mahon**	**98.94**	**25**	*e*P	PS	14 45 52.5	-82		
Y59A	**Loris**	**99.06**	**319**	IAMs_20	IAMs_20	15 20 00.1			
	comp=Z,2µm,21.0s								
CLTB	**Caltabellotta**	**99.20**	**32**	IAMs_20	IAMs_20	15 28 14.7			
	comp=Z,3µm,19.0s								
Z56A	**Williston**	**99.41**	**317**	IAMs_20	IAMs_20	15 24 06.6			
	comp=Z,3µm,21.0s								
154A	**Montrose**	**99.47**	**316**	IAMs_20	IAMs_20	15 22 00.2			
	comp=Z,2µm,20.0s								
EIDS	**Eidsvold**	**99.50**	**179**	IAMs_20	IAMs_20	15 23 00.7			
	comp=Z,3µm,19.0s								
CORL	**Corleone**	**99.52**	**32**	IAMs_20	IAMs_20	15 18 15.1			
	comp=Z,3µm,20.0s								
ASAR	**Alice Springs**	**99.72**	**163**	P	**Pdif**	**14 34 19.7**	**-1.6**		
	comp=Z,6.1nm,0.9s,baz=184,slow=4.0,SNR=26								
ASAR				PP	**PP**	**14 38 22.1**	**-2.6**		
	comp=Z,7.8nm,1.0s,baz=187,slow=5.9,SNR=10								
152A	**Waverly Hall**	**100.16**	**314**	IAMs_20	IAMs_20	15 19 53.7			
	comp=Z,3µm,20.0s								
BIRD	**Birdtown, Kero**	**100.23**	**319**	IAMs_20	IAMs_20	15 28 45.4			
	comp=Z,2µm,21.0s								
EIL	**Elat**	**100.43**	**52**	S	**SKSac**	**14 44 53.5**	**-6.7**		
	comp=Z,1.7nm,0.6s,baz=133,slow=14,SNR=1.8								
W57A	**Gilead**	**100.51**	**319**	IAMs_20	IAMs_20	15 20 44.6			
	comp=Z,2µm,21.0s								
HODGE	**Hodges**	**100.56**	**317**	IAMs_20	IAMs_20	15 25 43.0			
	comp=Z,2µm,19.0s								
CEL	**Celeste**	**100.66**	**34**	IAMs_20	IAMs_20	15 28 59.2			
	comp=Z,3µm,20.0s								
PAULI	**Pauline**	**100.90**	**318**	IAMs_20	IAMs_20	15 29 33.2			
	comp=Z,2µm,22.0s								
Z51A	**Franklin**	**100.92**	**314**	IAMs_20	IAMs_20	15 29 41.6			
	comp=Z,3µm,22.0s								
Y52A	**Lilburn**	**100.94**	**315**	IAMs_20	IAMs_20	15 24 10.3			
	comp=Z,2µm,20.0s								
KMSC	**Kings Mountain**	**101.00**	**318**	IAMs_20	IAMs_20	15 19 04.8			
	comp=Z,2µm,21.0s								
IDI	**Anoyia**	**101.12**	**42**	IAMs_20	IAMs_20	15 21 19.5			
	comp=Z,3µm,21.0s								
LRAL	**Lakeview Retre**	**101.42**	**313**	IAMs_20	IAMs_20	15 25 39.1			
	comp=Z,3µm,19.0s								
TIP	**Timpagrande**	**101.77**	**34**	IAMs_20	IAMs_20	15 30 05.7			
	comp=Z,2µm,20.0s								
Y49A	**Blount Mountai**	**101.89**	**314**	IAMs_20	IAMs_20	15 20 04.5			
	comp=Z,3µm,22.0s								
W52A	**Murphy**	**101.97**	**316**	IAMs_20	IAMs_20	15 23 27.3			
	comp=Z,2µm,22.0s								
V53A	**Saluda**	**102.03**	**317**	IAMs_20	IAMs_20	15 30 09.1			
	comp=Z,2µm,21.0s								
FPAL	**Fort Paine**	**102.16**	**315**	IAMs_20	IAMs_20	15 25 33.5			
	comp=Z,2µm,19.0s								
KARP	**Karpathos**	**102.23**	**43**	IAMs_20	IAMs_20	15 21 56.7			
	comp=Z,3µm,22.0s								
TKL	**Tuckaleechee C**	**102.40**	**317**	IAMs_20	IAMs_20	15 21 37.8			
	comp=Z,2µm,21.0s								
Q60A	**Greensboro**	**102.48**	**324**	IAMs_20	IAMs_20	15 24 40.4			
	comp=Z,2µm,20.0s								
V52A	**Sevierville**	**102.49**	**317**	IAMs_20	IAMs_20	15 26 53.2			
	comp=Z,2µm,20.0s								
CPCT	**Cooper Cave**	**102.51**	**316**	IAMs_20	IAMs_20	15 23 44.8			
	comp=Z,2µm,22.0s								
W50A	**Signal Mountai**	**102.61**	**315**	IAMs_20	IAMs_20	15 25 13.4			
	comp=Z,2µm,20.0s								
X48A	**Hartselle**	**102.67**	**314**	IAMs_20	IAMs_20	15 24 03.0			
	comp=Z,2µm,20.0s								
PAOL	**Paolisi**	**102.78**	**32**	IAMs_20	IAMs_20	15 27 10.6			
	comp=Z,2µm,21.0s								
SWET	**Sewanee**	**102.87**	**315**	IAMs_20	IAMs_20	15 24 22.4			
	comp=Z,3µm,20.0s								
SCTE	**Santa Cesarea**	**103.13**	**35**	IAMs_20	IAMs_20	15 29 53.7			
	comp=Z,2µm,20.0s								
P60A	**Greenville**	**103.14**	**324**	IAMs_20	IAMs_20	15 30 35.3			
	comp=Z,2µm,19.0s								
M65A	**Busby, Falmout**	**103.17**	**329**	IAMs_20	IAMs_20	15 30 36.7			
	comp=Z,3µm,21.0s								
Y45A	**Yeager Farm, C**	**103.21**	**311**	IAMs_20	IAMs_20	15 28 33.6			
	comp=Z,2µm,20.0s								
ASF	**Jabal al Asfar**	**103.43**	**52**	S	**SKSac**	**14 45 12.1**	**-2.5**		
	comp=Z,0.4nm,0.2s,baz=140,slow=4.9,SNR=1.3								
WC3	**Warramunga Arr**	**103.43**	**163**	IAMs_20	IAMs_20	15 27 55.3			
	comp=Z,3µm,20.0s								
WR2	**Warramunga Arr**	**103.44**	**163**	IAMs_20	IAMs_20	15 27 55.5			
	comp=Z,3µm,20.0s								
WRA	**Warramunga Arr**	**103.44**	**163**	Pdiff	**Pdif**	**14 34 36.4**	**-1.4**		
	comp=Z,1.0nm,0.9s,baz=199,slow=4.7,SNR=2.1								
WRA				PKiKP	**PKiKP**	**14 38 56.5**	**0.0**		
	comp=Z,2.6nm,1.1s,baz=196,slow=5.9,SNR=5.2								
FITZ	**Fitzroy Crossi**	**103.44**	**154**	IAMs_20	IAMs_20	15 20 39.3			
	comp=Z,3µm,18.0s								
WR3	**Warramunga Arr**	**103.44**	**163**	IAMs_20	IAMs_20	15 25 36.6			
	comp=Z,3µm,18.0s								
WR7	**Warramunga Arr**	**103.45**	**163**	IAMs_20	IAMs_20	15 17 33.8			
	comp=Z,2µm,20.0s								
WR9	**Warramunga Arr**	**103.46**	**163**	IAMs_20	IAMs_20	15 28 03.9			
	comp=Z,2µm,21.0s								
MVL	**Millersville**	**103.55**	**324**	IAMs_20	IAMs_20	15 25 12.2			
	comp=Z,2µm,21.0s								
WB8	**Warramunga Arr**	**103.58**	**163**	IAMs_20	IAMs_20	15 29 47.1			
	comp=Z,2µm,18.0s								
BRNJ	**Basking Ridge**	**103.58**	**326**	IAMs_20	IAMs_20	15 30 44.8			
	comp=Z,2µm,19.0s								
WSPT	**Westport, CT**	**103.63**	**327**	IAMs_20	IAMs_20	15 30 07.1			
	comp=Z,2µm,21.0s								
PAL	**Palisades**	**103.66**	**326**	IAMs_20	IAMs_20	15 30 32.0			
	comp=Z,2µm,21.0s								
V48A	**Smith Brothers**	**103.69**	**314**	IAMs_20	IAMs_20	15 21 05.0			
	comp=Z,2µm,22.0s								
OXF	**Oxford**	**103.71**	**312**	IAMs_20	IAMs_20	15 28 42.7			
	comp=Z,2µm,22.0s								
BRYW	**Bryant College**	**103.76**	**328**	IAMs_20	IAMs_20	15 31 26.4			
	comp=Z,2µm,20.0s								
CLTN	**Cedars of Leba**	**103.79**	**315**	IAMs_20	IAMs_20	15 31 28.8			
	comp=Z,2µm,22.0s								
PAGS	**Pennsylvania G**	**103.88**	**324**	IAMs_20	IAMs_20	15 25 21.9			
	comp=Z,2µm,20.0s								
U49A	**Red Boiling Sp**	**103.94**	**316**	IAMs_20	IAMs_20	15 25 54.6			
	comp=Z,2µm,20.0s								
ODNJ	**Ogdensburg**	**103.95**	**326**	IAMs_20	IAMs_20	15 30 53.7			
	comp=Z,2µm,19.0s								
S51A	**Beattyville**	**104.06**	**318**	IAMs_20	IAMs_20	15 30 39.8			
	comp=Z,2µm,20.0s								
WES	**Weston**	**104.12**	**329**	IAMs_20	IAMs_20	15 30 54.0			
	comp=Z,2µm,20.0s								
W45A	**Hickory Valley**	**104.17**	**312**	IAMs_20	IAMs_20	15 28 05.8			
	comp=Z,3µm,18.0s								
HRV	**Adam Dziewonsk**	**104.30**	**328**	IAMs_20	IAMs_20	15 21 25.8			
	comp=Z,2µm,19.0s								
QUA2	**Belchertown**	**104.33**	**328**	IAMs_20	IAMs_20	15 31 54.2			
	comp=Z,3µm,20.0s								
N58A	**Sunbury**	**104.43**	**324**	IAMs_20	IAMs_20	15 25 48.4			
	comp=Z,2µm,21.0s								
WVT	**Waverly**	**104.44**	**314**	IAMs_20	IAMs_20	15 22 14.9			
	comp=Z,3µm,21.0s								
MET	**Memphis--Engin**	**104.45**	**312**	IAMs_20	IAMs_20	15 27 46.4			
	comp=Z,2µm,20.0s								
VLC	**Villacollemand**	**104.49**	**28**	IAMs_20	IAMs_20	15 17 16.9			
	comp=Z,3µm,20.0s								
K62A	**Royalston**	**104.65**	**328**	IAMs_20	IAMs_20	15 32 03.1			
	comp=Z,3µm,20.0s								
SLBS	**Sierra La Lagu**	**104.67**	**290**	IAMs_20	IAMs_20	15 29 16.0			
	comp=Z,2µm,19.0s								
O55A	**Ligonier**	**104.75**	**322**	P	**PP**	**14 39 03.9**	**+0.3**		
	baz=153								
KSPA	**Keystone Colle**	**104.76**	**325**	IAMs_20	IAMs_20	15 31 15.1			
	comp=Z,2µm,19.0s								
M58A	**Price's Panora**	**104.82**	**324**	P	**PP**	**14 39 07.3**	**+3.2**		
	baz=154								
T47A	**Sharon Grove**	**104.88**	**315**	IAMs_20	IAMs_20	15 29 11.6			
	comp=Z,2µm,20.0s								
M57A	**Sunshine Farm,**	**105.01**	**324**	IAMs_20	IAMs_20	15 25 55.8			
	comp=Z,2µm,21.0s								
HPIG		**105.06**	**296**	IAMs_20	IAMs_20	15 29 56.3			
	comp=Z,2µm,19.0s								
EMMW	**East Machias**	**105.18**	**332**	IAMs_20	IAMs_20	15 30 32.6			
	comp=Z,2µm,20.0s								
GNAR	**Gosnell**	**105.21**	**312**	IAMs_20	IAMs_20	15 29 13.3			
	comp=Z,3µm,19.0s								
R49A	**Shelbyville**	**105.24**	**317**	IAMs_20	IAMs_20	15 29 04.0			
	comp=Z,2µm,21.0s								
GGN	**Saint George**	**105.39**	**333**	IAMs_20	IAMs_20	15 30 30.2			
	comp=Z,2µm,19.0s								
BINY	**Binghamton**	**105.41**	**325**	IAMs_20	IAMs_20	15 31 51.2			
	comp=Z,2µm,20.0s								
I63A	**Otisfield**	**105.43**	**330**	IAMs_20	IAMs_20	15 20 56.6			
	comp=Z,2µm,20.0s								
I62A	**Tamworth**	**105.49**	**329**	IAMs_20	IAMs_20	15 31 02.2			
	comp=Z,2µm,20.0s								
W41B	**Gary Mavity, V**	**105.49**	**310**	IAMs_20	IAMs_20	15 30 13.0			
	comp=Z,2µm,19.0s								
ISP	**Isparta**	**105.53**	**45**	IAMs_20	IAMs_20	15 21 50.6			
	comp=Z,2µm,20.0s								
T45A	**Paducah**	**105.53**	**314**	IAMs_20	IAMs_20	15 23 08.9			
	comp=Z,3µm,21.0s								
LMN	**Caledonia Moun**	**105.56**	**334**	IAMs_20	IAMs_20	15 22 10.7			
	comp=Z,2µm,22.0s								
H64A	**Troy**	**105.59**	**331**	P	**PP**	**14 39 12.7**	**+3.1**		
	baz=157								
WHAR	**Wooly Hollow**	**105.61**	**310**	IAMs_20	IAMs_20	15 30 15.0			
	comp=Z,2µm,19.0s								
HNH	**Hanover**	**105.61**	**328**	IAMs_20	IAMs_20	15 22 23.5			
	comp=Z,2µm,20.0s								
G65A	**Princeton**	**105.66**	**332**	IAMs_20	IAMs_20	15 30 47.4			
	comp=Z,2µm,20.0s								
N54A	**Moraine State**	**105.66**	**322**	P	**PP**	**14 39 10.6**	**+0.4**		
	baz=152								
M55A	**Ridgway**	**105.68**	**323**	IAMs_20	IAMs_20	15 31 22.7			
	comp=Z,2µm,21.0s								
LCAR	**Lake Charles**	**105.78**	**311**	IAMs_20	IAMs_20	15 33 03.9			
	comp=Z,2µm,20.0s								
K58A	**Earlville**	**105.80**	**326**	P	**PP**	**14 39 12.8**	**+1.5**		
	baz=154								
K58A	**Earlville**	**105.80**	**326**	IAMs_20	IAMs_20	15 31 49.7			
	comp=Z,2µm,20.0s								
L56A	**Greenwood**	**105.87**	**324**	IAMs_20	IAMs_20	15 32 09.5			
	comp=Z,2µm,19.0s								
LBNH	**Lisbon**	**106.00**	**329**	IAMs_20	IAMs_20	15 31 47.6			
	comp=Z,2µm,20.0s								
TXAR	**Lajitas Array**	**106.00**	**298**	Pdiff	**Pdif**	**14 34 49.6**	**+0.7**		
	comp=Z,1.1nm,1.2s,baz=143,slow=9.4,SNR=4.5								
FCAR	**Ozark Folk Cen**	**106.04**	**311**	IAMs_20	IAMs_20	15 30 23.5			
	comp=Z,2µm,21.0s								
J59A	**Piesco**	**106.07**	**327**	IAMs_20	IAMs_20	15 31 17.8			
	comp=Z,2µm,20.0s								
H62A	**Milan**	**106.08**	**330**	IAMs_20	IAMs_20	15 33 10.7			
	comp=Z,2µm,19.0s								
PKME	**Peaks-Kenny Pk**	**106.18**	**331**	IAMs_20	IAMs_20	15 32 47.4			
	comp=Z,2µm,20.0s								
W39A	**Magazine**	**106.18**	**309**	IAMs_20	IAMs_20	15 27 10.4			
	comp=Z,2µm,20.0s								
ALLY	**Allegheny Colle**	**106.32**	**322**	IAMs_20	IAMs_20	15 32 02.1			
	comp=Z,2µm,19.0s								
VT1	**Waterbury**	**106.33**	**328**	IAMs_20	IAMs_20	15 22 44.6			
	comp=Z,2µm,20.0s								
S44A	**Carbondale**	**106.36**	**314**	IAMs_20	IAMs_20	15 22 50.9			
	comp=Z,3µm,22.0s								
TUE	**Stuetta**	**106.38**	**26**	IAMs_20	IAMs_20	15 21 26.9			
	comp=Z,2µm,20.0s								
F64A	**Sherman**	**106.48**	**332**	IAMs_20	IAMs_20	15 32 03.2			
	comp=Z,2µm,19.0s								
G62A	**West of Eustis**	**106.49**	**330**	P	**PP**	**14 39 16.6**	**+0.3**		
	baz=156								
MMNY	**Mt. Morris Dam**	**106.52**	**324**	IAMs_20	IAMs_20	15 32 17.6			
	comp=Z,2µm,19.0s								
F63A	**Nahmakanta, Br**	**106.54**	**331**	IAMs_20	IAMs_20	15 31 36.7			
	comp=Z,2µm,20.0s								
O49A	**Covington**	**106.57**	**318**	IAMs_20	IAMs_20	15 26 05.0			
	comp=Z,2µm,21.0s								
CTI	**Castel Tesino**	**106.58**	**28**	IAMs_20	IAMs_20	15 18 50.1			
	comp=Z,2µm,20.0s								
J56A	**Wolcott**	**106.66**	**325**	IAMs_20	IAMs_20	15 32 29.3			
	comp=Z,2µm,19.0s								
OLIL	**Olney**	**106.78**	**315**	IAMs_20	IAMs_20	15 27 31.9			
	comp=Z,2µm,20.0s								
F62A	**Pittston Farm,**	**106.95**	**331**	IAMs_20	IAMs_20	15 33 10.8			
	comp=Z,3µm,20.0s								
J55A	**Hilton**	**106.96**	**324**	IAMs_20	IAMs_20	15 29 41.4			
	comp=Z,2µm,19.0s								
E63A	**Oxbow**	**107.02**	**332**	IAMs_20	IAMs_20	15 32 19.4			
	comp=Z,2µm,20.0s								
FRNY	**Flat Rock**	**107.03**	**328**	IAMs_20	IAMs_20	15 31 46.1			
	comp=Z,2µm,20.0s								
PQI	**Presque Isle**	**107.14**	**333**	IAMs_20	IAMs_20	15 31 42.6			
	comp=Z,2µm,20.0s								
LONY	**Lake Ozonia**	**107.14**	**327**	IAMs_20	IAMs_20	15 33 40.0			
	comp=Z,2µm,20.0s								
MGMO	**Mountain Grove**	**107.17**	**311**	IAMs_20	IAMs_20	15 33 44.4			
	comp=Z,2µm,21.0s								
BATG	**Bathurst New B**	**107.20**	**334**	IAMs_20	IAMs_20	15 30 53.1			
	comp=Z,2µm,20.0s								
J54A	**Appleton**	**107.24**	**324**	IAMs_20	IAMs_20	15 32 50.9			
	comp=Z,2µm,20.0s								
Q44A	**Meyer Farm, Va**	**107.30**	**314**	IAMs_20	IAMs_20	15 32 23.5			
	comp=Z,2µm,22.0s								
CISI	**Cisompet, Garu**	**107.40**	**134**	IAMs_20	IAMs_20	15 27 00.0			
	comp=Z,2µm,20.0s								
U38A	**Cavavetti**	**107.49**	**309**	IAMs_20	IAMs_20	15 31 28.0			
	comp=Z,2µm,20.0s								
E62A	**Clayton Lake**	**107.50**	**332**	IAMs_20	IAMs_20	15 32 24.1			
	comp=Z,2µm,20.0s								
SLM	**Saint Louis**	**107.57**	**313**	IAMs_20	IAMs_20	15 23 25.8			
	comp=Z,2µm,22.0s								
TUL1	**Leonard**	**107.67**	**308**	IAMs_20	IAMs_20	15 28 15.9			
	comp=Z,2µm,21.0s								
D62A	**Allapoint, All**	**107.79**	**332**	IAMs_20	IAMs_20	15 33 02.9			
	comp=Z,2µm,20.0s								
SFIN	**Lafayette**	**107.79**	**317**	IAMs_20	IAMs_20	15 28 54.6			
	comp=Z,2µm,20.0s								
DELO	**Deloro Mine**	**108.01**	**325**	IAMs_20	IAMs_20	15 33 16.2			
	comp=Z,2µm,21.0s								
S39A	**Bolivar**	**108.08**	**311**	IAMs_20	IAMs_20	15 34 25.3			
	comp=Z,2µm,21.0s								
L48A	**N Adams**	**108.13**	**319**	IAMs_20	IAMs_20	15 28 38.2			
	comp=Z,2µm,22.0s								
P43A	**Skaggs, Pawnee**	**108.13**	**315**	IAMs_20	IAMs_20	15 34 05.6			
	comp=Z,2µm,21.0s								
PLVO	**Plevna**	**108.30**	**326**	IAMs_20	IAMs_20	15 31 29.8			
	comp=Z,2µm,19.0s								
MNTX	**Cornudas Mount**	**108.78**	**299**	IAMs_20	IAMs_20	15 34 55.7			
	comp=Z,3µm,18.0s								
HDIL	**Hopedale**	**108.81**	**315**	IAMs_20	IAMs_20	15 31 35.7			
	comp=Z,2µm,19.0s								
SRIG	**Santa Rosalia**	**108.82**	**291**	IAMs_20	IAMs_20	15 33 30.8			
	comp=Z,2µm,19.0s								
M44A	**Midewin, Midew**	**109.03**	**317**	IAMs_20	IAMs_20	15 30 45.2			
	comp=Z,2µm,20.0s								
P40A	**Paris**	**109.08**	**313**	IAMs_20	IAMs_20	15 24 25.8			
	comp=Z,2µm,22.0s								
UCC	**Uccle**	**109.31**	**21**	IAMs_20	IAMs_20	15 21 22.4			
	comp=Z,3µm,20.0s								
J47A	**Sunmer**	**109.39**	**320**	IAMs_20	IAMs_20	15 28 06.6			
	comp=Z,2µm,20.0s								
ILGA	**Ilgaz**	**109.57**	**45**	IAMs_20	IAMs_20	15 25 47.2			
	comp=Z,2µm,21.0s								
N41A	**Harden Midland**	**109.58**	**314**	IAMs_20	IAMs_20	15 34 49.3			
	comp=Z,2µm,21.0s								
L44A	**Lake County Fo**	**109.65**	**317**	IAMs_20	IAMs_20	15 29 16.7			
	comp=Z,2µm,21.0s								
GEC2	**GERESS Array S**	**109.70**	**28**	IAMs_20	IAMs_20	15 31 00.7			
	comp=Z,3µm,21.0s								
GERES	**GERESS Array B**	**109.70**	**28**	PKiKP	**PKiKP**	**14 39 07.4**	**+0.3**		
	comp=Z,0.2nm,0.3s,baz=260,slow=41,SNR=2.9								
P38A	**Dawn**	**109.78**	**312**	IAMs_20	IAMs_20	15 28 52.5			
	comp=Z,2µm,20.0s								
DSB	**Dublin**	**109.83**	**14**	IAMs_20	IAMs_20	15 33 20.5			
	comp=Z,2µm,20.0s								
GRA1	**Grafenberg Arr**	**109.84**	**26**	IAMs_20	IAMs_20	15 31 45.4			
	comp=Z,2µm,21.0s								
KHC	**Kasperske Hory**	**109.93**	**28**	*e*PDIFF	**Pdif**	**14 35 09.1**	**+3.3**		
KHC				*e*PP	**PP**	**14 39 43.9**	**+2.5**		
KHC				*e*SP	SP	14 49 07.1	+1.3		
KHC	**Kasperske Hory**	**109.93**	**28**	*e*P	**Pdif**	**14 35 09.1**	**+3.3**		
KHC				*e*		14 39 43.9			
KHC				*e*SP	SP	14 49 07.1	+1.3		
KHC				MLR	MLR				
	comp=Z,5µm,22.6s								
KHC	**Kasperske Hory**	**109.93**	**28**	IAMs_20	IAMs_20	15 32 03.7			
	comp=Z,2µm,21.0s								
J45A	**Montague**	**110.14**	**319**	IAMs_20	IAMs_20	15 28 59.6			
	comp=Z,2µm,22.0s								
L42A	**Oliver, Polo**	**110.19**	**316**	IAMs_20	IAMs_20	15 35 55.1			
	comp=Z,2µm,20.0s								
K43A	**Burlington**	**110.26**	**317**	IAMs_20	IAMs_20	15 30 38.8			
	comp=Z,2µm,20.0s								
D53A	**Lac Vacive, Po**	**110.31**	**326**	IAMs_20	IAMs_20	15 32 22.5			
	comp=Z,2µm,20.0s								
I45A	**Fountain**	**110.60**	**319**	IAMs_20	IAMs_20	15 30 02.7			
	comp=Z,2µm,20.0s								
N38A	**Joes South For**	**110.63**	**313**	IAMs_20	IAMs_20	15 35 24.9			
	comp=Z,3µm,22.0s								
PSZ	**Piszkesteto**	**110.63**	**32**	IAMs_20	IAMs_20	15 31 46.3			
	comp=Z,2µm,20.0s								
KRUC	**Moravsky**	**110.63**	**30**	*e*SP	SP	14 49 12.8	+0.5		
KRUC				*e*SS	**SS**	**14 55 18.1**	**+4.6**		
NKC	**Novy Kostel**	**110.64**	**27**	*e*SP	SP	14 49 13.5	+1.1		
121A	**Cookes Peak, D**	**110.66**	**297**	IAMs_20	IAMs_20	15 34 39.6			
	comp=Z,2µm,18.0s								
GLMI	**Grayling**	**110.68**	**321**	IAMs_20	IAMs_20	15 33 47.1			
	comp=Z,1µm,18.0s								
JAVC	**Velka Javorina**	**110.81**	**30**	*e*SP	SP

EYMN	Ely		115.87	318	IAMs_20	IAMs_20	15 34 15.2			
	comp=Z,2µm,20.0s									
PV14	Lion Creek, Pa		115.89	300	IAMs_20	IAMs_20	15 39 48.8			
	comp=Z,2µm,18.0s									
XPFO	Pion Flat		116.00	292	IAMs_20	IAMs_20	15 37 26.9			
	comp=Z,2µm,18.0s									
PFO	Pinyon Flats O		116.00	292	ǁ *i*PKIKP	PKiKP	14 39 21.2	+1.5		
PFO					MLR	MLR				
	comp=Z,810nm,18.0s									
PFO	Pinyon Flats O		116.00	292	IAMs_20	IAMs_20	15 37 26.9			
	comp=Z,2µm,18.0s									
U15A	North Rim		116.01	297	IAMs_20	IAMs_20	15 38 43.2			
	comp=Z,2µm,19.0s									
F33A	5 Mile Ranch,		116.05	314	IAMs_20	IAMs_20	15 34 12.2			
	comp=Z,2µm,20.0s									
AKASG	Malin Array Be		116.06	37	PKP	PKPdf	14 39 18.4	-0.7		
	comp=Z,1.0nm,0.6s,baz=240,slow=1.8,SNR=5.3									
MAK	Makhachkala		117.06	53	*e*P	Pdif	14 35 24.2	-13		
MAK					*e*		14 46 08.7			
MAK					*e*SS	SS	14 56 36.5	-2.0		
B35A	Bob, Littlefor		117.07	317	IAMs_20	IAMs_20	15 32 16.9			
	comp=Z,2µm,21.0s									
NRS	Narsarsuaq		117.07	351	IAMs_20	IAMs_20	15 31 57.0			
	comp=Z,2µm,18.0s									
MSU	Marysvale		117.56	298	PKIKP	PKPdf	14 39 22.5	-0.2		
MSU	Marysvale		117.56	298	PKPdf	PKPdf	14 39 22.5	-0.2		
SHOC	Shoshone, Teco		117.66	294	P	PKiKP	14 39 24.0	+1.3		
	baz=140									
EDW2	Edwards Air Fo		117.78	292	P	PKiKP	14 39 24.3	+1.2		
	baz=140									
K22A	Casper		118.02	305	P	PKPdf	14 39 23.4	0.0		
	baz=141									
RSSD	Black Hills		118.02	308	P	PKPdf	14 39 23.3	-0.1		
	baz=141									
RSSD	Black Hills		118.02	308	PKIKP	PKPdf	14 39 23.0	-0.4		
RSSD					MLR	MLR				
	comp=Z,2µm,21.0s									
RSSD	Black Hills		118.02	308	PKPdf	PKPdf	14 39 22.9	-0.4		
RSSD	Black Hills		118.02	308	IAMs_20	IAMs_20	15 32 02.7			
	comp=Z,2µm,21.0s									
LRMC	Laurel Mtn Rad		118.08	292	P	PKiKP	14 39 24.4	+0.7		
	baz=140									
GEYT	Alibeck		118.31	64	PP	PP	14 40 44.1	+3.1		
	comp=Z,1.4nm,0.5s,baz=253,slow=1.5,SNR=3.5									
MPMC	Manual Prospec		118.42	293	P	PKiKP	14 39 25.8	+1.3		
	baz=140									
TPNV	Topopah Spring		118.45	294	P	PKiKP	14 39 25.8	+1.3		
	baz=140									
E28A	Huff		118.48	312	IAMs_20	IAMs_20	15 40 44.6			
	comp=Z,2µm,22.0s									
ISA	Isabella, Lake		118.63	292	P	PKiKP	14 39 26.4	+1.7		
	baz=140									
ISA	Isabella, Lake		118.63	292	IAMs_20	IAMs_20	15 39 08.8			
	comp=Z,2µm,18.0s									
KONO	Kongsberg		118.66	21	ǁ *i*PKIKP	PKPdf	14 39 23.6	-0.2		
KONO					MLR	MLR				
	comp=Z,1µm,19.0s									
LUWI	Luwuk		118.89	146	IAMs_20	IAMs_20	15 41 04.6			
	comp=Z,2µm,19.0s									
CWC	Cottonwood Cre		119.02	293	P	PKiKP	14 39 26.7	+1.1		
	baz=139									
MDND	Maddock		119.02	313	IAMs_20	IAMs_20	15 41 40.8			
	comp=Z,2µm,21.0s									
DUG	Dugway, Tooele		119.17	299	P	PKiKP	14 39 26.9	+1.2		
	baz=140									
R11A	Troy Canyon, C		119.17	296	IAMs_20	IAMs_20	15 37 53.7			
	comp=Z,1µm,18.0s									
ULM	Lac du Bonnet		119.42	317	SS	SS	14 57 01.4	-7.5		
	comp=Z,4.4nm,0.8s,baz=344,slow=13,SNR=1.7									
ULM	Lac du Bonnet		119.42	317	IAMs_20	IAMs_20	15 34 46.3			
	comp=Z,2µm,20.0s									
BW06	Boulder Array		119.54	303	IAMs_20	IAMs_20	15 37 38.2			
	comp=Z,1µm,21.0s									
PDAR	Pinedale Array		119.54	303	PKP	PKPdf	14 39 24.7	-1.7		
	comp=Z,1.4nm,0.6s,baz=169,slow=17,SNR=8.4									
PDAR					PP	PP	14 40 50.4	+0.8		
	comp=Z,0.2nm,0.3s,baz=23,slow=21,SNR=2.4									
PDAR					PKKPbc	PKKPab	14 49 39.8	+2.2		
	comp=Z,0.5nm,0.7s,baz=132,slow=2.2,SNR=4.1									
HWUT	Hardware Ranch		119.62	301	PKPdf	PKPdf	14 39 26.1	-0.4		
HWUT					IAMs_20	IAMs_20	15 41 44.7			
	comp=Z,2µm,18.0s									
FAKI	Fak Fak		119.64	157	IAMs_20	IAMs_20	15 34 57.6			
	comp=Z,2µm,21.0s									
HFS	Hagfors		119.96	23	PKKPbc	PKKPbc	14 49 35.1	0.0		
	comp=Z,1.2nm,0.7s,baz=65,slow=12,SNR=4.3									
NB2	NORSAR Subarra		120.26	21	PKPdf	PKiKP	14 39 27.1	0.0		
	comp=Z,1.2nm,0.8s,baz=202,slow=1.9									
NOA	NORSAR Array B		120.26	21	PKP	PKPdf	14 39 26.9	+0.1		
	comp=Z,1.6nm,0.7s,baz=206,slow=1.9,SNR=9.2									
NOA					PKKPbc	PKKPbc	14 49 34.5	+0.4		
	comp=Z,1.2nm,1.0s,baz=28,slow=3.1,SNR=2.5									
NOA	NORSAR Array B		120.26	21	PKIKP	PKPdf	14 39 27.0	+0.1		
MDPB	Devils Postpil		120.44	293		PKiKP	14 39 28.6	+0.1		
MDPB					IAMs_20	IAMs_20	15 40 37.5			
	comp=Z,1µm,18.0s									
RABL	Rabaul		120.56	180	IAMs_20	IAMs_20	15 33 15.0			
	comp=Z,2µm,21.0s									
NVAR	Mina Array Bea		120.63	294	PKP	PKiKP	14 39 30.3	+1.6		
	comp=Z,2.1nm,0.7s,baz=136,slow=2.8,SNR=12									
SNOW	Snow King Moun		120.64	303	IAMs_20	IAMs_20	15 43 01.3			
	comp=Z,2µm,18.0s									
TPAW	Teton Pass		120.75	303		PKiKP	14 39 29.3	+0.4		
TPAW					IAMs_20	IAMs_20	15 39 03.3			
	comp=Z,1µm,19.0s									
ELK	Elko		120.80	298	PKIKP	PKiKP	14 39 29.5	+0.5		
ELK	Elko		120.80	298	PKPdf	PKiKP	14 39 29.5	+0.5		
FXWY	Fox Creek		120.90	303	PKPdf	PKiKP	14 39 29.4	+0.3		
LAO	LASA Array		120.98	308	IAMs_20	IAMs_20	15 43 16.0			
	comp=Z,2µm,21.0s									
KVN	Kaiserville		120.99	295	PKIKP	PKiKP	14 39 29.9	+0.5		
KVN	Kaiserville		120.99	295		PKiKP	14 39 29.9	+0.5		
SAO	San Andreas Ge		121.04	291	IAMs_20	IAMs_20	15 43 06.5			
	comp=Z,1µm,19.0s									
IMW	Indian Meadow		121.05	303	PKPdf	PKiKP	14 39 29.6	+0.1		
IMW					IAMs_20	IAMs_20	15 43 24.3			
	comp=Z,2µm,18.0s									
FLWY	Flagg Ranch		121.08	303		PKiKP	14 39 29.9	+0.5		
FLWY					IAMs_20	IAMs_20	15 31 01.9			
	comp=Z,1µm,20.0s									
RLMT	Red Lodge		121.19	305	P	PKiKP	14 39 30.5	+0.9		
	baz=139									
WAKR	Walker		121.28	293		PKiKP	14 39 30.5	+0.5		
CMB	Columbia Colle		121.43	292	PKIKP	PKiKP	14 39 30.4	+0.3		
CMB	Columbia Colle		121.43	292		PKiKP	14 39 30.4	+0.3		
CMB					IAMs_20	IAMs_20	15 40 55.7			
	comp=Z,1µm,18.0s									
DGMT	Dagmar		121.45	311	IAMs_20	IAMs_20	15 33 31.2			
	comp=Z,2µm,20.0s									
YERR	Yerington		121.53	294		PKiKP	14 39 30.6	+0.2		
YERR					IAMs_20	IAMs_20	15 41 25.4			
	comp=Z,1µm,18.0s									
KBL	Kabul		121.55	74	IAMs_20	IAMs_20	15 34 01.3			
	comp=Z,2µm,20.0s									
PNTR	Pine Nut		121.80	294		PKiKP	14 39 32.4	+1.4		
PNTR					IAMs_20	IAMs_20	15 41 20.3			
	comp=Z,1µm,20.0s									
YHL	Hebgen Lake		121.88	304	PKPdf	PKiKP	14 39 32.0	+1.0		
QLMT	Earthquake Lak		121.98	304	PKPdf	PKiKP	14 39 32.0	+0.9		
RUBR	Rubicon Trail		122.06	293	IAMs_20	IAMs_20	15 40 05.4			
	comp=Z,1µm,19.0s									
PAHR	Pah Rah Range		122.14	294		PKiKP	14 39 32.3	+0.7		
OBN	Obninsk		122.23	38	*e*PKIKP	PKiKP	14 39 32.4	+1.5		
OBN					*e*		14 41 11.6			
OBN					pmax	pmax				
	comp=Z,5.0nm,0.7s									
OBN					MLR	MLR				
	comp=Z,1µm,22.0s									
OBN	Obninsk		122.23	38	IAMs_20	IAMs_20	15 43 13.0			
	comp=Z,1µm,18.0s									
AFDM	Forest Hills D		122.41	293	PKPdf	PKiKP	14 39 32.5	+0.6		
HLID	Hailey		122.48	301	P	PKiKP	14 39 33.4	+1.3		
	baz=138									
HLID	Hailey		122.48	301	PKPdf	PKiKP	14 39 32.4	+0.3		
HLID					IAMs_20	IAMs_20	15 44 19.2			
	comp=Z,2µm,18.0s									
BOZ	Bozeman (W)		122.65	304	P	PKiKP	14 39 33.3	+1.0		
	baz=138									
BOZ	Bozeman (W)		122.65	304	IAMs_20	IAMs_20	15 40 51.5			
	comp=Z,2µm,19.0s									
MCMT	McKenzie Canyo		122.66	303		PKPdf	14 39 32.2	-0.2		
DLMT	Dillon		122.93	303	IAMs_20	IAMs_20	15 36 46.0			
	comp=Z,2µm,20.0s									
MFID	Camas Ranch		123.07	300	PKPdf	PKiKP	14 39 33.5	+0.2		
MFID					IAMs_20	IAMs_20	15 42 32.8			
	comp=Z,2µm,19.0s									
MOS	Moscow		123.09	38	*i* PKIKP	PKiKP	14 39 34.5	+1.8		
MOS					*e*		14 41 22.7			
MOS					pmax	pmax				
	comp=Z,32nm,0.9s									
MOS					MLR	MLR				
	comp=Z,1µm,20.0s									
LRM	Limekiln Ridge		123.20	304		PKPdf	14 39 33.0	-0.3		
NIL	Nilore		123.21	78	PKIKP	PKPdf	14 39 33.1	-0.4		
NIL	Nilore		123.21	78	PKPdf	PKPdf	14 39 33.1	-0.4		
TARA	Tarawa		123.40	206	IAMs_20	IAMs_20	15 20 14.6			
	comp=Z,2µm,19.0s									
NSS	Namsos		123.57	20	*e*PKPdf	PKiKP	14 39 34.3	+0.9		
NSS					*e*PP	PP	14 41 18.8	+2.5		
EGMT	Eagleton		123.57	307	IAMs_20	IAMs_20	15 44 39.7			
	comp=Z,2µm,20.0s									
WVOR	Wild Horse Val		123.76	297	PKIKP	PKiKP	14 39 35.3	+0.7		
WVOR	Wild Horse Val		123.76	297		PKiKP	14 39 35.3	+0.7		
WVOR					IAMs_20	IAMs_20	15 40 59.2			
	comp=Z,1µm,20.0s									
O03E	Paynes Creek		123.83	293	P	PKiKP	14 39 35.0	+0.2		
	baz=137									
FINES	FINESS Array B		124.13	28	PKP	PKPdf	14 39 34.1	-0.1		
	comp=Z,8.5nm,0.6s,baz=194,slow=1.2,SNR=64									
FINES					PKKPbc	PKKPbc	14 49 19.9	+0.9		
	comp=Z,2.1nm,0.7s,baz=163,slow=2.0,SNR=8.4									
FIA1	FINESS Array S		124.13	28	PKPdf	PKiKP	14 39 34.6	+0.1		
MOD	Modoc Plateau		124.22	296	PKPdf	PKPdf	14 39 35.2	-0.1		
MOD					IAMs_20	IAMs_20	15 43 32.9			
	comp=Z,1µm,19.0s									
O02D	Mt. Diablo Mer		124.27	292	P	PKiKP	14 39 36.7	+1.1		
	baz=137									
PYUN	Piuthan		124.55	90	*e*P	PKPdf	14 39 35.4	-1.1		
	comp=Z,35nm,0.9s									
MSO	Missoula		124.64	304	P	PKiKP	14 39 36.2	0.0		
	baz=136,SNR=17									
MSO	Missoula		124.64	304		PKPdf	14 39 35.7	-0.2		
KOLN	Koldanda		124.64	90	*e*P	PKPdf	14 39 35.6	-1.1		
	comp=Z,28nm,0.8s									
N02D	Trinity Center		124.80	293	P	PKiKP	14 39 36.7	0.0		
	baz=136,SNR=8.6									
BMO	Blue Mountains		124.84	300	PKIKP	PKPdf	14 39 35.6	-0.7		
BMO	Blue Mountains		124.84	300		PKPdf	14 39 35.6	-0.7		
BMO					IAMs_20	IAMs_20	15 40 10.7			
	comp=Z,1µm,19.0s									
M04C	Macdoel		124.93	294	P	PKPdf	14 39 36.9	+0.2		
	baz=136,SNR=7.2									
DANN	Dangsing		125.18	90	*e*P	PKPdf	14 39 37.1	-0.7		
	comp=Z,50nm,0.8s									
M02C	Callahan		125.18	293	P	PKPdf	14 39 37.3	+0.2		
	baz=136,SNR=5.2									
FFC	Flin Flon		125.25	317	IAMs_20	IAMs_20	15 36 15.4			
	comp=Z,1µm,22.0s									
PBKT	Sadao Pong		125.31	114	PKPdf	PKPdf	14 39 37.2	-0.7		
YBH	Yreka Blue Hor		125.35	294	PKP	PKiKP	14 39 38.2	+0.4		
	comp=Z,2.4nm,0.7s,baz=90,slow=2.5,SNR=8.5									
YBH	Yreka Blue Hor		125.35	294	PKPdf	PKPdf	14 39 37.4	0.0		
YBH						PKiKP	14 39 38.3	+0.5		
DMN	Daman		125.38	92	*e*P	PKPdf	14 39 37.8	-0.3		
JTMT	Jette		125.47	304	IAMs_20	IAMs_20	15 39 14.0			
	comp=Z,2µm,19.0s									
L04D	Klamath Falls		125.48	295	P	PKPdf	14 39 37.3	-0.4		
	baz=136									
MOR8	Moi Rana		125.51	20	*e*PKPdf	PKiKP	14 39 37.5	+0.3		
MOR8					*e*pPKPdf	sPKPdf	14 39 49.5	+0.6		
MOR8					*e*PP	PP	14 41 30.9	+1.6		
PKIN	Phulchoki		125.52	92	*e*P	PKPdf	14 39 37.5	-0.9		
PKI	Pulchoki		125.52	92	*e*P	PKPdf	14 39 37.3	-1.2		
KKN	Kakani		125.61	92	*e*P	PKPdf	14 39 38.0	-0.5		
J05D	Fort Rock, OR		125.70	296	P	PKiKP	14 39 38.5	0.0		
	baz=136									
SCO	Scoresbysund		125.72	3	IAMs_20	IAMs_20	15 45 28.1			
	comp=Z,2µm,18.0s									
RAMN	Ramite		125.72	94	*e*P	PKPdf	14 39 38.9	+0.1		
	comp=Z,4.9nm,0.4s									
CM31	Chiang Mai Arr		125.81	111		PKPdf	14 39 38.1	-0.8		
CMAR	Chiang Mai Arr		125.81	111	PKP	PKiKP	14 39 39.8	+0.5		
	comp=Z,6.3nm,0.9s,baz=235,slow=3.5,SNR=21									
CMAR	Chiang Mai Arr		125.81	111	*e* *i*PKIKP	PKPdf	14 39 38.0	-0.9		
CMAR					pmax	pmax				
	comp=Z,14nm,1.1s									
JIRN	Jiri		126.03	93	*e*P	PKPdf	14 39 38.3	-1.2		
	comp=Z,42nm,0.8s									
ODAN	Odare		126.10	94	*e*P	PKPdf	14 39 39.7	+0.2		
	comp=Z,82nm,1.3s									
CHTO	Chiang Mai		126.11	111	PKIKP	PKPdf	14 39 38.9	-0.6		
CHTO					MLR	MLR				
	comp=Z,2µm,19.0s									
CHTO	Chiang Mai		126.11	111	PKPdf	PKPdf	14 39 38.9	-0.6		
J04D	Umpqua Nationa		126.11	296	P	PKiKP	14 39 39.4	0.0		
	baz=135									
I05D	Terrebonne, OR		126.50	297	P	PKiKP	14 39 40.1	+0.2		
	baz=135									
K02D	Willamette Mer		126.53	294	P	PKPdf	14 39 39.0	-0.6		
	baz=135									
BTK	Batken		126.55	71	PKIKP	PKPdf	14 39 39.6	-0.2		
BTK	Batken		126.55	71	PKPdf	PKPdf	14 39 39.6	-0.2		
I04A	Tendick Farm,		126.66	296	P	PKPdf	14 39 39.8	0.0		
	baz=135									
FAUS	Fauske		126.74	19	*e*P	PKiKP	14 39 39.5	0.0		
HAWA	Hanford		127.04	300	PKPdf	PKPdf	14 39 40.6	+0.3		
HAWA					IAMs_20	IAMs_20	15 44 36.9			
	comp=Z,2µm,19.0s									
I03D	Drain, OR		127.07	295	P	PKiKP	14 39 44.2	+3.2		
	baz=135									
LOF	Lofoten		127.08	18	*e*PKPdf	PKiKP	14 39 40.8	+0.5		
LOF					*e*pPKPdf	sPKPdf	14 39 51.8	+0.1		
LOF					*e*PP	PP	14 41 39.8	+0.2		
NEW	Newport		127.18	303	P	PKiKP	14 39 45.3	+4.2		
	baz=134									
NEW	Newport		127.18	303	IAMs_20	IAMs_20	15 41 21.4			
	comp=Z,2µm,18.0s									
STEI	Steigen		127.21	19	*e*PKPdf	PKiKP	14 39 41.3	+0.8		
STEI					*e*pPKPdf	sPKPdf	14 39 52.1	+0.2		
H04D	Lebanon		127.34	296	P	PKiKP	14 39 42.9	+1.4		
	baz=134									
IUG	luzhnay		127.61	68	*e*PKP	PKiKP	14 39 44.0	+1.7		
	baz=68									
IUG					LR	LR	15 38 02.0			
	comp=Z,68nm,15.6s,baz=68									
IUG	luzhnay		127.61	68	*e*PKIKP	PKiKP	14 39 44.0	+1.7		
SHL	Shillong		127.64	99	PKIKP	PKPdf	14 39 41.6	-0.8		
SHL	Shillong		127.64	99	PKPdf	PKPdf	14 39 41.6	-0.8		
KLMR	Klimovskoe		127.67	35	*e*PKIKP	PKiKP	14 39 42.4	+0.8		
KLMR					*e*		14 41 43.4			
KLMR					pmax	pmax				
	comp=Z,27nm,1.4s									
KLMR	Klimovskoe		127.67	35	*e*PKPdf	PKiKP	14 39 42.4	+0.8		
KLMR					AMP		14 39 44.7			
	comp=Z,27nm,1.4s									
KLMR					*e*PP	PP	14 41 43.4	-0.3		
KLMR					LQ	LQ	15 26 25.6			
KLMR					LQ	LQ	15 26 25.6			
KLMR					LR	LR	15 36 31.0			
SUMG	Summit		127.94	356	PKIKP	PKPdf	14 39 42.1	+0.3		
SUMG					MLR	MLR				
	comp=Z,2µm,21.0s									
SUMG	Summit		127.94	356	PKPdf	PKPdf	14 39 42.1	+0.3		
KK31	Karatay Array		128.53	68	PKIKP	PKPdf	14 39 42.8	-0.5		
KK31	Karatay Array		128.53	68	PKPdf	PKPdf	14 39 42.8	-0.5		
KKAR	Karatay Array		128.53	68	PKIKP	PKPdf	14 39 42.9	-0.4		
KKAR	Karatay Array		128.53	68	PKPdf	PKPdf	14 39 42.9	-0.4		
ARSB	Arslanbob		128.61	71	PKIKP	PKPdf	14 39 43.2	-0.5		
ARSB	Arslanbob		128.61	71		PKPdf	14 39 43.2	-0.5		
E04D	Cinebar		128.66	298	P	PKiKP	14 39 51.2	+7.1		
	baz=133									
KSH	Kashi		128.97	75	*e*PKP	PKiKP	14 39 45.0	-0.1		
KSH					SKS	SKSdf	14 46 53.8	+0.3		
KSH					LR	LR				
	comp=Z,5µm,17.5s									
KSH					LR	LR				
	comp=Z,3µm,15.9s									
KSH					LR	LR				
	comp=Z,3µm,18.6s									
PNT	Penticton		129.10	303	PKHKP	PKPpre	14 39 32.4			
TRO	Tromso		129.37	19	*e*PKPdf	PKPdf	14 39 43.8	-0.2		
TRO					*e*pPKPdf	pPKPdf	14 39 54.5	+1.5		
TRO					*e*PP	PP	14 41 52.4	-2.2		
B05A	Bryant		129.59	300	P	PKiKP	14 39 46.1	+0.2		
	baz=132									
D03D	Eldon		129.59	299	P	PKiKP	14 39 46.5	+0.5		
	baz=132									
TMCR	Tamitsa		129.67	31	*e*PKIKP	PKPdf	14 39 44.2	-0.5		
TMCR					pmax	pmax				
	comp=Z,28nm,0.9s									
KTK1	Kautokeino		129.71	21	*e*PKPdf	PKPdf	14 39 45.0	+0.3		
AAK	Ala-Archa		130.33	71	PKIKP	PKPdf	14 39 46.3	-0.7		
AAK	Ala-Archa		130.33	71	PKPdf	PKPdf	14 39 46.3	-0.7		
LSA	Lhasa		130.40	95	PKIKP	PKPdf	14 39 47.3	-0.6		
LSA	Lhasa		130.40	95		PKPdf	14 39 47.3	-0.6		
ARCES	ARCESS Array B		130.61	22	PKP	PKPdf	14 39 46.6	+0.1		
	comp=Z,15nm,0.8s,baz=211,slow=1.4,SNR=54									
ARCES					PP	PP	14 41 59.3	-3.5		
	comp=Z,2.3nm,0.7s,baz=201,slow=2.1,SNR=2.7									
ARE0	ARCESS Array S		130.61	22	PKPdf	PKPdf	14 39 46.2	-0.2		
ARE0	ARCESS Array S		130.61	22	*e*PKPdf	PKPdf	14 39 46.2	-0.2		
APA	Apatity		130.93	27	ǁ *i*PKIKP	PKPdf	14 39 42.0	-5.1		
APA					pmax	pmax				
	comp=Z,10.0nm,0.7s									
SGDS	Sogindy		130.96	70	*e*PKP	PKiKP	14 39 49.5	+0.5		
	baz=70									
SGDS					LR	LR	15 35 31.5			
	comp=Z,450nm,16.7s,baz=70									
SGDS	Sogindy		130.96	70	*e*PKIKP	PKiKP	14 39 49.4	+0.5		
SGDS					MLR	MLR				
	comp=Z,450nm,17.0s									
LLLB	Lillooet		131.05	303	PKPdf	PKPdf	14 39 47.5	-0.5		
KEV	Kevo		131.10	22	PKIKP	PKPdf	14 39 46.9	-0.4		
KEV	Kevo		131.10	22	PKPdf	PKPdf	14 39 46.9	-0.4		
KEV					IAMs_20	IAMs_20	15 48 33.8			
	comp=Z,2µm,19.0s									
HAMF	Hammerfest		131.12	20	*e*PKPdf	PKPdf	14 39 47.4	+0.1		
HAMF					*e*pPKPdf	sPKPdf	14 39 59.4	0.0		
HAMF					*e*PP	PP	14 42 06.0	-0.1		
LVZ	Lovozero		131.49	27	PKIKP	PKPdf	14 39 48.5	+0.3		
LVZ	Lovozero		131.49	27	PKPdf	PKPdf	14 39 48.5	+0.3		
BTLS	Baital		131.71	68	*e*PKP	PKiKP	14 39 50.9	+0.6		
	baz=68									
BTLS					LR	LR	15 43 12.5			
	comp=Z,437nm,14.5s,baz=68									
BTLS	Baital		131.71	68	*e*PKIKP	PKiKP	14 39 50.9	+0.6		
ARU	Arti		131.73	48	*i* PKIKP	PKiKP	14 39 49.5	-0.4		
ARU							14 42 08.5			
ARU					PPP	PPP	14 45 03.4			
ARU	Arti		131.73	48	PKPdf	PKPdf	14 39 47.6	-1.3		
QIZ	Qiongzhong		131.85	122	PKP	PKPdf	14 39 50.8	+0.5		
QIZ					PP	PP	14 42 11.8	+0.8		
QIZ					SS	SS	14 59 44.3	-0.1		
QIZ					AMB	AMB				
	comp=Z,220nm,12.3s									
QIZ					LR	LR				
	comp=Z,2µm,20.1s									
QIZ					LR	LR				
	comp=Z,850nm,19.1s									
QIZ					LR	LR				
	comp=Z,2µm,19.1s									
TNSS	Tian-Shan		131.92	72	*e*PKP	PKiKP	14 39 51.8	+0.5		
	baz=72									
TNSS	Tian-Shan		131.92	72	*e*PKIKP	PKiKP	14 39 51.8	+0.5		
AAA	Alma-Ata		132.02	72	LR	LR	15 43 10.1			
	comp=Z,860nm,17.3s,baz=72									
MDOK	Medeo		132.06	72	*e*PKP	PKiKP	14 39 52.0	+0.7		
	baz=72									
MDOK					*e*PP	PP	14 42 13.8	+0.9		
	baz=72									
MDOK					LR	LR	15 42 52.1

WMQ				SKKS		14 49 44.0		
WMQ				AMB	AMB			
	comp=Z,140nm,5.3s							
WMQ				LR	LR			
	comp=Z,730nm,18.9s							
WMQ				LR	LR			
	comp=Z,560nm,18.9s							
WMQ				LR	LR			
	comp=Z,2µm,23.7s							
WMQ	**Urumqi**	**138.35**	**78**	IAMs_20	IAMs_20	15 47 09.1		
	comp=Z,2µm,20.0s							
CD2	**Chengdu**	**138.38**	**106**	PKP	**PKiKP**	**14 40 03.5**	**-0.9**	
CD2				PP	**PP**	**14 42 54.5**	**+2.0**	
CD2				SS	SS	15 01 09.0	+5.7	
CD2				AMB	AMB			
	comp=Z,820nm,6.5s							
CD2				LR	LR			
	comp=Z,2µm,20.8s							
CD2				LR	LR			
	comp=Z,2µm,18.2s							
CD2				LR	LR			
	comp=Z,2µm,20.2s							
ALE	**Alert**	**138.84**	**354**	IAMs_20	IAMs_20	15 52 29.2		
	comp=Z,2µm,18.0s							
ZSN	**Zaisan**	**139.04**	**72**	*e*PKP	**PKiKP**	**14 40 04.8**	**-0.3**	
	baz=72							
ZSN				LR	LR	15 38 48.3		
	comp=Z,215nm,13.6s,baz=72							
ZSN	**Zaisan**	**139.04**	**72**	*e*PKIKP	**PKiKP**	**14 40 04.8**	**-0.3**	
ZSN				MLR	MLR			
	comp=Z,215nm,14.0s							
DLBC	**Dease Lake**	**139.50**	**308**	IAMs_20	IAMs_20	15 52 33.9		
	comp=Z,2µm,20.0s							
WRAK	**Wrangell Islan**	**139.52**	**304**		**PKPdf**	**14 40 04.0**	**+0.7**	
TPUB	**Ta-pu**	**140.48**	**132**	IAMs_20	IAMs_20	15 50 46.7		
	comp=Z,2µm,18.0s							
YULB	**Yu-li**	**140.84**	**132**	IAMs_20	IAMs_20	15 46 53.3		
	comp=Z,1µm,20.0s							
QZH	**Quanzhou**	**141.02**	**128**	*i* PKP	**PKPdf**	**14 40 06.8**	**-0.4**	
QZH				SKKS		14 49 58.3		
QZH				AMB	AMB			
	comp=Z,370nm,9.1s							
QZH				LR	LR			
	comp=Z,2µm,16.5s							
QZH				LR	LR			
	comp=Z,780nm,19.0s							
QZH				LR	LR			
	comp=Z,2µm,17.5s							
SIT	**Sitka**	**141.26**	**303**	IAMs_20	IAMs_20	15 52 08.7		
	comp=Z,1µm,19.0s							
JIS	**Juneau Island**	**141.41**	**306**		PKPpre	14 40 01.7		
BESE	**Bessie Mountai**	**141.78**	**306**	IAMs_20	IAMs_20	15 57 11.2		
	comp=Z,2µm,18.0s							
WAKE	**Wake Island**	**142.17**	**203**	IAMs_20	IAMs_20	15 46 06.9		
	comp=Z,2µm,22.0s							
LZH	**Lanzhou**	**142.28**	**101**	⇓PKP	**PKPdf**	**14 40 08.0**	**-1.3**	
LZH				sPKP		14 40 15.0		
LZH				PP	**PP**	**14 43 22.8**	**+6.2**	
LZH				PKS		14 43 42.3		
LZH				SKKS		14 50 09.0		
LZH				SS	**SS**	**15 01 52.8**	**+3.5**	
LZH				AMB	AMB			
	comp=Z,760nm,9.3s							
LZH				LR	LR			
	comp=Z,2µm,17.3s							
LZH				LR	LR			
	comp=Z,1µm,17.4s							
LZH				LR	LR			
	comp=Z,2µm,19.5s							
TATO	**Taipei**	**142.32**	**131**	IAMs_20	IAMs_20	15 50 38.5		
	comp=Z,1µm,20.0s							
GTA	**Gaotai**	**142.33**	**93**	*e*PKP	**PKPdf**	**14 40 09.0**	**-0.3**	
GTA				pPKP	PKiKP	14 40 13.0	+0.7	
GTA				PP	**PP**	**14 43 21.5**	**+4.6**	
GTA				PKS		14 43 46.0		
GTA				SKKS		14 50 06.5		
GTA				AMB	AMB			
	comp=Z,220nm,9.2s							
GTA				LR	LR			
	comp=Z,990nm,18.4s							
GTA				LR	LR			
	comp=Z,1µm,18.1s							
GTA				LR	LR			
	comp=Z,2µm,19.0s							
YOJ	**Yonaguni jima**	**142.50**	**134**	IAMs_20	IAMs_20	15 55 41.5		
	comp=Z,1µm,19.0s							
ZAA0	**Zalesovo Array**	**142.63**	**64**		PKPpre	14 40 04.6		
ZALV	**Zalesovo Beam**	**142.63**	**64**	PKhKP	PKPpre	14 40 05.1		
	comp=Z,2.3nm,0.5s,baz=262,slow=3.7,SNR=9.2							
ZALV				PKiKP	**PKiKP**	**14 40 12.3**	**+0.1**	
	comp=Z,3.1nm,0.6s,baz=238,slow=2.9,SNR=7.6							
WHY	**Whitehorse**	**142.73**	**309**		**PKPdf**	**14 40 05.0**	**-4.3**	
A36M	**Sachs Harbour**	**143.40**	**329**	P	**PKPdf**	**14 40 08.9**	**-1.0**	
	baz=108							
XAN	**Xi'an**	**143.57**	**108**	PKP	PKPbc	14 40 08.8	-0.2	
XAN				PP	**PP**	**14 43 23.3**	**-0.9**	
XAN				SS	SS	15 02 09.5	+5.6	
XAN				AMB	AMB			
	comp=Z,750nm,8.8s							
XAN				LR	LR			
	comp=Z,1µm,21.2s							
XAN				LR	LR			
	comp=Z,990nm,20.6s							
XAN				LR	LR			
	comp=Z,2µm,20.8s							
XAN	**Xi'an**	**143.57**	**108**	PKHKP	PKPbc	14 40 07.8	-1.2	
XAN	**Xi'an**	**143.57**	**108**	PKPpre	PKPbc	14 40 07.8	-1.1	
WHN	**Wuhan**	**143.69**	**118**	PKPbc	PKPab	14 40 01.5	-7.0	
WHN				PP	PP	14 43 45.5	+21	
WHN				AMB	AMB			
	comp=Z,1µm,12.9s							
WHN				LR	LR			
	comp=N,4µm,17.6s							
WHN				LR	LR			
	comp=E,3µm,19.0s							
WHN				LR	LR			
	comp=Z,7µm,18.4s							
HYT	**Haines Junctio**	**143.97**	**308**	PKPpre	PKPbc	14 40 09.2	-0.2	
PCA	**Pinnacle**	**144.93**	**306**		**PKPab**	**14 40 11.8**	**-0.6**	
PCA				IAMs_20	IAMs_20	15 58 57.6		
	comp=Z,1µm,19.0s							
INK	**Inuvik**	**144.98**	**321**	PKP	PKPbc	14 40 11.8	-0.4	
	comp=Z,127nm,0.8s,baz=94,slow=3.5,SNR=178							
INK	**Inuvik**	**144.98**	**321**	PKiKP	PKPbc	14 40 11.5	-0.7	
INK	**Inuvik**	**144.98**	**321**		PKPbc	14 40 11.5	-0.7	
TABL	**Table Mountain**	**145.47**	**306**		**PKPab**	**14 40 15.0**	**+0.5**	
TABL				IAMs_20	IAMs_20	15 56 12.8		
	comp=Z,2µm,20.0s							
EPYK	**Eagle Plains**	**145.60**	**317**	P	**PKPdf**	**14 40 14.0**	**0.0**	
	baz=107,SNR=61							
EPYK	**Eagle Plains**	**145.60**	**317**	PKPdf	**PKPdf**	**14 40 13.1**	**-0.9**	
YAH	**Yahtse**	**145.72**	**306**	IAMs_20	IAMs_20	15 56 32.4		
	comp=Z,2µm,20.0s							
CTGM	**Chitina Glacie**	**145.75**	**307**		**PKPab**	**14 40 15.8**	**+0.3**	
BARN	**Barnard Glacie**	**145.94**	**307**	PKPbc	**PKPab**	**14 40 16.4**	**+0.1**	
BARN				IAMs_20	IAMs_20	15 55 28.1		
	comp=Z,1µm,20.0s							
DAWY	**Dawson**	**145.97**	**313**	PKPdf	**PKPdf**	**14 40 14.6**	**-0.1**	
ISLE	**Juniper Island**	**146.08**	**306**	PKPdf	**PKPbc**	**14 40 16.2**	**+0.1**	
ISLE				IAMs_20	IAMs_20	15 57 47.0		
	comp=Z,2µm,19.0s							
BALM	**Baldy**	**146.24**	**307**	PKPdf	**PKPbc**	**14 40 16.6**	**+0.1**	
WAX	**Waxell Ridge**	**146.26**	**306**		**PKPab**	**14 40 17.4**	**0.0**	
WAX				IAMs_20	IAMs_20	15 53 43.8		
	comp=Z,2µm,20.0s							
TGL	**Tana Glacier**	**146.36**	**306**	PKPdf	**PKPbc**	**14 40 17.0**	**+0.1**	
TGL				IAMs_20	IAMs_20	15 51 20.3		
	comp=Z,2µm,21.0s							
CRQM	**Cirque**	**146.50**	**306**	PKPdf	**PKPbc**	**14 40 17.2**	**-0.2**	
MCARA	**McCarthy VSAT**	**146.67**	**307**		**PKPbc**	**14 40 18.1**	**+0.5**	
MCARA				IAMs_20	IAMs_20	15 58 07.4		
	comp=Z,1µm,19.0s							
JOW	**Kunigami**	**146.69**	**140**	PKPbc	**PKPab**	**14 40 20.2**	**+0.3**	
	comp=Z,5.0nm,1.0s,baz=147,slow=15,SNR=7.8							
VRDI	**Verde Repeater**	**146.81**	**307**	PKPdf	**PKPbc**	**14 40 17.5**	**-0.8**	
VRDI				IAMs_20	IAMs_20	15 54 31.2		
	comp=Z,1µm,20.0s							
EGAK	**Eagle**	**146.91**	**314**		**PKPdf**	**14 40 17.1**	**+1.0**	
GLB	**Gilahina Butte**	**147.04**	**307**	PKPdf	**PKPbc**	**14 40 18.1**	**-0.6**	
GLB				IAMs_20	IAMs_20	15 50 00.4		
	comp=Z,1µm,20.0s							
RAGM	**Ragged Mountai**	**147.08**	**305**	PKPdf	**PKPbc**	**14 40 18.2**	**-0.6**	
RAGM				IAMs_20	IAMs_20	15 45 39.6		
	comp=Z,2µm,22.0s							
NJ2	**Nanjing**	**147.14**	**122**	*e*PKPbc	**PKPbc**	**14 40 20.5**	**+0.7**	
NJ2				PKPab	**pPKPdf**	**14 40 25.5**	**-1.0**	
NJ2				sPKP		14 40 30.8		
NJ2				PP	**PP**	**14 43 45.0**	**-0.2**	
NJ2				SKKS		14 50 35.0		
NJ2				SS	**SS**	**15 02 48.5**	**+4.4**	
NJ2				AMB	AMB			
	comp=Z,590nm,11.1s							
NJ2				LR	LR			
	comp=Z,2µm,18.7s							
NJ2				LR	LR			
	comp=Z,550nm,16.8s							
NJ2				LR	LR			
	comp=Z,3µm,18.1s							
SSE	**Sheshan**	**147.45**	**126**	PKPbc	**PKPdf**	**14 40 16.8**	**-1.4**	
SSE				LR	LR			
	comp=Z,1µm,19.4s							
SSE				LR	LR			
	comp=Z,810nm,19.1s							
SSE				LR	LR			
	comp=Z,2µm,17.8s							
MENT	**Mentasta**	**147.47**	**310**		**PKPbc**	**14 40 18.8**	**-1.0**	
EYAK	**Cordova Ski Ar**	**147.64**	**305**	PKPbc	**PKPbc**	**14 40 21.2**	**+0.9**	
DOT	**Dot Lake**	**147.82**	**311**	PKPbc	**PKPbc**	**14 40 21.5**	**+0.7**	
SCRK	**Sand Creek**	**147.88**	**312**	PKPbc	**PKPbc**	**14 40 21.7**	**+0.6**	
HIN	**Hinchinbrook I**	**147.94**	**305**		**PKPbc**	**14 40 21.9**	**+0.7**	
FID	**Port Fidalgo**	**148.04**	**305**		**PKPbc**	**14 40 22.2**	**+0.8**	
FID				IAMs_20	IAMs_20	15 53 36.3		
	comp=Z,2µm,19.0s							
RIDG	**Independent Ri**	**148.18**	**311**	PKPbc	**PKPbc**	**14 40 22.6**	**+0.8**	
TIY	**Taiyuan**	**148.21**	**107**	*e*PKPbc	**PKPbc**	**14 40 21.3**	**-1.4**	
TIY				AMB	AMB			
	comp=Z,520nm,10.4s							
TIY				LR	LR			
	comp=Z,1µm,17.2s							
TIY				LR	LR			
	comp=Z,390nm,17.0s							
TIY				LR	LR			
	comp=Z,1µm,18.5s							
PAX	**Paxson**	**148.25**	**309**	PKP2	**PKPbc**	**14 40 22.2**	**+0.2**	
PAX	**Paxson**	**148.25**	**309**		**PKPbc**	**14 40 22.2**	**+0.2**	
PAX				IAMs_20	IAMs_20	15 53 05.0		
	comp=Z,2µm,20.0s							
GLI	**Glacier Island**	**148.37**	**305**		**PKPbc**	**14 40 22.7**	**+0.4**	
SCM	**Sheep Creek Mo**	**148.76**	**307**	PKP2	**PKPbc**	**14 40 24.1**	**+0.8**	
SCM	**Sheep Creek Mo**	**148.76**	**307**	PKPbc	**PKPbc**	**14 40 24.1**	**+0.8**	
SCM				IAMs_20	IAMs_20	16 02 22.8		
	comp=Z,1µm,20.0s							
PRP	**Porcupine Dome**	**148.88**	**314**	PKPbc	**PKPbc**	**14 40 24.0**	**+0.4**	
NRIK	**Noril'sk**	**148.90**	**38**	PKPbc	**PKPbc**	**14 40 22.5**	**-0.9**	
	comp=Z,14nm,0.8s,baz=340,slow=1.8,SNR=16							
BTO	**Baotou**	**148.91**	**101**	*e*PKPbc	**PKPdf**	**14 40 18.3**	**-2.1**	
FYU	**Fort Yukon**	**148.96**	**316**	PKPbc	**PKPbc**	**14 40 24.2**	**+0.7**	
DHY	**Denali Highway**	**149.11**	**309**	IAMs_20	IAMs_20	15 49 21.9		
	comp=Z,2µm,20.0s							
KNK	**Knik Glacier**	**149.16**	**306**		**PKPbc**	**14 40 24.8**	**+0.5**	
HDA	**Harding Lake**	**149.24**	**312**	P	**PKPdf**	**14 40 18.3**	**-1.8**	
	baz=102,SNR=23							
HDA	**Harding Lake**	**149.24**	**312**	PKPbc	**PKPbc**	**14 40 24.1**	**-0.2**	
HDA				IAMs_20	IAMs_20	15 58 20.0		
	comp=Z,2µm,20.0s							
SEW	**Seward**	**149.25**	**303**		**PKPbc**	**14 40 24.5**	**+0.1**	
SEW				IAMs_20	IAMs_20	15 58 16.0		
	comp=Z,2µm,21.0s							
IL31		**149.29**	**313**	PKPbc	**PKPbc**	**14 40 23.9**	**-0.5**	
ILAR	**Eielson Array**	**149.29**	**313**	PKP	**PKPdf**	**14 40 18.0**	**-2.1**	
	comp=Z,1.9nm,1.0s,baz=318,slow=1.5,SNR=13							
ILAR				PKPbc	**PKPbc**	**14 40 24.2**	**-0.2**	
	comp=Z,87nm,0.8s,baz=130,slow=2.3,SNR=168							
GHO	**Glory Hole Cre**	**149.47**	**306**	PKPbc	**PKPbc**	**14 40 25.5**	**+0.4**	
GHO				IAMs_20	IAMs_20	15 55 29.9		
	comp=Z,1µm,19.0s							
O22K	**Cooper Landing**	**149.49**	**304**	P	**PKiKP**	**14 40 26.4**	**+0.3**	
	baz=107							
PMR	**Palmer**	**149.52**	**306**	PKP2	**PKiKP**	**14 40 25.7**	**-0.4**	
PMR	**Palmer**	**149.52**	**306**	PKPbc	**PKiKP**	**14 40 25.7**	**-0.4**	
PMR				IAMs_20	IAMs_20	16 01 51.4		
	comp=Z,2µm,19.0s							
TIA	**Tai'an**	**149.58**	**115**	PKPbc	**PKPdf**	**14 40 21.0**	**-0.5**	
TIA				SKKS		14 50 45.5		
TIA				LR	LR			
	comp=Z,1µm,21.6s							
TIA				LR	LR			
	comp=Z,1µm,21.6s							
TIA				LR	LR			
	comp=Z,1µm,19.2s							
POKR	**Poker Plat Res**	**149.59**	**313**	P	**PKPbc**	**14 40 25.1**	**-0.1**	
	baz=101,SNR=14							
CCB	**Clear Creek Bu**	**149.65**	**312**	PKPbc	**PKPbc**	**14 40 25.2**	**-0.2**	
CCB				IAMs_20	IAMs_20	15 53 50.9		
	comp=Z,1µm,20.0s							
COLA	**College**	**149.72**	**313**	PKP2	**PKPbc**	**14 40 25.1**	**-0.4**	
COLA	**College**	**149.72**	**313**		**PKPbc**	**14 40 25.1**	**-0.4**	
COLA	**College**	**149.72**	**313**	IAMs_20	IAMs_20	15 52 58.6		
	comp=Z,2µm,21.0s							
TCOL	**CIGO, UAF Yank**	**149.72**	**313**	P	**PKPbc**	**14 40 25.6**	**+0.1**	
	baz=101,SNR=23							
WRH	**Wood River Hil**	**149.74**	**312**	IAMs_20	IAMs_20	15 54 23.2		
	comp=Z,1µm,20.0s							
RND	**Reindeer**	**149.84**	**310**	PKP2	**PKPbc**	**14 40 25.6**	**-0.4**	
RND	**Reindeer**	**149.84**	**310**	PKPbc	**PKPbc**	**14 40 25.6**	**-0.4**	
MDM	**Murphy Dome**	**149.89**	**313**		**PKPbc**	**14 40 25.5**	**-0.5**	
CNPM	**China Poot**	**149.93**	**301**		**PKPbc**	**14 40 25.7**	**-0.6**	
CNPM				IAMs_20	IAMs_20	15 54 49.1		
	comp=Z,1µm,21.0s							
HHC	**Hu-ho-hao-te**	**149.93**	**102**	*e*PKPbc	**PKPbc**	**14 40 26.8**	**-0.2**	
HHC				PP	**PP**	**14 44 08.5**	**+6.7**	
HHC				AMB	AMB			
	comp=Z,97nm,5.5s							
HHC				LR	LR			
	comp=Z,730nm,19.0s							
HHC				LR	LR			
	comp=Z,1µm,18.0s							
HHC				LR	LR			
	comp=Z,970nm,18.2s							
MCK	**McKinley**	**149.95**	**310**	PKP2	**PKPbc**	**14 40 25.8**	**-0.4**	
MCK	**McKinley**	**149.95**	**310**	PKPbc	**PKPbc**	**14 40 25.8**	**-0.4**	
KDAK	**Kodiak Island**	**150.03**	**298**	PKP	**PKPdf**	**14 40 19.2**	**-2.2**	
KDAK				PKPbc	**PKPbc**	**14 40 26.5**	**0.0**	
KDAK	**Kodiak Island**	**150.03**	**298**	PKiKP	**PKPdf**	**14 40 19.2**	**-2.2**	
KDAK						14 40 27.1		
KDAK	**Kodiak Island**	**150.03**	**298**	IAMs_20	IAMs_20	16 03 12.2		
	comp=Z,2µm,19.0s							
MOY	**Mondy**	**150.15**	**76**	*e*PKiKP	**PKPdf**	**14 40 21.8**	**-0.2**	
MOY				pmax	pmax			
	comp=Z,187nm,2.3s							
HOM	**Homer**	**150.16**	**302**		**PKPbc**	**14 40 26.9**	**+0.2**	
NEA2	**Nenana**	**150.18**	**312**	P	**PKPdf**	**14 40 18.2**	**-3.3**	
	baz=100,SNR=35							
OHAK	**Old Harbor**	**150.20**	**296**		**PKiKP**	**14 40 27.4**	**-0.3**	
SUA	**Susitna One**	**150.24**	**305**	PKPbc	**PKPbc**	**14 40 27.3**	**+0.3**	
SUA				IAMs_20	IAMs_20	15 55 56.9		
	comp=Z,1µm,19.0s							
SII	**Sitkinak Islan**	**150.43**	**295**		**PKiKP**	**14 40 28.5**	**+0.2**	
TRF	**Thorofare Moun**	**150.48**	**309**	PKPbc	**PKiKP**	**14 40 28.6**	**+0.2**	
TRF				IAMs_20	IAMs_20	15 56 33.1		
	comp=Z,1µm,20.0s							
ZAK	**Zakamensk**	**150.81**	**79**	*e*PKiKP	**PKPdf**	**14 40 22.6**	**-0.5**	
ZAK				pmax	pmax			
	comp=Z,45nm,1.3s							
TOLK	**Toolik Lake Re**	**150.86**	**320**	P	**PKPdf**	**14 40 24.1**	**+1.5**	
	baz=93							
CHIR	**Chirikof Islan**	**150.91**	**293**		**PKPbc**	**14 40 28.9**	**+0.3**	
BPAW	**Bear Paw Mtn.**	**150.91**	**311**	IAMs_20	IAMs_20	15 53 53.4		
	comp=Z,2µm,22.0s							
RSO	**Redoubt South**	**150.92**	**303**		**PKiKP**	**14 40 29.6**	**+0.2**	
COLD	**Coldfoot**	**150.99**	**317**	P	**PKPdf**	**14 40 21.0**	**-1.7**	
	baz=95							
COLD	**Coldfoot**	**150.99**	**317**	PKPbc	**PKiKP**	**14 40 29.6**	**+0.6**	
PPLA	**Purkeypile**	**151.22**	**308**	PKPbc	**PKiKP**	**14 40 30.0**	**+0.1**	
SONM	**Songino Array**	**151.27**	**86**	PKP	**PKPdf**	**14 40 23.1**	**-0.8**	
	comp=Z,4.1nm,1.1s,baz=209,slow=2.8,SNR=11							
SONM				PKPbc	**PKPbc**	**14 40 30.2**	**+0.3**	
	comp=Z,36nm,0.9s,baz=223,slow=3.4,SNR=50							
TLY	**Talaya**	**151.62**	**77**	PKPbc	**PKiKP**	**14 40 30.9**	**0.0**	
	comp=Z,9.1nm,0.7s,baz=248,slow=3.4,SNR=21							
TLY	**Talaya**	**151.62**	**77**	*i* PKIKP	**PKPdf**	**14 40 22.3**	**-1.9**	
TLY				*e*		14 40 28.2		
TLY				pmax	pmax			
	comp=Z,105nm,1.6s							
TLY	**Talaya**	**151.62**	**77**		**PKPbc**	**14 40 30.1**	**-0.4**	
ULN	**Ulaanbaatar**	**151.66**	**87**	PKIKP	**PKPbc**	**14 40 30.3**	**-0.6**	
ULN	**Ulaanbaatar**	**151.66**	**87**	PKPbc	**PKPbc**	**14 40 30.3**	**-0.6**	
BJT	**Baijiatuau**	**151.89**	**108**	PKIKP	**PKPbc**	**14 40 30.9**	**-0.5**	
BJT	**Baijiatuau**	**151.89**	**108**		**PKPbc**	**14 40 30.9**	**-0.5**	
BJT	**Baijiatuau**	**151.89**	**108**	IAMs_20	IAMs_20	16 01 15.3		
	comp=Z,2µm,19.0s							
BJI	**Beijing**	**151.91**	**108**	PKPbc	**PKPdf**	**14 40 25.3**	**+0.4**	
BJI				SKKS		14 50 58.5		
IRK	**Irkutsk**	**152.22**	**77**	*e*PKIKP	**PKPdf**	**14 40 24.6**	**-0.4**	
IRK				pmax	pmax			
	comp=Z,104nm,2.3s							
SVW2	**Sparrevohn**	**152.42**	**303**	IAMs_20	IAMs_20	15 54 01.6		
	comp=Z,2µm,21.0s							
CNBA	**Chernabura Isl**	**152.65**	**289**		**PKiKP**	**14 40 33.2**	**+0.4**	
TTA	**Tatalina**	**152.95**	**307**	PKIKP	**PKiKP**	**14 40 34.0**	**+0.7**	
TTA	**Tatalina**	**152.95**	**307**	PKPbc	**PKiKP**	**14 40 34.0**	**+0.7**	
A21K	**Barrow**	**153.14**	**326**	P	**PKiKP**	**14 40 34.3**	**+0.9**	
	baz=81							
JNU	**Nakatsue**	**153.32**	**138**	PKPbc	**PKiKP**	**14 40 35.5**	**+0.4**	
	comp=Z,12nm,0.9s,baz=22,slow=1.4,SNR=8.3							
DL2	**Dalian**	**153.94**	**117**	PKPbc	**PKPdf**	**14 40 27.3**	**-0.6**	
DL2				AMB	AMB			
	comp=Z,320nm,10.0s							
DL2				LR	LR			
	comp=Z,2µm,19.2s							
DL2				LR	LR			
	comp=Z,1µm,17.9s							
KSRS	**Korea Array**	**155.82**	**128**	PKP	**PKPdf**	**14 40 29.8**	**-0.8**	
	comp=Z,0.6nm,0.8s,baz=169,slow=2.6,SNR=5.1							
KSRS				PKPab	**PKPab**	**14 40 57.7**	**+0.3**	
	comp=Z,0.4nm,0.4s,baz=127,slow=23,SNR=5.0							
RDOG	**Red Dog Mine**	**155.82**	**319**	PKPab	**PKPab**	**14 40 57.5**	**+0.9**	
UNV	**Unalaska Valle**	**156.07**	**284**	IAMs_20	IAMs_20	16 02 35.0		
	comp=Z,2µm,21.0s							
NIKH	**Nikolski High**	**157.06**	**280**	IAMs_20	IAMs_20	16 00 01.3		
	comp=Z,1µm,19.0s							
SNY	**Shenyang**	**157.10**	**115**	⇑PKP	**PKPdf**	**14 40 30.8**	**-1.3**	
SNY				PP	**PP**	**14 44 43.0**	**+1.0**	
SNY				AMB	AMB			
	comp=Z,370nm,10.2s							
SNY				LR	LR			
	comp=Z,1µm,19.0s							
SNY				LR	LR			
	comp=Z,310nm,17.7s							
SNY				LR	LR			
	comp=Z,1µm,17.5s							
CIT	**Chita**	**157.32**	**83**	*e*PKP2	**PKPab**	**14 41 04.5**	**+0.9**	
MAJO	**Matsushiro**	**158.93**	**148**	IAMs_20	IAMs_20	16 00 24.9		
	comp=Z,1µm,20.0s							
MJAR	**Matsushiro Arr**	**158.93**	**148**	PKP	**PKPdf**	**14 40 35.0**	**+0.4**	
	comp=Z,0.9nm,0.4s,baz=124,slow=15,SNR=8.0							
MJAR				PKPab	**PKPab**	**14 41 12.7**	**+1.8**	
	comp=Z,2.8nm,0.9s,baz=190,slow=5.7,SNR=5.9							
MJAR	**Matsushiro Arr**	**158.93**	**148**	PKIKP	**PKPdf**	**14 40 35.0**	**+0.4**	
SPIA	**Saint Paul Isl**	**159.05**	**290**	IAMs_20	IAMs_20	16 08 42.3		
	comp=Z,1µm,20.0s							
BOD	**Bodaibo**	**159.27**	**68**	*e*PKIKP	**PKPdf**	**14 40 34.7**	**+0.5**	
BOD				pmax	pmax			
	comp=Z,20nm,1.6s							
CN2	**Changchun**	**159.47**	**114**	*e*PKP	**PKPdf**	**14 40 34.5**	**-0.4**	
CN2				PP	**PP**	**14 44 58.3**	**+3.3**	
CN2				SKKS		14 51 37.0		
CN2				AMB	AMB			
	comp=Z,100nm,11.0s							
CN2				LR	LR			
	comp=Z,600nm,21.0s							
CN2				LR	LR			
	comp=Z,400nm,21.0s							
CN2				LR	LR			
	comp=Z,800nm,19.0s							
HIA	**Hailar**	**159.60**	**94**	PKP2	**PKPab**	**14 41 13.5**	**-0.1**	
HIA	**Hailar**	**159.60**	**94**		**PKPab**	**14 41 13.5**	**-0.1**	
TIXI	**Tiksi**	**161.05**	**22**	PKP2	**PKPab**	**14 41 19.6**	**+0.4**	
TIXI	**Tiksi**	**161.05**	**22**		**PKPab**	**14 41 19.6**	**+0.4**	
MDJ	**Mudanjiang**	**162.17**	**118**	PKP	**PKPdf**	**14 40 37.5**	**-0.3**	
USRK	**Ussuriysk Ar.**	**163.04**	**123**	PKP	**PKPdf**	**14 40 37.6**	**-1.0**	
	comp=Z,1.2nm,0.8s,baz=148,slow=41,SNR=2.7							
USRK				PKPab	**PKPab**	**14 41 28.2**	**-0.5**	
	comp=Z,3.7nm,1.0s,baz=274,slow=4.3,SNR=4.8							
ZEA	**Zeya**	**165.69**	**87**	*i* PKIKP	**PKPdf**	**14 40 39.8**	**-0.9**	
ZEA				pmax	pmax			
	comp=Z,63nm,2.0s							
ZEA				pmax	pmax			
	comp=Z,400nm,8.0s							
BILL	**Bilibino**	**165.70**	**338**	⇑*e*PKIKP	**PKPdf**	**14 40 35.1**	**-5.2**	
BILL				*e*		14 45 25.0		
BILL				*e*PPP	PPP	14 49 18.9		
BILL				pmax	pmax			
	comp=Z,31nm,3.1s							
KLR	**Kul'dur**	**166.28**	**109**	PKP	**PKPdf**	**14 40 40.7**	**-0.6**	
	comp=Z,1.0nm,0.6s,baz=115,slow=1.8,SNR=11							
KLR				PKPab	**PKPab**	**14 41 42.1**	**-0.8**	
	comp=Z,2.3nm,0.6s,baz=288,slow=6.7,SNR=4.7							
YAK	**Yakutsk**	**166.82**	**51**	PKP	**PKPdf**	**14 40 38.7**	**-2.6**	
	comp=Z,1.8nm,0.5s,baz=240,sl

PSGCX	**Pisagua**	**47.66 301**	P	**P**	**14 38 59.9**	**+0.2**	
MNMC	**Minye Minye**	**47.80 302**	P	**P**	**14 39 01.9**	**+0.9**	
LPAZ	**La Paz**	**49.56 306**	P	**P**	**14 39 15.6**	**+0.7**	
	comp=Z,3.8nm,0.5s,baz=103,slow=4.7,SNR=17						
LPAZ	**La Paz**	**49.56 306**	P	**P**	**14 39 15.4**	**+0.5**	
LPAZ			IAmb	IAmb	14 39 17.4		
	comp=Z,4.3nm,0.6s						
CASY	**Casey**	**54.74 161**	P	**P**	**14 39 52.2**	**+0.1**	
CASY			IAmb	IAmb	14 41 03.3		
	comp=Z,23nm,1.9s						
TOA0	**Torodi Ar. Sit**	**72.69 30**	P	**P**	**14 41 50.5**	**-0.4**	
TORD	**Torodi Ar. Bea**	**72.69 30**	P	**P**	**14 41 51.2**	**+0.2**	
	comp=Z,4.9nm,0.7s,baz=200,slow=6.5,SNR=24						
ASAR	**Alice Springs**	**99.81 163**	P	**Pdif**	**14 44 07.2**	**-0.4**	
	comp=Z,0.5nm,0.7s,baz=188,slow=5.1,SNR=5.8						
NVAR	**Mina Array Bea**	**120.66 294**	PKP	**PKiKP**	**14 49 16.5**	**+1.8**	
	comp=Z,0.1nm,0.3s,baz=165,slow=16,SNR=2.0						
CMAR	**Chiang Mai Arr**	**125.78 111**	PKP	**PKiKP**	**14 49 25.1**	**0.0**	
	comp=Z,0.5nm,0.4s,baz=196,slow=37,SNR=1.9						
ARCES	**ARCESS Array B**	**130.47 22**	PKP	**PKPdf**	**14 49 31.1**	**-1.0**	
	comp=Z,1.4nm,0.7s,baz=215,slow=1.5,SNR=7.6						
INK	**Inuvik**	**144.94 321**	PKP	**PKPbc**	**14 49 58.2**	**+0.2**	
	comp=Z,7.2nm,0.8s,baz=84,slow=2.7,SNR=15						
INK	**Inuvik**	**144.94 321**		**PKPbc**	**14 49 58.0**	**+0.1**	
EPYK	**Eagle Plains**	**145.56 318**		**PKPbc**	**14 50 00.4**	**+0.2**	
DAWY	**Dawson**	**145.94 313**		**PKPdf**	**14 50 00.9**	**+0.3**	
MENT	**Mentasta**	**147.46 310**		**PKPbc**	**14 50 06.2**	**+0.5**	
DOT	**Dot Lake**	**147.80 311**		**PKPbc**	**14 50 07.0**	**+0.4**	
SCRK	**Sand Creek**	**147.86 312**		**PKPbc**	**14 50 07.2**	**+0.3**	
RIDG	**Independent Ri**	**148.16 311**		**PKPbc**	**14 50 08.2**	**+0.5**	
PAX	**Paxson**	**148.23 310**		**PKPbc**	**14 50 08.2**	**+0.4**	
SCM	**Sheep Creek Mo**	**148.76 307**		**PKPbc**	**14 50 09.6**	**+0.3**	
PRP	**Porcupine Dome**	**148.85 314**		**PKPbc**	**14 50 09.5**	**+0.1**	
FYU	**Fort Yukon**	**148.93 316**		**PKPbc**	**14 50 10.1**	**+0.7**	
HDA	**Harding Lake**	**149.22 312**		**PKPbc**	**14 50 10.2**	**0.0**	
IL31		**149.27 313**		**PKPbc**	**14 50 10.2**	**-0.1**	
ILAR	**Eielson Array**	**149.27 313**	PKPbc	**PKPbc**	**14 50 10.4**	**+0.1**	
	comp=Z,6.8nm,0.8s,baz=128,slow=2.1,SNR=35						
PMR	**Palmer**	**149.52 306**		**PKPbc**	**14 50 11.3**	**+0.3**	
CCB	**Clear Creek Bu**	**149.63 312**		**PKPbc**	**14 50 10.9**	**-0.2**	
WRH	**Wood River Hil**	**149.72 312**		**PKPbc**	**14 50 11.3**	**-0.2**	
RND	**Reindeer**	**149.83 310**		**PKPbc**	**14 50 12.3**	**+0.4**	
MCK	**McKinley**	**149.93 310**		**PKPbc**	**14 50 12.4**	**+0.4**	
KDAK	**Kodiak Island**	**150.05 298**	PKPbc	**PKPbc**	**14 50 12.9**	**+0.5**	
	comp=Z,4.5nm,0.8s,baz=110,slow=3.4,SNR=5.6						
KDAK	**Kodiak Island**	**150.05 298**		**PKPbc**	**14 50 12.7**	**+0.3**	
TRF	**Thorofare Moun**	**150.47 310**		**PKPbc**	**14 50 13.8**	**+0.3**	
SKT	**Skwentna**	**150.72 306**		**PKPbc**	**14 50 13.8**	**-0.1**	
TOLK	**Toolik Lake Re**	**150.82 320**		**PKPbc**	**14 50 14.4**	**+0.3**	
BPAW	**Bear Paw Mtn.**	**150.89 311**		**PKPbc**	**14 50 14.1**	**-0.2**	
SONM	**Songino Array**	**151.18 86**	PKP	**PKPdf**	**14 50 08.9**	**-0.8**	
	comp=Z,0.3nm,0.7s,baz=122,slow=40,SNR=1.3						
SONM			PKPbc	**PKPbc**	**14 50 15.7**	**0.0**	
	comp=Z,2.8nm,0.8s,baz=230,slow=1.6,SNR=10						

IDC 29 14:31:09.6±2.3, 55°33S×28°04W, h0km, mb4.1/1, mb1 4.1/1, mb1mx3.5/39, mbtmp4.1/1, Error ellipse: s-maj=122.9km s-min=86.1km az=143.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**72.67**	**30**	P	P	14 42 39.0	0.0
	1.0nm,0.5s,baz=201,slow=6.5,SNR=1.5						
ILAR	**Eielson Array**	**149.27**	**313**	PKPbc	PKPbc	14 50 58.1	-0.5
	1.8nm,0.7s,baz=122,slow=2.5,SNR=4.7						
SONM	**Songino Array**	**151.16**	**86**	PKPbc	PKPbc	14 51 03.6	-0.3
	0.6nm,0.5s,baz=242,slow=3.1,SNR=1.5						

*IDC **29** 14:32:47.8±0.3,55°.39S×28°.11W,h0km,mb5.2/32, mb1 5.2/34,mb1mx5.2/39,mbtmp5.2/34,ML5.1/2,MS5.7/13, Ms1 5.6/13,ms1mx5.6/16,Error ellipse: s-maj=11.2km s-min=7.9km az=41.0*

*MOS **29** 14:32:49.0±1.0,55°.42S×28°.23W,h13km,mb5.8/27, MS5.8/11,Error ellipse: s-maj=17.2km s-min=9.7km az=115.3*

*UNK **29** 14:32:49.4,55°.39S×28°.14W,h10km*

*NEIC **29** 14:32:49.4±1.3,55°.36S±0°.09×28°.1W±0°.1,h10km±1km, mb5.7/92,Ms_20 5.8/390,Mwb6.0/21,Mwc6.0(GCMT), Error ellipse: s-maj=15.7km s-min=12.5km az=207.0*

*BJI **29** 14:32:49.5±0.0,55°.40S×28°.20W,h20km,mB5.8/43, Ms6.1/57,Ms7 6.0/56*

*NEIC **29** 14:32:50.1,55°.41S×28°.20W,h6km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.84; $M_{\theta\theta}$-0.90; $M_{\phi\phi}$0.06; $M_{r\theta}$-0.52; $M_{\theta\phi}$0.66; $M_{r\phi}$0.86; Fault plane solution: $M_0$1.48000×10^{18} NP1:ϕ_s88.60000°, δ31.79000°, λ41.80000°. NP2:ϕ_s321.36000°, δ69.44000°, λ114.80000°. Principal axes: T 1.3953, Plg58.0000°, Azm266.0000°; N 0.1650, Plg23.0000°, Azm132.0000°; P -1.5603, Plg21.0000°, Azm33.0000°;*

*NEIC **29** 14:32:56,55°.28S×28°.05W,h15km,Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}1.13; $M_{\theta\theta}$-0.80; $M_{\phi\phi}$-0.34; $M_{r\theta}$-0.41; $M_{\theta\phi}$0.69; $M_{r\phi}$0.25; Fault plane solution: $M_0$1.31000×10^{18} NP1:ϕ_s128.00000°, δ34.00000°, λ93.00000°. NP2:ϕ_s304.00000°, δ56.00000°, λ88.00000°. Principal axes: T 1.2233, Plg79.0000°, Azm205.0000°; N 0.1649, Plg2.0000°, Azm305.0000°; P -1.3882, Plg11.0000°, Azm36.0000°;*

*GCMT **29** 14:32:56.4±0.1,55°.27S×28°.03W,h14km,MW6.0/170, Moment Tensor Solution. s155,c290; s170,c550; Duration: 2s5 Moment tensor: Scale 10^{18}Nm; M_{rr}1.05±.01; $M_{\theta\theta}$-0.74±.01; $M_{\phi\phi}$-0.31±.01; $M_{r\theta}$-0.52±.02; $M_{\theta\phi}$0.64±.01; $M_{r\phi}$0.40±.02; Best double couple: $M_0$1.30600×10^{18} NP1:ϕ_s125.00000°, δ30.00000°, λ88.00000°. NP2:ϕ_s307.00000°, δ60.00000°, λ91.00000°. Principal axes: T 1.2290, Plg75.0000°, Azm220.0000°; N 0.1490, Plg1.0000°, Azm126.0000°; P -1.3820, Plg15.0000°, Azm36.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 29 14:32:49.8±0.5, 55°42S±0.04×28°22W±0.04, h12km±2km, h12km:pP-P, n994, σ1s55/895, mb5.6/86, MS5.8/239, 14C-9D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.91**	**280**	P	**Pn**	**14 34 03.6**	**+0.3**
HOPE	**Hope Point**	**4.91**	**280**	Pn	**Pn**	**14 34 03.6**	**+0.3**
VNA1	**Neumayer--Stat**	**17.60**	**158**	P	**P**	**14 36 57.1**	**+1.6**
VNA3	**Neumayer Olymp**	**17.78**	**160**	P	**P**	**14 36 57.6**	**+0.1**
VNA2	**Neumayer--Watz**	**18.00**	**158**	P	**P**	**14 37 00.3**	**+0.4**
	baz=319,slow=13						
EFI	**East Falkland**	**18.05**	**270**	∥ *i* P	**P**	**14 37 03.2**	**+2.6**
EFI				pmax	pmax		
	comp=Z,186nm,1.0s						
EFI				MLR	MLR		
	comp=Z,11µm,19.0s						
EFI	**East Falkland**	**18.05**	**270**		**Pn**	**14 37 00.3**	**+0.2**
SNAA	**Sanae**	**19.56**	**156**	P	**P**	**14 37 17.1**	**+0.1**
SNAA	**Sanae**	**19.56**	**156**	P	**P**	**14 37 17.3**	**+0.2**
	comp=Z,11nm,0.3s,baz=300,slow=9.9,SNR=59						
SNAA				S	**Sn**	**14 40 57.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=233,slow=19,SNR=1.5						
SNAA				LR	LR	14 42 40.9	
	comp=Z,10µm,21.9s,baz=317,slow=30						
SNAA				ScP	**ScP**	**14 45 10.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=330,slow=4.5,SNR=4.2						
SNAA	**Sanae**	**19.56**	**156**	P	**P**	**14 37 16.9**	**-0.2**
SNAA				S	**Sn**	**14 40 57.5**	**0.0**
SNAA				pmax	pmax		
	comp=Z,382nm,1.5s						
SNAA	**Sanae**	**19.56**	**156**	P	**P**	**14 37 16.9**	**-0.2**
PMSA	**Palmer Station**	**19.88**	**228**	P	**P**	**14 37 21.3**	**+0.8**
	comp=Z,2.2nm,0.3s,baz=70,slow=9.2,SNR=6.7						
PMSA				LR	LR	14 43 34.5	
	comp=Z,22µm,19.3s,baz=74,slow=32						
PMSA	**Palmer Station**	**19.88**	**228**	P	**P**	**14 37 21.1**	**+0.6**
PMSA					**P**	**14 37 21.3**	**+0.8**
PMSA				IAmb	IAmb	14 37 40.2	
	comp=Z,327nm,0.8s						
PMSA	**Palmer Station**	**19.88**	**228**	*eP*	**Pn**	**14 37 21.6**	**-0.6**
PMSA	**Palmer Station**	**19.88**	**228**	*eP*	**Pn**	**14 37 21.6**	**-0.6**
MG01	**Puerto William**	**22.31**	**255**	P	**P**	**14 37 46.2**	**-0.6**
MG01				IAmb	IAmb	14 37 52.2	
	comp=Z,194nm,0.9s						
USHA	**Ushuaia**	**22.78**	**255**	P	**P**	**14 37 52.7**	**+0.9**
	comp=Z,43nm,0.9s,baz=106,slow=12,SNR=11						
USHA				S	**S**	**14 42 03.0**	**+2.7**
	comp=Z,12nm,0.6s,baz=228,slow=8.5,SNR=1.0						
NVL	**N'lazarevskaya**	**23.11**	**147**	*eP*	**P**	**14 37 53.8**	**-1.3**
NVL				pmax	pmax		
	comp=Z,108nm,1.6s						
NVL				MLR	MLR		
	comp=Z,22µm,16.0s						
GO10	**Punta Arenas**	**24.81**	**257**	P	**P**	**14 38 12.2**	**+0.8**
GO10				IAmb	IAmb	14 38 29.9	
	comp=Z,133nm,0.8s						
GO09	**Cerro Castillo**	**26.32**	**261**	P	**P**	**14 38 25.6**	**+0.6**
COYC	**Coyhaique**	**29.13**	**271**	P	**P**	**14 38 49.7**	**-0.5**
COYC				IAmb	IAmb	14 38 52.1	
	comp=Z,70nm,1.2s						
PLTB	**Pedras Altas**	**29.64**	**312**	*eP*	**P**	**14 38 56.0**	**+1.1**
PLTB	**Pedras Altas**	**29.64**	**312**	*eP*	**P**	**14 38 56.0**	**+1.1**
PLCA	**Paso Flores**	**31.31**	**280**	P	**P**	**14 39 09.4**	**-0.3**
	comp=Z,9.8nm,1.1s,baz=141,slow=8.5,SNR=9.0						
PLCA				LR	LR	14 51 46.3	
	comp=Z,5µm,18.8s,baz=136,slow=36						
PLCA	**Paso Flores**	**31.31**	**280**	P	**P**	**14 39 09.4**	**-0.3**
PLCA				pmax	pmax		
	comp=Z,47nm,1.4s						
PLCA	**Paso Flores**	**31.31**	**280**	P	**P**	**14 39 09.4**	**-0.3**
PLCA	**Paso Flores**	**31.31**	**280**	*eP*	**P**	**14 39 10.2**	**+0.5**
PLCA	**Paso Flores**	**31.31**	**280**	*eP*	**P**	**14 39 10.2**	**+0.5**
SYO	**Syowa Base**	**32.44**	**142**	∥ *eP*	**P**	**14 39 17.2**	**-2.0**
SYO	**Syowa Base**	**32.44**	**142**	∥ *i* pP	**P**	**14 39 19.4**	**+0.2**
SYO	**Syowa Base**	**32.44**	**142**	∥ *i* sP	**P**	**14 39 20.0**	**+0.8**
PARB	**Paraibuna**	**34.54**	**331**	*eP*	**P**	**14 39 39.0**	**+1.0**
PARB	**Paraibuna**	**34.54**	**331**	*eP*	**P**	**14 39 39.0**	**+1.0**
MAN01	**Angra dos Reis**	**34.56**	**334**	*eP*	**P**	**14 39 39.3**	**+1.2**
MAN01	**Angra dos Reis**	**34.56**	**334**	*eP*	**P**	**14 39 39.3**	**+1.2**
MRA	**San Martin**	**34.82**	**296**	*i* P	**P**	**14 39 40.5**	**0.0**
SPB	**Sao Paulo**	**34.83**	**328**	P	**P**	**14 39 40.8**	**+0.4**
SPB				IAmb	IAmb	14 39 45.2	
	comp=Z,108nm,1.4s						
SPB	**Sao Paulo**	**34.83**	**328**	*eP*	**P**	**14 39 41.5**	**+1.1**
SPB				*eS*	**S**	**14 45 12.7**	**+1.9**
SPB	**Sao Paulo**	**34.83**	**328**	*eP*	**P**	**14 39 41.5**	**+1.1**
SPB				*eS*	**S**	**14 45 12.7**	**+1.9**
QSPA	**South Pole Qui**	**34.83**	**180**	P	**P**	**14 39 41.3**	**+1.0**
	comp=Z,56nm,0.8s,baz=198,slow=4.6,SNR=51						
QSPA				LR	LR	14 53 40.1	
	comp=Z,13µm,18.7s,baz=190,slow=36						
QSPA	**South Pole Qui**	**34.83**	**180**	P	**P**	**14 39 41.0**	**+0.7**
QSPA				IAmb	IAmb	14 40 00.5	
	comp=Z,75nm,0.8s						
CAM01	**Campos-RJ**	**35.02**	**338**	*eP*	**P**	**14 39 42.8**	**+0.7**
CAM01	**Campos-RJ**	**35.02**	**338**	*eP*	**P**	**14 39 42.8**	**+0.7**
TCA	**Tanti**	**35.12**	**298**	*i* P	**P**	**14 39 43.1**	**+0.2**
VAO	**Valinhos**	**35.24**	**329**	*eP*	**P**	**14 39 45.1**	**+1.0**
VAO	**Valinhos**	**35.24**	**329**	*eP*	**P**	**14 39 45.1**	**+1.0**
PTGB	**Pitanga**	**35.33**	**321**	*eP*	**P**	**14 39 44.9**	**+0.1**
PTGB				*eS*	**S**	**14 45 20.0**	**+1.3**
PTGB	**Pitanga**	**35.33**	**321**	*eP*	**P**	**14 39 44.9**	**+0.1**
PTGB				*eS*	**S**	**14 45 20.0**	**+1.3**
BO02	**Sierra Bellavi**	**35.68**	**287**	P	**P**	**14 39 47.6**	**-0.1**
FRTB	**Fartura**	**35.73**	**325**	*eP*	**P**	**14 39 49.1**	**+0.9**
FRTB	**Fartura**	**35.73**	**325**	*eP*	**P**	**14 39 49.1**	**+0.9**
CPUP	**Villa Florida**	**35.95**	**312**	P	**P**	**14 39 50.0**	**0.0**
	comp=Z,60nm,1.0s,baz=153,slow=7.4,SNR=36						
CPUP				PcP	**PcP**	**14 42 17.5**	**+0.9**
	comp=Z,24nm,1.1s,baz=56,slow=4.2,SNR=4.1						
CPUP				S	**S**	**14 45 25.1**	**-3.0**
	comp=Z,2.5nm,0.9s,baz=37,slow=11,SNR=1.4						
CPUP				ScP	**ScP**	**14 46 03.1**	**+0.7**
	comp=Z,6.6nm,1.0s,baz=68,slow=3.6,SNR=4.0						
CPUP				LR	LR	14 54 02.8	
	comp=Z,8µm,19.4s,baz=160,slow=35						
CPUP	**Villa Florida**	**35.95**	**312**	P	**P**	**14 39 49.6**	**-0.5**
CPUP						14 42 17.5	
CPUP				S	**S**	**14 45 25.1**	**-3.0**
CPUP	**Villa Florida**	**35.95**	**312**	P	**P**	**14 39 49.6**	**-0.5**
GO05	**Huala**	**36.14**	**286**	P	**P**	**14 39 51.6**	**0.0**
BSCB	**Bom Sucesso**	**36.55**	**333**	*eP*	**P**	**14 39 55.3**	**0.0**
BSCB	**Bom Sucesso**	**36.55**	**333**	*eP*	**P**	**14 39 55.3**	**0.0**
MT01	**Popeta**	**36.63**	**288**	P	**P**	**14 39 55.3**	**-0.5**
MT01				IAmb	IAmb	14 39 58.8	
	comp=Z,86nm,1.0s						
MT05	**Renca**	**36.71**	**289**	P	**P**	**14 39 57.0**	**+0.4**
MT05				IAmb	IAmb	14 40 03.3	
	comp=Z,229nm,1.4s						
RTCV	**Cerro Valdivia**	**36.73**	**293**	*i* P	**P**	**14 39 56.4**	**-0.4**
CFA	**Coronel Fontan**	**36.77**	**294**	P	**P**	**14 39 56.7**	**-0.4**
	comp=Z,51nm,0.8s,baz=143,slow=9.5,SNR=49						
CFA				PcP	**PcP**	**14 42 19.6**	**+0.4**
	comp=Z,17nm,0.7s,baz=139,slow=2.3,SNR=5.6						
CFA				S	**S**	**14 45 38.8**	**-1.9**
	comp=Z,0.8nm,0.4s,baz=187,slow=16,SNR=1.3						
APLL	**PUNTA DE LOS L**	**36.85**	**297**	*i* P	**P**	**14 39 57.2**	**-0.6**
PEL	**Peldehue**	**36.88**	**289**	P	**P**	**14 39 58.2**	**+0.2**
PEL				pmax	pmax		
	comp=Z,265nm,1.0s						
PEL	**Peldehue**	**36.88**	**289**	P	**P**	**14 39 58.2**	**+0.2**
PEL	**Peldehue**	**36.88**	**289**	*i* P	**P**	**14 39 58.6**	**+0.6**
AUSP	**Uspallata**	**36.89**	**292**	*i* P	**P**	**14 39 59.1**	**+0.7**
MT02	**Curacav**	**37.03**	**289**	P	**P**	**14 39 59.4**	**+0.2**
MT02				IAmb	IAmb	14 40 02.2	
	comp=Z,146nm,1.3s						
ZON	**Zonda**	**37.05**	**293**	P	**P**	**14 39 59.3**	**-0.2**
ZON				pmax	pmax		
	comp=Z,57nm,0.9s						
ZON				MLR	MLR		
	comp=Z,13µm,19.0s						
ZON	**Zonda**	**37.05**	**293**	P	**P**	**14 39 59.3**	**-0.2**
ZON				IAMs_20	IAMs_20	14 54 47.1	
	comp=Z,13µm,19.0s						
ZON	**Zonda**	**37.05**	**293**	*i* P	**P**	**14 39 59.5**	**0.0**
VA03	**San Esteban**	**37.09**	**290**	P	**P**	**14 40 00.2**	**+0.3**
VA03				IAmb	IAmb	14 40 03.8	
	comp=Z,218nm,1.2s						
RTLS	**Leoncito**	**37.17**	**292**	*i* P	**P**	**14 40 01.3**	**+0.5**
ROC1	**El Roble**	**37.18**	**289**	P	**P**	**14 40 01.2**	**+0.4**
ROC1	**El Roble**	**37.18**	**289**	*i* P	**P**	**14 40 01.3**	**+0.4**
RIB01	**Linhares ES**	**37.21**	**341**	*eP*	**P**	**14 40 01.0**	**+0.2**
RIB01				*eS*	**S**	**14 45 49.3**	**+2.0**
RIB01	**Linhares ES**	**37.21**	**341**	*eP*	**P**	**14 40 01.0**	**+0.2**
RIB01				*eS*	**S**	**14 45 49.3**	**+2.0**
TRCB	**Terra Rica**	**37.29**	**321**	*eP*	**P**	**14 40 02.2**	**+0.7**
TRCB				*eS*	**S**	**14 45 49.8**	**+1.1**
TRCB	**Terra Rica**	**37.29**	**321**	*eP*	**P**	**14 40 02.2**	**+0.7**
TRCB				*eS*	**S**	**14 45 49.8**	**+1.1**
AMOG	**MOGNA**	**37.43**	**294**	*i* P	**P**	**14 40 03.1**	**+0.3**
BSFB	**Barra de Sao F**	**37.76**	**340**	*eP*	**P**	**14 40 05.9**	**+0.4**
BSFB				*eS*	**S**	**14 45 56.3**	**+0.5**
BSFB	**Barra de Sao F**	**37.76**	**340**	*eP*	**P**	**14 40 05.9**	**+0.4**
BSFB				*eS*	**S**	**14 45 56.3**	**+0.5**
ACLC	**CERRO LA CRUZ**	**37.85**	**297**	*i* P	**P**	**14 40 06.2**	**-0.2**
PCMB	**Pacaembu**	**37.91**	**324**	*eP*	**P**	**14 40 06.7**	**0.0**
PCMB				*eS*	**S**	**14 46 00.3**	**+2.4**
PCMB	**Pacaembu**	**37.91**	**324**	*eP*	**P**	**14 40 06.7**	**0.0**
PCMB				*eS*	**S**	**14 46 00.3**	**+2.4**
SJMB	**Sao Joao De Ma**	**37.95**	**340**	*eP*	**P**	**14 40 07.7**	**+0.6**
SJMB	**Sao Joao De Ma**	**37.95**	**340**	*eP*	**P**	**14 40 07.7**	**+0.6**
ACCO	**Cerro Coronel**	**38.01**	**294**	*i* P	**P**	**14 40 09.1**	**+1.2**
ACDV	**Cuesta del Vie**	**38.37**	**294**	*i* P	**P**	**14 40 12.0**	**+1.3**
CO02	**Combarbal**	**38.54**	**291**	P	**P**	**14 40 12.6**	**+0.5**
CO02				IAmb	IAmb	14 40 18.7	
	comp=Z,307nm,1.4s						
AROD	**Rodeo**	**38.55**	**294**	*i* P	**P**	**14 40 14.1**	**+1.5**
AGUA	**GUANDACOL**	**38.59**	**295**	*i* P	**P**	**14 40 13.4**	**+0.8**
CO03	**El Pedregal**	**38.66**	**292**	P	**P**	**14 40 13.9**	**+0.7**
CO03				IAMs_20	IAMs_20	14 55 53.9	
	comp=Z,16µm,18.0s						
CO01	**Juntas del Tor**	**39.03**	**293**	P	**P**	**14 40 16.9**	**+0.5**
VCA	**Vinchina**	**39.05**	**296**	*i* P	**P**	**14 40 17.6**	**+1.2**
VCA				*i* P	**P**	**14 40 17.6**	**+1.2**
GO04	**Tololo Observa**	**39.25**	**292**	P	**P**	**14 40 18.6**	**+0.4**
GO04				IAmb	IAmb	14 40 24.6	
	comp=Z,148nm,1.1s						
GO04				IAMs_20	IAMs_20	14 56 12.2	
	comp=Z,16µm,18.0s						
ITRB	**Iturama**	**39.38**	**326**	*eP*	**P**	**14 40 20.1**	**+1.0**
ITRB	**Iturama**	**39.38**	**326**	*eP*	**P**	**14 40 20.1**	**+1.0**
AC05	**El Transito**	**40.03**	**294**	P	**P**	**14 40 25.4**	**+0.7**
AC05				IAmb	IAmb	14 40 28.3	
	comp=Z,124nm,0.9s						
AC05				IAMs_20	IAMs_20	14 56 28.1	
	comp=Z,10µm,20.0s						
IPMB	**Ipameri, GO**	**40.35**	**330**	*eP*	**P**	**14 40 27.9**	**+0.6**
IPMB	**Ipameri, GO**	**40.35**	**330**	*eP*	**P**	**14 40 27.9**	**+0.6**
AC04	**Llanos de Chal**	**40.96**	**294**	P	**P**	**14 40 32.5**	**+0.3**
AC04				IAmb	IAmb	14 40 35.6	
	comp=Z,240nm,1.1s						
AC04				IAMs_20	IAMs_20	14 56 23.0	
	comp=Z,10µm,19.0s						
MAW	**Mawson**	**41.01**	**144**	P	**P**	**14 40 32.3**	**+0.2**
	baz=41,SNR=21						
MAW	**Mawson**	**41.01**	**144**	P	**P**	**14 40 31.6**	**-0.5**
	comp=Z,14nm,0.9s,baz=228,slow=6.9,SNR=18						
MAW				ScP	**ScP**	**14 46 20.8**	**-0.1**
	comp=Z,6.1nm,0.8s,baz=260,slow=8.0,SNR=5.7						
MAW				LR	LR	14 54 49.9	
	comp=Z,6µm,21.7s,baz=255,slow=32						
MAW	**Mawson**	**41.01**	**144**	P	**P**	**14 40 31.9**	**-0.1**
MAW	**Mawson**	**41.01**	**144**	P	**P**	**14 40 31.9**	**-0.1**
GO03	**Copiap**	**41.02**	**295**	P	**P**	**14 40 32.8**	**+0.1**
SUR	**Sutherland**	**41.05**	**77**	P	**P**	**14 40 33.0**	**-0.1**
	comp=Z,29nm,0.9s,baz=198,slow=7.5,SNR=17						
SUR	**Sutherland**	**41.05**	**77**	P	**P**	**14 40 33.2**	**0.0**
SUR	**Sutherland**	**41.05**	**77**	IAMs_20	IAMs_20	14 54 18.1	
	comp=Z,10µm,18.0s						
AC02	**Maricunga**	**41.07**	**297**	P	**P**	**14 40 34.6**	**+0.9**
AC02				IAmb	IAmb	14 40 37.8	
	comp=Z,263nm,1.4s						
C2SB	**Chapadao do Su**	**41.07**	**323**	*eP*	**P**	**14 40 34.1**	**+1.0**
C2SB	**Chapadao do Su**	**41.07**	**323**	*eP*	**P**	**14 40 34.1**	**+1.0**
JANB	**Januaria**	**42.15**	**336**	*eP*	**P**	**14 40 41.7**	**-0.3**
JANB				*eS*	**S**	**14 47 02.6**	**+1.0**
JANB	**Januaria**	**42.15**	**336**	*eP*	**P**	**14 40 41.7**	**-0.3**
JANB				*eS*	**S**	**14 47 02.6**	**+1.0**
AC01	**Pan de Azucar**	**42.38**	**296**	P	**P**	**14 40 44.1**	**+0.2**
AC01				IAmb	IAmb	14 40 47.0	
	comp=Z,155nm,1.1s						
BDFB	**Brasilia**	**42.52**	**331**	P	**P**	**14 40 45.0**	**-0.1**
	comp=Z,8.4nm,0.6s,baz=163,slow=5.6,SNR=11						
BDFB				S	**S**	**14 47 06.5**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=121,slow=20,SNR=1.4						
BDFB				LR	LR	14 58 03.8	
	comp=Z,10µm,18.8s,baz=159,slow=36						
BDFB	**Brasilia**	**42.52**	**331**	P	**P**	**14 40 45.2**	**+0.1**
GDU01	**Guandu, BA**	**42.53**	**344**	*eP*	**P**	**14 40 44.6**	**-0.5**
GDU01				*eS*	**S**	**14 47 08.1**	**+1.0**
GDU01	**Guandu, BA**	**42.53**	**344**	*eP*	**P**	**14 40 44.6**	**-0.5**
GDU01				*eS*	**S**	**14 47 08.1**	**+1.0**
GO02	**Mina Guanaco**	**42.68**	**298**	P	**P**	**14 40 47.1**	**+0.5**
GO02				IAmb	IAmb	14 40 50.1	
	comp=Z,131nm,0.8s						
SHEL	**Horse Pasture**	**43.01**	**33**	IAMs_20	IAMs_20	14 54 38.4	
	comp=Z,9µm,19.0s						
ARAG	**Araguaiana, MT**	**43.59**	**326**	*eP*	**P**	**14 40 54.3**	**+0.7**
ARAG				*eS*	**S**	**14 47 24.2**	**+1.5**
ARAG	**Araguaiana, MT**	**43.59**	**326**	*eP*	**P**	**14 40 54.3**	**+0.7**
ARAG				*eS*	**S**	**14 47 24.2**	**+1.5**
PB15	**IPOC Station P**	**44.25**	**300**	P	**P**	**14 40 59.3**	**+0.2**
LVC	**Limon Verde**	**44.48**	**301**	P	**P**	**14 41 02.0**	**+0.9**
	comp=Z,69nm,0.6s,baz=151,slow=4.0,SNR=16						
LVC				PcP	**PP**	**14 42 45.9**	**+1.1**
	comp=Z,49nm,1.0s,baz=210,slow=4.7,SNR=3.5						
LVC				S	**S**	**14 47 37.4**	**+1.2**
	comp=Z,2.8nm,1.0s,baz=187,slow=22,SNR=1.6						
LVC	**Limon Verde**	**44.48**	**301**	P	**P**	**14 41 02.0**	**+0.9**
LVC				IAmb	IAmb	14 41 09.2	
	comp=Z,98nm,0.9s						
LVC	**Limon Verde**	**44.48**	**301**	*eP*	**P**	**14 41 02.1**	**+

NPGB Novo Progresso 52.86 325 *e*P **P** **14 42 04.8 -0.5**
ROSB Rosrio 53.92 340 *e*P **P** **14 42 12.6 -0.4**
ROSB Rosrio 53.92 340 *e*P **P** **14 42 12.6 -0.4**
SAML Samuel 53.94 316 P **P** **14 42 12.3 -0.9**
SAML pmax pmax
comp=Z,83nm,1.1s
SAML Samuel 53.94 316 P **P** **14 42 12.3 -0.9**
SAML IAmb IAmb 14 42 18.7
comp=Z,83nm,1.1s
SAML IAMs_20 IAMs_20 15 02 44.8
comp=Z,8µm,18.0s
SAML Samuel 53.94 316 *e*P **P** **14 42 12.7 -0.5**
SAML Samuel 53.94 316 *e*P **P** **14 42 12.7 -0.5**
MATP Matopo 54.66 74 *i* P **P** **14 42 18.5 -0.1**
MATP Matopo 54.66 74 *i* P **P** **14 42 18.5 -0.1**
MATP Matopo 54.66 74 *i* P **P** **14 42 18.5 -0.1**
CASY Casey 54.70 161 P **P** **14 42 17.7 -0.4**
CASY IAmb IAmb 14 42 22.2
comp=Z,56nm,0.9s
MALB Monte Alegre 57.42 329 *e*P **P** **14 42 38.5 +0.3**
MALB Monte Alegre 57.42 329 *e*P **P** **14 42 38.5 +0.3**
NNA Nana 57.43 299 P **P** **14 42 38.7 +0.4**
comp=Z,28nm,0.8s,baz=169,slow=5.4,SNR=10
NNA Nana 57.43 299*c i*P **P** **14 42 39.0 +0.7**
NNA pmax pmax
comp=Z,276nm,1.8s
NNA MLR MLR
comp=Z,7µm,16.0s
NNA Nana 57.43 299 P **P** **14 42 38.2 -0.1**
NNA IAmb IAmb 14 42 41.7
comp=Z,100nm,1.2s
LSZ Lusaka 58.70 70 P **P** **14 42 45.6 -1.7**
LSZ pmax pmax
comp=Z,37nm,1.3s
LSZ Lusaka 58.70 70 P **P** **14 42 45.6 -1.7**
PTGA Pitinga 60.31 323 P **P** **14 42 56.6 -1.7**
comp=Z,9.3nm,0.7s,baz=160,slow=7.1,SNR=19
PTGA Pitinga 60.31 323 P **P** **14 42 57.1 -1.2**
PTGA Pitinga 60.31 323 *e*P **P** **14 42 57.5 -0.8**
PTGA Pitinga 60.31 323 *e*P **P** **14 42 57.5 -0.8**
ATAH Atahualpa 62.37 301 P **P** **14 43 14.4 +1.7**
comp=Z,39nm,1.1s,baz=162,slow=5.7,SNR=30
RPN Rapa Nui 63.18 261 LR LR 15 06 10.9
comp=Z,4µm,18.2s,baz=130,slow=32
MDP Montagnes des 63.60 333 P **P** **14 43 20.3 0.0**
comp=Z,8.7nm,0.6s,baz=203,slow=4.9,SNR=8.4
LIC Lamto 64.37 26 *e*P **P** **14 43 24.4 -1.0**
comp=Z,58nm,0.7s
KIC Kosan Boka 64.57 26 *e*P **P** **14 43 26.3 -0.4**
comp=Z,85nm,1.0s
TIC Toumodi 64.78 26 *e*P **P** **14 43 27.2 -0.9**
DBIC Dimbokro 64.84 26 P **P** **14 43 27.2 -1.2**
comp=Z,27nm,0.7s,baz=174,slow=7.8,SNR=24
DBIC S **S** **14 52 04.5 -4.7**
comp=Z,8.0nm,1.0s,baz=105,slow=22,SNR=2.4
DBIC ScS **ScS** **14 53 25.9 +2.9**
comp=Z,6.0nm,1.1s,baz=270,slow=16,SNR=1.3
DBIC Dimbokro 64.84 26 P **P** **14 43 27.2 -1.2**
DBIC IAmb IAmb 14 43 32.3
comp=Z,84nm,1.3s
ABPO Ambohimpanom 66.32 89 P **P** **14 43 37.4 -0.9**
ABPO pmax pmax
comp=Z,56nm,1.3s
ABPO Ambohimpanom 66.32 89 P **P** **14 43 37.4 -0.9**
ABPO IAmb IAmb 14 43 47.3
comp=Z,56nm,1.2s
OPO Ambohidratompo 66.65 89 P **P** **14 43 41.8 +1.4**
comp=Z,14nm,1.1s,baz=203,slow=7.2,SNR=6.5
PUAC Puerto Asis, P 68.22 306 *e*P **P** **14 43 47.1 -3.0**
MACC Macarena, Meta 68.41 310 *e*P **P** **14 43 50.0 -1.3**
GCUF Volcan Galeras 69.17 306 *e*P **P** **14 43 58.7 +2.1**
GARC Garzon, Huila 69.18 308 *e*P **P** **14 43 56.5 0.0**
RER Riviere de l'E 69.47 98 P **P** **14 43 57.9 -0.1**
BETC Betania 69.59 309 *e*P **P** **14 43 58.5 -0.3**
SOTA Rioblanco 69.64 307 *e*P **P** **14 44 01.1 +1.6**
PCON Cinco Dias 69.71 307 *e*P **P** **14 44 01.7 +1.7**
BBAC Balboa, Cauca 69.83 307 *e*P **P** **14 44 00.2 -0.1**
MARP Paez Belalcaza 69.97 308 *e*P **P** **14 44 01.2 -0.1**
VILC Villavicencio, 70.10 311 *e*P **P** **14 43 58.3 -3.6**
PRAC Prado 70.27 310 *e*P **P** **14 44 02.7 -0.2**
CHIC Chingaza 70.58 311 *e*P **P** **14 44 03.8 -1.5**
ORTC Ortega, Tolima 70.60 309 *e*P **P** **14 44 04.7 -0.2**
ROSC El Rosal 71.03 311 P **P** **14 44 08.7 +0.8**
comp=Z,24nm,0.8s,baz=135,slow=4.1,SNR=24
ROSC LR LR 15 15 14.6
comp=Z,4µm,20.9s,baz=179,slow=36
ROSC El Rosal 71.03 311 *e*P P 14 44 01.3 -6.6
ROSC El Rosal 71.03 311 P **P** **14 44 07.7 -0.2**
ROSC IAmb IAmb 14 44 14.2
comp=Z,113nm,1.4s
YOTC Yotoco, Valle 71.15 308 *e*P **P** **14 44 07.3 -1.0**
TOLC Tolima 71.23 310 *e*P **P** **14 44 08.4 -0.6**
TAMC Tame, Arauca 71.39 314 *e*P **P** **14 44 10.0 +0.4**
RUSC La Rusia 71.44 312 *e*P **P** **14 44 09.5 -1.0**
RUSC La Rusia 71.44 312 P **P** **14 44 09.4 -1.0**
RREF El Recreo 71.53 310 *e*P **P** **14 44 11.7 +0.4**
SPBC San Pablo de B 71.65 311 *e*P **P** **14 44 09.9 -1.3**
GUY2C Guyana, Caldas 71.83 310 *e*P **P** **14 44 11.5 -1.3**
PLCV Puerto La Cruz 72.06 322 P **P** **14 44 13.7 +0.1**
PCRV Puerto La Cruz 72.09 322 P **P** **14 44 13.7 -0.1**
comp=Z,33nm,0.8s,baz=17,slow=3.0,SNR=16
BARC Barichara 72.11 312 *e*P P 14 44 06.5 -7.7
PTBC PUERTO BERRIO, 72.61 311 *e*P **P** **14 44 14.3 -2.6**
CBOC Ciudad Bolivar 72.68 309 *e*P **P** **14 44 16.4 -1.2**
HELC Santa Helena 72.76 310 *e*P **P** **14 44 14.0 -4.2**
TOA0 Torodi Ar. Sit 72.80 31 P P **14 44 16.9 -1.0**
TORD Torodi Ar. Bea 72.80 31 P P **14 44 17.4 -0.6**
comp=Z,58nm,0.8s,baz=201,slow=6.0,SNR=131
TORD S **S** **14 53 42.2 -1.3**
comp=Z,1.7nm,1.1s,baz=205,slow=23,SNR=4.0
TORD LR LR 15 11 27.2
comp=Z,9µm,18.1s,baz=205,slow=32
GRGR Grenville 72.92 326 P **P** **14 44 18.6 -0.1**
SDV Santo Domingo 73.15 316 P **P** **14 44 19.1 -1.2**
SDV IAmb IAmb 14 44 24.1
comp=Z,81nm,1.1s
ZARC Zaragoza, Cauc 73.63 311 *e*P **P** **14 44 20.6 -2.4**
DBBC Dabeiba 73.79 310 *e*P **P** **14 44 23.3 -0.7**
UREC San Jos de Ur 74.16 311 *e*P **P** **14 44 24.0 -2.0**
SMLC San Martn de 74.47 313 *e*P **P** **14 44 25.8 -2.0**
KMBO Kilima Mbogo 75.36 70 P **P** **14 44 37.0 +3.5**
comp=Z,0.3nm,0.3s,baz=181,slow=8.5,SNR=1.3
KMBO S S 14 54 24.8 +12
comp=Z,0.7nm,0.6s,baz=226,slow=23,SNR=1.2
KMBO LR LR 15 16 24.2
comp=Z,9µm,18.8s,baz=198,slow=35
KMBO Kilima Mbogo 75.36 70 P **P** **14 44 32.5 -0.9**
KMBO Kilima Mbogo 75.36 70 P **P** **14 44 32.5 -0.9**
ARGC Ariguani, Magd 75.50 312 *e*P **P** **14 44 32.7 -1.1**
SJCC San Jacinto, C 75.93 312 *e*P **P** **14 44 34.2 -2.1**
SMRC Santa Marta, M 76.67 313 *e*P **P** **14 44 40.1 -0.3**
BCIP Isla Barro Col 77.32 308 P **P** **14 44 44.3 +0.2**
BCIP pmax pmax
comp=Z,88nm,1.4s
BCIP Isla Barro Col 77.32 308 P **P** **14 44 44.2 +0.2**
BCIP IAmb IAmb 14 44 50.3
comp=Z,88nm,1.4s
SKI Saint Kitts 78.14 326 P **P** **14 44 48.5 -0.1**
SKI pmax pmax
comp=Z,128nm,0.9s
SKI Saint Kitts 78.14 326 P **P** **14 44 48.5 -0.1**
SMRT St. Maarten 78.92 326 P **P** **14 44 53.0 +0.1**
CDVI St. Croix 79.19 325 P **P** **14 44 55.0 +0.7**
CDVI IAmb IAmb 14 44 56.7
comp=Z,122nm,1.1s
MTP Monte Pirata 79.77 324 P **P** **14 44 57.5 0.0**
PDPR Patillas Dam, 79.86 324 P **P** **14 44 56.0 -2.0**
CUPR Culebra, Puert 79.88 324 P **P** **14 44 57.4 -0.7**
RPZ Rata Peaks 79.89 194 P **P** **14 44 57.7 -0.4**
comp=Z,34nm,1.1s,baz=192,slow=18,SNR=3.7
RPZ Rata Peaks 79.89 194 IAmb IAmb 14 45 11.3
comp=Z,76nm,1.2s
RPZ IAMs_20 IAMs_20 15 22 05.0
comp=Z,5µm,18.0s
SJG San Juan 79.99 324 P **P** **14 44 57.9 -0.8**
comp=Z,12nm,0.8s,baz=107,slow=0.2,SNR=6.0
SJG San Juan 79.99 324 P **P** **14 44 57.3 -1.3**
SJG pmax pmax
comp=Z,51nm,1.4s
SJG San Juan 79.99 324 P **P** **14 44 57.3 -1.3**
CBYP Canovanas 80.04 324 P **P** **14 44 57.6 -1.4**
CBYP IAmb IAmb 14 45 00.8
comp=Z,108nm,1.4s
OXZ Oxford 80.13 195 IAMs_20 IAMs_20 15 14 05.4
comp=Z,5µm,21.0s
GCPR Guaynabo City 80.15 324 P **P** **14 44 58.0 -1.5**
GCPR IAmb IAmb 14 45 03.4
comp=Z,135nm,1.3s
MLPR Magueyes Islan 80.16 323 P **P** **14 44 58.1 -1.4**
MLPR IAmb IAmb 14 45 01.0
comp=Z,112nm,1.4s
CRPR Cabo Rojo, PR 80.22 323 P **P** **14 44 59.0 -0.9**
CRPR IAmb IAmb 14 45 00.3
comp=Z,88nm,1.2s
LTZ Lake Taylor 80.63 195 P **P** **14 45 01.7 -0.4**
LTZ IAmb IAmb 14 45 05.1
comp=Z,82nm,1.1s
JTS Las Juntas de 80.68 304 P **P** **14 45 03.8 +1.2**
comp=Z,33nm,1.0s,baz=128,slow=2.3,SNR=18
JTS Las Juntas de 80.68 304*c i*P **P** **14 45 03.7 +1.2**
JTS pmax pmax
comp=Z,172nm,1.8s
JTS Las Juntas de 80.68 304 P **P** **14 45 02.1 -0.4**
JTS IAmb IAmb 14 45 09.6
comp=Z,108nm,1.3s
NNZ Nelson 81.99 196 IAMs_20 IAMs_20 15 18 15.6
comp=Z,6µm,19.0s
ACON Acoyapa 82.24 304 P **P** **14 45 10.5 -0.2**
QRZ Quartz Range 82.51 196 IAMs_20 IAMs_20 15 14 15.2
comp=Z,8µm,21.0s
SDDR Presa de Saban 82.61 319 P **P** **14 45 12.7 0.0**
SDDR IAmb IAmb 14 45 18.2
comp=Z,52nm,1.2s
SC01 Santiago de Io 82.81 320 P **P** **14 45 13.5 -0.2**
BOAB BOACO BROADBAND 82.89 304 P **P** **14 45 13.6 -0.6**
TAM Tamanrasset 83.05 31 IAMs_20 IAMs_20 15 19 05.5
comp=Z,6µm,18.0s
MATN Matagalpa 83.43 304 P **P** **14 45 17.0 0.0**
BKZ Black Stump Fm 83.45 199 P **P** **14 45 17.3 +0.3**
BKZ IAmb IAmb 14 45 21.3
comp=Z,61nm,1.4s
BKZ IAMs_20 IAMs_20 15 18 08.3
comp=Z,5µm,20.0s
HIZ Hauiti 84.38 198 IAMs_20 IAMs_20 15 15 24.8
comp=Z,5µm,20.0s
MXZ Matakaoa Point 84.64 201 IAMs_20 IAMs_20 15 18 29.0
comp=Z,5µm,20.0s
SNET Serv Nac Est T 85.67 302 P **P** **14 45 29.2 +0.9**
TBI Tubuai 87.02 232 *e*S **S** **14 56 07.8 -5.7**
comp=Z,1µm,26.0s
TBI Tubuai 87.02 232 *e*LR LR 15 13 05.6
comp=Z,6µm,32.2s,baz=158
NWAO Narrogin (SRO) 87.17 151 P **P** **14 45 36.2 +0.6**
baz=87
NWAO Narrogin (SRO) 87.17 151 P **P** **14 45 35.4 -0.2**
comp=Z,20nm,1.0s,baz=175,slow=4.9,SNR=4.4
NWAO Narrogin (SRO) 87.17 151 P **P** **14 45 35.5 -0.1**
NWAO pmax pmax
comp=Z,64nm,1.4s
NWAO Narrogin (SRO) 87.17 151 P **P** **14 45 35.5 -0.1**
NWAO IAmb IAmb 14 45 37.3
comp=Z,64nm,1.4s
NWAO Narrogin (SRO) 87.17 151 IAmb IAmb 14 45 37.2
comp=Z,52nm,1.4s
TOO Toolangi 87.22 175 IAMs_20 IAMs_20 15 20 12.3
comp=Z,7µm,18.0s
MUN Mundaring 87.77 150 P **P** **14 45 39.5 +0.9**
baz=88,SNR=6.1
PMOZ Porto Moniz, M 88.39 9 *e*S **S** **14 56 19.1 -7.0**
KLBR Kellerberrin 88.57 151 P **P** **14 45 43.1 +0.8**
baz=88,SNR=4.8
PMPS Porto Santo 88.71 10 *e*P **P** **14 45 44.4 +1.9**
comp=Z,185nm,1.7s
ATD Arta Tunnel 88.96 68 S **SKSac** **14 56 17.0 +3.3**
comp=Z,3.1nm,0.3s,baz=282,slow=23,SNR=1.4
CCIG Comitan 89.32 300 P **P** **14 45 45.9 -0.1**
CCIG IAmb IAmb 14 45 59.0
comp=Z,34nm,1.2s
KMBL Kambalda 89.84 155 P **P** **14 45 48.2 -0.1**
baz=90,SNR=7.2
AVE Averroes 90.14 17 PS PS 14 57 44.0 -6.1
MDT Midelt 90.18 20 P **P** **14 45 49.4 -0.2**
comp=Z,23nm,1.2s,baz=224,slow=5.1,SNR=12
MDT S **SKSac** **14 56 23.7 +3.6**
comp=Z,2.4nm,1.1s,baz=339,slow=8.6,SNR=1.1
IFR Ifrane 90.77 19 PS PS 14 57 52.7 -4.7
HTT Hallett 90.82 169 P **P** **14 45 53.7 +0.8**
baz=91,SNR=5.8
TEIG Tepich 90.86 306 P **P** **14 45 53.0 +0.1**
comp=Z,86nm,0.9s
TEIG Tepich 90.86 306 P **P** **14 45 53.5 +0.5**
CMIG Matias Romero 91.37 299 P **P** **14 45 55.3 0.0**
comp=Z,20nm,1.1s,baz=156,slow=3.3,SNR=9.7
PPT2 Papeete2 92.08 235 *e*PS PS 14 58 09.9 -1.7
comp=Z,3µm,28.2s
PPT2 Papeete2 92.08 235 *e*LR LR 15 15 25.8
comp=Z,5µm,25.5s,baz=155
PSMN Pico do Norte, 92.10 3 *e*P **P** **14 45 57.6 -0.6**
PVLZ Peaen de 92.53 19 *e*P **P** **14 46 01.1 +0.9**
PVLZ Peaen de 92.53 19 PS PS 14 58 13.0 -3.5
061Z Ochoppi 92.58 314 IAMs_20 IAMs_20 15 18 49.6
comp=Z,3µm,19.0s
STKA Stephens Creek 92.62 171 P **P** **14 46 01.7 +0.5**
baz=93,SNR=5.1
STKA Stephens Creek 92.62 171 P **P** **14 46 02.0 +0.8**
comp=Z,4.3nm,0.7s,baz=143,slow=5.9,SNR=8.4
STKA LR LR 15 26 51.5
comp=Z,4µm,18.8s,baz=182,slow=35
STKA Stephens Creek 92.62 171 P **P** **14 46 02.0 +0.8**
STKA pmax pmax
comp=Z,2.0nm,1.1s
STKA Stephens Creek 92.62 171 IAmb IAmb 14 46 07.7
comp=Z,2.2nm,1.1s
STKA IAMs_20 IAMs_20 15 17 46.2
comp=Z,2µm,18.0s
CMLA Cha da Macela 92.84 2 *e*P **P** **14 46 01.2 -0.5**
CMLA Cha da Macela 92.84 2 IAMs_20 IAMs_20 15 18 48.9
comp=Z,2µm,18.0s
BART Pico Bartolome 92.87 2 *e*P **P** **14 46 01.9 0.0**
MELI Melilla 92.91 20 *e*P **P** **14 46 06.5 +4.5**
MELI Melilla 92.91 20 PS PS 14 58 19.8 -1.0
CEU Ceuta 93.04 18 *e*P **P** **14 46 05.0 +2.4**
CEU Ceuta 93.04 18 PS PS 14 58 20.3 -1.8
SFS San Fernando 93.44 18 PS PS 14 58 28.9 +2.3
PCAN Candelaria 93.52 360 *e*P **P** **14 46 03.7 -1.1**
PICO Pico 93.55 360 *e*P **P** **14 46 04.3 -0.7**
CALA Caldeira 93.63 360 *e*P P 14 46 10.3 +4.9
PFVI Vila Bisbo 93.67 15 *e*P P 14 46 10.6 +5.1
comp=Z,99nm,1.8s
PFVI Vila Bisbo 93.67 15 IAMs_20 IAMs_20 15 23 02.5
comp=Z,2µm,21.0s
PMAN Manadas 93.68 0 *e*P P 14 46 11.0 +5.5
PSCM Serra do Cume 93.76 1 *e*P P 14 46 11.2 +5.3
ROSA Rosais 93.77 360 *e*P **P** **14 46 06.4 +0.5**
MORF Marmelete 93.87 16 *e*P **P** **14 46 07.3 +0.8**
MORF AMb AMB 14 46 12.0
comp=Z,40nm,2.2s
MORF *e*SKSac **SKSac** **14 56 42.9 +2.5**
MORF Marmelete 93.87 16 *e*P **P** **14 46 07.2 +0.8**
MORF *e* 14 56 42.9
MORF Marmelete 93.87 16 *e*SKSac **SKSac** **14 56 46.9 +6.4**
PBDV Barranco-do-Ve 93.92 16 *e*P **P** **14 46 11.3 +4.6**
comp=Z,54nm,1.9s
PBDV Barranco-do-Ve 93.92 16 *e*SKSac **SKSac** **14 56 46.1 +5.4**
EMAL Malaga-Limoner 94.05 19 PS PS 14 58 28.1 -5.2
PVAQ Vaqueiros 94.11 16 *e*P **P** **14 46 10.0 +2.5**
comp=Z,51nm,1.8s
PVAQ Vaqueiros 94.11 16 *e*SKSac **SKSac** **14 56 46.8 +5.1**
PCVE Castro Verde 94.28 16 *e*P **P** **14 46 09.3 +1.0**
comp=Z,43nm,1.6s
MESJ Messejana 94.46 16 *e*P **P** **14 46 10.1 +1.0**
MESJ AMb AMB 14 46 14.0
comp=Z,42nm,1.7s
MESJ Messejana 94.46 16 *e*P **P** **14 46 10.0 +1.0**
PNCL Nicolau / Gran 94.67 15 *e*P **P** **14 46 11.8 +1.7**
comp=Z,36nm,1.8s
PBEJ Beja 94.69 16 *e*P **P** **14 46 12.3 +2.1**
comp=Z,33nm,2.0s
TAOE Nuku Hiva Isla 94.86 247 *e*LQ LQ 15 12 53.1
comp=Z,3µm,25.7s
TAOE *e*LR LR 15 16 46.0
comp=Z,4µm,27.0s,baz=158
EVO Evora 95.17 16 PS PS 14 58 44.0 -1.6
LIS Lisbon 95.17 15 *e*P **P** **14 46 13.2 +0.9**
LIS AMb AMB 14 46 19.3
comp=Z,78nm,2.4s
LIS Lisbon 95.17 15 *e*P **P** **14 46 13.2 +0.9**
UNM Universidad Na 95.43 296 IAMs_20 IAMs_20 15 28 30.0
comp=Z,3µm,19.0s
CART Cartagena 95.52 21 PS PS 14 58 44.1 -5.4
comp=Z,46nm,1.9s
PMRV Marv??o 96.14 16 *e*P **P** **14 46 21.1 +4.3**
comp=Z,27nm,1.9s
PMRV Marv??o 96.14 16 *e*SKSac **SKSac** **14 56 57.3 +4.8**
PCBR Castelo Branco 96.53 16 *e*P **P** **14 46 20.7 +2.2**
comp=Z,22nm,1.8s
PCAS Casmilo, Conde 96.58 15 *e*SKSac **SKSac** **14 57 00.4 +5.7**
ESDC Sonseca Array 96.96 19 P **P** **14 46 19.9 -0.6**
comp=Z,3.1nm,1.0s,baz=199,slow=5.1,SNR=9.0
ESDC S **SKSac** **14 56 58.9 +2.1**
comp=Z,0.3nm,0.6s,baz=77,slow=38,SNR=2.4
WRKA Warakurna 97.39 159 P Pdif 14 46 24.5 +1.3
baz=97,SNR=7.4
UCM Universidad Co 97.71 19 PS PS 14 59 08.5 -4.9
553A Crawfordville 97.84 313 IAMs_20 IAMs_20 15 24 19.0
comp=Z,3µm,19.0s
MVO Moncorvo 97.89 16 *e*SKSac **SKSac** **14 57 08.0 +6.4**
PBRG Braganca 98.56 16 *e*P Pdif 14 46 31.7 +4.0
PSAC3 Pilbara Seismi 98.58 150 IAMs_20 IAMs_20 15 21 35.0
comp=Z,3µm,20.0s
PSAB3 Pilbara Seismi 98.61 150 IAMs_20 IAMs_20 15 27 47.9
comp=Z,4µm,18.0s
PSAA3 Pilbara Seismi 98.63 150 IAMs_20 IAMs_20 15 30 44.0
comp=Z,4µm,18.0s
PSA00 Pilbara Seismi 98.63 150 IAMs_20 IAMs_20 15 21 37.4
comp=Z,4µm,20.0s
PSAB2 Pilbara Seismi 98.65 150 IAMs_20 IAMs_20 15 30 44.7
comp=Z,4µm,18.0s
PSAC2 Pilbara Seismi 98.66 150 IAMs_20 IAMs_20 15 30 36.8
comp=Z,4µm,18.0s
451A Vernon 98.77 313 IAMs_20 IAMs_20 15 23 13.4
comp=Z,2µm,20.0s
MAHO Mahon 98.91 25 PS PS 14 59 27.8 +1.5
MBWA Marble Bar 98.99 150 IAMs_20 IAMs_20 15 21 47.9
comp=Z,3µm,18.0s
352A Blakely 99.18 314 IAMs_20 IAMs_20 15 22 47.2
comp=Z,3µm,20.0s
ASAR Alice Springs 99.77 163 P **Pdif** **14 46 33.0 -0.8**
comp=Z,5.6nm,0.8s,baz=186,slow=3.8,SNR=19
ASAR PP **PP** **14 50 35.9 -1.2**
comp=Z,3.1nm,0.9s,baz=183,slow=7.4,SNR=6.0
ASAR PKKP **PKKPbc** **15 02 52.9 +1.1**
comp=Z,1.2nm,0.7s,baz=24,slow=2.2,SNR=14
250A Grady 100.17 313 IAMs_20 IAMs_20 15 25 00.5
comp=Z,3µm,20.0s
545A Edgard 100.32 309 IAMs_20 IAMs_20 15 41 25.7
comp=Z,3µm,18.0s
EIL Elat 100.41 52 S **SKSac** **14 57 11.5 -3.0**
comp=Z,1.0nm,0.6s,baz=17,slow=21,SNR=1.3
346A Big Creek Wild 101.02 310 IAMs_20 IAMs_20 15 22 36.2
comp=Z,2µm,21.0s
IDI Anoyia 101.10 42 IAMs_20 IAMs_20 15 33 33.5
comp=Z,3µm,20.0s
LRAL Lakeview Retre 101.39 313 IAMs_20 IAMs_20 15 37 58.9
comp=Z,3µm,18.0s
344A Westbrook Farm 101.63 309 IAMs_20 IAMs_20 15 26 13.4
comp=Z,2µm,18.0s
R61A Willards 101.67 324 IAMs_20 IAMs_20 15 24 16.8
comp=Z,2µm,21.0s
TIP Timpagrande 101.74 34 IAMs_20 IAMs_20 15 32 24.5
comp=Z,3µm,19.0s
DZM Mont Dzumac 101.81 194 IAMs_20 IAMs_20 15 28 44.4
comp=Z,4µm,19.0s
Y49A Blount Mountai 101.86 314 IAMs_20 IAMs_20 15 32 36.3
comp=Z,4µm,20.0s
146A Union 101.92 311 IAMs_20 IAMs_20 15 25 14.9
comp=Z,2µm,19.0s
VBMS Vicksburg 102.19 310 IAMs_20 IAMs_20 15 24 42.2
comp=Z,2µm,19.0s
CBN Corbin Frederi 102.25 322 IAMs_20 IAMs_20 15 25 39.3
comp=Z,1µm,22.0s
X48A Hartselle 102.63 314 IAMs_20 IAMs_20 15 32 59.8
comp=Z,3µm,20.0s
PAOL Paolisi 102.75 32 IAMs_20 IAMs_20 15 33 11.3
comp=Z,4µm,18.0s
FITZ Fitzroy Crossi 103.48 154 IAMs_20 IAMs_20 15 32 08.4
comp=Z,4µm,19.0s
WRA Warramunga Arr 103.48 163 Pdiff **Pdif** **14 46 50.7 +0.4**
comp=Z,1.3nm,0.9s,baz=0.8,slow=25,SNR=4.6
WRA PP **PP** **14 51 03.6 -1.5**
comp=Z,5.3nm,1.1s,baz=192,slow=6.8,SNR=5.2
WRA PKiKP **PKiKP** **14 51 09.3 +0.4**
comp=Z,5.1nm,1.1s,baz=188,slow=6.3,SNR=5.0
WRA PKKP **PKKPbc** **15 02 43.8 +2.8**
comp=Z,2.0nm,0.9s,baz=348,slow=2.9,SNR=6.9
PLAL Pickwick Lake 103.52 313 IAMs_20 IAMs_20 15 25 31.2
comp=Z,3µm,20.0s
OXF Oxford 103.67 312 IAMs_20 IAMs_20 15 39 18.4
comp=Z,2µm,20.0s
BRYW Bryant College 103.72 328 IAMs_20 IAMs_20 15 33 42.4
comp=Z,2µm,19.0s
W45A Hickory Valley 104.13 312 IAMs_20 IAMs_20 15 40 07.6
comp=Z,3µm,18.0s
O57A Amberson 104.14 323 PKiKP **PKiKP** **14 51 10.7 +1.3**
baz=154
MURB Monte Urbino 104.21 29 IAMs_20 IAMs_20 15 30 36.4
comp=Z,3µm,18.0s
WVT Waverly 104.40 314 PKiKP **PKiKP** **14 51 11.2 +1.2**
baz=150
WVT Waverly 104.40 314 IAMs_20 IAMs_20 15 33 51.7
comp=Z,4µm,21.0s
O56A Blue Knob Stat 104.51 323 PKiKP **PKiKP** **14 51 11.1 +1.0**
baz=153
TIR Tirane 104.71 35 IAMs_20 IAMs_20 15 36 08.1
comp=Z,2µm,18.0s
O55A Ligonier 104.71 322 PKiKP **PKiKP** **14 51 16.6 +6.2**
baz=153
R50A Paris 104.87 317 IAMs_20 IAMs_20 15 31 16.8
comp=Z,2µm,20.0s
M57A Sunshine Farm, 104.97 324 IAMs_20 IAMs_20 15 36 17.6
comp=Z,2µm,19.0s
N56A West Decatur 104.99 323 PKiKP **PKiKP** **14 51 11.8 +0.8**
baz=153
UALR University of 105.16 310 IAMs_20 IAMs_20 15 26 21.9
comp=Z,2µm,21.0s
GNAR Gosnell 105.17 312 IAMs_20 IAMs_20 15 29 14.1
comp=Z,3µm,19.0s
HICK Hickman 105.33 313 IAMs_20 IAMs_20 15 34 34.4
comp=Z,3µm,21.0s
PVMO Portageville 105.42 313 IAMs_20 IAMs_20 15 25 41.6
comp=Z,3µm,20.0s
PENMO Penman 105.42 313 IAMs_20 IAMs_20 15 25 40.7
comp=Z,3µm,20.0s
PDG Podgorica 105.48 34 IAMs_20 IAMs_20 15 31 26.6
comp=Z,2µm,20.0s
ISP Isparta 105.51 45 IAMs_20 IAMs_20 15 34 27.6
comp=Z,3µm,20.0s
HENM Henderson Moun 105.58 313 IAMs_20 IAMs_20 15 34 51.0
comp=Z,3µm,20.0s
PARMO Parma 105.66 313 IAMs_20 IAMs_20 15 26 36.6
comp=Z,3µm,20.0s
ACCN Adirondack Com 105.70 327 IAMs_20 IAMs_20 15 32 49.9
comp=Z,2µm,20.0s
K58A Earlville 105.77 326 PKiKP **PKiKP** **14 51 16.9 +4.6**
baz=154
SALO Salr 105.85 27 IAMs_20 IAMs_20 15 28 22.8
comp=Z,2µm,20.0s
TXAR Lajitas Array 105.98 298 Pdiff **Pdif** **14 47 01.0 -0.1**
comp=Z,0.7nm,0.9s,baz=152,slow=8.3,SNR=6.1
TXAR PKiKP **PKiKP** **14 51 14.2 +1.0**
comp=Z,0.5nm,0.8s,baz=150,slow=2.7,SNR=3.5
TXAR PKKPbc **PKKPab** **15 02 52.0 +2.4**
comp=Z,0.8nm,0.9s,baz=298,slow=2.7,SNR=5.4
FCAR Ozark Folk Cen 106.01 311 IAMs_20 IAMs_20 15 41 31.3
comp=Z,2µm,18.0s
PBMO Poplar Bluff 106.04 312 IAMs_20 IAMs_20 15 26 11.0
comp=Z,3µm,20.0s
W39A Magazine 106.15 309 IAMs_20 IAMs_20 15 39 42.1
comp=Z,3µm,19.0s
Z35A Perchaven, San 106.17 306 IAMs_20 IAMs_20 15 32 54.7
comp=Z,1µm,21.0s
KNRA Kununurra 106.55 157 IAMs_20 IAMs_20 15 29 44.2
comp=Z,5µm,18.0s
U40A Yellville 106.72 310 IAMs_20 IAMs_20 15 29 26.1
comp=Z,2µm,20.0s
TRI Trieste 106.81 29 IAMs_20 IAMs_20 15 29 39.1
comp=Z,3µm,22.0s
PRED Cave del Predi 107.43 29 IAMs_20 IAMs_20 15 33 08.4
comp=Z,6µm,19.0s
ECH Echery 107.45 24 IAMs_20 IAMs_20 15 27 54.1
comp=Z,3µm,21.0s
U38A Gravette 107.46 309 IAMs_20 IAMs_20 15 31 28.7
comp=Z,2µm,20.0s
CCM Cathedral Cave 107.46 312 IAMs_20 IAMs_20 15 26 53.0
comp=Z,3µm,19.0s
TUL1 Leonard 107.64 308 IAMs_20 IAMs_20 15 40 45.6
comp=Z,3µm,18.0s

SFIN	Lafayette	107.76	317		PKiKP	PP		14 51 36.1	-1.7	
	baz=149									
DELO	Deloro Mine	107.97	325		IAMs_20	IAMs_20		15 39 50.0		
	comp=Z,2µm,19.0s									
OKCFA	Oklahoma City	107.99	307		IAMs_20	IAMs_20		15 30 48.8		
	comp=Z,1µm,20.0s									
R40A	Maddies Statio	108.09	312		IAMs_20	IAMs_20		15 30 17.4		
	comp=Z,2µm,20.0s									
O44A	Mansfield	108.11	316		IAMs_20	IAMs_20		15 31 13.6		
	comp=Z,2µm,20.0s									
ANTO	Ankara	108.17	45		IAMs_20	IAMs_20		15 35 57.8		
	comp=Z,4µm,19.0s									
SANVU	Saraoutou	108.21	196		IAMs_20	IAMs_20		15 29 32.0		
	comp=Z,3µm,21.0s									
BRTR	Keskin Array B	108.40	46		PP	PP		14 51 40.0	-2.7	
	comp=Z,0.9nm,0.4s,baz=176,slow=3.7,SNR=5.0									
WLF	Walferdange	108.58	23		IAMs_20	IAMs_20		15 34 04.1		
	comp=Z,4µm,18.0s									
MNTX	Cornudas Mount	108.76	299		IAMs_20	IAMs_20		15 34 56.5		
	comp=Z,3µm,18.0s									
P40A	Paris	109.04	313		IAMs_20	IAMs_20		15 36 58.6		
	comp=Z,2µm,20.0s									
EPT	El Paso	109.38	298		IAMs_20	IAMs_20		15 34 41.0		
	comp=Z,2µm,18.0s									
ILGA	Ilgaz	109.55	45		IAMs_20	IAMs_20		15 37 44.2		
	comp=Z,2µm,18.0s									
GERES	GERESS Array B	109.67	28		PKiKP	PKiKP		14 51 17.6	-1.9	
	comp=Z,0.3nm,0.6s,baz=174,slow=4.0,SNR=3.7									
GERES					PKKP	PKKPdf		15 02 36.0	-3.8	
	comp=Z,0.3nm,0.6s,baz=357,slow=2.7,SNR=3.5									
P38A	Dawn	109.75	312		IAMs_20	IAMs_20		15 40 55.2		
	comp=Z,2µm,19.0s									
MTN	Manton Dam	109.81	159		IAMs_20	IAMs_20		15 27 40.5		
	comp=Z,4µm,20.0s									
KHC	Kasperske Hory	109.89	28		*e*SP	SP		15 01 15.8	-3.9	
KHC					*e*SS	**SS**		**15 07 20.1**	**+2.5**	
KHC					AMS	AMS		15 30 20.0		
	comp=Z,5µm,22.6s									
L42A	Oliver, Polo	110.16	316		IAMs_20	IAMs_20		15 37 41.0		
	comp=Z,2µm,20.0s									
MODS	Modra-Piesok	110.23	30		*e*SS	SS		15 07 31.9	+10	
MLR	Muntele Rosu	110.44	37		IAMs_20	IAMs_20		15 37 00.6		
	comp=Z,3µm,20.0s									
TREC	Trest	110.56	29		*e*SS	SS		15 07 36.0	+10	
TREC					AMS	AMS		15 34 10.0		
	comp=Z,4µm,19.0s									
KRUC	Moravsky	110.60	30		*e*SP	SP		15 01 29.8	+3.5	
KRUC					*e*SS	**SS**		**15 07 35.8**	**+8.8**	
GSI	Gunungsitoli	110.61	120		IAMs_20	IAMs_20		15 29 06.3		
	comp=Z,7µm,19.0s									
NKC	Novy Kostel	110.61	27		*e*SP	SP		15 01 27.2	+0.9	
NKC					*e*SS	**SS**		**15 07 34.0**	**+6.9**	
NKC					AMS	AMS		15 30 10.0		
	comp=Z,3µm,25.1s									
121A	Cookes Peak, D	110.64	297		IAMs_20	IAMs_20		15 34 40.2		
	comp=Z,2µm,18.0s									
KSU1	Kansas State U	110.65	309		IAMs_20	IAMs_20		15 33 02.1		
	comp=Z,2µm,20.0s									
JAVC	Velka Javorina	110.78	30		*e*SP	SP		15 01 30.7	+2.7	
JAVC					*e*SS	SS		15 07 43.3	+14	
VYHS	Vyhne	110.80	31		*e*SS	SS		15 07 44.2	+15	
L40A	Anamosa	110.83	315		IAMs_20	IAMs_20		15 29 57.7		
	comp=Z,2µm,20.0s									
VRAC	Vranov	110.88	30		*e*SP	SP		15 01 33.5	+4.7	
VRAC					*e*SS	**SS**		**15 07 33.1**	**+2.4**	
GOPC	GO Pecny, Ondr	110.93	28		*e*SP	SP		15 01 27.2	-2.1	
GOPC					*e*SS	**SS**		**15 07 41.7**	**+10**	
GOPC					AMS	AMS		15 31 10.0		
	comp=Z,4µm,22.8s									
PRU	Pruhonice	110.93	28		*e*SP	SP		15 01 28.3	-1.0	
PRU					*e*SS	SS		15 07 42.8	+11	
PRU					AMS	AMS		15 31 30.0		
	comp=Z,4µm,21.9s									
PRA	Prague	110.98	28		*e*SP	SP		15 01 12.7	-17	
PRA					*e*SS	SS		15 07 42.7	+11	
PRA					AMS	AMS		15 37 00.0		
	comp=Z,2µm,17.8s									
R32A	Long Quarter,	111.03	308		IAMs_20	IAMs_20		15 45 19.2		
	comp=Z,2µm,18.0s									
Y22D	IRIS PASSCAL I	111.43	299		IAMs_20	IAMs_20		15 36 23.3		
	comp=Z,3µm,18.0s									
PVCC	Panska Ves	111.43	28		AMS	AMS		15 37 20.0		
	comp=Z,3µm,17.1s									
MORC	Moravsky Berou	111.57	30		*e*SP	SP		15 01 38.2	+3.0	
MORC					*e*SS	**SS**		**15 07 43.3**	**+3.3**	
N35A	Tabor	111.67	311		IAMs_20	IAMs_20		15 33 16.2		
	comp=Z,2µm,22.0s									
CLL	Collm	111.74	26		*e*PS	PS		15 01 40.0	+2.0	
CLL					*e*PPS	PPS		15 02 41.0		
CLL					*e*SS	SS		15 07 45.0	+3.0	
CLL					LmH			15 36 00.0		
	comp=N,1µm,18.4s									
CLL					LmH			15 36 00.0		
	comp=E,2µm,19.1s									
CLL					LmV			15 36 00.0		
	comp=Z,3µm,18.2s									
DPC	Dobruska-Polom	111.75	29		*e*SP	SP		15 01 38.6	+1.8	
DPC					*e*SS	**SS**		**15 07 39.6**	**-2.7**	
DPC					AMS	AMS		15 36 00.0		
	comp=Z,2µm,18.4s									
OKC	Ostrava-Krasne	111.80	30		*e*SP	SP		15 01 37.5	+0.3	
OKC					*e*SS	**SS**		**15 07 46.2**	**+3.3**	
OKC					AMS	AMS		15 37 40.0		
	comp=Z,2µm,18.0s									
UPC	Upice	111.80	29		*e*SP	SP		15 01 42.0	+4.8	
UPC					*e*SS	**SS**		**15 07 50.6**	**+7.6**	
UPC					AMS	AMS		15 31 00.0		
	comp=Z,3µm,23.4s									
CBKS	Cedar Bluff	111.81	307		IAMs_20	IAMs_20		15 41 11.0		
	comp=Z,2µm,18.0s									
E46A	Sault Ste Mari	111.86	322		IAMs_20	IAMs_20		15 35 56.7		
	comp=Z,5.3nm,21.0s									
CHVC	Chvalec	111.89	29		AMS	AMS		15 31 10.0		
	comp=Z,3µm,22.7s									
ANMO	Albuquerque	111.90	300		PKKPbc	PKKPbc		15 02 16.6	+1.2	
	comp=Z,1.1nm,0.7s,baz=252,slow=1.2,SNR=3.5									
ANMO	Albuquerque	111.90	300	⇑ *i*	PKiKP	**PKiKP**		**14 51 26.5**	**+2.2**	
ANMO	Albuquerque	111.90	300		IAMs_20	IAMs_20		15 37 36.2		
	comp=Z,2µm,18.0s									
OSTC	Ostas	111.90	29		*e*SP	SP		15 01 44.3	+6.1	
OSTC					*e*SS	**SS**		**15 07 49.4**	**+5.0**	
OSTC					AMS	AMS		15 31 10.0		
	comp=Z,3µm,20.3s									
K38A	Parkersburg	111.95	314		IAMs_20	IAMs_20		15 37 24.4		
	comp=Z,3µm,20.0s									
I40A	Norwalk	112.12	316		IAMs_20	IAMs_20		15 31 37.8		
	comp=Z,2µm,21.0s									
KOLS	Kolonicke sedl	112.24	33		*e*PS	PS		15 01 53.1	+10	
ESK	Eskdalemuir	112.26	15		IAMs_20	IAMs_20		15 36 54.3		
	comp=Z,3µm,18.0s									
EKA	Eskdalemuir Ar	112.28	15		PKKPbc	PKKPbc		15 02 16.1	+1.7	
	comp=Z,0.4nm,0.4s,baz=353,slow=2.7,SNR=4.1									
RPSI	Rantau Prapat	112.48	120		IAMs_20	IAMs_20		15 31 27.8		
	comp=Z,6µm,20.0s									
T25A	Trinidad	112.65	303		P	**PKiKP**		**14 51 27.4**	**+1.7**	
	baz=143									
T25A	Trinidad	112.65	303		IAMs_20	IAMs_20		15 26 55.4		
	comp=Z,1µm,20.0s									
L34A	Svendsen Farm,	112.90	311		IAMs_20	IAMs_20		15 39 15.6		
	comp=Z,2µm,19.0s									
XMAS	Kiritimati	112.92	237		IAMs_20	IAMs_20		15 34 43.0		
	comp=Z,3µm,19.0s									
BGNE	Belgrade	113.21	310		IAMs_20	IAMs_20		15 40 50.9		
	comp=Z,2µm,19.0s									
I37A	Lemond, Waseca	113.34	315		IAMs_20	IAMs_20		15 32 39.1		
	comp=Z,1µm,20.0s									
LVV	L'vov	113.57	34	*i*	PKiKP	**PKiKP**		**14 51 28.2**	**+1.5**	
SDCO	Great Sand Dun	113.66	302		P	**PKiKP**		**14 51 28.5**	**+0.8**	
	baz=143									
W18A	Petrified Fore	113.67	298		IAMs_20	IAMs_20		15 32 59.6		
	comp=Z,2µm,19.0s									
S22A	4UR Ranch, Cre	114.30	302		P	**PKiKP**		**14 51 29.4**	**+0.5**	
	baz=142									
SCHQ	Schefferville	114.35	337		PKP	PKPdf		14 51 27.6	-0.4	
	comp=Z,0.9nm,0.4s,baz=238,slow=1.9,SNR=4.4									
ECSD	EROS Data Cent	114.44	312		P	PKPdf		14 51 28.4	-0.2	
	baz=144									
K31A	O'Neill	114.46	310		IAMs_20	IAMs_20		15 39 13.9		
	comp=Z,3µm,20.0s									
SAUI	Saumlaki	114.56	158		IAMs_20	IAMs_20		15 34 33.5		
	comp=Z,5µm,19.0s									
MVCO	Mesa Verde	114.70	300		IAMs_20	IAMs_20		15 38 41.6		
	comp=Z,2µm,20.0s									
RGN	Rugen	114.78	25		IAMs_20	IAMs_20		15 38 19.9		
	comp=Z,3µm,18.0s									
HNR	Honiara	115.03	189		IAMs_20	IAMs_20		15 28 37.2		
	comp=Z,3µm,20.0s									
IKP	In-Ko-Pah, Jac	115.05	291		P	**PKiKP**		**14 51 30.5**	**+0.2**	
	baz=141									
PDMCI	Parker Dam,Lak	115.30	294		P	**PKiKP**		**14 51 30.7**	**+0.1**	
	baz=141									
ISCO	Idaho Springs	115.33	304		P	**PKiKP**		**14 51 31.2**	**+0.4**	
	baz=142									
PV01	Paradox Valley	115.45	301		IAMs_20	IAMs_20		15 41 43.4		
	comp=Z,2µm,20.0s									
BC3	Big Chuckawall	115.48	293		P	**PKiKP**		**14 51 31.7**	**+0.6**	
	baz=141									
PV15	Paradox Valley	115.57	301			**PKiKP**		**14 51 32.1**	**+0.8**	
KBZ	Khabaz	115.60	50		PKP	**PKPdf**		**14 51 30.5**	**-0.3**	
	comp=Z,1.5nm,0.8s,baz=203,slow=4.0,SNR=2.6									
PV03	Paradox Valley	115.69	300		IAMs_20	IAMs_20		15 39 43.8		
	comp=Z,2µm,18.0s									
KIV	Kislovodsk	115.69	49	*i*	PKiKP	**PKPdf**		**14 51 30.6**	**-0.5**	
KIV				*e*				14 52 33.5		
KIV					*e*PS	**PS**		**15 02 15.7**	**+1.1**	
KIV					*e*SS	SS		15 08 35.6	+0.8	
KIV					pmax	pmax				
	comp=Z,24nm,1.1s									
KIV					MLR	MLR				
	comp=Z,4µm,21.0s									
KIV	Kislovodsk	115.69	49		IAMs_20	IAMs_20		15 31 57.3		
	comp=Z,2µm,20.0s									
IRM	Iron Mountain	115.71	293		P	**PKiKP**		**14 51 32.3**	**+0.9**	
	baz=141									
PV18	Skein Mesa, Pa	115.71	300		IAMs_20	IAMs_20		15 39 43.4		
	comp=Z,2µm,19.0s									
PV12	Saucer Basin,	115.71	301			**PKiKP**		**14 51 31.7**	**+0.2**	
W13A	Hualapai Mount	115.78	295			**PKPdf**		**14 51 31.8**	**0.0**	
PV19	Morning Glory	115.79	300		IAMs_20	IAMs_20		15 41 10.5		
	comp=Z,2µm,20.0s									
PV04	Paradox Valley	115.82	301			**PKiKP**		**14 51 31.8**	**+0.1**	
PV04					IAMs_20	IAMs_20		15 41 30.0		
	comp=Z,3µm,21.0s									
PV14	Lion Creek, Pa	115.86	300			**PKiKP**		**14 51 32.3**	**+0.4**	
PV10	Paradox Valley	115.87	300		IAMs_20	IAMs_20		15 39 39.0		
	comp=Z,4µm,18.0s									
SUSD	Miller	116.01	311		IAMs_20	IAMs_20		15 29 12.9		
	comp=Z,2µm,21.0s									
BELC	Belle Mtn. Jos	116.03	293		P	**PKiKP**		**14 51 32.8**	**+0.6**	
	baz=141									
AKASG	Malin Array Be	116.04	37		PKP	**PKPdf**		**14 51 30.8**	**-0.6**	
	comp=Z,1.0nm,0.6s,baz=236,slow=2.1,SNR=9.1									
AKASG					PKKPab	**PKKPab**		**15 02 05.2**	**+1.4**	
	comp=Z,0.1nm,0.2s,baz=30,slow=5.2,SNR=4.0									
AKASG	Malin Array Be	116.04	37	*c*	*i* PKiKP	**PKPdf**		**14 51 31.2**	**-0.2**	
AKASG					pmax	pmax				
	comp=Z,1.0nm,0.6s									
AKBB	Malin Array Si	116.04	37	⇑ *i*	PKiKP	**PKPdf**		**14 51 31.1**	**-0.3**	
N23A	Red Feather La	116.35	304		P	**PKiKP**		**14 51 33.5**	**+0.7**	
	baz=142									
N23A	Red Feather La	116.35	304		PKPdf	**PKiKP**		**14 51 33.2**	**+0.5**	
PHWY	Pilot Hill	116.44	305			**PKPdf**		**14 51 32.7**	**-0.2**	
GMRC	Granite Mounta	116.46	293		P	**PKiKP**		**14 51 33.4**	**+0.4**	
	baz=141,SNR=6.7									
KNB	Kanab	116.71	297		PKiKP	**PKPdf**		**14 51 33.1**	**-0.3**	
KNB	Kanab	116.71	297		PKPdf	**PKPdf**		**14 51 33.1**	**-0.3**	
PKCU	Pack Cliffs	116.78	298			**PKiKP**		**14 51 34.1**	**+0.4**	
O20A	White River Ci	116.85	302		P	**PKiKP**		**14 51 33.9**	**+0.3**	
	baz=141									
O20A	White River Ci	116.85	302		IAMs_20	IAMs_20		15 39 58.6		
	comp=Z,2µm,18.0s									
LCMT	Little Creek M	116.92	297			**PKiKP**		**14 51 34.2**	**+0.4**	
B35A	Bob, Littlefor	117.03	317		IAMs_20	IAMs_20		15 44 38.8		
	comp=Z,3µm,19.0s									
SRU	San Rafael Swe	117.17	300		PKiKP	**PKPdf**		**14 51 34.2**	**-0.1**	
SRU	San Rafael Swe	117.17	300			**PKPdf**		**14 51 34.1**	**-0.1**	
MTPU	Mount Pierson	117.18	298			**PKPdf**		**14 51 34.6**	**0.0**	
SZCU	Shurtz Canyon	117.29	297			**PKiKP**		**14 51 34.9**	**+0.3**	
MWC	Mount Wilson	117.29	291		IAMs_20	IAMs_20		15 37 55.7		
	comp=Z,1µm,19.0s									
IVI	Ivigtut	117.34	349		IAMs_20	IAMs_20		15 38 31.4		
	comp=Z,2µm,19.0s									
D32A	Dogwood Acres,	117.35	314		IAMs_20	IAMs_20		15 35 12.3		
	comp=Z,2µm,20.0s									
CCUT	Cedar City	117.40	297		PKPdf	**PKPdf**		**14 51 34.8**	**0.0**	
GSC	Goldstone, Bar	117.46	293		P	**PKiKP**		**14 51 35.9**	**+1.0**	
	baz=140									
GSC	Goldstone, Bar	117.46	293		PKiKP	**PKiKP**		**14 51 35.1**	**+0.3**	
GSC	Goldstone, Bar	117.46	293		PKPdf	**PKiKP**		**14 51 35.1**	**+0.3**	
SHPR	Sheep Range	117.52	295		PKPdf	**PKiKP**		**14 51 35.5**	**+0.5**	
MSU	Marysvale	117.54	298		PKiKP	**PKiKP**		**14 51 35.5**	**+0.4**	
MSU	Marysvale	117.54	298		PKPdf	**PKiKP**		**14 51 35.5**	**+0.4**	
P17A	Butcher Ranch,	117.56	300			**PKiKP**		**14 51 35.5**	**+0.5**	
RWWY	Rawlins	117.56	304			**PKiKP**		**14 51 35.1**	**+0.1**	
SHOC	Shoshone, Teco	117.64	294		P	**PKiKP**		**14 51 36.0**	**+1.0**	
	baz=140									
TMUT	Trail Mountain	117.66	300			**PKPdf**		**14 51 34.9**	**-0.4**	
HRA	Herat	117.76	69		PKPdf	**PKiKP**		**14 51 35.9**	**+0.3**	
EDW2	Edwards Air Fo	117.76	292		P	**PKiKP**		**14 51 36.2**	**+0.8**	
	baz=140,SNR=8.0									
AGMN	Agassiz Nation	117.82	316		P	**PKiKP**		**14 51 35.9**	**+1.0**	
	baz=143									
RDMU	Red Mountain	117.83	302			**PKPdf**		**14 51 35.5**	**0.0**	
K22A	Casper	117.99	305		P	**PKiKP**		**14 51 35.9**	**+0.1**	
	baz=141									
K22A	Casper	117.99	305		IAMs_20	IAMs_20		15 37 04.6		
	comp=Z,2µm,19.0s									
RSSD	Black Hills	117.99	308		P	**PKPdf**		**14 51 35.5**	**-0.2**	
	baz=141									
RSSD	Black Hills	117.99	308		PKiKP	**PKPdf**		**14 51 35.3**	**-0.4**	
RSSD					MLR	MLR				
	comp=Z,3µm,19.0s									
RSSD	Black Hills	117.99	308		PKPdf	**PKPdf**		**14 51 35.2**	**-0.4**	
RSSD	Black Hills	117.99	308		IAMs_20	IAMs_20		15 44 13.4		
	comp=Z,3µm,19.0s									
LRMC	Laurel Mtn Rad	118.05	292		P	**PKiKP**		**14 51 36.7**	**+0.7**	
	baz=140									
SBUM	Sibu	118.30	134			**PKPdf**		**14 51 35.7**	**-1.4**	
GEYT	Alibeck	118.30	64		PKP	**PKiKP**		**14 51 36.5**	**+0.2**	
	comp=Z,1.4nm,0.7s,baz=223,slow=5.9,SNR=4.0									
FURC	Furnace Creek,	118.38	294		P	**PKiKP**		**14 51 37.7**	**+1.3**	
	baz=140									
MPMC	Manual Prospec	118.39	293		P	**PKiKP**		**14 51 37.2**	**+0.5**	
	baz=140									
PSUT	Pine Spring	118.40	297		PKPdf	**PKiKP**		**14 51 36.8**	**+0.1**	
MPU	Maple Canyon	118.42	300			**PKiKP**		**14 51 36.7**	**0.0**	
TPNV	Topopah Spring	118.42	294		P	**PKiKP**		**14 51 37.7**	**+1.0**	
	baz=140									
TPNV	Topopah Spring	118.42	294		PKiKP	**PKiKP**		**14 51 37.1**	**+0.3**	
TPNV	Topopah Spring	118.42	294			**PKiKP**		**14 51 37.1**	**+0.3**	
ASHT	Ashkhabad	118.45	64		IAMs_20	IAMs_20		15 35 10.4		
	comp=Z,3µm,19.0s									
ISA	Isabella, Lake	118.61	292		P	**PKiKP**		**14 51 38.2**	**+1.1**	
	baz=140,SNR=7.6									
ISA	Isabella, Lake	118.61	292		PKiKP	**PKiKP**		**14 51 37.6**	**+0.6**	
ISA	Isabella, Lake	118.61	292			**PKiKP**		**14 51 37.6**	**+0.6**	
KONO	Kongsberg	118.62	21		IAMs_20	IAMs_20		15 41 26.5		
	comp=Z,3µm,19.0s									
PKM	Mcpherson Peak	118.74	290		P	**PKiKP**		**14 51 40.0**	**+2.6**	
	baz=140									
JLU	Jordanelle	118.78	300			**PKiKP**		**14 51 37.6**	**+0.2**	
NACGM	Naroch	118.81	33		*e*PKP	**PKPdf**		**14 51 32.0**	**-4.6**	
NACGM					*e*PP	PP		14 52 10.0	-46	
NACGM					*e*SKS			14 57 12.0		
NACGM					*e*PS	PKKPdf		15 02 34.0	+12	
NACGM					*e*SS	**SS**		**15 09 06.0**	**-8.7**	
NACGM					*e*SSS	SSS		15 14 18.0		
NACGM					*e*LQ	LQ		15 25 10.0		
NACGM					*e*LR	LR		15 36 02.0		
NACGM					LRM	MLR		15 44 25.0		
	comp=Z,6.2nm,16.0s									
LUWI	Luwuk	118.93	146		IAMs_20	IAMs_20		15 52 53.1		
	comp=Z,2µm,18.0s									
CWC	Cottonwood Cre	118.99	293		P	**PKiKP**		**14 51 39.2**	**+1.3**	
	baz=139									
GRAC	Grapevine Rang	119.04	294		P	**PKiKP**		**14 51 38.3**	**+0.5**	
	baz=139									
DUG	Dugway, Tooele	119.14	299		P	**PKiKP**		**14 51 38.7**	**+0.7**	
	baz=140									
DUG	Dugway, Tooele	119.14	299		PKiKP	**PKiKP**		**14 51 38.1**	**+0.1**	
DUG	Dugway, Tooele	119.14	299		PKPdf	**PKiKP**		**14 51 38.1**	**+0.1**	
R11A	Troy Canyon, C	119.14	296		P	**PKiKP**		**14 51 38.8**	**+0.7**	
	baz=139									
R11A	Troy Canyon, C	119.14	296		PKPdf	**PKPdf**		**14 51 37.9**	**-0.2**	
TCUT	Toone Canyon	119.15	301			**PKiKP**		**14 51 38.4**	**+0.2**	
ULM	Lac du Bonnet	119.39	317		PKP	**PKiKP**		**14 51 38.6**	**+0.7**	
	comp=Z,4.6nm,0.5s,baz=185,slow=3.2,SNR=3.2									
ULM	Lac du Bonnet	119.39	317		IAMs_20	IAMs_20		15 34 47.0		
	comp=Z,2µm,20.0s									
BW06	Boulder Array	119.51	303		P	**PKPdf**		**14 51 37.7**	**-1.0**	
	baz=140									
BW06	Boulder Array	119.51	303			**PKPdf**		**14 51 37.6**	**-1.1**	
PD31	Pinedale Array	119.51	303			**PKPdf**		**14 51 37.5**	**-1.2**	
PDAR	Pinedale Array	119.51	303		PKP	**PKPdf**		**14 51 37.3**	**-1.4**	
	comp=Z,1.3nm,0.5s,baz=132,slow=4.2,SNR=13									
PDAR					PKKPab	**PKKPab**		**15 01 53.3**	**+3.3**	
	comp=Z,0.3nm,0.6s,baz=260,slow=4.1,SNR=4.0									
HWUT	Hardware Ranch	119.60	301		PKPdf	**PKPdf**		**14 51 38.0**	**-0.8**	
HWUT					IAMs_20	IAMs_20		15 45 45.0		
	comp=Z,2µm,19.0s									
FAKI	Fak Fak	119.68	157		IAMs_20	IAMs_20		15 50 11.6		
	comp=Z,2µm,18.0s									
BGU	Big Grassy Mou	119.80	300		PKPdf	**PKPdf**		**14 51 38.6**	**-0.6**	
HFS	Hagfors	119.93	23		PKP	**PKPdf**		**14 51 36.4**	**-2.2**	
	comp=Z,2.3nm,0.6s,baz=186,slow=7.4,SNR=5.7									
HFS					PP	**PP**		**14 53 00.4**	**-3.4**	
	comp=Z,2.0nm,0.7s,baz=301,slow=6.3,SNR=3.9									
BORG	Borgarnes	119.95	3		IAMs_20	IAMs_20		15 38 11.0		
	comp=Z,2µm,19.0s									
NB2	NORSAR Subarra	120.22	21		PKPdf	**PKPdf**		**14 51 39.1**	**-0.1**	
	comp=Z,27nm,1.7s,baz=202,slow=1.9									
NB2	NORSAR Subarra	120.22	21		PKPdf	**PKPdf**		**14 51 39.1**	**-0.1**	
	baz=202,slow=1.9									
NOA	NORSAR Array B	120.22	21		PKP	**PKPdf**		**14 51 37.9**	**-1.4**	
	comp=Z,1.5nm,0.7s,baz=206,slow=2.0,SNR=6.6									
NOA					PKKPbc	**PKKPbc**		**15 01 47.3**	**+0.7**	
	comp=Z,1.2nm,0.9s,baz=28,slow=4.1,SNR=4.3									
AHID	Auburn Hatcher	120.25	302			**PKPdf**		**14 51 39.7**	**-0.4**	
AHID					IAMs_20	IAMs_20		15 42 32.5		
	comp=Z,2µm,20.0s									
PMPB	Monarch Peak	120.27	291		IAMs_20	IAMs_20		15 40 08.8		
	comp=Z,2µm,20.0s									
OMMB	Old Mammoth Mi	120.36	293		PKPdf	**PKiKP**		**14 51 41.0**	**+0.3**	
OMMB					IAMs_20	IAMs_20		15 40 36.8		
	comp=Z,2µm,18.0s									
MDPB	Devils Postpil	120.42	293		PKPdf	**PKiKP**		**14 51 41.0**	**+0.2**	
NV11	Mina Array Sit	120.53	294		PKPdf	**PKiKP**		**14 51 41.2**	**+0.4**	
RABL	Rabaul	120.60	180		IAMs_20	IAMs_20		15 33 15.7		
	comp=Z,2µm,21.0s									
NVAR	Mina Array Bea	120.61	294		PKP	**PKiKP**		**14 51 41.6**	**+0.5**	
	comp=Z,3.6nm,0.8s,baz=163,slow=2.6,SNR=19									
NVAR					PP	**PP**		**14 53 10.0**	**+0.9**	
	comp=Z,1.1nm,0.8s,baz=163,slow=3.9,SNR=4.7									
NVAR					PKKPbc	**PKKPbc**		**15 01 43.0**	**-1.9**	
	comp=Z,0.1nm,0.6s,baz=233,slow=7.2,SNR=2.3									
NVAR					PKKPab	**PKKPab**		**15 01 48.2**	**+2.5**	
	comp=Z,0.7nm,0.

L04D	**Klamath Falls**	**125.46**	**295**		P		**PKPdf**	**14 51 50.1**	**0.0**	
	baz=136,SNR=9.1									
MOR8	**Moi Rana**	**125.47**	**20**	*e*	PKPdf		**PKPdf**	**14 51 48.9**	**-0.2**	
PKIN	**Phulchoki**	**125.53**	**92**	*e*	P		**PKPdf**	**14 51 50.2**	**-0.6**	
PKI	**Pulchoki**	**125.53**	**92**	*e*	P		**PKPdf**	**14 51 49.4**	**-1.5**	
	comp=Z,133nm,1.6s									
J05D	**Fort Rock, OR**	**125.67**	**296**		P		**PKiKP**	**14 51 51.2**	**+0.4**	
	baz=136,SNR=20									
RAMN	**Ramite**	**125.73**	**94**	*e*	P		**PKPdf**	**14 51 50.7**	**-0.5**	
	comp=Z,36nm,0.8s									
CM31	**Chiang Mai Arr**	**125.84**	**111**				**PKPdf**	**14 51 51.5**	**+0.2**	
CMAR	**Chiang Mai Arr**	**125.84**	**111**		PKP		**PKPdf**	**14 51 51.2**	**0.0**	
	comp=Z,7.0nm,0.9s,baz=236,slow=3.3,SNR=18									
CMAR					PKKPbc		**PKKPab**	**15 01 30.2**	**+4.4**	
	comp=Z,0.2nm,0.6s,baz=12,slow=2.5,SNR=4.1									
JIRN	**Jiri**	**126.04**	**93**	*e*	P		**PKPdf**	**14 51 50.8**	**-1.1**	
	comp=Z,27nm,0.6s									
GUN	**Gumba**	**126.06**	**92**	*e*	P		**PKPdf**	**14 51 50.8**	**-1.1**	
J04D	**Umpqua Nationa**	**126.09**	**296**		P		**PKiKP**	**14 51 52.0**	**+0.3**	
	baz=135,SNR=12									
ODAN	**Odare**	**126.11**	**94**	*e*	P		**PKPdf**	**14 51 51.4**	**-0.5**	
	comp=Z,116nm,1.5s									
CHTO	**Chiang Mai**	**126.13**	**111**		PKIKP		**PKPdf**	**14 51 51.6**	**-0.3**	
CHTO	**Chiang Mai**	**126.13**	**111**		PKPdf		**PKPdf**	**14 51 51.6**	**-0.3**	
WALA	**Waterton Lakes**	**126.20**	**306**		PKPdf		**PKPdf**	**14 51 51.0**	**-0.2**	
WALA					IAMs_20		IAMs_20	15 36 56.8		
	comp=Z,2μm,22.0s									
I05D	**Terrebonne, OR**	**126.47**	**297**		P		**PKPdf**	**14 51 52.0**	**+0.3**	
	baz=135,SNR=7.0									
K02D	**Willamette Mer**	**126.51**	**294**		P		**PKiKP**	**14 51 53.0**	**+0.6**	
	baz=135									
BTK	**Batken**	**126.54**	**71**		PKIKP		**PKPdf**	**14 51 51.9**	**-0.2**	
BTK	**Batken**	**126.54**	**71**		PKPdf		**PKPdf**	**14 51 51.9**	**-0.2**	
TAS	**Tashkent**	**126.63**	**69**		IAMs_20		IAMs_20	15 42 04.1		
	comp=Z,3μm,19.0s									
I04A	**Tendick Farm,**	**126.64**	**296**		P		**PKPdf**	**14 51 52.4**	**+0.3**	
	baz=135									
TAPN	**Taplejung**	**126.67**	**94**	*e*	P		**PKPdf**	**14 51 52.1**	**-0.9**	
FAUS	**Fauske**	**126.70**	**19**	*e*	PKPdf		**PKPdf**	**14 51 51.3**	**-0.1**	
HAWA	**Hanford**	**127.01**	**300**		PKPdf		**PKPdf**	**14 51 52.9**	**+0.2**	
LOF	**Lofoten**	**127.04**	**18**	*e*	PKPdf		**PKiKP**	**14 51 52.4**	**-0.1**	
G05D	**Wamic, OR**	**127.10**	**298**		P		**PKiKP**	**14 51 54.2**	**+0.8**	
	baz=134									
NEW	**Newport**	**127.15**	**303**		P		**PKPdf**	**14 51 52.9**	**0.0**	
	baz=134									
NEW	**Newport**	**127.15**	**303**		PKIKP		**PKPdf**	**14 51 52.9**	**0.0**	
NEW	**Newport**	**127.15**	**303**		PKPdf		**PKPdf**	**14 51 52.9**	**0.0**	
NEW	**Newport**	**127.15**	**303**		IAMs_20		IAMs_20	15 55 00.9		
	comp=Z,2μm,18.0s									
STEI	**Steigen**	**127.17**	**19**	*e*	PKPdf		**PKiKP**	**14 51 53.6**	**+0.9**	
H04D	**Lebanon**	**127.31**	**296**		P		**PKiKP**	**14 51 54.5**	**+0.7**	
	baz=134									
IUG	**luzhnay**	**127.60**	**68**	*e*	PKP		**PKPdf**	**14 51 54.0**	**-0.1**	
	comp=Z,14nm,2.3s,baz=68									
IUG					LR		LR	15 52 54.6		
	comp=Z,69nm,15.2s,baz=68									
IUG	**luzhnay**	**127.60**	**68**	*e*	PKIKP		**PKPdf**	**14 51 54.0**	**-0.1**	
IUG					pmax		pmax			
	comp=Z,14nm,2.3s									
KLMR	**Klimovskoe**	**127.64**	**35**	*e*	PKIKP		**PKPdf**	**14 51 51.1**	**-2.2**	
KLMR				*e*				14 53 53.0		
KLMR					pmax		pmax			
	comp=Z,42nm,1.4s									
KLMR	**Klimovskoe**	**127.64**	**35**	*e*	PKPdf		**PKPdf**	**14 51 51.2**	**-2.1**	
KLMR					AMP			14 51 55.4		
	comp=Z,42nm,1.4s									
KLMR				*e*	PP		**PP**	**14 53 53.0**	**-2.7**	
SHL	**Shillong**	**127.66**	**99**		PKIKP		**PKPdf**	**14 51 54.0**	**-0.8**	
SHL	**Shillong**	**127.66**	**99**		PKPdf		**PKPdf**	**14 51 54.0**	**-0.8**	
SUMG	**Summit**	**127.90**	**356**		PKIKP		**PKPdf**	**14 51 54.2**	**+0.1**	
SUMG	**Summit**	**127.90**	**356**		PKPdf		**PKPdf**	**14 51 54.2**	**+0.1**	
SUMG					IAMs_20		IAMs_20	15 38 12.2		
	comp=Z,2μm,21.0s									
G03D	**McMinnville, O**	**128.06**	**297**		P		**PKiKP**	**14 51 56.7**	**+1.5**	
	baz=134									
KK31	**Karatay Array**	**128.52**	**68**		PKIKP		**PKPdf**	**14 51 55.3**	**-0.4**	
KK31	**Karatay Array**	**128.52**	**68**		PKPdf		**PKPdf**	**14 51 55.3**	**-0.4**	
KKAR	**Karatay Array**	**128.52**	**68**		PKIKP		**PKPdf**	**14 51 55.2**	**-0.5**	
KKAR	**Karatay Array**	**128.52**	**68**		PKPdf		**PKPdf**	**14 51 55.2**	**-0.5**	
F04D	**Rainier, OR**	**128.53**	**298**		P		**PKiKP**	**14 51 57.6**	**+1.4**	
	baz=133									
ARSB	**Arslanbob**	**128.60**	**71**		PKIKP		**PKPdf**	**14 51 55.8**	**-0.3**	
ARSB	**Arslanbob**	**128.60**	**71**				**PKPdf**	**14 51 55.8**	**-0.3**	
E04D	**Cinebar**	**128.64**	**298**		P		**PKiKP**	**14 51 57.2**	**+0.8**	
	baz=133									
DZA	**Taraz**	**128.81**	**68**	*e*	PKP		**PKPdf**	**14 51 55.8**	**-0.4**	
	baz=68									
DZA					LR		LR	15 54 04.4		
	comp=Z,213nm,13.4s,baz=68									
DZA	**Taraz**	**128.81**	**68**	*e*	PKIKP		**PKPdf**	**14 51 55.8**	**-0.4**	
KSH	**Kashi**	**128.96**	**75**	*e*	PKP		**PKPdf**	**14 51 56.8**	**0.0**	
KSH					PP		**PP**	**14 54 06.5**	**+1.6**	
KSH					AMB		AMB			
	comp=Z,1μm,7.2s									
KSH					LR		LR			
	comp=Z,4μm,17.1s									
KSH					LR		LR			
	comp=Z,2μm,14.2s									
KSH					LR		LR			
	comp=Z,3μm,17.1s									
PNT	**Penticton**	**129.07**	**303**		PKHKP		PKPpre	14 51 43.2		
PNT					MLR		MLR			
	comp=Z,2μm,18.0s									
TRO	**Tromso**	**129.33**	**19**	*e*	PKPdf		**PKPdf**	**14 51 56.7**	**+0.4**	
KIRV	**Kirov**	**129.49**	**42**		PKP		**PKPdf**	**14 51 56.8**	**-0.1**	
	comp=Z,11nm,0.8s,baz=243,slow=3.1,SNR=14									
AML	**Almayashu**	**129.54**	**71**		P		**PKiKP**	**14 51 58.9**	**-0.1**	
	SNR=16									
B05A	**Bryant**	**129.56**	**300**		P		**PKiKP**	**14 51 58.2**	**0.0**	
	baz=132,SNR=27									
D03D	**Eldon**	**129.56**	**299**		P		**PKiKP**	**14 51 58.5**	**+0.3**	
	baz=133,SNR=14									
TMCR	**Tamitsa**	**129.63**	**31**	*e*	PKIKP		**PKPdf**	**14 51 56.4**	**-0.6**	
TMCR					pmax		pmax			
	comp=Z,98nm,1.4s									
KTK1	**Kautokeino**	**129.67**	**21**	*e*	PKPdf		**PKiKP**	**14 51 57.9**	**+0.1**	
EKS2	**Erkin-Say**	**129.95**	**70**		P		**PKiKP**	**14 51 59.3**	**0.0**	
	SNR=14									
UCH	**Uchtor**	**130.05**	**71**		P		**PKiKP**	**14 52 00.1**	**+0.1**	
	SNR=19									
AAK	**Ala-Archa**	**130.32**	**71**		PKP		**PKPdf**	**14 51 58.9**	**-0.5**	
	comp=Z,3.1nm,0.3s,baz=205,slow=4.1,SNR=22									
AAK					SKPbc		**SKPbc**	**14 55 24.0**	**+1.9**	
	comp=Z,1.5nm,0.3s,baz=209,slow=21,SNR=4.0									
AAK	**Ala-Archa**	**130.32**	**71**		P		**PKiKP**	**14 52 00.2**	**+0.1**	
	SNR=8.6									
AAK	**Ala-Archa**	**130.32**	**71**	*c*	*i*PKIKP		**PKPdf**	**14 51 59.5**	**+0.2**	
AAK					MLR		MLR			
	comp=Z,2μm,19.0s									
AAK	**Ala-Archa**	**130.32**	**71**		PKPdf		**PKPdf**	**14 51 59.2**	**-0.1**	
KZA	**Kyzart**	**130.35**	**72**		P		**PKPdf**	**14 52 00.1**	**+0.3**	
	SNR=12									
LSA	**Lhasa**	**130.41**	**95**		PKIKP		**PKPdf**	**14 51 59.7**	**-0.6**	
LSA	**Lhasa**	**130.41**	**95**				**PKPdf**	**14 51 59.7**	**-0.6**	
ARCES	**ARCESS Array B**	**130.57**	**22**		PKP		**PKPdf**	**14 51 58.1**	**-0.6**	
	comp=Z,19nm,0.8s,baz=213,slow=1.2,SNR=49									
ARCES					SKPbc		**SKPbc**	**14 55 20.2**	**-1.6**	
	comp=Z,1.2nm,0.8s,baz=316,slow=3.3,SNR=1.4									
ARE0	**ARCESS Array S**	**130.57**	**22**		PKPdf		**PKPdf**	**14 51 58.1**	**-0.6**	
ARE0	**ARCESS Array S**	**130.57**	**22**	*e*	PKPdf		**PKiKP**	**14 52 00.4**	**+0.8**	
KBK	**Karagaybulak**	**130.58**	**71**		P		**PKiKP**	**14 52 00.5**	**-0.2**	
	SNR=7.2									
USP	**Ospenovka**	**130.75**	**70**		P		**PKPdf**	**14 52 00.3**	**+0.3**	
	SNR=10									
APA	**Apatity**	**130.89**	**27**	⇑	*i*PKIKP		**PKPdf**	**14 51 58.3**	**-1.1**	
APA					pmax		pmax			
	comp=Z,15nm,0.9s									
SGDS	**Sogindy**	**130.95**	**70**	*e*	PKP		**PKPdf**	**14 51 59.8**	**-0.6**	
	comp=Z,84nm,2.6s,baz=70									
SGDS					LR		LR	15 57 35.9		
	comp=Z,408nm,14.3s,baz=70									
SGDS	**Sogindy**	**130.95**	**70**	*e*	PKIKP		**PKPdf**	**14 51 59.7**	**-0.6**	
SGDS					pmax		pmax			
	comp=Z,84nm,2.6s									
LLLB	**Lillooet**	**131.02**	**303**		PKPdf		**PKPdf**	**14 51 59.2**	**-1.0**	
KEV	**Kevo**	**131.07**	**22**		PKIKP		**PKPdf**	**14 51 59.1**	**-0.5**	
KEV	**Kevo**	**131.07**	**22**		PKPdf		**PKPdf**	**14 51 59.1**	**-0.5**	
HAMF	**Hammerfest**	**131.09**	**20**	*e*	PKPdf		**PKiKP**	**14 52 00.3**	**-0.3**	
TKM2	**Tokmak 2**	**131.11**	**71**		P		**PKPdf**	**14 52 00.9**	**+0.1**	
	SNR=6.7									
KDJ	**Kajisay**	**131.43**	**73**		IAMs_20		IAMs_20	15 41 18.0		
	comp=Z,2μm,19.0s									
LVZ	**Lovozero**	**131.46**	**27**	⇓	*i*PKIKP		**PKPdf**	**14 52 00.7**	**+0.2**	
LVZ					MLR		MLR			
	comp=Z,1μm,17.0s									
LVZ	**Lovozero**	**131.46**	**27**		PKPdf		**PKPdf**	**14 51 59.8**	**-0.7**	
TARG	**Taragay, Kyrgy**	**131.50**	**74**		IAMs_20		IAMs_20	15 56 04.3		
	comp=Z,3μm,18.0s									
ARU	**Arti**	**131.71**	**48**		PKP		**PKPdf**	**14 52 00.5**	**-0.8**	
	comp=Z,4.1nm,0.5s,baz=231,slow=2.9,SNR=3.5									
ARU					SKPbc		**SKPab**	**14 55 27.0**	**-0.2**	
	comp=Z,0.6nm,0.3s,baz=144,slow=23,SNR=1.9									
ARU	**Arti**	**131.71**	**48**	*i*	PKIKP		**PKPdf**	**14 52 01.4**	**+0.2**	
ARU								14 54 20.4		
ARU	**Arti**	**131.71**	**48**		IAMs_20		IAMs_20	15 48 42.9		
	comp=Z,3μm,20.0s									
QIZ	**Qiongzhong**	**131.88**	**122**		PKP		**PKiKP**	**14 52 03.3**	**-0.5**	
QIZ					PP		**PP**	**14 54 22.8**	**-0.5**	
QIZ					SS		SS	15 12 03.3	+4.5	
QIZ					AMB		AMB			
	comp=Z,350nm,11.4s									
QIZ					LR		LR			
	comp=Z,2μm,19.6s									
QIZ					LR		LR			
	comp=Z,2μm,16.2s									
QIZ					LR		LR			
	comp=Z,3μm,17.7s									
TNSS	**Tian-Shan**	**131.92**	**72**	⇑	*e*PKP		**PKPdf**	**14 52 02.3**	**-0.4**	
	baz=72									
TNSS	**Tian-Shan**	**131.92**	**72**	*ce*	PKIKP		**PKPdf**	**14 52 02.2**	**-0.4**	
AAA	**Alma-Ata**	**132.02**	**72**	*e*	PKP		**PKPdf**	**14 52 02.3**	**-0.1**	
	baz=72									
AAA					LR		LR	15 53 20.0		
	comp=Z,520nm,15.4s,baz=72									
AAA	**Alma-Ata**	**132.02**	**72**	*e*	PKIKP		**PKPdf**	**14 52 02.3**	**-0.1**	
MDOK	**Medeo**	**132.06**	**72**	*e*	PKP		**PKPdf**	**14 52 02.2**	**-0.5**	
	comp=Z,288nm,1.3s,baz=72									
MDOK					LR		LR	15 54 28.3		
	comp=Z,650nm,19.0s,baz=72									
MDOK	**Medeo**	**132.06**	**72**	*e*	PKIKP		**PKPdf**	**14 52 02.1**	**-0.5**	
MDOK					pmax		pmax			
	comp=Z,288nm,1.3s									
KUU	**Kurty**	**132.16**	**71**	*e*	PKP		**PKPdf**	**14 52 01.9**	**-0.7**	
	comp=Z,123nm,2.6s,baz=70									
KUU					LR		LR	15 53 58.4		
	comp=Z,840nm,15.3s,baz=70									
KUU	**Kurty**	**132.16**	**71**	*e*	PKIKP		**PKPdf**	**14 52 01.9**	**-0.7**	
KUU					pmax		pmax			
	comp=Z,123nm,2.6s									
CHKK	**Chushkaly**	**132.49**	**71**	*e*	PKP		**PKPdf**	**14 52 03.1**	**-0.1**	
	baz=71									
CHKK	**Chushkaly**	**132.49**	**71**	*e*	PKIKP		**PKPdf**	**14 52 03.0**	**-0.1**	
SVE	**Sverdlovsk**	**132.84**	**49**	*e*	PKIKP		**PKPdf**	**14 52 03.6**	**+0.2**	
SVE					pmax		pmax			
	comp=Z,94nm,1.6s									
UZB	**Uzynbulak**	**133.12**	**73**	*e*	PKP		**PKPdf**	**14 52 04.2**	**-0.4**	
	comp=Z,59nm,2.6s,baz=73									
UZB					LR		LR	15 57 29.6		
	comp=Z,440nm,16.9s,baz=73									
UZB	**Uzynbulak**	**133.12**	**73**	*e*	PKIKP		**PKPdf**	**14 52 04.1**	**-0.4**	
UZB					pmax		pmax			
	comp=Z,59nm,2.6s									
KPKS	**Kokpek**	**133.15**	**73**	*e*	PKP		**PKPdf**	**14 52 04.0**	**-0.5**	
	comp=Z,92nm,2.8s,baz=72									
KPKS					LR		LR	15 55 42.1		
	comp=Z,762nm,17.3s,baz=72									
KPKS	**Kokpek**	**133.15**	**73**	*e*	PKIKP		**PKPdf**	**14 52 04.0**	**-0.5**	
KPKS					pmax		pmax			
	comp=Z,93nm,2.8s									
KMI	**Kunming**	**133.29**	**110**	⇓	*e*PKP		**PKiKP**	**14 52 06.5**	**-0.3**	
KMI					PP		**PP**	**14 54 39.5**	**+6.6**	
KMI					SKKS			15 01 25.0		
KMI					SS		**SS**	**15 12 17.5**	**+0.7**	
KMI					AMB		AMB			
	comp=Z,280nm,5.0s									
KMI					LR		LR			
	comp=Z,2μm,17.9s									
KMI					LR		LR			
	comp=Z,2μm,17.5s									
KMI					LR		LR			
	comp=Z,3μm,17.6s									
KMI	**Kunming**	**133.29**	**110**		IAMs_20		IAMs_20	15 46 01.6		
	comp=Z,3μm,18.0s									
SHLS	**Shalkode**	**133.37**	**74**	*e*	PKP		**PKPdf**	**14 52 05.1**	**+0.1**	
	comp=Z,53nm,2.5s,baz=74									
SHLS					LR		LR	15 54 42.8		
	comp=Z,311nm,14.3s,baz=74									
SHLS	**Shalkode**	**133.37**	**74**	*e*	PKIKP		**PKPdf**	**14 52 05.1**	**+0.1**	
SHLS					pmax		pmax			
	comp=Z,53nm,2.5s									
BJO1	**Bjornoya**	**133.41**	**16**	*e*	PKPdf		**PKiKP**	**14 52 04.8**	**-0.4**	
TDK	**Taldyqorghan**	**134.01**	**71**	*e*	PKP		**PKPdf**	**14 52 06.0**	**0.0**	
	baz=71									
TDK					LR		LR	15 53 07.6		
	comp=Z,994nm,16.8s,baz=71									
TDK	**Taldyqorghan**	**134.01**	**71**	*e*	PKIKP		**PKPdf**	**14 52 06.0**	**0.0**	
BRZS	**Berezniki**	**134.19**	**62**	*e*	PKP		**PKPdf**	**14 52 05.4**	**-0.8**	
	comp=Z,70nm,2.6s,baz=62									
BRZS					LR		LR	15 52 40.6		
	comp=Z,1μm,18.2s,baz=62									
BRZS	**Berezniki**	**134.19**	**62**	*e*	PKIKP		**PKPdf**	**14 52 05.4**	**-0.8**	
BRZS					pmax		pmax			
	comp=Z,70nm,2.6s									
BRVK	**Borovoye**	**134.90**	**57**		PKIKP		**PKPdf**	**14 52 07.4**	**0.0**	
BRVK	**Borovoye**	**134.90**	**57**		PKPdf		**PKPdf**	**14 52 07.4**	**0.0**	
BRVK	**Borovoye**	**134.90**	**57**		IAMs_20		IAMs_20	15 44 59.7		
	comp=Z,3μm,20.0s									
HSPB	**Hornsund (broa**	**134.99**	**13**	*e*	Pdif		**Pdif**	**14 49 10.4**	**+1.5**	
HSPB					ePKPdf		**PKiKP**	**14 52 08.7**	**+0.4**	
BBB	**Bella Bella**	**135.04**	**301**		IAMs_20		IAMs_20	15 53 53.7		
	comp=Z,2μm,20.0s									
YKA	**Yellowknife Ar**	**135.31**	**319**		PKhKP		PKPpre	14 51 53.6		
	comp=Z,0.8nm,0.8s,baz=114,slow=4.3,SNR=3.7									
YKA					PKP		**PKPdf**	**14 52 07.3**	**-0.5**	
	comp=Z,4.3nm,0.7s,baz=123,slow=1.7,SNR=4.0									
YKA					PP		**PP**	**14 54 44.0**	**-1.1**	
	comp=Z,2.8nm,1.0s,baz=120,slow=6.0,SNR=5.6									
YKA					SKPbc		**SKPbc**	**14 55 39.0**	**+0.7**	
	comp=Z,4.9nm,0.9s,baz=131,slow=2.1,SNR=6.9									
HOPEN	**Hopen**	**135.93**	**16**	*e*	PKPdf		**PKPdf**	**14 52 08.5**	**-0.1**	
SPA0	**Spitsbergen Ar**	**136.07**	**12**		PKPdf		**PKiKP**	**14 52 10.4**	**-0.1**	
SPA0	**Spitsbergen Ar**	**136.07**	**12**	*e*	PKPdf		**PKPdf**	**14 52 08.2**	**-0.7**	
SPITS	**Spitsbergen Ar**	**136.07**	**12**		PKhKP		PKPpre	14 51 56.3		
	comp=Z,2.1nm,0.7s,baz=147,slow=17,SNR=6.5									
SPITS					PKP		**PKPdf**	**14 52 08.8**	**-0.1**	
	comp=Z,18nm,1.0s,baz=158,slow=14,SNR=6.0									
KBS	**Kingsbay**	**136.20**	**10**	*e*	PP		PP	14 54 53.4	+2.9	
GYA	**Guiyang**	**136.45**	**113**		PKP		**PKPdf**	**14 52 11.3**	**0.0**	
GYA					sPKP			14 52 15.5		
GYA					PP		**PP**	**14 54 53.3**	**+0.6**	
GYA					SKKS			15 01 42.8		
GYA					AMB		AMB			
	comp=Z,400nm,10.8s									
GYA					LR		LR			
	comp=Z,1μm,17.6s									
GYA					LR		LR			
	comp=Z,800nm,17.1s									
GYA					LR		LR			
	comp=Z,2μm,17.6s									
HKPS	**Hong Kong Po S**	**136.71**	**124**		IAMs_20		IAMs_20	15 40 58.9		
	comp=Z,5μm,19.0s									
RES	**Resolute Bay**	**137.05**	**339**		PKIKP		**PKPdf**	**14 52 11.1**	**+0.4**	
RES	**Resolute Bay**	**137.05**	**339**		PKPdf		**PKPdf**	**14 52 11.1**	**+0.4**	
MAKZ	**Makanchi**	**137.08**	**71**		IAMs_20		IAMs_20	15 55 25.9		
	comp=Z,2μm,20.0s									
MKAR	**Makanchi Array**	**137.24**	**71**		PKhKP		PKPpre	14 52 01.6		
	comp=Z,0.9nm,0.7s,baz=255,slow=2.1,SNR=4.7									
MKAR					PKP		**PKPdf**	**14 52 11.9**	**0.0**	
	comp=Z,4.2nm,0.9s,baz=256,slow=0.5,SNR=12									
MKAR					SKPab		**SKiKP**	**14 55 48.1**	**-1.3**	
	comp=Z,1.7nm,0.9s,baz=241,slow=4.4,SNR=4.1									
MKAR	**Makanchi Array**	**137.24**	**71**		PKIKP		**PKPdf**	**14 52 12.0**	**0.0**	
MOBC	**Moresby Island**	**137.51**	**300**		IAMs_20		IAMs_20	15 55 25.9		
	comp=Z,2μm,21.0s									
KURK	**Kurchatov**	**137.66**	**65**		PKIKP		**PKPdf**	**14 52 13.5**	**+0.9**	
KURK	**Kurchatov**	**137.66**	**65**		PKPdf		**PKPdf**	**14 52 13.5**	**+0.9**	
KURK	**Kurchatov**	**137.66**	**65**		IAMs_20		IAMs_20	15 45 43.9		
	comp=Z,4μm,20.0s									
DIB	**Dawson Inlet,**	**137.79**	**300**				**PKPdf**	**14 52 13.1**	**+0.4**	
DIB					IAMs_20		IAMs_20	15 58 03.4		
	comp=Z,2μm,18.0s									
GUMO	**Guam**	**137.92**	**170**		IAMs_20		IAMs_20	15 52 54.5		
	comp=Z,1μm,19.0s									
SEM	**Semipalatinsk**	**138.33**	**66**	*e*	PKP		**PKPdf**	**14 52 13.0**	**-1.2**	
	comp=Z,38nm,2.5s,baz=66									
SEM	**Semipalatinsk**	**138.33**	**66**	*e*	PKIKP		**PKPdf**	**14 52 12.9**	**-1.2**	
SEM					pmax		pmax			
	comp=Z,38nm,2.5s									
WMQ	**Urumqi**	**138.35**	**78**	*e*	PKP		**PKPdf**	**14 52 15.0**	**+0.8**	
WMQ					PP		**PP**	**14 55 07.5**	**+2.8**	
WMQ					SS		SS	15 13 16.0	-1.3	
WMQ					AMB		AMB			
	comp=Z,540nm,9.3s									
WMQ					LR		LR			
	comp=Z,1μm,19.5s									
WMQ					LR		LR			
	comp=Z,1μm,21.1s									
WMQ					LR		LR			
	comp=Z,2μm,24.1s									
WMQ	**Urumqi**	**138.35**	**78**		IAMs_20		IAMs_20	15 47 08.5		
	comp=Z,2μm,20.0s									
CD2	**Chengdu**	**138.39**	**106**		PKP		**PKPdf**	**14 52 15.0**	**+0.3**	
ZSN	**Zaisan**	**139.03**	**72**	*e*	PKP		**PKPdf**	**14 52 14.6**	**-0.6**	
	comp=Z,30nm,2.3s,baz=72									
ZSN					LR		LR	15 57 31.2		
	comp=Z,306nm,15.0s,baz=72									
ZSN	**Zaisan**	**139.03**	**72**	*e*	PKIKP		**PKPdf**	**14 52 14.6**	**-0.6**	
ZSN					pmax		pmax			
	comp=Z,30nm,2.3s									
CRAG	**Craig**	**139.36**	**302**		IAMs_20		IAMs_20	15 54 24.1		
	comp=Z,2μm,22.0s									
DLBC	**Dease Lake**	**139.47**	**308**		PKhKP		PKPpre	14 52 09.8		
	comp=Z,23nm,1.3s,baz=110,slow=7.0,SNR=4.9									
DLBC					PKP		**PKPdf**	**14 52 16.1**	**+0.4**	
	comp=Z,23nm,1.3s,baz=114,slow=3.7,SNR=6.7									
DLBC	**Dease Lake**	**139.47**	**308**		PKPdf		**PKPdf**	**14 52 16.0**	**+0.3**	
WRAK	**Wrangell Islan**	**139.49**	**304**				**PKPdf**	**14 52 16.5**	**+0.8**	
WRAK	**Wrangell Islan**	**139.49**	**304**		IAMs_20		IAMs_20	15 54 39.3		
	comp=Z,2μm,20.0s									
KNMB	**Chin-men Tao**	**140.55**	**128**		IAMs_20		IAMs_20	15 49 35.6		
	comp=Z,3μm,19.0s									
YULB	**Yu-li**	**140.88**	**132**		IAMs_20		IAMs_20	15 59 07.3		
	comp=Z,2μm,18.0s									
ENH	**Enshi**	**140.98**	**112**		PKPpre		PKPpre	14 52 11.9		
QZH	**Quanzhou**	**141.05**	**128**	*e*	PKP		**PKiKP**	**14 52 21.3**	**-1.0**	
SSLB	**Suanglung**	**141.08**	**132**		IAMs_20		IAMs_20	15 50 15.5		
	comp=Z,2μm,19.0s									
SIT	**Sitka**	**141.23**	**303**		IAMs_20		IAMs_20	15 52 09.5		
	comp=Z,1μm,19.0s									
JIS	**Juneau Island**	**141.38**	**306**		PKPdf		**PKiKP**	**14 52 20.5**	**-1.3**	
JIS					IAMs_20		IAMs_20	15 50 20.4		
	comp=Z,2μm,20.0s									
NACB	**Ninganchiao**	**141.69**	**132**		IAMs_20		IAMs_20	15 50 45.8		
	comp=Z,2μm,19.0s									
BESE	**B

NJ2				PKPab	**sPKPdf**	**14 52 35.0**	**+1.0**	
NJ2				pPKP	**pPKPab**	**14 52 37.3**	**+0.5**	
NJ2				PP	**PP**	**14 56 02.0**	**+4.5**	
NJ2				AMB	AMB			
	comp=Z,690nm,10.2s							
NJ2				LR	LR			
	comp=Z,2µm,16.9s							
NJ2				LR	LR			
	comp=Z,2µm,18.6s							
NJ2				LR	LR			
	comp=Z,4µm,18.4s							
MENT	**Mentasta**	**147.44 310**			**PKPdf**	**14 52 28.3**	**-1.3**	
MENT				PKPbc	**PKPbc**	**14 52 32.2**	**+0.1**	
SSE	**Sheshan**	**147.48 126**		PKPbc	**PKPbc**	**14 52 32.8**	**-0.3**	
SSE				LR	LR			
	comp=Z,2µm,17.7s							
SSE				LR	LR			
	comp=Z,1µm,19.2s							
SSE				LR	LR			
	comp=Z,2µm,20.0s							
SSE	**Sheshan**	**147.48 126**		IAMs_20	IAMs_20	15 54 24.3		
	comp=Z,6µm,19.0s							
MID	**Middleton Isla**	**147.50 303**		PKP2	**PKPbc**	**14 52 33.2**	**+0.9**	
MID	**Middleton Isla**	**147.50 303**			**PKPbc**	**14 52 33.2**	**+0.9**	
MID				IAMs_20	IAMs_20	16 08 39.2		
	comp=Z,2µm,19.0s							
EYAK	**Cordova Ski Ar**	**147.61 305**		PKPdf	**PKPdf**	**14 52 28.7**	**-1.1**	
EYAK				PKPbc	**sPKPdf**	**14 52 33.2**	**-0.6**	
DOT	**Dot Lake**	**147.79 311**			**PKPdf**	**14 52 28.9**	**-1.2**	
DOT				PKPbc	**sPKPdf**	**14 52 33.7**	**-0.4**	
SCRK	**Sand Creek**	**147.84 312**		PKPdf	**PKPdf**	**14 52 28.9**	**-1.4**	
SCRK				PKPbc	**sPKPdf**	**14 52 33.8**	**-0.5**	
SCRK				IAMs_20	IAMs_20	15 59 55.8		
	comp=Z,2µm,20.0s							
HIN	**Hinchinbrook I**	**147.91 305**			**PKPbc**	**14 52 33.6**	**+0.2**	
FID	**Port Fidalgo**	**148.01 305**			**PKPbc**	**14 52 34.0**	**+0.3**	
FID				IAMs_20	IAMs_20	16 03 45.9		
	comp=Z,2µm,20.0s							
RIDG	**Independent Ri**	**148.15 311**		PKPdf	**PKPdf**	**14 52 29.5**	**-1.3**	
RIDG				PKPbc	**sPKPdf**	**14 52 34.4**	**-0.3**	
PAX	**Paxson**	**148.22 310**		PKP2	**PKPbc**	**14 52 34.3**	**0.0**	
PAX	**Paxson**	**148.22 310**		PKPbc	**PKPbc**	**14 52 34.3**	**0.0**	
PAX				IAMs_20	IAMs_20	16 04 39.9		
	comp=Z,2µm,20.0s							
TIY	**Taiyuan**	**148.22 107**	*e*PKPbc		**PKPbc**	**14 52 34.0**	**-1.1**	
TIY				PKPab	**pPKPab**	**14 52 40.8**	**-0.2**	
TIY				LR	LR			
	comp=Z,970nm,15.6s							
TIY				LR	LR			
	comp=Z,1µm,17.5s							
TIY				LR	LR			
	comp=Z,2µm,17.0s							
GLI	**Glacier Island**	**148.34 305**		PKPbc	**PKPbc**	**14 52 34.8**	**+0.3**	
GLI				IAMs_20	IAMs_20	16 05 02.3		
	comp=Z,2µm,21.0s							
SCM	**Sheep Creek Mo**	**148.73 307**			**PKPdf**	**14 52 29.9**	**-1.9**	
SCM				PKPbc	**PKiKP**	**14 52 36.5**	**-0.6**	
SCM				IAMs_20	IAMs_20	16 02 21.8		
	comp=Z,1µm,20.0s							
PRP	**Porcupine Dome**	**148.85 314**		PKPdf	**PKPdf**	**14 52 30.1**	**-1.8**	
PRP				PKPbc	**sPKPdf**	**14 52 35.8**	**-0.1**	
PRP				IAMs_20	IAMs_20	16 00 12.1		
	comp=Z,2µm,19.0s							
NRIK	**Noril'sk**	**148.88 38**		PKPbc	**PKPbc**	**14 52 35.6**	**0.0**	
	comp=Z,31nm,1.0s,baz=211,slow=1.1,SNR=25							
BTO	**Baotou**	**148.92 101**	*e*PKPbc		**PKPdf**	**14 52 31.0**	**-1.8**	
FYU	**Fort Yukon**	**148.93 316**		PKPdf	**PKPdf**	**14 52 30.4**	**-1.4**	
FYU				IAMs_20	IAMs_20	16 01 17.1		
	comp=Z,1µm,20.0s							
KNK	**Knik Glacier**	**149.13 306**			**PKPdf**	**14 52 30.3**	**-2.1**	
KNK				PKPbc	**PKPbc**	**14 52 37.0**	**+0.4**	
KNK				IAMs_20	IAMs_20	16 10 52.1		
	comp=Z,2µm,20.0s							
SML	**Sawmill**	**149.18 307**			**PKPdf**	**14 52 30.2**	**-2.3**	
SML				PKPbc	**PKPbc**	**14 52 36.9**	**+0.2**	
SML				IAMs_20	IAMs_20	16 07 19.6		
	comp=Z,2µm,19.0s							
HDA	**Harding Lake**	**149.21 312**		P	**PKPdf**	**14 52 30.5**	**-1.9**	
	baz=102,SNR=53							
HDA	**Harding Lake**	**149.21 312**			**PKPdf**	**14 52 29.9**	**-2.4**	
HDA				PKPbc	**PKPbc**	**14 52 36.7**	**+0.1**	
HDA				IAMs_20	IAMs_20	16 11 05.8		
	comp=Z,2µm,19.0s							
SEW	**Seward**	**149.22 303**		PKPdf	**PKPdf**	**14 52 30.2**	**-2.2**	
SEW				PKPbc	**PKPbc**	**14 52 37.3**	**+0.6**	
IL31		**149.26 313**			**PKPdf**	**14 52 30.4**	**-2.0**	
IL31				PKPbc	**PKPbc**	**14 52 36.7**	**0.0**	
ILAR	**Eielson Array**	**149.26 313**		PKP	**PKPdf**	**14 52 29.9**	**-2.5**	
	comp=Z,3.1nm,1.0s,baz=287,slow=1.2,SNR=10							
ILAR				PKPbc	**PKPbc**	**14 52 37.0**	**+0.3**	
	comp=Z,240nm,1.0s,baz=119,slow=1.5,SNR=10							
GHO	**Glory Hole Cre**	**149.44 306**			**PKPdf**	**14 52 30.3**	**-2.6**	
GHO				PKPbc	**PKPbc**	**14 52 37.6**	**+0.2**	
GHO				IAMs_20	IAMs_20	16 14 46.5		
	comp=Z,2µm,20.0s							
O22K	**Cooper Landing**	**149.46 304**		P	**PKiKP**	**14 52 38.0**	**-0.4**	
	baz=107							
PMR	**Palmer**	**149.49 306**		PKIKP	**PKPdf**	**14 52 30.2**	**-2.6**	
PMR						14 52 37.8		
PMR	**Palmer**	**149.49 306**		PKPdf	**PKPdf**	**14 52 30.2**	**-2.6**	
PMR				PKPbc	**PKPbc**	**14 52 37.8**	**+0.4**	
PMR				IAMs_20	IAMs_20	16 12 49.7		
	comp=Z,2µm,20.0s							
POKR	**Poker Plat Res**	**149.55 313**		P	**PKPbc**	**14 52 37.7**	**+0.2**	
	baz=101,SNR=20							
TIA	**Tai'an**	**149.60 115**		PKPbc	**PKPdf**	**14 52 33.8**	**-0.1**	
CCB	**Clear Creek Bu**	**149.62 312**		PKPbc	**PKPbc**	**14 52 37.4**	**-0.2**	
CCB				IAMs_20	IAMs_20	16 09 58.6		
	comp=Z,2µm,19.0s							
COLA	**College**	**149.68 313**		PKP2	**PKPbc**	**14 52 37.4**	**-0.4**	
COLA	**College**	**149.68 313**			**PKPbc**	**14 52 37.4**	**-0.4**	
COLA	**College**	**149.68 313**		IAMs_20	IAMs_20	15 52 59.4		
	comp=Z,2µm,21.0s							
TCOL	**CIGO, UAF Yank**	**149.69 313**		P	**PKPbc**	**14 52 37.8**	**0.0**	
	baz=101,SNR=34							
WRH	**Wood River Hil**	**149.70 312**			**PKPdf**	**14 52 30.4**	**-2.8**	
WRH				PKPbc	**PKPbc**	**14 52 37.9**	**+0.1**	
RND	**Reindeer**	**149.81 310**		PKIKP	**PKPdf**	**14 52 31.3**	**-2.2**	
RND				PKP	**PKPbc**	**14 52 38.7**	**+0.4**	
RND	**Reindeer**	**149.81 310**		PKPdf	**PKPdf**	**14 52 31.3**	**-2.2**	
RND				PKPbc	**PKPbc**	**14 52 38.7**	**+0.4**	
RND				IAMs_20	IAMs_20	15 54 22.1		
	comp=Z,2µm,20.0s							
MDM	**Murphy Dome**	**149.86 313**			**PKPbc**	**14 52 37.9**	**-0.3**	
CNPM	**China Poot**	**149.90 302**		PKPbc	**PKiKP**	**14 52 39.0**	**-0.4**	
CNPM				IAMs_20	IAMs_20	16 09 15.5		
	comp=Z,2µm,19.0s							
MCK	**McKinley**	**149.92 310**		PKIKP	**PKPdf**	**14 52 31.2**	**-2.3**	
MCK						14 52 38.9		
MCK	**McKinley**	**149.92 310**		PKPdf	**PKPdf**	**14 52 31.2**	**-2.3**	
MCK				PKPbc	**PKPbc**	**14 52 38.9**	**+0.5**	
HHC	**Hu-ho-hao-te**	**149.95 102**	*e*PKPbc		**PKPbc**	**14 52 39.0**	**-0.3**	
HHC				AMB	AMB			
	comp=Z,46nm,6.0s							
HHC				LR	LR			
	comp=Z,610nm,17.9s							
HHC				LR	LR			
	comp=Z,1µm,18.2s							
HHC				LR	LR			
	comp=Z,1µm,17.1s							
KDAK	**Kodiak Island**	**150.01 298**		PKPbc	**PKiKP**	**14 52 39.2**	**-0.4**	
	comp=Z,32nm,0.5s,baz=156,slow=1.8,SNR=46							
KDAK	**Kodiak Island**	**150.01 298**		PKIKP	**PKPbc**	**14 52 39.0**	**+0.3**	
KDAK	**Kodiak Island**	**150.01 298**			**PKPbc**	**14 52 39.0**	**+0.3**	
KDAK	**Kodiak Island**	**150.01 298**		IAMs_20	IAMs_20	16 14 44.6		
	comp=Z,2µm,18.0s							
HOM	**Homer**	**150.14 302**			**PKiKP**	**14 52 39.6**	**-0.3**	
HOM				IAMs_20	IAMs_20	15 58 39.2		
	comp=Z,1µm,21.0s							
MOY	**Mondy**	**150.14 76**	*e*PKIKP		**PKPdf**	**14 52 34.5**	**+0.1**	
MOY				pmax	pmax			
	comp=Z,369nm,2.6s							
NEA2	**Nenana**	**150.14 312**		P	**PKPdf**	**14 52 30.3**	**-3.6**	
	baz=100,SNR=7.6							
OHAK	**Old Harbor**	**150.17 296**			**PKPbc**	**14 52 39.4**	**+0.2**	
SUA	**Susitna One**	**150.21 305**		PKPbc	**PKiKP**	**14 52 39.9**	**-0.2**	
SUA				IAMs_20	IAMs_20	16 15 14.7		
	comp=Z,2µm,22.0s							
SII	**Sitkinak Islan**	**150.40 295**			**PKiKP**	**14 52 40.3**	**-0.2**	
TRF	**Thorofare Moun**	**150.45 309**		PKPbc	**PKPbc**	**14 52 40.3**	**+0.4**	
SKT	**Skwentna**	**150.69 306**		IAMs_20	IAMs_20	16 14 52.5		
	comp=Z,2µm,21.0s							
ZAK	**Zakamensk**	**150.81 79**	*e*PKIKP		**PKPdf**	**14 52 34.6**	**-0.9**	
ZAK				pmax	pmax			
	comp=Z,86nm,1.6s							
TOLK	**Toolik Lake Re**	**150.82 320**		P	**PKPdf**	**14 52 33.0**	**-1.9**	
	baz=93,SNR=12							
TOLK	**Toolik Lake Re**	**150.82 320**		PKPdf	**PKPdf**	**14 52 32.9**	**-1.9**	
TOLK				PKPbc	**PKPbc**	**14 52 40.8**	**+0.3**	
TOLK				IAMs_20	IAMs_20	16 00 58.8		
	comp=Z,2µm,20.0s							
BPAW	**Bear Paw Mtn.**	**150.88 311**		IAMs_20	IAMs_20	16 15 33.0		
	comp=Z,2µm,20.0s							
CHIR	**Chirikof Islan**	**150.88 293**			**PKiKP**	**14 52 41.5**	**0.0**	
RSO	**Redoubt South**	**150.90 303**			**PKPbc**	**14 52 40.8**	**-0.3**	
COLD	**Coldfoot**	**150.96 317**		P	**PKPdf**	**14 52 33.5**	**-1.5**	
	baz=95,SNR=6.1							
COLD	**Coldfoot**	**150.96 317**		PKPdf	**PKPdf**	**14 52 33.2**	**-1.9**	
COLD				PKPbc	**PKiKP**	**14 52 41.4**	**+0.1**	
COLD				IAMs_20	IAMs_20	16 16 12.9		
	comp=Z,3µm,22.0s							
PPLA	**Purkeypile**	**151.19 308**		PKPdf	**PKPdf**	**14 52 32.8**	**-2.9**	
SONM	**Songino Array**	**151.27 86**		PKP	**PKPdf**	**14 52 36.0**	**-0.3**	
	comp=Z,5.6nm,0.9s,baz=225,slow=2.8,SNR=17							
SONM				PKPbc	**PKPbc**	**14 52 42.3**	**0.0**	
	comp=Z,38nm,0.9s,baz=227,slow=3.4,SNR=38							
TLY	**Talaya**	**151.62 77**	*i* PKIKP		**PKPdf**	**14 52 35.4**	**-1.1**	
TLY			*e*			14 52 40.6		
TLY				pmax	pmax			
	comp=Z,214nm,1.5s							
TLY	**Talaya**	**151.62 77**		PKPdf	**PKPdf**	**14 52 36.3**	**-0.2**	
TLY					**PKPbc**	**14 52 42.8**	**0.0**	
ULN	**Ulaanbaatar**	**151.66 87**		PKIKP	**PKPdf**	**14 52 36.4**	**-0.5**	
ULN						14 52 43.4		
ULN	**Ulaanbaatar**	**151.66 87**		PKPdf	**PKPdf**	**14 52 36.4**	**-0.5**	
ULN				PKPbc	**PKPbc**	**14 52 43.4**	**+0.2**	
BJT		**151.91 108**		PKIKP	**PKPdf**	**14 52 37.5**	**+0.2**	
BJT						14 52 44.1		
BJT	**Baijiatuau**	**151.91 108**		PKPdf	**PKPdf**	**14 52 37.5**	**+0.2**	
BJT					**PKiKP**	**14 52 44.1**	**-0.1**	
BJI	**Beijing**	**151.93 108**		PKPbc	**PKPdf**	**14 52 37.5**	**+0.2**	
IRK	**Irkutsk**	**152.22 77**	*e*PKIKP		**PKPdf**	**14 52 36.3**	**-1.1**	
IRK				pmax	pmax			
	comp=Z,156nm,2.5s							
SVW2	**Sparrevohn**	**152.39 304**			**PKPbc**	**14 52 43.6**	**-0.7**	
CNBA	**Chernabura Isl**	**152.63 289**			**PKPbc**	**14 52 44.5**	**-0.4**	
TTA	**Tatalina**	**152.92 307**		PKIKP	**PKPdf**	**14 52 35.2**	**-3.0**	
TTA	**Tatalina**	**152.92 307**		PKPdf	**PKPdf**	**14 52 35.2**	**-3.0**	
A21K	**Barrow**	**153.10 326**		P	**PKPdf**	**14 52 36.1**	**-2.0**	
	baz=81							
SDPT	**Sand Point**	**153.29 290**			**PKPbc**	**14 52 45.9**	**-0.5**	
KSRS	**Korea Array**	**155.85 128**		PKP	**PKPdf**	**14 52 41.4**	**-1.6**	
	comp=Z,2.2nm,1.0s,baz=188,slow=2.1,SNR=11							
KSRS				PKPab	**PKPab**	**14 53 08.4**	**-1.4**	
	comp=Z,7.1nm,1.0s,baz=207,slow=3.5,SNR=9.8							
UNV	**Unalaska Valle**	**156.06 284**		IAMs_20	IAMs_20	16 16 25.9		
	comp=Z,2µm,19.0s							
SNY	**Shenyang**	**157.13 115**	⇑PKP		**PKPdf**	**14 52 41.3**	**-3.2**	
SNY				AMB	AMB			
	comp=Z,530nm,9.6s							
CIT	**Chita**	**157.32 83**	*e*PKP2		**PKPab**	**14 53 16.6**	**+0.7**	
MJAR	**Matsushiro Arr**	**158.97 148**	PKP		**PKPdf**	**14 52 45.8**	**-1.2**	
	comp=Z,3.2nm,1.0s,baz=211,slow=1.0,SNR=8.3							
MJAR				PKPab	**PKPab**	**14 53 23.7**	**+0.4**	
	comp=Z,4.0nm,0.8s,baz=189,slow=5.0,SNR=7.5							
MAJO	**Matsushiro**	**158.97 148**	PKIKP		**PKPdf**	**14 52 46.8**	**-0.2**	
MAJO	**Matsushiro**	**158.97 148**	PKPdf		**PKPdf**	**14 52 46.8**	**-0.2**	
MAT	**Matsushiro**	**158.97 148**	PKP		**PKPdf**	**14 52 45.7**	**-1.3**	
MJB9	**Matsu-Tunnel**	**158.97 148**			**PKPdf**	**14 52 46.9**	**-0.1**	
BOD	**Bodaibo**	**159.26 68**	*e*PKIKP		**PKPdf**	**14 52 44.5**	**-2.1**	
BOD				pmax	pmax			
	comp=Z,30nm,2.2s							
CN2	**Changchun**	**159.50 114**	*e*PKP		**PKPdf**	**14 52 46.5**	**-0.8**	
CN2				PP	**PP**	**14 57 09.3**	**+2.0**	
CN2				SKKS		15 03 56.3		
CN2				AMB	AMB			
	comp=Z,400nm,9.3s							
CN2				LR	LR			
	comp=Z,1µm,18.0s							
CN2				LR	LR			
	comp=Z,700nm,18.0s							
CN2				LR	LR			
	comp=Z,1µm,18.0s							
HIA	**Hailar**	**159.61 94**	PKP2		**PKPab**	**14 53 25.9**	**0.0**	
HIA	**Hailar**	**159.61 94**			**PKPab**	**14 53 25.9**	**0.0**	
TIXI	**Tiksi**	**161.01 22**	PKPab		**PKPab**	**14 53 31.9**	**+0.6**	
	comp=Z,4.0nm,0.7s,baz=18,slow=4.5,SNR=9.9							
MDJ	**Mudanjiang**	**162.19 118**	PKP		**PKPdf**	**14 52 48.8**	**-1.4**	
USRK	**Ussuriysk Ar.**	**163.06 123**	PKP		**PKPdf**	**14 52 49.5**	**-1.6**	
	comp=Z,1.8nm,0.8s,baz=246,slow=3.3,SNR=5.4							
USRK				PKPab	**PKPab**	**14 53 39.2**	**-1.9**	
	comp=Z,4.4nm,1.0s,baz=270,slow=3.2,SNR=6.4							
BILL	**Bilibino**	**165.66 338**	*c i* PKIKP		**PKPdf**	**14 52 47.0**	**-5.6**	
BILL			*e*			14 53 51.7		
BILL			*e*PPP		PPP	15 01 30.9		
BILL				pmax	pmax			
	comp=Z,63nm,3.1s							
ZEA	**Zeya**	**165.70 87**	*e*PKIKP		**PKPdf**	**14 52 51.6**	**-1.5**	
ZEA				pmax	pmax			
	comp=Z,80nm,1.8s							
YAK	**Yakutsk**	**166.80 51**	PKP		**PKPdf**	**14 52 51.2**	**-2.5**	
	comp=Z,1.8nm,0.3s,baz=156,slow=1.1,SNR=1.4							
YAK				PKPab	**PKPab**	**14 53 57.4**	**+0.3**	
	comp=Z,1.9nm,0.3s,baz=323,slow=2.5,SNR=1.3							
ASAJ	**Asahikawa**	**167.24 149**	PKP		**PKPdf**	**14 52 52.2**	**-2.4**	
	comp=Z,10nm,1.1s,baz=98,slow=21,SNR=1.6							
JKA	**Kamikawa-asahi**	**167.24 149**			**PKPdf**	**14 52 52.2**	**-2.4**	
KUR	**Kuril'sk**	**169.50 165**	*d i* PKIKP		**PKPdf**	**14 52 56.2**	**+0.2**	
KUR			*e*PP		**PP**	**14 57 59.3**	**+0.3**	
YSS	**Yuzh-Sakhalins**	**169.82 143**	*i* PKIKP		**PKPdf**	**14 52 56.3**	**+0.1**	
YSS			*e*SS		SS	15 18 58.4	-0.1	
YSS				pmax	pmax			
	comp=Z,20nm,1.3s							
YSS	**Yuzh-Sakhalins**	**169.82 143**			**PKPdf**	**14 52 56.5**	**+0.3**	
MA2	**Magadan**	**175.80 7**	PKP		**PKPdf**	**14 52 55.6**	**-2.7**	
	comp=Z,5.1nm,1.0s,baz=174,slow=21,SNR=1.4							
PETK	**Petropavlovsk-**	**175.83 239**	PKP		**PKPdf**	**14 52 57.3**	**-1.2**	
	comp=Z,9.2nm,1.1s,baz=116,slow=3.4,SNR=5.7							

*NEIC **29** 14:33:59.2±0.4, 32°.54N±0°.06×109°.16W±0°.04, h5km±2km, ML3.6/36, Error ellipse: s-maj=10.4km s-min=5.5km az=162.0*

*IDC **29** 14:33:60.0±1.4, 30°.94N×109°.93W, h0km, mb1 3.3/4, mb1mx3.2/55, mbtmp2.9/4, ML3.4/4, Error ellipse: s-maj=35.7km s-min=8.0km az=25.0*

ISC 29 14:33:59.2±0.8, 32°.49N±0°.07×109°.11W±0°.04, h10km, n59, σ0s99/63, Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
121A	**Cookes Peak, D**	**1.12**	**88**		**Pg**	**14 34 21.6**	**+0.8**
121A				Sg	**Sb**	**14 34 36.6**	**+1.2**
TUC	**Tucson**	**1.43**	**263**		**Pb**	**14 34 25.3**	**-0.7**
TUC				Sn	**Sg**	**14 34 45.7**	**+0.4**
TUC				IAML		14 34 47.2	
	1µm,0.5s						
TUC				IAML		14 34 48.2	
	622nm,0.5s						
Y22D	**IRIS PASSCAL I**	**2.42**	**49**		**Pn**	**14 34 39.2**	**+0.2**
Y22D				Sn	**Sn**	**14 35 09.4**	**+0.8**
LENM	**Lemitar**	**2.44**	**46**		**Pn**	**14 34 36.2**	**-3.2**
BNM	**Barren Site**	**2.65**	**51**		**Pn**	**14 34 42.0**	**-0.2**
W18A	**Petrified Fore**	**2.67**	**349**		**Pn**	**14 34 42.3**	**-0.2**
W18A				IAML		14 35 29.3	
	comp=E,515nm,1.3s						
W18A				IAML		14 35 30.4	
	comp=N,384nm,0.7s						
X16A	**Lo Mia Camp, P**	**2.74**	**315**		**Pn**	**14 34 43.7**	**+0.3**
X16A				IAML		14 35 25.4	
	comp=N,232nm,0.6s						
X16A				IAML		14 35 26.8	
	comp=E,205nm,0.3s						
214A	**Organ Pipe Nat**	**3.19**	**261**		**Pn**	**14 34 49.5**	**+0.1**
214A				IAML		14 35 45.1	
	comp=E,157nm,0.6s						
214A				IAML		14 35 46.1	
	comp=N,122nm,0.4s						
MNTX	**Cornudas Mount**	**3.26**	**103**		**Pn**	**14 34 51.3**	**+0.9**
ANMO	**Albuquerque**	**3.29**	**41**	Pn	**Pn**	**14 34 50.5**	**-0.6**
ANMO				IAML		14 35 41.9	
	comp=N,91nm,0.8s						
WUAZ	**Wupatki**	**3.56**	**329**		**Pn**	**14 34 55.0**	**+0.3**
Y14A	**Wickenburg**	**3.57**	**295**		**Pn**	**14 34 54.6**	**-0.1**
Y14A				IAML		14 36 00.3	
	comp=N,104nm,0.5s						
Y14A				IAML		14 36 00.9	
	comp=E,96nm,0.6s						
HSIG		**3.81**	**205**		**Pn**	**14 34 58.8**	**+0.9**
HSIG				IAML		14 36 07.5	
	comp=E,63nm,0.5s						
113A	**Mohawk Valley,**	**3.94**	**275**		**Pn**	**14 34 59.8**	**0.0**
GDL2	**Guadalupe Moun**	**4.03**	**93**	Pn	**Pn**	**14 35 02.6**	**+1.5**
Y12C	**Blythe**	**4.71**	**287**	Pn	**Pn**	**14 35 10.7**	**+0.3**
Y12C				IAML		14 36 35.0	
	comp=N,39nm,0.5s						
Y12C				IAML		14 36 37.4	
	comp=E,41nm,0.5s						
U15A	**North Rim**	**4.72**	**327**	Pn	**Pn**	**14 35 10.5**	**-0.3**
U15A				IAML		14 36 31.2	
	comp=E,109nm,0.7s						
MVCO	**Mesa Verde**	**4.73**	**6**		**Pn**	**14 35 10.7**	**-0.2**
MVCO				IAML		14 36 37.0	
	comp=E,105nm,0.5s						
W13A	**Hualapai Mount**	**4.75**	**304**		**Pn**	**14 35 11.9**	**+0.8**
GLA	**Glamis**	**4.85**	**278**	Pn	**Pn**	**14 35 13.1**	**+0.8**
GLA				IAML		14 36 50.9	
	comp=E,72nm,0.8s						
GLA				IAML		14 36 52.6	
	comp=N,55nm,0.9s						
PKCU	**Pink Cliffs**	**5.59**	**333**	Pn	**Pn**	**14 35 23.0**	**+0.2**
TX31	**Lajitas Ar. Si**	**5.63**	**123**		**Pn**	**14 35 25.4**	**+2.2**
TX32	**Lajitas Array**	**5.63**	**123**		**Pn**	**14 35 25.5**	**+2.3**
TXAR	**Lajitas Array**	**5.64**	**123**	Pn	**Pn**	**14 35 25.9**	**+2.7**
	comp=N,0.3nm,0.3s,baz=293,slow=12,SNR=20						
TXAR				Pg	**Pb**	**14 35 34.9**	**-2.9**
	comp=N,0.8nm,0.3s,baz=286,slow=12,SNR=5.3						
TXAR				Sn	**Sn**	**14 36 28.4**	**+0.4**
	comp=N,0.8nm,0.3s,baz=281,slow=14,SNR=1.8						
TXAR				Lg	Lg	14 37 00.7	
	comp=N,2.7nm,0.3s,baz=281,slow=29,SNR=7.1						
PV13	**Radium Mtn., P**	**5.66**	**2**	Pn	**Pn**	**14 35 23.1**	**-0.4**
PV02	**Paradox Valley**	**5.71**	**3**	Pn	**Pn**	**14 35 24.6**	**+0.3**
PV18	**Skein Mesa, Pa**	**5.74**	**2**	Pn	**Pn**	**14 35 24.3**	**-0.4**
PV03	**Paradox Valley**	**5.75**	**2**		**Pn**	**14 35 24.3**	**-0.6**
PV17	**East Wray Mesa**	**5.78**	**1**	Pn	**Pn**	**14 35 25.1**	**0.0**
PV11	**David Mesa, Pa**	**5.80**	**2**	Pn	**Pn**	**14 35 24.8**	**-0.6**
PV19	**Morning Glory**	**5.80**	**1**		**Pn**	**14 35 25.1**	**-0.5**
PV12	**Saucer Basin,**	**5.82**	**2**	Pn	**Pn**	**14 35 25.4**	**-0.4**
PV20	**West Nyswonger**	**5.84**	**1**	Pn	**Pn**	**14 35 25.5**	**-0.5**
PV15	**Paradox Valley**	**5.86**	**5**	Pn	**Pn**	**14 35 26.0**	**-0.4**
PV14	**Lion Creek, Pa**	**5.87**	**1**	Pn	**Pn**	**14 35 25.9**	**-0.6**
PV10	**Paradox Valley**	**5.87**	**1**		**Pn**	**14 35 24.9**	**-1.6**
PV04	**Paradox Valley**	**5.89**	**2**	Pn	**Pn**	**14 35 26.2**	**-0.5**
PV07	**Paradox Valley**	**5.94**	**3**	Pn	**Pn**	**14 35 27.2**	**-0.3**
PV23	**Carpenter Ridg**	**5.95**	**1**	Pn	**Pn**	**14 35 27.2**	**-0.4**
PV09	**Paradox Valley**	**5.99**	**360**	Pn	**Pn**	**14 35 27.8**	**-0.5**
SDCO	**Great Sand Dun**	**6.01**	**28**	Pn	**Pn**	**14 35 28.5**	**-0.1**
T25A	**Trinidad**	**6.03**	**39**		**Pn**	**14 35 28.9**	**+0.1**
PV22	**Blue Mesa, Par**	**6.03**	**2**	Pn	**Pn**	**14 35 28.4**	**-0.3**
PV21	**Cone Mtn., Par**	**6.05**	**1**	Pn	**Pn**	**14 35 28.9**	**-0.1**
XPFO	**Pion Flat**	**6.27**	**282**	Pn	**Pn**	**14 35 31.6**	**-0.3**
PFO	**Pinyon Flats O**	**6.27**	**282**	Pn	**Pn**	**14 35 31.8**	**-0.1**
	comp=N,0.2nm,0.3s,baz=112,slow=19,SNR=1.2						
PFO				Sn	**Sn**	**14 36 42.0**	**-1.7**
	comp=N,0.2nm,0.3s,baz=54,slow=18,SNR=1.7						
PFO				Lg	Lg	14 37 18.4	
	comp=N,0.3nm,0.3s,baz=99,slow=19,SNR=2.6						
PFO	**Pinyon Flats O**	**6.27**	**282**	Pn	**Pn**	**14 35 32.0**	**0.0**
HPIG		**6.29**	**151**	Pn	**Pn**	**14 35 34.1**	**+1.8**
SHPR	**Sheep Range**	**6.40**	**310**	Pn	**Pn**	**14 35 33.8**	**+0.1**
Q16A	**Castle Valley**	**6.63**	**346**	Pn	**Pn**	**14 35 36.9**	**0.0**
TCRU	**Three Creeks R**	**6.68**	**337**	Pn	**Pn**	**14 35 37.1**	**-0.5**
GSC	**Goldstone,

comp=Z,1.8nm,0.7s,baz=214,slow=3.3,SNR=4.0

BUC 29 14:38:13.6±0.3, 45°.64N×26°.53E, h144km±2km, ml3.5/22, 75C-52D, Error ellipse: s-maj=1.8km s-min=1.6km az=87.0, Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLOR	**Plostina**	**0.23**	**22**	⇑P	Pn	14 38 33.3	0.0
PLOR				⇑S	Sn	14 38 48.5	+0.1
PLOR	**Plostina**	**0.23**	**22**	⇑P	Pn	14 38 33.3	0.0
PLOR				⇑S	Sn	14 38 48.5	+0.1
VRI	**Vrincioaia**	**0.27**	**31**	⇑P	Pn	14 38 33.6	+0.3
VRI				⇑S	Sn	14 38 49.2	+0.8
VRI	**Vrincioaia**	**0.27**	**31**	⇑P	Pn	14 38 33.6	+0.3
VRI				⇑S	Sn	14 38 49.2	+0.8
NEHR	**Nehoiu**	**0.27**	**218**	⇑P	Pn	14 38 33.6	+0.1
NEHR				⇑S	Sn	14 38 49.6	+1.2
NEHR	**Nehoiu**	**0.27**	**218**	⇑P	Pn	14 38 33.6	+0.1
NEHR				⇑S	Sn	14 38 49.6	+1.2
ODBI	**Odobesti**	**0.39**	**71**	⇑P	Pn	14 38 34.3	+0.6
ODBI				⇑S	Sn	14 38 50.1	+1.1
ODBI	**Odobesti**	**0.39**	**71**	⇑P	Pn	14 38 34.3	+0.6
ODBI				⇑S	Sn	14 38 50.1	+1.1
GRER		**0.41**	**130**	⇑P	Pn	14 38 34.3	+0.5
GRER				⇑S	Sn	14 38 49.3	+0.1
GRER		**0.41**	**130**	⇑P	Pn	14 38 34.3	+0.5
GRER				⇑S	Sn	14 38 49.3	+0.1
MLR	**Muntele Rosu**	**0.44**	**250**	⇑P	Pn	14 38 34.5	+0.3
MLR				⇑S	Sn	14 38 50.9	+1.2
MLR	**Muntele Rosu**	**0.44**	**250**	⇑P	Pn	14 38 34.5	+0.3
MLR				⇑S	Sn	14 38 50.9	+1.2
PETR	**Petresti**	**0.50**	**80**	⇓P	Pn	14 38 34.4	+0.2
PETR				⇓S	Sn	14 38 50.9	+1.0
PETR	**Petresti**	**0.50**	**80**	⇓P	Pn	14 38 34.4	+0.2
PETR				⇓S	Sn	14 38 50.9	+1.0
ISR	**Istrita**	**0.52**	**179**	⇑S	Sn	14 38 50.6	+0.3
ISR	**Istrita**	**0.52**	**179**	⇑S	Sn	14 38 50.6	+0.3
PGOR	**Pogoanele**	**0.80**	**156**	⇓S	Sn	14 38 54.7	+1.4
PGOR	**Pogoanele**	**0.80**	**156**	⇓S	Sn	14 38 54.7	+1.4
TUDR		**0.80**	**93**	⇑P	Pn	14 38 36.1	-0.1
TUDR				⇑S	Sn	14 38 54.6	+1.3
TUDR		**0.80**	**93**	⇑P	Pn	14 38 36.1	-0.1
TUDR				⇑S	Sn	14 38 54.6	+1.3
DOPR	**Dopca**	**0.86**	**293**	⇑P	Pn	14 38 36.5	-0.2
DOPR				⇑S	Sn	14 38 54.2	-0.1
DOPR	**Dopca**	**0.86**	**293**	⇑P	Pn	14 38 36.5	-0.2
DOPR				⇑S	Sn	14 38 54.2	-0.1
TESR	**Tescani**	**0.88**	**5**	⇑P	Pn	14 38 36.3	-0.5
TESR				⇑S	Sn	14 38 54.0	-0.6
TESR	**Tescani**	**0.88**	**5**	⇑P	Pn	14 38 36.3	-0.5
TESR				⇑S	Sn	14 38 54.0	-0.6
SCHL	**Schela**	**0.92**	**98**	⇓S	Sn	14 38 55.2	+0.2
SCHL	**Schela**	**0.92**	**98**	⇓S	Sn	14 38 55.2	+0.2
SULR		**0.98**	**192**	⇑P	Pn	14 38 38.4	+0.7
SULR				⇑S	Sn	14 38 55.5	-0.4
SULR		**0.98**	**192**	⇑P	Pn	14 38 38.4	+0.7
SULR				⇑S	Sn	14 38 55.5	-0.4
BIR	**Birlad**	**0.99**	**50**	⇑P	Pn	14 38 37.9	+0.2
BIR	**Birlad**	**0.99**	**50**	⇑P	Pn	14 38 37.9	+0.2
VOIR		**1.06**	**260**	⇓P	Pn	14 38 38.3	-0.1
VOIR				⇓S	Sn	14 38 57.0	-0.3
VOIR		**1.06**	**260**	⇓P	Pn	14 38 38.3	-0.1
VOIR				⇓S	Sn	14 38 57.0	-0.3
AMRR	**Amara**	**1.18**	**151**	⇓S	Sn	14 38 58.6	-0.5
AMRR	**Amara**	**1.18**	**151**	⇓S	Sn	14 38 58.6	-0.5
LEHL	**Lehliu**	**1.18**	**170**	⇓S	Sn	14 39 00.5	+1.3
LEHL	**Lehliu**	**1.18**	**170**	⇓S	Sn	14 39 00.5	+1.3
CFR	**Carcaliu**	**1.22**	**112**	⇓P	Pn	14 38 40.0	+0.2
CFR				⇓S	Sn	14 39 00.2	+0.4
CFR	**Carcaliu**	**1.22**	**112**	⇓P	Pn	14 38 40.0	+0.2
CFR				⇓S	Sn	14 39 00.2	+0.4
INCR	**INCERC-Sediu C**	**1.23**	**192**	⇓S	Sn	14 39 00.5	+0.6
INCR	**INCERC-Sediu C**	**1.23**	**192**	⇓S	Sn	14 39 00.5	+0.6
GIRR	**Girov**	**1.32**	**359**	⇓S	Sn	14 39 01.6	-0.1
GIRR	**Girov**	**1.32**	**359**	⇓S	Sn	14 39 01.6	-0.1
BIZ	**Bicaz**	**1.33**	**347**	⇓P	Pn	14 38 41.3	+0.3
BIZ				⇓S	Sn	14 39 02.4	+0.4
BIZ	**Bicaz**	**1.33**	**347**	⇓P	Pn	14 38 41.3	+0.3
BIZ				⇓S	Sn	14 39 02.4	+0.4
BUC1	**Bucharest**	**1.34**	**196**	⇓S	Sn	14 39 02.7	+0.7
BUC1	**Bucharest**	**1.34**	**196**	⇓S	Sn	14 39 02.7	+0.7
ARR	**Arges**	**1.36**	**259**	⇓P	Pn	14 38 42.0	+0.7
ARR				⇓S	Sn	14 39 02.3	-0.2
ARR	**Arges**	**1.36**	**259**	⇓P	Pn	14 38 42.0	+0.7
ARR				⇓S	Sn	14 39 02.3	-0.2
HARR	**Harsova**	**1.37**	**133**	⇑P	Pn	14 38 41.7	+0.3
HARR	**Harsova**	**1.37**	**133**	⇑P	Pn	14 38 41.7	+0.3
SGRR	**Singureni**	**1.47**	**196**	⇑P	Pn	14 38 42.5	+0.1
SGRR				⇑S	Sn	14 39 04.3	-0.1
SGRR	**Singureni**	**1.47**	**196**	⇑P	Pn	14 38 42.5	+0.1
SGRR				⇑S	Sn	14 39 04.3	-0.1
TOPG	**Topolog**	**1.51**	**120**	⇓S	Sn	14 39 04.6	-0.6
TOPG	**Topolog**	**1.51**	**120**	⇓S	Sn	14 39 04.6	-0.6
TLBR	**Topalu**	**1.53**	**135**	⇑P	Pn	14 38 43.5	+0.4
TLBR				⇑S	Sn	14 39 05.1	-0.4
TLBR	**Topalu**	**1.53**	**135**	⇑P	Pn	14 38 43.5	+0.4
TLBR				⇑S	Sn	14 39 05.1	-0.4
HUMR	**Humele**	**1.56**	**225**	⇓P	Pn	14 38 43.1	-0.3
HUMR				⇓S	Sn	14 39 06.4	+0.3
HUMR	**Humele**	**1.56**	**225**	⇓P	Pn	14 38 43.1	-0.3
HUMR				⇓S	Sn	14 39 06.4	+0.3
TLCR		**1.67**	**105**	⇑P	Pn	14 38 45.1	+0.5
TLCR				⇑S	Sn	14 39 08.6	+0.4
TLCR		**1.67**	**105**	⇑P	Pn	14 38 45.1	+0.5
TLCR				⇑S	Sn	14 39 08.6	+0.4
CVDA	**Cernavoda**	**1.69**	**140**	⇑P	Pn	14 38 45.3	+0.5
CVDA				⇑S	Sn	14 39 08.5	-0.1
CVDA	**Cernavoda**	**1.69**	**140**	⇑P	Pn	14 38 45.3	+0.5
CVDA				⇑S	Sn	14 39 08.5	-0.1
ICOR	**Ion Corvin**	**1.77**	**149**	⇑P	Pn	14 38 46.4	+0.7
ICOR				⇑S	Sn	14 39 10.3	+0.1
ICOR	**Ion Corvin**	**1.77**	**149**	⇑P	Pn	14 38 46.4	+0.7
ICOR				⇑S	Sn	14 39 10.3	+0.1
COPA	**Copaceanca**	**1.77**	**212**	⇑P	Pn	14 38 45.5	-0.2
COPA				⇑S	Sn	14 39 10.9	+0.6
COPA	**Copaceanca**	**1.77**	**212**	⇑P	Pn	14 38 45.5	-0.2
COPA				⇑S	Sn	14 39 10.9	+0.6
TIRR	**Tirgusor**	**1.78**	**131**	⇓P	Pn	14 38 46.1	+0.3
TIRR				⇓S	Sn	14 39 09.8	-0.7
TIRR	**Tirgusor**	**1.78**	**131**	⇓P	Pn	14 38 46.1	+0.3
TIRR				⇓S	Sn	14 39 09.8	-0.7
MILM	**Milestii Mici**	**2.04**	**50**	⇑P	Pn	14 38 48.5	-0.2
MILM	**Milestii Mici**	**2.04**	**50**	⇑P	Pn	14 38 48.5	-0.2
MILM				⇑S	Sn	14 39 14.1	-1.6
RAZG	**Razgrad**	**2.07**	**180**	⇓P	Pn	14 38 49.1	-0.1
RAZG				⇓S	Sn	14 39 17.2	+0.5
RAZG	**Razgrad**	**2.07**	**180**	⇓P	Pn	14 38 49.1	-0.1
RAZG				⇓S	Sn	14 39 17.2	+0.5
KIS	**Kishinev**	**2.09**	**49**	⇓P	Pn	14 38 49.2	-0.1
KIS				⇓S	Sn	14 39 16.8	0.0
KIS	**Kishinev**	**2.09**	**49**	⇓P	Pn	14 38 49.2	-0.1
KIS				⇓S	Sn	14 39 16.8	0.0
BURAR	**Bucovina Array**	**2.17**	**336**	⇓P	Pn	14 38 51.2	+0.7
BURAR	**Bucovina Array**	**2.17**	**336**	⇓P	Pn	14 38 51.2	+0.7

*JMA **29** 14:42:41.3±0.1, 24°.20N×122°.05E, h43km±2km, M1.9*
*TAP **29** 14:42:41.1, 24°.30N×122°.08E, h25km, ML2.8, C*
ISC 29 14:42:41.2±0.9, 24°.28N±0°.03×122°.09E±0°.02, h22km±7km, n58, σ0°.78/91, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ENA	**Nanau**	**0.35**	**295**	⇑*iP*	**Pb**	**14 42 48.8**	**0.0**
	baz=298						
ENA				*eS*	**Sb**	**14 42 54.2**	**+0.3**
	baz=298						
TWC	**Suao**	**0.40**	**327**	*eP*	**Pb**	**14 42 49.3**	**-0.3**
	baz=328						
TWC				*eS*	**Sb**	**14 42 54.6**	**-0.6**
	baz=328						
NACB	**Ninganchiao**	**0.46**	**257**	*eP*	**Pb**	**14 42 50.8**	**+0.1**
	baz=258						
NACB				*eS*	**Sn**	**14 42 58.5**	**-1.6**
	baz=258						
TWD	**Chiawan**	**0.49**	**246**	P	**Pn**	**14 42 51.8**	**-1.1**
	baz=249						
TWD				*eS*	**Sn**	**14 43 00.0**	**-0.7**
	baz=249						
ETLH	**Xiulin Townshi**	**0.56**	**263**	P	**Pb**	**14 42 52.6**	**+0.2**
	baz=261						
ETLH				*eS*	**Sn**	**14 43 02.3**	**-0.2**
	baz=261						
EGS		**0.58**	**346**	*eP*	**Pb**	**14 42 53.0**	**+0.2**
	baz=348						
EGS				*eS*	**Sb**	**14 43 00.2**	**-0.5**
	baz=348						
TWE	**Neicheng**	**0.58**	**319**	P	**Pb**	**14 42 52.7**	**-0.2**
	baz=323						
TWE				S	**Sb**	**14 43 01.1**	**+0.4**
	baz=323						
NDT	**Datong Townshi**	**0.62**	**302**	P	**Pb**	**14 42 53.4**	**+0.1**
	baz=304						
NDT				*eS*	**Sb**	**14 43 02.3**	**+0.7**
	baz=304						
NTC	**Toucheng**	**0.62**	**338**	*eP*	**Pb**	**14 42 53.4**	**-0.1**
	baz=348						
NTC				*eS*	**Sb**	**14 43 01.4**	**-0.4**
	baz=348						
NNSH	**Datong**	**0.66**	**283**	P	**Pb**	**14 42 54.5**	**+0.3**
	baz=287						
NNSH				*eS*	**Sn**	**14 43 03.7**	**-1.4**
	baz=287						
NNSB	**Datong**	**0.66**	**283**	*i* P	**Pb**	**14 42 54.4**	**+0.2**
	baz=289						
NNSB				*eS*	**Sn**	**14 43 04.5**	**-0.7**
	baz=289						
NNS	**Nan Shan**	**0.67**	**284**	P	**Pb**	**14 42 54.6**	**+0.2**
	baz=290						
NNS				*eS*	**Sb**	**14 43 03.8**	**+0.5**
	baz=290						
NWLT	**Wulai**	**0.73**	**313**	*eP*	**Pb**	**14 42 55.3**	**+0.1**
	baz=314						
NWLT				*eS*	**Sb**	**14 43 04.5**	**-0.4**
	baz=314						
TIPB	**Shuangxi**	**0.73**	**341**	P	**Pb**	**14 42 55.3**	**0.0**
	baz=348						
TIPB				*eS*	**Sb**	**14 43 04.8**	**-0.1**
	baz=348						
TWB1	**Santiao Chiao**	**0.73**	**353**	*eP*	**Pb**	**14 42 55.4**	**+0.1**
	baz=347						
TWB1				*eS*	**Sb**	**14 43 05.5**	**+0.5**
	baz=347						
YHNB	**Yeheng**	**0.76**	**301**	*eP*	**Pb**	**14 42 55.9**	**+0.1**
	baz=303						
YHNB				*eS*	**Sb**	**14 43 06.1**	**+0.4**
	baz=303						
WHF	**Hehuan Shan**	**0.76**	**260**	P	**Pb**	**14 42 56.3**	**+0.2**
	baz=259						
WHF				*eS*	**Sn**	**14 43 07.5**	**-0.6**
	baz=259						
NSK	**Sanguang**	**0.78**	**301**	*eP*	**Pb**	**14 42 56.0**	**-0.1**
	baz=303						
NSK				*eS*	**Sb**	**14 43 06.3**	**+0.1**
	baz=303						
JYNG	**Yonagunijimaku**	**0.80**	**77**	P	**Pb**	**14 42 57.2**	**+0.8**
JYNG				S	**Sn**	**14 43 08.4**	**0.0**
TWA	**Mucha**	**0.84**	**327**	*eP*	**Pb**	**14 42 57.8**	**+0.7**
	baz=334						
TWA				*eS*	**Sb**	**14 43 07.4**	**-0.5**
	baz=334						
NWF	**Wu-fen Shan**	**0.84**	**341**	*eP*	**Pb**	**14 42 57.7**	**+0.5**
	baz=342						
NWF				*eS*	**Sn**	**14 43 09.0**	**-0.5**
	baz=342						
WFSB	**Wu-fen Shan**	**0.84**	**341**	*eP*	**Pb**	**14 42 57.5**	**+0.4**
	baz=345						
WFSB				*eS*	**Sn**	**14 43 08.8**	**-0.5**
	baz=345						
TDCB	**Techi**	**0.85**	**269**	*eP*	**Pb**	**14 42 57.6**	**+0.2**
	baz=268						
TDCB				*eS*	**Sn**	**14 43 09.6**	**-0.2**
	baz=268						
NHDH	**Xindian Distri**	**0.85**	**323**	*eP*	**Pb**	**14 42 57.6**	**+0.2**
	baz=317						
NHDH				*eS*	**Sn**	**14 43 10.4**	**+0.7**
	baz=317						
EGFH	**Guangfu**	**0.86**	**225**	*eP*	**Pn**	**14 42 57.3**	**-0.7**
	baz=210						
YOJ	**Yonaguni jima**	**0.86**	**78**	P	**Pb**	**14 42 58.0**	**+0.5**
YOJ				S	**Sn**	**14 43 09.9**	**0.0**
CHGB	**Renai**	**0.86**	**256**	*eP*	**Pb**	**14 42 57.8**	**+0.1**
	baz=240						
CHGB				*eS*	**Sb**	**14 43 08.6**	**-0.2**
	baz=240						
WLTB	**Daxi**	**0.95**	**307**	*eP*	**Pb**	**14 42 59.9**	**+0.9**
	baz=308						
YM01	**YM01**	**0.98**	**332**	*eP*	**Pb**	**14 43 00.3**	**+0.7**
	baz=349						
HGSD	**Ruisui**	**0.99**	**218**	*eP*	**Pb**	**14 42 59.7**	**+0.1**
	baz=205						
YM10	**YM10**	**1.00**	**331**	*eP*	**Pn**	**14 42 59.6**	**-0.4**
	baz=331						
YM05	**YM05**	**1.00**	**332**	*eP*	**Pn**	**14 42 58.4**	**-1.7**
	baz=333						
YM04	**YM04**	**1.01**	**330**	*eP*	**Pb**	**14 43 01.0**	**+1.0**
	baz=331						
TWS1	**Kuangyinshan**	**1.02**	**323**	*eP*	**Pb**	**14 43 00.7**	**+0.5**
	baz=325						
EHY	**Hungye**	**1.04**	**223**	*eP*	**Pb**	**14 43 00.7**	**+0.2**
	baz=220						
LIOB	**Emei**	**1.04**	**291**	*eP*	**Pb**	**14 43 01.1**	**+0.5**
	baz=291						
LIOB				*eS*	**Sb**	**14 43 16.5**	**+2.6**
	baz=291						
NSTT	**Nanjuang**	**1.05**	**290**	*eP*	**Pb**	**14 43 01.6**	**+0.9**
	baz=290						
NSTT				*eS*	**Sb**	**14 43 16.4**	**+2.4**
	baz=290						
DPDB	**Guoxing**	**1.09**	**257**	*eP*	**Pb**	**14 43 01.6**	**+0.2**
	baz=245						
TWY	**Chenhua**	**1.09**	**336**	*eP*	**Pb**	**14 43 02.2**	**+0.8**
	baz=354						
YULB	**Yu-li**	**1.14**	**220**	*eP*	**Pn**	**14 43 00.3**	**-1.6**
	baz=218						
SSLB	**Suanglung**	**1.15**	**245**	*eP*	**Pb**	**14 43 01.9**	**-0.5**
	baz=243						
SSLB				*eS*	**Sb**	**14 43 18.8**	**+2.0**
	baz=243						
SMLT	**Sun Moon Lake**	**1.16**	**250**	*eP*	**Pb**	**14 43 03.4**	**+0.8**
	baz=237						
TWQ1	**Liyutan**	**1.20**	**274**	*eP*	**Pb**	**14 43 04.7**	**+1.4**
	baz=273						
WHYT	**Xinyi Township**	**1.27**	**243**	*eP*	**Pb**	**14 43 04.9**	**+0.5**
	baz=232						
WNT	**Mingjian**	**1.34**	**253**	*eP*	**Pb**	**14 43 07.2**	**+1.5**
	baz=237						
ALS	**Alishan**	**1.40**	**237**	*eP*	**Pn**	**14 43 05.9**	**+0.2**
	baz=235						
CHN5	**Tsauling**	**1.46**	**243**	*eP*	**Pb**	**14 43 08.6**	**+0.9**
	baz=240						
IRIF	**Iriomote-Funau**	**1.50**	**87**	P	**Pn**	**14 43 07.3**	**+0.5**
IRIF				*eS*	**Sn**	**14 43 25.9**	**+0.2**
CHN4	**Tsaushan**	**1.65**	**236**	*eP*	**Pb**	**14 43 11.1**	**+0.1**
	baz=220						
TPUB	**Ta-pu**	**1.65**	**234**	*eP*	**Pb**	**14 43 10.9**	**-0.1**
	baz=220						
WTP	**Ta-pu**	**1.70**	**233**	*eP*	**Pb**	**14 43 11.2**	**-0.5**
	baz=220						
JKRS	**Kuro-shima**	**1.75**	**91**	P	**Pb**	**14 43 11.6**	**-1.1**
JKRS				S	**Sb**	**14 43 33.4**	**-0.9**
CHN1	**Nanshi**	**1.80**	**233**	*eP*	**Pb**	**14 43 13.6**	**+0.2**
	baz=230						
SLGT	**Liugui**	**1.84**	**226**	*eP*	**Pb**	**14 43 12.6**	**-1.6**
	baz=215						
JIJ	**Ishigaki jima**	**1.88**	**87**	P	**Pn**	**14 43 12.4**	**+0.4**
JIJ				*eS*	**Sn**	**14 43 34.6**	**-0.4**
SSD	**Sandimen**	**2.03**	**222**	*eP*	**Pn**	**14 43 14.4**	**+0.3**
	baz=210						
JISG	**Ishigakijimahi**	**2.05**	**81**	P	**Pn**	**14 43 14.7**	**+0.4**
JISG				*eS*	**Sn**	**14 43 39.4**	**+0.2**
EAST	**Anshuo**	**2.20**	**211**	*eP*	**Pn**	**14 43 17.7**	**+1.2**
	baz=209						

*IDC **29** 14:45:19.9±1.1, 55°.32S×27°.96W, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.6/33, mbtmp3.8/4, ML4.0/1, Error ellipse: s-maj=40.3km s-min=29.8km az=75.0*
*NEIC **29** 14:45:22.1±0.1, 55°.3S×0°.1×28°.1W±0°.3, h14km±10km, mb4.6/3, Error ellipse: s-maj=24.0km s-min=15.8km az=118.0*
ISC 29 14:45:21.4±1.0, 55°.3S±0°.2×28°.0W±0°.2, h10km, n10, σ0°.31/7, mb4.2/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.01**	**279**	Pn	**Pn**	**14 46 36.2**	**-0.2**
SNAA	**Sanae**	**19.60**	**156**	P	**P**	**14 49 49.4**	**+0.1**
	0.4nm,0.3s,baz=324,slow=18,SNR=6.5						
SNAA	**Sanae**	**19.60**	**156**	IAmb	IAmb	14 50 21.5	
	comp=Z,16nm,1.7s						
PLCA	**Paso Flores**	**31.41**	**280**	P	**P**	**14 51 43.0**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=281,slow=18,SNR=2.0						
PLCA	**Paso Flores**	**31.41**	**280**	IAmb	IAmb	14 51 50.9	
	comp=Z,30nm,1.9s						
QSPA	**South Pole Qui**	**34.93**	**180**	P	**P**	**14 52 13.0**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=162,slow=18,SNR=1.6						
QSPA	**South Pole Qui**	**34.93**	**180**	IAmb	IAmb	14 52 46.9	
	comp=Z,21nm,1.9s						
TORD	**Torodi Ar. Bea**	**72.66**	**30**	P	**P**	**14 56 49.1**	**0.0**
	comp=Z,0.7nm,0.7s,baz=199,slow=5.7,SNR=4.5						
ILAR	**Eielson Array**	**149.28**	**313**	PKPbc	**PKPbc**	**15 05 08.4**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=122,slow=1.9,SNR=5.1						
SONM	**Songino Array**	**151.15**	**86**	PKPbc	**PKPbc**	**15 05 13.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=262,slow=2.9,SNR=1.8						

*IDC **29** 14:45:42.0±1.7, 55°.33S×27°.92W, h0km, mb3.9/1, mb1 3.8/2, mb1mx3.4/31, mbtmp3.8/2, ML3.9/1, Error ellipse: s-maj=83.0km s-min=40.9km az=81.0*
*NEIC **29** 14:45:44.1±1.0, 55°.3S±0°.2×27°.7W±0°.2, h10km±2km, mb4.5/2, Error ellipse: s-maj=40.5km s-min=21.6km az=193.0*
ISC 29 14:45:43.9±1.1, 55°.3S±0°.2×27°.7W±0°.2, h10km, n6, σ0°.72/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.21**	**278**	Pn	**Pn**	**14 47 01.9**	**+0.2**
SNAA	**Sanae**	**19.53**	**157**	P	**P**	**14 50 11.4**	**+0.3**
	0.3nm,0.3s,baz=315,slow=20,SNR=2.1						
TOA0	**Torodi Ar. Sit**	**72.55**	**30**	P	**P**	**14 57 11.2**	**+0.3**
TOA0				IAmb	IAmb	14 57 44.4	
	comp=Z,30nm,1.9s						
TORD	**Torodi Ar. Bea**	**72.55**	**30**	P	**P**	**14 57 11.4**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=201,slow=6.5,SNR=6.0						
ILAR	**Eielson Array**	**149.42**	**313**	PKPbc	**PKPbc**	**15 05 30.8**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=120,slow=2.4,SNR=6.2						
SONM	**Songino Array**	**150.95**	**86**	PKPbc	**PKPbc**	**15 05 35.4**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=224,slow=4.0,SNR=2.2						

IDC 29 14:50:55.4±1.3, 55°.32S×28°.10W, h0km, mb3.6/3, mb1 3.7/4, mb1mx3.6/30, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=77.4km s-min=28.7km az=89.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.62**	**156**	P	Pn	14 55 25.7	-0.6
	0.2nm,0.3s,baz=306,slow=15,SNR=5.6						
QSPA	**South Pole Qui**	**34.93**	**180**	P	P	14 57 47.5	-1.1
	1.2nm,0.9s,baz=202,slow=5.4,SNR=2.1						
VNDA	**Vanda**	**47.28**	**183**	P	P	14 59 30.2	+0.5
	0.3nm,0.7s,baz=167,slow=7.2,SNR=1.9						
TORD	**Torodi Ar. Bea**	**72.68**	**30**	P	P	15 02 24.7	-0.2
	0.5nm,0.6s,baz=202,slow=6.7,SNR=2.9						
ILAR	**Eielson Array**	**149.25**	**313**	PKPbc	PKPbc	15 10 44.1	-0.3
	0.9nm,0.8s,baz=120,slow=1.7,SNR=9.4						

*IDC **29** 14:52:27.6±1.2, 55°.29S×27°.81W, h0km, mb3.9/3, mb1 4.1/4, mb1mx3.8/30, mbtmp4.0/4, ML4.4/1, Error ellipse: s-maj=68.4km s-min=24.2km az=94.0*
*NEIC **29** 14:52:29.1±0.8, 55°.3S±0°.2×27°.9W±0°.3, h10km±1km, mb4.5/3, Error ellipse: s-maj=31.5km s-min=25.4km az=219.0*
ISC 29 14:52:29.2±0.9, 55°.3S±0°.2×28°.1W±0°.2, h10km, n13, σ0°.83/12, mb4.1/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.96**	**279**	Pn	**Pn**	**14 53 42.5**	**-1.1**
SNAA	**Sanae**	**19.61**	**156**	P	**P**	**14 56 56.2**	**-1.1**
	1.2nm,0.3s,baz=296,slow=13,SNR=11						
SNAA	**Sanae**	**19.61**	**156**	P	**P**	**14 56 56.8**	**-0.5**
SNAA				IAmb	IAmb	14 57 00.2	
	comp=Z,5.6nm,0.5s						
QSPA	**South Pole Qui**	**34.92**	**180**	P	**P**	**14 59 21.3**	**+0.6**
	comp=Z,1.3nm,0.6s,baz=179,slow=1.4,SNR=6.5						
QSPA	**South Pole Qui**	**34.92**	**180**	IAmb	IAmb	15 00 09.5	
	comp=Z,28nm,1.9s						
VNDA	**Vanda**	**47.27**	**183**	P	**P**	**15 01 02.3**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=167,slow=7.0,SNR=5.0						
MNMC	**Minye Minye**	**47.78**	**302**	P	**P**	**15 01 08.3**	**+1.5**
TORD	**Torodi Ar. Bea**	**72.69**	**30**	P	**P**	**15 03 56.5**	**-0.5**
	comp=Z,0.8nm,0.5s,baz=199,slow=6.6,SNR=11						
RIDG	**Independent Ri**	**148.15**	**311**		**PKPbc**	**15 12 14.0**	**+0.3**
IL31		**149.25**	**313**		**PKPbc**	**15 12 16.7**	**+0.3**
ILAR	**Eielson Array**	**149.25**	**313**	PKPbc	**PKPbc**	**15 12 16.1**	**-0.3**
	comp=Z,2.0nm,1.0s,baz=129,slow=2.2,SNR=10						
BPAW	**Bear Paw Mtn.**	**150.87**	**311**		**PKPbc**	**15 12 20.2**	**-0.2**
SONM	**Songino Array**	**151.19**	**86**	PKPbc	**PKPbc**	**15 12 21.5**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=250,slow=4.2,SNR=3.6						

*NEIC **29** 14:53:03.4±1.1, 30°.72S

LPAZ	**La Paz**	**49.61**	**306**	P		**P**		**15 04 05.5**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=167,slow=7.0,SNR=3.6								
LPAZ	**La Paz**	**49.61**	**306**	IAmb		IAmb		15 04 06.4	
	comp=Z,9.0nm,1.7s								
NNA	**Nana**	**57.52**	**299**	P		**P**		**15 05 03.1**	**+0.6**
DBIC	**Dimbokro**	**64.78**	**26**	P		**P**		**15 05 52.0**	**+0.5**
TOA0	**Torodi Ar. Sit**	**72.72**	**30**	P		**P**		**15 06 40.2**	**-0.8**
TOA0				IAmb		IAmb		15 08 13.8	
	comp=Z,28nm,1.8s								
TORD	**Torodi Ar. Bea**	**72.72**	**30**	P		**P**		**15 06 40.8**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=204,slow=7.0,SNR=16								
FINES	**FINESS Array B**	**124.03**	**28**	PKP		**PKPdf**		**15 14 09.3**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=132,slow=2.8,SNR=4.6								
ARCES	**ARCESS Array B**	**130.51**	**22**	PKP		**PKPdf**		**15 14 22.6**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=217,slow=0.6,SNR=4.8								
INK	**Inuvik**	**145.00**	**321**			**PKPbc**		**15 14 47.8**	**-0.3**
DOT	**Dot Lake**	**147.86**	**311**			**PKPbc**		**15 14 56.5**	**-0.3**
SCRK	**Sand Creek**	**147.91**	**312**			**PKPbc**		**15 14 56.9**	**-0.2**
RIDG	**Independent Ri**	**148.22**	**311**			**PKPbc**		**15 14 58.0**	**+0.2**
PAX	**Paxson**	**148.29**	**310**			**PKPbc**		**15 14 57.6**	**-0.4**
PRP	**Porcupine Dome**	**148.91**	**314**			**PKPbc**		**15 14 59.3**	**-0.3**
IL31		**149.33**	**313**			**PKPbc**		**15 14 59.9**	**-0.5**
ILAR	**Eielson Array**	**149.33**	**313**	PKPbc		**PKPbc**		**15 15 00.1**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=120,slow=1.9,SNR=20								
RND	**Reindeer**	**149.88**	**310**			**PKPbc**		**15 15 02.2**	**+0.2**
KDAK	**Kodiak Island**	**150.10**	**298**	PKPbc		**PKPbc**		**15 15 02.9**	**+0.4**
	comp=Z,3.8nm,0.7s,baz=150,slow=5.1,SNR=4.7								
KDAK	**Kodiak Island**	**150.10**	**298**			**PKPbc**		**15 15 02.6**	**+0.1**
BPAW	**Bear Paw Mtn.**	**150.95**	**311**			**PKPbc**		**15 15 03.8**	**-0.6**
SONM	**Songino Array**	**151.16**	**86**	PKPbc		**PKPbc**		**15 15 04.7**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=238,slow=2.9,SNR=5.0								

*IDC **29** 14:59:51.8±1.2,55°.15S×27°.65W,h0km,mb3.9/3, mb1 3.9/4,mb1mx3.7/27,mbtmp3.8/4,ML3.9/1,Error ellipse: s-maj=70.8km s-min=26.4km az=91.0*
*NEIC **29** 14:59:53.1±0.4,55°.20S±0°.07×27°.8W±0°.3,h10km±2km, mb4.5/3,Error ellipse: s-maj=29.1km s-min=10.1km az=79.0*

ISC 29 14:59:53.2±1.0,55°.2S±0°.2×27°.8W±0°.2,h10km,n10, σ0s68/10,mb4.3/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**5.12**	**276**	Pn		**Pn**	**15 01 09.6**	**-0.2**
SNAA	**Sanae**	**19.69**	**157**	P		**P**	**15 04 21.7**	**-0.5**
	0.4nm,0.3s,baz=298,slow=13,SNR=6.3							
SNAA	**Sanae**	**19.69**	**157**	P		**P**	**15 04 21.3**	**-0.9**
SNAA				IAmb		IAmb	15 04 38.1	
	comp=Z,19nm,1.8s							
QSPA	**South Pole Qui**	**35.09**	**180**	P		**P**	**15 06 47.3**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=203,slow=1.7,SNR=7.1							
QSPA	**South Pole Qui**	**35.09**	**180**	P		**P**	**15 06 46.8**	**+0.6**
QSPA				IAmb		IAmb	15 07 19.6	
	comp=Z,12nm,1.4s							
VNDA	**Vanda**	**47.45**	**183**	P		**P**	**15 08 26.7**	**-0.5**
	comp=Z,0.9nm,0.8s,baz=180,slow=5.7,SNR=5.4							
VNDA	**Vanda**	**47.45**	**183**	P		**P**	**15 08 27.4**	**+0.2**
VNDA				IAmb		IAmb	15 08 51.5	
	comp=Z,12nm,2.0s							
TORD	**Torodi Ar. Bea**	**72.45**	**30**	P		**P**	**15 11 19.8**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=195,slow=6.5,SNR=3.2							
ILAR	**Eielson Array**	**149.27**	**313**	PKPbc		**PKPbc**	**15 19 40.4**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=128,slow=1.8,SNR=14							
SONM	**Songino Array**	**151.00**	**85**	PKPbc		**PKPbc**	**15 19 45.2**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=216,slow=2.5,SNR=4.8							

*IDC **29** 15:05:52.9±0.7,55°.33S×27°.96W,h0km,mb4.2/6, mb1 4.3/7,mb1mx4.0/22,mbtmp4.2/7,ML4.3/1, Error ellipse: s-maj=31.8km s-min=20.5km az=85.0*
*NEIC **29** 15:05:55.9±0.7,55°.32S±0°.08×28°.2W±0°.2,h21km±4km, mb4.8/11,Error ellipse: s-maj=16.8km s-min=12.1km az=78.0*

ISC 29 15:05:56.2±0.6,55°.3S±0°.1×28°.2W±0°.1,h26km,n39, σ0s66/35,mb4.6/7,2C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**4.91**	**279**	Pn		**Pn**	**15 07 07.5**	**-0.8**
SNAA	**Sanae**	**19.64**	**156**	P		**P**	**15 10 21.9**	**-0.6**
	0.9nm,0.3s,baz=299,slow=12,SNR=21							
SNAA	**Sanae**	**19.64**	**156**	P		**P**	**15 10 21.7**	**-0.9**
SYO	**Syowa Base**	**32.51**	**142**	*ep*		pP	15 12 28.2	-2.7
SYO	**Syowa Base**	**32.51**	**142**	*es*		sP	15 12 31.4	-1.1
QSPA	**South Pole Qui**	**34.93**	**180**	P		**P**	**15 12 46.4**	**+0.8**
	1.7nm,0.6s,baz=219,slow=1.9,SNR=13							
QSPA	**South Pole Qui**	**34.93**	**180**	P		**P**	**15 12 46.0**	**+0.4**
QSPA				IAmb		IAmb	15 12 49.4	
	comp=Z,18nm,1.7s							
CPUP	**Villa Florida**	**35.90**	**312**	P		**P**	**15 12 54.5**	**+0.4**
SUR	**Sutherland**	**41.01**	**77**	P		**P**	**15 13 37.5**	**+0.3**
BOSA	**Boshof**	**46.35**	**77**	P		**P**	**15 14 19.6**	**-0.5**
	comp=Z,2.5nm,0.8s,baz=235,slow=16,SNR=3.2							
BOSA	**Boshof**	**46.35**	**77**	IAmb		IAmb	15 14 50.3	
	comp=Z,29nm,1.7s							
GO01	**Chusmiza**	**47.08**	**302**	P		**P**	**15 14 26.7**	**+0.4**
GO01				IAmb		IAmb	15 14 35.0	
	comp=Z,28nm,1.9s							
VNDA	**Vanda**	**47.28**	**183**	P		**P**	**15 14 26.4**	**-0.1**
	comp=Z,1.3nm,0.8s,baz=179,slow=7.3,SNR=8.7							
VNDA	**Vanda**	**47.28**	**183**	P		**P**	**15 14 26.9**	**+0.4**
MNMC	**Minye Minye**	**47.73**	**302**	P		**P**	**15 14 31.6**	**+0.5**
LPAZ	**La Paz**	**49.49**	**306**	P		**P**	**15 14 46.3**	**+1.3**
	comp=Z,1.9nm,0.8s,baz=156,slow=5.2,SNR=8.0							
LPAZ	**La Paz**	**49.49**	**306**	P		**P**	**15 14 45.6**	**+0.6**
LPAZ				IAmb		IAmb	15 15 06.8	
	comp=Z,19nm,2.0s							
RCBR	**Riachuelo**	**49.74**	**350**	P		**P**	**15 14 45.3**	**-1.0**
TOA0	**Torodi Ar. Sit**	**72.70**	**31**	P		**P**	**15 17 22.1**	**+0.4**
TOA0				IAmb		IAmb	15 17 23.1	
	comp=Z,6.5nm,0.8s							
TORD	**Torodi Ar. Bea**	**72.70**	**31**	P		**P**	**15 17 22.2**	**+0.5**
	comp=Z,5.6nm,0.7s,baz=200,slow=6.4,SNR=22							
ASAR	**Alice Springs**	**99.86**	**163**	P		**Pdif**	**15 19 39.4**	**+1.0**
	comp=Z,0.6nm,1.1s,baz=192,slow=3.7,SNR=1.8							
FINES	**FINESS Array B**	**124.00**	**28**	PKP		**PKiKP**	**15 24 50.6**	**-0.3**
	comp=Z,5.5nm,1.2s,baz=167,slow=9.6,SNR=5.6							
ARCES	**ARCESS Array B**	**130.47**	**22**	PKP		**PKiKP**	**15 25 03.5**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=340,slow=6.8,SNR=1.9							
YKA	**Yellowknife Ar**	**135.25**	**319**	PKP		**PKiKP**	**15 25 14.3**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=166,slow=36,SNR=2.0							
HYT	**Haines Junctio**	**143.89**	**308**			PKPbc	15 25 26.4	+0.6
INK	**Inuvik**	**144.88**	**321**			**PKPdf**	**15 25 28.8**	**-0.3**
DOT	**Dot Lake**	**147.74**	**311**			**PKPbc**	**15 25 37.8**	**+0.7**
SCRK	**Sand Creek**	**147.79**	**312**			**PKiKP**	**15 25 38.2**	**-1.1**
RIDG	**Independent Ri**	**148.10**	**311**			**PKiKP**	**15 25 39.0**	**-0.8**
PAX	**Paxson**	**148.17**	**310**			**PKPbc**	**15 25 38.8**	**+0.4**
PRP	**Porcupine Dome**	**148.79**	**314**			**PKiKP**	**15 25 40.5**	**-0.8**
IL31		**149.20**	**313**			**PKiKP**	**15 25 41.2**	**-0.7**
ILAR	**Eielson Array**	**149.20**	**313**	PKPbc		**PKiKP**	**15 25 41.3**	**-0.7**
	comp=Z,3.6nm,0.8s,baz=128,slow=2.0,SNR=33							
CCB	**Clear Creek Bu**	**149.56**	**312**			**PKPbc**	**15 25 41.7**	**+0.1**
WRH	**Wood River Hil**	**149.65**	**312**			**PKiKP**	**15 25 42.6**	**-0.3**
RND	**Reindeer**	**149.76**	**310**			**PKiKP**	**15 25 43.1**	**-0.2**
SKT	**Skwentna**	**150.65**	**306**			**PKiKP**	**15 25 44.9**	**-0.2**
BPAW	**Bear Paw Mtn.**	**150.83**	**311**			**PKiKP**	**15 25 45.0**	**-0.4**
SONM	**Songino Array**	**151.25**	**86**	PKPbc		**PKiKP**	**15 25 46.5**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=209,slow=2.6,SNR=8.1							

*BJI **29** 15:08:49.5±0.0,36°.59N×82°.50E,h9km,ML3.9/7*
*IDC **29** 15:08:50.6±1.2,36°.64N×82°.43E,h0km,mb3.4/5, mb1 3.7/10,mb1mx3.4/36,mbtmp3.5/10,ML3.2/5, Error ellipse: s-maj=33.4km s-min=16.6km az=56.0*
*NNC **29** 15:08:57.0±3.0,36°.95N×82°.58E,h10km±16km,mb4.2, mpv4.0,Error ellipse: s-maj=29.3km s-min=20.7km az=41.0*

ISC 29 15:08:52.6±1.0,36°.75N±0°.09×82°.77E±0°.09,h10km,n17, σ1s36/21,mb3.5/4,8C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
KSH	**Kashi**	**6.02**	**299**	Pg		**Pb**	**15 10 37.3**	**-0.4**
KSH				Sn		**Sn**	**15 11 33.8**	**+2.8**
KSH				smax		smax		
	comp=N,410nm,1.1s							
KSH				smax		smax		
	comp=E,330nm,0.8s							
PDGK	**Podgornoye**	**7.04**	**340**	⇓Pn		**Pn**	**15 10 37.3**	**+1.6**
	7.0nm,0.8s							
PDGK				⇑Sn		**Sn**	**15 11 56.9**	**+1.1**
	44nm,0.6s							
PDGK				⇑Lg		Lg	15 12 37.0	
	41nm,0.7s							
MDOK	**Medeo**	**7.76**	**327**	⇑Pn		**Pn**	**15 10 46.9**	**+1.2**
	7.6nm,0.5s							
MDOK				⇑Sn		**Sn**	**15 12 12.4**	**-1.4**
	14nm,0.7s							
MDOK				⇑Lg		Lg	15 12 51.2	
	25nm,0.7s							
WMQ	**Urumqi**	**8.00**	**27**	*e*P		**Pn**	**15 10 51.5**	**+2.5**
WMQ				smax		smax		
	comp=N,18nm,0.7s							
WMQ				smax		smax		
	comp=E,13nm,0.7s							
TKM2	**Tokmak 2**	**8.27**	**320**	⇑Pg		Pg	15 11 23.2	-7.7
	7.1nm,0.9s							
TKM2				⇑Lg		Lg	15 13 12.2	
	14nm,0.8s							
AAK	**Ala-Archa**	**8.67**	**315**	Pn		**Pn**	**15 10 58.1**	**-0.1**
	0.3nm,0.3s,baz=319,slow=5.4,SNR=2.2							
AAK				Pg		Pg	15 11 27.6	-11
	0.8nm,0.3s,baz=145,slow=9.8,SNR=2.4							
AAK				Lg		Lg	15 13 19.2	
	0.8nm,0.3s,baz=3.5,slow=20,SNR=2.0							
MK31	**Makanchi Array**	**10.04**	**358**	Pn		**Pn**	**15 11 18.0**	**+1.1**
	1.5nm,0.5s,baz=184,slow=12,SNR=86							
MK31				⇑Sn		**Sn**	**15 13 10.2**	**+0.6**
	4.0nm,0.7s,baz=184,slow=23,SNR=8.2							
MKAR	**Makanchi Array**	**10.04**	**358**	Pn		**Pn**	**15 11 18.2**	**+1.3**
	1.5nm,0.3s,baz=185,slow=12,SNR=43							
MKAR				Sn		**Sn**	**15 13 08.8**	**-0.8**
	0.8nm,0.3s,baz=182,slow=25,SNR=10							
MAKZ	**Makanchi**	**10.07**	**357**	⇓Pn		**Pn**	**15 11 18.5**	**+1.3**
	2.6nm,0.5s							
MAKZ				⇓Sn		**Sn**	**15 13 09.1**	**-1.1**
	6.9nm,0.7s							
KURBB	**Kurchatov Arra**	**14.20**	**349**	Pn		**Pn**	**15 12 12.9**	**-0.8**
	0.0nm,0.3s,baz=172,slow=10,SNR=2.0							
ZALV	**Zalesovo Beam**	**17.26**	**4**	P		**Pn**	**15 12 52.6**	**-1.0**
	0.1nm,0.3s,baz=191,slow=14,SNR=4.4							
BVAR	**Borovoye Array**	**18.44**	**336**	P		**Pn**	**15 13 07.3**	**-0.9**
	0.2nm,0.3s,baz=112,slow=9.5,SNR=4.2							
SONM	**Songino Array**	**20.61**	**50**	P		Pn	15 13 35.4	+1.1
	1.6nm,0.7s,baz=244,slow=11,SNR=12							
CMAR	**Chiang Mai Arr**	**23.12**	**138**	P		**P**	**15 13 59.3**	**+0.4**
	0.7nm,0.7s,baz=318,slow=9.1,SNR=7.1							
NOA	**NORSAR Array B**	**49.90**	**323**	P		**P**	**15 17 46.2**	**+0.2**
	0.4nm,0.7s,baz=66,slow=13,SNR=2.2							
GERES	**GERESS Array B**	**50.44**	**307**	P		**P**	**15 17 48.9**	**-1.5**
	0.3nm,0.5s,baz=80,slow=7.3,SNR=2.6							
ASAR	**Alice Springs**	**77.04**	**133**	P		**P**	**15 20 45.6**	**-0.4**
	0.6nm,1.0s,baz=333,slow=5.4,SNR=4.4							

IDC 29 15:16:34.8±1.4,55°.21S×27°.85W,h0km,mb3.8/2, mb1 3.8/3,mb1mx3.6/19,mbtmp3.7/3,ML3.5/1,Error ellipse: s-maj=78.3km s-min=32.1km az=90.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
SNAA	**Sanae**	**19.66**	**157**	P		P	15 21 04.5	-0.4
	0.1nm,0.3s,baz=304,slow=10,SNR=2.5							
VNDA	**Vanda**	**47.40**	**183**	P		P	15 25 10.2	+0.2
	0.4nm,0.4s,baz=196,slow=6.3,SNR=2.6							
TORD	**Torodi Ar. Bea**	**72.51**	**30**	P		P	15 28 03.4	+0.1
	0.9nm,0.7s,baz=198,slow=7.1,SNR=4.6							
ILAR	**Eielson Array**	**149.27**	**313**	PKPbc		PKPbc	15 36 23.1	-0.7
	0.9nm,0.7s,baz=123,slow=2.0,SNR=7.9							

*IDC **29** 15:18:16.2±3.8,1°.40S×135°.97E,h0km,mb3.5/2, mb1 3.9/3,mb1mx3.4/20,mbtmp3.6/3,ML3.5/1,Error ellipse: s-maj=166.0km s-min=30.0km az=80.0*
*NEIC **29** 15:18:20.7±2.1,1°.5S±0°.1×135°.7E±0°.2,h27km±7km, mb4.1/7,Error ellipse: s-maj=28.3km s-min=17.6km az=92.0*

ISC 29 15:18:20.5±1.9,1°.5S±0°.2×135°.6E±0°.2,h23km,n12, σ0s92/12,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
FAKI	**Fak Fak**	**3.64**	**248**			**Pn**	**15 19 15.6**	**+0.1**
MTN	**Manton Dam**	**12.08**	**201**	Pn		**Pn**	**15 21 11.2**	**-0.1**
KNRA	**Kununurra**	**15.59**	**205**	Pn		**Pn**	**15 21 58.0**	**-1.0**
KAPI	**Kappang**	**16.21**	**257**	Pn		**Pn**	**15 22 07.2**	**+0.1**
KAPI				IAmb		IAmb	15 22 46.2	
	comp=Z,19nm,1.2s							
WB0	**Warramunga Arr**	**18.15**	**184**			**Pn**	**15 22 30.2**	**-1.0**
WB0				IAmb		IAmb	15 23 05.0	
	comp=Z,8.1nm,1.1s							
WB2	**Warramunga Arr**	**18.33**	**184**	P		**Pn**	**15 22 34.1**	**+0.6**
WB2				IAmb		IAmb	15 23 05.8	
	comp=Z,12nm,1.4s							
WRA	**Warramunga Arr**	**18.33**	**184**	P		**P**	**15 22 32.1**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=6.6,slow=12,SNR=7.0							
WRA				S		Sn	15 25 47.2	-10
	comp=Z,0.1nm,0.3s,baz=358,slow=24,SNR=2.2							
WR0	**Warramunga Arr**	**18.34**	**183**	P		**Pn**	**15 22 34.0**	**+0.5**
WR0				IAmb		IAmb	15 23 22.5	
	comp=Z,37nm,1.9s							
FITZ	**Fitzroy Crossi**	**19.15**	**210**	P		**Pn**	**15 22 43.9**	**+0.5**
FITZ				IAmb		IAmb	15 23 28.8	
	comp=Z,24nm,1.5s							
AS31	**Alice Springs**	**22.05**	**184**	P		**P**	**15 23 14.3**	**+0.3**
ASAR	**Alice Springs**	**22.06**	**184**	P		**P**	**15 23 15.6**	**+1.7**
	comp=Z,1.8nm,0.7s,baz=10,slow=11,SNR=15							
MKAR	**Makanchi Array**	**67.00**	**323**	P		**P**	**15 29 11.5**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=126,slow=4.4,SNR=2.7							

*IDC **29** 15:28:37.7±1.2,55°.33S×28°.02W,h0km,mb3.8/3, mb1 3.9/3,mb1mx3.7/16,mbtmp3.8/3,Error ellipse: s-maj=51.3km s-min=32.4km az=92.0*
*NEIC **29** 15:28:38.8±1.1,55°.3S±0°.2×28°.1W±0°.3,h10km±1km, mb4.4/6,Error ellipse: s-maj=41.5km s-min=17.7km az=226.0*

ISC 29 15:28:41.4±0.9,55°.4S±0°.1×28°.2W±0°.2,h26km,n11, σ0s73/11,mb4.2/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**4.92**	**280**	Pn		**Pn**	**15 29 52.8**	**-0.8**
SNAA	**Sanae**	**19.57**	**156**	P		**P**	**15 33 07.2**	**+0.3**
SNAA				IAmb		IAmb	15 33 10.9	
	comp=Z,2.2nm,0.7s							
QSPA	**South Pole Qui**	**34.85**	**180**	P		**P**	**15 35 30.4**	**+0.3**
QSPA				IAmb		IAmb	15 36 26.4	
	comp=Z,14nm,1.7s							
CPUP	**Villa Florida**	**35.95**	**312**	P		**P**	**15 35 40.4**	**+0.8**
VNDA	**Vanda**	**47.19**	**183**	P		**P**	**15 37 11.9**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=166,slow=9.7,SNR=7.4							
LPAZ	**La Paz**	**49.53**	**306**	P		**P**	**15 37 31.1**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=136,slow=7.3,SNR=3.7							
LPAZ	**La Paz**	**49.53**	**306**	P		**P**	**15 37 30.4**	**-0.1**
LPAZ				IAmb		IAmb	15 38 48.6	
	comp=Z,14nm,1.9s							
CASY	**Casey**	**54.71**	**161**	P		**P**	**15 38 06.4**	**-1.3**
TOA0	**Torodi Ar. Sit**	**72.78**	**31**	P		**P**	**15 40 06.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**72.78**	**31**	P		**P**	**15 40 07.1**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=200,slow=6.7,SNR=7.8							
ILAR	**Eielson Array**	**149.26**	**313**	PKPbc		**PKPbc**	**15 48 26.0**	**-0.1**
	comp=Z,1.3nm,0.9s,baz=113,slow=2.0,SNR=8.5							

*IDC **29** 15:37:25.2±0.6,55°.25S×27°.99W,h0km,mb4.4/8, mb1 4.5/9,mb1mx4.3/23,mbtmp4.4/9,ML4.8/1,Error ellipse: s-maj=25.5km s-min=17.0km az=65.0*
*NEIC **29** 15:37:26.7±0.8,55°.3S±0°.1×28°.2W±0°.2,h10km±1km, mb4.8/27,Error ellipse: s-maj=21.9km s-min=13.8km az=201.0*

ISC 29 15:37:28.9±0.5,55°.26S±0°.1×28°.2W±0°.1,h26km,n74, σ0s71/75,mb4.8/15,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**4.92**	**278**			**Pn**	**15 38 40.2**	**-0.8**
VNA1	**Neumayer--Stat**	**17.74**	**158**	P		**P**	**15 41 36.9**	**+2.5**
VNA3	**Neumayer Olymp**	**17.93**	**161**	P		**Pn**	**15 41 35.6**	**-0.4**
SNAA	**Sanae**	**19.69**	**156**	P		**P**	**15 41 55.2**	**-0.7**
SNAA	**Sanae**	**19.69**	**156**	P		**P**	**15 41 55.2**	**-0.7**
	3.0nm,0.3s,baz=306,slow=1.1,SNR=58							
SNAA	**Sanae**	**19.69**	**156**	P		**P**	**15 41 55.0**	**-0.8**
QSPA	**South Pole Qui**	**35.00**	**180**	P		**P**	**15 44 18.6**	**-0.3**
	5.3nm,0.7s,baz=209,slow=2.6,SNR=52							
QSPA	**South Pole Qui**	**35.00**	**180**			**P**	**15 44 18.9**	**+0.1**
QSPA				IAmb		IAmb	15 44 37.1	
	comp=Z,41nm,1.9s							
CPUP	**Villa Florida**	**35.87**	**312**	P		**P**	**15 44 27.0**	**+0.6**
	comp=Z,4.1nm,0.6s,baz=145,slow=8.1,SNR=9.3							
CPUP	**Villa Florida**	**35.87**	**312**	P		**P**	**15 44 26.5**	**0.0**
GO05	**Huala**	**36.13**	**286**	P		**P**	**15 44 27.2**	**-1.4**
MT01	**Popeta**	**36.62**	**288**	P		**P**	**15 44 32.5**	**-0.2**
PEL	**Peldehue**	**36.85**	**289**	P		**P**	**15 44 36.2**	**+1.3**
MT02	**Curacav**	**37.01**	**288**	P		**P**	**15 44 36.0**	**-0.1**
CO02	**Combarbal**	**38.52**	**291**	P		**P**	**15 44 49.5**	**+0.4**
CO02				IAmb		IAmb	15 45 11.3	
	comp=Z,35nm,1.3s							
CO01	**Juntas del Tor**	**39.00**	**293**	P		**P**	**15 44 54.9**	**+1.6**
GO04	**Tololo Observa**	**39.22**	**292**	P		**P**	**15 44 55.9**	**+0.8**
GO04				IAmb		IAmb	15 46 04.8	
	comp=Z,27nm,1.2s							
AC05	**El Transito**	**40.00**	**294**	P		**P**	**15 45 02.9**	**+1.5**
AC05				IAmb		IAmb	15 45 50.8	
	comp=Z,44nm,1.6s							
MAW	**Mawson**	**41.12**	**144**	P		**P**	**15 45 09.9**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=283,slow=4.9,SNR=2.7							
MAW	**Mawson**	**41.12**	**144**	P		**P**	**15 45 09.9**	**-0.2**
GO02	**Mina Guanaco**	**42.63**	**298**	P		**P**	**15 45 24.1**	**+0.8**
GO02				IAmb		IAmb	15 46 26.7	
	comp=Z,34nm,1.6s							
LVC	**Limon Verde**	**44.42**	**300**	P		**P**	**15 45 38.5**	**+0.7**
LVC				IAmb		IAmb	15 47 24.0	
	comp=Z,13nm,1.1s							
PB01	**IPOC Station P**	**46.03**	**301**	P		**P**	**15 45 51.1**	**+0.9**
BOSA	**Boshof**	**46.32**	**77**	P		**P**	**15 45 51.8**	**-0.8**
	comp=Z,2.0nm,0.7s,baz=202,slow=5.4,SNR=4.4							
BOSA	**Boshof**	**46.32**	**77**	P		**P**	**15 45 52.4**	**-0.1**
PB08	**IPOC Station P**	**46.63**	**302**	P		**P**	**15 45 56.6**	**+1.3**
PB08				IAmb		IAmb	15 46 00.9	
	comp=Z,11nm,1.1s							
GO01	**Chusmiza**	**47.05**	**302**	P		**P**	**15 45 59.8**	**+1.0**
GO01				IAmb		IAmb	15 46 00.7	
	comp=Z,8.9nm,0.8s							
PB11	**IPOC Station P**	**47.20**	**302**	P		**P**	**15 46 00.8**	**+1.3**
VNDA	**Vanda**	**47.34**	**183**	P		**P**	**15 46 00.4**	**+0.7**
	comp=Z,4.1nm,0.8s,baz=185,slow=6.5,SNR=34							
VNDA	**Vanda**	**47.34**	**183**	P		**P**	**15 46 00.1**	**+0.3**
VNDA				IAmb		IAmb	15 46 01.3	
	comp=Z,4.9nm,0.9s							
PSGCX	**Pisagua**	**47.57**	**301**	P		**P**	**15 46 02.4**	**+0.1**
MNMC	**Minye Minye**	**47.71**	**302**	P		**P**	**15 46 04.5**	**+0.9**
LPAZ	**La Paz**	**49.46**	**306**	P		**P**	**15 46 18.4**	**+0.9**
	comp=Z,4.1nm,0.6s,baz=145,slow=5.1,SNR=22							
LPAZ	**La Paz**	**49.46**	**306**	P		**P**	**15 46 17.6**	**+0.1**
LPAZ				IAmb		IAmb	15 46 19.3	
	comp=Z,5.1nm,0.7s							
SAML	**Samuel**	**53.85**	**315**	P		**P**	**15 46 47.9**	**-1.7**
CASY	**Casey**	**54.84**	**161**	P		**P**	**15 46 56.2**	**0.0**
DBIC	**Dimbokro**	**64.68**	**26**	P		**P**	**15 48 04.5**	**+0.1**
TOA0	**Torodi Ar. Sit**	**72.64**	**31**	P		**P**	**15 48 54.2**	**+0.2**
TOA0				IAmb		IAmb	15 49 02.4	
	comp=Z,18nm,1.6s							
TORD	**Torodi Ar. Bea**	**72.64**	**31**	P		**P**	**15 48 54.4**	**+0.4**
	comp=Z,4.0nm,0.5s,baz=202,slow=6.3,SNR=45							
ASAR	**Alice Springs**	**99.91**	**163**	P		**Pdif**	**15 51 11.7**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=181,slow=4.1,SNR=5.6							
PDAR	**Pinedale Array**	**119.45**	**303**	PKP		**PKPdf**	**15 56 14.8**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=114,slow=3.6,SNR=2.3							
NVAR	**Mina Array Bea**

U15A IAML 15 42 41.7
comp=E,48nm,0.7s
W13A Hualapai Mount 4.69 304 Pn Pn 15 41 22.1 +0.2
KNB Kanab 5.37 326 Pn Pn 15 41 31.3 +0.2
S22A 4UR Ranch, Cre 5.47 19 Pn Pn 15 41 32.7 0.0
PKCU Pink Cliffs 5.50 332 Pn Pn 15 41 32.7 -0.4
PV18 Skein Mesa, Pa 5.64 2 Pn Pn 15 41 34.3 -0.6
PV03 Paradox Valley 5.65 2 Pn Pn 15 41 34.5 -0.6
TX31 Lajitas Ar. Si 5.69 123 Pn Pn 15 41 34.1 -1.4
TX32 Lajitas Array 5.69 123 Pn Pn 15 41 34.4 -1.2
PV11 David Mesa, Pa 5.70 2 Pn Pn 15 41 35.5 -0.2
PV19 Morning Glory 5.71 1 Pn Pn 15 41 35.9 +0.1
PV12 Saucer Basin, 5.72 2 Pn Pn 15 41 35.9 -0.1
PV20 West Nyswonger 5.74 1 Pn Pn 15 41 36.2 0.0
PV15 Paradox Valley 5.76 5 Pn Pn 15 41 35.2 -1.4
PV14 Lion Creek, Pa 5.77 1 Pn Pn 15 41 36.4 -0.3
PV10 Paradox Valley 5.77 1 Pn Pn 15 41 35.2 -1.5
PV04 Paradox Valley 5.79 2 Pn Pn 15 41 36.1 -0.8
PV23 Carpenter Ridg 5.85 1 Pn Pn 15 41 37.1 -0.7
PV09 Paradox Valley 5.89 360 Pn Pn 15 41 37.8 -0.6
SDCO Great Sand Dun 5.93 29 Pn Pn 15 41 38.8 -0.2
PV22 Blue Mesa, Par 5.94 2 Pn Pn 15 41 38.9 -0.1
PV21 Cone Mtn., Par 5.96 1 Pn Pn 15 41 39.0 -0.3
T25A Trinidad 5.96 39 Pn Pn 15 41 39.3 0.0
CCUT Cedar City 6.05 326 Pn Pn 15 41 40.8 +0.3
SHPR Sheep Range 6.33 310 Pn Pn 15 41 45.3 +0.9

KEA ***29*** *15:52:19.3±0.0, 15°.90S×176°.00W, h33km, mB6.5/1, MS6.1/1*

NEIC ***29*** *15:52:22.9, 14°.92S×175°.24W, h9km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.14; $M_{\theta\theta}$2.05; $M_{\phi\phi}$-2.19; $M_{r\theta}$-0.63; $M_{\theta\phi}$4.05; $M_{\phi r}$-1.06; Fault plane solution: M_o4.74000×10^{18} NP1:ϕ_s193.27000°, δ85.58000°, λ165.56000°. NP2:ϕ_s284.41000°, δ75.60000°, λ4.57000°. Principal axes: T 4.7555, Plg13.0000°, Azm148.0000°; N -0.0410, Plg75.0000°, Azm357.0000°; P -4.7145, Plg7.0000°, Azm240.0000°;*

UNK ***29*** *15:52:22.7, 14°.77S×175°.26W, h10km*

NEIC ***29*** *15:52:23.1±2.9, 14°.78S±0°.07×175°.26W±0°.04, h9km±1km, mb6.0/120,Ms_20 6.5/857,Mwb6.4/78,Mwc6.5/50,Mww6.4, Mwc6.5(GCMT),Error ellipse: s-maj=11.7km s-min=5.9km az=158.0*

IDC ***29*** *15:52:23.4±0.3, 14°.92S×175°.55W, h0km, mb5.2/33, mb1 5.3/35,mb1mx5.3/38,mbtmp5.2/35,ML4.0/2,MS6.3/26, Ms1 6.3/26,ms1mx6.2/29,Error ellipse: s-maj=11.9km s-min=7.8km az=154.0*

BJI ***29*** *15:52:24.3±0.0, 14°.80S×175°.24W, h10km, mB6.4/68, mb5.4/64,Ms6.5/86,Ms7 6.4/79*

MOS ***29*** *15:52:26.6±1.9, 14°.93S×175°.67W, h23km, mb6.1/45, MS6.5/42,Error ellipse: s-maj=8.8km s-min=7.6km az=126.0*

BGR ***29*** *15:52:26.5±0.0, 15°.87S×173°.01W, h33km, Ms6.5*

NEIC ***29*** *15:52:31, 14°.75S×175°.40W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-0.87; $M_{\theta\theta}$3.79; $M_{\phi\phi}$-2.92; $M_{r\theta}$-0.14; $M_{\theta\phi}$4.85; $M_{\phi r}$0.45; Fault plane solution: M_o5.96000×10^{18} NP1:ϕ_s107.00000°, δ86.00000°, λ-4.00000°. NP2:ϕ_s197.00000°, δ86.00000°, λ-176.00000°. Principal axes: T 6.3337, Plg1.0000°, Azm332.0000°; N -0.8263, Plg84.0000°, Azm235.0000°; P -5.5075, Plg6.0000°, Azm62.0000°;*

NEIC ***29*** *15:52:31, 14°.82S×175°.27W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.47; $M_{\theta\theta}$2.54; $M_{\phi\phi}$-3.01; $M_{r\theta}$1.72; $M_{\theta\phi}$4.41; $M_{\phi r}$-0.91; Fault plane solution: M_o5.57000×10^{18} NP1:ϕ_s17.00000°, δ70.00000°, λ-179.00000°. NP2:ϕ_s286.00000°, δ89.00000°, λ-19.00000°. Principal axes: T 5.2261, Plg13.0000°, Azm333.0000°; N 0.6385, Plg70.0000°, Azm104.0000°; P -5.8646, Plg15.0000°, Azm240.0000°;*

GCMT ***29*** *15:52:32.0±0.0, 14°.75S×175°.44W, h12km, MW6.4/178, Moment Tensor Solution. s178,c427; s178,c789; Duration: 4s0 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.69±.02; $M_{\theta\theta}$3.44±.02; $M_{\phi\phi}$-2.75±.02; $M_{r\theta}$0.21±.05; $M_{\theta\phi}$4.67±.02; $M_{\phi r}$0.09±.05; Best double couple: M_o5.60700×10^{18} NP1:ϕ_s17.00000°, δ88.00000°, λ179.00000°. NP2:ϕ_s107.00000°, δ89.00000°, λ2.00000°. Principal axes: T 5.9560, Plg2.0000°, Azm332.0000°; N -0.6940, Plg88.0000°, Azm144.0000°; P -5.2580, Plg0.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***29*** *15:52:47.9, 14°.21S×175°.71W, h33km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}-0.68; $M_{\theta\theta}$4.67; $M_{\phi\phi}$-3.99; $M_{r\theta}$-3.17; $M_{\theta\phi}$5.38; $M_{\phi r}$2.12; Fault plane solution: M_o7.91000×10^{18} NP1:ϕ_s107.75000°, δ83.01000°, λ-28.11000°. NP2:ϕ_s201.47000°, δ62.12000°, λ-172.09000°. Principal axes: T 7.7401, Plg14.0000°, Azm158.0000°; N 0.3323, Plg61.0000°, Azm275.0000°; P -8.0724, Plg25.0000°, Azm61.0000°;*

ISC 29 15:52:27.5±0.2, 15°.09S±0°.04×175°.41W±0°.03, h26km, n1201, σ2s25/804, mb5.8/145, MS6.5/497, 46C-41D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.71**	**72**	P		Pn	15 53 15.6	-7.5
AFI	**Afiamalu**	**3.71**	**72**	Pn		Pn	15 53 15.6	-7.5
NIUE	**Niue**	**6.57**	**128**	Pn		**Pn**	**15 53 59.3**	**-3.1**
MSVF	**Nonsavu**	**6.81**	**246**	P		**Pn**	**15 54 06.1**	**+0.3**
MSVF	**Nonsavu**	**6.81**	**246**	Pn		**Pn**	**15 54 06.1**	**+0.3**
FUNA	**Funafuti**	**8.40**	**320**	Pn		Pn	15 54 20.3	-7.2
KNTN	**Kanton**	**12.77**	**17**	Pn		Pn	15 55 17.3	-10
RAO	**Raoul Island**	**14.28**	**189**	LR		LR	16 00 31.0	
	comp=Z,298μm,18.9s,baz=10.0,slow=34							
RAR	**Rarotonga**	**16.05**	**115**	Pn		**Pn**	**15 56 11.7**	**+0.2**
	2.0nm,0.3s,baz=252,slow=6.3,SNR=17							
RAR				Sn		**Sn**	**15 59 02.8**	**-6.0**
	0.3nm,0.3s,baz=261,slow=23,SNR=0.9							
RAR				LR		LR	16 00 46.3	
	comp=Z,57μm,21.7s,baz=272,slow=31							
RAR	**Rarotonga**	**16.05**	**115**	P		**Pn**	**15 56 12.8**	**+1.3**
RAR	**Rarotonga**	**16.05**	**115**	Pn		**Pn**	**15 56 06.5**	**-4.9**
RAR				P		**P**	**15 56 11.4**	**-3.3**
SANVU	**Saraoutou**	**16.78**	**267**	P		**P**	**15 56 21.8**	**-1.1**
SANVU				IAmb		IAmb	15 56 30.1	
	comp=Z,4μm,1.7s							
DZM	**Mont Dzumac**	**18.54**	**245**	*e*Pn		**Pn**	**15 56 43.7**	**+1.0**
	comp=Z,3μm,1.7s							
DZM				*e*S		**Sn**	**16 00 06.4**	**-3.0**
	comp=Z,32μm,29.5s							
DZM				*e*LR		LR	16 01 03.4	
	comp=Z,357μm,25.5s							
DZM	**Mont Dzumac**	**18.54**	**245**	P		**Pn**	**15 56 42.1**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=74,slow=14,SNR=78							
DZM				S		**S**	**16 00 17.2**	**+4.6**
	comp=Z,0.1nm,0.3s,baz=178,slow=14,SNR=1.3							
DZM				LR		LR	16 02 33.1	
	comp=Z,244μm,22.0s,baz=86,slow=33							
DZM	**Mont Dzumac**	**18.54**	**245**	P		**Pn**	**15 56 42.2**	**-0.4**
TARA	**Tarawa**	**20.01**	**324**	P		**P**	**15 56 54.5**	**-3.9**
TARA				IAmb		IAmb	15 57 29.0	
	comp=Z,3μm,1.9s							
MXZ	**Matakaoa Point**	**23.07**	**193**	P		**P**	**15 57 30.4**	**-0.6**
MXZ				IAMs_20		IAMs_20	16 05 58.6	
	comp=Z,198μm,20.0s							
URZ	**Urewera**	**24.00**	**195**	IAMs_20		IAMs_20	16 06 20.3	
	comp=Z,141μm,18.0s							
XMAS	**Kiritimati**	**24.61**	**48**	P		**P**	**15 57 40.4**	**-5.6**
HNR	**Honiara**	**24.72**	**280**	P		**P**	**15 57 44.8**	**-2.1**
	comp=Z,22nm,0.3s,baz=52,slow=18,SNR=1.2							
HNR				S		**S**	**16 02 09.3**	**+1.8**
	comp=Z,80nm,0.8s,baz=229,slow=5.6,SNR=1.6							
HNR				LR		LR	16 05 57.9	
	comp=Z,87μm,20.4s,baz=120,slow=33							
HNR	**Honiara**	**24.72**	**280**	P		**P**	**15 57 44.8**	**-2.1**
HNR				S		**S**	**16 02 09.4**	**+1.8**
HNR				pmax		pmax		
	comp=Z,1μm,1.7s							
HNR				MLR		MLR		
	comp=Z,78μm,18.0s							
PAE	**Paea**	**24.90**	**99**	*e*P		**P**	**15 57 50.1**	**+1.6**
	comp=Z,19nm,1.0s							
PAE	**Paea**	**24.90**	**99**	*e*T		T	16 23 32.9	
	comp=Z,31nm,0.2s							
PPT	**Papeete**	**24.90**	**99**	P		**P**	**15 57 50.3**	**+1.8**
	comp=Z,139nm,1.1s,baz=314,slow=7.6,SNR=9.3							
PPT				S		**S**	**16 02 14.0**	**+3.5**
	comp=Z,23nm,1.0s,baz=307,slow=18,SNR=2.3							
PPT				LR		LR	16 05 00.2	
	comp=Z,32μm,21.3s,baz=270,slow=30							
PPT2	**Papeete2**	**24.90**	**99**	*e*P		**P**	**15 57 50.8**	**+2.2**
	comp=Z,290nm,1.3s							
PPT2				*e*S		**S**	**16 02 11.7**	**+1.1**
	comp=Z,21μm,30.3s							
PPT2				*e*LQ		LQ	16 02 52.5	
	comp=Z,389μm,26.2s							
PPT2				*e*LR		LR	16 03 55.5	
	comp=Z,156μm,26.0s,baz=262							
PPT2	**Papeete2**	**24.90**	**99**	*e*T		T	16 23 31.3	
	comp=Z,43nm,0.3s							
PPTF	**Pamatai, Papee**	**24.91**	**99**	P		**P**	**15 57 44.8**	**-3.9**
PPTF				IAmb		IAmb	15 58 10.7	
	comp=Z,554nm,1.3s							
BKZ	**Black Stump Fm**	**25.02**	**195**	P		**P**	**15 57 48.2**	**-1.2**
BKZ				IAMs_20		IAMs_20	16 07 45.3	
	comp=Z,130μm,21.0s							
TIAR	**Tiarei**	**25.12**	**99**	*e*P		**P**	**15 57 52.7**	**+2.2**
	comp=Z,57nm,1.1s							
TIAR	**Tiarei**	**25.12**	**99**	*e*T		T	16 23 41.7	
	comp=Z,19nm,0.2s							
TVO	**Taravao**	**25.22**	**100**	*e*P		**P**	**15 57 53.7**	**+2.2**
	comp=Z,96nm,1.3s							
TVO	**Taravao**	**25.22**	**100**	*e*T		T	16 23 50.2	
	comp=Z,17nm,0.3s							
TBI	**Tubuai**	**25.81**	**113**	*e*P		**P**	**15 57 59.7**	**+3.0**
	comp=Z,894nm,1.5s							
TBI				*e*LQ		LQ	16 03 17.9	
	comp=Z,339μm,28.0s							
TBI				*e*LR		LR	16 04 26.6	
	comp=Z,104μm,27.5s,baz=290							
TBI	**Tubuai**	**25.81**	**113**	*e*T		T	16 24 48.5	
	comp=Z,72nm,0.3s							
MEH	**Mehetia**	**26.35**	**100**	*e*P		**P**	**15 58 03.7**	**+2.0**
	comp=Z,75nm,1.4s							
MEH	**Mehetia**	**26.35**	**100**	*e*T		T	16 25 27.3	
	comp=Z,41nm,0.3s							
BFZ	**Birch Farm**	**26.51**	**194**	P		**P**	**15 58 02.8**	**0.0**
QRZ	**Quartz Range**	**27.71**	**200**	P		**P**	**15 58 12.3**	**-1.3**
QRZ				IAMs_20		IAMs_20	16 07 15.6	
	comp=Z,108μm,21.0s							
NNZ	**Nelson**	**27.79**	**198**	IAMs_20		IAMs_20	16 09 56.9	
	comp=Z,98μm,20.0s							
TUWZ	**Tuamarina**	**27.82**	**197**	P		**P**	**15 58 13.9**	**-0.6**
THZ	**Tophouse**	**28.43**	**199**	P		**P**	**15 58 19.2**	**-0.9**
THZ				IAMs_20		IAMs_20	16 10 16.9	
	comp=Z,86μm,19.0s							
KHZ	**Kahutara**	**28.85**	**197**	P		**P**	**15 58 22.7**	**-1.0**
KWAJ	**Kwajalein Atol**	**29.10**	**324**	IAMs_20		IAMs_20	16 06 40.4	
	comp=Z,143μm,21.0s							
LTZ	**Lake Taylor**	**29.56**	**199**	P		**P**	**15 58 29.3**	**-0.8**
LTZ				IAMs_20		IAMs_20	16 09 01.6	
	comp=Z,95μm,21.0s							
OXZ	**Oxford**	**30.12**	**198**	P		**P**	**15 58 34.5**	**-0.6**
RPZ	**Rata Peaks**	**30.78**	**199**	IAMs_20		IAMs_20	16 11 17.0	
	comp=Z,76μm,20.0s							
FOZ	**Fox Glacier**	**31.03**	**201**	IAMs_20		IAMs_20	16 10 39.7	
	comp=Z,107μm,19.0s							
ODZ	**Otahua Downs**	**32.10**	**199**	IAMs_20		IAMs_20	16 10 17.0	
	comp=Z,81μm,20.0s							
WKZ	**Wanaka**	**32.44**	**201**	P		**P**	**15 58 54.4**	**-1.2**
WKZ				IAmb		IAmb	15 59 46.3	
	comp=Z,338nm,1.8s							
WKZ				IAMs_20		IAMs_20	16 11 33.0	
	comp=Z,99μm,20.0s							
EIDS	**Eidsvold**	**32.98**	**247**	P		**P**	**15 58 56.9**	**-3.6**
EIDS				IAMs_20		IAMs_20	16 10 15.9	
	comp=Z,109μm,20.0s							
MLZ	**Mavora Lakes**	**33.23**	**201**	P		**P**	**15 59 01.2**	**-1.1**
MLZ				IAMs_20		IAMs_20	16 12 07.7	
	comp=Z,80μm,18.0s							
RABL	**Rabaul**	**33.70**	**285**	P		**P**	**15 59 04.1**	**-2.8**
RABL				IAmb		IAmb	15 59 12.2	
	comp=Z,270nm,1.4s							
WHZ	**Wether Hill Ro**	**33.74**	**201**	P		**P**	**15 59 05.9**	**-0.9**
WHZ				IAmb		IAmb	15 59 17.1	
	comp=Z,119nm,0.8s							
WHZ				IAMs_20		IAMs_20	16 12 25.4	
	comp=Z,82μm,19.0s							
KRVT	**Keravat (AS076**	**33.79**	**285**	P		**P**	**15 59 05.6**	**-2.0**
	comp=Z,146nm,1.0s,baz=5.7,slow=3.1,SNR=13							
KRVT				LR		LR	16 10 06.4	
	comp=Z,46μm,21.2s,baz=116,slow=32							
ARMA	**Armidale**	**33.86**	**238**	P		**P**	**15 59 07.8**	**-0.4**
ARMA				IAmb		IAmb	15 59 15.0	
	comp=Z,399nm,2.0s							
ARMA				IAMs_20		IAMs_20	16 14 20.0	
	comp=Z,65μm,19.0s							
PATS	**Pohnpei**	**33.96**	**308**	IAMs_20		IAMs_20	16 09 56.5	
	comp=Z,80μm,19.0s							
TAOE	**Nuku Hiva Isla**	**35.01**	**84**	*e*LR		LR	16 08 31.5	
	comp=Z,195μm,27.1s,baz=258							
TAOE	**Nuku Hiva Isla**	**35.01**	**84**	IAMs_20		IAMs_20	16 09 14.5	
	comp=Z,70μm,21.0s							
CTAO	**Charters Tower**	**36.83**	**257**	P		**P**	**15 59 31.4**	**-2.3**
CTAO				pmax		pmax		
	comp=Z,525nm,1.8s							
CTAO	**Charters Tower**	**36.83**	**257**	P		**P**	**15 59 31.4**	**-2.3**
CTAO				IAmb		IAmb	15 59 39.2	
	comp=Z,525nm,1.8s							
PMG	**Port Moresby**	**36.98**	**274**	P		**P**	**15 59 34.3**	**-0.8**
	comp=Z,60nm,1.1s,baz=186,slow=3.2,SNR=7.7							
PMG				S		**S**	**16 05 18.0**	**-1.2**
	comp=Z,13nm,1.1s,baz=162,slow=3.3,SNR=1.4							
PMG	**Port Moresby**	**36.98**	**274**	P		**P**	**15 59 32.2**	**-2.9**
PMG				S		**S**	**16 05 18.0**	**-1.2**
PMG				pmax		pmax		
	comp=Z,211nm,1.3s							
PMG	**Port Moresby**	**36.98**	**274**	P		**P**	**15 59 32.2**	**-2.9**
PMG	**Port Moresby**	**36.98**	**274**	IAMs_20		IAMs_20	16 10 55.9	
	comp=Z,73μm,21.0s							
CAN	**Canberra**	**37.70**	**231**	P		**P**	**15 59 39.8**	**-1.2**
CAN				pmax		pmax		
	comp=Z,220nm,1.5s							
CAN				MLR		MLR		
	comp=Z,61μm,20.0s							
CAN	**Canberra**	**37.70**	**231**	P		**P**	**15 59 39.8**	**-1.2**
CAN				IAMs_20		IAMs_20	16 15 44.2	
	comp=Z,61μm,20.0s							
H11S2	**WAKE ISLAND Hy**	**37.74**	**332**	T		T	16 40 14.1	
	baz=150							
H11S3	**WAKE ISLAND Hy**	**37.75**	**332**	T		T	16 40 14.9	
	baz=150,slow=74							
H11S1	**WAKE ISLAND Hy**	**37.76**	**332**	T		T	16 40 15.9	
	baz=150,slow=74							
H11N3	**WAKE ISLAND Hy**	**38.72**	**333**	T		T	16 40 39.1	
	baz=152,slow=76,SNR=1099							
H11N1	**WAKE ISLAND Hy**	**38.73**	**333**	T		T	16 40 41.5	
	baz=152,slow=76,SNR=1860							
H11N2	**WAKE ISLAND Hy**	**38.74**	**333**	T		T	16 40 45.4	
	baz=152,slow=76,SNR=985							
COEN	**Coen**	**40.07**	**266**	P		**P**	**15 59 60.0**	**-1.1**
KIP	**Kipapa**	**40.10**	**26**	*i*P		**P**	**16 00 00.8**	**-0.3**
KIP				pmax		pmax		
	comp=Z,151nm,1.4s							
KIP	**Kipapa**	**40.10**	**26**	P		P	15 59 56.0	-5.1
KIP				IAmb		IAmb	16 00 12.2	
	comp=Z,372nm,1.4s							
TOO	**Toolangi**	**41.17**	**230**	P		**P**	**16 00 09.7**	**-0.3**
TOO				pmax		pmax		
	comp=Z,602nm,1.5s							
TOO				MLR		MLR		
	comp=Z,54μm,18.0s							
TOO	**Toolangi**	**41.17**	**230**	P		**P**	**16 00 09.7**	**-0.3**
TOO				IAmb		IAmb	16 00 17.8	
	comp=Z,602nm,1.5s							
TOO				IAMs_20		IAMs_20	16 17 54.3	
	comp=Z,54μm,18.0s							
STKA	**Stephens Creek**	**42.52**	**239**	P		**P**	**16 00 20.2**	**-0.8**
	comp=Z,26nm,1.0s,baz=92,slow=10.0,SNR=19							
STKA				S		**S**	**16 06 42.1**	**+0.1**
	comp=Z,2.2nm,0.9s,baz=87,slow=18,SNR=1.5							
STKA	**Stephens Creek**	**42.52**	**239**	P		**P**	**16 00 19.8**	**-1.3**
MIDW	**Midway**	**43.09**	**357**	IAMs_20		IAMs_20	16 13 26.2	
	comp=Z,50μm,21.0s							
JAY	**Jayapura**	**45.03**	**282**	P		**P**	**16 00 40.5**	**-0.9**
	comp=Z,16nm,0.7s,baz=167,slow=5.7,SNR=9.4							
JAY	**Jayapura**	**45.03**	**282**	P		**P**	**16 00 42.8**	**+1.4**
GENI	**Genyem**	**45.51**	**281**	P		**P**	**16 00 46.9**	**+1.7**
BBOO	**Buckleboo**	**47.30**	**239**	P		**P**	**16 00 57.4**	**-1.6**
BBOO				IAMs_20		IAMs_20	16 22 57.8	
	comp=Z,62μm,18.0s							
WR0	**Warramunga Arr**	**47.84**	**257**	P		**P**	**16 01 00.9**	**-2.5**
WR0				IAmb		IAmb	16 01 08.3	
	comp=Z,411nm,1.9s							
WR0				IAMs_20		IAMs_20	16 18 57.4	
	comp=Z,39μm,18.0s							
WR9	**Warramunga Arr**	**47.86**	**257**	IAMs_20		IAMs_20	16 18 58.0	
	comp=Z,41μm,19.0s							
WR8	**Warramunga Arr**	**47.88**	**257**	IAMs_20		IAMs_20	16 18 58.4	
	comp=Z,42μm,19.0s							
WR7	**Warramunga Arr**	**47.90**	**257**	IAMs_20		IAMs_20	16 19 00.0	
	comp=Z,42μm,19.0s							
WR6	**Warramunga Arr**	**47.92**	**257**	IAMs_20		IAMs_20	16 18 59.6	
	comp=Z,43μm,18.0s							
WR4	**Warramunga Arr**	**47.97**	**257**	IAMs_20		IAMs_20	16 19 01.7	
	comp=Z,43μm,19.0s							
WR3	**Warramunga Arr**	**47.98**	**257**	IAMs_20		IAMs_20	16 19 01.2	
	comp=Z,43μm,18.0s							
WB0	**Warramunga Arr**	**47.99**	**257**	P		**P**	**16 01 01.5**	**-3.1**
WB9	**Warramunga Arr**	**47.99**	**257**	IAMs_20		IAMs_20	16 20 11.5	
	comp=Z,36μm,20.0s							
WB8	**Warramunga Arr**	**48.00**	**257**	IAMs_20		IAMs_20	16 19 01.5	
	comp=Z,36μm,19.0s							
WC3	**Warramunga Arr**	**48.00**	**257**	IAMs_20		IAMs_20	16 19 01.6	
	comp=Z,43μm,19.0s							
WC2	**Warramunga Arr**	**48.01**	**257**	IAMs_20		IAMs_20	16 19 01.8	
	comp=Z,42μm,18.0s							
WB5	**Warramunga Arr**	**48.01**	**257**	IAMs_20		IAMs_20	16 19 02.8	
	comp=Z,33μm,18.0s							
WB6	**Warramunga Arr**	**48.01**	**257**	IAMs_20		IAMs_20	16 19 02.8	
	comp=Z,38μm,18.0s							
WR2	**Warramunga Arr**	**48.01**	**257**	IAMs_20		IAMs_20	16 19 02.8	
	comp=Z,37μm,19.0s							
WB4	**Warramunga Arr**	**48.01**	**257**	IAMs_20		IAMs_20	16 19 03.0	
	comp=Z,42μm,19.0s							
WB3	**Warramunga Arr**	**48.02**	**257**	IAMs_20		IAMs_20	16 19 03.0	
	comp=Z,45μm,19.0s							
WB2	**Warramunga Arr**	**48.02**	**257**	P		**P**	**16 01 02.7**	**-2.1**
WB2				IAmb		IAmb	16 01 17.5	
	comp=Z,182nm,1.3s							
WB2				IAMs_20		IAMs_20	16 19 03.1	
	comp=Z,44μm,18.0s							
WRAB	**Tennant Creek**	**48.02**	**257**	P		**P**	**16 01 02.2**	**-2.6**
WRAB				pmax		pmax		
	comp=Z,174nm,1.3s							
WRAB	**Tennant Creek**	**48.02**	**257**	P		**P**	**16 01 02.2**	**-2.6**
WRAB				IAmb		IAmb	16 01 17.5	
	comp=Z,174nm,1.3s							
WRAB	**Tennant Creek**	**48.02**	**257**	IAMs_20		IAMs_20	16 19 02.9	
	comp=Z,43μm,19.0s							
WB1	**Warramunga Ar.**	**48.02**	**257**	IAMs_20		IAMs_20	16 19 02.2	
	comp=Z,44μm,19.0s							
WC4	**Warramunga Arr**	**48.03**	**257**	IAMs_20		IAMs_20	16 19 02.4	
	comp=Z,47μm,18.0s							
WR1	**Warramunga Arr**	**48.03**	**257**	IAMs_20		IAMs_20	16 19 02.4	
	comp=Z,36μm,18.0s							
WRA	**Warramunga Arr**	**48.03**	**257**	P		**P**	**16 01 02.6**	**-2.3**
	comp=Z,32nm,1.0s,baz=88,slow=6.7,SNR=35							
WRA				PcP		**PcP**	**16 02 34.8**	**+2.0**
	comp=Z,8.8nm,0.9s,baz=94,slow=3.6,SNR=2.8							
WRA				S		**S**	**16 07 55.8**	**-6.1**
	comp=Z,0.7nm,1.1s,baz=94,slow=11,SNR=1.1							
WRA				LR		LR	16 19 13.9	
	comp=Z,36μm,20.1s,baz=75,slow=34							
WC1	**Warramunga Arr**	**48.03**	**257**	IAMs_20		IAMs_20	16 19 02.4	
	comp=Z,41μm,18.0s							
AS31	**Alice Springs**	**48.37**	**252**	P		**P**	**16 01 05.5**	**-2.0**
ASAR	**Alice Springs**	**48.37**	**252**	P		**P**	**16 01 06.7**	**-0.8**
	comp=Z,13nm,0.7s,baz=85,slow=8.5,SNR=99							
ASAR				PcP		**PcP**	**16 02 36.4**	**+2.5**
	comp=Z,12nm,0.9s,baz=94,slow=6.3,SNR=1.6							
ASAR				S		**S**	**16 08 05.2**	**-1.5**
	comp=Z,0.7nm,1.0s,baz=128,slow=12,SNR=1.5							
ASAR				LR		LR	16 20 53.2	
	comp=Z,51μm,18.7s,baz=86,slow=35							
GUMO	**Guam**	**48.55**	**304**	P		**P**	**16 01 08.4**	**-0.4**
	comp=Z,44nm,0.8s,baz=11,slow=14,SNR=2.2							
GUMO	**Guam**	**48.55**	**304**	P		**P**	**16 01 08.4**	**-0.4**
GUMO				pmax		pmax		
	comp=Z,946nm,2.0s							
GUMO	**Guam**	**48.55**	**304**	IAmb		IAmb	16 01 13.4	
	comp=Z,946nm,2.0s							
MTN	**Manton Dam**	**51.83**	**265**	P		**P**	**16 01 31.3**	**-2.5**
KNRA	**Kununurra**	**53.70**	**261**	P		**P**	**16 01 45.5**	**-2.1**
KNRA				IAmb		IAmb	16 01 58.0	
	comp=Z,255nm,1.6s							
KNRA				IAMs_20		IAMs_20	16 24 30.2	
	comp=Z,35nm,18.0s							
FORT	**Forrest**	**53.83**	**243**	P		**P**	**16 01 46.5**	**-1.9**
FORT				IAmb		IAmb	16 01 55.8	
	comp=Z,181nm,0.9s							
FORT				IAMs_20		IAMs_20	16 21 41.5	
	comp=Z,36μm,22.0s							
FITZ	**Fitzroy Crossi**	**56.38**	**258**	P		**P**	**16 02 05.6**	**-1.4**
FITZ				IAmb		IAmb	16 02 15.8	
	comp=Z,212nm,1.6s							
TNTI	**Ternate**	**58.71**	**280**	P		**P**	**16 02 26.9**	**+3.4**
	comp=Z,4μmcomp=Z,128nm,2.4s							
SOEI	**Soe**	**59.01**	**268**	P		**P**	**16 02 24.4**	**-1.3**
SOEI	**So

MPSI	**Mapaga**	**65.71**	**277**	P	**P**	**16 03 14.6**	**+4.2**				
CNOP	**Candoni, Negro**	**66.19**	**288**	*e*P	**P**	**16 03 12.2**	**-1.3**				
PVCP	**Virac**	**66.24**	**292**	*e*P	**P**	**16 03 13.6**	**-0.2**				
GUIM	**Jordan**	**66.53**	**289**	*e*P	**P**	**16 03 17.3**	**+1.7**				
ADK	**Adak**	**66.70**	**359**	P	**P**	**16 03 12.2**	**-3.7**				
ADK	comp=Z,360nm,1.6s			pmax	pmax						
ADK	comp=Z,39µm,22.0s			MLR	MLR						
ADK	**Adak**	**66.70**	**359**	P	**P**	**16 03 12.2**	**-3.7**				
ADK	**Adak**	**66.70**	**359**	IAMs_20	IAMs_20	16 24 59.9					
	comp=Z,39µm,22.0s										
RCP	**Roxas**	**66.73**	**290**⇑	*e*P	**P**	**16 03 20.1**	**+3.2**				
ATKA	**Atka Island**	**67.02**	**1**	P	**P**	**16 03 14.2**	**-3.8**				
ATKA	comp=Z,21µm,20.0s			IAMs_20	IAMs_20	16 25 31.2					
INU	**Inuyama**	**67.44**	**319**	P	**P**	**16 03 18.5**	**-2.5**				
INU	comp=Z,254nm,2.0s			IAmb	IAmb	16 03 24.3					
MJAR	**Matsushiro Arr**	**67.47**	**321**	P	**P**	**16 03 18.3**	**-2.9**				
MJAR	comp=Z,8.1nm,0.9s,baz=158,slow=6.2,SNR=22			LR	LR	16 27 12.1					
MJAR	comp=Z,26µm,21.8s,baz=130,slow=31			PKPPKP	**P'P'df**	**16 31 42.6**	**-0.5**				
MJAR	comp=Z,1.3nm,1.0s,baz=356,slow=7.9,SNR=2.6			PKP2bc		16 31 51.6					
MAJO	**Matsushiro**	**67.47**	**321**	⇓ *i*P	**P**	**16 03 21.2**	**0.0**				
MAJO	comp=Z,216nm,2.2s			pmax	pmax						
MAJO	**Matsushiro**	**67.47**	**321**	P	**P**	**16 03 18.6**	**-2.6**				
MAJO	comp=Z,92nm,1.2s			IAmb	IAmb	16 03 27.4					
MAJO	**Matsushiro**	**67.47**	**321**	IAMs_20	IAMs_20	16 26 50.2					
MAT	**Matsushiro**	**67.47**	**321**	P	**P**	**16 03 19.9**	**-1.3**				
MAT	comp=Z,32µm,21.0s			S	**S**	**16 12 16.2**	**+0.3**				
MJB9	**Matsu-Tunnel**	**67.47**	**321**	P	**P**	**16 03 18.6**	**-2.7**				
MJB9	comp=Z,98nm,1.3s			IAmb	IAmb	16 03 27.3					
MJB9	comp=Z,34µm,21.0s			IAMs_20	IAMs_20	16 26 51.2					
OTRP	**Odiongan**	**67.69**	**290**	*e*P	P	16 03 28.9	+5.9				
NIKH	**Nikolski High**	**68.02**	**4**	P	**P**	**16 03 21.4**	**-2.9**				
SMY	**Shemya**	**68.15**	**353**	P	**P**	**16 03 22.3**	**-2.7**				
SMY	comp=Z,800nm,1.8s			pmax	pmax						
SMY	comp=Z,27µm,20.0s			MLR	MLR						
SMY	**Shemya**	**68.15**	**353**	P	**P**	**16 03 22.3**	**-2.7**				
SMY	comp=Z,27µm,20.0s			IAMs_20	IAMs_20	16 27 27.6					
KBKI	**Kotabaru**	**68.32**	**272**	P	P	16 03 37.1	+10				
ERM	**Erimo**	**68.46**	**328**	IAMs_20	IAMs_20	16 29 35.2					
	comp=Z,37µm,19.0s										
YUK	**Yuzh-Kuril'sk**	**68.64**	**331**	*e*P	P	16 03 19.5	-8.8				
YUK				*e*S	**S**	**16 12 27.8**	**-1.7**				
YUK				*e*SSS	SSS	16 19 58.5					
YUK	comp=Z,973nm,2.4s			pmax	pmax						
YUK	comp=Z,270nm,1.4s			pmax	pmax						
YUK	comp=N,69nm,1.0s			pmax	pmax						
YUK	comp=E,142nm,1.5s			pmax	pmax						
KUR	**Kuril'sk**	**68.66**	**333**	*c i*P	**P**	**16 03 28.0**	**-0.4**				
KUR				*e*		16 03 54.3					
KUR				*e*PPP	PPP	16 07 39.0					
KUR				*i* S	**S**	**16 12 35.4**	**+5.7**				
KUR	comp=Z,573nm,2.2s			pmax	pmax						
KUR	comp=N,216nm,2.5s			pmax	pmax						
KUR	comp=E,229nm,2.3s			pmax	pmax						
KUR	comp=Z,4µm,6.5s			pmax	pmax						
KUR	comp=N,2µm,3.4s			pmax	pmax						
KUR	comp=E,2µm,6.1s			pmax	pmax						
JOW	**Kunigami**	**68.75**	**307**	P	**P**	**16 03 26.8**	**-2.6**				
JOW	comp=Z,217nm,2.0s			IAmb	IAmb	16 03 35.0					
LQP	**Lukban**	**68.78**	**292**⇑	*e*P	**P**	**16 03 33.2**	**+3.1**				
JAGI	**Jajag, Banyuwa**	**69.04**	**267**	P	**P**	**16 03 29.9**	**-1.7**				
JAGI	comp=Z,215nm,1.5s			IAmb	IAmb	16 03 53.4					
PGP	**Puerto Galera**	**69.08**	**291**⇑	*e*P	**P**	**16 03 30.3**	**-1.4**				
UNV	**Unalaska Valle**	**69.08**	**6**	P	**P**	**16 03 26.7**	**-4.1**				
BALP	**Baler**	**69.37**	**294**	*e*P	**P**	**16 03 37.4**	**+4.0**				
AKUT	**Akutan**	**69.44**	**6**	P	**P**	**16 03 30.5**	**-2.5**				
AKUT	comp=Z,135nm,1.0s			IAmb	IAmb	16 03 36.6					
ENPP	**El Nido**	**69.63**	**288**	*e*P	**P**	**16 03 36.6**	**+1.5**				
LUBP	**Lubang**	**69.80**	**291**	*e*P	**P**	**16 03 37.1**	**+1.0**				
CASY	**Casey**	**69.88**	**204**	P	**P**	**16 03 34.8**	**-1.0**				
SKR	**Severo-Kuril's**	**70.09**	**341**	*e*P	**P**	**16 03 38.2**	**+1.0**				
SKR				*e*S	**S**	**16 12 47.7**	**+1.3**				
SKR	comp=Z,103nm,0.8s			pmax	pmax						
SKR	comp=Z,2µm,5.5s			pmax	pmax						
SKR	comp=Z,11µm,17.0s			MLR	MLR						
SKR	comp=Z,11µm,16.0s			MLR	MLR						
MTKI	**Muara Teweh, K**	**70.16**	**275**	P	P	16 03 45.3	+6.8				
JNU	**Nakatsue**	**70.19**	**314**	P	**P**	**16 03 35.3**	**-2.9**				
JNU	comp=Z,29µm,22.0s			IAMs_20	IAMs_20	16 27 30.3					
JKA	**Kamikawa-asahi**	**70.27**	**329**	P	**P**	**16 03 35.7**	**-2.7**				
JKA	comp=Z,377nm,1.8s			IAmb	IAmb	16 03 49.2					
ASAJ	**Asahikawa**	**70.27**	**329**	P	**P**	**16 03 35.7**	**-2.7**				
ASAJ	comp=Z,377nm,1.8s			pmax	pmax						
SPMM	**Sapulut**	**70.27**	**281**	P	**P**	**16 03 41.0**	**+1.8**				
BATP	**Bataraza**	**70.31**	**285**	*e*P	**P**	**16 03 39.2**	**-0.1**				
APYP	**Conner**	**70.50**	**295**	*e*P	**P**	**16 03 40.9**	**+0.5**				
ABRA	**Dolores**	**70.88**	**295**	*e*P	P	16 03 36.7	-6.0				
CNBA	**Chernabura Isl**	**70.92**	**10**	IAMs_20	IAMs_20	16 26 53.3					
	comp=Z,22µm,22.0s										
BBP	**Basco**	**70.94**	**298**	*e*P	**P**	**16 03 42.1**	**-0.8**				
SDPT	**Sand Point**	**71.30**	**9**	P	**P**	**16 03 41.1**	**-3.3**				
PET	**Petropavlovsk**	**71.43**	**344**	*e*P	**P**	**16 03 41.3**	**-3.9**				
PET				*e*S	**S**	**16 12 57.3**	**-4.5**				
PET	comp=Z,4µm,16.9s			pmax	pmax						
PET	comp=Z,4µm,6.5s			pmax	pmax						
PET	comp=Z,154nm,2.2s			pmax	pmax						
PET	**Petropavlovsk**	**71.43**	**344**	P	**P**	**16 03 42.0**	**-3.2**				
PET	comp=Z,25µm,20.0s			IAMs_20	IAMs_20	16 30 17.4					
PEA0B	**Petropavlovsk-**	**71.77**	**343**	P	**P**	**16 03 44.5**	**-2.8**				
PEA0B	comp=Z,631nm,1.7s			pmax	pmax						
PEA0B	comp=Z,35µm,22.0s			MLR	MLR						
PEA0B	**Petropavlovsk-**	**71.77**	**343**	P	**P**	**16 03 44.5**	**-2.8**				
PEA0B	comp=Z,35µm,22.0s			IAMs_20	IAMs_20	16 28 12.3					
PETK	**Petropavlovsk-**	**71.77**	**343**	P	**P**	**16 03 45.0**	**-2.3**				
PETK	comp=Z,39nm,0.8s,baz=133,slow=8.4,SNR=27			LR	LR	16 29 19.2					
YOJ	**Yonaguni jima**	**71.80**	**302**	P	**P**	**16 03 45.0**	**-3.1**				
YOJ	comp=Z,27µm,21.7s,baz=158,slow=31			pmax	pmax						
YOJ	comp=Z,534nm,2.0s			MLR	MLR						
YOJ	comp=Z,18µm,21.0s **Yonaguni jima**	**71.80**	**302**	P	**P**	**16 03 45.0**	**-3.1**				
SCZ2	**Santa Cruz Isl**	**72.10**	**46**	P	**P**	**16 03 52.8**	**+3.0**				
	baz=237										
YSS	**Yuzh-Sakhalins**	**72.27**	**331**	*e*P	**P**	**16 03 50.8**	**+0.3**				
YSS				*e*		16 04 15.4					
YSS				*e*S	**S**	**16 13 12.1**	**+0.3**				
YSS				*e*PS	**PnS**	**16 13 42.8**	**-1.6**				
YSS	comp=Z,250nm,2.2s			pmax	pmax						
YSS	comp=N,100nm,2.3s			pmax	pmax						
YSS	comp=E,90nm,2.3s			pmax	pmax						
YSS	comp=Z,4µm,3.3s			pmax	pmax						
YSS	comp=N,2µm,3.4s			pmax	pmax						
YSS	comp=E,1µm,2.6s			pmax	pmax						
YSS	comp=N,4µm,8.7s			smax	smax						
YSS	**Yuzh-Sakhalins**	**72.27**	**331**	P	**P**	**16 03 49.4**	**-1.1**				
SCI2	**San Clemente I**	**72.32**	**48**	P	**P**	**16 03 54.4**	**+3.3**				
PKM	baz=238 **Mcpherson Peak**	**72.46**	**45**	P	**P**	**16 03 55.3**	**+3.1**				
PMPB	baz=237 **Monarch Peak**	**72.53**	**44**	IAMs_20	IAMs_20	16 29 15.6					
CIS	comp=Z,19µm,19.0s **Catalina Islan**	**72.64**	**47**	P	**P**	**16 03 55.7**	**+2.6**				
YULB	baz=236 **Yu-li**	**72.74**	**301**	P	**P**	**16 03 51.9**	**-2.0**				
YULB	comp=Z,237nm,2.0s			IAmb	IAmb	16 03 59.8					
KCPM	**Cahto Peak**	**72.78**	**39**	IAMs_20	IAMs_20	16 28 12.8					
PBKI	comp=Z,22µm,20.0s **Pangkalan Bun**	**72.82**	**272**	P	P	16 04 03.0	+8.5				
NACB	**Ninganchiao**	**72.83**	**302**	IAMs_20	IAMs_20	16 35 01.7					
KMRM	comp=Z,18µm,19.0s **Mail Ridge**	**73.02**	**39**	IAMs_20	IAMs_20	16 32 24.0					
OSI	comp=Z,22µm,18.0s **Osito Audit: C**	**73.06**	**46**	P	**P**	**16 03 58.7**	**+3.1**				
OSI	baz=238 **Osito Audit: C**	**73.06**	**46**	IAMs_20	IAMs_20	16 29 01.0					
DECC	comp=Z,21µm,20.0s **Green Verdugo**	**73.14**	**47**	P	**P**	**16 03 59.3**	**+3.3**				
JCC	baz=238 **Jacoby Creek,**	**73.19**	**38**	IAMs_20	IAMs_20	16 28 24.8					
SSLB	comp=Z,23µm,20.0s **Suanglung**	**73.20**	**301**	P	**P**	**16 03 53.4**	**-3.1**				
SSLB	comp=Z,209nm,1.9s			IAmb	IAmb	16 04 12.0					
PASC	**Pasadena Art C**	**73.21**	**47**	IAMs_20	IAMs_20	16 28 03.8					
YHNB	comp=Z,20µm,21.0s **Yeheng**	**73.23**	**302**	IAMs_20	IAMs_20	16 34 51.1					
TPUB	comp=Z,19µm,20.0s **Ta-pu**	**73.26**	**300**	P	**P**	**16 03 54.8**	**-2.1**				
TPUB	comp=Z,326nm,1.9s			IAmb	IAmb	16 04 00.7					
ARVC	**Arvin**	**73.27**	**46**	P	**P**	**16 03 59.6**	**+3.0**				
109C	baz=237 **Camp Elliot, M**	**73.31**	**48**	P	**P**	**16 03 59.8**	**+2.8**				
109C	baz=239,SNR=6.0 **Camp Elliot, M**	**73.31**	**48**	IAMs_20	IAMs_20	16 28 06.7					
MWC	comp=Z,21µm,20.0s **Mount Wilson**	**73.32**	**47**	IAMs_20	IAMs_20	16 28 39.9					
KHMM	comp=Z,19µm,20.0s **Horse Mountain**	**73.41**	**38**	IAMs_20	IAMs_20	16 30 32.4					
VES	comp=Z,24µm,19.0s **Vestal, Richgr**	**73.48**	**45**	P	**P**	**16 03 59.2**	**+1.3**				
BAR	baz=237,SNR=24 **Barrett**	**73.52**	**49**	IAMs_20	IAMs_20	16 28 24.2					
O02D	comp=Z,18µm,20.0s **Mt. Diablo Mer**	**73.56**	**39**	P	**P**	**16 03 59.7**	**+1.3**				
SII	baz=233,SNR=19 **Sitkinak Islan**	**73.56**	**12**	P	**P**	**16 03 55.6**	**-2.3**				
SII	comp=Z,22µm,21.0s			IAMs_20	IAMs_20	16 27 57.6					
MURC	**Murrieta**	**73.61**	**48**	P	**P**	**16 03 58.5**	**-0.3**				
BFSC	baz=239,SNR=11 **Mount Baldy Ra**	**73.61**	**47**	P	**P**	**16 03 59.9**	**+1.0**				
SBUM	baz=238,SNR=12 **Sibu**	**73.67**	**277**	P	**P**	**16 04 01.0**	**+1.5**				
KRMB	**Red Mountain**	**73.70**	**38**	IAMs_20	IAMs_20	16 30 21.1					
EDW2	comp=Z,24µm,20.0s **Edwards Air Fo**	**73.72**	**46**	P	**P**	**16 04 00.7**	**+1.3**				
ISA	baz=238,SNR=35 **Isabella, Lake**	**73.80**	**45**	P	**P**	**16 04 00.2**	**+0.3**				
ISA	baz=238,SNR=21 **Isabella, Lake**	**73.80**	**45**	IAMs_20	IAMs_20	16 28 13.4					
MONP2	comp=Z,23µm,21.0s **Monument Peak**	**73.80**	**49**	P	**P**	**16 04 00.1**	**0.0**				
IKP	baz=240,SNR=21 **In-Ko-Pah, Jac**	**73.91**	**49**	P	**P**	**16 04 01.0**	**+0.4**				
WDC	baz=240,SNR=18 **Whiskeytown Da**	**73.95**	**39**	IAMs_20	IAMs_20	16 28 41.8					
TEY	comp=Z,20µm,21.0s **Ternei**	**73.98**	**327**	⇓ *e*P	**P**	**16 04 02.8**	**+2.2**				
TEY				*e*		16 13 24.0					
TEY	comp=Z,30nm,2.6s			pmax	pmax						
TEY	comp=N,10.0nm,2.7s			pmax	pmax						
TEY	comp=E,10.0nm,2.1s			pmax	pmax						
N02D	**Trinity Center**	**74.09**	**39**	P	**P**	**16 04 02.3**	**+0.8**				
PFO	baz=233,SNR=10 **Pinyon Flats O**	**74.14**	**48**	P	**P**	**16 04 01.3**	**-0.7**				
PFO	baz=239,SNR=20 **Pinyon Flats O**	**74.14**	**48**	P	**P**	**16 04 01.0**	**-1.1**				
PFO	comp=E,16nm,1.1s,baz=242,slow=5.2,SNR=22			pmax	pmax						
PFO	**Pinyon Flats O**	**74.14**	**48**	*c i*P	**P**	**16 04 04.3**	**+2.3**				
PFO	comp=Z,107nm,1.8s **Pinyon Flats O**	**74.14**	**48**	IAMs_20	IAMs_20	16 28 51.8					
TPFO	comp=Z,24µm,20.0s **Pinon Flats**	**74.14**	**48**	P	**P**	**16 04 01.7**	**-0.3**				
XPFO	baz=239,SNR=20 **Pion Flat**	**74.14**	**48**	IAMs_20	IAMs_20	16 28 51.8					
O03E	comp=Z,25µm,21.0s **Paynes Creek**	**74.23**	**40**	P	**P**	**16 04 02.5**	**+0.2**				
LRMC	baz=234,SNR=22 **Laurel Mtn Rad**	**74.25**	**46**	P	**P**	**16 04 04.2**	**+1.6**				
M02C	baz=238,SNR=23 **Callahan**	**74.25**	**38**	P	**P**	**16 04 03.5**	**+1.1**				
SWSC	baz=233,SNR=10 **Sam W. Stewart**	**74.28**	**49**	P	**P**	**16 04 03.6**	**+0.9**				
SRIG	baz=240,SNR=15 **Santa Rosalia**	**74.35**	**56**	IAMs_20	IAMs_20	16 28 27.9					
CWC	comp=Z,31µm,20.0s **Cottonwood Cre**	**74.48**	**45**	P	**P**	**16 04 03.1**	**-0.9**				
LPIG	baz=238 **La Paz**	**74.54**	**59**	P	**P**	**16 04 05.7**	**+1.4**				
YBH	comp=Z,11nm,0.3s,baz=204,slow=10.0,SNR=3.8 **Yreka Blue Hor**	**74.54**	**38**	P	**P**	**16 04 04.1**	**0.0**				
YBH	comp=Z,51nm,1.0s,baz=230,slow=1.6,SNR=23			S	**S**	**16 13 43.1**	**+5.1**				
YBH	comp=Z,0.3nm,0.5s,baz=288,slow=19,SNR=0.9 **Yreka Blue Hor**	**74.54**	**38**	IAMs_20	IAMs_20	16 29 19.4					
K02D	comp=Z,21µm,20.0s **Willamette Mer**	**74.56**	**37**	P	**P**	**16 04 04.9**	**+0.7**				
KSRS	baz=232,SNR=11 **Korea Array**	**74.59**	**316**	P	**P**	**16 04 03.9**	**-0.5**				
KSRS	comp=Z,8.1nm,0.9s,baz=129,slow=6.5,SNR=33			LR	LR	16 33 51.7					
SLBS	comp=Z,20µm,19.4s,baz=128,slow=33 **Sierra La Lagu**	**74.67**	**60**	IAMs_20	IAMs_20	16 28 26.0					
BELC	comp=Z,29µm,20.0s **Belle Mtn. Jos**	**74.67**	**48**	P	**P**	**16 04 05.6**	**+0.4**				
MPMC	baz=240,SNR=29 **Manual Prospec**	**74.69**	**45**	P	**P**	**16 04 05.6**	**+0.4**				
J01E	baz=238,SNR=44 **Myrtle Point**	**74.70**	**36**	P	**P**	**16 04 03.4**	**-1.4**				
GSC	baz=232 **Goldstone, Bar**	**74.77**	**46**	P	**P**	**16 04 05.9**	**+0.3**				
GSC	baz=239,SNR=27 **Goldstone, Bar**	**74.77**	**46**	IAMs_20	IAMs_20	16 30 06.0					
HEC	comp=Z,18µm,20.0s **Hector,Ludlow**	**74.85**	**47**	P	**P**	**16 04 06.2**	**+0.1**				
BC3	baz=239,SNR=31 **Big Chuckawall**	**74.89**	**48**	P	**P**	**16 04 06.6**	**+0.3**				
QSPA	baz=240,SNR=26 **South Pole Qui**	**74.95**	**180**	P	**P**	**16 04 08.0**	**+1.8**				
QSPA	comp=Z,34nm,1.1s,baz=40,slow=1.6,SNR=40 **South Pole Qui**	**74.95**	**180**	P	**P**	**16 04 06.5**	**+0.3**				
QSPA	comp=Z,245nm,1.1s			IAmb	IAmb	16 04 16.9					
KDAK	comp=Z,44nm,1.0s,baz=184,slow=3.8,SNR=17 **Kodiak Island**	**75.02**	**12**	P	**P**	**16 04 06.0**	**-0.4**				
KDAK	**Kodiak Island**	**75.02**	**12**	P	**P**	**16 04 05.8**	**-0.6**				
KDAK	comp=Z,375nm,1.7s			pmax	pmax						
KDAK	**Kodiak Island**	**75.02**	**12**	P	**P**	**16 04 05.8**	**-0.6**				
KDAK	comp=Z,375nm,1.6s			IAmb	IAmb	16 04 11.4					
GLA	**Glamis**	**75.05**	**49**	P	**P**	**16 04 08.4**	**+1.3**				
GLA	baz=241,SNR=14 **Glamis**	**75.05**	**49**	IAMs_20	IAMs_20	16 29 51.8					
L04D	comp=Z,21µm,19.0s **Klamath Falls**	**75.07**	**38**	P	**P**	**16 04 08.0**	**+0.8**				
	baz=233,SNR=16										
M04C	**Macdoel**	**75.09**	**39**	P	**P**	**16 04 08.2**	**+0.8**				
TYV	baz=234,SNR=21 **Tymovskoe**	**75.22**	**334**	*e*P	**P**	**16 04 07.7**	**+0.1**				
TYV				*e*		16 13 46.7					
TYV	comp=Z,1µm,3.6s			pmax	pmax						
TYV	comp=Z,60nm,1.7s			pmax	pmax						
KSM	**Kuching**	**75.23**	**276**	P	**P**	**16 04 08.4**	**-0.2**				
KSM				IAmb	IAmb	16 04 35.9					
KSM	comp=Z,177nm,1.7s **Kuching**	**75.23**	**276**	P	**P**	**16 04 10.0**	**+1.4**				
GRAC	**Grapevine Rang**	**75.27**	**45**	P	**P**	**16 04 09.7**	**+1.4**				
GMRC	baz=238,SNR=13 **Granite Mounta**	**75.31**	**47**	P	**P**	**16 04 09.8**	**+1.0**				
FURC	baz=240,SNR=31 **Furnace Creek,**	**75.33**	**45**	P	**P**	**16 04 08.6**	**0.0**				
CISI	baz=238,SNR=14 **Cisompet, Garu**	**75.36**	**266**	P	P	16 04 26.5	+17				
IRM	**Iron Mountain**	**75.36**	**48**	P	**P**	**16 04 09.4**	**+0.5**				
I03D	baz=240,SNR=45 **Drain, OR**	**75.36**	**36**	P	**P**	**16 04 09.4**	**+0.8**				
VLA	baz=232,SNR=6.2 **Vladivostok**	**75.39**	**323**	*d i*P	**P**	**16 04 09.8**	**+1.0**				
VLA	comp=Z,170nm,1.8s			pmax	pmax						
NVAR	**Mina Array Bea**	**75.41**	**43**	P	**P**	**16 04 09.6**	**+0.2**				
NVAR	comp=Z,43nm,1.2s,baz=229,slow=8.3,SNR=61			S	**S**	**16 13 51.9**	**+3.8**				
NVAR	comp=Z,0.1nm,0.4s,baz=211,slow=44,SNR=0.9			LR	LR	16 31 15.3					
NVAR	comp=Z,7µm,20.1s,baz=238,slow=31			PKPPKP		16 31 40.8					
SHOC	comp=Z,0.5nm,0.8s,baz=82,slow=5.2,SNR=4.3 **Shoshone, Teco**	**75.44**	**46**	P	**P**	**16 04 12.0**	**+2.6**				
TUQ	baz=239,SNR=14 **Turquoise Moun**	**75.45**	**47**	P	**P**	**16 04 11.4**	**+1.9**				
INCN	baz=239,SNR=8.3 **Inchon**	**75.47**	**316**	IAMs_20	IAMs_20	16 32 36.9					
MSHR	comp=Z,19µm,20.0s **Mys Shultsa**	**75.49**	**322**	⇓ *i*P	**P**	**16 04 10.1**	**+0.7**				
MSHR	comp=Z,164nm,2.0s			pmax	pmax						
MSHR	comp=Z,4µm,17.0s			MLR	MLR						
Y12C	**Blythe**	**75.61**	**49**	P	**P**	**16 04 11.6**	**+1.2**				
Y12C	baz=241,SNR=13 **Blythe**	**75.61**	**49**	IAMs_20	IAMs_20	16 29 49.6					
QZH	comp=Z,21µm,20.0s **Quanzhou**	**75.63**	**301**	⇑ *i*P	**P**	**16 04 14.0**	**+3.4**				
QZH				S	**S**	**16 13 54.3**	**+3.7**				
QZH				SS	**SS**	**16 18 45.5**	**+3.0**				
QZH	comp=Z,3µm,8.8s			pmax	pmax						
QZH	comp=Z,4µm,17.1s			LR	LR						
QZH	comp=Z,9µm,21.2s			LR	LR						
QZH	comp=Z,8µm,17.9s			LR	LR						
K04D	**Chiloquin, OR**	**75.64**	**38**	P	**P**	**16 04 12.1**	**+1.6**				
113A	baz=233 **Mohawk Valley,**	**75.69**	**50**	IAMs_20	IAMs_20	16 30 57.9					
J04D	comp=Z,22µm,19.0s **Umpqua Nationa**	**75.80**	**37**	P	**P**	**16 04 13.0**	**+1.5**				
CHJN	baz=233 **Chongjin**	**75.85**	**321**	P	**P**	**16 04 15.4**	**+3.9**				
COR	**Corvallis**	**75.94**	**36**	IAMs_20	IAMs_20	16 30 10.2					
I04A	comp=Z,20µm,20.0s **Tendick Farm,**	**75.96**	**37**	P	**P**	**16 04 12.7**	**+0.5**				
USA0B	baz=233,SNR=7.2 **Ussuriysk Arra**	**75.99**	**324**	⇑ *i*P	**P**	**16 04 13.5**	**+1.3**				
USRK	**Ussuriysk Ar.**	**75.99**	**324**	P	**P**	**16 04 13.3**	**+1.1**				
USRK	comp=Z,6.6nm,0.9s,baz=109,slow=3.7,SNR=27			S	**S**	**16 13 49.4**	**-4.3**				
USRK	comp=Z,0.5nm,0.6s,baz=34,slow=16,SNR=1.3			LR	LR	16 31 28.2					
TPNV	comp=Z,61µm,21.6s,baz=121,slow=31 **Topopah Spring**	**76.00**	**45**	P	**P**	**16 04 12.9**	**+0.2**				
TPNV	baz=239,SNR=24 **Topopah Spring**	**76.00**	**45**	IAMs_20	IAMs_20	16 29 34.7					
214A	comp=Z,23µm,22.0s **Organ Pipe Nat**	**76.02**	**51**	P	**P**	**16 04 14.0**	**+1.2**				
MOD	baz=242,SNR=17 **Modoc Plateau**	**76.09**	**39**	IAMs_20	IAMs_20	16 32 30.5					
HSIG	comp=Z,18µm,18.0s	**76.12**	**54**	P	**P**	**16 04 09.5**	**-3.9**				
HSIG	comp=Z,27µm,20.0s			IAMs_20	IAMs_20	16 30 03.8					
PDMCI	**Parker Dam,Lak**	**76.16**	**48**	P	**P**	**16 04 14.7**	**+1.3**				
HHU	baz=241,SNR=14 **Hamhung**	**76.21**	**318**	P	**P**	**16 04 13.5**	**-0.1**				
HHU				S	**S**	**16 13 59.1**	**+2.8**				
H04D	**Lebanon**	**76.22**	**36**	P	**P**	**16 04 14.3**	**+0.7**				
SSE	baz=232 **Sheshan**	**76.23**	**308**	P	**P**	**16 04 15.0**	**+1.1**				
SSE				S	**S**	**16 14 01.8**	**+4.8**				
SSE	comp=Z,28nm,1.8s			pmax	pmax						
SSE	comp=Z,1µm,7.6s			pmax	pmax						
SSE	comp=Z,2µm,24.0s			LR	LR						
SSE	comp=Z,7µm,24.5s			LR	LR						
SSE	**Sheshan**	**76.23**	**308**	IAMs_20	IAMs_20	16 31 20.5					
J05D	comp=Z,19µm,21.0s **Fort Rock, OR**	**76.34**	**38**	P	**P**	**16 04 15.0**	**+0.5**				
G03D	baz=234,SNR=70 **McMinnville, O**	**76.35**	**35**	P	**P**	**16 04 15.3**	**+1.0**				
HJU	baz=232 **Haeju**	**76.38**	**316**	P	**P**	**16 04 18.6**	**+4.0**				
SHPR	**Sheep Range**	**76.53**	**46**	IAMs_20	IAMs_20	16 31 50.7					
DBJI	comp=Z,17µm,20.0s **Dramaga**	**76.62**	**267**	P	P	16 04 27.1	+11				
TPI	**Tanjungpandan**	**76.68**	**271**	P	P	16 04 27.7	+11				
W13A	**Hualapai Mount**	**76.73**	**48**	IAMs_20	IAMs_20	16 30 25.2					
Y14A	comp=Z,25µm,21.0s **Wickenburg**	**76.81**	**49**	IAMs_20	IAMs_20	16 30 45.4					
PYAG	comp=Z,20µm,20.0s **Pyongyang**	**76.89**	**317**	P	**P**	**16 04 18.2**	**+0.8**				
PYAG				S	**S**	**16 14 10.3**	**+6.5**				
I05D	**Terrebonne, OR**	**76.91**	**37**	P	**P**	**16 04 17.9**	**+0.4**				
PYS	baz=233,SNR=20 **Pyongsong**	**76.93**	**317**	P	**P**	**16 04 21.2**	**+3.5**				
F04D	**Rainier, OR**	**77.03**	**34**	P	**P**	**16 04 19.9**	**+1.8**				
R11A	baz=232 **Troy Canyon, C**	**77.18**	**44**	P	**P**	**16 04 19.4**	**0.0**				
KGE	baz=239,SNR=34 **Kanggye**	**77.35**	**319**	P	**P**	**16 04 20.3**	**+0.3**				
NLWA	**Neilton Lookou**	**77.39**	**33**	IAMs_20	IAMs_20	16 32 00.4					
G05D	comp=Z,22µm,20.0s **Wamic, OR**	**77.46**	**36**	P	**P**	**16 04 21.3

D03D	**Eldon**	**77.89**	**33**	P	**P**	**16 04 22.0**	**-0.9**		
	baz=231,SNR=8.7								
GRNR	**Gornyy**	**77.93**	**331**	⇑*i*P	**P**	**16 04 23.1**	**+0.1**		
GRNR				*e*S	**S**	**16 14 18.5**	**+3.9**		
GRNR				*e*SS	**SS**	**16 19 18.1**	**+1.8**		
GRNR				pmax	pmax				
	comp=E,10.0nm,1.2s								
GRNR				pmax	pmax				
	comp=N,20nm,1.3s								
GRNR				pmax	pmax				
	comp=Z,80nm,1.3s								
GRNR				smax	smax				
	comp=E,1.0nm,1.1s								
CAPN	**Captain Cook N**	**78.06**	**12**	P	**P**	**16 04 26.6**	**+3.1**		
	baz=204								
O22K	**Cooper Landing**	**78.09**	**13**	P	**P**	**16 04 24.0**	**+0.3**		
	baz=205								
LCMT	**Little Creek M**	**78.11**	**46**	P	**P**	**16 04 19.9**	**-4.6**		
X16A	**Lo Mia Camp, P**	**78.17**	**49**	IAms_20	IAms_20	16 31 28.6			
	comp=Z,20µm,20.0s								
SUJ	**Sinuiju**	**78.27**	**317**	P	**P**	**16 04 25.1**	**0.0**		
SUJ				S	**S**	**16 14 14.2**	**-4.5**		
PPBI	**Pangkal Pinang**	**78.30**	**271**	P	P	16 04 33.1	+7.2		
KNB	**Kanab**	**78.41**	**46**	P	**P**	**16 04 21.7**	**-4.6**		
KNB				pmax	pmax				
	comp=Z,476nm,1.9s								
KNB	**Kanab**	**78.41**	**46**	P	**P**	**16 04 21.7**	**-4.6**		
NJ2	**Nanjing**	**78.44**	**308**	*e*P	**P**	**16 04 29.0**	**+2.7**		
NJ2				pP	**pP**	**16 04 32.3**	**-1.8**		
NJ2				sP	**PcP**	**16 04 33.8**	**-1.6**		
NJ2				S	**S**	**16 14 24.5**	**+3.6**		
NJ2				pmax	pmax				
	comp=Z,46nm,1.1s								
NJ2				LR	LR				
	comp=Z,8µm,24.6s								
NJ2				LR	LR				
	comp=Z,17µm,23.1s								
NJ2				LR	LR				
	comp=Z,26µm,24.5s								
PSUT	**Pine Spring**	**78.44**	**45**	P	**P**	**16 04 22.4**	**-4.0**		
BBB	**Bella Bella**	**78.49**	**27**	P	**P**	**16 04 27.5**	**+1.4**		
	comp=Z,29nm,1.0s,baz=238,slow=5.5,SNR=5.0								
U15A	**North Rim**	**78.50**	**47**	IAms_20	IAms_20	16 31 31.1			
	comp=Z,18µm,20.0s								
ELK	**Elko**	**78.65**	**42**	P	**P**	**16 04 27.4**	**-0.1**		
	comp=Z,21nm,1.0s,baz=221,slow=4.7,SNR=25								
ELK				S	**S**	**16 14 24.0**	**+0.7**		
	comp=Z,0.2nm,0.3s,baz=266,slow=16,SNR=3.6								
WUAZ	**Wupatki**	**78.73**	**48**	P	**P**	**16 04 30.3**	**+2.3**		
	baz=242								
HIN	**Hinchinbrook I**	**78.74**	**14**	P	**P**	**16 04 24.6**	**-2.8**		
HIN				IAmb	IAmb	16 04 32.1			
	comp=Z,305nm,1.7s								
HIN				IAms_20	IAms_20	16 31 01.6			
	comp=Z,16µm,19.0s								
SUA	**Susitna One**	**78.78**	**12**	P	**P**	**16 04 25.9**	**-1.7**		
A04D	**Lummi Island**	**78.83**	**32**	P	**P**	**16 04 29.4**	**+1.4**		
	baz=232,SNR=9.2								
B05A	**Bryant**	**78.86**	**33**	P	**P**	**16 04 28.6**	**+0.3**		
	baz=232,SNR=24								
PKCU	**Pink Cliffs**	**78.97**	**46**	P	**P**	**16 04 26.0**	**-3.5**		
SKT	**Skwentna**	**79.10**	**11**	P	**P**	**16 04 26.7**	**-2.6**		
SKT				IAmb	IAmb	16 04 33.1			
	comp=Z,246nm,1.7s								
HAWA	**Hanford**	**79.14**	**36**	P	**P**	**16 04 25.8**	**-4.1**		
HAWA				IAmb	IAmb	16 04 43.8			
	comp=Z,331nm,1.8s								
HAWA				IAMs_20	IAMs_20	16 31 21.1			
	comp=Z,21µm,21.0s								
RAGM	**Ragged Mountai**	**79.18**	**15**	IAMs_20	IAMs_20	16 34 43.1			
	comp=Z,16µm,20.0s								
KLR	**Kul'dur**	**79.22**	**328**	⇑*i*P	**P**	**16 04 30.3**	**+0.1**		
PMR	**Palmer**	**79.22**	**12**	P	**P**	**16 04 27.6**	**-2.3**		
PMR				pmax	pmax				
	comp=Z,277nm,1.5s								
PMR	**Palmer**	**79.22**	**12**	P	**P**	**16 04 27.6**	**-2.3**		
PMR				IAmb	IAmb	16 04 34.6			
	comp=Z,277nm,1.5s								
TTA	**Tatalina**	**79.24**	**9**	P	**P**	**16 04 28.0**	**-2.1**		
TTA	**Tatalina**	**79.24**	**9**	P	**P**	**16 04 28.0**	**-2.1**		
MA2	**Magadan**	**79.30**	**343**	*d*iP	**P**	**16 04 30.8**	**+0.4**		
MA2				pmax	pmax				
	comp=Z,340nm,2.1s								
MA2				MLR	MLR				
	comp=Z,8µm,18.0s								
MA2	**Magadan**	**79.30**	**343**	P	**P**	**16 04 27.6**	**-2.8**		
MA2				IAMs_20	IAMs_20	16 33 29.6			
	comp=Z,31µm,21.0s								
GZH	**Guangzhou**	**79.34**	**297**	P	**P**	**16 04 32.0**	**+0.6**		
GZH				S	**S**	**16 14 33.3**	**+2.5**		
GZH				SS	**SS**	**16 19 42.3**	**+3.8**		
GZH				LR	LR				
	comp=Z,4µm,21.0s								
GZH				LR	LR				
	comp=Z,5µm,21.4s								
GHO	**Glory Hole Cre**	**79.43**	**12**	P	**P**	**16 04 27.8**	**-3.4**		
GHO				IAmb	IAmb	16 04 35.9			
	comp=Z,296nm,1.6s								
HPIG		**79.51**	**58**	IAMs_20	IAMs_20	16 32 56.2			
	comp=Z,30µm,19.0s								
BMO	**Blue Mountains**	**79.56**	**38**	IAMs_20	IAMs_20	16 34 22.2			
	comp=Z,24µm,18.0s								
DL2	**Dalian**	**79.59**	**315**	P	**P**	**16 04 32.8**	**+0.4**		
DL2				S	**S**	**16 14 38.3**	**+5.5**		
DL2				pmax	pmax				
	comp=Z,12nm,1.2s								
DL2				pmax	pmax				
	comp=Z,2µm,8.6s								
DL2				LR	LR				
	comp=Z,10µm,18.6s								
DL2				LR	LR				
	comp=Z,11µm,22.7s								
DL2				LR	LR				
	comp=Z,17µm,21.6s								
CN2	**Changchun**	**79.62**	**321**	*e*P	**P**	**16 04 31.3**	**-1.2**		
CN2				pmax	pmax				
	comp=Z,10.0nm,0.8s								
CN2				pmax	pmax				
	comp=Z,3µm,6.4s								
CN2				LR	LR				
	comp=Z,10µm,18.0s								
CN2				LR	LR				
	comp=Z,11µm,18.0s								
CN2				LR	LR				
	comp=Z,13µm,21.0s								
WAX	**Waxell Ridge**	**79.70**	**16**	P	**P**	**16 04 29.4**	**-3.2**		
MESA	**MESA**	**79.71**	**16**	IAMs_20	IAMs_20	16 36 35.2			
	comp=Z,17µm,19.0s								
W18A	**Petrified Fore**	**79.74**	**49**	P	**P**	**16 04 35.3**	**+1.7**		
	baz=244								
W18A	**Petrified Fore**	**79.74**	**49**	IAMs_20	IAMs_20	16 32 17.2			
	comp=Z,17µm,20.0s								
SNY	**Shenyang**	**79.75**	**318**	⇑P	**P**	**16 04 33.3**	**+0.1**		
SNY				S	**S**	**16 14 35.5**	**+1.1**		
SNY				LR	LR				
	comp=Z,7µm,16.7s								
SNY				LR	LR				
	comp=Z,7µm,19.4s								
SNY				LR	LR				
	comp=Z,16µm,19.1s								
YKU2	**Yakutat**	**79.79**	**18**	IAMs_20	IAMs_20	16 36 17.5			
	comp=Z,15µm,19.0s								
CRQM	**Cirque**	**79.88**	**15**	P	**P**	**16 04 30.4**	**-3.3**		
CRQM				IAmb	IAmb	16 04 38.8			
	comp=Z,408nm,1.8s								
YAH	**Yahtse**	**79.92**	**16**	P	**P**	**16 04 31.1**	**-3.0**		
YAH				IAmb	IAmb	16 04 39.5			
	comp=Z,433nm,1.7s								
YAH				IAMs_20	IAMs_20	16 36 42.6			
	comp=Z,16µm,19.0s								
DUG	**Dugway, Tooele**	**79.97**	**44**	P	**P**	**16 04 35.0**	**+0.4**		
	baz=241								
121A	**Cookes Peak, D**	**80.09**	**52**	P	**P**	**16 04 37.1**	**+1.6**		
	baz=245,SNR=27								
121A	**Cookes Peak, D**	**80.09**	**52**	IAMs_20	IAMs_20	16 32 30.6			
	comp=Z,29µm,20.0s								
PCA	**Pinnacle**	**80.11**	**17**	P	**P**	**16 04 30.8**	**-4.0**		
TABL	**Table Mountain**	**80.15**	**16**	P	**P**	**16 04 32.0**	**-3.2**		
TABL				IAmb	IAmb	16 04 40.4			
	comp=Z,312nm,1.6s								
VRDI	**Verde Repeater**	**80.21**	**15**	P	**P**	**16 04 33.6**	**-1.9**		
VRDI				IAmb	IAmb	16 04 40.5			
	comp=Z,280nm,1.6s								
DSRI	**Dabo**	**80.23**	**272**	P	P	16 04 44.4	+7.9		
GLB	**Gilahina Butte**	**80.30**	**15**	P	**P**	**16 04 34.0**	**-1.8**		
GLB				IAmb	IAmb	16 04 40.8			
	comp=Z,266nm,1.6s								
BALM	**Baldy**	**80.33**	**16**	P	**P**	**16 04 34.0**	**-2.1**		
BALM				IAmb	IAmb	16 04 41.1			
	comp=Z,243nm,1.6s								
NLU	**North Lily Min**	**80.34**	**44**	P	P	16 04 31.6	-5.2		
LLLB	**Lillooet**	**80.42**	**31**	IAMs_20	IAMs_20	16 31 31.5			
	comp=Z,18µm,21.0s								
MCARA	**McCarthy VSAT**	**80.45**	**15**	P	**P**	**16 04 34.2**	**-2.3**		
BARN	**Barnard Glacie**	**80.53**	**16**	P	**P**	**16 04 34.4**	**-2.9**		
BARN				IAmb	IAmb	16 04 42.4			
	comp=Z,286nm,1.5s								
HLID	**Hailey**	**80.63**	**40**	P	**P**	**16 04 38.8**	**+0.6**		
	baz=239,SNR=85								
TRF	**Thorofare Moun**	**80.68**	**11**	P	**P**	**16 04 35.6**	**-2.4**		
TRF				IAmb	IAmb	16 04 41.3			
	comp=Z,318nm,1.7s								
TRF				IAMs_20	IAMs_20	16 32 42.0			
	comp=Z,25µm,21.0s								
EPT	**El Paso**	**80.76**	**54**	IAMs_20	IAMs_20	16 32 41.5			
	comp=Z,30µm,20.0s								
RND	**Reindeer**	**80.92**	**12**	P	**P**	**16 04 37.1**	**-2.1**		
RND				pmax	pmax				
	comp=Z,553nm,1.7s								
RND				MLR	MLR				
	comp=Z,21µm,21.0s								
RND	**Reindeer**	**80.92**	**12**	P	**P**	**16 04 37.1**	**-2.1**		
RND				IAMs_20	IAMs_20	16 32 57.2			
	comp=Z,21µm,21.0s								
QIZ	**Qiongzhong**	**81.00**	**292**	P	**P**	**16 04 43.3**	**+2.8**		
QIZ				S	**S**	**16 14 52.0**	**+3.5**		
QIZ				pmax	pmax				
	comp=Z,22nm,2.8s								
QIZ				pmax	pmax				
	comp=Z,2µm,8.4s								
QIZ				LR	LR				
	comp=Z,9µm,25.5s								
QIZ				LR	LR				
	comp=Z,9µm,24.5s								
QIZ				LR	LR				
	comp=Z,13µm,27.9s								
QIZ	**Qiongzhong**	**81.00**	**292**	IAMs_20	IAMs_20	16 33 44.6			
	comp=Z,18µm,22.0s								
BPAW	**Bear Paw Mtn.**	**81.15**	**11**	P	**P**	**16 04 37.8**	**-2.5**		
MCK	**McKinley**	**81.20**	**12**	P	**P**	**16 04 38.2**	**-2.4**		
MCK				pmax	pmax				
	comp=Z,448nm,1.7s								
MCK				MLR	MLR				
	comp=Z,22µm,21.0s								
MCK	**McKinley**	**81.20**	**12**	P	**P**	**16 04 38.2**	**-2.4**		
MCK				IAmb	IAmb	16 04 45.2			
	comp=Z,448nm,1.7s								
MCK				IAMs_20	IAMs_20	16 33 07.6			
	comp=Z,22µm,21.0s								
PAX	**Paxson**	**81.24**	**13**	P	**P**	**16 04 37.1**	**-3.8**		
PAX				pmax	pmax				
	comp=Z,185nm,1.8s								
PAX	**Paxson**	**81.24**	**13**	P	**P**	**16 04 37.1**	**-3.8**		
WHN	**Wuhan**	**81.32**	**305**	⇓P	P	16 04 46.5	+4.6		
WHN				S	**S**	**16 14 53.5**	**+2.1**		
WHN				pmax	pmax				
	comp=Z,500nm,1.8s								
WHN				LR	LR				
	comp=Z,16µm,15.6s								
WHN				LR	LR				
	comp=Z,14µm,14.6s								
WHN				LR	LR				
	comp=Z,62µm,38.1s								
Y22D	**IRIS PASSCAL I**	**81.39**	**51**	P	**P**	**16 04 43.3**	**+0.9**		
	baz=245								
Y22D	**IRIS PASSCAL I**	**81.39**	**51**	IAMs_20	IAMs_20	16 35 58.9			
	comp=Z,17µm,19.0s								
HYT	**Haines Junctio**	**81.50**	**18**	IAMs_20	IAMs_20	16 37 32.5			
	comp=Z,16µm,18.0s								
PV05	**Paradox Valley**	**81.52**	**47**	IAMs_20	IAMs_20	16 34 13.3			
	comp=Z,16µm,20.0s								
MYKOM	**Kota Tinggi**	**81.53**	**274**	P	**P**	**16 04 46.0**	**+2.6**		
TIA	**Tai'an**	**81.54**	**311**	P	**P**	**16 04 45.5**	**+2.5**		
TIA				pmax	pmax				
	comp=Z,42nm,2.3s								
TIA				pmax	pmax				
	comp=Z,3µm,10.3s								
TIA				LR	LR				
	comp=Z,8µm,24.0s								
TIA				LR	LR				
	comp=Z,10µm,23.5s								
TIA				LR	LR				
	comp=Z,18µm,21.4s								
NEW	**Newport**	**81.56**	**35**	P	**P**	**16 04 42.2**	**-0.6**		
	baz=236,SNR=9.3								
NEW	**Newport**	**81.56**	**35**	P	**P**	**16 04 42.1**	**-0.7**		
	comp=Z,21nm,1.1s,baz=225,slow=3.8,SNR=14								
MVCO	**Mesa Verde**	**81.57**	**48**	P	**P**	**16 04 45.8**	**+2.4**		
	baz=244								
MVCO	**Mesa Verde**	**81.57**	**48**	IAMs_20	IAMs_20	16 33 40.3			
	comp=Z,20µm,20.0s								
MNTX	**Cornudas Mount**	**81.61**	**54**	P	**P**	**16 04 43.9**	**+0.5**		
	baz=247,SNR=97								
MNTX	**Cornudas Mount**	**81.61**	**54**	IAMs_20	IAMs_20	16 34 07.0			
	comp=Z,25µm,20.0s								
MENT	**Mentasta**	**81.61**	**14**	P	**P**	**16 04 39.5**	**-3.3**		
MENT				IAmb	IAmb	16 04 48.2			
	comp=Z,230nm,1.6s								
PV10	**Paradox Valley**	**81.70**	**47**	IAMs_20	IAMs_20	16 33 33.6			
	comp=Z,18µm,20.0s								
PV14	**Lion Creek, Pa**	**81.71**	**47**	IAMs_20	IAMs_20	16 33 35.9			
	comp=Z,18µm,21.0s								
PV17	**East Wray Mesa**	**81.71**	**47**	IAMs_20	IAMs_20	16 33 45.0			
	comp=Z,18µm,20.0s								
PV18	**Skein Mesa, Pa**	**81.73**	**47**	IAMs_20	IAMs_20	16 34 16.5			
	comp=Z,16µm,20.0s								
PV23	**Carpenter Ridg**	**81.75**	**47**	IAMs_20	IAMs_20	16 33 58.1			
	comp=Z,17µm,20.0s								
PV13	**Radium Mtn., P**	**81.76**	**47**	IAMs_20	IAMs_20	16 34 17.2			
	comp=Z,17µm,20.0s								
PV03	**Paradox Valley**	**81.78**	**47**	IAMs_20	IAMs_20	16 34 17.8			
	comp=Z,17µm,20.0s								
PV11	**David Mesa, Pa**	**81.78**	**47**	IAMs_20	IAMs_20	16 33 47.6			
	comp=Z,19µm,20.0s								
PV04	**Paradox Valley**	**81.80**	**47**	IAMs_20	IAMs_20	16 33 48.4			
	comp=Z,18µm,20.0s								
PV12	**Saucer Basin,**	**81.84**	**47**	IAMs_20	IAMs_20	16 33 39.4			
	comp=Z,22µm,21.0s								
PV01	**Paradox Valley**	**81.92**	**47**	IAMs_20	IAMs_20	16 35 00.6			
	comp=Z,18µm,20.0s								
NEA2	**Nenana**	**81.95**	**11**	P	**P**	**16 04 43.2**	**-1.3**		
	baz=206,SNR=43								
PV07	**Paradox Valley**	**82.00**	**47**	IAMs_20	IAMs_20	16 33 44.8			
	comp=Z,17µm,20.0s								
WRH	**Wood River Hil**	**82.03**	**12**	P	**P**	**16 04 43.5**	**-1.4**		
WRH				IAMs_20	IAMs_20	16 33 21.6			
	comp=Z,21µm,21.0s								
RIDG	**Independent Ri**	**82.05**	**13**	P	**P**	**16 04 43.6**	**-1.5**		
RIDG				IAmb	IAmb	16 04 50.0			
	comp=Z,223nm,1.4s								
TXAR	**Lajitas Array**	**82.06**	**57**	P	**P**	**16 04 47.2**	**+1.2**		
	comp=Z,48nm,1.2s,baz=224,slow=5.2,SNR=47								
TXAR				S	**S**	**16 14 59.7**	**+0.4**		
	comp=Z,0.1nm,0.3s,baz=217,slow=46,SNR=0.9								
TXAR				LR	LR	16 34 04.0			
	comp=Z,28µm,19.6s,baz=0.0,slow=30								
PV15	**Paradox Valley**	**82.08**	**47**	IAMs_20	IAMs_20	16 33 46.7			
	comp=Z,17µm,20.0s								
ANMO	**Albuquerque**	**82.10**	**51**	P	**P**	**16 04 46.9**	**+0.7**		
	baz=246								
ANMO	**Albuquerque**	**82.10**	**51**	⇑*i*P	**P**	**16 04 47.5**	**+1.3**		
ANMO				pmax	pmax				
	comp=Z,37nm,1.3s								
ANMO	**Albuquerque**	**82.10**	**51**	IAMs_20	IAMs_20	16 34 53.6			
	comp=Z,21µm,19.0s								
DLBC	**Dease Lake**	**82.14**	**22**	P	**P**	**16 04 45.5**	**-0.2**		
	comp=Z,10nm,1.1s,baz=227,slow=5.9,SNR=14								
DOT	**Dot Lake**	**82.15**	**14**	P	**P**	**16 04 44.1**	**-1.5**		
DOT				IAmb	IAmb	16 04 50.6			
	comp=Z,244nm,1.6s								
WHY	**Whitehorse**	**82.16**	**19**	P	**P**	**16 04 44.3**	**-1.6**		
HDA	**Harding Lake**	**82.20**	**12**	P	**P**	**16 04 44.5**	**-1.3**		
	baz=208,SNR=52								
HDA	**Harding Lake**	**82.20**	**12**	P	**P**	**16 04 44.3**	**-1.5**		
HDA				IAmb	IAmb	16 04 54.2			
	comp=Z,308nm,2.0s								
CCB	**Clear Creek Bu**	**82.24**	**12**	P	**P**	**16 04 43.6**	**-2.4**		
CCB				IAmb	IAmb	16 04 50.5			
	comp=Z,294nm,1.6s								
CCB				IAMs_20	IAMs_20	16 33 27.1			
	comp=Z,21µm,21.0s								
TCOL	**CIGO, UAF Yank**	**82.43**	**11**	P	**P**	**16 04 48.4**	**+1.5**		
	baz=207								
COLA	**College**	**82.44**	**11**	*d*iP	**P**	**16 04 48.2**	**+1.2**		
COLA				pmax	pmax				
	comp=Z,101nm,1.1s								
COLA				MLR	MLR				
	comp=Z,7µm,19.0s								
COLA	**College**	**82.44**	**11**	IAMs_20	IAMs_20	16 33 34.3			
	comp=Z,21µm,22.0s								
SCRK	**Sand Creek**	**82.45**	**13**	P	**P**	**16 04 44.6**	**-2.7**		
SCRK				IAmb	IAmb	16 05 03.9			
	comp=Z,187nm,1.8s								
IL31		**82.53**	**12**	P	**P**	**16 04 45.2**	**-2.3**		
IL31				IAmb	IAmb	16 04 52.3			
	comp=Z,289nm,1.6s								
ILAR	**Eielson Array**	**82.53**	**12**	P	**P**	**16 04 46.1**	**-1.4**		
	comp=Z,43nm,1.2s,baz=218,slow=5.7,SNR=35								
ILAR				S	**S**	**16 14 58.2**	**-4.2**		
	comp=Z,0.2nm,0.5s,baz=326,slow=34,SNR=1.3								
ILAR				PKKPbc	**PKKPbc**	**16 23 20.4**	**+3.7**		
	comp=Z,0.2nm,0.8s,baz=276,slow=5.1,SNR=4.5								
ILAR				PKPPKP		16 31 19.1			
	comp=Z,0.9nm,0.7s,baz=126,slow=2.2,SNR=8.7								
ILAR				LR	LR	16 34 09.7			
	comp=Z,9µm,21.8s,baz=215,slow=30								
MSO	**Missoula**	**82.61**	**37**	P	**P**	**16 04 48.2**	**-0.3**		
	baz=239,SNR=9.6								
MSO	**Missoula**	**82.61**	**37**	IAMs_20	IAMs_20	16 34 27.8			
	comp=Z,21µm,20.0s								
DLMT	**Dillon**	**82.67**	**39**	IAMs_20	IAMs_20	16 36 35.5			
	comp=Z,15µm,19.0s								
POKR	**Poker Flat Res**	**82.73**	**12**	P	**P**	**16 04 47.8**	**-0.8**		
	baz=207,SNR=12								
LRM	**Limekiln Ridge**	**82.98**	**39**	P	**P**	**16 04 47.9**	**-2.8**		
S22A	**4UR Ranch, Cre**	**83.00**	**48**	P	**P**	**16 04 51.9**	**+0.9**		
	baz=245,SNR=48								
S22A	**4UR Ranch, Cre**	**83.00**	**48**	IAMs_20	IAMs_20	16 34 28.1			
	comp=Z,25µm,20.0s								
O20A	**White River Ci**	**83.03**	**45**	P	**P**	**16 04 51.9**	**+0.9**		
	baz=244,SNR=27								
O20A	**White River Ci**	**83.03**	**45**	IAMs_20	IAMs_20	16 34 04.9			
	comp=Z,20µm,21.0s								
BW06	**Boulder Array**	**83.34**	**43**	P	**P**	**16 04 52.7**	**+0.2**		
	baz=243,SNR=36								
PDAR	**Pinedale Array**	**83.34**	**43**	P	**P**	**16 04 52.4**	**-0.2**		
	comp=Z,33nm,1.1s,baz=212,slow=2.5,SNR=46								
PDAR				S	**S**	**16 15 13.2**	**+1.0**		
	comp=Z,0.1nm,0.5s,baz=78,slow=14,SNR=1.3								
PDAR				PKKPbc	**PKKPbc**	**16 23 15.9**	**+1.9**		
	comp=Z,1.0nm,1.0s,baz=96,slow=6.0,SNR=4.6								
PDAR				LR	LR	16 36 56.3			
	comp=Z,3µm,18.4s,baz=240,slow=32								
BOZ	**Bozeman (W)**	**83.37**	**39**	P	**P**	**16 04 53.2**	**+0.6**		
	baz=241,SNR=57								
BOZ	**Bozeman (W)**	**83.37**	**39**	IAMs_20	IAMs_20	16 37 17.2			
	comp=Z,17µm,19.0s								
RDOG	**Red Dog Mine**	**83.41**	**5**	IAMs_20	IAMs_20	16 35 08.4			
	comp=Z,18µm,21.0s								
H17A	**Grant Village**	**83.45**	**41**	P	**P**	**16 04 52.9**	**-0.2**		
	baz=242,SNR=5.4								
DAWY	**Dawson**	**83.62**	**15**	P	**P**	**16 04 49.9**	**-3.3**		
DAWY				IAmb	IAmb	16 05 10.3			
	comp=Z,280nm,1.9s								
WALA	**Waterton Lakes**	**83.78**	**36**	P	P	16 04 49.3	-5.2		
WALA				IAmb	IAmb	16 05 08.0			
	comp=Z,261nm,1.9s								
BKNI	**Bangkinang**	**83.86**	**272**	P	P	16 05 08.3	+13		
BJI	**Beijing**	**83.86**	**314**	P	**P**	**16 04 55.5**	**+0.6**		
BJI				S	**S**	**16 15 17.0**	**+0.1**		
BJI				SS	**SS**	**16 20 45.3**	**0.0**		
BJI				LR	LR				
	comp=Z,10µm,17.1s								
BJI				LR	LR				
	comp=Z,9µm,25.5s								
BJI				LR	LR				
	comp=Z,17µm,26.0s								
SDCO	**Great Sand Dun**	**83.95**	**48**	P	**P**	**16 04 56.2**	**+0.4**		
	baz=246,SNR=34								
SDCO	**Great Sand Dun**	**83.95**	**48**	IAMs_20	IAMs_20	16 34 58.5			
	comp=Z,18µm,20.0s								
BILL	**Bilibino**	**83.96**	**353**	*d*iP	**P**	**16 04 55.7**	**+0.9**		
BILL				*e*		16 08 08.4			
BILL				*e*PPP	PPP	16 09 59.6			
BILL				*i*S	**S**	**16 15 18.2**	**+1.4**		
BILL				*e*SS	**SS**	**16 20 47.9**	**+2.2**		
BILL				*e*SSS	SSS	16 24 17.3			
BILL				pmax	pmax				
	comp=Z,355nm,2.6s								
BILL				MLR	MLR				
	comp=Z,12µm,18.0s								
COLD	**Coldfoot**	**84.15**	**10**	P	**P**	**16 04 56.1**	**+0.2**		
	baz=204,SNR=74								
ZEA	**Zeya**	**84.17**	**330**	*e*P	**P**	**16 04 54.0**	**-2.2**		
ZEA				*e*		16 16 15.0			
ZEA				pmax	pmax				
	comp=N,220nm,1.8s								
ZEA				pmax	pmax				
	comp=Z,320nm,1.8s								
ZEA				pmax	pmax				
	comp=Z,4µm,9.0s								
RWWY	**Rawlins**	**84.42**	**44**	IAMs_20	IAMs_20	16 36 06.3			
	comp=Z,21µm,20.0s								
T25A	**Trinidad**	**84.50**	**49**	P	**P**	**16 04 57.3**	**-1.3**		
	baz=247,SNR=15								
MSTX	**Muleshoe**	**84.51**	**53**	P	**P**	**16 04 58.9**	**+0.4**		
	baz=248,SNR=25								
RLMT	**Red Lodge**	**84.61**	**41**	P	**P**	**16 04 59.7**	**+0.8**		
	baz=243,SNR=35								
Q24A	**Divide**	**84.70**	**47**	P	**P**	**16 05 00.8**	**+1.1**		
	baz=246								
Q24A	**Divide**	**84.70**	**47**	IAMs_20	I

GYA LR LR
comp=Z,9µm,20.4s
GO09 Cerro Castillo 86.32 142 IAMs_20 IAMs_20 16 34 29.4
comp=Z,16µm,20.0s
GO10 Punta Arenas 86.43 144 IAMs_20 IAMs_20 16 34 48.3
comp=Z,26µm,20.0s
ABTX Abilene, Hawle 86.47 55 P **P** **16 05 10.2 +1.9**
baz=250
RPSI Rantau Prapat 86.52 274 IAMs_20 IAMs_20 16 50 29.5
comp=Z,13µm,19.0s
KSCO Kaye Shedlock' 86.53 48 IAMs_20 IAMs_20 16 36 22.6
comp=Z,20µm,20.0s
XAN Xi'an 86.89 306 P **P** **16 05 10.3 0.0**
XAN pP pP 16 05 14.8 -3.4
XAN SKS **SKSac** **16 15 36.3 +0.4**
XAN pmax pmax
comp=Z,78nm,1.6s
XAN pmax pmax
comp=Z,3µm,6.7s
XAN LR LR
comp=Z,11µm,20.1s
XAN LR LR
comp=Z,8µm,20.1s
XAN LR LR
comp=Z,15µm,23.0s
XAN Xi'an 86.89 306 P **P** **16 05 08.1 -2.2**
XAN pmax pmax
comp=Z,189nm,1.6s
XAN MLR MLR
comp=Z,10µm,21.0s
XAN Xi'an 86.89 306 P **P** **16 05 08.1 -2.2**
XAN IAmb IAmb 16 05 18.5
comp=Z,189nm,1.6s
H03N2 Juan Fernandez 87.08 124 T T 17 41 44.2
baz=246,slow=74
H03N3 Juan Fernandez 87.09 124 T T 17 41 46.5
baz=246,slow=74
H03N1 Juan Fernandez 87.10 124 T T 17 41 47.6
baz=246,slow=74
VA04 Juan Fernndez 87.11 124 IAMs_20 IAMs_20 16 35 23.7
comp=Z,17µm,19.0s
A21K Barrow 87.15 6 P **P** **16 05 13.6 +3.0**
baz=198
LAO LASA Array 87.21 40 P **P** **16 05 13.2 +1.6**
baz=245
HHC Hu-ho-hao-te 87.41 313 ⇓*i*P **P** **16 05 14.0 +1.3**
HHC pP pP 16 05 18.8 -1.8
HHC sP pwP 16 05 21.0 -1.8
HHC S **S** **16 15 51.0 -1.0**
HHC sS pS 16 16 00.3 -1.8
HHC SS **SS** **16 21 40.5 +2.8**
HHC pmax pmax
comp=Z,12nm,1.0s
HHC pmax pmax
comp=Z,2µm,5.6s
HHC LR LR
comp=Z,4µm,21.6s
HHC LR LR
comp=Z,5µm,22.1s
HHC LR LR
comp=Z,9µm,24.1s
GSI Gunungsitoli 87.46 272 P P 16 05 20.7 +7.2
MAW Mawson 87.46 199 P **P** **16 05 13.4 +1.0**
comp=Z,14nm,1.0s,baz=112,slow=5.9,SNR=14
MAW S **SKSac** **16 15 39.2 +1.1**
comp=Z,1.0nm,0.9s,baz=358,slow=20,SNR=1.4
MAW LR LR 16 42 34.6
comp=Z,15µm,19.7s,baz=116,slow=34
435B Jarrell 87.50 57 P **P** **16 05 16.5 +3.2**
baz=251
435B Jarrell 87.50 57 IAMs_20 IAMs_20 16 37 05.5
comp=Z,24µm,20.0s
RSSD Black Hills 87.55 43 P **P** **16 05 13.6 +0.1**
baz=246
MG01 Puerto William 87.64 147 IAMs_20 IAMs_20 16 37 11.7
comp=Z,14µm,20.0s
KCSI Kotacane, Aceh 87.84 274 P P 16 05 26.3 +11
WMOK Wichita Mounta 87.86 53 P **P** **16 05 15.9 +1.0**
baz=250
WMOK Wichita Mounta 87.86 53 IAMs_20 IAMs_20 16 37 17.7
comp=Z,24µm,20.0s
CCIG Comitan 87.90 73 IAMs_20 IAMs_20 16 34 12.7
comp=Z,21µm,22.0s
WHTX Lake Whitney, 88.00 56 P **P** **16 05 19.4 +3.8**
baz=251
YAK Yakutsk 88.08 337 LR LR 16 41 14.5
comp=Z,7µm,20.2s,baz=131,slow=33
YAK Yakutsk 88.08 337 *e*P **P** **16 05 13.8 -1.4**
YAK *e* 16 08 37.4
YAK *e*S **SKSac** **16 15 39.3 -2.4**
YAK pmax pmax
comp=Z,57nm,1.1s
YAK pmax pmax
comp=N,20nm,1.2s
YAK pmax pmax
comp=E,17nm,1.1s
YAK pmax pmax
comp=Z,827nm,2.9s
YAK pmax pmax
comp=N,353nm,2.5s
YAK pmax pmax
comp=E,235nm,2.4s
YAK smax smax
comp=E,800nm,7.1s
YAK smax smax
comp=N,3µm,8.1s
YAK Yakutsk 88.08 337 P **P** **16 05 12.8 -2.5**
YAK IAmb IAmb 16 05 19.7
comp=Z,76nm,1.2s
U32A Winter Ranch, 88.26 52 IAMs_20 IAMs_20 16 36 40.8
comp=Z,25µm,22.0s
BTO Baotou 88.40 313 *e*P **P** **16 05 18.0 +0.5**
COYC Coyhaique 88.41 137 IAMs_20 IAMs_20 16 35 51.6
comp=Z,15µm,20.0s
INK Inuvik 88.44 14 P **P** **16 05 15.9 -0.9**
comp=Z,14nm,1.2s,baz=222,slow=6.5,SNR=21
CBKS Cedar Bluff 88.55 49 IAMs_20 IAMs_20 16 39 01.3
comp=Z,13µm,19.0s
X34A Smith Ranch, M 88.56 54 P **P** **16 05 14.2 -4.0**
X34A IAMs_20 IAMs_20 16 38 00.0
comp=Z,18µm,20.0s
HKT Hockley 88.67 59 *i*P **P** **16 05 22.2 +3.4**
HKT pmax pmax
comp=Z,42nm,1.5s
OKCFA Oklahoma City 89.12 53 IAMs_20 IAMs_20 16 38 38.8
comp=Z,26µm,20.0s
KMI Kunming 89.15 296 ⇓*i*P P 16 05 27.5 +6.0
KMI PP **PP** **16 08 54.8 +2.7**
KMI S **S** **16 16 13.3 +3.8**
KMI pmax pmax
comp=Z,43nm,1.7s
KMI pmax pmax
comp=Z,2µm,6.6s
KMI LR LR
comp=Z,8µm,20.9s
KMI LR LR
comp=Z,8µm,25.5s
KMI LR LR
comp=Z,15µm,32.8s
KMI Kunming 89.15 296 IAMs_20 IAMs_20 16 40 36.0
comp=Z,14µm,21.0s
R32A Long Quarter, 89.17 50 IAMs_20 IAMs_20 16 38 40.8
comp=Z,15µm,20.0s
DGMT Dagmar 89.20 39 P **P** **16 05 22.4 +1.5**
baz=246
DGMT Dagmar 89.20 39 IAMs_20 IAMs_20 16 38 32.4
comp=Z,19µm,20.0s
MLSI Meulaboh, Aceh 89.35 275 P P 16 05 32.6 +10
SNET Serv Nac Est T 89.90 76 IAMs_20 IAMs_20 16 36 24.0
comp=Z,20µm,20.0s
CD2 Chengdu 90.00 302 P **P** **16 05 23.0 -2.2**
CD2 SKS **SKSac** **16 15 55.3 +0.6**
CD2 S **S** **16 16 16.8 -0.1**
CD2 sS pS 16 16 25.0 -2.0
CD2 SS **SS** **16 22 16.3 +0.5**
CD2 pmax pmax
comp=Z,30nm,0.5s
CD2 pmax pmax
comp=Z,4µm,8.3s
CD2 LR LR
comp=Z,14µm,19.6s
CD2 LR LR
comp=Z,24µm,19.1s
CD2 LR LR
comp=Z,25µm,19.1s
CIT Chita 90.55 324 *e*P **P** **16 05 30.0 +2.8**
CIT *e* 16 05 38.9
comp=Z,239nm,2.2s
TUL1 Leonard 90.56 53 P **P** **16 05 28.2 +0.7**
baz=252
K31A O'Neill 90.57 46 IAMs_20 IAMs_20 16 38 06.4
comp=Z,19µm,22.0s
BGNE Belgrade 90.58 47 IAMs_20 IAMs_20 16 40 10.9
comp=Z,20µm,20.0s
YKA Yellowknife Ar 90.59 24 P **P** **16 05 26.6 -0.5**
comp=Z,5.1nm,0.8s,baz=242,slow=4.4,SNR=17
YKA LR LR 16 43 47.2
comp=Z,8µm,18.0s,baz=0.0,slow=34
BI03 Tigo 90.67 128 IAMs_20 IAMs_20 16 37 56.3
comp=Z,17µm,19.0s
CMAR Chiang Mai Arr 90.68 289 P **P** **16 05 30.4 +1.9**
comp=Z,7.0nm,1.0s,baz=88,slow=2.9,SNR=11
CMAR LR LR 16 41 10.6
comp=Z,10µm,22.0s,baz=134,slow=32
N33A J Bar K, Exete 90.86 48 IAMs_20 IAMs_20 16 39 30.3
comp=Z,13µm,20.0s
KSU1 Kansas State U 90.94 50 P **P** **16 05 26.0 -3.3**
KSU1 Kansas State U 90.94 50 IAMs_20 IAMs_20 16 42 03.8
comp=Z,19µm,18.0s
SUSD Miller 91.06 44 IAMs_20 IAMs_20 16 38 42.0
comp=Z,16µm,22.0s
441A DeRidder 91.09 59 IAMs_20 IAMs_20 16 40 35.7
comp=Z,19µm,20.0s
PLCA Paso Flores 91.15 133 P **P** **16 05 32.9 +2.4**
comp=Z,5.1nm,1.1s,baz=275,slow=1.1,SNR=4.3
PLCA SKKS 16 29 50.5
comp=Z,0.3nm,0.4s,baz=239,slow=18,SNR=0.7
PLCA LR LR 16 40 33.8
comp=Z,8µm,18.6s,baz=239,slow=32
LZH Lanzhou 91.49 307 ⇑P **P** **16 05 35.3 +3.2**
LZH sP sP 16 05 46.3 +3.4
LZH S **S** **16 16 33.5 +3.0**
LZH SS **SS** **16 22 40.3 +3.0**
LZH pmax pmax
comp=Z,120nm,1.5s
LZH pmax pmax
comp=Z,2µm,7.3s
LZH LR LR
comp=Z,7µm,17.3s
LZH LR LR
comp=Z,10µm,17.3s
LZH LR LR
comp=Z,10µm,19.0s
U38A Gravette 91.80 53 IAMs_20 IAMs_20 16 40 11.8
comp=Z,22µm,20.0s
MDND Maddock 91.81 41 IAMs_20 IAMs_20 16 42 49.7
comp=Z,14µm,19.0s
TGUH Tegucigalpa,Un 91.83 76 IAMs_20 IAMs_20 16 37 15.3
comp=Z,18µm,21.0s
MIAR Mount Ida 91.88 55 P **P** **16 05 35.8 +2.1**
baz=253
W39A Magazine 91.90 54 P **P** **16 05 35.0 +1.1**
baz=253
342A Flagon Creek P 91.98 58 IAMs_20 IAMs_20 16 41 03.2
comp=Z,17µm,20.0s
L34A Svendsen Farm, 92.02 47 IAMs_20 IAMs_20 16 40 07.9
comp=Z,15µm,20.0s
BI02 San Fabin de 92.05 129 IAMs_20 IAMs_20 16 38 31.0
comp=Z,13µm,21.0s
HHAR Hobbs 92.10 53 IAMs_20 IAMs_20 16 40 40.7
comp=Z,17µm,20.0s
GO05 Huala 92.12 127 IAMs_20 IAMs_20 16 37 30.6
comp=Z,18µm,21.0s
Z41A Richland Creek 92.12 56 P **P** **16 05 36.8 +1.9**
baz=254
N35A Tabor 92.20 48 IAMs_20 IAMs_20 16 40 33.4
comp=Z,19µm,21.0s
ECSD EROS Data Cent 92.42 45 P **P** **16 05 35.1 -0.9**
baz=252
ECSD EROS Data Cent 92.42 45 IAMs_20 IAMs_20 16 39 23.1
comp=Z,21µm,22.0s
X40A Basin Creek Fa 92.45 55 P **P** **16 05 38.7 +2.4**
baz=254
X40A Basin Creek Fa 92.45 55 IAMs_20 IAMs_20 16 41 30.2
comp=Z,18µm,19.0s
SYO Syowa Base 92.51 192 ⇑*e*P **P** **16 05 34.4 -1.6**
SYO Syowa Base 92.51 192 ⇑*e*PcP **PcP** **16 05 37.0 +0.3**
BOD Bodaibo 92.68 330 *e*P **P** **16 05 34.8 -2.0**
BOD pmax pmax
comp=Z,43nm,1.9s
UALR University of 92.92 55 IAMs_20 IAMs_20 16 39 27.6
comp=Z,25µm,22.0s
FFC Flin Flon 92.92 34 IAMs_20 IAMs_20 16 40 40.3
comp=Z,12µm,20.0s
ULN Ulaanbaatar 92.92 319 ⇑*i*P **P** **16 05 40.7 +2.3**
ULN pmax pmax
comp=Z,67nm,1.8s
ULN Ulaanbaatar 92.92 319 IAMs_20 IAMs_20 16 41 51.0
comp=Z,14µm,20.0s
U40A Yellville 92.96 53 P **P** **16 05 39.0 +0.3**
baz=254
U40A Yellville 92.96 53 IAMs_20 IAMs_20 16 40 56.6
comp=Z,18µm,20.0s
JTS Las Juntas de 93.06 80 ⇓*i*P **P** **16 05 42.9 +3.2**
JTS Las Juntas de 93.06 80 IAMs_20 IAMs_20 16 37 49.6
comp=Z,24µm,20.0s
BO02 Sierra Bellavi 93.08 127 IAMs_20 IAMs_20 16 38 00.1
comp=Z,17µm,20.0s
143A Socs Landing, 93.10 57 IAMs_20 IAMs_20 16 41 00.7
comp=Z,20µm,20.0s
W41B Gary Mavity, V 93.10 55 P **P** **16 05 40.6 +1.2**
baz=254
ACON Acoyapa 93.28 79 IAMs_20 IAMs_20 16 37 10.0
comp=Z,22µm,22.0s
F33A 5 Mile Ranch, 93.30 43 IAMs_20 IAMs_20 16 43 29.5
comp=Z,13µm,19.0s
SNAA Sanae 93.30 178 P **P** **16 05 41.2 +1.4**
SNAA Sanae 93.30 178 P **P** **16 05 39.0 -0.7**
SNAA pmax pmax
comp=Z,154nm,1.6s
SNAA MLR MLR
comp=Z,20µm,22.0s
SNAA Sanae 93.30 178 P **P** **16 05 39.0 -0.7**
SNAA IAmb IAmb 16 05 50.2
comp=Z,154nm,1.6s
SNAA IAMs_20 IAMs_20 16 41 40.3
comp=Z,20µm,22.0s
344A Westbrook Farm 93.31 58 IAMs_20 IAMs_20 16 42 35.5
comp=Z,17µm,21.0s
VNA3 Neumayer Olymp 93.33 175 P **P** **16 05 41.4 +1.6**
SONM Songino Array 93.33 319 P **P** **16 05 40.6 +0.3**
comp=Z,2.9nm,0.8s,baz=132,slow=3.0,SNR=22
SONM PP **PP** **16 09 25.3 +0.7**
comp=Z,4.5nm,1.3s,baz=119,slow=1.9,SNR=5.2
SONM LR LR 16 42 48.5
comp=Z,15µm,21.8s,baz=116,slow=32
MT02 Curacav 93.34 126 IAMs_20 IAMs_20 16 37 34.8
comp=Z,17µm,22.0s
P38A Dawn 93.38 50 IAMs_20 IAMs_20 16 44 12.1
comp=Z,12µm,18.0s
FCAR Ozark Folk Cen 93.40 54 IAMs_20 IAMs_20 16 41 25.2
comp=Z,22µm,20.0s
MT05 Renca 93.61 126 IAMs_20 IAMs_20 16 37 52.9
comp=Z,14µm,20.0s
VBMS Vicksburg 93.69 58 IAMs_20 IAMs_20 16 42 08.5
comp=Z,16µm,21.0s
PAF Port-aux-Franc 93.73 217 IAMs_20 IAMs_20 16 40 39.9
comp=Z,14µm,21.0s
PEL Peldehue 93.73 126 IAMs_20 IAMs_20 16 38 48.5
comp=Z,15µm,20.0s
HDC Heredia 93.79 81 IAMs_20 IAMs_20 16 38 05.0
comp=Z,19µm,20.0s
VNA2 Neumayer--Watz 93.80 176 P **P** **16 05 44.4 +2.4**
N38A Joes South For 93.93 49 P **P** **16 05 39.7 -3.3**
N38A IAMs_20 IAMs_20 16 42 54.6
comp=Z,16µm,19.0s
VA03 San Esteban 93.97 125 IAMs_20 IAMs_20 16 38 14.6
comp=Z,13µm,21.0s
X43A Marvell 94.00 55 P **P** **16 05 45.5 +2.0**
baz=255
X43A Marvell 94.00 55 IAMs_20 IAMs_20 16 44 05.5
comp=Z,19µm,19.0s
VNA1 Neumayer--Stat 94.01 176 P **P** **16 05 45.5 +2.6**
CO02 Combarbal 94.16 124 IAMs_20 IAMs_20 16 39 57.3
comp=Z,14µm,20.0s
ESPN Las Esperanzas 94.16 79 IAMs_20 IAMs_20 16 38 57.4
comp=Z,22µm,20.0s
TIXI Tiksi 94.19 345 LR LR 16 42 55.5
comp=Z,18µm,21.9s,baz=178,slow=32
TIXI Tiksi 94.19 345*d i*P **P** **16 05 44.3 +0.8**
TIXI pmax pmax
comp=Z,124nm,2.2s
TIXI MLR MLR
comp=Z,8µm,18.0s
TIXI Tiksi 94.19 345 P **P** **16 05 41.8 -1.7**
TIXI IAmb IAmb 16 05 57.2
comp=Z,154nm,2.0s
TIXI IAMs_20 IAMs_20 16 41 16.8
comp=Z,20µm,21.0s
NVL N'lazarevskaya 94.21 182 *e*P **P** **16 05 45.0 +1.2**
NVL *e*S **SKSac** **16 16 15.3 -1.6**
NVL *e*SP SP 16 18 10.7 +3.8
NVL MLR MLR
comp=Z,13µm,18.0s
EFI East Falkland 94.23 146 IAMs_20 IAMs_20 16 39 48.9
comp=Z,13µm,20.0s
SCIA State Center 94.26 48 IAMs_20 IAMs_20 16 41 58.1
comp=Z,19µm,20.0s
AGMN Agassiz Nation 94.33 41 P **P** **16 05 45.8 +1.1**
baz=252
CO03 El Pedregal 94.53 123 IAMs_20 IAMs_20 16 38 09.3
comp=Z,14µm,20.0s
CCM Cathedral Cave 94.66 52 P **P** **16 05 46.0 -0.5**
baz=255
CCM Cathedral Cave 94.66 52 IAMs_20 IAMs_20 16 41 31.4
comp=Z,24µm,20.0s
GO04 Tololo Observa 94.68 123 IAMs_20 IAMs_20 16 38 13.0
comp=Z,16µm,21.0s
I37A Lemond, Waseca 94.72 46 IAMs_20 IAMs_20 16 41 46.1
comp=Z,20µm,21.0s
K38A Parkersburg 94.78 47 IAMs_20 IAMs_20 16 42 05.9
comp=Z,15µm,21.0s
HDBT Hernando Brdge 94.83 55 IAMs_20 IAMs_20 16 40 47.2
comp=Z,23µm,22.0s
ULM Lac du Bonnet 94.92 39 P **P** **16 05 47.8 +0.4**
comp=Z,6.9nm,0.8s,baz=229,slow=5.1,SNR=5.0
ULM PP **PP** **16 09 33.0 -3.8**
comp=Z,2.9nm,0.7s,baz=244,slow=6.0,SNR=1.2
ULM S **SKSac** **16 16 18.9 -2.2**
comp=Z,3.4nm,0.8s,baz=173,slow=11,SNR=1.3
ULM LR LR 16 42 18.4
comp=Z,21µm,20.9s,baz=258,slow=32
ULM Lac du Bonnet 94.92 39*c i*P **P** **16 05 48.3 +1.0**
ULM Lac du Bonnet 94.92 39 IAMs_20 IAMs_20 16 41 56.6
comp=Z,22µm,21.0s
PBMO Poplar Bluff 94.95 53 IAMs_20 IAMs_20 16 41 03.3
comp=Z,15µm,22.0s
146A Union 94.99 58 IAMs_20 IAMs_20 16 44 45.9
comp=Z,17µm,19.0s
F36A Milaca 95.15 44 IAMs_20 IAMs_20 16 42 49.3
comp=Z,18µm,20.0s
OXF Oxford 95.18 56 P **P** **16 05 50.3 +1.4**
baz=256
CO01 Juntas del Tor 95.32 123 IAMs_20 IAMs_20 16 41 19.0
comp=Z,17µm,19.0s
SPMN Marine on St. 95.46 45 P **P** **16 05 50.2 +0.3**
baz=254
SPMN Marine on St. 95.46 45 IAMs_20 IAMs_20 16 41 16.6
comp=Z,14µm,22.0s
GTA Gaotai 95.48 309 ⇓P **P** **16 05 52.3 +1.9**
GTA pP sP 16 06 01.8 +0.6
GTA sP pwP 16 06 05.8 +5.3
GTA PP **PP** **16 09 40.8 -0.8**
GTA sS sS 16 17 17.3 -1.4
GTA SS **SS** **16 23 30.5 -3.7**
GTA pmax pmax
comp=Z,13nm,1.8s
GTA pmax pmax
comp=Z,980nm,7.6s
GTA LR LR
comp=Z,7µm,20.3s
GTA LR LR
comp=Z,20µm,22.5s
GTA LR LR
comp=Z,33µm,22.5s
W45A Hickory Valley 95.52 55 IAMs_20 IAMs_20 16 41 50.5
comp=Z,23µm,20.0s
AC05 El Transito 95.57 122 IAMs_20 IAMs_20 16 41 38.6
comp=Z,12µm,18.0s
SLM Saint Louis 95.58 52 IAMs_20 IAMs_20 16 41 52.6
comp=Z,22µm,20.0s
N41A Harden Midland 95.64 50 IAMs_20 IAMs_20 16 43 38.1
comp=Z,18µm,20.0s
HENM Henderson Moun 95.68 54 IAMs_20 IAMs_20 16 41 45.6
comp=Z,24µm,21.0s
B35A Bob, Littlefor 95.72 42 IAMs_20 IAMs_20 16 44 04.0
comp=Z,16µm,20.0s
L40A Anamosa 95.73 48 IAMs_20 IAMs_20 16 43 02.1
comp=Z,18µm,20.0s
HICK Hickman 95.83 54 IAMs_20 IAMs_20 16 42 58.5
comp=Z,23µm,20.0s
ZON Zonda 95.89 125 IAMs_20 IAMs_20 16 40 50.2
comp=Z,17µm,19.0s
IRK Irkutsk 95.98 322 *e*P **P** **16 05 53.2 +1.0**
IRK pmax pmax
comp=Z,86nm,2.9s
ZAK Zakamensk 96.05 320 *e*P **P** **16 05 54.4 +1.8**
ZAK pmax pmax
comp=Z,12nm,1.7s
S44A Carbondale 96.09 53 IAMs_20 IAMs_20 16 42 43.4
comp=Z,19µm,19.0s
TLY Talaya 96.19 322 LR LR 16 44 42.8
comp=Z,24µm,21.0s,baz=113,slow=33
TLY Talaya 96.19 322*c i*P **P** **16 05 55.9 +2.7**
TLY *e*PS PS 16 18 39.7 +5.9
TLY pmax pmax
comp=Z,67nm,1.8s
TLY MLR MLR
comp=Z,23µm,17.0s
AC01 Pan de Azucar 96.23 119 IAMs_20 IAMs_20 16 38 44.7
comp=Z,15µm,21.0s
P43A Skaggs, Pawnee 96.37 51 IAMs_20 IAMs_20 16 43 16.4
comp=Z,22µm,19.0s
JFWS Jewell Farm 96.64 47 P **P** **16 05 55.7 +0.3**
baz=256
JFWS Jewell Farm 96.64 47 IAMs_20 IAMs_20 16 42 51.2
comp=Z,22µm,21.0s
E38A The Farm, Brul 96.67 44 IAMs_20 IAMs_20 16 44 05.4
comp=Z,13µm,20.0s
HDIL Hopedale 96.76 50 P **P** **16 05 55.9 0.0**
baz=256
HDIL Hopedale 96.76 50 IAMs_20 IAMs_20 16 43 51.6
comp=Z,12µm,20.0s
LRAL Lakeview Retre 96.77 58 IAMs_20 IAMs_20 16 45 59.0
comp=Z,13µm,19.0s
WVT Waverly 96.82 55 P **P** **16 05 56.9 +0.6**
baz=256
EYMN Ely 97.05 42 P **P** **16 05 56.6 -0.5**
baz=256
PB10 IPOC Station P 97.16 117 IAMs_20 IAMs_20 16 39 14.2
comp=Z,12µm,21.0s
AC02 Maricunga 97.22 120 IAMs_20 IAMs_20 16 41 36.2
comp=Z,14µm,18.0s
G40A Rib Lake 97.25 45 IAMs_20 IAMs_20 16 42 55.0
comp=Z,19µm,21.0s
O44A Mansfield 97.28 50 IAMs_20 IAMs_20 16 44 23.4
comp=Z,18µm,20.0s
ZIRO ZIRO 97.47 296 *ex* Pdif 16 06 01.6 +1.7
ZIRO *i* x x 16 09 59.4
MOY Mondy 97.78 321 *e*P Pdif 16 06 02.2 +1.7
MOY pmax pmax
comp=Z,72nm,3.8s
I42A Draeger Farm, 97.82 47 IAMs_20 IAMs_20 16 43 31.3
comp=Z,15µm,21.0s
M44A Midewin, Midew 97.87 49 IAMs_20 IAMs_20 16 45 06.1
comp=Z,18µm,19.0s
K43A Burlington 97.96 48 IAMs_20 IAMs_20 16 43 40.2
comp=Z,15µm,20.0s
SWET Sewanee 98.12 56 IAMs_20 IAMs_20 16 42 58.6
comp=Z,22µm,21.0s
COWI Conover 98.17 45 IAMs_20 IAMs_20 16 45 42.3
comp=Z,14µm,19.0s
PB15 IPOC Station P 98.20 117 IAMs_20 IAMs_20 16 39 45.7
comp=Z,15µm,21.0s
PB06 IPOC Station P 98.28 116 IAMs_20 IAMs_20 16 40 05.9
comp=Z,13µm,22.0s
Z51A Franklin 98.32 58 IAMs_20 IAMs_20 16 44 33.1
comp=Z,17µm,21.0s
SFIN Lafayette 98.35 51 P Pdif 16 06 04.2 +1.0
baz=258
SFIN Lafayette 98.35 51 IAMs_20 IAMs_20 16 48 28.8
comp=Z,16µm,18.0s
TA01 Diego Aracena 98.47 114 IAMs_20 IAMs_20 16 39 53.7
comp=Z,11µm,20.0s
WCI Wyandotte Cave 98.49 53 IAMs_20 IAMs_20 16 47 46.9
comp=Z,15µm,19.0s
152A Waverly Hall 98.56 59 IAMs_20 IAMs_20 16 45 57.5
comp=Z,18µm,19.0s
H43A Windswept, Lux 98.75 46 IAMs_20 IAMs_20 16 43 08.8
comp=Z,13µm,21.0s

SHL	**Shillong**	**98.76**	**294**	*ex*		**P**		**16 06 02.8**	**-2.8**
SHL				*i* x		x		16 09 53.1	
F42A	**Maple Grove Fa**	**98.78**	**45**	IAMs_20		IAMs_20		16 43 41.4	
	comp=Z,17µm,21.0s								
PSGCX	**Pisagua**	**98.84**	**113**	IAMs_20		IAMs_20		16 41 42.5	
	comp=Z,12µm,20.0s								
LVC	**Limon Verde**	**98.89**	**116**	IAMs_20		IAMs_20		16 40 25.0	
	comp=Z,14µm,21.0s								
L46A	**Eue Claire**	**99.29**	**49**	IAMs_20		IAMs_20		16 46 17.4	
	comp=Z,17µm,20.0s								
R49A	**Shelbyville**	**99.37**	**53**	IAMs_20		IAMs_20		16 45 09.1	
	comp=Z,16µm,20.0s								
N47A	**Urbana**	**99.50**	**50**	IAMs_20		IAMs_20		16 45 50.2	
	comp=Z,13µm,19.0s								
J45A	**Montague**	**99.51**	**48**	IAMs_20		IAMs_20		16 45 55.1	
	comp=Z,17µm,20.0s								
PB08	**IPOC Station P**	**99.52**	**114**	IAMs_20		IAMs_20		16 40 26.5	
	comp=Z,13µm,20.0s								
E43A	**Lone Tree Farm**	**99.68**	**45**	IAMs_20		IAMs_20		16 47 12.2	
	comp=Z,17µm,19.0s								
W52A	**Murphy**	**99.70**	**56**	IAMs_20		IAMs_20		16 43 24.5	
	comp=Z,24µm,22.0s								
GOGA	**Godfrey**	**99.74**	**58**	IAMs_20		IAMs_20		16 44 24.7	
	comp=Z,21µm,22.0s								
I45A	**Fountain**	**99.74**	**47**	IAMs_20		IAMs_20		16 47 08.1	
	comp=Z,17µm,19.0s								
154A	**Montrose**	**99.88**	**59**	IAMs_20		IAMs_20		16 45 41.4	
	comp=Z,20µm,20.0s								
TKL	**Tuckaleechee C**	**99.94**	**56**	P		**Pdif**		**16 06 09.5**	**-0.8**
	comp=Z,1.7nm,0.8s,baz=245,slow=6.0,SNR=2.3								
TKL				PP		PP		16 10 24.6	+8.8
	comp=Z,7.5nm,1.2s,baz=249,slow=5.6,SNR=5.4								
TKL	**Tuckaleechee C**	**99.94**	**56**	P		**Pdif**		**16 06 09.6**	**-0.8**
TKL				pmax		pmax			
	comp=Z,40nm,1.6s								
TKL				MLR		MLR			
	comp=Z,24µm,20.0s								
R50A	**Paris**	**100.02**	**53**	IAMs_20		IAMs_20		16 45 49.3	
	comp=Z,18µm,20.0s								
255A	**Hazlehurst**	**100.26**	**60**	IAMs_20		IAMs_20		16 45 30.8	
	comp=Z,17µm,21.0s								
G45A	**Suttons Bay**	**100.34**	**46**	IAMs_20		IAMs_20		16 44 49.9	
	comp=Z,21µm,21.0s								
061Z	**Ochoppi**	**100.40**	**66**	IAMs_20		IAMs_20		16 44 04.5	
	comp=Z,13µm,22.0s								
BG3	**Lake Jocassee**	**100.48**	**57**	IAMs_20		IAMs_20		16 46 11.2	
	comp=Z,14µm,20.0s								
J47A	**Sunmer**	**100.59**	**48**	IAMs_20		IAMs_20		16 45 49.8	
	comp=Z,17µm,20.0s								
N49A	**Columbus Grove**	**100.63**	**50**	IAMs_20		IAMs_20		16 45 12.2	
	comp=Z,18µm,21.0s								
L48A	**N Adams**	**100.63**	**49**	IAMs_20		IAMs_20		16 46 56.1	
	comp=Z,12µm,19.0s								
X54A	**Belton**	**100.85**	**57**	Pdiff		**Pdif**		**16 06 17.3**	**+2.8**
	baz=259								
Q51A	**Peebles**	**100.91**	**52**	IAMs_20		IAMs_20		16 43 42.0	
	comp=Z,16µm,22.0s								
I47A	**Gladwin**	**100.96**	**47**	IAMs_20		IAMs_20		16 48 47.4	
	comp=Z,20µm,19.0s								
GLMI	**Grayling**	**101.03**	**46**	IAMs_20		IAMs_20		16 44 49.9	
	comp=Z,15µm,21.0s								
060A	**Indiantown**	**101.11**	**65**	IAMs_20		IAMs_20		16 44 28.1	
	comp=Z,12µm,22.0s								
P51A	**Williamsport**	**101.21**	**52**	IAMs_20		IAMs_20		16 45 54.8	
	comp=Z,14µm,20.0s								
AAM	**Ann Arbor**	**101.27**	**49**	IAMs_20		IAMs_20		16 48 19.8	
	comp=Z,14µm,18.0s								
PAULI	**Pauline**	**101.35**	**57**	IAMs_20		IAMs_20		16 45 49.3	
	comp=Z,22µm,21.0s								
Z56A	**Williston**	**101.44**	**58**	IAMs_20		IAMs_20		16 48 11.9	
	comp=Z,16µm,19.0s								
257A	**Skidaway Islan**	**101.48**	**60**	IAMs_20		IAMs_20		16 47 56.1	
	comp=Z,19µm,20.0s								
M50A	**Fremont**	**101.56**	**50**	IAMs_20		IAMs_20		16 46 03.8	
	comp=Z,11µm,20.0s								
JSC	**Jenkinsville**	**101.71**	**58**	IAMs_20		IAMs_20		16 46 19.7	
	comp=Z,13µm,20.0s								
Q52A	**Bidwell**	**101.73**	**53**	Pdiff		**Pdif**		**16 06 21.1**	**+2.9**
	baz=260								
LPAZ	**La Paz**	**101.73**	**111**	P		**Pdif**		**16 06 21.7**	**+2.1**
	comp=Z,0.8nm,0.8s,baz=106,slow=7.7,SNR=3.5								
ROSC	**El Rosal**	**101.93**	**88**	IAMs_20		IAMs_20		16 42 04.0	
	comp=Z,20µm,22.0s								
P52A	**Corning**	**101.95**	**52**	IAMs_20		IAMs_20		16 45 49.2	
	comp=Z,15µm,21.0s								
RES	**Resolute Bay**	**101.95**	**16**	IAMs_20		IAMs_20		16 50 00.1	
	comp=Z,12µm,19.0s								
K50A	**Casco**	**102.10**	**49**	IAMs_20		IAMs_20		16 47 43.8	
	comp=Z,14µm,20.0s								
I49A	**Point Hope**	**102.14**	**48**	IAMs_20		IAMs_20		16 46 27.8	
	comp=Z,18µm,20.0s								
NHSC	**New Hope**	**102.39**	**59**	IAMs_20		IAMs_20		16 49 20.0	
	comp=Z,17µm,19.0s								
BIRD	**Birdtown, Kers**	**102.42**	**57**	IAMs_20		IAMs_20		16 47 47.6	
	comp=Z,20µm,19.0s								
P53A	**Whipple**	**102.49**	**52**	IAMs_20		IAMs_20		16 46 16.6	
	comp=Z,16µm,21.0s								
HOPE	**Hope Point**	**102.55**	**157**	IAMs_20		IAMs_20		16 49 45.6	
	comp=Z,14µm,19.0s								
Q54A	**Coxs Mills**	**102.83**	**53**	IAMs_20		IAMs_20		16 48 21.9	
	comp=Z,20µm,20.0s								
M52A	**Chesterland**	**102.83**	**50**	IAMs_20		IAMs_20		16 47 10.5	
	comp=Z,17µm,19.0s								
Y58A	**Scranton**	**102.94**	**58**	IAMs_20		IAMs_20		16 47 37.6	
	comp=Z,16µm,20.0s								
M53A	**Wl Miller and**	**103.33**	**50**	IAMs_20		IAMs_20		16 47 23.5	
	comp=Z,20µm,20.0s								
O54A	**Avella**	**103.36**	**52**	IAMs_20		IAMs_20		16 47 41.7	
	comp=Z,19µm,20.0s								
ALLY	**Alegheny Colle**	**103.75**	**50**	IAMs_20		IAMs_20		16 47 08.7	
	comp=Z,20µm,20.0s								
BOK	**Bokaro**	**103.75**	**291**	*ex*		**PKiKP**		**16 10 47.8**	**+2.0**
ERPA	**Erie**	**103.93**	**50**	IAMs_20		IAMs_20		16 47 17.4	
	comp=Z,21µm,21.0s								
Y60A	**Bolivia**	**104.15**	**58**	IAMs_20		IAMs_20		16 49 30.5	
	comp=Z,20µm,20.0s								
GTBY	**Guantanamo Bay**	**104.48**	**73**	IAMs_20		IAMs_20		16 47 07.1	
	comp=Z,13µm,20.0s								
O56A	**Blue Knob Stat**	**104.75**	**52**	IAMs_20		IAMs_20		16 48 25.4	
	comp=Z,14µm,19.0s								
SADO	**Sadowa**	**104.87**	**47**	Pdiff		**Pdif**		**16 06 35.6**	**+3.6**
	comp=Z,1.4nm,0.7s,baz=285,slow=9.2,SNR=3.1								
SADO	**Sadowa**	**104.87**	**47**	IAMs_20		IAMs_20		16 49 46.3	
	comp=Z,18µm,19.0s								
J54A	**Appleton**	**105.06**	**49**	IAMs_20		IAMs_20		16 50 28.2	
	comp=Z,11µm,18.0s								
MMNY	**Mt. Morris Dam**	**105.53**	**49**	IAMs_20		IAMs_20		16 49 37.8	
	comp=Z,19µm,20.0s								
J55A	**Hilton**	**105.66**	**49**	IAMs_20		IAMs_20		16 50 29.0	
	comp=Z,12µm,19.0s								
DELO	**Deloro Mine**	**105.93**	**47**	IAMs_20		IAMs_20		16 50 25.0	
	comp=Z,14µm,19.0s								
PAGS	**Pennsylvania G**	**106.15**	**52**	IAMs_20		IAMs_20		16 51 35.4	
	comp=Z,16µm,20.0s								
N58A	**Sunbury**	**106.22**	**51**	IAMs_20		IAMs_20		16 49 01.2	
	comp=Z,18µm,21.0s								
PECO	**Prince Edward**	**106.32**	**48**	IAMs_20		IAMs_20		16 49 04.4	
	comp=Z,13µm,20.0s								
J56A	**Wolcott**	**106.36**	**49**	IAMs_20		IAMs_20		16 51 07.5	
	comp=Z,16µm,19.0s								
VLDQ	**Val d'Or**	**106.36**	**44**	IAMs_20		IAMs_20		16 48 31.6	
	comp=Z,15µm,21.0s								
MVL	**Millersville**	**106.41**	**52**	IAMs_20		IAMs_20		16 49 29.3	
	comp=Z,16µm,20.0s								
SDV	**Santo Domingo**	**106.44**	**85**	IAMs_20		IAMs_20		16 46 47.5	
	comp=Z,11µm,20.0s								
N59A	**State Game Lan**	**106.94**	**51**	IAMs_20		IAMs_20		16 49 52.3	
	comp=Z,19µm,20.0s								
J57A	**Williamstown**	**106.99**	**49**	IAMs_20		IAMs_20		16 50 33.3	
	comp=Z,15µm,20.0s								
ZSN	**Zaisan**	**107.51**	**315**	*e*PP		**PP**		**16 11 08.8**	**-3.1**
	baz=316								
ZSN				LR		LR		16 53 23.6	
	comp=Z,4µm,19.0s,baz=316								
ZALV	**Zalesovo Beam**	**107.80**	**322**	Pdiff		**Pdif**		**16 06 47.1**	**+2.3**
	comp=Z,0.7nm,0.7s,baz=113,slow=5.6,SNR=4.6								
ZALV				PKiKP		**PKiKP**		**16 10 55.6**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=180,slow=2.4,SNR=3.5								
ZALV				PKKP		**PKKPab**		**16 22 18.7**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=188,slow=9.0,SNR=2.7								
BRNJ	**Basking Ridge**	**107.83**	**52**	IAMs_20		IAMs_20		16 50 12.9	
	comp=Z,20µm,21.0s								
J59A	**Piesco**	**108.08**	**49**	IAMs_20		IAMs_20		16 51 33.1	
	comp=Z,17µm,20.0s								
LONY	**Lake Ozonia**	**108.10**	**48**	IAMs_20		IAMs_20		16 52 11.4	
	comp=Z,17µm,20.0s								
PAL	**Palisades**	**108.35**	**51**	IAMs_20		IAMs_20		16 50 26.7	
	comp=Z,17µm,20.0s								
GRTK	**Grand Turk**	**108.43**	**72**	IAMs_20		IAMs_20		16 48 53.4	
	comp=Z,11µm,22.0s								
TULEG	**Thule**	**108.43**	**14**	IAMs_20		IAMs_20		16 51 51.2	
	comp=Z,12µm,21.0s								
ACCN	**Adirondack Com**	**108.69**	**49**	IAMs_20		IAMs_20		16 52 09.1	
	comp=Z,16µm,19.0s								
HATO	**Hato, Curacao**	**108.76**	**82**	IAMs_20		IAMs_20		16 46 41.6	
	comp=Z,12µm,22.0s								
MKAR	**Makanchi Array**	**109.23**	**315**	Pdiff		**Pdif**		**16 06 54.9**	**+3.4**
	comp=Z,0.2nm,0.6s,baz=235,slow=17,SNR=5.5								
MKAR				PKiKP		**PKiKP**		**16 10 56.0**	**+0.7**
	comp=Z,1.1nm,0.7s,baz=107,slow=1.3,SNR=8.1								
MKAR				PKKPbc		**PKKPab**		**16 22 08.3**	**-4.6**
	comp=Z,0.5nm,0.8s,baz=238,slow=2.3,SNR=5.1								
HYB	**Hyderabad**	**109.38**	**283**	*ex*		**PP**		**16 11 32.7**	**+6.3**
MAKZ	**Makanchi**	**109.45**	**315**	IAMs_20		IAMs_20		16 52 48.2	
	comp=Z,13µm,21.0s								
NGP	**Nagpur**	**109.54**	**287**	*ex*		**PP**		**16 11 34.4**	**+7.0**
HNH	**Hanover**	**109.70**	**49**	IAMs_20		IAMs_20		16 53 09.0	
	comp=Z,13µm,19.0s								
LBNH	**Lisbon**	**109.98**	**48**	IAMs_20		IAMs_20		16 52 01.3	
	comp=Z,15µm,21.0s								
I62A	**Tamworth**	**110.40**	**48**	IAMs_20		IAMs_20		16 57 40.4	
	comp=Z,13µm,18.0s								
SEM	**Semipalatinsk**	**110.61**	**319**	*e*PP		**PP**		**16 11 31.6**	**-3.0**
	baz=319								
SEM				LR		LR		16 54 03.6	
	comp=Z,5µm,19.2s,baz=319								
M65A	**Busby, Falmout**	**110.84**	**51**	IAMs_20		IAMs_20		16 52 10.4	
	comp=Z,15µm,20.0s								
I63A	**Otisfield**	**110.95**	**48**	IAMs_20		IAMs_20		16 52 09.9	
	comp=Z,16µm,21.0s								
SHLS	**Shalkode**	**111.15**	**311**	*e*PP		**PP**		**16 11 33.8**	**-4.8**
	baz=311								
SHLS				LR		LR		16 53 51.0	
	comp=Z,3µm,19.6s,baz=311								
BHPL	**Bhopal**	**111.33**	**289**	*ex*		**PP**		**16 11 46.5**	**+6.1**
UZB	**Uzynbulak**	**111.48**	**311**	*e*PP		**PP**		**16 11 35.9**	**-5.1**
	baz=311								
UZB				LR		LR		16 54 13.1	
	comp=Z,2µm,17.8s,baz=311								
KPKS	**Kokpek**	**111.73**	**311**	*e*PP		**PP**		**16 11 37.7**	**-5.0**
	baz=311								
KPKS				LR		LR		17 00 28.0	
	comp=Z,2µm,16.6s,baz=311								
PRZ	**Przheval'sk**	**111.92**	**310**	IAMs_20		IAMs_20		16 54 58.8	
	comp=Z,14µm,20.0s								
TDK	**Taldyqorghan**	**111.93**	**313**	LR		LR		16 55 45.8	
	comp=Z,9µm,18.8s,baz=313								
F63A	**Nahmakanta, Br**	**112.00**	**47**	IAMs_20		IAMs_20		16 54 30.5	
	comp=Z,13µm,19.0s								
OBIP	**Obispado Ponce**	**112.08**	**76**	IAMs_20		IAMs_20		16 50 41.8	
	comp=Z,10µm,22.0s								
TARG	**Taragay, Kyrgy**	**112.36**	**309**	IAMs_20		IAMs_20		16 54 47.5	
	comp=Z,19µm,22.0s								
RODM	**Citronelle, R**	**112.59**	**241**	IAMs_20		IAMs_20		16 55 48.8	
	comp=Z,15µm,20.0s								
KDJ	**Kajisay**	**112.83**	**310**	IAMs_20		IAMs_20		16 56 02.8	
	comp=Z,18µm,21.0s								
SCHQ	**Schefferville**	**112.89**	**37**	IAMs_20		IAMs_20		16 57 45.8	
	comp=Z,10µm,19.0s								
MDOK	**Medeo**	**112.92**	**311**	*e*PP		**PP**		**16 11 49.1**	**-2.2**
	baz=311								
MDOK				*e*PPP		PPP		16 14 10.6	
	baz=311								
MDOK				*e*SKP		**SKPdf**		**16 14 37.3**	**+0.8**
	baz=311								
MDOK				*e*SP		SP		16 21 21.5	-1.4
	baz=311								
MDOK				*e*SS		**SS**		**16 27 31.3**	**-2.1**
	baz=311								
MDOK				*e*SSS		SSS		16 31 42.6	
	baz=311								
MDOK				LR		LR		17 01 48.0	
	comp=Z,2µm,17.7s,baz=311								
AAA	**Alma-Ata**	**113.02**	**311**	*e*PP		**PP**		**16 11 51.8**	**-0.1**
	baz=311								
AAA				LR		LR		17 00 37.5	
	comp=Z,3µm,17.7s,baz=311								
KUU	**Kurty**	**113.42**	**312**	*e*PP		**PP**		**16 11 51.5**	**-3.2**
	baz=312								
KUU				*e*PS		**SP**		**16 21 26.7**	**-0.6**
	baz=312								
KUU				LR		LR		16 58 58.5	
	comp=Z,3µm,17.4s,baz=312								
SGDS	**Sogindy**	**114.68**	**311**	*e*PP		**PP**		**16 12 00.9**	**-2.8**
	baz=311								
SGDS				*e*SP		SP		16 21 37.8	-1.1
	baz=311								
SGDS				LR		LR		16 59 48.0	
	comp=Z,3µm,17.6s,baz=311								
FRU1	**Bishkek**	**114.70**	**310**	IAMs_20		IAMs_20		16 55 56.2	
	comp=Z,13µm,21.0s								
AAK	**Ala-Archa**	**114.81**	**310**	*i* PKIKP		**PKiKP**		**16 11 08.8**	**+2.6**
AAK	**Ala-Archa**	**114.81**	**310**	IAMs_20		IAMs_20		16 56 01.1	
	comp=Z,15µm,21.0s								
BTLS	**Baital**	**115.02**	**313**	*e*PP		**PP**		**16 12 03.4**	**-2.5**
	baz=313								
BTLS				LR		LR		16 57 56.4	
	comp=Z,2µm,17.7s,baz=313								
SABA	**Saba**	**115.17**	**77**	IAMs_20		IAMs_20		16 56 01.1	
	comp=Z,10µm,18.0s								
SMRT	**St. Maarten**	**115.40**	**77**	IAMs_20		IAMs_20		16 56 50.9	
	comp=Z,10µm,19.0s								
BRZS	**Berezniki**	**115.49**	**318**	*e*PP		**PP**		**16 12 06.3**	**-2.8**
	baz=319								
BRZS				LR		LR		16 56 39.5	
	comp=Z,4µm,17.5s,baz=319								
SKI	**Saint Kitts**	**115.61**	**78**	IAMs_20		IAMs_20		16 56 02.6	
	comp=Z,10µm,20.0s								
ILULI	**Iluissat**	**115.85**	**19**	IAMs_20		IAMs_20		16 55 04.4	
	comp=Z,12µm,20.0s								
SPB	**Sao Paulo**	**116.25**	**126**	IAMs_20		IAMs_20		16 51 37.7	
	comp=Z,13µm,22.0s								
TOSP	**Speyside**	**116.67**	**85**	IAMs_20		IAMs_20		16 52 50.4	
	comp=Z,13µm,22.0s								
SFJD	**Kangerlussuaq**	**117.03**	**21**	IAMs_20		IAMs_20		16 56 19.8	
	comp=Z,9µm,20.0s								
SUMG	**Summit**	**117.35**	**13**	IAMs_20		IAMs_20		16 58 42.8	
	comp=Z,10µm,20.0s								
BBGH	**Gun Hill**	**117.95**	**83**	IAMs_20		IAMs_20		16 54 14.1	
	comp=Z,12µm,21.0s								
RER	**Riviere de l'E**	**118.21**	**236**	IAMs_20		IAMs_20		16 55 08.6	
	comp=Z,10µm,21.0s								
CHM	**Chimkent**	**118.44**	**310**	*e*PP		PP		16 12 27.1	-2.8
	baz=310								
CHM				LR		LR		17 02 50.1	
	comp=Z,931nm,17.3s,baz=310								
BDFB	**Brasilia**	**119.72**	**118**	IAMs_20		IAMs_20		16 55 45.7	
	comp=Z,9µm,19.0s								
IVI	**Ivigtut**	**120.62**	**27**	IAMs_20		IAMs_20		17 01 01.1	
	comp=Z,11µm,20.0s								
SVE	**Sverdlovsk**	**120.85**	**328**	*i* PKIKP		**PKiKP**		**16 11 21.3**	**+4.1**
SVE				pmax		pmax			
	comp=Z,14nm,1.5s								
SVE				MLR		MLR			
	comp=Z,29µm,21.0s								
NRS	**Narsarsuaq**	**121.82**	**26**	IAMs_20		IAMs_20		17 01 40.7	
	comp=Z,10µm,20.0s								
ARU	**Arti**	**122.06**	**328**	*i* PKIKP		**PKiKP**		**16 11 23.0**	**+3.4**
ARU								16 12 56.3	
ARU				PPP		PPP		16 15 30.1	
ARU				SS		SS		16 29 34.3	+3.6
ARU				MLR		MLR			
	comp=Z,31µm,20.0s								
ANGG	**Ammassalik, Gr**	**122.16**	**19**	IAMs_20		IAMs_20		17 04 53.3	
	comp=Z,11µm,19.0s								
FOMA	**Nahampoana Res**	**122.61**	**227**	IAMs_20		IAMs_20		17 00 48.9	
	comp=Z,10µm,20.0s								
KEV	**Kevo**	**123.60**	**351**	IAMs_20		IAMs_20		17 02 20.2	
	comp=Z,16µm,22.0s								
LVZ	**Lovozero**	**123.77**	**347**	IAMs_20		IAMs_20		17 05 03.3	
	comp=Z,13µm,20.0s								
ARCES	**ARCESS Array B**	**124.03**	**351**	PKP		**PKiKP**		**16 11 22.8**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=0.0,slow=1.2,SNR=12								
ARCES				PKKPab		**PKKPab**		**16 21 07.4**	**0.0**
	comp=Z,1.2nm,0.8s,baz=23,slow=25,SNR=2.8								
ARCES				PKKPbc		**PKKPbc**		**16 21 11.7**	**+0.8**
	comp=Z,4.3nm,1.0s,baz=169,slow=1.2,SNR=4.8								
APA	**Apatity**	**124.31**	**347**	*i* PKIKP		**PKiKP**		**16 11 28.0**	**+4.2**
APA				pmax		pmax			
	comp=Z,6.0nm,0.9s								
KIRV	**Kirov**	**125.40**	**333**	*i* PKIKP		**PKiKP**		**16 11 27.5**	**+1.4**
TRIS	**Tristan da Cun**	**125.73**	**163**	IAMs_20		IAMs_20		16 54 34.0	
	comp=Z,12µm,22.0s								
MSEY	**Mahe Island**	**125.91**	**253**	IAMs_20		IAMs_20		17 00 07.6	
	comp=Z,12µm,22.0s								
BORG	**Borgarnes**	**127.33**	**14**	IAMs_20		IAMs_20		17 03 03.1	
	comp=Z,9µm,21.0s								
GEYT	**Alibeck**	**127.77**	**306**	PKP		**PKiKP**		**16 11 32.8**	**+1.2**
	comp=Z,7.9nm,1.2s,baz=285,slow=2.9,SNR=12								
GYA0B	**ALIBECK ARRAY**	**127.77**	**306**	IAMs_20		IAMs_20		17 04 49.1	
	comp=Z,8µm,21.0s								
KLMR	**Klimovskoe**	**127.83**	**339**	*e*PKIKP		**PKPdf**		**16 11 29.9**	**-0.4**
KLMR				*e*				16 13 29.4	
KLMR				*e*SS		SS		16 30 43.5	+0.9
KLMR				*e*SSS		SSS		16 35 26.5	
KLMR				pmax		pmax			
	comp=Z,39nm,1.5s								
KLMR	**Klimovskoe**	**127.83**	**339**	*e*PKPdf		**PKPdf**		**16 11 30.0**	**-0.4**
KLMR				AMP				16 11 37.7	
	comp=Z,39nm,1.5s								
KLMR				*e*PP		**PP**		**16 13 29.4**	**-2.8**
KLMR				*e*SS		**SS**		**16 30 43.6**	**+1.0**
KLMR				*e*SS		**SS**		**16 30 43.6**	**+1.0**
KLMR				*e*SSS		SSS		16 35 26.5	
KLMR				*e*SSS		SSS		16 35 26.5	
KLMR				LQ		LQ		16 53 34.4	
KLMR				LQ		LQ		16 53 34.4	
KLMR				LR		LR		17 08 56.9	
KLMR				AMP				17 11 07.4	
	comp=Z,5µm,19.3s								
SUR	**Sutherland**	**130.31**	**198**	IAMs_20		IAMs_20		17 09 59.6	
	comp=Z,10µm,18.0s								
FINES	**FINESS Array B**	**131.21**	**346**	PKP		**PKPdf**		**16 11 36.2**	**-0.6**
	comp=Z,3.9nm,1.0s,baz=161,slow=26,SNR=2.3								
FINES				SKPbc		**SKPab**		**16 15 01.1**	**+0.8**
	comp=Z,2.6nm,0.9s,baz=153,slow=34,SNR=1.5								
PUL	**Pulkovo**	**131.56**	**343**	*e*P		**PKiKP**		**16 11 44.4**	**+5.9**
PUL				*e*PP		**PP**		**16 13 53.6**	**-2.8**
SOCY	**Socotra**	**131.99**	**273**	IAMs_20		IAMs_20		17 08 38.9	
	comp=Z,10µm,20.0s								
BOSA	**Boshof**	**132.17**	**205**	PKiKP		**PKiKP**		**16 11 41.1**	**+0.1**
	comp=Z,4.0nm,1.1s,baz=201,slow=18,SNR=3.0								
BOSA				SKPab		**SKPab**		**16 15 09.1**	**+3.4**
	comp=Z,2.2nm,1.0s,baz=341,slow=20,SNR=1.4								
MOS	**Moscow**	**132.18**	**335**	*i* PKIKP		**PKiKP**		**16 11 39.9**	**+0.1**
MOS				*e*				16 13 57.1	
MOS				*e*PS		PS		16 24 19.1	+2.2
MOS				*e*SS		SS		16 32 06.1	+30
MOS				*e*SSS		SSS		16 36 29.3	
OBN	**Obninsk**	**133.04**	**335**	*i* PKIKP		**PKiKP**		**16 11 41.0**	**-0.6**
OBN				*e*				16 14 03.6	
OBN				*e*SS		SS		16 31 49.7	+3.0
OBN				*e*SSS		SSS		16 36 44.6	
OBN				pmax		pmax			
	comp=Z,15nm,1.1s								
OBN				MLR		MLR			
	comp=Z,12µm,19.0s								
VRH	**Novokhopyorsk**	**133.29**	**329**	*i* PKIKP		**PKiKP**		**16 11 41.2**	**-1.0**
VRH				pmax		pmax			
	comp=Z,300nm,3.2s								
VSU	**Vasula**	**133.66**	**344**	*e*P		**PKiKP**		**16 11 43.5**	**+0.8**
VSU				*e*PP		**PP**		**16 14 09.8**	**0.0**
LPSR	**Galich'ya Gora**	**133.75**	**332**	*i* PKIKP		**PKiKP**		**16 11 44.0**	**+0.9**
LPSR				pmax		pmax			
	comp=Z,360nm,3.4s								
LPSR				MLR		MLR			
	comp=Z,21µm,20.0s								
NB2	**NORSAR Subarra**	**133.87**	**356**	PKPdf		**PKiKP**		**16 11 43.7**	**+0.5**
	comp=Z,306nm,3.3s,baz=14,slow=1.8								
NB2	**NORSAR Subarra**	**133.87**	**356**	PKPdf		**PKiKP**		**16 11 43.7**	**+0.5**

comp=Z,10µm,20.0s
H07S1 FLORES T-PHASB 40.42 45 *e*PKP **PKiKP 16 12 00.0 +2.8**
DSB Dublin 140.96 10 IAMs_20 IAMs_20 17 14 05.0
comp=Z,7µm,20.0s
WPS Cemaes, Angles 141.11 9 *e*P PKPdf 16 11 46.8 -8.6
WPS IAMs_20 IAMs_20 17 13 06.8
comp=Z,8µm,20.2s
SIM Simferopol' 141.17 326 *i* PKIKP **PKiKP 16 12 01.6 +3.1**
WLF1 Llynfaes 141.24 9 *e*P PKPdf 16 11 47.5 -8.1
WLF1 IAMs_20 IAMs_20 17 13 19.9
comp=Z,16µm,19.9s
DAMY Dhamar 141.56 275 IAMs_20 IAMs_20 17 14 12.1
comp=Z,9µm,21.0s
LSZ Lusaka 141.87 219 IAMs_20 IAMs_20 17 10 57.5
comp=Z,10µm,20.0s
LVV L'vov 141.92 340 *i* PKIKP **PKPdf 16 11 57.7 +0.7**
LVV *e*SS SS 16 33 36.5 +4.6
LVV MLR MLR
comp=Z,13µm,22.0s
RUE Ruedersdorf 141.99 351 *e*P **PKiKP 16 12 03.0 +3.1**
KIS Kishinev 142.33 333 *e*PKP **PKiKP 16 12 00.0 -0.8**
comp=Z,4µm,6.9s
KIS Kishinev 142.33 333 *i* PKIKP **PKiKP 16 11 59.8 -1.0**
KIS *i* PS 16 27 31.0
KIS pmax pmax
comp=Z,4µm,6.9s
RSBS Rosebush, Pemb 142.48 9 *e*P PKPdf 16 11 48.8 -9.1
RSBS IAMs_20 IAMs_20 17 15 51.3
comp=Z,8µm,19.4s
PCED Cedros 142.49 45 *e*PKP **PKiKP 16 12 00.6 -0.8**
CALA Caldeira 142.51 45 *e*PKP **PKiKP 16 12 00.0 -1.6**
ATD Arta Tunnel 142.64 269 IAMs_20 IAMs_20 17 12 12.3
comp=Z,8µm,20.0s
MCH1 Michaelchurch 142.69 8 *e*P PKPdf 16 11 50.2 -8.0
MCH1 IAMs_20 IAMs_20 17 16 52.7
comp=Z,9µm,20.0s
PCAN Candelaria 142.72 45 *e*PKP **PKiKP 16 12 00.3 -1.6**
SRBC Serra Branca 142.73 44 *e*PKP **PKiKP 16 12 02.3 +0.4**
PICO Pico 142.74 45 *e*PKP **PKiKP 16 12 02.3 +0.3**
ROSA Rosais 142.76 44 *e*PKP **PKiKP 16 12 03.1 +1.1**
ROSA Rosais 142.76 44 *e*LQ LQ 16 52 04.1
ROSA *i* LR LR 16 59 26.2
comp=Z,5µm,27.6s
PGRA Graciosa 142.78 44 *e*PKP **PKPdf 16 11 57.8 -1.1**
PGRA Graciosa 142.78 44 *e*LQ LQ 16 51 53.5
PGRA *i* LR LR 17 00 04.8
comp=Z,4µm,28.3s
PMAN Manadas 142.91 45 *e*PKP **PKiKP 16 12 02.0 -0.3**
CLL Collm 143.25 351 *e*PKPdf PKPbc 16 11 56.0 -0.3
CLL *i* PKiKP **PKPdf 16 11 59.2 -0.1**
comp=Z,19nm,1.3s
CLL *i* sPKiKP **PKiKP 16 12 03.6 +1.0**
comp=Z,35nm,1.3s
CLL *i* 16 12 10.0
comp=Z,49nm,1.3s
CLL *e* 16 14 48.0
CLL *e*SKPdf **SKPbc 16 15 27.0 -9.0**
CLL *e*PKSbc **PKSbc 16 15 36.0 -2.7**
CLL *e*SKKSac **SKKSac 16 22 06.0 +5.0**
CLL *e*(SKSP) 16 24 54.0
CLL *e*(PSKS) 16 25 06.0
CLL *e*PPS PPS 16 27 36.0
CLL *e*SS **SS 16 33 44.0 -2.8**
CLL *e*SSS SSS 16 39 12.0
CLL *e*SSSS 16 42 54.0
CLL LmV 17 25 00.0
comp=Z,12µm,18.4s
CLL Collm 143.25 351 *e*PKIKP PKPbc 16 11 56.0 -0.3
CLL *i* 16 11 59.2
CLL *i* 16 12 03.6
CLL MLR MLR
comp=Z,12µm,18.4s
KOLS Kolonicke sedl 143.27 340 *e*PKIKP **PKiKP 16 12 01.7 -1.0**
KOLS Kolonicke sedl 143.27 340 *e*PKP **PKiKP 16 12 01.7 -1.0**
KOLS *e*SS SS 16 33 54.8 +7.4
SWN1 Swindon 143.31 7 *e*P PKPab 16 11 52.4 -2.9
SWN1 IAMs_20 IAMs_20 17 19 01.4
comp=Z,13µm,21.3s
BURAR Bucovina Array 143.34 336 ⇑P **PKPdf 16 11 60.0 +0.3**
BURAR Bucovina Array 143.34 336 ⇑PKIKP **PKPdf 16 12 00.0 +0.3**
OSTC Ostas 143.40 348 *e*PKP **PKPdf 16 11 58.7 -0.9**
OSTC *ex* x 16 12 13.3
OSTC *e*SS SS 16 33 37.3 -11
OSTC AMS AMS 17 13 10.0
comp=Z,18µm,23.4s
CHVC Chvalec 143.40 348 *e*PKP **PKiKP 16 12 01.1 -1.9**
CHVC AMS AMS 17 08 30.0
comp=Z,14µm,25.2s
UPC Upice 143.49 348 *e*PKP **PKiKP 16 12 03.1 0.0**
UPC *e*SS SS 16 33 37.0 -13
UPC AMS AMS 17 13 50.0
comp=Z,16µm,22.8s
UPC Upice 143.49 348 *e*PKIKP **PKiKP 16 12 03.1 0.0**
UPC MLR MLR
comp=Z,16µm,22.8s
BRG Berggiesshubel 143.52 350 *i* PKP **PKPdf 16 11 59.1 -0.7**
comp=Z,35nm,1.8s
BRG *i* 16 12 16.7
comp=Z,65nm,1.7s
BRG SS SS 16 33 46.0 -4.0
comp=N,14µm,23.0s
comp=E,5µm,24.5s
comp=Z,16µm,23.4s
BRG Berggiesshubel 143.52 350 *i* PKIKP **PKPdf 16 11 59.1 -0.7**
BRG SS SS 16 33 46.0 -4.0
BRG pmax pmax
comp=Z,35nm,1.8s
BRG MLR MLR
comp=N,14µm,23.0s
BRG MLR MLR
comp=E,5µm,24.5s
BRG MLR MLR
comp=Z,16µm,23.4s
UZH Uzhgorod 143.52 340 *e*PKIKP **PKPdf 16 12 00.0 +0.2**
UZH *e*SKS **SKSdf 16 19 02.0 -5.8**
PSCM Serra do Cume 143.52 44 *e*PKP **PKPdf 16 12 00.0 -0.2**
BIZ Bicaz 143.54 335 ⇓P **PKiKP 16 12 01.5 -1.8**
DPC Dobruska-Polom 143.57 347 *e*PKP **PKPdf 16 12 00.5 +0.5**
DPC *ex* x 16 12 14.8
DPC *e*SS SS 16 33 44.6 -6.1
DPC AMS AMS 17 14 00.0
comp=Z,21µm,23.3s
DPC Dobruska-Polom 143.57 347 *e*PKIKP **PKPdf 16 12 00.5 +0.5**
DPC *e*SS SS 16 33 44.6 -6.1
DPC MLR MLR
comp=Z,21µm,23.3s
TSUM Tsumeb 143.60 201 IAMs_20 IAMs_20 17 15 51.0
comp=Z,11µm,20.0s
OKC Ostrava-Krasne 143.63 345 *e*PKP **PKiKP 16 12 01.9 -1.5**
OKC *e*SS SS 16 33 35.9 -15
OKC AMS AMS 17 09 10.0
comp=Z,15µm,23.6s
OKC Ostrava-Krasne 143.63 345 *e*PKIKP **PKiKP 16 12 01.9 -1.5**
OKC MLR MLR
comp=Z,15µm,23.6s
GAZ Gaziantep 143.66 313 IAMs_20 IAMs_20 17 17 50.9
comp=Z,10µm,21.0s
BUG Bochum--Univer 143.68 357 *e*PKPbc PKPbc 16 11 57.0 -0.5
baz=7.3,slow=3.1
MORC Moravsky Berou 143.83 346 ⇓P PKPbc 16 11 58.6 +0.5
MORC Moravsky Berou 143.83 346 *e*PKP PKPbc 16 11 57.6 -0.5
MORC *e*SS SS 16 33 50.2 -3.6
MORC Moravsky Berou 143.83 346 ⇓PKIKP PKPbc 16 11 58.6 +0.5
ILGA Ilgaz 143.85 321 IAMs_20 IAMs_20 17 19 20.6
comp=Z,8µm,21.0s
KMBO Kilima Mbogo 143.90 246 PKhKP PKPpre 16 11 51.6
comp=Z,1.5nm,0.7s,baz=340,slow=1.4,SNR=3.1
KMBO PKP **PKPdf 16 12 01.9 -0.1**
comp=Z,20nm,0.9s,baz=62,slow=3.7,SNR=16
KMBO Kilima Mbogo 143.90 246 IAMs_20 IAMs_20 17 13 46.6
comp=Z,8µm,19.0s
DYA Yadsworthy 144.08 9 *e*P **PKPab 16 11 52.2 -6.0**
DYA IAMs_20 IAMs_20 17 15 15.7
comp=Z,9µm,19.8s
MOX Moxa 144.09 352 *e*PKPbc PKPbc 16 11 58.8 0.0
baz=7.3,slow=3.1
MOX *e*L L 17 13 50.7
comp=Z,7µm,21.9s
UBBA Unterbreizbach 144.10 354 *e*PKPbc PKPbc 16 11 58.8 +0.1
baz=7.3,slow=3.1
VRI Vrincioaia 144.13 333 ⇓P **PKPdf 16 11 59.9 -1.2**
VRI Vrincioaia 144.13 333 ⇓PKIKP **PKPdf 16 11 59.9 -1.2**
TOPG Topolog 144.14 331 ⇓P **PKPdf 16 11 59.9 -1.2**
PLN Plauen 144.17 352 *e*PKPbc PKPbc 16 11 59.2 +0.1
baz=7.3,slow=3.1

PLOR Plostina 144.17 333 ⇑P **PKPdf 16 11 60.0 -1.2**
PLOR Plostina 144.17 333 ⇑PKIKP **PKPdf 16 12 00.0 -1.2**
TANN Tannenbergstha 144.20 351 *e*PKPbc PKPbc 16 11 59.2 0.0
baz=7.3,slow=3.1
PRA Prague 144.21 349 *e*PKP PKPbc 16 11 59.5 +0.4
PRA *e*SS SS 16 33 59.0 +1.1
PRA AMS AMS 17 11 30.0
comp=Z,8µm,24.4s
PRA Prague 144.21 349 *e*PKIKP PKPbc 16 11 59.5 +0.4
PRA *e*SS SS 16 33 59.0 +1.1
PRA MLR MLR
comp=Z,8µm,24.4s
GUNZ Gunzen 144.26 352 *e*PKPbc PKPbc 16 11 59.6 +0.2
baz=7.3,slow=3.1
PRU Pruhonice 144.27 349 *e*PKP **PKPdf 16 12 01.0 -0.1**
PRU *e*SS SS 16 33 52.7 -5.9
PRU AMS AMS 17 16 00.0
comp=Z,16µm,20.8s
PRU Pruhonice 144.27 349 *e*PKIKP **PKPdf 16 12 01.0 -0.1**
PRU *e*SS SS 16 33 52.7 -5.9
PRU MLR MLR
comp=Z,16µm,20.8s
GOPC GO Pecny, Ondr 144.29 349 *e*PKP **PKPdf 16 12 01.1 -0.1**
GOPC *ex* x 16 12 11.1
GOPC *ex* x 16 12 22.6
GOPC *e*SS SS 16 33 57.0 -1.9
GOPC AMS AMS 17 16 20.0
comp=Z,16µm,20.3s
GOPC GO Pecny, Ondr 144.29 349 *e*PKIKP **PKPdf 16 12 01.1 -0.1**
GOPC *e* 16 12 11.1
GOPC *e*SS SS 16 33 57.0 -1.9
GOPC MLR MLR
comp=Z,16µm,20.3s
WERN Wernitzgruen 144.33 351 *e*PKPbc **PKPdf 16 12 00.0 -1.2**
baz=7.3,slow=3.1
NKC Novy Kostel 144.38 351 *e*PKP **PKiKP 16 12 03.7 -1.3**
NKC *ex* x 16 12 08.0
NKC *e*SS SS 16 33 57.3 -2.5
NKC AMS AMS 17 14 30.0
comp=Z,11µm,21.4s
NKC Novy Kostel 144.38 351 *e*PKIKP **PKiKP 16 12 03.7 -1.3**
NKC *e* 16 12 08.0
NKC *e*SS SS 16 33 57.3 -2.5
NKC MLR MLR
comp=Z,11µm,21.4s
BEBN Eben Emael 144.38 359 PKPdf **PKPdf 16 11 60.0 -1.3**
UCC Uccle 144.39 0 PKPdf PKPbc 16 11 59.8 +0.1
TIRR Tirgusor 144.43 330 ⇓P **PKPdf 16 12 01.0 -0.5**
TIRR Tirgusor 144.43 330 ⇓P **PKPdf 16 12 01.0 -0.5**
TIRR Tirgusor 144.43 330 *e*P **PKPdf 16 12 00.9 -0.6**
TIRR Tirgusor 144.43 330 ⇓PKIKP **PKPdf 16 12 01.0 -0.5**
VRAC Vranov 144.49 346 ⇑P **PKPdf 16 12 00.4 -1.2**
VRAC Vranov 144.49 346 *e*PKP PKPbc 16 11 59.6 -0.5
VRAC *e*SS SS 16 33 55.1 -6.2
VRAC Vranov 144.49 346 ⇑PKIKP **PKPdf 16 12 00.4 -1.2**
MEM Membach 144.56 358 PKPdf PKPbc 16 11 59.9 -0.3
AHRW Bad Neuenahr-A 144.59 357 *e*PKPbc **PKPdf 16 12 00.5 -1.1**
baz=7.3,slow=3.1
BSTI Sart Tilman 144.59 359 PKPdf PKPbc 16 12 00.1 -0.3
DOPR Dopca 144.61 335 ⇑P **PKPdf 16 12 01.9 0.0**
JAVC Velka Javorina 144.66 345 *e*PKP **PKPdf 16 12 01.3 -0.6**
JAVC *e*SS SS 16 34 09.6 +6.3
PBCC Pribram 144.66 349 *e*PKP **PKiKP 16 12 03.6 -1.9**
PBCC *ex* x 16 12 08.9
PBCC *e*SS SS 16 34 04.4 +1.3
MANZ Manzenberg 144.67 352 *e*PKPbc **PKPdf 16 12 00.9 -1.0**
baz=7.3,slow=3.1
SNF Seneffe 144.68 0 PKPdf **PKPdf 16 12 01.0 -0.8**
BRTR Keskin Array B 144.69 320 PKP **PKPab 16 12 00.6 -0.5**
comp=Z,37nm,0.8s,baz=72,slow=2.7,SNR=27
VYHS Vyhne 144.69 344 *e*PKIKP **PKPdf 16 12 01.0 -0.9**
VYHS Vyhne 144.69 344 *e*PKP **PKPdf 16 12 01.0 -0.9**
TREC Trest 144.74 348 *e*PKP **PKPdf 16 12 02.8 +0.8**
TREC *ep*PKP **PKiKP 16 12 04.8 -1.0**
TREC *e*SS SS 16 33 42.1 -22
TREC AMS AMS 17 19 20.0
comp=Z,20nm,20.4s
TREC Trest 144.74 348 *e*PKIKP **PKPdf 16 12 02.8 +0.8**
TREC *e* 16 12 04.8
TREC MLR MLR
comp=Z,20µm,20.4s
MLR Muntele Rosu 144.76 334 ⇑P **PKPdf 16 12 03.6 +1.3**
MLR Muntele Rosu 144.76 334 ⇑PKIKP **PKPdf 16 12 03.6 +1.3**
BCLA Clavier 144.76 359 PKPdf PKPbc 16 12 00.7 -0.2
KRUC Moravsky 144.77 347 *e*PKP **PKPab 16 12 00.4 -0.5**
KRUC *e*SS SS 16 34 02.0 -2.4
BGES Gesves 144.80 359 PKPdf **PKPab 16 12 00.3 -0.6**
BHOU Houvegnez 144.81 358 PKPdf PKPbc 16 12 01.1 0.0
BHOU PP **PP 16 15 24.5 +6.0**
TNS Taunus Mts 144.82 356 *e*PKPbc **PKPdf 16 12 01.4 -0.8**
baz=7.3,slow=3.1
ROTZ Rotzenmuhle 144.87 351 *e*PKPbc **PKPdf 16 12 01.6 -0.6**
baz=7.3,slow=3.1
BMRD Maredsous 144.88 360 PKPdf **PKPdf 16 12 01.3 -0.8**
BMRD PP PP 16 15 26.5 +7.6
PSZ Piszkesteto 144.90 342 ⇓P **PKPdf 16 12 03.1 +0.7**
PSZ Piszkesteto 144.90 342 ⇓PKIKP **PKPdf 16 12 03.1 +0.7**
PSET Sete Cidades 144.92 44 *e*PKP **PKPdf 16 12 03.7 +1.0**
PSET Sete Cidades 144.92 44 *i* LR LR 17 00 43.4
comp=Z,2µm,24.4s
DRGR 144.96 338 ⇓P **PKPdf 16 12 02.5 0.0**
DRGR 144.96 338 *e*PKP **PKPdf 16 12 02.4 -0.1**
DRGR 144.96 338 ⇓PKIKP **PKPdf 16 12 02.5 0.0**
GRA1 Grafenberg Arr 145.07 352 IAMs_20 IAMs_20 17 26 27.7
comp=Z,9µm,19.0s
GRF Grafenberg Arr 145.07 352 *e*PKPbc **PKPdf 16 12 02.4 -0.2**
baz=7.3,slow=3.1
GRF *e*L L 17 26 29.0
comp=Z,9µm,19.7s
GRON Grota Negra 145.07 44 *e*PKP **PKiKP 16 12 06.0 -0.8**
CMLA Cha da Macela 145.08 44 *e*PKP **PKiKP 16 12 05.1 -1.7**
CMLA Cha da Macela 145.08 44 *e*LQ LQ 16 52 50.2
CMLA *i* LR LR 17 00 28.0
comp=Z,2µm,25.0s
PCALD Caldeiras da R 145.09 44 *e*PKP **PKiKP 16 12 05.1 -1.7**
DOU Dourbes 145.09 360 PKPdf **PKPbc 16 12 00.2 -1.8**
PSN Preselentsi 145.12 329 *e*P **PKPdf 16 12 02.6 -0.2**
ANTO Ankara 145.12 321 ⇓P **PKPdf 16 12 04.0 +0.9**
ANTO Ankara 145.12 321 PKIKP **PKPbc 16 12 01.0 -1.6**
ANTO MLR MLR
comp=Z,6µm,21.0s
ANTO Ankara 145.12 321 **PKPbc 16 12 01.0 -1.6**
VOIR 145.18 334 ⇓P **PKPdf 16 12 04.0 +1.0**
VOIR 145.18 334 ⇓PKIKP **PKPdf 16 12 04.0 +1.0**
MODS Modra-Piesok 145.20 345 *e*PKIKP **PKPab 16 12 02.1 -0.4**
MODS Modra-Piesok 145.20 345 *e*PKP **PKPab 16 12 02.1 -0.4**
MODS *e*SS SS 16 34 17.7 +8.2
KHC Kasperske Hory 145.26 350 *e*PKP **PKPdf 16 12 02.5 -0.4**
KHC *ex* x 16 12 06.4
KHC *ex* x 16 12 18.8
KHC *e*SS SS 16 33 59.0 -11
KHC AMS AMS 17 17 10.0
comp=Z,16µm,21.8s
KHC Kasperske Hory 145.26 350 *e*PKIKP **PKPdf 16 12 02.5 -0.4**
KHC *e* 16 12 06.4
KHC MLR MLR
comp=Z,16µm,21.8s
KHC Kasperske Hory 145.26 350 IAMs_20 IAMs_20 17 17 27.2
comp=Z,7µm,20.0s
BART Pico Bartolome 145.31 44 *e*PKP **PKiKP 16 12 06.0 -1.4**
WET Wettzell 145.37 350 *e*PKPbc **PKPdf 16 12 03.4 +0.2**
baz=7.3,slow=3.1
ARR Arges 145.41 335 ⇓P **PKPab 16 12 03.8 +0.4**
ZST Bratislava 145.41 345 *e*PKIKP **PKiKP 16 12 05.0 -2.1**
ZST Bratislava 145.41 345 *e*PKP **PKiKP 16 12 05.0 -2.1**
WLF Walferdange 145.50 358 PKPdf **PKPab 16 12 03.2 -0.3**
WLF Walferdange 145.50 358 *e*PKPbc **PKPab 16 12 04.0 +0.5**
baz=7.3,slow=3.1
GEC2 GERESS Array S 145.52 349 *e*PKPbc **PKPab 16 12 03.7 -0.1**
baz=7.3,slow=3.1
GERES GERESS Array B 145.52 349 PKPbc **PKPdf 16 12 01.8 -1.6**
comp=Z,17nm,0.9s,baz=33,slow=2.6,SNR=35
DEV Deva 145.66 337 ⇑P **PKPab 16 12 05.2 +0.9**
DEV Deva 145.66 337 ⇑PKIKP **PKPab 16 12 05.2 +0.9**
DESE Dese 145.67 268 *e*P **PKPab 16 12 06.7 +1.0**
LOT Lotru 145.69 336 ⇓P **PKPab 16 12 04.5 -0.1**
PSMA Santa Maria 145.76 45 *e*PKP **PKiKP 16 12 06.3 -1.9**
SIRR Siria 145.79 339 ⇑P **PKPab 16 12 05.4 +0.6**
PSMN Pico do Norte, 145.79 45 *e*PKP **PKiKP 16 12 08.3 0.0**
PSMN Pico do Norte, 145.79 45 *e*LQ LQ 16 53 23.2
PSMN *i* LR LR 17 00 43.4
comp=Z,1µm,19.3s
PRD Provadia 145.86 330 *e*P **PKPab 16 12 05.6 +0.6**

NEF NEVSHA 145.87 330 *e*P **PKiKP 16 12 08.6 +0.4**
HUMR Humele 145.94 334 ⇑P **PKiKP 16 12 06.8 -1.6**
CONA Conrad Observa 145.96 346 *i* sPKPbc **PKPab 16 12 05.1 -0.4**
comp=Z,352nm,1.8s,SNR=100
RAZG Razgrad 146.01 331 ⇑P **PKPab 16 12 06.4 +0.8**
ORH Orhaniye 146.10 324 P **PKiKP 16 12 09.5 +0.7**
FURI Furi 146.13 263 IAMs_20 IAMs_20 17 13 45.0
comp=Z,10µm,21.0s
COPA Copaceanca 146.15 333 ⇑P **PKiKP 16 12 07.2 -1.6**
STU Stuttgart 146.20 355 IAMs_20 IAMs_20 17 18 03.4
comp=Z,8µm,22.0s
STU Stuttgart 146.20 355 *e*PKPbc **PKPab 16 12 05.9 -0.3**
baz=7.3,slow=3.1
BHL Bhannes 146.29 309 *e*P **PKPab 16 12 07.2 +0.1**
BZS Buzias 146.36 338 ⇓P **PKPab 16 12 06.6 -0.3**
BZS Buzias 146.36 338 ⇓PKP2 **PKPab 16 12 06.6 -0.3**
MOA Molln 146.37 348 *i* pPKPbc **PKPbc 16 12 05.6 -0.5**
comp=Z,191nm,1.4s,SNR=101
SHBL Chebaa 146.46 308 *e*P **PKiKP 16 12 10.2 +0.2**
SZH Strazhica 146.50 331 *e*P **PKPab 16 12 07.9 +0.3**
FUR Furstenfeldbru 146.56 352 *e*PKPbc **PKPab 16 12 07.2 -0.4**
baz=7.3,slow=3.1
SRE Strehaia 146.57 336 ⇓P **PKPab 16 12 07.9 +0.2**
SRE Strehaia 146.57 336 ⇓PKP2 **PKPab 16 12 07.9 +0.2**
VLAD Vladila 146.61 334 ⇑P **PKPab 16 12 08.2 +0.3**
ARSA Arzberg 146.67 346 *i* sPKPdf **PKPbc 16 12 06.8 -0.2**
comp=Z,136nm,2.1s,SNR=48
HERR Herculane 146.69 337 ⇑P **PKPab 16 12 08.3 +0.1**
BFO Black Forest 146.71 355 IAMs_20 IAMs_20 17 16 18.8
comp=Z,9µm,22.0s
BFO Black Forest 146.71 355 *e*PKPbc **PKPab 16 12 07.6 -0.7**
baz=7.3,slow=3.1
RJOB Jochberg 146.75 350 *e*PKPbc **PKPbc 16 12 07.1 -0.1**
baz=7.3,slow=3.1
JMB Yambol 146.80 330 *e*P **PKiKP 16 12 09.0 -1.2**
PVL Pavlikeni 146.82 332 *e*P **PKiKP 16 12 09.7 -0.5**
ECH Echery 146.90 357 IAMs_20 IAMs_20 17 24 53.7
comp=Z,8µm,19.0s
PLVB Pleven 147.01 333 ⇓P **PKiKP 16 12 10.0 -0.5**
MDVR Moldovita 147.04 337 ⇑P **PKiKP 16 12 10.0 -0.7**
UBR Ueberruh 147.19 353 *e*PKPbc **PKPbc 16 12 08.8 +0.3**
baz=7.3,slow=3.1
KOGS Kog 147.25 345 *i* PKPbc **PKPab 16 12 09.0 -1.3**
KBA Koelnbreinsper 147.29 349 *i* pPKPbc **PKPbc 16 12 08.2 -0.7**
comp=Z,74nm,1.2s,SNR=26
RETA Reutte 147.30 352 *i* PKiKP **PKPbc 16 12 08.8 0.0**
comp=Z,48nm,1.4s,SNR=32
SOKA Soboth 147.32 347 *i* PKiKP **PKPbc 16 12 08.7 -0.3**
comp=Z,152nm,1.5s,SNR=41
WATA Walderalm 147.33 351 *i* sPKPab **PKiKP 16 12 10.6 -0.7**
comp=Z,39nm,1.4s,SNR=26
PERS Pernice 147.34 347 *e*PKPbc **PKPab 16 12 09.7 -1.0**
MOTA Moosalm 147.39 352 *i* PKiKP **PKPbc 16 12 09.0 -0.2**
comp=Z,60nm,1.6s,SNR=21
WTTA Wattenberg 147.39 351 *i* sPKPab **PKPab 16 12 10.8 -0.4**
comp=Z,29nm,1.1s,SNR=23
CSS Mathiatis 147.49 313 IAMs_20 IAMs_20 17 28 26.3
comp=Z,8µm,20.0s
SQTA Sankt Quirin 147.50 352 *i* sPKPbc **PKPbc 16 12 09.6 +0.2**
comp=Z,19nm,1.1s,SNR=23
SHEL Horse Pasture 147.50 161 IAMs_20 IAMs_20 17 17 57.7
comp=Z,7µm,20.0s
OBKA Obir 147.59 347 *i* pPKPab **PKPab 16 12 10.8 -1.0**
comp=Z,39nm,1.1s,SNR=9.0
DAVA Damuels 147.60 353 *i* sPKPbc **PKPbc 16 12 09.6 -0.2**
comp=Z,41nm,1.3s,SNR=28
DIM Dimitrovgrad 147.63 330 *e*P **PKiKP 16 12 10.6 -1.3**
MYKA Terra Mystica 147.66 348 *i* sPKPdf **PKPdf 16 12 07.7 +0.6**
comp=Z,96nm,1.2s,SNR=34
LEF Lefka 147.72 313 ⇑P **PKiKP 16 12 11.3 -1.0**
ABTA Abfaltersbach 147.75 350 *i* PKPab **PKPbc 16 12 08.9 -1.2**
comp=Z,28nm,1.2s,SNR=29
FETA Feichten 147.76 352 *i* PKiKP **PKPbc 16 12 09.3 -0.9**
comp=Z,30nm,1.3s,SNR=26
PGB Panagyurishte 147.87 332 *e*P **PKiKP 16 12 11.9 -0.6**
PLD Plovdiv 147.98 331 *e*P **PKPbc 16 12 10.6 -0.1**
KDZ Kurdzhali 147.99 330 *e*P **PKPbc 16 12 10.4 -0.4**
LJU Ljubljana 148.04 347 *i* PKPbc **PKPbc 16 12 11.1 +0.3**
LJU *e*SS SS 16 34 31.8 -10
LJU *e* 16 39 45.0
LJU *e* 16 40 48.1
LJU *e* 16 52 57.1
FUORN Ofenpass-Fuorn 148.21 353 **PKPbc 16 12 10.3 -1.2**
VTS Vitosha 148.23 333 ⇑P **PKPbc 16 12 11.1 -0.5**
VTS Vitosha 148.23 333 *e*P **PKPbc 16 12 11.5 -0.1**
VTS Vitosha 148.23 333 ⇑PKP2 **PKPbc 16 12 11.1 -0.5**
VTS Vitosha 148.23 333 IAMs_20 IAMs_20 17 21 05.6
comp=Z,10µm,20.0s
DIVS Divibare 148.25 339 PKPdf **PKPdf 16 12 05.4 -2.8**
DIVS IAMs_20 IAMs_20 17 15 59.1
comp=Z,11µm,21.0s
RZN Rozhen 148.29 331 *e*P **PKPbc 16 12 11.3 -0.5**
BOJS Bojanci 148.38 346 *i* PKPbc **PKPbc 16 12 11.7 0.0**
TUE Stuetta 148.46 354 IAMs_20 IAMs_20 17 15 40.3
comp=Z,11µm,22.0s
SENIN Lac Senin/Sane 148.74 356 IAMs_20 IAMs_20 17 21 20.4
comp=Z,12µm,21.0s
MMB Musomiste 148.83 332 *e*P **PKPbc 16 12 11.1 -1.9**
KKB Krupnik 148.90 333 *e*P **PKPdf 16 12 06.6 -2.6**
SKJ Skopje 149.52 335 *i* P **PKPbc 16 12 14.4 -0.3**
VAY Valandovo 149.57 333 *i* P **PKPbc 16 12 14.5 -0.3**
MBAR Mbarara 149.81 241 IAMs_20 IAMs_20 17 22 01.2
comp=Z,8µm,20.0s
SSB Saint Sauveur 149.91 0 PKP2 **PKiKP 16 12 16.9 +0.4**
SSB MLR MLR
comp=Z,15µm,20.0s
SSB Saint Sauveur 149.91 0 PKPab **PKiKP 16 12 16.9 +0.4**
PDG Podgorica 149.97 338 ⇓P **PKPbc 16 12 13.6 -2.1**
ASCN Ascension 150.40 139 IAMs_20 IAMs_20 17 07 24.9
comp=Z,6µm,21.0s
OHR Ohrid 150.50 335 *i* P **PKPab 16 12 20.7 -3.0**
MSSA Maissana 150.57 353 IAMs_20 IAMs_20 17 19 35.2
comp=Z,10µm,21.0s
TIR Tirana 150.68 336 ⇑P **PKiKP 16 12 19.1 +0.9**
PGAV Gavieira, Arco 151.01 20 *e*PKP **PKiKP 16 12 21.4 +2.4**
PGAV Gavieira, Arco 151.01 20 *e*SS SS 16 35 26.6 +11
PGAV Gavieira, Arco 151.01 20 *e*LR LR 17 08 36.2
comp=Z,11µm,18.0s
KARP Karpathos 151.30 319 IAMs_20 IAMs_20 17 21 52.4
comp=Z,9µm,22.0s
PCAB Cabril 151.32 20 *e*PKP **PKPbc 16 12 16.6 -2.4**
PBRG Braganca 151.63 18 *e*PKP **PKiKP 16 12 21.8 +1.6**
PVRL Vila Real 151.81 20 *e*PKP **PKiKP 16 12 22.7 +2.1**
MVO Moncorvo 152.13 19 *e*PKP **PKPbc 16 12 17.9 -3.1**
MVO Moncorvo 152.13 19 *e*SS SS 16 35 28.6 +1.2
MVO Moncorvo 152.13 19 *e*LR LR 17 08 40.0
comp=Z,11µm,20.0s
PVIS Viseu 152.25 21 *e*PKP **PKiKP 16 12 24.9 +3.4**
COI Coimbra 152.52 22 *e*PKP **PKiKP 16 12 24.7 +2.7**
COI Coimbra 152.52 22 *e*SS SS 16 35 44.1 +12
COI Coimbra 152.52 22 IAMs_20 IAMs_20 17 15 56.3
comp=Z,10µm,21.0s
PCAS Casmilo, Conde 152.62 22 *e*PKP **PKPdf 16 12 12.7 -2.3**
PCAS Casmilo, Conde 152.62 22 *e*SS SS 16 35 38.0 +5.1
IDI Anoyia 152.87 322 IAMs_20 IAMs_20 17 22 34.3
comp=Z,8µm,21.0s
PSBE So Bento 152.98 23 *e*PKP **PKiKP 16 12 24.6 +1.5**
PSBE So Bento 152.98 23 *e*SS SS 16 35 44.7 +7.8
ITM Ithomi 153.15 328 IAMs_20 IAMs_20 17 21 35.4
comp=Z,10µm,22.0s
PCBR Castelo Branco 153.18 21 *e*PKP **PKPbc 16 12 19.3 -3.9**
PMAFR Mafra 153.28 25 *e*PKP **PKiKP 16 12 24.6 +1.0**
PMAFR Mafra 153.28 25 *e*SS SS 16 35 51.1 +11
PMOZ Porto Moniz, M 153.48 44 P **PKiKP 16 12 29.2 +4.9**
SNR=6.8
PMOZ Porto Moniz, M 153.48 44 *e*PKP **PKiKP 16 12 25.7 +1.3**
PMOZ Porto Moniz, M 153.48 44 *e*LR LR 17 04 36.1
comp=Z,4µm,18.0s
LIS Lisbon 153.53 25 *e*PKPdf **PKPbc 16 12 21.7 -2.4**
LIS AMS AMS 17 18 38.5
comp=Z,13µm,14.1s
LIS Lisbon 153.53 25 *e*PKIKP **PKPbc 16 12 21.6 -2.4**
LIS Lisbon 153.53 25 *e*PKP **PKiKP 16 12 26.7 +2.6**
PMRV Marv??o 153.57 21 *e*PKP **PKPdf 16 12 18.1 +1.7**
PMRV Marv??o 153.57 21 *e*SS SS 16 35 48.9 +5.7
PMRV Marv??o 153.57 21 *e*LR LR 17 11 46.8
comp=Z,9µm,20.0s
PMTG Montargil 153.59 23 *e*PKP **PKiKP 16 12 24.4 +0.1**
PMTG Montargil 153.59 23 *e*SS SS 16 35 51.6 +8.2
TIP Timpagrande 153.73 338 ⇓P **PKPdf 16 12 18.3 +1.6**
PMPST Porto Santo, M 153.90 43 *e*PKP **PKiKP 16 12 26.7 +1.6**
UCM Universidad Co 153.96 14 PKP **PKPbc 16 12 26.2 +1.1**
EVO Evora 154.14 23 PKP **PKPbc 16 12 24.6 -0.8**
EVO Evora 154.14 23 *e*PKP **PKiKP 16 12 25.6 +0.2**

PNCL	**Nicolau / Gran**	**154.30**	**24**	*e*PKP	**PKiKP**	**16 12 27.1 +1.3**		
PNCL	**Nicolau / Gran**	**154.30**	**24**	*e*SS	SS	16 36 02.1 +11		
ESDC	**Sonseca Array**	**154.39**	**15**	PKP	**PKPdf**	**16 12 19.3 +1.7**		
	comp=Z,3.9nm,1.3s,baz=355,slow=3.0,SNR=6.6							
ESDC				PKPbc	**sPKPdf**	**16 12 27.6 -1.0**		
	comp=Z,3.6nm,1.0s,baz=318,slow=2.2,SNR=8.5							
ESDC				PKPab	**PKPab**	**16 12 39.3 -0.7**		
	comp=Z,17nm,1.1s,baz=330,slow=1.8,SNR=14							
ESDC				PP	**PP**	**16 16 19.3 +5.2**		
	comp=Z,2.2nm,1.2s,baz=344,slow=4.9,SNR=4.3							
PAB	**San Pablo**	**154.41**	**16**	IAMs_20	IAMs_20	17 27 02.0		
	comp=Z,9μm,21.0s							
PBEJ	**Beja**	**154.63**	**23**	*e*PKP	**PKiKP**	**16 12 26.9 +0.4**		
MESJ	**Messejana**	**154.66**	**24**	*e*PKPdf	**PKPbc**	**16 12 23.0 -3.5**		
MESJ				*e*SS	SS	16 36 03.5 +8.4		
MESJ				AMS	AMS	17 14 24.2		
	comp=Z,11μm,14.7s							
MESJ	**Messejana**	**154.66**	**24**	*e*PKIKP	**PKPbc**	**16 12 22.9 -3.5**		
MESJ	**Messejana**	**154.66**	**24**	*e*PKP	**PKiKP**	**16 12 27.3 +0.8**		
PTEO	**Sao Teotonio**	**154.71**	**25**	*e*PKP	**PKiKP**	**16 12 29.6 +3.0**		
PCVE	**Castro Verde**	**154.91**	**24**	*e*PKP	**PKPdf**	**16 12 19.0 +0.7**		
PCVE	**Castro Verde**	**154.91**	**24**	*e*SS	SS	16 36 11.2 +13		
MORF	**Marmelete**	**154.94**	**26**	*e*PKPdf	**PKPbc**	**16 12 23.3 -3.9**		
MORF				*e*SS	SS	16 36 06.7 +8.2		
MORF				AMS	AMS	17 18 29.6		
	comp=Z,15μm,23.2s							
MORF	**Marmelete**	**154.94**	**26**	*e*PKIKP	**PKPbc**	**16 12 23.2 -3.9**		
MORF	**Marmelete**	**154.94**	**26**	*e*PKP	**PKiKP**	**16 12 29.1 +1.9**		
MORF	**Marmelete**	**154.94**	**26**	*e*SS	SS	16 36 09.7 +11		
PFVI	**Vila Bisbo**	**155.01**	**26**	*e*PKP	PKPdf	16 12 27.1 +8.6		
PFVI	**Vila Bisbo**	**155.01**	**26**	*e*SS	SS	16 36 11.1 +12		
PVAQ	**Vaqueiros**	**155.24**	**24**	*e*PKP	PKPdf	16 12 26.9 +8.1		
PVAQ	**Vaqueiros**	**155.24**	**24**	*e*SS	SS	16 36 13.2 +12		
PVAQ	**Vaqueiros**	**155.24**	**24**	*e*LR	LR	17 11 35.4		
	comp=Z,10μm,22.0s							
MAHO	**Mahon**	**155.29**	**1**	PKP	PKPdf	16 12 29.6 +11		
PBDV	**Barranco-do-Ve**	**155.29**	**24**	*e*PKP	**PKPdf**	**16 12 22.4 +3.5**		
PBDV	**Barranco-do-Ve**	**155.29**	**24**	*e*SS	SS	16 36 14.4 +12		
HORN	**Hornachuelos**	**155.71**	**19**	P	PKPdf	16 12 31.0 +12		
	SNR=6.1							
SFS	**San Fernando**	**156.63**	**22**	PKP	PKPab	16 12 35.2 -14		
SFS	**San Fernando**	**156.63**	**22**	PP	PP	16 16 35.8 +9.1		
SFS	**San Fernando**	**156.63**	**22**	IAMs_20	IAMs_20	17 27 58.3		
	comp=Z,9μm,21.0s							
EMAL	**Malaga-Limoner**	**156.97**	**19**	PKP	PKPdf	16 12 31.1 +10		
CART	**Cartagena**	**157.05**	**11**	PKP	PKPdf	16 12 30.9 +10		
CEU	**Ceuta**	**157.44**	**21**	PKP	PKPab	16 12 39.7 -13		
RSA	**Sarsar**	**158.18**	**24**	P	PKPdf	16 12 36.0 +13		
	SNR=7.1							
CAEH	**'Ain El Ouahch**	**158.31**	**355**	P	PKPab	16 13 05.4 +8.6		
CMAH	**Djebel Manchou**	**158.41**	**354**	P	**PKPab**	**16 13 01.3 +4.0**		
PVLZ	**Peæn de**	**158.47**	**20**	PKP	PKPdf	16 12 31.4 +8.4		
PVLZ	**Peæn de**	**158.47**	**20**	PP	PP	16 16 57.7 +21		
DFRA	**Djebel Bou Aff**	**158.60**	**357**	P	**PKPab**	**16 13 02.9 +4.6**		
CKFL	**Kef-Lekhel**	**158.69**	**355**	P	**PKPab**	**16 13 02.3 +3.6**		
AVE	**Averroes**	**158.86**	**29**	P	PKPdf	16 12 35.2 +12		
	SNR=5.3							
AVE	**Averroes**	**158.86**	**29**	PKP	PKPdf	16 12 33.6 +10		
KEST	**Kesra**	**159.01**	**349**	PKPab	**PKPab**	**16 13 00.5 +0.5**		
	comp=Z,18nm,1.0s,baz=99,slow=4.7,SNR=7.5							
ZHG	**ZHG**	**159.08**	**27**	P	PKPdf	16 12 36.0 +12		
	SNR=7.2							
CKHR	**Kef el Ahmar**	**159.15**	**358**	P	**PKPab**	**16 13 05.8 +5.2**		
IFR	**Ifrane**	**159.65**	**24**	PKP	**PKPdf**	**16 12 31.6 +6.9**		
IFR	**Ifrane**	**159.65**	**24**	PP	PP	16 16 56.6 +13		
OUK	**Oukaimeden**	**160.32**	**33**	P	PKPdf	16 12 38.0 +12		
	SNR=6.9							
MDT	**Midelt**	**160.47**	**24**	PKP	**PKPdf**	**16 12 26.4 +0.9**		
	comp=Z,8.9nm,0.8s,baz=262,slow=8.0,SNR=8.0							
MDT				PKPab	**PKPab**	**16 13 06.9 +0.4**		
	comp=Z,6.8nm,1.0s,baz=335,slow=6.0,SNR=2.7							
MDT	**Midelt**	**160.47**	**24**	P	PKPdf	16 12 37.8 +12		
	SNR=6.7							
TTIG	**Tnine Tigouga,**	**160.51**	**36**	P	PKPdf	16 12 37.2 +12		
	SNR=6.1							
OUZM	**OUZ**	**161.13**	**32**	P	PKPdf	16 12 39.0 +13		
	SNR=7.0							
GOLM	**Goulmima**	**161.31**	**26**	P	PKPdf	16 12 39.0 +12		
	SNR=7.3							
TZRR	**Tazzarine**	**161.81**	**29**	P	PKPdf	16 12 39.1 +12		
	SNR=7.8							
ARF	**Arif**	**161.85**	**25**	P	PKPdf	16 12 39.0 +12		
	SNR=7.4							
ZGR	**Zagora**	**162.34**	**30**	P	PKPdf	16 12 40.0 +12		
	SNR=6.0							
LIC	**Lamto**	**167.08**	**132**	*e*PKP1	**PKPdf**	**16 12 35.9 +3.9**		
	comp=Z,146nm,2.2s							
LIC	**Lamto**	**167.08**	**132**	*e*P	**PKPab**	**16 13 39.6 +3.6**		
	comp=Z,147nm,1.7s							
TIC	**Toumodi**	**167.37**	**131**	*e*PKP1	**PKPdf**	**16 12 35.5 +3.2**		
TIC	**Toumodi**	**167.37**	**131**	*e*P	**PKPab**	**16 13 44.5 +7.2**		
KIC	**Kosan Boka**	**167.38**	**132**	*e*PKP1	**PKPdf**	**16 12 35.1 +2.9**		
	comp=Z,545nm,2.3s							
KIC	**Kosan Boka**	**167.38**	**132**	*e*P	**PKPab**	**16 13 42.8 +5.5**		
	comp=Z,60nm,1.3s							
DBIC	**Dimbokro**	**167.51**	**131**	PKP	**PKPdf**	**16 12 33.7 +1.4**		
	comp=Z,11nm,1.2s,baz=207,slow=8.6,SNR=1.7							
DBIC				PKPab	**PKPab**	**16 13 37.1 -0.7**		
	comp=Z,7.8nm,0.9s,baz=217,slow=11,SNR=2.0							
DBIC	**Dimbokro**	**167.51**	**131**	PKP2	**PKPab**	**16 13 37.2 -0.7**		
DBIC						17 12 33.7		
TORD	**Torodi Ar. Bea**	**176.59**	**124**	PKP	**PKPdf**	**16 12 35.8 -0.6**		
	comp=Z,2.6nm,1.1s,baz=328,slow=2.7,SNR=7.3							
TORD				PP	PP	16 18 19.2 +8.3		
	comp=Z,3.9nm,1.1s,baz=226,slow=3.7,SNR=3.7							

*IDC **29** 16:00:59.1±2.1, 15°.83S×175°.68W, h0km, mb3.7/6, mb1 4.1/6, mb1mx3.8/26, mbtmp3.7/6, Error ellipse: s-maj=143.7km s-min=25.2km az=152.0*
*NEIC **29** 16:01:01.6±1.0, 15°.7S±0°.3×175°.7W±0°.2, h14km±5km, mb4.6/5, Error ellipse: s-maj=44.5km s-min=21.3km az=142.0*

ISC 29 16:01:01.1±1.0, 15°.8S±0°.3×175°.6W±0°.2, h10km, n11, σ0°80/11, mb3.9/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTAO	**Charters Tower**	**36.46**	**257**	P	**P**	**16 08 07.3**	**+0.7**
WB2	**Warramunga Arr**	**47.65**	**257**	P	**P**	**16 09 39.1**	**+1.1**
WRAB	**Tennant Creek**	**47.66**	**257**	P	**P**	**16 09 36.8**	**-1.2**
WRAB				IAmb	IAmb	16 10 37.0	
	comp=Z,17nm,1.3s						
WRA	**Warramunga Arr**	**47.66**	**257**	P	**P**	**16 09 37.3**	**-0.8**
	comp=Z,1.3nm,0.9s,baz=93,slow=7.9,SNR=3.6						
AS31	**Alice Springs**	**47.95**	**252**	P	**P**	**16 09 39.9**	**-0.4**
AS31				IAmb	IAmb	16 09 46.5	
	comp=Z,3.0nm,1.4s						
ASAR	**Alice Springs**	**47.95**	**252**	P	**P**	**16 09 39.1**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=86,slow=8.2,SNR=8.2						
CASY	**Casey**	**69.17**	**205**	P	**P**	**16 12 07.6**	**+0.1**
NVAR	**Mina Array Bea**	**76.06**	**43**	P	**P**	**16 12 49.4**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=225,slow=9.8,SNR=3.4						
TXAR	**Lajitas Array**	**82.61**	**57**	P	**P**	**16 13 25.0**	**0.0**
	comp=Z,0.8nm,1.0s,baz=234,slow=7.6,SNR=5.0						
ILAR	**Eielson Array**	**83.25**	**12**	P	**P**	**16 13 27.2**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=226,slow=4.9,SNR=2.9						
PDAR	**Pinedale Array**	**83.99**	**43**	P	**P**	**16 13 32.1**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=186,slow=3.3,SNR=3.5						

ATH 29 16:09:48.6, 38°.22N×20°.40E, h15km±1km, ML2.1/3, Error ellipse: s-maj=2.0km s-min=1.1km az=236.0, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEF3	**Kipouria, Keph**	**0.04**	**252**	P	Pg	16 09 51.4	0.0
KEF3				S	Sg	16 09 53.4	+0.1
KEF4	**Livadi, Kephal**	**0.05**	**25**	P	Pg	16 09 51.4	0.0
KEF4				S	Sg	16 09 53.4	+0.1
ARGA	**Argostoli. Kep**	**0.07**	**122**	P	Pg	16 09 51.9	+0.2
ARGA				S	Sg	16 09 53.8	+0.1
KEF5	**Kardakata, Kep**	**0.08**	**41**	P	Pg	16 09 51.7	-0.1
KEF5				S	Sg	16 09 53.7	-0.2
VLS	**Valsamata**	**0.15**	**104**	P	Pg	16 09 52.6	-0.1
VLS				S	Sg	16 09 55.5	+0.1
VLS				AML	AML	16 09 55.6	
	comp=N,4224μm,0.1s						
VLS				AML	AML	16 09 55.7	
	comp=E,4858μm,0.1s						
FSK	**Fiskardo**	**0.28**	**28**	P	Pg	16 09 54.3	-0.2
FSK				S	Sg	16 09 58.6	0.0
FSK				AML	AML	16 09 58.8	
	comp=N,500μm,0.2s						
FSK				AML	AML	16 09 59.0	
	comp=E,1627μm,0.1s						
MGNA	**Meganis**	**0.54**	**35**	P	Pg	16 09 58.8	-0.5
LKD2	**Lefkada island**	**0.61**	**19**	P	Pg	16 10 00.3	-0.3
LKD2				S	Sb	16 10 09.4	+0.1
PVO	**Paravola**	**0.97**	**65**	P	Pb	16 10 07.2	+0.1
PVO				AML	AML	16 10 27.2	
	comp=E,146μm,0.4s						
PVO				AML	AML	16 10 28.4	
	comp=N,71μm,0.3s						
ANX	**Ano Chora**	**1.25**	**72**	P	Pb	16 10 12.1	+0.1
SERG	**Sergoula**	**1.32**	**81**	P	Pb	16 10 13.3	+0.3

*IDC **29** 16:17:19.1±1.2, 55°.36S×28°.02W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/20, mbtmp3.9/3, Error ellipse: s-maj=49.8km s-min=31.8km az=90.0*
*NEIC **29** 16:17:22.4±1.0, 55°.4S±0°.1×28°.1W±0°.3, h22km±7km, mb4.5/5, Error ellipse: s-maj=23.6km s-min=18.7km az=63.0*

ISC 29 16:17:22.9±1.0, 55°.4S±0°.2×28°.2W±0°.2, h26km, n10, σ0°63/9, mb4.2/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.93**	**279**	Pn	**Pn**	**16 18 34.9**	**-0.3**
SNAA	**Sanae**	**19.60**	**156**	P	**P**	**16 21 48.3**	**-0.5**
QSPA	**South Pole Qui**	**34.89**	**180**	P	**P**	**16 24 12.2**	**+0.3**
VNDA	**Vanda**	**47.24**	**183**	P	**P**	**16 25 53.1**	**+0.2**
	1.0nm,0.8s,baz=180,slow=5.6,SNR=8.6						
VNDA	**Vanda**	**47.24**	**183**	P	**P**	**16 25 53.3**	**+0.4**
VNDA				IAmb	IAmb	16 27 01.0	
	comp=Z,8.0nm,1.9s						
LPAZ	**La Paz**	**49.53**	**306**	P	**P**	**16 26 12.7**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=126,slow=4.8,SNR=5.0						
LPAZ	**La Paz**	**49.53**	**306**	IAmb	IAmb	16 27 16.7	
	comp=Z,13nm,2.0s						
TOA0	**Torodi Ar. Sit**	**72.73**	**31**	P	**P**	**16 28 48.5**	**-0.1**
TORD	**Torodi Ar. Bea**	**72.73**	**31**	P	**P**	**16 28 48.7**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=190,slow=6.8,SNR=7.6						
ILAR	**Eielson Array**	**149.24**	**313**	PKPbc	**PKiKP**	**16 37 07.6**	**-1.1**
	comp=Z,2.2nm,0.9s,baz=122,slow=2.0,SNR=17						

*IDC **29** 16:34:20.6±0.7, 42°.56N×146°.00E, h0km, mb4.2/19, mb1 4.3/26, mb1mx4.1/44, mbtmp4.2/26, ML3.8/6, Error ellipse: s-maj=16.7km s-min=12.5km az=145.0*
*MOS **29** 16:34:21.2±1.1, 42°.45N×146°.08E, h22km, mb4.6/9, Error ellipse: s-maj=8.1km s-min=5.3km az=98.2*
*NEIC **29** 16:34:22.1±2.0, 42°.49N±0°.07×146°.10E±0°.10, h10km±1km, mb4.6/65, Error ellipse: s-maj=12.3km s-min=10.8km az=114.0*
*JMA **29** 16:34:24.6±0.1, 42°.57N×145°.96E, h53km±2km, M4.4*
JMA Felt II J1.
*SKHL **29** 16:34:25.2±0.4, 42°.55N×146°.04E, h54km±6km, mb4.8/7*

ISC 29 16:34:24.6±0.9, 42°.56N±0°.04×145°.98E±0°.05, h28km±6km, n192, σ1°20/202, mb4.5/58, 8C-2D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKHN	**Kushirohamanak**	**0.80**	**311**	P	**Pn**	**16 34 39.7**	**-0.3**
JKHN				*e*S	**Sb**	**16 34 50.7**	**+0.4**
NEM2	**Nemuro 2**	**0.82**	**348**	P	**Pn**	**16 34 40.1**	**-0.2**
NEM2				*e*S	**Sb**	**16 34 51.3**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.83**	**347**	*i* P	**Pn**	**16 34 40.2**	**-0.2**
NMR				*i* S	**Sb**	**16 34 51.3**	**+0.1**
NMR	**Nemuro--Hokkai**	**0.83**	**347**	*i* PN	**Pn**	**16 34 40.2**	**-0.2**
NMR				*i* S	**Sb**	**16 34 51.3**	**+0.1**
JAK	**Akkeshi**	**1.04**	**295**	P	**Pn**	**16 34 43.0**	**-0.4**
JAK				*e*S	**Sn**	**16 34 56.5**	**-0.5**
JNK	**Nakash**	**1.38**	**318**	P	**Pn**	**16 34 47.3**	**-0.7**
JNK				*e*S	**Sn**	**16 35 03.7**	**-1.6**
GRPR	**Tuman**	**1.44**	**354**	*i* P	**Pn**	**16 34 48.5**	**-0.3**
GRPR				AMB	AMB	16 34 51.0	
	1μm,0.3s						
GRPR				*i* S	**Sn**	**16 35 05.6**	**-1.2**
GRPR				A	A	16 35 06.0	
	2μm,0.5s						
GRPR				A	A	16 35 06.0	
	3μm,0.5s						
GRPR	**Tuman**	**1.44**	**354**	*i* PN	**Pn**	**16 34 48.5**	**-0.3**
GRPR				*i* S	**Sn**	**16 35 05.4**	**-1.4**
GRPR				pmax	pmax		
	comp=N,198nm,0.2s						
GRPR				pmax	pmax		
	comp=Z,4μm,0.2s						
GRPR				pmax	pmax		
	comp=E,2μm,0.3s						
GRPR				smax	smax		
	comp=N,6μm,0.4s						
GRPR				smax	smax		
	comp=E,7μm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.47**	**357**	*i* P	**Pn**	**16 34 48.7**	**-0.6**
YUK				AMB	AMB	16 34 51.7	
	comp=E,1μm,0.3s						
YUK				*i* S	**Sn**	**16 35 06.5**	**-1.1**
YUK				A	A	16 35 13.9	
	comp=E,6μm,0.7s						
YUK				A	A	16 35 13.9	
	comp=E,4μm,0.7s						
YUK	**Yuzh-Kuril'sk**	**1.47**	**357**	*c* iPN	**Pn**	**16 34 48.7**	**-0.6**
LAGR	**Lagunnoye**	**1.50**	**355**	*i* P	**Pn**	**16 34 48.8**	**-0.8**
LAGR				AMB	AMB	16 34 55.4	
	comp=E,460nm,0.2s						
LAGR				*i* S	**Sn**	**16 35 06.7**	**-1.6**
LAGR				A	A	16 35 18.0	
	comp=E,4μm,0.6s						
LAGR				A	A	16 35 18.0	
	comp=E,3μm,0.6s						
LAGR	**Lagunnoye**	**1.50**	**355**	*i* PN	**Pn**	**16 34 48.8**	**-0.8**
LAGR				*i* S	**Sn**	**16 35 06.7**	**-1.6**
LAGR				pmax	pmax		
	comp=Z,5μm,0.6s						
LAGR				pmax	pmax		
	comp=N,2μm,0.3s						
LAGR				pmax	pmax		
	comp=E,3μm,0.4s						
LAGR				smax	smax		
	comp=N,15μm,0.5s						
LAGR				smax	smax		
	comp=E,13μm,0.3s						
JRA	**Rausu**	**1.51**	**336**	P	**Pn**	**16 34 49.5**	**-0.3**
JOB	**Onbets**	**1.62**	**283**	P	**Pn**	**16 34 51.1**	**-0.2**
JAR	**Ashorobuto**	**1.78**	**295**	P	**Pn**	**16 34 53.2**	**-0.4**
JCH	**Churui**	**1.94**	**272**	P	**Pn**	**16 34 56.1**	**+0.4**
JTKR	**Abashiri--Toko**	**2.07**	**314**	P	**Pn**	**16 34 57.7**	**+0.2**
ERM	**Erimo**	**2.17**	**256**	PN	**Pn**	**16 35 00.1**	**+1.3**
ERM	**Erimo**	**2.17**	**256**		**Pn**	**16 35 00.1**	**+1.3**
JEM	**Erimo**	**2.17**	**256**	P	**Pn**	**16 34 59.4**	**+0.6**
JKA	**Kamikawa-asahi**	**2.92**	**303**	*e*P	**Pn**	**16 35 10.6**	**+1.5**
JKA	**Kamikawa-asahi**	**2.92**	**303**	Pn	**Pn**	**16 35 10.4**	**+1.3**
JKA	**Kamikawa-asahi**	**2.92**	**303**		**Pn**	**16 35 47.0**	**+3.8**
ASAJ	**Asahikawa**	**2.92**	**303**	Pn	**Pn**	**16 35 10.6**	**+1.4**
	comp=E,10nm,0.3s,baz=144,slow=8.9,SNR=80						
ASAJ				Sn	**Sn**	**16 35 47.0**	**+3.7**
	comp=E,28nm,0.3s,baz=277,slow=19,SNR=6.6						
KUR	**Kuril'sk**	**3.00**	**26**	*e*P	**Pn**	**16 35 10.7**	**+0.5**
KUR				AMB	AMB	16 35 11.0	
	comp=E,350nm,0.4s						
KUR				*e*S	**Sn**	**16 35 43.3**	**-1.9**
KUR				A	A	16 35 53.7	
	comp=E,730nm,0.5s						
KUR				A	A	16 35 53.7	
	comp=E,630nm,0.5s						
KUR	**Kuril'sk**	**3.00**	**26**	*c* iPN	**Pn**	**16 35 10.9**	**+0.7**
KUR				*e*S	**Sn**	**16 35 45.8**	**+0.6**
KUR				pmax	pmax		
	comp=N,310nm,0.4s						
KUR				pmax	pmax		
	comp=Z,355nm,0.4s						
KUR				pmax	pmax		
	comp=E,78nm,0.2s						
KUR				smax	smax		
	comp=E,866nm,0.5s						
KUR				smax	smax		
	comp=N,376nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.96**	**333**	*e*P	**Pn**	**16 35 38.4**	**+1.2**
YSS				AMB	AMB	16 35 46.8	
	comp=N,40nm,0.4s						
YSS	**Yuzh-Sakhalins**	**4.96**	**333**	*e*PN	**Pn**	**16 35 41.4**	**+4.3**
YSS				pmax	pmax		
	comp=Z,40nm,0.5s						
YSS	**Yuzh-Sakhalins**	**4.96**	**333**	Pn	**Pn**	**16 35 38.3**	**+1.2**

UGL	**Uglegorsk**	**7.07**	**339**	*e*P	**Pn**	**16 36 08.9**	**+2.8**	
TEY	**Ternei**	**7.22**	**293**	*e*P	**Pn**	**16 36 10.6**	**+2.3**	
TEY	**Ternei**	**7.22**	**293**	*e*PN	**Pn**	**16 36 09.4**	**+1.1**	
MJAR	**Matsushiro Arr**	**8.49**	**228**	Pn	**Pn**	**16 36 24.8**	**-1.0**	
	comp=Z,0.3nm,0.3s,baz=30,slow=13,SNR=39							
MJAR				Sn	**Sn**	**16 38 02.3**	**+1.6**	
	comp=Z,0.1nm,0.3s,baz=79,slow=12,SNR=4.1							
MJB9	**Matsu-Tunnel**	**8.49**	**228**	Pn	**Pn**	**16 36 24.8**	**-1.0**	
MAJO	**Matsushiro**	**8.50**	**228**	PN	**Pn**	**16 36 24.8**	**-1.0**	
MAJO	**Matsushiro**	**8.50**	**228**		**Pn**	**16 36 24.8**	**-1.0**	
MAT	**Matsushiro**	**8.50**	**228**	P	**Pn**	**16 36 24.9**	**-0.9**	
MAT				S	**Sn**	**16 37 58.6**	**-2.1**	
TYV	**Tymovskoe**	**8.61**	**346**	*e*P	**Pn**	**16 36 29.5**	**+2.2**	
INU	**Inuyama**	**10.03**	**227**	Pn	**Pn**	**16 36 46.0**	**-0.8**	
USRK	**Ussuriysk Ar.**	**10.32**	**284**	Pn	**Pn**	**16 36 51.8**	**+1.0**	
	baz=82,slow=14,SNR=7.0							
JHJ2	**Mitsune**	**10.62**	**209**	Pn	**Pn**	**16 36 53.6**	**-1.2**	
JHJ	**Hachijo jima 2**	**10.62**	**209**	Pn	**Pn**	**16 36 53.7**	**-1.2**	
	comp=Z,9.0nm,0.3s,baz=79,slow=22,SNR=1.0							
JHJ				Sn	Sn	16 38 42.0	-11	
	comp=Z,12nm,0.3s,baz=144,slow=16,SNR=2.2							
MSHR	**Mys Shultsa**	**10.94**	**275**	*i* PN	Pn	16 36 55.4	-3.8	
KLR	**Kul'dur**	**11.94**	**309**	Pn	**Pn**	**16 37 15.2**	**+2.4**	
	comp=Z,0.2nm,0.3s,baz=113,slow=14,SNR=6.0							
KLR	**Kul'dur**	**11.94**	**309**	*e*P	**Pn**	**16 37 11.9**	**-1.0**	
PEA0B	**Petropavlovsk-**	**13.14**	**33**	PN	**Pn**	**16 37 28.8**	**-0.5**	
PEA0B	**Petropavlovsk-**	**13.14**	**33**	Pn	**Pn**	**16 37 28.8**	**-0.5**	
PETK	**Petropavlovsk-**	**13.14**	**33**	Pn	**Pn**	**16 37 27.4**	**-1.9**	
	comp=Z,0.4nm,0.3s,baz=206,slow=13,SNR=12							
EKMR	**Ekimchan**	**13.66**	**325**	*e*P	**Pn**	**16 37 36.5**	**+0.2**	
EKMR				AMB	AMB	16 37 40.0		
	comp=Z,4.0nm,0.8s							
KSRS	**Korea Array**	**14.74**	**256**	Pn	**Pn**	**16 37 50.1**	**-1.1**	
	comp=Z,0.1nm,0.3s,baz=64,slow=13,SNR=12							
CN2	**Changchun**	**15.03**	**282**	*e*P	**Pn**	**16 37 54.3**	**-0.7**	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
JNU	**Nakatsue**	**15.19**	**237**	Pn	**Pn**	**16 37 53.1**	**-4.1**	
	comp=Z,0.1nm,0.3s,baz=80,slow=0.4,SNR=1.9							
JNU	**Nakatsue**	**15.19**	**237**	Pn	**Pn**	**16 37 53.4**	**-3.8**	
ZEA	**Zeya**	**16.71**	**318**	*e*P	**Pn**	**16 38 15.3**	**-1.3**	
ZEA				AMB	AMB	16 38 20.8		
	comp=Z,3.0nm,0.9s							
ZEA	**Zeya**	**16.71**	**318**	*e*P	**Pn**	**16 38 18.0**	**+1.4**	
ZEA				pmax	pmax			
	comp=Z,17nm,1.0s							
KROS	**Kirovskiy**	**17.25**	**320**	*e*P	**Pn**	**16 38 22.2**	**-1.1**	
KROS				AMB	AMB	16 38 25.0		
	comp=Z,3.0nm,0.8s							
MA2	**Magadan**	**17.29**	**8**	P	**Pn**	**16 38 22.7**	**-1.1**	
	comp=Z,0.2nm,0.3s,baz=99,slow=14,SNR=2.0							
MA2	**Magadan**	**17.29**	**8**	Pn	**Pn**	**16 38 22.4**	**-1.4**	
MA2				IAmb	IAmb	16 38 45.1		
	comp=Z,84nm,2.0s							
HIA	**Hailar**	**19.39**	**299**	P	**P**	**16 38 46.5**	**-1.7**	
HIA				pmax	pmax			
	comp=Z,6.0nm,0.5s							
HIA	**Hailar**	**19.39**	**299**	P	**P**	**16 38 46.5**	**-1.7**	
YAK	**Yakutsk**	**21.78**	**339**	P	**P**	**16 39 12.2**	**-1.7**	
	comp=Z,3.1nm,0.3s,baz=68,slow=2.4,SNR=2.3							
YAK	**Yakutsk**	**21.78**	**339**	P	**P**	**16 39 12.2**	**-1.7**	
YAK				pmax	pmax			
	comp=Z,12nm,0.7s							
TIA	**Tai'an**	**23.12**	**264**	P	**P**	**16 39 27.5**	**-0.9**	
TIA				pmax	pmax			
	comp=Z,14nm,0.9s							
ULN	**Ulaanbaatar**	**27.72**	**295**	*e*P	**P**	**16 40 10.6**	**0.0**	
ULN	**Ulaanbaatar**	**27.72**	**295**	P	**P**	**16 40 10.6**	**0.0**	
ULN				pmax	pmax			
	comp=Z,24nm,1.9s							
ULN	**Ulaanbaatar**	**27.72**	**295**	P	**P**	**16 40 10.6**	**0.0**	
ULN				IAmb	IAmb	16 40 28.1		
	comp=Z,24nm,1.9s							
BILL	**Bilibino**	**27.74**	**16**	*e*P	**P**	**16 40 09.0**	**-1.4**	
BILL	**Bilibino**	**27.74**	**16**	*e*P	**P**	**16 40 09.0**	**-1.4**	
BILL				pmax	pmax			
	comp=Z,1.0nm,1.0s							
SONM	**Songino Array**	**28.16**	**295**	P	**P**	**16 40 14.9**	**+0.3**	
	comp=Z,9.5nm,0.9s,baz=84,slow=8.

RIDG IAmb IAmb 16 42 43.1
comp=Z,4.1nm,0.6s
DOT Dot Lake 44.27 37 P P 16 42 31.1 -0.3
SCRK Sand Creek 44.27 36 P P 16 42 31.6 +0.1
SCRK IAmb IAmb 16 42 46.4
comp=Z,6.0nm,1.0s
MK31 Makanchi Array 44.39 298 P P 16 42 32.2 -0.4
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MK31 Makanchi Array 44.39 298 P P 16 42 32.1 -0.4
MK31 IAmb IAmb 16 42 33.3
comp=Z,5.2nm,0.8s
MKAR Makanchi Array 44.39 298 P P 16 42 32.5 0.0
comp=Z,7.2nm,0.8s,baz=84,slow=9.4,SNR=48
MKAR PcP **PP 16 44 18.0 +1.9**
comp=Z,0.2nm,0.5s,baz=84,slow=4.3,SNR=0.9
MAKZ Makanchi 44.59 298 P P 16 42 33.8 -0.3
MAKZ pmax pmax
comp=Z,6.0nm,0.9s
MAKZ Makanchi 44.59 298 P P 16 42 33.8 -0.3
MAKZ IAmb IAmb 16 42 35.0
comp=Z,6.1nm,0.9s
VRDI Verde Repeater 44.87 40 P P 16 42 37.4 +1.0
CRQM Cirque 45.09 41 P P 16 42 39.5 +1.3
TGL Tana Glacier 45.24 41 P P 16 42 40.3 +1.0
TGL IAmb IAmb 16 42 56.4
comp=Z,12nm,1.2s
WAX Waxell Ridge 45.29 41 P P 16 42 40.4 +0.8
WAX IAmb IAmb 16 42 41.6
comp=Z,8.4nm,0.8s
BALM Baldy 45.43 40 P P 16 42 41.6 +0.8
BALM IAmb IAmb 16 42 55.2
comp=Z,6.0nm,0.8s
KURK Kurchatov 45.49 305 *eP* **P 16 42 41.3 +0.1**
KURK Kurchatov 45.49 305 *ceP* **P 16 42 41.3 +0.1**
KURK pmax pmax
comp=Z,5.0nm,0.6s
KURK Kurchatov 45.49 305 P P 16 42 40.8 -0.4
KURK IAmb IAmb 16 42 41.9
comp=Z,7.8nm,0.7s
KURK Kurchatov 45.49 305 PcP 16 44 20.4 +0.7
ISLE Juniper Island 45.51 41 P P 16 42 42.4 +1.0
ISLE IAmb IAmb 16 42 55.9
comp=Z,12nm,1.0s
KURBB Kurchatov Arra 45.58 305 PcP **PcP 16 44 20.4 +0.4**
comp=Z,0.7nm,0.2s,baz=82,slow=3.8,SNR=3.0
BARN Barnard Glacie 45.75 40 P P 16 42 43.6 +0.2
BARN IAmb IAmb 16 42 58.5
comp=Z,5.9nm,0.8s
MESA MESA 45.78 42 P P 16 42 44.9 +1.3
YAH Yahtse 45.84 41 P P 16 42 45.2 +1.0
YAH IAmb IAmb 16 42 58.9
comp=Z,13nm,1.0s
TABL Table Mountain 46.12 41 P P 16 42 47.8 +1.5
TABL IAmb IAmb 16 42 48.2
comp=Z,11nm,1.0s
CHTO Chiang Mai 46.14 254 P P 16 42 45.2 -1.5
CHTO pmax pmax
comp=Z,3.0nm,0.6s
CHTO Chiang Mai 46.14 254 P P 16 42 45.2 -1.5
CHTO IAmb IAmb 16 42 48.2
comp=Z,3.5nm,0.6s
DAWY Dawson 46.26 36 P P 16 42 47.9 +0.7
DAWY IAmb IAmb 16 42 58.9
comp=Z,13nm,1.8s
CMAR Chiang Mai Arr 46.37 254 P P 16 42 49.5 +0.9
comp=Z,1.1nm,0.5s,baz=46,slow=7.5,SNR=11
EPYK Eagle Plains 46.98 33 P P 16 42 53.2 +0.4
HYT Haines Junctio 47.78 40 P P 16 43 01.2 +2.0
INK Inuvik 47.85 30 P P 16 43 00.3 +0.8
comp=Z,5.9nm,0.6s,baz=290,slow=6.5,SNR=14
INK Inuvik 47.85 30 P P 16 43 00.0 +0.5
INK pmax pmax
comp=Z,6.0nm,0.6s
INK Inuvik 47.85 30 P P 16 43 00.0 +0.5
TARG Taragay, Kyrgy 49.27 294 P P 16 43 10.6 -0.7
TARG IAmb IAmb 16 44 51.2
comp=Z,9.7nm,1.4s
BRVK Borovoye 49.65 310 *eP* **P 16 43 14.0 +0.5**
BRVK Borovoye 49.65 310 *ceP* **P 16 43 14.2 +0.7**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BRVK Borovoye 49.65 310 P P 16 43 13.6 +0.1
BRVK IAmb IAmb 16 43 30.7
comp=Z,3.8nm,0.8s
AAK Ala-Archa 51.10 296 P P 16 43 24.8 -0.1
comp=Z,2.5nm,0.3s,baz=47,slow=3.7,SNR=2.6
ARSB Arslanbob 52.70 295 P P 16 43 37.3 +0.6
ARSB pmax pmax
comp=Z,10.0nm,0.7s
ARSB Arslanbob 52.70 295 P P 16 43 37.3 +0.6
ARSB IAmb IAmb 16 43 39.1
comp=Z,10.0nm,0.7s
KK31 Karatay Array 53.52 298 P P 16 43 42.2 -0.4
KK31 pmax pmax
comp=Z,4.0nm,0.5s
KK31 Karatay Array 53.52 298 P P 16 43 42.2 -0.4
KK31 IAmb IAmb 16 43 42.7
comp=Z,4.2nm,0.5s
KKAR Karatay Array 53.52 298 P P 16 43 42.4 -0.2
KKAR pmax pmax
comp=Z,4.0nm,0.5s
KKAR Karatay Array 53.52 298 P P 16 43 42.4 -0.2
KKAR IAmb IAmb 16 43 42.7
comp=Z,4.2nm,0.5s
ARU Arti 54.63 317 *c iP* **P 16 43 50.3 -0.1**
ARU 16 45 49.4
ARU S **S 16 51 29.7 +1.5**
ARU SS **SS 16 55 11.2 +0.7**
ARU pmax pmax
comp=Z,3.0nm,0.6s
ARU Arti 54.63 317 P P 16 43 50.0 -0.5
ARU IAmb IAmb 16 43 51.0
comp=Z,4.1nm,0.6s
RES Resolute Bay 56.35 16 P P 16 44 02.7 +0.2
RES pmax pmax
comp=Z,27nm,0.7s
RES Resolute Bay 56.35 16 P P 16 44 02.7 +0.2
ABKAR Akbulak array 57.14 309 P P 16 44 08.6 +0.1
ABKAR IAmb IAmb 16 44 25.0
comp=Z,3.2nm,0.6s
YKA Yellowknife Ar 57.26 33 P P 16 44 10.0 +0.8
comp=Z,1.5nm,0.6s,baz=299,slow=6.5,SNR=5.2
KLMR Klimovskoe 60.98 328 *eP* **P 16 44 33.4 -1.4**
KLMR pmax pmax
comp=Z,8.0nm,1.4s
KLMR Klimovskoe 60.98 328 *eP* **P 16 44 33.5 -1.4**
KLMR AMP 16 44 46.0
comp=Z,8.0nm,1.4s
WB0 Warramunga Arr 62.93 192 P P 16 44 48.3 -0.2
WRA Warramunga Arr 63.11 192 P P 16 44 49.5 -0.2
comp=Z,0.8nm,0.8s,baz=8.4,slow=7.1,SNR=4.6
GEYT Alibeck 64.26 299 P P 16 44 57.5 +0.2
comp=Z,1.9nm,0.6s,baz=46,slow=6.4,SNR=4.4
SUMG Summit 65.12 1 P P 16 45 02.9 +0.2
SUMG pmax pmax
comp=Z,24nm,1.3s
SUMG Summit 65.12 1 P P 16 45 02.9 +0.2
FIA1 FINESS Array S 65.54 333 P P 16 45 05.2 +0.1
FINES FINESS Array B 65.54 333 P P 16 45 05.3 +0.2
comp=Z,6.3nm,0.5s,baz=45,slow=8.1,SNR=56
ASAR Alice Springs 66.83 192 P P 16 45 13.9 +0.1
comp=Z,0.6nm,0.7s,baz=6.4,slow=5.5,SNR=7.7
BOZ Bozeman (W) 68.37 48 P P 16 45 24.6 +1.0
BOZ pmax pmax
comp=Z,2.0nm,0.8s
BOZ Bozeman (W) 68.37 48 P P 16 45 24.6 +1.0
NVAR Mina Array Bea 68.94 57 P P 16 45 27.6 +0.3
comp=Z,0.4nm,0.8s,baz=280,slow=5.4,SNR=2.3
GCMT Greycliff 69.31 46 P P 16 45 30.1 +0.7
KIV Kislovodsk 69.91 312 *eP* **P 16 45 30.8 -2.3**
KIV pmax pmax
comp=Z,21nm,1.1s
KBZ Khabaz 69.94 311 P P 16 45 33.6 +0.5
comp=Z,2.3nm,0.6s,baz=27,slow=1.3,SNR=6.1
KBZ Khabaz 69.94 311 *eP* **P 16 45 32.5 -0.6**
NC405 NORSAR Array S 70.20 338 P P 16 45 34.6 +0.1
NC303 NORSAR Array S 70.20 339 P P 16 45 34.5 0.0
NC204 NORSAR Array S 70.32 339 P P 16 45 34.8 -0.4
NB201 NORSAR Array S 70.37 338 P P 16 45 35.1 -0.4
NB2 NORSAR Subarra 70.40 338 P P 16 45 35.4 -0.3
comp=Z,2.9nm,0.6s,baz=34,slow=6.5
NOA NORSAR Array B 70.40 338 P P 16 45 35.5 -0.3
comp=Z,2.2nm,0.6s,baz=34,slow=6.2,SNR=14
PDAR Pinedale Array 71.33 49 P P 16 45 42.6 +0.6
comp=Z,0.4nm,0.5s,baz=199,slow=1.6,SNR=5.4
AKASG Malin Array Be 72.03 323 P P 16 45 45.7 0.0
comp=Z,0.9nm,0.5s,baz=40,slow=6.2,SNR=4.3
AKASG Malin Array Be 72.03 323 *i* P **P 16 45 47.7 +2.0**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
BUR08 Bucovina Ar. S 76.06 323 P P 16 46 09.8 +0.3
BUR08 IAmb IAmb 16 46 27.6
comp=Z,3.1nm,0.8s
CHVC Chvalec 77.47 330 *eP* P 16 46 29.8 +13
CLL Collm 77.97 332 *eP* **P 16 46 20.0 0.0**
CLL *i* PcP **sP 16 46 32.0 +1.2**
PRU Pruhonice 78.51 330 *e*PCP **PcP 16 46 35.8 +3.7**
KHC Kasperske Hory 79.58 330 *e*PCP **PcP 16 46 40.8 +4.0**
H03N2 Juan Fernandez 143.81 91 T T 19 34 44.3
baz=302,slow=77,SNR=8.5
H03N3 Juan Fernandez 143.83 91 T T 19 34 58.3
baz=302,slow=77,SNR=7.6
H03N1 Juan Fernandez 143.83 91 T T 19 34 40.8
baz=302,slow=77,SNR=11

*UPA **29** 16:35:14.3±0.9, 6°.11N×82°.64W, h17km±25km, MW4.8*
ISC 29 16:35:11.6±2.1, 6°.07N±0°.07×82°.8W±0°.1, h10km, n17,
σ1$87/21, 1C, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**2.26**	**42**	*eP*		**Pn**	**16 35 49.2**	**+0.2**
GMAL				*eS*		**Sn**	**16 36 16.3**	**-0.6**
CACAO	**El Cacao, Vera**	**2.26**	**56↑**	*eP*		**Pn**	**16 35 48.4**	**-0.7**
CACAO				*eS*		**Sn**	**16 36 14.6**	**-2.5**
BRU2	**Volcan**	**2.71**	**1**	*eP*		**Pn**	**16 35 56.7**	**+1.4**
BRU2				*eS*		**Sn**	**16 36 28.8**	**+0.5**
CHGR2	**Aguacate**	**2.91**	**12**	*eP*		**Pn**	**16 35 58.3**	**+0.3**
CHGR2				*eS*		**Sn**	**16 36 31.9**	**-1.3**
AZU	**Azuero**	**2.99**	**55**	*eP*		**Pn**	**16 35 59.5**	**+0.3**
AZU				*eS*		**Sn**	**16 36 32.9**	**-2.2**
DBBC	**Dabeiba**	**6.56**	**81**	*eP*		Pn	16 36 54.1	+5.8
YOTC	**Yotoco, Valle**	**6.71**	**108**	*eP*		**Pn**	**16 36 48.0**	**-2.3**
BBAC	**Balboa, Cauca**	**6.80**	**126**	*eP*		**Pn**	**16 36 50.9**	**-0.8**
CMBC	**Cumbal**	**7.08**	**136**	*eP*		**Pn**	**16 36 57.2**	**+1.5**
GCUF	**Volcan Galeras**	**7.23**	**132**	*eP*		**Pn**	**16 36 57.5**	**-0.3**
SOTA	**Rioblanco**	**7.26**	**122**	*eP*		**Pn**	**16 36 58.9**	**+0.5**
GUY2C	**Guyana, Caldas**	**7.40**	**96**	*eP*		**Pn**	**16 37 02.7**	**+2.6**
RREF	**El Recreo**	**7.46**	**99**	*eP*		**Pn**	**16 37 03.6**	**+2.5**
TOLC	**Tolima**	**7.54**	**101**	*eP*		**Pn**	**16 37 03.3**	**+1.3**
ORTC	**Ortega, Tolima**	**7.78**	**106**	*eP*		**Pn**	**16 37 07.0**	**+2.1**
PRAC	**Prado**	**8.18**	**106**	*eP*		**Pn**	**16 37 11.9**	**+1.5**
CHIC	**Chingaza**	**9.09**	**99**	*eP*		**Pn**	**16 37 27.4**	**+4.1**

*JMA **29** 16:43:34.5±0.1, 42°.58N×145°.97E, h52km±2km, M3.5*
*SKHL **29** 16:43:35.3±0.4, 42°.56N×145°.86E, h53km±3km, mb4.0/4*
ISC 29 16:43:37.1±2.0, 42°.7N±0°.1×145°.88E±0°.08, h49km±22km,
n20, σ0°68/36, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JKHN	**Kushirohamanak**	**0.66**	**307**	*P*		**Pn**	**16 43 49.6**	**-0.6**
JKHN				*eS*		**Sn**	**16 44 00.8**	**+1.1**
NEM2	**Nemuro 2**	**0.68**	**352**	*P*		**Pn**	**16 43 50.0**	**-0.6**
NEM2				*eS*		**Sn**	**16 44 01.1**	**+0.8**
NMR	**Nemuro--Hokkai**	**0.69**	**351**	*i P*		**Pn**	**16 43 50.0**	**-0.7**
NMR				*i S*		**Sn**	**16 44 01.1**	**+0.6**
NMR	**Nemuro--Hokkai**	**0.69**	**351**	*i P*		**Pn**	**16 43 50.0**	**-0.7**
NMR				*i S*		**Sn**	**16 44 01.1**	**+0.6**
JAK	**Akkeshi**	**0.92**	**290**	*P*		**Pn**	**16 43 52.9**	**-0.8**
JAK				*eS*		**Sn**	**16 44 06.4**	**+0.5**
JNK	**Nakash**	**1.23**	**317**	*P*		**Pn**	**16 43 57.2**	**-0.8**
JNK				*eS*		**Sn**	**16 44 13.3**	**-0.2**
GRPR	**Tuman**	**1.31**	**357**	*i P*		**Pn**	**16 43 58.2**	**-0.7**
GRPR				AMB	AMB		16 43 59.0	
	30nm,0.2s							
GRPR				*i S*		**Sn**	**16 44 15.5**	**+0.3**
GRPR				A	A		16 44 20.0	
	1μm,0.5s							
GRPR				A	A		16 44 20.0	
	250nm,0.5s							
GRPR	**Tuman**	**1.31**	**357**	*i P*		**Pn**	**16 43 58.2**	**-0.7**
GRPR				AMB	AMB		16 43 59.0	
	30nm,0.2s							
GRPR				*i S*		**Sn**	**16 44 15.5**	**+0.3**
GRPR				A	A		16 44 20.0	
	1μm,0.5s							
GRPR				A	A		16 44 20.0	
	250nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**1.35**	**360**	*i P*		**Pn**	**16 43 58.6**	**-0.9**
YUK				AMB	AMB		16 44 02.0	
	40nm,0.3s							
YUK				*i S*		**Sn**	**16 44 16.0**	**-0.2**
YUK				A	A		16 44 21.9	
	490nm,0.4s							
YUK				A	A		16 44 21.9	
	340nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.35**	**360**	*i P*		**Pn**	**16 43 58.6**	**-0.9**
YUK				AMB	AMB		16 44 02.0	
	40nm,0.3s							
YUK				*i S*		**Sn**	**16 44 16.0**	**-0.2**
YUK				A	A		16 44 21.9	
	490nm,0.4s							
YUK				A	A		16 44 21.9	
	340nm,0.4s							
JRA	**Rausu**	**1.36**	**336**	*P*		**Pn**	**16 43 59.3**	**-0.4**
JRA				*eS*		**Sn**	**16 44 17.9**	**+1.3**
LAGR	**Lagunnoye**	**1.37**	**357**	*i P*		**Pn**	**16 43 58.9**	**-0.9**
LAGR				AMB	AMB		16 44 00.0	
	40nm,0.2s							
LAGR				*i S*		**Sn**	**16 44 16.8**	**+0.1**
LAGR				A	A		16 44 29.0	
	430nm,0.6s							
LAGR				A	A		16 44 29.0	
	800nm,0.6s							
LAGR	**Lagunnoye**	**1.37**	**357**	*i P*		**Pn**	**16 43 58.9**	**-0.9**
LAGR				AMB	AMB		16 44 00.0	
	40nm,0.2s							
LAGR				*i S*		**Sn**	**16 44 16.8**	**+0.1**
LAGR				A	A		16 44 29.0	
	430nm,0.6s							
LAGR				A	A		16 44 29.0	
	800nm,0.6s							
JOB	**Onbets**	**1.52**	**279**	*P*		**Pn**	**16 44 01.2**	**-0.6**
JAR	**Ashorobuto**	**1.66**	**292**	*P*		**Pn**	**16 44 03.3**	**-0.5**
JAR				*eS*		**Sn**	**16 44 24.5**	**+0.6**
JCH	**Churui**	**1.85**	**269**	*P*		**Pn**	**16 44 05.9**	**-0.5**
JTKR	**Abashiri--Toko**	**1.92**	**312**	*P*		**Pn**	**16 44 08.0**	**+0.6**
JEM	**Erimo**	**2.12**	**252**	*P*		**Pn**	**16 44 09.7**	**-0.4**
KUR	**Kuril'sk**	**2.92**	**29**	*i P*		**Pn**	**16 44 21.1**	**+0.1**
KUR				AMB	AMB		16 44 21.7	
	20nm,0.5s							
KUR				*i S*		**Sn**	**16 44 55.6**	**+0.7**
KUR				A	A		16 45 08.0	
	60nm,0.3s							
KUR				A	A		16 45 08.0	
	100nm,0.3s							
KUR	**Kuril'sk**	**2.92**	**29**	*i P*		**Pn**	**16 44 21.1**	**+0.1**
KUR				AMB	AMB		16 44 21.7	
	20nm,0.5s							
KUR				*i S*		**Sn**	**16 44 55.6**	**+0.7**
KUR				A	A		16 45 08.0	
	60nm,0.3s							
KUR				A	A		16 45 08.0	
	100nm,0.3s							

*BJI **29** 16:46:34.5±0.0, 38°.79N×75°.35E, h7km, ML3.4/6*
*IDC **29** 16:46:35.4±2.4, 38°.76N×75°.44E, h0km, mb3.8/1,*
mb1 3.4/6, mb1mx3.1/56, mbtmp3.4/6, ML3.0/5, Error ellipse: s-maj=45.6km s-min=22.2km az=114.0
*NNC **29** 16:46:38.6±3.6, 38°.95N×75°.48E, h0km, mb4.2, mpv3.8, Error ellipse: s-maj=27.3km s-min=22.2km az=139.0*
ISC 29 16:46:37.7±1.4, 38°.88N±0°.10×75°.41E±0°.09, h10km, n30,
σ2$47/33, 5C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**3.19**	**358**	*P*		**Pn**	**16 47 30.4**	**+2.0**
	SNR=42							
UCH	**Uchtor**	**3.41**	**349**	*P*		**Pn**	**16 47 33.8**	**+2.3**
	SNR=28							
ULHL	**Ulahol**	**3.42**	**10**	*P*		**Pb**	**16 47 37.8**	**-0.7**
	SNR=7.0							
KBK	**Karagaybulak**	**3.79**	**355**	*P*		**Pn**	**16 47 39.4**	**+3.1**
	SNR=20							
AAK	**Ala-Archa**	**3.82**	**350**	Pn		**Pn**	**16 47 40.0**	**+3.3**
	2.9nm,0.3s,baz=147,slow=6.3,SNR=8.3							
AAK				Sn		**Sb**	**16 48 27.1**	**-4.5**
	3.5nm,0.3s,baz=299,slow=15,SNR=7.4							
AAK	**Ala-Archa**	**3.82**	**350**	*P*		**Pn**	**16 47 40.9**	**+4.2**
	SNR=5.8							
AAK	**Ala-Archa**	**3.82**	**350**	⇑Pn		**Pn**	**16 47 39.2**	**+2.5**
	10nm,0.4s							
AAK				⇑Sn		**Sb**	**16 48 28.6**	**-3.0**
	46nm,1.0s							
TKM2	**Tokmak 2**	**4.04**	**2**	*P*		**Pn**	**16 47 43.0**	**+3.2**
	SNR=8.3							
TKM2	**Tokmak 2**	**4.04**	**2**	⇑Pn		**Pn**	**16 47 42.3**	**+2.5**
	7.8nm,0.5s							
TKM2				⇓Lg		Lg	16 48 43.3	
	28nm,0.7s							
CHMS	**Chumysh**	**4.14**	**353**	*P*		**Pn**	**16 47 44.0**	**+2.9**
	SNR=12							
KST	**Kastek**	**4.18**	**6**	Pg		**Pb**	**16 47 52.9**	**+1.5**
	13nm,0.6s							
KST				Lg		Lg	16 48 48.1	
	34nm,0.7s							
MRKS	**Merke**	**4.20**	**337**	Pg		**Pb**	**16 47 53.2**	**+1.4**
	8.8nm,0.4s							
MRKS				Lg		Lg	16 48 49.3	
	13nm,0.6s							
MTBS	**Maitube**	**4.31**	**10**	Pg		**Pb**	**16 47 54.4**	**+0.7**
	6.7nm,0.2s							
MTBS				Lg		Lg	16 48 51.5	
	13nm,0.5s							
DGS	**Degeres**	**4.37**	**3**	Pg		**Pb**	**16 47 57.4**	**+2.9**
	12nm,0.5s							
DGS				Lg		Lg	16 48 55.9	
	22nm,0.7s							
USP	**Ospenovka**	**4.43**	**351**	*P*		**Pn**	**16 47 48.2**	**+3.1**
	SNR=6.9							
MDOK	**Medeo**	**4.45**	**16**	⇓Pg		**Pb**	**16 47 54.7**	**-1.4**
	17nm,1.1s							
MDOK				⇑Lg		Lg	16 48 56.1	
	45nm,1.0s							
MDOK	**Medeo**	**4.45**	**16**	Pg		**Pb**	**16 47 57.4**	**+1.3**
	11nm,0.5s							
MDOK				Lg		Lg	16 48 56.0	
	25nm,0.8s							
KOTS	**Kotyrbulak**	**4.53**	**16**	Pg		**Pb**	**16 47 59.4**	**+1.9**
	16nm,0.5s							
KOTS				Lg		Lg	16 48 59.5	
	60nm,0.7s							
SGDS	**Sogindy**	**4.60**	**353**	Pg		**Pb**	**16 48 00.8**	**+2.1**
	18nm,0.8s							
SGDS				Lg		Lg	16 49 02.2	
	18nm,0.9s							
KTBS	**Karatobe**	**4.92**	**11**	Pg		**Pb**	**16 48 06.5**	**+2.5**
	11nm,0.6s							
KTBS				Lg		Lg	16 49 11.4	
	26nm,0.6s							
KUU	**Kurty**	**5.05**	**8**	Pg		**Pb**	**16 48 08.7**	**+2.4**
	6.8nm,0.6s							
KUU				Lg		Lg	16 49 15.0	
	31nm,0.8s							
KK31	**Karatay Array**	**5.61**	**320**	Pn		**Pn**	**16 48 02.5**	**+1.2**
	0.9nm,0.4s,baz=126,slow=13,SNR=16							
KK31				⇑Sn		**Sn**	**16 49 05.3**	**-0.5**
	10nm,0.7s,baz=129,slow=29,SNR=7.0							
MNBS	**Baschi**	**5.66**	**22**	Pg		**Pb**	**16 48 20.4**	**+3.8**
	6.4nm,0.7s							
MNBS				Lg		Lg	16 49 35.4	
	12nm,0.8s							
MKAR	**Makanchi Array**	**9.38**	**30**	Pn		**Pn**	**16 48 53.5**	**+0.6**
	0.2nm,0.3s,baz=209,slow=14,SNR=8.6							
WMQ	**Urumqi**	**10.47**	**58**	*eP*		**Pn**	**16 49 08.8**	**+0.9**
KURBB	**Kurchatov Arra**	**11.95**	**10**	Pn		**Pn**	**16 49 27.8**	**-0.2**
	0.0nm,0.3s,baz=194,slow=12,SNR=4.5							
KURBB				Lg		Lg	16 52 58.7	
	0.0nm,0.3s,baz=203,slow=33,SNR=4.6							
BVAR	**Borovoye Array**	**14.56**	**348**	Pn		**Pn**	**16 50 02.8**	**-1.0**
	0.1nm,0.3s,baz=154,slow=10,SNR=1.6							
ZALV	**Zalesovo Beam**	**16.38**	**20**	Pn		**P**	**16 50 29.9**	**-0.6**
	0.1nm,0.3s,baz=213,slow=10,SNR=1.8							
XAN	**Xi'an**	**27.29**	**90**	*P*		**P**	**16 52 19.3**	**-3.1**
TORD	**Torodi Ar. Bea**	**69.24**	**270**	*P*		**P**	**16 57 44.5**	**-0.7**
	0.9nm,0.8s,baz=46,slow=5.9,SNR=5.4							

*IDC **29** 16:58:00.9±1.4, 55°.57S×27°.93W, h0km, mb3.9/2,*
mb1 4.3/3, mb1mx3.7/32, mbtmp4.3/3, ML4.8/1, Error ellipse: s-maj=54.0km s-min=34.5km az=142.0
*NEIC **29** 16:58:02.6±1.1, 55°.6S±0°.2×28°.1W±0°.2, h10km±1km, mb4.4/4, Error ellipse: s-maj=28.6km s-min=21.2km az=27.0*
ISC 29 16:58:02.5±0.9, 55°.5S±0°.1×28°.1W±0°.1, h10km, n13,
σ0$39/12, mb4.3/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.02**	**281**	Pn		**Pn**	**16 59 17.7**	**0.0**
SNAA	**Sanae**	**19.41**	**156**			**Pn**	**17 02 30.2**	**+0.5**
SNAA				IAmb	IAmb		17 03 28.4	
	comp=Z,7.0nm,1.3s							
PMSA	**Palmer Station**	**19.88**	**228**	P		**P**	**17 02 33.4**	**-0.1**
	comp=Z,2.9nm,0.3s,baz=90,slow=1.0,SNR=10							
PMSA	**Palmer Station**	**19.88**	**228**	IAmb	IAmb		17 02 36.5	
	comp=Z,345nm,1.8s							
QSPA	**South Pole Qui**	**34.72**	**180**	P		**P**	**17 04 51.8**	**-0.5**
QSPA				IAmb	IAmb		17 05 12.8	
	comp=Z,15nm,1.8s							
LPAZ	**La Paz**	**49.67**	**306**	P		**P**	**17 06 55.5**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=135,slow=6.5,SNR=6.2							
LPAZ	**La Paz**	**49.67**	**306**	P		**P**	**17 06 54.9**	**-0.2**
LPAZ				IAmb	IAmb		17 06 57.2	
	comp=Z,14nm,1.9s							
TORD	**Torodi Ar. Bea**	**72.85**	**30**	P		**P**	**17 09 30.9**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=203,slow=5.7,SNR=4.5							
INK	**Inuvik**	**145.09**	**321**	PKPbc		**PKPab**	**17 17 38.2**	**+0.2**
	comp=Z,4.3nm,0.9s,baz=96,slow=4.2,SNR=7.1							
INK	**Inuvik**	**145.09**	**321**			**PKPdf**	**17 17 38.6**	**+0.3**
RIDG	**Independent Ri**	**148.29**	**311**			**PKPbc**	**17 17 48.0**	**+0.6**
ILAR	**Eielson Array**	**149.40**	**312**	PKPbc		**PKPbc**	**17 17 49.9**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=131,slow=1.8,SNR=17							
SONM	**Songino Array**	**151.19**	**86**	PKPbc		**PKPbc**	**17 17 55.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=225,slow=1.8,SNR=2.0							

*IDC **29** 16:59:47.3±0.9, 38°.80N×21°.91E, h0km, mb3.6/11,*
mb1 3.7/16, mb1mx3.5/54, mbtmp3.6/16, ML3.6/5, Error ellipse: s-maj=16.8km s-min=14.3km az=100.0
*ATH **29** 16:59:48.2, 38°.84N×21°.91E, h23km, ML3.6/38, Error ellipse: s-maj=0.8km s-min=0.5km az=264.0*
*THE **29** 16:59:49.1, 38°.81N×21°.90E, h8km, ML3.7/9, Error ellipse: s-maj=0.9km s-min=0.5km az=232.0*
*ISK **29** 16:59:49.9, 38°.87N×22°.04E, h26km, ML3.6/15*
*NEIC **29** 16:59:50.5±1.3, 38°.84N±0°.05×22°.06E±0°.07, h18km±9km, Error ellipse: s-maj=8.4km s-min=6.2km az=127.0*
*SOF **29** 16:59:53.6, 39°.34N×22°.07E, h5km, MD3.7*
ISC 29 16:59:49.0±0.7, 38°.81N±0°.01×21°.95E±0°.02, h14km±5km,
n257, σ1$27/307, mb3.7/11, 8C-5D, Greece

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.15**	**314**	*P*		**Pg**	**16 59 52.1**	**-0.9**
EVR				*S*		**Sg**	**16 59 55.0**	**-0.6**
	116μm,0.2s							
EVR	**Evrytania**	**0.15**	**314**	*P*		**Pg**	**16 59 52.1**	**-0.9**
EVR				*S*		**Sg**	**16 59 55.0**	**-0.6**
EVR				AML	AML		16 59 55.1	
EVR				AML	AML		16 59 55.2	
ANX	**Ano Chora**	**0.22**	**185**	*P*		**Pg**	**16 59 54.0**	**0.0**
ANX				*S*		**Sg**	**16 59 57.2**	**-0.2**
	53μm,0.4s							
ANX	**Ano Chora**	**0.22**	**185**	*P*		**Pg**	**16 59 54.0**	**0.0**
ANX				*S*		**Sg**	**16 59 58.4**	**+1.0**
ANX				AML	AML		17 00 00.1	
	comp=E,81722μm,0.4s							
ANX				AML	AML		17 00 00.8	
MAKR	**Makrakomi, Fth**	**0.25**	**36**	*P*		**Pb**	**16 59 54.6**	**-0.7**
MAKR				*S*		**Sb**	**16 59 58.6**	**-0.8**
	comp=E,42μm,0.3s							
MAKR	**Makrakomi, Fth**	**0.25**	**36**	*P*		**Pb**	**16 59 54.6**	**-0.7**
MAKR				*S

AGG	**Agios Georgios**	**0.37**	**55**	P	**Pb**	**16 59 56.8**	**-0.6**
AGG				S	**Sb**	**17 00 03.0**	**0.0**
AGG				AML	AML	17 00 04.5	
	comp=E,18886µm,0.4s						
AGG				AML	AML	17 00 06.9	
	comp=N,15265µm,0.3s						
AGG	**Agios Georgios**	**0.37**	**55**	PG	**Pb**	**16 59 56.7**	**-0.6**
AGG				SG	**Sb**	**17 00 02.9**	**0.0**
AGG	**Agios Georgios**	**0.37**	**55**	Pg	**Pb**	**16 59 56.4**	**-0.9**
PVO	**Paravola**	**0.38**	**239**	P	**Pg**	**16 59 56.0**	**-0.8**
PVO				S	**Sg**	**17 00 00.8**	**-1.2**
	comp=N,8µm,0.2s						
PVO	**Paravola**	**0.38**	**239**	P	**Pg**	**16 59 56.0**	**-0.8**
PVO				S	**Sg**	**17 00 02.6**	**+0.6**
PVO				AML	AML	17 00 05.1	
	comp=E,14888µm,0.2s						
PVO				AML	AML	17 00 08.1	
	comp=N,15541µm,0.3s						
EFP	**Efpalio**	**0.39**	**185**	P	**Pb**	**16 59 56.8**	**-0.9**
EFP	**Efpalio**	**0.39**	**185**	P	**Pb**	**16 59 56.8**	**-0.9**
EFP				S	**Sb**	**17 00 03.9**	**+0.4**
EFP				AML	AML	17 00 05.2	
	comp=N,45918µm,0.4s						
EFP				AML	AML	17 00 06.1	
	comp=E,46622µm,0.2s						
SERG	**Sergoula**	**0.41**	**168**	P	**Pb**	**16 59 57.1**	**-0.9**
SERG				S	**Sb**	**17 00 03.5**	**-0.6**
	comp=E,22µm,0.2s						
SERG	**Sergoula**	**0.41**	**168**	P	**Pb**	**16 59 57.1**	**-0.9**
SERG				S	**Sb**	**17 00 04.5**	**+0.4**
SERG				AML	AML	17 00 06.2	
	comp=N,43789µm,0.2s						
SERG				AML	AML	17 00 06.4	
	comp=E,43255µm,0.2s						
KALE	**Kalithea**	**0.45**	**160**	P	**Pb**	**16 59 57.7**	**-1.0**
KALE				S	**Sb**	**17 00 06.0**	**+0.8**
	comp=E,19µm,0.3s						
KALE	**Kalithea**	**0.45**	**160**	P	**Pb**	**16 59 57.8**	**-0.9**
KALE				S	**Sb**	**17 00 06.1**	**+0.8**
KALE				AML	AML	17 00 07.4	
	comp=E,28474µm,0.3s						
KALE				AML	AML	17 00 08.0	
	comp=N,46848µm,0.2s						
TRIZ	**Trizonia**	**0.46**	**167**	P	**Pb**	**16 59 57.9**	**-1.0**
TRIZ				S	**Sb**	**17 00 04.8**	**-0.7**
	comp=N,14µm,0.5s						
TRIZ	**Trizonia**	**0.46**	**167**	P	**Pb**	**16 59 57.9**	**-1.0**
TRIZ				S	**Sb**	**17 00 06.1**	**+0.6**
DLFA	**Delphi**	**0.55**	**128**	P	**Pb**	**16 59 59.5**	**-0.9**
DLFA				S	**Sb**	**17 00 08.0**	**0.0**
DLFA				AML	AML	17 00 10.6	
	comp=N,12838µm,0.4s						
DLFA				AML	AML	17 00 11.3	
	comp=E,19696µm,0.4s						
ALIK	**Aliki, Aigiali**	**0.57**	**167**	P	**Pb**	**16 59 59.9**	**-0.8**
LAKA	**Lakka**	**0.57**	**177**	P	**Pb**	**16 59 59.9**	**-1.0**
LAKA	**Lakka**	**0.57**	**177**	P	**Pb**	**16 59 59.8**	**-1.0**
LAKA				S	**Sb**	**17 00 08.6**	**-0.2**
AST1	**Astakos**	**0.72**	**248**	P	**Pg**	**17 00 02.5**	**-0.6**
THL	**Klokotos Trika**	**0.75**	**4**	P	**Pg**	**17 00 02.5**	**-1.2**
THL	**Klokotos Trika**	**0.75**	**4**	P	**Pg**	**17 00 02.8**	**-0.9**
THL				S	**Sg**	**17 00 13.8**	**+0.2**
THL				AML	AML	17 00 17.7	
	comp=N,5180µm,0.6s						
THL				AML	AML	17 00 18.4	
	comp=E,5631µm,0.4s						
KLV	**Kalavryta, Ach**	**0.79**	**168**	P	**Pb**	**17 00 03.2**	**-1.3**
KLV				S	**Sn**	**17 00 15.3**	**-2.0**
	comp=E,4µm,0.7s						
KLV	**Kalavryta, Ach**	**0.79**	**168**	P	**Pb**	**17 00 03.3**	**-1.2**
KLV				S	**Sn**	**17 00 16.3**	**-1.0**
KLV				AML	AML	17 00 17.2	
	comp=N,6356µm,0.8s						
KLV				AML	AML	17 00 17.4	
	comp=E,9080µm,0.7s						
LKR	**Lokris**	**0.84**	**101**	P	**Pb**	**17 00 04.6**	**-0.8**
LKR	**Lokris**	**0.84**	**101**	P	**Pn**	**17 00 04.9**	**-1.5**
LKR				S	**Sn**	**17 00 17.4**	**-1.2**
LKR				AML	AML	17 00 19.9	
	comp=N,3540µm,0.2s						
LKR				AML	AML	17 00 20.8	
	comp=E,4932µm,0.2s						
RLS	**Riolos of Patr**	**0.84**	**207**	P	**Pb**	**17 00 05.0**	**-0.4**
RLS	**Riolos of Patr**	**0.84**	**207**	P	**Pb**	**17 00 05.3**	**-0.2**
RLS				S	**Sb**	**17 00 15.7**	**-0.8**
RLS				AML	AML	17 00 19.4	
	comp=N,6958µm,0.8s						
RLS				AML	AML	17 00 19.9	
	comp=E,5322µm,0.4s						
DRO	**Drossia**	**0.88**	**192**	P	**Pb**	**17 00 05.0**	**-1.1**
DRO	**Drossia**	**0.88**	**192**	P	**Pb**	**17 00 05.3**	**-0.7**
MGNA	**Meganis**	**0.92**	**260**	P	**Pg**	**17 00 05.7**	**-1.0**
MGNA				S	**Sg**	**17 00 18.4**	**-0.4**
MGNA				AML	AML	17 00 22.3	
	comp=N,3582µm,0.3s						
MGNA				AML	AML	17 00 22.6	
	comp=E,3431µm,0.3s						
GUR	**Goura**	**0.93**	**160**	P	**Pb**	**17 00 05.8**	**-1.1**
GUR	**Goura**	**0.93**	**160**	P	**Pb**	**17 00 05.9**	**-1.1**
GUR				AML	AML	17 00 23.1	
	comp=E,7333µm,0.7s						
GUR				AML	AML	17 00 24.6	
	comp=N,15472µm,0.4s						
PROD	**Prodromos**	**0.93**	**126**	P	**Pn**	**17 00 06.3**	**-1.4**
PROD	**Prodromos**	**0.93**	**126**	P	**Pb**	**17 00 05.9**	**-1.1**
PROD				S	**Sn**	**17 00 20.4**	**-0.4**
PROD				AML	AML	17 00 26.0	
	comp=E,8515µm,0.5s						
PROD				AML	AML	17 00 26.3	
	comp=N,8234µm,0.5s						
LKD2	**Lefkada island**	**1.01**	**269**	P	**Pg**	**17 00 07.5**	**-0.9**
LKD2	**Lefkada island**	**1.01**	**269**	P	**Pg**	**17 00 07.6**	**-0.9**
LKD2				S	**Sg**	**17 00 19.8**	**-1.8**
LKD2				AML	AML	17 00 28.8	
	comp=N,3688µm,0.9s						
LKD2				AML	AML	17 00 29.1	
	comp=E,8102µm,0.6s						
VTN	**Vitineika**	**1.08**	**214**	P	**Pn**	**17 00 09.2**	**-0.5**
NEO	**Neokhori**	**1.11**	**63**	P	**Pn**	**17 00 10.4**	**+0.3**
NEO	**Neokhori**	**1.11**	**63**	P	**Pn**	**17 00 10.5**	**+0.3**
NEO				S	**Sn**	**17 00 26.0**	**+0.8**
NEO				AML	AML	17 00 27.0	
	comp=E,2973µm,0.5s						
NEO				AML	AML	17 00 30.7	
	comp=N,4337µm,0.3s						
XOR	**Xorichti**	**1.12**	**60**	P	**Pn**	**17 00 09.9**	**-0.3**
XOR	**Xorichti**	**1.12**	**60**	P	**Pn**	**17 00 10.3**	**+0.1**
XOR				S	**Sn**	**17 00 25.4**	**0.0**
XOR				AML	AML	17 00 29.3	
	comp=E,3222µm,0.4s						
XOR				AML	AML	17 00 29.5	
	comp=N,5533µm,0.5s						
MEV	**Metsovon**	**1.12**	**330**	P	**Pb**	**17 00 08.8**	**-1.4**
MEV	**Metsovon**	**1.12**	**330**	P	**Pb**	**17 00 08.9**	**-1.3**
LTK	**Loutraki**	**1.13**	**134**	P	**Pn**	**17 00 10.5**	**+0.1**
LTK	**Loutraki**	**1.13**	**134**	P	**Pn**	**17 00 10.5**	**+0.1**
LTK				AML	AML	17 00 33.2	
	comp=E,5778µm,0.5s						
LTK				AML	AML	17 00 34.2	
	comp=N,4572µm,0.4s						
FSK	**Fiskardo**	**1.14**	**252**	P	**Pb**	**17 00 09.2**	**-1.3**
FSK	**Fiskardo**	**1.14**	**252**	P	**Pb**	**17 00 09.2**	**-1.3**
FSK				AML	AML	17 00 33.0	
	comp=E,3649µm,0.4s						
FSK				AML	AML	17 00 33.1	
	comp=N,3919µm,0.8s						
LOUT	**Loutraki**	**1.16**	**135**	P	**Pn**	**17 00 10.6**	**-0.1**
LOUT	**Loutraki**	**1.16**	**135**	P	**Pn**	**17 00 11.1**	**+0.3**
LOUT				AML	AML	17 00 31.9	
	comp=E,768µm,0.5s						
LOUT				AML	AML	17 00 35.0	
	comp=N,967µm,0.7s						
VSK1	**VASILIKIADES**	**1.16**	**250**	P	**Pb**	**17 00 09.3**	**-1.4**
JAN	**Janina**	**1.20**	**315**	P	**Pn**	**17 00 10.4**	**-0.9**
JAN	**Janina**	**1.20**	**315**	P	**Pn**	**17 00 10.4**	**-0.9**
JAN				S	**Sb**	**17 00 26.8**	**0.0**
JAN				AML	AML	17 00 35.5	
	comp=N,4572µm,0.5s						
JAN				AML	AML	17 00 36.9	
	comp=E,6284µm,0.6s						
VIL2	**Platees**	**1.20**	**120**	P	**Pn**	**17 00 13.0**	**+1.6**
VIL2				AML	AML	17 00 34.9	
	comp=N,4994µm,1.0s						
VIL2				AML	AML	17 00 35.7	
	comp=E,10656µm,0.6s						
KPRO	**Kipourio**	**1.23**	**339**	P	**Pn**	**17 00 10.8**	**-1.0**
KPRO	**Kipourio**	**1.23**	**339**	P	**Pn**	**17 00 10.9**	**-1.0**
KPRO				S	**Sb**	**17 00 28.3**	**+0.6**
KPRO				AML	AML	17 00 31.4	
	comp=N,6275µm,0.5s						
KPRO				AML	AML	17 00 31.7	
	comp=E,5890µm,0.5s						
SKIA	**Skiathos**	**1.24**	**73**	P	**Pg**	**17 00 12.4**	**-0.5**
SKIA	**Skiathos**	**1.24**	**73**	P	**Pg**	**17 00 12.4**	**-0.5**
SKIA				S	**Sn**	**17 00 29.3**	**+1.0**
VLS	**Valsamata**	**1.24**	**240**	P	**Pn**	**17 00 10.8**	**-1.0**
VLS	**Valsamata**	**1.24**	**240**	P	**Pn**	**17 00 10.9**	**-1.0**
VLS				S	**Sn**	**17 00 29.0**	**+0.6**
VLS				AML	AML	17 00 33.6	
	comp=N,3127µm,0.6s						
VLS				AML	AML	17 00 39.7	
	comp=E,2104µm,0.5s						
VILL	**Villia**	**1.25**	**121**	P	**Pg**	**17 00 11.9**	**-1.3**
KEF5	**Kardakata, Kep**	**1.27**	**246**	P	**Pn**	**17 00 11.7**	**-0.7**
MRKA	**Markates**	**1.29**	**94**	P	**Pg**	**17 00 13.3**	**-0.5**
MRKA	**Markates**	**1.29**	**94**	P	**Pg**	**17 00 13.4**	**-0.5**
MRKA				S	**Sn**	**17 00 30.7**	**+1.1**
MRKA				AML	AML	17 00 34.2	
	comp=N,1122µm,1.2s						
MRKA				AML	AML	17 00 38.4	
	comp=E,828µm,0.6s						
AMT	**Artemida-Makis**	**1.29**	**188**	P	**Pg**	**17 00 12.7**	**-1.2**
AMT	**Artemida-Makis**	**1.29**	**188**	P	**Pg**	**17 00 13.4**	**-0.5**
AMT				AML	AML	17 00 42.0	
	comp=N,6430µm,0.9s						
AMT				AML	AML	17 00 43.3	
	comp=E,4545µm,0.6s						
TRIP	**Tripoli**	**1.31**	**169**	P	**Pg**	**17 00 12.7**	**-1.6**
TRIP	**Tripoli**	**1.31**	**169**	P	**Pg**	**17 00 12.9**	**-1.3**
TRIP				S	**Sn**	**17 00 32.1**	**+1.9**
TRIP				AML	AML	17 00 36.7	
	comp=N,3707µm,0.6s						
TRIP				AML	AML	17 00 43.7	
	comp=E,3535µm,0.6s						
ARGA	**Argostoli. Kep**	**1.31**	**242**	P	**Pn**	**17 00 12.7**	**-0.2**
KEF4	**Livadi, Kephal**	**1.31**	**246**	P	**Pn**	**17 00 11.6**	**-1.3**
LIT	**Litokhoron**	**1.35**	**18**	P	**Pn**	**17 00 13.4**	**-0.1**
KEF3	**Kipouria, Keph**	**1.39**	**245**	P	**Pn**	**17 00 13.9**	**-0.1**
KRI1	**kERI**	**1.45**	**218**	P	**Pb**	**17 00 15.4**	**-0.4**
VLX	**Vlachokerasia**	**1.48**	**166**	P	**Pg**	**17 00 15.6**	**-1.9**
VLX	**Vlachokerasia**	**1.48**	**166**	P	**Pg**	**17 00 15.7**	**-1.4**
VLX				S	**Sg**	**17 00 35.5**	**-1.2**
VLX				AML	AML	17 00 43.6	
	comp=E,6289µm,0.7s						
VLX				AML	AML	17 00 45.0	
	comp=N,5746µm,0.5s						
KZN	**Kozani**	**1.50**	**355**	P	**Pn**	**17 00 15.8**	**+0.2**
KZN	**Kozani**	**1.50**	**355**	P	**Pn**	**17 00 15.7**	**+0.2**
PENT	**Pentalofos**	**1.52**	**336**	P	**Pn**	**17 00 15.9**	**+0.1**
PENT	**Pentalofos**	**1.52**	**336**	P	**Pn**	**17 00 15.8**	**0.0**
ALNA	**Alonissos**	**1.54**	**77**	P	**Pb**	**17 00 16.5**	**-0.7**
AOS	**Alonnisos**	**1.55**	**76**	P	**Pb**	**17 00 16.2**	**-1.2**
AOS	**Alonnisos**	**1.55**	**76**	P	**Pb**	**17 00 16.3**	**-1.2**
AOS	**Alonnisos**	**1.55**	**76**	PN	**Pn**	**17 00 15.7**	**-0.5**
ATH	**Athens Observa**	**1.63**	**121**	P	**Pg**	**17 00 18.2**	**-2.1**
ATH	**Athens Observa**	**1.63**	**121**	P	**Pg**	**17 00 18.0**	**-2.3**
ATH				AML	AML	17 00 40.2	
	comp=E,2462µm,0.4s						
ATH				AML	AML	17 00 41.0	
	comp=N,2464µm,0.4s						
ITM	**Ithomi**	**1.63**	**181**	P	**Pn**	**17 00 16.9**	**-0.4**
ITM	**Ithomi**	**1.63**	**181**	P	**Pg**	**17 00 18.7**	**-1.6**
ITM	**Ithomi**	**1.63**	**181**	PN	**Pg**	**17 00 18.9**	**-1.5**
ITM	**Ithomi**	**1.63**	**181**	Pn	**Pg**	**17 00 19.2**	**-1.2**
DID	**Didima**	**1.66**	**142**	P	**Pg**	**17 00 18.4**	**-2.4**
DID	**Didima**	**1.66**	**142**	P	**Pg**	**17 00 18.5**	**-2.4**
DID				S	**Sg**	**17 00 40.6**	**-1.7**
DID				AML	AML	17 00 49.2	
	comp=N,2402µm,0.6s						
DID				AML	AML	17 00 49.9	
	comp=E,3964µm,0.5s						
ATHU	**Athens Univers**	**1.68**	**120**	P	**Pg**	**17 00 18.8**	**-2.4**
ATHU	**Athens Univers**	**1.68**	**120**	P	**Pg**	**17 00 18.9**	**-2.4**
ATHU				AML	AML	17 00 46.1	
	comp=N,850µm,0.4s						
ATHU				AML	AML	17 00 49.4	
	comp=E,566µm,0.5s						
PTL	**Penteli**	**1.69**	**116**	P	**Pg**	**17 00 19.1**	**-2.4**
PTL	**Penteli**	**1.69**	**116**	P	**Pg**	**17 00 19.3**	**-2.2**
PTL				AML	AML	17 00 48.7	
	comp=E,1419µm,0.4s						
PTL				AML	AML	17 00 50.6	
	comp=N,1325µm,0.7s						
KYMI	**Kymi, Euboea I**	**1.70**	**95**	P	**Pb**	**17 00 18.1**	**-1.9**
KRND	**KRANIDI**	**1.72**	**146**	P	**Pg**	**17 00 19.7**	**-2.3**
KRND	**KRANIDI**	**1.72**	**146**	P	**Pg**	**17 00 19.7**	**-2.3**
KRND				AML	AML	17 00 48.5	
	comp=N,2680µm,0.7s						
KRND				AML	AML	17 00 49.1	
	comp=E,4451µm,0.5s						
DION	**Dionisos Attik**	**1.73**	**115**	P	**Pb**	**17 00 19.4**	**-1.1**
DION	**Dionisos Attik**	**1.73**	**115**	P	**Pg**	**17 00 19.8**	**-2.3**
DION				AML	AML	17 00 49.3	
	comp=N,4716µm,0.4s						
DION				AML	AML	17 00 49.4	
	comp=E,3557µm,0.3s						
NEST	**Nestorio**	**1.74**	**337**	P	**Pn**	**17 00 20.0**	**+1.1**
NEST	**Nestorio**	**1.74**	**337**	P	**Pn**	**17 00 20.5**	**+1.6**
VLY	**Voula,Athens**	**1.74**	**123**	P	**Pg**	**17 00 19.9**	**-2.6**
VLY	**Voula,Athens**	**1.74**	**123**	P	**Pg**	**17 00 19.9**	**-2.6**
PAIG	**Paliouri**	**1.75**	**50**	P	**Pn**	**17 00 18.7**	**-0.2**
PAIG	**Paliouri**	**1.75**	**50**	P	**Pn**	**17 00 18.6**	**-0.2**
PAIG				AML	AML	17 00 52.5	
	comp=E,497µm,0.6s						
PAIG				AML	AML	17 00 54.7	
	comp=N,623µm,0.7s						
KEK	**Kerkira**	**1.89**	**299**	P	**Pn**	**17 00 21.5**	**+0.6**
KEK	**Kerkira**	**1.89**	**299**	P	**Pn**	**17 00 22.7**	**+1.8**
PYL	**PYLOS**	**1.92**	**185**	P	**Pb**	**17 00 23.4**	**-0.4**
PLG	**Polygyros**	**1.94**	**36**	P	**Pn**	**17 00 21.4**	**-0.2**
PLG	**Polygyros**	**1.94**	**36**	P	**Pn**	**17 00 21.1**	**-0.5**
THE	**Thessaloniki**	**1.98**	**23**	P	**Pn**	**17 00 21.7**	**-0.3**
HORT	**Hortiatis**	**1.99**	**26**	P	**Pn**	**17 00 21.9**	**-0.5**
HORT	**Hortiatis**	**1.99**	**26**	P	**Pn**	**17 00 21.8**	**-0.5**
HORT				AML	AML	17 00 46.6	
	comp=N,364µm,0.4s						
HORT				AML	AML	17 00 57.1	
	comp=E,376µm,0.6s						
HORT	**Hortiatis**	**1.99**	**26**	PN	**Pn**	**17 00 21.6**	**-0.7**
SKY	**Skiros Island**	**2.04**	**87**	P	**Pn**	**17 00 22.4**	**-0.4**
KARY	**Karystos**	**2.11**	**111**	P	**Pb**	**17 00 25.1**	**-1.9**
VLI	**Velíai**	**2.23**	**159**	P	**Pn**	**17 00 25.8**	**+0.2**
VLI	**Veliai**	**2.23**	**159**	P	**Pb**	**17 00 26.7**	**-2.5**
MNVA	**Monemvasia**	**2.29**	**157**	P	**Pn**	**17 00 26.9**	**+0.6**
KNT	**Kendrikon**	**2.46**	**17**	P	**Pn**	**17 00 29.2**	**+0.6**
KNT	**Kendrikon**	**2.46**	**17**	P	**Pn**	**17 00 29.3**	**+0.6**
KNT	**Kendrikon**	**2.46**	**17**	PN	**Pn**	**17 00 28.5**	**-0.2**
OHR	**Ohrid**	**2.46**	**339**	*i* Pn	**Pb**	**17 00 33.1**	**+0.1**
VAY	**Valandovo**	**2.55**	**11**	⇓*i* Pn	**Pn**	**17 00 30.8**	**+0.9**
SRS	**Serrai**	**2.63**	**28**	P	**Pn**	**17 00 31.1**	**+0.1**
SRS	**Serrai**	**2.63**	**28**	P	**Pn**	**17 00 31.1**	**+0.1**
KTHA	**Kythira Island**	**2.70**	**160**	P	**Pn**	**17 00 33.3**	**+1.3**
KTHA	**Kythira Island**	**2.70**	**160**	P	**Pn**	**17 00 33.4**	**+1.3**
KTHA	**Kythira Island**	**2.70**	**160**	PN	**Pn**	**17 00 33.4**	**+1.3**
LIA	**Límnos Island**	**2.73**	**66**	P	**Pn**	**17 00 32.4**	**0.0**
THAS	**Thassos island**	**2.79**	**49**	P	**Pn**	**17 00 32.7**	**-0.5**
MHLO	**Agia Marina, M**	**2.88**	**137**	P	**Pn**	**17 00 35.3**	**+0.8**
NVR	**Nevrokopi**	**2.93**	**30**	P	**Pn**	**17 00 35.6**	**+0.4**
NVR	**Nevrokopi**	**2.93**	**30**	P	**Pn**	**17 00 35.6**	**+0.4**
SCTE	**Santa Cesarea**	**2.97**	**296**	P	**Pn**	**17 00 37.3**	**+1.6**
SCTE	**Santa Cesarea**	**2.97**	**296**	Pn	**Pn**	**17 00 37.5**	**+1.8**
TIR	**Tirane**	**2.99**	**328**	⇓P	**Pn**	**17 00 39.0**	**+3.0**
TIR	**Tirane**	**2.99**	**328**	Pn	**Pn**	**17 00 38.0**	**+2.0**
SIGR	**SIGRI**	**3.07**	**81**	PN	**Pn**	**17 00 36.9**	**-0.2**
MMB	**Musomiste**	**3.09**	**26**	*i* P	**Pn**	**17 00 37.4**	**0.0**
ANKY	**Antikythira Is**	**3.13**	**159**	P	**Pn**	**17 00 39.5**	**+1.6**
KKB	**Krupnik**	**3.17**	**16**	*i* P	**Pn**	**17 00 38.7**	**+0.2**
SKO	**Skopje**	**3.18**	**353**	*i* Pn	**Pn**	**17 00 39.7**	**+1.1**
CHOS	**Chios island**	**3.25**	**96**	P	**Pn**	**17 00 41.1**	**+1.5**
CHOS	**Chios island**	**3.25**	**96**	PN	**Pn**	**17 00 39.4**	**-0.2**
APE	**Apeiranthos**	**3.33**	**120**	⇑P	**Pn**	**17 00 41.7**	**+1.1**
APE	**Apeiranthos**	**3.33**	**120**	PN	**Pn**	**17 00 41.0**	**+0.4**
BOZC	**Bozcaada**	**3.35**	**71**	PN	**Pn**	**17 00 40.8**	**-0.1**
GADA	**Gvkgeada**	**3.35**	**65**	PN	**Pn**	**17 00 40.9**	**0.0**
EZN	**Ezine**	**3.54**	**72**	PN	**Pn**	**17 00 43.5**	**-0.1**
RODP	**Rodopos**	**3.56**	**155**	PN	**Pn**	**17 00 45.4**	**+1.6**
RZN	**Rozhen**	**3.57**	**36**	*i* P	**Pn**	**17 00 44.6**	**+0.5**
RDO	**Rodhopi**	**3.61**	**49**	PN	**Pn**	**17 00 44.2**	**-0.3**
URLA	**Izmir**	**3.67**	**96**	PN	**Pn**	**17 00 45.7**	**+0.3**
IMMV	**Iera Moni Meta**	**3.72**	**153**	PN	**Pn**	**17 00 47.7**	**+1.7**
ENEZ	**Enez**	**3.77**	**58**	PN	**Pn**	**17 00 46.6**	**0.0**
ALN	**Alexandroupoli**	**3.78**	**55**	PN	**Pn**	**17 00 47.0**	**+0.2**
ALN	**Alexandroupoli**	**3.78**	**55**	Pn	**Pn**	**17 00 46.7**	**-0.1**
KNDR	**Palaiochora Ch**	**3.83**	**158**	PN	**Pn**	**17 00 49.2**	**+1.6**
KDZ	**Kurdzhali**	**3.88**	**42**	PN	**Pn**	**17 00 47.6**	**-0.7**
PLD	**Plovdiv**	**3.90**	**32**	PN	**Pn**	**17 00 48.6**	**+0.1**
VTS	**Vitosha**	**3.92**	**14**	⇑P	**Pn**	**17 00 49.8**	**+0.8**
VTS	**Vitosha**	**3.92**	**14**	*e*P	**Pn**	**17 00 49.5**	**+0.5**
VTS	**Vitosha**	**3.92**	**14**	Pn	**Pn**	**17 00 49.4**	**+0.4**
DRME	**Dracevica, Mon**	**3.97**	**329**	*e*Pn	**Pn**	**17 00 51.5**	**+2.0**
LPK	**Lapseki**	**4.03**	**66**	PN	**Pn**	**17 00 50.3**	**0.0**
TIP	**Timpagrande**	**4.06**	**277**	⇑P	**Pn**	**17 00 52.2**	**+1.5**
TIP	**Timpagrande**	**4.06**	**277**	Pn	**Pn**	**17 00 52.1**	**+1.4**
PDG	**Podgorica**	**4.15**	**331**	⇓P	**Pn**	**17 00 54.3**	**+2.4**
PDG	**Podgorica**	**4.15**	**331**	Pn	**Pn**	**17 00 53.3**	**+1.4**
PDG	**Podgorica**	**4.15**	**331**	*e*Pn	**Pn**	**17 00 54.1**	**+2.2**
IDI	**Anoyia**	**4.24**	**145**	Pn	**Pn**	**17 00 54.3**	**+1.1**
	comp=E,2.1nm,0.3s,baz=4.1,slow=11,SNR=13						
IDI				Sn	**Sn**	**17 01 46.5**	**+4.1**
	comp=E,2.9nm,0.3s,baz=284,slow=23,SNR=1.8						
IDI	**Anoyia**	**4.24**	**145**	⇑P	**Pn**	**17 00 55.6**	**+2.5**
IDI	**Anoyia**	**4.24**	**145**	PN	**Pn**	**17 00 54.5**	**+1.4**
IDI	**Anoyia**	**4.24**	**145**	Pn	**Pn**	**17 00 54.1**	**+1.0**
GVDS	**Gavdos**	**4.32**	**156**	PN	**Pn**	**17 00 55.9**	**+1.7**
GVD	**Gavdhos**	**4.32**	**156**	PN	**Pn**	**17 00 56.2**	**+1.9**
MATE	**Matera**	**4.44**	**296**	⇑P	**Pn**	**17 00 57.6**	**+1.8**
HCY	**Herceg Novi**	**4.48**	**325**	*e*Pn	**Pn**	**17 00 57.2**	**+0.8**
EDRB	**Edirne**	**4.76**	**49**	PN	**Pn**	**17 01 00.9**	**+0.7**
TREB	**Trebinje**	**4.76**	**326**	*e*Pn	**Pn**	**17 01 01.5**	**+1.2**
DBRK	**Dubrovnik**	**4.81**	**324**	*e*Pn	**Pn**	**17 01 01.8**	**+0.8**
DBRK				Sn	**Sn**	**17 01 55.1**	**-1.4**
BRY	**Bratogost**	**4.83**	**329**	*e*Pn	**Pn**	**17 01 02.9**	**+1.5**
STON	**Ston**	**5.18**	**323**	*e*Pn	**Pn**	**17 01 07.1**	**+1.1**
STON				Sn	**Sn**	**17 02 04.5**	**-1.0**
STON	**Ston**	**5.18**	**323**	*e*Pn	**Pn**	**17 01 06.9**	**+0.9**
RUDO	**Rudo**	**5.18**	**339**	*e*Pn	**Pn**	**17 01 07.3**	**+1.3**
BBLS	**Lazići**	**5.40**	**340**	*e*Pn	**Pn**	**17 01 11.3**	**+2.2**
DIVS	**Divibare**	**5.48**	**345**		**Pn**	**17 01 11.1**	**+0.8**
DIVS	**Divibare**	**5.48**	**345**	*e*Pn	**Pn**	**17 01 11.5**	**+1.2**
SGRT	**San Giovanni R**	**5.58**	**304**	Pn	**Pn**	**17 01 12.7**	**+1.1**
HAPS	**Han Pijesak,Bl**	**5.73**	**338**	*e*Pn	**Pn**	**17 01 14.2**	**+0.5**
RICI	**Ricice**	**5.92**	**324**	*e*Pn	**Pn**	**17 01 16.3**	**+0.6**
RICI				Sn	**Sn**	**17 02 22.3**	**-1.5**
PAOL	**Paolisi**	**6.09**	**294**		**Pn**	**17 01 21.2**	**+2.6**
FRGS	**Fruska Gora**	**6.54**	**347**	*e*Pn	**Pn**	**17 01 25.6**	**+0.9**
KIJV	**Kijevo**	**6.65**	**323**	*e*Pn	**Pn**	**17 01 27.0**	**+0.8**
KIJV				Sn	**Sn**	**17 02 39.8**	**-2.0**
MGRS	**Mrkonjic Grad**	**6.68**	**329**	*e*Pn	**Pn**	**17 01 26.3**	**-0.3**
ZIRJ	**Zirje**	**6.78**	**318**	*e*Pn	**Pn**	**17 01 29.1**	**+1.1**
ZIRJ				Sn	**Sn**	**17 02 42.7**	**-2.2**
BZS	**Buzias**	**6.80**	**358**	⇓P	**Pn**	**17 01 29.7**	**+1.4**
ARR	**Arges**	**6.85**	**16**	⇓P	**Pn**	**17 01 29.9**	**+0.9**
MORI	**Morici**	**6.89**	**319**	*e*Pn	**Pn**	**17 01 30.7**	**+1.2**
MORI				Sn	**Sn**	**17 02 45.1**	**-2.5**
BLY	**Banja Luka**	**6.91**	**331**	*e*Pn	**Pn**	**17 01 31.2**	**+1.3**
INTR	**Introdacqua**	**6.92**	**300**	Pn	**Pn**	**17 01 32.3**	**+2.3**
VOIR		**7.01**	**18**	⇑P	**Pn**	**17 01 32.8**	**+1.5**
MLR	**Muntele Rosu**	**7.30**	**23**	Pn	**Pn**	**17 01 36.7**	**+1.4**
	comp=E,1.2nm,0.3s,baz=210,slow=12,SNR=15						
MLR				Sn	**Sn**	**17 03 00.0**	**+2.0**
	comp=E,0.3nm,0.3s,baz=290,slow=18,SNR=1.2						
MLR	**Muntele Rosu**	**7.30**	**23**	⇑P	**Pn

AAK	**Ala-Archa**	**6.25**	**27**	P	Pn	17 01 51.9	+0.1	
	SNR=6.0							
AAK	**Ala-Archa**	**6.25**	**27**	⇑P	Pn	17 01 51.9	+0.1	
	5.0nm,0.5s							
AAK				⇑S	Sn	17 03 05.7	+1.7	
	6.3nm,0.8s							
ULHL	**Ulahol**	**6.68**	**38**	P	Pn	17 01 56.1	-1.6	
	SNR=8.9							
TKM2	**Tokmak 2**	**6.92**	**31**	P	Pn	17 01 60.0	-1.0	
	SNR=5.5							
TKM2	**Tokmak 2**	**6.92**	**31**	⇑P	Pn	17 01 59.4	-1.5	
	1.5nm,0.4s							
TKM2				⇓S	Sn	17 03 19.5	-1.0	
	2.3nm,0.8s							

NEIC ***29*** *17:01:57.1±1.9,54°24S±0.09×55°.0W±0.2,h10km±2km, mb4.8/17, Error ellipse: s-maj=17.6km s-min=13.5km az=50.0*

IDC ***29*** *17:02:00.1±0.9,54°.67S×55°.06W,h0km,mb4.1/6, mb1 4.3/8,mb1mx4.0/29,mbtmp4.2/8,ML4.6/2,Error ellipse: s-maj=25.2km s-min=21.9km az=9.0*

ISC 29 17:01:59.0±0.6,54°20S±0.08×55°18W±0.07,h10km,n36, σ2ş32/32,mb4.7/14,1C,Falkland Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**3.07**	**324**		**Pn**	**17 02 48.2**	**+0.7**
MG01	**Puerto William**	**7.28**	**259**	Pn	**Pn**	**17 03 44.5**	**-0.8**
USHA	**Ushuaia**	**7.74**	**260**	Pn	**Pn**	**17 03 52.1**	**+0.4**
	3.2nm,0.3s,baz=2.9,slow=1.2,SNR=12						
USHA				Sn	**Sn**	**17 05 23.6**	**+4.3**
	0.9nm,0.3s,baz=119,slow=19,SNR=1.2						
GO10	**Punta Arenas**	**9.48**	**270**	Pn	**Pn**	**17 04 14.3**	**-1.3**
HOPE	**Hope Point**	**10.94**	**98**		**Pn**	**17 04 32.1**	**-3.3**
PMSA	**Palmer Station**	**11.51**	**199**	Pn	**Pn**	**17 04 40.7**	**-2.5**
	10nm,0.3s,baz=15,slow=13,SNR=18						
PLCA	**Paso Flores**	**16.96**	**316**	P	**P**	**17 06 00.2**	**+2.0**
	0.3nm,0.3s,baz=148,slow=8.9,SNR=13						
PLCA	**Paso Flores**	**16.96**	**316**	P	**P**	**17 05 58.7**	**+0.5**
LC01	**Cunco**	**19.05**	**317**	P	**P**	**17 06 15.3**	**-5.9**
GO05	**Huala**	**22.48**	**322**	P	**P**	**17 06 58.9**	**+0.5**
GO05				IAmb	IAmb	17 07 39.5	
	comp=Z,32nm,1.3s						
MT01	**Popeta**	**23.28**	**324**	P	**P**	**17 07 06.0**	**-0.7**
MT01				IAmb	IAmb	17 07 25.4	
	comp=Z,56nm,1.8s						
MT02	**Curacav**	**23.79**	**325**	P	**P**	**17 07 10.0**	**-1.7**
MT02				IAmb	IAmb	17 07 41.3	
	comp=Z,46nm,1.6s						
VA03	**San Esteban**	**24.05**	**327**	P	**P**	**17 07 12.3**	**-2.0**
VA03				IAmb	IAmb	17 07 43.2	
	comp=Z,37nm,1.1s						
CFA	**Coronel Fontan**	**24.44**	**332**	P	P	17 07 24.9	+7.1
	comp=Z,3.9nm,0.8s,baz=164,slow=8.2,SNR=6.2						
CO02	**Combarbal**	**25.64**	**327**	P	**P**	**17 07 26.4**	**-2.4**
CO03	**El Pedregal**	**25.88**	**328**	P	**P**	**17 07 29.1**	**-1.7**
CO01	**Juntas del Tor**	**26.50**	**330**	P	**P**	**17 07 35.6**	**-1.1**
CO01				IAmb	IAmb	17 07 39.3	
	comp=Z,18nm,0.8s						
GO04	**Tololo Observa**	**26.53**	**329**	P	**P**	**17 07 35.5**	**-1.5**
GO04				IAmb	IAmb	17 08 09.0	
	comp=Z,33nm,1.1s						
AC05	**El Transito**	**27.62**	**330**	P	**P**	**17 07 46.2**	**-0.5**
AC05				IAmb	IAmb	17 08 08.3	
	comp=Z,16nm,1.0s						
LVC	**Limon Verde**	**33.20**	**336**	P	**P**	**17 08 31.6**	**-4.7**
QSPA	**South Pole Qui**	**36.05**	**180**	P	**P**	**17 08 59.0**	**-1.3**
	comp=Z,4.5nm,1.0s,baz=152,slow=7.5,SNR=7.2						
QSPA	**South Pole Qui**	**36.05**	**180**	P	**P**	**17 09 00.7**	**+0.3**
QSPA				IAmb	IAmb	17 09 09.7	
	comp=Z,9.3nm,0.9s						
GO01	**Chusmiza**	**36.10**	**337**	P	**P**	**17 08 59.8**	**-1.7**
PB11	**IPOC Station P**	**36.12**	**336**	P	**P**	**17 09 00.3**	**-1.0**
MNMC	**Minye Minye**	**36.71**	**337**	P	**P**	**17 09 05.3**	**-1.2**
MNMC				IAmb	IAmb	17 09 05.8	
	comp=Z,12nm,0.9s						
LPAZ	**La Paz**	**39.15**	**340**	P	**P**	**17 09 26.4**	**-1.1**
SYO	**Syowa Base**	**42.51**	**148**	⇑eX	**P**	**17 09 56.2**	**+2.3**
SUR	**Sutherland**	**56.52**	**100**	P	**P**	**17 11 44.2**	**+2.7**
	comp=Z,4.2nm,0.8s,baz=224,slow=11,SNR=5.6						
H10N3	**ASCENSION HYDR**	**56.55**	**51**	T	T	18 12 08.5	
	baz=206,slow=75,SNR=166						
H10N1	**ASCENSION HYDR**	**56.56**	**51**	T	T	18 12 09.0	
	baz=206,slow=75,SNR=169						
H10N2	**ASCENSION HYDR**	**56.57**	**51**	T	T	18 12 09.9	
	baz=206,slow=75,SNR=144						
BOSA	**Boshof**	**61.88**	**101**	P	**P**	**17 12 20.1**	**+1.5**
	comp=Z,2.1nm,0.6s,baz=210,slow=7.2,SNR=9.6						
TORD	**Toroli Ar. Bea**	**92.53**	**55**	P	**P**	**17 14 24.7**	**+2.8**
	comp=Z,0.6nm,0.7s,baz=194,slow=5.1,SNR=3.0						
TXAR	**Lajitas Array**	**93.11**	**319**	P	P	17 15 19.2	+6.3
	comp=Z,0.2nm,0.6s,baz=148,slow=5.3,SNR=2.7						
MKAR	**Makanchi Array**	**152.30**	**88**	PKPbc	**PKiKP**	**17 21 55.4**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=245,slow=2.6,SNR=8.4						
ZALV	**Zalesovo Beam**	**156.74**	**74**	PKPab	**PKPab**	**17 22 25.1**	**+2.2**
	comp=Z,1.0nm,0.5s,baz=247,slow=3.1,SNR=5.3						

BJI ***29*** *17:15:06.2±0.0,15°.00S×175°.46W,h10km,mB6.3/66, mb5.2/66,Ms6.5/84,Ms7 6.4/76*

KEA ***29*** *17:15:07.3±0.0,15°.00S×174°.10W,h33km,mB6.6/1, MS6.2/1*

IDC ***29*** *17:15:07.3±0.4,15°.01S×175°.69W,h0km,mb5.0/32, mb1 5.1/33,mb1mx5.0/41,mbtmp5.0/33,ML3.2/1,MS6.3/28, Ms1 6.3/28,ms1mx6.1/37,Error ellipse: s-maj=14.3km s-min=11.9km az=156.0*

NEIC ***29*** *17:15:08.2,14°.98S×175°.55W,h18km,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr=0.08; Mθθ=4.13; Mϕϕ=4.22; Mrθ=-0.71; Mrϕ=8.15; Mθϕ=-0.40; Fault plane solution: Mo9.20000×10¹⁸ NP1:ϕs193.45000°, δ86.28000°,λ176.51000°. NP2:ϕs283.67000°,δ86.51000°, λ3.73000°. Principal axes: T 9.1913, Plg5.0000°, Azm149.0000°; N 0.0084, Plg85.0000°, Azm327.0000°; P -9.1997, Plg0.0000°, Azm59.0000°;*

UNK ***29*** *17:15:08.5,15°.04S×175°.57W,h10km*

NEIC ***29*** *17:15:09.3±2.8,14°.98S±0°.08×175°.51W±0°.08,h18km±1km, mb5.9/180,Ms_20 6.5/846,Mwb6.6/66,Mww6.7, Mwc6.7(GCMT),Error ellipse: s-maj=13.8km s-min=12.7km az=207.0*

MOS ***29*** *17:15:09.8±1.9,14°.98S×175°.73W,h16km,mb5.8/24, MS6.4/29,Error ellipse: s-maj=8.8km s-min=8.5km az=78.1*

NEIC ***29*** *17:15:19,14°.99S×175°.49W,h14km,Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr=0.11; Mθθ=0.52; Mϕϕ=0.41; Mrθ=-0.03; Mrϕ=1.01; Mθϕ=0.03; Fault plane solution: Mo1.12000×10¹⁹ NP1:ϕs192.00000°, δ88.00000°,λ-179.00000°. NP2:ϕs102.00000°, δ89.00000°,λ-2.00000°. Principal axes: T 1.1666, Plg1.0000°, Azm147.0000°; N -0.1055, Plg88.0000°, Azm251.0000°; P -1.0611, Plg2.0000°, Azm57.0000°;*

GCMT ***29*** *17:15:20.3±0.0,15°.00S×175°.52W,h15km,MW6.6/179, Moment Tensor Solution. s179,c454; s178,c824; Duration: 5ş0 Moment tensor: Scale 10¹⁹Nm; Mrr=0.10±.00; Mθθ=0.52±.00; Mϕϕ=-0.41±.00; Mrθ=0.06±.01; Mθϕ=1.00±.00; Mrϕ=-0.07±.01; Best double couple: Mo1.10700×10¹⁹ NP1:ϕs13.00000°,δ86.00000°, λ-176.00000°. NP2:ϕs282.00000°,δ86.00000°, λ-4.00000°. Principal axes: T 1.1530, Plg0.0000°, Azm327.0000°; N -0.0910, Plg84.0000°, Azm60.0000°; P -1.0620, Plg6.0000°, Azm237.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

NEIC ***29*** *17:15:27,14°.70S×175°.67W,h16km,Moment Tensor Solution. Moment tensor: Scale 10¹⁹Nm; Mrr=0.06; Mθθ=0.54; Mϕϕ=0.47; Mrθ=0.65; Mrϕ=1.17; Mθϕ=-0.25; Fault plane solution: Mo1.45000×10¹⁹ NP1:ϕs13.00000°, δ62.00000°,λ-175.00000°. NP2:ϕs281.00000°, δ86.00000°,λ-28.00000°. Principal axes: T 1.4217, Plg17.0000°, Azm330.0000°; N 0.0559, Plg61.0000°, Azm93.0000°; P -1.4777, Plg23.0000°, Azm233.0000°;*

ISC 29 17:15:12.0±0.2,15°.21S±0.05×175°.46W±0°.04,h26km, n1084,σ1ş92/618,mb5.8/179,MS6.5/483,18C-17D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.79**	**70**	P	Pn	17 16 01.4	-7.4
AFI	**Afiamalu**	**3.79**	**70**	Pn	Pn	17 16 01.4	-7.4
NIUE	**Niue**	**6.53**	**127**	P	**Pn**	**17 16 44.1**	**-2.4**
	baz=6.5,SNR=25						
NIUE	**Niue**	**6.53**	**127**	Pn	**Pn**	**17 16 45.4**	**-1.1**
MSVF	**Nonsavu**	**6.71**	**247**	i/P	**Pn**	**17 16 51.6**	**+2.5**
MSVF	**Nonsavu**	**6.71**	**247**	Pn	**Pn**	**17 16 47.5**	**-1.5**
FUNA	**Funafuti**	**8.46**	**321**	Pn	Pn	17 17 06.1	-6.8
KNTN	**Kanton**	**12.90**	**17**		Pn	17 18 03.3	-10
RAO	**Raoul Island**	**14.16**	**189**	LR	LR	17 23 12.6	
	comp=Z,398μm,18.3s,baz=4.5,slow=34						
RAO	**Raoul Island**	**14.16**	**189**	P	**Pn**	**17 18 28.4**	**-2.5**
RAO	**Raoul Island**	**14.16**	**189**		**Pn**	**17 18 28.4**	**-2.5**
RAR	**Rarotonga**	**16.05**	**114**	Pn	**Pn**	**17 18 56.5**	**+0.5**
	1.0nm,0.3s,baz=246,slow=8.1,SNR=16						
RAR				Sn	**S**	**17 22 11.1**	**+4.8**
	0.4nm,0.3s,baz=232,slow=19,SNR=0.9						
RAR	**Rarotonga**	**16.05**	**114**	P	**Pn**	**17 18 53.6**	**-2.4**
RAR				pmax	pmax		
	comp=Z,2μm,1.7s						
RAR	**Rarotonga**	**16.05**	**114**	Pn	**Pn**	**17 18 53.6**	**-2.4**
RAR				IAmb	IAmb	17 19 17.8	
	comp=Z,2μm,1.6s						
DZM	**Mont Dzumac**	**18.45**	**246**	ePn	**P**	**17 19 24.2**	**-1.7**
DZM	**Mont Dzumac**	**18.45**	**246**	P	**Pn**	**17 19 26.3**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=64,slow=10,SNR=22						
DZM				S	**S**	**17 22 59.9**	**+4.6**
	comp=Z,0.1nm,0.3s,baz=100,slow=11,SNR=1.4						
DZM				LR	LR	17 25 25.4	
	comp=Z,349μm,19.1s,baz=104,slow=34						
NFK	**Norfolk Island**	**20.61**	**225**	P	Pn	17 19 50.6	-1.1
	baz=21,SNR=5.0						
OUZ	**Omahuta**	**22.22**	**204**	P	**P**	**17 20 08.4**	**+1.9**
OUZ				IAmb	IAmb	17 20 32.6	
	comp=Z,795nm,1.7s						
URZ	**Urewera**	**23.88**	**195**	IAMs_20	IAMs_20	17 29 00.3	
	comp=Z,208μm,21.0s						
HNR	**Honiara**	**24.70**	**281**	P	**P**	**17 20 34.2**	**+2.9**
	comp=Z,60nm,0.8s,baz=172,slow=7.4,SNR=1.3						
HNR				LR	LR	17 28 36.5	
	comp=Z,188μm,21.9s,baz=118,slow=33						
HNR	**Honiara**	**24.70**	**281**	P	**P**	**17 20 34.8**	**+3.6**
HNR				pmax	pmax		
	comp=Z,521nm,1.4s						
HNR	**Honiara**	**24.70**	**281**	IAMs_20	IAMs_20	17 28 25.3	
	comp=Z,148μm,20.0s						
XMAS	**Kiritimati**	**24.73**	**48**	P	**P**	**17 20 29.5**	**-2.0**
XMAS				IAmb	IAmb	17 20 45.8	
	comp=Z,269nm,1.0s						
HIZ	**Hauiti**	**24.73**	**198**	IAMs_20	IAMs_20	17 28 58.1	
	comp=Z,138μm,22.0s						
BKZ	**Black Stump Fm**	**24.89**	**195**	P	**P**	**17 20 31.3**	**-1.5**
BKZ				IAMs_20	IAMs_20	17 30 37.5	
	comp=Z,181μm,21.0s						
PAE	**Paea**	**24.93**	**99**	eP	**P**	**17 20 33.2**	**-0.1**
	comp=Z,36nm,1.1s						
PAE	**Paea**	**24.93**	**99**	eT	T	17 46 21.8	
	comp=Z,28nm,0.2s						
PPT	**Papeete**	**24.93**	**99**	P	**P**	**17 20 36.3**	**+3.0**
	comp=Z,63nm,0.9s,baz=313,slow=16,SNR=6.9						
PPT				LR	LR	17 27 51.9	
	comp=Z,29μm,21.9s,baz=269,slow=30						
PPT2	**Papeete2**	**24.93**	**99**	eP	**P**	**17 20 33.5**	**+0.1**
	comp=Z,261nm,1.2s						
PPT2				eS	**S**	**17 24 54.0**	**-1.6**
	comp=Z,31μm,36.5s						
PPT2				eLQ	LQ	17 25 41.2	
	comp=Z,578μm,27.2s						
PPT2				eLR	LR	17 26 46.4	
	comp=Z,126μm,26.5s						
PPT2	**Papeete2**	**24.93**	**99**	eT	T	17 46 14.3	
	comp=Z,42nm,0.3s						
PPTF	**Pamatai, Papee**	**24.94**	**99**	P	**P**	**17 20 32.9**	**-0.7**
PPTF				IAmb	IAmb	17 20 54.2	
	comp=Z,458nm,1.3s						
TIAR	**Tiarei**	**25.15**	**99**	eP	**P**	**17 20 35.5**	**+0.2**
	comp=Z,61nm,1.1s						
TIAR	**Tiarei**	**25.15**	**99**	eT	T	17 46 21.0	
	comp=Z,28nm,0.3s						
TVO	**Taravao**	**25.25**	**99**	eP	**P**	**17 20 36.6**	**+0.3**
	comp=Z,55nm,1.1s						
TVO	**Taravao**	**25.25**	**99**	eT	T	17 46 36.4	
	comp=Z,18nm,0.3s						
TBI	**Tubuai**	**25.81**	**112**	eP	**P**	**17 20 42.3**	**+1.1**
	comp=Z,834nm,1.3s						
TBI				eLQ	LQ	17 26 04.5	
	comp=Z,122μm,28.5s						
TBI				eLR	LR	17 27 07.5	
	comp=Z,44μm,30.8s						
TBI	**Tubuai**	**25.81**	**112**	eT	T	17 47 33.7	
	comp=Z,73nm,0.2s						
MEH	**Mehetia**	**26.38**	**100**	eP	**P**	**17 20 47.0**	**+0.5**
	comp=Z,78nm,1.4s						
MEH	**Mehetia**	**26.38**	**100**	eT	T	17 48 11.4	
	comp=Z,34nm,0.3s						
SNZO	**South Karori**	**27.37**	**196**	IAMs_20	IAMs_20	17 31 18.0	
	comp=Z,103μm,19.0s						
NNZ	**Nelson**	**27.66**	**198**	IAMs_20	IAMs_20	17 32 38.7	
	comp=Z,141μm,20.0s						
THZ	**Tophouse**	**28.31**	**199**	IAMs_20	IAMs_20	17 30 57.7	
	comp=Z,161μm,20.0s						
KHZ	**Kahutara**	**28.72**	**197**	IAMs_20	IAMs_20	17 32 05.7	
	comp=Z,129μm,20.0s						
KWAJ	**Kwajalein Atol**	**29.17**	**324**	IAMs_20	IAMs_20	17 29 59.7	
	comp=Z,104μm,20.0s						
OXZ	**Oxford**	**29.99**	**198**	IAMs_20	IAMs_20	17 31 58.4	
	comp=Z,140μm,21.0s						
MQZ	**McQueen's Vall**	**30.16**	**197**	IAMs_20	IAMs_20	17 30 47.8	
	comp=Z,96μm,21.0s						
RPZ	**Rata Peaks**	**30.65**	**199**	IAMs_20	IAMs_20	17 32 17.7	
	comp=Z,122μm,21.0s						
ODZ	**Otahua Downs**	**31.98**	**199**	IAMs_20	IAMs_20	17 32 58.8	
	comp=Z,143μm,19.0s						
WKZ	**Wanaka**	**32.31**	**201**	IAMs_20	IAMs_20	17 34 25.7	
	comp=Z,140μm,21.0s						
EIDS	**Eidsvold**	**32.89**	**247**	P	**P**	**17 21 43.6**	**-0.6**
MLZ	**Mavora Lakes**	**33.10**	**201**	IAMs_20	IAMs_20	17 33 51.5	
	comp=Z,119μm,21.0s						
WHZ	**Wether Hill Ro**	**33.61**	**201**	P	**P**	**17 21 49.5**	**-0.8**
WHZ				IAmb	IAmb	17 22 05.4	
	comp=Z,206nm,1.2s						
WHZ				IAMs_20	IAMs_20	17 35 06.0	
	comp=Z,117μm,19.0s						
ARMA	**Armidale**	**33.75**	**238**	P	**P**	**17 21 52.9**	**+1.1**
	baz=34,SNR=15						
ARMA	**Armidale**	**33.75**	**238**	P	**P**	**17 21 50.9**	**-0.9**
ARMA				IAMs_20	IAMs_20	17 36 54.6	
	comp=Z,93μm,19.0s						
KRVT	**Keravat (AS076**	**33.77**	**285**	P	**P**	**17 21 48.8**	**-3.2**
	comp=Z,73nm,0.9s,baz=263,slow=2.9,SNR=16						
PATS	**Pohnpei**	**34.00**	**308**	P	**P**	**17 21 53.6**	**-0.3**
	baz=34,SNR=5.2						
PATS	**Pohnpei**	**34.00**	**308**	IAMs_20	IAMs_20	17 32 02.9	
	comp=Z,88μm,21.0s						
PYZ	**Puysegur Point**	**34.30**	**202**	IAMs_20	IAMs_20	17 34 27.3	
	comp=Z,92μm,22.0s						
TAOE	**Nuku Hiva Isla**	**35.07**	**84**	eP	**P**	**17 22 03.0**	**-0.4**
	comp=Z,541nm,1.4s						
TAOE				eS	**S**	**17 27 33.6**	**-1.1**
	comp=Z,22μm,29.0s						
TAOE				eLR	LR	17 31 23.5	
	comp=Z,230μm,28.2s						
TAOE	**Nuku Hiva Isla**	**35.07**	**84**	eT	T	17 58 55.3	
	comp=Z,233nm,0.2s						
MGCD	**Mangrove Creek**	**35.16**	**233**	P	**P**	**17 22 03.9**	**+0.1**
	baz=35,SNR=12						
RMQ	**Roma**	**35.16**	**246**	P	**P**	**17 22 03.0**	**-0.9**
	baz=35,SNR=9.3						
RIV	**Riverview**	**35.36**	**232**	P	**P**	**17 22 06.6**	**+1.1**
	baz=36,SNR=4.2						
CTA	**Charters Tower**	**36.75**	**257**	P	**P**	**17 22 15.3**	**-2.4**
	comp=Z,35nm,1.1s,baz=88,slow=9.6,SNR=14						
CTAO	**Charters Tower**	**36.75**	**257**	P	**P**	**17 22 14.9**	**-2.7**
CTAO				pmax	pmax		
	comp=Z,139nm,1.1s						
CTAO				MLR	MLR		
	comp=Z,42μm,20.0s						
CTAO	**Charters Tower**	**36.75**	**257**	P	**P**	**17 22 14.9**	**-2.7**
PMG	**Port Moresby**	**36.94**	**275**	P	**P**	**17 22 18.9**	**-0.3**
	comp=Z,42nm,0.8s,baz=76,slow=8.3,SNR=12						
PMG	**Port Moresby**	**36.94**	**275**	P	**P**	**17 22 19.9**	**+0.6**
PMG				pmax	pmax		
	comp=Z,267nm,1.1s						
PMG				MLR	MLR		
	comp=Z,74μm,18.0s						
PMG	**Port Moresby**	**36.94**	**275**	P	**P**	**17 22 19.9**	**+0.6**
PMG				IAmb	IAmb	17 22 28.2	
	comp=Z,267nm,1.1s						
PMG	**Port Moresby**	**36.94**	**275**	IAMs_20	IAMs_20	17 36 18.5	
	comp=Z,74μm,18.0s						
CNB	**Canberra Magne**	**37.31**	**231**	P	**P**	**17 22 23.1**	**+0.8**
	baz=38,SNR=12						
CAN	**Canberra**	**37.59**	**231**	P	**P**	**17 22 24.4**	**-0.2**
CAN				pmax	pmax		
	comp=Z,290nm,1.2s						
CAN				MLR	MLR		
	comp=Z,78μm,20.0s						
CAN	**Canberra**	**37.59**	**231**	P	**P**	**17 22 24.4**	**-0.2**
CAN				IAmb	IAmb	17 22 37.4	
	comp=Z,290nm,1.2s						
CAN				IAMs_20	IAMs_20	17 38 25.8	
	comp=Z,78μm,20.0s						
YNG	**Young**	**37.66**	**233**	P	**P**	**17 22 26.2**	**+1.0**
	baz=38,SNR=8.8						
H11S2	**WAKE ISLAND Hy**	**37.82**	**332**	T	T	18 02 22.8	
	baz=152,slow=76						
H11S3	**WAKE ISLAND Hy**	**37.83**	**332**	T	T	18 02 16.2	
	baz=152,slow=76						
H11S1	**WAKE ISLAND Hy**	**37.84**	**332**	T	T	18 02 26.6	
	baz=152,slow=76						
MTSU	**Mount Surprise**	**38.59**	**260**	P	**P**	**17 22 32.0**	**-1.2**
	baz=39,SNR=49						
H11N3	**WAKE ISLAND Hy**	**38.80**	**333**	T	T	18 03 32.0	
	baz=152,slow=76,SNR=84						
H11N1	**WAKE ISLAND Hy**	**38.81**	**333**	T	T	18 03 29.2	
	baz=152,slow=76,SNR=670						
H11N2	**WAKE ISLAND Hy**	**38.82**	**333**	T	T	18 03 29.6	
	baz=152,slow=76,SNR=362						
CMSA	**Cobar Meteorol**	**38.95**	**238**	P	**P**	**17 22 35.8**	**-0.3**
	baz=39,SNR=24						
QLP	**Quilpie**	**39.17**	**247**	P	**P**	**17 22 36.6**	**-1.3**
	baz=39,SNR=9.7						
HMH	**Humu'ula Sheep**	**39.79**	**30**	P	**P**	**17 22 39.5**	**-3.9**
HMH				IAmb	IAmb	17 23 03.8	
	comp=Z,246nm,1.2s						
POHA	**Pohakuloa**	**39.90**	**30**	P	**P**	**17 22 42.0**	**-2.2**
COEN	**Coen**	**40.01**	**266**	P	**P**	**17 22 45.0**	**-0.1**
	baz=40,SNR=6.7						
COEN	**Coen**	**40.01**	**266**	P	**P**	**17 22 41.7**	**-3.4**
KIP	**Kipapa**	**40.23**	**26**	⇑i/P	**P**	**17 22 47.2**	**+0.5**
KIP				pmax	pmax		
	comp=Z,72nm,1.1s						
HLK	**Haleakala**	**40.42**	**28**	P	**P**	**17 22 48.6**	**0.0**
TOO	**Toolangi**	**41.06**	**230**	P	**P**	**17 22 54.1**	**+0.5**
	baz=41,SNR=9.7						
TOO	**Toolangi**	**41.06**	**230**	P	**P**	**17 22 52.5**	**-1.0**
TOO				pmax	pmax		
	comp=Z,455nm,1.1s						
TOO				MLR	MLR		
	comp=Z,81μm,18.0s						
TOO	**Toolangi**	**41.06**	**230**	P	**P**	**17 22 52.5**	**-1.0**
TOO				IAMs_20	IAMs_20	17 40 52.9	
	comp=Z,81μm,18.0s						
TAU	**Tasmania Unive**	**42.12**	**221**	P	**P**	**17 23 01.5**	**-0.6**
TAU				pmax	pmax		
	comp=Z,383nm,1.8s						
TAU				MLR	MLR		
	comp=Z,90μm,20.0s						
TAU	**Tasmania Unive**	**42.12**	**221**	P	**P**	**17 23 01.5**	**-0.6**
TAU				IAmb	IAmb	17 23 04.7	
	comp=Z,383nm,1.8s						
TAU	**Tasmania Unive**	**42.12**	**221**	IAMs_20	IAMs_20	17 37 26.7	
	comp=Z,90μm,20.0s						
STKA	**Stephens Creek**	**42.42**	**239**	P	**P**	**17 23 04.7**	**0.0**
	baz=43,SNR=15						
STKA	**Stephens Creek**	**42.42**	**239**	P	**P**	**17 23 03.2**	**-1.6**
	comp=Z,26nm,1.1s,baz=76,slow=8.3,SNR=10						
STKA				LR	LR	17 40 03.5	
	comp=Z,81μm,19.5s,baz=79,slow=35						
STKA	**Stephens Creek**	**42.42**	**239**	P	**P**	**17 23 02.5**	**-2.2**
STKA				pmax	pmax		
	comp=Z,55nm,1.2s						
STKA				MLR	MLR		
	comp=Z,17μm,19.0s						
STKA	**Stephens Creek**	**42.42**	**239**	P	**P**	**17 23 02.5**	**-2.2**
QIS	**Mount Isa**	**42.99**	**256**	P	**P**	**17 23 09.6**	**0.0**
	baz=43,SNR=8.3						
ARPS	**Mount Arapiles**	**43.52**	**232**	P	**P**	**17 23 14.8**	**+1.2**
	baz=44,SNR=16						
MCQ	**Macquarie Isla**	**43.97**	**201**	IAMs_20	IAMs_20	17 40 43.1	
	comp=Z,47μm,20.0s						
HTT	**Hallett**	**44.96**	**238**	P	**P**	**17 23 26.2**	**+1.0**
	baz=45,SNR=7.0						
JAY	**Jayapura**	**45.01**	**282**	P	**P**	**17 23 23.6**	**-2.2**
	comp=Z,10nm,0.8s,baz=80,slow=9.9,SNR=3.1						
JAY	**Jayapura**	**45.01**	**282**	P	**P**	**17 23 24.4**	**-1.4**
GENI	**Genyem**	**45.49**	**282**	P	**P**	**17 23 29.2**	**-0.4**
	comp=Z,18μmcomp=Z,11μmcomp=Z,204nm,1.3s						
BBOO	**Buckleboo**	**47.20**	**239**	P	**P**	**17 23 42.8**	**0.0**
	baz=47,SNR=9.9						
BBOO	**Buckleboo**	**47.20**	**239**	P	**P**	**17 23 41.1**	**-1.6**
BBOO				IAmb	IAmb	17 23 59.5	
	comp=Z,165nm,1.3s						
WR0	**Warramunga Arr**	**47.77**	**257**	P	**P**	**17 23 45.2**	**-2.2**
WR0				IAmb	IAmb	17 23 58.8	
	comp=Z,214nm,1.4s						
WR0				IAMs_20	IAMs_20	17 46 16.0	
	comp=Z,46μm,22.0s						
WR9	**Warramunga Arr**	**47.79**	**257**	IAMs_20	IAMs_20	17 42 21.6	
	comp=Z,43μm,22.0s						
WR8	**Warramunga Arr**	**47.80**	**257**	IAMs_20	IAMs_20	17 42 22.0	
	comp=Z,44μm,22.0s						
WR7	**Warramunga Arr**	**47.83**	**257**	IAMs_20	IAMs_20	17 42 21.6	
	comp=Z,44μm,22.0s						
WR6	**Warramunga Arr**	**47.85**	**257**	IAMs_20	IAMs_20	17 41 47.2	
	comp=Z,42μm,21.0s						
WR4	**Warramunga Arr**	**47.89**	**257**	IAMs_20	IAMs_20	17 42 23.3	
	comp=Z,43μm,22.0s		

FORT Forrest 53.73 243 P **P** **17 24 31.8 -0.5**
FORT IAMs_20 IAMs_20 17 44 58.2
comp=Z,72µm,22.0s
FITZ Fitzroy Crossi 56.31 258 P **P** **17 24 51.0 0.0**
baz=56,SNR=16
FITZ Fitzroy Crossi 56.31 258 P **P** **17 24 49.4 -1.6**
FITZ IAMs_20 IAMs_20 17 46 25.2
comp=Z,31µm,19.0s
TNTI Ternate 58.68 280 P **P** **17 25 11.4 +3.6**
comp=Z,4µmcomp=Z,140nm,2.0s
SOEI Soe 58.95 268 P **P** **17 25 10.8 +0.9**
comp=Z,6µmcomp=Z,408nm,1.5s
SOEI Soe 58.95 268 IAMs_20 IAMs_20 17 53 07.5
comp=Z,29µm,20.0s
KMBL Kambalda 59.05 242 P **P** **17 25 08.7 -1.4**
baz=59,SNR=11
SANI Sanana 59.16 277 P P 17 25 16.5 +5.3
BATI Baumata 59.45 267 P P 17 25 18.2 +5.1
MMRI Maumere 61.15 268 P **P** **17 25 27.1 +2.3**
comp=Z,4µmcomp=Z,196nm,1.4s
PSA00 Pilbara Seismi 61.36 254 P **P** **17 25 25.9 -0.2**
BBSI Bau Bau 61.55 272 P **P** **17 25 28.9 +1.4**
comp=Z,184nmcomp=Z,14nm,1.1s
EDFI Ende, Flores 61.65 268 P **P** **17 25 24.7 -3.6**
MATI Mati 61.80 287 *eP* **P** **17 25 31.0 +1.8**
KMSI Cibinong 61.85 279 P P 17 25 33.9 +4.4
comp=Z,1µmcomp=Z,85nm,1.2s
MEEK Meekatharra 62.05 248 P **P** **17 25 28.7 -2.0**
baz=62,SNR=9.4
LUWI Luwuk 62.53 277 P **P** **17 25 35.2 +1.1**
comp=Z,4µmcomp=Z,250nm,1.6s
KLBR Kellerberrin 62.57 242 P **P** **17 25 32.7 -1.4**
baz=63,SNR=8.5
WSI Waingapu 62.80 267 P P 17 25 44.4 +8.5
KCP Kidapawan 62.91 286⇑ *eP* **P** **17 25 37.4 +0.7**
NWAO Narrogin (SRO) 62.98 241 P **P** **17 25 36.3 -0.5**
baz=63,SNR=4.1
NWAO Narrogin (SRO) 62.98 241 IAMs_20 IAMs_20 17 51 06.3
comp=Z,52µm,22.0s
SKMP Bagumbayan, Su 63.24 285 *eP* **P** **17 25 39.0 +0.2**
BUKP Musuan 63.25 287 *eP* P 17 25 44.3 +5.4
VNDA Vanda 63.37 185 P **P** **17 25 39.0 +0.4**
comp=Z,15nm,1.2s,baz=7.0,slow=6.4,SNR=27
VNDA LR LR 17 47 53.5
comp=Z,16µm,21.8s,baz=32,slow=31
BLDU Ballidu 63.50 243 P **P** **17 25 39.7 -0.6**
baz=64,SNR=5.5
WBSI Waikabubak, Su 63.68 267 P P 17 25 49.4 +7.6
MRSI Marisa 63.77 278 P P 17 25 49.6 +7.3
CGP Cagayan de Oro 63.79 288⇓ *eP* **P** **17 25 41.3 -1.1**
MORW Morawa 64.17 245 P **P** **17 25 41.4 -3.3**
MORW IAmb IAmb 17 25 58.0
comp=Z,95nm,1.1s
BNSI Bone 64.20 272 P **P** **17 25 45.7 +0.6**
comp=Z,3µmcomp=Z,129nm,1.3s
MSLP Maasin 64.27 289 *eP* **P** **17 25 44.3 -1.2**
SPSI Sidrap Palu 64.64 273 P **P** **17 25 50.6 +2.6**
comp=Z,2µmcomp=Z,41nm,1.8s
PAGZ Pagadian 64.79 286 *eP* **P** **17 25 49.5 +0.6**
TTSI Tana Toraja 64.83 274 P P 17 25 57.3 +8.1
OCLP Ormoc 64.84 290 *eP* **P** **17 25 51.3 +2.0**
PLAI Plampang 65.41 267 P **P** **17 25 55.9 +2.9**
comp=Z,3µmcomp=Z,181nm,1.3s
MPSI Mapaga 65.68 277 P **P** **17 25 56.2 +1.4**
comp=Z,3µmcomp=Z,95nm,1.9s
PVCP Virac 66.24 293 *eP* **P** **17 25 58.3 0.0**
GUIM Jordan 66.52 289 *eP* **P** **17 26 00.1 0.0**
RCP Roxas 66.72 290⇑ *eP* **P** **17 26 03.1 +1.7**
ADK Adak 66.82 359 P **P** **17 25 59.4 -1.8**
ADK pmax pmax
comp=Z,141nm,1.3s
ADK MLR MLR
comp=Z,23µm,22.0s
ADK Adak 66.82 359 P **P** **17 25 59.4 -1.8**
ADK IAmb IAmb 17 26 17.6
comp=Z,141nm,1.2s
MJAR Matsushiro Arr 67.53 321 P **P** **17 26 02.5 -3.6**
comp=Z,9.2nm,1.0s,baz=159,slow=5.3,SNR=11
MJAR LR LR 17 50 40.6
comp=Z,14µm,21.9s,baz=130,slow=32
MAJO Matsushiro 67.53 321⇓ *iP* **P** **17 26 06.4 +0.3**
MAJO pmax pmax
comp=Z,58nm,1.5s
MAT Matsushiro 67.53 321 P **P** **17 26 02.0 -4.1**
MAT S **S** **17 34 59.8 -1.4**
OTRP Odiongan 67.68 290 *eP* P 17 26 12.4 +4.9
BOAC Boac 68.25 291 *eP* P 17 26 19.5 +8.5
KBKI Kotabaru 68.28 273 P **P** **17 26 15.3 +4.0**
comp=Z,1µmcomp=Z,119nm,1.1s
SJMP San Jose 68.53 290 *eP* P 17 26 20.5 +7.7
ERM Erimo 68.54 328 IAMs_20 IAMs_20 17 54 25.3
comp=Z,24µm,18.0s
POLP Polilio Island 68.66 293 *eP* **P** **17 26 14.6 +1.0**
YUK Yuzh-Kuril'sk 68.72 331⇓ *iP* **P** **17 26 11.6 -1.8**
KUR Kuril'sk 68.74 333 *cP* **P** **17 26 13.9 +0.4**
KUR *e* 17 26 38.6
KUR *e* 17 28 53.1
KUR *i* S **S** **17 35 18.7 +3.5**
KUR pmax pmax
comp=Z,5µm,4.0s
KUR pmax pmax
comp=E,3µm,3.8s
KUR pmax pmax
comp=N,138nm,1.3s
KUR pmax pmax
comp=E,318nm,1.3s
KUR pmax pmax
comp=Z,391nm,1.3s
LQP Lukban 68.78 292⇑ *eP* **P** **17 26 15.5 +0.9**
JAGI Jajag, Banyuwa 68.98 267 P P 17 26 20.8 +5.1
PGP Puerto Galera 69.07 291⇑ *eP* P 17 26 21.2 +4.9
BUSP Coron 69.20 289 *eP* **P** **17 26 20.8 +3.8**
TGY Tagaytay City 69.31 292 P **P** **17 26 16.0 -1.8**
comp=Z,48nm,0.4s,baz=100,slow=22,SNR=1.0
TGY Tagaytay City 69.31 292 P **P** **17 26 16.0 -1.8**
BALP Baler 69.38 294 *eP* **P** **17 26 19.7 +1.7**
ENPP El Nido 69.62 288 *eP* **P** **17 26 20.5 +0.9**
CAUP Cauayan 69.64 295 *eP* P 17 26 33.0 +13
CASY Casey 69.75 204 P **P** **17 26 19.0 -0.5**
CASY Casey 69.75 204 IAMs_20 IAMs_20 17 51 42.4
comp=Z,25µm,22.0s
LUBP Lubang 69.80 291 *eP* P 17 26 24.8 +4.2
SGCP Mt. Cagua 69.97 296 *eP* P 17 26 25.7 +4.1
MTKI Muara Teweh, K 70.12 275 P **P** **17 26 25.4 +2.6**
comp=Z,2µmcomp=Z,44nm,1.3s
SKR Severo-Kuril's 70.19 341 *eP* **P** **17 26 26.2 +3.9**
SKR *eS* **S** **17 35 38.1 +6.0**
SKR pmax pmax
comp=Z,1µm,5.6s
SKR MLR MLR
comp=Z,8µm,16.0s
JNU Nakatsue 70.23 314 P **P** **17 26 19.7 -3.3**
comp=Z,16nm,1.1s,baz=91,slow=8.5,SNR=8.2
SPMM Sapulut 70.25 281 P **P** **17 26 24.0 +0.4**
BATP Bataraza 70.30 285 *eP* P 17 26 28.3 +4.6
JKA Kamikawa-asahi 70.35 329 IAmb IAmb 17 26 37.2
comp=Z,151nm,1.3s
ASAJ Asahikawa 70.35 329 P **P** **17 26 21.9 -1.6**
comp=Z,19nm,1.1s,baz=271,slow=2.0,SNR=5.2
APYP Conner 70.51 296 *eP* **P** **17 26 25.8 +0.9**
ABRA Dolores 70.89 295 *eP* P 17 26 18.4 -8.9
KKM Kota Kinabalu 70.90 282 P **P** **17 26 25.7 -1.8**
BBP Basco 70.95 298 *eP* **P** **17 26 31.4 +3.8**
PET Petropavlovsk 71.53 344 *eP* **P** **17 26 31.4 +1.0**
PET *eS* **S** **17 35 47.0 -0.5**
PET *eSS* **SS** **17 40 20.2 -3.2**
PET pmax pmax
comp=Z,2µm,14.8s
PET pmax pmax
comp=Z,112nm,1.4s
NGJI Ngawi 71.83 267 P P 17 26 44.7 +12
PEA0B Petropavlovsk- 71.86 343⇑ *iP* **P** **17 26 30.3 -2.2**
PEA0B Petropavlovsk- 71.86 343 IAMs_20 IAMs_20 17 51 11.7
comp=Z,29µm,22.0s
PETK Petropavlovsk- 71.86 343 P **P** **17 26 29.8 -2.7**
comp=Z,22nm,0.8s,baz=147,slow=9.6,SNR=16
PETK LR LR 17 52 17.0
comp=Z,23µm,21.8s,baz=154,slow=31
SNCC San Nicolas Is 71.89 47 P **P** **17 26 36.5 +3.4**
baz=237
SNCC San Nicolas Is 71.89 47 IAMs_20 IAMs_20 17 51 12.5
comp=Z,21µm,19.0s
SCZ2 Santa Cruz Isl 72.21 46 P **P** **17 26 37.9 +2.9**
baz=237
WOJI Wonogiri, Jawa 72.24 267 P P 17 26 39.7 +4.1
comp=Z,155nm,1.4s
YSS Yuzh-Sakhalins 72.36 331 *eP* **P** **17 26 35.5 0.0**
YSS *eSP* **pP** **17 26 42.4 -0.7**
YSS *e* 17 29 19.1
YSS *eS* **S** **17 35 54.8 -2.5**
YSS *ePS* PnS 17 36 44.6 +15
YSS pmax pmax
comp=Z,110nm,1.3s
SCI2 San Clemente I 72.44 48 P **P** **17 26 38.0 +1.7**
baz=238
PKM Mcpherson Peak 72.58 45 P **P** **17 26 38.6 +1.2**
baz=237
UGM Wanagama 72.61 266 P P 17 26 53.2 +15
SMMC Simmler 72.69 45 P **P** **17 26 38.9 +1.0**
baz=236
CIS Catalina Islan 72.75 47 P **P** **17 26 39.7 +1.4**
baz=238
PBKI Pangkalan Bun 72.77 272 P P 17 26 43.2 +4.4
comp=Z,3µmcomp=Z,178nm,1.1s
GDXM Geyers 72.86 41 IAMs_20 IAMs_20 17 51 16.4
comp=Z,22µm,20.0s
SMRI Semarang 72.89 267 P P 17 26 49.1 +10
KCPM Cahto Peak 72.90 39 IAMs_20 IAMs_20 17 54 49.3
comp=Z,24µm,18.0s
KMRM Mail Ridge 73.15 39 P **P** **17 26 37.1 -3.4**
KMRM IAMs_20 IAMs_20 17 54 57.5
comp=Z,28µm,18.0s
OSI Osito Audit: C 73.18 46 P **P** **17 26 43.4 +2.6**
baz=238
OSI Osito Audit: C 73.18 46 IAMs_20 IAMs_20 17 54 45.7
comp=Z,28µm,18.0s
DECC Green Verdugo 73.26 47 P **P** **17 26 43.3 +2.1**
baz=238
TPUB Ta-pu 73.28 300 P **P** **17 26 37.5 -4.1**
JCC Jacoby Creek, 73.32 38 IAMs_20 IAMs_20 17 53 05.3
comp=Z,24µm,20.0s
PASC Pasadena Art C 73.32 47 IAMs_20 IAMs_20 17 51 35.5
comp=Z,20µm,20.0s
ARVC Arvin 73.39 46 P **P** **17 26 45.0 +3.1**
baz=237
109C Camp Elliot, M 73.42 48 P **P** **17 26 43.5 +1.4**
baz=239
109C Camp Elliot, M 73.42 48 IAMs_20 IAMs_20 17 54 06.4
comp=Z,24µm,18.0s
MWC Mount Wilson 73.44 47 IAMs_20 IAMs_20 17 52 10.6
comp=Z,21µm,20.0s
KHMM Horse Mountain 73.53 38 IAMs_20 IAMs_20 17 55 19.9
comp=Z,28µm,18.0s
VES Vestal, Richgr 73.60 45 P **P** **17 26 43.4 +0.2**
baz=237,SNR=19
BAR Barrett 73.63 49 IAMs_20 IAMs_20 17 52 03.9
comp=Z,22µm,19.0s
SBUM Sibu 73.63 277 P **P** **17 26 45.0 +1.2**
O02D Mt. Diablo Mer 73.68 39 P **P** **17 26 44.7 +1.0**
baz=233,SNR=33
STKI Sintang 73.69 275 P P 17 26 53.8 +10
MURC Murrieta 73.73 48 P **P** **17 26 45.2 +1.2**
baz=239
BFSC Mount Baldy Ra 73.73 47 P **P** **17 26 46.5 +2.4**
baz=238,SNR=8.2
KRMB Red Mountain 73.83 38 IAMs_20 IAMs_20 17 53 30.6
comp=Z,27µm,19.0s
EDW2 Edwards Air Fo 73.83 46 P **P** **17 26 45.2 +0.5**
baz=238,SNR=23
ISA Isabella, Lake 73.92 45 P **P** **17 26 45.6 +0.4**
baz=238,SNR=22
ISA Isabella, Lake 73.92 45 IAMs_20 IAMs_20 17 54 46.1
comp=Z,26µm,18.0s
MONP2 Monument Peak 73.92 49 P **P** **17 26 45.8 +0.4**
baz=240,SNR=19
IKP In-Ko-Pah, Jac 74.03 49 P **P** **17 26 46.6 +0.7**
baz=240,SNR=21
TEY Ternei 74.06 327⇓ *eP* **P** **17 26 47.7 +2.1**
TEY *eS* **S** **17 36 21.4 +4.7**
TEY pmax pmax
comp=E,10.0nm,2.0s
TEY pmax pmax
comp=N,10.0nm,2.1s
TEY pmax pmax
comp=Z,30nm,2.7s
TEY pmax pmax
comp=Z,1µm,4.6s
TEY MLR MLR
comp=E,11µm,18.0s
TEY MLR MLR
comp=Z,15µm,18.0s
TEY MLR MLR
comp=N,6µm,15.0s
WDC Whiskeytown Da 74.07 39 IAMs_20 IAMs_20 17 55 48.4
comp=Z,19µm,19.0s
N02D Trinity Center 74.21 39 P **P** **17 26 47.5 +0.8**
baz=233,SNR=8.7
PFO Pinyon Flats O 74.26 48 P **P** **17 26 47.3 +0.1**
baz=239,SNR=16
PFO Pinyon Flats O 74.26 48 P **P** **17 26 46.0 -1.2**
comp=Z,2nm,1.3s,baz=247,slow=5.3,SNR=12
PFO Pinyon Flats O 74.26 48⇓ *iP* **P** **17 26 48.5 +1.3**
PFO pmax pmax
comp=Z,164nm,1.7s
PFO Pinyon Flats O 74.26 48 IAMs_20 IAMs_20 17 51 50.5
comp=Z,26µm,20.0s
TPFO Pinon Flats 74.26 48 P **P** **17 26 47.5 +0.3**
baz=239,SNR=16
XPFO Pion Flat 74.26 48 IAMs_20 IAMs_20 17 55 06.5
comp=Z,27µm,18.0s
O03E Paynes Creek 74.36 40 P **P** **17 26 48.0 +0.4**
baz=234,SNR=24
LRMC Laurel Mtn Rad 74.37 46 P **P** **17 26 48.3 +0.5**
baz=238,SNR=17
M02C Callahan 74.37 38 P **P** **17 26 48.6 +1.0**
baz=233,SNR=12
SWSC Sam W. Stewart 74.40 49 P **P** **17 26 48.9 +1.0**
baz=240,SNR=18
TJN Taejon 74.44 315⇓ *iP* **P** **17 26 49.1 +1.1**
SRIG Santa Rosalia 74.45 56 IAMs_20 IAMs_20 17 51 26.6
comp=Z,29µm,20.0s
RRX Edison Barstow 74.53 47 P **P** **17 26 50.7 +2.1**
baz=239
CWC Cottonwood Cre 74.61 45 P **P** **17 26 49.7 +0.5**
baz=238
OMMB Old Mammoth Mi 74.62 43 IAMs_20 IAMs_20 17 57 04.5
comp=Z,19µm,18.0s
KSRS Korea Array 74.65 316 P **P** **17 26 47.4 -1.8**
comp=Z,4.9nm,1.0s,baz=129,slow=6.7,SNR=25
KSRS LR LR 17 56 39.3
comp=Z,11µm,19.5s,baz=132,slow=34
YBH Yreka Blue Hor 74.66 38 P **P** **17 26 47.7 -1.7**
comp=Z,48nm,1.2s,baz=212,slow=2.3,SNR=21
YBH Yreka Blue Hor 74.66 38 P **P** **17 26 49.1 -0.3**
YBH pmax pmax
comp=Z,190nm,1.4s
YBH MLR MLR
comp=Z,20µm,20.0s
YBH Yreka Blue Hor 74.66 38 P **P** **17 26 49.1 -0.3**
YBH IAmb IAmb 17 27 10.1
comp=Z,190nm,1.4s
YBH IAMs_20 IAMs_20 17 53 49.9
comp=Z,20µm,20.0s
K02D Willamette Mer 74.69 37 P **P** **17 26 50.6 +1.1**
baz=232,SNR=6.1
SLBS Sierra La Lagu 74.77 60 IAMs_20 IAMs_20 17 52 02.6
comp=Z,24µm,19.0s
BELC Belle Mtn. Jos 74.79 48 P **P** **17 26 50.6 +0.3**
baz=240,SNR=38
MPMC Manual Prospec 74.81 45 P **P** **17 26 50.4 -0.1**
baz=238,SNR=59
J01E Myrtle Point 74.83 36 P **P** **17 26 51.1 +1.0**
baz=232
QSPA South Pole Qui 74.83 180 P **P** **17 26 49.4 -0.6**
comp=Z,74nm,1.3s,baz=38,slow=1.3,SNR=26
QSPA LR LR 17 55 41.2
comp=Z,18µm,20.3s,baz=48,slow=32
QSPA South Pole Qui 74.83 180 P **P** **17 26 50.9 +0.8**
QSPA South Pole Qui 74.83 180 IAMs_20 IAMs_20 17 57 54.2
comp=Z,27µm,19.0s
TIN Tinemaha, Big 74.83 44 P **P** **17 26 51.3 +0.8**
baz=237
GSC Goldstone, Bar 74.88 46 P **P** **17 26 51.3 +0.5**
baz=239,SNR=20
GSC Goldstone, Bar 74.88 46 IAMs_20 IAMs_20 17 53 04.8
comp=Z,23µm,21.0s
HEC Hector,Ludlow 74.97 47 P **P** **17 26 51.6 +0.3**
baz=239,SNR=24
BC3 Big Chuckawall 75.00 48 P **P** **17 26 52.4 +0.8**
baz=240,SNR=33
PNTR Pine Nut 75.05 42 P **P** **17 26 50.5 -1.3**
KDAK Kodiak Island 75.15 12 P **P** **17 26 49.6 -2.0**
comp=Z,20nm,1.0s,baz=209,slow=3.4,SNR=7.7
KDAK Kodiak Island 75.15 12 P **P** **17 26 48.7 -2.9**
KDAK pmax pmax
comp=Z,98nm,1.2s
KDAK Kodiak Island 75.15 12 P **P** **17 26 48.7 -2.9**
GLA Glamis 75.16 49 P **P** **17 26 53.5 +1.1**
baz=241,SNR=10
GLA Glamis 75.16 49 IAMs_20 IAMs_20 17 53 00.5
comp=Z,25µm,20.0s
KSM Kuching 75.19 276 P **P** **17 26 54.0 +1.1**
L04D Klamath Falls 75.20 38 P **P** **17 26 52.9 +0.4**
baz=233,SNR=17
M04C Macdoel 75.22 39 P **P** **17 26 53.1 +0.5**
baz=234,SNR=18
CISI Cisompet, Garu 75.30 266 P P 17 27 01.2 +7.6
TYV Tymovskoe 75.30 334 *eP* **P** **17 26 49.8 -2.9**
TYV pmax pmax
comp=Z,18nm,1.1s
GRAC Grapevine Rang 75.39 45 P **P** **17 26 54.7 +1.2**
baz=238
GMRC Granite Mounta 75.42 47 P **P** **17 26 54.2 +0.2**
baz=240,SNR=24
FURC Furnace Creek, 75.45 45 P **P** **17 26 54.5 +0.7**
baz=238,SNR=27
VLA Vladivostok 75.45 323⇓ *iP* **P** **17 26 55.4 +1.7**
VLA pmax pmax
comp=Z,85nm,2.7s
I02D Swisshome 75.46 36 P **P** **17 26 54.8 +1.0**
baz=232
IRM Iron Mountain 75.48 48 P **P** **17 26 54.8 +0.6**
baz=240,SNR=37
I03D Drain, OR 75.49 36 P **P** **17 26 54.7 +0.8**
baz=232
RYN Ryan 75.50 43 P **P** **17 26 53.0 -1.3**
RYN IAmb IAmb 17 27 03.0
comp=Z,264nm,1.7s
NVAR Mina Array Bea 75.53 43 P **P** **17 26 53.8 -0.9**
comp=Z,14nm,0.9s,baz=230,slow=8.0,SNR=46
NVAR LR LR 17 53 05.1
comp=Z,13µm,21.0s,baz=243,slow=30
PAHR Pah Rah Range 75.54 41 IAmb IAmb 17 27 03.2
comp=Z,263nm,1.8s
MSHR Mys Shultsa 75.55 322⇓ *iP* **P** **17 26 56.3 +2.0**
MSHR pmax pmax
comp=Z,36nm,1.3s
SHOC Shoshone, Teco 75.56 46 P **P** **17 26 54.9 +0.3**
baz=239,SNR=6.3
QZH Quanzhou 75.65 301 P **P** **17 26 55.0 -0.3**
QZH S **S** **17 36 36.0 +0.7**
QZH pmax pmax
comp=Z,93nm,2.0s
QZH pmax pmax
comp=Z,4µm,6.5s
QZH LR LR
comp=Z,6µm,16.5s
QZH LR LR
comp=Z,9µm,20.6s
QZH LR LR
comp=Z,8µm,20.4s
Y12C Blythe 75.72 49 P **P** **17 26 56.8 +1.3**
baz=241,SNR=13
Y12C Blythe 75.72 49 IAMs_20 IAMs_20 17 52 48.4
comp=Z,23µm,20.0s
K04D Chiloquin, OR 75.77 38 P **P** **17 26 56.2 +0.4**
baz=234
113A Mohawk Valley, 75.80 50 IAmb IAmb 17 27 14.2
comp=Z,111nm,1.2s
113A IAMs_20 IAMs_20 17 53 57.0
comp=Z,25µm,19.0s
CHJN Chongjin 75.91 321 P **P** **17 26 59.0 +2.6**
WOSN Wonsan 75.91 318 P **P** **17 27 00.0 +3.6**
J04D Umpqua Nationa 75.93 37 P **P** **17 26 57.1 +0.4**
baz=233,SNR=15
KVN Kaiserville 76.00 43 IAmb IAmb 17 27 05.8
comp=Z,225nm,1.7s
USA0B Ussuriysk Arra 76.05 324⇓ *iP* **P** **17 26 58.0 +0.8**
USRK Ussuriysk Ar. 76.05 324 P **P** **17 26 56.1 -1.0**
comp=Z,2.2nm,0.9s,baz=106,slow=6.2,SNR=15
USRK LR LR 17 54 36.5
comp=Z,37µm,21.8s,baz=116,slow=31
COR Corvallis 76.06 36 IAMs_20 IAMs_20 17 53 30.6
comp=Z,24µm,20.0s
I04A Tendick Farm, 76.09 37 P **P** **17 26 57.6 +0.2**
baz=233
TPNV Topopah Spring 76.12 45 P **P** **17 26 58.2 +0.3**
baz=239,SNR=17
TPNV Topopah Spring 76.12 45 IAmb IAmb 17 27 06.8
comp=Z,199nm,1.8s
TPNV IAMs_20 IAMs_20 17 57 44.4
comp=Z,30µm,18.0s
214A Organ Pipe Nat 76.13 51 P **P** **17 26 58.9 +0.9**
baz=242
214A Organ Pipe Nat 76.13 51 IAMs_20 IAMs_20 17 52 29.4
comp=Z,24µm,22.0s
NEE2 Needles Airpor 76.16 48 P **P** **17 26 59.5 +1.5**
baz=240
MOD Modoc Plateau 76.22 39 IAMs_20 IAMs_20 17 57 00.1
comp=Z,20µm,18.0s
HSIG 76.23 54 IAmb IAmb 17 27 07.0
comp=Z,168nm,1.5s
HSIG IAMs_20 IAMs_20 17 53 01.5
comp=Z,27µm,20.0s
HHU Hamhung 76.26 318 P **P** **17 27 00.7 +2.3**
HHU S S 17 36 58.4 +17
SSE Sheshan 76.27 308 P **P** **17 26 56.3 -2.4**
SSE S **S** **17 36 41.0 -0.9**
SSE pmax pmax
comp=Z,10.0nm,0.7s
SSE pmax pmax
comp=Z,620nm,6.9s
SSE LR LR
comp=Z,3µm,25.4s
SSE LR LR
comp=Z,8µm,25.1s
PDMCI Parker Dam,Lak 76.27 48 P **P** **17 26 59.8 +1.2**
baz=241,SNR=8.6
H04D Lebanon 76.34 36 P **P** **17 26 59.1 +0.3**
baz=232
HJU Haeju 76.43 316 P P 17 27 03.5 +4.1
J05D Fort Rock, OR 76.47 38 P **P** **17 27 00.1 +0.4**
baz=234,SNR=40
G03D McMinnville, O 76.47 35 P **P** **17 26 59.7 +0.1**
baz=232
DBJI Dramaga 76.56 267 P **P** **17 27 03.7 +2.9**
comp=Z,7µmcomp=Z,78nm,1.9s
TPI Tanjungpandan 76.63 271 P P 17 27 09.7 +8.5
SKJI Sukabumi 76.64 266 P P 17 27 14.5 +13
SHPR Sheep Range 76.65 46 IAmb IAmb 17 27 10.0
comp=Z,219nm,1.8s
SHPR IAMs_20 IAMs_20 17 55 08.4
comp=Z,18µm,19.0s
XMIS Christmas Isla 76.70 263 IAMs_20 IAMs_20 18 02 17.2
comp=Z,27µm,21.0s
W13A Hualapai Mount 76.84 48 IAmb IAmb 17 27 11.3
comp=Z,285nm,1.9s
W13A IAMs_20 IAMs_20 17 53 43.9
comp=Z,26µm,20.0s
Y14A Wickenburg 76.92 49 IAMs_20 IAMs_20 17 54 04.1
comp=Z,24µm,20.0s
PYAG Pyongyang 76.94 317 P **P** **17 27 04.7 +2.4**
PYAG S **S** **17 36 54.8 +5.9**
PYS Pyongsong 76.98 317 P **P** **17 27 04.6 +2.1**
I05D Terrebonne, OR 77.03 37 P **P** **17 27 03.2 +0.4**
baz=234,SNR=17
CNPM China Poot 77.03 12 IAmb IAmb 17 27 14.6
comp=Z,154nm,1.2s
F04D Rainier, OR 77.15 34 P **P** **17 27 04.4 +1.0**
baz=232
R11A Troy Canyon, C 77.30 44 P **P** **17 27 04.8 +0.2**
baz=239,SNR=32
KGE Kanggye 77.41 319 P **P** **17 27 04.4 -0.5**
NLWA Neilton Lookou 77.51 33 IAMs_20 IAMs_20 17 55 19.7
comp=Z,21µm,20.0s
WVOR Wild Horse Val 77.54 39 IAMs_20 IAMs_20 17 56 06.1
comp=Z,18µm,19.0s
G05D Wamic, OR 77.58 36 P **P** **17 27 06.4 +0.6**
baz=233,SNR=9.7
MDJ Mudanjiang 77.68 323 P **P** **17 27 06.5 +0.2**
MDJ pP pP 17 27 10.0 -4.1
MDJ sP PcP 17 27 11.5 -4.9
MDJ S **S** **17 36 58.0 +1.3**
MDJ pmax pmax
comp=Z,15nm,1.2s
MDJ pmax pmax
comp=Z,2µm,5.7s
MDJ LR LR
comp=Z,11µm,28.4s

MDJ					LR	LR			
	comp=Z,19µm,27.5s								
MDJ					LR	LR			
	comp=Z,52µm,35.5s								
MDJ	**Mudanjiang**	**77.68**	**323**		IAMs_20	IAMs_20	17 57 00.5		
	comp=Z,25µm,19.0s								
E04D	**Cinebar**	**77.69**	**34**		P	**P**	**17 27 06.9**	**+0.6**	
	baz=232,SNR=12								
NKL	**Nikolayevsk**	**77.81**	**335**	*e*	P	**P**	**17 27 08.7**	**+1.9**	
NKL				*e*			17 29 57.7		
NKL				*e*	S	**SKSac**	**17 37 13.0**	**-5.7**	
NKL					pmax	pmax			
	comp=Z,45nm,1.4s								
NKL					pmax	pmax			
	comp=Z,463nm,4.3s								
NKL					smax	smax			
	comp=E,3.0nm,4.9s								
NKL					smax	smax			
	comp=N,4.0nm,4.6s								
TUC	**Tucson**	**77.82**	**52**		P	**P**	**17 27 08.1**	**+0.6**	
	baz=243								
TUC	**Tucson**	**77.82**	**52**		P	**P**	**17 27 07.4**	**-0.1**	
TUC					pmax	pmax			
	comp=Z,315nm,1.6s								
TUC					MLR	MLR			
	comp=Z,28µm,20.0s								
TUC	**Tucson**	**77.82**	**52**		P	**P**	**17 27 07.4**	**-0.1**	
TUC	**Tucson**	**77.82**	**52**		IAMs_20	IAMs_20	17 54 12.2		
	comp=Z,28µm,20.0s								
F05D	**White Salmon**	**77.89**	**35**		P	**P**	**17 27 07.6**	**+0.1**	
	baz=233								
D04E	**Lakebay**	**77.96**	**34**		P	**P**	**17 27 09.2**	**+1.4**	
	baz=232								
GRNR	**Gornyy**	**78.01**	**331**	⇑*i*	P	**P**	**17 27 05.5**	**-2.5**	
GRNR				*e*	S	**S**	**17 36 59.0**	**-1.1**	
GRNR					pmax	pmax			
	comp=Z,50nm,1.3s								
GRNR					smax	smax			
	comp=N,3.0nm,0.9s								
GRNR					MLR	MLR			
	comp=E,5µm,16.0s								
GRNR					MLR	MLR			
	comp=N,910nm,13.0s								
GRNR					MLR	MLR			
	comp=Z,6µm,14.0s								
D03D	**Eldon**	**78.02**	**33**		P	**P**	**17 27 08.8**	**+0.7**	
	baz=232								
O22K	**Cooper Landing**	**78.22**	**13**		P	**P**	**17 27 10.0**	**+1.1**	
	baz=206								
PPBI	**Pangkal Pinang**	**78.25**	**271**		P	**P**	**17 27 12.7**	**+2.5**	
	comp=Z,3µmcomp=Z,111nm,1.5s								
X16A	**Lo Mia Camp, P**	**78.29**	**49**		IAmb	IAmb	17 27 35.7		
	comp=Z,130nm,1.1s								
X16A					IAMs_20	IAMs_20	17 54 58.4		
	comp=Z,24µm,20.0s								
SUJ	**Sinuiju**	**78.33**	**317**		P	**P**	**17 27 11.8**	**+1.8**	
SUJ					S	**S**	**17 37 08.6**	**+4.8**	
NJ2	**Nanjing**	**78.48**	**308**	*e*	P	**P**	**17 27 10.8**	**-0.2**	
NJ2					sP	**PcP**	**17 27 19.8**	**-0.3**	
NJ2					S	**S**	**17 37 07.3**	**+1.5**	
NJ2					pmax	pmax			
	comp=Z,58nm,0.6s								
NJ2					pmax	pmax			
	comp=Z,2µm,3.9s								
NJ2					LR	LR			
	comp=Z,8µm,24.6s								
NJ2					LR	LR			
	comp=Z,15µm,21.8s								
NJ2					LR	LR			
	comp=Z,41µm,23.3s								
PGC	**Sidney**	**78.53**	**32**		IAmb	IAmb	17 27 23.9		
	comp=Z,151nm,1.4s								
U15A	**North Rim**	**78.62**	**47**		IAMs_20	IAMs_20	17 55 30.8		
	comp=Z,20µm,20.0s								
WUAZ	**Wupatki**	**78.85**	**48**		P	**P**	**17 27 14.1**	**+0.9**	
	baz=242								
WUAZ	**Wupatki**	**78.85**	**48**		IAmb	IAmb	17 27 36.2		
	comp=Z,193nm,1.5s								
WUAZ					IAMs_20	IAMs_20	17 57 53.0		
	comp=Z,19µm,18.0s								
HIN	**Hinchinbrook I**	**78.87**	**14**		IAmb	IAmb	17 27 25.7		
	comp=Z,157nm,1.4s								
SUA	**Susitna One**	**78.91**	**12**		IAmb	IAmb	17 27 27.3		
	comp=Z,125nm,1.1s								
A04D	**Lummi Island**	**78.95**	**32**		P	**P**	**17 27 14.1**	**+0.8**	
	baz=232								
B05A	**Bryant**	**78.99**	**33**		P	**P**	**17 27 13.8**	**+0.4**	
	baz=232,SNR=19								
GLI	**Glacier Island**	**79.16**	**14**		IAmb	IAmb	17 27 24.2		
	comp=Z,117nm,1.1s								
EYAK	**Cordova Ski Ar**	**79.18**	**14**		IAmb	IAmb	17 27 35.6		
	comp=Z,191nm,1.8s								
FID	**Port Fidalgo**	**79.19**	**14**		IAmb	IAmb	17 27 32.9		
	comp=Z,164nm,1.4s								
HAWA	**Hanford**	**79.27**	**36**		IAMs_20	IAMs_20	17 55 53.5		
	comp=Z,26µm,20.0s								
KLR	**Kul'dur**	**79.30**	**328**		P	**P**	**17 27 11.9**	**-3.2**	
	comp=Z,2.3nm,0.8s,baz=97,slow=7.2,SNR=4.8								
KLR	**Kul'dur**	**79.30**	**328**	⇑*i*	P	**P**	**17 27 13.8**	**-1.3**	
RAGM	**Ragged Mountai**	**79.31**	**15**		IAMs_20	IAMs_20	18 04 30.1		
	comp=Z,16µm,18.0s								
GZH	**Guangzhou**	**79.35**	**298**		P	**P**	**17 27 16.5**	**+0.5**	
GZH					S	**S**	**17 37 16.5**	**+1.0**	
GZH					LR	LR			
	comp=Z,7µm,19.2s								
GZH					LR	LR			
	comp=Z,8µm,20.6s								
PMBI	**Palembang**	**79.37**	**270**		P	P	17 27 26.2	+10	
MA2	**Magadan**	**79.40**	**343**		P	**P**	**17 27 14.3**	**-1.2**	
MA2					pmax	pmax			
	comp=Z,166nm,1.3s								
MA2					MLR	MLR			
	comp=Z,25µm,21.0s								
MA2	**Magadan**	**79.40**	**343**		P	**P**	**17 27 14.3**	**-1.2**	
MA2					IAmb	IAmb	17 27 25.1		
	comp=Z,166nm,1.3s								
MA2					IAMs_20	IAMs_20	17 57 41.9		
	comp=Z,25µm,21.0s								
GHO	**Glory Hole Cre**	**79.56**	**12**		IAmb	IAmb	17 27 26.6		
	comp=Z,111nm,1.1s								
HPIG		**79.62**	**58**		IAMs_20	IAMs_20	17 56 12.8		
	comp=Z,26µm,19.0s								
DL2	**Dalian**	**79.64**	**315**		P	**P**	**17 27 20.0**	**+2.8**	
DL2					S	**S**	**17 37 23.3**	**+5.4**	
DL2					pmax	pmax			
	comp=Z,27nm,1.3s								
DL2					pmax	pmax			
	comp=Z,1µm,6.6s								
DL2					LR	LR			
	comp=Z,6µm,29.2s								
DL2					LR	LR			
	comp=Z,8µm,24.3s								
DL2					LR	LR			
	comp=Z,19µm,35.3s								
CN2	**Changchun**	**79.68**	**321**	*e*	P	**P**	**17 27 16.3**	**-1.1**	
CN2				*e*	S	**S**	**17 37 14.5**	**-3.7**	
CN2					SS	**SS**	**17 42 27.3**	**-0.1**	
CN2					pmax	pmax			
	comp=Z,10.0nm,1.2s								
CN2					pmax	pmax			
	comp=Z,2µm,7.3s								
CN2					LR	LR			
	comp=Z,9µm,16.0s								
CN2					LR	LR			
	comp=Z,9µm,16.0s								
CN2					LR	LR			
	comp=Z,8µm,21.0s								
BMO	**Blue Mountains**	**79.69**	**38**		IAMs_20	IAMs_20	17 57 02.7		
	comp=Z,25µm,20.0s								
SNY	**Shenyang**	**79.81**	**318**	⇑	P	**P**	**17 27 19.8**	**+1.7**	
SNY					pmax	pmax			
	comp=Z,47nm,2.3s								
SNY					pmax	pmax			
	comp=Z,1µm,5.7s								
SNY					LR	LR			
	comp=Z,7µm,13.3s								
SNY					LR	LR			
	comp=Z,5µm,20.6s								
SNY					LR	LR			
	comp=Z,12µm,17.7s								
WAX	**Waxell Ridge**	**79.83**	**16**		IAmb	IAmb	17 27 33.7		
	comp=Z,217nm,1.3s								
MESA	**MESA**	**79.83**	**16**		IAMs_20	IAMs_20	18 01 53.3		
	comp=Z,17µm,18.0s								
W18A	**Petrified Fore**	**79.86**	**49**		P	**P**	**17 27 20.7**	**+1.9**	
	baz=244								
W18A	**Petrified Fore**	**79.86**	**49**		IAMs_20	IAMs_20	17 55 55.9		
	comp=Z,22µm,20.0s								
SCM	**Sheep Creek Mo**	**79.95**	**13**		IAmb	IAmb	17 27 33.2		
	comp=Z,145nm,1.1s								
YAH	**Yahtse**	**80.05**	**16**		IAMs_20	IAMs_20	18 02 09.7		
	comp=Z,16µm,18.0s								
DUG	**Dugway, Tooele**	**80.08**	**44**		P	**P**	**17 27 20.2**	**+0.3**	
	baz=241								
ISLE	**Juniper Island**	**80.09**	**16**		IAmb	IAmb	17 27 38.5		
	comp=Z,194nm,1.4s								
TGL	**Tana Glacier**	**80.09**	**16**		IAmb	IAmb	17 27 32.7		
	comp=Z,287nm,1.6s								
DSRI	**Dabo**	**80.19**	**272**		P	**P**	**17 27 23.3**	**+2.5**	
	comp=Z,2µmcomp=Z,71nm,1.6s								
121A	**Cookes Peak, D**	**80.20**	**52**		P	**P**	**17 27 22.2**	**+1.5**	
	baz=245,SNR=27								
121A	**Cookes Peak, D**	**80.20**	**52**		IAMs_20	IAMs_20	17 55 30.3		
	comp=Z,34µm,20.0s								
TABL	**Table Mountain**	**80.28**	**16**		IAmb	IAmb	17 27 27.7		
	comp=Z,170nm,1.4s								
GLB	**Gilahina Butte**	**80.43**	**15**		IAmb	IAmb	17 27 31.6		
	comp=Z,134nm,1.3s								
LLLB	**Lillooet**	**80.55**	**31**		IAMs_20	IAMs_20	18 00 23.7		
	comp=Z,18µm,18.0s								
MCARA	**McCarthy VSAT**	**80.58**	**15**		IAmb	IAmb	17 27 36.0		
	comp=Z,124nm,1.2s								
TPRI	**Tanjung Pinang**	**80.61**	**274**		P	P	17 27 32.4	+9.3	
JIS	**Juneau Island**	**80.61**	**21**		IAMs_20	IAMs_20	18 01 34.1		
	comp=Z,19µm,18.0s								
BARN	**Barnard Glacie**	**80.66**	**16**		IAmb	IAmb	17 27 30.4		
	comp=Z,134nm,1.1s								
CTGM	**Chitina Glacie**	**80.66**	**16**		IAmb	IAmb	17 27 41.6		
	comp=Z,215nm,1.6s								
BESE	**Bessie Mountai**	**80.69**	**20**		IAMs_20	IAMs_20	18 03 10.1		
	comp=Z,15µm,18.0s								
ZAIG	**Zacatecas**	**80.69**	**63**		IAmb	IAmb	17 27 33.3		
	comp=Z,134nm,1.4s								
ZAIG					IAMs_20	IAMs_20	17 56 02.8		
	comp=Z,27µm,19.0s								
HLID	**Hailey**	**80.75**	**40**		P	**P**	**17 27 24.0**	**+0.6**	
	baz=239								
HLID	**Hailey**	**80.75**	**40**		IAmb	IAmb	17 27 41.9		
	comp=Z,143nm,1.1s								
EPT	**El Paso**	**80.87**	**54**		IAMs_20	IAMs_20	17 55 50.2		
	comp=Z,30µm,20.0s								
QIZ	**Qiongzhong**	**81.00**	**293**		P	**P**	**17 27 26.3**	**+1.3**	
QIZ					pmax	pmax			
	comp=Z,1µm,10.0s								
QIZ					LR	LR			
	comp=Z,11µm,30.9s								
QIZ					LR	LR			
	comp=Z,10µm,22.1s								
QIZ					LR	LR			
	comp=Z,18µm,24.0s								
RND	**Reindeer**	**81.05**	**12**		IAmb	IAmb	17 27 35.5		
	comp=Z,241nm,1.5s								
SKAG	**Skagway**	**81.21**	**19**		IAmb	IAmb	17 27 44.9		
	comp=Z,155nm,1.4s								
MCK	**McKinley**	**81.33**	**12**		IAmb	IAmb	17 27 40.9		
	comp=Z,188nm,1.2s								
WHN	**Wuhan**	**81.35**	**305**	⇓	P	**P**	**17 27 28.5**	**+1.9**	
WHN					S	**S**	**17 37 40.0**	**+3.8**	
WHN					LR	LR			
	comp=Z,17µm,15.3s								
WHN					LR	LR			
	comp=Z,11µm,19.6s								
WHN					LR	LR			
	comp=Z,101µm,36.0s								
MYKOM	**Kota Tinggi**	**81.49**	**274**		IAmb	IAmb	17 27 36.7		
	comp=Z,156nm,1.5s								
MYKOM	**Kota Tinggi**	**81.49**	**274**		P	**P**	**17 27 30.0**	**+2.2**	
Y22D	**IRIS PASSCAL I**	**81.50**	**51**		P	**P**	**17 27 30.8**	**+3.3**	
	baz=245								
Y22D	**IRIS PASSCAL I**	**81.50**	**51**		IAMs_20	IAMs_20	17 55 39.6		
	comp=Z,17µm,20.0s								
TIA	**Tai'an**	**81.58**	**311**		P	**P**	**17 27 29.0**	**+1.3**	
TIA					S	**S**	**17 37 42.3**	**+3.9**	
TIA					pmax	pmax			
	comp=Z,34nm,2.5s								
TIA					pmax	pmax			
	comp=Z,2µm,9.6s								
TIA					LR	LR			
	comp=Z,9µm,20.1s								
TIA					LR	LR			
	comp=Z,10µm,25.5s								
TIA					LR	LR			
	comp=Z,24µm,35.3s								
MVCO	**Mesa Verde**	**81.68**	**48**		P	**P**	**17 27 31.8**	**+3.2**	
	baz=244								
MVCO	**Mesa Verde**	**81.68**	**48**		IAMs_20	IAMs_20	17 56 49.0		
	comp=Z,21µm,20.0s								
NEW	**Newport**	**81.68**	**35**		P	**P**	**17 27 28.0**	**-0.1**	
	baz=236,SNR=10								
NEW	**Newport**	**81.68**	**35**		LR	LR	18 00 20.1		
	comp=Z,2µm,18.1s,baz=229,slow=33								
NEW	**Newport**	**81.68**	**35**		IAMs_20	IAMs_20	17 56 05.3		
	comp=Z,18µm,21.0s								
MNTX	**Cornudas Mount**	**81.72**	**54**		P	**P**	**17 27 29.3**	**+0.7**	
	baz=247,SNR=84								
MNTX	**Cornudas Mount**	**81.72**	**54**		IAMs_20	IAMs_20	17 57 14.7		
	comp=Z,25µm,20.0s								
MENT	**Mentasta**	**81.74**	**14**		IAmb	IAmb	17 27 51.0		
	comp=Z,176nm,1.6s								
PV10	**Paradox Valley**	**81.82**	**47**		IAMs_20	IAMs_20	17 56 54.3		
	comp=Z,21µm,20.0s								
PV14	**Lion Creek, Pa**	**81.83**	**47**		IAMs_20	IAMs_20	17 57 53.6		
	comp=Z,20µm,20.0s								
PV19	**Morning Glory**	**81.83**	**47**		IAMs_20	IAMs_20	17 56 55.6		
	comp=Z,17µm,20.0s								
PV17	**East Wray Mesa**	**81.83**	**47**		IAmb	IAmb	17 27 53.3		
	comp=Z,145nm,1.4s								
PV17					IAMs_20	IAMs_20	17 56 55.7		
	comp=Z,22µm,20.0s								
PV18	**Skein Mesa, Pa**	**81.85**	**47**		IAmb	IAmb	17 27 40.1		
	comp=Z,197nm,1.6s								
PV18					IAMs_20	IAMs_20	17 57 15.3		
	comp=Z,17µm,20.0s								
PV20	**West Nyswonger**	**81.85**	**47**		IAmb	IAmb	17 27 54.0		
	comp=Z,169nm,1.3s								
PV20					IAMs_20	IAMs_20	17 56 56.3		
	comp=Z,17µm,20.0s								
PV23	**Carpenter Ridg**	**81.87**	**47**		IAmb	IAmb	17 27 49.8		
	comp=Z,248nm,1.5s								
PV23					IAMs_20	IAMs_20	17 57 55.8		
	comp=Z,20µm,20.0s								
PV13	**Radium Mtn., P**	**81.87**	**47**		IAmb	IAmb	17 27 48.0		
	comp=Z,129nm,1.4s								
PV13					IAMs_20	IAMs_20	17 57 54.9		
	comp=Z,20µm,19.0s								
PV03	**Paradox Valley**	**81.90**	**47**		IAmb	IAmb	17 27 54.4		
	comp=Z,149nm,1.4s								
PV03					IAMs_20	IAMs_20	17 57 27.5		
	comp=Z,18µm,20.0s								
PV11	**David Mesa, Pa**	**81.90**	**47**		IAMs_20	IAMs_20	17 57 27.6		
	comp=Z,21µm,20.0s								
PV04	**Paradox Valley**	**81.92**	**47**		IAmb	IAmb	17 27 50.1		
	comp=Z,227nm,1.7s								
PV04					IAMs_20	IAMs_20	17 57 29.1		
	comp=Z,21µm,19.0s								
PV21	**Cone Mtn., Par**	**81.94**	**47**		IAmb	IAmb	17 27 38.9		
	comp=Z,176nm,1.4s								
PV21					IAMs_20	IAMs_20	18 02 03.7		
	comp=Z,18µm,18.0s								
PV02	**Paradox Valley**	**81.95**	**47**		IAMs_20	IAMs_20	18 00 38.0		
	comp=Z,21µm,19.0s								
PV01	**Paradox Valley**	**82.04**	**47**		IAMs_20	IAMs_20	17 58 09.3		
	comp=Z,21µm,20.0s								
PV22	**Blue Mesa, Par**	**82.06**	**47**		IAmb	IAmb	17 27 50.3		
	comp=Z,153nm,1.5s								
PV22					IAMs_20	IAMs_20	17 57 02.9		
	comp=Z,16µm,20.0s								
NEA2	**Nenana**	**82.08**	**11**		P	**P**	**17 27 29.0**	**-0.7**	
	baz=206,SNR=15								
PV07	**Paradox Valley**	**82.12**	**47**		IAMs_20	IAMs_20	17 58 03.5		
	comp=Z,19µm,20.0s								
WRH	**Wood River Hil**	**82.16**	**12**		IAmb	IAmb	17 27 45.3		
	comp=Z,119nm,1.0s								
TXAR	**Lajitas Array**	**82.16**	**57**		P	**P**	**17 27 30.8**	**-0.3**	
	comp=Z,20nm,1.0s,baz=212,slow=7.5,SNR=72								
TXAR					LR	LR	17 57 11.7		
	comp=Z,21µm,19.5s,baz=0.0,slow=31								
PV15	**Paradox Valley**	**82.19**	**47**		IAmb	IAmb	17 27 49.5		
	comp=Z,113nm,1.3s								
PV15					IAMs_20	IAMs_20	17 58 05.4		
	comp=Z,19µm,19.0s								
ANMO	**Albuquerque**	**82.21**	**51**		P	**P**	**17 27 31.8**	**+0.5**	
	baz=246								
ANMO	**Albuquerque**	**82.21**	**51**		P	**P**	**17 27 31.6**	**+0.2**	
ANMO					pmax	pmax			
	comp=Z,254nm,1.5s								
ANMO					MLR	MLR			
	comp=Z,24µm,19.0s								
ANMO	**Albuquerque**	**82.21**	**51**		P	**P**	**17 27 31.6**	**+0.2**	
ANMO	**Albuquerque**	**82.21**	**51**		IAMs_20	IAMs_20	17 58 01.4		
	comp=Z,24µm,19.0s								
DLBC	**Dease Lake**	**82.27**	**22**		IAMs_20	IAMs_20	17 56 03.1		
	comp=Z,20µm,22.0s								
WHY	**Whitehorse**	**82.29**	**19**		IAMs_20	IAMs_20	18 06 28.4		
	comp=Z,16µm,18.0s								
HDA	**Harding Lake**	**82.33**	**12**		P	**P**	**17 27 28.5**	**-2.5**	
	baz=208,SNR=45								
HDA	**Harding Lake**	**82.33**	**12**		IAmb	IAmb	17 27 45.5		
	comp=Z,111nm,1.1s								
CCB	**Clear Creek Bu**	**82.37**	**12**		IAmb	IAmb	17 27 46.2		
	comp=Z,95nm,1.0s								
UNM	**Universidad Na**	**82.50**	**68**		IAMs_20	IAMs_20	17 55 37.5		
	comp=Z,35µm,22.0s								
TCOL	**CIGO, UAF Yank**	**82.56**	**12**		P	**P**	**17 27 32.7**	**+0.6**	
	baz=207								
COLA	**College**	**82.56**	**12**	*c i*	P	**P**	**17 27 31.3**	**-0.9**	
COLA					pmax	pmax			
	comp=Z,83nm,1.2s								
IL31		**82.66**	**12**		IAmb	IAmb	17 27 45.6		
	comp=Z,126nm,1.4s								
ILAR	**Eielson Array**	**82.66**	**12**		P	**P**	**17 27 30.2**	**-2.5**	
	comp=Z,14nm,1.1s,baz=213,slow=4.9,SNR=53								
MSO	**Missoula**	**82.73**	**37**		P	**P**	**17 27 33.3**	**-0.3**	
	baz=239,SNR=38								
MSO	**Missoula**	**82.73**	**37**		IAmb	IAmb	17 27 47.2		
	comp=Z,99nm,1.3s								
MSO					IAMs_20	IAMs_20	17 58 27.2		
	comp=Z,28µm,20.0s								
DLMT	**Dillon**	**82.79**	**39**		IAmb	IAmb	17 27 48.5		
	comp=Z,121nm,1.1s								
DLMT					IAMs_20	IAMs_20	17 59 36.0		
	comp=Z,18µm,19.0s								
POKR	**Poker Plat Res**	**82.86**	**12**		P	**P**	**17 27 33.8**	**0.0**	
	baz=207,SNR=13								
TPAW	**Teton Pass**	**82.90**	**41**		IAmb	IAmb	17 27 57.4		
	comp=Z,164nm,1.3s								
FXWY	**Fox Creek**	**82.92**	**41**		IAmb	IAmb	17 27 55.3		
	comp=Z,147nm,1.3s								
JTMT	**Jette**	**83.01**	**37**		IAMs_20	IAMs_20	17 58 49.5		
	comp=Z,15µm,19.0s								
S22A	**4UR Ranch, Cre**	**83.11**	**48**		P	**P**	**17 27 37.1**	**+1.0**	
	baz=245,SNR=55								
S22A	**4UR Ranch, Cre**	**83.11**	**48**		IAMs_20	IAMs_20	17 57 57.8		
	comp=Z,26µm,20.0s								
SDSI	**Sungai Dareh**	**83.11**	**271**		P	P	17 27 45.0	+8.7	
O20A	**White River Ci**	**83.15**	**45**		P	**P**	**17 27 36.5**	**+0.4**	
	baz=244,SNR=32								
O20A	**White River Ci**	**83.15**	**45**		IAMs_20	IAMs_20	17 57 55.6		
	comp=Z,20µm,20.0s								
BW06	**Boulder Array**	**83.46**	**43**		P	**P**	**17 27 37.5**	**-0.2**	
	baz=243,SNR=27								
PDAR	**Pinedale Array**	**83.46**	**43**		P	**P**	**17 27 37.7**	**0.0**	
	comp=Z,19nm,1.0s,baz=214,slow=3.3,SNR=35								
PDAR					LR	LR	17 57 56.6		
	comp=Z,9µm,21.0s,baz=238,slow=31								
BOZ	**Bozeman (W)**	**83.50**	**39**		P	**P**	**17 27 37.8**	**+0.1**	
	baz=241,SNR=50								
BOZ	**Bozeman (W)**	**83.50**	**39**		IAMs_20	IAMs_20	18 03 05.8		
	comp=Z,21µm,18.0s								
H17A	**Grant Village**	**83.57**	**41**		P	**P**	**17 27 39.9**	**+1.6**	
	baz=242								
PRP	**Porcupine Dome**	**83.59**	**12**		IAmb	IAmb	17 27 57.7		
	comp=Z,155nm,1.4s								
BKNI	**Bangkinang**	**83.81**	**272**		P	P	17 27 49.0	+9.1	
WALA	**Waterton Lakes**	**83.91**	**36**		IAMs_20	IAMs_20	17 57 45.1		
	comp=Z,16µm,20.0s								
BJI	**Beijing**	**83.91**	**314**		P	**P**	**17 27 39.3**	**-0.4**	
BJI					SS	SS	17 43 32.5	+2.0	
BJI					pmax	pmax			
	comp=Z,34nm,2.1s								
BJI					LR	LR			
	comp=Z,7µm,23.0s								
BJI					LR	LR			
	comp=Z,5µm,23.0s								
EGAK	**Eagle**	**83.91**	**14**		IAmb	IAmb	17 27 46.6		
	comp=Z,122nm,1.4s								
SDCO	**Great Sand Dun**	**84.07**	**48**		P	**P**	**17 27 41.5**	**+0.5**	
	baz=246,SNR=61								
SDCO	**Great Sand Dun**	**84.07**	**48**		IAmb	IAmb	17 27 49.5		
	comp=Z,86nm,1.3s								
SDCO					IAMs_20	IAMs_20	17 58 07.2		
	comp=Z,19µm,20.0s								
BILL	**Bilibino**	**84.08**	**353**	⇓*i*	P	**P**	**17 27 39.7**	**-0.3**	
BILL				*e*	*PP	**PcP**	**17 27 43.1**	**-0.7**	
BILL				*e*			17 30 54.0		
BILL					pmax	pmax			
	comp=Z,122nm,2.5s								
BILL					MLR	MLR			
	comp=Z,8µm,18.0s								
BILL	**Bilibino**	**84.08**	**353**		IAMs_20	IAMs_20	17 59 34.3		
	comp=Z,24µm,20.0s								
ZEA	**Zeya**	**84.25**	**330**	*e*	P	**P**	**17 27 38.6**	**-2.6**	
ZEA				*e*	S	**S**	**17 38 08.0**	**+3.2**	
ZEA					pmax	pmax			
	comp=N,58nm,1.2s								
ZEA					pmax	pmax			
	comp=Z,71nm,1.2s								
ZEA					pmax	pmax			
	comp=Z,3µm,4.0s								
ZEA					smax	smax			
	comp=N,6µm,14.0s								
COLD	**Coldfoot**	**84.28**	**10**		P	**P**	**17 27 40.2**	**-0.8**	
	baz=205								
COLD	**Coldfoot**	**84.28**	**10**		IAmb	IAmb	17 28 07.1		
	comp=Z,132nm,1.2s								
T25A	**Trinidad**	**84.62**	**49**		P	**P**	**17 27 44.2**	**+0.5**	
	baz=247,SNR=25								
MSTX	**Muleshoe**	**84.62**	**53**		P	**P**	**17 27 43.7**	**0.0**	
	baz=248,SNR=20								
RLMT	**Red Lodge**	**84.73**	**41**		P	**P**	**17 27 44.8**	**+0.6**	
	baz=243,SNR=30								
Q24A	**Divide**	**84.82**	**47**		P	**P**	**17 27 45.0**	**+0.1**	
	baz=246								
Q24A	**Divide**	**84.82**	**47**		IAMs_20	IAMs_20	17 58 55.9		

AMTX	**Amarillo**	85.80	52	P	**P**	**17 27 50.7**	**+1.2**		
	baz=248								
AMTX	**Amarillo**	85.80	52	IAMs_20	IAMs_20	17 59 08.5			
	comp=Z,30µm,20.0s								
HIA	**Hailar**	85.86	324	IAMs_20	IAMs_20	18 01 33.0			
	comp=Z,31µm,21.0s								
GYA	**Guiyang**	86.21	299	⇓P	**P**	**17 27 51.3**	**-0.5**		
GYA				sP	pP	17 27 56.3	-3.3		
GYA				PP	**PP**	**17 31 11.5**	**-1.4**		
GYA				SKS	**SKSac**	**17 38 07.0**	**-10**		
GYA				S	**S**	**17 38 27.8**	**+2.2**		
GYA				SS	**SS**	**17 44 07.3**	**+2.1**		
GYA				pmax	pmax				
	comp=Z,22nm,1.9s								
GYA				pmax	pmax				
	comp=Z,1µm,8.8s								
GYA				LR	LR				
	comp=Z,3µm,19.0s								
GYA				LR	LR				
	comp=Z,6µm,19.5s								
GYA				LR	LR				
	comp=Z,9µm,18.9s								
GO09	**Cerro Castillo**	86.26	142	IAMs_20	IAMs_20	17 57 45.4			
	comp=Z,30µm,21.0s								
EPYK	**Eagle Plains**	86.28	15	P	**P**	**17 27 51.0**	**-0.1**		
	baz=217,SNR=18								
EPYK	**Eagle Plains**	86.28	15	IAmb	IAmb	17 28 13.7			
	comp=Z,152nm,1.4s								
KVTX	**Kingsville**	86.29	60	IAMs_20	IAMs_20	18 03 34.9			
	comp=Z,18µm,18.0s								
RPSI	**Rantau Prapat**	86.48	274	IAmb	IAmb	17 28 02.2			
	comp=Z,138nm,1.4s								
RPSI				IAMs_20	IAMs_20	18 14 13.4			
	comp=Z,18µm,19.0s								
ABTX	**Abilene, Hawle**	86.58	55	P	**P**	**17 27 54.0**	**+0.7**		
	baz=250								
KSCO	**Kaye Shedlock'**	86.64	48	IAMs_20	IAMs_20	17 59 32.3			
	comp=Z,18µm,21.0s								
735A	**Kenedy**	86.79	59	IAMs_20	IAMs_20	18 00 38.9			
	comp=Z,24µm,19.0s								
XAN	**Xi'an**	86.92	306	P	**P**	**17 27 55.0**	**0.0**		
XAN				pP	pP	17 27 59.3	-3.5		
XAN				SKS	**SKSac**	**17 38 21.3**	**+0.6**		
XAN				pmax	pmax				
	comp=Z,130nm,1.5s								
XAN				pmax	pmax				
	comp=Z,3µm,5.3s								
XAN				LR	LR				
	comp=Z,5µm,16.7s								
XAN				LR	LR				
	comp=Z,10µm,20.6s								
XAN				LR	LR				
	comp=Z,15µm,21.1s								
H03S2	**Juan Fernandez**	86.95	124	T	T	19 04 25.2			
	baz=251,slow=75,SNR=134								
H03S1	**Juan Fernandez**	86.97	124	T	T	19 04 22.3			
	baz=251,slow=75,SNR=109								
H03S3	**Juan Fernandez**	86.97	124	T	T	19 04 21.0			
	baz=251,slow=75,SNR=104								
VA04	**Juan Fernndez**	87.08	124	IAMs_20	IAMs_20	17 57 13.4			
	comp=Z,25µm,20.0s								
USHA	**Ushuaia**	87.18	146	LR	LR	17 57 59.0			
	comp=Z,31µm,21.6s,baz=262,slow=29								
MAW	**Mawson**	87.33	199	P	**P**	**17 27 58.0**	**+1.7**		
	baz=87,SNR=25								
MAW	**Mawson**	87.33	199	P	**P**	**17 27 56.8**	**+0.5**		
	comp=Z,14nm,1.1s,baz=111,slow=6.4,SNR=9.7								
MAW				LR	LR	18 05 25.6			
	comp=Z,28µm,18.4s,baz=117,slow=34								
MAW	**Mawson**	87.33	199	P	**P**	**17 27 57.1**	**+0.8**		
MAW				pmax	pmax				
	comp=Z,31nm,1.5s								
MAW				MLR	MLR				
	comp=Z,9µm,22.0s								
MAW	**Mawson**	87.33	199	P	**P**	**17 27 57.1**	**+0.8**		
LAO	**LASA Array**	87.33	40	P	**P**	**17 27 56.7**	**0.0**		
	baz=245								
GSI	**Gunungsitoli**	87.41	272	P	**P**	**17 28 00.1**	**+2.3**		
	comp=Z,24µmcomp=Z,515nm,1.5s								
GSI	**Gunungsitoli**	87.41	272	P	**P**	**17 27 54.9**	**-2.9**		
HHC	**Hu-ho-hao-te**	87.45	313	*e*P	**P**	**17 27 57.0**	**-0.5**		
HHC				sP	pP	17 28 04.0	-1.4		
HHC				S	**S**	**17 38 35.0**	**-2.0**		
HHC				sS	ScS	17 38 43.0	-1.0		
HHC				SS	**SS**	**17 44 22.5**	**-0.4**		
HHC				pmax	pmax				
	comp=Z,20nm,0.9s								
HHC				pmax	pmax				
	comp=Z,680nm,5.2s								
HHC				LR	LR				
	comp=Z,4µm,18.9s								
HHC				LR	LR				
	comp=Z,4µm,23.7s								
HHC				LR	LR				
	comp=Z,8µm,23.9s								
MG01	**Puerto William**	87.57	147	IAMs_20	IAMs_20	17 56 28.1			
	comp=Z,25µm,22.0s								
435B	**Jarrell**	87.61	57	P	**P**	**17 27 59.5**	**+1.1**		
	baz=251,SNR=5.3								
435B	**Jarrell**	87.61	57	IAMs_20	IAMs_20	18 00 12.2			
	comp=Z,22µm,20.0s								
RSSD	**Black Hills**	87.67	43	P	**P**	**17 27 58.2**	**-0.4**		
	baz=246								
RSSD	**Black Hills**	87.67	43	IAMs_20	IAMs_20	18 06 28.8			
	comp=Z,15µm,18.0s								
KCSI	**Kotacane, Aceh**	87.80	274	P	P	17 28 07.0	+7.3		
WMOK	**Wichita Mounta**	87.98	53	P	**P**	**17 28 00.7**	**+0.7**		
	baz=250								
WMOK	**Wichita Mounta**	87.98	53	IAMs_20	IAMs_20	18 00 56.4			
	comp=Z,24µm,20.0s								
CCIG	**Comitan**	87.98	73	IAMs_20	IAMs_20	17 57 33.3			
	comp=Z,15µm,20.0s								
YAK	**Yakutsk**	88.17	337	*e*P	**P**	**17 27 57.5**	**-2.7**		
YAK				*e**SS	sS	17 39 37.1	+41		
YAK				pmax	pmax				
	comp=Z,34nm,1.1s								
YAK				pmax	pmax				
	comp=N,10.0nm,1.2s								
YAK				pmax	pmax				
	comp=E,9.0nm,1.1s								
YAK	**Yakutsk**	88.17	337	P	**P**	**17 27 57.7**	**-2.5**		
YAK				IAmb	IAmb	17 28 14.3			
	comp=Z,56nm,1.1s								
U32A	**Winter Ranch,**	88.37	52	IAMs_20	IAMs_20	18 00 02.0			
	comp=Z,28µm,21.0s								
BTO	**Baotou**	88.45	313	*e*P	**P**	**17 28 04.0**	**+1.8**		
INK	**Inuvik**	88.57	14	P	**P**	**17 28 02.3**	**+0.3**		
	comp=Z,7.6nm,1.0s,baz=222,slow=7.0,SNR=13								
X34A	**Smith Ranch, M**	88.67	54	IAMs_20	IAMs_20	18 00 18.7			
	comp=Z,20µm,20.0s								
CBKS	**Cedar Bluff**	88.67	49	IAMs_20	IAMs_20	18 01 50.1			
	comp=Z,15µm,19.0s								
HKT	**Hockley**	88.77	59	*i* P	**P**	**17 28 05.9**	**+2.1**		
HKT				pmax	pmax				
	comp=Z,102nm,1.7s								
HKT	**Hockley**	88.77	59	IAMs_20	IAMs_20	18 02 04.3			
	comp=Z,27µm,20.0s								
KMI	**Kunming**	89.16	296	⇓*i*P	**P**	**17 28 07.8**	**+1.7**		
KMI				S	**S**	**17 38 58.3**	**+4.2**		
KMI				pmax	pmax				
	comp=Z,24nm,2.0s								
KMI				pmax	pmax				
	comp=Z,1µm,4.6s								
KMI				LR	LR				
	comp=Z,6µm,19.9s								
KMI				LR	LR				
	comp=Z,15µm,24.4s								
KMI				LR	LR				
	comp=Z,24µm,24.4s								
LL01	**San Ignacio de**	89.22	134	IAMs_20	IAMs_20	18 00 02.4			
	comp=Z,18µm,22.0s								
OKCFA	**Oklahoma City**	89.23	53	IAMs_20	IAMs_20	18 01 37.5			
	comp=Z,26µm,20.0s								
R32A	**Long Quarter,**	89.28	50	IAmb	IAmb	17 28 13.8			
	comp=Z,78nm,1.1s								
R32A				IAMs_20	IAMs_20	18 01 49.5			
	comp=Z,19µm,20.0s								
MLSI	**Meulaboh, Aceh**	89.31	275	P	P	17 28 13.9	+7.1		
DGMT	**Dagmar**	89.33	39	P	**P**	**17 28 07.5**	**+1.4**		
	baz=246								
DGMT	**Dagmar**	89.33	39	IAMs_20	IAMs_20	18 04 60.0			
	comp=Z,20µm,18.0s								
237A	**Washetta, Mont**	89.44	57	IAMs_20	IAMs_20	18 00 40.5			
	comp=Z,24µm,20.0s								
SNET	**Serv Nac Est T**	89.97	76	IAMs_20	IAMs_20	17 59 00.4			
	comp=Z,20µm,21.0s								
CD2	**Chengdu**	90.03	302	P	**P**	**17 28 07.8**	**-2.0**		
CD2				sP	PcP	17 28 13.0	+2.0		
CD2				PP	**PP**	**17 31 42.0**	**-1.3**		
CD2				S	**S**	**17 38 56.5**	**-5.1**		
CD2				sS	ScS	17 39 06.5	+0.9		
CD2				pmax	pmax				
	comp=Z,50nm,0.7s								
CD2				pmax	pmax				
	comp=Z,1µm,5.5s								
CD2				LR	LR				
	comp=Z,12µm,19.1s								
CD2				LR	LR				
	comp=Z,18µm,22.5s								
CD2				LR	LR				
	comp=Z,14µm,21.1s								
CIT	**Chita**	90.61	324	*e*P	**P**	**17 28 13.8**	**+1.8**		
CIT				pmax	pmax				
	comp=Z,212nm,3.4s								
BI03	**Tigo**	90.63	128	IAMs_20	IAMs_20	18 00 02.1			
	comp=Z,25µm,20.0s								
TUL1	**Leonard**	90.67	53	P	**P**	**17 28 12.5**	**-0.1**		
	baz=252								
TUL1	**Leonard**	90.67	53	IAMs_20	IAMs_20	18 02 31.6			
	comp=Z,25µm,20.0s								
CMAR	**Chiang Mai Arr**	90.67	289	P	**P**	**17 28 11.3**	**-1.7**		
	comp=Z,0.8nm,0.8s,baz=100,slow=2.9,SNR=7.8								
CMAR				LR	LR	18 04 24.4			
	comp=Z,9µm,21.8s,baz=144,slow=33								
CMAR	**Chiang Mai Arr**	90.67	289	*i* P	**P**	**17 28 14.8**	**+1.8**		
CMAR				pmax	pmax				
	comp=Z,3.0nm,1.0s								
K31A	**O'Neill**	90.69	46	IAMs_20	IAMs_20	18 01 38.1			
	comp=Z,17µm,20.0s								
YKA	**Yellowknife Ar**	90.72	24	P	**P**	**17 28 12.0**	**-0.2**		
	comp=Z,6.7nm,0.9s,baz=242,slow=4.1,SNR=16								
YKA				LR	LR	18 01 29.1			
	comp=Z,11µm,21.3s,baz=0.0,slow=31								
E28A	**Huff**	90.79	42	IAMs_20	IAMs_20	18 03 22.1			
	comp=Z,14µm,20.0s								
LC01	**Cesar**	90.79	131	IAMs_20	IAMs_20	18 00 06.6			
	comp=Z,20µm,22.0s								
N33A	**J Bar K, Exete**	90.98	48	IAMs_20	IAMs_20	18 03 21.0			
	comp=Z,14µm,20.0s								
KSU1	**Kansas State U**	91.06	50	IAMs_20	IAMs_20	18 04 37.5			
	comp=Z,21µm,18.0s								
PLCA	**Paso Flores**	91.10	133	P	**P**	**17 28 15.8**	**+1.0**		
	comp=Z,4.6nm,1.1s,baz=253,slow=12,SNR=4.6								
PLCA				LR	LR	17 59 56.5			
	comp=Z,26µm,21.7s,baz=237,slow=29								
PLCA	**Paso Flores**	91.10	133	P	**P**	**17 28 16.7**	**+1.9**		
PLCA				pmax	pmax				
	comp=Z,49nm,1.3s								
PLCA	**Paso Flores**	91.10	133	P	**P**	**17 28 16.7**	**+1.9**		
SUSD	**Miller**	91.18	44	IAMs_20	IAMs_20	18 05 52.7			
	comp=Z,22µm,18.0s								
441A	**DeRidder**	91.19	59	IAMs_20	IAMs_20	18 03 52.4			
	comp=Z,21µm,19.0s								
LZH	**Lanzhou**	91.52	307	⇓P	**P**	**17 28 18.5**	**+1.7**		
LZH				sP	pwP	17 28 25.3	-1.8		
LZH				S	**S**	**17 39 17.0**	**+1.7**		
LZH				pmax	pmax				
	comp=Z,98nm,1.3s								
LZH				pmax	pmax				
	comp=Z,2µm,6.8s								
LZH				LR	LR				
	comp=Z,7µm,16.3s								
LZH				LR	LR				
	comp=Z,11µm,16.3s								
LZH				LR	LR				
	comp=Z,11µm,18.4s								
TGUH	**Tegucigalpa,Un**	91.91	76	IAMs_20	IAMs_20	18 00 11.7			
	comp=Z,18µm,21.0s								
MDND	**Maddock**	91.94	41	IAMs_20	IAMs_20	18 08 28.3			
	comp=Z,20µm,18.0s								
MIAR	**Mount Ida**	91.98	55	P	**P**	**17 28 20.2**	**+1.5**		
	baz=253								
MIAR	**Mount Ida**	91.98	55	IAMs_20	IAMs_20	18 03 13.8			
	comp=Z,23µm,20.0s								
W39A	**Magazine**	92.01	54	P	**P**	**17 28 19.5**	**+0.7**		
	baz=253,SNR=12								
BI02	**San Fabin de**	92.02	129	IAMs_20	IAMs_20	17 59 31.7			
	comp=Z,21µm,22.0s								
342A	**Flagon Creek P**	92.08	58	IAMs_20	IAMs_20	18 03 50.9			
	comp=Z,15µm,19.0s								
GO05	**Huala**	92.09	127	IAMs_20	IAMs_20	18 00 14.7			
	comp=Z,26µm,21.0s								
L34A	**Svendsen Farm,**	92.14	47	IAMs_20	IAMs_20	18 08 19.7			
	comp=Z,19µm,18.0s								
HHAR	**Hobbs**	92.21	53	IAMs_20	IAMs_20	18 03 58.4			
	comp=Z,19µm,20.0s								
Z41A	**Richland Creek**	92.23	56	P	**P**	**17 28 19.8**	**-0.1**		
	baz=254								
SYO	**Syowa Base**	92.38	192	⇓*e*P	**P**	**17 28 18.0**	**-1.9**		
SYO	**Syowa Base**	92.38	192	⇑*i*X	**P**	**17 28 22.6**	**+2.7**		
ECSD	**EROS Data Cent**	92.53	45	P	**P**	**17 28 21.8**	**+0.7**		
	baz=252								
ECSD	**EROS Data Cent**	92.53	45	IAMs_20	IAMs_20	18 03 28.8			
	comp=Z,20µm,21.0s								
X40A	**Basin Creek Fa**	92.56	55	P	**P**	**17 28 22.7**	**+1.3**		
	baz=254								
X40A	**Basin Creek Fa**	92.56	55	IAMs_20	IAMs_20	18 04 37.9			
	comp=Z,14µm,19.0s								
BOD	**Bodaibo**	92.76	330	*e*P	**P**	**17 28 22.0**	**+0.2**		
BOD				pmax	pmax				
	comp=Z,22nm,1.7s								
ULN	**Ulaanbaatar**	92.98	319	⇑*i*P	**P**	**17 28 24.1**	**+0.9**		
ULN				pmax	pmax				
	comp=Z,4.0nm,1.1s								
BOAB	**BOACO BROADBA**	93.00	78	IAMs_20	IAMs_20	18 00 27.0			
	comp=Z,21µm,20.0s								
BO02	**Sierra Bellavi**	93.05	127	IAMs_20	IAMs_20	18 00 55.0			
	comp=Z,25µm,20.0s								
FFC	**Flin Flon**	93.05	34	IAMs_20	IAMs_20	18 03 39.6			
	comp=Z,14µm,20.0s								
U40A	**Yellville**	93.07	53	P	**P**	**17 28 23.4**	**-0.4**		
	baz=254,SNR=16								
U40A	**Yellville**	93.07	53	IAMs_20	IAMs_20	18 04 24.3			
	comp=Z,18µm,20.0s								
JTS	**Las Juntas de**	93.13	80	⇓*i*P	**P**	**17 28 26.8**	**+2.3**		
JTS				pmax	pmax				
	comp=Z,16nm,1.0s								
JTS	**Las Juntas de**	93.13	80	IAMs_20	IAMs_20	18 00 46.7			
	comp=Z,22µm,20.0s								
SNAA	**Sanae**	93.18	178	P	**P**	**17 28 24.5**	**+0.8**		
SNAA	**Sanae**	93.18	178	LR	LR	18 04 44.0			
	comp=Z,32µm,21.8s,baz=194,slow=32								
SNAA	**Sanae**	93.18	178	P	**P**	**17 28 24.9**	**+1.2**		
SNAA				pmax	pmax				
	comp=Z,179nm,1.7s								
SNAA				MLR	MLR				
	comp=Z,30µm,21.0s								
SNAA	**Sanae**	93.18	178	P	**P**	**17 28 24.9**	**+1.2**		
A36M	**Sachs Harbour**	93.19	14	P	**P**	**17 28 25.1**	**+1.7**		
	baz=228								
143A	**Socs Landing,**	93.20	57	IAMs_20	IAMs_20	18 03 57.4			
	comp=Z,16µm,20.0s								
VNA3	**Neumayer Olymp**	93.21	175	P	**P**	**17 28 24.5**	**+0.7**		
W41B	**Gary Mavity, V**	93.21	55	P	**P**	**17 28 25.1**	**+0.8**		
	baz=254,SNR=19								
545A	**Edgard**	93.24	60	IAMs_20	IAMs_20	18 07 40.7			
	comp=Z,26µm,20.0s								
D32A	**Dogwood Acres,**	93.35	42	IAMs_20	IAMs_20	18 12 13.9			
	comp=Z,12µm,18.0s								
SONM	**Songino Array**	93.39	319	P	**P**	**17 28 23.6**	**-1.5**		
	comp=Z,0.8nm,0.6s,baz=115,slow=3.9,SNR=8.2								
SONM				LR	LR	18 06 06.5			
	comp=Z,8µm,21.6s,baz=122,slow=33								
F33A	**5 Mile Ranch,**	93.42	43	IAMs_20	IAMs_20	18 07 04.8			
	comp=Z,15µm,18.0s								
P38A	**Dawn**	93.49	50	IAMs_20	IAMs_20	18 04 58.9			
	comp=Z,14µm,20.0s								
FCAR	**Ozark Folk Cen**	93.51	54	IAMs_20	IAMs_20	18 04 14.9			
	comp=Z,25µm,20.0s								
PAF	**Port-aux-Franc**	93.60	217	IAMs_20	IAMs_20	18 03 10.7			
	comp=Z,19µm,20.0s								
AIS	**Amsterdam Isla**	93.68	229	IAMs_20	IAMs_20	18 07 51.5			
	comp=Z,23µm,21.0s								
VNA2	**Neumayer--Watz**	93.68	176	P	**P**	**17 28 27.4**	**+1.4**		
HDC	**Heredia**	93.86	81	IAMs_20	IAMs_20	17 59 35.0			
	comp=Z,17µm,21.0s								
VNA1	**Neumayer--Stat**	93.89	176	P	**P**	**17 28 28.1**	**+1.2**		
N38A	**Joes South For**	94.04	49	IAMs_20	IAMs_20	18 07 58.3			
	comp=Z,19µm,18.0s								
NVL	**N'lazarevskaya**	94.09	182	*e*P	**P**	**17 28 31.5**	**+3.7**		
NVL				*e*S	**SKSac**	**17 39 05.2**	**+4.4**		
NVL				pmax	pmax				
	comp=Z,54nm,1.3s								
X43A	**Marvell**	94.11	56	P	**P**	**17 28 31.1**	**+2.5**		
	baz=255								
X43A	**Marvell**	94.11	56	IAMs_20	IAMs_20	18 07 13.2			
	comp=Z,19µm,18.0s								
EFI	**East Falkland**	94.16	146	IAMs_20	IAMs_20	18 02 02.3			
	comp=Z,22µm,22.0s								
ESPN	**Las Esperanzas**	94.23	79	IAMs_20	IAMs_20	18 01 34.6			
	comp=Z,20µm,21.0s								
TIXI	**Tiksi**	94.30	345	LR	LR	18 06 47.7			
	comp=Z,16µm,20.9s,baz=169,slow=33								
TIXI	**Tiksi**	94.30	345	⇑*i*P	**P**	**17 28 28.5**	**0.0**		
TIXI				pmax	pmax				
	comp=Z,50nm,2.5s								
TIXI	**Tiksi**	94.30	345	P	**P**	**17 28 25.2**	**-3.3**		
TIXI				IAmb	IAmb	17 28 42.9			
	comp=Z,68nm,1.6s								
TIXI				IAMs_20	IAMs_20	18 07 08.4			
	comp=Z,17µm,20.0s								
SCIA	**State Center**	94.37	48	IAMs_20	IAMs_20	18 05 16.9			
	comp=Z,20µm,20.0s								
AGMN	**Agassiz Nation**	94.45	41	P	**P**	**17 28 29.6**	**-0.2**		
	baz=252								
AGMN	**Agassiz Nation**	94.45	41	IAMs_20	IAMs_20	18 13 10.0			
	comp=Z,14µm,18.0s								
CO03	**El Pedregal**	94.51	123	IAMs_20	IAMs_20	18 00 54.1			
	comp=Z,28µm,22.0s								
GO04	**Tololo Observa**	94.65	123	IAMs_20	IAMs_20	18 00 58.9			
	comp=Z,24µm,22.0s								
CCM	**Cathedral Cave**	94.77	52	P	**P**	**17 28 31.0**	**-0.5**		
	baz=255								
CCM	**Cathedral Cave**	94.77	52	P	**P**	**17 28 26.9**	**-4.6**		
CCM				pmax	pmax				
	comp=Z,61nm,1.2s								
CCM				MLR	MLR				
	comp=Z,26µm,20.0s								
CCM	**Cathedral Cave**	94.77	52	P	**P**	**17 28 26.9**	**-4.6**		
CCM				IAmb	IAmb	17 28 38.7			
	comp=Z,61nm,1.1s								
I37A	**Lemond, Waseca**	94.84	46	IAMs_20	IAMs_20	18 04 45.8			
	comp=Z,18µm,20.0s								
K38A	**Parkersburg**	94.89	47	IAMs_20	IAMs_20	18 05 03.6			
	comp=Z,17µm,20.0s								
HDBT	**Hernando Brdge**	94.93	55	IAMs_20	IAMs_20	18 03 53.9			
	comp=Z,22µm,22.0s								
MET	**Memphis--Engin**	95.02	55	IAMs_20	IAMs_20	18 04 50.3			
	comp=Z,22µm,20.0s								
ULM	**Lac du Bonnet**	95.04	39	P	**P**	**17 28 32.9**	**+0.4**		
	comp=Z,3.4nm,0.6s,baz=271,slow=7.3,SNR=1.8								
ULM				LR	LR	18 06 18.4			
	comp=Z,19µm,19.7s,baz=262,slow=32								
ULM	**Lac du Bonnet**	95.04	39	⇓*i*P	**P**	**17 28 34.1**	**+1.7**		
ULM	**Lac du Bonnet**	95.04	39	IAMs_20	IAMs_20	18 06 07.2			
	comp=Z,21µm,20.0s								
PBMO	**Poplar Bluff**	95.06	53	IAMs_20	IAMs_20	18 04 00.0			
	comp=Z,18µm,22.0s								
146A	**Union**	95.09	58	IAMs_20	IAMs_20	18 07 53.6			
	comp=Z,15µm,19.0s								
AC04	**Llanos de Chal**	95.11	121	IAMs_20	IAMs_20	18 00 30.0			
	comp=Z,16µm,22.0s								
F36A	**Milaca**	95.27	44	IAMs_20	IAMs_20	18 05 58.0			
	comp=Z,20µm,20.0s								
OXF	**Oxford**	95.28	56	P	**P**	**17 28 36.0**	**+2.1**		
	baz=255								
OXF	**Oxford**	95.28	56	IAMs_20	IAMs_20	18 05 53.3			
	comp=Z,23µm,20.0s								
CO01	**Juntas del Tor**	95.29	123	IAMs_20	IAMs_20	18 01 29.9			
	comp=Z,22µm,20.0s								
GTA	**Gaotai**	95.52	309	⇑P	**P**	**17 28 36.5**	**+1.4**		
GTA				pP	pP	17 28 40.8	-2.2		
GTA				sP	pwP	17 28 43.5	-1.9		
GTA				PP	**PP**	**17 32 30.0**	**+3.6**		
GTA				sS	sS	17 39 59.5	-4.0		
GTA				pmax	pmax				
	comp=Z,6.0nm,1.3s								
GTA				pmax	pmax				
	comp=Z,350nm,9.2s								
GTA				LR	LR				
	comp=Z,5µm,19.4s								
GTA				LR	LR				
	comp=Z,15µm,24.4s								
GTA				LR	LR				
	comp=Z,29µm,24.1s								
PVMO	**Portageville**	95.54	54	IAMs_20	IAMs_20	18 04 56.1			
	comp=Z,25µm,20.0s								
AC05	**El Transito**	95.55	122	IAMs_20	IAMs_20	18 01 08.7			
	comp=Z,14µm,21.0s								
PARMO	**Parma**	95.56	54	IAMs_20	IAMs_20	18 04 57.2			
	comp=Z,23µm,20.0s								
SPMN	**Marine on St.**	95.58	45	P	**P**	**17 28 36.7**	**+1.6**		
	baz=254								
SPMN	**Marine on St.**	95.58	45	IAMs_20	IAMs_20	18 05 22.3			
	comp=Z,17µm,20.0s								
PENMO	**Penman**	95.60	54	IAMs_20	IAMs_20	18 04 47.4			
	comp=Z,25µm,20.0s								
W45A	**Hickory Valley**	95.62	55	IAMs_20	IAMs_20	18 04 48.2			
	comp=Z,24µm,21.0s								
SLM	**Saint Louis**	95.69	52	IAMs_20	IAMs_20	18 05 30.3			
	comp=Z,23µm,20.0s								
N41A	**Harden Midland**	95.76	50	IAMs_20	IAMs_20	18 06 37.8			
	comp=Z,18µm,19.0s								
HENM	**Henderson Moun**	95.79	54	IAMs_20	IAMs_20	18 05 24.3			
	comp=Z,21µm,20.0s								
L40A	**Anamosa**	95.84	48	IAMs_20	IAMs_20	18 06 10.9			
	comp=Z,20µm,20.0s								
GO03	**Copiap**	96.02	121	IAMs_20	IAMs_20	18 00 47.1			
	comp=Z,16µm,20.0s								
IRK	**Irkutsk**	96.05	322	*e*P	**P

	comp=Z,36nm,1.3s								
T47A	**Sharon Grove**	**97.70**	**54**	IAMs_20	IAMs_20	18 07 57.9			
	comp=Z,23µm,20.0s								
PB04	**IPOC Station P**	**97.90**	**116**	IAMs_20	IAMs_20	18 02 30.1			
	comp=Z,14µm,20.0s								
I42A	**Draeger Farm,**	**97.94**	**47**	IAMs_20	IAMs_20	18 13 08.0			
	comp=Z,15µm,18.0s								
M44A	**Midewin, Midew**	**97.99**	**49**	IAMs_20	IAMs_20	18 09 52.8			
	comp=Z,18µm,18.0s								
K43A	**Burlington**	**98.08**	**48**	IAMs_20	IAMs_20	18 06 39.9			
	comp=Z,17µm,20.0s								
PB15	**IPOC Station P**	**98.19**	**117**	IAMs_20	IAMs_20	18 01 59.8			
	comp=Z,17µm,21.0s								
SWET	**Sewanee**	**98.23**	**56**	IAMs_20	IAMs_20	18 08 41.2			
	comp=Z,18µm,19.0s								
L44A	**Lake County Fo**	**98.26**	**49**	IAMs_20	IAMs_20	18 13 47.9			
	comp=Z,12µm,18.0s								
COWI	**Conover**	**98.29**	**45**	IAMs_20	IAMs_20	18 08 41.0			
	comp=Z,19µm,18.0s								
PB07	**IPOC Station P**	**98.33**	**115**	IAMs_20	IAMs_20	18 02 34.7			
	comp=Z,17µm,21.0s								
FPAL	**Fort Paine**	**98.34**	**57**	IAMs_20	IAMs_20	18 07 47.3			
	comp=Z,23µm,20.0s								
Z51A	**Franklin**	**98.43**	**58**	IAMs_20	IAMs_20	18 10 09.8			
	comp=Z,16µm,19.0s								
FCC	**Fort Churchill**	**98.46**	**31**	IAMs_20	IAMs_20	18 08 02.3			
	comp=Z,21µm,19.0s								
SFIN	**Lafayette**	**98.46**	**51**	IAMs_20	IAMs_20	18 08 51.5			
	comp=Z,21µm,19.0s								
WCI	**Wyandotte Cave**	**98.60**	**53**	IAMs_20	IAMs_20	18 06 51.1			
	comp=Z,18µm,21.0s								
152A	**Waverly Hall**	**98.66**	**59**	IAMs_20	IAMs_20	18 08 47.1			
	comp=Z,19µm,20.0s								
W50A	**Signal Mountai**	**98.72**	**56**	IAMs_20	IAMs_20	18 09 05.3			
	comp=Z,18µm,20.0s								
SHL	**Shillong**	**98.77**	**294**	*ex*	P	17 28 55.8	+5.7		
SHL				*i* x	x	17 33 05.0			
H43A	**Windswept, Lux**	**98.87**	**46**	IAMs_20	IAMs_20	18 10 37.1			
	comp=Z,15µm,18.0s								
PB09	**IPOC Station P**	**98.87**	**115**	IAMs_20	IAMs_20	18 02 60.0			
	comp=Z,16µm,20.0s								
LVC	**Limon Verde**	**98.88**	**116**	LR	LR	18 03 45.0			
	comp=Z,13µm,21.0s,baz=251,slow=29								
LVC	**Limon Verde**	**98.88**	**116**	IAMs_20	IAMs_20	18 03 23.1			
	comp=Z,16µm,22.0s								
F42A	**Maple Grove Fa**	**98.89**	**45**	IAMs_20	IAMs_20	18 07 43.1			
	comp=Z,20µm,20.0s								
PB01	**IPOC Station P**	**98.92**	**115**	IAMs_20	IAMs_20	18 02 53.1			
	comp=Z,14µm,21.0s								
X51A	**Calhoun**	**98.95**	**57**	IAMs_20	IAMs_20	18 07 57.5			
	comp=Z,18µm,20.0s								
PB12	**IPOC Station P**	**98.99**	**112**	IAMs_20	IAMs_20	18 05 45.2			
	comp=Z,13µm,20.0s								
L46A	**Eue Claire**	**99.40**	**49**	IAMs_20	IAMs_20	18 09 34.1			
	comp=Z,17µm,19.0s								
CPCT	**Cooper Cave**	**99.41**	**56**	IAMs_20	IAMs_20	18 06 53.4			
	comp=Z,21µm,21.0s								
MNMC	**Minye Minye**	**99.47**	**113**	IAMs_20	IAMs_20	18 03 26.8			
	comp=Z,12µm,20.0s								
R49A	**Shelbyville**	**99.48**	**53**	IAMs_20	IAMs_20	18 08 06.9			
	comp=Z,20µm,20.0s								
N47A	**Urbana**	**99.61**	**50**	IAMs_20	IAMs_20	18 08 58.9			
	comp=Z,21µm,20.0s								
J45A	**Montague**	**99.62**	**48**	IAMs_20	IAMs_20	18 08 55.8			
	comp=Z,18µm,20.0s								
W52A	**Murphy**	**99.81**	**56**	IAMs_20	IAMs_20	18 06 33.1			
	comp=Z,17µm,22.0s								
GOGA	**Godfrey**	**99.84**	**58**	IAMs_20	IAMs_20	18 07 22.3			
	comp=Z,17µm,22.0s								
154A	**Montrose**	**99.98**	**59**	IAMs_20	IAMs_20	18 08 40.1			
	comp=Z,17µm,20.0s								
TKL	**Tuckaleechee C**	**100.05**	**56**	IAMs_20	IAMs_20	18 07 43.3			
	comp=Z,21µm,20.0s								
V52A	**Sevierville**	**100.22**	**56**	IAMs_20	IAMs_20	18 08 39.0			
	comp=Z,22µm,20.0s								
G45A	**Suttons Bay**	**100.46**	**46**	IAMs_20	IAMs_20	18 07 28.6			
	comp=Z,20µm,21.0s								
061Z	**Ochoppi**	**100.49**	**66**	IAMs_20	IAMs_20	18 14 05.8			
	comp=Z,12µm,18.0s								
BG3	**Lake Jocassee**	**100.59**	**57**	IAMs_20	IAMs_20	18 09 07.9			
	comp=Z,12µm,20.0s								
J47A	**Sunmer**	**100.71**	**48**	IAMs_20	IAMs_20	18 08 59.6			
	comp=Z,17µm,20.0s								
N49A	**Columbus Grove**	**100.74**	**50**	IAMs_20	IAMs_20	18 07 58.9			
	comp=Z,21µm,21.0s								
V53A	**Saluda**	**100.81**	**56**	IAMs_20	IAMs_20	18 08 57.7			
	comp=Z,19µm,20.0s								
HODGE	**Hodges**	**100.99**	**57**	IAMs_20	IAMs_20	18 08 53.6			
	comp=Z,24µm,21.0s								
Q51A	**Peebles**	**101.02**	**52**	IAMs_20	IAMs_20	18 07 35.7			
	comp=Z,19µm,21.0s								
GLMI	**Grayling**	**101.14**	**46**	IAMs_20	IAMs_20	18 13 41.8			
	comp=Z,16µm,18.0s								
060A	**Indiantown**	**101.21**	**65**	IAMs_20	IAMs_20	18 07 59.6			
	comp=Z,13µm,22.0s								
T53A	**Wise**	**101.28**	**55**	Pdiff	**Pdif**	**17 29 04.9**	**+3.9**		
	baz=260								
P51A	**Williamsport**	**101.33**	**52**	IAMs_20	IAMs_20	18 07 53.6			
	comp=Z,17µm,20.0s								
AAM	**Ann Arbor**	**101.38**	**49**	IAMs_20	IAMs_20	18 11 18.6			
	comp=Z,18µm,20.0s								
PAULI	**Pauline**	**101.46**	**57**	IAMs_20	IAMs_20	18 08 55.9			
	comp=Z,18µm,20.0s								
Z56A	**Williston**	**101.55**	**58**	IAMs_20	IAMs_20	18 11 19.6			
	comp=Z,16µm,19.0s								
257A	**Skidaway Islan**	**101.58**	**60**	IAMs_20	IAMs_20	18 10 53.7			
	comp=Z,18µm,19.0s								
M50A	**Fremont**	**101.68**	**50**	IAMs_20	IAMs_20	18 08 17.5			
	comp=Z,13µm,20.0s								
U54A	**Nelsons Funny**	**101.76**	**55**	Pdiff	**Pdif**	**17 29 08.9**	**+5.9**		
	baz=260								
JSC	**Jenkinsville**	**101.81**	**58**	IAMs_20	IAMs_20	18 09 17.4			
	comp=Z,12µm,20.0s								
KMSC	**Kings Mountain**	**101.91**	**57**	IAMs_20	IAMs_20	18 07 36.7			
	comp=Z,19µm,22.0s								
ROSC	**El Rosal**	**101.98**	**88**	IAMs_20	IAMs_20	18 05 07.3			
	comp=Z,16µm,22.0s								
T54A	**Tazewell**	**102.05**	**55**	Pdiff	**Pdif**	**17 29 09.9**	**+5.5**		
	baz=260								
P52A	**Corning**	**102.06**	**52**	Pdiff	**Pdif**	**17 29 06.0**	**+1.7**		
	baz=260								
P52A	**Corning**	**102.06**	**52**	IAMs_20	IAMs_20	18 08 59.0			
	comp=Z,21µm,20.0s								
RES	**Resolute Bay**	**102.08**	**16**	IAMs_20	IAMs_20	18 15 03.2			
	comp=Z,12µm,18.0s								
K50A	**Casco**	**102.22**	**49**	IAMs_20	IAMs_20	18 12 54.6			
	comp=Z,19µm,18.0s								
I49A	**Point Hope**	**102.26**	**48**	IAMs_20	IAMs_20	18 09 37.0			
	comp=Z,21µm,20.0s								
U55A	**TA2, Sparta**	**102.37**	**55**	Pdiff	**Pdif**	**17 29 11.3**	**+5.5**		
	baz=260								
Y57A	**Sumter**	**102.47**	**58**	IAMs_20	IAMs_20	18 10 10.0			
	comp=Z,21µm,20.0s								
NHSC	**New Hope**	**102.49**	**59**	IAMs_20	IAMs_20	18 12 18.6			
	comp=Z,14µm,19.0s								
BIRD	**Birdtown, Kers**	**102.53**	**57**	IAMs_20	IAMs_20	18 10 45.2			
	comp=Z,17µm,19.0s								
P53A	**Whipple**	**102.60**	**52**	IAMs_20	IAMs_20	18 09 26.3			
	comp=Z,20µm,20.0s								
R54A	**Victor**	**102.69**	**54**	Pdiff	**Pdif**	**17 29 11.6**	**+4.5**		
	baz=261								
M52A	**Chesterland**	**102.95**	**50**	IAMs_20	IAMs_20	18 10 17.2			
	comp=Z,20µm,20.0s								
W57A	**Gilead**	**102.99**	**57**	IAMs_20	IAMs_20	18 08 42.5			
	comp=Z,17µm,22.0s								
Y58A	**Scranton**	**103.05**	**58**	IAMs_20	IAMs_20	18 10 36.2			
	comp=Z,13µm,20.0s								
X58A	**Rowland**	**103.42**	**58**	IAMs_20	IAMs_20	18 10 16.0			
	comp=Z,22µm,21.0s								
O54A	**Avella**	**103.48**	**52**	IAMs_20	IAMs_20	18 10 49.5			
	comp=Z,20µm,19.0s								
Y59A	**Loris**	**103.71**	**58**	IAMs_20	IAMs_20	18 09 46.8			
	comp=Z,22µm,22.0s								
V58A	**Windy Hill, Pi**	**103.80**	**56**	IAMs_20	IAMs_20	18 11 18.8			
	comp=Z,18µm,19.0s								
ERPA	**Erie**	**104.04**	**50**	IAMs_20	IAMs_20	18 10 24.1			
	comp=Z,16µm,21.0s								
Y60A	**Bolivia**	**104.25**	**58**	IAMs_20	IAMs_20	18 12 28.2			
	comp=Z,18µm,19.0s								
CNNC	**Cliffs of the**	**104.70**	**57**	IAMs_20	IAMs_20	18 11 05.9			
	comp=Z,14µm,20.0s								
O56A	**Blue Knob Stat**	**104.86**	**52**	IAMs_20	IAMs_20	18 11 25.2			
	comp=Z,19µm,20.0s								
S58A	**Poland Farm, P**	**104.91**	**55**	IAMs_20	IAMs_20	18 10 16.9			
	comp=Z,23µm,21.0s								
WVNY	**West Valley, N**	**105.10**	**50**	IAMs_20	IAMs_20	18 10 58.1			
	comp=Z,20µm,21.0s								
J54A	**Appleton**	**105.18**	**49**	IAMs_20	IAMs_20	18 10 27.9			
	comp=Z,14µm,22.0s								
P57A	**Homestead Farm**	**105.19**	**53**	IAMs_20	IAMs_20	18 11 25.8			
	comp=Z,21µm,20.0s								
T59A	**Double "B" Far**	**105.22**	**55**	IAMs_20	IAMs_20	18 11 24.1			
	comp=Z,21µm,20.0s								
WMQ	**Urumqi**	**105.26**	**312**	Pdif	**Pdif**	**17 29 17.0**	**-1.5**		
WMQ				PP	**PP**	**17 33 40.0**	**-0.1**		
WMQ				SS	SS	17 48 33.5	-1.2		
WMQ				AMB	AMB				
	comp=Z,670nm,6.7s								
WMQ				LR	LR				
	comp=Z,3µm,21.7s								
WMQ				LR	LR				
	comp=Z,4µm,23.9s								
WMQ				LR	LR				
	comp=Z,9µm,26.1s								
V60A	**Jim Taylor Roa**	**105.28**	**57**	IAMs_20	IAMs_20	18 11 25.2			
	comp=Z,20µm,20.0s								
MMNY	**Mt. Morris Dam**	**105.65**	**49**	IAMs_20	IAMs_20	18 12 34.6			
	comp=Z,18µm,21.0s								
J55A	**Hilton**	**105.77**	**49**	IAMs_20	IAMs_20	18 14 29.7			
	comp=Z,16µm,19.0s								
L56A	**Greenwood**	**105.84**	**50**	IAMs_20	IAMs_20	18 11 47.7			
	comp=Z,21µm,20.0s								
V61A	**Roper**	**105.84**	**57**	IAMs_20	IAMs_20	18 12 01.9			
	comp=Z,19µm,20.0s								
DELO	**Deloro Mine**	**106.05**	**48**	IAMs_20	IAMs_20	18 14 53.7			
	comp=Z,18µm,18.0s								
SDMD	**Soldier's Deli**	**106.08**	**53**	IAMs_20	IAMs_20	18 11 25.5			
	comp=Z,14µm,20.0s								
PAGS	**Pennsylvania G**	**106.26**	**52**	IAMs_20	IAMs_20	18 11 59.2			
	comp=Z,21µm,20.0s								
V62A	**Hyde County Ai**	**106.31**	**57**	IAMs_20	IAMs_20	18 10 22.4			
	comp=Z,17µm,22.0s								
PECO	**Prince Edward**	**106.44**	**48**	IAMs_20	IAMs_20	18 13 03.1			
	comp=Z,15µm,20.0s								
J56A	**Wolcott**	**106.47**	**49**	IAMs_20	IAMs_20	18 11 52.2			
	comp=Z,19µm,22.0s								
VLDQ	**Val d'Or**	**106.48**	**44**	IAMs_20	IAMs_20	18 16 18.2			
	comp=Z,16µm,18.0s								
J57A	**Williamstown**	**107.11**	**49**	IAMs_20	IAMs_20	18 14 44.1			
	comp=Z,15µm,19.0s								
K58A	**Earlville**	**107.31**	**49**	IAMs_20	IAMs_20	18 11 22.5			
	comp=Z,20µm,22.0s								
ZSN	**Zaisan**	**107.56**	**315**	*i* PP	**PP**	**17 33 56.9**	**+0.1**		
	baz=316								
ZSN				LR	LR	18 15 58.8			
	comp=Z,2µm,16.8s,baz=316								
ZAA0	**Zalesovo Array**	**107.86**	**322**	IAMs_20	IAMs_20	18 14 47.0			
	comp=Z,14µm,21.0s								
ZALV	**Zalesovo Beam**	**107.86**	**322**	Pdiff	**Pdif**	**17 29 31.7**	**+2.1**		
	comp=Z,0.6nm,0.6s,baz=129,slow=4.6,SNR=2.0								
J59A	**Piesco**	**108.20**	**49**	IAMs_20	IAMs_20	18 12 53.9			
	comp=Z,22µm,21.0s								
LONY	**Lake Ozonia**	**108.22**	**48**	IAMs_20	IAMs_20	18 15 20.1			
	comp=Z,17µm,19.0s								
SC01	**Santiago de lo**	**108.53**	**74**	IAMs_20	IAMs_20	18 10 39.0			
	comp=Z,19µm,20.0s								
TULEG	**Thule**	**108.56**	**14**	IAMs_20	IAMs_20	18 18 46.0			
	comp=Z,10µm,19.0s								
SAML	**Samuel**	**108.74**	**105**	IAMs_20	IAMs_20	18 13 40.5			
	comp=Z,11µm,21.0s								
ACCN	**Adirondack Com**	**108.80**	**49**	IAMs_20	IAMs_20	18 13 10.9			
	comp=Z,19µm,21.0s								
MKAR	**Makavchi Array**	**109.28**	**315**	Pdiff	**Pdif**	**17 29 40.9**	**+4.7**		
	comp=Z,2.5nm,1.1s,baz=77,slow=3.1,SNR=5.8								
MKAR				PKKP	**PKKPdf**	**17 45 03.5**	**+0.3**		
	comp=Z,2.3nm,0.9s,baz=258,slow=3.0,SNR=4.8								
VT1	**Waterbury**	**109.51**	**48**	IAMs_20	IAMs_20	18 14 22.4			
	comp=Z,16µm,20.0s								
HNH	**Hanover**	**109.82**	**49**	IAMs_20	IAMs_20	18 15 01.8			
	comp=Z,16µm,20.0s								
LBNH	**Lisbon**	**110.10**	**48**	IAMs_20	IAMs_20	18 19 12.1			
	comp=Z,12µm,19.0s								
I62A	**Tamworth**	**110.51**	**48**	IAMs_20	IAMs_20	18 17 15.1			
	comp=Z,14µm,19.0s								
SEM	**Semipalatinsk**	**110.67**	**318**	*i* PP	**PP**	**17 34 19.1**	**-0.4**		
	baz=318								
SEM				*e*SS	SS	17 49 48.6	+0.9		
	baz=318								
SEM				*e*LR	LR	18 17 27.8			
	comp=Z,3µm,18.5s,baz=318								
I63A	**Otisfield**	**111.06**	**48**	IAMs_20	IAMs_20	18 20 15.6			
	comp=Z,12µm,18.0s								
SHLS	**Shalkode**	**111.19**	**311**	*e*PP	**PP**	**17 34 20.6**	**-2.9**		
	baz=311								
SHLS				LR	LR	18 16 18.6			
	comp=Z,2µm,17.5s,baz=311								
F62A	**Pittston Farm,**	**111.51**	**46**	IAMs_20	IAMs_20	18 13 42.1			
	comp=Z,18µm,22.0s								
UZB	**Uzynbulak**	**111.52**	**311**	*e*PP	**PP**	**17 34 25.1**	**-0.7**		
	baz=311								
UZB				LR	LR	18 17 21.2			
	comp=Z,1µm,16.8s,baz=311								
KURK	**Kurchatov**	**111.69**	**319**	IAMs_20	IAMs_20	18 18 45.0			
	comp=Z,13µm,20.0s								
KPKS	**Kokpek**	**111.77**	**311**	*e*PP	**PP**	**17 34 26.9**	**-0.6**		
	baz=311								
KPKS				*e*PS	**PS**	**17 43 59.5**	**-1.1**		
	baz=311								
PRZ	**Przheval'sk**	**111.97**	**310**	IAMs_20	IAMs_20	18 17 56.2			
	comp=Z,13µm,21.0s								
SATY	**Saty**	**111.97**	**311**	*e*PP	**PP**	**17 34 28.7**	**-0.3**		
	baz=311								
SATY				LR	LR	18 17 42.1			
	comp=Z,1µm,18.4s,baz=311								
TDK	**Taldyqorghan**	**111.97**	**313**	*e*PP	**PP**	**17 34 28.3**	**-0.5**		
	baz=313								
TDK				*e*PS	**PS**	**17 44 00.9**	**-1.4**		
	baz=313								
F63A	**Nahmakanta, Br**	**112.12**	**47**	IAMs_20	IAMs_20	18 18 32.2			
	comp=Z,16µm,18.0s								
TARG	**Taragay, Kyrgy**	**112.40**	**309**	IAMs_20	IAMs_20	18 17 19.8			
	comp=Z,14µm,22.0s								
KDJ	**Kajisay**	**112.87**	**310**	IAMs_20	IAMs_20	18 19 09.1			
	comp=Z,17µm,22.0s								
MDOK	**Medeo**	**112.96**	**311**	*e*PP	**PP**	**17 34 35.8**	**-0.3**		
	baz=311								
MDOK				*e*PS	**PS**	**17 44 10.4**	**-1.3**		
	baz=311								
MDOK				LR	LR	18 20 11.5			
	comp=Z,3µm,16.3s,baz=311								
SCHQ	**Schefferville**	**113.02**	**37**	IAMs_20	IAMs_20	18 21 43.3			
	comp=Z,10µm,19.0s								
AAA	**Alma-Ata**	**113.06**	**311**	*e*PP	**PP**	**17 34 36.2**	**-0.5**		
	baz=311								
AAA				LR	LR	18 20 40.1			
	comp=Z,3µm,16.1s,baz=311								
KUU	**Kurty**	**113.47**	**312**	*e*PP	**PP**	**17 34 39.1**	**-0.4**		
	baz=312								
KUU				*e*PS	**PS**	**17 44 15.1**	**-1.0**		
	baz=312								
KUU				LR	LR	18 18 39.2			
	comp=Z,3µm,16.6s,baz=312								
SGDS	**Sogindy**	**114.72**	**311**	*e*PP	**PP**	**17 34 48.6**	**+0.2**		
	baz=311								
SGDS				LR	LR	18 18 59.0			
	comp=Z,2µm,16.1s,baz=311								
BTLS	**Baital**	**115.06**	**313**	*e*PP	**PP**	**17 34 50.5**	**-0.2**		
	baz=313								
LMN	**Caledonia Moun**	**115.12**	**46**	IAMs_20	IAMs_20	18 16 55.5			
	comp=Z,17µm,20.0s								
BBSR	**BB Station**	**115.37**	**61**	IAMs_20	IAMs_20	18 24 11.1			
	comp=Z,8µm,18.0s								
BRZS	**Berezniki**	**115.55**	**318**	*e*PP	PP	17 34 54.3	+0.3		
	baz=318								
BRZS				LR	LR	18 20 23.6			
	comp=Z,2µm,16.6s,baz=318								
ILULI	**Ilulissat**	**115.98**	**19**	IAMs_20	IAMs_20	18 18 01.8			
	comp=Z,11µm,20.0s								
BRVK	**Borovoye**	**116.57**	**322**	*i* PKIKP	**PKPdf**	**17 33 52.7**	**-0.9**		
BRVK	**Borovoye**	**116.57**	**322**	IAMs_20	IAMs_20	18 21 53.7			
	comp=Z,12µm,20.0s								
DLPL	**La Plaine**	**116.78**	**80**	IAMs_20	IAMs_20	18 16 12.4			
	comp=Z,10µm,22.0s								
DZA	**Taraz**	**117.16**	**311**	*e*PP	PP	17 35 05.7	+0.2		
	baz=311								
DZA				LR	LR	18 24 49.4			
	baz=311								
SFJD	**Kangerlussuaq**	**117.16**	**21**	IAMs_20	IAMs_20	18 24 12.3			
	comp=Z,11µm,19.0s								
BTK	**Batken**	**117.73**	**307**	IAMs_20	IAMs_20	18 22 12.9			
	comp=Z,11µm,21.0s								
BBGH	**Gun Hill**	**118.01**	**83**	IAMs_20	IAMs_20	18 15 33.4			
	comp=Z,15µm,22.0s								
RER	**Riviere de l'E**	**118.10**	**236**	IAMs_20	IAMs_20	18 17 41.2			
	comp=Z,15µm,21.0s								
IUG	**Iuzhnay**	**118.18**	**310**	*e*PP	PP	17 35 12.0	-0.8		
	baz=310								
CHM	**Chimkent**	**118.48**	**310**	*e*PP	PP	17 35 14.4	-0.3		
	baz=310								
CHM				LR	LR	18 26 11.1			
	comp=Z,611nm,18.3s,baz=310								
BDFB	**Brasilia**	**119.71**	**118**	IAMs_20	IAMs_20	18 20 57.8			
	comp=Z,14µm,22.0s								
NRS	**Narsarsuaq**	**121.95**	**26**	IAMs_20	IAMs_20	18 29 00.6			
	comp=Z,12µm,18.0s								
ANGG	**Ammassalik, Gr**	**122.29**	**19**	IAMs_20	IAMs_20	18 29 37.5			
	comp=Z,14µm,18.0s								
SCO	**Scoresbysund**	**122.41**	**10**	IAMs_20	IAMs_20	18 25 30.7			
	comp=Z,11µm,20.0s								
FOMA	**Nahampoana Res**	**122.49**	**227**	IAMs_20	IAMs_20	18 19 49.4			
	comp=Z,15µm,19.0s								
KEV	**Kevo**	**123.71**	**351**	IAMs_20	IAMs_20	18 26 13.6			
	comp=Z,11µm,22.0s								
LVZ	**Lovozero**	**123.88**	**347**	IAMs_20	IAMs_20	18 27 52.1			
	comp=Z,10µm,20.0s								
ARCES	**ARCESS Array B**	**124.14**	**351**	PKKPbc	PKKPbc	17 43 56.9	+2.0		
	comp=Z,4.3nm,0.9s,baz=222,slow=1.6,SNR=4.5								
APA	**Apatity**	**124.42**	**347**	*i* PKIKP	PKPdf	17 33 58.1	-10		
APA				pmax	pmax				
	comp=Z,28nm,0.8s								
SUR	**Sutherland**	**130.18**	**198**	IAMs_20	IAMs_20	18 21 08.5			
	comp=Z,15µm,21.0s								
SOCY	**Socotra**	**131.95**	**273**	IAMs_20	IAMs_20	18 31 02.0			
	comp=Z,15µm,20.0s								
MOS	**Moscow**	**132.26**	**335**	*e*PKIKP	**PKiKP**	**17 34 25.9**	**+1.4**		
MOS				*e*		17 34 35.9			
MOS				*e*		17 46 56.5			
MOS				pmax	pmax				
	comp=Z,167nm,1.2s								
OBN	**Obninsk**	**133.13**	**335**	*e*PKIKP	**PKiKP**	**17 34 26.8**	**+0.5**		
OBN				*e*		17 36 51.3			
OBN				pmax	pmax				
	comp=Z,67nm,1.0s								
MAK	**Makhachkala**	**134.08**	**316**	*e*P	**Pdif**	**17 31 22.1**	**-4.4**		
MAK				*e*		17 41 32.7			
AKT	**Akhty**	**134.51**	**314**	*e*PKIKP	**PKiKP**	**17 34 31.1**	**+1.4**		
AKT				*i*		17 34 35.4			
AKT				*e*		17 37 02.8			
AKT				pmax	pmax				
	comp=Z,67nm,1.7s								
GOF	**Gofitskoye**	**136.01**	**321**	*e*PKHKP	PKPpre	17 34 22.6			
KIV	**Kislovodsk**	**136.78**	**319**	IAMs_20	IAMs_20	18 39 31.3			
	comp=Z,7µm,19.0s								
SOC	**Sochi**	**138.81**	**321**	*i* PKIKP	**PKiKP**	**17 34 38.9**	**+0.6**		
SOC				*e*		17 37 25.8			
ANN	**Anapa**	**139.49**	**323**	*i* PKIKP	**PKPdf**	**17 34 35.7**	**-1.5**		
ANN				*e*PPP	PPP	17 40 33.5			
ANN				*e*		17 41 48.3			
ANN				pmax	pmax				
	comp=Z,88nm,1.4s								
ESK	**Eskdalemuir**	**139.53**	**7**	IAMs_20	IAMs_20	18 38 56.1			
	comp=Z,7µm,19.0s								
NEWG	**New Galloway**	**139.60**	**8**	*e*P	**PKiKP**	**17 34 40.4**	**+0.9**		
NEWG				IAMs_20	IAMs_20	18 42 37.9			
	comp=Z,9µm,20.0s								
RGN	**Rugen**	**140.16**	**352**	IAMs_20	IAMs_20	18 41 43.3			
	comp=Z,8µm,20.0s								
H07S1	**FLORES T-PHASE**	**40.54**	**45**	*e*PKP	**PKPdf**	**17 34 38.2**	**-1.2**		
H07S1	**FLORES T-PHASE**	**40.54**	**45**	*e*LR	LR	18 23 09.6			
DSB	**Dublin**	**141.09**	**10**	IAMs_20	IAMs_20	18 33 54.5			
	comp=Z,10µm,20.0s								
LSZ	**Lusaka**	**141.74**	**219**	PKP	**PKPdf**	**17 34 40.1**	**-2.3**		
	comp=Z,4.1nm,0.9s,baz=146,slow=2.5,SNR=7.8								
KIS	**Kishinev**	**142.42**	**333**	*i* PKIKP	**PKPdf**	**17 34 40.0**	**-2.5**		
RSBS	**Rosebush, Pemb**	**142.60**	**9**	*e*P	**PKiKP**	**17 34 44.8**	**-1.0**		
RSBS				IAMs_20	IAMs_20	18 38 49.3			
	comp=Z,10µm,18.8s								
PCED	**Cedros**	**142.61**	**45**	*e*PKP	**PKiKP**	**17 34 46.1**	**-0.1**		
CALA	**Caldeira**	**142.63**	**45**	*e*PKP	**PKiKP**	**17 34 45.8**	**-0.6**		
MCH1	**Michaelchurch**	**142.81**	**8**	*e*P	**PKiKP**	**17 34 44.0**	**-2.1**		
MCH1				IAMs_20	IAMs_20	18 41 27.1		

MORC	**Moravsky Berou**	**143.94**	**346**		IAMs_20	IAMs_20	18 38 55.6		
	comp=Z,12μm,22.0s								
PRA	**Prague**	**144.32**	**349**	*e*SS		SS	17 56 43.0	-0.7	
PRA				AMS		AMS	18 34 40.0		
	comp=Z,6μm,22.4s								
PRU	**Pruhonice**	**144.38**	**349**	*e*PKP		**PKPdf**	**17 34 46.3**	**+0.5**	
PRU				*ex*		x	17 34 59.2		
PRU				*e*SS		SS	17 56 40.8	-3.6	
PRU				AMS		AMS	18 34 40.0		
	comp=Z,12μm,23.3s								
PRU	**Pruhonice**	**144.38**	**349**	*e*PKIKP		**PKPdf**	**17 34 46.3**	**+0.5**	
PRU				*e*SS		SS	17 56 40.8	-3.6	
PRU				MLR		MLR			
	comp=Z,12μm,23.3s								
GOPC	**GO Pecny, Ondr**	**144.40**	**349**	*e*PKP		**PKiKP**	**17 34 53.4**	**+3.8**	
GOPC				*ex*		x	17 34 59.9		
GOPC				*e*SS		SS	17 56 31.0	-14	
GOPC				AMS		AMS	18 39 30.0		
	comp=Z,10μm,22.1s								
GOPC	**GO Pecny, Ondr**	**144.40**	**349**	*e*PKIKP		**PKiKP**	**17 34 53.4**	**+3.8**	
GOPC				*e*			17 34 59.9		
GOPC				MLR		MLR			
	comp=Z,10μm,22.1s								
NKC	**Novy Kostel**	**144.49**	**351**	*e*SS		SS	17 57 01.6	+16	
NKC				AMS		AMS	18 37 40.0		
	comp=Z,9μm,23.5s								
BEBN	**Eben Emael**	**144.50**	**359**	PKPdf		**PKPdf**	**17 34 45.8**	**-0.2**	
BEBN				PKiKP		**PKiKP**	**17 34 50.3**	**+0.7**	
UCC	**Uccle**	**144.51**	**0**	PKPdf		**PKPdf**	**17 34 46.1**	**+0.1**	
UCC	**Uccle**	**144.51**	**0**	IAMs_20		IAMs_20	18 40 47.2		
	comp=Z,12μm,21.0s								
VRAC	**Vranov**	**144.60**	**346**	PKP		**PKPdf**	**17 34 46.3**	**0.0**	
	comp=Z,8.0nm,1.0s,baz=4.9,slow=2.5,SNR=8.4								
VRAC	**Vranov**	**144.60**	**346**	*e*PKP		PKPbc	17 34 44.7	-0.3	
VRAC				*e*SS		SS	17 56 49.5	+2.5	
MEM	**Membach**	**144.68**	**358**	PKPdf		PKPbc	17 34 44.9	-0.3	
MEM				PKiKP		**PKPdf**	**17 34 47.2**	**+0.9**	
BSTI	**Sart Tilman**	**144.71**	**359**	PKiKP		**PKiKP**	**17 34 49.0**	**-1.1**	
BR131	**Keskin Array S**	**144.74**	**319**	PKIKP		**PKPab**	**17 34 44.1**	**-1.8**	
BR131	**Keskin Array S**	**144.74**	**319**	PKPdf		**PKPab**	**17 34 44.1**	**-1.8**	
BRTR	**Keskin Array B**	**144.74**	**319**	PKP		**PKPab**	**17 34 43.3**	**-2.5**	
	comp=Z,6.7nm,0.8s,baz=99,slow=2.5,SNR=9.4								
JAVC	**Velka Javorina**	**144.76**	**345**	*e*PKP		PKPbc	17 34 45.4	-0.2	
JAVC				*e*SS		SS	17 56 54.6	+5.6	
PBCC	**Pribram**	**144.77**	**349**	*e*PKP		**PKiKP**	**17 34 48.6**	**-1.7**	
PBCC				*ex*		x	17 34 59.5		
PBCC				*e*SS		SS	17 57 01.6	+13	
VYHS	**Vyhne**	**144.79**	**343**	*e*PKIKP		**PKPdf**	**17 34 47.5**	**+0.9**	
VYHS	**Vyhne**	**144.79**	**343**	*e*PKP		**PKPdf**	**17 34 47.5**	**+0.9**	
SNF	**Seneffe**	**144.79**	**0**	PKPdf		**PKPdf**	**17 34 45.4**	**-1.2**	
SNF				PKiKP		**PKiKP**	**17 34 49.2**	**-1.1**	
MLR	**Muntele Rosu**	**144.84**	**334**	PKP		**PKPdf**	**17 34 47.5**	**+0.5**	
	comp=Z,8.6nm,0.9s,baz=62,slow=3.2,SNR=4.7								
MLR	**Muntele Rosu**	**144.84**	**334**	IAMs_20		IAMs_20	18 40 59.7		
	comp=Z,12μm,20.0s								
TREC	**Trest**	**144.85**	**348**	*e*PKP		**PKiKP**	**17 34 48.3**	**-2.2**	
TREC				*ex*		x	17 34 57.5		
TREC				*e*SS		SS	17 56 55.1	+5.2	
TREC				AMS		AMS	18 38 50.0		
	comp=Z,14μm,22.1s								
TREC	**Trest**	**144.85**	**348**	*e*PKIKP		**PKiKP**	**17 34 48.3**	**-2.2**	
TREC				*e*			17 34 57.5		
TREC				*e*SS		SS	17 56 55.1	+5.2	
TREC				MLR		MLR			
	comp=Z,14μm,22.1s								
KRUC	**Moravsky**	**144.87**	**346**	*e*PKP		**PKPdf**	**17 34 46.4**	**-0.3**	
KRUC				*e*SS		SS	17 56 57.6	+7.5	
BCLA	**Clavier**	**144.88**	**359**	PKiKP		**PKiKP**	**17 34 49.2**	**-1.3**	
BGES	**Gesves**	**144.92**	**359**	PKPdf		**PKPdf**	**17 34 45.9**	**-0.9**	
BGES				PKiKP		**PKiKP**	**17 34 49.3**	**-1.3**	
BHOU	**Houvegnez**	**144.93**	**358**	PKPdf		**PKPdf**	**17 34 45.8**	**-1.0**	
BMRD	**Maredsous**	**145.00**	**360**	PKPdf		**PKPdf**	**17 34 46.0**	**-0.9**	
BMRD				PKiKP		**PKiKP**	**17 34 48.5**	**-2.3**	
PSET	**Sete Cidades**	**145.04**	**44**	*e*PKP		**PKiKP**	**17 34 49.2**	**-2.1**	
PSET	**Sete Cidades**	**145.04**	**44**	*e*LR		LR	18 23 17.5		
GRA1	**Grafenberg Arr**	**145.19**	**352**	IAMs_20		IAMs_20	18 46 21.0		
	comp=Z,8μm,21.0s								
GRF	**Grafenberg Arr**	**145.19**	**352**	*e*PKP		**PKPdf**	**17 34 48.1**	**+0.8**	
	baz=20,slow=2.9								
PSN	**Preselentsi**	**145.19**	**329**	*e*P		**PKiKP**	**17 34 53.7**	**+2.4**	
CMLA	**Cha da Macela**	**145.20**	**44**	*e*PKP		**PKPdf**	**17 34 48.4**	**+0.7**	
CMLA	**Cha da Macela**	**145.20**	**44**	*e*LQ		LQ	18 15 59.0		
CMLA				*e*LR		LR	18 23 18.1		
	comp=Z,3μm,37.9s								
CMLA	**Cha da Macela**	**145.20**	**44**	IAMs_20		IAMs_20	18 30 55.2		
	comp=Z,10μm,22.0s								
DOU	**Dourbes**	**145.21**	**360**	PKPdf		**PKPbc**	**17 34 45.7**	**-1.2**	
DOU				PKiKP		**PKiKP**	**17 34 50.1**	**-1.1**	
PCALD	**Caldeiras da R**	**145.21**	**44**	*e*PKP		**PKiKP**	**17 34 49.2**	**-2.4**	
MODS	**Modra-Piesok**	**145.31**	**345**	*e*PKIKP		**PKPdf**	**17 34 48.6**	**+1.1**	
MODS				*e*SS		SS	17 57 01.2	+6.0	
MODS	**Modra-Piesok**	**145.31**	**345**	*e*PKP		**PKPdf**	**17 34 48.6**	**+1.1**	
MODS				*e*SS		SS	17 57 01.2	+6.0	
KHC	**Kasperske Hory**	**145.37**	**350**	*e*PKP		**PKPbc**	**17 34 45.5**	**-2.0**	
KHC				*ep*PKP		**PKiKP**	**17 34 50.9**	**-0.7**	
KHC				*ex*		x	17 35 06.2		
KHC				*e*SS		SS	17 56 54.9	-1.0	
KHC				AMS		AMS	18 35 10.0		
	comp=Z,14μm,26.2s								
KHC	**Kasperske Hory**	**145.37**	**350**	*e*PKP2		**PKPbc**	**17 34 45.5**	**-2.0**	
KHC				*e*SS		SS	17 56 54.9	-1.0	
KHC				MLR		MLR			
	comp=Z,14μm,26.2s								
BART	**Pico Bartolome**	**145.43**	**44**	*e*PKP		**PKiKP**	**17 34 50.3**	**-1.9**	
WLF	**Walferdange**	**145.62**	**358**	PKPdf		**PKPdf**	**17 34 45.5**	**-2.4**	
GEC2	**GERESS Array S**	**145.63**	**349**	IAMs_20		IAMs_20	18 46 07.1		
	comp=Z,10μm,19.0s								
GERES	**GERESS Array B**	**145.63**	**349**	PKPbc		**PKPbc**	**17 34 47.7**	**-0.7**	
	comp=Z,4.0nm,0.8s,baz=25,slow=4.4,SNR=4.2								
JSA	**Saint Aubin**	**145.67**	**8**	*e*P		**PKiKP**	**17 34 49.8**	**-2.3**	
JSA				IAMs_20		IAMs_20	18 42 58.6		
	comp=Z,10μm,20.2s								
PSMA	**Santa Maria**	**145.88**	**45**	*e*PKP		**PKiKP**	**17 34 51.1**	**-1.9**	
PSMN	**Pico do Norte,**	**145.91**	**45**	*e*PKP		**PKPbc**	**17 34 49.2**	**-0.4**	
PSMN	**Pico do Norte,**	**145.91**	**45**	*e*LQ		LQ	18 15 30.9		
PSMN				*e*LR		LR	18 23 15.1		
	comp=Z,1μm,25.5s								
PRD	**Provadia**	**145.94**	**330**	*e*P		**PKiKP**	**17 34 51.4**	**-1.5**	
CONA	**Conrad Observa**	**146.06**	**346**	*i* pPKPbc		**PKiKP**	**17 34 52.4**	**-0.8**	
	comp=Z,196nm,1.4s,SNR=13								
CONA				*i* SKPdf		**SKPdf**	**17 38 17.6**	**-3.9**	
	comp=Z,11nm,1.9s								
ASF	**Jabal al Asfar**	**146.08**	**306**	PKPbc		**PKPbc**	**17 34 49.3**	**-1.0**	
	comp=Z,19nm,1.2s,baz=158,slow=3.0,SNR=8.1								
ORH	**Orhaniye**	**146.17**	**324**	P		PKiKP	**17 34 57.2**	**+3.7**	
STU	**Stuttgart**	**146.32**	**354**	IAMs_20		IAMs_20	18 52 03.2		
	comp=Z,8μm,20.0s								
BHL	**Bhannes**	**146.33**	**309**	*e*P		**PKiKP**	**17 34 52.4**	**-1.8**	
MOA	**Molln**	**146.48**	**348**	*i* PKiKP		**PKPab**	**17 34 50.8**	**-1.1**	
	comp=Z,95nm,1.3s,SNR=16								
SHBL	**Chebaa**	**146.50**	**308**	*e*P		**PKiKP**	**17 34 53.7**	**-0.8**	
SZH	**Strazhica**	**146.59**	**331**	*e*P		**PKiKP**	**17 34 52.8**	**-1.4**	
ARSA	**Arzberg**	**146.78**	**346**	*i* PKiKP		**PKPab**	**17 34 51.8**	**-1.2**	
	comp=Z,22nm,1.2s,SNR=7.0								
MMAI	**Mount Meron Ar**	**146.90**	**308**	PKPbc		**PKPbc**	**17 34 51.4**	**-1.3**	
	comp=Z,8.3nm,0.7s,baz=67,slow=4.8,SNR=8.8								
PVL	**Pavlikeni**	**146.90**	**332**	*e*P		**PKiKP**	**17 34 57.9**	**+3.0**	
ECH	**Echery**	**147.02**	**357**	IAMs_20		IAMs_20	18 47 51.6		
	comp=Z,9μm,19.0s								
KBA	**Koelnbreinsper**	**147.39**	**349**	*i* pPKPdf		**PKPab**	**17 34 55.0**	**-0.7**	
	comp=Z,20nm,1.1s								
KBA				*i* SKPdf		**SKPdf**	**17 38 24.2**	**+0.5**	
	comp=Z,32nm,1.7s								
SHEL	**Horse Pasture**	**147.40**	**161**	IAMs_20		IAMs_20	18 44 53.7		
	comp=Z,10μm,18.0s								
RETA	**Reutte**	**147.41**	**352**	*i* pPKPdf		**PKPab**	**17 34 54.4**	**-1.1**	
	comp=Z,108nm,1.3s								
SOKA	**Soboth**	**147.43**	**347**	*i* PKiKP		**PKPbc**	**17 34 52.9**	**-0.9**	
	comp=Z,44nm,1.1s								
SOKA				*i* SKPdf		**SKPdf**	**17 38 22.9**	**-0.8**	
	comp=Z,20nm,2.2s								
WATA	**Walderalm**	**147.44**	**351**	*i* pPKPbc		**PKiKP**	**17 34 57.4**	**+1.3**	
	comp=Z,92nm,1.7s								
WATA				*i* SKPdf		**SKPdf**	**17 38 22.8**	**-1.0**	
	comp=Z,15nm,1.5s								
MOTA	**Moosalm**	**147.50**	**352**	*i* pPKPbc		**PKiKP**	**17 34 57.4**	**+1.2**	
	comp=Z,88nm,1.1s,SNR=7.0								
MOTA				*i* SKPdf		**SKPdf**	**17 38 23.3**	**-0.6**	
	comp=Z,14nm,1.4s								
WTTA	**Wattenberg**	**147.50**	**351**	*i* pPKPab		**PKiKP**	**17 34 58.1**	**+1.8**	
	comp=Z,96nm,1.4s								
SQTA	**Sankt Quirin**	**147.61**	**352**	*i* pPKPbc		**PKiKP**	**17 34 57.6**	**+1.2**	
	comp=Z,76nm,1.5s								
SQTA				*i* SKPdf		**SKPdf**	**17 38 22.8**	**-1.3**	
	comp=Z,14nm,1.3s								
OBKA	**Obir**	**147.69**	**347**	*i* pPKPdf		**PKiKP**	**17 34 55.9**	**-0.6**	
	comp=Z,32nm,0.9s								
OBKA				*i* SKPdf		**SKPdf**	**17 38 24.2**	**0.0**	
	comp=Z,39nm,2.1s								
DAVA	**Damuels**	**147.71**	**353**	*i* pPKPab		**PKPab**	**17 34 58.6**	**+1.7**	
	comp=Z,129nm,1.3s,SNR=8.2								
MYKA	**Terra Mystica**	**147.77**	**348**	*i* pPKPdf		**PKiKP**	**17 34 55.2**	**-1.4**	
	comp=Z,48nm,1.1s,SNR=6.3								
MYKA				*i* SKPbc		**SKiKP**	**17 38 31.5**	**+0.2**	
	comp=Z,15nm,1.6s								
ABTA	**Abfaltersbach**	**147.86**	**350**	*i* pPKPbc		**PKPab**	**17 34 57.8**	**+0.4**	
	comp=Z,108nm,1.3s								
ABTA				*i* SKPdf		**SKPdf**	**17 38 23.1**	**-1.2**	
	comp=Z,13nm,1.4s								
FETA	**Feichten**	**147.87**	**352**	*i* pPKPdf		**PKiKP**	**17 34 55.8**	**-1.2**	
	comp=Z,92nm,1.3s								
FETA				*i* SKPbc		**SKiKP**	**17 38 31.7**	**+0.1**	
	comp=Z,16nm,1.6s								
PGB	**Panagyurishte**	**147.96**	**332**	*e*P		**PKPab**	**17 34 57.1**	**-0.8**	
ZOU	**Zoufplan**	**147.97**	**349**	IAMs_20		IAMs_20	18 40 58.9		
	comp=Z,13μm,21.0s								
PLD	**Plovdiv**	**148.06**	**331**	*e*P		**PKPab**	**17 34 57.6**	**-0.6**	
KDZ	**Kurdzhali**	**148.07**	**330**	*e*P		**PKiKP**	**17 34 56.4**	**-1.0**	
LJU	**Ljubljana**	**148.14**	**347**	*e*PKPbc		**PKPbc**	**17 34 54.5**	**-1.1**	
LJU				*e*SS		SS	17 57 36.9	+10	
LJU				*e*			18 02 47.0		
LJU				*e*			18 03 42.1		
LJU				*e*			18 15 45.6		
LJU				*e*			18 24 57.4		
DAVOX	**Davos/Dischmat**	**148.21**	**353**	PKPbc		**PKPbc**	**17 34 56.1**	**+0.1**	
VTS	**Vitosha**	**148.31**	**333**	*e*P		**PKiKP**	**17 34 57.1**	**-0.9**	
VTS	**Vitosha**	**148.31**	**333**	IAMs_20		IAMs_20	18 39 00.6		
	comp=Z,12μm,21.0s								
DIVS	**Divibare**	**148.35**	**339**	IAMs_20		IAMs_20	18 56 11.9		
	comp=Z,8μm,20.0s								
RZN	**Rozhen**	**148.38**	**330**	*e*P		**PKPbc**	**17 34 54.7**	**-1.9**	
BOJS	**Bojanci**	**148.48**	**346**	*e*PKPbc		**PKPbc**	**17 34 54.7**	**-1.8**	
EIL	**Elat**	**148.55**	**302**	PKPbc		**PKiKP**	**17 34 57.3**	**-1.4**	
	comp=Z,8.4nm,0.8s,baz=45,slow=1.4,SNR=6.5								
TUE	**Stuetta**	**148.58**	**354**	IAMs_20		IAMs_20	18 52 54.8		
	comp=Z,12μm,20.0s								
MMB	**Musomiste**	**148.91**	**331**	*e*P		**PKiKP**	**17 34 58.7**	**-0.4**	
KKB	**Krupnik**	**148.99**	**333**	*e*P		**PKiKP**	**17 34 58.7**	**-0.6**	
SALO	**Salr**	**149.27**	**352**	IAMs_20		IAMs_20	18 44 56.5		
	comp=Z,9μm,19.0s								
SKO	**Skopje**	**149.61**	**335**	*i* P		**PKiKP**	**17 35 00.1**	**-0.4**	
VAY	**Valandovo**	**149.65**	**333**	*i* P		**PKiKP**	**17 35 00.2**	**-0.4**	
MBAR	**Mbarara**	**149.71**	**241**	PKPbc		**PKiKP**	**17 35 00.9**	**-0.9**	
	comp=Z,23nm,1.1s,baz=96,slow=4.2,SNR=14								
PDG	**Podgorica**	**150.07**	**338**	IAMs_20		IAMs_20	18 40 04.3		
	comp=Z,11μm,22.0s								
PRMA	**PARMA**	**150.14**	**352**	IAMs_20		IAMs_20	18 41 12.4		
	comp=Z,11μm,21.0s								
ASCN	**Ascension**	**150.34**	**140**	IAMs_20		IAMs_20	18 28 44.2		
	comp=Z,11μm,22.0s								
OHR	**Ohrid**	**150.59**	**334**	*i* P		**PKiKP**	**17 35 03.5**	**+0.9**	
VLC	**Villacollemand**	**150.72**	**351**	IAMs_20		IAMs_20	18 54 36.9		
	comp=Z,11μm,20.0s								
PGAV	**Gavieira, Arco**	**151.14**	**20**	*e*PKPdf		**PKiKP**	**17 35 05.2**	**+1.4**	
PGAV	**Gavieira, Arco**	**151.14**	**20**	*e*LQ		LQ	18 17 40.7		
PGAV	**Gavieira, Arco**	**151.14**	**20**	*e*LR		LR	18 30 08.5		
	comp=Z,12μm,18.0s								
OSSC	**Osservatorio P**	**151.21**	**350**	IAMs_20		IAMs_20	18 42 10.7		
	comp=Z,11μm,21.0s								
KARP	**Karpathos**	**151.36**	**319**	IAMs_20		IAMs_20	18 51 29.3		
	comp=Z,8μm,22.0s								
PCAB	**Cabril**	**151.44**	**20**	*e*PKPdf		**PKiKP**	**17 35 06.9**	**+2.5**	
NRCA	**Norcia**	**151.51**	**347**	IAMs_20		IAMs_20	18 46 38.8		
	comp=Z,12μm,21.0s								
PBRG	**Braganca**	**151.76**	**18**	*e*PKPdf		**PKiKP**	**17 35 07.5**	**+2.5**	
SGRT	**San Giovanni R**	**151.83**	**342**			**PKPdf**	**17 34 55.4**	**-3.0**	
PVRL	**Vila Real**	**151.94**	**20**	*e*PKPdf		**PKPdf**	**17 35 01.0**	**+2.4**	
MVO	**Moncorvo**	**152.26**	**19**	*e*PKPdf		**PKiKP**	**17 35 08.8**	**+2.7**	
MVO	**Moncorvo**	**152.26**	**19**	*e*LQ		LQ	18 18 01.8		
MVO				*e*LR		LR	18 25 36.5		
	comp=Z,11μm,18.0s								
PVIS	**Viseu**	**152.38**	**21**	*e*PKPdf		**PKiKP**	**17 35 07.5**	**+1.2**	
SCTE	**Santa Cesarea**	**152.41**	**337**	PKPab		**PKPab**	**17 35 13.7**	**-2.5**	
COI	**Coimbra**	**152.65**	**22**	*e*PKPdf		**PKPbc**	**17 35 04.7**	**-1.9**	
PCAS	**Casmilo, Conde**	**152.75**	**22**	*e*PKPdf		**PKiKP**	**17 35 06.4**	**-0.7**	
IDI	**Anoyia**	**152.93**	**321**	IAMs_20		IAMs_20	18 47 23.6		
	comp=Z,8μm,22.0s								
PSBE	**So Bento**	**153.11**	**23**	*e*PKPdf		**PKiKP**	**17 35 09.4**	**+1.5**	
ITM	**Ithomi**	**153.22**	**328**	IAMs_20		IAMs_20	18 50 02.2		
	comp=Z,10μm,22.0s								
PCBR	**Castelo Branco**	**153.30**	**21**	*e*PKPdf		**PKiKP**	**17 35 07.9**	**-0.3**	
PMAFR	**Mafra**	**153.41**	**25**	*e*PKPdf		**PKiKP**	**17 35 08.5**	**0.0**	
PMPZ	**Porto Moniz, M**	**153.60**	**45**	*e*PKPdf		PKPab	17 35 32.5	+11	
PMOZ	**Porto Moniz, M**	**153.60**	**45**	*e*LR		LR	18 27 11.5		
	comp=Z,5μm,20.0s								
LIS	**Lisbon**	**153.66**	**25**	*e*PKPdf		**PKiKP**	**17 35 08.4**	**-0.5**	
PMRV	**Marv??o**	**153.70**	**21**	*e*PKPdf		**PKPbc**	**17 35 05.4**	**-3.6**	
PMRV	**Marv??o**	**153.70**	**21**	*e*LQ		LQ	18 18 23.2		
PMRV				*e*LR		LR	18 26 55.3		
	comp=Z,8μm,20.0s								
PMTG	**Montargil**	**153.72**	**23**	*e*PKPdf		**PKPbc**	**17 35 06.8**	**-2.2**	
PMAR	**Madeira**	**153.85**	**44**	*e*PKPdf		**PKiKP**	**17 35 11.6**	**+1.8**	
PMPST	**Porto Santo, M**	**154.03**	**43**	*e*PKPdf		**PKPab**	**17 35 22.7**	**-0.5**	
PMPS	**Porto Santo**	**154.04**	**43**	*e*PKPdf		**PKPab**	**17 35 24.1**	**+0.8**	
EVO	**Evora**	**154.27**	**23**	*e*PKPdf		**PKiKP**	**17 35 09.9**	**-0.3**	
PNCL	**Nicolau / Gran**	**154.43**	**24**	*e*PKPdf		**PKPbc**	**17 35 08.5**	**-2.0**	
PAB	**San Pablo**	**154.54**	**16**	IAMs_20		IAMs_20	18 40 48.0		
	comp=Z,9μm,21.0s								
PBEJ	**Beja**	**154.76**	**23**	*e*PKPdf		**PKiKP**	**17 35 11.8**	**+0.5**	
MESJ	**Messejana**	**154.79**	**24**	*e*PKPdf		**PKPbc**	**17 35 08.8**	**-2.5**	
PTEO	**Sao Teotonio**	**154.84**	**25**	*e*PKPdf		**PKiKP**	**17 35 11.0**	**-0.4**	
PCVE	**Castro Verde**	**155.04**	**24**	*e*PKPdf		**PKPdf**	**17 35 08.8**	**+5.7**	
MORF	**Marmelete**	**155.07**	**26**	*e*PKPdf		**PKPdf**	**17 35 08.1**	**+4.9**	
PFVI	**Vila Bisbo**	**155.14**	**26**	*e*PKPdf		**PKPdf**	**17 35 09.2**	**+6.0**	
PVAQ	**Vaqueiros**	**155.36**	**24**	*e*PKPdf		PKPdf	17 35 13.6	+10	
PVAQ	**Vaqueiros**	**155.36**	**24**	*e*LQ		LQ	18 18 51.6		
PVAQ				*e*LR		LR	18 27 59.0		
	comp=Z,11μm,20.0s								
PBDV	**Barranco-do-Ve**	**155.42**	**24**	*e*PKPdf		PKPdf	17 35 11.7	+8.1	
SFS	**San Fernando**	**156.76**	**22**	IAMs_20		IAMs_20	18 51 05.9		
	comp=Z,10μm,21.0s								
CART	**Cartagena**	**157.18**	**11**	IAMs_20		IAMs_20	18 47 26.4		
	comp=Z,11μm,22.0s								
LIC	**Lamto**	**167.04**	**133**	*e*PKIKP		**PKPdf**	**17 35 20.6**	**+4.1**	
	comp=Z,149nm,1.5s								
TIC	**Toumodi**	**167.33**	**131**	*e*PKIKP		**PKPdf**	**17 35 20.7**	**+3.9**	
KIC	**Kosan Boka**	**167.33**	**133**	*e*PKIKP		**PKPdf**	**17 35 20.5**	**+3.8**	
	comp=Z,131nm,1.4s								

NSSP ***29*** *17:26:06.1,41.55N×46.67E,h10km,Ms5.0*
IDC ***29*** *17:26:07.3±0.4,41.56N×46.62E,h0km,mb4.8/45, mb1 4.8/56,mb1mx4.7/66,mbtmp4.7/56,ML4.0/9,MS4.6/3, Ms1 4.6/3,ms1mx4.2/66,Error ellipse: s-maj=8.8km s-min=6.6km az=0.0*
MOS ***29*** *17:26:07.0±0.0,41.51N×46.60E,h8km,MPVA5.4*
AZER ***29*** *17:26:07.2,41.54N×46.54E,h9km,ML5.3*
BJI ***29*** *17:26:08.8±0.0,41.75N×46.46E,h25km,mB5.8/34, mb5.0/55,Ms5.6/30,Ms7 5.3/29*
TIF ***29*** *17:26:08.5,41.53N×46.57E,h13km*
NORS ***29*** *17:26:08.7±0.0,41.48N×46.67E,h9km,MPVA4.8*
DDA ***29*** *17:26:08.0,41.89N×46.71E,h7km,MW5.0*
NNC ***29*** *17:26:10.3±3.3,41.72N×47.09E,h0km,mb5.3,Error ellipse: s-maj=37.4km s-min=23.8km az=76.0*
UNK ***29*** *17:26:12.9,41.70N×46.72E,h34km*
NEIC ***29*** *17:26:12.2±2.1,41.60N±0.07×46.67E±0.07,h34km±4km, mb5.0/75,Error ellipse: s-maj=10.1km s-min=7.4km az=181.0*
DRS ***29*** *17:26:13.6±0.0,41.63N×46.68E,h18km*
BGR ***29*** *17:26:34.0±0.0,41.90N×43.26E,h33km,mb4.6*
ISC 29 17:26:09.9±0.4,41.57N±0.01×46.60E±0.01,h17km±2km, h17km:pP-P,n833,σ1%64/984,mb5.0/150,MS5.0/18, 73C-46D,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h	m	s	Res ISC
ZKTA	**Zakatala**	**0.07**	**11**	PG		**Pg**	**17 26 12.1**			**-1.2**
ZKTA	**Zakatala**	**0.07**	**11**	P		**Pg**	**17 26 12.2**			**-1.2**
ZKTA				S		**Sg**	**17 26 14.7**			**-1.0**
LGD	**Lagodekhi**	**0.38**	**315**	P		**Pg**	**17 26 17.6**			**-0.2**
LGD				S		**Sb**	**17 26 23.9**			**0.0**
LGD	**Lagodekhi**	**0.38**	**315**	*i* Pg		**Pg**	**17 26 17.6**			**-0.2**
LGD				*e*Sg		**Sb**	**17 26 24.3**			**+0.5**
LGD	**Lagodekhi**	**0.38**	**315**	⇓*i* PG		**Pg**	**17 26 17.6**			**-0.2**
LGD				*e*S		**Sb**	**17 26 24.3**			**+0.5**

DDFL	**Dedoflistskaro**	**0.38**	**252**	P		**Pb**	**17 26 18.7**	**+0.3**	
DDFL				S		**Sn**	**17 26 30.3**	**+2.6**	
DDFL	**Dedoflistskaro**	**0.38**	**252**	*e*Pg		**Pb**	**17 26 18.7**	**+0.3**	
DDFL	**Dedoflistskaro**	**0.38**	**252**	*i* P		**Pn**	**17 26 19.8**	**-0.9**	
DDFL				*i* S		**Sn**	**17 26 28.7**	**+1.0**	
DDFL	**Dedoflistskaro**	**0.38**	**252**	PG		**Pb**	**17 26 18.6**	**+0.3**	
DDFL				S		**Sn**	**17 26 30.3**	**+2.6**	
SEKA	**Sheki**	**0.57**	**128**	PG		**Pg**	**17 26 19.9**	**-1.4**	
SEKA	**Sheki**	**0.57**	**128**	Pg		**Pg**	**17 26 19.6**	**-1.7**	
	SNR=6787								
SEKA				Sg		**Sg**	**17 26 27.6**	**-1.4**	
KMKR	**Kumukh**	**0.68**	**33**	*e*Pg		**Pb**	**17 26 23.0**	**-0.4**	
KMKR	**Kumukh**	**0.68**	**33**	*e*PG		**Pb**	**17 26 23.0**	**-0.4**	
KMKR				*e*S		**Sg**	**17 26 30.3**	**-2.0**	
AKT	**Akhty**	**0.85**	**95**	*i* Pg		**Pb**	**17 26 24.9**	**-1.4**	
AKT				*e*Sg		**Sb**	**17 26 36.6**	**-0.8**	
AKT	**Akhty**	**0.85**	**95**	*e*PG		**Pb**	**17 26 25.4**	**-0.9**	
AKT				*e*S		**Sb**	**17 26 36.6**	**-0.8**	
AKT				pmax		pmax			
	comp=Z,4μm,0.5s								
GNBR	**Gunib**	**0.86**	**18**	*e*Pg		**Pn**	**17 26 26.9**	**-0.4**	
GNBR				*e*Sg		**Sn**	**17 26 40.1**	**+0.5**	
GNBR	**Gunib**	**0.86**	**18**	⇓*e*PG		**Pg**	**17 26 26.7**	**-0.1**	
GNBR				*e*			17 26 39.2		
GNBR				pmax		pmax			
	comp=Z,22μm,0.7s								
MNGR	**Mingechevir, A**	**0.87**	**155**	PG		**Pb**	**17

TRLG **Trialeti** 1.88 270 P Pn 17 26 41.3 -0.1
TRLG S Sb 17 27 06.3 -0.7
TRLG Trialeti 1.88 270 PN Pn 17 26 41.3 -0.1
ATGJ Altiaghaj 1.90 111 Pn Pb 17 26 44.0 -0.1
SNR=660
ATGJ Sn Sg 17 27 10.9 -0.1
KAPZ Kaputan 1.90 230⇓ *i*P Pn 17 26 40.8 -1.0
KAPZ ⇓ *i*S Sn 17 27 05.8 +0.5
KMGR Komgaron 1.97 320 *e*Pg Pb 17 26 46.0 +0.7
KMGR Komgaron 1.97 320 *e*PN Pb 17 26 46.0 +0.7
BLQ Beylaqan 1.98 158 Pg Pn 17 26 42.6 0.0
SNR=703
BLQ Sg Sb 17 27 10.2 +0.4
GBS Qobustan 2.05 119 Pg Pb 17 26 46.7 0.0
SNR=238
GBS Sg Sg 17 27 15.4 -0.4
VLKR Vladikavkaz 2.06 317 *e*Pg Pg 17 26 49.5 +0.1
VLKR *e*Sg Sg 17 27 15.1 -1.0
VLKR Vladikavkaz 2.06 317 *e*PN Pg 17 26 49.5 +0.1
VLKR *e*S Sg 17 27 15.1 -1.0
LACR Lac 2.13 307 *e*Pg Pn 17 26 46.1 +1.4
LACR *e*Sg Sg 17 27 16.4 -2.0
LACR Lac 2.13 307 *e*PN Pn 17 26 46.1 +1.4
LACR *e*S Sg 17 27 16.4 -2.0
NRKZ NAREK 2.15 224⇓ *i*P Pn 17 26 46.1 +1.1
NRKZ ⇓ *i*S Sb 17 27 15.2 +0.4
SAAT Saatly 2.19 140 Pg Pn 17 26 44.8 -0.7
SNR=50
SAAT Sg Sn 17 27 13.0 +0.8
HYR Heyderabad 2.28 216 Pg Pn 17 26 48.2 +1.5
SNR=111
HYR Sg Sb 17 27 19.3 +0.9
ARUZ Aruch 2.29 237⇓ *i*P Pn 17 26 48.0 +0.9
ARUZ ⇑ *i*S Sb 17 27 20.3 +1.3
SBZ Shahbuz 2.31 201 Pg Pn 17 26 48.6 +1.3
SNR=337
SBZ Sg Sn 17 27 17.3 +2.0
BKRG Bakuriani 2.32 276 P Pn 17 26 48.5 +1.1
BKRG S Sb 17 27 17.9 -1.8
BKRG Bakuriani 2.32 276 *e*Pn Pn 17 26 48.5 +1.1
BKRG *e*Sn Sb 17 27 17.9 -1.8
BKRG Bakuriani 2.32 276 PN Pn 17 26 48.5 +1.1
BKRG S Sb 17 27 17.9 -1.8
AKH Akhalkalaki 2.34 267 P Pn 17 26 48.8 +1.0
AKH S Sb 17 27 19.0 -1.4
AKH Akhalkalaki 2.34 267 *i* Pn Pn 17 26 48.7 +1.0
AKH *e*Sn Sb 17 27 19.2 -1.2
AKH Akhalkalaki 2.34 267⇓ *i*PN Pn 17 26 48.7 +1.0
AKH *e*S Sb 17 27 19.2 -1.2
AKH Akhalkalaki 2.34 267 Pn Pn 17 26 48.8 +1.0
ZEI Tsey 2.35 302 *e*Pn Pb 17 26 50.6 -1.3
ZEI *e*Sn Sb 17 27 23.1 +2.4
ZEI Tsey 2.35 302⇑ *e*PN Pb 17 26 50.6 -1.3
ZEI *e*S Sb 17 27 23.1 +2.4
ARNR Ardon 2.36 314 *e*Pn Pb 17 26 50.5 -1.4
ARNR *e*Sn Sg 17 27 23.6 -2.1
ARNR Ardon 2.36 314 *e*PN Pb 17 26 50.5 -1.4
ARNR *e*S Sg 17 27 23.6 -2.1
BTKR Batakoyurt 2.36 320 *e*Pn Pb 17 26 51.0 -1.0
BTKR *e*Sn Sb 17 27 22.2 +1.3
BTKR Batakoyurt 2.36 320⇓ *e*PN Pb 17 26 51.0 -1.0
BTKR *e*S Sb 17 27 22.2 +1.3
KORR Kora 2.42 310 *e*Pn Pb 17 26 51.2 -1.8
KORR *e*Sn Sb 17 27 21.4 -1.1
KORR Kora 2.42 310 *e*PN Pb 17 26 51.2 -1.8
KORR *e*S Sb 17 27 21.3 -1.1
EAK Akyaka 2.43 250 *i* P Pn 17 26 49.6 +0.7
EAK *i* S Sb 17 27 23.9 +1.0
NAX Nakhchivan 2.54 200 PN Pn 17 26 51.9 +1.6
NAX Nakhchivan 2.54 200 Pg Pn 17 26 52.0 +1.6
SNR=600
NAX Sg Sb 17 27 28.1 +2.2
TRKR Terskaya 2.56 328 *i* Pn Pb 17 26 53.7 -1.7
TRKR *e*Sn Sb 17 27 28.6 +2.1
TRKR Terskaya 2.56 328⇑ *i*PN Pb 17 26 53.7 -1.7
TRKR *e*S Sb 17 27 28.6 +2.1
IGDI IGDIR 2.56 229 *i* P Pn 17 26 52.1 +1.5
IGDI IAML 17 27 36.0
comp=N,2μm,1.2s
IGDI IAML 17 27 45.0
comp=E,1μm,0.9s
VNNZ Vanand 2.57 236⇓ *i*P Pn 17 26 51.8 +1.1
VNNZ ⇓ *i*S Sb 17 27 26.7 -0.1
STDR Stavd-Durt 2.60 315 *i* Pn Pn 17 26 51.7 +0.5
STDR *e*Sn Sb 17 27 28.0 +0.2
STDR Stavd-Durt 2.60 315⇑ *i*PN Pn 17 26 51.7 +0.5
STDR *e*S Sb 17 27 28.0 +0.2
DIGR Digorskoe uzhe 2.61 302 *e*Pn Pb 17 26 53.9 -2.4
DIGR *e*Sn Sb 17 27 27.7 -0.5
DIGR Digorskoe uzhe 2.61 302 *e*PN Pb 17 26 53.9 -2.4
DIGR *e*S Sb 17 27 27.7 -0.5
GOBA Gobu 2.64 115 Pg Pb 17 26 54.9 -1.8
SNR=26
GOBA Sn Sb 17 27 27.6 -1.2
LSNR Lesken 2.67 311 *e*Pn Pn 17 26 54.3 +2.1
LSNR *e*Sn Sb 17 27 29.4 -0.5
LSNR Lesken 2.67 311⇑ *e*PN Pn 17 26 54.3 +2.1
LSNR *e*S Sb 17 27 29.3 -0.5
ORD Ordubad 2.68 190 Pg Pn 17 26 53.4 +1.2
SNR=179
ORD Sg Sb 17 27 29.7 -0.2
GLBA Clilabad 2.69 149 Pn Pn 17 26 52.5 +0.1
SNR=89
GLBA Sn Sn 17 27 27.5 +2.9
DIGO Kars 2.70 246 *i* P Pb 17 26 55.6 -2.3
DIGO *i* S Sb 17 27 29.3 -1.6
DIGO IAML 17 27 38.0
comp=N,3μm,1.1s
NDR Nardaran 2.74 110 Pn Pn 17 26 54.7 +1.7
NDR Sn Sb 17 27 29.6 -2.1
PRTR Priterechnaya 2.77 323 *e*Pn Pb 17 26 56.7 -2.3
PRTR *e*Sn Sb 17 27 29.9 -2.8
PRTR Priterechnaya 2.77 323 *e*PN Pb 17 26 56.7 -2.3
PRTR *e*S Sb 17 27 29.9 -2.8
KARS Kars 2.82 252 PN Pn 17 26 56.5 +2.2
EPOS Posof 2.91 270 *i* P Pn 17 26 56.8 +1.3
EPOS IAML 17 28 02.0
comp=E,1μm,1.6s
EPOS IAML 17 28 13.0
comp=N,3μm,1.0s
YRD Yardimli 2.93 154 Pn Pn 17 26 55.6 -0.2
SNR=176
YRD Sn Sn 17 27 32.2 +1.5
DYDN Diyadin 3.00 229 *i* P Pn 17 26 58.1 +1.2
DYDN IAML 17 28 08.0
comp=E,2μm,1.6s
DYDN IAML 17 28 19.0
comp=N,2μm,1.4s
CLDR Caldiran 3.17 221 *i* P Pn 17 27 01.8 +2.6
CLDR IAML 17 28 06.0
comp=E,868nm,1.0s
CLDR IAML 17 28 11.0
comp=N,1μm,1.2s
LRK Lerik 3.21 155 Pn Pn 17 26 59.9 +0.2
SNR=198
LRK Sn Sn 17 27 40.0 +2.5
LKRN Lenkeran, Azer 3.30 149 PN Pn 17 27 00.5 -0.3
LKRN Lenkeran, Azer 3.30 149 Pn Pn 17 27 00.5 -0.3
SNR=92
LKRN Sn Sn 17 27 39.6 0.0
NEY Neytrino 3.33 302 *e*Pn Pn 17 27 03.9 +2.6
NEY *e*Sn Sb 17 27 45.5 -3.3
NEY Neytrino 3.33 302 *e*PN Pn 17 27 03.9 +2.6
NEY *e*S Sb 17 27 45.5 -3.3
ASTR Astara 3.44 150 Pn Pn 17 27 02.4 -0.3
SNR=64
ASTR Sn Sn 17 27 44.5 +1.5
KBZ Khabaz 3.48 310 Pn Pn 17 27 04.4 +1.2
comp=N,4.8nm,0.3s,baz=134,slow=7.9,SNR=23
KBZ Pg Pg 17 27 14.8 -1.9
comp=N,16nm,0.3s,baz=122,slow=12,SNR=43
KBZ Lg Lg 17 27 58.7
comp=N,38nm,0.3s,baz=277,slow=20,SNR=1.8
KBZ Khabaz 3.48 310 *e*PN Pn 17 27 06.7 +3.5
KBZ *e*S Sb 17 27 49.2 -3.9
EATA Eleskirt 3.56 243 *i* P Pn 17 27 07.9 +3.3
EATA IAML 17 28 23.0
comp=E,1μm,2.4s
EATA IAML 17 29 02.0
comp=N,822nm,2.8s
DAGI Agillar 3.56 264 *i* P Pn 17 27 07.0 +2.5
DAGI *i* S Sn 17 27 50.1 +3.8
DAGI IAML 17 28 18.0
comp=E,705nm,0.8s
DAGI IAML 17 28 25.0
comp=N,723nm,0.8s
TUTA Tutak 3.61 234 *i* P Pn 17 27 07.2 +2.0
TUTA *i* S Sb 17 28 00.1 +3.1
TUTA IAML 17 29 04.0
comp=E,451nm,0.6s
BATM Batumi 3.68 272 *i* P Pb 17 27 10.9 -3.6
BATM Batumi 3.68 272 *e*PN Pb 17 27 11.3 -3.2
BATM *e*S Sn 17 27 54.1 +5.1
DBOC Borcka 3.72 268 *i* P Pb 17 27 11.2 -3.9
DBOC IAML 17 28 24.0
comp=E,857nm,1.4s
DDEM Demirkent 3.72 261 *i* P Pb 17 27 14.8 -0.4
DDEM IAML 17 28 12.0
comp=E,964nm,0.5s
DDEM IAML 17 28 38.0
comp=N,1μm,1.6s
DBAD Bademkaya 3.74 263 *i* P Pb 17 27 12.6 -2.9
DBAD IAML 17 28 36.0
comp=E,839nm,0.8s
DBAD IAML 17 28 44.0
comp=N,972nm,0.8s
KIV1 Kislovodsk Arr 3.74 311 *e*Pn Pn 17 27 08.2 +1.2
KIV1 *e*Sn Sn 17 27 53.7 +3.1
BCA Borcka 3.74 270 ⇑ P Pb 17 27 13.6 -2.0
KIV Kislovodsk 3.74 311 P Pn 17 27 09.5 +2.5
KIV Kislovodsk 3.74 311 *e*Pn Pn 17 27 08.1 +1.2
KIV Kislovodsk 3.74 311 *e*PN Pn 17 27 10.3 +3.4
KIV *e*S Sb 17 27 56.5 -4.2
KIV pmax pmax
comp=Z,730nm,0.9s
KIV Kislovodsk 3.74 311 Pn Pn 17 27 09.2 +2.2
HOMI Horasan 3.88 248 *i* P Pb 17 27 19.9 +2.0
HOMI *i* S Sb 17 28 05.3 +0.6
TVAN Van 3.90 220 *i* P Pb 17 27 20.3 +1.9
TVAN *i* S Sb 17 28 05.3 -0.1
TVAN IAML 17 28 38.0
comp=E,960nm,4.1s
TVAN IAML 17 28 47.0
comp=N,596nm,1.8s
BASK Baskale_VAN 4.04 211 *i* P Pb 17 27 22.1 +1.4
BASK IAML 17 28 43.0
comp=E,413nm,1.5s
BASK IAML 17 28 51.0
comp=N,488nm,2.0s
DOMR Dombai 4.07 297 *e*Pn Pn 17 27 13.9 +2.4
DOMR *e*Sn Sn 17 28 02.3 +3.6
AKDA Akdag 4.24 252 *i* P Pn 17 27 15.4 +1.6
GEVA Gevas 4.24 221 *i* P Pb 17 27 24.4 +0.3
GEVA *i* S Sb 17 28 16.1 +1.1
GEVA IAML 17 28 56.0
comp=N,309nm,1.6s
GOF Gofitskoye 4.35 325 *e*Pn Pn 17 27 17.2 +2.0
GOF *e*Sn Sn 17 28 08.4 +3.0
GOF Gofitskoye 4.35 325⇑ *i*PN Pn 17 27 17.1 +2.0
GOF *e*S Sn 17 28 09.7 +4.3
GOF pmax pmax
comp=Z,369nm,0.9s
GOF smax smax
comp=N,1μm,0.6s
GOF smax smax
comp=E,1μm,0.8s
YOVA Hakkari_Yksek 4.36 205 *i* P Pn 17 27 20.8 +5.3
YOVA *i* S Sg 17 28 27.5 -2.3
YOVA IAML 17 28 52.0
comp=N,268nm,2.6s
ARXR Arkhyz 4.41 299 *e*PN Pn 17 27 20.3 +4.1
ARXR *e*S Sn 17 28 12.6 +5.4
KRIK Erzurum-spir 4.47 256 *i* P Pn 17 27 20.2 +3.1
KRIK *i* S Sg 17 28 28.6 -4.8
NVNR Nevinnomyssk 4.56 313 *e*Pn Pn 17 27 20.6 +2.5
NVNR *e*Sn Sn 17 28 17.0 +6.3
HAKT HAKKARI 4.59 210 *i* P Pn 17 27 19.3 +0.7
HAKT *i* S Sb 17 28 23.7 -1.3
VRTB Varto-Mus 4.61 240 *i* P Pb 17 27 25.1 -5.3
BLIS Bitlis-Merkez 4.67 229 *i* P Pn 17 27 24.5 +4.8
BLIS IAML 17 29 06.0
comp=E,244nm,2.0s
BLIS IAML 17 29 06.0
comp=N,251nm,2.0s
ECAT Cat-ERZURUM 4.71 247 *i* P Pb 17 27 29.7 -2.4
MUSM Mu-Merkez 4.83 236 *i* P Pb 17 27 31.5 -2.6
MUSM *i* S Sn 17 28 21.0 +3.7
MUSM IAML 17 28 56.0
comp=E,192nm,2.1s
KOPT Kop Dagi 4.89 254 *i* P Pb 17 27 36.8 +1.6
KOPT *i* S Sg 17 28 42.6 -4.1
KOPT IAML 17 29 16.0
comp=E,541nm,1.8s
KOPT IAML 17 29 23.0
comp=N,372nm,1.7s
CUKT Cukurca 4.90 209 *i* P Pn 17 27 28.5 +5.7
CUKT IAML 17 29 01.0
comp=E,406nm,1.0s
CUKT IAML 17 29 09.0
comp=N,231nm,1.3s
BAYB BAYBURT 4.98 257 *i* P Pb 17 27 32.2 -4.5
BAYB *i* S Sb 17 28 42.4 +5.9
BAYB IAML 17 29 22.0
comp=E,344nm,1.2s
BAYB IAML 17 29 23.0
comp=N,285nm,1.3s
SRTM Siirt_Merkez 5.07 227 *i* P Pn 17 27 28.0 +2.7
SRTM *i* S Sg 17 28 52.5 -0.3
SRTM IAML 17 29 03.0
comp=E,298nm,2.6s
SRTM IAML 17 29 03.0
comp=N,250nm,1.7s
RPOR Krasnaya Polya 5.14 297 *e*Pn Pn 17 27 26.6 +0.5
RPOR *e*Sn Sn 17 28 27.5 +2.6
RPOR Krasnaya Polya 5.14 297 *e*PN Pn 17 27 28.8 +2.8
RPOR *e*S Sn 17 28 31.5 +6.6
SIRN Sırnak 5.20 220 *i* P Pn 17 27 28.5 +1.6
SIRN IAML 17 29 12.0
comp=E,413nm,1.4s
SIRN IAML 17 29 23.0
comp=N,279nm,1.4s
SVAN Silvan-Diyarba 5.38 232 *i* P Pb 17 27 42.4 -1.0
SVAN *i* S Sb 17 28 44.9 -2.7
SVAN IAML 17 29 22.0
comp=E,137nm,4.4s
SOC Sochi 5.47 294 *e*P Pn 17 27 33.5 +3.0
SOC *e* 17 28 37.5
SOC pmax pmax
comp=Z,7.0nm,0.8s
SOC MLR MLR
comp=Z,2μm,8.0s
BTMN Batman 5.51 230 *i* P Pn 17 27 37.0 +5.8
BTMN IAML 17 29 28.0
comp=N,252nm,3.1s
BTMN IAML 17 29 59.0
comp=E,178nm,2.3s
EUZM Uzumlu 5.57 253 *i* P Pg 17 27 53.6 -3.0
EUZM *i* S Sb 17 28 58.0 +4.7
LZRR Lazarevskoye 5.82 296 *e*P Pn 17 27 37.7 +2.3
TNCL Tunceli-Merkez 5.92 248 *i* P Pb 17 27 57.6 +4.9
TNCL IAML 17 29 50.0
comp=E,116nm,3.0s
TNCL IAML 17 29 50.0
comp=N,125nm,2.3s
DIYA Diyarbakir 6.18 236 *i* P Pn 17 27 45.1 +4.8
DIYA *i* S Sb 17 29 14.8 +4.1
DIYA IAML 17 29 41.0
comp=E,191nm,2.0s
DIYA IAML 17 29 48.0
comp=N,220nm,1.8s
REFA Refahiye_ERZN 6.36 253 *i* P Pb 17 28 04.2 +4.0
REFA *i* S Sg 17 29 28.9 -4.9
REFA IAML 17 29 56.0
comp=N,97nm,2.5s
ANN Anapa 7.44 299 *e*Pn Pn 17 27 59.1 +1.6
ANN *e*Sn Sn 17 29 22.6 +1.1
ANN Anapa 7.44 299 *e*P Pn 17 27 57.7 +0.1
ANN *e*S Sn 17 29 24.6 +3.1
ANN pmax pmax
comp=Z,31nm,0.8s
GAZ Gaziantep 8.49 242 Pn 17 28 15.4 +3.3
DIKM Dikmen 8.50 274 ⇓P Pn 17 28 18.0 +5.8
GEYT Alibeck 9.58 109 Pn Pn 17 28 25.3 -1.8
comp=Z,2.9nm,0.3s,baz=275,slow=17,SNR=28
GEYT Sn Sn 17 30 15.4 +1.2
comp=Z,7.7nm,0.3s,baz=138,slow=54,SNR=2.5

GYA0 ALIBECK ARRAY 9.58 109 P Pn 17 28 25.1 -1.9
GYA0 17 30 14.6
GYA0B ALIBECK ARRAY 9.58 109 ⇓Pn Pn 17 28 25.2 -1.9
GYA0B ⇓Sn Sn 17 30 14.7 +0.4
GYA0B ALIBECK ARRAY 9.58 109 Pn Pn 17 28 25.1 -1.9
ASHT Ashkhabad 9.77 108 P Pn 17 28 30.0 +0.5
ASHT Ashkhabad 9.77 108 Pn Pn 17 28 30.0 +0.5
BR131 Keskin Array S 10.03 264 P Pn 17 28 37.3 +4.1
SNR=6.8
BRTR Keskin Array B 10.03 264 Pn Pn 17 28 36.5 +3.3
comp=Z,0.1nm,0.3s,baz=89,slow=12,SNR=13
BRTR Keskin Array B 10.03 264 *e*P Pn 17 28 37.5 +4.3
BRTR pmax pmax
comp=Z,6.0nm,1.0s
VRH Novokhopyorsk 10.21 342 *e*P Pn 17 28 33.8 -1.7
VRH pmax pmax
comp=Z,50nm,0.6s
VRH MLR MLR
comp=Z,6μm,16.0s
VORD Divnogorie 10.67 334 *e*P Pn 17 28 40.3 -1.5
VORD pmax pmax
comp=Z,50nm,0.7s
VORR Voronezh 11.31 336 *e*P Pn 17 28 47.2 -3.3
VORR pmax pmax
comp=Z,250nm,1.0s
AKTO Aktyubinsk 11.89 38 Pn Pn 17 28 57.6 -0.9
comp=Z,7.4nm,0.3s,baz=224,slow=13,SNR=142
AKTO Sn Sn 17 31 10.4 -0.2
comp=Z,11nm,0.3s,baz=81,slow=16,SNR=4.9
AKTO LR LR 17 34 57.0
comp=Z,5μm,19.1s,baz=253,slow=45
AKTO Aktyubinsk 11.89 38 ⇑Pn Pn 17 28 56.8 -1.7
comp=Z,162nm,0.7s
AKTO ⇑Sn Sn 17 31 11.2 +0.6
comp=Z,218nm,0.8s
AKTO Aktyubinsk 11.89 38 P Pn 17 28 56.8 -1.7
AKTO SN Sn 17 31 11.2 +0.6
AB31 Akbulak array 12.11 46 Pn Pn 17 28 59.9 -1.7
comp=Z,48nm,0.5s,baz=233,slow=14,SNR=853
AB31 Sn Sn 17 31 12.8 -3.2
comp=Z,59nm,0.6s,baz=234,slow=21,SNR=4.0
AB31 Akbulak array 12.11 46 *e*P Pn 17 28 59.8 -1.7
AB31 17 31 12.8
ABKAR Akbulak array 12.11 46 Pn 17 29 00.2 -1.3
ASF Jabal al Asfar 12.17 223 Pn Pn 17 29 05.3 +2.8
comp=Z,0.1nm,0.3s,baz=346,slow=6.3,SNR=24
LPSR Galich'ya Gora 12.21 337 *e*P Pn 17 29 01.5 -1.3
LPSR pmax pmax
comp=Z,110nm,0.9s
LPSR MLR MLR
comp=Z,3μm,18.0s
MMAI Mount Meron Ar 12.34 230 Pn Pn 17 29 07.5 +2.7
comp=Z,1.7nm,0.3s,baz=62,slow=10,SNR=7.2
ORH Orhaniye 12.47 272 P P 17 30 08.7 +50
ISP Isparta 12.94 258 P Pn 17 29 16.2 +3.2
TIRR Tirgusor 13.62 288 P Pn 17 29 25.3 +3.1
ELL Elmali 13.81 255 P P 17 29 30.9 -2.4
ELL Elmali 13.81 255 Pn P 17 29 30.9 -2.4
MILM Milestii Mici 13.82 299 ⇑P Pn 17 29 25.7 +0.8
CFR Carcaliu 13.91 291 ⇑P Pn 17 29 27.7 +1.6
HARR Harsova 13.99 289 ⇑P Pn 17 29 30.4 +3.2
ICOR Ion Corvin 14.03 287 ⇑P Pn 17 29 31.7 +4.0
PRD Provadia 14.29 283 *e*P P 17 29 42.6 +4.2
SORM Soroca 14.50 303 ⇓P Pn 17 29 34.7 +0.5
VRI Vrincioaia 14.99 293 ⇓P Pn 17 29 43.1 +2.2
VRI Vrincioaia 14.99 293 P P 17 29 44.9 -1.4
PLOR Plostina 15.04 293 ⇑P Pn 17 29 43.6 +2.0
OBN Obninsk 15.09 337 Pn Pn 17 29 38.5 -3.5
comp=Z,0.9nm,0.3s,baz=334,slow=20,SNR=25
OBN Sn Sn 17 32 14.0 -14
comp=Z,0.8nm,0.3s,baz=222,slow=23,SNR=1.8
OBN Obninsk 15.09 337 ⇓P Pn 17 29 38.7 -3.3
OBN Obninsk 15.09 337 *c* P Pn 17 29 38.1 -3.9
OBN *e*S Sn 17 32 31.8 +3.3
OBN pmax pmax
comp=Z,106nm,1.3s
OBN MLR MLR
comp=Z,2μm,14.0s
AKASG Malin Array Be 15.09 313 Pn Pn 17 29 40.5 -1.6
comp=Z,1.0nm,0.3s,baz=121,slow=14,SNR=40
AKASG Malin Array Be 15.09 313 *i* P Pn 17 29 41.5 -0.6
AKASG pmax pmax
comp=Z,12nm,1.0s
AKBB Malin Array Si 15.09 313 P Pn 17 29 43.1 +1.0
AKBB pmax pmax
comp=Z,196nm,1.3s
AKBB Malin Array Si 15.09 313 Pn Pn 17 29 43.1 +1.0
EIL Elat 15.17 222 Pn Pn 17 29 43.0 -0.3
comp=Z,0.1nm,0.3s,baz=301,slow=4.2,SNR=5.9
MOS Moscow 15.35 341 *e*P Pn 17 29 39.2 -6.3
MOS *e*S Sn 17 32 28.9 -6.1
MOS pmax pmax
comp=Z,214nm,1.2s
MOS pmax pmax
comp=Z,300nm,1.5s
SZH Strazhica 15.36 283 *e*P P 17 29 51.1 +0.7
MLR Muntele Rosu 15.48 292 Pn Pn 17 29 49.1 +1.6
comp=Z,0.4nm,0.3s,baz=267,slow=8.3,SNR=9.1
MLR Muntele Rosu 15.48 292 ⇑P P 17 29 50.1 -1.7
ALN Alexandroupoli 15.48 274 P P 17 29 54.0 +2.3
BIZ Bicaz 15.62 297 ⇓P Pn 17 29 51.1 +1.9
DOPR Dopca 15.93 293 ⇓P Pn 17 29 54.9 +1.7
VOIR 16.10 291 ⇓P Pn 17 29 57.0 +1.6
VOIR 16.10 291 P P 17 29 58.4 -0.2
KARP Karpathos 16.34 255 Pn 17 29 58.1 -0.4
KARP IAmb IAmb 17 30 03.6
comp=Z,204nm,1.2s
BURAR Bucovina Array 16.37 299 ⇓P Pn 17 29 59.4 +0.6
ARR Arges 16.39 291 ⇓P P 17 30 02.9 +1.2
BUR08 Bucovina Ar. S 16.39 299 Pn Pn 17 29 59.5 +0.4
PGB Panagyurishte 16.69 281 *e*P P 17 30 05.2 0.0
ARU Arti 16.78 24 Pn Pn 17 30 00.6 -3.2
comp=Z,0.0nm,0.3s,baz=203,slow=8.9,SNR=25
ARU Sn Sn 17 33 05.6 -4.0
comp=Z,0.0nm,0.3s,baz=210,slow=22,SNR=3.2
ARU LR LR 17 38 38.8
comp=Z,3μm,18.7s,baz=254,slow=45
ARU Arti 16.78 24 *d* iP Pn 17 30 01.2 -2.7
ARU S Sn 17 33 07.1 -2.5
ARU pmax pmax
comp=Z,70nm,0.4s
ARU Arti 16.78 24 Pn 17 30 01.1 -2.7
ARCR ARCALIA 16.83 297 ⇓P P 17 30 05.9 -0.6
CHM Chimkent 17.12 80 *e*P Pn 17 30 08.0 -0.3
comp=Z,32nm,0.9s,baz=80
CHM Chimkent 17.12 80 *e*P Pn 17 30 08.0 -0.3
CHM pmax pmax
comp=Z,32nm,0.9s
KIRV Kirov 17.13 5 Pn Pn 17 30 03.7 -4.5
comp=Z,3.2nm,0.3s,baz=206,slow=7.9,SNR=30
BRLS Boroldaу 17.24 77 *e*S Sn 17 33 18.4 -2.7
baz=79
CJR Cluj-Napoca 17.27 295 ⇑P P 17 30 12.4 +0.8
SHME Shamm 17.37 150 *i* P Pn 17 30 11.1 -0.3
SNR=7.4
VTS Vitosha 17.37 281 ⇑P P 17 30 15.0 +2.2
VTS Vitosha 17.37 281 *e*P P 17 30 13.5 +0.7
IUG luzhnay 17.46 80 *e*P Pn 17 30 12.2 -0.4
comp=Z,7.8nm,0.9s,baz=81
IUG *e*S Sn 17 33 26.2 -0.2
baz=81
IUG luzhnay 17.46 80 *e*P Pn 17 30 12.1 -0.4
IUG *e*S Sn 17 33 26.2 -0.2
IUG pmax pmax
comp=Z,8.0nm,0.9s
BMR Baia Mare 17.52 298 ⇑P P 17 30 13.7 -0.4
BANOM Banah 17.54 150 *i* P Pn 17 30 13.2 -0.4
SNR=7.8
BANOM Banah 17.54 150 P P 17 30 14.3 -0.4
SNR=5.3
KK31 Karatay Array 17.73 77 Pn Pn 17 30 13.3 -2.5
comp=Z,43nm,0.6s,baz=283,slow=13,SNR=798
KK31 Karatay Array 17.73 77 *i* P Pn 17 30 13.3 -2.6
KK31 Karatay Array 17.73 77 P Pn 17 30 14.1 -1.8
KK31 pmax pmax
comp=Z,91nm,0.8s
KK31 Karatay Array 17.73 77 Pn 17 30 14.1 -1.8
KK31 IAmb IAmb 17 30 28.0
comp=Z,91nm,0.8s
KKAR Karatay Array 17.73 77 P Pn 17 30 14.2 -1.7
KKAR pmax pmax
comp=Z,91nm,0.8s
KKAR Karatay Array 17.73 77 Pn 17 30 14.2 -1.7
KKAR IAmb IAmb 17 30 28.0
comp=Z,91nm,0.8s

LVV	**L'vov**	17.75	305	*e*P		**Pn**		17 30 16.0	0.0			
LVV				*e*S		**S**		17 33 38.0	-2.1			
LVV				MLR		MLR						
	comp=Z,1μm,15.0s											
SVE	**Sverdlovsk**	17.76	26	*de*P		**Pn**		17 30 12.2	-3.8			
SVE				*e*S		**Sn**		17 33 28.3	-5.0			
SVE				pmax		pmax						
	comp=Z,318nm,1.0s											
SVE				MLR		MLR						
	comp=Z,6μm,13.0s											
DRGR		17.89	295	⇓P		**P**		17 30 19.0	+0.6			
HERR	**Herculane**	17.92	289	⇑P		**P**		17 30 21.0	+2.3			
MICGM	**Minsk**	17.93	323	⇓*e*P		**Pn**		17 30 18.0	-0.2			
MICGM				PM				17 30 19.0				
	comp=Z,0.2nm,1.2s											
MICGM				*e*PP		**PnPn**		17 30 31.0	+2.0			
MICGM				*e*S		**Sn**		17 33 36.0	-1.5			
MICGM				*e*SS		**SnSn**		17 34 00.0	+9.0			
MNK	**Minsk**	17.93	323	⇓*e*P		**Pn**		17 30 18.0	-0.2			
MNK				*e*S		**Sn**		17 33 36.0	-1.5			
MNK				pmax		pmax						
	comp=Z,200nm,1.2s											
MSFE	**Esma-Masafi**	18.00	151	P		**Pn**		17 30 17.5	-1.8			
MDH	**Madha**	18.11	151	P		**P**		17 30 21.9	+1.0			
IDI	**Anoyia**	18.11	257	P		**P**		17 30 21.1	+0.2			
	comp=Z,0.4nm,0.3s,baz=5.3,slow=16,SNR=1.8											
NAZ	**Nazwa, Dubai**	18.17	153	*i* P		**Pn**		17 30 21.2	-0.1			
	SNR=8.3											
NAZ	**Nazwa, Dubai**	18.17	153	P		**P**		17 30 22.4	+0.9			
	SNR=6.5											
AJN	**Ajban**	18.34	155	P		**P**		17 30 24.5	+1.1			
DZA	**Taraz**	18.35	78	⇑*i* P		**Pn**		17 30 23.1	-0.4			
	comp=Z,16nm,0.7s,baz=78											
DZA				LR		LR		17 38 19.4				
	comp=Z,675nm,13.4s,baz=78											
DZA	**Taraz**	18.35	78	*c i* P		**Pn**		17 30 23.0	-0.4			
DZA				pmax		pmax						
	comp=Z,16nm,0.7s											
DZA				MLR		MLR						
	comp=Z,675nm,13.0s											
BTK	**Batken**	18.38	87	P		**P**		17 30 21.6	-2.3			
BTK				pmax		pmax						
	comp=Z,56nm,0.7s											
BTK	**Batken**	18.38	87	P		**P**		17 30 21.6	-2.3			
UOSS	**Minazif**	18.40	151	P		**P**		17 30 23.1	-0.9			
UOSS	**Minazif**	18.40	151	P		**P**		17 30 23.5	-0.6			
UOSS	**Minazif**	18.40	151	P		**Pn**		17 30 24.4	+0.3			
HATD	**Hatta, Dubai**	18.48	152	*i* P		**P**		17 30 25.0	0.0			
	SNR=9.7											
HATD	**Hatta, Dubai**	18.48	152	P		**Pn**		17 30 25.4	+0.3			
KWP	**Kalwaria Pacla**	18.51	304	*e*P		**Pn**		17 30 27.8	+2.5			
UZH	**Uzhgorod**	18.51	301	*e*P		**Pn**		17 30 25.4	+0.1			
UZH				*e*S		**Sn**		17 33 47.2	-4.5			
SIRR	**Siria**	18.54	293	⇑P		**Pn**		17 30 28.5	+2.7			
ASHO	**Ashiyiah**	18.58	152	*i* P		**P**		17 30 25.3	-0.9			
	SNR=9.5											
ASHO	**Ashiyiah**	18.58	152	P		**P**		17 30 26.0	-0.2			
	SNR=5.4											
KOLS	**Kolonicke sedl**	18.59	302	*e*P		**Pn**		17 30 27.1	+0.7			
KOLS	**Kolonicke sedl**	18.59	302	*e*P		**Pn**		17 30 27.1	+0.7			
NACGM	**Naroch**	18.68	322	*e*P		**P**		17 30 24.0	-3.0			
NACGM				*e*PP		sP		17 30 58.0	+24			
NACGM				*e*S		**Sn**		17 33 50.0	-5.7			
NACGM				*e*SS		**SnSn**		17 34 12.0	+2.5			
NACGM				*e*LQ		LQ		17 36 33.0				
NACGM				*e*LR		LR		17 37 58.0				
KBL	**Kabul**	18.98	104	P		**Pn**		17 30 33.0	+1.6			
	SNR=35											
ALNE	**Al Ain**	19.06	154	*i* P		**P**		17 30 31.3	0.0			
	SNR=5.6											
IIGN	**Ignalina**	19.21	323	*e*P		**P**		17 30 31.3	-1.4			
IIGN				IAmb		IAmb		17 30 40.6				
	comp=Z,28nm,0.8s											
SOHO	**SOHO**	19.26	151	*i* P		**P**		17 30 32.5	-0.9			
	SNR=12											
SOHO	**SOHO**	19.26	151	P		**P**		17 30 33.7	+0.2			
OTUK	**Ortayu**	19.36	61	⇓Pn		**P**		17 30 33.3	-1.2			
	comp=Z,83nm,0.8s											
OTUK				⇓Sn		Sn		17 34 00.7	-11			
	comp=Z,90nm,0.9s											
OTUK	**Ortayu**	19.36	61	P		**P**		17 30 33.3	-1.2			
OTUK								17 34 00.7				
ISAL	**Salakas**	19.39	323	*e*P		**P**		17 30 33.7	-0.9			
ISAL				IAmb		IAmb		17 30 36.0				
	comp=Z,25nm,0.9s											
IZAR	**Zarasai**	19.44	324	*e*P		**P**		17 30 34.5	-0.8			
ITM	**Ithomi**	19.55	265	IAmb		IAmb		17 30 42.2				
	comp=Z,102nm,1.3s											
BRVK	**Borovoye**	19.64	46	P		**P**		17 30 37.3	-0.2			
BRVK	**Borovoye**	19.64	46	P		**P**		17 30 36.0	-1.5			
BRVK				pmax		pmax						
	comp=Z,135nm,0.8s											
BRVK	**Borovoye**	19.64	46			**P**		17 30 36.0	-1.5			
BVA0	**Borovoye Array**	19.69	46	⇑Pn		**P**		17 30 36.7	-1.3			
	comp=Z,76nm,0.6s											
BVA0	**Borovoye Array**	19.69	46	P		**P**		17 30 36.7	-1.3			
BVAR	**Borovoye Array**	19.69	46	P		**P**		17 30 37.6	-0.4			
	comp=Z,6.0nm,0.3s,baz=240,slow=8.6,SNR=227											
BVAR				S		**S**		17 34 13.4	-5.8			
	comp=Z,1.5nm,0.3s,baz=255,slow=23,SNR=4.1											
ARSB	**Arslanbob**	19.75	82	P		**P**		17 30 38.7	-0.3			
ARSB				pmax		pmax						
	comp=Z,60nm,0.7s											
ARSB	**Arslanbob**	19.75	82	P		**P**		17 30 38.6	-0.3			
ARSB				IAmb		IAmb		17 30 48.1				
	comp=Z,60nm,0.7s											
KLMR	**Klimovskoe**	19.80	350	*c i* P		**P**		17 30 36.6	-2.5			
KLMR				*e*				17 34 16.2				
KLMR				pmax		pmax						
	comp=Z,209nm,1.1s											
KLMR	**Klimovskoe**	19.80	350	⇑*i* Pn		**P**		17 30 36.6	-2.5			
KLMR				⇑*i* Pn		**P**		17 30 36.6	-2.5			
KLMR				⇑*i* Pn		**P**		17 30 36.6	-2.5			
KLMR				AMP				17 30 50.9				
	comp=Z,209nm,1.1s											
KLMR				*e*Sn		**S**		17 34 16.3	-4.9			
KLMR				*e*Sn		**S**		17 34 16.3	-4.9			
PSZ	**Piszkesteto**	19.95	298	⇓P		**Pn**		17 30 43.4	+0.7			
SUW	**Suwalki**	19.95	317	*e*P		**P**		17 30 40.9	0.0			
BRZS	**Berezniki**	19.96	56	⇑*i* P		**P**		17 30 40.5	-0.5			
	comp=Z,119nm,1.2s,baz=56											
BRZS				LR		LR		17 39 09.8				
	comp=Z,739nm,11.0s,baz=56											
BRZS	**Berezniki**	19.96	56	*c i* P		**P**		17 30 40.5	-0.5			
BRZS				pmax		pmax						
	comp=Z,119nm,1.2s											
BRZS				MLR		MLR						
	comp=Z,739nm,11.0s											
NIE	**Niedzica**	19.97	302	*e*P		**Pn**		17 30 45.5	+2.6			
ARQ	**Araqi**	19.98	152	P		**P**		17 30 42.0	+0.5			
	SNR=13											
HOQ	**Hoqain**	20.04	150	P		Pn		17 30 43.9	0.0			
	SNR=13											
EKS2	**Erkin-Say**	20.16	78	P		**P**		17 30 44.2	+0.8			
	SNR=41											
AML	**Almayashu**	20.16	79	P		**P**		17 30 44.5	+0.8			
	SNR=32											
BTLS	**Baital**	20.23	71	⇑*i* P		**P**		17 30 43.5	-0.5			
	comp=Z,11nm,0.6s,baz=71											
BTLS				LR		LR		17 39 38.7				
	comp=Z,369nm,11.0s,baz=71											
BTLS	**Baital**	20.23	71	*c i* P		**P**		17 30 43.5	-0.5			
BTLS				pmax		pmax						
	comp=Z,11nm,0.6s											
BTLS				MLR		MLR						
	comp=Z,369nm,11.0s											
PABE	**Paberze**	20.34	321	*e*P		**P**		17 30 44.8	-0.3			
PABE				IAmb		IAmb		17 30 48.1				
	comp=Z,104nm,0.7s											
BEL	**Belsk**	20.36	309	*e*P		**P**		17 30 46.2	+0.9			
BIDO	**Bidbid**	20.41	148	P		Pn		17 30 48.5	+0.3			
	SNR=6.5											
LANS	**Liptovska Anna**	20.44	301	*e*P		Pn		17 30 48.3	-0.2			
LANS	**Liptovska Anna**	20.44	301	*e*P		Pn		17 30 48.3	-0.2			
OJC	**Ojcow**	20.48	304	*e*P		**P**		17 30 46.9	+0.2			
USP	**Ospenovka**	20.63	76	P		**P**		17 30 47.1	-1.3			
	SNR=11											
AAK	**Ala-Archa**	20.69	78	P		**P**		17 30 49.4	+0.2			
	comp=Z,21nm,0.5s,baz=242,slow=6.8,SNR=52											
AAK				S		Sn		17 34 45.7	+1.1			
	comp=Z,9.8nm,0.8s,baz=343,slow=22,SNR=1.6											
AAK	**Ala-Archa**	20.69	78	P		**P**		17 30 49.5	+0.4			
	SNR=25											
AAK	**Ala-Archa**	20.69	78	*i* P		**P**		17 30 49.6	+0.4			
	SNR=25											
AAK	**Ala-Archa**	20.69	78	⇑Pn		**P**		17 30 48.8	-0.3			
	comp=Z,113nm,1.1s											
AAK	**Ala-Archa**	20.69	78	P		**P**		17 30 49.8	+0.6			
AAK	**Ala-Archa**	20.69	78	*c i* P		**P**		17 30 49.4	+0.2			
AAK				pmax		pmax						
	comp=Z,55nm,0.9s											
AAK	**Ala-Archa**	20.69	78			**P**		17 30 49.9	+0.6			
AAK				IAmb		IAmb		17 31 03.4				
	comp=Z,66nm,0.8s											
SGDS	**Sogindy**	20.71	75	*i* P		**P**		17 30 48.2	-1.1			
	comp=Z,24nm,1.5s,baz=76											
SGDS				LR		LR		17 39 33.5				
	comp=Z,717nm,12.4s,baz=76											
SGDS	**Sogindy**	20.71	75	*i* P		**P**		17 30 48.2	-1.1			
SGDS				pmax		pmax						
	comp=Z,24nm,1.5s											
SGDS				MLR		MLR						
	comp=Z,717nm,12.0s											
VYHS	**Vyhne**	20.74	299	*e*P		Pn		17 30 51.2	-0.7			
VYHS	**Vyhne**	20.74	299	*e*P		Pn		17 30 51.2	-0.7			
UCH	**Uchtor**	20.75	79	P		**P**		17 30 49.9	-0.3			
	SNR=20											
FRU1	**Bishkek**	20.77	77	IAmb		IAmb		17 31 09.6				
	comp=Z,114nm,0.9s											
SMDO	**Samad**	20.80	149	P		**P**		17 30 51.3	+0.9			
	SNR=7.9											
PUL	**Pulkovo**	20.84	337	*e*P		**P**		17 30 50.4	0.0			
PUL	**Pulkovo**	20.84	337	*d i* P		**P**		17 30 50.4	0.0			
PUL				pmax		pmax						
	comp=Z,294nm,0.7s											
CHMS	**Chumysh**	20.84	77	P		**P**		17 30 51.4	+0.7			
	SNR=16											
WSAR	**Wadi Sarin**	20.87	147	P		**P**		17 30 51.5	+0.5			
	comp=Z,22nm,1.1s,baz=353,slow=9.8,SNR=8.4											
WSAR	**Wadi Sarin**	20.87	147	P		**P**		17 30 51.9	+0.9			
KBK	**Karagaybulak**	21.02	78	P		**P**		17 30 53.1	+0.4			
	SNR=66											
VSU	**Vasula**	21.05	330	*e*P		**P**		17 30 52.2	-0.5			
VSU	**Vasula**	21.05	330	*c i* P		**P**		17 30 55.1	+2.4			
VSU				pmax		pmax						
	comp=Z,348nm,0.8s											
KZA	**Kyzart**	21.32	79	P		**P**		17 30 56.4	+0.1			
	SNR=41											
STON	**Ston**	21.41	283	P		**P**		17 31 00.9	+4.2			
OKC	**Ostrava-Krasne**	21.43	302	*e*P		**P**		17 30 57.6	+0.8			
OKC				*e*pP		**sP**		17 31 05.2	+0.9			
OKC	**Ostrava-Krasne**	21.43	302	*e*P		**P**		17 30 57.6	+0.8			
OKC				*e*				17 31 05.2				
JMDO	**Jabal Madar**	21.44	150	P		**P**		17 30 57.7	+0.5			
	SNR=7.4											
TKM2	**Tokmak 2**	21.46	77	P		**P**		17 30 57.2	-0.3			
	SNR=35											
TKM2	**Tokmak 2**	21.46	77	⇓Pn		**P**		17 30 56.8	-0.8			
	comp=Z,54nm,0.8s											
TKM2	**Tokmak 2**	21.46	77	P		**P**		17 30 56.8	-0.8			
JAVC	**Velka Javorina**	21.56	300	*e*P		**P**		17 30 59.8	+1.5			
WBK	**Wadi Bani Khal**	21.57	147	P		**P**		17 30 58.7	+0.1			
WBK				P		**P**		17 30 58.7	+0.1			
PBUR	**Paburge**	21.59	320	*e*P		**P**		17 30 58.5	-0.1			
MODS	**Modra-Piesok**	21.75	298	*e*P		**P**		17 31 01.6	+1.3			
MODS	**Modra-Piesok**	21.75	298	*e*P		**P**		17 31 01.6	+1.3			
KLNR	**Kaliningrad**	21.77	316	⇓P		**P**		17 31 00.6	+0.1			
KLNR				pmax		pmax						
	comp=Z,280nm,0.7s											
MORC	**Moravsky Berou**	21.80	302	⇓P		**P**		17 31 01.9	+1.0			
MORC	**Moravsky Berou**	21.80	302	*e*P		**P**		17 31 01.4	+0.5			
MORC	**Moravsky Berou**	21.80	302	P		**P**		17 30 59.5	-1.4			
MORC				pmax		pmax						
	comp=Z,55nm,1.1s											
MORC	**Moravsky Berou**	21.80	302	P		**P**		17 30 59.5	-1.4			
MORC				IAmb		IAmb		17 31 11.1				
	comp=Z,55nm,1.1s											
ZST	**Bratislava**	21.84	298	*e*P		**P**		17 31 03.6	+2.3			
ZST	**Bratislava**	21.84	298	*e*P		**P**		17 31 03.6	+2.3			
KUU	**Kurty**	21.91	74	⇑*i* P		**P**		17 31 02.0	-0.2			
	comp=Z,129nm,0.9s,baz=74											
KUU				LR		LR		17 40 34.9				
	comp=Z,2μm,12.9s,baz=74											
KUU	**Kurty**	21.91	74	*c i* P		**P**		17 31 02.0	-0.2			
KUU				pmax		pmax						
	comp=Z,129nm,0.9s											
KUU				MLR		MLR						
	comp=Z,2μm,13.0s											
MOSL	**Moslavina**	21.93	291	P		**P**		17 31 03.4	+1.1			
ULHL	**Ulahol**	22.02	78	P		**P**		17 31 04.2	+0.7			
	SNR=27											
MTBS	**Maitube**	22.05	76	*e*P		**P**		17 31 03.6	-0.2			
	baz=76											
MTBS	**Maitube**	22.05	76	*e*P		**P**		17 31 03.5	-0.2			
KALN	**Kalnik**	22.14	292	P		**P**		17 31 08.1	+3.5			
SLIT	**Slitere, Latvi**	22.32	324	*e*P		**P**		17 31 04.6	-1.7			
VRAC	**Vranov**	22.33	300	P		**P**		17 31 07.9	+1.3			
	comp=Z,6.6nm,0.9s,baz=113,slow=11,SNR=8.4											
VRAC	**Vranov**	22.33	300	⇓P		**P**		17 31 07.9	+1.3			
VRAC	**Vranov**	22.33	300	*e*P		**P**		17 31 07.4	+0.9			
KSH	**Kashi**	22.37	85	P		**P**		17 31 05.3	-1.9			
KSH				S		S		17 34 59.0	-13			
KSH				PcP		**PcP**		17 35 03.0	+1.0			
KSH				pmax		pmax						
	comp=Z,61nm,0.6s											
KSH				LR		LR						
	comp=Z,3μm,12.7s											
KSH				LR		LR						
	comp=Z,6μm,12.2s											
KSH				LR		LR						
	comp=Z,8μm,17.4s											
CHKK	**Chushkaly**	22.39	74	*i* P		**P**		17 31 06.9	-0.3			
	baz=74											
CHKK	**Chushkaly**	22.39	74	*i* P		**P**		17 31 06.9	-0.3			
AAA	**Alma-Ata**	22.39	76	*e*P		**P**		17 31 07.1	-0.4			
	comp=Z,28nm,1.5s,baz=76											
AAA	**Alma-Ata**	22.39	76	*e*P		**P**		17 31 07.0	-0.4			
AAA				pmax		pmax						
	comp=Z,28nm,1.5s											
KRUC	**Moravsky**	22.42	300	*e*P		**P**		17 31 09.2	+1.7			
ZAG	**Zagreb**	22.47	291	P		**P**		17 31 09.9	+1.8			
NIL	**Nilore**	22.48	102	P		**P**		17 31 09.4	+1.1			
NIL				pmax		pmax						
	comp=Z,123nm,0.9s											
NIL	**Nilore**	22.48	102	P		**P**		17 31 09.4	+1.1			
PTJ	**Puntijarka**	22.48	291	P		**P**		17 31 11.0	+2.7			
MDOK	**Medeo**	22.50	76	*i* P		**P**		17 31 08.1	-0.5			
	comp=Z,473nm,1.4s,baz=76											
MDOK	**Medeo**	22.50	76	⇓Pn		**P**		17 31 08.0	-0.6			
	comp=Z,41nm,0.8s											
MDOK	**Medeo**	22.50	76	*i* P		**P**		17 31 08.1	-0.5			
MDOK				pmax		pmax						
	comp=Z,473nm,1.4s											
CONA	**Conrad Observa**	22.64	297	*i* P		**P**		17 31 11.8	+1.8			
	comp=Z,14nm,1.0s											
MHTO	**MHTO**	22.66	151	P		**P**		17 31 10.2	0.0			
	SNR=12											
DPC	**Dobruska-Polom**	22.68	303	*e*P		**P**		17 31 11.1	+0.8			
DPC				*e*pP		**sP**		17 31 16.8	-1.0			
DPC	**Dobruska-Polom**	22.68	303	*e*P		**P**		17 31 11.1	+0.8			
DPC				*e*				17 31 16.8				
KDJ	**Kajisay**	22.73	78	IAmb		IAmb		17 31 20.4				
	comp=Z,50nm,0.8s											
OSTC	**Ostas**	22.79	304	*e*P		**P**		17 31 13.9	+2.5			
OSTC				*ex*		x		17 31 18.3				
KSP	**Ksiaz**	22.80	304	*e*P		**P**		17 31 11.9	+0.4			
TIP	**Timpagrande**	22.81	274	P		**P**		17 31 12.1	+0.3			
ZIRJ	**Zirje**	22.82	286	P		**P**		17 31 02.4	-9.4			
ARSA	**Arzberg**	22.82	295	*i* P		**P**		17 31 13.8	+1.9			
	comp=Z,25nm,1.1s,SNR=12											
OZLJ	**Ozalj**	22.83	291	P		**P**		17 31 15.3	+3.4			
GKP	**Gorka Klasztor**	22.89	311	*e*P		**P**		17 31 14.1	+1.6			
CHVC	**Chvalec**	22.89	304	*e*P		**P**		17 31 12.4	-0.2			
CHVC				*ex*		x		17 31 19.2				
UPC	**Upice**	22.91	303	*e*P		**P**		17 31 13.7	+1.0			
UPC				*e*pP		**sP**		17 31 20.5	+0.4			
UPC	**Upice**	22.91	303	*e*P		**P**		17 31 13.7	+1.0			
UPC				*e*				17 31 20.5				
TREC	**Trest**	23.04	300	*e*pP		pP		17 31 22.4	+3.2			
TREC	**Trest**	23.04	300	*e*P		P		17 31 22.4	+8.3			
PERS	**Pernice**	23.08	293	*i* P		**P**		17 31 15.9	+1.3			
SOKA	**Soboth**	23.14	293	*i* P		**P**		17 31 16.3	+1.1			
	comp=Z,22nm,1.0s,SNR=20											
TMCR	**Tamitsa**	23.18	350	*e*P		**P**		17 31 13.6	-1.7			
TMCR				*e*S		**S**		17 35 23.9	-2.0			
TMCR				pmax		pmax						
	comp=Z,285nm,1.0s											
TDK	**Taldyqorghan**	23.32	71	*e*P		**P**		17 31 16.2	-0.8			
	comp=Z,62nm,0.8s,baz=71											
TDK				*e*S		**S**		17 35 29.3	+0.4			
	baz=71											
TDK	**Taldyqorghan**	23.32	71	*e*P		**P**		17 31 16.2	-0.8			
TDK				*e*S		**S**		17 35 29.2	+0.4			
TDK				pmax		pmax						
	comp=Z,62nm,0.8s											
FIA1	**FINESS Array S**	23.46	335	P		**P**		17 31 17.1	-1.0			
FIA1				IAmb		IAmb		17 31 23.7				
	comp=Z,62nm,0.8s											
FINES	**FINESS Array B**	23.46	335	P		**P**		17 31 16.3	-1.8			
	comp=Z,20nm,0.7s,baz=136,slow=9.2,SNR=40											
FINES	**FINESS Array B**	23.46	335	P		**P**		17 31 16.3	-1.8			
OBKA	**Obir**	23.47	293	*i* P		**P**		17 31 18.2	-0.3			
	comp=Z,15nm,0.9s											
LJU	**Ljubljana**	23.49	292	*i* P		**P**		17 31 19.2	+0.7			
SATY	**Saty**	23.50	76	*e*P		**P**		17 31 18.8	-0.1			
	comp=Z,30nm,1.6s,baz=76											
SATY	**Saty**	23.50	76	*e*P		**P**		17 31 18.7	-0.1			
SATY				pmax		pmax						
	comp=Z,31nm,1.6s											
GOPC	**GO Pecny, Ondr**	23.58	302	*e*P		**P**		17 31 20.4	+0.9			
GOPC				*e*pP		**sP**		17 31 27.3	+0.2			
GOPC	**GO Pecny, Ondr**	23.58	302	*e*P		**P**		17 31 20.4	+0.9			
GOPC				*e*				17 31 27.3				
KPKS	**Kokpek**	23.65	75	⇑*i* P		**P**		17 31 20.1	-0.3			
	comp=Z,33nm,1.1s,baz=75											
KPKS				*e*S		**S**		17 35 34.9	+0.6			
	baz=75											
KPKS				LR		LR		17 41 58.7				
	comp=Z,617nm,10.6s,baz=75											
KPKS	**Kokpek**	23.65	75	*c i* P		**P**		17 31 20.0	-0.3			
KPKS				*e*S		**S**		17 35 34.8	+0.6			
KPKS				pmax		pmax						
	comp=Z,33nm,1.1s											
KPKS				MLR		MLR						
	comp=Z,617nm,11.0s											
MOA	**Molln**	23.71	296	*i* P		**P**		17 31 21.1	+0.4			
	comp=Z,9.7nm,0.8s											
PRU	**Pruhonice**	23.75	302	*e*P		**P**		17 31 21.3	+0.2			
PRU				*e*pP		**sP**		17 31 27.9	-0.8			
PRU	**Pruhonice**	23.75	302	*e*P		**P**		17 31 21.3	+0.2			
PRU				*e*				17 31 27.9				
KURBB	**Kurchatov Arra**	23.76	57	P		**P**		17 31 21.1	-0.1			
	comp=Z,23nm,0.7s,baz=264,slow=10,SNR=114											
KURBB	**Kurchatov Arra**	23.76	57	⇑P		**P**		17

SQTA **Sankt Quirin** 25.76 295 *i* P P 17 31 39.8 +0.1
comp=Z,20nm,0.8s,SNR=13

MOTA **Moosalm** 25.83 295 *i* P P 17 31 38.1 -2.3
comp=Z,13nm,0.8s

GRF **Grafenberg Arr** 25.85 300 *eP* P 17 31 40.9 +0.6
comp=Z,24nm,1.1s,baz=97,slow=9.8

MK31 **Makanchi Array** 25.97 66 *i* P P 17 31 41.5 +0.1
comp=Z,44nm,0.7s,baz=273,slow=6.9,SNR=380

MK31 **Makanchi Array** 25.97 66 *i* P P 17 31 41.8 +0.4

MK31 **Makanchi Array** 25.97 66 IAmb IAmb 17 31 45.1
comp=Z,53nm,0.8s

MKAR **Makanchi Array** 25.97 66 P P 17 31 41.8 +0.3
comp=Z,64nm,0.7s,baz=275,slow=7.4,SNR=285

OSSC **Osservatorio P** 26.01 286 P P 17 31 42.1 +0.3

OSSC IAmb IAmb 17 31 49.1
comp=Z,55nm,1.0s

RETA **Reutte** 26.07 295 *i* P P 17 31 41.1 -1.3
comp=Z,5.9nm,0.7s

FETA **Feichten** 26.09 294 *i* P P 17 31 41.4 -1.4
comp=Z,16nm,1.2s,SNR=14

DAVA **Damuels** 26.67 295 *i* P P 17 31 47.6 -0.3
comp=Z,12nm,0.7s,SNR=6.6

DAVOX **Davos/Dischmat** 26.68 294 P P 17 31 48.1 0.0
comp=Z,10nm,0.9s,baz=156,slow=22,SNR=14

APA **Apatity** 27.03 349 ⇓ *i* P P 17 31 49.8 -1.0

APA *i* 17 32 32.2

APA pmax pmax
comp=Z,35nm,0.7s

LVZ **Lovozero** 27.17 350 *c i* P P 17 31 51.4 -0.7

LVZ pmax pmax
comp=Z,77nm,0.7s

LVZ **Lovozero** 27.17 350 P P 17 31 51.8 -0.2

HFS **Hagfors** 27.43 324 P P 17 31 54.4 -0.1
comp=Z,21nm,0.7s,baz=115,slow=10,SNR=29

ZSN **Zaisan** 27.71 65 *eP* P 17 31 57.0 -0.2
comp=Z,13nm,0.9s,baz=65

ZSN **Zaisan** 27.71 65 *eP* P 17 31 56.9 -0.2

ZSN pmax pmax
comp=Z,13nm,0.9s

NDI **New Delhi** 27.99 108 *ex* P 17 32 03.0 +3.3

ZALV **Zalesovo Beam** 28.16 51 P P 17 32 00.1 -0.8
comp=Z,8.8nm,0.6s,baz=270,slow=9.1,SNR=39

MUD **Monsted U'grnd** 28.29 315 *i* P P 17 32 14.0 +12

MUD **Monsted U'grnd** 28.29 315 *i* P P 17 32 14.0 +12

SENIN **Lac Senin/Sane** 28.48 293 P P 17 32 03.8 -0.4

NC602 **NORSAR Array S** 28.66 324 *eP* P 17 32 04.9 -0.5

OSL **Oslo** 28.69 322 *eP* P 17 32 03.9 -1.8

NC405 **NORSAR Array S** 28.75 325 IAmb IAmb 17 32 10.1
comp=Z,34nm,0.8s

NB201 **NORSAR Array S** 28.91 324 IAmb IAmb 17 32 18.9
comp=Z,58nm,1.5s

NB2 **NORSAR Subarra** 28.94 324 P P 17 32 06.5 -1.4
comp=Z,7.4nm,0.7s,baz=117,slow=8.6

NB2 **NORSAR Subarra** 28.94 324 P P 17 32 06.5 -1.4
baz=117,slow=8.6

NOA **NORSAR Array B** 28.94 324 P P 17 32 06.9 -1.0
comp=Z,3.1nm,0.7s,baz=118,slow=8.3,SNR=15

NOA LR LR 17 46 05.9
comp=Z,449nm,18.6s,baz=195,slow=41

LPL **La Plagne** 28.96 291 *eP* P 17 32 08.2 -0.3

LPL pmax pmax
comp=Z,17nm,0.8s

KONO **Kongsberg** 29.11 321 ⇓ *i* P P 17 32 08.5 -0.8

KONO pmax pmax
comp=Z,35nm,1.6s

KONO **Kongsberg** 29.11 321 *eP* P 17 32 08.5 -0.8

MEM **Membach** 29.25 302 P P 17 32 12.3 +1.5
comp=Z,14nm,1.2s

DGZ **Jazzator, Alta** 29.38 60 ⇑ *i* P P 17 32 12.4 +0.3

DGZ pmax pmax
comp=Z,12nm,0.8s

KEST **Kesra** 29.51 271 P P 17 32 15.2 +1.9
comp=Z,5.9nm,0.8s,baz=6.6,slow=21,SNR=4.2

KEV **Kevo** 30.04 347 P P 17 32 17.6 +0.2

KEV pmax pmax
comp=Z,13nm,0.9s

KEV **Kevo** 30.04 347 P P 17 32 17.6 +0.2

WMQ **Urumqi** 30.07 72 *eP* P 17 32 19.5 +1.3

WMQ pP sP 17 32 28.5 +2.7

WMQ S **S** 17 37 12.8 -2.9

WMQ sS sS 17 37 32.5 +7.4

WMQ pmax pmax
comp=Z,29nm,1.1s

WMQ pmax pmax
comp=Z,210nm,6.9s

WMQ LR LR
comp=Z,2μm,17.9s

WMQ LR LR
comp=Z,2μm,14.1s

WMQ LR LR
comp=Z,4μm,24.9s

ARCES **ARCESS Array B** 30.12 345 P P 17 32 18.1 -0.1
comp=Z,15nm,0.8s,baz=154,slow=8.7,SNR=51

ARE0 **ARCESS Array S** 30.12 345 P P 17 32 17.7 -0.6

ARE0 **ARCESS Array S** 30.12 345 *eP* P 17 32 17.6 -0.6

KTK1 **Kautokeino** 30.14 343 *eP* P 17 32 17.8 -0.7

NSS **Namsos** 30.35 331 *eP* P 17 32 18.9 -1.4

MOR8 **Moi Rana** 30.45 335 *eP* P 17 32 20.1 -1.1

SSB **Saint Sauveur** 30.52 291 P P 17 32 21.9 -0.2

SSB pmax pmax
comp=Z,17nm,0.8s

SSB **Saint Sauveur** 30.52 291 P P 17 32 21.9 -0.2

SSB IAmb IAmb 17 32 26.9
comp=Z,17nm,0.8s

N2ST **Straumen** 30.85 337 *eP* P 17 32 23.6 -1.1

FAUS **Fauske** 30.96 337 *eP* P 17 32 24.8 -0.8

NBB17 **Glomfjord BYr** 31.00 336 *eP* P 17 32 26.1 0.0

STOK **Stokkvaagen** 31.01 334 *eP* P 17 32 24.9 -1.2

SSF **Saint Saulge** 31.02 295 *eP* P 17 32 26.6 +0.2

SSF pmax pmax
comp=Z,10.0nm,0.9s

KONS **Konsvik** 31.07 335 *eP* P 17 32 26.8 +0.2

N2TV **TYrnvik** 31.13 337 *eP* P 17 32 25.6 -1.5

MOL **Molde** 31.16 326 *eP* P 17 32 25.9 -1.6

N2IH **Innhavet** 31.17 338 *eP* P 17 32 27.1 -0.3

NBB30 **Finnes** 31.17 336 *eP* P 17 32 27.2 -0.2

STEI **Steigen** 31.34 338 *eP* P 17 32 28.4 -0.6

HAMF **Hammerfest** 31.39 346 *eP* P 17 32 29.6 +0.1

BHPL **Bhopal** 31.56 116 *ex* P 17 32 32.9 +1.4

BHPL IAmb IAmb 17 32 38.7
comp=Z,19nm,1.0s

TRO **Tromso** 31.59 342 *eP* P 17 32 30.6 -0.6

N2VI **Vinje** 31.89 338 *eP* P 17 32 32.7 -1.1

LOF **Lofoten** 31.96 337 *eP* P 17 32 33.3 -1.1

N2RO **R st** 32.00 336 *eP* P 17 32 33.9 -0.9

CAF **Calviac** 32.31 291 *eP* P 17 32 38.0 +0.2

CAF pmax pmax
comp=Z,6.0nm,0.8s

PYUN **Piuthan** 32.50 103 *eP* P 17 32 40.4 +0.5
comp=Z,17nm,0.4s

DANN **Dangsing** 32.93 102 *eP* P 17 32 44.5 +0.8
comp=Z,99nm,0.7s

KOLN **Koldanda** 33.13 103 *eP* P 17 32 45.9 +0.5

LFF **La Frestale** 33.23 292 *eP* P 17 32 46.0 +0.1

LFF pmax pmax
comp=Z,14nm,0.8s

GKN **Gorkha** 33.76 101 *eP* P 17 32 51.3 +0.5
comp=Z,33nm,0.3s

NGP **Nagpur** 34.08 117 *ex* P 17 32 54.7 +1.2

NGP IAmb IAmb 17 33 00.2
comp=Z,18nm,0.9s

DMN **Daman** 34.33 102 *eP* P 17 32 55.9 0.0

KKN **Kakani** 34.35 101 *eP* P 17 32 56.5 +0.5

PKIN **Phulchoki** 34.56 101 *eP* P 17 32 57.7 -0.2
comp=Z,28nm,0.5s

PKI **Pulchoki** 34.57 101 *eP* P 17 32 57.8 -0.3
comp=Z,30nm,0.8s

KLRI **Killari** 34.71 123 *eP* P 17 32 59.0 0.0

GUN **Gumba** 34.73 100 *eP* P 17 33 00.0 +0.6
comp=Z,103nm,1.0s

EKA **Eskdalemuir Ar** 34.97 310 P P 17 33 00.1 -0.7
comp=Z,7.9nm,0.7s,baz=99,slow=8.6,SNR=26

EKA PcP **PcP** 17 35 33.6 +0.8
comp=Z,1.7nm,0.6s,baz=70,slow=1.5,SNR=2.2

ESK **Eskdalemuir** 35.00 310 P P 17 33 00.0 -1.1

ESK pmax pmax
comp=Z,13nm,0.9s

ESK **Eskdalemuir** 35.00 310 P P 17 32 60.0 -1.1

ESK IAmb IAmb 17 33 01.3
comp=Z,13nm,0.8s

NRIK **Noril'sk** 35.01 24 P P 17 33 00.4 -0.5
comp=Z,40nm,0.9s,baz=241,slow=6.3,SNR=29

JIRN **Jiri** 35.10 101 *eP* P 17 33 02.9 +0.3
comp=Z,113nm,0.8s

SRSP **Sriramsagar** 35.19 120 *eP* P 17 33 03.1 0.0

RAMN **Ramite** 35.80 101 *eP* P 17 33 08.6 +0.1
comp=Z,36nm,0.7s

ODAN **Odare** 36.43 101 *eP* P 17 33 14.1 +0.2
comp=Z,132nm,0.9s

HYBB **Hyderabad (bro** 36.43 122 *eP* P 17 33 14.5 +0.7

HYB **Hyderabad** 36.43 122 *i* P P 17 33 14.0 +0.2

HYB **Hyderabad** 36.43 122 *ex* P 17 33 14.3 +0.5

HYB IAmb IAmb 17 33 15.7
comp=Z,16nm,0.8s

BOK **Bokaro** 37.13 106 *ex* P 17 33 20.2 +0.5

BOK IAmb IAmb 17 33 24.1
comp=Z,20nm,0.8s

URV **Uravakonda** 37.50 126 *eP* P 17 33 23.6 +0.7

NJS **Nagarjunasagar** 37.55 122 *eP* P 17 33 23.9 +0.6

SRLM **Srisailam** 37.63 123 *eP* P 17 33 24.5 +0.5

LSA **Lhasa** 37.71 94 P P 17 33 25.3 +0.3

LSA **Lhasa** 37.71 94 P P 17 33 25.7 +0.7

LSA pmax pmax
comp=Z,15nm,0.9s

LSA **Lhasa** 37.71 94 P P 17 33 25.7 +0.7

LSA IAmb IAmb 17 33 45.2
comp=Z,15nm,0.9s

MOY **Mondy** 37.88 56 *eP* P 17 33 27.0 +1.1

ESDC **Sonseca Array** 37.98 284 P P 17 33 27.0 +0.2
comp=Z,3.1nm,0.7s,baz=64,slow=8.2,SNR=20

MYLAV **Mylavaram** 38.27 120 *eP* P 17 33 30.1 +0.9

PAB **San Pablo** 38.31 284 P P 17 33 27.1 -2.5

PAB pmax pmax
comp=Z,27nm,1.5s

PAB **San Pablo** 38.31 284 P P 17 33 27.1 -2.5

PAB IAmb IAmb 17 33 39.1
comp=Z,27nm,1.5s

ADKI **Addanki** 38.51 122 *eP* P 17 33 32.3 +1.0

PVM **Polavaram** 38.55 118 *eP* P 17 33 32.0 +0.3

SPITS **Spitsbergen Ar** 38.70 350 P P 17 33 32.9 +0.6
comp=Z,27nm,0.5s,baz=129,slow=12,SNR=77

CHLP **Challavanipeta** 39.30 114 *eP* P 17 33 39.8 +1.8

TLY **Talaya** 39.52 55 P P 17 33 41.0 +1.5
comp=Z,4.7nm,0.6s,baz=245,slow=11,SNR=5.4

TLY **Talaya** 39.52 55 ⇑ *i* P P 17 33 40.7 +1.2

TLY pmax pmax
comp=Z,26nm,2.1s

KBS **Kingsbay** 39.84 350 P P 17 33 41.9 +0.1

KBS pmax pmax
comp=Z,29nm,0.8s

KBS **Kingsbay** 39.84 350 P P 17 33 41.9 +0.1

KBS IAmb IAmb 17 33 47.9
comp=Z,29nm,0.7s

KBS **Kingsbay** 39.84 350 *eP* P 17 33 41.8 +0.1

GTA **Gaotai** 39.99 75 ⇑ P P 17 33 44.3 +0.6

GTA pP sP 17 33 52.0 +0.6

GTA sP pP 17 33 56.0 +6.5

GTA sS sS 17 40 00.8 +2.8

GTA pmax pmax
comp=Z,18nm,1.1s

GTA LR LR
comp=Z,2μm,20.3s

GTA LR LR
comp=Z,3μm,20.6s

GTA LR LR
comp=Z,4μm,20.0s

SONM **Songino Array** 42.03 60 P P 17 34 00.4 0.0
comp=Z,3.7nm,0.7s,baz=278,slow=8.8,SNR=12

ULN **Ulaanbaatar** 42.45 60 P P 17 34 04.6 +0.8

ULN **Ulaanbaatar** 42.45 60 ⇑ *i* P P 17 34 04.5 +0.7

ULN pmax pmax
comp=Z,37nm,0.9s

KMBO **Kilima Mbogo** 43.33 194 P P 17 34 12.9 +1.6
comp=Z,1.8nm,0.8s,baz=2.4,slow=5.0,SNR=5.4

KMBO **Kilima Mbogo** 43.33 194 *i* P P 17 34 14.6 +3.3

KMBO pmax pmax
comp=Z,2.0nm,0.8s

BORG **Borgarnes** 44.11 325 P P 17 34 18.2 +1.4
comp=Z,8.4nm,0.9s,baz=69,slow=6.4,SNR=2.7

LZH **Lanzhou** 44.23 78 *eP* P 17 34 19.5 +1.1

LZH pP sP 17 34 29.8 +3.7

LZH sP pP 17 34 33.8 +10

LZH PP **PcP** 17 36 03.5 +0.7

LZH pmax pmax
comp=Z,35nm,1.3s

LZH pmax pmax
comp=Z,170nm,5.5s

LZH LR LR
comp=Z,1μm,13.5s

LZH LR LR
comp=Z,1μm,13.6s

LZH LR LR
comp=Z,1μm,16.8s

DAG **Danmarks Havn** 44.31 343 ⇑ *i* P P 17 34 18.1 -0.2
comp=Z,43nm,0.8s

DAG **Danmarks Havn** 44.31 343 ⇑ *i* P P 17 34 18.1 -0.2

DAG pmax pmax
comp=Z,43nm,0.8s

MBAR **Mbarara** 44.37 203 P P 17 34 20.1 +0.5
comp=Z,2.0nm,0.2s,baz=12,slow=6.3,SNR=3.6

MBAR **Mbarara** 44.37 203 *c eP* P 17 34 20.6 +1.0

BOD **Bodaibo** 44.55 45 *eP* P 17 34 19.0 -1.4

BOD pmax pmax
comp=Z,71nm,0.8s

NOR **Nord** 45.30 349 *i* P P 17 34 26.0 -0.1
comp=Z,16nm,0.8s

NOR **Nord** 45.30 349 *i* P P 17 34 26.0 -0.1

NOR pmax pmax
comp=Z,16nm,0.8s

CD2 **Chengdu** 46.55 84 P P 17 34 35.0 -1.7

HHC **Hu-ho-hao-te** 47.81 68 *eP* P 17 34 47.3 +0.9

HHC pmax pmax
comp=Z,16nm,0.9s

HHC pmax pmax
comp=Z,440nm,5.9s

TORD **Torodi Ar. Bea** 48.16 247 P P 17 34 48.2 -1.0
comp=Z,11nm,1.1s,baz=31,slow=7.1,SNR=24

TIXI **Tiksi** 48.78 25 P P 17 34 52.8 -0.5
comp=Z,15nm,0.5s,baz=284,slow=6.0,SNR=46

TIXI **Tiksi** 48.78 25 ⇑ *i* P P 17 34 53.3 0.0

TIXI pmax pmax
comp=Z,29nm,0.8s

TIXI **Tiksi** 48.78 25 P P 17 34 53.6 +0.3

KMI **Kunming** 48.84 91 ⇑ *eP* P 17 34 57.5 +2.8

KMI pP sP 17 35 04.5 +2.0

KMI sP pP 17 35 09.0 +8.6

KMI pmax pmax
comp=Z,20nm,0.8s

KMI pmax pmax
comp=Z,1μm,6.7s

KMI LR LR
comp=Z,5μm,24.8s

KMI LR LR
comp=Z,4μm,26.7s

KMI LR LR
comp=Z,4μm,21.4s

SUMG **Summit** 49.48 337 *i* P P 17 35 04.2 +5.0
comp=Z,93nm,0.8s

SUMG **Summit** 49.48 337 P P 17 34 59.5 +0.3

SUMG pmax pmax
comp=Z,37nm,0.8s

SUMG **Summit** 49.48 337 P P 17 34 59.5 +0.3

CHTO **Chiang Mai** 49.75 101 P P 17 35 01.4 0.0

CHTO P P 17 35 01.4 0.0

CHTO **Chiang Mai** 49.75 101 P P 17 35 01.3 -0.1

CHTO pmax pmax
comp=Z,15nm,0.8s

CHTO **Chiang Mai** 49.75 101 P P 17 35 01.3 0.0

CHTO IAmb IAmb 17 35 05.4
comp=Z,15nm,0.8s

CM31 **Chiang Mai Arr** 49.97 101 P P 17 35 03.9 +0.7

CM31 IAmb IAmb 17 35 22.4
comp=Z,22nm,1.1s

CMAR **Chiang Mai Arr** 49.97 101 P P 17 35 03.0 -0.1
comp=Z,8.6nm,0.7s,baz=302,slow=8.3,SNR=28

HIA **Hailar** 50.06 55 *i* P P 17 35 04.0 +0.5

HIA pmax pmax
comp=Z,17nm,0.8s

GYA **Guiyang** 51.05 87 ⇑ P P 17 35 10.8 -0.6

GYA pmax pmax
comp=Z,16nm,0.8s

YAK **Yakutsk** 51.28 37 P P 17 35 11.8 -0.6
comp=Z,16nm,0.4s,baz=301,slow=0.4,SNR=18

YAK **Yakutsk** 51.28 37 *eP* P 17 35 11.3 -1.1

YAK *e* *PP **pP** 17 35 16.9 -1.2

YAK *eS* **S** 17 42 28.2 -1.9

YAK pmax pmax
comp=Z,37nm,0.8s

YAK pmax pmax
comp=N,5.0nm,0.9s

YAK pmax pmax
comp=E,9.0nm,0.9s

YAK smax smax
comp=N,1μm,8.9s

YAK smax smax
comp=E,557nm,7.5s

YAK MLR MLR
comp=E,3μm,25.0s

PBKT **Sadao Pong** 52.66 101 P P 17 35 24.1 +0.9

PBKT IAmb IAmb 17 35 40.1
comp=Z,19nm,0.7s

ZEA **Zeya** 52.83 47 *eP* P 17 35 24.8 +0.7

ZEA pmax pmax
comp=Z,17nm,1.0s

DL2 **Dalian** 55.62 66 P P 17 35 45.0 +0.4

DL2 pmax pmax
comp=Z,47nm,0.8s

CN2 **Changchun** 55.87 59 *eP* P 17 35 45.8 -0.6

CN2 pmax pmax
comp=Z,10.0nm,1.0s

NJ2 **Nanjing** 57.09 74 *eP* P 17 35 55.8 +0.6

NJ2 pP **sP** 17 36 05.5 +2.5

NJ2 pmax pmax
comp=Z,33nm,0.7s

NJ2 LR LR
comp=Z,7μm,17.7s

NJ2 LR LR
comp=Z,8μm,20.6s

NJ2 LR LR
comp=Z,10μm,19.1s

KLR **Kul'dur** 57.26 51 P P 17 35 56.0 -0.2

KLR **Kul'dur** 57.26 51 ⇑ *i* P P 17 35 56.2 0.0

KLR pmax pmax
comp=Z,22nm,1.0s

DBIC **Dimbokro** 57.27 247 P P 17 35 55.8 -0.9
comp=Z,7.0nm,0.7s,baz=23,slow=8.4,SNR=7.3

DBIC **Dimbokro** 57.27 247 P P 17 35 56.2 -0.5

DBIC pmax pmax
comp=Z,28nm,1.3s

DBIC **Dimbokro** 57.27 247 P P 17 35 56.2 -0.5

DBIC IAmb IAmb 17 36 06.2
comp=Z,28nm,1.2s

LHMI **Lhok Sumawe** 57.54 115 P P 17 35 56.9 -1.6
comp=Z,181nm,1.2s

GRNR **Gornyy** 59.19 48 ⇑ *i* P P 17 36 09.7 0.0

GRNR *eS* **S** 17 44 19.6 +3.2

GRNR pmax pmax
comp=Z,10.0nm,0.9s

GRNR smax smax
comp=N,1.0nm,1.0s

GRNR MLR MLR
comp=E,810nm,12.0s

KCSI **Kotacane, Aceh** 59.34 115 P P 17 36 08.7 -2.4

USA0B **Ussuriysk Arra** 59.83 56 P P 17 36 12.8 -1.3

USA0B pmax pmax
comp=Z,13nm,1.0s

USA0B **Ussuriysk Arra** 59.83 56 P P 17 36 12.8 -1.3

USA0B IAmb IAmb 17 36 14.6
comp=Z,13nm,0.9s

USRK **Ussuriysk Ar.** 59.83 56 P P 17 36 13.6 -0.5
comp=Z,9.5nm,0.8s,baz=285,slow=6.4,SNR=19

OPO **Ambohidratompo** 59.83 179 P P 17 36 14.1 -0.4
comp=Z,8.5nm,1.1s,baz=99,slow=21,SNR=4.0

MSHR **Mys Shultsa** 60.12 58 ⇓ *i* P P 17 36 15.8 -0.3

MSHR pmax pmax
comp=Z,16nm,0.9s

VLA **Vladivostok** 60.30 57 ⇓ *i* P P 17 36 16.0 -1.4

KSRS **Korea Array** 60.63 65 P P 17 36 19.3 -0.4
comp=Z,7.0nm,0.8s,baz=294,slow=7.0,SNR=57

TJN **Taejon** 60.82 66 ⇑ *i* P P 17 36 20.7 -0.3

RES **Resolute Bay** 61.24 349 P P 17 36 23.9 +0.6
comp=Z,8.0nm,0.9s,baz=23,slow=8.3,SNR=3.6

MA2 **Magadan** 61.61 34 P P 17 36 26.4 +0.4
comp=Z,44nm,0.8s,baz=312,slow=8.4,SNR=26

MA2 **Magadan** 61.61 34 ⇑ *i* P P 17 36 26.5 +0.4

MA2 pmax pmax
comp=Z,39nm,0.8s

MA2 **Magadan** 61.61 34 P P 17 36 26.1 +0.1

BILL **Bilibino** 61.79 22 *c i* P P 17 36 27.5 +0.4

BILL *e* 17 37 06.4

BILL *e* 17 38 42.5

BILL pmax pmax
comp=Z,33nm,1.2s

TYV **Tymovskoe** 62.54 45 *eP* P 17 36 32.5 +0.1

TYV *eS* **S** 17 45 01.2 +2.2

TYV pmax pmax
comp=Z,19nm,0.9s

TYV smax smax
comp=E,1μm,4.2s

TPUB **Ta-pu** 63.27 82 P P 17 36 38.2 +0.5

BKNI **Bangkinang** 63.88 115 P P 17 36 41.9 +0.1
comp=E,46nm,1.3s

MATP **Matopo** 63.92 199 P P 17 36 42.0 0.0
comp=E,7.3nm,1.1s,baz=346,slow=8.7,SNR=4.1

YSS **Yuzh-Sakhalins** 64.76 49 ⇑ *eP* P 17 36 47.4 +0.3

YSS *e* 17 36 55.8

YSS pmax pmax
comp=Z,30nm,0.8s

YSS **Yuzh-Sakhalins** 64.76 49 P P 17 36 46.7 -0.4

JNU **Nakatsue** 65.02 67 P P 17 36 48.9 -0.2

PPSI **Pulau Pagai** 65.47 118 P P 17 36 53.7 +1.6

A36M **Sachs Harbour** 66.60 357 P P 17 36 59.5 +0.9
baz=6.5

ERM **Erimo** 67.86 53 *eP* P 17 37 05.7 -1.3

ERM pmax pmax
comp=Z,42nm,1.4s

MAJO **Matsushiro** 67.98 60 *i* P P 17 37 06.8 -1.2

MAJO pmax pmax
comp=Z,29nm,2.5s

MJAR **Matsushiro Arr** 67.98 60 P P 17 37 07.1 -0.9
comp=Z,3.1nm,1.0s,baz=292,slow=6.6,SNR=10

SCHQ **Schefferville** 68.50 325 P P 17 37 09.7 -1.3
comp=Z,1.8nm,0.5s,baz=41,slow=12,SNR=4.0

SCHQ **Schefferville** 68.50 325 P P 17 37 12.7 +1.7

SCHQ IAmb IAmb 17 37 24.7
comp=Z,8.3nm,0.8s

PEA0B **Petropavlovsk-** 68.62 37 ⇓ *i* P P 17 37 10.1 -1.6

PETK **Petropavlovsk-** 68.62 37 P P 17 37 10.6 -1.1
comp=Z,11nm,0.9s,baz=79,slow=4.0,SNR=14

PET **Petropavlovsk** 69.11 37 *i* P P 17 37 15.6 +0.9

PET pmax pmax
comp=Z,40nm,1.2s

SKR **Severo-Kuril's** 69.48 40 *eP* P 17 37 15.1 -1.9

SKR pmax pmax
comp=Z,830nm,11.5s

SBUM **Sibu** 70.27 105 P P 17 37 22.7 +0.3

SBUM IAmb IAmb 17 37 27.6
comp=Z,13nm,1.0s

INK **Inuvik** 70.45 0 P P 17 37 22.7 0.0
comp=Z,12nm,1.1s,baz=338,slow=7.9,SNR=5.8

BOSA **Boshof** 72.57 200 P P 17 37 37.7 +1.7
comp=Z,2.2nm,0.7s,baz=183,slow=6.2,SNR=1.7

COLA **College** 73.29 6 ⇓ *i* P P 17 37 40.7 +0.9

COLA pmax pmax
comp=Z,36nm,1.1s

ILAR **Eielson Array** 73.47 6 PP PP 17 40 24.6 +0.7
comp=Z,4.0nm,1.0s,baz=353,slow=7.4,SNR=4.7

D63A **Stockholm** 74.48 320 P P 17 37 47.2 +0.2
baz=45

E64A **Bridgewater** 74.78 319 P P 17 37 49.0 +0.2
baz=45

D62A **Allapoint, All** 74.90 320 P P 17 37 48.9 -0.6
baz=44

E63A **Oxbow** 75.06 320 P P 17 37 50.5 +0.1
baz=44

YKA **Yellowknife Ar** 75.19 351 P P 17 37 50.9 0.0
comp=Z,15nm,0.8s,baz=11,slow=6.5,SNR=41

CHGQ **Chibougamau** 75.25 325 P P 17 37 50.8 -0.7
baz=42

F64A **Sherman** 75.43 319 P P 17 37 52.6 +0.1
baz=44

E62A **Clayton Lake** 75.46 320 P P 17 37 52.5 -0.3
baz=44

E62A **Clayton Lake** 75.46 320 IAmb IAmb 17 38 08.0
comp=Z,14nm,0.8s

H66A **Whiting** 75.67 318 P P 17 37 54.5 +0.5
baz=45

F63A **Nahmakanta, Br** 75.91 319 P P 17 37 56.5 +1.2
baz=44

G64A **Maxfield** 76.06 319 P P 17 37 56.8 +0.5
baz=44

PKME **Peaks-Kenny Pk** 76.32 319 P P 17 37 58.3 +0.6
baz=44

F61A **St Evariste** 76.63 321 P P 17 38 01.1 +1.7
baz=43

D58A	**Chemin du LacG**	**76.69**	**322**	P	**P**	**17 38 00.8 +1.1**
	baz=42					
G62A	**West of Eustis**	**76.96**	**320**	P	**P**	**17 38 02.0 +0.7**
	baz=43					
CAPN	**Captain Cook N**	**76.99**	**9**	P	**P**	**17 38 02.2 +1.1**
	baz=346					
LSQQ	**Lebel-sur-Quev**	**77.01**	**326**	P	**P**	**17 38 02.2 +0.7**
	baz=40					
F60A	**Warwick**	**77.08**	**321**	P	**P**	**17 38 02.3 +0.3**
	baz=42					
D57A	**Chemin Vers le**	**77.20**	**323**	P	**P**	**17 38 03.2 +0.6**
	baz=41					
G61A	**St-Isidore-de-**	**77.39**	**320**	P	**P**	**17 38 04.3 +0.5**
	baz=42					
E58A	**La Victoria**	**77.41**	**322**	P	**P**	**17 38 04.3 +0.5**
	baz=42					
F59A	**Saint Guilaume**	**77.56**	**321**	P	**P**	**17 38 05.3 +0.6**
	baz=42					
D56A	**ZEC Mazanza, M**	**77.57**	**323**	P	**P**	**17 38 05.4 +0.6**
	baz=41					
H62A	**Milan**	**77.73**	**320**	P	**P**	**17 38 05.7 0.0**
	baz=42					
E57A	**Chemin Saint G**	**77.77**	**323**	P	**P**	**17 38 06.5 +0.6**
	baz=41					
D55A	**Sainte-Anne-du**	**77.91**	**324**	P	**P**	**17 38 07.3 +0.6**
	baz=40					
E56A	**St. Veronique**	**78.08**	**323**	P	**P**	**17 38 08.0 +0.5**
	baz=40					
H61A	**Lyndonville**	**78.13**	**320**	P	**P**	**17 38 08.0 +0.1**
	baz=42					
LBNH	**Lisbon**	**78.35**	**320**	P	**P**	**17 38 10.2 +1.1**
	baz=42					
H60A	**Morristown**	**78.48**	**320**	P	**P**	**17 38 10.7 +0.9**
	baz=42					
E55A	**Montcerf-Lytto**	**78.60**	**324**	P	**P**	**17 38 11.4 +1.0**
	baz=40					
G58A	**Ormstown**	**78.68**	**322**	P	**P**	**17 38 12.6 +1.7**
	baz=41					
D53A	**Lac Vacive, Po**	**78.84**	**325**	P	**P**	**17 38 12.5 +0.8**
	baz=39					
D53A	**Lac Vacive, Po**	**78.84**	**325**	IAmb	IAmb	17 38 27.5
	comp=Z,18nm,0.8s					
G57A	**Newington**	**79.15**	**322**	P	**P**	**17 38 13.1 -0.3**
	baz=40					
D52A	**ZEK Kipawa Sen**	**79.23**	**325**	P	**P**	**17 38 14.5 +0.6**
	baz=38					
H58A	**Gabriels**	**79.29**	**321**	P	**P**	**17 38 15.6 +1.3**
	baz=41					
I60A	**Shoreham**	**79.30**	**320**	P	**P**	**17 38 15.0 +0.7**
	baz=41					
LONY	**Lake Ozonia**	**79.33**	**322**	P	**P**	**17 38 15.0 +0.6**
	baz=40					
LONY	**Lake Ozonia**	**79.33**	**322**	P	**P**	**17 38 13.8 -0.7**
LONY				IAmb	IAmb	17 38 30.1
	comp=Z,14nm,0.8s					
E53A	**Dumoine, Ponti**	**79.37**	**324**	P	**P**	**17 38 15.1 +0.4**
	baz=39					
D51A	**Lot 18 Range I**	**79.55**	**326**	P	**P**	**17 38 15.7 +0.1**
	baz=38					
D50A	**G1974 Best Tow**	**79.69**	**326**	P	**P**	**17 38 16.9 +0.5**
	baz=38					
KDAK	**Kodiak Island**	**79.72**	**10**	P	**P**	**17 38 16.9 +0.6**
	comp=Z,18nm,0.7s,baz=344,slow=13,SNR=8.6					
KDAK	**Kodiak Island**	**79.72**	**10**	P	**P**	**17 38 16.5 +0.2**
KDAK				pmax	pmax	
	comp=Z,39nm,1.0s					
KDAK	**Kodiak Island**	**79.72**	**10**	P	**P**	**17 38 16.5 +0.2**
J60A	**Lant Hill Farm**	**79.81**	**320**	P	**P**	**17 38 18.4 +1.3**
	baz=41					
H57A	**Richville**	**79.82**	**322**	P	**P**	**17 38 17.6 +0.5**
	baz=40					
ALGO	**Algonquin Park**	**79.87**	**324**	P	**P**	**17 38 18.7 +1.3**
	baz=39					
E52A	**Mattawa**	**79.88**	**325**	P	**P**	**17 38 18.4 +1.0**
	baz=38					
E51A	**G1948 Merrick**	**80.04**	**326**	P	**P**	**17 38 19.1 +0.8**
	baz=38					
H56A	**Elgin**	**80.12**	**322**	P	**P**	**17 38 20.2 +1.5**
	baz=40					
J59A	**Piesco**	**80.17**	**321**	P	**P**	**17 38 20.1 +1.1**
	baz=40					
BESE	**Bessie Mountai**	**80.21**	**1**	P	**P**	**17 38 19.1 0.0**
BESE				IAmb	IAmb	17 38 25.9
	comp=Z,16nm,1.1s					
I58A	**Old Forge**	**80.22**	**321**	P	**P**	**17 38 20.9 +1.6**
	baz=40					
DLBC	**Dease Lake**	**80.32**	**358**	P	**P**	**17 38 20.9 +1.2**
	comp=Z,16nm,0.9s,baz=347,slow=4.3,SNR=13					
G54A	**Lake Saint Pet**	**80.32**	**324**	P	**P**	**17 38 20.5 +0.7**
	baz=38					
D48A	**Paudash Townsh**	**80.49**	**327**	P	**P**	**17 38 19.0 -1.7**
	baz=36					
F52A	**Sundridge**	**80.55**	**325**	P	**P**	**17 38 22.1 +1.0**
	baz=38					
H55A	**Tweed**	**80.58**	**323**	P	**P**	**17 38 21.9 +0.7**
	baz=39					
F51A	**Arnstein**	**80.70**	**325**	P	**P**	**17 38 22.6 +0.8**
	baz=37					
G53A	**Haliburton**	**80.77**	**324**	P	**P**	**17 38 23.2 +0.9**
	baz=38					
DELO	**Deloro Mine**	**80.80**	**323**	P	**P**	**17 38 22.7 +0.3**
DELO				IAmb	IAmb	17 38 38.2
	comp=Z,13nm,0.8s					
K59A	**Cooperstown**	**80.86**	**320**	P	**P**	**17 38 24.2 +1.5**
	baz=40					
M62A	**Hamden**	**80.91**	**318**	P	**P**	**17 38 23.6 +0.6**
	baz=41					
I55A	**Frankford**	**81.06**	**323**	P	**P**	**17 38 24.4 +0.7**
	baz=39					
D47A	**Chapleau**	**81.11**	**328**	P	**P**	**17 38 24.9 +0.9**
	baz=36					
H53A	**Bobcaygeon**	**81.18**	**324**	P	**P**	**17 38 25.1 +0.7**
	baz=38					
E48A	**Lockeyer**	**81.19**	**327**	P	**P**	**17 38 25.5 +1.0**
	baz=36					
K58A	**Earlville**	**81.24**	**321**	P	**P**	**17 38 25.7 +0.9**
	baz=40					
J56A	**Wolcott**	**81.41**	**322**	P	**P**	**17 38 25.4 -0.3**
	baz=39					
D46A	**Sault St. Mari**	**81.61**	**328**	P	**P**	**17 38 27.6 +0.9**
	baz=35					
E47A	**Iron Bridge**	**81.67**	**328**	P	**P**	**17 38 27.9 +0.9**
	baz=35					
L57A	**Andrews Acres**	**82.40**	**321**	P	**P**	**17 38 31.2 +0.2**
	baz=39					
L56A	**Greenwood**	**82.62**	**322**	P	**P**	**17 38 31.9 -0.2**
	baz=38					
L56A	**Greenwood**	**82.62**	**322**	IAmb	IAmb	17 38 38.2
	comp=Z,13nm,0.8s					
M58A	**Price's Panora**	**82.70**	**321**	P	**P**	**17 38 32.8 +0.3**
	baz=39					
N59A	**State Game Lan**	**82.72**	**320**	P	**P**	**17 38 36.3 +3.7**
	baz=40					
K54A	**Basiliko Farm,**	**82.77**	**323**	P	**P**	**17 38 33.5 +0.7**
	baz=38					
ULM	**Lac du Bonnet**	**82.84**	**337**	P	**P**	**17 38 33.8 +0.8**
	comp=Z,8.7nm,0.8s,baz=59,slow=6.8,SNR=3.7					
I51A	**Listowel**	**82.86**	**325**	P	**P**	**17 38 34.2 +0.9**
	baz=36					
G47A	**Hillman**	**82.95**	**327**	P	**P**	**17 38 34.9 +1.2**
	baz=35					
L55A	**Hinsdale**	**82.99**	**322**	P	**P**	**17 38 34.7 +0.6**
	baz=38					
M57A	**Sunshine Farm,**	**83.04**	**321**	P	**P**	**17 38 35.0 +0.7**
	baz=39					
J52A	**Paris**	**83.08**	**324**	P	**P**	**17 38 34.5 +0.1**
	baz=37					
N58A	**Sunbury**	**83.23**	**320**	P	**P**	**17 38 36.1 +0.8**
	baz=39					
M56A	**Emporium**	**83.42**	**322**	P	**P**	**17 38 36.4 +0.2**
	baz=38					
EYMN	**Ely**	**83.47**	**333**	P	**P**	**17 38 36.6 +0.3**
	baz=30					
P60A	**Greenville**	**83.50**	**319**	P	**P**	**17 38 36.5 -0.1**
	baz=39					
K52A	**Tillsonburg**	**83.55**	**324**	P	**P**	**17 38 37.3 +0.5**
	baz=37					
N57A	**Milroy**	**83.70**	**321**	P	**P**	**17 38 38.2 +0.5**
	baz=38					
M55A	**Ridgway**	**83.71**	**322**	P	**P**	**17 38 38.2 +0.5**
	baz=38					
N56A	**West Decatur**	**83.92**	**321**	P	**P**	**17 38 39.4 +0.6**
	baz=38					
SSPA	**Standing Stone**	**83.95**	**321**	P	**P**	**17 38 39.2 +0.3**
	baz=38					
SSPA	**Standing Stone**	**83.95**	**321**	P	**P**	**17 38 39.0 +0.1**
SSPA				IAmb	IAmb	17 38 54.9
	comp=Z,15nm,0.8s					
M54A	**Oil Creek Stat**	**84.09**	**322**	P	**P**	**17 38 40.0 +0.4**
	baz=37					
O57A	**Amberson**	**84.16**	**320**	P	**P**	**17 38 39.7 -0.3**
	baz=38					
N55A	**Marion Center**	**84.35**	**322**	P	**P**	**17 38 41.3 +0.3**
	baz=38					
O56A	**Blue Knob Stat**	**84.56**	**321**	P	**P**	**17 38 42.0 -0.1**
	baz=38					
P58A	**Pank, Wackersv**	**84.56**	**320**	P	**P**	**17 38 41.6 -0.4**
	baz=38					
AGMN	**Agassiz Nation**	**84.57**	**336**	P	**P**	**17 38 42.7 +0.8**
	baz=27					
P57A	**Homestead Farm**	**84.91**	**320**	P	**P**	**17 38 44.5 +0.7**
	baz=38					
O55A	**Ligonier**	**84.95**	**321**	P	**P**	**17 38 42.6 -1.5**
	baz=37					
P56A	**Dayton Farm, R**	**85.29**	**321**	P	**P**	**17 38 46.0 +0.3**
	baz=38					
Q57A	**Strasburg**	**85.45**	**320**	P	**P**	**17 38 46.6 0.0**
	baz=38					
P55A	**Reedsville**	**85.75**	**321**	P	**P**	**17 38 48.9 +0.9**
	baz=37					
P53A	**Whipple**	**86.49**	**322**	P	**P**	**17 38 52.7 +1.0**
	baz=36					
P52A	**Corning**	**86.71**	**323**	P	**P**	**17 38 53.1 +0.3**
	baz=36					
O48A	**Farmland**	**87.53**	**325**	P	**P**	**17 38 57.2 +0.5**
	baz=34					
ECSD	**EROS Data Cent**	**88.87**	**334**	P	**P**	**17 39 04.2 +1.1**
	baz=26					
SUSD	**Miller**	**88.97**	**336**	P	**P**	**17 39 04.8 +1.3**
	baz=25					
NEW	**Newport**	**89.40**	**349**	P	**P**	**17 39 06.7 +1.3**
	comp=Z,53nm,0.8s,baz=9.9,slow=5.5,SNR=81					
NEW	**Newport**	**89.40**	**349**	P	**P**	**17 39 07.0 +1.5**
NEW				pmax	pmax	
	comp=Z,56nm,0.8s					
NEW	**Newport**	**89.40**	**349**	P	**P**	**17 39 07.0 +1.5**
B05A	**Bryant**	**90.00**	**352**	P	**P**	**17 39 08.1 0.0**
	baz=8.3					
MSO	**Missoula**	**90.30**	**347**	P	**P**	**17 39 10.6 +0.8**
	baz=14					
RSSD	**Black Hills**	**90.71**	**339**	P	**P**	**17 39 12.9 +1.0**
	baz=21					
D03D	**Eldon**	**90.81**	**353**	P	**P**	**17 39 13.4 +1.4**
	baz=7.6					
RLMT	**Red Lodge**	**91.03**	**343**	P	**P**	**17 39 14.7 +1.3**
	baz=18					
BOZ	**Bozeman (W)**	**91.07**	**345**	P	**P**	**17 39 14.3 +0.8**
	baz=16					
BOZ	**Bozeman (W)**	**91.07**	**345**	IAmb	IAmb	17 39 15.3
	comp=Z,7.2nm,0.9s					
E04D	**Cinebar**	**91.73**	**353**	P	**P**	**17 39 17.5 +1.2**
	baz=8.0					
CCM	**Cathedral Cave**	**91.92**	**328**	P	**P**	**17 39 20.7 +3.4**
	baz=30					
H17A	**Grant Village**	**92.01**	**344**	P	**P**	**17 39 21.9 +3.9**
	baz=17					
F05D	**White Salmon**	**92.28**	**352**	P	**P**	**17 39 20.5 +1.6**
	baz=8.8					
K22A	**Casper**	**92.73**	**340**	P	**P**	**17 39 19.0 -2.2**
	baz=20					
G03D	**McMinnville, O**	**93.13**	**353**	P	**P**	**17 39 24.5 +1.7**
	baz=7.5					
BW06	**Boulder Array**	**93.34**	**343**	P	**P**	**17 39 24.6 +0.4**
	baz=18					
PDAR	**Pinedale Array**	**93.34**	**343**	P	**P**	**17 39 24.3 +0.2**
	comp=Z,2.0nm,0.9s,baz=75,slow=2.3,SNR=8.1					
HLID	**Hailey**	**93.55**	**346**	P	**P**	**17 39 25.7 +0.7**
	baz=14					
H04D	**Lebanon**	**93.76**	**352**	P	**P**	**17 39 27.1 +1.4**
	baz=7.9					
I05D	**Terrebonne, OR**	**93.80**	**351**	P	**P**	**17 39 27.0 +1.1**
	baz=8.9					
N23A	**Red Feather La**	**94.23**	**339**	P	**P**	**17 39 30.0 +1.7**
	baz=20					
I04A	**Tendick Farm,**	**94.45**	**352**	P	**P**	**17 39 29.5 +0.5**
	baz=8.1					
I03D	**Drain, OR**	**94.64**	**353**	P	**P**	**17 39 31.0 +1.3**
	baz=7.4					
J05D	**Fort Rock, OR**	**94.83**	**351**	P	**P**	**17 39 32.5 +1.7**
	baz=9.0,SNR=12					
J04D	**Umpqua Nationa**	**94.97**	**352**	P	**P**	**17 39 32.7 +1.2**
	baz=8.3					
ISCO	**Idaho Springs**	**95.17**	**339**	P	**P**	**17 39 34.0 +1.4**
	baz=20					
J01E	**Myrtle Point**	**95.22**	**353**	P	**P**	**17 39 33.8 +1.4**
	baz=7.0					
O20A	**White River Ci**	**95.53**	**341**	P	**P**	**17 39 35.1 +0.9**
	baz=18					
K04D	**Chiloquin, OR**	**95.54**	**351**	P	**P**	**17 39 35.3 +1.3**
	baz=8.6					
K02D	**Willamette Mer**	**95.66**	**353**	P	**P**	**17 39 35.5 +0.9**
	baz=7.2					
Q24A	**Divide**	**95.82**	**338**	P	**P**	**17 39 36.6 +1.0**
	baz=21					
L04D	**Klamath Falls**	**96.00**	**352**	P	**P**	**17 39 36.8 +0.6**
	baz=8.2,SNR=8.6					
M04C	**Macdoel**	**96.38**	**351**	P	**P**	**17 39 39.0 +1.1**
	baz=8.6,SNR=11					
DUG	**Dugway, Tooele**	**96.50**	**344**	P	**P**	**17 39 39.8 +1.3**
	baz=15					
M02C	**Callahan**	**96.87**	**352**	P	**P**	**17 39 41.1 +1.0**
	baz=7.8					
SDCO	**Great Sand Dun**	**97.05**	**338**	P	Pdif	17 39 41.4 +0.1
	baz=20					
N02D	**Trinity Center**	**97.27**	**352**	P	Pdif	17 39 42.9 +0.9
	baz=7.9,SNR=9.7					
S22A	**4UR Ranch, Cre**	**97.42**	**339**	P	Pdif	17 39 44.0 +1.1
	baz=20					
WMOK	**Wichita Mounta**	**97.68**	**332**	P	Pdif	17 39 44.2 +0.4
	baz=25					
O03E	**Paynes Creek**	**97.84**	**351**	P	**P**	**17 39 44.3 -0.1**
	baz=8.6					
O02D	**Mt. Diablo Mer**	**98.07**	**352**	P	Pdif	17 39 46.8 +1.3
	baz=7.9					
MVCO	**Mesa Verde**	**98.36**	**340**	P	Pdif	17 39 47.9 +0.8
	baz=18					
R11A	**Troy Canyon, C**	**98.82**	**346**	Pdiff	Pdif	17 39 50.0 +0.9
	baz=13					
NVAR	**Mina Array Bea**	**99.20**	**348**	P	**Pdif**	**17 39 50.9 +0.1**
	comp=Z,1.5nm,0.7s,baz=25,slow=4.0,SNR=14					
ANMO	**Albuquerque**	**99.94**	**338**	*e*P	**Pdif**	**17 39 56.5 +2.4**
ANMO				pmax	pmax	
	comp=Z,10.0nm,3.1s					
WRA	**Warramunga Arr**	**101.32**	**107**	P	**Pdif**	**17 39 59.9 -0.2**
	comp=Z,1.5nm,1.1s,baz=323,slow=4.0,SNR=3.1					
NNA	**Nana**	**122.76**	**284**	*i* PKIKP	**PKiKP**	**17 45 06.1 +0.7**

*JMA **29** 17:29:35.8±0.2, 39°.10N×143°.63E, h27km, M4.0*
*IDC **29** 17:29:40.4±2.7, 39°.11N×143°.21E, h0km, mb3.9/3, mb1 3.8/6, mb1mx3.6/62, mbtmp3.7/6, ML2.6/3, Error ellipse: s-maj=56.3km s-min=32.1km az=68.0*
*NEIC **29** 17:29:52.4±1.1, 38°.68N±0°.09×142°.6E±0°.1, h84km±12km, mb4.6/4, Error ellipse: s-maj=18.9km s-min=6.4km az=127.0*
ISC 29 17:29:35.6±3.4, 39°.15N±0°.05×143°.54E±0°.07, h1km±20km, n31, σ2ˢ21/42, mb4.1/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**1.40**	**288**	P		**Pn**	**17 30 01.3**	**-1.0**
MIYJ				*e*S		**Sb**	**17 30 19.3**	**-1.6**
OFUJ	**Ofunato**	**1.46**	**268**	P		**Pn**	**17 30 02.1**	**-0.9**
OFUJ				*e*S		**Sg**	**17 30 21.7**	**-0.7**
JTH	**Tanohata**	**1.52**	**302**	P		**Pn**	**17 30 03.1**	**-0.8**
JTH				*e*S		**Sb**	**17 30 22.8**	**-1.5**
JOM	**Ohasama**	**1.77**	**281**	P		**Pn**	**17 30 07.0**	**-0.4**
JOM				*e*S		**Sb**	**17 30 30.1**	**-1.5**
JMK	**Ichinoseki**	**1.82**	**265**	P		**Pn**	**17 30 07.4**	**-0.6**
JMK				*e*S		**Sn**	**17 30 30.4**	**-1.2**
JIO	**Ouri**	**1.85**	**249**	P		**Pn**	**17 30 07.1**	**-1.3**
JANG	**Nango**	**1.98**	**309**	P		**Pn**	**17 30 09.2**	**-1.1**
JANG				*e*S		**Sn**	**17 30 34.7**	**-1.1**
JRG	**Rokugo**	**2.27**	**277**	P		**Pn**	**17 30 14.2**	**0.0**
JYK	**Kaneyama**	**2.49**	**266**	P		**Pn**	**17 30 17.2**	**0.0**
JOT	**Ohata**	**2.93**	**320**	P		**Pn**	**17 30 23.7**	**+0.3**
JFT	**Otama**	**3.00**	**238**	P		**Pn**	**17 30 23.9**	**-0.4**
JFT				*e*S		**Sn**	**17 30 59.4**	**-1.4**
JNBK	**Urakawa-nobuka**	**3.19**	**349**	P		**Pn**	**17 30 26.9**	**+0.1**
JNBK				*e*S		**Sn**	**17 31 04.1**	**-1.3**
JKB	**Kayabe**	**3.34**	**326**	P		**Pn**	**17 30 28.9**	**0.0**
JCH	**Churui**	**3.46**	**358**	P		**Pn**	**17 30 29.7**	**-1.0**
JCH				*e*S		**Sn**	**17 31 08.5**	**-3.8**
MJAR	**Matsushiro Arr**	**4.96**	**240**	Pn		**Pn**	**17 30 52.2**	**+1.0**
	0.4nm,0.3s,baz=60,slow=10,SNR=47							
MAJO	**Matsushiro**	**4.96**	**240**			**Pn**	**17 30 52.4**	**+1.2**
MAT	**Matsushiro**	**4.96**	**240**	P		**Pn**	**17 30 52.4**	**+1.2**
MAT				*e*S		**Sn**	**17 31 49.4**	**+0.2**
MJB9	**Matsu-Tunnel**	**4.96**	**240**			**Pn**	**17 30 52.2**	**+1.0**
ASAJ	**Asahikawa**	**5.01**	**352**	Pn		**Pn**	**17 30 52.0**	**0.0**
	1.2nm,0.3s,baz=199,slow=16,SNR=18							
ASAJ				Sn		**Sn**	**17 31 48.8**	**-1.8**
	1.3nm,0.3s,baz=282,slow=32,SNR=2.5							
JHJ	**Hachijo jima 2**	**6.74**	**208**	Pn		**Pn**	**17 31 13.7**	**-2.0**
	3.6nm,0.3s,baz=31,slow=14,SNR=2.0							
JHJ				Sn		**Sn**	**17 32 25.4**	**-7.7**
	7.9nm,0.3s,baz=41,slow=15,SNR=1.4							
USRK	**Ussuriysk Ar.**	**10.00**	**304**	Pn		**Pn**	**17 32 02.1**	**+1.7**
	baz=98,slow=14,SNR=4.3							
JNU	**Nakatsue**	**11.87**	**243**	Pn		**Pn**	**17 32 21.9**	**-4.1**
KSRS	**Korea Array**	**12.39**	**267**	Pn		**Pn**	**17 32 35.5**	**+2.5**
	0.1nm,0.3s,baz=78,slow=14,SNR=2.9							
HIA	**Hailar**	**19.75**	**309**	P				
HIA				IAmb		IAmb	17 34 12.1	
	comp=Z,5.8nm,0.8s							
TWG	**Pinlang**	**25.11**	**236**	P		**P**	**17 35 01.6**	**-0.4**
AMKA	**Amchitka**	**27.70**	**52**	P		P	17 35 40.5	+15
ZALV	**Zalesovo Beam**	**41.77**	**311**	P		**P**	**17 37 29.5**	**+3.3**
	comp=Z,1.0nm,0.4s,baz=95,slow=8.7,SNR=2.4							
MKAR	**Makanchi Array**	**44.45**	**301**	P		**P**	**17 37 51.6**	**+3.5**
	comp=Z,2.2nm,0.7s,baz=88,slow=6.6,SNR=1.9							
WB0	**Warramunga Arr**	**59.23**	**190**	P		**P**	**17 39 39.6**	**+1.1**
WB0				IAmb		IAmb	17 39 48.1	
	comp=Z,6.3nm,1.1s							
WRAB	**Tennant Creek**	**59.40**	**190**	P		**P**	**17 39 42.4**	**+2.7**
WRAB				IAmb		IAmb	17 39 55.0	
	comp=Z,13nm,1.1s							
WRA	**Warramunga Arr**	**59.41**	**190**	P		**P**	**17 39 44.1**	**+4.3**
	comp=Z,0.7nm,0.8s,baz=7.9,slow=6.9,SNR=1.8							

*NSSP **29** 17:29:37.3, 41°.53N×46°.67E, h10km, Ms3.1*
*AZER **29** 17:29:37.1, 41°.59N×46°.53E, h14km, ML3.5*
ISC 29 17:29:39.1±1.0, 41°.54N±0°.05×46°.61E±0°.03, h16km±8km, n15, σ1ˢ38/29, 1C-1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
ZKTA	**Zakatala**	**0.10**	**7**	P		**Pg**	**17 29 42.1**	**-0.4**
ZKTA				S		**Sg**	**17 29 44.7**	**-0.1**
SEKA	**Sheki**	**0.56**	**127**	Pg		**Pb**	**17 29 50.0**	**-0.5**
SEKA				Sg		**Sn**	**17 29 59.5**	**-1.8**
GANJ	**Ganja**	**0.92**	**194**	P		**Pb**	**17 29 56.4**	**-0.3**
GANJ				S		**Sg**	**17 30 09.3**	**+0.2**
GDB	**GEDABAY**	**1.04**	**218**	P		**Pb**	**17 29 58.0**	**-0.9**
GDB				S		**Sb**	**17 30 12.4**	**0.0**
QZX	**Qazax, Azerbai**	**1.05**	**243**	P		**Pb**	**17 29 58.7**	**-0.2**
QZX				S		**Sn**	**17 30 13.4**	**-0.1**
QBL	**Gabala**	**1.10**	**122**	P		**Pg**	**17 30 00.5**	**+0.1**
QBL				S		**Sg**	**17 30 17.1**	**+2.3**
XNQ	**Khinaliq**	**1.21**	**107**	P		**Pg**	**17 30 01.9**	**-0.6**
XNQ				S		**Sg**	**17 30 21.0**	**+2.7**
BRDA	**Brd**	**1.35**	**161**	P		**Pb**	**17 30 03.9**	**-0.1**
BRDA				S		**Sg**	**17 30 25.1**	**+2.4**
IML	**Ismayilli**	**1.41**	**122**	P		**Pg**	**17 30 04.9**	**-1.3**
IML				S		**Sg**	**17 30 24.2**	**-0.3**
AGDM	**Agdam**	**1.48**	**165**	Pn		**Pb**	**17 30 06.1**	**-0.2**
AGDM				Sn		**Sg**	**17 30 27.9**	**+1.0**
ZRD	**Zardab**	**1.50**	**147**	Pn		**Pg**	**17 30 06.7**	**-1.3**
ZRD				Sn		**Sg**	**17 30 30.6**	**+3.1**
VADZ	**Vardenis**	**1.52**	**206**	*i* P		**Pb**	**17 30 07.3**	**+0.3**
VADZ				*i* S		**Sg**	**17 30 29.5**	**+1.4**
STKZ		**1.73**	**176**	*i*P		**Pb**	**17 30 10.5**	**-0.1**
STKZ				*i*S		**Sg**	**17 30 33.6**	**-1.3**
KAPZ	**Kaputan**	**1.89**	**230**	*e*P		**Pn**	**17 30 11.2**	**+0.4**
KAPZ				*e*S		**Sn**	**17 30 36.0**	**+1.5**
BLQ	**Beylaqan**	**1.96**	**158**	Sn		**Sg**	**17 30 40.1**	**-2.0**

*AEIC **29** 17:33:43.2±1.6, 67°.78N±0°.07×157°.41W±0°.10, h8km±4km, ML4.0/60, mb4.5/5(NEIC), Error ellipse: s-maj=9.7km s-min=5.4km az=179.0*
*IDC **29** 17:33:43.3±0.6, 68°.22N×157°.73W, h0km, mb4.1/18, mb1 4.2/23, mb1mx4.0/62, mbtmp4.1/23, ML3.8/5, MS4.3/1, Ms1 4.3/1, ms1mx3.8/51, Error ellipse: s-maj=20.0km s-min=10.6km az=34.0*
*NEIC **29** 17:33:44.7±1.4, 67°.82N±0°.05×157°.51W±0°.07, h22km±5km, Error ellipse: s-maj=7.5km s-min=2.2km az=152.0*
ISC 29 17:33:43.3±0.5, 67°.90N±0°.07×157°.53W±0°.05, h10km, n90, σ1ˢ32/87, mb4.1/19, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
RDOG	**Red Dog Mine**	**2.03**	**277**			**Pn**	**17 34 18.1**	**+0.6**
RDOG						**Sg**	**17 34 47.1**	**-1.4**
IM05	**Indian Mountai**	**2.45**	**141**			**Pn**	**17 34 21.7**	**-1.5**
PS05	**TAPS Pump Stn5**	**2.87**	**109**			**Pn**	**17 34 28.5**	**-0.5**
PS05						**Sn**	**17 35 02.3**	**-1.3**
COLD	**Coldfoot**	**2.89**	**100**			**Pn**	**17 34 29.3**	**0.0**
TOLK	**Toolik Lake Re**	**3.05**	**72**			**Pn**	**17 34 31.7**	**+0.1**
PS04	**TAPS Pump Stn4**	**3.10**	**77**			**Pn**	**17 34 32.7**	**+0.5**
PS06	**TAPS Pump Stn6**	**3.70**	**120**			**Pn**	**17 34 39.1**	**-1.3**
PS01	**TAPS Pump Stn**	**3.98**	**49**			**Pn**	**17 34 45.3**	**+1.2**
PS07	**TAPS Pump Stn7**	**4.51**	**121**			**Pn**	**17 34 50.5**	**-1.1**
CHUM	**Lake Minchumin**	**4.57**	**150**			**Pn**	**17 34 51.1**	**-1.2**
ANM	**Nome**	**4.62**	**227**			**Pn**	**17 34 52.5**	**-0.4**
BPAW	**Bear Paw Mtn.**	**4.66**	**142**			**Pn**	**17 34 52.5**	**-1.1**
MDM	**Murphy Dome**	**4.76**	**124**			**Pn**	**17 34 54.7**	**-0.3**
NEA2	**Nenana**	**4.77**	**130**			**Pn**	**17 34 54.2**	**-0.9**
POKR	**Poker Plat Res**	**4.91**	**120**			**Pn**	**17 34 55.9**	**-1.1**
TCOL	**CIGO, UAF Yank**	**4.93**	**124**			**Pn**	**17 34 56.0**	**-1.3**
COLA	**College**	**4.94**	**123**			**Pn**	**17 34 56.9**	**-0.4**
BM03	**Burnt Mountain**	**4.95**	**90**			**Pn**	**17 34 57.0**	**-0.7**
FYU	**Fort Yukon**	**4.96**	**100**	Pn		**Pn**	**17 34 57.4**	**-0.3**
CAST	**Castle Rocks**	**5.03**	**151**	

0.6nm,0.3s,baz=12,slow=9.1,SNR=9.0
KDAK Kodiak Island 10.40 165 Pn 17 36 11.6 -0.6
DLBC Dease Lake 15.47 114 Pn **P 17 37 25.1 -0.7**
0.1nm,0.3s,baz=336,slow=16,SNR=3.8
DLBC Dease Lake 15.47 114 IAmb IAmb 17 37 32.4
comp=Z,3.5nm,0.9s
YKA Yellowknife Ar 18.47 86 P **Pn 17 37 59.3 +0.4**
comp=Z,0.7nm,0.3s,baz=302,slow=10,SNR=7.8
RES Resolute Bay 20.18 43 LR LR 17 49 10.1
comp=Z,866nm,20.7s,baz=75,slow=46
TIXI Tiki 24.24 312 P **P 17 38 59.1 -0.6**
comp=Z,1.7nm,0.5s,baz=85,slow=9.9,SNR=2.1
TIXI Tiki 24.24 312 IAmb IAmb 17 39 01.3
comp=Z,8.1nm,1.2s
LLLB Lillooet 24.59 117 P **P 17 38 58.0 -5.1**
PDAR Pinedale Array 35.63 110 P **P 17 40 43.3 +2.2**
comp=Z,0.2nm,0.3s,baz=225,slow=25,SNR=2.3
NVAR Mina Array Bea 36.57 124 P **P 17 40 53.3 +4.2**
comp=Z,1.0nm,0.6s,baz=326,slow=7.3,SNR=6.3
USRK Ussuriysk Ar. 42.77 273 P **P 17 41 41.5 +1.1**
comp=Z,2.7nm,0.8s,baz=62,slow=8.2,SNR=5.7
SONM Songino Array 48.92 297 P **P 17 42 30.2 +1.1**
comp=Z,3.4nm,0.7s,baz=27,slow=6.6,SNR=13
TXAR Lajitas Array 49.76 113 P **P 17 42 38.7 +3.1**
comp=Z,0.7nm,0.6s,baz=333,slow=6.8,SNR=9.2
ZALV Zalesovo Beam 50.00 317 P **P 17 42 36.1 -0.9**
comp=Z,2.1nm,0.7s,baz=22,slow=7.0,SNR=5.2
KSRS Korea Array 50.15 272 P **P 17 42 38.8 +0.4**
comp=Z,1.3nm,0.8s,baz=16,slow=8.1,SNR=8.9
ARU Arti 53.14 336 P **P 17 42 60.0 -0.5**
comp=Z,1.2nm,0.5s,baz=346,slow=7.3,SNR=5.2
ARU Arti 53.14 336 IAmb IAmb 17 43 17.0
comp=Z,7.3nm,1.0s
BVAR Borovoye Array 54.23 326 P **P 17 43 08.2 -0.3**
comp=Z,4.3nm,0.6s,baz=32,slow=7.8,SNR=19
KURK Kurchatov 54.51 320 P **P 17 43 10.8 +0.2**
KURK Kurchatov 54.51 320 IAmb IAmb 17 43 21.6
comp=Z,7.4nm,1.4s
KURBB Kurchatov Arra 54.62 320 P **P 17 43 10.8 -0.6**
comp=Z,2.8nm,0.2s,baz=17,slow=28,SNR=2.8
EKA Eskdalemuir Ar 55.61 17 P **P 17 43 18.5 0.0**
comp=Z,0.4nm,0.4s,baz=28,slow=9.3,SNR=3.1
MKAR Makanchi Array 57.19 315 P **P 17 43 28.6 -1.3**
comp=Z,1.0nm,0.6s,baz=37,slow=7.8,SNR=5.0
AKTO Aktyubinsk 59.02 334 P **P 17 43 42.0 -0.6**
comp=Z,4.2nm,0.7s,baz=30,slow=7.3,SNR=9.2
AKASG Malin Array Be 61.61 355 P **P 17 43 59.3 -0.9**
comp=Z,0.7nm,0.4s,baz=6.7,slow=6.9,SNR=3.3
GERES GERESS Array B 63.39 6 P **P 17 44 13.1 +0.7**
comp=Z,0.1nm,0.4s,baz=359,slow=9.9,SNR=1.8
ESDC Sonseca Array 70.90 21 P **P 17 45 00.8 +0.6**
comp=Z,1.2nm,1.1s,baz=355,slow=6.4,SNR=2.8
CMAR Chiang Mai Arr 78.04 289 P **P 17 45 41.2 -0.5**
comp=Z,1.4nm,0.7s,baz=360,slow=6.4,SNR=16

*IDC **29** 17:33:52.6±0.4,55°31′S×28°30′W,h0km,mb4.7/23, mb1 4.7/25,mb1mx4.7/35,mbtmp4.7/25,ML4.5/2, Error ellipse: s-maj=15.4km s-min=11.3km az=35.0*
*MOS **29** 17:33:53.2±1.3,55°39′S×28°42′W,h10km, mb5.3/7, Error ellipse: s-maj=20.2km s-min=12.3km az=116.6*
*NEIC **29** 17:33:54.0±1.4,55°3′S±0°1′×28°3′W±0°1,h10km±1km, mb5.1/41, Error ellipse: s-maj=19.8km s-min=2.8km az=209.0*
*BJI **29** 17:33:54.0±0.0,55°50′S×28°50′W,h15km, mB6.2/1, Ms6.2/5, Ms7 6.1/4*

ISC 29 17:33:54.1±0.3,55°35′S±0°08′×28°29′W±0°06,h10km,n186, σ1°96/175,mb5.0/38,9C-5D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**4.86**	**279**	P		**Pn**	**17 35 07.0**	**-0.2**
HOPE	**Hope Point**	**4.86**	**279**	Pn		**Pn**	**17 35 07.0**	**-0.2**
VNA1	**Neumayer--Stat**	**17.68**	**158**	P		**P**	**17 38 02.3**	**+1.3**
VNA3	**Neumayer Olymp**	**17.86**	**160**	P		**P**	**17 38 03.6**	**+0.6**
EFI	**East Falkland**	**18.01**	**269**	⇑*i*P		**P**	**17 38 06.3**	**+1.6**
VNA2	**Neumayer--Watz**	**18.08**	**158**	P		**P**	**17 38 05.8**	**+0.4**
SNAA	**Sanae**	**19.64**	**156**	P		**P**	**17 38 22.8**	**+0.3**
SNAA	**Sanae**	**19.64**	**156**	P		**P**	**17 38 22.9**	**+0.4**
	1.8nm,0.3s,baz=308,slow=9.1,SNR=37							
SNAA	**Sanae**	**19.64**	**156**	⇓*i*P		**P**	**17 38 22.9**	**+0.4**
SNAA				pmax		pmax		
	comp=Z,12nm,0.7s							
SNAA	**Sanae**	**19.64**	**156**	P		**P**	**17 38 22.3**	**-0.2**
PMSA	**Palmer Station**	**19.90**	**227**	P		**P**	**17 38 26.0**	**+0.7**
	comp=Z,1.3nm,0.3s,baz=67,slow=6.8,SNR=4.4							
PMSA	**Palmer Station**	**19.90**	**227**	IAmb		IAmb	17 38 45.3	
	comp=Z,114nm,1.0s							
USHA	**Ushuaia**	**22.76**	**255**	P		**P**	**17 38 55.8**	**-0.4**
	comp=Z,6.8nm,0.4s,baz=126,slow=16,SNR=2.1							
PLCA	**Paso Flores**	**31.26**	**280**	P		**P**	**17 40 13.5**	**-0.4**
	comp=Z,7.6nm,1.3s,baz=135,slow=10,SNR=2.8							
PLCA	**Paso Flores**	**31.26**	**280**	P		**P**	**17 40 13.2**	**-0.7**
PLCA				pmax		pmax		
	comp=Z,6.0nm,1.4s							
PLCA	**Paso Flores**	**31.26**	**280**	P		**P**	**17 40 13.2**	**-0.7**
PLCA	**Paso Flores**	**31.26**	**280**	*e*P		**P**	**17 40 13.5**	**-0.4**
PLCA	**Paso Flores**	**31.26**	**280**	*e*P		**P**	**17 40 13.5**	**-0.4**
SYO	**Syowa Base**	**32.52**	**142**	⇑*e*pP		**P**	**17 40 23.0**	**-1.5**
SYO	**Syowa Base**	**32.52**	**142**	⇓*e*PnPn		PnPn	17 41 30.4	-1.1
SYO	**Syowa Base**	**32.52**	**142**	⇓*e*PP		PP	17 41 34.2	-3.6
QSPA	**South Pole Qui**	**34.90**	**180**	P		**P**	**17 40 46.0**	**+0.5**
	comp=Z,10.0nm,0.5s,baz=239,slow=0.5,SNR=40							
QSPA	**South Pole Qui**	**34.90**	**180**	P		**P**	**17 40 46.6**	**+1.1**
QSPA				IAmb		IAmb	17 40 47.8	
	comp=Z,39nm,1.1s							
BO02	**Sierra Bellavi**	**35.62**	**287**	P		**P**	**17 40 48.7**	**-3.2**
BO02				IAmb		IAmb	17 40 53.9	
	comp=Z,18nm,1.2s							
CPUP	**Villa Florida**	**35.88**	**312**	P		**P**	**17 40 53.7**	**-0.4**
	comp=Z,35nm,1.0s,baz=154,slow=8.2,SNR=27							
CPUP	**Villa Florida**	**35.88**	**312**	P		**P**	**17 40 52.8**	**-1.3**
CPUP				pmax		pmax		
	comp=Z,37nm,1.0s							
CPUP	**Villa Florida**	**35.88**	**312**	P		**P**	**17 40 52.8**	**-1.3**
CPUP				IAmb		IAmb	17 40 54.8	
	comp=Z,37nm,0.9s							
BSCB	**Bom Sucesso**	**36.47**	**334**	*e*P		**P**	**17 40 59.9**	**+0.7**
BSCB	**Bom Sucesso**	**36.47**	**334**	*e*P		**P**	**17 40 59.9**	**+0.7**
CFA	**Coronel Fontan**	**36.71**	**294**	P		**P**	**17 40 59.6**	**-1.6**
	comp=Z,11nm,0.9s,baz=147,slow=9.0,SNR=19							
MT02	**Curacav**	**36.97**	**289**	P		**P**	**17 41 02.5**	**-0.9**
MT02				IAmb		IAmb	17 41 15.1	
	comp=Z,26nm,1.2s							
ZON	**Zonda**	**36.99**	**293**	P		**P**	**17 41 03.5**	**-0.1**
ZON				pmax		pmax		
	comp=Z,10.0nm,0.7s							
ZON	**Zonda**	**36.99**	**293**	P		**P**	**17 41 03.5**	**-0.1**
VA03	**San Esteban**	**37.03**	**290**	P		**P**	**17 41 03.8**	**-0.2**
VA03				IAmb		IAmb	17 41 06.1	
	comp=Z,40nm,0.9s							
ROC1	**El Roble**	**37.12**	**289**	P		**P**	**17 41 04.4**	**-0.6**
TRCB	**Terra Rica**	**37.21**	**321**	*e*P		**P**	**17 41 06.0**	**+0.5**
TRCB	**Terra Rica**	**37.21**	**321**	*e*P		**P**	**17 41 06.0**	**+0.5**
CO02	**Combarbal**	**38.48**	**291**	P		**P**	**17 41 16.5**	**+0.2**
CO03	**El Pedregal**	**38.60**	**292**	P		**P**	**17 41 17.4**	**+0.1**
CO01	**Juntas del Tor**	**38.97**	**293**	P		**P**	**17 41 21.2**	**+0.6**
AC05	**El Transito**	**39.97**	**294**	P		**P**	**17 41 28.2**	**-0.6**
AC05				IAmb		IAmb	17 41 30.6	
	comp=Z,28nm,1.1s							
IPMB	**Ipameri, GO**	**40.27**	**330**	*e*P		**P**	**17 41 31.9**	**+0.7**
IPMB	**Ipameri, GO**	**40.27**	**330**	*e*P		**P**	**17 41 31.9**	**+0.7**
AC04	**Llanos de Chal**	**40.90**	**294**	P		**P**	**17 41 35.2**	**-1.1**
SUR	**Sutherland**	**41.07**	**77**	P		**P**	**17 41 38.8**	**+0.9**
	comp=Z,8.9nm,0.8s,baz=213,slow=12,SNR=6.1							
MAW	**Mawson**	**41.08**	**144**	P		**P**	**17 41 37.8**	**+0.5**
	comp=Z,3.3nm,0.8s,baz=232,slow=11,SNR=5.9							
MAW	**Mawson**	**41.08**	**144**	P		**P**	**17 41 36.8**	**-0.6**
MAW				pmax		pmax		
	comp=Z,1.0nm,0.8s							
MAW	**Mawson**	**41.08**	**144**	P		**P**	**17 41 36.8**	**-0.6**
AC01	**Pan de Azucar**	**42.32**	**296**	P		**P**	**17 41 47.5**	**-0.4**
AC01				IAmb		IAmb	17 41 49.4	
	comp=Z,57nm,1.2s							
BDFB	**Brasilia**	**42.45**	**331**	P		**P**	**17 41 49.9**	**+0.8**
	comp=Z,7.3nm,1.0s,baz=159,slow=5.5,SNR=6.9							
BDFB	**Brasilia**	**42.45**	**331**	P		**P**	**17 41 49.0**	**-0.2**
BDFB				pmax		pmax		
	comp=Z,14nm,1.1s							
BDFB	**Brasilia**	**42.45**	**331**	P		**P**	**17 41 49.0**	**-0.2**
GO02	**Mina Guanaco**	**42.61**	**298**	P		**P**	**17 41 50.8**	**+0.1**
GO02				IAmb		IAmb	17 41 52.5	
	comp=Z,68nm,1.4s							
ARAG	**Araguaiana, MT**	**43.51**	**326**	*e*P		**P**	**17 41 58.2**	**+0.5**
ARAG	**Araguaiana, MT**	**43.51**	**326**	*e*P		**P**	**17 41 58.2**	**+0.5**
LVC	**Limon Verde**	**44.41**	**301**	P		**P**	**17 42 06.1**	**+0.8**
	comp=Z,11nm,0.6s,baz=140,slow=1.8,SNR=5.3							
LVC	**Limon Verde**	**44.41**	**301**	P		**P**	**17 42 06.0**	**+0.8**
LVC				pmax		pmax		
	comp=Z,15nm,0.8s							
LVC	**Limon Verde**	**44.41**	**301**	P		**P**	**17 42 06.0**	**+0.7**
LVC				IAmb		IAmb	17 42 11.0	
	comp=Z,15nm,0.8s							
SALV	**Santo Antonio**	**44.65**	**321**	*e*P		**P**	**17 42 07.2**	**+0.4**
SALV	**Santo Antonio**	**44.65**	**321**	*e*P		**P**	**17 42 07.2**	**+0.4**
PB06	**IPOC Station P**	**44.65**	**300**	P		**P**	**17 42 06.2**	**-0.8**
PB06				IAmb		IAmb	17 42 08.0	
	comp=Z,32nm,1.3s							
PB09	**IPOC Station P**	**45.26**	**301**	P		**P**	**17 42 11.6**	**-0.3**
PEXB	**Peixe**	**45.90**	**332**	*e*P		**P**	**17 42 16.7**	**0.0**
PEXB	**Peixe**	**45.90**	**332**	*e*P		**P**	**17 42 16.7**	**0.0**
PB01	**IPOC Station P**	**46.02**	**301**	P		**P**	**17 42 18.0**	**+0.3**
PTLB	**Pontes e Lacer**	**46.36**	**317**	*e*P		**P**	**17 42 20.1**	**-0.2**
PTLB	**Pontes e Lacer**	**46.36**	**317**	*e*P		**P**	**17 42 20.1**	**-0.2**
BOSA	**Boshof**	**46.42**	**78**	P		**P**	**17 42 20.3**	**-0.5**
	comp=Z,16nm,1.0s,baz=216,slow=8.1,SNR=11							
BOSA	**Boshof**	**46.42**	**78**	P		**P**	**17 42 20.1**	**-0.7**
BOSA				pmax		pmax		
	comp=Z,13nm,0.9s							
BOSA	**Boshof**	**46.42**	**78**	P		**P**	**17 42 20.1**	**-0.7**
BOSA				IAmb		IAmb	17 42 24.8	
	comp=Z,13nm,0.8s							
PB08	**IPOC Station P**	**46.62**	**302**	P		**P**	**17 42 23.2**	**+0.4**
PB08				IAmb		IAmb	17 42 26.9	
	comp=Z,24nm,0.9s							
SIV	**San Ignacio**	**46.64**	**314**	P		**P**	**17 42 21.7**	**-0.9**
	comp=Z,3.1nm,0.7s,baz=170,slow=7.0,SNR=12							
GO01	**Chusmiza**	**47.04**	**303**	P		**P**	**17 42 26.3**	**+0.1**
PB11	**IPOC Station P**	**47.19**	**302**	P		**P**	**17 42 26.1**	**-0.9**
VNDA	**Vanda**	**47.24**	**183**	P		**P**	**17 42 27.4**	**+0.8**
	comp=Z,12nm,0.9s,baz=188,slow=7.0,SNR=53							
PSGCX	**Pisagua**	**47.55**	**302**	P		**P**	**17 42 29.7**	**-0.1**
PSGCX				IAmb		IAmb	17 42 31.1	
	comp=Z,21nm,1.0s							
MNMC	**Minye Minye**	**47.70**	**302**	P		**P**	**17 42 31.8**	**+0.7**
H10N1	**ASCENSIÓN HYDR**	**48.64**	**18**	T		T	18 35 59.1	
	baz=190,slow=76,SNR=4.7							
H10N3	**ASCENSION HYDR**	**48.64**	**18**	T		T	18 35 58.5	
	baz=190,slow=76,SNR=5.0							
H10N2	**ASCENSION HYDR**	**48.66**	**18**	T		T	18 35 55.1	
	baz=190,slow=76,SNR=4.4							
SMTB	**Santa Maria do**	**48.83**	**334**	*e*P		**P**	**17 42 40.1**	**+0.6**
SMTB	**Santa Maria do**	**48.83**	**334**	*e*P		**P**	**17 42 40.1**	**+0.6**
VILB	**Vilhena**	**49.04**	**317**	*e*P		**P**	**17 42 41.2**	**-0.1**
VILB	**Vilhena**	**49.04**	**317**	*e*P		**P**	**17 42 41.2**	**-0.1**
LPAZ	**La Paz**	**49.46**	**306**	P		**P**	**17 42 45.7**	**+0.6**
	comp=Z,16nm,0.8s,baz=137,slow=6.8,SNR=63							
LPAZ	**La Paz**	**49.46**	**306**	P		**P**	**17 42 44.8**	**-0.3**
LPAZ				pmax		pmax		
	comp=Z,27nm,0.9s							
LPAZ	**La Paz**	**49.46**	**306**	P		**P**	**17 42 44.8**	**-0.3**
LPAZ				IAmb		IAmb	17 42 46.9	
	comp=Z,27nm,0.9s							
LPAZ	**La Paz**	**49.46**	**306**	*e*P		**P**	**17 42 45.7**	**+0.6**
LPAZ	**La Paz**	**49.46**	**306**	*e*P		**P**	**17 42 45.7**	**+0.6**
TSUM	**Tsumeb**	**49.90**	**62**	P		**P**	**17 42 47.1**	**-0.7**
TSUM				IAmb		IAmb	17 42 52.1	
	comp=Z,23nm,1.2s							
NPGB	**Novo Progresso**	**52.78**	**325**	*e*P		**P**	**17 43 09.0**	**-0.3**
NPGB	**Novo Progresso**	**52.78**	**325**	*e*P		**P**	**17 43 09.0**	**-0.3**
SAML	**Samuel**	**53.87**	**316**	P		**P**	**17 43 16.5**	**-0.7**
SAML				pmax		pmax		
	comp=Z,16nm,1.0s							
SAML	**Samuel**	**53.87**	**316**	P		**P**	**17 43 16.5**	**-0.7**
SAML				IAmb		IAmb	17 43 17.8	
	comp=Z,16nm,1.0s							
SAML	**Samuel**	**53.87**	**316**	*e*P		**P**	**17 43 16.6**	**-0.7**
SAML	**Samuel**	**53.87**	**316**	*e*P		**P**	**17 43 16.6**	**-0.7**
CASY	**Casey**	**54.78**	**161**	P		**P**	**17 43 23.3**	**0.0**
CASY				IAmb		IAmb	17 43 24.8	
	comp=Z,17nm,0.9s							
MALB	**Monte Alegre**	**57.35**	**329**	*e*P		**P**	**17 43 42.3**	**+0.1**
MALB	**Monte Alegre**	**57.35**	**329**	*e*P		**P**	**17 43 42.3**	**+0.1**
NNA	**Nana**	**57.36**	**299**	P		**P**	**17 43 42.6**	**+0.1**
	comp=Z,13nm,1.0s,baz=179,slow=8.3,SNR=4.5							
NNA	**Nana**	**57.36**	**299**	⇓*i*P		**P**	**17 43 42.8**	**+0.3**
NNA				pmax		pmax		
	comp=Z,71nm,1.3s							
NNA	**Nana**	**57.36**	**299**	IAmb		IAmb	17 43 44.1	
	comp=Z,44nm,1.2s							
LSZ	**Lusaka**	**58.71**	**70**	P		**P**	**17 43 52.5**	**+0.4**
	comp=Z,4.4nm,1.0s,baz=230,slow=9.4,SNR=4.5							
LSZ	**Lusaka**	**58.71**	**70**	P		**P**	**17 43 52.5**	**+0.4**
LSZ				pmax		pmax		
	comp=Z,7.0nm,1.1s							
LSZ	**Lusaka**	**58.71**	**70**	IAmb		IAmb	17 43 56.0	
	comp=Z,7.2nm,1.1s							
PTGA	**Pitinga**	**60.24**	**323**	P		**P**	**17 44 01.9**	**-0.5**
	comp=Z,3.5nm,0.7s,baz=138,slow=9.0,SNR=5.9							
PTGA	**Pitinga**	**60.24**	**323**	IAmb		IAmb	17 44 02.3	
	comp=Z,3.8nm,0.8s							
ATAH	**Atahualpa**	**62.30**	**301**	P		**P**	**17 44 19.5**	**+2.6**
	comp=Z,13nm,0.9s,baz=165,slow=12,SNR=6.6							
MDP	**Montagnes des**	**63.53**	**333**	P		**P**	**17 44 23.7**	**-0.8**
	comp=Z,26nm,1.1s,baz=113,slow=10,SNR=3.1							
DBIC	**Dimbokro**	**64.80**	**26**	P		**P**	**17 44 32.4**	**-0.5**
	comp=Z,7.4nm,0.8s,baz=170,slow=8.4,SNR=5.2							
DBIC	**Dimbokro**	**64.80**	**26**	IAmb		IAmb	17 44 42.2	
	comp=Z,29nm,1.5s							
OPO	**Ambohidratompo**	**66.69**	**89**	P		**P**	**17 44 46.7**	**+1.4**
	comp=Z,5.2nm,1.1s,baz=252,slow=22,SNR=2.8							
MACC	**Macarena, Meta**	**68.34**	**310**	*e*P		**P**	**17 44 53.4**	**-2.1**
SOTA	**Rioblanco**	**69.56**	**307**	*e*P		**P**	**17 45 04.4**	**+0.7**
PCON	**Cinco Dias**	**69.64**	**308**	*e*P		**P**	**17 45 05.8**	**+1.5**
BBAC	**Balboa, Cauca**	**69.75**	**307**	*e*P		**P**	**17 45 04.2**	**-0.3**
MARP	**Paez Belalcaza**	**69.89**	**308**	*e*P		P	17 45 00.3	-5.2
PRAC	**Prado**	**70.19**	**310**	*e*P		**P**	**17 45 03.5**	**-3.6**
CHIC	**Chingaza**	**70.51**	**311**	*e*P		**P**	**17 45 11.0**	**+1.6**
ORTC	**Ortega, Tolima**	**70.53**	**309**	*e*P		**P**	**17 45 08.2**	**-0.9**
ROSC	**El Rosal**	**70.95**	**311**	P		**P**	**17 45 12.7**	**+0.6**
	comp=Z,7.0nm,0.6s,baz=104,slow=16,SNR=5.5							
ROSC	**El Rosal**	**70.95**	**311**	IAmb		IAmb	17 45 13.4	
	comp=Z,29nm,1.3s							
YOTC	**Yotoco, Valle**	**71.08**	**308**	*e*P		**P**	**17 45 10.4**	**-2.2**
TOLC	**Tolima**	**71.16**	**310**	*e*P		**P**	**17 45 11.8**	**-1.5**
RUSC	**La Rusia**	**71.37**	**312**	*e*P		P	17 45 06.8	-7.9
RREF	**El Recreo**	**71.45**	**310**	*e*P		**P**	**17 45 14.0**	**-1.4**
GUY2C	**Guyana, Caldas**	**71.75**	**310**	*e*P		P	17 45 11.2	-5.8
PLCV	**Puerto La Cruz**	**71.98**	**322**	P		**P**	**17 45 18.5**	**+0.7**
PCRV	**Puerto La Cruz**	**72.01**	**322**	P		**P**	**17 45 18.5**	**+0.5**
	comp=Z,15nm,0.9s,baz=266,slow=6.0,SNR=4.9							
PTBC	**PUERTO BERRIO,**	**72.53**	**311**	*e*P		**P**	**17 45 16.9**	**-4.2**
TOA0	**Torodi Ar. Sit**	**72.76**	**31**	P		**P**	**17 45 22.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**72.76**	**31**	P		**P**	**17 45 21.9**	**-0.5**
	comp=Z,16nm,0.7s,baz=201,slow=6.4,SNR=62							
JTS	**Las Juntas de**	**80.61**	**304**	⇓*i*P		**P**	**17 46 07.9**	**+1.1**
JTS				pmax		pmax		
	comp=Z,13nm,1.1s							
TAM	**Tamanrasset**	**83.01**	**31**	P		**P**	**17 46 23.2**	**+3.8**
TAM				pmax		pmax		
	comp=Z,12nm,1.2s							
TEIG	**Tepich**	**90.79**	**306**	P		**P**	**17 46 56.6**	**-0.7**
ESDC	**Sonseca Array**	**96.91**	**19**	P		**P**	**17 47 27.4**	**+2.4**
	comp=Z,2.7nm,1.2s,baz=186,slow=3.9,SNR=5.1							
ASAR	**Alice Springs**	**99.84**	**163**	P		**Pdif**	**17 47 38.0**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=182,slow=3.9,SNR=8.0							
ANN	**Anapa**	**114.16**	**45**	*i* PKIKP		**PKiKP**	**17 52 32.5**	**-0.1**
ANN				*e*			17 53 30.1	
ANN				*e*			17 59 18.0	
ANN				pmax		pmax		
	comp=Z,81nm,1.4s							
PMG	**Port Moresby**	**115.37**	**175**	⇑*i*PKIKP		**PKiKP**	**17 52 35.0**	**-1.1**
KIV	**Kislovodsk**	**115.68**	**49**	*i* PKIKP		**PKiKP**	**17 52 36.7**	**+0.9**
KIV				pmax		pmax		
	comp=Z,13nm,1.1s							
KIV				MLR		MLR		
	comp=Z,21μm,22.0s							
PFO	**Pinyon Flats O**	**115.91**	**292**	⇑*i*PKIKP		**PKPdf**	**17 52 35.9**	**-0.7**
KONO	**Kongsberg**	**118.57**	**21**	⇑*i*PKIKP		**PKiKP**	**17 52 43.0**	**+2.3**
PDAR	**Pinedale Array**	**119.44**	**303**	PKP		**PKPdf**	**17 52 42.2**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=126,slow=4.6,SNR=2.5							
NVAR	**Mina Array Bea**	**120.54**	**294**	PKP		**PKiKP**	**17 52 46.5**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=157,slow=3.3,SNR=6.0							
OBN	**Obninsk**	**122.17**	**38**	⇑*i*PKIKP		**PKiKP**	**17 52 49.2**	**+1.3**
OBN				*e*			17 54 25.7	
OBN				*e*PPP		PPP	17 57 05.5	
OBN				pmax		pmax		
	comp=Z,3.0nm,0.9s							
FINES	**FINESS Array B**	**124.06**	**28**	PKP		**PKPdf**	**17 52 50.6**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=173,slow=3.3,SNR=10							
CMAR	**Chiang Mai Arr**	**125.90**	**111**	PKP		**PKPdf**	**17 52 55.6**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=234,slow=4.4,SNR=9.9							
KLMR	**Klimovskoe**	**127.60**	**35**	*e*PKIKP		**PKiKP**	**17 52 59.6**	**+1.1**
KLMR				pmax		pmax		
	comp=Z,8.0nm,1.3s							
KLMR	**Klimovskoe**	**127.60**	**35**	*e*PKPdf		**PKiKP**	**17 52 59.7**	**+1.2**
KLMR				AMP			17 53 13.3	
	comp=Z,8.0nm,1.3s							
KK31	**Karatay Array**	**128.53**	**68**	PKIKP		**PKPdf**	**17 53 00.5**	**+0.1**
KKAR	**Karatay Array**	**128.53**	**68**	PKIKP		**PKPdf**	**17 53 00.5**	**+0.1**
KSH	**Kashi**	**128.98**	**75**	*e*PKP		**PKiKP**	**17 53 02.0**	**-0.2**
KSH				SKS		**SKSdf**	**18 00 12.5**	**-0.4**
KSH				SS		**SS**	**18 12 26.5**	**-2.5**
KSH				LR		LR		
	comp=Z,6μm,17.9s							
KSH				LR		LR		
	comp=Z,5μm,16.8s							
KSH				LR		LR		
	comp=Z,3μm,16.7s							
TMCR	**Tamitsa**	**129.60**	**31**	*e*PKIKP		**PKiKP**	**17 53 05.4**	**+3.0**
TMCR				pmax		pmax		
	comp=Z,18nm,0.9s							
AAK	**Ala-Archa**	**130.34**	**71**	⇓*i*PKIKP		**PKiKP**	**17 53 04.6**	**-0.3**
ARCES	**ARCESS Array B**	**130.53**	**22**	PKP		**PKPdf**	**17 53 03.0**	**-0.3**
	comp=Z,5.1nm,0.9s,baz=270,slow=2.4,SNR=16							
ARCES	**ARCESS Array B**	**130.53**	**22**	PKIKP		**PKPdf**	**17 53 03.0**	**-0.3**
ARU	**Arti**	**131.69**	**48**	*i* PKIKP		**PKiKP**	**17 53 06.4**	**-0.5**
ARU							17 55 24.7	
SVE	**Sverdlovsk**	**132.83**	**49**	*e*PKIKP		**PKiKP**	**17 53 08.5**	**-0.7**
SVE				pmax		pmax		
	comp=Z,14nm,1.4s							
BRVK	**Borovoye**	**134.90**	**57**	⇑*i*PKIKP		**PKiKP**	**17 53 13.3**	**-0.2**
YKA	**Yellowknife Ar**	**135.23**	**319**	PKP		**PKPdf**	**17 53 12.4**	**+0.1**
	comp=Z,4.5nm,0.9s,baz=122,slow=2.4,SNR=10.0							
MKAR	**Makanchi Array**	**137.26**	**71**	PKP		**PKPdf**	**17 53 16.5**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=249,slow=3.4,SNR=4.8							
KURK	**Kurchatov**	**137.67**	**65**	⇑*i*PKIKP		**PKPdf**	**17 53 17.5**	**+0.3**
WMQ	**Urumqi**	**138.38**	**78**	*e*PKP		**PKiKP**	**17 53 20.0**	**-1.0**
CD2	**Chengdu**	**138.45**	**106**	PKP		**PKPdf**	**17 53 19.5**	**+0.1**
LZH	**Lanzhou**	**142.35**	**100**	*e*PKP		**PKPdf**	**17 53 27.5**	**+1.0**
LZH				pPKP		PKiKP	17 53 30.8	+1.3
LZH				sPKP			17 53 32.5	
LZH				LR		LR		
	comp=Z,140nm,18.0s							
LZH				LR		LR		
	comp=Z,150nm,18.1s							
GTA	**Gaotai**	**142.38**	**93**	*e*PKP		**PKPdf**	**17 53 25.5**	**-0.9**
GTA				pPKP		PKiKP	17 53 33.5	+4.1
GTA				sPKP			17 53 36.8	
ZALV	**Zalesovo Beam**	**142.62**	**64**	PKP		**PKPdf**	**17 53 23.3**	**-2.8**
	comp=Z,1.3nm,0.6s,baz=222,slow=2.0,SNR=5.2							
XAN	**Xi'an**	**143.65**	**108**	PKP		PKPab	17 53 25.5	+0.1
XAN				pPKP		pPKPdf	17 53 30.5	-0.2
HYT	**Haines Jun

SNAA	**Sanae**	**19.46**	**156**	P	**Pn**	**18 03 11.8**	**-1.1**	
	comp=Z,0.6nm,0.3s,baz=288,slow=10,SNR=12							
SNAA	**Sanae**	**19.46**	**156**	P	**Pn**	**18 03 11.8**	**-1.1**	
PMSA	**Palmer Station**	**20.02**	**228**	P	**P**	**18 03 16.5**	**-1.3**	
GO09	**Cerro Castillo**	**26.52**	**260**	P	**P**	**18 04 21.8**	**-0.8**	
GO09				IAmb	IAmb	18 04 23.3		
	comp=Z,26nm,0.9s							
QSPA	**South Pole Qui**	**34.82**	**180**	P	**P**	**18 05 36.0**	**0.0**	
QSPA				IAmb	IAmb	18 05 40.7		
	comp=Z,7.4nm,1.4s							
CO01	**Juntas del Tor**	**39.22**	**293**	P	**P**	**18 06 14.2**	**+0.5**	
VNDA	**Vanda**	**47.17**	**183**	P	**P**	**18 07 18.8**	**+1.6**	
	comp=Z,1.2nm,0.7s,baz=175,slow=6.4,SNR=10							
GO01	**Chusmiza**	**47.29**	**302**	P	**P**	**18 07 20.6**	**+1.3**	
GO01				IAmb	IAmb	18 07 38.1		
	comp=Z,7.1nm,1.4s							
PB11	**IPOC Station P**	**47.44**	**302**	P	**P**	**18 07 21.5**	**+1.5**	
PB11				IAmb	IAmb	18 07 28.5		
	comp=Z,10nm,1.1s							
PSGCX	**Pisagua**	**47.80**	**301**	P	**P**	**18 07 24.7**	**+1.9**	
LPAZ	**La Paz**	**49.71**	**306**	P	**P**	**18 07 39.3**	**+1.2**	
	comp=Z,0.8nm,0.6s,baz=165,slow=7.9,SNR=2.4							
LPAZ	**La Paz**	**49.71**	**306**	IAmb	IAmb	18 07 39.4		
	comp=Z,2.1nm,0.9s							
TSUM	**Tsumeb**	**49.72**	**62**	P	**P**	**18 07 36.1**	**-1.5**	
TSUM				IAmb	IAmb	18 07 45.8		
	comp=Z,6.7nm,1.4s							
TORD	**Torodi Ar. Bea**	**72.71**	**30**	P	**P**	**18 10 13.2**	**+0.1**	
	comp=Z,1.4nm,0.8s,baz=199,slow=6.1,SNR=5.5							
INK	**Inuvik**	**145.08**	**321**	PKPbc	**PKPdf**	**18 18 21.6**	**+0.5**	
	comp=Z,2.0nm,0.8s,baz=226,slow=1.0,SNR=3.8							
ILAR	**Eielson Array**	**149.42**	**313**	PKPbc	**PKiKP**	**18 18 33.1**	**-0.9**	
	comp=Z,1.3nm,0.9s,baz=123,slow=1.6,SNR=6.9							
SONM	**Songino Array**	**151.07**	**86**	PKPbc	**PKiKP**	**18 18 38.3**	**+0.2**	
	comp=Z,0.4nm,0.5s,baz=222,slow=3.4,SNR=4.3							

IDC 29 18:01:39.3±5.2, 21.62N×142.32E, h275km±74km, mb2.7/4, mb1 3.0/6, mb1mx2.7/53, mbtmp3.7/6, Error ellipse: s-maj=129.8km s-min=19.8km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**11.68**	**349**	P	Pn	18 04 18.6	+0.3
	3.7nm,0.3s,baz=264,slow=19,SNR=1.5						
MJAR	**Matsushiro Arr**	**15.30**	**347**	P	P	18 04 59.3	-1.6
	0.1nm,0.3s,baz=172,slow=10,SNR=6.8						
KLR	**Kul'dur**	**28.81**	**346**	P	P	18 07 12.5	+0.4
	1.1nm,0.6s,baz=149,slow=13,SNR=2.3						
WRA	**Warramunga Arr**	**42.03**	**191**	P	P	18 09 04.5	+0.1
	0.4nm,0.5s,baz=8.0,slow=7.7,SNR=7.4						
ASAR	**Alice Springs**	**45.75**	**191**	P	P	18 09 33.2	-0.6
	0.1nm,0.6s,baz=13,slow=6.6,SNR=4.1						
MKAR	**Makanchi Array**	**54.17**	**313**	P	P	18 10 36.9	+0.3
	0.2nm,0.6s,baz=82,slow=6.4,SNR=2.2						

IDC 29 18:09:01.7±2.2, 0.91N×126.30E, h0km, mb3.1/3, mb1 3.4/3, mb1mx3.1/40, mbtmp3.2/3, Error ellipse: s-maj=190.3km s-min=28.0km az=65.0
DJA 29 18:09:08.0±2.2, 1.1N±7.1×12.6E±0.1°, h22km±22km, M3.1/5, MLv3.1/5
ISC 29 18:09:08.3±1.2, 0.8N±0.2×126.19E±0.07, h39km, n5, σ1°76/6, mb3.1/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.17**	**91**	P	**Pn**	**18 09 28.5**	**+0.3**
TNTI				S	**Sn**	**18 09 45.0**	**+2.0**
KMSI	**Cibinong**	**2.22**	**264**	P	**Pn**	**18 09 43.9**	**+1.2**
WRA	**Warramunga Arr**	**22.10**	**159**	P	**P**	**18 13 58.9**	**-1.5**
	0.5nm,0.7s,baz=338,slow=11,SNR=6.7						
ASAR	**Alice Springs**	**25.44**	**163**	P	**P**	**18 14 32.5**	**-0.1**
	0.2nm,0.3s,baz=345,slow=12,SNR=15						
MKAR	**Makanchi Array**	**59.67**	**326**	P	**P**	**18 19 07.6**	**-1.2**
	0.1nm,0.5s,baz=140,slow=7.0,SNR=1.7						

NEIC 29 18:10:49.0±1.6, 16.9S×0.2×175.9W±0.1, h10km±2km, mb4.6/2, Error ellipse: s-maj=39.1km s-min=22.8km az=169.0
IDC 29 18:10:48.2±1.7, 16.90S×175.75W, h0km, mb3.8/7, mb1 4.1/7, mb1mx3.8/39, mbtmp3.8/7, Error ellipse: s-maj=67.7km s-min=29.1km az=157.0
ISC 29 18:10:53.2±1.4, 16.9S±0.4×176.0W±0.2, h35km, n18, σ1°79/11, mb3.8/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**5.06**	**55**		Pn	18 11 50.8	-16
SANVU	**Saraoutou**	**16.16**	**273**	Pn	**Pn**	**18 14 35.0**	**-2.7**
SANVU				IAmb	IAmb	18 15 03.8	
	comp=Z,68nm,1.5s						
CTAO	**Charters Tower**	**35.85**	**259**	P	**P**	**18 17 50.2**	**+0.3**
CTAO				IAmb	IAmb	18 18 31.4	
	comp=Z,13nm,1.1s						
H11N3	**WAKE ISLAND Hy**	**40.04**	**335**	T	T	18 59 25.1	
	baz=152,slow=76,SNR=14						
H11N1	**WAKE ISLAND Hy**	**40.04**	**335**	T	T	18 59 26.0	
	baz=152,slow=76,SNR=23						
H11N2	**WAKE ISLAND Hy**	**40.05**	**335**	T	T	18 59 27.8	
	baz=152,slow=76,SNR=23						
ASAR	**Alice Springs**	**47.25**	**253**	P	**P**	**18 19 24.2**	**+0.9**
	comp=Z,0.8nm,0.9s,baz=84,slow=8.2,SNR=8.0						
PETK	**Petropavlovsk-**	**73.29**	**344**	P	**P**	**18 22 20.6**	**-0.2**
	comp=Z,4.2nm,0.8s,baz=140,slow=7.8,SNR=4.6						
KSRS	**Korea Array**	**75.46**	**317**	P	**P**	**18 22 37.2**	**+3.4**
	comp=Z,0.4nm,0.6s,baz=104,slow=5.3,SNR=4.4						
NVAR	**Mina Array Bea**	**77.12**	**43**	P	**P**	**18 22 42.2**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=237,slow=6.9,SNR=4.0						
TXAR	**Lajitas Array**	**83.54**	**57**	P	**P**	**18 23 18.8**	**+0.7**
	comp=Z,0.4nm,0.9s,baz=224,slow=5.0,SNR=3.3						
ILAR	**Eielson Array**	**84.39**	**12**	P	**P**	**18 23 20.6**	**-0.8**
	comp=Z,0.5nm,0.9s,baz=211,slow=5.1,SNR=3.6						
PDAR	**Pinedale Array**	**85.06**	**43**	P	**P**	**18 23 24.7**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=205,slow=4.0,SNR=5.4						
H03S2	**Juan Fernandez**	**86.49**	**124**	T	T	19 59 52.6	
	baz=250						
H03S1	**Juan Fernandez**	**86.51**	**124**	T	T	19 59 52.6	
	baz=250						
H03S3	**Juan Fernandez**	**86.51**	**124**	T	T	19 59 54.0	
	baz=250						
BRTR	**Keskin Array B**	**145.61**	**317**	PKPbc	**PKiKP**	**18 30 31.0**	**-1.3**
	comp=Z,1.9nm,0.9s,baz=93,slow=2.9,SNR=2.7						
GERES	**GERESS Array B**	**147.14**	**348**	PKPbc	**PKPab**	**18 30 34.3**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=335,slow=4.3,SNR=2.1						

IDC 29 18:20:43.8±0.7, 9.13S×125.83E, h0km, mb4.0/11, mb1 4.1/13, mb1mx4.0/38, mbtmp4.1/13, ML4.5/2, Error ellipse: s-maj=24.7km s-min=14.9km az=88.0
NEIC 29 18:20:48.9±2.8, 9.44S±0.03×125.87E±0.06, h55km±8km, mb4.2/2, Error ellipse: s-maj=9.2km s-min=4.9km az=90.0
DJA 29 18:20:48.4±1.0, 9.3S±3.1×12.6E±1.1°, h12km±8km, M4.5/12, mb4.7/12, mB4.1/1, MLv4.4/12, Mw(mB)3.1/1
ISC 29 18:20:48.5±0.5, 9.43S±0.05×125.92E±0.06, h35km, n47, σ2°25/51, mb4.2/11, Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.66**	**259**	P	**Pn**	**18 21 16.7**	**+1.4**
SOEI				S	**Sn**	**18 21 43.7**	**+8.2**
SOEI	**Soe**	**1.66**	**259**	Pn	**Pn**	**18 21 16.7**	**+1.4**
BATI	**Baumata**	**2.35**	**251**	Pn	**Pn**	**18 21 25.0**	**+0.3**
	46nm,0.3s,baz=69,slow=3.7,SNR=83						
BATI				Sn	**Sn**	**18 21 51.5**	**-1.0**
	72nm,0.3s,baz=10,slow=6.6,SNR=6.6						
BATI	**Baumata**	**2.35**	**251**	P	**Pn**	**18 21 26.3**	**+1.6**
MMRI	**Maumere**	**3.72**	**282**	P	**Pn**	**18 21 42.7**	**-0.8**
MMRI	**Maumere**	**3.72**	**282**	Pn	**Pn**	**18 21 42.7**	**-0.8**
EDFI	**Ende, Flores**	**4.23**	**279**	P	**Pn**	**18 21 50.5**	**-0.1**
BBSI	**Bau Bau**	**5.13**	**319**	P	**Pn**	**18 22 03.3**	**+0.3**
	0.1nm181nm18nm,0.6s						
BASI	**Baing, Sumba**	**5.32**	**261**	P	**Pn**	**18 22 05.6**	**+0.1**
	0.7nm145nm,0.9s						
WSI	**Waingapu**	**5.55**	**267**	P	**Pn**	**18 22 11.2**	**+2.5**
MTN	**Manton Dam**	**6.14**	**124**	Pn	**Pn**	**18 22 21.2**	**+4.4**
WBSI	**Waikabubak, Su**	**6.44**	**268**	P	**Pn**	**18 22 20.6**	**-0.4**
	0.3nm60nm,1.1s						
KNRA	**Kununurra**	**6.80**	**156**	Pn	**Pn**	**18 22 29.6**	**+3.7**
BNSI	**Bone**	**7.63**	**310**	P	**Pn**	**18 22 38.3**	**+1.0**
	0.2nm58nm,0.6s						
PLAI	**Plampang**	**8.06**	**274**	P	**Pn**	**18 22 42.2**	**-1.0**
	0.3nm57nm,0.7s						
SPSI	**Sidrap Palu**	**8.17**	**311**	P	**Pn**	**18 22 46.0**	**+1.3**
	18nm,0.6s						
FITZ	**Fitzroy Crossi**	**8.62**	**182**	Pn	**Pn**	**18 22 52.7**	**+1.9**
	6.0nm,0.3s,baz=17,slow=11,SNR=92						
FITZ				Sn	**Sn**	**18 24 24.3**	**-2.6**
	2.0nm,0.3s,baz=360,slow=19,SNR=1.2						
FITZ	**Fitzroy Crossi**	**8.62**	**182**	Pn	**Pn**	**18 22 52.8**	**+2.0**
TTSI	**Tana Toraja**	**8.77**	**316**	P	**Pn**	**18 22 55.3**	**+2.4**
	22nm,0.7s						
LUWI	**Luwuk**	**8.90**	**339**	P	**Pn**	**18 22 57.1**	**+2.4**
	79nm,0.8s						
LUWI	**Luwuk**	**8.90**	**339**	Pn	**Pn**	**18 22 56.6**	**+1.9**
FAKI	**Fak Fak**	**9.02**	**45**	P	**Pn**	**18 22 58.9**	**+2.6**
FAKI	**Fak Fak**	**9.02**	**45**	Pn	**Pn**	**18 22 57.1**	**+0.8**
JAGI	**Jajag, Banyuwa**	**11.67**	**274**	Pn	**Pn**	**18 23 29.5**	**-3.1**
WB0	**Warramunga Arr**	**13.14**	**142**	Pn	**Pn**	**18 23 53.1**	**+0.4**
WRAB	**Tennant Creek**	**13.24**	**143**		**Pn**	**18 23 53.1**	**-1.1**
WRA	**Warramunga Arr**	**13.24**	**143**	Pn	**Pn**	**18 23 53.4**	**-0.8**
	1.3nm,0.3s,baz=316,slow=14,SNR=42						
WRA				Sn	**Sn**	**18 26 18.2**	**-2.1**
	1.2nm,0.3s,baz=314,slow=24,SNR=4.9						
WB2	**Warramunga Arr**	**13.25**	**143**	Pn	**Pn**	**18 23 53.7**	**-0.6**
WR0	**Warramunga Arr**	**13.38**	**142**	Pn	**Pn**	**18 23 55.9**	**-0.1**
PSA00	**Pilbara Seismi**	**13.41**	**205**	Pn	**Pn**	**18 23 54.1**	**-2.4**
MTKI	**Muara Teweh, K**	**13.84**	**307**	P	**P**	**18 24 08.9**	**-1.2**
AS31	**Alice Springs**	**16.08**	**153**	Pn	**Pn**	**18 24 32.5**	**+0.4**
AS31				IAmb	IAmb	18 24 41.7	
	comp=Z,5.9nm,0.6s						
ASAR	**Alice Springs**	**16.08**	**153**	Pn	**Pn**	**18 24 32.2**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=317,slow=11,SNR=217						
ASAR				Sn	**Sn**	**18 27 26.5**	**-3.0**
	comp=Z,0.4nm,0.3s,baz=314,slow=17,SNR=4.6						
CTA	**Charters Tower**	**22.31**	**121**	P	**P**	**18 25 46.0**	**+2.9**
	comp=Z,1.4nm,0.3s,baz=304,slow=14,SNR=1.9						
STKA	**Stephens Creek**	**26.65**	**149**	P	**P**	**18 26 27.3**	**+3.2**
	comp=Z,2.0nm,0.5s,baz=328,slow=11,SNR=8.0						
CMAR	**Chiang Mai Arr**	**38.43**	**316**	P	**P**	**18 28 05.3**	**-1.8**
	comp=Z,0.4nm,0.7s,baz=146,slow=7.4,SNR=2.7						
JNU	**Nakatsue**	**42.58**	**6**	P	**P**	**18 28 39.0**	**-2.2**
	comp=Z,1.6nm,0.5s,baz=207,slow=2.3,SNR=1.5						
JNU	**Nakatsue**	**42.58**	**6**	IAmb	IAmb	18 28 45.5	
	comp=Z,11nm,1.2s						
KSRS	**Korea Array**	**46.67**	**2**	P	**P**	**18 29 12.7**	**-1.1**
	comp=Z,2.2nm,0.4s,baz=178,slow=8.8,SNR=28						
MJAR	**Matsushiro Arr**	**47.16**	**14**	P	**P**	**18 29 15.0**	**-2.7**
	comp=Z,1.1nm,0.5s,baz=193,slow=9.2,SNR=14						
USRK	**Ussuriysk Ar.**	**53.66**	**5**	P	**P**	**18 30 05.2**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=195,slow=7.1,SNR=11						
SONM	**Songino Array**	**59.59**	**345**	P	**P**	**18 30 46.7**	**-2.1**
	comp=Z,0.4nm,0.6s,baz=153,slow=8.2,SNR=2.8						
PETK	**Petropavlovsk-**	**67.92**	**20**	P	**P**	**18 31 43.4**	**-0.1**
	comp=Z,1.7nm,0.5s,baz=188,slow=6.4,SNR=9.8						
MKAR	**Makanchi Array**	**68.14**	**329**	P	**P**	**18 31 42.9**	**-2.1**
	comp=Z,0.9nm,0.4s,baz=127,slow=7.1,SNR=20						
MAW	**Mawson**	**71.23**	**201**	P	**P**	**18 32 06.2**	**+2.5**
	comp=Z,1.2nm,0.3s,baz=149,slow=3.8,SNR=10						
TORD	**Torodi Ar. Bea**	**125.27**	**279**	PKP	**PKiKP**	**18 39 48.0**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=360,slow=2.8,SNR=4.9						
LPAZ	**La Paz**	**150.91**	**151**	PKPbc	**PKPbc**	**18 40 39.0**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=231,slow=6.5,SNR=2.0						

UNK 29 18:24:30.9, 15.36S×175.45W, h10km
IDC 29 18:24:31.7±0.4, 15.31S×175.78W, h0km, mb4.8/32, mb1 5.0/32, mb1mx4.9/39, mbtmp4.8/32, ML3.3/1, MS5.5/26, Ms1 5.5/26, ms1mx5.4/34, Error ellipse: s-maj=17.0km s-min=10.8km az=152.0
BJI 29 18:24:31.0±0.0, 15.30S×175.40W, h5km, mB6.2/24, mb5.0/56, Ms5.9/35, Ms7 5.7/33
NEIC 29 18:24:32.4±2.2, 15.35S±0.07×175.66W±0.08, h10km±1km, mb5.7/152, Ms_20 5.9/420, Mww5.9, Mwc6.0(GCMT), Error ellipse: s-maj=13.3km s-min=12.4km az=91.0
MOS 29 18:24:32.9±1.3, 15.29S×175.71W, h16km, mb5.5/30, MS5.6/15, Error ellipse: s-maj=8.4km s-min=7.8km az=25.2
NEIC 29 18:24:37, 15.17S×175.54W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}1.09; $M_{\theta\theta}$3.90; $M_{\phi\phi}$-4.99; $M_{r\theta}$-2.76; $M_{r\phi}$6.08; $M_{\theta\phi}$2.21; Fault plane solution: $M_0$8.38000×10^{17} NP1:ϕ_s199.00000°, δ67.00000°, λ-177.00000°. NP2:ϕ_s108.00000°, δ88.00000°, λ-23.00000°. Principal axes: T 7.3671, Plg15.0000°, Azm156.0000°; N 1.7455, Plg67.0000°, Azm283.0000°; P -9.1126, Plg18.0000°, Azm61.0000°;
NEIC 29 18:24:39, 15.14S×175.59W, h17km, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}0.01; $M_{\theta\theta}$0.51; $M_{\phi\phi}$-0.52; $M_{r\theta}$-0.03; $M_{r\phi}$0.85; $M_{\theta\phi}$-0.21; Fault plane solution: $M_0$1.01000×10^{18} NP1:ϕ_s285.00000°, δ78.00000°, λ-1.00000°. NP2:ϕ_s16.00000°, δ89.00000°, λ-168.00000°. Principal axes: T 1.0047, Plg8.0000°, Azm150.0000°; N 0.0174, Plg78.0000°, Azm21.0000°; P -1.0221, Plg9.0000°, Azm241.0000°;
GCMT 29 18:24:39.4±0.1, 15.15S±0.01×175.60W±0.01, h15km, MW5.9/165, Moment Tensor Solution. s69,c95; s165,c375; Duration: 2s2 Moment tensor: Scale 10^{18} Nm; M_{rr}-0.06±.01; $M_{\theta\theta}$0.49±.01; $M_{\phi\phi}$-0.42±.01; $M_{r\theta}$-0.06±.05; $M_{\theta\phi}$0.75±.01; $M_{r\phi}$-0.21±.05; Best double couple: $M_0$0.90300×10^{18} NP1:ϕ_s286.00000°, δ76.00000°, λ-2.00000°. NP2:ϕ_s16.00000°, δ88.00000°, λ-166.00000°. Principal axes: T 0.9310, Plg9.0000°, Azm150.0000°; N -0.0560, Plg76.0000°, Azm22.0000°; P -0.8750, Plg11.0000°, Azm242.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function
BGR 29 18:25:39.4±0.0, 16.03S×175.43W, h33km
ISC 29 18:24:32.9±0.2, 15.33S±0.06×175.60W±0.05, h10km, n842, σ1°87/558, mb5.6/157, MS5.9/246, 49C-28D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**3.96**	**70**	P	**Pn**	**18 25 29.7**	**-4.0**
AFI	**Afiamalu**	**3.96**	**70**	Pn	**Pn**	**18 25 29.7**	**-4.0**
MSVF	**Nonsavu**	**6.55**	**248**	i/P	**Pn**	**18 26 11.2**	**+1.8**
MSVF	**Nonsavu**	**6.55**	**248**	Pn	**Pn**	**18 26 09.8**	**+0.5**
NIUE	**Niue**	**6.57**	**125**	P	**Pn**	**18 26 06.6**	**-3.0**
	baz=6.5,SNR=6.3						
NIUE	**Niue**	**6.57**	**125**	Pn	**Pn**	**18 26 06.7**	**-3.0**
RAO	**Raoul Island**	**14.02**	**188**	LR	LR	18 32 25.7	
	comp=Z,50μm,18.6s,baz=10.0,slow=34						
RAR	**Rarotonga**	**16.12**	**114**	Pn	**Pn**	**18 28 19.0**	**-0.7**
	0.9nm,0.3s,baz=264,slow=3.8,SNR=8.7						
RAR				Sn	Sn	18 31 05.6	-13
	1.4nm,0.3s,baz=319,slow=20,SNR=1.6						
RAR				LR	LR	18 33 08.0	
	comp=Z,5μm,21.0s,baz=288,slow=32						
RAR	**Rarotonga**	**16.12**	**114**	P	**Pn**	**18 28 19.8**	**+0.1**
RAR	**Rarotonga**	**16.12**	**114**		**Pn**	**18 28 15.0**	**-4.7**
DZM	**Mont Dzumac**	**18.28**	**246**	eLR	LR	18 33 13.7	
	comp=Z,39μm,27.8s						
DZM	**Mont Dzumac**	**18.28**	**246**	P	**Pn**	**18 28 43.8**	**-3.0**
	0.1nm,0.3s,baz=155,slow=14,SNR=3.2						
DZM				LR	LR	18 34 04.6	
	comp=Z,14μm,19.7s,baz=69,slow=32						
OUZ	**Omahuta**	**22.05**	**204**	P	**P**	**18 29 28.1**	**+0.3**
XMAS	**Kiritimati**	**24.91**	**48**	P	**P**	**18 29 49.5**	**-6.9**
XMAS				IAmb	IAmb	18 30 05.5	
	comp=Z,211nm,1.0s						
PAE	**Paea**	**25.05**	**99**	eP	**P**	**18 29 58.8**	**+1.3**
	comp=Z,13nm,1.1s						
PAE	**Paea**	**25.05**	**99**	eT	T	18 55 43.8	
	comp=Z,7.2nm,0.3s						
PPT	**Papeete**	**25.05**	**99**	P	**P**	**18 29 58.0**	**+0.4**
	comp=Z,56nm,1.0s,baz=295,slow=8.0,SNR=4.9						
PPT				LR	LR	18 37 11.9	
	comp=Z,5μm,21.9s,baz=270,slow=30						
PPT	**Papeete**	**25.05**	**99**	P	**P**	**18 29 58.0**	**+0.4**
PPT2	**Papeete2**	**25.05**	**99**	eP	**P**	**18 29 59.3**	**+1.7**
	comp=Z,87nm,1.3s						
PPT2				eLQ	LQ	18 35 01.8	
	comp=Z,56μm,25.8s						
PPT2				eLR	LR	18 36 07.8	
	comp=Z,17μm,25.5s,baz=258						
PPT2	**Papeete2**	**25.05**	**99**	eT	T	18 55 44.6	
	comp=Z,9.3nm,0.3s						
TIAR	**Tiarei**	**25.27**	**99**	eP	**P**	**18 30 01.4**	**+1.9**
	comp=Z,36nm,1.3s						
TIAR	**Tiarei**	**25.27**	**99**	eT	T	18 56 00.3	
	comp=Z,4.7nm,0.3s						
TVO	**Taravao**	**25.36**	**99**	eP	**P**	**18 30 02.1**	**+1.6**
TVO	**Taravao**	**25.36**	**99**	eT	T	18 56 07.3	
	comp=Z,3.3nm,0.3s						
TBI	**Tubuai**	**25.89**	**112**	eP	**P**	**18 30 07.3**	**+2.2**
	comp=Z,311nm,1.4s						
TBI				eLQ	LQ	18 35 24.7	
	comp=Z,49μm,27.2s						
TBI	**Tubuai**	**25.89**	**112**	eT	T	18 56 49.8	
	comp=Z,28nm,0.3s						
MEH	**Mehetia**	**26.49**	**99**	eT	T	18 57 33.0	
	comp=Z,9.0nm,0.2s						
EIDS	**Eidsvold**	**32.72**	**247**	P	**P**	**18 31 07.4**	**+1.5**
	baz=33,SNR=3.2						
EIDS	**Eidsvold**	**32.72**	**247**	P	**P**	**18 31 05.0**	**-0.9**
WHZ	**Wether Hill Ro**	**33.45**	**201**	P	**P**	**18 31 11.5**	**-0.5**
WHZ				IAmb	IAmb	18 31 17.2	
	comp=Z,108nm,1.2s						
ARMA	**Armidale**	**33.58**	**238**	P	**P**	**18 31 13.4**	**0.0**
	baz=34,SNR=9.2						
ARMA	**Armidale**	**33.58**	**238**	P	**P**	**18 31 12.7**	**-0.8**
ARMA				IAmb	IAmb	18 31 18.1	
	comp=Z,134nm,1.4s						
KRVT	**Keravat (AS076**	**33.68**	**286**	P	**P**	**18 31 13.3**	**-1.0**
	comp=Z,160nm,1.3s,baz=189,slow=2.6,SNR=6.7						
KRVT				LR	LR	18 43 03.9	
	comp=Z,6μm,20.2s,baz=107,slow=33						
PATS	**Pohnpei**	**33.97**	**309**	P	**P**	**18 31 16.9**	**+0.1**
	baz=34,SNR=3.2						
PATS	**Pohnpei**	**33.97**	**309**	P	**P**	**18 31 13.6**	**-3.2**
PATS				IAmb	IAmb	18 31 18.0	
	comp=Z,172nm,1.4s						
MGCD	**Mangrove Creek**	**34.98**	**233**	P	**P**	**18 31 26.9**	**+1.4**
	baz=35,SNR=5.1						
RMQ	**Roma**	**34.99**	**246**	P	**P**	**18 31 26.3**	**+0.7**
	baz=35,SNR=17						
RIV	**Riverview**	**35.18**	**232**	P	**P**	**18 31 30.6**	**+3.4**
RIV				pmax	pmax		
	comp=Z,154nm,1.5s						
TAOE	**Nuku Hiva Isla**	**35.22**	**84**	eLR	LR	18 40 43.8	
	comp=Z,31μm,26.6s						
TAOE	**Nuku Hiva Isla**	**35.22**	**84**	eT	T	19 08 23.6	
	comp=Z,44nm,0.2s						
CTA	**Charters Tower**	**36.59**	**257**	P	**P**	**18 31 37.5**	**-2.0**
	comp=Z,15nm,1.0s,baz=76,slow=9.2,SNR=8.6						
CTA				LR	LR	18 45 03.8	
	comp=Z,6μm,19.8s,baz=106,slow=34						
CTAO	**Charters Tower**	**36.59**	**257**	P	**P**	**18 31 37.8**	**-1.7**
CTAO				pmax	pmax		
	comp=Z,47nm,1.3s						
CTAO				MLR	MLR		
	comp=Z,7μm,20.0s						
CTAO	**Charters Tower**	**36.59**	**257**	P	**P**	**18 31 37.8**	**-1.7**
PMG	**Port Moresby**	**36.82**	**275**	P	**P**	**18 31 40.3**	**-1.1**
	comp=Z,86nm,1.1s,baz=102,slow=6.6,SNR=8.4						
PMG				LR	LR	18 45 28.1	
	comp=Z,9μm,18.3s,baz=108,slow=34						
PMG	**Port Moresby**	**36.82**	**275**	P	**P**	**18 31 40.7**	**-0.7**
PMG				pmax	pmax		
	comp=Z,193nm,1.3s						
PMG				MLR	MLR		
	comp=Z,9μm,18.0s						
PMG	**Port Moresby**	**36.82**	**275**	P	**P**	**18 31 40.7**	**-0.7**
PMG				IAmb	IAmb	18 31 47.1	
	comp=Z,193nm,1.2s						
CNB	**Canberra Magne**	**37.13**	**231**	P	**P**	**18 31 45.7**	**+1.7**
	baz=37,SNR=6.0						
CAN	**Canberra**	**37.41**	**231**	P	**P**	**18 31 46.0**	**-0.3**
CAN				pmax	pmax		
	comp=Z,101nm,1.2s						
CAN				MLR	MLR		
	comp=Z,8μm,19.0s						
CAN	**Canberra**	**37.41**	**231**	P	**P**	**18 31 46.0**	**-0.3**
H11S2	**WAKE ISLAND Hy**	**37.86**	**332**	T	T	19 11 50.7	
	baz=153,slow=76,SNR=21						
H11S3	**WAKE ISLAND Hy**	**37.88**	**332**	T	T	19 11 50.5	
	baz=153,slow=76,SNR=39						
H11S1	**WAKE ISLAND Hy**	**37.88**	**332**	T	T	19 11 50.2	
	baz=153,slow=76,SNR=32						
MTSU	**Mount Surprise**	**38.44**	**260**	P	**P**	**18 31 55.6**	**+0.4**
	baz=39,SNR=10						
CMSA	**Cobar Meteorol**	**38.77**	**239**	P	**P**	**18 31 57.4**	**-0.4**
	baz=39,SNR=17						
H11N3	**WAKE ISLAND Hy**	**38.85**	**333**	T	T	19 13 05.7	
	baz=152,slow=77,SNR=118						
H11N1	**WAKE ISLAND Hy**	**38.85**	**333**	T	T	19 13 04.4	
	baz=152,slow=77,SNR=753						
H11N2	**WAKE ISLAND Hy**	**38.87**	**333**	T	T	19 13 07.2	
	baz

baz=54,SNR=5.8
KNRA Kununurra 53.48 262 P **P** **18 33 52.5 -1.4**
FORT Forrest 53.56 243 P **P** **18 33 53.0 -1.3**
baz=54,SNR=6.1
FORT Forrest 53.56 243 P **P** **18 33 52.7 -1.5**
FORT IAmb IAmb 18 34 01.0
comp=Z,83nm,1.1s
SIJI Sorong 54.36 280 LR LR 18 56 00.9
comp=Z,5µm,20.6s,baz=109,slow=35
FITZ Fitzroy Crossi 56.15 258 P **P** **18 34 12.3 -0.9**
baz=56,SNR=6.9
FITZ Fitzroy Crossi 56.15 258 P **P** **18 34 11.3 -1.9**
TNTI Ternate 58.57 281 P P 18 34 34.3 +3.9
SOEI Soe 58.81 268 P **P** **18 34 35.3 +3.1**
comp=Z,4µmcomp=Z,320nm,1.3s
SOEI Soe 58.81 268 P **P** **18 34 31.7 -0.5**
KMBL Kambalda 58.88 242 P **P** **18 34 34.6 +2.4**
baz=59,SNR=7.6
MMRI Maumere 61.01 269 P **P** **18 34 49.2 +2.0**
comp=Z,2µmcomp=Z,123nm,1.7s
PSAC2 Pilbara Seismi 61.14 254 IAMs_20 IAMs_20 19 01 29.6
comp=Z,8µm,18.0s
PSAB2 Pilbara Seismi 61.18 254 IAMs_20 IAMs_20 19 01 38.6
comp=Z,8µm,18.0s
PSAB3 Pilbara Seismi 61.18 254 IAMs_20 IAMs_20 18 59 00.6
comp=Z,7µm,21.0s
PSAA3 Pilbara Seismi 61.19 254 IAMs_20 IAMs_20 19 01 30.7
comp=Z,8µm,18.0s
PSA00 Pilbara Seismi 61.19 254 P **P** **18 34 44.2 -4.1**
PSA00 IAMs_20 IAMs_20 19 01 29.9
comp=Z,8µm,18.0s
PSAA2 Pilbara Seismi 61.19 254 IAMs_20 IAMs_20 19 01 37.9
comp=Z,8µm,18.0s
PSAA1 Pilbara Seismi 61.20 254 IAMs_20 IAMs_20 18 58 59.1
comp=Z,8µm,21.0s
PSAC3 Pilbara Seismi 61.20 254 IAMs_20 IAMs_20 18 59 22.2
comp=Z,7µm,21.0s
PSAB1 Pilbara Seismi 61.22 254 IAMs_20 IAMs_20 18 59 12.5
comp=Z,8µm,21.0s
PSAD1 Pilbara Seismi 61.22 254 IAMs_20 IAMs_20 18 59 11.6
comp=Z,9µm,21.0s
PSAC1 Pilbara Seismi 61.23 254 IAMs_20 IAMs_20 18 59 11.9
comp=Z,9µm,21.0s
PSAD3 Pilbara Seismi 61.25 253 IAMs_20 IAMs_20 18 59 13.3
comp=Z,9µm,21.0s
MBWA Marble Bar 61.34 254 IAMs_20 IAMs_20 19 01 08.9
comp=Z,10µm,19.0s
EDFI Ende, Flores 61.51 268 P **P** **18 34 50.1 -0.6**
comp=Z,76nm,1.7s
MEEK Meekatharra 61.88 248 P **P** **18 34 54.4 +1.5**
baz=62,SNR=8.3
KLBR Kellerberrin 62.40 242 P **P** **18 34 57.3 +1.0**
baz=62,SNR=5.7
LUWI Luwuk 62.41 277 P P 18 35 00.9 +4.3
NWAO Narrogin (SRO) 62.81 241 P **P** **18 35 01.0 +2.0**
baz=63,SNR=5.5
NWAO Narrogin (SRO) 62.81 241 P **P** **18 35 00.0 +1.0**
comp=Z,19nm,1.0s,baz=94,slow=15,SNR=7.0
NWAO Narrogin (SRO) 62.81 241 P **P** **18 34 57.8 -1.2**
NWAO pmax pmax
comp=Z,62nm,1.5s
NWAO Narrogin (SRO) 62.81 241 P **P** **18 34 57.8 -1.2**
NWAO IAmb IAmb 18 35 10.4
comp=Z,62nm,1.4s
NWAO Narrogin (SRO) 62.81 241 IAMs_20 IAMs_20 19 01 33.2
comp=Z,7µm,20.0s
KCP Kidapawan 62.81 286⇑ *e*P **P** **18 35 00.2 +0.8**
VNDA Vanda 63.24 185 P **P** **18 35 02.4 +1.4**
comp=Z,22nm,1.2s,baz=7.9,slow=6.4,SNR=20
VNDA LR LR 18 57 47.8
comp=Z,1µm,21.5s,baz=30,slow=32
BLDU Ballidu 63.33 243 P **P** **18 35 04.3 +1.8**
baz=64,SNR=6.5
WBSI Waikabubak, Su 63.54 267 P **P** **18 35 00.5 -3.7**
MRSI Marisa 63.65 278 P **P** **18 35 07.8 +3.0**
comp=Z,42nm,1.2s
MORW Morawa 64.00 245 P **P** **18 35 09.2 +2.3**
baz=64,SNR=5.6
MORW Morawa 64.00 245 P **P** **18 35 05.2 -1.7**
MORW IAMs_20 IAMs_20 19 00 18.8
comp=Z,9µm,22.0s
BNSI Bone 64.07 273 P **P** **18 35 08.0 +0.4**
comp=Z,82nm,1.6s
SPSI Sidrap Palu 64.51 273 P **P** **18 35 13.0 +2.5**
comp=Z,22nm,1.2s
TTSI Tana Toraja 64.70 274 P **P** **18 35 15.6 +3.8**
PLAI Plampang 65.27 267 P **P** **18 35 18.8 +3.3**
comp=Z,110nm,1.6s
MPSI Mapaga 65.56 277 P **P** **18 35 14.5 -2.8**
GIRL Giralia 66.24 252 IAMs_20 IAMs_20 19 02 25.4
comp=Z,9µm,20.0s
ADK Adak 66.94 359 P **P** **18 35 24.9 -0.4**
ADK pmax pmax
comp=Z,76nm,1.4s
ADK MLR MLR
comp=Z,6µm,21.0s
ADK Adak 66.94 359 P **P** **18 35 24.9 -0.4**
ADK IAmb IAmb 18 35 43.9
comp=Z,76nm,1.4s
MJAR Matsushiro Arr 67.54 321 P **P** **18 35 28.3 -1.3**
comp=Z,4.8nm,1.0s,baz=160,slow=6.1,SNR=10
MJAR LR LR 18 59 59.7
comp=Z,3µm,21.6s,baz=120,slow=32
MAJO Matsushiro 67.54 321⇓ *i*P **P** **18 35 29.2 -0.3**
MAJO pmax pmax
comp=Z,12nm,1.2s
MAT Matsushiro 67.54 321 P **P** **18 35 28.5 -1.0**
MAT S **S** **18 44 24.2 -2.1**
KBKI Kotabaru 68.15 273 P **P** **18 35 33.6 -0.3**
comp=Z,688nmcomp=Z,66nm,1.3s
ERM Erimo 68.57 328 IAMs_20 IAMs_20 18 57 36.6
comp=Z,8µm,22.0s
LQP Lukban 68.70 292⇓ *e*P **P** **18 35 37.7 +0.3**
YUK Yuzh-Kuril'sk 68.76 331⇓ *i*P **P** **18 35 35.8 -1.2**
KUR Kuril'sk 68.79 333 *d i*P **P** **18 35 37.9 +0.8**
KUR *e*S **S** **18 44 43.6 +2.9**
KUR pmax pmax
comp=Z,204nm,1.4s
KUR pmax pmax
comp=E,121nm,1.6s
MTKI Muara Teweh, K 70.00 275 P **P** **18 35 46.1 +0.7**
comp=E,1µmcomp=E,24nm,2.1s
SKR Severo-Kuril's 70.26 341 *e*P **P** **18 35 45.4 -0.7**
SKR *e*S **S** **18 44 56.2 -1.7**
SKR MLR MLR
comp=Z,2µm,16.0s
PET Petropavlovsk 71.61 344 *i* P **P** **18 35 53.3 -0.9**
PET pmax pmax
comp=Z,22nm,1.1s
NGJI Ngawi 71.69 267 P **P** **18 35 58.9 +3.3**
comp=Z,116nm,2.0s
PEA0B Petropavlovsk- 71.94 343 P **P** **18 35 54.4 -1.9**
PEA0B pmax pmax
comp=Z,122nm,1.2s
PEA0B MLR MLR
comp=Z,6µm,21.0s
PEA0B Petropavlovsk- 71.94 343 P **P** **18 35 54.4 -1.9**
PEA0B IAMs_20 IAMs_20 19 00 40.6
comp=Z,6µm,21.0s
PETK Petropavlovsk- 71.94 343 P **P** **18 35 56.4 +0.1**
comp=Z,32nm,0.9s,baz=132,slow=8.9,SNR=25
PETK LR LR 19 01 36.8
comp=Z,5µm,21.8s,baz=155,slow=31
WOJI Wonogiri, Jawa 72.10 267 P **P** **18 36 01.6 +3.5**
comp=Z,93nm,1.7s
SCZ2 Santa Cruz Isl 72.39 46 P **P** **18 36 02.9 +3.4**
baz=237
YSS Yuzh-Sakhalins 72.39 331 *e*P **P** **18 35 59.9 +0.8**
YSS *e* 18 36 08.8
YSS pmax pmax
comp=Z,30nm,1.0s
YSS MLR MLR
comp=Z,3µm,15.0s
SCI2 San Clemente I 72.62 48 P **P** **18 36 02.1 +1.4**
baz=238
PBKI Pangkalan Bun 72.64 272 P **P** **18 36 05.3 +3.9**
TWG Pinlang 72.65 300 IAMs_20 IAMs_20 19 02 18.1
comp=Z,9µm,22.0s
PKM Mcpherson Peak 72.76 45 P **P** **18 36 01.6 -0.2**
baz=236
SMMC Simmler 72.87 45 P **P** **18 36 02.3 0.0**
baz=236
PAGB Antelope Grade 72.92 44 IAMs_20 IAMs_20 19 01 01.2
comp=Z,5µm,18.0s
YHNB Yeheng 73.20 302 IAmb IAmb 18 36 09.8
comp=Z,72nm,1.4s
OSI Osito Audit: C 73.36 46 P **P** **18 36 08.8 +3.5**
baz=237
OSI Osito Audit: C 73.36 46 IAMs_20 IAMs_20 18 59 47.8
comp=Z,5µm,20.0s
PASC Pasadena Art C 73.50 47 IAmb IAmb 18 36 16.6
comp=Z,100nm,1.4s
ARVC Arvin 73.56 46 P **P** **18 36 09.0 +2.6**
baz=237
109C Camp Elliot, M 73.60 48 P **P** **18 36 09.2 +2.6**
baz=239
109C Camp Elliot, M 73.60 48 IAMs_20 IAMs_20 19 00 47.3
comp=Z,5µm,19.0s
MWC Mount Wilson 73.62 47 IAmb IAmb 18 36 16.9
comp=Z,73nm,1.2s
KHMM Horse Mountain 73.71 38 IAMs_20 IAMs_20 19 03 09.6
comp=Z,5µm,19.0s
VES Vestal, Richgr 73.78 45 P **P** **18 36 09.4 +1.8**
baz=297,SNR=16
BAR Barrett 73.81 49 IAMs_20 IAMs_20 18 59 28.8
comp=Z,6µm,21.0s
O02D Mt. Diablo Mer 73.86 39 P **P** **18 36 11.5 +3.4**
baz=233,SNR=9.0
MURC Murrieta 73.91 48 P **P** **18 36 09.8 +1.3**
baz=239
BFSC Mount Baldy Ra 73.91 47 P **P** **18 36 10.3 +1.7**
baz=238
EDW2 Edwards Air Fo 74.01 46 P **P** **18 36 11.1 +2.0**
baz=238,SNR=25
TEY Ternei 74.08 327⇑ *e*P **P** **18 36 09.6 +0.5**
TEY pmax pmax
comp=E,10.0nm,1.0s
TEY pmax pmax
comp=Z,10.0nm,1.4s
ISA Isabella, Lake 74.10 45 P **P** **18 36 11.9 +2.3**
baz=237,SNR=20
ISA Isabella, Lake 74.10 45 IAmb IAmb 18 36 20.7
comp=Z,102nm,1.4s
ISA IAMs_20 IAMs_20 19 02 07.2
comp=Z,6µm,18.0s
MONP2 Monument Peak 74.10 49 P **P** **18 36 11.9 +2.1**
baz=239,SNR=13
IKP In-Ko-Pah, Jac 74.20 49 P **P** **18 36 12.8 +2.5**
baz=240,SNR=12
WDC Whiskeytown Da 74.25 39 IAmb IAmb 18 36 20.5
comp=Z,83nm,1.4s
N02D Trinity Center 74.39 39 P **P** **18 36 12.8 +1.6**
baz=233,SNR=9.5
PFO Pinyon Flats O 74.44 48 P **P** **18 36 14.2 +2.5**
baz=239,SNR=11
PFO Pinyon Flats O 74.44 48 P **P** **18 36 13.4 +1.7**
comp=Z,15nm,1.2s,baz=245,slow=6.8,SNR=14
PFO Pinyon Flats O 74.44 48⇑ *i*P **P** **18 36 12.5 +0.8**
PFO pmax pmax
comp=Z,60nm,1.5s
PFO Pinyon Flats O 74.44 48 IAmb IAmb 18 36 22.5
comp=Z,85nm,1.4s
PFO Pinyon Flats O 74.44 48 IAMs_20 IAMs_20 19 00 41.4
comp=Z,6µm,18.0s
TPFO Pinon Flats 74.44 48 P **P** **18 36 13.7 +2.0**
baz=239,SNR=12
XPFO Pion Flat 74.44 48 IAMs_20 IAMs_20 19 00 41.4
comp=Z,6µm,19.0s
O03E Paynes Creek 74.53 40 P **P** **18 36 14.1 +2.1**
baz=234,SNR=8.6
LRMC Laurel Mtn Rad 74.55 46 P **P** **18 36 14.4 +2.2**
baz=238,SNR=15
M02C Callahan 74.55 38 P **P** **18 36 15.2 +3.2**
baz=233,SNR=8.8
SWSC Sam W. Stewart 74.58 49 P **P** **18 36 12.9 +0.6**
baz=240,SNR=16
KSRS Korea Array 74.64 317 P **P** **18 36 13.0 +0.5**
comp=Z,4.0nm,1.0s,baz=129,slow=6.8,SNR=27
KSRS LR LR 19 05 47.6
comp=Z,2µm,19.4s,baz=130,slow=33
QSPA South Pole Qui 74.71 180 P **P** **18 36 12.8 +0.1**
QSPA IAmb IAmb 18 36 19.8
comp=Z,97nm,1.2s
CWC Cottonwood Cre 74.78 45 P **P** **18 36 15.1 +1.5**
baz=237
OMMB Old Mammoth Mi 74.80 43 IAMs_20 IAMs_20 19 01 11.8
comp=Z,5µm,18.0s
YBH Yreka Blue Hor 74.84 38 P **P** **18 36 16.0 +2.2**
comp=Z,18nm,1.1s,baz=241,slow=6.2,SNR=11
YBH Yreka Blue Hor 74.84 38 IAmb IAmb 18 36 24.9
comp=Z,142nm,1.4s
YBH IAMs_20 IAMs_20 19 03 37.6
comp=Z,5µm,19.0s
K02D Willamette Mer 74.86 37 P **P** **18 36 17.0 +3.1**
baz=232,SNR=8.1
SLBS Sierra La Lagu 74.95 60 IAMs_20 IAMs_20 19 02 01.2
comp=Z,5µm,18.0s
BELC Belle Mtn. Jos 74.97 48 P **P** **18 36 16.1 +1.4**
baz=233,SNR=19
MPMC Manual Prospec 74.98 45 P **P** **18 36 16.3 +1.4**
baz=238,SNR=35
J01E Myrtle Point 75.00 36 P **P** **18 36 18.7 +4.2**
baz=231
GSC Goldstone, Bar 75.06 46 P **P** **18 36 16.3 +1.1**
baz=238,SNR=18
GSC Goldstone, Bar 75.06 46 IAmb IAmb 18 36 26.0
comp=Z,92nm,1.4s
KSM Kuching 75.07 276 P P 18 36 20.0 +4.4
HEC Hector,Ludlow 75.15 47 P **P** **18 36 18.9 +3.2**
baz=239
BC3 Big Chuckawall 75.18 48 P **P** **18 36 18.1 +2.1**
baz=240,SNR=20
PNTR Pine Nut 75.23 42 IAmb IAmb 18 36 27.0
comp=Z,57nm,1.0s
KDAK Kodiak Island 75.29 13 LR LR 19 04 56.2
comp=Z,1µm,19.5s,baz=207,slow=32
KDAK Kodiak Island 75.29 13 P **P** **18 36 14.0 -1.9**
KDAK pmax pmax
comp=Z,42nm,1.1s
KDAK Kodiak Island 75.29 13 P **P** **18 36 14.0 -1.9**
GLA Glamis 75.34 49 P **P** **18 36 19.2 +2.5**
baz=240,SNR=12
TYV Tymovskoe 75.35 334 *e*P **P** **18 36 16.2 -0.1**
TYV *e* 18 45 56.8
TYV pmax pmax
comp=Z,17nm,1.5s
L04D Klamath Falls 75.37 38 P **P** **18 36 18.3 +1.4**
baz=233,SNR=8.3
M04C Madoei 75.39 39 P **P** **18 36 19.0 +2.0**
baz=233,SNR=8.5
VLA Vladivostok 75.47 323⇓ *i*P **P** **18 36 18.1 +0.9**
VLA pmax pmax
comp=Z,19nm,1.2s
LEM Lembang 75.52 267 P **P** **18 36 19.0 +0.6**
comp=Z,32nm,0.8s,baz=126,slow=5.5,SNR=16
LEM Lembang 75.52 267 P **P** **18 36 19.0 +0.6**
GRAC Grapevine Rang 75.56 45 P **P** **18 36 20.8 +2.8**
baz=238
MSHR Mys Shultsa 75.57 322⇑ *i*P **P** **18 36 18.6 +0.8**
MSHR pmax pmax
comp=Z,11nm,1.1s
QZH Quanzhou 75.60 301 P P 18 36 23.5 +5.1
GMRC Granite Mounta 75.60 47 P **P** **18 36 20.3 +1.9**
baz=239,SNR=44
FURC Furnace Creek, 75.63 45 P **P** **18 36 19.9 +1.7**
baz=238,SNR=8.4
IRM Iron Mountain 75.66 48 P **P** **18 36 20.7 +2.1**
baz=240,SNR=34
I03D Drain, OR 75.67 36 P **P** **18 36 21.3 +2.9**
baz=232,SNR=7.3
NVAR Mina Array Bea 75.71 43 P **P** **18 36 20.8 +1.7**
comp=Z,6.6nm,0.8s,baz=228,slow=9.9,SNR=28
NVAR LR LR 19 02 15.5
comp=Z,3µm,20.7s,baz=253,slow=30
SHOC Shoshone, Teco 75.74 46 P **P** **18 36 21.1 +2.1**
baz=239
TUQ Turquoise Moun 75.75 47 P **P** **18 36 21.4 +2.2**
baz=239
NV11 Mina Array Sit 75.81 43 IAmb IAmb 18 36 30.2
comp=Z,105nm,1.3s
Y12C Blythe 75.90 49 P **P** **18 36 22.3 +2.4**
baz=240,SNR=19
113A Mohawk Valley, 75.98 50 IAMs_20 IAMs_20 19 01 20.3
comp=Z,5µm,20.0s
USA0B Ussuriysk Arra 76.07 324⇓ *i*P **P** **18 36 21.3 +0.7**
USRK Ussuriysk Ar. 76.07 324 P **P** **18 36 21.2 +0.6**
comp=Z,1.7nm,0.8s,baz=101,slow=6.0,SNR=11
USRK LR LR 19 03 44.9
comp=Z,9µm,21.8s,baz=117,slow=31
J04D Umpqua Nationa 76.10 37 P **P** **18 36 23.2 +2.1**
baz=233,SNR=15
COR Corvallis 76.24 36 IAMs_20 IAMs_20 19 02 20.5
comp=Z,5µm,20.0s
I04A Tendick Farm, 76.26 37 P **P** **18 36 24.6 +2.8**
baz=232,SNR=9.0
TPNV Topopah Spring 76.30 45 P **P** **18 36 24.2 +1.8**
baz=238,SNR=22
TPNV Topopah Spring 76.30 45 IAMs_20 IAMs_20 19 03 35.6
comp=Z,5µm,19.0s
214A Organ Pipe Nat 76.31 51 P **P** **18 36 24.6 +2.3**
baz=242,SNR=13
214A Organ Pipe Nat 76.31 51 IAMs_20 IAMs_20 19 00 55.0
comp=Z,6µm,22.0s
NEE2 Needles Airpor 76.34 48 P **P** **18 36 26.2 +3.8**
baz=240
CBJI Citeko 76.36 267 P P 18 36 31.5 +8.5
MOD Modoc Plateau 76.39 39 IAmb IAmb 18 36 31.9
comp=Z,73nm,1.2s
DBJI Dramaga 76.42 267 P **P** **18 36 26.7 +3.3**
comp=Z,2µmcomp=Z,62nm,1.7s
PDMCI Parker Dam,Lak 76.45 48 P **P** **18 36 24.9 +1.9**
baz=240,SNR=5.4
TPI Tanjungpandan 76.50 271 P **P** **18 36 25.2 +1.4**
comp=Z,35nm,1.7s
H04D Lebanon 76.52 36 P **P** **18 36 26.9 +3.7**
baz=232,SNR=8.1
J05D Fort Rock, OR 76.64 38 P **P** **18 36 26.6 +2.4**
baz=234,SNR=57
G03D McMinnville, O 76.65 35 P **P** **18 36 27.8 +3.9**
baz=232,SNR=5.7
SHPR Sheep Range 76.83 46 IAMs_20 IAMs_20 19 03 32.5
comp=Z,5µm,19.0s
W13A Hualapai Mount 77.02 48 IAmb IAmb 18 36 35.4
comp=Z,76nm,1.4s
Y14A Wickenburg 77.10 49 IAmb IAmb 18 36 37.8
comp=Z,81nm,1.1s
Y14A IAMs_20 IAMs_20 19 03 53.9
comp=Z,5µm,18.0s
I05D Terrebonne, OR 77.21 37 P **P** **18 36 29.3 +2.1**
baz=233,SNR=9.3
F04D Rainier, OR 77.33 35 P P 18 36 33.4 +5.7
baz=232
R11A Troy Canyon, C 77.48 44 P **P** **18 36 31.0 +2.0**
baz=239,SNR=28
MDJ Mudanjiang 77.69 323 P **P** **18 36 30.0 +0.2**
MDJ pP sP 18 36 33.3 -0.2
MDJ sP pP 18 36 34.5 +2.0
MDJ pmax pmax
comp=Z,8.0nm,1.3s
MDJ pmax pmax
comp=Z,2µm,13.5s
MDJ LR LR
comp=Z,3µm,22.7s
MDJ LR LR
comp=Z,4µm,23.5s
MDJ LR LR
comp=Z,6µm,31.8s
MDJ Mudanjiang 77.69 323 IAMs_20 IAMs_20 19 03 41.0
comp=Z,6µm,22.0s
WVOR Wild Horse Val 77.71 39 IAmb IAmb 18 36 40.8
comp=Z,70nm,1.3s
G05D Wamic, OR 77.76 36 P P 18 36 34.9 +4.7
baz=233,SNR=6.7
E04D Cinebar 77.86 34 P **P** **18 36 33.0 +2.3**
baz=232,SNR=8.9
TUC Tucson 78.00 52 P **P** **18 36 34.4 +2.5**
baz=243
TUC Tucson 78.00 52 P **P** **18 36 32.6 +0.7**
TUC pmax pmax
comp=Z,171nm,1.4s
TUC MLR MLR
comp=Z,6µm,20.0s
TUC Tucson 78.00 52 P **P** **18 36 32.6 +0.7**
TUC Tucson 78.00 52 IAMs_20 IAMs_20 19 03 12.7
comp=Z,6µm,20.0s
GRNR Gornyy 78.05 331⇑ *i*P **P** **18 36 31.8 +0.2**
GRNR *e*S **S** **18 46 29.2 +3.7**
GRNR pmax pmax
comp=Z,8.0nm,1.2s
GRNR smax smax
comp=N,1.0nm,0.9s
GRNR MLR MLR
comp=E,670nm,16.0s
GRNR MLR MLR
comp=N,220nm,15.0s
GRNR MLR MLR
comp=Z,1µm,16.0s
F05D White Salmon 78.06 35 P **P** **18 36 33.9 +2.0**
baz=233
PPBI Pangkal Pinang 78.12 271 P **P** **18 36 33.2 +0.3**
comp=Z,1µmcomp=Z,67nm,1.8s
D03D Eldon 78.19 33 P **P** **18 36 35.1 +2.6**
baz=231,SNR=10
NJ2 Nanjing 78.44 308 *e*P **P** **18 36 33.0 -1.2**
NJ2 pmax pmax
comp=Z,13nm,0.6s
NJ2 LR LR
comp=Z,2µm,19.6s
NJ2 LR LR
comp=Z,3µm,20.0s
NJ2 LR LR
comp=Z,2µm,23.3s
X16A Lo Mia Camp, P 78.47 49 IAmb IAmb 18 36 46.0
comp=Z,113nm,1.1s
U15A North Rim 78.80 47 IAmb IAmb 18 36 47.7
comp=Z,68nm,1.2s
ELK Elko 78.94 42 P **P** **18 36 38.4 +1.3**
comp=Z,20nm,0.9s,baz=221,slow=5.5,SNR=17
HIN Hinchinbrook I 79.02 14 IAmb IAmb 18 36 44.0
comp=Z,68nm,1.2s
WUAZ Wupatki 79.03 48 P **P** **18 36 39.1 +1.5**
baz=242
WUAZ Wupatki 79.03 48 IAmb IAmb 18 36 48.8
comp=Z,142nm,1.4s
A04D Lummi Island 79.13 33 P **P** **18 36 39.4 +1.8**
baz=231
B05A Bryant 79.16 33 P **P** **18 36 39.4 +1.6**
baz=232,SNR=12
GLI Glacier Island 79.31 14 IAmb IAmb 18 36 45.9
comp=Z,94nm,1.1s
KLR Kul'dur 79.32 328 P **P** **18 36 38.8 +0.1**
comp=Z,1.6nm,1.0s,baz=118,slow=3.6,SNR=10
KLR Kul'dur 79.32 328⇓ *i*P **P** **18 36 39.6 +0.9**
KLR pmax pmax
comp=Z,14nm,1.9s
HAWA Hanford 79.44 36 IAmb IAmb 18 36 49.2
comp=Z,134nm,1.4s
MA2 Magadan 79.48 343 P **P** **18 36 39.0 -0.3**
comp=Z,2.9nm,0.6s,baz=166,slow=8.3,SNR=2.2
MA2 Magadan 79.48 343 *ce*P **P** **18 36 40.0 +0.7**
MA2 pmax pmax
comp=Z,42nm,2.5s
MA2 Magadan 79.48 343 IAMs_20 IAMs_20 19 05 58.9
comp=Z,6µm,21.0s
TTA Tatalina 79.50 9 P **P** **18 36 40.0 +0.6**
TTA pmax pmax
comp=Z,109nm,1.2s
TTA Tatalina 79.50 9 P **P** **18 36 40.0 +0.6**
TTA IAmb IAmb 18 36 48.2
comp=Z,109nm,1.2s
DL2 Dalian 79.63 315 P **P** **18 36 41.8 +1.2**
DL2 pmax pmax
comp=Z,18nm,1.2s
DL2 LR LR
comp=Z,1µm,20.8s
DL2 LR LR
comp=Z,2µm,26.3s
DL2 LR LR
comp=Z,3µm,24.5s
CN2 Changchun 79.69 321 *e*P **P** **18 36 39.8 -1.0**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
GHO Glory Hole Cre 79.70 13 P **P** **18 36 40.2 -0.4**
GHO IAmb IAmb 18 36 48.4
comp=Z,57nm,1.0s
HPIG 79.79 58 IAMs_20 IAMs_20 19 03 35.6
comp=Z,6µm,18.0s
BMO Blue Mountains 79.86 38 IAmb IAmb 18 36 51.3
comp=Z,86nm,1.4s
BMO IAMs_20 IAMs_20 19 06 42.4
comp=Z,5µm,19.0s
W18A Petrified Fore 80.04 49 P **P** **18 36 45.7 +2.6**
baz=243
W18A Petrified Fore 80.04 49 IAMs_20 IAMs_20 19 03 45.7
comp=Z,5µm,21.0s
DSRI Dabo 80.06 272 P **P** **18 36 45.0 +1.5**
comp=Z,43nm,1.5s
SCM Sheep Creek Mo 80.10 13 IAmb IAmb 18 36 50.0
comp=Z,75nm,1.0s
YAH Yahtse 80.20 16 IAmb IAmb 18 36 51.3
comp=Z,84nm,1.1s
DUG Dugway, Tooele 80.26 44 P **P** **18 36 45.8 +1.5**
baz=240

DUG	**Dugway, Tooele**	**80.26**	**44**	P	**P**	**18 36 43.5**	**-0.7**
DUG				pmax	pmax		
	comp=Z,30nm,1.1s						
DUG	**Dugway, Tooele**	**80.26**	**44**	P	**P**	**18 36 43.5**	**-0.7**
121A	**Cookes Peak, D**	**80.38**	**52**	P	**P**	**18 36 47.8**	**+2.8**
	baz=245						
121A	**Cookes Peak, D**	**80.38**	**52**	IAMs_20	IAMs_20	19 05 09.8	
	comp=Z,8µm,20.0s						
LLLB	**Lilooet**	**80.72**	**31**	IAmb	IAmb	18 36 54.9	
	comp=Z,89nm,1.4s						
BESE	**Bessie Mountai**	**80.84**	**20**	IAmb	IAmb	18 36 55.6	
	comp=Z,88nm,1.4s						
ZAIG	**Zacatecas**	**80.86**	**63**	IAMs_20	IAMs_20	19 03 46.0	
	comp=Z,6µm,20.0s						
QIZ	**Qiongzhong**	**80.92**	**293**	P	**P**	**18 36 43.8**	**-4.2**
QIZ	**Qiongzhong**	**80.92**	**293**	S	**S**	**18 47 00.5**	**+3.3**
QIZ				LR	LR		
	comp=N,2µm,27.0s						
QIZ				LR	LR		
	comp=E,2µm,20.1s						
QIZ				LR	LR		
	comp=Z,2µm,20.1s						
HLID	**Hailey**	**80.93**	**40**	P	**P**	**18 36 50.0**	**+2.2**
	baz=239,SNR=47						
HLID	**Hailey**	**80.93**	**40**	IAmb	IAmb	18 36 58.6	
	comp=Z,65nm,1.1s						
TRF	**Thorofare Moun**	**80.95**	**11**	IAmb	IAmb	18 36 55.8	
	comp=Z,68nm,1.1s						
EPT	**El Paso**	**81.05**	**54**	IAMs_20	IAMs_20	19 04 48.6	
	comp=Z,7µm,20.0s						
MYKOM	**Kota Tinggi**	**81.37**	**274**	P	P	18 36 55.0	+4.5
SKAG	**Skagway**	**81.37**	**20**	IAmb	IAmb	18 37 04.2	
	comp=Z,67nm,1.1s						
TIA	**Tai'an**	**81.56**	**311**	P	**P**	**18 36 51.5**	**+0.5**
TIA				pmax	pmax		
	comp=Z,17nm,1.6s						
Y22D	**IRIS PASSCAL I**	**81.68**	**51**	P	**P**	**18 36 56.3**	**+4.4**
	baz=245						
HYT	**Haines Junctio**	**81.78**	**18**	IAmb	IAmb	18 36 59.9	
	comp=Z,79nm,1.4s						
NEW	**Newport**	**81.86**	**35**	P	**P**	**18 36 53.5**	**+1.2**
	baz=236,SNR=6.6						
NEW	**Newport**	**81.86**	**35**	P	**P**	**18 36 53.0**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=241,slow=8.2,SNR=3.5						
NEW	**Newport**	**81.86**	**35**	P	**P**	**18 36 53.0**	**+0.6**
NEW				pmax	pmax		
	comp=Z,29nm,1.3s						
NEW	**Newport**	**81.86**	**35**	IAmb	IAmb	18 36 59.9	
	comp=Z,29nm,1.2s						
MVCO	**Mesa Verde**	**81.86**	**48**	P	**P**	**18 36 57.2**	**+4.2**
	baz=244						
MENT	**Mentasta**	**81.89**	**14**	IAmb	IAmb	18 37 00.0	
	comp=Z,53nm,1.2s						
MNTX	**Cornudas Mount**	**81.89**	**54**	P	**P**	**18 36 54.9**	**+2.0**
	baz=246,SNR=70						
MNTX	**Cornudas Mount**	**81.89**	**54**	IAmb	IAmb	18 37 04.8	
	comp=Z,127nm,1.4s						
MNTX				IAMs_20	IAMs_20	19 05 56.0	
	comp=Z,5µm,20.0s						
PV14	**Lion Creek, Pa**	**82.00**	**47**	IAMs_20	IAMs_20	19 12 33.6	
	comp=Z,5µm,18.0s						
PV20	**West Nyswonger**	**82.03**	**47**	IAmb	IAmb	18 37 04.3	
	comp=Z,91nm,1.5s						
PV23	**Carpenter Ridg**	**82.05**	**47**	IAmb	IAmb	18 37 02.5	
	comp=Z,86nm,1.4s						
PV13	**Radium Mtn., P**	**82.05**	**47**	IAmb	IAmb	18 37 02.3	
	comp=Z,66nm,1.3s						
PV03	**Paradox Valley**	**82.08**	**47**	IAmb	IAmb	18 37 02.4	
	comp=Z,66nm,1.4s						
PV03				IAMs_20	IAMs_20	19 04 54.5	
	comp=Z,4µm,20.0s						
PV11	**David Mesa, Pa**	**82.08**	**47**	IAmb	IAmb	18 37 03.7	
	comp=Z,117nm,1.5s						
PV04	**Paradox Valley**	**82.10**	**47**	IAmb	IAmb	18 37 02.7	
	comp=Z,78nm,1.4s						
PV02	**Paradox Valley**	**82.13**	**47**	IAmb	IAmb	18 37 05.0	
	comp=Z,98nm,1.5s						
PV12	**Saucer Basin,**	**82.14**	**47**	IAmb	IAmb	18 37 05.7	
	comp=Z,115nm,1.4s						
PV01	**Paradox Valley**	**82.22**	**47**	IAmb	IAmb	18 37 05.4	
	comp=Z,112nm,1.4s						
PV01				IAMs_20	IAMs_20	19 08 34.3	
	comp=Z,5µm,18.0s						
NEA2	**Nenana**	**82.22**	**11**	P	**P**	**18 36 53.3**	**-0.6**
	baz=206						
PV22	**Blue Mesa, Par**	**82.24**	**47**	IAmb	IAmb	18 37 04.8	
	comp=Z,63nm,1.5s						
RIDG	**Independent Ri**	**82.33**	**13**	IAmb	IAmb	18 37 02.5	
	comp=Z,66nm,1.2s						
TXAR	**Lajitas Array**	**82.34**	**57**	P	**P**	**18 36 57.6**	**+2.2**
	comp=Z,8.2nm,1.1s,baz=218,slow=7.9,SNR=32						
TXAR				LR	LR	19 05 31.7	
	comp=Z,5µm,21.4s,baz=0.0,slow=30						
ANMO	**Albuquerque**	**82.39**	**51**	P	**P**	**18 36 57.5**	**+1.8**
	baz=245						
ANMO	**Albuquerque**	**82.39**	**51**	P	**P**	**18 36 55.9**	**+0.2**
ANMO				pmax	pmax		
	comp=Z,170nm,1.4s						
ANMO				MLR	MLR		
	comp=Z,5µm,21.0s						
ANMO	**Albuquerque**	**82.39**	**51**	P	**P**	**18 36 55.9**	**+0.2**
ANMO	**Albuquerque**	**82.39**	**51**	IAMs_20	IAMs_20	19 05 13.0	
	comp=Z,5µm,21.0s						
DOT	**Dot Lake**	**82.42**	**14**	IAmb	IAmb	18 37 02.4	
	comp=Z,69nm,1.1s						
WHY	**Whitehorse**	**82.44**	**19**	IAmb	IAmb	18 37 03.4	
	comp=Z,60nm,1.3s						
HDA	**Harding Lake**	**82.47**	**12**	P	**P**	**18 36 55.6**	**+0.4**
	baz=208						
HDA	**Harding Lake**	**82.47**	**12**	IAmb	IAmb	18 37 04.8	
	comp=Z,87nm,1.3s						
CCB	**Clear Creek Bu**	**82.51**	**12**	IAmb	IAmb	18 37 02.3	
	comp=Z,78nm,1.2s						
UNM	**Universidad Na**	**82.67**	**68**	IAMs_20	IAMs_20	19 04 37.1	
	comp=Z,8µm,22.0s						
TCOL	**CIGO, UAF Yank**	**82.70**	**12**	P	**P**	**18 36 57.0**	**+0.6**
	baz=207						
COLA	**College**	**82.70**	**12**	⇓*i*P	**P**	**18 36 57.0**	**+0.7**
COLA				pmax	pmax		
	comp=Z,30nm,1.0s						
SCRK	**Sand Creek**	**82.72**	**13**	IAmb	IAmb	18 37 04.2	
	comp=Z,54nm,1.2s						
ILAR	**Eielson Array**	**82.80**	**12**	P	**P**	**18 36 56.9**	**-0.1**
	comp=Z,15nm,1.2s,baz=226,slow=6.1,SNR=40						
ILAR				PP	**PP**	**18 40 06.9**	**-0.4**
	comp=Z,2.4nm,1.1s,baz=211,slow=8.6,SNR=4.7						
MSO	**Missoula**	**82.91**	**38**	P	**P**	**18 36 59.9**	**+1.9**
	baz=239,SNR=11						
MSO	**Missoula**	**82.91**	**38**	IAmb	IAmb	18 37 06.9	
	comp=Z,101nm,1.5s						
POKR	**Poker Plat Res**	**83.00**	**12**	P	**P**	**18 36 58.8**	**+0.8**
	baz=207						
FXWY	**Fox Creek**	**83.10**	**41**	IAmb	IAmb	18 37 10.7	
	comp=Z,76nm,1.2s						
S22A	**4UR Ranch, Cre**	**83.29**	**48**	P	**P**	**18 37 02.3**	**+1.9**
	baz=245,SNR=50						
O20A	**White River Ci**	**83.33**	**45**	P	**P**	**18 37 02.3**	**+1.8**
	baz=244,SNR=24						
BW06	**Boulder Array**	**83.64**	**43**	P	**P**	**18 37 03.4**	**+1.3**
	baz=242,SNR=25						
PD31	**Pinedale Array**	**83.64**	**43**	IAmb	IAmb	18 37 12.0	
	comp=Z,34nm,1.1s						
PDAR	**Pinedale Array**	**83.64**	**43**	P	**P**	**18 37 03.0**	**+1.0**
	comp=Z,4.9nm,0.7s,baz=207,slow=3.5,SNR=28						
RDOG	**Red Dog Mine**	**83.67**	**5**	IAmb	IAmb	18 37 10.0	
	comp=Z,71nm,1.4s						
BOZ	**Bozeman (W)**	**83.67**	**39**	P	**P**	**18 37 04.2**	**+2.1**
	baz=240,SNR=66						
BOZ	**Bozeman (W)**	**83.67**	**39**	IAMs_20	IAMs_20	19 09 18.4	
	comp=Z,5µm,18.0s						
BKNI	**Bangkinang**	**83.69**	**272**	P	**P**	**18 37 05.7**	**+3.1**
	comp=Z,93nm,1.6s						
H17A	**Grant Village**	**83.75**	**41**	P	**P**	**18 37 06.5**	**+3.9**
	baz=241						
BJI	**Beijing**	**83.89**	**314**	P	**P**	**18 37 03.0**	**-0.1**
BJI				pmax	pmax		
	comp=Z,41nm,1.3s						
DAWY	**Dawson**	**83.89**	**15**	P	**P**	**18 37 03.8**	**+1.2**
BILL	**Bilibino**	**84.18**	**353**	*c i*P	**P**	**18 37 03.2**	**-0.7**
BILL				*e*		18 40 17.0	
BILL				*e*PPP	PPP	18 42 13.7	
BILL				pmax	pmax		
	comp=Z,20nm,1.3s						
BILL				MLR	MLR		
	comp=Z,2µm,18.0s						
BILL	**Bilibino**	**84.18**	**353**	IAMs_20	IAMs_20	19 08 09.8	
	comp=Z,6µm,20.0s						
SDCO	**Great Sand Dun**	**84.25**	**49**	P	**P**	**18 37 07.4**	**+2.1**
	baz=246,SNR=29						
ZEA	**Zeya**	**84.29**	**330**	*e*P	**P**	**18 37 04.2**	**-0.6**
ZEA				pmax	pmax		
	comp=Z,80nm,1.8s						
COLD	**Coldfoot**	**84.42**	**10**	P	**P**	**18 37 06.7**	**+1.6**
	baz=204						
COLD	**Coldfoot**	**84.42**	**10**	P	**P**	**18 37 04.0**	**-1.1**
RWWY	**Rawlins**	**84.72**	**44**	IAMs_20	IAMs_20	19 08 27.3	
	comp=Z,5µm,20.0s						
T25A	**Trinidad**	**84.80**	**49**	P	**P**	**18 37 09.7**	**+1.7**
	baz=246,SNR=7.4						
MSTX	**Muleshoe**	**84.80**	**53**	P	**P**	**18 37 09.8**	**+1.8**
	baz=248,SNR=21						
IPM	**Ipoh**	**84.81**	**276**	P	**P**	**18 37 12.0**	**+3.6**
RLMT	**Red Lodge**	**84.91**	**41**	P	**P**	**18 37 10.5**	**+2.1**
	baz=242,SNR=17						
Q24A	**Divide**	**85.00**	**48**	P	**P**	**18 37 11.5**	**+2.3**
	baz=246						
Q24A	**Divide**	**85.00**	**48**	IAMs_20	IAMs_20	19 07 25.9	
	comp=Z,4µm,20.0s						
ISCO	**Idaho Springs**	**85.01**	**47**	P	**P**	**18 37 11.3**	**+2.1**
	baz=245,SNR=8.1						
SISI	**Saibi**	**85.13**	**270**	P	P	18 37 14.7	+4.7
MNSI	**Mandailing Nat**	**85.22**	**272**	P	**P**	**18 37 12.2**	**+1.8**
	comp=Z,29nm,1.9s						
N23A	**Red Feather La**	**85.24**	**45**	P	**P**	**18 37 12.4**	**+2.2**
	baz=245,SNR=8.1						
KULM	**Kulim**	**85.39**	**277**	P	P	18 37 16.0	+4.8
TIY	**Taiyuan**	**85.60**	**311**	*e*P	P	18 37 17.8	+6.0
TIY				pmax	pmax		
	comp=Z,32nm,0.7s						
TOLK	**Toolik Lake Re**	**85.81**	**9**	P	**P**	**18 37 13.6**	**+1.5**
	baz=205						
JCT	**Junction City**	**85.88**	**57**	P	**P**	**18 37 14.9**	**+1.5**
	baz=250,SNR=5.8						
AMTX	**Amarillo**	**85.98**	**52**	P	**P**	**18 37 16.0**	**+2.2**
	baz=248						
AMTX	**Amarillo**	**85.98**	**52**	IAMs_20	IAMs_20	19 08 20.0	
	comp=Z,7µm,19.0s						
GYA	**Guiyang**	**86.15**	**299**	⇑P	**P**	**18 37 17.8**	**+2.9**
GYA				sP	sP	18 37 19.5	+0.9
GYA				pmax	pmax		
	comp=Z,22nm,1.8s						
PSI	**Prapat**	**86.38**	**274**	P	**P**	**18 37 16.8**	**+0.5**
	comp=Z,65nm,1.4s,baz=180,slow=5.2,SNR=11						
EPYK	**Eagle Plains**	**86.43**	**15**	P	**P**	**18 37 16.3**	**+1.1**
	baz=217						
ABTX	**Abilene, Hawle**	**86.75**	**55**	P	**P**	**18 37 19.9**	**+2.3**
	baz=249						
XAN	**Xi'an**	**86.88**	**306**	P	**P**	**18 37 19.0**	**+0.8**
XAN				pP	sP	18 37 23.3	+1.3
XAN				pmax	pmax		
	comp=Z,50nm,1.6s						
XAN				LR	LR		
	comp=Z,1µm,17.7s						
XAN				LR	LR		
	comp=Z,2µm,19.1s						
XAN				LR	LR		
	comp=Z,2µm,21.6s						
735A	**Kenedy**	**86.97**	**59**	IAMs_20	IAMs_20	19 08 20.6	
	comp=Z,5µm,20.0s						
H03S2	**Juan Fernandez**	**87.00**	**124**	T	T	20 13 36.2	
	baz=251,slow=75,SNR=93						
H03S1	**Juan Fernandez**	**87.01**	**124**	T	T	20 13 37.2	
	baz=251,slow=75,SNR=82						
H03S3	**Juan Fernandez**	**87.01**	**124**	T	T	20 13 38.7	
	baz=251,slow=75,SNR=74						
H03N2	**Juan Fernandez**	**87.10**	**124**	T	T	20 13 41.8	
	baz=257,slow=73,SNR=16						
H03N3	**Juan Fernandez**	**87.11**	**124**	T	T	20 13 47.6	
	baz=257,slow=73,SNR=16						
H03N1	**Juan Fernandez**	**87.12**	**124**	T	T	20 13 43.1	
	baz=257,slow=73,SNR=14						
MAW	**Mawson**	**87.17**	**199**	P	**P**	**18 37 20.0**	**+1.1**
	baz=87,SNR=19						
MAW	**Mawson**	**87.17**	**199**	P	**P**	**18 37 19.1**	**+0.2**
	comp=Z,37nm,1.1s,baz=112,slow=6.3,SNR=12						
MAW				LR	LR	19 14 28.4	
	comp=Z,3µm,18.8s,baz=100,slow=34						
MAW	**Mawson**	**87.17**	**199**	P	**P**	**18 37 17.4**	**-1.6**
MAW				pmax	pmax		
	comp=Z,18nm,1.3s						
MAW	**Mawson**	**87.17**	**199**	P	**P**	**18 37 17.4**	**-1.6**
GSI	**Gunungsitoli**	**87.28**	**272**	P	**P**	**18 37 23.9**	**+3.3**
	comp=Z,14µmcomp=Z,386nm,1.6s						
HHC	**Hu-ho-hao-te**	**87.44**	**313**	*e*P	**P**	**18 37 22.8**	**+2.0**
HHC				pP	sP	18 37 27.5	+2.9
HHC				sP	pP	18 37 30.0	+6.4
HHC				pmax	pmax		
	comp=Z,15nm,0.9s						
LAO	**LASA Array**	**87.51**	**40**	P	**P**	**18 37 21.6**	**+0.6**
	baz=244						
KCSI	**Kotacane, Aceh**	**87.68**	**274**	P	**P**	**18 37 24.3**	**+1.8**
	comp=Z,50nm,1.8s						
435B	**Jarrell**	**87.78**	**57**	P	P	18 37 27.4	+4.8
	baz=251						
435B	**Jarrell**	**87.78**	**57**	IAMs_20	IAMs_20	19 09 22.1	
	comp=Z,5µm,20.0s						
RSSD	**Black Hills**	**87.85**	**43**	P	**P**	**18 37 25.4**	**+2.5**
	baz=246						
CCIG	**Comitan**	**88.15**	**73**	IAMs_20	IAMs_20	19 06 54.2	
	comp=Z,4µm,20.0s						
WMOK	**Wichita Mounta**	**88.15**	**53**	IAMs_20	IAMs_20	19 09 06.8	
	comp=Z,5µm,20.0s						
YAK	**Yakutsk**	**88.22**	**337**	P	**P**	**18 37 22.6**	**-1.3**
	comp=Z,1.9nm,0.7s,baz=195,slow=5.9,SNR=5.1						
YAK	**Yakutsk**	**88.22**	**337**	*e*P	**P**	**18 37 22.4**	**-1.5**
YAK				pmax	pmax		
	comp=Z,16nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.2s						
BTO	**Baotou**	**88.43**	**313**	*e*P	**P**	**18 37 26.8**	**+1.2**
U32A	**Winter Ranch,**	**88.55**	**52**	IAMs_20	IAMs_20	19 09 33.1	
	comp=Z,5µm,20.0s						
Z35A	**Perchaven, San**	**88.88**	**55**	IAMs_20	IAMs_20	19 10 11.1	
	comp=Z,7µm,20.0s						
KMI	**Kunming**	**89.09**	**296**	⇓*e*P	P	18 37 34.0	+4.8
KMI				pP	sP	18 37 37.8	+4.8
KMI				pmax	pmax		
	comp=Z,28nm,1.4s						
KMI				pmax	pmax		
	comp=Z,2µm,14.8s						
KMI				LR	LR		
	comp=Z,2µm,19.5s						
KMI				LR	LR		
	comp=Z,2µm,21.9s						
KMI				LR	LR		
	comp=Z,4µm,21.8s						
MLSI	**Meulaboh, Aceh**	**89.19**	**275**	P	**P**	**18 37 33.5**	**+3.9**
OKCFA	**Oklahoma City**	**89.41**	**53**	IAMs_20	IAMs_20	19 09 56.9	
	comp=Z,6µm,20.0s						
DGMT	**Dagmar**	**89.50**	**39**	P	**P**	**18 37 31.2**	**+0.8**
	baz=246						
CD2	**Chengdu**	**89.97**	**302**	P	**P**	**18 37 30.8**	**-2.2**
CD2				S	**S**	**18 48 24.8**	**-1.4**
CD2				pmax	pmax		
	comp=Z,20nm,0.5s						
CD2				LR	LR		
	comp=Z,3µm,19.6s						
CD2				LR	LR		
	comp=Z,3µm,21.6s						
SNET	**Serv Nac Est T**	**90.13**	**76**	IAMs_20	IAMs_20	19 08 32.9	
	comp=Z,5µm,19.0s						
CMAR	**Chiang Mai Arr**	**90.59**	**289**	P	**P**	**18 37 36.1**	**0.0**
	comp=Z,14nm,1.2s,baz=105,slow=3.6,SNR=13						
CMAR				LR	LR	19 14 02.5	
	comp=Z,2µm,21.2s,baz=150,slow=33						
CMAR	**Chiang Mai Arr**	**90.59**	**289**	*ce*P	**P**	**18 37 37.2**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,14nm,1.2s						
CIT	**Chita**	**90.63**	**324**	*e*P	**P**	**18 37 38.8**	**+3.2**
CIT				*e*		18 37 50.0	
CIT				pmax	pmax		
	comp=Z,79nm,2.0s						
X37A	**Clayton**	**90.76**	**54**	IAMs_20	IAMs_20	19 10 41.9	
	comp=Z,6µm,20.0s						
TUL1	**Leonard**	**90.85**	**53**	P	**P**	**18 37 39.0**	**+2.1**
	baz=252						
K31A	**O'Neill**	**90.87**	**46**	IAMs_20	IAMs_20	19 10 15.2	
	comp=Z,5µm,22.0s						
BGNE	**Belgrade**	**90.88**	**47**	IAMs_20	IAMs_20	19 13 17.6	
	comp=Z,4µm,20.0s						
YKA	**Yellowknife Ar**	**90.89**	**24**	P	**P**	**18 37 36.2**	**-0.2**
	comp=Z,3.9nm,1.0s,baz=240,slow=4.5,SNR=6.5						
E28A	**Huff**	**90.97**	**42**	IAMs_20	IAMs_20	19 12 01.5	
	comp=Z,4µm,18.0s						
PLCA	**Paso Flores**	**91.12**	**133**	P	**P**	**18 37 39.5**	**+1.2**
	comp=Z,5.3nm,1.1s,baz=242,slow=6.5,SNR=3.6						
PLCA				LR	LR	19 09 13.6	
	comp=Z,3µm,21.7s,baz=264,slow=29						
PLCA	**Paso Flores**	**91.12**	**133**	P	**P**	**18 37 39.5**	**+1.2**
PLCA				pmax	pmax		
	comp=Z,12nm,1.3s						
PLCA	**Paso Flores**	**91.12**	**133**	IAmb	IAmb	18 37 45.9	
	comp=Z,12nm,1.2s						
SUSD	**Miller**	**91.36**	**44**	IAMs_20	IAMs_20	19 11 36.0	
	comp=Z,5µm,20.0s						
TGUH	**Tegucigalpa,Un**	**92.06**	**76**	IAMs_20	IAMs_20	19 09 20.0	
	comp=Z,4µm,20.0s						
U38A	**Gravette**	**92.09**	**53**	IAMs_20	IAMs_20	19 12 30.0	
	comp=Z,4µm,20.0s						
MDND	**Maddock**	**92.11**	**41**	IAMs_20	IAMs_20	19 18 46.8	
	comp=Z,4µm,18.0s						
MIAR	**Mount Ida**	**92.16**	**55**	P	**P**	**18 37 46.3**	**+3.3**
	baz=253						
MIAR	**Mount Ida**	**92.16**	**55**	IAMs_20	IAMs_20	19 11 02.0	
	comp=Z,5µm,20.0s						
W39A	**Magazine**	**92.19**	**54**	P	**P**	**18 37 45.8**	**+2.7**
	baz=253						
SYO	**Syowa Base**	**92.24**	**192**	⇓*e*P	**P**	**18 37 40.4**	**-2.3**
SYO	**Syowa Base**	**92.24**	**192**	⇑pP	pP	18 37 45.0	-0.6
SYO	**Syowa Base**	**92.24**	**192**	⇑*e*PP	PP	18 41 20.8	-1.5
342A	**Flagon Creek P**	**92.26**	**58**	IAMs_20	IAMs_20	19 13 20.7	
	comp=Z,4µm,18.0s						
HHAR	**Hobbs**	**92.39**	**53**	IAMs_20	IAMs_20	19 13 09.8	
	comp=Z,4µm,20.0s						
Z41A	**Richland Creek**	**92.41**	**56**	P	**P**	**18 37 46.6**	**+2.4**
	baz=253						
Z41A	**Richland Creek**	**92.41**	**56**	IAMs_20	IAMs_20	19 13 00.5	
	comp=Z,6µm,20.0s						
ECSD	**EROS Data Cent**	**92.71**	**45**	P	**P**	**18 37 47.2**	**+1.8**
	baz=251						
ECSD	**EROS Data Cent**	**92.71**	**45**	IAMs_20	IAMs_20	19 12 60.0	
	comp=Z,20nm,2.0s						
BOD	**Bodaibo**	**92.80**	**330**	*e*P	**P**	**18 37 45.1**	**-0.2**
BOD				pmax	pmax		
	comp=Z,12nm,1.9s						
ULN	**Ulaanbaatar**	**92.98**	**319**	⇓*i*P	**P**	**18 37 47.0**	**+0.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.4s						
SNAA	**Sanae**	**93.07**	**178**	P	**P**	**18 37 47.2**	**+0.5**
SNAA	**Sanae**	**93.07**	**178**	⇑*i*P	**P**	**18 37 45.9**	**-0.7**
SNAA				pmax	pmax		
	comp=Z,18nm,1.3s						
SNAA	**Sanae**	**93.07**	**178**	P	**P**	**18 37 44.1**	**-2.6**
SNAA				IAmb	IAmb	18 37 52.8	
	comp=Z,30nm,1.3s						
VNA3	**Neumayer Olymp**	**93.10**	**175**	P	**P**	**18 37 47.0**	**+0.3**
U40A	**Yellville**	**93.25**	**53**	P	**P**	**18 37 49.0**	**+1.0**
	baz=253						
U40A	**Yellville**	**93.25**	**53**	IAmb	IAmb	18 37 55.2	
	comp=Z,41nm,1.3s						
U40A				IAMs_20	IAMs_20	19 10 48.7	
	comp=Z,5µm,20.0s						
S39A	**Bolivar**	**93.27**	**52**	IAmb	IAmb	18 37 55.2	
	comp=Z,43nm,1.3s						
JTS	**Las Juntas de**	**93.28**	**80**	⇓*i*P	**P**	**18 37 47.0**	**-1.7**
JTS				pmax	pmax		
	comp=Z,13nm,1.8s						
JTS	**Las Juntas de**	**93.28**	**80**	IAMs_20	IAMs_20	19 10 06.4	
	comp=Z,5µm,19.0s						
W41B	**Gary Mavity, V**	**93.39**	**55**	P	**P**	**18 37 50.0**	**+1.3**
	baz=254						
SONM	**Songino Array**	**93.39**	**319**	P	**P**	**18 37 47.6**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=156,slow=4.0,SNR=8.4						
SONM				PP	**PP**	**18 41 33.6**	**+0.7**
	comp=Z,3.0nm,1.3s,baz=116,slow=5.7,SNR=3.6						
ACON	**Acoyapa**	**93.50**	**79**	IAMs_20	IAMs_20	19 09 04.2	
	comp=Z,4µm,21.0s						
P38A	**Dawn**	**93.67**	**50**	IAmb	IAmb	18 37 59.9	
	comp=Z,54nm,1.3s						
FCAR	**Ozark Folk Cen**	**93.69**	**54**	IAMs_20	IAMs_20	19 13 24.2	
	comp=Z,6µm,21.0s						
VNA1	**Neumayer--Stat**	**93.79**	**176**	P	**P**	**18 37 50.4**	**+0.6**
NVL	**N'lazarevskaya**	**93.97**	**182**	*e*P	**P**	**18 37 51.0**	**+0.3**
NVL				pmax	pmax		
	comp=Z,37nm,1.1s						
HDC	**Heredia**	**94.01**	**81**	IAMs_20	IAMs_20	19 08 55.7	
	comp=Z,4µm,21.0s						
R40A	**Maddies Statio**	**94.24**	**52**	IAMs_20	IAMs_20	19 13 49.8	
	comp=Z,6µm,20.0s						
X43A	**Marvell**	**94.29**	**56**	IAMs_20	IAMs_20	19 16 24.4	
	comp=Z,3µm,20.0s						
TIXI	**Tiksi**	**94.38**	**345**	P	**P**	**18 37 52.6**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=148,slow=5.2,SNR=1.9						
TIXI	**Tiksi**	**94.38**	**345**	⇑*i*P	**P**	**18 37 54.1**	**+1.8**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.2s						
TIXI	**Tiksi**	**94.38**	**345**	IAMs_20	IAMs_20	19 16 44.8	
	comp=Z,3µm,20.0s						
ESPN	**Las Esperanzas**	**94.39**	**79**	IAMs_20	IAMs_20	19 10 23.6	
	comp=Z,5µm,20.0s						
LCAR	**Lake Charles**	**94.49**	**54**	IAMs_20	IAMs_20	19 13 38.6	
	comp=Z,6µm,21.0s						
AGMN	**Agassiz Nation**	**94.63**	**41**	P	**P**	**18 37 56.2**	**+2.2**
	baz=252						
P40A	**Paris**	**94.74**	**50**	IAMs_20	IAMs_20	19 14 55.0	
	comp=Z,4µm,20.0s						
CCM	**Cathedral Cave**	**94.95**	**52**	IAMs_20	IAMs_20	19 13 40.6	
	comp=Z,5µm,21.0s						
I37A	**Lemond, Waseca**	**95.02**	**46**	IAMs_20	IAMs_20	19 13 35.9	
	comp=Z,4µm,21.0s						
ATAH	**Atahualpa**	**95.03**	**99**	LR	LR	19 11 41.7	
	comp=Z,2µm,21.9s,baz=303,slow=30						
NNA	**Nana**	**95.13**	**104**	⇑*i*P	**P**	**18 37 57.3**	**+0.1**
NNA				pmax	pmax		
	comp=Z,46nm,1.8s						
MET	**Memphis--Engin**	**95.20**	**55**	IAMs_20	IAMs_20	19 13 50.5	
	comp=Z,5µm,21.0s						
ULM	**Lac du Bonnet**	**95.22**	**39**	IAMs_20	IAMs_20	19 16 05.8	
	comp=Z,4µm,19.0s						
PBMO	**Poplar Bluff**	**95.24**	**53**	IAMs_20	IAMs_20	19 19 42.4	
	comp=Z,4µm,21.0s						
146A	**Union**	**95.27**	**58**	IAMs_20	IAMs_20	19 18 14.4	
	comp=Z,4µm,21.0s						
GTA	**Gaotai**	**95.49**

baz=256
L42A **Oliver, Polo** 97.13 49 IAMs_20 IAMs_20 19 14 46.1
comp=Z,3µm,19.0s
X48A **Hartselle** 97.34 56 IAMs_20 IAMs_20 19 15 32.2
comp=Z,5µm,20.0s
G40A **Rib Lake** 97.55 45 IAMs_20 IAMs_20 19 16 54.9
comp=Z,5µm,18.0s
O44A **Mansfield** 97.57 51 IAMs_20 IAMs_20 19 17 01.8
comp=Z,4µm,20.0s
T47A **Sharon Grove** 97.88 54 IAMs_20 IAMs_20 19 16 29.2
comp=Z,5µm,19.0s
CLTN **Cedars of Leba** 98.28 55 IAMs_20 IAMs_20 19 16 43.0
comp=Z,5µm,20.0s
SWET **Sewanee** 98.41 56 IAMs_20 IAMs_20 19 17 32.3
comp=Z,4µm,18.0s
FPAL **Fort Paine** 98.52 57 IAMs_20 IAMs_20 19 16 38.3
comp=Z,5µm,20.0s
Z51A **Franklin** 98.60 58 IAMs_20 IAMs_20 19 19 20.6
comp=Z,4µm,21.0s
FCC **Fort Churchill** 98.63 31 IAMs_20 IAMs_20 19 17 12.4
comp=Z,3µm,21.0s
SFIN **Lafayette** 98.64 51 IAMs_20 IAMs_20 19 17 17.2
comp=Z,5µm,20.0s
WCI **Wyandotte Cave** 98.78 53 IAMs_20 IAMs_20 19 14 35.1
comp=Z,5µm,20.0s
U49A **Red Boiling Sp** 98.81 55 IAMs_20 IAMs_20 19 16 19.9
comp=Z,5µm,20.0s
W50A **Signal Mountai** 98.90 56 IAMs_20 IAMs_20 19 14 11.4
comp=Z,4µm,22.0s
LVC **Limon Verde** 98.95 116 LR LR 19 13 59.2
comp=Z,2µm,20.7s,baz=274,slow=30
D41A **Chassel** 99.07 44 IAMs_20 IAMs_20 19 16 34.9
comp=Z,4µm,19.0s
F42A **Maple Grove Fa** 99.07 45 IAMs_20 IAMs_20 19 17 33.2
comp=Z,4µm,19.0s
X51A **Calhoun** 99.13 57 IAMs_20 IAMs_20 19 16 39.5
comp=Z,4µm,20.0s
L46A **Eue Claire** 99.58 49 IAMs_20 IAMs_20 19 23 16.9
comp=Z,4µm,20.0s
CPCT **Cooper Cave** 99.58 56 IAMs_20 IAMs_20 19 16 02.5
comp=Z,5µm,21.0s
R49A **Shelbyville** 99.66 53 IAMs_20 IAMs_20 19 18 24.3
comp=Z,5µm,20.0s
V51A **Loudon** 99.79 56 IAMs_20 IAMs_20 19 17 10.0
comp=Z,6µm,20.0s
J45A **Montague** 99.80 48 IAMs_20 IAMs_20 19 18 25.8
comp=Z,4µm,20.0s
656A **Willston** 99.97 62 IAMs_20 IAMs_20 19 28 50.2
comp=Z,3µm,20.0s
W52A **Murphy** 99.99 56 IAMs_20 IAMs_20 19 18 49.2
comp=Z,4µm,19.0s
I45A **Fountain** 100.03 47 IAMs_20 IAMs_20 19 19 46.8
comp=Z,4µm,20.0s
154A **Montrose** 100.16 59 IAMs_20 IAMs_20 19 21 03.8
comp=Z,6µm,21.0s
P49A **Miami Univ. Ec** 100.25 52 IAMs_20 IAMs_20 19 19 36.0
comp=Z,5µm,20.0s
R50A **Paris** 100.31 53 IAMs_20 IAMs_20 19 19 01.5
comp=Z,5µm,20.0s
255A **Hazlehurst** 100.54 60 IAMs_20 IAMs_20 19 31 11.1
comp=Z,4µm,21.0s
TZTN **Tazewell** 100.58 55 IAMs_20 IAMs_20 19 17 35.7
comp=Z,5µm,21.0s
G45A **Suttons Bay** 100.64 46 IAMs_20 IAMs_20 19 16 16.7
comp=Z,5µm,21.0s
061Z **Ochoppi** 100.67 66 IAMs_20 IAMs_20 19 33 32.7
comp=Z,5µm,22.0s
456A **Hilliard** 100.68 61 IAMs_20 IAMs_20 19 33 11.9
comp=Z,3µm,20.0s
S51A **Beattyville** 100.75 54 IAMs_20 IAMs_20 19 17 13.3
comp=Z,5µm,20.0s
V53A **Saluda** 100.99 56 IAMs_20 IAMs_20 19 18 26.8
comp=Z,5µm,20.0s
HODGE **Hodges** 101.17 57 IAMs_20 IAMs_20 19 17 53.5
comp=Z,5µm,20.0s
Q51A **Peebles** 101.20 53 IAMs_20 IAMs_20 19 33 39.1
comp=Z,4µm,21.0s
060A **Indiantown** 101.38 65 IAMs_20 IAMs_20 19 32 40.6
comp=Z,4µm,21.0s
PAULI **Pauline** 101.64 57 IAMs_20 IAMs_20 19 18 36.9
comp=Z,4µm,20.0s
Z56A **Williston** 101.72 59 IAMs_20 IAMs_20 19 20 02.4
comp=Z,4µm,21.0s
U54A **Nelsons Funny** 101.94 55 IAMs_20 IAMs_20 19 18 38.8
comp=Z,5µm,20.0s
KMSC **Kings Mountain** 102.08 57 IAMs_20 IAMs_20 19 19 48.7
comp=Z,4µm,19.0s
MTDJ **Mount Denham** 102.14 74 IAMs_20 IAMs_20 19 33 49.0
comp=Z,4µm,22.0s
R53A **Hurricane** 102.15 53 IAMs_20 IAMs_20 19 18 18.4
comp=Z,6µm,22.0s
RES **Resolute Bay** 102.23 16 IAMs_20 IAMs_20 19 23 54.5
comp=Z,5µm,21.0s
P52A **Corning** 102.24 52 IAMs_20 IAMs_20 19 18 07.5
comp=Z,5µm,20.0s
V55A **Taylorsville** 102.30 56 IAMs_20 IAMs_20 19 18 21.5
comp=Z,6µm,22.0s
I49A **Point Hope** 102.44 48 IAMs_20 IAMs_20 19 33 45.5
comp=Z,6µm,21.0s
O52A **Adamsville** 102.54 52 IAMs_20 IAMs_20 19 20 56.5
comp=Z,5µm,19.0s
S54A **Dingess, Beckl** 102.56 54 IAMs_20 IAMs_20 19 18 39.2
comp=Z,6µm,22.0s
Y57A **Sumter** 102.65 58 IAMs_20 IAMs_20 19 19 30.8
comp=Z,6µm,21.0s
NHSC **New Hope** 102.67 59 IAMs_20 IAMs_20 19 30 48.4
comp=Z,4µm,21.0s
P53A **Whipple** 102.78 52 IAMs_20 IAMs_20 19 18 25.8
comp=Z,5µm,21.0s
O53A **New Philadelph** 103.03 52 IAMs_20 IAMs_20 19 30 13.6
comp=Z,6µm,22.0s
Q54A **Coxs Mills** 103.12 53 IAMs_20 IAMs_20 19 17 22.0
comp=Z,4µm,20.0s
BLA **Blacksburg** 103.16 55 IAMs_20 IAMs_20 19 18 16.2
comp=Z,6µm,22.0s
W57A **Gilead** 103.17 57 IAMs_20 IAMs_20 19 34 45.4
comp=Z,4µm,20.0s
R55A **Marlinton** 103.57 54 IAMs_20 IAMs_20 19 19 01.8
comp=Z,6µm,21.0s
Y59A **Loris** 103.89 58 IAMs_20 IAMs_20 19 29 52.7
comp=Z,4µm,20.0s
V58A **Windy Hill, Pi** 103.98 56 IAMs_20 IAMs_20 19 34 14.8
comp=Z,4µm,19.0s
MCWV **Mont Chateau** 103.98 52 IAMs_20 IAMs_20 19 35 21.7
comp=Z,3µm,21.0s
T57A **Hurt** 104.05 55 IAMs_20 IAMs_20 19 29 55.7
comp=Z,5µm,21.0s
Q56A **Snyder Ridge,** 104.40 53 IAMs_20 IAMs_20 19 18 12.8
comp=Z,5µm,21.0s
GTBY **Guantanamo Bay** 104.73 73 IAMs_20 IAMs_20 19 34 36.5
comp=Z,5µm,21.0s
CNNC **Cliffs of the** 104.88 57 IAMs_20 IAMs_20 19 23 37.9
comp=Z,5µm,22.0s
O56A **Blue Knob Stat** 105.04 52 IAMs_20 IAMs_20 19 20 45.7
comp=Z,5µm,20.0s
S58A **Poland Farm, P** 105.09 55 IAMs_20 IAMs_20 19 17 45.1
comp=Z,5µm,22.0s
J54A **Appleton** 105.36 49 IAMs_20 IAMs_20 19 36 35.8
comp=Z,5µm,20.0s
V60A **Jim Taylor Roa** 105.46 57 IAMs_20 IAMs_20 19 20 36.2
comp=Z,5µm,22.0s
SSPA **Standing Stone** 105.60 52 IAMs_20 IAMs_20 19 20 13.5
comp=Z,5µm,20.0s
MMNY **Mt. Morris Dam** 105.83 49 IAMs_20 IAMs_20 19 33 40.3
comp=Z,5µm,21.0s
V61A **Roper** 106.02 57 IAMs_20 IAMs_20 19 26 19.9
comp=Z,4µm,22.0s
SDMD **Soldier's Deli** 106.26 53 IAMs_20 IAMs_20 19 34 11.9
comp=Z,3µm,20.0s
D53A **Lac Vacive, Po** 106.40 45 IAMs_20 IAMs_20 19 21 54.2
comp=Z,5µm,21.0s
V62A **Hyde County Ai** 106.49 57 IAMs_20 IAMs_20 19 26 45.4
comp=Z,4µm,20.0s
K58A **Earlville** 107.49 50 IAMs_20 IAMs_20 19 33 03.3
comp=Z,5µm,20.0s
ZSN **Zaisan** 107.55 315 *e*PP PP 18 43 18.3 -1.8
baz=315
ZAA0 **Zalesovo Array** 107.87 322 IAMs_20 IAMs_20 19 23 32.4
comp=Z,4µm,20.0s
ZALV **Zalesovo Beam** 107.87 322 PKiKP PKiKP 18 43 00.2 -0.3
comp=Z,0.3nm,0.3s,baz=129,slow=3.9,SNR=1.8
ALE **Alert** 108.09 7 IAMs_20 IAMs_20 19 20 56.8
comp=Z,4µm,20.0s
LONY **Lake Ozonia** 108.39 48 IAMs_20 IAMs_20 19 29 03.1
comp=Z,5µm,21.0s
NCB **Newcomb** 108.61 48 IAMs_20 IAMs_20 19 28 35.9
comp=Z,3µm,20.0s
GRTK **Grand Turk** 108.67 72 IAMs_20 IAMs_20 19 31 42.1
comp=Z,3µm,20.0s

TULEG **Thule** 108.70 14 IAMs_20 IAMs_20 19 18 41.4
comp=Z,3µm,21.0s
HATO **Hato, Curacao** 108.98 82 IAMs_20 IAMs_20 19 31 22.3
comp=Z,3µm,22.0s
MKAR **Makanchi Array** 109.27 315 Pdiff Pdif 18 39 02.6 +3.0
comp=Z,1.1nm,1.1s,baz=129,slow=2.0,SNR=5.3
MKAR PKiKP **PKiKP** 18 43 01.7 -1.7
comp=Z,0.9nm,0.8s,baz=72,slow=4.0,SNR=6.8
MKAR PKKPbc **PKKPbc** 18 54 13.0 +2.3
comp=Z,0.2nm,0.7s,baz=319,slow=3.5,SNR=3.7
MAKZ **Makanchi** 109.49 315 IAMs_20 IAMs_20 19 31 08.4
comp=Z,3µm,21.0s
SEM **Semipalatinsk** 110.67 318 *e*PP PP 18 43 41.5 -1.4
baz=318
SHLS **Shalkode** 111.17 311 LR LR 19 28 15.6
comp=Z,580nm,17.5s,baz=311
UZB **Uzynbulak** 111.49 311 *e*PP PP 18 43 46.8 -2.1
baz=310
UZB LR LR 19 29 08.1
comp=Z,379nm,16.1s,baz=310
KURK **Kurchatov** 111.70 319 ⇑*i*PKiKP **PKiKP** 18 43 07.5 -0.3
KURK **Kurchatov** 111.70 319 IAMs_20 IAMs_20 19 28 31.5
comp=Z,4µm,20.0s
KPKS **Kokpek** 111.75 311 *i* PP PP 18 43 48.2 -2.5
baz=311
KPKS LR LR 19 28 05.8
comp=Z,896nm,16.2s,baz=311
KURBB **Kurchatov Arra** 111.76 319 PKiKP **PKiKP** 18 43 07.5 -0.3
comp=Z,5.0nm,1.2s,baz=93,slow=1.5,SNR=8.1
KURBB PP PP 18 43 50.4 +0.1
comp=Z,0.9nm,1.0s,baz=94,slow=7.4,SNR=6.9
SATY **Saty** 111.94 311 *i* PP PP 18 43 49.9 -2.2
baz=310
TDK **Taldyqorghan** 111.95 313 LR LR 19 31 06.2
comp=Z,2µm,18.9s,baz=312
MDOK **Medeo** 112.94 311 *i* PP PP 18 43 57.2 -2.1
baz=310
MDOK LR LR 19 30 30.1
comp=Z,921nm,18.8s,baz=310
AAA **Alma-Ata** 113.03 311 LR LR 19 29 17.1
comp=Z,1µm,19.3s,baz=311
KUU **Kurty** 113.44 311 *e*PP PP 18 44 01.0 -1.7
baz=311
SEUS **St. Eustatius** 115.63 78 IAMs_20 IAMs_20 19 37 04.5
comp=Z,3µm,20.0s
SKI **Saint Kitts** 115.83 78 IAMs_20 IAMs_20 19 28 27.0
comp=Z,4µm,22.0s
BVAR **Borovoye Array** 116.53 322 PKP **PKPdf** 18 43 15.4 -1.6
comp=Z,1.1nm,0.6s,baz=94,slow=2.1,SNR=12
BRVK **Borovoye** 116.58 322 ⇑*i*PKiKP **PKiKP** 18 43 17.1 0.0
DZA **Taraz** 117.14 311 *e*PP PP 18 44 27.1 -1.6
baz=310
DZA LR LR 19 33 00.2
comp=Z,216nm,13.9s,baz=310
IUG **Iuzhnay** 118.15 310 *e*PP PP 18 44 33.3 -2.6
baz=310
IUG LR LR 19 32 59.4
comp=Z,96nm,15.8s,baz=310
SVE **Sverdlovsk** 120.95 328 *e*PKiKP **PKiKP** 18 43 30.1 +4.6
SVE pmax pmax
comp=Z,28nm,1.4s
ARU **Arti** 122.17 328 *i* PKiKP **PKiKP** 18 43 28.0 +0.1
ARU 18 45 04.8
ARU PPP PPP 18 47 42.3
ARU 18 50 39.7
ARU SS SS 19 01 38.3 -3.2
ARU MLR MLR
comp=Z,6µm,20.0s
ARCES **ARCESS Array B** 124.23 351 PKP **PKiKP** 18 43 31.5 -0.1
comp=Z,11nm,1.0s,baz=16,slow=1.7,SNR=14
APA **Apatity** 124.51 347 ⇑*i*PKiKP **PKiKP** 18 43 36.0 +3.8
APA pmax pmax
comp=Z,7.0nm,1.0s
APA MLR MLR
comp=Z,3µm,18.0s
KIRV **Kirov** 125.53 333 PKP **PKiKP** 18 43 34.2 -0.2
comp=Z,9.2nm,0.5s,baz=58,slow=2.5,SNR=7.7
KIRV **Kirov** 125.53 333 *i* PKiKP **PKiKP** 18 43 34.8 +0.4
TMCR **Tamitsa** 126.03 343 *e*PKiKP **PKiKP** 18 43 36.5 +1.2
TMCR pmax pmax
comp=Z,11nm,0.8s
GEYT **Alibeck** 127.76 306 PKP **PKPdf** 18 43 38.5 -0.5
comp=Z,2.6nm,1.1s,baz=243,slow=0.7,SNR=7.0
KLMR **Klimovskoe** 127.99 339 *e*PKiKP **PKPdf** 18 43 37.6 -1.1
KLMR pmax pmax
comp=Z,108nm,1.4s
KLMR **Klimovskoe** 127.99 339 *e*PKPdf **PKPdf** 18 43 37.6 -1.1
KLMR AMP 18 43 45.3
comp=Z,108nm,1.4s
FINES **FINESS Array B** 131.40 346 PKP **PKiKP** 18 43 45.5 -0.6
comp=Z,2.2nm,0.8s,baz=318,slow=1.9,SNR=1.6
PUL **Pulkovo** 131.74 343 *e*P **PKiKP** 18 43 49.7 +2.9
MOS **Moscow** 132.32 335 *i* PKiKP **PKiKP** 18 43 49.8 +1.6
MOS *e* 18 46 12.1
MOS *e*PS **PS** 18 56 18.3 -7.5
MOS pmax pmax
comp=Z,52nm,0.9s
OBN **Obninsk** 133.18 335 ⇑*i*PKiKP **PKPdf** 18 43 48.6 -0.1
OBN *i* 18 43 54.2
OBN *e* 18 46 13.3
OBN *e*PPP PPP 18 49 07.8
OBN pmax pmax
comp=Z,12nm,0.5s
VRH **Novokhopyorsk** 133.39 328 *e*PKiKP **PKPdf** 18 43 47.2 -2.0
VRH pmax pmax
comp=Z,7.0nm,1.0s
VSU **Vasula** 133.84 344 *e*P **PKiKP** 18 43 57.4 +6.3
LPSR **Galich'ya Gora** 133.88 331 *e*PKiKP **PKPdf** 18 43 49.6 -0.5
LPSR pmax pmax
comp=Z,30nm,1.4s
MAK **Makhachkala** 134.08 316 *e*P **Pdif** 18 40 41.7 -8.2
MAK *e* 18 46 17.0
NOA **NORSAR Array B** 134.09 355 PKP **PKPdf** 18 43 50.0 -0.4
comp=Z,1.6nm,1.0s,baz=14,slow=4.1,SNR=3.8
AKT **Akhty** 134.49 314 *e*PKiKP **PKiKP** 18 43 53.0 -0.2
AKT *e* 18 46 26.6
AKT pmax pmax
comp=Z,12nm,0.7s
VORD **Divnogorie** 134.75 329 *e*PKiKP **PKPdf** 18 43 51.9 +0.1
VORD pmax pmax
comp=Z,10.0nm,1.2s
HFS **Hagfors** 134.75 353 PKP **PKPdf** 18 43 50.4 -1.2
comp=Z,3.6nm,0.9s,baz=283,slow=10.0,SNR=3.7
IZAR **Zarasai** 136.31 342 *e*P **PKiKP** 18 44 00.0 +3.8
ISAL **Salakas** 136.50 342 *e*P **PKiKP** 18 44 00.0 +3.4
ZEI **Tsey** 136.55 317 *i* PKiKP **PKiKP** 18 43 58.8 +1.3
IIGN **Ignalina** 136.66 342 *e*P **PKiKP** 18 44 00.1 +3.1
KBZ **Khabaz** 136.76 319 PKP **PKiKP** 18 43 56.5 -1.1
comp=Z,1.7nm,1.0s,baz=73,slow=11,SNR=2.3
KIV **Kislovodsk** 136.78 319 *e*PKiKP **PKiKP** 18 43 57.2 -0.6
KIV pmax pmax
comp=Z,20nm,1.0s
PABE **Paberze** 137.17 344 *e*P **PKiKP** 18 44 02.1 +4.1
PBUR **Paburge** 137.22 346 *e*P **PKiKP** 18 44 03.0 +4.9
SUW **Suwalki** 138.70 343 *e*PKP **PKPdf** 18 43 58.4 -0.6
AKASG **Malin Array Be** 139.44 336 PKP **PKPdf** 18 43 59.0 -1.5
comp=Z,3.8nm,0.9s,baz=34,slow=3.2,SNR=9.4
AKASG **Malin Array Be** 139.44 336 PKiKP **PKPdf** 18 43 59.0 -1.5
ANN **Anapa** 139.50 323 *i* PKiKP **PKPdf** 18 44 00.0 -0.8
ANN *e* 18 51 12.9
ANN pmax pmax
comp=Z,45nm,0.9s
GKP **Gorka Klasztor** 140.82 348 *e*PKP **PKiKP** 18 44 07.4 +1.9
BEL **Belsk** 141.30 344 *e*PKP **PKiKP** 18 44 09.9 +3.3
SORM **Soroca** 141.79 334 ⇑P **PKPdf** 18 44 04.9 +0.1
SORM **Soroca** 141.79 334 ⇑PKiKP **PKPdf** 18 44 04.9 +0.1
LVV **L'vov** 142.08 339 *e*PKiKP **PKPdf** 18 44 05.1 -0.2
LVV MLR MLR
comp=Z,1µm,18.0s
RUE **Ruedersdorf** 142.20 351 *e*P **PKiKP** 18 44 07.4 -0.9
PCED **Cedros** 142.79 45 *e*P **PKiKP** 18 44 17.2 +7.1
comp=Z,53nm,1.3s
PCAN **Candelaria** 143.02 45 *e*P **PKiKP** 18 44 16.4 +5.8
comp=Z,58nm,1.1s
OJC **Ojcow** 143.03 344 *e*PKP **PKiKP** 18 44 13.1 +2.9
KSP **Ksiaz** 143.30 347 *e*PKP **PKiKP** 18 44 16.7 +6.0
KOLS **Kolonicke sedl** 143.43 340 *e*PKiKP **PKPdf** 18 44 06.2 -1.6
KOLS **Kolonicke sedl** 143.43 340 *e*PKP **PKPdf** 18 44 06.2 -1.6
CLL **Collm** 143.46 351 *e*PKPdf **PKPdf** 18 44 07.0 -0.7
CLL *i* PKiKP **PKiKP** 18 44 10.7 -0.3
CLL *i* pPKiKP **pPKiKP** 18 44 13.1 -0.8
comp=Z,17nm,1.3s
CLL *e* 18 44 30.0
CLL *e*PP **PP** 18 47 20.0 +1.7
CLL LmV 19 58 00.0
comp=Z,2µm,18.8s
CLL **Collm** 143.46 351 *e*PKiKP **PKPdf** 18 44 07.0 -0.7
CLL *i* 18 44 13.1
CLL MLR MLR
comp=Z,2µm,18.8s
BURAR **Bucovina Array** 143.49 336 ⇑P **PKiKP** 18 44 11.0 -0.4
BURAR **Bucovina Array** 143.49 336 ⇑PKiKP **PKiKP** 18 44 11.0 -0.4
OSTC **Ostas** 143.59 347 *e*PKP **PKiKP** 18 44 13.4 +2.0
OSTC *ex* x 18 44 17.7
CHVC **Chvalec** 143.59 347 *e*PKP **PKiKP** 18 44 09.9 -1.5
NIE **Niedzica** 143.61 342 *e*PKP **PKiKP** 18 44 12.4 +0.9
KMBO **Kilima Mbogo** 143.64 246 PKP **PKPdf** 18 44 08.8 -0.7
comp=Z,11nm,1.1s,baz=5.0,slow=3.1,SNR=8.8
BIZ **Bicaz** 143.68 335 ⇑P PKPbc 18 44 06.1 +0.4
UPC **Upice** 143.68 347 *e*PKP **PKPdf** 18 44 09.1 +1.0
UPC *ep*PKP **sPKPdf** 18 44 14.0 +2.1
UPC **Upice** 143.68 347 *e*PKiKP **PKPdf** 18 44 09.1 +1.0
UPC *e* 18 44 14.0
UZH **Uzhgorod** 143.69 340 *e*PKiKP PKPbc 18 44 04.8 -0.8
UZH *e* 18 44 07.7
UZH *e* 18 44 10.6
BRG **Berggiesshubel** 143.72 350 *e*PKP **PKPdf** 18 44 09.0 +0.8
comp=Z,6.2nm,1.1s
BRG *e* 18 44 13.9
comp=Z,44nm,1.6s
comp=N,2µm,21.9s
comp=E,1µm,22.2s
comp=Z,3µm,20.8s
BRG **Berggiesshubel** 143.72 350 *e*PKiKP **PKPdf** 18 44 09.0 +0.8
BRG *e* 18 44 13.9
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG MLR MLR
comp=N,2µm,21.9s
BRG MLR MLR
comp=E,1µm,22.2s
BRG MLR MLR
comp=Z,3µm,20.8s
DPC **Dobruska-Polom** 143.76 347 *e*PKP **PKPdf** 18 44 09.4 +1.1
DPC *ex* x 18 44 17.2
DPC **Dobruska-Polom** 143.76 347 *e*PKiKP **PKPdf** 18 44 09.4 +1.1
DPC *e* 18 44 17.2
TESR **Tescani** 143.79 334 ⇓P PKPbc 18 44 06.4 +0.4
OKC **Ostrava-Krasne** 143.81 345 *e*PKP **PKiKP** 18 44 11.9 +0.1
OKC *ex* x 18 44 15.0
OKC **Ostrava-Krasne** 143.81 345 *e*PKiKP **PKiKP** 18 44 11.9 +0.1
OKC *e* 18 44 15.0
PSCM **Serra do Cume** 143.82 44 *e*P **PKiKP** 18 44 11.5 -0.7
comp=Z,117nm,1.2s
PVCC **Panska Ves** 143.94 349 *e*PKP **PKiKP** 18 44 12.5 +0.4
PVCC **Panska Ves** 143.94 349 *e*PKiKP **PKiKP** 18 44 12.5 +0.4
MORC **Moravsky Berou** 144.02 345 ⇑P **PKiKP** 18 44 11.2 -1.1
MORC **Moravsky Berou** 144.02 345 *e*PKP **PKPdf** 18 44 07.3 -1.5
MORC **Moravsky Berou** 144.02 345 ⇑PKiKP **PKiKP** 18 44 11.2 -1.1
CFR **Carcaliu** 144.14 331 ⇑P **PKPdf** 18 44 09.9 +0.8
CFR **Carcaliu** 144.14 331 ⇑PKiKP **PKPdf** 18 44 09.9 +0.8
TOPG **Topolog** 144.25 330 ⇑P **PKPdf** 18 44 09.6 +0.3
ARCR **ARCALIA** 144.25 336 ⇑P **PKPdf** 18 44 09.3 0.0
VRI **Vrincioaia** 144.26 333 ⇓P **PKPdf** 18 44 09.5 +0.2
VRI **Vrincioaia** 144.26 333 ⇓PKiKP **PKPdf** 18 44 09.5 +0.2
MOX **Moxa** 144.30 352 *e*PKPbc **PKPab** 18 44 06.8 -0.4
baz=10,slow=3.1
PLOR **Plostina** 144.30 333 ⇓P **PKPdf** 18 44 09.3 -0.1
PLOR **Plostina** 144.30 333 ⇓PKiKP **PKPdf** 18 44 09.3 -0.1
UBBA **Unterbreizbach** 144.32 354 *e*PKPbc **PKPab** 18 44 06.7 -0.4
baz=10,slow=3.1
PLN **Plauen** 144.38 351 *e*PKPbc **PKPab** 18 44 06.9 -0.6
baz=10,slow=3.1
TANN **Tannenbergstha** 144.41 351 *e*PKPbc PKPbc 18 44 07.3 -0.6
baz=10,slow=3.1
PRU **Pruhonice** 144.47 349 *e*PKP **PKPdf** 18 44 08.7 -0.8
PRU *ex* x 18 44 21.0
PRU **Pruhonice** 144.47 349 *e*PKiKP **PKPdf** 18 44 08.7 -0.8
GUNZ **Gunzen** 144.47 351 *e*PKPbc **PKPab** 18 44 07.4 -0.4
baz=10,slow=3.1
OZUR 144.48 334 ⇓P **PKPdf** 18 44 09.2 -0.5
GOPC **GO Pecny, Ondr** 144.49 348 *e*PKP **PKiKP** 18 44 13.0 -0.3
GOPC *ex* x 18 44 21.9
GOPC **GO Pecny, Ondr** 144.49 348 *e*PKiKP **PKiKP** 18 44 13.0 -0.3
GOPC *e* 18 44 21.9
WERN **Wernitzgruen** 144.54 351 *e*PKPbc **PKPab** 18 44 07.6 -0.5
baz=10,slow=3.1
TIRR **Tirgusor** 144.55 330 ⇑P **PKPab** 18 44 07.5 -0.7
TIRR **Tirgusor** 144.55 330 ⇑PKiKP **PKPab** 18 44 07.5 -0.7
NKC **Novy Kostel** 144.58 351 *e*PKP **PKiKP** 18 44 18.7 +5.3
NKC **Novy Kostel** 144.58 351 *e*PKiKP **PKiKP** 18 44 18.7 +5.3
BEBN **Eben Emael** 144.61 359 PKPdf **PKPab** 18 44 07.8 -0.4
UCC **Uccle** 144.62 0 IAMs_20 IAMs_20 19 49 00.2
comp=Z,3µm,20.0s
VRAC **Vranov** 144.68 346 PKP **PKPdf** 18 44 08.9 -1.0
comp=Z,8.4nm,1.1s,baz=2.7,slow=5.0,SNR=12
VRAC **Vranov** 144.68 346 ⇑P **PKPdf** 18 44 09.6 -0.4
VRAC **Vranov** 144.68 346 *e*PKP PKPbc 18 44 08.2 -0.5
VRAC **Vranov** 144.68 346 ⇑PKiKP **PKPdf** 18 44 09.6 -0.4
BR131 **Keskin Array S** 144.75 319 PKiKP **PKPdf** 18 44 10.5 0.0
BR131 **Keskin Array S** 144.75 319 PKPdf **PKPdf** 18 44 10.5 0.0
BRTR **Keskin Array B** 144.75 319 PKP **PKPdf** 18 44 09.5 -1.0
comp=Z,25nm,1.0s,baz=113,slow=1.6,SNR=65
DOPR **Dopca** 144.75 334 ⇓P **PKPdf** 18 44 09.2 -1.0
MEM **Membach** 144.79 358 PKPdf **PKPdf** 18 44 09.1 -0.9
AHRW **Bad Neuenahr-A** 144.82 357 *e*PKPbc **PKPab** 18 44 08.2 -0.8
baz=10,slow=3.1
JAVC **Velka Javorina** 144.84 345 *e*PKP **PKPdf** 18 44 09.6 -0.7
PBCC **Pribram** 144.86 349 *e*PKP **PKPdf** 18 44 09.4 -0.8
PBCC *ex* x 18 44 15.3
VYHS **Vyhne** 144.86 343 *e*PKiKP **PKPdf** 18 44 09.4 -0.9
VYHS **Vyhne** 144.86 343 *e*PKP **PKPdf** 18 44 09.4 -0.9
MANZ **Manzenberg** 144.87 351 *e*PKPbc **PKPdf** 18 44 09.4 -0.9
baz=10,slow=3.1
MLR **Muntele Rosu** 144.89 333 PKP **PKPdf** 18 44 09.8 -0.8
comp=Z,3.8nm,0.8s,baz=100,slow=6.5,SNR=6.7
MLR **Muntele Rosu** 144.89 333 ⇓P **PKPdf** 18 44 10.6 0.0
MLR **Muntele Rosu** 144.89 333 ⇓PKiKP **PKPdf** 18 44 10.6 0.0
SNF **Seneffe** 144.91 0 PKPdf PKPbc 18 44 09.3 -0.1
ISR **Istrita** 144.92 332 ⇑P **PKPdf** 18 44 10.5 -0.1
ISR **Istrita** 144.92 332 ⇑PKiKP **PKPdf** 18 44 10.5 -0.1
TREC **Trest** 144.94 347 *e*PKP **PKPdf** 18 44 10.1 -0.3
TREC *ex* x 18 44 16.0
TREC **Trest** 144.94 347 *e*PKiKP **PKPdf** 18 44 10.1 -0.3
TREC *e* 18 44 16.0
KRUC **Moravsky** 144.96 346 *e*PKP **PKPab** 18 44 08.7 -0.9
BCLA **Clavier** 145.00 359 PKPdf **PKPdf** 18 44 09.7 -0.7
BGES **Gesves** 145.03 359 x **PKPdf** 18 44 15.0 +4.5
BHOU **Houvegnez** 145.05 358 PKPdf **PKPdf** 18 44 10.2 -0.3
TNS **Taunus Mts** 145.05 355 *e*PKPbc **PKPbc** 18 44 09.1 -0.8
baz=10,slow=3.1
PSZ **Piszkesteto** 145.07 342 ⇑P **PKPdf** 18 44 10.8 +0.1
PSZ **Piszkesteto** 145.07 342 ⇑PKiKP **PKPdf** 18 44 10.8 +0.1
ROTZ **Rotzenmuhle** 145.07 351 *e*PKPbc **PKPbc** 18 44 09.3 -0.7
baz=10,slow=3.1
DRGR 145.12 338 ⇓P **PKPab** 18 44 10.0 -0.3
DRGR 145.12 338 ⇓PKiKP **PKPab** 18 44 10.0 -0.3
BMRD **Maredsous** 145.12 360 PKPdf **PKPdf** 18 44 10.1 -0.6
ANTO **Ankara** 145.19 320 ⇑P **PKPdf** 18 44 11.9 +0.7
ANTO **Ankara** 145.19 320 ⇑PKiKP **PKPdf** 18 44 11.9 +0.7
PSET **Sete Cidades** 145.22 44 *e*P **PKiKP** 18 44 18.6 +3.5
comp=Z,227nm,1.2s
PSN **Preselentsi** 145.23 329 *e*P **PKiKP** 18 44 16.0 +1.1
GRF **Grafenberg Arr** 145.28 352 *e*PKPbc **PKPbc** 18 44 10.1 -0.6
baz=10,slow=3.1
VOIR 145.32 334 ⇑P **PKPdf** 18 44 11.8 +0.6
VOIR 145.32 334 ⇑PKiKP **PKPdf** 18 44 11.8 +0.6
GRON **Grota Negra** 145.37 44 *e*P **PKiKP** 18 44 17.8 +2.3
comp=Z,265nm,1.6s
CMLA **Cha da Macela** 145.38 44 *e*P **PKiKP** 18 44 14.1 -1.4
comp=Z,247nm,1.5s
MODS **Modra-Piesok** 145.39 345 *e*PKiKP **PKPab** 18 44 11.0 -0.2
MODS **Modra-Piesok** 145.39 345 *e*PKP **PKPab** 18 44 11.0 -0.2
PCALD **Caldeiras da R** 145.39 44 *e*P **PKiKP** 18 44 18.5 +3.0
comp=Z,108nm,0.6s
KHC **Kasperske Hory** 145.47 349 *e*PKP **PKPab** 18 44 11.2 -0.3
KHC *ep*PKP sPKPab 18 44 16.5 +1.2
KHC *ex* x 18 44 26.2
KHC **Kasperske Hory** 145.47 349 *e*PKiKP **PKPab** 18 44 11.2 -0.3
KHC *e* 18 44 16.5
ARR **Arges** 145.55 334 ⇓P **PKPab** 18 44 12.8 +0.9
WET **Wettzell** 145.57 350 *e*PKPbc **PKPdf** 18 44 11.0 -0.5
baz=10,slow=3.1
ZST **Bratislava** 145.59 345 *e*PKiKP **PKPab** 18 44 11.6 -0.3
ZST **Bratislava** 145.59 345 *e*PKP **PKPab** 18 44 11.6 -0.3
BART **Pico Bartolome** 145.61 44 *e*P **PKiKP** 18 44 15.0 -1.0
comp=Z,185nm,1.4s
GEC2 **GERESS Array S** 145.72 349 *e*PKPbc **PKPdf** 18 44 11.1 -0.8

	baz=10,slow=3.1								
GERES	**GERESS Array B**	145.72	349		PKPbc	**PKPab**	18 44 12.2	-0.4	
	comp=Z,5.5nm,1.0s,baz=29,slow=3.0,SNR=25								
WLF	**Walferdange**	145.73	358		x	**PKPdf**	18 44 12.5	+0.8	
WLF	**Walferdange**	145.73	358		*e*PKPbc	**PKPbc**	18 44 11.8	-0.3	
	baz=10,slow=3.1								
LOT	**Lotru**	145.83	335	⇑	P	**PKPbc**	18 44 12.2	-0.5	
SIRR	**Siria**	145.94	338	⇑	P	**PKPab**	18 44 13.5	+0.2	
NEF	**NEVSHA**	145.98	330		*e*P	**PKPab**	18 44 13.0	-0.6	
ASF	**Jabal al Asfar**	146.04	305		PKPbc	**PKPab**	18 44 14.1	-0.1	
	comp=Z,33nm,1.3s,baz=52,slow=2.9,SNR=11								
PSMA	**Santa Maria**	146.05	45		*e*P	**PKiKP**	18 44 16.7	-0.1	
	comp=Z,283nm,1.8s								
CONA	**Conrad Observa**	146.14	346		*i* PKPab	**PKPbc**	18 44 13.1	-0.5	
	comp=Z,101nm,1.6s,SNR=35								
ORH	**Orhaniye**	146.19	324		P	**PKiKP**	18 44 19.6	+2.6	
STU	**Stuttgart**	146.42	354		*e*PKPbc	**PKPbc**	18 44 13.6	-0.6	
	baz=10,slow=3.1								
BZS	**Buzias**	146.52	338	⇑	P	**PKPbc**	18 44 13.8	-0.8	
BZS	**Buzias**	146.52	338	⇑	PKP2	**PKPbc**	18 44 13.8	-0.8	
MOA	**Molln**	146.56	348		*i* PKPab	**PKPbc**	18 44 14.4	-0.3	
	comp=Z,56nm,1.2s,SNR=13								
SZH	**Strazhica**	146.62	331		*e*P	**PKiKP**	18 44 18.0	+0.2	
FUR	**Furstenfeldbru**	146.77	352		*e*PKPbc	**PKPbc**	18 44 14.7	-0.6	
	baz=10,slow=3.1								
HERR	**Herculane**	146.84	336	⇑	P	**PKPbc**	18 44 15.5	0.0	
ARSA	**Arzberg**	146.86	346		*i* pPKPdf	**PKPbc**	18 44 15.6	0.0	
	comp=Z,29nm,1.9s,SNR=16								
MMAI	**Mount Meron Ar**	146.87	308		PKPbc	**PKPab**	18 44 16.9	-0.5	
	comp=Z,33nm,1.0s,baz=52,slow=5.4,SNR=34								
BFO	**Black Forest**	146.94	355		*e*PKPbc	**PKPbc**	18 44 15.0	-0.8	
	baz=10,slow=3.1								
RJOB	**Jochberg**	146.95	350		*e*PKPbc	**PKPbc**	18 44 15.2	-0.6	
	baz=10,slow=3.1								
KOGS	**Kog**	147.43	345		*e*PKPbc	**PKPab**	18 44 18.1	-0.9	
KBA	**Koelnbreinsper**	147.48	349		*i* pPKPdf	**PKPbc**	18 44 17.2	-0.3	
	comp=Z,24nm,1.1s								
RETA	**Reutte**	147.51	352		*i* pPKPdf	**PKPbc**	18 44 17.0	-0.5	
	comp=Z,33nm,1.3s,SNR=6.3								
SOKA	**Soboth**	147.51	346		*i* PKPbc	**PKPdf**	18 44 15.1	+0.1	
	comp=Z,55nm,2.0s								
PERS	**Pernice**	147.53	346		*e*PKPbc	**PKiKP**	18 44 19.7	+0.1	
WATA	**Walderalm**	147.54	351		*i* PKPbc	**PKPdf**	18 44 15.1	0.0	
	comp=Z,41nm,1.5s								
MOTA	**Moosalm**	147.60	351		*i* sPKPdf	**PKPbc**	18 44 17.9	+0.1	
	comp=Z,60nm,1.5s,SNR=18								
WTTA	**Wattenberg**	147.60	351		*i* PKPbc	**PKPdf**	18 44 15.7	+0.5	
	comp=Z,58nm,1.7s								
KALN	**Kalnik**	147.68	344		P	**PKPbc**	18 44 17.0	-0.8	
SQTA	**Sankt Quirin**	147.71	351		*i* PKPbc	**PKPbc**	18 44 16.6	-1.5	
	comp=Z,43nm,1.5s,SNR=8.2								
OBKA	**Obir**	147.78	347		*i* pPKPdf	**PKPbc**	18 44 17.8	-0.5	
	comp=Z,20nm,1.4s								
DAVA	**Damuels**	147.82	353		*i* sPKPdf	**PKPbc**	18 44 18.3	0.0	
	comp=Z,55nm,1.4s,SNR=16								
MYKA	**Terra Mystica**	147.86	348		*i* pPKPdf	**PKPbc**	18 44 17.4	-1.0	
	comp=Z,66nm,1.4s								
ABTA	**Abfaltersbach**	147.96	349		*i* PKPbc	**PKPdf**	18 44 15.6	0.0	
	comp=Z,37nm,1.2s								
FETA	**Feichten**	147.97	352		*i* PKPbc	**PKPdf**	18 44 16.3	+0.5	
	comp=Z,31nm,1.2s,SNR=11								
PGB	**Panagyurishte**	148.00	332		*e*P	**PKPbc**	18 44 19.0	+0.1	
PTJ	**Puntijarka**	148.01	345		P	**PKiKP**	18 44 19.8	-0.9	
MOSL	**Moslavina**	148.07	344		P	**PKPbc**	18 44 17.8	-1.1	
KDZ	**Kurdzhali**	148.10	329		*e*P	**PKPab**	18 44 24.0	+2.1	
VTS	**Vitosha**	148.36	333	⇓	P	**PKPdf**	18 44 17.1	+0.5	
VTS	**Vitosha**	148.36	333		*e*P	**PKPab**	18 44 25.0	+1.9	
VTS	**Vitosha**	148.36	333	⇓	PKIKP	**PKPdf**	18 44 17.1	+0.5	
RZN	**Rozhen**	148.41	330		*e*P	**PKPbc**	18 44 20.0	-0.2	
EIL	**Elat**	148.50	302		PKPbc	**PKPbc**	18 44 20.4	-0.1	
	comp=Z,49nm,1.2s,baz=100,slow=0.6,SNR=20								
MMB	**Musomiste**	148.96	331		*e*P	**PKPbc**	18 44 21.0	-0.4	
KKB	**Krupnik**	149.03	332		*e*P	**PKPbc**	18 44 21.0	-0.5	
BRJN	**Brijuni**	149.48	347		P	**PKiKP**	18 44 23.0	-0.6	
SKO	**Skopje**	149.66	334		*i* P	**PKiKP**	18 44 23.5	-0.6	
VAY	**Valandovo**	149.70	332		*i* P	**PKPbc**	18 44 22.8	-0.4	
PDG	**Podgorica**	150.12	338	⇑	P	**PKPdf**	18 44 20.4	+1.2	
OHR	**Ohrid**	150.64	334		*i* P	**PKiKP**	18 44 25.9	-0.3	
PGAV	**Gavieira, Arco**	151.29	20		*e*PKPab	**PKPab**	18 44 33.5	-1.5	
PCAB	**Cabril**	151.60	20		*e*PKPbc	**PKiKP**	18 44 27.8	-0.4	
PCAB	**Cabril**	151.60	20		*e*PKPab	**PKPab**	18 44 34.3	-1.9	
PBRG	**Braganca**	151.92	18		*e*PKPbc	**PKiKP**	18 44 28.6	-0.3	
PVRL	**Vila Real**	152.09	20		*e*PKPbc	**PKiKP**	18 44 29.6	+0.4	
MVO	**Moncorvo**	152.41	19		*e*PKPbc	**PKPbc**	18 44 29.3	-0.4	
MVO					*i* LQ	LQ	18 44 36.0		
PVIS	**Viseu**	152.54	21		*e*PKPbc	**PKPbc**	18 44 29.6	-0.3	
PVIS					*i* LQ	LQ	18 44 49.7		
PCAS	**Casmilo, Conde**	152.91	22		*i* LQ	LQ	18 44 25.4		
IDI	**Anoyia**	152.94	321		PKPbc	**PKPbc**	18 44 29.0	-2.0	
	comp=Z,30nm,1.2s,baz=63,slow=2.3,SNR=4.5								
PCBR	**Castelo Branco**	153.46	21		*e*PKPdf	**PKPdf**	18 44 22.8	-1.5	
PCBR	**Castelo Branco**	153.46	21		*e*PKPbc	**PKPbc**	18 44 31.5	-0.4	
PMRV	**Marv??o**	153.86	21		*e*PKPbc	**PKPbc**	18 44 31.7	-1.1	
PMRV					*i* LQ	LQ	18 44 47.2		
PMTG	**Montargil**	153.88	23		*e*PKPbc	**PKPbc**	18 44 32.4	-0.4	
PMTG					*i* LQ	LQ	18 44 51.8		
TIP	**Timpagrande**	153.88	338	⇑	P	**PKPdf**	18 44 28.3	+3.3	
PMPST	**Porto Santo, M**	154.20	43		*i* LQ	LQ	18 44 41.6		
EVO	**Evora**	154.43	23		*i* LQ	LQ	18 44 39.4		
PNCL	**Nicolau / Gran**	154.59	24		*e*PKPbc	**PKPbc**	18 44 32.9	-1.5	
ESDC	**Sonseca Array**	154.67	15		PKPbc	**PKPbc**	18 44 32.5	-2.1	
	comp=Z,4.3nm,1.2s,baz=342,slow=3.3,SNR=13								
ESDC					PKPab	**PKPab**	18 44 49.7	+0.5	
	comp=Z,2.9nm,0.9s,baz=337,slow=2.8,SNR=6.2								
PVAQ	**Vaqueiros**	155.53	24		*i* LQ	LQ	18 44 59.6		
CORL	**Corleone**	156.19	342		IAMs_20	IAMs_20	19 33 45.9		
	comp=Z,1μm,18.0s								
CART	**Cartagena**	157.32	11		IAMs_20	IAMs_20	19 48 24.7		
	comp=Z,2μm,21.0s								
MDT	**Midelt**	160.77	24		PKP	**PKPdf**	18 44 34.1	+0.2	
	comp=Z,1.8nm,1.1s,baz=346,slow=8.3,SNR=1.8								
TORD	**Torodi Ar. Bea**	176.59	129		PKP	**PKPdf**	18 44 44.2	-0.3	
	comp=Z,5.5nm,1.2s,baz=251,slow=7.2,SNR=13								
TORD					PKPab	**PKPab**	18 46 26.5	+0.4	
	comp=Z,2.7nm,1.0s,baz=240,slow=5.0,SNR=4.3								

*IDC **29** 18:25:57.0±1.0,55°.31S×27°.81W,h0km,mb3.9/3, mb1 4.0/4,mb1mx3.8/21,mbtmp3.9/4,ML3.9/1,Error ellipse: s-maj=45.5km s-min=24.9km az=81.0*

ISC 29 18:25:58.5±1.0,55°.3S-0°.2×27°.9W±0°.3,h10km,n8,σ0s82/8, mb4.1/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	17.84	161	P	**P**	18 30 08.3	+1.1
SNAA	**Sanae**	19.60	156	P	**Pn**	18 30 27.6	-0.2
SNAA	**Sanae**	19.60	156	P	**P**	18 30 25.9	-0.6
	0.4nm,0.3s,baz=288,slow=12,SNR=7.3						
QSPA	**South Pole Qui**	34.97	180	P	**P**	18 32 50.6	+0.1
	2.1nm,0.8s,baz=179,slow=1.7,SNR=15						
LPAZ	**La Paz**	49.63	305	P	**P**	18 34 50.7	0.0
	0.6nm,0.6s,baz=134,slow=6.2,SNR=2.2						
TORD	**Torodi Ar. Bea**	72.57	30	P	**P**	18 37 26.2	+0.6
	1.1nm,0.6s,baz=200,slow=6.2,SNR=11						
ILAR	**Eielson Array**	149.32	313	PKPbc	**PKPbc**	18 45 45.8	-0.1
	1.7nm,0.8s,baz=121,slow=1.3,SNR=16						
SONM	**Songino Array**	151.05	86	PKPbc	**PKPbc**	18 45 49.6	-1.2
	0.5nm,0.6s,baz=211,slow=1.7,SNR=3.1						

*ROM **29** 18:40:13.9±0.1,46°.454N±0°.006×12°.959E±0°.006, h6km,ML2.3/11,Error ellipse: s-maj=0.6km s-min=0.4km az=36.0*

*VIE **29** 18:40:13.5±0.1,46°.41N×12°.92E,h9km±1km,mb2.0/12, ml2.5/21,Error ellipse: s-maj=1.2km s-min=0.7km az=8.0 7 km W of Tolmezzo*

*PRU **29** 18:40:16.0±0.0,46°.49N×12°.95E,h6km*

ISC 29 18:40:14.3±0.8,46°45N±0°.01×12°.95E±0°.01,h12km±4km, n79,σ0s93/140,8C-7D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLUD	**Cludinico**	0.05	282	⇓*e*Pg	**Pg**	18 40 16.2	-0.6
CLUD				*e*Sg	**Sg**	18 40 18.0	-0.5
FUSE	**Fusea**	0.05	132	⇑*e*Pg	**Pg**	18 40 16.2	-0.5
FUSE				*e*Sg	**Sg**	18 40 18.1	-0.4
ZOU	**Zoufplan**	0.11	9	⇓*e*Pg	**Pg**	18 40 17.7	+0.1
ZOU				*e*Sg	**Sg**	18 40 20.5	+0.6
BOO	**Bordano**	0.17	140	⇓*e*Pg	**Pg**	18 40 17.3	-0.8
BOO				*e*Sg	**Sg**	18 40 20.1	-0.7
PLRO	**Paularo**	0.17	53	⇓*e*Pg	**Pg**	18 40 18.6	+0.2
PLRO				*e*Sg	**Sg**	18 40 22.3	+1.1
FVI	**Forni Avoltri**	0.19	322	P	**Pg**	18 40 18.4	-0.2
FVI				S	**Sg**	18 40 21.7	+0.1
FVI				AML	AML		
	comp=E,2630μm,0.3s						
FVI				AML	AML		
	comp=N,3155μm,0.8s						
MPRI	**Monte Prat**	0.21	172	⇑*e*Pg	**Pg**	18 40 17.8	-1.1
MPRI				*e*Sg	**Sg**	18 40 20.9	-1.1
CSMI	**Casera Mimoias**	0.21	288	⇓*e*Pg	**Pg**	18 40 18.4	-0.6
CSMI				*e*Sg	**Sg**	18 40 21.8	-0.5
GEPF	**Gemona**	0.22	142	P	**Pg**	18 40 18.4	-0.6
GEPF				S	**Sg**	18 40 22.1	0.0
GEPF				AML	AML		
	comp=E,954μm,0.3s						
GEPF				AML	AML		
	comp=N,1170μm,0.2s						
BUA	**Buia**	0.26	152	⇑*e*Pg	**Pg**	18 40 18.7	-1.1
BUA				*e*Sg	**Sg**	18 40 23.0	-0.4
PTCC	**Patocco-Chiusa**	0.28	98	P	**Pg**	18 40 19.9	-0.3
PTCC				S	**Sg**	18 40 24.8	+0.7
PTCC				AML	AML		
	comp=N,303μm,0.3s						
PTCC				AML	AML		
	comp=E,454μm,0.5s						
PTCC				AML	AML		
	comp=N,304μm,0.3s						
BAD	**Bernadia**	0.29	136	⇑*e*Pg	**Pg**	18 40 19.4	-1.0
BAD				*e*Sg	**Sg**	18 40 24.1	-0.3
VINO	**Villanova**	0.30	129	⇑*e*Pg	**Pg**	18 40 19.6	-0.9
MLNI	**Malnisio**	0.38	218	⇓*e*Pg	**Pg**	18 40 20.6	-1.3
MLNI				*e*Sg	**Sg**	18 40 25.8	-1.2
LSR	**Lussari**	0.40	86	⇑*e*Pg	**Pg**	18 40 22.0	-0.4
LSR				*e*Sg	**Sb**	18 40 28.9	-0.7
ACOM	**Acomizza, Ital**	0.40	75	⇑*e*Pg	**Pb**	18 40 22.7	-0.8
ACOM				*e*Sg	**Sb**	18 40 29.4	-0.3
ACOM	**Acomizza, Ital**	0.40	75	P	**Pb**	18 40 22.8	-0.8
ACOM				S	**Sb**	18 40 29.4	-0.3
ACOM				AML	AML		
	comp=N,430μm,0.4s						
ACOM				AML	AML		
	comp=E,362μm,0.8s						
ABTA	**Abfaltersbach**	0.42	315	*e*Pg	**Pg**	18 40 22.4	-0.4
	comp=E,2.1nm,0.2s,SNR=14						
ABTA				*e*Sg	**Sg**	18 40 28.2	-0.2
	comp=E,67nm,0.1s						
PRED	**Cave del Predi**	0.43	90	*e*Pg	**Pg**	18 40 22.6	-0.2
PRED				*e*Sg	**Sg**	18 40 29.1	+0.5
ROBS	**Robic**	0.44	117	*e*Pg	**Pg**	18 40 21.9	-1.2
ROBS				*i* Sg	**Sg**	18 40 28.6	-0.2
	comp=Z,14nm,0.1s						
CSO	**Casso**	0.47	248	⇓*e*Pg	**Pg**	18 40 22.1	-1.4
CSO				*e*Sg	**Sg**	18 40 29.2	-0.5
MYKA	**Terra Mystica**	0.51	69	*e*Pg	**Pg**	18 40 24.4	0.0
	comp=Z,1.7nm,0.1s						
MYKA				*e*Sg	**Sb**	18 40 31.8	-0.9
	comp=Z,5.7nm,0.1s,SNR=6.0						
POLC	**Polcenigo**	0.52	217	AML	AML		
	comp=N,946μm,0.3s						
POLC				AML	AML		
	comp=E,733μm,0.8s						
AFL	**Alpe Faloria**	0.54	279	*e*Pg	**Pg**	18 40 24.5	-0.4
AFL				*e*Sg	**Sg**	18 40 32.5	+0.4
CAE	**Caneva**	0.57	219	⇑*e*Pg	**Pg**	18 40 24.1	-1.3
CAE				*e*Sg	**Sg**	18 40 32.3	-0.6
CADS	**Cadrg**	0.59	112	*e*Pg	**Pg**	18 40 24.5	-1.4
CADS				*e*Sg	**Sg**	18 40 34.0	+0.3
	comp=Z,18nm,0.2s						
FRE8	**Fregona**	0.60	224	P	**Pg**	18 40 25.9	-0.1
AGOR	**Agordo**	0.65	256	*e*Pg	**Pg**	18 40 26.1	-0.8
SABO	**M.te Sabotino**	0.65	136	P	**Pb**	18 40 28.0	+0.4
SABO				S	**Sb**	18 40 36.8	+0.2
KBA	**Koelnbreinsper**	0.69	23	*i* Pg	**Pb**	18 40 28.1	-0.3
	comp=Z,4.6nm,0.1s						
KBA				*e*Sg	**Sb**	18 40 37.6	-0.3
	comp=Z,23nm,0.3s,SNR=8.8						
GORS	**Gorjuse**	0.74	100	*i* Pg	**Pb**	18 40 29.1	0.0
GORS				*e*Sg	**Sb**	18 40 39.9	+0.6
RISI	**Rein**	0.78	310	P	**Pb**	18 40 29.7	-0.3
RISI				S	**Sg**	18 40 39.7	0.0
RISI				AML	AML		
	comp=N,682μm,0.8s						
RISI				AML	AML		
	comp=N,682μm,0.8s						
RISI				AML	AML		
	comp=E,620μm,0.2s						
CRND	**Cornuda**	0.86	225	P	**Pb**	18 40 31.0	-0.1
CRND				S	**Sb**	18 40 43.6	+1.0
BRES	**Bressanone**	0.87	287	P	**Pg**	18 40 30.5	-0.8
BRES				S	**Sg**	18 40 42.8	+0.1
TRI	**Trieste**	0.93	142	P	**Pb**	18 40 32.2	-0.2
TRI				S	**Sb**	18 40 45.0	+0.3
TRI				AML	AML		
	comp=E,126μm,1.3s						
TRI				AML	AML		
	comp=N,61μm,0.4s						
JAVS	**Javornik**	0.95	125	*e*Sg	**Sb**	18 40 45.5	0.0
	comp=Z,14nm,0.1s						
ASOL	**Asolo**	0.97	229	P	**Pb**	18 40 33.2	+0.1
ASOL				S	**Sb**	18 40 46.6	+0.7
CGRP	**Cima Grappa**	0.98	235	P	**Pb**	18 40 33.2	-0.1
CGRP				S	**Sb**	18 40 46.9	+0.6
CGRP				AML	AML		
	comp=N,152μm,1.0s						
CGRP				AML	AML		
	comp=E,212μm,0.3s						
CTI	**Castel Tesino**	0.98	247	P	**Pb**	18 40 33.8	+0.4
CTI				S	**Sb**	18 40 47.6	+1.2
MOZS	**Mozjanca**	1.05	98	*e*Pg	**Pn**	18 40 35.3	+0.4
MOZS				*e*Sg	**Sn**	18 40 50.7	+1.3
	comp=Z,9.0nm,0.2s						
KOSI	**Kohlern**	1.08	271	P	**Pg**	18 40 34.6	-0.6
KOSI				S	**Sg**	18 40 49.2	-0.2
KOSI				AML	AML		
	comp=E,90μm,1.5s						
KOSI				AML	AML		
	comp=N,86μm,0.7s						
OBKA	**Obir**	1.11	86	*i* Pg	**Pb**	18 40 35.3	-0.2
	comp=N,1.6nm,0.2s						
OBKA				*i* Sg	**Sn**	18 40 51.1	+0.1
	comp=N,8.9nm,0.3s						
ABSI	**Aberstueckl**	1.16	285	P	**Pg**	18 40 36.0	-0.6
ABSI				S	**Sb**	18 40 51.7	+0.3
ABSI				AML	AML		
	comp=E,216μm,0.5s						
ABSI				AML	AML		
	comp=N,162μm,0.2s						
GBAS	**Gorenja Brezov**	1.16	116	*e*Pg	**Pb**	18 40 36.4	+0.1
GBAS				*e*Sg	**Sn**	18 40 52.9	+0.8
	comp=Z,17nm,0.2s						
ROSI	**Rosskopf**	1.16	295	P	**Pg**	18 40 36.2	-0.5
ROSI				S	**Sg**	18 40 51.1	-0.8
LJU	**Ljubljana**	1.17	110	*e*Pg	**Pn**	18 40 36.8	+0.3
LJU				*e*Sg	**Sn**	18 40 53.3	+0.9
SKDS	**Skadanscina**	1.17	140	*i* Pg	**Pg**	18 40 36.0	-0.9
SKDS				*e*Sg	**Sb**	18 40 52.3	+0.7
	comp=Z,13nm,0.1s						
WTTA	**Wattenberg**	1.22	313	*e*Pg	**Pg**	18 40 37.3	-0.5
	comp=Z,2.0nm,0.1s,SNR=6.6						
WTTA				*e*Sg	**Sb**	18 40 53.2	+0.1
	comp=Z,48nm,0.3s,SNR=10						
WTTA	**Wattenberg**	1.22	313	P	**Pg**	18 40 37.2	-0.5
WTTA				S	**Sb**	18 40 53.2	+0.1
WTTA				AML	AML		
	comp=E,218μm,0.4s						
WTTA				AML	AML		
	comp=N,188μm,0.8s						
CEY	**Cerknica**	1.25	124	*e*Pg	**Pg**	18 40 37.4	-0.9
CEY				*e*Sg	**Sn**	18 40 56.5	+2.1
	comp=Z,20nm,0.2s						
WATA	**Walderalm**	1.29	314	*i* Pg	**Pg**	18 40 38.9	-0.4
	comp=Z,1.4nm,0.1s						
WATA				*e*Sg	**Sg**	18 40 55.0	-1.0
	comp=Z,21nm,0.2s,SNR=7.2						
SQTA	**Sankt Quirin**	1.42	304	*i* Pg	**Pb**	18 40 41.0	+0.2
	comp=Z,5.9nm,0.2s						
SQTA				*e*Sn	**Sb**	18 40 59.3	+0.3
	comp=Z,40nm,0.4s,SNR=6.2						
SOKA	**Soboth**	1.46	80	*i* Pg	**Pg**	18 40 41.7	-0.6
	comp=Z,0.9nm,0.2s						
SOKA				*i* Sn	**Sg**	18 41 00.7	-0.5
	comp=Z,1.5nm,0.2s						
MOTA	**Moosalm**	1.55	306	*i* Pg	**Pb**	18 40 43.2	+0.1
	comp=Z,1.5nm,0.2s						
MOTA				*i* Sn	**Sg**	18 41 03.7	-0.5
	comp=Z,5.4nm,0.2s						
RIY	**Rijeka**	1.55	136	*e*Pn	**Pn**	18 40 42.2	+0.5
RIY				Sn	**Sg**	18 41 05.4	+1.1
FETA	**Feichten**	1.63	291	*i* Pg	**Pb**	18 40 44.4	0.0
	comp=Z,3.5nm,0.3s						
FETA				*i* Sn	**Sb**	18 41 05.6	+0.6
	comp=Z,3.6nm,0.2s						
BRJN	**Brijuni**	1.64	160	*e*Pn	**Pn**	18 40 42.9	-0.1
BRJN				Sn	**Sg**	18 41 07.2	+0.1
MOA	**Molln**	1.67	32	*i* Pg	**Pg**	18 40 45.9	-0.4
	comp=Z,1.3nm,0.2s						
MOA				*i* Sn	**Sg**	18 41 06.7	-1.3
	comp=Z,4.6nm,0.3s						
RETA	**Reutte**	1.82	306	*i* Pg	**Pg**	18 40 48.4	-0.9
	comp=Z,4.6nm,0.2s						
RETA				*i* Sg	**Sg**	18 41 14.8	+1.9
	comp=Z,2.7nm,0.1s						
ARSA	**Arzberg**	1.94	65	*i* Pg	**Pg**	18 40 51.1	-0.4
	comp=Z,0.4nm,0.1s						
ARSA				*i* Sn	**Sb**	18 41 13.4	-0.5
	comp=Z,0.6nm,0.2s						
OZLJ	**Ozalj**	1.94	114	Sn	**Sb**	18 41 13.3	-0.4
DAVA	**Damuels**	2.27	293	*i* Sn	**Sn**	18 41 19.5	-0.2
	comp=Z,7.3nm,0.4s						
NVLJ	**Novalja**	2.32	144	*e*Pn	**Pn**	18 40 53.0	+0.7
NVLJ				Sn	**Sb**	18 41 25.2	+0.6
CONA	**Conrad Observa**	2.48	52	*i* Pn	**Pn**	18 40 53.7	-0.9
	comp=Z,0.4nm,0.2s						
CONA				*i* Sn	**Sn**	18 41 27.4	+2.6
	comp=Z,0.2nm,0.1s						
KHC	**Kasperske Hory**	2.72	9	*e*SN	**Sn**	18 41 32.5	+1.8
KHC				*e*SG	**Sg**	18 41 41.3	-0.4
	comp=Z,6.5nm,0.6s						
PTF	**Prato**	2.82	209	S	**Sn**	18 41 31.0	-2.1
DUGI	**Dugi Otok**	2.87	148	Sn	**Sb**	18 41 38.5	-2.1
MORI	**Morici**	3.24	142	*e*Pn	**Pn**	18 41 06.2	+1.3
MORI				Sn	**Sn**	18 41 46.6	+3.3
PBCC	**Pribram**	3.32	12	*e*SG	**Sg**	18 42 00.3	-0.5
	comp=Z,2.8nm,0.9s						
ZIRJ	**Zirje**	3.38	145	*e*Pn	**Pn**	18 41 07.2	+0.3
ZIRJ				Sn	**Sn**	18 41 50.3	+3.4
GOPC	**GO Pecny, Ondr**	3.68	19	*e*SG	**Sg**	18 42 11.3	-1.2
NKC	**Novy Kostel**	3.80	355	*e*SG	**Sg**	18 42 16.1	-0.3
	comp=Z,6.2nm,0.4s						
BRG	**Berggiesshubel**	4.48	8	PG	Pg	18 41 54.6	+15
BRG				SG	**Sg**	18 42 37.2	-0.9
	comp=Z,44nm,1.6s						
DPC	**Dobruska-Polom**	4.51	29	*e*SG	**Sg**	18 42 37.4	-1.5
UPC	**Upice**	4.54	26	*e*SG	**Sg**	18 42 38.4	-1.8
CHVC	**Chvalec**	4.63	25	*e*SG	**Sg**	18 42 41.2	-1.7
OSTC	**Ostas**	4.65	27	*e*SG	**Sg**	18 42 42.0	-1.6
TRIV	**Trivento**	4.82	166	P	**Pn**	18 41 25.8	-1.0
CLL	**Collm**	4.87	0	*e*Pn	**Pn**	18 41 28.0	+0.7
CLL				*e*Pg	**Pg**	18 41 46.0	-1.5
CLL				*e*Sn	Sn	18 42 09.0	-14
CLL				*e*Sg	**Sg**	18 42 49.0	-1.4

*DSN **29** 18:41:29.6±1.6,28°.61N×57°.68E,h10km,ML3.7/4,Error ellipse: s-maj=68.5km s-min=9.3km az=122.0*

*TEH **29** 18:41:35.9,28°.26N×57°.48E,h12km,ML3.2*

ISC 29 18:41:37.3±1.4,28°.18N±0°.05×57°.6E±0°.1,h30km,n12, σ0s67/14,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHNJ	**Kahnooj**	0.24	159	*e*Pg	**Pb**	18 41 43.3	-0.8
IBND	**Bandar-abas**	1.19	233	*e*Pg	**Pn**	18 41 58.4	+0.5
IBND				*e*		18 41 59.2	
GENO	**Geno**	1.49	239	*e*Pg	**

H11S1	**WAKE ISLAND Hy**	**29.73**	**1**	T	T	19 26 27.1		
	baz=181,slow=76,SNR=4.0							
STKA	**Stephens Creek**	**30.54**	**224**	P	**P**	**18 55 53.8**	**+0.1**	
	2.4nm,0.7s,baz=34,slow=7.9,SNR=4.1							
STKA	**Stephens Creek**	**30.54**	**224**	P	**P**	**18 55 52.5**	**-1.1**	
WR0	**Warramunga Arr**	**31.66**	**250**	P	**P**	**18 56 03.5**	**-0.2**	
WR0				IAmb	IAmb	18 56 18.9		
	comp=Z,14nm,1.2s							
WB0	**Warramunga Arr**	**31.76**	**251**	P	**P**	**18 56 04.8**	**+0.3**	
WB0				IAmb	IAmb	18 56 06.0		
	comp=Z,12nm,0.8s							
WB2	**Warramunga Arr**	**31.83**	**251**	P	**P**	**18 56 03.5**	**-1.6**	
WB2				IAmb	IAmb	18 56 19.9		
	comp=Z,16nm,1.1s							
WRAB	**Tennant Creek**	**31.83**	**251**	P	**P**	**18 56 03.3**	**-1.9**	
WRAB				IAmb	IAmb	18 56 19.7		
	comp=Z,12nm,1.1s							
WRA	**Warramunga Arr**	**31.84**	**251**	P	**P**	**18 56 05.6**	**+0.3**	
	comp=Z,5.3nm,0.9s,baz=82,slow=9.1,SNR=11							
WRA				PcP	**PcP**	**18 58 56.4**	**+1.3**	
	comp=Z,0.9nm,0.8s,baz=78,slow=3.1,SNR=3.0							
TOO	**Toolangi**	**32.04**	**212**	P	**P**	**18 56 04.1**	**-2.7**	
AS31	**Alice Springs**	**33.09**	**244**	P	**P**	**18 56 13.7**	**-2.5**	
ASAR	**Alice Springs**	**33.09**	**244**	P	**P**	**18 56 16.1**	**-0.1**	
	comp=Z,5.6nm,0.7s,baz=69,slow=9.8,SNR=53							
ASAR				PcP	**PcP**	**18 58 59.2**	**+0.6**	
	comp=Z,1.2nm,0.8s,baz=101,slow=2.5,SNR=6.7							
MTN	**Manton Dam**	**34.37**	**264**	P	**P**	**18 56 24.8**	**-2.5**	
BBOO	**Buckleboo**	**34.96**	**228**	P	**P**	**18 56 32.9**	**+0.6**	
FITZ	**Fitzroy Crossi**	**39.78**	**255**	P	**P**	**18 57 14.4**	**+1.1**	
FITZ				IAmb	IAmb	18 57 24.8		
	comp=Z,12nm,1.1s							
MJAR	**Matsushiro Arr**	**54.52**	**332**	P	**P**	**18 59 07.0**	**-0.7**	
	comp=Z,1.1nm,0.7s,baz=166,slow=8.6,SNR=8.2							
KSRS	**Korea Array**	**60.46**	**325**	P	**P**	**18 59 49.4**	**0.0**	
	comp=Z,0.4nm,0.4s,baz=136,slow=6.6,SNR=6.4							
USRK	**Ussuriysk Ar.**	**63.50**	**333**	P	**P**	**19 00 10.6**	**+0.9**	
	comp=Z,3.1nm,1.0s,baz=144,slow=6.8,SNR=7.8							
VNDA	**Vanda**	**66.14**	**181**	P	**P**	**19 00 27.2**	**+0.8**	
	comp=Z,1.7nm,0.9s,baz=317,slow=5.9,SNR=7.0							
CMAR	**Chiang Mai Arr**	**72.73**	**293**	P	**P**	**19 01 09.9**	**+1.8**	
	comp=Z,1.0nm,0.8s,baz=110,slow=4.1,SNR=7.5							
QSPA	**South Pole Qui**	**78.60**	**180**	P	**P**	**19 01 40.6**	**-0.4**	
QSPA				IAmb	IAmb	19 01 58.7		
	comp=Z,7.9nm,0.9s							
SONM	**Songino Array**	**79.26**	**324**	P	**P**	**19 01 45.7**	**+0.9**	
	comp=Z,1.2nm,0.8s,baz=144,slow=5.8,SNR=8.7							
ILAR	**Eielson Array**	**83.69**	**18**	P	**P**	**19 02 07.5**	**-0.1**	
	comp=Z,0.6nm,0.6s,baz=261,slow=5.2,SNR=8.8							
DOT	**Dot Lake**	**83.83**	**20**	P	**P**	**19 02 07.7**	**-0.8**	
DOT				IAmb	IAmb	19 02 10.7		
	comp=Z,3.5nm,1.0s							
SCRK	**Sand Creek**	**84.08**	**20**	P	**P**	**19 02 08.2**	**-1.6**	
SCRK				IAmb	IAmb	19 02 11.3		
	comp=Z,3.7nm,1.0s							
EGAK	**Eagle**	**85.54**	**20**	P	**P**	**19 02 16.4**	**-0.5**	
EGAK				IAmb	IAmb	19 02 20.9		
	comp=Z,2.9nm,0.7s							
NVAR	**Mina Array Bea**	**85.86**	**50**	P	**P**	**19 02 19.6**	**+0.1**	
	comp=Z,0.9nm,1.0s,baz=234,slow=8.4,SNR=5.3							
MK31	**Makanchi Array**	**94.13**	**317**	P	**P**	**19 02 57.0**	**-0.9**	
MK31				IAmb	IAmb	19 02 59.4		
	comp=Z,3.3nm,0.9s							
MKAR	**Makanchi Array**	**94.13**	**317**	P	**P**	**19 02 58.6**	**+0.6**	
	comp=Z,2.7nm,0.8s,baz=97,slow=6.4,SNR=26							
ZALV	**Zalesovo Beam**	**94.15**	**324**	P	**P**	**19 02 57.6**	**-0.1**	
	comp=Z,0.9nm,0.7s,baz=85,slow=6.3,SNR=4.4							
ARCES	**ARCESS Array B**	**116.81**	**346**	PKP	**PKPdf**	**19 08 22.4**	**-0.6**	
	comp=Z,1.1nm,0.9s,baz=73,slow=3.1,SNR=1.8							
ESDC	**Sonseca Array**	**150.54**	**345**	PKPbc	**PKPbc**	**19 09 31.0**	**-0.3**	
	comp=Z,0.8nm,1.1s,baz=356,slow=2.5,SNR=2.7							

*NEIC **29** 19:07:24.8±4.1,55.62N±0.06×135.0W±0.1,h14km±6km, Error ellipse: s-maj=14.2km s-min=4.7km az=56.0*
*PGC **29** 19:07:24.3±7.2,55.57N×134.92W,h10km,ML2.8/5, 167km Sse of Sitka, Ak Southeastern Alaska*

ISC 29 19:07:24.3±1.3,55.56N±0.06×135.0W±0.1,h9km,n17, σ1§77/24,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRAG	**Craig**	**1.06**	**94**		**Pb**	**19 07 44.5**	**-0.2**
SIT	**Sitka**	**1.51**	**353**		**Pn**	**19 07 50.5**	**-1.0**
NDB	**Naden**	**2.00**	**143**	Sg	**Sb**	**19 08 26.1**	**+0.3**
VIB	**Van Inlet**	**2.72**	**147**	Pn	**Pn**	**19 08 08.2**	**0.0**
VIB				Sn	**Sn**	**19 08 38.6**	**-2.6**
DIB	**Dawson Inlet,**	**2.78**	**147**	Pn	**Pn**	**19 08 07.9**	**-1.0**
DIB				Sn	**Sn**	**19 08 40.2**	**-2.4**
DIB	**Dawson Inlet,**	**2.78**	**147**	Pn	**Pn**	**19 08 08.0**	**-1.0**
MOBC	**Moresby Island**	**3.00**	**143**	Pn	**Pn**	**19 08 11.6**	**-0.4**
MOBC				Sg	**Sb**	**19 08 56.8**	**+2.3**
MOBC	**Moresby Island**	**3.00**	**143**	Pn	**Pn**	**19 08 11.6**	**-0.4**
MOBC				Sg	**Sb**	**19 08 56.8**	**+2.3**
RUBB	**Prince Rupert**	**3.00**	**112**	Pn	**Pn**	**19 08 11.8**	**0.0**
RUBB				Sn	**Sn**	**19 08 46.0**	**-1.8**
RUBB	**Prince Rupert**	**3.00**	**112**	Pn	**Pn**	**19 08 11.8**	**0.0**
RUBB				Sn	**Sn**	**19 08 46.0**	**-1.8**
BESE	**Bessie Mountai**	**3.03**	**1**	Sn	**Sn**	**19 08 46.9**	**-1.9**
BESE	**Bessie Mountai**	**3.03**	**1**	Sn	**Sn**	**19 08 46.9**	**-1.9**
BNB	**Barry Inlet**	**3.54**	**146**	Pn	**Pn**	**19 08 18.8**	**-0.7**
BNB				Sg	**Sb**	**19 09 12.5**	**+2.2**
HG3B	**Hotspring**	**3.65**	**144**	Sg	**Sb**	**19 09 15.9**	**+2.8**
HG3B	**Hotspring**	**3.65**	**144**	Sg	**Sb**	**19 09 15.9**	**+2.8**
WHY	**Whitehorse**	**5.11**	**1**	Pn	**Pn**	**19 08 42.4**	**+1.3**
BARN	**Barnard Glacie**	**6.54**	**330**	Pn	**Pn**	**19 09 02.4**	**+1.7**

*IDC **29** 19:12:50.9±6.2,51.27N×178.71E,h139km±47km,mb3.5/9, mb1 3.5/11,mb1mx3.2/52,mbtmp4.0/11,Error ellipse: s-maj=137.1km s-min=20.7km az=166.0*
*NEIC **29** 19:12:52.0±1.7,51.8N±0.1×178.31E±0.08,h115km±5km, Error ellipse: s-maj=15.5km s-min=6.9km az=175.0*
*AEIC **29** 19:12:52.4±1.3,51.8N±0.1×178.24E±0.05,h115km±4km, ML3.4/33,mb3.7/17(NEIC),Error ellipse: s-maj=18.1km s-min=4.6km az=185.0*

ISC 29 19:12:51.7±0.8,51.8N±0.1×178.27E±0.05,h115km±7km, n58,σ1§34/63,mb3.8/14,Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.19**	**54**		**Pn**	**19 13 08.0**	**+0.3**
LSNW	**Little Sitkin**	**0.20**	**49**		**Pn**	**19 13 07.9**	**+0.2**
LSPA	**Little Sitkin**	**0.22**	**58**		**Pn**	**19 13 08.0**	**+0.2**
LSPA					**Sn**	**19 13 20.9**	**+1.0**
CETU	**Semis' Tuman**	**0.77**	**80**		**Pn**	**19 13 11.6**	**+0.4**
AMKA	**Amchitka**	**0.79**	**125**		**Pn**	**19 13 11.1**	**-0.2**
AMKA					**Sn**	**19 13 25.7**	**-0.4**
CESW	**Semis' Southwe**	**0.81**	**85**		**Pn**	**19 13 11.4**	**0.0**
CEAP	**Semis' Anvil P**	**0.83**	**78**		**Pn**	**19 13 12.0**	**+0.4**
CERB	**Semis' Cerberu**	**0.85**	**83**		**Pn**	**19 13 12.2**	**+0.4**
CERB					**Sn**	**19 13 27.1**	**+0.1**
CERAA	**Semis' Rag'd T**	**0.88**	**85**		**Pn**	**19 13 12.2**	**+0.1**
GALAA	**Gareloi Lava P**	**1.84**	**91**		**Pn**	**19 13 23.1**	**+0.2**
GAEA	**Gareloi East**	**1.85**	**91**		**Pn**	**19 13 23.3**	**+0.2**
GAEA					**Sn**	**19 13 47.6**	**+0.6**
TASE	**Tanaga Southea**	**2.29**	**89**		**Pn**	**19 13 28.5**	**-0.1**
TAFP	**Tanaga Falls P**	**2.33**	**87**		**Pn**	**19 13 28.7**	**-0.3**
TAFP					**Sn**	**19 13 56.3**	**-1.3**
TAPA	**Tanaga Point A**	**2.43**	**89**		**Pn**	**19 13 30.3**	**-0.1**
SMY	**Shemya**	**2.71**	**291**		**Pn**	**19 13 34.1**	**+0.1**
SMY					**Sn**	**19 14 06.5**	**0.0**
KIMD	**Kanaga Island**	**2.79**	**90**		**Pn**	**19 13 34.8**	**-0.3**
KICM	**Kanaga Island**	**2.81**	**87**		**Pn**	**19 13 35.4**	**+0.1**
KIKV	**Kanaga Island**	**2.83**	**87**		**Pn**	**19 13 35.3**	**-0.2**
KIRH	**Kanaga Island**	**2.88**	**87**		**Pn**	**19 13 36.0**	**-0.1**
ADK	**Adak**	**3.13**	**87**		**Pn**	**19 13 39.0**	**-0.5**
GSTD	**Great Sitkin T**	**3.46**	**84**		**Pn**	**19 13 43.5**	**-0.5**
GSMY	**Great Sitkin M**	**3.52**	**84**		**Pn**	**19 13 44.3**	**-0.3**
GSTR	**Great Sitkin T**	**3.52**	**84**		**Pn**	**19 13 44.5**	**-0.2**
ATKA	**Atka Island**	**4.67**	**83**		**Pn**	**19 13 59.8**	**-0.2**
NIKH	**Nikolski High**	**7.96**	**77**		**Pn**	**19 14 45.1**	**+0.6**
MREP	**Makushin Rep't**	**9.29**	**72**		**Pn**	**19 15 03.0**	**+0.5**
AKUT	**Akutan**	**9.90**	**70**	Pn	**Pn**	**19 15 10.9**	**+0.2**
PETK	**Petropavlovsk-**	**12.60**	**284**	P	**Pn**	**19 15 50.3**	**+3.5**
	0.4nm,0.3s,baz=95,slow=17,SNR=18						
PETK				S	**Sn**	**19 17 59.1**	**-6.1**
	0.1nm,0.3s,baz=93,slow=18,SNR=2.0						
SDPT	**Sand Point**	**13.09**	**66**	Pn	**Pn**	**19 15 51.1**	**-1.9**
CNBA	**Chernabura Isl**	**13.55**	**69**	Pn	**Pn**	**19 15 57.0**	**-2.1**
KDAK	**Kodiak Island**	**17.73**	**59**	P	**P**	**19 16 48.2**	**-2.0**
	0.8nm,0.3s,baz=256,slow=3.4,SNR=16						
KDAK	**Kodiak Island**	**17.73**	**59**	IAmb	IAmb	19 16 48.4	
	comp=Z,7.3nm,1.1s						
CNPM	**China Poot**	**18.70**	**54**		**P**	**19 17 01.7**	**+0.9**
CNPM				IAmb	IAmb	19 17 04.5	
	comp=Z,6.4nm,1.0s						
SKT	**Skwentna**	**19.17**	**46**		**Pn**	**19 17 07.7**	**-0.4**
SKT				IAmb	IAmb	19 17 12.5	
	comp=Z,2.4nm,0.8s						
SEW	**Seward**	**19.69**	**53**	P	**P**	**19 17 10.6**	**-0.9**
BPAW	**Bear Paw Mtn.**	**20.16**	**41**	P	**P**	**19 17 18.4**	**+1.8**
BPAW				IAmb	IAmb	19 17 21.2	
	comp=Z,2.5nm,0.8s						
RND	**Reindeer**	**20.80**	**43**	P	**P**	**19 17 25.5**	**+2.0**
SCM	**Sheep Creek Mo**	**21.05**	**48**	P	**P**	**19 17 27.1**	**+0.8**
SCM				IAmb	IAmb	19 17 29.6	
	comp=Z,8.2nm,1.2s						
MDM	**Murphy Dome**	**21.59**	**40**	P	**P**	**19 17 34.2**	**+2.3**
CCB	**Clear Creek Bu**	**21.64**	**41**	P	**P**	**19 17 29.7**	**-2.8**
ILAR	**Eielson Array**	**22.06**	**41**	P	**P**	**19 17 37.0**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=242,slow=8.9,SNR=5.7						
RIDG	**Independent Ri**	**22.61**	**44**	P	**P**	**19 17 41.2**	**-1.3**
GLB	**Gilahina Butte**	**22.64**	**50**	P	**P**	**19 17 41.9**	**-0.9**
PRP	**Porcupine Dome**	**22.85**	**39**	P	**P**	**19 17 45.6**	**+0.7**
PRP				IAmb	IAmb	19 17 47.4	
	comp=Z,1.4nm,0.6s						
DOT	**Dot Lake**	**22.93**	**44**	P	**P**	**19 17 45.2**	**-0.4**
DOT				IAmb	IAmb	19 17 46.8	
	comp=Z,2.4nm,0.9s						
EGAK	**Eagle**	**24.42**	**42**	P	**P**	**19 17 57.1**	**-2.0**
EGAK				IAmb	IAmb	19 18 00.7	
	comp=Z,4.3nm,0.8s						
DAWY	**Dawson**	**25.04**	**44**	P	**P**	**19 18 05.7**	**+0.8**
DAWY				IAmb	IAmb	19 18 06.2	
	comp=Z,2.1nm,0.9s						
KLR	**Kul'dur**	**29.30**	**284**	P	**P**	**19 18 43.6**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=95,slow=6.2,SNR=4.3						
PGC	**Sidney**	**36.55**	**71**	P	**P**	**19 19 45.0**	**-1.0**
SONM	**Songino Array**	**44.80**	**295**	P	**P**	**19 20 54.2**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=54,slow=8.2,SNR=5.5						
KURK	**Kurchatov**	**57.37**	**312**	P	**P**	**19 22 29.2**	**+1.7**
KURK	**Kurchatov**	**57.37**	**312**	IAmb	IAmb	19 22 30.9	
	comp=Z,1.4nm,0.4s						
KURBB	**Kurchatov Arra**	**57.47**	**312**	P	**P**	**19 22 29.2**	**+0.9**
	comp=Z,1.4nm,0.5s,baz=42,slow=6.6,SNR=22						
MKAR	**Makanchi Array**	**58.30**	**307**	P	**P**	**19 22 33.9**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=43,slow=5.8,SNR=6.1						
BVAR	**Borovoye Array**	**59.34**	**318**	P	**P**	**19 22 42.1**	**+0.9**
	comp=Z,1.0nm,0.4s,baz=57,slow=6.0,SNR=11						
FINES	**FINESS Array B**	**64.91**	**346**	P	**P**	**19 23 17.9**	**-0.3**
	comp=Z,4.2nm,1.1s,baz=32,slow=6.6,SNR=4.3						
AKTO	**Aktyubinsk**	**66.23**	**323**	P	**P**	**19 23 28.0**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=53,slow=7.6,SNR=5.8						
AKASG	**Malin Array Be**	**74.52**	**340**	P	**P**	**19 24 17.2**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=22,slow=6.2,SNR=3.4						

*IDC **29** 19:14:30.1±0.8,20.40S×66.80W,h236km±18km,mb3.7/1, mb1 3.1/6,mb1mx2.9/34,mbtmp3.7/6,Error ellipse: s-maj=30.9km s-min=10.7km az=101.0*

ISC 29 19:14:30.3±1.0,20.41S±0.08×66.8W±0.1,h250km,n6, σ1§36/8,Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.92**	**221**	P	**Pn**	**19 15 22.8**	**+0.5**
	1.0nm,0.3s,baz=44,slow=9.1,SNR=14						
LVC				S	**S**	**19 16 02.1**	**-1.3**
	6.9nm,0.3s,baz=65,slow=23,SNR=30						
LPAZ	**La Paz**	**4.28**	**343**	P	**Pn**	**19 15 39.2**	**+1.1**
	0.5nm,0.3s,baz=171,slow=8.8,SNR=15						
LPAZ				S	**S**	**19 16 29.9**	**-2.1**
	0.2nm,0.3s,baz=260,slow=18,SNR=14						
SIV	**San Ignacio**	**7.03**	**52**	P	**Pn**	**19 16 10.7**	**-0.7**
	1.9nm,0.3s,baz=248,slow=8.3,SNR=41						
CFA	**Coronel Fontan**	**11.22**	**186**	P	**Pn**	**19 17 04.2**	**0.0**
	0.3nm,0.3s,baz=327,slow=7.6,SNR=7.5						
CFA				S	S	19 18 59.9	-10
	0.2nm,0.3s,baz=319,slow=20,SNR=1.9						
BDFB	**Brasilia**	**18.52**	**78**	P	**P**	**19 18 29.3**	**+0.5**
	0.2nm,0.3s,baz=254,slow=18,SNR=2.0						
TORD	**Torodi Ar. Bea**	**75.17**	**70**	P	**P**	**19 25 46.8**	**+0.9**
	1.0nm,0.4s,baz=254,slow=5.5,SNR=24						

*IDC **29** 19:21:08.5±0.6,55.36S×27.95W,h0km,mb4.4/11, mb1 4.5/12,mb1mx4.4/22,mbtmp4.5/12,ML4.9/1,Error ellipse: s-maj=21.4km s-min=16.0km az=46.0*
*NEIC **29** 19:21:09.8±1.8,55.3S±0.1×28.04W±0.07,h10km±1km, mb4.8/29,Error ellipse: s-maj=19.5km s-min=5.6km az=190.0*

ISC 29 19:21:12.0±0.4,55.35S±0.08×28.07W±0.09,h26km,n66, σ1§12/60,mb4.8/21,1C-1D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.99**	**279**		**Pn**	**19 22 24.9**	**-0.2**
VNA1	**Neumayer--Stat**	**17.64**	**158**	P	**P**	**19 25 18.6**	**+2.3**
VNA3	**Neumayer Olymp**	**17.82**	**161**	P	**Pn**	**19 25 17.7**	**-0.2**
VNA2	**Neumayer--Watz**	**18.03**	**158**	P	**P**	**19 25 20.9**	**+0.1**
SNAA	**Sanae**	**19.59**	**156**	P	**P**	**19 25 37.6**	**-0.2**
SNAA	**Sanae**	**19.59**	**156**	P	**P**	**19 25 37.5**	**-0.3**
	3.8nm,0.3s,baz=314,slow=12,SNR=57						
SNAA	**Sanae**	**19.59**	**156**	P	**P**	**19 25 37.6**	**-0.2**
TRIS	**Tristan da Cun**	**21.19**	**37**	P	**P**	**19 25 53.4**	**-2.0**
PLCA	**Paso Flores**	**31.39**	**280**	P	**P**	**19 27 26.5**	**-4.2**
SYO	**Syowa Base**	**32.45**	**142**	ep	**P**	**19 27 38.0**	**-1.5**
SYO	**Syowa Base**	**32.45**	**142**	ePnPn	PnPn	19 28 43.4	-3.2
QSPA	**South Pole Qui**	**34.91**	**180**	P	**P**	**19 28 00.7**	**-0.4**
QSPA				IAmb	IAmb	19 28 07.1	
	comp=Z,9.9nm,0.8s						
CPUP	**Villa Florida**	**35.97**	**312**	P	**P**	**19 28 11.1**	**+0.6**
	comp=Z,7.9nm,1.0s,baz=173,slow=8.1,SNR=5.3						
CPUP	**Villa Florida**	**35.97**	**312**	P	**P**	**19 28 08.7**	**-1.7**
CPUP				IAmb	IAmb	19 28 16.9	
	comp=Z,23nm,1.4s						
GO05	**Huala**	**36.21**	**286**	P	**P**	**19 28 11.5**	**-1.0**
GO05				IAmb	IAmb	19 28 19.5	
	comp=Z,28nm,1.4s						
MT01	**Popeta**	**36.70**	**288**	P	**P**	**19 28 14.7**	**-1.9**
MT01				IAmb	IAmb	19 28 29.3	
	comp=Z,22nm,1.2s						
CFA	**Coronel Fontan**	**36.82**	**293**	P	**P**	**19 28 17.7**	**0.0**
	comp=Z,2.3nm,0.5s,baz=146,slow=9.7,SNR=5.4						
MT02	**Curacav**	**37.09**	**288**	P	**P**	**19 28 20.6**	**+0.6**
MT02				IAmb	IAmb	19 28 31.8	
	comp=Z,26nm,1.4s						
VA03	**San Esteban**	**37.15**	**290**	P	**P**	**19 28 22.3**	**+1.7**
CO02	**Combarbal**	**38.60**	**291**	P	**P**	**19 28 34.1**	**+1.2**
CO02				IAmb	IAmb	19 28 52.6	
	comp=Z,25nm,1.3s						
CO01	**Juntas del Tor**	**39.08**	**293**	P	**P**	**19 28 39.1**	**+2.0**
CO01				IAmb	IAmb	19 28 56.2	
	comp=Z,19nm,1.4s						
AC05	**El Transito**	**40.09**	**294**	P	**P**	**19 28 43.9**	**-1.5**
SUR	**Sutherland**	**40.95**	**77**	P	**P**	**19 28 52.3**	**-0.2**
	comp=Z,5.8nm,0.8s,baz=214,slow=9.9,SNR=5.3						
SUR	**Sutherland**	**40.95**	**77**	P	**P**	**19 28 52.2**	**-0.3**
SUR				IAmb	IAmb	19 28 54.3	
	comp=Z,25nm,1.2s						
MAW	**Mawson**	**41.01**	**144**	P	**P**	**19 28 52.1**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=224,slow=6.1,SNR=6.5						
MAW	**Mawson**	**41.01**	**144**	P	**P**	**19 28 51.3**	**-1.0**
BDFB	**Brasilia**	**42.50**	**331**	P	**P**	**19 29 06.7**	**+1.5**
	comp=Z,1.0nm,0.5s,baz=120,slow=20,SNR=2.0						
BDFB	**Brasilia**	**42.50**	**331**	P	**P**	**19 29 05.1**	**-0.1**
GO02	**Mina Guanaco**	**42.72**	**298**	P	**P**	**19 29 08.4**	**+1.2**
LVC	**Limon Verde**	**44.52**	**300**	P	**P**	**19 29 22.9**	**+1.2**
LVC				IAmb	IAmb	19 29 24.8	
	comp=Z,6.5nm,0.7s						
PB01	**IPOC Station P**	**46.12**	**301**	P	**P**	**19 29 35.8**	**+1.7**
PB01				IAmb	IAmb	19 29 49.0	
	comp=Z,19nm,1.3s						
BOSA	**Boshof**	**46.29**	**77**	P	**P**	**19 29 35.5**	**+0.1**
	comp=Z,4.3nm,0.7s,baz=210,slow=6.6,SNR=13						
BOSA	**Boshof**	**46.29**	**77**	IAmb	IAmb	19 29 35.9	
	comp=Z,5.9nm,0.8s						
PB08	**IPOC Station P**	**46.73**	**302**	P	**P**	**19 29 38.8**	**-0.4**
PB08				IAmb	IAmb	19 29 42.2	
	comp=Z,20nm,1.4s						
GO01	**Chusmiza**	**47.15**	**302**	P	**P**	**19 29 44.1**	**+1.5**
VNDA	**Vanda**	**47.25**	**183**	P	**P**	**19 29 43.1**	**+0.8**
	comp=Z,7.6nm,0.8s,baz=179,slow=6.3,SNR=26						
VNDA	**Vanda**	**47.25**	**183**	P	**P**	**19 29 43.0**	**+0.8**
VNDA				IAmb	IAmb	19 29 47.6	
	comp=Z,8.0nm,0.8s						
PB11	**IPOC Station P**	**47.29**	**302**	P	**P**	**19 29 43.3**	**-0.1**
H10S2	**ASCENSION HYDR**	**47.48**	**18**	T	T	20 21 47.4	
	baz=190,slow=74,SNR=2.9						
H10S3	**ASCENSION HYDR**	**47.48**	**18**	T	T	20 21 48.1	
	baz=30,slow=74,SNR=7.3						
MNMC	**Minye Minye**	**47.80**	**302**	P	**P**	**19 29 48.3**	**+0.8**
H10N2	**ASCENSION HYDR**	**48.61**	**18**	T	T	20 23 11.6	
	SNR=5.8						
LPAZ	**La Paz**	**49.56**	**306**	P	**P**	**19 30 02.6**	**+1.2**
	comp=Z,2.5nm,0.5s,baz=162,slow=6.5,SNR=19						
LPAZ	**La Paz**	**49.56**	**306**	P	**P**	**19 30 02.1**	**+0.7**
SAML	**Samuel**	**53.95**	**315**	P	**P**	**19 30 32.6**	**-0.8**
SAML				IAmb	IAmb	19 30 46.1	
	comp=Z,9.6nm,1.4s						
CASY	**Casey**	**54.74**	**161**	P	**P**	**19 30 38.9**	**+0.3**
CASY				IAmb	IAmb	19 30 43.2	
	comp=Z,5.7nm,0.8s						
DBIC	**Dimbokro**	**64.74**	**26**	P	**P**	**19 31 48.1**	**+0.3**
	comp=Z,4.4nm,0.6s,baz=159,slow=6.4,SNR=9.2						
DBIC	**Dimbokro**	**64.74**	**26**	P	**P**	**19 31 47.9**	**+0.1**
TOA0	**Torodi Ar. Sit**	**72.69**	**30**	P	**P**	**19 32 38.0**	**+0.6**
TORD	**Torodi Ar. Bea**	**72.69**	**30**	P	**P**	**19 32 38.0**	**+0.5**
	comp=Z,7.2nm,0.6s,baz=201,slow=6.1,SNR=71						
ASAR	**Alice Springs**	**99.81**	**163**	P	**Pdif**	**19 34 53.0**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=186,slow=4.6,SNR=6.9						
NVAR	**Mina Array Bea**	**120.66**	**294**	PKP	**PKiKP**	**19 40 02.4**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=183,slow=3.6,SNR=4.0						
FINES	**FINESS Array B**	**123.99**	**28**	PKP	**PKPdf**	**19 40 06.4**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=164,slow=2.2,SNR=22						
CMAR	**Chiang Mai Arr**	**125.78**	**111**	PKP	**PKPdf**	**19 40 10.8**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=217,slow=5.6,SNR=4.9						
ARCES	**ARCESS Array B**	**130.47**	**22**	PKP	**PKPdf**	**19 40 18.9**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=194,slow=2.0,SNR=12						
YKA	**Yellowknife Ar**	**135.31**	**319**	PKP	**PKPdf**	**19 40 26.8**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=126,slow=2.1,SNR=2.6						
MKAR	**Makanchi Array**	**137.13**	**71**	PKP	**PKPdf**	**19 40 32.9**	**+1.1**
	comp=Z,0.2nm,0.6s,baz=208,slow=2.9,SNR=2.1						
KURBB	**Kurchatov Arra**	**137.45**	**65**	PKP	**PKPdf**	**19 40 31.8**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=209,slow=2.9,SNR=3.6						
KURK	**Kurchatov**	**137.55**	**64**		**PKPdf**	**19 40 31.8**	**-0.5**
ZALV	**Zalesovo Beam**	**142.50**	**63**	PKhKP	PKPpre	**19 40 34.7**	
	comp=Z,0.7nm,0.5s,baz=264,slow=4.1,SNR=2.9						
INK	**Inuvik**	**144.94**	**321**	PKP	**PKPab**	**19 40 45.0**	**+0.7**
	comp=Z,8.2nm,0.8s,baz=84,slow=3.9,SNR=12						
INK	**Inuvik**	**144.94**	**321**		**PKPdf**	**19 40 45.6**	**+0.6**
ILAR	**Eielson Array**	**149.27**	**313**	PKPbc	**PKPbc**	**19 40 57.3**	**+0.5**
	comp=Z,6.3nm,0.7s,baz=122,slow=2.0,SNR=57						
RND	**Reindeer**	**149.83**	**310**		**PKiKP**	**19 40 59.8**	**+0.6**
SONM	**Songino Array**	**151.18**	**86**	PKPbc	**PKPbc**	**19 41 02.3**	**+0.3**
	comp=Z,2.5nm,0.6s,baz

s-maj=159.2km s-min=84.0km az=29.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.66**	**133**	P	P	19 31 52.0	-0.9
	0.1nm,0.3s,baz=310,slow=12,SNR=8.1						
WRA				S	S	19 34 56.4	+1.4
	0.0nm,0.3s,baz=303,slow=26,SNR=2.4						
ASAR	**Alice Springs**	**18.99**	**143**	P	P	19 32 18.8	+0.6
	0.1nm,0.3s,baz=332,slow=12,SNR=7.1						
STKA	**Stephens Creek**	**29.62**	**144**	P	P	19 33 57.3	-0.1
	4.2nm,1.0s,baz=317,slow=10,SNR=7.7						

SOME ***29*** *19:38:40.8,39˚.82N×76˚.03E,h15km*
NNC ***29*** *19:38:44.5±2.0,40˚.02N×75˚.96E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=13.6km s-min=10.4km az=2.0*
KRNET ***29*** *19:38:46.5±0.1,39˚.91N×75˚.98E,mb3.4*

ISC 29 19:38:44.5±2.3, 40˚.03N±0˚.09×75˚.98E±0˚.03, h2km±16km, n49, σ1§01/77, 23C-19D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	**Kyzart**	**2.12**	**345**	⇑*iP*	**Pg**	**19 39 25.9**	**+0.8**
	baz=46						
KZA				⇑*iS*	**Sg**	**19 39 54.9**	**+2.4**
	baz=46						
KZA	**Kyzart**	**2.12**	**345**	P	**Pg**	**19 39 25.8**	**+0.8**
	SNR=80						
TARG	**Taragay, Kyrgy**	**2.19**	**39**	⇑*iP*	**Pg**	**19 39 26.7**	**+0.2**
	baz=37						
TARG				⇑*iS*	**Sg**	**19 39 56.1**	**+1.2**
	baz=37						
ARLS	**Aral**	**2.21**	**326**	⇓*iP*	**Pg**	**19 39 27.3**	**+0.3**
	baz=28						
ARLS				⇓*iS*	**Sg**	**19 39 56.8**	**+1.1**
	baz=28						
ULHL	**Ulahol**	**2.22**	**5**	⇑*iP*	**Pg**	**19 39 27.6**	**+0.5**
	baz=5.0						
ULHL				⇑*iS*	**Sg**	**19 39 57.2**	**+1.3**
	baz=5.0						
ULHL	**Ulahol**	**2.22**	**5**	P	**Pg**	**19 39 27.8**	**+0.8**
	SNR=49						
KDJ	**Kajisay**	**2.29**	**23**	⇑*eP*	**Pg**	**19 39 28.3**	**0.0**
	baz=22						
KDJ				⇑*iS*	**Sg**	**19 39 58.6**	**+0.7**
	baz=22						
UCH	**Uchtor**	**2.46**	**334**	⇑*iP*	**Pg**	**19 39 30.5**	**-1.1**
	baz=35						
UCH				⇑*iS*	**Sg**	**19 40 02.8**	**-0.6**
	baz=35						
UCH	**Uchtor**	**2.46**	**334**	P	**Pg**	**19 39 30.8**	**-0.8**
	SNR=53						
BOOM	**Boomskoye usch**	**2.46**	**359**	⇓*iP*	**Pg**	**19 39 30.7**	**-0.9**
	baz=59						
BOOM				⇓*iS*	**Sg**	**19 40 03.0**	**-0.4**
	baz=59						
ARSB	**Arslanbob**	**2.62**	**301**	⇓*iP*	**Pb**	**19 39 32.0**	**-0.2**
	baz=3.0						
ARSB				⇓*iS*	**Sb**	**19 40 05.4**	**+0.6**
	baz=3.0						
AML	**Almayashu**	**2.71**	**321**	⇓*iP*	**Pb**	**19 39 34.2**	**+0.2**
	baz=23						
AML				⇓*iS*	**Sb**	**19 40 08.8**	**+0.9**
	baz=23						
AML	**Almayashu**	**2.71**	**321**	P	**Pb**	**19 39 34.3**	**+0.3**
	SNR=18						
KBK	**Karagaybulak**	**2.73**	**344**	⇓*iP*	**Pb**	**19 39 34.5**	**+0.3**
	baz=45						
KBK				⇓*iS*	**Sb**	**19 40 09.4**	**+1.2**
	baz=45						
KBK	**Karagaybulak**	**2.73**	**344**	P	**Pb**	**19 39 35.0**	**+0.8**
	SNR=20						
AAK	**Ala-Archa**	**2.83**	**337**	⇓*iP*	**Pb**	**19 39 35.9**	**+0.1**
	baz=38						
AAK				⇓*iS*	**Sb**	**19 40 11.8**	**+0.8**
	baz=38						
AAK	**Ala-Archa**	**2.83**	**337**	P	**Pb**	**19 39 36.4**	**+0.6**
	SNR=5.8						
AAK	**Ala-Archa**	**2.83**	**337**	⇑Pg	**Pb**	**19 39 36.5**	**+0.6**
	13nm,0.5s						
AAK				⇓Lg	Lg	19 40 15.2	
	17nm,0.5s						
TKM2	**Tokmak 2**	**2.90**	**354**	⇑*iP*	**Pb**	**19 39 36.8**	**-0.2**
	baz=55						
TKM2				⇑*iS*	**Sb**	**19 40 13.8**	**+0.8**
	baz=55						
TKM2	**Tokmak 2**	**2.90**	**354**	P	**Pb**	**19 39 37.5**	**+0.5**
	SNR=12						
KST	**Kastek**	**3.01**	**360**	⇓*eP*	**Pb**	**19 39 39.5**	**+0.6**
	24nm,0.3s						
KST				*eS*	**Sg**	**19 40 22.0**	**+0.8**
	14nm,0.5s						
KST	**Kastek**	**3.01**	**360**	Pg	**Pb**	**19 39 39.4**	**+0.6**
	24nm,0.3s						
KST				Lg	Lg	19 40 22.4	
	14nm,0.5s						
ANVS	**Anan'yevo**	**3.03**	**24**	⇑*iP*	**Pb**	**19 39 38.2**	**-1.0**
	baz=23						
ANVS				⇑*iS*	**Sb**	**19 40 16.5**	**-0.2**
	baz=23						
PRZ	**Przheval'sk**	**3.06**	**36**	⇑*iP*	**Pb**	**19 39 38.8**	**-0.9**
	baz=35						
PRZ				⇑*iS*	**Sb**	**19 40 16.8**	**-0.7**
	baz=35						
CHMS	**Chumysh**	**3.10**	**343**	⇑*iP*	**Pb**	**19 39 39.5**	**-0.9**
	baz=44						
CHMS				⇑*iS*	**Sb**	**19 40 18.2**	**-0.5**
	baz=44						
CHMS	**Chumysh**	**3.10**	**343**	P	**Pb**	**19 39 40.1**	**-0.3**
	SNR=6.5						
EKS2	**Erkin-Say**	**3.10**	**329**	⇓*iP*	**Pb**	**19 39 39.4**	**-1.1**
	baz=30						
EKS2				⇓*iS*	**Sb**	**19 40 18.0**	**-0.8**
	baz=30						
EKS2	**Erkin-Say**	**3.10**	**329**	P	**Pb**	**19 39 40.8**	**+0.3**
	SNR=8.1						
MTBS	**Maitube**	**3.11**	**6**	⇓*eP*	**Pb**	**19 39 41.0**	**+0.4**
	10nm,0.4s						
MTBS				*eS*	**Sg**	**19 40 24.5**	**0.0**
	17nm,0.6s						
MTBS	**Maitube**	**3.11**	**6**	Pg	**Pb**	**19 39 41.0**	**+0.4**
	14nm,0.5s						
MTBS				Lg	Lg	19 40 24.0	
	17nm,0.6s						
DGS	**Degeres**	**3.21**	**357**	*eP*	**Pb**	**19 39 42.1**	**-0.1**
	0.3nm,0.4s						
DGS				*eS*	**Sg**	**19 40 26.5**	**-1.1**
	13nm,0.5s						
DGS	**Degeres**	**3.21**	**357**	Pg	**Pb**	**19 39 42.1**	**-0.1**
	0.3nm,0.4s						
DGS				Lg	Lg	19 40 26.5	
	13nm,0.5s						
MDOK	**Medeo**	**3.23**	**14**	⇑*eP*	**Pb**	**19 39 41.6**	**-1.0**
	8.6nm,0.5s						
MDOK				*eS*	**Sg**	**19 40 25.5**	**-2.8**
	30nm,0.6s						
KOTS	**Kotyrbulak**	**3.31**	**15**	*eP*	**Pb**	**19 39 43.0**	**-1.0**
	12nm,0.5s						
KOTS				*eS*	**Sg**	**19 40 28.0**	**-2.9**
	22nm,0.4s						
MRKS	**Merke**	**3.41**	**324**	*eP*	**Pb**	**19 39 46.3**	**+0.7**
	10nm,0.5s						
MRKS				*eS*	**Sg**	**19 40 33.6**	**-0.4**
	16nm,0.4s						
USP	**Ospenovka**	**3.42**	**342**	⇑*eP*	**Pb**	**19 39 43.6**	**-2.1**
	baz=42						
USP				⇑*iS*	**Sb**	**19 40 25.9**	**-1.8**
	baz=42						
USP	**Ospenovka**	**3.42**	**342**	P	**Pb**	**19 39 44.2**	**-1.5**
	SNR=10.0						
SATY	**Saty**	**3.53**	**30**	*eP*	**Pb**	**19 39 48.5**	**+0.8**
	8.5nm,0.6s						
SATY				*eS*	**Sg**	**19 40 37.5**	**-0.5**
	24nm,0.5s						
SATY	**Saty**	**3.53**	**30**	Pg	**Pb**	**19 39 48.5**	**+0.8**
	8.5nm,0.6s						
SATY				Lg	Lg	19 40 37.5	
	24nm,0.5s						
SGDS	**Sogindy**	**3.56**	**344**	Pg	**Pb**	**19 39 48.7**	**+0.5**
	11nm,0.3s						
SGDS				Lg	Lg	19 40 38.4	
	6.7nm,0.4s						
KTBS	**Karatobe**	**3.71**	**8**	*eP*	**Pb**	**19 39 52.2**	**+1.4**
	9.9nm,0.3s						
KTBS				*eS*	**Sg**	**19 40 43.8**	**0.0**
	18nm,0.5s						
KTBS	**Karatobe**	**3.71**	**8**	Pg	**Pb**	**19 39 52.2**	**+1.4**
	9.9nm,0.3s						
KTBS				Lg	Lg	19 40 43.8	
	18nm,0.5s						
KURS	**Kuram**	**3.82**	**25**	*eP*	**Pb**	**19 39 53.9**	**+1.2**
	1.5nm,0.3s						
KURS				*eS*	**Sg**	**19 40 46.3**	**-1.0**
	7.9nm,0.8s						
KURS	**Kuram**	**3.82**	**25**	Pg	**Pb**	**19 39 53.9**	**+1.2**
	1.5nm,0.3s						
KURS				Lg	Lg	19 40 46.3	
	7.9nm,0.8s						
KUU	**Kurty**	**3.87**	**4**	*eP*	**Pb**	**19 39 54.6**	**+1.2**
	10nm,0.6s						
KUU				*eS*	**Sg**	**19 40 47.9**	**-0.9**
	19nm,0.7s						
KUU	**Kurty**	**3.87**	**4**	Pg	**Pb**	**19 39 54.6**	**+1.2**
	10nm,0.6s						
KUU				Lg	Lg	19 40 47.8	
	19nm,0.7s						
KPKS	**Kokpek**	**3.98**	**30**	*eP*	**Pb**	**19 39 56.6**	**+1.1**
	8.6nm,0.3s						
KPKS				*eS*	**Sg**	**19 40 51.1**	**-1.3**
	31nm,0.5s						
PDGK	**Podgornoye**	**4.22**	**37**	⇓Pg	**Pg**	**19 40 05.7**	**+0.4**
	3.1nm,0.6s						
PDGK				⇑Lg	Lg	19 40 55.7	
	21nm,0.8s						
KK31	**Karatay Array**	**5.12**	**309**	Pg	**Pg**	**19 40 21.8**	**-0.8**
	0.4nm,0.3s,baz=120,slow=15,SNR=4.2						
KK31				⇓Lg	Lg	19 41 25.7	
	1.2nm,0.4s,baz=125,slow=28,SNR=3.9						

IDC ***29*** *19:44:39.9±0.7,55˚.30S×28˚.35W,h0km,mb4.4/7, mb1 4.5/8,mb1mx4.2/25,mbtmp4.5/8,ML4.8/1,Error ellipse: s-maj=24.2km s-min=20.2km az=90.0*
NEIC ***29*** *19:44:41.0±2.0,55˚.4S±0˚.2×28˚.5W±0˚.2,h10km±1km, mb4.7/8,Error ellipse: s-maj=26.7km s-min=16.2km az=187.0*

ISC 29 19:44:41.3±0.6, 55˚.4S±0˚.1×28˚.34W±0˚.10, h10km, n35, σ0§91/26, mb4.5/7, 3C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.83**	**280**		**Pn**	**19 45 55.3**	**+1.3**
VNA3	**Neumayer Olymp**	**17.86**	**160**	P	**P**	**19 48 50.1**	**0.0**
EFI	**East Falkland**	**17.98**	**269**		**Pn**	**19 48 49.8**	**-1.3**
SNAA	**Sanae**	**19.63**	**156**	P	**P**	**19 49 09.6**	**0.0**
SNAA	**Sanae**	**19.63**	**156**	P	**P**	**19 49 09.7**	**0.0**
	2.8nm,0.3s,baz=287,slow=11,SNR=65						
SNAA	**Sanae**	**19.63**	**156**	P	**P**	**19 49 09.4**	**-0.3**
SNAA				IAmb	IAmb	19 49 11.6	
	comp=Z,18nm,0.5s						
PMSA	**Palmer Station**	**19.87**	**227**	P	**P**	**19 49 10.3**	**-1.9**
SYO	**Syowa Base**	**32.53**	**142**	⇑*epP*	**P**	**19 51 11.3**	**-0.4**
SYO	**Syowa Base**	**32.53**	**142**	⇑*ePnPn*	PnPn	19 52 15.0	-3.8
SYO	**Syowa Base**	**32.53**	**142**	⇑*ePP*	PP	19 52 20.8	-4.2
QSPA	**South Pole Qui**	**34.89**	**180**	P	**P**	**19 51 33.6**	**+1.1**
	comp=Z,3.9nm,0.6s,baz=230,slow=1.8,SNR=49						
QSPA	**South Pole Qui**	**34.89**	**180**	P	**P**	**19 51 33.6**	**+1.1**
QSPA				IAmb	IAmb	19 51 47.7	
	comp=Z,5.7nm,0.7s						
CFA	**Coronel Fontan**	**36.69**	**294**	P	**P**	**19 51 47.5**	**-0.7**
	comp=Z,5.3nm,0.8s,baz=137,slow=7.8,SNR=6.6						
SUR	**Sutherland**	**41.10**	**77**	P	**P**	**19 52 25.8**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=232,slow=17,SNR=1.4						
BOSA	**Boshof**	**46.45**	**78**	P	**P**	**19 53 07.7**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=215,slow=6.4,SNR=6.6						
BOSA	**Boshof**	**46.45**	**78**	IAmb	IAmb	19 53 22.4	
	comp=Z,8.0nm,1.1s						
VNDA	**Vanda**	**47.23**	**183**	P	**P**	**19 53 14.8**	**+1.2**
	comp=Z,3.7nm,0.7s,baz=188,slow=7.2,SNR=19						
H10S2	**ASCENSION HYDR**	**47.55**	**18**	T	T	20 45 15.0	
	baz=30,slow=74,SNR=6.6						
H10S3	**ASCENSION HYDR**	**47.55**	**18**	T	T	20 45 16.1	
	baz=190,slow=74,SNR=10						
MNMC	**Minye Minye**	**47.68**	**303**	P	**P**	**19 53 19.7**	**+1.6**
H10N1	**ASCENSION HYDR**	**48.66**	**18**	T	T	20 46 31.1	
	baz=196						
H10N3	**ASCENSION HYDR**	**48.66**	**18**	T	T	20 46 32.2	
	baz=196,slow=74,SNR=12						
H10N2	**ASCENSION HYDR**	**48.68**	**18**	T	T	20 46 32.2	
	baz=196,slow=74,SNR=5.1						
TOA0	**Torodi Ar. Sit**	**72.79**	**31**	P	**P**	**19 56 10.1**	**+0.4**
TOA0				IAmb	IAmb	19 56 12.0	
	comp=Z,5.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.79**	**31**	P	**P**	**19 56 10.2**	**+0.4**
	comp=Z,4.2nm,0.5s,baz=201,slow=6.4,SNR=68						
ASAR	**Alice Springs**	**99.84**	**164**	P	**Pdif**	**19 58 25.1**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=188,slow=4.2,SNR=4.5						
FINES	**FINESS Array B**	**124.08**	**28**	PKP	**PKPdf**	**20 03 38.1**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=151,slow=3.2,SNR=7.1						
ARCES	**ARCESS Array B**	**130.55**	**22**	PKP	**PKPdf**	**20 03 49.4**	**-1.1**
	comp=Z,1.5nm,1.0s,baz=187,slow=1.5,SNR=2.0						
YKA	**Yellowknife Ar**	**135.22**	**319**	PKP	**PKiKP**	**20 04 00.7**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=126,slow=2.1,SNR=4.3						
MKAR	**Makanchi Array**	**137.29**	**71**	PKP	**PKPdf**	**20 04 04.4**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=242,slow=3.1,SNR=3.2						
ZALV	**Zalesovo Beam**	**142.65**	**64**	PKhKP	PKPpre	20 04 07.1	
	comp=Z,0.4nm,0.5s,baz=290,slow=3.7,SNR=1.9						
INK	**Inuvik**	**144.86**	**321**	PKP	**PKPab**	**20 04 15.2**	**-0.7**
	comp=Z,5.8nm,0.9s,baz=75,slow=4.6,SNR=8.4						
ILAR	**Eielson Array**	**149.17**	**313**	PKPbc	**PKiKP**	**20 04 28.9**	**-0.7**
	comp=Z,3.0nm,0.7s,baz=126,slow=1.1,SNR=31						
KDAK	**Kodiak Island**	**149.92**	**298**	PKPbc	**PKPbc**	**20 04 29.4**	**-0.9**
	comp=Z,3.4nm,0.6s,baz=192,slow=1.9,SNR=6.7						
SONM	**Songino Array**	**151.34**	**86**	PKPbc	**PKPbc**	**20 04 34.1**	**-0.2**
	comp=Z,3.1nm,0.8s,baz=222,slow=3.7,SNR=13						

JMA 29 19:51:24.5±0.2, 35˚.70N×140˚.94E, h14km±1km, M3.5, 7C-1D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.07**	**272**	⇓P	Pg	19 51 27.2	-0.1
CHOJ				S	Sg	19 51 28.9	-0.2
JSMT	**Sammumatsuo**	**0.40**	**262**	⇑P	Pg	19 51 32.9	+0.3
JIHU	**Itakohorinouch**	**0.43**	**308**	⇑P	Pb	19 51 33.6	-0.2
JIHU				S	Sb	19 51 40.5	+0.3
JCN	**Nagara**	**0.66**	**245**	⇑P	Pb	19 51 38.1	+0.2
JCN				S	Sn	19 51 48.4	-1.3
JHYU	**Hitachinakayam**	**0.70**	**336**	⇑P	Pg	19 51 38.0	-0.2
JHYU				S	Sg	19 51 47.5	+0.1
JYT	**Yasato**	**0.80**	**311**	⇑P	Pg	19 51 39.1	-1.0
JYT				S	Sg	19 51 49.4	-1.2
BSO4	**Boso 4**	**0.86**	**215**	P	Pg	19 51 41.5	+0.3
JHO	**Hitachi**	**0.96**	**342**	⇑P	Pb	19 51 41.5	-1.4
JHO				S	Sb	19 51 53.9	-1.5
BSO3	**Boso 3**	**0.96**	**202**	⇑P	Pb	19 51 42.6	-0.2
MAT	**Matsushiro**	**2.37**	**292**	P	Pn	19 52 02.5	-0.4
MAT				S	Sn	19 52 27.1	-4.7

IDC ***29*** *19:53:14.5±0.9,55˚.36S×27˚.94W,h0km,mb4.0/4, mb1 4.0/5,mb1mx3.8/26,mbtmp4.0/5,ML3.8/1,MS4.5/1, Ms1 4.5/1,ms1mx3.8/20,Error ellipse: s-maj=31.0km s-min=27.6km az=94.0*
NEIC ***29*** *19:53:15.4±2.4,55˚.3S±0˚.1×28˚.03W±0˚.07,h10km±1km, mb4.5/13,Error ellipse: s-maj=25.0km s-min=5.8km az=188.0*

ISC 29 19:53:17.7±0.7, 55˚.3S±0˚.1×28˚.1W±0˚.1, h26km, n22, σ1§03/20, mb4.4/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.96**	**278**	Pn	**Pn**	**19 54 30.0**	**-0.4**
SNAA	**Sanae**	**19.65**	**156**	P	**P**	**19 57 42.9**	**-1.2**
	0.3nm,0.3s,baz=331,slow=6.6,SNR=3.7						
USHA	**Ushuaia**	**22.89**	**254**	P	**P**	**19 58 19.6**	**+0.7**
	13nm,0.5s,baz=24,slow=2.2,SNR=4.1						
GO09	**Cerro Castillo**	**26.41**	**260**	P	**P**	**19 58 51.8**	**-0.1**
GO09				IAmb	IAmb	19 59 06.3	
	comp=Z,28nm,1.3s						
PLCA	**Paso Flores**	**31.36**	**280**	P	**P**	**19 59 33.6**	**-2.4**
QSPA	**South Pole Qui**	**34.96**	**180**	LR	LR	20 13 26.1	
	comp=Z,787nm,19.6s,baz=217,slow=35						
QSPA	**South Pole Qui**	**34.96**	**180**	P	**P**	**20 00 07.7**	**+0.4**
QSPA				IAmb	IAmb	20 00 25.8	
	comp=Z,4.5nm,1.3s						
MT02	**Curacav**	**37.06**	**288**	P	**P**	**20 00 24.8**	**-0.5**
VA03	**San Esteban**	**37.12**	**290**	P	**P**	**20 00 26.3**	**+0.3**
VA03				IAmb	IAmb	20 00 28.9	
	comp=Z,7.8nm,1.0s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO01	**Juntas del Tor**	**39.05**	**293**	P	**P**	**20 00 41.7**	**-0.7**
CO01				IAmb	IAmb	20 00 49.3	
	comp=Z,10nm,1.4s						
SUR	**Sutherland**	**40.95**	**77**	P	**P**	**20 00 56.9**	**-1.2**
SUR				IAmb	IAmb	20 01 03.7	
	comp=Z,16nm,1.5s						
AC04	**Llanos de Chal**	**40.98**	**293**	P	**P**	**20 00 58.6**	**+0.4**
PB10	**IPOC Station P**	**44.54**	**298**	P	**P**	**20 01 28.0**	**+0.9**
GO01	**Chusmiza**	**47.10**	**302**	P	**P**	**20 01 48.4**	**+0.5**
GO01				IAmb	IAmb	20 01 53.1	
	comp=Z,2.7nm,0.8s						
VNDA	**Vanda**	**47.31**	**183**	P	**P**	**20 01 48.8**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=182,slow=5.1,SNR=3.2						
VNDA	**Vanda**	**47.31**	**183**	P	**P**	**20 01 49.8**	**+1.5**
MNMC	**Minye Minye**	**47.76**	**302**	P	**P**	**20 01 52.1**	**-0.6**
MNMC				IAmb	IAmb	20 01 57.0	
	comp=Z,4.1nm,0.7s						
LPAZ	**La Paz**	**49.52**	**306**	P	**P**	**20 02 08.2**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=164,slow=3.0,SNR=4.3						
LPAZ	**La Paz**	**49.52**	**306**	IAmb	IAmb	20 02 12.4	
	comp=Z,0.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.65**	**30**	P	**P**	**20 04 43.8**	**+1.0**
	comp=Z,1.7nm,0.5s,baz=204,slow=6.5,SNR=18						
ILAR	**Eielson Array**	**149.22**	**313**	PKPbc	**PKiKP**	**20 13 03.5**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=128,slow=1.8,SNR=32						
SONM	**Songino Array**	**151.19**	**86**	PKPbc	**PKiKP**	**20 13 08.3**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=225,slow=1.2,SNR=5.2						

IDC ***29*** *19:58:36.1±2.2,52˚.41N×170˚.11W,h0km,mb3.4/2, mb1 3.8/4,mb1mx3.3/62,mbtmp3.6/4,ML3.1/2,Error ellipse: s-maj=81.2km s-min=25.1km az=180.0*
AEIC ***29*** *19:58:38.3±1.2,51˚.84N±0˚.09×170˚.27W±0˚.09,h26km±5km, ML3.1/30,Error ellipse: s-maj=14.8km s-min=4.1km az=151.0*
NEIC ***29*** *19:58:39.2±1.3,51˚.93N±0˚.08×170˚.27W±0˚.09,h25km±5km, Error ellipse: s-maj=13.5km s-min=4.3km az=147.0*

ISC 29 19:58:39.3±1.3, 51˚.8N±0˚.1×170˚.26W±0˚.06, h31km, n28, σ0§98/30, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**1.43**	**36**		**Pn**	**19 59 02.4**	**-0.8**
NIKH					**Sn**	**19 59 20.9**	**0.0**
OKSP	**Okmok Steeple**	**1.86**	**39**		**Pn**	**19 59 08.2**	**-0.9**
OKCE	**Okmok Cone E**	**2.05**	**38**		**Pn**	**19 59 12.0**	**+0.3**
OKFG	**Magazine Ridge**	**2.13**	**41**		**Pn**	**19 59 12.3**	**-0.5**
OKFG					**Sb**	**19 59 41.0**	**-2.4**
KOSE	**Korovin Southe**	**2.39**	**284**		**Pn**	**19 59 16.8**	**+0.4**
KOFP	**Korovin Flat P**	**2.41**	**282**		**Pn**	**19 59 17.0**	**+0.3**
ATKA	**Atka Island**	**2.46**	**280**		**Pn**	**19 59 16.6**	**-0.6**
ATKA					**Sn**	**19 59 45.9**	**-0.4**
MREP	**Makushin Rep't**	**2.91**	**46**		**Pn**	**19 59 23.9**	**+0.3**
MSW	**Makushin Switc**	**2.97**	**44**		**Pn**	**19 59 24.2**	**0.0**
MNAT	**Makushin Natee**	**2.99**	**45**		**Pn**	**19 59 24.6**	**0.0**
UNV	**Unalaska Valle**	**3.04**	**47**		**Pn**	**19 59 25.4**	**+0.2**
UNV					**Sn**	**20 00 02.3**	**+1.7**
GSMY	**Great Sitkin M**	**3.59**	**276**		**Pn**	**19 59 32.6**	**-0.3**
GSTR	**Great Sitkin T**	**3.60**	**276**		**Pn**	**19 59 33.2**	**+0.3**
GSTD	**Great Sitkin T**	**3.65**	**276**		**Pn**	**19 59 33.6**	**-0.1**
GSTD					**Sn**	**20 00 15.9**	**+0.3**
ADK	**Adak**	**3.98**	**273**		**Pn**	**19 59 38.2**	**0.0**
WESP	**Westdahl Peak**	**4.27**	**49**		**Sn**	**20 00 33.5**	**+2.6**
KIKV	**Kanaga Island**	**4.28**	**273**		**Pn**	**19 59 42.6**	**+0.2**
KIMD	**Kanaga Island**	**4.33**	**272**		**Pn**	**19 59 43.3**	**+0.3**
TASE	**Tanaga Southea**	**4.82**	**273**		**Pn**	**19 59 51.0**	**+1.2**
SPIA	**Saint Paul Isl**	**5.36**	**0**		**Pn**	**19 59 58.1**	**+1.0**
AMKA	**Amchitka**	**6.52**	**270**		**Pn**	**20 00 12.6**	**-0.4**
KDAK	**Kodiak Island**	**11.79**	**53**	Pn	**Pn**	**20 01 23.1**	**-2.1**
	0.1nm,0.3s,baz=193,slow=11,SNR=2.5						
PETK	**Petropavlovsk-**	**19.48**	**286**	P	**P**	**20 03 03.5**	**+0.1**
	0.3nm,0.3s,baz=96,slow=12,SNR=12						
H11S1	**WAKE ISLAND Hy**	**37.88**	**217**	T	T	20 46 39.1	
	baz=22,slow=76,SNR=8.0						
H11S2	**WAKE ISLAND Hy**	**37.89**	**217**	T	T	20 46 39.1	
	baz=22,slow=76,SNR=5.1						
H11S3	**WAKE ISLAND Hy**	**37.90**	**217**	T	T	20 46 39.7	
	baz=22,slow=76,SNR=5.1						
SONM	**Songino Array**	**51.10**	**301**	P	**P**	**20 07 38.7**	**-0.1**
	0.4nm,0.9s,baz=46,slow=8.3,SNR=2.0						
TXAR	**Lajitas Array**	**53.31**	**88**	P	**P**	**20 07 56.1**	**+0.6**
	0.4nm,0.8s,baz=289,slow=7.8,SNR=4.9						

IDC ***29*** *20:06:53.2±1.3,55˚.35S×27˚.89W,h0km,mb3.8/2, mb1 3.8/2,mb1mx3.6/22,mbtmp3.8/2,MS4.1/1,Ms1 4.2/1, ms1mx3.7/18,Error ellipse: s-maj=89.4km s-min=32.8km az=97.0*

ISC 29 20:06:54.7±1.4, 55˚.4S±0˚.2×27˚.9W±0˚.5, h10km, n7, σ1§13/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.78**	**161**	P	**P**	**20 11 03.9**	**+1.2**
SNAA	**Sanae**	**19.54**	**156**	P	**Pn**	**20 11 22.2**	**-1.2**
QSPA	**South Pole Qui**	**34.90**	**180**	P	**P**	**20 13 46.4**	**+0.3**
	1.2nm,0.6s,baz=176,slow=1.4,SNR=14						
LPAZ	**La Paz**	**49.65**	**306**	LR	LR	20 37 06.4	
	comp=Z,210nm,21.0s,baz=48,slow=36						
TORD	**Torodi Ar. Bea**	**72.65**	**30**	P	**P**	**20 18 22.9**	**+0.5**

	23nm,0.4s								
MDOK	**Medeo**	**2.59**	**360**	Pg		**Pg**	**20 12 31.9**	**-1.2**	
	5.1nm,0.5s								
MDOK				Lg		Lg	20 13 06.8		
	19nm,0.7s								
MDOK	**Medeo**	**2.59**	**360**	Pg		**Pg**	**20 12 32.1**	**-1.0**	
	6.4nm,0.4s								
MDOK				Lg		Lg	20 13 08.5		
	23nm,0.4s								
MTBS	**Maitube**	**2.60**	**350**	*eP*		**Pg**	**20 12 32.5**	**-0.8**	
	3.8nm,0.1s								
MTBS				*eS*		**Sg**	**20 13 08.8**	**+1.8**	
	24nm,0.3s								
MTBS	**Maitube**	**2.60**	**350**	Pg		**Pg**	**20 12 32.5**	**-0.8**	
	3.8nm,0.1s								
MTBS				Lg		Lg	20 13 08.8		
	24nm,0.3s								
KST	**Kastek**	**2.60**	**342**	*eP*		**Pg**	**20 12 32.5**	**-0.8**	
	5.0nm,0.3s								
KST				*eS*		**Sg**	**20 13 08.7**	**+1.6**	
	6.8nm,0.3s								
KST	**Kastek**	**2.60**	**342**	Pg		**Pg**	**20 12 32.5**	**-0.8**	
	5.0nm,0.3s								
KST				Lg		Lg	20 13 09.1		
	6.8nm,0.3s								
KBK	**Karagaybulak**	**2.62**	**324**	⇑*iP*		**Pb**	**20 12 29.8**	**0.0**	
	baz=24								
KBK				⇑*iS*		**Sb**	**20 13 03.8**	**+2.1**	
	baz=24								
KOTS	**Kotyrbulak**	**2.67**	**1**	*eP*		**Pg**	**20 12 33.9**	**-0.6**	
	19nm,0.3s								
KOTS				*eS*		**Sg**	**20 13 11.2**	**+2.1**	
	111nm,0.4s								
KOTS	**Kotyrbulak**	**2.67**	**1**	Pg		**Pg**	**20 12 33.9**	**-0.6**	
	19nm,0.3s								
KOTS				Lg		Lg	20 13 11.1		
	111nm,0.4s								
SATY	**Saty**	**2.69**	**22**	*eP*		**Pg**	**20 12 33.2**	**-1.7**	
	6.1nm,0.5s								
SATY				*eS*		**Sg**	**20 13 10.0**	**+0.3**	
	19nm,0.5s								
SATY	**Saty**	**2.69**	**22**	Pg		**Pg**	**20 12 33.2**	**-1.7**	
	6.1nm,0.5s								
SATY				Lg		Lg	20 13 10.7		
	19nm,0.5s								
ZHN	**Zhinishke**	**2.80**	**21**	*eP*		**Pg**	**20 12 35.4**	**-1.5**	
	60nm,0.2s								
ZHN				*eS*		**Sg**	**20 13 13.9**	**+0.7**	
	19nm,0.2s								
ZHN	**Zhinishke**	**2.80**	**21**	Pg		**Pg**	**20 12 35.4**	**-1.5**	
	60nm,0.2s								
ZHN				Lg		Lg	20 13 13.9		
	19nm,0.2s								
AAK	**Ala-Archa**	**2.82**	**318**	⇓*iP*		**Pb**	**20 12 32.7**	**-0.6**	
	baz=18								
AAK				⇓*iS*		**Sb**	**20 13 08.8**	**+1.2**	
	baz=18								
AAK	**Ala-Archa**	**2.82**	**318**	Pg		**Pg**	**20 12 36.4**	**-1.0**	
	7.2nm,0.7s								
AAK				⇑Lg		Lg	20 13 14.5		
	7.1nm,0.6s								
DGS	**Degeres**	**2.84**	**341**	*eP*		**Pg**	**20 12 37.3**	**-0.5**	
	0.5nm,0.4s								
DGS				*eS*		**Sg**	**20 13 17.0**	**+2.5**	
	13nm,0.4s								
DGS	**Degeres**	**2.84**	**341**	Pg		**Pg**	**20 12 37.3**	**-0.5**	
	0.5nm,0.4s								
DGS				Lg		Lg	20 13 17.0		
	13nm,0.4s								
UZB	**Uzynbulak**	**2.97**	**29**	*eP*		**Pg**	**20 12 38.5**	**-1.7**	
	2.8nm,0.4s								
UZB				*eS*		**Sg**	**20 13 19.2**	**+0.4**	
	11nm,0.4s								
UZB	**Uzynbulak**	**2.97**	**29**	Pg		**Pg**	**20 12 38.5**	**-1.7**	
	2.8nm,0.4s								
UZB				Lg		Lg	20 13 19.3		
	11nm,0.4s								
AML	**Almayashu**	**2.97**	**303**	⇑*iP*		**Pb**	**20 12 34.9**	**-1.1**	
	baz=3.0								
AML				⇑*iS*		**Sb**	**20 13 12.3**	**+0.2**	
	baz=3.0								
CHMS	**Chumysh**	**2.98**	**325**	⇓*iP*		**Pb**	**20 12 34.9**	**-1.0**	
	baz=25								
CHMS				⇓*iS*		**Sb**	**20 13 12.3**	**+0.4**	
	baz=25								
KURS	**Kuram**	**3.04**	**16**	*eP*		**Pg**	**20 12 39.7**	**-1.8**	
	5.5nm,0.7s								
KURS				*eS*		**Sg**	**20 13 21.2**	**+0.3**	
	7.8nm,0.7s								
KURS	**Kuram**	**3.04**	**16**	Pg		**Pg**	**20 12 39.7**	**-1.8**	
	5.5nm,0.7s								
KURS				Lg		Lg	20 13 21.2		
	7.8nm,0.7s								
KPKS	**Kokpek**	**3.14**	**22**	*eP*		**Pg**	**20 12 41.9**	**-1.6**	
	7.8nm,0.1s								
KPKS				*eS*		**Sg**	**20 13 25.0**	**+0.7**	
	27nm,0.6s								
SHLS	**Shalkode**	**3.15**	**34**	*eP*		**Pg**	**20 12 45.7**	**+1.9**	
	5.0nm,0.5s								
SHLS				*eS*		**Sg**	**20 13 31.3**	**+6.7**	
	26nm,0.5s								
SHLS	**Shalkode**	**3.15**	**34**	Pg		**Pg**	**20 12 45.7**	**+1.9**	
	5.0nm,0.5s								
SHLS				Lg		Lg	20 13 31.3		
	26nm,0.5s								
KTBS	**Karatobe**	**3.15**	**355**	*eP*		**Pg**	**20 12 42.0**	**-1.8**	
	4.5nm,0.4s								
KTBS				*eS*		**Sg**	**20 13 24.9**	**+0.2**	
	32nm,0.5s								
KTBS	**Karatobe**	**3.15**	**355**	Pg		**Pg**	**20 12 41.7**	**-2.1**	
	4.5nm,0.4s								
KTBS				Lg		Lg	20 13 24.9		
	32nm,0.5s								
EKS2	**Erkin-Say**	**3.23**	**312**	⇑*iP*		**Pb**	**20 12 38.0**	**-2.2**	
	baz=12								
EKS2				⇑*iS*		**Sb**	**20 13 18.4**	**-0.8**	
	baz=12								
USP	**Ospenovka**	**3.30**	**326**	⇑*iP*		**Pb**	**20 12 39.3**	**-2.1**	
	baz=26								
USP				⇑*iS*		**Sb**	**20 13 20.2**	**-1.1**	
	baz=26								
PDGK	**Podgornoye**	**3.31**	**33**	Pg		**Pg**	**20 12 44.0**	**-2.7**	
	2.0nm,0.4s								
PDGK				Lg		Lg	20 13 29.1		
	7.2nm,0.7s								
PDGK	**Podgornoye**	**3.31**	**33**	Pg		**Pg**	**20 12 43.8**	**-2.9**	
	3.6nm,0.7s								
PDGK				⇑Lg		Lg	20 13 28.3		
	9.9nm,0.5s								
KUU	**Kurty**	**3.37**	**351**	*eP*		**Pg**	**20 12 45.2**	**-2.6**	
	1.2nm,0.3s								
KUU				*eS*		**Sg**	**20 13 30.6**	**-0.8**	
	12nm,0.6s								
KUU	**Kurty**	**3.37**	**351**	Pg		**Pg**	**20 12 45.2**	**-2.6**	
	1.2nm,0.3s								
KUU				Lg		Lg	20 13 31.0		
	12nm,0.6s								
SGDS	**Sogindy**	**3.40**	**329**	Pg		**Pg**	**20 12 46.6**	**-1.9**	
	5.2nm,0.6s								
SGDS				Lg		Lg	20 13 33.0		
	3.2nm,0.4s								
MNBS	**Baschi**	**3.65**	**15**	*eP*		**Pg**	**20 12 50.8**	**-2.5**	
	2.6nm,0.3s								
MNBS				*eS*		**Sg**	**20 13 40.2**	**-0.4**	
	14nm,0.2s								
MNBS	**Baschi**	**3.65**	**15**	Pg		**Pg**	**20 12 50.8**	**-2.5**	
	2.6nm,0.3s								
MNBS				Lg		Lg	20 13 40.2		
	14nm,0.2s								
ARXS	**Arharly**	**3.69**	**9**	*eP*		**Pg**	**20 12 51.5**	**-2.5**	
	4.2nm,0.3s								
ARXS				*eS*		**Sg**	**20 13 41.2**	**-0.6**	
	7.0nm,0.4s								
ARXS	**Arharly**	**3.69**	**9**	Pg		**Pg**	**20 12 51.5**	**-2.5**	
	4.2nm,0.3s								
ARXS				Lg		Lg	20 13 40.9		
	7.0nm,0.4s								

*IDC **29** 20:18:26.1±1.1,55°.26S×27°.75W,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.8/18,mbtmp3.8/3,Error ellipse: s-maj=48.2km s-min=33.2km az=77.0*
*NEIC **29** 20:18:27.2±1.2,55°.3S±0°.2×27°.9W±0°.2,h10km±1km, mb4.0/4,Error ellipse: s-maj=30.3km s-min=20.5km az=206.0*
ISC 29 20:18:27.3±0.9,55°.3S±0°.2×27°.9W±0°.2,h10km,n10, σ0s72/9,mb4.1/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.06**	**278**		**Pn**	**20 19 43.1**	**0.0**
SNAA	**Sanae**	**19.59**	**156**	P	**P**	**20 22 54.0**	**-1.1**
SNAA				IAmb	IAmb	20 22 56.6	
	comp=Z,3.4nm,0.6s						
PLCA	**Paso Flores**	**31.46**	**280**	P	**P**	**20 24 47.9**	**-0.9**
QSPA	**South Pole Qui**	**34.94**	**180**	P	**P**	**20 25 19.4**	**+0.4**
VNDA	**Vanda**	**47.29**	**183**	P	**P**	**20 27 00.7**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=188,slow=6.0,SNR=6.5						
LPAZ	**La Paz**	**49.61**	**306**	P	**P**	**20 27 20.0**	**+0.6**
	comp=Z,1.6nm,0.6s,baz=162,slow=6.9,SNR=8.1						
LPAZ	**La Paz**	**49.61**	**306**	IAmb	IAmb	20 27 21.3	
	comp=Z,1.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**72.62**	**30**	P	**P**	**20 29 54.5**	**-0.2**
	comp=Z,0.5nm,0.9s,baz=208,slow=7.5,SNR=1.9						
ILAR	**Eielson Array**	**149.31**	**313**	PKPbc	**PKPbc**	**20 38 15.0**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=127,slow=2.0,SNR=14						
SONM	**Songino Array**	**151.09**	**86**	PKPbc	**PKPbc**	**20 38 19.8**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=222,slow=1.9,SNR=2.9						

*IDC **29** 20:24:49.0±2.6,52°.88N×161°.07E,h0km,mb3.6/4, mb1 3.7/5,mb1mx3.4/51,mbtmp3.7/5,ML3.0/1,Error ellipse: s-maj=49.5km s-min=30.5km az=138.0*
*KRSC **29** 20:24:52.2±1.2,52°.73N×160°.92E,h17km±15km,ML3.9*
ISC 29 20:24:50.1±2.0,52°.82N±0°.06×161°.05E±0°.07,h10km±11km, n37,σ0s82/45,mb3.8/4,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.68**	**295**	*eP*	**Pn**	**20 25 05.4**	**-0.4**
SPN				*eS*	**Sb**	**20 25 14.2**	**+0.7**
NLC	**Nalytchevo**	**1.09**	**290**	*eP*	**Pn**	**20 25 11.6**	**+0.2**
NLC				*eS*	**Sb**	**20 25 25.2**	**0.0**
SDLR	**Sedlovina**	**1.38**	**290**	*iP*	**Pg**	**20 25 16.5**	**-0.2**
SDLR				*eS*	**Sn**	**20 25 34.1**	**0.0**
UGLR	**Uglovaya**	**1.40**	**287**	*eP*	**Pg**	**20 25 16.9**	**0.0**
DALK	**Dalny**	**1.40**	**280**	*eP*	**Pb**	**20 25 16.3**	**-0.1**
DALK				*eS*	**Sb**	**20 25 33.8**	**-0.6**
SMAR	**Somma**	**1.43**	**289**	*eP*	**Pb**	**20 25 17.2**	**+0.3**
AVH	**Avacha**	**1.46**	**289**	*eP*	**Pg**	**20 25 17.9**	**-0.3**
PET	**Petropavlovsk**	**1.46**	**279**	*eP*	**Pb**	**20 25 17.2**	**-0.2**
PET				*eS*	**Sn**	**20 25 35.4**	**-0.4**
KRER	**Koryakskii**	**1.47**	**290**	*eP*	**Pg**	**20 25 18.3**	**0.0**
KRER				*eS*	**Sb**	**20 25 36.6**	**+0.1**
KOK	**Koryaka**	**1.53**	**289**	*eP*	**Pg**	**20 25 19.1**	**-0.3**
KRX	**Arik**	**1.54**	**292**	*eP*	**Pb**	**20 25 18.9**	**0.0**
KRX				*eS*	**Sn**	**20 25 37.5**	**-0.5**
KII	**Karymskiy**	**1.55**	**323**	*eP*	**Pg**	**20 25 20.3**	**+0.5**
RUS	**Russkaya**	**1.59**	**257**	*iP*	**Pn**	**20 25 18.9**	**+0.6**
RUS				*eS*	**Sn**	**20 25 38.0**	**-0.9**
KRMR	**Karymshinskiy**	**1.77**	**272**	*eP*	**Pb**	**20 25 22.4**	**-0.2**
MTVR	**Mutnovka**	**1.77**	**260**	*eP*	**Pn**	**20 25 21.9**	**+0.9**
MTVR				*eS*	**Sn**	**20 25 43.4**	**-0.3**
GRL	**Gorelyy**	**1.83**	**263**	*eP*	**Pb**	**20 25 23.1**	**-0.6**
GRL				*eS*	**Sn**	**20 25 45.0**	**0.0**
ASAK	**Asacha**	**1.97**	**258**	*iP*	**Pb**	**20 25 25.1**	**-1.0**
ASAK				*eS*	**Sn**	**20 25 49.2**	**+0.8**
PETK	**Petropavlovsk-**	**2.04**	**280**	Pn	**Pb**	**20 25 26.4**	**-0.9**
	24nm,0.3s,baz=100,slow=19,SNR=202						
PETK				Sn	**Sn**	**20 25 51.1**	**+0.9**
	22nm,0.3s,baz=99,slow=18,SNR=2.9						
KDTR	**Khodutka, Kamc**	**2.08**	**242**	*eP*	**Pn**	**20 25 25.5**	**+0.4**
KDTR				*eS*	**Sn**	**20 25 49.0**	**-2.1**
KZV	**Kizimen**	**2.34**	**349**	*eP*	**Pb**	**20 25 32.2**	**-0.3**
APC	**Apacha**	**2.36**	**274**	*eP*	**Pb**	**20 25 32.5**	**-0.2**
APC				*eS*	**Sb**	**20 26 01.2**	**-0.6**
TUMD	**Tumrok D**	**2.42**	**351**	*eP*	**Pb**	**20 25 33.2**	**-0.6**
TUMR	**Tumrok**	**2.53**	**348**	*iP*	**Pb**	**20 25 34.9**	**-0.7**
MIPR	**Malaya Ipel'ka**	**2.67**	**260**	*eP*	**Pn**	**20 25 35.7**	**+2.5**
KMNR	**Kamenistaya**	**2.98**	**351**	*iP*	**Pb**	**20 25 42.1**	**-1.3**
BZGR	**Bezymyannyi-Gr**	**3.14**	**356**	*eP*	**Pb**	**20 25 45.8**	**-0.2**
KIRR	**Kirishev**	**3.17**	**353**	*eP*	**Pb**	**20 25 46.6**	**0.0**
MJAR	**Matsushiro Arr**	**22.84**	**234**	P	**P**	**20 29 54.8**	**+1.5**
	0.5nm,0.6s,baz=20,slow=7.4,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**33.34**	**170**	T	T	21 06 52.0	
	baz=353,slow=76,SNR=41						
H11N3	**WAKE ISLAND Hy**	**33.35**	**170**	T	T	21 06 51.7	
	baz=353,slow=76,SNR=34						
H11N1	**WAKE ISLAND Hy**	**33.35**	**170**	T	T	21 06 52.0	
	baz=353,slow=76,SNR=48						
H11S1	**WAKE ISLAND Hy**	**34.52**	**171**	T	T	21 08 18.8	
	baz=352,slow=76,SNR=3.8						
H11S3	**WAKE ISLAND Hy**	**34.54**	**171**	T	T	21 08 19.4	
	baz=352,slow=76,SNR=5.9						
H11S2	**WAKE ISLAND Hy**	**34.54**	**170**	T	T	21 08 19.4	
	baz=352,slow=76,SNR=3.2						
MKAR	**Makanchi Array**	**49.79**	**296**	P	**P**	**20 33 33.3**	**-1.9**
	0.3nm,0.5s,baz=58,slow=7.7,SNR=7.6						
FINES	**FINESS Array B**	**60.60**	**337**	P	**P**	**20 35 00.8**	**+0.3**
	1.2nm,0.6s,baz=40,slow=10.0,SNR=10						
AKASG	**Malin Array Be**	**69.14**	**330**	P	**P**	**20 35 56.9**	**+0.7**
	0.5nm,0.4s,baz=28,slow=6.5,SNR=3.4						

WEL 29 20:44:19.3,38°S±2°×17°7E±°,h46km±5km,M2.4/19, mB6.6/1,ML2.7/18,MLv2.4/19,Mw(mB)6.4/1,Error ellipse: s-maj=0.0km s-min=0.0km az=107.7,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RUGZ	**Raukumara Rang**	**0.26**	**73**	P	Pn	20 44 27.5	-0.4
URZ	**Urewera**	**0.29**	**222**	P	Pn	20 44 28.4	+0.3
MWZ	**Matawai**	**0.32**	**156**	P	Pn	20 44 28.2	-0.2
WHRZ	**Whale Island**	**0.36**	**301**	P	Pn	20 44 32.5	+3.7
HAZ	**Te Kaha**	**0.44**	**50**	P	Pn	20 44 29.2	-0.4
RAGZ	**Rawiri**	**0.46**	**175**	P	Pn	20 44 30.2	+0.2
TWGZ	**Tauwhareparae**	**0.51**	**106**	P	Pn	20 44 31.1	+0.7
TKGZ	**Te Karaka**	**0.55**	**136**	P	Pn	20 44 31.2	+0.2
PKGZ	**Pakihiroa**	**0.58**	**75**	P	Pn	20 44 31.6	+0.1
MUGZ	**Murupara**	**0.64**	**227**	P	Pn	20 44 32.2	+0.1
OPRZ	**Ohinepanea**	**0.67**	**287**	P	Pn	20 44 32.9	+0.4
PUZ	**Puketi**	**0.71**	**93**	P	Pn	20 44 33.3	+0.2
RIGZ	**Rimuhau**	**0.73**	**155**	P	Pn	20 44 32.6	-0.8
SNGZ	**Shannon Statio**	**0.74**	**181**	P	Pn	20 44 34.1	+0.6
CNGZ	**Carnagh Statio**	**0.80**	**124**	P	Pn	20 44 34.4	+0.2
WMGZ	**Waiomatatini S**	**0.86**	**75**	P	Pn	20 44 33.4	-1.6
MXZ	**Matakaoa Point**	**0.89**	**58**	P	Pn	20 44 36.2	+0.8
RAHZ	**Arahi**	**0.90**	**194**	P	Pn	20 44 36.0	+0.3
KNZ	**Kokohu**	**1.01**	**166**	P	Pn	20 44 36.5	-0.5
BKZ	**Black Stump Fm**	**1.31**	**211**	P	Pn	20 44 41.3	0.0
MCHZ	**McNeill Hill**	**1.50**	**200**	P	Pn	20 44 44.8	+1.1
KWHZ	**Kaweka Forest**	**1.56**	**208**	P	Pn	20 44 46.0	+1.2
BHHZ	**Black Hill Sta**	**1.77**	**215**	P	Pn	20 44 47.8	+0.3
KRHZ	**Kereru**	**1.78**	**206**	P	Pn	20 44 46.8	-0.8
MOVZ	**Moawhango**	**1.86**	**222**	P	Pn	20 44 48.5	-0.3
AKCZ	**Akaroa Harbour**	**6.73**	**209**	P	Pn	20 45 56.7	+1.2

*IDC **29** 20:47:57.8±1.0,33°.38N×89°.50E,h0km,mb3.6/7, mb1 3.7/11,mb1mx3.5/41,mbtmp3.5/11,ML3.4/3,Error ellipse: s-maj=34.8km s-min=18.4km az=54.0*
*BJI **29** 20:48:02.2±0.0,33°.47N×89°.90E,h7km,mb3.9/6,ML3.9/2*
ISC 29 20:48:02.0±0.7,33°.80N±0°.07×89°.49E±0°.08,h10km,n25, σ2s28/24,mb3.6/6,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.32**	**160**	Pg	**Pn**	**20 49 09.3**	**+1.1**
LSA				Sg	**Sn**	**20 50 03.0**	**+4.1**
GUN	**Gumba**	**6.63**	**209**	*eP*	**Pn**	**20 49 40.9**	**+1.0**
JIRN	**Jiri**	**6.74**	**206**	*eP*	**Pn**	**20 49 42.9**	**+1.5**
	64nm,0.8s						
KKN	**Kakani**	**6.99**	**212**	*eP*	**Pn**	**20 49 46.2**	**+1.5**
	13nm,0.5s						
GKN	**Gorkha**	**7.12**	**217**	*eP*	**Pn**	**20 49 48.8**	**+2.4**
	8.8nm,0.3s						
PKI	**Pulchoki**	**7.13**	**211**	*eP*	**Pn**	**20 49 48.0**	**+1.3**
	22nm,0.6s						
PKIN	**Phulchoki**	**7.13**	**211**	*eP*	**Pn**	**20 49 48.0**	**+1.4**
	20nm,0.5s						
ODAN	**Odare**	**7.15**	**195**	*eP*	**Pn**	**20 49 47.2**	**+0.4**
	29nm,0.5s						
DMN	**Daman**	**7.23**	**213**	*eP*	**Pn**	**20 49 49.5**	**+1.5**
	10nm,0.4s						
RAMN	**Ramite**	**7.26**	**201**	*eP*	**Pn**	**20 49 48.3**	**-0.1**
	32nm,0.5s						
DANN	**Dangsing**	**7.32**	**224**	*eP*	**Pn**	**20 49 51.8**	**+2.5**
	16nm,0.5s						
PYUN	**Piuthan**	**7.96**	**226**	*eP*	**Pn**	**20 49 58.8**	**+0.9**
	6.3nm,0.5s						
GTA	**Gaotai**	**10.01**	**53**	*eP*	**Pn**	**20 50 26.5**	**+0.5**
GTA				pP		20 50 31.0	
GTA				sP		20 50 33.5	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.1s						
MKAR	**Makanchi Array**	**14.09**	**339**	Pn	**Pn**	**20 51 21.9**	**+0.3**
	0.0nm,0.3s,baz=146,slow=16,SNR=3.7						
XAN	**Xi'an**	**16.14**	**84**	P	**Pn**	**20 51 50.5**	**+1.5**
XAN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CMAR	**Chiang Mai Arr**	**17.46**	**149**	P	**Pn**	**20 51 59.2**	**-6.5**
	0.2nm,0.3s,baz=326,slow=14,SNR=2.2						
KURBB	**Kurchatov Arra**	**18.64**	**338**	P	**P**	**20 52 19.3**	**-0.3**
	baz=151,slow=11,SNR=4.1						
SONM	**Songino Array**	**18.93**	**37**	P	**P**	**20 52 23.2**	**+0.2**
	0.1nm,0.3s,baz=219,slow=12,SNR=4.3						
ZALV	**Zalesovo Beam**	**20.42**	**352**	P	**P**	**20 52 41.2**	**+2.1**
	2.7nm,0.8s,baz=159,slow=12,SNR=4.4						
BVAR	**Borovoye Array**	**23.57**	**330**	P	**P**	**20 53 13.7**	**+1.1**
	0.3nm,0.5s,baz=120,slow=10,SNR=2.6						
GEYT	**Alibeck**	**25.69**	**288**	P	**P**	**20 53 29.0**	**-3.3**
	0.5nm,0.4s,baz=104,slow=6.1,SNR=2.3						
GERES	**GERESS Array B**	**56.58**	**310**	P	**P**	**20 57 46.1**	**+1.2**
	0.4nm,0.7s,baz=108,slow=4.3,SNR=3.7						
WRA	**Warramunga Arr**	**68.43**	**134**	P	P	20 58 59.3	-5.0
	0.6nm,0.6s,baz=322,slow=6.3,SNR=6.3						
ASAR	**Alice Springs**	**71.07**	**137**	P	P	20 59 16.3	-4.2
	0.7nm,0.9s,baz=320,slow=5.2,SNR=3.4						
TORD	**Torodi Ar. Bea**	**81.00**	**280**	P	**P**	**21 00 15.4**	**-2.0**
	0.6nm,0.9s,baz=57,slow=4.4,SNR=1.9						

*JMA **29** 20:55:10.7±0.1,24°.90N×121°.87E,h100km±2km,M2.3*
*TAP **29** 20:55:10.9,24°.93N×121°.89E,h105km,ML3.5,B*
ISC 29 20:55:10.6±1.2,24°.94N±0°.03×121°.87E±0°.02,h106km±5km, n115,σ0s79/224,3C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TIPB	**Shuangxi**	**0.05**	**310**	P	**Pn**	**20 55 25.2**	**-0.1**
	baz=305						
TIPB				*eS*	**Sn**	**20 55 35.3**	**-0.9**
	baz=305						
NTC	**Toucheng**	**0.09**	**204**	P	**Pn**	**20 55 25.2**	**0.0**
	baz=213						
NTC				*eS*	**Sn**	**20 55 35.0**	**-1.1**
	baz=213						
EGS		**0.11**	**149**	*eP*	**Pn**	**20 55 25.4**	**+0.2**
	baz=149						
EGS				*eS*	**Sn**	**20 55 36.0**	**-0.2**
	baz=149						
TWB1	**Santiao Chiao**	**0.13**	**57**	P	**Pn**	**20 55 25.2**	**-0.1**
	baz=53						
TWB1				*eS*	**Sn**	**20 55 35.6**	**-0.7**
	baz=53						
NWF	**Wu-fen Shan**	**0.16**	**328**	P	**Pn**	**20 55 25.4**	**0.0**
	baz=325						
NWF				*eS*	**Sn**	**20 55 35.7**	**-0.9**
	baz=325						
WFSB	**Wu-fen Shan**	**0.16**	**328**	P	**Pn**	**20 55 25.6**	**+0.2**
	baz=325						
WFSB				S	**Sn**	**20 55 35.8**	**-0.6**
	baz=325						
ILA	**Ilan**	**0.20**	**213**	P	**Pn**	**20 55 25.0**	**-0.5**
	baz=214						
ILA				*eS*	**Sn**	**20 55 36.5**	**-0.1**
	baz=214						
TWA	**Mucha**	**0.26**	**279**	P	**Pn**	**20 55 26.0**	**+0.3**
	baz=279						
TWA				*eS*	**Sn**	**20 55 36.6**	**-0.4**
	baz=279						
TWE	**Neicheng**	**0.28**	**221**	P	**Pn**	**20 55 26.2**	**+0.5**
	baz=220						
TWE				*eS*	**Sn**	**20 55 36.9**	**-0.2**
	baz=220						
NHDH	**Xindian Distri**	**0.32**	**275**	P	**Pn**	**20 55 26.1**	**+0.3**
	baz=275						
NHDH				*eS*	**Sn**	**20 55 37.0**	**-0.3**
	baz=275						
TWC	**Suao**	**0.33**	**183**	P	**Pn**	**20 55 26.0**	**0.0**
	baz=184						
TWC				*eS*	**Sn**	**20 55 38.2**	**+0.7**
	baz=184						
TAP	**Taipei**	**0.35**	**287**	P	**Pn**	**20 55 25.4**	**-0.6**
	baz=287						
TAP				*eS*	**Sn**	**20 55 36.3**	**-1.3**
	baz=287						
YM11	**YM11**	**0.35**	**310**	*eP*	**Pn**	**20 55 26.7**	**+0.5**
	baz=309						
YM11				*eS*	**Sn**	**20 55 38.8**	**+0.9**
	baz=309						
YM08	**YM08**	**0.36**	**314**	P	**Pn**	**20 55 26.5**	**+0.3**
	baz=313						
YM08				*eS*	**Sn**	**20 55 36.9**	**-0.9**
	baz=313						
NWLT	**Wulai**	**0.37**	**245**	*iP*	**Pn**	**20 55 26.1**	**-0.1**
	baz=246						
NWLT				*eS*	**Sn**	**20 55 37.1**	**-0.8**
	baz=246						
YM04	**YM04**	**0.37**	**305**	P	**Pn**	**20 55 26.5**	**+0.3**
	baz=304						
YM04				*eS*	**Sn**	**20 55 36.0**	**-2.0**
	baz=304						
YM03	**YM03**	**0.39**	**309**	P	**Pn**	**20 55 26.8**	**+0.4**
	baz=308						
YM03				*eS*	**Sn**	**20 55 38.4**	**+0.3**
	baz=308		

NHW	**Xinwu Township**	**0.75 275**	*i* P	**Pn**	**20 55 29.4**	**+0.5**
	baz=275					
NHW			*e*S	**Sn**	**20 55 43.5**	**+0.8**
	baz=275					
NACB	**Ninganchiao**	**0.80 198**	*e*P	**Pn**	**20 55 28.8**	**-0.6**
	baz=199					
NACB			*e*S	**Sn**	**20 55 43.2**	**-0.5**
	baz=199					
ETLH	**Xiulin Townshi**	**0.81 206**	P	**Pn**	**20 55 29.2**	**-0.4**
	baz=206					
ETLH			*e*S	**Sn**	**20 55 43.3**	**-0.7**
	baz=206					
SBCB	**Hsinchu**	**0.82 260**	P	**Pn**	**20 55 30.0**	**+0.4**
	baz=260					
SBCB			*e*S	**Sn**	**20 55 44.2**	**+0.3**
	baz=260					
HSN	**Hsinchu**	**0.83 261**	*e*P	**Pn**	**20 55 29.6**	**-0.1**
	baz=262					
HSN			*e*S	**Sn**	**20 55 43.6**	**-0.5**
	baz=262					
LIOB	**Emei**	**0.83 250**	*i* P	**Pn**	**20 55 30.0**	**+0.3**
	baz=250					
LIOB			*e*S	**Sn**	**20 55 43.9**	**-0.3**
	baz=250					
NSTT	**Nanjuang**	**0.85 249**⇑	*i*P	**Pn**	**20 55 30.0**	**+0.2**
	baz=249					
NSTT			*e*S	**Sn**	**20 55 43.8**	**-0.6**
	baz=249					
TWD	**Chiawan**	**0.89 196**	*e*P	**Pn**	**20 55 30.0**	**-0.3**
	baz=196					
TWD			*e*S	**Sn**	**20 55 45.4**	**+0.3**
	baz=196					
TWT	**Tachien**	**0.93 223**	P	**Pn**	**20 55 31.6**	**+0.7**
	baz=224					
TWT			*e*S	**Sn**	**20 55 47.1**	**+0.9**
	baz=224					
TDCB	**Techi**	**0.94 224**	P	**Pn**	**20 55 31.8**	**+0.8**
	baz=224					
TDCB			*e*S	**Sn**	**20 55 46.1**	**-0.2**
	baz=224					
WHF	**Hehuan Shan**	**0.96 215**	P	**Pn**	**20 55 31.8**	**+0.3**
	baz=215					
WHF			*e*S	**Sn**	**20 55 46.9**	**-0.3**
	baz=215					
HWA	**Hwalien**	**0.99 194**	*e*P	**Pn**	**20 55 30.9**	**-0.4**
	baz=194					
HWA			*e*S	**Sn**	**20 55 49.0**	**+2.1**
	baz=194					
NMLH	**Miaoli**	**1.06 248**	P	**Pn**	**20 55 32.5**	**+0.4**
	baz=248					
NMLH			*e*S	**Sn**	**20 55 48.1**	**-0.2**
	baz=248					
CHGB	**Renai**	**1.08 216**	P	**Pn**	**20 55 33.2**	**+0.6**
	baz=216					
CHGB			*e*S	**Sn**	**20 55 49.7**	**+0.6**
	baz=216					
JYNG	**Yonagunijimaku**	**1.09 116**	P	**Pn**	**20 55 32.2**	**-0.2**
JYNG			*e*S	**Sn**	**20 55 47.3**	**-1.5**
NSY	**Sanyi**	**1.14 243**	P	**Pn**	**20 55 33.6**	**+0.7**
	baz=243					
NSY			*e*S	**Sn**	**20 55 50.2**	**+0.4**
	baz=243					
YOJ	**Yonaguni jima**	**1.14 114**	P	**Pn**	**20 55 32.8**	**-0.1**
YOJ			*e*S	**Sn**	**20 55 48.9**	**-0.9**
TWQ1	**Liyutan**	**1.16 240**	P	**Pn**	**20 55 33.7**	**+0.5**
	baz=240					
TWQ1			*e*S	**Sn**	**20 55 50.4**	**+0.2**
	baz=240					
PTSB	**Yuanli**	**1.17 246**	P	**Pn**	**20 55 33.8**	**+0.6**
	baz=245					
PTSB			*e*S	**Sn**	**20 55 51.1**	**+0.7**
	baz=245					
ESL	**Shilin**	**1.19 200**	*e*P	**Pn**	**20 55 32.3**	**-1.2**
	baz=199					
ESL			*e*S	**Sn**	**20 55 50.5**	**-0.3**
	baz=199					
DPDB	**Guoxing**	**1.25 224**	P	**Pn**	**20 55 35.1**	**+0.9**
	baz=224					
DPDB			*e*S	**Sn**	**20 55 52.8**	**+0.7**
	baz=224					
WDJ	**Dajia District**	**1.26 243**	*e*P	**Pn**	**20 55 34.9**	**+0.6**
	baz=242					
WDJ			*e*S	**Sn**	**20 55 52.3**	**0.0**
	baz=242					
EGFH	**Guangfu**	**1.33 198**	*e*P	**Pn**	**20 55 36.1**	**+1.0**
	baz=198					
EGFH			*e*S	**Sn**	**20 55 52.8**	**-0.9**
	baz=198					
TCU	**Taichung**	**1.34 234**	P	**Pn**	**20 55 35.9**	**+0.7**
	baz=234					
TCU			*e*S	**Sn**	**20 55 54.1**	**+0.1**
	baz=234					
VWDT	**VWDT**	**1.35 210**	P	**Pn**	**20 55 36.5**	**+1.1**
	baz=210					
VWDT			*e*S	**Sn**	**20 55 55.2**	**+1.1**
	baz=210					
SMLT	**Sun Moon Lake**	**1.37 220**	P	**Pn**	**20 55 36.4**	**+0.7**
	baz=220					
SMLT			*e*S	**Sn**	**20 55 54.9**	**+0.1**
	baz=220					
SSLB	**Suanglung**	**1.42 216**	P	**Pn**	**20 55 36.9**	**+0.7**
	baz=216					
SSLB			*e*S	**Sn**	**20 55 56.0**	**+0.4**
	baz=216					
WCHH	**Zhanghua**	**1.47 235**	P	**Pn**	**20 55 37.1**	**+0.3**
	baz=234					
WCHH			*e*S	**Sn**	**20 55 56.7**	**0.0**
	baz=234					
HGSD	**Ruisui**	**1.50 196**	*e*P	**Pn**	**20 55 37.6**	**+0.5**
	baz=196					
HGSD			*e*S	**Sn**	**20 55 58.0**	**+0.7**
	baz=196					
EHY	**Hungye**	**1.51 199**	*e*P	**Pn**	**20 55 37.8**	**+0.5**
	baz=199					
EHY			*e*S	**Sn**	**20 55 57.9**	**+0.3**
	baz=199					
WNT	**Mingjian**	**1.51 226**	P	**Pn**	**20 55 38.1**	**+0.8**
	baz=225					
WNT			*e*S	**Sn**	**20 55 57.9**	**+0.4**
	baz=225					
WJS	**Zhushan**	**1.52 223**	P	**Pn**	**20 55 38.1**	**+0.7**
	baz=223					
WJS			*e*S	**Sn**	**20 55 58.4**	**+0.6**
	baz=223					
WHYT	**Xinyi Township**	**1.55 217**	P	**Pn**	**20 55 38.7**	**+0.9**
	baz=217					
WHYT			*e*S	**Sn**	**20 55 59.3**	**+1.0**
	baz=217					
YULB	**Yu-li**	**1.62 199**	*e*P	**Pn**	**20 55 38.1**	**-0.6**
	baz=199					
YULB			*e*S	**Sn**	**20 56 00.3**	**+0.2**
	baz=199					
TWF1	**Yuli**	**1.66 198**	*e*P	**Pn**	**20 55 38.5**	**-0.6**
	baz=198					
TWF1			*e*S	**Sn**	**20 56 00.1**	**-0.8**
	baz=198					
ALS	**Alishan**	**1.72 215**	P	**Pn**	**20 55 41.2**	**+1.0**
	baz=214					
ALS			*e*S	**Sn**	**20 56 04.2**	**+1.6**
	baz=214					
CHN5	**Tsauling**	**1.72 219**	P	**Pn**	**20 55 40.8**	**+0.8**
	baz=219					
CHN5			*e*S	**Sn**	**20 56 03.6**	**+1.2**
	baz=219					
WGK	**Gukeng**	**1.73 224**	P	**Pn**	**20 55 40.7**	**+0.8**
	baz=223					
WGK			*e*S	**Sn**	**20 56 03.2**	**+0.9**
	baz=223					
RLNB	**Erlin**	**1.73 233**	P	**Pn**	**20 55 40.5**	**+0.6**
	baz=233					
RLNB			*e*S	**Sn**	**20 56 01.9**	**-0.3**
	baz=233					
WDLH	**Douliu**	**1.74 225**	P	**Pn**	**20 55 40.6**	**+0.5**
	baz=224					
WDLH			*e*S	**Sn**	**20 56 03.0**	**+0.5**
	baz=224					
IRIF	**Iriomote-Funau**	**1.79 109**	P	**Pn**	**20 55 41.0**	**+0.2**
IRIF			*e*S	**Sn**	**20 56 03.2**	**-0.6**
CHKT	**Chengkung**	**1.89 194**	*e*P	**Pn**	**20 55 41.7**	**-0.3**
	baz=194					
CHKT			*e*S	**Sn**	**20 56 04.1**	**-1.8**
	baz=194					
ELDTW	**Lidau**	**1.91 204**	*e*P	**Pn**	**20 55 43.1**	**+0.7**
	baz=204					
ELDTW			*e*S	**Sn**	**20 56 06.8**	**+0.2**
	baz=204					
CHY	**Chiayi**	**1.95 223**	P	**Pn**	**20 55 43.3**	**+0.5**
	baz=222					
CHY			*e*S	**Sn**	**20 56 07.9**	**+0.6**
	baz=222					
HATJ	**Hateruma jima**	**1.97 116**	P	**Pn**	**20 55 43.5**	**+0.5**
HATJ			*e*S	**Sn**	**20 56 08.2**	**+0.5**
PTTC	**Pingtan**	**1.98 287**	*e*P	**Pn**	**20 55 43.1**	**0.0**
	baz=286					
PTTC			*e*S	**Sn**	**20 56 05.9**	**-2.2**
	baz=286					
WSF	**Szhu**	**1.98 230**	*e*P	**Pn**	**20 55 44.2**	**+1.1**
	baz=229					
WSF			*e*S	**Sn**	**20 56 07.8**	**-0.3**
	baz=229					
TPUB	**Ta-pu**	**1.98 215**	P	**Pn**	**20 55 43.6**	**+0.4**
	baz=215					
TPUB			*e*S	**Sn**	**20 56 08.2**	**+0.1**
	baz=215					
WTP	**Ta-pu**	**2.04 215**	*e*P	**Pn**	**20 55 44.3**	**+0.3**
	baz=214					
WTP			*e*S	**Sn**	**20 56 09.4**	**0.0**
	baz=214					
STYT	**Tauyuan**	**2.04 210**	P	**Pn**	**20 55 44.5**	**+0.5**
	baz=210					
STYT			*e*S	**Sn**	**20 56 09.8**	**+0.4**
	baz=210					
WLGB	**Puzi**	**2.04 225**	*e*P	**Pn**	**20 55 44.4**	**+0.5**
	baz=224					
WLGB			*e*S	**Sn**	**20 56 09.9**	**+0.5**
	baz=224					
JKRS	**Kuro-shima**	**2.07 109**	P	**Pn**	**20 55 44.8**	**+0.6**
JKRS			S	**Sn**	**20 56 09.5**	**-0.5**
TWK	**Hsinying**	**2.09 218**	*e*P	**Pn**	**20 55 45.0**	**+0.4**
	baz=217					
TWK			*e*S	**Sn**	**20 56 10.9**	**+0.3**
	baz=217					
MATB	**Ma-tsu**	**2.12 305**	P	**Pn**	**20 55 44.7**	**-0.2**
	baz=304					
SNST	**Tainan City**	**2.12 217**	*e*P	**Pn**	**20 55 46.0**	**+1.1**
	baz=216					
SNST			*e*S	**Sn**	**20 56 10.9**	**-0.3**
	baz=216					
CHN1	**Nanshi**	**2.13 215**	P	**Pn**	**20 55 45.4**	**+0.3**
	baz=215					
CHN1			*e*S	**Sn**	**20 56 11.3**	**-0.2**
	baz=215					
JIJ	**Ishigaki jima**	**2.15 105**	P	**Pn**	**20 55 45.4**	**+0.2**
JIJ			S	**Sn**	**20 56 10.6**	**-1.1**
SGST	**Jiashian**	**2.19 213**	*e*P	**Pn**	**20 55 45.9**	**+0.1**
	baz=212					
SGST			*e*S	**Sn**	**20 56 11.9**	**-0.9**
	baz=212					
VWUC	**VWUC**	**2.20 272**	P	**Pn**	**20 55 45.9**	**0.0**
	baz=271					
VWUC			*e*S	**Sn**	**20 56 11.6**	**-1.4**
	baz=271					
TWG	**Pinlang**	**2.23 199**	*e*P	**Pn**	**20 55 47.2**	**+0.8**
	baz=199					
TWG			*e*S	**Sn**	**20 56 12.4**	**-1.3**
	baz=199					
TWGBT	**Beinan**	**2.23 199**	*e*P	**Pn**	**20 55 46.6**	**+0.2**
	baz=199					
TWGBT			*e*S	**Sn**	**20 56 12.5**	**-1.3**
	baz=199					
SLGT	**Liugui**	**2.24 210**	*e*P	**Pn**	**20 55 47.6**	**+1.1**
	baz=210					
SLGT			*e*S	**Sn**	**20 56 14.1**	**+0.2**
	baz=210					
JISG	**Ishigakijimahi**	**2.25 98**	P	**Pn**	**20 55 47.2**	**+0.7**
JISG			*e*S	**Sn**	**20 56 13.6**	**-0.5**
SSD	**Sandimen**	**2.46 208**	*e*P	**Pn**	**20 55 50.0**	**+0.6**
	baz=207					
SSD			*e*S	**Sn**	**20 56 19.3**	**+0.2**
	baz=207					
ECL	**Taimali**	**2.48 200**	P	**Pn**	**20 55 50.9**	**+1.3**
	baz=199					
ECL			*e*S	**Sn**	**20 56 17.9**	**-1.6**
	baz=199					
LYJJ	**Jianjiangzhen**	**2.49 311**	P	**Pn**	**20 55 50.1**	**+0.4**
	baz=310					
XPSS	**Dashiqiu**	**2.50 323**	*e*P	**Pn**	**20 55 51.0**	**+1.2**
	baz=322					
PTMZ	**Houxiangcun**	**2.50 273**	P	**Pn**	**20 55 49.6**	**-0.2**
	baz=272					
PTMZ			*e*S	**Sn**	**20 56 18.9**	**-1.1**
	baz=272					
PNG	**Penghu**	**2.52 238**	P	**Pn**	**20 55 49.8**	**-0.3**
	baz=237					
PNG			*e*S	**Sn**	**20 56 18.9**	**-1.5**
	baz=237					
PHUB	**P'eng-hu**	**2.53 236**	P	**Pn**	**20 55 49.8**	**-0.5**
	baz=236					
PHUB			*e*S	**Sn**	**20 56 18.3**	**-2.5**
	baz=236					
MASBT	**Mashibuluo**	**2.58 206**	P	**Pn**	**20 55 51.5**	**+0.6**
	baz=206					
MASBT			*e*S	**Sn**	**20 56 21.4**	**-0.5**
	baz=206					
JTJ	**Tarama**	**2.59 96**	*e*S	**Sn**	**20 56 22.0**	**-0.1**
WDGT	**Dungji**	**2.62 231**	*e*P	**Pn**	**20 55 51.2**	**-0.3**
	baz=230					
WDGT			*e*S	**Sn**	**20 56 21.4**	**-1.5**
	baz=230					
EAST	**Anshuo**	**2.71 200**	*e*P	**Pn**	**20 55 53.8**	**+1.1**
	baz=200					
EAST			*e*S	**Sn**	**20 56 26.4**	**+1.4**
	baz=200					
TAW	**Tawu**	**2.72 199**	*e*P	**Pn**	**20 55 54.2**	**+1.4**
	baz=199					
TAW			*e*S	**Sn**	**20 56 23.7**	**-1.5**
	baz=199					
SCZT	**Fangliau**	**2.80 204**	*e*P	**Pn**	**20 55 54.3**	**+0.5**
	baz=204					
SCZT			*e*S	**Sn**	**20 56 26.2**	**-0.9**
	baz=204					
VCHM	**Qimei**	**2.82 233**	*e*P	**Pn**	**20 55 53.8**	**-0.3**
	baz=232					
VCHM			*e*S	**Sn**	**20 56 26.0**	**-1.5**
	baz=232					
LAY	**Lan-yu**	**2.90 186**	*e*P	**Pn**	**20 55 54.6**	**-0.6**
	baz=185					
LAY			*e*S	**Sn**	**20 56 26.4**	**-3.2**
	baz=185					
JIRB	**Irabujima**	**3.00 91**	S	**Sn**	**20 56 32.3**	**+0.5**
JMJ2	**Miyako jima3**	**3.15 93**	P	**Pn**	**20 55 59.5**	**+1.1**
JMJ2			S	**Sn**	**20 56 36.1**	**+0.8**
KNM	**Kinmen**	**3.17 261**	*e*P	**Pn**	**20 56 00.1**	**+1.4**
	baz=260					
KNM			*e*S	**Sn**	**20 56 37.4**	**+1.5**
	baz=260					
KNMB	**Chin-men Tao**	**3.20 262**	P	**Pn**	**20 55 59.0**	**-0.2**
	baz=261					
AXDP	**Jialang**	**3.54 270**	P	**Pn**	**20 56 04.0**	**+0.3**
	baz=269					
AXDP			*e*S	**Sn**	**20 56 42.8**	**-1.9**
	baz=269					

TAP 29 20:57:18.6, 24°.89N × 121°.99E, h10km, ML1.6, 2C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EGS		**0.07**	**230**	*i* P	Pg	20 57 21.2	+0.4
	baz=222						
EGS				*i* S	Sg	20 57 23.2	+0.9
	baz=222						
TWB1	**Santiao Chiao**	**0.12**	**359**⇑	*i*P	Pg	20 57 22.1	+0.7
	baz=3.0						
TWB1				S	Sg	20 57 24.3	+0.9
	baz=3.0						
NTC	**Toucheng**	**0.15**	**257**	P	Pg	20 57 22.6	+0.7
	baz=256						
NTC				*e*S	Sg	20 57 25.2	+1.0
	baz=256						
TIPB	**Shuangxi**	**0.17**	**299**⇑	P	Pg	20 57 23.4	+1.1
	baz=299						
TIPB				S	Sg	20 57 26.4	+1.5
	baz=299						
NWF	**Wu-fen Shan**	**0.26**	**314**	*e*P	Pb	20 57 25.4	-0.2
	baz=314						
NWF				*e*S	Sb	20 57 29.6	-0.5
	baz=314						
WFSB	**Wu-fen Shan**	**0.26**	**314**	*e*P	Pb	20 57 25.3	-0.2
	baz=313						
WFSB				*e*S	Sb	20 57 29.6	-0.5
	baz=313						
TWC	**Suao**	**0.31**	**205**	*e*P	Pb	20 57 25.9	-0.3
	baz=202						
TWE	**Neicheng**	**0.34**	**240**	*e*P	Pg	20 57 25.8	+0.4
	baz=238						
TWE				*e*S	Sg	20 57 30.3	+0.5
	baz=238						
NWLT	**Wulai**	**0.46**	**256**	*e*P	Pg	20 57 27.4	-0.1
	baz=255						
NWLT				*e*S	Sg	20 57 33.9	+0.3
	baz=255						
YM11	**YM11**	**0.47**	**306**	*e*P	Pb	20 57 29.4	+0.3
	baz=306						
YM08	**YM08**	**0.47**	**309**	*e*P	Pb	20 57 29.2	+0.2
	baz=309						
YM04	**YM04**	**0.49**	**303**	*e*P	Pb	20 57 29.6	+0.2
	baz=302						
YM03	**YM03**	**0.50**	**305**	*e*P	Pb	20 57 29.3	-0.3
	baz=305						
ENA	**Nanau**	**0.51**	**206**	*e*P	Pb	20 57 29.6	-0.1
	baz=205						
NDT	**Datong Townshi**	**0.52**	**237**	*e*P	Pb	20 57 29.9	+0.1
	baz=236						
NDT				*e*S	Sb	20 57 37.3	-0.1
	baz=236						
TWY	**Chenhua**	**0.52**	**317**	*e*P	Pb	20 57 30.0	+0.1
	baz=317						
YHNB	**Yeheng**	**0.60**	**249**	*e*P	Pg	20 57 30.3	+0.1
	baz=248						
YHNB				*e*S	Sg	20 57 38.0	-0.2
	baz=248						
NSK	**Sanguang**	**0.61**	**250**	*e*P	Pg	20 57 30.4	-0.1
	baz=249						
NSK				*e*S	Sb	20 57 40.5	+0.3
	baz=249						
NNSB	**Datong**	**0.72**	**230**	*e*P	Pg	20 57 32.8	+0.3
	baz=230						
NNSB				*e*S	Sb	20 57 44.0	+0.7
	baz=230						
NNSH	**Datong**	**0.72**	**230**	*e*P	Pg	20 57 32.9	+0.4
	baz=230						
NACB	**Ninganchiao**	**0.80**	**207**	*e*P	Pb	20 57 34.8	+0.2
	baz=206						

JMA 29 20:57:23.0±0.2, 24°.90N × 123°.29E, h27km, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.51**	**210**	P	Pb	20 57 33.1	-0.3
YOJ				*e*S	Sb	20 57 39.7	-0.7
IRIF	**Iriomote-Funau**	**0.69**	**144**	P	Pb	20 57 36.1	-0.4
IRIF				S	Sb	20 57 45.4	-0.2
JKRS	**Kuro-shima**	**0.93**	**135**	P	Pn	20 57 39.8	-0.5
JKRS				*e*S	Sn	20 57 53.4	+0.7
JIJ	**Ishigaki jima**	**0.94**	**124**	S	Sn	20 57 53.4	+0.4
JISG	**Ishigakijimahi**	**0.98**	**108**	P	Pn	20 57 40.6	-0.4
JISG				*e*S	Sb	20 57 53.4	-0.5

*IDC **29** 21:16:35.3±1.5, 28°.06N × 143°.21E, h0km, mb3.5/6, mb1 3.7/8, mb1mx3.5/37, mbtmp3.5/8, ML3.2/2, Error ellipse: s-maj=44.2km s-min=24.4km az=78.0*

ISC 29 21:16:38.8±1.4, 28°.1N±0°.2×143°.1E±0°.3, h22km, n8, σ0s96/8, mb3.5/6, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**9.37**	**335**	Pn	**Pn**	**21 18 51.5**	**-0.9**
	0.1nm,0.3s,baz=159,slow=10,SNR=6.7						
KSRS	**Korea Array**	**15.77**	**310**	Pn	**P**	**21 20 22.6**	**-0.6**
	0.2nm,0.3s,baz=121,slow=11,SNR=4.3						
KLR	**Kul'dur**	**22.82**	**341**	P	**P**	**21 21 41.8**	**+1.6**
	0.6nm,0.5s,baz=218,slow=8.0,SNR=3.8						
SONM	**Songino Array**	**34.55**	**315**	P	**P**	**21 23 26.4**	**+0.6**
	0.5nm,0.7s,baz=114,slow=7.1,SNR=2.5						
WRA	**Warramunga Arr**	**48.50**	**191**	P	**P**	**21 25 20.0**	**-0.1**
	1.6nm,0.8s,baz=11,slow=8.4,SNR=8.5						
ZALV	**Zalesovo Beam**	**49.25**	**318**	P	**P**	**21 25 25.9**	**+0.3**
	0.3nm,0.4s,baz=107,slow=5.0,SNR=2.2						
MKAR	**Makanchi Array**	**50.45**	**309**	P	**P**	**21 25 34.8**	**-0.1**
	0.2nm,0.5s,baz=86,slow=7.4,SNR=2.3						
ILAR	**Eielson Array**	**56.45**	**29**	P	**P**	**21 26 18.2**	**-0.4**
	0.4nm,0.8s,baz=262,slow=6.3,SNR=3.8						

*GUC **29** 21:26:32.6±0.5, 23°.10S × 67°.10W, h242km±6km, ML3.9*
*IDC **29** 21:26:32.7±2.6, 23°.03S × 66°.73W, h211km±30km, mb3.1/1, mb1 3.2/4, mb1mx3.0/30, mbtmp3.7/4, Error ellipse: s-maj=32.1km s-min=23.1km az=104.0*

ISC 29 21:26:32.9±1.2, 23°.07S±0°.06×67°.0W±0°.1, h225km±16km, n21, σ0s83/36, 11C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.80**	**284**	*e*P	**Pn**	**21 27 11.9**	**0.0**
LVC				*i* S	**S**	**21 27 42.1**	**0.0**
PB15	**IPOC Station P**	**2.26**	**266**⇑	*i*P	**Pn**	**21 27 16.5**	**+0.3**
PB15				*i* S	**S**	**21 27 50.1**	**+0.3**
PB06	**IPOC Station P**	**2.38**	**278**⇑	*i*P	**Pn**	**21 27 17.7**	**+0.3**
PB06				*e*S	**S**	**21 27 51.8**	**-0.1**
PB06				IAML		21 27 57.1	
	comp=N,237nm,0.2s						
PB09	**IPOC Station P**	**2.41**	**301**⇑	*i*P	**Pn**	**21 27 18.6**	**+0.9**
PB09				*e*S	**S**	**21 27 53.1**	**+0.5**
PB03	**IPOC Station P**	**2.72**	**291**⇑	*i*P	**Pn**	**21 27 21.3**	**+0.3**
PB03				*i* S	**S**	**21 27 57.7**	**-0.7**
PB03				IAML		21 28 00.3	
	comp=N,209nm,0.1s						
PB05	**IPOC Station P**	**2.94**	**274**⇑	*i*P	**Pn**	**21 27 23.6**	**+0.3**
PB05				*i* S	**S**	**21 28 01.9**	**-0.8**
PB07	**IPOC Station P**	**2.97**	**296**⇑	*i*P	**Pn**	**21 27 24.2**	**+0.4**
PB07				*i* S	**S**	**21 28 02.3**	**-1.1**
PB04	**IPOC Station P**	**2.98**	**284**⇑	*i*P	**Pn**	**21 27 24.3**	**+0.4**
PB04				*i* S	**S**	**21 28 03.0**	**-0.7**
PB01	**IPOC Station P**	**3.05**	**311**⇑	*i*P	**Pn**	**21 27 24.9**	**+0.3**
PB01				*e*S	**S**	**21 28 04.7**	**-0.3**
GO02	**Mina Guanaco**	**3.14**	**228**⇑	*i*P	**Pn**	**21 27 25.8**	**0.0**
GO02				*i* S	**S**	**21 28 07.0**	**-0.2**
PB02	**IPOC Station P**	**3.18**	**303**⇑	*i*P	**Pn**	**21 27 26.3**	**+0.2**
PB02				*e*S	**S**	**21 28 06.3**	**-1.4**
PB10	**IPOC Station P**	**3.28**	**262**	*e*P	**Pn**	**21 27 27.3**	**+0.2**
PB10				*e*S	**S**	**21 28 08.2**	**-1.3**
PB08	**IPOC Station P**	**3.52**	**325**⇑	*i*P	**Pn**	**21 27 31.4**	**+1.0**
PB08				*i* S	**S**	**21 28 16.2**	**+0.8**
TA01	**Diego Aracena**	**3.85**	**310**	*e*P	**Pn**	**21 27 33.3**	**-0.6**
GO01	**Chusmiza**	**3.94**	**329**	*e*P	**Pn**	**21 27 36.0**	**+0.5**
GO01				*i* S	**S**	**21 28 25.4**	**+0.8**
PB11	**IPOC Station P**	**4.10**	**323**	*e*P	**Pn**	**21 27 36.7**	**-0.4**
LPAZ	**La Paz**	**6.82**	**351**	P	**Pn**	**21 28 12.3**	**+0.6**
	comp=N,0.6nm,0.3s,baz=176,slow=8.0,SNR=20						
LPAZ				S	**S**	**21 29 29.4**	**-1.1**
	comp=N,0.1nm,0.3s,baz=258,slow=20,SNR=2.0						
PLCA	**Paso Flores**	**17.86**	**189**	P	**P**	**21 30 27.1**	**+1.4**
	comp=N,0.1nm,0.3s,baz=358,slow=14,SNR=3.3						
BDFB	**Brasilia**	**19.39**	**71**	P	**P**	**21 30 40.2**	**-2.1**
	comp=N,0.4nm,0.3s,baz=245,slow=10.0,SNR=8.0						
TORD	**Torodi Ar. Bea**	**76.26**	**69**	P	**P**	**21 37 56.8**	**-0.4**
	comp=N,0.2nm,0.4s,baz=254,slow=4.8,SNR=7.3						
MKAR	**Makanchi Array**	**145.82**	**39**	PKPbc	**PKPdf**	**21 45 46.2**	**+1.5**
	comp=N,0.5nm,1.0s,baz=325,slow=2.4,SNR=2.4						

*IDC **29** 21:30:17.3±1.2, 55°.39S × 27°.72W, h0km, mb3.9/2, mb1 4.0/2, mb1mx3.6/28, mbtmp3.9/2, MS3.5/1, Ms1 3.4/1, ms1mx3.0/18, Error ellipse: s-maj=88.1km s-min=34.2km az=104.0*

ISC 29 21:30:18.5±1.4, 55°.3S±0°.2×28°.1W±0°.5, h10km, n7, σ0s82/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA3	**Neumayer Olymp**	**17.86**	**161**	P	**P**	**21 34 28.2**	**+0.8**
SNAA	**Sanae**	**19.62**	**156**	P	**Pn**	**21 34 47.9**	**-0.3**
MAW	**Mawson**	**41.05**	**144**	LR	LR	21 53 38.0	
	comp=Z,58nm,18.1s,baz=26,slow=34						
VNDA	**Vanda**	**47.28**	**183**	P	**P**	**21 38 51.1**	**-0.2**
	0.4nm,0.7s,baz=180,slow=7.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	**72.67**	**30**	P	**P**	**21 41 46.5**	**+0.2**
	1.8nm,0.7s,baz=203,slow=6.3,SNR=15						
ILAR	**Eielson Array**	**149.24**	**313**	PKPbc	**PKPbc**	**21 50 06.2**	**+0.5**
	1.4nm,0.8s,baz=128,slow=1.8,SNR=13						
SONM	**Songino Array**	**151.19**	**86**	PKPbc	**PKiKP**	**21 50 10.7**	**-1.0**
	0.6nm,0.6s,baz=222,slow=1.9,SNR=3.0				

mb4.1/5, Error ellipse: s-maj=11.9km s-min=7.3km az=223.0
*DJA **29** 21:42:35.8±0.3, 9°S×4°×11°8E±°, h120km±6km, M4.5/14, mB4.8/1, mb4.6/6, MLv4.5/14, Mw(mB)4.1/1*
*IDC **29** 21:42:36.7±1.6, 8°54S×118°59E, h145km±13km, mb3.5/7, mb1 3.6/11, mb1mx3.3/46, mbtmp4.0/11, Error ellipse: s-maj=19.4km s-min=9.5km az=61.0*

ISC 29 21:42:35.8±0.6, 8°69S±0°05×118°40E±0°06, h152km, n36, σ2$24/45, mb3.6/7, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PLAI	**Plampang**	**0.63**	**257**	P	**Pn**		**21 42 55.6**	**-2.5**
PLAI				S	**Sn**		**21 43 10.3**	**-4.8**
WBSI	**Waikabubak, Su**	**1.36**	**134**	P	**Pn**		**21 43 02.2**	**-2.0**
WBSI				S	**Sn**		**21 43 23.0**	**-2.9**
WSI	**Waingapu**	**2.11**	**118**	P	**Pn**		**21 43 11.0**	**-1.4**
BASI	**Baing, Sumba**	**2.63**	**125**	P	**Pn**		**21 43 18.5**	**-0.2**
DNP	**Denpasar**	**3.15**	**270**	P	**Pn**		**21 43 24.6**	**-0.6**
EDFI	**Ende, Flores**	**3.25**	**91**	P	**Pn**		**21 43 26.4**	**-0.2**
KAPI	**Kappang**	**3.89**	**20**	P	**Pn**		**21 43 33.9**	**-0.8**
	12nm,0.3s,baz=197,slow=7.5,SNR=22							
KAPI				S	**Sn**		**21 44 15.2**	**-5.3**
	baz=31,slow=22,SNR=1.0							
KAPI	**Kappang**	**3.89**	**20**		**Pn**		**21 43 32.1**	**-2.6**
JAGI	**Jajag, Banyuwa**	**4.21**	**273**	P	**Pn**		**21 43 36.7**	**-2.2**
JAGI	**Jajag, Banyuwa**	**4.21**	**273**		**Pn**		**21 43 35.7**	**-3.1**
BNSI	**Bone**	**4.53**	**22**	P	**Pn**		**21 43 44.1**	**+0.3**
SPSI	**Sidrap Palu**	**4.89**	**16**	P	**Pn**		**21 43 47.1**	**-0.7**
BATI	**Baumata**	**5.41**	**107**	P	**Pn**		**21 43 54.9**	**+0.1**
	40nm,0.3s,baz=306,slow=4.0,SNR=47							
BATI				S	**Sn**		**21 44 54.8**	**-1.6**
	26nm,0.3s,baz=219,slow=22,SNR=9.7							
BATI	**Baumata**	**5.41**	**107**	P	**Pn**		**21 43 55.0**	**+0.3**
	0.4nm1µm76nm,0.6s							
TTSI	**Tana Toraja**	**5.78**	**14**	P	**Pn**		**21 44 01.2**	**+1.5**
	0.1nm42nm,0.8s							
SOEI	**Soe**	**5.89**	**101**	P	**Pn**		**21 44 01.1**	**-0.1**
	0.4nm141nm,0.7s							
SOEI	**Soe**	**5.89**	**101**		**Pn**		**21 44 00.2**	**-1.1**
WOJI	**Wonogiri, Jawa**	**7.45**	**276**	P	**Pn**		**21 44 20.9**	**-1.0**
	0.3nm40nm,1.8s							
UGM	**Wanagama**	**7.83**	**275**	P	**Pn**		**21 44 26.1**	**-1.0**
CISI	**Cisompet, Garu**	**10.54**	**275**	Pn	**Pn**		**21 45 01.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**11.71**	**144**	P	**Pn**		**21 45 18.7**	**+0.4**
	0.2nm,0.3s,baz=335,slow=12,SNR=14							
FITZ				S	**Sn**		**21 47 20.2**	**-7.5**
	1.2nm,0.3s,baz=330,slow=20,SNR=8.3							
KNRA	**Kununurra**	**12.29**	**125**	Pn	**Pn**		**21 45 25.3**	**-0.4**
PSA00	**Pilbara Seismi**	**12.89**	**174**	Pn	**Pn**		**21 45 33.3**	**-0.3**
MTN	**Manton Dam**	**13.17**	**109**		**Pn**		**21 45 36.9**	**-0.4**
WB0	**Warramunga Arr**	**19.00**	**127**	P	**P**		**21 46 45.7**	**-0.2**
WRA	**Warramunga Arr**	**19.05**	**128**	P	**P**		**21 46 47.1**	**+0.6**
	0.6nm,0.3s,baz=253,slow=10,SNR=24							
WRA				S	**S**		**21 50 14.2**	**-0.6**
	0.3nm,0.3s,baz=313,slow=23,SNR=5.2							
WRA				ScP	**ScP**		**21 54 28.9**	**+2.1**
	0.1nm,0.3s,baz=313,slow=1.4,SNR=3.2							
WB2	**Warramunga Arr**	**19.06**	**128**	P	**Pn**		**21 46 47.7**	**-1.4**
WB2				IAmb	IAmb		21 47 32.2	
	comp=Z,15nm,1.2s							
WR0	**Warramunga Arr**	**19.22**	**127**	P	**P**		**21 46 47.9**	**-0.5**
WR0				IAmb	IAmb		21 46 53.2	
	comp=Z,7.8nm,0.8s							
ASAR	**Alice Springs**	**21.03**	**137**	P	**P**		**21 47 10.5**	**+2.7**
	comp=Z,0.9nm,0.4s,baz=312,slow=9.4,SNR=20							
ASAR				S	**S**		**21 50 55.2**	**+1.8**
	comp=Z,0.4nm,0.6s,baz=317,slow=26,SNR=2.3							
ASAR				ScP	**ScP**		**21 54 34.3**	**+2.9**
	comp=Z,1.1nm,0.7s,baz=330,slow=2.2,SNR=9.1							
NWAO	**Narrogin (SRO)**	**24.14**	**182**	P	**P**		**21 47 40.0**	**+2.2**
	comp=Z,11nm,0.7s,baz=10,slow=7.4,SNR=6.6							
KSRS	**Korea Array**	**46.76**	**10**	P	**P**		**21 50 51.0**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=195,slow=8.8,SNR=2.1							
USRK	**Ussuriysk Ar.**	**54.06**	**12**	P	**P**		**21 51 45.7**	**+1.2**
	comp=Z,0.8nm,0.5s,baz=204,slow=3.2,SNR=2.4							
MKAR	**Makanchi Array**	**63.91**	**333**	P	**P**		**21 52 52.2**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=145,slow=5.8,SNR=1.7							
MAW	**Mawson**	**69.33**	**200**	P	**P**		**21 53 28.4**	**+2.0**
	comp=Z,1.3nm,0.7s,baz=54,slow=9.7,SNR=4.0							
VNDA	**Vanda**	**72.39**	**171**	P	**P**		**21 53 48.1**	**+3.3**
	comp=Z,0.4nm,0.4s,baz=313,slow=8.2,SNR=8.5							
TORD	**Torodi Ar. Bea**	**117.82**	**280**	PKP	**PKiKP**		**22 01 05.7**	**+0.4**
	comp=Z,0.8nm,1.0s,baz=108,slow=0.9,SNR=2.4							

*MAN **29** 21:44:06.7, 14°00N×120°47E, h118km, mb4.7, ML3.6, MS3.4*
*IDC **29** 21:44:07.3±0.8, 13°95N×120°53E, h136km±9km, mb3.3/7, mb1 3.5/7, mb1mx3.2/46, mbtmp3.8/7, Error ellipse: s-maj=38.9km s-min=18.5km az=62.0*

ISC 29 21:44:07.1±0.8, 13°99N±0°05×120°41E±0°08, h130km±6km, n20, σ1$41/30, mb3.6/7, 3C-1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
LUBP	**Lubang**	**0.30**	**211**	*eP*	**Pn**		**21 44 25.6**	**+0.4**
TGY	**Tagaytay City**	**0.53**	**78**	P	**Pn**		**21 44 26.3**	**-0.2**
	844nm,0.3s,baz=224,slow=17,SNR=55							
TGY				S	**Sn**		**21 44 43.5**	**+2.5**
	375nm,0.3s,baz=238,slow=19,SNR=6.3							
TGY	**Tagaytay City**	**0.53**	**78**	*eP*	**Pn**		**21 44 26.2**	**-0.2**
TGY				*eS*	**Sn**		**21 44 40.0**	**-1.0**
PGP	**Puerto Galera**	**0.72**	**132**	*eP*	**Pn**		**21 44 27.1**	**-0.6**
PGP				*eS*	**Sn**		**21 44 42.1**	**-1.2**
LQP	**Lukban**	**1.11**	**84**	*iP*	**Pn**		**21 44 32.0**	**+0.7**
LQP				*iS*	**Sn**		**21 44 52.5**	**+3.0**
BOAC	**Boac**	**1.50**	**111**	*eP*	**Pn**		**21 44 34.1**	**-1.0**
BOAC				*eS*	**Sn**		**21 44 55.2**	**-1.3**
SJMP	**San Jose**	**1.67**	**155**	*eP*	**Pn**		**21 44 37.3**	**+0.1**
SJMP				*eS*	**Sn**		**21 44 57.5**	**-2.7**
SCZP	**Santa Cruz**	**1.84**	**345**	*eP*	**Pn**		**21 44 38.9**	**-0.2**
SCZP				*eS*	**Sn**		**21 45 03.3**	**-0.3**
BALP	**Baler**	**2.08**	**33**	*eP*	**Pn**		**21 44 41.2**	**-0.8**
BALP				*eS*	**Sn**		**21 45 08.1**	**-0.7**
SMPP	**San Manuel, Pa**	**2.16**	**7**	*eP*	**Pn**		**21 44 42.4**	**-0.7**
SMPP				*eS*	**Sn**		**21 45 08.7**	**-2.1**
OTRP	**Odiongan**	**2.26**	**136**	*eP*	**Pn**		**21 44 43.4**	**-0.9**
OTRP				*eS*	**Sn**		**21 45 11.3**	**-1.5**
RCP	**Roxas**	**3.32**	**136**	P	**Pn**		**21 45 00.7**	**+2.7**
CNOP	**Candoni, Negro**	**4.68**	**152**	*eP*	**Pn**		**21 45 15.9**	**-0.1**
CMAR	**Chiang Mai Arr**	**21.08**	**285**	P	**P**		**21 48 42.6**	**+1.4**
	2.4nm,0.9s,baz=98,slow=7.7,SNR=18							
SONM	**Songino Array**	**35.70**	**344**	P	**P**		**21 50 53.1**	**0.0**
	0.2nm,0.3s,baz=168,slow=8.5,SNR=1.7							
ASAR	**Alice Springs**	**39.69**	**160**	P	**P**		**21 51 26.1**	**-0.7**
	1.0nm,0.4s,baz=340,slow=6.7,SNR=11							
MKAR	**Makanchi Array**	**45.63**	**324**	P	**P**		**21 52 15.8**	**+1.3**
	0.2nm,0.3s,baz=111,slow=7.9,SNR=8.3							
ZALV	**Zalesovo Beam**	**48.67**	**333**	P	**P**		**21 52 38.7**	**+0.9**
	0.5nm,0.4s,baz=122,slow=7.9,SNR=2.8							
ARCES	**ARCESS Array B**	**78.71**	**339**	P	**P**		**21 55 54.6**	**0.0**
	1.0nm,0.9s,baz=81,slow=7.5,SNR=5.5							
FINES	**FINESS Array B**	**79.89**	**331**	P	**P**		**21 55 59.9**	**-1.3**
	1.1nm,0.8s,baz=50,slow=6.0,SNR=5.7							

IDC 29 22:01:00.2±4.0, 28°49S×177°85W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.6/24, mbtmp3.7/2, Error ellipse: s-maj=82.4km s-min=21.9km az=73.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
RAO	**Raoul Island**	**0.76**	**185**	Pn	**Pn**		**22 01 18.5**	**+0.3**
	117nm,0.3s,baz=75,slow=20,SNR=3.1							
RAO				Sn	**Sn**		**22 01 31.0**	**+0.6**
	260nm,0.3s,baz=80,slow=21,SNR=4.4							
ASAR	**Alice Springs**	**43.38**	**265**	P	**P**		**22 09 03.6**	**-1.0**
	0.4nm,0.6s,baz=83,slow=7.6,SNR=1.7							
WRA	**Warramunga Arr**	**44.19**	**270**	P	**P**		**22 09 11.6**	**+0.4**
	1.1nm,0.4s,baz=110,slow=7.8,SNR=17							
FINES	**FINESS Array B**	**143.40**	**341**	PKP	**PKPdf**		**22 20 34.9**	**-1.1**
	0.9nm,0.5s,baz=38,slow=2.5,SNR=9.2							

*NEIC **29** 22:25:15.8±1.8, 15°29N±0°05×120°31E±0°08, h10km±1km, mb4.1/11, Error ellipse: s-maj=13.2km s-min=7.8km az=287.0*
*MAN **29** 22:25:16.0, 15°18N×120°38E, h1km, mb5.1, ML4.0, MS4.1*
MAN Intensity III - Clark Pampanga.
*IDC **29** 22:25:22.7±1.3, 15°15N×120°58E, h75km±12km, mb3.7/12, mb1 3.9/12, mb1mx3.5/40, mbtmp4.0/12, MS3.3/3,*

Ms1 3.4/3, ms1mx2.8/36, Error ellipse: s-maj=35.1km s-min=14.6km az=67.0

ISC 29 22:25:17.5±1.2, 15°26N±0°03×120°50E±0°04, h24km±10km, n41, σ1$85/53, mb4.0/15, MS3.4/3, 3C-4D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
PCPH	**Palayan**	**0.65**	**62**	*iP*	**Pn**		**22 25 31.3**	**+0.2**
PCPH				*i* S	**Sb**		**22 25 39.5**	**+0.8**
SCZP	**Santa Cruz**	**0.77**	**312**	*eP*	**Pb**		**22 25 30.5**	**-1.7**
SCZP				*eS*	**Sn**		**22 25 42.4**	**-1.2**
SMPP	**San Manuel, Pa**	**0.90**	**11**	*eP*	**Pb**		**22 25 33.4**	**-1.1**
SMPP				*eS*	**Sb**		**22 25 44.5**	**-1.6**
BALP	**Baler**	**1.14**	**65**	*eP*	**Pn**		**22 25 38.1**	**+0.2**
BALP				*eS*	**Sb**		**22 25 53.8**	**+0.9**
TGY	**Tagaytay City**	**1.23**	**160**	P	**Pb**		**22 25 41.0**	**+1.0**
	215nm,0.3s,baz=277,slow=1.9,SNR=7.5							
TGY				S	**Sn**		**22 25 58.2**	**+3.2**
	550nm,0.3s,baz=345,slow=22,SNR=6.7							
TGY				LR	LR		22 26 18.3	
	comp=Z,372nm,20.9s,baz=359,slow=51							
TGY	**Tagaytay City**	**1.23**	**160**	*eP*	**Pb**		**22 25 41.5**	**+1.5**
BOLP	**Bolinao**	**1.25**	**333**	*eP*	**Pb**		**22 25 39.1**	**-1.2**
BOLP				*eS*	**Sn**		**22 25 59.7**	**+4.2**
POLP	**Polilio Island**	**1.49**	**111**	*eP*	**Pb**		**22 25 44.3**	**-0.1**
POLP				*eS*	**Sn**		**22 25 59.4**	**-2.0**
LQP	**Lukban**	**1.52**	**139**	*iP*	**Pb**		**22 25 44.7**	**-0.4**
LQP				*i* S	**Sn**		**22 26 03.0**	**+0.5**
PGP	**Puerto Galera**	**1.80**	**166**	*eP*	**Pb**		**22 25 48.6**	**-1.3**
PGP				*eS*	**Sb**		**22 26 11.3**	**-0.7**
CAUP	**Cauayan**	**2.10**	**37**	*eP*	**Pb**		**22 25 53.3**	**-1.6**
CAUP				*eS*	**Sb**		**22 26 23.3**	**+2.8**
GQP	**Guinayangan**	**2.31**	**125**	*eP*	**Pb**		**22 25 58.1**	**-0.5**
GQP				*i* S	**Sb**		**22 26 26.1**	**-0.7**
ABRA	**Dolores**	**2.38**	**5**	*eP*	**Pb**		**22 25 58.2**	**-1.5**
ABRA				*eS*	**Sb**		**22 26 27.8**	**-0.9**
SIPP	**Brgy, Tapao**	**2.65**	**359**	*eP*	**Pb**		**22 26 02.4**	**-1.8**
SIPP				*eS*	**Sb**		**22 26 43.7**	**+7.4**
APYP	**Conner**	**2.68**	**15**	*eP*	**Pb**		**22 26 02.5**	**-2.2**
APYP				*eS*	**Sn**		**22 26 33.6**	**+2.7**
CVP	**Callao Caves**	**2.74**	**27**	*eP*	**Pb**		**22 26 02.9**	**-2.8**
JOW	**Kunigami**	**13.60**	**31**	Pn	**Pn**		**22 28 29.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**20.87**	**282**	P	Pn		22 30 00.5	-0.1
	2.1nm,0.3s,baz=90,slow=9.6,SNR=7.6							
CMAR				LR	LR		22 38 17.9	
	comp=Z,60nm,18.6s,baz=170,slow=37							
LEM	**Lembang**	**25.39**	**211**	P	**P**		**22 30 43.0**	**-0.3**
	14nm,0.6s,baz=162,slow=20,SNR=1.5							
BATI	**Baumata**	**25.50**	**173**	P	**P**		**22 30 43.1**	**-1.1**
	14nm,0.5s,baz=84,slow=9.2,SNR=2.2							
USA0B	**Ussuriysk Arra**	**30.45**	**16**	P	**P**		**22 31 28.5**	**+0.3**
SONM	**Songino Array**	**34.52**	**343**	P	**P**		**22 32 06.5**	**+2.6**
	0.3nm,0.5s,baz=155,slow=10,SNR=1.8							
WB0	**Warramunga Arr**	**37.40**	**158**	P	**P**		**22 32 27.3**	**-1.4**
WRA	**Warramunga Arr**	**37.54**	**158**	P	**P**		**22 32 28.2**	**-1.8**
	1.9nm,0.7s,baz=334,slow=9.4,SNR=8.9							
WB2	**Warramunga Arr**	**37.54**	**158**	P	**P**		**22 32 28.3**	**-1.6**
WR0	**Warramunga Arr**	**37.62**	**158**	P	**P**		**22 32 29.3**	**-1.3**
WR0				IAmb	IAmb		22 32 41.9	
	comp=Z,5.2nm,1.1s							
AS31	**Alice Springs**	**40.85**	**161**	P	**P**		**22 32 56.5**	**-1.0**
ASAR	**Alice Springs**	**40.85**	**161**	P	**P**		**22 32 56.7**	**-0.9**
	comp=Z,2.2nm,0.8s,baz=342,slow=6.8,SNR=23							
MK31	**Makanchi Array**	**44.67**	**323**	P	**P**		**22 33 29.6**	**+1.2**
MKAR	**Makanchi Array**	**44.67**	**323**	P	**P**		**22 33 29.5**	**+1.1**
	comp=Z,0.7nm,0.8s,baz=116,slow=8.2,SNR=4.9							
MAKZ	**Makanchi**	**44.87**	**323**	P	**P**		**22 33 29.6**	**-0.3**
MAKZ				IAmb	IAmb		22 33 35.6	
	comp=Z,1.9nm,1.1s							
ZAA0	**Zalesovo Array**	**47.59**	**332**	P	**P**		**22 33 51.1**	**-0.1**
ZALV	**Zalesovo Beam**	**47.59**	**332**	P	**P**		**22 33 51.2**	**0.0**
	comp=Z,0.7nm,0.6s,baz=132,slow=8.2,SNR=3.7							
KURK	**Kurchatov**	**48.80**	**326**	P	**P**		**22 34 00.3**	**-0.3**
KK31	**Karatay Array**	**50.76**	**314**	P	**P**		**22 34 15.2**	**-0.5**
KK31				IAmb	IAmb		22 34 17.4	
	comp=Z,1.8nm,0.7s							
KKAR	**Karatay Array**	**50.76**	**314**	P	**P**		**22 34 15.2**	**-0.5**
KKAR				IAmb	IAmb		22 34 17.4	
	comp=Z,1.8nm,0.7s							
NRIK	**Noril'sk**	**57.86**	**347**	LR	LR		23 01 01.7	
	comp=Z,40nm,20.7s,baz=153,slow=37							
ARCES	**ARCESS Array B**	**77.57**	**339**	P	**P**		**22 37 11.2**	**+0.1**
	comp=Z,1.6nm,0.9s,baz=72,slow=5.9,SNR=3.6							
FINES	**FINESS Array B**	**78.83**	**331**	P	**P**		**22 37 17.8**	**-0.5**
	comp=Z,1.3nm,1.0s,baz=91,slow=5.6,SNR=3.9							
NOA	**NORSAR Array B**	**85.79**	**333**	P	**P**		**22 37 53.1**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=63,slow=4.8,SNR=1.6							
NOA				LR	LR		23 21 33.2	
	comp=Z,13nm,18.1s,baz=60,slow=39							
YKA	**Yellowknife Ar**	**91.41**	**22**	P	**P**		**22 38 21.5**	**+0.1**
	comp=Z,0.4nm,0.5s,baz=306,slow=4.0,SNR=2.0							

TAP 29 22:29:21.5, 24°26N×121°71E, h12km, ML1.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
NACB	**Ninganchiao**	**0.14**	**231**	P	Pb		22 29 25.7	-0.4
	baz=230							
NACB				S	Sg		22 29 28.1	+0.8
	baz=230							
ENA	**Nanau**	**0.17**	**9**	*eP*	Pg		22 29 25.8	+0.4
	baz=11							
ENA				*eS*	Sg		22 29 29.2	+1.1
	baz=11							
ETLH	**Xiulin Townshi**	**0.22**	**256**	P	Pb		22 29 27.5	0.0
	baz=255							
ETLH				*eS*	Sg		22 29 30.8	+1.3
	baz=255							
HWA	**Hwalien**	**0.30**	**199**	*eS*	Sb		22 29 32.8	-0.8
	baz=197							
NNSB	**Datong**	**0.34**	**299**	*eP*	Pb		22 29 29.9	+0.2
	baz=299							
NNSB				*eS*	Sb		22 29 34.9	-0.2
	baz=299							
NNSH	**Datong**	**0.34**	**299**	*eP*	Pb		22 29 29.6	-0.1
	baz=299							
NNSH				*eS*	Sb		22 29 34.8	-0.3
	baz=299							
NNS	**Nan Shan**	**0.36**	**300**	*eP*	Pb		22 29 29.6	-0.3
	baz=300							
NNS				*eS*	Sb		22 29 35.0	-0.5
	baz=300							
TWC	**Suao**	**0.37**	**20**	*eP*	Pb		22 29 29.8	-0.2
	baz=21							
TWC				*eS*	Sb		22 29 35.1	-0.7
	baz=21							
NDT	**Datong Townshi**	**0.39**	**332**	P	Pb		22 29 30.2	-0.1
	baz=332							
NDT				S	Sb		22 29 36.1	-0.1
	baz=332							
WHF	**Hehuan Shan**	**0.42**	**254**	*eP*	Pb		22 29 30.9	-0.3
	baz=253							
WHF				*eS*	Sb		22 29 36.8	-0.9
	baz=253							
TWE	**Neicheng**	**0.46**	**355**	*eP*	Pb		22 29 32.2	+0.6
	baz=356							
TWE				*eS*	Sb		22 29 38.4	0.0
	baz=356							
TWT	**Tachien**	**0.49**	**269**	*eP*	Pg		22 29 31.7	+0.5
	baz=268							
TWT				*eS*	Sb		22 29 39.9	+0.5
	baz=268							
ILA	**Ilan**	**0.50**	**4**	*eP*	Pg		22 29 31.5	+0.1
	baz=4.0							
ILA				*eS*	Sb		22 29 39.0	-0.7
	baz=4.0							
TDCB	**Techi**	**0.51**	**269**	*eP*	Pb		22 29 32.7	+0.3
	baz=269							
TDCB				*eS*	Sb		22 29 39.6	-0.2
	baz=269							
YHNB	**Yeheng**	**0.51**	**323**	*eP*	Pb		22 29 32.5	+0.1
	baz=323							
YHNB				*eS*	Sb		22 29 40.1	+0.3
	baz=323							
ESL	**Shilin**	**0.51**	**210**	*eP*	Pb		22 29 32.2	-0.2
	baz=208							
ESL				*eS*	Sb		22 29 39.9	0.0
	baz=208							
NSK	**Sanguang**	**0.52**	**322**	*eP*	Pg		22 29 32.1	+0.3
	baz=322							
NSK				*eS*	Sb		22 29 40.2	0.0
	baz=322							
CHGB	**Renai**	**0.53**	**248**	*eP*	Pb		22 29 33.1	+0.2
	baz=247							
NWLT	**Wulai**	**0.55**	**340**	*eP*	Pb		22 29 32.9	-0.2
	baz=339							
NWLT				*eS*	Sb		22 29 41.2	+0.3
	baz=339							
OWD	**Renai**	**0.58**	**238**	*eP*	Pb		22 29 33.6	-0.1
	baz=238							
OWD				*eS*	Sb		22 29 42.1	+0.3
	baz=238							
NTC	**Toucheng**	**0.60**	**10**	*eP*	Pg		22 29 33.3	+0.1
	baz=10.0							
NTC				*eS*	Sb		22 29 41.9	-0.5
	baz=10.0							
EGS	**Eguan**	**0.61**	**19**	*eP*	Pb		22 29 34.1	-0.1
	baz=20							
EGS				*eS*	Sb		22 29 43.4	+0.6
	baz=20							
TIPB	**Shuangxi**	**0.71**	**8**	*eP*	Pn		22 29 37.1	-0.4
	baz=8.0							
TIPB				*eS*	Sb		22 29 45.7	0.0
	baz=8.0							
VWDT	**VWDT**	**0.73**	**226**	*eS*	Sb		22 29 47.2	+1.2
	baz=225							
NSTT	**Nanjuang**	**0.74**	**300**	*eP*	Pg		22 29 36.0	0.0
	baz=299							
NSTT				*eS*	Sb		22 29 47.1	+0.5
	baz=299							
DPDB	**Guoxing**	**0.75**	**253**	*eP*	Pb		22 29 36.7	+0.1
	baz=252							
DPDB				*eS*	Sb		22 29 47.2	+0.4
	baz=252							

TAP 29 22:29:26.4, 23°42N×121°34E, h10km, ML1.4, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
YULB	**Yu-li**	**0.04**	**235**	P	Pg		22 29 29.0	+0.6
	baz=235							
YULB				S	Sg		22 29 30.3	+0.5
	baz=235							
TWF1	**Yuli**	**0.07**	**209**	*eP*	Pg		22 29 29.5	+0.7
	baz=203							
TWF1				*eS*	Sg		22 29 31.3	+1.0
	baz=203							
EHY	**Hungye**	**0.09**	**352**	*eP*	Pg		22 29 29.5	+0.5
	baz=356							
EHY				*eS*	Sg		22 29 31.1	+0.4
	baz=356							
HGSD	**Ruisui**	**0.11**	**47**	*eP*	Pg		22 29 29.8	+0.7
	baz=47							
HGSD				S	Sg		22 29 32.2	+1.1
	baz=47							
EGFH	**Guangfu**	**0.26**	**18**	*eP*	Pb		22 29 33.0	-0.3
	baz=18							
EGFH				*eS*	Sb		22 29 37.1	-0.8
	baz=18							
CHKT	**Chengkung**	**0.32**	**175**	*eP*	Pb		22 29 34.1	-0.1
	baz=173							
CHKT				*eS*	Sb		22 29 39.7	+0.3
	baz=173							
VWDT	**VWDT**	**0.38**	**332**	*eP*	Pb		22 29 36.2	+0.9
	baz=331							
VWDT				*eS*	Sb		22 29 41.0	-0.2
	baz=331							
VWDT	**VWDT**	**0.38**	**332**	*eP*	Pb		22 29 36.2	+0.9
	baz=225							
ESL	**Shilin**	**0.41**	**13**	*eP*	Pb		22 29 35.6	-0.1
	baz=13							
ESL				*eS*	Sb		22 29 41.5	-0.4
	baz=13							
SSLB	**Suanglung**	**0.51**	**317**	*eP*	Pb		22 29 37.8	+0.3
	baz=316							
SSLB				*eS*	Sb		22 29 45.3	+0.3
	baz=316							
WHYT	**Xinyi Township**	**0.52**	**302**	*eP*	Pb		22 29 37.8	0.0
	baz=302							
WHYT				*eS*	Sb		22 29 45.5	+0.1
	baz=302							
OWD	**Renai**	**0.56**	**345**	*eP*	Pb		22 29 38.2	-0.1
	baz=344							
OWD				*eS*	Sb		22 29 46.5	+0.1
	baz=344							
HWA	**Hwalien**	**0.61**	**24**	*eP*	Pn		22 29 41.3	+0.1
	baz=24							
HWA				*eS*	Sb		22 29 48.4	+0.5
	baz=24							
TWG	**Pinlang**	**0.64**	**202**	*eP*	Pb		22 29 39.5	-0.2
	baz=201							
TWG				*eS*	Sb		22 29 49.0	+0.2
	baz=201							
TWGBT	**Beinan**	**0.64**	**202**	*eP*	Pb		22 29 39.6	-0.2
	baz=201							
TWGBT				*eS*	Sb		22 29 49.0	+0.2
	baz=201							
TYC	**Yuchr**	**0.65**	**318**	*eP*	Pb		22 29 39.8	-0.1
	baz=318							
TYC				*eS*	Sg		22 29 48.0	+0.3
	baz=318							
CHGB	**Renai**	**0.66**	**347**	*eP*	Pb		22 29 40.4	+0.2
	baz=346							
CHGB				*eS*	Sb		22 29 49.6	+0.1
	baz=346							
CHGB	**

ULC	**Ulcinj**	**1.01 267**	⇓	*i*Pg	**Pg**	**22 36 50.5**	**-1.3**
ULC				*i* Sg	**Sb**	**22 37 05.4**	**-0.8**
DRME	**Dracevica, Mon**	**1.06 279**	⇑	*i*Pg	**Pg**	**22 36 51.6**	**-1.2**
DRME				*i* Sg	**Sb**	**22 37 07.6**	**-0.1**
DRME	**Dracevica, Mon**	**1.06 279**	⇑	*i*Pg	**Pg**	**22 36 51.8**	**-1.0**
DRME				*e*Sg	**Sb**	**22 37 07.8**	**+0.1**
PDG	**Podgorica**	**1.07 293**		*e*Pg	**Pg**	**22 36 53.0**	**-0.1**
PDG				*e*Sg	**Sg**	**22 37 07.4**	**+0.4**
PDG	**Podgorica**	**1.07 293**	⇑	*i*Pg	**Pg**	**22 36 51.7**	**-1.4**
PDG				*e*Sg	**Sb**	**22 37 07.9**	**-0.1**
TTG	**Podgorica**	**1.07 293**	⇑	*i*Pg	**Pg**	**22 36 51.6**	**-1.5**
TTG				*i* Sg	**Sb**	**22 37 08.5**	**+0.5**
KOME	**Kolasin**	**1.15 316**	⇑	*i*Pg	**Pg**	**22 36 53.5**	**-1.0**
KOME				*i* Sg	**Sn**	**22 37 11.8**	**+0.1**
BARS	**Barje**	**1.20 48**		*e*Pg	**Pn**	**22 36 55.8**	**-0.3**
BARS				*e*Sg	**Sn**	**22 37 12.3**	**-0.6**
SELS	**Selova**	**1.26 18**		*e*Pg	**Pg**	**22 36 56.0**	**-0.6**
SELS				*e*Sg	**Sn**	**22 37 14.2**	**0.0**
BUM	**Brajici-Budva**	**1.29 283**	⇓	*i*Pg	**Pn**	**22 36 56.0**	**-1.4**
BUM				*i* Sg	**Sn**	**22 37 15.8**	**+0.6**
SJES	**Sjenica**	**1.32 340**		*e*Pg	**Pn**	**22 36 57.2**	**-0.6**
SJES				*e*Sg	**Sn**	**22 37 16.6**	**+0.7**
CEME	**Cevo**	**1.35 293**	⇑	*i*Pg	**Pn**	**22 36 56.4**	**-1.8**
CEME				*i* Sg	**Sn**	**22 37 17.9**	**+1.3**
NKY	**Niksic**	**1.42 304**	⇓	*i*Pg	**Pn**	**22 36 58.7**	**-0.5**
NKY				*i* Sg	**Sg**	**22 37 19.9**	**+1.6**
NKME	**Niksic**	**1.43 302**	⇓	*i*Pg	**Pn**	**22 36 58.3**	**-0.9**
NKME				*i* Sg	**Sg**	**22 37 19.8**	**+1.5**
BOSS	**Bosilegrad**	**1.48 71**		*e*Pg	**Pg**	**22 37 00.5**	**-0.3**
BOSS				*e*Sg	**Sg**	**22 37 19.7**	**-0.2**
PLE	**Pljevlja**	**1.58 326**	⇑	*i*Pn	**Pn**	**22 37 00.8**	**-0.6**
PLE				*i* Sn	**Sg**	**22 37 24.0**	**+0.8**
IVAS	**Ivanjica**	**1.59 348**		*e*Pn	**Pn**	**22 37 00.6**	**-0.8**
IVAS				*e*Sn	**Sn**	**22 37 22.5**	**+0.1**
HCY	**Herceg Novi**	**1.62 286**	⇑	*i*Pn	**Pn**	**22 37 01.2**	**-0.6**
HCY				*i* Sn	**Sg**	**22 37 24.3**	**-0.1**
HCY	**Herceg Novi**	**1.62 286**		*e*Pn	**Pn**	**22 37 01.6**	**-0.2**
HCY				*e*Sn	**Sg**	**22 37 24.3**	**-0.1**
VAY	**Valandovo**	**1.64 115**		*e*Sn	**Sb**	**22 37 23.6**	**-0.6**
VAY	**Valandovo**	**1.64 115**	⇓	*i*Pg	**Pb**	**22 37 02.8**	**-0.4**
VAY				*i* Sg	**Sg**	**22 37 26.4**	**+1.3**
VAY				*e*Lg	Lg	22 37 27.1	
	comp=E,43nm,0.7s						
BRY	**Bratogost**	**1.76 301**	⇓	*i*Pn	**Pn**	**22 37 03.6**	**-0.2**
BRY				*i* Sn	**Sb**	**22 37 27.8**	**0.0**
BRY	**Bratogost**	**1.76 301**		*e*Pn	**Pn**	**22 37 04.1**	**+0.3**
BRY				*e*Sn	**Sn**	**22 37 26.7**	**0.0**
TREB	**Trebinje**	**1.80 293**		*e*Pn	**Pb**	**22 37 05.7**	**-0.3**
TREB				*e*Sg	**Sg**	**22 37 32.7**	**+2.3**
TREB	**Trebinje**	**1.80 293**		*e*Pn	**Pb**	**22 37 05.2**	**-0.8**
TREB				*e*Sn	**Sb**	**22 37 28.2**	**-0.8**
BOVS	**Bovan**	**1.81 27**		*e*Pn	**Pn**	**22 37 05.0**	**+0.6**
RUDO	**Rudo**	**1.83 331**		*e*Pn	**Pn**	**22 37 04.7**	**0.0**
RUDO				*e*Sn	**Sn**	**22 37 28.6**	**+0.2**
GRUS	**Gruza**	**1.87 3**		*e*Pn	**Pb**	**22 37 06.4**	**-0.7**
GRUS				*e*Sg	**Sg**	**22 37 35.3**	**+2.9**
DBRK	**Dubrovnik**	**1.93 290**		*e*Pn	**Pb**	**22 37 08.2**	**+0.1**
DBRK				Sn	**Sg**	**22 37 34.4**	**0.0**
ZAPS	**Zavoj**	**1.96 50**		*e*Pn	**Pb**	**22 37 07.5**	**-1.2**
ZAPS				*e*Sg	**Sg**	**22 37 37.0**	**+1.7**
BBLS	**Lazi?i**	**2.04 335**		*e*Pn	**Pn**	**22 37 07.5**	**-0.1**
BBLS				*e*Sg	**Sg**	**22 37 39.9**	**+1.9**
BBLS	**Lazi?i**	**2.04 335**		*e*Pn	**Pn**	**22 37 07.0**	**-0.7**
BBLS				*e*Sn	**Sn**	**22 37 33.2**	**-0.4**
VTS	**Vitosha**	**2.05 72**		*e*Pn	**Pn**	**22 37 08.0**	**+0.5**
DIVS	**Divibare**	**2.12 348**		*e*Pn	**Pn**	**22 37 08.8**	**+1.0**
DIVS	**Divibare**	**2.12 348**		*e*Pn	**Pn**	**22 37 07.7**	**-1.1**
DIVS				*e*Sn	**Sn**	**22 37 34.2**	**-1.4**
TRUS	**Trudelj**	**2.20 356**		*e*Pn	**Pn**	**22 37 10.7**	**+0.8**
STON	**Ston**	**2.30 293**		*e*Pn	**Pb**	**22 37 12.7**	**-1.9**
STON				Sn	**Sb**	**22 37 43.2**	**-0.2**
STON	**Ston**	**2.30 293**		*e*Pn	**Pn**	**22 37 10.8**	**-0.4**
STON				*e*Sn	**Sn**	**22 37 40.1**	**+0.1**
HAPS	**Han Pijesak,Bl**	**2.39 330**		*e*Pn	**Pn**	**22 37 12.4**	**-0.1**
HAPS	**Han Pijesak,Bl**	**2.39 330**		*e*Pn	**Pn**	**22 37 11.6**	**-0.9**
HAPS				*e*Sn	**Sn**	**22 37 41.4**	**-0.9**
TEKS	**Tekeris**	**2.64 343**		*e*Sg	**Sg**	**22 37 59.9**	**+2.6**
TEKS	**Tekeris**	**2.64 343**		*e*Pn	**Pn**	**22 37 15.6**	**-0.3**
TEKS				*e*Sn	**Sn**	**22 37 47.7**	**-0.7**
MAKA	**Makarska**	**2.92 297**		*e*Pn	**Pn**	**22 37 21.6**	**+1.8**
MAKA				Sn	**Sb**	**22 37 58.8**	**-2.4**
RICI	**Ricice**	**2.94 301**		*e*Pn	**Pn**	**22 37 22.5**	**+2.4**
RICI				Sn	**Sb**	**22 37 58.8**	**-3.0**
FRGS	**Fruska Gora**	**3.18 350**		*e*Pn	**Pn**	**22 37 22.8**	**-0.6**
FRGS				*e*Sn	**Sn**	**22 38 00.1**	**-1.7**
KIJV	**Kijevo**	**3.66 304**		*e*Pn	**Pn**	**22 37 32.0**	**+2.2**
KIJV				Sn	**Sn**	**22 38 16.2**	**+2.8**
BLY	**Banja Luka**	**3.69 319**		*e*Pn	**Pn**	**22 37 30.6**	**+0.4**
BLY				*e*Sn	**Sn**	**22 38 13.4**	**-0.7**
ZIRJ	**Zirje**	**3.99 296**		*e*Pn	**Pn**	**22 37 37.2**	**+2.8**
ZIRJ				Sn	**Sn**	**22 38 24.6**	**+3.0**
MORI	**Morici**	**4.03 299**		*e*Pn	**Pn**	**22 37 37.7**	**+2.7**
MORI				Sn	**Sn**	**22 38 25.3**	**+2.7**
MORH	**Mrgy, Hungar**	**4.42 342**		*e*Pn	**Pn**	**22 37 39.4**	**-0.9**
MORH				*e*Sn	**Sn**	**22 38 30.4**	**-1.7**
DUGI	**Dugi Otok**	**4.51 298**		*e*Pn	**Pn**	**22 37 43.8**	**+2.2**
DUGI				Sn	**Sn**	**22 38 36.3**	**+1.8**
MOSL	**Moslavina**	**4.54 324**		*e*Pn	**Pn**	**22 37 43.3**	**+1.3**
MOSL				Sn	**Sn**	**22 38 34.8**	**-0.3**
NVLJ	**Novalja**	**4.89 303**		*e*Pn	**Pn**	**22 37 49.2**	**+2.5**
NVLJ				Sn	**Sn**	**22 38 46.2**	**+2.3**
KALN	**Kalnik**	**5.07 325**		*e*Pn	**Pn**	**22 37 50.4**	**+1.1**
KALN				Sn	**Sn**	**22 38 48.1**	**-0.3**

*IDC **29** 22:40:28.6±0.5,55°.30S×27°.96W, h0km, mb4.5/14, mb1 4.5/15, mb1mx4.5/24, mbtmp4.5/15, ML5.0/1, MS3.7/6, Ms1 3.6/6, ms1mx3.4/20, Error ellipse: s-maj=17.9km s-min=14.9km az=64.0*

*NEIC **29** 22:40:29.8±1.4, 55°.3S±0°.1×28°.1W±0°.2, h10km±1km, mb4.8/35, Error ellipse: s-maj=19.6km s-min=15.1km az=199.0*

ISC 29 22:40:29.7±0.4, 55°.34S±0°.09×28°.18W±0°.07, h10km, n84, σ0s83/77, mb4.7/22, MS3.6/7, 2C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.92 279**		Pn	**Pn**	**22 41 44.7**	**+1.0**
HOPE				Sn	**Sn**	**22 42 37.8**	**-2.8**
VNA3	**Neumayer Olymp**	**17.85 160**		P	**P**	**22 44 38.6**	**+0.1**
VNA2	**Neumayer--Watz**	**18.07 158**		P	**P**	**22 44 41.2**	**+0.4**
EFI	**East Falkland**	**18.08 269**		Pn	**Pn**	**22 44 40.0**	**-0.7**
SNAA	**Sanae**	**19.62 156**		P	**P**	**22 44 57.8**	**-0.2**
SNAA	**Sanae**	**19.62 156**		P	**P**	**22 44 57.6**	**-0.4**
	4.9nm,0.3s,baz=291,slow=12,SNR=73						
SNAA	**Sanae**	**19.62 156**		P	**P**	**22 44 57.6**	**-0.4**
SNAA				IAmb	IAmb	22 45 00.1	
	comp=Z,23nm,0.5s						
PMSA	**Palmer Station**	**19.96 227**		P	Pn	22 45 04.4	+1.1
	comp=Z,51nm,0.9s,baz=93,slow=6.1,SNR=2.3						
PMSA	**Palmer Station**	**19.96 227**		IAmb	IAmb	22 45 12.2	
	comp=Z,40nm,0.9s						
PLCA	**Paso Flores**	**31.32 280**		P	**P**	**22 46 51.6**	**+1.5**
	comp=Z,1.3nm,0.7s,baz=162,slow=2.9,SNR=3.6						
PLCA				LR	LR	23 01 11.0	
	comp=Z,126nm,18.4s,baz=128,slow=40						
SYO	**Syowa Base**	**32.49 142**	⇓	*e*P	**P**	**22 46 58.0**	**-1.9**
SYO	**Syowa Base**	**32.49 142**	⇑	*e*pP	pP	22 47 00.7	-0.6
SYO	**Syowa Base**	**32.49 142**	⇑	*e*PnPn	PnPn	22 48 04.7	-2.1
QSPA	**South Pole Qui**	**34.91 180**		P	**P**	**22 47 22.0**	**+0.8**
	comp=Z,5.8nm,0.6s,baz=192,slow=2.4,SNR=7.8						
QSPA				PcP	**PcP**	**22 49 54.1**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=246,slow=2.8,SNR=1.6						
QSPA	**South Pole Qui**	**34.91 180**		P	**P**	**22 47 22.1**	**+0.8**
QSPA				IAmb	IAmb	22 47 23.6	
	comp=Z,6.8nm,0.7s						
CPUP	**Villa Florida**	**35.92 312**		P	**P**	**22 47 30.5**	**+0.5**
	comp=Z,13nm,0.9s,baz=142,slow=7.6,SNR=12						
CPUP				LR	LR	23 01 03.4	
	comp=Z,88nm,19.8s,baz=159,slow=34						
CPUP	**Villa Florida**	**35.92 312**		P	**P**	**22 47 30.0**	**0.0**
CPUP				IAmb	IAmb	22 47 31.6	
	comp=Z,16nm,0.9s						
GO05	**Huala**	**36.15 286**		P	**P**	**22 47 30.6**	**-1.4**
GO05				IAmb	IAmb	22 47 32.8	
	comp=Z,8.2nm,0.7s						
MT01	**Popeta**	**36.63 288**		P	**P**	**22 47 36.0**	**-0.1**
PEL	**Peldehue**	**36.87 289**		P	**P**	**22 47 38.2**	**0.0**
MT02	**Curacav**	**37.03 289**		P	**P**	**22 47 40.2**	**+0.7**
MT02				IAmb	IAmb	22 47 48.0	
	comp=Z,13nm,1.1s						
ZON	**Zonda**	**37.04 293**		P	**P**	**22 47 38.6**	**-1.0**
ZON				IAmb	IAmb	22 47 41.3	
	comp=Z,11nm,0.7s						
VA03	**San Esteban**	**37.09 290**		P	**P**	**22 47 38.8**	**-1.4**
CO01	**Juntas del Tor**	**39.02 293**		P	**P**	**22 47 57.1**	**+0.4**
AC05	**El Transito**	**40.02 294**		P	**P**	**22 48 04.3**	**-0.5**
AC05				IAmb	IAmb	22 48 07.5	
	comp=Z,16nm,0.8s						
SUR	**Sutherland**	**41.01 77**		P	**P**	**22 48 12.6**	**-0.4**
	comp=Z,4.6nm,0.7s,baz=247,slow=9.9,SNR=6.3						
MAW	**Mawson**	**41.06 144**		P	**P**	**22 48 12.6**	**-0.1**
	comp=Z,1.7nm,0.6s,baz=229,slow=6.4,SNR=8.0						
MAW				LR	LR	23 03 40.6	
	comp=Z,74nm,18.5s,baz=242,slow=34						
BDFB	**Brasilia**	**42.47 331**		P	**P**	**22 48 26.2**	**+1.3**
	comp=Z,2.5nm,0.7s,baz=129,slow=13,SNR=4.4						
BDFB				LR	LR	23 05 09.5	
	comp=Z,107nm,19.3s,baz=192,slow=35						
GO02	**Mina Guanaco**	**42.66 298**		P	**P**	**22 48 26.6**	**-0.2**
GO02				IAmb	IAmb	22 48 29.1	
	comp=Z,20nm,0.8s						
LVC	**Limon Verde**	**44.46 301**		P	**P**	**22 48 41.3**	**0.0**
LVC				IAmb	IAmb	22 48 45.3	
	comp=Z,16nm,0.8s						
PB07	**IPOC Station P**	**45.68 300**		P	**P**	**22 48 51.0**	**+0.1**
PB07				IAmb	IAmb	22 48 53.0	
	comp=Z,13nm,0.8s						
PB01	**IPOC Station P**	**46.06 301**		P	**P**	**22 48 53.3**	**-0.4**
BOSA	**Boshof**	**46.35 77**		P	**P**	**22 48 55.5**	**-0.4**
	comp=Z,7.0nm,0.8s,baz=214,slow=5.8,SNR=11						
BOSA				LR	LR	23 03 59.4	
	comp=Z,114nm,19.3s,baz=231,slow=30						
BOSA	**Boshof**	**46.35 77**		P	**P**	**22 48 55.4**	**-0.6**
BOSA				IAmb	IAmb	22 48 56.1	
	comp=Z,9.4nm,0.8s						
PB08	**IPOC Station P**	**46.67 302**		P	**P**	**22 48 58.8**	**0.0**
PB11	**IPOC Station P**	**47.23 302**		P	**P**	**22 49 03.2**	**+0.2**
VNDA	**Vanda**	**47.26 183**		P	**P**	**22 49 03.4**	**+1.0**
	comp=Z,2.4nm,0.6s,baz=184,slow=6.1,SNR=17						
VNDA	**Vanda**	**47.26 183**		P	**P**	**22 49 03.5**	**+1.2**
VNDA				IAmb	IAmb	22 49 16.6	
	comp=Z,5.1nm,0.7s						
H10S2	**ASCENSION HYDR**	**47.49 18**		T	T	23 41 09.1	
H10S3	**ASCENSION HYDR**	**47.49 18**		T	T	23 41 12.0	
H10N1	**ASCENSION HYDR**	**48.60 18**		T	T	23 42 38.4	
	baz=190,slow=75,SNR=3.0						
H10N3	**ASCENSION HYDR**	**48.61 18**		T	T	23 42 31.1	
	baz=190,slow=75,SNR=6.5						
H10N2	**ASCENSION HYDR**	**48.62 18**		T	T	23 42 35.5	
	baz=190,slow=75,SNR=4.3						
LBTB	**Lobatse**	**49.35 75**		P	**P**	**22 49 19.2**	**0.0**
LBTB				IAmb	IAmb	22 49 19.3	
	comp=Z,10nm,0.9s						
LPAZ	**La Paz**	**49.51 306**		P	**P**	**22 49 22.6**	**+1.5**
	comp=Z,14nm,0.7s,baz=150,slow=5.7,SNR=82						
LPAZ				LR	LR	23 10 55.6	
	comp=Z,46nm,20.2s,baz=166,slow=37						
LPAZ	**La Paz**	**49.51 306**		P	**P**	**22 49 21.6**	**+0.5**
TSUM	**Tsumeb**	**49.83 62**		P	**P**	**22 49 22.6**	**-0.4**
SAML	**Samuel**	**53.90 315**		P	**P**	**22 49 53.4**	**+0.2**
SAML				IAmb	IAmb	22 49 54.3	
	comp=Z,9.1nm,0.8s						
CASY	**Casey**	**54.77 161**		P	**P**	**22 49 58.4**	**-0.5**
CASY				IAmb	IAmb	22 49 59.9	
	comp=Z,6.4nm,0.9s						
DBIC	**Dimbokro**	**64.76 26**		P	**P**	**22 51 07.7**	**-0.5**
	comp=Z,2.9nm,0.5s,baz=161,slow=7.7,SNR=6.5						
RUSC	**La Rusia**	**71.41 312**		P	**P**	**22 51 50.7**	**+0.2**
TOA0	**Torodi Ar. Sit**	**72.72 31**		P	**P**	**22 51 57.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**72.72 31**		P	**P**	**22 51 58.0**	**+0.2**
	comp=Z,8.0nm,0.6s,baz=202,slow=6.2,SNR=125						
ESDC	**Sonseca Array**	**96.88 19**		P	**P**	**22 54 02.0**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=190,slow=4.1,SNR=1.4						
ASAR	**Alice Springs**	**99.84 163**		P	**Pdif**	**22 54 14.8**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=190,slow=3.8,SNR=2.7						
PDAR	**Pinedale Array**	**119.48 303**		PKP	**PKPdf**	**22 59 17.3**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=33,slow=2.2,SNR=2.2						
NVAR	**Mina Array Bea**	**120.60 294**		PKP	**PKiKP**	**22 59 22.1**	**+0.8**
	comp=Z,0.3nm,0.5s,baz=90,slow=1.1,SNR=2.4						
FINES	**FINESS Array B**	**124.01 28**		PKP	**PKPdf**	**22 59 26.5**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=146,slow=2.5,SNR=35						
BMO	**Blue Mountains**	**124.80 300**			**PKPdf**	**22 59 27.9**	**-1.0**
ARCES	**ARCESS Array B**	**130.49 22**		PKP	**PKPdf**	**22 59 39.0**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=187,slow=1.5,SNR=24						
YKA	**Yellowknife Ar**	**135.26 319**		PKP	**PKPdf**	**22 59 46.2**	**-1.8**
	comp=Z,0.8nm,0.5s,baz=125,slow=2.1,SNR=7.4						
YKA				SKPbc	**SKPbc**	**23 03 17.7**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=135,slow=2.2,SNR=4.1						
MKAR	**Makanchi Array**	**137.19 71**		PKP	**PKPdf**	**22 59 52.7**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=242,slow=3.0,SNR=2.8						
WMQ	**Urumqi**	**138.31 78**		*e*PKP	**PKPdf**	**22 59 54.8**	**+0.4**
LZH	**Lanzhou**	**142.29 100**		*e*PKP	**PKPdf**	**23 00 02.8**	**+0.8**
LZH				pPKP	PKiKP	23 00 12.5	+7.5
LZH				sPKP		23 00 15.5	
LZH				LR	LR		
	comp=Z,120nm,18.5s						
LZH				LR	LR		
	comp=Z,120nm,18.0s						
LZH				LR	LR		
	comp=Z,190nm,20.3s						
ZAA0	**Zalesovo Array**	**142.56 63**		PKPdf	**PKPdf**	**23 00 00.6**	**-1.0**
ZALV	**Zalesovo Beam**	**142.56 63**		PKhKP	PKPpre	22 59 57.8	
	comp=Z,0.6nm,0.5s,baz=250,slow=2.6,SNR=4.3						
HYT	**Haines Junctio**	**143.91 308**		PKPdf	**PKPdf**	**23 00 03.0**	**-1.0**
INK	**Inuvik**	**144.90 321**			**PKPdf**	**23 00 05.4**	**+0.1**
YAH	**Yahtse**	**145.66 306**			**PKPab**	**23 00 08.9**	**+1.0**
BARN	**Barnard Glacie**	**145.88 307**		PKPbc	**PKPab**	**23 00 09.3**	**+0.6**
DAWY	**Dawson**	**145.90 313**		PKPbc	**PKPab**	**23 00 08.3**	**-0.2**
VRDI	**Verde Repeater**	**146.75 307**			**PKPab**	**23 00 11.6**	**-0.4**
NJ2	**Nanjing**	**147.19 121**		*e*PKPbc	**PKPdf**	**23 00 11.0**	**+0.6**
DOT	**Dot Lake**	**147.75 311**			**PKPbc**	**23 00 13.8**	**+0.5**
SCRK	**Sand Creek**	**147.81 312**			**PKPbc**	**23 00 13.6**	**+0.1**
PAX	**Paxson**	**148.18 310**			**PKPbc**	**23 00 15.0**	**+0.5**
NRIK	**Noril'sk**	**148.80 38**		PKPbc	**PKPbc**	**23 00 15.9**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=194,slow=12,SNR=1.8						
IL31		**149.22 313**			**PKPbc**	**23 00 16.7**	**-0.2**
ILAR	**Eielson Array**	**149.22 313**		PKPbc	**PKPbc**	**23 00 17.6**	**+0.6**
	comp=Z,9.8nm,0.7s,baz=129,slow=2.6,SNR=97						
RND	**Reindeer**	**149.78 310**			**PKiKP**	**23 00 19.6**	**+0.2**
HHC	**Hu-ho-hao-te**	**149.94 102**		*e*PKPbc	**PKPdf**	**23 00 14.0**	**-0.7**
TRF	**Thorofare Moun**	**150.42 310**			**PKiKP**	**23 00 20.6**	**-0.2**
COLD	**Coldfoot**	**150.92 317**			**PKPbc**	**23 00 20.9**	**-0.1**
SONM	**Songino Array**	**151.24 86**		PKPbc	**PKPbc**	**23 00 21.7**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=221,slow=2.7,SNR=9.9						

*IDC **29** 22:49:40.8±0.8,55°.33S×27°.78W, h0km, mb4.1/4, mb1 4.2/5, mb1mx3.9/21, mbtmp4.1/5, ML4.2/1, MS4.4/1, Ms1 4.4/1, ms1mx3.0/19, Error ellipse: s-maj=40.5km s-min=21.0km az=82.0*

*NEIC **29** 22:49:43.3±0.8, 55°.4S±0°.1×27°.8W±0°.2, h18km±5km, mb4.4/8, Error ellipse: s-maj=24.1km s-min=16.7km az=220.0*

ISC 29 22:49:42.1±0.7, 55°.4S±0°.1×27°.9W±0°.1, h10km, n28, σ1s06/26, mb4.2/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.06 279**		Pn	**Pn**	**22 50 56.5**	**-1.4**
VNA3	**Neumayer Olymp**	**17.78 161**		P	**P**	**22 53 50.9**	**+0.8**
SNAA	**Sanae**	**19.54 156**		P	**P**	**22 54 09.8**	**+0.2**
SNAA	**Sanae**	**19.54 156**		P	**P**	**22 54 09.7**	**+0.2**
	0.7nm,0.3s,baz=288,slow=11,SNR=15						
SNAA	**Sanae**	**19.54 156**		P	**P**	**22 54 06.4**	**-3.1**
PMSA	**Palmer Station**	**20.04 227**		LR	LR	23 00 56.1	
	comp=Z,1µm,20.1s,baz=320,slow=34						
QSPA	**South Pole Qui**	**34.89 180**		P	**P**	**22 56 33.4**	**0.0**
	2.4nm,0.8s,baz=197,slow=2.7,SNR=18						
AC02	**Maricunga**	**41.19 297**		P	**P**	**22 57 28.4**	**+1.1**
GO01	**Chusmiza**	**47.22 302**		P	**P**	**22 58 16.1**	**+0.5**
VNDA	**Vanda**	**47.24 183**		P	**P**	**22 58 15.2**	**+0.7**
	1.7nm,0.7s,baz=184,slow=7.8,SNR=12						
VNDA	**Vanda**	**47.24 183**		P	**P**	**22 58 15.5**	**+1.0**
VNDA				IAmb	IAmb	22 58 16.0	
	comp=Z,2.8nm,1.1s						
LPAZ	**La Paz**	**49.63 306**		P	**P**	**22 58 34.9**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=140,slow=5.4,SNR=9.2						
LPAZ	**La Paz**	**49.63 306**		IAmb	IAmb	22 58 42.0	
	comp=Z,12nm,1.9s						
CASY	**Casey**	**54.70 161**		P	**P**	**22 59 09.8**	**-0.9**
TOA0	**Torodi Ar. Sit**	**72.67 30**		P	**P**	**23 01 08.4**	**-1.5**
TORD	**Torodi Ar. Bea**	**72.67 30**		P	**P**	**23 01 09.5**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=197,slow=6.1,SNR=10						
ARCES	**ARCESS Array B**	**130.47 22**		PKP	**PKPdf**	**23 08 51.2**	**0.0**
	comp=Z,1.0nm,0.9s,baz=264,slow=3.5,SNR=3.7						
PCA	**Pinnacle**	**145.00 306**			**PKPbc**	**23 09 18.0**	**+0.4**
INK	**Inuvik**	**145.00 321**			**PKPbc**	**23 09 16.9**	**-0.4**
DOT	**Dot Lake**	**147.87 311**			**PKPdf**	**23 09 25.4**	**+2.5**
SCRK	**Sand Creek**	**147.93 312**			**PKPbc**	**23 09 26.0**	**-0.2**
RIDG	**Independent Ri**	**148.24 311**			**PKPbc**	**23 09 27.1**	**+0.1**
PAX	**Paxson**	**148.31 310**			**PKPbc**	**23 09 26.9**	**-0.3**
IL31		**149.34 313**			**PKPbc**	**23 09 29.7**	**+0.2**
ILAR	**Eielson Array**	**149.34 313**		PKPbc	**PKPbc**	**23 09 29.7**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=124,slow=2.0,SNR=25						
RND	**Reindeer**	**149.90 310**			**PKPbc**	**23 09 31.0**	**-0.1**
BPAW	**Bear Paw Mtn.**	**150.96 311**			**PKPbc**	**23 09 33.8**	**+0.2**
SONM	**Songino Array**	**151.11 86**		PKPbc	**PKPbc**	**23 09 34.8**	**+0.2**
	comp=Z,1.3nm,1.0s,baz=223,slow=3.6,SNR=4.9						

*IDC **29** 23:01:58.3±0.6,55°.22S×27°.64W, h0km, mb4.4/8, mb1 4.5/9, mb1mx4.3/22, mbtmp4.4/9, ML4.6/1, MS3.6/9, Ms1 3.6/9, ms1mx3.5/21, Error ellipse: s-maj=25.7km s-min=17.3km az=50.0*

*NEIC **29** 23:01:59.7±1.2, 55°.3S±0°.1×27°.7W±0°.2, h10km±1km, mb4.7/17, Error ellipse: s-maj=21.6km s-min=16.0km az=201.0*

ISC 29 23:01:59.5±0.5, 55°.29S±0°.09×27°.76W±0°.09, h10km, n51, σ0s86/44, mb4.7/12, MS3.6/8, 2C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.15 278**		Pn	**Pn**	**23 03 17.1**	**+0.5**
VNA1	**Neumayer--Stat**	**17.63 158**		P	**P**	**23 06 08.1**	**+2.3**
VNA3	**Neumayer Olymp**	**17.82 161**		P	**Pn**	**23 06 07.5**	**+0.3**
EFI	**East Falkland**	**18.32 269**		P	**Pn**	**23 06 12.3**	**-1.1**
SNAA	**Sanae**	**19.57 157**		P	**P**	**23 06 27.2**	**-0.1**
SNAA	**Sanae**	**19.57 157**		P	**P**	**23 06 27.5**	**+0.2**
	1.7nm,0.3s,baz=285,slow=11,SNR=32						
SNAA				LR	LR	23 12 17.1	
	comp=Z,212nm,21.7s,baz=7.5,slow=32						
SNAA	**Sanae**	**19.57 157**		P	**P**	**23 06 26.5**	**-0.8**
PMSA	**Palmer Station**	**20.17 227**		P	**P**	**23 06 31.2**	**-2.5**
	14nm,0.5s,baz=171,slow=22,SNR=4.7						
PMSA	**Palmer Station**	**20.17 227**		P	**P**	**23 06 32.8**	**-0.9**
PMSA				IAmb	IAmb	23 06 43.8	
	comp=Z,33nm,0.8s						
PLCA	**Paso Flores**	**31.55 279**		LR	LR	23 21 25.9	
	comp=Z,101nm,19.9s,baz=131,slow=37						
SYO	**

YKA	Yellowknife Ar	135.21	319	PKP		PKPdf	23 29 46.3	-0.8
	comp=Z,0.3nm,0.6s,baz=182,slow=2.1,SNR=1.5							
ILAR	Eielson Array	149.16	313	PKPbc		PKPbc	23 30 16.5	+0.5
	comp=Z,1.4nm,0.7s,baz=117,slow=2.3,SNR=12							
SONM	Songino Array	151.28	86	PKPbc		PKPbc	23 30 22.0	+0.2
	comp=Z,0.4nm,0.4s,baz=244,slow=3.3,SNR=3.5							

*IDC **29** 23:15:21.5±2.0, 19°.21S×169°.25E, h156km±17km, mb3.9/16, mb1 4.1/17, mb1mx4.0/33, mbtmp4.3/17, MS3.8/2, Ms1 3.8/2, ms1mx2.9/22, Error ellipse: s-maj=17.4km s-min=14.9km az=121.0*

*NEIC **29** 23:15:22.1±1.8, 19°.22S±0°.08×169°.26E±0°.05, h164km±5km, mb4.7/44, Error ellipse: s-maj=10.9km s-min=6.3km az=186.0*

ISC 29 23:15:20.8±0.4, **19°.21S**±0°.06×**169°.30E**±0°.07, **h150**km, **n87**, σ0s**90**/**80**, **mb4.6**/35, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DZM	**Mont Dzumac**	**3.91**	**223**	P		**Pn**	**23 16 20.8**	**+0.8**
	6.4nm,0.3s,baz=169,slow=15,SNR=53							
DZM				S		**Sn**	**23 17 06.8**	**+0.9**
	12nm,0.3s,baz=8.2,slow=19,SNR=10							
DZM	**Mont Dzumac**	**3.91**	**223**			**Pn**	**23 16 20.5**	**+0.5**
DZM						**Sn**	**23 17 05.9**	**0.0**
SANVU	Saraoutou	4.24	332			Pn	23 16 25.3	+1.0
MSVF	Nonsavu	8.43	81	Pn		Pn	23 17 19.4	-0.8
HNR	Honiara	13.28	316	Pn		Pn	23 18 23.9	+0.1
OUZ	Omahuta	16.40	167	P		P	23 19 03.7	+1.3
OUZ				IAmb		IAmb	23 19 05.1	
	comp=Z,33nm,1.1s							
EIDS	Eidsvold	17.93	247	P		Pn	23 19 21.1	+0.2
ARMA	Armidale	19.51	232	P		P	23 19 38.1	+1.4
HIZ	Hauiti	19.83	167	P		P	23 19 41.3	+1.4
MXZ	Matakaoa Point	19.91	159	P		P	23 19 41.4	+0.6
BKZ	Black Stump Fm	20.84	164	P		P	23 19 51.7	+1.0
BKZ				IAmb		IAmb	23 19 52.0	
	comp=Z,17nm,0.6s							
CTA	Charters Tower	21.72	264	P		P	23 20 00.8	+0.5
	comp=Z,12nm,0.5s,baz=91,slow=11,SNR=20							
CTAO	Charters Tower	21.72	264	P		P	23 20 01.3	+1.0
CTAO				IAmb		IAmb	23 20 02.0	
	comp=Z,10nm,0.6s							
QRZ	Quartz Range	21.72	173	P		P	23 20 01.4	+1.3
BFZ	Birch Farm	22.22	166	P		P	23 20 04.3	-0.8
BFZ				IAmb		IAmb	23 20 09.2	
	comp=Z,22nm,0.7s							
KRVT	Keravat (AS076	22.44	309	P		P	23 20 05.6	-1.9
	comp=Z,23nm,0.6s,baz=112,slow=5.4,SNR=3.5							
SNZO	South Karori	22.51	169	P		P	23 20 07.7	-0.2
BHW	Baring Head	22.63	169	P		P	23 20 09.5	+0.4
THZ	Tophouse	22.69	173	P		P	23 20 10.2	+0.5
MSWZ	Moikau Station	22.71	168	P		P	23 20 09.4	-0.4
BSWZ	Blackbirch Sta	22.77	171	P		P	23 20 11.1	+0.7
CMWZ	Cape Campbell	22.86	171	P		P	23 20 11.8	+0.7
PLWZ	Palliser	22.86	168	P		P	23 20 11.1	-0.2
KHZ	Kahutara	23.41	172	P		P	23 20 16.1	-0.1
KHZ				IAmb		IAmb	23 20 26.1	
	comp=Z,19nm,1.0s							
LTZ	Lake Taylor	23.64	175	P		P	23 20 18.2	-0.2
LTZ				IAmb		IAmb	23 20 20.6	
	comp=Z,35nm,1.0s							
CAN	Canberra	24.07	224	P		P	23 20 22.7	+0.3
CAN				IAmb		IAmb	23 20 25.2	
	comp=Z,11nm,0.7s							
OXZ	Oxford	24.16	175	P		P	23 20 23.5	+0.5
OXZ				IAmb		IAmb	23 20 26.2	
	comp=Z,27nm,0.9s							
TOO	Toolangi	27.68	224	P		P	23 20 53.8	-1.1
STKA	Stephens Creek	27.91	238	P		P	23 20 57.3	+0.4
	comp=Z,12nm,0.6s,baz=74,slow=9.8,SNR=34							
STKA	Stephens Creek	27.91	238	P		P	23 20 57.5	+0.6
BBOO	Buckleboo	32.65	239	P		P	23 21 38.2	-0.5
BBOO				IAmb		IAmb	23 21 38.9	
	comp=Z,16nm,0.9s							
WR0	Warramunga Arr	32.72	263	P		P	23 21 38.6	-0.8
WR0				IAmb		IAmb	23 21 38.8	
	comp=Z,8.3nm,0.5s							
WB0	Warramunga Arr	32.88	263	P		P	23 21 39.6	-1.2
WB0				IAmb		IAmb	23 21 40.5	
	comp=Z,15nm,0.7s							
WB2	Warramunga Arr	32.90	263	P		P	23 21 40.0	-1.0
WB2				IAmb		IAmb	23 21 40.8	
	comp=Z,19nm,1.1s							
WRA	Warramunga Arr	32.91	263	P		P	23 21 39.9	-1.3
	comp=Z,11nm,0.5s,baz=100,slow=8.4,SNR=42							
AS31	Alice Springs	33.19	256	P		P	23 21 43.0	-0.6
ASAR	Alice Springs	33.19	256	P		P	23 21 43.0	-0.5
	comp=Z,39nm,0.4s,baz=83,slow=8.9,SNR=583							
ASAR				ScP		ScP	23 27 52.2	-1.1
	comp=Z,0.8nm,0.7s,baz=103,slow=3.6,SNR=5.6							
ASAR				LR		LR	23 35 41.5	
	comp=Z,102nm,18.4s,baz=194,slow=37							
MTN	Manton Dam	37.17	274	P		P	23 22 17.5	-0.1
MTN				IAmb		IAmb	23 22 18.4	
	comp=Z,13nm,0.8s							
KNRA	Kununurra	38.77	269	P		P	23 22 30.4	-0.6
FORT	Forrest	38.91	245	P		P	23 22 31.8	-0.2
FAKI	Fak Fak	39.66	289	P		P	23 22 37.5	-1.0
FITZ	Fitzroy Crossi	41.30	264			P	23 22 52.1	+0.2
PSA00	Pilbara Seismi	46.26	258	P		P	23 23 30.9	-0.6
PSA00				IAmb		IAmb	23 23 32.5	
	comp=Z,19nm,0.7s							
NWAO	Narrogin (SRO)	48.28	243	P		P	23 23 46.4	-0.5
NWAO				IAmb		IAmb	23 23 50.6	
	comp=Z,14nm,1.1s							
NWAO	Narrogin (SRO)	48.28	243	P		P	23 23 45.9	-1.0
NWAO				IAmb		IAmb	23 23 50.6	
	comp=Z,19nm,1.1s							
MORW	Morawa	49.24	248	P		P	23 23 53.3	-1.1
VNDA	Vanda	58.46	182	P		P	23 25 00.4	-0.1
	comp=Z,0.7nm,0.5s,baz=357,slow=6.3,SNR=8.5							
QSPA	South Pole Qui	70.85	180	P		P	23 26 20.5	-0.6
	comp=Z,4.4nm,0.7s,baz=360,slow=0.5,SNR=26							
QSPA	South Pole Qui	70.85	180	P		P	23 26 20.6	-0.6
PETK	Petropavlovsk-	72.71	353	P		P	23 26 32.6	+0.5
	comp=Z,2.5nm,0.8s,baz=148,slow=6.8,SNR=3.2							
MAW	Mawson	78.48	202	P		P	23 27 05.6	+0.7
	comp=Z,2nm,0.9s,baz=164,slow=5.3,SNR=3.0							
MAW	Mawson	78.48	202	IAmb		IAmb	23 27 09.1	
	comp=Z,0.7nm,1.0s							
CMAR	Chiang Mai Arr	78.54	294	P		P	23 27 07.3	+1.2
	comp=Z,0.5nm,0.4s,baz=160,slow=4.8,SNR=4.5							
MWC	Mount Wilson	87.10	52	P		P	23 27 50.4	+0.2
MWC				IAmb		IAmb	23 27 51.4	
	comp=Z,6.8nm,0.7s							
SONM	Songino Array	87.23	323	P		P	23 27 50.8	+0.5
	comp=Z,3nm,0.4s,baz=146,slow=8.5,SNR=2.0							
YBH	Yreka Blue Hor	87.24	44	P		P	23 27 51.8	+1.3
	comp=Z,2.6nm,0.8s,baz=225,slow=1.4,SNR=4.9							
PFO	Pinyon Flats O	88.05	53	P		P	23 27 53.9	-0.7
	comp=Z,1.8nm,0.8s,baz=258,slow=8.8,SNR=4.1							
NVAR	Mina Array Bea	88.74	48	P		P	23 27 58.1	+0.2
	comp=Z,2.2nm,0.9s,baz=223,slow=7.4,SNR=7.2							
SNAA	Sanae	89.19	182	P		P	23 27 57.8	-1.5
SNAA	Sanae	89.19	182	LR		LR	00 08 41.7	
	comp=Z,49nm,18.2s,baz=12,slow=36							
SNAA	Sanae	89.19	182	P		P	23 27 57.7	-1.5
PINE	Pine Mountain	89.36	43	IAmb		IAmb	23 28 02.6	
	comp=Z,5.2nm,0.7s							
TPNV	Topopah Spring	89.59	51	IAmb		IAmb	23 28 03.5	
	comp=Z,5.3nm,0.8s							
VNA3	Neumayer Olymp	89.78	180	P		P	23 28 00.4	-1.5
ILAR	Eielson Array	90.18	17	P		P	23 28 02.6	-1.1
	comp=Z,0.5nm,0.5s,baz=241,slow=5.7,SNR=5.3							
WVOR	Wild Horse Val	90.25	45	IAmb		IAmb	23 28 06.5	
	comp=Z,4.5nm,0.8s							
I07A	Izee	90.41	43	IAmb		IAmb	23 28 07.7	
	comp=Z,4.1nm,0.9s							
J08A	Circle Bar Ran	90.76	44	IAmb		IAmb	23 28 08.7	
	comp=Z,4.0nm,0.7s							
EGAK	Eagle	91.88	19	P		P	23 28 11.8	+0.3
TCUT	Toone Canyon	94.68	48			pP	23 29 05.6	+2.8
PDAR	Pinedale Array	96.55	47	P		P	23 28 33.6	-0.2
	comp=Z,0.2nm,0.4s,baz=299,slow=1.9,SNR=2.3							
TXAR	Lajitas Array	96.70	61	P		P	23 28 35.9	+1.3
	comp=Z,0.5nm,1.1s,baz=256,slow=7.3,SNR=4.0							
YKA	Yellowknife Ar	100.61	27	P		Pdif	23 28 50.6	-0.5
	comp=Z,0.7nm,0.7s,baz=266,slow=4.7,SNR=3.7							
MKAR	Makanchi Array	101.76	316	P		Pdif	23 28 56.6	-0.1
	comp=Z,0.3nm,0.8s,baz=117,slow=5.0,SNR=1.9							
ARCES	ARCESS Array B	125.05	345	PKP		PKPdf	23 34 01.7	-1.0
	comp=Z,0.8nm,0.4s,baz=79,slow=1.7,SNR=19							
FINES	FINESS Array B	130.58	338	PKP		PKPdf	23 34 14.3	+0.9
	comp=Z,3.0nm,0.9s,baz=10,slow=8.5,SNR=3.4							
CLL	Collm	142.91	335	*e*PKPdf		PKPdf	23 34 38.0	+1.6
CONA	Conrad Observa	144.14	329	*i* PKPdf		PKPbc	23 34 38.4	+1.0
	comp=Z,0.9nm,0.5s							
GERES	GERESS Array B	144.49	332	PKP		PKPab	23 34 38.0	-0.1
	comp=Z,1.3nm,0.6s,baz=31,slow=4.1,SNR=14							
MOA	Molln	144.96	330	*i* PKPdf		PKPbc	23 34 39.6	-0.1
	comp=Z,3.9nm,0.6s							
SOKA	Sonoth	145.42	328	*i* PKPab		PKPdf	23 34 40.6	-0.5
	comp=Z,2.0nm,0.5s							
ABTA	Abfaltersbach	146.58	331	*i* PKPbc		PKPdf	23 34 43.7	+0.7
	comp=Z,2.7nm,0.7s							
WTTA	Wattenberg	146.59	332	*i* PKPab		PKPdf	23 34 44.5	+1.4
	comp=Z,1.3nm,0.5s							
SQTA	Sankt Quirin	146.82	332	*i* PKPab		PKPdf	23 34 45.0	+1.6
	comp=Z,2.8nm,0.6s							
FETA	Feichten	147.18	333	*i* PKPab		PKPdf	23 34 46.2	+2.1
	comp=Z,1.8nm,0.5s							
ESDC	Sonseca Array	158.79	346	PKPab		PKPab	23 35 36.8	-0.6
	comp=Z,0.2nm,0.5s,baz=275,slow=37,SNR=1.8							
TORD	Torodi Ar. Bea	166.66	245	PKP		PKPdf	23 35 10.3	+1.0
	comp=Z,0.7nm,1.0s,baz=121,slow=2.7,SNR=2.3							

*KRSC **29** 23:29:11.6±0.7, 53°.58N×159°.30E, h131km±6km, ML3.7*

*IDC **29** 23:29:13.0±1.7, 53°.91N×158°.79E, h128km±34km, mb3.2/5, mb1 3.6/5, mb1mx3.1/37, mbtmp3.6/5, Error ellipse: s-maj=85.6km s-min=22.2km az=179.0*

ISC 29 23:29:13.0±0.8, **53°.59N**±0°.05×**159°.24E**±0°.07, **h129**km±6km, **n47**, σ0s**81**/**59**, **mb3.5**/5, **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SDLR	Sedlovina	0.38	214	*i* P		Pn	23 29 31.3	-0.2
SDLR				*e*S		Sn	23 29 46.0	+0.6
KRER	Koryakskii	0.41	226	*e*P		Pn	23 29 32.0	+0.3
KRER				*e*S		Sn	23 29 46.9	+1.1
SMAR	Somma	0.42	219	*i* P		Pn	23 29 31.7	-0.1
KRX	Arik	0.42	237	*i* P		Pn	23 29 31.5	-0.2
KRX				*e*S		Sn	23 29 46.1	+0.3
NLC	Nalytchevo	0.43	171	*e*P		Pn	23 29 31.3	-0.2
NLC				*e*S		Sn	23 29 45.8	+0.4
AVH	Avacha	0.44	223	*e*P		Pn	23 29 32.0	+0.3
AVH				*e*S		Sn	23 29 47.0	+1.2
UGLR	Uglovaya	0.46	213	*e*P		Pn	23 29 32.0	+0.2
UGLR				*e*S		Sn	23 29 47.1	+1.1
KII	Karymskiy	0.46	16	*e*P		Pn	23 29 31.4	-0.4
KOK	Koryaka	0.47	230	*e*P		Pn	23 29 31.8	-0.1
DALK	Dalny	0.63	208	*e*P		Pn	23 29 32.5	-0.2
DALK				*e*S		Sn	23 29 47.4	-0.2
PET	Petropavlovsk	0.67	212	*e*P		Pn	23 29 32.9	-0.1
PET				*e*S		Sn	23 29 48.1	0.0
SPN	Mys Shipunski	0.68	136	*e*P		Pn	23 29 32.4	-0.7
SPN				*e*S		Sn	23 29 47.9	-0.4
KRMR	Karymshinskiy	1.01	222	*e*P		Pn	23 29 36.3	+0.4
KRMR				*e*S		Sn	23 29 54.2	+1.0
PETK	Petropavlovsk-	1.04	243	P		Pn	23 29 35.8	-0.3
	97nm,0.3s,baz=69,slow=14,SNR=1633							
PETK				S		Sn	23 29 53.7	-0.1
	5.8nm,0.3s,baz=49,slow=24,SNR=7.5							
RUS	Russkaya	1.24	201	*i* P		Pn	23 29 37.7	-0.4
RUS				*e*S		Sn	23 29 56.7	-0.5
GRL	Gorelyy	1.26	214	*i* P		Pn	23 29 39.0	+0.5
GRL				*e*S		Sn	23 29 58.8	+1.0
MTVR	Mutnovka	1.28	210	*e*P		Pn	23 29 39.2	+0.5
APC	Apacha	1.42	243	*e*P		Pn	23 29 40.2	+0.2
APC				*e*S		Sn	23 30 01.0	+0.4
ASAK	Asacha	1.46	214	*i* P		Pn	23 29 41.1	+0.5
ASAK				*e*S		Sn	23 30 03.2	+1.7
KZV	Kizimen	1.65	22	*e*P		Pn	23 29 42.8	0.0
KZV				*e*S		Sn	23 30 05.8	+0.3
TUMD	Tumrok D	1.75	22	*e*P		Pn	23 29 43.3	-0.6
TUMD				*e*S		Sn	23 30 07.0	-0.5
TUMR	Tumrok	1.78	17	*i* P		Pn	23 29 44.6	+0.3
KDTR	Khodutka, Kamc	1.92	202	*e*P		Pn	23 29 45.4	-0.5
KDTR				*e*S		Sn	23 30 10.3	-0.7
MIPR	Malaya Ipel'ka	2.00	230	*e*P		Pn	23 29 47.0	+0.2
KMNR	Kamenistaya	2.25	15	*e*P		Pn	23 29 50.3	+0.3
KPT	Kopyto	2.45	13	*e*P		Pn	23 29 52.3	-0.2
BZWR	Bezymyannyi-We	2.49	17	*e*P		Pn	23 29 53.7	+0.7
KOZ	Kozyrevsk	2.50	8	*e*P		Pn	23 29 52.9	-0.2
BZGR	Bezymyannyi-Gr	2.50	19	*e*P		Pn	23 29 55.4	+2.2
PAU	Pauzhetka	2.59	216	*e*P		Pn	23 29 55.3	+1.1
ZLN	Zelenaya	2.59	20	*e*P		Pn	23 29 55.7	+1.4
KRSR	Krestovskiy	2.74	16	*e*P		Pn	23 29 56.1	-0.1
SRDR	Sredinnyy	2.75	6	*e*P		Pn	23 29 55.8	-0.4
BDR	Baidarnaya	3.19	20	*e*P		Pn	23 30 03.0	+1.0
SRKR	Sorokina	3.26	19	*e*P		Pn	23 30 04.1	+1.1
KBTR	Krutoberegovo	3.34	37	*e*P		Pn	23 30 03.8	-0.1
ILAR	Eielson Array	28.83	46	P		P	23 34 58.5	-0.1
	0.3nm,0.6s,baz=282,slow=6.4,SNR=2.9							
H11N2	WAKE ISLAND Hy	34.31	167	T		T	00 11 55.6	
	baz=352,slow=76,SNR=7.7							
H11N3	WAKE ISLAND Hy	34.33	167	T		T	00 11 56.6	
	baz=352,slow=76,SNR=6.7							
H11N1	WAKE ISLAND Hy	34.33	167	T		T	00 11 57.9	
	baz=352,slow=76,SNR=7.9							
H11S1	WAKE ISLAND Hy	35.49	168	T		T	00 13 09.8	
	baz=350							
H11S3	WAKE ISLAND Hy	35.50	168	T		T	00 13 14.9	
	baz=350							
H11S2	WAKE ISLAND Hy	35.51	168	T		T	00 13 11.6	
	baz=350							
MKAR	Makanchi Array	47.48	295	P		P	23 37 31.6	-2.9
	0.5nm,0.4s,baz=56,slow=6.4,SNR=14							
NVAR	Mina Array Bea	56.05	70	P		P	23 38 39.9	+1.4
	0.3nm,0.5s,baz=306,slow=7.7,SNR=2.1							
PDAR	Pinedale Array	57.73	61	P		P	23 38 50.6	+0.4
	0.7nm,0.5s,baz=300,slow=2.3,SNR=7.2							
TXAR	Lajitas Array	70.91	66	P		P	23 40 16.9	+0.8
	0.3nm,0.4s,baz=296,slow=5.2,SNR=11							

*NEIC **29** 23:42:02.5±2.2, 33°.83S±0°.07×179°.3W±0°.1, h34km±4km, mb4.8/48, Error ellipse: s-maj=13.8km s-min=8.6km az=113.0*

*WEL **29** 23:42:02.7±0.4, 34°S±3°×17°9W±°, h33km, M5.3/17, mB5.7/8, ML5.4/17, MLv5.3/17, Mw(mB)5.3/8*

*BJI **29** 23:42:04.0±0.0, 33°.77S×178°.98W, h64km, mB5.4/6, mb5.5/5, Ms4.8/1, Ms7 4.6/1*

*IDC **29** 23:42:09.4±3.3, 33°.64S×179°.59W, h75km±28km, mb4.1/15, mb1 4.3/15, mb1mx4.2/25, mbtmp4.4/15, MS3.6/11, Ms1 3.6/11, ms1mx3.5/22, Error ellipse: s-maj=17.6km s-min=14.1km az=69.0*

ISC 29 23:42:05.4±0.3, **33°.75S**±0°.04×**179°.30W**±0°.06, **h55**km, **n212**, σ2s**17**/**200**, **mb4.8**/36, **MS3.8**/14, **1C-1D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MXZ	Matakaoa Point	4.28	206	P		Pn	23 43 07.4	-0.5
MXZ				S		Sn	23 43 57.8	+1.3
MXZ	Matakaoa Point	4.28	206	Pn		Pn	23 43 06.9	-1.0
WMGZ	Waiomatatini S	4.47	204	P		Pn	23 43 10.3	-0.2
WMGZ				S		Sn	23 44 03.2	+1.9
GLKZ	Green Lake	4.62	15	P		Pn	23 43 11.0	-1.6
GLKZ				S		Sn	23 44 01.9	-3.1
RAO	Raoul Island	4.63	15	P		Pn	23 43 14.7	+1.9
	52nm,0.3s,baz=216,slow=22,SNR=1.7							
RAO				S		Sn	23 44 02.6	-2.6
	135nm,0.3s,baz=78,slow=20,SNR=1.8							
RAO	Raoul Island	4.63	15			Pn	23 43 13.4	+0.6
RIZ	Raoul Island	4.64	15	S		Sn	23 44 01.9	-3.5
PKGZ	Pakihiroa	4.65	207	P		Pn	23 43 12.3	-0.8
PKGZ				S		Sn	23 44 06.2	+0.4
HAZ	Te Kaha	4.65	210	P		Pn	23 43 12.7	-0.3
HAZ				S		Sn	23 44 09.7	+4.0
PUZ	Puketiti	4.75	204	P		Pn	23 43 13.3	-1.2
PUZ				S		Sn	23 44 09.1	+0.9
RUGZ	Raukumara Rang	4.88	209	P		Pn	23 43 17.2	+1.0
TWGZ	Tauwhareparae	4.94	206	P		Pn	23 43 16.2	-0.9
GRZ	Great Barrier	4.98	238	P		Pn	23 43 19.5	+2.0
KUZ	Kuaotunu	5.06	232	P		Pn	23 43 21.3	+2.7
WHRZ	Whale Island	5.10	215	P		Pn	23 43 21.6	+2.4
CNGZ	Carnagh Statio	5.14	202	P		Pn	23 43 19.1	-0.7
TKGZ	Te Karaka	5.22	205	P		Pn	23 43 21.0	+0.1
MWZ	Matawai	5.25	208	P		Pn	23 43 20.4	-0.9
MWZ				S		Sn	23 44 20.7	+0.1
OPRZ	Ohinepanea	5.30	218	P		Pn	23 43 22.9	+1.0
URZ	Urewera	5.36	212	P		Pn	23 43 22.0	-0.8
URZ				S		Sn	23 44 22.2	-1.0
TGRZ	Tauranga	5.37	221	P		Pn	23 43 25.7	+2.8
RIGZ	Rimuhau	5.49	205	P		Pn	23 43 21.9	-2.7
OMRZ	Omania	5.59	218	P		Pn	23 43 28.3	+2.3
MKAZ	Moumakai	5.63	232	P		Pn	23 43 30.4	+4.0
PRGZ	Paritu Road	5.65	203	P		Pn	23 43 23.6	-3.1
WCZ	Waipu Caves	5.67	245	P		Pn	23 43 30.4	+3.4
HLRZ	Highlands Stat	5.71	217	P		Pn	23 43 29.9	+2.2
RTZ	Ruatahuna	5.72	211	P		Pn	23 43 25.0	-2.7
UTU	Utuhina	5.74	218	P		Pn	23 43 33.0	+5.0
MHGZ	Mahia Peninsul	5.85	202	P		Pn	23 43 27.3	-2.2
PRRZ	Plateau Road	5.89	215	P		Pn	23 43 30.3	+0.3
GRRZ	Galatos Road	5.91	218	P		Pn	23 43 32.3	+2.0
RAHZ	Arahi	5.93	208	P		Pn	23 43 30.0	-0.6
ALRZ	Allen Road	5.96	215	P		Pn	23 43 32.0	+1.0
WHHZ	Waihua	6.01	207	P		Pn	23 43 32.7	+1.1
OUZ	Omahuta	6.05	254	P		Pn	23 43 34.5	+2.3
OUZ	Omahuta	6.05	254	Pn		Pn	23 43 31.6	-0.6
NMHZ	Naumai	6.20	209	P		Pn	23 43 34.4	+0.1
TLZ	Tolley Road	6.20	221	P		Pn	23 43 37.7	+3.4
ARHZ	Aropaoanui	6.26	207	P		Pn	23 43 35.2	+0.1
BKZ	Black Stump Fm	6.38	211	Pn		Pn	23 43 35.9	-0.9
RATZ	Rangitukua	6.48	216	P		Pn	23 43 38.5	+0.4
RITZ	Rihia Road	6.52	215	P		Pn	23 43 39.8	+1.1
MCHZ	McNeill Hill	6.54	208	P		Pn	23 43 37.7	-1.2
CKHZ	Cape Kidnapper	6.58	205	P		Pn	23 43 37.7	-1.8
KWHZ	Kaweka Forest	6.63	210	P		Pn	23 43 39.1	-1.2
HIZ	Hauiti	6.71	223	P		Pn	23 43 43.5	+2.2
HIZ	Hauiti	6.71	223	Pn		Pn	23 43 41.5	+0.2
KRVZ	Karewarewa	6.72	216	P		Pn	23 43 42.1	+0.6
KAHZ	Kahuranaki	6.77	206	P		Pn	23 43 39.2	-3.0
KRHZ	Kereru	6.84	209	P		Pn	23 43 41.0	-2.0
BHHZ	Black Hill Sta	6.84	212	P		Pn	23 43 41.7	-1.4
MOVZ	Moawhango	6.91	214	P		Pn	23 43 44.5	+0.4
PXZ	Pawanui	6.99	205	P		Pn	23 43 43.5	-1.5
PNHZ	Pukenui	7.14	209	P		Pn	23 43 44.4	-2.7
VRZ	Vera Road	7.19	220	P		Pn	23 43 49.0	+1.1
PRHZ	Porangahau	7.28	205	P		Pn	23 43 48.4	-0.6
TSZ	Takapari Road	7.36	210	P		Pn	23 43 47.1	-3.1
DVHZ	Dannevirke	7.48	208	P		Pn	23 43 48.6	-3.2
POWZ	Post Office Ro	7.72	209	P		Pn	23 43 52.9	-2.2
PRWZ	Pori Road	7.78	208	P		Pn	23 43 55.5	-0.3
BFZ	Birch Farm	7.78	206	P		Pn	23 43 51.6	-4.3
BFZ	Birch Farm	7.78	206	Pn		Pn	23 43 53.4	-2.5
TIWZ	Tintock	8.00	207	P		Pn	23 43 57.1	-1.8
TMWZ	Te Maipa	8.28	206	P		Pn	23 43 59.3	-3.5
MSWZ	Moikau Station	8.79	208	Pn		Pn	23 44 05.8	-4.0
MSWZ						Sn	23 45 40.8	-6.7
PLWZ	Palliser	8.92	207	Pn		Pn	23 44 08.8	-2.8
PLWZ						Sn	23 45 43.6	-7.0
SNZO	South Karori	8.93	210	Pn		Pn	23 44 07.2	-4.3
BHW	Baring Head	8.94	209	Pn		Pn	23 44 08.4	-3.3
TUWZ	Tuamarina	9.36	213	Pn		Pn	23 44 14.0	-3.4
NNZ	Nelson	9.46	216	Pn		Pn	23 44 15.5	-3.3
CMWZ	Cape Campbell	9.50	211	Pn		Pn	23 44 16.6	-2.7
QRZ	Quartz Range	9.61	220	Pn		Pn	23 44 18.5	-2.4
BSWZ	Blackbirch Sta	9.62	212	Pn		Pn	23 44 19.0	-2.0
THZ	Tophouse	10.10	215	Pn		Pn	23 44 25.7	-2.0
KHZ	Kahutara	10.33	211	Pn		Pn	23 44 26.4	-4.4
LTZ	Lake Taylor	11.19	214

comp=Z,17nm,1.1s
NWAO Narrogin (SRO) 52.25 252 P **P** **23 51 09.4 -1.8**
NWAO IAmb IAmb 23 51 14.7
comp=Z,7.6nm,1.1s
PSAD2 Pilbara Seismi 54.44 266 P **P** **23 51 26.2 -1.2**
PSAD2 IAmb IAmb 23 51 45.5
comp=Z,16nm,1.1s
PSAC2 Pilbara Seismi 54.52 266 P **P** **23 51 25.8 -2.1**
PSAB3 Pilbara Seismi 54.55 266 P **P** **23 51 26.1 -2.0**
PSAA3 Pilbara Seismi 54.55 266 P **P** **23 51 26.5 -1.7**
PSAA3 IAmb IAmb 23 51 44.4
comp=Z,14nm,1.1s
PSAC3 Pilbara Seismi 54.55 266 P **P** **23 51 27.3 -0.8**
FAKI Fak Fak 54.56 293 P **P** **23 51 24.6 -3.6**
PSAB2 Pilbara Seismi 54.56 266 P **P** **23 51 26.5 -1.7**
PSAB2 IAmb IAmb 23 51 28.0
comp=Z,14nm,1.1s
PSA00 Pilbara Seismi 54.56 266 P **P** **23 51 26.6 -1.6**
PSA00 IAmb IAmb 23 51 29.3
comp=Z,11nm,1.0s
PSAB1 Pilbara Seismi 54.58 266 P **P** **23 51 26.6 -1.8**
PSAD3 Pilbara Seismi 54.59 266 P **P** **23 51 27.5 -0.8**
PSAD3 IAmb IAmb 23 51 28.6
comp=Z,13nm,1.0s
MORW Morawa 54.59 256 P **P** **23 51 25.8 -2.5**
MORW IAmb IAmb 23 51 33.3
comp=Z,8.4nm,1.0s
QSPA South Pole Qui 56.37 180 P **P** **23 51 44.1 +3.4**
comp=Z,9.7nm,0.6s,baz=0.2,slow=0.7,SNR=93
QSPA South Pole Qui 56.37 180 P **P** **23 51 40.8 +0.1**
MAW Mawson 68.80 201 P **P** **23 53 04.5 +1.2**
comp=Z,3.1nm,0.4s,baz=177,slow=3.2,SNR=12
MAW LR LR 00 22 36.5
comp=Z,76nm,18.2s,baz=66,slow=35
MAW Mawson 68.80 201 P **P** **23 53 02.6 -0.7**
SYO Syowa Base 73.61 194⇑*iP* **P** **23 53 32.0 -0.3**
SYO Syowa Base 73.61 194⇓*es*P sP 23 53 46.2 -6.3
SNAA Sanae 74.85 179 P **P** **23 53 41.5 +1.8**
SNAA Sanae 74.85 179 P **P** **23 53 41.2 +1.6**
comp=Z,3.4nm,0.8s,baz=172,slow=5.1,SNR=8.8
SNAA Sanae 74.85 179 P **P** **23 53 41.2 +1.6**
SNAA IAmb IAmb 23 53 58.4
comp=Z,13nm,1.1s
VNA3 Neumayer Olymp 75.05 177 P **P** **23 53 42.5 +1.8**
VNA2 Neumayer--Watz 75.47 177 P **P** **23 53 45.1 +2.0**
VNA1 Neumayer--Stat 75.70 177 P **P** **23 53 46.9 +2.5**
H03S2 Juan Fernandez 79.54 124 T T 01 22 26.1
baz=234,slow=74,SNR=31
H03S1 Juan Fernandez 79.55 124 T T 01 22 12.5
baz=234,slow=74,SNR=32
H03S3 Juan Fernandez 79.56 124 T T 01 22 31.8
baz=234,slow=74,SNR=29
H03N3 Juan Fernandez 79.75 123 T T 01 22 46.6
baz=239,slow=72,SNR=104
H03N2 Juan Fernandez 79.75 123 T T 01 22 43.9
baz=239,slow=72,SNR=55
H03N1 Juan Fernandez 79.77 123 T T 01 22 51.5
baz=239,slow=72,SNR=154
MJAR Matsushiro Arr 80.39 327 LR LR 00 30 35.1
comp=Z,12nm,18.1s,baz=95,slow=36
PLCA Paso Flores 81.03 133 P **P** **23 54 18.2 +3.7**
comp=Z,2.6nm,1.0s,baz=239,slow=7.9,SNR=5.9
PLCA LR LR 00 26 01.7
comp=Z,40nm,18.2s,baz=166,slow=32
LC01 Cunco 81.31 131 P **P** **23 54 17.9 +2.0**
GO05 Huala 83.59 128 P **P** **23 54 25.3 -2.6**
MT01 Popeta 84.73 127 P **P** **23 54 32.6 -1.1**
ADK Adak 85.30 2 P **P** **23 54 36.0 +0.3**
GSTR Great Sitkin T 85.52 2 P **P** **23 54 37.8 +0.8**
ATKA Atka Island 85.70 3 P **P** **23 54 38.5 +0.7**
KSRS Korea Array 86.20 321 P **P** **23 54 41.6 +1.0**
comp=Z,0.8nm,0.5s,baz=136,slow=6.4,SNR=4.7
KSRS LR LR 00 30 33.0
comp=Z,20nm,18.5s,baz=184,slow=34
PETK Petropavlovsk- 88.78 346 P **P** **23 54 53.5 +0.9**
comp=Z,3.3nm,0.6s,baz=145,slow=8.8,SNR=6.6
PFO Pinyon Flats O 89.27 48 P **P** **23 54 55.1 -0.5**
PFO IAmb IAmb 23 54 59.8
comp=Z,5.1nm,1.1s
XPFO Pion Flat 89.27 48 P **P** **23 54 55.4 -0.2**
XPFO IAmb IAmb 23 54 59.8
comp=Z,5.2nm,1.1s
MDPB Devils Postpil 90.44 44 P **P** **23 54 57.4 -3.8**
MDPB IAmb IAmb 23 55 01.8
comp=Z,6.7nm,1.1s
PNTR Pine Nut 91.15 42 P **P** **23 55 04.2 -0.1**
NVAR Mina Array Bea 91.43 43 P **P** **23 55 08.9 +3.3**
comp=Z,0.9nm,0.7s,baz=222,slow=7.6,SNR=6.4
CMAR Chiang Mai Arr 93.48 290 P **P** **23 55 16.9 +1.5**
comp=Z,0.8nm,0.4s,baz=165,slow=3.7,SNR=4.1
CMAR LR LR 00 39 41.9
comp=Z,18nm,18.0s,baz=188,slow=37
TXAR Lajitas Array 95.10 58 P **P** **23 55 26.5 +3.9**
comp=Z,0.1nm,0.4s,baz=216,slow=4.5,SNR=3.6
TXAR LR LR 00 33 30.3
comp=Z,33nm,18.1s,baz=0.0,slow=32
LPAZ La Paz 97.75 115 P Pdif 23 55 38.9 +3.1
comp=Z,0.4nm,0.7s,baz=236,slow=11,SNR=1.5
HHC Hu-ho-hao-te 97.77 314 *eP* Pdif 23 55 35.5 +1.0
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,20nm,5.5s
LZH Lanzhou 99.83 307 *eP* **Pdif** **23 55 43.5 -0.4**
LZH pP pwP 23 56 02.3 +0.3
LZH sP sP 23 56 08.8 +4.0
LZH *eP*P **PP** **23 59 52.5 +2.9**
LZH pmax pmax
comp=Z,19nm,1.4s
LZH pmax pmax
comp=Z,86nm,9.5s
LZH LR LR
comp=Z,150nm,17.3s
LZH LR LR
comp=Z,200nm,19.6s
ILAR Eielson Array 101.42 14 P **Pdif** **23 55 53.9 +3.8**
comp=Z,0.5nm,0.8s,baz=209,slow=7.0,SNR=6.3
WMQ Urumqi 114.40 307 *eP*KP PKPdf 00 00 38.0 -0.8
MKAR Makanchi Array 119.04 309 PKP **PKPdf** **00 00 47.2 -0.4**
comp=Z,0.5nm,0.4s,baz=257,slow=1.0,SNR=10.0
ZALV Zalesovo Beam 119.77 317 PKP **PKPdf** **00 00 48.2 -0.4**
comp=Z,0.9nm,0.5s,baz=152,slow=6.6,SNR=3.5
NRIK Noril'sk 122.22 335 PKP **PKiKP** **00 00 53.9 +0.8**
comp=Z,2.2nm,0.5s,baz=53,slow=3.5,SNR=4.7
KURK Kurchatov 122.53 312 **PKPdf** **00 00 53.8 -0.3**
KMBO Kilima Mbogo 131.18 232 PKP **PKiKP** **00 01 14.3 +1.2**
comp=Z,0.8nm,0.6s,baz=135,slow=2.9,SNR=3.6
GEYT Alibeck 133.89 292 PKP **PKiKP** **00 01 18.1 +0.6**
comp=Z,0.9nm,0.6s,baz=356,slow=1.9,SNR=2.7
ARCES ARCESS Array B 141.59 346 PKhKP PKPpre 00 01 26.4
comp=Z,1.1nm,0.6s,baz=28,slow=1.9,SNR=14
KBZ Khabaz 145.93 300 PKPbc **PKPbc** **00 01 38.8 +0.3**
comp=Z,4.9nm,0.9s,baz=186,slow=3.4,SNR=8.5
FIA1 FINESS Array S 147.85 337 **PKPbc** **00 01 43.5 +0.2**
FINES FINESS Array B 147.85 337 PKPbc **PKPbc** **00 01 43.4 0.0**
comp=Z,17nm,0.8s,baz=39,slow=3.5,SNR=51
VSU Vasula 149.76 333 *eP* **PKPbc** **00 01 48.8 +0.5**
NC303 NORSAR Array S 151.65 349 **PKiKP** **00 01 53.7 +0.6**
IZAR Zarasai 151.78 329 *eP* **PKiKP** **00 01 55.5 +2.0**
NB2 NORSAR Subarra 151.85 349 PKP **PKPbc** **00 01 53.5 +0.2**
comp=Z,12nm,1.0s,baz=14,slow=4.1
NOA NORSAR Array B 151.85 349 PKP **PKPdf** **00 01 47.9 +1.1**
comp=Z,1.6nm,0.8s,baz=23,slow=1.8,SNR=7.4
NOA PKPbc **PKiKP** **00 01 54.0 +0.4**
comp=Z,5.4nm,1.0s,baz=15,slow=4.6,SNR=20
ISAL Salakas 151.94 329 *eP* **PKiKP** **00 01 55.2 +1.3**
IGN Ignalina 152.05 328 *eP* **PKiKP** **00 01 54.4 +0.3**
NC602 NORSAR Array S 152.09 349 **PKiKP** **00 01 54.3 +0.3**
LIC Lamto 152.10 168 *eP*KIKP **PKiKP** **00 01 56.7 +1.1**
comp=Z,9.7nm,0.6s
KIC Kosan Boka 152.29 168 *eP*KIKP **PKiKP** **00 01 56.8 +0.9**
comp=Z,25nm,1.0s
TIC Toumodi 152.52 168 *eP*KIKP **PKiKP** **00 01 57.2 +0.8**
DBIC Dimbokro 152.57 168 PKPbc **PKiKP** **00 01 57.5 +1.0**
comp=Z,6.5nm,0.6s,baz=151,slow=5.3,SNR=7.1
DBIC Dimbokro 152.57 168 PKPab **PKiKP** **00 02 02.1 +5.6**
PABE Paberze 152.90 330 *eP* **PKiKP** **00 01 56.2 +0.3**
BR131 Keskin Array S 153.04 292 **PKPbc** **00 01 56.3 -0.5**
BRTR Keskin Array B 153.04 292 PKPbc **PKPbc** **00 01 56.1 -0.7**
comp=Z,1.5nm,0.5s,baz=143,slow=3.5,SNR=9.5
AKASG Malin Array Be 153.16 318 PKPbc **PKPbc** **00 01 56.2 -0.2**
comp=Z,1.1nm,0.4s,baz=51,slow=2.6,SNR=9.2
PBUR Paburge 153.33 333 *eP* **PKPbc** **00 01 56.8 +0.2**
TORD Torodi Ar. Bea 159.48 183 PKP **PKPdf** **00 01 58.6 +0.3**
comp=Z,0.9nm,0.8s,baz=196,slow=0.8,SNR=7.0
TORD PKPab **PKPab** **00 02 37.6 +1.4**
comp=Z,5.2nm,0.8s,baz=170,slow=3.7,SNR=13
CLL Collm 160.29 337 *e*PKPab **PKPab** **00 02 39.0 +0.1**
GERES GERESS Array B 162.07 331 PKP **PKPdf** **00 01 60.0 -0.3**
comp=Z,0.6nm,0.7s,baz=157,slow=3.8,SNR=5.7
GERES PKPab **PKPab** **00 02 46.2 -0.7**
comp=Z,0.2nm,0.5s,baz=46,slow=8.4,SNR=2.3
ESDC Sonseca Array 173.00 31 PKP **PKPdf** **00 02 09.0 +0.7**
comp=Z,1.4nm,1.1s,baz=8.5,slow=1.6,SNR=6.2
ESDC PKPab **PKPab** **00 03 37.3 +2.0**
comp=Z,0.6nm,1.0s,baz=321,slow=3.9,SNR=2.7

*IDC **29** 23:52:25.5±0.7,55.˚35S×28.˚01W,h0km,mb4.1/8, mb1 4.2/9,mb1mx4.0/29,mbtmp4.1/9,ML4.2/1,MS3.5/6, Ms1 3.5/6,ms1mx3.2/19,Error ellipse: s-maj=27.3km s-min=17.5km az=63.0*
*NEIC **29** 23:52:26.8±0.7,55.˚30S±0.˚08×28.˚0W±0.˚2,h10km±1km, mb4.3/13,Error ellipse: s-maj=23.1km s-min=3.7km az=53.0*
ISC 29 23:52:29.0±0.6,55.˚3S±0.˚1×28.˚0W±0.˚1,h26km,n35, σ0s81/28,mb4.2/10,MS3.5/6,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.99**	**278**		**Pn**	**23 53 42.1**	**+0.1**
VNA3	**Neumayer Olymp**	**17.86**	**161**	P	**P**	**23 56 35.9**	**+0.1**
SNAA	**Sanae**	**19.62**	**156**	P	**P**	**23 56 54.7**	**-0.4**
SNAA				x	x	23 56 54.8	
SNAA	**Sanae**	**19.62**	**156**	P	**P**	**23 56 54.0**	**-1.1**
	0.7nm,0.3s,baz=298,slow=11,SNR=14						
SNAA	**Sanae**	**19.62**	**156**	P	**P**	**23 56 54.5**	**-0.7**
QSPA	**South Pole Qui**	**34.95**	**180**	P	**P**	**23 59 18.2**	**-0.3**
	1.7nm,0.7s,baz=208,slow=1.4,SNR=20						
QSPA	**South Pole Qui**	**34.95**	**180**	IAmb	IAmb	23 59 32.3	
	comp=Z,2.4nm,0.9s						
CPUP	**Villa Florida**	**35.95**	**312**	LR	LR	00 12 43.1	
	comp=Z,52nm,20.0s,baz=154,slow=34						
CPUP	**Villa Florida**	**35.95**	**312**	P	**P**	**23 59 26.5**	**-0.7**
MAW	**Mawson**	**41.04**	**144**	P	**P**	**00 00 09.2**	**-0.2**
	comp=Z,2.4nm,1.0s,baz=275,slow=11,SNR=2.9						
MAW	**Mawson**	**41.04**	**144**	IAmb	IAmb	00 00 11.5	
	comp=Z,0.6nm,1.0s						
AC01	**Pan de Azucar**	**42.42**	**296**	P	**P**	**00 00 19.2**	**-2.1**
BDFB	**Brasilia**	**42.47**	**331**	LR	LR	00 18 43.1	
	comp=Z,76nm,18.6s,baz=150,slow=37						
LVC	**Limon Verde**	**44.50**	**300**	P	**P**	**00 00 37.9**	**-0.6**
	comp=Z,2.1nm,0.6s,baz=263,slow=11,SNR=2.7						
LVC	**Limon Verde**	**44.50**	**300**	IAmb	IAmb	00 00 42.3	
	comp=Z,4.9nm,1.1s						
PB01	**IPOC Station P**	**46.11**	**301**	P	**P**	**00 00 51.5**	**+0.5**
PB01				IAmb	IAmb	00 00 53.6	
	comp=Z,6.3nm,1.0s						
BOSA	**Boshof**	**46.27**	**77**	P	**P**	**00 00 52.2**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=234,slow=5.0,SNR=3.7						
BOSA	**Boshof**	**46.27**	**77**	P	**P**	**00 00 51.1**	**-1.0**
BOSA				IAmb	IAmb	00 00 57.3	
	comp=Z,3.1nm,0.9s						
SIV	**San Ignacio**	**46.71**	**314**	P	**P**	**00 00 56.0**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=133,slow=2.8,SNR=3.7						
SIV				LR	LR	00 17 29.3	
	comp=Z,39nm,21.1s,baz=78,slow=32						
PB08	**IPOC Station P**	**46.71**	**302**	P	**P**	**00 00 56.5**	**+0.5**
VNDA	**Vanda**	**47.30**	**183**	P	**P**	**00 01 00.1**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=173,slow=3.3,SNR=12						
VNDA	**Vanda**	**47.30**	**183**	P	**P**	**00 01 01.1**	**+1.6**
VNDA				IAmb	IAmb	00 01 04.9	
	comp=Z,1.7nm,0.8s						
MNMC	**Minye Minye**	**47.79**	**302**	P	**P**	**00 01 05.0**	**+0.7**
LPAZ	**La Paz**	**49.55**	**306**	P	**P**	**00 01 19.3**	**+1.1**
	comp=Z,1.8nm,0.5s,baz=132,slow=6.4,SNR=12						
LPAZ	**La Paz**	**49.55**	**306**	P	**P**	**00 01 18.6**	**+0.4**
LPAZ				IAmb	IAmb	00 01 20.4	
	comp=Z,2.1nm,0.6s						
PTGA	**Pitinga**	**60.28**	**322**	LR	LR	00 28 44.2	
	comp=Z,33nm,20.5s,baz=150,slow=36						
ROSC	**El Rosal**	**71.03**	**310**	LR	LR	00 37 15.7	
	comp=Z,34nm,18.4s,baz=98,slow=38						
TOA0	**Torodi Ar. Sit**	**72.64**	**30**	P	**P**	**00 03 54.4**	**+0.3**
TOA0				IAmb	IAmb	00 03 55.9	
	comp=Z,3.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.64**	**30**	P	**P**	**00 03 55.3**	**+1.2**
	comp=Z,3.2nm,0.7s,baz=201,slow=5.7,SNR=6.6						
TORD				LR	LR	00 30 26.3	
	comp=Z,53nm,18.5s,baz=110,slow=31						
FINES	**FINESS Array B**	**123.94**	**28**	PKP	**PKiKP**	**00 11 23.7**	**+0.2**
	comp=Z,2.1nm,1.0s,baz=152,slow=8.6,SNR=4.7						
ARCES	**ARCESS Array B**	**130.43**	**22**	PKP	**PKPdf**	**00 11 35.5**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=336,slow=7,SNR=4.9						
YKA	**Yellowknife Ar**	**135.29**	**319**	PKP	**PKiKP**	**00 11 45.8**	**-0.4**
	comp=Z,0.6nm,0.8s,baz=130,slow=2.4,SNR=3.9						
ILAR	**Eielson Array**	**149.25**	**313**	PKPbc	**PKiKP**	**00 12 14.3**	**-0.4**
	comp=Z,4.7nm,0.8s,baz=127,slow=2.1,SNR=50						
SONM	**Songino Array**	**151.16**	**86**	PKPbc	**PKiKP**	**00 12 19.2**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=203,slow=3.5,SNR=7.1						
PETK	**Petropavlovsk-**	**175.98**	**239**	PKP	**PKPdf**	**00 12 36.1**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=294,slow=10,SNR=4.8						

IDC 30 00:18:40.1±1.3,55.˚25S×28.˚24W,h0km,mb3.8/4, mb1 4.0/4,mb1mx3.8/18,mbtmp3.8/4,Error ellipse: s-maj=44.8km s-min=32.4km az=72.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**35.84**	**312**	P	P	00 25 40.8	-0.4
	1.6nm,0.6s,baz=43,slow=11,SNR=3.4						
VNDA	**Vanda**	**47.34**	**183**	P	P	00 27 14.5	-0.4
	0.4nm,0.6s,baz=182,slow=7.4,SNR=4.1						
LPAZ	**La Paz**	**49.43**	**306**	P	P	00 27 32.2	-0.2
	0.7nm,0.7s,baz=139,slow=4.5,SNR=5.5						
TORD	**Torodi Ar. Bea**	**72.66**	**31**	P	P	00 30 09.2	-0.1
	0.9nm,0.7s,baz=201,slow=5.9,SNR=6.0						
ILAR	**Eielson Array**	**149.14**	**313**	PKPbc	PKPbc	00 38 28.8	0.0
	1.6nm,0.7s,baz=128,slow=2.1,SNR=20						

*NEIC **30** 00:46:12.8±2.4,17.˚17N±0.˚05×94.˚84W±0.˚05,h124km±6km, Error ellipse: s-maj=8.8km s-min=6.7km az=219.0*
*IDC **30** 00:46:13.2±0.5,17.˚15N×94.˚69W,h123km±5km,mb3.6/13, mb1 3.8/16,mb1mx3.6/44,mbtmp4.0/16,MS2.8/1, Ms1 2.8/1,ms1mx2.3/27,Error ellipse: s-maj=19.8km s-min=12.5km az=63.0*
*UNK **30** 00:46:14.0,17.˚16N×94.˚87W,h128km*
*MEX **30** 00:46:14.5±1.0,17.˚15N×94.˚87W,h125km±6km,MD4.5*
ISC 30 00:46:12.9±0.5,17.˚15N±0.˚04×94.˚85W±0.˚03,h127km±4km, h127km:pP-P,n346,σ1932/340,mb4.4/56,6C-5D,Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.06**	**209**	P	**Pn**	**00 46 30.2**	**0.0**
	2μm,0.3s,baz=181,slow=2.3						
CMIG				S	**Sn**	**00 46 42.2**	**-0.9**
	1μm,0.3s,baz=32,slow=23,SNR=162						
CMIG	**Matias Romero**	**0.06**	**209**⇓*eP*		**Pn**	**00 46 30.1**	**0.0**
CMIG				*i* S	**Sn**	**00 46 42.4**	**-0.7**
TUIG	**Tuzandepetl**	**0.97**	**25**		**Pn**	**00 46 35.8**	**+0.5**
TUIG					**Sn**	**00 46 50.8**	**-1.4**
TUIG	**Tuzandepetl**	**0.97**	**25**⇓*iP*		**Pn**	**00 46 35.8**	**+0.5**
TUIG				*i* S	**Sn**	**00 46 52.0**	**-0.2**
TGIG		**1.69**	**102**		**Pn**	**00 46 43.5**	**+0.4**
TGIG					**Sn**	**00 47 05.3**	**-0.8**
TGIG		**1.69**	**102**⇓*eP*		**Pn**	**00 46 43.5**	**+0.4**
TGIG				*e*S	**Sn**	**00 47 05.3**	**-0.8**
VHO	**Vista Hermosa**	**1.80**	**268**⇑*eP*		**Pn**	**00 46 44.9**	**+0.4**
VHO				*e*S	**Sn**	**00 47 08.6**	**0.0**
HUIG	**Huatulco**	**1.82**	**222**		**Pn**	**00 46 42.2**	**-2.4**
HUIG					**Sn**	**00 47 06.0**	**-2.8**
HUIG	**Huatulco**	**1.82**	**222**⇑*eP*		**Pn**	**00 46 42.2**	**-2.4**
HUIG				*i* S	**Sn**	**00 47 06.4**	**-2.4**
PCIG		**2.12**	**132**		**Pn**	**00 46 48.5**	**+0.3**
PCIG					**Sn**	**00 47 15.3**	**0.0**
PCIG		**2.12**	**132**⇓*eP*		**Pn**	**00 46 48.5**	**+0.3**
PCIG				*e*S	**Sn**	**00 47 15.3**	**0.0**
TOIG	**Toxpalan**	**2.31**	**294**	*eP*	**Pn**	**00 46 51.2**	**+0.5**
TOIG				*i* S	**Sn**	**00 47 19.2**	**-0.5**
YOIG	**Yosondua**	**2.59**	**264**⇑*eP*		**Pn**	**00 46 53.9**	**-0.6**
YOIG				*i* S	**Sn**	**00 47 24.9**	**-1.5**
TPIG	**Tehuac#an**	**2.71**	**298**		**Pn**	**00 46 56.7**	**+0.9**
TPIG					**Sn**	**00 47 28.4**	**-0.4**
TPIG	**Tehuac#an**	**2.71**	**298**	*eP*	**Pn**	**00 46 56.7**	**+0.9**
TPIG				*i* S	**Sn**	**00 47 28.4**	**-0.4**

CCIG Comitan 2.74 108 **Pn** **00 46 57.2 +0.9**
CCIG **Sn** **00 47 24.9 -4.6**
CCIG Comitan 2.74 108⇑*eP* **Pn** **00 46 57.0 +0.8**
CCIG *e*S **Sn** **00 47 29.3 -0.3**
TXIG Tlaxiaco 2.79 273⇑*iP* **Pn** **00 46 57.2 +0.2**
TXIG *i* S **Sn** **00 47 28.9 -2.0**
LVIG Laguna Verde 2.96 330 **Pn** **00 46 57.6 -1.4**
LVIG **Sn** **00 47 31.3 -3.1**
LVIG Laguna Verde 2.96 330⇓*iP* **Pn** **00 46 57.4 -1.5**
LVIG *i* S **Sn** **00 47 31.3 -3.1**
THIG 3.34 131 **Pn** **00 47 01.4 -2.5**
THIG **Sn** **00 47 44.2 +0.9**
THIG 3.34 131 *i* P **Pn** **00 47 00.5 -3.4**
THIG eS **Sn** **00 47 44.2 +0.9**
PPM Popocatepetl 4.07 299 *eP* **Pn** **00 47 16.8 +2.8**
PPM *i* S **Sn** **00 47 55.5 -5.7**
VTVM Tizayuca 4.55 306 *eP* **Pn** **00 47 22.4 +2.2**
UNM Universidad Na 4.65 298 Pn **Pn** **00 47 23.7 +2.2**
MAVM Malinalco, Edo 4.77 293 **Pn** **00 47 25.2 +2.1**
MAVM Malinalco, Edo 4.77 293 *i* P **Pn** **00 47 25.2 +2.1**
TOVM TOLUCA 5.05 296 **Pn** **00 47 30.1 +3.1**
TOVM TOLUCA 5.05 296 *i* P **Pn** **00 47 30.1 +3.1**
DEIG Demacu 5.06 309 *i* P **Pn** **00 47 29.6 +2.7**
DEIG *i* P **Pn** **00 47 29.9 +3.0**
ACIG Acambay 5.54 301 *i* P **Pn** **00 47 35.3 +1.9**
MOIG Morelia 6.52 294 Pn **Pn** **00 47 47.7 +1.0**
TEIG Tepich 6.94 63 P **Pn** **00 47 50.4 -1.7**
17nm,0.3s,baz=319,slow=1.9,SNR=54
TEIG S **Sn** **00 49 05.5 -4.3**
25nm,0.3s,baz=319,slow=22,SNR=10
TEIG LR LR 00 51 01.0
comp=Z,79nm,20.8s,baz=136,slow=42
TEIG Tepich 6.94 63 *iP* **Pn** **00 47 50.5 -1.7**
TEIG *e*S **Sn** **00 49 03.9 -5.9**
TGUH Tegucigalpa,Un 7.92 112 Pn **Pn** **00 48 05.3 -0.2**
ESPN Las Esperanzas 11.33 114 Pn **Pn** **00 48 51.4 +0.2**
JTS Las Juntas de 11.78 124 P **Pn** **00 48 57.1 -0.1**
2.2nm,0.3s,baz=20,slow=19,SNR=7.3
833A Chaparral WMA, 11.89 340 P **Pn** **00 48 59.8 +1.4**
baz=159
833A Chaparral WMA, 11.89 340 Pn **Pn** **00 48 59.9 +1.4**
HKT Hockley 12.78 356 Pn **Pn** **00 49 10.7 +0.7**
FSCY Frank Sound, G 13.16 78 Pn **Pn** **00 49 15.2 +0.1**
435B Jarrell 13.80 350 P **Pn** **00 49 24.9 +1.6**
baz=169
435B Jarrell 13.80 350 P **P** **00 49 28.2 +0.8**
JCT Junction City 14.02 342 **P** **00 49 29.3 -0.7**
342A Flagon Creek P 14.35 9 Pn **Pn** **00 49 30.4 +0.2**
NATX Nacogdoches 14.55 1 Pn **Pn** **00 49 34.1 +1.4**
TXAR Lajitas Array 14.58 328 P **Pn** **00 49 32.8 -0.5**
0.1nm,0.3s,baz=166,slow=15,SNR=5.1
TX31 Lajitas Ar. Si 14.58 328 P **Pn** **00 49 32.5 -0.7**
TX32 Lajitas Array 14.58 328 P **Pn** **00 49 33.5 +0.2**
344A Westbrook Farm 14.73 14 Pn **Pn** **00 49 35.4 +0.4**
237A Washetta, Mont 14.82 357 **Pn** **00 49 35.1 -1.0**
WHTX Lake Whitney, 14.97 351 P **Pn** **00 49 38.8 +0.8**
baz=170
WHTX Lake Whitney, 14.97 351 P **P** **00 49 39.7 -0.7**
346A Big Creek Wild 15.00 18 P **P** **00 49 39.8 -1.0**
ABTX Abilene, Hawle 16.01 345 P **P** **00 49 51.5 -0.4**
baz=163,SNR=5.1
ABTX Abilene, Hawle 16.01 345 **P** **00 49 52.2 +0.3**
ABTX IAmb IAmb 00 49 55.1
comp=Z,16nm,0.6s
Z38A Mt. Pleasant 16.05 360 P **Pn** **00 49 51.9 +0.5**
553A Crawfordville 16.10 34 Pn **Pn** **00 49 52.3 +0.2**
Z41A Richland Creek 16.15 6 P **Pn** **00 49 52.8 +0.1**
baz=187,SNR=10
Z41A Richland Creek 16.15 6 P **P** **00 49 53.3 -0.2**
146A Union 16.29 18 P **Pn** **00 49 53.6 -0.8**
146A IAmb IAmb 00 50 00.3
comp=Z,37nm,0.8s
DWPF Disney Wildern 16.49 46 P **Pn** **00 49 55.5 -1.4**
baz=231
DWPF Disney Wildern 16.49 46 Pn **Pn** **00 49 56.0 -0.9**
WLAR White Oak Lake 16.55 5 P **Pn** **00 49 57.4 -0.1**
WLAR IAmb IAmb 00 50 05.7
comp=Z,37nm,1.2s
656A Willston 16.60 41 P **Pn** **00 49 58.3 +0.1**
250A Grady 16.69 26 P **P** **00 50 00.5 +1.0**
CCAR Cane Creek 16.93 9 P **P** **00 50 01.6 -0.4**
CCAR IAmb IAmb 00 50 05.8
comp=Z,33nm,0.7s
Z47A Carrollton 17.11 20 P **P** **00 50 03.6 -0.5**
Y45A Yeager Farm, C 17.32 15 **Pn** **00 50 06.7 -0.2**
LRAL Lakeview Retre 17.33 23 P **P** **00 50 06.4 -0.1**
baz=206,SNR=12
LRAL Lakeview Retre 17.33 23 P **P** **00 50 06.6 +0.1**
MNTX Cornudas Mount 17.36 329 P **Pn** **00 50 08.0 +0.6**
baz=144
X40A Basin Creek Fa 17.36 6 P **P** **00 50 06.9 0.0**
baz=186
X40A Basin Creek Fa 17.36 6 P **P** **00 50 06.8 0.0**
MIAR Mount Ida 17.36 4 P **Pn** **00 50 07.4 -0.1**
baz=184,SNR=22
MIAR Mount Ida 17.36 4 P **P** **00 50 06.9 0.0**
MIAR IAmb IAmb 00 50 08.6
comp=Z,22nm,0.8s
X37A Clayton 17.38 359 P **Pn** **00 50 08.0 +0.4**
X37A IAmb IAmb 00 50 11.3
comp=Z,27nm,1.1s
X34A Smith Ranch, M 17.59 352 P **Pn** **00 50 10.9 +0.8**
X34A IAmb IAmb 00 50 24.6
comp=Z,27nm,1.1s
X43A Marvell 17.66 11 P **P** **00 50 09.7 -0.4**
baz=193
X43A Marvell 17.66 11 P **P** **00 50 08.7 -1.4**
UALR University of 17.70 7 P **Pn** **00 50 11.4 -0.1**
UALR IAmb IAmb 00 50 13.2
comp=Z,28nm,0.7s
WMOK Wichita Mounta 17.87 349 P **Pn** **00 50 13.5 0.0**
baz=168,SNR=5.5
WMOK Wichita Mounta 17.87 349 P **Pn** **00 50 13.3 -0.2**
456A Hilliard 17.87 39 **P** **00 50 11.8 -0.7**
OXF Oxford 17.97 15 P **P** **00 50 13.3 -0.2**
baz=197
W39A Magazine 18.00 3 P **Pn** **00 50 15.0 0.0**
baz=183,SNR=24
W39A Magazine 18.00 3 IAmb IAmb 00 50 15.8
comp=Z,17nm,0.7s
W41B Gary Mavity, V 18.10 7 P **P** **00 50 15.5 +0.6**
baz=188,SNR=12
W41B Gary Mavity, V 18.10 7 IAmb IAmb 00 50 17.9
comp=Z,23nm,1.1s
FNO Franklin 18.18 353 P **Pn** **00 50 17.4 +0.2**
MSTX Muleshoe 18.20 338 P **Pn** **00 50 17.5 -0.1**
baz=155
WHAR Wooly Hollow 18.21 7 P **Pn** **00 50 17.1 -0.5**
WHAR IAmb IAmb 00 50 28.3
comp=Z,22nm,1.1s
Y49A Blount Mountai 18.29 23 P **P** **00 50 17.0 0.0**
Z51A Franklin 18.31 27 P **P** **00 50 17.2 -0.1**
OKCSW OKLAHOMA CITY 18.33 353 P **P** **00 50 18.0 +0.5**
OKCFA Oklahoma City 18.34 353 P **Pn** **00 50 18.4 -0.7**
255A Hazlehurst 18.50 35 P **P** **00 50 18.9 -0.5**
255A IAmb IAmb 00 50 30.0
comp=Z,21nm,0.7s
X48A Hartselle 18.60 21 IAmb IAmb 00 50 39.6
comp=Z,16nm,0.7s
W45A Hickory Valley 18.64 15 P **P** **00 50 20.5 -0.3**
AMTX Amarillo 18.69 342 P **P** **00 50 22.3 +0.8**
baz=159
AMTX Amarillo 18.69 342 P **Pn** **00 50 23.3 0.0**
AM

U40A Yellville 19.22 5 P P 00 50 27.7 +0.5
baz=186,SNR=43
U38A Gravette 19.22 1 IAmb IAmb 00 50 28.4
comp=Z,13nm,0.6s
121A Cookes Peak, D 19.27 325 P Pn 00 50 29.4 -0.9
baz=140
PEBM Pemiscott Bayo 19.41 12 P P 00 50 29.2 0.0
U32A Winter Ranch, 19.51 350 P P 00 50 31.3 +1.0
U32A IAmb IAmb 00 50 35.6
comp=Z,28nm,1.1s
X51A Calhoun 19.52 25 IAmb IAmb 00 50 30.2
comp=Z,11nm,0.6s
SWET Sewanee 19.68 22 IAmb IAmb 00 50 31.9
comp=Z,20nm,0.5s
V48A Smith Brothers 19.85 20 IAmb IAmb 00 50 50.5
comp=Z,7.8nm,0.6s
157A Early Branch 19.89 36 P P 00 50 33.8 -0.6
baz=222
W50A Signal Mountai 19.89 24 IAmb IAmb 00 50 34.2
comp=Z,17nm,0.6s
WVT Waverly 19.91 17 P P 00 50 34.3 -0.3
baz=200
WVT Waverly 19.91 17 P P 00 50 34.6 0.0
WVT IAmb IAmb 00 50 49.7
comp=Z,9.8nm,0.6s
PBMO Poplar Bluff 19.94 10 IAmb IAmb 00 50 35.6
comp=Z,22nm,0.9s
MGMO Mountain Grove 20.06 6 P P 00 50 35.8 -0.4
MGMO IAmb IAmb 00 50 38.6
comp=Z,11nm,0.7s
LENM Lemitar 20.13 330 P P 00 50 36.5 -0.7
Y55A Saluda 20.39 32 P P 00 50 38.7 -1.1
baz=218
HODGE Hodges 20.42 31 P P 00 50 39.6 -0.5
CPCT Cooper Cave 20.42 25 P P 00 50 39.4 -0.7
CPCT IAmb IAmb 00 50 55.9
comp=Z,11nm,0.7s
S39A Bolivar 20.51 3 IAmb IAmb 00 50 41.8
comp=Z,8.5nm,0.6s
Z57A Bowman 20.52 36 P P 00 50 40.4 -0.7
baz=222
ANMO Albuquerque 20.54 332 P Pn 00 50 43.5 -1.5
comp=Z,1.1nm,0.7s,baz=159,slow=11,SNR=5.1
ANMO Albuquerque 20.54 332 P P 00 50 42.6 +1.0
T45A Paducah 20.54 14 P P 00 50 40.6 -0.7
X54A Belton 20.61 30 P P 00 50 41.4 -0.8
baz=216
NHSC New Hope 20.68 37 P P 00 50 42.6 -0.2
baz=223
NHSC New Hope 20.68 37 P P 00 50 41.8 -1.0
NHSC IAmb IAmb 00 50 49.4
comp=Z,24nm,0.9s
BG3 Lake Jocassee 20.72 29 P P 00 50 42.8 -0.5
BG3 IAmb IAmb 00 50 59.7
comp=Z,19nm,0.7s
V51A Loudon 20.80 25 P P 00 50 43.4 -0.7
V51A IAmb IAmb 00 51 00.6
comp=Z,12nm,0.7s
TUC Tucson 20.87 319 P P 00 50 45.9 +0.8
baz=133
U49A Red Boiling Sp 20.90 21 IAmb IAmb 00 51 03.3
comp=Z,12nm,0.5s
TKL Tuckaleechee C 20.91 26 P P 00 50 43.8 -1.5
comp=Z,8.2nm,0.7s,baz=194,slow=14,SNR=12
TKL Tuckaleechee C 20.91 26 IAmb IAmb 00 51 02.0
comp=Z,12nm,0.9s
X55A Gracelyn & Ava 20.92 32 P P 00 50 43.8 -1.7
baz=218
JSC Jenkinsville 20.96 33 P P 00 50 44.9 -1.0
S44A Carbondale 21.05 12 IAmb IAmb 00 50 49.8
comp=Z,15nm,0.7s
CCM Cathedral Cave 21.07 8 P P 00 50 46.5 -0.6
baz=190
CCM Cathedral Cave 21.07 8 P P 00 50 46.3 -0.7
CCM IAmb IAmb 00 50 47.1
comp=Z,13nm,0.6s
V52A Sevierville 21.14 26 P P 00 50 47.4 -0.5
V52A IAmb IAmb 00 51 04.9
comp=Z,8.0nm,0.7s
W54A Cherokee Point 21.14 30 P P 00 50 47.4 -0.4
baz=216,SNR=8.7
R40A Maddies Statio 21.19 6 IAmb IAmb 00 50 49.2
comp=Z,9.0nm,0.6s
X56A White Oak 21.25 33 P P 00 50 47.8 -1.1
baz=219
R32A Long Quarter, 21.47 352 P P 00 50 51.5 +0.1
KMSC Kings Mountain 21.60 31 P P 00 50 51.8 -1.0
baz=217
KMSC Kings Mountain 21.60 31 IAmb IAmb 00 50 53.0
comp=Z,9.2nm,0.7s
T25A Trinidad 21.63 339 P P 00 50 53.0 -0.3
BIRD Birdtown, Kers 21.66 34 P P 00 50 52.2 -1.2
TZTN Tazewell 21.76 25 P P 00 50 52.9 -1.6
baz=210
TZTN Tazewell 21.76 25 P P 00 50 52.9 -1.6
SLM Saint Louis 21.79 10 P P 00 50 54.1 -0.6
SLM IAmb IAmb 00 50 55.3
comp=Z,16nm,0.8s
V54A Nebo 21.82 29 P P 00 50 54.2 -0.9
baz=215
KSU1 Kansas State U 21.93 356 P P 00 50 56.9 +0.7
baz=176
KSU1 Kansas State U 21.93 356 P P 00 50 56.7 +0.5
KSU1 IAmb IAmb 00 50 59.6
comp=Z,8.4nm,0.5s
214A Organ Pipe Nat 21.96 315 P P 00 50 59.3 +2.7
baz=128
214A Organ Pipe Nat 21.96 315 P P 00 50 58.4 +1.8
W56A Indian Trail 21.98 33 P P 00 50 55.7 -1.0
baz=219
V55A Taylorsville 22.23 30 P P 00 50 58.0 -1.2
baz=216,SNR=6.8
Q44A Meyer Farm, Va 22.27 12 IAmb IAmb 00 50 59.4
comp=Z,19nm,0.8s
W57A Gilead 22.30 34 P P 00 50 58.7 -1.3
baz=220
W57A Gilead 22.30 34 P P 00 50 58.4 -1.6
OLIL Olney 22.30 14 IAmb IAmb 00 50 59.7
comp=Z,17nm,0.8s
WCI Wyandotte Cave 22.31 18 P P 00 50 58.9 -1.2
baz=202
WCI Wyandotte Cave 22.31 18 P P 00 50 58.8 -1.2
WCI IAmb IAmb 00 50 59.7
comp=Z,24nm,0.7s
P38A Dawn 22.43 3 IAmb IAmb 00 51 00.8
comp=Z,9.2nm,0.7s
P40A Paris 22.44 6 IAmb IAmb 00 51 00.8
comp=Z,18nm,0.7s
Y60A Bolivia 22.46 38 P P 00 51 00.7 -0.9
baz=226
U54A Nelsons Funny 22.49 28 P P 00 51 00.9 -1.1
baz=214
U54A Nelsons Funny 22.49 28 IAmb IAmb 00 51 01.5
comp=Z,15nm,0.7s
V56A Mocksville 22.55 32 P P 00 51 01.1 -1.3
baz=218
T53A Wise 22.56 26 P P 00 51 01.0 -1.6
baz=212
W58A Raeford 22.61 35 P P 00 51 01.2 -1.9
baz=222
S51A Beattyville 22.69 24 P P 00 51 02.4 -1.5
S51A pP 00 51 26.1 -1.8
R49A Shelbyville 22.71 20 IAmb IAmb 00 51 02.9
comp=Z,13nm,0.6s
R49A pP 00 51 26.6 -1.5
X16A Lo Mia Camp, P 22.72 322 P P 00 51 05.3 +0.8
URIC Uribia, Colomb 22.78 101 P P 00 51 04.4 -0.5
KSCO Kaye Shedlock' 22.82 344 P P 00 51 05.4 +0.2
baz=161
U55A TA2, Sparta 22.83 30 P P 00 51 03.9 -1.4
baz=216,SNR=8.2
P43A Skaggs, Pawnee 22.89 11 IAmb IAmb 00 51 05.9
comp=Z,15nm,0.8s
V57A Coltrane Farms 22.98 33 P P 00 51 05.5 -1.1
baz=220
U56A King 23.03 31 P P 00 51 06.0 -1.1
baz=218
T54A Tazewell 23.04 28 P P 00 51 06.0 -1.3
baz=214
V58A Windy Hill, Pi 23.25 34 P P 00 51 08.4 -0.7
baz=221
S53A Williamson 23.32 26 P P 00 51 09.0 -0.8
baz=212
MVCO Mesa Verde 23.33 332 P P 00 51 11.4 +1.3
baz=145
P46A Rosedale 23.36 15 IAmb IAmb 00 51 10.3
comp=Z,22nm,0.8s

T55A Pulaski 23.45 29 P P 00 51 09.8 -1.2
baz=216
WUAZ Wupatki 23.48 324 P P 00 51 14.6 +3.2
baz=137
U57A Blanch 23.62 33 P P 00 51 11.3 -1.2
baz=220
BLA Blacksburg 23.70 30 P P 00 51 11.8 -1.4
baz=216
BLA Blacksburg 23.70 30 P P 00 51 12.1 -1.1
P48A Milroy 23.70 18 IAmb IAmb 00 51 12.8
comp=Z,18nm,0.7s
T56A Rocky Mt 23.74 31 P P 00 51 11.9 -1.7
baz=217,SNR=5.9
S54A Dingess, Beckl 23.77 27 P P 00 51 12.7 -1.2
baz=214
S54A Dingess, Beckl 23.77 27 P P 00 51 12.7 -1.2
HDIL Hopedale 23.82 11 P P 00 51 13.4 -0.8
baz=193
HDIL Hopedale 23.82 11 P P 00 51 13.1 -1.1
HDIL IAmb IAmb 00 51 14.6
comp=Z,11nm,0.6s
VWCC Virginia Weste 23.94 30 P P 00 51 14.0 -1.4
R53A Hurricane 23.95 26 P P 00 51 14.6 -0.8
baz=212
R53A Hurricane 23.95 26 P P 00 51 14.7 -0.7
GLA Glamis 23.97 315 P P 00 51 17.5 +1.8
baz=127
P49A Miami Univ. Ec 23.99 20 P P 00 51 14.0 -1.8
baz=204,SNR=9.9
P49A Miami Univ. Ec 23.99 20 IAmb IAmb 00 51 15.5
comp=Z,18nm,0.7s
Q51A Peebles 24.00 22 IAmb IAmb 00 51 16.0
comp=Z,8.1nm,0.7s
T57A Hurt 24.10 32 P P 00 51 15.8 -1.1
baz=219
T57A Hurt 24.10 32 P P 00 51 15.5 -1.3
SFIN Lafayette 24.11 15 P P 00 51 15.7 -1.1
baz=198
SFIN Lafayette 24.11 15 P P 00 51 14.9 -1.9
SFIN IAmb IAmb 00 51 17.2
comp=Z,13nm,0.6s
S55A Lewisburg 24.11 29 P P 00 51 14.6 -2.4
baz=215
R54A Victor 24.23 27 P P 00 51 17.6 -0.4
baz=214
PV02 Paradox Valley 24.26 333 P P 00 51 19.7 +1.1
PV03 Paradox Valley 24.35 332 P P 00 51 19.9 +0.6
Q52A Bidwell 24.36 24 P P 00 51 18.1 -1.0
baz=210
PV18 Skein Mesa, Pa 24.37 332 P P 00 51 20.2 +0.7
PV17 East Wray Mesa 24.42 332 P P 00 51 20.2 +0.3
T58A Grand View Acr 24.43 33 P P 00 51 19.3 -0.5
baz=220
S56A Natural Bridge 24.48 30 P P 00 51 19.1 -1.1
baz=217
P51A Williamsport 24.51 22 P P 00 51 20.2 -0.3
baz=208
O48A Farmland 24.52 18 P P 00 51 18.6 -1.9
baz=203,SNR=17
PV14 Lion Creek, Pa 24.52 332 P P 00 51 21.0 +0.1
PV22 Blue Mesa, Par 24.56 333 P P 00 51 21.9 +0.7
PV23 Carpenter Ridg 24.59 333 P P 00 51 21.9 +0.3
R55A Marlinton 24.70 29 P P 00 51 21.2 -1.2
baz=216
R55A Marlinton 24.70 29 IAmb IAmb 00 51 24.2
comp=Z,9.7nm,0.8s
SCIA State Center 24.72 3 P P 00 51 22.6 +0.2
baz=184
BC3 Big Chuckawall 24.75 315 P P 00 51 23.7 +0.8
baz=127
Q54A Coxs Mills 24.96 27 P P 00 51 22.9 -1.7
baz=213
P52A Corning 24.99 24 P P 00 51 22.9 -2.0
baz=210
P52A Corning 24.99 24 P P 00 51 23.2 -1.7
L40A Anamosa 25.03 6 P P 00 51 25.9 +0.7
L40A IAmb IAmb 00 51 26.6
comp=Z,11nm,0.8s
P53A Whipple 25.16 25 P P 00 51 25.5 -0.9
baz=212
P53A Whipple 25.16 25 P P 00 51 25.7 -0.7
P53A IAmb IAmb 00 51 29.5
comp=Z,11nm,1.1s
L42A Oliver, Polo 25.17 9 IAmb IAmb 00 51 28.4
comp=Z,18nm,0.9s
S58A Poland Farm, P 25.18 33 P P 00 51 25.8 -0.8
baz=220
ACSO Alum Creek Sta 25.20 22 P P 00 51 25.7 -1.1
baz=208
O51A Pakala 25.26 22 P P 00 51 27.0 -0.3
baz=208
Q55A Buckhannon 25.30 28 P P 00 51 28.1 +0.4
baz=215
PFO Pinyon Flats O 25.41 314 P P 00 51 30.3 +1.4
baz=125
N49A Columbus Grove 25.42 19 P P 00 51 27.9 -0.8
N49A IAmb IAmb 00 51 30.2
comp=Z,6.1nm,0.7s
R57A Stanardsville 25.47 31 P P 00 51 28.8 -0.5
baz=213
O52A Adamsville 25.52 24 P P 00 51 28.4 -1.3
baz=210
O52A Adamsville 25.52 24 P P 00 51 28.3 -1.4
O52A IAmb IAmb 00 51 29.0
comp=Z,7.1nm,0.8s
GMRC Granite Mounta 25.57 317 P P 00 51 31.2 +0.8
baz=128
P54A Burton 25.63 26 P P 00 51 30.0 -0.7
baz=213
L44A Lake County Fo 25.65 12 P P 00 51 30.1 -0.7
baz=196
R58A Rapidan 25.73 32 P P 00 51 30.2 -1.4
baz=220
O53A New Philadelph 25.88 24 P P 00 51 31.9 -1.0
baz=211
JFWS Jewell Farm 25.98 8 P P 00 51 33.1 -0.7
baz=190,SNR=8.6
K43A Burlington 26.07 11 P P 00 51 33.2 -1.4
K43A IAmb IAmb 00 51 51.0
comp=Z,10.0nm,0.6s
O54A Avella 26.16 26 P P 00 51 34.6 -0.9
baz=213
N53A Lisbon 26.50 24 P P 00 51 37.2 -1.3
baz=211
N53A Lisbon 26.50 24 P P 00 51 37.0 -1.5
N53A IAmb IAmb 00 51 37.9
comp=Z,6.3nm,0.6s
S61A Accomac 26.51 36 P P 00 51 37.4 -1.2
ECSD EROS Data Cent 26.55 357 P P 00 51 40.0 +1.1
baz=176,SNR=8.5
ECSD EROS Data Cent 26.55 357 P P 00 51 39.7 +0.8
ECSD IAmb IAmb 00 51 40.8
comp=Z,5.7nm,0.8s
GSC Goldstone, Bar 26.63 317 P P 00 51 40.4 +0.5
baz=127
P58A Pank, Wackersv 27.00 31 P P 00 51 42.4 -0.6
baz=219
N55A Marion Center 27.25 27 P P 00 51 45.5 +0.3
baz=215
Q60A Greensboro 27.38 34 P P 00 51 45.5 -0.8
baz=223
SPMN Marine on St. 28.05 3 P P 00 51 51.9 -0.3
baz=184
SPMN Marine on St. 28.05 3 P P 00 51 51.3 -0.9
SPMN IAmb IAmb 00 51 52.5
comp=Z,10nm,0.7s
P60A Greenville 28.08 33 P P 00 51 51.3 -1.3
P60A IAmb IAmb 00 51 56.0
comp=Z,7.7nm,0.9s
O59A Robesonia 28.18 31 P P 00 51 52.3 -1.2
baz=220
L55A Hinsdale 28.64 26 P P 00 51 57.3 -0.2
baz=214
F36A Milaca 28.65 2 P P 00 51 57.2 -0.4
WVNY West Valley, N 28.75 26 P P 00 51 57.9 -0.7
WVNY IAmb IAmb 00 52 01.6
comp=Z,7.0nm,1.0s
K55A Perry 29.24 26 P P 00 52 02.9 0.0
baz=214
ELK Elko 29.37 327 P P 00 52 06.8 +2.5
comp=Z,0.6nm,0.5s,baz=146,slow=12,SNR=4.3
NVAR Mina Array Bea 29.51 321 P P 00 52 07.5 +1.9
comp=Z,1.7nm,0.7s,baz=134,slow=9.7,SNR=14
NVAR pP pP 00 52 34.6 +1.6
comp=Z,0.9nm,0.6s,baz=129,slow=9.0,SNR=5.1
K56A Middlesex 29.53 27 P P 00 52 04.5 -0.9
baz=216

L58A Harry Jones Me 29.67 29 P P 00 52 05.9 -0.8
baz=219
PMPB Monarch Peak 29.82 315 P P 00 52 06.8 -1.3
PMPB IAmb IAmb 00 52 11.1
comp=Z,12nm,0.9s
E43A Lone Tree Farm 29.87 11 P P 00 52 07.4 -1.0
E43A IAmb IAmb 00 52 07.7
comp=Z,5.6nm,0.6s
L59A Walton 30.17 30 P P 00 52 08.9 -2.2
D41A Chassel 30.28 9 P P 00 52 11.4 -0.6
D41A IAmb IAmb 00 52 28.3
comp=Z,16nm,1.1s
H53A Bobcaygeon 30.58 23 P P 00 52 12.7 -1.9
baz=212
I55A Frankford 30.63 25 P P 00 52 13.8 -1.3
baz=214
YHB Horse Butte 30.76 337 P P 00 52 15.4 -1.1
EYMN Ely 30.84 4 P P 00 52 16.1 -0.9
baz=186
EYMN Ely 30.84 4 P P 00 52 15.5 -1.4
EYMN IAmb IAmb 00 52 16.6
comp=Z,4.6nm,0.6s
DELO Deloro Mine 30.91 24 P P 00 52 15.0 -2.5
DELO IAmb IAmb 00 52 24.4
comp=Z,8.8nm,1.2s
D46A Sault St. Mari 30.98 14 P P 00 52 16.8 -1.3
baz=200
G53A Haliburton 31.03 23 P P 00 52 16.7 -1.9
baz=211
AGMN Agassiz Nation 31.08 359 P P 00 52 18.8 -0.2
baz=178,SNR=7.1
AGMN Agassiz Nation 31.08 359 IAmb IAmb 00 52 20.4
comp=Z,9.2nm,0.8s
I58A Old Forge 31.36 28 P P 00 52 20.1 -1.5
baz=219
G54A Lake Saint Pet 31.47 23 P P 00 52 21.1 -1.4
baz=212
E51A G1948 Merrick 31.95 20 P P 00 52 25.2 -1.5
baz=208
LRM Limekiln Ridge 32.14 337 P P 00 52 28.7 0.0
LONY Lake Ozonia 32.26 28 P P 00 52 28.8 -0.7
baz=218
H58A Gabriels 32.28 28 P P 00 52 28.1 -1.6
baz=219
E54A Lac Daplat, Po 32.68 23 P P 00 52 32.0 -1.1
baz=212
J08A Circle Bar Ran 32.93 327 P P 00 52 36.6 +1.2
J08A IAmb IAmb 00 52 38.3
comp=Z,3.7nm,0.7s
D53A Lac Vacive, Po 33.04 22 P P 00 52 35.1 -1.1
TRQ Mont Tremblant 33.54 26 P P 00 52 38.8 -1.9
E56A St. Veronique 33.60 25 P P 00 52 39.5 -1.6
baz=216
I63A Otisfield 33.75 32 P P 00 52 41.1 -1.3
D55A Sainte-Anne-du 33.82 24 P P 00 52 41.2 -1.7
baz=215
E57A Chemin Saint G 33.87 26 P P 00 52 41.8 -1.6
baz=217
E58A La Victoria 34.20 27 P P 00 52 44.8 -1.4
baz=219
D57A Chemin Vers le 34.45 26 P P 00 52 47.2 -1.2
baz=217
F60A Warwick 34.49 29 P P 00 52 47.3 -1.4
baz=221
G62A West of Eustis 34.61 31 P P 00 52 48.8 -0.9
baz=224
LSQQ Lebel-sur-Quev 34.99 21 P P 00 52 51.2 -1.7
baz=211
D60A Saint Jean D'O 35.66 28 P P 00 52 56.9 -1.8
baz=222
NEW Newport 35.98 334 P P 00 53 01.3 -0.3
baz=142
E63A Oxbow 36.50 31 P P 00 53 04.6 -1.3
baz=226
CHGQ Chibougamau 36.62 22 P P 00 53 05.3 -1.6
baz=214
D62A Allapoint, All 36.66 30 P P 00 53 05.6 -1.7
baz=224
D62A Allapoint, All 36.66 30 P P 00 53 05.8 -1.5
D62A IAmb IAmb 00 53 06.7
comp=Z,5.5nm,1.1s
LTY Liberty 36.80 330 P P 00 53 09.2 +0.7
D63A Stockholm 37.09 31 P P 00 53 08.9 -2.0
baz=226
BATG Bathurst New B 38.27 32 P P 00 53 19.8 -1.0
BATG IAmb IAmb 00 53 21.1
comp=Z,6.2nm,1.2s
LPAZ La Paz 42.40 140 P P 00 53 56.5 +0.6
comp=Z,1.2nm,0.5s,baz=333,slow=7.5,SNR=7.5
LPAZ La Paz 42.40 140 P P 00 53 56.6 +0.8
BBB Bella Bella 43.69 331 P P 00 54 03.3 -1.7
BBB IAmb IAmb 00 54 16.9
comp=Z,14nm,1.0s
PB04 IPOC Station P 46.09 148 PcP 00 56 00.6 +1.6
MOBC Moresby Island 46.12 330 P P 00 54 24.3 -0.1
YKA Yellowknife Ar 47.37 348 P P 00 54 34.1 +0.2
comp=Z,0.4nm,0.5s,baz=155,slow=7.6,SNR=3.7
YKA pP pP 00 55 04.2 +1.2
comp=Z,2.2nm,0.7s,baz=152,slow=7.7,SNR=9.3
AC04 Llanos de Chal 50.62 153 P P 00 54 59.3 +0.1
AC05 El Transito 51.52 152 P P 00 55 06.8 +0.8
AC05 IAmb IAmb 00 55 08.3
comp=Z,10nm,1.0s
CO03 El Pedregal 53.07 154 P P 00 55 18.1 +0.8
CO03 IAmb IAmb 00 55 19.8
comp=Z,7.2nm,0.9s
CO02 Combarbal 53.26 154 P P 00 55 19.7 +0.9
YKU2 Yakutat 53.28 333 P P 00 55 19.5 +1.1
ILAR Eielson Array 58.88 337 P P 00 55 58.7 +0.5
comp=Z,0.7nm,1.0s,baz=133,slow=5.0,SNR=4.7
ILAR pP pP 00 56 29.6 +1.2
comp=Z,1.6nm,0.9s,baz=113,slow=5.8,SNR=8.5
PLCA Paso Flores 61.85 159 P P 00 56 19.2 +0.5
comp=Z,4.2nm,0.8s,baz=325,slow=6.1,SNR=9.2
PLCA Paso Flores 61.85 159 IAmb IAmb 00 56 20.4
comp=Z,6.7nm,0.9s
EKA Eskdalemuir Ar 77.04 36 P P 00 57 51.3 -0.6
comp=Z,1.1nm,0.4s,baz=280,slow=5.3,SNR=15
ESDC Sonseca Array 79.93 52 P P 00 58 08.3 +0.2
comp=Z,3.0nm,0.8s,baz=290,slow=5.2,SNR=17
NOA NORSAR Array B 82.69 28 P P 00 58 23.4 +1.1
comp=Z,0.8nm,0.8s,baz=291,slow=5.3,SNR=3.6
ARCES ARCESS Array B 84.01 18 P P 00 58 29.4 +0.5
comp=Z,1.0nm,0.9s,baz=291,slow=5.3,SNR=4.8
ARCES pP pP 00 59 00.9 -0.1
comp=Z,1.4nm,1.0s,baz=297,slow=5.3,SNR=1.8
CLL Collm 87.47 37 eP P 00 58 46.0 -0.3
TORD Torodi Ar. Bea 92.29 76 P P 00 59 09.6 +0.1
comp=Z,0.2nm,0.6s,baz=286,slow=5.8,SNR=1.0
HHC Hu-ho-hao-te 117.30 338 eP PKPdf 01 04 41.5 -2.4
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,63nm,6.6s
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,62nm,7.4s
NJ2 Nanjing 121.38 326 eP PKPdf 01 04 51.0 -0.8
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
LZH Lanzhou 124.18 342 ⇑PKP PKPdf 01 04 56.0 -1.3
LZH pPKP pPKPdf 01 05 36.5 +5.2
LZH sPKP 01 05 51.3
LZH ePP PP 01 06 21.5 -21
LZH pmax pmax
comp=Z,16nm,1.3s
LZH pmax pmax
comp=Z,54nm,7.5s
XAN Xi'an 124.29 336 PKP PKiKP 01 05 18.8 +21
XAN pPKP sPKPdf 01 05 47.0 +2.5

*BGR **30** 00:53:32.4±0.0, 33.50N×27.50E, h33km, mb4.4*
*IDC **30** 00:53:39.7±0.6, 34.05N×25.65E, h0km, mb4.0/27,*
mb1 4.1/37,mb1mx4.1/61,mbtmp4.1/37,ML4.1/9,MS3.1/7,
Ms1 3.2/7,ms1mx2.8/38, Error ellipse: s-maj=12.1km
s-min=11.1km az=177.0
*HLW **30** 00:53:40.6, 33.88N×25.64E, h10km±13km, Md3.9, Ml4.4*
*NIC **30** 00:53:41.1±0.0, 33.78N×25.64E, h29km±6km, Ml3.9/3*
*NEIC **30** 00:53:42.9±1.9, 34.01N±0.07×25.68E±0.07, h20km±4km,*
Error ellipse: s-maj=10.4km s-min=8.6km az=208.0
*ISK **30** 00:53:43.5, 34.02N×25.68E, h77km, ML4.0/34*
*THE **30** 00:53:45.2, 33.95N×25.66E, h37km±12km, ML3.7/8, Error*

ellipse: s-maj=12.2km s-min=1.2km az=339.0
*ATH **30** 00:53:45.4,34°.19N×25°.57E,h28km±2km,ML3.5/5,Error*
ellipse: s-maj=4.7km s-min=1.5km az=343.0
*GII **30** 00:53:47.8±0.3,33°.96N×26°.14E,h35km,mb4.0/1,*
MD3.7/3
ISC 30 00:53:42.6±0.7,**33°.96N**±0°.03×**25°.62E**±0°.03,**h23**km±4km,
h24km:**pP-P,n404,**σ1§**50**/428,**mb4.2**/47,**MS3.0**/5,**14C-1D,**
Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAST	**Lasithi**	**1.20**	**354**	P	**Pb**	**00 54 04.6**	**-0.1**
LAST				S	**Sb**	**00 54 21.7**	**+1.9**
	3μm,0.8s						
LAST	**Lasithi**	**1.20**	**354**	P	**Pb**	**00 54 04.1**	**-0.5**
LAST				S	**Sb**	**00 54 18.1**	**-1.7**
LAST				AML	AML	00 54 28.0	
	comp=E,5275μm,1.0s						
LAST				AML	AML	00 54 34.5	
	comp=N,5249μm,1.1s						
SIVA	**Sivas**	**1.25**	**328**	P	**Pb**	**00 54 05.3**	**0.0**
SIVA				S	**Sb**	**00 54 21.8**	**+0.8**
	comp=N,6μm,0.6s						
SIVA	**Sivas**	**1.25**	**328**	P	**Pb**	**00 54 05.4**	**0.0**
SIVA				AML	AML	00 54 24.5	
	comp=N,10571μm,0.6s						
SIVA				AML	AML	00 54 31.0	
	comp=E,14641μm,0.7s						
ZKR	**Zakros**	**1.25**	**23**	P	**Pb**	**00 54 05.2**	**-0.3**
ZKR				S	**Sb**	**00 54 21.6**	**+0.5**
	comp=E,3μm,1.6s						
ZKR	**Zakros**	**1.25**	**23**	P	**Pb**	**00 54 05.0**	**-0.4**
ZKR				S	**Sb**	**00 54 21.3**	**+0.2**
ZKR				AML	AML	00 54 37.4	
	comp=E,8377μm,1.2s						
ZKR				AML	AML	00 54 43.6	
	comp=N,2403μm,0.7s						
ZKR	**Zakros**	**1.25**	**23**	PN	**Pb**	**00 54 05.1**	**-0.4**
ZKR				SN	**Sb**	**00 54 21.9**	**+0.8**
ZKR	**Zakros**	**1.25**	**23**	P	**Pb**	**00 54 05.2**	**-0.3**
ZKR				S	**Sb**	**00 54 23.5**	**+2.3**
ZKR				AML	AML	00 54 36.6	
	comp=N,7.7nm,0.8s						
ZKR				AML	AML	00 54 36.6	
	comp=N,7.7nm,0.8s						
ZKR				AML	AML	00 54 43.5	
	comp=N,2.8nm,2.0s						
ZKR				AML	AML	00 54 43.5	
	comp=N,2.8nm,2.0s						
NPS	**Neapolis**	**1.29**	**360**	P	**Pb**	**00 54 06.0**	**-0.3**
NPS	**Neapolis**	**1.29**	**360**	P	**Pb**	**00 54 06.0**	**-0.3**
NPS				AML	AML	00 54 35.5	
	comp=N,2926μm,1.2s						
NPS				AML	AML	00 54 36.0	
	comp=E,5092μm,0.8s						
TMBK	**Timbaki Herakl**	**1.31**	**328**	P	**Pb**	**00 54 06.7**	**+0.2**
TMBK				S	**Sb**	**00 54 24.2**	**+1.3**
	comp=E,2μm,0.9s						
HRKL	**Herakleio**	**1.41**	**343**	P	**Pb**	**00 54 08.2**	**0.0**
HRKL	**Herakleio**	**1.41**	**343**	PN	**Pb**	**00 54 08.1**	**-0.1**
KSTL	**Kastelli Herak**	**1.41**	**341**	P	**Pn**	**00 54 06.9**	**+0.1**
IDI	**Anoyia**	**1.45**	**336**	P	**Pb**	**00 54 08.4**	**-0.5**
IDI				S	**Sb**	**00 54 28.0**	**+1.0**
	comp=E,975nm,0.8s						
IDI	**Anoyia**	**1.45**	**336**	Pn	**Pn**	**00 54 07.4**	**0.0**
	comp=E,18nm,0.3s,baz=163,slow=16,SNR=97						
IDI				Sn	**Sb**	**00 54 26.6**	**-0.4**
	comp=E,48nm,0.3s,baz=174,slow=19,SNR=5.2						
IDI	**Anoyia**	**1.45**	**336**	P	**Pb**	**00 54 08.6**	**-0.3**
IDI	**Anoyia**	**1.45**	**336**	⇑P	**Pb**	**00 54 09.6**	**+0.7**
IDI	**Anoyia**	**1.45**	**336**	PN	**Pb**	**00 54 08.7**	**-0.3**
IDI	**Anoyia**	**1.45**	**336**	Pn	**Pb**	**00 54 08.5**	**-0.3**
GVD	**Gavdhos**	**1.54**	**305**	P	**Pb**	**00 54 10.8**	**+0.5**
GVD				S	**Sb**	**00 54 28.8**	**-0.6**
	comp=E,2μm,0.7s						
GVD	**Gavdhos**	**1.54**	**305**	P	**Pb**	**00 54 10.9**	**+0.5**
GVD	**Gavdhos**	**1.54**	**305**	PN	**Pb**	**00 54 10.6**	**+0.2**
GVDS	**Gavdos**	**1.54**	**305**	P	**Pb**	**00 54 10.9**	**+0.5**
GVDS	**Gavdos**	**1.54**	**305**	PN	**Pb**	**00 54 10.8**	**+0.4**
VAM	**Vamos**	**1.85**	**321**	P	**Pb**	**00 54 15.2**	**-0.6**
VAM	**Vamos**	**1.85**	**321**	P	**Pb**	**00 54 15.1**	**-0.6**
VAM				AML	AML	00 54 52.5	
	comp=E,1896μm,1.0s						
VAM				AML	AML	00 54 53.4	
	comp=N,1932μm,0.5s						
IMMV	**Iera Moni Meta**	**2.01**	**318**	P	**Pb**	**00 54 17.4**	**-1.1**
IMMV	**Iera Moni Meta**	**2.01**	**318**	P	**Pb**	**00 54 17.4**	**-1.1**
IMMV	**Iera Moni Meta**	**2.01**	**318**	PN	**Pn**	**00 54 16.4**	**+1.3**
CHAN	**Chania**	**2.02**	**321**	P	**Pb**	**00 54 17.9**	**-0.7**
KARP	**Karpathos**	**2.03**	**38**	P	**Pb**	**00 54 18.1**	**-0.7**
KARP	**Karpathos**	**2.03**	**38**	PN	**Pn**	**00 54 15.7**	**+0.4**
KARP				SN	**Sn**	**00 54 39.8**	**-0.1**
KARP	**Karpathos**	**2.03**	**38**	P	**Pn**	**00 54 16.2**	**+0.9**
KARP	**Karpathos**	**2.03**	**38**	⇑P	**Pn**	**00 54 15.0**	**-0.3**
KARP				S	**Sb**	**00 54 42.7**	**-0.8**
KARP				AML	AML	00 54 45.1	
	comp=N,2.2nm,0.6s						
KARP				AML	AML	00 54 45.1	
	comp=N,2.2nm,0.6s						
KARP				AML	AML	00 54 47.1	
	comp=N,1.8nm,0.6s						
KARP				AML	AML	00 54 47.1	
	comp=N,1.8nm,0.6s						
KNDR	**Palaiochora Ch**	**2.04**	**309**	P	**Pb**	**00 54 18.4**	**-0.5**
KNDR	**Palaiochora Ch**	**2.04**	**309**	PN	**Pb**	**00 54 18.0**	**-0.9**
RODP	**Rodopos**	**2.21**	**317**	P	**Pb**	**00 54 20.5**	**-1.3**
RODP	**Rodopos**	**2.21**	**317**	PN	**Pb**	**00 54 20.2**	**-1.6**
THR6	**Thira Island,**	**2.39**	**356**	P	**Pn**	**00 54 21.3**	**+1.0**
SAP1	**Santorini-Akro**	**2.40**	**356**	P	**Pn**	**00 54 22.0**	**+1.7**
SAP1	**Santorini-Akro**	**2.40**	**356**	P	**Pn**	**00 54 21.8**	**+1.5**
SANT	**Santorini**	**2.41**	**357**	P	**Pn**	**00 54 21.2**	**+0.7**
SANT	**Santorini**	**2.41**	**357**	PN	**Pn**	**00 54 21.1**	**+0.6**
SANT	**Santorini**	**2.41**	**357**	Pn	**Pn**	**00 54 20.9**	**+0.4**
THR8	**Santorini-Mono**	**2.44**	**357**	P	**Pn**	**00 54 21.4**	**+0.5**
THR3	**Thira Island,**	**2.45**	**356**	P	**Pn**	**00 54 21.9**	**+0.9**
SNT1	**Gialos, Santor**	**2.45**	**356**	P	**Pn**	**00 54 22.6**	**+1.5**
THR5	**Thira Island,**	**2.46**	**355**	P	**Pn**	**00 54 21.8**	**+0.6**
THR2	**Thira island,**	**2.48**	**357**	P	**Pn**	**00 54 22.2**	**+0.7**
ANKY	**Antikythira Is**	**2.69**	**316**	P	**Pn**	**00 54 26.9**	**+2.5**
IOSP	**Ios island**	**2.77**	**354**	P	**Pn**	**00 54 26.6**	**+1.1**
IOSP				S	**Sn**	**00 54 58.8**	**+0.7**
IOSP	**Ios island**	**2.77**	**354**	P	**Pn**	**00 54 26.6**	**+1.1**
MHLO	**Agia Marina, M**	**2.90**	**340**	P	**Pn**	**00 54 28.8**	**+1.6**
MATC	**Matruh**	**2.94**	**152**	P	**Pn**	**00 54 28.5**	**+0.7**
	baz=151						
KOSK	**Kos Island**	**3.00**	**21**	PN	**Pn**	**00 54 28.8**	**+0.2**
ARG	**Arkhangelos**	**3.04**	**42**	P	**Pn**	**00 54 31.4**	**+2.1**
ARG				S	**Sn**	**00 55 06.4**	**+1.4**
	comp=N,408nm,1.0s						
ARG	**Arkhangelos**	**3.04**	**42**	P	**Pn**	**00 54 31.8**	**+2.5**
ARG	**Arkhangelos**	**3.04**	**42**	PN	**Pn**	**00 54 29.3**	**0.0**
APE	**Apeiranthos**	**3.10**	**359**	P	**Pn**	**00 54 31.0**	**+0.9**
APE	**Apeiranthos**	**3.10**	**359**	P	**Pn**	**00 54 30.7**	**+0.7**
APE	**Apeiranthos**	**3.10**	**359**	⇓P	**Pn**	**00 54 31.0**	**+0.9**
APE	**Apeiranthos**	**3.10**	**359**	PN	**Pn**	**00 54 30.9**	**+0.9**
APE	**Apeiranthos**	**3.10**	**359**	⇑P	**Pn**	**00 54 30.6**	**+0.5**
KTHA	**Kythira Island**	**3.10**	**318**	P	**Pn**	**00 54 31.9**	**+1.8**
KTHA				S	**Sn**	**00 55 07.8**	**+1.4**
	comp=N,478nm,0.5s						
KTHA	**Kythira Island**	**3.10**	**318**	P	**Pn**	**00 54 31.9**	**+1.8**
KTHA	**Kythira Island**	**3.10**	**318**	PN	**Pn**	**00 54 31.7**	**+1.6**
DAT	**Datca**	**3.19**	**30**	P	**Pn**	**00 54 32.6**	**+1.2**
DAT	**Datca**	**3.19**	**30**	PN	**Pn**	**00 54 31.9**	**+0.5**
BODT	**Bodrum**	**3.38**	**24**	PN	**Pn**	**00 54 34.5**	**+0.5**
VLI	**Veliai**	**3.52**	**322**	P	**Pn**	**00 54 36.9**	**+1.2**
VLI	**Veliai**	**3.52**	**322**	P	**Pn**	**00 54 36.9**	**+1.2**
DALY	**Dalyan (Mula)**	**3.77**	**40**	PN	**Pn**	**00 54 39.4**	**+0.1**
TURN	**Turunc**	**3.79**	**39**	PN	**Pn**	**00 54 36.3**	**-3.2**
YER	**Yerkesik**	**3.84**	**34**	P	**Pn**	**00 54 41.7**	**+1.5**
YER	**Yerkesik**	**3.84**	**34**	PN	**Pn**	**00 54 41.2**	**+1.0**
SMG	**Samos**	**3.87**	**14**	P	**Pn**	**00 54 41.4**	**+0.8**
FETY	**Fethiye**	**3.89**	**46**	P	**Pn**	**00 54 41.9**	**+1.0**
FETY	**Fethiye**	**3.89**	**46**	PN	**Pn**	**00 54 41.7**	**+0.8**
KSL	**Kastellorizon**	**3.92**	**55**	P	**Pn**	**00 54 42.4**	**+1.2**
KSL	**Kastellorizon**	**3.92**	**55**	P	**Pn**	**00 54 42.0**	**+0.8**
KSL	**Kastellorizon**	**3.92**	**55**	⇑P	**Pn**	**00 54 41.1**	**-0.1**
KSL				AML	AML	00 55 32.3	
	comp=N,0.3nm,0.5s						
KSL				AML	AML	00 55 32.6	
	comp=N,0.5nm,0.5s						
GCAM	**G?zelcaml?**	**3.95**	**19**	PN	**Pn**	**00 54 43.0**	**+1.3**
KRND	**KRANIDI**	**3.96**	**330**	P	**Pn**	**00 54 42.9**	**+1.1**
AKAS	**Kas**	**3.98**	**54**	PN	**Pn**	**00 54 43.2**	**+1.0**
DID	**Didima**	**4.03**	**332**	P	**Pn**	**00 54 43.6**	**+0.7**
VLY	**Voula,Athens**	**4.15**	**340**	P	**Pn**	**00 54 46.4**	**+1.9**
ATHU	**Athens Univers**	**4.26**	**340**	P	**Pn**	**00 54 47.5**	**+1.5**
VLX	**Vlachokerasia**	**4.30**	**323**	P	**Pn**	**00 54 47.9**	**+1.2**
PTL	**Penteli**	**4.32**	**341**	P	**Pn**	**00 54 48.1**	**+1.3**
DION	**Dionisos Attik**	**4.33**	**342**	P	**Pn**	**00 54 48.3**	**+1.4**
DION	**Dionisos Attik**	**4.33**	**342**	P	**Pn**	**00 54 48.3**	**+1.4**
AYDB	**Zeytinkoy-Aydi**	**4.38**	**24**	PN	**Pn**	**00 54 48.6**	**+0.9**
ITM	**Ithomi**	**4.40**	**318**	P	**Pn**	**00 54 48.7**	**+0.8**
ITM	**Ithomi**	**4.40**	**318**	PN	**Pn**	**00 54 49.3**	**+1.4**
ITM	**Ithomi**	**4.40**	**318**	Pn	**Pn**	**00 54 49.0**	**+1.1**
CHOS	**Chios island**	**4.43**	**4**	PN	**Pn**	**00 54 49.2**	**+0.8**
URLA	**Izmir**	**4.46**	**10**	PN	**Pn**	**00 54 49.5**	**+0.8**
ELL	**Elmali**	**4.47**	**50**	PN	**Pn**	**00 54 49.8**	**+0.6**
ELL	**Elmali**	**4.47**	**50**	Pn	**Pn**	**00 54 49.6**	**+0.6**
ELL	**Elmali**	**4.47**	**50**	P	**Pn**	**00 54 48.8**	**-0.2**
ELL				S	**Sn**	**00 55 42.1**	**+1.7**
SWA2		**4.71**	**182**	P	**Pn**	**00 54 53.1**	**+0.9**
	baz=182						
SWA2				AMP		00 55 00.0	
	baz=182						
SWA2				S	**Sn**	**00 55 42.3**	**-3.7**
	baz=182						
OSC1	**CSNet OBS 1**	**4.74**	**94**	P	**Pn**	**00 54 50.9**	**-1.6**
OSC1				S	**Sn**	**00 55 45.3**	**-1.4**
AMT	**Artemida-Makis**	**4.77**	**319**	P	**Pn**	**00 54 54.1**	**+1.0**
ANTB	**Antalya**	**5.05**	**53**	PN	**Pn**	**00 54 57.4**	**+0.6**
KULA	**Kula-Manisa**	**5.16**	**28**	PN	**Pn**	**00 54 59.2**	**+0.7**
DKL	**Dikili**	**5.20**	**11**	PN	**Pn**	**00 54 59.8**	**+0.9**
SIGR	**SIGRI**	**5.24**	**2**	PN	**Pn**	**00 54 59.6**	**+0.2**
BASM	**Basmaki-Afyon**	**5.34**	**41**	PN	**Pn**	**00 55 01.1**	**+0.2**
BCK	**Bucak**	**5.34**	**48**	PN	**Pn**	**00 55 01.2**	**+0.3**
AOS	**Alonnisos**	**5.38**	**345**	PN	**Pn**	**00 55 02.3**	**+0.9**
ISP	**Isparta**	**5.54**	**45**	PN	**Pn**	**00 55 04.1**	**+0.4**
ISP	**Isparta**	**5.54**	**45**	Pn	**Pn**	**00 55 03.1**	**-0.5**
ISP	**Isparta**	**5.54**	**45**	Pn	**Pn**	**00 55 04.0**	**+0.4**
AKMS	**Akamas**	**5.64**	**77**	P	**Pn**	**00 55 04.1**	**-0.9**
AGG	**Agios Georgios**	**5.70**	**333**	PN	**Pn**	**00 55 06.9**	**+1.1**
AGG	**Agios Georgios**	**5.70**	**333**	Pn	**Pn**	**00 55 06.5**	**+0.6**
SIMA	**Simav-Kutahya**	**5.78**	**27**	PN	**Pn**	**00 55 07.2**	**+0.2**
NATA	**Nata**	**5.80**	**80**	P	**Pn**	**00 55 06.6**	**-0.7**
ALAN	**Alanya-ANTALYA**	**5.85**	**62**	PN	**Pn**	**00 55 08.2**	**+0.4**
EZN	**Ezine**	**5.88**	**5**	PN	**Pn**	**00 55 08.7**	**+0.5**
ALFC	**Alefka**	**5.88**	**76**	⇑Pn	**Pn**	**00 55 07.3**	**-1.0**
GAZI	**Gazipasa**	**5.94**	**66**	PN	**Pn**	**00 55 09.4**	**+0.4**
HMYD	**Mayadein**	**6.06**	**132**	P	**Pn**	**00 55 11.6**	**+0.9**
	baz=131						
SZAC	**Souni**	**6.06**	**80**	P	**Pn**	**00 55 10.7**	**0.0**
HNAT	**Natroun**	**6.06**	**134**	P	**Pn**	**00 55 11.7**	**+0.9**
	baz=133						
HNAT				AMP		00 56 00.0	
	baz=133						
HNAT				S	**Sn**	**00 56 15.3**	**-4.1**
	baz=133						
FSK	**Fiskardo**	**6.07**	**319**	P	**Pn**	**00 55 13.0**	**+2.2**
SHUT	**Suhut-Afyon**	**6.07**	**40**	PN	**Pn**	**00 55 11.2**	**+0.3**
LEF	**Lefka**	**6.11**	**77**	⇑P	**Pn**	**00 55 12.2**	**+0.8**
LEF	**Lefka**	**6.11**	**77**	PN	**Pn**	**00 55 10.9**	**-0.5**
SEYD	**Seydisehir-KON**	**6.12**	**54**	PN	**Pn**	**00 55 11.8**	**+0.2**
TVSB	**Tavsanli**	**6.28**	**28**	PN	**Pn**	**00 55 14.0**	**+0.1**
ASGA	**Asgata**	**6.36**	**80**	P	**Pn**	**00 55 14.8**	**-0.1**
CSS	**Mathiatis**	**6.45**	**79**	PN	**Pn**	**00 55 16.5**	**+0.5**
CSS	**Mathiatis**	**6.45**	**79**	Pn	**Pn**	**00 55 16.0**	**-0.1**
CSS	**Mathiatis**	**6.45**	**79**	Pn	**Pn**	**00 55 16.0**	**-0.1**
CSS	**Mathiatis**	**6.45**	**79**	⇑P	**Pn**	**00 55 16.2**	**+0.1**
TEKE	**Tekeli-Mersin**	**6.52**	**68**	PN	**Pn**	**00 55 16.5**	**-0.5**
KOT	**Kottamia**	**6.63**	**126**	P	**Pn**	**00 55 18.1**	**-0.6**
	baz=125						
KOT				S	**Sn**	**00 56 29.5**	**-4.1**
	baz=125						
HSAF	**As Saff**	**6.65**	**129**	P	**Pn**	**00 55 18.6**	**-0.4**
	baz=128						
LFK	**Lefkose**	**6.65**	**76**	PN	**Pn**	**00 55 19.3**	**+0.4**
MVOU	**Mavrovouni**	**6.70**	**79**	⇑P	**Pn**	**00 55 19.1**	**-0.4**
KONT	**Konya--Tatoy**	**6.76**	**52**	PN	**Pn**	**00 55 20.4**	**+0.1**
GLL	**Jalalah**	**6.78**	**129**	P	**Pn**	**00 55 20.7**	**+0.1**
	baz=128						
HHAG	**Hagoal**	**6.80**	**124**	P	**Pn**	**00 55 21.8**	**+0.8**
	baz=123						
AKKU	**Akkuyu-Mersin**	**6.86**	**69**	PN	**Pn**	**00 55 21.9**	**+0.2**
TEVE	**Tevekalti-Mers**	**6.86**	**67**	PN	**Pn**	**00 55 21.7**	**-0.1**
ALN	**Alexandroupoli**	**6.93**	**3**	Pn	**Pn**	**00 55 23.3**	**+0.7**
KRMN	**Karaman**	**7.00**	**61**	PN	**Pn**	**00 55 23.7**	**-0.1**
KIZT	**Kizilcal**	**7.04**	**44**	PN	**Pn**	**00 55 23.9**	**-0.3**
BORA	**Eskisehir**	**7.06**	**32**	PN	**Pn**	**00 55 24.3**	**-0.2**
KEBE	**Keben-Mersin**	**7.07**	**67**	PN	**Pn**	**00 55 24.8**	**+0.1**
HFRF	**Wahat Farafira**	**7.18**	**160**	P	**Pn**	**00 55 25.6**	**-0.5**
	baz=160						
NBNS	**Bani Suef**	**7.21**	**136**	P	**Pn**	**00 55 27.0**	**+0.5**
	baz=135						
NBNS				AMP		00 56 00.0	
	baz=135						
EREN	**Erenkoy**	**7.21**	**75**	PN	**Pn**	**00 55 26.7**	**+0.2**
SILI	**Silifke-Mersin**	**7.21**	**68**	PN	**Pn**	**00 55 26.5**	**0.0**
SUZ	**Suez**	**7.38**	**122**	P	**Pn**	**00 55 28.3**	**-0.6**
	baz=121						
KIZK	**Mersin**	**7.41**	**68**	PN	**Pn**	**00 55 29.3**	**0.0**
YESY	**Yesilyurt**	**7.62**	**58**	PN	**Pn**	**00 55 31.9**	**-0.3**
SULT	**Sultanhani-AKS**	**7.66**	**54**	PN	**Pn**	**00 55 32.3**	**-0.5**
VAY	**Valandovo**	**7.73**	**343**	*i* P	Pb	00 55 50.8	-5.1
TAMRE	**El Minia**	**7.74**	**143**	P	**Pn**	**00 55 34.1**	**+0.3**
	baz=142						
MMB	**Musomiste**	**7.76**	**349**	*eP*	**Pn**	**00 55 35.0**	**+1.0**
MERS	**Mersin**	**7.82**	**66**	PN	**Pn**	**00 55 34.6**	**-0.4**
OFRI	**`Ofer**	**7.96**	**97**	Pn	**Pn**	**00 55 36.4**	**-0.4**
KZIT	**Kziot**	**8.02**	**110**	PN	**Pn**	**00 55 36.6**	**-1.0**
KZIT	**Kziot**	**8.02**	**110**	Pn	**Pn**	**00 55 36.6**	**-1.0**
SLTI	**Sal'it**	**8.09**	**100**	Pn	**Pn**	**00 55 36.7**	**-1.9**
SLTI				Sn	**Sn**	**00 57 03.7**	**-5.6**
OHR	**Ohrid**	**8.10**	**333**	*i* P	**Pn**	**00 55 41.5**	**+2.8**
KKB	**Krupnik**	**8.14**	**346**	*eP*	**Pn**	**00 55 40.2**	**+0.9**
AMAZ	**Amatzia**	**8.20**	**105**	Pn	**Pn**	**00 55 39.1**	**-1.0**
MMA0B	**Mount Meron ar**	**8.23**	**94**	Pn	**Pn**	**00 55 39.6**	**-0.9**
MMAI	**Mount Meron Ar**	**8.23**	**94**	Pn	**Pn**	**00 55 39.0**	**-1.5**
	comp=N,4.3nm,0.3s,baz=258,slow=12,SNR=27						
MMAI				Sn	**Sn**	**00 57 07.8**	**-5.0**
	comp=N,5.1nm,0.3s,baz=295,slow=14,SNR=2.5						
MMLI	**Mount Malkishu**	**8.35**	**98**	PN	**Pn**	**00 55 42.0**	**-0.3**
MMLI	**Mount Malkishu**	**8.35**	**98**	Pn	**Pn**	**00 55 42.0**	**-0.3**
KARA	**Karaisali**	**8.36**	**76**	PN	**Pn**	**00 55 41.0**	**-0.3**
SCTE	**Santa Cesarea**	**8.36**	**319**	Pn	**Pn**	**00 55 43.5**	**-0.7**
GEM	**Giv'at Ha'Em**	**8.41**	**92**	Pn	**Pn**	**00 55 42.1**	**-0.9**
YTIR	**Yattir**	**8.41**	**105**	Pn	**Pn**	**00 55 41.6**	**-1.5**
CMRD	**Camardi-Nigde**	**8.46**	**61**	PN	**Pn**	**00 55 43.0**	**-0.7**
NATI	**Neve Ativ**	**8.47**	**92**	Pn	**Pn**	**00 55 42.2**	**-1.5**
HMDT	**Nahal Hemdat**	**8.48**	**99**	Pn	**Pn**	**00 55 42.6**	**-1.4**
HMDT				Sn	**Sn**	**00 57 13.2**	**-5.8**
DSI	**Dead Sea**	**8.56**	**104**	Pn	**Pn**	**00 55 44.1**	**-0.9**
SHMJ	**Saham**	**8.58**	**95**	Pn	**Pn**	**00 55 43.8**	**-1.5**
BRTR	**Keskin Array B**	**8.62**	**46**	Pn	**Pn**	**00 55 45.4**	**-0.6**
	comp=N,0.3nm,0.3s,baz=215,slow=16,SNR=10						
BRTR				Sn	**Sn**	**00 57 20.1**	**-2.5**
	comp=N,0.2nm,0.3s,baz=216,slow=24,SNR=5.5						
BRTR	**Keskin Array B**	**8.62**	**46**	PN	**Pn**	**00 55 45.2**	**-0.8**
BR131	**Keskin Array S**	**8.62**	**46**	Pn	**Pn**	**00 55 46.9**	**+0.9**
KRMI	**Paran Flat**	**8.63**	**114**	Pn	**Pn**	**00 55 45.3**	**-0.7**
YURE	**YUREGIR**	**8.66**	**68**	PN	**Pn**	**00 55 45.9**	**-0.5**
PRNI	**Paran**	**8.73**	**112**	Pn	**Pn**	**00 55 46.8**	**-0.6**
DAMI2	**DAM2**	**8.74**	**106**	Pn	**Pn**	**00 55 46.7**	**-0.8**
ZFRI	**Zfri**	**8.78**	**110**	Pn	**Pn**	**00 55 47.2**	**-0.8**
GHAJ	**Ghor Haditha**	**8.80**	**105**	Pn	**Pn**	**00 55 47.5**	**-0.8**
CEYT	**Ceyhan**	**8.80**	**67**	PN	**Pn**	**00 55 47.8**	**-0.5**
TIP	**Timpagrande**	**8.82**	**309**	⇑P	**Pn**	**00 55 48.9**	**+0.2**
TIP	**Timpagrande**	**8.82**	**309**	Pn	**Pn**	**00 55 48.3**	**-0.4**
VTS	**Vitosha**	**8.84**	**348**	*eP*	**Pn**	**00 55 50.5**	**+1.5**
VTS	**Vitosha**	**8.84**	**348**	Pn	**Pn**	**00 55 49.4**	**+0.4**
HRFI	**Mount Harif**	**8.90**	**114**	PN	**Pn**	**00 55 49.7**	**-0.1**
HRFI	**Mount Harif**	**8.90**	**114**	Pn	**Pn**	**00 55 49.6**	**-0.2**
MBRI	**Mt Berech**	**8.93**	**115**	Pn	**Pn**	**00 55 49.3**	**-0.9**
CEL	**Celeste**	**8.96**	**301**	Pn	**Pn**	**00 55 51.4**	**+0.8**
KOZT	**Kozan**	**9.01**	**64**	PN	**Pn**	**00 55 50.6**	**-0.6**
EIL	**Elat**	**9.02**	**116**	Pn	**Pn**	**00 55 50.6**	**-0.7**
	comp=N,3.7nm,0.3s,baz=325,slow=8.5,SNR=32						
EIL				Sn	**Sn**	**00 57 25.1**	**-7.0**
	comp=N,1.6nm,0.3s,baz=353,slow=17,SNR=2.3						
EIL				LR	LR	01 00 26.9	
	comp=N,69nm,19.1s,baz=87,slow=45						
EIL	**Elat**	**9.02**	**116**	Pn	**Pn**	**00 55 50.3**	**-1.0**
AQBJ	**Aqaba**	**9.06**	**115**	Pn	**Pn**	**00 55 51.5**	**-0.4**
PLVB	**Pleven**	**9.44**	**356**	⇑P	**Pn**	**00 55 58.1**	**+1.0**
HHRG	**Al Ghardaqah**	**9.59**	**132**	P	**Pn**	**00 56 00.5**	**+1.3**
	baz=132						
ASF	**Jabal al Asfar**	**9.63**	**98**	Pn	**Pn**	**00 55 58.0**	**-1.8**
	comp=N,0.4nm,0.3s,baz=203,slow=3.7,SNR=5.5						
ASF				Sn	**Sn**	**00 57 42.3**	**-5.0**
	comp=N,0.6nm,0.3s,baz=335,slow=17,SNR=2.3						
DRME	**Dracevica, Mon**	**9.65**	**330**	*ePn*	**Pn**	**00 55 58.8**	**-1.1**
VAE	**Valguarnera**	**9.76**	**294**	Pn	**Pn**	**00 56 02.5**	**+1.0**
	comp=N,2.2nm,0.3s,baz=17,slow=17,SNR=8.2						
VAE				Sn	**Sn**	**00 57 46.7**	**-3.8**
	comp=N,1.0nm,0.3s,baz=180,slow=12,SNR=1.3						
SARI	**SarD1z-Kayseri**	**9.79**	**60**	PN	**Pn**	**00 56 00.9**	**-1.1**
PDG	**Podgorica**	**9.82**	**331**	⇑P	**Pn**	**00 56 03.0**	**+0.8**
PDG	**Podgorica**	**9.82**	**331**	Pn	**Pn**	**00 56 00.8**	**-1.4**
PDG	**Podgorica**	**9.82**	**331**	*ePn*	**Pn**	**00 56 00.6**	**-1.7**
SG1	**Sgolgore (BA)**	**9.88**	**317**	*ePn*	**Pn**	**00 56 01.6**	**-1.5**
BAI	**Bari**	**9.95**	**318**	*ePn*	**Pn**	**00 56 02.4**	**-1.6**
HCY	**Herceg Novi**	**10.15**	**329**	*ePn*	Pn	00 56 00.3	-6.5
TREB	**Trebinje**	**10.43**	**329**	*ePn*	**Pn**	**00 56 07.8**	**-2.9**
DBRK	**Dubrovnik**	**10.48**	**328**	*ePn*	**Pn**	**00 56 09.6**	**-1.7**
DBRK				Sn	Sn	00 57 58.3	-10
BRY	**Bratogost**	**10.51**	**330**	*ePn*	**Pn**	**00 56 08.5**	**-3.3**
TIRR	**Tirgusor**	**10.70**	**11**	Pn	**Pn**	**00 56 15.5**	**+1.2**
CLTB	**Caltabellotta**	**10.70**	**293**	Pn	**Pn**	**00 56 16.4**	**+2.0**
CORL	**Corleone**	**10.73**	**295**	Pn	**Pn**	**00 56 16.4**	**+1.7**
RUDO	**Rudo**	**10.80**	**335**	*ePn*	**Pn**	**00 56 12.6**	**-3.1**
STON	**Ston**	**10.84**	**327**	*ePn*	**Pn**	**00 56 13.9**	**-2.3**
STON				Sn	Sn	00 58 07.5	-9.3
STON	**Ston**	**10.84**	**327**	*ePn*	**Pn**	**00 56 13.6**	**-2.6**
BBLS	**Lazi?i**	**11.00**	**336**	*ePn*	**Pn**	**00 56 15.1**	**-3.4**
SGRT	**San Giovanni R**	**11.01**	**318**	Pn	**Pn**	**00 56 17.9**	**-0.8**
DIVS	**Divibare**	**11.02**	**338**	Pn	**Pn**	**00 56 18.1**	**-0.7**
DIVS	**Divibare**	**11.02**	**338**	*ePn*	**Pn**	**00 56 18.1**	**-0.7**
HERR	**Herculane**	**11.18**	**348**	⇑P	**Pn**	**00 56 22.9**	**+2.0**
**

comp=Z,32nm,2.0s,baz=137,slow=11
SENIN Lac Senin/Sane 18.64 317 Pn 00 57 59.2 +0.1
MANZ Manzenberg 18.85 332 *eP* **Pn 00 58 01.0 -0.5**
comp=Z,12nm,1.1s,baz=137,slow=11
BRG Berggiesshubel 18.93 337 *eP* **Pn 00 58 02.7 +0.3**
comp=Z,12nm,1.6s
BRG Berggiesshubel 18.93 337 *eP* **Pn 00 58 02.7 +0.3**
comp=Z,35nm,2.4s,baz=137,slow=11
GRA1 Grafenberg Arr 18.98 330 P 00 58 02.2 +0.1
GRA1 IAmb IAmb 00 58 10.6
comp=Z,20nm,1.1s
GRF Grafenberg Arr 18.98 330 *eP* **Pn 00 58 03.6 +0.6**
comp=Z,40nm,1.3s,baz=137,slow=11
FBE Freiberg 19.17 336 *eP* **Pn 00 58 06.1 +0.9**
comp=Z,18nm,1.1s,baz=137,slow=11
PLN Plauen 19.23 333 *eP* **Pn 00 58 06.3 +0.3**
comp=Z,52nm,2.3s,baz=137,slow=11
BFO Black Forest 19.31 323 Pn 00 58 07.4 +0.3
BFO Black Forest 19.31 323 *eP* **Pn 00 58 08.5 +1.4**
comp=Z,43nm,2.2s,baz=137,slow=11
CLL Collm 19.61 336 *i* P **Pn 00 58 09.9 -0.6**
CLL *i* pP **sP 00 58 17.8 +0.4**
CLL *e*(PP) 00 58 24.0
CLL *e* 00 58 43.0
CLL Lm MLR 01 07 00.0
comp=Z,100nm,18.1s
CLL Collm 19.61 336 P **Pn 00 58 09.5 -1.0**
CLL Collm 19.61 336 *eP* **Pn 00 58 10.2 -0.3**
comp=Z,9.4nm,1.1s,baz=137,slow=11
SSB Saint Sauveur 19.72 311 P **P 00 58 10.6 +0.2**
ECH Echery 19.84 321 P **Pn 00 58 13.1 -0.2**
UBBA Unterbreizbach 20.34 331 *eP* Pn 00 58 19.6 +0.6
comp=Z,18nm,1.4s,baz=137,slow=11
TNS Taunus Mts 20.57 327 *eP* Pn 00 58 23.2 +1.3
comp=Z,33nm,1.2s,baz=137,slow=11
GTTG Gottingen 20.92 332 *eP* Pn 00 58 24.7 -1.2
comp=Z,48nm,1.1s,baz=137,slow=11
CLZ Clausthal 21.00 333 *eP* **P 00 58 24.9 +0.7**
comp=Z,7.1nm,1.2s,baz=137,slow=11
WLF Walferdange 21.27 323 PcP **P 00 58 31.7 +4.6**
WLF Walferdange 21.27 323 P **P 00 58 28.6 +1.5**
WLF IAmb IAmb 00 58 32.7
comp=Z,18nm,1.0s
WLF Walferdange 21.27 323 *eP* **P 00 58 30.9 +3.8**
comp=Z,60nm,1.8s,baz=137,slow=11
IIGN Ignalina 21.39 1 *eP* **P 00 58 26.9 -1.4**
PABE Paberze 21.57 357 *eP* **P 00 58 29.9 -0.3**
ISAL Salakas 21.61 1 *eP* **P 00 58 29.3 -1.3**
ISAL IAmb IAmb 00 58 40.7
comp=Z,12nm,1.0s
NRDL Niedersach Rie 21.61 334 *eP* **P 00 58 31.4 +0.8**
comp=Z,46nm,1.8s,baz=137,slow=11
IZAR Zarasai 21.79 1 *eP* **P 00 58 31.6 -1.0**
IZAR IAmb IAmb 00 58 35.8
comp=Z,16nm,1.0s
MEM Membach 21.96 325 P **P 00 58 36.7 +2.2**
MEM pP **sP 00 58 43.7 +0.8**
BSTI Sart Tilman 22.16 325 P **P 00 58 38.1 +1.6**
BSTI pP **sP 00 58 45.8 +0.8**
PBUR Paburge 22.21 355 *eP* **P 00 58 36.8 -0.2**
DOU Dourbes 22.32 323 P **P 00 58 38.3 -0.1**
comp=Z,12nm,1.1s
CLF Chambon-Foret 22.43 316 P **P 00 58 40.0 +0.4**
CLF IAmb IAmb 00 58 53.8
comp=Z,11nm,1.1s
BSD Bornholm Skovb 22.43 344 *i* P **P 00 58 37.6 -1.8**
BSEG Bad Segeberg 22.71 336 *eP* **P 00 58 41.8 -0.6**
comp=Z,35nm,1.7s,baz=137,slow=11
SLIT Slitere, Latvi 23.78 356 *eP* **P 00 58 50.8 -2.3**
ESBB Sonseca Array 24.29 292 P **P 00 58 58.9 +0.7**
ESBB IAmb IAmb 00 59 08.3
comp=Z,8.4nm,1.1s
ESDC Sonseca Array 24.30 292 P **P 00 58 58.9 +0.7**
comp=Z,0.9nm,0.5s,baz=81,slow=9.5,SNR=14
ESDC LR LR 01 10 17.1
comp=Z,28nm,18.9s,baz=135,slow=41
VSU Vasula 24.52 1 *eP* **P 00 58 58.9 -1.0**
MDT Midelt 25.23 276 P **P 00 59 08.2 +1.4**
comp=Z,1.1nm,0.9s,baz=96,slow=9.2,SNR=1.7
GEYT Alibeck 26.53 72 P **P 00 59 19.6 +1.2**
comp=Z,1.6nm,0.5s,baz=288,slow=11,SNR=5.1
HFS Hagfors 27.32 347 P **P 00 59 24.3 -1.0**
comp=Z,1.5nm,0.5s,baz=148,slow=8.7,SNR=8.5
HFS LR LR 01 12 21.2
comp=Z,45nm,19.4s,baz=134,slow=41
FINES FINESS Array B 27.50 0 P **P 00 59 25.8 -1.1**
comp=Z,2.1nm,0.3s,baz=158,slow=12,SNR=50
FINES PcP **PcP 01 02 45.2 +0.7**
comp=Z,1.8nm,0.9s,baz=191,slow=2.8,SNR=1.2
FIA1 FINESS Array S 27.50 0 P **P 00 59 26.2 -0.7**
NC602 NORSAR Array S 28.30 345 P **P 00 59 33.4 -0.6**
KLMR Klimovskoe 28.38 14 *e* **P 00 59 33.1 -1.6**
KLMR AMP 00 59 43.3
comp=Z,10.0nm,0.7s
NAO01 NORSAR Array S 28.54 345 P **P 00 59 35.9 -0.4**
NC405 NORSAR Array S 28.61 346 P **P 00 59 37.9 +1.1**
NC405 IAmb IAmb 00 59 56.2
comp=Z,6.7nm,0.9s
NB201 NORSAR Array S 28.64 345 P **P 00 59 38.0 +0.9**
NB2 NORSAR Subarra 28.65 345 P **P 00 59 36.9 -0.3**
comp=Z,2.5nm,1.1s,baz=154,slow=9.3
NOA NORSAR Array B 28.65 345 P **P 00 59 36.5 -0.7**
comp=Z,0.4nm,0.5s,baz=65,slow=12,SNR=5.9
NOA LR LR 01 12 36.4
comp=Z,21nm,20.8s,baz=160,slow=40
NBO00 NORSAR Array S 28.73 345 P **P 00 59 37.2 -0.7**
NC303 NORSAR Array S 28.79 346 P **P 00 59 37.7 -0.7**
NC303 IAmb IAmb 00 59 39.8
comp=Z,7.8nm,0.9s
AKTO Aktyubinsk 28.80 45 P **P 00 59 38.7 +0.1**
comp=Z,1.7nm,0.4s,baz=235,slow=7.7,SNR=11
NC204 NORSAR Array S 28.96 345 P **P 00 59 41.4 +1.5**
EKA Eskdalemuir Ar 29.24 326 P **P 00 59 42.7 +0.3**
comp=Z,1.1nm,0.6s,baz=128,slow=9.6,SNR=7.4
ESK Eskdalemuir 29.25 326 P **P 00 59 42.6 +0.1**
ESK IAmb IAmb 00 59 45.0
comp=Z,6.4nm,0.9s
ABKAR Akbulak array 29.56 48 P **P 00 59 46.9 +1.6**
DSB Dublin 29.77 320 P **P 00 59 47.7 +0.6**
DSB IAmb IAmb 00 59 58.1
comp=Z,5.5nm,1.1s
TOA0 Torodi Ar. Sit 30.03 232 P **P 00 59 51.6 +1.7**
TOA0 IAmb IAmb 01 00 08.6
comp=Z,4.3nm,0.9s
TORD Torodi Ar. Bea 30.03 232 P **P 00 59 51.1 +1.2**
comp=Z,1.2nm,0.6s,baz=36,slow=9.1,SNR=19
ARU Arti 31.80 35 P **P 01 00 05.4 +0.3**
comp=Z,0.4nm,0.3s,baz=254,slow=24,SNR=2.3
LVZ Lovozero 34.38 6 P **P 01 00 26.6 -0.8**
ARCES ARCESS Array B 35.62 360 P **P 01 00 36.9 -1.2**
comp=Z,1.3nm,0.4s,baz=177,slow=9.0,SNR=35
ARCES LR LR 01 16 25.7
comp=Z,74nm,18.3s,baz=162,slow=38
ARE0 ARCESS Array S 35.62 360 P **P 01 00 37.5 -0.7**
BRVK Borovoye 36.85 45 P **P 01 00 49.1 +0.3**
BRVK IAmb IAmb 01 00 59.4
comp=Z,3.0nm,1.1s
BVAR Borovoye Array 36.91 45 P **P 01 00 48.4 -0.9**
comp=Z,0.4nm,0.3s,baz=225,slow=7.9,SNR=6.3
DBIC Dimbokro 39.13 233 P **P 01 01 09.3 +0.9**
comp=Z,2.7nm,0.7s,baz=62,slow=12,SNR=1.4
DBIC Dimbokro 39.13 233 P **P 01 01 08.7 +0.3**
DBIC IAmb IAmb 01 01 25.9
comp=Z,9.2nm,1.1s
KURBB Kurchatov Arra 41.59 50 P **P 01 01 29.4 +1.0**
comp=Z,1.8nm,0.4s,baz=288,slow=10,SNR=26
KURK Kurchatov 41.65 50 P **P 01 01 29.4 +0.5**
KURK Kurchatov 41.65 50 IAmb IAmb 01 01 39.5
comp=Z,6.5nm,1.0s
MAKZ Makanchi 43.91 56 P **P 01 01 46.9 -0.4**
MK31 Makanchi Array 44.13 56 P **P 01 01 50.3 +1.2**
MK31 IAmb IAmb 01 02 02.5
comp=Z,2.4nm,0.7s
MKAR Makanchi Array 44.13 56 P **P 01 01 50.3 +1.2**
comp=Z,1.0nm,0.5s,baz=269,slow=7.9,SNR=23
SPITS Spitsbergen Ar 44.50 357 P **P 01 01 51.3 -0.3**
comp=Z,0.6nm,0.3s,baz=140,slow=11,SNR=6.0
KBS Kingsbay 45.44 356 P **P 01 01 59.2 +0.2**
ZAA0 Zalesovo Array 45.56 45 P **P 01 02 00.5 +0.1**
ZALV Zalesovo Beam 45.56 45 P **P 01 02 00.7 +0.3**
comp=Z,4.1nm,0.4s,baz=266,slow=8.8,SNR=29
NRIK Noril'sk 48.80 25 LR LR 01 25 22.1
comp=Z,34nm,18.7s,baz=24,slow=39
TSUM Tsumeb 53.42 189 P **P 01 03 01.8 +1.1**
comp=Z,1.6nm,0.7s,baz=2.9,slow=12,SNR=2.7
TSUM Tsumeb 53.42 189 P **P 01 03 02.4 +1.7**
TSUM IAmb IAmb 01 03 06.3
comp=Z,2.2nm,0.8s
SONM Songino Array 59.95 50 P **P 01 03 47.7 +0.7**
comp=Z,0.3nm,0.3s,baz=276,slow=9.5,SNR=3.7
BOSA Boshof 62.24 180 P **P 01 04 03.6 +1.1**
comp=Z,1.2nm,0.5s,baz=10,slow=7.3,SNR=5.6
BOSA Boshof 62.24 180 P **P 01 04 04.6 +2.1**
LZH Lanzhou 62.39 63 *eP* **P 01 04 02.8 -0.9**
LZH pP sP 01 04 14.3 +1.5
LZH sP pwP 01 04 19.0 +5.1
SCHQ Schefferville 64.34 320 P **P 01 04 16.9 +0.7**
comp=Z,2.7nm,0.4s,baz=70,slow=3.7,SNR=14
SCHQ Schefferville 64.34 320 P **P 01 04 17.1 +0.9**
RES Resolute Bay 64.92 345 P **P 01 04 20.0 +0.5**
comp=Z,5.2nm,1.1s,baz=63,slow=14,SNR=1.5
RES Resolute Bay 64.92 345 P **P 01 04 20.3 +0.8**
HHC Hu-ho-hao-te 65.99 56 *eP* **P 01 04 29.3 +2.1**
CMAR Chiang Mai Arr 66.33 83 P **P 01 04 30.4 +0.8**
comp=Z,0.8nm,0.3s,baz=302,slow=8.4,SNR=1.5
BATG Bathurst New B 67.00 312 P **P 01 04 32.9 -0.5**
BATG IAmb IAmb 01 04 47.4
comp=Z,3.6nm,1.0s
D62A Allapoint, All 68.92 313 P **P 01 04 46.4 +0.9**
D62A IAmb IAmb 01 04 58.4
comp=Z,3.8nm,1.0s
D53A Lac Vacive, Po 74.03 316 P **P 01 05 17.5 +1.1**
USRK Ussuriysk Ar. 77.42 45 P **P 01 05 36.1 +0.3**
comp=Z,0.9nm,0.4s,baz=295,slow=4.6,SNR=2.5
YKA Yellowknife Ar 78.70 342 P **P 01 05 43.1 +0.6**
comp=Z,0.7nm,0.7s,baz=31,slow=5.5,SNR=4.1
KSRS Korea Array 78.71 52 P **P 01 05 43.4 +0.4**
comp=Z,0.5nm,0.4s,baz=303,slow=4.3,SNR=1.8
ILAR Eielson Array 81.42 357 P **P 01 05 57.3 +0.1**
comp=Z,0.3nm,0.4s,baz=343,slow=3.6,SNR=4.2
WRH Wood River Hil 81.77 357 IAmb IAmb 01 06 15.1
comp=Z,2.7nm,0.6s
DOT Dot Lake 82.37 355 P **P 01 06 03.5 +1.2**
DOT IAmb IAmb 01 06 09.4
comp=Z,2.1nm,0.8s

MAN 30 01:01:41.4, 18°.45N×120°.50E, h19km, mb4.4, ML3.2, MS3.0, 2C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CVP	**Callao Caves**	**1.46**	**120**	*i* P	Pn	01 02 06.0	-0.7
CVP				*i* S	Sg	01 02 28.2	-0.4
SGCP	**Mt. Cagua**	**1.48**	**98**	*e*P	Pn	01 02 06.6	-0.4
SGCP				*e*S	Sb	01 02 27.4	+0.7
SGCP	**Mt. Cagua**	**1.48**	**98**	*e*P	Pn	01 02 06.6	-0.4
SGCP				*e*S	Sb	01 02 27.4	+0.7
CAUP	**Cauayan**	**1.96**	**140**	*e*P	Pb	01 02 16.1	-0.3
CAUP				*e*S	Sg	01 02 56.1	+12
BOLP	**Bolinao**	**2.13**	**195**	*e*P	Pn	01 02 16.4	+0.5
BOLP				*e*S	Sg	01 02 51.0	+1.0
SMPP	**San Manuel, Pa**	**2.29**	**176**	*e*P	Pn	01 02 18.0	-0.2
SMPP				*e*S	Sb	01 02 48.2	-2.0
BALP	**Baler**	**2.88**	**159**	*e*P	Pn	01 02 28.9	+2.6
BALP				*e*S	Sb	01 03 08.8	+1.7
PCPH	**Palayan**	**2.93**	**169**	*e*P	Pn	01 02 29.7	+2.8
LQP	**Lukban**	**4.43**	**167**	*e*P	Pb	01 02 58.6	-0.1

*IDC **30** 01:15:46.1±0.6, 55°.30S×27°.87W, h0km, mb4.4/10, mb1 4.4/11, mb1mx4.3/20, mbtmp4.4/11, ML4.5/1, MS3.2/1, Ms1 3.2/1, ms1mx2.8/22, Error ellipse: s-maj=25.9km s-min=17.3km az=62.0*
*NEIC **30** 01:15:47.6±1.1, 55°.3S±0°.1×28°.0W±0°.2, h10km±1km, mb4.7/24, Error ellipse: s-maj=22.2km s-min=16.1km az=216.0*

ISC 30 01:15:49.9±0.4, 55°.33S±0°.09×28°.0W±0°.1, h26km, n63, σ0s53/63, mb4.6/19, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.01**	**279**		**Pn**	**01 17 02.6**	**-0.6**
VNA1	**Neumayer--Stat**	**17.64**	**158**	P	**Pn**	**01 19 53.2**	**-0.2**
VNA3	**Neumayer Olymp**	**17.83**	**161**	P	**Pn**	**01 19 55.7**	**0.0**
SNAA	**Sanae**	**19.59**	**156**	P	**P**	**01 20 15.2**	**-0.6**
SNAA	**Sanae**	**19.59**	**156**	P	**P**	**01 20 15.1**	**-0.6**
	1.6nm,0.3s,baz=296,slow=11,SNR=47						
SNAA				LR	LR	01 26 09.4	
	comp=Z,75nm,21.3s,baz=14,slow=32						
SNAA	**Sanae**	**19.59**	**156**	P	**P**	**01 20 15.0**	**-0.7**
QSPA	**South Pole Qui**	**34.92**	**180**	P	**P**	**01 22 39.2**	**+0.1**
QSPA				IAmb	IAmb	01 22 40.1	
	comp=Z,5.2nm,0.8s						
CPUP	**Villa Florida**	**35.98**	**312**	P	**P**	**01 22 48.0**	**-0.3**
	comp=Z,2.5nm,0.6s,baz=147,slow=7.5,SNR=6.4						
CPUP	**Villa Florida**	**35.98**	**312**	P	**P**	**01 22 47.7**	**-0.6**
CPUP				IAmb	IAmb	01 22 55.3	
	comp=Z,14nm,1.4s						
GO05	**Huala**	**36.23**	**286**	P	**P**	**01 22 49.6**	**-0.9**
GO05				IAmb	IAmb	01 23 01.6	
	comp=Z,27nm,1.4s						
MT02	**Curacav**	**37.11**	**288**	P	**P**	**01 22 57.7**	**-0.3**
MT02				IAmb	IAmb	01 22 58.9	
	comp=Z,20nm,1.2s						
CO02	**Combarbal**	**38.62**	**291**	P	**P**	**01 23 11.2**	**+0.4**
CO02				IAmb	IAmb	01 23 14.1	
	comp=Z,25nm,1.1s						
CO01	**Juntas del Tor**	**39.10**	**293**	P	**P**	**01 23 15.5**	**+0.5**
MAW	**Mawson**	**41.01**	**144**	P	**P**	**01 23 30.5**	**+0.4**
	comp=Z,1.1nm,0.6s,baz=236,slow=7.7,SNR=4.3						
MAW	**Mawson**	**41.01**	**144**	P	**P**	**01 23 29.7**	**-0.4**
BDFB	**Brasilia**	**42.50**	**331**	P	**P**	**01 23 43.9**	**+0.9**
	comp=Z,3.6nm,1.0s,baz=152,slow=15,SNR=1.5						
BDFB	**Brasilia**	**42.50**	**331**	P	**P**	**01 23 42.5**	**-0.5**
LVC	**Limon Verde**	**44.53**	**300**	P	**P**	**01 23 59.4**	**-0.2**
LVC				IAmb	IAmb	01 24 02.3	
	comp=Z,12nm,1.4s						
PB09	**IPOC Station P**	**45.38**	**301**		**P**	**01 24 06.8**	**+0.6**
PB01	**IPOC Station P**	**46.14**	**301**	P	**P**	**01 24 11.2**	**-0.8**
PB01				IAmb	IAmb	01 24 13.9	
	comp=Z,8.2nm,0.7s						
BOSA	**Boshof**	**46.26**	**77**	P	**P**	**01 24 12.5**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=217,slow=7.7,SNR=7.6						
BOSA	**Boshof**	**46.26**	**77**	P	**P**	**01 24 12.4**	**-0.6**
PB08	**IPOC Station P**	**46.74**	**302**	P	**P**	**01 24 18.0**	**+0.9**
PB08				IAmb	IAmb	01 24 19.4	
	comp=Z,4.9nm,0.6s						
GO01	**Chusmiza**	**47.16**	**302**	P	**P**	**01 24 20.8**	**+0.2**
VNDA	**Vanda**	**47.27**	**183**	P	**P**	**01 24 20.7**	**+0.6**
	comp=Z,4.8nm,0.7s,baz=189,slow=5.8,SNR=41						
VNDA	**Vanda**	**47.27**	**183**	P	**P**	**01 24 20.5**	**+0.3**
VNDA				IAmb	IAmb	01 24 22.0	
	comp=Z,5.1nm,0.8s						
PSGCX	**Pisagua**	**47.67**	**301**	P	**P**	**01 24 24.5**	**+0.4**
MNMC	**Minye Minye**	**47.81**	**302**	P	**P**	**01 24 26.5**	**+1.2**
LPAZ	**La Paz**	**49.57**	**306**	P	**P**	**01 24 40.2**	**+0.9**
	comp=Z,5.3nm,0.6s,baz=134,slow=5.2,SNR=32						
LPAZ	**La Paz**	**49.57**	**306**	P	**P**	**01 24 40.2**	**+0.9**
LPAZ				IAmb	IAmb	01 24 41.0	
	comp=Z,6.1nm,0.6s						
SAML	**Samuel**	**53.96**	**315**	P	**P**	**01 25 11.3**	**0.0**
SAML				IAmb	IAmb	01 25 11.8	
	comp=Z,3.1nm,0.7s						
CASY	**Casey**	**54.74**	**161**	P	**P**	**01 25 17.1**	**+0.7**
CASY				IAmb	IAmb	01 25 33.0	
	comp=Z,9.6nm,1.2s						
DBIC	**Dimbokro**	**64.72**	**26**	P	**P**	**01 26 24.8**	**-0.7**
	comp=Z,5.5nm,0.9s,baz=205,slow=14,SNR=3.8						
DBIC	**Dimbokro**	**64.72**	**26**	P	**P**	**01 26 25.3**	**-0.2**
TOA0	**Torodi Ar. Sit**	**72.67**	**30**	P	**P**	**01 27 15.3**	**+0.2**
TOA0				IAmb	IAmb	01 27 16.2	
	comp=Z,4.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**72.67**	**30**	P	**P**	**01 27 15.4**	**+0.3**
	comp=Z,4.4nm,0.6s,baz=202,slow=6.2,SNR=30						
ESDC	**Sonseca Array**	**96.84**	**18**	P	**P**	**01 29 18.8**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=153,slow=3.4,SNR=1.8						
ASAR	**Alice Springs**	**99.82**	**163**	P	**Pdif**	**01 29 31.2**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=191,slow=5.0,SNR=5.3						
FINES	**FINESS Array B**	**123.97**	**28**	PKP	**PKPdf**	**01 34 43.9**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=180,slow=0.6,SNR=11						
CMAR	**Chiang Mai Arr**	**125.76**	**111**	PKP	**PKiKP**	**01 34 49.3**	**0.0**
	comp=Z,0.7nm,0.3s,baz=256,slow=3.6,SNR=2.8						
ARCES	**ARCESS Array B**	**130.45**	**22**	PKP	**PKPdf**	**01 34 56.3**	**0.0**
	comp=Z,1.7nm,0.7s,baz=219,slow=1.6,SNR=10						
YKA	**Yellowknife Ar**	**135.32**	**319**	PKP	**PKPdf**	**01 35 05.7**	**0.0**
	comp=Z,1.3nm,0.9s,baz=128,slow=2.7,SNR=5.4						
HYT	**Haines Junctio**	**143.97**	**308**		**PKPdf**	**01 35 21.3**	**-0.3**
PCA	**Pinnacle**	**144.94**	**306**		**PKPdf**	**01 35 23.9**	**+0.7**
INK	**Inuvik**	**144.95**	**321**		**PKPdf**	**01 35 23.1**	**+0.3**
EPYK	**Eagle Plains**	**145.57**	**318**		**PKPab**	**01 35 24.8**	**+0.1**
DAWY	**Dawson**	**145.96**	**313**		**PKPbc**	**01 35 25.6**	**-0.1**
EGAK	**Eagle**	**146.90**	**314**		**PKPbc**	**01 35 28.4**	**+0.1**
DOT	**Dot Lake**	**147.82**	**311**		**PKPbc**	**01 35 31.6**	**+0.7**
RIDG	**Independent Ri**	**148.18**	**311**		**PKiKP**	**01 35 33.2**	**-0.4**
PAX	**Paxson**	**148.25**	**310**		**PKiKP**	**01 35 32.9**	**-0.9**
PRP	**Porcupine Dome**	**148.87**	**314**		**PKiKP**	**01 35 34.5**	**-0.6**
FYU	**Fort Yukon**	**148.94**	**316**		**PKiKP**	**01 35 34.4**	**-0.6**
HDA	**Harding Lake**	**149.23**	**312**		**PKiKP**	**01 35 34.8**	**+0.3**
IL31		**149.28**	**313**		**PKbc**	**01 35 34.9**	**+0.4**
ILAR	**Eielson Array**	**149.28**	**313**	PKPbc	**PKbc**	**01 35 35.0**	**+0.4**
	comp=Z,9.7nm,0.8s,baz=129,slow=2.2,SNR=74						
CCB	**Clear Creek Bu**	**149.64**	**312**		**PKPbc**	**01 35 35.9**	**+0.4**
WRH	**Wood River Hil**	**149.73**	**312**		**PKiKP**	**01 35 36.1**	**-0.5**
RND	**Reindeer**	**149.84**	**310**		**PKiKP**	**01 35 37.2**	**+0.1**
MCK	**McKinley**	**149.95**	**310**		**PKiKP**	**01 35 37.1**	**-0.1**
SKT	**Skwentna**	**150.73**	**306**		**PKiKP**	**01 35 38.8**	**-0.1**
BPAW	**Bear Paw Mtn.**	**150.91**	**311**		**PKiKP**	**01 35 39.0**	**-0.2**
SONM	**Songino Array**	**151.15**	**86**	PKPbc	**PKPbc**	**01 35 39.5**	**-0.3**
	comp=Z,3.8nm,0.8s,baz=220,slow=2.7,SNR=19						

*THR **30** 01:44:59.9±0.4, 27°.27N×57°.31E, h14km±7km, ML3.6*
*TEH **30** 01:45:01.7, 27°.27N×57°.84E, h9km, ML3.7*
*OMAN **30** 01:45:05.9, 27°.02N×57°.87E, h42km, ml3.3/11*

ISC 30 01:45:00.1±0.9, 27°.16N±0°.03×57°.93E±0°.05, h10km, n28, σ1s75/33, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.81**	**346**	*e*Pg	**Pg**	**01 45 14.9**	**-0.8**
KHNJ				*e*Sg	**Sg**	**01 45 25.5**	**-0.8**
JSK1	**Jask**	**1.52**	**185**	*e*Pn	**Pg**	**01 45 31.9**	**+2.5**
GENO	**Geno**	**1.58**	**279**	*e*Sg	**Sg**	**01 45 52.0**	**+1.1**
BNDS	**Bandar-Abbas**	**1.58**	**279**	*e*Pg	Pn	01 45 19.2	-9.2
BANOM	**Banah**	**1.91**	**230**	P	**Pb**	**01 45 34.0**	**-1.1**
	SNR=18						
BANOM	**Banah**	**1.91**	**230**	*e*Pn	**Pb**	**01 45 33.3**	**-1.8**
MDH	**Madha**	**2.36**	**219**	P	**Pn**	**01 45 38.7**	**-0.2**
MDH				S	**Sn**	**01 46 07.9**	**-0.1**
MSFE	**Esma-Masafi**	**2.40**	**222**	*e*Pn	**Pn**	**01 45 40.1**	**+0.6**
NGRK	**Negar Kerman**	**2.69**	**337**	*e*Pn	**Pn**	**01 45 44.9**	**+1.1**
NGRK				*e*		01 46 30.9	
UOSS	**Minazif**	**2.70**	**215**	P	**Pn**	**01 45 43.9**	**+0.3**
CHMN	**Cheshme madani**	**2.71**	**353**	*e*Pn	**Pn**	**01 45 46.8**	**+2.7**
CHMN				*e*		01 45 52.6	
HATD	**Hatta, Dubai**	**2.83**	**215**	P	**Pn**	**01 45 45.7**	**+0.2**
HATD				S	**Sn**	**01 46 18.1**	**-1.5**
ASHO	**Ashiyiah**	**2.99**	**215**	P	**Pb**	**01 45 51.0**	**-2.5**
	SNR=8.3						
KRBR	**Kerman**	**2.99**	**340**	*e*Pn	**Pn**	**01 45 46.0**	**-1.9**
KRBR				*e*Sg	**Sn**	**01 46 26.1**	**+2.1**
KRBR				IAML		01 46 34.8	
	comp=E,164nm,0.4s						
KRBR				IAML		01 46 35.8	
	comp=N,220nm,0.6s						
TVBK	**TV Kerman**	**2.99**	**340**	*e*Pn	**Pn**	**01 45 50.3**	**+2.3**
TVBK				*e*		01 46 43.2	
SOHO	**SOHO**	**3.27**	**203**	P	**Pn**	**01 45 52.4**	**+1.0**
SOHO				S	**Sn**	**01 46 28.6**	**-1.7**
KHGB	**Koh Gabri**	**3.44**	**339**	*e*	**Pg**	**01 46 06.7**	**+0.6**
SZD1	**Zahaedan-tmp**	**3.48**	**48**	*e*Pn	**Pb**	**01 45 58.6**	**-3.2**
ZHSF	**Zahedan**	**3.50**	**45**	*e*P	**Pb**	**01 46 00.8**	**-1.5**
HOQ	**Hoqain**	**3.61**	**189**	P	**Pn**	**01 45 56.3**	**+0.2**
	SNR=16						
WSAR	**Wadi Sarin**	**3.96**	**171**	P	**Pn**	**01 46 02.5**	**+1.5**
	SNR=38						
ARQ	**Araqi**	**4.01**	**199**	P	**Pn**	**01 46 04.8**	**+3.1**
NHDN	**Nehbandan**	**4.61**	**23**	*e*Pn	**Pn**	**01 46 11.9**	**+1.9**
WBK	**Wadi Bani Khal**	**4.63**	**168**	P	**Pn**	**01 46 11.7**	**+1.5**
	SNR=23						
WBK				S	**Sn**	**01 47 03.3**	**-0.7**
BSRN	**Basiran**	**4.90**	**12**	*e*P	**Pn**	**01 46 16.2**	**+2.2**
ISAD	**Sadrabad**	**6.00**	**323**	*e*Pn	**Pn**	**01 46 31.2**	**+1.9**
IRAM	**Ramesheh**	**6.69**	**315**	*e*Pn	**Pn**	**01 46 40.1**	**+1.4**
KLNJ	**Kolanjah**	**6.74**	**306**	*e*Pn	**Pn**	**01 46 40.6**	**+1.2**

*BJI **30** 01:46:20.9±0.0, 0°.04N×17°.25W, h6km, mB5.9/30, mb5.7/8, Ms5.6/31, Ms7 5.4/30*
*IDC **30** 01:46:21.3±0.4, 0°.08N×17°.38W, h0km, mb5.2/44, mb1 5.2/45, mb1mx5.2/46, mbtmp5.2/45, ML5.5/1, MS5.3/33, Ms1 5.2/33, ms1mx5.2/37, Error ellipse: s-maj=13.1km s-min=10.0km az=142.0*
*MOS **30** 01:46:21.3±0.8, 0°.14N×17°.36W, h10km, mb5.8/127, MS5.4/62, Error ellipse: s-maj=6.8km s-min=3.7km az=55.8*
*NEIC **30** 01:46:22.9±1.1, 0°.05N±0°.08×17°.34W±0°.08, h10km±1km, mb5.8/451, Ms_20 5.4/808, Mww5.6, Mwc5.7/9(GCMT), Error ellipse: s-maj=14.3km s-min=12.9km az=269.0, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.93; Mθθ=1.68; Mφφ=-0.75; Mrθ=0.05; Mrφ=-3.48; Mθφ=-1.15; Fault plane solution: Mo3.90000×10^17^ NP1: φs349.00000°, δ82.00000°, λ=-20.00000°. NP2:φs81.00000°, δ70.00000°, λ=-171.00000°. Principal axes: T 4.2496, Plg8.0000°, Azm36.0000°; N -0.7037, Plg69.0000°, Azm147.0000°; P -3.5458, Plg20.0000°, Azm303.0000°;*
*UNK **30** 01:46:23.1, 0°.04N×17°.34W, h8km*
*GCMT **30** 01:46:24.9±0.1, 0°.24N±0°.01×17°.25W±0°.01, h14km, MW5.7/167, Moment Tensor Solution. s135,c266; s167,c367; Duration: 1s6 Moment tensor: Scale 10^17^ Nm; Mrr=0.73±.03; Mθθ 1.47±.04; Mφφ=0.74±.03; Mrθ=0.70±.08; Mφφ=3.31±.03; Mθr=1.24±.09; Best double couple: Mo3.73900×10^17^ NP1:φs80.00000°, δ69.00000°, λ180.00000°. NP2:φs170.00000°, δ90.00000°, λ21.00000°. Principal axes: T 4.1970, Plg15.0000°, Azm37.0000°; N -0.9190, Plg69.0000°, Azm171.0000°; P -3.2820, Plg14.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **30** 01:46:24, 0°.25N×17°.24W, h12km, Moment Tensor Solution. Moment tensor: Scale 10^17^Nm; Mrr=0.52; Mθθ=0.71; Mφφ=-0.20; Mrθ=0.42; Mφφ=-2.72; Mθr=-0.33; Fault plane solution: Mo2.84000×10^17^ NP1:φs176.00000°, δ84.00000°, λ6.00000°. NP2

RCBR **Riachuelo** 19.44 252 *eP* **Pn** **01 50 51.3 +0.5**
RCBR **Riachuelo** 19.44 252 *eP* **Pn** **01 50 51.3 +0.5**
TOC5 **Torodi Ar. Sit** 22.89 55 IAMs_20 IAMs_20 01 59 20.7
comp=Z,16µm,20.0s
TOB4 **Torodi Ar. Sit** 22.90 55 IAMs_20 IAMs_20 01 59 22.0
comp=Z,13µm,20.0s
TOC4 **Torodi Ar. Sit** 22.90 55 IAMs_20 IAMs_20 01 59 22.1
comp=Z,13µm,20.0s
TOB5 **Torodi Ar. Sit** 22.91 55 IAMs_20 IAMs_20 01 59 22.2
comp=Z,14µm,20.0s
TOA3 **Torodi Ar. Sit** 22.91 55 IAMs_20 IAMs_20 01 59 21.3
comp=Z,13µm,20.0s
TOC7 **Torodi Ar. Sit** 22.91 55 IAMs_20 IAMs_20 01 59 21.3
comp=Z,13µm,20.0s
TOA0 **Torodi Ar. Sit** 22.91 55 P **P** **01 51 24.8 -2.3**
TOA0 IAMs_20 IAMs_20 01 59 21.4
comp=Z,13µm,20.0s
TORD **Torodi Ar. Bea** 22.91 55 P **P** **01 51 25.5 -1.5**
comp=Z,378nm,0.9s,baz=241,slow=8.0,SNR=383
TORD S **S** **01 55 27.4 -9.4**
comp=Z,9.0nm,0.5s,baz=262,slow=27,SNR=1.7
TORD LR LR 01 59 32.6
comp=Z,13µm,20.4s,baz=240,slow=34
TOB3 **Torodi Ar. Sit** 22.91 55 IAMs_20 IAMs_20 01 59 21.4
comp=Z,13µm,20.0s
TOA2 **Torodi Ar. Sit** 22.92 55 IAMs_20 IAMs_20 01 59 21.5
comp=Z,13µm,20.0s
TOB1 **Torodi Ar. Sit** 22.92 55 IAMs_20 IAMs_20 01 59 21.5
comp=Z,13µm,20.0s
TOC3 **Torodi Ar. Sit** 22.93 55 IAMs_20 IAMs_20 01 59 21.8
comp=Z,13µm,19.0s
TOC1 **Torodi Ar. Sit** 22.93 55 IAMs_20 IAMs_20 01 59 21.9
comp=Z,15µm,21.0s
TOC2 **Torodi Ar. Sit** 22.94 55 IAMs_20 IAMs_20 01 59 22.6
comp=Z,13µm,20.0s
GDU01 **Guandu, BA** 25.93 237 *eP* **P** **01 51 55.6 +0.2**
GDU01 **Guandu, BA** 25.93 237 *eP* **P** **01 51 55.6 +0.2**
ROSB **Rosrio** 26.95 264 *eP* **P** **01 52 04.0 -0.6**
ROSB **Rosrio** 26.95 264 *eP* **P** **01 52 04.0 -0.6**
RIB01 **Linhares ES** 29.70 228 *eP* **P** **01 52 30.5 +1.5**
RIB01 **Linhares ES** 29.70 228 *eP* **P** **01 52 30.5 +1.5**
BSFB **Barra de Sao F** 29.75 230 *eP* **P** **01 52 30.4 +0.9**
BSFB **Barra de Sao F** 29.75 230 *eP* **P** **01 52 30.4 +0.9**
SJMB **Sao Joao De Ma** 29.93 230 *eP* **P** **01 52 31.6 +0.5**
SJMB **Sao Joao De Ma** 29.93 230 *eP* **P** **01 52 31.6 +0.5**
JANB **Januaria** 30.60 239 *eP* **P** **01 52 36.0 -1.2**
JANB **Januaria** 30.60 239 *eP* **P** **01 52 36.0 -1.2**
SMTB **Santa Maria do** 31.41 253 *eP* **P** **01 52 43.7 -0.6**
SMTB **Santa Maria do** 31.41 253 *eP* **P** **01 52 43.7 -0.6**
TTIG **Tnine Tigouga,** 31.49 15 P **P** **01 52 48.0 +3.0**
SNR=7.3
TAM **Tamanrasset** 31.71 43 P **P** **01 52 47.3 +0.3**
TAM pmax pmax
comp=Z,115nm,1.1s
TAM MLR MLR
comp=Z,12µm,20.0s
TAM **Tamanrasset** 31.71 43 P **P** **01 52 47.3 +0.3**
TAM IAmb IAmb 01 52 49.1
comp=Z,115nm,1.1s
CAM01 **Campos-RJ** 32.18 226 *eP* **P** **01 52 52.1 +1.2**
CAM01 **Campos-RJ** 32.18 226 *eP* **P** **01 52 52.1 +1.2**
OUK **Oukaimeden** 32.27 15 P **P** **01 52 55.0 +3.0**
SNR=5.5
OUZM **OUZ** 32.30 17 P **P** **01 52 53.0 +1.0**
SNR=9.1
FUL **Funchal** 32.44 1 *eP* **P** **01 52 55.7 +2.7**
comp=Z,142nm,1.6s
TZRR **Tazzarine** 32.55 19 P **P** **01 52 57.0 +2.8**
SNR=5.3
PMOZ **Porto Moniz, M** 32.61 0 *eP* **P** **01 52 54.3 -0.4**
comp=Z,176nm,1.6s
PMOZ *eS* **S** **01 58 18.2 +8.0**
PMOZ *eLR* LR 02 01 43.0
comp=Z,2µm,18.0s
PMPST **Porto Santo, M** 32.88 2 *eP* **P** **01 52 58.9 +2.0**
comp=Z,251nm,1.5s
PRPB **Paraiupebas** 33.01 259 *eP* **P** **01 52 57.5 -0.8**
PRPB **Paraiupebas** 33.01 259 *eP* **P** **01 52 57.5 -0.8**
PEXB **Peixe** 33.03 247 *eP* **P** **01 52 58.8 +0.3**
PEXB **Peixe** 33.03 247 *eP* **P** **01 52 58.8 +0.3**
GOLM **Goulmima** 33.60 19 P **P** **01 53 06.0 +2.6**
SNR=9.4
ARF **Arif** 33.60 21 P **P** **01 53 06.0 +2.6**
SNR=11
ARF P **P** **01 53 06.0 +2.6**
SNR=11
BSCB **Bom Sucesso** 34.01 230 *eP* **P** **01 53 07.0 0.0**
BSCB **Bom Sucesso** 34.01 230 *eP* **P** **01 53 07.0 0.0**
BDFB **Brasilia** 34.07 241 P **P** **01 53 07.0 -0.7**
comp=Z,43nm,1.0s,baz=60,slow=10,SNR=37
BDFB LR LR 02 05 08.9
comp=Z,5µm,19.2s,baz=76,slow=33
BDFB **Brasilia** 34.07 241 P **P** **01 53 07.7 0.0**
BDFB pmax pmax
comp=Z,67nm,1.1s
BDFB **Brasilia** 34.07 241 P **P** **01 53 07.7 0.0**
BDFB IAMs_20 IAMs_20 02 04 28.7
comp=Z,7µm,20.0s
AVE **Averroes** 34.37 15 *eP* **P** **01 53 09.3 -0.6**
AVE *eS* **S** **01 58 38.4 +1.1**
MDT **Midelt** 34.73 19 P **P** **01 53 13.9 +0.7**
comp=Z,19nm,1.1s,baz=216,slow=8.5,SNR=28
MDT **Midelt** 34.73 19 P **P** **01 53 15.7 +2.5**
SNR=13
CZD **Col de Zad** 34.80 18 P **P** **01 53 16.3 +2.3**
SNR=7.8
RTC **Rabat Centre** 35.17 15 P **P** **01 53 15.7 -1.1**
IFR **Ifrane** 35.22 18 *eP* **P** **01 53 18.3 +0.8**
IFR *eS* **S** **01 58 51.5 +0.7**
IPMB **Ipameri, GO** 35.26 238 *eP* **P** **01 53 18.2 +0.3**
IPMB **Ipameri, GO** 35.26 238 *eP* **P** **01 53 18.2 +0.3**
MDP **Montagnes des** 35.63 279 LR LR 02 05 31.6
comp=Z,4µm,21.8s,baz=101,slow=32
SICH **Sidi Chahed** 35.71 17 P **P** **01 53 25.0 +3.5**
SNR=5.1
TDRA **Tendrara** 35.85 22 P **P** **01 53 25.0 +2.1**
SNR=22
TDRA P **P** **01 53 25.0 +2.1**
SNR=22
PARB **Paraibuna** 36.00 228 *eP* **P** **01 53 25.7 +1.5**
PARB **Paraibuna** 36.00 228 *eP* **P** **01 53 25.7 +1.5**
RSA **Sarsar** 36.30 16 P **P** **01 53 29.0 +2.5**
SNR=6.9
AKLM **AKL** 36.53 19 P **P** **01 53 32.0 +3.4**
SNR=5.7
CHEFC **Chefchaouen** 36.64 17 P **P** **01 53 33.0 +3.5**
SNR=7.1
MALB **Monte Alegre** 36.98 267 *eP* **P** **01 53 32.6 0.0**
MALB **Monte Alegre** 36.98 267 *eP* **P** **01 53 32.6 0.0**
PVLZ **Peæn de** 37.01 18 *eP* **P** **01 53 34.3 +1.8**
PVLZ *eS* **S** **01 59 20.8 +3.1**
CEU **Ceuta** 37.37 16 *eP* **P** **01 53 34.9 -0.6**
CEU *eS* **S** **01 59 27.3 +4.1**
ARAG **Araguaiana, MT** 37.47 244 *eP* **P** **01 53 37.3 +0.6**
ARAG *epP* **sP** **01 53 39.9 -0.7**
ARAG **Araguaiana, MT** 37.47 244 *eP* **P** **01 53 37.3 +0.6**
ARAG *epP* **sP** **01 53 39.9 -0.7**
PSMN **Pico do Norte,** 37.47 350 *eT* T 02 32 34.9
PSMA **Santa Maria** 37.48 350 *eT* T 02 32 35.8
SPB **Sao Paulo** 37.50 229 P **P** **01 53 36.0 -0.9**
SPB IAMs_20 IAMs_20 02 06 09.8
comp=Z,7µm,20.0s
SPB **Sao Paulo** 37.50 229 *eP* **P** **01 53 37.9 +1.1**
SPB **Sao Paulo** 37.50 229 *eP* **P** **01 53 37.9 +1.1**
MELI **Melilla** 37.56 19 *eP* **P** **01 53 36.1 -1.1**
MELI *eS* **S** **01 59 27.3 +1.3**
SFS **San Fernando** 37.69 15 *eP* **P** **01 53 39.4 +1.2**
SFS *eS* **S** **01 59 32.6 +4.7**
PFVI **Vila Bisbo** 37.74 11 *eP* **P** **01 53 40.1 +1.4**
comp=Z,82nm,1.5s
PFVI **Vila Bisbo** 37.74 11 *ePP* PP 01 55 00.2 -4.8
PFVI *eS* **S** **01 59 29.4 +0.7**
PET01 **Itanhaem-SP** 37.78 228 *eP* **P** **01 53 40.0 +0.8**
PET01 **Itanhaem-SP** 37.78 228 *eP* **P** **01 53 40.0 +0.8**
ITRB **Iturama** 37.85 237 *eP* **P** **01 53 40.4 +0.5**
ITRB **Iturama** 37.85 237 *eP* **P** **01 53 40.4 +0.5**
MORF **Marmelete** 37.94 11 *eP* **P** **01 53 41.1 +0.6**
MORF AMb AMB 01 54 59.7
comp=Z,82nm,1.4s
MORF *eS* **S** **01 59 34.1 +2.2**
MORF **Marmelete** 37.94 11 *eP* **P** **01 53 41.5 +1.0**
comp=Z,51nm,1.9s
MORF **Marmelete** 37.94 11 *ePP* PP 01 55 09.8 +2.5
MORF *eS* **S** **01 59 32.5 +0.6**

PBDV **Barranco-do-Ve** 38.02 12 *eP* **P** **01 53 42.5 +1.4**
comp=Z,104nm,1.4s
PBDV **Barranco-do-Ve** 38.02 12 *ePP* PP 01 55 07.4 -0.8
PBDV *eS* **S** **01 59 35.5 +2.3**
PTEO **Sao Teotonio** 38.16 11 *eP* **P** **01 53 43.6 +1.4**
comp=Z,112nm,1.2s
PVAQ **Vaqueiros** 38.23 12 *eP* **P** **01 53 44.1 +1.3**
comp=Z,114nm,1.6s
PVAQ **Vaqueiros** 38.23 12 *ePP* PP 01 55 09.8 -0.6
PVAQ *eS* **S** **01 59 38.5 +2.4**
PVAQ *eLQ* LQ 02 02 18.3
PVAQ *eLR* LR 02 04 40.1
comp=Z,2µm,18.0s
PVAQ **Vaqueiros** 38.23 12 P **P** **01 53 43.2 +0.4**
BART **Pico Bartolome** 38.24 350 *eT* T 02 33 36.9
CMLA **Cha da Macela** 38.29 349 *eT* T 02 33 37.7
GRON **Grota Negra** 38.30 349 *eT* T 02 33 37.6
PDA **Ponta Delgada** 38.30 349 *eT* T 02 33 37.7
PCVE **Castro Verde** 38.38 12 *eP* **P** **01 53 45.6 +1.5**
comp=Z,76nm,1.6s
PCVE **Castro Verde** 38.38 12 *ePP* PP 01 55 16.8 +4.8
PCVE *eS* **S** **01 59 40.9 +2.5**
EMAL **Malaga-Limoner** 38.45 17 *eP* **P** **01 53 45.6 +1.0**
EMAL *eS* **S** **01 59 36.1 -3.4**
MESJ **Messejana** 38.54 12 *eP* **P** **01 53 46.1 +0.6**
MESJ AMb AMB 01 53 48.5
comp=Z,55nm,1.2s
MESJ *eS* **S** **01 59 43.1 +2.2**
MESJ **Messejana** 38.54 12 *eP* **P** **01 53 46.9 +1.5**
comp=Z,54nm,2.1s
MESJ **Messejana** 38.54 12 *ePP* PP 01 55 15.8 +2.0
NPGB **Novo Progresso** 38.58 259 *eP* **P** **01 53 45.5 -0.7**
NPGB *epP* **sP** **01 53 49.1 -1.0**
NPGB **Novo Progresso** 38.58 259 *eP* **P** **01 53 45.5 -0.7**
NPGB *epP* **sP** **01 53 49.1 -1.0**
PNCL **Nicolau / Gran** 38.74 11 *eP* **P** **01 53 48.6 +1.5**
comp=Z,51nm,2.8s
PNCL **Nicolau / Gran** 38.74 11 *ePP* PP 01 55 20.3 +4.3
PNCL *eS* **S** **01 59 46.1 +2.2**
PBEJ **Beja** 38.79 12 *eP* **P** **01 53 48.5 +0.9**
comp=Z,63nm,2.0s
PBEJ **Beja** 38.79 12 *ePP* PP 01 55 22.9 +6.3
FRTB **Fartura** 39.00 231 *eP* **P** **01 53 51.0 +1.4**
FRTB **Fartura** 39.00 231 *eP* **P** **01 53 51.0 +1.4**
TSUM **Tsumeb** 39.22 121 P **P** **01 53 52.6 +1.0**
comp=Z,84nm,0.9s,baz=294,slow=8.7,SNR=97
TSUM **Tsumeb** 39.22 121 P **P** **01 53 52.3 +0.8**
TSUM **Tsumeb** 39.22 121 IAMs_20 IAMs_20 02 06 34.1
comp=Z,6µm,20.0s
LIS **Lisbon** 39.22 10 *eP* **P** **01 53 51.9 +0.8**
LIS AMb AMB 01 53 59.0
comp=Z,116nm,1.6s
LIS *eS* **S** **01 59 53.3 +2.2**
LIS **Lisbon** 39.22 10 *eP* **P** **01 53 52.3 +1.2**
comp=Z,117nm,2.5s
ETRT **Tiaret** 39.23 24 P **P** **01 53 53.0 +1.6**
EVO **Evora** 39.25 12 *eP* **P** **01 53 49.1 -2.3**
EVO *eS* **S** **01 59 54.9 +3.3**
EVO **Evora** 39.25 12 *eP* **P** **01 53 52.8 +1.4**
comp=Z,76nm,2.3s
EVO **Evora** 39.25 12 *ePP* PP 01 55 26.3 +4.7
PMAFR **Mafra** 39.42 10 *eP* **P** **01 53 53.2 +0.3**
PMAFR **Mafra** 39.42 10 *ePP* PP 01 55 29.2 +5.7
PMAFR *eS* **S** **01 59 58.7 +4.5**
PCMB **Pacaembu** 39.48 235 *eP* **P** **01 53 54.8 +1.2**
PCMB **Pacaembu** 39.48 235 *eP* **P** **01 53 54.8 +1.2**
ADH **Angra Heroismo** 39.49 348 *eT* T 02 34 57.4
C2SB **Chapadao do Su** 39.55 240 *eP* **P** **01 53 56.2 +2.0**
C2SB **Chapadao do Su** 39.55 240 *eP* **P** **01 53 56.2 +2.0**
PCAN **Candelaria** 39.59 346 *eT* T 02 35 16.5
PICO **Pico** 39.61 346 *eT* T 02 35 16.0
EANR **'Ain N'Sour** 39.63 24 P **P** **01 53 57.0 +2.3**
PMAN **Manadas** 39.66 347 *eT* T 02 35 15.9
HOR **Horta** 39.69 346 *eT* T 02 35 16.2
PMTG **Montargil** 39.73 11 *eP* **P** **01 53 56.7 +1.3**
comp=Z,53nm,1.8s
PMTG **Montargil** 39.73 11 *ePP* PP 01 55 27.3 +0.5
PMTG *eS* **S** **02 00 01.2 +2.5**
CLDB **Colider** 39.74 253 *eP* **P** **01 53 55.1 -0.8**
CLDB *epP* **sP** **01 53 58.9 -0.9**
CLDB **Colider** 39.74 253 *eP* **P** **01 53 55.1 -0.8**
CLDB *epP* **sP** **01 53 58.9 -0.9**
CALA **Caldeira** 39.76 346 *eT* T 02 35 16.1
ROSA **Rosais** 39.78 347 *eT* T 02 35 07.1
ECHA **Ech Chlef** 39.91 24 P **P** **01 53 54.0 -2.9**
PSBE **So Bento** 40.05 10 *eP* **P** **01 53 59.6 +1.5**
comp=Z,97nm,1.8s
PSBE **So Bento** 40.05 10 *ePP* PP 01 55 31.8 +1.4
PSBE *eS* **S** **02 00 07.0 +3.3**
EBNR **Beni Rached** 40.10 24 P **P** **01 53 58.0 -0.5**
PMRV **Marv??o** 40.24 12 *eP* **P** **01 54 01.3 +1.6**
comp=Z,82nm,1.7s
PMRV **Marv??o** 40.24 12 *ePP* PP 01 55 34.9 +2.5
PMRV *eS* **S** **02 00 10.0 +3.5**
PMRV *eLQ* LQ 02 02 49.4
PMRV *eLR* LR 02 05 31.9
comp=Z,2µm,16.0s
CART **Cartagena** 40.29 20 *eP* **P** **01 53 59.2 -0.8**
CART *eS* **S** **02 00 05.3 -1.8**
CART **Cartagena** 40.29 20 P **P** **01 54 00.2 +0.2**
CART IAMs_20 IAMs_20 02 09 50.8
comp=Z,5µm,19.0s
PCBR **Castelo Branco** 40.62 12 *eP* **P** **01 54 04.5 +1.8**
comp=Z,30nm,1.7s
PCBR **Castelo Branco** 40.62 12 *ePP* PP 01 55 31.3 -5.2
PCAS **Casmilo, Conde** 40.63 10 *eP* **P** **01 54 00.4 -2.5**
comp=Z,109nm,1.7s
PCAS **Casmilo, Conde** 40.63 10 *ePP* PP 01 55 32.5 -4.1
PCAS *eS* **S** **02 00 09.9 -2.3**
COI **Coimbra** 40.80 10 P **P** **01 54 05.1 +0.9**
COI pmax pmax
comp=Z,60nm,1.1s
COI MLR MLR
comp=Z,3µm,19.0s
COI **Coimbra** 40.80 10 *eP* **P** **01 54 05.6 +1.4**
comp=Z,92nm,1.9s
COI **Coimbra** 40.80 10 *ePP* PP 01 55 43.1 +4.7
COI *eS* **S** **02 00 15.9 +1.2**
COI **Coimbra** 40.80 10 P **P** **01 54 05.1 +0.9**
SALV **Santo Antonio** 41.04 245 *eP* **P** **01 54 07.3 +0.7**
SALV **Santo Antonio** 41.04 245 *eP* **P** **01 54 07.3 +0.7**
PAB **San Pablo** 41.07 15 P **P** **01 54 07.4 +0.8**
PAB pmax pmax
comp=Z,151nm,1.8s
PAB MLR MLR
comp=Z,3µm,19.0s
PAB **San Pablo** 41.07 15 P **P** **01 54 07.4 +0.8**
TRCB **Terra Rica** 41.17 234 *eP* **P** **01 54 09.0 +1.4**
TRCB *epP* **sP** **01 54 11.1 -0.4**
TRCB **Terra Rica** 41.17 234 *eP* **P** **01 54 09.0 +1.4**
TRCB *epP* **sP** **01 54 11.1 -0.4**
ESDC **Sonseca Array** 41.29 16 P **P** **01 54 08.8 +0.5**
comp=Z,7.0nm,1.0s,baz=208,slow=7.8,SNR=38
ESDC LR LR 02 12 07.8
comp=Z,3µm,18.3s,baz=180,slow=38
ESBB **Sonseca Array** 41.30 16 P **P** **01 54 09.4 +1.0**
PVIS **Viseu** 41.38 11 *eP* **P** **01 54 10.1 +1.0**
comp=Z,40nm,1.5s
PTO **Porto** 41.67 10 *eP* **P** **01 54 12.5 +1.2**
PVRL **Vila Real** 41.96 11 *eP* **P** **01 54 14.8 +1.0**
comp=Z,47nm,1.3s
PVRL **Vila Real** 41.96 11 *ePP* PP 01 55 50.3 -0.8
MVO **Moncorvo** 41.99 12 *eP* **P** **01 54 15.1 +1.0**
comp=Z,71nm,1.7s
MVO *eS* **S** **02 00 32.4 -0.1**
MVO *eLQ* LQ 02 03 19.9
MVO *eLR* LR 02 06 19.8
comp=Z,2µm,20.0s
UCM **Universidad Co** 42.08 16 *eP* **P** **01 54 15.2 +0.3**
UCM *eS* **S** **02 00 33.5 -0.4**
CTEI **Djebel Teioual** 42.09 29 P **P** **01 54 16.3 +1.3**
DFRA **Djebel Bou Aff** 42.22 28 P **P** **01 54 16.9 +0.8**
CASM **Ain Smara** 42.28 29 P **P** **01 54 18.0 +1.4**
PCAB **Cabril** 42.32 10 *eP* **P** **01 54 17.4 +0.6**
comp=Z,43nm,1.5s
CKFL **Kef-Lekhel** 42.51 29 P **P** **01 54 19.4 +0.9**
PGAV **Gavieira, Arco** 42.53 10 *eP* **P** **01 54 16.3 -2.2**
comp=Z,53nm,2.2s
PGAV **Gavieira, Arco** 42.53 10 *ePP* PP 01 55 56.7 -0.5
PGAV *eS* **S** **02 00 40.9 +0.4**
PGAV *eLQ* LQ 02 03 40.5
PGAV *eLR* LR 02 06 37.6
comp=Z,3µm,20.0s

PTGA **Pitinga** 42.65 269 P **P** **01 54 19.5 -0.3**
PTGA IAMs_20 IAMs_20 02 10 02.7
comp=Z,5µm,19.0s
PTGA **Pitinga** 42.65 269 *eP* **P** **01 54 19.9 +0.1**
PTGA **Pitinga** 42.65 269 *eP* **P** **01 54 19.9 +0.1**
PBRG **Braganca** 42.66 12 *eP* **P** **01 54 20.9 +1.4**
comp=Z,53nm,1.7s
CAEH **'Ain El Ouahch** 42.87 29 P **P** **01 54 23.4 +2.1**
CMAH **Djebel Manchou** 43.03 30 P **P** **01 54 23.2 +0.6**
KEST **Kesra** 43.33 32 P **P** **01 54 25.8 +0.7**
comp=Z,48nm,0.9s,baz=176,slow=5.1,SNR=30
KEST LR LR 02 13 53.4
comp=Z,10µm,20.2s,baz=174,slow=38
KEST **Kesra** 43.33 32 P **P** **01 54 25.8 +0.7**
KEST IAmb IAmb 01 56 04.7
comp=Z,111nm,1.1s
MACA **Manacapuru-AM** 43.45 265 *eP* **P** **01 54 26.8 +0.4**
MACA *epP* **sP** **01 54 29.7 -0.6**
MACA **Manacapuru-AM** 43.45 265 *eP* **P** **01 54 26.8 +0.4**
MACA *epP* **sP** **01 54 29.7 -0.6**
BBGH **Gun Hill** 43.83 289 IAMs_20 IAMs_20 02 12 35.6
comp=Z,5µm,18.0s
PTLB **Pontes e Lacer** 44.06 248 *eP* **P** **01 54 31.5 +0.4**
PTLB **Pontes e Lacer** 44.06 248 *eP* **P** **01 54 31.5 +0.4**
MAHO **Mahon** 44.29 24 *eP* **P** **01 54 32.9 +0.2**
MAHO *eS* **S** **02 01 10.6 +4.4**
VILB **Vilhena** 44.42 251 *eP* **P** **01 54 35.6 +1.6**
VILB **Vilhena** 44.42 251 *eP* **P** **01 54 35.6 +1.6**
H05S1 **Guadeloupe/Mar** 45.35 290 T T 02 43 04.9
SNR=35
SLBI **Saint Lucia, B** 45.38 290 *eP* S 02 01 34.5 +12
GRGR **Grenville** 45.60 287 P **P** **01 54 43.4 0.0**
FDF **Fort de France** 45.72 291 *eP* S **02 01 30.5 +2.9**
FDF **Fort de France** 45.72 291 P **P** **01 54 44.6 +0.1**
FDF pmax pmax
comp=Z,486nm,1.4s
FDF **Fort de France** 45.72 291 P **P** **01 54 44.5 +0.1**
H05N1 **Guadeloupe/Mar** 46.05 293 T T 02 44 31.5
SNR=11
MAGL **Barre de l'ile** 46.16 292 *eP* **S** **02 01 39.1 +5.3**
VSL **Villasalto** 46.24 29 P **P** **01 54 47.7 -0.5**
VSL IAmb IAmb 01 54 50.4
comp=Z,76nm,1.2s
ABD **La Joyeuse, An** 46.49 293 *eP* **S** **02 01 41.4 +2.8**
CBE **Ff, Capester** 46.49 292 *eP* S 02 01 48.0 +9.3
SAML **Samuel** 46.53 258 *eP* **P** **01 54 51.5 +0.7**
SAML **Samuel** 46.53 258 P **P** **01 54 50.6 -0.2**
SAML pmax pmax
comp=Z,129nm,1.2s
SAML **Samuel** 46.53 258 P **P** **01 54 50.6 -0.2**
SAML IAmb IAmb 01 54 53.1
comp=Z,128nm,1.2s
CPUP **Villa Florida** 46.60 233 P **P** **01 54 51.2 +0.1**
comp=Z,12nm,1.0s,baz=68,slow=7.7,SNR=9.7
CPUP LR LR 02 13 03.9
comp=Z,5µm,18.5s,baz=70,slow=34
CPUP **Villa Florida** 46.60 233 P **P** **01 54 50.9 -0.2**
CPUP pmax pmax
comp=Z,47nm,1.5s
CPUP **Villa Florida** 46.60 233 P **P** **01 54 50.9 -0.2**
PLTB **Pedras Altas** 46.66 224 *eP* **P** **01 54 52.2 +0.6**
PLTB **Pedras Altas** 46.66 224 *eP* **P** **01 54 52.2 +0.6**
CLTB **Caltabellotta** 46.79 34 P **P** **01 54 53.7 +1.1**
CLTB IAmb IAmb 01 55 03.4
comp=Z,166nm,1.4s
CORL **Corleone** 47.06 33 P **P** **01 54 52.3 -2.4**
ANWB **Willy Bob** 47.10 294 *eP* S 02 01 59.2 +12
ANWB **Willy Bob** 47.10 294 *eP* **P** **01 54 54.8 -0.5**
MLYT **Lee's Yard** 47.21 293 *eP* S 02 01 59.6 +11
VAE **Valguarnera** 47.39 35 P **P** **01 54 57.5 +0.3**
comp=Z,22nm,1.0s,baz=46,slow=3.2,SNR=9.6
LSZ **Lusaka** 47.46 111 P **P** **01 54 58.0 -0.2**
LSZ pmax pmax
comp=Z,49nm,1.1s
LSZ **Lusaka** 47.46 111 P **P** **01 54 58.0 -0.2**
SKI **Saint Kitts** 47.88 293 *eP* **S** **02 02 06.4 +7.9**
SKI **Saint Kitts** 47.88 293 P **P** **01 55 01.4 +0.1**
SKI pmax pmax
comp=Z,394nm,1.2s
SKI **Saint Kitts** 47.88 293 P **P** **01 55 01.4 +0.1**
SKI IAMs_20 IAMs_20 02 09 20.8
comp=Z,4µm,21.0s
CAF **Calviac** 47.89 19 *eP* **P** **01 55 00.9 -0.1**
CAF pmax pmax
comp=Z,103nm,1.5s
MBAR **Mbarara** 48.07 91 P **P** **01 55 03.9 +0.8**
comp=Z,184nm,1.0s,baz=287,slow=8.7,SNR=12
MBAR **Mbarara** 48.07 91 P **P** **01 55 03.8 +0.8**
MBAR pmax pmax
comp=Z,336nm,1.1s
MBAR **Mbarara** 48.07 91 P **P** **01 55 03.8 +0.8**
SEUS **St. Eustatius** 48.15 294 *eP* S 02 02 18.3 +16
SEUS **St. Eustatius** 48.15 294 P **P** **01 55 03.2 -0.1**
SUR **Sutherland** 48.30 136 P **P** **01 55 05.1 +0.5**
comp=Z,24nm,0.9s,baz=279,slow=8.6,SNR=9.8
SUR **Sutherland** 48.30 136 P **P** **01 55 05.1 +0.5**
SUR IAMs_20 IAMs_20 02 11 03.9
comp=Z,4µm,19.0s
SMRT **St. Maarten** 48.39 294 P **P** **01 55 05.0 -0.2**
SABA **Saba** 48.42 294 *eP* **S** **02 02 06.4 +0.2**
MFF **Saint Martin d** 48.76 16 *eP* **P** **01 55 07.4 -0.2**
MFF pmax pmax
comp=Z,52nm,1.2s
CEL **Celeste** 48.78 35 P **P** **01 55 08.8 +0.8**
SSB **Saint Sauveur** 49.03 20 P **P** **01 55 09.9 +0.2**
SSB pmax pmax
comp=Z,27nm,1.0s
SSB MLR MLR
comp=Z,2µm,19.0s
SSB **Saint Sauveur** 49.03 20 P **P** **01 55 09.9 +0.2**
KSMZ **Kasama** 49.34 103 *i* P **P** **01 55 12.7 -0.1**
CASP **Castiglione de** 49.51 27 IAMs_20 IAMs_20 02 15 26.2
comp=Z,4µm,21.0s
BNI **Bardonecchia** 49.61 22 P **P** **01 55 14.7 +0.4**
BNI pmax pmax
comp=Z,68nm,1.1s
BNI **Bardonecchia** 49.61 22 P **P** **01 55 14.7 +0.4**
BNI IAmb IAmb 01 55 17.7
comp=Z,68nm,1.1s
BNI IAMs_20 IAMs_20 02 15 04.5
comp=Z,4µm,22.0s
BOSA **Boshof** 49.68 129 P **P** **01 55 15.3 +0.2**
comp=Z,30nm,0.9s,baz=302,slow=7.3,SNR=36
BOSA LR LR 02 12 26.0
comp=Z,2µm,20.7s,baz=299,slow=32
BOSA **Boshof** 49.68 129 P **P** **01 55 15.1 0.0**
BOSA pmax pmax
comp=Z,42nm,1.0s
BOSA **Boshof** 49.68 129 P **P** **01 55 15.1 0.0**
CDVI **St. Croix** 49.85 293 *eP* **S** **02 02 30.2 +4.0**
CDVI **St. Croix** 49.85 293 P **P** **01 55 16.6 +0.1**
TIP **Timpagrande** 49.90 35 ⇑P **P** **01 55 17.2 +0.7**
TIP **Timpagrande** 49.90 35 P **P** **01 55 16.6 +0.1**
TIP IAmb IAmb 01 55 18.4
comp=Z,148nm,1.1s
LPL **La Plagne** 50.02 22 *eP* **P** **01 55 18.3 +0.8**
LPL pmax pmax
comp=Z,61nm,1.0s
MSSA **Maissana** 50.14 25 P **P** **01 55 19.0 +0.8**
OSSC **Osservatorio P** 50.26 27 IAMs_20 IAMs_20 02 14 20.9
comp=Z,4µm,18.0s
INTR **Introdacqua** 50.38 30 P **P** **01 55 20.6 +0.4**
VLC **Villacollemand** 50.38 26 P **P** **01 55 18.7 -1.4**
CUPR **Culebra, Puert** 50.48 294 P **P** **01 55 19.9 -1.2**
CUPR IAmb IAmb 01 55 23.3
comp=Z,181nm,1.1s
NRCA **Norcia** 50.60 29 P **P** **01 55 21.2 -0.6**
MTP **Monte Pirata** 50.67 293 P **P** **01 55 22.3 -0.3**
CLF **Chambon-Foret** 50.73 17 P **P** **01 55 22.1 -0.4**
CLF IAmb IAmb 01 55 25.2
comp=Z,114nm,1.1s
ZCCA **Zocca** 50.79 26 P **P** **01 55 23.4 +0.2**
PRMA **PARMA** 50.83 25 P **P** **01 55 23.5 +0.1**
PRMA IAMs_20 IAMs_20 02 16 07.3
comp=Z,4µm,19.0s
SENIN **Lac Senin/Sane** 50.95 22 P **P** **01 55 25.0 +0.4**
HUMP **Col San Antoni** 50.95 293 P **P** **01 55 24.7 0.0**
CBYP **Canovanas** 50.99 294 P **P** **01 55 25.3 +0.2**
CBYP IAmb IAmb 01 55 27.1
comp=Z,133nm,1.2s
PDPR **Patillas Dam,** 51.08 293 P **P** **01 55 25.9 +0.2**
PDPR IAmb IAmb 01 55 27.8
comp=Z,192nm,1.2s
GCPR **Guaynabo City** 51.21 294 P **P** **01 55 27.1 +0.4**

GCPR IAmb IAmb 01 55 28.7
comp=Z,199nm,1.1s
SJG San Juan 51.22 293⇓ *eP* **P 01 55 27.4 +0.6**
SJG San Juan 51.22 293 P **P 01 55 26.7 -0.1**
SJG pmax pmax
comp=Z,465nm,2.0s
SJG San Juan 51.22 293 P **P 01 55 26.7 -0.1**
BAUV El Baul 51.27 281 *eP* **S 02 02 42.3 -3.8**
LPA La Plata 51.42 223 *eP* P 01 55 22.5 -5.5
LPA PCP **PcP 01 56 37.0 -5.5**
LPA PP **PP 01 57 22.7 -2.6**
LPA PPP PPP 01 58 23.2
LPA S **S 02 02 45.8 -1.7**
LPA sS sS 02 02 53.4 +0.8
LPA PKIKP **PKiKP 02 03 19.9 -5.0**
LPA SCS **ScS 02 05 17.0 -1.4**
LPA SS **SS 02 06 21.6 -2.1**
LPA SKIKS 02 06 56.1
LPA SSS SSS 02 07 58.4
SCTE Santa Cesarea 51.47 35 P **P 01 55 28.7 +0.4**
SCTE IAmb IAmb 01 55 30.5
comp=Z,144nm,1.0s
SCTE IAMs_20 IAMs_20 02 19 23.3
comp=Z,3µm,19.0s
SALO Salr 51.61 25 P **P 01 55 29.2 -0.1**
SALO IAmb IAmb 01 56 41.7
comp=Z,344nm,2.0s
OBIP Obispado Ponce 51.62 293 P **P 01 55 29.6 -0.1**
OBIP IAmb IAmb 01 55 31.5
comp=Z,132nm,1.2s
ITM Ithomi 51.76 40 P **P 01 55 30.9 +0.3**
ITM IAmb IAmb 01 55 32.2
comp=Z,96nm,0.9s
ITM IAMs_20 IAMs_20 02 16 58.1
comp=Z,4µm,22.0s
TUE Stuetta 51.82 23 P **P 01 55 31.0 -0.1**
TUE IAMs_20 IAMs_20 02 18 04.2
comp=Z,3µm,19.0s
AOPR Arecibo Observ 51.83 293 P **P 01 55 31.5 +0.1**
AOPR IAmb IAmb 01 55 33.0
comp=Z,141nm,1.0s
MLPR Magueyes Islan 52.01 293 P **P 01 55 32.4 -0.2**
MLPR IAmb IAmb 01 55 34.4
comp=Z,150nm,1.1s
CRPR Cabo Rojo, PR 52.08 293 P **P 01 55 33.2 0.0**
FUORN Ofenpass-Fuorn 52.31 24 P **P 01 55 34.0 -0.8**
FUORN IAMs_20 IAMs_20 02 17 38.1
comp=Z,3µm,19.0s
CTI Castel Tesino 52.43 25 P **P 01 55 35.4 0.0**
CTI pmax pmax
comp=Z,45nm,0.8s
CTI MLR MLR
comp=Z,3µm,18.0s
CTI Castel Tesino 52.43 25 P **P 01 55 35.4 0.0**
CTI IAMs_20 IAMs_20 02 22 01.2
comp=Z,3µm,18.0s
ECH Echery 52.47 20 P **P 01 55 35.6 0.0**
ECH pmax pmax
comp=Z,63nm,1.4s
ECH MLR MLR
comp=Z,2µm,20.0s
ECH Echery 52.47 20 P **P 01 55 35.6 0.0**
HATO Hato, Curacao 52.62 285 P **P 01 55 37.0 -0.3**
LPAZ La Paz 52.65 249 P **P 01 55 38.0 -0.1**
comp=Z,14nm,1.0s,baz=66,slow=5.9,SNR=40
LPAZ LR LR 02 17 08.3
comp=Z,5µm,18.6s,baz=86,slow=35
LPAZ La Paz 52.65 249 P **P 01 55 37.4 -0.8**
LPAZ pmax pmax
comp=Z,35nm,1.2s
LPAZ La Paz 52.65 249 P **P 01 55 37.4 -0.8**
LPAZ La Paz 52.65 249 *eP* **P 01 55 37.6 -0.6**
LPAZ *ep*P **sP 01 55 40.3 -1.8**
LPAZ La Paz 52.65 249 *eP* **P 01 55 37.6 -0.6**
LPAZ *ep*P **sP 01 55 40.3 -1.8**
IDI Anoyia 52.68 44 P **P 01 55 38.8 +1.3**
comp=Z,83nm,1.0s,baz=228,slow=7.2,SNR=18
IDI Anoyia 52.68 44⇑P **P 01 55 39.6 +2.2**
IDI Anoyia 52.68 44 P **P 01 55 38.6 +1.2**
IDI IAmb IAmb 01 55 40.2
comp=Z,129nm,1.1s
DAVA Damuels 52.70 23 *i* P **P 01 55 37.5 0.0**
comp=Z,127nm,1.1s,SNR=36
FETA Feichten 52.82 24 *i* P **P 01 55 38.1 -0.3**
comp=Z,54nm,1.0s,SNR=15
STON Ston 52.95 32 P **P 01 55 38.3 -0.9**
STON Ston 52.95 32⇑*i*P **P 01 55 42.8 +3.6**
BFO Black Forest 52.98 21 P **P 01 55 39.9 +0.4**
BFO pmax pmax
comp=Z,68nm,1.0s
BFO MLR MLR
comp=Z,2µm,18.0s
BFO Black Forest 52.98 21 P **P 01 55 39.9 +0.4**
BFO Black Forest 52.98 21 *eP* **P 01 55 40.0 +0.6**
comp=Z,94nm,1.1s,baz=214,slow=7.2
STAL STALIGIAL 53.05 26 P **P 01 55 40.6 +0.7**
DBRK Dubrovnik 53.05 32 P **P 01 55 40.5 +0.5**
SKDS Skadanscina 53.08 27 *i* P **P 01 55 41.0 +0.8**
HCY Herceg Novi 53.09 33⇑*i*P **P 01 55 42.2 +1.9**
HCY Herceg Novi 53.09 33 *eP* **P 01 55 40.9 +0.6**
TRI Trieste 53.09 27 IAMs_20 IAMs_20 02 18 54.8
comp=Z,3µm,19.0s
RICI Ricice 53.09 31 P **P 01 55 39.1 -1.2**
TIR Tirane 53.11 35⇑P **P 01 55 42.3 +1.8**
TIR Tirane 53.11 35 P **P 01 55 40.9 +0.4**
TIR pmax pmax
comp=Z,90nm,1.1s
TIR MLR MLR
comp=Z,4µm,18.0s
TIR Tirane 53.11 35 P **P 01 55 40.9 +0.4**
TIR IAmb IAmb 01 55 58.0
comp=Z,90nm,1.1s
UBR Ueberruh 53.11 23 *eP* **P 01 55 40.8 +0.3**
comp=Z,104nm,1.1s,baz=214,slow=7.2
AGG Agios Georgios 53.12 38 P **P 01 55 40.7 +0.1**
AGG pmax pmax
comp=Z,39nm,0.8s
AGG MLR MLR
comp=Z,7µm,19.0s
AGG Agios Georgios 53.12 38 P **P 01 55 40.7 +0.1**
RIY Rijeka 53.13 28 P **P 01 55 41.0 +0.5**
RIY Rijeka 53.13 28⇑*i*P **P 01 55 41.0 +0.5**
ULC Ulcinj 53.17 34⇑*i*P **P 01 55 42.1 +1.2**
SQTA Sankt Quirin 53.18 24 *i* P **P 01 55 40.8 -0.3**
comp=Z,80nm,0.9s,SNR=32
TREB Trebinje 53.19 32 *eP* **P 01 55 42.5 +1.4**
BUM Brajici-Budva 53.20 33⇑*i*P **P 01 55 42.6 +1.4**
RETA Reutte 53.21 23 *i* P **P 01 55 40.5 -0.7**
comp=Z,53nm,1.3s,SNR=9.9
MOTA Moosalm 53.23 24 *i* P **P 01 55 41.0 -0.5**
comp=Z,48nm,1.2s,SNR=18
DOU Dourbes 53.27 17⇑P **P 01 55 41.9 +0.4**
comp=Z,36nm,1.2s
DRME Dracevica, Mon 53.29 33⇑*i*P **P 01 55 43.3 +1.5**
DRME Dracevica, Mon 53.29 33⇑*i*P **P 01 55 43.3 +1.5**
ABTA Abfaltersbach 53.34 25 *i* P **P 01 55 43.0 +0.8**
comp=Z,69nm,1.3s,SNR=12
ABTA *i* PP **PP 01 57 42.5 -0.2**
comp=Z,7.3nm,0.7s
WLF Walferdange 53.38 19⇑P **P 01 55 42.8 +0.5**
comp=Z,30nm,1.7s
WLF Walferdange 53.38 19 P **P 01 55 42.6 +0.3**
WLF pmax pmax
comp=Z,53nm,1.3s
WLF MLR MLR
comp=Z,3µm,18.0s
WLF Walferdange 53.38 19 P **P 01 55 42.6 +0.3**
WLF IAMs_20 IAMs_20 02 19 03.2
comp=Z,3µm,18.0s
WLF Walferdange 53.38 19 *eP* **P 01 55 42.8 +0.5**
comp=Z,77nm,1.5s,baz=214,slow=7.2
CEME Cevo 53.38 33⇑*i*P **P 01 55 43.9 +1.4**
WTTA Wattenberg 53.39 24 *i* P **P 01 55 42.3 -0.3**
comp=Z,64nm,1.0s,SNR=14
WTTA *i* PP **PP 01 57 41.6 -1.5**
comp=Z,11nm,0.9s
ROBS Robic 53.39 26 *eP* **P 01 55 43.3 +0.9**
ZOU Zoufplan 53.39 26 P **P 01 55 43.3 +0.6**
CEY Cerknica 53.42 27⇑*i*P **P 01 55 43.5 +0.8**
BRY Bratogost 53.42 32⇑*i*P **P 01 55 43.7 +0.8**
BRY Bratogost 53.42 32⇑*i*P **P 01 55 43.9 +1.0**
WATA Walderalm 53.42 24 *i* P **P 01 55 42.4 -0.5**
comp=Z,55nm,1.2s,SNR=12
WATA *i* PP **PP 01 57 44.6 +1.2**
comp=Z,9.0nm,1.0s

PDG Podgorica 53.49 33⇑P **P 01 55 45.0 +1.7**
PDG Podgorica 53.49 33 P **P 01 55 43.7 +0.5**
PDG IAmb IAmb 01 55 46.3
comp=Z,115nm,1.2s
PDG Podgorica 53.49 33⇑*i*P **P 01 55 44.6 +1.4**
TTG Podgorica 53.49 33⇑*i*P **P 01 55 44.8 +1.6**
OHR Ohrid 53.50 35 *i* P **P 01 55 44.4 +1.0**
BMRD Maredsous 53.51 17⇑P **P 01 55 43.2 0.0**
comp=Z,18nm,1.3s
SNF Seneffe 53.55 17 P **P 01 55 43.9 +0.4**
comp=Z,21nm,1.4s
NKME Niksic 53.55 33⇑*i*P **P 01 55 44.9 +1.1**
PRED Cave del Predi 53.56 26 P **P 01 55 44.2 +0.4**
PRED IAMs_20 IAMs_20 02 21 26.3
comp=Z,3µm,18.0s
GBAS Gorenja Brezov 53.57 27 *eP* **P 01 55 45.0 +1.2**
NKY Niksic 53.60 33⇑*i*P **P 01 55 45.5 +1.3**
BOJS Bojanci 53.62 28 *eP* **P 01 55 45.5 +1.3**
SANT Santorini 53.65 43⇑P **P 01 55 44.6 0.0**
SANT Santorini 53.65 43 P **P 01 55 44.1 -0.5**
SANT IAmb IAmb 01 55 45.9
comp=Z,157nm,1.0s
STU Stuttgart 53.67 22 P **P 01 55 44.6 +0.2**
STU pmax pmax
comp=Z,59nm,1.0s
STU Stuttgart 53.67 22 P **P 01 55 44.6 +0.2**
STU IAMs_20 IAMs_20 02 17 27.9
comp=Z,3µm,19.0s
STU Stuttgart 53.67 22 *eP* **P 01 55 44.6 +0.2**
comp=Z,57nm,1.0s,baz=214,slow=7.2
BGES Gesves 53.68 18 P **P 01 55 44.6 +0.2**
comp=Z,29nm,1.1s
LJU Ljubljana 53.69 27 *eP* **P 01 55 46.0 +1.3**
LJU Ljubljana 53.69 27⇑*i*P **P 01 55 45.8 +1.1**
MGRS Mrkonjic Grad 53.72 30⇑*i*P **P 01 55 46.7 +1.7**
MYKA Terra Mystica 53.74 26 *i* P **P 01 55 46.2 +1.1**
comp=Z,87nm,1.8s,SNR=11
BCLA Clavier 53.77 18 P **P 01 55 45.5 +0.3**
comp=Z,29nm,1.0s
DSB Dublin 53.80 8 P **P 01 55 45.4 +0.1**
SDV Santo Domingo 53.80 281 P **P 01 55 45.7 -0.5**
UCC Uccle 53.83 17 P **P 01 55 45.9 +0.3**
comp=Z,38nm,2.1s
UCC Uccle 53.83 17 P **P 01 55 45.1 -0.4**
UCC pmax pmax
comp=Z,78nm,1.6s
UCC MLR MLR
comp=Z,5µm,20.0s
UCC Uccle 53.83 17 P **P 01 55 45.1 -0.4**
KOME Kolasin 53.91 33⇑*i*P **P 01 55 48.2 +1.7**
BHOU Houvegnez 53.93 18⇑P **P 01 55 47.0 +0.6**
comp=Z,18nm,1.3s
CRES Cresnjev 53.96 28 *eP* **P 01 55 47.4 +0.8**
SOCV Socops 53.96 280⇓*eP* **P 01 55 47.8 +0.5**
KBA Koelnbreinsper 53.96 26 *i* P **P 01 55 47.4 +0.5**
comp=Z,45nm,1.3s,SNR=8.0
FUR Furstenfeldbru 53.97 23 *eP* **P 01 55 47.1 +0.5**
comp=Z,171nm,1.1s,baz=214,slow=7.2
FUR *ep*P **pwP 01 55 58.8 +2.7**
baz=214,slow=7.1
FUR *e*PP **PP 01 57 45.7 -2.5**
baz=214,slow=9.1
PVY Plav 53.99 34⇑*i*P **P 01 55 48.8 +1.8**
BSTI Sart Tilman 54.00 18⇑P **P 01 55 47.0 +0.2**
comp=Z,11nm,2.7s
BLY Banja Luka 54.01 30⇑*i*P **P 01 55 47.6 +0.6**
OBKA Obir 54.05 27 *i* P **P 01 55 47.6 +0.1**
comp=Z,19nm,1.0s
APE Apeiranthos 54.07 42⇑P **P 01 55 47.9 +0.3**
APE Apeiranthos 54.07 42⇓*i*P **P 01 55 47.1 -0.6**
APE pmax pmax
comp=Z,195nm,1.3s
IVA Berane 54.13 33⇑*i*P **P 01 55 49.7 +1.6**
MEM Membach 54.16 18⇑P **P 01 55 48.9 +0.9**
comp=Z,26nm,1.5s
PLE Pljevlja 54.17 33⇑*i*P **P 01 55 49.4 +1.1**
GOLS Golise 54.17 28 *eP* **P 01 55 49.2 +1.0**
ZAG Zagreb 54.21 28 P **P 01 55 49.6 +1.2**
BEBN Eben Emael 54.22 18⇑P **P 01 55 49.2 +0.9**
comp=Z,78nm,1.1s
RJOB Jochberg 54.24 25 *eP* **P 01 55 47.5 -1.2**
comp=Z,54nm,0.9s,baz=214,slow=7.2
RJOB *e*PP **PP 01 57 47.9 -2.8**
baz=214,slow=9.1
PTJ Puntijarka 54.26 28 P **P 01 55 49.0 0.0**
RUDO Rudo 54.35 32⇑*i*P **P 01 55 49.5 -0.1**
KARP Karpathos 54.40 45 P **P 01 55 50.3 +0.3**
KARP IAMs_20 IAMs_20 02 21 04.0
comp=Z,4µm,20.0s
SOKA Soboth 54.40 27 *i* P **P 01 55 50.7 +0.8**
comp=Z,56nm,1.1s,SNR=10.0
PERS Pernice 54.41 27 *eP* **P 01 55 50.7 +0.7**
SKO Skopje 54.42 35 *i* P **P 01 55 51.3 +1.3**
MOSL Moslavina 54.42 29 P **P 01 55 49.1 -0.9**
GO01 Chusmiza 54.43 246 P **P 01 55 49.9 -1.2**
GO01 IAMs_20 IAMs_20 02 17 54.4
comp=Z,3µm,19.0s
AHRW Bad Neuenahr-A 54.44 19 *eP* **P 01 55 51.6 +1.6**
comp=Z,75nm,1.1s,baz=214,slow=7.2
AHRW *ep*P **pwP 01 56 03.3 +2.6**
baz=214,slow=7.1
AHRW *e*PP **PP 01 57 50.5 -1.8**
baz=214,slow=9.1
HAPS Han Pijesak,Bl 54.45 32 *eP* **P 01 55 53.5 +3.1**
PB08 IPOC Station P 54.52 245 P **P 01 55 50.5 -1.1**
BBLS Lazići 54.54 32⇑*i*P **P 01 55 51.8 +0.8**
KMBO Kilima Mbogo 54.59 91 P **P 01 55 53.8 +1.8**
comp=Z,67nm,1.0s,baz=256,slow=8.8,SNR=94
KMBO LR LR 02 17 22.6
comp=Z,5µm,19.0s,baz=259,slow=34
KMBO Kilima Mbogo 54.59 91 *i* P **P 01 55 53.6 +1.5**
SNR=19
KMBO Kilima Mbogo 54.59 91 P **P 01 55 53.0 +1.0**
KMBO pmax pmax
comp=Z,127nm,1.2s
KMBO Kilima Mbogo 54.59 91 P **P 01 55 53.0 +1.0**
KMBO IAmb IAmb 01 55 56.4
comp=Z,127nm,1.1s
TNS Taunus Mts 54.62 20 *eP* **P 01 55 52.1 +0.7**
comp=Z,86nm,1.0s,baz=214,slow=7.2
KALN Kalnik 54.65 28 P **P 01 55 52.0 +0.3**
MNMC Minye Minye 54.67 246 P **P 01 55 51.5 -1.1**
MNMC IAmb IAmb 01 55 55.0
comp=Z,109nm,1.7s
MNMC IAMs_20 IAMs_20 02 20 27.6
comp=Z,3µm,18.0s
VAY Valandovo 54.67 36 *eP* **P 01 55 52.6 +0.8**
VAY Valandovo 54.67 36 *i* P **P 01 55 52.8 +0.9**
TAMC Tame, Arauca 54.72 278⇓*eP* **P 01 55 54.7 +2.0**
SDD Santo Domingo 54.77 293 IAMs_20 IAMs_20 02 13 42.5
comp=Z,4µm,20.0s
PB11 IPOC Station P 54.88 246 P **P 01 55 52.5 -1.4**
PB11 IAMs_20 IAMs_20 02 19 59.2
comp=Z,3µm,20.0s
PTGC Puerto Gaitan, 54.91 275⇓*eP* **P 01 55 53.6 -0.5**
MOA Molln 54.95 26 *i* P **P 01 55 53.4 -0.4**
comp=Z,39nm,1.1s,SNR=10
MOA *i* PP **PP 01 57 53.3 -3.8**
comp=Z,10nm,0.7s
LVC Limon Verde 54.98 242 P **P 01 55 54.3 -0.6**
LVC pmax pmax
comp=Z,94nm,1.5s
LVC MLR MLR
comp=Z,2µm,19.0s
LVC Limon Verde 54.98 242 P **P 01 55 54.3 -0.6**
LVC IAmb IAmb 01 55 56.3
comp=Z,94nm,1.5s
LVC Limon Verde 54.98 242 *eP* **P 01 55 54.5 -0.4**
LVC Limon Verde 54.98 242 *eP* **P 01 55 54.5 -0.4**
DIVS Divibare 55.01 32 P **P 01 55 54.9 +0.5**
DIVS IAmb IAmb 01 55 57.1
comp=Z,83nm,1.2s
DIVS Divibare 55.01 32⇑*i*P **P 01 55 55.3 +0.9**
BBSR BB Station 55.01 311 P **P 01 55 54.1 -0.3**
PB09 IPOC Station P 55.04 243 P **P 01 55 55.1 0.0**
PB09 IAmb IAmb 01 55 57.2
comp=Z,155nm,1.4s
PB09 IAMs_20 IAMs_20 02 18 33.5
comp=Z,3µm,20.0s
ARSA Arzberg 55.05 27 *i* P **P 01 55 54.8 +0.2**
comp=Z,30nm,1.1s
ARSA *i* PP **PP 01 57 56.0 -1.9**
comp=Z,8.5nm,0.8s
BEHE Becsehely 55.05 28⇑*i*P **P 01 55 58.0 +3.4**
PB01 IPOC Station P 55.06 244 P **P 01 55 54.4 -0.8**

PB01 IAMs_20 IAMs_20 02 19 44.9
comp=Z,3µm,19.0s
TEKS Tekeris 55.07 32⇑*i*P **P 01 55 55.8 +1.1**
GRA1 Grafenberg Arr 55.18 22 P **P 01 55 55.3 -0.2**
GRF Grafenberg Arr 55.18 22 P **P 01 55 55.3 -0.2**
GRF pmax pmax
comp=Z,37nm,0.9s
GRF Grafenberg Arr 55.18 22 *eP* **P 01 55 55.7 +0.3**
comp=Z,51nm,1.0s,baz=214,slow=7.2
GRF *ep*P **pwP 01 56 07.5 +2.7**
baz=214,slow=7.1
GRF *e*PP **PP 01 57 56.1 -3.0**
baz=214,slow=9.1
GRF *e*L L 02 18 25.8
comp=Z,2µm,21.3s
PB12 IPOC Station P 55.22 247 P **P 01 55 55.0 -1.4**
PB12 IAmb IAmb 01 55 56.5
comp=Z,181nm,1.4s
PSGCX Pisagua 55.26 246 P **P 01 55 55.1 -1.6**
BUG Bochum--Univer 55.27 18 *eP* **P 01 55 57.0 +0.9**
comp=Z,54nm,1.0s,baz=214,slow=7.2
BUG *ep*P **pwP 01 56 08.8 +2.1**
baz=214,slow=7.1
KKB Krupnik 55.31 36 *eP* **P 01 55 58.0 +1.5**
WET Wettzell 55.39 24 *eP* **P 01 55 57.4 +0.4**
comp=Z,107nm,1.1s,baz=214,slow=7.2
WET *ep*P **pwP 01 56 09.3 +2.9**
baz=214,slow=7.1
WET *e*PP **PP 01 57 58.1 -2.7**
baz=214,slow=9.1
GEC2 GERESS Array S 55.49 24 P **P 01 55 57.1 -0.7**
GEC2 IAmb IAmb 01 55 58.7
comp=Z,55nm,1.0s
GEC2 GERESS Array S 55.49 24 *eP* **P 01 55 57.9 +0.1**
comp=Z,77nm,1.1s,baz=214,slow=7.2
GEC2 *ep*P **pwP 01 56 09.8 +2.5**
baz=214,slow=7.1
GEC2 *e*PP **PP 01 57 58.8 -3.1**
baz=214,slow=9.1
GERES GERESS Array B 55.49 24 P **P 01 55 57.6 -0.2**
comp=Z,20nm,0.8s,baz=215,slow=6.5,SNR=149
GERES PP **PP 01 57 57.4 -4.5**
comp=Z,14nm,0.8s,baz=201,slow=7.1,SNR=6.5
GERES LR LR 02 19 42.0
comp=Z,2µm,20.4s,baz=229,slow=36
URIC Uribia, Colomb 55.49 284⇓*eP* **P 01 55 58.0 -0.2**
URIC Uribia, Colomb 55.49 284 P **P 01 55 57.1 -1.2**
MMB Musomiste 55.52 37 *eP* **P 01 55 59.1 +1.0**
TA01 Diego Aracena 55.56 245 P **P 01 55 57.9 -0.8**
PB06 IPOC Station P 55.59 242 P **P 01 55 58.5 -0.6**
PB06 IAMs_20 IAMs_20 02 20 19.1
comp=Z,3µm,18.0s
PB07 IPOC Station P 55.60 243 P **P 01 55 58.7 -0.4**
PB07 IAmb IAmb 01 56 00.8
comp=Z,114nm,1.1s
PB07 IAMs_20 IAMs_20 02 18 47.3
comp=Z,3µm,20.0s
ROTZ Rotzenmuhle 55.62 23 *eP* **P 01 55 58.7 +0.1**
comp=Z,163nm,2.1s,baz=214,slow=7.2
ROTZ *ep*P **pwP 01 56 10.6 +2.5**
baz=214,slow=7.1
FRGS Fruska Gora 55.63 31⇑*i*P **P 01 55 59.6 +0.8**
PB15 IPOC Station P 55.65 242 P **P 01 55 59.6 +0.1**
PB15 IAMs_20 IAMs_20 02 19 36.5
comp=Z,3µm,20.0s
KHC Kasperske Hory 55.66 24 *eP* **P 01 55 58.7 -0.2**
KHC *ex* x 01 56 11.5
KHC *e*PP **PP 01 58 00.3 -3.0**
KHC *eS* **S 02 03 41.2 -3.5**
KHC AMS AMS 02 23 40.0
comp=Z,3µm,15.6s
KHC Kasperske Hory 55.66 24 *eP* **P 01 55 58.7 -0.2**
KHC *e* 01 58 00.3
KHC *eS* **S 02 03 41.2 -3.5**
KHC MLR MLR
comp=Z,3µm,15.6s
KHC Kasperske Hory 55.66 24 P **P 01 55 58.9 -0.1**
UBBA Unterbreizbach 55.66 21 *eP* **P 01 55 59.4 +0.6**
comp=Z,73nm,1.5s,baz=214,slow=7.2
UBBA *ep*P **pwP 01 56 11.4 +3.2**
baz=214,slow=7.1
PAMC Pamplona, Colo 55.69 279 *eP* **P 01 56 01.4 +1.1**
CONA Conrad Observa 55.71 26 *i* P **P 01 55 59.6 +0.2**
comp=Z,48nm,1.2s,SNR=12
CONA *i* PP **PP 01 58 04.4 +0.5**
comp=Z,11nm,0.9s
SC01 Santiago de lo 55.74 294 P **P 01 56 00.7 +0.6**
MANZ Manzenberg 55.76 23 *eP* **P 01 55 59.9 +0.3**
comp=Z,74nm,1.1s,baz=214,slow=7.2
MANZ *ep*P **pwP 01 56 11.6 +2.5**
baz=214,slow=7.1
MORH Mrgy, Hungar 55.77 30⇑*i*P **P 01 56 00.3 +0.6**
VTS Vitosha 55.86 35⇑P **P 01 56 00.7 0.0**
VTS Vitosha 55.86 35 *eP* **P 01 56 01.6 +1.0**
VTS Vitosha 55.86 35 P **P 01 56 00.8 +0.2**
VTS pmax pmax
comp=Z,135nm,1.2s
VTS MLR MLR
comp=Z,4µm,20.0s
VTS Vitosha 55.86 35 P **P 01 56 00.8 +0.2**
VTS IAmb IAmb 01 56 03.4
comp=Z,135nm,1.2s
RUSC La Rusia 55.96 277⇓*eP* **P 01 56 03.5 +1.3**
RUSC La Rusia 55.96 277 P **P 01 56 02.4 +0.2**
PB04 IPOC Station P 56.00 243 P **P 01 56 01.8 -0.3**
PB04 IAmb IAmb 01 56 03.7
comp=Z,108nm,1.1s
NKC Novy Kostel 56.09 23 *eP* **P 01 56 01.9 -0.1**
NKC *eS* **S 02 03 46.2 -4.1**
NKC AMS AMS 02 22 30.0
comp=Z,2µm,16.3s
NKC Novy Kostel 56.09 23 *eP* **P 01 56 01.9 -0.1**
NKC *eS* **S 02 03 46.2 -4.1**
NKC MLR MLR
comp=Z,2µm,16.3s
WERN Wernitzgruen 56.10 23 *eP* **P 01 56 02.4 +0.3**
comp=Z,69nm,1.4s,baz=214,slow=7.2
MOX Moxa 56.10 22 *eP* **P 01 56 02.7 +0.6**
comp=Z,53nm,1.1s,baz=214,slow=7.2
MOX *eL* L 02 18 28.1
comp=Z,2µm,21.2s
BARC Barichara 56.10 278 *eP* **P 01 56 03.7 +0.7**
GUNZ Gunzen 56.15 22 *eP* **P 01 56 02.8 +0.4**
comp=Z,61nm,1.2s,baz=214,slow=7.2
GUNZ *ep*P **pwP 01 56 14.6 +2.7**
baz=214,slow=7.1
GUNZ *e*PP **PP 01 58 05.9 -1.7**
baz=214,slow=9.1
SDDR Presa de Saban 56.16 293 P **P 01 56 03.7 +0.7**
RZN Rozhen 56.17 37 *eP* **P 01 56 03.9 +1.0**
IBBN Ibbenburen 56.18 18 *eP* **P 01 56 03.3 +0.8**
comp=Z,58nm,1.1s,baz=214,slow=7.2
PLN Plauen 56.18 22 *eP* **P 01 56 02.9 +0.3**
comp=Z,52nm,1.1s,baz=214,slow=7.2
PLN *e*PP **PP 01 58 06.2 -1.7**
baz=214,slow=9.1
TANN Tannenbergstha 56.24 22 *eP* **P 01 56 03.5 +0.4**
comp=Z,145nm,1.1s,baz=214,slow=7.2
TANN *ep*P **pwP 01 56 15.3 +2.8**
baz=214,slow=7.1
TANN *e*PP **PP 01 58 06.9 -1.6**
baz=214,slow=9.1
GTTG Gottingen 56.26 20 *eP* **P 01 56 04.0 +0.9**
comp=Z,56nm,1.2s,baz=214,slow=7.2
GTTG *e*PP **PP 01 58 06.5 -2.1**
baz=214,slow=9.1
PBCC Pribram 56.26 24 *eP* **P 01 56 02.7 -0.5**
ESK Eskdalemuir 56.30 10 P **P 01 56 03.5 +0.2**
ESK Eskdalemuir 56.30 10 P **P 01 56 03.5 +0.2**
GO02 Mina Guanaco 56.34 239 P **P 01 56 05.3 +0.7**
GO02 IAMs_20 IAMs_20 02 19 25.8
comp=Z,4µm,21.0s
PGB Panagyurishte 56.36 36 *eP* **P 01 56 05.3 +1.2**
OCAC Ocana 56.38 280 *eP* **P 01 56 03.1 -1.7**
MDVR Moldovita 56.38 33⇑P **P 01 56 05.6 +1.4**
PLD Plovdiv 56.41 37 *eP* **P 01 56 05.5 +1.1**
FURI Furi 56.45 79 P **P 01 56 06.0 +0.5**
VILC Villavicencio, 56.46 275 *eP* **P 01 56 05.0 -0.4**
ZST Bratislava 56.47 27 *eP* **P 01 56 04.2 -0.5**
ZST pmax pmax
comp=Z,439nm,2.3s
ZST Bratislava 56.47 27 *eP* **P 01 56 04.2 -0.5**
ZST *e*PP **PP 01 58 10.6 +0.1**
ZST *eS* **S 02 03 53.7 -1.7**
AC02 Maricunga 56.48 237 P **P 01 56 06.3 +0.5**

AC02 IAmb IAmb 01 56 08.8
comp=Z,140nm,1.2s
CHIC Chingaza 56.53 275⇓ *e*P **P 01 56 05.8 -0.4**
ALN Alexandroupoli 56.53 39 P **P 01 56 05.7 +0.4**
ALN pmax pmax
comp=Z,190nm,1.7s
ALN MLR MLR
comp=Z,4μm,20.0s
ALN Alexandroupoli 56.53 39 P **P 01 56 05.7 +0.4**
ALN IAmb IAmb 01 56 07.6
comp=Z,190nm,1.7s
ALN IAMs_20 IAMs_20 02 21 13.3
comp=Z,4μm,20.0s
MACC Macarena, Meta 56.55 273⇓ *e*P **P 01 56 06.7 +0.7**
KDZ Kurdzhali 56.58 38 *e*P **P 01 56 06.1 +0.5**
TREC Trest 56.58 25 *e*P **P 01 56 05.1 -0.4**
TREC *ex* x 01 56 13.8
TREC *e*PP **PP 01 58 05.0 -6.5**
TREC *e*S **S 02 03 50.9 -6.0**
TREC AMS AMS 02 23 30.0
comp=Z,3μm,14.1s
TREC Trest 56.58 25 *e*P **P 01 56 05.1 -0.4**
TREC *e* 01 56 13.8
TREC *e*S **S 02 03 50.9 -6.0**
TREC MLR MLR
comp=Z,3μm,14.1s
NEUB Neuenburg 56.62 21 *e*P **P 01 56 06.3 +0.6**
comp=Z,94nm,1.1s,baz=214,slow=7.2
NEUB *e*pP **pwP 01 56 18.3 +3.1**
baz=214,slow=7.1
GRTK Grand Turk 56.63 296 P **P 01 56 06.4 +0.2**
CLZ Clausthal 56.64 20 *e*P **P 01 56 06.3 +0.4**
comp=Z,32nm,1.3s,baz=214,slow=7.2
CLZ *e*pP **pwP 01 56 18.4 +3.1**
baz=214,slow=7.1
CLZ *e*PP **PP 01 58 09.3 -2.7**
baz=214,slow=9.1
BRRC Barranca, Sant 56.67 278⇓ *e*P **P 01 56 05.7 -1.1**
MODS Modra-Piesok 56.68 27 *e*P **P 01 56 05.5 -0.7**
MODS pmax pmax
comp=Z,84nm,1.2s
MODS Modra-Piesok 56.68 27 *e*P **P 01 56 05.5 -0.7**
MODS *e*PP **PP 01 58 10.1 -2.3**
MODS *e*S **S 02 03 55.4 -2.9**
MODS *e*L L 02 21 35.9
PB10 IPOC Station P 56.69 242 P **P 01 56 06.4 -0.3**
PB10 IAmb IAmb 01 56 08.6
comp=Z,100nm,1.5s
PRU Pruhonice 56.72 24 *e*P **P 01 56 06.1 -0.4**
PRU *e*PP **PP 01 58 12.1 -0.6**
PRU *e*S **S 02 03 51.9 -6.8**
PRU AMS AMS 02 21 00.0
comp=Z,3μm,16.3s
PRU Pruhonice 56.72 24 *e*P **P 01 56 06.1 -0.4**
PRU *e* 01 58 12.1
PRU *e*S **S 02 03 51.9 -6.8**
PRU MLR MLR
comp=Z,3μm,16.3s
PUNG Punghina 56.73 34⇑ P **P 01 56 08.1 +1.5**
PRA Prague 56.74 24 *e*P **P 01 56 07.0 +0.4**
PRA *ex* x 01 56 26.6
PRA *e*S **S 02 03 55.3 -3.6**
PRA AMS AMS 02 24 30.0
comp=Z,2μm,17.7s
PRA Prague 56.74 24 *e*P **P 01 56 07.0 +0.4**
PRA *e*S **S 02 03 55.3 -3.6**
PRA MLR MLR
comp=Z,2μm,17.7s
SRO Srobarova 56.75 28 *e*P **P 01 56 07.2 +0.5**
SRO pmax pmax
comp=Z,56nm,1.3s
SRO Srobarova 56.75 28 *e*P **P 01 56 07.2 +0.5**
GOPC GO Pecny, Ondr 56.76 24 *e*P **P 01 56 06.8 0.0**
GOPC *e*PP **PP 01 58 11.6 -1.6**
GOPC *e*S **S 02 03 55.0 -4.3**
GOPC AMS AMS 02 26 40.0
comp=Z,3μm,13.9s
GOPC GO Pecny, Ondr 56.76 24 *e*P **P 01 56 06.8 0.0**
GOPC *e* 01 58 11.6
GOPC *e*S **S 02 03 55.0 -4.3**
GOPC MLR MLR
comp=Z,3μm,13.9s
KRUC Moravsky 56.80 26⇑ *i*P **P 01 56 06.8 -0.2**
KRUC *e*PP **PP 01 58 12.8 -0.6**
KRUC *e*S **S 02 03 59.5 -0.2**
HERR Herculane 56.83 33⇑⇑ P **P 01 56 08.8 +1.4**
SMOL Smolenice 56.85 27 *e*P **P 01 56 07.9 +0.5**
SMOL pmax pmax
comp=Z,137nm,2.6s
SMOL Smolenice 56.85 27 *e*P **P 01 56 07.8 +0.4**
MANT Manisa 56.86 42 P **P 01 56 08.0 +0.1**
CVER Cruz Verde, Cu 56.86 275 *e*P **P 01 56 09.7 +1.0**
DIM Dimitrovgrad 56.88 37 *e*P **P 01 56 08.7 +1.0**
BZS Buzias 56.88 32⇑⇑ P **P 01 56 08.4 +0.8**
ELL Elmali 56.92 45 P **P 01 56 09.1 +0.8**
ELL pmax pmax
comp=Z,287nm,1.0s
ELL MLR MLR
comp=Z,13μm,20.0s
ELL Elmali 56.92 45 P **P 01 56 09.1 +0.8**
SPBC San Pablo de B 56.92 277⇓ *e*P **P 01 56 07.8 -0.9**
FBE Freiberg 56.98 23 *e*P **P 01 56 08.9 +0.6**
comp=Z,66nm,1.2s,baz=214,slow=7.2
FBE *e*pP **pwP 01 56 20.8 +3.1**
baz=214,slow=7.1
ASSE Asse, Remlinge 56.99 20 *e*P **P 01 56 08.5 +0.3**
comp=Z,40nm,1.3s,baz=214,slow=7.2
ASSE *e*pP **pwP 01 56 20.8 +3.1**
baz=214,slow=7.1
PAPH Port-au-Prince 56.99 292 P **P 01 56 08.9 0.0**
PAPH IAmb IAmb 01 56 19.9
comp=Z,99nm,1.1s
CTAB Cerro Tablazo, 57.02 276 *e*P **P 01 56 10.1 +0.3**
VRAC Vranov 57.07 26⇑⇑ P **P 01 56 09.1 +0.1**
VRAC Vranov 57.07 26⇑ *i*P **P 01 56 08.8 -0.2**
VRAC *e*PP **PP 01 58 13.7 -2.2**
VRAC *e*S **S 02 04 03.3 0.0**
NRDL Niedersach Rie 57.10 20 *e*P **P 01 56 10.3 +1.3**
comp=Z,49nm,1.3s,baz=214,slow=7.2
NRDL *e*pP **pwP 01 56 22.4 +4.0**
baz=214,slow=7.1
NRDL *e*PP **PP 01 58 15.7 -0.2**
baz=214,slow=9.1
SRE Strehaia 57.12 34 ⇓P **P 01 56 09.9 +0.5**
ROSC El Rosal 57.12 276 P **P 01 56 10.7 +0.2**
comp=Z,42nm,0.8s,baz=59,slow=2.9,SNR=29
ROSC LR LR 02 17 47.7
comp=Z,5μm,21.0s,baz=120,slow=33
ROSC El Rosal 57.12 276⇓ *e*P **P 01 56 11.4 +1.0**
ROSC El Rosal 57.12 276 ⇑P **P 01 56 10.7 +0.2**
ROSC IAmb IAmb 01 56 15.7
comp=Z,86nm,1.0s
PLVB Pleven 57.13 35⇑⇑ P **P 01 56 09.7 +0.2**
PVCC Panska Ves 57.15 24 *e*P **P 01 56 09.6 +0.1**
PVCC *e*pP **sP 01 56 13.0 -0.7**
PVCC *e*S **S 02 04 01.5 -2.9**
PVCC AMS AMS 02 25 00.0
comp=Z,3μm,16.3s
PVCC Panska Ves 57.15 24 *e*P **P 01 56 09.6 +0.1**
PVCC *e* 01 56 13.0
PVCC *e*S **S 02 04 01.5 -2.9**
PVCC MLR MLR
comp=Z,3μm,16.3s
CLL Collm 57.16 22⇑ *i*P **P 01 56 09.3 -0.2**
comp=Z,68nm,1.4s
CLL *e*PP **PP 01 58 13.0 -3.6**
comp=Z,29nm,1.3s
CLL *e*PPP PPP 01 59 29.0
CLL *e*S **S 02 04 04.0 -0.4**
comp=N,1μm,25.7s
CLL *e*S **S 02 04 04.0 -0.4**
comp=E,1μm,23.9s
CLL *e*SSS SSS 02 09 54.0
CLL LmV 02 23 00.0
comp=Z,2μm,18.5s
CLL Collm 57.16 22⇑ *i*P **P 01 56 09.3 -0.2**
CLL *e* 01 58 13.0
CLL *e*S **S 02 04 04.0 -0.4**
CLL pmax pmax
comp=Z,68nm,1.4s
CLL pmax pmax
comp=Z,29nm,1.3s
CLL MLR MLR
comp=Z,2μm,18.5s
CLL Collm 57.16 22 P **P 01 56 09.4 -0.1**
CLL Collm 57.16 22 *e*P **P 01 56 09.7 +0.2**
comp=Z,68nm,1.4s,baz=214,slow=7.2
CLL *e*PP **PP 01 58 14.6 -2.0**
baz=214,slow=9.1
BRG Berggiesshubel 57.17 23⇑ *i*P **P 01 56 09.8 +0.2**
comp=Z,45nm,1.1s
BRG *i* PP **PP 01 58 13.8 -2.9**
comp=Z,62nm,1.6s
BRG S **S 02 04 02.0 -2.6**
comp=N,2μm,15.5s
comp=E,1μm,12.0s
comp=Z,3μm,14.6s
BRG Berggiesshubel 57.17 23⇑ *i*P **P 01 56 09.8 +0.2**
BRG *i* 01 58 13.8
BRG S **S 02 04 02.0 -2.6**
BRG pmax pmax
comp=Z,45nm,1.1s
BRG pmax pmax
comp=Z,63nm,1.6s
BRG MLR MLR
comp=N,2μm,15.5s
BRG MLR MLR
comp=E,1μm,12.0s
BRG MLR MLR
comp=Z,3μm,14.6s
BRG Berggiesshubel 57.17 23 *e*P **P 01 56 10.0 +0.4**
comp=Z,45nm,1.1s,baz=214,slow=7.2
BRG *e*PP **PP 01 58 15.2 -1.6**
baz=214,slow=9.1
SMLC San Martn de 57.17 280 *e*P **P 01 56 06.8 -3.5**
JAVC Velka Javorina 57.21 27⇑ *i*P **P 01 56 10.8 +0.8**
JAVC *e*PP **PP 01 58 15.8 -1.4**
JAVC *e*S **S 02 04 07.2 +1.8**
LGNH Logne 57.27 292 P **P 01 56 11.0 +0.1**
PTBC PUERTO BERRIO, 57.36 278⇓ *e*P **P 01 56 09.9 -1.8**
ARGC Ariguani, Magd 57.46 282 *e*P **P 01 56 11.0 -1.3**
VYHS Vyhne 57.48 28 *e*P **P 01 56 12.3 +0.4**
VYHS pmax pmax
comp=Z,99nm,1.2s
VYHS Vyhne 57.48 28 *e*P **P 01 56 12.3 +0.4**
VYHS *e*S **S 02 04 04.5 -4.3**
VYHS *e*L L 02 20 16.6
AC01 Pan de Azucar 57.51 239 P **P 01 56 12.7 +0.1**
AC01 IAmb IAmb 01 56 14.5
comp=Z,138nm,1.4s
ANKE Ethiopia-Afar 57.56 79 *i*P **P 01 56 16.8 +3.3**
PSZ Piszkesteto 57.58 29⇑⇑ P **P 01 56 13.4 +0.8**
PSZ Piszkesteto 57.58 29 P **P 01 56 13.1 +0.4**
PSZ pmax pmax
comp=Z,162nm,1.6s
PSZ MLR MLR
comp=Z,2μm,20.0s
PSZ Piszkesteto 57.58 29 P **P 01 56 13.1 +0.4**
PSZ IAmb IAmb 01 56 14.9
comp=Z,162nm,1.6s
SMRC Santa Marta, M 57.59 283⇓ *e*P **P 01 56 12.9 -0.3**
ELND Elena 57.60 37⇑⇑ P **P 01 56 13.5 +0.7**
PRAC Prado 57.63 274⇓ *e*P **P 01 56 13.9 +0.2**
DESE Dese 57.64 77 *e*P **P 01 56 17.1 +3.1**
GO03 Copiap 57.66 237 P **P 01 56 13.8 +0.1**
GO03 IAmb IAmb 01 56 15.5
comp=Z,64nm,1.1s
KRLC Kraliky 57.72 25 *e*P **P 01 56 14.0 +0.4**
KRLC *e*pP **sP 01 56 17.9 +0.1**
KRLC *e*S **S 02 04 12.8 +0.8**
KRLC AMS AMS 02 23 00.0
comp=Z,3μm,16.5s
KRLC Kraliky 57.72 25 *e*P **P 01 56 14.0 +0.4**
KRLC *e* 01 56 17.9
KRLC *e*S **S 02 04 12.8 +0.8**
KRLC MLR MLR
comp=Z,3μm,16.5s
UPC Upice 57.73 25 *e*P **P 01 56 13.5 -0.1**
UPC *e*S **S 02 04 09.0 -2.9**
UPC AMS AMS 02 25 00.0
comp=Z,3μm,16.3s
UPC Upice 57.73 25 *e*P **P 01 56 13.5 -0.1**
UPC *e*S **S 02 04 09.0 -2.9**
UPC MLR MLR
comp=Z,3μm,16.3s
DPC Dobruska-Polom 57.73 25 *e*P **P 01 56 13.8 +0.1**
DPC *e*pP **sP 01 56 17.4 -0.5**
DPC *e*S **S 02 04 11.2 -1.0**
DPC AMS AMS 02 27 20.0
comp=Z,3μm,14.2s
DPC Dobruska-Polom 57.73 25 *e*P **P 01 56 13.8 +0.1**
DPC *e* 01 56 17.4
DPC *e*S **S 02 04 11.2 -1.0**
DPC MLR MLR
comp=Z,3μm,14.2s
DEV Deva 57.74 32 ⇑P **P 01 56 14.9 +1.2**
JMB Yambol 57.76 37 *e*P **P 01 56 14.1 +0.2**
ZON Zonda 57.80 232 P **P 01 56 15.0 +0.4**
ZON pmax pmax
comp=Z,78nm,1.7s
ZON Zonda 57.80 232 P **P 01 56 15.0 +0.4**
CHVC Chvalec 57.80 24 *e*P **P 01 56 14.1 0.0**
CHVC *ex* x 01 56 25.5
CHVC AMS AMS 02 25 00.0
comp=Z,2μm,17.3s
SZH Strazhica 57.83 36 *e*P **P 01 56 15.2 +0.8**
MORC Moravsky Berou 57.83 26 ⇑P **P 01 56 14.9 +0.6**
MORC Moravsky Berou 57.83 26⇑ *i*P **P 01 56 14.7 +0.3**
MORC *e*PP **PP 01 58 21.3 -1.4**
MORC *e*S **S 02 04 14.7 +1.3**
MORC Moravsky Berou 57.83 26 P **P 01 56 14.3 0.0**
MORC pmax pmax
comp=Z,47nm,1.0s
MORC MLR MLR
comp=Z,3μm,18.0s
MORC Moravsky Berou 57.83 26 P **P 01 56 14.3 0.0**
MORC IAMs_20 IAMs_20 02 24 11.2
comp=Z,3μm,18.0s
ZARC Zaragoza, Cauc 57.83 279⇓ *e*P **P 01 56 14.0 -1.0**
OSTC Ostas 57.85 25 *e*P **P 01 56 14.6 +0.2**
OSTC *e*S **S 02 04 10.6 -3.0**
OSTC AMS AMS 02 25 00.0
comp=Z,2μm,16.4s
ISP Isparta 57.87 44 P **P 01 56 15.6 +0.7**
ISP pmax pmax
comp=Z,69nm,1.1s
ISP MLR MLR
comp=Z,2μm,20.0s
ISP Isparta 57.87 44 P **P 01 56 15.6 +0.7**
ISP IAmb IAmb 01 56 16.5
comp=Z,69nm,1.1s
LOT Lotru 57.93 33 ⇑P **P 01 56 15.7 +0.5**
COPA Copaceanca 57.93 35 ⇑P **P 01 56 16.6 +1.5**
ORTC Ortega, Tolima 58.00 275⇓ *e*P **P 01 56 15.8 -0.4**
KSP Ksiaz 58.10 24 *e*P **P 01 56 16.6 +0.5**
TOLC Tolima 58.10 275 *e*P **P 01 56 16.2 -1.1**
AC05 El Transito 58.11 236 P **P 01 56 17.6 +0.8**
AC05 IAmb IAmb 01 56 21.9
comp=Z,117nm,1.2s
AC05 IAMs_20 IAMs_20 02 19 36.9
comp=Z,4μm,20.0s
OKC Ostrava-Krasne 58.14 26 *e*P **P 01 56 16.6 +0.1**
OKC *e*S **S 02 04 17.7 +0.3**
OKC AMS AMS 02 24 20.0
comp=Z,2μm,17.5s
OKC Ostrava-Krasne 58.14 26 *e*P **P 01 56 16.6 +0.1**
OKC *e*S **S 02 04 17.7 +0.3**
OKC MLR MLR
comp=Z,2μm,17.5s
RREF El Recreo 58.15 276⇓ *e*P **P 01 56 17.7 -0.2**
BETC Betania 58.15 273⇓ *e*P **P 01 56 17.2 -0.1**
ANIL Santa Ana 58.18 275 *e*P **P 01 56 17.1 -0.7**
GUY2C Guyana, Caldas 58.18 276⇓ *e*P **P 01 56 17.6 -0.4**
GARC Garzon, Huila 58.19 273 *e*P **P 01 56 17.7 -0.1**
LANS Liptovska Anna 58.24 28 *e*P **P 01 56 18.2 +0.9**
LANS pmax pmax
comp=Z,30nm,1.7s
LANS Liptovska Anna 58.24 28 *e*P **P 01 56 18.2 +0.9**
LANS *e*PP **PP 01 58 28.0 +1.6**
LEF Lefka 58.33 48 ⇑P **P 01 56 18.5 +0.4**
RAZG Razgrad 58.34 36 ⇑P **P 01 56 18.7 +0.7**
ARR Arges 58.35 34 ⇑P **P 01 56 19.2 +1.1**
CO01 Juntas del Tor 58.36 234 P **P 01 56 20.0 +1.3**
CO01 IAmb IAmb 01 56 21.8
comp=Z,83nm,1.3s
SJCC San Jacinto, C 58.37 282 *e*P **P 01 56 18.3 -0.5**
BSEG Bad Segeberg 58.38 19 *e*P **P 01 56 18.7 +0.7**
comp=Z,82nm,1.0s,baz=214,slow=7.2
BSEG *e*pP **pwP 01 56 30.6 +3.1**
baz=214,slow=7.1
RUE Ruedersdorf 58.38 22 *e*P **P 01 56 18.6 +0.5**
RUE Ruedersdorf 58.38 22 *e*P **P 01 56 18.9 +0.8**
comp=Z,110nm,1.1s,baz=214,slow=7.2
HELC Santa Helena 58.40 277⇓ *e*P **P 01 56 18.4 -1.1**
SGRR Singureni 58.42 35 ⇑P **P 01 56 20.1 +1.6**
UREC San Jos de Ur 58.52 279 *e*P **P 01 56 18.6 -1.2**
AC04 Llanos de Chal 58.56 237 P **P 01 56 20.0 +0.1**
CSS Mathiatis 58.59 48 P **P 01 56 19.9 0.0**
CSS IAmb IAmb 01 56 21.7
comp=Z,57nm,1.1s
VOIR 58.63 34 ⇑P **P 01 56 20.0 -0.1**
NEF NEVSHA 58.63 37 *e*P **P 01 56 19.9 -0.1**
CJR Cluj-Napoca 58.64 32 ⇑P **P 01 56 21.2 +1.1**
PRD Provadia 58.67 37 *e*P **P 01 56 20.2 0.0**
MARP Paez Belalcaza 58.67 273⇓ *e*P **P 01 56 20.4 -0.8**
SKMB Sankelmark Bun 58.76 18 *e*P **P 01 56 21.8 +1.1**
comp=Z,116nm,1.0s,baz=214,slow=7.2
SKMB *e*pP **pwP 01 56 33.6 +3.4**
baz=214,slow=7.1
NIE Niedzica 58.82 28 *e*P **P 01 56 22.6 +1.3**
SULR 58.85 35 ⇑P **P 01 56 22.5 +1.0**
CBOC Ciudad Bolivar 58.86 277⇓ *e*P **P 01 56 21.7 -0.7**
GO04 Tololo Observa 59.00 234 P **P 01 56 23.2 0.0**
GO04 IAmb IAmb 01 56 24.8
comp=Z,125nm,1.1s
TRPA Tarpa 59.02 30 ⇑P **P 01 56 22.4 -0.2**
TEND Ethiopian Broa 59.05 76 *i*P **P 01 56 26.1 +2.6**
ORH Orhaniye 59.08 41 *e*P P 01 56 09.5 -14
PCON Cinco Dias 59.10 273⇓ *e*P **P 01 56 25.3 +0.8**
YOTC Yotoco, Valle 59.10 275 *e*P **P 01 56 22.4 -1.6**
DBBC Dabeiba 59.13 278 *e*P **P 01 56 24.0 -0.2**
DOPR Dopca 59.14 33 ⇓P **P 01 56 24.0 +0.4**
CO03 El Pedregal 59.14 234 P **P 01 56 24.4 +0.5**
CO03 IAmb IAmb 01 56 25.8
comp=Z,58nm,1.1s
CO03 IAMs_20 IAMs_20 02 23 21.2
comp=Z,3μm,18.0s
OJC Ojcow 59.16 27 *e*P **P 01 56 24.3 +0.7**
MLR Muntele Rosu 59.16 34 ⇑P **P 01 56 24.3 +0.5**
MLR Muntele Rosu 59.16 34 P **P 01 56 23.6 -0.2**
MLR pmax pmax
comp=Z,298nm,1.4s
MLR MLR MLR
comp=Z,4μm,22.0s
MLR Muntele Rosu 59.16 34 P **P 01 56 23.6 -0.2**
BMR Baia Mare 59.21 31 ⇑P **P 01 56 24.0 +0.1**
UZH Uzhgorod 59.23 29 *e*P **P 01 56 24.4 +0.3**
UZH *e* 01 56 32.8
UZH *e* 01 58 35.2
UZH *e*S **S 02 04 29.4 -2.2**
UZH *e*SS **SS 02 08 21.0 -5.3**
UZH *e*SSS SSS 02 10 53.8
UZH MLR MLR
comp=N,600nm,16.0s
UZH MLR MLR
comp=E,400nm,16.0s
UZH MLR MLR
comp=Z,200nm,16.0s
ISR Istrita 59.27 35 ⇑P **P 01 56 24.3 -0.2**
SOTA Rioblanco 59.30 272⇓ *e*P **P 01 56 26.4 +0.5**
PSN Preselentsi 59.41 37 *e*P **P 01 56 25.1 -0.3**
ICOR Ion Corvin 59.43 36 ⇑P **P 01 56 26.0 +0.4**
KOLS Kolonicke sedl 59.43 29 *e*P **P 01 56 26.3 +0.8**
KOLS pmax pmax
comp=Z,47nm,1.3s
KOLS Kolonicke sedl 59.43 29 *e*P **P 01 56 26.2 +0.8**
KOLS *e*PP **PP 01 58 35.8 -1.0**
KOLS *e*S **S 02 04 33.1 -1.1**
KOLS *e*L L 02 22 37.2
OZUR 59.44 34 ⇑P **P 01 56 26.5 +0.9**
LCBC Los crdobas, 59.44 280⇓ *e*P **P 01 56 28.5 +2.3**
CO02 Combarbal 59.52 233 P **P 01 56 26.5 -0.1**
CO02 IAMs_20 IAMs_20 02 22 46.3
comp=Z,3μm,18.0s
MDUB Mudurnu 59.62 41 P **P 01 56 27.5 +0.4**
GBN Guysborough 59.63 325 P **P 01 56 27.3 +0.4**
GBN IAmb IAmb 01 56 29.2
comp=Z,135nm,1.7s
VA03 San Esteban 59.73 231 P **P 01 56 28.8 +0.8**
VA03 IAmb IAmb 01 56 30.1
comp=Z,112nm,1.2s
PLOR Plostina 59.77 34 ⇑P **P 01 56 27.7 -0.2**
SHBL Chebaa 59.78 51 *e*P **P 01 56 29.6 +1.3**
VRI Vrincioaia 59.82 34 ⇑P **P 01 56 28.1 -0.2**
HARR Harsova 59.83 36 ⇑P **P 01 56 28.1 -0.2**
GTBY Guantanamo Bay 59.88 293 *e*P **P 01 56 30.1 +1.0**
GTBY Guantanamo Bay 59.88 293 P **P 01 56 30.0 +0.9**
BHL Bhannes 59.92 50 *e*P **P 01 56 30.3 +1.0**
BBAC Balboa, Cauca 59.94 272⇓ *e*P **P 01 56 29.4 -0.5**
ODBI Odobesti 59.95 34 ⇑P **P 01 56 30.6 +1.5**
PEL Peldehue 59.98 231 P **P 01 56 29.5 -0.2**
PEL pmax pmax
comp=Z,157nm,1.4s
PEL Peldehue 59.98 231 P **P 01 56 29.5 -0.2**
PEL IAmb IAmb 01 56 31.6
comp=Z,157nm,1.4s
TIRR Tirgusor 59.98 36 ⇑P **P 01 56 29.4 +0.1**
TIRR Tirgusor 59.98 36 ⇑P **P 01 56 29.4 +0.1**
TIRR Tirgusor 59.98 36 *e*P **P 01 56 28.8 -0.5**
TIRR Tirgusor 59.98 36 P **P 01 56 28.5 -0.8**
TIRR pmax pmax
comp=Z,316nm,1.5s
TIRR MLR MLR
comp=Z,10μm,18.0s
TIRR Tirgusor 59.98 36 P **P 01 56 28.5 -0.8**
PETR Petresti 60.02 35 ⇑P **P 01 56 30.0 +0.4**
GCUF Volcan Galeras 60.03 271 *e*P **P 01 56 31.6 +0.8**
BURAR Bucovina Array 60.07 32 ⇑P **P 01 56 31.0 +1.0**
BUR08 Bucovina Ar. S 60.08 32 P **P 01 56 30.8 +0.8**
BUR08 IAmb IAmb 01 56 41.1
comp=Z,103nm,1.4s
KWP Kalwaria Pacla 60.11 29 *e*P **P 01 56 30.9 +0.7**
MT05 Renca 60.11 231 P **P 01 56 30.9 +0.3**
BIZ Bicaz 60.12 33 ⇑P **P 01 56 30.5 +0.2**
MUD Monsted U'grnd 60.17 17⇑ *i*P **P 01 56 31.1 +0.7**
comp=Z,69nm,1.0s
MUD Monsted U'grnd 60.17 17⇑ *i*P **P 01 56 31.1 +0.7**
MUD pmax pmax
comp=Z,69nm,1.0s
ROC1 El Roble 60.17 231 P **P 01 56 31.1 -0.1**
TOPG Topolog 60.20 36 ⇑P **P 01 56 30.7 -0.1**
CFR Carcaliu 60.23 36 ⇑P **P 01 56 31.0 0.0**
NNA Nana 60.25 256 P **P 01 56 31.0 -0.8**
NNA pmax pmax
comp=Z,61nm,1.4s
NNA Nana 60.25 256 P **P 01 56 31.0 -0.8**
NNA IAmb IAmb 01 56 32.3
comp=Z,61nm,1.4s
ASF Jabal al Asfar 60.25 52 P **P 01 56 32.0 +0.5**
comp=Z,59nm,1.0s,baz=198,slow=3.8,SNR=93
HWQ Hawqa 60.29 50 *e*P **P 01 56 32.9 +1.0**
GKP Gorka Klasztor 60.32 23 *e*P **P 01 56 32.8 +1.3**
GHRR 60.32 34 ⇑P **P 01 56 31.9 +0.2**
MT02 Curacav 60.37 231 P **P 01 56 32.1 -0.1**
MT02 IAmb IAmb 01 56 33.9
comp=Z,91nm,1.3s
BR231 Keskin MP Arra 60.38 43 P **P 01 56 32.7 +0.4**
CAPC Capurgana 60.39 280 *e*P **P 01 56 30.8 -1.9**
HAL Halifax 60.40 324 P **P 01 56 32.7 +0.6**
HAL pmax pmax
comp=Z,117nm,1.6s
HAL Halifax 60.40 324 P **P 01 56 32.7 +0.6**
HAL IAmb IAmb 01 56 34.1
comp=Z,117nm,1.6s
ANTO Ankara 60.40 43 ⇑P **P 01 56 33.6 +1.2**
ANTO Ankara 60.40 43 P **P 01 56 33.2 +0.8**
ANTO pmax pmax
comp=Z,188nm,1.3s
ANTO MLR MLR
comp=Z,2μm,19.0s
ANTO Ankara 60.40 43 P **P 01 56 33.2 +0.8**
TLCR 60.63 36 ⇑P **P 01 56 34.1 +0.3**
BO02 Sierra Bellavi 60.68 229 P **P 01 56 34.6 +0.1**
BO02 IAmb IAmb 01 56 36.2
comp=Z,72nm,1.1s
BO02 IAMs_20 IAMs_20 02 27 31.0
comp=Z,2μm,18.0s
GOET G??ttrup 60.68 16 *i*P **P 01 56 34.1 +0.2**
comp=Z,153nm,0.9s
MT01 Popeta 60.69 230 P **P 01 56 34.1 -0.3**
BEL Belsk 60.74 26 *e*P **P 01 56 35.7 +1.3**

ATD Arta Tunnel 60.81 77 P **P** **01 56 36.6 +1.0**
ATD IAmb IAmb 01 56 39.1
comp=Z,59nm,1.2s
LVV L'vov 60.88 29 *i*P **P** **01 56 35.3 -0.1**
LVV *e* 01 58 47.2
LVV *e*S **S** **02 04 50.4 -2.3**
LVV *e*SS **SS** **02 08 55.5 +3.4**
LVV pmax pmax
comp=Z,150nm,1.5s
LVV MLR MLR
comp=Z,2µm,18.0s
VASR Vaslui 60.88 34 ⇑P **P** **01 56 34.8 -0.6**
BRTR Keskin Array B 60.91 43 P **P** **01 56 36.8 +0.7**
comp=Z,54nm,1.0s,baz=233,slow=6.0,SNR=136
BRTR PP **PP** **01 58 48.2 -2.1**
comp=Z,8.1nm,1.0s,baz=231,slow=7.8,SNR=3.4
BRTR LR LR 02 25 17.8
comp=Z,1µm,20.2s,baz=200,slow=38
BRTR Keskin Array B 60.91 43 *ce*P **P** **01 56 36.7 +0.7**
BRTR pmax pmax
comp=Z,55nm,1.0s
BR131 Keskin Array S 60.91 43 P **P** **01 56 36.8 +0.8**
SNR=51
BR131 Keskin Array S 60.91 43 P **P** **01 56 36.5 +0.5**
BR131 pmax pmax
comp=Z,203nm,1.4s
BR131 Keskin Array S 60.91 43 P **P** **01 56 36.5 +0.5**
CUSE Cuicocha Este 61.08 270 *e*P **P** **01 56 38.0 +0.1**
PAC1 Pacto, Paraso 61.47 270 ⇓*e*P **P** **01 56 39.4 -0.9**
MILM Milestii Mici 61.61 34 ⇑P **P** **01 56 39.6 -0.8**
GO05 Huala 61.64 230 P **P** **01 56 41.1 +0.2**
GO05 IAMs_20 IAMs_20 02 26 48.3
comp=Z,2µm,18.0s
KIS Kishinev 61.66 34 ⇑*i*P **P** **01 56 40.0 -0.7**
comp=Z,300nm,6.2s
KIS Kishinev 61.66 34 *i* PP PP 01 58 51.0 -5.6
comp=Z,200nm,2.2s
KIS Kishinev 61.66 34 *i* PPP PPP 02 00 25.0
KIS *i* S **S** **02 04 57.5 -5.2**
KIS Kishinev 61.66 34 *i* PS 02 06 36.5
KIS *e*LR LR 02 20 14.0
comp=Z,850nm,19.0s
KIS Kishinev 61.66 34 *c i*P **P** **01 56 39.9 -0.7**
KIS *i* 01 56 47.6
KIS *i* PPP PPP 02 00 25.3
KIS *i* S **S** **02 04 57.5 -5.2**
KIS *i* PS 02 06 36.5
KIS pmax pmax
comp=Z,300nm,6.2s
LMN Caledonia Moun 61.78 324 P **P** **01 56 42.0 +0.4**
LMN IAmb IAmb 01 56 43.5
comp=Z,106nm,1.4s
BI02 San Fabin de 61.78 228 P **P** **01 56 41.9 0.0**
BI02 IAmb IAmb 01 56 43.6
comp=Z,109nm,1.2s
BI02 IAMs_20 IAMs_20 02 19 48.1
comp=Z,3µm,21.0s
MTDJ Mount Denham 61.81 291 *e*P **P** **01 56 40.1 -2.3**
EFI East Falkland 61.88 207 IAMs_20 IAMs_20 02 19 38.6
comp=Z,3µm,20.0s
SORM Soroca 62.06 33 ⇑P **P** **01 56 41.8 -1.5**
GAZ Gaziantep 62.36 47 P **P** **01 56 47.0 +1.2**
KLNR Kaliningrad 62.49 24 *c i*P **P** **01 56 45.9 -0.2**
KLNR pmax pmax
comp=Z,105nm,0.8s
UPA Univ. de Panam 62.57 280 ⇓*e*P **P** **01 56 48.5 +1.0**
GGN Saint George 62.60 323 P **P** **01 56 47.2 +0.1**
GGN IAmb IAmb 01 56 49.2
comp=Z,143nm,1.7s
GGN IAMs_20 IAMs_20 02 19 00.0
comp=Z,3µm,20.0s
DAMY Dhamar 62.68 74 P **P** **01 56 50.2 +1.7**
DAMY IAmb IAmb 01 56 53.2
comp=Z,107nm,1.5s
H66A Whiting 62.72 322 P **P** **01 56 48.3 +0.5**
baz=127,SNR=5.8
EMMW East Machias 62.77 322 P **P** **01 56 48.3 +0.1**
M66A Nantucket 62.86 318 P **P** **01 56 49.5 +0.6**
baz=117
BCIP Isla Barro Col 62.88 280 P **P** **01 56 50.3 +0.8**
BCIP pmax pmax
comp=Z,79nm,1.1s
BCIP Isla Barro Col 62.88 280 P **P** **01 56 50.3 +0.8**
BCIP IAmb IAmb 01 56 52.2
comp=Z,79nm,1.1s
PLCA Paso Flores 62.97 223 P **P** **01 56 49.5 -0.2**
comp=Z,6.8nm,1.0s,baz=75,slow=7.0,SNR=8.9
PLCA LR LR 02 20 12.5
comp=Z,3µm,21.7s,baz=72,slow=32
PLCA Paso Flores 62.97 223 P **P** **01 56 49.7 -0.1**
PLCA pmax pmax
comp=Z,31nm,1.4s
PLCA Paso Flores 62.97 223 P **P** **01 56 49.7 -0.1**
PLCA Paso Flores 62.97 223 *e*P **P** **01 56 50.0 +0.3**
PLCA Paso Flores 62.97 223 *e*P **P** **01 56 50.0 +0.3**
KONO Kongsberg 63.04 15 P **P** **01 56 50.5 +0.8**
KONO pmax pmax
comp=Z,86nm,1.4s
KONO MLR MLR
comp=Z,2µm,20.0s
KONO Kongsberg 63.04 15 P **P** **01 56 50.5 +0.8**
KONO IAmb IAmb 01 56 51.3
comp=Z,86nm,1.4s
KONO Kongsberg 63.04 15 IAMs_20 IAMs_20 02 23 57.6
comp=Z,2µm,20.0s
KONO Kongsberg 63.04 15 ⇑*i*P **P** **01 56 49.6 -0.1**
G65A Princeton 63.08 322 P **P** **01 56 50.8 +0.5**
baz=120,SNR=10
G65A Princeton 63.08 322 P **P** **01 56 50.8 +0.5**
G65A IAmb IAmb 01 56 52.5
comp=Z,139nm,1.8s
G65A IAMs_20 IAMs_20 02 19 32.1
comp=Z,3µm,20.0s
BI03 Tigo 63.15 228 P **P** **01 56 51.3 +0.4**
L65A Cape Cod Natio 63.15 318 P **P** **01 56 51.6 +0.8**
baz=117
AZU Azuero 63.21 279 ⇓*e*P **P** **01 56 52.5 +0.8**
H65A Eastbrook 63.25 322 P **P** **01 56 51.8 +0.4**
baz=120
BATG Bathurst New B 63.28 325 P **P** **01 56 51.8 +0.2**
BATG IAmb IAmb 01 56 53.9
comp=Z,94nm,1.1s
SUW Suwalki 63.30 25 *e*P **P** **01 56 51.7 +0.2**
M65A Busby, Falmout 63.34 318 P **P** **01 56 52.7 +0.6**
baz=116
M65A Busby, Falmout 63.34 318 IAMs_20 IAMs_20 02 18 55.0
comp=Z,2µm,20.0s
OSL Oslo 63.58 15 ⇑*i*P **P** **01 56 52.4 -0.8**
L64A Middleborough 63.63 318 P **P** **01 56 55.0 +1.0**
baz=116,SNR=6.7
SIM Simferopol' 63.70 38 *c i*P **P** **01 56 53.6 -0.8**
SIM *i* PPP PPP 02 00 45.0
SIM *i* S **S** **02 05 26.0 -2.5**
SIM pmax pmax
comp=Z,88nm,1.8s
SIM MLR MLR
comp=Z,620nm,13.2s
M64A Tiverton 63.72 317 P **P** **01 56 55.1 +0.6**
baz=116
I64A Boothbay 63.75 320 P **P** **01 56 55.3 +0.6**
baz=118
H64A Troy 63.83 321 P **P** **01 56 55.9 +0.6**
baz=119,SNR=8.3
G64A Maxfield 63.84 322 P **P** **01 56 56.0 +0.7**
baz=120
E64A Bridgewater 63.86 324 P **P** **01 56 56.2 +0.8**
baz=121,SNR=14
F64A Sherman 63.90 323 P **P** **01 56 56.8 +1.1**
baz=120,SNR=17
F64A Sherman 63.90 323 P **P** **01 56 56.4 +0.7**
F64A IAmb IAmb 01 56 58.1
comp=Z,119nm,1.6s
F64A IAMs_20 IAMs_20 02 20 07.6
comp=Z,3µm,19.0s
BCX Boston College 64.03 318 P **P** **01 56 56.6 0.0**
AKASG Malin Array Be 64.03 31 P **P** **01 56 55.6 -0.8**
comp=Z,75nm,1.2s,baz=234,slow=6.5,SNR=114
AKASG LR LR 02 27 08.6
comp=Z,3µm,18.3s,baz=230,slow=38
AKBB Malin Array Si 64.03 31 P **P** **01 56 55.6 -0.9**
AKBB pmax pmax
comp=Z,209nm,1.4s
AKBB MLR MLR
comp=Z,3µm,19.0s
AKBB Malin Array Si 64.03 31 P **P** **01 56 55.5 -0.9**
AKBB IAMs_20 IAMs_20 02 26 38.4
comp=Z,3µm,19.0s
BRYW Bryant College 64.09 318 P **P** **01 56 57.2 +0.1**
BRYW IAmb IAmb 01 56 59.2
comp=Z,70nm,1.2s
BRYW IAMs_20 IAMs_20 02 19 19.0
comp=Z,2µm,20.0s
PQI Presque Isle 64.11 324 P **P** **01 56 57.1 +0.1**
PQI IAMs_20 IAMs_20 02 19 51.1
comp=Z,2µm,20.0s
L63A North Scituate 64.12 318 P **P** **01 56 58.0 +0.8**
baz=116,SNR=12
CBCY The Bluff, Cay 64.14 292 P **P** **01 56 58.6 +0.9**
WES Weston 64.15 318 P **P** **01 56 57.7 +0.3**
WES pmax pmax
comp=Z,72nm,1.5s
WES Weston 64.15 318 P **P** **01 56 57.7 +0.3**
WES IAmb IAmb 01 56 59.6
comp=Z,72nm,1.5s
PKME Peaks-Kenny Pk 64.18 322 P **P** **01 56 58.2 +0.7**
baz=119
PKME Peaks-Kenny Pk 64.18 322 P **P** **01 56 57.4 -0.1**
PBUR Paburge 64.19 23 *e*P **P** **01 56 57.3 -0.1**
E63A Oxbow 64.22 323 P **P** **01 56 58.8 +1.0**
baz=120,SNR=14
E63A Oxbow 64.22 323 P **P** **01 56 58.1 +0.3**
E63A IAmb IAmb 01 57 00.3
comp=Z,56nm,1.2s
E63A IAMs_20 IAMs_20 02 20 32.1
comp=Z,3µm,20.0s
M63A Gales Ferry 64.22 317 P **P** **01 56 58.5 +0.6**
baz=115,SNR=11
F63A Nahmakanta, Br 64.27 322 P **P** **01 56 59.3 +1.1**
baz=119,SNR=18
F63A Nahmakanta, Br 64.27 322 P **P** **01 56 58.7 +0.6**
F63A IAmb IAmb 01 57 00.6
comp=Z,73nm,1.2s
F63A IAMs_20 IAMs_20 02 19 18.6
comp=Z,2µm,20.0s
G63A Kingsbury 64.31 322 P **P** **01 56 59.0 +0.6**
baz=119,SNR=6.2
D63A Stockholm 64.34 324 P **P** **01 56 59.4 +0.8**
baz=121,SNR=14
H63A New Sharon 64.35 321 P **P** **01 56 59.5 +0.8**
baz=118
HRV Adam Dziewonsk 64.36 318 P **P** **01 56 59.6 +0.8**
baz=116
HRV Adam Dziewonsk 64.36 318 P **P** **01 56 59.4 +0.6**
HRV pmax pmax
comp=Z,253nm,1.9s
HRV Adam Dziewonsk 64.36 318 P **P** **01 56 59.4 +0.6**
N63A Mattituck 64.37 316 P **P** **01 56 59.6 +0.7**
baz=114
J63A Strafford 64.39 319 P **P** **01 57 00.1 +1.1**
baz=117,SNR=19
NAO01 NORSAR Array S 64.40 15 P **P** **01 56 59.0 +0.3**
NAO01 IAmb IAmb 01 57 00.4
comp=Z,51nm,1.1s
I63A Otisfield 64.42 320 P **P** **01 56 59.6 +0.5**
baz=117
I63A Otisfield 64.42 320 P **P** **01 56 59.9 +0.8**
K63A Dunstable 64.42 318 P **P** **01 56 59.4 +0.2**
baz=116
NC602 NORSAR Array S 64.48 15 P **P** **01 56 59.5 +0.3**
NC602 IAmb IAmb 01 57 00.1
comp=Z,68nm,1.3s
NC602 NORSAR Array S 64.48 15 ⇑*i*P **P** **01 56 59.3 +0.1**
NBO00 NORSAR Array S 64.53 15 P **P** **01 56 59.9 +0.3**
HFS Hagfors 64.56 17 LR LR 02 27 20.8
comp=Z,2µm,18.4s,baz=214,slow=38
BORG Borgarnes 64.63 358 P **P** **01 57 00.3 +0.3**
comp=Z,7.1nm,0.9s,baz=151,slow=11,SNR=2.4
BORG Borgarnes 64.63 358 P **P** **01 57 00.1 0.0**
BORG pmax pmax
comp=Z,35nm,1.1s
BORG Borgarnes 64.63 358 P **P** **01 57 00.1 0.0**
NB2 NORSAR Subarra 64.65 15 P **P** **01 57 00.7 +0.3**
comp=Z,60nm,1.2s,baz=209,slow=6.9
NB2 NORSAR Subarra 64.65 15 P **P** **01 57 00.7 +0.3**
baz=209,slow=6.9
NOA NORSAR Array B 64.65 15 P **P** **01 57 00.6 +0.2**
comp=Z,16nm,0.9s,baz=210,slow=6.6,SNR=46
NOA LR LR 02 27 17.8
comp=Z,2µm,18.9s,baz=210,slow=38
PABE Paberze 64.66 25 *e*P **P** **01 57 00.3 -0.1**
NB201 NORSAR Array S 64.68 15 P **P** **01 57 00.8 +0.3**
NB201 IAmb IAmb 01 57 01.8
comp=Z,92nm,1.2s
NC204 NORSAR Array S 64.74 15 P **P** **01 57 01.3 +0.4**
NC204 IAmb IAmb 01 57 02.5
comp=Z,109nm,1.1s
YLE Yale 64.79 317 IAMs_20 IAMs_20 02 27 34.5
comp=Z,3µm,18.0s
QUA2 Belchertown 64.80 318 P **P** **01 57 02.6 +1.0**
QUA2 IAmb IAmb 01 57 04.1
comp=Z,111nm,1.3s
QUA2 IAMs_20 IAMs_20 02 19 58.2
comp=Z,3µm,20.0s
M62A Hamden 64.81 317 P **P** **01 57 01.9 +0.1**
baz=114,SNR=6.3
I62A Tamworth 64.82 320 P **P** **01 57 03.1 +1.3**
baz=117,SNR=31
I62A Tamworth 64.82 320 P **P** **01 57 02.5 +0.7**
I62A IAmb IAmb 01 57 04.4
comp=Z,97nm,1.1s
I62A IAMs_20 IAMs_20 02 19 35.2
comp=Z,3µm,20.0s
NC405 NORSAR Array S 64.84 15 P **P** **01 57 01.4 -0.2**
NC405 IAmb IAmb 01 57 06.1
comp=Z,41nm,0.8s
J62A Henniker 64.85 319 P **P** **01 57 03.1 +1.2**
baz=116,SNR=24
NC303 NORSAR Array S 64.85 15 P **P** **01 57 02.0 +0.4**
V62A Hyde County Ai 64.86 310 P **P** **01 57 03.2 +1.0**
baz=110
K62A Royalston 64.88 318 P **P** **01 57 03.3 +1.1**
baz=116,SNR=24
K62A Royalston 64.88 318 P **P** **01 57 03.0 +0.8**
K62A IAmb IAmb 01 57 04.7
comp=Z,92nm,1.0s
K62A IAMs_20 IAMs_20 02 20 30.9
comp=Z,2µm,20.0s
F62A Pittston Farm, 64.90 322 P **P** **01 57 03.2 +1.0**
baz=119
F62A Pittston Farm, 64.90 322 IAMs_20 IAMs_20 02 19 57.1
comp=Z,2µm,20.0s
L62A Suffield 64.90 317 P **P** **01 57 03.3 +1.0**
baz=115
D62A Allapoint, All 64.92 324 P **P** **01 57 02.9 +0.6**
baz=120
D62A Allapoint, All 64.92 324 P **P** **01 57 02.8 +0.4**
D62A IAMs_20 IAMs_20 02 20 15.7
comp=Z,3µm,20.0s
G62A West of Eustis 64.93 321 P **P** **01 57 02.9 +0.5**
baz=118,SNR=7.5
LL01 San Ignacio de 64.94 222 P **P** **01 57 02.4 -0.1**
LL01 IAmb IAmb 01 57 03.7
comp=Z,155nm,1.8s
LL01 IAMs_20 IAMs_20 02 21 27.6
comp=Z,3µm,20.0s
E62A Clayton Lake 64.98 323 P **P** **01 57 03.5 +0.8**
baz=119,SNR=9.9
E62A Clayton Lake 64.98 323 IAMs_20 IAMs_20 02 18 50.2
comp=Z,3µm,21.0s
DOMB Dombas 64.99 13 ⇑*i*P **P** **01 57 03.6 +1.0**
N62A Caumsett State 65.00 316 P **P** **01 57 03.8 +0.8**
baz=114
WSPT Westport, CT 65.00 316 P **P** **01 57 03.5 +0.5**
WSPT IAMs_20 IAMs_20 02 23 37.1
comp=Z,2µm,18.0s
H62A Milan 65.02 320 P **P** **01 57 04.1 +1.0**
baz=117,SNR=22
H62A Milan 65.02 320 P **P** **01 57 03.1 0.0**
H62A IAmb IAmb 01 57 05.7
comp=Z,71nm,1.2s
L61B Northampton 65.09 318 P **P** **01 57 04.6 +1.0**
baz=115,SNR=23
MOL Molde 65.12 12 ⇑*i*P **P** **01 57 03.4 +0.1**
CPNY Central Park 65.29 316 P **P** **01 57 05.6 +0.8**
CPNY IAmb IAmb 01 57 07.3
comp=Z,142nm,1.6s
KSCT Kent School, K 65.33 317 P **P** **01 57 05.4 +0.3**
KSCT IAMs_20 IAMs_20 02 23 40.4
comp=Z,2µm,18.0s
PAL Palisades 65.34 316 P **P** **01 57 06.1 +0.8**
baz=113,SNR=7.6
PAL Palisades 65.34 316 P **P** **01 57 06.0 +0.8**
PAL pmax pmax
comp=Z,197nm,1.8s
PAL Palisades 65.34 316 P **P** **01 57 06.0 +0.8**
R61A Willards 65.35 313 P **P** **01 57 06.6 +1.2**
baz=111
R61A Willards 65.35 313 IAMs_20 IAMs_20 02 24 07.1
comp=Z,3µm,18.0s
M61A Granite Spring 65.36 316 P **P** **01 57 06.1 +0.8**
baz=114,SNR=15
HNH Hanover 65.36 319 IAMs_20 IAMs_20 02 21 53.6
comp=Z,3µm,19.0s
LBNH Lisbon 65.37 320 P **P** **01 57 06.6 +1.3**
baz=116,SNR=17
LBNH Lisbon 65.37 320 IAMs_20 IAMs_20 02 20 21.6
comp=Z,2µm,20.0s
S61A Accomac 65.37 312 P **P** **01 57 06.3 +0.9**
baz=111
S61A Accomac 65.37 312 IAMs_20 IAMs_20 02 21 27.5
comp=Z,2µm,19.0s
J61A Chester 65.39 319 P **P** **01 57 06.8 +1.3**
baz=116,SNR=32
V61A Roper 65.42 310 P **P** **01 57 06.7 +0.9**
baz=109
V61A Roper 65.42 310 P **P** **01 57 06.7 +0.9**
V61A IAMs_20 IAMs_20 02 19 42.3
comp=Z,3µm,20.0s
O61A Allentown 65.44 315 P **P** **01 57 07.1 +1.3**
baz=112
P61A Hammonton 65.45 314 P **P** **01 57 06.2 +0.3**
baz=112
NACGM Naroch 65.47 26 *e*P **P** **01 57 05.0 -0.7**
NACGM *e*P **P** **01 57 05.0 -0.7**
NACGM *e*PP **PP** **01 59 28.0 -1.9**
NACGM *e*S **S** **02 05 50.0 +0.1**
NACGM *e*SS **SS** **02 10 10.0 +6.4**
NACGM *e*SSS SSS 02 13 36.0
NACGM *e*LQ LQ 02 22 24.0
E61A Lac Etchemin 65.47 323 P **P** **01 57 06.6 +0.6**
baz=118,SNR=7.2
SLIT Silitera, Latvi 65.48 22 *e*P P 01 56 58.6 -7.1
U61A Possum Corner 65.49 310 P **P** **01 57 07.4 +1.2**
baz=110,SNR=9.7
U61A Possum Corner 65.49 310 P **P** **01 57 07.3 +1.0**
U61A IAMs_20 IAMs_20 02 19 45.8
comp=Z,3µm,20.0s
H61A Lyndonville 65.50 320 P **P** **01 57 07.4 +1.2**
baz=116,SNR=13
IIGN Ignalina 65.51 26 *e*P **P** **01 57 06.0 +0.1**
IIGN *e*PP **PP** **01 59 28.1 -2.2**
N61A South Mountain 65.51 316 P **P** **01 57 07.3 +1.0**
baz=113
W61A Ground Anchor 65.54 309 P **P** **01 57 07.7 +1.1**
baz=109,SNR=6.1
Q61A Milford 65.54 313 P **P** **01 57 08.0 +1.5**
baz=111
F61A St Evariste 65.56 322 P **P** **01 57 07.5 +0.9**
baz=118,SNR=15
L61A Hillsdale 1, H 65.57 317 P **P** **01 57 07.6 +0.9**
baz=114,SNR=20
K61A Williamstown 65.58 318 P **P** **01 57 07.9 +1.1**
baz=115,SNR=19
G61A St-Isidore-de- 65.58 321 P **P** **01 57 07.3 +0.6**
baz=117,SNR=16
ISAL Salakas 65.61 25 *e*P **P** **01 57 06.6 0.0**
D61A St Aubert, Com 65.66 323 P **P** **01 57 07.8 +0.7**
baz=119
BRNJ Basking Ridge 65.67 315 P **P** **01 57 08.0 +0.7**
BRNJ IAmb IAmb 01 57 10.2
comp=Z,151nm,1.9s
BRNJ IAMs_20 IAMs_20 02 24 11.9
comp=Z,2µm,18.0s
MICGM Minsk 65.70 27 ⇑*e*P **P** **01 57 06.0 -1.2**
MICGM ⇑*e*P **P** **01 57 06.0 -1.2**
MICGM PM 01 57 07.0
comp=Z,0.4nm,2.0s
MICGM *e*PP **PP** **01 59 28.0 -3.9**
MICGM *e*S **S** **02 05 50.0 -2.8**
MICGM *e*SS **SS** **02 10 18.0 +11**
MICGM *e*LQ LQ 02 21 00.0
MICGM *e*LR LR 02 26 10.0
MICGM LRM MLR 02 29 40.0
comp=Z,3.4nm,14.0s
MNK Minsk 65.70 27 *ce*P **P** **01 57 06.0 -1.2**
MNK *e* 01 59 28.0
MNK pmax pmax
MNK
comp=Z,370nm,2.0s
MNK MLR MLR
comp=Z,3µm,14.0s
ANN Anapa 65.71 40 *c i*P **P** **01 57 06.6 -0.9**
ANN *e* 01 59 29.4
ANN *e*PPP PPP 02 01 04.2
ANN *i* S **S** **02 05 51.5 -1.8**
ANN pmax pmax
comp=Z,278nm,1.2s
ANN MLR MLR
comp=Z,2µm,22.0s
IZAR Zarasai 65.78 25 *e*P **P** **01 57 08.0 +0.3**
ODNJ Ogdensburg 65.86 316 P **P** **01 57 09.0 +0.5**
ODNJ IAmb IAmb 01 57 10.9
comp=Z,56nm,1.3s
ODNJ IAMs_20 IAMs_20 02 25 10.7
comp=Z,2µm,18.0s
TRY Troy 65.87 318 P **P** **01 57 09.4 +0.8**
TRY IAmb IAmb 01 57 11.2
comp=Z,119nm,1.6s
TRY IAMs_20 IAMs_20 02 20 60.0
comp=Z,2µm,19.0s
J60A Lant Hill Farm 65.92 318 P **P** **01 57 09.7 +0.8**
baz=115,SNR=18
V60A Jim Taylor Roa 65.93 310 P **P** **01 57 09.9 +0.8**
baz=109,SNR=6.7
V60A Jim Taylor Roa 65.93 310 IAMs_20 IAMs_20 02 19 38.6
comp=Z,3µm,20.0s
VT1 Waterbury 65.94 320 IAMs_20 IAMs_20 02 21 34.6
comp=Z,3µm,19.0s
L60A Shokan 65.95 317 P **P** **01 57 09.7 +0.5**
baz=114,SNR=11
Q60A Greensboro 65.96 313 P **P** **01 57 09.8 +0.6**
baz=111
Q60A Greensboro 65.96 313 IAMs_20 IAMs_20 02 22 05.2
comp=Z,2µm,19.0s
M60A Port Jervis 65.96 316 P **P** **01 57 10.2 +1.0**
baz=113,SNR=8.2
D60A Saint Jean D'O 65.96 323 P **P** **01 57 09.6 +0.6**
baz=118,SNR=15
K60A Five Rivers En 65.97 318 P **P** **01 57 10.3 +1.1**
baz=114
T60A Surry 65.98 311 P **P** **01 57 10.3 +1.0**
baz=110
T60A Surry 65.98 311 P **P** **01 57 09.9 +0.5**
T60A IAMs_20 IAMs_20 02 24 56.7
comp=Z,2µm,18.0s
H60A Morristown 66.00 320 P **P** **01 57 10.5 +1.1**
baz=116,SNR=24
G60A Masonville 66.01 321 P **P** **01 57 10.3 +0.9**
baz=116,SNR=24
PSUB Penn St. - Bra 66.02 314 IAMs_20 IAMs_20 02 24 45.0
comp=Z,2µm,18.0s
ABPO Ambohimpanom 66.03 111 P **P** **01 57 11.7 +1.4**
ABPO pmax pmax
comp=Z,52nm,1.5s
ABPO MLR MLR
comp=Z,2µm,18.0s
ABPO Ambohimpanom 66.03 111 P **P** **01 57 11.7 +1.4**
ABPO Ambohimpanom 66.03 111 IAMs_20 IAMs_20 02 26 26.6
comp=Z,2µm,18.0s
E60A Ste Agathe de 66.03 322 P **P** **01 57 10.4 +0.9**
baz=118,SNR=17
W60A Pink Hill 66.06 309 P **P** **01 57 10.8 +0.9**
baz=108,SNR=5.9
U60A Pendleton 66.08 310 P **P** **01 57 11.1 +1.0**
baz=109,SNR=8.6
I60A Shoreham 66.08 319 P **P** **01 57 10.8 +0.9**
baz=115,SNR=26
P60A Greenville 66.11 314 P **P** **01 57 10.9 +0.7**
baz=112,SNR=9.5
P60A Greenville 66.11 314 P **P** **01 57 10.6 +0.4**
S60A Water View 66.11 312 P **P** **01 57 11.3 +1.1**
baz=110
N60A Cedar Hill Far 66.12 315 P **P** **01 57 11.3 +1.1**
baz=112,SNR=12
X60A Albert Glenn T 66.12 308 P **P** **01 57 11.2 +0.8**
baz=108
060A Indiantown 66.13 300 IAMs_20 IAMs_20 02 19 37.5

comp=Z,3µm,20.0s
O60A Telford 66.13 315 P **P** **01 57 11.3 +1.1**
baz=112,SNR=8.9
ACCN Adirondack Com 66.14 318 P **P** **01 57 10.8 +0.4**
ACCN IAmb IAmb 01 57 12.7
comp=Z,80nm,1.6s
ACCN IAMs_20 IAMs_20 02 20 30.7
comp=Z,3µm,21.0s
Y60A Bolivia 66.14 307 P **P** **01 57 11.4 +0.9**
baz=107
Y60A Bolivia 66.14 307 P **P** **01 57 11.1 +0.6**
Y60A IAMs_20 IAMs_20 02 20 11.6
comp=Z,2µm,20.0s
F60A Warwick 66.16 322 P **P** **01 57 10.7 +0.4**
baz=117,SNR=11
R60A Leonardtown, M 66.25 312 P **P** **01 57 12.3 +1.2**
baz=110
CNNC Cliffs of the 66.25 309 P **P** **01 57 12.0 +0.8**
baz=108
CNNC Cliffs of the 66.25 309 P **P** **01 57 11.8 +0.6**
CNNC IAmb IAmb 01 58 09.2
comp=Z,29nm,0.5s
CNNC IAMs_20 IAMs_20 02 19 47.1
comp=Z,2µm,20.0s
TBLU Trondheim 66.32 13 *e*P **P** **01 57 12.7 +1.6**
I59A Olmsteadville 66.45 319 P **P** **01 57 13.3 +1.0**
baz=115,SNR=25
Q59A Harwood 66.51 313 P **P** **01 57 13.4 +0.7**
baz=110
U59A Littleton 66.53 310 P **P** **01 57 13.9 +1.0**
baz=108,SNR=17
U59A Littleton 66.53 310 IAMs_20 IAMs_20 02 20 36.2
comp=Z,3µm,20.0s
G59A Clarenceville 66.54 320 P **P** **01 57 13.5 +0.7**
baz=116,SNR=9.2
T59A Double "B" Far 66.54 311 P **P** **01 57 14.0 +1.0**
baz=109,SNR=12
T59A Double "B" Far 66.54 311 P **P** **01 57 13.8 +0.8**
T59A IAmb IAmb 01 57 15.6
comp=Z,136nm,1.4s
T59A IAMs_20 IAMs_20 02 19 48.6
comp=Z,3µm,20.0s
D59A Saint-Raymond 66.56 323 P **P** **01 57 13.4 +0.5**
baz=118
L59A Walton 66.59 317 P **P** **01 57 14.4 +1.2**
baz=113,SNR=16
L59A Walton 66.59 317 P **P** **01 57 14.2 +0.9**
L59A IAmb IAmb 01 57 15.9
comp=Z,66nm,1.2s
M59A Waymart 66.61 316 P **P** **01 57 14.2 +0.8**
baz=112,SNR=10
P59A Jarrettsville 66.61 314 P **P** **01 57 14.4 +1.0**
baz=111,SNR=8.5
S59A Mechanicsville 66.61 312 P **P** **01 57 14.1 +0.7**
baz=110,SNR=5.7
N59A State Game Lan 66.61 315 P **P** **01 57 14.8 +1.4**
baz=112,SNR=28
N59A State Game Lan 66.61 315 P **P** **01 57 14.1 +0.7**
N59A IAmb IAmb 01 57 16.1
comp=Z,108nm,1.3s
X59A McDuffie Farm, 66.61 308 P **P** **01 57 14.2 +0.7**
baz=107
R59A King George, V 66.62 312 P **P** **01 57 14.4 +1.0**
baz=110,SNR=8.9
F59A Saint Guilaume 66.62 321 P **P** **01 57 14.2 +0.8**
baz=116
Y59A Loris 66.66 307 P **P** **01 57 14.4 +0.6**
baz=107
Y59A Loris 66.66 307 IAMs_20 IAMs_20 02 25 28.4
comp=Z,2µm,18.0s
W59A Clinton 66.67 309 P **P** **01 57 14.6 +0.7**
baz=108
O59A Robesonia 66.68 315 P **P** **01 57 14.6 +0.8**
baz=111
H59A Cadyville 66.68 320 P **P** **01 57 14.7 +1.0**
baz=115,SNR=18
SOC Sochi 66.68 42 *e*P **P** **01 57 11.7 -2.1**
SOC *e* 01 59 38.7
SOC *e*PPP PPP 02 01 14.1
SOC *e*S **S** **02 06 01.3 -3.9**
SOC *e* 02 07 07.9
SOC *e* 02 10 26.2
SOC *e*SSS SSS 02 13 12.6
SOC pmax pmax
comp=Z,68nm,0.8s
SOC MLR MLR
comp=Z,742nm,15.0s
K59A Cooperstown 66.69 317 P **P** **01 57 14.8 +1.0**
baz=113,SNR=8.1
MVL Millersville 66.69 314 P **P** **01 57 14.5 +0.7**
V59A Middlesex 66.69 309 P **P** **01 57 14.7 +0.8**
baz=108,SNR=9.3
FRNY Flat Rock 66.69 320 P **P** **01 57 14.4 +0.6**
FRNY IAMs_20 IAMs_20 02 23 04.7
comp=Z,2µm,19.0s
J59A Piesco 66.73 318 P **P** **01 57 14.9 +0.8**
baz=114,SNR=12
J59A Piesco 66.73 318 P **P** **01 57 14.9 +0.8**
J59A IAmb IAmb 01 57 16.4
comp=Z,117nm,1.8s
J59A IAMs_20 IAMs_20 02 20 49.7
comp=Z,2µm,20.0s
E59A St. Maurice 66.73 322 P **P** **01 57 15.1 +1.1**
baz=117
NCB Newcomb 66.75 319 P **P** **01 57 14.9 +0.7**
NCB IAmb IAmb 01 57 16.8
comp=Z,91nm,2.0s
Z59A Georgetown, SC 66.77 306 P **P** **01 57 15.7 +1.1**
baz=106
CBN Corbin Frederi 66.81 312 P **P** **01 57 15.6 +0.9**
baz=110
CBN Corbin Frederi 66.81 312 P **P** **01 57 15.0 +0.3**
CBN IAmb IAmb 01 57 16.3
comp=Z,33nm,0.8s
CBN IAMs_20 IAMs_20 02 25 17.7
comp=Z,2µm,18.0s
SDMD Soldier's Deli 66.83 313 P **P** **01 57 15.4 +0.6**
FOMA Nahampoana Res 66.84 117 P **P** **01 57 16.3 +1.2**
FOMA IAmb IAmb 01 57 18.6
comp=Z,63nm,1.0s
KSPA Keystone Colle 66.84 316 P **P** **01 57 15.2 +0.4**
KSPA IAmb IAmb 01 57 17.4
comp=Z,93nm,1.6s
KSPA IAMs_20 IAMs_20 02 25 58.9
comp=Z,2µm,18.0s
H58A Gabriels 66.90 319 P **P** **01 57 16.3 +1.0**
baz=114,SNR=19
L58A Harry Jones Me 67.09 316 P **P** **01 57 17.9 +1.5**
baz=112,SNR=20
R58B Mineral 67.11 312 P **P** **01 57 17.6 +0.9**
baz=109,SNR=16
R58B Mineral 67.11 312 P **P** **01 57 17.1 +0.5**
R58B IAmb IAmb 01 57 19.0
comp=Z,50nm,1.1s
R58B IAMs_20 IAMs_20 02 25 34.6
comp=Z,2µm,19.0s
U58A Oxford 67.12 310 P **P** **01 57 17.5 +0.8**
baz=108,SNR=16
S58A Poland Farm, P 67.12 311 P **P** **01 57 17.6 +0.9**
baz=109,SNR=16
S58A Poland Farm, P 67.12 311 P **P** **01 57 17.0 +0.2**
S58A IAmb IAmb 01 57 19.2
comp=Z,101nm,1.3s
S58A IAMs_20 IAMs_20 02 20 07.9
comp=Z,2µm,20.0s
G58A Ormstown 67.13 320 P **P** **01 57 17.4 +0.8**
baz=115,SNR=37
I58A Old Forge 67.13 318 P **P** **01 57 17.3 +0.6**
baz=114,SNR=13
O58A Lewisberry 67.14 314 P **P** **01 57 17.9 +1.1**
baz=111,SNR=12
HDC Heredia 67.15 281 P **P** **01 57 16.9 -0.6**
BCA Borcka 67.15 44 ⇑P **P** **01 57 16.7 -0.1**
E58A La Victoria 67.16 322 P **P** **01 57 17.5 +0.7**
baz=116,SNR=19
X58A Rowland 67.19 308 P **P** **01 57 18.1 +0.9**
baz=107,SNR=7.7
X58A Rowland 67.19 308 P **P** **01 57 17.6 +0.4**
X58A IAmb IAmb 01 57 19.6
comp=Z,60nm,0.8s
X58A IAMs_20 IAMs_20 02 21 31.4
comp=Z,2µm,20.0s
P58A Pank, Wackersv 67.19 313 P **P** **01 57 18.0 +0.9**
baz=110,SNR=18
J58A Remsen 67.21 318 P **P** **01 57 18.2 +1.0**
baz=113,SNR=33
J58A Remsen 67.21 318 P **P** **01 57 17.6 +0.5**
J58A IAmb IAmb 01 57 19.6
comp=Z,93nm,1.1s
J58A IAMs_20 IAMs_20 02 21 12.4
comp=Z,3µm,20.0s
K58A Earlville 67.22 317 P **P** **01 57 18.4 +1.1**
baz=113,SNR=22
K58A Earlville 67.22 317 P **P** **01 57 18.1 +0.8**
K58A IAMs_20 IAMs_20 02 25 32.8
comp=Z,2µm,18.0s
Z58A St. Stephen 67.23 306 P **P** **01 57 18.2 +0.8**
baz=106
BINY Binghamton 67.24 317 P **P** **01 57 18.7 +1.3**
baz=112,SNR=30
BINY Binghamton 67.24 317 P **P** **01 57 18.3 +0.9**
BINY IAmb IAmb 01 57 20.3
comp=Z,97nm,1.1s
D58A Chemin du LacG 67.24 322 P **P** **01 57 18.1 +0.8**
baz=117,SNR=22
W58A Raeford 67.24 308 P **P** **01 57 18.6 +1.1**
baz=107,SNR=8.2
N58A Sunbury 67.25 315 P **P** **01 57 18.3 +0.8**
baz=111,SNR=20
N58A Sunbury 67.25 315 P **P** **01 57 17.9 +0.4**
N58A IAmb IAmb 01 57 19.8
comp=Z,70nm,1.1s
LONY Lake Ozonia 67.25 319 P **P** **01 57 18.2 +0.8**
baz=114,SNR=12
M58A Price's Panora 67.26 316 P **P** **01 57 18.7 +1.1**
baz=112,SNR=44
BATM Batumi 67.26 44 ⇑P **P** **01 57 17.5 0.0**
Y58A Scranton 67.27 307 P **P** **01 57 18.1 +0.5**
baz=106
F58A St-Lin Laurent 67.28 321 P **P** **01 57 17.9 +0.4**
baz=115
T58A Grand View Acr 67.28 310 P **P** **01 57 18.4 +0.7**
baz=108,SNR=9.2
Q58A Fox Den Farm, 67.29 313 P **P** **01 57 18.5 +0.7**
baz=110,SNR=12
DWPF Disney Wildern 67.29 301 P **P** **01 57 18.3 +0.4**
baz=103
DWPF Disney Wildern 67.29 301 P **P** **01 57 18.7 +0.7**
DWPF Disney Wildern 67.29 301 IAMs_20 IAMs_20 02 26 27.3
comp=Z,2µm,18.0s
LATQ La Tuque 67.31 323 P **P** **01 57 18.5 +0.9**
baz=117,SNR=14
LATQ La Tuque 67.31 323 P **P** **01 57 17.9 +0.3**
R58A Rapidan 67.31 312 P **P** **01 57 19.0 +1.1**
baz=109,SNR=15
CSU Charleston Sou 67.34 306 P **P** **01 57 18.9 +0.7**
158A Hollywood 67.37 306 P **P** **01 57 19.4 +1.0**
baz=106
V58A Windy Hill, Pi 67.38 309 P **P** **01 57 19.4 +1.1**
baz=107,SNR=12
V58A Windy Hill, Pi 67.38 309 P **P** **01 57 19.1 +0.8**
V58A IAMs_20 IAMs_20 02 20 31.3
comp=Z,3µm,20.0s
NHSC New Hope 67.46 306 P **P** **01 57 20.4 +1.4**
baz=106,SNR=16
NHSC New Hope 67.46 306 P **P** **01 57 19.8 +0.9**
NHSC IAMs_20 IAMs_20 02 20 24.6
comp=Z,2µm,20.0s
ESPN Las Esperanzas 67.51 283 P **P** **01 57 19.9 +0.3**
O57A Amberson 67.68 314 P **P** **01 57 21.4 +1.2**
baz=110,SNR=12
I57A Carthage 67.69 318 P **P** **01 57 21.2 +1.0**
baz=113,SNR=19
R57A Stanardsville 67.70 312 P **P** **01 57 21.4 +1.0**
baz=109,SNR=10
J57A Williamstown 67.70 318 P **P** **01 57 21.2 +0.9**
baz=113,SNR=9.6
J57A Williamstown 67.70 318 P **P** **01 57 20.3 +0.1**
J57A IAmb IAmb 01 57 22.5
comp=Z,40nm,1.1s
J57A IAMs_20 IAMs_20 02 21 37.6
comp=Z,2µm,20.0s
G57A Newington 67.71 320 P **P** **01 57 21.2 +1.0**
baz=114,SNR=7.0
P57A Homestead Farm 67.71 313 P **P** **01 57 21.6 +1.2**
baz=110,SNR=5.7
P57A Homestead Farm 67.71 313 IAMs_20 IAMs_20 02 24 20.4
comp=Z,2µm,18.0s
H57A Richville 67.71 319 P **P** **01 57 21.3 +1.0**
baz=114,SNR=8.5
ARXR Arkhyz 67.72 42 *c i*P **P** **01 57 21.8 +1.3**
ARXR pmax pmax
comp=Z,224nm,1.3s
M57A Sunshine Farm, 67.72 315 P **P** **01 57 21.6 +1.2**
baz=107,SNR=12
M57A Sunshine Farm, 67.72 315 P **P** **01 57 20.9 +0.5**
M57A IAMs_20 IAMs_20 02 24 16.0
comp=Z,2µm,18.0s
E57A Chemin Saint G 67.72 321 P **P** **01 57 21.0 +0.6**
baz=115,SNR=18
U57A Blanch 67.74 310 P **P** **01 57 21.7 +1.1**
baz=108,SNR=28
L57A Andrews Acres 67.76 316 P **P** **01 57 21.9 +1.1**
baz=112,SNR=17
X57A Johnson Farm, 67.76 307 P **P** **01 57 22.0 +1.1**
baz=106,SNR=5.1
VSU Vasula 67.77 23 *e*P **P** **01 57 17.8 -2.5**
VSU Vasula 67.77 23 *c i*P **P** **01 57 20.2 -0.1**
VSU pmax pmax
comp=Z,101nm,1.0s
K57A Scipio Center 67.80 317 P **P** **01 57 21.6 +0.6**
baz=112
NSS Namsos 67.81 13 ⇑ *i*P **P** **01 57 21.2 +0.8**
N57A Milroy 67.81 315 P **P** **01 57 22.0 +1.0**
baz=110,SNR=15
F57A Harrington 67.81 320 P **P** **01 57 21.3 +0.4**
baz=115
D57A Chemin Vers le 67.82 322 P **P** **01 57 21.4 +0.5**
baz=116,SNR=20
T57A Hurt 67.84 310 P **P** **01 57 22.2 +0.9**
baz=108,SNR=11
T57A Hurt 67.84 310 P **P** **01 57 21.6 +0.4**
T57A IAMs_20 IAMs_20 02 21 36.1
comp=Z,2µm,20.0s
S57A Dark Hollow, R 67.85 311 P **P** **01 57 22.2 +0.9**
baz=108,SNR=6.5
S57A Dark Hollow, R 67.85 311 IAMs_20 IAMs_20 02 20 19.2
comp=Z,3µm,21.0s
Q57A Strasburg 67.85 313 P **P** **01 57 23.1 +1.7**
baz=109,SNR=14
257A Skidaway Islan 67.86 305 IAMs_20 IAMs_20 02 19 32.2
comp=Z,3µm,22.0s
W57A Gilead 67.88 308 P **P** **01 57 22.2 +0.7**
baz=106,SNR=6.9
W57A Gilead 67.88 308 P **P** **01 57 22.0 +0.5**
W57A IAMs_20 IAMs_20 02 20 45.0
comp=Z,2µm,20.0s
Y57A Sumter 67.88 307 P **P** **01 57 22.8 +1.2**
baz=106,SNR=6.0
Y57A Sumter 67.88 307 P **P** **01 57 21.8 +0.3**
Y57A IAmb IAmb 01 57 24.0
comp=Z,108nm,1.2s
TRQ Mont Tremblant 67.90 321 P **P** **01 57 22.1 +0.6**
SCHQ Schefferville 67.90 332 P **P** **01 57 21.5 +0.2**
comp=Z,14nm,1.2s,baz=120,slow=7.7,SNR=9.2
SCHQ Schefferville 67.90 332 P **P** **01 57 21.7 +0.4**
SCHQ IAmb IAmb 01 57 37.0
comp=Z,73nm,1.8s
V57A Coltrane Farms 67.92 309 P **P** **01 57 22.7 +0.9**
baz=107,SNR=18
Z57A Bowman 67.94 306 P **P** **01 57 23.0 +1.1**
baz=105,SNR=5.7
JTS Las Juntas de 67.99 281 P **P** **01 57 21.6 -1.1**
JTS pmax pmax
comp=Z,28nm,1.3s
JTS Las Juntas de 67.99 281 P **P** **01 57 21.6 -1.1**
SSPA Standing Stone 68.01 314 P **P** **01 57 23.4 +1.1**
baz=110
SSPA Standing Stone 68.01 314 P **P** **01 57 22.9 +0.6**
SSPA IAmb IAmb 01 57 24.9
comp=Z,126nm,1.5s
157A Early Branch 68.01 305 P **P** **01 57 24.1 +1.6**
baz=105,SNR=8.0
BIRD Birdtown, Kers 68.10 308 P **P** **01 57 23.5 +0.6**
BIRD IAmb IAmb 01 57 25.5
comp=Z,126nm,1.5s
BIRD IAMs_20 IAMs_20 02 22 37.6
comp=Z,2µm,20.0s
ORIO Orleans, Innes 68.19 320 P **P** **01 57 23.7 +0.4**
baz=114,SNR=13
ORIO Orleans, Innes 68.19 320 P **P** **01 57 23.6 +0.3**
J56A Wolcott 68.24 317 P **P** **01 57 24.3 +0.7**
baz=112,SNR=12
J56A Wolcott 68.24 317 P **P** **01 57 24.6 +1.0**
J56A IAmb IAmb 01 57 26.0
comp=Z,123nm,1.4s
J56A IAMs_20 IAMs_20 02 28 44.6
comp=Z,2µm,18.0s
S56A Natural Bridge 68.29 311 P **P** **01 57 25.4 +1.3**
baz=108,SNR=10
L56A Greenwood 68.30 316 P **P** **01 57 24.9 +0.8**
baz=111,SNR=16
L56A Greenwood 68.30 316 P **P** **01 57 24.2 +0.1**
L56A IAmb IAmb 01 57 25.7
comp=Z,39nm,0.9s
L56A IAMs_20 IAMs_20 02 27 03.5
comp=Z,2µm,18.0s
P56A Dayton Farm, R 68.32 313 P **P** **01 57 25.7 +1.4**
baz=109,SNR=37
E56A St. Veronique 68.33 321 P **P** **01 57 24.7 +0.6**
baz=115,SNR=17
W56A Indian Trail 68.33 308 P **P** **01 57 25.2 +0.8**
baz=106,SNR=15
H56A Elgin 68.34 319 P **P** **01 57 24.9 +0.7**
baz=113,SNR=18
ACON Acoyapa 68.34 283 P **P** **01 57 24.9 +0.1**
K56A Middlesex 68.34 317 P **P** **01 57 24.9 +0.6**
baz=111,SNR=10.0
D56A ZEC Mazanza, M 68.37 322 P **P** **01 57 24.6 +0.2**
baz=115,SNR=9.3
O56A Blue Knob Stat 68.37 314 P **P** **01 57 25.8 +1.1**
baz=110,SNR=21
O56A Blue Knob Stat 68.37 314 P **P** **01 57 25.4 +0.8**
O56A IAMs_20 IAMs_20 02 24 44.0
comp=Z,2µm,18.0s
R56A Bull Pasture M 68.39 312 P **P** **01 57 26.1 +1.3**
baz=108,SNR=18
N56A West Decatur 68.40 315 P **P** **01 57 25.8 +1.1**
baz=110,SNR=46
Q56A Snyder Ridge, 68.43 312 P **P** **01 57 26.5 +1.6**
baz=109,SNR=24
Q56A Snyder Ridge, 68.43 312 P **P** **01 57 25.8 +0.9**
Q56A IAmb IAmb 01 57 28.0
comp=Z,104nm,1.1s
Q56A IAMs_20 IAMs_20 02 26 17.5
comp=Z,2µm,18.0s
T56A Rocky Mt 68.45 310 P **P** **01 57 26.3 +1.2**
baz=107,SNR=18
V56A Mocksville 68.45 309 P **P** **01 57 26.1 +0.9**
baz=106,SNR=23
AKH Akhalkalaki 68.46 45 ⇑P **P** **01 57 26.2 +0.9**
AKH Akhalkalaki 68.46 45 P **P** **01 57 25.2 -0.1**
AKH pmax pmax
comp=Z,80nm,1.0s
AKH MLR MLR
comp=Z,2µm,22.0s
AKH Akhalkalaki 68.46 45 P **P** **01 57 25.2 -0.1**
AKH IAmb IAmb 01 57 27.2
comp=Z,80nm,1.0s
VWCC Virginia Weste 68.47 310 P **P** **01 57 26.1 +0.9**
Z56A Williston 68.48 306 P **P** **01 57 26.4 +1.1**
baz=105,SNR=7.5
Z56A Williston 68.48 306 P **P** **01 57 26.1 +0.8**
Z56A IAMs_20 IAMs_20 02 22 42.6
comp=Z,2µm,19.0s
M56A Emporium 68.51 315 P **P** **01 57 26.4 +1.0**
baz=110,SNR=42
M56A Emporium 68.51 315 P **P** **01 57 26.3 +0.8**
M56A IAMs_20 IAMs_20 02 26 24.0
comp=Z,2µm,18.0s
X56A White Oak 68.52 307 P **P** **01 57 26.6 +1.0**
baz=106,SNR=13
U56A King 68.52 309 P **P** **01 57 26.6 +1.0**
baz=107,SNR=8.2
U56A King 68.52 309 IAMs_20 IAMs_20 02 22 05.0
comp=Z,3µm,19.0s
Y56A Pelion 68.55 306 P **P** **01 57 26.9 +1.1**
baz=105
PECO Prince Edward 68.57 318 P **P** **01 57 26.4 +0.7**
PECO IAMs_20 IAMs_20 02 22 15.5
comp=Z,2µm,20.0s
NEY Neytrino 68.58 43 ⇑ *i*P **P** **01 57 26.7 +0.7**
NEY pmax pmax
comp=Z,21nm,1.0s
JSC Jenkinsville 68.64 307 P **P** **01 57 27.2 +0.9**
JSC pmax pmax
comp=Z,104nm,1.8s
JSC Jenkinsville 68.64 307 P **P** **01 57 27.2 +0.9**
JSC IAmb IAmb 01 57 29.1
comp=Z,104nm,1.8s
BLA Blacksburg 68.80 310 P **P** **01 57 28.6 +1.3**
baz=107,SNR=12
BLA Blacksburg 68.80 310 IAMs_20 IAMs_20 02 20 47.3
comp=Z,2µm,20.0s
D55A Sainte-Anne-du 68.80 321 P **P** **01 57 27.8 +0.7**
baz=114,SNR=39
KIV Kislovodsk 68.81 42 *i*P **P** **01 57 27.6 +0.2**
SNR=30
KIV Kislovodsk 68.81 42 P **P** **01 57 27.7 +0.4**
KIV Kislovodsk 68.81 42 *e*P **P** **01 57 27.7 +0.4**
KIV *e* 01 59 58.7
KIV *e*S **S** **02 06 31.1 +0.2**
KIV *e*SS **SS** **02 10 56.5 +0.4**
KIV pmax pmax
comp=Z,299nm,1.0s
KIV pmax pmax
comp=Z,733nm,4.8s
KIV MLR MLR
comp=Z,2µm,17.0s
KIV Kislovodsk 68.81 42 P **P** **01 57 27.6 +0.2**
N55A Marion Center 68.84 314 P **P** **01 57 28.5 +0.9**
baz=109,SNR=12
BOAB BOACO BROADBAN 68.86 283 P **P** **01 57 27.1 -0.9**
BOAB IAmb IAmb 01 57 30.1
comp=Z,93nm,1.6s
K55A Perry 68.86 316 P **P** **01 57 28.4 +0.8**
baz=111,SNR=6.2
KBZ Khabaz 68.87 42 P **P** **01 57 27.4 -0.1**
comp=Z,78nm,0.9s,baz=252,slow=4.5,SNR=90
KBZ LR LR 02 29 59.7
comp=Z,1µm,19.9s,baz=264,slow=38
KBZ Khabaz 68.87 42 *c i*P **P** **01 57 28.3 +0.8**
F55A Otter Lake 68.88 320 P **P** **01 57 28.2 +0.6**
baz=113,SNR=11
J55A Hilton 68.88 317 P **P** **01 57 28.6 +0.9**
baz=111,SNR=7.3
J55A Hilton 68.88 317 P **P** **01 57 27.8 +0.1**
J55A IAmb IAmb 01 57 30.0
comp=Z,134nm,1.6s
J55A IAMs_20 IAMs_20 02 26 58.8
comp=Z,2µm,18.0s
O55A Ligonier 68.89 314 P **P** **01 57 29.1 +1.3**
baz=109,SNR=32
R55A Marlinton 68.89 311 P **P** **01 57 29.5 +1.6**
baz=108,SNR=5.6
R55A Marlinton 68.89 311 IAMs_20 IAMs_20 02 21 22.7
comp=Z,2µm,20.0s
G55A Calabogie 68.89 319 P **P** **01 57 28.2 +0.5**
baz=113,SNR=10
M55A Ridgway 68.92 315 P **P** **01 57 29.1 +1.1**
baz=110,SNR=33
M55A Ridgway 68.92 315 P **P** **01 57 27.9 0.0**
M55A IAmb IAmb 01 57 30.4
comp=Z,99nm,1.1s
KMSC Kings Mountain 68.93 308 P **P** **01 57 29.4 +1.2**
baz=106
KMSC Kings Mountain 68.93 308 IAMs_20 IAMs_20 02 23 49.4
comp=Z,2µm,19.0s
L55A Hinsdale 68.93 316 P **P** **01 57 29.3 +1.2**
baz=110,SNR=23
H55A Tweed 68.93 319 P **P** **01 57 28.4 +0.5**
baz=112,SNR=9.8
E55A Montcerf-Lytto 68.94 321 P **P** **01 57 28.4 +0.4**
baz=114,SNR=5.3
X55A Gracelyn & Ava 68.99 307 P **P** **01 57 29.8 +1.3**
baz=105,SNR=16
S55A Lewisburg 69.02 311 P **P** **01 57 30.2 +1.5**
baz=107,SNR=12
V55A Taylorsville 69.03 309 P **P** **01 57 30.1 +1.3**
baz=106,SNR=23
V55A Taylorsville 69.03 309 P **P** **01 57 30.1 +1.3**
V55A IAMs_20 IAMs_20 02 21 00.5
comp=Z,2µm,21.0s
Y55A Saluda 69.03 307 P **P** **01 57 30.1 +1.3**
baz=105,SNR=18
255A Hazlehurst 69.04 304 IAMs_20 IAMs_20 02 21 01.6
comp=Z,2µm,20.0s
PLVO Plevna 69.04 319 P **P** **01 57 28.8 +0.2**
PLVO IAmb IAmb 01 57 30.7
comp=Z,115nm,1.5s
PLVO IAMs_20 IAMs_20 02 23 09.0

comp=Z,2µm,19.0s
P55A Reedsville 69.05 313 P P 01 57 29.8 +1.0
baz=108,SNR=9.5
T55A Pulaski 69.05 310 P P 01 57 30.1 +1.2
baz=107,SNR=13
Q55A Buckhannon 69.08 312 P P 01 57 30.8 +1.8
baz=108,SNR=18
U55A TA2, Sparta 69.08 309 P P 01 57 30.4 +1.3
baz=106,SNR=18
MCWV Mont Chateau 69.11 313 P P 01 57 30.1 +0.9
baz=108,SNR=5.2
WVNY West Valley, N 69.12 316 P P 01 57 29.6 +0.3
WVNY IAMs_20 IAMs_20 02 27 29.2
comp=Z,2µm,18.0s
I55A Frankford 69.14 318 P P 01 57 30.0 +0.8
baz=112,SNR=12
MATN Matagalpa 69.15 284 P P 01 57 30.0 0.0
DELO Deloro Mine 69.21 318 P P 01 57 30.1 +0.5
DELO IAmb IAmb 01 57 31.9
comp=Z,109nm,1.4s
DELO IAMs_20 IAMs_20 02 22 25.3
comp=Z,3µm,20.0s
ZEI Tsey 69.22 44 *e*P **P 01 57 27.7 -2.3**
ZEI *e*S **S 02 06 37.1 +1.1**
ZEI pmax pmax
comp=Z,68nm,1.2s
PAULI Pauline 69.22 307 P P 01 57 30.5 +0.5
PAULI IAmb IAmb 01 57 32.7
comp=Z,53nm,1.2s
PAULI IAMs_20 IAMs_20 02 27 13.3
comp=Z,2µm,18.0s
K54A Basiliko Farm, 69.25 316 P P 01 57 30.9 +0.9
baz=110,SNR=16
CHGQ Chibougamau 69.38 325 P P 01 57 31.2 +0.5
baz=116,SNR=11
HODGE Hodges 69.43 307 P P 01 57 32.5 +1.2
HODGE IAmb IAmb 01 57 34.1
comp=Z,117nm,1.5s
HODGE IAMs_20 IAMs_20 02 27 55.7
comp=Z,2µm,18.0s
TBLG Delisi 69.44 45 P P 01 57 31.6 +0.3
TBLG pmax pmax
comp=Z,117nm,1.1s
TBLG Delisi 69.44 45 P P 01 57 31.6 +0.3
TBLG IAmb IAmb 01 57 32.7
comp=Z,117nm,1.1s
J54A Appleton 69.45 317 P P 01 57 31.6 +0.4
baz=110
J54A Appleton 69.45 317 IAMs_20 IAMs_20 02 26 24.7
comp=Z,2µm,19.0s
GOF Gofitskoye 69.46 41⇑ *i*P **P 01 57 31.6 +0.4**
GOF *e*S **S 02 06 38.6 +0.3**
GOF pmax pmax
comp=Z,214nm,1.1s
GOF smax smax
comp=E,54nm,1.5s
R54A Victor 69.51 311 P P 01 57 33.0 +1.3
baz=107,SNR=19
FINES FINESS Array B 69.53 21 P P 01 57 31.4 +0.2
comp=E,23nm,0.6s,baz=208,slow=3.7,SNR=120
FINES LR LR 02 27 47.7
comp=E,2µm,21.7s,baz=228,slow=36
FIA1 FINESS Array S 69.53 21 P P 01 57 31.6 +0.3
FIA1 IAmb IAmb 01 57 32.5
comp=Z,80nm,1.1s
P54A Burton 69.55 313 P P 01 57 33.0 +1.0
baz=108,SNR=20
L54A Sinclairville 69.56 316 P P 01 57 32.8 +0.9
baz=110,SNR=12
M54A Oil Creek Stat 69.57 315 P P 01 57 32.9 +0.9
baz=109,SNR=12
M54A Oil Creek Stat 69.57 315 P P 01 57 32.6 +0.6
M54A IAmb IAmb 01 57 34.3
comp=Z,67nm,1.2s
V54A Nebo 69.58 308 P P 01 57 33.6 +1.4
baz=106,SNR=25
W54A Cherokee Point 69.59 308 P P 01 57 33.7 +1.4
baz=105,SNR=14
D54A Lac Fusel, La 69.60 321 P P 01 57 32.2 +0.2
baz=114,SNR=18
X54A Belton 69.60 307 P P 01 57 33.6 +1.3
baz=105,SNR=15
VORD Divnogorie 69.61 34 *e*P **P 01 57 30.9 -1.1**
VORD pmax pmax
comp=Z,110nm,1.1s
N54A Moraine State 69.62 314 P P 01 57 33.2 +0.8
baz=109,SNR=16
N54A Moraine State 69.62 314 P P 01 57 32.8 +0.5
N54A IAmb IAmb 01 57 33.9
comp=Z,43nm,0.9s
N54A IAMs_20 IAMs_20 02 27 25.5
comp=Z,2µm,18.0s
Q54A Coxs Mills 69.63 312 P P 01 57 33.9 +1.5
baz=107,SNR=24
Q54A Coxs Mills 69.63 312 P P 01 57 32.8 +0.4
Q54A IAmb IAmb 01 57 35.2
comp=Z,86nm,1.1s
Q54A IAMs_20 IAMs_20 02 25 55.3
comp=Z,2µm,19.0s
T54A Tazewell 69.64 310 P P 01 57 33.6 +1.0
baz=106,SNR=29
S54A Dingess, Beckl 69.64 311 P P 01 57 33.7 +1.1
baz=107,SNR=14
S54A Dingess, Beckl 69.64 311 IAMs_20 IAMs_20 02 20 52.8
comp=Z,2µm,21.0s
E54A Lac Daplat, Po 69.65 320 P P 01 57 32.9 +0.5
baz=113,SNR=16
O54A Avella 69.66 313 P P 01 57 33.7 +1.2
baz=108,SNR=12
U54A Nelsons Funny 69.68 309 P P 01 57 34.4 +1.5
baz=106,SNR=13
U54A Nelsons Funny 69.68 309 IAMs_20 IAMs_20 02 21 53.8
comp=Z,3µm,20.0s
154A Montrose 69.72 305 IAMs_20 IAMs_20 02 20 52.0
comp=Z,3µm,22.0s
MOR8 Moi Rana 69.75 13⇑ *i*P **P 01 57 34.2 +1.6**
G54A Lake Saint Pet 69.84 319 P P 01 57 34.0 +0.4
baz=112,SNR=10
TIGA Tifton 69.86 304 P P 01 57 35.6 +1.7
baz=103,SNR=11
TIGA Tifton 69.86 304 P P 01 57 35.0 +1.1
TIGA IAmb IAmb 01 57 36.9
comp=Z,134nm,1.2s
H53A Bobcaygeon 69.87 318 P P 01 57 34.1 +0.3
baz=111,SNR=6.7
VORR Voronezh 69.88 34 *e*P **P 01 57 34.0 +0.3**
VORR pmax pmax
comp=Z,500nm,1.4s
E53A Dumoine, Ponti 69.93 320 P P 01 57 34.5 +0.4
baz=112,SNR=14
ALLY Alegheny Colle 69.95 315 P P 01 57 34.7 +0.3
ALLY IAmb IAmb 01 57 36.7
comp=Z,126nm,1.2s
ERPA Erie 70.00 315 P P 01 57 35.6 +1.0
baz=109,SNR=5.6
ERPA Erie 70.00 315 P P 01 57 35.1 +0.5
ERPA IAmb IAmb 01 57 36.8
comp=Z,93nm,1.1s
ALGO Algonquin Park 70.02 320 P P 01 57 35.2 +0.5
baz=112,SNR=13
G53A Haliburton 70.09 319 P P 01 57 35.8 +0.7
baz=111,SNR=17
Q53A Leroy 70.11 312 P P 01 57 36.5 +1.1
baz=107,SNR=14
L53A Girard 70.13 315 P P 01 57 36.4 +1.0
baz=109,SNR=11
BG3 Lake Jocassee 70.16 307 P P 01 57 36.1 +0.3
BG3 IAmb IAmb 01 57 38.7
comp=Z,63nm,1.1s
LPSR Galich'ya Gora 70.16 33 *e*P **P 01 57 34.5 -0.8**
LPSR *e*S **S 02 06 40.8 -5.4**
LPSR pmax pmax
comp=Z,160nm,1.2s
LPSR smax smax
comp=E,350nm,11.2s
LPSR MLR MLR
comp=Z,2µm,18.0s
OBN Obninsk 70.18 30 P P 01 57 35.0 -0.3
comp=Z,4.4nm,0.5s,baz=210,slow=2.5,SNR=2.6
OBN Obninsk 70.18 30 *c i*P **P 01 57 34.7 -0.7**
OBN *e* 01 57 56.4
OBN *e* 02 00 10.0
OBN *i* S **S 02 06 39.7 -6.6**
OBN *e*SSS SSS 02 14 29.1
OBN pmax pmax
comp=Z,171nm,1.6s
OBN MLR MLR
comp=Z,3µm,18.0s
OBN Obninsk 70.18 30 P P 01 57 34.9 -0.5
N53A Lisbon 70.19 314 P P 01 57 36.9 +1.1
baz=108,SNR=15
N53A Lisbon 70.19 314 P P 01 57 36.4 +0.6
N53A IAmb IAmb 01 57 38.3
comp=Z,105nm,1.2s
N53A IAMs_20 IAMs_20 02 27 58.9
comp=Z,2µm,18.0s
P53A Whipple 70.19 312 P P 01 57 36.6 +0.8
baz=107,SNR=9.7
P53A Whipple 70.19 312 P P 01 57 36.4 +0.6
P53A IAmb IAmb 01 57 38.2
comp=Z,62nm,1.3s
P53A IAMs_20 IAMs_20 02 25 47.2
comp=Z,2µm,18.0s
GOGA Godfrey 70.20 306 P P 01 57 37.2 +1.2
baz=104,SNR=8.5
GOGA Godfrey 70.20 306 P P 01 57 37.0 +1.0
GOGA pmax pmax
comp=Z,88nm,1.7s
GOGA Godfrey 70.20 306 P P 01 57 37.0 +1.0
GOGA IAmb IAmb 01 57 38.9
comp=Z,88nm,1.6s
GOGA Godfrey 70.20 306 IAMs_20 IAMs_20 02 20 55.3
comp=Z,3µm,22.0s
D53A Lac Vacive, Po 70.22 321 P P 01 57 36.1 +0.2
baz=113,SNR=12
D53A Lac Vacive, Po 70.22 321 P P 01 57 36.1 +0.2
D53A IAmb IAmb 01 57 37.9
comp=Z,102nm,1.8s
D53A IAMs_20 IAMs_20 02 24 47.1
comp=Z,2µm,18.0s
S53A Williamson 70.23 310 P P 01 57 37.3 +1.1
baz=106,SNR=11
V53A Saluda 70.23 308 P P 01 57 36.4 +0.1
V53A IAmb IAmb 01 57 38.8
comp=Z,51nm,0.9s
V53A IAMs_20 IAMs_20 02 23 53.4
comp=Z,2µm,20.0s
M53A WI Miller and 70.26 314 P P 01 57 37.1 +0.9
baz=108,SNR=5.1
M53A WI Miller and 70.26 314 P P 01 57 36.9 +0.6
M53A IAmb IAmb 01 57 38.5
comp=Z,140nm,1.3s
R53A Hurricane 70.28 311 P P 01 57 37.5 +1.1
baz=106,SNR=11
R53A Hurricane 70.28 311 IAMs_20 IAMs_20 02 25 03.6
comp=Z,2µm,19.0s
I53A Kortright Cn E 70.29 317 P P 01 57 36.9 +0.5
baz=110
O53A New Philadelph 70.29 313 P P 01 57 37.6 +1.2
baz=108,SNR=28
O53A New Philadelph 70.29 313 IAMs_20 IAMs_20 02 27 18.7
comp=Z,2µm,18.0s
553A Crawfordville 70.30 302 P P 01 57 37.8 +1.2
SADO Sadowa 70.31 318 P P 01 57 36.7 +0.2
SADO IAmb IAmb 01 57 38.5
comp=Z,128nm,1.5s
SADO IAMs_20 IAMs_20 02 23 07.5
comp=Z,3µm,19.0s
T53A Wise 70.36 309 P P 01 57 38.1 +1.1
baz=106,SNR=26
SCO Scoresbysund 70.39 358 *i* P **P 01 57 40.9 +4.5**
comp=Z,36nm,1.4s
SCO Scoresbysund 70.39 358 *e*P **P 01 57 40.9 +4.5**
SCO pmax pmax
comp=Z,37nm,1.4s
VLDQ Val d'Or 70.47 322 P P 01 57 39.0 +1.6
VLDQ IAMs_20 IAMs_20 02 23 22.3
comp=Z,2µm,19.0s
E52A Mattawa 70.54 320 P P 01 57 38.1 +0.3
baz=112,SNR=17
TGUH Tegucigalpa,Un 70.56 285‖ *e*P **P 01 57 39.1 +0.4**
TGUH Tegucigalpa,Un 70.56 285 P P 01 57 38.8 +0.2
LSQQ Lebel-sur-Quev 70.56 323 P P 01 57 38.1 +0.2
baz=114
D52A ZEK Kipawa Sen 70.64 321 P P 01 57 38.8 +0.4
baz=112,SNR=27
Q52A Bidwell 70.69 312 P P 01 57 39.9 +1.0
baz=106,SNR=15
J52A Paris 70.70 316 P P 01 57 39.1 +0.3
baz=109,SNR=8.3
O52A Adamsville 70.70 313 P P 01 57 40.2 +1.3
baz=107,SNR=18
O52A Adamsville 70.70 313 P P 01 57 40.0 +1.0
O52A IAMs_20 IAMs_20 02 27 40.7
comp=Z,2µm,18.0s
K52A Tillsonburg 70.72 316 P P 01 57 39.8 +0.8
baz=109,SNR=7.2
ZKTA Zakatala 70.75 46 P P 01 57 39.9 +0.6
H52A Wyevale 70.77 318 P P 01 57 39.7 +0.4
baz=110,SNR=6.7
I52A Shelburne 70.77 317 P P 01 57 40.1 +0.8
baz=110,SNR=10
M52A Chesterland 70.78 314 P P 01 57 40.3 +0.8
baz=108,SNR=5.4
M52A Chesterland 70.78 314 P P 01 57 39.5 +0.1
M52A IAmb IAmb 01 57 41.6
comp=Z,64nm,1.2s
P52A Corning 70.78 312 P P 01 57 40.3 +0.8
baz=107,SNR=16
P52A Corning 70.78 312 P P 01 57 40.1 +0.6
P52A IAMs_20 IAMs_20 02 28 06.8
comp=Z,2µm,18.0s
SFJD Kangerlussuaq 70.78 347 P P 01 57 38.2 -0.7
comp=Z,9.7nm,0.8s,baz=157,slow=7.7,SNR=2.5
SFJD Kangerlussuaq 70.78 347 P P 01 57 39.2 +0.3
SFJD Kangerlussuaq 70.78 347 P P 01 57 39.1 +0.3
BTLR Botlikh 70.79 44 *c i*P **P 01 57 39.6 +0.1**
BTLR pmax pmax
comp=Z,57nm,1.0s
Y52A Lilburn 70.79 306 P P 01 57 41.2 +1.5
Y52A IAmb IAmb 01 57 42.7
comp=Z,113nm,1.2s
Y52A IAMs_20 IAMs_20 02 24 40.8
comp=Z,2µm,19.0s
F52A Sundridge 70.79 319 P P 01 57 39.9 +0.5
baz=111,SNR=16
N52A McGinn's Farm, 70.80 314 P P 01 57 40.6 +1.1
baz=107,SNR=14
VNA1 Neumayer--Stat 70.82 177 P P 01 57 41.4 +2.4
MNGR Mingechevir, A 70.82 46 P P 01 57 40.2 +0.5
V52A Sevierville 70.89 308 P P 01 57 40.8 +0.5
V52A IAmb IAmb 01 57 42.0
comp=Z,46nm,1.1s
V52A IAMs_20 IAMs_20 02 24 23.9
comp=Z,2µm,19.0s
FAUS Fauske 70.95 13⇑ *i*P **P 01 57 40.6 +0.8**
W52A Murphy 70.97 307 IAMs_20 IAMs_20 02 26 51.6
comp=Z,2µm,18.0s
352A Blakely 70.98 303 P P 01 57 42.1 +1.3
TKL Tuckaleechee C 70.99 308 P P 01 57 41.6 +0.8
TKL pmax pmax
comp=Z,76nm,1.3s
TKL Tuckaleechee C 70.99 308 P P 01 57 41.6 +0.8
TKL IAmb IAmb 01 57 43.1
comp=Z,76nm,1.2s
TKL IAMs_20 IAMs_20 02 25 31.9
comp=Z,2µm,19.0s
MOS Moscow 71.01 29 *e*P **P 01 57 38.7 -1.8**
MOS *e* 01 58 00.0
MOS *e* 02 00 16.7
MOS *e*PPP PPP 02 01 56.4
MOS *e*S **S 02 06 54.2 -1.8**
MOS *e* 02 07 42.7
MOS pmax pmax
comp=Z,378nm,1.5s
MOS pmax pmax
comp=Z,800nm,1.9s
MOS smax smax
comp=N,1µm,4.0s
MOS smax smax
comp=E,700nm,3.5s
MOS MLR MLR
comp=E,2µm,18.0s
MOS MLR MLR
comp=Z,3µm,18.0s
MOS MLR MLR
comp=N,2µm,19.0s
TZTN Tazewell 71.03 309 P P 01 57 42.3 +1.2
baz=105,SNR=14
TZTN Tazewell 71.03 309 IAMs_20 IAMs_20 02 22 45.5
comp=Z,2µm,20.0s
SEKA Sheki 71.03 46 P P 01 57 41.9 +0.9
152A Waverly Hall 71.06 305 P P 01 57 42.4 +1.2
152A IAmb IAmb 01 57 44.1
comp=Z,117nm,1.5s
152A IAMs_20 IAMs_20 02 21 31.0
comp=Z,3µm,22.0s
VRH Novokhopyorsk 71.09 35 *e*P **P 01 57 40.2 -0.8**
VRH *e*S **S 02 06 54.2 -2.9**
VRH pmax pmax
comp=Z,100nm,1.4s
VRH smax smax
comp=E,300nm,11.8s
VRH MLR MLR
comp=Z,3µm,19.0s
VNA2 Neumayer--Watz 71.14 177 P P 01 57 42.7 +1.7
E51A G1948 Merrick 71.17 320 P P 01 57 42.1 +0.5
baz=111,SNR=10
LOF Lofoten 71.20 12⇑ *i*P **P 01 57 41.7 +0.3**
F51A Arnstein 71.23 319 P P 01 57 42.5 +0.5
baz=110,SNR=7.3
K51A Iona Station 71.25 316 P P 01 57 42.8 +0.6
baz=108
I51A Listowel 71.26 317 P P 01 57 42.9 +0.6
baz=109,SNR=15
O51A Pataskala 71.28 313 P P 01 57 43.4 +0.9
baz=106,SNR=11
D51A Lot 18 Range I 71.29 320 P P 01 57 42.5 +0.2
baz=111,SNR=18
M51A Elyria 71.31 314 P P 01 57 43.7 +1.1
baz=107,SNR=6.5
N51A Ashland 71.33 314 P P 01 57 43.8 +1.1
baz=107,SNR=15
N51A Ashland 71.33 314 P P 01 57 43.8 +1.1
N51A IAmb IAmb 01 57 45.3
comp=Z,127nm,1.1s
N51A IAMs_20 IAMs_20 02 27 44.3
comp=Z,2µm,18.0s
VNA3 Neumayer Olymp 71.34 177 P P 01 57 43.5 +1.3
STEI Steigen 71.39 12⇑ *i*P **P 01 57 43.3 +0.8**
P51A Williamsport 71.43 312 P P 01 57 44.2 +0.8
baz=106,SNR=6.0
P51A Williamsport 71.43 312 IAMs_20 IAMs_20 02 22 52.0
comp=Z,2µm,20.0s
V51A Loudon 71.48 308 P P 01 57 44.6 +0.9
V51A IAmb IAmb 01 57 46.5
comp=Z,92nm,1.1s
V51A IAMs_20 IAMs_20 02 25 00.9
comp=Z,2µm,19.0s
AKT Akhty 71.50 46 *e*P **P 01 57 43.7 -0.2**
AKT *e* 01 58 01.3
AKT *e* 02 00 25.2
AKT pmax pmax
comp=Z,91nm,1.1s
LKRN Lenkeran, Azer 71.50 49 P P 01 57 44.1 +0.3
Q51A Peebles 71.52 311 IAMs_20 IAMs_20 02 22 44.4
comp=Z,2µm,21.0s
CPCT Cooper Cave 71.53 307 P P 01 57 45.0 +1.0
CPCT IAmb IAmb 01 57 46.6
comp=Z,63nm,1.2s
CPCT IAMs_20 IAMs_20 02 27 02.3
comp=Z,2µm,18.0s
ACSO Alum Creek Sta 71.58 313 P P 01 57 45.4 +1.1
baz=106,SNR=15
ACSO Alum Creek Sta 71.58 313 P P 01 57 45.0 +0.7
ACSO IAmb IAmb 01 57 46.7
comp=Z,90nm,1.0s
ACSO IAMs_20 IAMs_20 02 28 23.9
comp=Z,2µm,18.0s
X51A Calhoun 71.59 307 P P 01 57 45.8 +1.3
X51A IAMs_20 IAMs_20 02 27 21.0
comp=Z,2µm,18.0s
D50A G1974 Best Tow 71.62 320 P P 01 57 44.7 +0.4
baz=111,SNR=12
MAK Makhachkala 71.78 44 *e*P **P 01 57 41.8 -3.6**
MAK *e*PPP PPP 02 02 02.1
MAK *e*S **S 02 07 00.1 -5.3**
MAK *e*SSS SSS 02 14 55.6
MAK pmax pmax
comp=Z,346nm,1.4s
E50A Wahnapitae 71.94 319 P P 01 57 47.0 +0.7
baz=110,SNR=8.2
M50A Fremont 71.95 314 P P 01 57 47.3 +0.8
M50A IAmb IAmb 01 57 48.8
comp=Z,101nm,1.0s
L50A Kingsville 71.97 315 P P 01 57 47.8 +1.2
baz=107,SNR=16
K50A Casco 72.05 315 P P 01 57 48.1 +1.0
baz=107,SNR=11
R50A Paris 72.07 310 P P 01 57 48.4 +1.1
R50A IAmb IAmb 01 57 49.9
comp=Z,112nm,1.2s
R50A IAMs_20 IAMs_20 02 22 28.9
comp=Z,2µm,21.0s
W50A Signal Mountai 72.10 307 P P 01 57 48.2 +0.7
W50A IAmb IAmb 01 57 50.1
comp=Z,90nm,1.1s
W50A IAMs_20 IAMs_20 02 29 04.4
comp=Z,2µm,18.0s
TEIG Tepich 72.14 291‖ *e*P **P 01 57 47.6 -0.4**
TEIG Tepich 72.14 291 P P 01 57 48.1 +0.2
TEIG IAmb IAmb 01 57 49.9
comp=Z,158nm,1.4s
T50A Nancy 72.15 309 P P 01 57 48.8 +1.0
T50A IAMs_20 IAMs_20 02 23 21.2
comp=Z,3µm,20.0s
FPAL Fort Paine 72.19 306 P P 01 57 49.0 +0.8
FPAL IAmb IAmb 01 57 50.8
comp=Z,90nm,1.3s
FPAL IAMs_20 IAMs_20 02 25 34.0
comp=Z,2µm,19.0s
SNAA Sanae 72.20 175 P P 01 57 49.0 +1.5
SNAA Sanae 72.20 175 LR LR 02 21 23.8
comp=Z,1µm,21.1s,baz=355,slow=29
SNAA Sanae 72.20 175 P P 01 57 48.8 +1.4
SNAA pmax pmax
comp=Z,20nm,1.0s
SNAA Sanae 72.20 175 P P 01 57 48.8 +1.4
O49A Covington 72.56 312 P P 01 57 50.8 +0.6
O49A IAmb IAmb 01 57 52.4
comp=Z,126nm,1.2s
O49A IAMs_20 IAMs_20 02 23 19.0
comp=Z,2µm,20.0s
F49A Sandfield 72.58 318 P P 01 57 50.6 +0.5
baz=109,SNR=9.0
SWET Sewanee 72.60 307 P P 01 57 51.1 +0.6
SWET IAmb IAmb 01 57 52.1
comp=Z,57nm,1.0s
SWET IAMs_20 IAMs_20 02 27 53.7
comp=Z,2µm,18.0s
D49A Beulah Townshi 72.62 320 P P 01 57 50.9 +0.6
baz=110,SNR=22
K49A Clarkson 72.64 315 P P 01 57 51.4 +0.9
baz=107
AAM Ann Arbor 72.65 315 P P 01 57 51.6 +1.0
baz=106,SNR=8.8
AAM Ann Arbor 72.65 315 P P 01 57 51.2 +0.6
AAM pmax pmax
comp=Z,161nm,1.4s
AAM Ann Arbor 72.65 315 P P 01 57 51.2 +0.6
AAM IAmb IAmb 01 57 53.1
comp=Z,161nm,1.4s
AAM IAMs_20 IAMs_20 02 27 25.5
comp=Z,2µm,18.0s
N49A Columbus Grove 72.65 313 P P 01 57 51.5 +0.9
N49A IAmb IAmb 01 57 52.8
comp=Z,46nm,0.9s
N49A IAMs_20 IAMs_20 02 28 59.1
comp=Z,2µm,18.0s
P49A Miami Univ. Ec 72.68 312 P P 01 57 51.6 +0.8
baz=105,SNR=14
P49A Miami Univ. Ec 72.68 312 P P 01 57 50.8 -0.1
P49A IAMs_20 IAMs_20 02 23 42.0
comp=Z,2µm,20.0s
Y49A Blount Mountai 72.70 305 P P 01 57 51.2 +0.1
R49A Shelbyville 72.71 310 IAMs_20 IAMs_20 02 23 10.0
comp=Z,2µm,21.0s
U49A Red Boiling Sp 72.77 308 P P 01 57 52.1 +0.7
U49A IAmb IAmb 01 57 53.9
comp=Z,116nm,1.1s
U49A IAMs_20 IAMs_20 02 25 42.5
comp=Z,2µm,19.0s
MSEY Mahe Island 72.86 95 P P 01 57 53.8 +1.2
MSEY Mahe Island 72.86 95 P P 01 57 53.1 +0.6
MSEY pmax pmax
comp=Z,85nm,1.3s
MSEY Mahe Island 72.86 95 P P 01 57 53.1 +0.6
MSEY IAmb IAmb 01 57 55.0
comp=Z,85nm,1.2s

MSEY Mahe Island 72.86 95 IAMs_20 IAMs_20 02 27 55.7
comp=Z,2µm,18.0s
D48A Paudash Townsh 72.88 320 P **P** **01 57 52.3 +0.4**
baz=109,SNR=22
E48A Lockeyer 72.89 319 P **P** **01 57 52.7 +0.8**
baz=109,SNR=12
PMSA Palmer Station 72.95 199 LR LR 02 26 41.8
comp=Z,1µm,18.5s,baz=48,slow=33
PAYG Puerto Ayora 72.96 269 P **P** **01 57 53.1 +0.1**
F48A Evansville 72.98 318 P **P** **01 57 53.0 +0.5**
baz=108,SNR=9.4
LRAL Lakeview Retre 73.01 305 P **P** **01 57 53.6 +0.6**
baz=101,SNR=25
LRAL Lakeview Retre 73.01 305 P **P** **01 57 53.5 +0.6**
LRAL IAMs_20 IAMs_20 02 23 14.7
comp=Z,2µm,21.0s
L48A N Adams 73.10 314 P **P** **01 57 54.0 +0.6**
L48A IAMs_20 IAMs_20 02 24 56.6
comp=Z,2µm,20.0s
CLTN Cedars of Leba 73.11 308 P **P** **01 57 54.1 +0.6**
CLTN IAmb IAmb 01 57 55.5
comp=Z,67nm,1.0s
O48A Farmland 73.19 312 P **P** **01 57 54.4 +0.5**
baz=105,SNR=37
P48A Milroy 73.19 311 P **P** **01 57 54.3 +0.3**
P48A IAMs_20 IAMs_20 02 24 06.6
comp=Z,2µm,20.0s
NVL N'lazarevskaya 73.22 170 *e*P P 01 57 59.1 +5.7
NVL *e* 02 00 41.1
NVL *e*S **S** **02 07 22.2 +1.4**
NVL *e* 02 08 00.9
NVL pmax pmax
comp=Z,23nm,1.0s
X48A Hartselle 73.33 306 P **P** **01 57 55.5 +0.6**
X48A IAmb IAmb 01 57 56.8
comp=Z,88nm,1.1s
X48A IAMs_20 IAMs_20 02 22 54.6
comp=Z,2µm,22.0s
V48A Smith Brothers 73.42 307 P **P** **01 57 55.6 +0.3**
V48A IAmb IAmb 01 57 57.3
comp=Z,118nm,1.2s
V48A IAMs_20 IAMs_20 02 29 54.4
comp=Z,2µm,18.0s
WCI Wyandotte Cave 73.56 310 P **P** **01 57 56.9 +0.8**
baz=103
WCI Wyandotte Cave 73.56 310 P **P** **01 57 56.9 +0.8**
WCI pmax pmax
comp=Z,59nm,1.0s
WCI Wyandotte Cave 73.56 310 P **P** **01 57 56.9 +0.8**
WCI IAmb IAmb 01 57 57.7
comp=Z,59nm,0.9s
WCI Wyandotte Cave 73.56 310 IAMs_20 IAMs_20 02 24 07.4
comp=Z,2µm,20.0s
TRO Tromso 73.56 12⇑ *i*P **P** **01 57 56.0 +0.6**
E47A Iron Bridge 73.61 319 P **P** **01 57 56.6 +0.4**
baz=108,SNR=6.3
G47A Hillman 73.61 317 P **P** **01 57 57.1 +0.8**
baz=107,SNR=8.4
SUMG Summit 73.64 354 *i* P P 01 58 02.6 +6.2
comp=Z,63nm,1.0s
SUMG Summit 73.64 354 P **P** **01 57 57.3 +0.9**
SUMG pmax pmax
comp=Z,31nm,1.1s
SUMG Summit 73.64 354 P **P** **01 57 57.3 +0.9**
D47A Chapleau 73.68 319 P **P** **01 57 56.9 +0.3**
baz=108
H47A Mio 73.68 317 P **P** **01 57 57.4 +0.7**
baz=107,SNR=6.0
I47A Gladwin 73.73 316 P **P** **01 57 57.5 +0.5**
baz=106
I47A Gladwin 73.73 316 IAMs_20 IAMs_20 02 30 37.0
comp=Z,2µm,18.0s
J47A Sunmer 73.73 315 P **P** **01 57 57.4 +0.4**
J47A IAmb IAmb 01 57 59.2
comp=Z,178nm,1.9s
N47A Urbana 73.74 313 P **P** **01 57 57.3 +0.1**
N47A IAmb IAmb 01 57 59.0
comp=Z,115nm,1.1s
N47A IAMs_20 IAMs_20 02 28 32.1
comp=Z,2µm,18.0s
SHAO Shalim 73.79 71 P **P** **01 57 57.8 0.0**
T47A Sharon Grove 73.91 309 P **P** **01 57 58.5 +0.3**
T47A IAmb IAmb 01 58 00.1
comp=Z,154nm,1.4s
T47A IAMs_20 IAMs_20 02 26 29.8
comp=Z,2µm,19.0s
AJN Ajban 73.92 65 *i* P **P** **01 57 59.1 +0.6**
SNR=14
AJN Ajban 73.92 65 P **P** **01 57 59.4 +0.9**
SNR=15
Z47A Carrollton 73.93 305 P **P** **01 57 58.8 +0.5**
Z47A IAMs_20 IAMs_20 02 23 32.9
comp=Z,2µm,21.0s
BLO Bloomington 73.95 311 IAMs_20 IAMs_20 02 24 59.7
comp=Z,2µm,20.0s
GLMI Grayling 74.03 317 IAMs_20 IAMs_20 02 30 31.9
comp=Z,2µm,18.0s
KTK1 Kautokeino 74.08 14⇑ *i*P **P** **01 57 59.0 +0.5**
D46A Sault St. Mari 74.24 319 P **P** **01 58 00.2 +0.3**
baz=107
PLAL Pickwick Lake 74.27 306 IAMs_20 IAMs_20 02 23 23.9
comp=Z,2µm,22.0s
WVT Waverly 74.30 308 P **P** **01 58 00.4 -0.1**
baz=102
WVT Waverly 74.30 308 P **P** **01 58 00.2 -0.3**
WVT pmax pmax
comp=Z,68nm,1.1s
WVT MLR MLR
comp=Z,2µm,18.0s
WVT Waverly 74.30 308 P **P** **01 58 00.2 -0.3**
WVT IAmb IAmb 01 58 01.9
comp=Z,68nm,1.1s
WVT Waverly 74.30 308 IAMs_20 IAMs_20 02 32 20.7
comp=Z,2µm,18.0s
G46A Petoskey 74.33 317 P **P** **01 58 00.7 +0.2**
baz=106
I46A Reed City 74.36 316 P **P** **01 58 01.1 +0.4**
baz=106
KLMR Klimovskoe 74.44 25 *e*P **P** **01 57 59.6 -1.1**
KLMR *e* 02 00 44.0
KLMR *e*S **S** **02 07 33.7 -1.1**
KLMR pmax pmax
comp=Z,211nm,1.5s
KLMR MLR MLR
comp=Z,1µm,15.0s
KLMR Klimovskoe 74.44 25 *e*P **P** **01 57 59.6 -1.1**
KLMR AMP 01 58 02.0
comp=Z,211nm,1.5s
KLMR *e*PP **PP** **02 00 44.1 -3.0**
KLMR *e*S **S** **02 07 33.8 -1.1**
KLMR *e*S **S** **02 07 33.8 -1.1**
KLMR LQ LQ 02 23 43.4
KLMR LQ LQ 02 23 43.4
KLMR LR LR 02 28 38.9
KLMR AMP 02 34 42.9
comp=Z,1µm,15.0s
L46A Eue Claire 74.46 314 P **P** **01 58 01.3 0.0**
L46A IAmb IAmb 01 58 03.0
comp=Z,79nm,1.2s
L46A IAMs_20 IAMs_20 02 30 06.1
comp=Z,2µm,18.0s
ALNE Al Ain 74.55 65 *i* P **P** **01 58 03.0 +0.8**
SNR=8.5
P46A Rosedale 74.57 311 P **P** **01 58 02.3 +0.3**
P46A IAmb IAmb 01 58 03.6
comp=Z,132nm,0.9s
P46A IAMs_20 IAMs_20 02 25 29.0
comp=Z,2µm,20.0s
NAZ Nazwa, Dubai 74.58 64 P **P** **01 58 02.7 +0.3**
NAZ Nazwa, Dubai 74.58 64 P **P** **01 58 02.8 +0.5**
SNR=5.3
SFIN Lafayette 74.66 312 P **P** **01 58 02.7 +0.2**
baz=103
SFIN Lafayette 74.66 312 P **P** **01 58 02.3 -0.2**
SFIN IAmb IAmb 01 58 04.1
comp=Z,121nm,1.4s
SFIN IAMs_20 IAMs_20 02 24 52.4
comp=Z,2µm,20.0s
346A Big Creek Wild 74.77 302 P **P** **01 58 03.4 0.0**
G45A Suttons Bay 74.80 317 P **P** **01 58 03.5 +0.3**
baz=106
G45A Suttons Bay 74.80 317 IAMs_20 IAMs_20 02 31 04.3
comp=Z,2µm,18.0s
F45A CMU Biological 74.88 318 P **P** **01 58 03.6 0.0**
baz=106
J45A Montague 74.89 315 P **P** **01 58 03.8 +0.1**
baz=105
J45A Montague 74.89 315 IAMs_20 IAMs_20 02 30 37.7
comp=Z,2µm,18.0s
ASHO Ashiyiah 74.90 65 *i* P **P** **01 58 04.5 +0.2**
SNR=11
ASHO Ashiyiah 74.90 65 P **P** **01 58 04.7 +0.4**
SNR=8.6
I45A Fountain 74.93 316 P **P** **01 58 04.5 +0.5**
baz=105
H45A Beulah 74.95 316 P **P** **01 58 04.1 0.0**
baz=105
HATD Hatta, Dubai 74.99 64 *i* P **P** **01 58 05.1 +0.3**
SNR=12
HATD Hatta, Dubai 74.99 64 P **P** **01 58 05.4 +0.7**
ARCES ARCESS Array B 75.02 14 P **P** **01 58 04.2 +0.3**
comp=Z,21nm,0.9s,baz=224,slow=5.1,SNR=38
ARCES LR LR 02 33 10.0
comp=Z,941nm,19.4s,baz=232,slow=38
ARE0 ARCESS Array S 75.02 14 P **P** **01 58 04.3 +0.3**
ARE0 ARCESS Array S 75.02 14⇑ *i*P **P** **01 58 04.3 +0.3**
OLIL Olney 75.05 310 P **P** **01 58 04.5 -0.3**
UOSS Minazif 75.07 64 *i* P **P** **01 58 05.3 +0.1**
SNR=12
UOSS Minazif 75.07 64 P **P** **01 58 05.5 +0.3**
UOSS Minazif 75.07 64 P **P** **01 58 05.1 -0.1**
UOSS Minazif 75.07 64 IAMs_20 IAMs_20 02 33 47.6
comp=Z,2µm,18.0s
MSFE Esma-Masafi 75.08 64 *i* P **P** **01 58 05.3 0.0**
SNR=6.2
T45A Paducah 75.12 308 P **P** **01 58 05.0 -0.3**
T45A IAmb IAmb 01 58 06.3
comp=Z,79nm,0.9s
SHME Shamm 75.15 63 P **P** **01 58 05.3 -0.4**
ARQ Araqi 75.17 66 P **P** **01 58 07.0 +1.2**
SNR=19
MDH Madha 75.20 64 *i* P **P** **01 58 05.6 -0.3**
SNR=7.5
MDH Madha 75.20 64 P **P** **01 58 05.7 -0.3**
W45A Hickory Valley 75.20 306 P **P** **01 58 05.5 -0.2**
W45A IAMs_20 IAMs_20 02 24 13.5
comp=Z,2µm,21.0s
OXF Oxford 75.26 306 P **P** **01 58 05.4 -0.7**
baz=100,SNR=16
OXF Oxford 75.26 306 IAMs_20 IAMs_20 02 24 02.2
comp=Z,2µm,22.0s
SOHO SOHO 75.27 65 *i* P **P** **01 58 06.8 +0.4**
SNR=21
BANOM Banah 75.28 63 *i* P **P** **01 58 06.3 0.0**
SNR=8.1
BANOM Banah 75.28 63 P **P** **01 58 06.5 +0.1**
SNR=5.0
HAMF Hammerfest 75.39 13⇑ *i*P **P** **01 58 06.7 +0.7**
CCIG Comitan 75.42 287 P **P** **01 58 07.3 -0.3**
CCIG IAmb IAmb 01 58 09.6
comp=Z,64nm,1.0s
HALT Halls 75.46 307 IAMs_20 IAMs_20 02 29 48.4
comp=Z,2µm,18.0s
GLAT Glass 75.48 307 IAMs_20 IAMs_20 02 31 42.1
comp=Z,2µm,18.0s
HICK Hickman 75.49 308 P **P** **01 58 07.2 -0.2**
HICK IAmb IAmb 01 58 08.1
comp=Z,129nm,1.0s
TMCR Tamitsa 75.54 22 *e*P **P** **01 58 05.9 -1.1**
TMCR pmax pmax
comp=Z,63nm,0.7s
KEV Kevo 75.55 15 P **P** **01 58 07.6 +0.6**
KEV pmax pmax
comp=Z,96nm,1.3s
KEV Kevo 75.55 15 P **P** **01 58 07.6 +0.6**
KEV IAmb IAmb 01 58 08.9
comp=Z,96nm,1.3s
KEV IAMs_20 IAMs_20 02 37 30.1
comp=Z,2µm,18.0s
LNXT Lenox 75.62 307 IAMs_20 IAMs_20 02 31 27.5
comp=Z,2µm,18.0s
O44A Mansfield 75.63 312 P **P** **01 58 07.8 -0.3**
O44A IAmb IAmb 01 58 09.1
comp=Z,104nm,1.1s
O44A IAMs_20 IAMs_20 02 27 17.2
comp=Z,2µm,19.0s
L44A Lake County Fo 75.67 314 P **P** **01 58 08.4 +0.1**
baz=103
L44A Lake County Fo 75.67 314 P **P** **01 58 08.5 +0.3**
L44A IAmb IAmb 01 58 09.8
comp=Z,122nm,1.0s
L44A IAMs_20 IAMs_20 02 29 26.1
comp=Z,2µm,18.0s
HENM Henderson Moun 75.72 308 P **P** **01 58 08.2 -0.5**
S44A Carbondale 75.73 309 P **P** **01 58 08.6 -0.1**
S44A IAmb IAmb 01 58 09.7
comp=Z,95nm,1.1s
Q44A Meyer Farm, Va 75.79 310 P **P** **01 58 08.5 -0.5**
Q44A IAmb IAmb 01 58 09.6
comp=Z,53nm,0.9s
PENMO Penman 75.79 308 IAMs_20 IAMs_20 02 30 00.1
comp=Z,2µm,18.0s
VBMS Vicksburg 75.79 303 P **P** **01 58 10.0 +0.8**
baz=99
VBMS Vicksburg 75.79 303 P **P** **01 58 09.8 +0.7**
MET Memphis--Engin 75.80 306 IAMs_20 IAMs_20 02 24 51.2
comp=Z,2µm,20.0s
PVMO Portageville 75.84 308 IAMs_20 IAMs_20 02 30 00.4
comp=Z,2µm,18.0s
344A Westbrook Farm 75.85 302 P **P** **01 58 10.5 +1.0**
344A IAMs_20 IAMs_20 02 33 16.0
comp=Z,2µm,18.0s
APA Apatity 75.90 18⇑ *i*P **P** **01 58 09.1 0.0**
APA pmax pmax
comp=Z,34nm,0.8s
HOQ Hoqain 75.92 66 P **P** **01 58 10.0 -0.1**
SNR=10
PARMO Parma 75.93 308 P **P** **01 58 09.3 -0.5**
PARMO IAmb IAmb 01 58 10.4
comp=Z,71nm,0.9s
GNAR Gosnell 76.01 307 P **P** **01 58 10.4 +0.1**
GNAR IAMs_20 IAMs_20 02 29 48.0
comp=Z,2µm,18.0s
E43A Lone Tree Farm 76.05 318 P **P** **01 58 10.6 +0.3**
E43A IAMs_20 IAMs_20 02 27 48.5
comp=Z,2µm,19.0s
K43A Burlington 76.09 314 P **P** **01 58 10.8 +0.1**
K43A IAmb IAmb 01 58 12.1
comp=Z,89nm,0.9s
K43A IAMs_20 IAMs_20 02 29 04.7
comp=Z,2µm,18.0s
H43A Windswept, Lux 76.11 316 IAMs_20 IAMs_20 02 31 18.0
comp=Z,2µm,18.0s
LPAR Lepanto 76.17 307 P **P** **01 58 11.1 -0.1**
LPAR IAMs_20 IAMs_20 02 24 42.3
comp=Z,2µm,22.0s
MHTO MHTO 76.26 69 P **P** **01 58 12.1 +0.1**
SNR=8.0
P43A Skaggs, Pawnee 76.32 311 P **P** **01 58 11.5 -0.5**
P43A IAmb IAmb 01 58 12.6
comp=Z,60nm,1.1s
HDIL Hopedale 76.33 312 P **P** **01 58 11.5 -0.6**
baz=102
HDIL Hopedale 76.33 312 P **P** **01 58 11.7 -0.4**
HDIL IAmb IAmb 01 58 13.1
comp=Z,65nm,0.8s
HDIL IAMs_20 IAMs_20 02 26 43.8
comp=Z,2µm,20.0s
HBAR Harrisburg 76.45 307 IAMs_20 IAMs_20 02 29 26.7
comp=Z,2µm,20.0s
X43A Marvell 76.46 305 P **P** **01 58 13.6 +0.7**
baz=100,SNR=15
X43A Marvell 76.46 305 IAMs_20 IAMs_20 02 25 32.9
comp=Z,2µm,20.0s
LVZ Lovozero 76.48 18 P **P** **01 58 13.2 +0.8**
LVZ pmax pmax
comp=Z,106nm,1.0s
LVZ MLR MLR
comp=Z,1µm,20.0s
LVZ Lovozero 76.48 18 P **P** **01 58 13.2 +0.8**
LVZ IAmb IAmb 01 58 14.7
comp=Z,106nm,1.0s
PBMO Poplar Bluff 76.48 308 P **P** **01 58 11.9 -1.1**
PBMO IAmb IAmb 01 58 13.6
comp=Z,73nm,1.4s
PBMO IAMs_20 IAMs_20 02 31 48.4
comp=Z,2µm,18.0s
JMDO Jabal Madar 76.52 67 P **P** **01 58 13.1 -0.4**
SNR=7.5
SMDO Samad 76.54 66 P **P** **01 58 13.6 -0.1**
SNR=15
DAG Danmarks Havn 76.65 360⇑ *i*P **P** **01 58 14.0 +0.8**
comp=Z,9.4nm,0.8s
DAG Danmarks Havn 76.65 360⇑ *i*P **P** **01 58 14.0 +0.8**
DAG pmax pmax
comp=Z,9.0nm,0.8s
BIDO Bidbid 76.65 66 P **P** **01 58 13.9 -0.4**
SNR=6.4
SLM Saint Louis 76.67 310 P **P** **01 58 13.8 -0.2**
SLM pmax pmax
comp=Z,203nm,1.6s
SLM Saint Louis 76.67 310 P **P** **01 58 13.8 -0.2**
I42A Draeger Farm, 76.77 315 P **P** **01 58 14.8 +0.3**
I42A IAmb IAmb 01 58 16.1
comp=Z,77nm,1.1s
L42A Oliver, Polo 76.91 313 P **P** **01 58 15.3 0.0**
L42A IAmb IAmb 01 58 16.6
comp=Z,89nm,0.9s
L42A IAMs_20 IAMs_20 02 30 04.9
comp=Z,2µm,18.0s
LCAR Lake Charles 76.94 307 P **P** **01 58 15.4 -0.2**
LCAR IAmb IAmb 01 58 16.8
comp=Z,142nm,1.8s
LCAR IAMs_20 IAMs_20 02 34 15.5
comp=Z,2µm,18.0s
WSAR Wadi Sarin 77.09 66 P **P** **01 58 16.9 +0.2**
SNR=9.2
CCAR Cane Creek 77.09 305 P **P** **01 58 17.0 +0.5**
342A Flagon Creek P 77.19 302 IAMs_20 IAMs_20 02 32 09.4
comp=Z,2µm,18.0s
D41A Chassel 77.27 318 IAMs_20 IAMs_20 02 27 20.6
comp=Z,2µm,20.0s
WBK Wadi Bani Khal 77.34 67 P **P** **01 58 18.4 +0.3**
SNR=7.7
CCM Cathedral Cave 77.35 309 P **P** **01 58 17.9 +0.1**
baz=100
CCM Cathedral Cave 77.35 309 P **P** **01 58 17.3 -0.6**
CCM pmax pmax
comp=Z,80nm,0.8s
CCM Cathedral Cave 77.35 309 P **P** **01 58 17.3 -0.6**
CCM IAmb IAmb 01 58 18.9
comp=Z,80nm,0.8s
CCM Cathedral Cave 77.35 309 IAMs_20 IAMs_20 02 26 51.7
comp=Z,2µm,20.0s
COWI Conover 77.43 317 P **P** **01 58 17.9 -0.2**
COWI IAmb IAmb 01 58 19.5
comp=Z,70nm,1.4s
JFWS Jewell Farm 77.52 314 P **P** **01 58 18.8 +0.1**
baz=102
JFWS Jewell Farm 77.52 314 P **P** **01 58 18.9 +0.1**
JFWS pmax pmax
comp=Z,87nm,1.0s
JFWS Jewell Farm 77.52 314 P **P** **01 58 18.9 +0.1**
JFWS IAmb IAmb 01 58 20.1
comp=Z,87nm,1.0s
JFWS Jewell Farm 77.52 314 IAMs_20 IAMs_20 02 30 32.9
comp=Z,2µm,18.0s
N41A Harden Midland 77.53 312 P **P** **01 58 18.3 -0.5**
N41A IAmb IAmb 01 58 19.6
comp=Z,98nm,1.2s
N41A IAMs_20 IAMs_20 02 28 35.4
comp=Z,2µm,19.0s
W41B Gary Mavity, V 77.67 306 P **P** **01 58 19.4 -0.4**
baz=99,SNR=30
W41B Gary Mavity, V 77.67 306 P **P** **01 58 19.5 -0.2**
W41B IAmb IAmb 01 58 21.0
comp=Z,85nm,1.3s
W41B IAMs_20 IAMs_20 02 25 15.0
comp=Z,2µm,22.0s
FCAR Ozark Folk Cen 77.68 307 P **P** **01 58 19.0 -0.8**
FCAR IAMs_20 IAMs_20 02 25 15.3
comp=Z,2µm,22.0s
UALR University of 77.69 306 P **P** **01 58 20.1 +0.2**
UALR IAmb IAmb 01 58 21.3
comp=Z,65nm,1.1s
WHAR Wooly Hollow 77.72 306 P **P** **01 58 19.5 -0.5**
WHAR IAmb IAmb 01 58 21.1
comp=Z,72nm,1.2s
WHAR IAMs_20 IAMs_20 02 25 28.4
comp=Z,2µm,22.0s
441A DeRidder 77.84 301 P **P** **01 58 21.3 +0.5**
441A IAMs_20 IAMs_20 02 30 03.8
comp=Z,2µm,19.0s
Z41A Richland Creek 77.85 304 P **P** **01 58 21.3 +0.5**
Z41A Richland Creek 77.85 304 P **P** **01 58 21.5 +0.7**
baz=98,SNR=7.5
Z41A IAmb IAmb 01 58 22.8
comp=Z,145nm,1.4s
Z41A IAMs_20 IAMs_20 02 26 38.8
comp=Z,2µm,22.0s
G40A Rib Lake 77.97 316 P **P** **01 58 20.7 -0.5**
G40A IAMs_20 IAMs_20 02 32 26.3
comp=Z,2µm,18.0s
I40A Norwalk 77.98 315 P **P** **01 58 21.3 0.0**
I40A IAMs_20 IAMs_20 02 30 05.5
comp=Z,2µm,20.0s
MGMO Mountain Grove 78.00 308 P **P** **01 58 21.3 -0.2**
MGMO IAMs_20 IAMs_20 02 33 01.0
comp=Z,2µm,18.0s
KIRV Kirov 78.03 29 P **P** **01 58 20.9 -0.2**
comp=Z,36nm,0.8s,baz=264,slow=4.4,SNR=45
X40A Basin Creek Fa 78.05 305 P **P** **01 58 22.0 +0.2**
baz=98,SNR=38
X40A Basin Creek Fa 78.05 305 P **P** **01 58 21.6 -0.3**
X40A IAMs_20 IAMs_20 02 27 12.0
comp=Z,2µm,20.0s
L40A Anamosa 78.05 313 IAMs_20 IAMs_20 02 32 57.8
comp=Z,2µm,18.0s
WLAR White Oak Lake 78.17 304 P **P** **01 58 23.0 +0.5**
WLAR IAMs_20 IAMs_20 02 26 37.1
comp=Z,2µm,21.0s
R40A Maddies Statio 78.18 309 IAMs_20 IAMs_20 02 30 05.8
comp=Z,2µm,18.0s
U40A Yellville 78.34 307 P **P** **01 58 23.1 -0.4**
baz=99,SNR=71
U40A Yellville 78.34 307 IAMs_20 IAMs_20 02 34 17.6
comp=Z,2µm,18.0s
GEYT Alibeck 78.51 51 P **P** **01 58 24.6 +0.2**
comp=Z,21nm,1.0s,baz=270,slow=5.9,SNR=42
GEYT LR LR 02 36 47.0
comp=Z,2µm,18.4s,baz=230,slow=38
GYA0B ALIBECK ARRAY 78.51 51 P **P** **01 58 24.8 +0.4**
GYA0B IAmb IAmb 01 58 26.3
comp=Z,143nm,1.7s
MIAR Mount Ida 78.66 305 P **P** **01 58 25.6 +0.4**
baz=98,SNR=19
MIAR Mount Ida 78.66 305 P **P** **01 58 25.3 0.0**
MIAR pmax pmax
comp=Z,40nm,1.2s
MIAR Mount Ida 78.66 305 P **P** **01 58 25.2 0.0**
MIAR IAMs_20 IAMs_20 02 27 31.3
comp=Z,2µm,20.0s
SYO Syowa Base 78.69 162⇑ *i*P **P** **01 58 24.0 -0.7**
SYO Syowa Base 78.69 162⇑ *e*pP pP 01 58 28.0 +0.4
SYO Syowa Base 78.69 162⇑ *e*PcP **PcP** **01 58 32.2 -1.3**
ASHT Ashkhabad 78.72 51 P **P** **01 58 26.1 +0.6**
ASHT pmax pmax
comp=Z,224nm,1.4s
ASHT MLR MLR
comp=Z,2µm,20.0s
ASHT Ashkhabad 78.72 51 P **P** **01 58 26.1 +0.6**
ASHT IAMs_20 IAMs_20 02 35 53.4
comp=Z,2µm,20.0s
S39A Bolivar 78.91 308 P **P** **01 58 25.8 -0.8**
S39A IAmb IAmb 01 58 27.8
comp=Z,93nm,0.9s
S39A IAMs_20 IAMs_20 02 31 49.1
comp=Z,2µm,18.0s
W39A Magazine 78.92 306 P **P** **01 58 27.1 +0.4**
baz=98,SNR=25
W39A Magazine 78.92 306 P **P** **01 58 26.7 0.0**
W39A IAmb IAmb 01 58 28.9
comp=Z,223nm,1.9s
W39A IAMs_20 IAMs_20 02 26 16.1
comp=Z,3µm,22.0s
E38A The Farm, Brul 79.17 318 P **P** **01 58 27.6 -0.3**
E38A IAMs_20 IAMs_20 02 33 49.0
comp=Z,2µm,18.0s
K38A Parkersburg 79.29 313 P **P** **01 58 27.9 -0.6**
K38A IAmb IAmb 01 58 29.3
comp=Z,71nm,1.2s
K38A IAMs_20 IAMs_20 02 32 12.9
comp=Z,2µm,18.0s
N38A Joes South For 79.32 311 IAMs_20 IAMs_20 02 27 27.9
comp=Z,2µm,20.0s
EYMN Ely 79.40 319 P **P** **01 58 28.7 -0.4**
baz=102
EYMN Ely 79.40 319 IAMs_20 IAMs_20 02 28 39.0
comp=Z,2µm,20.0s

SCIA State Center 79.49 313 P P 01 58 29.5 -0.1
baz=100
SCIA State Center 79.49 313 IAMs_20 IAMs_20 02 29 38.2
comp=Z,2μm,19.0s
U38A Gravette 79.57 307 IAMs_20 IAMs_20 02 31 30.3
comp=Z,2μm,18.0s
SPMN Marine on St. 79.77 316 P P 01 58 30.4 -0.7
baz=100
I37A Lemond, Waseca 79.97 315 IAMs_20 IAMs_20 02 31 52.4
comp=Z,1μm,19.0s
HKT Hockley 80.02 300 P P 01 58 32.9 +0.2
HKT pmax pmax
comp=Z,72nm,1.5s
HKT Hockley 80.02 300 P P 01 58 32.9 +0.2
HKT Hockley 80.02 300 IAMs_20 IAMs_20 02 32 48.1
comp=Z,1μm,19.0s
SPA0 Spitsbergen Ar 80.08 7 P P 01 58 33.4 +1.2
SPA0 Spitsbergen Ar 80.08 7 eP P 01 58 33.6 +1.4
X37A Clayton 80.14 305 P P 01 58 33.5 +0.2
X37A IAMs_20 IAMs_20 02 30 03.4
comp=Z,2μm,20.0s
KBS Kingsbay 80.25 6⇑ iP P 01 58 34.6 +1.6
F36A Milaca 80.38 317 P P 01 58 33.5 -0.8
TUL1 Leonard 80.64 306 P P 01 58 36.1 +0.1
baz=97,SNR=11
TUL1 Leonard 80.64 306 P P 01 58 35.9 -0.1
TUL1 IAMs_20 IAMs_20 02 31 19.5
comp=Z,1μm,18.0s
AKTO Aktyubinsk 80.66 39 P P 01 58 36.4 +0.6
comp=Z,33nm,0.9s,baz=251,slow=4.1,SNR=96
T35A Sooner Cattle 81.33 307 P P 01 58 39.7 0.0
T35A IAmb IAmb 01 58 41.2
comp=Z,135nm,1.2s
HRA Herat 81.37 55 P P 01 58 40.3 +0.1
HRA IAmb IAmb 01 58 42.1
comp=Z,86nm,1.2s
NOR Nord 81.51 0 i P P 01 58 41.0 +1.3
comp=Z,50nm,1.6s
NOR Nord 81.51 0 i P P 01 58 41.0 +1.3
NOR pmax pmax
comp=Z,50nm,1.6s
WHTX Lake Whitney, 81.61 302 P P 01 58 41.5 +0.2
baz=95
435B Jarrell 81.61 301 P P 01 58 41.9 +0.7
baz=95
435B Jarrell 81.61 301 IAMs_20 IAMs_20 02 31 27.5
comp=Z,1μm,21.0s
KSU1 Kansas State U 81.66 309 P P 01 58 40.5 -0.8
baz=97
KSU1 Kansas State U 81.66 309 P P 01 58 40.6 -0.7
KSU1 Kansas State U 81.66 309 IAMs_20 IAMs_20 02 29 36.8
comp=Z,2μm,19.0s
AB31 Akbulak array 81.67 40 i P P 01 58 41.2 +0.1
ABKAR Akbulak array 81.67 40 P P 01 58 41.0 -0.2
ABKAR IAmb IAmb 01 58 42.4
comp=Z,52nm,1.0s
L34A Svendsen Farm, 81.83 312 P P 01 58 41.9 -0.3
L34A IAmb IAmb 01 58 43.2
comp=Z,49nm,0.8s
L34A IAMs_20 IAMs_20 02 31 47.2
comp=Z,2μm,19.0s
OKCFA Oklahoma City 81.93 306 P P 01 58 43.0 +0.2
OKCFA IAMs_20 IAMs_20 02 29 34.6
comp=Z,2μm,20.0s
ARU Arti 82.18 33 P P 01 58 44.2 +0.6
comp=Z,19nm,0.9s,baz=257,slow=4.6,SNR=94
ARU Arti 82.18 33d iP P 01 58 43.9 +0.2
ARU 02 01 49.5
ARU PPP PPP 02 03 40.4
ARU S S 02 08 59.1 +0.8
ARU pmax pmax
comp=Z,150nm,1.2s
ARU MLR MLR
comp=Z,2μm,19.0s
ARU Arti 82.18 33 P P 01 58 43.6 -0.1
ARU IAmb IAmb 01 58 45.6
comp=Z,125nm,1.1s
ECSD EROS Data Cent 82.23 314 P P 01 58 44.2 -0.1
baz=97
ECSD EROS Data Cent 82.23 314 P P 01 58 43.5 -0.7
ECSD IAmb IAmb 01 58 45.6
comp=Z,68nm,1.1s
ECSD EROS Data Cent 82.23 314 IAMs_20 IAMs_20 02 34 54.7
comp=Z,2μm,18.0s
F33A 5 Mile Ranch, 82.28 316 IAMs_20 IAMs_20 02 29 42.4
comp=Z,2μm,20.0s
UNM Universidad Na 82.30 289 P P 01 58 45.8 +0.4
UNM pmax pmax
comp=Z,90nm,0.7s
UNM Universidad Na 82.30 289 P P 01 58 45.8 +0.4
AGMN Agassiz Nation 82.34 319 P P 01 58 45.1 +0.3
baz=99
AGMN Agassiz Nation 82.34 319 IAMs_20 IAMs_20 02 29 47.9
comp=Z,2μm,20.0s
N33A J Bar K, Exete 82.49 311 IAMs_20 IAMs_20 02 29 45.7
comp=Z,2μm,20.0s
ULM Lac du Bonnet 82.65 321 P P 01 58 46.1 -0.2
comp=Z,20nm,1.0s,baz=66,slow=4.2,SNR=10
ULM LR LR 02 30 50.5
comp=Z,1μm,19.7s,baz=92,slow=32
ULM Lac du Bonnet 82.65 321 P P 01 58 46.3 0.0
ULM pmax pmax
comp=Z,35nm,1.1s
ULM Lac du Bonnet 82.65 321 P P 01 58 46.3 0.0
ULM IAMs_20 IAMs_20 02 30 08.8
comp=Z,2μm,19.0s
WMOK Wichita Mounta 82.95 305 P P 01 58 48.5 +0.2
baz=95
D32A Dogwood Acres, 82.95 317 IAMs_20 IAMs_20 02 35 40.2
comp=Z,2μm,18.0s
833A Chaparral WMA, 83.00 298 P P 01 58 49.6 +1.0
baz=94
833A Chaparral WMA, 83.00 298 P P 01 58 49.1 +0.6
BGNE Belgrade 83.09 312 P P 01 58 48.9 +0.1
baz=96
R32A Long Quarter, 83.22 309 P P 01 58 49.5 0.0
R32A IAmb IAmb 01 58 51.1
comp=Z,75nm,1.1s
U32A Winter Ranch, 83.27 306 IAMs_20 IAMs_20 02 33 46.1
comp=Z,2μm,19.0s
SVE Sverdlovsk 83.38 33d iP P 01 58 50.8 +0.9
SVE eS S 02 09 09.8 -0.8
SVE pmax pmax
comp=Z,93nm,1.1s
SVE MLR MLR
comp=Z,2μm,18.0s
JCT Junction City 83.49 301 P P 01 58 51.8 +0.7
baz=94
JCT Junction City 83.49 301 P P 01 58 51.3 +0.2
JCT pmax pmax
comp=Z,242nm,1.5s
JCT Junction City 83.49 301 P P 01 58 51.3 +0.2
ABTX Abilene, Hawle 83.50 303 P P 01 58 52.1 +1.0
baz=94
ABTX Abilene, Hawle 83.50 303 P P 01 58 51.7 +0.6
ABTX IAMs_20 IAMs_20 02 31 58.5
comp=Z,1μm,20.0s
K31A O'Neill 83.66 313 IAMs_20 IAMs_20 02 32 09.6
comp=Z,2μm,19.0s
SUSD Miller 83.99 315 P P 01 58 53.3 -0.1
baz=96
SUSD Miller 83.99 315 IAMs_20 IAMs_20 02 36 14.6
comp=Z,1μm,18.0s
CBKS Cedar Bluff 84.06 309 P P 01 58 54.4 +0.5
baz=95,SNR=23
CBKS Cedar Bluff 84.06 309 P P 01 58 54.0 +0.1
CBKS pmax pmax
comp=Z,130nm,1.1s
CBKS MLR MLR
comp=Z,2μm,18.0s
CBKS Cedar Bluff 84.06 309 P P 01 58 54.0 +0.1
CBKS IAMs_20 IAMs_20 02 35 15.3
comp=Z,2μm,18.0s
MOIG Morelia 84.21 290 P P 01 58 55.2 0.0
MOIG IAmb IAmb 01 58 56.6
comp=Z,65nm,1.2s
MDND Maddock 84.78 318 P P 01 58 57.4 +0.1
baz=96
MDND Maddock 84.78 318 IAMs_20 IAMs_20 02 33 15.3
comp=Z,1μm,19.0s
AMTX Amarillo 85.34 305 P P 01 59 00.8 +0.3
baz=93
AMTX Amarillo 85.34 305 P P 01 59 00.7 +0.2
AMTX IAmb IAmb 01 59 02.5
comp=Z,66nm,1.4s
E28A Huff 85.40 317 IAMs_20 IAMs_20 02 31 58.9
comp=Z,1μm,20.0s
ZAIG Zacatecas 85.59 293 P P 01 59 03.0 +0.7
ZAIG IAmb IAmb 01 59 05.5
comp=Z,98nm,1.4s
MSTX Muleshoe 86.20 304 P P 01 59 05.7 +0.9
baz=92
MSTX Muleshoe 86.20 304 P P 01 59 05.0 +0.2
MSTX IAMs_20 IAMs_20 02 33 11.8
comp=Z,2μm,20.0s
MAW Mawson 86.30 158 P P 01 59 05.1 +0.7
comp=Z,6.4nm,0.9s,baz=288,slow=5.8,SNR=15
MAW LR LR 02 32 44.5
comp=Z,345nm,18.5s,baz=279,slow=32
MAW Mawson 86.30 158 P P 01 59 05.3 +1.0
MAW pmax pmax
comp=Z,4.0nm,1.1s
MAW Mawson 86.30 158 P P 01 59 05.3 +1.0
KSCO Kaye Shedlock' 86.32 309 P P 01 59 06.7 +1.4
baz=93
KSCO Kaye Shedlock' 86.32 309 P P 01 59 06.0 +0.7
KSCO IAMs_20 IAMs_20 02 36 03.2
comp=Z,2μm,19.0s
TX32 Lajitas Array 86.79 299 P P 01 59 08.0 +0.2
TX32 IAmb IAmb 01 59 10.2
comp=Z,113nm,1.4s
TXAR Lajitas Array 86.79 299 P P 01 59 08.3 +0.5
comp=Z,30nm,1.0s,baz=112,slow=5.6,SNR=134
TXAR LR LR 02 34 50.9
comp=Z,732nm,20.6s,baz=0.0,slow=34
FFC Flin Flon 86.87 325 P P 01 59 07.0 -0.5
FFC pmax pmax
comp=Z,27nm,1.4s
FFC Flin Flon 86.87 325 P P 01 59 07.0 -0.5
FFC Flin Flon 86.87 325 IAMs_20 IAMs_20 02 31 39.2
comp=Z,2μm,21.0s
KBL Kabul 86.98 56 P P 01 59 08.6 -0.1
SNR=13
KBL Kabul 86.98 56 P P 01 59 08.3 -0.5
KBL pmax pmax
comp=Z,48nm,1.5s
KBL MLR MLR
comp=Z,4μm,20.0s
KBL Kabul 86.98 56 P P 01 59 08.3 -0.5
TAS Tashkent 87.43 49 P P 01 59 11.5 +0.9
TAS pmax pmax
comp=Z,131nm,1.4s
TAS Tashkent 87.43 49 P P 01 59 11.5 +0.9
RSSD Black Hills 87.61 314 P P 01 59 12.4 +0.8
baz=92
RSSD Black Hills 87.61 314 P P 01 59 11.9 +0.3
RSSD pmax pmax
comp=Z,19nm,1.1s
RSSD MLR MLR
comp=Z,1μm,18.0s
RSSD Black Hills 87.61 314 P P 01 59 11.9 +0.3
RSSD Black Hills 87.61 314 IAMs_20 IAMs_20 02 37 03.9
comp=Z,1μm,18.0s
T25A Trinidad 87.65 307 P P 01 59 13.0 +1.0
baz=92
T25A Trinidad 87.65 307 P P 01 59 12.9 +1.0
T25A IAmb IAmb 01 59 14.7
comp=Z,121nm,1.9s
CHM Chimkent 87.70 48⇑ iP P 01 59 12.5 +0.6
comp=Z,57nm,1.4s,baz=48
CHM eS SKSac 02 09 39.5 -0.3
baz=48
CHM Chimkent 87.70 48c iP P 01 59 12.4 +0.6
CHM eS SKSac 02 09 39.4 -0.3
CHM pmax pmax
comp=Z,57nm,1.4s
DGMT Dagmar 87.89 318 P P 01 59 13.5 +0.9
baz=92
DGMT Dagmar 87.89 318 IAMs_20 IAMs_20 02 32 17.6
comp=Z,2μm,21.0s
BRLS Boroldav 87.89 47 eP P 01 59 12.4 -0.3
comp=Z,13nm,1.7s,baz=47
BRLS i S SKSac 02 09 40.1 -0.8
baz=47
BRLS Boroldav 87.89 47 eP P 01 59 12.4 -0.3
BRLS i S SKSac 02 09 40.1 -0.8
BRLS pmax pmax
comp=Z,13nm,1.7s
IUG luzhnay 88.01 48⇑ iP P 01 59 14.2 +0.7
comp=Z,21nm,2.3s,baz=48
IUG i S SKSac 02 09 41.5 -0.4
comp=Z,104nm,3.7s,baz=48
IUG LR LR 02 42 33.1
comp=Z,80nm,17.5s,baz=48
IUG luzhnay 88.01 48c iP P 01 59 14.1 +0.7
IUG i S SKSac 02 09 41.4 -0.4
IUG pmax pmax
comp=Z,21nm,2.3s
IUG smax smax
comp=E,104nm,3.7s
Q24A Divide 88.28 309 P P 01 59 16.5 +1.4
baz=91
Q24A Divide 88.28 309 IAMs_20 IAMs_20 02 37 17.1
comp=Z,2μm,18.0s
MNTX Cornudas Mount 88.32 302 P P 01 59 14.9 -0.1
baz=91
MNTX Cornudas Mount 88.32 302 IAMs_20 IAMs_20 02 35 25.3
comp=Z,1μm,20.0s
KK31 Karatay Array 88.39 47 P P 01 59 15.2 +0.1
KK31 pmax pmax
comp=Z,32nm,1.1s
KK31 Karatay Array 88.39 47 P P 01 59 15.2 +0.1
KKAR Karatay Array 88.39 47 P P 01 59 15.3 +0.2
KKAR pmax pmax
comp=Z,32nm,1.1s
KKAR Karatay Array 88.39 47 P P 01 59 15.3 +0.2
HPIG 88.50 297 P P 01 59 16.5 +0.3
HPIG IAmb IAmb 01 59 18.6
comp=Z,88nm,1.4s
BRVK Borovoye 88.53 37 P P 01 59 16.0 +0.6
BRVK MLR MLR
comp=Z,1μm,20.0s
BRVK Borovoye 88.53 37 P P 01 59 16.0 +0.6
BRVK IAmb IAmb 01 59 17.7
comp=Z,44nm,1.1s
BRVK Borovoye 88.53 37 IAMs_20 IAMs_20 02 42 21.6
comp=Z,1μm,20.0s
SDCO Great Sand Dun 88.53 308 P P 01 59 17.5 +1.3
baz=91
SDCO Great Sand Dun 88.53 308 P P 01 59 16.8 +0.6
SDCO IAmb IAmb 01 59 19.0
comp=Z,81nm,1.2s
SDCO IAMs_20 IAMs_20 02 36 57.4
comp=Z,2μm,19.0s
BTK Batken 88.55 50 P P 01 59 15.7 -0.3
BTK pmax pmax
comp=Z,98nm,1.3s
BTK Batken 88.55 50 P P 01 59 15.7 -0.3
BTK IAmb IAmb 01 59 18.4
comp=Z,98nm,1.2s
BVAR Borovoye Array 88.59 37 P P 01 59 16.5 +0.7
comp=Z,19nm,0.9s,baz=276,slow=4.0,SNR=104
ISCO Idaho Springs 88.66 310 P P 01 59 18.1 +1.3
baz=91,SNR=42
ISCO Idaho Springs 88.66 310 P P 01 59 17.7 +0.9
ISCO pmax pmax
comp=Z,56nm,1.3s
ISCO MLR MLR
comp=Z,2μm,18.0s
ISCO Idaho Springs 88.66 310 P P 01 59 17.7 +0.9
ISCO IAmb IAmb 01 59 19.9
comp=Z,56nm,1.2s
N23A Red Feather La 88.93 311 P P 01 59 19.1 +1.1
baz=91,SNR=36
DZA Taraz 88.99 47⇑ iP P 01 59 18.8 +0.8
comp=Z,50nm,1.3s,baz=47
DZA i PP PP 02 02 47.6 -0.1
baz=47
DZA eS SKSac 02 09 47.6 +0.1
baz=47
DZA LR LR 02 43 07.5
comp=Z,273nm,17.5s,baz=47
DZA Taraz 88.99 47c iP P 01 59 18.7 +0.8
DZA i PP 02 02 47.5 -0.1
DZA eS SKSac 02 09 47.6 +0.1
DZA pmax pmax
comp=Z,50nm,1.3s
LAO LASA Array 89.21 317 P P 01 59 19.6 +0.7
baz=91
LAO LASA Array 89.21 317 IAMs_20 IAMs_20 02 38 07.7
comp=Z,2μm,18.0s
ANMO Albuquerque 89.27 305 P P 01 59 01.1
baz=90
ANMO Albuquerque 89.27 305 P P 01 59 20.2 +0.6
ANMO pmax pmax
comp=Z,28nm,1.4s
ANMO Albuquerque 89.27 305 P P 01 59 20.2 +0.6
K22A Casper 89.38 312 P P 01 59 20.3 +0.3
baz=90,SNR=9.1
S22A 4UR Ranch, Cre 89.58 308 P P 01 59 22.6 +1.4
baz=90
S22A 4UR Ranch, Cre 89.58 308 P P 01 59 21.8 +0.7
S22A IAmb IAmb 01 59 24.1
comp=Z,47nm,1.2s
S22A IAMs_20 IAMs_20 02 36 02.2
comp=Z,1μm,20.0s
Y22D IRIS PASSCAL I 89.64 304 P P 01 59 23.0 +1.6
baz=90
Y22D IRIS PASSCAL I 89.64 304 IAMs_20 IAMs_20 02 35 42.1
comp=Z,2μm,20.0s
OTUK Ortayu 89.75 42 P P 01 59 22.1 +0.8
BRZS Berezniki 89.97 40⇑ iP P 01 59 23.1 +0.8
comp=Z,67nm,1.5s,baz=40
BRZS LR LR 02 42 07.8
comp=Z,245nm,15.1s,baz=40
BRZS Berezniki 89.97 40c iP P 01 59 23.1 +0.8
BRZS pmax pmax
comp=Z,67nm,1.5s
QSPA South Pole Qui 90.11 180 P P 01 59 24.1 +1.3
QSPA IAmb IAmb 01 59 37.8
comp=Z,38nm,1.1s
ARSB Arslanbob 90.20 49 P P 01 59 24.5 +0.7
ARSB Arslanbob 90.20 49 P P 01 59 24.5 +0.7
121A Cookes Peak, D 90.37 302 P P 01 59 26.4 +1.6
baz=90
121A Cookes Peak, D 90.37 302 P P 01 59 25.3 +0.5
121A IAmb IAmb 01 59 28.0
comp=Z,106nm,2.0s
NIL Nilore 90.46 57 P P 01 59 25.8 +0.8
NIL Nilore 90.46 57 P P 01 59 25.6 +0.6
NIL pmax pmax
comp=Z,61nm,1.1s
NIL MLR MLR
comp=Z,2μm,22.0s
NIL Nilore 90.46 57 P P 01 59 25.6 +0.6
NIL IAmb IAmb 01 59 26.5
comp=Z,60nm,1.1s
NIL Nilore 90.46 57 IAMs_20 IAMs_20 02 40 26.9
comp=Z,2μm,22.0s
O20A White River Ci 90.68 310 P P 01 59 26.9 +0.7
baz=89,SNR=11
AML Almayashu 90.73 48 P P 01 59 27.6 +1.0
SNR=21
EKS2 Erkin-Say 90.79 48 P P 01 59 27.6 +1.1
SNR=21
PV15 Paradox Valley 90.89 308 IAMs_20 IAMs_20 02 38 41.1
comp=Z,1μm,19.0s
MVCO Mesa Verde 90.91 307 P P 01 59 28.7 +1.4
baz=89
MVCO Mesa Verde 90.91 307 P P 01 59 27.6 +0.2
MVCO IAmb IAmb 01 59 30.2
comp=Z,85nm,1.4s
BTLS Baital 90.94 45 i P P 01 59 27.9 +1.0
comp=Z,50nm,2.5s,baz=45
BTLS eS SKSac 02 09 59.2 +0.5
baz=45
BTLS Baital 90.94 45 i P P 01 59 27.9 +1.0
BTLS eS SKSac 02 09 59.2 +0.5
BTLS pmax pmax
comp=Z,50nm,2.5s
PV07 Paradox Valley 91.01 308 P P 01 59 28.6 +0.9
PV07 IAMs_20 IAMs_20 02 42 45.5
comp=Z,1μm,19.0s
PV02 Paradox Valley 91.09 308 IAMs_20 IAMs_20 02 38 16.5
comp=Z,2μm,22.0s
PV13 Radium Mtn., P 91.16 308 IAMs_20 IAMs_20 02 37 15.3
comp=Z,2μm,21.0s
PV03 Paradox Valley 91.17 308 IAMs_20 IAMs_20 02 37 16.8
comp=Z,1μm,20.0s
PV11 David Mesa, Pa 91.19 308 IAMs_20 IAMs_20 02 38 17.3
comp=Z,2μm,20.0s
PV18 Skein Mesa, Pa 91.22 308 IAMs_20 IAMs_20 02 38 40.1
comp=Z,2μm,19.0s
PV20 West Nyswonger 91.27 308 IAMs_20 IAMs_20 02 38 52.2
comp=Z,1μm,19.0s
PV21 Cone Mtn., Par 91.27 308 IAMs_20 IAMs_20 02 41 48.3
comp=Z,1μm,19.0s
USP Ospenovka 91.31 47 P P 01 59 29.6 +0.8
SNR=21
PV14 Lion Creek, Pa 91.31 308 IAMs_20 IAMs_20 02 37 05.4
comp=Z,2μm,21.0s
AAK Ala-Archa 91.32 48 P P 01 59 29.9 +0.9
comp=Z,34nm,0.9s,baz=237,slow=3.8,SNR=61
AAK Ala-Archa 91.32 48 P P 01 59 30.5 +1.5
SNR=20
AAK Ala-Archa 91.32 48 i P P 01 59 30.2 +1.3
SNR=22
AAK Ala-Archa 91.32 48 P P 01 59 30.1 +1.1
AAK pmax pmax
comp=Z,58nm,1.1s
AAK Ala-Archa 91.32 48 P P 01 59 30.1 +1.1
AAK IAmb IAmb 01 59 31.6
comp=Z,58nm,1.1s
UCH Uchtor 91.34 48 P P 01 59 30.7 +1.2
SNR=20
RLMT Red Lodge 91.35 315 P P 01 59 29.5 +0.4
baz=89,SNR=9.3
PV05 Paradox Valley 91.38 308 IAMs_20 IAMs_20 02 38 40.4
comp=Z,2μm,20.0s
SGDS Sogindy 91.40 47 i P P 01 59 29.6 +0.3
comp=Z,58nm,2.5s,baz=47
SGDS i PP PP 02 03 06.0 -0.8
baz=47
SGDS i S SKSac 02 10 01.4 -0.1
baz=47
SGDS LR LR 02 44 23.4
comp=Z,285nm,13.3s,baz=47
SGDS Sogindy 91.40 47 i P P 01 59 29.5 +0.3
SGDS i PP 02 03 06.0 -0.8
SGDS i S SKSac 02 10 01.4 -0.1
SGDS pmax pmax
comp=Z,58nm,2.5s
CHMS Chumysh 91.50 47 P P 01 59 30.6 +1.0
SNR=11
EGMT Eagleton 91.60 318 P P 01 59 30.1 0.0
baz=88
EGMT Eagleton 91.60 318 P P 01 59 30.6 +0.5
BW06 Boulder Array 91.62 313 P P 01 59 30.4 -0.1
baz=88
BW06 Boulder Array 91.62 313 IAMs_20 IAMs_20 02 40 01.2
comp=Z,2μm,18.0s
PD31 Pinedale Array 91.62 313 P P 01 59 30.6 +0.1
PDAR Pinedale Array 91.62 313 P P 01 59 29.6 -0.9
comp=Z,3.7nm,1.0s,baz=97,slow=7.6,SNR=18
PDAR PP PP 02 03 05.1 -3.7
comp=Z,1.4nm,1.0s,baz=67,slow=9.2,SNR=3.3
PDAR LR LR 02 34 50.5
comp=Z,1μm,21.2s,baz=116,slow=32
KZA Kyzart 91.89 48 P P 01 59 33.2 +1.2
SNR=21
W18A Petrified Fore 91.95 305 P P 01 59 32.5 +0.4
baz=89
W18A Petrified Fore 91.95 305 P P 01 59 32.7 +0.6
TKM2 Tokmak 2 92.12 47 P P 01 59 33.6 +0.8
SNR=29
TKM2 Tokmak 2 92.12 47 P P 01 59 32.5 -0.2
FLWY Flagg Ranch 92.40 314 IAMs_20 IAMs_20 02 40 07.9
comp=Z,1μm,19.0s
SNOW Snow King Moun 92.47 313 P P 01 59 34.7 +0.3
IMW Indian Meadow 92.58 314 IAMs_20 IAMs_20 02 40 59.7
comp=Z,1μm,19.0s
KUU Kurty 92.62 46⇑ iP P 01 59 35.6 +0.8
comp=Z,113nm,1.6s,baz=46
KUU i PP PP 02 03 16.5 +0.1
baz=46
KUU i S SKSac 02 10 08.8 +0.5
comp=Z,208nm,3.8s,baz=46
KUU LR LR 02 45 47.3
comp=Z,614nm,15.6s,baz=46
KUU Kurty 92.62 46c iP P 01 59 35.6 +0.8
KUU i 02 03 16.5
KUU i S SKSac 02 10 08.8 +0.5
KUU pmax pmax
comp=Z,113nm,1.6s
KUU smax smax
comp=E,208nm,3.8s
ULHL Ulahol 92.62 48 P P 01 59 36.1 +1.0
SNR=22
MTBS Maitube 92.72 47⇑ iP P 01 59 36.0 +0.6

baz=47
MTBS Maitube 92.72 47⇑ *i*P **P 01 59 36.0 +0.6**
AHID Auburn Hatcher 92.75 313 P **P 01 59 35.5 -0.2**
QLMT Earthquake Lak 92.89 315 P **P 01 59 36.9 +0.6**
TUC Tucson 92.91 302 P **P 01 59 37.2 +0.8**
baz=88
TUC Tucson 92.91 302 P **P 01 59 36.6 +0.1**
TUC pmax pmax
comp=Z,47nm,1.9s
TUC Tucson 92.91 302 P **P 01 59 36.6 +0.1**
TUC IAmb IAmb 01 59 39.1
comp=Z,46nm,1.9s
BOZ Bozeman (W) 92.99 315 P **P 01 59 36.8 +0.2**
baz=87
BOZ Bozeman (W) 92.99 315 IAMs_20 IAMs_20 02 40 34.8
comp=Z,1µm,18.0s
AAA Alma-Ata 93.07 47⇑ *i*P **P 01 59 37.9 +0.9**
baz=47
AAA *e*S **SKSac 02 10 11.5 +0.6**
baz=47
AAA LR LR 02 45 38.6
comp=Z,842nm,16.1s,baz=47
AAA Alma-Ata 93.07 47 *c i*P **P 01 59 37.8 +0.9**
AAA *e*S **SKSac 02 10 11.5 +0.6**
CHKK Chushkaly 93.09 46⇑ *i*P **P 01 59 37.3 +0.3**
baz=46
CHKK Chushkaly 93.09 46 *c i*P **P 01 59 37.2 +0.3**
TNSS Tian-Shan 93.10 47 *e*P **P 01 59 38.4 +0.8**
baz=47
TNSS Tian-Shan 93.10 47 *e*P **P 01 59 38.3 +0.8**
JLU Jordanelle 93.11 310 P **P 01 59 37.5 +0.1**
HWUT Hardware Ranch 93.15 311 P **P 01 59 37.4 -0.1**
HSIG 93.16 299 P **P 01 59 37.9 +0.4**
HSIG IAmb IAmb 01 59 39.8
comp=Z,36nm,1.3s
MDOK Medeo 93.17 47 *i*P **P 01 59 38.0 +0.4**
baz=47
MDOK *e*S **SKSac 02 10 11.7 0.0**
baz=47
MDOK LR LR 02 45 48.4
comp=Z,903nm,17.2s,baz=47
MDOK Medeo 93.17 47 *i*P **P 01 59 37.9 +0.4**
MDOK *e*S **SKSac 02 10 11.7 0.0**
WUAZ Wupatki 93.28 305 P **P 01 59 39.4 +1.2**
baz=88
WUAZ Wupatki 93.28 305 P **P 01 59 39.1 +0.9**
WUAZ IAMs_20 IAMs_20 02 36 00.2
comp=Z,2µm,22.0s
KDJ Kajisay 93.32 48 P **P 01 59 38.5 +0.2**
KDJ Kajisay 93.32 48 P **P 01 59 38.5 +0.2**
YKA Yellowknife Ar 93.34 333 P **P 01 59 37.9 +0.3**
comp=Z,1.5nm,0.8s,baz=86,slow=5.2,SNR=11
YKA LR LR 02 36 28.0
comp=Z,993nm,22.0s,baz=0.0,slow=32
DLMT Dillon 93.69 315 IAMs_20 IAMs_20 02 40 49.2
comp=Z,1µm,20.0s
KURBB Kurchatov Arra 93.69 39 P **P 01 59 39.9 +0.3**
comp=Z,8.9nm,0.9s,baz=278,slow=5.4,SNR=63
KURBB Kurchatov Arra 93.69 39 P **P 01 59 38.5 -1.0**
KLRI Killari 93.72 72 *e*P **P 01 59 40.5 +0.1**
KURK Kurchatov 93.75 39 P **P 01 59 40.2 +0.4**
KURK Kurchatov 93.75 39 P **P 01 59 40.1 +0.4**
KURK pmax pmax
comp=Z,15nm,1.0s
KURK Kurchatov 93.75 39 P **P 01 59 40.1 +0.4**
KURK Kurchatov 93.75 39 IAMs_20 IAMs_20 02 50 04.9
comp=Z,1µm,18.0s
TARG Taragay, Kyrgy 93.81 48 P **P 01 59 40.9 0.0**
TARG IAmb IAmb 01 59 43.2
comp=Z,44nm,1.0s
TARG IAMs_20 IAMs_20 02 46 43.5
comp=Z,989nm,18.0s
U15A North Rim 93.98 306 IAMs_20 IAMs_20 02 36 34.7
comp=Z,1µm,21.0s
TDK Taldyqorghan 94.03 45 *i*P **P 01 59 41.8 +0.5**
comp=Z,40nm,1.3s,baz=45
TDK *i*S **SKSac 02 10 16.0 -0.1**
baz=45
TDK LR LR 02 44 30.6
comp=Z,625nm,18.0s,baz=45
TDK Taldyqorghan 94.03 45 *i*P **P 01 59 41.8 +0.5**
TDK *i*S **SKSac 02 10 15.9 -0.1**
TDK pmax pmax
comp=Z,40nm,1.3s
SATY Saty 94.17 47 *e*P **P 01 59 42.5 +0.4**
comp=Z,5.8nm,1.1s,baz=47
SATY *e*S **SKSac 02 10 17.3 +0.2**
baz=47
SATY LR LR 02 46 40.1
comp=Z,330nm,16.9s,baz=47
SATY Saty 94.17 47 *e*P **P 01 59 42.5 +0.4**
SATY *e*S **SKSac 02 10 17.3 +0.2**
SATY pmax pmax
comp=Z,6.0nm,1.1s
DUG Dugway, Tooele 94.18 310 P **P 01 59 42.8 +0.6**
baz=86
DUG Dugway, Tooele 94.18 310 P **P 01 59 42.7 +0.5**
DUG pmax pmax
comp=Z,19nm,1.4s
DUG MLR MLR
comp=Z,2µm,18.0s
DUG Dugway, Tooele 94.18 310 P **P 01 59 42.7 +0.5**
PRZ Przheval'sk 94.20 48 P **P 01 59 43.5 +1.1**
PRZ pmax pmax
comp=Z,47nm,1.2s
PRZ MLR MLR
comp=Z,1µm,22.0s
PRZ Przheval'sk 94.20 48 P **P 01 59 43.5 +1.1**
PRZ IAmb IAmb 01 59 45.1
comp=Z,48nm,1.2s
KPKS Kokpek 94.34 47⇑ *i*P **P 01 59 43.0 +0.2**
comp=Z,25nm,1.3s,baz=47
KPKS *i*S **SKSac 02 10 17.9 0.0**
comp=Z,71nm,3.7s,baz=47
KPKS LR LR 02 46 26.4
comp=Z,418nm,13.8s,baz=47
KPKS Kokpek 94.34 47 *c i*P **P 01 59 43.0 +0.2**
KPKS *i*S **SKSac 02 10 17.9 0.0**
KPKS pmax pmax
comp=Z,25nm,1.3s
KPKS smax smax
comp=E,71nm,3.7s
SRIG Santa Rosalia 94.36 297 IAMs_20 IAMs_20 02 38 34.8
comp=Z,1µm,21.0s
MSO Missoula 94.51 317 P **P 01 59 43.1 -0.5**
baz=85,SNR=6.9
MSO Missoula 94.51 317 P **P 01 59 43.6 0.0**
MSO IAMs_20 IAMs_20 02 42 43.8
comp=Z,2µm,18.0s
SZCU Shurtz Canyon 94.55 308 P **P 01 59 44.6 +0.5**
UZB Uzynbulak 94.61 47⇑ *i*P **P 01 59 43.9 -0.2**
comp=Z,31nm,3.5s,baz=47
UZB *e*S **SKSac 02 10 19.0 -0.6**
comp=Z,32nm,2.9s,baz=47
UZB LR LR 02 47 14.9
comp=Z,439nm,16.9s,baz=47
UZB Uzynbulak 94.61 47 *c i*P **P 01 59 43.9 -0.2**
UZB *e*S **SKSac 02 10 18.9 -0.6**
UZB pmax pmax
comp=Z,31nm,3.5s
UZB smax smax
comp=N,32nm,2.9s
214A Organ Pipe Nat 94.64 302 P **P 01 59 45.1 +0.7**
baz=87
SEM Semipalatinsk 94.81 40 *i*P **P 01 59 45.3 +0.4**
comp=N,3.1nm,1.0s,baz=40
SEM *e*S **SKSac 02 10 20.4 0.0**
baz=40
SEM Semipalatinsk 94.81 40 *i*P **P 01 59 45.3 +0.4**
SEM *e*S **SKSac 02 10 20.4 0.0**
SEM pmax pmax
comp=Z,3.0nm,1.0s
SHLS Shalkode 94.93 47⇑ *i*P **P 01 59 47.7 +2.0**
comp=Z,34nm,1.7s,baz=47
SHLS *e*S **SKSac 02 10 23.2 +1.9**
baz=47
SHLS Shalkode 94.93 47 *c i*P **P 01 59 47.6 +2.0**
SHLS *e*S **SKSac 02 10 23.1 +1.9**
SHLS pmax pmax
comp=Z,34nm,1.7s
HLID Hailey 95.12 314 P **P 01 59 47.2 +0.7**
baz=85
HLID Hailey 95.12 314 P **P 01 59 46.6 +0.1**
NRIK Noril'sk 95.19 20 P **P 01 59 45.9 -0.2**
comp=Z,1.3nm,0.4s,baz=264,slow=3.6,SNR=4.3
NRIK LR LR 02 47 03.5
comp=Z,1µm,18.4s,baz=285,slow=38
SRSP Sriramsagar 95.35 71 *e*P **P 01 59 47.6 -0.3**
W13A Hualapai Mount 95.35 305 IAMs_20 IAMs_20 02 40 38.2
comp=Z,1µm,21.0s
113A Mohawk Valley, 95.40 303 IAMs_20 IAMs_20 02 39 17.7
comp=Z,1µm,19.0s
HYBB Hyderabad (bro 95.60 73 *e*P **P 01 59 48.3 -0.8**
SRLM Srisailam 95.96 74 *e*P **P 01 59 50.7 0.0**
ELK Elko 95.98 311 P **P 01 59 50.8 +0.2**
ELK pmax pmax
comp=Z,7.0nm,1.2s
ELK Elko 95.98 311 P **P 01 59 50.8 +0.2**
MFID Camas Ranch 96.16 314 IAMs_20 IAMs_20 02 43 24.3
comp=Z,1µm,18.0s
RPR Rampur 96.25 71 *e*P **P 01 59 51.5 -0.5**
GLA Glamis 96.27 303 IAMs_20 IAMs_20 02 39 34.7
comp=Z,1µm,20.0s
SHPR Sheep Range 96.28 307 IAMs_20 IAMs_20 02 41 14.6
comp=Z,1µm,20.0s
MAKZ Makanchi 96.35 43 P **P 01 59 51.8 0.0**
MAKZ pmax pmax
comp=Z,10.0nm,1.2s
MAKZ Makanchi 96.35 43 P **P 01 59 51.8 0.0**
NJS Nagarjunasagar 96.35 73 *e*P **P 01 59 52.0 -0.4**
R11A Troy Canyon, C 96.46 308 P **P 01 59 53.2 +0.4**
baz=85
R11A Troy Canyon, C 96.46 308 IAMs_20 IAMs_20 02 41 58.7
comp=Z,2µm,19.0s
MK31 Makanchi Array 96.56 43 P **P 01 59 52.7 -0.1**
MK31 pmax pmax
comp=Z,8.0nm,1.0s
MK31 Makanchi Array 96.56 43 P **P 01 59 52.7 -0.1**
MKAR Makanchi Array 96.56 43 P **P 01 59 52.3 -0.5**
comp=Z,6.5nm,0.9s,baz=275,slow=4.1,SNR=39
MKAR PP **PP 02 03 41.0 -6.0**
comp=Z,2.6nm,0.9s,baz=271,slow=5.4,SNR=1.8
MKAR LR LR 02 50 08.2
comp=Z,2µm,18.6s,baz=278,slow=40
MKAR Makanchi Array 96.56 43 *ce*P **P 01 59 52.9 +0.1**
MKAR pmax pmax
comp=Z,7.0nm,0.9s
GMRC Granite Mounta 96.83 305 P **P 01 59 54.9 +0.5**
baz=85
F10A Beach Ranch, E 96.86 316 IAMs_20 IAMs_20 02 43 08.1
comp=Z,1µm,18.0s
ADKI Addanki 97.01 74 *e*P **P 01 59 54.8 -0.6**
BMO Blue Mountains 97.05 315 IAMs_20 IAMs_20 02 46 30.3
comp=Z,1µm,19.0s
ZAA0 Zalesovo Array 97.11 36 P **P 01 59 55.2 +0.2**
ZAA0 IAMs_20 IAMs_20 02 45 57.6
comp=Z,1µm,21.0s
ZALV Zalesovo Beam 97.11 36 P **P 01 59 54.5 -0.5**
comp=Z,2.6nm,0.9s,baz=291,slow=4.6,SNR=9.2
ZALV LR LR 02 48 22.7
comp=Z,1µm,18.3s,baz=288,slow=38
ZALV Zalesovo Beam 97.11 36 *i*P **P 01 59 55.4 +0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.9s
TPNV Topopah Spring 97.12 307 P Pdif 01 59 56.1 +0.3
baz=85
BELC Be Mtn. Jos 97.17 304 P **P 01 59 55.7 -0.3**
baz=85
IKP In-Ko-Pah, Jac 97.38 303 P **P 01 59 56.7 -0.2**
baz=85
E09A Wood Farm, Sta 97.42 317 IAMs_20 IAMs_20 02 39 40.9
comp=Z,1µm,20.0s
XPFO Pion Flat 97.59 304 IAMs_20 IAMs_20 02 40 59.4
comp=Z,2µm,20.0s
PFO Pinyon Flats O 97.59 304 IAMs_20 IAMs_20 02 40 58.9
comp=Z,2µm,20.0s
MYLAV Mylavaram 97.61 73 *e*P **P 01 59 57.3 -0.8**
FURC Furnace Creek, 97.65 307 P Pdif 01 59 59.0 +1.0
baz=84
GSC Goldstone, Bar 97.72 305 P Pdif 01 59 58.8 +0.4
baz=84
GSC Goldstone, Bar 97.72 305 IAMs_20 IAMs_20 02 38 29.8
comp=Z,1µm,21.0s
BAR Barrett 97.85 303 IAMs_20 IAMs_20 02 40 33.5
comp=Z,1µm,20.0s
B08A Colville Reser 97.95 319 IAMs_20 IAMs_20 02 38 35.6
comp=Z,2µm,21.0s
J08A Circle Bar Ran 98.08 314 IAMs_20 IAMs_20 02 42 42.2
comp=Z,1µm,18.0s
109C Camp Elliot, M 98.20 303 IAMs_20 IAMs_20 02 40 32.6
comp=Z,1µm,20.0s
MPMC Manual Prospec 98.20 306 P Pdif 02 00 01.0 +0.3
baz=84
ZSN Zaisan 98.21 42⇑ *i*P **P 02 00 00.1 -0.1**
comp=Z,5.4nm,2.1s,baz=42
ZSN *e*S **SKSac 02 10 38.6 +0.8**
baz=42
ZSN Zaisan 98.21 42 *c i*P **P 02 00 00.9 +0.7**
ZSN *e*S **SKSac 02 10 38.6 +0.8**
ZSN pmax pmax
comp=Z,5.0nm,2.1s
NV11 Mina Array Sit 98.46 309 IAMs_20 IAMs_20 02 44 17.6
comp=Z,1µm,18.0s
PVM Polavaram 98.54 73 *e*Pdif **P 02 00 01.7 -0.5**
NVAR Mina Array Bea 98.58 309 P **P 02 00 02.2 -0.2**
comp=Z,0.8nm,0.8s,baz=101,slow=4.7,SNR=7.3
NVAR PP **PP 02 04 00.2 -2.8**
comp=Z,0.5nm,0.6s,baz=92,slow=4.5,SNR=4.9
NVAR LR LR 02 43 53.8
comp=Z,824nm,18.2s,baz=92,slow=35
I07A Izee 98.72 315 IAMs_20 IAMs_20 02 41 22.4
comp=Z,1µm,20.0s
RYN Ryan 98.72 309 IAMs_20 IAMs_20 02 44 27.6
comp=Z,1µm,18.0s
ISA Isabella, Lake 99.04 306 IAMs_20 IAMs_20 02 39 55.6
comp=Z,1µm,21.0s
OMMB Old Mammoth Mi 99.22 308 IAMs_20 IAMs_20 02 43 05.9
comp=Z,955nm,18.0s
PAHR Pah Rah Range 99.25 310 P **Pdif 02 00 05.8 +0.6**
PAHR IAmb IAmb 02 00 07.3
comp=Z,23nm,1.5s
OSI Osito Audit: C 99.36 305 IAMs_20 IAMs_20 02 38 47.2
comp=Z,1µm,21.0s
INK Inuvik 99.41 340 IAMs_20 IAMs_20 02 44 38.7
comp=Z,1µm,18.0s
WAKR Walker 99.45 309 IAMs_20 IAMs_20 02 42 40.8
comp=Z,1µm,19.0s
DGZ Jazzator, Alta 99.49 40⇑ *i*P **Pdif 02 00 06.1 0.0**
DGZ pmax pmax
comp=Z,7.0nm,0.9s
PKM Mcpherson Peak 100.22 305 P **Pdif 02 00 10.3 +0.6**
baz=83
F04A Amboy 100.44 317 IAMs_20 IAMs_20 02 44 54.8
comp=Z,1µm,18.0s
H04A Detroit Lake 100.52 315 IAMs_20 IAMs_20 02 46 14.9
comp=Z,1µm,19.0s
CHLP Challavanipeta 100.78 71 *e*Pdif **Pdif 02 00 11.8 -0.4**
CHLP *e*PP **PP 02 04 22.2 +2.2**
WMQ Urumqi 100.78 45 *e*P **Pdif 02 00 13.8 +2.0**
WMQ pmax pmax
comp=Z,11nm,0.7s
WMQ pmax pmax
comp=Z,83nm,6.3s
WMQ LR LR
comp=Z,580nm,19.5s
WMQ LR LR
comp=Z,300nm,19.5s
WMQ LR LR
comp=Z,700nm,24.5s
WMQ Urumqi 100.78 45 IAMs_20 IAMs_20 02 51 36.9
comp=Z,1µm,18.0s
H04D Lebanon 100.93 315 P **Pdif 02 00 13.1 +0.7**
baz=79
O03E Paynes Creek 101.00 311 P **Pdif 02 00 13.3 +0.4**
baz=80
BBB Bella Bella 102.59 324 IAMs_20 IAMs_20 02 41 34.0
comp=Z,1µm,20.0s
DAWY Dawson 103.46 337 IAMs_20 IAMs_20 02 46 03.0
comp=Z,1µm,20.0s
WRAK Wrangell Islan 103.56 329 IAMs_20 IAMs_20 02 41 54.2
comp=Z,1µm,22.0s
SKAG Skagway 103.84 332 IAMs_20 IAMs_20 02 44 14.3
comp=Z,1µm,20.0s
BESE Bessie Mountai 103.98 331 IAMs_20 IAMs_20 02 44 03.1
comp=Z,1µm,21.0s
HYT Haines Junctio 104.22 334 IAMs_20 IAMs_20 02 43 28.3
comp=Z,1µm,21.0s
CRAG Craig 104.32 328 IAMs_20 IAMs_20 02 51 02.2
comp=Z,1µm,18.0s
PRP Porcupine Dome 104.90 340 IAMs_20 IAMs_20 02 48 27.7
comp=Z,852nm,18.0s
TIXI Tiksi 105.22 11 IAMs_20 IAMs_20 02 56 50.1
comp=Z,1µm,20.0s
SCRK Sand Creek 105.23 338 IAMs_20 IAMs_20 02 54 42.8
comp=Z,848nm,18.0s
DOT Dot Lake 105.45 338 IAMs_20 IAMs_20 02 54 47.4
comp=Z,1µm,18.0s
RIDG Independent Ri 105.68 339 IAMs_20 IAMs_20 02 55 04.6
comp=Z,998nm,18.0s
MENT Mentasta 105.71 338 IAMs_20 IAMs_20 02 46 16.4
comp=Z,1µm,20.0s
TABL Table Mountain 105.98 335 IAMs_20 IAMs_20 02 48 12.8
comp=Z,1µm,18.0s
COLA College 106.07 340 IAMs_20 IAMs_20 02 49 20.8
comp=Z,1µm,18.0s
MCARA McCarthy VSAT 106.28 336 IAMs_20 IAMs_20 02 47 59.5
comp=Z,1µm,20.0s
ISLE Juniper Island 106.41 335 IAMs_20 IAMs_20 02 50 10.0
comp=Z,1µm,19.0s
TGL Tana Glacier 106.53 335 IAMs_20 IAMs_20 02 50 07.3
comp=Z,1µm,18.0s
VRDI Verde Repeater 106.54 336 IAMs_20 IAMs_20 02 48 25.4
comp=Z,809nm,18.0s
CRQM Cirque 106.66 335 IAMs_20 IAMs_20 02 48 52.2
comp=Z,999nm,19.0s
WAX Waxell Ridge 106.70 335 IAMs_20 IAMs_20 02 47 07.9
comp=Z,1µm,20.0s
SHL Shillong 107.27 63 IAMs_20 IAMs_20 02 51 30.7
comp=Z,1µm,22.0s
RAGM Ragged Mountai 107.50 336 IAMs_20 IAMs_20 02 46 15.9
comp=Z,1µm,20.0s
BPAW Bear Paw Mtn. 107.61 341 IAMs_20 IAMs_20 02 49 53.5
comp=Z,812nm,18.0s
FID Port Fidalgo 108.03 336 IAMs_20 IAMs_20 02 46 46.4
comp=Z,1µm,20.0s
SML Sawmill 108.12 338 IAMs_20 IAMs_20 02 48 25.1
comp=Z,899nm,20.0s
GLI Glacier Island 108.20 337 IAMs_20 IAMs_20 02 46 38.2
comp=Z,1µm,21.0s
HIN Hinchinbrook I 108.24 336 IAMs_20 IAMs_20 02 47 55.5
comp=Z,1µm,20.0s
TLY Talaya 108.65 34 IAMs_20 IAMs_20 02 57 25.7
comp=Z,1µm,18.0s
MID Middleton Isla 108.73 335 IAMs_20 IAMs_20 02 49 23.5
comp=Z,1µm,19.0s
PPLA Purkeypile 108.81 340 IAMs_20 IAMs_20 02 52 49.6
comp=Z,979nm,18.0s
SEW Seward 109.60 337 IAMs_20 IAMs_20 02 47 32.5
comp=Z,942nm,21.0s
GTA Gaotai 110.67 47 *e*PKP **PKiKP 02 04 59.5 +3.3**
GTA PP **PP 02 05 39.0 +6.5**
GTA SS SS 02 21 05.5 +3.7
GTA AMB AMB
comp=Z,180nm,8.9s
GTA LR LR
comp=Z,720nm,20.3s
GTA LR LR
comp=Z,620nm,18.1s
GTA LR LR
comp=Z,960nm,20.6s
HOM Homer 110.74 337 IAMs_20 IAMs_20 02 50 02.4
comp=Z,1µm,20.0s
SONM Songino Array 111.93 37 Pdiff **Pdif 02 01 01.3 -0.2**
comp=Z,1.1nm,0.9s,baz=247,slow=3.1,SNR=5.8
OHAK Old Harbor 112.98 336 IAMs_20 IAMs_20 02 50 07.8
comp=Z,1µm,20.0s
YAK Yakutsk 113.25 16 IAMs_20 IAMs_20 03 01 21.8
comp=Z,804nm,19.0s
CHIR Chirikof Islan 114.88 336 IAMs_20 IAMs_20 02 59 49.1
comp=Z,788nm,18.0s
CD2 Chengdu 116.32 55 PKP **PKPdf 02 05 07.0 -0.2**
CD2 PP **PP 02 06 12.8 -0.1**
CD2 SKKS 02 13 09.3
CD2 SS **SS 02 22 19.5 +2.6**
CD2 AMB AMB
comp=Z,300nm,6.1s
CD2 LR LR
comp=Z,1µm,22.6s
CD2 LR LR
comp=Z,1µm,21.1s
CD2 LR LR
comp=Z,2µm,22.6s
KMI Kunming 116.99 62⇑ *e*PKP **PKPdf 02 05 05.8 -3.0**
KMI sPKP 02 05 13.5
KMI PP **PP 02 06 20.5 +2.5**
KMI SKKS 02 13 14.0
KMI SS **SS 02 22 29.5 +3.0**
KMI AMB AMB
comp=Z,370nm,5.5s
KMI LR LR
comp=Z,520nm,18.3s
KMI LR LR
comp=Z,480nm,17.3s
KMI LR LR
comp=Z,690nm,17.7s
KMI Kunming 116.99 62 IAMs_20 IAMs_20 03 03 09.7
comp=Z,756nm,19.0s
SDPT Sand Point 117.16 337 IAMs_20 IAMs_20 02 52 46.1
comp=Z,964nm,20.0s
IPM Ipoh 118.25 85 IAMs_20 IAMs_20 02 49 30.5
comp=Z,1µm,21.0s
BKNI Bangkinang 118.36 90 IAMs_20 IAMs_20 02 47 48.6
comp=Z,1µm,21.0s
HHC Hu-ho-hao-te 118.41 42 *e*PKP **PKiKP 02 05 12.5 +1.5**
HHC PP **PP 02 06 28.8 +1.8**
HHC SKKS 02 13 26.3
HHC SS **SS 02 22 45.8 +2.4**
HHC AMB AMB
comp=Z,92nm,6.0s
HHC LR LR
comp=Z,270nm,17.9s
HHC LR LR
comp=Z,440nm,18.7s
HHC LR LR
comp=Z,670nm,18.7s
SPIA Saint Paul Isl 118.97 344 IAMs_20 IAMs_20 03 04 58.6
comp=Z,812nm,18.0s
XAN Xi'an 119.38 50 IAMs_20 IAMs_20 03 03 31.6
comp=Z,1µm,20.0s
GYA Guiyang 120.06 59 PKP **PKiKP 02 05 19.0 +4.3**
GYA PP **PP 02 06 43.3 +4.2**
GYA SKS **SKSac 02 12 13.5 +1.9**
GYA SKKS **SKKSac 02 13 32.0 -7.3**
GYA S **Sdif 02 14 33.0 +2.0**
GYA Guiyang 120.06 59 SS SS 02 23 24.5 +19
GYA AMB AMB
comp=Z,130nm,9.0s
GYA LR LR
comp=N,390nm,21.3s
GYA LR LR
comp=E,450nm,20.9s
GYA LR LR
comp=Z,740nm,23.5s
AKUT Akutan 120.06 339 IAMs_20 IAMs_20 02 53 57.7
comp=Z,794nm,21.0s
UNV Unalaska Valle 120.55 339 IAMs_20 IAMs_20 02 56 48.7
comp=Z,892nm,19.0s
MYKOM Kota Tinggi 121.16 88 IAMs_20 IAMs_20 02 56 43.5
comp=Z,865nm,18.0s
ENH Enshi 121.20 54 IAMs_20 IAMs_20 03 00 46.3
comp=Z,921nm,22.0s
NIKH Nikolski High 122.08 340 IAMs_20 IAMs_20 02 57 19.0
comp=Z,1µm,19.0s
TAOE Nuku Hiva Isla 122.40 260 *e*LR LR 02 43 11.6
comp=Z,1µm,23.5s
KLR Kul'dur 124.18 24⇓ *i*PKIKP **PKPdf 02 05 22.1 +0.4**
ATKA Atka Island 124.43 343 IAMs_20 IAMs_20 03 00 18.1
comp=Z,965nm,19.0s
QIZ Qiongzhong 124.84 67 PKP **PKiKP 02 05 24.5 +0.4**
QIZ PP **PP 02 07 11.5 -0.1**
QIZ SS SS 02 24 10.0 +3.0
QIZ AMB AMB
comp=Z,190nm,12.0s
QIZ LR LR
comp=Z,390nm,19.4s
QIZ LR LR
comp=Z,470nm,17.8s
QIZ LR LR
comp=Z,610nm,18.0s
QIZ Qiongzhong 124.84 67 IAMs_20 IAMs_20 03 04 48.4
comp=Z,709nm,18.0s
DLV T Lat 124.92 75 IAMs_20 IAMs_20 02 57 17.2
comp=Z,753nm,20.0s
CN2 Changchun 125.17 32 *e*PKP **PKiKP 02 05 27.5 +3.4**
CN2 PP **PP 02 07 12.0 -0.5**
CN2 AMB AMB
comp=Z,350nm,6.0s
CN2 LR LR
comp=Z,980nm,19.0s
CN2 LR LR

	comp=Z,560nm,19.0s							
CN2					LR	LR		
	comp=Z,1μm,19.0s							
SNY	**Shenyang**	**125.42**	**35**		SS	SS	02 24 35.5	+24
SNY					AMB	AMB		
	comp=Z,220nm,6.9s							
SNY					LR	LR		
	comp=N,1μm,18.2s							
SNY					LR	LR		
	comp=E,410nm,18.2s							
SNY					LR	LR		
	comp=Z,2μm,19.2s							
SNY	**Shenyang**	**125.42**	**35**		PKP	**PKPdf**	**02 05 19.0**	**-5.2**
SNY					AMB	AMB		
	comp=Z,220nm,6.9s							
SNY					LR	LR		
	comp=Z,1μm,18.2s							
SNY					LR	LR		
	comp=Z,410nm,18.2s							
SNY					LR	LR		
	comp=Z,2μm,19.2s							
SNY	**Shenyang**	**125.42**	**35**		PKP	**PKPdf**	**02 05 19.0**	**-5.2**
SNY					PP	PP	02 06 58.0	-16
PEA0B	**Petropavlovsk-**	**126.88**	**4**		IAMs_20	IAMs_20	03 10 35.2	
	comp=Z,716nm,20.0s							
KSM	**Kuching**	**127.62**	**88**		IAMs_20	IAMs_20	02 59 32.8	
	comp=Z,904nm,19.0s							
NJ2	**Nanjing**	**127.76**	**48**	*e*	PKP	**PKiKP**	**02 05 30.5**	**+0.9**
NJ2					LR	LR		
	comp=Z,740nm,19.2s							
NJ2					LR	LR		
	comp=Z,780nm,17.8s							
NJ2					LR	LR		
	comp=Z,890nm,20.9s							
TBI	**Tubuai**	**128.09**	**240**	*e*	PP	PP	02 07 25.9	-7.0
	comp=Z,117nm,27.8s							
TBI	**Tubuai**	**128.09**	**240**	*e*	SS	SS	02 24 44.0	-3.1
	comp=Z,542nm,29.5s							
TBI	**Tubuai**	**128.09**	**240**	*e*	LQ	LQ	02 40 08.3	
	comp=Z,535nm,33.2s							
TBI					LR	LR	02 45 37.5	
	comp=Z,868nm,22.8s							
USRK	**Ussuriysk Ar.**	**128.18**	**28**		PKP	**PKiKP**	**02 05 30.6**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=299,slow=5.5,SNR=4.5							
USRK					PP	**PP**	**02 07 30.6**	**-1.6**
	comp=Z,2.7nm,0.9s,baz=318,slow=5.4,SNR=7.4							
SKR	**Severo-Kuril's**	**129.16**	**5**	*i*	PKHKP	PKPpre	02 05 07.7	
PPT2	**Papeete2**	**129.91**	**247**	*e*	PP	PP	02 07 43.8	-1.4
	comp=Z,199nm,25.8s							
PPT2	**Papeete2**	**129.91**	**247**	*e*	SS	SS	02 25 08.8	-1.4
	comp=Z,984nm,29.5s							
PPT2	**Papeete2**	**129.91**	**247**	*e*	LQ	LQ	02 40 40.8	
	comp=Z,2μm,36.5s							
PPT2					eLR	LR	02 46 37.8	
	comp=Z,1μm,23.2s							
SSE	**Sheshan**	**129.96**	**48**		PKP	**PKPdf**	**02 05 27.3**	**-5.9**
SSE					PP	**PP**	**02 07 46.8**	**+2.1**
SSE					SS	SS	02 25 10.0	+0.7
SSE					AMB	AMB		
	comp=Z,180nm,7.4s							
SSE					LR	LR		
	comp=Z,230nm,16.4s							
SSE					LR	LR		
	comp=Z,200nm,18.1s							
SSE	**Sheshan**	**129.96**	**48**		IAMs_20	IAMs_20	03 09 35.4	
	comp=Z,781nm,20.0s							
YSS	**Yuzh-Sakhalins**	**130.06**	**18**	*e*	PKIKP	**PKiKP**	**02 05 41.1**	**+7.4**
YSS				*e*			02 07 40.5	
YSS				*e*			02 12 31.5	
YSS				*e*			02 25 13.2	
YSS				*e*			02 30 04.8	
YSS	**Yuzh-Sakhalins**	**130.06**	**18**		IAMs_20	IAMs_20	03 04 09.1	
	comp=Z,736nm,22.0s							
QZH	**Quanzhou**	**130.68**	**56**	*e*	PKP	**PKPdf**	**02 05 30.0**	**-4.7**
QZH					PP	**PP**	**02 07 50.0**	**+0.3**
QZH					SS	SS	02 25 17.8	-1.0
QZH					AMB	AMB		
	comp=Z,220nm,7.4s							
QZH					LR	LR		
	comp=Z,390nm,17.1s							
QZH					LR	LR		
	comp=Z,400nm,18.4s							
QZH					LR	LR		
	comp=Z,530nm,16.8s							
KNMB	**Chin-men Tao**	**130.70**	**57**		IAMs_20	IAMs_20	03 09 59.1	
	comp=Z,813nm,19.0s							
KSRS	**Korea Array**	**130.80**	**37**		PP	PP	02 07 46.8	-2.9
	comp=Z,3.3nm,1.0s,baz=312,slow=5.4,SNR=8.5							
JAGI	**Jajag, Banyuwa**	**130.94**	**101**		IAMs_20	IAMs_20	02 53 58.9	
	comp=Z,1μm,22.0s							
TATO	**Taipei**	**133.06**	**55**		IAMs_20	IAMs_20	03 13 44.6	
	comp=Z,691nm,19.0s							
YHNB	**Yeheng**	**133.09**	**55**		IAMs_20	IAMs_20	03 13 21.4	
	comp=Z,933nm,20.0s							
SSLB	**Suanglung**	**133.11**	**57**		IAMs_20	IAMs_20	03 12 47.1	
	comp=Z,912nm,19.0s							
NACB	**Ninganchiao**	**133.49**	**56**		IAMs_20	IAMs_20	03 13 27.9	
	comp=Z,874nm,19.0s							
YOJ	**Yonaguni jima**	**134.53**	**55**		IAMs_20	IAMs_20	03 09 33.2	
	comp=Z,774nm,21.0s							
MYLDM	**Lahad Datu**	**135.58**	**83**		IAMs_20	IAMs_20	03 10 10.6	
	comp=Z,876nm,20.0s							
MJAR	**Matsushiro Arr**	**137.11**	**29**		PP	PP	02 08 28.6	-1.0
	comp=Z,0.9nm,0.3s,baz=302,slow=6.9,SNR=4.9							
INU	**Inuyama**	**137.43**	**32**		IAMs_20	IAMs_20	03 15 34.0	
	comp=Z,710nm,18.0s							
MMRI	**Maumere**	**138.82**	**103**		IAMs_20	IAMs_20	03 00 42.8	
	comp=Z,736nm,20.0s							
STKA	**Stephens Creek**	**142.58**	**150**		PKP	**PKPdf**	**02 05 55.2**	**-1.4**
	comp=Z,4.9nm,0.9s,baz=121,slow=0.8,SNR=4.3							
STKA	**Stephens Creek**	**142.58**	**150**		PKiKP	**PKPdf**	**02 05 55.6**	**-1.0**
STKA	**Stephens Creek**	**142.58**	**150**			**PKPdf**	**02 05 55.6**	**-1.0**
KNRA	**Kununurra**	**143.09**	**117**		PKPdf	PKPbc	02 05 54.7	0.0
ASAR	**Alice Springs**	**143.51**	**132**		PKhKP	PKPbc	02 05 55.2	-0.5
	comp=Z,8.5nm,0.9s,baz=221,slow=2.8,SNR=34							
ASAR					PKP	**PKPdf**	**02 05 58.8**	**+0.2**
	comp=Z,6.9nm,0.9s,baz=225,slow=2.3,SNR=14							
AS31	**Alice Springs**	**143.51**	**132**		PKPdf	PKPab	02 05 55.2	+0.4
TNTI	**Ternate**	**144.68**	**89**		PKPdf	**PKPab**	**02 05 59.0**	**-0.4**
WRA	**Warramunga Arr**	**145.92**	**127**		PKPbc	**PKPdf**	**02 06 03.3**	**+0.6**
	comp=Z,20nm,1.1s,baz=240,slow=2.1,SNR=20							
WB2	**Warramunga Arr**	**145.93**	**127**			**PKPdf**	**02 06 02.8**	**0.0**
WRAB	**Tennant Creek**	**145.94**	**127**		PKP2	**PKPdf**	**02 06 02.2**	**-0.6**
WRAB					MLR	MLR		
	comp=Z,2μm,19.0s							
WRAB	**Tennant Creek**	**145.94**	**127**			**PKPdf**	**02 06 02.2**	**-0.6**
MIDW	**Midway**	**146.01**	**327**		PKPdf	**PKPdf**	**02 06 02.3**	**-0.3**
WB0	**Warramunga Arr**	**146.06**	**127**			**PKPdf**	**02 06 03.0**	**0.0**
WR0	**Warramunga Arr**	**146.07**	**127**			**PKPdf**	**02 06 03.1**	**+0.1**
JCJ	**Chichijima**	**146.59**	**35**		PKPdf	**PKPdf**	**02 06 03.5**	**-0.2**
DZM	**Mont Dzumac**	**157.80**	**189**		eSS	SS	02 30 31.9	+4.6
	comp=Z,229nm,24.6s							
DZM	**Mont Dzumac**	**157.80**	**189**		eLR	LR	02 59 35.5	
	comp=Z,1μm,29.5s							

*NEIC **30** 01:51:15.4±2.0,55°.38N±0°.04×134°.92W±0°.07, h10km±5km, Error ellipse: s-maj=6.8km s-min=4.5km az=218.0*
*PGC **30** 01:51:16.2±0.1,55°.26N× 134°.90W, h10km, ML2.7/7, 201km Sse of Sitka, Ak Southeastern Alaska*

ISC 30 01:51:15.6±2.4, 55°27N±0°.04×134°.86W±0°.08, h6km±16km, n24, σ1°56/41, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRAG	**Craig**	**1.01**	**78**	Pg	**Pb**	**01 51 35.5**	**0.0**
CRAG					**Sb**	**01 51 48.5**	**-0.5**
NDB	**Naden**	**1.73**	**139**	Pn	**Pn**	**01 51 45.5**	**-0.7**
NDB				Sg	**Sb**	**01 52 10.2**	**+0.6**
NDB	**Naden**	**1.73**	**139**	Pn	**Pn**	**01 51 45.5**	**-0.7**
NDB				Sg	**Sb**	**01 52 10.2**	**+0.6**
SIT	**Sitka**	**1.81**	**352**	Pn	**Pn**	**01 51 45.7**	**-1.5**
WRAK	**Wrangell Islan**	**1.82**	**50**	Pn	**Pn**	**01 51 47.8**	**+0.4**
VIB	**Van Inlet**	**2.44**	**145**	Pn	**Pn**	**01 51 56.7**	**+0.7**
VIB				Sn	**Sn**	**01 52 24.9**	**-1.2**
VIB	**Van Inlet**	**2.44**	**145**	Pn	**Pn**	**01 51 56.7**	**+0.7**
VIB				Sn	**Sn**	**01 52 24.9**	**-1.2**
DIB	**Dawson Inlet,**	**2.50**	**145**	Pn	**Pn**	**01 51 57.1**	**+0.4**
DIB				Sn	**Sn**	**01 52 26.3**	**-1.2**
DIB				Sg	**Sg**	**01 52 34.6**	**-1.2**
DIB	**Dawson Inlet,**	**2.50**	**145**	Pn	**Pn**	**01 51 57.6**	**+0.8**
MOBC	**Moresby Island**	**2.72**	**140**	Pn	**Pn**	**01 52 00.3**	**+0.4**
MOBC				Sn	**Sn**	**01 52 32.8**	**-0.3**
MOBC				Sg	**Sg**	**01 52 41.5**	**-1.5**
MOBC	**Moresby Island**	**2.72**	**140**	Pn	**Pn**	**01 52 00.7**	**+0.9**
RUBB	**Prince Rupert**	**2.83**	**108**	Pn	**Pn**	**01 52 01.5**	**+0.3**
RUBB				Sg	**Sb**	**01 52 44.0**	**+2.7**
RUBB	**Prince Rupert**	**2.83**	**108**	Pn	**Pn**	**01 52 01.5**	**+0.3**
RUBB				Sg	**Sb**	**01 52 44.0**	**+2.7**
JIS	**Juneau Island**	**3.02**	**5**	Pn	**Pn**	**01 52 04.3**	**+0.4**
BNAB	**Bonilla**	**3.04**	**124**	Pn	**Pn**	**01 52 04.2**	**0.0**
BNAB				Sn	**Sn**	**01 52 38.8**	**-2.1**
BNAB	**Bonilla**	**3.04**	**124**	Pn	**Pn**	**01 52 04.2**	**0.0**
BNAB				Sn	**Sn**	**01 52 38.8**	**-2.1**
BNB	**Barry Inlet**	**3.26**	**145**	Pn	**Pn**	**01 52 07.6**	**+0.2**
BNB	**Barry Inlet**	**3.26**	**145**	Pn	**Pn**	**01 52 07.6**	**+0.2**
BESE	**Bessie Mountai**	**3.32**	**0**	Pn	**Pn**	**01 52 07.9**	**-0.2**
BESE	**Bessie Mountai**	**3.32**	**0**	Pn	**Pn**	**01 52 07.9**	**-0.2**
HG3B	**Hotspring**	**3.37**	**142**	Pn	**Pn**	**01 52 09.4**	**+0.7**
HG3B				Sn	**Sn**	**01 52 46.4**	**-2.5**
HG3B				Sg	**Sb**	**01 53 00.6**	**+3.8**
HG3B	**Hotspring**	**3.37**	**142**	Pn	**Pn**	**01 52 09.4**	**+0.7**
HG3B				Sn	**Sn**	**01 52 46.4**	**-2.5**
HG3B				Sg	**Sb**	**01 53 00.6**	**+3.8**
DLBC	**Dease Lake**	**4.14**	**38**	Sg	**Sb**	**01 53 21.1**	**+2.1**
SKAG	**Skagway**	**4.21**	**357**	Pn	**Pn**	**01 52 22.4**	**+2.2**

*AEIC **30** 01:55:01.7±2.5,51°.9N±0°.1×178°.27E±0°.08, h128km±4km, Error ellipse: s-maj=18.2km s-min=7.3km az=186.0*
*NEIC **30** 01:55:01.6±1.6,51°.9N±0°.2×178°.31E±0°.09, h121km±5km, mb3.9/27, ML3.3/22(AEIC), Error ellipse: s-maj=30.5km s-min=7.5km az=186.0*
*IDC **30** 01:55:05.5±5.6,52°.15N×178°.51E, h145km±51km, mb3.3/9, mb1 3.4/10, mb1mx3.2/68, mbtmpg3.7/10, Error ellipse: s-maj=55.1km s-min=17.6km az=5.0*

ISC 30 01:55:01.3±0.8, 51°.8N±0°.1×178°.30E±0°.05, h123km±5km, n58, σ1°11/65, mb3.9/18, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSSA	**Little Sitkin**	**0.23**	**34**		**Pn**	**01 55 18.6**	**+0.3**
LSSA					**Sn**	**01 55 31.3**	**+0.1**
LSW	**Little Sitkin**	**0.25**	**32**		**Pn**	**01 55 18.5**	**+0.2**
LSPA	**Little Sitkin**	**0.26**	**40**		**Pn**	**01 55 18.8**	**+0.4**
LSPA					**Sn**	**01 55 31.8**	**+0.5**
AMKA	**Amchitka**	**0.73**	**121**		**Pn**	**01 55 18.7**	**-2.4**
AMKA					**Sn**	**01 55 37.3**	**+1.2**
CETU	**Semis' Tuman**	**0.77**	**74**		**Pn**	**01 55 21.5**	**+0.1**
CERAA	**Semis' Rag'd T**	**0.87**	**80**		**Pn**	**01 55 22.4**	**+0.1**
CERAA					**Sn**	**01 55 37.6**	**-0.6**
GALAA	**Gareloi Lava P**	**1.82**	**89**		**Pn**	**01 55 34.2**	**+1.6**
GALAA					**Sn**	**01 55 57.3**	**+0.7**
TASE	**Tanaga Southea**	**2.27**	**87**		**Pn**	**01 55 39.1**	**+0.8**
TAPA	**Tanaga Point A**	**2.41**	**87**		**Pn**	**01 55 39.7**	**-0.4**
SMY	**Shemya**	**2.76**	**292**		**Pn**	**01 55 44.0**	**-0.5**
SMY					**Sn**	**01 56 16.9**	**-0.8**
KIMD	**Kanaga Island**	**2.77**	**88**		**Pn**	**01 55 44.0**	**-0.6**
KICM	**Kanaga Island**	**2.80**	**85**		**Pn**	**01 55 44.4**	**-0.6**
KIKV	**Kanaga Island**	**2.81**	**86**		**Pn**	**01 55 44.7**	**-0.5**
ADK	**Adak**	**3.11**	**86**		**Pn**	**01 55 48.6**	**-0.5**
ADK				Sn	**Sn**	**01 56 25.5**	**-0.4**
GSMY	**Great Sitkin M**	**3.51**	**83**		**Pn**	**01 55 53.5**	**-0.8**
GSTR	**Great Sitkin T**	**3.51**	**82**		**Pn**	**01 55 54.0**	**-0.3**
ATKA	**Atka Island**	**4.66**	**82**	Pn	**Pn**	**01 56 08.9**	**-0.7**
NIKH	**Nikolski High**	**7.96**	**76**	Pn	**Pn**	**01 56 55.0**	**+1.0**
PEA0B	**Petropavlovsk-**	**12.64**	**284**	Pn	**Pn**	**01 57 58.9**	**+2.3**
PETK	**Petropavlovsk-**	**12.64**	**284**	P	**P**	**01 58 00.7**	**-2.3**
	0.3nm,0.3s,baz=96,slow=16,SNR=2.4						
SDPT	**Sand Point**	**13.11**	**66**	Pn	**Pn**	**01 58 00.8**	**-1.7**
CNBA	**Chernabura Isl**	**13.56**	**68**	Pn	**Pn**	**01 58 05.9**	**-2.6**
OHAK	**Old Harbor**	**17.31**	**60**	P	**P**	**01 58 52.8**	**-1.8**
OHAK				IAmb	IAmb	01 59 11.4	
	comp=Z,7.8nm,1.0s						
KDAK	**Kodiak Island**	**17.75**	**59**	P	**P**	**01 58 57.2**	**-2.3**
KDAK				IAmb	IAmb	01 59 01.1	
	comp=Z,22nm,1.5s						
CNPM	**China Poot**	**18.73**	**54**	P	**P**	**01 59 09.5**	**-0.6**
CNPM				IAmb	IAmb	01 59 24.4	
	comp=Z,19nm,1.2s						
SKT	**Skwentna**	**19.21**	**46**	P	**P**	**01 59 14.6**	**-0.9**
SKT				IAmb	IAmb	01 59 21.9	
	comp=Z,4.4nm,0.9s						
PPLA	**Purkeypile**	**19.24**	**43**	P	**P**	**01 59 15.6**	**-0.3**
PPLA				IAmb	IAmb	01 59 26.1	
	comp=Z,4.4nm,1.0s						
BPAW	**Bear Paw Mtn.**	**20.20**	**41**	P	**P**	**01 59 25.8**	**-0.3**
TRF	**Thorofare Moun**	**20.25**	**43**	P	**P**	**01 59 26.5**	**-0.2**
TRF				IAmb	IAmb	01 59 29.4	
	comp=Z,2.6nm,0.7s						
SCM	**Sheep Creek Mo**	**21.09**	**48**	P	**P**	**01 59 34.9**	**-0.8**
SCM				IAmb	IAmb	01 59 40.3	
	comp=Z,7.3nm,1.0s						
DHY	**Denali Highway**	**21.38**	**45**	P	**P**	**01 59 39.2**	**+0.4**
WRH	**Wood River Hil**	**21.52**	**41**	P	**P**	**01 59 40.3**	**+0.2**
WRH				IAmb	IAmb	01 59 52.4	
	comp=Z,3.3nm,1.2s						
IL31		**22.11**	**41**	P	**P**	**01 59 44.7**	**-1.5**
ILAR	**Eielson Array**	**22.11**	**41**	P	**P**	**01 59 44.6**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=232,slow=8.7,SNR=5.2						
RIDG	**Independent Ri**	**22.66**	**44**	P	**P**	**01 59 51.7**	**-0.2**
GLB	**Gilahina Butte**	**22.67**	**50**	P	**P**	**01 59 51.8**	**-0.3**
VRDI	**Verde Repeater**	**22.82**	**51**	P	**P**	**01 59 52.9**	**-0.7**
VRDI				IAmb	IAmb	02 00 02.0	
	comp=Z,4.2nm,1.3s						
DOT	**Dot Lake**	**22.97**	**44**	P	**P**	**01 59 53.9**	**-0.9**
SCRK	**Sand Creek**	**23.08**	**43**	P	**P**	**01 59 53.5**	**-2.5**
EGAK	**Eagle**	**24.46**	**42**	P	**P**	**02 00 07.8**	**-0.5**
EGAK				IAmb	IAmb	02 00 09.1	
	comp=Z,2.8nm,0.8s						
DAWY	**Dawson**	**25.08**	**44**	P	**P**	**02 00 14.1**	**0.0**
DAWY				IAmb	IAmb	02 00 14.8	
	comp=Z,2.2nm,0.9s						
HYT	**Haines Junctio**	**25.68**	**52**	P	**P**	**02 00 21.9**	**+2.3**
HYT				IAmb	IAmb	02 00 23.6	
	comp=Z,3.2nm,0.7s						
K05A	**Summer Lake**	**41.15**	**78**	P	**P**	**02 02 34.7**	**+1.2**
K05A				IAmb	IAmb	02 02 36.2	
	comp=Z,5.9nm,1.3s						
SONM	**Songino Array**	**44.85**	**295**	P	**P**	**02 03 04.6**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=69,slow=7.1,SNR=5.2						
NVAR	**Mina Array Bea**	**45.29**	**81**	P	**P**	**02 03 07.4**	**+0.6**
	comp=Z,0.5nm,0.5s,baz=302,slow=7.3,SNR=2.4						
PV13	**Radium Mtn., P**	**51.23**	**75**	P	**P**	**02 03 52.4**	**+0.1**
PV13				IAmb	IAmb	02 04 06.2	
	comp=Z,4.3nm,1.2s						
KURK	**Kurchatov**	**57.44**	**312**	P	**P**	**02 04 37.6**	**+0.8**
KURBB	**Kurchatov Arra**	**57.54**	**312**	P	**P**	**02 04 38.0**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=42,slow=6.7,SNR=13						
MK31	**Makanchi Array**	**58.37**	**307**	P	**P**	**02 04 43.1**	**-0.3**
MK31				IAmb	IAmb	02 04 45.8	
	comp=Z,2.2nm,1.2s						
MKAR	**Makanchi Array**	**58.37**	**307**	P	**P**	**02 04 43.3**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=57,slow=7.4,SNR=1.3						
MAKZ	**Makanchi**	**58.51**	**307**	P	**P**	**02 04 44.6**	**+0.2**
BVAR	**Borovoye Array**	**59.41**	**318**	P	**P**	**02 04 51.2**	**+0.7**
	comp=Z,1.2nm,0.4s,baz=61,slow=5.8,SNR=5.4						
BRVK	**Borovoye**	**59.43**	**318**	P	**P**	**02 04 51.5**	**+0.9**
TX31	**Lajitas Ar. Si**	**60.37**	**79**	P	**P**	**02 04 58.3**	**+0.8**
TXAR	**Lajitas Array**	**60.37**	**79**	P	**P**	**02 04 57.7**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=290,slow=5.7,SNR=2.4						
KDJ	**Kajisay**	**64.25**	**306**	P	**P**	**02 05 24.4**	**+1.1**
FINES	**FINESS Array B**	**64.99**	**346**	P	**P**	**02 05 27.1**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=26,slow=6.8,SNR=3.7						
AKTO	**Aktyubinsk**	**66.31**	**323**	P	**P**	**02 05 36.6**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=45,slow=5.5,SNR=4.2						

*IDC **30** 01:56:08.4±1.0,6°.90S×154°.73E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.8/38, mbtmpg3.8/8, ML3.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.5/36, Error ellipse: s-maj=37.3km s-min=26.3km az=118.0*
*NEIC **30** 01:56:13.4±0.9,6°.88S±0°.08×154°.87E±0°.08, h35km±1km, mb4.1/6, Error ellipse: s-maj=16.0km s-min=10.8km az=226.0*

ISC 30 01:56:13.9±0.6, 6°.84S±0°.07×154°.81E±0°.08, h41km, n21, σ1°15/23, mb3.9/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.73**	**315**		**Pn**	**01 57 09.2**	**+0.3**
RABL				Sn	**Sn**	**01 57 53.5**	**+1.8**
KRVT	**Keravat (AS076**	**3.75**	**312**	Pn	**Pn**	**01 57 08.2**	**-1.0**
	9.4nm,0.3s,baz=55,slow=3.0,SNR=5.0						
KRVT				Sn	**Sn**	**01 57 49.0**	**-3.1**
	11nm,0.3s,baz=124,slow=7.3,SNR=3.9						
HNR	**Honiara**	**5.70**	**117**	LR	LR	01 59 58.2	
HNR	**Honiara**	**5.70**	**117**	Pn	**Pn**	**01 57 34.5**	**-1.6**
PMG	**Port Moresby**	**8.00**	**251**	Pn	**Pn**	**01 58 08.0**	**+0.4**
PATS	**Pohnpei**	**14.03**	**14**	Pn	**Pn**	**01 59 29.4**	**-0.8**
CTAO	**Charters Tower**	**15.57**	**211**	Pn	**Pn**	**01 59 50.4**	**-0.3**
CTAO				IAmb	IAmb	01 59 56.5	
	comp=Z,16nm,1.1s						
DZM	**Mont Dzumac**	**18.85**	**145**	P	**P**	**02 00 30.3**	**-0.5**
DZM				IAmb	IAmb	02 00 33.7	
	comp=Z,16nm,1.4s						
WB2	**Warramunga Arr**	**23.75**	**235**	P	**P**	**02 01 22.4**	**-0.3**
WB2				IAmb	IAmb	02 01 28.2	
	comp=Z,24nm,1.4s						
WRA	**Warramunga Arr**	**23.76**	**235**	P	**P**	**02 01 21.1**	**-1.7**
	comp=Z,3.9nm,1.1s,baz=57,slow=9.9,SNR=3.0						
ASAR	**Alice Springs**	**26.14**	**228**	P	**P**	**02 01 44.3**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=58,slow=9.4,SNR=6.3						
STKA	**Stephens Creek**	**27.80**	**205**	P	**P**	**02 01 59.2**	**0.0**
QSPA	**South Pole Qui**	**83.14**	**180**	P	**P**	**02 08 36.1**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=90,slow=1.8,SNR=1.6						
QSPA	**South Pole Qui**	**83.14**	**180**	P	**P**	**02 08 35.8**	**+0.3**
MK31	**Makanchi Array**	**83.17**	**319**	P	**P**	**02 08 36.4**	**+0.6**
MK31				IAmb	IAmb	02 08 37.4	
	comp=Z,1.5nm,0.9s						
MKAR	**Makanchi Array**	**83.17**	**319**	P	**P**	**02 08 36.7**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=92,slow=5.9,SNR=4.9						
ILAR	**Eielson Array**	**83.30**	**22**	P	**P**	**02 08 37.0**	**+0.9**
	comp=Z,0.3nm,0.8s,baz=236,slow=4.2,SNR=2.6						
ZALV	**Zalesovo Beam**	**83.95**	**326**	P	**P**	**02 08 39.7**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=134,slow=4.2,SNR=2.0						
NVAR	**Mina Array Bea**	**91.77**	**52**	P	**P**	**02 09 19.7**	**+1.8**
	comp=Z,0.5nm,0.7s,baz=270,slow=6.3,SNR=3.9						
GERES	**GERESS Array B**	**126.83**	**329**	PKP	**PKiKP**	**02 15 14.6**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=77,slow=2.1,SNR=3.9						
TORD	**Torodi Ar. Bea**	**152.81**	**285**	PKPbc	**PKPbc**	**02 16 07.5**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=42,slow=2.5,SNR=8.1						
TORD				PKPab	**PKPab**	**02 16 19.0**	**+0.4**
	comp=Z,0.6nm,0.6s,baz=68,slow=3.7,SNR=4.4						

LJU 30 01:58:04.6, 46°.39N×15°.07E, h0km Rockburst, Northwestern Balkan Peninsula

IDC 30 01:59:19.2±3.9, 1°.65N×92°.73E, h0km, mb3.2/2, mb1 3.6/4, mb1mx3.3/60, mbtmpg3.4/4, ML3.9/2, MS3.4/2, Ms1 3.4/2, ms1mx3.1/12, Error ellipse: s-maj=84.1km s-min=45.4km az=22.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**6.29**	**79**	Pn	Pn	02 00 52.6	-0.8
	1.0nm,0.3s,baz=185,slow=1.6,SNR=2.4						
PSI				Sn	Sn	02 01 56.1	-10
	3.2nm,0.3s,baz=180,slow=11,SNR=2.9						
PSI				LR	LR	02 03 31.5	
	comp=Z,169nm,20.8s,baz=273,slow=40						
CMAR	**Chiang Mai Arr**	**17.78**	**20**	P	Pn	02 03 28.7	+0.4
	0.4nm,0.3s,baz=212,slow=12,SNR=1.3						
MKAR	**Makanchi Array**	**45.88**	**350**	P	P	02 07 43.0	-0.4
	0.2nm,0.6s,baz=155,slow=11,SNR=1.9						
KURBB	**Kurchatov Arra**	**50.26**	**348**	P	P	02 08 16.9	-0.3
	0.2nm,0.5s,baz=168,slow=5.3,SNR=2.1						
MJAR	**Matsushiro Arr**	**54.45**	**45**	LR	LR	02 32 54.1	
	comp=Z,95nm,21.4s,baz=65,slow=37						
TXAR	**Lajitas Array**	**145.42**	**26**	PKPbc	PKPbc	02 18 59.7	-0.3
	0.3nm,0.9s,baz=308,slow=3.1,SNR=1.9						

*OSPL **30** 02:08:21.0±1.0, 18°.91N×66°.46W, h18km±9km, ML2.1*
*NEIC **30** 02:08:21.3±1.1, 19°.08N±0°.04×66°.77W±0°.03, h25km±12km, Error ellipse: s-maj=7.4km s-min=2.3km az=211.0*
*RSPR **30** 02:08:23.8, 19°.07N×66°.76W, h46km±4km, MD2.8/10*

ISC 30 02:08:21.2±1.7, 19°.09N±0°.07×66°.77W±0°.03, h23km±14km, n41, σ0°44/54, 8C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EMPR	**Esperanza - Ma**	**0.65**	**159**	*e* P	**Pn**	**02 08 35.5**	**+0.5**
EMPR	**Esper

baz=341
H11S1 WAKE ISLAND Hy 29.54 155 T T 03 00 40.0
baz=342
H11S3 WAKE ISLAND Hy 29.55 155 T T 03 00 40.0
baz=342
H11S2 WAKE ISLAND Hy 29.56 155 T T 03 00 39.1
baz=342
MKAR Makanchi Array 47.72 298 P **P** **02 32 18.3 -0.7**
0.7nm,0.9s,baz=70,slow=6.3,SNR=3.7
KAPI Kappang 59.34 221 LR LR 02 59 09.6
comp=Z,414nm,20.6s,baz=260,slow=36
NVAR Mina Array Bea 62.18 63 P **P** **02 34 03.8 0.0**
0.3nm,0.7s,baz=318,slow=7.3,SNR=2.0
BATI Baumata 62.36 214 LR LR 03 07 35.9
comp=Z,524nm,18.2s,baz=238,slow=42
FINES FINESS Array B 64.80 335 P **P** **02 34 21.1 +0.6**
0.6nm,0.4s,baz=34,slow=8.4,SNR=10
WRA Warramunga Arr 68.17 200 LR LR 03 02 02.3
comp=Z,489nm,21.8s,baz=260,slow=34
ASAR Alice Springs 71.86 199 P **P** **02 35 05.0 -0.1**
0.7nm,0.7s,baz=6.9,slow=4.7,SNR=5.4
AKASG Malin Array Be 72.34 327 P **P** **02 35 08.1 +0.3**
0.4nm,0.4s,baz=31,slow=6.0,SNR=2.6
TXAR Lajitas Array 77.26 61 P **P** **02 35 36.9 +0.1**
0.5nm,0.5s,baz=305,slow=4.1,SNR=5.8

*IDC **30** 02:25:54.1±0.7,55°.25S×28°.76W,h0km,mb4.1/5, mb1 4.1/6,mb1mx3.9/31,mbtmp4.1/6,ML4.2/1,MS3.9/1, Ms1 3.9/1,ms1mx3.1/28,Error ellipse: s-maj=38.2km s-min=18.9km az=69.0*
*NEIC **30** 02:25:55.8±1.4,55°.2S±0°.1×28°.8W±0°.2,h10km±1km, mb4.3/11,Error ellipse: s-maj=25.2km s-min=16.8km az=39.0*
ISC 30 02:25:55.6±0.6,55°.2S±0°.1×28°.8W±0°.1,h10km,n28, σ1§22/29,mb4.2/10,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.55**	**278**	Pn	**Pn**	**02 27 03.6**	**-0.9**
VNA1	**Neumayer--Stat**	**17.95**	**158**	P	**P**	**02 30 10.2**	**+4.7**
VNA3	**Neumayer Olymp**	**18.12**	**160**	P	**P**	**02 30 08.2**	**+0.8**
SNAA	**Sanae**	**19.91**	**156**	P	**P**	**02 30 26.1**	**-0.9**
SNAA	**Sanae**	**19.91**	**156**	P	**P**	**02 30 25.8**	**-1.2**
SNAA	0.7nm,0.3s,baz=294,slow=11,SNR=24			LR	LR	02 37 03.2	
	comp=Z,310nm,18.7s,baz=7.5,slow=34						
SNAA	**Sanae**	**19.91**	**156**	P	**P**	**02 30 26.2**	**-0.9**
QSPA	**South Pole Qui**	**35.08**	**180**	P	**P**	**02 32 48.7**	**+0.2**
	1.8nm,0.6s,baz=203,slow=1.8,SNR=30						
QSPA	**South Pole Qui**	**35.08**	**180**	P	**P**	**02 32 48.8**	**+0.2**
QSPA				IAmb	IAmb	02 32 49.8	
	comp=Z,2.8nm,0.8s						
CPUP	**Villa Florida**	**35.55**	**312**	P	**P**	**02 32 52.0**	**-0.7**
	comp=Z,3.5nm,0.7s,baz=174,slow=7.0,SNR=6.3						
CPUP	**Villa Florida**	**35.55**	**312**	P	**P**	**02 32 52.6**	**-0.1**
MT01	**Popeta**	**36.25**	**288**	P	**P**	**02 32 59.0**	**+0.3**
VA03	**San Esteban**	**36.71**	**290**	P	**P**	**02 33 02.7**	**0.0**
VA03				IAmb	IAmb	02 33 16.8	
	comp=Z,9.3nm,0.9s						
ROC1	**El Roble**	**36.80**	**289**	P	**P**	**02 33 04.8**	**+1.1**
MAW	**Mawson**	**41.39**	**145**	P	**P**	**02 33 39.9**	**-1.5**
	comp=Z,1.6nm,0.7s,baz=267,slow=10.0,SNR=3.0						
MAW	**Mawson**	**41.39**	**145**	P	**P**	**02 33 40.5**	**-0.8**
BDFB	**Brasilia**	**42.16**	**332**	P	**P**	**02 33 49.2**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=82,slow=3.5,SNR=4.2						
BDFB	**Brasilia**	**42.16**	**332**	P	**P**	**02 33 48.8**	**+0.5**
BDFB				IAmb	IAmb	02 33 52.2	
	comp=Z,8.4nm,1.4s						
VNDA	**Vanda**	**47.40**	**183**	P	**P**	**02 34 29.9**	**+0.5**
VNDA				IAmb	IAmb	02 34 30.6	
	comp=Z,2.3nm,0.9s						
LPAZ	**La Paz**	**49.13**	**306**	P	**P**	**02 34 44.5**	**+0.4**
LPAZ				IAmb	IAmb	02 35 00.6	
	comp=Z,3.5nm,0.9s						
CASY	**Casey**	**55.03**	**161**	P	**P**	**02 35 26.6**	**0.0**
CASY				IAmb	IAmb	02 35 39.4	
	comp=Z,5.9nm,1.1s						
TOA0	**Torodi Ar. Sit**	**72.76**	**31**	P	**P**	**02 37 23.5**	**-0.4**
TOA0				IAmb	IAmb	02 37 33.6	
	comp=Z,1.9nm,1.0s						
TORD	**Torodi Ar. Bea**	**72.76**	**31**	P	**P**	**02 37 24.5**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=202,slow=5.9,SNR=12						
ASAR	**Alice Springs**	**100.09**	**164**	P	**Pdif**	**02 39 39.5**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=180,slow=4.4,SNR=4.5						
FINES	**FINESS Array B**	**124.04**	**28**	PKP	**PKPdf**	**02 44 52.4**	**-0.2**
	comp=Z,3.7nm,1.0s,baz=238,slow=2.6,SNR=6.1						
ARCES	**ARCESS Array B**	**130.47**	**22**	PKP	**PKiKP**	**02 45 06.1**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=144,slow=2.1,SNR=3.6						
ILAR	**Eielson Array**	**148.85**	**313**	PKPbc	**PKiKP**	**02 45 42.5**	**-0.7**
	comp=Z,1.5nm,0.8s,baz=121,slow=1.6,SNR=13						
BPAW	**Bear Paw Mtn.**	**150.47**	**311**		**PKiKP**	**02 45 46.6**	**-0.1**
SONM	**Songino Array**	**151.58**	**86**	PKPbc	**PKPbc**	**02 45 48.5**	**-0.7**
	comp=Z,1.1nm,0.5s,baz=226,slow=3.0,SNR=7.5						
SONM				PKPab	**PKPab**	**02 45 58.0**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=230,slow=3.8,SNR=4.9						

*IDC **30** 02:29:39.0±1.4,19°.71S×70°.61W,h0km,mb3.7/5, mb1 3.8/8,mb1mx3.7/29,mbtmp3.8/8,ML3.6/3,Error ellipse: s-maj=32.6km s-min=16.8km az=90.0*
*NEIC **30** 02:29:40.3±2.3,19°.86S±0°.04×70°.94W±0°.05,h15km±2km, Error ellipse: s-maj=7.0km s-min=4.6km az=22.0*
*GUC **30** 02:29:42.1±0.7,19°.87S×70°.87W,h37km±2km,ML4.0*
ISC 30 02:29:40.3±1.4,19°.84S±0°.03×70°.88W±0°.05,h15km±9km, n61,σ1§11/73,mb4.1/5,8C-4D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSGC	**Pisagua**	**0.76**	**72**	⇓*i*P	**Pn**	**02 29 56.3**	**-0.3**
PSGC				*i* S	**Sn**	**02 30 07.0**	**-0.8**
PSGCX	**Pisagua**	**0.76**	**72**		**Pn**	**02 29 56.2**	**-0.3**
PSGCX				Sg	**Sn**	**02 30 06.8**	**-1.0**
TA02	**Huaiquique**	**0.83**	**121**	*e*P	**Pg**	**02 29 57.1**	**+0.7**
TA02				*i* S	**Sb**	**02 30 08.1**	**+0.7**
TA02				IAML		02 30 10.8	
	comp=N,6μm,0.1s						
TA01	**Diego Aracena**	**0.98**	**138**	⇓*i*P	**Pb**	**02 29 59.5**	**+0.5**
TA01				*i* S	**Sb**	**02 30 11.9**	**+0.1**
TA01				IAML		02 30 18.2	
	comp=E,6μm,0.4s						
TA01	**Diego Aracena**	**0.98**	**138**		**Pb**	**02 29 59.5**	**+0.5**
TA01				Sg	**Sb**	**02 30 12.3**	**+0.6**
PB11	**IPOC Station P**	**1.16**	**86**	⇓*i*P	**Pg**	**02 30 02.9**	**+0.1**
PB11				*i* S	**Sn**	**02 30 18.4**	**+0.6**
PB11				IAML		02 30 24.2	
	comp=N,5μm,0.3s						
PB11	**IPOC Station P**	**1.16**	**86**	Pn	**Pg**	**02 30 02.8**	**+0.1**
PB11				Sn	**Sn**	**02 30 18.6**	**+0.8**
PB12	**IPOC Station P**	**1.33**	**23**	⇑*i*P	**Pb**	**02 30 05.6**	**+0.6**
PB12				*i* S	**Sg**	**02 30 23.3**	**+0.1**
PB12				IAML		02 30 27.2	
	comp=N,3μm,0.3s						
PB12				IAML		02 30 28.9	
	comp=E,1μm,0.2s						
PB12	**IPOC Station P**	**1.33**	**23**	Pn	**Pb**	**02 30 05.6**	**+0.6**
MNMC	**Minye Minye**	**1.40**	**60**	⇓*i*P	**Pg**	**02 30 07.3**	**-0.1**
MNMC				*i* S	**Sg**	**02 30 26.2**	**+0.5**
MNMC				IAML		02 30 33.5	
	comp=N,4μm,0.3s						
MNMC	**Minye Minye**	**1.40**	**60**		**Pg**	**02 30 07.1**	**-0.3**
AP01	**Chacalluta**	**1.55**	**19**	*e*P	**Pb**	**02 30 09.2**	**+0.5**
AP01				*i* S	**Sg**	**02 30 30.1**	**-0.1**
AP01				IAML		02 30 36.1	
	comp=E,5μm,0.5s						
AP01	**Chacalluta**	**1.55**	**19**	Pn	**Pb**	**02 30 09.3**	**+0.6**
GO01	**Chusmiza**	**1.60**	**84**	⇑*i*P	**Pb**	**02 30 10.2**	**+0.3**
GO01				*i* S	**Sg**	**02 30 32.1**	**+0.1**
GO01				IAML		02 30 33.6	
	comp=N,6μm,0.3s						
GO01	**Chusmiza**	**1.60**	**84**		**Pb**	**02 30 09.8**	**-0.1**
PB08	**IPOC Station P**	**1.65**	**101**	*e*P	**Pb**	**02 30 10.5**	**-0.3**
PB08				*i* S	**Sg**	**02 30 32.9**	**-0.9**
PB08				IAML		02 30 41.4	
	comp=N,1μm,0.5s						
PB08	**IPOC Station P**	**1.65**	**101**		**Pb**	**02 30 10.4**	**-0.3**
PB02	**IPOC Station P**	**1.74**	**148**	⇑*i*P	**Pn**	**02 30 10.3**	**+0.2**
PB02				*i* S	**Sb**	**02 30 34.0**	**+0.2**
PB02				IAML		02 30 41.6	
	comp=E,6μm,0.5s						
PB01	**IPOC Station P**	**1.77**	**133**	⇑*i*P	**Pn**	**02 30 11.4**	**+0.8**
PB01				*i* S	**Sn**	**02 30 34.0**	**+1.0**
PB01				IAML		02 30 40.3	
	comp=E,2μm,0.6s						
PB01	**IPOC Station P**	**1.77**	**133**	⇑*i*P	**Pn**	**02 30 11.4**	**+0.8**
PB07	**IPOC Station P**	**2.10**	**154**	⇑*i*P	**Pn**	**02 30 15.0**	**-0.1**
PB07				IAML		02 30 53.0	
	comp=E,3μm,0.9s						
PB07	**IPOC Station P**	**2.10**	**154**	Pn	**Pn**	**02 30 15.0**	**-0.1**
PB03	**IPOC Station P**	**2.44**	**155**	⇑*i*P	**Pn**	**02 30 19.8**	**-0.1**
PB03				IAML		02 31 04.2	
	comp=E,841nm,0.7s						
PB09	**IPOC Station P**	**2.48**	**142**	⇑*i*P	**Pn**	**02 30 21.9**	**+1.5**
PB09				IAML		02 31 03.7	
	comp=E,2μm,0.7s						
PB09	**IPOC Station P**	**2.48**	**142**		**Pn**	**02 30 21.7**	**+1.3**
PB04	**IPOC Station P**	**2.58**	**165**	*e*P	**Pn**	**02 30 20.5**	**-1.2**
PB04				*i* S	**Sn**	**02 30 49.3**	**-3.5**
PB04				IAML		02 31 08.7	
	comp=N,760nm,0.7s						
PB04	**IPOC Station P**	**2.58**	**165**		**Pn**	**02 30 20.8**	**-0.9**
PB06	**IPOC Station P**	**3.10**	**157**	⇑*i*P	**Pn**	**02 30 28.5**	**-0.5**
PB06				IAML		02 31 21.3	
	comp=E,1μm,0.8s						
PB06	**IPOC Station P**	**3.10**	**157**		**Pn**	**02 30 28.4**	**-0.6**
LVC	**Limon Verde**	**3.31**	**147**	Pn	**Pn**	**02 30 33.5**	**+1.4**
	comp=E,9.4nm,0.3s,baz=355,slow=9.2,SNR=40						
LVC				Sn	**Sn**	**02 31 11.9**	**+0.5**
	comp=E,20nm,0.3s,baz=264,slow=23,SNR=3.5						
LVC				Lg	Lg	02 31 22.9	
	comp=E,30nm,0.3s,baz=84,slow=8.0,SNR=13						
PB15	**IPOC Station P**	**3.60**	**159**	Pn	**Pn**	**02 30 35.2**	**-0.7**
PB10	**IPOC Station P**	**3.67**	**175**	*e*P	**Pn**	**02 30 34.9**	**-1.7**
PB10				IAML		02 31 18.4	
	comp=E,137nm,0.4s						
PB10	**IPOC Station P**	**3.67**	**175**	Pn	**Pn**	**02 30 35.0**	**-1.7**
LPAZ	**La Paz**	**4.40**	**37**	Pn	Pn	02 30 52.2	+5.0
	comp=E,0.2nm,0.3s,baz=259,slow=16,SNR=17						
GO02	**Mina Guanaco**	**5.43**	**168**	Pn	**Pn**	**02 31 00.5**	**-0.6**
AC01	**Pan de Azucar**	**6.29**	**178**	Pn	**Pn**	**02 31 10.5**	**-2.1**
AC02	**Maricunga**	**7.15**	**167**	Pn	**Pn**	**02 31 24.3**	**-0.6**
AC05	**El Transito**	**8.97**	**177**	Pn	**Pn**	**02 31 49.3**	**-0.3**
SIV	**San Ignacio**	**10.09**	**69**	Pn	**Pn**	**02 32 03.0**	**-1.8**
	comp=E,0.9nm,0.3s,baz=280,slow=8.3,SNR=20						
CO03	**El Pedregal**	**10.96**	**179**	Pn	**Pn**	**02 32 15.4**	**-1.3**
CFA	**Coronel Fontan**	**11.96**	**169**	Pn	**Pn**	**02 32 32.4**	**+2.0**
	comp=E,0.2nm,0.3s,baz=341,slow=12,SNR=1.9						
SAML	**Samuel**	**13.14**	**36**	Pn	**Pn**	**02 32 46.0**	**-0.5**
GO05	**Huala**	**15.14**	**183**	Pn	**Pn**	**02 33 14.7**	**+0.9**
GO05				IAmb	IAmb	02 33 28.0	
	comp=Z,36nm,1.4s						
H03N1	**Juan Fernandez**	**15.32**	**206**	T	T	02 49 01.9	
	baz=32,slow=72						
H03N2	**Juan Fernandez**	**15.33**	**206**	T	T	02 48 58.8	
	baz=32,slow=72						
H03N3	**Juan Fernandez**	**15.34**	**206**	T	T	02 48 59.1	
	baz=32,slow=72						
BI02	**San Fabin de**	**16.77**	**181**	Pn	**Pn**	**02 33 34.9**	**+0.2**
PLCA	**Paso Flores**	**20.83**	**179**	P	**P**	**02 34 23.4**	**+1.9**
	comp=Z,0.6nm,0.5s,baz=6.1,slow=12,SNR=1.7						
PLCA	**Paso Flores**	**20.83**	**179**	P	**P**	**02 34 22.9**	**+1.4**
PLCA				IAmb	IAmb	02 34 37.5	
	comp=Z,9.1nm,1.4s						
PTGA	**Pitinga**	**21.79**	**31**	P	**P**	**02 34 29.3**	**-2.6**
	comp=Z,3.3nm,0.3s,baz=229,slow=19,SNR=8.6						
PTGA	**Pitinga**	**21.79**	**31**	P	**P**	**02 34 30.9**	**-1.0**
BDFB	**Brasilia**	**22.17**	**83**	P	**P**	**02 34 33.7**	**-2.5**
	comp=Z,1.3nm,0.5s,baz=210,slow=14,SNR=1.8						
BDFB	**Brasilia**	**22.17**	**83**	P	**P**	**02 34 34.4**	**-1.8**
BDFB				IAmb	IAmb	02 34 40.8	
	comp=Z,13nm,1.5s						
RUSC	**La Rusia**	**25.66**	**355**	P	**P**	**02 35 10.7**	**+0.4**
WMOK	**Wichita Mounta**	**60.41**	**334**	P	**P**	**02 39 50.2**	**+0.9**
BATG	**Bathurst New B**	**66.94**	**4**	P	**P**	**02 40 33.0**	**+1.0**
QSPA	**South Pole Qui**	**70.34**	**180**	P	**P**	**02 40 55.1**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=168,slow=8.1,SNR=8.2						
QSPA	**South Pole Qui**	**70.34**	**180**	P	**P**	**02 40 54.8**	**+1.4**
QSPA				IAmb	IAmb	02 41 01.1	
	comp=Z,1.8nm,1.1s						
TOA0	**Torodi Ar. Sit**	**78.56**	**71**	P	**P**	**02 41 40.7**	**-1.2**
TOA0				IAmb	IAmb	02 41 52.6	
	comp=Z,11nm,1.5s						
TORD	**Torodi Ar. Bea**	**78.56**	**71**	P	**P**	**02 41 41.2**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=255,slow=4.8,SNR=12						
MKAR	**Makanchi Array**	**145.32**	**33**	PKPbc	**PKPbc**	**02 49 17.7**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=317,slow=4.2,SNR=3.5						

*IDC **30** 02:40:37.7±4.2,35°.50N×71°.09E,h0km,mb3.7/4, mb1 3.8/4,mb1mx3.4/44,mbtmp3.7/4,Error ellipse: s-maj=118.4km s-min=33.6km az=135.0*
*NNC **30** 02:40:55.2±4.3,36°.51N×70°.37E,h115km±83km,mb3.5, mpv3.9,Error ellipse: s-maj=33.0km s-min=27.8km az=28.0*
ISC 30 02:40:56.4±1.5,36°.6N±0°.1×70°.4E±0°.1,h110km,n17, σ1§40/22,mb3.5/3,5C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**6.13**	**24**	P	**Pn**	**02 42 24.3**	**-0.5**
	SNR=36						
UCH	**Uchtor**	**6.50**	**28**	P	**Pn**	**02 42 29.1**	**-0.9**
	SNR=12						
KK31	**Karatay Array**	**6.54**	**1**	⇓P	**Pn**	**02 42 30.4**	**+0.3**
	4.6nm,0.4s,baz=181,slow=12,SNR=81						
KK31				⇓S	**Sn**	**02 43 44.9**	**+1.7**
	1.2nm,0.3s,baz=183,slow=23,SNR=4.6						
EKS2	**Erkin-Say**	**6.64**	**22**	P	**Pn**	**02 42 32.1**	**+0.6**
	SNR=6.2						
KZA	**Kyzart**	**6.68**	**33**	P	**Pn**	**02 42 31.0**	**-1.4**
	SNR=8.2						
AAK	**Ala-Archa**	**6.85**	**26**	P	**Pn**	**02 42 34.2**	**-0.2**
	SNR=5.5						
AAK	**Ala-Archa**	**6.85**	**26**	⇓P	**Pn**	**02 42 33.3**	**-1.1**
	4.7nm,0.5s						
AAK				S	**Sn**	**02 43 50.6**	**-0.4**
	3.8nm,0.5s						
CHMS	**Chumysh**	**7.26**	**26**	P	**Pn**	**02 42 39.2**	**-0.6**
	SNR=6.9						
USP	**Ospenovka**	**7.41**	**24**	P	**Pn**	**02 42 41.4**	**-0.4**
	SNR=6.6						
TKM2	**Tokmak 2**	**7.52**	**31**	P	**Pn**	**02 42 42.8**	**-0.7**
	SNR=7.5						
TKM2	**Tokmak 2**	**7.52**	**31**	⇑P	**Pn**	**02 42 42.1**	**-1.4**
	2.8nm,0.5s						
TKM2				⇑S	**Sn**	**02 44 08.0**	**+0.8**
	2.4nm,0.8s						
AB31	**Akbulak array**	**14.80**	**332**	⇓P	**Pn**	**02 44 19.3**	**-0.7**
	3.5nm,0.5s,baz=160,slow=12,SNR=116						
AB31				⇑S	**Sn**	**02 47 01.9**	**-1.4**
	0.7nm,0.6s,baz=161,slow=23,SNR=3.4						
AKTO	**Aktyubinsk**	**16.49**	**331**	⇑P	**P**	**02 44 41.7**	**-0.1**
	4.2nm,0.8s						
AKTO				⇑S	**Sn**	**02 47 41.0**	**-3.0**
	0.7nm,0.6s						
ZALV	**Zalesovo Beam**	**20.07**	**25**	P	**P**	**02 45 20.6**	**-0.3**
	2.0nm,0.4s,baz=214,slow=10,SNR=8.9						
ARCES	**ARCESS Array B**	**40.91**	**338**	P	**P**	**02 48 30.7**	**+3.3**
	0.6nm,0.7s,baz=103,slow=7.8,SNR=4.7						
TORD	**Torodi Ar. Bea**	**65.22**	**268**	P	**P**	**02 51 24.9**	**-1.6**
	0.3nm,0.5s,baz=51,slow=5.8,SNR=11						
YKA	**Yellowknife Ar**	**81.21**	**2**	P	**P**	**02 53 00.5**	**+0.9**
	0.4nm,0.8s,baz=349,slow=5.4,SNR=0.9						

ISC 30 02:44:49.9±1.1,55°.28S×28°.47W,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.6/26,mbtmp3.6/4,ML4.0/1,Error ellipse: s-maj=49.4km s-min=26.0km az=73.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.75**	**156**	P	P	02 49 20.7	-0.2
	0.5nm,0.3s,baz=288,slow=12,SNR=9.0						
QSPA	**South Pole Qui**	**34.98**	**180**	P	P	02 51 43.7	+0.1
	0.8nm,0.8s,baz=183,slow=2.3,SNR=5.6						
LPAZ	**La Paz**	**49.34**	**306**	P	P	02 53 41.5	-0.1
	0.4nm,0.3s,baz=218,slow=9.2,SNR=5.6						
TORD	**Torodi Ar. Bea**	**72.75**	**31**	P	P	02 56 19.8	0.0
	0.2nm,0.5s,baz=204,slow=6.4,SNR=4.8						
ILAR	**Eielson Array**	**149.06**	**313**	PKPbc	PKPbc	03 04 37.9	-0.6
	0.8nm,0.7s,baz=118,slow=1.7,SNR=13						

*MAN **30** 02:45:51.4,0°.80N×124°.32E,h43km,mb5.3,ML4.3,MS4.4*
*NEIC **30** 02:45:51.8±1.5,0°.95N±0°.09×124°.12E±0°.07,h245km±8km, mb4.4/45,Error ellipse: s-maj=12.9km s-min=10.7km az=182.0*
*IDC **30** 02:45:51.8±1.6,0°.99N×124°.10E,h250km±17km,mb3.8/13, mb1 3.9/17,mb1mx3.6/41,mbtmp4.4/17,Error ellipse: s-maj=16.3km s-min=8.9km az=77.0*
*DJA **30** 02:45:53.5±0.5,1°.1N±5°.1×124°.4E±1°.1,h244km±4km,M4.3/12, mB4.5/1,mb4.2/4,MLv4.3/12,Mw(mB)3.6/1*
ISC 30 02:45:52.0±0.4,0°.93N±0°.04×124°.16E±0°.05,h250km,n84, σ0§84/96,mb4.3/35,1D,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**0.40**	**207**	P	**Pn**	**02 46 26.1**	**+1.4**
KMSI				S	**S**	**02 46 51.7**	**+1.4**
MRSI	**Marisa**	**2.27**	**259**	P	**Pn**	**02 46 38.1**	**+1.1**
MRSI				S	**S**	**02 47 13.5**	**+1.1**
LUWI	**Luwuk**	**2.40**	**215**	P	**Pn**	**02 46 38.2**	**-0.1**
LUWI				S	**S**	**02 47 13.5**	**-1.4**
LUWI	**Luwuk**	**2.40**	**215**	Pn	**Pn**	**02 46 38.5**	**+0.2**
LUWI				S	**S**	**02 47 12.8**	**-2.1**
TNTI	**Ternate**	**3.21**	**93**	P	**Pn**	**02 46 47.5**	**+0.7**
TNTI				S	**S**	**02 47 30.5**	**+0.4**
TNTI	**Ternate**	**3.21**	**93**		**Pn**	**02 46 47.5**	**+0.7**
TNTI				S	**S**	**02 47 29.7**	**-0.5**
SANI	**Sanana**	**3.48**	**148**	P	**Pn**	**02 46 48.9**	**-0.9**
MPSI	**Mapaga**	**4.30**	**262**	P	**Pn**	**02 47 00.3**	**+0.8**
DDMP	**Don Marcelino,**	**5.37**	**17**	*e*P	**Pn**	**02 47 12.5**	**+0.1**
DDMP				*e*S	**S**	**02 48 15.1**	**-1.5**
SKMP	**Bagumbayan, Su**	**5.57**	**4**	*e*P	**Pn**	**02 47 15.2**	**+0.3**
SKMP				*e*S	S	02 48 31.0	+10
TTSI	**Tana Toraja**	**5.87**	**228**	P	**Pn**	**02 47 20.4**	**+1.8**
	0.3nm92nm,0.9s						
KCP	**Kidapawan**	**6.11**	**9**	⇓*i*P	**Pn**	**02 47 23.3**	**+1.6**
MATI	**Mati**	**6.33**	**19**	*e*P	**Pn**	**02 47 25.5**	**+1.1**
MATI				*e*S	**S**	**02 48 37.9**	**-0.5**
SPSI	**Sidrap Palu**	**6.55**	**222**	P	**Pn**	**02 47 27.3**	**+0.2**
	0.2nm783nm67nm,0.6s						
BBSI	**Bau Bau**	**6.57**	**194**	P	**Pn**	**02 47 26.6**	**-0.7**
	0.0nm7.5nm,1.1s						
BNSI	**Bone**	**6.67**	**217**	P	**Pn**	**02 47 28.4**	**-0.2**
BUKP	**Musuan**	**6.96**	**7**	*e*P	**Pn**	**02 47 33.0**	**+0.7**
BUKP				*e*S	**S**	**02 48 53.9**	**+1.1**
MYLDM	**Lahad Datu**	**7.06**	**307**		**Pn**	**02 47 34.9**	**+1.4**
SIJI	**Sorong**	**7.32**	**104**	P	**Pn**	**02 47 37.8**	**+0.9**
	4.0nm,0.3s,baz=290,slow=9.8,SNR=4.5						
KAPI	**Kappang**	**7.37**	**217**	P	**Pn**	**02 47 38.2**	**+0.9**
	1.9nm,0.3s,baz=243,slow=4.6,SNR=5.2						
KAPI				S	**S**	**02 49 01.5**	**-0.5**
	0.2nm,0.3s,baz=216,slow=19,SNR=1.0						
KAPI	**Kappang**	**7.37**	**217**		**Pn**	**02 47 38.5**	**+1.1**
FAKI	**Fak Fak**	**8.94**	**115**	Pn	**Pn**	**02 47 57.7**	**+0.4**
KKM	**Kota Kinabalu**	**9.42**	**303**	Pn	**Pn**	**02 48 04.0**	**+0.6**
SBUM	**Sibu**	**12.03**	**277**		**P**	**02 48 37.5**	**-1.6**
MTN	**Manton Dam**	**15.33**	**153**		**Pn**	**02 49 16.6**	**+0.3**
UGM	**Wanagama**	**16.19**	**237**	P	**P**	**02 49 24.6**	**-0.5**
JAY	**Jayapura**	**16.89**	**102**	P	**Pn**	**02 49 34.6**	**-0.2**
	0.7nm,0.3s,baz=274,slow=14,SNR=2.0						
KNRA	**Kununurra**	**17.11**	**165**	P	**Pn**	**02 49 36.3**	**-1.0**
FITZ	**Fitzroy Crossi**	**18.96**	**176**	P	**P**	**02 49 55.5**	**+0.4**
	1.0nm,0.3s,baz=18,slow=9.3,SNR=19						
FITZ	**Fitzroy Crossi**	**18.96**	**176**	P	**P**	**02 49 55.3**	**+0.2**
FITZ				IAmb	IAmb	02 50 01.0	
	comp=Z,6.2nm,0.7s						
TWG	**Pinlang**	**21.97**	**352**	P	**P**	**02 50 25.7**	**-0.2**
TPUB	**Ta-pu**	**22.50**	**351**	P	**P**	**02 50 30.2**	**-0.6**
YULB	**Yu-li**	**22.50**	**353**	P	**P**	**02 50 30.4**	**-0.3**
YULB				IAmb	IAmb	02 50 31.7	
	comp=Z,13nm,0.6s						
WB0	**Warramunga Arr**	**22.88**	**155**	P	**P**	**02 50 34.8**	**+0.5**
SSLB	**Suanglung**	**22.94**	**352**	P	**P**	**02 50 34.9**	**+0.2**
SSLB				IAmb	IAmb	02 50 38.7	
	comp=Z,23nm,0.7s						
WRAB	**Tennant Creek**	**23.01**	**155**	P	**P**	**02 50 35.8**	**+0.4**
WRA	**Warramunga Arr**	**23.02**	**155**	P	**P**	**02 50 36.0**	**+0.5**
	comp=Z,20nm,0.6s,baz=334,slow=10.0,SNR=38						
WB2	**Warramunga Arr**	**23.02**	**155**	P	**P**	**02 50 35.8**	**+0.3**
WR0	**Warramunga Arr**	**23.12**	**154**	P	**P**	**02 50 36.7**	**+0.4**
WR0				IAmb	IAmb	02 50 39.7	
	comp=Z,33nm,1.1s						
YOJ	**Yonaguni jima**	**23.42**	**357**	P	**P**	**02 50 39.8**	**+0.7**
YHNB	**Yeheng**	**23.76**	**354**	P	**P**	**02 50 42.3**	**+0.1**
YHNB				IAmb	IAmb	02 50 45.2	
	comp=Z,19nm,0.6s						
COEN	**Coen**	**23.95**	**129**	P	**P**	**02 50 43.7**	**-0.2**
COEN				IAmb	IAmb

ARU IAmb IAmb 02 57 13.0
comp=Z,4.0nm,0.7s

SDPT Sand Point 80.94 34 P **P** **02 57 38.8 +0.3**
SVW2 Sparrevohn 84.48 29 P **P** **02 57 57.1 +0.5**
SVW2 IAmb IAmb 02 58 12.0
comp=Z,5.7nm,1.2s

WRH Wood River Hil 88.19 26 P **P** **02 58 13.9 -0.6**
CCB Clear Creek Bu 88.32 25 P **P** **02 58 14.3 -0.8**
ILAR Eielson Array 88.72 25 P **P** **02 58 15.3 -1.7**
comp=Z,0.2nm,0.5s,baz=240,slow=4.9,SNR=8.9

RIDG Independent Ri 89.61 26 P **P** **02 58 21.2 -0.1**
RIDG IAmb IAmb 02 58 22.2
comp=Z,3.0nm,1.0s

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*IDC **30** 02:49:11.0±12.0, 17°.17S×178°.58W, h547km±150km, mb3.2/8, mb1 3.5/8, mb1mx3.2/39, mbtmp4.1/8, Error ellipse: s-maj=96.7km s-min=35.4km az=165.0*
*NEIC **30** 02:49:16.0±0.7, 17°.4S±0°.1×178°.6W±0°.1, h613km±10km, mb4.0/11, Error ellipse: s-maj=20.1km s-min=19.1km az=53.0*

ISC 30 02:49:15.2±0.8, **17°.4S**±0°.2×**178°.6W**±0°.2, **h600**km, **n24**, σ0**s82**/24, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.25**	**263**	P	**P**	**02 50 37.3**	**+1.4**
MSWZ	**Moikau Station**	**24.56**	**191**	P	**P**	**02 53 50.2**	**+0.8**
ARMA	**Armidale**	**30.09**	**239**	P	**P**	**02 54 37.0**	**-0.8**
COEN	**Coen**	**36.95**	**270**	P	**P**	**02 55 36.3**	**+1.0**
STKA	**Stephens Creek**	**38.76**	**241**	P	**P**	**02 55 49.1**	**-0.7**
	2.8nm,0.5s,baz=94,slow=10,SNR=8.1						
STKA	**Stephens Creek**	**38.76**	**241**	P	**P**	**02 55 49.2**	**-0.7**
BBOO	**Buckleboo**	**43.54**	**240**	P	**P**	**02 56 26.4**	**-1.1**
BBOO				IAmb	IAmb	02 56 43.2	
	comp=Z,7.6nm,1.1s						
WB0	**Warramunga Arr**	**44.55**	**259**	P	**P**	**02 56 34.8**	**-0.6**
WB0				IAmb	IAmb	02 56 35.5	
	comp=Z,3.5nm,0.5s						
WB2	**Warramunga Arr**	**44.57**	**259**	P	**P**	**02 56 34.5**	**-1.1**
WB2				IAmb	IAmb	02 56 47.6	
	comp=Z,6.2nm,1.1s						
WRA	**Warramunga Arr**	**44.58**	**259**	P	**P**	**02 56 34.9**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=94,slow=7.2,SNR=14						
AS31	**Alice Springs**	**44.79**	**254**	P	**P**	**02 56 36.7**	**-0.6**
AS31				IAmb	IAmb	02 56 37.8	
	comp=Z,3.6nm,0.5s						
ASAR	**Alice Springs**	**44.79**	**254**	P	**P**	**02 56 36.9**	**-0.4**
	comp=Z,13nm,0.7s,baz=87,slow=8.6,SNR=121						
FORT	**Forrest**	**50.19**	**244**	P	**P**	**02 57 15.1**	**-1.6**
FITZ	**Fitzroy Crossi**	**52.97**	**260**	P	**P**	**02 57 37.5**	**0.0**
	comp=Z,1.9nm,0.8s,baz=94,slow=15,SNR=0.9						
NWAO	**Narrogin (SRO)**	**59.33**	**242**	P	**P**	**02 58 21.8**	**+0.8**
NWAO				IAmb	IAmb	02 58 36.0	
	comp=Z,21nm,1.1s						
NVAR	**Mina Array Bea**	**79.13**	**44**	P	**P**	**03 00 19.1**	**0.0**
	comp=Z,0.5nm,0.7s,baz=221,slow=7.7,SNR=4.1						
SCRK	**Sand Creek**	**85.36**	**15**	P	**P**	**03 00 50.6**	**+0.8**
SCRK				IAmb	IAmb	03 00 56.6	
	comp=Z,1.1nm,1.1s						
IL31		**85.38**	**13**	P	**P**	**03 00 49.7**	**0.0**
ILAR	**Eielson Array**	**85.38**	**13**	P	**P**	**03 00 49.0**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=232,slow=5.3,SNR=4.2						
MNTX	**Cornudas Mount**	**85.39**	**55**	P	**P**	**03 00 50.4**	**-0.1**
MNTX				IAmb	IAmb	03 00 51.0	
	comp=Z,0.5nm,0.7s						
TX31	**Lajitas Ar. Si**	**85.83**	**58**	P	**P**	**03 00 53.0**	**+0.2**
TXAR	**Lajitas Array**	**85.83**	**58**	P	**P**	**03 00 53.0**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=229,slow=5.9,SNR=11						
PDAR	**Pinedale Array**	**87.06**	**44**	P	**P**	**03 00 57.7**	**-0.7**
	comp=Z,0.2nm,0.5s,baz=64,slow=4.4,SNR=1.5						
GERES	**GERESS Array B**	**147.04**	**345**	PKPbc	**PKPbc**	**03 07 51.4**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=32,slow=3.9,SNR=4.9						

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*IDC **30** 02:51:24.2±1.0, 55°.15S×28°.55W, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.7/30, mbtmp3.9/5, ML4.4/1, Error ellipse: s-maj=41.8km s-min=23.4km az=64.0*
*NEIC **30** 02:51:25.9±1.4, 55°.2S±0°.1×28°.7W±0°.2, h10km±1km, mb4.3/11, Error ellipse: s-maj=27.6km s-min=11.2km az=42.0*

ISC 30 02:51:25.6±0.7, **55°.2S**±0°.1×**28°.7W**±0°.1, **h10**km, **n25**, σ0**s57**/25, **mb4.2/8**, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.63**	**278**	Pn	**Pn**	**02 52 35.2**	**-0.4**
SNAA	**Sanae**	**19.87**	**156**	P	**P**	**02 55 56.2**	**-0.4**
	1.0nm,0.3s,baz=315,slow=11,SNR=21						
SNAA	**Sanae**	**19.87**	**156**	P	**P**	**02 55 56.0**	**-0.7**
QSPA	**South Pole Qui**	**35.07**	**180**	P	**P**	**02 58 19.1**	**+0.6**
QSPA				IAmb	IAmb	02 58 30.5	
	comp=Z,4.4nm,1.1s						
CPUP	**Villa Florida**	**35.62**	**312**	P	**P**	**02 58 22.9**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=172,slow=8.8,SNR=3.7						
CPUP	**Villa Florida**	**35.62**	**312**	P	**P**	**02 58 23.1**	**-0.2**
CPUP				IAmb	IAmb	02 58 30.6	
	comp=Z,7.3nm,1.3s						
MT02	**Curacav**	**36.73**	**289**	P	**P**	**02 58 31.8**	**-0.9**
ROC1	**El Roble**	**36.87**	**289**	P	**P**	**02 58 35.0**	**+0.7**
MAW	**Mawson**	**41.34**	**145**	P	**P**	**02 59 10.2**	**-0.7**
AC01	**Pan de Azucar**	**42.06**	**296**	P	**P**	**02 59 17.7**	**+0.3**
GO01	**Chusmiza**	**46.78**	**303**	P	**P**	**02 59 56.6**	**+0.9**
GO01				IAmb	IAmb	03 00 11.9	
	comp=Z,5.8nm,1.4s						
VNDA	**Vanda**	**47.40**	**183**	P	**P**	**02 59 59.8**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=190,slow=6.8,SNR=6.2						
VNDA	**Vanda**	**47.40**	**183**	P	**P**	**02 59 60.0**	**+0.7**
VNDA				IAmb	IAmb	03 00 04.4	
	comp=Z,1.6nm,1.0s						
MNMC	**Minye Minye**	**47.43**	**303**	P	**P**	**03 00 01.5**	**+0.9**
MNMC				IAmb	IAmb	03 00 15.8	
	comp=Z,3.3nm,0.8s						
LPAZ	**La Paz**	**49.20**	**306**	P	**P**	**03 00 14.9**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=266,slow=15,SNR=8.2						
LPAZ	**La Paz**	**49.20**	**306**	P	**P**	**03 00 14.1**	**-0.5**
LPAZ				IAmb	IAmb	03 00 17.8	
	comp=Z,1.5nm,0.8s						
TOA0	**Torodi Ar. Sit**	**72.72**	**31**	P	**P**	**03 02 54.2**	**+0.5**
TOA0				IAmb	IAmb	03 03 03.1	
	comp=Z,6.5nm,1.3s						
TORD	**Torodi Ar. Bea**	**72.72**	**31**	P	**P**	**03 02 53.6**	**-0.1**
	comp=Z,1.4nm,0.9s,baz=200,slow=5.8,SNR=5.5						
DOT	**Dot Lake**	**147.45**	**311**		**PKPbc**	**03 11 08.4**	**0.0**
RIDG	**Independent Ri**	**147.81**	**311**		**PKPbc**	**03 11 10.1**	**+0.7**
IL31		**148.92**	**313**		**PKPbc**	**03 11 12.2**	**+0.2**
ILAR	**Eielson Array**	**148.92**	**313**	PKPbc	**PKPbc**	**03 11 12.4**	**+0.3**
	comp=Z,2.1nm,0.6s,baz=115,slow=1.6,SNR=51						
TOLK	**Toolik Lake Re**	**150.48**	**320**		**PKiKP**	**03 11 16.3**	**-0.3**
BPAW	**Bear Paw Mtn.**	**150.54**	**311**		**PKPbc**	**03 11 16.3**	**+0.2**
SONM	**Songino Array**	**151.50**	**86**	PKPbc	**PKPbc**	**03 11 18.8**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=229,slow=3.5,SNR=2.9						

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*IDC **30** 03:04:05.9±1.0, 55°.03S×28°.80W, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/32, mbtmp3.8/5, Error ellipse: s-maj=44.2km s-min=23.0km az=82.0*
*NEIC **30** 03:04:07.1±0.8, 55°.11S±0°.10×28°.6W±0°.2, h10km±1km, mb4.3/11, Error ellipse: s-maj=23.5km s-min=4.1km az=47.0*

ISC 30 03:04:07.2±0.7, **55°.1S**±0°.1×**28°.7W**±0°.1, **h10**km, **n18**, σ0**s61**/18, **mb4.1/9**, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.61**	**277**	Pn	**Pn**	**03 05 16.8**	**-0.1**
SNAA	**Sanae**	**19.98**	**156**	P	**P**	**03 08 38.2**	**-1.2**
SNAA				IAmb	IAmb	03 08 55.2	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**35.18**	**180**	P	**P**	**03 11 01.4**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=202,slow=3.3,SNR=16						
QSPA	**South Pole Qui**	**35.18**	**180**	P	**P**	**03 11 01.3**	**+0.3**
QSPA				IAmb	IAmb	03 11 04.1	
	comp=Z,2.0nm,0.7s						
CPUP	**Villa Florida**	**35.53**	**312**	P	**P**	**03 11 04.7**	**+0.5**
CPUP				IAmb	IAmb	03 11 06.1	
	comp=Z,4.9nm,1.1s						
MT02	**Curacav**	**36.68**	**289**	P	**P**	**03 11 14.0**	**0.0**
MAW	**Mawson**	**41.43**	**145**	P	**P**	**03 11 53.8**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=248,slow=5.4,SNR=2.1						
MAW	**Mawson**	**41.43**	**145**	P	**P**	**03 11 52.9**	**-0.4**
AC01	**Pan de Azucar**	**42.00**	**296**	P	**P**	**03 11 58.6**	**+0.1**
LVC	**Limon Verde**	**44.08**	**301**	P	**P**	**03 12 15.7**	**-0.1**
LVC				IAmb	IAmb	03 12 16.6	
	comp=Z,3.7nm,0.9s						
BOSA	**Boshof**	**46.56**	**78**	P	**P**	**03 12 35.0**	**-0.1**
BOSA				IAmb	IAmb	03 12 37.9	
	comp=Z,6.6nm,1.2s						
VNDA	**Vanda**	**47.51**	**183**	P	**P**	**03 12 42.4**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=182,slow=7.8,SNR=6.9						
VNDA	**Vanda**	**47.51**	**183**	P	**P**	**03 12 42.1**	**+0.3**
LPAZ	**La Paz**	**49.12**	**306**	P	**P**	**03 12 54.2**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=186,slow=3.0,SNR=2.3						
LPAZ	**La Paz**	**49.12**	**306**	P	**P**	**03 12 54.9**	**-0.8**
LPAZ				IAmb	IAmb	03 13 10.4	
	comp=Z,2.5nm,1.0s						
TOA0	**Torodi Ar. Sit**	**72.63**	**31**	P	**P**	**03 15 35.1**	**+0.4**
TOA0				IAmb	IAmb	03 15 36.9	
	comp=Z,7.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**72.63**	**31**	P	**P**	**03 15 35.0**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=203,slow=6.6,SNR=9.4						
ILAR	**Eielson Array**	**148.84**	**313**	PKPbc	**PKPbc**	**03 23 53.8**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=131,slow=2.2,SNR=20						

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*IDC **30** 03:05:35.1±1.4, 55°.18S×26°.98W, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/31, mbtmp3.7/4, Error ellipse: s-maj=45.1km s-min=34.2km az=69.0*
*NEIC **30** 03:05:36.9±1.2, 55°.3S±0°.1×27°.2W±0°.2, h10km±1km, mb4.4/12, Error ellipse: s-maj=25.4km s-min=17.9km az=206.0*

ISC 30 03:05:36.9±0.8, **55°.2S**±0°.1×**27°.3W**±0°.1, **h10**km, **n18**, σ0**s75**/18, **mb4.3/9**, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.43**	**276**	Pn	**Pn**	**03 06 57.7**	**-0.1**
SNAA	**Sanae**	**19.50**	**157**	P	**P**	**03 10 03.7**	**-0.1**
PMSA	**Palmer Station**	**20.41**	**227**	P	**P**	**03 10 13.6**	**-0.1**
QSPA	**South Pole Qui**	**35.01**	**180**	P	**P**	**03 12 28.2**	**-1.1**
MT01	**Popeta**	**37.11**	**287**	P	**P**	**03 12 47.1**	**-0.2**
CFA	**Coronel Fontan**	**37.21**	**292**	P	**P**	**03 12 48.4**	**+0.2**
	0.7nm,0.5s,baz=176,slow=9.0,SNR=3.6						
MT02	**Curacav**	**37.50**	**287**	P	**P**	**03 12 51.1**	**+0.5**
MT02				IAmb	IAmb	03 12 54.6	
	comp=Z,26nm,1.4s						
CO03	**El Pedregal**	**39.12**	**290**	P	**P**	**03 13 05.0**	**+0.7**
CO03				IAmb	IAmb	03 13 06.0	
	comp=Z,11nm,1.4s						
CO01	**Juntas del Tor**	**39.47**	**292**	P	**P**	**03 13 08.2**	**+0.7**
CO01				IAmb	IAmb	03 13 15.8	
	comp=Z,11nm,1.5s						
VNDA	**Vanda**	**47.38**	**183**	P	**P**	**03 14 10.6**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=164,slow=6.2,SNR=4.7						
VNDA	**Vanda**	**47.38**	**183**	P	**P**	**03 14 10.8**	**+0.4**
GO01	**Chusmiza**	**47.49**	**301**	P	**P**	**03 14 12.3**	**-0.1**
GO01				IAmb	IAmb	03 14 29.6	
	comp=Z,4.7nm,1.4s						
CRZF	**Crozet Islands**	**48.18**	**114**	P	**P**	**03 14 18.4**	**+1.4**
LPAZ	**La Paz**	**49.88**	**305**	P	**P**	**03 14 31.8**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=168,slow=7.9,SNR=2.8						
LPAZ	**La Paz**	**49.88**	**305**	P	**P**	**03 14 31.5**	**+0.4**
LPAZ				IAmb	IAmb	03 14 33.4	
	comp=Z,2.6nm,1.1s						
TOA0	**Torodi Ar. Sit**	**72.37**	**30**	P	**P**	**03 17 01.4**	**-1.3**
TOA0				IAmb	IAmb	03 17 05.6	
	comp=Z,7.1nm,1.5s						
TORD	**Torodi Ar. Bea**	**72.37**	**30**	P	**P**	**03 17 01.7**	**-1.1**
	comp=Z,0.3nm,0.5s,baz=201,slow=5.8,SNR=1.8						
ILAR	**Eielson Array**	**149.54**	**313**	PKPbc	**PKPbc**	**03 25 24.9**	**0.0**
	comp=Z,1.0nm,0.7s,baz=128,slow=2.6,SNR=6.3						

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*IDC **30** 03:07:20.8±1.0, 55°.25S×27°.00W, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.8/34, mbtmp3.8/7, ML3.6/1, Error ellipse: s-maj=43.0km s-min=20.8km az=63.0*
*NEIC **30** 03:07:22.3±1.4, 55°.3S±0°.1×27°.1W±0°.2, h10km±1km, mb4.3/13, Error ellipse: s-maj=27.0km s-min=17.6km az=42.0*

ISC 30 03:07:24.5±0.8, **55°.3S**±0°.1×**27°.2W**±0°.1, **h25**km, **n25**, σ0**s74**/25, **mb4.2/10**, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.49**	**277**	Pn	**Pn**	**03 08 43.9**	**-0.7**
SNAA	**Sanae**	**19.42**	**157**	P	**Pn**	**03 11 50.4**	**+0.6**
	0.2nm,0.3s,baz=309,slow=13,SNR=2.4						
SNAA	**Sanae**	**19.42**	**157**	P	**Pn**	**03 11 49.2**	**-0.6**
QSPA	**South Pole Qui**	**34.94**	**180**	P	**P**	**03 14 14.1**	**+0.1**
	1.1nm,0.5s,baz=207,slow=2.2,SNR=3.2						
QSPA	**South Pole Qui**	**34.94**	**180**	P	**P**	**03 14 14.2**	**+0.1**
QSPA				IAmb	IAmb	03 14 19.9	
	comp=Z,2.1nm,0.9s						
BO02	**Sierra Bellavi**	**36.23**	**286**	P	**P**	**03 14 26.1**	**+0.9**
BO02				IAmb	IAmb	03 14 26.9	
	comp=Z,9.1nm,1.1s						
MT01	**Popeta**	**37.18**	**287**	P	**P**	**03 14 32.5**	**-0.8**
MT02	**Curacav**	**37.57**	**287**	P	**P**	**03 14 36.4**	**-0.2**
ROC1	**El Roble**	**37.72**	**288**	P	**P**	**03 14 39.3**	**+1.2**
AC05	**El Transito**	**40.55**	**293**	P	**P**	**03 15 03.4**	**+1.7**
AC05				IAmb	IAmb	03 15 15.8	
	comp=Z,14nm,1.5s						
MAW	**Mawson**	**40.74**	**144**	P	**P**	**03 15 03.1**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=234,slow=7.8,SNR=3.5						
MAW	**Mawson**	**40.74**	**144**	P	**P**	**03 15 02.9**	**+0.3**
LVC	**Limon Verde**	**44.94**	**299**	P	**P**	**03 15 38.4**	**+0.7**
	comp=Z,2.7nm,0.6s,baz=159,slow=8.6,SNR=2.3						
LVC	**Limon Verde**	**44.94**	**299**	P	**P**	**03 15 38.3**	**+0.7**
LVC				IAmb	IAmb	03 15 38.6	
	comp=Z,6.2nm,1.1s						
PB09	**IPOC Station P**	**45.79**	**300**	P	**P**	**03 15 45.1**	**+1.0**
VNDA	**Vanda**	**47.31**	**183**	P	**P**	**03 15 54.8**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=198,slow=8.0,SNR=6.0						
VNDA	**Vanda**	**47.31**	**183**	P	**P**	**03 15 54.8**	**-0.4**
GO01	**Chusmiza**	**47.57**	**301**	P	**P**	**03 15 58.5**	**+0.1**
GO01				IAmb	IAmb	03 16 05.2	
	comp=Z,2.7nm,1.0s						
LPAZ	**La Paz**	**49.96**	**305**	P	**P**	**03 16 17.8**	**+0.8**
	comp=Z,1.2nm,0.7s,baz=159,slow=8.6,SNR=6.5						
LPAZ	**La Paz**	**49.96**	**305**	P	**P**	**03 16 17.4**	**+0.4**
LPAZ				IAmb	IAmb	03 16 18.4	
	comp=Z,1.7nm,0.8s						
TOA0	**Torodi Ar. Sit**	**72.40**	**30**	P	**P**	**03 18 48.1**	**-0.2**
TOA0				IAmb	IAmb	03 19 00.3	
	comp=Z,3.9nm,1.2s						
TORD	**Torodi Ar. Bea**	**72.40**	**30**	P	**P**	**03 18 47.5**	**-0.8**
	comp=Z,0.7nm,0.9s,baz=202,slow=5.4,SNR=2.1						
INK	**Inuvik**	**145.24**	**321**		**PKPdf**	**03 26 58.4**	**+0.3**
IL31		**149.63**	**313**		**PKiKP**	**03 27 10.8**	**-0.4**
ILAR	**Eielson Array**	**149.63**	**313**	PKPbc	**PKiKP**	**03 27 10.2**	**-1.1**
	comp=Z,1.5nm,0.7s,baz=129,slow=2.0,SNR=14						

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*IDC **30** 03:10:39.7±1.1, 55°.25S×27°.93W, h0km, mb3.7/4, mb1 3.8/5, mb1mx3.7/25, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=48.6km s-min=23.3km az=82.0*
*NEIC **30** 03:10:41.1±0.7, 55°.25S±0°.06×28°.2W±0°.2, h10km±1km, mb4.2/9, Error ellipse: s-maj=23.0km s-min=10.0km az=88.0*

ISC 30 03:10:41.0±0.9, **55°.3S**±0°.1×**28°.1W**±0°.2, **h10**km, **n15**, σ0**s63**/15, **mb3.9/6**, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.95**	**278**	Pn	**Pn**	**03 11 54.7**	**-0.7**
SNAA	**Sanae**	**19.68**	**156**	P	**Pn**	**03 15 10.6**	**-0.7**
	0.2nm,0.3s,baz=307,slow=10,SNR=7.8						
SNAA	**Sanae**	**19.68**	**156**	P	**P**	**03 15 10.2**	**+0.3**
QSPA	**South Pole Qui**	**34.99**	**180**	P	**P**	**03 17 33.1**	**-0.1**
	0.6nm,0.6s,baz=226,slow=14,SNR=8.5						
QSPA	**South Pole Qui**	**34.99**	**180**	P	**P**	**03 17 33.4**	**+0.2**
PB10	**IPOC Station P**	**44.52**	**298**	P	**P**	**03 18 52.8**	**+0.2**
PB01	**IPOC Station P**	**46.06**	**301**	P	**P**	**03 19 05.9**	**+0.9**
PB01				IAmb	IAmb	03 19 19.6	
	comp=Z,7.1nm,1.3s						
GO01	**Chusmiza**	**47.09**	**302**	P	**P**	**03 19 13.6**	**+0.1**
GO01				IAmb	IAmb	03 19 19.7	
	comp=Z,2.8nm,1.2s						
VNDA	**Vanda**	**47.34**	**183**	P	**P**	**03 19 14.4**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=180,slow=4.9,SNR=5.2						
VNDA	**Vanda**	**47.34**	**183**	P	**P**	**03 19 14.6**	**+0.4**
VNDA				IAmb	IAmb	03 19 15.7	
	comp=Z,1.2nm,0.9s						
LPAZ	**La Paz**	**49.49**	**306**	P	**P**	**03 19 33.4**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=157,slow=7.7,SNR=2.2						
LPAZ	**La Paz**	**49.49**	**306**	P	**P**	**03 19 33.0**	**+0.8**
LPAZ				IAmb	IAmb	03 19 34.6	
	comp=Z,3.2nm,1.4s						
TOA0	**Torodi Ar. Sit**	**72.63**	**30**	P	**P**	**03 22 07.8**	**-0.7**
TORD	**Torodi Ar. Bea**	**72.63**	**30**	P	**P**	**03 22 08.4**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=192,slow=6.2,SNR=7.0						
ILAR	**Eielson Array**	**149.20**	**313**	PKPbc	**PKPbc**	**03 30 28.1**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=89,slow=1.4,SNR=6.8						

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*IDC **30** 03:12:27.6±0.8, 55°.32S×28°.00W, h0km, mb4.1/6, mb1 4.1/7, mb1mx3.9/25, mbtmp4.1/7, ML4.2/1, Error ellipse: s-maj=28.4km s-min=20.4km az=77.0*
*NEIC **30** 03:12:28.9±1.2, 55°.3S±0°.1×28°.2W±0°.2, h10km±1km, mb4.3/13, Error ellipse: s-maj=24.6km s-min=17.7km az=30.0*

ISC 30 03:12:28.9±0.6, **55°.3S**±0°.1×**28°.2W**±0°.1, **h10**km, **n30**, σ0**s79**/30, **mb4.3/9**, **South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.89**	**279**	Pn	**Pn**	**03 13 41.6**	**-0.7**
SNAA	**Sanae**	**19.64**	**156**	P	**P**	**03 16 57.1**	**-0.3**
	0.7nm,0.3s,baz=310,slow=8.9,SNR=12						
SNAA	**Sanae**	**19.64**	**156**	P	**P**	**03 16 56.6**	**-0.7**
QSPA	**South Pole Qui**	**34.92**	**180**	P	**P**	**03 19 20.7**	**+0.2**
	2.1nm,0.7s,baz=217,slow=1.8,SNR=12						
QSPA	**South Pole Qui**	**34.92**	**180**	P	**P**	**03 19 20.8**	**+0.3**
QSPA				IAmb	IAmb	03 19 27.0	
	comp=Z,2.9nm,0.8s						
CPUP	**Villa Florida**	**35.89**	**312**	P	**P**	**03 19 28.9**	**-0.1**
VA03	**San Esteban**	**37.06**	**290**	P	**P**	**03 19 39.2**	**+0.1**
VA03				IAmb	IAmb	03 19 40.7	
	comp=Z,7.6nm,1.0s						
CO03	**El Pedregal**	**38.63**	**292**	P	**P**	**03 19 52.5**	**+0.2**
LVC	**Limon Verde**	**44.43**	**301**	P	**P**	**03 20 42.2**	**+2.0**
	comp=Z,2.2nm,0.6s,baz=20,slow=5.9,SNR=3.3						
LVC	**Limon Verde**	**44.43**	**301**	P	**P**	**03 20 40.5**	**+0.3**
LVC				IAmb	IAmb	03 20 43.1	
	comp=Z,2.7nm,0.7s						
BOSA	**Boshof**	**46.38**	**77**	P	**P**	**03 20 56.0**	**+0.6**
	comp=Z,2.2nm,0.9s,baz=208,slow=2.8,SNR=3.7						
BOSA	**Boshof**	**46.38**	**77**	P	**P**	**03 20 55.4**	**0.0**
BOSA				IAmb	IAmb	03 21 06.6	
	comp=Z,5.0nm,1.1s						
GO01	**Chusmiza**	**47.06**	**302**	P	**P**	**03 21 01.4**	**+0.2**
GO01				IAmb	IAmb	03 21 15.0	
	comp=Z,1.9nm,0.8s						
VNDA	**Vanda**	**47.26**	**183**	P	**P**	**03 21 01.8**	**+0.3**
	comp=Z,1.6nm,0.8s,baz=190,slow=5.8,SNR=11						
VNDA	**Vanda**	**47.26**	**183**	P	**P**	**03 21 01.2**	**-0.3**
VNDA				IAmb	IAmb	03 21 03.0	
	comp=Z,2.9nm,0.9s						
MNMC	**Minye Minye**	**47.72**	**302**	P	**P**	**03 21 06.9**	**+0.8**
LPAZ	**La Paz**	**49.48**	**306**	P	**P**	**03 21 21.2**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=100,slow=4.4,SNR=5.5						
LPAZ	**La Paz**	**49.48**	**306**	P	**P**	**03 21 20.4**	**+0.4**
CASY	**Casey**	**54.78**	**161**	P	**P**	**03 21 58.2**	**+0.1**
TOA0	**Torodi Ar. Sit**	**72.73**	**31**	P	**P**	**03 23 56.1**	**-0.9**
TOA0				IAmb	IAmb	03 23 57.0	
	comp=Z,7.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**72.73**	**31**	P	**P**	**03 23 56.2**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=202,slow=6.7,SNR=17						
DOT	**Dot Lake**	**147.73**	**311**		**PKPbc**	**03 32 11.1**	**-1.2**
SCRK	**Sand Creek**	**147.78**	**312**		**PKPbc**	**03 32 12.7**	**+0.1**
RIDG	**Independent Ri**	**148.09**	**311**		**PKPbc**	**03 32 12.6**	**-0.7**
IL31		**149.20**	**313**		**PKPdf**	**03 32 13.6**	**+1.9**
ILAR	**Eielson Array**	**149.20**	**313**	PKPbc	**PKPbc**	**03 32 15.7**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=125,slow=2.0,SNR=21						
WRH	**Wood River Hil**	**149.64**	**312**		**PKPbc**	**03 32 16.1**	**-1.1**
RND	**Reindeer**	**149.75**	**310**		**PKPbc**	**03 32 16.7**	**-0.8**
TOLK	**Toolik Lake Re**	**150.75**	**320**		**PKPbc**	**03 32 19.5**	**-0.2**
SONM	**Songino Array**	**151.27**	**86**	PKPbc	**PKPbc**	**03 32 21.6**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=218,slow=2.5,SNR=6.3						

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*IDC **30** 03:17:53.8±1.1, 55°.30S×26°.97W, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.7/19, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=48.3km s-min=27.5km az=74.0*
*NEIC **30** 03:17:55.2±1.3, 55°.3S±0°.2×27°.1W±0°.2, h10km±1km, mb4.2/13, Error ellipse: s-maj=28.2km s-min=18.6km az=34.0*

ISC 30 03:17:57.7±0.8, **55°

PDPR				Sn	03 22 44.8	-0.1	
AOPR	**Arecibo Observ**	**1.71 227**	*eP*	**Pn**	**03 22 26.4**	**-0.3**	
AOPR	**Arecibo Observ**	**1.71 227**	*eS*	**Sn**	**03 22 48.6**	**+0.8**	
AOPR	**Arecibo Observ**	**1.71 227**		**Pn**	**03 22 26.3**	**-0.5**	
AOPR				Sn	03 22 49.2	+1.4	
OBIP	**Obispado Ponce**	**1.85 217**	*eS*	**Sn**	**03 22 52.2**	**+1.2**	
OBIP	**Obispado Ponce**	**1.85 217**		**Pn**	**03 22 28.0**	**-0.5**	
CDVI	**St. Croix**	**1.87 160**	Pn	**Pn**	**03 22 28.8**	**-0.1**	
AGPR	**Aguadilla, PR**	**1.91 237**	Pn	**Pn**	**03 22 27.9**	**-1.4**	
MLPR	**Magueyes Islan**	**2.17 225**	*eP*	**Pn**	**03 22 33.3**	**+0.3**	
MLPR	**Magueyes Islan**	**2.17 225**		**Pn**	**03 22 32.9**	**-0.2**	
CRPR	**Cabo Rojo, PR**	**2.19 227**	*eP*	**Pn**	**03 22 33.4**	**+0.1**	
CRPR	**Cabo Rojo, PR**	**2.19 227**	*eS*	**Sn**	**03 23 00.3**	**+0.7**	
CRPR	**Cabo Rojo, PR**	**2.19 227**		**Pn**	**03 22 33.7**	**+0.4**	
CRPR				Sn	03 22 59.8	+0.2	
SDDR	**Presa de Saban**	**5.56 265**	Pn	**Pn**	**03 23 19.9**	**+0.2**	
DLPL	**La Plaine**	**5.77 136**	Pn	**Pn**	**03 23 20.2**	**-2.3**	

*THR **3*** *03:48:46.6±0.8, 32.°13N×58.°97E, h14km±5km, ML4.4*
*TEH **3*** *03:48:46.0, 32.°18N×58.°98E, h10km, ML4.2*
*NEIC **3*** *03:48:46.3±2.9, 32.°16N±0.°03×58.°97E±0.°04, h8km±4km, Error ellipse: s-maj=5.3km s-min=3.2km az=49.0*
*MOS **3*** *03:48:46.7±1.7, 31.°99N×59.°06E, h19km, mb4.3/17, Error ellipse: s-maj=8.4km s-min=5.8km az=103.1*
*IDC **3*** *03:48:46.0±0.8, 32.°06N×59.°02E, h0km, mb4.0/22, mb1 4.1/29, mb1mx4.0/50, mbtmp4.0/29, ML3.6/6, MS3.3/6, Ms1 3.3/6, ms1mx2.9/43, Error ellipse: s-maj=17.2km s-min=12.9km az=156.0*

ISC 30 03:48:46.9±1.2, 32.°17N±0.°03×58.°98E±0.°04, h4km±8km, n182, σ1s51/185, mb4.2/45, MS3.2/4, 8C, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BSRN	**Basiran**	**0.24**	**148**	*ePg*		**Pg**	**03 48 51.1**	**-0.5**
BSRN	**Basiran**	**0.24**	**148**	*ePg*		**Pg**	**03 48 51.1**	**-0.5**
BSRN	**Basiran**	**0.24**	**148**	Pg		**Pg**	**03 48 51.1**	**-0.5**
IKOO	**Kooshah**	**0.26**	**5**	*ePg*		**Pg**	**03 48 51.2**	**-0.7**
IKOO				*eSg*		**Sg**	**03 48 55.4**	**+0.1**
IKOO	**Kooshah**	**0.26**	**5**	Pg		**Pg**	**03 48 51.2**	**-0.7**
IKOO				Sg		**Sg**	**03 48 55.4**	**+0.1**
ITEG	**Tejag**	**0.75**	**345**	*ePg*		**Pg**	**03 49 00.1**	**-1.2**
ITEG	**Tejag**	**0.75**	**345**	Pg		**Pg**	**03 49 00.0**	**-1.2**
IDAH	**Dahanechah**	**0.94**	**53**	*e*			03 49 26.2	
IDAH				*ePg*		**Pg**	**03 49 04.2**	**-0.8**
IMON	**Monand**	**1.17**	**30**	*e*			03 49 30.3	
IMON				*ePg*		**Pg**	**03 49 09.3**	**-0.1**
NHDN	**Nehbandan**	**1.20**	**130**	*ePg*		**Pg**	**03 49 09.0**	**-0.8**
AFRZ	**Afriz**	**1.25**	**1**	*e*			03 49 36.5	
AFRZ				*ePg*		**Pg**	**03 49 09.3**	**-1.6**
SHRT	**Shahrakht**	**1.84**	**37**	*ePn*		**Pn**	**03 49 20.3**	**+1.0**
SHRT	**Shahrakht**	**1.84**	**37**	*ePn*		**Pn**	**03 49 20.3**	**+1.0**
SHRT	**Shahrakht**	**1.84**	**37**	Pn		**Pn**	**03 49 20.3**	**+1.0**
TPRV	**Parvadeh(Tabas**	**2.12**	**294**	*ePn*		**Pn**	**03 49 23.5**	**+0.4**
TPRV	**Parvadeh(Tabas**	**2.12**	**294**	Pn		**Pn**	**03 49 23.5**	**+0.4**
TABS	**Tabas**	**2.15**	**314**	*ePn*		**Pn**	**03 49 24.3**	**+0.7**
TABS	**Tabas**	**2.15**	**314**	*ePn*		**Pn**	**03 49 24.3**	**+0.7**
TABS	**Tabas**	**2.15**	**314**	Pn		**Pn**	**03 49 24.3**	**+0.7**
CHMN	**Cheshme madani**	**2.61**	**209**	*ePn*		**Pn**	**03 49 31.2**	**+1.1**
CHMN	**Cheshme madani**	**2.61**	**209**	Pn		**Pn**	**03 49 31.2**	**+1.0**
TNSJ	**Nastanj**	**2.67**	**313**	*ePn*		**Pn**	**03 49 31.1**	**+0.3**
KHGB	**Koh Gabri**	**2.79**	**231**	*ePn*		**Pn**	**03 49 32.8**	**+0.3**
KHGB				*e*			03 50 22.9	
KHGB	**Koh Gabri**	**2.79**	**231**	Pn		**Pn**	**03 49 32.8**	**+0.3**
TVBK	**TV Kerman**	**2.89**	**222**	*ePn*		**Pn**	**03 49 34.6**	**+0.6**
KRBR	**Kerman**	**2.89**	**222**	*ePn*		**Pn**	**03 49 34.6**	**+0.6**
KRBR				IAML			03 50 21.9	
	comp=E,901nm,0.5s							
KRBR				IAML			03 50 28.5	
	comp=N,924nm,0.5s							
KRBR	**Kerman**	**2.89**	**222**	*ePn*		**Pn**	**03 49 34.6**	**+0.6**
KRBR	**Kerman**	**2.89**	**222**	Pn		**Pn**	**03 49 34.6**	**+0.6**
IBAF	**Bafgh**	**2.96**	**260**	*ePn*		**Pn**	**03 49 35.5**	**+0.8**
IBAF				*e*			03 50 25.2	
ZHSF	**Zahedan**	**2.98**	**148**	*ePn*		**Pn**	**03 49 35.5**	**+0.4**
ZHSF	**Zahedan**	**2.98**	**148**	*ePn*		**Pn**	**03 49 35.5**	**+0.4**
SZD1	**Zahaedan-tmp**	**3.13**	**148**	*ePn*		**Pn**	**03 49 37.3**	**+0.2**
SZD1	**Zahaedan-tmp**	**3.13**	**148**	Pn		**Pn**	**03 49 37.2**	**+0.2**
NGRK	**Negar Kerman**	**3.17**	**218**	*ePn*		**Pn**	**03 49 38.5**	**+0.6**
NGRK				*e*			03 49 47.4	
NGRK	**Negar Kerman**	**3.17**	**218**	Pn		**Pn**	**03 49 38.4**	**+0.6**
HRA	**Herat**	**3.52**	**50**	Pn		**Pn**	**03 49 43.3**	**+0.8**
YZKH	**Yazd**	**3.72**	**275**	*ePn*		**Pn**	**03 49 45.7**	**+0.5**
YZKH				*eSg*		**Sb**	**03 50 41.8**	**+3.1**
YZKH				IAML			03 50 46.6	
	comp=N,395nm,0.6s							
YZKH				IAML			03 50 49.1	
	comp=E,458nm,0.5s							
YZKH	**Yazd**	**3.72**	**275**	*ePn*		**Pn**	**03 49 45.7**	**+0.5**
IMEH	**Mehriz**	**3.80**	**259**	*ePn*		**Pn**	**03 49 46.7**	**+0.3**
ICHK	**Chekchek**	**3.88**	**272**	*ePn*		**Pn**	**03 49 47.5**	**+0.1**
JRKH	**Jarkhoshk**	**3.90**	**17**	*ePn*		**Pn**	**03 49 49.0**	**+1.4**
IMYA	**Miami**	**4.26**	**12**	*ePn*		**Pn**	**03 49 55.1**	**+2.4**
IPAY	**Payeh**	**4.27**	**0**	*ePn*		**Pn**	**03 49 53.6**	**+0.8**
KHNJ	**Kahnooj**	**4.35**	**195**	*ePn*		**Pn**	**03 49 54.7**	**+0.9**
SBZV	**Sabzevar**	**4.36**	**345**	*ePn*		**Pn**	**03 49 54.8**	**+0.8**
IAKL	**Akhelmad**	**4.43**	**358**	*ePn*		**Pn**	**03 49 56.6**	**+1.6**
ISAD	**Sadrabad**	**4.50**	**268**	*ePn*		**Pn**	**03 49 56.1**	**0.0**
SHRO	**Shahrood**	**4.54**	**328**	*ePn*		**Pn**	**03 49 57.1**	**+0.7**
SHRO				IAML			03 51 17.1	
	comp=E,369nm,1.0s							
SHRO	**Shahrood**	**4.54**	**328**	*ePn*		**Pn**	**03 49 57.1**	**+0.7**
ANAR	**Anarak**	**4.54**	**284**	*ePn*		**Pn**	**03 49 56.9**	**+0.4**
IKRD	**Kardeh**	**4.61**	**355**	*ePn*		**Pn**	**03 50 00.0**	**+2.5**
ISFR	**Sfrayin**	**4.94**	**351**	*ePn*		**Pn**	**03 50 03.6**	**+1.5**
IEMG	**Emamgholi**	**5.24**	**357**	*ePn*		**Pn**	**03 50 07.6**	**+1.4**
GENO	**Geno**	**5.34**	**208**	*ePn*		**Pn**	**03 50 09.7**	**+2.2**
BNDS	**Bandar-Abbas**	**5.34**	**208**	*ePn*		**Pn**	**03 50 07.5**	**0.0**
BNDS	**Bandar-Abbas**	**5.34**	**208**	*ePn*		**Pn**	**03 50 07.5**	**0.0**
IANJ	**Anjilo**	**5.34**	**309**	*ePn*		**Pn**	**03 50 07.4**	**-0.2**
IRAM	**Ramesheh**	**5.62**	**268**	*ePn*		**Pn**	**03 50 12.4**	**+1.1**
IZEF	**Zefreh**	**5.66**	**279**	*ePn*		**Pn**	**03 50 12.3**	**+0.3**
BJRD	**Bojnurd**	**5.67**	**347**	*ePn*		**Pn**	**03 50 13.2**	**+1.3**
BJRD	**Bojnurd**	**5.67**	**347**	*ePn*		**Pn**	**03 50 13.2**	**+1.3**
GEYT	**Alibeck**	**5.79**	**353**	Pn		**Pn**	**03 50 15.2**	**+1.6**
	comp=E,3.3nm,0.3s,baz=186,slon=18,SNR=7.9							
GEYT				Sn		Sn	03 51 10.4	-10
	comp=E,3.0nm,0.3s,baz=284,slow=36,SNR=1.4							
GEYT				LR		LR	03 52 56.4	
	comp=E,190nm,21.0s,baz=25,slow=42							
GYA0B	**ALIBECK ARRAY**	**5.79**	**353**			**Pn**	**03 50 11.0**	**-2.5**
ISHM	**Shahmirzad**	**5.95**	**309**	*ePn*		**Pn**	**03 50 17.3**	**+1.3**
IFIR	**Firoozkooh**	**6.23**	**305**	*ePn*		**Pn**	**03 50 20.7**	**+0.9**
IKLH	**Kolahrood**	**6.34**	**282**	*ePn*		**Pn**	**03 50 22.3**	**+1.0**
KLNJ	**Kolanjah**	**6.41**	**262**	*ePn*		**Pn**	**03 50 24.5**	**+2.2**
IALA	**Alasht**	**6.43**	**309**	*ePn*		**Pn**	**03 50 24.5**	**+1.9**
IDMV	**Damavand**	**6.70**	**302**	*ePn*		**Pn**	**03 50 27.6**	**+1.3**
GHVR	**GHOM**	**6.83**	**292**	*ePn*		**Pn**	**03 50 30.0**	**+2.1**
GHVR	**GHOM**	**6.83**	**292**	*ePn*		**Pn**	**03 50 30.0**	**+2.1**
IPRN	**Peran**	**6.84**	**308**	*ePn*		**Pn**	**03 50 29.0**	**+1.0**
CHTH	**Charan**	**7.51**	**302**	*ePn*		**Pn**	**03 50 38.3**	**+1.0**
CHTH	**Charan**	**7.51**	**302**	*ePn*		**Pn**	**03 50 38.3**	**+1.0**
UOSS	**Minazif**	**7.60**	**199**	Pn		**Pn**	**03 50 38.1**	**-0.3**
THKV	**Tehran--Karaj**	**7.69**	**301**	*ePn*		**Pn**	**03 50 41.2**	**+1.4**
THKV	**Tehran--Karaj**	**7.69**	**301**	*ePn*		**Pn**	**03 50 41.2**	**+1.4**
KHMZ	**Khomeyn**	**7.74**	**284**	*ePn*		**Pn**	**03 50 41.4**	**+0.9**
KHMZ	**Khomeyn**	**7.74**	**284**	*ePn*		**Pn**	**03 50 41.4**	**+0.9**
ASAO	**Ashtian**	**7.86**	**290**	*ePn*		**Pn**	**03 50 43.8**	**+1.7**
ASAO	**Ashtian**	**7.86**	**290**	*ePn*		**Pn**	**03 50 43.8**	**+1.7**
QALM	**Alamut, Qazvin**	**8.10**	**304**	*ePn*		**Pn**	**03 50 47.0**	**+1.6**
IRAZ	**Razeghan**	**8.19**	**296**	*ePn*		**Pn**	**03 50 48.4**	**+1.7**
QABG	**Abgarm-Qazvin**	**8.57**	**297**	*ePn*		**Pn**	**03 50 52.3**	**+0.5**
WSAR	**Wadi Sarin**	**8.90**	**182**	Pn		**Pn**	**03 50 54.8**	**-1.5**
	comp=E,0.4nm,0.3s,baz=43,slow=16,SNR=4.0							
WSAR				LR		LR	03 54 52.2	
	comp=E,90nm,19.2s,baz=38,slow=42							
BTK	**Batken**	**12.39**	**47**	P		**Pn**	**03 51 43.5**	**-0.5**
BTK	**Batken**	**12.39**	**47**	Pn		**Pn**	**03 51 43.5**	**-0.5**
KK31	**Karatay Array**	**14.22**	**37**	P		**Pn**	**03 52 08.1**	**-0.9**
KK31	**Karatay Array**	**14.22**	**37**	Pn		**Pn**	**03 52 08.1**	**-0.9**
KKAR	**Karatay Array**	**14.22**	**37**	P		**Pn**	**03 52 12.5**	**+3.5**
ZEI	**Tsey**	**15.96**	**316**	*eP*		**P**	**03 52 38.2**	**+2.1**
ZEI				pmax		pmax		
	comp=Z,9.0nm,0.8s							
AAK	**Ala-Archa**	**16.14**	**45**	Pn		**Pn**	**03 52 33.4**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=186,slow=15,SNR=1.4							
AAK	**Ala-Archa**	**16.14**	**45**	*ceP*		**Pn**	**03 52 35.6**	**+1.0**
AAK				pmax		pmax		
	comp=Z,7.0nm,1.1s							
AAK	**Ala-Archa**	**16.14**	**45**			**Pn**	**03 52 32.6**	**-2.0**
NEY	**Neytrino**	**16.93**	**315**	*i* P		**P**	**03 52 47.9**	**+1.1**
NEY				pmax		pmax		
	comp=Z,1.0nm,0.9s							
ABKAR	**Akbulak array**	**17.08**	**2**			**Pn**	**03 52 45.6**	**-0.9**
KBZ	**Khabaz**	**17.11**	**317**	P		**P**	**03 52 49.6**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=150,slow=7.5,SNR=8.4							
KBZ	**Khabaz**	**17.11**	**317**	*ceP*		**P**	**03 52 50.5**	**+1.9**
KBZ				pmax		pmax		
	comp=Z,5.0nm,0.9s							
KIV	**Kislovodsk**	**17.37**	**317**	*eP*		**Pn**	**03 52 51.5**	**+1.3**
KIV				pmax		pmax		
	comp=Z,38nm,1.0s							
KIV	**Kislovodsk**	**17.37**	**317**			**Pn**	**03 52 48.9**	**-1.3**
KIV				IAmb		IAmb	03 52 57.0	
	comp=Z,16nm,1.1s							
KDJ	**Kajisay**	**17.56**	**50**	P		**Pn**	**03 52 50.9**	**-1.7**
KDJ				pmax		pmax		
	comp=Z,9.0nm,1.3s							
KDJ	**Kajisay**	**17.56**	**50**			**Pn**	**03 52 50.9**	**-1.7**
TARG	**Taragay, Kyrgy**	**17.79**	**52**	P		**Pn**	**03 52 54.6**	**-1.1**
AKTO	**Aktyubinsk**	**18.26**	**358**	P		**P**	**03 53 02.8**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=188,slow=12,SNR=7.6							
AKTO				LR		LR	04 01 16.5	
	comp=Z,90nm,18.2s,baz=159,slow=41							
ASF	**Jabal al Asfar**	**18.69**	**276**	P		**Pn**	**03 53 08.0**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=55,slow=6.8,SNR=12							
ASF	**Jabal al Asfar**	**18.69**	**276**	P		**Pn**	**03 53 08.0**	**+1.5**
MMAI	**Mount Meron Ar**	**19.88**	**279**	P		**Pn**	**03 53 20.7**	**-0.1**
	baz=81,slow=18,SNR=2.9							
EIL	**Elat**	**20.75**	**269**	P		Pn	03 53 30.4	-0.6
	comp=Z,4.6nm,0.9s,baz=52,slow=7.9,SNR=5.1							
BR131	**Keskin Array S**	**21.81**	**297**	P		**P**	**03 53 37.6**	**-2.5**
BR131				pmax		pmax		
	comp=Z,8.0nm,1.1s							
BR131	**Keskin Array S**	**21.81**	**297**	P		**P**	**03 53 37.6**	**-2.5**
BR131				IAmb		IAmb	03 53 43.9	
	comp=Z,7.9nm,1.1s							
BRTR	**Keskin Array B**	**21.81**	**297**	P		**P**	**03 53 41.9**	**+1.8**
	comp=Z,5.2nm,1.0s,baz=114,slow=11,SNR=15							
BRTR	**Keskin Array B**	**21.81**	**297**	*ceP*		**P**	**03 53 42.9**	**+2.8**
BRTR				pmax		pmax		
	comp=Z,5.0nm,1.0s							
BVAR	**Borovoye Array**	**22.42**	**18**	P		**P**	**03 53 47.7**	**+1.4**
	comp=Z,2.9nm,0.6s,baz=194,slow=9.2,SNR=12							
BVAR				LR		LR	04 03 51.1	
	comp=Z,92nm,18.5s,baz=294,slow=40							
BRVK	**Borovoye**	**22.42**	**18**	*ceP*		**P**	**03 53 47.9**	**+1.5**
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.8s							
BRVK	**Borovoye**	**22.42**	**18**	P		**P**	**03 53 44.1**	**-2.3**
BRVK				IAmb		IAmb	03 53 54.6	
	comp=Z,4.8nm,0.8s							
VRH	**Novokhopyorsk**	**22.87**	**331**	*eP*		**P**	**03 53 51.6**	**+0.5**
VRH				pmax		pmax		
	comp=Z,10.0nm,0.9s							
MAKZ	**Makanchi**	**22.88**	**44**	P		**P**	**03 53 48.1**	**-3.2**
MAKZ				pmax		pmax		
	comp=Z,4.0nm,0.9s							
MAKZ	**Makanchi**	**22.88**	**44**	P		**P**	**03 53 48.1**	**-3.2**
MAKZ				IAmb		IAmb	03 54 01.8	
	comp=Z,4.5nm,0.8s							
MK31	**Makanchi Array**	**23.06**	**44**	P		**P**	**03 53 51.6**	**-1.6**
MK31				pmax		pmax		
	comp=Z,4.0nm,1.4s							
MK31	**Makanchi Array**	**23.06**	**44**	P		**P**	**03 53 51.6**	**-1.6**
MKAR	**Makanchi Array**	**23.06**	**44**	P		**P**	**03 53 55.3**	**+2.1**
	comp=Z,0.6nm,0.6s,baz=237,slow=11,SNR=7.2							
KURBB	**Kurchatov Arra**	**23.43**	**32**	P		**P**	**03 53 57.9**	**+1.0**
	comp=Z,4.0nm,0.9s,baz=231,slow=9.6,SNR=13							
KURK	**Kurchatov**	**23.54**	**32**	*ceP*		**P**	**03 53 59.8**	**+1.8**
KURK				pmax		pmax		
	comp=Z,7.0nm,1.2s							
KURK	**Kurchatov**	**23.54**	**32**	P		**P**	**03 53 57.8**	**-0.2**
KURK				IAmb		IAmb	03 54 04.0	
	comp=Z,7.0nm,1.2s							
VORD	**Divnogorie**	**23.73**	**328**	*eP*		**P**	**03 54 01.0**	**+1.1**
VORD				pmax		pmax		
	comp=Z,2.0nm,0.5s							
ISP	**Isparta**	**23.93**	**292**	P		**P**	**03 54 00.2**	**-1.9**
ISP				pmax		pmax		
	comp=Z,13nm,1.1s							
ISP	**Isparta**	**23.93**	**292**	P		**P**	**03 54 00.2**	**-1.9**
ISP				IAmb		IAmb	03 54 05.8	
	comp=Z,12nm,1.1s							
ARU	**Arti**	**24.26**	**359**	P		**P**	**03 54 06.5**	**+1.7**
	comp=Z,3.5nm,0.2s,baz=185,slow=12,SNR=1.3							
ARU	**Arti**	**24.26**	**359**	P		**P**	**03 54 05.5**	**+0.7**
ARU				S		**S**	**03 58 24.1**	**+0.3**
ARU	**Arti**	**24.26**	**359**	P		**P**	**03 54 02.7**	**-2.1**
ARU				IAmb		IAmb	03 54 18.5	
	comp=Z,10nm,1.3s							
ELL	**Elmali**	**24.35**	**289**	P		**P**	**03 54 04.4**	**-1.6**
ELL				pmax		pmax		
	comp=Z,88nm,1.2s							
ELL	**Elmali**	**24.35**	**289**	P		**P**	**03 54 04.4**	**-1.6**
LPSR	**Galich'ya Gora**	**25.07**	**330**	*eP*		**P**	**03 54 14.2**	**+2.1**
LPSR				pmax		pmax		
	comp=Z,8.0nm,0.9s							
ATD	**Arta Tunnel**	**25.35**	**219**	P		**P**	**03 54 16.3**	**+1.2**
	comp=Z,2.0nm,0.3s,baz=304,slow=23,SNR=3.7							
ATD				LR		LR	04 06 02.4	
	comp=Z,73nm,18.9s,baz=66,slow=41							
KIRV	**Kirov**	**27.20**	**349**	*i* P		**P**	**03 54 34.8**	**+3.5**
DGZ	**Jazzator, Alta**	**27.49**	**42**	*i* P		**P**	**03 54 37.2**	**+3.0**
DGZ				pmax		pmax		
	comp=Z,2.0nm,0.6s							
OBN	**Obninsk**	**27.85**	**332**	*eP*		**P**	**03 54 36.6**	**-0.6**
OBN				*e*			03 55 31.9	
OBN				pmax		pmax		
	comp=Z,4.0nm,0.8s							
OBN				MLR		MLR		
	comp=Z,40nm,17.0s							
ZAA0	**Zalesovo Array**	**28.53**	**33**	P		**P**	**03 54 41.3**	**-2.0**
ZAA0				IAmb		IAmb	03 54 47.5	
	comp=Z,3.4nm,0.7s							
ZALV	**Zalesovo Beam**	**28.53**	**33**	P		**P**	**03 54 44.1**	**+0.8**
	comp=Z,3.2nm,0.6s,baz=242,slow=10,SNR=9.4							
ZALV	**Zalesovo Beam**	**28.53**	**33**	*i* P		**P**	**03 54 46.4**	**+3.1**
ZALV				pmax		pmax		
	comp=Z,3.0nm,0.6s							
AKASG	**Malin Array Be**	**28.70**	**319**	P		**P**	**03 54 45.4**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=121,slow=8.3,SNR=4.9							
AKASG	**Malin Array Be**	**28.70**	**319**	*ceP*		**P**	**03 54 45.0**	**+0.1**
AKBB	**Malin Array Si**	**28.70**	**319**	P		**P**	**03 54 43.7**	**-1.2**
AKBB				pmax		pmax		
	comp=Z,4.0nm,0.8s							
AKBB	**Malin Array Si**	**28.70**	**319**	P		**P**	**03 54 43.7**	**-1.2**
AKBB				IAmb		IAmb	03 54 53.2	
	comp=Z,3.6nm,0.8s							
MLR	**Muntele Rosu**	**28.75**	**307**	P		**P**	**03 54 46.8**	**+1.3**
	comp=Z,6.9nm,1.1s,baz=93,slow=3.4,SNR=6.7							
MLR	**Muntele Rosu**	**28.75**	**307**	P		**P**	**03 54 44.1**	**-1.4**
MLR				pmax		pmax		
	comp=Z,13nm,1.2s							
MLR	**Muntele Rosu**	**28.75**	**307**	P		**P**	**03 54 44.1**	**-1.4**
BUR08	**Bucovina Ar. S**	**29.88**	**311**	P		**P**	**03 54 53.1**	**-2.5**
BUR08				IAmb		IAmb	03 54 58.7	
	comp=Z,4.3nm,1.1s							
KLMR	**Klimovskoe**	**31.41**	**342**	*eP*		**P**	**03 55 08.4**	**-0.3**
KLMR				pmax		pmax		
	comp=Z,8.0nm,1.0s							
KLMR	**Klimovskoe**	**31.41**	**342**	*eP*		**P**	**03 55 08.4**	**-0.3**
KLMR				AMP			03 55 11.6	
	comp=Z,8.0nm,1.0s							
KOLS	**Kolonicke sedl**	**32.15**	**312**	*eP*		**P**	**03 55 16.8**	**+1.4**
KOLS	**Kolonicke sedl**	**32.15**	**312**	*eP*		**P**	**03 55 16.8**	**+1.4**
PUL	**Pulkovo**	**33.53**	**334**	*i* P		**P**	**03 55 30.6**	**+3.3**
PUL				pmax		pmax		
	comp=Z,18nm,0.6s							
GTA	**Gaotai**	**33.68**	**66**	*eP*		**P**	**03 55 31.0**	**+1.9**
GTA				pP		sP	03 55 37.8	+6.3
GTA				sP		pP	03 55 41.5	+11
GTA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
VSU	**Vasula**	**34.13**	**330**	*i* P		**P**	**03 55 36.0**	**+3.5**
VSU				pmax		pmax		
	comp=Z,19nm,1.1s							
VYHS	**Vyhne**	**34.22**	**310**	*eP*		**P**	**03 55 36.4**	**+2.9**
VYHS	**Vyhne**	**34.22**	**310**	*eP*		**P**	**03 55 36.4**	**+2.9**
JOF	**Joensuu**	**35.42**	**338**	P		**P**	**03 55 46.0**	**+2.4**
JOF				pmax		pmax		
	comp=Z,5.0nm,0.9s							
FIA1	**FINESS Array S**	**36.21**	**334**	P		**P**	**03 55 47.9**	**-2.6**
FIA1				IAmb		IAmb	03 55 49.0	
FINES	**FINESS Array B**	**36.21**	**334**	P		**P**	**03 55 49.8**	**-0.6**
	comp=Z,1.7nm,0.8s,baz=140,slow=10.0,SNR=5.3							
FINES	**FINESS Array B**	**36.21**	**334**	*ceP*		**P**	**03 55 51.7**	**+1.3**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.8s							
GEC2	**GERESS Array S**	**37.62**	**310**	P		**P**	**03 56 02.2**	**-0.6**
GEC2				IAmb		IAmb	03 56 06.5	
	comp=Z,7.9nm,1.4s							
GERES	**GERESS Array B**	**37.62**	**310**	P		**P**	**03 56 02.5**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=108,slow=8.6,SNR=13							
GERES				PcP		**PcP**	**03 58 19.5**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=163,slow=3.6,SNR=3.6							
MURB	**Monte Urbino**	**37.94**	**301**	P		**P**	**03 56 03.6**	**-1.8**
CLL	**Collm**	**38.52**	**314**	*i* P		**P**	**03 56 11.3**	**+1.2**
	comp=Z,16nm,1.4s							
CLL	**Collm**	**38.52**	**314**	*i* P		**P**	**03 56 11.3**	**+1.2**
CLL				pmax		pmax		
	comp=Z,16nm,1.4s							
CLL	**Collm**	**38.52**	**314**	P		**P**	**03 56 08.5**	**-1.6**
OSSC	**Osservatorio P**	**38.87**	**301**	P		**P**	**03 56 10.9**	**-2.3**
MOX	**Moxa**	**39.25**	**312**	P		**P**	**03 56 18.6**	**+2.3**
MOX				pmax		pmax		
	comp=Z,5.0nm,2.3s							
KEST	**Kesra**	**40.98**	**289**	P		**P**	**03 56 31.6**	**+0.7**
	comp=Z,6.6nm,0.9s,baz=72,slow=3.2,SNR=4.0							
ARCES	**ARCESS Array B**	**41.86**	**343**	P		**P**	**03 56 39.2**	**+1.6**
	comp=Z,1.7nm,0.9s,baz=142,slow=9.0,SNR=4.0							
NOA	**NORSAR Array B**	**42.24**	**328**	P		**P**	**03 56 39.8**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=56,slow=1.3,SNR=3.4							
ESDC	**Sonseca Array**	**50.60**	**297**	P		**P**	**03 57 45.8**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=78,slow=7.2,SNR=2.5							
TOA0	**Torodi Ar. Sit**	**55.51**	**264**	P		**P**	**03 58 21.2**	**-2.1**
TOA0				IAmb		IAmb	03 58 25.8	
	comp=Z,3.9nm,1.1s							
TORD	**Torodi Ar. Bea**	**55.51**	**264**	P		**P**	**03 58 21.7**	**-1.6**
	comp=Z,1.3nm,0.5s,baz=58,slow=6.0,SNR=16							
KLR	**Kul'dur**	**55.61**	**49**	*i* P		**P**	03 58 30.1	+6.5
KLR				pmax		pmax		
	comp=Z,6.0nm,2.1s							
KSRS	**Korea Array**	**55.71**	**64**	P		**P**	**03 58 24.2**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=284,slow=7.7,SNR=6.9							
KSRS				LR		LR	04 24 35.1	
	comp=Z,29nm,19.2s,baz=285,slow=39							
ILAR	**Eielson Array**	**81.28**	**11**	P		**P**	**04 01 02.4**	**-1.4**
	comp=Z,0.4n

TORD	**Torodi Ar. Bea**	**72.86**	**31**	P	P	04 11 46.6	-0.3
	0.4nm,0.8s,baz=216,slow=6.2,SNR=4.1							
ILAR	**Eielson Array**	**149.27**	**313**	PKPbc	PKiKP	04 20 06.2	-0.4
	0.6nm,0.8s,baz=113,slow=1.8,SNR=4.3							

*NEIC **30** 04:08:35.2±1.8, 6°.71N±0°.07×72°.99W±0°.08, h163km±7km, mb4.1/10, ML4.0(RSNC), Error ellipse: s-maj=12.2km s-min=8.6km az=130.0*
*IDC **30** 04:08:35.4±1.2, 6°.73N×72°.99W, h163km±12km, mb3.3/7, mb1 3.6/11, mb1mx3.3/36, mbtmp3.9/11, Error ellipse: s-maj=19.8km s-min=15.3km az=110.0*
*RSNC **30** 04:08:36.5±1.2, 6°.82N×73°.15W, h148km±4km, ML4.0, Mw4.0, Fault plane solution: NP1:φs59.00000°, δ68.00000°, λ-180.00000°.*

ISC 30 04:08:35.1±0.6, 6°.83N±0°.03×73°.09W±0°.04, h160km±5km, n73, σ1°.882/113, 11C-8D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**201**	↑ *iP*		**Pn**	**04 08 56.8**	**-0.2**
BARC				*eS*		**Sn**	**04 09 11.2**	**-2.4**
BARC				*i*			04 09 13.1	
	comp=Z,1μm,0.4s							
PAMC	**Pamplona, Colo**	**0.64**	**37**	↓ *iP*		**Pn**	**04 08 59.6**	**+0.7**
PAMC				*eS*		**Sn**	**04 09 16.5**	**-0.6**
PAMC				*i*			04 09 18.9	
	comp=Z,2μm,0.6s							
BRRC	**Barranca, Sant**	**0.68**	**295**	↓ *iP*		**Pn**	**04 08 58.7**	**+0.2**
BRRC				*eS*		**Sn**	**04 09 14.4**	**-1.9**
BRRC				*i*			04 09 19.3	
	comp=Z,818nm,0.4s							
RUSC	**La Rusia**	**0.93**	**179**	↓ *iP*		**Pn**	**04 09 00.7**	**-0.2**
RUSC				*eS*		**Sn**	**04 09 18.9**	**-1.6**
RUSC				*i*			04 09 22.3	
	comp=Z,1μm,0.4s							
RUSC	**La Rusia**	**0.93**	**179**			**Pn**	**04 09 00.6**	**-0.2**
RUSC					Sn	**Sn**	**04 09 19.4**	**-1.1**
TAMC	**Tame, Arauca**	**1.35**	**107**	↓ *iP*		**Pn**	**04 09 05.0**	**+1.0**
TAMC				*i*			04 09 05.2	
	comp=Z,2μm,0.3s							
TAMC				*eS*		**Sn**	**04 09 26.2**	**+0.2**
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	↑ *iP*		**Pn**	**04 09 03.3**	**-0.9**
PTBC				*eS*		**Sn**	**04 09 24.3**	**-2.3**
PTBC				*i*			04 09 26.9	
	comp=Z,1μm,0.4s							
OCAC	**Ocana**	**1.42**	**351**	↑ *iP*		**Pn**	**04 09 04.9**	**+0.1**
OCAC				*eS*		**Sn**	**04 09 26.5**	**-1.2**
OCAC				*i*			04 09 32.5	
	comp=Z,1μm,0.2s							
SPBC	**San Pablo de B**	**1.52**	**220**	↑ *iP*		**Pn**	**04 09 05.6**	**-0.1**
SPBC				*eS*		**Sn**	**04 09 27.6**	**-1.6**
SPBC				*i*			04 09 32.8	
	comp=Z,2μm,0.3s							
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	↓ *eP*		**Pn**	**04 09 08.8**	**-0.6**
ZARC				*eS*		**Sn**	**04 09 34.2**	**-1.6**
ZARC				*i*			04 09 43.5	
	comp=Z,762nm,0.5s							
SMLC	**San Martn de**	**2.19**	**334**	*eP*		**Pn**	**04 09 13.2**	**+0.1**
SMLC				*eS*		**Sn**	**04 09 41.3**	**-1.0**
SMLC				*i*			04 09 44.9	
	comp=Z,740nm,0.2s							
CHIC	**Chingaza**	**2.27**	**196**	↑ *iP*		**Pn**	**04 09 14.5**	**+0.1**
CHIC				*eS*		**Sn**	**04 09 44.2**	**-0.6**
CHIC				*i*			04 09 49.6	
	comp=Z,455nm,0.3s							
ROSC	**El Rosal**	**2.32**	**212**	P		**Pn**	**04 09 16.5**	**+1.6**
	comp=Z,229nm,0.3s,baz=301,slow=10,SNR=383							
ROSC				S		**Sn**	**04 09 46.0**	**+0.3**
	comp=Z,286nm,0.3s,baz=202,slow=23,SNR=23							
ROSC	**El Rosal**	**2.32**	**212**	↑ *iP*		**Pn**	**04 09 16.3**	**+1.4**
ROSC				*eS*		**Sn**	**04 09 44.6**	**-1.0**
ROSC				*i*			04 09 51.4	
	comp=Z,817nm,0.3s							
ROSC	**El Rosal**	**2.32**	**212**			**Pn**	**04 09 16.2**	**+1.2**
ROSC					Sn	**Sn**	**04 09 48.0**	**+2.3**
HELC	**Santa Helena**	**2.50**	**256**	↓ *eP*		**Pn**	**04 09 16.7**	**-0.4**
HELC				*eS*		**Sn**	**04 09 47.5**	**-1.9**
HELC				*i*			04 09 55.1	
	comp=Z,493nm,0.3s							
UREC	**San Jos de Ur**	**2.59**	**291**	*eP*		**Pn**	**04 09 16.6**	**-1.2**
UREC				*eS*		**Sn**	**04 09 47.6**	**-3.2**
UREC				*i*			04 10 00.0	
	comp=Z,384nm,0.2s							
SOCV	**Socops**	**2.65**	**57**	*eP*		**Pn**	**04 09 18.8**	**+0.2**
SOCV				*eS*		**Sn**	**04 09 50.1**	**-2.1**
VILC	**Villavicencio,**	**2.76**	**193**	↑ *iP*		**Pn**	**04 09 19.8**	**-0.2**
VILC				*eS*		**Sn**	**04 09 53.9**	**-0.9**
VILC				*i*			04 10 09.5	
	comp=Z,476nm,0.4s							
GUY2C	**Guyana, Caldas**	**2.76**	**235**	↑ *eP*		**Pn**	**04 09 20.6**	**+0.2**
GUY2C				*eS*		**Sn**	**04 09 54.7**	**-0.6**
GUY2C				*i*			04 10 02.2	
	comp=Z,576nm,0.3s							
PTGC	**Puerto Gaitan,**	**2.78**	**160**	↑ *iP*		**Pn**	**04 09 19.7**	**-0.4**
PTGC				*eS*		**Sn**	**04 09 52.8**	**-2.3**
PTGC				*i*			04 09 57.9	
	comp=Z,467nm,0.3s							
RREF	**El Recreo**	**2.95**	**230**	*eP*		**Pn**	**04 09 23.9**	**+1.1**
RREF				*eS*		**Sn**	**04 09 58.9**	**-0.8**
RREF				*i*			04 10 07.8	
	comp=Z,720nm,0.2s							
CBOC	**Ciudad Bolivar**	**3.05**	**252**	*eP*		**Pn**	**04 09 24.7**	**+1.0**
CBOC				*eS*		**Sn**	**04 09 59.9**	**-1.4**
CBOC				*i*			04 10 07.0	
	comp=Z,230nm,0.6s							
DBBC	**Dabeiba**	**3.10**	**274**	↓ *iP*		**Pn**	**04 09 24.2**	**+0.1**
DBBC				*eS*		**Sn**	**04 10 00.7**	**-1.5**
DBBC				*i*			04 10 04.9	
	comp=Z,1μm,0.5s							
TOLC	**Tolima**	**3.14**	**225**	*eP*		**Pn**	**04 09 24.9**	**-0.1**
TOLC				*eS*		**Sn**	**04 10 03.2**	**-0.4**
SDV	**Santo Domingo**	**3.18**	**50**			**Pn**	**04 09 26.3**	**+0.9**
SDV					Sn	**Sn**	**04 10 03.0**	**-1.4**
ARGC	**Ariguani, Magd**	**3.22**	**339**	*eP*		**Pn**	**04 09 26.9**	**+1.3**
ARGC				*eS*		**Sn**	**04 10 04.6**	**-0.4**
ARGC				*i*			04 10 12.9	
	comp=Z,190nm,0.3s							
ANIL	**Santa Ana**	**3.27**	**225**	↑ *eP*		**Pn**	**04 09 27.4**	**+0.9**
ANIL				*eS*		**Sn**	**04 10 05.0**	**-1.3**
ANIL				*i*			04 10 10.7	
	comp=Z,964nm,0.3s							
PRAC	**Prado**	**3.57**	**210**	*eP*		**Pn**	**04 09 29.5**	**-0.6**
PRAC				*eS*		**Sn**	**04 10 12.1**	**-0.9**
PRAC				*i*			04 10 17.9	
	comp=Z,390nm,0.2s							
ORTC	**Ortega, Tolima**	**3.60**	**217**	↑ *iP*		**Pn**	**04 09 30.6**	**0.0**
ORTC				*eS*		**Sn**	**04 10 12.5**	**-1.2**
ORTC				*i*			04 10 20.7	
	comp=Z,355nm,0.4s							
SJCC	**San Jacinto, C**	**3.68**	**326**	*eP*		**Pn**	**04 09 30.5**	**-1.1**
SJCC				*eS*		**Sn**	**04 10 10.9**	**-4.7**
SJCC				*i*			04 10 16.5	
	comp=Z,200nm,0.5s							
PLMC	**San Jos del P**	**3.70**	**239**	*eP*		**Pn**	**04 09 32.4**	**+0.5**
PLMC				*i*			04 09 35.5	
	comp=Z,520nm,0.1s							
PLMC				*eS*		**Sn**	**04 10 14.6**	**-1.4**
GUVC	**San Jose del G**	**4.28**	**174**	*eP*		**Pn**	**04 09 38.4**	**-0.9**
GUVC				*eS*		**Sn**	**04 10 27.8**	**-1.5**
GUVC				*i*			04 10 32.1	
	comp=Z,372nm,0.4s							
SMRC	**Santa Marta, M**	**4.45**	**346**	*eP*		**Pn**	**04 09 41.1**	**-0.4**
SMRC				*eS*		**Sn**	**04 10 29.8**	**-3.6**
SMRC				*i*			04 10 33.4	
	comp=Z,142nm,0.3s							
CAPC	**Capurgana**	**4.59**	**293**	*eP*		**Pn**	**04 09 42.1**	**-1.1**
CAPC				*eS*		**Sn**	**04 10 30.7**	**-5.8**
CAPC				*i*			04 10 35.1	
	comp=Z,117nm,0.8s							
BETC	**Betania**	**4.74**	**210**	*eP*		**Pn**	**04 09 44.3**	**-1.0**
BETC				*eS*		**Sn**	**04 10 33.8**	**-6.3**
MARP	**Paez Belalcaza**	**4.88**	**216**	*eP*		**Pn**	**04 09 46.6**	**-0.7**
MARP				*eS*		**Sn**	**04 10 38.2**	**-5.5**
GARC	**Garzon, Huila**	**5.19**	**208**	*eP*		**Pn**	**04 09 50.4**	**-1.1**
GARC				*i*			04 09 52.6	
	comp=Z,172nm,0.2s							
GARC				*eS*		**Sn**	**04 10 44.9**	**-6.3**
PCON	**Cinco Dias**	**5.55**	**217**	*eP*		**Pn**	**04 09 57.2**	**+0.7**
PCON				*i*			04 09 58.4	
	comp=Z,43nm,0.4s							
SOTA	**Rioblanco**	**5.83**	**217**	↓ *iP*		**Pn**	**04 10 01.4**	**+1.3**
SOTA				*i*			04 11 15.8	
	comp=Z,37nm,0.4s							
BBAC	**Balboa, Cauca**	**6.32**	**221**	*eP*		**Pn**	**04 10 06.4**	**0.0**
BBAC				*i*			04 10 08.9	
	comp=Z,69nm,0.4s							
BBAC				*eS*		**Sn**	**04 11 14.4**	**-3.5**
HATO	**Hato, Curacao**	**6.70**	**37**	Pn		**Pn**	**04 10 11.2**	**0.0**
BCIP	**Isla Barro Col**	**7.07**	**290**	Pn		**Pn**	**04 10 14.4**	**-1.8**
PCRV	**Puerto La Cruz**	**9.00**	**68**	P		**Pn**	**04 10 41.3**	**-0.6**
	comp=Z,1.1nm,0.3s,baz=299,slow=1.7,SNR=11							
PCRV				S		**Sn**	**04 12 18.0**	**-4.1**
	comp=Z,0.8nm,0.3s,baz=78,slow=21,SNR=1.5							
PLCV	**Puerto La Cruz**	**9.04**	**68**			**Pn**	**04 10 41.3**	**-1.1**
MTDJ	**Mount Denham**	**12.13**	**339**	Pn		**Pn**	**04 11 25.7**	**+2.8**
SDDR	**Presa de Saban**	**12.21**	**8**	Pn		**P**	**04 11 27.3**	**-2.4**
JTS	**Las Juntas de**	**12.22**	**287**	P		**Pn**	**04 11 25.4**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=34,slow=21,SNR=1.2							
JTS	**Las Juntas de**	**12.22**	**287**	P		**P**		
PDPR	**Patillas Dam,**	**13.09**	**31**	Pn		**Pn**	**04 11 31.6**	**+1.7**
SJG	**San Juan**	**13.10**	**30**	P		**Pn**	**04 11 34.0**	**-1.2**
	comp=Z,1.7nm,0.3s,baz=213,slow=2.5,SNR=3.0						**04 11 34.8**	**-0.5**
SJG	**San Juan**	**13.10**	**30**			**Pn**	**04 11 34.7**	**-0.6**
GTBY	**Guantanamo Bay**	**13.17**	**352**			**P**	**04 11 39.8**	**-0.6**
CBCY	**The Bluff, Cay**	**14.38**	**334**	P		**P**	**04 11 55.3**	**+1.6**
SAML	**Samuel**	**18.52**	**148**	P		**P**	**04 12 39.1**	**-0.5**
SAML				IAmb		IAmb	04 12 44.3	
	comp=Z,4.9nm,1.3s							
TEIG	**Tepich**	**19.86**	**314**	P		**Pn**	**04 12 56.3**	**-1.0**
	comp=Z,9.8nm,0.6s,baz=319,slow=0.9,SNR=9.0							
TEIG	**Tepich**	**19.86**	**314**	P		**Pn**	**04 12 56.3**	**-1.0**
LPAZ	**La Paz**	**23.48**	**168**	P		**P**	**04 13 30.6**	**-0.6**
	comp=Z,0.4nm,0.7s,baz=166,slow=7.8,SNR=2.0							
LVC	**Limon Verde**	**29.54**	**172**	P		**P**	**04 14 23.7**	**-1.5**
LVC				IAmb		IAmb	04 14 33.0	
	comp=Z,4.6nm,0.9s							
PB06	**IPOC Station P**	**29.55**	**173**	P		**P**	**04 14 22.6**	**-2.5**
X48A	**Hartselle**	**30.36**	**337**	P		**P**	**04 14 33.9**	**+2.0**
X48A				IAmb		IAmb	04 14 36.5	
	comp=Z,3.3nm,1.1s							
U40A	**Yellville**	**34.51**	**331**	P		**P**	**04 15 09.2**	**+1.1**
U40A				IAmb		IAmb	04 15 10.0	
	comp=Z,4.3nm,0.7s							
TXAR	**Lajitas Array**	**36.48**	**312**	P		**P**	**04 15 26.2**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=121,slow=9.3,SNR=11							
TX32	**Lajitas Array**	**36.48**	**312**	P		**P**	**04 15 26.5**	**+1.4**
PDAR	**Pinedale Array**	**48.09**	**324**	P		**P**	**04 16 59.9**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=130,slow=8.4,SNR=3.2							
BW06	**Boulder Array**	**48.09**	**324**	P		**P**	**04 16 59.3**	**+0.3**
SCHQ	**Schefferville**	**48.13**	**5**	P		**P**	**04 17 00.2**	**+1.4**
	comp=Z,3.4nm,0.5s,baz=209,slow=3.7,SNR=8.6							
SCHQ	**Schefferville**	**48.13**	**5**	P		**P**	**04 17 00.1**	**+1.4**
SCHQ				IAmb		IAmb	04 17 01.2	
	comp=Z,3.5nm,0.8s							
TCUT	**Toone Canyon**	**48.24**	**321**	P		**P**	**04 17 01.9**	**+1.7**
NVAR	**Mina Array Bea**	**51.50**	**315**	P		**P**	**04 17 25.6**	**+0.9**
	comp=Z,0.3nm,0.6s,baz=116,slow=8.2,SNR=2.7							
YKA	**Yellowknife Ar**	**63.27**	**340**	P		**P**	**04 18 46.7**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=134,slow=6.5,SNR=8.0							
ASAR	**Alice Springs**	**149.13**	**234**	PKPbc		**PKPbc**	**04 28 04.8**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=120,slow=3.6,SNR=13							
WRA	**Warramunga Arr**	**150.36**	**241**	PKPbc		**PKPbc**	**04 28 08.1**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=106,slow=2.6,SNR=1.6							

*IDC **30** 04:10:05.8±1.2, 55°.57S×28°.35W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/24, mbtmp3.8/4, Error ellipse: s-maj=42.3km s-min=30.6km az=78.0*
*NEIC **30** 04:10:08.0±2.7, 55°.4S±0°.1×28°.5W±0°.2, h10km±1km, mb4.1/7, Error ellipse: s-maj=26.3km s-min=18.2km az=211.0*

ISC 30 04:10:07.7±0.9, 55°.4S±0°.1×28°.5W±0°.1, h10km, n13, σ1°.932/14, mb4.0/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**4.74**	**281**	Pn		**Pn**	**04 11 20.9**	**+1.9**
HOPE				Sn		**Sn**	**04 12 12.8**	**-1.2**
SNAA	**Sanae**	**19.61**	**156**	P		**Pn**	**04 14 37.6**	**+0.4**
SNAA				IAmb		IAmb	04 14 48.8	
	comp=Z,3.1nm,0.6s							
QSPA	**South Pole Qui**	**34.82**	**180**	P		**P**	**04 16 59.8**	**+1.5**
CPUP	**Villa Florida**	**35.83**	**312**	P		**P**	**04 17 07.8**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=131,slow=9.3,SNR=1.5							
CPUP	**Villa Florida**	**35.83**	**312**	P		**P**	**04 17 07.2**	**0.0**
CPUP				IAmb		IAmb	04 17 11.0	
	comp=Z,7.3nm,1.4s							
GO05	**Huala**	**35.98**	**286**	P		**P**	**04 17 06.3**	**-2.1**
VNDA	**Vanda**	**47.15**	**183**	P		**P**	**04 18 37.8**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=146,slow=2.5,SNR=6.3							
VNDA	**Vanda**	**47.15**	**183**	P		**P**	**04 18 37.9**	**-1.6**
VNDA				IAmb		IAmb	04 18 48.0	
	comp=Z,1.5nm,0.9s							
LPAZ	**La Paz**	**49.40**	**306**	P		**P**	**04 18 59.1**	**+0.9**
	comp=Z,0.6nm,0.6s,baz=176,slow=9.2,SNR=4.8							
LPAZ	**La Paz**	**49.40**	**306**	P		**P**	**04 18 58.7**	**+0.5**
LPAZ				IAmb		IAmb	04 19 14.9	
	comp=Z,1.0nm,0.8s							
TOA0	**Torodi Ar. Sit**	**72.90**	**31**	P		**P**	**04 21 35.9**	**-0.9**
TOA0				IAmb		IAmb	04 21 39.4	
	comp=Z,12nm,1.4s							
TORD	**Torodi Ar. Bea**	**72.90**	**31**	P		**P**	**04 21 36.9**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=208,slow=5.1,SNR=11							
ILAR	**Eielson Array**	**149.14**	**313**	PKPbc		**PKPbc**	**04 29 55.1**	**+0.4**
	comp=Z,1.9nm,0.9s,baz=98,slow=1.6,SNR=13							

*IDC **30** 04:13:56.6±1.4, 55°.33S×27°.50W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/26, mbtmp3.6/3, Error ellipse: s-maj=55.1km s-min=37.4km az=91.0*
*NEIC **30** 04:13:57.7±0.7, 55°.3S±0°.1×27°.9W±0°.2, h10km±1km, mb4.2/9, Error ellipse: s-maj=28.3km s-min=18.7km az=38.0*

ISC 30 04:13:57.6±0.9, 55°.3S±0°.1×27°.9W±0°.2, h10km, n14, σ0°.979/14, mb3.9/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**5.06**	**278**			**Pn**	**04 15 13.8**	**+0.3**
SNAA	**Sanae**	**19.58**	**156**			**P**	**04 18 25.2**	**-0.3**
QSPA	**South Pole Qui**	**34.94**	**180**	P		**P**	**04 20 49.3**	**-0.1**
QSPA				IAmb		IAmb	04 21 00.1	
	comp=Z,1.7nm,0.9s							
VA03	**San Esteban**	**37.22**	**289**	P		**P**	**04 21 07.5**	**-1.6**
GO01	**Chusmiza**	**47.20**	**302**	P		**P**	**04 22 31.6**	**+0.6**
GO01				IAmb		IAmb	04 22 39.8	
	comp=Z,1.4nm,1.0s							
VNDA	**Vanda**	**47.29**	**183**	P		**P**	**04 22 30.6**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=185,slow=7.8,SNR=2.3							
VNDA	**Vanda**	**47.29**	**183**	P		**P**	**04 22 31.0**	**+0.5**
PB11	**IPOC Station P**	**47.35**	**302**	P		**P**	**04 22 32.0**	**+0.3**
MNMC	**Minye Minye**	**47.85**	**302**	P		**P**	**04 22 36.3**	**+0.5**
MNMC				IAmb		IAmb	04 22 50.1	
	comp=Z,3.4nm,0.9s							
LPAZ	**La Paz**	**49.61**	**306**	P		**P**	**04 22 51.4**	**+1.7**
	comp=Z,0.4nm,0.6s,baz=90,slow=3.0,SNR=1.8							
LPAZ	**La Paz**	**49.61**	**306**	P		**P**	**04 22 50.3**	**+0.6**
LPAZ				IAmb		IAmb	04 23 09.2	
	comp=Z,3.4nm,1.4s							
TOA0	**Torodi Ar. Sit**	**72.63**	**30**	P		**P**	**04 25 25.1**	**0.0**
TOA0				IAmb		IAmb	04 25 44.3	
	comp=Z,3.2nm,1.1s							
TORD	**Torodi Ar. Bea**	**72.63**	**30**	P		**P**	**04 25 24.9**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=205,slow=6.6,SNR=4.8							
ILAR	**Eielson Array**	**149.31**	**313**	PKPbc		**PKiKP**	**04 33 46.4**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=114,slow=1.8,SNR=5.6							

*PAS **30** 04:30:55.5±1.1, 36°.184N±0°.006×118°.32W±0°.02, h5km±6km, ML3.1/152, Error ellipse: s-maj=2.3km s-min=0.7km az=76.0*

NEIC 30 04:30:55.4±1.1, 36°.18N±0°.01×118°.31W±0°.02, h5km±6km, Error ellipse: s-maj=2.0km s-min=1.9km az=54.0, Central California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WLHM	**Little Horse**	**0.03**	**183**			Pg	04 30 57.4	+0.7
CWC	**Cottonwood Cre**	**0.32**	**36**			Pg	04 31 01.1	-0.5
CWC						Sg	04 31 05.4	-0.5
WCHM	**Chimney Peak**	**0.35**	**147**			Pg	04 31 02.0	-0.2
SPG2	**Springville 2**	**0.37**	**274**			Pg	04 31 02.1	-0.4
SPG2						Sg	04 31 07.0	-0.3
MFS	**McCloud Flat S**	**0.37**	**99**			Pg	04 31 02.6	-0.1
JRC2	**Joshua Ridge**	**0.45**	**116**			Pg	04 31 04.0	-0.1
JRC2						Sg	04 31 10.4	+0.4
WASM	**Alta Sierra Ca**	**0.48**	**204**			Pg	04 31 04.6	-0.1
WASM						Sg	04 31 11.2	+0.2
WHFM	**Hanning Flat**	**0.48**	**184**			Pg	04 31 04.5	-0.1
WHFM						Sg	04 31 11.1	+0.2
WORM	**Onyx Ranch**	**0.48**	**173**			Pg	04 31 04.5	-0.2
ISA	**Isabella, Lake**	**0.53**	**194**			Pg	04 31 05.3	-0.2
ISA					Sg	Sg	04 31 12.4	-0.1
CGO	**Cerro Gordo**	**0.55**	**48**			Pg	04 31 05.9	-0.2
CGO						Sg	04 31 13.7	+0.4
WBSM	**Bird Springs**	**0.66**	**168**			Pg	04 31 07.7	-0.3
WBSM						Sg	04 31 16.8	+0.3
MPMC	**Manual Prospec**	**0.68**	**100**			Pg	04 31 08.1	-0.2
MPMC						Sg	04 31 17.5	+0.3
CLC	**China Lake**	**0.68**	**122**			Sg	04 31 17.4	+0.1
VES	**Vestal, Richgr**	**0.71**	**242**			Sg	04 31 18.4	+0.1
WOFM	**Oak Flat**	**0.72**	**207**			Pg	04 31 08.9	-0.3
LRMC	**Laurel Mtn Rad**	**0.86**	**144**			Pg	04 31 11.7	-0.3
LRMC						Sg	04 31 23.5	+0.4
TIN	**Tinemaha, Big**	**0.88**	**4**			Pg	04 31 11.5	-0.7
VOG	**Valley Oaks Go**	**0.88**	**280**			Pg	04 31 11.6	-0.6
TEJ	**El Tejon**	**0.99**	**198**			Pg	04 31 13.7	-0.7
CCCA	**Chr Cany lake**	**1.01**	**130**			Pg	04 31 14.5	-0.2
CCAC	**Calif City Air**	**1.05**	**167**			Sg	04 31 29.0	-0.1
GRAC	**Grapevine Rang**	**1.12**	**43**			Pg	04 31 16.2	-0.5
ARVC	**Arvin**	**1.13**	**202**			Pg	04 31 16.5	-0.5
TJR	**Tejon Ranch**	**1.20**	**197**			Pg	04 31 17.7	-0.7
FURC	**Furnace Creek,**	**1.20**	**76**			Pg	04 31 18.0	-0.4
TPO	**Tropico Hills**	**1.30**	**177**			Pn	04 31 19.2	-1.0
TPO						Sg	04 31 37.0	0.0
EDW2	**Edwards Air Fo**	**1.32**	**169**			Pn	04 31 19.3	-1.2
EDW2						Sg	04 31 36.9	-0.9
GSC	**Goldstone, Bar**	**1.50**	**125**	Pn		Pn	04 31 22.2	-0.9
CARC	**Carrizo Plain**	**1.52**	**236**			Pn	04 31 23.2	-0.1
MPI	**Mount Pinos, F**	**1.52**	**207**			Pn	04 31 22.6	-1.0
YEG	**Yeguas Mountai**	**1.53**	**242**			Pn	04 31 23.6	+0.1
OMMB	**Old Mammoth Mi**	**1.54**	**339**	Pn		Pn	04 31 23.0	-0.8
MCSM	**Casa Diablo Ho**	**1.55**	**342**			Pn	04 31 23.8	-0.1
MDPB	**Devils Postpil**	**1.58**	**337**			Pn	04 31 23.8	-0.5
MDPB						Sn	04 31 43.9	-1.3
OSI	**Osito Audit: C**	**1.60**	**192**			Pn	04 31 24.8	+0.5
PAGB	**Antelope Grade**	**1.64**	**255**			Pn	04 31 24.7	-0.1
AMDNV	**Amargosa**	**1.66**	**80**			Pn	04 31 24.9	-0.2
MMIM	**Miami Mountain**	**1.69**	**318**			Pn	04 31 25.7	0.0
TPNV	**Topopah Spring**	**1.83**	**65**			Pn	04 31 27.6	0.0
MWC	**Mount Wilson**	**1.96**	**174**			Pn	04 31 29.6	+0.1
PASC	**Pasadena Art C**	**2.00**	**177**	Pn		Pn	04 31 30.3	+0.4
PMPB	**Monarch Peak**	**2.01**	**272**	Pn		Pn	04 31 30.2	+0.1
NV11	**Mina Array Sit**	**2.25**	**3**			Pn	04 31 34.6	+1.1
RYN	**Ryan**	**2.45**	**356**			Pn	04 31 37.0	+0.8
SME	**Santa Rosa Min**	**2.48**	**161**			Pn	04 31 36.5	0.0
CMB	**Columbia Colle**	**2.49**	**319**			Pn	04 31 37.6	+1.0
WAKR	**Walker**	**2.49**	**339**			Pn	04 31 38.2	+1.5
SHPR	**Sheep Range**	**2.56**	**82**			Pn	04 31 38.0	+0.2
SAO	**San Andreas Ge**	**2.59**	**284**	Pn		Pn	04 31 38.0	0.0
EW2	**E Wide Canyon**	**2.72**	**144**			Pn	04 31 39.8	0.0
KVN	**Kaiserville**	**2.87**	**3**			Pn	04 31 42.8	+0.7
PFO	**Pinyon Flats O**	**2.98**	**149**			Pn	04 31 43.2	-0.2
XPFO	**Pion Flat**	**2.98**	**149**			Pn	04 31 43.2	-0.3
R11A	**Troy Canyon, C**	**3.07**	**44**			Pn	04 31 45.7	+1.0
PNTR	**Pine Nut**	**3.08**	**341**			Pn	04 31 45.3	+0.4
VCNR	**Virginia City**	**3.29**	**342**			Pn	04 31 48.1	+0.4
AFDM	**Forest Hills D**	**3.48**	**323**			Pn	04 31 50.8	+0.6
PAHR	**Pah Rah Range**	**3.62**	**347**			Pn	04 31 53.3	+1.0
BAR	**Barrett**	**3.74**	**158**	Pn		P

JYNG			S		Sn	04 41 02.9	+0.3
IRIF	**Iriomote-Funau**	**0.82 123**	P		Pn	04 40 54.3	0.0
IRIF			S		Sn	04 41 09.0	+0.1
TWB1	**Santiao Chiao**	**0.92 284**	P		Pn	04 40 55.5	+0.3
	baz=287						
TWC	**Suao**	**1.04 260**	*e*P		Pn	04 40 56.4	0.0
	baz=263						
TWC			*e*S		Sn	04 41 13.0	+0.3
	baz=263						
HATJ	**Hateruma jima**	**1.05 134**	P		Pn	04 40 57.1	+0.6
HATJ			*e*S		Sn	04 41 13.0	+0.1
TIPB	**Shuangxi**	**1.06 280**	⇑*i*P		Pn	04 40 57.4	+0.8
	baz=282						
JKRS	**Kuro-shima**	**1.09 120**	P		Pn	04 40 57.6	+0.6
JKRS			S		Sn	04 41 13.8	+0.1
NWF	**Wu-fen Shan**	**1.12 285**	*e*P		Pn	04 40 57.3	0.0
	baz=287						
JIJ	**Ishigaki jima**	**1.15 112**	P		Pn	04 40 57.7	+0.2
JIJ			S		Sn	04 41 13.6	-1.1
PCYT	**Pengchaiyu**	**1.17 316**	*e*P		Pn	04 40 58.0	+0.2
	baz=317						
ENA	**Nanau**	**1.18 252**	*e*P		Pn	04 40 58.6	+0.7
	baz=254						
TWE	**Neicheng**	**1.19 267**	*e*P		Pn	04 40 58.8	+0.8
	baz=269						
JISG	**Ishigakijimahi**	**1.23 99**	P		Pn	04 40 58.7	+0.2
JISG			S		Sn	04 41 15.7	-0.7
TWA	**Mucha**	**1.28 279**	*e*P		Pn	04 40 58.9	-0.1
	baz=281						
TWY	**Chenhua**	**1.34 291**	*e*P		Pn	04 41 00.4	+0.7
	baz=293						
NWLT	**Wulai**	**1.34 270**	*e*P		Pn	04 41 00.4	+0.7
	baz=271						
NDT	**Datong Townshi**	**1.34 262**	*e*P		Pn	04 41 01.2	+1.4
	baz=264						
YM04	**YM04**	**1.35 286**	*e*P		Pn	04 40 59.4	-0.6
	baz=287						
TATO	**Taipei**	**1.36 278**	*e*P		Pn	04 41 00.4	+0.4
	baz=280						
NACB	**Ninganchiao**	**1.40 244**	*e*P		Pn	04 41 00.1	-0.3
	baz=246						
NACB			*e*S		Sn	04 41 18.8	-1.0
	baz=246						
TWD	**Chiawan**	**1.44 241**	*e*P		Pn	04 41 00.7	-0.2
	baz=242						
TWD			*e*S		Sn	04 41 19.6	-1.1
	baz=242						
YHNB	**Yeheng**	**1.46 266**	P		Pn	04 41 02.0	+0.8
	baz=267						
YHNB			*e*S		Sn	04 41 21.7	+0.5
	baz=267						
NSK	**Sanguang**	**1.47 266**	P		Pn	04 41 02.5	+1.1
	baz=267						
NSK			*e*S		Sn	04 41 21.5	-0.1
	baz=267						
ETLH	**Xiulin Townshi**	**1.48 247**	P		Pn	04 41 01.8	+0.3
	baz=249						
ETLH			*e*S		Sn	04 41 21.4	-0.2
	baz=249						
NNSB	**Datong**	**1.49 256**	P		Pn	04 41 02.2	+0.5
	baz=258						
NNSB			S		Sn	04 41 21.9	-0.2
	baz=258						
NNSH	**Datong**	**1.49 256**	P		Pn	04 41 02.3	+0.6
	baz=258						
NNSH			*e*S		Sn	04 41 21.6	-0.4
	baz=258						
WHF	**Hehuan Shan**	**1.68 248**	P		Pn	04 41 04.7	+0.4
	baz=249						
WHF			S		Sn	04 41 26.2	-0.5
	baz=249						
ESL	**Shilin**	**1.71 236**	*e*P		Pn	04 41 03.8	-0.4
	baz=236						
TDCB	**Techi**	**1.74 252**	*e*P		Pn	04 41 05.8	+1.1
	baz=253						
LIOB	**Emei**	**1.79 266**	*e*P		Pn	04 41 06.3	+1.2
	baz=267						
CHGB	**Renai**	**1.79 246**	P		Pn	04 41 06.3	+0.8
	baz=247						
CHGB			S		Sn	04 41 28.6	-0.2
	baz=247						
EGFH	**Guangfu**	**1.80 232**	*e*P		Pn	04 41 05.5	+0.2
	baz=233						
HGSD	**Ruisui**	**1.92 228**	*e*P		Pn	04 41 06.6	-0.1
	baz=229						
HGSD			S		Sn	04 41 30.1	-1.1
	baz=229						
VWDT	**VWDT**	**1.96 239**	P		Pn	04 41 08.1	+0.7
	baz=239						
VWDT			*e*S		Sn	04 41 31.1	-1.1
	baz=239						
DPDB	**Guoxing**	**2.01 248**	*e*P		Pn	04 41 08.8	+0.8
	baz=249						
YULB	**Yu-li**	**2.07 228**	P		Pn	04 41 08.2	-0.5
	baz=229						
YULB			*e*S		Sn	04 41 32.8	-1.8
	baz=229						
SMLT	**Sun Moon Lake**	**2.10 245**	*e*P		Pn	04 41 10.4	+1.2
	baz=245						
TWF1	**Yuli**	**2.10 227**	*e*P		Pn	04 41 09.0	-0.1
	baz=228						
TWF1			*e*S		Sn	04 41 32.8	-2.4
	baz=228						
TYC	**Yuchr**	**2.12 246**	*e*P		Pn	04 41 10.8	+1.4
	baz=246						
ELDTW	**Lidau**	**2.40 229**	*e*P		Pn	04 41 13.1	+0.1
	baz=229						
CHN5	**Tsauling**	**2.41 241**	*e*P		Pn	04 41 14.7	+1.5
	baz=241						
STYT	**Tauyuan**	**2.59 232**	*e*P		Pn	04 41 17.0	+1.4
	baz=232						
CHN4	**Tsaushan**	**2.60 237**	*e*P		Pn	04 41 17.0	+1.4
	baz=237						
TWGBT	**Beinan**	**2.62 222**	*e*P		Pn	04 41 15.5	-0.4
	baz=222						
TWG	**Pinlang**	**2.62 222**	*e*P		Pn	04 41 16.4	+0.5
	baz=222						
WTCT	**Ta-ch'eng**	**2.62 250**	*e*P		Pn	04 41 16.4	+0.5
	baz=250						
WTP	**Ta-pu**	**2.65 235**	*e*P		Pn	04 41 17.7	+1.4
	baz=235						
TWK	**Hsinying**	**2.73 237**	*e*P		Pn	04 41 18.4	+1.0
	baz=237						
CHN1	**Nanshi**	**2.75 235**	*e*P		Pn	04 41 19.2	+1.6
	baz=235						
SLGT	**Liugui**	**2.78 230**	*e*P		Pn	04 41 19.7	+1.8
	baz=230						
MATB	**Ma-tsu**	**3.05 297**	*e*P		Pn	04 41 21.8	+0.2
	baz=296						
EAST	**Anshuo**	**3.09 220**	*e*P		Pn	04 41 23.6	+1.5
	baz=219						
VWUC	**VWUC**	**3.21 274**	*e*P		Pn	04 41 23.5	-0.1
	baz=274						
PHUB	**P'eng-hu**	**3.36 248**	*e*P		Pn	04 41 25.3	-0.3
	baz=248						
LYJJ	**Jianjiangzhen**	**3.39 302**	*e*P		Pn	04 41 26.0	0.0
	baz=301						
TWP	**Hsiaoliuchiu**	**3.42 225**	*e*P		Pn	04 41 27.8	+1.4
	baz=225						
PTMZ	**Houxiangcun**	**3.51 275**	*e*P		Pn	04 41 27.6	0.0
	baz=275						
VCHM	**Qimei**	**3.60 245**	*e*P		Pn	04 41 29.4	+0.5
	baz=244						

*NEIC **30** 05:07:52.4±1.9, 16°.4S±0°.1×177°.8E±0°.1, h10km±1km, mb4.6/5, Error ellipse: s-maj=24.3km s-min=14.5km az=49.0*

*IDC **30** 05:07:54.6±1.6, 15°.99S×177°.13E, h0km, mb4.1/9, mb1 4.3/9, mb1mx4.0/46, mbtmp4.1/9, MS3.8/22, Ms1 3.8/22, ms1mx3.8/27, Error ellipse: s-maj=48.4km s-min=26.0km az=130.0*

*GCMT **30** 05:07:57.4±0.2, 16°.21S±0°.01×177°.68E±0°.01, h18km±1km, MW4.9/100, Moment Tensor Solution. s27,c34; s100,c141; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.61±.10; $M_{\theta\theta}$-0.37±.09; $M_{\phi\phi}$0.98±.08; $M_{r\theta}$1.07±.24; $M_{\theta\phi}$2.45±.07; $M_{\phi r}$-0.73±.20; Best double couple: $M_0$2.90000×10^{16} NP1:ϕ_s356.00000°, δ69.00000°, λ-159.00000°. NP2:ϕ_s259.00000°, δ71.00000°, λ-22.00000°. Principal axes: T 2.8490, Plg1.0000°, Azm308.0000°; N 0.1020, Plg61.0000°, Azm40.0000°; P -2.9520, Plg29.0000°, Azm217.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 05:07:55.4±0.8, 16°.4S±0°.1×177°.9E±0°.1, h35km, n34, σ1$\hat{\theta}$63/18, mb4.1/11, MS3.9/21, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**1.35**	**176**		**Pn**	**05 08 17.1**	**-0.8**
SANVU	**Saraoutou**	**10.38**	**274**	Pn	**Pn**	**05 10 20.7**	**-1.1**
DZM	**Mont Dzumac**	**12.25**	**241**	LR	LR	05 13 37.9	
	comp=Z,83nm,19.2s,baz=62,slow=29						
RAO	**Raoul Island**	**13.37**	**164**	LR	LR	05 14 53.9	
	comp=Z,726nm,20.8s,baz=338,slow=30						
HNR	**Honiara**	**18.84**	**289**	LR	LR	05 18 18.5	
	comp=Z,205nm,18.1s,baz=124,slow=35						
RAR	**Rarotonga**	**21.63**	**106**	LR	LR	05 19 30.4	
	comp=Z,145nm,20.8s,baz=280,slow=31						
KRVT	**Keravat (AS076**	**28.13**	**292**	LR	LR	05 24 14.4	
	comp=Z,349nm,18.8s,baz=122,slow=36						
PMG	**Port Moresby**	**30.77**	**279**	LR	LR	05 25 12.1	
	comp=Z,190nm,18.9s,baz=84,slow=35						
PMG	**Port Moresby**	**30.77**	**279**	P	**P**	**05 14 06.7**	**-1.2**
PPT2	**Papeete2**	**31.07**	**97**	*e*LQ	LQ	05 21 01.3	
	1μm,29.0s						
PPT2				*e*LR	LR	05 22 14.6	
	comp=Z,639nm,30.2s						
TBI	**Tubuai**	**31.38**	**108**	*e*S	**S**	**05 19 16.0**	**-2.4**
	110nm,28.2s						
TBI				*e*LQ	LQ	05 21 14.7	
	723nm,26.0s						
TBI				*e*LR	LR	05 22 28.0	
	comp=Z,723nm,30.8s,baz=273						
STKA	**Stephens Creek**	**36.38**	**238**	P	**P**	**05 14 56.7**	**+0.2**
	7.7nm,0.8s,baz=70,slow=9.4,SNR=12						
STKA				LR	LR	05 27 53.2	
	comp=Z,186nm,21.3s,baz=46,slow=33						
STKA	**Stephens Creek**	**36.38**	**238**	P	**P**	**05 14 57.4**	**+0.9**
STKA				IAmb	IAmb	05 15 04.6	
	comp=Z,2.2nm,0.9s						
JAY	**Jayapura**	**39.13**	**287**	LR	LR	05 30 58.2	
	comp=Z,230nm,19.1s,baz=106,slow=36						
BBOO	**Buckleboo**	**41.15**	**239**	P	**P**	**05 15 36.7**	**+0.3**
BBOO				IAmb	IAmb	05 15 48.1	
	comp=Z,32nm,1.4s						
WRA	**Warramunga Arr**	**41.50**	**258**	P	**P**	**05 15 37.7**	**-1.8**
	comp=Z,1.1nm,0.3s,baz=89,slow=8.4,SNR=2.3						
AS31	**Alice Springs**	**41.88**	**253**	P	**P**	**05 15 42.7**	**+0.1**
ASAR	**Alice Springs**	**41.88**	**253**	P	**P**	**05 15 41.3**	**-1.3**
	comp=Z,3.0nm,0.7s,baz=81,slow=8.1,SNR=16						
ASAR				LR	LR	05 32 34.5	
	comp=Z,99nm,18.2s,baz=88,slow=36						
GUMO	**Guam**	**44.22**	**310**	LR	LR	05 31 52.7	
	comp=Z,116nm,21.9s,baz=142,slow=33						
MJAR	**Matsushiro Arr**	**64.64**	**325**	P	**P**	**05 18 29.4**	**-0.2**
	comp=Z,1.5nm,0.4s,baz=134,slow=5.2,SNR=5.1						
MJAR				LR	LR	05 41 35.7	
	comp=Z,96nm,21.9s,baz=130,slow=32						
KSRS	**Korea Array**	**71.27**	**320**	P	**P**	**05 19 11.2**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=137,slow=6.7,SNR=4.3						
KSRS				LR	LR	05 45 27.2	
	comp=Z,64nm,21.5s,baz=128,slow=32						
PETK	**Petropavlovsk-**	**71.38**	**347**	LR	LR	05 43 58.9	
	comp=Z,46nm,20.8s,baz=236,slow=31						
USRK	**Ussuriysk Ar.**	**73.42**	**327**	P	**P**	**05 19 24.7**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=212,slow=6.8,SNR=4.2						
USRK				LR	LR	05 46 13.8	
	comp=Z,88nm,20.3s,baz=144,slow=32						
QSPA	**South Pole Qui**	**73.66**	**180**	P	**P**	**05 19 26.7**	**+1.4**
QSPA				IAmb	IAmb	05 19 39.9	
	comp=Z,16nm,1.1s						
NVAR	**Mina Array Bea**	**80.80**	**46**	LR	LR	05 48 35.1	
	comp=Z,128nm,21.0s,baz=240,slow=30						
CMAR	**Chiang Mai Arr**	**85.09**	**291**	P	**P**	**05 20 28.7**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=134,slow=3.9,SNR=1.2						
CMAR				LR	LR	05 57 00.6	
	comp=Z,43nm,19.7s,baz=182,slow=35						
ILAR	**Eielson Array**	**85.23**	**14**	LR	LR	05 51 27.2	
	comp=Z,49nm,20.2s,baz=225,slow=31						
TXAR	**Lajitas Array**	**88.16**	**59**	P	P	05 20 49.5	+6.3
	comp=Z,0.5nm,0.9s,baz=185,slow=6.3,SNR=3.7						
TXAR				LR	LR	05 53 32.8	
	comp=Z,52nm,19.0s,baz=0.0,slow=31						
PDAR	**Pinedale Array**	**88.68**	**45**	LR	LR	05 55 59.8	
	comp=Z,48nm,19.1s,baz=260,slow=32						
SONM	**Songino Array**	**90.14**	**320**	P	**P**	**05 20 52.2**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=123,slow=5.3,SNR=2.7						
SONM				LR	LR	05 56 30.2	
	comp=Z,39nm,20.2s,baz=122,slow=33						
YKA	**Yellowknife Ar**	**94.43**	**25**	LR	LR	06 00 33.9	
	comp=Z,36nm,18.3s,baz=0.0,slow=34						
PLCA	**Paso Flores**	**94.89**	**135**	LR	LR	05 54 46.5	
	comp=Z,44nm,21.4s,baz=288,slow=29						
GERES	**GERESS Array B**	**145.16**	**342**	PKP	**PKiKP**	**05 27 32.8**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=46,slow=2.8,SNR=7.2						
TORD	**Torodi Ar. Bea**	**175.15**	**229**	PKPab	**PKPab**	**05 29 43.0**	**+4.7**
	comp=Z,1.3nm,1.0s,baz=112,slow=4.1,SNR=4.1						

*IDC **30** 05:09:45.5±1.8, 2°.38N×127°.68E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/39, mbtmp3.8/5, Error ellipse: s-maj=113.8km s-min=21.7km az=68.0*

*NEIC **30** 05:09:56.0±1.9, 2°.36N±0°.09×128°.1E±0°.1, h97km±10km, mb4.3/7, Error ellipse: s-maj=20.3km s-min=13.3km az=77.0*

*DJA **30** 05:09:59.9±0.4, 2°.N±3°×12°.8E±°, h70km±7km, M4.2/12, mB5.2/2, mb4.5/4, MLv4.1/12, Mw(mB)4.6/2*

ISC 30 05:09:56.3±1.2, 2°.46N±0°.10×127°.8E±0°.1, h100km, n21, σ1$\hat{\theta}$64/23, mb4.2/9, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.74**	**196**	P	**Pn**	**05 10 27.0**	**+1.3**
TNTI				S	**Sn**	**05 10 48.0**	**+0.1**
TNTI	**Ternate**	**1.74**	**196**		**Pn**	**05 10 24.3**	**-1.4**
TNTI				Sn	**Sn**	**05 10 46.1**	**-1.8**
LBMI	**Labuha**	**3.10**	**186**	P	**Pn**	**05 10 45.9**	**+2.5**
KMSI	**Cibinong**	**4.29**	**244**	P	**Pn**	**05 10 58.1**	**-1.4**
SANI	**Sanana**	**4.85**	**203**	P	**Pn**	**05 11 07.8**	**+0.8**
LUWI	**Luwuk**	**6.15**	**236**	P	**Pn**	**05 11 23.3**	**-1.4**
	0.8nm5μm37nm,0.8s						
LUWI	**Luwuk**	**6.15**	**236**	Pn	**Pn**	**05 11 27.6**	**+2.9**
LUWI				Sn	**Sn**	**05 12 36.3**	**+2.7**
MRSI	**Marisa**	**6.22**	**252**	P	**Pn**	**05 11 25.2**	**-0.5**
	0.4nm1μm112nm,0.6s						
FAKI	**Fak Fak**	**6.92**	**140**	P	Pn	05 11 41.3	+6.0
FITZ	**Fitzroy Crossi**	**20.54**	**186**	P	**P**	**05 14 24.2**	**-2.8**
	2.9nm,0.9s,baz=7.1,slow=8.1,SNR=1.5						
WB0	**Warramunga Arr**	**23.00**	**164**	P	**P**	**05 14 52.8**	**-0.1**
WB0				IAmb	IAmb	05 15 03.4	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**23.16**	**164**	P	**P**	**05 14 53.4**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=345,slow=11,SNR=7.5						
WB2	**Warramunga Ar**	**23.16**	**164**	P	**P**	**05 14 54.1**	**-0.2**
WB2				IAmb	IAmb	05 15 07.6	
	comp=Z,21nm,1.5s						
WR0	**Warramunga Arr**	**23.23**	**164**	P	**P**	**05 14 52.8**	**-2.2**
WR0				IAmb	IAmb	05 15 11.7	
	comp=Z,10.0nm,1.1s						
ASAR	**Alice Springs**	**26.63**	**168**	P	**P**	**05 15 26.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=339,slow=7.5,SNR=4.6						
BBOO	**Buckleboo**	**35.93**	**168**	P	**P**	**05 16 47.5**	**+0.2**
STKA	**Stephens Creek**	**36.56**	**160**	P	**P**	**05 16 52.9**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=330,slow=10.0,SNR=3.3						
STKA	**Stephens Creek**	**36.56**	**160**	P	**P**	**05 16 50.7**	**-1.9**
MK31	**Makanchi Array**	**59.23**	**325**	P	**P**	**05 19 48.1**	**+0.9**
MK31				IAmb	IAmb	05 19 48.8	
	comp=Z,1.5nm,0.5s						
MKAR	**Makanchi Array**	**59.23**	**325**	P	**P**	**05 19 48.5**	**+1.2**
	comp=Z,1.7nm,0.4s,baz=116,slow=7.9,SNR=27						
KURK	**Kurchatov**	**63.40**	**327**	P	**P**	**05 20 15.9**	**+0.7**
KURK				IAmb	IAmb	05 20 28.1	
	comp=Z,5.7nm,1.5s						

*NEIC **30** 05:19:58.3±1.9, 6°.08S±0°.10×154°.58E±0°.04, h49km±8km, mb4.3/5, Error ellipse: s-maj=14.0km s-min=5.3km az=183.0*

*IDC **30** 05:19:59.9±3.3, 6°.12S×154°.54E, h59km±28km, mb3.6/9, mb1 3.9/12, mb1mx3.7/30, mbtmp4.0/12, ML3.3/3, Error ellipse: s-maj=25.2km s-min=15.6km az=83.0*

ISC 30 05:19:59.7±0.7, 6°.11S±0°.07×154°.55E±0°.09, h61km, n20, σ1$\hat{\theta}$06/23, mb3.9/11, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.04**	**309**	Pn	**Pn**	**05 20 42.3**	**-3.2**

KRVT	**Keravat (AS076**	**3.08**	**305**	P	**Pn**	**05 20 47.5**	**+1.6**
	13nm,0.3s,baz=198,slow=7.1,SNR=2.0						
KRVT				S	**Sn**	**05 21 21.7**	**+0.1**
	28nm,0.3s,baz=53,slow=13,SNR=5.2						
PMG	**Port Moresby**	**8.02**	**245**	P	**Pn**	**05 21 54.1**	**+0.5**
	2.6nm,0.3s,baz=192,slow=22,SNR=4.2						
PMG				S	**Sn**	**05 23 22.5**	**-0.4**
	baz=176,slow=21,SNR=1.9						
PMG	**Port Moresby**	**8.02**	**245**		**Pn**	**05 21 52.8**	**-0.8**
PATS	**Pohnpei**	**13.39**	**16**	Pn	**Pn**	**05 23 06.4**	**-0.7**
DZM	**Mont Dzumac**	**19.60**	**145**	P	**P**	**05 24 23.0**	**-0.2**
	0.4nm,0.3s,baz=253,slow=8.0,SNR=5.8						
WB0	**Warramunga Arr**	**23.84**	**233**	P	**P**	**05 25 07.1**	**-0.4**
WB0				IAmb	IAmb	05 25 17.8	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**23.96**	**233**	P	**P**	**05 25 08.9**	**+0.2**
WB2				IAmb	IAmb	05 25 09.5	
	comp=Z,9.4nm,1.2s						
WRA	**Warramunga Arr**	**23.97**	**233**	P	**P**	**05 25 09.7**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=56,slow=9.7,SNR=0.5						
ARMA	**Armidale**	**24.34**	**186**	P	**P**	**05 25 10.4**	**-1.6**
ASAR	**Alice Springs**	**26.44**	**227**	P	**P**	**05 25 31.9**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=60,slow=8.5,SNR=8.0						
ASAR				PcP	**PcP**	**05 28 55.0**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=64,slow=2.9,SNR=5.1						
KSRS	**Korea Array**	**49.95**	**332**	P	**P**	**05 28 48.5**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=149,slow=7.6,SNR=4.1						
CMAR	**Chiang Mai Arr**	**60.00**	**295**	P	**P**	**05 30 00.3**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=111,slow=6.9,SNR=1.6						
SONM	**Songino Array**	**68.35**	**327**	P	**P**	**05 30 56.1**	**+1.2**
	comp=Z,0.6nm,0.7s,baz=142,slow=7.3,SNR=2.6						
ILAR	**Eielson Array**	**82.72**	**22**	P	**P**	**05 32 16.3**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=261,slow=5.5,SNR=5.9						
QSPA	**South Pole Qui**	**83.86**	**180**	P	**P**	**05 32 22.8**	**+0.2**
	comp=Z,2.8nm,0.6s,baz=306,slow=0.7,SNR=16						
QSPA	**South Pole Qui**	**83.86**	**180**	P	**P**	**05 32 22.9**	**+0.2**
QSPA				IAmb	IAmb	05 32 25.4	
	comp=Z,7.0nm,1.2s						
MAW	**Mawson**	**85.04**	**203**	P	**P**	**05 32 28.6**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=107,slow=5.6,SNR=8.5						
MAW	**Mawson**	**85.04**	**203**	P	**P**	**05 32 27.5**	**-0.9**
NVAR	**Mina Array Bea**	**91.52**	**52**	P	**P**	**05 33 01.2**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=251,slow=5.6,SNR=2.6						

*IDC **30** 05:20:18.1±0.7, 55°.29S×27°.90W, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/21, mbtmp4.1/8, ML4.5/1, Error ellipse: s-maj=24.9km s-min=19.6km az=70.0*

*NEIC **30** 05:20:19.6±1.1, 55°.4S±0°.1×28°.1W±0°.1, h10km±1km, mb4.5/16, Error ellipse: s-maj=22.4km s-min=17.8km az=198.0*

ISC 30 05:20:22.0±0.5, 55°.4S±0°.1×28°.1W±0°.1, h26km, n44, σ0$\hat{\theta}$67/44, mb4.3/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.96**	**279**	Pn	**Pn**	**05 21 33.9**	**-0.8**
SNAA	**Sanae**	**19.59**	**156**	P	**P**	**05 24 47.6**	**-0.2**
	1.3nm,0.3s,baz=294,slow=13,SNR=32						
SNAA	**Sanae**	**19.59**	**156**	P	P	05 24 47.4	-0.4
QSPA	**South Pole Qui**	**34.90**	**180**	P	**P**	**05 27 11.3**	**+0.2**
	1.2nm,0.4s,baz=12,slow=4.4,SNR=9.0						
QSPA	**South Pole Qui**	**34.90**	**180**	P	**P**	**05 27 11.4**	**+0.4**
QSPA				IAmb	IAmb	05 27 23.8	
	comp=Z,9.1nm,1.5s						
CPUP	**Villa Florida**	**35.96**	**312**	P	**P**	**05 27 21.4**	**+1.0**
	comp=Z,1.9nm,0.7s,baz=162,slow=7.4,SNR=3.1						
CPUP	**Villa Florida**	**35.96**	**312**	P	**P**	**05 27 20.9**	**+0.6**
CPUP				IAmb	IAmb	05 27 22.9	
	comp=Z,6.3nm,1.1s						
CO02	**Combarbal**	**38.58**	**291**	P	**P**	**05 27 41.6**	**-1.1**
CO02				IAmb	IAmb	05 27 45.4	
	comp=Z,28nm,1.4s						
CO03	**El Pedregal**	**38.70**	**291**	P	**P**	**05 27 42.8**	**-0.8**
GO04	**Tololo Observa**	**39.28**	**292**	P	**P**	**05 27 48.8**	**+0.1**
GO04				IAmb	IAmb	05 27 54.3	
	comp=Z,23nm,1.4s						
AC05	**El Transito**	**40.07**	**294**	P	**P**	**05 27 56.1**	**+1.0**
SUR	**Sutherland**	**40.98**	**77**	P	**P**	**05 28 01.9**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=201,slow=8.6,SNR=1.2						
SUR	**Sutherland**	**40.98**	**77**	P	P	05 28 01.6	-1.1
GO02	**Mina Guanaco**	**42.71**	**298**	P	**P**	**05 28 16.6**	**-0.4**
GO02				IAmb	IAmb	05 28 20.4	
	comp=Z,6.3nm,0.9s						
SHEL	**Horse Pasture**	**42.92**	**33**	P	**P**	**05 28 20.2**	**+1.7**
BOSA	**Boshof**	**46.32**	**77**	P	**P**	**05 28 44.6**	**-1.0**
	comp=Z,1.9nm,0.7s,baz=186,slow=7.0,SNR=4.5						
BOSA	**Boshof**	**46.32**	**77**	P	**P**	**05 28 44.9**	**-0.7**
GO01	**Chusmiza**	**47.13**	**302**	P	**P**	**05 28 52.9**	**+0.4**
GO01				IAmb	IAmb	05 28 54.2	
	comp=Z,4.8nm,0.8s						
VNDA	**Vanda**	**47.24**	**183**	P	**P**	**05 28 53.0**	**+0.9**
	comp=Z,1.7nm,0.8s,baz=193,slow=6.6,SNR=12						
VNDA	**Vanda**	**47.24**	**183**	P	**P**	**05 28 53.1**	**+1.0**
MNMC	**Minye Minye**	**47.79**	**302**	P	**P**	**05 28 57.6**	**+0.3**
LPAZ	**La Paz**	**49.55**	**306**	P	**P**	**05 29 11.6**	**+0.3**
	comp=Z,1.7nm,0.6s,baz=131,slow=6.1,SNR=16						
LPAZ	**La Paz**	**49.55**	**306**	P	**P**	**05 29 11.8**	**+0.5**
LPAZ				IAmb	IAmb	05 29 24.4	
	comp=Z,3.3nm,1.0s						
TOA0	**Torodi Ar. Sit**	**72.72**	**30**	P	**P**	**05 31 47.4**	**-0.2**
TOA0				IAmb	IAmb	05 31 48.2	
	comp=Z,2.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.72**	**30**	P	**P**	**05 31 47.2**	**-0.3**
	comp=Z,2.0nm,0.7s,baz=201,slow=6.6,SNR=8.5						
FINES	**FINESS Array B**	**124.01**	**28**	PKP	**PKPd

CPUP					IAmb	IAmb	05 33 45.1	
	comp=Z,14nm,1.2s							
MT02	**Curacav**	**37.11**	**288**	P	**P**		**05 33 48.8**	**+1.4**
VA03	**San Esteban**	**37.17**	**289**	P	**P**		**05 33 49.2**	**+1.1**
VA03				IAmb	IAmb		05 33 54.6	
	comp=Z,19nm,1.2s							
ROC1	**El Roble**	**37.26**	**289**	P	**P**		**05 33 48.2**	**-0.8**
CO02	**Combarbal**	**38.62**	**291**	P	**P**		**05 34 01.2**	**+0.9**
CO03	**El Pedregal**	**38.73**	**291**	P	**P**		**05 34 01.8**	**+0.6**
CO03				IAmb	IAmb		05 34 07.0	
	comp=Z,19nm,1.4s							
CO01	**Juntas del Tor**	**39.10**	**293**	P	**P**		**05 34 05.1**	**+0.7**
AC05	**El Transito**	**40.10**	**294**	P	**P**		**05 34 13.2**	**+0.5**
SUR	**Sutherland**	**40.90**	**77**	P	**P**		**05 34 19.3**	**0.0**
	comp=Z,11nm,1.1s,baz=186,slow=10,SNR=2.7							
SUR	**Sutherland**	**40.90**	**77**	P	**P**		**05 34 18.9**	**-0.5**
MAW	**Mawson**	**41.03**	**144**	P	**P**		**05 34 19.6**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=252,slow=9.6,SNR=2.8							
MAW				LR	LR		05 51 22.8	
	comp=Z,117nm,18.1s,baz=238,slow=36							
MAW	**Mawson**	**41.03**	**144**	P	**P**		**05 34 19.9**	**+0.1**
BDFB	**Brasilia**	**42.47**	**331**	LR	LR		05 49 37.0	
	comp=Z,84nm,19.5s,baz=150,slow=32							
GO02	**Mina Guanaco**	**42.73**	**298**	P	**P**		**05 34 34.8**	**+0.2**
GO02				IAmb	IAmb		05 34 51.0	
	comp=Z,11nm,1.2s							
SHEL	**Horse Pasture**	**42.83**	**32**	P	**P**		**05 34 33.8**	**-1.2**
LVC	**Limon Verde**	**44.52**	**300**	P	**P**		**05 34 50.0**	**+1.1**
BOSA	**Boshof**	**46.24**	**77**	P	**P**		**05 35 02.2**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=213,slow=5.9,SNR=5.5							
BOSA				LR	LR		05 50 03.2	
	comp=Z,106nm,19.2s,baz=223,slow=30							
BOSA	**Boshof**	**46.24**	**77**	P	**P**		**05 35 02.0**	**-0.3**
BOSA				IAmb	IAmb		05 35 20.5	
	comp=Z,11nm,1.2s							
VNDA	**Vanda**	**47.31**	**183**	P	**P**		**05 35 10.6**	**+0.7**
	comp=Z,2.5nm,0.8s,baz=187,slow=6.0,SNR=17							
VNDA	**Vanda**	**47.31**	**183**	P	**P**		**05 35 09.9**	**0.0**
VNDA				IAmb	IAmb		05 35 11.1	
	comp=Z,3.9nm,0.9s							
LPAZ	**La Paz**	**49.56**	**306**	P	**P**		**05 35 29.3**	**+0.6**
	comp=Z,1.7nm,0.5s,baz=124,slow=6.3,SNR=11							
LPAZ	**La Paz**	**49.56**	**306**	P	**P**		**05 35 28.8**	**+0.2**
LPAZ				IAmb	IAmb		05 35 34.9	
	comp=Z,6.3nm,1.1s							
SAML	**Samuel**	**53.94**	**315**	P	**P**		**05 36 02.2**	**+1.7**
SAML				IAmb	IAmb		05 36 05.8	
	comp=Z,4.2nm,0.9s							
DBIC	**Dimbokro**	**64.67**	**26**	P	**P**		**05 37 14.1**	**-0.6**
	comp=Z,4.4nm,0.8s,baz=180,slow=2.0,SNR=2.0							
DBIC				LR	LR		05 58 06.7	
	comp=Z,48nm,19.1s,baz=149,slow=29							
TOA0	**Torodi Ar. Sit**	**72.63**	**30**		**P**		**05 38 04.4**	**+0.1**
TOA0				IAmb	IAmb		05 38 05.3	
	comp=Z,5.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**72.63**	**30**	P	**P**		**05 38 04.7**	**+0.4**
	comp=Z,4.6nm,0.6s,baz=201,slow=6.4,SNR=35							
TORD				LR	LR		06 03 31.2	
	comp=Z,43nm,20.3s,baz=160,slow=30							
KEST	**Kesra**	**96.14**	**30**	LR	LR		06 21 04.3	
	comp=Z,56nm,18.9s,baz=281,slow=34							
ESDC	**Sonseca Array**	**96.80**	**18**	LR	LR		06 18 07.0	
	comp=Z,44nm,21.8s,baz=180,slow=32							
ASAR	**Alice Springs**	**99.85**	**163**	LR	LR		06 25 53.6	
	comp=Z,26nm,18.2s,baz=202,slow=36							
PV22	**Blue Mesa, Par**	**115.92**	**301**			**PKPdf**	**05 45 17.8**	**-1.3**
FINES	**FINESS Array B**	**123.93**	**28**	PKP	**PKPdf**		**05 45 33.5**	**0.0**
	comp=Z,0.9nm,0.7s,baz=161,slow=5.9,SNR=1.3							
ARCES	**ARCESS Array B**	**130.41**	**22**	PKP	**PKPdf**		**05 45 45.6**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=218,slow=1.4,SNR=4.6							
YKA	**Yellowknife Ar**	**135.30**	**319**	PKP	**PKPdf**		**05 45 55.8**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=138,slow=1.7,SNR=5.5							
HYT	**Haines Junctio**	**143.96**	**308**			**PKPdf**	**05 46 10.6**	**-0.5**
INK	**Inuvik**	**144.92**	**321**			**PKPdf**	**05 46 12.3**	**0.0**
DAWY	**Dawson**	**145.94**	**313**			**PKPbc**	**05 46 15.3**	**+0.3**
DOT	**Dot Lake**	**147.80**	**311**			**PKPbc**	**05 46 21.1**	**+0.7**
SCRK	**Sand Creek**	**147.85**	**312**			**PKPbc**	**05 46 21.2**	**+0.7**
RIDG	**Independent Ri**	**148.16**	**311**			**PKiKP**	**05 46 22.6**	**-0.4**
PAX	**Paxson**	**148.23**	**310**			**PKPbc**	**05 46 22.6**	**+1.0**
PRP	**Porcupine Dome**	**148.85**	**314**	PKPdf		**PKPdf**	**05 46 20.2**	**+1.0**
PRP				PKPab		**sPKPdf**	**05 46 28.3**	**+0.2**
FYU	**Fort Yukon**	**148.92**	**316**			**PKiKP**	**05 46 24.9**	**+0.5**
FYU				PKPab		**pPKPbc**	**05 46 29.0**	**-0.7**
IL31		**149.26**	**313**			**PKiKP**	**05 46 25.0**	**-0.1**
IL31				PKPab		**PKPab**	**05 46 29.5**	**+0.8**
ILAR	**Eielson Array**	**149.26**	**313**	PKPbc		**PKPbc**	**05 46 24.6**	**+0.5**
	comp=Z,3.7nm,0.7s,baz=128,slow=2.1,SNR=37							
CCB	**Clear Creek Bu**	**149.62**	**312**			**PKPbc**	**05 46 25.3**	**+0.5**
CCB				PKPab		**PKPab**	**05 46 30.1**	**-0.1**
WRH	**Wood River Hil**	**149.71**	**312**			**PKPbc**	**05 46 25.4**	**+0.3**
WRH				PKPab		**pPKPbc**	**05 46 32.4**	**+0.7**
RND	**Reindeer**	**149.82**	**310**			**PKiKP**	**05 46 26.9**	**+0.5**
RND				PKPab		**PKPab**	**05 46 31.8**	**+0.6**
MCK	**McKinley**	**149.93**	**310**			**PKiKP**	**05 46 27.6**	**+1.0**
SKT	**Skwentna**	**150.72**	**306**			**PKPbc**	**05 46 28.0**	**+0.4**
SKT				PKPab		**PKPab**	**05 46 35.3**	**+0.4**
TOLK	**Toolik Lake Re**	**150.80**	**320**			**PKiKP**	**05 46 29.0**	**+0.7**
BPAW	**Bear Paw Mtn.**	**150.89**	**311**			**PKPbc**	**05 46 28.5**	**+0.5**
COLD	**Coldfoot**	**150.95**	**317**			**PKiKP**	**05 46 30.1**	**+1.5**
SONM	**Songino Array**	**151.14**	**86**	PKPbc		**PKiKP**	**05 46 29.7**	**-0.1**
	comp=Z,3.1nm,0.9s,baz=245,slow=2.9,SNR=10							

JMA 30 05:34:51.8±0.2, 37.84N×144.52E, h44km, M4.1, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**2.46**	**282**	P			Pn	05 35 30.6	+1.3
JIKH				S			Sn	05 35 59.2	+1.1
OFUJ	**Ofunato**	**2.56**	**300**	P			Pn	05 35 32.1	+1.4
OFUJ				S			Sn	05 36 02.7	+2.1
JIO	**Ouri**	**2.57**	**285**	P			Pn	05 35 32.5	+1.5
JIO				S			Sn	05 36 02.5	+1.5
JKMT	**Kesennumamotoy**	**2.58**	**293**	P			Pn	05 35 32.3	+1.2
JKMT				S			Sn	05 36 02.9	+1.6
JMK	**Ichinoseki**	**2.82**	**294**	P			Pn	05 35 36.2	+1.9
JOM	**Ohasama**	**3.01**	**304**	P			Pn	05 35 38.7	+1.8
JOM				*e*S			Sn	05 36 14.1	+2.4
JFT	**Otama**	**3.33**	**266**	P			Pn	05 35 43.7	+2.3
JFT				*e*S			Sn	05 36 21.8	+2.0
JYK	**Kaneyama**	**3.44**	**289**	P			Pn	05 35 45.5	+2.6
JYK				*e*S			Sn	05 36 25.7	+3.3
BSO1	**Boso 1**	**4.28**	**223**	*e*S			Sn	05 36 41.6	-0.7
JCH	**Churui**	**4.85**	**350**	P			Pn	05 36 01.9	-0.3
JCH				*e*S			Sn	05 36 54.9	-2.2
JKB	**Kayabe**	**4.85**	**328**	P			Pn	05 36 04.5	+2.3
JKB				*e*S			Sn	05 36 55.9	-1.2
JRY	**Ryogami san**	**4.86**	**250**	P			Pn	05 36 03.5	+1.2
JRY				S			Sn	05 36 55.8	-1.5
JOD2	**Odawara 2**	**5.07**	**241**	*e*S			Sn	05 37 00.5	-2.1
MAT	**Matsushiro**	**5.20**	**258**	P			Pn	05 36 10.1	+3.0
MAT				S			Sn	05 37 08.8	+2.9
NEM2	**Nemuro 2**	**5.60**	**9**	P			Pn	05 36 09.7	-2.7
NEM2				*e*S			Sn	05 37 09.9	-5.5

*ASRS **30** 05:40:41.2, 53.73N×91.01E, M2.0, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

NNC 30 05:40:43.4±4.6, 53.90N×90.81E, h8km±21km, mb3.7, mpv3.4, 5C-9D, Error ellipse: s-maj=38.9km s-min=28.2km az=23.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**3.54**	**273**	⇑Pg			Pb	05 41 46.2	0.0
	1.3nm,0.6s								
ZAA0				⇓Lg			Lg	05 42 40.3	
	5.8nm,0.7s								
KURK	**Kurchatov**	**8.12**	**252**	⇑Pn			Pn	05 42 40.9	-0.6
	3.5nm,1.1s								
KURK				⇑Sn			Sn	05 44 16.1	+2.8
	8.9nm,1.0s								
KURK				⇓Lg			Lg	05 45 01.7	
	19nm,1.0s								
KURBB	**Kurchatov Arra**	**8.22**	**251**	⇓Pn			Pn	05 42 43.8	+1.1
	3.6nm,0.5s								
KURBB				⇓Sn			Sn	05 44 15.0	-0.7
	8.5nm,0.7s								
KURBB				⇓Lg			Lg	05 45 03.8	
	26nm,0.9s								
MK31	**Makanchi Array**	**8.96**	**221**	⇑Pn			Pn	05 42 53.5	+0.5
	0.6nm,0.5s,baz=38,slow=14,SNR=12								
MK31				⇓Sn			Sn	05 44 33.6	-0.4
	1.6nm,0.8s								
MK31				⇑Lg			Lg	05 45 27.3	
	11nm,1.1s,baz=31,slow=24,SNR=4.2								
MAKZ	**Makanchi**	**9.07**	**222**	⇓Pn			Pn	05 42 56.0	+1.5
	0.7nm,0.5s								
MAKZ				⇓Sn			Sn	05 44 37.6	+1.0
	1.7nm,0.7s								
MAKZ				⇓Lg			Lg	05 45 30.5	
	7.3nm,0.8s								

*JMA **30** 06:12:54.2±0.2, 23.22N×121.85E, h10km, M3.8*
*NEIC **30** 06:12:55±2.2, 23.20N±0.03×121.79E±0.04, h23km±5km, Error ellipse: s-maj=6.5km s-min=3.9km az=126.0*
*TAP **30** 06:12:56.4, 23.25N×121.75E, h24km, ML4.2, C*
*IDC **30** 06:13:05.9±7.0, 23.49N×121.61E, h100km±59km, mb3.5/13, mb1 3.6/14, mb1mx3.4/52, mbtmp3.8/14, MS2.7/1, Ms1 2.9/1, ms1mx2.3/34, Error ellipse: s-maj=52.2km s-min=23.0km az=165.0*

ISC 30 06:12:55.4±0.6, 23.24N±0.02×121.78E±0.02, h21km±3km, n154, σ0.98/238, mb3.8/17, 28D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CHKT	**Chengkung**	**0.41**	**250**	⇓*i*P			Pb	06 13 04.1	+0.3
	baz=240								
CHKT				*i* S			Sb	06 13 09.5	0.0
	baz=240								
HGSD	**Ruisui**	**0.41**	**308**	⇓*i*P			Pb	06 13 04.1	+0.2
	baz=309								
HGSD				S			Sb	06 13 09.1	-0.7
	baz=309								
TWF1	**Yuli**	**0.46**	**285**	⇓*i*P			Pb	06 13 05.1	+0.3
	baz=284								
TWF1				*e*S			Sb	06 13 11.0	-0.1
	baz=284								
YULB	**Yu-li**	**0.47**	**289**	*e*P			Pb	06 13 05.2	+0.3
	baz=283								
YULB				*e*S			Sb	06 13 12.3	+0.9
	baz=283								
YULB	**Yu-li**	**0.47**	**289**				Pb	06 13 04.9	-0.1
YULB							Sb	06 13 12.9	+1.4
EHY	**Hungye**	**0.50**	**302**	⇓*i*P			Pb	06 13 05.6	+0.1
	baz=309								
EHY				*e*S			Sb	06 13 12.7	+0.4
	baz=309								
EGFH	**Guangfu**	**0.54**	**323**	⇓P			Pb	06 13 06.4	+0.1
	baz=330								
EGFH				*e*S			Sb	06 13 13.8	+0.2
	baz=330								
ESL	**Shilin**	**0.66**	**331**	⇓*i*P			Pb	06 13 08.1	-0.2
	baz=333								
ESL				*e*S			Sb	06 13 16.8	-0.2
	baz=333								
ELDTW	**Lidau**	**0.70**	**266**	⇓*i*P			Pb	06 13 08.5	-0.6
	baz=265								
ELDTW				*e*S			Sb	06 13 16.9	-1.5
	baz=265								
HWA	**Hwalien**	**0.75**	**348**	*e*P			Pb	06 13 10.1	+0.3
	baz=350								
HWA				*e*S			Sb	06 13 20.7	+1.0
	baz=350								
TTN	**Taitung**	**0.76**	**231**	*e*P			Pb	06 13 10.9	+1.1
	baz=228								
TTN				*e*S			Sb	06 13 19.3	-0.4
	baz=228								
TWGBT	**Beinan**	**0.77**	**237**	P			Pb	06 13 09.8	-0.3
	baz=248								
TWGBT				*e*S			Sb	06 13 19.3	-0.8
	baz=248								
TWG	**Pinlang**	**0.77**	**238**	⇓*i*P			Pb	06 13 09.8	-0.3
	baz=248								
TWG				*e*S			Sb	06 13 19.2	-1.0
	baz=248								
TWG	**Pinlang**	**0.77**	**238**	Pn			Pb	06 13 09.6	-0.6
TWG				Sn			Sb	06 13 18.3	-2.0
VWDT	**VWDT**	**0.78**	**311**	⇓*i*P			Pb	06 13 10.6	+0.3
	baz=312								
VWDT				*e*S			Sb	06 13 19.7	-0.7
	baz=312								
OWD	**Renai**	**0.91**	**322**	P			Pb	06 13 12.4	-0.1
	baz=323								
OWD				*e*S			Sb	06 13 23.1	-1.1
	baz=323								
SSLB	**Suanglung**	**0.94**	**306**	⇓*i*P			Pb	06 13 12.7	-0.2
	baz=307								
SSLB				*e*S			Sb	06 13 23.6	-1.3
	baz=307								
SSLB	**Suanglung**	**0.94**	**306**				Pb	06 13 12.6	-0.4
SSLB					Sn		Sb	06 13 23.4	-1.6
ALS	**Alishan**	**0.94**	**287**	⇓*i*P			Pb	06 13 13.2	+0.1
	baz=287								
ALS				*e*S			Sb	06 13 25.4	+0.1
	baz=287								
STYT	**Tauyuan**	**0.94**	**266**	⇓*i*P			Pb	06 13 12.7	-0.4
	baz=265								
STYT				*e*S			Sb	06 13 24.4	-0.8
	baz=265								
NACB	**Ninganchiao**	**0.95**	**350**	⇓*i*P			Pb	06 13 12.4	-0.7
	baz=2.0								
NACB				*e*S			Sb	06 13 22.8	-2.5
	baz=2.0								
NACB	**Ninganchiao**	**0.95**	**350**				Pb	06 13 12.4	-0.7
NACB					Sn		Sb	06 13 24.2	-1.1
WHYT	**Xinyi Township**	**0.97**	**298**	⇓*i*P			Pb	06 13 13.7	+0.2
	baz=307								
WHYT				*e*S			Sb	06 13 25.6	-0.2
	baz=307								
CHGB	**Renai**	**0.99**	**326**	⇓*i*P			Pb	06 13 13.9	-0.1
	baz=327								
CHGB				*e*S			Sb	06 13 25.1	-1.6
	baz=327								
ECL	**Taimali**	**0.99**	**230**	*e*P			Pn	06 13 12.7	-1.5
	baz=228								
ECL				*e*S			Sb	06 13 24.5	-2.1
	baz=228								
ETLH	**Xiulin Townshi**	**1.00**	**344**	⇓*i*P			Pn	06 13 13.5	-0.9
	baz=333								
ETLH				*e*S			Sb	06 13 25.7	-1.2
	baz=333								
WHF	**Hehuan Shan**	**1.02**	**332**	⇓*i*P			Pb	06 13 13.9	-0.7
	baz=334								
WHF				*e*S			Sb	06 13 26.6	-1.1
	baz=334								
TPUB	**Ta-pu**	**1.06**	**274**	⇓*i*P			Pn	06 13 15.3	+0.2
	baz=273								
TPUB				*e*S			Sb	06 13 28.6	0.0
	baz=273								
TPUB	**Ta-pu**	**1.06**	**274**				Pn	06 13 15.4	+0.2
TPUB					Sn		Sb	06 13 28.5	0.0
SLGT	**Liugui**	**1.07**	**257**	⇓*i*P			Pn	06 13 15.0	-0.3
	baz=261								
SLGT				*e*S			Sb	06 13 28.5	-0.4
	baz=261								
WTP	**Ta-pu**	**1.07**	**271**	⇓*i*P			Pn	06 13 15.6	+0.3
	baz=262								
WTP				*e*S			Sb	06 13 28.9	0.0
	baz=262								
CHN5	**Tsauling**	**1.07**	**290**	⇓*i*P			Pb	06 13 16.1	+0.7
	baz=290								
CHN5				S			Sn	06 13 30.4	+0.6
	baz=290								
TYC	**Yuchr**	**1.08**	**308**	⇓*i*P			Pn	06 13 15.3	0.0
	baz=309								
TYC				*e*S			Sb	06 13 28.3	-0.6
	baz=309								
CHN4	**Tsaushan**	**1.10**	**276**	⇓*i*P			Pb	06 13 16.1	+0.4
	baz=270								
CHN4				*e*S			Sn	06 13 30.9	+0.7
	baz=270								
SGST	**Jiashian**	**1.11**	**262**	⇓P			Pn	06 13 15.2	-0.6
	baz=258								
SGST				*e*S			Sb	06 13 28.8	-1.3
	baz=258								
DPDB	**Guoxing**	**1.11**	**315**	⇓*i*P			Pn	06 13 16.0	+0.1
	baz=324								
DPDB				*e*S			Sb	06 13 29.8	-0.3
	baz=324								
WJS	**Zhushan**	**1.13**	**301**	⇓*i*P			Pb	06 13 17.0	+0.8
	baz=302								
WJS				*e*S			Sb	06 13 31.7	+0.8
	baz=302								
CHN1	**Nanshi**	**1.15**	**268**	P			Pb	06 13 17.2	+0.5
	baz=267								
CHN1				*e*S			Sb	06 13 31.7	+0.5
	baz=267								
TWT	**Tachien**	**1.15**	**331**	*e*P			Pn	06 13 16.8	+0.3
	baz=331								
TWT				*e*S			Sb	06 13 30.1	-1.2
	baz=331								
TDCB	**Techi**	**1.16**	**331**	⇓P			Pn	06 13 16.7	+0.1
	baz=331								
TDCB				*e*S			Sn	06 13 29.7	-2.2
	baz=331								
SSD	**Sandimen**	**1.17**	**245**	*e*P			Pn	06 13 16.1	-0.5
	baz=236								
SNST	**Tainan City**	**1.18**	**269**	*e*P			Pb	06 13 17.6	+0.4
	baz=269								
SNST				*e*S			Sb	06 13 33.3	+1.4
	baz=269								
ENA	**Nanau**	**1.19**	**358**	*e*P			Pn	06 13 16.4	-0.4
	baz=12								
ENA				*e*S			Sn	06 13 31.5	-0.8
	baz=12								
TWK	**Hsinying**	**1.19**	**272**	⇓*i*P			Pb	06 13 17.6	+0.3
	baz=271								
TWK				*e*S			Sb	06 13 32.9	+0.6
	baz=271								
WNT	**Mingjian**	**1.19**	**303**	*e*P			Pb	06 13 17.8	+0.5
	baz=303								
WNT				*e*S			Sb	06 13 33.0	+0.7
	baz=303								
TAW	**Tawu**	**1.20**	**223**	*e*P			Pn	06 13 16.6	-0.3
	baz=221								
WGK	**Gukeng**	**1.21**	**292**	*e*P			Pb	06 13 18.3	+0.8
	baz=292								
WGK				*e*S			Sb	06 13 34.4	+1.8
	baz=292								
EAST	**Anshuo**	**1.21**	**226**	*e*P			Pn	06 13 16.2	-0.9
	baz=224								
LAY	**Lan-yu**	**1.21**	**190**	*e*P			Pn	06 13 15.4	-1.8
	baz=188								
LAY				*e*S			Sn	06 13 30.9	-2.1
	baz=188								
WDLH	**Douliu**	**1.23**	**292**	*e*P			Pb	06 13 18.3	+0.4
	baz=292								
WDLH				*e*S			Sb	06 13 34.6	+1.3
	baz=292								
MASBT	**Mashibuluo**	**1.23**	**240**	*e*P			Pn	06 13 16.9	-0.5
	baz=232								
MASBT				*e*S			Sn	06 13 30.9	-2.5
	baz=232								
CHN2	**Minshiung**	**1.24**	**284**	*e*P			Pb	06 13 19.2	+1.1
	baz=284								
CHN2				*e*S			Sb	06 13 35.5	+1.9
	baz=284								
NNSB	**Datong**	**1.24**	**343**	*e*P			Pn	06 13 17.3	-0.4
	baz=344								
NNSB				*e*S			Sn	06 13 32.1	-1.8
	baz=344								
NNSH	**Datong**	**1.24**	**343**	*e*P			Pn	06 13 17.5	-0.2
	baz=343								
NNS	**Nan Shan**	**1.25**	**343**	P			Pn	06 13 18.2	+0.3
	baz=344								
NNS				*e*S			Sn	06 13 33.1	-1.1
	baz=344								
CHY	**Chiayi**	**1.27**	**282**	*e*P			Pb	06 13 19.2	+0.5
	baz=282								
CHY				*e*S			Sb	06 13 36.4	+1.7
	baz=282								
WHP	**Taichung City**	**1.29**	**324**	*e*P			Pn	06 13 18.8	+0.5
	baz=324								
SGLT	**Jiouru**	**1.29**	**247**	*e*P			Pn	06 13 18.6	+0.3
	baz=243								
CHN3	**Shinhua**	**1.31**	**263**	*e*P			Pb	06 13 21.1	+1.8
	baz=262								
TWM1	**Shoushan**	**1.32**	**252**	*e*P			Pb	06 13 20.4	+1.0
	baz=251								
SSPT	**Xinbi**	**1.35**	**236**	*e*P			Pb	06 13 20.2	+0.3
	baz=229								
TCU	**Taichung**	**1.36**	**312**	*e*P			Pb	06 13 20.7	+0.6
	baz=313								
TCU				*e*S			Sb	06 13 37.5	+0.4
	baz=313								
TWC	**Suao**	**1.37**	**3**	*e*P			Pn	06 13 19.6	+0.3
	baz=14								
TWC				*e*S			Sn	06 13 35.9	-0.9
	baz=14								
SCZT	**Fangliau**	**1.38**	**231**	*e*P			Pn	06 13 19.8	+0.4
	baz=224								
SCZT				*e*S			Sn	06 13 37.1	+0.1
	baz=224								
NDT	**Datong Townshi**	**1.38**	**350**	*e*P			Pn	06 13 20.5	+1.0
	baz=351								
WLGB	**Puzi**	**1.38**	**280**	*e*P			Pn	06 13 19.4	-0.1
	baz=280								
WLGB				*e*S			Sb	06 13 38.4	+0.7
	baz=280								
WCHH	**Zhanghua**	**1.40**	**307**	*e*P			Pb	06 13 21.4	+0.5
	baz=307								
WCHH				*e*S			Sb	06 13 38.8	+0.5
	baz=307								
SNJT	**Kaohsiung City**	**1.42**	**250**	*e*P			Pb	06 13 22.9	+1.8
	baz=249								
SNJT				*e*S			Sb	06 13 42.2	+3.5
	baz=249								
CHN8	**Yiju**	**1.45**	**275**	*e*P			Pb	06 13 22.1	+0.5
	baz=274								
CHN8				*e*S			Sb	06 13 41.0	+1.3
	baz=274								
RLNB	**Erlin**	**1.46**	**297**	*e*P			Pb	06 13 22.1	+0.3
	baz=297								
RLNB				*e*S			Sb	06 13 40.3	+0.4
	baz=297								
SCLT	**Jiali**	**1.46**	**268**	*e*P			Pb	06 13 22.9	+1.0
	baz=267								
SCLT				*e*S			Sb	06 13 41.3	+1.2
	baz=267								
YHNB	**Yeheng**	**1.47**	**345**	*e*P			Pn	06 13 21.2	+0.3
	baz=346								
YHNB				*e*S			Sn	06 13 38.2	-1.3
	baz=346								
YHNB	**Yeheng**	**1.47**	**345**				Pn	06 13 21.1	+0.3
YHNB					Sn		Sn	06 13 38.4	-1.1
TWE	**Neicheng**	**1.48**	**356**	*e*P			Pn	06 13 21

baz=235
EGS 1.61 5 eP Pb 06 13 24.7 +0.4
baz=18
JYNG Yonagunijimaku 1.61 41 P Pn 06 13 23.6 +1.0
JYNG S Sn 06 13 43.2 +0.4
NTC Toucheng 1.61 2 eP Pb 06 13 24.4 -0.1
baz=2.0
YOJ Yonaguni jima 1.66 42 eP Pn 06 13 24.4 +1.0
baz=43
YOJ Yonaguni jima 1.66 42 P Pn 06 13 24.2 +0.9
YOJ eS Sn 06 13 44.6 +0.6
YOJ Yonaguni jima 1.66 42 P Pn 06 13 23.6 +0.3
TIPB Shuangxi 1.73 1 eP Pn 06 13 25.5 +1.2
baz=12
TIPB eS Sn 06 13 44.6 -1.2
baz=12
TWA Mucha 1.75 354 eP Pn 06 13 26.0 +1.5
baz=355
TATO Taipei 1.75 351 eP Pn 06 13 24.5 0.0
baz=352
TATO Taipei 1.75 351 Pn 06 13 25.5 +0.9
TATO Sn Sn 06 13 44.2 -2.0
TWB1 Santiao Chiao 1.77 6 eP Pn 06 13 26.4 +1.5
baz=20
NWF Wu-fen Shan 1.83 360 eP Pb 06 13 27.7 -0.4
baz=346
WFSB Wu-fen Shan 1.83 360 eP Pn 06 13 27.4 +1.8
baz=346
YM10 YM10 1.92 354 eP Pn 06 13 28.4 +1.4
baz=355
YM10 eS Sn 06 13 52.2 +1.6
baz=355
YM04 YM04 1.92 353 eP Pn 06 13 26.2 -0.7
baz=354
YM05 YM05 1.93 354 eP Pn 06 13 26.3 -0.8
baz=355
WDGT Dungji 1.95 271 eP Pn 06 13 28.0 +0.7
baz=270
WDGT eS Sn 06 13 49.8 -1.4
baz=270
HATJ Hateruma jima 2.03 66 P Pn 06 13 29.0 +0.6
HATJ S Sn 06 13 52.8 -0.3
PHUB P'eng-hu 2.05 278 eP Pn 06 13 29.0 +0.4
baz=277
PHUB eS Sn 06 13 52.2 -1.4
baz=277
PNG Penghu 2.07 280 P Pn 06 13 29.7 +0.7
baz=264
PNG eS Sn 06 13 53.8 -0.3
baz=264
IRIF Iriomote-Funau 2.09 58 P Pn 06 13 30.3 +1.0
IRIF S Sn 06 13 54.9 +0.2
VCHM Qimei 2.16 270 P Pn 06 13 30.6 +0.3
baz=269
VCHM eS Sn 06 13 55.0 -1.5
baz=269
JKRS Kuro-shima 2.27 64 P Pn 06 13 32.7 +1.0
JKRS S Sn 06 13 59.6 +0.5
PCYT Pengchaiyu 2.40 6 eP Pn 06 13 34.4 +0.9
baz=7.0
JIJ Ishigaki jima 2.44 62 P Pn 06 13 34.8 +0.8
JIJ S Sn 06 14 02.5 -0.7
JISG Ishigakijimahi 2.68 59 P Pn 06 13 37.4 +0.1
JISG eS Sn 06 14 08.4 -0.7
VWUC VWUC 2.75 310 eP Pn 06 13 38.6 +0.3
baz=310
JTJ Tarama 3.02 62 P Pn 06 13 42.9 +0.9
JTJ S Sn 06 14 16.7 -0.8
KNMB Chin-men Tao 3.34 292 Pn Pn 06 13 46.0 -0.4
KNMB Sn Sn 06 14 22.4 -3.0
JIRB Irabujima 3.48 62 P Pn 06 13 49.2 +0.8
JIRB eS Sn 06 14 27.9 -1.1
JMJ2 Miyako jima3 3.57 65 P Pn 06 13 50.2 +0.6
JMJ2 eS Sn 06 14 31.2 0.0
JMJ Miyako jima 2 3.58 63 eP Pn 06 13 50.1 +0.4
baz=65
JIKM Ikemajima 3.58 61 P Pn 06 13 50.4 +0.6
JOGS Gusukube 3.65 65 P Pn 06 13 51.2 +0.6
JOGS eS Sn 06 13 33.4 +0.4
JOW Kunigami 6.89 57 Pn Pn 06 14 34.3 -1.0
KSRS Korea Array 15.12 19 P P 06 16 31.1 -1.8
0.2nm,0.3s,baz=185,slow=12,SNR=6.4
CMAR Chiang Mai Arr 21.86 262 P P 06 17 49.4 +2.4
0.6nm,0.4s,baz=72,slow=8.6,SNR=5.1
CMAR LR LR 06 26 44.4
comp=Z,22nm,20.3s,baz=160,slow=38
MK31 Makanchi Array 39.40 316 P P 06 20 23.3 -0.4
MKAR Makanchi Array 39.40 316 P P 06 20 23.8 0.0
1.2nm,0.8s,baz=114,slow=9.5,SNR=9.2
MAKZ Makanchi 39.60 316 P P 06 20 26.5 +1.1
MAKZ IAmb IAmb 06 20 41.8
comp=Z,1.4nm,0.7s
ZALV Zalesovo Beam 41.33 327 P P 06 20 38.3 -1.3
comp=Z,1.0nm,0.5s,baz=107,slow=7.9,SNR=4.4
H11N1 WAKE ISLAND Hy 42.00 86 T T 07 05 58.7
baz=283,slow=74,SNR=20
H11N2 WAKE ISLAND Hy 42.00 86 T T 07 06 02.8
baz=283,slow=74,SNR=26
H11N3 WAKE ISLAND Hy 42.02 86 T T 07 06 03.4
baz=283,slow=74,SNR=26
H11S3 WAKE ISLAND Hy 42.10 88 T T 07 06 05.7
baz=284,slow=75,SNR=28
H11S1 WAKE ISLAND Hy 42.11 88 T T 07 06 16.3
baz=284,slow=75,SNR=20
H11S2 WAKE ISLAND Hy 42.12 88 T T 07 06 14.8
baz=284,slow=75,SNR=24
KURK Kurchatov 43.17 321 P P 06 20 54.3 -0.2
KURBB Kurchatov Arra 43.18 320 P P 06 20 54.3 -0.3
comp=Z,0.2nm,0.3s,baz=127,slow=6.5,SNR=4.5
KK31 Karatay Array 46.48 308 P P 06 21 22.2 +1.1
KK31 IAmb IAmb 06 21 22.6
comp=Z,1.8nm,0.5s
KKAR Karatay Array 46.48 308 P P 06 21 22.0 +0.9
KKAR IAmb IAmb 06 21 22.6
comp=Z,1.8nm,0.5s
BVAR Borovoye Array 48.75 321 P P 06 21 38.7 +0.1
comp=Z,0.7nm,0.5s,baz=99,slow=8.9,SNR=3.1
KBZ Khabaz 66.50 309 P P 06 23 43.1 -0.5
comp=Z,1.4nm,0.7s,baz=90,slow=5.1,SNR=3.6
KDAK Kodiak Island 68.36 35 P P 06 23 55.7 +0.5
comp=Z,2.5nm,0.6s,baz=267,slow=18
KDAK Kodiak Island 68.36 35 P P 06 23 55.8 +0.7
RND Reindeer 69.21 29 P P 06 24 00.6 +0.1
ILAR Eielson Array 69.80 27 P P 06 24 05.2 +1.1
comp=Z,0.3nm,0.7s,baz=284,slow=8.0,SNR=4.8
FINES FINESS Array B 72.53 330 P P 06 24 19.9 -0.7
comp=Z,1.0nm,0.5s,baz=49,slow=5.8,SNR=8.0
INK Inuvik 73.89 22 P P 06 24 28.1 -0.3
comp=Z,1.5nm,0.8s,baz=149,slow=1.3,SNR=4.8
INK Inuvik 73.89 22 P P 06 24 28.4 -0.1
INK IAmb IAmb 06 24 45.9
comp=Z,5.5nm,1.5s
BRTR Keskin Array B 74.17 307 P P 06 24 30.4 -0.5
comp=Z,0.5nm,0.5s,baz=40,slow=4.7,SNR=2.2
HYT Haines Junctio 75.04 30 P P 06 24 37.1 +1.6
HYT IAmb IAmb 06 24 38.2
comp=Z,2.7nm,1.1s
NOA NORSAR Array B 79.31 332 P P 06 24 58.2 -1.2
comp=Z,0.6nm,0.8s,baz=73,slow=2.2,SNR=2.5
YKA Yellowknife Ar 83.62 23 P P 06 25 22.0 -0.1
comp=Z,0.4nm,0.6s,baz=313,slow=6.7,SNR=1.8

*JMA **30** 06:18:08.3±0.2, 35°.76N×141°.03E, h38km±1km, M3.4*
*IDC **30** 06:18:10.7±2.6, 35°.68N×140°.94E, h50km±24km, mb3.3/8, mb1 3.5/12, mb1mx3.3/57, mbtmp3.5/12, ML2.8/4, MS2.8/4, Ms1 2.8/4, ms1mx2.4/37, Error ellipse: s-maj=24.2km s-min=9.3km az=70.0*
ISC 30 06:18:08.7±1.1, 35°.76N±0°.05×141°.00E±0°.07, h32km±7km, n31, σ1§04/30, mb3.5/9, 3D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CHOJ	Chosi	0.13	242	||P		Pn	06 18 14.9	+0.4
CHOJ					S		Sb	06 18 19.5	+1.1
JIHU	Itakohorinouch	0.43	298	||P		Pn	06 18 18.8	+0.1
JIHU					S		Sn	06 18 26.4	+0.9
JSMT	Sammumatsuo	0.47	255	||P		Pn	06 18 19.0	-0.1
JSMT					S		Sn	06 18 27.6	+1.3
JHYU	Hitachinakayam	0.67	330	P			Pn	06 18 21.8	-0.1
JCN	Nagara	0.74	242	P			Pn	06 18 23.2	+0.3
JYT	Yasato	0.80	306	P			Pn	06 18 23.3	-0.4
JYT					S		Sb	06 18 34.1	-0.6
JHO	Hitachi	0.91	338	P			Pn	06 18 25.0	-0.3
BSO3	Boso 3	1.04	203	P			Pb	06 18 26.5	-1.5
MJAR	Matsushiro Arr	2.39	290	P			Pn	06 18 46.6	+1.0
	2.0nm,0.3s,baz=92,slow=9.4,SNR=37								
MJAR					S		Sn	06 19 15.5	+1.7
	0.8nm,0.3s,baz=170,slow=8.4,SNR=2.4								
MJAR					LR		LR	06 19 52.6	
	comp=Z,111nm,19.3s,baz=110,slow=44								
MAT	Matsushiro	2.39	290	P			Pn	06 18 47.0	+1.4
MAT					eS		Sb	06 19 17.2	-2.9
JHJ	Hachijo jima 2	2.82	201	P			Pn	06 18 52.4	+0.8
	7.5nm,0.3s,baz=316,slow=22,SNR=14								
JHJ					S		Sn	06 19 23.9	-0.6
	58nm,0.3s,baz=290,slow=23,SNR=14								
JNU	Nakatsue	8.77	255	LR			LR	06 23 59.1	
	comp=Z,101nm,19.7s,baz=32,slow=40								
KSRS	Korea Array	10.65	283	P			Pn	06 20 40.0	+1.0
	0.2nm,0.3s,baz=87,slow=15,SNR=2.2								
KSRS					LR		LR	06 24 39.7	
	comp=Z,68nm,19.0s,baz=110,slow=36								
USRK	Ussuriysk Ar.	10.89	323	P			Pn	06 20 43.9	+1.7
	baz=132,slow=20,SNR=2.1								
PETK	Petropavlovsk-	20.95	29	LR			LR	06 31 45.4	
	comp=Z,18nm,19.4s,baz=245,slow=39								
H11N2	WAKE ISLAND Hy	27.81	118	T			T	06 53 05.0	
	baz=311,slow=75,SNR=23								
H11N1	WAKE ISLAND Hy	27.82	118	T			T	06 53 04.7	
	baz=311,slow=75,SNR=19								
H11N3	WAKE ISLAND Hy	27.83	118	T			T	06 52 56.1	
	baz=311,slow=75,SNR=16								
SONM	Songino Array	28.24	306	P			P	06 23 58.8	-0.1
	0.3nm,0.6s,baz=101,slow=6.6,SNR=1.7								
H11S1	WAKE ISLAND Hy	28.48	120	T			T	06 53 54.3	
	baz=312,slow=75,SNR=30								
H11S3	WAKE ISLAND Hy	28.48	120	T			T	06 53 49.7	
	baz=312,slow=75,SNR=23								
H11S2	WAKE ISLAND Hy	28.49	120	T			T	06 53 55.5	
	baz=312,slow=75,SNR=23								
KRVT	Keravat (AS076	41.18	163	P			P	06 25 49.7	-0.6
	20nm,0.3s,baz=41,slow=11,SNR=1.6								
MKAR	Makanchi Array	44.52	303	P			P	06 26 16.9	-0.3
	1.0nm,0.7s,baz=86,slow=10,SNR=9.4								
KURBB	Kurchatov Arra	46.53	309	P			P	06 26 32.2	-0.7
	0.9nm,0.5s,baz=82,slow=7.6,SNR=14								
ILAR	Eielson Array	50.74	32	P			P	06 27 05.4	+0.2
	0.4nm,0.7s,baz=276,slow=6.8,SNR=5.7								
WRA	Warramunga Arr	55.75	188	P			P	06 27 42.4	-0.1
	0.4nm,0.5s,baz=4.8,slow=7.6,SNR=1.6								
ASAR	Alice Springs	59.49	188	P			P	06 28 08.0	-0.7
	0.2nm,0.6s,baz=8.7,slow=6.7,SNR=1.7								
NVAR	Mina Array Bea	76.02	53	P			P	06 29 53.9	+0.7
	0.3nm,0.7s,baz=260,slow=5.4,SNR=2.3								
PDAR	Pinedale Array	78.80	45	P			P	06 30 08.7	+0.1
	0.2nm,0.5s,baz=248,slow=1.6,SNR=2.6								
LPAZ	La Paz	147.61	61	PKPbc			PKPbc	06 37 51.2	+0.2
	0.9nm,0.7s,baz=22,slow=6.0,SNR=4.9								

IDC 30 06:26:33.0±3.6, 54°.21N×87°.29E, h0km, mb1 2.6/2, mb1mx2.6/57, mbtmp2.6/2, ML2.3/2, Error ellipse: s-maj=32.5km s-min=20.2km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.48	261	*i*			06 35 40.0	
	baz=79,slow=309,SNR=1.7							
ZALV	Zalesovo Beam	1.48	261	Pg		Pn	06 26 59.7	-1.2
	1.4nm,0.3s,baz=82,slow=16,SNR=9.2							
ZALV					Lg	Lg	06 27 19.9	
	1.3nm,0.3s,baz=76,slow=28,SNR=2.1							
KURBB	Kurchatov Arra	6.45	240	Pn		Pn	06 28 10.0	+0.9
	0.0nm,0.3s,baz=55,slow=14,SNR=1.4							
MKAR	Makanchi Array	8.08	205	Pn		Pn	06 28 32.6	+1.0
	0.1nm,0.3s,baz=28,slow=14,SNR=1.6							

*AEIC **30** 06:26:52.3±1.6, 67°.83N±0°.05×157°.40W±0°.10, h10km±4km, ML3.4/24, Error ellipse: s-maj=7.8km s-min=5.4km az=185.0*
*IDC **30** 06:26:52.5±1.0, 68°.29N×157°.53W, h0km, mb3.7/5, mb1 3.9/9, mb1mx3.6/54, mbtmp3.7/9, ML3.5/4, MS2.6/2, Ms1 2.6/2, ms1mx2.3/36, Error ellipse: s-maj=31.7km s-min=16.6km az=31.0*
*NEIC **30** 06:26:53.4±1.7, 67°.84N±0°.06×157°.5W±0°.1, h19km±4km, Error ellipse: s-maj=9.0km s-min=5.3km az=187.0*
ISC 30 06:26:52.9±0.8, 67°.90N±0°.07×157°.44W±0°.05, h10km, n53, σ1§89/56, mb4.0/5, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RDOG	Red Dog Mine	2.07	277	Pn		Pn	06 27 27.0	-0.6
RDOG				Sn		Sn	06 27 53.2	-0.3
IM01	Indian Mountai	2.41	141			Pn	06 27 30.6	-1.7
IM01						Sn	06 28 01.7	-0.1
PS05	TAPS Pump Stn5	2.84	109			Pn	06 27 37.4	-0.8
COLD	Coldfoot	2.86	100			Pn	06 27 37.3	-1.2
COLD	Coldfoot	2.86	100			Sn	06 28 15.4	+2.6
TOLK	Toolik Lake Re	3.02	72			Pn	06 27 39.6	-1.2
PS04	TAPS Pump Stn4	3.07	76			Pn	06 27 41.3	-0.1
PS01	TAPS Pump Stn	3.95	49			Pn	06 27 54.2	+0.7
BPAW	Bear Paw Mtn.	4.63	142			Pn	06 28 02.2	-0.7
ANM	Nome	4.64	228			Pn	06 28 02.3	-0.6
MDM	Murphy Dome	4.73	124			Pn	06 28 04.1	-0.1
NEA2	Nenana	4.74	131			Pn	06 28 03.3	-1.0
COLA	College	4.90	124	Pn		Pn	06 28 06.6	0.0
BM03	Burnt Mountain	4.92	90			Pn	06 28 06.3	-0.5
FYU	Fort Yukon	4.93	100	Pn		Pn	06 28 06.6	-0.2
TTA	Tatalina	5.03	173			Pn	06 28 06.2	-2.1
TT01	Tatalina	5.05	173			Pn	06 28 06.9	-1.7
CCB	Clear Creek Bu	5.08	125			Pn	06 28 08.2	-0.7
WRH	Wood River Hil	5.11	128			Pn	06 28 08.5	-0.9
IL31		5.28	121			Pn	06 28 10.1	-1.6
ILAR	Eielson Array	5.28	121	Pn		Pn	06 28 11.2	-0.6
	1.2nm,0.3s,baz=310,slow=14,SNR=22							
ILAR					Sn	Sn	06 29 08.4	-4.2
	0.8nm,0.3s,baz=306,slow=15,SNR=4.6							
ILAR					Lg	Lg	06 29 32.0	
	1.1nm,0.3s,baz=321,slow=29,SNR=4.9							
ILAR					LR	LR	06 30 06.2	
	comp=Z,25nm,19.2s,baz=102,slow=35							
PRP	Porcupine Dome	5.29	111	Pn		Pn	06 28 11.1	-1.0
TRF	Thorofare Moun	5.35	143			Pn	06 28 11.9	-1.0
MCK	McKinley	5.45	136			Pn	06 28 12.3	-1.7
PPLA	Purkeypile	5.48	154			Pn	06 28 13.7	-0.9
HDA	Harding Lake	5.51	125			Pn	06 28 13.4	-1.4
RND	Reindeer	5.74	138	Pn		Pn	06 28 17.4	-0.7
SKT	Skwentna	6.45	154			Pn	06 28 25.4	-2.4
RIDG	Independent Ri	6.64	123	Pn		Pn	06 28 32.8	+2.4
SCRK	Sand Creek	6.75	119	Pn		Pn	06 28 31.8	-0.2
SVW2	Sparrevohn	6.88	172	Pn		Pn	06 28 32.6	-1.1
PAX	Paxson	7.01	129			Pn	06 28 35.5	-0.2
GHO	Glory Hole Cre	7.13	145	Pn		Pn	06 28 33.1	-4.1
EGAK	Eagle	7.25	108			Pn	06 28 39.0	+0.2
PMR	Palmer	7.25	147	Pn		Pn	06 28 37.0	-1.7
RSO	Redoubt South	7.74	163	Pn		Pn	06 28 41.7	-3.9
EPYK	Eagle Plains	8.20	91	Pn		Pn	06 28 49.1	-2.6
DAWY	Dawson	8.29	109	Pn		Pn	06 28 49.7	-3.3
GLI	Glacier Island	8.34	143	Pn		Pn	06 28 52.8	-0.8
GLB	Gilahina Butte	8.70	132	Pn		Pn	06 28 55.5	-3.2
CNPM	China Poot	8.84	159	Pn		Pn	06 28 59.2	-1.3
INK	Inuvik	8.92	76	Pn		Pn	06 29 00.6	-1.1
	0.4nm,0.3s,baz=285,slow=14,SNR=19							
INK					Sn	Sn	06 30 37.0	-5.0
	0.1nm,0.3s,baz=196,slow=21,SNR=1.7							
INK	Inuvik	8.92	76	Pn		Pn	06 29 01.1	-0.5
VRDI	Verde Repeater	8.98	131	Pn		Pn	06 29 02.2	-0.4
KDAK	Kodiak Island	10.39	165	Pn		Pn	06 29 22.0	+0.3
	0.2nm,0.3s,baz=154,slow=16,SNR=2.3							
KDAK	Kodiak Island	10.39	165			Pn	06 29 20.3	-1.4
YKA	Yellowknife Ar	18.44	86	P		P	06 31 07.4	-0.7
	0.2nm,0.3s,baz=302,slow=10,SNR=7.7							
NVAR	Mina Array Bea	36.53	124	P		P	06 34 02.3	+3.7
	0.2nm,0.5s,baz=325,slow=7.8,SNR=2.8							
ARCES	ARCESS Array B	42.81	358	LR		LR	06 53 50.0	
	comp=Z,14nm,18.0s,baz=48,slow=38							
SONM	Songino Array	48.96	297	P		P	06 35 39.4	+0.4
	1.0nm,0.7s,baz=30,slow=6.2,SNR=5.1							
TXAR	Lajitas Array	49.73	113	P		P	06 35 48.5	+3.4
	0.2nm,0.5s,baz=340,slow=7.8,SNR=3.0							
BVAR	Borovoye Array	54.25	327	P		P	06 36 17.5	-0.9
	1.1nm,0.6s,baz=19,slow=9.2,SNR=6.3							
CMAR	Chiang Mai Arr	78.07	289	P		P	06 38 50.2	-1.5
	0.5nm,0.3s,baz=3.3,slow=6.3,SNR=4.3							

*IDC **30** 06:34:59.1±3.3, 23°.48S×179°.79W, h496km, 30km, mb3.7/9, mb1 3.8/10, mb1mx3.4/33, mbtmp4.5/10, Error ellipse: s-maj=29.8km s-min=16.7km az=66.0*
*NEIC **30** 06:35:00.4±2.3, 23°.6S±0°.1×179°.8W±0°.1, h519km±7km, mb4.8/34, Error ellipse: s-maj=19.1km s-min=17.4km az=67.0*
ISC 30 06:35:01.9±0.6, 23°.50S±0°.10×179°.87W±0°.10, h532km, n67, σ1§63/70, mb4.7/23, 1C-2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	Nonsavu	6.05	341	P		P	06 36 37.4	-3.0
DZM	Mont Dzumac	12.70	274	P		P	06 37 47.9	0.0
	0.4nm,0.3s,baz=77,slow=18,SNR=7.2							
OUZ	Omahuta	12.99	204	P		P	06 37 51.3	+0.7
BFZ	Birch Farm	17.44	190	P		P	06 38 32.4	-3.0
BFZ				IAmb		IAmb	06 38 39.2	
	comp=Z,39nm,1.0s							
MSWZ	Moikau Station	18.33	192	P		P	06 38 42.1	-1.4
BHW	Baring Head	18.40	193	P		P	06 38 42.5	-1.6
QRZ	Quartz Range	18.42	199	P		P	06 38 43.8	-0.6
PLWZ	Palliser	18.48	192	P		P	06 38 42.1	-2.7
NNZ	Nelson	18.55	196	P		P	06 38 44.2	-1.3
TUWZ	Tuamarina	18.62	195	P		P	06 38 43.5	-2.6
CMWZ	Cape Campbell	18.86	194	P		P	06 38 47.7	-0.6
BSWZ	Blackbirch Sta	18.91	195	P		P	06 38 48.4	-0.3
THZ	Tophouse	19.19	197	P		P	06 38 50.7	-0.6
THZ				IAmb		IAmb	06 38 59.8	
	comp=Z,45nm,1.2s							
KHZ	Kahutara	19.65	195	P		P	06 38 53.1	-2.3
LTZ	Lake Taylor	20.31	197	P		P	06 38 58.8	-2.8
LTZ				IAmb		IAmb	06 39 02.0	
	comp=Z,37nm,0.8s							
OXZ	Oxford	20.88	197	P		P	06 39 04.5	-2.1
MQZ	McQueen's Vall	21.08	195	P		P	06 39 04.0	-4.3
MQZ				IAmb		IAmb	06 39 05.6	
	comp=Z,55nm,1.2s							
RPZ	Rata Peaks	21.51	198	P		P	06 39 09.8	-2.5
	comp=Z,12nm,0.5s,baz=287,slow=22,SNR=2.2							
RPZ	Rata Peaks	21.51	198	P		P	06 39 10.0	-2.3
RPZ				IAmb		IAmb	06 39 17.4	
	comp=Z,38nm,1.2s							
FOZ	Fox Glacier	21.72	201	P		P	06 39 11.9	-2.3
LBZ	Lake Benmore	22.38	199	P		P	06 39 17.2	-2.9
LBZ				IAmb		IAmb	06 39 33.7	
	comp=Z,19nm,1.1s							
WKZ	Wanaka	23.14	200	P		P	06 39 24.2	-2.6
MLZ	Mavora Lakes	23.91	201	P		P	06 39 32.4	-1.3
MLZ				IAmb		IAmb	06 39 44.8	
	comp=Z,50nm,1.4s							
WHZ	Wether Hill Ro	24.43	201	P		P	06 39 37.2	-1.1
WHZ				IAmb		IAmb	06 39 39.0	
	comp=Z,38nm,0.7s							
ARMA	Armidale	26.27	249	P		P	06 39 56.6	+1.6
ARMA				IAmb		IAmb	06 39 57.0	
	comp=Z,16nm,0.8s							
EIDS	Eidsvold	26.49	260	P		P	06 39 57.5	+0.7
CAN	Canberra	29.44	239	P		P	06 40 23.6	+1.0
CAN				IAmb		IAmb	06 40 24.2	
	comp=Z,16nm,0.8s							
CTAO	Charters Tower	31.59	270	P		P	06 40 42.2	+0.9
CTAO				IAmb		IAmb	06 40 42.8	
	comp=Z,23nm,0.6s							
TOO	Toolangi	32.77	237	P		P	06 40 51.6	+0.6
TOO				IAmb		IAmb	06 40 52.3	
	comp=Z,18nm,1.0s							
TAU	Tasmania Unive	33.29	226	P		P	06 40 55.8	+0.5
TAU				IAmb		IAmb	06 41 13.1	
	comp=Z,76nm,1.4s							
STKA	Stephens Creek	34.98	248	P		P	06 41 10.0	+0.3
	comp=Z,7.8nm,0.8s,baz=95,slow=10,SNR=9.4							
STKA	Stephens Creek	34.98	248	P		P	06 41 10.0	+0.3
BBOO	Buckleboo	39.71	246	P		P	06 41 47.7	-0.7
BBOO				IAmb		IAmb	06 41 48.5	
	comp=Z,18nm,0.9s							
AS31	Alice Springs	42.22	260	P		P	06 42 08.4	0.0
ASAR	Alice Springs	42.22	260	P		P	06 42 08.3	-0.1
	comp=Z,16nm,0.8s,baz=94,slow=8.1,SNR=103							
ASAR					ScP	ScP	06 46 54.3	+4.0
	comp=Z,1.2nm,0.8s,baz=116,slow=4.2,SNR=6.3							
ASAR					S	S	06 47 48.9	-1.6
	comp=Z,0.9nm,1.0s,baz=89,slow=14,SNR=5.1							
WR0	Warramunga Arr	42.36	266	P		P	06 42 09.5	-0.1
WB2	Warramunga Arr	42.54	266	P		P	06 42 10.4	-0.7
WB2				IAmb		IAmb	06 42 11.5	
	comp=Z,24nm,0.9s							
WB0	Warramunga Arr	42.54	266	P		P	06 42 10.7	-0.4
WB0				IAmb		IAmb	06 42 11.4	
	comp=Z,19nm,0.8s							
WRA	Warramunga Arr	42.55	266	P		P	06 42 10.8	-0.4
	comp=Z,6.7nm,0.3s,baz=91,slow=8.4,SNR=66							
WRA					S	S	06 47 52.0	-3.3
	comp=Z,2.0nm,0.9s,baz=104,slow=14,SNR=4.3							
PTCN	Pitcairn Islan	45.20	103	P		P	06 42 30.2	-1.4
FORT	Forrest	46.56	249	P		P	06 42 41.1	-0.7
KNRA	Kununurra	48.80	269	P		P	06 42 59.0	+0.2
KNRA				IAmb		IAmb	06 43 09.2	
	comp=Z,69nm,1.4s							
FITZ	Fitzroy Crossi	50.98	265	P		P	06 43 15.6	+0.8
VNDA	Vanda	54.79	185	P		P	06 43 42.3	+1.3
	comp=Z,1.7nm,0.7s,baz=357,slow=7.2,SNR=14							
VNDA	Vanda	54.79	185	P		P	06 43 41.9	+0.9
MORW	Morawa	57.12	250	P		P	06 43 58.1	+0.1
QSPA	South Pole Qui	66.58	180	P		P	06 45 00.1	+1.0
QSPA				IAmb		IAmb	06 45 00.9	
	comp=Z,16nm,0.9s							
MJAR	Matsushiro Arr	71.63	325	P		P	06 45 28.4	-1.3
	comp=Z,0.9nm,0.4s,baz=159,slow=5.6,SNR=1.7							
MAW	Mawson	78.17	200	P		P	06 46 06.1	+0.4
	comp=Z,1.1nm,1.0s,baz=128,slow=6.4,SNR=14							
MAW	Mawson	78.17	200	P		P	06 46 06.0	+0.2
USRK	Ussuriysk Ar.	80.49	327	P		P	06 46 20.2	+1.9
	comp=Z,1.1nm,0.6s,baz=90,slow=5.7,SNR=5.3							
SYO	Syowa Base	83.43	193	*eP*		P	06 46 30.8	-2.2
SYO	Syowa Base	83.43	193	*ePcP*		P	06 46 34.0	+1.0
CMAR	Chiang Mai Arr	89.50	290	P		P	06 47 05.6	+2.8
	comp=Z,1.5nm,0.7s,baz=132,slow=2.1,SNR=9.3							
MKAR	Makanchi Array	111.97	313	PKiKP		PKiKP	06 52 36.4	-0.2
	comp=Z,0.1nm,0.4s,baz=209,slow=3.5,SNR=3.8							
NOA	NORSAR Array B	141.70	351	PKhKP		PKPpre	06 53 28.1	
	comp=Z,1.2nm,0.9s,baz=15,slow=4.6,SNR=3.2							
AKASG	Malin Array Be	144.69	328	PKP		PKPdf	06 53 38.1	+0.3
	comp=Z,5.2nm,0.7s,baz=44,slow=4.2,SNR=11							
BR131	Keskin Array S	147.43	308			PKPab	06 53 50.2	0.0
BRTR	Keskin Array B	147.43

VNHG	**Veniaminof 1**	**1.25**	**278**			**Pn**	**06 37 05.3**	**0.0**
VNHG						**Sn**	**06 37 20.7**	**-0.7**
VNNF	**Veniaminof 3**	**1.34**	**280**			**Pn**	**06 37 06.8**	**+0.3**
VNSS	**Veniaminof 8**	**1.41**	**277**			**Pn**	**06 37 07.5**	**0.0**
VNWF	**Veniaminof 8**	**1.46**	**274**			**Pn**	**06 37 08.2**	**+0.1**
VNFG	**Fog Glacier, M**	**1.47**	**280**			**Pn**	**06 37 08.6**	**+0.4**
SII	**Sitkinak Islan**	**1.62**	**71**			**Pn**	**06 37 10.3**	**+0.2**
SII						**Sn**	**06 37 30.6**	**+0.5**
PLBL	**Peulik Blue Cr**	**1.64**	**3**			**Pn**	**06 37 10.1**	**-0.3**
PLK3	**Peulik 3**	**1.67**	**13**			**Pn**	**06 37 11.1**	**+0.3**
PLK3						**Sn**	**06 37 32.4**	**+1.2**
PLK1	**Peulik 1**	**1.75**	**6**			**Pn**	**06 37 11.7**	**-0.1**
PLK5	**Peulik 5**	**1.93**	**1**			**Pn**	**06 37 14.2**	**-0.1**
CNBA	**Chernabura Isl**	**1.96**	**231**			**Pn**	**06 37 15.0**	**+0.4**
SDPT	**Sand Point**	**2.12**	**252**			**Pn**	**06 37 17.7**	**+0.9**
CAHL	**Cahill**	**2.18**	**24**			**Pn**	**06 37 17.7**	**0.0**
OHAK	**Old Harbor**	**2.33**	**59**			**Pn**	**06 37 19.3**	**-0.3**
OHAK						**Sn**	**06 37 45.7**	**-1.5**
KABU	**Katmai Buttres**	**2.39**	**22**			**Pn**	**06 37 20.9**	**+0.4**
KAHC	**Katmai Hardscr**	**2.79**	**21**			**Pn**	**06 37 26.0**	**0.0**
PS4A	**Pavlof South-4**	**2.87**	**257**			**Pn**	**06 37 27.5**	**+0.6**
KDAK	**Kodiak Island**	**2.95**	**53**	Pn		**Pn**	**06 37 27.6**	**-0.4**
	3.6nm,0.3s,baz=226,slow=5.2,SNR=108							
KDAK				Pg			06 37 37.1	
	4.7nm,0.3s,baz=274,slow=5.2,SNR=8.2							
KDAK				Sn		**Sn**	**06 37 59.8**	**-2.4**
	3.9nm,0.3s,baz=32,slow=22,SNR=9.8							
KDAK				Lg		Lg	06 38 15.8	
	3.6nm,0.3s,baz=51,slow=15,SNR=3.7							
KDAK	**Kodiak Island**	**2.95**	**53**			**Sn**	**06 38 00.3**	**-1.9**
FALS	**False Pass**	**3.88**	**254**	Pn		**Pn**	**06 37 41.4**	**+0.7**
IVE	**Iliamna Volcan**	**4.48**	**26**			**Pn**	**06 37 49.9**	**+0.9**
CNPM	**China Poot**	**4.62**	**39**			**Pn**	**06 37 50.7**	**-0.2**
RSO	**Redoubt South**	**4.93**	**25**	Pn		**Pn**	**06 37 56.5**	**+1.2**
SVW2	**Sparrevohn**	**5.09**	**8**			**Pn**	**06 37 57.3**	**0.0**
AKUT	**Akutan**	**5.42**	**253**	Pn		**Pn**	**06 38 03.1**	**+1.3**
SEW	**Seward**	**5.67**	**41**	Pn		**Pn**	**06 38 03.8**	**-1.3**
UNV	**Unalaska Valle**	**5.94**	**252**	Pn		**Pn**	**06 38 08.1**	**-0.7**
PWL	**Port Wells**	**6.59**	**40**			**Pn**	**06 38 16.6**	**-1.2**
MID	**Middleton Isla**	**6.60**	**55**	Pn		**Pn**	**06 38 18.0**	**+0.1**
PMR	**Palmer**	**6.86**	**33**	Pn		**Pn**	**06 38 20.9**	**-0.6**
TT01	**Tatalina**	**6.88**	**4**			**Pn**	**06 38 21.4**	**-0.3**
TTA	**Tatalina**	**6.98**	**4**			**Pn**	**06 38 21.7**	**-0.3**
HIN	**Hinchinbrook I**	**7.01**	**48**	Pn		**Pn**	**06 38 23.1**	**-0.5**
GLI	**Glacier Island**	**7.06**	**43**	Pn		**Pn**	**06 38 22.6**	**-1.7**
GHO	**Glory Hole Cre**	**7.07**	**33**	Pn		**Pn**	**06 38 24.0**	**-0.3**
FID	**Port Fidalgo**	**7.23**	**45**	Pn		**Pn**	**06 38 24.8**	**-1.7**
PPLA	**Purkeypile**	**7.26**	**18**	Pn		**Pn**	**06 38 29.6**	**+2.5**
SPIA	**Saint Paul Isl**	**7.42**	**284**	Pn		**Pn**	**06 38 30.2**	**+1.1**
SCM	**Sheep Creek Mo**	**7.62**	**37**	Pn		**Pn**	**06 38 32.5**	**+0.6**
RAGM	**Ragged Mountai**	**7.79**	**51**	Pn		**Pn**	**06 38 34.7**	**+0.6**
TRF	**Thorofare Moun**	**8.13**	**22**	Pn		**Pn**	**06 38 37.2**	**-1.6**
RND	**Reindeer**	**8.41**	**26**	Pn		**Pn**	**06 38 44.9**	**+2.2**
BPAW	**Bear Paw Mtn.**	**8.59**	**18**	Pn		**Pn**	**06 38 44.4**	**-0.6**
WAX	**Waxell Ridge**	**8.63**	**54**	Pn		**Pn**	**06 38 45.6**	**0.0**
GLB	**Gilahina Butte**	**8.69**	**46**	Pn		**Pn**	**06 38 49.1**	**+2.7**
VRDI	**Verde Repeater**	**8.72**	**48**	Pn		**Pn**	**06 38 48.0**	**+0.9**
ISLE	**Juniper Island**	**8.92**	**53**	Pn		**Pn**	**06 38 50.0**	**+0.3**
YAH	**Yahtse**	**9.10**	**56**	Pn		**Pn**	**06 38 52.9**	**+0.7**
TABL	**Table Mountain**	**9.41**	**56**	Pn		**Pn**	**06 38 54.3**	**-2.1**
ANM	**Nome**	**9.48**	**337**	Pn		**Pn**	**06 38 57.5**	**+0.4**
WRH	**Wood River Hil**	**9.50**	**24**	Pn		**Pn**	**06 38 55.4**	**-2.0**
CCB	**Clear Creek Bu**	**9.71**	**24**	Pn		**Pn**	**06 38 58.9**	**-1.4**
HDA	**Harding Lake**	**9.72**	**27**	Pn		**Pn**	**06 39 00.7**	**+0.2**
RIDG	**Independent Ri**	**9.79**	**33**	Pn		**Pn**	**06 39 03.2**	**+1.8**
IL31		**10.03**	**25**	Pn		**Pn**	**06 39 03.4**	**-1.2**
ILAR	**Eielson Array**	**10.03**	**25**	Pn		Pn	06 38 59.8	-4.9
	0.0nm,0.3s,baz=225,slow=13,SNR=1.2							
ILAR				Sn		Sn	06 40 43.0	-12
	0.0nm,0.3s,baz=270,slow=31,SNR=1.5							
HYT	**Haines Junctio**	**11.23**	**57**	Pn		**Pn**	**06 39 20.3**	**-0.8**
AMKA	**Amchitka**	**14.79**	**261**	Pn		**Pn**	**06 40 07.9**	**-0.8**
INK	**Inuvik**	**16.28**	**32**	Pn		**Pn**	**06 40 28.7**	**+1.2**
	0.1nm,0.3s,baz=227,slow=9.9,SNR=8.2							
INK				LR		LR	06 46 28.1	
	comp=Z,32nm,20.8s,baz=34,slow=36							
YKA	**Yellowknife Ar**	**22.22**	**56**	P		**P**	**06 41 36.0**	**+1.9**
	0.6nm,0.9s,baz=273,slow=10,SNR=8.1							
SONM	**Songino Array**	**55.38**	**306**	P		**P**	**06 46 10.4**	**-0.1**
	0.6nm,0.7s,baz=35,slow=8.8,SNR=3.7							

*IDC **30** 07:04:27.6±0.7, 55°.24S×27°.93W, h0km, mb4.2/9, mb1 4.3/10, mb1mx4.1/22, mbtmp4.2/10, ML4.6/1, MS3.6/8, Ms1 3.5/8, ms1mx3.3/19, Error ellipse: s-maj=25.7km s-min=17.2km az=63.0*

*NEIC **30** 07:04:29.1±1.5, 55°.3S±0°.1×28°.0W±0°.2, h10km±1km, mb4.6/20, Error ellipse: s-maj=21.5km s-min=16.4km az=36.0*

ISC 30 07:04:28.8±0.5, 55°.3S±0°.1×28°.1W±0°.1, h10km, n63, σ0°83/57, mb4.5/15, MS3.6/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HOPE	**Hope Point**	**4.98**	**278**			**Pn**	**07 05 42.0**	**-1.4**
SNAA	**Sanae**	**19.67**	**156**	P		**P**	**07 08 57.0**	**-0.5**
	1.8nm,0.3s,baz=308,slow=13,SNR=10							
SNAA	**Sanae**	**19.67**	**156**	P		**P**	**07 08 57.3**	**-0.2**
PLCA	**Paso Flores**	**31.38**	**280**	LR		LR	07 23 52.0	
	comp=Z,39nm,18.2s,baz=132,slow=37							
QSPA	**South Pole Qui**	**34.99**	**180**	P		**P**	**07 11 21.8**	**+0.8**
	3.2nm,0.5s,baz=187,slow=2.6,SNR=4.2							
QSPA	**South Pole Qui**	**34.99**	**180**	P		**P**	**07 11 21.7**	**+0.8**
QSPA				IAmb		IAmb	07 11 23.4	
	comp=Z,5.7nm,0.8s							
BI03	**Tigo**	**35.47**	**282**	P		**P**	**07 11 26.5**	**+1.4**
CPUP	**Villa Florida**	**35.92**	**312**	P		**P**	**07 11 28.5**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=155,slow=8.4,SNR=3.8							
CPUP	**Villa Florida**	**35.92**	**312**	P		**P**	**07 11 28.5**	**-0.6**
CPUP				IAmb		IAmb	07 11 41.4	
	comp=Z,15nm,1.4s							
CFA	**Coronel Fontan**	**36.79**	**293**	P		**P**	**07 11 37.8**	**+1.2**
	comp=Z,0.9nm,0.6s,baz=193,slow=12,SNR=2.7							
CO02	**Combarbal**	**38.57**	**291**	P		**P**	**07 11 52.4**	**+0.6**
CO02				IAmb		IAmb	07 12 05.7	
	comp=Z,13nm,1.2s							
CO03	**El Pedregal**	**38.69**	**291**	P		**P**	**07 11 51.6**	**-1.1**
CO03				IAmb		IAmb	07 12 04.0	
	comp=Z,16nm,1.4s							
CO01	**Juntas del Tor**	**39.05**	**293**	P		**P**	**07 11 56.5**	**+0.5**
AC05	**El Transito**	**40.06**	**294**	P		**P**	**07 12 03.2**	**-0.9**
AC05				IAmb		IAmb	07 12 20.9	
	comp=Z,18nm,1.4s							
AC04	**Llanos de Chal**	**40.98**	**293**	P		**P**	**07 12 11.8**	**+0.2**
AC02	**Maricunga**	**41.08**	**297**	P		**P**	**07 12 14.1**	**+1.0**
MAW	**Mawson**	**41.08**	**144**	P		**P**	**07 12 11.6**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=340,slow=3.6,SNR=1.9							
MAW				LR		LR	07 29 23.7	
	comp=Z,48nm,18.1s,baz=239,slow=36							
MAW	**Mawson**	**41.08**	**144**	P		**P**	**07 12 12.0**	**+0.1**
PB09	**IPOC Station P**	**45.32**	**301**	P		**P**	**07 12 48.2**	**+1.1**
PB07	**IPOC Station P**	**45.70**	**300**	P		**P**	**07 12 50.1**	**+0.1**
PB07				IAmb		IAmb	07 12 59.4	
	comp=Z,13nm,1.4s							
BOSA	**Boshof**	**46.27**	**77**	P		**P**	**07 12 53.9**	**-0.5**
	comp=Z,2.6nm,0.8s,baz=217,slow=5.0,SNR=3.8							
BOSA				LR		LR	07 28 45.9	
	comp=Z,70nm,21.5s,baz=244,slow=32							
BOSA	**Boshof**	**46.27**	**77**	P		**P**	**07 12 53.8**	**-0.5**
GO01	**Chusmiza**	**47.11**	**302**	P		**P**	**07 13 01.0**	**-0.5**
GO01				IAmb		IAmb	07 13 09.5	
	comp=Z,5.7nm,0.9s							
VNDA	**Vanda**	**47.34**	**183**	P		**P**	**07 13 02.7**	**+0.8**
	comp=Z,2.6nm,0.7s,baz=194,slow=6.6,SNR=19							
VNDA	**Vanda**	**47.34**	**183**	P		**P**	**07 13 02.8**	**+0.8**
MNMC	**Minye Minye**	**47.76**	**302**	P		**P**	**07 13 06.5**	**+0.3**
LPAZ	**La Paz**	**49.52**	**306**	P		**P**	**07 13 20.8**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=196,slow=7.1,SNR=12							
LPAZ	**La Paz**	**49.52**	**306**	P		**P**	**07 13 20.0**	**-0.2**
LPAZ				IAmb		IAmb	07 13 25.2	
	comp=Z,4.1nm,0.8s							
PTGA	**Pitinga**	**60.24**	**323**	P		**P**	**07 14 40.3**	**+3.2**
PTGA				IAmb		IAmb	07 14 41.9	
	comp=Z,3.4nm,0.8s							
DBIC	**Dimbokro**	**64.66**	**26**	LR		LR	07 38 08.8	
	comp=Z,25nm,20.4s,baz=132,slow=31							
TOA0	**Torodi Ar. Sit**	**72.62**	**30**	P		**P**	**07 15 56.9**	**+0.7**
TOA0				IAmb		IAmb	07 16 02.0	
	comp=Z,5.1nm,0.8s							
TORD	**Torodi Ar. Bea**	**72.62**	**30**	P		**P**	**07 15 56.8**	**+0.6**
	comp=Z,4.3nm,0.7s,baz=202,slow=5.8,SNR=13							
TORD				LR		LR	07 42 44.7	
	comp=Z,60nm,18.2s,baz=170,slow=32							
GTBY	**Guantanamo Bay**	**84.88**	**316**	P		**P**	**07 17 02.0**	**-1.5**
STKA	**Stephens Creek**	**92.76**	**171**	LR		LR	07 59 03.6	
	comp=Z,28nm,18.4s,baz=204,slow=35							
KEST	**Kesra**	**96.13**	**30**	LR		LR	07 59 04.8	
	comp=Z,58nm,18.3s,baz=318,slow=34							
ESDC	**Sonseca Array**	**96.78**	**19**	LR		LR	07 56 00.1	
	comp=Z,28nm,21.8s,baz=195,slow=32							
ASAR	**Alice Springs**	**99.89**	**163**	P		**Pdif**	**07 18 12.5**	**-1.2**
	comp=Z,0.6nm,1.0s,baz=177,slow=1.9,SNR=2.2							
MSU	**Marysvale**	**117.54**	**298**			**PKPdf**	**07 23 12.9**	**-1.5**
FINES	**FINESS Array B**	**123.92**	**28**	PKP		**PKPdf**	**07 23 25.1**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=333,slow=37,SNR=2.2							
YKA	**Yellowknife Ar**	**135.25**	**319**	PKP		**PKPdf**	**07 23 46.4**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=117,slow=2.3,SNR=4.9							
MKAR	**Makanchi Array**	**137.10**	**71**	PKP		**PKPdf**	**07 23 50.1**	**-1.0**
	comp=Z,0.4nm,0.8s,baz=223,slow=2.1							
INK	**Inuvik**	**144.88**	**321**			PKPbc	07 24 03.7	+0.2
EPYK	**Eagle Plains**	**145.51**	**318**			**PKPbc**	**07 24 05.9**	**+0.2**
DAWY	**Dawson**	**145.89**	**313**			**PKPbc**	**07 24 07.0**	**0.0**
EGAK	**Eagle**	**146.83**	**314**			**PKPbc**	**07 24 09.4**	**-0.3**
DOT	**Dot Lake**	**147.75**	**311**			**PKPbc**	**07 24 12.8**	**+0.5**
SCRK	**Sand Creek**	**147.81**	**312**			**PKPbc**	**07 24 13.0**	**+0.5**
RIDG	**Independent Ri**	**148.12**	**311**			**PKPbc**	**07 24 14.2**	**+0.9**
PAX	**Paxson**	**148.19**	**310**			**PKPbc**	**07 24 13.8**	**+0.3**
FYU	**Fort Yukon**	**148.88**	**316**			**PKiKP**	**07 24 16.1**	**-0.2**
HDA	**Harding Lake**	**149.17**	**312**			**PKiKP**	**07 24 16.7**	**-0.3**
IL31		**149.22**	**313**			**PKPbc**	**07 24 16.1**	**+0.2**
ILAR	**Eielson Array**	**149.22**	**313**	PKPbc		**PKPbc**	**07 24 16.6**	**+0.7**
	comp=Z,7.3nm,0.8s,baz=130,slow=2.2,SNR=76							
CCB	**Clear Creek Bu**	**149.58**	**312**			**PKPbc**	**07 24 16.7**	**-0.1**
WRH	**Wood River Hil**	**149.67**	**312**			**PKPbc**	**07 24 17.2**	**+0.1**
RND	**Reindeer**	**149.78**	**310**			**PKiKP**	**07 24 18.3**	**-0.2**
MCK	**McKinley**	**149.88**	**310**			**PKPbc**	**07 24 18.2**	**+0.5**
TRF	**Thorofare Moun**	**150.42**	**310**			**PKPbc**	**07 24 18.8**	**-0.4**
SKT	**Skwentna**	**150.67**	**306**			**PKPbc**	**07 24 19.8**	**+0.2**
TOLK	**Toolik Lake Re**	**150.76**	**320**			**PKiKP**	**07 24 20.3**	**0.0**
BPAW	**Bear Paw Mtn.**	**150.84**	**311**			**PKPbc**	**07 24 20.4**	**+0.4**
COLD	**Coldfoot**	**150.91**	**317**	PKPbc		**PKiKP**	**07 24 20.9**	**+0.3**
SONM	**Songino Array**	**151.17**	**86**	PKPbc		**PKiKP**	**07 24 21.8**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=220,slow=2.5,SNR=12							

NNC 30 07:25:42.0±5.5, 36°.87N×71°.09E, h225km±83km, mb2.4, mpv3.5,5C-2D, Error ellipse: s-maj=52.7km s-min=33.3km az=16.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**6.25**	**356**	⇑P		Pn	07 27 11.8	-0.9
	0.9nm,0.3s,baz=172,slow=12,SNR=26							
KK31				⇑S		S	07 28 24.5	-0.4
	0.9nm,0.3s,baz=174,slow=26,SNR=9.2							
AAK	**Ala-Archa**	**6.33**	**23**	P		Pn	07 27 13.9	0.0
	2.6nm,0.3s							
AAK				⇑S		S	07 28 29.6	+2.5
	1.8nm,0.4s							
TKM2	**Tokmak 2**	**6.97**	**28**	⇑P		Pn	07 27 21.9	-0.2
	1.5nm,0.5s							
TKM2				⇓S		S	07 28 42.2	+0.2
	1.5nm,0.8s							
AB31	**Akbulak array**	**14.80**	**330**	⇑P		P	07 29 02.2	+1.3
	0.4nm,0.3s,baz=164,slow=8.8,SNR=15							
AB31				⇓S		S	07 31 44.1	0.0
	0.7nm,0.5s,baz=147,slow=24,SNR=4.4							

*NEIC **30** 07:47:20.7±1.9, 20°.1S±0°.1×178°.54W±0°.09, h634km±7km, mb4.4/59, Error ellipse: s-maj=19.4km s-min=12.3km az=170.0*

*IDC **30** 07:47:22.6±2.0, 20°.02S×178°.64W, h652km±24km, mb3.5/17, mb1 3.6/18, mb1mx3.5/30, mbtmp4.4/18, Error ellipse: s-maj=17.4km s-min=10.7km az=156.0*

ISC 30 07:47:21.9±0.4, 20°.07S±0°.1×178°.54W±0°.08, h650km, n134, σ1°20/134, mb4.3/45, 19C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**3.98**	**305**	P		**P**	**07 48 50.4**	**-0.6**
NIUE	**Niue**	**8.18**	**84**	P		**P**	**07 49 22.2**	**-2.5**
AFI	**Afiamalu**	**8.91**	**48**	P		**P**	**07 49 27.0**	**-4.6**
DZM	**Mount Dzumac**	**14.16**	**259**	P		**P**	**07 50 21.5**	**+1.0**
	0.7nm,0.3s,baz=117,slow=20,SNR=10							
DZM	**Mont Dzumac**	**14.16**	**259**	P		**P**	**07 50 20.0**	**-0.5**
SANVU	**Saraoutou**	**14.34**	**286**	P		**P**	**07 50 22.1**	**0.0**
OUZ	**Omahuta**	**16.61**	**203**	P		**P**	**07 50 41.5**	**-1.1**
URZ	**Urewera**	**18.51**	**191**	P		**P**	**07 50 59.1**	**-0.7**
HIZ	**Hauiti**	**19.25**	**196**	P		**P**	**07 51 06.0**	**-0.5**
BKZ	**Black Stump Fm**	**19.50**	**192**	P		**P**	**07 51 08.0**	**-0.9**
BKZ				IAmb		IAmb	07 51 12.4	
	comp=Z,10nm,1.1s							
MSWZ	**Moikau Station**	**21.92**	**193**	P		**P**	**07 51 28.8**	**-1.6**
SNZO	**South Karori**	**21.94**	**194**	P		**P**	**07 51 29.5**	**-1.0**
BHW	**Baring Head**	**21.99**	**193**	P		**P**	**07 51 30.3**	**-0.7**
PLWZ	**Palliser**	**22.07**	**192**	P		**P**	**07 51 31.4**	**-0.3**
TUWZ	**Tuamarina**	**22.23**	**195**	P		**P**	**07 51 32.1**	**-0.9**
THZ	**Tophouse**	**22.81**	**197**	P		**P**	**07 51 36.8**	**-1.5**
KHZ	**Kahutara**	**23.26**	**195**	P		**P**	**07 51 41.0**	**-1.1**
OXZ	**Oxford**	**24.50**	**197**	P		**P**	**07 51 52.0**	**-1.1**
FOZ	**Fox Glacier**	**25.34**	**200**	P		**P**	**07 52 01.6**	**+1.1**
LBZ	**Lake Benmore**	**26.00**	**199**	P		**P**	**07 52 05.4**	**-0.9**
WKZ	**Wanaka**	**26.76**	**200**	P		**P**	**07 52 12.4**	**-0.6**
PPT	**Papeete**	**27.51**	**90**	P		**P**	**07 52 20.4**	**+0.5**
	comp=Z,15nm,0.8s,baz=56,slow=6.4,SNR=4.4							
PPTF	**Pamatai, Papee**	**27.52**	**90**	P		**P**	**07 52 21.0**	**+1.0**
MLZ	**Mavora Lakes**	**27.53**	**201**	P		**P**	**07 52 21.1**	**+1.4**
WHZ	**Wether Hill Ro**	**28.05**	**200**	P		**P**	**07 52 25.0**	**+0.9**
WHZ				IAmb		IAmb	07 52 32.0	
	comp=Z,12nm,0.8s							
CTAO	**Charters Tower**	**33.03**	**264**	P		**P**	**07 53 06.8**	**0.0**
CTAO				IAmb		IAmb	07 53 07.6	
	comp=Z,10nm,0.6s							
STKA	**Stephens Creek**	**37.52**	**244**	P		**P**	**07 53 44.3**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=103,slow=12,SNR=3.6							
STKA	**Stephens Creek**	**37.52**	**244**	P		**P**	**07 53 44.8**	**+1.3**
BBOO	**Buckleboo**	**42.28**	**243**	P		**P**	**07 54 21.8**	**+0.5**
BBOO				IAmb		IAmb	07 54 22.5	
	comp=Z,11nm,0.8s							
WR0	**Warramunga Arr**	**43.97**	**262**	P		**P**	**07 54 32.5**	**-2.0**
WR0				IAmb		IAmb	07 54 35.6	
	comp=Z,13nm,1.2s							
AS31	**Alice Springs**	**44.12**	**256**	P		**P**	**07 54 34.7**	**-0.9**
ASAR	**Alice Springs**	**44.12**	**256**	P		**P**	**07 54 35.8**	**+0.1**
	comp=Z,11nm,0.8s,baz=89,slow=8.5,SNR=78							
ASAR				PcP		**PcP**	**07 56 06.0**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=103,slow=3.7,SNR=9.4							
ASAR				S		**S**	**08 00 22.2**	**-1.4**
	comp=Z,4.1nm,0.9s,baz=93,slow=15,SNR=21							
WB0	**Warramunga Arr**	**44.13**	**262**	P		**P**	**07 54 35.5**	**-0.2**
WB0				IAmb		IAmb	07 54 35.6	
	comp=Z,13nm,0.9s							
WB2	**Warramunga Arr**	**44.15**	**262**	P		**P**	**07 54 35.1**	**-0.7**
WB2				IAmb		IAmb	07 54 36.3	
	comp=Z,17nm,1.2s							
WRA	**Warramunga Arr**	**44.16**	**262**	P		**P**	**07 54 35.1**	**-0.8**
	comp=Z,5.5nm,0.8s,baz=97,slow=8.3,SNR=14							
VNDA	**Vanda**	**58.29**	**185**	P		**P**	**07 56 18.1**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=9.6,slow=6.2,SNR=6.4							
MJAR	**Matsushiro Arr**	**69.57**	**324**	P		**P**	**07 57 27.5**	**-0.4**
	comp=Z,3.9nm,0.6s,baz=161,slow=5.9,SNR=9.4							
ADK	**Adak**	**71.67**	**1**	P		**P**	**07 57 39.2**	**-0.5**
ADK				IAmb		IAmb	07 57 39.9	
	comp=Z,14nm,0.6s							
GSTR	**Great Sitkin T**	**71.89**	**2**	P		**P**	**07 57 40.9**	**-0.2**
ATKA	**Atka Island**	**72.07**	**3**	P		**P**	**07 57 41.4**	**-0.6**
ATKA				IAmb		IAmb	07 57 42.0	
	comp=Z,18nm,0.8s							
JKA	**Kamikawa-asahi**	**73.11**	**332**	P		**P**	**07 57 49.8**	**+1.5**
JKA	**Kamikawa-asahi**	**73.11**	**332**	IAmb		IAmb	07 57 50.8	
	comp=Z,15nm,1.0s							
ASAJ	**Asahikawa**	**73.11**	**332**	P		**P**	**07 57 49.8**	**+1.5**
	comp=Z,11nm,0.8s,baz=209,slow=7.3,SNR=13							
PETK	**Petropavlovsk-**	**75.73**	**345**	P		**P**	**07 58 02.6**	**0.0**
	comp=Z,5.7nm,0.7s,baz=153,slow=7.5,SNR=10							
KSRS	**Korea Array**	**76.23**	**319**	P		**P**	**07 58 06.0**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=138,slow=6.1,SNR=9.2							
USRK	**Ussuriysk Ar.**	**78.33**	**326**	P		**P**	**07 58 18.2**	**+1.3**
	comp=Z,5.9nm,0.8s,baz=133,slow=2.8,SNR=12							
YERR	**Yerington**	**80.78**	**43**	P		**P**	**07 58 31.6**	**+1.5**
YERR				IAmb		IAmb	07 58 32.1	
	comp=Z,9.5nm,1.3s							
NVAR	**Mina Array Bea**	**81.07**	**44**	P		**P**	**07 58 32.8**	**+1.2**
	comp=Z,2.0nm,0.8s,baz=225,slow=9.0,SNR=16							
NV11	**Mina Array Sit**	**81.16**	**44**	P		**P**	**07 58 33.1**	**+1.2**
KVN	**Kaiserville**	**81.55**	**43**	P		**P**	**07 58 34.8**	**+0.9**
TPNV	**Topopah Spring**	**81.61**	**46**	P		**P**	**07 58 35.0**	**+0.8**
MOD	**Modoc Plateau**	**81.82**	**40**	P		**P**	**07 58 36.8**	**+1.6**
KLR	**Kul'dur**	**81.91**	**330**	P		**P**	**07 58 35.9**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=149,slow=4.1,SNR=6.2							
PINE	**Pine Mountain**	**82.56**	**38**	P		**P**	**07 58 40.8**	**+1.8**
PINE				IAmb		IAmb	07 58 41.1	
	comp=Z,8.1nm,0.9s							
WVOR	**Wild Horse Val**	**83.13**	**40**	P		**P**	**07 58 42.5**	**+0.8**
U15A	**North Rim**	**84.05**	**48**	P		**P**	**07 58 48.5**	**+1.8**
GLI	**Glacier Island**	**84.57**	**15**	P		**P**	**07 58 48.4**	**+0.3**
PMR	**Palmer**	**84.72**	**14**	P		**P**	**07 58 48.7**	**-0.2**
PMR				IAmb		IAmb	07 58 50.2	
	comp=Z,6.7nm,1.1s							
GHO	**Glory Hole Cre**	**84.93**	**14**	P		**P**	**07 58 50.0**	**0.0**
GHO				IAmb		IAmb	07 58 50.7	
	comp=Z,12nm,0.8s							
WAX	**Waxell Ridge**	**85.29**	**17**	P		**P**	**07 58 52.3**	**+0.6**
WAX				IAmb		IAmb	07 58 53.2	
	comp=Z,7.3nm,0.8s							
BMO	**Blue Mountains**	**85.30**	**39**	P		**P**	**07 58 51.9**	**-0.3**
SCM	**Sheep Creek Mo**	**85.35**	**14**	P		**P**	**07 58 52.3**	**+0.4**
SCM				IAmb		IAmb	07 58 52.9	
	comp=Z,14nm,0.7s							
YAH	**Yahtse**	**85.52**	**17**	P		**P**	**07 58 53.0**	**0.0**
YAH				IAmb		IAmb	07 58 54.1	
	comp=Z,9.2nm,1.0s							
GLB	**Gilahina Butte**	**85.87**	**16**	P		**P**	**07 58 54.6**	**+0.2**
GLB				IAmb		IAmb	07 58 55.0	
	comp=Z,3.7nm,0.6s							
CTGM	**Chitina Glacie**	**86.14**	**17**	P		**P**	**07 58 54.7**	**-1.1**
CTGM				IAmb		IAmb	07 58 57.1	
	comp=Z,5.6nm,0.9s							
TRF	**Thorofare Moun**	**86.14**	**12**	P		**P**	**07 58 55.1**	**-0.7**
TRF				IAmb		IAmb	07 58 55.9	
	comp=Z,7.7nm,0.8s							
HLID	**Hailey**	**86.34**	**41**	P		**P**	**07 58 58.6**	**+1.4**
RND	**Reindeer**	**86.40**	**13**	P		**P**	**07 58 56.7

ISC 30 08:00:05.3±2.4, 52°.6N±0°.1×34°.8E±0°.2, h0km, n7, σ1§25/8, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OBN	**Obninsk**	**2.68**	**22**	Lg		Lg	08 01 29.7	
	2.8nm,0.3s,baz=197,slow=23,SNR=1.5							
AKASG	**Malin Array Be**	**4.00**	**243**	Pn		**Pn**	**08 01 08.2**	**+0.4**
	0.8nm,0.3s,baz=68,slow=13,SNR=1.5							
AKASG				Pg		**Pg**	**08 01 20.5**	**-1.4**
	1.5nm,0.3s,baz=58,slow=15,SNR=2.4							
AKASG				Sn		**Sn**	**08 01 57.3**	**+2.0**
	1.2nm,0.3s,baz=66,slow=32,SNR=2.1							
AKASG				Lg		Lg	08 02 14.4	
	1.9nm,0.3s,baz=63,slow=28,SNR=2.0							
FINES	**FINESS Array B**	**10.02**	**335**	Pn		**Pn**	**08 02 30.7**	**+0.4**
	0.1nm,0.3s,baz=151,slow=15,SNR=4.8							
FINES				Sn		**Sn**	**08 04 23.1**	**-0.2**
	0.1nm,0.3s,baz=151,slow=24,SNR=1.9							
FINES				Lg		Lg	08 05 29.3	
	0.2nm,0.3s,baz=149,slow=28,SNR=3.9							
I26DE	**FREYUNG INFRAS**	**13.89**	**263**	*i*			09 27 30.0	
	baz=66,slow=321,SNR=1.5							
NOA	**NORSAR Array B**	**15.34**	**313**	Pn		**P**	**08 03 46.7**	**-1.1**
	0.0nm,0.3s,baz=106,slow=15,SNR=3.2							
ARCES	**ARCESS Array B**	**17.50**	**349**	P		**P**	**08 04 12.2**	**+0.6**
	0.1nm,0.3s,baz=160,slow=11,SNR=5.8							
YKA	**Yellowknife Ar**	**62.70**	**345**	P		**P**	**08 10 31.3**	**0.0**
	0.3nm,0.8s,baz=6.6,slow=7.6,SNR=1.7							

*IDC **30** 08:01:00.6±2.0, 21°.93S×179°.49W, h0km, mb4.3/6, mb1 4.5/6, mb1mx3.9/53, mbtmp4.3/6, Error ellipse: s-maj=135.3km s-min=30.1km az=159.0*
*NEIC **30** 08:01:50.7±2.3, 23°.6S±0°.1×179°.8W±0°.1, h488km±11km, mb4.5/19, Error ellipse: s-maj=20.6km s-min=17.1km az=143.0*

ISC 30 08:01:51.8±0.6, 23°.54S±0°.10×179°.8W±0°.1, h500km, n32, σ1§65/32, mb4.3/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RAO	**Raoul Island**	**5.94**	**164**	P		**P**	**08 03 27.8**	**+0.3**
MSVF	**Nonsavu**	**6.11**	**341**	P		**P**	**08 03 28.6**	**-0.8**
AFI	**Afiamalu**	**12.24**	**40**	P		**P**	**08 04 32.2**	**-1.0**
URZ	**Urewera**	**14.90**	**189**	P		**P**	**08 05 00.0**	**-0.8**
BKZ	**Black Stump Fm**	**15.89**	**190**	P		**P**	**08 05 08.9**	**-2.3**
BKZ				IAmb		IAmb	08 05 17.1	
	comp=Z,33nm,1.5s							
TUWZ	**Tuamarina**	**18.58**	**195**	P		**P**	**08 05 34.5**	**-2.8**
RAR	**Rarotonga**	**18.70**	**87**	P		**P**	**08 05 40.1**	**+1.4**
RAR				IAmb		IAmb	08 05 58.6	
	comp=Z,16nm,1.0s							
THZ	**Tophouse**	**19.16**	**197**	P		**P**	**08 05 41.1**	**-1.5**
KHZ	**Kahutara**	**19.61**	**195**	P		**P**	**08 05 43.3**	**-3.4**
OXZ	**Oxford**	**20.84**	**197**	P		**P**	**08 05 52.6**	**-5.3**
HNR	**Honiara**	**23.88**	**303**	P		**P**	**08 06 24.5**	**-1.0**
WHZ	**Wether Hill Ro**	**24.40**	**201**	P		**P**	**08 06 30.1**	**+0.4**
WHZ				IAmb		IAmb	08 06 38.1	
	comp=Z,18nm,1.2s							
CTAO	**Charters Tower**	**31.62**	**270**	P		**P**	**08 07 34.9**	**+1.5**
CTAO				IAmb		IAmb	08 07 35.4	
	comp=Z,13nm,0.6s							
TOO	**Toolangi**	**32.77**	**237**	P		**P**	**08 07 43.9**	**+0.9**
TOO				IAmb		IAmb	08 07 53.0	
	comp=Z,12nm,1.2s							
STKA	**Stephens Creek**	**34.99**	**248**	P		**P**	**08 08 02.1**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=80,slow=9.3,SNR=4.4							
STKA	**Stephens Creek**	**34.99**	**248**	P		**P**	**08 08 01.8**	**0.0**
BBOO	**Buckleboo**	**39.72**	**247**	P		**P**	**08 08 39.0**	**-1.5**
BBOO				IAmb		IAmb	08 08 51.0	
	comp=Z,28nm,1.4s							
AS31	**Alice Springs**	**42.24**	**260**	P		**P**	**08 09 00.3**	**-0.5**
ASAR	**Alice Springs**	**42.24**	**260**	P		**P**	**08 09 00.9**	**+0.1**
	comp=Z,5.7nm,0.8s,baz=93,slow=8.2,SNR=45							
WR0	**Warramunga Arr**	**42.39**	**266**	P		**P**	**08 09 01.4**	**-0.6**
WB2	**Warramunga Arr**	**42.57**	**266**	P		**P**	**08 09 03.4**	**0.0**
WB2				IAmb		IAmb	08 09 03.9	
	comp=Z,8.8nm,0.7s							
WB0	**Warramunga Arr**	**42.57**	**266**	P		**P**	**08 09 02.7**	**-0.7**
WB0				IAmb		IAmb	08 09 03.5	
	comp=Z,8.1nm,0.7s							
WRA	**Warramunga Arr**	**42.58**	**266**	P		**P**	**08 09 03.3**	**-0.2**
	comp=Z,1.8nm,0.4s,baz=90,slow=5.9,SNR=36							
FORT	**Forrest**	**46.58**	**249**	P		**P**	**08 09 32.7**	**-1.5**
FORT				IAmb		IAmb	08 09 34.1	
	comp=Z,26nm,0.7s							
KNRA	**Kununurra**	**48.84**	**269**	P		**P**	**08 09 51.4**	**0.0**
KNRA				IAmb		IAmb	08 09 58.8	
	comp=Z,36nm,1.2s							
FITZ	**Fitzroy Crossi**	**51.01**	**265**	P		**P**	**08 10 08.2**	**+0.9**
	comp=Z,4.5nm,0.9s,baz=110,slow=11,SNR=8.0							
FITZ	**Fitzroy Crossi**	**51.01**	**265**	P		**P**	**08 10 07.8**	**+0.5**
MORW	**Morawa**	**57.14**	**250**	P		**P**	**08 10 50.2**	**-0.4**
MORW				IAmb		IAmb	08 10 59.1	
	comp=Z,22nm,1.5s							
CMAR	**Chiang Mai Arr**	**89.54**	**290**	P		**P**	**08 13 58.4**	**+2.5**
	comp=Z,0.7nm,0.3s,baz=138,slow=1.4,SNR=4.3							
TXAR	**Lajitas Array**	**90.11**	**58**	P		**P**	**08 13 58.5**	**0.0**
	comp=Z,0.4nm,0.7s,baz=220,slow=8.0,SNR=4.7							
FINES	**FINESS Array B**	**138.15**	**342**	PKP		**PKiKP**	**08 20 22.2**	**+1.1**
	comp=Z,0.7nm,0.4s,baz=35,slow=7.0,SNR=6.1							
AKASG	**Malin Array Be**	**144.75**	**328**	PKhKP		**PKPdf**	**08 20 30.4**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=38,slow=4.2,SNR=7.3							

*IDC **30** 08:03:39.7±0.9, 55°.37S×27°.75W, h0km, mb4.0/5, mb1 4.0/6, mb1mx3.8/23, mbtmp3.9/6, ML3.7/1, Error ellipse: s-maj=37.4km s-min=22.2km az=81.0*
*NEIC **30** 08:03:41.0±0.7, 55°.4S±0°.1×27°.9W±0°.2, h10km±1km, mb4.3/9, Error ellipse: s-maj=25.9km s-min=17.5km az=34.0*

ISC 30 08:03:43.5±0.8, 55°.4S±0°.1×28°.0W±0°.1, h26km, n19, σ0§55/19, mb4.0/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	**Hope Point**	**5.05**	**279**	Pn		**Pn**	**08 04 57.0**	**-0.4**
SNAA	**Sanae**	**19.51**	**156**	P		**P**	**08 08 07.7**	**-0.7**
	0.2nm,0.3s,baz=291,slow=10,SNR=9.7							
SNAA	**Sanae**	**19.51**	**156**	P		**P**	**08 08 07.7**	**-0.7**
PMSA	**Palmer Station**	**20.00**	**228**	P		**Pn**	**08 08 14.7**	**-0.7**
	53nm,1.1s,baz=113,slow=6.9,SNR=2.1							
PMSA	**Palmer Station**	**20.00**	**228**	P		**P**	**08 08 13.6**	**-0.1**
QSPA	**South Pole Qui**	**34.84**	**180**	P		**P**	**08 10 32.2**	**+0.1**
	0.9nm,0.6s,baz=188,slow=2.0,SNR=5.8							
QSPA	**South Pole Qui**	**34.84**	**180**	P		**P**	**08 10 32.4**	**+0.3**
QSPA				IAmb		IAmb	08 10 32.4	
	comp=Z,2.9nm,1.1s							
MT01	**Popeta**	**36.77**	**288**	P		**P**	**08 10 49.0**	**+0.3**
MT01				IAmb		IAmb	08 11 03.2	
	comp=Z,20nm,1.4s							
VNDA	**Vanda**	**47.19**	**183**	P		**P**	**08 12 13.8**	**+0.7**
	comp=Z,0.8nm,0.6s,baz=183,slow=6.5,SNR=6.7							
VNDA	**Vanda**	**47.19**	**183**	P		**P**	**08 12 14.3**	**+1.1**
GO01	**Chusmiza**	**47.23**	**302**	P		**P**	**08 12 15.6**	**+0.9**
GO01				IAmb		IAmb	08 12 21.2	
	comp=Z,2.8nm,1.4s							
MNMC	**Minye Minye**	**47.88**	**302**	P		**P**	**08 12 19.7**	**+0.1**
MNMC				IAmb		IAmb	08 12 33.1	
	comp=Z,12nm,1.4s							
LPAZ	**La Paz**	**49.64**	**306**	P		**P**	**08 12 33.7**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=168,slow=5.3,SNR=6.0							
LPAZ	**La Paz**	**49.64**	**306**	P		**P**	**08 12 33.1**	**-0.4**
LPAZ				IAmb		IAmb	08 12 45.5	
	comp=Z,1.7nm,1.0s							
TORD	**Torodi Ar. Bea**	**72.72**	**30**	P		**P**	**08 15 08.6**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=197,slow=6.5,SNR=3.0							
BOAB	**BOACO BROADBA**	**98.01**	**304**	P		**P**	**08 16 06.2**	**-0.1**
INK	**Inuvik**	**145.03**	**321**	PKPbc		**PKPab**	**08 23 16.3**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=353,slow=0.5,SNR=7.7							
ILAR	**Eielson Array**	**149.36**	**313**	PKPbc		**PKPbc**	**08 23 28.8**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=136,slow=2.5,SNR=11							
SONM	**Songino Array**	**151.13**	**86**	PKPbc		**PKPbc**	**08 23 33.2**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=207,slow=2.1,SNR=4.1							

*ASRS **30** 08:05:08.4, 53°.56N×87°.95E, M1.8, Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*
*NNC **30** 08:05:10.5±1.8, 53°.48N×87°.71E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=14.5km s-min=7.2km az=65.0, Suspected Mining explosion.*
*IDC **30** 08:05:10.6±2.5, 53°.55N×87°.80E, h0km, mb1 3.5/3, mb1mx3.2/61, mbtmp3.5/3, ML3.3/3, Error ellipse: s-maj=22.3km s-min=13.7km az=55.0*

ISC 30 08:05:10.3±3.1, 53°.6N±0°.1×87°.7E±0°.2, h0km, n11, σ1§31/17, 7C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**283**	*i*			08 16 53.3	
	baz=98,slow=309,SNR=5.4							
ZAA0	**Zalesovo Array**	**1.72**	**283**	⇑Pn		**Pn**	**08 05 42.0**	**+0.5**
	1.8nm,0.6s							
ZAA0				⇓Sn		**Sg**	**08 06 07.1**	**+1.5**
	5.9nm,0.4s							
ZALV	**Zalesovo Beam**	**1.72**	**283**	Pn		**Pb**	**08 05 42.4**	**-0.4**
	7.2nm,0.3s,baz=103,slow=14,SNR=58							
ZALV				Lg		Lg	08 06 08.6	
	17nm,0.3s,baz=107,slow=27,SNR=23							
KURK	**Kurchatov**	**6.27**	**246**	⇓Pn		**Pn**	**08 06 44.3**	**+0.3**
	2.3nm,0.7s							
KURK				⇑Sn		**Sn**	**08 07 55.6**	**-0.7**
	2.0nm,0.5s							
KURK				⇑Lg		Lg	08 08 28.8	
	12nm,0.9s							
KURBB	**Kurchatov Arra**	**6.36**	**246**	Pn		**Pn**	**08 06 47.1**	**+1.9**
	0.4nm,0.3s,baz=62,slow=14,SNR=27							
KURBB				Sn		**Sn**	**08 07 58.5**	**-0.2**
	0.3nm,0.3s,baz=302,slow=20,SNR=7.7							
KURBB				Lg		Lg	08 08 34.3	
	0.3nm,0.3s,baz=63,slow=32,SNR=6.9							
KURBB	**Kurchatov Arra**	**6.36**	**246**	⇑Pn		**Pn**	**08 06 46.3**	**+1.0**
	4.2nm,0.3s							
KURBB				⇓Sn		**Sn**	**08 07 58.2**	**-0.4**
	17nm,0.7s							
KURBB				⇓Lg		Lg	08 08 37.3	
	28nm,0.7s							
MK31	**Makanchi Array**	**7.63**	**209**	⇑Pn		**Pn**	**08 07 03.6**	**+0.9**
	0.4nm,0.4s,baz=28,slow=13,SNR=25							
MK31				Sn		**Sn**	**08 08 30.1**	**+0.2**
	4.1nm,1.0s,baz=33,slow=23,SNR=6.3							
MK31				⇓Lg		Lg	08 09 10.3	
	9.9nm,0.9s,baz=32,slow=30,SNR=6.3							
MKAR	**Makanchi Array**	**7.63**	**209**	Pn		**Pn**	**08 07 04.0**	**+1.3**
	0.7nm,0.3s,baz=30,slow=14,SNR=29							
MKAR				Sn		**Sn**	**08 08 30.6**	**+0.7**
	0.5nm,0.3s,baz=34,slow=22,SNR=8.5							
MKAR				Lg		Lg	08 09 08.7	
	0.3nm,0.3s,baz=22,slow=19,SNR=2.9							
MAKZ	**Makanchi**	**7.71**	**210**	⇓Pn		**Pn**	**08 07 01.8**	**-2.0**
	0.8nm,0.5s							
MAKZ				⇑Sn		**Sn**	**08 08 30.4**	**-1.4**
	1.3nm,0.6s							
MAKZ				⇑Lg		Lg	08 09 13.3	
	6.3nm,0.8s							
BVAR	**Borovoye Array**	**10.35**	**274**	Pn		**Pn**	**08 07 40.5**	**+0.6**
	0.4nm,0.3s,baz=83,slow=15,SNR=2.1							
BVAR				Sn		**Sn**	**08 09 34.0**	**-2.6**
	0.7nm,0.3s,baz=89,slow=23,SNR=3.7							
SONM	**Songino Array**	**13.18**	**108**	Lg		Lg	08 12 00.1	
	0.2nm,0.3s,baz=297,slow=18,SNR=2.2							

*IDC **30** 08:05:47.9±0.8, 55°.35S×27°.63W, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.8/25, mbtmp4.0/5, ML4.0/1, MS3.4/11, Ms1 3.4/11, ms1mx3.3/17, Error ellipse: s-maj=40.8km s-min=21.1km az=77.0*
*NEIC **30** 08:05:49.2±1.0, 55°.4S±0°.2×27°.7W±0°.2, h10km±1km, mb4.5/11, Error ellipse: s-maj=28.2km s-min=19.4km az=200.0*

ISC 30 08:05:49.2±0.8, 55°.4S±0°.1×27°.8W±0°.1, h10km, n31, σ0§80/23, mb4.4/10, MS3.6/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	**Hope Point**	**5.17**	**278**	Pn		**Pn**	**08 07 05.6**	**-0.8**
SNAA	**Sanae**	**19.50**	**156**	P		**P**	**08 10 16.0**	**-0.2**
	0.5nm,0.3s,baz=325,slow=14,SNR=13							
SNAA				LR		LR	08 15 14.3	
	comp=Z,17nm,21.7s,baz=9.0,slow=29							
SNAA	**Sanae**	**19.50**	**156**	P		**P**	**08 10 15.5**	**-0.7**
PLCA	**Paso Flores**	**31.57**	**280**	LR		LR	08 25 45.1	
	comp=Z,48nm,19.0s,baz=124,slow=38							
QSPA	**South Pole Qui**	**34.89**	**180**	P		**P**	**08 12 40.6**	**+0.1**
	1.7nm,0.8s,baz=356,slow=3.2,SNR=8.5							
QSPA	**South Pole Qui**	**34.89**	**180**	P		**P**	**08 12 40.9**	**+0.4**
CPUP	**Villa Florida**	**36.12**	**311**	LR		LR	08 27 06.2	
	comp=Z,59nm,19.8s,baz=166,slow=35							
CO02	**Combarbal**	**38.77**	**290**			**P**	**08 13 14.8**	**+1.0**
CO02				IAmb		IAmb	08 13 27.9	
	comp=Z,11nm,1.2s							
CO03	**El Pedregal**	**38.89**	**291**	P		**P**	**08 13 15.5**	**+0.7**
CO03				IAmb		IAmb	08 13 29.3	
	comp=Z,16nm,1.4s							
MAW	**Mawson**	**40.90**	**144**	LR		LR	08 28 06.0	
	comp=Z,25nm,20.4s,baz=235,slow=33							
GO02	**Mina Guanaco**	**42.89**	**297**	P		**P**	**08 13 48.1**	**+0.1**
GO02				IAmb		IAmb	08 13 48.9	
	comp=Z,7.3nm,1.1s							
BOSA	**Boshof**	**46.12**	**77**	LR		LR	08 30 32.4	
	comp=Z,105nm,19.7s,baz=206,slow=32							
PB01	**IPOC Station P**	**46.28**	**301**	P		**P**	**08 14 15.5**	**+0.6**
PB01				IAmb		IAmb	08 14 16.5	
	comp=Z,5.3nm,1.0s							
PB08	**IPOC Station P**	**46.89**	**302**	P		**P**	**08 14 19.4**	**-0.6**
PB08				IAmb		IAmb	08 14 27.2	
	comp=Z,6.1nm,1.0s							
TA01	**Diego Aracena**	**47.03**	**300**	P		**P**	**08 14 23.2**	**+2.7**
VNDA	**Vanda**	**47.25**	**183**	P		**P**	**08 14 22.1**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=187,slow=5.2,SNR=10							
GO01	**Chusmiza**	**47.31**	**302**	P		**P**	**08 14 23.6**	**+0.3**
GO01				IAmb		IAmb	08 14 41.5	
	comp=Z,5.8nm,1.1s							
MNMC	**Minye Minye**	**47.96**	**302**	P		**P**	**08 14 28.0**	**-0.2**
LPAZ	**La Paz**	**49.72**	**305**	P		**P**	**08 14 42.6**	**+0.5**
	comp=Z,2.7nm,0.8s,baz=114,slow=4.2,SNR=12							
LPAZ				LR		LR	08 38 42.9	
	comp=Z,14nm,18.1s,baz=174,slow=40							
LPAZ	**La Paz**	**49.72**	**305**	P		**P**	**08 14 42.8**	**+0.7**
LPAZ				IAmb		IAmb	08 14 43.1	
	comp=Z,3.1nm,0.8s							
DBIC	**Dimbokro**	**64.67**	**25**	LR		LR	08 39 11.8	
	comp=Z,49nm,21.6s,baz=140,slow=31							
ROSC	**El Rosal**	**71.19**	**310**	LR		LR	08 48 26.7	
	comp=Z,29nm,20.8s,baz=212,slow=36							
TORD	**Torodi Ar. Bea**	**72.61**	**30**	P		**P**	**08 17 16.6**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=202,slow=6.5,SNR=5.6							
TORD				LR		LR	08 44 18.1	
	comp=Z,56nm,18.7s,baz=160,slow=32							
ESDC	**Sonseca Array**	**96.82**	**18**	LR		LR	08 58 33.4	
	comp=Z,25nm,19.2s,baz=135,slow=33							
ASAR	**Alice Springs**	**99.75**	**163**	LR		LR	09 03 47.7	
	comp=Z,42nm,18.9s,baz=256,slow=35							
FINES	**FINESS Array B**	**123.92**	**28**	PKP		**PKiKP**	**08 24 45.9**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=277,slow=11,SNR=2.0							
YKA	**Yellowknife Ar**	**135.44**	**319**	PKP		**PKPdf**	**08 25 06.7**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=135,slow=1.4,SNR=4.2							
INK	**Inuvik**	**145.06**	**321**	PKPbc		**PKPdf**	**08 25 24.8**	**-0.2**
	comp=Z,8.1nm,0.8s,baz=92,slow=4.3,SNR=19							
INK	**Inuvik**	**145.06**	**321**			**PKPdf**	**08 25 25.0**	**0.0**
ILAR	**Eielson Array**	**149.41**	**313**	PKPbc		**PKPbc**	**08 25 36.8**	**-0.1**
	comp=Z,3.8nm,1.0s,baz=140,slow=1.8,SNR=22							
SONM	**Songino Array**	**151.00**	**86**	PKPbc		**PKPbc**	**08 25 41.4**	**0.0**
	comp=Z,1.5nm,0.8s,baz=209,slow=2.6,SNR=6.4							

*MAN **30** 08:06:42.0, 5°.02N×127°.01E, h122km, mb4.3, ML3.2, MS2.9*
*NEIC **30** 08:06:45.0±1.2, 5°.23N±0°.09×127°.1E±0°.1, h123km±3km, mb4.4/13, Error ellipse: s-maj=20.7km s-min=10.9km az=67.0*
*IDC **30** 08:06:46.7±8.1, 5°.26N×127°.18E, h139km±76km, mb3.6/11, mb1 3.7/11, mb1mx3.4/51, mbtmp4.0/11, Error ellipse: s-maj=59.5km s-min=14.5km az=68.0*

ISC 30 08:06:44.5±1.1, 5°.23N±0°.05×127°.1E±0°.09, h121km±10km, n41, σ1§10/48, mb4.2/17, 2C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
DDMP	**Don Marcelino,**	**1.64**	**302**	*e*P		**Pn**	**08 07 12.8**	**-0.8**
DDMP				*e*S		**Sn**	**08 07 35.5**	**-0.4**
MATI	**Mati**	**1.91**	**334**	*e*P		**Pn**	**08 07 16.4**	**-0.5**
MATI				*e*S		**Sn**	**08 07 42.9**	**+1.3**
GSPH	**General Santos**	**2.31**	**292**	*e*P		**Pn**	**08 07 19.7**	**-2.4**
DMPH	**Davao City--Mi**	**2.44**	**319**	⇑*e*P		**Pn**	**08 07 22.2**	**-1.3**
DMPH				*e*S		**Sn**	**08 07 54.6**	**+1.1**
KCP	**Kidapawan**	**2.68**	**312**	⇑*e*P		**Pn**	**08 07 26.2**	**-0.4**
KCP				*i* S		**Sn**	**08 08 01.9**	**+2.8**
SKMP	**Bagumbayan, Su**	**2.86**	**297**	*e*P		**Pn**	**08 07 27.9**	**-1.1**
SKMP				*e*S		**Sn**	**08 08 01.8**	**-1.4**
BUKP	**Musuan**	**3.33**	**323**	*e*P		**Pn**	**08 07 35.9**	**+0.7**
BUKP				*e*S		**Sn**	**08 08 15.9**	**+1.5**
TNTI	**Ternate**	**4.43**	**177**	P		**Pn**	**08 07 49.2**	**-0.7**
TNTI	**Ternate**	**4.43**	**177**			**Pn**	**08 07 48.7**	**-1.2**
PAGZ	**Pagadian**	**4.53**	**305**	*e*P		**Pn**	**08 07 50.1**	**-1.0**
KMSI	**Cibinong**	**5.58**	**214**	P		**Pn**	**08 08 05.1**	**-0.1**
	345nm,0.5s							
LBMI	**Labuha**	**5.84**	**176**	P		**Pn**	**08 08 08.6**	**-0.2**
	58nm,0.8s							
MRSI	**Marisa**	**6.99**	**228**	P		**Pn**	**08 08 23.7**	**-0.6**
	2µm165nm,0.6s							
LUWI	**Luwuk**	**7.58**	**215**	P		**Pn**	**08 08 33.3**	**+0.9**
	152nm,1.0s							
LUWI	**Luwuk**	**7.58**	**215**	Pn		**Pn**	**08 08 33.5**	**+1.1**
SBUM	**Sibu**	**15.11**	**260**			**Pn**	**08 10 12.0**	**+0.3**
JAGI	**Jajag, Banyuwa**	**18.76**	**224**			**Pn**	**08 10 55.9**	**-0.2**
KNRA	**Kununurra**	**20.83**	**176**	P		**P**	**08 11 15.5**	**-1.1**
KNRA				IAmb		IAmb	08 11 19.7	
	comp=Z,43nm,1.5s							
FITZ	**Fitzroy Crossi**	**23.22**	**184**	P		**P**	**08 11 41.9**	**+0.9**
	comp=Z,2.9nm,0.9s,baz=5.2,slow=11,SNR=1.6							
FITZ	**Fitzroy Crossi**	**23.22**	**184**	P		**P**	**08 11 40.5**	**-0.5**
WB0	**Warramunga Arr**	**25.85**	**164**	P		**P**	**08 12 05.3**	**+0.4**
WB0				IAmb		IAmb	08 12 10.0	
	comp=Z,9.3nm,0.5s							
WRA	**Warramunga Arr**	**26.00**	**164**	P		**P**	**08 12 06.9**	**+0.6**
	comp=Z,5.7nm,0.4s,baz=345,slow=10,SNR=25							
WB2	**Warramunga Arr**	**26.00**	**164**	P		**P**	**08 12 06.7**	**+0.4**
WB2				IAmb		IAmb	08 12 11.5	
	comp=Z,5.6nm,0.6s							
WR0	**Warramunga Arr**	**26.07**	**164**	P		**P**	**08 12 08.0**	**+1.1**
WR0				IAmb		IAmb	08 12 14.2	
	comp=Z,6.9nm,0.9s							
ASAR	**Alice Springs**	**29.47**	**167**	P		**P**	**08 12 37.5**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=354,slow=8.3,SNR=12							
ASAR				PcP		**PcP**	**08 15 40.3**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=354,slow=2.3,SNR=5.4							
CTAO	**Charters Tower**	**31.42**	**144**	P		**P**	**08 12 56.4**	**+2.0**
CTAO				IAmb		IAmb	08 12 56.5	
	comp=Z,8.7nm,1.1s							
FORT	**Forrest**	**35.81**	**179**	P		**P**	**08 13 32.5**	**+0.2**
BBOO	**Buckleboo**	**38.77**	**168**	P		**P**	**08 13 57.8**	**+0.5**
BBOO				IAmb		IAmb	08 14 04.2	
	comp=Z,16nm,1.1s							
STKA	**Stephens Creek**	**39.40**	**160**	P		**P**	**08 14 03.0**	**+0.5**
	comp=Z,2.2nm,0.4s,baz=346,slow=9.8,SNR=10							
STKA	**Stephens Creek**	**39.40**	**160**	P		**P**	**08 14 03.1**	**+0.6**
SONM	**Songino Array**	**46.02**	**341**	P		**P**	**08 14 56.5**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=187,slow=5.7,SNR=2.4							
MSVF	**Nonsavu**	**55.20**	**116**	P		**P**	**08 16 02.0**	**-3.3**
MK31	**Makanchi Array**	**56.56**	**325**	P		**P**	**08 16 14.9**	**+0.4**
MKAR	**Makanchi Array**	**56.56**	**325**	P		**P**	**08 16 15.2**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=121,slow=8.2,SNR=12							
ZALV	**Zalesovo Beam**	**59.44**	**332**	P		**P**	**08 16 34.0**	**-0.3**
	comp=Z,1.4nm,0.4s,baz=106,slow=8.6,SNR=5.1							
KURK	**Kurchatov**	**60.70**	**327**	P		**P**	**08 16 43.6**	**+0.6**
KURK				IAmb		IAmb	08 16 49.7	
	comp=Z,1.8nm,0.6s							
KURBB	**Kurchatov Arra**	**60.70**	**327**	P		**P**	**08 16 43.2**	**+0.2**
	comp=Z,1.6nm,0.6s,baz=128,slow=6.6,SNR=12							
ILAR	**Eielson Array**	**83.60**	**25**	P		**P**	**08 18 59.0**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=249,slow=5.6,SNR=4.2							
ARCES	**ARCESS Array B**	**89.18**	**340**	P		**P**	**08 19 25.6**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=79,slow=6.4,SNR=6.6							
FINES	**FINESS Array B**	**90.70**	**332**	P		**P**	**08 19 32.9**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=52,slow=9.0,SNR=3.8							
**T

PAU	**Pauzhetka**	**2.23**	**247**	PN		**Pn**	08 10 52.4	**+0.7**
PAU				S		**Sn**	08 11 18.4	**+0.4**
KZV	**Kizimen**	**2.73**	**3**	*e*P		**Pn**	08 11 00.2	**+1.4**
KZV				*e*S		**Sn**	08 11 30.9	**+0.3**
KZV	**Kizimen**	**2.73**	**3**	PN		**Pn**	08 11 00.2	**+1.4**
KZV				S		**Sn**	08 11 30.9	**+0.3**
TUMD	**Tumrok D**	**2.82**	**4**	*e*P		**Pn**	08 11 01.0	**+1.0**
TUMD				*e*S		**Sn**	08 11 32.0	**-0.7**
TUMR	**Tumrok**	**2.90**	**1**	*e*P		**Pn**	08 11 03.1	**+2.0**
TUMR	**Tumrok**	**2.90**	**1**	PN		**Pn**	08 11 01.0	**-0.1**
TUMR				S		**Sn**	08 11 32.0	**-2.7**
SKR	**Severo-Kuril's**	**3.01**	**237**	*e*P		**Pn**	08 11 02.9	**+0.4**
SKR				*e*S		**Sn**	08 11 35.4	**-1.8**
SKR	**Severo-Kuril's**	**3.01**	**237**	*e*PN		**Pn**	08 11 03.2	**+0.7**
SKR				*e*S		**Sn**	08 11 35.8	**-1.4**
SKR				pmax	pmax			
	comp=Z,87nm,0.4s							
SKR				smax	smax			
	comp=N,641nm,0.3s							
SKR				smax	smax			
	comp=E,562nm,0.5s							
ALID	**Alaid**	**3.21**	**243**	*e*P		**Pn**	08 11 06.2	**+0.8**
ALID	**Alaid**	**3.21**	**243**	PN		**Pn**	08 11 06.2	**+0.8**
KBTR	**Krutoberegovo**	**4.14**	**22**	*e*P		**Pn**	08 11 19.6	**+1.5**
KBTR				*e*S		**Sn**	08 12 04.0	**-1.2**
KBTR	**Krutoberegovo**	**4.14**	**22**	PN		**Pn**	08 11 19.6	**+1.5**
BKI	**Bering**	**4.49**	**49**	*e*P		**Pn**	08 11 23.7	**+0.9**
BKI				*e*S		**Sn**	08 12 10.0	**-3.6**
BKI	**Bering**	**4.49**	**49**	PN		**Pn**	08 11 23.7	**+0.9**
BILL	**Bilibino**	**15.98**	**8**	*i* P		**P**	08 14 00.4	**-1.3**
BILL				pmax	pmax			
	comp=Z,10.0nm,1.9s							
KLR	**Kul'dur**	**18.13**	**271**	*i* P		**Pn**	08 14 25.7	**+0.1**
KLR				pmax	pmax			
	comp=Z,2.0nm,1.4s							
YAK	**Yakutsk**	**18.90**	**313**	*i* P		**Pn**	08 14 36.0	**+1.2**
YAK				pmax	pmax			
	comp=Z,8.0nm,0.4s							
MJAR	**Matsushiro Arr**	**22.11**	**233**	P		P	08 15 12.6	+3.7
	comp=Z,0.9nm,0.6s,baz=36,slow=17,SNR=4.6							
H11N2	**WAKE ISLAND Hy**	**33.03**	**168**	T		T	08 52 47.8	
	baz=352,slow=76,SNR=139							
H11N3	**WAKE ISLAND Hy**	**33.05**	**168**	T		T	08 52 45.0	
	baz=352,slow=76,SNR=122							
H11N1	**WAKE ISLAND Hy**	**33.05**	**168**	T		T	08 52 44.1	
	baz=352,slow=76,SNR=136							
H11S1	**WAKE ISLAND Hy**	**34.21**	**169**	T		T	08 54 14.3	
	baz=352,slow=76,SNR=16							
H11S3	**WAKE ISLAND Hy**	**34.23**	**169**	T		T	08 54 11.2	
	baz=352,slow=76,SNR=25							
H11S2	**WAKE ISLAND Hy**	**34.23**	**169**	T		T	08 54 15.2	
	baz=352,slow=76,SNR=11							
NRIK	**Noril'sk**	**36.48**	**325**	*i* P		P	08 17 19.9	+2.2
ASAR	**Alice Springs**	**79.12**	**204**	P		P	08 22 17.2	+0.2
	comp=Z,0.6nm,0.7s,baz=18,slow=5.3,SNR=6.1							
H03N2	**Juan Fernandez**	**134.21**	**90**	T		T	10 59 46.4	
	baz=314,slow=77,SNR=22							
H03N1	**Juan Fernandez**	**134.22**	**90**	T		T	10 59 46.9	
	baz=314,slow=77,SNR=25							
H03N3	**Juan Fernandez**	**134.22**	**90**	T		T	10 59 46.9	
	baz=314,slow=77,SNR=24							

*KRAR **30** 08:16:18.0±0.2,54.7°N×87.14E,M2.2,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

IDC 30 08:16:17.4±3.1,54.17N×87.25E,h0km,mb1 2.7/2, mb1mx2.7/41,mbtmp2.7/2,ML2.4/2,Error ellipse: s-maj=24.9km s-min=18.3km az=54.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.45**	**262**	*i*		08 25 10.0	
	baz=79,slow=308,SNR=2.3						
ZALV	**Zalesovo Beam**	**1.45**	**262**	Pg	Pn	08 16 42.9	-1.9
	2.5nm,0.3s,baz=77,slow=15,SNR=24						
ZALV				Lg	Lg	08 17 04.0	
	6.7nm,0.3s,baz=72,slow=28,SNR=8.6						
KURBB	**Kurchatov Arra**	**6.41**	**240**	Pn	Pn	08 17 54.1	+1.1
	0.1nm,0.3s,baz=54,slow=13,SNR=4.7						
KURBB				Sn	Sn	08 19 05.7	-1.0
	0.0nm,0.3s,baz=282,slow=23,SNR=1.0						
KURBB				Lg	Lg	08 19 40.0	
	0.0nm,0.3s,baz=55,slow=32,SNR=4.8						
MKAR	**Makanchi Array**	**8.03**	**205**	Pn	Pn	08 18 16.7	+1.5
	0.1nm,0.3s,baz=30,slow=14,SNR=1.3						
MKAR				Sn	Sn	08 19 45.8	-1.0
	0.1nm,0.3s,baz=27,slow=30,SNR=4.2						
MKAR				Lg	Lg	08 20 30.0	
	0.0nm,0.3s,baz=42,slow=33,SNR=3.6						

*NNC **30** 08:20:31.2±4.8,53.73N×88.43E,h0km,mb3.5,mpv3.2, Error ellipse: s-maj=40.1km s-min=19.8km az=52.0, Suspected Mining explosion.*

*IDC **30** 08:20:32.6±2.8,53.77N×88.22E,h0km,mb1 3.2/3, mb1mx3.1/39,mbtmp3.2/3,ML2.7/3,Error ellipse: s-maj=24.3km s-min=17.1km az=54.0*

*KRAR **30** 08:20:34.6±0.1,53.81N×88.12E,M2.4,Industrial explosion (after: The Earthquakes of Russia in 2012. Obninsk, GS RAS, 224p + CD-ROM, 2014)*

ISC 30 08:20:34.4±3.7,53.8N±0.1×88.0E±0.2,h0km,n9,σ0°93/13, 7C-4D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.92**	**277**	*i*		08 33 00.0	
	baz=90,slow=314,SNR=3.4						
ZAA0	**Zalesovo Array**	**1.92**	**277**	⇓Pn	**Pn**	**08 21 08.0**	**-0.3**
	1.3nm,0.5s						
ZAA0				⇑Sn	**Sg**	**08 21 36.3**	**+0.4**
	3.7nm,0.4s						
ZALV	**Zalesovo Beam**	**1.92**	**277**	Pn	**Pn**	**08 21 08.4**	**+0.1**
	4.2nm,0.3s,baz=94,slow=16,SNR=31						
ZALV				Lg	Lg	08 21 36.0	
	9.4nm,0.3s,baz=101,slow=20,SNR=28						
KURK	**Kurchatov**	**6.54**	**246**	⇓Pn	**Pn**	**08 22 11.3**	**-0.5**
	1.5nm,0.7s						
KURK				⇑Lg	Lg	08 24 06.5	
	4.1nm,0.8s						
KURBB	**Kurchatov Arra**	**6.63**	**246**	Pn	**Pn**	**08 22 13.7**	**+0.6**
	0.3nm,0.3s,baz=63,slow=14,SNR=17						
KURBB				Sn	**Sn**	**08 23 29.3**	**0.0**
	0.1nm,0.3s,baz=133,slow=8.8,SNR=1.0						
KURBB				Lg	Lg	08 24 04.5	
	0.1nm,0.3s,baz=61,slow=30,SNR=7.1						
KURBB	**Kurchatov Arra**	**6.63**	**246**	⇓Pn	**Pn**	**08 22 13.1**	**0.0**
	2.2nm,0.3s						
KURBB				⇑Lg	Lg	08 24 07.8	
	6.1nm,0.7s						
MK31	**Makanchi Array**	**7.88**	**210**	Pn	**Pn**	**08 22 31.4**	**+1.1**
	0.7nm,0.7s,baz=29,slow=13,SNR=10.0						
MK31				⇓Sn	**Sn**	**08 24 00.9**	**+0.8**
	0.6nm,0.5s,baz=30,slow=22,SNR=3.4						
MK31				⇑Lg	Lg	08 24 47.2	
	0.7nm,0.5s,baz=34,slow=34						
MKAR	**Makanchi Array**	**7.88**	**210**	Pn	**Pn**	**08 22 29.6**	**-0.7**
	0.3nm,0.3s,baz=32,slow=14,SNR=11						
MKAR				Sn	**Sn**	**08 24 00.6**	**+0.5**
	0.3nm,0.3s,baz=79,slow=19,SNR=5.8						
MKAR				Lg	Lg	08 24 42.8	
	0.1nm,0.3s,baz=38,slow=31,SNR=2.2						
MAKZ	**Makanchi**	**7.96**	**212**	⇑Pn	**Pn**	**08 22 31.6**	**+0.2**
	0.9nm,0.6s						
MAKZ				⇑Sn	**Sn**	**08 23 59.9**	**-2.2**
	1.0nm,0.7s						
MAKZ				⇑Lg	Lg	08 24 46.2	
	2.5nm,0.9s						

*NEIC **30** 08:24:17.3±0.9,51.97N±0.10×178.49E±0.04, h108km±3km, Error ellipse: s-maj=14.3km s-min=3.0km az=176.0*

AEIC 30 08:28:18.4±1.4,51.75N±0.06×178.51E±0.09,h101km±4km, ML2.8/24,mb3.4/4(NEIC),**Error ellipse: s-maj=10.1km s-min=6.7km az=215.0,Rat Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSA	**Little Sitkin**	**0.20**	**1**		Pn	08 24 32.4	-0.4
LSSA					Sn	08 24 42.8	-0.8
LSPA	**Little Sitkin**	**0.21**	**11**		Pn	08 24 32.3	-0.5
LSPA					Sn	08 24 43.3	-0.3
LSNW	**Little Sitkin**	**0.22**	**1**		Pn	08 24 32.2	-0.7
AMKA	**Amchitka**	**0.62**	**127**		Pn	08 24 35.1	-0.1
AMKA					Sn	08 24 50.0	+2.2
CETU	**Semis' Tuman**	**0.65**	**70**		Pn	08 24 35.2	-0.3
CESW	**Semis' Southwe**	**0.67**	**77**		Pn	08 24 34.9	-0.8
CESW					Sn	08 24 47.9	-0.8
CEAP	**Semis' Anvil P**	**0.71**	**69**		Pn	08 24 35.6	-0.4
CEAP					Sn	08 24 48.7	-0.5
CERAA	**Semis' Rag'd T**	**0.75**	**78**		Pn	08 24 35.8	-0.6
CERAA					Sn	08 24 49.7	-0.2
GAEA	**Gareloi East**	**1.71**	**88**		Pn	08 24 46.5	-0.8
TASE	**Tanaga Southea**	**2.15**	**86**		Pn	08 24 52.1	-0.9
TAFP	**Tanaga Falls P**	**2.18**	**85**		Pn	08 24 52.4	-1.0
TAFP					Sn	08 25 18.3	-1.9
KIMD	**Kanaga Island**	**2.65**	**88**		Pn	08 24 58.4	-1.1
KIKV	**Kanaga Island**	**2.69**	**86**		Pn	08 24 58.8	-1.2
SMY	**Shemya**	**2.88**	**292**	Pn	Pn	08 25 00.3	-2.2
ADK	**Adak**	**2.99**	**86**		Pn	08 25 02.0	-2.0
ADK					Sn	08 25 37.5	-1.5
GSMY	**Great Sitkin M**	**3.38**	**83**		Pn	08 25 08.4	-0.8
GSTR	**Great Sitkin T**	**3.38**	**82**		Pn	08 25 08.0	-1.3
ATKA	**Atka Island**	**4.53**	**81**	Pn	Pn	08 25 24.9	+0.2
NIKH	**Nikolski High**	**7.83**	**76**	Pn	Pn	08 26 09.8	+0.3
TOLK	**Toolik Lake Re**	**22.76**	**30**	P	P	08 29 10.4	-1.4
TOLK					IAmb	IAmb	08 29 12.2	
	comp=Z,1.6nm,0.7s							
DOT	**Dot Lake**	**22.89**	**44**	P	P	08 29 10.9	-2.3
SCRK	**Sand Creek**	**23.00**	**43**	P	P	08 29 11.8	-2.6
EGAK	**Eagle**	**24.38**	**42**	P	P	08 29 24.1	-2.6
EGAK					IAmb	IAmb	08 29 25.7	
	comp=Z,1.3nm,0.8s							

DJA 30 08:48:39.6±1.2,8.3S±4.1×107.9E±0.1,h21km±12km,M3.9/14, mb4.1/1,MLv3.7/14,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CISI	**Cisompet, Garu**	**1.39**	**306**	P	Pn	08 49 03.7	-0.1
CISI				S	Sn	08 49 21.6	+0.1
UGM	**Wanagama**	**1.62**	**74**	P	Pn	08 49 06.3	-0.7
UGM				S	Sn	08 49 25.2	-2.1
SMRI	**Semarang**	**1.98**	**48**	P	Pn	08 49 12.4	+0.5
SMRI				S	Sn	08 49 36.9	+0.9
LEM	**Lembang**	**2.02**	**319**	P	Pn	08 49 12.7	0.0
LEM				S	Sn	08 49 38.6	+1.2
WOJI	**Wonogiri, Jawa**	**2.02**	**75**	P	Pn	08 49 12.2	-0.3
WOJI				S	Sn	08 49 36.3	-0.9
CNJI	**Cibinong**	**2.09**	**300**	P	Pn	08 49 13.5	+0.1
CNJI				S	Sn	08 49 38.7	-0.1
NGJI	**Ngawi**	**2.68**	**68**	P	Pn	08 49 21.1	-0.4
SKJI	**Sukabumi**	**2.73**	**300**	P	Pn	08 49 22.5	+0.2
UWJI	**Ujung Watu**	**2.77**	**46**	P	Pn	08 49 22.6	-0.2
DBJI	**Dramaga**	**2.83**	**309**	P	Pn	08 49 23.6	0.0
GRJI	**Gresik**	**3.79**	**68**	P	Pn	08 49 37.1	+0.4
JAGI	**Jajag, Banyuwa**	**5.15**	**91**	P	Pn	08 49 55.4	-0.1

*IDC **30** 08:54:56.7±0.9,6.89S×121.37E,h490km±14km, mb3.1/5, mb1 3.0/8,mb1mx2.8/35,mbtmp3.8/8,Error ellipse: s-maj=88.4km s-min=14.0km az=56.0*

*DJA **30** 08:54:58.9±0.7,7.5S±4.2×121.1E±1.1,h463km±7km, M3.8/12, MLv3.8/12*

ISC 30 08:54:56.1±0.8,7.31S±0.07×120.8E±0.1,h486km±8km, n22,σ1°45/27,mb3.8/4,Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.67**	**149**	P	**P**	**08 55 57.9**	**-0.5**
EDFI				S	**S**	**08 56 47.6**	**-1.4**
MMRI	**Maumere**	**1.92**	**133**	P	**P**	**08 55 59.7**	**+0.2**
WSI	**Waingapu**	**2.40**	**192**	P	**P**	**08 56 03.2**	**+1.1**
WSI				S	**S**	**08 56 54.2**	**-1.4**
BBSI	**Bau Bau**	**2.51**	**44**	P	**P**	**08 56 03.7**	**+0.9**
KAPI	**Kappang**	**2.52**	**335**	P	**P**	**08 56 04.7**	**+1.8**
	7.3nm,0.3s,baz=141,slow=7.8,SNR=17						
KAPI				S	**S**	**08 56 54.1**	**-2.9**
	4.8nm,0.3s,baz=201,slow=17,SNR=2.0						
WBSI	**Waikabubak, Su**	**2.71**	**211**	P	**P**	**08 56 04.3**	**+0.2**
WBSI				S	**S**	**08 56 58.6**	**-0.7**
BASI	**Baing, Sumba**	**2.90**	**185**	P	**P**	**08 56 07.3**	**+2.1**
BASI				S	**S**	**08 57 00.8**	**-0.6**
BNSI	**Bone**	**2.98**	**346**	P	**P**	**08 56 08.1**	**+2.2**
BNSI				S	**S**	**08 57 03.5**	**+1.1**
PLAI	**Plampang**	**3.37**	**243**	S	**S**	**08 57 07.1**	**-0.5**
SPSI	**Sidrap Palu**	**3.49**	**342**	P	**P**	**08 56 11.0**	**+1.5**
BATI	**Baumata**	**4.02**	**136**	P	**P**	**08 56 15.1**	**+1.3**
	58nm,0.3s,baz=265,slow=2.8,SNR=37						
BATI				S	**S**	**08 57 16.3**	**-0.7**
	12nm,0.3s,baz=112,slow=19,SNR=1.9						
BATI	**Baumata**	**4.02**	**136**	P	**P**	**08 56 14.9**	**+1.1**
SOEI	**Soe**	**4.18**	**126**	P	**P**	**08 56 16.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**11.70**	**157**	P	**P**	**08 57 33.9**	**+2.4**
	0.1nm,0.3s,baz=324,slow=17,SNR=1.3						
DBJI	**Dramaga**	**13.99**	**272**	P	P	08 57 50.6	-5.4
WRA	**Warramunga Arr**	**18.15**	**135**	P	**P**	**08 58 39.6**	**+0.9**
	0.1nm,0.3s,baz=315,slow=11,SNR=7.4						
KRJI	**Kerinci**	**19.97**	**284**	P	P	08 58 46.5	-9.1
ASAR	**Alice Springs**	**20.55**	**144**	P	**P**	**08 59 01.4**	**+0.8**
	0.2nm,0.5s,baz=322,slow=9.0,SNR=5.5						
CMAR	**Chiang Mai Arr**	**33.49**	**320**	P	**P**	**09 00 55.0**	**+0.6**
	0.8nm,0.3s,baz=155,slow=8.7,SNR=1.8						
SONM	**Songino Array**	**56.37**	**348**	P	**P**	**09 03 48.7**	**-1.7**
	0.9nm,0.6s,baz=168,slow=9.1,SNR=4.0						
MKAR	**Makanchi Array**	**63.81**	**332**	P	**P**	**09 04 39.4**	**-0.5**
	2.6nm,0.6s,baz=138,slow=7.7,SNR=19						
ZALV	**Zalesovo Beam**	**68.14**	**338**	P	**P**	**09 05 05.4**	**-1.3**
	1.8nm,0.3s,baz=126,slow=4.1,SNR=5.4						

*IDC **30** 08:59:43.0±3.2,8.43S×117.02E,h152km±25km, mb3.3/6, mb1 3.4/8,mb1mx3.2/35,mbtmp3.8/8,Error ellipse: s-maj=47.6km s-min=12.4km az=53.0*

*NEIC **30** 08:59:49.7±3.0,8.25S±0.09×117.77E±0.02,h214km±11km, mb4.1/4,Error ellipse: s-maj=13.0km s-min=3.0km az=187.0*

*DJA **30** 08:59:50.5±0.3,8.3S±4.1×118E±1.1,h203km±5km, M4.3/16, mB5.0/2,mb4.3/6,MLv4.4/16,Mw(mB)4.3/2*

ISC 30 08:59:49.0±0.6,8.24S±0.06×117.80E±0.05,h200km,n41, σ1°61/49,mb3.5/5,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.59**	**182**	P	**Pn**	**09 00 19.1**	**+2.6**
PLAI				S	**Sn**	**09 00 40.4**	**+2.5**
WBSI	**Waikabubak, Su**	**2.11**	**132**	P	**Pn**	**09 00 30.4**	**+1.8**
WBSI				S	**Sn**	**09 01 01.6**	**+2.0**
DNP	**Denpasar**	**2.60**	**260**	P	**Pn**	**09 00 36.2**	**+2.3**
WSI	**Waingapu**	**2.85**	**120**	P	**Pn**	**09 00 38.1**	**+1.2**
BASI	**Baing, Sumba**	**3.38**	**126**	P	**Pn**	**09 00 44.6**	**+1.5**
BASI				S	**Sn**	**09 01 27.5**	**+1.9**
JAGI	**Jajag, Banyuwa**	**3.61**	**266**	P	**Pn**	**09 00 47.2**	**+1.2**
JAGI	**Jajag, Banyuwa**	**3.61**	**266**	Pn	**Pn**	**09 00 47.4**	**+1.4**
JAGI				S	**Sn**	**09 01 31.5**	**+0.9**
KAPI	**Kappang**	**3.74**	**31**	P	**Pn**	**09 00 49.0**	**+1.4**
	7.5nm,0.3s,baz=203,slow=7.1,SNR=18						
KAPI	**Kappang**	**3.74**	**31**	Pn	**Pn**	**09 00 50.4**	**+2.8**
EDFI	**Ende, Flores**	**3.89**	**98**	P	**Pn**	**09 00 50.1**	**+0.7**
MMRI	**Maumere**	**4.41**	**96**	P	**Pn**	**09 00 56.1**	**+0.2**
BNSI	**Bone**	**4.45**	**31**	P	**Pn**	**09 00 58.6**	**+2.2**
SPSI	**Sidrap Palu**	**4.67**	**25**	P	**Pn**	**09 01 00.1**	**+0.8**
KBKI	**Kotabaru**	**5.16**	**342**	P	**Pn**	**09 01 06.9**	**+1.4**
GRJI	**Gresik**	**5.43**	**284**	P	**Pn**	**09 01 11.3**	**+2.4**
	0.2nm62nm,0.8s						
BATI	**Baumata**	**6.11**	**109**	P	**Pn**	**09 01 19.2**	**+1.4**
	29nm,0.3s,baz=290,slow=1.7,SNR=11						
BATI				S	**Sn**	**09 02 25.3**	**-2.7**
	11nm,0.3s,baz=177,slow=21,SNR=2.7						
BATI	**Baumata**	**6.11**	**109**	P	**Pn**	**09 01 18.4**	**+0.6**
	0.3nm56nm,0.7s						
SOEI	**Soe**	**6.57**	**104**	P	**Pn**	**09 01 24.5**	**+0.7**
	0.3nm2µm37nm,0.6s						
SOEI	**Soe**	**6.57**	**104**		**Pn**	**09 01 24.5**	**+0.7**
SOEI					**Sn**	**09 02 39.1**	**+0.3**
UGM	**Wanagama**	**7.21**	**272**	Pn	**Pn**	**09 01 33.0**	**+1.0**
UGM				S	**Sn**	**09 02 52.2**	**-1.6**
LUWI	**Luwuk**	**8.70**	**35**	Pn	**Pn**	**09 01 50.6**	**-0.7**
CISI	**Cisompet, Garu**	**9.91**	**273**	Pn	**Pn**	**09 02 07.6**	**+0.4**
FITZ	**Fitzroy Crossi**	**12.42**	**143**	P	**Pn**	**09 02 40.2**	**+1.0**
	0.2nm,0.3s,baz=324,slow=14,SNR=1.5						
FITZ				S	**Sn**	**09 04 56.0**	**-1.8**
	0.4nm,0.3s,baz=0.0,slow=20,SNR=2.0						
FITZ	**Fitzroy Crossi**	**12.42**	**143**	P	**P**	**09 02 44.0**	**+0.7**
KNRA	**Kununurra**	**13.03**	**126**		**P**	**09 02 49.5**	**-0.6**
PSAA2	**Pilbara Seismi**	**13.40**	**172**	Pn	**Pn**	**09 02 49.8**	**-1.6**
PSAC2	**Pilbara Seismi**	**13.40**	**172**	Pn	**Pn**	**09 02 50.7**	**-0.8**
PSA00	**Pilbara Seismi**	**13.41**	**172**	Pn	**Pn**	**09 02 50.8**	**-0.8**
PSAA1	**Pilbara Seismi**	**13.41**	**172**	Pn	**Pn**	**09 02 48.2**	**-3.4**
MTN	**Manton Dam**	**13.89**	**110**	Pn	**Pn**	**09 02 57.3**	**-0.3**
GIRL	**Giralia**	**14.73**	**193**		**P**	**09 03 09.7**	**+0.8**
FAKI	**Fak Fak**	**15.32**	**71**	P	**Pn**	**09 03 15.5**	**+0.3**
WB0	**Warramunga Arr**	**19.74**	**127**	P	**P**	**09 04 05.4**	**+1.6**
WB0				IAmb	IAmb	09 04 18.2	
	comp=Z,6.3nm,1.1s						
WRA	**Warramunga Arr**	**19.80**	**128**	P	**P**	**09 04 05.9**	**+1.6**
	comp=Z,1.8nm,0.6s,baz=303,slow=12,SNR=8.8						
WRA				S	S	09 07 48.4	+12
	comp=Z,0.8nm,0.5s,baz=277,slow=20,SNR=1.3						
WB2	**Warramunga Arr**	**19.81**	**128**	P	**P**	**09 04 06.2**	**+1.7**
WR0	**Warramunga Arr**	**19.96**	**127**	P	**P**	**09 04 08.2**	**+2.1**
WR0				IAmb	IAmb	09 04 12.3	
	comp=Z,4.2nm,0.7s						
ASAR	**Alice Springs**	**21.76**	**137**	P	**P**	**09 04 27.2**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=311,slow=8.7,SNR=6.7						
USRK	**Ussuriysk Ar.**	**53.75**	**13**	P	**P**	**09 08 51.1**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=204,slow=3.2,SNR=1.6						
SONM	**Songino Array**	**56.73**	**351**	P	**P**	**09 09 11.6**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=165,slow=8.5,SNR=6.7						
MKAR	**Makanchi Array**	**63.24**	**333**	P	**P**	**09 09 55.0**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=141,slow=7.8,SNR=5.3						
ZALV	**Zalesovo Beam**	**67.91**	**340**	P	**P**	**09 10 24.0**	**-1.8**
	comp=Z,1.0nm,0.3s,baz=150,slow=5.6,SNR=9.6						

*IDC **30** 09:33:46.0±6.0,7.47S×155.69E,h90km±45km,mb3.4/7, mb1 3.6/8,mb1mx3.4/34,mbtmp3.8/8,MS3.2/4,Ms1 3.2/4, ms1mx2.7/22,Error ellipse: s-maj=60.4km s-min=23.6km az=102.0*

ISC 30 09:33:46.3±1.3,7.5S±0.1×155.8E±0.2,h100km,n13, σ1°53/9,mb3.7/7,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**4.95**	**310**	P	**Pn**	**09 34 56.2**	**-2.2**
	5.1nm,0.3s,baz=57,slow=4.2,SNR=4.5						
KRVT				S	**Sn**	**09 35 56.7**	**+2.3**
	2.6nm,0.3s,baz=72,slow=24,SNR=1.3						
PMG	**Port Moresby**	**8.77**	**257**	LR	LR	09 39 05.0	
	comp=Z,80nm,20.4s,baz=179,slow=37						
JAY	**Jayapura**	**15.86**	**288**	LR	LR	09 43 35.5	
	comp=Z,67nm,18.9s,baz=196,slow=38						
WRA	**Warramunga Arr**	**24.21**	**237**	P	**P**	**09 38 53.1**	**-0.8**
	2.9nm,0.9s,baz=60,slow=9.5,SNR=3.6						
ASAR	**Alice Springs**	**26.45**	**230**	P	**P**	**09 39 13.3**	**-0.9**
	0.4nm,0.9s,baz=52,slow=11,SNR=1.7						
ASAR				LR	LR	09 48 25.8	
	comp=Z,40nm,19.8s,baz=97,slow=33						
STKA	**Stephens Creek**	**27.62**	**207**	P	**P**	**09 39 26.0**	**+1.5**
	3.1nm,1.0s,baz=34,slow=15,SNR=3.6						
STKA				LR	LR	09 50 06.8	
	comp=Z,92nm,18.2s,baz=25,slow=36						
H11S3	**WAKE ISLAND Hy**	**27.99**	**22**	T	T	10 07 57.6	
	baz=203,slow=75,SNR=24						
H11S2	**WAKE ISLAND Hy**	**27.99**	**22**	T	T	10 07 55.6	
	baz=203,slow=75,SNR=19						
H11S1	**WAKE ISLAND Hy**	**28.00**	**22**	T	T	10 07 56.7	
	baz=203,slow=75,SNR=12						
CMAR	**Chiang Mai Arr**	**61.75**	**296**	P	**P**	**09 43 54.9**	**+0.1**
	0.6nm,0.4s,baz=120,slow=5.3,SNR=1.8						
SONM	**Songino Array**	**70.22**	**327**	P	**P**	**09 44 48.9**	**+0.2**
	0.9nm,0.7s,baz=127,slow=6.6,SNR=4.2						
ILAR	**Eielson Array**	**83.56**	**21**	P	**P**	**09 46 03.2**	**+0.2**
	0.3nm,0.8s,baz=252,slow=4.6,SNR=2.5						
MKAR	**Makanchi Array**	**84.34**	**319**	P	**P**	**09 46 07.7**	**+0.3**
	0.5nm,0.9s,baz=99,slow=6.6,SNR=2.2						

*ROM **30** 09:37:05.8±0.2,43.814N±0.009×13.181E±0.007, h10km,ML2.6/24,Error ellipse: s-maj=1.0km s-min=0.4km az=22.0*

ISC 30 09:37:06.5±0.9,43.79N±0.03×13.18E±0.02,h14km±6km, n51,σ0°60/66,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SENI	**Senigallia**	**0.10**	**155**	*e*P	**Pg**	**09 37 09.2**	**-0.4**
SENI				S	**Sg**	**09 37 11.9**	**+0.2**
SENI				AML	AML		
	comp=N,22200µm,0.2s						
SENI				AML	AML		
	comp=N,4385µm,0.9s						
SENI				AML	AML		
	comp=E,22000µm,0.2s						
SENI				AML	AML		
	comp=N,22200µm,0.2s						
SENI				AML	AML		
	comp=E,3190µ

FRON	**Frontone**	**0.43**	**230**	*e*P		**Pg**	**09 37 14.6**	**-0.4**
FRON				S		**Sb**	**09 37 21.6**	**-0.4**
FRON				AML		AML			
	comp=E,385μm,0.3s								
FRON				AML		AML			
	comp=N,1075μm,1.1s								
FRON				AML		AML			
	comp=N,1070μm,1.1s								
SSFR	**Montelago di S**	**0.46**	**219**	*e*P		**Pg**	**09 37 15.0**	**-0.6**	
SSFR				AML		AML			
	comp=N,1690μm,0.3s								
SSFR				AML		AML			
	comp=E,1260μm,0.3s								
SSFR				AML		AML			
	comp=N,1695μm,0.3s								
SSFR				AML		AML			
	comp=E,1350μm,0.3s								
EL6	**Elcito**	**0.47**	**187**	*e*P		**Pg**	**09 37 15.2**	**-0.5**	
EL6				S		**Sb**	**09 37 23.7**	**+0.5**	
PE3	**Peglio**	**0.50**	**259**	*e*P		**Pg**	**09 37 16.4**	**0.0**	
PE3				AML		AML			
	comp=E,1084μm,0.5s								
PE3				AML		AML			
	comp=N,1275μm,0.3s								
PE3				AML		AML			
	comp=E,1085μm,0.5s								
PE3				AML		AML			
	comp=N,1280μm,0.3s								
PIEI	**Pieia**	**0.53**	**241**	*e*P		**Pg**	**09 37 16.4**	**-0.6**	
PIEI				S		**Sb**	**09 37 24.9**	**-0.1**	
PIEI				AML		AML			
	comp=E,938μm,0.5s								
PIEI				AML		AML			
	comp=N,635μm,1.3s								
PIEI				AML		AML			
	comp=E,939μm,0.5s								
SNTG	**Esanatoglia**	**0.56**	**198**	*e*P		**Pg**	**09 37 16.9**	**-0.6**	
SNTG				S		**Sb**	**09 37 26.1**	**+0.2**	
SNTG				AML		AML			
	comp=E,976μm,0.5s								
SNTG				AML		AML			
	comp=N,1009μm,0.3s								
SNTG				AML		AML			
	comp=E,981μm,0.5s								
SNTG				AML		AML			
	comp=N,1008μm,0.3s								
FOSV	**Fossato di Vic**	**0.58**	**212**	*e*P		**Pg**	**09 37 17.1**	**-0.8**	
FOSV				S		**Sb**	**09 37 26.4**	**-0.1**	
APEC	**Apecchio**	**0.60**	**247**	*e*P		**Pg**	**09 37 18.1**	**-0.1**	
APEC				AML		AML			
	comp=N,588μm,1.2s								
APEC				AML		AML			
	comp=N,588μm,1.2s								
APEC				AML		AML			
	comp=E,600μm,0.2s								
ATFO	**Monte Foce - G**	**0.61**	**226**	*e*P		**Pg**	**09 37 18.0**	**-0.5**	
ATFO				AML		AML			
	comp=N,600μm,1.0s								
ATFO				AML		AML			
	comp=E,894μm,1.6s								
ATPI	**Pietralunga -**	**0.66**	**239**	*e*P		**Pg**	**09 37 18.8**	**-0.5**	
ATVO	**AVT- Monte Val**	**0.69**	**234**	*e*P		**Pg**	**09 37 19.5**	**-0.5**	
ATVO				AML		AML			
	comp=E,418μm,1.5s								
ATVO				AML		AML			
	comp=N,232μm,0.6s								
ATVO				AML		AML			
	comp=E,419μm,1.5s								
ATVO				AML		AML			
	comp=N,232μm,0.6s								
PARC	**Parchiule**	**0.70**	**258**	*e*P		**Pg**	**09 37 19.6**	**-0.4**	
PARC				AML		AML			
	comp=E,385μm,0.6s								
PARC				AML		AML			
	comp=E,384μm,0.6s								
PARC				AML		AML			
	comp=N,432μm,0.3s								
MURB	**Monte Urbino**	**0.71**	**222**	AML		AML			
	comp=E,1300μm,0.4s								
MURB				AML		AML			
	comp=E,1235μm,0.4s								
MURB				AML		AML			
	comp=N,1102μm,1.1s								
MURB				AML		AML			
	comp=N,1060μm,0.3s								
MURB				AML		AML			
	comp=E,1236μm,0.4s								
BADI	**Badiali**	**0.73**	**248**	*e*P		**Pg**	**09 37 20.3**	**-0.4**	
BADI				AML		AML			
	comp=N,577μm,0.4s								
BADI				AML		AML			
	comp=N,576μm,0.4s								
BADI				AML		AML			
	comp=E,482μm,0.6s								
ASSB	**Assisi San Ben**	**0.84**	**207**	AML		AML			
	comp=E,378μm,0.3s								
ASSB				AML		AML			
	comp=N,472μm,0.3s								
ASSB				AML		AML			
	comp=N,472μm,0.3s								
ASQU	**Asqua**	**1.01**	**271**	AML		AML			
	comp=E,165μm,1.2s								
ASQU				AML		AML			
	comp=N,103μm,1.0s								
ASQU				AML		AML			
	comp=N,103μm,1.0s								
SMA1	**SAN MARTINO**	**1.17**	**174**	AML		AML			
	comp=N,245μm,1.6s								
SMA1				AML		AML			
	comp=E,220μm,0.3s								
SMA1				AML		AML			
	comp=N,246μm,1.6s								
SMA1				AML		AML			
	comp=E,220μm,0.3s								
MGAB	**Montegabbione**	**1.17**	**222**	AML		AML			
	comp=N,418μm,1.0s								
MGAB				AML		AML			
	comp=E,249μm,0.5s								
MGAB				AML		AML			
	comp=N,406μm,1.1s								
MGAB				AML		AML			
	comp=E,262μm,0.5s								
MGAB				AML		AML			
	comp=N,418μm,1.0s								
MGAB				AML		AML			
	comp=E,262μm,0.5s								
BRJN	**Brijuni**	**1.19**	**20**	*e*Pg		**Pn**	**09 37 28.0**	**-0.5**	
BRJN				Sg		**Sg**	**09 37 44.9**	**+0.1**	
LNSS	**Leonessa**	**1.19**	**185**	AML		AML			
	comp=N,204μm,1.4s								
LNSS				AML		AML			
	comp=E,369μm,0.7s								
CESX	**Cesi**	**1.26**	**201**	AML		AML			
	comp=E,71μm,0.4s								
CESX				AML		AML			
	comp=N,88μm,1.3s								
DUGI	**Dugi Otok**	**1.37**	**81**	*e*Pg		**Pn**	**09 37 30.9**	**-0.2**	
DUGI				Sg		**Sn**	**09 37 48.9**	**-0.2**	
NVLJ	**Novalja**	**1.44**	**57**	*e*Pn		**Pn**	**09 37 32.1**	**+0.1**	
NVLJ				Sg		**Sb**	**09 37 51.5**	**+0.3**	
ZIRJ	**Zirje**	**1.79**	**94**	*e*Pn		**Pn**	**09 37 36.9**	**0.0**	
ZIRJ				Sn		**Sb**	**09 38 00.6**	**-0.7**	
RIY	**Rijeka**	**1.79**	**31**	*e*Pn		**Pn**	**09 37 37.5**	**+0.6**	
RIY				Sn		**Sb**	**09 38 01.0**	**-0.3**	
MORI	**Morici**	**1.83**	**87**	*e*Pn		**Pb**	**09 37 38.5**	**-1.1**	
MORI				Sn		**Sb**	**09 38 02.3**	**-0.2**	
SKDS	**Skadanscina**	**1.85**	**18**	*i* Pn		**Pn**	**09 37 37.8**	**0.0**	
SKDS				*i* Sn		**Sn**	**09 38 01.6**	**+0.7**	
	comp=Z,10.0nm,0.1s								
CEY	**Cerknica**	**2.14**	**24**	*e*Pn		**Pn**	**09 37 42.4**	**+0.7**	
CEY				*i* Sn		**Sb**	**09 38 09.9**	**-1.5**	
	comp=Z,9.0nm,0.2s								
VISS	**Visnje**	**2.33**	**30**	*i* Pn		**Pn**	**09 37 45.0**	**+0.6**	
VISS				*i* Sn		**Sn**	**09 38 13.9**	**+1.1**	
	comp=Z,39nm,0.8s								
KIJV	**Kijevo**	**2.34**	**84**	*e*Pn		**Pn**	**09 37 45.3**	**+0.9**	
KIJV				Sn		**Sn**	**09 38 14.6**	**+1.6**	
ROBS	**Robic**	**2.46**	**5**	*i* Pn		**Pn**	**09 37 46.5**	**+0.4**	
	comp=Z,13nm,0.4s								
MAKA	**Makarska**	**2.84**	**99**	Sn		**Sn**	**09 38 25.4**	**+0.2**	
MYKA	**Terra Mystica**	**2.86**	**6**	*i* Pn		**Pn**	**09 37 51.8**	**+0.2**	
	comp=Z,5.7nm,0.9s								
OBKA	**Obir**	**2.88**	**19**	*i* Pn		**Pn**	**09 37 52.4**	**+0.4**	
	comp=Z,1.9nm,0.3s								
RICI	**Ricice**	**2.89**	**95**	*e*Pn		**Pn**	**09 37 52.4**	**+0.4**	
RICI				Sn		**Sn**	**09 38 27.4**	**+1.0**	
RISI	**Rein**	**3.25**	**347**	AML		AML			
	comp=N,300μm,0.2s								
RISI				AML		AML			
	comp=E,201μm,0.3s								
KBA	**Koelnbreinsper**	**3.29**	**2**	*i* Pn		**Pn**	**09 37 57.6**	**0.0**	
	comp=E,1.2nm,0.5s								
WTTA	**Wattenberg**	**3.64**	**343**	*i* Pn		**Pn**	**09 38 02.6**	**+0.2**	
	comp=E,1.9nm,0.5s								
FETA	**Feichten**	**3.66**	**333**	*i* Pn		**Pn**	**09 38 03.1**	**+0.4**	
	comp=E,1.4nm,0.4s								
SQTA	**Sankt Quirin**	**3.70**	**339**	*i* Pn		**Pn**	**09 38 03.6**	**+0.4**	
	comp=E,2.0nm,0.4s								
WATA	**Walderalm**	**3.72**	**343**	*i* Pn		**Pn**	**09 38 03.2**	**-0.4**	
	comp=E,3.7nm,0.6s								
MOTA	**Moosalm**	**3.84**	**338**	*i* Pn		**Pn**	**09 38 04.7**	**-0.5**	
	comp=E,1.9nm,0.5s								
CONA	**Conrad Observa**	**4.54**	**23**	*i* Pn		**Pn**	**09 38 16.4**	**+1.7**	
	comp=E,4.5nm,0.7s								

*KRSC **30** 09:45:51.9±0.7,56.˚32N×161.˚69E,h90km±6km,ML4.8, FELT [II] at GMS Kronoki.*
*MOS **30** 09:45:52.5±0.7,56.˚38N×161.˚63E,h89km,mb4.0/4, Error ellipse: s-maj=9.8km s-min=3.9km az=75.7*
*NEIC **30** 09:45:54.9±1.1,56.˚28N±0.˚08×161.˚5E±0.˚1,h98km±7km, mb4.4/14, Error ellipse: s-maj=12.8km s-min=11.2km az=135.0*
*IDC **30** 09:45:54.8±0.7,56.˚32N×161.˚44E,h95km±5km,mb3.6/21, mb1 3.8/24,mb1mx3.7/56,mbtmp4.0/24,MS2.8/2, Ms1 2.8/2,ms1mx2.4/35,Error ellipse: s-maj=16.3km s-min=10.1km az=153.0*
ISC 30 09:45:54.4±0.5,56.˚34N±0.˚03×161.˚61E±0.˚03,h92km±3km, n156,σ1$30/202,mb3.9/26,1C,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMKR	**Semkarok**	**0.25**	**342**	*e*P		**Pn**	**09 46 06.7**	**-1.2**
SMKR	**Semkarok**	**0.25**	**342**	PN		**Pn**	**09 46 06.7**	**-1.2**
BDR	**Baidarnaya**	**0.32**	**315**	*e*P		**Pn**	**09 46 07.0**	**-1.2**
BDR				*e*S		**Sn**	**09 46 17.5**	**-1.1**
BDR	**Baidarnaya**	**0.32**	**315**	PN		**Pn**	**09 46 07.0**	**-1.2**
BDR				S		**Sn**	**09 46 17.5**	**-1.1**
SRKR	**Sorokina**	**0.40**	**322**	*e*P		**Pn**	**09 46 07.1**	**-1.2**
SRKR	**Sorokina**	**0.40**	**322**	PN		**Pn**	**09 46 07.5**	**-1.2**
CIRR	**Tsirk**	**0.53**	**245**	*e*P		**Pn**	**09 46 08.5**	**-1.2**
CIRR				*e*S		**Sn**	**09 46 19.8**	**-1.4**
CIRR	**Tsirk**	**0.53**	**245**	PN		**Pn**	**09 46 08.5**	**-1.2**
CIRR				S		**Sn**	**09 46 19.8**	**-1.4**
KLY	**Klyuchi**	**0.54**	**267**	*e*P		**Pn**	**09 46 07.3**	**-2.3**
KLY				*e*S		**Sn**	**09 46 18.0**	**-2.9**
KLY	**Klyuchi**	**0.54**	**267**	PN		**Pn**	**09 46 07.3**	**-2.3**
KLY				S		**Sn**	**09 46 18.0**	**-2.9**
ZLN	**Zelenaya**	**0.56**	**234**	*e*P		**Pn**	**09 46 08.9**	**-1.0**
ZLN	**Zelenaya**	**0.56**	**234**	PN		**Pn**	**09 46 08.9**	**-1.0**
LGNR	**Loginova**	**0.58**	**244**	*e*P		**Pn**	**09 46 09.1**	**-1.2**
LGNR				*e*S		**Sn**	**09 46 21.2**	**-0.9**
LGNR	**Loginova**	**0.58**	**244**	PN		**Pn**	**09 46 09.1**	**-1.2**
LGNR				S		**Sn**	**09 46 21.2**	**-0.9**
KRSR	**Krestovskiy**	**0.60**	**258**	*e*P		**Pn**	**09 46 08.8**	**-1.4**
KRSR				*e*S		**Sn**	**09 46 20.7**	**-1.4**
KRSR	**Krestovskiy**	**0.60**	**258**	PN		**Pn**	**09 46 08.8**	**-1.4**
KRSR				S		**Sn**	**09 46 20.7**	**-1.4**
KBG	**Krutoberegovo**	**0.62**	**98**	*e*P		**Pn**	**09 46 08.5**	**-1.7**
KBG				*e*S		**Sn**	**09 46 20.5**	**-1.6**
KBG	**Krutoberegovo**	**0.62**	**98**	PN		**Pn**	**09 46 08.5**	**-1.7**
KBG				S		**Sn**	**09 46 20.5**	**-1.6**
BZGR	**Bezymyannyi-Gr**	**0.65**	**232**	*e*P		**Pn**	**09 46 09.8**	**-0.9**
BZGR				*e*S		**Sn**	**09 46 22.2**	**-0.7**
BZGR	**Bezymyannyi-Gr**	**0.65**	**232**	PN		**Pn**	**09 46 09.8**	**-0.9**
BZGR				S		**Sn**	**09 46 22.2**	**-0.7**
KBTR	**Krutoberegovo**	**0.69**	**101**	*e*P		**Pn**	**09 46 09.0**	**-1.9**
KBTR	**Krutoberegovo**	**0.69**	**101**	PN		**Pn**	**09 46 09.0**	**-1.9**
BZWR	**Bezymyannyi-We**	**0.73**	**239**	*e*P		**Pn**	**09 46 10.7**	**-0.8**
BZWR				*e*S		**Sn**	**09 46 24.1**	**-0.2**
BZWR	**Bezymyannyi-We**	**0.73**	**239**	PN		**Pn**	**09 46 10.7**	**-0.8**
BZWR				S		**Sn**	**09 46 24.1**	**-0.2**
BZMR	**Bezymyannaya**	**0.75**	**237**	*e*S		**Sn**	**09 46 24.1**	**-0.5**
KIRR	**Kirishev**	**0.81**	**242**	*e*P		**Pn**	**09 46 11.0**	**-1.3**
KIRR				*e*S		**Sn**	**09 46 24.5**	**-1.2**
KIRR	**Kirishev**	**0.81**	**242**	PN		**Pn**	**09 46 11.0**	**-1.3**
KIRR				S		**Sn**	**09 46 24.5**	**-1.2**
KPT	**Kopyto**	**0.86**	**245**	*e*P		**Pn**	**09 46 11.8**	**-1.0**
KPT				*e*S		**Sn**	**09 46 26.0**	**-0.6**
KPT	**Kopyto**	**0.86**	**245**	PN		**Pn**	**09 46 11.8**	**-1.0**
KPT				S		**Sn**	**09 46 26.0**	**-0.6**
KMNR	**Kamenistaya**	**0.97**	**233**	*i* P		**Pn**	**09 46 13.0**	**-1.0**
KMNR	**Kamenistaya**	**0.97**	**233**	PN		**Pn**	**09 46 13.0**	**-1.0**
KOZ	**Kozyrevsk**	**1.01**	**254**	*e*P		**Pn**	**09 46 13.2**	**-1.1**
KOZ				*e*S		**Sn**	**09 46 28.7**	**-0.6**
KOZ	**Kozyrevsk**	**1.01**	**254**	PN		**Pn**	**09 46 13.2**	**-1.1**
KOZ				S		**Sn**	**09 46 28.7**	**-0.6**
SRDR	**Sredinnyy**	**1.05**	**269**	*e*P		**Pn**	**09 46 13.7**	**-1.2**
SRDR				*e*S		**Sn**	**09 46 29.0**	**-1.3**
SRDR	**Sredinnyy**	**1.05**	**269**	PN		**Pn**	**09 46 13.7**	**-1.2**
SRDR				S		**Sn**	**09 46 29.0**	**-1.3**
TUMD	**Tumrok D**	**1.33**	**211**	*e*P		**Pn**	**09 46 17.1**	**-1.0**
TUMD				*e*S		**Sn**	**09 46 34.6**	**-1.5**
TUMR	**Tumrok**	**1.35**	**219**	*e*P		**Pn**	**09 46 17.8**	**-0.6**
TUMR				*e*S		**Sn**	**09 46 35.9**	**-0.6**
TUMR	**Tumrok**	**1.35**	**219**	PN		**Pn**	**09 46 17.8**	**-0.6**
TUMR				S		**Sn**	**09 46 35.9**	**-0.6**
KZV	**Kizimen**	**1.44**	**212**	*e*P		**Pn**	**09 46 18.5**	**-1.1**
KZV				*e*S		**Sn**	**09 46 37.7**	**-1.0**
KZV	**Kizimen**	**1.44**	**212**	PN		**Pn**	**09 46 18.5**	**-1.1**
KZV				S		**Sn**	**09 46 37.7**	**-1.0**
ESO	**Esso**	**1.68**	**257**	*e*P		**Pn**	**09 46 21.7**	**-0.8**
ESO				*e*S		**Sn**	**09 46 44.0**	**+0.1**
ESO	**Esso**	**1.68**	**257**	PN		**Pn**	**09 46 21.7**	**-0.8**
ESO				S		**Sn**	**09 46 44.0**	**+0.1**
KII	**Karymskiy**	**2.62**	**209**	*e*P		**Pn**	**09 46 34.3**	**-0.6**
KII	**Karymskiy**	**2.62**	**209**	PN		**Pn**	**09 46 34.3**	**-0.6**
BKI	**Bering**	**2.71**	**113**	*e*P		**Pn**	**09 46 34.2**	**-1.8**
BKI				*e*S		**Sn**	**09 47 05.0**	**-3.1**
BKI	**Bering**	**2.71**	**113**	PN		**Pn**	**09 46 34.2**	**-1.8**
BKI				S		**Sn**	**09 47 05.0**	**-3.1**
PALN	**Palana**	**2.89**	**343**	*e*P		**Pn**	**09 46 38.3**	**-0.1**
PALN	**Palana**	**2.89**	**343**	PN		**Pn**	**09 46 38.3**	**-0.1**
OSSR	**Ossora**	**3.02**	**14**	*e*P		**Pn**	**09 46 39.7**	**-0.3**
OSSR				*e*S		**Sn**	**09 47 15.4**	**+0.1**
OSSR	**Ossora**	**3.02**	**14**	PN		**Pn**	**09 46 39.7**	**-0.3**
OSSR				S		**Sn**	**09 47 15.4**	**+0.1**
SPN	**Mys Shipunski**	**3.38**	**196**	*e*P		**Pn**	**09 46 43.2**	**-1.8**
SPN				*e*S		**Sn**	**09 47 19.9**	**-4.2**
SPN	**Mys Shipunski**	**3.38**	**196**	PN		**Pn**	**09 46 43.2**	**-1.8**
SPN				S		**Sn**	**09 47 19.9**	**-4.2**
NLC	**Nalytchevo**	**3.44**	**203**	*e*P		**Pn**	**09 46 45.2**	**-0.6**
NLC				*e*S		**Sn**	**09 47 24.5**	**-1.0**
NLC	**Nalytchevo**	**3.44**	**203**	PN		**Pn**	**09 46 45.2**	**-0.6**
NLC				S		**Sn**	**09 47 24.5**	**-1.0**
KRX	**Arik**	**3.45**	**211**	*e*P		**Pn**	**09 46 46.5**	**+0.5**
KRX	**Arik**	**3.45**	**211**	PN		**Pn**	**09 46 46.5**	**+0.5**
SDLR	**Sedlovina**	**3.45**	**208**	*e*P		**Pn**	**09 46 46.3**	**+0.2**
SDLR	**Sedlovina**	**3.45**	**208**	PN		**Pn**	**09 46 46.3**	**+0.2**
KRER	**Koryakskii**	**3.47**	**210**	*e*P		**Pn**	**09 46 47.7**	**+1.4**
KRER	**Koryakskii**	**3.47**	**210**	PN		**Pn**	**09 46 47.7**	**+1.4**
SMAR	**Somma**	**3.49**	**209**	*e*P		**Pn**	**09 46 47.1**	**+0.4**
SMAR	**Somma**	**3.49**	**209**	PN		**Pn**	**09 46 47.1**	**+0.4**
AVH	**Avacha**	**3.50**	**210**	*e*P		**Pn**	**09 46 47.5**	**+0.8**
AVH	**Avacha**	**3.50**	**210**	PN		**Pn**	**09 46 47.5**	**+0.8**
KOK	**Koryaka**	**3.51**	**211**	*e*P		**Pn**	**09 46 47.6**	**+0.8**
KOK	**Koryaka**	**3.51**	**211**	PN		**Pn**	**09 46 47.6**	**+0.8**
UGLR	**Uglovaya**	**3.53**	**208**	*e*P		**Pn**	**09 46 48.2**	**+1.1**
UGLR	**Uglovaya**	**3.53**	**208**	PN		**Pn**	**09 46 48.2**	**+1.1**
DALK	**Dalny**	**3.71**	**208**	*e*P		**Pn**	**09 46 49.5**	**+0.1**
DALK	**Dalny**	**3.71**	**208**	PN		**Pn**	**09 46 49.5**	**+0.1**
PET	**Petropavlovsk**	**3.74**	**209**	*e*P		**Pn**	**09 46 50.6**	**+0.7**
PET	**Petropavlovsk**	**3.74**	**209**	*e*PN		**Pn**	**09 46 50.0**	**+0.1**
PET				*e*S		**Sn**	**09 47 33.9**	**+1.1**
PET				pmax		pmax		
	comp=Z,237nm,0.6s							
PET				smax		smax		
	comp=E,290nm,0.4s							
PET				smax		smax		
	comp=N,338nm,0.7s							
PET				MLR		MLR		
	comp=Z,200nm,16.0s							
PET	**Petropavlovsk**	**3.74**	**209**			**Pn**	**09 46 49.4**	**-0.5**
PEA0B	**Petropavlovsk-**	**3.96**	**217***c*	*i* PN		**Pn**	**09 46 52.5**	**-0.3**
PEA0B	**Petropavlovsk**	**3.96**	**217**			**Pn**	**09 46 52.4**	**-0.4**
PETK	**Petropavlovsk**	**3.96**	**217**	P		**Pn**	**09 46 53.0**	**+0.2**
	comp=Z,17nm,0.3s,baz=66,slow=14,SNR=93							
PETK				S		Sn	09 47 49.9	+12
	baz=94,slow=20,SNR=1.0							
PETK	**Petropavlovsk**	**3.96**	**217**	PN		**Pn**	**09 46 53.0**	**+0.2**
KRMR	**Karymshinskiy**	**4.06**	**211**	*e*P		**Pn**	**09 46 55.4**	**+1.2**
KRMR	**Karymshinskiy**	**4.06**	**211**	PN		**Pn**	**09 46 55.4**	**+1.2**
APC	**Apacha**	**4.29**	**219**	*e*P		**Pn**	**09 46 57.8**	**+0.5**
APC	**Apacha**	**4.29**	**219**	PN		**Pn**	**09 46 57.8**	**+0.5**
RUS	**Russkaya**	**4.32**	**206**	*e*P		**Pn**	**09 46 57.1**	**-0.5**
RUS	**Russkaya**	**4.32**	**206**	PN		**Pn**	**09 46 57.1**	**-0.5**
GRL	**Gorelyy**	**4.32**	**210**	*e*P		**Pn**	**09 46 58.7**	**+0.8**
GRL	**Gorelyy**	**4.32**	**210**	PN		**Pn**	**09 46 58.7**	**+0.8**
MTVR	**Mutnovka**	**4.36**	**209**	*e*P		**Pn**	**09 46 59.2**	**+0.9**
MTVR	**Mutnovka**	**4.36**	**209**	PN		**Pn**	**09 46 59.2**	**+0.9**
ASAK	**Asacha**	**4.52**	**210**	*e*P		**Pn**	**09 47 01.2**	**+0.7**
ASAK	**Asacha**	**4.52**	**210**	PN		**Pn**	**09 47 01.2**	**+0.7**
MIPR	**Malaya Ipel'ka**	**4.97**	**217**	*e*P		**Pn**	**09 47 06.9**	**+0.4**
MIPR	**Malaya Ipel'ka**	**4.97**	**217**	PN		**Pn**	**09 47 06.9**	**+0.4**
KDTR	**Khodutka, Kamc**	**5.00**	**206**	*e*P		**Pn**	**09 47 05.6**	**-1.2**
KDTR	**Khodutka, Kamc**	**5.00**	**206**	PN		**Pn**	**09 47 05.6**	**-1.2**
PAU	**Pauzhetka**	**5.65**	**212**	*e*P		**Pn**	**09 47 16.5**	**+0.8**
PAU	**Pauzhetka**	**5.65**	**212**	PN		**Pn**	**09 47 16.5**	**+0.8**
SKR	**Severo-Kuril's**	**6.55**	**212**	*e*P		**Pn**	**09 47 27.7**	**-0.2**
SKR	**Severo-Kuril's**	**6.55**	**212**	*e*PN		**Pn**	**09 47 28.8**	**+0.9**
SKR				*e*S		**Sn**	**09 48 44.9**	**+3.9**
SKR				pmax		pmax		
	comp=Z,153nm,1.3s							
SKR				pmax		pmax		
	comp=Z,500nm,2.9s							
SKR				smax		smax		
	comp=N,87nm,1.1s							
SKR				smax		smax		
	comp=E,137nm,1.2s							
SKR				MLR		MLR		
	comp=Z,600nm,18.0s							
SKR				MLR		MLR		
	comp=Z,800nm,17.0s							
MA2	**Magadan**	**6.62**	**304**	P		**Pn**	**09 47 29.8**	**+1.0**
	comp=Z,4.4nm,0.3s,baz=154,slow=13,SNR=11							
MA2	**Magadan**	**6.62**	**304**	*i* PN		**Pn**	**09 47 29.6**	**+0.8**
MA2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
MA2	**Magadan**	**6.62**	**304**			**Pn**	**09 47 29.4**	**+0.6**
SMY	**Shemya**	**8.11**	**111**	PN		**Pn**	**09 47 48.6**	**-0.6**
SMY	**Shemya**	**8.11**	**111**	Pn		**Pn**	**09 47 48.5**	**-0.6**
BILL	**Bilibino**	**11.93**	**8**	*i* PN		**Pn**	**09 48 41.4**	**+0.4**
BILL				pmax		pmax		
	comp=Z,3.0nm,1.0s							
ADK	**Adak**	**13.47**	**100**	PN		**Pn**	**09 49 02.0**	**+0.6**
ADK	**Adak**	**13.47**	**100**	Pn		**Pn**	**09 49 02.0**	**+0.6**
GSTR	**Great Sitkin T**	**13.72**	**99**	Pn		**Pn**	**09 49 05.5**	**+0.8**
ATKA	**Atka Island**	**14.70**	**96**	Pn		**Pn**	**09 49 18.2**	**+0.9**
GRNR	**Gornyy**	**15.92**	**260**	*e*P		**Pn**	**09 49 26.7**	**-6.1**
GRNR				pmax		pmax		
	comp=Z,3.0nm,0.6s							
GRNR				MLR		MLR		
	comp=E,50nm,15.0s							
GRNR				MLR		MLR		
	comp=N,60nm,11.0s							
GRNR				MLR		MLR		
	comp=Z,40nm,17.0s							
ASAJ	**Asahikawa**	**17.18**	**233**	P		**P**	**09 49 49.3**	**+0.8**
	comp=Z,1.5nm,0.3s,baz=66,slow=9.1,SNR=41							
YAK	**Yakutsk**	**17.19**	**302**	*i* P		**Pn**	**09 49 48.1**	**-0.2**
YAK				pmax		pmax		
	comp=Z,16nm,1.1s							
ERM	**Erimo**	**18.65**	**228**	*i* P		**P**	**09 50 03.1**	**-1.5**
ERM	**Erimo**	**18.65**	**228**	P		**P**	**09 50 02.7**	**-1.9**
ERM				IAmb		IAmb	09 50 10.9	
	comp=Z,26nm,0.5s							
KLR	**Kul'dur**	**19.30**	**261**	*i* P		**P**	**09 50 11.2**	**-0.5**
KLR				pmax		pmax		
	comp=Z,3.0nm,1.5s							
TIXI	**Tiksi**	**20.57**	**331**	P		**P**	**09 50 26.1**	**+0.8**
	comp=Z,13nm,0.6s,baz=114,slow=13,SNR=16							
TIXI	**Tiksi**	**20.57**	**331**	*i* P		**P**	**09 50 26.0**	**+0.8**
TIXI				pmax		pmax		
	comp=Z,9.0nm,0.9s							
TIXI	**Tiksi**	**20.57**	**331**	P		**P**	**09 50 25.7**	**+0.4**
TIXI				IAmb		IAmb	09 50 29.6	
	comp=Z,16nm,0.5s							
USRK	**Ussuriysk Ar.**	**22.30**	**250**	P		**P**	**09 50 42.0**	**-1.9**
	comp=Z,2.1nm,0.8s,baz=39,slow=11,SNR=4.3							
TRF	**Thorofare Moun**	**24.61**	**53**	P		**P**	**09 51 06.9**	**+1.1**
TOLK	**Toolik Lake Re**	**24.88**	**41**	P		**P**	**09 51 08.8**	**+0.8**
TOLK				IAmb		IAmb	09 51 11.1	
	comp=Z,12nm,0.8s							
MJAR	**Matsushiro Arr**	**25.32**	**228**	P		**P**	**09 51 10.9**	**-1.4**
	comp=Z,2.1nm,0.6s,baz=19,slow=8.5,SNR=7.6							
MJAR				LR		LR	10 02 17.0	
	comp

comp=Z,2.4nm,0.7s,baz=323,slow=5.2,SNR=4.4
SCHQ Schefferville 62.37 29 IAmb IAmb 09 56 07.0
comp=Z,2.9nm,0.7s
AKASG Malin Array Be 66.27 329 P **P** **09 56 31.8 -0.4**
comp=Z,1.1nm,0.4s,baz=31,slow=7.4,SNR=4.2
AKASG pP **pP** **09 56 56.3 +0.7**
comp=Z,0.6nm,0.4s,baz=26,slow=6.3,SNR=2.0
AKASG Malin Array Be 66.27 329 i P **P** **09 56 32.5 +0.3**
EKA Eskdalemuir Ar 67.99 351 P **P** **09 56 42.8 -0.2**
TXAR Lajitas Array 68.60 69 P **P** **09 56 48.8 +1.5**
comp=Z,0.3nm,0.7s,baz=304,slow=5.0,SNR=4.9
TXAR pP **pP** **09 57 11.6 +0.8**
comp=Z,0.8nm,0.6s,baz=307,slow=4.7,SNR=7.6
GERES GERESS Array B 71.82 338 P **P** **09 57 07.2 +0.5**
comp=Z,0.3nm,0.3s,baz=45,slow=2.6,SNR=4.0
CTA Charters Tower 77.23 195 P **P** **09 57 37.7 -0.3**
comp=Z,3.3nm,0.6s,baz=335,slow=10,SNR=1.7

*DJA **30** 09:53:03.6±0.3,4°S±2°×14°0E±°, h10km, M4.8/13, mb4.4/13, MLv5.0/6*
*IDC **30** 09:53:05.5±2.7, 3°57S×140°08E, h26km±20km, mb3.9/5, mb1 4.2/7, mb1mx3.7/27, mbtmp4.2/7, ML3.2/2, MS3.2/14, Ms1 3.3/14, ms1mx3.1/29, Error ellipse: s-maj=32.8km s-min=15.5km az=97.0*
*NEIC **30** 09:53:06.3±2.2, 3°74S±0°06×140°10E±0°06, h33km±5km, mb4.3/14, Error ellipse: s-maj=11.0km s-min=6.9km az=136.0*
ISC 30 09:53:03.4±0.5, 3°83S±0°05×140°30E±0°06, h10km, n54, σ1°55/45, mb4.2/5, MS3.2/12, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**1.23**	**354**	P	**Pn**	**09 53 26.8**	**+0.1**
GENI				S	**Sn**	**09 53 45.4**	**+2.0**
JAY	**Jayapura**	**1.36**	**17**	Pg	**Pn**	**09 53 28.8**	**+0.2**
	71nm,0.3s,baz=196,slow=11,SNR=300						
JAY				Lg	Lg	09 53 44.2	
	166nm,0.3s,baz=4.8,slow=12,SNR=16						
JAY	**Jayapura**	**1.36**	**17**	P	**Pn**	**09 53 28.1**	**-0.5**
JAY				S	**Sn**	**09 53 48.1**	**+1.3**
SMPI	**Sarmi**	**2.41**	**319**	P	**Pn**	**09 53 44.4**	**+1.4**
SMPI				S	**Sn**	**09 54 16.1**	**+3.5**
MMPI	**Merauke**	**4.61**	**179**	P	**Pn**	**09 54 13.1**	**-0.1**
FAKI	**Fak Fak**	**8.08**	**276**	P	**Pn**	**09 55 01.9**	**+0.9**
	48nm,1.8s						
FAKI	**Fak Fak**	**8.08**	**276**	Pn	**Pn**	**09 54 58.5**	**-2.4**
PMG	**Port Moresby**	**8.79**	**129**	Pn	Pn	09 55 16.8	+6.2
	2.3nm,0.3s,baz=322,slow=5.9,SNR=7.7						
PMG	**Port Moresby**	**8.79**	**129**		**Pn**	**09 55 14.3**	**+3.7**
SIJI	**Sorong**	**9.49**	**288**	LR	LR	09 59 56.1	
	comp=Z,102nm,18.9s,baz=80,slow=45						
COEN	**Coen**	**10.46**	**164**	Pn	Pn	**09 55 35.9**	**+2.2**
KRVT	**Keravat (AS076**	**11.71**	**93**	LR	LR	10 00 10.3	
	comp=Z,89nm,20.9s,baz=301,slow=36						
MTN	**Manton Dam**	**12.74**	**225**		**Pn**	**09 56 03.4**	**-1.4**
LBMI	**Labuha**	**13.17**	**284**	P	**Pn**	**09 56 11.9**	**+1.2**
	25nm,0.8s						
KNRA	**Kununurra**	**16.35**	**223**	P	**Pn**	**09 56 52.2**	**-1.1**
WB0	**Warramunga Arr**	**16.86**	**200**	P	**Pn**	**09 56 58.9**	**-0.8**
KMSI	**Cibinong**	**16.88**	**285**	P	**P**	**09 57 02.1**	**+0.1**
	125nm,0.6s						
WR0	**Warramunga Arr**	**16.99**	**199**	Pn	**Pn**	**09 57 00.3**	**-1.1**
WR0				IAmb	IAmb	09 57 14.0	
	comp=Z,33nm,1.4s						
WRAB	**Tennant Creek**	**17.03**	**199**		**P**	**09 57 04.0**	**+0.3**
WRAB				IAmb	IAmb	09 57 14.6	
	comp=Z,20nm,0.9s						
WB2	**Warramunga Arr**	**17.04**	**199**	Pn	**Pn**	**09 57 00.9**	**-1.1**
WB2				IAmb	IAmb	09 57 14.8	
	comp=Z,23nm,0.8s						
WRA	**Warramunga Arr**	**17.04**	**199**	Pn	**Pn**	**09 57 00.1**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=21,slow=13,SNR=18						
WRA				Sn	**S**	**10 00 18.5**	**-3.1**
	comp=Z,0.5nm,0.3s,baz=16,slow=22,SNR=2.8						
WRA				Lg	Lg	10 02 03.0	
	comp=Z,0.5nm,0.3s,baz=22,slow=24,SNR=3.3						
CTA	**Charters Tower**	**17.18**	**161**	P	**P**	**09 57 07.8**	**+2.5**
	comp=Z,0.3nm,0.3s,baz=330,slow=15,SNR=3.4						
CTA				Lg	Lg	10 02 19.4	
	comp=Z,0.2nm,0.3s,baz=55,slow=18,SNR=4.5						
CTAO	**Charters Tower**	**17.18**	**161**	P	**P**	**09 57 05.9**	**+0.6**
MMRI	**Maumere**	**18.57**	**254**	P	**P**	**09 57 20.3**	**-0.5**
	comp=Z,24nm,0.8s						
MRSI	**Marisa**	**18.83**	**283**	P	**P**	**09 57 24.6**	**+1.0**
	comp=Z,22nm,1.3s						
EDFI	**Ende, Flores**	**19.12**	**254**	P	**Pn**	**09 57 27.9**	**+0.1**
	comp=Z,6.2nm,1.5s						
BNSI	**Bone**	**20.14**	**268**	P	**P**	**09 57 38.7**	**+0.7**
	comp=Z,16nm,1.0s						
FITZ	**Fitzroy Crossi**	**20.18**	**224**	P	**P**	**09 57 38.5**	**+0.2**
	comp=Z,5.7nm,0.6s,baz=51,slow=5.8,SNR=12						
FITZ				S	S	10 01 08.2	-17
	comp=Z,7.9nm,1.0s,baz=85,slow=11,SNR=2.8						
FITZ				LR	LR	10 05 57.1	
	comp=Z,99nm,18.8s,baz=30,slow=38						
FITZ	**Fitzroy Crossi**	**20.18**	**224**	P	**P**	**09 57 38.0**	**-0.3**
TTSI	**Tana Toraja**	**20.45**	**272**	P	Pn	09 57 44.7	+1.2
KAPI	**Kappang**	**20.52**	**266**	LR	LR	10 07 23.1	
	comp=Z,52nm,20.4s,baz=64,slow=42						
AS31	**Alice Springs**	**20.67**	**197**	P	**P**	**09 57 44.4**	**+0.8**
AS31				IAmb	IAmb	09 57 48.0	
	comp=Z,10nm,0.6s						
ASAR	**Alice Springs**	**20.67**	**197**	P	**P**	**09 57 44.4**	**+0.7**
	comp=Z,22nm,0.6s,baz=27,slow=8.7,SNR=155						
ASAR				S	**S**	**10 01 32.0**	**-2.7**
	comp=Z,1.6nm,0.8s,baz=15,slow=30,SNR=3.8						
ASAR				Lg	Lg	10 04 02.4	
	comp=Z,8.8nm,1.2s,baz=4.1,slow=31,SNR=2.2						
ASAR				LR	LR	10 06 15.3	
	comp=Z,148nm,20.4s,baz=14,slow=38						
PATS	**Pohnpei**	**20.87**	**60**	P	**P**	**09 57 44.8**	**-1.1**
EIDS	**Eidsvold**	**23.80**	**155**	P	**P**	**09 58 17.8**	**+1.2**
EIDS				IAmb	IAmb	09 58 28.4	
	comp=Z,12nm,0.9s						
PSA00	**Pilbara Seismi**	**26.56**	**227**	P	**P**	**09 58 41.2**	**-0.6**
STKA	**Stephens Creek**	**27.93**	**178**	P	**P**	**09 58 55.9**	**+1.9**
	comp=Z,0.9nm,0.6s,baz=318,slow=14,SNR=1.6						
STKA				LR	LR	10 11 03.1	
	comp=Z,137nm,19.0s,baz=11,slow=38						
STKA	**Stephens Creek**	**27.93**	**178**	IAmb	IAmb	09 58 56.3	
	comp=Z,0.6nm,1.1s						
MJAR	**Matsushiro Arr**	**40.20**	**357**	LR	LR	10 16 50.6	
	comp=Z,17nm,18.1s,baz=255,slow=36						
KSRS	**Korea Array**	**42.65**	**345**	LR	LR	10 15 32.3	
	comp=Z,31nm,19.8s,baz=200,slow=32						
CMAR	**Chiang Mai Arr**	**46.36**	**300**	LR	LR	10 19 43.3	
	comp=Z,30nm,21.6s,baz=188,slow=35						
KHZ	**Kahutara**	**48.51**	**147**	P	**P**	**10 01 46.3**	**-0.3**
PETK	**Petropavlovsk-**	**58.59**	**12**	LR	LR	10 24 42.7	
	comp=Z,13nm,21.1s,baz=247,slow=32						
SONM	**Songino Array**	**59.40**	**334**	LR	LR	10 26 57.6	
	comp=Z,23nm,21.4s,baz=128,slow=34						
ADK	**Adak**	**66.41**	**27**	P	**P**	**10 03 52.2**	**-0.5**
MKAR	**Makanchi Array**	**71.63**	**322**	P	**P**	**10 04 23.8**	**-1.6**
	comp=Z,1.0nm,0.8s,baz=108,slow=7.4,SNR=5.6						
ZALV	**Zalesovo Beam**	**73.69**	**330**	LR	LR	10 40 12.2	
	comp=Z,12nm,18.1s,baz=71,slow=38						
VNDA	**Vanda**	**74.54**	**175**	LR	LR	10 36 47.4	
	comp=Z,44nm,18.1s,baz=331,slow=35						
ILAR	**Eielson Array**	**86.19**	**24**	P	**P**	**10 05 42.2**	**-2.6**
	comp=Z,1.1nm,0.6s,baz=265,slow=4.6,SNR=13						
TOLK	**Toolik Lake Re**	**86.41**	**20**	P	**P**	**10 05 45.7**	**-0.2**
TOLK				IAmb	IAmb	10 05 46.1	
	comp=Z,1.7nm,0.7s						
AKTO	**Aktyubinsk**	**88.01**	**321**	LR	LR	10 47 08.0	
	comp=Z,8.1nm,19.7s,baz=217,slow=37						
DBIC	**Dimbokro**	**145.19**	**276**	PKP	**PKPbc**	**10 12 41.0**	**-1.1**
	comp=Z,5.4nm,0.7s,baz=107,slow=7.3,SNR=6.1						
LPAZ	**La Paz**	**145.51**	**126**	PKPbc	**PKPab**	**10 12 44.4**	**+0.4**
	comp=Z,3.5nm,0.6s,baz=244,slow=3.1,SNR=28						
LPAZ	**La Paz**	**145.51**	**126**		**PKPab**	**10 12 44.2**	**+0.2**

WEL 30 10:07:44.3,38°S±15°×18°0W±1°0, h33km, M3.5/26, ML3.7/12, MLv3.5/26, Error ellipse: s-maj=0.0km s-min=0.0km az=163.6,

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMGZ	**Waiomatatini S**	**1.62**	**266**	P	Pn	10 08 11.3	+0.9
WMGZ				S	Sn	10 08 31.3	+1.2
PUZ	**Puketiti**	**1.77**	**258**	P	Pn	10 08 13.2	+0.7
PUZ				S	Sn	10 08 35.1	+1.1
PKGZ	**Pakihiroa**	**1.89**	**265**	P	Pn	10 08 14.4	+0.2
PKGZ				S	Sn	10 08 35.3	-1.6
CNGZ	**Carnagh Statio**	**1.92**	**247**	P	Pb	10 08 16.7	-2.0
TWGZ	**Tauwhareparae**	**2.00**	**257**	P	Pn	10 08 17.8	+2.0
TWGZ				S	Sn	10 08 40.1	+0.4
HAZ	**Te Kaha**	**2.12**	**269**	P	Pn	10 08 18.3	+1.1
HAZ				S	Sn	10 08 42.0	-0.5
TKGZ	**Te Karaka**	**2.17**	**250**	P	Pn	10 08 19.3	+1.3
RUGZ	**Raukumara Rang**	**2.21**	**263**	P	Pn	10 08 20.8	+2.1
RIGZ	**Rimuhau**	**2.33**	**245**	P	Pn	10 08 20.8	+0.6
PRGZ	**Paritu Road**	**2.34**	**239**	P	Pn	10 08 22.6	+2.2
MWZ	**Matawai**	**2.39**	**255**	P	Pn	10 08 22.2	+1.1
MHGZ	**Mahia Peninsul**	**2.45**	**234**	P	Pn	10 08 23.2	+1.3
KNZ	**Kokohu**	**2.53**	**239**	P	Pn	10 08 24.1	+1.1
SNGZ	**Shannon Statio**	**2.66**	**246**	P	Pn	10 08 26.6	+1.7
URZ	**Urewera**	**2.69**	**258**	P	Pn	10 08 26.6	+1.4
RTZ	**Ruatahuna**	**2.87**	**251**	P	Pn	10 08 29.5	+1.7
RAHZ	**Arahi**	**2.90**	**245**	P	Pn	10 08 30.1	+2.0
MUGZ	**Murupara**	**3.00**	**255**	P	Pn	10 08 31.6	+2.1
MTHZ	**Maungataniwha**	**3.05**	**248**	P	Pn	10 08 31.7	+1.4
OPRZ	**Ohinepanea**	**3.09**	**267**	P	Pn	10 08 32.4	+1.7
ARHZ	**Aropaoanui**	**3.11**	**240**	P	Pn	10 08 33.7	+2.7
NMHZ	**Naumai**	**3.17**	**244**	P	Pn	10 08 34.2	+2.3
MCHZ	**McNeill Hill**	**3.40**	**239**	P	Pn	10 08 36.6	+1.6
BKZ	**Black Stump Fm**	**3.42**	**244**	P	Pn	10 08 36.8	+1.5
KRHZ	**Kereru**	**3.72**	**238**	P	Pn	10 08 41.1	+1.7
BHHZ	**Black Hill Sta**	**3.86**	**242**	P	Pn	10 08 42.6	+1.3
KUZ	**Kuaotunu**	**3.90**	**283**	P	Pn	10 08 41.0	-0.9
TSZ	**Takapari Road**	**4.20**	**235**	P	Pn	10 08 46.5	+0.5
DVHZ	**Dannevirke**	**4.21**	**231**	P	Pn	10 08 46.6	+0.6
MKAZ	**Moumakai**	**4.26**	**277**	P	Pn	10 08 46.4	-0.4
ETAZ	**East Tamaki Re**	**4.47**	**278**	P	Pn	10 08 50.9	+1.2
MRZ	**Mangatainoka R**	**4.78**	**231**	P	Pn	10 08 53.9	-0.1
RVAZ	**Riverhead Bore**	**4.79**	**280**	P	Pn	10 08 55.1	+1.1
HOWZ	**Holdsworth Sta**	**4.96**	**229**	P	Pn	10 08 55.9	-0.6
WCZ	**Waipu Caves**	**5.22**	**288**	P	Pn	10 09 00.1	+0.1
CTZ	**Chatham Island**	**6.39**	**161**	P	Pn	10 09 21.4	+5.4
GVZ	**Greta Valley S**	**7.70**	**225**	P	Pn	10 09 35.4	+1.4

*IDC **30** 10:35:27.7±3.3, 30°10S×177°42W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/33, mbtmp3.9/3, Error ellipse: s-maj=63.2km s-min=32.5km az=101.0*
*NEIC **30** 10:35:32.1±0.7, 30°01S±0°07×177°5W±0°3, h29km±16km, mb4.4/4, Error ellipse: s-maj=36.1km s-min=9.5km az=86.0*
ISC 30 10:35:31.9±2.6, 30°0S±0°1×177°3W±0°3, h35km, n11, σ0°33/12, mb4.3/6, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.93**	**326**	Pn	**Pn**	**10 35 48.2**	**-0.2**
	236nm,0.3s,baz=104,slow=9.0,SNR=19						
RAO				Sn	**Sn**	**10 36 00.5**	**0.0**
	643nm,0.3s,baz=33,slow=23,SNR=11						
RAO	**Raoul Island**	**0.93**	**326**		**Pn**	**10 35 48.4**	**0.0**
THZ	**Tophouse**	**14.13**	**211**	Pn	**Pn**	**10 38 49.3**	**-0.3**
CTA	**Charters Tower**	**34.32**	**278**	P	**P**	**10 42 15.4**	**+0.1**
	3.2nm,0.9s,baz=117,slow=16,SNR=1.8						
BBOO	**Buckleboo**	**39.64**	**254**	P	**P**	**10 43 00.8**	**+0.4**
ASAR	**Alice Springs**	**43.72**	**266**	P	**P**	**10 43 33.9**	**-0.1**
	0.2nm,0.3s,baz=105,slow=7.3,SNR=14						
WR0	**Warramunga Arr**	**44.49**	**271**	P	**P**	**10 43 40.1**	**0.0**
WR0				IAmb	IAmb	10 43 59.4	
	comp=Z,12nm,1.5s						
WB2	**Warramunga Arr**	**44.66**	**271**	P	**P**	**10 43 41.7**	**+0.2**
WB2				IAmb	IAmb	10 43 57.3	
	comp=Z,7.2nm,1.1s						
WRA	**Warramunga Arr**	**44.67**	**271**	P	**P**	**10 43 41.9**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=110,slow=8.1,SNR=7.7						
WB0	**Warramunga Arr**	**44.70**	**272**	P	**P**	**10 43 41.1**	**-0.7**
WB0				IAmb	IAmb	10 43 47.1	
	comp=Z,5.3nm,1.0s						
FINES	**FINESS Array B**	**144.99**	**341**	PKPbc	**PKPdf**	**10 55 04.7**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=46,slow=4.0,SNR=5.3						

*IDC **30** 11:01:04.3±1.1, 55°19S×27°92W, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.8/22, mbtmp3.9/4, ML4.3/1, Error ellipse: s-maj=70.4km s-min=25.9km az=90.0*
ISC 30 11:01:05.8±1.2, 55°2S±0°2×28°0W±0°5, h10km, n6, σ0°48/6, mb4.0/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.71**	**157**	P	**P**	**11 05 34.6**	**-0.4**
	0.8nm,0.3s,baz=284,slow=12,SNR=9.3						
QSPA	**South Pole Qui**	**35.06**	**180**	P	**P**	**11 07 58.7**	**+0.1**
	1.0nm,0.5s,baz=202,slow=0.3,SNR=3.8						
VNDA	**Vanda**	**47.41**	**183**	P	**P**	**11 09 39.9**	**+0.3**
	0.7nm,0.7s,baz=182,slow=7.5,SNR=5.4						
TORD	**Torodi Ar. Bea**	**72.53**	**30**	P	**P**	**11 12 33.0**	**+0.2**
	1.5nm,0.8s,baz=205,slow=6.9,SNR=5.4						
YKA	**Yellowknife Ar**	**135.24**	**319**	PKP	**PKPdf**	**11 20 24.0**	**-0.1**
	0.3nm,0.6s,baz=139,slow=2.1,SNR=2.4						
ILAR	**Eielson Array**	**149.21**	**313**	PKPbc	**PKPbc**	**11 20 52.5**	**-0.6**
	1.1nm,0.6s,baz=128,slow=2.1,SNR=14						

IDC 30 11:03:47.9±8.3, 2°52N×126°88E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/42, mbtmp3.7/3, Error ellipse: s-maj=175.0km s-min=128.8km az=74.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.50**	**162**	P	P	11 08 59.1	-0.5
	0.9nm,0.3s,baz=342,slow=10,SNR=15						
ASAR	**Alice Springs**	**26.91**	**166**	P	P	11 09 30.9	-0.1
	0.3nm,0.6s,baz=343,slow=7.9,SNR=8.7						
STKA	**Stephens Creek**	**36.95**	**159**	P	P	11 10 59.5	+0.6
	1.6nm,0.9s,baz=330,slow=14,SNR=1.8						

*IDC **30** 11:05:56.9±0.8, 55°26S×28°11W, h0km, mb4.2/4, mb1 4.3/5, mb1mx4.0/26, mbtmp4.2/5, ML4.3/1, MS5.0/1, Ms1 5.0/1, ms1mx3.1/18, Error ellipse: s-maj=40.4km s-min=20.9km az=81.0*
*NEIC **30** 11:05:58.4±1.1, 55°3S±0°2×28°2W±0°2, h10km±1km, mb4.4/8, Error ellipse: s-maj=28.3km s-min=20.7km az=35.0*
ISC 30 11:06:00.8±0.7, 55°3S±0°1×28°3W±0°1, h26km, n27, σ0°66/22, mb4.3/6, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.88**	**279**	Pn	**Pn**	**11 07 11.5**	**-0.8**
SNAA	**Sanae**	**19.67**	**156**	P	**P**	**11 10 26.8**	**-0.7**
	1.0nm,0.3s,baz=296,slow=10,SNR=33						
SNAA	**Sanae**	**19.67**	**156**	P	**P**	**11 10 27.1**	**-0.3**
QSPA	**South Pole Qui**	**34.95**	**180**	P	**P**	**11 12 50.5**	**+0.3**
	2.7nm,0.7s,baz=204,slow=6.6,SNR=26						
QSPA	**South Pole Qui**	**34.95**	**180**	P	**P**	**11 12 50.6**	**+0.3**
CPUP	**Villa Florida**	**35.86**	**312**	LR	LR	11 29 49.8	
	comp=Z,27nm,18.3s,baz=194,slow=40						
PB01	**IPOC Station P**	**46.01**	**301**	P	**P**	**11 14 22.2**	**+0.3**
PB01				IAmb	IAmb	11 14 24.9	
	comp=Z,4.5nm,1.0s						
GO01	**Chusmiza**	**47.04**	**302**	P	**P**	**11 14 31.5**	**+1.1**
VNDA	**Vanda**	**47.30**	**183**	P	**P**	**11 14 31.7**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=189,slow=5.8,SNR=21						
VNDA	**Vanda**	**47.30**	**183**	P	**P**	**11 14 31.4**	**+0.2**
VNDA				IAmb	IAmb	11 14 32.4	
	comp=Z,2.3nm,0.7s						
MNMC	**Minye Minye**	**47.69**	**302**	P	**P**	**11 14 36.2**	**+0.9**
H10N1	**ASCENSION HYDR**	**48.58**	**18**	T	T	12 07 57.5	
	baz=194						
H10N3	**ASCENSION HYDR**	**48.58**	**18**	T	T	12 07 57.7	
H10N2	**ASCENSION HYDR**	**48.60**	**18**	T	T	12 08 02.8	
	baz=194						
LPAZ	**La Paz**	**49.45**	**306**	P	**P**	**11 14 49.5**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=147,slow=6.6,SNR=6.9						
LPAZ	**La Paz**	**49.45**	**306**	P	**P**	**11 14 49.9**	**+0.6**
LPAZ				IAmb	IAmb	11 14 50.1	
	comp=Z,2.8nm,0.9s						
TOA0	**Torodi Ar. Sit**	**72.70**	**31**	P	**P**	**11 17 26.1**	**-0.1**
TOA0				IAmb	IAmb	11 17 30.1	
	comp=Z,3.0nm,0.8s						
TORD	**Torodi Ar. Bea**	**72.70**	**31**	P	**P**	**11 17 26.2**	**0.0**
	comp=Z,2.4nm,0.8s,baz=201,slow=7.2,SNR=9.5						
RAO	**Raoul Island**	**91.86**	**206**	LR	LR	11 55 03.2	
	comp=Z,630nm,18.2s,baz=166,slow=32						
NVAR	**Mina Array Bea**	**120.55**	**294**	PKP	**PKiKP**	**11 24 51.1**	**+1.5**
	comp=Z,0.4nm,0.9s,baz=160,slow=2.9,SNR=3.3						
YKA	**Yellowknife Ar**	**135.21**	**319**	PKP	**PKPdf**	**11 25 15.2**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=113,slow=1.4,SNR=4.1						
MKAR	**Makanchi Array**	**137.22**	**71**	PKP	**PKiKP**	**11 25 21.8**	**-0.7**
	comp=Z,0.1nm,0.4s,baz=357,slow=4.1,SNR=1.9						
INK	**Inuvik**	**144.84**	**321**	PKP	**PKPab**	**11 25 32.5**	**-0.2**
	comp=Z,3.6nm,1.0s,baz=135,slow=1.5,SNR=4.4						
DOT	**Dot Lake**	**147.70**	**311**		**PKPbc**	**11 25 41.6**	**+0.1**
RIDG	**Independent Ri**	**148.06**	**311**		**PKPbc**	**11 25 43.0**	**+0.5**
ILAR	**Eielson Array**	**149.16**	**313**	PKPbc	**PKPbc**	**11 25 45.1**	**-0.1**
	comp=Z,3.9nm,0.8s,baz=116,slow=1.4,SNR=27						
SONM	**Songino Array**	**151.28**	**86**	PKPbc	**PKPbc**	**11 25 50.7**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=246,slow=1.5,SNR=6.4						

*IDC **30** 11:08:40.1±0.9, 55°29S×27°96W, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/31, mbtmp4.0/6, ML4.2/1, Error ellipse: s-maj=42.5km s-min=21.1km az=79.0*
ISC 30 11:08:43.9±0.9, 55°3S±0°2×28°0W±0°3, h26km, n8, σ0°40/8, mb4.0/5, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNAA	**Sanae**	**19.62**	**156**	P	**P**	**11 13 09.7**	**-0.3**
	0.8nm,0.3s,baz=302,slow=11,SNR=12						
QSPA	**South Pole Qui**	**34.96**	**180**	P	**P**	**11 15 33.7**	**+0.3**
	1.7nm,0.8s,baz=176,slow=1.8,SNR=11						
MAW	**Mawson**	**41.03**	**144**	P	**P**	**11 16 24.0**	**-0.3**
	1.7nm,1.0s,baz=275,slow=11,SNR=2.9						
VNDA	**Vanda**	**47.31**	**183**	P	**P**	**11 17 14.8**	**+0.3**
	1.2nm,0.7s,baz=180,slow=11,SNR=7.2						
LPAZ	**La Paz**	**49.57**	**306**	P	**P**	**11 17 33.1**	**-0.1**
	0.8nm,0.6s,baz=159,slow=4.4,SNR=2.7						
TORD	**Torodi Ar. Bea**	**72.63**	**30**	P	**P**	**11 20 09.3**	**+0.4**
	2.2nm,0.6s,baz=203,slow=6.8,SNR=11						
YKA	**Yellowknife Ar**	**135.30**	**319**	PKP	**PKiKP**	**11 28 00.6**	**-0.5**
	0.5nm,0.8s,baz=77,slow=1.4,SNR=2.7						
ILAR	**Eielson Array**	**149.27**	**313**	PKPbc	**PKPbc**	**11 28 28.6**	**0.0**
	2.6nm,0.8s,baz=127,slow=2.0,SNR=13						

*PGC **30** 11:09:04.9±0.5, 49°42N×130°38W, h10km, MLSn3.1/30, Mw3.7/30, 254km Wsw of Pt. Hardy, Bc Vancouver Island, Canada Region*
*IDC **30** 11:09:07.4±1.6, 49°48N×130°15W, h0km, mb3.9/2, mb1 3.9/13, mb1mx3.7/54, mbtmp3.7/13, ML3.5/10, MS3.2/14, Ms1 3.2/14, ms1mx3.0/69, Error ellipse: s-maj=27.3km s-min=13.3km az=60.0*
ISC 30 11:09:07.3±0.8, 49°52N±0°05×130°25W±0°06, h10km, n77, σ2°49/74, mb3.6/3, MS3.1/5, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEMF	**NEPTUNE Canada**	**1.75**	**154**	Sn	**Sn**	**11 09 51.7**	**-7.7**
HOLB	**Holberg**	**1.77**	**50**	Pn	**Pn**	**11 09 35.7**	**-2.2**
HOLB				Sn	**Sn**	**11 09 56.7**	**-3.8**
PACB	**Port Alice, BC**	**2.00**	**62**	Pn	**Pn**	**11 09 38.5**	**-2.6**
PACB				Sn	**Sn**	**11 10 01.9**	**-4.2**
EDB	**Eliza Dome**	**2.06**	**79**	Sn	**Sn**	**11 09 39.0**	**-2.9**
EDB				Sn	**Sn**	**11 10 03.8**	**-3.8**
PHC	**Port Hardy**	**2.17**	**56**	Pn	**Pn**	**11 09 41.3**	**-2.0**
PHC				Sn	**Sn**	**11 10 06.3**	**-4.0**
MAYB	**Maynard**	**2.17**	**65**	Pn	**Pn**	**11 09 40.9**	**-2.7**
NTKA	**Nootka**	**2.36**	**87**	Pn	**Pn**	**11 09 43.8**	**-2.3**
TLCB	**Telegraph Cove**	**2.43**	**64**	Pn	**Pn**	**11 09 45.0**	**-1.9**
TLCB				Sn	**Sn**	**11 10 13.9**	**-2.8**
TOFB	**Tofino**	**2.86**	**96**	Pn	**Pn**	**11 09 50.4**	**-2.5**
BBB	**Bella Bella**	**2.99**	**26**	Pn	**Pn**	**11 09 53.6**	**-1.1**
	38nm,0.3s,baz=220,slow=7.5,SNR=439						
BBB				Sn	**Sn**	**11 10 27.0**	**-3.6**
	12nm,0.3s,baz=90,slow=20,SNR=1.8						
BBB	**Bella Bella**	**2.99**	**26**	Pn	**Pn**	**11 09 53.0**	**-1.6**
BBB				Sn	**Sn**	**11 10 26.6**	**-4.0**
SPLB	**Strathcona Par**	**3.00**	**81**	Pn	**Pn**	**11 09 53.7**	**-1.2**
BTB	**Buttle Lake**	**3.08**	**89**	Pn	**Pn**	**11 09 53.6**	**-2.5**
HG3B	**Hotspring**	**3.15**	**347**	Pn	**Pn**	**11 09 54.2**	**-2.7**
OZB	**Mount Ozzard**	**3.16**	**98**	Pn	**Pn**	**11 09 54.6**	**

TXAR	**Lajitas Array**	**28.52**	**125**	LR	LR	11 27 05.9	
	comp=Z,71nm,20.7s,baz=0.0,slow=38						
RES	**Resolute Bay**	**29.25**	**18**	LR	LR	11 27 22.8	
	comp=Z,39nm,20.0s,baz=277,slow=37						
LPIG	**La Paz**	**29.79**	**141**	LR	LR	11 25 37.8	
	comp=Z,41nm,18.1s,baz=5.0,slow=33						
H11N2	**WAKE ISLAND Hy**	**57.68**	**263**	T	T	12 21 23.5	
	baz=43,slow=75,SNR=685						
H11N3	**WAKE ISLAND Hy**	**57.68**	**263**	T	T	12 21 20.6	
	baz=43,slow=75,SNR=522						
H11N1	**WAKE ISLAND Hy**	**57.70**	**263**	T	T	12 21 21.8	
	baz=43,slow=75,SNR=431						
H11S1	**WAKE ISLAND Hy**	**58.70**	**262**	T	T	12 22 41.7	
	baz=38						
H11S2	**WAKE ISLAND Hy**	**58.71**	**262**	T	T	12 22 38.0	
	baz=38						
H11S3	**WAKE ISLAND Hy**	**58.72**	**262**	T	T	12 22 39.9	
	baz=38						
JCJ	**Chichijima**	**68.39**	**287**	LR	LR	11 42 35.0	
	comp=Z,74nm,21.7s,baz=242,slow=29						
MKAR	**Makanchi Array**	**80.00**	**338**	P	**P**	**11 21 17.0**	**+0.4**
	0.6nm,0.9s,baz=45,slow=6.5,SNR=2.7						

*IDC **30** 11:11:27.5±7.3, 7.°93S×129.°37E, h121km±81km, mb3.2/2, mb1 3.3/6, mb1mx3.1/35, mbtmp3.7/6, ML3.5/4, Error ellipse: s-maj=75.1km s-min=23.0km az=38.0*

ISC 30 11:11:24.9±1.4, 7.7°S±0.°1×129.°61E±0.°10, h100km, n6, σ1§53/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**6.38**	**246**	P	**Pn**	**11 12 54.6**	**-1.9**
	3.1nm,0.3s,baz=90,slow=5.1,SNR=1.9						
BATI				S	**Sn**	**11 14 09.7**	**+1.6**
	9.4nm,0.3s,baz=58,slow=20,SNR=7.8						
FITZ	**Fitzroy Crossi**	**11.05**	**200**	P	**Pn**	**11 13 58.8**	**-1.2**
	0.3nm,0.3s,baz=20,slow=12,SNR=17						
FITZ				S	**Sn**	**11 16 03.7**	**+2.0**
	0.8nm,0.3s,baz=63,slow=21,SNR=6.9						
WRA	**Warramunga Arr**	**13.03**	**160**	P	**Pn**	**11 14 25.6**	**-0.7**
	0.3nm,0.3s,baz=337,slow=11,SNR=17						
WRA				S	**Sn**	**11 16 50.1**	**+0.5**
	1.0nm,0.3s,baz=332,slow=20,SNR=11						
ASAR	**Alice Springs**	**16.42**	**166**	P	**Pn**	**11 15 08.1**	**-1.5**
	0.1nm,0.3s,baz=346,slow=10.0,SNR=8.6						
ASAR				S	**Sn**	**11 18 11.9**	**+0.2**
	0.1nm,0.3s,baz=353,slow=27,SNR=4.4						
CTA	**Charters Tower**	**20.30**	**129**	P	**P**	**11 15 53.8**	**+0.7**
	3.0nm,0.8s,baz=315,slow=11,SNR=2.6						
MKAR	**Makanchi Array**	**68.58**	**327**	P	**P**	**11 22 18.1**	**+1.1**
	0.1nm,0.4s,baz=122,slow=7.2,SNR=1.3						

*IDC **30** 11:18:46.2±0.8, 55.°34S×27.°96W, h0km, mb4.2/5, mb1 4.3/5, mb1mx4.0/26, mbtmp4.2/5, MS3.6/1, Ms1 3.6/1, ms1mx2.9/23, Error ellipse: s-maj=30.7km s-min=27.6km az=61.0*

*NEIC **30** 11:18:50.5±1.2, 55.°3S±0.°1×28.°1W±0.°1, h28km±6km, mb4.4/7, Error ellipse: s-maj=19.4km s-min=9.3km az=167.0*

ISC 30 11:18:50.0±0.6, 55.°3S±0.°1×28.°1W±0.°1, h26km, n31, σ0§77/26, mb4.4/8, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.94**	**278**	Pn	**Pn**	**11 20 01.2**	**-1.1**
VNA3	**Neumayer Olymp**	**17.89**	**161**	P	**P**	**11 22 57.3**	**+0.2**
SNAA	**Sanae**	**19.66**	**156**	P	**P**	**11 23 15.9**	**-0.6**
SNAA	**Sanae**	**19.66**	**156**	P	**P**	**11 23 15.8**	**-0.6**
SNAA				IAmb	IAmb	11 23 20.8	
	comp=Z,14nm,0.6s						
PMSA	**Palmer Station**	**20.01**	**227**	LR	LR	11 29 49.5	
	comp=Z,167nm,18.5s,baz=60,slow=33						
QSPA	**South Pole Qui**	**34.97**	**180**	P	**P**	**11 25 40.3**	**+0.7**
QSPA				IAmb	IAmb	11 25 40.6	
	comp=Z,5.3nm,1.1s						
PB01	**IPOC Station P**	**46.05**	**301**	P	**P**	**11 27 12.6**	**+1.1**
PB01				IAmb	IAmb	11 27 16.5	
	comp=Z,4.1nm,0.8s						
BOSA	**Boshof**	**46.32**	**77**	P	**P**	**11 27 12.7**	**-0.9**
	comp=Z,2.3nm,0.9s,baz=215,slow=9.0,SNR=3.5						
BOSA	**Boshof**	**46.32**	**77**	IAmb	IAmb	11 27 17.8	
	comp=Z,17nm,1.4s						
SIV	**San Ignacio**	**46.66**	**314**	P	**P**	**11 27 16.1**	**0.0**
	comp=Z,0.8nm,0.5s,baz=242,slow=18,SNR=2.8						
VNDA	**Vanda**	**47.31**	**183**	P	**P**	**11 27 19.9**	**-0.6**
	comp=Z,2.7nm,0.7s,baz=192,slow=5.9,SNR=16						
VNDA	**Vanda**	**47.31**	**183**	P	**P**	**11 27 21.1**	**+0.5**
VNDA				IAmb	IAmb	11 27 24.5	
	comp=Z,3.3nm,0.9s						
H10N1	**ASCENSION HYDR**	**48.55**	**18**	T	T	12 20 52.9	
	baz=200						
H10N3	**ASCENSION HYDR**	**48.55**	**18**	T	T	12 20 47.8	
	baz=200						
H10N2	**ASCENSION HYDR**	**48.57**	**18**	T	T	12 20 52.6	
	baz=200						
LPAZ	**La Paz**	**49.49**	**306**	P	**P**	**11 27 39.7**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=169,slow=6.4,SNR=5.3						
LPAZ	**La Paz**	**49.49**	**306**	P	**P**	**11 27 39.2**	**+0.4**
TOA0	**Torodi Ar. Sit**	**72.66**	**31**	P	**P**	**11 30 15.1**	**0.0**
TOA0				IAmb	IAmb	11 30 15.6	
	comp=Z,4.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**72.66**	**31**	P	**P**	**11 30 15.2**	**0.0**
	comp=Z,4.5nm,0.6s,baz=202,slow=6.7,SNR=27						
FINES	**FINESS Array B**	**123.96**	**28**	PKP	**PKiKP**	**11 37 46.6**	**+2.2**
	comp=Z,0.9nm,0.6s,baz=247,slow=2.9,SNR=1.7						
YKA	**Yellowknife Ar**	**135.24**	**319**	PKP	**PKiKP**	**11 38 07.8**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=126,slow=1.5,SNR=5.1						
INK	**Inuvik**	**144.87**	**321**		**PKPdf**	**11 38 22.4**	**-0.4**
EGAK	**Eagle**	**146.82**	**314**		**PKPbc**	**11 38 27.9**	**-0.2**
DOT	**Dot Lake**	**147.74**	**311**		**PKiKP**	**11 38 32.1**	**-0.7**
IL31		**149.20**	**313**		**PKiKP**	**11 38 35.0**	**-0.6**
ILAR	**Eielson Array**	**149.20**	**313**	PKPbc	**PKiKP**	**11 38 35.0**	**-0.7**
	comp=Z,5.2nm,0.7s,baz=125,slow=1.8,SNR=33						
CCB	**Clear Creek Bu**	**149.56**	**312**		**PKiKP**	**11 38 35.9**	**-0.5**
RND	**Reindeer**	**149.76**	**310**		**PKiKP**	**11 38 36.5**	**-0.5**
TOLK	**Toolik Lake Re**	**150.75**	**320**		**PKPbc**	**11 38 38.1**	**-0.1**
BPAW	**Bear Paw Mtn.**	**150.83**	**311**		**PKiKP**	**11 38 39.2**	**+0.1**
SONM	**Songina Array**	**151.21**	**86**	PKPbc	**PKPbc**	**11 38 39.7**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=228,slow=2.9,SNR=6.0						

*NEIC **30** 11:20:36.8±1.6, 19.°8S±0.°1×175.°79W±0.°10, h242km±6km, mb4.6/18, Error ellipse: s-maj=18.4km s-min=13.1km az=179.0*

*IDC **30** 11:20:36.4±4.8, 19.°71S×175.°99W, h230km, 45km, mb3.6/15, mb1 3.8/16, mb1mx3.8/31, mbtmp4.2/16, Error ellipse: s-maj=18.1km s-min=14.5km az=158.0*

ISC 30 11:20:37.5±0.5, 19.°8S±0.°1×175.°77W±0.°07, h250km, n47, σ1§61/42, mb4.3/25, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.22**	**289**		**Pn**	**11 22 07.4**	**-1.0**
RAR	**Rarotonga**	**15.05**	**98**	P	**Pn**	**11 24 00.1**	**+1.8**
	0.5nm,0.3s,baz=210,slow=14,SNR=2.4						
RAR				S	**S**	**11 26 36.5**	**-7.8**
	0.6nm,0.3s,baz=15,slow=18,SNR=1.4						
RAR	**Rarotonga**	**15.05**	**98**	IAmb	IAmb	11 24 03.4	
	comp=Z,39nm,1.2s						
DZM	**Mont Dzumac**	**16.77**	**259**	P	**Pn**	**11 24 18.4**	**-0.4**
	comp=Z,5.1nm,0.3s,baz=79,slow=18,SNR=79						
SANVU	**Saraoutou**	**16.80**	**282**		**Pn**	**11 24 18.8**	**-0.3**
RPZ	**Rata Peaks**	**26.25**	**202**	P	**P**	**11 25 51.8**	**+1.9**
	comp=Z,10nm,0.6s,baz=101,slow=4.1,SNR=5.2						
RPZ	**Rata Peaks**	**26.25**	**202**	IAmb	IAmb	11 25 57.7	
	comp=Z,31nm,1.1s						
EIDS	**Eidsvold**	**31.05**	**254**	P	**P**	**11 26 32.0**	**-0.4**
EIDS				IAmb	IAmb	11 26 32.8	
	comp=Z,12nm,0.6s						
CTAO	**Charters Tower**	**35.65**	**263**	P	**P**	**11 27 11.5**	**-0.7**
CTAO				IAmb	IAmb	11 27 13.2	
	comp=Z,31nm,1.0s						
COEN	**Coen**	**39.65**	**272**	P	**P**	**11 27 45.4**	**-0.2**
COEN				IAmb	IAmb	11 27 46.0	
	comp=Z,20nm,0.7s						
STKA	**Stephens Creek**	**39.97**	**244**	P	**P**	**11 27 47.4**	**-0.7**
	comp=Z,1.0nm,0.4s,baz=85,slow=9.8,SNR=8.9						
AS31	**Alice Springs**	**46.72**	**256**	P	**P**	**11 28 41.5**	**-0.5**
ASAR	**Alice Springs**	**46.72**	**256**	P	**P**	**11 28 40.9**	**-1.1**
	comp=Z,15nm,0.6s,baz=98,slow=8.2,SNR=255						
ASAR				PcP	**PcP**	**11 30 11.5**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=104,slow=3.9,SNR=4.3						
WB0	**Warramunga Arr**	**46.75**	**261**	P	**P**	**11 28 40.7**	**-1.6**
WB0				IAmb	IAmb	11 28 41.9	
	comp=Z,13nm,0.6s						
WB2	**Warramunga Arr**	**46.76**	**261**	P	**P**	**11 28 40.6**	**-1.7**
WRA	**Warramunga Arr**	**46.78**	**261**	P	**P**	**11 28 40.9**	**-1.5**
	comp=Z,5.2nm,0.5s,baz=98,slow=5.3,SNR=90						
MTN	**Manton Dam**	**51.26**	**269**	P	**P**	**11 29 15.3**	**-1.1**
MTN				IAmb	IAmb	11 29 29.0	
	comp=Z,25nm,1.3s						
FORT	**Forrest**	**51.49**	**246**	P	**P**	**11 29 15.8**	**-2.0**
FORT				IAmb	IAmb	11 29 33.5	
	comp=Z,15nm,1.1s						
KNRA	**Kununurra**	**52.80**	**265**	P	**P**	**11 29 27.2**	**-0.5**
KNRA				IAmb	IAmb	11 29 28.6	
	comp=Z,18nm,0.8s						
FAKI	**Fak Fak**	**53.41**	**281**	P	**P**	**11 29 31.8**	**-0.4**
SIJI	**Sorong**	**55.11**	**283**	P	**P**	**11 29 44.6**	**+0.2**
	comp=Z,24nm,0.5s,baz=106,slow=6.4,SNR=7.8						
FITZ	**Fitzroy Crossi**	**55.20**	**261**	P	**P**	**11 29 44.4**	**-0.6**
	comp=Z,5.2nm,0.7s,baz=65,slow=4.8						
FITZ	**Fitzroy Crossi**	**55.20**	**261**	IAmb	IAmb	11 29 45.7	
	comp=Z,15nm,1.3s						
SOEI	**Soe**	**58.59**	**271**	P	**P**	**11 30 08.8**	**-0.1**
VNDA	**Vanda**	**58.77**	**186**	P	**P**	**11 30 10.8**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=28,slow=3.7,SNR=6.6						
BATI	**Baumata**	**59.02**	**270**	P	**P**	**11 30 10.9**	**-0.9**
	comp=Z,23nm,0.6s,baz=149,slow=5.2,SNR=4.2						
QSPA	**South Pole Qui**	**70.24**	**180**	P	**P**	**11 31 23.1**	**-0.3**
QSPA				IAmb	IAmb	11 31 27.1	
	comp=Z,7.6nm,1.3s						
MJAR	**Matsushiro Arr**	**70.94**	**322**	P	**P**	**11 31 27.4**	**-0.5**
	comp=Z,2.2nm,0.7s,baz=164,slow=6.9,SNR=10						
PETK	**Petropavlovsk-**	**76.19**	**344**	P	**P**	**11 31 58.3**	**+0.4**
	comp=Z,1.3nm,0.6s,baz=125,slow=9.1,SNR=6.3						
KSRS	**Korea Array**	**77.80**	**317**	P	**P**	**11 32 07.8**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=131,slow=5.7,SNR=4.6						
NVAR	**Mina Array Bea**	**79.11**	**42**	P	**P**	**11 32 16.2**	**+1.6**
	comp=Z,1.2nm,0.8s,baz=222,slow=8.6,SNR=12						
USRK	**Ussuriysk Ar.**	**79.61**	**325**	P	**P**	**11 32 17.5**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=86,slow=8.8,SNR=4.5						
MAW	**Mawson**	**82.90**	**199**	P	**P**	**11 32 35.1**	**+1.3**
	comp=Z,1.0nm,0.8s,baz=135,slow=11,SNR=2.0						
H03S2	**Juan Fernandez**	**84.63**	**124**	T	T	13 05 33.1	
	baz=248,slow=75,SNR=6.8						
H03S1	**Juan Fernandez**	**84.64**	**124**	T	T	13 05 36.5	
	baz=248,slow=75,SNR=6.9						
H03S3	**Juan Fernandez**	**84.65**	**124**	T	T	13 05 42.6	
	baz=248,slow=75,SNR=6.5						
TXAR	**Lajitas Array**	**84.93**	**57**	P	**P**	**11 32 46.6**	**+1.7**
	comp=Z,0.8nm,0.9s,baz=213,slow=9.1,SNR=8.1						
ILAR	**Eielson Array**	**87.21**	**12**	P	**P**	**11 32 55.5**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=228,slow=6.1,SNR=7.1						
CMAR	**Chiang Mai Arr**	**91.88**	**289**	P	**P**	**11 33 18.2**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=121,slow=5.3,SNR=5.2						
ARCES	**ARCESS Array B**	**128.62**	**351**	PKP	**PKiKP**	**11 39 14.5**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=28,slow=4.1,SNR=3.6						
AKASG	**Malin Array Be**	**143.40**	**333**	PKP	**PKPdf**	**11 39 42.1**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=44,slow=4.2,SNR=4.6						
EKA	**Eskdalemuir Ar**	**144.11**	**7**	PKP	PKPbc	11 39 41.5	-0.2
	comp=Z,0.6nm,0.5s,baz=337,slow=2.3,SNR=4.5						
CLL	**Collm**	**147.83**	**350**	*i* PKPbc	**PKiKP**	**11 39 53.7**	**-0.8**
	comp=Z,6.0nm,1.0s						
BRTR	**Keskin Array B**	**147.90**	**315**	PKPbc	**PKiKP**	**11 39 54.0**	**-1.2**
	comp=Z,1.2nm,0.7s,baz=45,slow=12,SNR=3.8						
MMAI	**Mount Meron Ar**	**149.28**	**302**	PKPbc	**PKiKP**	**11 39 58.9**	**+0.7**
	comp=Z,2.2nm,0.4s,baz=72,slow=6.4,SNR=6.0						
GERES	**GERESS Array B**	**150.06**	**347**	PKPbc	**PKPbc**	**11 39 58.0**	**-0.5**
	comp=Z,1.4nm,0.8s,baz=11,slow=2.7,SNR=6.8						
DAVOX	**Davos/Dischmat**	**152.72**	**352**	PKPbc	**PKiKP**	**11 40 05.8**	**+0.8**
	comp=Z,2.4nm,0.5s,baz=18,slow=13,SNR=2.5						

IDC 30 11:24:31.0±1.2, 55.°42S×26.°32W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.9/24, mbtmp4.1/3, Error ellipse: s-maj=51.6km s-min=31.0km az=82.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**47.22**	**182**	P	P	11 33 04.7	-0.2
	1.7nm,0.8s,baz=180,slow=4.8,SNR=13						
LPAZ	**La Paz**	**50.43**	**304**	P	P	11 33 30.6	-0.3
	1.9nm,0.6s,baz=166,slow=5.2,SNR=8.4						
TORD	**Torodi Ar. Bea**	**72.27**	**29**	P	P	11 35 57.9	-0.1
	1.4nm,1.0s,baz=195,slow=5.7,SNR=3.9						
INK	**Inuvik**	**145.63**	**321**	PKPbc	PKPdf	11 44 09.4	0.0
	1.6nm,0.7s,baz=138,slow=4.1,SNR=2.6						
ILAR	**Eielson Array**	**150.06**	**312**	PKPbc	PKPbc	11 44 21.4	-0.5
	1.5nm,0.8s,baz=114,slow=1.2,SNR=10						

*IDC **30** 11:36:01.7±0.4, 30.°05S×177.°75W, h0km, mb4.9/30, mb1 4.9/31, mb1mx4.8/43, mbtmp4.8/31, ML4.7/1, MS4.1/18, Ms1 4.1/18, ms1mx4.0/42, Error ellipse: s-maj=15.0km s-min=12.2km az=84.0*

*NEIC **30** 11:36:04.0±2.1, 30.°12S±0.°04×177.°7W±0.°1, h13km±4km, mb5.3/116, Error ellipse: s-maj=13.7km s-min=5.9km az=78.0*

*MOS **30** 11:36:04.0±0.8, 30.°04S×177.°76W, h21km, mb5.5/30, Error ellipse: s-maj=11.2km s-min=8.5km az=112.2*

*BJI **30** 11:36:04.1±0.0, 29.°73S×177.°34W, h22km, mB5.6/17, mb5.2/20, Ms4.9/7, Ms7 4.6/8*

*UNK **30** 11:36:05.8, 30.°05S×177.°78W, h23km*

*GCMT **30** 11:36:09.0±0.2, 29.°90S±0.°02×177.°37W±0.°02, h42km, MW5.1/95, Moment Tensor Solution. s77,c108; s95,c141; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}5.28±.20; $M_{\theta\theta}$-0.27±.14; $M_{\phi\phi}$-5.00±.13; $M_{r\theta}$1.04±.13; $M_{\theta\phi}$-1.61±.12; $M_{\phi r}$2.50±.13; Best double couple: M_o6.03000×10¹⁶ NP1:ϕ_s194.00000°, δ32.00000°, λ86.00000°. NP2:ϕ_s20.00000°, δ58.00000°, λ93.00000°. Principal axes: T 5.9280, Plg76.0000°, Azm298.0000°; N 0.2150, Plg2.0000°, Azm198.0000°; P -6.1330, Plg13.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 11:36:06.8±0.3, 30.°09S±0.°04×177.°68W±0.°06, h35km, n530, σ1§67/487, mb5.2/105, MS4.3/25, 7C-6D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**0.85**	**346**	P	**Pn**	**11 36 21.9**	**-0.4**
GLKZ				S	**Sn**	**11 36 31.5**	**-2.0**
RAO	**Raoul Island**	**0.86**	**346**	Pn	**Pn**	**11 36 21.9**	**-0.5**
	7μm,0.3s,baz=124,slow=4.8,SNR=384						
RAO				Sn	**Sn**	**11 36 32.9**	**-0.8**
	16μm,0.3s,baz=107,slow=19,SNR=21						
RAO	**Raoul Island**	**0.86**	**346**	P	**Pn**	**11 36 21.0**	**-1.4**
RAO				SN	**Sn**	**11 36 33.1**	**-0.6**
RIZ	**Raoul Island**	**0.87**	**345**	P	**Pn**	**11 36 21.9**	**-0.7**
RIZ				S	**Sn**	**11 36 32.9**	**-1.0**
MXZ	**Matakaoa Point**	**8.17**	**203**	S	**Sn**	**11 39 31.2**	**-2.7**
WMGZ	**Waiomatatini S**	**8.37**	**202**	P	**Pn**	**11 38 05.7**	**+0.2**
WMGZ				S	**Sn**	**11 39 36.9**	**-1.9**
HAZ	**Te Kaha**	**8.53**	**205**	P	**Pn**	**11 38 06.1**	**-1.6**
HAZ				S	**Sn**	**11 39 44.5**	**+1.8**
PKGZ	**Pakihiroa**	**8.54**	**203**	P	**Pn**	**11 38 05.8**	**-2.2**
PKGZ				S	**Sn**	**11 39 40.3**	**-2.9**
KUZ	**Kuaotunu**	**8.63**	**218**	P	**Pn**	**11 38 07.3**	**-1.9**
PUZ	**Puketiti**	**8.65**	**202**	P	**Pn**	**11 38 06.4**	**-3.1**
PUZ				S	**Sn**	**11 39 41.4**	**-4.3**
RUGZ	**Raukumara Rang**	**8.75**	**205**	P	**Pn**	**11 38 10.5**	**-0.5**
RUGZ				S	**Sn**	**11 39 45.5**	**-3.0**
TWGZ	**Tauwhareparae**	**8.83**	**203**	P	**Pn**	**11 38 09.4**	**-2.7**
TWGZ				S	**Sn**	**11 39 47.3**	**-3.1**
WCZ	**Waipu Caves**	**8.88**	**227**	P	Pn	11 38 22.0	+9.4
OUZ	**Omahuta**	**8.96**	**233**	P	Pn	11 38 22.0	+8.3
CNGZ	**Carnagh Statio**	**9.04**	**201**	P	**Pn**	**11 38 12.5**	**-2.3**
CNGZ				S	**Sn**	**11 39 50.4**	**-4.9**
OPRZ	**Ohinepanea**	**9.10**	**210**	P	**Pn**	**11 38 17.5**	**+1.9**
TKGZ	**Te Karaka**	**9.12**	**203**	P	**Pn**	**11 38 14.1**	**-1.7**
TKGZ				S	**Sn**	**11 39 53.4**	**-3.7**
MWZ	**Matawai**	**9.13**	**204**	P	**Pn**	**11 38 12.7**	**-3.5**
MWZ				S	**Sn**	**11 39 54.4**	**-3.3**
URZ	**Urewera**	**9.22**	**206**	P	**Pn**	**11 38 14.7**	**-2.6**
URZ				S	**Sn**	**11 39 56.5**	**-3.3**
RIGZ	**Rimuhau**	**9.38**	**202**	P	**Pn**	**11 38 16.2**	**-3.4**
PRGZ	**Paritu Road**	**9.54**	**201**	P	**Pn**	**11 38 18.8**	**-3.0**
MUGZ	**Murupara**	**9.54**	**207**	P	**Pn**	**11 38 19.6**	**-2.1**
SNGZ	**Shannon Statio**	**9.60**	**204**	P	**Pn**	**11 38 19.6**	**-2.9**
KNZ	**Kokohu**	**9.70**	**202**	P	**Pn**	**11 38 19.5**	**-4.4**
MHGZ	**Mahia Peninsul**	**9.75**	**201**	P	**Pn**	**11 38 20.0**	**-4.5**
BKZ	**Black Stump Fm**	**10.25**	**206**	P	**Pn**	**11 38 27.8**	**-3.6**
BKZ	**Black Stump Fm**	**10.25**	**206**	Pn	**Pn**	**11 38 28.7**	**-2.7**
MCHZ	**McNeill Hill**	**10.41**	**205**	P	**Pn**	**11 38 31.5**	**-2.2**
HIZ	**Hauiti**	**10.42**	**214**	P	Pn	11 38 38.7	+4.9
KAHZ	**Kahuranaki**	**10.66**	**203**	P	**Pn**	**11 38 33.4**	**-3.7**
KRHZ	**Kereru**	**10.71**	**206**	P	**Pn**	**11 38 33.9**	**-3.9**
PRHZ	**Porangahau**	**11.17**	**203**	P	**Pn**	**11 38 40.7**	**-3.3**
BFZ	**Birch Farm**	**11.67**	**203**	P	**Pn**	**11 38 46.2**	**-4.6**
BFZ	**Birch Farm**	**11.67**	**203**	Pn	**Pn**	**11 38 49.9**	**-1.0**
MRZ	**Mangatainoka R**	**11.89**	**206**	P	**Pn**	**11 38 49.7**	**-4.1**
HOWZ	**Holdsworth Sta**	**12.12**	**205**	P	Pn	11 38 51.8	-5.3
TMWZ	**Te Maipa**	**12.17**	**204**	P	Pn	11 38 51.7	-6.0
OGWZ	**Otaki Gorge**	**12.18**	**207**	P	**Pn**	**11 38 53.3**	**-4.6**
MSWZ	**Moikau Station**	**12.67**	**205**	P	**Pn**	**11 39 04.6**	**0.0**
MSWZ	**Moikau Station**	**12.67**	**205**	Pn	**Pn**	**11 39 03.4**	**-1.2**
MSVF	**Nonsavu**	**12.90**	**341**	P	**Pn**	**11 39 09.4**	**+1.6**
MSVF	**Nonsavu**	**12.90**	**341**	Pn	**Pn**	**11 39 09.4**	**+1.6**
NIUE	**Niue**	**13.03**	**34**	Pn	Pn	11 39 04.0	-5.5
TUWZ	**Tuamarina**	**13.20**	**209**	P	**Pn**	**11 39 10.8**	**-0.8**
TUWZ	**Tuamarina**	**13.20**	**209**		**Pn**	**11 39 08.8**	**-2.8**
NNZ	**Nelson**	**13.26**	**211**	P	**Pn**	**11 39 15.7**	**+3.1**
NNZ	**Nelson**	**13.26**	**211**	Pn	**Pn**	**11 39 14.4**	**+1.9**
QRZ	**Quartz Range**	**13.35**	**214**	P	**Pn**	**11 39 18.2**	**+4.4**
BSWZ	**Blackbirch Sta**	**13.46**	**208**	Pn	**Pn**	**11 39 17.9**	**+2.6**
THZ	**Tophouse**	**13.91**	**211**	P	**Pn**	**11 39 20.6**	**-0.9**
THZ	**Tophouse**	**13.91**	**211**		**Pn**	**11 39 22.5**	**+1.0**
KHZ	**Kahutara**	**14.19**	**207**	P	Pn	11 39 19.5	-5.6
GVZ	**Greta Valley S**	**14.85**	**208**	P	Pn	11 39 28.7	-5.5
LTZ	**Lake Taylor**	**15.02**	**210**	P	**Pn**	**11 39 33.4**	**-3.0**
AMCZ	**Amberley**	**15.18**	**208**	P	**Pn**	**11 39 37.8**	**-0.7**
OXZ	**Oxford**	**15.56**	**209**	P	**Pn**	**11 39 39.7**	**-3.8**
RPZ	**Rata Peaks**	**16.29**	**210**	Pn	**Pn**	**11 39 52.1**	**-0.8**
	2.9nm,0.3s,baz=1.5,slow=0.5,SNR=16						
RPZ				Sn	Sn	11 42 33.9	-19
	2.3nm,0.3s,baz=8.0,slow=19,SNR=2.5						
RPZ	**Rata Peaks**	**16.29**	**210**	P	**Pn**	**11 39 50.9**	**-2.0**
RPZ	**Rata Peaks**	**16.29**	**210**	IAmb	IAmb	11 39 56.0	
	comp=Z,102nm,1.6s						
DZM	**Mont Dzumac**	**16.33**	**296**	Pn	**P**	**11 39 59.4**	**+3.2**
	comp=Z,1.2nm,0.3s,baz=84,slow=14,SNR=15						
DZM				LR	LR	11 45 01.7	
	comp=Z,2μm,18.6s,baz=136,slow=33						
FOZ	**Fox Glacier**	**16.72**	**213**	P	**Pn**	**11 39 58.0**	**-0.2**
AFI	**Afiamalu**	**17.00**	**20**	P	**Pn**	**11 39 56.2**	**-5.8**
AFI				pmax	pmax		
	comp=Z,45nm,0.9s						
AFI	**Afiamalu**	**17.00**	**20**	Pn	**Pn**	**11 39 56.2**	**-5.8**
LBZ	**Lake Benmore**	**17.21**	**211**	P	**Pn**	**11 40 04.1**	**-0.3**
ODZ	**Otahua Downs**	**17.54**	**208**	P	**Pn**	**11 40 05.3**	**-3.1**
ODZ	**Otahua Downs**	**17.54**	**208**	P	**P**	**11 40 09.4**	**+0.1**
JCZ	**Jackson Bay**	**17.61**	**214**	P	**Pn**	**11 40 09.1**	**-0.5**
WKZ	**Wanaka**	**18.07**	**212**	P	**P**	**11 40 16.6**	**+1.4**
RAR	**Rarotonga**	**18.39**	**65**	P	**P**	**11 40 15.9**	**-2.9**
	comp=Z,2.5nm,0.3s,baz=230,slow=12,SNR=3.1						
RAR				S	Sn	11 43 21.9	-22
	comp=Z,1.5nm,0.3s,baz=43,slow=19,SNR=3.1						
RAR				LR	LR	11 45 36.9	
	comp=Z,668nm,19.6s,baz=265,slow=31						
RAR	**Rarotonga**	**18.39**	**65**	P	**P**	**11 40 15.9

ASAR Alice Springs 43.40 266 P **P** **11 44 06.2 -0.2**
comp=Z,19nm,0.7s,baz=102,slow=7.4,SNR=178
WR0 Warramunga Arr 44.18 272 P **P** **11 44 12.1 -0.5**
WB2 Warramunga Arr 44.35 272 P **P** **11 44 13.7 -0.3**
WRAB Tennant Creek 44.36 272 *i* P **P** **11 44 13.8 -0.2**
WRAB pmax pmax
comp=Z,53nm,0.7s
WRAB Tennant Creek 44.36 272 P **P** **11 44 13.6 -0.4**
WRA Warramunga Arr 44.37 272 P **P** **11 44 13.9 -0.2**
comp=Z,48nm,0.6s,baz=110,slow=8.2,SNR=380
WRA LR LR 12 02 31.9
comp=Z,534nm,18.1s,baz=125,slow=36
WRA Warramunga Arr 44.37 272 *eP* **P** **11 44 13.5 -0.6**
WRA pmax pmax
comp=Z,48nm,0.6s
WB0 Warramunga Arr 44.39 272 P **P** **11 44 13.7 -0.5**
FORT Forrest 46.40 255 P **P** **11 44 29.4 -0.6**
baz=47,SNR=34
WRKA Warakurna 47.80 262 P **P** **11 44 40.2 -0.8**
baz=48,SNR=72
JAY Jayapura 48.00 297 LR LR 12 02 24.6
comp=Z,240nm,21.7s,baz=90,slow=33
JAY Jayapura 48.00 297 P **P** **11 44 41.9 -0.8**
comp=Z,11nm,1.2s
VNDA Vanda 48.43 186 P **P** **11 44 48.6 +3.4**
comp=Z,3.2nm,0.6s,baz=18,slow=5.9,SNR=10
VNDA LR LR 12 02 11.2
comp=Z,85nm,21.0s,baz=14,slow=32
VNDA Vanda 48.43 186 P **P** **11 44 47.0 +1.8**
VNDA pmax pmax
comp=Z,31nm,1.8s
VNDA Vanda 48.43 186 P **P** **11 44 47.0 +1.8**
KMBL Kambalda 51.38 252 P **P** **11 45 07.8 -0.5**
baz=52,SNR=6.7
FITZ Fitzroy Crossi 52.64 269 P **P** **11 45 17.4 -0.3**
comp=Z,22nm,0.7s,baz=133,slow=5.2,SNR=7.0
FAKI Fak Fak 54.49 290 P **P** **11 45 30.9 -0.4**
FAKI IAmb IAmb 11 45 31.6
comp=Z,56nm,1.3s
KLBR Kellerberrin 54.71 251 P **P** **11 45 31.8 -1.0**
baz=55,SNR=5.2
MEEK Meekatharra 55.52 257 P **P** **11 45 37.8 -1.0**
baz=56,SNR=6.3
GUMO Guam 56.46 315 P **P** **11 45 46.5 +1.2**
comp=Z,31nm,0.7s,baz=173,slow=17,SNR=2.0
GUMO Guam 56.46 315 P **P** **11 45 45.2 -0.2**
GUMO pmax pmax
comp=Z,81nm,1.2s
GUMO Guam 56.46 315 P **P** **11 45 45.2 -0.2**
SlJl Sorong 56.49 291 P **P** **11 45 45.6 0.0**
comp=Z,18nm,0.6s,baz=118,slow=7.7,SNR=4.8
MORW Morawa 56.89 253 P **P** **11 45 47.6 -0.8**
baz=57,SNR=6.3
MORW Morawa 56.89 253 P **P** **11 45 47.9 -0.5**
MORW IAmb IAmb 11 46 06.0
comp=Z,40nm,1.8s
SOEI Soe 57.59 278 P **P** **11 45 53.0 -0.7**
MMRI Maumere 59.88 278 P **P** **11 46 09.1 -0.4**
QSPA South Pole Qui 60.02 180 P **P** **11 46 12.1 +2.3**
comp=Z,9.3nm,0.7s,baz=21,slow=1.0,SNR=120
KAPI Kappang 63.83 280 P **P** **11 46 36.0 -0.1**
comp=Z,7.3nm,0.5s,baz=46,slow=18,SNR=3.5
KAPI Kappang 63.83 280 P **P** **11 46 36.0 -0.1**
KAPI Kappang 63.83 280 IAmb IAmb 11 46 37.8
comp=Z,45nm,1.6s
MPSI Mapaga 66.53 285 P **P** **11 46 53.3 -0.2**
JCJ Chichijima 68.61 322 P **P** **11 47 04.5 -1.8**
comp=Z,18nm,0.6s,baz=162,slow=9.6,SNR=2.7
JCJ Chichijima 68.61 322 IAmb IAmb 11 47 09.0
comp=Z,213nm,1.8s
PBKI Pangkalan Bun 71.93 278 P **P** **11 47 27.5 +0.5**
comp=Z,92nm,0.5s
MAW Mawson 72.70 200 P **P** **11 47 31.8 +1.1**
baz=73,SNR=22
MAW Mawson 72.70 200 P **P** **11 47 31.4 +0.7**
comp=Z,9.6nm,0.8s,baz=139,slow=8.6,SNR=26
MAW LR LR 12 18 00.6
comp=Z,178nm,21.4s,baz=70,slow=35
KKM Kota Kinabalu 72.72 288 P **P** **11 47 31.7 -0.1**
KKM IAmb IAmb 11 47 32.2
comp=Z,25nm,0.7s
STKI Sintang 73.51 280 P P 11 47 51.5 +15
SBUM Sibu 74.12 282 P **P** **11 47 40.0 0.0**
SBUM IAmb IAmb 11 47 40.4
comp=Z,12nm,0.6s
JHJ Hachijo jima 2 74.65 324 P **P** **11 47 42.0 -0.6**
comp=Z,43nm,0.6s,baz=240,slow=20,SNR=1.7
KSM Kuching 75.24 280 P **P** **11 47 45.9 -0.6**
KSM IAmb IAmb 11 47 46.8
comp=Z,16nm,0.7s
PPBI Pangkal Pinang 76.97 275 P **P** **11 47 55.9 -0.4**
LWLI Liwa 77.35 272 P **P** **11 47 59.0 +0.4**
comp=Z,34nm,0.6s
SYO Syowa Base 77.48 193 ‖ *iP* **P** **11 47 57.4 -0.9**
SYO Syowa Base 77.48 193 ‖ *i* pP **P** **11 48 01.4 +3.1**
SYO Syowa Base 77.48 193 ‖ *i* sP P 11 48 04.4 +6.1
SYO Syowa Base 77.48 193 ‖ *e*PcP **PcP** **11 48 09.4 +0.9**
MDSI Maura Dua 77.51 272 P **P** **11 47 58.1 -1.3**
comp=Z,37nm,1.1s
MJA0 Matsu Arr-Jizo 78.13 325 *eP* **P** **11 48 02.3 0.0**
MJA0 pmax pmax
comp=Z,5.0nm,0.7s
MJAR Matsushiro Arr 78.14 325 P **P** **11 48 01.6 -0.8**
comp=Z,4.5nm,0.7s,baz=164,slow=6.3,SNR=10
MJAR LR LR 12 19 23.6
comp=Z,42nm,19.8s,baz=145,slow=33
MAJO Matsushiro 78.15 325 *i* P **P** **11 48 02.4 0.0**
MAJO pmax pmax
comp=Z,7.0nm,0.8s
MAJO Matsushiro 78.15 325 P **P** **11 48 02.1 -0.3**
MAT Matsushiro 78.15 325 P **P** **11 48 00.7 -1.7**
SNAA Sanae 78.46 178 P **P** **11 48 04.3 +0.6**
SNAA Sanae 78.46 178 *i* P **P** **11 48 04.8 +1.0**
SNAA pmax pmax
comp=Z,7.0nm,1.5s
SNAA Sanae 78.46 178 P **P** **11 48 04.5 +0.7**
VNA3 Neumayer Olymp 78.60 176 P **P** **11 48 04.9 +0.4**
TWG Pinlang 78.91 304 P **P** **11 48 04.9 -2.0**
VNA2 Neumayer--Watz 79.03 177 P **P** **11 48 07.8 +0.9**
baz=201,slow=4.8
NVL N'lazarevskaya 79.20 183 *eP* P 11 48 14.4 +6.6
NVL pmax pmax
comp=Z,19nm,0.7s
VNA1 Neumayer--Stat 79.26 176 P **P** **11 48 08.8 +0.7**
JNU Nakatsue 79.51 318 P **P** **11 48 10.2 +0.2**
comp=Z,4.3nm,0.7s,baz=230,slow=1.3,SNR=5.5
JNU Nakatsue 79.51 318 P **P** **11 48 09.4 -0.6**
TPUB Ta-pu 79.53 305 P **P** **11 48 08.2 -2.1**
TPUB IAmb IAmb 11 48 11.9
comp=Z,22nm,0.9s
H03S2 Juan Fernandez 80.41 123 T T 13 17 33.6
baz=238,slow=74,SNR=56
H03S1 Juan Fernandez 80.42 123 T T 13 17 34.9
baz=238,slow=74,SNR=21
H03S3 Juan Fernandez 80.42 123 T T 13 17 39.8
baz=238,slow=74,SNR=45
H03N3 Juan Fernandez 80.59 123 T T 13 17 48.2
baz=241,slow=73,SNR=16
H03N2 Juan Fernandez 80.60 123 T T 13 17 51.6
baz=241,slow=73,SNR=20
H03N1 Juan Fernandez 80.61 123 T T 13 17 47.8
baz=241,slow=73,SNR=30
RGRI Rengat 81.16 275 P P 11 48 34.6 +15
ADK Adak 81.62 1 P **P** **11 48 20.6 -0.1**
ADK pmax pmax
comp=Z,35nm,0.6s
ADK Adak 81.62 1 P **P** **11 48 20.6 -0.1**
ATKA Atka Island 81.99 2 P **P** **11 48 22.6 -0.1**
ASAJ Asahikawa 82.29 332 P **P** **11 48 25.5 +1.0**
comp=Z,5.3nm,0.8s,baz=246,slow=8.1,SNR=7.1
DLV T Lat 82.32 288 P **P** **11 48 26.2 +0.6**
DLV IAmb IAmb 11 48 27.1
comp=Z,19nm,0.7s
PLCA Paso Flores 82.52 133 P **P** **11 48 27.0 +0.8**
comp=Z,2.2nm,0.9s,baz=238,slow=7.5,SNR=6.9
PLCA LR LR 12 16 28.5
comp=Z,236nm,21.9s,baz=282,slow=29
PLCA Paso Flores 82.52 133 *eP* **P** **11 48 27.8 +1.6**
PLCA pmax pmax
comp=Z,2.0nm,0.9s
PLCA Paso Flores 82.52 133 IAmb IAmb 11 48 44.0
comp=Z,18nm,1.1s
TJN Taejon 83.85 318 *i* P **P** **11 48 28.5 -4.2**
KSRS Korea Array 84.29 319 P **P** **11 48 34.6 -0.3**
comp=Z,2.3nm,0.8s,baz=144,slow=6.4,SNR=8.5
KSRS LR LR 12 23 35.4
comp=Z,76nm,19.2s,baz=137,slow=34
KSRS Korea Array 84.29 319 *eP* **P** **11 48 35.0 +0.1**
KSRS pmax pmax
comp=Z,2.0nm,0.8s
PKM Mcpherson Peak 84.55 44 P **P** **11 48 39.0 +2.4**
baz=228
YSS Yuzh-Sakhalins 84.59 334 *eP* **P** **11 48 37.0 +0.8**
YSS *e* 11 48 39.4
YSS *eS* **S** **11 59 03.3 +2.8**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS MLR MLR
comp=E,100nm,17.0s
YSS Yuzh-Sakhalins 84.59 334 P **P** **11 48 37.2 +1.0**
BAR Barrett 85.05 48 IAmb IAmb 11 48 56.7
comp=Z,38nm,1.8s
QIZ Qiongzhong 85.11 295 P **P** **11 48 39.5 0.0**
QIZ S **S** **11 59 09.5 +2.5**
QIZ LR LR
comp=Z,120nm,23.5s
MWC Mount Wilson 85.19 46 IAmb IAmb 11 48 57.4
comp=Z,41nm,1.6s
PET Petropavlovsk 85.30 346 *eP* **P** **11 48 40.4 +0.8**
PET pmax pmax
comp=Z,29nm,1.2s
MURC Murrieta 85.32 47 P **P** **11 48 41.9 +1.6**
baz=229
MONP2 Monument Peak 85.35 48 P **P** **11 48 41.8 +1.2**
baz=230,SNR=8.3
BFSC Mount Baldy Ra 85.44 46 P **P** **11 48 42.2 +1.2**
baz=229,SNR=6.9
PEA0B Petropavlovsk- 85.58 345 *i* P **P** **11 48 40.3 -0.8**
PETK Petropavlovsk- 85.58 345 P **P** **11 48 41.5 +0.4**
comp=Z,14nm,0.8s,baz=138,slow=6.4,SNR=13
PETK LR LR 12 20 02.3
comp=Z,123nm,21.5s,baz=212,slow=31
RPSI Rantau Prapat 85.63 276 P **P** **11 48 41.4 -0.9**
VES Vestal, Richgr 85.63 44 P **P** **11 48 42.7 +1.0**
baz=228,SNR=9.1
BO02 Sierra Bellavi 85.64 128 P **P** **11 48 43.6 +1.4**
BO02 IAmb IAmb 11 48 59.4
comp=Z,29nm,1.2s
EDW2 Edwards Air Fo 85.66 45 P **P** **11 48 43.0 +1.0**
baz=229,SNR=8.2
PSI Prapat 85.68 276 P **P** **11 48 41.4 -1.3**
comp=Z,4.3nm,0.6s,baz=180,slow=8.8,SNR=4.0
SWSC Sam W. Stewart 85.78 48 P **P** **11 48 44.1 +1.5**
baz=230
PFO Pinyon Flats O 85.79 47 P **P** **11 48 44.0 +1.3**
baz=230,SNR=6.5
PFO Pinyon Flats O 85.79 47 P **P** **11 48 42.7 0.0**
comp=Z,5.2nm,1.1s,baz=232,slow=7.6,SNR=7.3
PFO Pinyon Flats O 85.79 47 P **P** **11 48 44.3 +1.5**
PFO pmax pmax
comp=Z,13nm,1.3s
PFO Pinyon Flats O 85.79 47 P **P** **11 48 44.3 +1.5**
TPFO Pinon Flats 85.79 47 P **P** **11 48 44.0 +1.3**
baz=230,SNR=8.2
ISA Isabella, Lake 85.88 45 P **P** **11 48 44.5 +1.5**
baz=230,SNR=10
ISA Isabella, Lake 85.88 45 P **P** **11 48 44.6 +1.5**
ISA pmax pmax
comp=Z,59nm,1.7s
ISA Isabella, Lake 85.88 45 P **P** **11 48 44.6 +1.5**
BBRC Big Bear Solar 85.92 46 P **P** **11 48 44.8 +1.3**
baz=229
LRMC Laurel Mtn Rad 86.24 45 P **P** **11 48 46.4 +1.4**
baz=229,SNR=12
NJ2 Nanjing 86.25 310 *eP* **P** **11 48 48.0 +3.1**
NJ2 pmax pmax
comp=Z,11nm,0.5s
VLA Vladivostok 86.30 326 *i* P **P** **11 48 45.1 +0.3**
VLA pmax pmax
comp=Z,13nm,0.9s
BELC Belle Mtn. Jos 86.33 47 P **P** **11 48 46.9 +1.5**
baz=230,SNR=14
CMB Columbia Colle 86.34 42 P **P** **11 48 46.0 +0.7**
CMB pmax pmax
comp=Z,31nm,1.6s
CMB Columbia Colle 86.34 42 P **P** **11 48 46.0 +0.7**
CMB IAmb IAmb 11 48 47.5
comp=Z,31nm,1.6s
BC3 Big Chuckawall 86.46 48 P **P** **11 48 47.4 +1.4**
baz=230,SNR=9.6
GLA Glamis 86.48 48 P **P** **11 48 48.0 +1.9**
baz=231
O02D Mt. Diablo Mer 86.48 39 P **P** **11 48 47.6 +1.7**
baz=225
CWC Cottonwood Cre 86.64 44 P **P** **11 48 48.4 +1.5**
baz=228
HEC Hector,Ludlow 86.66 46 P **P** **11 48 48.5 +1.6**
baz=230
GSC Goldstone, Bar 86.67 46 P **P** **11 48 48.1 +1.1**
baz=229,SNR=12
GSC Goldstone, Bar 86.67 46 IAmb IAmb 11 48 49.6
comp=Z,26nm,1.4s
MPMC Manual Prospec 86.74 45 P **P** **11 48 48.4 +0.9**
baz=229,SNR=11
MDPB Devils Postpil 86.83 43 IAmb IAmb 11 48 50.3
comp=Z,22nm,1.6s
OMMB Old Mammoth Mi 86.87 43 IAmb IAmb 11 48 50.7
comp=Z,38nm,2.0s
WDC Whiskeytown Da 86.90 39 P **P** **11 48 49.5 +1.6**
WDC pmax pmax
comp=Z,20nm,1.0s
WDC Whiskeytown Da 86.90 39 P **P** **11 48 49.5 +1.6**
IRM Iron Mountain 86.98 47 P **P** **11 48 50.2 +1.7**
baz=230,SNR=15
113A Mohawk Valley, 87.00 49 IAmb IAmb 11 49 06.6
comp=Z,50nm,1.9s
GMRC Granite Mounta 87.05 47 P **P** **11 48 50.1 +1.1**
baz=230,SNR=6.7
USA0B Ussuriysk Arra 87.05 326 P **P** **11 48 49.7 +1.2**
USA0B pmax pmax
comp=Z,34nm,1.9s
USA0B Ussuriysk Arra 87.05 326 P **P** **11 48 49.7 +1.2**
USA0B IAmb IAmb 11 49 02.8
comp=Z,34nm,1.9s
USRK Ussuriysk Ar. 87.05 326 P **P** **11 48 49.1 +0.6**
comp=Z,2.4nm,0.6s,baz=153,slow=2.1,SNR=6.5
O03E Paynes Creek 87.10 39 P **P** **11 48 50.2 +1.2**
baz=226
Y12C Blythe 87.12 48 P **P** **11 48 50.0 +0.9**
baz=231
Y12C Blythe 87.12 48 IAmb IAmb 11 49 07.3
comp=Z,20nm,1.3s
214A Organ Pipe Nat 87.12 50 P **P** **11 48 50.5 +1.3**
baz=232
214A Organ Pipe Nat 87.12 50 IAmb IAmb 11 49 07.6
comp=Z,50nm,1.9s
WAKR Walker 87.21 42 IAmb IAmb 11 49 09.5
comp=Z,27nm,1.5s
M02C Callahan 87.30 38 P **P** **11 48 51.4 +1.5**
baz=225
TUQ Turquoise Moun 87.30 46 P **P** **11 48 51.5 +1.4**
baz=230
SHOC Shoshone, Teco 87.39 46 P **P** **11 48 51.6 +1.2**
baz=230,SNR=6.8
FURC Furnace Creek, 87.39 45 P **P** **11 48 51.5 +1.2**
baz=229,SNR=5.2
YBH Yreka Blue Hor 87.61 38 P **P** **11 48 52.8 +1.4**
comp=Z,1.5nm,0.6s,baz=215,slow=7.8,SNR=5.9
PDMCI Parker Dam,Lak 87.71 48 P **P** **11 48 53.4 +1.5**
baz=231
K02D Willamette Mer 87.80 37 P **P** **11 48 56.2 +3.9**
baz=225,SNR=5.3
NVAR Mina Array Bea 87.82 43 P **P** **11 48 54.0 +1.4**
comp=Z,3.4nm,0.7s,baz=222,slow=7.9,SNR=30
NVAR LR LR 12 25 09.4
comp=Z,162nm,18.1s,baz=198,slow=34
RYN Ryan 87.83 42 IAmb IAmb 11 48 54.0
comp=Z,21nm,1.7s
TYV Tymovskoe 87.88 336 *eP* **P** **11 48 47.9 -4.4**
TYV pmax pmax
comp=Z,14nm,0.4s
NV11 Mina Array Sit 87.91 43 IAmb IAmb 11 49 12.3
comp=Z,19nm,1.4s
PAHR Pah Rah Range 88.05 41 IAmb IAmb 11 48 55.6
comp=Z,17nm,1.6s
TPNV Topopah Spring 88.08 45 P **P** **11 48 55.0 +1.1**
baz=230,SNR=8.2
TPNV Topopah Spring 88.08 45 IAmb IAmb 11 49 11.8
comp=Z,32nm,1.6s
M04C Macdoel 88.12 38 P **P** **11 48 55.0 +1.1**
baz=226
L04D Klamath Falls 88.17 38 P **P** **11 48 56.0 +1.8**
baz=226
Y14A Wickenburg 88.22 49 IAmb IAmb 11 48 57.5
comp=Z,39nm,1.7s
KVN Kaiserville 88.35 42 IAmb IAmb 11 49 12.2
comp=Z,36nm,1.9s
W13A Hualapai Mount 88.38 47 IAmb IAmb 11 49 13.5
comp=Z,22nm,1.5s
SHPR Sheep Range 88.46 46 IAmb IAmb 11 49 13.9
comp=Z,36nm,1.8s
MDJ Mudanjiang 88.53 325 P **P** **11 48 59.0 +3.5**
MDJ pmax pmax
comp=Z,5.0nm,0.7s
MDJ pmax pmax
comp=Z,48nm,4.5s
TUC Tucson 88.70 51 P **P** **11 48 58.6 +1.8**
baz=233
TUC Tucson 88.70 51 P **P** **11 48 58.6 +1.8**
TUC pmax pmax
comp=Z,33nm,1.5s
TUC Tucson 88.70 51 P **P** **11 48 58.6 +1.8**
TUC IAmb IAmb 11 49 16.4
comp=Z,33nm,1.5s
J04D Umpqua Nationa 88.99 37 P **P** **11 49 01.1 +3.1**
baz=226,SNR=15
CFA Coronel Fontan 89.20 126 LR LR 12 24 30.1
comp=Z,18nm,19.3s,baz=238,slow=33
I04A Tendick Farm, 89.22 37 P **P** **11 48 59.7 +0.8**
baz=225,SNR=14
R11A Troy Canyon, C 89.38 44 P **P** **11 49 00.5 +0.5**
baz=230
J05D Fort Rock, OR 89.48 37 P **P** **11 49 02.1 +1.8**
baz=226,SNR=21
X16A Lo Mia Camp, P 89.54 49 IAmb IAmb 11 49 19.3
comp=Z,18nm,1.1s
GRNR Gornyy 90.13 333 ⇑ *iP* **P** **11 49 04.0 +1.1**
GRNR pmax pmax
comp=Z,3.0nm,0.8s
GRNR MLR MLR
comp=E,50nm,15.0s
GRNR MLR MLR
comp=N,30nm,12.0s
GRNR MLR MLR
comp=Z,90nm,17.0s
U15A North Rim 90.22 47 IAmb IAmb 11 49 24.3
comp=Z,14nm,1.1s
WUAZ Wupatki 90.25 48 P **P** **11 49 05.9 +1.8**
baz=232
WUAZ Wupatki 90.25 48 IAmb IAmb 11 49 22.3
comp=Z,24nm,1.2s
WVOR Wild Horse Val 90.30 39 IAmb IAmb 11 49 16.3
comp=Z,22nm,1.0s
PSUT Pine Spring 90.55 45 P **P** **11 49 06.6 +1.1**
121A Cookes Peak, D 90.88 52 P **P** **11 49 08.6 +1.5**
baz=234
KLR Kul'dur 90.91 330 P **P** **11 49 07.1 +0.5**
comp=Z,3.0nm,0.8s,baz=138,slow=5.4,SNR=7.1
KLR Kul'dur 90.91 330 *i* P **P** **11 49 06.4 -0.2**
KLR pmax pmax
comp=Z,9.0nm,1.0s
I07A Izee 90.94 38 P **P** **11 49 07.9 +0.9**
I07A IAmb IAmb 11 49 12.4
comp=Z,15nm,1.3s
J08A Circle Bar Ran 91.01 39 IAmb IAmb 11 49 15.5
comp=Z,21nm,0.9s
W18A Petrified Fore 91.08 49 P **P** **11 49 09.5 +1.5**
baz=233
W18A Petrified Fore 91.08 49 IAmb IAmb 11 49 26.1
comp=Z,22nm,1.2s
ELK Elko 91.12 42 P **P** **11 49 08.9 +0.8**
comp=Z,1.5nm,0.7s,baz=247,slow=3.9,SNR=7.6
GYA Guiyang 91.64 300 *eP* **P** **11 49 14.5 +3.8**
GYA pmax pmax
comp=Z,5.0nm,0.9s
TXAR Lajitas Array 91.99 57 P **P** **11 49 13.4 +1.2**
comp=Z,3.1nm,1.2s,baz=211,slow=7.0,SNR=11
TXAR LR LR 12 21 04.8
comp=Z,95nm,22.0s,baz=0.0,slow=29
MNTX Cornudas Mount 92.07 54 P **P** **11 49 13.6 +1.1**
baz=236
MNTX Cornudas Mount 92.07 54 IAmb IAmb 11 49 30.1
comp=Z,25nm,1.9s
DUG Dugway, Tooele 92.22 44 P **P** **11 49 14.9 +1.8**
baz=232
MA2 Magadan 93.06 345 P **P** **11 49 16.5 +0.2**
comp=Z,8.5nm,0.9s,baz=24,slow=20,SNR=2.7
MA2 Magadan 93.06 345 *i* P **P** **11 49 15.8 -0.5**
MA2 pmax pmax
comp=Z,7.0nm,1.0s
MVCO Mesa Verde 93.12 48 P **P** **11 49 18.4 +1.0**
baz=234
ANMO Albuquerque 93.17 51 P **P** **11 49 19.0 +1.3**
baz=235
ANMO Albuquerque 93.17 51 P **P** **11 49 18.2 +0.5**
comp=Z,1.3nm,0.6s,baz=202,slow=7.9,SNR=5.8
ANMO Albuquerque 93.17 51 *i* P **P** **11 49 17.9 +0.2**
ANMO pmax pmax
comp=Z,6.0nm,1.4s
ANMO Albuquerque 93.17 51 P **P** **11 49 18.2 +0.5**
NNA Nana 93.24 106 LR LR 12 21 49.7
comp=Z,68nm,21.6s,baz=245,slow=30
HLID Hailey 93.39 41 P **P** **11 49 19.6 +1.2**
baz=231
HLID Hailey 93.39 41 P **P** **11 49 18.9 +0.4**
HLID IAmb IAmb 11 49 29.3
comp=Z,21nm,1.1s
CMAR Chiang Mai Arr 93.56 289 P **P** **11 49 20.6 +0.9**
comp=Z,1.9nm,0.6s,baz=125,slow=3.2,SNR=3.6
CMAR LR LR 12 34 06.8
comp=Z,36nm,19.4s,baz=190,slow=37
PV12 Saucer Basin, 93.57 47 IAmb IAmb 11 49 36.7
comp=Z,15nm,1.4s
KMI Kunming 93.93 297 ⇑ *iP* **P** **11 49 24.8 +3.4**
KMI pmax pmax
comp=Z,7.0nm,0.7s
KMI pmax pmax
comp=Z,80nm,4.1s
XAN Xi'an 94.15 307 P **P** **11 49 18.0 -4.0**
XAN pmax pmax
comp=Z,17nm,1.7s
XAN pmax pmax
comp=Z,180nm,2.2s
XAN LR LR
comp=N,130nm,20.6s
XAN LR LR
comp=E,94nm,20.6s
XAN LR LR
comp=Z,130nm,17.4s
S22A 4UR Ranch, Cre 94.51 49 P **P** **11 49 25.0 +1.1**
baz=235
S22A 4UR Ranch, Cre 94.51 49 IAmb IAmb 11 49 26.4
comp=Z,18nm,1.9s
AHID Auburn Hatcher 94.80 43 P **P** **11 49 25.5 +0.5**
AHID **P** **11 49 26.2 +1.1**
AHID IAmb IAmb 11 49 43.4
comp=Z,11nm,1.2s
TPAW Teton Pass 95.33 42 P **P** **11 49 28.6 +1.1**
TPAW IAmb IAmb 11 49 45.0
comp=Z,12nm,1.4s
SDCO Great Sand Dun 95.38 49 P **P** **11 49 29.1 +1.2**
baz=236
DLMT Dillon 95.53 40 IAmb IAmb 11 49 31.9
comp=Z,22nm,1.4s
BW06 Boulder Array 95.72 43 P **P** **11 49 30.1 +0.8**
baz=234
PDAR Pinedale Array 95.72 43 P **P** **11 49 29.4 +0.2**
comp=Z,0.4nm,0.5s,baz=315,slow=0.2,SNR=4.6
PDAR PKKPbc **PKKPbc** **12 06 19.8 -0.4**
comp=Z,0.7nm,0.6s,baz=75,slow=2.7,SNR=5.7
PDAR LR LR 12 29 37.6
comp=Z,96nm,18.1s,baz=262,slow=34
FLWY Flagg Ranch 95.83 42 IAmb IAmb 11 49 41.2
comp=Z,19nm,1.4s
ZEA Zeya 96.11 331 *eP* **P** **11 49 29.1 -1.3**
ZEA pmax pmax
comp=Z,14nm,1.2s
CD2 Chengdu 96.16 302 P **P** **11 49 31.3 0.0**
BOZ Bozeman (W) 96.21 40 P **P** **11 49 33.3 +2.0**
baz=233,SNR=8.6
HHC Hu-ho-hao-te 96.22 314 *eP* **P** **11 49 32.3 +0.9**
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,46nm,5.2s
DLBC Dease Lake 96.73 23 P **P** **11 49 33.7 +0.5**
comp=Z,9.8nm,0.9s,baz=303,slow=5.1,SNR=4.0
DLBC Dease Lake 96.73 23 IAmb IAmb 11 49 34.8
comp=Z,13nm,0.9s
RLMT Red Lodge 97.27 42 P Pdif 11 49 38.0 +1.7

baz=234
LPAZ La Paz 98.02 114 LR LR 12 25 01.3
comp=Z,76nm,21.9s,baz=196,slow=30
BILL Bilibino 98.56 354‖ *e*P **P** **11 49 40.8 -0.3**
BILL *e* 11 53 43.4
BILL pmax pmax
comp=Z,3.0nm,1.0s
BILL MLR MLR
comp=Z,116nm,20.0s
LZH Lanzhou 98.76 307 *e*P Pdif 11 49 45.0 +1.9
LZH pP pP 11 49 52.3 -0.9
LZH sP sP 11 49 55.5 -1.4
LZH *e*PP **PP** **11 53 49.5 +4.5**
LZH pmax pmax
comp=Z,21nm,1.4s
LZH pmax pmax
comp=Z,100nm,9.3s
LZH LR LR
comp=Z,220nm,17.3s
LZH LR LR
comp=Z,400nm,19.7s
YAK Yakutsk 101.06 338 *i* P **Pdif** **11 49 51.6 -0.8**
YAK pmax pmax
comp=Z,5.0nm,0.9s
YKA Yellowknife Ar 105.04 25 PKKP **PKKPab** **12 06 10.2 +3.2**
comp=Z,1.5nm,1.1s,baz=38,slow=4.6,SNR=5.7
WMQ Urumqi 113.25 308 *e*PKP **PKiKP** **11 54 41.8 +1.1**
WMQ LR LR
comp=Z,110nm,24.5s
WMQ LR LR
comp=Z,200nm,24.5s
WMQ LR LR
comp=Z,92nm,24.5s
ZSN Zaisan 116.27 311 *e*PKP **PKPdf** **11 54 45.3 -1.0**
baz=311
ZSN Zaisan 116.27 311 *e*PKIKP **PKPdf** **11 54 45.2 -1.0**
BOSA Boshof 117.66 203 PKP **PKPdf** **11 54 48.8 -1.1**
comp=Z,1.1nm,0.5s,baz=83,slow=2.5,SNR=4.8
MKAR Makanchi Array 117.78 310 PKP **PKPdf** **11 54 48.2 -1.0**
comp=Z,2.0nm,0.6s,baz=200,slow=1.1,SNR=18
ZALV Zalesovo Beam 117.98 318 PKP **PKPdf** **11 54 48.0 -1.3**
comp=Z,1.6nm,0.7s,baz=240,slow=0.5,SNR=4.5
SHLS Shalkode 118.76 306 *e*PKP **PKPdf** **11 54 49.7 -1.6**
baz=306
SHLS Shalkode 118.76 306 *e*PKIKP **PKPdf** **11 54 49.7 -1.6**
UZB Uzynbulak 119.07 305 *e*PKP **PKPdf** **11 54 50.9 -1.1**
baz=306
UZB Uzynbulak 119.07 305 *e*PKIKP **PKPdf** **11 54 50.9 -1.1**
KPKS Kokpek 119.39 306 *i* PKP **PKPdf** **11 54 51.4 -1.2**
baz=306
KPKS Kokpek 119.39 306 *i* PKIKP **PKPdf** **11 54 51.3 -1.2**
SATY Saty 119.48 305 *e*PKP **PKPdf** **11 54 51.6 -1.2**
baz=305
SATY Saty 119.48 305 *e*PKIKP **PKPdf** **11 54 51.5 -1.2**
SEM Semipalatinsk 119.95 314 *e*PKP **PKPdf** **11 54 52.0 -1.5**
baz=314
SEM *e*PP **PP** **11 56 15.7 -2.8**
baz=314
SEM Semipalatinsk 119.95 314 *e*PKIKP **PKPdf** **11 54 52.0 -1.5**
SEM *e* 11 56 15.6
KSH Kashi 120.32 301 *e*PKP **PKiKP** **11 54 54.5 -0.1**
KSH SKKS 12 03 14.5
MDOK Medeo 120.47 305 *e*PKP **PKPdf** **11 54 53.2 -1.5**
baz=305
MDOK Medeo 120.47 305 *e*PKIKP **PKPdf** **11 54 53.2 -1.5**
TNSS Tian-Shan 120.51 305 *e*PKP **PKPdf** **11 54 54.1 -1.0**
baz=305
TNSS Tian-Shan 120.51 305 *e*PKIKP **PKPdf** **11 54 54.1 -1.0**
ULHL Ulahol 120.82 304 P **PKPdf** **11 54 55.2 -0.3**
SNR=5.6
KURK Kurchatov 121.03 314 PKIKP **PKPdf** **11 54 54.1 -1.2**
KURK Kurchatov 121.03 314 **11 54 54.1 -1.2**
KURBB Kurchatov Arra 121.07 314 PKP **PKPdf** **11 54 54.1 -1.2**
comp=Z,5.5nm,0.6s,baz=109,slow=1.8,SNR=9.0
KUU Kurty 121.14 306 *i* PKP **PKPdf** **11 54 53.9 -1.9**
baz=306
KUU Kurty 121.14 306 *i* PKIKP **PKPdf** **11 54 53.8 -2.0**
TKM2 Tokmak 2 121.44 304 P **PKPdf** **11 54 55.9 -0.7**
SNR=7.7
KZA Kyzart 121.50 303 P **PKiKP** **11 54 57.3 +0.1**
SNR=6.4
KBK Karagaybulak 121.85 304 P **PKPdf** **11 54 56.9 -0.5**
SNR=6.3
UCH Uchtor 122.06 303 P **PKPdf** **11 54 58.1 0.0**
SNR=14
CHMS Chumysh 122.07 304 P **PKPdf** **11 54 56.9 -0.7**
SNR=5.0
AAK Ala-Archa 122.17 304 PKP **PKPdf** **11 54 57.4 -0.6**
comp=Z,2.6nm,0.4s,baz=171,slow=4.1,SNR=7.2
AAK Ala-Archa 122.17 304 *i* PKIKP **PKPdf** **11 54 57.6 -0.4**
SGDS Sogindy 122.25 305 *i* PKP **PKPdf** **11 54 56.8 -1.2**
baz=305
SGDS Sogindy 122.25 305 *i* PKIKP **PKPdf** **11 54 56.7 -1.2**
USP Ospenovka 122.30 305 P **PKPdf** **11 54 57.8 -0.3**
SNR=5.4
AML Almayashu 122.64 303 P **PKPdf** **11 54 59.0 -0.2**
SNR=18
EKS2 Erkin-Say 122.69 304 P **PKiKP** **11 54 59.0 -0.1**
SNR=5.5
BTK Batken 124.30 300 PKIKP **PKPdf** **11 55 01.9 -0.1**
BTK Batken 124.30 300 **PKPdf** **11 55 01.9 -0.1**
DZA Taraz 124.50 304 *e*PKP **PKPdf** **11 55 01.2 -1.1**
baz=304
DZA *e*PP **PP** **11 56 47.8 -1.6**
baz=304
DZA Taraz 124.50 304 *e*PKIKP **PKPdf** **11 55 01.2 -1.1**
DZA *e* 11 56 47.7
IUG Iuzhnay 125.31 303 *i* PKP **PKPdf** **11 55 03.8 -0.2**
baz=303
IUG Iuzhnay 125.31 303 *i* PKIKP **PKPdf** **11 55 03.7 -0.2**
BVAR Borovoye Array 126.38 316 PKP **PKPdf** **11 55 05.1 -0.4**
comp=Z,6.2nm,0.6s,baz=92,slow=1.3,SNR=39
BRVK Borovoye 126.44 316 *i* PKIKP **PKPdf** **11 55 04.9 -0.7**
ARU Arti 133.03 321 PKP **PKPdf** **11 55 17.2 -0.8**
comp=Z,1.7nm,0.5s,baz=176,slow=3.6,SNR=6.5
ARU Arti 133.03 321 *i* PKIKP **PKPdf** **11 55 18.2 +0.2**
ARU 11 57 40.6
ARU Arti 133.03 321 **PKPdf** **11 55 17.5 -0.5**
GEYT Alibeck 133.68 295 PKP **PKPdf** **11 55 20.3 +0.4**
comp=Z,4.4nm,0.7s,baz=210,slow=5.1,SNR=6.6
AKTO Aktyubinsk 134.09 313 PKP **PKPdf** **11 55 20.4 +0.2**
comp=Z,5.1nm,0.6s,baz=103,slow=4.2,SNR=16
KIRV Kirov 137.22 326 PKP **PKiKP** **11 55 27.0 -0.6**
comp=Z,5.6nm,0.5s,baz=273,slow=0.7,SNR=4.7
KIRV Kirov 137.22 326 PKIKP **PKiKP** **11 55 27.0 -0.6**
ARCES ARCESS Array B 138.34 348 PKhKP PKPpre 11 55 19.1
comp=Z,2.7nm,0.6s,baz=21,slow=2.6,SNR=11
ARCES PKP **PKPdf** **11 55 26.7 -0.9**
comp=Z,4.4nm,0.6s,baz=48,slow=1.8,SNR=9.6
H10N3 ASCENSION HYDR 138.97 154 T T 14 32 01.1
baz=203,slow=76,SNR=81
H10N1 ASCENSION HYDR 138.97 154 T T 14 32 01.4
baz=203,slow=76,SNR=73
H10N2 ASCENSION HYDR 138.99 154 T T 14 32 02.4
baz=203,slow=76,SNR=83
KLMR Klimovskoe 140.62 332 *e*PKIKP **PKPdf** **11 55 29.7 -2.1**
KLMR pmax pmax
comp=Z,15nm,1.1s
KLMR Klimovskoe 140.62 332 *e*PKPdf **PKPdf** **11 55 29.8 -2.1**
KLMR AMP 11 55 35.4
comp=Z,15nm,1.1s
STEI Steigen 141.36 352 *e*PKPdf **PKPdf** **11 55 33.3 +0.3**
AKT Akhty 141.84 300 *e*PKIKP **PKiKP** **11 55 37.4 -0.4**
AKT *e* 11 58 39.4
AKT pmax pmax
comp=Z,20nm,1.2s
VRH Novokhopyorsk 144.00 317 *e*PKIKP **PKPdf** **11 55 39.0 +0.8**
VRH pmax pmax
comp=Z,10.0nm,0.7s
ZEI Tsey 144.57 303 *e*PKIKP **PKPab** **11 55 37.3 -1.1**
ZEI pmax pmax
comp=Z,19nm,1.2s
FIA1 FINESS Array S 144.94 340 **PKPab** **11 55 38.2 -0.6**
FINES FINESS Array B 144.95 340 PKP **PKPab** **11 55 38.1 -0.8**
comp=Z,73nm,0.5s,baz=62,slow=3.1,SNR=331
FINES FINESS Array B 144.95 340 *e*PKIKP **PKPab** **11 55 38.0 -0.8**
FINES pmax pmax
comp=Z,74nm,0.5s
NSS Namsos 145.01 353 *e*PKPbc **PKPbc** **11 55 38.1 -0.8**
AKH Akhalkalaki 145.03 300 PKIKP **PKPbc** **11 55 39.7 -0.3**
AKH Akhalkalaki 145.03 300 **PKPbc** **11 55 39.7 -0.3**
LPSR Galich'ya Gora 145.05 321 *e*PKIKP **PKPbc** **11 55 38.5 -0.9**
LPSR pmax pmax
comp=Z,20nm,0.6s
OBN Obninsk 145.07 326 PKPbc **PKPbc** **11 55 38.7 -0.7**
comp=Z,14nm,0.4s,baz=47,slow=3.3,SNR=9.5
OBN Obninsk 145.07 326*c* *i*PKIKP **PKPbc** **11 55 38.8 -0.7**
OBN *e*PPP PPP 12 02 12.5
OBN pmax pmax
comp=Z,136nm,1.8s
KBZ Khabaz 145.17 304 PKPbc **PKPbc** **11 55 39.9 -0.2**
comp=Z,4.1nm,0.7s,baz=258,slow=22,SNR=8.6
KBZ Khabaz 145.17 304 *i* PKIKP **PKPbc** **11 55 39.4 -0.7**
KVAR Kislovodsk Arr 145.27 305 PKPbc **PKPbc** **11 55 40.2 -0.5**
comp=Z,4.2nm,0.3s,baz=350,slow=6.1,SNR=1.9
KIV Kislovodsk 145.28 305 *i* PKP2 **PKPbc** **11 55 39.3 -1.3**
KIV pmax pmax
comp=Z,41nm,1.0s
NEY Neytrino 145.37 304 *i* PKIKP **PKPbc** **11 55 40.6 -0.4**
VORD Divnogorie 145.51 318 *e*PKP2 **PKPdf** **11 55 39.9 -0.9**
VORD pmax pmax
comp=Z,20nm,0.6s
TBLU Trondheim 146.43 354 *e*PKPdf **PKPdf** **11 55 41.4 -0.6**
VSU Vasula 147.05 336 *e*P **PKPbc** **11 55 45.4 +0.1**
VSU Vasula 147.05 336 *i* PKIKP **PKPdf** **11 55 43.4 +0.2**
MOL Molde 147.33 356 *e*PKPbc **PKPbc** **11 55 45.7 -0.2**
DOMB Dombas 147.73 354 *e*PKPdf **PKPbc** **11 55 45.8 -1.3**
AKN Aaknes 147.75 356 *e*PKPdf **PKPbc** **11 55 46.1 -1.1**
AKN *e*PKPab **PKPab** **11 55 51.0 +1.4**
FOO Floro 148.43 358 *e*PKPbc **PKPbc** **11 55 48.5 -0.4**
NB2 NORSAR Subarra 148.48 352 PKP **PKPbc** **11 55 48.4 -0.8**
comp=Z,76nm,1.7s,baz=10,slow=2.7
NB2 NORSAR Subarra 148.48 352 PKPab **PKPbc** **11 55 48.4 -0.8**
baz=10,slow=2.7
NOA NORSAR Array B 148.48 352 PKPbc **PKPbc** **11 55 48.5 -0.8**
comp=Z,6.0nm,0.6s,baz=16,slow=4.3,SNR=47
NC602 NORSAR Array S 148.74 351 *e*PKPbc **PKPbc** **11 55 49.0 -0.7**
HYA Hoyanger 148.81 356 *e*PKPdf **PKPdf** **11 55 45.2 -0.8**
SUE Sulen 148.98 358 *e*PKPbc **PKPbc** **11 55 50.0 -0.4**
SKAR Skarslia 149.14 354 *e*PKPbc **PKPbc** **11 55 50.8 -0.1**
IZAR Zarasai 149.24 333 *e*P **PKiKP** **11 55 53.0 +0.6**
ISAL Saalakas 149.42 333 *e*P **PKiKP** **11 55 52.2 -0.6**
MICGM Minsk 149.45 330‖ *e*P **PKPbc** **11 55 50.0 -1.7**
MICGM PM 11 55 52.0
comp=Z,0.1nm,1.5s
MNK Minsk 149.45 330‖ *e*PKHKP **PKPbc** **11 55 50.0 -1.7**
MNK pmax pmax
comp=Z,120nm,1.5s
ASK Askoy 149.54 357 *e*PKPbc **PKPbc** **11 55 51.8 +0.1**
IIGN Ignalina 149.54 333 *e*P **PKPbc** **11 55 51.8 -0.2**
BER Bergen 149.63 357 *e*PKPbc **PKPbc** **11 55 52.3 +0.3**
KONO Kongsberg 150.03 353 *e*PKPbc **PKPbc** **11 55 52.5 -0.4**
ODD1 Odda 150.03 356 *e*PKPbc **PKiKP** **11 55 54.5 +0.5**
PABE Paberze 150.29 335 *e*P **PKPbc** **11 55 53.8 0.0**
ASF Jabal al Asfar 150.40 283 PKPbc **PKiKP** **11 55 55.5 -0.2**
comp=Z,6.9nm,0.8s,baz=249,slow=0.6,SNR=12
BLS5 Blasjo 150.53 356 *e*PKPbc **PKiKP** **11 55 55.5 +0.5**
PBUR Paburge 150.59 337 *e*P **PKPbc** **11 55 54.2 -0.3**
KMY Karmoy 150.81 357 *e*PKPbc **PKPbc** **11 55 54.8 -0.1**
SIM Simferopol' 150.96 310*c* *i*PKIKP **PKPbc** **11 55 55.8 +0.1**
SIM pmax pmax
comp=Z,55nm,0.7s
AKASG Malin Array Be 151.22 323 PKPbc **PKPbc** **11 55 55.5 -0.6**
comp=Z,18nm,0.6s,baz=48,slow=2.7,SNR=56
HOMB Homborsund 151.50 353 *e*PKPdf **PKPdf** **11 55 50.3 0.0**
HOMB *e*PKPbc **PKPbc** **11 55 56.5 +0.1**
MMAI Mount Meron Ar 151.72 285 PKPbc **PKiKP** **11 55 58.6 +0.3**
comp=Z,22nm,0.7s,baz=74,slow=6.2,SNR=23
EIL Elat 151.75 277 PKPbc **PKPbc** **11 55 58.1 +0.1**
comp=Z,21nm,0.7s,baz=307,slow=4.4,SNR=16
BRTR Keskin Array B 152.69 299 PKPbc **PKPbc** **11 55 59.3 -0.7**
comp=Z,5.8nm,0.5s,baz=138,slow=4.9,SNR=17
BSEG Bad Segeberg 155.47 349 *e*PKPab **PKPab** **11 56 21.9 0.0**
baz=22,slow=4.3
KOLS Kolonicke sedl 155.81 327 *e*PKP2 **PKPab** **11 56 23.5 -0.1**
KOLS Kolonicke sedl 155.81 327 *e*PKP **PKPab** **11 56 23.5 -0.1**
NRDL Niedersach Rie 156.89 348 *e*PKPab **PKPab** **11 56 27.7 -0.2**
baz=22,slow=4.3
OSTC Ostas 157.05 337 *e*PKPAB **PKPab** **11 56 32.3 +3.5**
OSTC *ex* x 11 56 34.3
CHVC Chvalec 157.07 337 *e*PKPAB **PKPab** **11 56 29.3 +0.3**
UPC Upice 157.16 337 *e*PKPAB **PKPab** **11 56 29.4 +0.1**
UPC Upice 157.16 337 *e*PKP2 **PKPab** **11 56 29.4 +0.1**
DPC Dobruska-Polom 157.18 336 *e*PKPAB **PKPab** **11 56 29.7 +0.2**
DPC Dobruska-Polom 157.18 336 *e*PKP2 **PKPab** **11 56 29.7 +0.2**
KRLC Kraliky 157.25 335 *e*PKPAB **PKPab** **11 56 29.8 0.0**
KRLC Kraliky 157.25 335 *e*PKP2 **PKPab** **11 56 29.8 0.0**
CLL Collm 157.35 342‖ *i*PKPab **PKPab** **11 56 29.8 -0.3**
comp=Z,18nm,0.7s
CLL Collm 157.35 342‖ *i*PKP2 **PKPab** **11 56 29.8 -0.3**
CLL pmax pmax
comp=Z,18nm,0.7s
CLL Collm 157.35 342 *e*PKPab **PKPab** **11 56 29.7 -0.4**
baz=22,slow=4.3
CLZ Clausthal 157.46 347 *e*PKPab **PKPab** **11 56 30.6 0.0**
baz=22,slow=4.3
BRG Berggiesshubel 157.49 341 *i* PKP **PKPab** **11 56 30.7 0.0**
comp=Z,16nm,0.7s
BRG Berggiesshubel 157.49 341 *i* PKP2 **PKPab** **11 56 30.7 0.0**
BRG pmax pmax
comp=Z,16nm,0.7s
BRG Berggiesshubel 157.49 341 *e*PKPab **PKPab** **11 56 30.6 0.0**
baz=22,slow=4.3
PVCC Panska Ves 157.60 339 *e*PKPAB **PKPab** **11 56 31.6 +0.4**
PVCC Panska Ves 157.60 339 *e*PKP2 **PKPab** **11 56 31.6 +0.4**
FBE Freiberg 157.61 341 *e*PKPab **PKPab** **11 56 31.4 +0.2**
baz=22,slow=4.3
VYHS Vyhne 157.70 330 *e*PKP2 **PKPab** **11 56 31.1 -0.6**
VYHS Vyhne 157.70 330 *e*PKP **PKPab** **11 56 31.1 -0.6**
GTTG Gottingen 157.82 347 *e*PKPab **PKPab** **11 56 32.0 0.0**
baz=22,slow=4.3
VRAC Vranov 157.95 335 PKPab **PKPab** **11 56 32.6 -0.2**
comp=Z,2.4nm,0.5s,baz=73,slow=3.7,SNR=6.3
PRU Pruhonice 158.09 339 *e*PKPAB **PKPab** **11 56 33.6 +0.3**
PRU Pruhonice 158.09 339 *e*PKP2 **PKPab** **11 56 33.6 +0.3**
TANN Tannenbergstha 158.31 342 *e*PKPab **PKPab** **11 56 34.3 0.0**
baz=22,slow=4.3
MOX Moxa 158.31 344 *e*PKPab **PKPab** **11 56 34.0 -0.2**
baz=22,slow=4.3
PLN Plauen 158.32 343 *e*PKPab **PKPab** **11 56 34.3 0.0**
baz=22,slow=4.3
GUNZ Gunzen 158.39 342 *e*PKPab **PKPab** **11 56 34.8 +0.1**
baz=22,slow=4.3
WERN Wernitzgruen 158.45 342 *e*PKPab **PKPab** **11 56 35.1 +0.2**
baz=22,slow=4.3
NKC Novy Kostel 158.48 342 *e*PKPAB **PKPab** **11 56 35.1 +0.1**
NKC Novy Kostel 158.48 342 *e*PKP2 **PKPab** **11 56 35.1 +0.1**
PBCC Pribram 158.52 339 *e*PKPAB **PKPab** **11 56 35.3 +0.1**
MANZ Manzenberg 158.79 342 *e*PKPab **PKPab** **11 56 36.4 0.0**
baz=22,slow=4.3
KHC Kasperske Hory 159.14 339 *e*PKPAB **PKPab** **11 56 38.0 +0.1**
KHC Kasperske Hory 159.14 339 *e*PKP2 **PKPab** **11 56 38.0 +0.1**
MEM Membach 159.31 353 PKPab **PKPab** **11 56 38.3 -0.3**
MEM PKPab **PKPab** **11 56 38.7 +0.2**
WET Wettzell 159.34 340 *e*PKPab **PKPab** **11 56 39.1 +0.3**
baz=22,slow=4.3
GEC2 GERESS Array S 159.35 338 *e*PKPab **PKPab** **11 56 38.8 -0.1**
baz=22,slow=4.3
GERES GERESS Array B 159.35 338 PKPab **PKPab** **11 56 38.6 -0.4**
comp=Z,2.0nm,0.7s,baz=37,slow=4.8,SNR=9.2
CONA Conrad Observa 159.36 333 *i* PKPab **PKPab** **11 56 38.9 -0.1**
comp=Z,4.8nm,0.9s
TNS Taunus Mts 159.36 349 *e*PKPab **PKPab** **11 56 38.6 -0.3**
baz=22,slow=4.3
BCLA Clavier 159.57 355 PKPab **PKPab** **11 56 39.3 -0.3**
BHOU Houvegnez 159.57 353 PKPab **PKPab** **11 56 38.0 -1.6**
BGES Gesves 159.62 355 PKPab **PKPab** **11 56 38.8 -1.1**
BMRD Maredsous 159.72 355 PKPab **PKPab** **11 56 39.9 -0.4**
DOU Dourbes 159.94 356 PKPab **PKPab** **11 56 40.5 -0.8**
MOA Molln 160.02 336 *i* PKPab **PKPab** **11 56 41.3 -0.5**
comp=Z,6.8nm,1.2s
ARSA Arzberg 160.05 333 *i* PKPab **PKPab** **11 56 41.7 -0.2**
comp=Z,6.7nm,1.2s
WLF Walferdange 160.23 353 PKPab **PKPab** **11 56 42.6 0.0**
WLF Walferdange 160.23 353 *e*PKPab **PKPab** **11 56 42.9 +0.3**
baz=22,slow=4.3
RJOB Jochberg 160.62 338 *e*PKPab **PKPab** **11 56 43.8 -0.6**
baz=22,slow=4.3
FUR Furstenfeldbru 160.68 342 *e*PKPab **PKPab** **11 56 45.0 +0.4**
baz=22,slow=4.3
SOKA Soboth 160.71 333 *i* PKPab **PKPab** **11 56 44.8 -0.2**
comp=Z,6.3nm,1.2s
KBA Koelnbreinsper 161.00 336 *i* PKPab **PKPab** **11 56 45.5 -0.8**
comp=Z,4.8nm,0.8s
OBKA Obir 161.04 333 *i* PKPab **PKPab** **11 56 46.3 -0.1**
comp=Z,16nm,1.3s
BFO Black Forest 161.21 347 *e*PKPab **PKPab** **11 56 46.5 -0.4**
baz=22,slow=4.3
MYKA Terra Mystica 161.28 335 *i* PKPab **PKPab** **11 56 47.1 -0.3**
comp=Z,16nm,1.9s
WATA Walderalm 161.35 340 *i* PKPab **PKPab** **11 56 47.2 -0.6**
comp=Z,13nm,1.0s
WTTA Wattenberg 161.40 340 *i* PKPab **PKPab** **11 56 47.7 -0.3**
comp=Z,13nm,0.7s
RETA Reutte 161.44 342 *i* PKPab **PKPab** **11 56 47.9 -0.2**
comp=Z,9.9nm,0.7s
MOTA Moosalm 161.48 341 *i* PKPab **PKPab** **11 56 47.8 -0.5**
comp=Z,23nm,1.4s
SQTA Sankt Quirin 161.56 341 *i* PKPab **PKPab** **11 56 47.6 -1.0**
comp=Z,4.5nm,0.4s
ABTA Abfaltersbach 161.58 337 *i* PKPab **PKPab** **11 56 48.1 -0.6**
comp=Z,5.6nm,0.7s
DAVA Damuels 161.86 343 *i* PKPab **PKPab** **11 56 49.6 -0.4**
comp=Z,9.9nm,0.7s
FETA Feichten 161.88 341 *i* PKPab **PKPab** **11 56 50.0 0.0**
comp=Z,13nm,1.5s
DAVOX Davos/Dischmat 162.33 343 PKPab **PKPab** **11 56 52.2 +0.1**
comp=Z,12nm,0.6s,baz=26,slow=1.5,SNR=18
TORD Torodi Ar. Bea 163.13 178 PKPab **PKPab** **11 56 55.6 -0.4**
comp=Z,2.4nm,0.9s,baz=163,slow=2.4,SNR=5.4
VAE Valguarnera 167.54 309 PKP **PKPdf** **11 56 08.7 -0.7**
comp=Z,5.7nm,0.4s,baz=188,slow=6.2,SNR=3.5
ESDC Sonseca Array 169.14 27 PKP **PKPdf** **11 56 09.9 -0.5**
comp=Z,1.4nm,1.0s,baz=351,slow=4.9,SNR=4.2
ESDC PKPab **PKPab** **11 57 21.9 -0.2**
comp=Z,1.3nm,0.9s,baz=335,slow=3.1,SNR=3.1

MOS ***30*** *11:37:23.5±0.9, 17°.80N×145°.35E, h297km, mb5.1/72, Error ellipse: s-maj=8.1km s-min=4.2km az=107.5*
BJI ***30*** *11:37:24.5±0.0, 18°.08N×145°.48E, h296km, mB4.8/50, mb5.1/79*
UNK ***30*** *11:37:25.6, 17°.75N×145°.38E, h303km*
NEIC ***30*** *11:37:27.2±2.0, 17°.79N±0°.07×145°.30E±0°.10, h320km±4km, mb5.1/284, Error ellipse: s-maj=13.5km s-min=10.2km az=87.0*
IDC ***30*** *11:37:27.8±0.8, 17°.77N×145°.33E, h328km±8km, mb4.5/53, mb1 4.6/56, mb1mx4.5/67, mbtmp5.2/56, Error ellipse: s-maj=8.2km s-min=5.0km az=95.0*
GCMT ***30*** *11:37:29.6±0.4, 17°.94N±0°.05×145°.33E±0°.03, h315km±2km, MW5.3/64, Moment Tensor Solution. s64,c87; Duration: 1s0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.00±.03; Mθθ-0.34±.05; Mϕϕ0.34±.06; Mrθ-0.80±.04; Mθϕ-0.52±.04; Mϕr-0.23±.05; Best double couple: M₀0.96800×10¹⁷ NP1:ϕ₁6.00000°, δ39.00000°, λ-2.00000°. NP2:ϕ₂98.00000°, δ88.00000°, λ-129.00000°. Principal axes: T 0.7470, Plg32.0000°, Azm220.0000°; N 0.4430, Plg39.0000°, Azm99.0000°; P -1.1890, Plg35.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 30 11:37:25.7±0.4, 17.78N±0°.03×145°.36E±0°.04, h309km±3km, h310km:pP-P, n644, σ1°51/640, mb5.1/279, 27C-33D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**4.19**	**187**	P	**Pn**	**11 38 33.8**	**-0.9**
	94nm,0.3s,baz=52,slow=0.3,SNR=74						
GUMO				S	**S**	**11 39 24.5**	**-5.4**
	56nm,0.3s,baz=288,slow=20,SNR=1.6						
GUMO	**Guam**	**4.19**	**187**	P	**Pn**	**11 38 33.7**	**-0.9**
GUMO				S	**S**	**11 39 30.1**	**+0.2**
GUMO	**Guam**	**4.19**	**187**	Pn	**Pn**	**11 38 33.7**	**-0.9**
GUMO				S	**S**	**11 39 30.1**	**+0.2**
JCJ	**Chichijima**	**9.72**	**343**	P	**P**	**11 39 42.5**	**-1.3**
	15nm,0.3s,baz=170,slow=3.2,SNR=22						
JCJ				S	**S**	**11 41 28.4**	**-2.0**
	12nm,0.3s,baz=300,slow=20,SNR=1.5						
JCJ	**Chichijima**	**9.72**	**343**	P	**Pn**	**11 39 41.9**	**+1.5**
JHJ2	**Mitsune**	**16.06**	**343**	P	**P**	**11 40 54.4**	**+0.6**
JHJ	**Hachijo jima 2**	**16.08**	**343**	P	**P**	**11 40 53.8**	**-0.1**
	29nm,0.3s,baz=194,slow=23,SNR=13						
JHJ				S	**S**	**11 43 45.5**	**-1.4**
	7.9nm,0.3s,baz=90,slow=20,SNR=1.6						
PATS	**Pohnpei**	**16.67**	**129**	P	**Pn**	**11 41 04.1**	**+0.7**
JOW	**Kunigami**	**18.18**	**303**	P	**P**	**11 41 18.7**	**+2.0**
	2.4nm,0.3s,baz=68,slow=14,SNR=4.8						
JOW	**Kunigami**	**18.18**	**303**	P	**P**	**11 41 18.9**	**+2.2**
INU	**Inuyama**	**19.01**	**339**	P	**P**	**11 41 26.9**	**+1.4**
INU				IAmb	IAmb	11 41 29.9	
	comp=Z,87nm,0.8s						
MJAR	**Matsushiro Arr**	**19.73**	**343**	P	**P**	**11 41 30.9**	**-2.3**
	comp=Z,0.5nm,0.3s,baz=168,slow=9.5,SNR=46						
MJAR				S	**S**	**11 44 57.7**	**-0.1**
	comp=Z,0.0nm,0.3s,baz=155,slow=13,SNR=4.4						
MAJO	**Matsushiro**	**19.73**	**343**	P	**P**	**11 41 31.4**	**-1.8**
MAJO				pmax	pmax		
	comp=Z,46nm,0.7s						
MAJO	**Matsushiro**	**19.73**	**343**	P	**P**	**11 41 31.4**	**-1.8**
MAJO				IAmb	IAmb	11 41 34.0	
	comp=Z,46nm,0.7s						
MAT	**Matsushiro**	**19.73**	**343**	P	**P**	**11 41 31.3**	**-1.9**
MAT				S	**S**	**11 44 50.6**	**-7.2**
MJB9	**Matsu-Tunnel**	**19.73**	**343**	P	**P**	**11 41 31.4**	**-1.8**
MJB9				IAmb	IAmb	11 41 34.0	
	comp=Z,47nm,0.7s						
JNU	**Nakatsue**	**20.07**	**322**	P	**P**	**11 41 36.9**	**+0.1**
	comp=Z,29nm,0.8s,baz=123,slow=2.3,SNR=20						
JNU	**Nakatsue**	**20.07**	**322**	P	**P**	**11 41 37.5**	**+0.7**
JNU				IAmb	IAmb	11 41 42.7	
	comp=Z,99nm,1.3s						
JAY	**Jayapura**	**20.68**	**193**	P	**P**	**11 41 42.6**	**-0.4**
	comp=Z,48nm,0.8s,baz=348,slow=3.1,SNR=38						
JAY				ScP	**ScP**	**11 48 45.3**	**-0.8**
	comp=Z,9.8nm,0.8s,baz=350,slow=6.2,SNR=4.6						
JAY	**Jayapura**	**20.68**	**193**	P	**P**	**11 41 40.9**	**-2.1**
	comp=Z,1μmcomp=Z,82nm,1.8s						
SMPI	**Sarmi**	**20.71**	**199**	P	**P**	**11 41 40.5**	**-2.7**
	comp=Z,3μmcomp=Z,155nm,1.9s						
GENI	**Genyem**	**20.88**	**195**	P	**P**	**11 41 44.2**	**-0.7**
	comp=Z,4μmcomp=Z,224nm,1.5s						
YOJ	**Yonaguni jima**	**21.86**	**292**	P	**P**	**11 41 55.0**	**+1.2**
YOJ				pmax	pmax		
	comp=Z,630nm,1.7s						
YOJ	**Yonaguni jima**	**21.86**	**292**		**P**	**11 41 55.0**	**+1.2**
DAV	**Davao City (W)**	**22.03**	**244**	P	**P**	**11 41 55.7**	**+0.3**
	comp=Z,167nm,0.4s,baz=51,slow=8.0,SNR=3.6						
RKPI	**Ransiki, Papua**	**22.11**	**211**	P	**P**	**11 41 52.9**	**-3.2**
TBP	**Tagbilaran**	**22.36**	**252**	*e*P	**P**	**11 42 00.0**	**+1.6**
KCP	**Kidapawan**	**22.48**	**244**	‖ *i*P	**P**	**11 42 00.1**	**+0.6**
WAMI	**Wamena**	**22.50**	**198**	P	**P**	**11 42 05.3**	**+5.6**
RABL	**Rabaul**	**22.84**	**162**	P	**P**	**11 42 03.1**	**+0.3**
KRVT	**Keravat (AS076**	**22.91**	**163**	P	**P**	**11 42 02.2**	**-1.1**
	comp=Z,4.5nm,0.6s,baz=131,slow=5.3,SNR=6.3						
NACB	**Ningaichan**	**23.07**	**290**	IAmb	IAmb	11 42 10.7	
	comp=Z,100nm,1.2s						
SIJI	**Sorong**	**23.15**	**218**	P	**P**	**11 42 05.7**	**+0.1**
	comp=Z,87nm,0.8s,baz=18,slow=10,SNR=19						
YULB	**Yu-li**	**23.19**	**288**	P	**P**	**11 42 06.5**	**+0.5**
TWG	**Pinlang**	**23.31**	**286**	P	**P**	**11 42 07.0**	**+0.1**
TATO	**Taipei**	**23.33**	**292**	P	**P**	**11 42 08.2**	**+1.1**
SSLB	**Suanglung**	**23.57**	**289**		**P**	**11 42 10.4**	**+1.1**
SSLB				IAmb	IAmb	11 42 13.6	
	comp=Z,88nm,0.7s						
TPUB	**Ta-pu**	**23.78**	**288**		**P**	**11 42 12.0**	**+0.7**
TPUB				IAmb	IAmb	11 42 13.0	
	comp=Z,50nm,0.8s						
ERM	**Erimo**	**24.23**	**356***ce*	P	**P**	**11 42 17.2**	**+2.2**
ERM				pmax	pmax		
	comp=Z,32nm,1.0s						
ERM	**Erimo**	**24.23**	**356**		**P**	**11 42 16.4**	**+1.4**
ERM				IAmb	IAmb	11 42 20.5	
	comp=Z,73nm,0.9s						
FAKI	**Fak Fak**	**24.29**	**213**	P	**P**	**11 42 16.1**	**+0.2**
	comp=Z,76nm,0.7s						
FAKI	**Fak Fak**

QZH S **S** **11 46 35.0 -1.9**
QZH pmax pmax
comp=Z,200nm,2.6s
YUK Yuzh-Kuril'sk 26.18 1 *i* P **P** **11 42 33.8 +1.4**
ASAJ Asahikawa 26.36 356 P **P** **11 42 35.2 +1.2**
comp=Z,24nm,0.5s,baz=221,slow=10,SNR=88
ASAJ PcP **PcP** **11 45 52.0 +1.1**
comp=Z,4.7nm,0.7s,baz=211,slow=5.9,SNR=2.5
JKA Kamikawa-asahi 26.36 356 **PcP** **11 45 52.0 +1.1**
MMPI Merauke 26.54 191 P **P** **11 42 35.3 -0.6**
comp=Z,337nm,0.9s
BNDI Bandanaira 26.90 216 P **P** **11 42 40.4 +1.2**
comp=Z,229nm,1.2s
PMG Port Moresby 27.07 176 P **P** **11 42 41.0 +0.4**
comp=Z,18nm,0.5s,baz=141,slow=6.2,SNR=7.3
PMG Port Moresby 27.07 176 *ce*P **P** **11 42 39.8 -0.9**
PMG pmax pmax
comp=Z,115nm,1.5s
PMG Port Moresby 27.07 176 P **P** **11 42 40.5 -0.2**
PMG IAmb IAmb 11 42 41.2
comp=Z,114nm,1.4s
AAI Ambon 27.23 220 P **P** **11 42 42.5 +0.3**
comp=Z,93nm,0.8s
MSHR Mys Shultsa 27.52 337 *ce*P **P** **11 42 45.8 +1.4**
MSHR pmax pmax
comp=Z,20nm,0.8s
NLAI Namlea 27.57 223 P **P** **11 42 45.5 +0.3**
comp=Z,46nm,1.3s
VLA Vladivostok 27.73 338 *d i*P **P** **11 42 47.5 +1.3**
VLA pmax pmax
comp=Z,97nm,1.2s
GTOI Gorontalo 27.80 235 P **P** **11 42 48.5 +1.3**
comp=Z,0.0nm,0.8s
NJ2 Nanjing 27.83 306 *e*P **P** **11 42 48.0 +0.8**
NJ2 pmax pmax
comp=Z,18nm,0.5s
TEY Ternei 28.15 347 ⇓ *e*P **P** **11 42 50.1 +0.2**
TEY pmax pmax
comp=N,30nm,0.7s
TEY pmax pmax
comp=Z,60nm,0.7s
TEY pmax pmax
comp=E,20nm,0.7s
USA0B Ussuriysk Arra 28.64 340 P **P** **11 42 54.2 -0.1**
USA0B pmax pmax
comp=Z,47nm,1.0s
USA0B Ussuriysk Arra 28.64 340 P **P** **11 42 54.2 -0.1**
USRK Ussuriysk Ar. 28.64 340 P **P** **11 42 55.2 +0.9**
comp=Z,29nm,0.8s,baz=151,slow=8.6,SNR=76
USRK PcP **PcP** **11 45 55.6 -0.9**
comp=Z,2.3nm,0.7s,baz=182,slow=4.0,SNR=2.4
MRSI Marisa 28.74 236 P **P** **11 42 56.8 +1.3**
comp=Z,964nmcomp=Z,73nm,1.3s
LUWI Luwuk 29.06 232 P **P** **11 42 58.8 +0.5**
comp=Z,1μmcomp=Z,101nm,0.8s
MYLDM Lahad Datu 29.09 248 P **P** **11 42 57.6 -1.0**
YSS Yuzh-Sakhalins 29.17 356 P **P** **11 42 58.9 0.0**
YSS pmax pmax
comp=Z,45nm,0.9s
YSS Yuzh-Sakhalins 29.17 356 P **P** **11 42 58.9 0.0**
YSS IAmb IAmb 11 43 00.3
comp=Z,45nm,0.9s
DL2 Dalian 29.49 320 P **P** **11 43 01.5 -0.3**
DL2 pP **pP** **11 44 00.3 +0.5**
DL2 S **S** **11 47 30.5 -2.6**
DL2 pmax pmax
comp=Z,150nm,6.0s
MDJ Mudanjiang 29.85 337 P **P** **11 43 06.0 +1.1**
MDJ PP **PP** **11 44 20.3 +0.7**
MDJ S **S** **11 47 42.5 +4.0**
MDJ SS **SS** **11 49 44.3 -12**
MDJ pmax pmax
comp=Z,25nm,0.8s
MDJ pmax pmax
comp=Z,190nm,3.8s
MPSI Mapaga 30.45 238 P **P** **11 43 12.8 +2.2**
comp=Z,1μmcomp=Z,11nm,0.9s
KKM Kota Kinabalu 30.75 251 P **P** **11 43 14.1 +0.7**
KKM IAmb IAmb 11 43 15.3
comp=Z,63nm,0.6s
WHN Wuhan 30.90 300 ⇑ P **P** **11 43 16.5 +2.2**
WHN PP **PP** **11 44 33.0 +1.6**
WHN S **S** **11 47 54.0 -1.3**
WHN pmax pmax
comp=Z,190nm,1.2s
WHN LR LR
comp=Z,1μm,19.6s
WHN LR LR
comp=Z,300nm,7.7s
CN2 Changchun 30.91 331 *e*P **P** **11 43 15.5 +1.3**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
TIA Tai'an 30.97 312 P **P** **11 43 15.5 +0.6**
TIA pmax pmax
comp=Z,25nm,0.7s
SPMM Sapulut 31.11 249 P **P** **11 43 17.0 +0.6**
COEN Coen 31.61 184 P **P** **11 43 20.6 0.0**
TTSI Tana Toraja 32.59 233 P **P** **11 43 30.4 +1.2**
comp=Z,2μmcomp=Z,183nm,1.1s
TYV Tymovskoe 33.08 357 *e*P **P** **11 43 33.9 +1.0**
TYV pmax pmax
comp=Z,300nm,2.4s
TYV pmax pmax
comp=Z,60nm,1.7s
SPSI Sidrap Palu 33.23 232 P **P** **11 43 35.2 +0.6**
comp=Z,1μmcomp=Z,131nm,1.1s
KLR Kul'dur 33.25 344 P **P** **11 43 34.8 +0.4**
comp=Z,99nm,0.6s,baz=154,slow=6.7,SNR=326
KLR PcP **PcP** **11 46 09.4 +0.6**
comp=Z,11nm,0.6s,baz=198,slow=3.1,SNR=5.1
KLR Kul'dur 33.25 344 *de*P **P** **11 43 34.3 -0.1**
KLR pmax pmax
comp=Z,111nm,0.6s
BNSI Bone 33.27 231 P **P** **11 43 36.5 +1.5**
comp=Z,2μmcomp=Z,124nm,0.9s
MTN Manton Dam 33.51 206 P **P** **11 43 36.8 -0.2**
BJI Beijing 33.58 317 P **P** **11 43 37.5 +0.2**
BJI S **S** **11 48 35.0 -1.3**
BJI pmax pmax
comp=Z,49nm,1.3s
BJI LR LR
comp=Z,74nm,7.9s
BJI LR LR
comp=Z,140nm,14.6s
GRNR Gornyy 33.68 350 ⇓ *i*P **P** **11 43 38.7 +0.6**
GRNR *e*S **S** **11 48 43.1 +5.5**
GRNR pmax pmax
comp=N,40nm,0.7s
GRNR pmax pmax
comp=Z,90nm,0.7s
GRNR smax smax
comp=N,2.0nm,0.8s
GRNR MLR MLR
comp=E,20nm,15.0s
GRNR MLR MLR
comp=N,40nm,12.0s
GRNR MLR MLR
comp=Z,80nm,15.0s
KAPI Kappang 33.94 230 P **P** **11 43 41.8 +1.1**
comp=Z,45nm,0.8s,baz=32,slow=8.1,SNR=18
SOEI Soe 34.39 219 P **P** **11 43 44.0 -0.7**
comp=Z,148nm,0.8s
SOEI Soe 34.39 219 P **P** **11 43 43.1 -1.6**
MMRI Maumere 34.79 223 P **P** **11 43 48.2 +0.2**
comp=Z,2μmcomp=Z,142nm,1.6s
MMRI Maumere 34.79 223 P **P** **11 43 47.1 -0.9**
TIY Taiyuan 35.00 311 *e*P **P** **11 43 51.3 +1.7**
BATI Baumata 35.11 219 P **P** **11 43 50.3 -0.4**
comp=Z,114nm,0.8s
EDFI Ende, Flores 35.23 223 P **P** **11 43 51.8 -0.1**
comp=Z,24nm,0.5s
MTKI Muara Teweh, K 35.29 241 P **P** **11 43 53.4 +1.1**
comp=Z,54nm,0.7s
SBUM Sibu 35.90 249 P **P** **11 43 58.3 +0.9**
SBUM IAmb IAmb 11 43 60.0
comp=Z,93nm,1.4s
XAN Xi'an 36.33 304 P **P** **11 44 01.3 +0.4**
XAN PcP **PcP** **11 46 18.0 -0.2**
XAN S **S** **11 49 20.3 +1.8**
XAN pmax pmax
comp=Z,74nm,1.0s
XAN LR LR
comp=Z,450nm,15.7s
XAN LR LR
comp=Z,190nm,15.0s
XAN LR LR
comp=Z,180nm,8.3s
XAN Xi'an 36.33 304 IAmb IAmb 11 44 03.1
comp=Z,132nm,1.4s
PEA0B Petropavlovsk- 36.55 12 P **P** **11 44 03.4 +1.0**
PEA0B pmax pmax
comp=Z,72nm,1.4s
PEA0B Petropavlovsk- 36.55 12 **P** **11 44 03.4 +1.0**
PETK Petropavlovsk- 36.55 12 P **P** **11 44 04.0 +1.5**
comp=Z,17nm,0.9s,baz=157,slow=9.0,SNR=18
PETK ScP **ScP** **11 49 31.7 -3.4**
comp=Z,4.4nm,0.7s,baz=168,slow=5.2,SNR=2.0
PET Petropavlovsk 36.68 13 *e*P **P** **11 44 04.1 +0.7**
PET *e**PP **pwP** **11 45 05.8 -1.5**
PET *e* 11 45 38.5
PET *e*S **S** **11 49 24.5 +1.5**
PET pmax pmax
comp=Z,60nm,1.1s
PET MLR MLR
comp=Z,100nm,19.0s
PET Petropavlovsk 36.68 13 **P** **11 44 04.0 +0.6**
PET IAmb IAmb 11 44 05.8
comp=Z,61nm,1.1s
GYA Guiyang 36.76 291 ⇑ P **P** **11 44 07.3 +2.6**
GYA pP pP 11 45 06.3 +1.7
GYA PcP **PcP** **11 46 20.8 +1.1**
GYA S **S** **11 49 26.3 +1.0**
GYA ScP **ScP** **11 49 39.0 +2.4**
GYA sS sS 11 51 10.0 -3.4
GYA pmax pmax
comp=Z,71nm,0.9s
GYA pmax pmax
comp=Z,250nm,3.5s
GYA LR LR
comp=Z,90nm,4.2s
GYA LR LR
comp=Z,110nm,7.0s
HHC Hu-ho-hao-te 37.02 316 *e*P **P** **11 44 07.8 +1.2**
HHC S **S** **11 49 27.8 -1.0**
HHC ScS **ScS** **11 53 42.0 -3.7**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,140nm,4.5s
KNRA Kununurra 37.05 207 P **P** **11 44 07.4 +0.5**
KNRA IAmb IAmb 11 44 08.4
comp=Z,104nm,0.8s
WBSI Waikabubak, Su 37.42 225 P **P** **11 44 10.5 +0.3**
comp=Z,146nm,0.8s
HIA Hailar 37.62 332 *d i*P **P** **11 44 11.7 +0.3**
HIA pmax pmax
comp=Z,31nm,1.2s
CTA Charters Tower 37.64 179 P **P** **11 44 12.4 +0.5**
comp=Z,30nm,1.0s,baz=357,slow=7.3,SNR=4.9
CTAO Charters Tower 37.64 179 P **P** **11 44 12.5 +0.6**
CTAO pmax pmax
comp=Z,58nm,1.2s
CTAO Charters Tower 37.64 179 P **P** **11 44 12.5 +0.6**
BTO Baotou 37.95 314 P **P** **11 44 15.5 +1.1**
PLAI Plampang 37.96 228 P **P** **11 44 15.3 +0.6**
comp=Z,111nm,0.9s
KSM Kuching 38.04 249 P **P** **11 44 15.5 +0.1**
ZEA Zeya 38.54 343 *e*P **P** **11 44 18.9 0.0**
ZEA pmax pmax
comp=N,59nm,1.0s
ZEA pmax pmax
comp=Z,90nm,1.0s
ZEA pmax pmax
comp=Z,200nm,2.0s
WRAB Tennant Creek 39.01 197 *ce*P **P** **11 44 23.8 +0.6**
WRAB pmax pmax
comp=Z,184nm,1.0s
WRA Warramunga Arr 39.02 197 P **P** **11 44 23.9 +0.6**
comp=Z,120nm,1.0s,baz=15,slow=8.7,SNR=58
WRA ScP **ScP** **11 49 43.3 -1.8**
comp=Z,4.4nm,0.7s,baz=17,slow=4.4,SNR=6.7
WRA S **S** **11 49 58.2 -0.7**
comp=Z,3.8nm,1.1s,baz=17,slow=13,SNR=5.0
SLVN Son La 39.14 282 P **P** **11 44 26.2 +1.8**
SANVU Saraoutou 39.42 146 P **P** **11 44 26.2 -0.4**
SANVU IAmb IAmb 11 44 27.8
comp=Z,137nm,1.2s
CD2 Chengdu 39.87 297 P **P** **11 44 31.3 +1.0**
CD2 sP sP 11 46 07.5 +1.1
CD2 PP **PP** **11 46 11.3 +2.0**
CD2 S **S** **11 50 09.0 -2.5**
CD2 pmax pmax
comp=Z,100nm,0.6s
CD2 pmax pmax
comp=Z,150nm,3.8s
KMI Kunming 40.20 288 ⇑ *i*P **P** **11 44 36.3 +3.0**
KMI pP pP 11 45 34.0 -0.5
KMI PP **PP** **11 46 21.0 +7.8**
KMI S **S** **11 50 19.3 +2.4**
KMI sS sS 11 52 02.5 -3.9
KMI SS **SS** **11 53 20.3 -8.9**
KMI pmax pmax
comp=Z,29nm,0.6s
KMI pmax pmax
comp=Z,120nm,3.5s
KMI LR LR
comp=Z,110nm,6.0s
KMI LR LR
comp=Z,100nm,8.2s
KMI LR LR
comp=Z,100nm,9.4s
JAGI Jajag, Banyuwa 40.38 232 P **P** **11 44 36.8 +2.3**
comp=Z,76nm,1.0s
JAGI Jajag, Banyuwa 40.38 232 P **P** **11 44 33.5 -1.0**
FITZ Fitzroy Crossi 40.59 210 P **P** **11 44 36.4 +0.3**
comp=Z,37nm,0.4s,baz=34,slow=9.1,SNR=375
FITZ S **S** **11 50 19.8 -2.3**
comp=Z,6.5nm,1.1s,baz=210,slow=20,SNR=2.1
FITZ Fitzroy Crossi 40.59 210 P **P** **11 44 36.6 +0.5**
FITZ IAmb IAmb 11 44 37.7
comp=Z,70nm,0.9s
GRJI Gresik 40.70 236 P **P** **11 44 38.3 +1.2**
comp=Z,1μmcomp=Z,105nm,0.6s
LZH Lanzhou 40.90 305 ⇓ P **P** **11 44 40.8 +2.1**
LZH sP sP 11 46 16.0 +1.6
LZH S **S** **11 50 25.5 -1.2**
LZH sS sS 11 52 16.0 -0.5
LZH SS **SS** **11 53 38.0 -4.2**
LZH pmax pmax
comp=Z,240nm,1.1s
LZH pmax pmax
comp=Z,620nm,4.2s
LZH LR LR
comp=Z,340nm,13.1s
LZH LR LR
comp=Z,190nm,13.5s
LZH LR LR
comp=Z,480nm,15.6s
SMY Shemya 41.50 26 P **P** **11 44 44.9 +1.9**
SMY pmax pmax
comp=Z,136nm,0.9s
SMY Shemya 41.50 26 P **P** **11 44 44.9 +1.9**
SMY IAmb IAmb 11 44 46.3
comp=Z,136nm,0.9s
NGJI Ngawi 41.77 236 P **P** **11 44 46.7 +0.9**
comp=Z,37nm,0.8s
MA2 Magadan 41.92 4 *ce*P **P** **11 44 47.5 +1.0**
MA2 pmax pmax
comp=Z,12nm,0.6s
MA2 Magadan 41.92 4 P **P** **11 44 47.4 +1.0**
TPI Tanjungpandan 42.40 245 P **P** **11 44 52.8 +2.0**
comp=Z,56nm,1.3s
WOJI Wonogiri, Jawa 42.48 236 P **P** **11 44 51.8 +0.3**
comp=Z,39nm,1.8s
AS31 Alice Springs 42.68 196 P **P** **11 44 53.2 +0.2**
ASAR Alice Springs 42.69 196 P **P** **11 44 53.7 +0.7**
comp=Z,13nm,0.7s,baz=95,slow=6.9,SNR=4.3
ASAR PcP **PcP** **11 46 37.8 -0.8**
comp=Z,3.8nm,0.8s,baz=27,slow=6.3,SNR=2.2
ASAR ScP **ScP** **11 49 57.6 -1.9**
comp=Z,3.2nm,0.8s,baz=15,slow=3.6,SNR=6.3
ASAR S **S** **11 50 52.2 -0.5**
comp=Z,2.5nm,0.8s,baz=20,slow=20,SNR=7.8
UGM Wanagama 42.84 236 P **P** **11 44 54.7 +0.3**
comp=Z,157nm,1.5s
UGM Wanagama 42.84 236 P **P** **11 44 54.1 -0.3**
EIDS Eidsvold 43.25 172 P **P** **11 44 57.1 -0.3**
ULN Ulaanbaatar 43.29 323 P **P** **11 44 58.6 +0.9**
ULN 11 46 42.0
ULN pmax pmax
comp=Z,155nm,1.6s
ULN Ulaanbaatar 43.29 323 P **P** **11 44 58.6 +0.9**
ULN IAmb IAmb 11 45 01.6
comp=Z,155nm,1.6s
ULN **PcP** **11 46 42.0 +1.5**
SONM Songino Array 43.66 322 P **P** **11 45 01.2 +0.6**
comp=Z,29nm,0.6s,baz=135,slow=8.5,SNR=74
SONM PcP **PcP** **11 46 42.1 +0.4**
comp=Z,6.7nm,0.9s,baz=127,slow=3.9,SNR=5.0
SONM ScP **ScP** **11 50 00.3 -3.1**
comp=Z,2.6nm,0.8s,baz=148,slow=3.5,SNR=5.5
MYKOM Kota Tinggi 43.73 253 P **P** **11 45 02.9 +1.5**
MYKOM Kota Tinggi 43.73 253 P **P** **11 45 03.0 +1.5**
CHTO Chiang Mai 43.98 279 P **P** **11 45 04.8 +1.4**
CHTO pmax pmax
comp=Z,21nm,0.8s
CHTO Chiang Mai 43.98 279 P **P** **11 45 04.8 +1.4**
CM31 Chiang Mai Arr 44.02 278 P **P** **11 45 05.8 +2.0**
CMAR Chiang Mai Arr 44.02 278 P **P** **11 45 05.6 +1.8**
comp=Z,38nm,0.8s,baz=70,slow=6.5,SNR=110
CMAR PcP **PcP** **11 46 43.9 +0.5**
comp=Z,3.0nm,0.8s,baz=79,slow=4.0,SNR=4.4
CMAR ScP **ScP** **11 50 04.5 -0.7**
comp=Z,1.3nm,0.6s,baz=74,slow=3.0,SNR=2.4
CMAR Chiang Mai Arr 44.02 278 *i* P **P** **11 45 05.5 +1.8**
CMAR pmax pmax
comp=Z,39nm,0.8s
DZM Mont Dzumac 44.66 152 P **P** **11 45 09.5 +0.8**
comp=Z,22nm,0.4s,baz=301,slow=3.6,SNR=82
CISI Cisompet, Garu 44.81 239 IAmb IAmb 11 45 10.8
comp=Z,44nm,0.6s
GTA Gaotai 44.85 308 ⇓ P **P** **11 45 11.3 +1.1**
GTA pP pP 11 46 10.0 -2.1
GTA sP PcP 11 46 44.0 -2.0
GTA PcP **sP** **11 46 47.3 +0.7**
GTA ScP **ScP** **11 50 06.3 -2.1**
GTA S **S** **11 51 23.8 -0.2**
GTA sS sS 11 53 09.0 -6.4
GTA pmax pmax
comp=Z,38nm,1.2s
GTA pmax pmax
comp=Z,190nm,5.1s
GTA LR LR
comp=Z,190nm,18.1s
GTA LR LR
comp=Z,120nm,18.7s
GTA LR LR
comp=Z,110nm,18.7s
CNJI Cibinong 45.24 240 P **P** **11 45 14.3 +1.0**
comp=Z,63nm,0.9s
ADK Adak 45.27 32 P **P** **11 45 14.2 +1.2**
ADK pmax pmax
comp=Z,80nm,1.0s
ADK Adak 45.27 32 **P** **11 45 14.2 +1.2**
ADK IAmb IAmb 11 45 15.3
comp=Z,80nm,0.9s
IPM Ipoh 45.33 258 P **P** **11 45 16.0 +1.9**
KULM Kulim 45.40 260 P **P** **11 45 16.6 +2.0**
KULM Kulim 45.40 260 P **P** **11 45 17.0 +2.4**
YAK Yakutsk 45.56 350 P **P** **11 45 14.7 -0.4**
comp=Z,117nm,0.5s,baz=214,slow=0.2,SNR=40
YAK Yakutsk 45.56 350 *e*P **P** **11 45 14.6 -0.5**
YAK *e**PP **pP** **11 46 14.0 -3.6**
YAK *e* 11 46 46.5
YAK *e* 11 54 30.4
YAK *e*SS SS 11 55 00.3 -1.0
YAK pmax pmax
comp=Z,166nm,0.9s
YAK pmax pmax
comp=E,24nm,1.3s
YAK pmax pmax
comp=N,89nm,1.1s
YAK Yakutsk 45.56 350 P **P** **11 45 15.1 0.0**
GSTR Great Sitkin T 45.70 33 P **P** **11 45 17.6 +1.2**
BLSI Bandar Lampung 45.78 244 P **P** **11 45 19.0 +1.4**
comp=N,172nm,0.8s
MDSI Maura Dua 46.26 245 P **P** **11 45 21.9 +0.7**
comp=N,775nmcomp=N,10nm,0.6s
PSA00 Pilbara Seismi 46.41 214 P **P** **11 45 22.4 +0.2**
PSA00 IAmb IAmb 11 45 23.8
comp=Z,118nm,1.2s
KASI Kota Agung 46.50 244 P **P** **11 45 23.6 +0.5**
comp=Z,80nm,0.9s
LHSI Lahat 46.51 247 P **P** **11 45 23.9 +0.7**
comp=Z,36nm,1.2s
LWLI Liwa 46.62 245 P **P** **11 45 24.9 +0.7**
comp=Z,3μmcomp=Z,58nm,0.5s
ATKA Atka Island 46.73 33 **P** **11 45 25.4 +1.1**
ATKA IAmb IAmb 11 45 26.1
comp=Z,118nm,0.7s
BKNI Bangkinang 46.89 253 P P 11 45 32.6 +6.5
IRK Irkutsk 47.08 327 *e*P **P** **11 45 27.5 +0.4**
IRK pmax pmax
comp=Z,76nm,2.2s
TLY Talaya 47.13 326 P **P** **11 45 28.2 +0.8**
comp=Z,12nm,0.6s,baz=168,slow=4.1,SNR=27
TLY PcP **PcP** **11 46 53.9 +0.3**
comp=Z,1.3nm,0.5s,baz=279,slow=4.2,SNR=4.1
TLY Talaya 47.13 326 *e*P **P** **11 45 28.8 +1.4**
TLY *e*S **S** **11 51 57.6 +2.0**
TLY pmax pmax
comp=Z,51nm,0.8s
TLY Talaya 47.13 326 P **P** **11 45 28.4 +0.9**
MNAI Manna 47.26 246 P **P** **11 45 28.9 -0.1**
MNAI IAmb IAmb 11 45 33.9
comp=Z,183nm,1.1s
PSI Prapat 47.88 257 P **P** **11 45 35.7 +1.8**
comp=Z,6.1nm,0.8s,baz=178,slow=2.8,SNR=3.8
MNSI Mandailing Nat 48.04 255 P **P** **11 45 35.2 +0.3**
comp=Z,19nm,0.4s
XMIS Christmas Isla 48.23 237 P **P** **11 45 35.2 -1.1**
XMIS IAmb IAmb 11 45 36.2
comp=Z,75nm,0.7s
ARMA Armidale 48.30 173 P **P** **11 45 36.9 +0.2**
MOY Mondy 48.57 324 *e*P **P** **11 45 40.2 +1.7**
MOY pmax pmax
comp=Z,54nm,2.2s
KCSI Kotacane, Aceh 48.70 259 P **P** **11 45 41.2 +1.2**
comp=Z,8.4nm,0.6s
SISI Saibi 49.34 252 P **P** **11 45 45.0 +0.2**
comp=Z,41nm,0.7s
STKA Stephens Creek 49.50 184 P **P** **11 45 45.4 -0.2**
comp=Z,13nm,0.5s,baz=7.6,slow=7.9,SNR=14
STKA Stephens Creek 49.50 184 P **P** **11 45 45.6 0.0**
STKA pmax pmax
comp=Z,34nm,2.0s
STKA Stephens Creek 49.50 184 P **P** **11 45 45.6 0.0**
GSI Gunungsitoli 49.69 256 P **P** **11 45 48.3 +0.9**
comp=Z,193nm,0.8s
GSI Gunungsitoli 49.69 256 P **P** **11 45 48.5 +1.1**
GSI IAmb IAmb 11 45 49.9
comp=Z,34nm,0.5s
NIKH Nikolski High 49.94 34 **P** **11 45 49.4 +0.7**
NIKH IAmb IAmb 11 45 50.0
comp=Z,52nm,0.6s
GIRL Giralia 50.40 218 P **P** **11 45 53.8 +1.4**
GIRL IAmb IAmb 11 45 55.0
comp=Z,92nm,0.7s
LSA Lhasa 50.62 294 P **P** **11 45 57.3 +2.6**
LSA pmax pmax
comp=Z,500nm,1.4s
LSA Lhasa 50.62 294 P **P** **11 45 57.2 +2.6**
FORT Forrest 51.07 199 P **P** **11 45 58.0 +0.8**
FORT IAmb IAmb 11 45 58.7
comp=Z,66nm,0.8s
BBOO Buckleboo 51.08 190 P **P** **11 45 57.9 +0.5**
BBOO IAmb IAmb 11 45 58.5
comp=Z,49nm,0.8s
SPIA Saint Paul Isl 51.29 29 P **P** **11 45 59.9 +1.3**
UNV Unalaska Valle 51.59 34 **P** **11 46 01.1 +0.3**
BILL Bilibino 51.98 10 *de*P **P** **11 46 03.8 +0.4**
BILL pmax pmax
comp=Z,115nm,1.3s
BILL Bilibino 51.98 10 **P** **11 46 03.9 +0.5**
BILL IAmb IAmb 11 46 05.1
comp=Z,113nm,1.2s
AKUT Akutan 52.11 34 **P** **11 46 05.3 +0.7**
CAN Canberra 52.92 176 P **P** **11 46 12.0 +1.2**
CAN pmax pmax
comp=Z,38nm,1.3s
CAN Canberra 52.92 176 P **P** **11 46 12.0 +1.2**
FALS False Pass 53.65 34 **P** **11 46 16.3 +0.5**
TAPN Taplejung 53.69 291 *e*P **P** **11 46 18.1 +1.2**
comp=Z,59nm,0.5s
ODAN Odare 53.99 291 *e*P **P** **11 46 20.1 +1.0**
GAMB Gambell 54.42 22 **P** **11 46 22.1 +1.0**

GAMB IAmb IAmb 11 46 23.3
comp=Z,61nm,1.1s
MORW Morawa 54.51 212 P **P** **11 46 22.2 -0.1**
MORW IAmb IAmb 11 46 23.2
comp=Z,36nm,0.7s
WMQ Urumqi 54.67 311 P **P** **11 46 25.5 +2.1**
WMQ pP pP 11 47 31.0 +2.8
WMQ S **S** **11 53 42.5 +3.6**
WMQ sS sS 11 55 36.3 +1.8
WMQ pmax pmax
comp=Z,65nm,1.5s
WMQ pmax pmax
comp=Z,83nm,4.9s
WMQ LR LR
comp=Z,190nm,18.9s
WMQ LR LR
comp=Z,130nm,17.5s
WMQ LR LR
comp=Z,82nm,24.7s
RAMN Ramite 54.69 291 *e*P **P** **11 46 25.0 +0.9**
comp=Z,31nm,0.4s
TIXI Tiksi 54.74 354 P **P** **11 46 22.8 -0.5**
comp=Z,6.7nm,0.4s,baz=143,slow=7.9,SNR=11
TIXI Tiksi 54.74 354*ce*P **P** **11 46 23.0 -0.3**
TIXI pmax pmax
comp=Z,12nm,1.3s
TIXI Tiksi 54.74 354 **P** **11 46 22.8 -0.5**
JIRN Jiri 55.02 292 *e*P **P** **11 46 27.9 +1.3**
comp=Z,287nm,0.5s
TOO Toolangi 55.05 180 P **P** **11 46 27.0 +0.9**
TOO pmax pmax
comp=Z,22nm,0.8s
TOO Toolangi 55.05 180 P **P** **11 46 27.0 +0.9**
GUN Gumba 55.28 292 *e*P **P** **11 46 29.6 +1.2**
comp=Z,129nm,0.6s
SDPT Sand Point 55.41 34 **P** **11 46 29.0 +0.6**
CNBA Chernabura Isl 55.71 35 P **P** **11 46 31.1 +0.6**
CNBA IAmb IAmb 11 46 32.0
comp=Z,42nm,0.6s
PKI Pulchoki 55.72 292 *e*P **P** **11 46 32.1 +0.7**
comp=Z,102nm,0.5s
PKIN Phulchoki 55.73 292 *e*P **P** **11 46 32.1 +0.7**
comp=Z,124nm,0.5s
KKN Kakani 55.82 292 *e*P **P** **11 46 32.8 +0.8**
comp=Z,36nm,0.5s
DMN Daman 55.98 292 *e*P **P** **11 46 34.2 +1.0**
comp=Z,106nm,0.4s
DGZ Jazzator, Alta 55.99 318*d i*P **P** **11 46 33.8 +1.0**
DGZ pmax pmax
comp=Z,35nm,0.9s
GKN Gorkha 56.37 292 *e*P **P** **11 46 36.8 +0.9**
comp=Z,93nm,0.5s
DANN Dangsing 57.12 293 *e*P **P** **11 46 42.4 +1.1**
comp=Z,255nm,0.6s
NWAO Narrogin (SRO) 57.14 208 P **P** **11 46 41.2 +0.4**
NWAO pmax pmax
comp=Z,29nm,0.9s
NWAO Narrogin (SRO) 57.14 208 P **P** **11 46 41.2 +0.4**
ANM Nome 57.16 23 IAmb IAmb 11 46 42.8
comp=Z,47nm,0.9s
ZSN Zaisan 57.22 315⇓ *i*P **P** **11 46 42.3 +1.0**
comp=Z,14nm,0.7s,baz=315
ZSN Zaisan 57.22 315*d i*P **P** **11 46 42.2 +1.0**
ZSN pmax pmax
comp=Z,13nm,0.7s
KOLN Koldanda 57.30 292 *e*P **P** **11 46 43.2 +0.8**
PYUN Piuthan 57.82 292 *e*P **P** **11 46 46.8 +0.8**
CHLP Challavanipeta 58.00 281 *e*P **P** **11 46 48.6 +1.6**
CHLP IVmBBB 11 46 54.3
comp=Z,185nm,1.4s
ZAA0 Zalesovo Array 58.55 323 P **P** **11 46 50.0 -0.2**
ZAA0 IAmb IAmb 11 46 52.8
comp=Z,115nm,1.9s
ZALV Zalesovo Beam 58.55 323 P **P** **11 46 50.3 +0.1**
comp=Z,8.8nm,0.4s,baz=106,slow=7.0,SNR=52
ZALV PcP **PcP** **11 47 36.4 -0.5**
comp=Z,4.2nm,0.5s,baz=114,slow=4.9,SNR=4.4
ZALV ScP **ScP** **11 51 03.4 -3.7**
comp=Z,1.9nm,0.6s,baz=113,slow=6.6,SNR=3.9
MK31 Makanchi Array 58.87 314 P **P** **11 46 53.6 +0.9**
MK31 pmax pmax
comp=Z,33nm,1.0s
MK31 Makanchi Array 58.87 314 P **P** **11 46 53.5 +0.9**
MKAR Makanchi Array 58.87 314 P **P** **11 46 53.4 +0.8**
comp=Z,20nm,0.5s,baz=90,slow=8.1,SNR=257
MKAR PcP **PcP** **11 47 38.3 -0.1**
comp=Z,5.8nm,0.8s,baz=95,slow=6.1,SNR=3.6
MKAR ScP **ScP** **11 51 06.2 -2.5**
comp=Z,4.5nm,0.8s,baz=93,slow=6.2,SNR=6.3
MAKZ Makanchi 59.08 314 P **P** **11 46 54.9 +0.8**
MAKZ pmax pmax
comp=Z,62nm,1.0s
MAKZ Makanchi 59.08 314 P **P** **11 46 54.9 +0.8**
MAKZ IAmb IAmb 11 46 56.2
comp=Z,62nm,0.9s
OUZ Omahuta 59.13 153 P **P** **11 46 56.5 +2.1**
SVW2 Sparrevohn 59.78 29 **P** **11 46 59.9 +1.3**
SVW2 IAmb IAmb 11 47 00.9
comp=Z,38nm,0.8s
OHAK Old Harbor 59.79 34 **P** **11 46 59.7 +1.0**
OHAK IAmb IAmb 11 47 00.6
comp=Z,98nm,1.0s
RDOG Red Dog Mine 59.80 20 IAmb IAmb 11 47 00.7
comp=Z,70nm,1.0s
TTA Tatalina 60.21 27 P **P** **11 47 02.2 +0.7**
TTA pmax pmax
comp=Z,52nm,1.2s
TTA Tatalina 60.21 27 **P** **11 47 02.2 +0.7**
TTA IAmb IAmb 11 47 03.4
comp=Z,52nm,1.2s
KDAK Kodiak Island 60.30 33 P **P** **11 47 02.6 +0.6**
comp=Z,59nm,0.8s,baz=248,slow=2.6,SNR=74
KDAK Kodiak Island 60.30 33 P **P** **11 47 02.7 +0.6**
KDAK pmax pmax
comp=Z,65nm,1.0s
KDAK Kodiak Island 60.30 33 **P** **11 47 02.7 +0.6**
KDAK IAmb IAmb 11 47 03.9
comp=Z,65nm,0.9s
TAU Tasmania Unive 60.41 178 P **P** **11 47 03.6 +0.7**
TAU pmax pmax
comp=Z,148nm,1.6s
TAU Tasmania Unive 60.41 178 P **P** **11 47 03.6 +0.7**
TAU IAmb IAmb 11 49 08.4
comp=Z,148nm,1.6s
PVM Polavaram 60.50 280 *e*P **P** **11 47 04.5 +0.4**
PVM IVmBBB 11 47 05.7
comp=Z,157nm,1.3s
SHLS Shalkode 60.55 310 *i*P **P** **11 47 03.1 -1.1**
comp=Z,22nm,0.6s,baz=310
SHLS *e*S **S** **11 54 53.8 -1.5**
baz=310
SHLS Shalkode 60.55 310 *i*P **P** **11 47 03.1 -1.1**
SHLS *e*S **S** **11 54 53.7 -1.5**
SHLS pmax pmax
comp=Z,22nm,0.6s
SEM Semipalatinsk 60.67 318⇑ *i*P **P** **11 47 04.3 -0.7**
comp=Z,12nm,1.0s,baz=318
SEM Semipalatinsk 60.67 318*c i*P **P** **11 47 04.3 -0.7**
SEM pmax pmax
comp=Z,12nm,1.0s
UZB Uzynbulak 60.88 310⇓ *i*P **P** **11 47 07.3 +0.9**
comp=Z,17nm,0.6s,baz=310
UZB *e*S **S** **11 55 01.1 +1.8**
baz=310
UZB Uzynbulak 60.88 310*d i*P **P** **11 47 07.3 +0.9**
UZB *e*S **S** **11 55 01.1 +1.8**
UZB pmax pmax
comp=Z,17nm,0.6s
KPKS Kokpek 61.13 310⇓ *i*P **P** **11 47 09.0 +0.9**
comp=Z,28nm,0.5s,baz=310
KPKS Kokpek 61.13 310*d i*P **P** **11 47 09.0 +0.9**
KPKS pmax pmax
comp=Z,28nm,0.5s
SATY Saty 61.32 310⇓ *i*P **P** **11 47 10.5 +1.1**
comp=Z,17nm,0.6s,baz=310
SATY Saty 61.32 310*d i*P **P** **11 47 10.5 +1.1**
SATY pmax pmax
comp=Z,17nm,0.6s
TDK Taldyqorghan 61.41 312 *e*P **P** **11 47 11.0 +1.1**
comp=Z,108nm,0.9s,baz=312
TDK *e*S **S** **11 55 07.8 +2.1**
baz=312
TDK Taldyqorghan 61.41 312 *e*P **P** **11 47 10.9 +1.1**
TDK *e*S **S** **11 55 07.8 +2.1**
TDK pmax pmax
comp=Z,108nm,0.9s

MYLAV Mylavaram 61.53 280 *e*P **P** **11 47 12.3 +1.3**
MYLAV IVmB_BB 11 47 13.5
comp=Z,186nm,3.0s
TARG Taragay, Kyrgy 61.73 308 P **P** **11 47 13.7 +1.2**
TARG IAmb IAmb 11 47 15.3
comp=Z,40nm,1.1s
KURK Kurchatov 61.74 318*ce*P **P** **11 47 11.8 0.0**
KURK pmax pmax
comp=Z,99nm,1.1s
KURK Kurchatov 61.74 318 P **P** **11 47 12.1 +0.3**
KURBB Kurchatov Arra 61.78 318 P **P** **11 47 11.9 -0.2**
PPLA Purkeypile 61.86 27 **P** **11 47 13.5 +0.9**
PPLA IAmb IAmb 11 47 14.1
comp=Z,42nm,1.1s
SKT Skwentna 61.90 29 IAmb IAmb 11 47 13.6
comp=Z,41nm,0.6s
SUA Susitna One 62.12 29 IAmb IAmb 11 47 15.8
comp=Z,38nm,0.7s
KDJ Kajisay 62.20 309 IAmb IAmb 11 47 17.9
comp=Z,75nm,1.1s
MDOK Medeo 62.32 310 *i*P **P** **11 47 17.2 +1.2**
baz=310
MDOK *i*S **S** **11 55 19.6 +2.1**
baz=310
MDOK Medeo 62.32 310 *i*P **P** **11 47 17.2 +1.2**
MDOK *i*S **S** **11 55 19.5 +2.1**
ADKI Addanki 62.34 279 *e*P **P** **11 47 17.5 +1.1**
ADKI IVmB_BB 11 47 18.6
comp=Z,117nm,3.4s
NRIK Noril'sk 62.36 340 P **P** **11 47 13.1 -2.5**
comp=Z,14nm,0.6s,baz=123,slow=6.7,SNR=16
NRIK Noril'sk 62.36 340 *e*P **P** **11 47 15.0 -0.6**
NRIK pmax pmax
comp=Z,39nm,1.2s
O22K Cooper Landing 62.37 30 P **P** **11 47 15.9 +0.1**
baz=257
CHKK Chushkaly 62.38 311 *e*P **P** **11 47 16.8 +0.6**
baz=310
CHKK Chushkaly 62.38 311 *e*P **P** **11 47 16.8 +0.6**
RPR Rampur 62.38 282 *e*P **P** **11 47 16.3 -0.3**
RPR IVmBBB 11 47 18.4
comp=Z,165nm,1.8s
TNSS Tian-Shan 62.39 310 *i*P **P** **11 47 17.7 +0.8**
baz=310
TNSS Tian-Shan 62.39 310 *i*P **P** **11 47 17.6 +0.8**
AAA Alma-Ata 62.42 310 *i*P **P** **11 47 17.8 +1.2**
comp=Z,49nm,0.6s,baz=310
AAA Alma-Ata 62.42 310 *i*P **P** **11 47 17.7 +1.2**
AAA pmax pmax
comp=Z,49nm,0.6s
SEW Seward 62.42 31 **P** **11 47 16.6 +0.5**
MTBS Maitube 62.77 310 *e*P **P** **11 47 20.0 +1.1**
baz=310
MTBS Maitube 62.77 310 *e*P **P** **11 47 20.0 +1.1**
NJS Nagarjunasagar 62.81 280 *e*P **P** **11 47 19.6 +0.1**
NJS IVmB_BB 11 47 20.8
comp=Z,171nm,1.3s
TRF Thorofare Moun 62.84 27 IAmb IAmb 11 47 20.0
comp=Z,70nm,1.1s
KUU Kurty 62.85 311⇓ *i*P **P** **11 47 20.2 +0.8**
comp=Z,86nm,0.5s,baz=310
KUU Kurty 62.85 311*d i*P **P** **11 47 20.1 +0.8**
KUU pmax pmax
comp=Z,86nm,0.5s
ULHL Ulahol 62.90 309 P **P** **11 47 21.8 +1.8**
SNR=16
PMR Palmer 62.91 29 IAmb IAmb 11 47 20.2
comp=Z,52nm,0.7s
SKHT Srikalahasti 63.04 277 *e*P **P** **11 47 22.0 +1.1**
SKHT IVmBBB 11 47 47.6
comp=Z,153nm,2.9s
KSH Kashi 63.14 306 P **P** **11 47 25.5 +4.1**
KSH pP pwP 11 48 36.3 +2.3
KSH PcS 11 52 00.5
KSH S **S** **11 55 30.3 +2.7**
KSH pmax pmax
comp=Z,110nm,1.1s
KSH pmax pmax
comp=Z,370nm,4.8s
SRSP Sriramsagar 63.25 283 *e*P **P** **11 47 22.6 +0.3**
SRSP IVmB_BB 11 47 23.1
comp=Z,145nm,1.1s
SRLM Srisailam 63.30 279 *e*P **P** **11 47 23.1 +0.4**
SRLM IVmB_BB 11 47 34.1
comp=Z,239nm,4.5s
HYB Hyderabad 63.35 281 *i*P **P** **11 47 23.0 0.0**
HYBB Hyderabad (bro 63.35 281 *e*P **P** **11 47 23.4 +0.3**
HYBB IVmBBB 11 47 24.7
comp=Z,195nm,1.4s
TKM2 Tokmak 2 63.38 310 P **P** **11 47 24.2 +1.2**
SNR=43
RND Reindeer 63.46 27 IAmb IAmb 11 47 23.9
comp=Z,35nm,0.5s
MCK McKinley 63.50 27 IAmb IAmb 11 47 24.1
comp=Z,48nm,1.1s
QRZ Quartz Range 63.54 157 P **P** **11 47 24.8 +1.1**
KZA Kyzart 63.64 309 P **P** **11 47 26.8 +1.8**
SNR=48
NEA2 Nenana 63.65 26 P **P** **11 47 24.0 -0.2**
baz=255,SNR=11
KBK Karagaybulak 63.86 309 P **P** **11 47 27.1 +1.0**
SNR=28
COLD Coldfoot 63.92 23 P **P** **11 47 26.2 +0.4**
baz=253,SNR=52
COLD Coldfoot 63.92 23 IAmb IAmb 11 47 28.1
comp=Z,33nm,0.9s
CHMS Chumysh 64.00 310 P **P** **11 47 25.8 -1.1**
SNR=7.2
WRH Wood River Hil 64.03 26 IAmb IAmb 11 47 27.3
comp=Z,36nm,0.6s
SGDS Sogindy 64.09 310⇓ *i*P **P** **11 47 28.0 +0.6**
comp=Z,9.0nm,0.5s,baz=310
SGDS Sogindy 64.09 310*d i*P **P** **11 47 28.0 +0.6**
SGDS pmax pmax
comp=Z,9.0nm,0.5s
MDM Murphy Dome 64.09 26 IAmb IAmb 11 47 29.2
comp=Z,27nm,0.6s
USP Ospenovka 64.18 310 P **P** **11 47 28.8 +0.7**
SNR=14
UCH Uchtor 64.19 309 P **P** **11 47 30.1 +1.6**
SNR=64
AAK Ala-Archa 64.19 309 P **P** **11 47 29.4 +1.1**
SNR=7.6
AAK Ala-Archa 64.19 309 *i*P **P** **11 47 29.2 +1.0**
SNR=9.1
AAK Ala-Archa 64.19 309*ce*P **P** **11 47 28.9 +0.6**
AAK pmax pmax
comp=Z,20nm,1.2s
AAK Ala-Archa 64.19 309 P **P** **11 47 29.2 +1.0**
AAK IAmb IAmb 11 47 30.2
comp=Z,36nm,1.2s
CCB Clear Creek Bu 64.20 26 IAmb IAmb 11 47 29.1
comp=Z,51nm,1.5s
TCOL CIGO, UAF Yank 64.22 26 P **P** **11 47 27.3 -0.5**
baz=256,SNR=15
COLA College 64.23 26*d i*P **P** **11 47 27.3 -0.5**
COLA pmax pmax
comp=Z,23nm,0.7s
COLA College 64.23 26 P **P** **11 47 28.2 +0.4**
COLA IAmb IAmb 11 47 30.9
comp=Z,28nm,0.7s
POKR Poker Flat Res 64.46 26 P **P** **11 47 28.7 -0.7**
baz=257,SNR=5.4
BTLS Baital 64.50 312⇓ *i*P P 11 47 40.9 +11
comp=Z,24nm,0.5s,baz=312
BTLS Baital 64.50 312*d i*P P 11 47 40.9 +11
BTLS pmax pmax
comp=Z,24nm,0.5s
HDA Harding Lake 64.50 26 P **P** **11 47 28.7 -1.0**
baz=258,SNR=45
HDA Harding Lake 64.50 26 IAmb IAmb 11 47 29.9
comp=Z,33nm,0.5s
TOLK Toolik Lake Re 64.56 22 P **P** **11 47 31.0 +1.0**
baz=253,SNR=52
TOLK Toolik Lake Re 64.56 22 IAmb IAmb 11 47 32.2
comp=Z,34nm,0.7s
ILAR Eielson Array 64.61 26 P **P** **11 47 29.6 -0.7**
comp=Z,26nm,0.5s,baz=246,slow=6.0,SNR=440
EKS2 Erkin-Say 64.72 309 P **P** **11 47 33.2 +1.6**
SNR=17
AML Almayashu 64.80 309 P **P** **11 47 34.4 +1.9**
SNR=8.9
KLRI Killari 65.04 282 IVmBBB 11 47 33.5
comp=Z,282nm,2.1s
KLRI *e*P **P** **11 47 34.2 +0.2**
URV Uravakonda 65.08 279 *e*P **P** **11 47 34.6 +0.4**

URV IVmB_BB 11 47 51.5
comp=Z,200nm,2.7s
PLWZ Palliser 65.22 156 P **P** **11 47 34.1 -0.4**
GLB Gilahina Butte 65.39 30 IAmb IAmb 11 47 37.9
comp=Z,62nm,1.0s
VRDI Verde Repeater 65.53 30 IAmb IAmb 11 47 38.1
comp=Z,46nm,0.8s
OXZ Oxford 65.56 159 P **P** **11 47 36.2 -0.4**
OXZ IAmb IAmb 11 47 41.1
comp=Z,79nm,1.3s
RPZ Rata Peaks 65.57 160 P **P** **11 47 36.5 -0.2**
comp=Z,15nm,0.5s,baz=332,slow=2.0,SNR=15
RPZ Rata Peaks 65.57 160 IAmb IAmb 11 49 54.8
comp=Z,79nm,1.4s
NIL Nilore 65.69 299 P **P** **11 47 39.1 +1.2**
NIL pmax pmax
comp=Z,156nm,1.0s
NIL Nilore 65.69 299 P **P** **11 47 39.1 +1.2**
SCRK Sand Creek 65.69 27 IAmb IAmb 11 47 38.6
comp=Z,69nm,1.2s
ISLE Juniper Island 65.99 31 IAmb IAmb 11 47 41.1
comp=Z,48nm,0.9s
BALM Baldy 66.04 30 IAmb IAmb 11 47 41.2
comp=Z,40nm,0.7s
BARN Barnard Glacie 66.37 31 IAmb IAmb 11 47 43.7
comp=Z,25nm,0.7s
DZA Taraz 66.51 310 *e*P **P** **11 47 43.1 +0.2**
baz=310
DZA Taraz 66.51 310 *e*P **P** **11 47 43.1 +0.2**
BVA0 Borovoye Array 66.97 321 P **P** **11 47 45.4 -0.1**
EGAK Eagle 67.03 26 IAmb IAmb 11 47 47.7
comp=Z,16nm,0.5s
BRVK Borovoye 67.04 321*ce*P **P** **11 47 46.2 +0.3**
BRVK pmax pmax
comp=Z,35nm,0.7s
BRVK Borovoye 67.04 321 P **P** **11 47 46.8 +0.9**
BRVK IAmb IAmb 11 47 48.4
comp=Z,38nm,0.8s
KK31 Karatay Array 67.10 310 *i*P **P** **11 47 47.0 +0.4**
IUG Iuzhnay 67.52 309 *e*P **P** **11 47 50.0 +0.6**
comp=Z,3.3nm,1.4s,baz=309
IUG Iuzhnay 67.52 309 *e*P **P** **11 47 49.9 +0.6**
DAWY Dawson 67.71 27 IAmb IAmb 11 47 51.9
comp=Z,28nm,0.9s
CHM Chimkent 67.82 309⇓ *i*P **P** **11 47 51.9 +0.8**
comp=Z,25nm,0.8s,baz=309
CHM Chimkent 67.82 309⇓ *i*P **P** **11 47 51.9 +0.8**
CHM pmax pmax
comp=Z,25nm,0.8s
EPYK Eagle Plains 69.02 25 P **P** **11 47 58.5 +0.5**
baz=266,SNR=35
EPYK Eagle Plains 69.02 25 IAmb IAmb 11 47 59.6
comp=Z,36nm,0.8s
KBL Kabul 69.06 301 P **P** **11 48 00.2 +1.1**
KBL pmax pmax
comp=Z,51nm,1.0s
KBL Kabul 69.06 301 P **P** **11 48 00.2 +1.1**
KBL IAmb IAmb 11 48 00.9
comp=Z,51nm,1.0s
SKAG Skagway 69.44 32 IAmb IAmb 11 48 02.9
comp=Z,30nm,0.8s
WHY Whitehorse 69.66 31 IAmb IAmb 11 48 04.4
comp=Z,33nm,0.9s
BESE Bessie Mountai 69.69 33 IAmb IAmb 11 48 04.5
comp=Z,41nm,0.8s
JIS Juneau Island 69.95 34 IAmb IAmb 11 48 05.9
comp=Z,36nm,0.7s
INK Inuvik 70.34 23 P **P** **11 48 05.7 -0.1**
comp=Z,30nm,0.9s,baz=266,slow=6.5,SNR=55
INK Inuvik 70.34 23 IAmb IAmb 11 48 07.0
comp=Z,31nm,0.8s
WRAK Wrangell Islan 71.14 36 IAmb IAmb 11 48 13.1
comp=Z,30nm,0.8s
DIB Dawson Inlet, 71.30 39 IAmb IAmb 11 48 13.4
comp=Z,35nm,0.8s
DLBC Dease Lake 72.23 33 P **P** **11 48 18.7 +1.3**
comp=Z,51nm,1.0s,baz=288,slow=6.5,SNR=61
DLBC Dease Lake 72.23 33 IAmb IAmb 11 48 19.9
comp=Z,46nm,0.9s
SVE Sverdlovsk 72.44 325 *e*P **P** **11 48 18.6 0.0**
SVE pmax pmax
comp=Z,40nm,0.9s
ARU Arti 73.62 325 P **P** **11 48 25.6 +0.1**
comp=Z,18nm,0.6s,baz=104,slow=2.8,SNR=75
ARU Arti 73.62 325*d i*P **P** **11 48 25.2 -0.3**
ARU *PP **pP** **11 49 35.7 +0.8**
ARU 11 51 09.8
ARU S **S** **11 57 30.1 +0.4**
ARU pmax pmax
comp=Z,48nm,0.6s
ARU Arti 73.62 325 P **P** **11 48 25.6 +0.1**
AB31 Akbulak array 73.79 317 *i*P **P** **11 48 25.8 -0.8**
BBB Bella Bella 74.06 40 P **P** **11 48 29.1 +1.1**
comp=Z,23nm,0.9s,baz=325,slow=7.9,SNR=15
BBB Bella Bella 74.06 40 IAmb IAmb 11 48 30.2
comp=Z,29nm,1.1s
HRA Herat 74.63 302 P **P** **11 48 32.9 +0.9**
AKTO Aktyubinsk 74.84 319 P **P** **11 48 32.4 -0.2**
comp=Z,13nm,0.6s,baz=91,slow=7.2,SNR=53
AKTO Aktyubinsk 74.84 319 P **P** **11 48 31.8 -0.8**
GEYT Alibeck 77.17 306 P **P** **11 48 46.5 +0.5**
comp=Z,22nm,1.0s,baz=85,slow=1.8,SNR=28
GEYT PP **PP** **11 51 45.1 +0.7**
comp=Z,3.4nm,0.8s,baz=64,slow=6.9,SNR=5.5
GYA0B ALIBECK ARRAY 77.17 306 IAmb IAmb 11 48 52.0
comp=Z,25nm,0.9s
PGC Sidney 77.64 43 IAmb IAmb 11 48 50.4
comp=Z,27nm,0.9s
NLWA Neilton Lookou 77.65 44 IAmb IAmb 11 48 51.1
comp=Z,41nm,0.8s
KIRV Kirov 78.06 328 P **P** **11 48 51.0 +0.7**
comp=Z,20nm,0.4s,baz=82,slow=4.5,SNR=18
KIRV Kirov 78.06 328 P **P** **11 48 51.0 +0.7**
A04D Lummi Island 78.11 43 P **P** **11 48 51.8 +1.0**
baz=283,SNR=6.1
D03D Eldon 78.13 44 P **P** **11 48 52.2 +1.2**
baz=283,SNR=30
LLLB Lillooet 78.19 41 IAmb IAmb 11 48 53.4
comp=Z,22nm,1.0s
I02D Swisshome 78.41 47 P **P** **11 48 53.5 +1.0**
baz=283
D04E Lakebay 78.42 44 P **P** **11 48 53.7 +1.1**
baz=284,SNR=5.1
F04D Rainier, OR 78.52 45 P **P** **11 48 54.1 +1.0**
baz=284
G03D McMinnville, O 78.55 46 P **P** **11 48 53.9 +0.6**
baz=284
B05A Bryant 78.61 43 P **P** **11 48 54.6 +1.0**
baz=284,SNR=12
COR Corvallis 78.67 47 P **P** **11 48 55.9 +1.9**
COR pmax pmax
comp=Z,76nm,1.2s
COR Corvallis 78.67 47 P **P** **11 48 55.9 +1.9**
E04D Cinebar 78.71 45 P **P** **11 48 54.6 +0.4**
baz=284,SNR=12
I03D Drain, OR 78.85 48 P **P** **11 48 55.9 +0.9**
baz=284,SNR=7.2
D05A Enumclaw 78.94 44 P **P** **11 48 56.9 +1.5**
D05A IAmb IAmb 11 48 58.0
comp=Z,32nm,0.8s
B06A Marblemount 78.94 43 IAmb IAmb 11 48 57.1
comp=Z,26nm,1.1s
YKA Yellowknife Ar 78.95 28 P **P** **11 48 54.8 -0.3**
comp=Z,6.0nm,0.4s,baz=287,slow=5.3,SNR=80
H04D Lebanon 79.08 47 P **P** **11 48 57.0 +0.7**
baz=284,SNR=5.9
KHMM Horse Mountain 79.26 51 IAmb IAmb 11 49 00.2
comp=Z,36nm,0.8s
H04A Detroit Lake 79.42 46 IAmb IAmb 11 48 59.9
comp=Z,35nm,0.9s
F05D White Salmon 79.62 45 P **P** **11 48 60.0 +0.9**
baz=285
M02C Callahan 79.77 50 P **P** **11 49 01.3 +1.2**
baz=285,SNR=9.0
LTY Liberty 79.79 44 IAmb IAmb 11 49 01.7
comp=Z,36nm,1.2s
YBH Yreka Blue Hor 79.79 49 P **P** **11 49 01.8 +1.6**
comp=Z,26nm,0.8s,baz=319,slow=3.4,SNR=44
YBH Yreka Blue Hor 79.79 49 IAmb IAmb 11 49 02.6
comp=Z,30nm,0.8s
G05D Wamic, OR 79.88 46 P **P** **11 49 01.5 +1.0**
baz=285
L04D Klamath Falls 79.96 49 P **P** **11 49 01.8 +0.6**
baz=285,SNR=8.7
N02D Trinity Center 79.99 50 P **P** **11 49 02.4 +1.1**
baz=285
SPA0 Spitsbergen Ar 80.02 351 IAmb IAmb 11 49 02.2

comp=Z,54nm,1.3s
SPA0 Spitsbergen Ar 80.02 351 *e*P **P 11 49 01.1 +0.5**
I05D Terrebonne, OR 80.10 47 P **P 11 49 02.4 +0.6**
baz=285,SNR=6.0
O02D Mt. Diablo Mer 80.13 51 P **P 11 49 02.7 +0.7**
baz=285
KBS Kingsbay 80.14 352*ce*P **P 11 49 01.4 +0.1**
KBS pmax pmax
comp=Z,54nm,1.9s
KBS Kingsbay 80.14 352 P **P 11 49 02.0 +0.7**
KBS Kingsbay 80.14 352⇑*i*P **P 11 49 01.7 +0.5**
WDC Whiskeytown Da 80.21 51 IAmb IAmb 11 49 04.4
comp=Z,20nm,1.0s
K04D Chiloquin, OR 80.25 48 P **P 11 49 03.1 +0.4**
baz=285,SNR=8.2
B08A Colville Reser 80.37 42 IAmb IAmb 11 49 04.7
comp=Z,61nm,1.5s
RES Resolute Bay 80.39 14 P **P 11 49 02.7 +0.1**
comp=Z,23nm,0.8s,baz=357,slow=5.3,SNR=40
RES Resolute Bay 80.39 14 IAmb IAmb 11 49 04.7
comp=Z,20nm,0.8s
NOR Nord 80.39 357 *i* P **P 11 49 02.0 -0.5**
comp=Z,16nm,1.2s
NOR Nord 80.39 357 *i* P **P 11 49 02.0 -0.5**
NOR pmax pmax
comp=Z,16nm,1.2s
M04C Macdoel 80.41 49 P **P 11 49 04.4 +0.9**
baz=285,SNR=15
HAWA Hanford 80.78 44 IAmb IAmb 11 49 07.2
comp=Z,23nm,1.1s
O03E Paynes Creek 80.83 51 P **P 11 49 06.2 +0.4**
baz=285
LVZ Lovozero 81.17 339*de*P **P 11 49 05.6 -1.3**
LVZ pmax pmax
comp=Z,38nm,1.5s
C09A Chrisman Ranch 81.20 43 IAmb IAmb 11 49 09.1
comp=Z,49nm,1.6s
ORV Oroville 81.25 51 IAmb IAmb 11 49 09.3
comp=Z,22nm,0.8s
TMCR Tamitsa 81.46 335 *e*P **P 11 49 07.1 -1.3**
TMCR pmax pmax
comp=Z,91nm,0.9s
BANOM Banah 81.60 294 P **P 11 49 11.9 +1.9**
E09A Wood Farm, Sta 81.66 44 IAmb IAmb 11 49 11.7
comp=Z,26nm,1.2s
SHME Shamm 81.70 295 *i* P **P 11 49 11.9 +1.4**
SNR=7.6
APA Apatity 81.75 339⇓*i*P **P 11 49 08.0 -1.8**
APA *i**PP **pP 11 50 14.0 -6.8**
APA pmax pmax
comp=Z,18nm,0.9s
MDH Madha 81.77 294 P **P 11 49 11.9 +1.1**
NEW Newport 81.81 42 P **P 11 49 10.6 -0.1**
baz=287,SNR=9.6
NEW Newport 81.81 42 P **P 11 49 11.4 +0.8**
comp=Z,6.0nm,0.6s,baz=290,slow=4.9,SNR=13
AFDM Forest Hills D 81.81 52 IAmb IAmb 11 49 12.6
comp=Z,21nm,0.9s
MSFE Esma-Masafi 81.88 294 P **P 11 49 12.7 +1.3**
SOHO SOHO 81.88 293 *i* P **P 11 49 11.9 +0.5**
SNR=7.9
UOSS Minazif 81.95 294 P **P 11 49 12.3 +0.5**
UOSS Minazif 81.95 294 P **P 11 49 12.5 +0.8**
UOSS IAmb IAmb 11 49 18.8
comp=Z,37nm,1.3s
HATD Hatta, Dubai 82.04 293 P **P 11 49 13.7 +1.4**
KLMR Klimovskoe 82.11 332 *e*P **P 11 49 09.3 -2.5**
KLMR *e* 11 52 22.7
KLMR pmax pmax
comp=Z,58nm,1.0s
KLMR Klimovskoe 82.11 332 *e*P **P 11 49 09.3 -2.5**
KLMR AMP 11 49 12.2
comp=Z,58nm,1.0s
KLMR *e*PP **PP 11 52 22.8 -1.4**
ASHO Ashiyiah 82.15 293 P **P 11 49 14.1 +1.3**
VCNR Virginia City 82.70 51 IAmb IAmb 11 49 17.5
comp=Z,23nm,0.9s
KEV Kevo 82.70 342 P **P 11 49 14.3 -0.4**
KEV pmax pmax
comp=Z,51nm,1.3s
KEV Kevo 82.70 342 P **P 11 49 14.3 -0.4**
KEV IAmb IAmb 11 49 14.6
comp=Z,51nm,1.3s
PNTR Pine Nut 82.80 51 IAmb IAmb 11 49 18.2
comp=Z,38nm,0.8s
WAKR Walker 83.09 52 IAmb IAmb 11 49 19.7
comp=Z,18nm,0.7s
HAMF Hammerfest 83.15 343⇑*i*P **P 11 49 16.3 -0.6**
ARCES ARCESS Array B 83.26 342 P **P 11 49 17.4 -0.2**
comp=Z,28nm,0.9s,baz=60,slow=7.2,SNR=50
ARE0 ARCESS Array S 83.26 342⇑*i*P **P 11 49 17.5 -0.2**
WALA Waterton Lakes 83.58 41 IAmb IAmb 11 49 21.8
comp=Z,36nm,1.6s
SMMC Simmler 83.60 55 P **P 11 49 20.4 +0.3**
baz=287
OMMB Old Mammoth Mi 83.68 53 P **P 11 49 21.0 +0.2**
JTMT Jette 83.78 42 IAmb IAmb 11 49 22.2
comp=Z,44nm,1.5s
PKM Mcpherson Peak 83.86 55 P **P 11 49 22.2 +0.6**
baz=287
AKT Akhty 83.96 312 *e*P **P 11 49 22.0 +0.2**
AKT *e**PP **pP 11 50 31.2 -2.0**
AKT pmax pmax
comp=Z,26nm,0.5s
NVAR Mina Array Bea 83.96 52 P **P 11 49 22.8 +0.7**
comp=Z,26nm,0.7s,baz=265,slow=6.0,SNR=57
VES Vestal, Richgr 84.15 54 P **P 11 49 23.2 +0.5**
baz=288
MFID Camas Ranch 84.18 46 IAmb IAmb 11 49 24.7
comp=Z,38nm,0.9s
KTK1 Kautokeino 84.23 342⇑*i*P **P 11 49 21.8 -0.6**
MSO Missoula 84.31 43 P **P 11 49 23.0 -0.5**
baz=290,SNR=6.4
SHAO Shalim 84.40 287 P **P 11 49 23.5 -0.9**
TIN Tinemaha, Big 84.44 53 P **P 11 49 25.5 +1.2**
baz=288
ISA Isabella, Lake 84.68 54 P **P 11 49 25.3 -0.2**
baz=288
CWC Cottonwood Cre 84.74 54 P **P 11 49 26.3 +0.4**
baz=288
TRO Tromso 85.06 344⇑*i*P **P 11 49 25.9 -0.6**
MOS Moscow 85.06 327 *e*P **P 11 49 24.7 -2.1**
MOS *e*S **SKSac 11 59 15.8 -5.4**
MOS pmax pmax
comp=Z,38nm,0.9s
HLID Hailey 85.10 46 P **P 11 49 27.9 +0.4**
baz=290,SNR=8.0
GRAC Grapevine Rang 85.11 53 P **P 11 49 27.5 -0.1**
baz=288
DAG Danmarks Havn 85.16 356 *i* P **P 11 49 26.2 -0.7**
comp=Z,42nm,1.0s
DAG Danmarks Havn 85.16 356 *i* P **P 11 49 26.2 -0.7**
DAG pmax pmax
comp=Z,42nm,1.0s
EDW2 Edwards Air Fo 85.29 55 P **P 11 49 29.0 +0.4**
baz=288
MPMC Manual Prospec 85.31 54 P **P 11 49 29.2 +0.4**
baz=288
LRMC Laurel Mtn Rad 85.35 54 P **P 11 49 29.5 +0.6**
baz=288
FMP Fort Macarthur 85.42 56 P **P 11 49 29.4 +0.3**
baz=288
CIS Catalina Islan 85.42 57 P **P 11 49 29.2 0.0**
baz=288
SCI2 San Clemente I 85.45 57 P **P 11 49 29.3 +0.1**
baz=288
ELK Elko 85.47 49 P **P 11 49 30.0 +0.5**
comp=Z,22nm,1.0s,baz=299,slow=4.9,SNR=44
ELK Elko 85.47 49 P **P 11 49 30.0 +0.5**
ELK Elko 85.47 49 IAmb IAmb 11 49 31.3
comp=Z,24nm,1.0s
FURC Furnace Creek, 85.66 53 P **P 11 49 30.6 +0.5**
baz=288,SNR=5.2
BFSC Mount Baldy Ra 85.76 56 P **P 11 49 30.9 0.0**
baz=288
OBN Obninsk 85.87 327⇓*e*P **P 11 49 30.7 -0.1**
OBN *e**PP **pP 11 50 42.8 +0.6**
OBN pmax pmax
comp=Z,20nm,1.0s
TPNV Topopah Spring 85.97 53 P **P 11 49 32.3 +0.3**
baz=289,SNR=5.6
TBLG Delisi 86.00 312 IAmb IAmb 11 49 33.6
comp=Z,31nm,0.8s
R11A Troy Canyon, C 86.01 51 P **P 11 49 32.6 +0.4**
baz=289,SNR=12
R11A Troy Canyon, C 86.01 51 IAmb IAmb 11 49 34.0
comp=Z,24nm,1.2s
GSC Goldstone, Bar 86.08 54 P **P 11 49 32.6 +0.2**
baz=289
ZEI Tsey 86.21 314 *e*P **P 11 49 31.3 -1.7**
ZEI pmax pmax
comp=Z,12nm,0.5s
SHOC Shoshone, Teco 86.30 54 P **P 11 49 33.6 +0.3**
baz=289
MURC Murrieta 86.33 56 P **P 11 49 33.5 -0.1**
baz=289
EGMT Eagleton 86.53 41 P **P 11 49 34.6 +0.3**
baz=293
KBZ Khabaz 86.56 315 P **P 11 49 34.2 -0.2**
comp=Z,29nm,0.9s,baz=131,slow=3.0,SNR=33
KBZ Khabaz 86.56 315*de*P **P 11 49 33.5 -0.9**
KBZ pmax pmax
comp=Z,25nm,0.8s
HEC Hector,Ludlow 86.60 55 P **P 11 49 35.4 +0.4**
baz=289
KIV Kislovodsk 86.62 315 P **P 11 49 35.7 +0.9**
KIV Kislovodsk 86.62 315 *e*P **P 11 49 34.4 -0.4**
KIV *e* 11 59 31.0
KIV pmax pmax
comp=Z,69nm,1.0s
KIV pmax pmax
comp=Z,30nm,3.8s
109C Camp Elliot, M 86.62 57 P **P 11 49 34.9 -0.1**
baz=289
TUQ Turquoise Moun 86.72 54 P **P 11 49 35.8 +0.2**
baz=289
KULLO Kullorsuaq 86.73 6 *i* P **P 11 49 34.3 -0.3**
comp=Z,14nm,0.8s
KULLO Kullorsuaq 86.73 6 *i* P **P 11 49 34.3 -0.3**
KULLO pmax pmax
comp=Z,14nm,0.8s
NEY Neytrino 86.85 314 *i* P **P 11 49 36.8 +0.7**
NEY pmax pmax
comp=Z,6.0nm,0.7s
PFO Pinyon Flats O 86.90 56 P **P 11 49 36.5 0.0**
baz=289
PFO Pinyon Flats O 86.90 56 P **P 11 49 37.0 +0.6**
comp=Z,7.2nm,1.0s,baz=240,slow=2.4,SNR=6.4
PFO Pinyon Flats O 86.90 56 P **P 11 49 37.1 +0.6**
PFO pmax pmax
comp=Z,11nm,1.1s
PFO Pinyon Flats O 86.90 56 P **P 11 49 37.1 +0.6**
XPFO Pion Flat 86.91 56 P **P 11 49 36.2 -0.3**
BELC Belle Mtn. Jos 87.14 55 P **P 11 49 37.6 +0.1**
baz=289
GMRC Granite Mounta 87.14 54 P **P 11 49 37.9 +0.3**
baz=290
MONP2 Monument Peak 87.17 56 P **P 11 49 37.9 +0.1**
baz=289
STEI Steigen 87.19 343⇑*i*P **P 11 49 36.3 -0.6**
IMW Indian Meadow 87.33 45 IAmb IAmb 11 49 40.4
comp=Z,22nm,1.6s
FXWY Fox Creek 87.37 45 P **P 11 49 38.9 +0.2**
FXWY IAmb IAmb 11 49 42.9
comp=Z,18nm,1.7s
H17A Grant Village 87.39 44 P **P 11 49 40.6 +1.9**
DUG Dugway, Tooele 87.39 49 P **P 11 49 39.0 +0.3**
baz=291,SNR=16
DUG Dugway, Tooele 87.39 49 IAmb IAmb 11 49 40.3
comp=Z,35nm,1.2s
IKP In-Ko-Pah, Jac 87.50 57 P **P 11 49 39.7 +0.5**
baz=289
FAUS Fauske 87.56 343 *e*P **P 11 49 37.0 -1.7**
FIA1 FINESS Array S 87.58 335 IAmb IAmb 11 49 38.2
comp=Z,20nm,0.8s
FINES FINESS Array B 87.58 335 P **P 11 49 37.1 -1.7**
comp=Z,12nm,0.5s,baz=64,slow=4.6,SNR=109
FINES FINESS Array B 87.58 335*ce*P **P 11 49 37.0 -1.9**
FINES pmax pmax
comp=Z,12nm,0.4s
SWSC Sam W. Stewart 87.64 56 P **P 11 49 40.2 +0.4**
baz=290
BC3 Big Chuckawall 87.68 55 P **P 11 49 40.7 +0.6**
baz=290
IRM Iron Mountain 87.75 55 P **P 11 49 41.1 +0.8**
baz=290
HWUT Hardware Ranch 87.76 47 IAmb IAmb 11 49 42.0
comp=Z,24nm,1.3s
RLMT Red Lodge 87.97 43 P **P 11 49 41.7 +0.3**
baz=293,SNR=11
RLMT Red Lodge 87.97 43 IAmb IAmb 11 49 44.8
comp=Z,9.7nm,0.6s
FFC Flin Flon 88.04 32 P **P 11 49 41.4 +0.2**
FFC pmax pmax
comp=Z,20nm,0.9s
FFC Flin Flon 88.04 32 P **P 11 49 41.4 +0.2**
FFC IAmb IAmb 11 49 43.0
comp=Z,20nm,0.8s
Y12C Blythe 88.38 55 P **P 11 49 44.0 +0.7**
baz=290
GLA Glamis 88.38 56 P **P 11 49 44.1 +0.7**
baz=290
PDMCI Parker Dam,Lak 88.48 55 P **P 11 49 44.1 +0.4**
baz=290
MOR8 Moi Rana 88.64 342⇑*i*P **P 11 49 41.9 -1.9**
BW06 Boulder Array 88.70 45 P **P 11 49 45.0 +0.1**
baz=289
PDAR Pinedale Array 88.70 45 P **P 11 49 44.9 0.0**
comp=Z,1.9nm,0.4s,baz=142,slow=1.2,SNR=22
VSU Vasula 88.95 333 *e*P **P 11 49 44.7 -0.7**
DGMT Dagmar 89.71 39 P **P 11 49 50.0 +0.8**
baz=297
SUMG Summit 89.83 1 *i* P **P 11 49 49.3 -0.4**
comp=Z,22nm,0.7s
SUMG Summit 89.83 1 *i* P **P 11 49 49.3 -0.4**
SUMG pmax pmax
comp=Z,22nm,0.7s
WUAZ Wupatki 90.16 53 P **P 11 49 52.3 +0.6**
baz=292
214A Organ Pipe Nat 90.36 56 P **P 11 49 53.3 +0.7**
baz=291
NSS Namsos 90.54 342 *e*P **P 11 51.0 -1.6**
O20A White River Ci 90.65 47 P **P 11 49 53.8 -0.2**
baz=294,SNR=7.7
O20A White River Ci 90.65 47 IAmb IAmb 11 49 55.0
comp=Z,20nm,1.2s
IZAR Zarasai 90.67 330 *e*P **P 11 49 53.6 +0.2**
PV21 Cone Mtn., Par 90.76 49 IAmb IAmb 11 49 56.0
comp=Z,20nm,0.7s
K22A Casper 90.79 45 P **P 11 49 55.0 +0.5**
baz=295
PV10 Paradox Valley 90.79 49 IAmb IAmb 11 49 56.2
comp=Z,25nm,0.9s
ISAL Salakas 90.83 330 *e*P **P 11 54.1 0.0**
PV20 West Nyswonger 90.86 49 IAmb IAmb 11 49 56.3
comp=Z,26nm,0.8s
PV19 Morning Glory 90.86 49 IAmb IAmb 11 49 56.3
comp=Z,29nm,0.8s
PV05 Paradox Valley 90.86 50 IAmb IAmb 11 49 56.4
comp=Z,15nm,0.8s
PV04 Paradox Valley 90.88 49 IAmb IAmb 11 49 56.5
comp=Z,23nm,1.0s
PV17 East Wray Mesa 90.89 49 IAmb IAmb 11 49 56.4
comp=Z,28nm,0.8s
IIGN Ignalina 90.91 330 *e*P **P 11 54.4 -0.1**
PV18 Skein Mesa, Pa 90.94 49 IAmb IAmb 11 49 56.5
comp=Z,19nm,0.7s
PV11 David Mesa, Pa 90.94 49 IAmb IAmb 11 49 57.8
comp=Z,37nm,0.9s
PV03 Paradox Valley 90.98 49 IAmb IAmb 11 49 56.7
comp=Z,16nm,0.8s
PV12 Saucer Basin, 90.98 49 IAmb IAmb 11 49 57.0
comp=Z,28nm,0.9s
PV13 Radium Mtn., P 91.03 49 IAmb IAmb 11 49 57.0
comp=Z,18nm,0.8s
PV02 Paradox Valley 91.08 49 IAmb IAmb 11 49 57.2
comp=Z,18nm,0.7s
PV01 Paradox Valley 91.22 49 IAmb IAmb 11 49 57.8
comp=Z,14nm,0.8s
W18A Petrified Fore 91.56 52 P **P 11 49 58.5 +0.3**
baz=293
MVCO Mesa Verde 91.65 50 P **P 11 49 59.0 +0.3**
baz=294
RSSD Black Hills 91.77 42 P **P 11 49 59.0 -0.1**
baz=297
RSSD Black Hills 91.77 42 P **P 11 49 58.6 -0.5**
RSSD pmax pmax
comp=Z,15nm,1.4s
RSSD Black Hills 91.77 42 P **P 11 49 58.6 -0.5**
TUC Tucson 91.82 55 P **P 11 49 59.8 +0.4**
baz=292
AKASG Malin Array Be 91.87 325 P **P 11 49 57.4 -1.7**
comp=Z,1.7nm,0.5s,baz=52,slow=5.2,SNR=11
AKASG PP **PP 11 53 42.7 +0.3**
comp=Z,0.2nm,0.3s,baz=44,slow=7.0,SNR=4.7
AKBB Malin Array Si 91.87 325*ce*P **P 11 49 58.0 -1.1**
AKBB pmax pmax
comp=Z,3.0nm,0.9s
PABE Paberze 91.88 331 *e*P **P 11 49 58.4 -0.6**
N23A Red Feather La 91.93 46 P **P 11 50 00.3 +0.4**
baz=296
N23A Red Feather La 91.93 46 IAmb IAmb 11 50 02.0
comp=Z,23nm,1.1s
PBUR Paburge 92.50 332 *e*P **P 11 50 00.5 -1.3**
ISCO Idaho Springs 92.63 47 P **P 11 50 03.5 +0.2**
baz=296
S22A 4UR Ranch, Cre 92.64 49 P **P 11 50 03.6 +0.2**
baz=295,SNR=6.4
NB2 NORSAR Subarra 93.32 340 P **P 11 50 04.5 -1.1**
comp=Z,0.9nm,0.5s,baz=44,slow=4.6
NB2 NORSAR Subarra 93.32 340 P **P 11 50 04.5 -1.1**
baz=44,slow=4.6
NOA NORSAR Array B 93.32 340 P **P 11 50 04.1 -1.5**
comp=Z,1.8nm,0.7s,baz=44,slow=4.6,SNR=8.9
SDCO Great Sand Dun 93.59 49 P **P 11 50 07.8 +0.1**
baz=296
ANMO Albuquerque 94.08 51 P **P 11 50 09.9 0.0**
baz=295
ANMO Albuquerque 94.08 51 P **P 11 50 10.0 +0.1**
comp=Z,1.4nm,0.7s,baz=229,slow=4.4,SNR=4.3
ANMO PP **PP 11 54 02.5 +2.0**
comp=Z,0.8nm,0.8s,baz=39,slow=4.0,SNR=3.7
ANMO Albuquerque 94.08 51*ce*P **P 11 50 09.7 -0.2**
ANMO pmax pmax
comp=Z,4.0nm,1.1s
ANMO Albuquerque 94.08 51 IAmb IAmb 11 50 10.9
comp=Z,3.9nm,1.1s
BR131 Keskin Array S 94.52 314 *i* P **P 11 50 10.7 -1.0**
BRTR Keskin Array B 94.52 314 P **P 11 50 10.2 -1.5**
comp=Z,4.4nm,0.7s,baz=85,slow=4.0,SNR=14
BRTR Keskin Array B 94.52 314*ce*P **P 11 50 10.6 -1.1**
BRTR pmax pmax
comp=Z,4.0nm,0.7s
AGMN Agassiz Nation 94.61 36 P **P 11 50 11.8 +0.1**
baz=303
T25A Trinidad 94.64 49 P **P 11 50 12.5 +0.1**
baz=296
ASF Jabal al Asfar 95.45 306 P **P 11 50 13.7 -2.3**
comp=Z,1.9nm,0.7s,baz=72,slow=6.2,SNR=3.8
ASF PP **PP 11 54 13.7 +2.7**
comp=Z,2.2nm,0.7s,baz=273,slow=6.7,SNR=3.8
BUR08 Bucovina Ar. S 95.75 324 IAmb IAmb 11 53 35.3
comp=Z,17nm,2.0s
MMAI Mount Meron Ar 96.24 307 P **P 11 50 18.8 -0.7**
comp=Z,2.3nm,0.7s,baz=34,slow=8.7,SNR=2.0
MNTX Cornudas Mount 96.27 54 P **P 11 50 20.0 +0.3**
baz=295
ECSD EROS Data Cent 96.63 40 P **P 11 50 21.4 +0.4**
baz=302
TXAR Lajitas Array 98.62 56 P **P 11 50 31.1 +0.8**
comp=Z,0.1nm,0.4s,baz=309,slow=3.4,SNR=6.1
VYHS Vyhne 98.66 327 *e*P Pdif 11 50 29.8 -0.2
BRG Berggiesshubel 99.47 331 *e*PDIFF **Pdif 11 50 32.5 -1.0**
comp=Z,36nm,2.0s
BRG Berggiesshubel 99.47 331 *e*P **Pdif 11 50 32.5 -1.0**
BRG pmax pmax
comp=Z,36nm,2.0s
CLL Collm 99.59 332 *i* Pdif **Pdif 11 50 32.6 -1.4**
comp=Z,12nm,1.5s
CLL *e*PP **PP 11 54 41.0 -0.5**
CLL *e*SP SP 12 03 12.0 +3.9
CLL *e*SSS SSS 12 12 54.0
CLL Collm 99.59 332 *i* P **Pdif 11 50 32.6 -1.4**
CLL pmax pmax
comp=Z,12nm,1.5s
WMOK Wichita Mounta 99.80 49 P **Pdif 11 50 35.1 -0.2**
baz=300
GERES GERESS Array B 100.98 330 P **Pdif 11 50 38.8 -1.7**
comp=Z,0.5nm,0.3s,baz=90,slow=2.7,SNR=5.7
GERES PP **PP 11 54 52.9 +0.8**
comp=Z,0.3nm,0.2s,baz=10,slow=6.1,SNR=4.3
G47A Hillman 103.05 33 P **Pdif 11 50 48.8 -0.7**
baz=312
D54A Lac Fusel, La 105.15 28 P **Pdif 11 50 58.2 -0.6**
baz=319
QSPA South Pole Qui 107.59 180 PKKP **PKKPab 12 06 44.6 -0.3**
comp=Z,0.9nm,0.8s,baz=180,slow=1.4,SNR=6.6
GOGA Godfrey 111.00 42 P **PKiKP 11 55 22.9 0.0**
baz=310
ESDC Sonseca Array 116.07 334 PKP **PKPdf 11 55 32.2 -0.3**
comp=Z,0.5nm,0.6s,baz=29,slow=2.9,SNR=4.6
LSZ Lusaka 119.96 262 PKIKP **PKiKP 11 55 41.5 +0.8**
LSZ Lusaka 119.96 262 **PKiKP 11 55 41.5 +0.8**
SNAA Sanae 122.96 191 PKPdf **PKPdf 11 55 44.2 -0.5**
SNAA Sanae 122.96 191 PKIKP **PKPdf 11 55 44.6 -0.1**
SNAA Sanae 122.96 191 PKPdf **PKPdf 11 55 44.5 -0.1**
VNA3 Neumayer Olymp 124.51 190 PKPdf **PKPdf 11 55 46.8 -0.8**
TORD Torodi Ar. Bea 132.77 308 PKP **PKPdf 11 56 04.4 -0.5**
comp=Z,1.0nm,0.4s,baz=51,slow=1.7,SNR=9.5
TORD SKPbc **SKPbc 11 58 59.8 -3.1**
comp=Z,7.8nm,1.1s,baz=32,slow=3.8,SNR=11
PLCA Paso Flores 141.60 134 PKhKP **PKPdf 11 56 15.7 -4.9**
comp=Z,0.8nm,0.4s,baz=237,slow=3.8,SNR=5.5
PLCA PP **PP 11 59 27.5 -0.3**
comp=Z,6.0nm,0.8s,baz=215,slow=3.4,SNR=11
DBIC Dimbokro 141.85 307 PKhKP **PKPdf 11 56 16.5 -5.2**
comp=Z,5.4nm,0.3s,baz=40,slow=4.0,SNR=20
DBIC PP **PP 11 59 29.6 +0.3**
comp=Z,11nm,1.0s,baz=289,slow=3.5,SNR=3.9
KIC Kosan Boka 141.96 306 *e*PKIKP **PKPdf 11 56 17.4 -4.5**
comp=Z,4.9nm,0.5s
TIC Toumodi 141.99 307 *e*PKIKP **PKPdf 11 56 17.3 -4.7**
LIC Lamto 142.27 307 *e*PKIKP **PKPdf 11 56 17.8 -4.6**
comp=Z,4.9nm,0.3s
PEL Peldehue 144.25 122 PKIKP **PKPdf 11 56 25.8 +0.4**
PEL Peldehue 144.25 122 **PKPdf 11 56 25.8 +0.4**
CO01 Juntas del Tor 145.52 117 **PKPab 11 56 29.2 -0.3**
AC05 El Transito 145.60 115 **PKPbc 11 56 29.1 +0.2**
GO03 Copiap 145.84 113 **PKPbc 11 56 29.8 +0.2**
LVC Limon Verde 147.53 104 PKP2 **PKiKP 11 56 35.8 -0.8**
LVC Limon Verde 147.53 104 **PKiKP 11 56 35.8 -0.8**
LPAZ La Paz 147.97 92 PKPbc **PKPbc 11 56 36.9 +0.6**
comp=Z,6.6nm,0.4s,baz=342,slow=2.0,SNR=13
PTGA Pitinga 149.89 58 **PKPbc 11 56 40.1 -0.3**
SAML Samuel 150.91 76 PKIKP **PKPbc 11 56 42.8 0.0**
SAML Samuel 150.91 76 **PKPbc 11 56 42.8 0.0**

MAN 30 11:48:48.2,5.92N×125.99E,h120km,mb4.0,ML2.8, MS2.4,2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DDMP	**Don Marcelino,**	**0.34**	**304**	*e*P		11 49 06.4	+1.1
DDMP				*e*S		11 49 20.6	+2.4
GSPH	**General Santos**	**1.05**	**279**⇓	*e*P		11 49 11.4	+0.5
GSPH				*e*S		11 49 29.6	+1.6
MATI	**Mati**	**1.06**	**14**	*e*P		11 49 11.0	+0.2
MATI				*e*S		11 49 29.4	+1.4
DMPH	**Davao City--Mi**	**1.26**	**338**⇑	*e*P		11 49 13.3	+0.3
DMPH				*e*S		11 49 32.3	+0.6
KCP	**Kidapawan**	**1.41**	**321**⇑	*e*P		11 49 16.1	+1.4
SKMP	**Bagumbayan, Su**	**1.56**	**293**	*e*P		11 49 17.1	+0.8
SKMP				*e*S		11 49 39.2	+1.5

*IDC **30** 11:59:45.7±1.7,26.57S×177.77W,h198km±16km, mb3.6/9, mb1 3.8/10,mb1mx3.6/26,mbtmp4.1/10, Error ellipse: s-maj=23.0km s-min=19.1km az=41.0*

ISC 30 11:59:44.2±0.9,26.5S±0.1×177.4W±0.2,h200km,n19, σ**2s01/18,mb3.9/9,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.82**	**189**	P	**Pn**	**12 00 31.2**	**-0.5**
	142nm,0.3s,baz=90,slow=10,SNR=13						
RAO				S	**Sn**	**12 01 07.6**	**-1.4**
	605nm,0.3s,baz=7.5,slow=24,SNR=12						
DZM	**Mont Dzumac**	**15.37**	**283**	P	**P**	**12 03 13.5**	**+2.1**
	2.1nm,0.3s,baz=96,slow=15,SNR=28						
CTA	**Charters Tower**	**33.91**	**273**	P	**P**	**12 06 08.0**	**-0.4**
	2.2nm,0.4s,baz=96,slow=11,SNR=10						
ASAR	**Alice Springs**	**44.00**	**263**	P	**P**	**12 07 30.8**	**-1.3**
	1.0nm,0.4s,baz=95,slow=7.0,SNR=21						
WRA	**Warramunga Arr**	**44.63**	**268**	P	**P**	**12 07 35.5**	**-1.6**
	2.9nm,0.7s,baz=103,slow=8.2,SNR=22						
QSPA	**South Pole Qui**	**63.64**	**180**	P	**P**	**12 09 55.8**	**+2.1**
	1.7nm,0.9s,baz=281,slow=1.4,SNR=6.4						
MJAR	**Matsushiro Arr**	**75.34**	**324**	P	**P**	**12 11 05.6**	**+0.1**

	1.7nm,0.7s,baz=165,slow=6.4,SNR=5.4						
MAW	**Mawson**	**76.18**	**200**	P	**P**	**12 11 11.1**	**+1.3**
	0.8nm,0.5s,baz=132,slow=8.9,SNR=1.9						
KSRS	**Korea Array**	**81.71**	**319**	P	**P**	**12 11 41.2**	**+0.9**
	0.7nm,0.6s,baz=140,slow=5.9,SNR=7.6						
USRK	**Ussuriysk Ar.**	**84.19**	**326**	P	**P**	**12 11 55.3**	**+2.4**
	1.4nm,0.6s,baz=143,slow=4.6,SNR=4.7						
ILAR	**Eielson Array**	**95.38**	**13**	P	P	12 12 41.8	+3.1
	0.2nm,0.8s,baz=223,slow=4.9,SNR=2.0						
ARCES	**ARCESS Array B**	**134.85**	**349**	PKP	**PKiKP**	**12 18 39.3**	**-0.5**
	0.8nm,0.5s,baz=5.5,slow=2.8,SNR=7.5						
FINES	**FINESS Array B**	**141.60**	**342**	PKhKP	PKPpre	12 18 46.1	
	0.8nm,0.7s,baz=89,slow=8.0,SNR=4.7						
NB2	**NORSAR Subarra**	**144.93**	**353**	PKP	**PKiKP**	**12 18 57.3**	**-3.4**
	comp=Z,1.8nm,0.8s,baz=10,slow=3.2						
NOA	**NORSAR Array B**	**144.93**	**353**	PKPbc	**PKiKP**	**12 18 57.3**	**-3.4**
	comp=Z,2.4nm,0.8s,baz=11,slow=2.4,SNR=9.6						
HFS	**Hagfors**	**145.48**	**350**	PKPbc	**PKiKP**	**12 18 58.9**	**-3.0**
	comp=Z,1.9nm,0.5s,baz=98,slow=2.1,SNR=15						
AKASG	**Malin Array Be**	**148.39**	**327**	PKPbc	**PKiKP**	**12 19 07.1**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=46,slow=4.0,SNR=2.8						
EKA	**Eskdalemuir Ar**	**150.85**	**7**	PKPbc	**PKiKP**	**12 19 13.5**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=349,slow=2.9,SNR=2.8						
TORD	**Torodi Ar. Bea**	**166.73**	**176**	PKPab	**PKPab**	**12 20 31.6**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=132,slow=2.1,SNR=1.5						

IDC 30 12:07:17.3±1.1, 55°23S×28°52W, h0km, mb3.9/3, mb1 4.0/3, mb1mx3.7/25, mbtmp3.9/3, MS3.7/1, Ms1 3.7/1, ms1mx2.9/17, Error ellipse: s-maj=47.5km s-min=32.8km az=86.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPUP	**Villa Florida**	**35.70**	**312**	LR	LR	12 26 36.6	
	comp=Z,124nm,20.0s,baz=242,slow=32						
VNDA	**Vanda**	**47.36**	**183**	P	P	12 15 52.1	-0.2
	0.7nm,0.6s,baz=190,slow=6.1,SNR=6.9						
LPAZ	**La Paz**	**49.28**	**306**	P	P	12 16 08.4	-0.1
	1.2nm,0.8s,baz=166,slow=8.3,SNR=4.5						
TORD	**Torodi Ar. Bea**	**72.72**	**31**	P	P	12 18 47.0	0.0
	1.2nm,0.6s,baz=211,slow=6.1,SNR=5.9						
ILAR	**Eielson Array**	**149.00**	**313**	PKPbc	PKPbc	12 27 05.1	-0.6
	1.5nm,0.6s,baz=121,slow=1.6,SNR=22						
SONM	**Songino Array**	**151.43**	**86**	PKPbc	PKPbc	12 27 12.2	-0.1
	0.4nm,0.3s,baz=264,slow=4.3,SNR=2.6						

*IDC **30** 12:10:48.5±0.6, 32°.40S×178°.10W, h0km, mb4.4/10, mb1 4.6/11, mb1mx4.2/47, mbtmp4.4/11, ML4.6/1, MS4.1/19, Ms1 4.1/19, ms1mx3.9/43, Error ellipse: s-maj=22.5km s-min=20.0km az=48.0*

*NEIC **30** 12:10:49.8±1.7, 32°.44S±0°.06×178°.3W±0°.1, h10km±1km, mb4.8/15, Error ellipse: s-maj=20.4km s-min=9.6km az=102.0*

ISC 30 12:10:49.4±0.5, 32°.51S±0°.06×178°.2W±0°.1, h10km, n79, σ1°.66/65, mb4.6/15, MS4.0/20, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.25**	**4**	Pn	**Pn**	**12 11 37.5**	**-2.9**
	67nm,0.3s,baz=66,slow=17,SNR=6.3						
RAO				Sn	**Sn**	**12 12 14.1**	**-5.1**
	268nm,0.3s,baz=216,slow=22,SNR=6.9						
URZ	**Urewera**	**6.91**	**212**	Pn	**Pn**	**12 12 31.8**	**+1.1**
BKZ	**Black Stump Fm**	**7.92**	**212**	Pn	**Pn**	**12 12 44.8**	**0.0**
BFZ	**Birch Farm**	**9.30**	**207**	Pn	**Pn**	**12 13 02.2**	**-1.4**
PLWZ	**Palliser**	**10.45**	**208**	Pn	**Pn**	**12 13 16.8**	**-2.5**
TUWZ	**Tuamarina**	**10.90**	**213**	Pn	**Pn**	**12 13 23.4**	**-2.0**
THZ	**Tophouse**	**11.65**	**215**	Pn	**Pn**	**12 13 36.1**	**+0.3**
THZ					**Sn**	**12 15 40.1**	**-5.8**
KHZ	**Kahutara**	**11.87**	**211**	Pn	**Pn**	**12 13 35.6**	**-3.1**
LTZ	**Lake Taylor**	**12.73**	**214**	Pn	**Pn**	**12 13 49.7**	**-0.9**
OXZ	**Oxford**	**13.26**	**213**	Pn	**Pn**	**12 13 56.4**	**-1.4**
OXZ					Sn	12 16 14.5	-11
RPZ	**Rata Peaks**	**14.02**	**214**	Pn	**Pn**	**12 14 06.7**	**-1.4**
	0.8nm,0.3s,baz=64,slow=2.8,SNR=1.4						
RPZ					Sn	12 16 30.7	-13
	0.5nm,0.3s,baz=3.5,slow=19,SNR=2.1						
LBZ	**Lake Benmore**	**14.94**	**214**	Pn	**Pn**	**12 14 20.5**	**-0.1**
ODZ	**Otahua Downs**	**15.23**	**212**	Pn	**Pn**	**12 14 22.9**	**-1.6**
ODZ					IAmb	IAmb	12 14 23.1
	comp=Z,30nm,1.4s						
WHZ	**Wether Hill Ro**	**17.12**	**215**	Pn	**Pn**	**12 14 46.6**	**-2.1**
DZM	**Mont Dzumac**	**17.14**	**303**	Pn	**P**	**12 14 56.1**	**+5.1**
	comp=Z,0.5nm,0.3s,baz=109,slow=14,SNR=8.9						
DZM					LR	LR	12 20 44.0
	comp=Z,2μm,18.2s,baz=146,slow=35						
RAR	**Rarotonga**	**19.88**	**60**	LR	LR	LR	12 23 32.1
	comp=Z,366nm,18.5s,baz=254,slow=39						
TBI	**Tubuai**	**26.90**	**77**	*e*LQ	LQ	12 21 33.9	
	comp=Z,287nm,24.5s						
TBI				*e*LR	LR	12 22 33.2	
	comp=Z,366nm,28.8s						
PAE	**Paea**	**29.71**	**67**	*e*T	T	12 47 02.1	
	comp=Z,1.5nm,0.3s						
PPT2	**Papeete2**	**29.75**	**67**	*e*LR	LR	12 23 55.0	
	comp=Z,170nm,20.8s,baz=223						
PPT2	**Papeete2**	**29.75**	**67**	*e*T	T	12 47 04.5	
	comp=Z,2.3nm,0.4s						
PPT	**Papeete**	**29.77**	**67**	LR	LR	12 28 17.8	
	comp=Z,322nm,18.2s,baz=200,slow=35						
STKA	**Stephens Creek**	**33.90**	**260**	P	**P**	**12 17 34.5**	**+1.9**
	comp=Z,2.7nm,0.8s,baz=88,slow=6.7,SNR=5.3						
STKA					LR	LR	12 31 08.2
	comp=Z,551nm,18.1s,baz=68,slow=36						
STKA	**Stephens Creek**	**33.90**	**260**	P	**P**	**12 17 33.0**	**+0.4**
CTA	**Charters Tower**	**34.03**	**282**	P	**P**	**12 17 35.5**	**+1.7**
	comp=Z,5.1nm,0.7s,baz=122,slow=14,SNR=7.6						
CTAO	**Charters Tower**	**34.03**	**282**	P	**P**	**12 17 34.0**	**+0.1**
BBOO	**Buckleboo**	**38.29**	**257**	P	**P**	**12 18 10.5**	**+0.4**
BBOO					IAmb	IAmb	12 18 24.8
	comp=Z,17nm,1.3s						
PMG	**Port Moresby**	**39.40**	**298**	LR	LR	LR	12 32 53.9
	comp=Z,176nm,18.7s,baz=185,slow=34						
KRVT	**Keravat (AS076**	**39.54**	**309**	P	**P**	**12 18 22.0**	**+1.3**
	comp=Z,73nm,0.6s,baz=346,slow=1.6,SNR=14						
TAOE	**Nuku Hiva Isla**	**42.31**	**65**	*e*LR	LR	12 29 51.0	
	comp=Z,120nm,22.8s						
AS31	**Alice Springs**	**42.88**	**269**	P	**P**	**12 18 48.3**	**+0.1**
ASAR	**Alice Springs**	**42.88**	**269**	P	**P**	**12 18 48.6**	**+0.4**
	comp=Z,7.5nm,0.8s,baz=106,slow=7.8,SNR=39						
ASAR					LR	LR	12 35 48.3
	comp=Z,181nm,18.2s,baz=110,slow=35						
WR0	**Warramunga Arr**	**43.88**	**275**		**P**	**12 18 56.2**	**-0.1**
WR0					IAmb	IAmb	12 19 12.0
	comp=Z,19nm,0.9s						
WB2	**Warramunga Arr**	**44.05**	**274**	P	**P**	**12 18 57.8**	**+0.1**
WB2					IAmb	IAmb	12 19 13.4
	comp=Z,21nm,0.8s						
WRA	**Warramunga Arr**	**44.06**	**274**	P	**P**	**12 18 57.8**	**+0.1**
	comp=Z,6.6nm,0.3s,baz=112,slow=8.0,SNR=67						
WRA					LR	LR	12 37 07.5
	comp=Z,342nm,18.2s,baz=115,slow=36						
WB0	**Warramunga Arr**	**44.09**	**275**	P	**P**	**12 18 58.0**	**0.0**
FORT	**Forrest**	**45.39**	**257**	P	**P**	**12 19 06.9**	**-1.3**
VNDA	**Vanda**	**45.99**	**186**	LR	LR	12 35 08.3	
	comp=Z,155nm,18.8s,baz=6,slow=32						
JAY	**Jayapura**	**48.28**	**299**	LR	LR	12 40 20.2	
	comp=Z,126nm,18.0s,baz=108,slow=36						
MTN	**Manton Dam**	**50.18**	**281**	P	**P**	**12 19 43.1**	**-2.5**
FITZ	**Fitzroy Crossi**	**52.23**	**272**	LR	LR	12 42 25.7	
	comp=Z,458nm,18.5s,baz=123,slow=36						
FITZ	**Fitzroy Crossi**	**52.23**	**272**	P	**P**	**12 20 00.8**	**0.0**
FITZ					IAmb	IAmb	12 20 15.9
	comp=Z,19nm,1.2s						
QSPA	**South Pole Qui**	**57.61**	**180**	P	**P**	**12 20 41.2**	**+1.9**
	comp=Z,6.9nm,1.0s,baz=31,slow=1.3,SNR=11						
QSPA	**South Pole Qui**	**57.61**	**180**	P	**P**	**12 20 41.6**	**+2.2**
QSPA					IAmb	IAmb	12 20 56.2
	comp=Z,13nm,0.8s						
GUMO	**Guam**	**57.87**	**316**	LR	LR	12 43 00.7	
	comp=Z,70nm,19.0s,baz=80,slow=33						
SYO	**Syowa Base**	**75.03**	**193**	*e*P	**P**	**12 22 29.0**	**-1.7**
SYO	**Syowa Base**	**75.03**	**193**	*e*pP	pP	12 22 34.4	+2.2
SNAA	**Sanae**	**76.06**	**178**	P	**P**	**12 22 37.4**	**+0.7**
SNAA	**Sanae**	**76.06**	**178**	P	**P**	**12 22 37.1**	**+0.4**
VNA3	**Neumayer Olymp**	**76.22**	**176**	P	**P**	**12 22 37.8**	**+0.3**
VNA2	**Neumayer--Watz**	**76.65**	**177**	P	**P**	**12 22 40.8**	**+0.8**
VNA1	**Neumayer--Stat**	**76.88**	**177**	P	**P**	**12 22 42.2**	**+1.0**
MJAR	**Matsushiro Arr**	**79.88**	**326**	P	**P**	**12 22 58.0**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=167,slow=6.5,SNR=4.3						
PLCA	**Paso Flores**	**81.19**	**133**	P	**P**	**12 23 06.2**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=283,slow=6.1,SNR=4.3						
PLCA					LR	LR	12 53 41.6
	comp=Z,117nm,19.4s,baz=267,slow=32						
KSRS	**Korea Array**	**85.85**	**320**	P	**P**	**12 23 30.1**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=148,slow=5.0,SNR=5.1						
KSRS					LR	LR	12 59 16.5
	comp=Z,46nm,19.9s,baz=50,slow=34						
PETK	**Petropavlovsk-**	**87.81**	**346**	P	**P**	**12 23 38.8**	**+0.5**
	comp=Z,5.2nm,1.0s,baz=122,slow=7.2,SNR=4.5						
PETK					LR	LR	13 01 11.5
	comp=Z,75nm,18.1s,baz=65,slow=34						
YBH	**Yreka Blue Hor**	**89.78**	**38**	LR	LR	12 59 25.3	
	comp=Z,78nm,18.8s,baz=242,slow=32						
NVAR	**Mina Array Bea**	**89.89**	**43**	P	**P**	**12 23 49.4**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=218,slow=7.4,SNR=3.8						
NVAR					LR	LR	13 00 16.5
	comp=Z,79nm,18.4s,baz=224,slow=33						
BBB	**Bella Bella**	**95.02**	**28**	LR	LR	13 00 40.7	
	comp=Z,69nm,19.2s,baz=225,slow=32						
LPAZ	**La Paz**	**97.42**	**115**	LR	LR	13 04 51.6	
	comp=Z,34nm,18.2s,baz=294,slow=33						
CPUP	**Villa Florida**	**98.80**	**129**	LR	LR	13 06 20.8	
	comp=Z,62nm,18.0s,baz=212,slow=34						
MKAR	**Makanchi Array**	**118.99**	**309**	PKP	**PKiKP**	**12 29 38.7**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=135,slow=0.2,SNR=3.8						
KURBB	**Kurchatov Arra**	**122.41**	**313**	PKP	**PKPdf**	**12 29 44.3**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=109,slow=1.9,SNR=15						
AKTO	**Aktyubinsk**	**135.38**	**311**	PKP	**PKPdf**	**12 30 09.7**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=142,slow=2.3,SNR=3.8						
ARCES	**ARCESS Array B**	**140.60**	**347**	PKP	**PKPdf**	**12 30 18.4**	**+0.3**
	comp=Z,2.2nm,0.9s,baz=86,slow=2.8,SNR=2.3						
KBZ	**Khabaz**	**146.11**	**301**	PKPbc	**PKPbc**	**12 30 29.4**	**-0.2**
	comp=Z,3.2nm,0.9s,baz=167,slow=5.6,SNR=5.1						
OBN	**Obninsk**	**146.78**	**323**	PKPbc	**PKPbc**	**12 30 31.1**	**-0.1**
	comp=Z,9.8nm,0.4s,baz=195,slow=23,SNR=5.5						
FINES	**FINESS Array B**	**147.05**	**339**	PKPbc	**PKPbc**	**12 30 32.0**	**+0.3**
	comp=Z,7.9nm,0.4s,baz=50,slow=4.4,SNR=39						
ASF	**Jabal al Asfar**	**150.43**	**279**	PKPbc	**PKiKP**	**12 30 42.4**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=71,slow=1.8,SNR=5.0						
NC303	**NORSAR Array S**	**150.60**	**351**		**PKPbc**	**12 30 39.1**	**-1.8**
NB2	**NORSAR Subarra**	**150.80**	**351**	PKP	**PKiKP**	**12 30 42.4**	**+0.4**
	comp=Z,22nm,2.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.80**	**351**	PKPbc	**PKiKP**	**12 30 42.1**	**+0.1**
	comp=Z,4.2nm,1.0s,baz=15,slow=4.2,SNR=9.1						
HFS	**Hagfors**	**151.26**	**348**	PKPbc	**PKPbc**	**12 30 42.7**	**+0.3**
	comp=Z,3.5nm,0.6s,baz=113,slow=3.4,SNR=7.6						
EIL	**Elat**	**151.54**	**275**	PKPbc	**PKiKP**	**12 30 44.8**	**+0.3**
	comp=Z,9.9nm,1.0s,baz=70,slow=3.7,SNR=6.3						
MMAI	**Mount Meron Ar**	**151.81**	**280**	PKPbc	**PKiKP**	**12 30 45.5**	**+0.5**
	comp=Z,10.0nm,0.9s,baz=36,slow=8.7,SNR=6.2						
AKASG	**Malin Array Be**	**152.84**	**320**	PKPbc	**PKPbc**	**12 30 46.4**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=56,slow=2.7,SNR=6.7						
BRTR	**Keskin Array B**	**153.40**	**295**	PKPbc	**PKiKP**	**12 30 48.8**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=63,slow=5.7,SNR=5.6						
CLL	**Collm**	**159.49**	**340**	*e*PKPab	**PKPab**	**12 31 25.0**	**-0.8**
CLL				*es*PKPab	**sPKPab**	**12 31 30.0**	**+2.1**
TORD	**Torodi Ar. Bea**	**160.73**	**180**	PKPab	**PKPab**	**12 31 32.1**	**+0.1**
	comp=Z,1.8nm,0.6s,baz=165,slow=3.0,SNR=6.3						
GERES	**GERESS Array B**	**161.39**	**335**	PKPab	**PKPab**	**12 31 34.5**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=108,slow=4.3,SNR=4.9						

IDC 30 12:11:37.2±2.1, 17°.11S×173°.17W, h0km, mb3.8/5, mb1 4.2/5, mb1mx3.8/55, mbtmp3.8/5, Error ellipse: s-maj=129.3km s-min=26.2km az=151.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**49.69**	**258**	P	P	12 20 31.2	-0.1
	1.1nm,0.5s,baz=97,slow=6.8,SNR=1.7						
ASAR	**Alice Springs**	**49.81**	**253**	P	P	12 20 32.2	-0.1
	2.8nm,0.5s,baz=89,slow=8.7,SNR=14						
NVAR	**Mina Array Bea**	**75.45**	**42**	P	P	12 23 23.3	-0.1
	0.5nm,0.7s,baz=221,slow=11,SNR=3.6						
TXAR	**Lajitas Array**	**81.38**	**56**	P	P	12 23 56.6	+0.3
	0.4nm,0.9s,baz=219,slow=5.6,SNR=3.6						
ILAR	**Eielson Array**	**84.07**	**11**	P	P	12 24 09.3	-0.1
	0.4nm,0.6s,baz=223,slow=5.7,SNR=6.5						

IDC 30 12:21:23.9±3.0, 7°.36N×127°.33E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.3/52, mbtmp3.4/3, Error ellipse: s-maj=216.1km s-min=29.3km az=66.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.99**	**166**	P	P	12 27 16.8	+0.2
	1.6nm,1.0s,baz=346,slow=10,SNR=6.5						
ASAR	**Alice Springs**	**31.50**	**168**	P	P	12 27 47.5	-0.2
	0.2nm,0.5s,baz=354,slow=7.6,SNR=11						
MKAR	**Makanchi Array**	**54.97**	**324**	P	P	12 30 56.8	-0.1
	0.1nm,0.3s,baz=118,slow=8.3,SNR=1.0						

BEO 30 12:21:50.5±0.6, 44°.16N×22°.13E, h0km, ML1.5/5, Mining explosion., Romania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOVS	**Bovan**	**0.61**	**210**	*e*Pg	Pg	12 22 01.5	-0.7
BOVS				*e*Sg	Sg	12 22 10.2	+0.1
GRUS	**Gruza**	**1.05**	**255**	*e*Pg	Pg	12 22 09.8	-0.9
GRUS				*e*Sg	Sg	12 22 24.8	+0.5
SELS	**Selova**	**1.19**	**218**	*e*Sg	Pg	12 22 12.7	-0.7
SELS	**Selova**	**1.19**	**218**	*e*Pg	Sg	12 22 28.4	-0.4
BARS	**Barje**	**1.37**	**190**	*e*Pg	Pg	12 22 15.6	-1.1
BARS				*e*Sg	Sg	12 22 33.8	-0.6
BZS	**Buzias**	**1.50**	**346**	*e*Pg	Pn	12 22 17.0	-1.6
BZS				*e*Sg	Sg	12 22 38.0	-0.6

*IDC **30** 12:22:12.6±1.4, 27°.50S×69°.03W, h98km±12km, mb3.5/2, mb1 3.6/8, mb1mx3.4/33, mbtmp3.8/8, Error ellipse: s-maj=32.5km s-min=10.3km az=88.0*

*NEIC **30** 12:22:13.0±3.2, 27°.45S±0°.02×69°.1W±0°.1, h109km±7km, Error ellipse: s-maj=14.8km s-min=3.3km az=86.0*

*GUC **30** 12:22:14.1±0.6, 27°.47S×69°.20W, h123km±3km, ML3.9*

ISC 30 12:22:13.3±0.7, 27°.48S±0°.04×69°.08W±0°.06, h113km±7km, n60, σ1°.55/74, mb3.9/3, 4C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC02	**Maricunga**	**0.65**	**356**	↑*i*P	**Pn**	**12 22 33.5**	**+1.4**
AC02				*i* S	**Sn**	**12 22 48.0**	**+1.8**
AC02	**Maricunga**	**0.65**	**356**		**Pn**	**12 22 33.5**	**+1.4**
GO03	**Copiap**	**1.03**	**264**	↓*i*P	**Pn**	**12 22 35.8**	**+0.7**
GO03				*i* S	**Sn**	**12 22 52.3**	**+0.7**
GO03				IAML		12 22 53.2	
	comp=N,6μm,0.6s						
GO03	**Copiap**	**1.03**	**264**		**Pn**	**12 22 35.8**	**+0.7**
GO03				Sn	**Sn**	**12 22 52.2**	**+0.7**
AC05	**El Transito**	**1.71**	**218**	↑*i*P	**Pn**	**12 22 43.7**	**+0.7**
AC05				*i* S	**Sn**	**12 23 06.9**	**+1.4**
AC05				IAML		12 23 09.0	
	comp=E,1μm,0.7s						
AC05	**El Transito**	**1.71**	**218**		**Pn**	**12 22 43.7**	**+0.7**
AC05				Sn	**Sn**	**12 23 07.0**	**+1.4**
AC01	**Pan de Azucar**	**1.90**	**314**	↑*i*P	**Pn**	**12 22 46.0**	**+0.8**
AC01				*i* S	**Sn**	**12 23 09.7**	**+0.3**
AC01	**Pan de Azucar**	**1.90**	**314**		**Pn**	**12 22 45.9**	**+0.8**
AC01				Sn	**Sn**	**12 23 09.8**	**+0.3**
AC04	**Llanos de Chal**	**1.90**	**247**	↓*i*P	**Pn**	**12 22 45.3**	**+0.1**
AC04				*i* S	**Sn**	**12 23 10.1**	**+0.5**
AC04				IAML		12 23 15.6	
	comp=E,1μm,0.4s						
AC04	**Llanos de Chal**	**1.90**	**247**		**Pn**	**12 22 45.3**	**+0.1**
AC04				Sn	**Sn**	**12 23 10.0**	**+0.5**
GO02	**Mina Guanaco**	**2.35**	**349**	↑*i*P	**Pn**	**12 22 52.3**	**+1.0**
GO02				*i* S	**Sn**	**12 23 22.0**	**+1.7**
GO02				IAML		12 23 24.6	
	comp=N,845nm,0.1s						
GO02	**Mina Guanaco**	**2.35**	**349**		**Pn**	**12 22 52.3**	**+1.0**
CO01	**Juntas del Tor**	**2.64**	**199**	*e*P	**Pn**	**12 22 56.3**	**+1.4**
CO01				*i* S	**Sn**	**12 23 28.6**	**+1.8**
CO01				IAML		12 23 31.9	
	comp=E,271nm,0.3s						
CO01	**Juntas del Tor**	**2.64**	**199**	Pn	**Pn**	**12 22 56.0**	**+1.2**
GO04	**Tololo Observa**	**3.08**	**209**	↓*i*P	**Pn**	**12 23 00.1**	**-0.5**
GO04				*i* S	**Sn**	**12 23 37.0**	**-0.1**
GO04	**Tololo Observa**	**3.08**	**209**	Pn	**Pn**	**12 23 00.2**	**-0.4**
CO03	**El Pedregal**	**3.63**	**202**		**Pn**	**12 23 07.5**	**-0.3**
ZON	**Zonda**	**4.07**	**175**		**Pn**	**12 23 14.6**	**+1.0**
CO02	**Combarbal**	**4.07**	**204**	Pn	**Pn**	**12 23 12.9**	**-0.8**
PB10	**IPOC Station P**	**4.17**	**341**	Pn	**Pn**	**12 23 14.5**	**-0.5**
CFA	**Coronel Fontan**	**4.17**	**170**	P	**Pn**	**12 23 15.6**	**+0.5**
CFA				S	**Sn**	**12 24 00.9**	**-2.0**
	comp=E,3.4nm,0.3s,baz=346,slow=9.4,SNR=6.7						
PB15	**IPOC Station P**	**4.27**	**355**	Pn	**Pn**	**12 23 16.9**	**+0.4**
PB06	**IPOC Station P**	**4.78**	**355**		**Pn**	**12 23 22.6**	**-0.7**
LVC	**Limon Verde**	**4.85**	**2**	P	**Pn**	**12 23 24.4**	**-0.2**
	comp=E,4.2nm,0.3s,baz=157,slow=8.5,SNR=73						
LVC				S	**Sn**	**12 24 19.2**	**-0.7**
	comp=E,13nm,0.3s,baz=197,slow=8.9,SNR=4.6						
LVC	**Limon Verde**	**4.85**	**2**		**Pn**	**12 23 24.5**	**-0.1**
PB04	**IPOC Station P**	**5.22**	**349**	Pn	**Pn**	**12 23 27.7**	**-1.6**
VA03	**San Esteban**	**5.42**	**193**		**Pn**	**12 23 31.0**	**-0.8**
PB09	**IPOC Station P**	**5.66**	**359**	Pn	**Pn**	**12 23 35.2**	**-0.1**
ROC1	**El Roble**	**5.72**	**197**	Pn	**Pn**	**12 23 33.3**	**-2.9**
PB07	**IPOC Station P**	**5.78**	**353**	Pn	**Pn**	**12 23 35.0**	**-1.9**
PEL	**Peldehue**	**5.81**	**193**	Pn	**Pn**	**12 23 35.5**	**-1.6**
MT02	**Curacav**	**6.03**	**197**	Pn	**Pn**	**12 23 36.7**	**-3.3**
PB01	**IPOC Station P**	**6.42**	**357**	Pn	**Pn**	**12 23 43.4**	**-2.2**
MT01	**Popeta**	**6.63**	**196**	Pn	**Pn**	**12 23 45.2**	**-2.9**
TA01	**Diego Aracena**	**6.96**	**351**	Pn	**Pn**	**12 23 51.4**	**-1.3**
PB08	**IPOC Station P**	**7.31**	**359**	Pn	**Pn**	**12 23 55.7**	**-2.1**
BO02	**Sierra Bellavi**	**7.43**	**191**	Pn	**Pn**	**12 23 57.5**	**-1.6**
PB11	**IPOC Station P**	**7.70**	**356**	Pn	**Pn**	**12 23 59.5**	**-3.4**
GO01	**Chusmiza**	**7.78**	**359**	Pn	**Pn**	**12 24 01.5**	**-2.8**
GO05	**Huala**	**7.89**	**197**	Pn	**Pn**	**12 24 02.9**	**-2.3**
PSGCX	**Pisagua**	**7.91**	**353**	Pn	**Pn**	**12 24 01.4**	**-4.2**
MNMC	**Minye Minye**	**8.33**	**357**	Pn	**Pn**	**12 24 09.7**	**-1.8**
PB12	**IPOC Station P**	**8.90**	**352**	Pn	**Pn**	**12 24 14.8**	**-4.4**
CPUP	**Villa Florida**	**10.55**	**86**	P	**Pn**	**12 24 40.3**	**-1.0**
	comp=E,0.5nm,0.3s,baz=208,slow=4.4,SNR=5.7						
LPAZ	**La Paz**	**11.18**	**5**	P	**Pn**	**12 24 50.0**	**-0.3**
	comp=E,0.2nm,0.3s,baz=77,slow=2.8,SNR=7.9						
LPAZ	**La Paz**	**11.18**	**5**		**Pn**	**12 24 49.7**	**-0.7**
PLCA	**Paso Flores**	**13.27**	**185**	P	**Pn**	**12 25 17.0**	**-0.3**
	comp=E,0.1nm,0.3s,baz=264,slow=13,SNR=3.2						
PLCA	**Paso Flores**	**13.27**	**185**	Pn	**Pn**	**12 25 15.3**	**-2.0**
SIV	**San Ignacio**	**13.64**	**35**	P	**Pn**	**12 25 20.6**	**-1.5**
	comp=E,0.5nm,0.3s,baz=220,slow=9.6,SNR=9.4						
SNAA	**Sanae**	**56.72**	**160**	P	**P**	**12 31 47.3**	**+2.4**
QSPA	**South Pole Qui**	**62.73**	**180**	P	**P**	**12 32 26.4**	**+0.1**
QSPA					IAmb	IAmb	12 32 29.4
	comp=Z,4.1nm,1.4s						
PDAR	**Pinedale Array**	**79.22**	**331**	P	**P**	**12 34 07.4**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=134,slow=4.3,SNR=4.0						
TORD	**Torodi Ar. Bea**	**79.56**	**69**	P	**P**	**12 34 08.7**	**+0.4**
	comp=Z,1.2nm,0.6s,baz=277,slow=4.9,SNR=8.3						
ASAR	**Alice Springs**	**124.52**	**206**	PKP	**PKPdf**	**12 40 59.7**	**-0.2**
	comp=Z,0.3nm,0.4s,baz=136,slow=1.9,SNR=6.0						
WRA	**Warramunga Arr**	**127.68**	**208**	PKP	**PKPdf**	**12 41 06.4**

PVO					S	Sb	12 25 26.7	-1.6	
	comp=N,8μm,0.5s								
PVO	**Paravola**	**0.75**	**97**		P	Pg	**12 25 16.2**	**+0.1**	
PVO					S	Sg	**12 25 24.8**	**-1.0**	
PVO					AML	AML	12 25 35.8		
	comp=N,16033μm,0.5s								
PVO					AML	AML	12 25 35.9		
	comp=E,17698μm,0.5s								
RLS	**Riolos of Patr**	**0.96**	**133**		P	Pg	**12 25 19.7**	**-0.5**	
JAN	**Janina**	**0.97**	**13**		P	Pg	**12 25 19.8**	**-0.6**	
JAN	**Janina**	**0.97**	**13**		P	Pn	**12 25 21.7**	**-0.8**	
EVR	**Evrytania**	**0.98**	**78**		P	Pg	**12 25 19.8**	**-0.8**	
EVR	**Evrytania**	**0.98**	**78**		P	Pg	**12 25 20.0**	**-0.6**	
EVR					AML	AML	12 25 46.3		
	comp=N,2285μm,0.5s								
EVR					AML	AML	12 25 51.8		
	comp=E,3292μm,0.7s								
ANX	**Ano Chora**	**1.06**	**96**		P	Pg	**12 25 21.5**	**-0.6**	
ANX	**Ano Chora**	**1.06**	**96**		P	Pg	**12 25 21.8**	**-0.2**	
ANX					S	Sg	**12 25 35.7**	**-0.1**	
ANX					AML	AML	12 25 40.9		
	comp=E,2131μm,0.4s								
ANX					AML	AML	12 25 49.0		
	comp=N,9837μm,0.5s								
KRI1	**kERI**	**1.06**	**170**		P	Pg	**12 25 21.5**	**-0.7**	
EFP	**Efpalio**	**1.08**	**105**		P	Pg	**12 25 21.3**	**-1.2**	
EFP	**Efpalio**	**1.08**	**105**		P	Pg	**12 25 21.3**	**-1.2**	
EFP					AML	AML	12 25 47.7		
	comp=N,9394μm,0.3s								
EFP					AML	AML	12 25 50.1		
	comp=E,10231μm,0.4s								
DRO	**Drossia**	**1.17**	**130**		P	Pb	**12 25 23.4**	**-1.4**	
DRO					AML	AML	12 25 56.8		
	comp=N,7345μm,0.4s								
DRO					AML	AML	12 25 58.1		
	comp=E,3409μm,0.4s								
KEK	**Kerkira**	**1.17**	**329**		P	Pg	**12 25 24.4**	**+0.2**	
KEK	**Kerkira**	**1.17**	**329**		P	Pg	**12 25 24.4**	**+0.2**	
SERG	**Sergoula**	**1.20**	**104**		P	Pb	**12 25 23.6**	**-1.6**	
SERG					S	Sn	**12 25 41.5**	**-1.0**	
	comp=E,4μm,0.3s								
SERG	**Sergoula**	**1.20**	**104**		P	Pb	**12 25 23.7**	**-1.5**	
SERG					S	Sn	**12 25 40.8**	**-1.7**	
SERG					AML	AML	12 25 49.7		
	comp=E,6724μm,0.4s								
SERG					AML	AML	12 25 49.9		
	comp=N,9816μm,0.4s								
MAKR	**Makrakomi, Fth**	**1.25**	**76**		P	Pn	**12 25 25.4**	**-1.0**	
KALE	**Kalithea**	**1.27**	**104**		P	Pn	**12 25 25.0**	**-1.7**	
AGG	**Agios Georgios**	**1.40**	**77**		P	Pn	**12 25 27.7**	**-0.8**	
KLV	**Kalavryta, Ach**	**1.40**	**118**		P	Pn	**12 25 26.6**	**-1.9**	
THL	**Klokotos Trika**	**1.41**	**52**		P	Pn	**12 25 27.3**	**-1.2**	
THL	**Klokotos Trika**	**1.41**	**52**		P	Pg	**12 25 28.4**	**-0.3**	
THL					AML	AML	12 26 02.2		
	comp=E,2787μm,0.6s								
THL					AML	AML	12 26 02.6		
	comp=N,2524μm,0.7s								
AMT	**Artemida-Makis**	**1.48**	**142**		P	Pb	**12 25 29.2**	**-0.8**	
VIL2	**Platees**	**2.17**	**102**		P	Pb	**12 25 40.9**	**-0.9**	
OHR	**Ohrid**	**2.40**	**4**	*i* Pn		Pg	**12 25 49.7**	**+1.8**	
TIR	**Tirane**	**2.69**	**348**	*e*Pn		Pn	**12 25 45.6**	**-0.6**	
TIR	**Tirane**	**2.69**	**348**	⇑P		Pg	**12 25 53.4**	**0.0**	
TIP	**Timpagrande**	**3.02**	**280**	⇑P		Pb	**12 25 55.2**	**-1.1**	
VAY	**Valandovo**	**3.02**	**30**	*e*Pn		Pb	**12 25 54.6**	**-1.8**	
VAY	**Valandovo**	**3.02**	**30**	*e*P		Pb	**12 25 53.5**	**-2.9**	
VAY	**Valandovo**	**3.02**	**30**	*i* Pn		Pg	**12 26 00.5**	**+0.8**	
STIP	**Stip**	**3.22**	**22**	*i* Pn		Pb	**12 25 57.9**	**-1.9**	
SKO	**Skopje**	**3.32**	**11**	*e*Pn		Pn	**12 25 56.7**	**+1.8**	
SRS	**Serrai**	**3.34**	**43**	*e*Pn		Pb	**12 25 59.6**	**-2.2**	
SRS				*e*Sn		Sb	**12 26 38.3**	**-4.6**	
MATE	**Matera**	**3.56**	**304**	⇓P		Pb	**12 26 03.5**	**-2.0**	
KKB	**Krupnik**	**3.69**	**30**	*e*P		Pb	**12 26 08.7**	**+1.0**	
MMB	**Musomiste**	**3.75**	**39**	*e*P		Pb	**12 26 09.7**	**+0.9**	
PDG	**Podgorica**	**3.85**	**345**	*e*Pn		Pn	**12 26 00.8**	**-1.3**	
PDG				*e*Sn		Sn	**12 26 44.6**	**-3.3**	
PDG	**Podgorica**	**3.85**	**345**	⇓P		Pb	**12 26 08.1**	**-2.3**	
PDG				⇑S		Sb	**12 26 52.0**	**-5.5**	
BOSS	**Bosilegrad**	**4.05**	**20**	*e*Pn		Pn	**12 26 07.1**	**+2.2**	
BARS	**Barje**	**4.21**	**13**	*e*Pn		Pn	**12 26 08.0**	**+1.0**	
APE	**Apeiranthos**	**4.25**	**111**	⇑P		Pb	**12 26 16.9**	**-0.3**	
DBRK	**Dubrovnik**	**4.36**	**336**	*e*Pn		Pn	**12 26 09.2**	**0.0**	
DBRK					Sn	Sn	**12 27 00.1**	**-0.6**	
VTS	**Vitosha**	**4.39**	**27**	*e*Pn		Pn	**12 26 11.6**	**+1.9**	
VTS				*e*Sn		Sn	**12 27 04.6**	**+3.0**	
VTS	**Vitosha**	**4.39**	**27**	⇑P		Pb	**12 26 17.8**	**-2.1**	
VTS	**Vitosha**	**4.39**	**27**	*e*P		Pn	**12 26 11.2**	**+1.5**	
SELS	**Selova**	**4.52**	**5**	*e*Pn		Pn	**12 26 11.6**	**+0.2**	
STON	**Ston**	**4.70**	**333**	*e*Pn		Pn	**12 26 11.3**	**-2.4**	
STON				*e*Sn		Sn	**12 27 02.4**	**-6.3**	
STON	**Ston**	**4.70**	**333**	*e*Pn		Pn	**12 26 12.4**	**-1.3**	
STON					Sn	Sn	**12 27 05.9**	**-2.8**	
ZAPS	**Zavoj**	**4.82**	**18**	*e*Pn		Pn	**12 26 17.5**	**+2.1**	
IDI	**Anoyia**	**4.86**	**133**	Pn		Pb	**12 26 23.7**	**-3.9**	
	comp=N,0.5nm,0.3s,baz=324,slow=14,SNR=1.3								
IDI					Sn	Sb	**12 27 18.9**	**-7.7**	
	comp=N,4.2nm,0.3s,baz=271,slow=8.0,SNR=6.8								
IDI	**Anoyia**	**4.86**	**133**	⇓P		Pb	**12 26 25.4**	**-2.2**	
IVAS	**Ivanjica**	**4.87**	**356**	*e*Pn		Pn	**12 26 16.3**	**+0.1**	
BOVS	**Bovan**	**4.99**	**9**	*e*Pn		Pn	**12 26 18.0**	**+0.2**	
GRUS	**Gruza**	**5.17**	**1**	*e*Pn		Pn	**12 26 19.6**	**-0.7**	
GRUS				*e*Sn		Sn	**12 27 20.0**	**-0.6**	
BBLS	**Lazići**	**5.22**	**351**	*e*Pn		Pn	**12 26 19.9**	**-1.2**	
MAKA	**Makarska**	**5.30**	**331**	*e*Pn		Pn	**12 26 20.0**	**-2.1**	
MAKA					Sn	Sn	**12 27 21.7**	**-2.1**	
RICI	**Ricice**	**5.44**	**333**	*e*Pn		Pn	**12 26 21.8**	**-2.2**	
RICI					Sn	Sn	**12 27 25.7**	**-1.5**	
MDVR	**Moldovita**	**6.12**	**8**	⇑P		Pb	12 26 40.5	-8.7	
KIJV	**Kijevo**	**6.15**	**331**	*e*Pn		Pn	**12 26 32.6**	**-1.1**	
KIJV					Sn	Sn	**12 27 42.4**	**-2.3**	
ZIRJ	**Zirje**	**6.18**	**325**	*e*Pn		Pn	**12 26 32.2**	**-2.0**	
ZIRJ					Sn	Sn	**12 27 42.8**	**-2.6**	
MORI	**Morici**	**6.32**	**326**	*e*Pn		Pn	**12 26 34.4**	**-1.6**	
MORI					Sn	Sn	**12 27 46.4**	**-2.4**	
DUGI	**Dugi Otok**	**6.71**	**324**	*e*Pn		Pn	**12 26 39.7**	**-1.8**	
DUGI					Sn	Sn	**12 27 55.4**	**-3.1**	
BZS	**Buzias**	**6.94**	**6**	⇑P		Pn	12 26 51.9	+7.4	
NVLJ	**Novalja**	**7.24**	**326**	*e*Pn		Pn	**12 26 46.9**	**-1.7**	
NVLJ					Sn	Sn	**12 28 09.4**	**-2.1**	
MLR	**Muntele Rosu**	**7.86**	**29**	Pn		Pn	12 27 04.0	+6.8	
	comp=N,0.1nm,0.3s,baz=196,slow=18,SNR=2.6								
MLR	**Muntele Rosu**	**7.86**	**29**	⇑P		Pn	12 27 05.3	+8.0	
OZLJ	**Ozalj**	**7.87**	**333**	*e*Pn		Pn	**12 26 56.0**	**-1.3**	
BRJN	**Brijuni**	**8.02**	**323**	*e*Pn		Pn	**12 26 57.8**	**-1.5**	
BRJN					Sn	Sn	**12 28 28.7**	**-1.8**	
PLOR	**Plostina**	**8.43**	**30**	⇑P		Pn	12 27 13.9	+8.9	
VYHS	**Vyhne**	**9.86**	**353**	*e*PN		Pn	12 27 30.9	+6.3	
GERES	**GERESS Array B**	**11.28**	**336**	Pn		Pn	**12 27 47.6**	**+3.5**	
	comp=N,0.2nm,0.3s,baz=154,slow=14,SNR=1.9								
KBZ	**Khabaz**	**17.51**	**66**	P		P	12 29 14.9	+6.7	
	comp=N,0.1nm,0.3s,baz=276,slow=6.6,SNR=4.5								
HFS	**Hagfors**	**21.88**	**351**	P		P	**12 29 59.9**	**+4.1**	
	comp=N,1.8nm,0.7s,baz=168,slow=7.4,SNR=4.6								
FINES	**FINESS Array B**	**23.01**	**7**			P	**12 30 12.6**	**+4.7**	
	comp=N,2.6nm,0.9s,baz=159,slow=11,SNR=4.9								
EKA	**Eskdalemuir Ar**	**23.02**	**324**	P		P	**12 30 11.8**	**+3.9**	
	comp=N,3.4nm,0.7s,baz=122,slow=11,SNR=11								
NOA	**NORSAR Array B**	**23.11**	**348**	P		P	**12 30 12.8**	**+3.9**	
	comp=N,0.3nm,0.6s,baz=158,slow=9.4,SNR=3.8								
NOA					LR	LR	12 40 50.9		
	comp=N,27nm,18.4s,baz=45,slow=41								
TORD	**Torodi Ar. Bea**	**30.47**	**218**	P		P	12 31 20.5	+4.3	
	comp=N,0.3nm,0.5s,baz=32,slow=8.0,SNR=2.0								
KURBB	**Kurchatov Arra**	**41.88**	**54**	P		P	12 32 59.1	+5.8	
	comp=N,0.3nm,0.4s,baz=284,slow=9.8,SNR=2.2								
MKAR	**Makanchi Array**	**44.99**	**59**	P		P	12 33 24.2	+5.7	
	comp=N,0.4nm,0.4s,baz=282,slow=6.9,SNR=6.5								
ZALV	**Zalesovo Beam**	**45.30**	**48**	P		P	12 33 26.5	+5.7	
	comp=N,1.2nm,0.4s,baz=276,slow=7.6,SNR=3.0								
ASAR	**Alice Springs**	**122.18**	**96**	PKP		**PKiKP**	**12 44 03.7**	**+4.9**	
	comp=N,0.2nm,0.6s,baz=313,slow=1.6,SNR=4.1								

IDC 30 12:46:32.8±7.8, 7°.37S×128°.86E, h150km±83km, mb3.0/1, mb1 3.2/5, mb1mx3.0/35, mbtmp3.6/5, Error ellipse: s-maj=73.8km s-min=26.8km az=38.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.86**	**241**	P	Pn	12 47 58.6	+0.9
	8.8nm,0.3s,baz=120,slow=5.3,SNR=8.5						
BATI				S	Sn	12 49 04.5	+0.3
	4.9nm,0.3s,baz=184,slow=19,SNR=6.6						
FITZ	**Fitzroy Crossi**	**11.12**	**196**	P	Pn	12 49 06.2	-1.5
	0.3nm,0.3s,baz=16,slow=9.8,SNR=29						
WRA	**Warramunga Arr**	**13.58**	**158**	P	Pn	12 49 39.4	-0.1
	0.1nm,0.3s,baz=338,slow=12,SNR=1.1						
WRA				S	Sn	12 52 01.2	-8.8
	0.3nm,0.3s,baz=339,slow=20,SNR=6.8						
ASAR	**Alice Springs**	**16.91**	**164**	P	Pn	12 50 21.6	+0.8
	0.1nm,0.3s,baz=339,slow=11,SNR=9.4						
ASAR				S	S	12 53 21.2	-7.8
	0.1nm,0.3s,baz=321,slow=20,SNR=2.2						
MKAR	**Makanchi Array**	**67.92**	**327**	P	P	12 57 15.3	-0.1
	0.2nm,0.5s,baz=124,slow=7.7,SNR=1.2						

BJI ***30*** *12:49:34.0±0.0, 55°.20N×155°.60W, h10km, mB4.9/19, mb4.7/22, Ms4.1/3, Ms7 3.9/2*
IDC ***30*** *12:49:36.6±0.9, 55°.23N×155°.79W, h0km, mb4.2/22, mb1 4.4/26, mb1mx4.2/49, mbtmp4.3/26, ML4.5/4, MS3.6/9, Ms1 3.6/9, ms1mx3.2/46, Error ellipse: s-maj=22.4km s-min=13.1km az=166.0*
NEIC ***30*** *12:49:38.0±1.8, 55°.14N±0°.01×155°.63W±0°.07, h16km±4km, Error ellipse: s-maj=6.2km s-min=2.1km az=93.0*
MOS ***30*** *12:49:38.8±0.9, 55°.48N×155°.79W, h21km, mb4.7/17, Error ellipse: s-maj=16.5km s-min=7.4km az=93.4*
AEIC ***30*** *12:49:41±2.1, 55°.13N±0°.04×155°.50W±0°.08, h12km±4km, ML4.0/49, mb4.7/19(NEIC), Error ellipse: s-maj=7.1km s-min=5.4km az=129.0*

ISC 30 12:49:37.5±0.5, 55°.17N±0°.06×155°.67W±0°.04, h10km, n189, σ1°38/182, mb4.6/54, MS3.7/12, 12C-2D, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIR	**Chirikof Islan**	**0.65**	**2**		Pb	**12 49 51.4**	**+0.4**
CHIR	**Chirikof Islan**	**0.65**	**2**		Sb	**12 50 00.6**	**+0.5**
SII	**Sitkinak Islan**	**1.62**	**30**	Pn	Pn	**12 50 04.8**	**-1.3**
SII				Sn	Sn	**12 50 23.6**	**-3.5**
VNSG	**Veniaminof 6**	**2.16**	**298**		Pn	**12 50 13.4**	**-0.1**
CNBA	**Chernabura Isl**	**2.29**	**263**		Pn	**12 50 14.2**	**-1.1**
CNBA	**Chernabura Isl**	**2.29**	**263**		Sn	**12 50 39.1**	**-4.3**
VNNF	**Veniaminof 3**	**2.34**	**300**		Pn	**12 50 16.6**	**+0.4**
VNSS	**Veniaminof 8**	**2.39**	**298**		Pn	**12 50 17.1**	**+0.2**
VNWF	**Veniaminof 8**	**2.41**	**296**		Pn	**12 50 17.3**	**+0.2**
OHAK	**Old Harbor**	**2.45**	**32**		Pn	**12 50 16.0**	**-1.5**
OHAK	**Old Harbor**	**2.45**	**32**		Sn	**12 50 41.9**	**-5.5**
VNFG	**Fog Glacier, M**	**2.46**	**298**		Pn	**12 50 18.3**	**+0.5**
PLK3	**Peulik 3**	**2.54**	**353**		Pn	**12 50 18.8**	**-0.1**
PLK3					Sn	**12 50 48.2**	**-1.6**
PLK1	**Peulik 1**	**2.69**	**349**		Pn	**12 50 21.0**	**+0.2**
SDPT	**Sand Point**	**2.76**	**276**		Pn	**12 50 21.2**	**-0.6**
SDPT	**Sand Point**	**2.76**	**276**		Sn	**12 50 51.3**	**-3.7**
CAHL	**Cahill**	**2.89**	**4**		Pn	**12 50 23.1**	**-0.6**
PLK5	**Peulik 5**	**2.91**	**347**		Pn	**12 50 23.9**	**+0.1**
KABU	**Katmai Buttres**	**3.11**	**4**		Pn	**12 50 26.6**	**-0.1**
KDAK	**Kodiak Island**	**3.13**	**32**	Pn	Pn	**12 50 25.2**	**-1.6**
	22nm,0.3s,baz=180,slow=9.0,SNR=1084						
KDAK				Sn	Sn	**12 50 58.4**	**-5.7**
	70nm,0.3s,baz=332,slow=21,SNR=30						
KDAK	**Kodiak Island**	**3.13**	**32**		Pn	**12 50 25.4**	**-1.4**
KAHG	**Katmai Hook Gl**	**3.39**	**10**		Pn	**12 50 29.6**	**-0.8**
KAHC	**Katmai Hardscr**	**3.50**	**6**		Pn	**12 50 31.4**	**-0.7**
PVV	**Pavlof Volcano**	**3.51**	**276**		Pn	**12 50 31.7**	**-0.4**
PS4A	**Pavlof South-4**	**3.54**	**275**		Pn	**12 50 32.4**	**-0.2**
HAG	**Hague Volcano**	**3.57**	**275**		Pn	**12 50 33.0**	**0.0**
FALS	**False Pass**	**4.47**	**269**	Pn	Pn	**12 50 45.3**	**0.0**
SSBA	**Shishaldin**	**4.89**	**269**		Pn	**12 50 51.2**	**+0.1**
CNPM	**China Poot**	**4.98**	**27**	Pn	Pn	**12 50 51.2**	**-1.1**
HOM	**Homer**	**5.00**	**24**		Pn	**12 50 52.4**	**-0.1**
IVE	**Iliamna Volcan**	**5.06**	**15**		Pn	**12 50 52.8**	**-0.7**
WEBT	**Westdahl Beart**	**5.28**	**267**		Pn	**12 50 56.4**	**0.0**
WESP	**Westdahl Peak**	**5.28**	**266**		Pn	**12 50 56.5**	**+0.1**
RED	**Redoubt Volcan**	**5.48**	**15**		Pn	**12 50 58.4**	**-0.8**
RSO	**Redoubt South**	**5.53**	**15**		Pn	**12 51 00.3**	**+0.3**
RDWB	**Redoubt West**	**5.54**	**15**		Pn	**12 50 59.4**	**-0.7**
AKSA	**Akutan Strait**	**5.91**	**264**		Pn	**12 51 05.0**	**-0.1**
SVW2	**Sparrevohn**	**5.94**	**0**		Pn	**12 51 05.0**	**-0.5**
AKUT	**Akutan**	**5.96**	**264**	Pn	Pn	**12 51 05.7**	**0.0**
SEW	**Seward**	**5.96**	**31**	Pn	Pn	**12 51 03.5**	**-2.2**
AKLV	**Akutan Long Va**	**6.05**	**265**		Pn	**12 51 06.6**	**-0.5**
AKGG	**Akutan Green G**	**6.07**	**265**		Pn	**12 51 06.9**	**-0.3**
SLKM	**Skilak Lake**	**6.09**	**26**		Pn	**12 51 05.6**	**-1.9**
AKMO	**Akutan Morgan**	**6.10**	**264**		Pn	**12 51 07.4**	**-0.3**
AKRB	**Akutan Reef Bi**	**6.13**	**264**		Pn	**12 51 07.6**	**-0.4**
UNV	**Unalaska Valle**	**6.45**	**263**		Pn	**12 51 11.8**	**-0.6**
MID	**Middleton Isla**	**6.61**	**46**	Pn	Pn	**12 51 15.0**	**+0.4**
SUA	**Susitna One**	**6.82**	**20**		Pn	**12 51 18.7**	**+1.1**
SKT	**Skwentna**	**7.16**	**16**		Pn	**12 51 22.6**	**+0.4**
PMR	**Palmer**	**7.29**	**25**		Pn	**12 51 24.1**	**+0.1**
FID	**Port Fidalgo**	**7.42**	**37**		Pn	**12 51 26.4**	**-2.4**
EYAK	**Cordova Ski Ar**	**7.55**	**40**		Pn	**12 51 26.2**	**-1.3**
SML	**Sawmill**	**7.68**	**27**	Pn	Pn	**12 51 30.6**	**+1.3**
TTA	**Tatalina**	**7.78**	**359**		Pn	**12 51 30.8**	**0.0**
PPLA	**Purkeypile**	**7.95**	**12**		Pn	**12 51 34.6**	**+1.5**
NIKH	**Nikolski High**	**8.06**	**260**	Pn	Pn	**12 51 34.5**	**-0.1**
SPIA	**Saint Paul Isl**	**8.38**	**290**	Pn	Pn	**12 51 41.8**	**+3.0**
VRDI	**Verde Repeater**	**8.85**	**42**		Pn	**12 51 44.2**	**-1.3**
MESA	**MESA**	**8.89**	**50**	Pn	Pn	**12 51 46.3**	**+0.2**
RND	**Reindeer**	**8.96**	**20**	Pn	Pn	**12 51 47.1**	**+0.2**
BALM	**Baldy**	**9.17**	**45**		Pn	**12 51 49.8**	**0.0**
BPAW	**Bear Paw Mtn.**	**9.26**	**13**		Pn	**12 51 49.0**	**-1.9**
PCA	**Pinnacle**	**9.62**	**53**		Pn	**12 51 56.3**	**+0.4**
MENT	**Mentasta**	**9.91**	**33**		Pn	**12 51 59.1**	**-0.8**
COLA	**College**	**10.48**	**19**	*i* P	Pn	**12 52 06.1**	**-1.4**
COLA	**College**	**10.48**	**19**		Pn	**12 52 06.5**	**-1.1**
IL31		**10.57**	**21**		Pn	**12 52 08.4**	**-0.5**
ILAR	**Eielson Array**	**10.57**	**21**	Pn	Pn	**12 52 06.4**	**-2.5**
	4.2nm,0.3s,baz=203,slow=13,SNR=138						
ILAR					Sn	Sn	12 53 55.9	-11
	1.5nm,0.3s,baz=207,slow=23,SNR=6.5						
ANM	**Nome**	**10.59**	**337**	Pn	Pn	**12 52 09.6**	**+0.4**
HYT	**Haines Junctio**	**11.16**	**52**		Pn	**12 52 18.7**	**+1.6**
ATKA	**Atka Island**	**11.38**	**262**		Pn	**12 52 18.7**	**-1.2**
SIT	**Sitka**	**11.51**	**72**		Pn	**12 52 19.3**	**-2.3**
EGAK	**Eagle**	**12.03**	**31**		Pn	**12 52 27.9**	**-0.8**
DAWY	**Dawson**	**12.10**	**36**		Pn	**12 52 30.0**	**+0.2**
WHY	**Whitehorse**	**12.31**	**55**		Pn	**12 52 32.4**	**-0.4**
GSTR	**Great Sitkin T**	**12.48**	**264**		Pn	**12 52 36.1**	**+1.1**
CRAG	**Craig**	**12.83**	**79**	Pn	Pn	**12 52 37.8**	**-2.0**
WRAK	**Wrangell Islan**	**13.17**	**75**		Pn	**12 52 43.2**	**-1.1**
TOLK	**Toolik Lake Re**	**13.81**	**9**		Pn	**12 52 51.7**	**-1.4**
MOBC	**Moresby Island**	**14.02**	**89**	Pn	Pn	**12 52 54.2**	**-1.8**
DLBC	**Dease Lake**	**14.38**	**66**	Pn	Pn	**12 53 02.6**	**+1.5**
	1.5nm,0.3s,baz=219,slow=14,SNR=17						
AMKA	**Amchitka**	**15.41**	**266**		P	**12 53 17.7**	**-1.7**
INK	**Inuvik**	**16.68**	**29**	Pn	Pn	**12 53 30.4**	**-0.5**
	2.0nm,0.3s,baz=230,slow=13,SNR=42						
INK				Sn	Sn	**12 56 40.2**	**+4.2**
	0.1nm,0.3s,baz=196,slow=7.2,SNR=1.5						
INK				LR	LR	13 00 20.9	
	comp=Z,199nm,20.2s,baz=215,slow=39						
INK	**Inuvik**	**16.68**	**29**	P	Pn	**12 53 31.0**	**0.0**
BILL	**Bilibino**	**21.75**	**321**	*ce*P	P	**12 54 27.3**	**-1.4**
BILL				pmax	pmax		
	comp=Z,74nm,1.3s						
BILL	**Bilibino**	**21.75**	**321**	P	P	**12 54 27.3**	**-1.4**
YKA	**Yellowknife Ar**	**22.14**	**54**	P	P	**12 54 33.4**	**+0.5**
	comp=Z,4.4nm,0.7s,baz=272,slow=10,SNR=11						
YKA				LR	LR	13 04 08.1	
	comp=Z,111nm,19.7s,baz=0.0,slow=39						
NEW	**Newport**	**24.61**	**90**	LR	LR	13 02 18.2	
	comp=Z,196nm,20.1s,baz=260,slow=31						
PET	**Petropavlovsk**	**26.51**	**284**	*e*P	P	**12 55 16.0**	**+1.2**
PET				MLR	MLR		
	comp=Z,100nm,17.0s						
PET	**Petropavlovsk**	**26.51**	**284**	P	P	**12 55 14.1**	**-0.7**
PEA0B	**Petropavlovsk-**	**27.00**	**285**	*i* P	P	**12 55 19.0**	**-0.3**
PETK	**Petropavlovsk-**	**27.00**	**285**	P	P	**12 55 19.2**	**-0.1**
	comp=Z,23nm,0.7s,baz=78,slow=11,SNR=56						
PDAR	**Pinedale Array**	**32.11**	**93**	P	P	**12 56 06.0**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=316,slow=6.3,SNR=2.7						
TIXI	**Tiksi**	**34.66**	**327**	P	P	**12 56 25.9**	**-0.7**
	comp=Z,7.2nm,0.7s,baz=83,slow=11,SNR=6.4						
TIXI	**Tiksi**	**34.66**	**327**	*de*P	P	**12 56 26.1**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.7s						
TIXI	**Tiksi**	**34.66**	**327**	P	P	**12 56 25.9**	**-0.7**
TIXI				IAmb	IAmb	12 56 26.7	
	comp=Z,7.8nm,0.7s						
ULM	**Lac du Bonnet**	**35.58**	**72**	LR	LR	13 09 34.6	
	comp=Z,86nm,19.1s,baz=75,slow=34						
YAK	**Yakutsk**	**37.45**	**312**	P	P	**12 56 49.9**	**-0.6**
	comp=Z,11nm,0.5s,baz=33,slow=1.8,SNR=4.8						
YAK	**Yakutsk**	**37.45**	**312**	*e*P	P	**12 56 49.7**	**-0.8**
YAK				pmax	pmax		
	comp=Z,15nm,0.6s						
YAK	**Yakutsk**	**37.45**	**312**	IAmb	IAmb	12 56 50.6	
	comp=Z,23nm,0.5s						
JKA	**Kamikawa-asahi**	**40.19**	**281**	P	P	**12 57 13.5**	**-0.2**
JKA	**Kamikawa-asahi**	**40.19**	**281**	IAmb	IAmb	12 57 20.5	
	comp=Z,7.5nm,1.2s						
ASAJ	**Asahikawa**	**40.19**	**281**	P	P	**12 57 13.5**	**-0.2**
	comp=Z,1.3nm,0.4s,baz=24,slow=11,SNR=4.1						
KLR	**Kul'dur**	**43.02**	**294**	P	P	**12 57 36.6**	**-0.2**
	comp=Z,4.9nm,0.8s,baz=66,slow=8.4,SNR=18						
KLR	**Kul'dur**	**43.02**	**294**	*ce*P	P	**12 57 36.3**	**-0.5**
KLR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
TXAR	**Lajitas Array**	**44.96**	**103**	P	P	**12 57 54.1**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=302,slow=5.5,SNR=6.1						
R40A	**Maddies Statio**	**44.96**	**85**	IAmb	IAmb	12 57 52.3	
	comp=Z,4.2nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**45.25**	**234**	T	T	13 46 26.2	
	baz=29,slow=76,SNR=71						
H11N3	**WAKE ISLAND Hy**	**45.26**	**234**	T	T	13 46 26.6	
	baz=29,slow=76,SNR=76						
H11N1	**WAKE ISLAND Hy**	**45.27**	**234**	T	T	13 46 27.5	
	baz=29,slow=76,SNR=65						
SUMG	**Summit**	**45.41**	**22**	*i* P	P	**12 57 58.3**	**+2.1**
SUMG	**Summit**	**45.41**	**22**	*e*P	P	**12 57 58.3**	**+2.1**
DAG	**Danmarks Havn**	**45.54**	**13**	*i* P	P	**12 57 58.0**	**+1.4**
	comp=Z,5.9nm,0.7s						
DAG	**Danmarks Havn**	**45.54**	**13**	*i* P	P	**12 57 58.0**	**+1.4**
DAG				pmax	pmax		
	comp=Z,6.0nm,0.7s						
H11S1	**WAKE ISLAND Hy**	**46.40**	**233**	T	T	13 47 51.8	
	baz=28,slow=76,SNR=324						
H11S2	**WAKE ISLAND Hy**	**46.42**	**233**	T	T	13 47 49.4	
	baz=28,slow=76,SNR=226						
H11S3	**WAKE ISLAND Hy**	**46.42**	**233**	T	T	13 47 53.2	
	baz=28,slow=76,SNR=201						
SCHQ	**Schefferville**	**47.56**	**52**	LR	LR	13 19 55.2	
	comp=Z,212nm,18.7s,baz=295,slow=38						
NRIK	**Noril'sk**	**47.62**	**335**	P	P	**12 58 13.2**	**+0.2**
	comp=Z,16nm,0.7s,baz=57,slow=6.8,SNR=14						
MJAR	**Matsushiro Arr**	**47.73**	**276**	LR	LR	13 16 35.0

	comp=Z,7.0nm,0.9s							
OBN				MLR	MLR			
	comp=Z,54nm,20.0s							
ABKAR	**Akbulak array**	**71.75**	**336**	P	**P**	13 00 59.2	**-0.3**	
ABKAR				IAmb	IAmb	13 01 00.2		
	comp=Z,5.9nm,0.8s							
GYA	**Guiyang**	**72.88**	**292**	*e*P	P	13 01 16.3	+10	
GYA				PP	**PP**	**13 03 47.0**	**-1.5**	
GYA				S	**S**	**13 10 30.3**	**-2.8**	
GYA				SKS	**ScS**	**13 11 16.3**	**+1.7**	
GYA	**Guiyang**	**72.88**	**292**	SS	SS	13 15 12.3	-0.2	
GYA				pmax	pmax			
	comp=Z,7.0nm,0.6s							
GYA				pmax	pmax			
	comp=Z,100nm,5.0s							
GYA				LR	LR			
	comp=N,59nm,3.8s							
GYA				LR	LR			
	comp=E,29nm,3.8s							
GYA				LR	LR			
	comp=Z,33nm,5.6s							
AAK	**Ala-Archa**	**73.64**	**324**	*i* P	**P**	**13 01 11.6**	**+0.5**	
AAK				pmax	pmax			
	comp=Z,2.0nm,0.9s							
AKASG	**Malin Array Be**	**74.42**	**357**	P	**P**	**13 01 14.7**	**-0.6**	
	comp=Z,1.0nm,0.4s,baz=8.0,slow=6.1,SNR=4.4							
AKBB	**Malin Array Si**	**74.42**	**357**	*ce*P	**P**	**13 01 14.9**	**-0.3**	
AKBB	**Malin Array Si**	**74.42**	**357**	P	**P**	**13 01 14.2**	**-1.1**	
KK31	**Karatay Array**	**74.53**	**327**	P	**P**	**13 01 15.9**	**-0.2**	
GERES	**GERESS Array B**	**75.97**	**7**	P	**P**	**13 01 24.8**	**+0.4**	
	comp=Z,0.5nm,0.3s,baz=3.5,slow=4.4,SNR=7.5							
KMI	**Kunming**	**76.03**	**294**	*e*P	**P**	**13 01 28.8**	**+3.6**	
KMI				pP	PcP	13 01 33.8	-3.7	
KMI				pmax	pmax			
	comp=Z,10.0nm,0.6s							
KMI				pmax	pmax			
	comp=Z,160nm,5.4s							
VYHS	**Vyhne**	**76.60**	**4**	*e*P	**P**	**13 01 28.7**	**+0.9**	
VYHS				*e*		13 01 37.9		
VYHS				pmax	pmax			
	comp=Z,4.0nm,0.9s							
VYHS	**Vyhne**	**76.60**	**4**	*e*P	**P**	**13 01 28.7**	**+0.9**	
VYHS				*e*		13 01 37.9		
CONA	**Conrad Observa**	**77.02**	**6**	*e*P	**P**	**13 01 29.2**	**-1.1**	
	comp=Z,3.0nm,1.0s							
CONA				*e*PcP	**PcP**	**13 01 41.2**	**-0.1**	
	comp=Z,2.8nm,0.8s							
MOTA	**Moosalm**	**77.25**	**9**	*e*PcP	**PcP**	**13 01 41.7**	**-0.7**	
	comp=Z,7.9nm,1.2s							
WATA	**Walderalm**	**77.30**	**9**	*es*P	**PcP**	**13 01 41.1**	**-1.5**	
	comp=Z,5.6nm,0.7s							
WTTA	**Wattenberg**	**77.38**	**9**	*i* P	**P**	**13 01 33.7**	**+1.3**	
	comp=Z,1.8nm,0.6s							
WTTA				*es*P	**PcP**	**13 01 41.7**	**-1.2**	
	comp=Z,6.5nm,0.7s							
SQTA	**Sankt Quirin**	**77.38**	**9**	*e*PcP	**PcP**	**13 01 42.6**	**-0.3**	
	comp=Z,6.1nm,0.8s							
FETA	**Feichten**	**77.53**	**9**	*es*P	**PcP**	**13 01 42.6**	**-1.0**	
	comp=Z,5.6nm,0.8s							
ARSA	**Arzberg**	**77.68**	**6**	*i* PcP	**PcP**	**13 01 43.8**	**-0.3**	
	comp=Z,3.7nm,0.8s							
KBA	**Koelnbreinsper**	**77.70**	**8**	*e*PcP	**PcP**	**13 01 44.9**	**+0.5**	
	comp=Z,6.4nm,0.7s							
SOKA	**Soboth**	**78.22**	**7**	*e*P	**P**	**13 01 38.2**	**+1.2**	
	comp=Z,2.0nm,0.8s							
SOKA				*e*PcP	**PcP**	**13 01 47.3**	**+0.8**	
	comp=Z,7.0nm,1.1s							
OBKA	**Obir**	**78.35**	**7**	*e*P	**P**	**13 01 38.8**	**+1.0**	
	comp=Z,8.8nm,1.0s							
OBKA				*i* PcP	**PcP**	**13 01 47.9**	**+0.9**	
	comp=Z,12nm,0.8s							
KIV	**Kislovodsk**	**80.02**	**347**	*e*P	**P**	**13 01 47.0**	**+0.1**	
KIV				pmax	pmax			
	comp=Z,23nm,1.1s							
KBZ	**Khabaz**	**80.22**	**346**	LR	LR	13 42 15.2		
	comp=Z,36nm,18.2s,baz=112,slow=39							
KBZ	**Khabaz**	**80.22**	**346**	*i* P	**P**	**13 01 47.4**	**-0.4**	
KBZ				pmax	pmax			
	comp=Z,5.0nm,1.5s							
ESDC	**Sonseca Array**	**82.47**	**22**	P	**P**	**13 02 00.6**	**+0.6**	
	comp=Z,0.4nm,0.5s,baz=336,slow=5.7,SNR=4.1							
GEYT	**Alibeck**	**82.86**	**334**	P	**P**	**13 02 02.4**	**+0.4**	
	comp=Z,1.9nm,0.7s,baz=149,slow=3.4,SNR=2.6							
CMAR	**Chiang Mai Arr**	**83.50**	**293**	P	**P**	**13 02 05.3**	**-0.2**	
	comp=Z,0.8nm,0.6s,baz=13,slow=6.1,SNR=6.1							
BRTR	**Keskin Array B**	**85.14**	**353**	P	**P**	**13 02 14.2**	**+0.4**	
	comp=Z,1.4nm,0.7s,baz=55,slow=4.7,SNR=5.6							
H03N2	**Juan Fernandez**	**109.83**	**120**	T	T	15 07 19.5		
	baz=325,slow=78,SNR=4.5							
H03N1	**Juan Fernandez**	**109.84**	**120**	T	T	15 07 10.9		
	baz=325,slow=78,SNR=1.1							
H03N3	**Juan Fernandez**	**109.84**	**120**	T	T	15 07 31.8		
	baz=325,slow=78,SNR=5.1							

*IDC **30** 12:51:36.3±6.3, 27.87S×23.28E, h0km, Error ellipse: s-maj=40.0km s-min=37.8km az=13.0, South Africa*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I47ZA	**BOSHOF INFRASO**	**1.88**	**114** *i*			13 00 01.0	
	baz=293,slow=322,SNR=1.2						
BOSA	**Boshof**	**1.89**	**113**	Pn	Pn	12 52 09.8	-0.2
	0.2nm,0.3s,baz=295,slow=16,SNR=8.9						
BOSA				Lg	Lg	12 52 36.7	
	0.7nm,0.3s,baz=203,slow=19,SNR=13						
BOSA				Rg	Rg	12 52 48.3	
	5.6nm,0.9s,baz=197,slow=4.5,SNR=4.9						
I33MG	**ANTANANARIVO I**	**23.70**	**73** *i*			15 20 20.0	
	baz=242,slow=322,SNR=1.4						

*IDC **30** 12:59:40.7±2.3, 8.78N×92.78E, h0km, **mb3.6**/4, **mb1 3.8**/5, **mb1mx3.5**/46, **mbtmp3.6**/5, **ML4.0**/1, Error ellipse: s-maj=80.2km s-min=23.5km az=65.0, Nicobar Islands region*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.34**	**31**	Pn	Pn	13 02 24.3	+0.2
	0.3nm,0.3s,baz=222,slow=15,SNR=7.2						
H08S3	**Diego Garcia H**	**25.97**	**232**	T	T	13 33 01.6	
	baz=50,slow=76,SNR=31						
H08S2	**Diego Garcia H**	**25.97**	**232**	T	T	13 32 45.9	
	baz=50,slow=76,SNR=42						
H08S1	**Diego Carcia H**	**25.99**	**232**	T	T	13 32 51.7	
	baz=50,slow=76,SNR=9.7						
MKAR	**Makanchi Array**	**38.93**	**349**	P	P	13 07 09.3	+0.9
	0.3nm,0.4s,baz=146,slow=10,SNR=2.5						
ZALV	**Zalesovo Beam**	**45.50**	**353**	P	P	13 08 00.5	-1.2
	0.4nm,0.3s,baz=163,slow=7.1,SNR=2.4						
WRA	**Warramunga Arr**	**49.88**	**125**	P	P	13 08 36.3	-0.1
	1.1nm,0.4s,baz=306,slow=8.8,SNR=28						
ASAR	**Alice Springs**	**51.53**	**130**	P	P	13 08 48.6	-0.2
	0.3nm,0.4s,baz=305,slow=7.3,SNR=14						

*JMA **30** 13:20:37.9±0.2, 36.1N×137.03E, h27.8km±2.2km, M2.6*
*IDC **30** 13:20:38.1±1.1, 36.21N×137.27E, h290.8km±17.7km, mb2.9/2, mb1 2.9/4, mb1mx2.7/44, mbtmp3.5/4, Error ellipse: s-maj=57.7km s-min=26.7km az=86.0*

ISC 30 13:20:36.7±1.1, 36.1N±0.1×137.1E±0.1, h300km, n15, σ2.9 10/17, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYTA	**Yamagatataniai**	**0.59**	**207**	P	**Pn**	**13 21 14.2**	**-1.4**
JYTA				*e*S	**S**	**13 21 42.4**	**-4.2**
JKG	**Kaga**	**0.62**	**285**	P	**Pn**	**13 21 14.3**	**-1.3**
JAO	**Obara**	**0.86**	**170**	P	**Pn**	**13 21 15.2**	**-1.5**
JNY	**Yasuok**	**1.00**	**139**	P	**Pn**	**13 21 15.6**	**-1.6**
MJAR	**Matsushiro Arr**	**1.01**	**65**	P	**Pn**	**13 21 16.9**	**-0.3**
	0.1nm,0.3s,baz=265,slow=1.9,SNR=5.8						
HMMJ	**Hamamatsu 2**	**1.37**	**157**	P	**Pn**	**13 21 18.4**	**-0.7**
JWT	**Wachi**	**1.59**	**239**	P	**Pn**	**13 21 19.2**	**-1.3**
JIE	**Ise**	**1.75**	**190**	P	**Pn**	**13 21 21.2**	**-0.5**
JIE				S	**S**	**13 21 54.0**	**-3.5**
JKN2	**Miekihoku**	**1.99**	**199**	P	**Pn**	**13 21 22.8**	**-0.6**
JSD	**Sado**	**2.14**	**26**	P	**Pn**	**13 21 23.9**	**-0.6**
JWY	**Kouya**	**2.25**	**213**	P	**Pn**	**13 21 25.1**	**-0.6**
USRK	**Ussuriysk Ar.**	**8.96**	**336**	P	**Pn**	**13 22 43.0**	**+1.2**
	baz=157,slow=16,SNR=3.4						
ASAJ	**Asahikawa**	**9.04**	**26**	P	**Pn**	**13 22 42.5**	**-0.3**
	0.4nm,0.3s,baz=213,slow=14,SNR=6.2						
WRA	**Warramunga Arr**	**55.82**	**183**	P	**P**	**13 29 46.4**	**+2.9**
	0.3nm,0.5s,baz=0.2,slow=7.6,SNR=7.1						
ASAR	**Alice Springs**	**59.54**	**183**	P	**P**	**13 30 12.3**	**+3.2**
	0.5nm,1.0s,baz=357,slow=5.6,SNR=6.3						

*IDC **30** 13:23:59.7±0.6, 32.27S×178.15W, h0km, mb4.4/12, mb1 4.5/14, mb1mx4.3/33, mbtmp4.4/14, ML4.4/2, MS3.9/7, Ms1 3.9/7, ms1mx3.6/29, Error ellipse: s-maj=22.1km s-min=16.8km az=88.0*
*NEIC **30** 13:24:01.2±1.4, 32.34S±0.07×178.3W±0.1, h10km±1km, mb4.8/19, Error ellipse: s-maj=21.6km s-min=11.3km az=99.0*

ISC 30 13:24:02.0±0.5, 32.45S±0.05×177.99W±0.09, h20km, n87, σ2.8 08/90, mb4.6/18, MS3.7/7, 1C-1D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.17**	**1**	P	**Pn**	**13 24 48.4**	**-2.4**
GLKZ				S	**Sn**	**13 25 22.3**	**-5.7**
RAO	**Raoul Island**	**3.18**	**1**	Pn	**Pn**	**13 24 48.6**	**-2.3**
	76nm,0.3s,baz=52,slow=22,SNR=6.2						
RAO				Sn	**Sn**	**13 25 26.4**	**-1.9**
	110nm,0.3s,baz=283,slow=21,SNR=4.0						
RIZ	**Raoul Island**	**3.19**	**1**	P	**Pn**	**13 24 48.8**	**-2.2**
RIZ				S	**Sn**	**13 25 24.4**	**-4.1**
MXZ	**Matakaoa Point**	**5.94**	**210**	P	**Pn**	**13 25 28.5**	**-0.3**
WMGZ	**Waiomatatini S**	**6.12**	**208**	P	**Pn**	**13 25 30.9**	**-0.4**
WMGZ				S	**Sn**	**13 26 41.2**	**+0.6**
PKGZ	**Pakihiroa**	**6.31**	**210**	P	**Pn**	**13 25 32.1**	**-1.9**
PKGZ				S	**Sn**	**13 26 43.7**	**-1.9**
HAZ	**Te Kaha**	**6.33**	**212**	P	**Pn**	**13 25 33.7**	**-0.5**
HAZ				S	**Sn**	**13 26 45.7**	**-0.1**
PUZ	**Puketiti**	**6.40**	**208**	P	**Pn**	**13 25 31.5**	**-3.7**
PUZ				S	**Sn**	**13 26 45.2**	**-2.4**
RUGZ	**Raukumara Rang**	**6.55**	**212**	P	**Pn**	**13 25 37.3**	**0.0**
RUGZ				S	**Sn**	**13 26 50.6**	**-0.9**
TWGZ	**Tauwhareparae**	**6.60**	**209**	P	**Pn**	**13 25 35.3**	**-2.6**
TWGZ				S	**Sn**	**13 26 52.4**	**-0.2**
KUZ	**Kuaotunu**	**6.73**	**229**	P	Pb	13 25 48.9	-9.4
CNGZ	**Carnagh Statio**	**6.78**	**206**	P	**Pn**	**13 25 37.4**	**-2.9**
MWZ	**Matawai**	**6.92**	**211**	P	**Pn**	**13 25 39.5**	**-2.9**
MWZ				S	**Sn**	**13 26 58.2**	**-2.3**
OPRZ	**Ohinepanea**	**7.00**	**218**	P	**Pn**	**13 25 43.9**	**+0.5**
URZ	**Urewera**	**7.05**	**213**	P	**Pn**	**13 25 41.9**	**-2.1**
URZ				S	**Sn**	**13 27 00.7**	**-2.9**
URZ	**Urewera**	**7.05**	**213**	Pn	**Pn**	**13 25 41.6**	**-2.4**
RIGZ	**Rimuhau**	**7.14**	**208**	P	**Pn**	**13 25 41.2**	**-4.1**
RIGZ				S	**Sn**	**13 27 02.0**	**-3.9**
WCZ	**Waipu Caves**	**7.25**	**239**	P	**Pn**	**13 25 50.4**	**+3.6**
MHGZ	**Mahia Peninsul**	**7.48**	**205**	P	**Pn**	**13 25 46.2**	**-3.7**
OUZ	**Omahuta**	**7.53**	**246**	P	**Pn**	**13 25 54.1**	**+3.5**
OUZ	**Omahuta**	**7.53**	**246**	Pn	**Pn**	**13 25 53.7**	**+3.1**
BKZ	**Black Stump Fm**	**8.06**	**212**	P	**Pn**	**13 25 58.9**	**+0.8**
BKZ	**Black Stump Fm**	**8.06**	**212**		**Pn**	**13 25 55.7**	**-2.3**
THZ	**Tophouse**	**11.80**	**215**	Pn	**Pn**	**13 26 45.8**	**-3.3**
KHZ	**Kahutara**	**12.01**	**212**	Pn	**Pn**	**13 26 49.0**	**-3.0**
RPZ	**Rata Peaks**	**14.16**	**214**	Pn	**Pn**	**13 27 21.8**	**+0.4**
	1.0nm,0.3s,baz=59,slow=5.9,SNR=3.5						
RPZ				Sn	Sn	13 29 41.9	-16
	0.9nm,0.3s,baz=328,slow=17,SNR=2.1						
ODZ	**Otahua Downs**	**15.37**	**212**	Pn	**Pn**	**13 27 32.2**	**-5.5**
ODZ				IAmb	IAmb	13 28 06.1	
	comp=Z,52nm,1.3s						
DZM	**Mont Dzumac**	**17.25**	**303**	Pn	**P**	**13 28 04.6**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=115,slow=16,SNR=8.4						
DZM				LR	LR	13 33 45.7	
	comp=Z,1μm,18.1s,baz=182,slow=34						
DZM	**Mont Dzumac**	**17.25**	**303**	P	**Pn**	**13 27 59.9**	**-2.1**
RAR	**Rarotonga**	**19.70**	**60**	LR	LR	13 36 18.4	
	comp=Z,342nm,18.0s,baz=180,slow=37						
TBI	**Tubuai**	**26.73**	**77**	*e*LQ	LQ	13 34 36.2	
	comp=Z,266nm,25.2s						
TBI				*e*LR	LR	13 36 06.1	
	comp=Z,183nm,23.8s						
PPT2	**Papeete2**	**29.57**	**67**	*e*LR	LR	13 37 25.6	
	comp=Z,131nm,20.8s,baz=236						
PPT	**Papeete**	**29.59**	**67**	LR	LR	13 40 44.6	
	comp=Z,243nm,18.1s,baz=222,slow=34						
STKA	**Stephens Creek**	**34.08**	**260**	P	**P**	**13 30 46.1**	**+1.0**
	comp=Z,2.8nm,1.0s,baz=104,slow=6.8,SNR=5.0						
STKA				LR	LR	13 44 28.1	
	comp=Z,456nm,18.1s,baz=55,slow=36						
STKA	**Stephens Creek**	**34.08**	**260**	P	**P**	**13 30 44.0**	**-1.2**
CTA	**Charters Tower**	**34.19**	**282**	P	**P**	**13 30 46.5**	**+0.3**
	comp=Z,4.8nm,0.5s,baz=100,slow=9.2,SNR=8.7						
CTAO	**Charters Tower**	**34.19**	**282**	P	**P**	**13 30 46.4**	**+0.1**
BBOO	**Buckleboo**	**38.47**	**257**	P	**P**	**13 31 21.4**	**-1.2**
COEN	**Coen**	**39.88**	**288**	P	**P**	**13 31 35.2**	**+0.6**
AS31	**Alice Springs**	**43.05**	**269**	P	**P**	**13 31 59.0**	**-1.6**
ASAR	**Alice Springs**	**43.05**	**269**	P	**P**	**13 31 59.5**	**-1.1**
	comp=Z,16nm,1.1s,baz=108,slow=8.0,SNR=62						
ASAR				LR	LR	13 50 34.6	
	comp=Z,91nm,18.5s,baz=108,slow=37						
WR0	**Warramunga Arr**	**44.05**	**274**	P	**P**	**13 32 07.4**	**-1.3**
WR0				IAmb	IAmb	13 32 23.1	
	comp=Z,17nm,1.1s						
WB2	**Warramunga Arr**	**44.21**	**274**	P	**P**	**13 32 08.6**	**-1.4**
WB2				IAmb	IAmb	13 32 24.4	
	comp=Z,16nm,0.9s						
WRAB	**Tennant Creek**	**44.22**	**274**	P	**P**	**13 32 08.8**	**-1.2**
WRAB				IAmb	IAmb	13 32 24.4	
	comp=Z,18nm,0.9s						
WRA	**Warramunga Arr**	**44.22**	**274**	P	**P**	**13 32 08.7**	**-1.4**
	comp=Z,16nm,1.0s,baz=113,slow=8.0,SNR=67						
WB0	**Warramunga Arr**	**44.25**	**274**	P	**P**	**13 32 09.1**	**-1.3**
WB0				IAmb	IAmb	13 32 24.7	
	comp=Z,23nm,1.0s						
FORT	**Forrest**	**45.57**	**257**		**P**	**13 32 18.9**	**-1.8**
VNDA	**Vanda**	**46.07**	**186**	P	**P**	**13 32 26.6**	**+2.7**
	comp=Z,0.3nm,0.8s,baz=14,slow=8.7,SNR=1.4						
MTN	**Manton Dam**	**50.34**	**281**	P	**P**	**13 32 56.2**	**-1.6**
KNRA	**Kununurra**	**50.90**	**276**	P	**P**	**13 33 01.4**	**-0.5**
FITZ	**Fitzroy Crossi**	**52.40**	**271**	P	**P**	**13 33 11.7**	**-1.4**
FITZ				IAmb	IAmb	13 33 32.5	
	comp=Z,17nm,1.2s						
QSPA	**South Pole Qui**	**57.67**	**180**	P	**P**	**13 33 52.6**	**+1.8**
	comp=Z,4.5nm,1.0s,baz=34,slow=4.3,SNR=9.2						
QSPA	**South Pole Qui**	**57.67**	**180**	P	**P**	**13 33 52.5**	**+1.7**
MAW	**Mawson**	**70.40**	**201**	P	**P**	**13 35 16.2**	**+2.0**
	comp=Z,2.1nm,1.0s,baz=53,slow=13,SNR=2.9						
MAW	**Mawson**	**70.40**	**201**	IAmb	IAmb	13 35 25.4	
	comp=Z,2.1nm,1.3s						
SYO	**Syowa Base**	**75.13**	**193**	*e*P	**P**	**13 35 41.4**	**-0.8**
SYO	**Syowa Base**	**75.13**	**193**	*e*pP	pP	13 35 45.6	-1.3
SNAA	**Sanae**	**76.12**	**178**	P	**P**	**13 35 48.5**	**+0.5**
SNAA	**Sanae**	**76.12**	**178**	P	**P**	**13 35 48.4**	**+0.4**
VNA3	**Neumayer Olymp**	**76.27**	**176**	P	**P**	**13 35 51.1**	**+0.3**
VNA1	**Neumayer--Stat**	**76.93**	**177**	P	**P**	**13 35 53.3**	**+0.9**
PLCA	**Paso Flores**	**81.11**	**133**	P	**P**	**13 36 18.7**	**+2.7**
	comp=Z,1.4nm,0.8s,baz=237,slow=4.8,SNR=2.8						
PLCA	**Paso Flores**	**81.11**	**133**	IAmb	IAmb	13 36 58.6	
	comp=Z,18nm,1.6s						
JKA	**Kamikawa-asahi**	**84.25**	**333**	P	**P**	**13 36 32.8**	**+0.9**
ASAJ	**Asahikawa**	**84.25**	**333**	P	**P**	**13 36 32.8**	**+0.9**
	comp=Z,2.0nm,0.7s,baz=228,slow=6.1,SNR=4.1						
KSRS	**Korea Array**	**85.91**	**320**	P	**P**	**13 36 40.8**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=145,slow=4.9,SNR=5.7						
KSRS				LR	LR	14 12 18.3	
	comp=Z,35nm,19.8s,baz=340,slow=34						
PETK	**Petropavlovsk-**	**87.79**	**346**	P	**P**	**13 36 49.0**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=106,slow=11,SNR=5.6						
NVAR	**Mina Array Bea**	**89.73**	**43**	P	**P**	**13 37 00.2**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=169,slow=8.3,SNR=2.5						
KLR	**Kul'dur**	**92.80**	**330**	P	**P**	**13 37 12.7**	**0.0**
	comp=Z,1.6nm,0.7s,baz=6.2,slow=1.7,SNR=5.3						
LPAZ	**La Paz**	**97.30**	**114**	LR	LR	14 14 04.5	
	comp=Z,21nm,19.2s,baz=174,slow=31						
ILAR	**Eielson Array**	**99.91**	**13**	PP	**PP**	**13 41 55.1**	**+4.9**
	comp=Z,0.1nm,0.5s,baz=211,slow=8.0,SNR=1.6						
MKAR	**Makanchi Array**	**119.08**	**309**	PKP	**PKPdf**	**13 42 48.8**	**-0.3**
	comp=Z,1.1nm,0.9s,baz=90,slow=3.9,SNR=4.0						
KURK	**Kurchatov**	**122.46**	**313**		**PKPdf**	**13 42 55.0**	**-0.4**
KLMR	**Klimovskoe**	**142.56**	**331**	*e*PKPdf	**PKPdf**	**13 43 31.5**	**-1.2**
KLMR				AMP		13 43 40.8	
	comp=Z,8.0nm,1.4s						
KBZ	**Khabaz**	**146.22**	**301**	PKPbc	**PKPab**	**13 43 40.9**	**-0.6**
	comp=Z,2.7nm,0.9s,baz=260,slow=2.5,SNR=6.5						
FIA1	**FINESS Array S**	**147.06**	**339**		**PKPbc**	**13 43 41.7**	**-0.9**
FINES	**FINESS Array B**	**147.06**	**339**	PKPbc	**PKPbc**	**13 43 42.1**	**-0.5**
	comp=Z,11nm,0.7s,baz=46,slow=3.7,SNR=33						
NB2	**NORSAR Subarra**	**150.77**	**351**	PKP	**PKPbc**	**13 43 51.4**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**150.77**	**351**	PKPbc	**PKPbc**	**13 43 52.0**	**-0.2**
	comp=Z,1.6nm,0.7s,baz=14,slow=4.1,SNR=7.3						
AKASG	**Malin Array Be**	**152.90**	**320**	PKPbc	**PKiKP**	**13 43 57.6**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=58,slow=2.7,SNR=7.4						
AKBB	**Malin Array Si**	**152.90**	**320**		**PKPbc**	**13 43 57.1**	**-0.1**
ILGA	**Ilgaz**	**153.30**	**298**		**PKiKP**	**13 43 59.4**	**+0.4**
BRTR	**Keskin Array B**	**153.53**	**295**	PKPbc	**PKiKP**	**13 43 59.3**	**0.0**
	comp=Z,3.0nm,1.0s,baz=119,slow=4.4,SNR=8.2						
DBIC	**Dimbokro**	**153.57**	**165**	PKPbc	**PKiKP**	**13 44 01.6**	**+1.6**
	comp=Z,3.9nm,1.0s,baz=342,slow=3.2,SNR=1.9						
CLL	**Collm**	**159.50**	**340**	*i* PKPab	**PKPab**	**13 44 36.2**	**-0.5**
	comp=Z,8.0nm,1.2s						
TORD	**Torodi Ar. Bea**	**160.79**	**179**	PKPab	**PKPab**	**13 44 44.5**	**+1.3**
	comp=Z,2.5nm,1.0s,baz=187,slow=2.2,SNR=6.6						
GERES	**GERESS Array B**	**161.41**	**335**	PKPab	**PKPab**	**13 44 45.1**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=67,slow=4.5,SNR=5.5						

*IDC **30** 13:42:51.5±0.7, 55.3S×27.83W, h0km, mb4.2/9, mb1 4.2/10, mb1mx4.1/34, mbtmp4.1/10, ML3.9/1, MS3.7/2, Ms1 3.7/2, ms1mx3.0/21, Error ellipse: s-maj=25.3km s-min=16.7km az=54.0*
*NEIC **30** 13:42:53.7±1.1, 55.3S±0.1×27.9W±0.2, h14km±4km, mb4.8/13, Error ellipse: s-maj=21.6km s-min=15.5km az=203.0*

ISC 30 13:42:55.1±0.7, 55.3S±0.1×27.9W±0.1, h26km, n39, σ0.8 83/36, mb4.3/12, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.06**	**278**	Pn	**Pn**	**13 44 08.3**	**-0.9**
SNAA	**Sanae**	**19.62**	**156**	P	**P**	**13 47 21.0**	**-0.2**
	0.4nm,0.3s,baz=304,slow=11,SNR=14						
SNAA	**Sanae**	**19.62**	**156**	P	**P**	**13 47 20.7**	**-0.5**
QSPA	**South Pole Qui**	**34.97**	**180**	P	**P**	**13 49 44.9**	**0.0**
	1.1nm,0.4s,baz=185,slow=2.6,SNR=16						
QSPA	**South Pole Qui**	**34.97**	**180**	IAmb	IAmb	13 50 36.3	
	comp=Z,13nm,1.6s						
CPUP	**Villa Florida**	**35.99**	**311**	P	**P**	**13 49 54.0**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=143,slow=15,SNR=2.9						
CPUP	**Villa Florida**	**35.99**	**311**	IAmb	IAmb	13 50 02.5	
	comp=Z,45nm,1.9s						
CFA	**Coronel Fontan**	**36.88**	**293**	P	**P**	**13 50 01.2**	**-0.2**
	comp=Z,2.3nm,0.4s,baz=139,slow=7.3,SNR=5.8						
LVC	**Limon Verde**	**44.56**	**300**	P	**P**	**13 51 05.9**	**+0.8**
	comp=Z,2.9nm,0.5s,baz=91,slow=6.0,SNR=5.4						
LVC	**Limon Verde**	**44.56**	**300**	IAmb	IAmb	13 51 09.4	
	comp=Z,26nm,1.7s						
PB01	**IPOC Station P**	**46.16**	**301**	P	**P**	**13 51 17.4**	**-0.1**
BOSA	**Boshof**	**46.19**	**77**	P	**P**	**13 51 17.6**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=222,slow=8.4,SNR=5.4						
BOSA				LR	LR	14 07 02.4	
	comp=Z,88nm,18.5s,baz=212,slow=31						
SIV	**San Ignacio**	**46.74**	**314**	P	**P**	**13 51 21.9**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=158,slow=6.0,SNR=6.1						
PB08	**IPOC Station P**	**46.76**	**302**	P	**P**	**13 51 24.9**	**+2.3**
PB08				IAmb	IAmb	13 51 26.5	
	comp=Z,23nm,1.8s						
GO01	**Chusmiza**	**47.19**	**302**	P	**P**	**13 51 27.4**	**+1.4**
GO01				IAmb	IAmb	13 52 31.8	
	comp=Z,35nm,1.9s						
VNDA	**Vanda**	**47.33**	**183**	P	**P**	**13 51 26.3**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=175,slow=5.4,SNR=15						
VNDA	**Vanda**	**47.33**	**183**	P	**P**	**13 51 27.0**	**+1.2**
PB11	**IPOC Station P**	**47.33**	**301**	P	**P**	**13 51 28.8**	**+2.0**
PSGCX	**Pisagua**	**47.70**	**301**	P	**P**	**13 51 30.3**	**+0.8**
MNMC	**Minye Minye**	**47.84**	**302**	P	**P**	**13 51 30.6**	**-0.3**
MNMC				IAmb	IAmb	13 51 34.3	
	comp=Z,6.5nm,0.7s						
LPAZ	**La Paz**	**49.59**	**305**	P	**P**	**13

baz=139
RAF MSG 14 01 05.5
comp=Z,41nm,0.2s
RAF eSG **Sg** **14 01 09.3 +2.2**
FIA0 FINESS Array S 2.03 27 Pn **Pg** **14 00 47.1 -0.2**
baz=205,slow=16
FIA0 Sn **Sg** **14 01 13.7 0.0**
baz=193,slow=37
FIA0 FINESS Array S 2.03 27 ePB **Pb** **14 00 46.8 +0.6**
FIA0 eSG **Sg** **14 01 13.9 +0.2**
FIA0 FINESS Array S 2.03 27 Pn **Pg** **14 00 47.1 -0.2**
baz=205,slow=16
FIA0 Sn **Sg** **14 01 13.7 0.0**
baz=193,slow=37
FINES FINESS Array B 2.03 27 Pn **Pg** **14 00 47.6 +0.2**
comp=Z,15nm,0.3s,baz=211,slow=16,SNR=279
FINES Lg Lg 14 01 14.2
comp=Z,20nm,0.3s,baz=208,slow=27,SNR=18
AAL Aland 2.17 286 P **Pb** **14 00 49.5 +0.9**
AAL S **Sg** **14 01 18.3 +0.2**
AAL Aland 2.17 286 ePB **Pb** **14 00 49.1 +0.5**
AAL eSG **Sb** **14 01 18.0 +2.1**
SLIT Slitere, Latvi 2.25 207 eP **Pb** **14 00 50.0 0.0**
SLIT eS **Sb** **14 01 20.0 +1.7**
SLIT AML AML 14 01 21.1
comp=Z,291nm,0.2s
SLIT AML AML 14 01 21.9
comp=N,530nm,0.3s
SLIT AML AML 14 01 22.4
comp=E,470nm,0.3s
KEF Keuruu 2.55 7 ePB **Pb** **14 00 55.5 +0.5**
KEF MSG 14 01 26.8
comp=Z,75nm,0.2s
KEF eSG **Sg** **14 01 29.4 -0.9**
KAF Kangasniemi 2.68 22 ePB **Pb** **14 00 57.0 -0.3**
baz=205
KAF eSB **Sb** **14 01 31.9 +1.1**
NRTU Norrtaelje 2.81 273 P **Pn** **14 00 57.5 +2.9**
NRTU Norrtaelje 2.81 273 eP **Pn** **14 00 57.5 +2.9**
GRAU Graesoe 2.91 286 P **Pn** **14 00 58.1 +2.1**
GRAU Graesoe 2.91 286 eP **Pn** **14 00 58.1 +2.1**
NYNU Nynaeshamn 3.23 261 P **Pn** **14 01 03.0 +2.7**
NYNU Nynaeshamn 3.23 261 eP **Pn** **14 01 03.0 +2.7**
SUF Sumisinen 3.23 16 eP **Pb** **14 01 04.0 -2.6**
FIBU Brunna 3.46 277 P **Pn** **14 01 06.8 +3.3**
VAF Ylistaro 3.48 349 eP **Pb** **14 01 08.9 -2.0**
baz=164
BACU Backbrunna 3.58 276 P **Pn** **14 01 07.7 +2.6**
BACU Backbrunna 3.58 276 eP **Pn** **14 01 07.7 +2.6**
OSTU Oestervaala 3.59 282 P **Pn** **14 01 07.7 +2.4**
OSTU Oestervaala 3.59 282 eP **Pn** **14 01 07.7 +2.4**
IGGU Iggoen 3.63 293 P **Pn** **14 01 08.7 +2.8**
IGGU Iggoen 3.63 293 eP **Pn** **14 01 08.7 +2.8**
HEMU Hemsoen 4.25 318 eP **Pn** **14 01 17.9 +3.6**
HUSU Husum 4.40 329 eP **Pn** **14 01 20.4 +4.0**
UMAU Umeaa 4.56 340 eP **Pn** **14 01 21.9 +3.3**
baz=159
OUF Merijarvi 4.74 3 eP **Pn** **14 01 25.2 +4.0**
baz=187
OUF eSG **Sg** **14 02 38.7 -2.0**
HFS Hagfors 5.30 280 Pn **Pn** **14 01 30.7 +1.9**
baz=101,slow=11
HFS Sn **Sn** **14 02 28.6 -1.8**
baz=94,slow=28
HFS Lg Lg 14 02 54.2
baz=97,slow=37
HFS Hagfors 5.30 280 Pn **Pn** **14 01 31.4 +2.7**
comp=Z,0.5nm,0.3s,baz=103,slow=12,SNR=12
HFS Sn **Sn** **14 02 31.6 +1.1**
comp=Z,1.0nm,0.3s,baz=93,slow=27,SNR=6.6
HFS Hagfors 5.30 280 Pn **Pn** **14 01 30.7 +1.9**
baz=101,slow=11
HFS Sn **Sn** **14 02 28.6 -1.8**
baz=94,slow=28
HFS Sg **Sg** **14 02 54.2 -4.3**
baz=97,slow=37
NRA0 NORESS Array S 6.39 285 Pn **Pn** **14 01 45.1 +1.3**
baz=85,slow=12
NRA0 Sn **Sn** **14 02 55.8 -1.6**
baz=93,slow=14
NRA0 Lg Lg 14 03 30.0
baz=91,slow=37
NRA0 NORESS Array S 6.39 285 Pn **Pn** **14 01 45.1 +1.3**
baz=85,slow=12
NRA0 Sn **Sn** **14 02 55.8 -1.6**
baz=93,slow=14
NRA0 Sg **Sg** **14 03 30.0 -3.6**
baz=91,slow=37
NB2 NORSAR Subarra 6.58 288 Pn **Pn** **14 01 47.1 +0.6**
baz=94,slow=16
NB2 Sn **Sn** **14 03 01.9 -0.2**
NB2 Lg Lg 14 03 33.3
baz=98,slow=37
NB2 NORSAR Subarra 6.58 288 Pn **Pn** **14 01 47.1 +0.6**
baz=94,slow=16
NB2 Sn **Sn** **14 03 01.9 -0.2**
NB2 Sg **Sg** **14 03 33.3 -6.3**
baz=98,slow=37
NOA NORSAR Array B 6.58 288 Pn **Pn** **14 01 47.9 +1.5**
comp=Z,0.1nm,0.3s,baz=92,slow=12,SNR=12
NOA Sn **Sn** **14 03 01.1 -0.9**
comp=Z,0.1nm,0.3s,baz=78,slow=11,SNR=2.0
NOA Lg Lg 14 03 35.5
comp=Z,0.2nm,0.3s,baz=140,slow=23,SNR=5.6
BSD Bornholm Skovb 6.76 232 *i* P **Pn** **14 01 48.7 -0.1**
BSD *i* S **Sn** **14 03 03.4 -3.0**
APA0 Apatity Array 8.89 22 Pn **Pn** **14 02 18.6 +0.7**
APA0 Apatity Array 8.89 22 Pn **Pn** **14 02 18.6 +0.7**
AKASG Malin Array Be 9.42 160 Pn **Pn** **14 02 25.1 -0.3**
comp=Z,2.2nm,0.3s,baz=340,slow=12,SNR=6.2
ARA0 ARCESS Array S 9.94 3 Pn **Pn** **14 02 33.4 +0.9**
baz=175,slow=16
ARA0 ARCESS Array S 9.94 3 Pn **Pn** **14 02 33.4 +0.9**
baz=175,slow=16
ARCES ARCESS Array B 9.94 3 Pn **Pn** **14 02 33.6 +1.1**
comp=Z,1.0nm,0.3s,baz=179,slow=14,SNR=26
ARCES Sn **Sn** **14 04 20.8 -3.7**
comp=Z,0.3nm,0.3s,baz=186,slow=24,SNR=2.8

*INET **30** 14:08:13.0, 12°.62N×88°.83W, h8km, ML3.7*
SNET 30 14:08:15.5±1.1, 12°.69N×88°.77W, h31km±4km, ML3.4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJI	**Alcalda de J**	**0.66**	**17**	*e*P	Pb	14 08 28.7	0.0
ALJI				eS	Sn	14 08 38.7	+0.6
ALJI				IAML		14 08 40.6	
	comp=Z,920nm,0.2s						
JUCU	**Jucuarįn**	**0.76**	**42**	*e*P	Pn	14 08 29.5	-0.6
JUCU				eS	Sn	14 08 40.8	+0.2
COEB	**Comit de Eme**	**0.84**	**16**	*e*P	Pn	14 08 31.0	-0.3
COEB				eS	Sb	14 08 44.2	+1.6
LALI	**Alcalda de L**	**0.96**	**326**	eS	Sn	14 08 45.7	+0.3
PAVA	**Las Pavas**	**1.03**	**351**	*e*P	Pn	14 08 34.0	0.0
PAVA				eS	Sb	14 08 48.1	-0.1
PAVA				IAML		14 08 53.6	
	comp=Z,794nm,0.4s						
LCND	**La Caada**	**1.05**	**54**	*e*P	Pn	14 08 33.7	-0.5
LCND				eS	Sb	14 08 49.0	+0.3
LCND				IAML		14 08 53.4	
	comp=Z,1µm,0.3s						
JAYA	**Jayaque - finc**	**1.17**	**325**	*e*P	Pn	14 08 35.6	-0.2
JAYA				eS	Sb	14 08 51.5	-0.6
JAYA				IAML		14 08 52.5	
	comp=Z,1µm,0.2s						
CEDA	**San Andres**	**1.26**	**331**	eS	Sn	14 08 53.5	+0.4
TACO	**Tacachico**	**1.40**	**336**	*e*P	Pn	14 08 39.0	+0.1
TACO				eS	Sn	14 08 57.1	+0.8
NUBE	**Las Nubes**	**1.56**	**321**	*e*P	Pn	14 08 41.6	+0.3
NUBE				eS	Sn	14 09 00.7	+0.3
NUBE				IAML		14 09 02.9	
	comp=Z,288nm,0.2s						

*IDC **30** 14:22:40.2±1.2, 55°.27S×28°.04W, h0km, mb3.9/2, mb1 4.0/2, mb1mx3.6/16, mbtmp3.9/2, Error ellipse: s-maj=89.0km s-min=35.5km az=103.0*
*NEIC **30** 14:22:41.5±0.8, 55°.35S±0°.2×28°.2W±0°.2, h10km±1km, mb4.0/2, Error ellipse: s-maj=31.2km s-min=18.8km az=191.0*
ISC 30 14:22:41.3±0.9, 55°.3S±0°.2×28°.2W±0°.2, h10km, n10, σ0.50/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**4.88**	**278**	Pn	**Pn**	**14 23 54.5**	**-0.1**
SNAA	**Sanae**	**19.69**	**156**	P	**P**	**14 27 09.7**	**-0.7**
SNAA				IAmb	IAmb	14 27 12.4	
	comp=Z,1.9nm,0.8s						
QSPA	**South Pole Qui**	**34.97**	**180**	P	**P**	**14 29 33.6**	**+0.2**
QSPA				IAmb	IAmb	14 30 04.2	
	comp=Z,16nm,1.8s						
VNDA	**Vanda**	**47.32**	**183**	P	**P**	**14 31 14.7**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=179,slow=4.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**72.68**	**31**	P	**P**	**14 34 09.2**	**0.0**
	comp=Z,1.5nm,0.6s,baz=203,slow=5.8,SNR=6.3						
DOT	**Dot Lake**	**147.69**	**311**		**PKiKP**	**14 42 25.9**	**-0.7**
RIDG	**Independent Ri**	**148.05**	**311**		**PKPbc**	**14 42 26.4**	**+0.7**
ILAR	**Eielson Array**	**149.16**	**313**	PKPbc	**PKPbc**	**14 42 28.6**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=128,slow=2.2,SNR=14						
BPAW	**Bear Paw Mtn.**	**150.78**	**311**		**PKPbc**	**14 42 32.3**	**-0.1**
SONM	**Songino Array**	**151.27**	**86**	PKPbc	**PKPbc**	**14 42 34.4**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=222,slow=1.9,SNR=2.5						

*SOME **30** 14:38:39.2, 43°.67N×69°.68E*
*NNC **30** 14:38:39.5±1.9, 43°.71N×69°.71E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=10.2km s-min=6.4km az=140.0, Suspected Mining explosion.*
ISC 30 14:38:38.1±3.0, 43°.8N±0°.1×69°.8E±0°.1, h0km, n9, 4C-2D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRLS	**Borolday**	**0.75**	**178**	P	Pn	14 38 55.9	0.0
	7.8nm,0.2s						
BRLS				S	Sn	14 39 07.8	-0.2
	23nm,0.3s						
KK31	**Karatay Array**	**0.85**	**142**	⇓P	Pb	14 38 55.5	-0.2
	0.8nm,0.3s,baz=314,slow=16,SNR=91						
KK31				⇑S	Sb	14 39 07.6	-0.2
	26nm,0.6s,baz=322,slow=30,SNR=153						
IUG	**Iuzhnay**	**1.64**	**174**	P	Pg	14 39 09.6	+0.1
	3.9nm,0.3s						
IUG				S	Sg	14 39 31.3	+0.6
	73nm,0.4s						
MRKS	**Merke**	**2.71**	**111**	Pg	Pg	14 39 30.6	+0.7
	3.8nm,0.3s						
MRKS				Lg	Lg	14 40 07.8	
	15nm,0.6s						
SGDS	**Sogindy**	**3.52**	**94**	Pg	Pg	14 39 47.1	+1.5
	3.6nm,0.4s						
SGDS				Lg	Lg	14 40 35.7	
	7.7nm,0.4s						
AAK	**Ala-Archa**	**3.62**	**107**	⇑Pg	Pg	14 39 47.0	-0.3
	3.1nm,0.5s						
AAK				⇑Lg	Lg	14 40 36.4	
	4.3nm,0.5s						
TKM2	**Tokmak 2**	**4.31**	**99**	⇑Pg	Pg	14 39 59.4	-1.3
	2.0nm,0.7s						
TKM2				⇓Lg	Lg	14 40 58.1	
	9.0nm,0.9s						
KST	**Kastek**	**4.55**	**97**	Pg	Pg	14 40 05.3	0.0
	5.0nm,0.5s						
KST				Lg	Lg	14 41 06.7	
	13nm,0.6s						
KUU	**Kurty**	**4.73**	**86**	Pg	Pg	14 40 08.6	-0.2
	1.2nm,0.4s						
KUU				Lg	Lg	14 41 12.3	
	20nm,0.5s						

*LVSN **30** 14:41:00.4±9.9, 59°.23N×27°.14E, h0km±999km, ML1.3*
EST 30 14:40:44.0±0.1, 59°.16N×28°.32E, h0km, ML1.1 (HEL), Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**1.08**	**230**	AML	AML	14 41 23.2	
	comp=N,28nm,0.5s						
VSU				*e*S	Sn	14 41 23.8	+1.8
VSU				AML	AML	14 41 48.7	
	comp=N,20nm,0.6s						
VSU				AML	AML	14 42 02.7	
	comp=Z,18nm,0.6s						
VSU				AML	AML	14 42 05.8	
	comp=E,29nm,2.5s						
ARBE	**Arbavere**	**1.23**	**284**	*e*S	Sg	14 41 21.9	-1.6
PVF	**Pernaja**	**1.86**	**319**	*e*P	Pn	14 41 16.8	-0.3
PVF				*e*SG	Sn	14 41 41.4	0.0
PVF				MSG		14 41 43.4	
	comp=Z,0.9nm,0.1s						
MEF	**Metsahovi**	**2.26**	**300**	*e*S	Sn	14 41 52.3	+1.3
MEF				AML	AML	14 41 54.0	
	comp=Z,4.0nm,0.7s						
MEF				AML	AML	14 41 55.1	
	comp=N,3.1nm,0.9s						
MEF				AML	AML	14 41 56.7	
	comp=E,2.2nm,0.7s						
MEF	**Metsahovi**	**2.26**	**300**	*e*PB	Pn	14 41 23.4	+0.8
MEF				*e*SB	Sn	14 41 52.1	+1.1
MEF				MSG		14 41 54.5	
	comp=Z,0.4nm,0.1s						
MTSE	**Matsula**	**2.38**	**261**	*e*P	Pg	14 41 37.3	+7.7
MTSE				*e*S	Sb	14 41 57.3	-0.2
MTSE	**Matsula**	**2.38**	**261**	*e*SG	Sb	14 41 57.0	-0.5
FIA0	**FINESS Array S**	**2.55**	**335**	*e*P	Pn	14 41 26.9	+0.4
FIA0				*e*SG	Sb	14 42 02.5	0.0
FIA1	**FINESS Array S**	**2.55**	**335**	*e*P	Pn	14 41 27.2	+0.6
FIA1				*e*SB	Sb	14 42 00.7	-1.8
FIA1				MSG		14 42 03.6	
	comp=Z,0.7nm,0.1s						
RAF	**Rauma**	**3.78**	**302**	*e*P	Pn	14 41 43.5	+0.1

*SKHL **30** 14:42:28.4±0.8, 51°.63N×142°.73E, h8km±2km, mb4.3/13*
*MOS **30** 14:42:29.1±1.7, 51°.63N×143°.26E, h11km, mb4.1/3, Error ellipse: s-maj=14.7km s-min=6.7km az=83.6*
*IDC **30** 14:42:29.4±0.7, 51°.77N×143°.01E, h0km, mb3.8/12, mb1 4.0/17, mb1mx3.8/51, mbtmp3.7/17, ML2.7/5, MS2.8/6, Ms1 2.8/6, ms1mx2.6/45, Error ellipse: s-maj=20.5km s-min=13.6km az=143.0*
*NEIC **30** 14:42:31.0±1.9, 51°.75N±0°.1×143°.1E±0°.1, h10km±1km, mb4.2/6, Error ellipse: s-maj=17.2km s-min=12.6km az=148.0*
ISC 30 14:42:29.8±1.1, 51°.61N±0°.02×142°.84E±0°.04, h6km±7km, n54, σ1s78/56, mb3.9/16, 2D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NGLR	**Nogliki**	**0.25**	**47**	⇓*i*PN	**Pg**	**14 42 34.8**	**+0.1**
NGLR				*i* S	**Sg**	**14 42 38.9**	**+0.9**
TYV	**Tymovskoe**	**0.76**	**189**	*e*Pg	**Pb**	**14 42 43.8**	**-1.7**
TYV				AMB	AMB	14 42 44.2	
	200nm,0.2s						
TYV				*e*Sg	**Sb**	**14 42 55.2**	**-0.8**
TYV				A	A	14 42 55.6	
	2µm,0.5s						
TYV				A	A	14 42 55.6	
	3µm,0.5s						
TYV	**Tymovskoe**	**0.76**	**189**	*e*PN	**Pb**	**14 42 43.7**	**-1.7**
TYV				*e*S	**Sb**	**14 42 55.0**	**-1.0**
TYV				pmax	pmax		
	comp=Z,212nm,0.2s						
TYV				smax	smax		
	comp=E,3µm,0.5s						
OKH	**Okha**	**1.94**	**2**	*e*P	**Pb**	**14 43 04.1**	**-1.4**
OKH				AMB	AMB	14 43 04.2	
	comp=E,60nm,0.3s						
OKH				*e*Sg	**Sg**	**14 43 35.9**	**+3.8**
OKH				A	A	14 43 37.1	
	comp=E,2µm,0.5s						
OKH				A	A	14 43 37.1	
	comp=E,1µm,0.5s						
OKH	**Okha**	**1.94**	**2**	⇓*e*PN	**Pb**	**14 43 04.1**	**-1.4**
OKH				*e*S	**Sg**	**14 43 34.8**	**+2.7**
OKH				pmax	pmax		
	comp=Z,97nm,1.3s						
OKH				smax	smax		
	comp=E,1µm,0.5s						
OKH				smax	smax		
	comp=N,2µm,0.5s						
NKL	**Nikolayevsk**	**2.03**	**320**	*e*P	**Pg**	**14 43 05.7**	**-3.0**
NKL				P	**Pb**	**14 43 07.6**	**+0.6**
	comp=N,300nm,0.4s						
NKL				*e*Sg	**Sg**	**14 43 35.0**	**+0.1**
NKL				A	A	14 43 37.6	
	comp=N,1µm,0.3s						
NKL	**Nikolayevsk**	**2.03**	**320**	*e*PN	**Pg**	**14 43 07.8**	**-0.9**
NKL				*e*S	**Sg**	**14 43 34.1**	**-0.8**
NKL				pmax	pmax		
	comp=Z,43nm,0.4s						
NKL				pmax	pmax		
	comp=E,5.0nm,0.3s						
NKL				pmax	pmax		
	comp=N,3.0nm,0.5s						
NKL				smax	smax		
	comp=N,3.0nm,0.2s						
NKL				smax	smax		
	comp=E,7.0nm,0.1s						
UGL	**Uglegorsk**	**2.59**	**191**	*e*P	**Pg**	**14 43 16.6**	**-2.8**
UGL				*e*Pg	Pb	14 43 20.6	+4.1
UGL				AMB	AMB	14 43 23.1	
	comp=E,10.0nm,0.9s						
UGL				*e*Sg	**Sg**	**14 43 55.3**	**+2.5**
UGL				A	A	14 44 00.5	
	comp=E,240nm,0.7s						
UGL				A	A	14 44 00.5	
	comp=E,500nm,0.7s						
UGL	**Uglegorsk**	**2.59**	**191**	PN	**Pn**	**14 43 11.5**	**-0.6**
UGL				*e*S	**Sg**	**14 43 51.6**	**-1.2**
UGL				pmax	pmax		
	comp=Z,60nm,0.7s						
UGL				smax	smax		
	comp=E,313nm,0.7s						
UGL				smax	smax		
	comp=E,1µm,2.8s						
GRNR	**Gornyy**	**4.12**	**261**	*e*P	Pb	14 43 36.4	-6.3
GRNR				AMB	AMB	14 43 54.5	
	comp=E,20nm,0.5s						
GRNR				*e*S	**Sb**	**14 44 29.6**	**-3.1**
GRNR				A	A	14 44 57.3	
	comp=E,120nm,0.8s						
GRNR				AMS	AMS	14 46 23.4	
	comp=E,50nm,11.0s						
GRNR	**Gornyy**	**4.12**	**261**	*e*PN	Pb	14 43 36.4	-6.3
GRNR				*e*		14 44 29.6	
GRNR				pmax	pmax		
	comp=E,20nm,0.6s						
GRNR				pmax	pmax		
	comp=N,7.0nm,0.4s						
GRNR				pmax	pmax		
	comp=Z,20nm,0.5s						
GRNR				smax	smax		
	comp=E,120nm,0.8s						
GRNR				MLR	MLR		
	comp=E,70nm,17.0s						
GRNR				MLR	MLR		
	comp=N,110nm,16.0s						
GRNR				MLR	MLR		
	comp=Z,50nm,11.0s						
YSS	**Yuzh-Sakhalins**	**4.67**	**181**	*e*P	**Pn**	**14 43 40.1**	**-0.6**
YSS				AMB	AMB	14 43 46.0	
	comp=Z,30nm,0.7s						
YSS				*e*S	**Sn**	**14 44 34.3**	**-0.8**
YSS				A	A	14 44 35.5	
	comp=Z,30nm,0.9s						
YSS				A	A	14 44 35.5	
	comp=Z,20nm,0.9s						
YSS				*e*Sg	**Sg**	**14 45 05.5**	**+6.0**
YSS				A	A	14 45 10.3	
	comp=Z,20nm,1.0s						
YSS				A	A	14 45 10.3	
	comp=Z,30nm,1.0s						
YSS				AMS	AMS	14 45 53.6	
	comp=Z,200nm,12.0s						
YSS	**Yuzh-Sakhalins**	**4.67**	**181**	*e*PN	**Pn**	**14 43 40.2**	**-0.5**
YSS				*e*		14 44 46.5	
YSS				pmax	pmax		
	comp=Z,10.0nm,0.9s						
YSS				smax	smax		
	comp=N,30nm,0.9s						
YSS				smax	smax		
	comp=E,30nm,0.8s						
YSS				MLR	MLR		
	comp=Z,200nm,12.0s						
YSS				MLR	MLR		
	comp=N,200nm,10.0s						
YSS				MLR	MLR		
	comp=E,100nm,12.0s						
YSS	**Yuzh-Sakhalins**	**4.67**	**181**		**Pn**	**14 43 40.4**	**-0.3**
EKMR	**Ekimchan**	**6.23**	**287**	*e*P	Pn	14 44 05.0	+2.8
EKMR				*e*Pg	Pg	14 44 35.5	+6.4
EKMR				AMB	AMB	14 44 37.0	
	comp=E,9.0nm,0.7s						
EKMR				*e*Sg	**Sg**	**14 45 50.0**	**+0.2**
EKMR				A	A	14 45 55.0	
	comp=E,40nm,1.0s						
KLR	**Kul'dur**	**7.47**	**256**	Pn	Pn	14 44 22.8	+3.5
	comp=E,0.1nm,0.3s,baz=64,slow=17,SNR=1.7						
KLR				Lg	Lg	14 46 30.3	
	comp=E,0.3nm,0.3s,baz=311,slow=3.9,SNR=5.8						
KLR				LR	LR	14 47 11.9	
	comp=E,74nm,20.0s,baz=76,slow=37						
KLR	**Kul'dur**	**7.47**	**256**	*i* PN	Pb	14 44 27.8	-12
ASAJ	**Asahikawa**	**7.50**	**181**	Pn	Pn	14 44 23.6	+3.9
	comp=E,0.2nm,0.3s,baz=57,slow=24,SNR=5.6						
JKA	**Kamikawa-asahi**	**7.50**	**181**		Pn	14 44 23.6	+3.9
BMKR	**Bomnak**	**8.96**	**296**	*e*P	**Pn**	**14 44 41.2**	**+1.6**
BMKR				*e*Sg	**Sg**	**14 47 20.0**	**+2.9**
BMKR				A	A	14 47 28.9	
	comp=E,11nm,0.4s						
MA2	**Magadan**	**9.15**	**26**	LR	LR	14 47 53.1	
	comp=E,41nm,19.3s,baz=284,slow=36						
PETK	**Petropavlovsk-**	**9.22**	**75**	Pn	**Pn**	**14 44 40.1**	**-3.1**
	comp=E,0.1nm,0.3s,baz=268,slow=11,SNR=5.2						
PETK				LR	LR	14 48 01.6	
	comp=E,60nm,20.8s,baz=235,slow=37						
ZEA	**Zeya**	**9.70**	**289**	*e*Pg	Pn	14 45 35.6	+46
ZEA				*e*Sg		14 47 43.0	
ZEA				A	A	14 47 45.0	
	comp=E,40nm,0.9s						
KROS	**Kirovskiy**	**9.97**	**293**	*e*P	Pn	14 44 57.0	+3.6
KROS				AMB	AMB	14 45 02.0	
	comp=E,10.0nm,0.4s						
KROS				*e*Sg		14 47 57.0	
KROS				A	A	14 47 59.2	
	comp=E,10.0nm,0.6s						
USRK	**Ussuriysk Ar.**	**10.39**	**229**	Lg	Lg	14 48 07.0	
	baz=41,slow=29,SNR=5.4						
MJAR	**Matsushiro Arr**	**15.43**	**194**	Pn	**P**	**14 46 12.1**	**-0.5**
	comp=E,0.0nm,0.3s,baz=359,slow=11,SNR=7.6						
MJAR				LR	LR	14 52 39.6	
	comp=E,21nm,19.0s,baz=155,slow=39						
KSRS	**Korea Array**	**17.65**	**222**	P	**P**	**14 46 39.1**	**+2.0**
	comp=E,0.1nm,0.3s,baz=42,slow=8.5,SNR=4.2						
KSRS				LR	LR	14 53 08.7	
	comp=E,37nm,18.2s,baz=42,slow=36						
KSRS	**Korea Array**	**17.65**	**222**	*e*P	**P**	**14 46 38.9**	**+1.8**
BILL	**Bilibino**	**20.02**	**26**	*i* P	Pn	14 47 03.3	-1.3
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TIXI	**Tiksi**	**21.06**	**348**	*i* P	**P**	**14 47 14.4**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
SONM	**Songino Array**	**23.70**	**275**	P	**P**	**14 47 43.7**	**+1.5**
	comp=Z,0.9nm,0.6s,baz=70,slow=8.6,SNR=4.7						
SONM	**Songino Array**	**23.70**	**275**	*e*P	**P**	**14 47 45.6**	**+3.4**
ZALV	**Zalesovo Beam**	**34.33**	**297**	LR	LR	15 03 59.0	
	comp=Z,24nm,20.9s,baz=153,slow=38						
MCK	**McKinley**	**36.58**	**44**	P	**P**	**14 49 36.2**	**+0.1**
MCK	**McKinley**	**36.58**	**44**	P	**P**	**14 49 36.2**	**+0.1**
MCK				IAmb	IAmb	14 49 36.5	
	comp=Z,3.1nm,0.7s						
ILAR	**Eielson Array**	**37.20**	**42**	P	**P**	**14 49 40.6**	**-0.6**
	comp=Z,1.2nm,0.9s,baz=287,slow=9.0,SNR=9.9						
ILAR	**Eielson Array**	**37.20**	**42**	*e*P	**P**	**14 49 41.3**	**0.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PRP	**Porcupine Dome**	**37.58**	**40**	P	**P**	**14 49 44.0**	**-0.6**
PRP				IAmb	IAmb	14 49 46.0	
	comp=Z,4.0nm,1.0s						
MKAR	**Makanchi Array**	**38.86**	**288**	P	**P**	**14 49 56.5**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=62,slow=8.4,SNR=6.9						
MKAR	**Makanchi Array**	**38.86**	**288**	*e*P	**P**	**14 49 56.6**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EGAK	**Eagle**	**39.55**	**41**	P	**P**	**14 50 00.1**	**-1.0**
EGAK				IAmb	IAmb	14 50 04.1	
	comp=Z,2.5nm,0.8s						
INK	**Inuvik**	**41.28**	**34**	P	**P**	**14 50 14.7**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=288,slow=6.4,SNR=4.0						
INK	**Inuvik**	**41.28**	**34**	P	**P**	**14 50 14.4**	**-0.9**

INK	**Inuvik**	**41.28**	**34**	P	**P**	**14 50 14.4**	**-0.9**
INK				IAmb	IAmb	14 51 31.9	
	comp=Z,11nm,1.7s						
HYT	**Haines Junctio**	**42.58**	**45**	P	**P**	**14 50 25.0**	**-1.2**
BESE	**Bessie Mountai**	**44.79**	**47**	P	**P**	**14 50 42.7**	**-1.3**
YKA	**Yellowknife Ar**	**50.99**	**36**	P	**P**	**14 51 30.7**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=310,slow=7.7,SNR=5.2						
FINES	**FINESS Array B**	**56.58**	**329**	P	**P**	**14 52 13.1**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=66,slow=9.2,SNR=6.4						
AKASG	**Malin Array Be**	**63.60**	**319**	P	**P**	**14 53 00.7**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=35,slow=7.3,SNR=1.9						
NVAR	**Mina Array Bea**	**65.89**	**58**	P	**P**	**14 53 16.0**	**-0.4**
	comp=Z,1.1nm,0.7s,baz=299,slow=6.6,SNR=5.1						
PDAR	**Pinedale Array**	**67.04**	**50**	P	**P**	**14 53 22.9**	**-0.9**
	comp=Z,0.6nm,0.6s,baz=48,slow=0.5,SNR=6.8						
WRA	**Warramunga Arr**	**71.64**	**188**	P	**P**	**14 53 52.7**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=96,slow=8.4,SNR=14						
ASAR	**Alice Springs**	**75.36**	**188**	P	**P**	**14 54 16.2**	**+2.4**
	comp=Z,0.3nm,0.7s,baz=3.5,slow=5.1,SNR=5.1						
TXAR	**Lajitas Array**	**80.56**	**54**	P	**P**	**14 54 42.8**	**-0.2**
	comp=Z,0.6nm,0.9s,baz=289,slow=3.8,SNR=5.6						

*IDC **30** 14:44:54.1±1.1,2.˝14S×121.˝07E,h0km,mb3.7/6, mb1 3.9/7,mb1mx3.6/41,mbtmp3.7/7,ML3.9/1,MS3.1/4, Ms1 3.1/4,ms1mx2.6/45,Error ellipse: s-maj=39.6km s-min=17.5km az=71.0*

*DJA **30** 14:44:56.6±0.8,2.˚S±2.˚×12.˚1E±.˚,h12km±6km,M4.4/12, mb4.6/4,MLv4.2/12*

*NEIC **30** 14:45:01.4±1.6,2.˚22S±0.˝06×121.˚08E±0.˝10,h58km±11km, mb4.2/5,Error ellipse: s-maj=15.7km s-min=5.8km az=117.0*

ISC 30 14:44:57.6±0.8,2.˚32S±0.˝05×120.˚88E±0.˝05,h22km±8km, n29,σ1§17/32,mb3.8/8,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.28**	**236**	P	**Pn**	**14 45 18.5**	**-1.7**
TTSI				S	**Sb**	**14 45 37.4**	**+0.3**
SPSI	**Sidrap Palu**	**1.98**	**214**	P	**Pn**	**14 45 29.7**	**-0.1**
SPSI				S	**Sb**	**14 45 56.1**	**-1.0**
BNSI	**Bone**	**2.21**	**200**	P	**Pn**	**14 45 34.0**	**+1.0**
BNSI				S	**Sn**	**14 46 01.6**	**+2.0**
LUWI	**Luwuk**	**2.28**	**56**	P	**Pn**	**14 45 33.7**	**-0.2**
LUWI				S	**Sn**	**14 46 03.0**	**+1.7**
LUWI	**Luwuk**	**2.28**	**56**		**Pn**	**14 45 32.7**	**-1.2**
MPSI	**Mapaga**	**2.82**	**340**	P	**Pn**	**14 45 40.9**	**-0.4**
KAPI	**Kappang**	**2.90**	**203**	Pn	**Pn**	**14 45 45.2**	**+2.6**
	15nm,0.3s,baz=12,slow=10,SNR=22						
KAPI				Sn	**Sb**	**14 46 23.2**	**-0.7**
	10.0nm,0.3s,baz=162,slow=16,SNR=4.2						
KAPI	**Kappang**	**2.90**	**203**		**Pn**	**14 45 43.3**	**+0.8**
MRSI	**Marisa**	**2.97**	**21**	P	**Pn**	**14 45 42.8**	**-0.7**
MRSI				S	**Sn**	**14 46 19.2**	**+0.7**
BBSI	**Bau Bau**	**3.57**	**152**	P	**Pn**	**14 45 52.4**	**+0.7**
BKB	**Balikpapan**	**4.12**	**285**	P	**Pn**	**14 45 59.1**	**-0.2**
KBKI	**Kotabaru**	**4.81**	**258**	P	**Pn**	**14 46 08.9**	**+0.1**
SANI	**Sanana**	**5.11**	**87**	P	**Pn**	**14 46 12.6**	**-0.3**
	0.2nm79nm,0.6s						
LBMI	**Labuha**	**6.83**	**76**	P	**Pn**	**14 46 36.8**	**+0.3**
	0.3nm76nm,0.8s						
MYLDM	**Lahad Datu**	**7.82**	**342**		**Pn**	**14 46 53.2**	**+3.1**
LEM	**Lembang**	**13.96**	**251**	LR	LR	14 54 14.3	
	comp=Z,169nm,19.9s,baz=55,slow=40						
FITZ	**Fitzroy Crossi**	**16.36**	**164**	LR	LR	14 56 26.5	
	comp=Z,37nm,20.2s,baz=350,slow=42						
IPM	**Ipoh**	**20.96**	**289**	P	**P**	**14 49 39.9**	**+0.5**
IPM				IAmb	IAmb	14 49 45.0	
	comp=Z,9.2nm,0.9s						
WB0	**Warramunga Arr**	**21.80**	**144**	P	**P**	**14 49 48.8**	**+0.4**
WB0				IAmb	IAmb	14 50 11.0	
	comp=Z,13nm,1.2s						
WRA	**Warramunga Arr**	**21.90**	**144**	P	**P**	**14 49 49.6**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=325,slow=11,SNR=8.0						
WB2	**Warramunga Arr**	**21.91**	**144**	P	**P**	**14 49 50.4**	**+0.8**
WR0	**Warramunga Arr**	**22.03**	**144**	P	**P**	**14 49 51.2**	**+0.3**
WR0				IAmb	IAmb	14 50 00.5	
	comp=Z,21nm,1.6s						
AS31	**Alice Springs**	**24.68**	**150**	P	**P**	**14 50 16.2**	**-1.0**
ASAR	**Alice Springs**	**24.68**	**150**	P	**P**	**14 50 17.6**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=340,slow=14,SNR=11						
CMAR	**Chiang Mai Arr**	**29.88**	**315**	P	**P**	**14 51 04.1**	**+0.3**
	comp=Z,1.2nm,0.7s,baz=142,slow=7.1,SNR=10.0						
CMAR				LR	LR	15 05 43.5	
	comp=Z,30nm,19.0s,baz=165,slow=42						
KSRS	**Korea Array**	**40.11**	**9**	LR	LR	15 11 01.0	
	comp=Z,18nm,18.7s,baz=235,slow=39						
SONM	**Songino Array**	**51.53**	**348**	P	**P**	**14 54 01.0**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=165,slow=6.0,SNR=4.5						
MKAR	**Makanchi Array**	**59.51**	**330**	P	**P**	**14 54 58.6**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=138,slow=8.8,SNR=4.2						
ZALV	**Zalesovo Beam**	**63.58**	**337**	P	**P**	**14 55 25.2**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=152,slow=9.6,SNR=1.6						

*IDC **30** 14:57:16.9±1.1,51.˚45N×178.˚89E,h0km,mb3.4/7, mb1 3.8/9,mb1mx3.6/50,mbtmp3.5/9,ML3.1/2,Error ellipse: s-maj=50.3km s-min=21.2km az=149.0*

*NEIC **30** 14:57:28.0±1.0,51.˚80N±0.˚05×178.˚58E±0.˚07,h93km±5km, mb4.2/3,Error ellipse: s-maj=7.8km s-min=6.1km az=165.0*

*AEIC **30** 14:57:29.2±1.6,51.˚79N±0.˚06×178.˚59E±0.˚07,h88km±4km, Error ellipse: s-maj=8.4km s-min=6.2km az=189.0*

ISC 30 14:57:27.6±0.8,51.˚8N±0.˚1×178.˚57E±0.˚05,h94km±6km, n43,σ1§03/47,mb3.5/8,Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSSE	**Little Sitkin**	**0.12**	**1**		**Pn**	**14 57 41.5**	**+0.6**
LSSA	**Little Sitkin**	**0.14**	**347**		**Pn**	**14 57 41.4**	**+0.5**
LSPA	**Little Sitkin**	**0.15**	**2**		**Pn**	**14 57 41.4**	**+0.5**
LSNW	**Little Sitkin**	**0.16**	**349**		**Pn**	**14 57 41.4**	**+0.4**
CETU	**Semis' Tuman**	**0.60**	**75**		**Pn**	**14 57 44.1**	**+0.6**
CESW	**Semis' Southwe**	**0.63**	**81**		**Pn**	**14 57 44.1**	**+0.3**
AMKA	**Amchitka**	**0.63**	**133**		**Pn**	**14 57 44.1**	**+0.3**
AMKA					**Sn**	**14 57 55.6**	**-0.3**
CEAP	**Semis' Anvil P**	**0.66**	**73**		**Pn**	**14 57 44.6**	**+0.6**
CEAP					**Sn**	**14 57 55.8**	**-0.5**
CERAA	**Semis' Rag'd T**	**0.70**	**82**		**Pn**	**14 57 44.8**	**+0.4**
CERAA					**Sn**	**14 57 57.1**	**0.0**
GAA	**Gareloi East**	**1.67**	**90**		**Pn**	**14 57 56.2**	**+0.5**
TASE	**Tanaga Southea**	**2.11**	**88**		**Pn**	**14 58 01.9**	**+0.5**
TAFP	**Tanaga Falls P**	**2.14**	**86**		**Pn**	**14 58 02.0**	**+0.3**
TAFP					**Sn**	**14 58 27.7**	**-0.3**
TAPA	**Tanaga Point A**	**2.25**	**88**		**Pn**	**14 58 03.6**	**+0.4**
KIMD	**Kanaga Island**	**2.61**	**89**		**Pn**	**14 58 08.3**	**+0.4**
KICM	**Kanaga Island**	**2.63**	**86**		**Pn**	**14 58 08.3**	**+0.1**
KIKV	**Kanaga Island**	**2.65**	**87**		**Pn**	**14 58 08.7**	**+0.2**
KIWB	**Kanaga Island**	**2.66**	**87**	Pn	**Pn**	**14 58 08.3**	**-0.3**
SMY	**Shemya**	**2.89**	**290**		**Pn**	**14 58 12.5**	**+0.8**
SMY					**Sn**	**14 58 45.9**	**+0.3**
ADK	**Adak**	**2.95**	**87**		**Pn**	**14 58 12.4**	**0.0**
GSTD	**Great Sitkin T**	**3.28**	**84**		**Pn**	**14 58 16.6**	**-0.4**
GSMY	**Great Sitkin M**	**3.34**	**84**		**Pn**	**14 58 17.6**	**-0.1**
GSMY					**Sn**	**14 58 56.8**	**+0.4**
GSTR	**Great Sitkin T**	**3.34**	**83**		**Pn**	**14 58 17.8**	**+0.1**
ATKA	**Atka Island**	**4.49**	**82**		**Pn**	**14 58 33.5**	**+0.3**
ATKA					**Sn**	**14 59 23.2**	**-1.1**
KOFP	**Korovin Flat P**	**4.55**	**81**		**Pn**	**14 58 36.1**	**+1.9**
NIKH	**Nikolski High**	**7.79**	**76**	Pn	**Pn**	**14 59 20.1**	**+2.1**
SPIA	**Saint Paul Isl**	**8.44**	**46**	Pn	**Pn**	**14 59 29.7**	**+2.8**
UNV	**Unalaska Valle**	**9.27**	**71**	Pn	**Pn**	**14 59 40.5**	**+2.3**
PETK	**Petropavlovsk-**	**12.79**	**284**	Pn	**Pn**	**15 00 26.0**	**+0.3**
	0.1nm,0.3s,baz=109,slow=17,SNR=2.8						
CNBA	**Chernabura Isl**	**13.39**	**68**	Pn	**Pn**	**15 00 31.4**	**-2.2**
KDAK	**Kodiak Island**	**17.59**	**59**	P	**P**	**15 01 23.0**	**-3.0**
	0.4nm,0.3s,baz=258,slow=3.3,SNR=13						
KDAK	**Kodiak Island**	**17.59**	**59**	P	**P**	**15 01 24.8**	**-1.2**
KDAK				IAmb	IAmb	15 01 58.2	
	comp=Z,52nm,1.9s						
CNPM	**China Poot**	**18.57**	**54**	P	**P**	**15 01 36.8**	**0.0**
CNPM				IAmb	IAmb	15 01 56.7	
	comp=Z,23nm,1.3s						
ILAR	**Eielson Array**	**21.96**	**41**	P	**P**	**15 02 13.0**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=247,slow=9.1,SNR=5.0						
EGAK	**Eagle**	**24.32**	**42**	P	**P**	**15 02 36.4**	**+0.4**
EGAK				IAmb	IAmb	15 02 37.1	
	comp=Z,3.2nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**33.30**	**200**	T	T	15 39 31.8	
	baz=11						
H11N3	**WAKE ISLAND Hy**	**33.31**	**200**	T	T	15 39 36.5	
	baz=11						
H11N1	**WAKE ISLAND Hy**	**33.32**	**200**	T	T	15 39 34.3	
	baz=11						
YKA	**Yellowknife Ar**	**36.12**	**46**	P	**P**	**15 04 20.6**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=283,slow=9.3,SNR=2.8						
NVAR	**Mina Array Bea**	**45.12**	**81**	P	**P**	**15 05 35.5**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=299,slow=7.7,SNR=4.6						
PDAR	**Pinedale Array**	**47.73**	**71**	P	**P**	**15 05 54.4**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=298,slow=1.9,SNR=4.9						
TXAR	**Lajitas Array**	**60.20**	**80**	P	**P**	**15 07 25.7**	**0.0**
	comp=Z,0.3nm,0.5s,baz=311,slow=5.3,SNR=6.6						
WRA	**Warramunga Arr**	**81.22**	**222**	P	**P**	**15 09 33.0**	**0.0**
	comp=Z,0.5nm,0.9s,baz=30,slow=5.7,SNR=1.4						
ASAR	**Alice Springs**	**84.72**	**220**	P	**P**	**15 09 52.0**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=25,slow=5.4,SNR=5.3						

*SIGU **30** 15:04:43.1,45.˚85N×38.˚81E,h9km*

*MOS **30** 15:04:44.9±1.4,45.˚69N×38.˚89E,h10km,mb3.7/1,Error ellipse: s-maj=12.1km s-min=7.0km az=116.3*

*IDC **30** 15:04:45.5±1.1,45.˚73N×39.˚15E,h0km,mb1 3.3/4, mb1mx3.1/44,mbtmp3.2/4,ML2.9/4,Error ellipse: s-maj=25.9km s-min=10.0km az=33.0*

ISC 30 15:04:45.1±1.4,45.˚75N±0.˚06×38.˚86E±0.˚04,h16km±10km, n24,σ1§82/37,1C,Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERBR	**Yeremizino-Bor**	**1.14**	**91**	*i* P	**Pn**	**15 05 08.3**	**+2.0**
ERBR				*i* S	**Sb**	**15 05 20.2**	**-0.7**
ANN	**Anapa**	**1.39**	**227**	*e*Pg	**Pg**	**15 05 11.9**	**+0.1**
	baz=228						
ANN				Pgm		15 05 12.0	
	baz=228						
ANN				*e*Sg	**Sg**	**15 05 30.3**	**+0.5**
	baz=228						
ANN				Sgm		15 05 35.9	
	baz=228						
ANN				Sgm		15 05 35.9	
	baz=228						
ANN	**Anapa**	**1.39**	**227**	*e*P	**Pg**	**15 05 11.9**	**+0.1**
ANN				*e*		15 05 30.3	
TPSR	**Tuapse**	**1.68**	**174**	*e*P	**Pn**	**15 05 13.1**	**-0.7**
TPSR				*e*S	**Sn**	**15 05 32.7**	**-2.2**
LZRR	**Lazarevskoye**	**1.85**	**168**	*e*Pn	**Pn**	**15 05 17.0**	**+0.8**
	baz=168						
LZRR	**Lazarevskoye**	**1.85**	**168**	*i* P	**Pn**	**15 05 17.0**	**+0.8**
LZRR				*i* S	**Sn**	**15 05 35.9**	**-3.3**
LZRR				pmax	pmax		
	comp=Z,200nm,0.4s						
SOC	**Sochi**	**2.25**	**164**	*e*Pn	**Pn**	**15 05 21.7**	**0.0**
	baz=164						
SOC	**Sochi**	**2.25**	**164**	*e*P	**Pn**	**15 05 20.1**	**-1.6**
SOC				*e*		15 05 44.9	
SOC				pmax	pmax		
	comp=Z,33nm,0.5s						
SOC				MLR	MLR		
	comp=Z,30nm,6.0s						
RPOR	**Krasnaya Polya**	**2.28**	**153**	*e*P	**Pn**	**15 05 22.9**	**+0.8**
RPOR				*e*S	**Sn**	**15 05 49.2**	**-0.7**
NVNR	**Nevinnomyssk**	**2.47**	**116**	*e*P	**Pn**	**15 05 24.1**	**-0.6**
NVNR				*e*S	**Sn**	**15 05 53.6**	**-0.9**
ARXR	**Arkhyz**	**2.78**	**141**	*e*P	**Pn**	**15 05 31.3**	**+2.2**
ARXR				*e*S	**Sn**	**15 06 02.1**	**-0.4**
GOF	**Gofitskoye**	**3.02**	**102**	⇑*e*P	**Pb**	**15 05 36.5**	**-2.1**
GOF				*e*S	**Sg**	**15 06 19.9**	**-2.4**
GOF				pmax	pmax		
	comp=Z,31nm,0.6s						
GOF				smax	smax		
	comp=N,88nm,0.6s						
GOF				smax	smax		
	comp=E,204nm,0.6s						
KIV	**Kislovodsk**	**3.26**	**122**	*i* P	**Pn**	**15 05 33.2**	**-2.4**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.5s						
BEYR	**Belyy Ugol+**	**3.31**	**120**	*e*P	**Pn**	**15 05 38.3**	**+2.1**
BEYR				*e*S	**Sn**	**15 06 14.4**	**-0.8**
KBZ	**Khabaz**	**3.51**	**124**	Pn	**Pn**	**15 05 39.6**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=302,slow=13,SNR=24						
KBZ				Pg	**Pb**	**15 05 47.6**	**+0.8**
	comp=Z,1.9nm,0.3s,baz=87,slow=14,SNR=10.0						
KBZ				Sn	**Sn**	**15 06 19.1**	**-1.1**
	comp=Z,3.1nm,0.3s,baz=321,slow=4.3,SNR=5.9						
KBZ				Lg	Lg	15 06 32.8	
	comp=Z,3.3nm,0.3s,baz=125,slow=18,SNR=2.3						
NEY	**Neytrino**	**3.73**	**131**	*e*P	**Pn**	**15 05 44.6**	**+2.5**
NEY				*e*S	**Sn**	**15 06 25.9**	**+0.2**
SEV	**Sevastopol'**	**3.87**	**254**	*e*Pn	**Pn**	**15 05 45.2**	**+1.3**
	baz=252						
SEV				Pnm		15 05 47.1	
	baz=252						
SEV				*e*Sn	**Sn**	**15 06 27.9**	**-1.0**
	baz=252						
SEV				Snm		15 06 32.2	
	baz=252						
SEV				Snm		15 06 32.2	
	baz=252						
SEV	**Sevastopol'**	**3.87**	**254**	*e*P	**Pn**	**15 05 45.2**	**+1.3**
SEV				*e*		15 06 27.9	
BATM	**Batumi**	**4.62**	**153**	*e*P	**Pn**	**15 05 57.6**	**+3.3**
BATM				S	**Sn**	**15 06 50.1**	**+2.4**
BRTR	**Keskin Array B**	**7.14**	**214**	Pn	Pn	15 06 34.2	+5.2
	comp=Z,0.1nm,0.3s,baz=39,slow=14,SNR=1.6						
URKR	**Urkarakh**	**7.27**	**116**	*e*P	**Pn**	**15 06 32.6**	**+1.8**
URKR				*i* S	**Sn**	**15 07 55.0**	**+2.0**
AKASG	**Malin Array Be**	**8.12**	**311**	Pn	**Pn**	15 06 44.8	+2.6
	comp=Z,1.3nm,0.3s,baz=116,slow=11,SNR=4.5						
AKASG				Sn	**Sn**	**15 08 10.0**	**-3.5**
	comp=Z,1.0nm,0.3s,baz=127,slow=24,SNR=2.6						
AKASG				Lg	Lg	15 09 01.3	
	comp=Z,1.7nm,0.3s,baz=123,slow=30,SNR=3.4						
FINES	**FINESS Array B**	**17.40**	**339**	P	**P**	**15 08 50.8**	**+2.7**
	comp=Z,0.1nm,0.3s,baz=150,slow=11,SNR=1.5						
BRVK	**Borovoye**	**21.58**	**59**	*i* P	P	15 09 43.5	+10

*MOS **30** 15:11:26.5±1.3,51.˚61N×143.˚22E,h13km,mb4.1/1,Error ellipse: s-maj=15.3km s-min=7.5km az=83.0*

*IDC **30** 15:11:26.3±0.8,51.˚63N×143.˚12E,h0km,mb3.6/11, mb1 3.7/16,mb1mx3.6/48,mbtmp3.5/16,ML2.7/5,MS2.9/7, Ms1 2.9/7,ms1mx2.6/46,Error ellipse: s-maj=23.0km s-min=14.7km az=150.0*

*SKHL **30** 15:11:26.6±0.4,51.˚63N×142.˚70E,h10km,mb4.1/10, Ms3.3/3*

ISC 30 15:11:28.1±1.0,51.˚61N±0.˚03×143.˚00E±0.˚04,h13km±7km, n34,σ1§45/49,mb3.5/11,MS3.5/3,1C-1D,Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGLR	**Nogliki**	**0.19**	**24**	⇑*e*PN	**Pb**	**15 11 32.9**	**-0.6**
NGLR				*e*S	**Sg**	**15 11 36.9**	**+1.5**
TYV	**Tymovskoe**	**0.78**	**196**	*e*Pg	**Pg**	**15 11 42.1**	**-1.1**
TYV				AMB	AMB	15 11 43.0	
	170nm,0.2s						
TYV				*e*Sg	**Sg**	**15 11 53.3**	**0.0**
TYV				A	A	15 11 53.9	
	2μm,0.3s						
TYV				A	A	15 11 53.9	
	2μm,0.3s						
TYV				AMS	AMS	15 12 06.0	
	4μm,7.0s						
TYV				AMS	AMS	15 12 06.0	
	3μm,7.0s						
TYV				AMS	AMS	15 12 06.0	
	2μm,7.0s						
TYV	**Tymovskoe**	**0.78**	**196**	*e*PN	**Pg**	**15 11 42.0**	**-1.1**
TYV				*e*S	**Sg**	**15 11 53.4**	**+0.1**
TYV				smax	smax		
	comp=E,2μm,0.4s						
OKH	**Okha**	**1.95**	**359**	*e*P	**Pn**	**15 12 01.6**	**+0.8**
OKH				AMB	AMB	15 12 02.3	
	comp=E,50nm,0.3s						
OKH				*e*Sg	**Sg**	**15 12 34.5**	**+3.9**
OKH				A	A	15 12 35.2	
	comp=E,800nm,0.5s						
OKH				A	A	15 12 35.2	
	comp=E,800nm,0.5s						
OKH	**Okha**	**1.95**	**359**	⇓*e*PN	**Pb**	**15 12 02.3**	**-1.0**
OKH				*e*S	**Sg**	**15 12 31.0**	**+0.4**
OKH				pmax	pmax		
	comp=Z,115nm,0.3s						
OKH				smax	smax		
	comp=E,833nm,0.7s						
OKH				smax	smax		
	comp=N,795nm,0.5s						
NKL	**Nikolayevsk**	**2.10**	**318**	*e*P	**Pn**	**15 12 01.3**	**-1.6**
NKL				*e*Pg	**Pb**	**15 12 05.5**	**-0.5**
NKL				AMB	AMB	15 12 05.9	
	comp=N,300nm,0.4s						
NKL				*e*Sg	**Sb**	**15 12 32.0**	**+0.1**
NKL				A	A	15 12 35.9	
	comp=N,700nm,0.3s						
NKL	**Nikolayevsk**	**2.10**	**318**	*e*PN	**Pb**	**15 12 05.9**	**-0.1**
NKL				*e*S	**Sg**	**15 12 35.5**	**-0.1**
NKL				pmax	pmax		
	comp=Z,48nm,0.3s						
NKL				pmax	pmax		
	comp=E,4.0nm,0.4s						
NKL				pmax	pmax		
	comp=N,3.0nm,0.3s						
NKL				smax	smax		
	comp=E,100nm,0.3s						
UGL	**Uglegorsk**	**2.60**	**194**	*e*P	**Pn**	**15 12 09.3**	**-0.5**
UGL				AMB	AMB	15 12 09.6	
	comp=E,20nm,0.6s						
UGL				*e*Pg	**Pg**	**15 12 16.7**	**-1.2**
UGL				AMB	AMB	15 12 18.0	
	comp=E,40nm,0.6s						
UGL				*e*Sg	**Sg**	**15 12 53.5**	**+1.8**
UGL				A	A	15 12 53.8	
	comp=E,110nm,0.7s						
UGL				A	A	15 12 53.8	
	comp=E,240nm,0.7s						
UGL				AMS	AMS	15 13 14.8	
	comp=E,670nm,13.0s						
UGL				AMS	AMS	15 13 14.8	
	comp=E,830nm,13.0s						
UGL				AMS	AMS	15 13 14.8	
	comp=E,940nm,13.0s						
UGL	**Uglegorsk**	**2.60**	**194**	PN	**Pn**	**15 12 11.1**	**+1.3**
UGL				pmax	pmax		
	comp=Z,78nm,0.7s						
GRNR	**Gornyy**	**4.22**	**261**	*e*P	**Pn**	**15 12 34.0**	**+1.9**
GRNR				*e*Pg	**Pg**	**15 12 48.0**	**-0.9**
GRNR				AMB	AMB	15 12 50.8	
	comp=Z,20nm,0.7s						
GRNR				*e*S	**Sn**	**15 13 21.0**	**-0.3**
GRNR				*e*Sg	**Sg**	**15 13 43.2**	**-0.4**
GRNR				A	A	15 13 44.2	
	comp=Z,50nm,0.5s						
GRNR	**Gornyy**	**4.22**	**261**	*e*PN	**Pn**	**15 12 34.5**	**+2.4**
YSS	**Yuzh-Sakhalins**	**4.66**	**182**	*e*P	**Pn**	**15 12 38.8**	**+0.7**
YSS				AMB	AMB	15 13 05.0	
	comp=Z,10.0nm,0.9s						
YSS				*e*S	**Sn**	**15 13 33.2**	**+1.2**
YSS				A	A	15 13 33.8	
	comp=Z,20nm,0.7s						
YSS				AMS	AMS	15 14 53.0	
	comp=Z,20nm,9.0s						
YSS				AMS	AMS	15 14 53.0	
	comp=Z,130nm,9.0s						
YSS				AMS	AMS	15 14 53.0	
	comp=Z,190nm,9.0s						
YSS	**Yuzh-Sakhalins**	**4.66**	**182**	*e*PN	**Pn**	**15 12 41.2**	**+3.1**
YSS				MLR	MLR		
	comp=Z,200nm,9.0s						
YSS				MLR	MLR		
	comp=N,100nm,11.0s						
EKMR	**Ekimchan**	**6.33**	**287**	*e*P	**Pn**	**15 13 00.1**	**-1.0**
EKMR				*e*Pg	**Pg**	**15 13 28.0**	**-1.3**
EKMR				AMB	AMB	15 13 32.0	
	comp=N,4.0nm,0.6s						
EKMR				*e*S	**Sn**	**15 14 10.0**	**-3.2**
EKMR				A	A	15 14 11.0	
	comp=N,6.0nm,0.5s						
EKMR				*e*Sg	**Sg**	**15 14 52.0**	**+0.8**
EKMR				A	A	15 14 59.0	
	comp=N,50nm,1.0s						
EKMR				A	A	15 14 59.0	
	comp=N,50nm,1.0s						
ASAJ	**Asahikawa**	**7.50**	**182**	Pn	**Pn**	**15 13 17.4**	**+0.3**
	comp=N,0.3nm,0.3s,baz=38,slow=15,SNR=5.7						
KLR	**Kul'dur**	**7.57**	**256**	Pn	**Pn**	**15 13 20.4**	**+2.3**
	comp=N,0.1nm,0.3s,baz=100,slow=22,SNR=2.0						
KLR				Lg	Lg	15 15 27.8	
	comp=N,0.7nm,0.3s,baz=120,slow=21,SNR=5.3						
KLR				LR	LR	15 16 09.4	
	comp=N,52nm,20.4s,baz=102,slow=37						
KLR	**Kul'dur**	**7.57**	**256**	*e*Sg	**Sg**	**15 15 32.0**	**+1.1**
MA2	**Magadan**	**9.11**	**26**	LR	LR	15 16 39.0	
	comp=N,27nm,19.2s,baz=236,slow=34						
PETK	**Petropavlovsk-**	**9.12**	**75**	Pn	**Pn**	**15 13 37.9**	**-1.3**
	comp=N,0.1nm,0.3s,baz=270,slow=12,SNR=1.5						
PETK				LR	LR	15 16 47.7	
	comp=N,36nm,21.7s,baz=243,slow=36						
KROS	**Kirovskiy**	**10.06**	**293**	*e*P	**Pn**	**15 13 54.8**	**+2.6**
KROS				AMB	AMB	15 13 56.7	
	comp=N,3.0nm,0.4s						
KROS				*e*Sg		15 16 51.0	
KROS				A	A	15 16 56.8	
	comp=N,5.0nm,0.4s						
USRK	**Ussuriysk Ar.**	**10.46**	**229**	Pn	**Pn**	**15 13 59.5**	**+1.9**
	baz=77,slow=19,SNR=2.2						
KSRS	**Korea Array**	**17.72**	**223**	P	**P**	**15 15 36.1**	**+0.9**
	comp=N,0.1nm,0.3s,baz=32,slow=9.6,SNR=4.4						
KSRS				LR	LR	15 22 07.6	
	comp=N,27nm,18.1s,baz=75,slow=36						
TIXI	**Tiksi**	**21.09**	**348**	P	**P**	**15 16 11.8**	**+0.1**
	comp=N,3.4nm,0.6s,baz=308,slow=12,SNR=2.1						
SONM	**Songino Array**	**23.80**	**275**	P	**P**	**15 16 41.6**	**+1.2**
	comp=N,0.6nm,0.5s,baz=69,slow=7.9

THIG			*i* S		**Sn**	**15 35 26.7**	**-1.8**
PCIG		**0.97 330**	*e*P		**Pn**	**15 35 22.3**	**+0.6**
PCIG			*e*S		**Sn**	**15 35 36.2**	**-0.5**
CCIG	**Comitan**	**1.52 22**	*i* P		**Pn**	**15 35 29.7**	**+1.4**
CCIG			*i* S		**Sn**	**15 35 48.1**	**-0.4**
TGIG		**1.94 349**	*e*P		**Pn**	**15 35 34.0**	**+0.4**
MRL	**Marmol**	**2.94 85**	*e*P		**Pn**	**15 35 48.0**	**+1.2**
MRL	**Marmol**	**2.94 85**	*e*P		**Pn**	**15 35 48.0**	**+1.2**
NUBE	**Las Nubes**	**3.00 108**	*e*P		**Pn**	**15 35 49.3**	**+1.7**
NUBE			*e*S		**Sn**	**15 36 21.4**	**-1.6**
NUBE			IAML			15 36 27.2	
	comp=Z,78nm,0.3s						
NUBE	**Las Nubes**	**3.00 108**	*e*P		**Pn**	**15 35 49.3**	**+1.7**
NUBE			*e*S		**Sn**	**15 36 21.4**	**-1.6**
NUBE			IAML			15 36 27.2	
	comp=Z,78nm,0.3s						
CEVE	**Cerro Verde**	**3.17 109**	*e*P		**Pn**	**15 35 49.4**	**-0.5**
CEVE			IAML			15 36 31.2	
	comp=Z,459nm,0.3s						
CEVE	**Cerro Verde**	**3.17 109**	*e*P		**Pn**	**15 35 49.4**	**-0.5**
CEVE			IAML			15 36 31.2	
	comp=Z,459nm,0.3s						
TACO	**Tacachico**	**3.38 105**	*e*P		**Pn**	**15 35 54.3**	**+1.8**
TACO	**Tacachico**	**3.38 105**	*e*P		**Pn**	**15 35 54.3**	**+1.8**
JAYA	**Jayaque - finc**	**3.39 110**	*e*P		**Pn**	**15 35 56.0**	**+3.2**
JAYA			*e*S		**Sn**	**15 36 29.0**	**-3.3**
JAYA			IAML			15 36 45.4	
	comp=Z,293nm,0.2s						
JAYA	**Jayaque - finc**	**3.39 110**	*e*P		**Pn**	**15 35 56.0**	**+3.2**
JAYA			*e*S		**Sn**	**15 36 29.0**	**-3.3**
JAYA			IAML			15 36 45.4	
	comp=Z,293nm,0.2s						
LFRS	**El Faro**	**3.75 109**	*e*P		**Pn**	**15 36 01.4**	**+3.8**
LFRS	**El Faro**	**3.75 109**	*e*P		**Pn**	**15 36 01.4**	**+3.8**

NEIC ***30*** *15:37:35.8±0.8, 32°.7S±0°.1×178°.7W±0°.2, h10km±1km, mb4.8/11, Error ellipse: s-maj=32.0km s-min=22.3km az=118.0*

WEL ***30*** *15:37:37.1±0.6, 33°.5S±3°×17°.8W±1°.0, h33km, M4.7/17, mB5.1/7, ML5.0/17, MLv4.8/17, Mw(mB)4.5/7*

IDC ***30*** *15:38:52.7±9.6, 32°.04S×178°.08E, h662km±106km, mb3.1/3, mb1 3.4/3, mb1mx2.8/21, mbtmp4.1/3, Error ellipse: s-maj=200.1km s-min=63.2km az=167.0*

ISC 30 15:37:36.2±1.0, 33°.04S±0°.07×178°.0W±0°.1, h35km, n50, σ1§93/55, mb4.4/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.77**	**1**	P		**Pn**	**Pn**	**15 38 31.7**	**-0.1**
GLKZ				S		**Sn**	**Sn**	**15 39 15.2**	**+0.4**
RAO	**Raoul Island**	**3.78**	**1**	Pn		**Pn**	**Pn**	**15 38 28.3**	**-3.6**
RIZ	**Raoul Island**	**3.79**	**1**	P		**Pn**	**Pn**	**15 38 28.5**	**-3.5**
RIZ				S		**Sn**	**Sn**	**15 39 16.9**	**+1.6**
WMGZ	**Waiomatatini S**	**5.58 210**		P		**Pn**	**Pn**	**15 38 59.2**	**+2.6**
WMGZ				S		**Sn**	**Sn**	**15 40 00.9**	**+1.3**
PKGZ	**Pakihiroa**	**5.79 212**		P		**Pn**	**Pn**	**15 39 00.8**	**+1.3**
PKGZ				S		**Sn**	**Sn**	**15 40 04.2**	**-0.5**
HAZ	**Te Kaha**	**5.82 215**		P		**Pn**	**Pn**	**15 39 01.6**	**+1.7**
HAZ				S		**Sn**	**Sn**	**15 40 05.0**	**-0.4**
PUZ	**Puketiti**	**5.86 210**		P		**Pn**	**Pn**	**15 39 02.5**	**+1.9**
PUZ				S		**Sn**	**Sn**	**15 40 06.3**	**-0.2**
RUGZ	**Raukumara Rang**	**6.03 214**		P		**Pn**	**Pn**	**15 39 06.6**	**+3.7**
RUGZ				S		**Sn**	**Sn**	**15 40 10.4**	**-0.4**
TWGZ	**Tauwhareparae**	**6.07 211**		P		**Pn**	**Pn**	**15 39 04.7**	**+1.3**
TWGZ				S		**Sn**	**Sn**	**15 40 12.8**	**+1.2**
CNGZ	**Carnagh Station**	**6.23 208**		P		**Pn**	**Pn**	**15 39 08.0**	**+2.4**
GRZ	**Great Barrier**	**6.25 237**		P		**Pn**	**Pn**	**15 39 07.6**	**+1.8**
KUZ	**Kuaotunu**	**6.33 233**		P		**Pn**	**Pn**	**15 39 08.9**	**+2.0**
TKGZ	**Te Karaka**	**6.34 211**		P		**Pn**	**Pn**	**15 39 10.7**	**+3.6**
MWZ	**Matawai**	**6.40 213**		P		**Pn**	**Pn**	**15 39 09.6**	**+1.6**
OPRZ	**Ohinepanea**	**6.52 221**		P		**Pn**	**Pn**	**15 39 11.1**	**+1.6**
URZ	**Urewera**	**6.54 216**		P		**Pn**	**Pn**	**15 39 10.4**	**+0.6**
URZ	**Urewera**	**6.54 216**		Pn		**Pn**	**Pn**	**15 39 09.7**	**-0.1**
MARZ	**Manawahe**	**6.55 220**		P		**Pn**	**Pn**	**15 39 12.7**	**+2.6**
RIGZ	**Rimuhau**	**6.60 210**		P		**Pn**	**Pn**	**15 39 10.9**	**+0.2**
TGRZ	**Tauranga**	**6.60 223**		P		**Pn**	**Pn**	**15 39 13.8**	**+3.0**
KARZ	**Kaharoa**	**6.82 222**		P		**Pn**	**Pn**	**15 39 17.0**	**+3.3**
KMRZ	**Kaimai**	**6.87 224**		P		**Pn**	**Pn**	**15 39 17.5**	**+3.1**
MUGZ	**Murupara**	**6.88 216**		P		**Pn**	**Pn**	**15 39 16.4**	**+1.9**
RRRZ	**Republican Roa**	**6.90 218**		P		**Pn**	**Pn**	**15 39 17.1**	**+2.3**
WCZ	**Waipu Caves**	**6.93 243**		P		**Pn**	**Pn**	**15 39 17.1**	**+2.0**
OUZ	**Omahuta**	**7.28 250**		P		**Pn**	**Pn**	**15 39 20.8**	**+0.8**
BKZ	**Black Stump Fm**	**7.55 214**				**Pn**	**Pn**	**15 39 23.8**	**+0.1**
BFZ	**Birch Farm**	**8.90 209**		Pn		**Pn**	**Pn**	**15 39 40.9**	**-1.2**
MSWZ	**Moikau Station**	**9.93 211**		Pn		**Pn**	**Pn**	**15 39 54.9**	**-1.4**
TUWZ	**Tuamarina**	**10.53 215**				**Pn**		15 40 00.6	-3.9
THZ	**Tophouse**	**11.30 217**		Pn		**Pn**	**Pn**	**15 40 12.4**	**-2.6**
KHZ	**Kahutara**	**11.49 213**				**Pn**		15 40 13.6	-4.0
NIUE	**Niue**	**15.69 30**		Pn		**Pn**	**Pn**	**15 41 16.7**	**+2.1**
CTAO	**Charters Tower**	**34.28 283**		P		**P**	**P**	**15 44 19.5**	**+0.3**
CTAO				IAmb		IAmb	IAmb	15 44 44.2	
	comp=Z,13nm,1.2s								
BBOO	**Buckleboo**	**38.30 257**		P		**P**	**P**	**15 44 52.5**	**-0.9**
AS31	**Alice Springs**	**43.01 270**		P		**P**	**P**	**15 45 31.2**	**-1.2**
ASAR	**Alice Springs**	**43.01 270**		P		**P**	**P**	**15 45 31.4**	**-1.0**
	comp=Z,2.3nm,0.7s,baz=107,slow=7.2,SNR=34								
WR0	**Warramunga Arr**	**44.06 275**		P		**P**		**15 45 39.3**	**-1.6**
WB2	**Warramunga Arr**	**44.22 275**		P		**P**		**15 45 40.7**	**-1.5**
WB2				IAmb		IAmb		15 46 46.1	
	comp=Z,20nm,1.4s								
WRA	**Warramunga Arr**	**44.23 275**		P		**P**		**15 45 40.6**	**-1.6**
	comp=Z,1.8nm,0.5s,baz=115,slow=8.0,SNR=19								
WB0	**Warramunga Arr**	**44.27 275**		P		**P**		**15 45 40.8**	**-1.7**
WB0				IAmb		IAmb		15 46 09.6	
	comp=Z,28nm,1.7s								
FORT	**Forrest**	**45.40 258**		P		**P**		**15 45 50.4**	**-1.0**
KNRA	**Kununurra**	**50.93 276**		P		**P**		**15 46 34.3**	**0.0**
FITZ	**Fitzroy Crossi**	**52.38 272**		P		**P**		**15 46 44.6**	**-0.4**
MORW	**Morawa**	**55.79 255**		P		**P**		**15 47 08.8**	**-1.1**
NVAR	**Mina Array Bea**	**90.19 43**		P		P		15 50 52.6	+20
	comp=Z,0.5nm,0.8s,baz=191,slow=4.2,SNR=2.4								
FINES	**FINESS Array B**	**147.60 339**		PKPbc		**PKiKP**		**15 57 18.1**	**+0.1**
	comp=Z,1.3nm,0.5s,baz=32,slow=2.9,SNR=15								
NB2	**NORSAR Subarra**	**151.35 351**		PKP		**PKiKP**		**15 57 28.6**	**+2.7**
	comp=Z,0.6nm,0.5s,baz=19,slow=2.6								
NOA	**NORSAR Array B**	**151.35 351**		PKPbc		**PKiKP**		**15 57 28.3**	**+2.4**
	comp=Z,0.8nm,0.5s,baz=17,slow=4.2,SNR=6.2								
HFS	**Hagfors**	**151.82 348**		PKPbc		**PKiKP**		**15 57 29.0**	**+2.2**
	comp=Z,1.2nm,0.6s,baz=0.0,slow=0.7,SNR=5.6								

NEIC ***30*** *15:44:25.0±1.1, 55°.22S±0°.10×28°.3W±0°.2, h10km±1km, mb5.0/38, Error ellipse: s-maj=16.5km s-min=15.1km az=185.0*

BJI ***30*** *15:44:26.0±0.0, 55°.30S×28°.30W, h10km, mB5.2/2, Ms5.1/4, Ms7 4.9/4*

IDC ***30*** *15:44:27.2±3.2, 55°.24S×28°.17W, h24km±20km, mb4.5/12, mb1 4.6/13, mb1mx4.4/26, mbtmp4.7/13, ML5.1/1, MS4.0/16, Ms1 4.0/16, ms1mx3.9/27, Error ellipse: s-maj=18.4km s-min=14.4km az=69.0*

GCMT ***30*** *15:44:31.0±0.2, 55°.17S±0°.02×28°.34W±0°.03, h13km±1km, MW5.0/92, Moment Tensor Solution. s27,c35; s92,c124; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.75±.17; Mθθ -1.10±.12; Mφφ -0.64±.10; Mrθ -1.60±.36; Mθφ 2.36±.08; Mφr 1.78±.35; Best double couple: Mo 3.47200×10^16 NP1: φs 116.00000°, δ25.00000°, λ68.00000°. NP2: φs 321.00000°, δ67.00000°, λ100.00000°. Principal axes: T 2.7440, Plg66.0000°, Azm248.0000°; N 1.4580, Plg9.0000°, Azm137.0000°; P -4.1990, Plg22.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 15:44:25.0±0.3, 55°.28S±0°.07×28°.31W±0°.07, h10km, n170, σ1§41/165, mb5.0/28, MS4.0/17, 2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**4.84 278**		Pn		**Pn**	**Pn**	**15 45 36.5**	**-1.3**
VNA1	**Neumayer--Stat**	**17.75 158**		P		**P**	**P**	**15 48 33.9**	**+1.3**
VNA3	**Neumayer Olymp**	**17.93 160**		P		**Pn**	**P**	**15 48 34.7**	**+0.6**
EFI	**East Falkland**	**18.00 269**				**P**	**P**	**15 48 35.9**	**+0.3**
EFI				IAmb		IAmb	IAmb	15 48 53.3	
	comp=Z,130nm,1.4s								
VNA2	**Neumayer--Watz**	**18.15 158**		P		**Pn**	**P**	**15 48 37.3**	**+0.5**
	baz=305,slow=11								
SNAA	**Sanae**	**19.71 156**		P		**P**	**P**	**15 48 53.9**	**-0.3**
SNAA	**Sanae**	**19.71 156**		P		**P**	**P**	**15 48 53.7**	**-0.5**
	comp=Z,5.0nm,0.3s,baz=298,slow=10,SNR=136								
SNAA				LR		LR		15 55 31.9	
	comp=Z,467nm,18.2s,baz=318,slow=34								
SNAA				ScP		**ScP**		**15 56 46.2**	**-1.9**
	comp=Z,0.0nm,0.3s,baz=356,slow=1.2,SNR=5.0								
SNAA	**Sanae**	**19.71 156**		P		**P**		**15 48 53.8**	**-0.3**
PMSA	**Palmer Station**	**19.95 227**		P		**Pn**		**15 48 59.0**	**+0.6**
	comp=Z,24nm,0.9s,baz=349,slow=17,SNR=1.4								
PMSA				LR		LR		15 55 06.0	
	comp=Z,836nm,20.0s,baz=53,slow=32								
PMSA	**Palmer Station**	**19.95 227**		Pn		**Pn**		**15 48 59.6**	**+1.2**
PMSA				IAmb		IAmb		15 49 10.4	
	comp=Z,199nm,1.4s								
GO10	**Punta Arenas**	**24.80 257**		P		**P**		**15 49 47.2**	**+0.3**
PLCA	**Paso Flores**	**31.24 280**		LR		LR		16 03 27.5	
	comp=Z,221nm,20.8s,baz=131,slow=36								
PLCA	**Paso Flores**	**31.24 280**		P		**P**		**15 50 44.2**	**-0.4**
PLCA				IAmb		IAmb		15 51 49.2	
	comp=Z,55nn,1.9s								
SYO	**Syowa Base**	**32.59 142**		*e*pP		**P**		**15 50 55.0**	**-1.0**
SYO	**Syowa Base**	**32.59 142**		*i*sP		sP		15 50 57.2	-0.2
QSPA	**South Pole Qui**	**34.98 180**		P		**P**		**15 51 17.2**	**+0.2**
	comp=Z,6.2nm,0.6s,baz=204,slow=1.9,SNR=41								
QSPA	**South Pole Qui**	**34.98 180**		P		**P**		**15 51 17.4**	**+0.3**
QSPA				IAmb		IAmb		15 51 31.7	
	comp=Z,13nm,0.8s								
CPUP	**Villa Florida**	**35.82 312**		P		**P**		**15 51 23.9**	**-0.6**
	comp=Z,12nm,0.6s,baz=147,slow=7.8,SNR=23								
CPUP				LR		LR		16 05 03.5	
	comp=Z,298nm,19.9s,baz=161,slow=34								
CPUP	**Villa Florida**	**35.82 312**		P		**P**		**15 51 23.6**	**-0.9**
CPUP				IAmb		IAmb		15 51 36.8	
	comp=Z,57nm,1.3s								
PEL	**Peldehue**	**36.78 289**		P		**P**		**15 51 32.5**	**-0.2**
PEL				IAmb		IAmb		15 51 33.3	
	comp=Z,21nm,0.9s								
MT02	**Curacav**	**36.94 289**		P		**P**		**15 51 33.8**	**-0.2**
MT02				IAmb		IAmb		15 51 34.5	
	comp=Z,48nm,1.4s								
VA03	**San Esteban**	**37.00 290**		P		**P**		**15 51 34.8**	**+0.1**
VA03				IAmb		IAmb		15 52 07.1	
	comp=Z,27nm,0.9s								
RIB01	**Linhares ES**	**37.05 341**		*e*P		**P**		**15 51 37.8**	**+2.7**
RIB01	**Linhares ES**	**37.05 341**		*e*P		**P**		**15 51 37.8**	**+2.7**
CO02	**Combarbal**	**38.45 291**		P		**P**		**15 51 47.2**	**+0.3**
CO02				IAmb		IAmb		15 52 12.6	
	comp=Z,40nn,1.2s								
CO03	**El Pedregal**	**38.57 292**		P		**P**		**15 51 46.9**	**-1.0**
CO03				IAmb		IAmb		15 51 52.2	
	comp=Z,60nn,1.8s								
CO01	**Juntas del Tor**	**38.93 293**		P		**P**		**15 51 51.6**	**+0.5**
GO04	**Tololo Observa**	**39.15 292**		P		**P**		**15 51 52.0**	**-0.9**
AC05	**El Transito**	**39.93 294**		P		**P**		**15 51 59.0**	**-0.3**
AC05				IAmb		IAmb		15 53 11.1	
	comp=Z,55nn,1.8s								
IPMB	**Ipameri, GO**	**40.21 330**		*e*P		**P**		**15 52 01.1**	**-0.5**
IPMB	**Ipameri, GO**	**40.21 330**		*e*P		**P**		**15 52 01.1**	**-0.5**
AQDB	**Aquidauana**	**40.40 318**		*e*P		**P**		**15 52 02.0**	**-1.1**
AQDB				*e*pP		**sP**		**15 52 05.1**	**+0.4**
AQDB	**Aquidauana**	**40.40 318**		*e*P		**P**		**15 52 02.0**	**-1.1**
AQDB				*e*pP		**sP**		**15 52 05.1**	**+0.4**
AC04	**Llanos de Chal**	**40.86 294**		P		**P**		**15 52 07.1**	**+0.2**
GO03	**Copiap**	**40.91 295**		P		**P**		**15 52 06.8**	**-0.5**
GO03				IAmb		IAmb		15 52 07.9	
	comp=Z,55nn,1.9s								
SUR	**Sutherland**	**41.06 77**		P		**P**		**15 52 08.8**	**+0.1**
	comp=Z,11nm,0.9s,baz=217,slow=11,SNR=9.1								
SUR	**Sutherland**	**41.06 77**		P		**P**		**15 52 09.4**	**+0.7**
MAW	**Mawson**	**41.15 144**		P		**P**		**15 52 08.0**	**-0.7**
	comp=Z,2.1nm,0.5s,baz=211,slow=6.8,SNR=6.7								
MAW				ScP		**ScP**		**15 57 54.8**	**-2.5**
	comp=Z,2.3nm,0.8s,baz=232,slow=5.8,SNR=5.8								
MAW				LR		LR		16 07 49.8	
	comp=Z,150nm,19.1s,baz=244,slow=34								
MAW	**Mawson**	**41.15 144**		P		**P**		**15 52 08.6**	**-0.2**
JANB	**Januaria**	**42.00 337**		*e*P		**P**		**15 52 17.1**	**+0.7**
JANB				*e*pP		**sP**		**15 52 21.2**	**+3.3**
JANB	**Januaria**	**42.00 337**		*e*P		**P**		**15 52 17.1**	**+0.7**
JANB				*e*pP		**sP**		**15 52 21.2**	**+3.3**
BDFB	**Brasilia**	**42.38 331**		P		**P**		**15 52 20.0**	**+0.5**
	comp=Z,3.2nm,0.6s,baz=146,slow=9.5,SNR=5.7								
BDFB				LR		LR		16 09 51.8	
	comp=Z,181nm,18.0s,baz=138,slow=36								
BDFB	**Brasilia**	**42.38 331**		P		**P**		**15 52 19.5**	**0.0**
GO02	**Mina Guanaco**	**42.57 298**		P		**P**		**15 52 21.1**	**-0.2**
ARAG	**Araguaiana, MT**	**43.45 326**		*e*P		**P**		**15 52 28.6**	**+0.6**
ARAG	**Araguaiana, MT**	**43.45 326**		*e*P		**P**		**15 52 28.6**	**+0.6**
LVC	**Limon Verde**	**44.36 301**		P		**P**		**15 52 35.8**	**0.0**
PB10	**IPOC Station P**	**44.42 298**		P		**P**		**15 52 36.1**	**+0.2**
PB10				IAmb		IAmb		15 52 36.9	
	comp=Z,26nn,1.2s								
SALV	**Santo Antonio**	**44.59 321**		*e*P		**P**		**15 52 37.0**	**-0.2**
SALV	**Santo Antonio**	**44.59 321**		*e*P		**P**		**15 52 37.0**	**-0.2**
PB01	**IPOC Station P**	**45.97 301**		P		**P**		**15 52 48.2**	**-0.1**
PB01				IAmb		IAmb		15 53 01.0	
	comp=Z,16nm,0.8s								
PTLB	**Pontes e Lacer**	**46.30 317**		*e*P		**P**		**15 52 50.4**	**-0.3**
PTLB	**Pontes e Lacer**	**46.30 317**		*e*P		**P**		**15 52 50.4**	**-0.3**
BOSA	**Boshof**	**46.41 78**		P		**P**		**15 52 51.2**	**-0.5**
	comp=Z,7.7nm,0.8s,baz=222,slow=7.4,SNR=16								
BOSA				LR		LR		16 07 59.2	
	comp=Z,306nn,20.5s,baz=226,slow=30								
BOSA	**Boshof**	**46.41 78**		P		**P**		**15 52 51.5**	**-0.2**
PB08	**IPOC Station P**	**46.57 302**		P		**P**		**15 52 53.3**	**-0.1**
PB08				IAmb		IAmb		15 53 08.7	
	comp=Z,15nn,1.0s								
TA01	**Diego Aracena**	**46.71 301**		P		**P**		**15 52 52.4**	**-1.5**
TA01				IAmb		IAmb		15 52 53.9	
	comp=Z,25nn,1.2s								
GO01	**Chusmiza**	**47.00 302**		P		**P**		**15 52 56.9**	**+0.1**
PB11	**IPOC Station P**	**47.14 302**		P		**P**		**15 52 57.4**	**-0.2**
VNDA	**Vanda**	**47.32 183**		P		**P**		**15 52 58.6**	**+0.6**
	comp=Z,5.3nn,0.6s,baz=188,slow=5.2,SNR=20								
VNDA				LR		LR		16 13 14.6	
	comp=Z,73nn,18.5s,baz=165,slow=36								
VNDA	**Vanda**	**47.32 183**		P		**P**		**15 52 58.4**	**+0.3**
H10S2	**ASCENSION HYDR**	**47.45 18**		T		T		16 45 04.0	
	baz=190,slow=74,SNR=3.8								
H10S3	**ASCENSION HYDR**	**47.45 18**		T		T		16 45 04.4	
	baz=30,slow=74,SNR=11								
PSGCX	**Pisagua**	**47.51 302**		P		**P**		**15 52 59.7**	**-0.6**
PSGCX				IAmb		IAmb		15 53 34.2	
	comp=Z,16nm,1.1s								
MNMC	**Minye Minye**	**47.65 302**		P		**P**		**15 53 01.5**	**-0.1**
H10N1	**ASCENSION HYDR**	**48.57 18**		T		T		16 46 26.7	
	SNR=3.0								
H10N3	**ASCENSION HYDR**	**48.57 18**		T		T		16 46 26.0	
	SNR=14								
H10N2	**ASCENSION HYDR**	**48.59 18**		T		T		16 46 27.2	
	SNR=3.4								
SMTB	**Santa Maria do**	**48.76 334**		*e*P		**P**		**15 53 12.4**	**+2.5**
SMTB	**Santa Maria do**	**48.76 334**		*e*P		**P**		**15 53 12.4**	**+2.5**
VILB	**Vilhena**	**48.98 317**		*e*P		**P**		**15 53 10.7**	**-0.9**
VILB	**Vilhena**	**48.98 317**		*e*P		**P**		**15 53 10.7**	**-0.9**
LPAZ	**La Paz**	**49.41 306**		P		**P**		**15 53 15.8**	**+0.3**
	comp=Z,6.9nm,0.5s,baz=130,slow=5.2,SNR=22								
LPAZ				LR		LR		16 12 25.7	
	comp=Z,114nm,21.7s,baz=166,slow=34								
LPAZ	**La Paz**	**49.41 306**		P		**P**		**15 53 15.6**	**0.0**
LPAZ	**La Paz**	**49.41 306**		*e*P		**P**		**15 53 14.2**	**-1.4**
LPAZ	**La Paz**	**49.41 306**		*e*P		**P**		**15 53 14.2**	**-1.4**
RCBR	**Riachuelo**	**49.68 350**		P		**P**		**15 53 16.9**	**-0.1**
TSUM	**Tsumeb**	**49.87 63**		P		**P**		**15 53 18.1**	**-0.4**
TSUM				IAmb		IAmb		15 53 22.4	
	comp=Z,52nn,1.9s								
PRPB	**Parauapebas**	**51.91 332**		*e*P		**P**		**15 53 35.9**	**+2.2**
PRPB	**Parauapebas**	**51.91 332**		*e*P		**P**		**15 53 35.9**	**+2.2**
SAML	**Samuel**	**53.80 316**		P		**P**		**15 53 46.5**	**-1.3**
SAML				IAmb		IAmb		15 54 00.1	
	comp=Z,24nn,1.2s								
SAML	**Samuel**	**53.80 316**		*e*P		**P**		**15 53 46.8**	**-0.9**
SAML				*e*pP		**sP**		**15 53 51.5**	**+2.1**
SAML	**Samuel**	**53.80 316**		*e*P		**P**		**15 53 46.8**	**-0.9**
SAML				*e*pP		**sP**		**15 53 51.5**	**+2.1**
PTGA	**Pitinga**	**60.17 323**		P		**P**		**15 54 31.8**	**-1.0**
ATAH	**Atahualpa**	**62.26 301**		LR		LR		16 23 38.3	
	comp=Z,104nn,19.6s,baz=153,slow=38								
LIC	**Lamto**	**64.26 26**		*e*P		**P**		**15 54 59.1**	**-1.1**
	comp=Z,23nn,0.7s								
KIC	**Kosan Boka**	**64.47 26**		*e*P		**P**		**15 54 56.9**	**-4.7**
	comp=Z,17nn,1.2s								
TIC	**Toumodi**	**64.67 26**		*e*P		**P**		**15 55 01.2**	**-1.7**
DBIC	**Dimbokro**	**64.73 26**		P		**P**		**15 55 02.2**	**-1.1**
	comp=Z,5.0nm,0.8s,baz=114,slow=4.9,SNR=4.1								
DBIC				LR		LR		16 19 14.8	
	comp=Z,77nm,18.1s,baz=168,slow=32								
DBIC	**Dimbokro**	**64.73 26**		P		**P**		**15 55 02.4**	**-0.9**
SOTA	**Rioblanco**	**69.51 307**		*e*P		**P**		**15 55 33.1**	**-1.2**
PCON	**Cinco Dias**	**69.58 307**		*e*P		**P**		**15 55 37.0**	**+2.1**
BBAC	**Balboa, Cauca**	**69.70 307**		*e*P		**P**		15 55 44.4	+9.3
PRAC	**Prado**	**70.14 310**		*e*P		**P**		**15 55 36.7**	**-0.9**
ORTC	**Ortega, Tolima**	**70.47 309**		*e*P		**P**		**15 55 38.3**	**-1.3**
ROSC	**El Rosal**	**70.90 311**		LR		LR		16 26 44.4	
	comp=Z,114nm,21.7s,baz=178,slow=36								
ROSC	**El Rosal**	**70.90 311**		*e*P		**P**		**15 55 45.1**	**+2.4**
YOTC	**Yotoco, Valle**	**71.03 308**		*e*P		**P**		**15 55 39.5**	**-3.7**
TOLC	**Tolima**	**71.11 310**		*e*P		**P**		**15 55 44.7**	**+0.8**
RUSC	**La Rusia**	**71.31 312**		*e*P		**P**		**15 55 40.8**	**-4.5**
RUSC	**La Rusia**	**71.31 312**		P		**P**		**15 55 44.1**	**-1.2**
GUY2C	**Guyana, Caldas**	**71.70 310**		*e*P		**P**		**15 55 43.2**	**-4.4**
PTBC	**PUERTO BERRIO,**	**72.48 311**		*e*P		P		15 55 45.4	-6.3
CBOC	**Ciudad Bolivar**	**72.55 310**		*e*P		**P**		**15 55 52.4**	**0.0**
TOA0	**Torodi Ar. Sit**	**72.70 31**		P		**P**		**15 55 52.5**	**-0.5**
TOA0				IAmb		IAmb		15 55 53.7	
	comp=Z,18nm,0.9s								
TORD	**Torodi Ar. Bea**	**72.70 31**		P		**P**		**15 55 52.8**	**-0.2**
	comp=Z,13nm,0.8s,baz=202,slow=6.4,SNR=56								
TORD				LR		LR		16 20 59.5	
	comp=Z,282nm,21.7s,baz=200,slow=30								
SMLC	**San Martn de**	**74.34 313**		*e*P		**P**		**15 55 59.0**	**-3.7**
PPT	**Papeete**	**92.14 235**		LR		LR		16 32 46.4	
	comp=Z,48nn,18.1s,baz=165,slow=31								
KEST	**Kesra**	**96.21 30**		LR		LR		16 35 57.9	
	comp=Z,229nm,21.4s,baz=208,slow=32								
ESDC	**Sonseca Array**	**96.84 19**		LR		LR		16 36 19.3	
	comp=Z,64nm,21.6s,baz=255,slow=32								
ASAR	**Alice Springs**	**99.92 163**		P		**Pdif**		**15 58 09.5**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=178,slow=4.3,SNR=7.9								
PDAR	**Pinedale Array**	**119.39 303**		PKP		**PKiKP**		**16 03 14.2**	**0.0**
	comp=Z,0.2nn,0.5s,baz=98,slow=3.0,SNR=2.1								
NVAR	**Mina Array Bea**	**120.50 294**		PKP		**PKiKP**		**16 03 17.9**	**+1.5**
	comp=Z,0.1nn,0.4s,baz=211,slow=24,SNR=2.2								
FXWY	**Fox Creek**	**120.75 303**				**PKiKP**		**16 03 17.1**	**+0.3**
FINES	**FINESS Array B**	**123.99 28**		PKP		**PKPdf**		**16 03 21.0**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=112,slow=2.1,SNR=8.7								
BMO	**Blue Mountains**	**124

BBOO Buckleboo 39.39 254 P **P** **15 59 52.9 -0.7**
AS31 Alice Springs 43.52 267 P **P** **16 00 26.4 -1.3**
AS31 IAmb IAmb 16 00 40.9
comp=Z,1.5nm,1.2s
ASAR Alice Springs 43.52 267 P **P** **16 00 27.8 +0.1**
comp=Z,0.3nm,0.5s,baz=106,slow=7.3,SNR=9.5
WB2 Warramunga Arr 44.49 272 P **P** **16 00 35.4 0.0**
WRA Warramunga Arr 44.51 272 P **P** **16 00 36.0 +0.5**
comp=Z,0.5nm,0.3s,baz=110,slow=8.1,SNR=11
WB0 Warramunga Arr 44.53 272 P **P** **16 00 35.8 +0.1**
WB0 IAmb IAmb 16 00 36.6
comp=Z,34nm,1.7s
CMAR Chiang Mai Arr 93.76 289 LR LR 16 53 01.5
comp=Z,95nm,18.0s,baz=200,slow=39
FINES FINESS Array B 145.19 340 PKPbc **PKPab** **16 12 00.2 +0.1**
comp=Z,0.9nm,0.5s,baz=62,slow=4.5,SNR=5.8

BJI ***30*** *16:10:04.6±0.0,28.5′59N×130.5′57E,h40km,mB4.5/35, mb4.4/44,Ms4.0/31,Ms7 3.9/30*
MOS ***30*** *16:10:08.1±1.0,28.5′76N×130.5′07E,h34km,mb4.5/27,Error ellipse: s-maj=8.8km s-min=6.3km az=108.4*
IDC ***30*** *16:10:10.9±1.1,28.5′80N×130.5′00E,h43km±11km,mb3.9/27, mb1 4.0/33,mb1mx3.9/66,mbtmp4.2/33,ML3.4/4,MS3.6/25, Ms1 3.7/25,ms1mx3.5/47,Error ellipse: s-maj=12.1km s-min=7.5km az=111.0*
JMA ***30*** *16:10:10.4±0.1,28.5′82N×129.5′94E,h35km,M4.2*
JMA Felt II J1.
NIED ***30*** *16:10:10.5,28.5′82N×129.5′95E,h35km,MW4.4,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.30; Mθθ-1.02; Mφφ2.32; Mrθ2.61; Mrφ-0.56; Mθφ3.87; Fault plane solution: M₀5.11000×10¹⁵ NP1: φs209.00000°,δ83.00000°,λ-70.00000°. NP2: φs318.00000°,δ21.00000°,λ-160.00000°.*
NEIC ***30*** *16:10:11.2±1.6,28.7′8N±0.0′6×130.0′3E±0.0′8,h45km±7km, mb4.6/53 Error ellipse: s-maj=10.9km s-min=7.5km az=114.0*
ISC 30 16:10:11.1±0.6,28.7′6N±0.0′3×130.0′3E±0.0′4,h48km±5km, n186,σ1ⁱ72/199,mb4.4/70,MS3.8/25,7C-4D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.44**	**187**	P		**Pn**	**16 10 20.8**	**-0.8**
JZK				*e*S		**Sn**	**16 10 29.9**	**+0.9**
JAM	**Amami Oshima**	**0.51**	**227**	P		**Pn**	**16 10 20.4**	**-1.9**
JAM				*e*S		**Sn**	**16 10 28.2**	**-2.1**
JTAJ	**Takarajima**	**0.82**	**299**	P		**Pn**	**16 10 24.8**	**-1.6**
JTAJ				*e*S		**Sn**	**16 10 34.4**	**-3.2**
JAMN	**Amaminishikomi**	**0.91**	**236**	P		**Pn**	**16 10 27.0**	**-0.6**
JNN	**Nakanoshima**	**1.09**	**353**	P		**Pn**	**16 10 28.3**	**-1.7**
JNN				*e*S		**Sn**	**16 10 44.0**	**0.0**
JTK	**Tokunoshima**	**1.36**	**225**	P		**Pn**	**16 10 34.0**	**+0.3**
JTK				*e*S		**Sn**	**16 10 52.8**	**+2.3**
JYAK	**Yakushimahirau**	**1.53**	**16**	P		**Pn**	**16 10 35.1**	**-1.0**
JYAK				*e*S		**Sn**	**16 10 55.2**	**+0.4**
JKC	**Kuchinoerabu**	**1.71**	**5**	P		**Pn**	**16 10 37.3**	**-1.1**
JKC				*e*S		**Sn**	**16 10 58.9**	**-0.1**
JMTN	**Minamitane**	**1.80**	**25**	P		**Pn**	**16 10 39.0**	**-0.8**
JMTN				*e*S		**Sn**	**16 11 02.3**	**+0.9**
JOKE	**Okinoerabujima**	**1.90**	**223**	P		**Pn**	**16 10 41.6**	**+0.5**
JTN	**Tanegashima 3**	**2.06**	**23**	P		**Pn**	**16 10 42.8**	**-0.5**
JTN				*e*S		**Sn**	**16 11 08.0**	**+0.1**
JYRO	**Yoronjima**	**2.22**	**219**	P		**Pn**	**16 10 45.6**	**+0.1**
JYRO				*e*S		**Sn**	**16 11 12.5**	**+0.8**
JOW	**Kunigami**	**2.47**	**219**	P		**Pn**	**16 10 49.2**	**+0.3**
	5.2nm,0.3s,baz=85,slow=16,SNR=153							
JOW				S		**Sn**	**16 11 18.2**	**+0.3**
	7.5nm,0.3s,baz=115,slow=29,SNR=10							
JOW	**Kunigami**	**2.47**	**219**	P		**Pn**	**16 10 48.8**	**-0.1**
JIH	**Iheya**	**2.51**	**227**	P		**Pn**	**16 10 49.6**	**+0.2**
JIH				*e*S		**Sn**	**16 11 19.3**	**+0.6**
JNTH	**Nagotoyohara**	**2.85**	**219**	P		**Pn**	**16 10 54.2**	**0.0**
JNTH				*e*S		**Sn**	**16 11 27.6**	**+0.3**
JKDJ	**Kitadaitoujima**	**3.02**	**158**	P		**Pn**	**16 10 54.3**	**-2.1**
JKDJ				*e*S		**Sn**	**16 11 27.0**	**-4.3**
JMZ	**Minamidaito 2**	**3.11**	**160**	P		**Pn**	**16 10 56.4**	**-1.3**
JMZ				*e*S		**Sn**	**16 11 30.5**	**-3.2**
JAGN	**Aguni-jima**	**3.28**	**230**	P		**Pn**	**16 11 00.1**	**0.0**
JKE	**Kume jima 2**	**3.76**	**231**	P		**Pn**	**16 11 06.8**	**+0.1**
JKE				*e*S		**Sn**	**16 11 49.7**	**0.0**
JNU	**Nakatsue**	**4.41**	**9**	P		**Pn**	**16 11 16.3**	**+0.7**
	6.7nm,0.3s,baz=190,slow=10,SNR=75							
JNU				S		**Sn**	**16 12 05.5**	**-0.2**
	6.6nm,0.3s,baz=166,slow=11,SNR=1.4							
JNU				LR		LR	16 13 21.1	
	comp=Z,519nm,19.9s,baz=170,slow=43							
JNU	**Nakatsue**	**4.41**	**9**	Pn		**Pn**	**16 11 16.0**	**+0.4**
YOJ	**Yonaguni jima**	**7.60**	**237**	P		**Pn**	**16 11 58.8**	**-0.5**
YOJ	**Yonaguni jima**	**7.60**	**237**	Pn		**Pn**	**16 11 58.8**	**-0.5**
TJN	**Taejon**	**7.92**	**344**	*ce*P		**Pn**	**16 12 08.0**	**+4.3**
YHNB	**Yeheng**	**8.74**	**244**	Pn		**Pn**	**16 12 16.3**	**+1.2**
NACB	**Ningnanchiao**	**8.83**	**241**	Pn		**Pn**	**16 12 17.5**	**+1.3**
INU	**Inuyama**	**8.85**	**40**	Pn		**Pn**	**16 12 16.1**	**-0.3**
KSRS	**Korea Array**	**8.85**	**349**	P		**Pn**	**16 12 18.9**	**+2.6**
	0.4nm,0.3s,baz=167,slow=14,SNR=28							
KSRS				S		**Sn**	**16 14 01.9**	**+7.2**
	0.2nm,0.3s,baz=166,slow=30,SNR=2.2							
KSRS				LR		LR	16 15 54.7	
	comp=Z,399nm,18.9s,baz=170,slow=39							
KS19	**Wonju Array Si**	**8.91**	**349**	Pn		**Pn**	**16 12 17.8**	**+0.6**
JHJ	**Hachijo jima 2**	**9.44**	**60**	P		**Pn**	**16 12 24.4**	**-0.1**
	25nm,0.3s,baz=236,slow=23,SNR=15							
JHJ				LR		LR	16 15 50.0	
	comp=Z,201nm,20.6s,baz=245,slow=36							
JHJ2	**Mitsune**	**9.46**	**60**	Pn		**Pn**	**16 12 24.7**	**-0.1**
SSLB	**Suanglung**	**9.53**	**241**	Pn		**Pn**	**16 12 25.1**	**-0.7**
TPUB	**Ta-pu**	**10.05**	**239**			**Pn**	**16 12 31.7**	**-1.2**
NJ2	**Nanjing**	**10.19**	**292**	*e*P		**Pn**	**16 12 35.5**	**+0.7**
NJ2				pmax		pmax		
	comp=Z,7.0nm,0.5s							
MAJO	**Matsushiro**	**10.38**	**39**	P		**Pn**	**16 12 36.7**	**-0.6**
MAJO	**Matsushiro**	**10.38**	**39**	Pn		**Pn**	**16 12 36.7**	**-0.6**
MAT	**Matsushiro**	**10.38**	**39**	P		**Pn**	**16 12 36.7**	**-0.6**
MAT				S		**Sn**	**16 14 35.0**	**+2.8**
MJAR	**Matsushiro Arr**	**10.38**	**40**	P		**Pn**	**16 12 37.1**	**-0.2**
	0.1nm,0.3s,baz=247,slow=14,SNR=8.1							
MJB9	**Matsu-Tunnel**	**10.38**	**39**	Pn		**Pn**	**16 12 36.5**	**-0.8**
JCJ	**Chichijima**	**10.88**	**96**	P		**Pn**	**16 12 43.2**	**-1.0**
	22nm,0.3s,baz=280,slow=23,SNR=23							
JCJ				LR		LR	16 16 28.6	
	comp=Z,205nm,19.3s,baz=229,slow=35							
TIA	**Tai'an**	**13.18**	**308**	P		**Pn**	**16 13 19.5**	**+3.9**
TIA				S		**Sn**	**16 15 39.3**	**-1.4**
TIA				pmax		pmax		
	comp=Z,7.0nm,1.0s							
TIA				pmax		pmax		
	comp=Z,52nm,3.5s							
TIA				LR		LR		
	comp=N,260nm,12.7s							
TIA				LR		LR		
	comp=E,380nm,17.1s							
TIA				LR		LR		
	comp=Z,550nm,16.1s							
CN2	**Changchun**	**15.46**	**347**	*e*P		**P**	**16 13 51.3**	**+1.7**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.5s							
USRK	**Ussuriysk Ar.**	**15.49**	**5**	LR		LR	16 20 00.7	
	comp=Z,163nm,18.5s,baz=179,slow=38							
BJT	**Baijiatuan**	**16.01**	**318**	P		**Pn**	**16 13 53.9**	**+0.9**
BJT				pmax		pmax		
	comp=Z,20nm,0.9s							
BJT	**Baijiatuan**	**16.01**	**318**	Pn		**Pn**	**16 13 53.9**	**+0.9**
BJI	**Beijing**	**16.02**	**318**	P		**P**	**16 13 56.5**	**+0.6**
BJI				pP		**pP**	**16 14 04.0**	**-2.6**
BJI				pmax		pmax		
	comp=Z,11nm,1.1s							
BJI				LR		LR		
	comp=Z,320nm,14.9s							
BJI				LR		LR		
	comp=Z,220nm,12.8s							
ENH	**Enshi**	**17.95**	**280**			**P**	**16 14 18.6**	**+1.2**
ASAJ	**Asahikawa**	**18.33**	**30**	P		**P**	**16 14 21.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=246,slow=21,SNR=9.2							
ASAJ				LR		LR	16 22 22.1	
	comp=Z,100nm,19.1s,baz=218,slow=40							
JKA	**Kamikawa-asahi**	**18.33**	**30**	P		**P**	**16 14 21.1**	**-0.3**
XAN	**Xi'an**	**18.76**	**292**	P		**Pn**	**16 14 29.8**	**+2.6**
XAN				pP		pP	16 14 39.0	+1.8
XAN				S		**Sn**	**16 17 49.8**	**-6.5**
XAN				pmax		pmax		
	comp=Z,38nm,0.8s							
XAN				pmax		pmax		
	comp=Z,130nm,5.9s							
XAN				LR		LR		
	comp=Z,140nm,16.3s							
XAN				LR		LR		
	comp=Z,250nm,20.6s							
XAN				LR		LR		
	comp=Z,300nm,24.9s							
XAN	**Xi'an**	**18.76**	**292**	P		**P**	**16 14 25.7**	**-0.6**
XAN				pmax		pmax		
	comp=Z,23nm,0.7s							
XAN	**Xi'an**	**18.76**	**292**	P		**P**	**16 14 25.7**	**-0.6**
XAN				IAmb		IAmb	16 14 30.2	
	comp=Z,23nm,0.7s							
HHC	**Hu-ho-hao-te**	**19.33**	**313**	*e*P		**Pn**	**16 14 34.0**	**0.0**
HHC				pP		pP	16 14 44.3	+0.9
HHC				S		**S**	**16 18 03.3**	**-5.5**
HHC				pmax		pmax		
	comp=Z,6.0nm,0.8s							
HHC				pmax		pmax		
	comp=Z,32nm,5.4s							
HHC				LR		LR		
	comp=Z,140nm,14.0s							
HHC				LR		LR		
	comp=Z,110nm,13.2s							
HHC				LR		LR		
	comp=Z,160nm,15.3s							
GUMO	**Guam**	**20.44**	**135**	LR		LR	16 21 05.5	
	comp=Z,70nm,21.9s,baz=332,slow=32							
KLR	**Kul'dur**	**20.49**	**3**	P		**P**	**16 14 43.4**	**-1.5**
	comp=Z,1.9nm,0.7s,baz=252,slow=6.0,SNR=5.8							
KLR				LR		LR	16 22 59.1	
	comp=Z,106nm,20.6s,baz=194,slow=38							
GYA	**Guiyang**	**20.83**	**269**	⇓P		Pn	16 14 52.5	+0.7
GYA				pmax		pmax		
	comp=Z,11nm,0.8s							
GYA				LR		LR		
	comp=Z,220nm,14.4s							
GYA				LR		LR		
	comp=Z,230nm,15.1s							
GYA				LR		LR		
	comp=Z,280nm,17.5s							
DAV	**Davao City (W)**	**21.98**	**192**	LR		LR	16 23 38.2	
	comp=Z,89nm,19.2s,baz=11,slow=37							
GRNR	**Gornyy**	**22.51**	**11**	⇓*i*P		**P**	**16 15 07.0**	**+0.4**
GRNR				*e*S		**S**	**16 19 02.6**	**-7.7**
GRNR				pmax		pmax		
	comp=Z,3.0nm,0.6s							
GRNR				smax		smax		
	comp=E,2.0nm,0.5s							
GRNR				MLR		MLR		
	comp=E,40nm,15.0s							
GRNR				MLR		MLR		
	comp=N,80nm,16.0s							
GRNR				MLR		MLR		
	comp=Z,150nm,18.0s							
CD2	**Chengdu**	**22.88**	**282**	*e*P		**P**	**16 15 10.5**	**-0.2**
LZH	**Lanzhou**	**23.24**	**295**	*e*P		**P**	**16 15 13.3**	**-1.1**
LZH				pP		pP	16 15 24.0	-1.9
LZH				sP		sP	16 15 29.5	-2.3
LZH				*e*PP		**PnPn**	**16 15 45.5**	**+4.0**
LZH				pmax		pmax		
	comp=Z,24nm,1.0s							
LZH				pmax		pmax		
	comp=Z,78nm,5.2s							
LZH				LR		LR		
	comp=Z,260nm,12.6s							
LZH				LR		LR		
	comp=Z,220nm,13.0s							
LZH				LR		LR		
	comp=Z,270nm,14.5s							
KMI	**Kunming**	**24.57**	**268**	P		**P**	**16 15 27.6**	**+0.6**
KMI				pmax		pmax		
	comp=Z,9.0nm,0.6s							
KMI	**Kunming**	**24.57**	**268**	P		**P**	**16 15 27.6**	**+0.6**
KMI				IAmb		IAmb	16 15 29.1	
	comp=Z,8.9nm,0.6s							
SLVN	**Son La**	**24.76**	**259**	P		**P**	**16 15 30.2**	**+1.7**
ZEA	**Zeya**	**25.04**	**356**	*e*P		**P**	**16 15 30.0**	**-0.7**
ZEA				pmax		pmax		
	comp=Z,11nm,0.9s							
ULN	**Ulaanbaatar**	**26.08**	**323**	*ce*P		**P**	**16 15 41.0**	**+0.6**
ULN				pmax		pmax		
	comp=Z,8.0nm,0.8s							
ULN	**Ulaanbaatar**	**26.08**	**323**	P		**P**	**16 15 40.6**	**+0.3**
SONM	**Songino Array**	**26.41**	**323**	P		**P**	**16 15 42.8**	**-0.5**
	comp=Z,6.3nm,0.7s,baz=139,slow=9.6,SNR=20							
SONM				LR		LR	16 27 33.3	
	comp=Z,238nm,18.4s,baz=124,slow=40							
GTA	**Gaotai**	**27.07**	**301**	*e*P		**P**	**16 15 51.5**	**+2.1**
GTA				pP		pP	16 16 04.0	+2.3
GTA				sP		sP	16 16 09.5	+2.1
GTA				sS		sS	16 20 41.3	-3.4
GTA				pmax		pmax		
	comp=Z,9.0nm,1.0s							
GTA				pmax		pmax		
	comp=Z,79nm,4.9s							
GTA				LR		LR		
	comp=Z,110nm,16.2s							
GTA				LR		LR		
	comp=Z,310nm,16.8s							
GTA				LR		LR		
	comp=Z,430nm,16.8s							
CHTO	**Chiang Mai**	**30.04**	**258**	P		**P**	**16 16 16.2**	**+0.4**
CHTO				pmax		pmax		
	comp=Z,4.0nm,0.8s							
CHTO	**Chiang Mai**	**30.04**	**258**	P		**P**	**16 16 16.2**	**+0.4**
CMAR	**Chiang Mai Arr**	**30.19**	**257**	P		**P**	**16 16 17.6**	**+0.5**
	comp=Z,0.9nm,0.7s,baz=55,slow=7.1,SNR=7.7							
CMAR				LR		LR	16 29 35.0	
	comp=Z,129nm,19.7s,baz=132,slow=39							
TLY	**Talaya**	**30.20**	**327**	*i* P		**P**	**16 16 17.7**	**+0.8**
TLY				pmax		pmax		
	comp=Z,2.0nm,1.2s							
FAKI	**Fak Fak**	**31.57**	**176**	P		**P**	**16 16 30.3**	**+1.1**
PETK	**Petropavlovsk-**	**31.71**	**32**	LR		LR	16 30 44.8	
	comp=Z,56nm,19.1s,baz=242,slow=39							
JAY	**Jayapura**	**32.74**	**160**	LR		LR	16 28 00.4	
	comp=Z,116nm,19.1s,baz=0.0,slow=33							
YAK	**Yakutsk**	**33.28**	**360**	*i* P		P	16 16 35.7	-8.0
YAK				pmax		pmax		
	comp=Z,3.0nm,0.8s							
H11N2	**WAKE ISLAND Hy**	**34.68**	**97**	T		T	16 53 51.6	
	baz=290,slow=74,SNR=5.3							
H11N1	**WAKE ISLAND Hy**	**34.68**	**97**	T		T	16 53 45.5	
	baz=290,slow=74,SNR=8.1							
H11N3	**WAKE ISLAND Hy**	**34.70**	**97**	T		T	16 53 47.3	
	baz=290,slow=74,SNR=5.4							
H11S3	**WAKE ISLAND Hy**	**34.98**	**99**	T		T	16 54 17.0	
	baz=279,slow=75,SNR=4.2							
H11S1	**WAKE ISLAND Hy**	**34.99**	**99**	T		T	16 54 10.9	
H11S2	**WAKE ISLAND Hy**	**35.00**	**99**	T		T	16 54 16.3	
	baz=290,slow=75,SNR=4.3							
WMQ	**Urumqi**	**36.87**	**306**	*e*P		**P**	**16 17 17.5**	**+2.5**
WMQ				pmax		pmax		
	comp=Z,9.0nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,62nm,6.7s							
WMQ				LR		LR		
	comp=Z,84nm,17.5s							
WMQ				LR		LR		
	comp=Z,190nm,17.5s							
WMQ				LR		LR		
	comp=Z,230nm,24.1s							
KWAJ	**Kwajalein Atol**	**40.49**	**112**	P		**P**	**16 17 45.8**	**+0.2**
KWAJ	**Kwajalein Atol**	**40.49**	**112**	P		**P**	**16 17 45.8**	**+0.2**
MK31	**Makanchi Array**	**41.11**	**309**	P		**P**	**16 17 50.2**	**-0.2**
MK31				pmax		pmax		
	comp=Z,2.0nm,0.9s							
MK31	**Makanchi Array**	**41.11**	**309**	P		**P**	**16 17 50.2**	**-0.2**
MKAR	**Makanchi Array**	**41.11**	**309**	P		**P**	**16 17 50.0**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=100,slow=10.0,SNR=8.8							
MKAR				PcP		**PcP**	**16 19 49.4**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=72,slow=4.0,SNR=4.3							
MKAR				LR		LR	16 36 38.3	
	comp=Z,120nm,19.3s,baz=90,slow=39							
MKAR	**Makanchi Array**	**41.11**	**309**	*ce*P		**P**	**16 17 53.4**	**+3.0**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.8s							
ZAA0	**Zalesovo Array**	**41.26**	**320**	P		**P**	**16 17 51.3**	**-0.2**
ZAA0				IAmb		IAmb	16 17 55.8	
	comp=Z,3.1nm,0.5s							
ZALV	**Zalesovo Beam**	**41.26**	**320**	P		**P**	**16 17 51.0**	**-0.4**
	comp=Z,3.1nm,0.5s,baz=106,slow=9.0,SNR=9.9							
ZALV				LR		LR	16 36 26.8	
	comp=Z,85nm,20.4s,baz=86,slow=38							
ZALV	**Zalesovo Beam**	**41.26**	**320**	*i* P		**P**	**16 17 52.2**	**+0.7**
ZALV				pmax		pmax		
	comp=Z,3.0nm,0.5s							
MTN	**Manton Dam**	**41.37**	**178**	P		**P**	**16 17 52.8**	**+0.1**
PMG	**Port Moresby**	**41.39**	**154**	LR		LR	16 33 16.4	
	comp=Z,100nm,21.7s,baz=243,slow=33							
TIXI	**Tiksi**	**42.94**	**359**	*i* P		P	16 17 59.5	-5.4
TIXI				pmax		pmax		
	comp=Z,10.0nm,1.3s							
TARG	**Taragay, Kyrgy**	**43.95**	**302**	P		**P**	**16 18 14.3**	**+0.3**
TARG				IAmb		IAmb	16 18 21.4	
	comp=Z,4.6nm,0.7s							
KURK	**Kurchatov**	**44.14**	**314**	P		**P**	**16 18 16.6**	**+1.7**
KURK				pmax		pmax		
	comp=Z,3.0nm,1.0s							
KURK	**Kurchatov**	**44.14**	**314**	P		**P**	**16 18 16.6**	**+1.7**
KURBB	**Kurchatov Arra**	**44.18**	**314**	P		**P**	**16 18 15.2**	**0.0**
	comp=Z,1.0nm,0.3s,baz=98,slow=9.0,SNR=2.2							
KNRA	**Kunumurra**	**44.19**	**182**	P		**P**	**16 18 16.4**	**+0.9**
KDJ	**Kajisay**	**44.41**	**302**	P		**P**	**16 18 18.2**	**+0.8**
KDJ				pmax		pmax		
	comp=Z,2.0nm,0.7s							
KDJ	**Kajisay**	**44.41**	**302**	P		**P**	**16 18 18.2**	**+0.8**
BILL	**Bilibino**	**44.78**	**18**	*i* P		**P**	**16 18 15.0**	**-4.7**
BILL				pmax		pmax		
	comp=Z,12nm,2.0s							
BILL	**Bilibino**	**44.78**	**18**	P		**P**	**16 18 19.6**	**-0.1**
BILL				IAmb		IAmb	16 19 09.1	
	comp=Z,18nm,1.7s							
AAK	**Ala-Archa**	**46.40**	**303**	*i* P		**P**	**16 18 35.7**	**+2.6**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.7s							
FITZ	**Fitzroy Crossi**	**46.77**	**186**	P		**P**	**16 18 36.6**	**+0.6**
NRIK	**Noril'sk**	**47.37**	**341**	P		**P**	**16 18 41.7**	**+1.7**
	comp=Z,1.4nm,0.6s,baz=337,slow=2.1,SNR=3.5							
NRIK				LR		LR	16 41 02.7	
	comp=Z,46nm,19.1s,baz=120,slow=39							
NIL	**Nilore**	**48.30**	**291**	P		**P**	**16 18 47.9**	**0.0**
NIL				pmax		pmax		
	comp=Z,11nm,1.0s							
NIL	**Nilore**	**48.30**	**291**	P		**P**	**16 18 47.9**	**0.0**
NIL				IAmb		IAmb	16 18 51.2	
	comp=Z,11nm,1.0s							
WB0	**Warramunga Arr**	**48.42**	**175**	P		**P**	**16 18 49.3**	**+0.5**
WB0				IAmb		IAmb	16 19 32.6	
	comp=Z,18nm,1.4s							
WRAB	**Tennant Creek**	**48.59**	**175**	P		**P**	**16 18 51.2**	**+1.2**
WRAB				pmax		pmax		
	comp=Z,35nm,1.7s							
WRAB	**Tennant Creek**	**48.59**	**175**	P		**P**	**16 18 51.2**	**+1.2**
WRA	**Warramunga Arr**	**48.59**	**175**	P		**P**	**16 18 50.2**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=358,slow=8.4,SNR=11							
WB2	**Warramunga Arr**	**48.59**	**175**	P		**P**	**16 18 50.5**	**+0.5**
WR0	**Warramunga Arr**	**48.63**	**174**	P		**P**	**16 18 50.8**	**+0.5**
WR0				IAmb		IAmb	16 18 51.5	
	comp=Z,10nm,1.1s							
KK31	**Karatay Array**	**49.30**	**304**	P		**P**	**16 18 55.3**	**-0.1**
KK31				pmax		pmax		
	comp=Z,3.0nm,1.3s							
KK31	**Karatay Array**	**49.30**	**304**	P		**P**	**16 18 55.3**	**-0.1**
KKAR	**Karatay Array**	**49.30**	**304**	P		**P**	**16 18 55.2**	**-0.2**
KKAR				pmax		pmax		
	comp=Z,3.0nm,1.3s							
KKAR	**Karatay Array**	**49.30**	**304**	P		**P**	**16 18 55.2**	**-0.2**
BVAR	**Borovoye Array**	**49.50**	**317**	P		**P**	**16 18 57.3**	**+0.6**
	comp=Z,2.6nm,0.5s,baz=88,slow=9.5,SNR=16							
BVAR				PcP		**PcP**	**16 20 18.1**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=103,slow=4.7,SNR=6.2							
BRVK	**Borovoye**	**49.56**	**317**	*ce*P		**P**	**16 18 57.6**	**+0.4**
BRVK				pmax		pmax		
	comp=Z,6.0nm,0.9s							
BRVK	**Borovoye**	**49.56**	**317**	P		**P**	**16 18 57.4**	**+0.2**
BRVK				IAmb		IAmb	16 18 58.4	
	comp=Z,6.0nm,0.9s							
CTA	**Charters Tower**	**51.03**	**160**	P		**P**	**16 19 09.5**	**+0.9**
	comp=Z,5.5nm,0.9s,baz=289,slow=2.6,SNR=3.6							
CTAO	**Charters Tower**	**51.03**	**160**	P		**P**	**16 19 09.3**	**+0.7**
CTAO				pmax		pmax		
	comp=Z,17nm,1.2s							
CTAO	**Charters Tower**	**51.03**	**160**	P		**P**	**16 19 09.3**	**+0.7**
CTAO				IAmb		IAmb	16 20 42.4	
	comp=Z,17nm,1.2s							
AS31	**Alice Springs**	**52.25**	**176**	P		**P**	**16 19 18.4**	**+0.7**
ASAR	**Alice Springs**	**52.25**	**176**	P		**P**	**16 19 18.8**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=9.2,slow=13,SNR=46							
ARU	**Arti**	**56.43**	**321**	P		**P**	**16 19 47.4**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=173,slow=4.7,SNR=5.9							
ARU				LR		LR	16 46 05.9	
	comp=Z,76nm,20.1s,baz=92,slow=38							
ARU	**Arti**	**56.43**	**321**	*d* iP		**P**	**16 19 47.8**	**+0.1**
ARU							16 21 50.9	
ARU				S		**S**	**16 27 27.3**	**-7.7**
ARU				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ARU	**Arti**	**56.43**	**321**	P		**P**	**16 19 46.9**	**-0.8**
ARU				IAmb		IAmb	16 19 51.4	
	comp=Z,5.0nm,0.9s							
SANVU	**Saraoutou**	**56.77**	**136**	P		**P**	**16 19 51.6**	**+1.0**
AKTO	**Aktyubinsk**	**57.23**	**314**	LR		LR	16 46 13.6	
	comp=Z,148nm,20.3s,baz=91,slow=38							
PPLA	**Purkeypile**	**59.30**	**31**	P		**P**	**16 20 09.4**	**+1.5**
PPLA				IAmb		IAmb	16 22 01.1	
	comp=Z,18nm,1.6s							
GEYT	**Alibeck**	**59.43**	**299**	P		**P**	**16 20 10.7**	**+1.5**
	comp=Z,2.2nm,0.7s,baz=31,slow=0.9,SNR=4.6							
GEYT				LR		LR	16 50 59.9	
	comp=Z,89nm,18.8s,baz=185,slow=41							
GYA0B	**ALIBECK ARRAY**	**59.43**	**299**	P		**P**	**16 20 10.4**	**+1.2**
GYA0B				IAmb		IAmb	16 20 21.4	
	comp=Z,3.7nm,0.

INK	**Inuvik**	**65.94**	**24**	P		**P**	**16 20 52.5**	**+0.6**	
	comp=Z,1.6nm,0.8s,baz=314,slow=7.0,SNR=4.8								
INK	**Inuvik**	**65.94**	**24**	P		**P**	**16 20 52.8**	**+1.0**	
INK				pmax		pmax			
	comp=Z,3.0nm,1.0s								
INK	**Inuvik**	**65.94**	**24**	P		**P**	**16 20 52.8**	**+1.0**	
LHI	**Lord Howe Isla**	**66.01**	**153**	P		**P**	**16 20 52.8**	**+0.1**	
KBS	**Kingsbay**	**67.07**	**349**	P		**P**	**16 21 00.6**	**+1.7**	
KBS				pmax		pmax			
	comp=Z,149nm,2.0s								
KBS	**Kingsbay**	**67.07**	**349**	P		**P**	**16 21 00.6**	**+1.7**	
WHY	**Whitehorse**	**67.78**	**32**	P		**P**	**16 21 04.4**	**+0.5**	
WHY				IAmb		IAmb	16 21 07.4		
	comp=Z,4.4nm,1.1s								
ARCES	**ARCESS Array B**	**68.25**	**338**	P		**P**	**16 21 06.3**	**-0.2**	
	comp=Z,1.5nm,0.8s,baz=66,slow=7.3,SNR=4.8								
ARCES				LR		LR	16 55 57.4		
	comp=Z,62nm,18.9s,baz=88,slow=40								
ZEI	**Tsey**	**68.43**	**308**	*e*P		**P**	**16 21 06.5**	**-1.9**	
KBZ	**Khabaz**	**68.81**	**309**	P		**P**	**16 21 10.8**	**+0.4**	
	comp=Z,7.5nm,0.8s,baz=107,slow=3.8,SNR=13								
KBZ	**Khabaz**	**68.81**	**309**	*ce*P		**P**	**16 21 11.2**	**+0.8**	
KBZ				pmax		pmax			
	comp=Z,9.0nm,0.9s								
OBN	**Obninsk**	**68.82**	**322**	⇑*e*P		**P**	**16 21 10.3**	**0.0**	
OBN				*e*			16 23 40.0		
OBN				pmax		pmax			
	comp=Z,15nm,0.4s								
KIV	**Kislovodsk**	**68.87**	**309**	*e*P		**P**	**16 21 11.9**	**+0.9**	
KIV				pmax		pmax			
	comp=Z,20nm,1.0s								
KIV				MLR		MLR			
	comp=Z,113nm,17.0s								
FINES	**FINESS Array B**	**71.46**	**331**	P		**P**	**16 21 24.8**	**-1.5**	
	comp=Z,0.9nm,0.4s,baz=64,slow=6.0,SNR=15								
FINES				LR		LR	16 56 09.0		
	comp=Z,112nm,18.1s,baz=188,slow=39								
RES	**Resolute Bay**	**72.77**	**11**	P		**P**	**16 21 33.8**	**-0.1**	
RES				pmax		pmax			
	comp=Z,38nm,1.7s								
RES	**Resolute Bay**	**72.77**	**11**	P		**P**	**16 21 33.8**	**-0.1**	
AKASG	**Malin Array Be**	**74.65**	**320**	P		**P**	**16 21 44.9**	**-0.5**	
	comp=Z,1.4nm,0.4s,baz=58,slow=6.5,SNR=5.9								
AKASG				LR		LR	16 58 10.1		
AKASG	**Malin Array Be**	**74.65**	**320**	*i* P		**P**	**16 21 47.9**	**+2.5**	
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
YKA	**Yellowknife Ar**	**75.56**	**26**	P		**P**	**16 21 51.4**	**+0.9**	
	comp=Z,0.6nm,0.5s,baz=303,slow=5.9,SNR=7.5								
BR131	**Keskin Array S**	**76.74**	**308**	P		**P**	**16 21 57.4**	**-0.4**	
BR131				pmax		pmax			
	comp=Z,6.0nm,0.9s								
BR131	**Keskin Array S**	**76.74**	**308**	P		**P**	**16 21 57.4**	**-0.4**	
BR131				IAmb		IAmb	16 22 02.1		
	comp=Z,6.2nm,0.8s								
BRTR	**Keskin Array B**	**76.74**	**308**	P		**P**	**16 21 58.2**	**+0.4**	
	comp=Z,4.6nm,0.8s,baz=91,slow=6.2,SNR=14								
NB2	**NORSAR Subarra**	**77.75**	**334**	P		**P**	**16 22 00.2**	**-2.7**	
	comp=Z,4.4nm,1.2s,baz=51,slow=5.6								
NOA	**NORSAR Array B**	**77.75**	**334**	P		**P**	**16 22 01.4**	**-1.4**	
	comp=Z,0.9nm,0.8s,baz=49,slow=5.6,SNR=4.4								
NOA				LR		LR	16 59 40.0		
	comp=Z,53nm,19.5s,baz=205,slow=38								
CLL	**Collm**	**82.98**	**326**	*e*P		**P**	**16 22 32.0**	**+0.9**	
CLL				⇓*i*P(2)			16 22 36.0		
	comp=Z,6.0nm,1.2s								
CLL				*e*pP		**pP**	**16 22 43.0**	**-1.9**	
CLL				*e*PP		**PP**	**16 25 42.0**	**+0.4**	
CLL	**Collm**	**82.98**	**326**	*e*P		**P**	**16 22 32.0**	**+0.9**	
CLL				*e**PP		**pP**	**16 22 43.0**	**-1.9**	
CLL				pmax		pmax			
	comp=Z,6.0nm,1.2s								
GERES	**GERESS Array B**	**84.14**	**323**	P		**P**	**16 22 36.3**	**-0.9**	
	comp=Z,0.8nm,0.7s,baz=64,slow=3.1,SNR=7.0								
PDAR	**Pinedale Array**	**90.20**	**39**	P		**P**	**16 23 07.4**	**+0.5**	
	comp=Z,0.3nm,0.7s,baz=356,slow=34,SNR=2.3								
ESDC	**Sonseca Array**	**99.57**	**326**	LR		LR	17 14 22.2		
	comp=Z,54nm,18.7s,baz=35,slow=39								

*IDC **30** 16:15:49.9±5.5, 16˚.34N×93˚.03W, h0km, mb3.7/5, mb1 4.0/6, mb1mx3.7/42, mbtmp3.7/6, ML3.4/1, Error ellipse: s-maj=118.6km s-min=39.3km az=4.0*
*NEIC **30** 16:15:55.3±1.1, 15˚.55N±0˚.04×93˚.88W±0˚.06, h72km±6km, mb4.5/2, Md4.2/24(MEX), Error ellipse: s-maj=9.2km s-min=5.0km az=69.0*
*MEX **30** 16:15:56.0±0.7, 15˚.55N×93˚.90W, h74km±9km, MD4.5*
*UCR **30** 16:15:59.9±1.2, 15˚.62N×93˚.54W, h50km±120km, ML3.8, mb4.5(NEIC)*
*SNET **30** 16:15:59.8±1.3, 15˚.61N×93˚.52W, h67km±58km, ML4.1*

ISC 30 16:15:55.3±0.8, 15˚.59N±0˚.05×93˚.88W±0˚.04, h74km±7km, n50, σ1ᵗ63/66, mb3.9/6, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.65**	**80**		**Pn**	**16 16 09.7**	**-0.2**
PCIG					**Sn**	**16 16 20.4**	**-0.3**
PCIG		**0.65**	**80**	*e*P	**Pn**	**16 16 09.7**	**-0.2**
PCIG				*e*S	**Sn**	**16 16 20.4**	**-0.3**
TGIG		**1.39**	**32**		**Pn**	**16 16 19.1**	**+0.2**
TGIG					**Sn**	**16 16 36.3**	**-0.4**
TGIG		**1.39**	**32**	*e*P	**Pn**	**16 16 19.1**	**+0.2**
TGIG				*e*S	**Sn**	**16 16 36.3**	**-0.4**
THIG		**1.70**	**113**		**Pn**	**16 16 23.0**	**0.0**
THIG					**Sn**	**16 16 42.8**	**-1.3**
THIG		**1.70**	**113**	*i* P	**Pn**	**16 16 23.0**	**0.0**
THIG				*e*S	**Sn**	**16 16 42.8**	**-1.3**
CMIG	**Matias Romero**	**1.77**	**327**	Pn	**Pn**	**16 16 24.6**	**+0.5**
	40nm,0.3s,baz=155,slow=15,SNR=145						
CMIG				Sn	**Sn**	**16 16 45.0**	**-0.8**
	199nm,0.3s,baz=147,slow=12,SNR=13						
CMIG				LR	LR	16 16 48.1	
	comp=Z,46nm,20.7s,baz=190,slow=30						
CMIG	**Matias Romero**	**1.77**	**327**		**Pn**	**16 16 24.1**	**+0.1**
CMIG	**Matias Romero**	**1.77**	**327**	*e*P	**Pn**	**16 16 24.1**	**+0.1**
CMIG				*e*S	**Sn**	**16 16 44.2**	**-1.6**
CCIG	**Comitan**	**1.81**	**68**		**Pn**	**16 16 25.1**	**+0.4**
CCIG					**Sn**	**16 16 47.2**	**+0.2**
CCIG	**Comitan**	**1.81**	**68**	*e*P	**Pn**	**16 16 25.1**	**+0.4**
CCIG				*e*S	**Sn**	**16 16 47.2**	**+0.2**
HUIG	**Huatulco**	**2.15**	**275**		**Pn**	**16 16 27.9**	**-1.1**
HUIG					**Sn**	**16 16 51.7**	**-3.2**
HUIG	**Huatulco**	**2.15**	**275**	*i* P	**Pn**	**16 16 27.9**	**-1.1**
HUIG				*i* S	**Sn**	**16 16 51.7**	**-3.2**
HUEH	**Huehuetenango**	**2.31**	**96**	*e*P	**Pn**	**16 16 32.7**	**+1.3**
HUEH				IAML		16 17 06.5	
	comp=Z,2μm,0.5s						
RTAL	**Retalhuleu**	**2.36**	**116**	*e*P	**Pn**	**16 16 31.8**	**-0.1**
RTAL				*e*S	**Sn**	**16 16 58.3**	**-1.7**
RTAL				IAML		16 17 03.4	
	comp=Z,846nm,0.3s						
OXBJ	**Oaxaca**	**3.10**	**299**		**Pn**	**16 16 45.5**	**+3.4**
OXBJ	**Oaxaca**	**3.10**	**299**	*e*P	**Pn**	**16 16 45.5**	**+3.4**
IXG	**Ixpaco**	**3.61**	**113**	*e*P	**Pn**	**16 16 50.0**	**+0.9**
IXG	**Ixpaco**	**3.61**	**113**	*e*P	**Pn**	**16 16 50.0**	**+0.9**
PETF	**Flores**	**4.07**	**71**	*e*P	**Pn**	**16 16 55.5**	**+0.4**
PETF				*e*S	**Sn**	**16 17 39.0**	**-2.6**
PETF				IAML		16 17 43.2	
	comp=Z,408nm,0.3s						
MRL	**Marmol**	**4.08**	**97**	*e*P	**Pn**	**16 16 55.2**	**-0.3**
MRL	**Marmol**	**4.08**	**97**	*e*P	**Pn**	**16 16 55.2**	**-0.3**
NUBE	**Las Nubes**	**4.31**	**112**	*e*P	**Pn**	**16 16 58.6**	**+0.1**
NUBE				IAML		16 17 58.9	
	comp=Z,123nm,0.5s						
NUBE	**Las Nubes**	**4.31**	**112**	*e*P	**Pn**	**16 16 58.6**	**+0.1**
NUBE				IAML		16 17 58.9	
	comp=Z,123nm,0.5s						
SNJE	**San Jose**	**4.48**	**112**	*e*P	**Pn**	**16 17 02.0**	**+1.2**
SNJE	**San Jose**	**4.48**	**112**	*e*P	**Pn**	**16 17 02.0**	**+1.2**
TACO	**Tacachico**	**4.67**	**110**	*e*P	**Pn**	**16 17 04.8**	**+1.5**
TACO	**Tacachico**	**4.67**	**110**	*e*P	**Pn**	**16 17 04.8**	**+1.5**
JAYA	**Jayaque - finc**	**4.70**	**114**	*e*P	**Pn**	**16 17 05.0**	**+1.1**
JAYA				IAML		16 18 03.5	
	comp=Z,304nm,0.3s						
JAYA	**Jayaque - finc**	**4.70**	**114**	*e*P	**Pn**	**16 17 05.0**	**+1.1**
JAYA				IAML		16 18 03.5	
	comp=Z,304nm,0.3s						
LFRS	**El Faro**	**5.06**	**112**	*e*P	**Pn**	**16 17 10.7**	**+1.9**
LFRS				*e*S	**Sn**	**16 18 04.5**	**-1.4**
LFRS	**El Faro**	**5.06**	**112**	*e*P	**Pn**	**16 17 10.7**	**+1.9**
LFRS				*e*S	**Sn**	**16 18 04.5**	**-1.4**
TGUH	**Tegucigalpa,Un**	**6.57**	**103**		**Pn**	**16 17 27.9**	**-1.6**
TEIG	**Tepich**	**7.05**	**48**	Pn	**Pn**	**16 17 34.6**	**-1.2**
	comp=Z,33nm,0.3s,baz=319,slow=0.6,SNR=97						
TEIG	**Tepich**	**7.05**	**48**		**Pn**	**16 17 34.3**	**-1.5**
TEIG	**Tepich**	**7.05**	**48**		**Sn**	**16 18 49.4**	**-5.1**
TEIG	**Tepich**	**7.05**	**48**	*i* P	**Pn**	**16 17 34.7**	**-1.2**
TEIG				*i* S	**Sn**	**16 18 49.4**	**-5.1**
MATN	**Matagalpa**	**8.15**	**108**		**Pn**	**16 17 50.2**	**-0.9**
JTS	**Las Juntas de**	**10.17**	**120**		**Pn**	**16 18 20.2**	**+1.6**
CBCY	**The Bluff, Cay**	**14.07**	**71**	Pn	**Pn**	**16 19 11.8**	**+0.6**
TXAR	**Lajitas Array**	**16.38**	**328**	Pn	**P**	**16 19 43.3**	**+0.9**
	comp=Z,0.0nm,0.3s,baz=150,slow=15,SNR=8.3						
PAYG	**Puerto Ayora**	**16.55**	**167**	Pn	**Pn**	**16 19 41.1**	**-1.8**
PDAR	**Pinedale Array**	**30.24**	**337**	P	**P**	**16 21 58.7**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=153,slow=10,SNR=2.0						
NVAR	**Mina Array Bea**	**31.30**	**321**	P	**P**	**16 22 11.2**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=138,slow=8.1,SNR=4.3						
YKA	**Yellowknife Ar**	**49.08**	**347**	P	**P**	**16 24 35.0**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=154,slow=7.3,SNR=11						
INK	**Inuvik**	**58.41**	**344**	P	**P**	**16 25 43.5**	**+0.6**
	baz=127,slow=5.1						
INK	**Inuvik**	**58.41**	**344**		**pP**	**16 26 02.6**	**+0.8**
INK				IAmb	IAmb	16 26 03.8	
	comp=Z,3.2nm,0.8s						
ILAR	**Eielson Array**	**60.67**	**337**	P	**P**	**16 25 59.0**	**+0.5**
	comp=Z,0.3nm,0.5s,baz=300,slow=8.4,SNR=2.7						
PPT2	**Papeete2**	**64.04**	**241**	*e*LR	LR	16 26 53.6	
	comp=Z,177nm,24.8s						
ARCES	**ARCESS Array B**	**85.20**	**18**	P	**P**	**16 28 23.8**	**+0.5**
	comp=Z,1.6nm,0.9s,baz=308,slow=6.0,SNR=3.9						

*BEO **30** 16:20:36.2±0.4, 44˚.11N×17˚.58E, h0km, ML1.9/7*

RHSSO 30 16:20:35.7±0.2, 44˚.10N×17˚.61E, h4km±2km, ML2.2/10, 3C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MGRS	**Mrkonjic Grad**	**0.50**	**311**	⇑*i*Pg	Pg	16 20 44.9	-0.4
MGRS				*e*Sg	Sg	16 20 51.4	-0.3
RICI	**Ricice**	**0.69**	**210**	*e*Pg	Pg	16 20 47.4	-1.6
RICI				Sg	Sg	16 20 57.1	-0.9
BLY	**Banja Luka**	**0.72**	**335**	*e*Pg	Pg	16 20 49.4	-0.2
BLY				*e*Sg	Sg	16 20 58.9	0.0
BLY	**Banja Luka**	**0.72**	**335**	⇑*i*Pg	Pg	16 20 49.2	-0.4
BLY				*e*Sg	Sg	16 20 59.1	+0.2
KIJV	**Kijevo**	**0.87**	**265**	*e*Pg	Pg	16 20 50.9	-1.5
MAKA	**Makarska**	**0.91**	**208**	*e*Pg	Pg	16 20 51.4	-1.8
MAKA				Sg	Sg	16 21 04.0	-1.0
HAPS	**Han Pijesak,Bl**	**0.97**	**90**	*e*Pg	Pg	16 20 54.4	+0.2
HAPS				*e*Sg	Sg	16 21 07.1	+0.3
HAPS	**Han Pijesak,Bl**	**0.97**	**90**	⇑*i*Pg	Pg	16 20 53.2	-1.0
HAPS				*e*Sg	Sg	16 21 06.6	-0.2
STON	**Ston**	**1.23**	**177**	*e*Pg	Pg	16 20 57.7	-1.5
STON				*e*Sg	Sg	16 21 14.7	-0.3
STON	**Ston**	**1.23**	**177**	*e*Pg	Pg	16 20 56.9	-2.3
STON				Sg	Sg	16 21 13.9	-1.1
STON	**Ston**	**1.23**	**177**	*e*Pg	Pg	16 20 57.5	-1.7
STON				*e*Sg	Sg	16 21 14.3	-0.7
HVAR	**Hvar**	**1.25**	**223**	*e*Pg	Pg	16 20 57.3	-2.3
HVAR				Sg	Sg	16 21 13.8	-1.9
UPM	**Unac-Piva**	**1.30**	**133**	*e*Pg	Pg	16 20 59.1	-1.4
UPM				*e*Sg	Sg	16 21 17.4	+0.1
BBLS	**Lazići**	**1.32**	**99**	*e*Pg	Pn	16 21 00.2	-0.7
BBLS				*e*Sg	Sg	16 21 18.0	0.0
BBLS	**Lazići**	**1.32**	**99**	*e*Pg	Pn	16 20 59.3	-1.6
BBLS				*e*Sg	Sg	16 21 17.5	-0.5
RUDO	**Rudo**	**1.36**	**110**	*e*Pg	Pn	16 20 59.4	-2.0
RUDO				*e*Sg	Sg	16 21 18.5	-0.9
BRY	**Bratogost**	**1.37**	**150**	*e*Pg	Pn	16 21 00.4	-1.3
BRY				*e*Sg	Sg	16 21 19.4	-0.3
MORI	**Morici**	**1.39**	**261**	*e*Pg	Pn	16 21 00.2	-1.7
MORI				Sg	Sb	16 21 19.9	-0.5
TEKS	**Tekeris**	**1.45**	**71**	*e*Sg	Pn	16 21 02.6	-0.1
TEKS	**Tekeris**	**1.45**	**71**	*e*Pg	Sb	16 21 22.8	+0.8
TEKS	**Tekeris**	**1.45**	**71**	*e*Sg	Sb	16 21 21.6	-0.4
DBRK	**Dubrovnik**	**1.48**	**164**	*e*Pn	Pn	16 21 02.4	-0.7
DBRK					Sn	16 21 23.3	+0.1
TREB	**Trebinje**	**1.48**	**158**	*e*Pg	Pg	16 21 04.3	+0.3
TREB				*e*Sg	Sg	16 21 24.6	+1.4
TREB	**Trebinje**	**1.48**	**158**	*e*Pg	Pn	16 21 02.2	-0.9
TREB				*e*Sg	Sg	16 21 23.2	0.0
ZIRJ	**Zirje**	**1.49**	**253**	*e*Pg	Pn	16 21 01.8	-1.3
ZIRJ				Sg	Sn	16 21 22.3	-0.7
MOSL	**Moslavina**	**1.64**	**338**	*e*Pn	Pn	16 21 05.6	+0.3
MOSL				Sn	Sb	16 21 27.1	-0.3
DIVS	**Divibare**	**1.72**	**89**	*e*Pg	Pg	16 21 08.3	-0.3
DIVS				*e*Sg	Sg	16 21 30.8	0.0
DIVS	**Divibare**	**1.72**	**89**	*e*Pn	Pn	16 21 06.0	-0.4
DIVS				*e*Sn	Sn	16 21 28.9	+0.1
HCY	**Herceg Novi**	**1.77**	**158**	*e*Pn	Pn	16 21 07.3	+0.3
HCY				*e*Sn	Sn	16 21 29.7	-0.3
DUGI	**Dugi Otok**	**1.84**	**268**	*e*Pn	Pn	16 21 08.0	-0.1
DUGI				Sn	Sb	16 21 32.7	-0.6
FRGS	**Fruska Gora**	**1.90**	**55**	*e*Pn	Pn	16 21 09.2	+0.4
FRGS				*e*Sn	Sn	16 21 32.5	-0.7
NVLJ	**Novalja**	**2.02**	**284**	*e*Pn	Pn	16 21 10.4	-0.1
NVLJ				Sn	Sn	16 21 36.5	+0.4
DRME	**Dracevica, Mon**	**2.23**	**148**	*e*Pn	Pn	16 21 13.9	+0.5
DRME				*e*Sn	Sn	16 21 40.4	-0.9
CRES	**Cresnjev**	**2.31**	**319**	*e*Pn	Pn	16 21 13.9	-0.6
CRES				*e*Sn	Sn	16 21 42.8	-0.5
CEY	**Cerknica**	**2.80**	**307**	*e*Sn	Sn	16 21 55.8	+0.4
BRJN	**Brijuni**	**2.88**	**288**	*e*Pn	Pn	16 21 22.5	+0.3
BRJN				Sn	Sn	16 21 57.6	+0.3

*IDC **30** 16:24:03.1±1.5, 7˚.94S×158˚.61E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.6/30, mbtmp3.9/5, MS4.1/2, Ms1 4.1/2, ms1mx2.9/33, Error ellipse: s-maj=34.2km s-min=26.9km az=67.0*
*NEIC **30** 16:24:13.3±1.0, 8˚.3S±0˚.2×159˚.1E±0˚.3, h98km±17km, mb4.3/5, Error ellipse: s-maj=42.2km s-min=18.9km az=71.0*

ISC 30 16:24:09.7±1.2, 8˚.1S±0˚.2×158˚.8E±0˚.2, h55km, n18, σ1ᵗ22/11, mb3.9/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.71**	**139**	Pn	**Pn**	**16 24 38.5**	**+1.3**
	42nm,0.3s,baz=228,slow=2.9,SNR=51						
HNR				Sn	**Sn**	**16 24 56.8**	**-1.2**
	47nm,0.3s,baz=127,slow=23,SNR=5.3						
WR0	**Warramunga Arr**	**26.26**	**241**	P	**P**	**16 29 41.2**	**+1.1**
WB0	**Warramunga Arr**	**26.32**	**241**	P	**P**	**16 29 41.7**	**+1.1**
WB0				IAmb	IAmb	16 29 46.4	
	comp=Z,26nm,1.7s						
WB2	**Warramunga Arr**	**26.42**	**241**	P	**P**	**16 29 42.6**	**+1.1**
WB2				IAmb	IAmb	16 29 58.0	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**26.43**	**241**	P	**P**	**16 29 42.7**	**+1.1**
	comp=Z,0.6nm,0.4s,baz=64,slow=8.8,SNR=12						
H11S2	**WAKE ISLAND Hy**	**27.58**	**16**	T	T	16 58 43.6	
	baz=195,slow=76,SNR=54						
H11S3	**WAKE ISLAND Hy**	**27.58**	**16**	T	T	16 58 45.8	
	baz=195,slow=76,SNR=61						
H11S1	**WAKE ISLAND Hy**	**27.60**	**16**	T	T	16 58 48.5	
	baz=195,slow=76,SNR=40						
AS31	**Alice Springs**	**28.41**	**234**	P	**P**	**16 29 59.2**	**-0.2**
ASAR	**Alice Springs**	**28.42**	**234**	P	**P**	**16 29 59.2**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=63,slow=10,SNR=21						
STKA	**Stephens Creek**	**28.54**	**212**	P	**P**	**16 29 59.5**	**-0.9**
	comp=Z,0.9nm,0.4s,baz=53,slow=15,SNR=7.6						
STKA	**Stephens Creek**	**28.54**	**212**	IAmb	IAmb	16 30 08.3	
	comp=Z,7.2nm,1.9s						
H11N1	**WAKE ISLAND Hy**	**28.80**	**16**	T	T	17 00 07.3	
	baz=196,slow=76,SNR=41						
H11N3	**WAKE ISLAND Hy**	**28.81**	**16**	T	T	17 00 03.8	
	baz=196,slow=76,SNR=42						
H11N2	**WAKE ISLAND Hy**	**28.82**	**16**	T	T	17 00 11.3	
	baz=196,slow=76,SNR=32						
RAR	**Rarotonga**	**41.99**	**113**	LR	LR	16 46 10.2	
	comp=Z,436nm,20.3s,baz=277,slow=31						
SONM	**Songino Array**	**72.36**	**326**	P	**P**	**16 35 28.5**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=134,slow=6.2,SNR=1.8						
SONM				LR	LR	17 06 20.5	
	comp=Z,62nm,20.3s,baz=239,slow=35						
MKAR	**Makanchi Array**	**86.76**	**318**	P	**P**	**16 36 49.0**	**+1.0**
	comp=Z,0.5nm,0.5s,baz=92,slow=5.3,SNR=5.2						

*IDC **30** 16:35:17.1±1.1, 35˚.34N×34˚.00E, h0km, mb3.7/6, mb1 3.9/11, mb1mx3.6/37, mbtmp3.8/11, ML3.8/5, Error ellipse: s-maj=29.8km s-min=16.3km az=63.0*
*HLW **30** 16:35:20.5, 35˚.18N×33˚.61E, h24km±6km, Md4.0, Ml3.9*
*ISK **30** 16:35:22.3, 35˚.14N×33˚.92E, h17km, ML3.7/29*
*NEIC **30** 16:35:22.0±2.5, 35˚.12N±0˚.02×33˚.91E±0˚.07, h55km±8km, mb4.2/1, ML4.1(CSEM), Error ellipse: s-maj=8.2km s-min=2.0km az=101.0*
*NIC **30** 16:35:23.8±0.0, 35˚.09N×33˚.84E, h52km±1km, Ml4.0/8*
*GII **30** 16:35:24.3±0.0, 34˚.88N×33˚.93E, h18km, MD3.2/10*
*GRAL **30** 16:35:25.4±0.9, 34˚.72N×34˚.07E, h0km±11km, MD3.7*

ISC 30 16:35:22.7±0.8, 35˚.03N±0˚.03×33˚.88E±0˚.03, h60km±6km, n116, σ1ᵗ34/140, mb3.7/6, 3C-7D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.14**	**106**	⇑P	**Pn**	**16 35 32.3**	**+0.5**
PARAL				S	**Sn**	**16 35 39.0**	**+0.6**
PARAL				AML	AML	16 35 40.5	
	52nm,0.3s						
PARAL				AML	AML	16 35 40.5	
	52nm,0.3s						
PARAL				AML	AML	16 35 41.4	
	40nm,0.3s						
PARAL				AML	AML	16 35 41.4	
	40nm,0.3s						
MVOU	**Mavrovouni**	**0.20**	**265**	⇑P	**Pn**	**16 35 32.1**	**0.0**
MVOU				S	**Sn**	**16 35 39.1**	**+0.2**
MVOU				AML	AML	16 35 40.2	
	69nm,0.5s						
MVOU				AML	AML	16 35 40.2	
	69nm,0.5s						
MVOU				AML	AML	16 35 40.4	
	53nm,0.4s						
MVOU				AML	AML	16 35 40.4	
	53nm,0.4s						
ATHAL	**Athalassa**	**0.41**	**285**	⇑P	**Pn**	**16 35 34.2**	**+0.5**
ATHAL				S	**Sn**	**16 35 42.7**	**+1.0**
ATHAL				AML	AML	16 35 43.2	
	200nm,0.4s						
ATHAL				AML	AML	16 35 43.2	
	200nm,0.4s						
ATHAL				AML	AML	16 35 43.3	
	99nm,0.4s						
ATHAL				AML	AML	16 35 43.3	
	99nm,0.4s						
CSS	**Mathiatis**	**0.45**	**261**	PG	**Pn**	**16 35 33.5**	**-0.7**
CSS				SG	**Sn**	**16 35 41.1**	**-1.4**
CSS	**Mathiatis**	**0.45**	**261**	P	**Pn**	**16 35 34.5**	**+0.3**
CSS	**Mathiatis**	**0.45**	**261**	Pg	**Pn**	**16 35 34.1**	**0.0**
CSS	**Mathiatis**	**0.45**	**261**		**Pn**	**16 35 34.1**	**0.0**
CSS				Sn	**Sn**	**16 35 41.3**	**-1.1**
CSS	**Mathiatis**	**0.45**	**261**	⇓P	**Pn**	**16 35 34.2**	**+0.1**
CSS				S	**Sn**	**16 35 42.6**	**+0.2**
EREN	**Erenkoy**	**0.55**	**26**	PG	**Pn**	**16 35 35.4**	**+0.2**
ASGA	**Asgata**	**0.57**	**245**	⇓P	**Pn**	**16 35 36.0**	**+0.6**
ASGA				S	**Sn**	**16 35 45.7**	**+1.1**
ASGA				AML	AML	16 35 46.8	
	23nm,0.4s						
ASGA				AML	AML	16 35 46.8	
	23nm,0.4s						
ASGA				AML	AML	16 35 47.4	
	35nm,1.0s						
ASGA				AML	AML	16 35 47.4	
	35nm,1.0s						
AKDN	**Akdeniz- Kıbrı**	**0.79**	**290**	PG	**Pn**	**16 35 38.3**	**+0.3**
AKDN				SG	**Sn**	**16 35 50.1**	**+0.9**
LEF	**Lefka**	**0.81**	**276**	PG	**Pn**	**16 35 38.9**	**+0.6**
SZAC	**Souni**	**0.86**	**252**	⇓P	**Pn**	**16 35 39.8**	**+0.8**
SZAC				S	**Sn**	**16 35 53.4**	**+2.5**
SZAC				AML	AML	16 36 03.3	
	8.5nm,0.6s						
SZAC				AML	AML	16 36 03.3	
	8.5nm,0.6s						
SZAC				AML	AML	16 36 04.1	
	10nm,0.5s						
SZAC				AML	AML	16 36 04.1	
	10nm,0.5s						
ALFC	**Alefka**	**1.05**	**277**	⇓P	**Pn**	**16 35 41.6**	**+0.2**
ALFC				AML	AML	16 35 57.1	
	16nm,0.4s						
ALFC				AML	AML	16 35 59.2	
	11nm,0.4s						
ALFC				AML	AML	16 35 59.4	
	5.5nm,0.6s						
NATA	**Nata**	**1.10**	**257**	⇓P	**Pn**	**16 35 43.3**	**+1.2**
NATA				AML	A

ASF	**Jabal al Asfar**	**3.81**	**138**	Pn		**Pn**	**16 36 20.6**	**+1.7**
	2.1nm,0.3s,baz=289,slow=11,SNR=29							
ASF				Sn		**Sn**	**16 37 03.3**	**+0.8**
	2.1nm,0.3s,baz=305,slow=2.3,SNR=4.2							
ASF	**Jabal al Asfar**	**3.81**	**138**	P		**Pn**	**16 36 22.1**	**+3.2**
WALJ	**Wala**	**3.82**	**154**	P		**Pn**	**16 36 22.6**	**+3.6**
GHAJ	**Ghor Haditha**	**3.98**	**159**	P		**Pn**	**16 36 25.0**	**+3.8**
GHAJ	**Ghor Haditha**	**3.98**	**159**	Pn		**Pn**	**16 36 23.0**	**+1.8**
LISJ	**El Lisan**	**4.01**	**160**	P		**Pn**	**16 36 25.1**	**+3.5**
RSH		**4.06**	**182**	P		**Pn**	**16 36 22.9**	**+0.5**
	baz=178							
KZIT	**Kziot**	**4.14**	**174**	P		**Pn**	**16 36 24.4**	**+1.0**
KZIT	**Kziot**	**4.14**	**174**	Pn		**Pn**	**16 36 24.8**	**+1.4**
KZIT				Sn		**Sn**	**16 37 10.6**	**+0.1**
KARJ	**KARJ**	**4.18**	**159**	Pn		Pn	16 36 13.5	-10
JDRJ	**Daraweish**	**4.55**	**160**	P		**Pn**	**16 36 33.4**	**+4.2**
ZFRI	**Zfri**	**4.60**	**166**	Pn		**Pn**	**16 36 30.8**	**+1.1**
ZFRI				Sn		**Sn**	**16 37 21.7**	**-0.1**
BRTR	**Keskin Array B**	**4.69**	**358**	Pn		Pn	16 36 26.2	-4.8
	0.2nm,0.3s,baz=190,slow=15,SNR=3.4							
PRNI	**Paran**	**4.76**	**168**	P		**Pn**	**16 36 33.9**	**+1.9**
PRNI	**Paran**	**4.76**	**168**	Pn		**Pn**	**16 36 33.6**	**+1.6**
KRMI	**Paran Flat**	**4.95**	**171**	P		**Pn**	**16 36 36.0**	**+1.5**
KRMI	**Paran Flat**	**4.95**	**171**	Pn		**Pn**	**16 36 36.1**	**+1.5**
HRFI	**Mount Harif**	**5.08**	**169**	Pn		**Pn**	**16 36 38.0**	**+1.7**
HRFI				Sn		**Sn**	**16 37 33.7**	**+0.1**
SUZ	**Suez**	**5.25**	**190**	P		**Pn**	**16 36 38.9**	**+0.3**
	baz=188							
HHAG	**Hagoal**	**5.28**	**197**	P		**Pn**	**16 36 39.0**	**-0.1**
	baz=195							
HHAG				AMP			16 37 00.0	
	baz=195							
HHAG				S		**Sn**	**16 37 36.5**	**-2.2**
	baz=195							
KOT	**Kottamia**	**5.38**	**199**	P		**Pn**	**16 36 40.1**	**-0.3**
	baz=197							
KOT				AMP			16 37 00.0	
	baz=197							
KOT				S		**Sn**	**16 37 38.1**	**-2.9**
	baz=197							
EIL	**Elat**	**5.42**	**170**	Pn		**Pn**	**16 36 41.9**	**+0.9**
	1.2nm,0.3s,baz=192,slow=6.3,SNR=14							
EIL				Sn		**Sn**	**16 37 41.1**	**-1.0**
	4.3nm,0.3s,baz=70,slow=20,SNR=15							
EIL	**Elat**	**5.42**	**170**	Pn		**Pn**	**16 36 42.2**	**+1.2**
EIL				Sn		**Sn**	**16 37 42.3**	**+0.2**
KARP	**Karpathos**	**5.51**	**277**	Pn		**Pn**	**16 36 41.4**	**-0.8**
ZNM	**Zenema**	**5.70**	**189**	P		**Pn**	**16 36 45.1**	**+0.2**
	baz=187							
ZNM				S		**Sn**	**16 37 47.2**	**-1.8**
	baz=187							
GLL	**Jalalah**	**5.74**	**199**	P		**Pn**	**16 36 45.1**	**-0.3**
	baz=197							
HSAF	**As Saff**	**5.75**	**201**	P		**Pn**	**16 36 45.2**	**-0.3**
	baz=198							
GRB	**Gharib**	**6.81**	**188**	P		**Pn**	**16 36 59.6**	**-0.3**
	baz=187							
SANT	**Santorini**	**6.98**	**283**	Pn		**Pn**	**16 37 00.9**	**-1.4**
IDI	**Anoyia**	**7.36**	**275**	Pn		**Pn**	**16 37 06.7**	**-0.9**
	6.9nm,0.3s,baz=112,slow=5.2,SNR=86							
IDI				Sn		**Sn**	**16 38 24.7**	**-5.1**
	8.9nm,0.3s,baz=20,slow=20,SNR=15							
IDI	**Anoyia**	**7.36**	**275**			**Pn**	**16 37 06.4**	**-1.2**
SLUM	**Salum**	**8.07**	**246**	P		**Pn**	**16 37 14.8**	**-2.3**
	baz=245							
SWA2		**9.18**	**233**	P		**Pn**	**16 37 31.2**	**-1.2**
	baz=232							
ITM	**Ithomi**	**9.90**	**286**	Pn		**Pn**	**16 37 41.6**	**-0.7**
SCTE	**Santa Cesarea**	**13.21**	**297**	Pn		**Pn**	**16 38 25.8**	**-1.6**
TIP	**Timpagrande**	**14.27**	**292**	Pn		Pn	16 38 38.2	-3.5
VYHS	**Vyhne**	**17.47**	**325**	*eP*		P	16 39 32.0	+9.4
GEYT	**Alibeck**	**19.69**	**74**	P		**P**	**16 39 46.7**	**-0.3**
	0.1nm,0.3s,baz=291,slow=13,SNR=1.7							
GERES	**GERESS Array B**	**20.30**	**319**	P		**P**	**16 39 53.8**	**+0.2**
	0.7nm,0.4s,baz=131,slow=8.5,SNR=8.8							
DAVOX	**Davos/Dischmat**	**21.51**	**310**	P		**P**	**16 40 08.2**	**+1.4**
	1.1nm,0.4s,baz=114,slow=10.0,SNR=2.5							
WLF	**Walferdange**	**24.99**	**314**	P		P	16 40 37.5	-3.2
WLF				IAmb		IAmb	16 41 10.3	
	comp=Z,8.3nm,1.1s							
FINES	**FINESS Array B**	**26.89**	**352**	P		**P**	**16 40 56.8**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=149,slow=11,SNR=13							
HFS	**Hagfors**	**28.33**	**339**	P		P	16 41 08.6	-2.0
	comp=Z,2.0nm,0.8s,baz=174,slow=16,SNR=3.9							
ARCES	**ARCESS Array B**	**34.87**	**355**	P		P	16 42 06.9	-0.9
	comp=Z,0.7nm,0.4s,baz=166,slow=9.2,SNR=11							
ILAR	**Eielson Array**	**80.52**	**0**	P		**P**	**16 47 29.0**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=343,slow=5.8,SNR=3.1							

*NEIC **30** 16:46:43.9±0.5,32.°52S±0.°05×177.°5W±0.°2, h10km±1km, mb4.8/12, Error ellipse: s-maj=30.6km s-min=8.6km az=86.0*

*IDC **30** 16:46:47.8±2.4,32.°24S×178.°27W, h0km, mb4.5/3, mb1 4.6/4, mb1mx3.9/31, mbtmp4.5/4, ML4.5/1, MS3.6/4, Ms1 3.6/4, ms1mx3.0/29, Error ellipse: s-maj=61.2km s-min=33.9km az=141.0*

ISC 30 16:46:45.6±0.9,32.°54S±0.°05×177.°5W±0.°1, h20km, n62, σ1s87/63, mb4.8/8, MS3.7/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.30**	**353**	P	**Pn**	**16 47 35.4**	**-0.6**
GLKZ				S	**Sn**	**16 48 08.7**	**-5.9**
RAO	**Raoul Island**	**3.31**	**353**	Pn	**Pn**	**16 47 37.0**	**+0.8**
	57nm,0.3s,baz=5.9,slow=22,SNR=1.9						
RAO				Sn	**Sn**	**16 48 09.8**	**-5.1**
	52nm,0.3s,baz=135,slow=22,SNR=1.8						
RAO	**Raoul Island**	**3.31**	**353**		**Pn**	**16 47 35.4**	**-0.8**
RIZ	**Raoul Island**	**3.31**	**353**	P	Pn	16 47 30.7	-5.6
RIZ				S	**Sn**	**16 48 13.0**	**-2.1**
WMGZ	**Waiomatatini S**	**6.26**	**212**	P	**Pn**	**16 48 18.1**	**+1.4**
WMGZ				S	**Sn**	**16 49 25.3**	**-2.5**
PKGZ	**Pakihiroa**	**6.47**	**213**	P	**Pn**	**16 48 18.8**	**-0.9**
PKGZ				S	**Sn**	**16 49 30.2**	**-2.8**
HAZ	**Te Kaha**	**6.50**	**216**	P	**Pn**	**16 48 20.6**	**+0.4**
HAZ				S	**Sn**	**16 49 31.9**	**-1.8**
PUZ	**Puketiti**	**6.54**	**211**	P	**Pn**	**16 48 19.1**	**-1.5**
PUZ				S	**Sn**	**16 49 31.8**	**-2.9**
RUGZ	**Raukumara Rang**	**6.72**	**215**	P	**Pn**	**16 48 22.9**	**-0.3**
RUGZ				S	**Sn**	**16 49 39.0**	**-0.3**
TWGZ	**Tauwhareparae**	**6.75**	**212**	P	**Pn**	**16 48 24.3**	**+0.8**
CNGZ	**Carnagh Statio**	**6.91**	**210**	P	**Pn**	**16 48 24.3**	**-1.3**
TKGZ	**Te Karaka**	**7.02**	**212**	P	**Pn**	**16 48 28.4**	**+1.2**
MWZ	**Matawai**	**7.08**	**214**	P	**Pn**	**16 48 26.6**	**-1.5**
URZ	**Urewera**	**7.23**	**216**	P	**Pn**	**16 48 28.6**	**-1.4**
URZ	**Urewera**	**7.23**	**216**	Pn	**Pn**	**16 48 30.7**	**+0.6**
RIGZ	**Rimuhau**	**7.28**	**211**	P	**Pn**	**16 48 29.7**	**-1.2**
SNGZ	**Shannon Statio**	**7.53**	**213**	P	**Pn**	**16 48 34.2**	**-0.1**
RTZ	**Ruatahuna**	**7.57**	**215**	P	**Pn**	**16 48 34.9**	**+0.1**
KNZ	**Kokohu**	**7.58**	**210**	P	**Pn**	**16 48 32.4**	**-2.5**
WCZ	**Waipu Caves**	**7.59**	**241**	P	**Pn**	**16 48 36.6**	**+1.5**
MHGZ	**Mahia Peninsul**	**7.60**	**208**	P	**Pn**	**16 48 34.0**	**-1.2**
RAHZ	**Arahi**	**7.76**	**213**	P	**Pn**	**16 48 38.5**	**+1.1**
WHHZ	**Waihua**	**7.82**	**212**	P	**Pn**	**16 48 40.6**	**+2.4**
MTHZ	**Maungataniwha**	**7.82**	**215**	P	**Pn**	**16 48 40.6**	**+2.3**
OUZ	**Omahuta**	**7.91**	**248**	P	**Pn**	**16 48 41.2**	**+1.8**
OUZ	**Omahuta**	**7.91**	**248**	Pn	**Pn**	**16 48 41.6**	**+2.1**
NMHZ	**Naumai**	**8.03**	**214**	P	**Pn**	**16 48 41.6**	**+0.4**
ARHZ	**Aropaoanui**	**8.08**	**212**	P	**Pn**	**16 48 41.9**	**+0.2**
BKZ	**Black Stump Fm**	**8.24**	**215**	P	**Pn**	**16 48 44.5**	**+0.6**
BKZ	**Black Stump Fm**	**8.24**	**215**	Pn	**Pn**	**16 48 42.6**	**-1.4**
MCHZ	**McNeill Hill**	**8.36**	**213**	P	**Pn**	**16 48 45.5**	**-0.1**
KAHZ	**Kahuranaki**	**8.57**	**211**	P	**Pn**	**16 48 45.9**	**-2.6**
BHHZ	**Black Hill Sta**	**8.70**	**215**	P	**Pn**	**16 48 50.4**	**+0.1**
BFZ	**Birch Farm**	**9.57**	**210**	Pn	**Pn**	**16 49 00.6**	**-1.7**
MSWZ	**Moikau Station**	**10.60**	**211**		Pn	16 49 03.5	-13
QRZ	**Quartz Range**	**11.53**	**221**		Pn	16 49 46.4	+17
LTZ	**Lake Taylor**	**13.06**	**216**	Pn	**Pn**	**16 49 49.4**	**-0.5**
OXZ	**Oxford**	**13.58**	**215**	Pn	**Pn**	**16 49 55.5**	**-1.5**
DZM	**Mont Dzumac**	**17.69**	**302**	LR	LR	16 56 23.9	
	comp=Z,153nm,18.2s,baz=194,slow=34						
STKA	**Stephens Creek**	**34.51**	**260**	P	**P**	**16 53 33.7**	**+1.2**
CTAO	**Charters Tower**	**34.66**	**282**	P	**P**	**16 53 34.9**	**+1.0**
KRVT	**Keravat (AS076**	**40.05**	**308**	P	**P**	**16 54 19.0**	**-0.6**
	21nm,0.7s,baz=166,slow=4.2,SNR=5.9						
AS31	**Alice Springs**	**43.50**	**269**	P	**P**	**16 54 47.1**	**-0.8**
ASAR	**Alice Springs**	**43.50**	**269**	P	**P**	**16 54 47.4**	**-0.6**
	0.7nm,0.4s,baz=110,slow=8.0,SNR=16						
WR0	**Warramunga Arr**	**44.51**	**274**	P	**P**	**16 54 55.3**	**-0.7**
WR0				IAmb	IAmb	16 54 57.6	
	comp=Z,16nm,1.4s						
WB2	**Warramunga Arr**	**44.67**	**274**	P	**P**	**16 54 56.7**	**-0.6**
WB2				IAmb	IAmb	16 55 06.7	
	comp=Z,21nm,1.4s						
WRAB	**Tennant Creek**	**44.68**	**274**	P	**P**	**16 54 56.5**	**-0.9**
WRA	**Warramunga Arr**	**44.69**	**274**	P	**P**	**16 54 56.8**	**-0.6**
	comp=Z,2.5nm,0.4s,baz=114,slow=8.0,SNR=55						
WB0	**Warramunga Arr**	**44.72**	**274**	P	**P**	**16 54 57.0**	**-0.6**
WB0				IAmb	IAmb	16 55 01.1	
	comp=Z,28nm,1.6s						
FORT	**Forrest**	**45.99**	**257**	P	**P**	**16 55 07.0**	**-0.6**
VNDA	**Vanda**	**46.02**	**186**	P	**P**	**16 55 05.9**	**-1.3**
VNDA				IAmb	IAmb	16 55 34.2	
	comp=Z,9.3nm,1.9s						
FITZ	**Fitzroy Crossi**	**52.85**	**271**	LR	LR	17 17 38.3	
	comp=Z,65nm,18.6s,baz=202,slow=36						
FITZ	**Fitzroy Crossi**	**52.85**	**271**	P	**P**	**16 56 01.4**	**+1.2**
MORW	**Morawa**	**56.40**	**255**	P	**P**	**16 56 24.2**	**-1.6**
QSPA	**South Pole Qui**	**57.57**	**180**	P	**P**	**16 56 36.3**	**+2.6**
QSPA				IAmb	IAmb	16 56 55.5	
	comp=Z,29nm,2.0s						
BATI	**Baumata**	**58.41**	**278**	LR	LR	17 21 58.4	
	comp=Z,71nm,19.4s,baz=178,slow=37						
PAF	**Port-aux-Franc**	**78.75**	**218**	P	**P**	**16 58 46.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**94.55**	**289**	LR	LR	17 46 05.7	
	comp=Z,16nm,18.1s,baz=220,slow=38						
ARCES	**ARCESS Array B**	**140.78**	**347**	PKP	**PKiKP**	**17 06 19.1**	**+3.6**
	comp=Z,2.6nm,1.1s,baz=48,slow=1.3,SNR=1.7						
FINES	**FINESS Array B**	**147.31**	**339**	PKPbc	**PKPab**	**17 06 29.9**	**+1.1**
	comp=Z,1.4nm,0.4s,baz=36,slow=4.4,SNR=18						
NB2	**NORSAR Subarra**	**150.93**	**351**	PKP	**PKiKP**	**17 06 40.5**	**+3.8**
	comp=Z,0.1nm,0.4s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.93**	**351**	PKPbc	**PKiKP**	**17 06 40.3**	**+3.5**
	comp=Z,0.3nm,0.5s,baz=15,slow=4.1,SNR=2.6						

NEIC 30 16:54:01.6±1.8,32.°51N±0.°06×109.°13W±0.°04, h5km±2km, ML3.5/34, Error ellipse: s-maj=10.4km s-min=6.1km az=180.0, Eastern Arizona

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
121A	**Cookes Peak, D**	**1.14**	**88**		Pn	16 54 24.2	-0.2
TUC	**Tucson**	**1.41**	**263**		Pn	16 54 27.8	-0.2
TUC				IAML		16 54 49.9	
	1µm,0.3s						
TUC				IAML		16 54 50.1	
	603nm,0.3s						
Y22D	**IRIS PASSCAL I**	**2.42**	**49**	Pn	Pn	16 54 42.0	-0.1
LENM	**Lemitar**	**2.45**	**47**	Pn	Pn	16 54 38.6	-3.8
W18A	**Petrified Fore**	**2.66**	**349**		Pn	16 54 45.2	-0.1
W18A				IAML		16 55 25.9	
	comp=E,279nm,0.4s						
W18A				IAML		16 55 32.2	
	comp=N,218nm,1.2s						
BNM	**Barren Site**	**2.66**	**51**	Pn	Pn	16 54 44.6	-0.9
X16A	**Lo Mia Camp, P**	**2.71**	**315**	Pn	Pn	16 54 46.3	+0.2
X16A				IAML		16 55 29.5	
	comp=N,142nm,0.5s						
214A	**Organ Pipe Nat**	**3.17**	**261**		Pn	16 54 51.8	-0.4
214A				IAML		16 55 45.4	
	comp=N,152nm,0.5s						
214A				IAML		16 55 47.0	
	comp=E,128nm,0.8s						
MNTX	**Cornudas Mount**	**3.28**	**103**		Pn	16 54 53.9	+0.1
MNTX				IAML		16 55 48.5	
	comp=E,126nm,0.4s						
MNTX				IAML		16 55 48.7	
	comp=E,89nm,0.5s						
ANMO	**Albuquerque**	**3.30**	**42**	Pn	Pn	16 54 53.3	-0.9
WUAZ	**Wupatki**	**3.53**	**329**	Pn	Pn	16 54 58.2	+0.9
Y14A	**Wickenburg**	**3.55**	**295**		Pn	16 54 57.2	-0.2
Y14A				IAML		16 55 59.5	
	comp=E,108nm,0.4s						
Y14A				IAML		16 56 00.2	
	comp=N,78nm,0.5s						
HSIG		**3.81**	**205**	Pn	Pn	16 54 59.3	-1.6
HSIG				IAML		16 56 08.1	
	comp=E,49nm,0.4s						
113A	**Mohawk Valley,**	**3.92**	**275**	Pn	Pn	16 55 01.6	-0.8
GDL2	**Guadalupe Moun**	**4.05**	**93**		Pn	16 55 05.7	+1.3
CLNB	**Carlsbad**	**4.45**	**92**	Pn	Pn	16 55 11.2	+1.3
CPRX	**Cap Rock**	**4.47**	**82**	Pn	Pn	16 55 11.8	+1.7
Y12C	**Blythe**	**4.69**	**287**	Pn	Pn	16 55 13.3	+0.2
Y12C				IAML		16 56 40.3	
	comp=E,24nm,0.4s						
Y12C				IAML		16 56 42.2	
	comp=N,38nm,0.6s						
MVCO	**Mesa Verde**	**4.72**	**6**	Pn	Pn	16 55 15.0	+1.2
W13A	**Hualapai Mount**	**4.73**	**304**	Pn	Pn	16 55 14.4	+0.6
GLA	**Glamis**	**4.83**	**278**	Pn	Pn	16 55 15.6	+0.6
GLA				IAML		16 56 48.4	
	comp=E,54nm,0.6s						
GLA				IAML		16 56 53.6	
	comp=N,40nm,0.6s						
MSTX	**Muleshoe**	**5.53**	**73**	Pn	Pn	16 55 25.7	+1.0
S22A	**4UR Ranch, Cre**	**5.56**	**19**	Pn	Pn	16 55 25.4	+0.1
PV01	**Paradox Valley**	**5.64**	**5**	Pn	Pn	16 55 25.8	-0.5
PV13	**Radium Mtn., P**	**5.65**	**3**	Pn	Pn	16 55 26.1	-0.3
TX31	**Lajitas Ar. Si**	**5.66**	**123**	Pn	Pn	16 55 26.8	+0.3
TX32	**Lajitas Array**	**5.66**	**123**	Pn	Pn	16 55 26.2	-0.3
PV02	**Paradox Valley**	**5.70**	**3**	Pn	Pn	16 55 26.3	-0.9
PV18	**Skein Mesa, Pa**	**5.73**	**2**	Pn	Pn	16 55 27.1	-0.4
PV03	**Paradox Valley**	**5.74**	**2**	Pn	Pn	16 55 27.3	-0.4
PV12	**Saucer Basin,**	**5.81**	**3**	Pn	Pn	16 55 28.6	0.0
PV14	**Lion Creek, Pa**	**5.86**	**1**	Pn	Pn	16 55 29.2	-0.2
PV04	**Paradox Valley**	**5.88**	**2**	Pn	Pn	16 55 29.4	-0.2
MTPU	**Mount Pierson**	**6.06**	**337**	Pn	Pn	16 55 31.9	-0.4
XPFO	**Pion Flat**	**6.25**	**282**	Pn	Pn	16 55 34.4	-0.2
PFO	**Pinyon Flats O**	**6.25**	**282**	Pn	Pn	16 55 34.4	-0.2
SHPR	**Sheep Range**	**6.38**	**310**		Pn	16 55 37.6	+1.2
SRU	**San Rafael Swe**	**6.69**	**351**	Pn	Pn	16 55 40.1	-0.6
TPNV	**Topopah Spring**	**7.35**	**309**	Pn	Pn	16 55 50.6	+0.8

*IDC **30** 16:53:24.4±9.2, 30.°24S×177.°92W, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.4/33, mbtmp3.4/2, MS3.2/1, Ms1 3.2/1, ms1mx2.6/16, Error ellipse: s-maj=398.3km s-min=59.1km az=155.0*

ISC 30 16:54:13.5±2.3, 30.°8S±0.°1×178.°9W±0.°3, h450km, n19, σ1s50/29, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**7.34**	**197**	P	**S**	**16 56 00.9**	**-0.8**
WMGZ				S	**S**	**16 57 31.8**	**+1.4**
HAZ	**Te Kaha**	**7.46**	**201**	P	**S**	**16 56 03.0**	**+0.1**
HAZ				S	**S**	**16 57 33.0**	**+0.3**
PKGZ	**Pakihiroa**	**7.50**	**199**	P	**S**	**16 56 02.9**	**-0.5**
PKGZ				S	**S**	**16 57 33.0**	**-0.6**
PUZ	**Puketiti**	**7.62**	**197**	P	**S**	**16 56 01.6**	**-3.1**
PUZ				S	**S**	**16 57 35.1**	**-0.9**
RUGZ	**Raukumara Rang**	**7.69**	**201**	P	**S**	**16 56 05.8**	**+0.3**
RUGZ				S	**S**	**16 57 35.0**	**-2.4**
TWGZ	**Tauwhareparae**	**7.80**	**199**	P	**S**	**16 56 09.1**	**+2.5**
TWGZ				S	**S**	**16 57 40.0**	**+0.6**
CNGZ	**Carnagh Statio**	**8.03**	**197**	P	**S**	**16 56 09.1**	**+0.2**
CNGZ				S	**S**	**16 57 45.2**	**+1.4**
MWZ	**Matawai**	**8.07**	**201**	P	**S**	**16 56 08.5**	**-1.0**
MWZ				S	**S**	**16 57 44.6**	**-0.2**
TKGZ	**Te Karaka**	**8.08**	**199**	P	**S**	**16 56 06.3**	**-3.2**
TKGZ				S	**S**	**16 57 44.1**	**-0.7**
URZ	**Urewera**	**8.14**	**203**	P	**S**	**16 56 09.8**	**-0.4**
URZ				S	**S**	**16 57 47.6**	**+1.6**
RIGZ	**Rimuhau**	**8.35**	**198**	P	**S**	**16 56 13.0**	**+0.4**
RIGZ				S	**S**	**16 57 50.8**	**+0.4**
MUGZ	**Murupara**	**8.45**	**204**	P	**S**	**16 56 13.4**	**-0.2**
RTZ	**Ruatahuna**	**8.50**	**202**	P	**S**	**16 56 12.7**	**-1.6**
PRGZ	**Paritu Road**	**8.52**	**197**	P	**S**	**16 56 17.7**	**+3.4**
SNGZ	**Shannon Statio**	**8.54**	**200**	P	**S**	**16 56 13.7**	**-0.9**
ASAR	**Alice Springs**	**42.33**	**268**	P	**P**	**17 01 26.9**	**+0.3**
	0.5nm,1.0s,baz=102,slow=7.2,SNR=4.8						
WRA	**Warramunga Arr**	**43.36**	**273**	P	**P**	**17 01 35.1**	**+0.4**
	1.0nm,0.9s,baz=110,slow=7.9,SNR=2.3						
JAY	**Jayapura**	**47.41**	**298**	LR	LR	17 19 24.4	
	comp=Z,28nm,20.6s,baz=218,slow=33						
FINES	**FINESS Array B**	**145.26**	**339**	PKPbc	**PKiKP**	**17 13 02.0**	**-0.2**
	2.9nm,1.0s,baz=28,slow=4.7,SNR=7.3						

*NEIC **30** 17:00:24.1±2.5, 17.°37N±0.°05×101.°38W±0.°06, h17km±1km, mb4.2/11, Md4.3/30(MEX), Error ellipse: s-maj=10.6km s-min=3.3km az=48.0*

*MEX **30** 17:00:25.1±3.0, 17.°35N×101.°41W, h5km, MD4.3*

ISC 30 17:00:24.8±0.9, 17.°64N±0.°03×101.°24W±0.°03, h10km±7km, n64, σ1s45/68, mb4.0/7, MS3.2/7, 1D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.22**	**262**		**Pg**	**17 00 29.6**	**+0.2**
ZIIG					**Sg**	**17 00 33.5**	**+1.0**
ZIIG	**Zihuatanejo**	**0.22**	**262**	*eP*	**Pg**	**17 00 29.6**	**+0.2**
ZIIG				*i* S	**Sg**	**17 00 33.5**	**+1.0**
ARIG	**Puente Sto Nin**	**1.06**	**53**		**Pn**	**17 00 47.2**	**+1.4**
ARIG	**Puente Sto Nin**	**1.06**	**53**	*ieP*	**Pn**	**17 00 47.2**	**+1.4**
	baz=215,slow=14						
ARIG				*i* S	**Sn**	**17 01 04.2**	**+3.6**
CAIG	**El Cayaco**	**1.09**	**122**		**Pg**	**17 00 43.9**	**-2.0**
CAIG					**Sg**	**17 00 59.1**	**-1.0**
CAIG	**El Cayaco**	**1.09**	**122**	*eP*	**Pg**	**17 00 43.9**	**-2.0**
CAIG				*i* S	**Sg**	**17 00 59.3**	**-0.9**
ACP2	**Acapulco**	**1.50**	**120**		**Pn**	**17 00 50.5**	**-1.2**
ACP2					**Sn**	**17 01 10.9**	**-0.4**
ACP2	**Acapulco**	**1.50**	**120**	*i* P	**Pn**	**17 00 50.5**	**-1.2**
ACP2				*i* S	**Sn**	**17 01 09.9**	**-1.4**
MEIG	**Mezcala**	**1.57**	**79**		**Pb**	**17 00 54.2**	**+0.2**
MEIG					**Sg**	**17 01 16.4**	**+1.1**
MEIG	**Mezcala**	**1.57**	**79**	*eP*	**Pb**	**17 00 54.2**	**+0.2**
MEIG				*i* S	**Sg**	**17 01 16.4**	**+1.1**
PLIG	**Platanillo**	**1.81**	**65**		**Pb**	**17 00 58.0**	**-0.1**
PLIG	**Platanillo**	**1.81**	**65**	*eP*	**Pb**	**17 00 58.0**	**-0.1**
URUA	**Uruapan**	**1.94**	**336**		**Pn**	**17 00 58.0**	**-0.1**
URUA					**Sn**	**17 01 21.9**	**-0.7**
URUA	**Uruapan**	**1.94**	**336**	*eP*	**Pn**	**17 00 58.0**	**-0.1**
URUA				*eS*	**Sg**	**17 01 25.1**	**-2.4**
MOIG	**Morelia**	**2.03**	**1**		**Pb**	**17 01 01.5**	**-0.5**
MOIG	**Morelia**	**2.03**	**1**		**Sb**	**17 01 26.8**	**-0.6**
MOIG	**Morelia**	**2.03**	**1**	*i* P	**Pb**	**17 01 01.6**	**-0.3**
MOIG				*i* S	**Sg**	**17 01 28.8**	**-1.4**
MAVM	**Malinalco, Edo**	**2.11**	**51**		**Pg**	**17 01 05.5**	**+0.1**
MAVM	**Malinalco, Edo**	**2.11**	**51**	*eP*	**Pg**	**17 01 05.5**	**+0.1**
TOVM	**TOLUCA**	**2.21**	**42**		**Pb**	**17 01 05.3**	**+0.2**
TOVM	**TOLUCA**	**2.21**	**42**	*eP*	**Pb**	**17 01 05.3**	**+0.2**
YAIG	**Yautepec**	**2.40**	**59**		**Pn**	**17 01 05.9**	**+1.6**
YAIG					**Sn**	**17 01 31.9**	**-1.8**
YAIG	**Yautepec**	**2.40**	**59**	*eP*	**Pn**	**17 01 05.9**	**+1.6**
YAIG				*i* S	**Sb**	**17 01 38.4**	**+0.6**
UNM	**Universidad Na**	**2.58**	**49**		**Pb**	**17 01 10.7**	**-0.6**
UNM	**Universidad Na**	**2.58**	**49**	*i* P	**Pb**	**17 01 10.8**	**-0.6**
UNM				*i* S	**Sb**	**17 01 43.8**	**+0.6**
ACIG	**Acambay**	**2.66**	**29**	*eP*	**Pb**	**17 01 10.2**	**-2.5**
AMVM	**AMECAMECA**	**2.76**	**57**		Pn	17 01 02.7	-6.7
AMVM	**AMECAMECA**	**2.76**	**57**	*eP*	**Pb**	**17 01 12.7**	**-1.7**
PTVM	**Pico Tres Padr**	**2.80**	**46**		**Pb**	**17 01 13.1**	**-2.0**
PTVM	**Pico Tres Padr**	**2.80**	**46**	*i* P	**Pb**	**17 01 13.1**	**-2.0**
PPM	**Popocatepetl**	**2.86**	**60**	*i* P	**Pb**	**17 01 13.8**	**-2.4**
PPM				*i* S	**Sb**	**17 01 51.4**	**-0.1**
ZUVM	**ZUMPANGO**	**2.99**	**43**		**Pn**	**17 01 09.0**	**-3.5**
ZUVM	**ZUMPANGO**	**2.99**	**43**	*eP*	**Pb**	**17 01 19.0**	**+0.7**
VTVM	**Tizayuca**	**3.15**	**47**	*eP*	**Pg**	**17 01 24.6**	**-0.7**
ZAIG	**Z

AMKA	Amchitka	0.86	136	Pn		Pn	17 01 07.6	-0.2
GAEA	Gareloi East	1.81	96			Pn	17 01 17.9	-0.2
TASE	Tanaga Southea	2.25	93			Pn	17 01 23.3	-0.2
TAFP	Tanaga Falls P	2.27	91			Pn	17 01 23.4	-0.4
TAFP						Sn	17 01 51.0	-1.2
TAPA	Tanaga Point A	2.38	93			Pn	17 01 24.9	-0.4
SMY	Shemya	2.71	287			Pn	17 01 28.4	-0.9
SMY	Shemya	2.71	287			Sn	17 02 00.9	-1.1
KIMD	Kanaga Island	2.75	93			Pn	17 01 29.4	-0.5
KICM	Kanaga Island	2.76	90			Pn	17 01 29.9	-0.1
KIKV	Kanaga Island	2.78	91			Pn	17 01 30.1	-0.2
ADK	Adak	3.08	90			Pn	17 01 33.4	-0.8
GSTD	Great Sitkin T	3.40	87			Pn	17 01 37.6	-0.9
GSTR	Great Sitkin T	3.46	86			Pn	17 01 38.1	-0.6
GSMY	Great Sitkin M	3.46	87			Pn	17 01 38.3	-0.8
ATKA	Atka Island	4.60	84			Pn	17 01 53.8	-0.6
KOFP	Korovin Flat P	4.66	84			Pn	17 01 55.2	-0.1
PETK	Petropavlovsk- 0.4nm,0.3s,baz=91,slow=16,SNR=17	12.61	283	P		Pn	17 03 42.2	+0.5
SVW2	Sparrevohn	16.91	47	P		Pn	17 04 36.3	+0.6
TTA	Tatalina	17.47	41	P		Pn	17 04 42.8	+0.3
KDAK	Kodiak Island 1.5nm,0.3s,baz=283,slow=6.2,SNR=20	17.61	59	P		P	17 04 41.3	-2.0
CNPM	China Poot	18.57	54	P		P	17 04 54.6	+0.8
BRLK	Bradley Lake	18.79	54	P		P	17 04 56.8	+0.6
SKT	Skwentna	19.03	47	P		Pn	17 05 00.5	-0.5
SKT				IAmb		IAmb	17 05 07.1	
	comp=Z,8.5nm,0.9s							
SEW	Seward	19.56	53	P		P	17 05 05.2	+0.7
SEW				IAmb		IAmb	17 05 09.1	
	comp=Z,16nm,1.2s							
BPAW	Bear Paw Mtn.	20.01	41	P		P	17 05 09.7	+0.3
GHO	Glory Hole Cre	20.16	48	P		P	17 05 11.4	+0.2
GHO				IAmb		IAmb	17 05 13.8	
	comp=Z,3.4nm,0.6s							
SML	Sawmill	20.44	48	P		P	17 05 15.7	+1.5
SML				IAmb		IAmb	17 05 17.7	
	comp=Z,8.0nm,1.0s							
GLI	Glacier Island	20.84	51	P		P	17 05 18.4	+0.1
GLI				IAmb		IAmb	17 05 18.6	
	comp=Z,6.9nm,0.6s							
SCM	Sheep Creek Mo	20.91	49	P		P	17 05 20.3	+1.1
SCM				IAmb		IAmb	17 05 50.9	
	comp=Z,10.0nm,1.1s							
ILAR	Eielson Array comp=Z,0.4nm,0.4s,baz=246,slow=8.4,SNR=8.2	21.91	41	P		P	17 05 29.6	-0.1
GLB	Gilahina Butte	22.50	50	P		P	17 05 36.4	+0.6
GLB				IAmb		IAmb	17 06 04.3	
	comp=Z,8.0nm,1.5s							
CRQM	Cirque	22.75	52	P		P	17 05 39.3	+1.0
CRQM				IAmb		IAmb	17 05 41.4	
	comp=Z,7.3nm,0.8s							
SCRK	Sand Creek	22.89	44	P		P	17 05 39.1	-0.6
YAH	Yahtse	23.41	53	P		P	17 05 45.1	+0.6
BARN	Barnard Glacie	23.49	52	P		P	17 05 45.3	0.0
BARN				IAmb		IAmb	17 05 47.5	
	comp=Z,5.3nm,0.9s							
EGAK	Eagle	24.27	43	P		P	17 05 52.5	+0.4
EGAK				IAmb		IAmb	17 05 53.6	
	comp=Z,5.7nm,0.8s							
DAWY	Dawson	24.89	45	P		P	17 05 58.0	+0.2
INK	Inuvik	27.99	36	P		P	17 06 26.5	+1.1
	comp=Z,0.6nm,0.4s,baz=95,slow=9.3,SNR=2.2							
INK	Inuvik	27.99	36	IAmb		IAmb	17 06 55.7	
	comp=Z,11nm,1.9s							
KLR	Kul'dur	29.31	283	P		P	17 06 37.2	-0.1
	comp=Z,0.9nm,0.7s,baz=105,slow=18,SNR=2.1							
H11N2	WAKE ISLAND Hy baz=11,slow=76,SNR=13	33.42	200	T		T	17 42 58.1	
H11N3	WAKE ISLAND Hy baz=11,slow=76,SNR=7.9	33.43	200	T		T	17 42 50.6	
H11N1	WAKE ISLAND Hy baz=11,slow=76,SNR=6.7	33.44	200	T		T	17 43 00.2	
H11S1	WAKE ISLAND Hy baz=72,slow=74,SNR=7.2	34.65	200	T		T	17 44 23.9	
H11S2	WAKE ISLAND Hy	34.67	200	T		T	17 44 24.5	
H11S3	WAKE ISLAND Hy baz=13,slow=74,SNR=6.9	34.67	200	T		T	17 44 34.6	
YKA	Yellowknife Ar comp=Z,0.8nm,0.6s,baz=281,slow=8.2,SNR=6.4	36.09	47	P		P	17 07 36.3	+0.1
SONM	Songino Array comp=Z,0.4nm,0.5s,baz=158,slow=41,SNR=2.4	44.78	295	P		P	17 08 49.0	+1.0
PDAR	Pinedale Array comp=Z,0.3nm,0.6s,baz=29,slow=3.4,SNR=3.7	47.80	71	P		P	17 09 10.8	-1.0
ZALV	Zalesovo Beam comp=Z,0.6nm,0.5s,baz=37,slow=5.9,SNR=4.4	52.31	312	PcP		PcP	17 10 55.4	+0.7
MKAR	Makanchi Array comp=Z,0.5nm,0.5s,baz=46,slow=5.6,SNR=8.5	58.25	307	P		P	17 10 27.3	-0.7
FINES	FINESS Array B comp=Z,1.2nm,0.9s,baz=39,slow=9.5,SNR=2.1	64.77	346	P		P	17 11 11.5	0.0
AKASG	Malin Array Be	74.39	340	P		P	17 12 09.7	-1.0
	comp=Z,0.7nm,0.4s,baz=22,slow=6.6,SNR=4.2							
WRA	Warramunga Arr comp=Z,1.3nm,0.6s,baz=31,slow=5.7,SNR=9.8	81.26	221	P		P	17 12 48.4	-0.6
FITZ	Fitzroy Crossi comp=Z,4.7nm,1.0s,baz=156,slow=18,SNR=2.4	83.47	230	P		P	17 13 01.2	+0.7
ASAR	Alice Springs comp=Z,0.6nm,0.7s,baz=18,slow=5.6,SNR=11	84.78	220	P		P	17 13 07.4	+0.4
STKA	Stephens Creek comp=Z,1.4nm,0.6s,baz=343,slow=8.0,SNR=6.2	89.52	211	P		P	17 13 30.9	+1.2
STKA	Stephens Creek comp=Z,2.5nm,0.7s,baz=89,slow=4.8,SNR=7.9	89.52	211	IAmb		IAmb	17 14 15.2	
	comp=Z,3.0nm,1.4s							
MAW	Mawson	145.88	218	PKPbc		PKPab	17 20 10.7	-0.2
BOSA	Boshof comp=Z,1.7nm,0.6s,baz=50,slow=2.8,SNR=8.4	149.23	309	PKPbc		PKPbc	17 20 20.9	+0.3

*ECX **30** 17:03:10.3±0.7, 31°.33N×115°.52W, h5km±17km, MD2.5, ML2.8*
*MEX **30** 17:03:11.3±0.6, 31°.30N×115°.42W, h5km±10km, MD3.6*
ISC 30 17:03:09.1±1.0, 31°.34N±0°.03×115°.51W±0°.03, h18km±6km, n17, σ0°77/32, 3C-2D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VTX	Valle De La Tr	0.24	282	*i*P	Pg	17 03 15.0	+0.2
VTX				*e*S	Sg	17 03 18.4	-0.2
SPIG	San Pedro Mart	0.30	173	*e*P	Pg	17 03 15.5	-0.3
SPIG				*e*S	Sg	17 03 20.3	-0.1
SPIG	San Pedro Mart	0.30	173	*e*P	Pg	17 03 16.0	+0.2
SPIG				*i* S	Sg	17 03 20.4	-0.1
SPX	San Pedro Mart	0.31	173	⇓*i*P	Pg	17 03 16.0	0.0
SPX				*e*S	Sg	17 03 20.3	-0.3
SPX				IAML		17 03 20.6	
	comp=E,2μm,0.2s						
SPX				⇑*e*		17 03 20.6	
SPX	San Pedro Mart	0.31	173	*e*P	Pg	17 03 16.0	0.0
SPX				*e*S	Sg	17 03 19.6	-1.1
ECBX	El Chinero	0.41	71	⇑*i*P	Pg	17 03 18.2	+0.6
ECBX				*e*S	Sg	17 03 23.9	+0.6
SVX	San Vicente	0.64	269	*e*P	Pg	17 03 21.4	-0.3
SVX				*e*S	Sg	17 03 29.7	-0.5
SFX	San Felipe	0.64	118	*e*P	Pg	17 03 22.2	+0.4
SFX				*e*S	Sg	17 03 30.4	+0.1
SQX	San Quintin	0.83	203	*e*P	Pg	17 03 24.7	-0.6
SQX				*e*S	Sg	17 03 35.4	-0.8
MBIG	Mexicali	1.09	14	*i* P	Pg	17 03 39.9	-0.5
MBIG				*e*S	Sg	17 03 44.4	-0.3
ERMX	Rumorosa	1.29	340	*e*P	Pg	17 03 32.9	-1.2
ERMX				*e*S	Sg	17 03 49.6	-1.3
CBX	Cerro Bola	1.38	315	*e*P	Pn	17 03 34.7	+1.0
CBX				*e*S	Sb	17 03 52.2	+0.4
CBX				⇓*e*		17 03 54.1	
CBX				IAML		17 03 54.1	
	comp=E,141nm,0.5s						
CBX	Cerro Bola	1.38	315	*e*P	Pn	17 03 34.4	+0.8
CBX				*e*S	Sb	17 03 52.3	+0.4
IKP	In-Ko-Pah, Jac	1.40	339	*e*P	Pn	17 03 34.6	+0.7
TJIG	Tijuana	1.47	318	*e*P	Pn	17 03 36.0	+1.2
TJIG				*e*S	Sn	17 03 54.5	+0.8
BAR	Barrett	1.66	324	*e*P	Pn	17 03 38.8	+1.3
214A	Organ Pipe Nat	2.38	74	*e*P	Pn	17 03 46.9	-0.4
214A				*e*S	Sn	17 04 14.3	-1.7

IDC 30 17:46:07.1±1.3, 20°.97N×142°.55E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.4/41, mbtmp3.8/4, Error ellipse: s-maj=55.3km s-min=27.1km az=92.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	Songino Array	39.52	321	P	P	17 53 38.9	-0.8
	0.6nm,0.4s,baz=131,slow=5.9,SNR=3.3						
WRA	Warramunga Arr	41.45	192	P	P	17 53 55.8	0.0
	1.3nm,0.4s,baz=21,slow=8.9,SNR=21						
ASAR	Alice Springs	45.16	191	P	P	17 54 25.4	-0.3
	0.4nm,0.7s,baz=12,slow=6.9,SNR=10						
NVAR	Mina Array Bea	84.06	51	P	P	17 58 40.9	+0.7
	0.5nm,0.5s,baz=283,slow=4.5,SNR=4.5						

*IDC **30** 18:10:54.1±5.1, 37°.23N×71°.84E, h175km±27km, mb3.2/5, mb1 3.3/1, mb1mx3.0/54, mbtmp3.8/11, Error ellipse: s-maj=61.0km s-min=19.3km az=152.0*
*NNC **30** 18:11:01.3±3.8, 37°.75N×71°.80E, h213km±42km, mb2.9, mpv4.0, Error ellipse: s-maj=35.6km s-min=23.6km az=22.0*
ISC 30 18:10:55.5±0.7, 37°.32N±0°.07×71°.83E±0°.06, h200km, n38, σ1°90/46, mb3.4/5, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AML	Almayashu	5.02	16	P	Pn	18 12 11.3	+0.9
	SNR=183						
UCH	Uchtor	5.32	22	P	Pn	18 12 14.9	+0.6
	SNR=74						
KZA	Kyzart	5.43	28	P	Pn	18 12 15.8	0.0
	SNR=13						
EKS2	Erkin-Say	5.54	15	P	Pn	18 12 17.9	+1.0
	SNR=35						
AAK	Ala-Archa	5.69	20	P	Pn	18 12 20.1	+1.3
	8.2nm,0.3s,baz=297,slow=1.2,SNR=26						
AAK				S	Sn	18 13 23.9	-0.9
	2.4nm,0.3s,baz=341,slow=18,SNR=22						
AAK	Ala-Archa	5.69	20	P	Pn	18 12 19.9	+1.1
	SNR=16						
AAK	Ala-Archa	5.69	20	P	Pn	18 12 19.4	+0.5
	11nm,0.4s						
AAK				S	Sn	18 13 23.3	-1.5
	21nm,0.7s						
KBK	Karagaybulak	5.84	23	P	Pn	18 12 22.4	+1.6
	SNR=13						
KK31	Karatay Array	5.87	351	P	Pn	18 12 21.7	+0.8
	4.2nm,0.3s,baz=166,slow=11,SNR=81						
KK31				⇓S	Sn	18 13 25.6	-3.0
	6.7nm,0.3s,baz=160,slow=19,SNR=14						
ULHL	Ulahol	5.98	33	P	Pn	18 12 22.8	+0.2
	SNR=7.2						
CHMS	Chumysh	6.10	21	P	Pn	18 12 25.0	+1.1
	SNR=10						
USP	Ospenovka	6.28	18	P	Pn	18 12 27.6	+1.2
	SNR=14						
TKM2	Tokmak 2	6.30	26	P	Pn	18 12 27.5	+0.8
	SNR=21						
TKM2	Tokmak 2	6.30	26	⇑P	Pn	18 12 27.0	+0.3
	7.7nm,0.5s						
TKM2				⇓S	Sn	18 13 37.2	-1.7
	3.5nm,0.6s						
GEYT	Alibeck	10.89	277	P	Pn	18 13 25.9	-0.3
	0.5nm,0.3s,baz=99,slow=8.9,SNR=3.2						
GEYT				S	Sn	18 15 24.0	-3.8
	0.5nm,0.3s,baz=103,slow=19,SNR=2.3						
MKAR	Makanchi Array	12.24	36	P	Pn	18 13 42.1	-1.1
	0.0nm,0.3s,baz=238,slow=13,SNR=1.5						
PYUN	Piuthan	13.14	131	*e*P	Pn	18 13 52.8	-2.1
KOLN	Koldanda	13.74	130	*e*P	Pn	18 14 00.9	-1.6
GKN	Gorkha	14.22	127	*e*P	P	18 14 08.1	-1.9
	33nm,0.3s						
AB31	Akbulak array	14.72	328	⇓P	P	18 14 18.2	+3.2
	0.6nm,0.3s,baz=136,slow=13,SNR=4.4						
AB31				⇑S	S	18 16 49.8	-7.6
	1.3nm,0.5s,baz=152,slow=21,SNR=8.7						
KKN	Kakani	14.78	126	*e*P	P	18 14 14.4	-1.8
DMN	Daman	14.79	127	*e*P	P	18 14 15.4	-1.0
	7.6nm,0.3s						
PKIN	Phulchoki	15.00	126	*e*P	P	18 14 17.6	-1.1
	8.5nm,0.4s						
PKI	Pulchoki	15.02	126	*e*P	P	18 14 18.0	-0.9
GUN	Gumba	15.09	124	*e*P	P	18 14 19.1	-0.7
	18nm,0.6s						
JIRN	Jiri	15.46	124	*e*P	P	18 14 24.3	+0.4
	28nm,0.4s						
BVAR	Borovoye Array	15.74	357	P	Pn	18 14 27.8	+1.3
	0.2nm,0.3s,baz=157,slow=9.9,SNR=6.0						
RAMN	Ramite	16.21	125	*e*P	Pn	18 14 32.3	-0.3
AKTO	Aktyubinsk	16.43	327	P	Pn	18 14 35.8	+1.1
	2.0nm,0.3s,baz=130,slow=10.0,SNR=34						
AKTO				S	S	18 17 33.0	-2.5
	0.0nm,0.3s,baz=38,slow=18,SNR=2.8						
AKTO	Aktyubinsk	16.43	327	⇑P	Pn	18 14 35.5	+0.8
	5.0nm,0.5s						
AKTO				⇓S	S	18 17 33.6	-1.9
	1.4nm,0.6s						
ODAN	Odare	16.79	124	*e*P	Pn	18 14 39.0	-0.5
	14nm,0.6s						
ZALV	Zalesovo Beam	18.90	24	P	P	18 15 00.9	+0.2
	0.4nm,0.3s,baz=208,slow=9.7,SNR=6.1						
AKASG	Malin Array Be	32.96	308	P	P	18 17 13.4	+2.3
	0.4nm,0.4s,baz=110,slow=8.0,SNR=2.6						
FINES	FINESS Array B	37.18	325	P	P	18 17 48.3	+1.4
	0.8nm,0.6s,baz=119,slow=11,SNR=3.9						
ARCES	ARCESS Array B	40.65	337	P	P	18 18 17.5	+1.9
	0.7nm,0.4s,baz=114,slow=8.5,SNR=12						
NB2	NORSAR Subarra	44.13	322	P	P	18 18 45.0	+1.2
	comp=Z,0.5nm,0.5s,baz=94,slow=7.9						
NOA	NORSAR Array B	44.13	322	P	P	18 18 45.1	+1.3
	comp=Z,0.5nm,0.8s,baz=108,slow=7.2,SNR=4.5						
ESDC	Sonseca Array	57.66	298	P	P	18 20 25.9	+0.9
	comp=Z,0.5nm,0.6s,baz=54,slow=7.6,SNR=2.7						

*NEIC **30** 18:13:28.8±0.7, 31°.74N±0°.06×140°.5E±0°.1, h37km±6km, mb4.4/7, Error ellipse: s-maj=18.4km s-min=7.8km az=77.0*
*JMA **30** 18:13:30.8±0.1, 32°.17N×140°.70E, h13km, M4.3*
*IDC **30** 18:13:30.1±1.8, 31°.75N×140°.47E, h48km±16km, mb3.6/15, mb1 3.9/17, mb1mx3.7/44, mbtmp3.9/17, ML3.9/2, MS2.7/4, Ms1 2.7/4, ms1mx2.5/30, Error ellipse: s-maj=21.1km s-min=13.1km az=77.0*
*NIED **30** 18:13:30.9, 32°.17N×140°.70E, h13km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr=1.57; Mθθ-2.18; Mφφ3.75; Mrθ6.17; Mθφ-5.03; Mφr-1.12; Fault plane solution: Mo8.68000×10^14^ NP1: φs=289.00000°, δ83.00000°, λ-133.00000°. NP2: φs=191.00000°, δ43.00000°, λ-11.00000°.*
ISC 30 18:13:28.4±1.7, 31°.84N±0°.05×140°.67E±0°.09, h31km±12km, n61, σ1°85/64, mb3.9/20, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAOM	Aogashimamukai	0.99	309	P	Pb	18 13 46.8	-0.2
JAOM				*e*S	Sb	18 13 58.1	-1.5
JHCJ	Hachijojimakas	1.43	329	P	Pn	18 13 52.5	+0.3
JHCJ				S	Sn	18 14 07.7	-2.3
JHJ2	Mitsune	1.46	331	P	Pn	18 13 53.0	+0.4
JHJ2				S	Sn	18 14 08.6	-2.0
JHJ2	Mitsune	1.46	331		Pn	18 13 52.9	+0.4
JHJ	Hachijo jima 2	1.48	330	P	Pn	18 13 53.0	+0.2
	133nm,0.3s,baz=106,slow=11,SNR=114						
JHJ				S	Sn	18 14 07.3	-3.8
	182nm,0.3s,baz=242,slow=21,SNR=12						
JMKN	Mikurajimanish	2.24	336	P	Pn	18 14 04.0	+0.7
JKO	Kozu shima	2.67	332	P	Pn	18 14 11.1	+1.9
BSO1	Boso 1	2.82	5	P	Pn	18 14 11.1	+0.3
BSO1				*e*S	Sn	18 14 40.7	-2.7
BSO3	Boso 3	2.96	358	P	Pn	18 14 13.4	+0.5
BSO3				*e*S	Sn	18 14 44.8	-2.4
BSO4	Boso 4	3.15	355	P	Pn	18 14 16.9	+1.1
JOD2	Odawara 2	3.66	339	P	Pn	18 14 24.4	+1.5
JFNN	Fujinakano	3.73	334	P	Pn	18 14 27.0	+3.2
HMMJ	Hamamatsu 2	3.89	321	P	Pn	18 14 28.5	+2.5
JYN	Shimob	4.05	335	P	Pn	18 14 31.4	+3.0
JHU	Hanno	4.16	344	P	Pn	18 14 31.2	+1.4
JRY	Ryogami san	4.42	341	P	Pn	18 14 35.5	+2.2
INU	Inuyama	4.64	320		Pn	18 14 37.4	+1.1
JAG	Ashikaga	4.68	348	P	Pn	18 14 38.2	+1.3
JCJ	Chichijima	4.91	164	P	Pn	18 14 41.6	+1.5
	9.9nm,0.3s,baz=57,slow=19,SNR=9.9						
JCJ				S	Sn	18 15 33.3	-2.5
	2.8nm,0.3s,baz=280,slow=23,SNR=1.1						
JCJ				LR	LR	18 16 09.5	
	comp=Z,17nm,18.9s,baz=242,slow=33						
JCJ	Chichijima	4.91	164		Pn	18 14 39.8	-0.3
JYTA	Yamagatataniai	4.97	320	P	Pn	18 14 44.0	+3.1

MJAR	Matsushiro Arr 2.1nm,0.3s,baz=162,slow=13,SNR=218	5.11	337	P		P	18 14 45.8	+3.0
MJAR				S		Sn	18 15 42.6	+1.8
	baz=329,slow=37,SNR=0.8							
MJAR				LR		LR	18 16 49.8	
	comp=Z,78nm,19.1s,baz=155,slow=39							
MAJO	Matsushiro	5.11	337			Pn	18 14 46.7	+3.8
MAT	Matsushiro	5.11	337	P		Pn	18 14 46.9	+4.0
MAT				S		Sn	18 15 43.0	+2.2
MJB9	Matsu-Tunnel	5.12	337			Pn	18 14 46.9	+4.0
ERM	Erimo	10.35	10	Pn		Pn	18 15 56.2	+1.6
KSRS	Korea Array 0.1nm,0.3s,baz=114,slow=14,SNR=9.2	11.89	302	P		Pn	18 16 19.4	+3.7
KSRS				LR		LR	18 20 10.9	
	comp=Z,30nm,21.1s,baz=138,slow=34							
ASAJ	Asahikawa 0.7nm,0.3s,baz=207,slow=10,SNR=17	12.35	7	P		Pn	18 16 20.5	-1.5
H11N2	WAKE ISLAND Hy baz=304,slow=75,SNR=20	26.44	111	T		T	18 47 29.6	
H11N1	WAKE ISLAND Hy baz=304,slow=75,SNR=18	26.45	111	T		T	18 47 29.6	
H11N3	WAKE ISLAND Hy baz=304,slow=75,SNR=23	26.46	111	T		T	18 47 29.6	
H11S3	WAKE ISLAND Hy baz=304,slow=75,SNR=40	26.96	113	T		T	18 47 44.5	
H11S1	WAKE ISLAND Hy baz=304,slow=75,SNR=46	26.96	113	T		T	18 47 40.4	
H11S2	WAKE ISLAND Hy baz=304,slow=75,SNR=42	26.97	113	T		T	18 47 38.6	
TIXI	Tiksi	40.37	354	P		P	18 21 02.8	-0.1
TIXI				IAmb		IAmb	18 21 16.2	
	comp=Z,4.8nm,1.1s							
ZALV	Zalesovo Beam comp=Z,0.4nm,0.5s,baz=106,slow=3.2,SNR=3.6	45.10	316	PcP		PcP	18 23 19.9	-1.9
MKAR	Makanchi Array comp=Z,0.4nm,0.5s,baz=92,slow=8.2,SNR=6.1	46.52	306	P		P	18 21 52.4	-0.5
KURK	Kurchatov	48.78	312	P		P	18 22 09.4	-0.9
KURBB	Kurchatov Arra comp=Z,0.6nm,0.5s,baz=86,slow=7.0,SNR=15	48.84	312	P		P	18 22 09.8	-1.0
WB0	Warramunga Arr	51.66	188	P		P	18 22 31.3	-1.1
WB0				IAmb		IAmb	18 22 38.7	
	comp=Z,5.9nm,1.1s							
WR0	Warramunga Arr	51.84	187	P		P	18 22 32.3	-1.4
WR0				IAmb		IAmb	18 22 35.0	
	comp=Z,2.8nm,1.1s							
WB2	Warramunga Arr	51.84	188	P		P	18 22 32.6	-1.1
WB2				IAmb		IAmb	18 22 43.5	
	comp=Z,5.8nm,1.1s							
WRA	Warramunga Arr comp=Z,0.5nm,0.4s,baz=3.1,slow=7.7,SNR=12	51.84	188	P		P	18 22 32.5	-1.3
BVAR	Borovoye Array comp=Z,0.4nm,0.6s,baz=64,slow=5.1,SNR=3.0	53.71	315	P		P	18 22 46.6	-0.6
BVAR				PcP		PcP	18 23 52.6	-0.5
	comp=Z,0.5nm,0.4s,baz=105,slow=4.9,SNR=4.4							
ILAR	Eielson Array comp=Z,1.0nm,0.8s,baz=282,slow=6.4,SNR=4.7	54.24	30	P		P	18 22 51.6	+0.7
ASAR	Alice Springs comp=Z,0.3nm,0.5s,baz=0.4,slow=6.9,SNR=17	55.57	188	P		P	18 22 59.6	-1.4
INK	Inuvik comp=Z,0.8nm,0.5s,baz=235,slow=6.2,SNR=3.5	59.30	26	P		P	18 23 27.5	+0.8
RES	Resolute Bay	67.78	14	P		P	18 24 23.3	+0.7
RES				IAmb		IAmb	18 24 30.6	
	comp=Z,7.6nm,1.1s							
YKA	Yellowknife Ar comp=Z,0.4nm,0.5s,baz=297,slow=6.0,SNR=3.7	68.62	29	P		P	18 24 28.5	+0.4
FINES	FINESS Array B comp=Z,1.0nm,0.7s,baz=48,slow=5.7,SNR=6.8	73.13	333	P		P	18 24 55.1	-0.4
KBZ	Khabaz comp=Z,4.4nm,0.8s,baz=95,slow=7.4,SNR=4.4	73.85	312	P		P	18 25 00.1	+0.1
LRM	Limekiln Ridge	78.32	43	P		P	18 25 27.6	+1.7
NVAR	Mina Array Bea comp=Z,0.5nm,0.5s,baz=292,slow=5.5,SNR=5.8	78.63	52	P		P	18 25 27.9	+0.3
NVAR				LR		LR	18 52 40.4	
	comp=Z,21nm,20.3s,baz=226,slow=30							
NB2	NORSAR Subarra comp=Z,0.3nm,0.5s,baz=41,slow=5.6	78.73	337	P		P	18 25 27.3	-0.2
NOA	NORSAR Array B comp=Z,0.3nm,0.5s,baz=19,slow=5.2,SNR=3.8	78.73	337	P		P	18 25 26.9	-0.6
PDAR	Pinedale Array comp=Z,0.7nm,0.6s,baz=256,slow=2.3,SNR=6.6	81.77	44	P		P	18 25 45.1	+0.6
BRTR	Keskin Array B comp=Z,1.4nm,0.8s,baz=55,slow=18,SNR=4.3	81.84	312	P		P	18 25 44.0	-0.8
CLL	Collm	85.28	330	*es*P		sP	18 26 17.0	+2.7
TXAR	Lajitas Array comp=Z,1.5nm,0.6s,baz=300,slow=3.0,SNR=22	93.78	52	P		P	18 26 43.9	+1.0
TORD	Torodi Ar. Bea comp=Z,0.2nm,0.6s,baz=336,slow=3.3,SNR=1.2	120.45	312	PKP		PKPdf	18 32 16.5	-0.9
LPAZ	La Paz comp=Z,1.2nm,0.8s,baz=332,slow=4.6,SNR=4.4	149.61	66	PKPbc		PKPbc	18 33 17.0	+0.8

*IDC **30** 18:17:14.8±0.6, 20°.28S×169°.57E, h118km±4km, mb3.9/16, mb1 4.2/17, mb1mx4.1/24, mbtmp4.3/17, MS3.2/4, Ms1 3.2/4, ms1mx2.9/16, Error ellipse: s-maj=15.7km s-min=9.3km az=134.0*
*NEIC **30** 18:17:15.3±1.4, 20°.23S±0°.07×169°.54E±0°.09, h122km±4km, mb4.8/65, Error ellipse: s-maj=12.2km s-min=9.8km az=90.0*
**ISC 30 18:17:15.1±0.5

KIW	Kapiti Island	21.09	169	P		P		18 21 51.2	+1.4
BFZ	Birch Farm	21.20	166	P		P		18 21 50.1	-0.9
NNZ	Nelson	21.20	172	P		P		18 21 56.4	+5.5
TCW	Tory Channel	21.32	170	P		P		18 21 51.5	-0.7
TUWZ	Tuamarina	21.48	171	P		P		18 21 55.0	+1.0
SNZO	South Karori	21.49	169	P		P		18 21 56.0	+1.9
BHW	Baring Head	21.61	169	P		P		18 21 56.2	+0.9
THZ	Tophouse	21.68	173	P		P		18 21 56.2	+0.1
THZ	Tophouse	21.68	173	P		P		18 21 56.6	+0.5
THZ				IAmb		IAmb		18 21 57.0	
	comp=Z,29nm,1.0s								
MSWZ	Moikau Station	21.69	168	P		P		18 21 55.3	-0.9
BSWZ	Blackbirch Sta	21.75	171	P		P		18 21 57.2	+0.4
PLWZ	Palliser	21.84	168	P		P		18 21 57.2	-0.6
CTA	Charters Tower	21.87	266	P		P		18 21 58.6	+0.3
	comp=Z,6.2nm,0.6s,baz=90,slow=11,SNR=10.0								
CTAO	Charters Tower	21.87	266	P		P		18 21 56.3	-2.0
KHZ	Kahutara	22.40	172	P		P		18 22 02.5	-0.9
KHZ	Kahutara	22.40	172	P		P		18 22 03.6	+0.2
LTZ	Lake Taylor	22.62	175	P		P		18 22 08.5	+2.7
LTZ	Lake Taylor	22.62	175	P		P		18 22 06.5	+0.7
LTZ				IAmb		IAmb		18 22 07.0	
	comp=Z,22nm,0.7s								
OXZ	Oxford	23.15	175	P		P		18 22 09.9	-0.8
OXZ	Oxford	23.15	175	P		P		18 22 10.5	-0.2
OXZ				IAmb		IAmb		18 22 11.3	
	comp=Z,27nm,0.8s								
FOZ	Fox Glacier	23.26	180	P		P		18 22 10.9	-0.8
FOZ	Fox Glacier	23.26	180	P		P		18 22 12.3	+0.6
RPZ	Rata Peaks	23.47	177	P		P		18 22 13.8	+0.1
	comp=Z,12nm,0.5s,baz=132,slow=1.0,SNR=7.8								
RPZ	Rata Peaks	23.47	177	P		P		18 22 13.9	+0.2
RPZ				IAmb		IAmb		18 22 32.9	
	comp=Z,38nm,1.2s								
CAN	Canberra	23.54	226	P		P		18 22 15.3	+0.9
CAN				IAmb		IAmb		18 22 18.1	
	comp=Z,35nm,1.4s								
MQZ	McQueen's Vall	23.58	174	P		P		18 22 14.4	-0.1
MQZ	McQueen's Vall	23.58	174	P		P		18 22 14.5	-0.1
MQZ				IAmb		IAmb		18 22 24.5	
	comp=Z,86nm,1.4s								
JCZ	Jackson Bay	23.81	181	P		P		18 22 16.9	+0.1
LBZ	Lake Benmore	24.12	179	P		P		18 22 19.5	0.0
LBZ				IAmb		IAmb		18 22 20.2	
	comp=Z,46nm,1.3s								
WKZ	Wanaka	24.56	181	P		P		18 22 22.6	-0.9
WKZ	Wanaka	24.56	181	P		P		18 22 23.9	+0.4
ODZ	Otahua Downs	24.79	178	P		P		18 22 23.4	-2.2
ODZ	Otahua Downs	24.79	178	P		P		18 22 25.2	-0.4
ODZ				IAmb		IAmb		18 22 32.7	
	comp=Z,65nm,1.5s								
MLZ	Mavora Lakes	25.12	182	P		P		18 22 29.5	+0.9
KNTN	Kanton	25.19	49	P		P		18 22 29.2	-0.3
WHZ	Wether Hill Ro	25.65	183	P		P		18 22 31.8	-1.7
WHZ	Wether Hill Ro	25.65	183	P		P		18 22 33.5	0.0
WHZ				IAmb		IAmb		18 22 43.4	
	comp=Z,21nm,1.1s								
STKA	Stephens Creek	27.59	239	P		P		18 22 50.9	-0.1
	comp=Z,3.0nm,0.7s,baz=74,slow=10,SNR=9.3								
STKA				PcP		PcP		18 26 05.8	+0.1
	comp=Z,2.4nm,0.5s,baz=28,slow=3.3,SNR=6.8								
STKA				LR		LR		18 33 16.7	
	comp=Z,75nm,19.1s,baz=41,slow=35								
STKA	Stephens Creek	27.59	239	P		P		18 22 50.8	-0.1
BBOO	Buckleboo	32.35	240	P		P		18 23 33.0	0.0
BBOO				IAmb		IAmb		18 23 50.1	
	comp=Z,23nm,1.4s								
WR0	Warramunga Arr	32.84	264	P		P		18 23 37.3	-0.2
WB0	Warramunga Arr	33.00	265	P		P		18 23 38.7	-0.2
WB2	Warramunga Arr	33.02	264	P		P		18 23 38.7	-0.3
WRA	Warramunga Arr	33.03	264	P		P		18 23 38.9	-0.3
	comp=Z,0.7nm,0.4s,baz=97,slow=6.7,SNR=17								
WRA				pP		pP		18 24 03.3	-0.7
	comp=Z,1.8nm,0.8s,baz=90,slow=8.4,SNR=3.2								
WRA				PcP		PcP		18 26 19.3	-0.9
	comp=Z,1.3nm,0.6s,baz=92,slow=3.2,SNR=5.5								
WRA				PKiKP		PKiKP		18 33 44.2	-2.1
	comp=Z,0.3nm,0.5s,baz=44,slow=0.5,SNR=8.2								
AS31	Alice Springs	33.19	257	P		P		18 23 40.2	-0.3
ASAR	Alice Springs	33.19	257	P		P		18 23 40.8	+0.3
	comp=Z,4.4nm,0.6s,baz=89,slow=9.0,SNR=61								
ASAR				pP		pP		18 24 05.3	-0.2
	comp=Z,2.4nm,0.5s,baz=84,slow=9.0,SNR=3.9								
ASAR				PcP		PcP		18 26 19.2	-1.4
	comp=Z,2.3nm,0.7s,baz=98,slow=3.0,SNR=8.7								
ASAR				ScP		ScP		18 29 53.8	0.0
	comp=Z,0.7nm,0.7s,baz=99,slow=3.8,SNR=5.9								
ASAR				PKiKP		PKiKP		18 33 44.5	-1.9
	comp=Z,0.3nm,0.5s,baz=94,slow=1.6,SNR=7.3								
ASAR				LR		LR		18 36 25.3	
	comp=Z,54nm,18.5s,baz=86,slow=35								
MTN	Manton Dam	37.48	275	P		P		18 24 18.1	+0.8
FORT	Forrest	38.71	246	P		P		18 24 27.2	-0.2
FORT				IAmb		IAmb		18 24 32.5	
	comp=Z,13nm,0.8s								
KNRA	Kununurra	38.99	270	P		P		18 24 30.0	+0.1
FITZ	Fitzroy Crossi	41.44	265	P		P		18 24 51.3	+1.2
FITZ				IAmb		IAmb		18 24 56.3	
	comp=Z,15nm,1.4s								
VNDA	Vanda	57.48	182	P		P		18 26 50.8	-0.1
	comp=Z,1.5nm,0.5s,baz=0.4,slow=6.7,SNR=7.2								
VNDA				PcP		PcP		18 27 43.3	+0.1
	comp=Z,1.8nm,0.8s,baz=0.4,slow=6.8,SNR=3.6								
VNDA	Vanda	57.48	182	P		P		18 26 50.6	-0.4
MJAR	Matsushiro Arr	63.74	332	P		P		18 27 34.3	+0.3
	comp=Z,1.3nm,0.6s,baz=169,slow=7.2,SNR=4.6								
SSLB	Suanglung	64.45	310	P		P		18 27 38.6	-0.3
SSLB				IAmb		IAmb		18 27 39.6	
	comp=Z,6.3nm,0.7s								
KSRS	Korea Array	69.47	326	P		P		18 28 11.2	+0.9
	comp=Z,0.5nm,0.6s,baz=157,slow=6.8,SNR=4.9								
QSPA	South Pole Qui	69.85	180	P		P		18 28 12.4	-0.1
USRK	Ussuriysk Ar.	72.72	333	P		P		18 28 31.0	+1.2
	comp=Z,1.8nm,0.6s,baz=81,slow=11,SNR=4.6								
ADK	Adak	72.78	9	P		P		18 28 29.4	-0.5
ADK				IAmb		IAmb		18 28 35.2	
	comp=Z,19nm,1.2s								
GSTR	Great Sitkin T	73.08	9	P		P		18 28 32.3	+0.6
ATKA	Atka Island	73.48	10	P		P		18 28 33.5	-0.5
ATKA				IAmb		IAmb		18 28 34.7	
	comp=Z,22nm,0.9s								
GSI	Gunungsitoli	73.57	278	P		P		18 28 34.9	-0.6
GSI				IAmb		IAmb		18 28 37.5	
	comp=Z,14nm,1.0s								
PETK	Petropavlovsk-	73.73	353	P		P		18 28 36.2	+0.7
	comp=Z,1.0nm,0.5s,baz=140,slow=6.9,SNR=6.9								
PETK				pP		pP		18 29 05.5	-0.3
	comp=Z,3.7nm,0.8s,baz=141,slow=7.1,SNR=4.9								
NIKH	Nikolski High	75.25	13	P		P		18 28 44.2	0.0
MAW	Mawson	77.65	202	P		P		18 28 58.6	+0.9
	comp=Z,4.1nm,0.7s,baz=130,slow=6.1,SNR=21								
MAW	Mawson	77.65	202	P		P		18 28 58.3	+0.5
XAN	Xi'an	78.97	313	P		P		18 29 07.1	+1.4
XAN				IAmb		IAmb		18 29 07.7	
	comp=Z,13nm,1.1s								
CM31	Chiang Mai Arr	79.16	294			P		18 29 09.1	+2.2
CMAR	Chiang Mai Arr	79.16	294	P		P		18 29 09.2	+2.2
	comp=Z,3.8nm,0.8s,baz=133,slow=4.4,SNR=23								
CMAR				pP		pP		18 29 38.5	+1.0
	comp=Z,2.3nm,0.9s,baz=126,slow=3.4,SNR=5.1								
CHTO	Chiang Mai	79.32	295	P		P		18 29 09.5	+1.7
SII	Sitkinak Islan	82.34	19	P		P		18 29 23.5	+0.5
OHAK	Old Harbor	83.17	19	P		P		18 29 28.2	+1.0
SYO	Syowa Base	84.09	196	eP		P		18 29 30.0	-1.9
SYO	Syowa Base	84.09	196	eP	cP	PcP		18 29 37.6	+2.0
ISA	Isabella, Lake	87.86	51	P		P		18 29 52.4	+1.3
ISA				IAmb		IAmb		18 29 54.1	
	comp=Z,8.1nm,1.4s								
SONM	Songino Array	88.16	323	P		P		18 29 53.2	+0.9
	comp=Z,2.3nm,0.8s,baz=140,slow=5.2,SNR=16								
SONM				pP		pP		18 30 23.5	+0.1
	comp=Z,4.2nm,0.9s,baz=142,slow=4.4,SNR=9.7								
SNAA	Sanae	88.21	182	P		P		18 29 51.2	-1.0
SNAA	Sanae	88.21	182	P		P		18 29 51.4	-0.8
SNAA				IAmb		IAmb		18 29 51.7	
	comp=Z,9.4nm,0.6s								
DIB	Dawson Inlet,	88.55	31	P		P		18 29 55.2	+1.4
VNA3	Neumayer Olymp	88.79	180	P		P		18 29 53.8	-1.1
VNA2	Neumayer--Watz	89.09	181	P		P		18 29 55.6	-0.7
	baz=181,slow=4.2								
NVAR	Mina Array Bea	89.22	48	P		P		18 29 58.7	+1.0
	comp=Z,1.8nm,0.6s,baz=226,slow=8.4,SNR=16								
NVAR				pP		pP		18 30 28.9	+0.4
	comp=Z,1.9nm,0.9s,baz=228,slow=7.0,SNR=3.2								
NV11	Mina Array Sit	89.33	48	P		P		18 29 58.3	+0.2
VNA1	Neumayer--Stat	89.38	181	P		P		18 29 56.8	-0.7
MOD	Modoc Plateau	89.45	45	P		P		18 29 58.6	+0.1
H04A	Detroit Lake	89.57	42	P		P		18 29 59.2	+0.3
H04A				IAmb		IAmb		18 30 00.2	
	comp=Z,5.6nm,0.7s								
KVN	Kaiserville	89.64	48	P		P		18 29 60.0	+0.4
KVN				IAmb		IAmb		18 30 01.1	
	comp=Z,3.7nm,0.6s								
E03A	Lebam	89.66	39	P		P		18 30 00.7	+1.5
PINE	Pine Mountain	89.93	43	P		P		18 30 01.7	+0.9
PINE				IAmb		IAmb		18 30 03.2	
	comp=Z,9.4nm,0.7s								
TPNV	Topopah Spring	90.04	50	P		P		18 30 01.5	+0.1
TPNV				IAmb		IAmb		18 30 03.7	
	comp=Z,15nm,1.5s								
F04A	Amboy	90.04	40	P		P		18 30 01.5	+0.5
F04A				IAmb		IAmb		18 30 02.7	
	comp=Z,11nm,1.1s								
WVOR	Wild Horse Val	90.79	45	P		P		18 30 05.5	+0.8
WVOR				IAmb		IAmb		18 30 06.5	
	comp=Z,10nm,1.4s								
RIDG	Independent Ri	90.87	19	P		P		18 30 06.2	+1.7
RIDG				IAmb		IAmb		18 30 07.0	
	comp=Z,9.2nm,1.0s								
I07A	Izee	90.98	43	P		P		18 30 06.1	+0.5
W13A	Hualapai Mount	91.01	53	P		P		18 30 07.2	+1.1
W13A				IAmb		IAmb		18 30 08.1	
	comp=Z,6.3nm,1.5s								
IL31		91.06	17	P		P		18 30 04.0	-1.3
ILAR	Eielson Array	91.06	17	P		P		18 30 04.0	-1.3
	comp=Z,1.4nm,0.7s,baz=235,slow=4.9,SNR=15								
ILAR				pP		pP		18 30 35.0	-1.4
	comp=Z,1.0nm,0.9s,baz=227,slow=6.5,SNR=2.7								
HYT	Haines Junctio	91.26	23	P		P		18 30 06.4	-0.1
HYT				IAmb		IAmb		18 30 07.0	
	comp=Z,3.6nm,0.8s								
WHY	Whitehorse	92.14	24	P		P		18 30 10.3	-0.2
WHY				IAmb		IAmb		18 30 11.0	
	comp=Z,2.5nm,0.7s								
EGAK	Eagle	92.74	19	P		P		18 30 13.4	+0.4
EGAK				IAmb		IAmb		18 30 13.6	
	comp=Z,3.7nm,0.5s								
TXAR	Lajitas Array	96.97	61	P		P		18 30 33.0	-0.4
	comp=Z,0.2nm,0.5s,baz=236,slow=2.3,SNR=3.9								
MKAR	Makanchi Array	102.63	315	P		Pdif		18 30 58.6	+0.5
	comp=Z,0.7nm,0.7s,baz=85,slow=5.9,SNR=5.8								
BOSA	Boshof	120.46	217	PKP		PKPdf		18 35 51.9	-1.1
	comp=Z,1.2nm,0.5s,baz=146,slow=1.8,SNR=9.7								
ARCES	ARCESS Array B	126.07	345	PKP		PKPdf		18 36 01.7	-0.6
	comp=Z,1.7nm,0.5s,baz=64,slow=1.6,SNR=28								
BDFB	Brasilia	128.70	131	PKP		PKPdf		18 36 08.7	-0.4
	comp=Z,3.9nm,0.5s,baz=319,slow=4.8,SNR=5.6								
BDFB	Brasilia	128.70	131			PKPdf		18 36 08.0	-1.1
FINES	FINESS Array B	131.59	338	PKhKP		PKPdf		18 36 09.1	-3.9
	comp=Z,1.3nm,0.8s,baz=149,slow=27,SNR=4.5								
NB2	NORSAR Subarra	136.45	345	PKP		PKPpre		18 36 13.6	
	comp=Z,0.6nm,0.6s,baz=17,slow=2.6								
NOA	NORSAR Array B	136.45	345	PKP		PKPdf		18 36 22.1	0.0
	comp=Z,0.5nm,0.6s,baz=36,slow=2.2,SNR=4.1								
MORC	Moravsky Berou	143.04	330	⇓P		PKPbc		18 36 31.4	-0.3
MORC	Moravsky Berou	143.04	330	eP		PKPbc		18 36 31.1	-0.6
SIRR	Siria	143.05	322	⇑P		PKPbc		18 36 32.3	+0.5
KRLC	Kraliky	143.19	331	eP		PKPbc		18 36 32.0	-0.1
DPC	Dlouhe Stran	143.21	331	eP		PKPbc		18 36 32.2	+0.1
VYHS	Vyhne	143.25	327	eP		PKPdf		18 36 33.9	-1.0
HERR	Herculane	143.35	320	⇓P		PKPbc		18 36 32.5	-0.1
BZS	Buzias	143.44	321	⇑P		PKPbc		18 36 32.4	-0.4
JAVC	Velka Javorina	143.60	328	eP		PKPdf		18 36 35.2	-0.3
LAWE	Loch Awe, Argy	143.80	355	eP		PKPbc		18 36 33.2	-0.3
LAWE				IAmb		IAmb		18 36 33.8	
	comp=Z,5.7nm,0.6s								
VRAC	Vranov	143.81	330	⇓P		PKPbc		18 36 34.2	+0.3
VRAC	Vranov	143.81	330	eP		PKPbc		18 36 34.0	+0.2
MDVR	Moldovita	143.83	320	⇑P		PKPbc		18 36 34.6	+0.5
PVCC	Panska Ves	143.85	333	eP		PKPbc		18 36 34.3	+0.4
BRG	Berggiesshubel	143.86	334	i PKP		PKPbc		18 36 34.1	+0.2
	comp=Z,19nm,0.7s								
BRG	Berggiesshubel	143.86	334	ePKPbc		PKPbc		18 36 34.3	+0.4
	baz=36,slow=3.0								
CLL	Collm	143.91	335	⇓iPKPdf		PKPbc		18 36 33.8	-0.2
	comp=Z,17nm,1.1s								
CLL	Collm	143.91	335	ePKPbc		PKPbc		18 36 34.1	+0.1
	baz=36,slow=3.0								
VTS	Vitosha	143.95	316	⇑P		PKPbc		18 36 34.7	+0.1
NRDL	Niedersach Rie	144.03	339	ePKPbc		PKPbc		18 36 34.5	+0.3
	baz=36,slow=3.0								
FBE	Freiberg	144.07	334	ePKPbc		PKPbc		18 36 35.2	+0.7
	baz=36,slow=3.0								
KRUC	Moravsky	144.08	330	ePKP		PKPbc		18 36 34.8	+0.2
ASSE	Asse, Remlinge	144.14	338	ePKPbc		PKPbc		18 36 34.9	+0.4
	baz=36,slow=3.0								
GOPC	GO Pecny, Ondr	144.21	332	ePKP		PKPbc		18 36 35.1	+0.1
PRA	Prague	144.25	332	ePKP		PKPbc		18 36 35.5	+0.4
PRU	Pruhonice	144.26	332	ePKP		PKPbc		18 36 35.3	+0.2
TREC	Trest	144.34	331	ePKP		PKPbc		18 36 35.5	+0.1
NEUB	Neuenburg	144.47	336	ePKPbc		PKPdf		18 36 36.4	-0.5
	baz=36,slow=3.0								
CLZ	Clausthal	144.48	338	ePKPbc		PKPdf		18 36 36.5	-0.5
	baz=36,slow=3.0								
ESK	Eskdalemuir	144.52	353	eP		PKPab		18 36 35.4	-0.2
PBCC	Pribram	144.73	332	ePKP		PKPbc		18 36 36.7	+0.1
PBCC				ex		x		18 36 39.6	
TANN	Tannenbergstha	144.82	334	ePKPbc		PKPdf		18 36 37.6	0.0
	baz=36,slow=3.0								
NEWG	New Galloway	144.83	354	eP		PKPab		18 36 36.4	-0.3
NEWG				IAmb		IAmb		18 36 36.8	
	comp=Z,18nm,0.7s								
EDMD	Edmundbyers	144.84	351	eP		PKPab		18 36 36.5	-0.3
EDMD				IAmb		IAmb		18 36 37.0	
	comp=Z,28nm,0.5s								
GTTG	Gottingen	144.87	338	ePKPbc		PKPdf		18 36 37.9	+0.3
	baz=36,slow=3.0								
PLN	Plauen	144.89	335	ePKPbc		PKPdf		18 36 37.8	+0.1
	baz=36,slow=3.0								
GUNZ	Gunzen	144.91	334	ePKPbc		PKPdf		18 36 38.1	+0.3
	baz=36,slow=3.0								
WERN	Wernitzgruen	144.95	334	ePKPbc		PKPdf		18 36 38.3	+0.5
	baz=36,slow=3.0								
IBBN	Ibbenburen	144.97	340	ePKPbc		PKPdf		18 36 37.8	+0.1
	baz=36,slow=3.0								
NKC	Novy Kostel	144.97	334	ePKP		PKPdf		18 36 37.8	0.0
MOX	Moxa	144.98	335	ePKPbc		PKPdf		18 36 37.9	+0.1
	baz=36,slow=3.0								
GDLE	Glaisdale, N Y	145.06	350	eP		PKPbc		18 36 37.4	-0.1
GDLE				IAmb		IAmb		18 36 37.9	
	comp=Z,40nm,0.6s								
CONA	Conrad Observa	145.12	329	i PKPdf		PKPdf		18 36 38.7	+0.4
	comp=Z,24nm,0.7s,SNR=13								
CONA				i pPKPdf		pPKPdf		18 37 10.4	-0.3
	comp=Z,12nm,1.4s								
GAL1	Galloway	145.12	354	eP		PKPbc		18 36 37.4	-0.3
GAL1				IAmb		IAmb		18 36 38.2	
	comp=Z,36nm,0.7s								
KESW	Keswick, Cumbr	145.22	353	eP		PKPbc		18 36 37.7	-0.2
KESW				IAmb		IAmb		18 36 38.4	
	comp=Z,24nm,0.9s								
MANZ	Manzenberg	145.30	334	ePKPbc		PKPab		18 36 39.2	+0.5
	baz=36,slow=3.0								
KHC	Kasperske Hory	145.32	332	ePKP		PKPdf		18 36 38.5	0.0
KHC				ex		x		18 37 10.0	
ROTZ	Rotzenmuhle	145.43	334	ePKPbc		PKPab		18 36 39.6	+0.5
	baz=36,slow=3.0								
UBBA	Unterbreizbach	145.45	337	ePKPbc		PKPab		18 36 39.3	+0.3
	baz=36,slow=3.0								
GEC2	GERESS Array S	145.48	332	ePKPbc		PKPab		18 36 39.7	+0.2
	baz=36,slow=3.0								
GERES	GERESS Array B	145.48	332	PKPbc		PKPdf		18 36 38.8	-0.1
	comp=Z,9.0nm,0.7s,baz=58,slow=3.3,SNR=54								
GERES				pPKPbc		pPKPab		18 37 10.5	-0.6
	comp=Z,4.6nm,0.9s,baz=35,slow=4.9,SNR=4.6								
WET	Wettzell	145.62	333	ePKPbc		PKPab		18 36 40.1	+0.2
	baz=36,slow=3.0								
IOMK	Kirk Michael	145.71	354	eP		PKPdf		18 36 39.0	0.0
IOMK				IAmb		IAmb		18 36 39.7	
	comp=Z,67nm,0.6s								
ARSA	Arzberg	145.75	328	i PKPab		PKPab		18 36 40.8	+0.4
	comp=Z,5.7nm,0.9s								
ARSA				i pPKPab		pPKPab		18 37 12.1	0.0
	comp=Z,6.6nm,1.3s								
WIM	Isle of Man	145.83	354	eP		PKPbc		18 36 39.7	-0.2
GRF	Grafenberg Arr	145.89	335	ePKPbc		PKPab		18 36 40.9	+0.1
	baz=36,slow=3.0								
MOA	Molln	145.94	330	i PKPbc		PKPdf		18 36 39.4	-0.1
MOA				i PKPab		PKPab		18 36 41.0	-0.2
	comp=Z,2.8nm,1.2s								
MOA				i pPKPab		pPKPab		18 37 12.8	+0.1
	comp=Z,15nm,1.1s								
LBWR	Ladybower, Pea	146.19	351	eP		PKPdf		18 36 40.3	+0.5
LBWR				IAmb		IAmb		18 36 41.4	
	comp=Z,18nm,0.8s								
SOKA	Soboth	146.38	328	i PKPdf		PKPdf		18 36 40.1	-0.4
	comp=Z,7.0nm,1.0s								
SOKA				epPKPab		pPKPab		18 37 14.1	-0.4
	comp=Z,9.1nm,1.6s								
WACR	West Acre	146.42	348	eP		PKPbc		18 36 41.3	-0.3
WACR				IAmb		IAmb		18 36 43.1	
	comp=Z,67nm,0.8s								
TNS	Taunus Mts	146.50	338	ePKPbc		PKPbc		18 36 42.6	+0.5
	baz=36,slow=3.0								
WME	Myndd Eilian	146.53	353	eP		PKPdf		18 36 41.0	+0.7
PDG	Podgorica	146.59	318	⇑P		PKPdf		18 36 40.7	-0.1
WLF1	Llynfaes	146.65	353	eP		PKPbc		18 36 41.7	-0.6
WLF1				IAmb		IAmb		18 36 42.5	
	comp=Z,47nm,0.7s								
YRC	Rhoscolyn	146.71	354	eP		PKPbc		18 36 41.7	-0.8
OBKA	Obir	146.74	328	i pPKPbc		pPKPbc		18 37 13.9	-1.1
	comp=Z,6.2nm,1.4s								
CWF	Charnwood Fore	146.76	350	eP		PKPbc		18 36 42.4	-0.3
CWF				IAmb		IAmb		18 36 42.9	
	comp=Z,24nm,0.8s								
FOEL	Foel Wylfa	146.90	352	eP		PKPbc		18 36 42.7	-0.3
FOEL				IAmb		IAmb		18 36 43.5	
	comp=Z,32nm,0.6s								
KBA	Koelnbreinsper	146.93	330	i PKPdf		PKPdf		18 36 41.0	-0.5
	comp=Z,7.3nm,0.9s								
KBA				i pPKPbc		pPKPdf		18 37 14.6	+0.6
	comp=Z,5.0nm,1.1s								
MYKA	Terra Mystica	147.10	329	i PKPdf		PKPdf		18 36 41.5	-0.1
	comp=Z,8.0nm,0.5s								
STU	Stuttgart	147.42	336	ePKPbc		PKPbc		18 36 45.3	+0.6
	baz=36,slow=3.0								
WATA	Walderalm	147.55	332	ePKPdf		PKPdf		18 36 42.1	-0.3
	comp=Z,1.4nm,0.6s								
WATA				i PKPbc		PKPbc		18 36 45.1	-0.1
	comp=Z,2.8nm,0.5s								
WATA				i pPKPbc		pPKPbc		18 37 16.6	-0.7
	comp=Z,8.0nm,1.2s								
ABTA	Abfaltersbach	147.56	330	ePKPdf		PKPdf		18 36 41.7	-0.8
	comp=Z,3.5nm,0.8s								
ABTA				i PKPbc		PKPbc		18 36 44.4	-0.8
	comp=Z,8.7nm,0.9s								
WTTA	Wattenberg	147.58	331	ePKPdf		PKPdf		18 36 42.3	-0.2
	comp=Z,3.1nm,0.9s								
WTTA				i PKPbc		PKPbc		18 36 45.2	-0.2
	comp=Z,11nm,1.0s								
WTTA				i pPKPbc		pPKPbc		18 37 16.9	-0.6
	comp=Z,13nm,1.1s								
MCH1	Michaelchurch	147.74	351	eP		PKPbc		18 36 44.2	-1.2
MCH1				IAmb		IAmb		18 36 46.8	
	comp=Z,8.8nm,0.9s								
MOTA	Moosalm	147.75	332	i PKPbc		PKPbc		18 36 45.6	-0.2
	comp=Z,14nm,1.0s								
MOTA				i pPKPbc		pPKPbc		18 37 17.2	-0.7
	comp=Z,3.1nm,0.7s								

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR 6.24 183**			Pn	**Pn**	**18 53 24.4**	**-1.6**
	baz=354,slow=12,SNR=11						
H10N2				T	T	19 00 11.5	
	baz=354,slow=73,SNR=28						
H10N3	**ASCENSION HYDR 6.26 183**			Pn	**Pn**	**18 53 24.7**	**-1.6**
	baz=354,slow=12,SNR=39						
H10N3				T	T	19 00 08.3	
	baz=354,slow=73,SNR=71						
H10N1	**ASCENSION HYDR 6.26 182**			Pn	**Pn**	**18 53 24.6**	**-1.7**
	baz=354,slow=12,SNR=30						
H10N1				T	T	19 00 12.8	
	baz=354,slow=73,SNR=61						
ASCN	**Ascension 6.34 181**			Pn	**Pn**	**18 53 25.1**	**-2.6**
H10S3	**ASCENSION HYDR 7.37 183**			T	T	19 01 28.2	
	baz=356,slow=74,SNR=24						
H10S2	**ASCENSION HYDR 7.37 183**			T	T	19 01 28.9	
	baz=224,slow=74,SNR=9.0						
DBIC	**Dimbokro 12.40 49**			Pn	**Pn**	**18 54 52.5**	**+1.6**
	1.0nm,0.3s,baz=234,slow=14,SNR=13						
DBIC				Sn	**Sn**	**18 57 04.7**	**-4.4**
	0.1nm,0.3s,baz=77,slow=17,SNR=2.3						
DBIC				LR	LR	18 58 58.0	
	comp=Z,227nm,19.9s,baz=206,slow=34						
TOA0	**Torodi Ar. Sit 21.50 47**			P	**P**	**18 56 43.3**	**+0.1**
TOA0				IAmb	IAmb	18 57 00.3	
	comp=Z,7.8nm,0.9s						
TORD	**Torodi Ar. Bea 21.50 47**			P	**P**	**18 56 44.1**	**+0.9**
	comp=Z,8.8nm,1.2s,baz=239,slow=11,SNR=12						
TORD				LR	LR	19 04 32.0	
	comp=Z,207nm,18.6s,baz=225,slow=35						
RCBR	**Riachuelo 22.05 258**			LR	LR	19 03 56.9	
	comp=Z,46nm,18.1s,baz=68,slow=33						
BDFB	**Brasilia 36.15 245**			LR	LR	19 12 32.3	
	comp=Z,32nm,18.5s,baz=181,slow=35						
ESDC	**Sonseca Array 42.09 12**			LR	LR	19 17 35.7	
	comp=Z,52nm,20.6s,baz=330,slow=37						
KEST	**Kesra 43.12 28**			LR	LR	19 18 23.9	
	comp=Z,53nm,19.6s,baz=302,slow=37						
MATP	**Matopo 45.72 117**			P	**P**	**19 00 18.0**	**+2.1**
	comp=Z,4.3nm,0.9s,baz=273,slow=9.1,SNR=8.3						
BOSA	**Boshof 46.27 129**			P	**P**	**19 00 22.2**	**+2.1**
	comp=Z,3.6nm,0.9s,baz=311,slow=10,SNR=6.0						
BOSA				LR	LR	19 15 19.7	
	comp=Z,52nm,19.8s,baz=274,slow=30						
BOSA	**Boshof 46.27 129**			P	**P**	**19 00 22.0**	**+1.9**
CPUP	**Villa Florida 48.19 235**			LR	LR	19 17 43.8	
	comp=Z,46nm,20.7s,baz=47,slow=32						
LPAZ	**La Paz 55.05 251**			LR	LR	19 23 32.0	
	comp=Z,46nm,19.8s,baz=116,slow=35						
GERES	**GERESS Array B 55.71 22**			P	**P**	**19 01 29.3**	**-1.5**
	comp=Z,0.6nm,0.8s,baz=212,slow=3.5,SNR=5.2						
GERES				LR	LR	19 25 29.0	
	comp=Z,34nm,20.0s,baz=288,slow=36						
BRTR	**Keskin Array B 59.98 41**			P	**P**	**19 02 02.5**	**+1.4**
	comp=Z,1.2nm,1.1s,baz=213,slow=9.5,SNR=2.1						
AKASG	**Malin Array Be 63.84 29**			P	**P**	**19 02 26.5**	**-0.1**
	comp=Z,0.2nm,0.2s,baz=231,slow=5.7,SNR=1.8						
AKASG				LR	LR	19 32 27.1	
	comp=Z,39nm,18.4s,baz=200,slow=38						
PLCA	**Paso Flores 63.99 225**			LR	LR	19 26 41.0	
	comp=Z,30nm,21.1s,baz=161,slow=33						
NOA	**NORSAR Array B 65.42 13**			LR	LR	19 31 42.3	
	comp=Z,21nm,21.2s,baz=205,slow=37						
FINES	**FINESS Array B 69.95 19**			LR	LR	19 33 43.4	
	comp=Z,22nm,18.2s,baz=252,slow=36						
ARCES	**ARCESS Array B 75.80 13**			LR	LR	19 36 43.6	
	comp=Z,36nm,21.8s,baz=234,slow=36						
GEYT	**Alibeck 77.08 51**			LR	LR	19 40 38.5	
	comp=Z,27nm,19.0s,baz=60,slow=38						

*KRNET **30** 18:54:54.7±0.1, 39°.27N×78°.53E, mb2.5*
SOME 30 18:54:53.2, 42°.33N×81°.03E, h0km, 6C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UZB	**Uzynbulak 1.69 299**			*e*P	Pg	18 55 25.7	+0.1
	1.6nm,0.2s						
UZB				*e*S	Sg	18 55 49.3	+1.8
	2.6nm,0.2s						
KPKS	**Kokpek 2.06 304**			*e*P	Pb	18 55 31.5	-0.2
	6.5nm,0.3s						
KPKS				*e*S	Sg	18 55 59.1	-0.4
	6.5nm,0.2s						
SATY	**Saty 2.07 291**			*e*P	Pb	18 55 32.2	+0.5
	1.4nm,0.2s						
SATY				*e*S	Sg	18 56 00.6	+0.9
	6.1nm,0.2s						
TARG	**Taragay, Kyrgy 2.48 257**			⇓*i*P	Pb	18 55 39.2	+0.3
	baz=47						
TARG				⇓*i*S	Sg	18 56 11.6	-1.3
	baz=47						
ANVS	**Anan'yevo 2.53 281**			⇑*i*P	Pg	18 55 53.5	+12
	baz=50						
ANVS				⇑*i*S	Sg	18 56 36.6	+22
	baz=50						
MNBS	**Baschi 2.60 313**			*e*P	Pb	18 55 41.0	+0.3
	2.1nm,0.2s						
MNBS				*e*S	Sg	18 56 15.2	-1.4
	8.0nm,0.4s						
KDJ	**Kajisay 2.87 267**			⇑*i*P	Pb	18 55 46.1	+0.7
	baz=41						
KDJ				⇑*i*S	Sg	18 56 23.8	-1.6
	baz=41						
KAPS	**Kapalarasan 3.19 338**			*e*P	Pg	18 55 53.1	-1.2
	0.6nm,0.1s						
KAPS				*e*S	Sg	18 56 36.1	+0.4
	1.3nm,0.2s						
ULHL	**Ulahol 3.56 270**			⇓*i*P	Pn	18 55 52.0	+2.2
	baz=30						
ULHL				⇓*i*S	Sn	18 56 33.9	+1.2
	baz=30						
BOOM	**Boomskoye usch 3.77 274**			⇑*i*P	Pn	18 55 56.1	+3.3
	baz=30						
BOOM				⇑*i*S	Sn	18 56 41.8	+3.8
	baz=30						

*IDC **30** 19:21:30.5±1.6, 8°.91S×125°.32E, h0km, mb3.8/2, mb1 4.1/6, mb1mx3.7/34, mbtmp3.9/6, ML3.7/4, MS2.5/1, Ms1 2.5/1, ms1mx2.2/46, Error ellipse: s-maj=38.3km s-min=24.9km az=64.0*
ISC 30 19:21:35.6±1.4, 9°.2S±0°.1×125°.41E±0°.09, h35km, n6, σ2s73/10, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata 2.00 239**			Pn	**Pn**	**19 22 07.4**	**+0.4**
	12nm,0.3s,baz=91,slow=4.1,SNR=17						
BATI				Sn	**Sn**	**19 22 30.0**	**-0.9**
	18nm,0.3s,baz=353,slow=16,SNR=3.8						
FITZ	**Fitzroy Crossi 8.88 179**			Pn	**Pn**	**19 23 42.2**	**+0.8**
	1.0nm,0.3s,baz=3.2,slow=12,SNR=24						
FITZ				Sn	**Sn**	**19 25 20.8**	**+0.6**
	1.1nm,0.3s,baz=182,slow=3.5,SNR=7.4						
FITZ				LR	LR	19 27 20.8	
	comp=Z,30nm,21.4s,baz=334,slow=38						
WRA	**Warramunga Arr 13.75 142**			Pn	**Pn**	**19 24 49.2**	**+1.1**
	0.4nm,0.3s,baz=316,slow=14,SNR=15						
WRA				Sn	**Sn**	**19 27 17.0**	**-2.7**
	0.3nm,0.3s,baz=317,slow=24,SNR=5.8						
ASAR	**Alice Springs 16.54 152**			Pn	**Pn**	**19 25 26.1**	**+1.1**
	0.2nm,0.3s,baz=320,slow=11,SNR=26						
ASAR				Sn	**Sn**	**19 28 23.0**	**-4.8**
	0.2nm,0.3s,baz=318,slow=20,SNR=7.2						
STKA	**Stephens Creek 27.13 149**			P	**P**	**19 27 19.4**	**+3.9**
	1.4nm,0.7s,baz=326,slow=14,SNR=3.2						
MKAR	**Makanchi Array 67.66 329**			P	**P**	**19 32 27.4**	**-1.7**
	0.5nm,0.6s,baz=125,slow=8.4,SNR=5.4						

*NEIC **30** 19:26:16.7±1.4, 16°.4S±0°.3×177°.2W±0°.1, h225km±9km, mb4.3/19, Error ellipse: s-maj=37.1km s-min=17.0km az=177.0*
*IDC **30** 19:27:11.1±23.0, 17°.58S×179°.70E, h602km±133km, mb3.6/6, mb1 3.7/7, mb1mx3.1/39, mbtmp4.6/7, Error ellipse: s-maj=288.7km s-min=42.7km az=86.0*
ISC 30 19:26:24.0±2.2, 17°.1S±0°.3×177°.7W±0°.3, h250km, n32, σ1s26/31, mb4.2/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu 4.09 261**				**Pn**	**19 27 28.5**	**-0.5**
DZM	**Mont Dzumac 15.72 249**			P	Pn	19 30 02.3	+9.3
	0.9nm,0.3s,baz=21,slow=9.7,SNR=10						
ARMA	**Armidale 30.92 239**			P	**P**	**19 32 20.6**	**+2.7**
ARMA				IAmb	IAmb	19 32 32.1	
	comp=Z,7.5nm,1.0s						
CTA	**Charters Tower 34.24 259**			P	**P**	**19 32 47.2**	**+0.5**
	comp=Z,2.1nm,0.3s,baz=77,slow=9.1,SNR=5.8						
CTA	**Charters Tower 34.24 259**			P	**P**	**19 32 47.2**	**+0.5**
CTAO	**Charters Tower 34.24 259**			P	**P**	**19 32 46.8**	**0.0**
CTAO				IAmb	IAmb	19 33 01.1	
	comp=Z,9.1nm,1.1s						
COEN	**Coen 37.77 269**			P	**P**	**19 33 16.6**	**0.0**
STKA	**Stephens Creek 39.60 240**			P	**P**	**19 33 33.2**	**+1.6**
	comp=Z,3.2nm,0.5s,baz=89,slow=11,SNR=16						
STKA	**Stephens Creek 39.60 240**			P	**P**	**19 33 33.1**	**+1.6**
JAY	**Jayapura 43.33 285**			P	**P**	**19 34 04.4**	**+2.3**
	comp=Z,4.9nm,0.7s,baz=126,slow=19,SNR=7.8						
BBOO	**Buckleboo 44.38 240**			P	**P**	**19 34 10.3**	**+0.2**
BBOO				IAmb	IAmb	19 34 11.4	
	comp=Z,7.0nm,0.8s						
WR0	**Warramunga Arr 45.24 259**			P	**P**	**19 34 16.5**	**-0.6**
WB0	**Warramunga Arr 45.40 259**			P	**P**	**19 34 17.6**	**-0.7**
WB2	**Warramunga Arr 45.42 259**			P	**P**	**19 34 18.1**	**-0.4**
WB2				IAmb	IAmb	19 34 18.9	
	comp=Z,3.8nm,0.6s						
WRA	**Warramunga Arr 45.43 259**			P	**P**	**19 34 18.3**	**-0.3**
	comp=Z,2.5nm,0.5s,baz=97,slow=6.8,SNR=54						
WRA	**Warramunga Arr 45.43 259**			P	**P**	**19 34 18.3**	**-0.3**
AS31	**Alice Springs 45.65 253**			P	**P**	**19 34 20.2**	**-0.1**
AS31				IAmb	IAmb	19 34 20.8	
	comp=Z,6.4nm,0.6s						
ASAR	**Alice Springs 45.65 253**			P	**P**	**19 34 20.3**	**0.0**
	comp=Z,22nm,0.5s,baz=89,slow=7.8,SNR=595						
ASAR	**Alice Springs 45.65 253**			P	**P**	**19 34 20.3**	**0.0**
MTN	**Manton Dam 49.49 268**			P	**P**	**19 34 49.6**	**-0.1**
MTN				IAmb	IAmb	19 35 05.5	
	comp=Z,25nm,1.1s						
FORT	**Forrest 50.95 244**			P	**P**	**19 34 59.4**	**-1.1**
FORT				IAmb	IAmb	19 35 12.1	
	comp=Z,15nm,0.9s						
KNRA	**Kununurra 51.23 263**			P	**P**	**19 35 01.9**	**-0.9**
KNRA				IAmb	IAmb	19 35 03.0	
	comp=Z,10nm,0.8s						
SIJI	**Sorong 52.70 282**			P	**P**	**19 35 14.7**	**+1.0**
	comp=Z,9.1nm,0.6s,baz=131,slow=20,SNR=5.5						
SIJI	**Sorong 52.70 282**			P	**P**	**19 35 14.7**	**+1.0**
FITZ	**Fitzroy Crossi 53.82 260**			P	**P**	**19 35 21.4**	**-0.2**
FITZ				IAmb	IAmb	19 35 25.9	
	comp=Z,6.9nm,1.1s						
PSA00	**Pilbara Seismi 58.75 255**			P	**P**	**19 35 54.7**	**-1.8**
PSA00				IAmb	IAmb	19 35 55.1	
	comp=Z,5.8nm,0.6s						
VNDA	**Vanda 61.30 185**			P	**P**	**19 36 12.7**	**0.0**
MORW	**Morawa 61.41 246**			P	**P**	**19 36 12.2**	**-2.2**
MORW				IAmb	IAmb	19 36 18.1	
	comp=Z,7.7nm,1.1s						
GIRL	**Giralia 63.76 253**			P	**P**	**19 36 29.2**	**-0.7**
JAGI	**Jajag, Banyuwa 66.73 268**			P	**P**	**19 36 46.5**	**-2.6**
UGM	**Wanagama 70.34 268**			P	**P**	**19 37 09.0**	**-2.3**
QSPA	**South Pole Qui 72.95 180**			P	**P**	**19 37 26.9**	**+0.8**

*NIED **30** 19:43:55.9, 36°.64N×140°.93E, h49km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr1.46; Mθθ-0.70; Mφφ-0.77; Mrθ0.55; Mθφ-0.90; Mφr2.54; Fault plane solution: M₀3.03000×10¹⁴ NP1:φs18.00000°, δ76.00000°, λ76.00000°. NP2:φs244.00000°, δ20.00000°, λ135.00000°.*
JMA 30 19:43:55.9±0.1, 36°.64N×140°.93E, h49km±1km, M3.5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi 0.29 264**			P	Pn	19 44 04.9	0.0
JHO				S	Sn	19 44 10.8	-0.4
JHYU	**Hitachinakayam 0.41 223**			P	Pn	19 44 06.0	0.0
JHYU				S	Sn	19 44 13.0	-0.2
ONAJ	**Iwakimizuishiy 0.47 347**			P	Pn	19 44 06.4	-0.5
ONAJ				S	Sn	19 44 13.7	-1.0
JFFD	**Fukushimafurud 0.54 327**			P	Pn	19 44 07.5	-0.1
JFFD				S	Sn	19 44 15.3	-0.7
JYT	**Yasato 0.72 235**			P	Pn	19 44 09.3	-0.6
JYT				S	Sn	19 44 19.2	-0.8
JFK	**Kawauchi 0.73 357**			P	Pn	19 44 09.3	-0.7
JFK				S	Sn	19 44 18.9	-1.3
JFT	**Otama 1.00 332**			P	Pn	19 44 14.1	+0.5
JFT				S	Sn	19 44 26.9	+0.3
JAG	**Ashikaga 1.21 260**			P	Pn	19 44 16.5	+0.1
JMM	**Marumori 1.23 355**			P	Pn	19 44 16.5	-0.2
JFY	**Yanaizu 1.24 308**			P	Pn	19 44 17.2	+0.3
JKT	**Katashina 1.36 276**			P	Pn	19 44 19.0	+0.5
MAT	**Matsushiro 2.19 268**			P	Pn	19 44 31.2	+1.3
MAT				S	Sn	19 44 59.3	+3.4

IDC 30 19:48:42.3±0.9, 15°.66S×175°.74W, h0km, mb3.9/7, mb1 4.3/7, mb1mx4.0/43, mbtmp3.9/7, MS4.3/6, Ms1 4.3/6, ms1mx3.8/47, Error ellipse: s-maj=50.8km s-min=22.6km az=144.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island 13.68 188**			LR	LR	19 55 53.4	
	comp=Z,395nm,19.6s,baz=346,slow=32						
RAR	**Rarotonga 16.12 112**			LR	LR	19 57 16.8	
	comp=Z,246nm,21.7s,baz=294,slow=32						
DZM	**Mont Dzumac 18.02 247**			LR	LR	19 58 46.6	
	comp=Z,2μm,19.2s,baz=82,slow=34						
RPZ	**Rata Peaks 30.14 199**			LR	LR	20 07 05.5	
	comp=Z,585nm,18.8s,baz=11,slow=37						
H11S2	**WAKE ISLAND Hy 38.09 332**			T	T	20 36 08.6	
	baz=162,slow=74,SNR=7.4						
H11S3	**WAKE ISLAND Hy 38.10 332**			T	T	20 36 01.8	
	baz=162,slow=74,SNR=9.6						
H11S1	**WAKE ISLAND Hy 38.10 332**			T	T	20 36 10.0	
	baz=162,slow=74,SNR=6.1						
H11N3	**WAKE ISLAND Hy 39.08 334**			T	T	20 37 20.7	
	baz=152,slow=76,SNR=48						
H11N1	**WAKE ISLAND Hy 39.08 334**			T	T	20 37 20.1	
	baz=152,slow=76,SNR=117						
H11N2	**WAKE ISLAND Hy 39.10 334**			T	T	20 37 22.5	
	baz=152,slow=76,SNR=61						
WRA	**Warramunga Arr 47.59 257**			P	P	19 57 20.6	+0.2
	1.6nm,0.9s,baz=91,slow=7.6,SNR=5.4						
ASAR	**Alice Springs 47.89 252**			P	P	19 57 22.1	-0.5
	2.3nm,0.7s,baz=85,slow=7.6,SNR=26						
VNDA	**Vanda 62.90 185**			P	P	19 59 09.9	0.0
	0.5nm,0.9s,baz=0.0,slow=7.1,SNR=2.3						
NVAR	**Mina Array Bea 76.04 43**			P	P	20 00 30.6	-1.3
	0.7nm,0.8s,baz=224,slow=7.6,SNR=2.7						
USRK	**Ussuriysk Ar. 76.26 324**			LR	LR	20 27 09.7	
	comp=Z,443nm,20.5s,baz=113,slow=30						
TXAR	**Lajitas Array 82.63 57**			P	P	20 01 09.5	+1.4
	0.6nm,0.9s,baz=203,slow=3.9,SNR=4.3						
ILAR	**Eielson Array 83.15 12**			P	P	20 01 10.5	+0.7
	1.0nm,1.0s,baz=217,slow=6.3,SNR=7.0						
PDAR	**Pinedale Array 83.97 43**			P	P	20 01 14.2	-0.6
	1.5nm,0.8s,baz=212,slow=3.6,SNR=11						
PDAR				LR	LR	20 33 38.8	
	comp=Z,347nm,19.9s,baz=0.0,slow=32						
H03S2	**Juan Fernandez 86.93 124**			T	T	21 37 42.7	
	baz=251,slow=75,SNR=16						
H03S1	**Juan Fernandez 86.94 124**			T	T	21 37 46.1	
	baz=251,slow=75,SNR=15						
H03S3	**Juan Fernandez 86.94 124**			T	T	21 37 45.9	
	baz=251,slow=75,SNR=19						
H03N2	**Juan Fernandez 87.04 124**			T	T	21 37 54.2	
	baz=257,slow=73,SNR=6.6						
H03N3	**Juan Fernandez 87.04 124**			T	T	21 37 49.9	
	baz=257,slow=73,SNR=5.2						
H03N1	**Juan Fernandez 87.05 124**			T	T	21 37 53.4	
	baz=257,slow=73,SNR=7.9						

*MAN **30** 19:51:55.7, 15°.14N×119°.98E, h25km, mb4.6, ML3.4, MS3.3*
*IDC **30** 19:51:59.6±1.6, 15°.12N×120°.40E, h103km±12km, mb3.4/5, mb1 3.6/5, mb1mx3.1/53, mbtmp3.7/5, MS4.2/2, Ms1 4.2/2, ms1mx3.6/38, Error ellipse: s-maj=57.0km s-min=19.3km az=55.0*
ISC 30 19:51:56.8±2.2, 15°.16N±0°.07×120°.1E±0°.2, h76km±20km, n14, σ1s47/16, mb3.9/4, 5D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan 1.07 68**	⇓*e*P			**Pn**	**19 52 15.8**	**-0.7**
PCPH				*e*S	**Sn**	**19 52 30.7**	**-0.6**
TGY	**Tagaytay City 1.35 141**	P			**P**	**19 52 20.1**	**0.0**
	330nm,0.3s,baz=253,slow=1.9,SNR=15						
TGY				S	**Sn**	**19 52 39.2**	**+1.6**
	492nm,0.3s,baz=131,slow=17,SNR=7.9						
TGY	**Tagaytay City 1.35 141**	⇓*e*P			**Pn**	**19 52 20.7**	**+0.6**
TGY				*e*S	**Sn**	**19 52 40.7**	**+3.0**
LQP	**Lukban 1.77 126**	⇓*i*P			**Pn**	**19 52 25.9**	**+0.2**
LQP				*i*S	**Sn**	**19 52 46.7**	**-1.0**
PGP	**Puerto Galera 1.86 152**	⇓*e*P			**Pn**	**19 52 25.3**	**-1.5**
PGP				*e*S	**Sn**	**19 52 48.1**	**-1.5**
GQP	**Guinayangan 2.63 118**	⇓*i*P			**Pn**	**19 52 37.8**	**+0.8**
JOW	**Kunigami 13.91 32**	LR			LR	20 00 57.4	
	comp=Z,884nm,19.3s,baz=50,slow=39						
CMAR	**Chiang Mai Arr 20.48 282**	P			Pn	19 56 33.0	+1.7
	0.8nm,0.9s,baz=91,slow=8.7,SNR=5.7						
WRA	**Warramunga Arr 37.60 158**	P			**P**	**19 59 02.9**	**-1.4**
	1.6nm,0.7s,baz=336,slow=9.3,SNR=8.4						
ASAR	**Alice Springs 40.90 160**	P			**P**	**19 59 30.6**	**-1.1**
	0.8nm,0.5s,baz=336,slow=6.8,SNR=25						
CTA	**Charters Tower 43.48 143**	LR			LR	20 19 47.7	
	comp=Z,402nm,20.9s,baz=335,slow=39						
FINES	**FINESS Array B 78.71 331**	P			**P**	**20 03 51.8**	**+1.2**
	0.2nm,0.4s,baz=70,slow=9.5,SNR=5.3						
NB2	**NORSAR Subarra 85.68 332**	P			**P**	**20 04 28.2**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=67,slow=5.1						
NOA	**NORSAR Array B 85.68 332**	P			**P**	**20 04 28.2**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=67,slow=5.0,SNR=4.3						

*NIED **30** 19:55:31.6, 28°.32N×139°.18E, h539km, MW6.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁸Nm; Mrr0.31; Mθθ0.72; Mφφ-1.03; Mrθ0.91; Mθφ0.37; Mφr-0.88; Fault plane solution: M₀1.59000×10¹⁸ NP1: φs132.00000°, δ83.00000°, λ56.00000°. NP2:φs32.00000°, δ35.00000°, λ168.00000°.*
*JMA **30** 19:55:31.5±0.2, 28°.32N×139°.18E, h539km±4km, M6.2 JMA Felt I J1.*
*NEIC **30** 19:55:32.4±1.3, 28°.34N±0°.08×138°.84E±0°.09, h511km±1km, mb5.7/554, Mwb6.2/99, Mww6.2, Mwc6.3(GCMT), Error ellipse: s-maj=13.9km s-min=13.1km az=71.0*
*NEIC **30** 19:55:32.4, 28°.34N×138°.84E, h515km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.79; Mθθ0.77; Mφφ-1.56; Mrθ1.88; Mθφ0.07; Mφr-1.69; Fault plane solution: M₀2.87000×10¹⁸ NP1:φs31.17000°, δ25.49000°, λ160.72000°. NP2:φs138.69000°, δ81.83000°, λ65.77000°. Principal axes: T 2.9779, Plg48.0000°, Azm23.0000°; N -0.2318, Plg24.0000°, Azm142.0000°; P -2.7461, Plg33.0000°, Azm249.0000°;*
*UNK **30** 19:55:32.6, 28°.35N×138°.86E, h512km*
*BJI **30** 19:55:32.0±0.0, 28°.35N×138°.87E, h520km, mB6.0/65, mb6.0/84*
*MOS **30** 19:55:33.7±0.9, 28°.39N×138°.85E, h533km, mb5.6/67, Error ellipse: s-maj=5.3km s-min=3.3km az=107.6*
*IDC **30** 19:55:33.6±0.4, 28°.35N×138°.90E, h523km±3km, mb5.1/48, mb1 5.1/56, mb1mx5.1/61, mbtmp6.0/56, Error ellipse: s-maj=7.1km s-min=4.6km az=97.0*
*NEIC **30** 19:55:36, 28°.42N×138°.79E, h525km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.66; Mθθ0.87; Mφφ-1.53; Mrθ1.70; Mθφ0.36; Mφr-1.77; Fault plane solution: M₀2.81000×10¹⁸ NP1:φs31.00000°, δ26.00000°, λ161.00000°. NP2:φs138.00000°, δ82.00000°, λ66.00000°. Principal axes: T 2.7179, Plg47.0000°, Azm22.0000°; N 0.1832, Plg24.0000°, Azm141.0000°; P -2.9011, Plg33.0000°, Azm248.0000°;*
*GCMT **30** 19:55:36.4±0.1, 28°.42N±0°.01×138°.75E±0°.01, h523km, MW6.2/175, Moment Tensor Solution. s175,c400; s145,c211; Duration: 3ₜ2 Moment tensor: Scale 10¹⁸Nm; Mrr0.63±.01; Mθθ0.92±.01; Mφφ-1.55±.02; Mrθ1.67±.01; Mθφ0.36±.01; Mφr-1.68±.01; Best double couple: M₀2.74600×10¹⁸ NP1:φs31.00000°, δ27.00000°, λ163.00000°. NP2:φs137.00000°, δ82.00000°, λ64.00000°. Principal axes: T 2.6600, Plg47.0000°, Azm20.0000°; N 0.1680, Plg26.0000°, Azm141.0000°; P -2.8320, Plg32.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
*NEIC **30** 19:55:36, 28°.35N×138°.86E, h520km, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.58; Mθθ0.83; Mφφ-1.42; Mrθ1.60; Mθφ0.44; Mφr-1.69; Fault plane solution: M₀2.67000×10¹⁸ NP1:φs30.00000°, δ25.00000°, λ161.00000°. NP2:φs136.00000°, δ82.00000°, λ66.00000°. Principal axes: T 2.5208, Plg47.0000°, Azm21.0000°; N 0.2799, Plg24.0000°, Azm140.0000°; P -2.8007, Plg33.0000°, Azm247.0000°;*
*BGR **30** 19:55:39.8±0.0, 29°.07N×138°.96E, h565km±10km, mb5.9, mB_BB6.1*
*KEA **30** 19:55:40.6±0.0, 28°.70N×138°.20E, h476km, mB6.0/1*
ISC 30 19:55:33.7±0.2, 28°.39N±0°.02×138°.87E±0°.03, h528km±1km, h528km:pP-P,n2150,σ1s52/2653, mb5.7/561, 169C-55D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima 3.21 113**			P	**P**	**19 56 45.5**	**-2.8**
CBIJ				S	**S**	**19 57 44.0**	**-5.0**
JCJ	**Chichijima 3.21 113**			P	**P**	**19 56 45.3**	**-3.0**
	866nm,0.3s,baz=23,slow=1.7,SNR=379						
JCJ				S	**S**	**19 57 43.7**	**-5.3**
	2μm,0.3s,baz=237,slow=23,SNR=25						
JHH2	**Haha-jima-NKT2 3.42 120**			P	**P**	**19 56 47.1**	**-2.7**
JHH2				*e*S	**S**	**19 57 46.9**	**-4.7**
JAOM	**Aogashimamukai 4.13 11**			P	**P**	**19 56 54.4**	**-0.5**
JAOM				S	**S**	**19 58 01.2**	**-0.2**
JHJ2	**Mitsune 4.78 10**			P	**P**	**19 57 00.0**	**-0.2**
JHJ2				S	**S**	**19 58 08.7**	**-2.2**
JHJ2	**Mitsune 4.78 10**			P	**P**	**19 56 59.2**	**-1.0**
JHJ	**Hachijo jima 2 4.78 9**			P	**P**	**19 56 59.6**	**-0.6**
	1μm,0.3s,baz=340,slow=3.3,SNR=780						
JHJ				S	**S**	**19 58 06.9**	**-4.0**
	2μm,0.3s,baz=37,slow=20,SNR=16						
TTO1	**TONANKAI O.B.S 5.51

JFNN S **S** 19 58 42.5 -2.1
JKUC kamogawauchiur 6.84 9 P **P** 19 57 18.1 -1.1
JOD2 Odawara 2 6.86 1 P **P** 19 57 18.2 -1.1
JOD2 *e*S **S** 19 58 42.8 -3.1
JTO Tosashimizu 6.87 312 P **P** 19 57 21.4 +1.9
JTO *e*S **S** 19 58 47.2 +1.0
JAO Obara 6.99 349 ⇑P **P** 19 57 21.4 +0.7
JNY Yasuok 7.00 353 P **P** 19 57 21.0 +0.2
JYN Shimob 7.09 358 P **P** 19 57 21.2 -0.5
JICN Ichinomiyachia 7.10 346 P **P** 19 57 23.3 +1.6
INU Inuyama 7.12 348 P **P** 19 57 22.3 +0.5
JKDJ Kitadaitoujima 7.17 252 P **P** 19 57 23.5 +0.9
JKDJ S **S** 19 58 52.5 +0.8
JSGW Sagamiharawaka 7.20 2 P **P** 19 57 21.1 -1.5
JSGW S **S** 19 58 46.6 -5.4
JMZ Minamidaito 2 7.28 251 P **P** 19 57 24.2 +0.5
JMZ *e*S **S** 19 58 53.7 0.0
JGF Kuroka 7.30 350 ⇑P **P** 19 57 24.5 +0.8
JGF S **S** 19 58 51.9 -2.1
JSMT Sammumatsuo 7.36 10 P **P** 19 57 24.1 -0.1
JYTA Yamagatataniai 7.41 346 ⇑P **P** 19 57 25.3 +0.6
JYTA S **S** 19 58 54.4 -1.4
JKS Kasai 7.41 333 ⇑P **P** 19 57 26.0 +1.2
JNT Takato 7.49 355 ⇑P **P** 19 57 25.4 -0.3
JNT S **S** 19 58 56.9 -0.6
JFM Mihama 7.53 342 ⇑P **P** 19 57 27.2 +1.3
JFM S **S** 19 58 58.2 +0.2
JYAK Yakushimahirau 7.53 286 ⇓P **P** 19 57 27.7 +1.7
JRY Ryogami san 7.61 0 P **P** 19 57 26.0 -0.7
JRY *e*S **S** 19 58 55.2 -4.3
JIHU Itakohorinouch 7.68 10 P **P** 19 57 28.6 +1.2
JIHU S **S** 19 58 58.4 -2.4
JGN Niukaw 7.92 351 ⇑P **P** 19 57 29.7 -0.2
JGN S **S** 19 59 01.9 -3.4
JNG Nsakai 8.02 356 P **P** 19 57 30.2 -0.8
JNG S **S** 19 59 04.4 -2.8
JAG Ashikaga 8.03 3 P **P** 19 57 28.9 -2.0
JAG S **S** 19 59 00.0 -7.2
JHYU Hitachinakayam 8.06 10 P **P** 19 57 30.5 -0.7
JHYU S **S** 19 59 04.1 -3.6
MJAR Matsushiro Arr 8.15 356 P **P** 19 57 30.4 -1.8
18nm,0.3s,baz=177,slow=11,SNR=145
MJAR S **S** 19 59 01.1 -8.3
8.8nm,0.3s,baz=178,slow=5.9,SNR=5.5
MJAR ScP **ScP** 20 05 47.5 -0.6
baz=216,slow=2.0,SNR=5.7
MAJO Matsushiro 8.15 356*c iP* **P** 19 57 31.2 -1.0
MAJO Matsushiro 8.15 356 P **P** 19 57 31.0 -1.2
MAT Matsushiro 8.15 356 P **P** 19 57 30.5 -1.7
MAT S **S** 19 59 04.2 -5.3
MAT Matsushiro 8.15 356 P **P** 19 57 30.7 -1.5
JGK Kuni 8.15 359 P **P** 19 57 31.3 -0.9
JGK S **S** 19 59 06.7 -2.9
JKG Kaga 8.15 345 ⇑P **P** 19 57 32.3 +0.1
JKG S **S** 19 59 08.3 -1.1
MJB9 Matsu-Tunnel 8.15 356 P **P** 19 57 31.1 -1.1
JHS Saijyo 8.21 325 ⇑P **P** 19 57 34.4 +1.6
JHS S **S** 19 59 12.2 +1.5
JKD Kudamatsu 8.23 315 ⇑P **P** 19 57 35.1 +2.1
JTT Ttatey 8.29 351 ⇑P **P** 19 57 33.6 0.0
JTT S **S** 19 59 11.3 -0.8
JHO Hitachi 8.32 9 P **P** 19 57 32.4 -1.5
JHO S **S** 19 59 07.1 -5.5
JNU Nakatsue 8.34 306 P **P** 19 57 35.9 +1.7
28nm,0.3s,baz=102,slow=4.9,SNR=526
JNU S **S** 19 59 05.9 -7.2
baz=126,slow=3.2,SNR=3.8
JKT Katashina 8.36 2 P **P** 19 57 32.8 -1.6
JHIK Hikimi 8.52 318 ⇑P **P** 19 57 37.5 +1.5
JAMN Amaminishikomi 8.55 271 ⇓P **P** 19 57 38.0 +1.6
JAMN *e*S **S** 19 59 18.6 +1.6
JSJ Shimokoshiki 8.59 295 P **P** 19 57 37.6 +0.9
JSJ S **S** 19 59 18.5 +0.8
JSB Shiboa 8.60 6 P **P** 19 57 37.0 +0.2
JSB S **S** 19 59 13.7 -4.2
JJH Hakui 8.69 349 ⇑P **P** 19 57 37.6 0.0
JJH S **S** 19 59 17.2 -2.3
JJN Nakama 8.71 356 ⇑P **P** 19 57 36.8 -1.0
JJN S **S** 19 59 15.7 -4.1
JTK Tokunoshima 8.78 268 ⇓P **P** 19 57 40.7 +1.9
JHK Hiroka 8.84 1 P **P** 19 57 37.6 -1.5
JHK S **S** 19 59 17.5 -4.7
JFY Yanaizu 9.02 4 ⇑P **P** 19 57 39.9 -1.2
JFK Kawauchi 9.11 10 ⇑P **P** 19 57 41.8 -0.2
JIZZ Izumozaki 9.12 359 P **P** 19 57 41.7 -0.3
JIZZ S **S** 19 59 24.0 -3.5
JSZ Suzu 9.12 352 P **P** 19 57 40.9 -1.2
JSZ S **S** 19 59 23.0 -4.6
JOKE Okinoerabujima 9.17 266 ⇓P **P** 19 57 44.1 +1.3
JOI OKI 9.20 330 ⇑P **P** 19 57 44.0 +1.1
JOI S **S** 19 59 29.5 +0.4
JNS Sasagawa 9.41 2 ⇑P **P** 19 57 44.3 -0.8
JNS S **S** 19 59 28.4 -4.6
JOW Kunigami 9.53 263 P **P** 19 57 48.0 +1.5
21nm,0.3s,baz=103,slow=14,SNR=301
JOW Kunigami 9.53 263 ⇓P **P** 19 57 47.7 +1.2
JOW *e*S **S** 19 59 36.6 +1.0
JOW Kunigami 9.53 263 P **P** 19 57 47.7 +1.2
JYAR Yonezawaarcadi 9.56 6 P **P** 19 57 47.1 +0.5
JHG Hegura jima 9.57 351 P **P** 19 57 47.2 +0.5
JHG S **S** 19 59 31.8 -4.3
JSD Sado 9.63 357 ⇑P **P** 19 57 45.4 -2.0
JSD S **S** 19 59 31.1 -6.2
JIH Iheya 9.76 265 P **P** 19 57 50.1 +1.3
JNTH Nagotoyohara 9.82 262 P **P** 19 57 51.7 +2.2
JAW Awa shima 10.04 2 P **P** 19 57 51.3 -0.3
JAW S **S** 19 59 40.3 -4.8
JJT3 Tamagusuku3 10.12 260 P **P** 19 57 54.2 +1.6
JJT3 S **S** 19 59 49.6 +2.8
JTU Tsushima 10.14 309 P **P** 19 57 54.0 +1.3
JTU S **S** 19 59 47.7 +0.8
JOFO Osakifurukawao 10.33 9 P **P** 19 57 55.3 +0.8
JAGN Aguni-jima 10.48 263 P **P** 19 57 57.2 +0.8
JAGN S **S** 19 59 54.9 +1.2
JMK Ichinoseki 10.71 10 P **P** 19 57 58.8 +0.2
JMK S **S** 19 59 55.7 -2.1
JKE Kume jima 2 10.94 262 P **P** 19 58 01.9 +0.7
JKE S **S** 20 00 02.6 +0.1
TJN Taejon 12.56 312*ce*P **P** 19 58 17.5 -0.5
JOGS Gusukube 12.58 256 P **P** 19 58 20.3 +2.0
JOGS S **S** 20 00 37.1 +3.2
JMJ2 Miyako jima3 12.65 256 P **P** 19 58 20.3 +1.2
JMJ2 S **S** 20 00 39.5 +4.2
JIKM Ikemajima 12.66 257 P **P** 19 58 19.9 +0.7
JIKM S **S** 20 00 39.2 +3.7
JIRB Irabujima 12.76 257 P **P** 19 58 20.3 +0.1
JIRB S **S** 20 00 39.7 +2.4
KSRS Korea Array 12.88 317 P **P** 19 58 21.1 -0.3
18nm,0.3s,baz=136,slow=9.0,SNR=194
KSRS S **S** 20 00 41.4 +2.0
baz=138,slow=20,SNR=6.4
KSRS ScP **ScP** 20 05 54.6 +0.4
1.1nm,0.3s,baz=160,slow=1.2,SNR=17
KSRS PKiKP **PKiKP** 20 11 09.8 +2.0
0.1nm,0.3s,baz=127,slow=0.8,SNR=4.9
KS19 Wonju Array Si 12.95 317 P **P** 19 58 21.2 -0.8
JOT Ohata 13.08 7 P **P** 19 58 23.3 0.0
JOT *e*S **S** 20 00 44.0 +0.9
JOMM Oshimamatsumae 13.14 4 P **P** 19 58 24.4 +0.5
JTJ Tarama 13.22 257 P **P** 19 58 25.1 0.0
JTJ S **S** 20 00 47.1 +0.9
JISG Ishigakijimahi 13.58 257 P **P** 19 58 28.1 -0.6
JKB Kayabe 13.58 7 P **P** 19 58 28.5 0.0
JKB *e*S **S** 20 00 49.8 -2.7
JOSM Okushiri--Mats 13.67 2 P **P** 19 58 29.5 +0.1
JOSM *e*S **S** 20 00 54.9 +0.7
INCN Inchon 13.69 315 P **P** 19 58 28.9 -0.9
INCN Inchon 13.69 315 P **P** 19 58 29.1 -0.7
INCN Inchon 13.69 315 P **P** 19 58 29.1 -0.7
JIJ Ishigaki jima 13.80 256 P **P** 19 58 30.4 -0.6
JIJ S **S** 20 00 58.1 +0.9
JKRS Kuro-shima 13.95 256 P **P** 19 58 32.6 -0.1
JKRS S **S** 20 00 59.9 -0.3
ERM Erimo 14.04 13*ce*P **P** 19 58 33.6 +0.4
ERM pmax pmax
comp=Z,381nm,0.7s
ERM Erimo 14.04 13 P **P** 19 58 33.5 +0.3
JEM Erimo 14.04 13 P **P** 19 58 33.6 +0.4
IRIF Iriomote-Funau 14.16 257 P **P** 19 58 34.0 -0.8
IRIF S **S** 20 01 03.1 -1.0

HATJ Hateruma jima 14.19 256 P **P** 19 58 34.7 -0.5
HATJ S **S** 20 01 04.8 0.0
JNBK Urakawa-nobuka 14.21 12 P **P** 19 58 35.6 +0.5
WOSN Wonsan 14.34 321 P **P** 19 58 37.3 +0.8
HJU Haeju 14.61 315 P **P** 19 58 39.3 0.0
JBT2 Biratori 2 14.63 10 P **P** 19 58 39.7 +0.2
JCH Churui 14.65 13 P **P** 19 58 40.1 +0.4
JCH *e*S **S** 20 01 22.0 +8.9
YOJ Yonaguni jima 14.74 258 P **P** 19 58 39.7 -1.1
YOJ *e*S **S** 20 01 11.6 -3.6
YOJ Yonaguni jima 14.74 258 P **P** 19 58 39.5 -1.3
YOJ Yonaguni jima 14.74 258 P **P** 19 58 39.5 -1.3
JYNG Yonagunijimaku 14.80 258 P **P** 19 58 40.2 -1.3
JYNG S **S** 20 01 14.6 -1.7
HHU Hamhung 14.84 324 P **P** 19 58 14.7 -27
HHU S **S** 20 01 58.4 +42
JSK Shakotan 14.99 5 P **P** 19 58 43.1 0.0
JISS Ishikarishitsu 15.00 7 P **P** 19 58 43.6 +0.4
PYAG Pyongyang 15.22 318 P **P** 19 58 45.7 +0.1
PYAG pP sP 20 00 06.6 -47
PYAG S **S** 20 01 22.5 -1.2
PYS Pyongsong 15.29 318 P **P** 19 58 46.7 +0.3
PYS S **S** 20 01 23.8 -1.3
JAB Ashibetsu 15.32 9 P **P** 19 58 47.2 +0.5
JAR Ashorobuto 15.39 14 P **P** 19 58 47.4 0.0
MSHR Mys Shultsa 15.48 338*ce*P **P** 19 58 48.2 -0.1
MSHR pmax pmax
comp=Z,921nm,1.0s
JHR Hokuryu 15.49 8 P **P** 19 58 49.3 +0.9
JHR *e*S **S** 20 01 35.3 +6.7
SSE Sheshan 15.60 284 P **P** 19 58 47.3 -2.4
SSE sP sP 20 00 43.3 -14
SSE S **S** 20 01 28.3 -2.5
SSE pmax pmax
comp=Z,190nm,0.8s
SSE pmax pmax
comp=Z,3μm,6.1s
SSE Sheshan 15.60 284 P **P** 19 58 48.4 -1.3
VLA Vladivostok 15.74 341*c iP* **P** 19 58 51.5 +0.5
VLA pmax pmax
comp=Z,4μm,1.2s
GUMO Guam 15.75 158 P **P** 19 58 51.2 -0.3
comp=Z,147nm,0.3s,baz=316,slow=1.1,SNR=90
GUMO S **S** 20 01 35.4 +1.5
comp=Z,12nm,0.3s,baz=59,slow=20,SNR=7.2
GUMO Guam 15.75 158 P **P** 19 58 50.8 -0.7
GUMO pmax pmax
comp=Z,7μm,1.5s
GUMO Guam 15.75 158 P **P** 19 58 50.8 -0.7
JNK Nakash 15.88 16 P **P** 19 58 52.0 -0.4
TATO Taipei 15.90 262 P **P** 19 58 51.1 -1.8
NEM2 Nemuro 2 15.94 19 P **P** 19 58 52.5 -0.4
NEM2 *e*S **S** 20 01 39.2 +2.8
NMR Nemuro--Hokkai 15.94 18 *eP* **P** 19 58 51.1 -1.8
ASAJ Asahikawa 15.98 10 P **P** 19 58 53.7 +0.3
comp=Z,26nm,0.3s,baz=224,slow=11,SNR=162
ASAJ ScP **ScP** 20 06 00.0 +0.3
comp=Z,2.1nm,0.3s,baz=253,slow=4.1,SNR=7.1
ASAJ Asahikawa 15.98 10 P **P** 19 58 53.7 +0.3
ASAJ Asahikawa 15.98 10 P **P** 19 58 53.6 +0.2
ASAJ pmax pmax
comp=Z,684nm,1.0s
JKA Kamikawa-asahi 15.98 10 P **P** 19 58 53.6 +0.2
JKA ScP **ScP** 20 06 00.9 +1.2
NACB Ninganchiao 16.05 259 P **P** 19 58 51.9 -2.5
JTKR Abashiri--Toko 16.07 13 P **P** 19 58 54.6 +0.4
JTKR *e*S **S** 20 01 40.3 +1.7
YHNB Yeheng 16.09 261 P **P** 19 58 52.5 -2.4
JNSB Nemuroshibetsu 16.13 16 P **P** 19 58 55.2 +0.4
GLVR Golovnino 16.22 17⇑*iP* **P** 19 58 57.0 +1.2
GRPR Tuman 16.53 18 *eP* **P** 19 58 58.9 +0.1
GRPR pmax pmax
comp=Z,5μm,1.1s
GRPR pmax pmax
comp=Z,892nm,0.5s
GRPR pmax pmax
comp=E,1μm,0.7s
GRPR pmax pmax
comp=N,1μm,0.7s
YULB Yu-li 16.57 257 P **P** 19 58 57.9 -1.7
YUK Yuzh-Kuril'sk 16.59 18 *eP* **P** 19 59 00.2 +0.8
YUK pmax pmax
comp=Z,2μm,0.6s
YUK pmax pmax
comp=N,278nm,0.7s
YUK pmax pmax
comp=E,206nm,0.5s
YUK pmax pmax
comp=Z,4μm,1.5s
SUJ Sinuiju 16.64 318 P **P** 19 59 00.0 +0.1
SUJ S **S** 20 01 48.7 +0.1
TEY Ternei 16.71 354⇑*iP* **P** 19 59 00.8 +0.3
TEY *i*S **S** 20 01 50.5 +0.9
TEY pmax pmax
comp=Z,9μm,7.6s
TEY pmax pmax
comp=Z,420nm,1.1s
TEY pmax pmax
comp=N,340nm,1.0s
TEY pmax pmax
comp=E,70nm,0.7s
TEY smax smax
comp=E,5μm,9.2s
TEY smax smax
comp=N,20μm,8.2s
TEY MLR MLR
comp=E,10μm,14.0s
TEY MLR MLR
comp=N,8μm,12.0s
TEY MLR MLR
comp=Z,14μm,15.0s
USA0B Ussuriysk Arra 16.71 343 P **P** 19 59 01.1 +0.5
USA0B pmax pmax
comp=Z,3μm,1.0s
USA0B Ussuriysk Arra 16.71 343 P **P** 19 59 01.1 +0.5
USRK Ussuriysk Ar. 16.71 343 P **P** 19 59 01.2 +0.6
baz=164,slow=8.5,SNR=406
USRK S **S** 20 01 53.9 +4.2
baz=161,slow=18,SNR=5.2
SSLB Suanglung 16.73 258 P **P** 19 59 00.1 -1.0
TWG Pinlang 16.98 255 P **P** 19 59 01.6 -1.8
JWK2 Keihoku 17.07 7 P **P** 19 59 05.7 +1.8
JWK2 *e*S **S** 20 01 59.7 +4.3
TPUB Ta-pu 17.18 257 P **P** 19 59 04.3 -1.0
BBP Basco 17.30 247 *eP* **P** 19 59 05.4 -1.0
NJ2 Nanjing 17.68 287⇓*iP* **P** 19 59 09.3 -0.4
NJ2 sP sP 20 01 12.5 -8.2
NJ2 S **S** 20 02 07.3 +1.5
NJ2 ScS **ScS** 20 09 44.3 +0.1
NJ2 pmax pmax
comp=Z,520nm,0.8s
NJ2 pmax pmax
comp=Z,9μm,3.8s
DL2 Dalian 17.75 311 P **P** 19 59 09.5 -0.8
DL2 sP **sP** 20 01 14.0 -7.5
DL2 S **S** 20 02 05.3 -1.5
DL2 ScS **ScS** 20 09 43.0 -1.2
DL2 pmax pmax
comp=Z,88nm,0.9s
DL2 pmax pmax
comp=Z,1μm,6.4s
MDJ Mudanjiang 17.81 338 P **P** 19 59 12.0 +1.3
MDJ sP sP 20 01 13.5 -8.7
MDJ S **S** 20 02 09.0 +1.4
MDJ pmax pmax
comp=Z,490nm,1.1s
MDJ pmax pmax
comp=Z,3μm,3.9s
MDJ Mudanjiang 17.81 338 P **P** 19 59 11.5 +0.8
KUR Kuril'sk 18.27 21*c iP* **P** 19 59 15.3 +0.4
KUR *e*S **S** 20 02 18.0 +3.0
KUR pmax pmax
comp=Z,603nm,0.7s
KUR pmax pmax
comp=E,51nm,0.4s
KUR pmax pmax
comp=N,73nm,0.8s
KUR pmax pmax
comp=Z,9μm,5.6s
KUR smax smax
comp=N,15μm,8.5s
KUR smax smax
comp=E,7μm,8.2s
KUR MLR MLR
comp=Z,3μm,15.0s
KUR MLR MLR
comp=E,2μm,14.0s
KUR MLR MLR
comp=N,4μm,15.0s
SNY Shenyang 18.30 321⇑*iP* **P** 19 59 16.0 +0.8
SNY sP **sP** 20 01 26.8 -0.8
SNY S **S** 20 02 12.0 -3.6
SNY ScS **ScS** 20 09 49.5 +3.7
SGCP Mt. Cagua 18.44 240 *eP* **P** 19 59 16.2 -0.6
QZH Quanzhou 18.45 264⇓*iP* **P** 19 59 16.5 -0.3
QZH sP **sP** 20 01 22.3 -6.9
QZH S **S** 20 02 17.8 -0.6
QZH pmax pmax
comp=N,890nm,0.7s
KNMB Chin-men Tao 18.75 263 P **P** 19 59 19.4 -0.2
CN2 Changchun 18.78 329 *eP* **P** 19 59 21.0 +1.4
CN2 *es*P sP 20 01 29.0 -3.9
CN2 *eS* **S** 20 02 22.3 -1.1
CN2 ScS **ScS** 20 09 47.3 -0.1
CN2 pmax pmax
comp=N,500nm,1.0s
CN2 pmax pmax
comp=N,1μm,3.0s
YSS Yuzh-Sakhalins 18.78 8*α iP* **P** 19 59 20.1 +0.5
YSS *eS* **S** 20 02 25.3 +2.0
YSS pmax pmax
comp=Z,290nm,0.4s
YSS pmax pmax
comp=N,4μm,6.0s
YSS pmax pmax
comp=Z,8μm,6.0s
YSS pmax pmax
comp=E,2μm,5.0s
YSS MLR MLR
comp=Z,4μm,12.0s
YSS MLR MLR
comp=N,4μm,11.0s
YSS MLR MLR
comp=E,4μm,13.0s
YSS Yuzh-Sakhalins 18.78 8 P **P** 19 59 20.0 +0.5
CVP Callao Caves 18.93 239⇓*eP* **P** 19 59 21.6 +0.3
APYP Conner 19.28 241 *eP* **P** 19 59 23.1 -1.4
CAUP Cauayan 19.40 238 *eP* **P** 19 59 26.9 +1.3
ABRA Dolores 19.81 241 *eP* **P** 19 59 28.1 -1.3
TIA Tai'an 19.94 299 P **P** 19 59 30.8 +0.5
TIA sP **sP** 20 01 47.5 +1.7
TIA S **S** 20 02 41.8 -0.6
TIA pmax pmax
comp=E,90nm,0.6s
TIA pmax pmax
comp=E,4μm,3.5s
PVCP Virac 20.10 226 *eP* **P** 19 59 32.6 +0.6
BALP Baler 20.35 235 *eP* **P** 19 59 33.3 -0.9
CNP Catarman 20.63 223 *eP* **P** 19 59 37.7 +0.9
SMPP San Manuel, Pa 20.75 238 *eP* **P** 19 59 36.6 -1.2
SMPP *eS* **S** 20 02 58.1 +2.5
POLP Polilio Island 20.77 233 *eP* **P** 19 59 37.7 -0.3
UGL Uglegorsk 20.80 6⇑*iP* **P** 19 59 39.0 +1.1
UGL *e* 20 01 56.3
UGL *eS* **S** 20 02 57.7 +2.1
UGL pmax pmax
comp=Z,706nm,1.8s
UGL smax smax
comp=N,11μm,11.3s
PCPH Palayan 20.81 236 *eP* **P** 19 59 38.5 0.0
GQP Guinayangan 21.00 230 *i P* **P** 19 59 39.6 -0.5
BOLP Bolinao 21.18 240 *eP* **P** 19 59 40.5 -1.2
WHN Wuhan 21.45 282 ⇓P **P** 19 59 45.0 +1.0
WHN sP **sP** 20 02 04.8 +2.5
WHN S **S** 20 03 05.8 -0.6
WHN ScS **ScS** 20 09 57.3 +0.1
WHN pmax pmax
comp=N,1μm,0.9s
LQP Lukban 21.47 232 *i P* **P** 19 59 44.0 -0.6
KLR Kul'dur 21.52 347 P **P** 19 59 45.4 +1.0
comp=N,313nm,0.7s,baz=166,slow=8.1,SNR=290
KLR ScP **ScP** 20 06 12.0 -0.1
comp=N,20nm,0.7s,baz=160,slow=1.9,SNR=7.0
KLR Kul'dur 21.52 347*ce*P **P** 19 59 45.2 +0.8
KLR pmax pmax
comp=Z,806nm,1.5s
SCZP Santa Cruz 21.55 238 *eP* **P** 19 59 44.3 -0.8
BOAC Boac 21.72 230 *eP* **P** 19 59 46.5 -0.1
OCLP Ormoc 21.82 221 *eP* **P** 19 59 48.1 +0.6
TGY Tagaytay City 21.90 233 P **P** 19 59 48.9 +0.6
comp=Z,3μm,0.8s,baz=306,slow=1.5,SNR=55
TGY ScP **ScP** 20 06 13.9 +0.2
comp=Z,94nm,0.3s,baz=313,slow=7.2,SNR=6.5
BJT Baijiatuan 22.01 308 P **P** 19 59 48.7 -0.2
BJT pmax pmax
comp=Z,251nm,1.1s
BJT Baijiatuan 22.01 308 P **P** 19 59 48.7 -0.2
BJT IAmb IAmb 19 59 57.0
comp=Z,251nm,1.1s
BJI Beijing 22.01 308 P **P** 19 59 48.8 -0.1
BJI sP **sP** 20 02 07.8 -0.8
BJI S **S** 20 03 13.0 -2.0
BJI PcP **PcP** 20 03 26.0 -0.1
BJI pmax pmax
comp=Z,180nm,0.9s
PGP Puerto Galera 22.30 232 *eP* **P** 19 59 51.3 -0.6
OTRP Odiongan 22.40 228 *eP* **P** 19 59 53.0 +0.3
MSLP Maasin 22.43 219 *eP* **P** 19 59 52.8 -0.1
GRNR Gornyy 22.43 356⇑*iP* **P** 19 59 53.6 +1.1
GRNR *eS* **S** 20 03 28.0 +6.6
GRNR pmax pmax
comp=E,50nm,1.2s
GRNR pmax pmax
comp=Z,190nm,1.2s
GRNR pmax pmax
comp=N,140nm,1.0s
GRNR smax smax
comp=N,20nm,1.1s
GRNR MLR MLR
comp=N,2μm,14.0s
GRNR MLR MLR
comp=E,3μm,14.0s
GRNR MLR MLR
comp=Z,3μm,15.0s
RCP Roxas 22.54 225 *eP* **P** 20 00 00.6 +6.7
TYV Tymovskoe 22.63 6 *eP* **P** 19 59 55.5 +1.2
TYV *eS* **sP** 20 02 16.1 +1.3
TYV pmax pmax
comp=Z,3μm,2.2s
TYV pmax pmax
comp=Z,457nm,1.3s
LUBP Lubang 22.64 234 *eP* **P** 19 59 53.7 -1.2
SJMP San Jose 22.93 230 *eP* **P** 19 59 57.8 +0.4
HKPS Hong Kong Po S 23.14 260 P **P** 19 59 59.7 +0.4
TBP Tagbilaran 23.35 220 *eP* **P** 20 00 02.2 +1.0
GUIM Jordan 23.36 224 *eP* **P** 20 00 01.1 -0.2
GZH Guangzhou 23.57 263 P **P** 19 59 59.3 -3.8
GZH sP **sP** 20 02 20.3 -5.1
GZH S **S** 20 03 34.0 -6.0
GZH pmax pmax
comp=Z,6μm,8.4s
JAP San Jose, Anti 23.66 225 *eP* **P** 20 00 04.2 +0.3
MCO Taipa Grande 23.70 260 P **P** 20 00 06.0 +1.7
BUSP Coron 23.88 231 *eP* **P** 20 00 05.7 -0.2
CGP Cagayan de Oro 23.91 217 *eP* **P** 20 00 05.1 -1.1
CNOP Candoni, Negro 23.95 223 *eP* **P** 20 00 05.4 -1.1
TIY Taiyuan 23.97 300 *eP* **P** 20 00 07.5 +1.0
TIY sP **sP** 20 02 31.0 +1.3
TIY S **S** 20 03 46.5 +0.4
TIY pmax pmax
comp=Z,150nm,0.9s
SNPH Sibulan 23.99 221 *eP* **P** 20 00 07.9 +0.9
CUYO Cuyo Island 24.18 227 *eP* **P** 20 00 08.6 +0.1
BUKP Musuan 24.21 215 *eP* **P** 20 00 08.1 -0.8
MATI Mati 24.44 212 *eP* **P** 20 00 06.3 -4.6
DAV Davao City (W) 24.65 213 P **P** 20 00 12.4 -0.4
comp=Z,258nm,0.4s,baz=76,slow=3.3,SNR=39
NKL Nikolayevsk 24.77 3 *eP* **P** 20 00 13.0 -0.3
NKL *eS* **PcP** 20 03 27.4 -4.4
NKL pmax pmax
comp=Z,1μm,7.9s
NKL pmax pmax
comp=N,3.0nm,7.5s
KCP Kidapawan 24.94 214 *eP* **P** 20 00 15.4 0.0
ENPP El Nido 24.97 231 *eP* **P** 20 00 16.0 +0.4
PAGZ Pagadian 25.13 219 *eP* **P** 20 00 16.7 -0.3
DDMP Don Marcelino, 25.43 212 *eP* **P** 20 00 18.0 -1.7
HIA Hailar 25.49 330 P **P** 20 00 19.9 +0.1

HIA pmax pmax
comp=Z,723nm,1.4s
HIA Hailar 25.49 330 P **P** **20 00 19.9 +0.1**
HHC Hu-ho-hao-te 25.57 306 *e*P **P** **20 00 22.3 +1.6**
HHC sP sP 20 02 44.8 -1.8
HHC S **S** **20 04 10.8 -0.4**
HHC ScS **ScS** **20 10 13.3 -0.4**
HHC pmax pmax
comp=Z,570nm,4.6s
SKMP Bagumbayan, Su 25.64 215 *e*P **P** **20 00 21.3 -0.2**
ENH Enshi 25.66 281 P **P** **20 00 21.7 +0.1**
GSPH General Santos 25.81 213 *e*P **P** **20 00 24.2 +1.1**
SKR Severo-Kuril's 25.81 26 *e*P **P** **20 00 21.7 -0.8**
SKR *e*S **S** **20 04 10.9 -3.5**
SKR pmax pmax
comp=Z,2μm,3.6s
SKR pmax pmax
comp=Z,404nm,0.8s
SKR MLR MLR
comp=Z,3μm,13.0s
SKR MLR MLR
comp=Z,3μm,13.0s
XAN Xi'an 26.17 290 P **P** **20 00 26.5 +0.4**
XAN sP sP 20 02 52.0 -0.5
XAN S **S** **20 04 20.0 -0.8**
XAN pmax pmax
comp=Z,450nm,0.7s
XAN pmax pmax
comp=Z,4μm,6.1s
XAN Xi'an 26.17 290 P **P** **20 00 26.4 +0.4**
XAN pmax pmax
comp=Z,273nm,0.7s
XAN Xi'an 26.17 290 P **P** **20 00 26.4 +0.4**
XAN IAmb IAmb 20 00 28.5
comp=Z,273nm,0.7s
BTO Baotou 26.59 305 P **P** **20 00 30.5 +0.8**
ZEA Zeya 26.73 345 *ce*P **P** **20 00 31.1 +0.5**
ZEA *e* 20 03 38.0
ZEA *e*S **S** **20 04 26.0 -2.8**
ZEA pmax pmax
comp=E,200nm,0.6s
ZEA pmax pmax
comp=N,450nm,0.8s
ZEA pmax pmax
comp=Z,700nm,0.8s
ZEA pmax pmax
comp=E,1μm,8.0s
ZEA pmax pmax
comp=Z,3μm,8.0s
ZEA pmax pmax
comp=N,2μm,7.0s
ZEA smax smax
comp=E,5μm,6.0s
ZEA smax smax
comp=N,2μm,9.0s
ZEA MLR MLR
comp=Z,8μm,16.0s
ZEA MLR MLR
comp=N,6μm,14.0s
ZEA MLR MLR
comp=E,4μm,14.0s
WAKE Wake Island 26.93 104 P **P** **20 00 32.8 0.0**
H11N2 WAKE ISLAND Hy 26.95 102 P **P** **20 00 33.2 +0.4**
baz=269,slow=10,SNR=11
H11N1 WAKE ISLAND Hy 26.95 102 P **P** **20 00 34.1 +1.3**
baz=269,slow=10,SNR=8.5
H11N3 WAKE ISLAND Hy 26.97 102 P **P** **20 00 33.5 +0.6**
baz=269,slow=10,SNR=8.7
BATP Bataraza 27.81 230 *e*P **P** **20 00 42.0 +1.4**
QIZ Qiongzhong 28.10 257 P **P** **20 00 44.5 +1.3**
QIZ sP **sP** **20 03 10.5 +0.6**
QIZ S **S** **20 04 50.8 -0.3**
QIZ pmax pmax
comp=E,310nm,1.2s
QIZ pmax pmax
comp=E,4μm,7.0s
QIZ Qiongzhong 28.10 257 P **P** **20 00 44.4 +1.3**
PATS Pohnpei 28.25 136 P **P** **20 00 43.3 -1.0**
PATS IAmb IAmb 20 00 52.4
comp=Z,390nm,1.7s
PEA0B Petropavlovsk- 28.34 24 P **P** **20 00 45.3 +0.6**
PEA0B pmax pmax
comp=Z,275nm,1.0s
PEA0B Petropavlovsk- 28.34 24 P **P** **20 00 45.3 +0.6**
PEA0B IAmb IAmb 20 00 47.6
comp=Z,275nm,1.0s
PETK Petropavlovsk- 28.34 24 P **P** **20 00 45.2 +0.5**
comp=Z,117nm,0.8s,baz=204,slow=6.1,SNR=143
PETK ScP **ScP** **20 06 30.4 -1.2**
comp=Z,21nm,0.7s,baz=179,slow=5.6,SNR=8.1
GYA Guiyang 28.61 274 ⇓*i*P **P** **20 00 48.3 +0.7**
GYA PcP **PcP** **20 03 43.5 +1.7**
GYA S **S** **20 04 57.8 -1.3**
GYA ScS **ScS** **20 10 27.0 -1.0**
GYA pmax pmax
comp=Z,510nm,0.9s
GYA pmax pmax
comp=Z,2μm,6.8s
PET Petropavlovsk 28.63 25 *e*P **P** **20 00 47.5 +0.3**
PET *e*S **S** **20 04 57.4 -0.9**
PET pmax pmax
comp=Z,580nm,0.9s
PET Petropavlovsk 28.63 25 P **P** **20 00 47.5 +0.3**
TNTI Ternate 29.59 204 P **P** **20 00 55.1 -0.9**
comp=Z,4μmcomp=Z,13μmcomp=Z,1μm,1.3s
TNTI Ternate 29.59 204 P **P** **20 00 55.6 -0.5**
SIJI Sorong 29.99 195 P **P** **20 00 59.5 -0.1**
comp=Z,570nm,0.6s,baz=344,slow=16,SNR=114
SIJI ScP **ScP** **20 06 36.7 -0.9**
comp=Z,132nm,1.1s,baz=0.0,slow=5.2,SNR=9.9
RKPI Ransiki, Papua 30.07 189 P **P** **20 00 59.6 -0.6**
comp=Z,4μmcomp=Z,376nm,0.6s
MYLDM Lahad Datu 30.11 224 P **P** **20 01 02.3 +1.7**
SMPI Sarmi 30.21 180 P **P** **20 01 01.4 0.0**
comp=Z,4μmcomp=Z,3μmcomp=Z,261nm,1.4s
CIT Chita 30.23 328 *e*P **P** **20 01 03.4 +2.2**
CIT *e* 20 02 29.8
CIT *e* 20 02 34.6
CIT pmax pmax
comp=Z,439nm,1.8s
LZH Lanzhou 30.48 294 ⇓P **P** **20 01 04.8 +1.0**
LZH sP sP 20 03 32.0 +0.5
LZH S **S** **20 05 27.3 -0.6**
LZH SS SS 20 08 08.0 -29
LZH ScS **ScS** **20 10 36.3 -0.6**
LZH pmax pmax
comp=Z,550nm,1.2s
LZH pmax pmax
comp=Z,2μm,5.0s
CD2 Chengdu 30.55 283 ⇓*i*P **P** **20 01 04.8 +0.6**
CD2 PP **pwP** **20 02 35.0 -2.3**
CD2 sP sP 20 03 33.5 +1.4
CD2 S **S** **20 05 27.0 -1.8**
CD2 pmax pmax
comp=Z,2μm,0.6s
CD2 pmax pmax
comp=Z,4μm,5.7s
JAY Jayapura 30.78 176 P **P** **20 01 06.4 0.0**
comp=Z,98nm,0.9s,baz=319,slow=4.0,SNR=55
JAY ScP **ScP** **20 06 39.8 -0.4**
comp=Z,38nm,1.0s,baz=18,slow=3.7,SNR=4.8
JAY Jayapura 30.78 176 P **P** **20 01 05.6 -0.8**
comp=Z,1μmcomp=Z,93nm,1.2s
GENI Genyem 30.83 177 P **P** **20 01 05.9 -0.9**
comp=Z,7μmcomp=Z,6μmcomp=Z,573nm,0.9s
KKM Kota Kinabalu 30.90 228 P **P** **20 01 08.1 +0.7**
KMSI Cibinong 31.11 210 P **P** **20 01 07.8 -1.4**
comp=Z,517nmcomp=Z,13μmcomp=Z,2μm,0.9s
ULN Ulaanbaatar 31.37 317 P **P** **20 01 12.3 +1.1**
ULN Ulaanbaatar 31.37 317 P **P** **20 01 12.0 +0.8**
ULN pmax pmax
comp=Z,325nm,1.0s
ULN Ulaanbaatar 31.37 317 P **P** **20 01 12.0 +0.8**
ULN IAmb IAmb 20 01 14.5
comp=Z,325nm,1.0s
SPMM Sapulut 31.74 226 P **P** **20 01 17.0 +2.3**
SONM Songino Array 31.75 317 P **P** **20 01 15.6 +1.2**
comp=Z,102nm,0.8s,baz=129,slow=8.9,SNR=331
SONM ScP **ScP** **20 06 43.5 +0.4**
comp=Z,67nm,0.9s,baz=132,slow=3.3,SNR=17
SONM P3KPbc 20 32 37.6
comp=Z,1.3nm,1.0s,baz=250,slow=4.6,SNR=8.0
FAKI Fak Fak 31.77 193 P **P** **20 01 13.9 -0.9**
comp=Z,5μmcomp=Z,7μmcomp=Z,535nm,0.8s
FAKI Fak Fak 31.77 193 P **P** **20 01 14.0 -0.9**

MRSI Marisa 32.14 213 P **P** **20 01 17.5 -0.5**
comp=Z,10μmcomp=Z,28μmcomp=Z,2μm,1.4s
MA2 Magadan 32.23 11 ScP **ScP** **20 06 44.5 +0.1**
comp=Z,65nm,1.0s,baz=136,slow=3.9,SNR=8.4
MA2 Magadan 32.23 11 *ce*P **P** **20 01 18.6 +0.5**
MA2 pmax pmax
comp=Z,972nm,1.0s
MA2 Magadan 32.23 11 P **P** **20 01 18.5 +0.3**
KMI Kunming 32.35 273 ⇓*i*P **P** **20 01 21.0 +1.0**
KMI PP **pwP** **20 02 54.8 +1.3**
KMI S **S** **20 05 57.0 +0.1**
KMI SS SS 20 08 40.8 -28
KMI pmax pmax
comp=Z,170nm,0.9s
KMI pmax pmax
comp=Z,4μm,4.2s
KMI Kunming 32.35 273 P **P** **20 01 20.2 +0.2**
KMI pmax pmax
comp=Z,3μm,2.0s
KMI Kunming 32.35 273 P **P** **20 01 20.2 +0.2**
SLVN Son La 32.41 265 P **P** **20 01 20.0 -0.4**
SLVN IAmb IAmb 20 01 25.6
comp=Z,571nm,1.4s
SANI Sanana 32.70 204 P **P** **20 01 21.6 -1.1**
comp=Z,7μmcomp=Z,16μmcomp=Z,2μm,0.7s
DLV T Lat 32.75 246 P **P** **20 01 23.2 -0.1**
MSAI Masohi 32.97 198 P **P** **20 01 24.5 -0.5**
comp=Z,5μmcomp=Z,301nm,0.9s
LUWI Luwuk 33.09 211 P **P** **20 01 24.3 -1.7**
comp=Z,6μmcomp=Z,11μmcomp=Z,952nm,1.4s
LUWI Luwuk 33.09 211 P **P** **20 01 24.0 -2.0**
MPSI Mapaga 33.28 216 P **P** **20 01 26.6 -1.1**
comp=Z,9μmcomp=Z,5μmcomp=Z,313nm,1.3s
NLAI Namlea 33.42 202 P **P** **20 01 27.6 -1.2**
comp=Z,6μmcomp=Z,762nm,1.1s
AAI Ambon 33.51 200 P **P** **20 01 29.3 -0.2**
comp=Z,15μmcomp=Z,2μm,0.8s
BNDI Bandanaira 33.84 196 P **P** **20 01 30.8 -1.6**
comp=Z,1μm,0.8s
GTA Gaotai 33.99 299 ⇓P **P** **20 01 33.8 +0.3**
GTA pP pwP 20 03 09.5 +1.2
GTA sP sP 20 04 06.0 +3.4
GTA S **S** **20 06 19.5 -1.8**
GTA ScP **ScP** **20 06 52.0 +0.8**
GTA sS sS 20 09 04.5 -2.1
GTA ScS **ScS** **20 10 54.5 -0.4**
GTA pmax pmax
comp=Z,260nm,1.5s
GTA pmax pmax
comp=Z,1μm,5.2s
BOD Bodaibo 34.17 336 ⇓*i*P **P** **20 01 34.7 +0.1**
BOD *e*S **ScS** **20 10 52.6 -2.2**
BOD pmax pmax
comp=Z,234nm,1.3s
YAK Yakutsk 34.19 352 P **P** **20 01 34.5 -0.1**
comp=Z,184nm,0.3s,baz=339,slow=0.9,SNR=151
YAK S **S** **20 06 22.9 -0.3**
comp=Z,41nm,0.7s,baz=141,slow=23,SNR=8.7
YAK Yakutsk 34.19 352 *ce*P **P** **20 01 34.4 -0.2**
YAK *e* 20 03 14.2
YAK *e* 20 03 56.6
YAK *e*S **S** **20 06 20.1 -3.2**
YAK *e*SS **sS** **20 09 05.5 -3.2**
YAK *e*SS **SS** **20 09 24.8 -4.7**
YAK *e* 20 10 50.6
YAK pmax pmax
comp=Z,542nm,0.9s
YAK pmax pmax
comp=E,57nm,0.9s
YAK pmax pmax
comp=N,308nm,1.0s
YAK pmax pmax
comp=Z,392nm,1.6s
YAK pmax pmax
comp=N,359nm,1.3s
YAK pmax pmax
comp=E,151nm,1.5s
YAK smax smax
comp=E,2μm,2.0s
YAK smax smax
comp=N,692nm,1.5s
YAK Yakutsk 34.19 352 P **P** **20 01 34.2 -0.4**
ZAK Zakamensk 34.71 319 *e*P **P** **20 01 39.8 +0.5**
ZAK *e* 20 03 16.9
ZAK *e* 20 06 31.6
ZAK pmax pmax
comp=Z,172nm,1.3s
ZAK pmax pmax
comp=Z,48nm,1.3s
ZAK pmax pmax
comp=Z,49nm,1.5s
IRK Irkutsk 35.02 323 *e*P **P** **20 01 42.4 +0.6**
IRK *e* 20 03 22.1
IRK *e*S **S** **20 06 36.2 0.0**
IRK pmax pmax
comp=Z,281nm,1.5s
TLY Talaya 35.09 321 P **P** **20 01 43.2 +0.8**
comp=Z,91nm,0.6s,baz=147,slow=8.3,SNR=35
TLY ScP **ScP** **20 06 55.0 +0.2**
comp=Z,52nm,0.9s,baz=236,slow=1.9,SNR=12
TLY Talaya 35.09 321 P **P** **20 01 43.5 +1.1**
TLY Talaya 35.09 321 *c*⇓*i*P **P** **20 01 43.4 +1.0**
TLY *e* 20 03 20.2
TLY *e*S **S** **20 06 35.1 -2.2**
TLY *e*SS **SS** **20 09 44.2 -2.3**
TLY *e* 20 11 00.9
TLY pmax pmax
comp=Z,381nm,1.0s
TLY Talaya 35.09 321 P **P** **20 01 43.1 +0.8**
TLY IAmb IAmb 20 01 47.3
comp=Z,131nm,0.6s
TLY ScP **ScP** **20 06 54.5 -0.2**
SMY Shemya 35.59 37 P **P** **20 01 47.6 +1.1**
SMY pmax pmax
comp=Z,1μm,1.3s
SMY Shemya 35.59 37 P **P** **20 01 47.6 +1.1**
SBUM Sibu 36.21 229 P **P** **20 01 52.3 +0.1**
TTSI Tana Toraja 36.23 213 P **P** **20 01 51.2 -1.1**
comp=Z,6μmcomp=Z,2μmcomp=Z,203nm,0.9s
BKB Balikpapan 36.24 219 P **P** **20 01 50.0 -2.4**
comp=Z,14μmcomp=Z,13μmcomp=Z,1μm,1.3s
BKB Balikpapan 36.24 219 P **P** **20 01 52.0 -0.3**
MOY Mondy 36.56 320 *e*P **P** **20 01 55.8 +1.1**
MOY pmax pmax
comp=Z,135nm,2.6s
SPSI Sidrap Palu 37.05 213 P **P** **20 01 58.1 -0.9**
comp=Z,9μmcomp=Z,4μmcomp=Z,447nm,0.8s
MTKI Muara Teweh, K 37.13 222 P **P** **20 01 58.8 -1.0**
comp=Z,6μmcomp=Z,11μmcomp=Z,854nm,1.4s
BBSI Bau Bau 37.17 208 P **P** **20 01 59.0 -1.0**
comp=Z,647nmcomp=Z,66nm,1.2s
BNSI Bone 37.27 212 P **P** **20 01 59.9 -1.0**
comp=Z,6μmcomp=Z,605nm,1.5s
CHTO Chiang Mai 37.66 264 P **P** **20 02 04.1 0.0**
CHTO pmax pmax
comp=Z,322nm,1.1s
CHTO Chiang Mai 37.66 264 P **P** **20 02 04.1 0.0**
CHTO IAmb IAmb 20 02 07.2
comp=Z,322nm,1.1s
CM31 Chiang Mai Arr 37.80 264 P **P** **20 02 05.9 +0.8**
SNR=37
CM31 Chiang Mai Arr 37.80 264 P **P** **20 02 05.4 +0.2**
CMAR Chiang Mai Arr 37.80 264 P **P** **20 02 05.5 +0.3**
comp=Z,69nm,1.0s,baz=48,slow=9.0,SNR=184
CMAR PcP **PcP** **20 04 09.4 +1.3**
comp=Z,8.2nm,0.7s,baz=35,slow=1.5,SNR=4.3
CMAR ScP **ScP** **20 07 06.5 +1.0**
comp=Z,44nm,1.0s,baz=48,slow=2.2,SNR=15
CMAR PKiKP **PKiKP** **20 11 22.0 -0.3**
comp=Z,1.0nm,0.7s,baz=261,slow=1.7,SNR=2.6
CMAR P3KPbc 20 32 10.8
comp=Z,1.3nm,0.8s,baz=244,slow=5.6,SNR=9.4
CMAR Chiang Mai Arr 37.80 264 *i*P **P** **20 02 05.5 +0.3**
CMAR pmax pmax
comp=Z,63nm,0.9s
AMKA Amchitka 37.92 41 P **P** **20 02 07.4 +1.8**
KAPI Kappang 37.98 212 P **P** **20 02 06.5 -0.1**
comp=Z,380nm,0.9s,baz=15,slow=7.3,SNR=31
KAPI ScP **ScP** **20 07 06.8 +0.6**
comp=Z,226nm,1.1s,baz=344,slow=1.2,SNR=12
KAPI Kappang 37.98 212 P **P** **20 02 06.7 +0.1**
KAPI Kappang 37.98 212 P **P** **20 02 06.4 -0.2**
KAPI pmax pmax
comp=Z,768nm,1.1s
KAPI Kappang 37.98 212 P **P** **20 02 06.4 -0.2**

KAPI ScP **ScP** **20 07 06.7 +0.6**
KSM Kuching 38.22 231 P **P** **20 02 09.3 +0.7**
KSM Kuching 38.22 231 P **P** **20 02 10.0 +1.4**
KBKI Kotabaru 38.33 218 P **P** **20 02 08.4 -1.1**
comp=Z,6μmcomp=Z,482nm,1.7s
MIDW Midway 38.37 80 P **P** **20 02 10.0 +0.4**
MIDW IAmb IAmb 20 02 12.0
comp=Z,503nm,1.4s
PMG Port Moresby 38.42 167 P **P** **20 02 09.3 -0.9**
comp=Z,70nm,0.4s,baz=74,slow=5.0,SNR=49
PMG S **S** **20 07 28.7 +1.3**
comp=Z,63nm,0.9s,baz=76,slow=19,SNR=7.9
PMG Port Moresby 38.42 167 *ce*P **P** **20 02 11.0 +0.8**
PMG pmax pmax
comp=Z,263nm,1.5s
PMG Port Moresby 38.42 167 P **P** **20 02 09.8 -0.4**
STKI Sintang 38.48 228 P **P** **20 02 11.7 +0.9**
comp=Z,239nm,1.3s
BBKI Banjar Baru 39.21 220 P **P** **20 02 14.8 -1.8**
comp=Z,7μmcomp=Z,564nm,1.5s
ADK Adak 40.44 42 P **P** **20 02 26.0 0.0**
ADK pmax pmax
comp=Z,1μm,1.3s
ADK Adak 40.44 42 P **P** **20 02 26.0 0.0**
SOEI Soe 40.46 203 P **P** **20 02 26.2 -0.6**
comp=Z,10μmcomp=Z,1μm,1.1s
SOEI Soe 40.46 203 P **P** **20 02 25.6 -1.2**
EDFI Ende, Flores 40.48 207 P **P** **20 02 25.9 -1.0**
comp=Z,3μmcomp=Z,4μmcomp=Z,313nm,1.4s
PBKI Pangkalan Bun 40.48 225 P **P** **20 02 25.9 -1.0**
comp=Z,18μmcomp=Z,2μm,1.2s
GSTR Great Sitkin T 40.88 42 P **P** **20 02 29.5 0.0**
BATI Baumata 41.09 203 P **P** **20 02 31.3 -0.4**
comp=Z,435nm,0.4s,baz=57,slow=3.3,SNR=84
BATI S **S** **20 08 05.9 -0.7**
comp=Z,145nm,0.8s,baz=200,slow=18,SNR=9.8
BATI Baumata 41.09 203 P **P** **20 02 31.1 -0.6**
comp=Z,3μmcomp=Z,6μmcomp=Z,459nm,1.1s
LSA Lhasa 41.51 284 P **P** **20 02 37.3 +1.9**
LSA S **S** **20 08 19.0 +5.7**
LSA pmax pmax
comp=Z,4μm,4.8s
LSA Lhasa 41.51 284 P **P** **20 02 37.2 +1.8**
LSA Lhasa 41.51 284 P **P** **20 02 36.4 +1.0**
LSA pmax pmax
comp=Z,390nm,1.7s
LSA Lhasa 41.51 284 P **P** **20 02 36.4 +1.0**
LSA IAmb IAmb 20 02 41.3
comp=Z,390nm,1.7s
MTN Manton Dam 41.67 191 P **P** **20 02 35.2 -1.0**
SHL Shillong 41.77 277 P **P** **20 02 37.7 +0.5**
SNR=80
SHL Shillong 41.77 277 P **P** **20 02 37.2 0.0**
SHL pmax pmax
comp=Z,414nm,1.1s
SHL Shillong 41.77 277 P **P** **20 02 37.2 0.0**
SHL IAmb IAmb 20 02 40.7
comp=Z,414nm,1.1s
WSI Waingapu 41.88 208 P **P** **20 02 35.6 -2.3**
comp=Z,68μmcomp=Z,429nm,1.5s
ATKA Atka Island 42.01 42 P **P** **20 02 38.1 -0.2**
WBSI Waikabubak, Su 42.24 209 P **P** **20 02 39.7 -1.1**
comp=Z,3μmcomp=Z,193nm,0.8s
PLAI Plampang 42.24 212 P **P** **20 02 39.8 -1.0**
comp=Z,8μmcomp=Z,11μmcomp=Z,760nm,0.8s
BASI Baing, Sumba 42.26 207 P **P** **20 02 39.5 -1.4**
comp=Z,3μmcomp=Z,5μmcomp=Z,343nm,1.3s
COEN Coen 42.30 174 P **P** **20 02 41.4 +0.2**
MYKOM Kota Tinggi 42.62 238 P **P** **20 02 44.6 +0.8**
MYKOM Kota Tinggi 42.62 238 P **P** **20 02 45.0 +1.2**
KMMI Kalianget 42.65 218 P **P** **20 02 44.7 +0.7**
comp=Z,8μmcomp=Z,729nm,1.4s
TPRI Tanjung Pinang 42.70 236 P **P** **20 02 43.7 -0.7**
comp=Z,204μmcomp=Z,8μmcomp=Z,332nm,1.1s
KULM Kulim 42.90 245 P **P** **20 02 46.4 +0.5**
KULM Kulim 42.90 245 P **P** **20 02 47.0 +1.1**
BILL Bilibino 42.91 15 *ce*P **P** **20 02 45.8 +0.6**
BILL pmax pmax
comp=Z,2μm,1.3s
BILL Bilibino 42.91 15 P **P** **20 02 45.9 +0.7**
IPM Ipoh 43.09 244 P **P** **20 02 47.0 -0.4**
TPI Tanjungpandan 43.11 229 P **P** **20 02 46.9 -0.7**
comp=Z,8μmcomp=Z,572nm,1.3s
GRJI Gresik 43.36 220 P **P** **20 02 48.9 -0.6**
comp=Z,5μmcomp=Z,493nm,1.3s
DNP Denpasar 43.37 215 P **P** **20 02 48.9 -0.6**
comp=Z,17μmcomp=Z,1μm,1.1s
WMQ Urumqi 43.43 305 P **P** **20 02 51.0 +1.1**
WMQ PcP **PcP** **20 04 28.0 +1.6**
WMQ PP **PP** **20 04 44.3 +2.3**
WMQ S **S** **20 08 40.0 +0.3**
WMQ ScS **ScS** **20 11 50.0 -0.5**
WMQ pmax pmax
comp=Z,300nm,1.7s
DSRI Dabo 43.62 235 P **P** **20 02 51.8 +0.2**
comp=Z,7μmcomp=Z,4μmcomp=Z,187nm,1.6s
TIXI Tiksi 43.66 355 P **P** **20 02 51.1 +0.1**
TIXI pmax pmax
comp=Z,454nm,1.4s
TIXI Tiksi 43.66 355 P **P** **20 02 51.1 +0.1**
TIXI IAmb IAmb 20 02 53.6
comp=Z,454nm,1.4s
PPBI Pangkal Pinang 43.71 231 P **P** **20 02 51.2 -1.0**
comp=Z,11μmcomp=Z,7μmcomp=Z,479nm,1.1s
JAGI Jajag, Banyuwa 43.74 217 P **P** **20 02 51.4 -1.1**
comp=Z,9μmcomp=Z,7μmcomp=Z,816nm,1.0s
JAGI Jajag, Banyuwa 43.74 217 P **P** **20 02 50.9 -1.6**
DGZ Jazzator, Alta 44.25 313 *c*⇓*i*P **P** **20 02 57.7 +1.5**
DGZ pmax pmax
comp=Z,239nm,1.2s
NGJI Ngawi 44.31 221 P **P** **20 02 56.6 -0.3**
comp=Z,11μmcomp=Z,8μmcomp=Z,644nm,0.9s
SMRI Semarang 44.65 222 P **P** **20 02 58.2 -1.4**
comp=Z,13μmcomp=Z,12μmcomp=Z,948nm,1.1s
SMRI Semarang 44.65 222 P **P** **20 02 59.1 -0.5**
KNRA Kununurra 44.89 194 P **P** **20 03 00.5 -0.7**
TAPN Taplejung 44.96 281 *e*P **P** **20 03 03.4 +1.2**
comp=Z,97nm,0.4s
TAPN Taplejung 44.96 281 *e*P **P** **20 03 03.2 +1.0**
comp=Z,234nm,0.5s
WOJI Wonogiri, Jawa 45.00 221 P **P** **20 03 01.3 -0.9**
comp=Z,3μmcomp=Z,211nm,0.9s
RGRI Rengat 45.17 237 P **P** **20 03 02.6 -0.9**
comp=Z,42μmcomp=Z,678nm,1.1s
PMBI Palembang 45.20 232 P **P** **20 03 02.9 -0.9**
comp=Z,12μmcomp=Z,14μmcomp=Z,1μm,1.3s
PMBI Palembang 45.20 232 P **P** **20 03 04.9 +1.2**
UGM Wanagama 45.30 221 P **P** **20 03 02.6 -1.9**
comp=Z,10μmcomp=Z,26μmcomp=Z,2μm,1.6s
UGM Wanagama 45.30 221 P **P** **20 03 03.9 -0.6**
NIKH Nikolski High 45.35 42 P **P** **20 03 03.9 -0.5**
ODAN Odare 45.35 281 *e*P **P** **20 03 06.1 +1.0**
comp=Z,429nm,0.4s
ODAN Odare 45.35 281 *e*P **P** **20 03 06.2 +1.1**
comp=Z,429nm,0.4s
SPIA Saint Paul Isl 45.62 36 P **P** **20 03 07.1 +0.8**
TSI Tuntungan 45.62 245 P **P** **20 03 06.9 -0.1**
comp=Z,12μmcomp=Z,9μmcomp=Z,531nm,0.8s
ZSN Zaisan 45.67 310 *e*P **P** **20 03 08.2 +1.3**
comp=Z,64nm,1.3s,baz=310
ZSN *e*S **S** **20 09 11.5 +0.4**
comp=Z,1μm,4.5s,baz=310
ZSN Zaisan 45.67 310 *e*P **P** **20 03 08.2 +1.3**
ZSN *e*S **S** **20 09 11.5 +0.4**
ZSN pmax pmax
comp=Z,64nm,1.3s
ZSN smax smax
comp=N,1μm,4.5s
BKNI Bangkinang 45.69 239 P **P** **20 03 08.3 +0.8**
comp=N,12μmcomp=N,9μmcomp=N,926nm,1.3s
BKNI Bangkinang 45.69 239 P **P** **20 03 07.8 +0.2**
PSI Prapat 45.76 244 P **P** **20 03 08.8 +0.6**
comp=N,531nm,1.0s,baz=0.3,slow=3.6,SNR=123
PSI PcP **PcP** **20 04 36.0 +1.0**
comp=N,85nm,1.0s,baz=181,slow=2.0,SNR=3.9
PSI ScP **ScP** **20 07 38.4 +0.8**
comp=N,93nm,1.1s,baz=357,slow=0.3,SNR=7.6
RPSI Rantau Prapat 45.83 243 P **P** **20 03 08.7 +0.1**
RPSI Rantau Prapat 45.83 243 **PcP** **20 04 36.0 +0.9**
RPSI **ScP** **20 07 38.4 +0.7**
LHMI Lhok Sumawe 45.92 248 P **P** **20 03 08.5 -0.8**
comp=N,18μmcomp=N,15μmcomp=N,1μm,1.3s
LHMI Lhok Sumawe 45.92 248 P **P** **20 03 10.7 +1.4**
RAMN Ramite 46.01 281 *e*P **P** **20 03 11.2 +1.0**
comp=N,340nm,0.5s
RAMN Ramite 46.01 281 *e*P **P** **20 03 11.1 +0.9**

PBA Port Blair 46.12 258 P P 20 03 10.2 -0.6
PBA IAmb IAmb 20 03 13.9
comp=Z,250nm,0.7s
JIRN Jiri 46.20 282 *e*P **P** **20 03 13.3 +1.6**
JIRN Jiri 46.20 282 *e*P **P** **20 03 13.2 +1.6**
LEM Lembang 46.20 226 P **P** **20 03 11.8 +0.2**
comp=Z,2μm,0.9s,baz=35,slow=5.6,SNR=104
LEM Lembang 46.20 226 P **P** **20 03 10.5 -1.1**
comp=Z,6μmcomp=Z,15μmcomp=Z,1μm,1.2s
SDSI Sungai Dareh 46.23 237 P **P** **20 03 10.5 -1.1**
comp=Z,7μmcomp=Z,456nm,1.7s
KCSI Kotacane, Aceh 46.25 245 P **P** **20 03 11.0 -0.8**
comp=Z,7μmcomp=Z,5μmcomp=Z,409nm,1.6s
TNG Tangerang 46.33 227 P **P** **20 03 11.7 -0.6**
comp=Z,23μmcomp=Z,1μm,0.5s
GUN Gumba 46.40 283 *e*P **P** **20 03 14.8 +1.6**
comp=Z,681nm,0.5s
GUN Gumba 46.40 283 *e*P **P** **20 03 14.6 +1.4**
comp=Z,693nm,0.5s
MNSI Mandailing Nat 46.50 241 P **P** **20 03 13.6 -0.1**
comp=Z,11μmcomp=Z,10μmcomp=Z,986nm,1.0s
DBJI Dramaga 46.55 227 P **P** **20 03 13.0 -1.0**
comp=Z,10μmcomp=Z,580nm,1.3s
ZAA0 Zalesovo Array 46.59 319 P **P** **20 03 13.3 -0.5**
ZALV Zalesovo Beam 46.59 319 P **P** **20 03 13.6 -0.2**
comp=Z,48nm,0.5s,baz=102,slow=6.8,SNR=190
ZALV PcP **PcP** **20 04 37.1 0.0**
comp=Z,21nm,0.4s,baz=124,slow=3.4,SNR=7.4
ZALV ScP **ScP** **20 07 40.0 -0.3**
comp=Z,80nm,0.9s,baz=106,slow=4.0,SNR=14
ZALV ScS **ScS** **20 12 07.2 -3.3**
comp=Z,7.2nm,0.9s,baz=108,slow=4.8,SNR=4.8
CISI Cisompet, Garu 46.64 225 P **P** **20 03 12.5 -2.3**
comp=Z,7μmcomp=Z,9μmcomp=Z,653nm,1.0s
CISI Cisompet, Garu 46.64 225 P **P** **20 03 12.4 -2.4**
BLSI Bandar Lampung 46.65 229 P **P** **20 03 14.1 -0.7**
comp=Z,6μmcomp=Z,14μmcomp=Z,871nm,0.8s
LHSI Lahat 46.71 232 P **P** **20 03 14.5 -0.7**
comp=Z,14μmcomp=Z,1μm,1.1s
MDSI Maura Dua 46.73 231 P **P** **20 03 14.8 -0.6**
comp=Z,7μmcomp=Z,22μmcomp=Z,2μm,1.2s
CNJI Cibinong 46.88 226 P **P** **20 03 13.9 -2.6**
comp=Z,7μmcomp=Z,666nm,0.9s
PKI Pulchoki 46.89 282 *e*P **P** **20 03 17.7 +0.8**
PKI Pulchoki 46.89 282 *e*P **P** **20 03 17.5 +0.6**
PKIN Phulchoki 46.90 282 *e*P **P** **20 03 17.6 +0.7**
comp=Z,114nm,0.5s
PKIN Phulchoki 46.90 282 *e*P **P** **20 03 17.4 +0.5**
UNV Unalaska Valle 46.90 41 P **P** **20 03 15.9 -0.2**
MLSI Meulaboh, Aceh 46.91 247 P **P** **20 03 16.1 -0.7**
comp=Z,8μmcomp=Z,483nm,0.6s
KKN Kakani 46.95 283 *e*P **P** **20 03 18.3 +1.1**
KKN Kakani 46.95 283 *e*P **P** **20 03 18.1 +0.9**
KRJI Kerinci 46.98 236 P **P** **20 03 16.6 -0.8**
comp=Z,12μmcomp=Z,28μmcomp=Z,2μm,1.4s
SKJI Sukabumi 47.01 227 P **P** **20 03 14.0 -3.5**
comp=Z,7μmcomp=Z,654nm,1.2s
MASI Maura Aman, Be 47.14 234 P **P** **20 03 18.4 -0.1**
comp=Z,30μmcomp=Z,3μm,1.2s
DMN Daman 47.14 282 *e*P **P** **20 03 19.6 +0.9**
comp=Z,131nm,0.4s
DMN Daman 47.14 282 *e*P **P** **20 03 19.6 +0.9**
comp=Z,134nm,0.4s
LWLI Liwa 47.19 231 P **P** **20 03 18.1 -0.9**
comp=Z,8μmcomp=Z,950nm,1.1s
KASI Kota Agung 47.26 230 P **P** **20 03 18.1 -1.3**
comp=Z,7μmcomp=Z,7μmcomp=Z,742nm,1.2s
GAMB Gambell 47.28 27 P **P** **20 03 19.7 +0.9**
GAMB IAmb IAmb 20 03 22.7
comp=Z,836nm,2.0s
AKUT Akutan 47.38 41 P **P** **20 03 19.4 -0.3**
MK31 Makanchi Array 47.38 309 P **P** **20 03 20.3 +0.3**
MK31 pmax pmax
comp=Z,93nm,1.2s
MK31 Makanchi Array 47.38 309 P **P** **20 03 20.3 +0.3**
MKAR Makanchi Array 47.38 309 P **P** **20 03 20.6 +0.6**
comp=Z,50nm,0.8s,baz=90,slow=8.6,SNR=246
MKAR PcP **PcP** **20 04 41.2 +1.0**
comp=Z,31nm,0.7s,baz=86,slow=6.7,SNR=4.6
MKAR ScP **ScP** **20 07 43.9 0.0**
comp=Z,73nm,0.9s,baz=86,slow=5.3,SNR=12
MKAR S **S** **20 09 36.3 +1.3**
comp=Z,16nm,0.9s,baz=86,slow=18,SNR=5.9
MKAR PKPPKP **P'P'df** 20 34 40.0 +14
comp=Z,1.8nm,0.9s,baz=260,slow=3.6,SNR=7.4
MKAR P4KPbc 20 40 53.7
comp=Z,0.5nm,0.4s,baz=82,slow=4.9,SNR=16
GKN Gorkha 47.45 283 *e*P **P** **20 03 22.0 +1.1**
GKN Gorkha 47.45 283 *e*P **P** **20 03 21.8 +0.9**
MNAI Manna 47.48 233 P **P** **20 03 20.2 -0.9**
comp=Z,9μmcomp=Z,24μmcomp=Z,2μm,1.4s
MNAI Manna 47.48 233 P **P** **20 03 20.1 -1.0**
MAKZ Makanchi 47.60 309 P **P** **20 03 22.1 +0.5**
MAKZ pmax pmax
comp=Z,414nm,1.6s
MAKZ Makanchi 47.60 309 P **P** **20 03 22.1 +0.5**
MAKZ IAmb IAmb 20 03 25.3
comp=Z,414nm,1.6s
GSI Gunungsitoli 47.74 243 P **P** **20 03 22.6 -0.5**
comp=Z,49μmcomp=Z,98μmcomp=Z,10μm,1.0s
GSI Gunungsitoli 47.74 243 P **P** **20 03 22.8 -0.3**
FITZ Fitzroy Crossi 47.95 197 P **P** **20 03 24.4 0.0**
comp=Z,127nm,0.5s,baz=18,slow=8.3,SNR=408
FITZ pP **pP** **20 05 02.4 +1.0**
comp=Z,41nm,0.9s,baz=29,slow=12,SNR=2.8
FITZ ScP **ScP** **20 07 46.8 +0.3**
comp=Z,62nm,1.1s,baz=341,slow=1.6,SNR=4.6
FITZ S **S** **20 09 41.5 -1.8**
comp=Z,16nm,0.8s,baz=260,slow=21,SNR=5.7
FITZ Fitzroy Crossi 47.95 197 P **P** **20 03 23.9 -0.5**
FITZ IAmb IAmb 20 03 26.5
comp=Z,368nm,1.0s
WB0 Warramunga Arr 48.07 186 P **P** **20 03 24.3 -1.0**
WB0 IAmb IAmb 20 03 26.5
comp=Z,519nm,1.0s
DANN Dangsing 48.12 284 *e*P **P** **20 03 27.6 +1.5**
DANN Dangsing 48.12 284 *e*P **P** **20 03 27.4 +1.3**
WRAB Tennant Creek 48.24 186 *de*P **P** **20 03 25.9 -0.7**
WRAB pmax pmax
comp=Z,729nm,1.4s
WRAB Tennant Creek 48.24 186 P **P** **20 03 25.8 -0.7**
SISI Saibi 48.24 239 P **P** **20 03 25.6 -1.1**
comp=Z,5μmcomp=Z,490nm,1.0s
WB2 Warramunga Arr 48.25 186 P **P** **20 03 25.9 -0.7**
WR0 Warramunga Arr 48.25 185 P **P** **20 03 25.8 -0.8**
WR0 IAmb IAmb 20 03 27.8
comp=Z,450nm,0.9s
WRA Warramunga Arr 48.25 186 P **P** **20 03 25.9 -0.7**
comp=Z,165nm,0.3s,baz=0.6,slow=7.6,SNR=702
WRA pP **pP** **20 05 03.6 -0.2**
comp=Z,46nm,0.9s,baz=3.7,slow=8.6,SNR=3.1
WRA ScP **ScP** **20 07 47.3 -0.4**
comp=Z,86nm,1.1s,baz=358,slow=4.4,SNR=12
WRA S **S** **20 09 44.9 -2.4**
comp=Z,28nm,0.8s,baz=1.2,slow=14,SNR=8.0
WRA PKPPKP **P'P'df** **20 34 14.1 -6.6**
comp=Z,1.6nm,1.0s,baz=191,slow=2.4,SNR=4.6
WRA P4KPbc 20 40 57.6
comp=Z,0.4nm,0.5s,baz=2.0,slow=5.5,SNR=7.0
WRA Warramunga Arr 48.25 186 *i* P **P** **20 03 24.2 -2.5**
WRA pmax pmax
comp=Z,179nm,0.3s
KOLN Koldanda 48.40 283 *e*P **P** **20 03 29.2 +1.2**
KOLN Koldanda 48.40 283 *e*P **P** **20 03 29.0 +1.0**
PPSI Pulau Pagai 48.50 237 P **P** **20 03 27.7 -1.0**
comp=Z,14μmcomp=Z,13μmcomp=Z,936nm,1.1s
BWNR Bhubaneshwar 48.70 273 *ex* **P** **20 03 29.9 -0.2**
BWNR IAmb IAmb 20 03 34.4
comp=Z,106nm,0.6s
CTA Charters Tower 48.72 171 P **P** **20 03 30.0 -0.2**
comp=Z,66nm,0.8s,baz=347,slow=8.1,SNR=37
CTA pP **pP** **20 05 08.2 +0.4**
comp=Z,18nm,0.8s,baz=351,slow=8.0,SNR=2.7
CTAO Charters Tower 48.72 171 P **P** **20 03 30.0 -0.2**
CTAO pmax pmax
comp=Z,182nm,1.1s
CTAO Charters Tower 48.72 171 P **P** **20 03 30.0 -0.2**
JOHN Johnston Islan 48.72 92 P **P** **20 03 29.8 -0.5**
JOHN IAmb IAmb 20 03 32.7
comp=Z,228nm,0.8s
PYUN Piuthan 48.84 284 *e*P **P** **20 03 32.5 +1.2**
comp=Z,686nm,0.4s
PYUN Piuthan 48.84 284 *e*P **P** **20 03 32.5 +1.2**
comp=Z,695nm,0.4s
FALS False Pass 48.85 40 P **P** **20 03 30.1 -0.6**
FALS IAmb IAmb 20 03 37.1
comp=Z,294nm,1.1s
SEM Semipalatinsk 48.93 314 *e*P **P** **20 03 31.5 -0.1**
comp=Z,70nm,0.6s,baz=313
SEM *i* S **S** **20 09 53.6 -2.9**
comp=Z,1μm,6.0s,baz=313
SEM Semipalatinsk 48.93 314 *e*P **P** **20 03 31.5 -0.1**
SEM *i* S **S** **20 09 53.5 -2.9**
SEM pmax pmax
comp=Z,70nm,0.6s
SEM smax smax
comp=N,1μm,6.0s
SHLS Shalkode 49.42 304⇓*i*P **P** **20 03 33.9 -1.4**
comp=N,62nm,0.7s,baz=304
SHLS *i* S **S** **20 09 59.3 -4.0**
baz=304
SHLS Shalkode 49.42 304*d i*P **P** **20 03 33.8 -1.5**
SHLS *i* S **S** **20 09 59.2 -4.0**
SHLS pmax pmax
comp=Z,62nm,0.7s
UZB Uzynbulak 49.74 304⇓*i*P **P** **20 03 38.5 +0.8**
comp=Z,25nm,0.6s,baz=304
UZB *i* S **S** **20 10 08.3 +0.6**
comp=Z,861nm,3.1s,baz=304
UZB Uzynbulak 49.74 304*d i*P **P** **20 03 38.5 +0.8**
UZB *i* S **S** **20 10 08.3 +0.6**
UZB pmax pmax
comp=Z,25nm,0.6s
UZB smax smax
comp=N,861nm,3.1s
KPKS Kokpek 49.97 304⇓*i*P **P** **20 03 40.1 +0.8**
comp=N,50nm,0.6s,baz=304
KPKS *i* S **S** **20 10 11.2 +0.5**
comp=N,16μm,6.2s,baz=304
KPKS Kokpek 49.97 304*d i*P **P** **20 03 40.1 +0.8**
KPKS *i* S **S** **20 10 11.1 +0.5**
KPKS pmax pmax
comp=Z,50nm,0.6s
KPKS smax smax
comp=N,16μm,6.2s
KURK Kurchatov 49.98 314 P **P** **20 03 39.5 +0.4**
KURK Kurchatov 49.98 314 P **P** **20 03 39.2 +0.1**
KURK pmax pmax
comp=Z,304nm,0.7s
KURK Kurchatov 49.98 314 P **P** **20 03 39.2 +0.1**
KURK IAmb IAmb 20 03 43.1
comp=Z,304nm,0.7s
KURK Kurchatov 49.98 314 **ScP** **20 07 54.4 -0.5**
KURBB Kurchatov Arra 50.03 314 ScP **ScP** **20 07 54.4 -0.7**
comp=Z,19nm,0.8s,baz=105,slow=4.6,SNR=4.5
KURBB S **S** **20 10 09.8 -1.2**
comp=Z,22nm,1.0s,baz=94,slow=10,SNR=11
TDK Taldyqorghan 50.10 306 *i* P **P** **20 03 41.5 +1.4**
comp=Z,89nm,0.7s,baz=306
TDK *i* S **S** **20 10 13.4 +1.2**
comp=Z,4μm,5.5s,baz=306
TDK Taldyqorghan 50.10 306 *i* P **P** **20 03 41.5 +1.4**
TDK *i* S **S** **20 10 13.3 +1.2**
TDK pmax pmax
comp=Z,89nm,0.7s
TDK smax smax
comp=N,4μm,5.5s
ANM Nome 50.15 28 P **P** **20 03 41.3 +1.1**
ANM pmax pmax
comp=Z,1μm,1.5s
ANM Nome 50.15 28 P **P** **20 03 41.2 +1.1**
SATY Saty 50.20 304⇓*i*P **P** **20 03 42.1 +1.0**
comp=Z,63nm,0.7s,baz=304
SATY *i* S **S** **20 10 14.7 +0.8**
comp=Z,671nm,3.6s,baz=304
SATY Saty 50.20 304*d i*P **P** **20 03 42.0 +1.0**
SATY *i* S **S** **20 10 14.6 +0.8**
SATY pmax pmax
comp=Z,63nm,0.7s
SATY smax smax
comp=N,671nm,3.6s
PRZ Przheval'sk 50.24 303 P **P** **20 03 43.5 +2.0**
PRZ pmax pmax
comp=Z,379nm,0.7s
PRZ Przheval'sk 50.24 303 P **P** **20 03 43.5 +2.0**
XMIS Christmas Isla 50.25 224 P **P** **20 03 39.8 -1.7**
NRIK Noril'sk 50.38 339 P **P** **20 03 42.1 +0.3**
comp=Z,237nm,0.6s,baz=111,slow=8.5,SNR=168
NRIK S **S** **20 10 14.9 -0.2**
comp=Z,19nm,1.0s,baz=24,slow=24,SNR=24
SDPT Sand Point 50.59 40 P **P** **20 03 42.7 -0.8**
SDPT IAmb IAmb 20 03 45.4
comp=Z,302nm,0.7s
TARG Taragay, Kyrgy 50.75 302 P **P** **20 03 46.6 +1.2**
LGTI Lohaghat 50.84 286 *ex* **P** **20 03 48.9 +3.2**
LGTI *ex* x 20 05 27.3
PTH Pithoragarh 50.84 286 *ex* **P** **20 03 43.7 -2.3**
CHLP Challavanipeta 50.88 271 *e*P **P** **20 03 47.6 +1.5**
CHLP IVmB_BB 20 03 49.6
comp=Z,2μm,1.1s
CNBA Chernabura Isl 51.04 41 P **P** **20 03 46.7 -0.1**
CHKK Chushkaly 51.18 305⇓*i*P **P** **20 03 49.0 +0.9**
baz=305
CHKK *e*S **S** **20 10 27.5 +0.7**
baz=305
CHKK Chushkaly 51.18 305*d i*P **P** **20 03 48.9 +0.9**
CHKK *e*S **S** **20 10 27.4 +0.7**
KDJ Kajisay 51.18 303 P **P** **20 03 48.2 0.0**
KDJ pmax pmax
comp=Z,219nm,1.1s
KDJ Kajisay 51.18 303 P **P** **20 03 48.2 0.0**
MDOK Medeo 51.18 304 *i* P **P** **20 03 49.8 +1.6**
baz=304
MDOK *i* S **S** **20 10 28.1 +1.0**
baz=304
MDOK Medeo 51.18 304 *i* P **P** **20 03 49.8 +1.6**
MDOK *i* S **S** **20 10 28.1 +1.0**
TNSS Tian-Shan 51.27 304 *i* P **P** **20 03 51.0 +1.8**
baz=304
TNSS Tian-Shan 51.27 304 *i* P **P** **20 03 50.9 +1.8**
AAA Alma-Ata 51.28 304 *e*P **P** **20 03 50.7 +1.9**
comp=Z,183nm,0.9s,baz=304
AAA *i* S **S** **20 10 28.6 +0.3**
baz=304
AAA Alma-Ata 51.28 304 *e*P **P** **20 03 50.7 +1.9**
AAA *i* S **S** **20 10 28.5 +0.3**
AAA pmax pmax
comp=Z,183nm,0.9s
SANVU Saraoutou 51.49 144 P **P** **20 03 50.6 +0.1**
MTBS Maitube 51.64 304⇓*i*P **P** **20 03 53.0 +1.6**
baz=304
MTBS Maitube 51.64 304*d i*P **P** **20 03 53.0 +1.6**
KUU Kurty 51.64 305⇓*i*P **P** **20 03 52.3 +0.9**
comp=Z,208nm,0.6s,baz=305
KUU *i* S **S** **20 10 33.2 +0.2**
comp=Z,2μm,5.3s,baz=305
KUU Kurty 51.64 305*d i*P **P** **20 03 52.3 +0.9**
KUU *i* S **S** **20 10 33.1 +0.2**
KUU pmax pmax
comp=Z,207nm,0.6s
KUU smax smax
comp=N,2μm,5.3s
ULHL Ulahol 51.86 303 P **P** **20 03 54.6 +1.3**
SNR=39
AS31 Alice Springs 51.97 186 P **P** **20 03 53.0 -1.0**
ASAR Alice Springs 51.98 186 P **P** **20 03 53.2 -0.7**
comp=N,47nm,0.4s,baz=356,slow=4.9,SNR=970
ASAR PcP **PcP** **20 04 58.2 +0.7**
comp=N,38nm,0.9s,baz=0.9,slow=3.5,SNR=8.7
ASAR PP **PP** **20 05 59.8 +0.2**
comp=N,34nm,1.1s,baz=1.1,slow=9.9,SNR=4.6
ASAR ScP **ScP** **20 08 03.0 -0.8**
comp=N,97nm,1.2s,baz=6.4,slow=3.7,SNR=9.8
ASAR S **S** **20 10 37.4 -0.4**
comp=N,13nm,0.8s,baz=16,slow=21,SNR=6.4
ASAR PKPPKP **P'P'df** 20 34 07.0 -8.7
comp=N,0.9nm,0.8s,baz=139,slow=2.5,SNR=4.3
ASAR P4KPbc 20 41 13.7
comp=N,2.9nm,1.0s,baz=4.0,slow=4.5,SNR=10.0
RDOG Red Dog Mine 52.21 24 P **P** **20 03 55.9 +0.8**
RDOG IAmb IAmb 20 03 57.5
comp=Z,470nm,1.0s
TKM2 Tokmak 2 52.27 304 P **P** **20 03 57.8 +1.6**
SNR=131
KSH Kashi 52.39 300 P **P** **20 04 01.5 +4.5**
KSH S **S** **20 10 48.8 +5.4**
KSH ScS **ScS** **20 12 52.5 +1.2**
KSH sS sS 20 13 44.5 +1.0
KSH pmax pmax
comp=Z,120nm,0.6s
KSH pmax pmax
comp=Z,1μm,5.1s
KZA Kyzart 52.61 303 P **P** **20 04 01.0 +2.1**
SNR=53
MBWA Marble Bar 52.61 203 P **P** **20 03 58.4 -0.1**
MBWA Marble Bar 52.61 203 P **P** **20 03 58.3 -0.2**
KBK Karagaybulak 52.77 304 P **P** **20 04 01.0 +1.3**
SNR=31
PSAD1 Pilbara Seismi 52.85 202 P **P** **20 04 00.1 -0.1**
CHMS Chumysh 52.88 304 P **P** **20 04 01.4 +1.1**
SNR=73
SGDS Sogindy 52.92 305⇓*i*P **P** **20 04 01.5 +0.9**
comp=Z,21nm,0.6s,baz=305
SGDS *e*S **S** **20 10 50.4 +0.2**
comp=Z,824nm,5.7s,baz=305
SGDS Sogindy 52.92 305*d i*P **P** **20 04 01.5 +0.9**
SGDS *e*S **S** **20 10 50.3 +0.2**
SGDS pmax pmax
comp=Z,21nm,0.6s
SGDS smax smax
comp=N,824nm,5.7s
PSA00 Pilbara Seismi 52.96 202 P **P** **20 04 00.6 -0.4**
PSA00 IAmb IAmb 20 04 02.7
comp=Z,580nm,1.0s
USP Ospenovka 53.03 304 P **P** **20 04 02.3 +1.0**
SNR=7.7
AAK Ala-Archa 53.10 304 ScP **ScP** **20 08 08.2 -0.6**
comp=Z,32nm,0.9s,baz=82,slow=4.4,SNR=6.8
AAK Ala-Archa 53.10 304 P **P** **20 04 03.3 +1.2**
SNR=68
AAK Ala-Archa 53.10 304 *i* P **P** **20 04 03.1 +1.0**
SNR=76
AAK Ala-Archa 53.10 304*de*P **P** **20 04 03.0 +1.0**
AAK pmax pmax
comp=Z,221nm,1.5s
AAK Ala-Archa 53.10 304 P **P** **20 04 03.0 +1.0**
UCH Uchtor 53.14 303 P **P** **20 04 04.4 +1.7**
SNR=330
CHIR Chirikof Islan 53.37 40 P **P** **20 04 03.9 +0.4**
PVM Polavaram 53.49 271 *e*P **P** **20 04 06.2 +1.3**
PVM IVmBBB 20 04 08.4
comp=Z,2μm,0.8s
BHK Bhakra 53.58 290 *ex* **P** **20 04 08.0 +2.6**
NDI New Delhi 53.60 286 *ex* **P** **20 04 05.0 -0.6**
NDI *ex* x 20 11 00.0
EKS2 Erkin-Say 53.63 304 P **P** **20 04 07.0 +1.2**
SNR=104
AML Almayashu 53.75 303 P **P** **20 04 08.6 +1.6**
SNR=67
BRZS Berezniki 53.78 313 *i* P **P** **20 04 07.0 +0.5**
comp=Z,97nm,0.6s,baz=313
BRZS *e*S **S** **20 11 00.5 -0.8**
comp=Z,1μm,5.4s,baz=313
BRZS Berezniki 53.78 313 *i* P **P** **20 04 07.0 +0.5**
BRZS *e*S **S** **20 11 00.4 -0.8**
BRZS pmax pmax
comp=Z,97nm,0.6s
BRZS smax smax
comp=N,1μm,5.4s
SVW2 Sparrevohn 53.80 33 P **P** **20 04 07.4 +0.9**
SVW2 IAmb IAmb 20 04 09.6
comp=Z,334nm,0.9s
TTA Tatalina 53.83 31 P **P** **20 04 07.2 +0.5**
TTA pmax pmax
comp=Z,405nm,1.4s
TTA Tatalina 53.83 31 P **P** **20 04 07.2 +0.5**
TTA IAmb IAmb 20 04 10.4
comp=Z,406nm,1.4s
SII Sitkinak Islan 54.20 39 P **P** **20 04 09.6 +0.2**
NGP Nagpur 54.33 277 *ex* **P** **20 04 11.5 +0.7**
NGP IAmb IAmb 20 04 14.2
comp=Z,254nm,0.5s
ARSB Arslanbob 54.39 302 P **P** **20 04 12.5 +1.3**
ARSB pmax pmax
comp=Z,588nm,1.4s
ARSB Arslanbob 54.39 302 P **P** **20 04 12.5 +1.3**
ARSB IAmb IAmb 20 04 15.5
comp=Z,588nm,1.4s
MYLAV Mylavaram 54.56 271 *e*P **P** **20 04 14.0 +1.5**
MYLAV IVmB_BB 20 04 15.8
comp=Z,2μm,1.2s
OHAK Old Harbor 54.71 38 P **P** **20 04 12.7 -0.2**
OHAK IAmb IAmb 20 04 14.1
comp=Z,361nm,1.1s
EIDS Eidsvold 54.73 166 P **P** **20 04 12.3 -1.1**
RPR Rampur 54.94 274 *e*P **P** **20 04 15.8 +0.7**
RPR IVmBBB 20 04 18.3
comp=Z,961nm,1.5s
BVAR Borovoye Array 55.10 317 ScP **ScP** **20 08 17.0 -0.1**
comp=Z,38nm,0.9s,baz=95,slow=4.8,SNR=6.4
BVAR S **S** **20 11 17.4 -0.9**
comp=Z,58nm,0.8s,baz=92,slow=10,SNR=26
KDAK Kodiak Island 55.11 37 P **P** **20 04 15.7 0.0**
comp=Z,522nm,1.0s
KDAK S **S** **20 11 20.4 +2.2**
comp=Z,27nm,0.9s,baz=128,slow=11,SNR=9.7
KDAK Kodiak Island 55.11 37 P **P** **20 04 15.6 0.0**
KDAK pmax pmax
comp=Z,736nm,1.0s
KDAK Kodiak Island 55.11 37 P **P** **20 04 15.6 -0.1**
RSO Redoubt South 55.13 34 P **P** **20 04 15.7 -0.3**
BRVK Borovoye 55.16 317 *ce*P **P** **20 04 16.7 +0.5**
BRVK pmax pmax
comp=Z,584nm,1.2s
BRVK Borovoye 55.16 317 P **P** **20 04 16.6 +0.4**
BRVK IAmb IAmb 20 04 21.2
comp=Z,605nm,1.2s
DZA Taraz 55.38 304⇓*i*P **P** **20 04 18.8 +0.8**
comp=Z,50nm,0.7s,baz=304
DZA *e*S **S** **20 11 24.0 +1.7**
baz=304
DZA Taraz 55.38 304*d i*P **P** **20 04 18.7 +0.8**
DZA *e*S **S** **20 11 24.0 +1.7**
DZA pmax pmax
comp=Z,50nm,0.7s
KEKH Kekaha 55.44 82 P **P** **20 04 18.7 +0.1**
ADKI Addanki 55.51 270 *e*P **P** **20 04 20.6 +1.5**
ADKI IVmBBB 20 04 22.9
comp=Z,1μm,1.1s
HOM Homer 55.65 35 P **P** **20 04 19.7 +0.3**
HOM IAmb IAmb 20 04 22.1
comp=Z,677nm,1.0s
NIL Nilore 55.65 293 P **P** **20 04 21.2 +1.3**
NIL Nilore 55.65 293 P **P** **20 04 20.9 +0.9**
NIL pmax pmax
comp=Z,326nm,0.6s
NIL Nilore 55.65 293 P **P** **20 04 20.9 +0.9**
NIL IAmb IAmb 20 04 25.0
comp=Z,326nm,0.6s
SRSP Sriramsagar 55.75 274 *e*P **P** **20 04 21.2 +0.4**
SRSP IVmBBB 20 04 23.6
comp=Z,1μm,1.2s
NJS Nagarjunasagar 55.81 271 *e*P **P** **20 04 22.1 +0.9**
NJS IVmBBB 20 04 24.4
comp=Z,2μm,1.0s
SKT Skwentna 55.81 32 P **P** **20 04 20.6 +0.1**
SKT IAmb IAmb 20 04 22.6
comp=Z,588nm,1.3s
CNPM China Poot 55.85 35 P **P** **20 04 20.5 -0.4**
CNPM IAmb IAmb 20 04 23.0
comp=Z,708nm,1.4s
CAPN Captain Cook N 55.93 34 P **P** **20 04 22.1 +0.8**
baz=268
KK31 Karatay Array 55.94 305 P **P** **20 04 22.4 +0.6**
KK31 pmax pmax
comp=Z,1μm,1.6s
KK31 Karatay Array 55.94 305 P **P** **20 04 22.4 +0.6**
KKAR Karatay Array 55.94 305 P **P** **20 04 22.5 +0.7**
KKAR pmax pmax
comp=Z,1μm,1.6s
KKAR Karatay Array 55.94 305 P **P** **20 04 22.5 +0.7**
GIRL Giralia 56.03 208 P **P** **20 04 23.4 +0.9**
BRLK Bradley Lake 56.04 35 P **P** **20 04 21.1 -1.1**
BRLK IAmb IAmb 20 04 24.6
comp=Z,461nm,1.1s
HYB Hyderabad 56.13 273 *i* P **P** **20 04 24.0 +0.5**
comp=Z,240nm,1.0s
HYB *e* 20 04 54.5
HYB *e*PcP **PcP** **20 05 14.0 +0.1**
HYB *e*PP **PP** **20 06 40.0 +3.6**
HYB *e* 20 07 06.0
HYB *e*ScP **ScP** **20 08 22.0 -0.4**
HYB *e*S **S** **20 11 32.0 -0.8**
HYB *e*ScS **ScS** **20 13 16.0 -2.7**
HYBB Hyderabad (bro 56.13 273 *e*P **P** **20 04 24.0 +0.5**
HYBB IVmBBB 20 04 26.4
comp=Z,1μm,1.1s

SUA Susitna One 56.16 33 P **P** 20 04 22.8 -0.3
SUA IAmb IAmb 20 04 27.7
comp=Z,1μm,1.7s
BPAW Bear Paw Mtn. 56.19 30 P **P** 20 04 24.1 +0.9
BPAW IAmb IAmb 20 04 26.9
comp=Z,401nm,1.1s
BTK Batken 56.23 301 P **P** 20 04 24.4 +0.5
BTK pmax pmax
comp=Z,212nm,1.2s
BTK Batken 56.23 301 P **P** 20 04 24.4 +0.5
SRLM Srisailam 56.35 271 *e*P **P** 20 04 25.8 +0.8
SRLM IVmB_BB 20 04 27.6
comp=Z,2μm,1.0s
MLY Manley 56.37 29 P **P** 20 04 24.9 +0.5
BRLS Boroldaу 56.44 305 *e*S **S** 20 11 39.2 +3.1
comp=Z,1μm,5.9s,baz=304
IUG luzhnay 56.45 304⇓*i*P **P** 20 04 26.9 +1.4
comp=Z,19nm,0.7s,baz=304
IUG *e*S **S** 20 11 37.7 +1.3
baz=304
IUG luzhnay 56.45 304*d i*P **P** 20 04 26.8 +1.4
IUG *e*S **S** 20 11 37.6 +1.3
IUG pmax pmax
comp=Z,19nm,0.7s
TRF Thorofare Moun 56.46 31 P **P** 20 04 25.5 +0.3
SKHT Srikalahasti 56.60 268 *e*P **P** 20 04 28.1 +1.4
SKHT IVmB_BB 20 04 29.9
comp=Z,2μm,1.2s
O22K Cooper Landing 56.63 34 P **P** 20 04 26.0 -0.2
baz=269
CHM Chimkent 56.73 304⇓*i*P **P** 20 04 28.4 +1.1
comp=Z,82nm,0.7s,baz=304
CHM *e*S **S** 20 11 41.2 +1.4
comp=Z,2μm,4.2s,baz=304
CHM Chimkent 56.73 304*d i*P **P** 20 04 28.3 +1.1
CHM *e*S **S** 20 11 41.2 +1.4
CHM pmax pmax
comp=Z,82nm,0.7s
CHM smax smax
comp=N,2μm,4.2s
SEW Seward 56.76 35 P **P** 20 04 26.9 -0.1
SEW IAmb IAmb 20 04 28.8
comp=Z,710nm,1.1s
COLD Coldfoot 56.79 26 P **P** 20 04 28.4 +1.2
baz=264
COLD Coldfoot 56.79 26 P **P** 20 04 28.2 +1.1
DZM Mont Dzumac 56.79 149 P **P** 20 04 27.9 0.0
comp=Z,52nm,0.8s,baz=357,slow=5.0,SNR=38
PMR Palmer 56.93 33 P **P** 20 04 28.0 -0.2
PMR pmax pmax
comp=Z,536nm,1.0s
PMR Palmer 56.93 33 P **P** 20 04 28.0 -0.2
PMR IAmb IAmb 20 04 29.9
comp=Z,536nm,1.0s
OPA Opana 57.02 81 P **P** 20 04 29.5 0.0
OPA pmax pmax
comp=Z,252nm,1.1s
OPA Opana 57.02 81 P **P** 20 04 29.5 0.0
GHO Glory Hole Cre 57.03 33 P **P** 20 04 28.9 -0.1
NEA2 Nenana 57.06 29 P **P** 20 04 29.7 +0.6
baz=267,SNR=304
MCK McKinley 57.08 30 P **P** 20 04 29.1 -0.2
MCK pmax pmax
comp=Z,1μm,1.0s
MCK McKinley 57.08 30 P **P** 20 04 29.1 -0.2
RND Reindeer 57.10 31 P **P** 20 04 29.2 -0.3
RND pmax pmax
comp=Z,332nm,0.8s
RND Reindeer 57.10 31 P **P** 20 04 29.2 -0.3
RND IAmb IAmb 20 04 31.3
comp=Z,332nm,0.8s
KIP Kipapa 57.11 82*ce*P **P** 20 04 31.3 +1.2
KIP pmax pmax
comp=Z,260nm,1.4s
KIP Kipapa 57.11 82 P **P** 20 04 30.1 0.0
TAS Tashkent 57.13 303 P **P** 20 04 31.1 +1.1
TAS pmax pmax
comp=Z,504nm,1.5s
TAS Tashkent 57.13 303 P **P** 20 04 31.1 +1.1
TAS IAmb IAmb 20 04 34.3
comp=Z,504nm,1.5s
TOLK Toolik Lake Re 57.16 24 P **P** 20 04 30.9 +1.1
baz=264
TOLK Toolik Lake Re 57.16 24 P **P** 20 04 30.8 +1.0
TOLK IAmb IAmb 20 04 32.9
comp=Z,460nm,1.2s
KNK Knik Glacier 57.25 33 P **P** 20 04 30.2 -0.3
KNK IAmb IAmb 20 04 32.5
comp=Z,599nm,0.9s
COCO West Island 57.28 231 P **P** 20 04 30.1 -1.1
COCO pmax pmax
comp=Z,1μm,1.3s
COCO West Island 57.28 231 P **P** 20 04 30.1 -1.1
SML Sawmill 57.32 33 P **P** 20 04 31.1 +0.1
MDM Murphy Dome 57.43 29 P **P** 20 04 32.0 +0.3
MDM IAmb IAmb 20 04 35.1
comp=Z,306nm,1.0s
WRH Wood River Hil 57.48 29 P **P** 20 04 31.6 -0.3
WRH IAmb IAmb 20 04 37.2
comp=Z,699nm,1.7s
TCOL CIGO, UAF Yank 57.59 29 P **P** 20 04 32.7 +0.1
baz=268,SNR=8.4
COLA College 57.59 29*c i*P **P** 20 04 32.5 -0.1
COLA pmax pmax
comp=Z,319nm,1.5s
COLA College 57.59 29 P **P** 20 04 32.3 -0.3
COLA IAmb IAmb 20 04 38.1
comp=Z,402nm,1.2s
CCB Clear Creek Bu 57.60 29 P **P** 20 04 32.3 -0.5
CCB IAmb IAmb 20 04 35.8
comp=Z,1μm,1.9s
KLRI Killari 57.60 274 *e*P **P** 20 04 33.8 +0.2
KLRI IVmBBB 20 04 36.1
comp=Z,2μm,1.1s
POKR Poker Plat Res 57.78 29 P **P** 20 04 34.1 +0.1
baz=268,SNR=91
SCM Sheep Creek Mo 57.79 33 P **P** 20 04 34.4 +0.2
SCM pmax pmax
comp=Z,896nm,1.0s
SCM Sheep Creek Mo 57.79 33 P **P** 20 04 34.4 +0.2
GLI Glacier Island 57.92 34 P **P** 20 04 35.1 +0.1
HDA Harding Lake 57.97 30 P **P** 20 04 34.9 -0.4
baz=269,SNR=144
HDA Harding Lake 57.97 30 P **P** 20 04 34.6 -0.7
HDA IAmb IAmb 20 04 36.7
comp=Z,925nm,1.5s
IL31 58.00 29 P **P** 20 04 34.6 -0.9
IL31 IAmb IAmb 20 04 37.6
comp=Z,517nm,1.4s
ILAR Eielson Array 58.00 29 P **P** 20 04 34.8 -0.7
comp=Z,584nm,1.3s,baz=275,slow=5.0,SNR=392
ILAR S **S** 20 11 55.0 -0.2
comp=Z,3.8nm,1.0s,baz=261,slow=9.4,SNR=5.8
ILAR PKPPKP P'P'df 20 33 53.9 -16
comp=Z,4.8nm,1.1s,baz=107,slow=3.1,SNR=20
ILAR P4KPbc 20 41 37.9
comp=Z,0.6nm,1.0s,baz=280,slow=4.6,SNR=5.0
FID Port Fidalgo 58.23 34 P **P** 20 04 37.2 +0.1
HIN Hinchinbrook I 58.23 34 P **P** 20 04 37.1 0.0
HIN IAmb IAmb 20 04 38.9
comp=Z,630nm,1.2s
URV Uravakonda 58.26 271 *e*P **P** 20 04 38.7 +0.6
URV IVmB_BB 20 04 40.5
comp=Z,2μm,1.4s
MID Middleton Isla 58.35 35 P **P** 20 04 38.3 +0.4
MID pmax pmax
comp=Z,595nm,1.1s
MID Middleton Isla 58.35 35 P **P** 20 04 38.3 +0.4
MID IAmb IAmb 20 04 41.4
comp=Z,596nm,1.1s
PRP Porcupine Dome 58.58 28 P **P** 20 04 38.6 -0.9
EYAK Cordova Ski Ar 58.59 34 P **P** 20 04 40.0 +0.5
EYAK IAmb IAmb 20 04 41.5
comp=Z,326nm,1.2s
PAX Paxson 58.64 31 P **P** 20 04 39.8 -0.1
PAX pmax pmax
comp=Z,812nm,1.3s
PAX Paxson 58.64 31 P **P** 20 04 39.8 -0.1
KHLH Kahului Airpor 58.68 82 P **P** 20 04 42.1 +1.3
FYU Fort Yukon 58.71 27 P **P** 20 04 41.5 +1.3
KBL Kabul 58.82 295 P **P** 20 04 42.6 +0.8
SNR=143
KBL Kabul 58.82 295 P **P** 20 04 42.1 +0.3
KBL pmax pmax
comp=Z,209nm,0.9s
KBL Kabul 58.82 295 P **P** 20 04 42.1 +0.3
KBL IAmb IAmb 20 04 46.1
comp=Z,209nm,0.8s
HLK Haleakala 58.89 82 P **P** 20 04 43.3 +0.8
HLK IAmb IAmb 20 04 45.5
comp=Z,386nm,1.3s
RIDG Independent Ri 58.90 30 P **P** 20 04 41.1 -0.5
RIDG IAmb IAmb 20 04 45.3
comp=Z,743nm,1.3s
RAGM Ragged Mountai 59.13 34 P **P** 20 04 43.8 +0.6
DOT Dot Lake 59.25 30 P **P** 20 04 43.7 -0.3
SCRK Sand Creek 59.27 30 P **P** 20 04 44.1 -0.1
SCRK IAmb IAmb 20 04 45.6
comp=Z,353nm,1.0s
MENT Mentasta 59.44 31 P **P** 20 04 45.9 +0.7
MENT IAmb IAmb 20 04 49.9
comp=Z,237nm,1.0s
GLB Gilahina Butte 59.49 33 P **P** 20 04 46.1 +0.6
MSVF Nonsavu 59.49 136 P **P** 20 04 46.0 -0.2
MSVF pmax pmax
comp=Z,325nm,0.2s
MSVF Nonsavu 59.49 136 P **P** 20 04 46.0 -0.2
KHLU Kahalu`u 59.63 83 P **P** 20 04 47.6 +0.3
KHLU IAmb IAmb 20 04 49.8
comp=Z,489nm,1.4s
HPAH Hawaii Prepara 59.64 82 P **P** 20 04 48.0 +0.7
HUH Hualalai 59.64 83 P **P** 20 04 47.4 -0.2
HUH IAmb IAmb 20 04 49.5
comp=Z,622nm,1.8s
VRDI Verde Repeater 59.67 33 P **P** 20 04 47.3 +0.3
VRDI IAmb IAmb 20 04 49.4
comp=Z,654nm,1.5s
ARMA Armidale 59.73 167 P **P** 20 04 47.7 0.0
FORT Forrest 59.74 191 P **P** 20 04 47.2 -0.3
CRQM Cirque 59.86 34 P **P** 20 04 48.8 +0.5
MCARA McCarthy VSAT 59.87 33 P **P** 20 04 48.8 +0.7
MCARA IAmb IAmb 20 04 50.7
comp=Z,568nm,1.0s
POHA Pohakuloa 59.88 83 P **P** 20 04 49.1 0.0
MLOA Mauna Loa Obse 59.92 83 P **P** 20 04 51.0 +1.4
MLOA IAmb IAmb 20 04 52.5
comp=Z,238nm,0.9s
MWH Moku'aweowe 59.93 83 P **P** 20 04 50.4 +0.6
HMH Humu'ula Sheep 59.98 83 P **P** 20 04 50.3 +0.4
HMH IAmb IAmb 20 04 52.4
comp=Z,512nm,1.4s
STKA Stephens Creek 59.99 177 P **P** 20 04 49.0 -0.2
comp=Z,36nm,0.4s,baz=2.8,slow=6.8,SNR=149
STKA S **S** 20 12 18.5 -2.6
comp=Z,10nm,1.1s,baz=101,slow=22,SNR=6.3
STKA Stephens Creek 59.99 177 P **P** 20 04 48.7 -0.5
STKA pmax pmax
comp=Z,20nm,0.9s
STKA Stephens Creek 59.99 177 P **P** 20 04 48.7 -0.5
KHU Kahuku 60.00 83 P **P** 20 04 50.6 +0.7
KHU pmax pmax
comp=Z,697nm,1.2s
KHU Kahuku 60.00 83 P **P** 20 04 50.6 +0.7
KHU IAmb IAmb 20 04 52.7
comp=Z,697nm,1.2s
TGL Tana Glacier 60.01 34 P **P** 20 04 49.5 +0.3
TGL IAmb IAmb 20 04 51.6
comp=Z,554nm,1.2s
KAD Karad 60.02 274⇓*i*P **P** 20 04 50.1 +0.2
WAX Waxell Ridge 60.03 34 P **P** 20 04 49.9 +0.6
AIN Ainahou 60.09 83 P **P** 20 04 51.8 +1.3
AIN IAmb IAmb 20 04 53.5
comp=Z,682nm,1.3s
MLH Mauna Loa 60.11 83 P **P** 20 04 51.5 +0.8
MLH IAmb IAmb 20 04 53.5
comp=Z,329nm,1.2s
WRMHI West Rim 60.22 83 P **P** 20 04 52.2 +1.0
WRMHI IAmb IAmb 20 04 53.9
comp=Z,289nm,1.2s
UWE Uwekahuna 60.22 83 P **P** 20 04 52.7 +1.4
BALM Baldy 60.23 33 P **P** 20 04 50.8 +0.2
BALM IAmb IAmb 20 04 52.8
comp=Z,286nm,1.0s
OBL Observatory Le 60.23 83 P **P** 20 04 52.0 +0.8
SDHHI Sand Hill 60.23 83 P **P** 20 04 52.3 +1.0
UWB Uwekahuna B 60.23 83 P **P** 20 04 52.1 +0.8
NPH North Pit 60.23 83 P **P** 20 04 52.5 +1.1
SBLHI Steaming Bluff 60.23 83 P **P** 20 04 52.3 +1.0
RIM Rim 60.24 83 P **P** 20 04 52.1 +0.7
RIM IAmb IAmb 20 04 54.1
comp=Z,286nm,1.2s
KKO Keanakako`i 60.25 83 P **P** 20 04 52.8 +1.3
KKO IAmb IAmb 20 04 54.1
comp=Z,280nm,1.2s
HLP Hilina Pali 60.25 83 P **P** 20 04 52.1 +0.7
HLP IAmb IAmb 20 04 55.0
comp=Z,656nm,1.3s
ISLE Juniper Island 60.27 34 P **P** 20 04 51.1 +0.2
ISLE IAmb IAmb 20 04 53.2
comp=Z,771nm,1.4s
PUH Pauahi 60.30 83 P **P** 20 04 52.2 +0.5
PUH IAmb IAmb 20 04 54.5
comp=Z,469nm,1.3s
STCH Steam Cracks 60.38 83 P **P** 20 04 52.0 -0.2
STCH IAmb IAmb 20 04 54.9
comp=Z,300nm,0.8s
SVE Sverdlovsk 60.41 322*de*P **P** 20 04 52.4 +0.7
SVE *e*S **S** 20 12 25.4 -0.3
SVE *e* 20 13 45.9
SVE *e* 20 16 35.3
SVE pmax pmax
comp=Z,364nm,1.1s
EGAK Eagle 60.45 29 P **P** 20 04 51.8 -0.1
MESA MESA 60.51 34 P **P** 20 04 53.1 +0.6
MESA IAmb IAmb 20 04 55.2
comp=Z,582nm,1.4s
BARN Barnard Glacie 60.55 33 P **P** 20 04 53.2 +0.3
YAH Yahtse 60.59 34 P **P** 20 04 53.6 +0.5
YAH IAmb IAmb 20 04 55.2
comp=Z,316nm,1.1s
BOM Bombay 60.61 277 *i* P **P** 20 05 55.0 +1.3
BOM AMP 20 05 08.9
comp=Z,174nm,11.4s
BOM *e*S **S** 20 12 33.6 +4.2
CTGM Chitina Glacie 60.72 33 P **P** 20 04 54.5 +0.5
CTGM IAmb IAmb 20 04 55.9
comp=Z,258nm,1.1s
TABL Table Mountain 60.88 34 P **P** 20 04 55.3 +0.3
TABL IAmb IAmb 20 04 56.8
comp=Z,281nm,1.1s
BBOO Buckleboo 60.92 183 P **P** 20 04 55.1 -0.3
MORW Morawa 61.17 203 P **P** 20 04 56.6 -0.5
MORW IAmb IAmb 20 04 58.6
comp=Z,296nm,1.1s
DAWY Dawson 61.28 30 P **P** 20 04 57.8 +0.4
DAWY IAmb IAmb 20 05 00.1
comp=Z,413nm,1.5s
PCA Pinnacle 61.36 34 P **P** 20 04 58.6 +0.6
PCA IAmb IAmb 20 05 00.6
comp=Z,364nm,0.9s
ARU Arti 61.60 321 S **S** 20 12 40.7 +0.3
comp=Z,3.8nm,0.8s,baz=57,slow=23,SNR=16
ARU Arti 61.60 321*c i*P **P** 20 04 59.7 +0.2
ARU 20 05 35.6
ARU *PP **pP** 20 06 43.1 -0.7
ARU 20 07 22.6
ARU *SP **sP** 20 07 40.1 +0.5
ARU PPP PPP 20 08 57.6
ARU S **S** 20 12 40.1 -0.4
ARU 20 13 54.7
ARU SS **SS** 20 16 52.2 -1.3
ARU pmax pmax
comp=Z,638nm,1.8s
ARU MLR MLR
comp=Z,3μm,15.0s
ARU Arti 61.60 321 P **P** 20 04 59.5 0.0
ARU IAmb IAmb 20 05 04.0
comp=Z,309nm,1.0s
ABKAR Akbulak array 62.08 313 P **P** 20 05 03.2 +0.3
ABKAR IAmb IAmb 20 05 06.9
comp=Z,191nm,0.6s
EPYK Eagle Plains 62.13 27 P **P** 20 05 03.8 +0.9
baz=277,SNR=641
EPYK Eagle Plains 62.13 27 P **P** 20 05 03.5 +0.6
HYT Haines Junctio 62.60 33 P **P** 20 05 07.2 +1.1
HYT IAmb IAmb 20 05 09.3
comp=Z,412nm,1.1s
AKTO Aktyubinsk 63.05 315 S **S** 20 12 58.7 +0.1
comp=Z,20nm,1.1s,baz=280,slow=21,SNR=14
INK Inuvik 63.08 25 P **P** 20 05 09.0 +0.1
comp=Z,45nm,0.3s,baz=279,slow=6.6,SNR=172
INK S **S** 20 12 58.3 +0.1
comp=Z,12nm,1.0s,baz=84,slow=32,SNR=11
INK Inuvik 63.08 25 P **P** 20 05 08.9 0.0
INK pmax pmax
comp=Z,399nm,1.5s
INK Inuvik 63.08 25 P **P** 20 05 08.9 0.0
INK IAmb IAmb 20 05 10.8
comp=Z,399nm,1.5s
WHY Whitehorse 63.89 33 P **P** 20 05 15.1 +0.7
SKAG Skagway 63.92 35 P **P** 20 05 15.5 +1.0
CAN Canberra 64.08 171 P **P** 20 05 16.3 +0.5
CAN pmax pmax
comp=Z,99nm,1.0s
CAN Canberra 64.08 171 P **P** 20 05 16.3 +0.5
HRA Herat 64.25 297 P **P** 20 05 18.0 +0.6
HRA IAmb IAmb 20 05 20.9
comp=Z,139nm,0.9s
NWAO Narrogin (SRO) 64.35 200 P **P** 20 05 17.4 0.0
comp=Z,202nm,0.8s,baz=26,slow=6.4,SNR=68
NWAO pP **pP** 20 07 03.9 +1.1
comp=Z,58nm,1.0s,baz=34,slow=9.4,SNR=3.6
NWAO Narrogin (SRO) 64.35 200 P **P** 20 05 17.5 0.0
NWAO Narrogin (SRO) 64.35 200 P **P** 20 05 17.1 -0.4
NWAO pmax pmax
comp=Z,377nm,1.0s
NWAO Narrogin (SRO) 64.35 200 P **P** 20 05 17.1 -0.4
NWAO Narrogin (SRO) 64.35 200 P **P** 20 05 17.2 -0.3
NWAO IAmb IAmb 20 05 19.3
comp=Z,302nm,1.0s
BESE Bessie Mountai 64.35 35 P **P** 20 05 18.3 +1.0
BESE IAmb IAmb 20 05 19.7
comp=Z,288nm,1.2s
SIT Sitka 64.45 37 P **P** 20 05 18.9 +1.1
SIT pmax pmax
comp=Z,449nm,1.6s
SIT Sitka 64.45 37 P **P** 20 05 18.9 +1.1
SIT IAmb IAmb 20 05 20.9
comp=Z,449nm,1.6s
JIS Juneau Island 64.66 36 P **P** 20 05 20.1 +1.0
A36M Sachs Harbour 65.08 20 P **P** 20 05 22.4 +0.8
baz=285,SNR=242
TOO Toolangi 65.91 174 P **P** 20 05 27.3 0.0
TOO pmax pmax
comp=Z,93nm,0.9s
TOO Toolangi 65.91 174 P **P** 20 05 27.3 0.0
KIRV Kirov 65.96 325 *e*P **P** 20 05 27.7 +0.4
XMAS Kiritimati 65.98 101 P **P** 20 05 28.5 +0.3
XMAS IAmb IAmb 20 05 30.9
comp=Z,604nm,1.8s
CRAG Craig 66.03 39 P **P** 20 05 28.9 +1.1
CRAG IAmb IAmb 20 05 31.7
comp=Z,428nm,1.3s
ASHT Ashkhabad 66.12 301 P **P** 20 05 29.9 +1.1
ASHT pmax pmax
comp=Z,232nm,1.2s
ASHT Ashkhabad 66.12 301 P **P** 20 05 29.9 +1.1
ASHT IAmb IAmb 20 05 34.2
comp=Z,232nm,1.2s
WRAK Wrangell Islan 66.19 37 P **P** 20 05 29.7 +0.9
WRAK IAmb IAmb 20 05 31.9
comp=Z,456nm,1.4s
GEYT Alibeck 66.33 302 P **P** 20 05 31.1 +1.0
comp=Z,78nm,1.0s,baz=36,slow=2.8,SNR=74
GEYT S **S** 20 13 42.4 +4.0
comp=Z,4.2nm,0.9s,baz=352,slow=32,SNR=8.3
GYA0B ALIBECK ARRAY 66.33 302 P **P** 20 05 31.0 +0.9
DLBC Dease Lake 66.84 35 P **P** 20 05 34.2 +1.3
comp=Z,219nm,1.2s,baz=293,slow=6.5,SNR=116
DLBC Dease Lake 66.84 35 P **P** 20 05 34.0 +1.1
DIB Dawson Inlet, 67.03 41 P **P** 20 05 34.5 +0.5
DIB IAmb IAmb 20 05 36.2
comp=Z,275nm,0.9s
MOBC Moresby Island 67.34 41 P **P** 20 05 36.3 +0.3
HOPEN Hopen 67.91 347⇑*i*P **P** 20 05 39.9 +0.9
HOPEN IVmB_BB 20 05 41.8
comp=Z,4μm,1.5s
HOPEN *e*S **S** 20 13 55.7 +0.2
HOPEN IVMs_BB IVMs_BB 20 37 27.2
comp=Z,1μm,2.9s
SPA0 Spitsbergen Ar 68.58 349 P **P** 20 05 43.8 +0.7
SPA0 IAmb IAmb 20 05 48.4
comp=Z,533nm,1.5s
SPA0 Spitsbergen Ar 68.58 349⇑*i*P **P** 20 05 43.8 +0.7
SPA0 *e*S **S** 20 14 03.8 +0.5
SPITS Spitsbergen Ar 68.58 349 S **S** 20 14 05.7 +2.4
comp=Z,19nm,1.1s,baz=293,slow=15,SNR=4.2
KBS Kingsbay 68.79 350*ce*P **P** 20 05 45.3 +0.9
KBS pmax pmax
comp=Z,194nm,0.9s
KBS Kingsbay 68.79 350 P **P** 20 05 45.1 +0.7
KBS IAmb IAmb 20 05 48.0
comp=Z,158nm,0.9s
KBS Kingsbay 68.79 350⇑*i*P **P** 20 05 45.4 +1.1
KBS *e*S **S** 20 14 06.9 +1.2
LVZ Lovozero 69.15 337*ce*P **P** 20 05 47.8 +1.1
LVZ pmax pmax
comp=Z,100nm,1.4s
LVZ Lovozero 69.15 337 P **P** 20 05 47.2 +0.5
LVZ IAmb IAmb 20 05 50.2
comp=Z,266nm,1.5s
TMCR Tamitsa 69.35 333 *e*P **P** 20 05 47.4 -0.5
TMCR *e*S **S** 20 14 12.7 +0.3
TMCR pmax pmax
comp=Z,217nm,0.8s
HSPB Hornsund (broa 69.44 348 *e*P **P** 20 05 49.2 +0.9
NOR Nord 69.52 356⇑*i*P **P** 20 05 49.2 +0.5
NOR Nord 69.52 356⇑*i*P **P** 20 05 49.2 +0.5
APA Apatity 69.72 337⇑*i*P **P** 20 05 49.4 -0.7
APA *i* *PP **pwP** 20 07 45.0 +1.5
APA *i* 20 08 29.0
APA *i* PPP PPP 20 10 18.0
APA *i* S **S** 20 14 15.0 -1.6
APA *i* 20 14 55.0
APA *i* SSS SSS 20 22 15.0
APA pmax pmax
comp=Z,78nm,0.7s
BBB Bella Bella 69.87 41 P **P** 20 05 51.6 +0.4
comp=Z,114nm,0.9s,baz=281,slow=7.2,SNR=35
BBB Bella Bella 69.87 41 P **P** 20 05 51.7 +0.4
KLMR Klimovskoe 69.98 329*c i*P **P** 20 05 51.5 -0.2
KLMR *e* 20 08 34.5
KLMR *e*S **S** 20 14 17.4 -2.3
KLMR pmax pmax
comp=Z,78nm,0.6s
KLMR Klimovskoe 69.98 329⇑*i*P **P** 20 05 51.6 -0.2
KLMR ⇓*i*P **P** 20 05 51.6 -0.2
KLMR ⇓*i*P **P** 20 05 51.6 -0.2
KLMR AMP 20 05 54.9
comp=Z,78nm,0.6s
KLMR *e*PP **sP** 20 08 34.5 0.0
KLMR *e*S **S** 20 14 17.4 -2.3
KLMR *e*S **S** 20 14 17.4 -2.3
BJO1 Bjornoya 70.27 346⇑*i*P **P** 20 05 52.7 -0.5
BJO1 IVmBBB 20 05 56.8
comp=Z,2μm,1.0s
BJO1 *e*S **S** 20 14 22.9 +0.3
BJO1 *e*SKSac **SKKSac** 20 15 03.8 +0.4
BJO1 IVMs_BB IVMs_BB 20 43 22.9
comp=Z,771nm,3.0s
KEV Kevo 70.78 340 P **P** 20 05 57.2 +0.9
KEV pmax pmax
comp=Z,231nm,1.2s
KEV Kevo 70.78 340 P **P** 20 05 57.2 +0.9
KEV IAmb IAmb 20 05 59.5
comp=Z,231nm,1.2s
WBK Wadi Bani Khal 71.12 286 P **P** 20 06 00.2 +1.0
SNR=12
WSAR Wadi Sarin 71.16 287 P **P** 20 06 00.3 +0.8
SNR=8.1
OUZ Omahuta 71.26 150 P **P** 20 05 59.5 -0.1
HAMF Hammerfest 71.28 341⇑*i*P **P** 20 05 60.0 +0.7
HAMF *e*PP **PP** 20 08 46.8 +0.7
HAMF *e*S **S** 20 14 34.4 +0.2
ARCES ARCESS Array B 71.34 340 P **P** 20 06 00.2 +0.6
comp=Z,78nm,0.6s,baz=66,slow=8.2,SNR=543
ARCES S **S** 20 14 35.7 +0.7
comp=Z,9.6nm,1.2s,baz=76,slow=12,SNR=4.3
ARE0 ARCESS Array S 71.34 340 P **P** 20 06 00.1 +0.4
ARE0 ARCESS Array S 71.34 340⇑*i*P **P** 20 06 00.4 +0.7
ARE0 IVmBBB 20 06 02.2
comp=Z,3μm,1.5s
ARE0 *e*PP **PP** 20 08 47.5 +0.9

ARE0 eS S 20 14 33.6 -1.4
ARE0 eSS SS 20 19 24.6 +2.3
TAU Tasmania Unive 71.37 173 P P 20 06 00.4 +0.3
TAU pmax pmax
comp=Z,294nm,1.5s
TAU Tasmania Unive 71.37 173 P P 20 06 00.4 +0.3
TAU IAmb IAmb 20 06 03.0
comp=Z,294nm,1.4s
BIDO Bidbid 71.47 287 P P 20 06 02.2 +0.9
SNR=28
RES Resolute Bay 71.48 13 P P 20 06 00.9 +0.5
RES pmax pmax
comp=Z,224nm,0.9s
RES Resolute Bay 71.48 13 P P 20 06 00.9 +0.5
RES IAmb IAmb 20 06 03.7
comp=Z,224nm,0.8s
SMDO Samad 71.72 287 P P 20 06 03.3 +0.5
SNR=11
JMDO Jabal Madar 71.95 286 P P 20 06 04.4 +0.3
SNR=12
BANOM Banah 72.05 290 *i* P P 20 06 05.7 +1.0
SNR=10
BANOM Banah 72.05 290 P P 20 06 05.7 +1.0
SNR=5.9
SHME Shamm 72.13 290 *i* P P 20 06 06.2 +1.0
SNR=73
HOQ Hoqain 72.13 288 P P 20 06 05.8 +0.6
SNR=43
MAK Makhachkala 72.20 310 *e*P P 20 06 03.7 -1.4
MAK *e**PP **pP** 20 07 51.7 -2.2
MAK *e**SP **sP** 20 08 46.7 -1.7
MAK *e* 20 08 50.8
MAK *e*PPP PPP 20 10 43.5
MAK *e*S **SKiKP** 20 14 44.4 -0.4
MAK *e*SS **SS** 20 19 33.1 -3.3
MAK pmax pmax
comp=Z,223nm,0.8s
MAK MLR MLR
comp=Z,1μm,14.0s
MDH Madha 72.30 290 *i* P P 20 06 07.2 +1.2
SNR=9.1
KTK1 Kautokeino 72.31 340 *e*P P 20 06 06.4 +1.1
KTK1 *e*PP **PP** 20 08 55.0 +0.2
KTK1 *e*S **S** 20 14 46.7 +1.0
MSFE Esma-Masafi 72.39 290 *i* P P 20 06 07.7 +1.0
SNR=27
YKA Yellowknife Ar 72.39 28 P P 20 06 05.6 -0.2
comp=Z,116nm,0.8s,baz=295,slow=5.6,SNR=352
YKA PKPPKP P'P'df 20 33 37.9 -8.7
comp=Z,0.9nm,0.8s,baz=111,slow=3.6,SNR=5.4
UOSS Minazif 72.51 289 *i* P P 20 06 07.9 +0.5
SNR=11
UOSS Minazif 72.51 289 P P 20 06 07.2 -0.1
UOSS IAmb IAmb 20 06 10.8
comp=Z,270nm,1.2s
SOHO SOHO 72.56 288 *i* P P 20 06 07.7 +0.1
SNR=30
AKT Akhty 72.61 308 *e*P P 20 06 08.5 +0.8
AKT *e* 20 06 21.8
AKT *e**PP **pP** 20 07 58.2 +1.5
AKT *e**SP **PP** 20 08 54.7 -3.4
AKT *e* 20 09 00.5
AKT *e*S **S** 20 14 48.6 -1.7
AKT *e* 20 15 25.3
AKT pmax pmax
comp=Z,177nm,0.5s
HATD Hatta, Dubai 72.62 289 *i* P P 20 06 08.5 +0.5
SNR=82
HATD Hatta, Dubai 72.62 289 P P 20 06 08.8 +0.9
VRH Novokhopyorsk 72.62 319 *e*P P 20 06 07.5 +0.1
VRH *e*S **SKiKP** 20 14 46.2 +1.0
VRH pmax pmax
comp=Z,300nm,1.2s
VRH pmax pmax
comp=Z,90nm,0.5s
VRH smax smax
comp=N,5μm,3.8s
MHTO MHTO 72.63 285 P P 20 06 08.4 +0.4
SNR=32
ASHO Ashiyiah 72.74 289 *i* P P 20 06 09.1 +0.4
SNR=64
ASHO Ashiyiah 72.74 289 P P 20 06 09.5 +0.8
SNR=25
ARQ Araqi 72.89 288 P P 20 06 11.0 +1.4
SNR=40
LKRN Lenkeran, Azer 72.93 305 P P 20 06 10.2 +0.7
NAZ Nazwa, Dubai 72.95 290 *i* P P 20 06 10.4 +0.6
SNR=40
NAZ Nazwa, Dubai 72.95 290 P P 20 06 12.0 +2.2
SNR=26
MOS Moscow 72.97 325 *e*P P 20 06 08.9 -0.4
MOS *e* 20 06 24.3
MOS *e**PP **pP** 20 07 58.1 -0.3
MOS *e* 20 08 57.6
MOS *i* S S 20 14 50.9 -2.5
MOS *e* 20 15 22.7
MOS pmax pmax
comp=Z,700nm,1.6s
MOS pmax pmax
comp=Z,428nm,1.4s
MOS smax smax
comp=E,1μm,3.4s
MOS smax smax
comp=N,5μm,4.4s
MOS MLR MLR
comp=Z,1μm,16.0s
FAQ Al Faqa, Dubai 73.10 289 *i* P P 20 06 11.1 +0.4
SNR=8.6
FAQ Al Faqa, Dubai 73.10 289 P P 20 06 11.1 +0.4
SNR=5.9
TRO Tromso 73.20 342⇑ *i*P P 20 06 10.4 0.0
TRO IVmB_BB 20 06 12.2
comp=Z,3μm,1.3s
TRO *e*PP **PP** 20 09 03.1 +0.9
TRO *e*S **S** 20 14 55.8 +0.3
TRO IVMs_BB IVMs_BB 20 42 55.5
comp=Z,859nm,16.3s
DGAR Diego Garcia 73.20 252 P P 20 06 12.2 +0.9
DGAR Diego Garcia 73.20 252 P P 20 06 12.0 +0.6
DGAR pmax pmax
comp=Z,526nm,1.1s
DGAR Diego Garcia 73.20 252 P P 20 06 12.0 +0.6
ALNE Al Ain 73.25 289 *i* P P 20 06 12.3 +0.7
SNR=38
GROC Groznyy 73.26 310 *e*P P 20 06 11.7 +0.5
GROC *e**PP **pP** 20 08 02.4 +1.9
GROC *e* 20 09 08.7
GROC *e*S **S** 20 14 55.4 -1.7
GROC pmax pmax
comp=Z,242nm,1.2s
ZKTA Zakatala 73.31 309 P P 20 06 12.2 +0.6
MNGR Mingechevir, A 73.33 308 P P 20 06 12.4 +0.7
LPSR Galich'ya Gora 73.62 321 *e*P P 20 06 13.6 +0.5
LPSR *e*S **S** 20 14 57.6 -3.1
LPSR pmax pmax
comp=Z,330nm,1.8s
LPSR pmax pmax
comp=Z,540nm,1.8s
LPSR smax smax
comp=E,4μm,4.6s
AJN Ajban 73.68 289 *i* P P 20 06 14.3 +0.4
SNR=14
AJN Ajban 73.68 289 P P 20 06 14.4 +0.4
OBN Obninsk 73.78 324 S S 20 15 02.3 -0.1
comp=E,3.6nm,0.4s,baz=269,slow=22,SNR=12
OBN Obninsk 73.78 324*c* *i*P P 20 06 14.1 +0.2
OBN *e**PP **pP** 20 08 05.2 +1.8
OBN *e* 20 09 12.1
OBN *e*S **S** 20 14 55.5 -6.9
OBN pmax pmax
comp=Z,434nm,1.8s
OBN Obninsk 73.78 324 P P 20 06 14.9 +0.9
OBN IAmb IAmb 20 06 18.5
comp=Z,178nm,0.9s
GANJ Ganja 73.91 308 P P 20 06 16.0 +0.9
TULEG Thule 73.92 7 P P 20 06 14.2 -0.2
TULEG IAmb IAmb 20 06 17.1
comp=Z,329nm,1.1s
PGC Sidney 73.98 43 P P 20 06 16.2 +1.0
LLLB Lillooet 74.08 41 P P 20 06 16.6 +0.8
LLLB IAmb IAmb 20 06 18.6
comp=Z,258nm,1.1s
VORD Divnogorie 74.11 320 *e*P P 20 06 16.1 +0.2
VORD *e*S **S** 20 15 03.3 -2.9
VORD pmax pmax
comp=Z,170nm,1.2s
VORD pmax pmax
comp=Z,230nm,1.0s
VORD smax smax
comp=E,640nm,1.2s
DAG Danmarks Havn 74.17 355⇑ *i*P P 20 06 15.9 +0.1
DAG Danmarks Havn 74.17 355⇑ *i*P P 20 06 15.9 +0.1
NLWA Neilton Lookou 74.25 44 P P 20 06 18.4 +1.5
NLWA IAmb IAmb 20 06 20.4
comp=Z,298nm,1.0s
GOF Gofitskoye 74.32 313 *i*P P 20 06 18.2 +1.0
GOF *e*S **S** 20 15 06.8 -1.9
GOF pmax pmax
comp=Z,228nm,0.8s
GOF smax smax
comp=N,355nm,1.4s
A04D Lummi Island 74.40 43 P P 20 06 18.9 +1.3
baz=295,SNR=22
PUL Pulkovo 74.56 330 *i* P P 20 06 19.9 +1.6
PUL pmax pmax
comp=Z,100nm,0.5s
TBLG Delisi 74.57 309 P P 20 06 19.5 +0.8
TBLG pmax pmax
comp=Z,145nm,1.4s
TBLG Delisi 74.57 309 P P 20 06 19.5 +0.8
D03D Eldon 74.67 44 P P 20 06 20.9 +1.8
baz=295,SNR=268
ZEI Tsey 74.70 311 *e*P P 20 06 15.3 -4.4
ZEI *e*S **S** 20 15 10.7 -2.7
ZEI pmax pmax
comp=Z,76nm,0.6s
E03A Lebam 74.80 45 P P 20 06 21.1 +1.2
B05A Bryant 74.96 43 P P 20 06 22.0 +1.2
baz=296,SNR=59
KBZ Khabaz 74.97 312 P P 20 06 22.0 +1.1
comp=Z,115nm,0.6s,baz=107,slow=3.8,SNR=122
KBZ S S 20 15 15.1 -0.7
comp=Z,12nm,1.1s,baz=13,slow=22,SNR=16
KBZ Khabaz 74.97 312*de*P P 20 06 21.9 +1.0
KBZ pmax pmax
comp=Z,233nm,1.0s
KIV Kislovodsk 75.01 312⇑ *i*P P 20 06 23.9 +2.6
KIV Kislovodsk 75.01 312 *i* P P 20 06 22.0 +0.7
SNR=44
KIV Kislovodsk 75.01 312 *e*P P 20 06 22.4 +1.2
KIV *e**PP **pP** 20 08 12.4 +0.8
KIV *e**SP **sP** 20 09 06.8 +1.4
KIV *e*S **S** 20 15 18.2 +1.7
KIV *e*SS **SS** 20 20 23.4 +4.4
KIV *e*SSS SSS 20 23 49.6
KIV pmax pmax
comp=Z,277nm,3.5s
KIV pmax pmax
comp=Z,418nm,1.1s
KIV Kislovodsk 75.01 312 P P 20 06 22.5 +1.2
KIV IAmb IAmb 20 06 26.6
comp=Z,619nm,1.7s
D04E Lakebay 75.02 44 P P 20 06 23.2 +2.1
baz=296,SNR=27
F03A Seaside 75.06 46 P P 20 06 22.9 +1.4
N2IH Innhavet 75.09 341⇑ *i*P P 20 06 21.3 +0.3
NAX Nakhchivan 75.09 307 P P 20 06 22.4 +0.6
B06A Marblemount 75.22 43 P P 20 06 23.0 +0.8
B06A IAmb IAmb 20 06 24.8
comp=Z,319nm,1.1s
STEI Steigen 75.31 341⇑ *i*P P 20 06 22.5 +0.2
STEI IVmB_BB 20 06 23.9
comp=Z,3μm,2.3s
STEI *e*PP **PP** 20 09 20.9 +1.1
STEI *e*S **S** 20 15 18.8 +0.1
STEI IVMs_BB IVMs_BB 20 45 05.9
comp=Z,606nm,15.7s
F04D Rainier, OR 75.34 45 P P 20 06 24.3 +1.4
baz=296,SNR=6.2
N2VI Vinje 75.35 342⇑ *i*P P 20 06 22.3 -0.2
E04D Cinebar 75.42 45 P P 20 06 24.8 +1.4
baz=296,SNR=82
FIA1 FINESS Array S 75.47 333 P P 20 06 23.3 -0.1
FIA1 IAmb IAmb 20 06 26.7
comp=Z,175nm,0.7s
FINES FINESS Array B 75.48 333 P P 20 06 23.2 -0.1
comp=Z,119nm,0.4s,baz=67,slow=5.1,SNR=915
FINES S S 20 15 18.8 -1.8
comp=Z,20nm,1.1s,baz=61,slow=13,SNR=8.9
D05A Enumclaw 75.50 44 P P 20 06 25.2 +1.4
D05A IAmb IAmb 20 06 26.6
comp=Z,344nm,1.2s
AKH Akhalkalaki 75.55 309⇑ P P 20 06 27.2 +2.7
AKH Akhalkalaki 75.55 309 P P 20 06 24.3 -0.1
AKH pmax pmax
comp=Z,142nm,1.2s
AKH Akhalkalaki 75.55 309 P P 20 06 24.3 -0.1
G03D McMinnville, O 75.56 46 P P 20 06 25.5 +1.3
baz=296,SNR=27
N2TV TVrnvik 75.59 341⇑ *i*P P 20 06 24.3 +0.4
N2ST Straumen 75.59 340 *e*P P 20 06 24.4 +0.6
QRZ Quartz Range 75.61 154 P P 20 06 24.5 +0.2
FAUS Fauske 75.66 341⇑ *i*P P 20 06 24.5 +0.2
FAUS IVmB_BB 20 06 25.9
comp=Z,3μm,2.1s
FAUS *e*PP **PP** 20 09 22.4 -0.2
FAUS *e*S **S** 20 15 21.4 -1.0
FAUS *e*SS **SS** 20 20 24.2 -2.9
FAUS IVMs_BB IVMs_BB 20 43 06.9
comp=Z,853nm,15.8s
LOF Lofoten 75.66 342⇑ *i*P P 20 06 23.8 -0.5
LOF *e*PP **PP** 20 09 22.6 0.0
LOF *e*S **S** 20 15 20.9 -1.5
I02D Swisshome 75.66 48 P P 20 06 26.3 +1.5
baz=296,SNR=17
F04A Amboy 75.78 45 P P 20 06 26.0 +0.6
LON Longmire 75.80 44 P P 20 06 26.0 +0.4
LON pmax pmax
comp=Z,150nm,1.2s
LON Longmire 75.80 44 P P 20 06 26.0 +0.4
COR Corvallis 75.81 47 P P 20 06 25.9 +0.3
COR pmax pmax
comp=Z,679nm,1.2s
COR Corvallis 75.81 47 P P 20 06 25.9 +0.3
BKZ Black Stump Fm 75.82 151 P P 20 06 25.3 -0.3
SHAO Shalim 75.87 283 *i* P P 20 06 27.8 +1.4
SNR=7.6
N2SV S rv¥gen 75.97 342⇑ *i*P P 20 06 25.7 -0.3
I03D Drain, OR 76.17 48 P P 20 06 29.2 +1.6
baz=296,SNR=71
KARS Kars 76.17 309 P P 20 06 29.8 +2.0
H04D Lebanon 76.20 47 P P 20 06 29.3 +1.5
baz=296,SNR=45
N2VA Vr¸y 76.22 341⇑ *i*P P 20 06 27.3 0.0
CLDR Caldiran 76.22 307 P P 20 06 30.3 +2.0
NBB05 Inndyr 76.26 341⇑ *i*P P 20 06 28.0 +0.4
LTY Liberty 76.27 44 P P 20 06 28.9 +0.7
NNZ Nelson 76.28 154 P P 20 06 27.7 -0.2
NBB30 Finnes 76.39 341⇑ *i*P P 20 06 28.5 +0.2
K02D Willamette Mer 76.40 49 P P 20 06 30.0 +1.1
baz=296,SNR=39
F05D White Salmon 76.40 45 P P 20 06 30.1 +1.2
baz=297,SNR=32
NBB17 Glomfjord B¥r 76.43 340 *e*P P 20 06 28.7 +0.2
N2RO R¸st 76.48 342⇑ *i*P P 20 06 29.1 +0.4
H04A Detroit Lake 76.48 46 P P 20 06 30.3 +1.0
H04A IAmb IAmb 20 06 32.2
comp=Z,448nm,1.2s
THZ Tophouse 76.56 155 P P 20 06 29.2 -0.4
B08A Colville Reser 76.57 42 P P 20 06 30.2 +0.4
B08A IAmb IAmb 20 06 32.4
comp=Z,343nm,1.1s
TUWZ Tuamarina 76.68 154 P P 20 06 29.2 -1.0
AGRB Hanur-Agry 76.68 308 P P 20 06 33.0 +2.3
BATM Batumi 76.68 310⇑ P P 20 06 31.6 +1.1
BATM Batumi 76.68 310 P P 20 06 31.5 +1.1
SENK Senkaya-Erzuru 76.69 309 P P 20 06 33.2 +2.4
MOR8 Moi Rana 76.71 340⇑ *i*P P 20 06 29.0 -1.1
MOR8 IVmB_BB 20 06 30.4
comp=Z,3μm,2.1s
MOR8 *e*PP **PP** 20 09 30.6 -0.8
MOR8 *e*S **S** 20 15 30.5 -3.3
MOR8 *e*SS **SS** 20 20 35.5 -7.5
MOR8 IVMs_BB IVMs_BB 20 46 54.0
comp=Z,835nm,12.9s
I04A Tendick Farm, 76.73 47 P P 20 06 31.8 +1.0
baz=297,SNR=116
KULLO Kullorsuaq 76.75 4⇑ *i*P P 20 06 30.1 0.0
comp=Z,362nm,1.3s
KULLO Kullorsuaq 76.75 4⇑ *i*P P 20 06 30.1 0.0
KULLO pmax pmax
comp=Z,360nm,1.3s
KRMB Red Mountain 76.75 50 P P 20 06 31.3 +0.3
G05D Wamic, OR 76.78 46 P P 20 06 32.2 +1.2
baz=297,SNR=30
BCA Borcka 76.80 310⇑ P P 20 06 32.3 +1.1
BCA Borcka 76.80 310 P P 20 06 32.2 +1.1
VSU Vasula 76.83 330 *eP* P 20 06 31.6 +0.7
VSU Vasula 76.83 330*c* *i*P P 20 06 30.9 0.0
VSU pmax pmax
comp=Z,388nm,1.0s
SNZO South Karori 76.88 153 P P 20 06 30.5 -0.7
KONS Konsvik 76.89 340 *eP* P 20 06 31.4 +0.4
BSWZ Blackbirch Sta 76.89 154 P P 20 06 30.4 -0.9
NBB40 Tonnes 76.91 341⇑ *i*P P 20 06 31.8 +0.6
BFZ Birch Farm 76.98 152 P P 20 06 31.5 -0.3
JCC Jacoby Creek, 76.98 51 P P 20 06 33.4 +1.4
JCC IAmb IAmb 20 06 35.5
comp=Z,517nm,1.2s
FOZ Fox Glacier 77.00 157 P P 20 06 31.4 -0.4
BHW Baring Head 77.03 153 P P 20 06 31.4 -0.7
STOK Stokkvaagen 77.03 340 *eP* P 20 06 32.7 +0.9
STOK eS S 20 15 37.0 0.0
E07A Sunnyside 77.09 44 P P 20 06 33.8 +1.2
E07A IAmb IAmb 20 06 36.4
comp=Z,594nm,1.5s
SOC Sochi 77.11 313 *eP* P 20 06 30.4 -2.3
SOC *e**PP **pP** 20 08 22.4 -1.3
SOC *e* 20 09 37.4
SOC *e*PPP PPP 20 11 29.4
SOC *i* S S 20 15 35.4 -3.3
SOC *e*SSS SSS 20 24 13.0
SOC pmax pmax
comp=Z,150nm,0.6s
KHMM Horse Mountain 77.16 50 P P 20 06 34.8 +1.5
KHMM IAmb IAmb 20 06 36.7
comp=Z,386nm,1.1s
I05D Terrebonne, OR 77.18 46 P P 20 06 34.2 +1.0
baz=297,SNR=59
J04D Umpqua Nationa 77.18 48 P P 20 06 34.6 +1.2
baz=297,SNR=50
MSWZ Moikau Station 77.18 153 P P 20 06 32.6 -0.4
LTZ Lake Taylor 77.21 155 P P 20 06 33.3 +0.2
AKDM Akdamar-Van 77.23 307 P P 20 06 35.2 +1.4
CUKT Cukurca 77.26 305 P P 20 06 34.3 +0.4
KOPR Koprukoy-ERZUR 77.29 309 P P 20 06 36.1 +2.1
PLWZ Palliser 77.31 153 P P 20 06 33.0 -0.7
F07A Phinny Hill Vi 77.35 45 P P 20 06 32.9 -1.1
F07A IAmb IAmb 20 06 36.5
comp=Z,290nm,1.2s
HAWA Hanford 77.36 44 P P 20 06 34.9 +0.9
HAWA IAmb IAmb 20 06 37.1
comp=Z,433nm,1.6s
KHZ Kahutara 77.36 154 P P 20 06 32.0 -1.9
D08A Wollman Farm, 77.42 43 P P 20 06 35.0 +0.6
D08A IAmb IAmb 20 06 37.0
comp=Z,273nm,1.0s
C09A Chrisman Ranch 77.46 42 P P 20 06 35.3 +0.7
C09A IAmb IAmb 20 06 37.2
comp=Z,783nm,1.6s
KMRM Mail Ridge 77.46 51 P P 20 06 36.4 +1.6
KMRM IAmb IAmb 20 06 38.1
comp=Z,319nm,1.1s
YBH Yreka Blue Hor 77.46 49 P P 20 06 35.9 +1.1
comp=Z,121nm,1.0s,baz=355,slow=2.7,SNR=112
YBH Yreka Blue Hor 77.46 49 P P 20 06 36.1 +1.3
YBH pmax pmax
comp=Z,226nm,1.2s
YBH Yreka Blue Hor 77.46 49 P P 20 06 36.1 +1.3
L04D Klamath Falls 77.51 49 P P 20 06 36.2 +1.0
baz=297,SNR=52
M02C Callahan 77.52 50 P P 20 06 36.5 +1.4
baz=297,SNR=84
CHOM Cayeli-Rize 77.54 310 P P 20 06 36.9 +1.7
RPZ Rata Peaks 77.58 157 P P 20 06 34.5 -0.6
comp=Z,127nm,0.8s,baz=36,slow=2.5,SNR=24
RPZ Rata Peaks 77.58 157 P P 20 06 34.4 -0.7
OXZ Oxford 77.59 156 P P 20 06 34.7 -0.4
E08A Dider Farm, El 77.60 44 P P 20 06 35.4 +0.1
PINE Pine Mountain 77.68 47 P P 20 06 37.3 +1.2
K04D Chiloquin, OR 77.69 48 P P 20 06 37.2 +1.1
baz=297,SNR=48
J05D Fort Rock, OR 77.73 47 P P 20 06 37.7 +1.4
baz=297,SNR=238
KCPM Cahto Peak 77.79 52 P P 20 06 38.1 +1.4
GURO Guroymak-BITLI 77.80 307 P P 20 06 38.3 +1.5
N02D Trinity Center 77.81 50 P P 20 06 38.1 +1.4
baz=297,SNR=86
LBZ Lake Benmore 77.88 158 P P 20 06 36.6 -0.1
NEW Newport 77.91 42 P P 20 06 37.7 +0.6
baz=299,SNR=108
NEW Newport 77.91 42 P P 20 06 37.7 +0.6
comp=Z,137nm,0.9s,baz=299,slow=4.5,SNR=127
NEW Newport 77.91 42 P P 20 06 37.6 +0.6
NEW pmax pmax
comp=Z,231nm,1.0s
NEW Newport 77.91 42 P P 20 06 37.6 +0.6
NEW IAmb IAmb 20 06 39.6
comp=Z,231nm,1.0s
VRTB Varto-Mus 77.93 308 P P 20 06 40.1 +2.6
SIRT Sirnak 77.98 306 P P 20 06 37.9 +0.2
ANN Anapa 78.01 314*c* *i*P P 20 06 38.2 +0.7
ANN *i* *PP **pP** 20 08 30.3 +1.0
ANN *e* 20 09 43.1
ANN *e*S **S** 20 15 49.5 +1.4
ANN *e*SS **SS** 20 21 09.9 +6.6
ANN pmax pmax
comp=Z,314nm,1.2s
ANN pmax pmax
comp=E,77nm,1.1s
ANN pmax pmax
comp=N,70nm,1.1s
M04C Macdoel 78.02 49 P P 20 06 38.9 +1.0
baz=297,SNR=168
MLZ Mavora Lakes 78.08 159 P P 20 06 38.3 +0.5
WDC Whiskeytown Da 78.09 50 P P 20 06 38.8 +0.6
WDC pmax pmax
comp=Z,345nm,1.3s
WDC Whiskeytown Da 78.09 50 P P 20 06 38.8 +0.6
WDC IAmb IAmb 20 06 41.0
comp=Z,345nm,1.2s
O02D Mt. Diablo Mer 78.11 51 P P 20 06 39.8 +1.4
baz=297,SNR=86
MQZ McQueen's Vall 78.15 156 P P 20 06 38.1 +0.1
E09A Wood Farm, Sta 78.15 43 P P 20 06 39.0 +0.7
E09A IAmb IAmb 20 06 41.2
comp=Z,392nm,1.2s
K05A Summer Lake 78.21 48 P P 20 06 39.8 +0.8
K05A IAmb IAmb 20 06 42.1
comp=Z,383nm,1.0s
G08A Pilot Rock 78.23 45 P P 20 06 40.2 +1.3
JMIC Jan Mayen 78.25 350⇑ *i*P P 20 06 39.8 +1.4
JMIC *es*P **sP** 20 09 25.5 +1.2
JMIC *e*S **S** 20 15 52.5 +2.8
KTUT Trabzon 78.26 310⇑⇑ P P 20 06 40.4 +1.4
KTUT Trabzon 78.26 310 P P 20 06 39.2 +0.2
YEDI Yedisu-Bingol 78.44 309 P P 20 06 42.0 +1.8
HOPS Hopland Field 78.45 52 P P 20 06 40.9 +0.8
MICGM Minsk 78.45 326⇑ *eP* P 20 06 40.0 +0.2
MICGM PM 20 06 44.0
comp=Z,0.6nm,1.5s
MICGM *ep*P **pP** 20 08 30.0 -1.0
MICGM *e*PP sP 20 09 08.0 -17
MICGM *e*PPP PPP 20 11 26.0
MICGM *e*S **S** 20 15 51.0 -1.4
MICGM *es*S **sS** 20 19 12.0 +0.4
MICGM *e*SS SS 20 20 38.0 -31
MICGM *e*SSS SSS 20 24 00.0
MNK Minsk 78.45 326⇓ *eP* P 20 06 40.0 +0.2
MNK *e*S **S** 20 15 51.0 -1.4
MNK pmax pmax
comp=Z,620nm,1.5s
I07A Izee 78.47 46 P P 20 06 41.0 +0.8
BNGB Bingl 78.55 308 P P 20 06 42.9 +2.1
IZAR Zarasai 78.55 328 *eP* P 20 06 41.3 +1.0
SVAN Silvan-Diyarba 78.57 307 P P 20 06 42.0 +1.2
NSS Namsos 78.60 339⇑ *i*P P 20 06 40.1 -0.2
NSS IVmB_BB 20 06 43.8
comp=Z,2μm,0.9s
NSS *es*P **sP** 20 09 26.4 +0.8
NSS *e*PP **PP** 20 09 47.5 +0.6
NSS *e*S **S** 20 15 50.9 -2.6

NSS IVMs_BB IVMs_BB 20 48 29.8
comp=Z,750nm,22.3s
ODZ Otahua Downs 78.61 158 P **P** **20 06 40.9 +0.3**
ISAL Salakas 78.71 328 *e*P **P** **20 06 42.0 +0.9**
O03E Paynes Creek 78.73 50 P **P** **20 06 41.9 +0.3**
baz=298,SNR=41
GDXM Geysers 78.73 52 P **P** **20 06 43.3 +1.6**
GDXM IAmb IAmb 20 06 44.9
comp=Z,304nm,1.3s
NACGM Naroch 78.77 327 *e*P **P** **20 06 40.0 -1.4**
NACGM *e*pP **pwP** **20 08 36.0 -2.4**
NACGM *e*PP **sP** **20 09 29.0 +2.4**
NACGM *e*PPP PPP 20 11 10.0
NACGM *e*S **S** **20 15 52.0 -3.7**
NACGM *e*sS sS 20 18 10.0 -65
NACGM *e*SS SS 20 20 52.0 -22
NACGM *e*SSS SSS 20 23 42.0
NACGM *e*LQ LQ 20 35 15.0
NACGM *e*LR LR 20 43 34.0
IIGN Ignalina 78.79 327 *e*P **P** **20 06 42.1 +0.6**
F10A Beach Ranch, E 78.97 44 P **P** **20 06 43.8 +1.0**
MCCM Marconi Confer 78.97 53 P **P** **20 06 43.7 +0.9**
MCCM IAmb IAmb 20 06 45.2
comp=Z,407nm,1.2s
MOD Modoc Plateau 78.98 48 P **P** **20 06 43.9 +0.8**
ESPY Espiye-Giresun 78.99 311 P **P** **20 06 42.8 -0.1**
SLIT Slitere, Latvi 79.24 331 *e*P **P** **20 06 43.7 -0.1**
ORV Oroville 79.28 51 P **P** **20 06 45.2 +0.7**
ORV Oroville 79.28 51 P **P** **20 06 45.2 +0.7**
ORV IAmb IAmb 20 06 46.6
comp=Z,277nm,1.0s
SUMG Summit 79.29 359⇑ *i*P **P** **20 06 45.2 +0.8**
SUMG Summit 79.29 359 P **P** **20 06 45.5 +1.1**
SUMG pmax pmax
comp=Z,299nm,1.2s
SUMG Summit 79.29 359 P **P** **20 06 45.5 +1.1**
SUMG IAmb IAmb 20 06 50.0
comp=Z,299nm,1.2s
WALA Waterton Lakes 79.36 40 P **P** **20 06 46.1 +1.2**
WALA IAmb IAmb 20 06 47.7
comp=Z,281nm,1.1s
DYBB Diyarbakir 79.40 307 P **P** **20 06 46.5 +1.3**
MAZI Mazidag 79.41 307 P **P** **20 06 46.1 +0.7**
J08A Circle Bar Ran 79.47 46 P **P** **20 06 46.8 +1.2**
J08A IAmb IAmb 20 06 48.5
comp=Z,419nm,1.0s
BMO Blue Mountains 79.47 45 P **P** **20 06 46.0 +0.5**
BMO pmax pmax
comp=Z,248nm,1.2s
BMO Blue Mountains 79.47 45 P **P** **20 06 46.0 +0.5**
PTK Pertek 79.48 308 P **P** **20 06 47.4 +1.6**
PABE Paberze 79.75 328 *e*P **P** **20 06 46.7 +0.1**
SVRC Sivrice-ELAZID 79.78 308 P **P** **20 06 49.5 +2.1**
WVOR Wild Horse Val 79.81 47 P **P** **20 06 48.3 +0.9**
WVOR pmax pmax
comp=Z,212nm,1.2s
WVOR Wild Horse Val 79.81 47 P **P** **20 06 48.3 +0.9**
JTMT Jette 79.82 41 P **P** **20 06 48.4 +1.0**
JTMT IAmb IAmb 20 06 50.1
comp=Z,287nm,0.9s
AKASG Malin Array Be 79.83 323 P **P** **20 06 46.9 -0.2**
comp=Z,21nm,0.3s,baz=52,slow=5.4,SNR=132
AKASG pP **pP** **20 08 39.9 +1.1**
comp=Z,1.1nm,0.3s,baz=49,slow=5.7,SNR=1.0
AKASG S **S** **20 16 04.3 -2.4**
comp=Z,11nm,1.1s,baz=57,slow=9.2,SNR=11
AKBB Malin Array Si 79.83 323*c*e P **P** **20 06 46.8 -0.3**
AKBB pmax pmax
comp=Z,178nm,1.1s
AKBB Malin Array Si 79.83 323 P **P** **20 06 47.2 +0.1**
SOCY Socotra 79.86 278 P **P** **20 06 47.0 -1.1**
SOCY IAmb IAmb 20 06 49.3
comp=Z,235nm,1.0s
AFDM Forest Hills D 79.92 51 P **P** **20 06 48.5 +0.6**
SIM Simferopol' 80.00 316*c* *i*P **P** **20 06 49.0 +0.9**
SIM *i* *PP **pwP** **20 08 43.0 -2.5**
SIM *i* S **S** **20 16 06.7 -2.1**
SIM *e*SS **SS** **20 21 43.0 +10**
SIM *e*SSS SSS 20 25 07.0
SIM pmax pmax
comp=Z,395nm,0.5s
TBLU Trondheim 80.04 339⇑ *i*P **P** **20 06 47.1 -0.9**
TBLU *e*S **S** **20 16 05.8 -2.6**
RSDY Resadiye-TOKAT 80.17 311 P **P** **20 06 50.8 +1.6**
PBUR Paburge 80.37 329 *e*P **P** **20 06 50.2 +0.4**
MALT Malatya 80.42 308 P **P** **20 06 52.4 +1.8**
RUBR Rubicon Trail 80.43 51 P **P** **20 06 52.3 +1.5**
RUBR IAmb IAmb 20 07 03.2
comp=Z,265nm,0.9s
SCO Scoresbysund 80.46 354⇑ *i*P **P** **20 06 51.1 +1.1**
comp=Z,694nm,1.5s
SCO Scoresbysund 80.46 354⇑ *i*P **P** **20 06 51.1 +1.1**
SCO pmax pmax
comp=Z,690nm,1.5s
SCO Scoresbysund 80.46 354 P **P** **20 06 51.2 +1.1**
SCO IAmb IAmb 20 06 53.7
comp=Z,680nm,1.5s
MSO Missoula 80.50 42 P **P** **20 06 50.9 +0.1**
baz=302
MSO Missoula 80.50 42 P **P** **20 06 51.2 +0.4**
SAO San Andreas Ge 80.62 53 P **P** **20 06 52.1 +0.5**
SAO pmax pmax
comp=Z,144nm,1.2s
SAO San Andreas Ge 80.62 53 P **P** **20 06 52.1 +0.5**
SVSK Karacayir 80.62 310 P **P** **20 06 53.7 +2.2**
PAHR Pah Rah Range 80.64 50 P **P** **20 06 52.5 +0.7**
VCNR Virginia City 80.66 50 P **P** **20 06 53.1 +1.1**
KVT Kavak 80.69 312 P **P** **20 06 53.5 +1.6**
TOKT Tokat 80.73 311 P **P** **20 06 53.4 +1.3**
CMB Columbia Colle 80.76 52 P **P** **20 06 52.7 +0.4**
CMB pmax pmax
comp=Z,280nm,1.2s
CMB Columbia Colle 80.76 52 P **P** **20 06 52.7 +0.4**
CMB IAmb IAmb 20 06 54.8
comp=Z,280nm,1.2s
PNTR Pine Nut 80.79 51 P **P** **20 06 53.8 +1.0**
DIKM Dikmen 80.92 312⇑ P **P** **20 06 54.1 +1.1**
DIKM Dikmen 80.92 312 P **P** **20 06 53.4 +0.4**
SUW Suwalki 81.00 327 *e*P **P** **20 06 52.9 -0.2**
SUW *e*S **S** **20 16 15.5 -3.1**
HFS Hagfors 81.06 336 S **S** **20 16 15.8 -3.1**
comp=Z,22nm,1.1s,baz=59,slow=5.7,SNR=9.2
HFS PKKPbc PKKPbc 20 25 27.1 +0.3
comp=Z,1.3nm,0.6s,baz=194,slow=5.4,SNR=8.0
NC405 NORSAR Array S 81.08 337 P **P** **20 06 53.0 -0.4**
YERR Yerington 81.09 51 P **P** **20 06 54.6 +0.4**
YERR IAmb IAmb 20 06 56.9
comp=Z,618nm,1.7s
MFID Camas Ranch 81.11 45 P **P** **20 06 55.1 +0.9**
NC303 NORSAR Array S 81.12 337 P **P** **20 06 53.1 -0.5**
WAKR Walker 81.19 51 P **P** **20 06 55.6 +0.9**
WAKR IAmb IAmb 20 06 59.6
comp=Z,687nm,1.9s
NB201 NORSAR Array S 81.27 337 P **P** **20 06 53.8 -0.7**
NC204 NORSAR Array S 81.29 337 P **P** **20 06 54.1 -0.5**
NC204 IAmb IAmb 20 06 58.8
comp=Z,527nm,1.2s
DOMB Dombas 81.30 339⇑ *i*P **P** **20 06 54.1 -0.5**
DOMB IVmB_BB 20 06 55.8
comp=Z,2μm,2.2s
DOMB *e*sP **sP** **20 09 41.0 +0.4**
DOMB *e*PP **PP** **20 10 09.2 +0.2**
DOMB *e*S **S** **20 16 19.3 -2.0**
DOMB *e*SS **SS** **20 21 45.5 -5.5**
DOMB IVMs_BB IVMs_BB 20 44 03.9
comp=Z,669nm,17.3s
NB2 NORSAR Subarra 81.30 337 P **P** **20 06 54.0 -0.7**
comp=Z,95nm,0.7s,baz=45,slow=5.3
NB2 NORSAR Subarra 81.30 337 P **P** **20 06 54.0 -0.7**
baz=45,slow=5.3
NOA NORSAR Array B 81.30 337 P **P** **20 06 53.9 -0.7**
comp=Z,62nm,0.6s,baz=46,slow=5.0,SNR=305
NOA PP **PP** **20 10 06.8 -2.3**
comp=Z,10nm,0.8s,baz=45,slow=8.4,SNR=7.2
NOA S **S** **20 16 18.5 -3.0**
comp=Z,11nm,1.1s,baz=52,slow=9.7,SNR=6.8
PMPB Monarch Peak 81.34 54 P **P** **20 06 56.4 +1.0**
MOL Molde 81.39 339 *i*P **P** **20 06 55.0 0.0**
MOL *e*PP **PP** **20 10 10.7 +1.0**
MOL *e*SKSac **S** **20 16 20.8 -1.3**
MOL *e*SS **SS** **20 21 50.5 -1.6**
NC602 NORSAR Array S 81.41 337 P **P** **20 06 54.4 -0.8**
NC602 IAmb IAmb 20 06 57.0
comp=Z,486nm,1.8s
NC602 NORSAR Array S 81.41 337⇑ *i*P **P** **20 06 54.5 -0.6**
NC602 *e*pP **pP** **20 08 47.1 -0.4**
NC602 *e*PP **PP** **20 10 10.1 +0.2**
NC602 *e*SKSac **S** **20 16 17.8 -4.6**
NC602 *e*SS **SS** **20 21 48.2 -4.3**
NC602 IVMs_BB IVMs_BB 20 51 17.4
comp=Z,685nm,13.2s
NBO00 NORSAR Array S 81.46 337 P **P** **20 06 55.0 -0.4**
NBO00 IAmb IAmb 20 06 57.7
comp=Z,590nm,1.6s
NAO01 NORSAR Array S 81.55 337 P **P** **20 06 55.1 -0.8**
NAO01 IAmb IAmb 20 06 56.9
comp=Z,700nm,1.9s
BZK Bozkurt 81.58 313⇑ P **P** **20 06 57.7 +1.3**
BZK Bozkurt 81.58 313 P **P** **20 06 57.4 +1.0**
SORM Soroca 81.70 321⇑ P **P** **20 06 57.2 +0.3**
RYN Ryan 81.75 51 P **P** **20 06 58.5 +0.9**
RYN IAmb IAmb 20 07 00.3
comp=Z,324nm,1.3s
SARI SarD1z-Kayseri 81.76 309 P **P** **20 06 58.8 +1.2**
GAZ Gaziantep 81.82 308 P **P** **20 06 59.2 +1.4**
GAZ Gaziantep 81.82 308 P **P** **20 06 58.4 +0.6**
GAZ IAmb IAmb 20 07 03.2
comp=Z,198nm,0.9s
KVN Kaiserville 81.83 50 P **P** **20 06 58.7 +0.7**
KVN pmax pmax
comp=Z,521nm,1.4s
KVN Kaiserville 81.83 50 P **P** **20 06 58.7 +0.7**
KVN IAmb IAmb 20 07 00.7
comp=Z,521nm,1.4s
AKN Aaknes 81.85 339⇑ *i*P **P** **20 06 56.5 -0.8**
AKN IVmB_BB 20 07 00.0
comp=Z,2μm,2.5s
AKN *e*pP **pP** **20 08 50.1 +0.2**
AKN *e*sP **sP** **20 09 44.5 +1.0**
AKN *e*PP **PP** **20 10 15.0 +1.5**
AKN *e*SKSac **SKSac** **20 16 26.6 -0.3**
AKN *e*SS **SS** **20 21 60.0 +0.9**
AKN IVMs_BB IVMs_BB 20 43 44.8
comp=Z,686nm,3.9s
MDPB Devils Postpil 81.86 52 P **P** **20 06 58.7 +0.4**
MDPB IAmb IAmb 20 07 01.0
comp=Z,255nm,1.2s
YOZ Yozgat 81.89 311 P **P** **20 06 58.8 +0.6**
LRM Limekiln Ridge 81.91 42 P **P** **20 06 59.0 +0.7**
HLID Hailey 81.92 45 P **P** **20 06 59.5 +1.1**
baz=302
HLID Hailey 81.92 45 P **P** **20 06 59.1 +0.8**
HLID IAmb IAmb 20 07 01.4
comp=Z,433nm,1.6s
BNN Bunyan 81.93 310 P **P** **20 06 59.6 +1.2**
OMMB Old Mammoth Mi 81.93 52 P **P** **20 06 59.1 +0.4**
OMMB IAmb IAmb 20 07 02.1
comp=Z,322nm,1.3s
PAGB Antelope Grade 81.97 54 P **P** **20 06 59.2 +0.7**
PAGB IAmb IAmb 20 07 01.4
comp=Z,274nm,1.1s
NVAR Mina Array Bea 82.00 51 P **P** **20 06 59.6 +0.7**
comp=Z,189nm,1.1s,baz=275,slow=4.8,SNR=369
KLNR Kaliningrad 82.02 329*c* *i*P **P** **20 06 57.8 -0.5**
KLNR pmax pmax
comp=Z,492nm,1.9s
KIS Kishinev 82.06 320 *i* P **P** **20 06 57.6 -1.2**
comp=Z,320nm,3.0s
KIS Kishinev 82.06 320 *i* PcP **PcP** **20 07 05.0 +2.4**
KIS *i* pP **pP** **20 08 53.0 +1.8**
KIS Kishinev 82.06 320 *i* PP PP 20 09 59.0 -17
KIS *i* S **S** **20 16 26.6 -3.0**
comp=Z,3μm,13.8s
KIS Kishinev 82.06 320 *i* P **P** **20 06 57.6 -1.2**
KIS *i* S **S** **20 16 26.6 -3.0**
KIS pmax pmax
comp=N,3μm,13.8s
KIS smax smax
DLMT Dillon 82.07 42 P **P** **20 06 59.5 +0.4**
DLMT IAmb IAmb 20 07 01.7
comp=Z,371nm,1.1s
CORM Corum 82.07 311 P **P** **20 07 00.9 +1.8**
NV11 Mina Array Sit 82.10 51 P **P** **20 06 59.7 +0.4**
NV11 IAmb IAmb 20 07 02.1
comp=Z,345nm,1.4s
MILM Milestii Mici 82.11 319⇑ P **P** **20 06 59.5 +0.6**
FFC Flin Flon 82.17 31 P **P** **20 06 59.3 +0.2**
FFC pmax pmax
comp=Z,365nm,1.6s
FFC Flin Flon 82.17 31 P **P** **20 06 59.3 +0.2**
FFC IAmb IAmb 20 07 01.0
comp=Z,365nm,1.6s
MCMT McKenzie Canyo 82.20 43 P **P** **20 07 00.0 +0.2**
ILGA Ilgaz 82.23 313 P **P** **20 07 00.3 +0.3**
EGMT Eagleton 82.24 39 P **P** **20 07 00.3 +0.5**
baz=304
EGMT Eagleton 82.24 39 P **P** **20 07 00.3 +0.5**
EGMT IAmb IAmb 20 07 02.1
comp=Z,434nm,1.0s
OSL Oslo 82.26 336⇑ *i*P **P** **20 06 60.0 +0.5**
OSL *e*PP **PP** **20 10 18.0 +1.2**
OSL *e*SKSac **SKSac** **20 16 28.9 -0.6**
OSL *e*SS **SS** **20 22 01.7 -3.3**
VOG Valley Oaks Go 82.30 53 P **P** **20 07 00.3 +0.2**
baz=300
SMMC Simmler 82.35 54 P **P** **20 07 01.7 +1.1**
baz=299,SNR=9.8
ILULI Ilulissat 82.41 4⇑ *i*P **P** **20 06 59.9 -0.2**
comp=Z,85nm,0.9s
ILULI Ilulissat 82.41 4 P **P** **20 07 00.1 0.0**
ILULI pmax pmax
comp=Z,230nm,1.4s
ILULI Ilulissat 82.41 4 P **P** **20 07 00.1 0.0**
BOZ Bozeman (W) 82.51 42 P **P** **20 07 02.0 +0.7**
baz=303
BOZ Bozeman (W) 82.51 42 P **P** **20 07 01.8 +0.5**
BOZ pmax pmax
comp=Z,139nm,0.9s
BOZ Bozeman (W) 82.51 42 P **P** **20 07 01.8 +0.5**
CANT Cankiri 82.52 312 P **P** **20 07 02.1 +0.8**
SKAR Skarslia 82.55 338⇑ *i*P **P** **20 07 01.4 +0.4**
SKAR IVmB_BB 20 07 02.8
comp=Z,1μm,1.6s
SKAR *e*PP **PP** **20 10 20.1 +0.9**
SKAR *e*SKSac **SKSac** **20 16 31.8 +0.3**
SKAR *e*SS **SS** **20 22 09.6 +0.2**
SKAR IVMs_BB IVMs_BB 20 47 52.4
comp=Z,644nm,21.0s
KOZT Kozan 82.62 309 P **P** **20 07 02.5 +0.7**
PKM Mcpherson Peak 82.69 54 P **P** **20 07 03.4 +1.0**
baz=300,SNR=60
FCC Fort Churchill 82.70 25 P **P** **20 07 01.8 +0.1**
FCC pmax pmax
comp=Z,186nm,1.1s
FCC Fort Churchill 82.70 25 P **P** **20 07 01.8 +0.1**
TIN Tinemaha, Big 82.74 52 P **P** **20 07 03.5 +1.0**
baz=300,SNR=44
VES Vestal, Richgr 82.74 53 P **P** **20 07 02.3 -0.1**
baz=300
VASR Vaslui 82.85 320⇑ P **P** **20 07 04.3 +1.6**
ELK Elko 82.86 47 P **P** **20 07 04.2 +1.0**
comp=Z,121nm,1.0s,baz=305,slow=4.4,SNR=277
ELK PKKPbc PKKPbc 20 25 23.1 +0.8
comp=Z,1.6nm,0.9s,baz=142,slow=2.1,SNR=6.2
ELK Elko 82.86 47 P **P** **20 07 04.2 +1.0**
ELK IAmb IAmb 20 07 06.1
comp=Z,166nm,0.9s
KONO Kongsberg 82.86 337*c*e P **P** **20 07 01.6 -0.9**
KONO pmax pmax
comp=Z,84nm,1.2s
KONO Kongsberg 82.86 337 P **P** **20 07 01.7 -0.8**
KONO Kongsberg 82.86 337 *e*P **P** **20 07 02.0 -0.5**
KONO *e*SKSac **SKSac** **20 16 31.7 -1.7**
KONO *e*SS **SS** **20 22 12.4 -1.5**
KONO IVMs_BB IVMs_BB 20 48 59.9
comp=Z,565nm,17.4s
HYA Hoyanger 82.87 339⇑ *e*P **P** **20 07 03.0 +0.5**
HYA *e*PP **PP** **20 10 22.8 +1.1**
HYA *e*SKSac **SKSac** **20 16 33.4 0.0**
HYA *e*S **SKKSac** **20 16 38.6 -0.3**
HYA *e*SS **SS** **20 22 16.6 +2.8**
FOO Floro 82.89 340 *e*P **P** **20 07 01.7 -0.9**
FOO *e*SKSac **SKSac** **20 16 33.5 -0.1**
FOO *e*SS **SS** **20 22 13.4 -0.7**
CEYT Ceyhan 82.91 308 P **P** **20 07 05.1 +1.9**
BR131 Keskin Array S 82.96 311 P **P** **20 07 03.7 +0.1**
SNR=40
BR131 Keskin Array S 82.96 311 P **P** **20 07 03.3 -0.4**
BR131 pmax pmax
comp=Z,358nm,2.0s
BR131 Keskin Array S 82.96 311 P **P** **20 07 03.2 -0.4**
BR131 IAmb IAmb 20 07 08.4
comp=Z,358nm,2.0s
BRTR Keskin Array B 82.96 311 P **P** **20 07 03.5 -0.1**
comp=Z,38nm,0.7s,baz=101,slow=3.7,SNR=44
BRTR pP **pP** **20 08 57.2 +0.8**
comp=Z,19nm,1.0s,baz=108,slow=4.0,SNR=3.3
BRTR PKKPbc PKKPbc 20 25 22.2 +0.3
comp=Z,1.2nm,0.6s,baz=211,slow=4.3,SNR=4.2
SBC Santa Barbara 82.98 55 P **P** **20 07 04.7 +1.1**
baz=300,SNR=7.1
QLMT Earthquake Lak 83.05 42 P **P** **20 07 05.2 +1.2**
TIAR Tiarei 83.05 114 *e*P **P** **20 07 04.4 +0.2**
comp=Z,17nm,1.1s
LVV L'vov 83.07 324 *e*P **P** **20 07 04.9 +1.1**
LVV *e* 20 10 25.6
LVV *i* S **S** **20 16 37.9 -1.6**
LVV *e*SS **SS** **20 22 23.3 +5.8**
LVV MLR MLR
comp=Z,700nm,19.0s
CWC Cottonwood Cre 83.15 52 P **P** **20 07 05.0 +0.3**
baz=300
BIR Birlad 83.16 319⇑ P **P** **20 07 05.1 +0.9**
YHL Hebgen Lake 83.19 42 P **P** **20 07 06.1 +1.2**
VARL Varlezi 83.23 319⇑ P **P** **20 07 05.9 +1.3**
YHB Horse Butte 83.23 42 P **P** **20 07 06.3 +1.3**
YAYX Yaylak 83.25 311 P **P** **20 07 05.1 0.0**
SCZ2 Santa Cruz Isl 83.26 55 P **P** **20 07 05.7 +0.6**
baz=300,SNR=12
ISA Isabella, Lake 83.26 53 P **P** **20 07 04.9 -0.3**
baz=300,SNR=62
ISA Isabella, Lake 83.26 53 P **P** **20 07 04.8 -0.3**
ISA pmax pmax
comp=Z,123nm,1.2s
ISA Isabella, Lake 83.26 53 P **P** **20 07 04.8 -0.3**
ARVC Arvin 83.28 54 P **P** **20 07 05.5 +0.4**
baz=300,SNR=15
PRAR RASCA 83.32 321⇑ P **P** **20 07 05.7 +0.6**
GRAC Grapevine Rang 83.36 52 P **P** **20 07 06.4 +0.8**
baz=301,SNR=51
KRTS Karatas 83.39 308 P **P** **20 07 05.7 +0.1**
SUE Sulen 83.40 339 *e*P **P** **20 07 05.3 +0.1**
SUE *e*sP **sP** **20 09 53.7 +2.0**
SUE *e*PP **PP** **20 10 27.8 +1.9**
SUE *e*SKSac **SKSac** **20 16 35.4 -1.4**
SUE *e*SS **SS** **20 22 23.1 +1.5**
SERE Sereflikochisa 83.41 311 P **P** **20 07 05.7 -0.2**
YMR Madison River 83.42 42 P **P** **20 07 06.7 +0.7**
YHH Holmes Hill 83.42 42 P **P** **20 07 07.0 +1.0**
ANTO Ankara 83.44 312 P **P** **20 07 05.8 -0.1**
ANTO pmax pmax
comp=Z,50nm,0.6s
ANTO Ankara 83.44 312 P **P** **20 07 05.8 -0.1**
LOD Lodumlu 83.45 312 P **P** **20 07 06.9 +0.9**
BR231 Keskin MP Arra 83.47 312 P **P** **20 07 06.2 +0.1**
CFR Carcaliu 83.47 318⇑ P **P** **20 07 06.1 +0.3**
BEL Belsk 83.48 327 *e*P **P** **20 07 05.8 +0.1**
BEL *e*S **SKSac** **20 16 35.0 -2.7**
AFSR Afar-Bala (An 83.48 311 P **P** **20 07 07.4 +1.2**
YNM Yellowstone No 83.54 42 P **P** **20 07 08.1 +1.6**
GCMT Greycliff 83.55 41 P **P** **20 07 07.3 +0.8**
TESR Tescani 83.57 320⇑ P **P** **20 07 06.7 +0.4**
OSI Osito Audit: C 83.61 54 P **P** **20 07 07.7 +0.9**
baz=300,SNR=5.7
OSI Osito Audit: C 83.61 54 P **P** **20 07 07.8 +0.9**
OSI IAmb IAmb 20 07 08.9
comp=Z,148nm,0.9s
BIZ Bicaz 83.64 321⇑ P **P** **20 07 07.4 +0.7**
ODD1 Odda 83.68 338⇑ *i*P **P** **20 07 08.3 +1.7**
ODD1 IVmB_BB 20 07 10.0
comp=Z,1μm,2.1s
ODD1 *e*PP **PP** **20 10 28.0 -0.3**
ODD1 *e*SKSac **SKSac** **20 16 39.1 +0.3**
ODD1 *e*SS **SS** **20 22 27.6 +1.8**
ASK Askoy 83.71 339⇑ *e*P **P** **20 07 07.6 +0.9**
ASK *e*SKSac **SKSac** **20 16 39.1 +0.4**
TIRR Tirgusor 83.71 318⇑ P **P** **20 07 07.9 +0.9**
TIRR Tirgusor 83.71 318 P **P** **20 07 07.3 +0.3**
TIRR pmax pmax
comp=Z,155nm,1.0s
TIRR Tirgusor 83.71 318 P **P** **20 07 07.3 +0.3**
TIRR IAmb IAmb 20 07 11.8
comp=Z,155nm,1.0s
SNCC San Nicolas Is 83.71 56 P **P** **20 07 07.9 +0.6**
baz=300,SNR=18
SNCC San Nicolas Is 83.71 56 P **P** **20 07 07.5 +0.2**
BUR08 Bucovina Ar. S 83.73 321 P **P** **20 07 07.3 0.0**
YPP Pitchstone Pla 83.73 43 P **P** **20 07 09.6 +2.0**
BURAR Bucovina Array 83.73 321⇑ P **P** **20 07 08.0 +0.7**
BER Bergen 83.74 339⇑ *e*P **P** **20 07 06.9 0.0**
BER IVmB_BB 20 07 08.4
comp=Z,2μm,1.5s
BER *e*sP **sP** **20 09 54.6 +1.2**
BER *e*PP **PP** **20 10 28.8 +0.2**
BER *e*SKSac **SKSac** **20 16 39.3 +0.3**
BER *e*SS **SS** **20 22 28.8 +2.3**
BER IVMs_BB IVMs_BB 20 46 08.0
comp=Z,512nm,10.4s
MPMC Manual Prospec 83.75 52 P **P** **20 07 08.3 +0.6**
baz=301,SNR=163
YNE Yellowstone No 83.79 42 P **P** **20 07 08.5 +0.7**
H17A Grant Village 83.80 42 P **P** **20 07 10.2 +2.4**
LKWY Lake 83.81 42 P **P** **20 07 10.3 +2.4**
LKWY pmax pmax
comp=Z,315nm,1.0s
LKWY Lake 83.81 42 P **P** **20 07 10.3 +2.4**
LKWY IAmb IAmb 20 07 12.5
comp=Z,315nm,0.9s
SULT Sultanhani-AKS 83.83 310 P **P** **20 07 08.4 +0.5**
MERS Mersin 83.83 309 P **P** **20 07 07.9 0.0**
YMP Mirror Lake Pl 83.85 42 P **P** **20 07 09.2 +1.0**
IMW Indian Meadow 83.86 43 P **P** **20 07 09.4 +1.2**
IMW IAmb IAmb 20 07 11.5
comp=Z,202nm,1.0s
HARR Harsova 83.86 318⇑ P **P** **20 07 08.4 +0.6**
KWP Kalwaria Pacla 83.87 324 *e*P **P** **20 07 08.6 +0.8**
KWP *e*S **SKSac** **20 16 40.9 +0.5**
TLBR Topalu 83.88 318⇑ P **P** **20 07 08.4 +0.5**
R11A Troy Canyon, C 83.88 50 P **P** **20 07 08.9 +0.5**
baz=302
R11A Troy Canyon, C 83.88 50 P **P** **20 07 08.8 +0.5**
R11A IAmb IAmb 20 07 11.0
comp=Z,247nm,1.3s
HVU Hansel Valley 83.89 46 P **P** **20 07 09.0 +0.8**
HVU pmax pmax
comp=Z,147nm,0.7s
HVU Hansel Valley 83.89 46 P **P** **20 07 09.0 +0.8**
VRI Vrincioaia 83.90 319⇑ P **P** **20 07 09.2 +1.2**
FLWY Flagg Ranch 83.90 43 P **P** **20 07 09.9 +1.6**
FLWY IAmb IAmb 20 07 12.0
comp=Z,262nm,1.0s
LRMC Laurel Mtn Rad 83.91 53 P **P** **20 07 08.9 +0.5**
baz=301,SNR=96
FXWY Fox Creek 83.95 43 P **P** **20 07 09.5 +0.9**
FXWY IAmb IAmb 20 07 11.9
comp=Z,229nm,1.2s
MANR Mangalia 83.96 317⇑ P **P** **20 07 09.4 +1.1**
FURC Furnace Creek, 83.98 52 P **P** **20 07 09.3 +0.8**
baz=301,SNR=106
EDW2 Edwards Air Fo 83.99 54 P **P** **20 07 09.6 +0.8**
baz=300,SNR=202
BSD Bornholm Skovb 84.01 331 *i* P **P** **20 07 07.3 -1.0**
comp=Z,74nm,0.8s
BSD Bornholm Skovb 84.01 331 *i* P **P** **20 07 07.3 -1.0**
BSD pmax pmax
comp=Z,74nm,0.8s
DECC Green Verdugo 84.07 54 P **P** **20 07 09.5 +0.4**
baz=300,SNR=12
TPAW Teton Pass 84.08 43 P **P** **20 07 10.3 +1.0**
TPAW IAmb IAmb 20 07 12.4
comp=Z,167nm,1.0s
BLS5 Blasjo 84.11 338⇑ *i*P **P** **20 07 08.3 -0.5**
BLS5 *e*pP **pP** **20 09 04.5 +2.5**
BLS5 *e*PP **PP** **20 10 35.1 +3.5**
BLS5 *e*SKSac **SKSac** **20 16 41.5 0.0**
BLS5 *e*SS **SS** **20 22 32.6 +0.6**
TPNV Topopah Spring 84.15 51 P **P** **20 07 10.2 +0.5**
baz=301,SNR=160
TPNV Topopah Spring 84.15 51 P **P** **20 07 10.2 +0.5**
TPNV pmax pmax

comp=Z,237nm,1.1s
TPNV Topopah Spring 84.15 51 P P 20 07 10.2 +0.5
TPNV IAmb IAmb 20 07 12.1
comp=Z,237nm,1.1s
RLMT Red Lodge 84.16 41 P P 20 07 10.8 +1.2
baz=305
MDUB Mudurnu 84.16 313 P P 20 07 09.9 +0.4
MDUB Mudurnu 84.16 313 P P 20 07 09.7 +0.2
MDUB IAmb IAmb 20 09 15.1
comp=Z,180nm,0.9s
BGU Big Grassy Mou 84.19 46 P P 20 07 10.3 +0.6
REDW Red Top Meadow 84.21 43 P P 20 07 10.3 +0.4
REDW IAmb IAmb 20 07 13.7
comp=Z,257nm,1.4s
SNOW Snow King Moun 84.21 43 P P 20 07 11.0 +1.0
SNOW IAmb IAmb 20 07 13.0
comp=Z,149nm,1.1s
PASC Pasadena Art C 84.21 54 P P 20 07 09.8 -0.1
PASC IAmb IAmb 20 07 11.9
comp=Z,200nm,1.1s
GKP Gorka Klasztor 84.23 329 *eP* **P 20 07 08.8 -0.6**
GKP *eS* **SKSac 20 16 40.9 -1.5**
HOMB Homborsund 84.26 336⇑ *iP* **P 20 07 09.0 -0.5**
HOMB *e*SKSac **SKSac 20 16 41.7 -0.7**
ICOR Ion Corvin 84.26 318⇑ P **P 20 07 10.5 +0.7**
MWC Mount Wilson 84.28 54 P **P 20 07 10.4 +0.1**
MWC pmax pmax
comp=Z,177nm,1.1s
MWC Mount Wilson 84.28 54 P **P 20 07 10.4 +0.1**
MWC IAmb IAmb 20 07 12.5
comp=Z,177nm,1.1s
KIZK Mersin 84.29 308 P **P 20 07 09.4 -0.7**
PGOR Pogoanele 84.30 318⇑ P **P 20 07 11.6 +1.7**
OZUR 84.30 320⇑ P **P 20 07 11.5 +1.4**
SPUT South Promonto 84.35 46 P **P 20 07 11.4 +0.9**
FMP Fort Macarthur 84.37 55 P **P 20 07 10.6 +0.1**
baz=300
AHID Auburn Hatcher 84.39 44 P **P 20 07 11.2 +0.5**
AHID IAmb IAmb 20 07 13.4
comp=Z,146nm,1.1s
CIS Catalina Islan 84.44 55 P **P 20 07 11.1 +0.1**
baz=300,SNR=21
ARCR ARCALIA 84.52 321⇑ P **P 20 07 12.2 +1.2**
KOLS Kolonicke sedl 84.52 324 *eP* **P 20 07 11.9 +0.9**
KOLS pmax pmax
comp=Z,64nm,2.0s
KOLS MLR MLR
comp=Z,1µm,17.9s
KOLS Kolonicke sedl 84.52 324 *eP* **P 20 07 11.9 +0.9**
KOLS *eS* **SKSac 20 16 44.6 +0.1**
KOLS *e* 20 19 59.3
KOLS *eL* L 20 48 28.3
SCI2 San Clemente I 84.55 55 P **P 20 07 11.7 +0.2**
baz=300,SNR=6.9
BFSC Mount Baldy Ra 84.56 54 P **P 20 07 11.7 +0.1**
baz=301,SNR=53
MLR Muntele Rosu 84.56 319 S **SKSac 20 16 43.2 -1.9**
comp=Z,15nm,1.0s,baz=195,slow=22,SNR=9.7
MLR PKKPbc PKKPbc 20 25 18.4 -0.1
comp=Z,2.2nm,0.8s,baz=153,slow=6.0,SNR=4.1
MLR Muntele Rosu 84.56 319⇑ P **P 20 07 12.0 +0.5**
MLR Muntele Rosu 84.56 319 P **P 20 07 11.6 +0.2**
MLR pmax pmax
comp=Z,87nm,1.6s
MLR Muntele Rosu 84.56 319 P **P 20 07 11.6 +0.2**
DOPR Dopca 84.60 320⇑ P **P 20 07 12.3 +0.9**
KEBE Keben-Mersin 84.61 309 P **P 20 07 11.7 -0.1**
GSC Goldstone, Bar 84.62 53 P **P 20 07 12.5 +0.6**
baz=301,SNR=174
GSC Goldstone, Bar 84.62 53 P **P 20 07 11.8 -0.1**
GSC pmax pmax
comp=Z,297nm,1.1s
GSC Goldstone, Bar 84.62 53 P **P 20 07 11.8 -0.1**
GSC IAmb IAmb 20 07 14.3
comp=Z,297nm,1.1s
GULT Gulveren 84.62 313 P **P 20 07 12.6 +0.8**
BMR Baia Mare 84.64 322⇑ P **P 20 07 12.3 +0.7**
SFJD Kangerlussuaq 84.64 4⇑ *iP* **P 20 07 11.2 0.0**
SFJD Kangerlussuaq 84.64 4 P **P 20 07 11.0 -0.2**
SFJD pmax pmax
comp=Z,157nm,0.9s
SFJD Kangerlussuaq 84.64 4 P **P 20 07 11.0 -0.2**
SFJD IAmb IAmb 20 07 13.8
comp=Z,157nm,0.8s
KMY Karmoy 84.67 338⇑ *iP* **P 20 07 12.2 +0.8**
KMY *e*SKSac **SKSac 20 16 45.4 +0.6**
KMY *e*SS **SS 20 22 43.3 +3.2**
SNART Snartemo 84.67 337⇑ *iP* **P 20 07 11.5 0.0**
SNART *ep*P **pwP 20 09 08.8 -1.7**
SNART *eP*P **PP 20 10 36.4 +0.3**
SNART *e*SKSac **SKSac 20 16 43.6 -1.3**
SNART *e*SS **SS 20 22 40.8 +0.6**
SHOC Shoshone, Teco 84.68 52 P **P 20 07 12.5 +0.4**
baz=301,SNR=48
UZH Uzhgorod 84.70 323⇓ *iP* **P 20 07 11.2 -0.6**
UZH *e**PP **pwP 20 09 12.8 +1.9**
UZH *e* 20 10 41.0
UZH *eS* **S 20 16 55.2 -0.1**
UZH *e* 20 22 40.0
UZH MLR MLR
comp=N,300nm,15.0s
UZH MLR MLR
comp=E,250nm,15.0s
UZH MLR MLR
comp=Z,230nm,15.0s
RRX Edison Barstow 84.70 53 P **P 20 07 13.0 +0.8**
baz=301,SNR=10
DUG Dugway, Tooele 84.72 47 P **P 20 07 13.2 +0.8**
baz=303
DUG Dugway, Tooele 84.72 47 P **P 20 07 12.7 +0.3**
DUG pmax pmax
comp=Z,449nm,1.5s
DUG Dugway, Tooele 84.72 47 P **P 20 07 12.7 +0.3**
DUG IAmb IAmb 20 07 15.9
comp=Z,449nm,1.5s
KONT Konya--Tatoy 84.74 310 P **P 20 07 11.6 -0.7**
HWUT Hardware Ranch 84.74 45 P **P 20 07 12.9 +0.4**
HWUT IAmb IAmb 20 07 15.4
comp=Z,299nm,1.1s
SECR 84.75 319⇑ P **P 20 07 12.8 +0.5**
SULR 84.85 319⇑ P **P 20 07 13.8 +1.1**
AKKU Akkuyu-Mersin 84.87 308 P **P 20 07 12.8 -0.1**
TRPA Tarpa 84.87 323⇑ P **P 20 07 13.8 +1.1**
GOET G??ttrup 84.91 335 *iP* **P 20 07 13.0 +0.3**
comp=Z,261nm,0.9s
PSUT Pine Spring 84.94 49 P **P 20 07 13.5 0.0**
HRT Hereke 84.95 314 P **P 20 07 12.8 -0.5**
CRVS Cervenica-Dubn 84.97 324 *eP* **P 20 07 13.4 +0.2**
CRVS pmax pmax
comp=Z,651nm,2.3s
CRVS Cervenica-Dubn 84.97 324 *eP* **P 20 07 13.4 +0.2**
CRVS *ep*P **pwP 20 09 09.8 -2.6**
CRVS *e*S **SKSac 20 16 45.4 -1.9**
CRVS *eL* L 20 51 49.8
LAO LASA Array 84.97 39 P **P 20 07 14.0 +0.7**
baz=307
LAO LASA Array 84.97 39 P **P 20 07 13.2 -0.2**
LAO IAmb IAmb 20 07 15.9
comp=Z,214nm,1.1s
OJC Ojcow 84.98 326 *eP* **P 20 07 13.2 0.0**
OJC *e*S **S 20 16 55.2 -2.9**
DGMT Dagmar 84.98 37 P **P 20 07 13.5 +0.1**
baz=308
DGMT Dagmar 84.98 37 P **P 20 07 13.4 +0.1**
DGMT IAmb IAmb 20 07 15.3
comp=Z,252nm,1.1s
BERE Bereket-Mersin 85.00 309 P **P 20 07 13.6 -0.2**
RGN Rugen 85.07 332 *eP* **P 20 07 13.8 +0.4**
RGN Rugen 85.07 332 P **P 20 07 13.4 0.0**
RGN IAmb IAmb 20 07 17.7
comp=Z,272nm,1.6s
BBRC Big Bear Solar 85.07 54 P **P 20 07 14.6 +0.3**
baz=301
VOIR 85.11 320⇑ P **P 20 07 14.8 +0.8**
TCUT Toone Canyon 85.11 46 P **P 20 07 14.6 +0.2**
ADVT Abdulvahap 85.12 314 P **P 20 07 14.7 +0.6**
CTU Camp Tracy 85.13 46 P **P 20 07 14.3 -0.1**
SHPR Sheep Range 85.13 51 P **P 20 07 14.8 +0.3**
TUQ Turquoise Moun 85.16 52 P **P 20 07 15.1 +0.5**
baz=302,SNR=118
TEKE Tekeli-Mersin 85.18 309 P **P 20 07 13.9 -0.5**
HEC Hector,Ludlow 85.19 53 P **P 20 07 15.2 +0.6**
baz=301,SNR=129
ISK Istanbul-Kandi 85.20 314 P **P 20 07 13.9 -0.5**

MURC Murrieta 85.21 54 P **P 20 07 15.1 +0.3**
baz=301,SNR=26
NIE Niedzica 85.24 325 *eP* **P 20 07 15.1 +0.6**
NIE *eS* **SKSac 20 16 47.4 -1.6**
BW06 Boulder Array 85.33 43 P **P 20 07 15.5 +0.1**
baz=305
BW06 Boulder Array 85.33 43 P **P 20 07 15.2 -0.1**
PD31 Pinedale Array 85.33 43 P **P 20 07 15.4 0.0**
PDAR Pinedale Array 85.33 43 P **P 20 07 15.3 0.0**
comp=Z,53nm,1.0s,baz=294,slow=1.5,SNR=146
PDAR PP **PP 20 10 45.2 +3.0**
comp=Z,11nm,1.0s,baz=298,slow=3.2,SNR=5.1
NLU North Lily Min 85.33 47 P **P 20 07 15.4 0.0**
LFK Lefkose 85.34 308 P **P 20 07 15.2 -0.1**
RAZG Razgrad 85.34 318⇑ P **P 20 07 15.9 +0.8**
MUD Monsted U'grnd 85.36 335 *i P* **P 20 07 14.5 -0.3**
MUD Monsted U'grnd 85.36 335 *i P* **P 20 07 14.5 -0.3**
JLU Jordanelle 85.37 46 P **P 20 07 15.5 -0.1**
ARR Arges 85.38 320⇑ P **P 20 07 16.2 +0.9**
MPU Maple Canyon 85.58 47 P **P 20 07 16.8 +0.3**
ARMT Armutlu 85.60 314 P **P 20 07 16.2 -0.2**
109C Camp Elliot, M 85.64 55 P **P 20 07 17.3 +0.5**
baz=301,SNR=6.7
109C Camp Elliot, M 85.64 55 P **P 20 07 17.3 +0.5**
109C IAmb IAmb 20 07 19.1
comp=Z,222nm,1.2s
CSS Mathiatis 85.64 307 P **P 20 07 16.4 -0.4**
GAZI Gazipasa 85.68 309 P **P 20 07 15.9 -1.0**
HUMR Humele 85.68 319⇑ P **P 20 07 16.9 +0.2**
GMRC Granite Mounta 85.69 53 P **P 20 07 17.7 +0.6**
baz=302,SNR=124
KECS Kecovo 85.73 324 *eP* **P 20 07 17.9 +1.0**
KECS pmax pmax
comp=Z,19nm,0.8s
KECS Kecovo 85.73 324 *eP* **P 20 07 17.9 +1.0**
PFO Pinyon Flats O 85.73 54 P **P 20 07 17.9 +0.5**
baz=301,SNR=123
PFO Pinyon Flats O 85.73 54 P **P 20 07 17.7 +0.4**
comp=Z,168nm,1.0s,baz=295,slow=4.2,SNR=110
PFO Pinyon Flats O 85.73 54 P **P 20 07 17.6 +0.2**
PFO pmax pmax
comp=Z,312nm,1.2s
PFO Pinyon Flats O 85.73 54 P **P 20 07 17.6 +0.2**
PFO IAmb IAmb 20 07 19.7
comp=Z,312nm,1.1s
XPFO Pion Flat 85.74 54 P **P 20 07 17.3 -0.1**
XPFO IAmb IAmb 20 07 19.7
comp=Z,312nm,1.1s
COPA Copaceanca 85.77 319⇑ P **P 20 07 16.9 -0.3**
CCUT Cedar City 85.79 49 P **P 20 07 17.8 +0.1**
TCRU Three Creeks R 85.82 48 P **P 20 07 18.1 +0.3**
LOT Lotru 85.82 320⇑ P **P 20 07 18.2 +0.7**
LANS Liptovska Anna 85.83 325 *eP* **P 20 07 18.6 +1.2**
LANS pmax pmax
comp=Z,43nm,1.6s
LANS Liptovska Anna 85.83 325 *eP* **P 20 07 18.6 +1.2**
TVSB Tavsanli 85.83 313 P **P 20 07 17.9 +0.2**
BELC Belle Mtn. Jos 85.86 54 P **P 20 07 18.1 +0.2**
baz=302,SNR=99
LEF Lefka 85.87 308⇑ P **P 20 07 16.9 -0.9**
BORG Borgarnes 85.89 352 P **P 20 07 17.6 +0.4**
BORG pmax pmax
comp=Z,224nm,1.4s
BORG Borgarnes 85.89 352 P **P 20 07 17.6 +0.4**
BORG IAmb IAmb 20 07 21.9
comp=Z,224nm,1.4s
LRW Lerwick 85.90 341 *eP* **P 20 07 17.9 +0.5**
LRW IAmb IAmb 20 07 19.8
comp=Z,687nm,1.6s
WAL1 Walls 85.92 341 *eP* **P 20 07 17.8 +0.3**
SZCU Shurtz Canyon 85.95 49 P **P 20 07 18.6 +0.2**
OKC Ostrava-Krasne 86.04 326 *eP* **P 20 07 19.1 +0.8**
OKC *ex* x 20 16 44.2
OKC *eSS* SS 20 22 54.9 -5.7
OKC Ostrava-Krasne 86.04 326 *eP* **P 20 07 19.1 +0.8**
MSU Marysvale 86.05 48 P **P 20 07 19.5 +0.6**
MSU Marysvale 86.05 48 P **P 20 07 19.5 +0.6**
BAR Barrett 86.06 55 P **P 20 07 18.9 0.0**
BAR IAmb IAmb 20 07 21.1
comp=Z,202nm,1.3s
MONP2 Monument Peak 86.13 55 P **P 20 07 19.9 +0.6**
baz=301,SNR=67
LCMT Little Creek M 86.16 50 P **P 20 07 20.0 +0.7**
TMUT Trail Mountain 86.25 47 P **P 20 07 19.4 -0.5**
ANGG Ammassalik, Gr 86.26 359 P **P 20 07 18.8 -0.2**
ANGG IAmb IAmb 20 07 20.6
comp=Z,145nm,1.3s
KSP Ksiaz 86.27 328 *eP* **P 20 07 19.3 -0.1**
KSP *eS* **SKSac 20 16 51.6 -3.6**
RUE Ruedersdorf 86.31 330 *eP* **P 20 07 20.2 +0.7**
RUE Ruedersdorf 86.31 330 *eP* **P 20 07 20.1 +0.7**
comp=Z,107nm,1.4s,baz=44,slow=4.7
RUE *ep*P **pwP 20 09 22.4 +3.2**
MTPU Mount Pierson 86.31 48 P **P 20 07 20.5 +0.2**
IRM Iron Mountain 86.38 53 P **P 20 07 21.0 +0.7**
baz=302,SNR=100
MORC Moravsky Berou 86.38 326⇑ P **P 20 07 20.2 +0.2**
MORC Moravsky Berou 86.38 326⇑ *iP* **P 20 07 19.6 -0.4**
MORC *ep*P **pP 20 09 15.2 +1.3**
MORC *e*SKS **SKSac 20 16 56.4 +0.4**
MORC Moravsky Berou 86.38 326 P **P 20 07 19.9 -0.1**
MORC pmax pmax
comp=Z,47nm,1.3s
MORC Moravsky Berou 86.38 326 P **P 20 07 19.9 -0.1**
PSZ Piszkesteto 86.39 324⇑ P **P 20 07 20.7 +0.5**
PSZ Piszkesteto 86.39 324 P **P 20 07 20.0 -0.1**
PSZ pmax pmax
comp=Z,72nm,1.1s
PSZ Piszkesteto 86.39 324 P **P 20 07 20.0 -0.1**
MSEY Mahe Island 86.40 263 P **P 20 07 20.8 +0.1**
MSEY pmax pmax
comp=Z,149nm,1.1s
MSEY Mahe Island 86.40 263 P **P 20 07 20.8 +0.1**
MSEY IAmb IAmb 20 07 23.7
comp=Z,149nm,1.1s
NEE2 Needles Airpor 86.42 52 P **P 20 07 21.0 +0.6**
baz=302
BC3 Big Chuckawall 86.42 54 P **P 20 07 21.2 +0.6**
baz=302,SNR=40
KNB Kanab 86.44 50 P **P 20 07 21.2 +0.5**
KNB pmax pmax
comp=Z,386nm,1.6s
KNB Kanab 86.44 50 P **P 20 07 21.2 +0.5**
P17A Butcher Ranch, 86.45 47 P **P 20 07 20.7 0.0**
IKP In-Ko-Pah, Jac 86.48 55 P **P 20 07 21.6 +0.7**
baz=302,SNR=38
Q16A Castle Valley 86.48 47 P **P 20 07 20.9 0.0**
OSTC Ostas 86.50 327 *eP* **P 20 07 20.7 +0.2**
OSTC *e*SKS **SKSac 20 16 54.3 -2.3**
OSTC *e*SS SS 20 22 54.0 -13
SKMB Sankelmark Bun 86.53 333 *eP* **P 20 07 21.4 +1.0**
comp=Z,327nm,1.5s,baz=44,slow=4.7
PKCU Pink Cliffs 86.55 49 P **P 20 07 21.3 -0.1**
SWSC Sam W. Stewart 86.55 54 P **P 20 07 21.5 +0.4**
baz=302,SNR=31
KRLC Kraliky 86.55 327 *eP* **P 20 07 21.0 +0.2**
KRLC *e*SKS **SKSac 20 16 54.2 -2.8**
KRLC *e*SS **SS 20 23 05.7 -2.4**
KRLC Kraliky 86.55 327 *eP* **P 20 07 21.0 +0.2**
KRLC *e* 20 16 54.2
KRLC *e*SS SS 20 23 05.7 -2.4
CHVC Chvalec 86.56 328 *eP* **P 20 07 20.9 +0.1**
CHVC *e*SKS **SKSac 20 17 00.7 +3.7**
CHVC *e*SS **SS 20 23 00.4 -7.7**
PLVB Pleven 86.56 318⇑ P **P 20 07 21.6 +0.7**
RDMU Red Mountain 86.57 45 P **P 20 07 21.8 +0.5**
VYHS Vyhne 86.57 325 *eP* **P 20 07 20.9 0.0**
VYHS pmax pmax
comp=Z,362nm,2.1s
VYHS Vyhne 86.57 325 *eP* **P 20 07 20.9 0.0**
VYHS *ep*P **pP 20 09 15.9 +1.0**
VYHS *e*S **SKSac 20 16 54.2 -2.9**
VYHS *e* 20 20 29.5
DPC Dobruska-Polom 86.59 327 *eP* **P 20 07 21.5 +0.5**
DPC *e*SKS **SKSac 20 16 52.4 -4.8**
DPC *e*SS **SS 20 23 02.8 -5.8**
DPC Dobruska-Polom 86.59 327 *eP* **P 20 07 21.5 +0.5**
DPC *e* 20 16 52.4
SRE Strehaia 86.62 320⇑ P **P 20 07 21.9 +0.7**
UPC Upice 86.63 328 *eP* **P 20 07 21.1 0.0**
UPC *ex* x 20 16 41.4
UPC *ex* x 20 23 00.7
UPC Upice 86.63 328 *eP* **P 20 07 21.1 0.0**

BALB Balikesir 86.74 314 P **P 20 07 21.4 -0.4**
BSEG Bad Segeberg 86.75 332 *eP* **P 20 07 22.0 +0.5**
comp=Z,134nm,1.6s,baz=44,slow=4.7
BSEG *ep*P **pwP 20 09 22.9 +1.6**
W13A Hualapai Mount 86.76 52 P **P 20 07 22.2 -0.1**
SRU San Rafael Swe 86.79 47 P **P 20 07 22.5 +0.1**
SRU pmax pmax
comp=Z,82nm,1.2s
SRU San Rafael Swe 86.79 47 P **P 20 07 22.5 +0.1**
BZS Buzias 86.92 321⇑ P **P 20 07 22.3 -0.2**
JAVC Velka Javorina 86.92 326⇑ *iP* **P 20 07 22.4 +0.8**
JAVC *ep*P **pP 20 09 18.3 +1.6**
JAVC *e*SKS **SKSac 20 17 01.1 +1.8**
BAIL Bailesti 86.92 319⇑ P **P 20 07 23.3 +0.8**
HERR Herculane 86.93 320⇑ P **P 20 07 22.5 -0.1**
MANT Manisa 86.95 313 P **P 20 07 22.8 -0.4**
PDMCI Parker Dam,Lak 87.00 52 P **P 20 07 23.7 +0.5**
baz=303,SNR=26
ELL Elmali 87.03 310 P **P 20 07 23.2 -0.2**
ELL pmax pmax
comp=Z,131nm,0.7s
ELL Elmali 87.03 310 P **P 20 07 23.2 -0.2**
ELL IAmb IAmb 20 07 29.2
comp=Z,131nm,0.7s
Y12C Blythe 87.03 53 P **P 20 07 24.1 +0.7**
baz=302,SNR=23
Y12C Blythe 87.03 53 P **P 20 07 23.7 +0.3**
Y12C IAmb IAmb 20 07 26.2
comp=Z,162nm,1.3s
DAMY Dhamar 87.04 285 P **P 20 07 25.0 +0.9**
DAMY IAmb IAmb 20 07 28.3
comp=Z,132nm,1.2s
U15A North Rim 87.12 50 P **P 20 07 24.2 +0.1**
VRAC Vranov 87.15 326⇑ P **P 20 07 24.1 +0.5**
VRAC Vranov 87.15 326⇑ *iP* **P 20 07 23.2 -0.4**
VRAC *ep*P **pP 20 09 18.3 +0.5**
VRAC *e*SKS **SKSac 20 17 00.1 -0.5**
VRAC Vranov 87.15 326 P **P 20 07 24.1 +0.5**
ALN Alexandroupoli 87.17 316 P **P 20 07 23.4 -0.4**
ALN pmax pmax
comp=Z,33nm,1.1s
ALN Alexandroupoli 87.17 316 P **P 20 07 23.4 -0.4**
GLA Glamis 87.19 54 P **P 20 07 25.0 +0.9**
baz=302,SNR=24
GLA Glamis 87.19 54 P **P 20 07 24.8 +0.6**
GLA pmax pmax
comp=Z,126nm,1.1s
GLA Glamis 87.19 54 P **P 20 07 24.8 +0.6**
GLA IAmb IAmb 20 07 26.3
comp=Z,126nm,1.1s
GELI Tayfur-Gelibol 87.19 315 P **P 20 07 23.4 -0.5**
K22A Casper 87.21 42 P **P 20 07 24.5 +0.3**
baz=307
K22A Casper 87.21 42 P **P 20 07 24.5 +0.3**
K22A IAmb IAmb 20 07 25.8
comp=Z,134nm,1.1s
SMOL Smolenice 87.27 325 *eP* **P 20 07 25.0 +0.9**
SMOL pmax pmax
comp=Z,34nm,1.0s
SMOL Smolenice 87.27 325 *eP* **P 20 07 25.0 +0.9**
SMOL *ep*P **pwP 20 09 21.9 -2.4**
PVCC Panska Ves 87.29 328 *eP* **P 20 07 24.7 +0.5**
PVCC *e*SKS **SKSac 20 16 52.6 -8.7**
PVCC *e*SS **SS 20 23 08.8 -10**
PVCC Panska Ves 87.29 328 *eP* **P 20 07 24.7 +0.5**
PVCC *e* 20 16 52.6
BRG Berggiesshubel 87.34 329 *i P* **P 20 07 24.7 +0.3**
comp=Z,18nm,0.7s
BRG pP **pP 20 09 17.0 -1.7**
BRG sP **sP 20 10 11.0 -0.8**
BRG PP **PP 20 10 56.0 -1.6**
BRG SKS **SKSac 20 16 59.0 -2.6**
BRG S **S 20 17 19.0 -1.4**
BRG SS **SS 20 23 14.0 -5.3**
comp=N,1µm,16.3s
comp=E,1µm,15.1s
comp=Z,2µm,16.1s
BRG Berggiesshubel 87.34 329 *i P* **P 20 07 24.7 +0.3**
BRG *SP **sP 20 10 11.0 -0.8**
BRG 20 10 56.0
BRG 20 16 59.0
BRG S **S 20 17 19.0 -1.4**
BRG pmax pmax
comp=Z,18nm,0.7s
BRG MLR MLR
comp=N,1µm,16.3s
BRG MLR MLR
comp=E,1µm,15.1s
BRG MLR MLR
comp=Z,2µm,16.1s
BRG Berggiesshubel 87.34 329 *eP* **P 20 07 25.0 +0.6**
comp=Z,127nm,1.6s,baz=44,slow=4.7
BRG *ep*P **pwP 20 09 27.5 +3.0**
RWWY Rawlins 87.37 43 P **P 20 07 24.9 -0.2**
RWWY IAmb IAmb 20 07 28.4
comp=Z,251nm,1.5s
MDVR Moldovita 87.38 321⇑ P **P 20 07 24.8 -0.1**
KRUC Moravsky 87.42 326⇑ *iP* **P 20 07 24.5 -0.3**
KRUC *ep*P **pP 20 09 19.2 +0.1**
KRUC *e*SKS **SKSac 20 17 01.9 -0.2**
MODS Modra-Piesok 87.44 325 *eP* **P 20 07 25.1 +0.2**
MODS pmax pmax
comp=Z,411nm,2.4s
MODS Modra-Piesok 87.44 325 *eP* **P 20 07 25.1 +0.2**
MODS *ep*P **pP 20 09 21.7 +2.4**
MODS *e*S **SKSac 20 17 01.0 -1.3**
MODS *e* 20 20 41.2
MODS *eL* L 20 53 35.8
CLL Collm 87.47 329 *i P* **P 20 07 24.8 -0.2**
comp=Z,173nm,1.6s
CLL *ep*P **pP 20 09 19.0 -0.4**
CLL *i* pPmax 20 09 27.4
comp=Z,53nm,1.1s
CLL *es*P **sP 20 10 09.0 -3.5**
CLL *e* 20 10 36.0
CLL *eP*P **PP 20 10 57.0 -1.6**
CLL *e* 20 12 47.0
CLL *es*PP 20 13 30.0
CLL *e*SKSac **SKSac 20 17 00.0 -2.3**
CLL *e*S **S 20 17 19.0 -2.5**
comp=N,2µm,27.0s
CLL *e*S **S 20 17 19.0 -2.5**
comp=E,2µm,27.3s
CLL *e* 20 17 45.0
CLL *e* 20 18 19.0
CLL *e*PS 20 18 24.0
CLL *es*S **sS 20 20 41.0 -6.9**
CLL *e*SS **SS 20 23 19.0 -2.1**
CLL *es*SS 20 26 06.0
CLL *e*SSS SSS 20 26 54.0
CLL *e* 20 28 12.0
CLL *e*SSSS 20 30 18.0
CLL Collm 87.47 329 *i P* **P 20 07 24.8 -0.2**
CLL *i* *PP **pwP 20 09 27.4 +2.4**
CLL *e* 20 17 00.0
CLL *eS* **S 20 17 19.0 -2.5**
CLL pmax pmax
comp=Z,173nm,1.6s
CLL Collm 87.47 329 P **P 20 07 24.0 -1.0**
CLL Collm 87.47 329 *eP* **P 20 07 25.3 +0.3**
comp=Z,172nm,1.6s,baz=44,slow=4.7
CLL *ep*P **pwP 20 09 27.8 +2.9**
AKAS Kas 87.52 310 P **P 20 07 25.0 -0.7**
HLG Helgoland 87.53 334 *ep*P pP 20 09 28.6 +9.0
FBE Freiberg 87.58 329 *eP* **P 20 07 26.4 +0.9**
comp=Z,231nm,1.6s,baz=44,slow=4.7
FBE *ep*P **pwP 20 09 29.1 +3.4**
GOPC GO Pecny, Ondr 87.61 328 *eP* **P 20 07 26.0 +0.3**
GOPC *e*SKS **SKSac 20 16 58.3 -5.0**
GOPC *e*SS SS 20 23 10.7 -13
GOPC GO Pecny, Ondr 87.61 328 *eP* **P 20 07 26.0 +0.3**
GOPC *e* 20 16 58.3
ZST Bratislava 87.64 325 *eP* **P 20 07 25.7 -0.2**
ZST pmax pmax
comp=Z,262nm,2.3s
ZST Bratislava 87.64 325 *eP* **P 20 07 25.7 -0.2**
ZST *ep*P **pP 20 09 23.0 +2.7**
ZST *eS* **SKSac 20 17 01.0 -2.5**
O20A White River Ci 87.65 45 P **P 20 07 26.8 +0.4**
baz=306
O20A White River Ci 87.65 45 P **P 20 07 26.5 +0.1**
O20A IAmb IAmb 20 07 29.6
comp=Z,240nm,1.4s

PRA Prague 87.67 328 *e*P **P** **20 07 26.3 +0.3**
PRA *e*SKS **SKSac** **20 17 01.3 -2.3**
PRA *e*SS **SS** **20 23 18.8 -5.2**
PRA Prague 87.67 328 *e*P **P** **20 07 26.3 +0.3**
PRA *e* 20 17 01.3
PRU Pruhonice 87.68 328 *e*P **P** **20 07 26.1 +0.1**
PRU *e*SKS **SKSac** **20 17 01.6 -2.0**
PRU *e*SS **SS** **20 23 19.7 -4.4**
PRU Pruhonice 87.68 328 *e*P **P** **20 07 26.1 +0.1**
PRU *e* 20 17 01.6
AYDB Zeytinkoy-Aydi 87.69 312 P **P** **20 07 26.7 +0.2**
TREC Trest 87.70 327 *e*P **P** **20 07 26.5 +0.3**
TREC *ex* x 20 17 18.8
TREC *ex* x 20 23 09.2
TREC Trest 87.70 327 *e*P **P** **20 07 26.5 +0.3**
TREC *e* 20 17 18.8
MDND Maddock 87.75 35 P **P** **20 07 26.9 +0.5**
baz=311
MDND Maddock 87.75 35 P **P** **20 07 26.9 +0.5**
RSSD Black Hills 87.76 40 P **P** **20 07 27.0 +0.2**
baz=308
RSSD Black Hills 87.76 40 P **P** **20 07 26.7 -0.1**
RSSD pmax pmax
comp=Z,227nm,1.3s
RSSD Black Hills 87.76 40 P **P** **20 07 26.6 -0.1**
RSSD IAmb IAmb 20 07 29.8
comp=Z,227nm,1.2s
BOZC Bozcaada 87.78 315 P **P** **20 07 26.9 +0.2**
VTS Vitosha 87.84 318 ⇑P **P** **20 07 27.8 +0.7**
VTS Vitosha 87.84 318 P **P** **20 07 26.9 -0.2**
VTS pmax pmax
comp=Z,57nm,0.9s
VTS Vitosha 87.84 318 P **P** **20 07 26.9 -0.2**
NRDL Niedersach Rie 87.88 332 *e*P **P** **20 07 27.3 +0.5**
comp=Z,50nm,1.6s,baz=44,slow=4.7
NRDL *e*pP **pwP** **20 09 30.1 +3.2**
ASSE Asse, Remlinge 87.90 331 *e*P **P** **20 07 27.4 +0.5**
comp=Z,94nm,1.8s,baz=44,slow=4.7
ASSE *e*pP **pwP** **20 09 30.2 +3.2**
ULM Lac du Bonnet 87.93 32 P **P** **20 07 26.9 -0.2**
comp=Z,49nm,0.8s,baz=316,slow=5.3,SNR=22
ULM PP **PP** **20 11 05.2 +3.0**
comp=Z,12nm,0.8s,baz=298,slow=8.9,SNR=3.9
ULM Lac du Bonnet 87.93 32 P **P** **20 07 26.5 -0.6**
ULM pmax pmax
comp=Z,94nm,1.1s
ULM Lac du Bonnet 87.93 32 P **P** **20 07 26.5 -0.6**
E28A Huff 88.02 37 P **P** **20 07 28.2 +0.5**
PV09 Paradox Valley 88.03 47 P **P** **20 07 28.7 +0.4**
BIGH Upper Bighouse 88.05 341 *e*P **P** **20 07 27.5 0.0**
BIGH IAmb IAmb 20 07 31.7
comp=Z,131nm,1.1s
MLA1 Latheron 88.05 341 *e*P **P** **20 07 27.3 -0.3**
NEUB Neuenburg 88.09 330 *e*P **P** **20 07 28.3 +0.5**
comp=Z,130nm,1.5s,baz=44,slow=4.7
NEUB *e*pP **pwP** **20 09 31.2 +3.2**
113A Mohawk Valley, 88.09 54 P **P** **20 07 29.1 +0.8**
113A IAmb IAmb 20 07 31.9
comp=Z,135nm,1.4s
PV21 Cone Mtn., Par 88.10 47 P **P** **20 07 29.1 +0.5**
PV21 IAmb IAmb 20 07 30.5
comp=Z,110nm,1.1s
PV23 Carpenter Ridg 88.14 47 P **P** **20 07 29.3 +0.5**
PBCC Pribram 88.14 328 *e*P **P** **20 07 28.2 0.0**
PV10 Paradox Valley 88.17 47 P **P** **20 07 29.6 +0.8**
PV10 IAmb IAmb 20 07 31.0
comp=Z,201nm,1.1s
PV14 Lion Creek, Pa 88.18 47 P **P** **20 07 29.6 +0.7**
PV14 IAmb IAmb 20 07 30.8
comp=Z,187nm,1.2s
FRGS Fruska Gora 88.20 322 *e*P **P** **20 07 28.1 -0.5**
PV20 West Nyswonger 88.23 47 P **P** **20 07 29.7 +0.6**
PV20 IAmb IAmb 20 07 31.0
comp=Z,128nm,1.1s
PV22 Blue Mesa, Par 88.23 47 P **P** **20 07 29.1 0.0**
PV22 IAmb IAmb 20 07 34.8
comp=Z,99nm,1.1s
PV19 Morning Glory 88.24 47 P **P** **20 07 29.7 +0.5**
PV19 IAmb IAmb 20 07 31.1
comp=Z,165nm,1.1s
CLZ Clausthal 88.24 331 *e*P **P** **20 07 29.3 +0.6**
comp=Z,105nm,1.6s,baz=44,slow=4.7
CLZ *e*pP **pwP** **20 09 32.2 +3.3**
PV04 Paradox Valley 88.24 47 P **P** **20 07 29.5 +0.3**
WUAZ Wupatki 88.25 50 P **P** **20 07 30.1 +0.9**
baz=304,SNR=32
WUAZ Wupatki 88.25 50 P **P** **20 07 29.7 +0.5**
PV17 East Wray Mesa 88.27 47 P **P** **20 07 29.6 +0.3**
PV17 IAmb IAmb 20 07 31.2
comp=Z,178nm,1.1s
PV05 Paradox Valley 88.30 47 P **P** **20 07 29.9 +0.4**
PV05 IAmb IAmb 20 07 31.4
comp=Z,139nm,1.2s
PV11 David Mesa, Pa 88.32 47 P **P** **20 07 29.9 +0.3**
PV11 IAmb IAmb 20 07 32.1
comp=Z,168nm,1.1s
PV18 Skein Mesa, Pa 88.32 47 P **P** **20 07 29.8 +0.2**
PV18 IAmb IAmb 20 07 31.4
comp=Z,124nm,1.1s
TANN Tannenbergstha 88.34 329 *e*P **P** **20 07 29.7 +0.5**
comp=Z,220nm,1.8s,baz=44,slow=4.7
TANN *e*pP **pwP** **20 09 32.4 +3.1**
PV12 Saucer Basin, 88.35 47 P **P** **20 07 30.2 +0.5**
PV03 Paradox Valley 88.36 47 P **P** **20 07 29.9 +0.2**
PV03 IAmb IAmb 20 07 32.2
comp=Z,155nm,1.3s
PV07 Paradox Valley 88.38 47 P **P** **20 07 30.2 +0.4**
PV07 IAmb IAmb 20 07 35.4
comp=Z,198nm,1.8s
PLN Plauen 88.43 329 *e*P **P** **20 07 30.1 +0.6**
comp=Z,98nm,1.7s,baz=44,slow=4.7
PLN *e*pP **pwP** **20 09 33.0 +3.2**
PV13 Radium Mtn., P 88.43 47 P **P** **20 07 30.5 +0.4**
PV13 IAmb IAmb 20 07 32.4
comp=Z,378nm,1.8s
GUNZ Gunzen 88.44 329 *e*P **P** **20 07 30.3 +0.7**
comp=Z,151nm,1.6s,baz=44,slow=4.7
GUNZ *e*pP **pwP** **20 09 33.0 +3.2**
CONA Conrad Observa 88.44 326 *i* PcP **PcP** **20 07 30.3 -0.6**
comp=Z,69nm,1.4s,SNR=35
CONA *e*pP **pwP** **20 09 28.8 -1.4**
comp=Z,42nm,2.0s
CONA *e*PP **PP** **20 11 04.6 -1.9**
comp=Z,39nm,1.5s
PV02 Paradox Valley 88.46 47 P **P** **20 07 30.8 +0.6**
WERN Wernitzgruen 88.47 329 *e*P **P** **20 07 30.5 +0.8**
comp=Z,184nm,1.7s,baz=44,slow=4.7
WERN *e*pP **pwP** **20 09 33.1 +3.1**
NKC Novy Kostel 88.47 329 *e*P **P** **20 07 29.9 +0.1**
NKC *e*SKS **SKSac** **20 17 07.3 -1.1**
NKC *e*SS SS 20 23 20.3 -15
NKC Novy Kostel 88.47 329 *e*P **P** **20 07 29.9 +0.1**
NKC *e* 20 17 07.3
PV15 Paradox Valley 88.54 47 P **P** **20 07 31.1 +0.5**
MOX Moxa 88.56 330 *e*P **P** **20 07 30.6 +0.5**
comp=Z,100nm,1.6s,baz=44,slow=4.7
MOX *e*pP **pwP** **20 09 33.3 +3.0**
BODT Bodrum 88.58 312 P **P** **20 07 29.3 -1.2**
PV01 Paradox Valley 88.61 47 P **P** **20 07 31.3 +0.4**
PV01 IAmb IAmb 20 07 33.3
comp=Z,267nm,1.8s
N23A Red Feather La 88.61 43 P **P** **20 07 32.1 +1.1**
baz=307
N23A Red Feather La 88.61 43 P **P** **20 07 31.9 +1.0**
GTTG Gottingen 88.63 331 *e*P **P** **20 07 31.0 +0.6**
comp=Z,80nm,1.6s,baz=44,slow=4.7
GTTG *e*pP **pwP** **20 09 33.8 +3.1**
MCD Coleburn Disti 88.63 341 *e*P **P** **20 07 29.7 -0.6**
PHWY Pilot Hill 88.66 43 P **P** **20 07 31.7 +0.5**
PHWY IAmb IAmb 20 07 33.6
comp=Z,140nm,1.1s
KHC Kasperske Hory 88.72 328 *e*P **P** **20 07 31.0 0.0**
KHC Kasperske Hory 88.72 328 *e*P **P** **20 07 31.0 0.0**
DIVS Divibare 88.77 321 P **P** **20 07 31.2 -0.2**
DIVS Divibare 88.77 321 ⇑*i*P **P** **20 07 31.3 -0.1**
MANZ Manzenberg 88.81 329 *e*P **P** **20 07 32.0 +0.7**
comp=Z,79nm,1.4s,baz=44,slow=4.7
X16A Lo Mia Camp, P 88.81 51 P **P** **20 07 32.6 +0.8**
GEC2 GERESS Array S 88.86 327 P **P** **20 07 31.1 -0.5**
GEC2 GERESS Array S 88.86 327 *e*P **P** **20 07 32.1 +0.4**
comp=Z,66nm,1.4s,baz=44,slow=4.7
GEC2 *e*pP **pwP** **20 09 34.7 +2.5**
GERES GERESS Array B 88.86 327 P **P** **20 07 31.2 -0.5**
comp=Z,14nm,0.7s,baz=44,slow=4.4,SNR=70

GERES PKKPbc **PKKPbc** **20 25 07.2 -1.3**
comp=Z,1.0nm,0.6s,baz=222,slow=1.8,SNR=7.4
GERES SKKPbc SKKPbc 20 27 52.2 -0.8
comp=Z,1.0nm,0.9s,baz=222,slow=1.8,SNR=5.6
GERES PKPPKP 20 33 13.9
comp=Z,0.5nm,0.7s,baz=242,slow=2.9,SNR=4.2
ROTZ Rotzenmuhle 88.92 329 *e*P **P** **20 07 32.7 +0.9**
comp=Z,188nm,1.6s,baz=44,slow=4.7
ROTZ *e*pP **pwP** **20 09 35.4 +3.2**
BEHE Becsehely 88.95 324 *e*P **P** **20 07 35.1 +3.1**
IBBN Ibbenburen 88.99 332 *e*P **P** **20 07 32.4 +0.4**
comp=Z,184nm,1.6s,baz=44,slow=4.7
STIP Stip 89.02 318 *i* P **P** **20 07 31.5 -1.0**
VAY Valandovo 89.02 318 *i* P **P** **20 07 32.4 0.0**
WET Wettzell 89.04 328 *e*P **P** **20 07 33.1 +0.7**
comp=Z,107nm,1.8s,baz=44,slow=4.7
WET *e*pP **pwP** **20 09 36.0 +2.9**
ARSA Arzberg 89.07 325 *i* PcP **P** **20 07 32.8 +0.2**
comp=Z,70nm,1.6s,SNR=18
ARSA *e*pP **pP** **20 09 29.3 +1.9**
comp=Z,23nm,1.7s
ARSA *e*PP **PP** **20 11 08.4 -2.9**
comp=Z,17nm,1.4s
UBBA Unterbreizbach 89.14 330 *e*P **P** **20 07 33.2 +0.6**
comp=Z,108nm,1.8s,baz=44,slow=4.7
UBBA *e*pP **pwP** **20 09 36.1 +3.0**
MVCO Mesa Verde 89.19 47 P **P** **20 07 34.2 +0.5**
baz=306,SNR=38
MVCO Mesa Verde 89.19 47 P **P** **20 07 33.8 +0.2**
MVCO IAmb IAmb 20 07 37.0
comp=Z,166nm,1.4s
214A Organ Pipe Nat 89.21 54 P **P** **20 07 34.6 +1.0**
baz=303,SNR=74
214A Organ Pipe Nat 89.21 54 P **P** **20 07 34.2 +0.6**
214A IAmb IAmb 20 07 36.5
comp=Z,189nm,1.2s
BBLS Lazići 89.25 321 *e*P **P** **20 07 35.0 +1.5**
MOA Molln 89.28 326 *i* PcP **P** **20 07 33.8 +0.3**
comp=Z,48nm,1.3s,SNR=13
MOA *e*pP **pP** **20 09 30.1 +1.6**
comp=Z,32nm,1.4s
MOA *e*PP **PP** **20 11 10.0 -2.9**
comp=Z,28nm,1.4s
KAC Achnashellach 89.28 342 *e*P **P** **20 07 33.2 -0.1**
SKO Skopje 89.29 319 *i* P **P** **20 07 34.9 +1.2**
AGMN Agassiz Nation 89.29 33 P **P** **20 07 33.4 -0.1**
baz=314
AGMN Agassiz Nation 89.29 33 P **P** **20 07 33.2 -0.3**
AGMN IAmb IAmb 20 07 35.2
comp=Z,149nm,1.2s
KALN Kalnik 89.34 324 P **P** **20 07 33.3 -0.6**
HAPS Han Pijesak,Bl 89.36 321 *e*P **P** **20 07 32.7 -1.4**
GRA1 Grafenberg Arr 89.42 329 P **P** **20 07 34.8 +0.6**
GRA1 IAmb IAmb 20 07 38.5
comp=Z,164nm,1.4s
GRF Grafenberg Arr 89.42 329 P **P** **20 07 34.8 +0.6**
GRF pmax pmax
comp=Z,164nm,1.4s
GRF Grafenberg Arr 89.42 329 *e*P **P** **20 07 35.1 +0.9**
comp=Z,222nm,1.6s,baz=44,slow=4.7
GRF *e*pP **pwP** **20 09 38.1 +3.5**
PERS *i* PcP **PcP** **20 07 36.2 -0.2**
SOKA Soboth 89.70 325 PcP **P** **20 07 35.2 -0.4**
comp=Z,57nm,0.9s,SNR=26
SOKA *e*pP **pP** **20 09 32.9 +2.3**
comp=Z,26nm,1.2s
ELO Logie Almond 89.70 340 *e*P **P** **20 07 35.1 -0.2**
PTJ Puntijarka 89.75 324 P **P** **20 07 35.1 -0.7**
ATD Arta Tunnel 89.81 283 P **P** **20 07 37.0 +0.4**
ESY Stoneypath 89.84 339 *e*P **P** **20 07 35.3 -0.6**
INVG Invergeldie, C 89.84 340 *e*P **P** **20 07 35.3 -0.6**
INVG IAmb IAmb 20 07 37.8
comp=Z,37nm,0.9s
BUG Bochum--Univer 89.84 332 *e*P **P** **20 07 36.2 +0.2**
comp=Z,64nm,1.3s,baz=44,slow=4.7
BLY Banja Luka 89.88 323 *e*P **P** **20 07 35.9 -0.5**
S22A 4UR Ranch, Cre 89.95 46 P **P** **20 07 38.3 +1.0**
baz=307,SNR=97
S22A 4UR Ranch, Cre 89.95 46 P **P** **20 07 38.1 +0.9**
S22A IAmb IAmb 20 07 41.1
comp=Z,263nm,1.6s
OBKA Obir 90.06 325 *e*PcP **P** **20 07 37.0 -0.3**
comp=Z,25nm,1.0s
OBKA *e*PP **PP** **20 11 18.6 -0.6**
comp=Z,34nm,1.5s
CRES Cresnjev 90.06 324 ⇑*i*P **P** **20 07 37.4 +0.2**
RJOB Jochberg 90.07 327 *e*P **P** **20 07 37.1 -0.2**
comp=Z,110nm,1.0s,baz=44,slow=4.7
EBL Broad Law 90.09 340 *e*P **P** **20 07 37.0 -0.1**
EAB Aberfoyle 90.13 340 *e*P **P** **20 07 36.6 -0.6**
MGRS Mrkonjic Grad 90.15 322 *e*P **P** **20 07 38.5 +0.8**
OHR Ohrid 90.20 318 *i* P **P** **20 07 36.1 -1.9**
PDG Podgorica 90.25 320 *e*P **P** **20 07 38.2 +0.1**
TNS Taunus Mts 90.26 331 *e*P **P** **20 07 38.6 +0.5**
comp=Z,98nm,1.8s,baz=44,slow=4.7
TNS *e*pP **pwP** **20 09 41.4 +2.8**
B35A Bob, Littlefor 90.26 32 P **P** **20 07 38.2 +0.1**
KBA Koelnbreinsper 90.27 326 *i* PcP **P** **20 07 37.7 -0.6**
comp=Z,34nm,1.0s,SNR=16
KBA *e*pP **pP** **20 09 34.4 +1.1**
comp=Z,16nm,1.0s
Q24A Divide 90.27 44 P **P** **20 07 39.4 +0.7**
baz=308,SNR=13
Q24A Divide 90.27 44 P **P** **20 07 39.4 +0.7**
Q24A IAmb IAmb 20 07 41.1
comp=Z,73nm,1.0s
SUSD Miller 90.34 37 P **P** **20 07 39.0 +0.4**
baz=312
BRY Bratogost 90.35 321 *e*P **P** **20 07 38.1 -0.7**
LAWE Loch Awe, Argy 90.38 341 *e*P **P** **20 07 38.1 -0.3**
LAWE IAmb IAmb 20 07 41.5
comp=Z,84nm,1.1s
LJU Ljubljana 90.39 325 *i* P **P** **20 07 38.5 -0.2**
LJU *i* PcP **PcP** **20 07 39.0 -0.4**
LJU *e* 20 09 41.7
LJU *i* SKSac **SKSac** **20 17 18.0 -1.6**
LJU *e*S **S** **20 17 44.4 -4.0**
LJU *e*SP **SP** **20 18 58.5 -0.5**
LJU *e* 20 24 07.3
LJU Ljubljana 90.39 325 ⇑*i*P **P** **20 07 38.1 -0.6**
MYKA Terra Mystica 90.43 326 *i* P **P** **20 07 38.1 -0.8**
comp=Z,34nm,1.0s,SNR=12
MYKA pP **pwP** **20 09 37.0 -2.7**
comp=Z,11nm,1.0s
TUC Tucson 90.45 53 P **P** **20 07 40.4 +1.1**
baz=304
TUC Tucson 90.45 53 P **P** **20 07 39.9 +0.5**
TUC pmax pmax
comp=Z,106nm,1.1s
TUC Tucson 90.45 53 P **P** **20 07 39.9 +0.5**
TUC IAmb IAmb 20 07 42.3
comp=Z,106nm,1.1s
DRME Dracevica, Mon 90.45 320 *e*P **P** **20 07 40.0 +0.9**
FUR Furstenfeldbru 90.49 328 *e*P **P** **20 07 40.1 +1.0**
comp=Z,441nm,1.8s,baz=44,slow=4.7
PGBU Glenifferbraes 90.50 340 *e*P **P** **20 07 38.5 -0.5**
PGBU IAmb IAmb 20 07 40.8
comp=Z,302nm,1.5s
EKA Eskdalemuir Ar 90.50 339 PKKPbc PKKPbc 20 25 04.1 -0.6
comp=Z,0.9nm,0.6s,baz=242,slow=2.7,SNR=6.2
EKB Eskdalemuir 90.51 339 P **P** **20 07 39.3 +0.3**
EKB IAmb IAmb 20 07 43.0
comp=Z,80nm,1.1s
GBAS Gorenja Brezov 90.51 325 *i* P **P** **20 07 38.7 -0.5**
GBAS *i* PcP **PcP** **20 07 39.8 -0.2**

ESK Eskdalemuir 90.53 339 *e*P **P** **20 07 39.1 0.0**
ESK Eskdalemuir 90.53 339 P **P** **20 07 39.3 +0.2**
ESK pmax pmax
comp=Z,53nm,0.9s
ESK Eskdalemuir 90.53 339 P **P** **20 07 39.3 +0.2**
EDMD Edmundbyers 90.54 339 *e*P **P** **20 07 39.0 -0.2**
EDMD IAmb IAmb 20 07 40.8
comp=Z,75nm,1.2s
IVI Ivigtut 90.54 3 P **P** **20 07 39.1 +0.1**
AGG Agios Georgios 90.58 316 P **P** **20 07 38.1 -1.7**
AGG pmax pmax
comp=Z,25nm,0.9s
AGG Agios Georgios 90.58 316 P **P** **20 07 38.1 -1.7**
TREB Trebinje 90.58 321 *e*P **P** **20 07 38.0 -1.6**
PRED Cave del Predi 90.60 326 P **P** **20 07 39.2 -0.5**
AHRW Bad Neuenahr-A 90.60 332 *e*P **P** **20 07 40.2 +0.6**
comp=Z,75nm,1.5s,baz=44,slow=4.7
AHRW *e*pP **pwP** **20 09 43.2 +3.1**
CEY Cerknica 90.65 325 *i* P **P** **20 07 39.6 -0.4**
CEY *i* PcP **PcP** **20 07 40.4 -0.3**
CEY *e* 20 09 43.2
CEY *e*SKSac **SKSac** **20 17 20.3 -0.8**
CEY Cerknica 90.65 325 ⇑*i*P **P** **20 07 39.9 -0.1**
HCY Herceg Novi 90.67 320 *e*P **P** **20 07 38.8 -1.3**
JAVS Javornik 90.73 325 *i* P **P** **20 07 39.7 -0.7**
JAVS *e*SKSac **SKSac** **20 17 20.2 -1.5**
JAVS *e*S **S** **20 17 47.0 -4.7**
JAVS *e*SP SP 20 19 00.3 -2.5
JAVS *e* 20 24 04.0
F33A 5 Mile Ranch, 90.78 35 P **P** **20 07 40.7 +0.2**
F33A IAmb IAmb 20 07 42.6
comp=Z,124nm,1.0s
SDCO Great Sand Dun 90.79 46 P **P** **20 07 42.0 +0.9**
baz=308,SNR=123
SDCO Great Sand Dun 90.79 46 P **P** **20 07 41.7 +0.6**
SDCO IAmb IAmb 20 07 43.9
comp=Z,115nm,1.1s
KIJV Kijevo 90.79 322 P **P** **20 07 39.7 -0.9**
ZOU Zoufplan 90.81 326 P **P** **20 07 39.7 -1.2**
ZOU IAmb IAmb 20 07 43.5
comp=Z,141nm,1.6s
STON Ston 90.84 321 *e*P **P** **20 07 41.6 +0.8**
ABTA Abfaltersbach 90.90 326 *i* P **P** **20 07 39.5 -1.6**
comp=Z,70nm,1.1s,SNR=26
ABTA *e*pP **pP** **20 09 36.7 +0.5**
comp=Z,19nm,1.0s
RIY Rijeka 90.91 324 P **P** **20 07 41.0 -0.1**
RIY Rijeka 90.91 324 *e*P **P** **20 07 40.5 -0.6**
WATA Walderalm 90.94 327 *i* P **P** **20 07 40.5 -0.9**
comp=Z,33nm,1.1s,SNR=12
WATA *e*pP **pP** **20 09 38.0 +1.5**
comp=Z,18nm,1.8s
WATA *e*PP **PP** **20 11 25.1 -0.9**
comp=Z,22nm,1.3s
WTTA Wattenberg 90.96 327 *i* PcP **P** **20 07 40.7 -0.9**
comp=Z,37nm,1.1s,SNR=21
WTTA pP **pP** **20 09 38.4 +1.7**
comp=Z,13nm,1.2s
WTTA *e*PP **PP** **20 11 26.5 +0.2**
comp=Z,26nm,1.1s
MEM Membach 90.99 332 ⇓P **P** **20 07 41.1 -0.3**
comp=Z,24nm,1.2s
STU Stuttgart 91.00 329 P **P** **20 07 41.0 -0.5**
STU pmax pmax
comp=Z,109nm,1.2s
STU Stuttgart 91.00 329 P **P** **20 07 41.0 -0.5**
STU IAmb IAmb 20 07 46.1
comp=Z,109nm,1.2s
STU Stuttgart 91.00 329 *e*P **P** **20 07 42.1 +0.7**
comp=Z,196nm,1.6s,baz=44,slow=4.7
TRI Trieste 91.01 325 P **P** **20 07 41.1 -0.4**
TRI pmax pmax
comp=Z,35nm,0.9s
TRI Trieste 91.01 325 P **P** **20 07 41.1 -0.4**
NEWG New Galloway 91.01 340 *e*P **P** **20 07 40.9 -0.4**
NEWG IAmb IAmb 20 07 43.0
comp=Z,81nm,1.3s
KESW Keswick, Cumbr 91.11 339 *e*P **P** **20 07 42.2 +0.4**
KESW IAmb IAmb 20 07 45.9
comp=Z,101nm,1.0s
HPK Haverah Park 91.16 338 *e*P **P** **20 07 42.1 0.0**
HPK IAmb IAmb 20 07 44.5
comp=Z,152nm,1.2s
MOTA Moosalm 91.16 327 *i* PcP **P** **20 07 42.4 0.0**
comp=Z,38nm,1.0s,SNR=15
MOTA *e*pP **pP** **20 09 38.9 +1.3**
comp=Z,9.3nm,1.0s
MOTA *i* PP **PP** **20 11 29.7 +1.9**
comp=Z,21nm,1.5s
BHOU Houvegnez 91.19 332 P **P** **20 07 42.0 -0.3**
comp=Z,40nm,1.5s
BSTI Sart Tilman 91.19 332 ⇓P **P** **20 07 42.4 +0.1**
SQTA Sankt Quirin 91.20 327 *i* PcP **P** **20 07 41.9 -0.7**
comp=Z,49nm,1.5s,SNR=17
SQTA *e*pP **pP** **20 09 38.7 +1.0**
comp=Z,9.4nm,1.0s
SQTA *i* PP **PP** **20 11 28.6 +0.6**
comp=Z,16nm,1.1s
IDI Anoyia 91.20 312 P **P** **20 07 42.6 -0.1**
RETA Reutte 91.22 328 *i* PcP **P** **20 07 41.9 -0.7**
comp=Z,61nm,1.4s,SNR=26
RETA *e*pP **pP** **20 09 39.4 +1.6**
comp=Z,21nm,1.6s
RETA *e*PP **PP** **20 11 31.2 +3.1**
comp=Z,14nm,1.2s
MORI Morici 91.26 323 P **P** **20 07 41.5 -1.2**
GAL1 Galloway 91.37 340 *e*P **P** **20 07 42.5 -0.5**
GAL1 IAmb IAmb 20 07 46.6
comp=Z,71nm,1.1s
UBR Ueberruh 91.38 328 *e*P **P** **20 07 43.7 +0.4**
comp=Z,104nm,1.5s,baz=44,slow=4.7
UBR *e*pP **pwP** **20 09 47.1 +3.1**
WACR West Acre 91.39 336 *e*P **P** **20 07 42.5 -0.6**
WACR IAmb IAmb 20 07 47.2
comp=Z,118nm,0.9s
BCLA Clavier 91.43 332 ⇓P **P** **20 07 43.1 -0.2**
comp=Z,33nm,1.7s
UCC Uccle 91.52 333 P **P** **20 07 44.5 +0.8**
UCC pmax pmax
comp=Z,85nm,1.5s
UCC Uccle 91.52 333 P **P** **20 07 44.5 +0.8**
DUGI Dugi Otok 91.52 323 P **P** **20 07 42.5 -1.5**
FETA Feichten 91.57 327 *i* PcP **P** **20 07 43.5 -0.8**
comp=Z,32nm,0.9s,SNR=21
FETA *e*pP **pP** **20 09 41.2 +1.7**
comp=Z,11nm,0.9s
BRJN Brijuni 91.57 324 P **P** **20 07 42.7 -1.4**
EYMN Ely 91.59 31 P **P** **20 07 44.3 +0.1**
baz=317
EYMN Ely 91.59 31 P **P** **20 07 43.8 -0.4**
EYMN IAmb IAmb 20 07 46.1
comp=Z,126nm,1.1s
CLGH Cloghs, Cushen 91.60 341 *e*P **P** **20 07 43.5 -0.5**
CLGH IAmb IAmb 20 07 47.9
comp=Z,69nm,0.8s
LBWR Ladybower, Pea 91.65 338 *e*P **P** **20 07 43.8 -0.5**
LBWR IAmb IAmb 20 07 47.5
comp=Z,171nm,1.2s
WLF Walferdange 91.65 331 ⇓P **P** **20 07 45.0 +0.5**
comp=Z,75nm,1.5s
WLF Walferdange 91.65 331 P **P** **20 07 44.4 0.0**
WLF pmax pmax
comp=Z,91nm,1.2s
WLF Walferdange 91.65 331 P **P** **20 07 44.4 0.0**
WLF IAmb IAmb 20 07 47.7
comp=Z,91nm,1.2s
WLF Walferdange 91.65 331 *e*P **P** **20 07 45.3 +0.9**
comp=Z,140nm,1.4s,baz=44,slow=4.7
WLF *e*pP **pwP** **20 09 48.3 +3.3**
K31A O'Neill 91.67 39 P **P** **20 07 44.9 +0.1**
BFO Black Forest 91.71 330 P **P** **20 07 44.7 -0.1**
BFO pmax pmax
comp=Z,49nm,0.9s
BFO Black Forest 91.71 330 P **P** **20 07 44.7 -0.1**
BFO Black Forest 91.71 330 *e*P **P** **20 07 45.2 +0.4**
comp=Z,137nm,1.5s,baz=44,slow=4.7
BMRD Maredsous 91.74 333 ⇓P **P** **20 07 44.6 -0.2**
comp=Z,34nm,1.6s
SNF Seneffe 91.77 333 P **P** **20 07 44.7 -0.2**
DAVA Damuels 91.77 328 *i* PcP **P** **20 07 44.6 -0.7**
comp=Z,76nm,1.1s,SNR=26
DAVA *e*pP **pP** **20 09 41.8 +1.4**
comp=Z,18nm,1.1s
KSCO Kaye Shedlock' 91.78 43 P **P** **20 07 45.6 +0.2**
baz=309,SNR=7.0

KSCO **Kaye Shedlock'** **91.78 43** P **P** **20 07 45.5 +0.1**
KSCO IAmb IAmb 20 07 48.4
comp=Z,184nm,1.4s

CTI **Castel Tesino** **91.82 326** P **P** **20 07 44.7 -0.7**
CTI pmax pmax
comp=Z,60nm,1.3s

CTI **Castel Tesino** **91.82 326** P **P** **20 07 44.7 -0.7**
IOMK **Kirk Michael** **91.84 340** *e*P **P** **20 07 44.9 -0.3**
IOMK IAmb IAmb 20 07 46.9
comp=Z,232nm,1.3s

T25A **Trinidad** **91.84 46** P **P** **20 07 46.8 +0.9**
baz=308,SNR=38

T25A **Trinidad** **91.84 46** P **P** **20 07 46.5 +0.6**
ANMO **Albuquerque** **91.86 48** P **P** **20 07 46.8 +0.8**
baz=307

ANMO **Albuquerque** **91.86 48** *c*e**P** **P** **20 07 46.7 +0.8**
ANMO pmax pmax
comp=Z,199nm,1.2s

ANMO **Albuquerque** **91.86 48** P **P** **20 07 46.2 +0.2**
ITM **Ithomi** **91.96 315** P **P** **20 07 46.0 -0.2**
DOU **Dourbes** **91.97 333** ⇑P **P** **20 07 45.6 -0.3**
comp=Z,26nm,1.9s

WIM **Isle of Man** **91.97 340** *e*P **P** **20 07 45.6 -0.2**
LENM **Lemitar** **91.98 49** P **P** **20 07 47.8 +1.3**
CWF **Charnwood Fore** **92.06 337** *e*P **P** **20 07 46.3 +0.1**
CWF IAmb IAmb 20 07 50.2
comp=Z,79nm,1.0s

ECSD **EROS Data Cent** **92.07 37** P **P** **20 07 46.4 -0.1**
baz=314,SNR=37

ECSD **EROS Data Cent** **92.07 37** P **P** **20 07 46.3 -0.2**
ECSD IAmb IAmb 20 07 48.3
comp=Z,109nm,1.1s

Y22D **IRIS PASSCAL I** **92.07 49** P **P** **20 07 48.3 +1.4**
baz=307

Y22D **IRIS PASSCAL I** **92.07 49** P **P** **20 07 47.5 +0.6**
FUORN **Ofenpass-Fuorn** **92.08 327** P **P** **20 07 46.4 -0.4**
FUORN IAmb IAmb 20 07 50.9
comp=Z,159nm,1.2s

F36A **Milaca** **92.14 34** P **P** **20 07 46.4 -0.3**
F36A IAmb IAmb 20 07 48.3
comp=Z,66nm,1.2s

SRIG **Santa Rosalia** **92.17 57** P **P** **20 07 47.1 -0.2**
SRIG IAmb IAmb 20 07 49.8
comp=Z,87nm,1.2s

HSIG **92.17 55** P **P** **20 07 47.9 +0.6**
HSIG IAmb IAmb 20 07 50.0
comp=Z,87nm,1.1s

BNM **Barren Site** **92.22 49** P **P** **20 07 48.1 +0.4**
ECH **Echery** **92.32 330** P **P** **20 07 47.3 -0.3**
ECH pmax pmax
comp=Z,132nm,1.7s

ECH **Echery** **92.32 330** P **P** **20 07 47.3 -0.3**
ECH IAmb IAmb 20 07 49.3
comp=Z,132nm,1.7s

121A **Cookes Peak, D** **92.39 51** P **P** **20 07 49.7 +1.2**
baz=306,SNR=80

121A **Cookes Peak, D** **92.39 51** P **P** **20 07 49.4 +1.0**
WME **Myndd Eilian** **92.50 339** *e*P **P** **20 07 47.6 -0.6**
E38A **The Farm, Brul** **92.54 32** P **P** **20 07 48.5 -0.1**
E38A IAmb IAmb 20 07 50.0
comp=Z,54nm,0.8s

FOEL **Foel Wylfa** **92.57 338** *e*P **P** **20 07 48.4 -0.2**
WLF1 **Llynfaes** **92.62 339** *e*P **P** **20 07 47.8 -1.0**
WLF1 IAmb IAmb 20 07 50.4
comp=Z,150nm,1.1s

TUE **Stuetta** **92.62 328** P **P** **20 07 49.1 -0.1**
TUE IAmb IAmb 20 07 53.0
comp=Z,62nm,1.1s

SGRT **San Giovanni R** **92.66 321** P **P** **20 07 49.1 -0.2**
SGRT IAmb IAmb 20 07 52.9
comp=Z,132nm,1.4s

YLL **Llanberis** **92.67 339** *e*P **P** **20 07 49.2 +0.2**
SALO **Salr** **92.68 327** P **P** **20 07 49.2 -0.1**
SALO IAmb IAmb 20 07 52.7
comp=Z,75nm,1.0s

YRC **Rhoscolyn** **92.71 339** *e*P **P** **20 07 49.3 +0.1**
LLW **Llanuwychllyn** **92.75 338** *e*P **P** **20 07 49.6 +0.2**
LLW IAmb IAmb 20 07 53.7
comp=Z,33nm,1.1s

BGNE **Belgrade** **92.81 39** P **P** **20 07 49.4 -0.6**
baz=312

BGNE **Belgrade** **92.81 39** P **P** **20 07 49.7 -0.3**
SPMN **Marine on St.** **92.95 34** P **P** **20 07 50.5 0.0**
baz=316,SNR=8.8

SPMN **Marine on St.** **92.95 34** P **P** **20 07 50.5 0.0**
SPMN IAmb IAmb 20 07 52.2
comp=Z,55nm,0.9s

STRD **Stroud** **93.15 337** *e*P **P** **20 07 50.6 -0.7**
STRD IAmb IAmb 20 07 54.2
comp=Z,133nm,0.9s

DSB **Dublin** **93.27 340** P **P** **20 07 52.0 +0.2**
MONM **Monmouth** **93.32 337** *e*P **P** **20 07 52.2 +0.2**
MONM IAmb IAmb 20 07 55.6
comp=Z,106nm,1.2s

NRCA **Norcia** **93.34 323** P **P** **20 07 52.2 -0.3**
ZCCA **Zocca** **93.37 325** P **P** **20 07 54.1 +1.7**
ZCCA IAmb IAmb 20 11 08.5
comp=Z,168nm,1.9s

L34A **Svendsen Farm,** **93.41 38** P **P** **20 07 52.6 -0.1**
INTR **Introdacqua** **93.49 322** P **P** **20 07 53.1 0.0**
I37A **Lemond, Waseca** **93.52 35** P **P** **20 07 53.2 +0.1**
CBKS **Cedar Bluff** **93.63 42** P **P** **20 07 53.3 -0.5**
baz=311,SNR=9.0

CBKS **Cedar Bluff** **93.63 42** P **P** **20 07 53.1 -0.7**
CBKS pmax pmax
comp=Z,83nm,1.1s

CBKS **Cedar Bluff** **93.63 42** P **P** **20 07 53.1 -0.7**
CBKS IAmb IAmb 20 07 55.0
comp=Z,83nm,1.1s

SENIN **Lac Senin/Sane** **93.65 329** P **P** **20 07 53.4 -0.6**
SENIN IAmb IAmb 20 07 57.4
comp=Z,121nm,1.9s

N33A **J Bar K, Exete** **93.66 39** P **P** **20 07 53.4 -0.4**
N33A IAmb IAmb 20 07 54.8
comp=Z,119nm,1.1s

OSSC **Osservatorio P** **93.82 325** P **P** **20 07 55.0 +0.5**
OSSC IAmb IAmb 20 11 07.2
comp=Z,99nm,1.8s

COWI **Conover** **94.04 31** P **P** **20 07 55.6 +0.1**
G40A **Rib Lake** **94.17 32** P **P** **20 07 56.1 0.0**
G40A IAmb IAmb 20 07 57.8
comp=Z,41nm,0.8s

SCHQ **Schefferville** **94.22 15** P **P** **20 07 55.1 -0.9**
comp=Z,15nm,0.9s,baz=354,slow=4.6,SNR=11

SCHQ PP **PP** **20 11 51.5 +0.7**
comp=Z,10.0nm,1.0s,baz=1.3,slow=10,SNR=3.7

SCHQ PKKPbc **PKKPbc** **20 24 54.5 -0.9**
comp=Z,3.2nm,0.6s,baz=192,slow=6.1,SNR=4.0

SCHQ **Schefferville** **94.22 15** P **P** **20 07 56.7 +0.6**
R32A **Long Quarter,** **94.49 42** P **P** **20 07 56.4 -1.3**
MNTX **Cornudas Mount** **94.53 50** P **P** **20 07 58.6 +0.6**
baz=307

MNTX **Cornudas Mount** **94.53 50** P **P** **20 07 58.4 +0.4**
MNTX IAmb IAmb 20 08 01.5
comp=Z,83nm,1.5s

CLF **Chambon-Foret** **94.54 332** P **P** **20 07 57.7 0.0**
CLF IAmb IAmb 20 08 01.9
comp=Z,129nm,1.5s

LPL **La Plagne** **94.55 328** *e*P **P** **20 07 56.7 -1.4**
LPL pmax pmax
comp=Z,26nm,0.6s

N35A **Tabor** **94.57 38** P **P** **20 07 58.1 +0.2**
N35A IAmb IAmb 20 07 59.8
comp=Z,115nm,1.1s

E43A **Lone Tree Farm** **94.79 30** P **P** **20 07 58.9 0.0**
E43A IAmb IAmb 20 08 00.5
comp=Z,87nm,1.5s

K38A **Parkersburg** **94.83 35** P **P** **20 07 59.1 0.0**
K38A IAmb IAmb 20 08 00.9
comp=Z,129nm,1.4s

MSTX **Muleshoe** **94.86 47** P **P** **20 07 59.4 -0.2**
baz=309,SNR=7.8

MSTX **Muleshoe** **94.86 47** P **P** **20 07 59.4 -0.2**
MSTX IAmb IAmb 20 11 55.8
comp=Z,127nm,1.7s

GDL2 **Guadalupe Moun** **94.91 49** P **P** **20 07 58.8 -1.0**
BNI **Bardonecchia** **94.92 328** P **P** **20 07 59.0 -0.6**
BNI pmax pmax
comp=Z,13nm,0.9s

BNI **Bardonecchia** **94.92 328** P **P** **20 07 59.0 -0.6**
CEL **Celeste** **94.92 318** P **P** **20 07 59.8 +0.1**
AMTX **Amarillo** **94.98 46** P **P** **20 08 00.5 +0.5**
baz=310

AMTX **Amarillo** **94.98 46** P **P** **20 08 00.4 +0.3**
AMTX IAmb IAmb 20 08 02.4
comp=Z,73nm,1.0s

I40A **Norwalk** **94.99 33** P **P** **20 07 60.0 +0.1**
SCIA **State Center** **95.13 36** P **P** **20 08 00.5 +0.1**
baz=316

SCIA **State Center** **95.13 36** P **P** **20 08 00.6 +0.1**
CLNB **Carlsbad** **95.19 49** P **P** **20 07 58.8 -2.3**
KSU1 **Kansas State U** **95.24 40** P **P** **20 08 00.7 -0.4**
baz=313,SNR=7.6

KSU1 **Kansas State U** **95.24 40** P **P** **20 08 00.8 -0.2**
KSU1 IAmb IAmb 20 08 02.5
comp=Z,97nm,1.0s

D46A **Sault St. Mari** **95.65 28** P **P** **20 08 02.4 -0.3**
baz=323,SNR=6.6

SSB **Saint Sauveur** **95.72 329** P **P** **20 08 02.4 -0.8**
SSB pmax pmax
comp=Z,22nm,1.0s

SSB **Saint Sauveur** **95.72 329** P **P** **20 08 02.4 -0.8**
I42A **Draeger Farm,** **95.81 33** P **P** **20 08 03.4 -0.1**
I42A IAmb IAmb 20 08 04.6
comp=Z,49nm,1.1s

D47A **Chapleau** **95.89 27** P **P** **20 08 03.5 -0.3**
baz=324,SNR=11

JFWS **Jewell Farm** **95.90 34** P **P** **20 08 03.5 -0.5**
baz=318,SNR=6.6

JFWS **Jewell Farm** **95.90 34** P **P** **20 08 03.7 -0.2**
JFWS pmax pmax
comp=Z,25nm,0.9s

JFWS **Jewell Farm** **95.90 34** P **P** **20 08 03.7 -0.2**
N38A **Joes South For** **95.91 37** P **P** **20 08 03.5 -0.6**
N38A IAmb IAmb 20 08 07.4
comp=Z,73nm,1.2s

E46A **Sault Ste Mari** **95.95 28** P **P** **20 08 04.1 0.0**
F45A **CMU Biological** **95.97 30** P **P** **20 08 04.0 -0.2**
baz=322

L40A **Anamosa** **96.04 35** P **P** **20 08 04.3 -0.2**
L40A IAmb IAmb 20 08 06.1
comp=Z,86nm,1.2s

E47A **Iron Bridge** **96.31 28** P **P** **20 08 05.3 -0.4**
baz=324

D48A **Paudash Townsh** **96.32 27** P **P** **20 08 05.0 -0.7**
baz=325,SNR=8.6

D49A **Beulah Townshi** **96.41 26** P **P** **20 08 05.6 -0.5**
baz=325,SNR=8.0

G45A **Suttons Bay** **96.42 30** P **P** **20 08 06.2 0.0**
baz=322

LSQQ **Lebel-sur-Quev** **96.52 23** P **P** **20 08 06.3 -0.3**
baz=329

G46A **Petoskey** **96.55 29** P **P** **20 08 07.0 +0.2**
baz=322

H45A **Beulah** **96.57 30** P **P** **20 08 06.9 0.0**
baz=321

P38A **Dawn** **96.59 38** P **P** **20 08 06.9 -0.2**
P38A IAmb IAmb 20 08 09.7
comp=Z,90nm,1.2s

CHGQ **Chibougamau** **96.64 21** P **P** **20 08 07.4 +0.3**
baz=331,SNR=7.0

E48A **Lockeyer** **96.74 27** P **P** **20 08 07.4 -0.2**
baz=324

T35A **Sooner Cattle** **96.79 42** P **P** **20 08 07.9 -0.2**
L42A **Oliver, Polo** **96.86 34** P **P** **20 08 08.0 -0.2**
L42A IAmb IAmb 20 08 09.5
comp=Z,53nm,1.2s

WMOK **Wichita Mounta** **96.89 44** P **P** **20 08 08.4 -0.2**
baz=312,SNR=17

WMOK **Wichita Mounta** **96.89 44** P **P** **20 08 08.7 +0.1**
WMOK pmax pmax
comp=Z,19nm,0.5s

WMOK **Wichita Mounta** **96.89 44** P **P** **20 08 08.7 +0.1**
WMOK IAmb IAmb 20 08 59.4
comp=Z,19nm,0.5s

D50A **G1974 Best Tow** **97.08 25** P **P** **20 08 08.4 -0.7**
baz=326,SNR=6.7

F48A **Evansville** **97.08 28** P **P** **20 08 08.8 -0.3**
baz=324

CAF **Calviac** **97.09 331** *e*P **P** **20 08 09.1 -0.2**
CAF pmax pmax
comp=Z,48nm,1.4s

G47A **Hillman** **97.09 29** P Pdif 20 08 09.3 0.0
baz=323

TX31 **Lajitas Ar. Si** **97.14 51** P Pdif 20 08 10.3 +0.4
TX32 **Lajitas Array** **97.14 51** P Pdif 20 08 10.2 +0.3
TX32 IAmb IAmb 20 08 13.2
comp=Z,64nm,1.2s

TXAR **Lajitas Array** **97.14 51** P Pdif 20 08 10.5 +0.6
comp=Z,21nm,0.9s,baz=298,slow=2.7,SNR=95

TXAR pP pP 20 10 05.9 -0.1
comp=Z,13nm,1.1s,baz=291,slow=3.5,SNR=5.8

TXAR PP **PP** **20 12 19.9 +5.7**
comp=Z,7.6nm,1.0s,baz=289,slow=5.3,SNR=3.8

TXAR PKPPKP **P'P'df** **20 33 03.0 +0.9**
comp=Z,0.2nm,0.7s,baz=191,slow=2.6,SNR=3.5

VLDQ **Val d'Or** **97.16 24** P **P** **20 08 08.3 -1.1**
VLDQ IAmb IAmb 20 08 11.6
comp=Z,28nm,1.0s

HPIG **97.18 54** P Pdif 20 08 10.7 +0.4
N41A **Harden Midland** **97.22 36** P **P** **20 08 09.7 -0.2**
N41A IAmb IAmb 20 08 12.4
comp=Z,81nm,1.4s

D51A **Lot 18 Range I** **97.32 25** P Pdif 20 08 09.5 -0.7
baz=327,SNR=7.4

J45A **Montague** **97.34 31** P Pdif 20 08 10.0 -0.3
baz=321

E50A **Wahnapitae** **97.35 26** P Pdif 20 08 09.9 -0.4
baz=326,SNR=8.0

I46A **Reed City** **97.37 31** P Pdif 20 08 10.2 -0.3
baz=322

F49A **Sandfield** **97.37 28** P Pdif 20 08 10.1 -0.3
baz=324

P40A **Paris** **97.45 37** P Pdif 20 08 10.8 -0.1
P40A IAmb IAmb 20 08 13.5
comp=Z,119nm,1.8s

L44A **Lake County Fo** **97.59 33** P Pdif 20 08 11.3 -0.2
baz=320

I47A **Gladwin** **97.73 30** P **P** **20 08 12.2 +0.1**
baz=322

ABTX **Abilene, Hawle** **97.73 47** P Pdif 20 08 12.3 -0.1
baz=311

ABTX **Abilene, Hawle** **97.73 47** P Pdif 20 08 12.4 0.0
ABTX IAmb IAmb 20 12 17.5
comp=Z,58nm,1.4s

E51A **G1948 Merrick** **97.74 26** P Pdif 20 08 11.4 -0.7
baz=327,SNR=8.0

D52A **ZEK Kipawa Sen** **97.78 25** P Pdif 20 08 11.5 -0.7
baz=328,SNR=6.5

TUL1 **Leonard** **97.90 42** P Pdif 20 08 12.7 -0.3
baz=314

D53A **Lac Vacive, Po** **97.95 24** P Pdif 20 08 12.3 -0.7
baz=328,SNR=7.8

F51A **Arnstein** **98.08 26** P Pdif 20 08 12.8 -0.8
baz=326,SNR=5.8

HDIL **Hopedale** **98.13 35** P Pdif 20 08 13.4 -0.6
baz=319

D54A **Lac Fusel, La** **98.26 24** P Pdif 20 08 13.6 -0.9
baz=329,SNR=6.4

E52A **Mattawa** **98.27 25** P Pdif 20 08 13.5 -0.9
baz=327

F52A **Sundridge** **98.42 26** P Pdif 20 08 14.7 -0.5
baz=327,SNR=6.5

E53A **Dumoine, Ponti** **98.56 25** P Pdif 20 08 14.4 -1.3
baz=328,SNR=5.4

E54A **Lac Daplat, Po** **98.69 24** P Pdif 20 08 15.4 -0.9
baz=328,SNR=7.8

ALGO **Algonquin Park** **98.77 25** P Pdif 20 08 15.9 -0.8
baz=328,SNR=7.0

D55A **Sainte-Anne-du** **98.79 23** P Pdif 20 08 16.3 -0.4
baz=330,SNR=7.8

CCM **Cathedral Cave** **98.95 38** P Pdif 20 08 17.2 -0.4
baz=317

D56A **ZEC Mazanza, M** **99.01 23** P **Pdif** **20 08 17.5 -0.3**
baz=330,SNR=12

JCT **Junction City** **99.02 48** P **Pdif** **20 08 17.9 -0.2**
baz=310

E55A **Montcerf-Lytto** **99.07 24** P **Pdif** **20 08 17.3 -0.7**
baz=329

H52A **Wyevale** **99.16 27** P **Pdif** **20 08 17.9 -0.6**
baz=326

K49A **Clarkson** **99.17 30** P **Pdif** **20 08 18.2 -0.4**
baz=323

G54A **Lake Saint Pet** **99.23 25** P **Pdif** **20 08 18.2 -0.5**
baz=328,SNR=7.0

G53A **Haliburton** **99.26 26** P **Pdif** **20 08 18.5 -0.4**
baz=327

U40A **Yellville** **99.29 40** P **Pdif** **20 08 18.5 -0.7**
baz=316,SNR=12

D57A **Chemin Vers le** **99.33 22** P **Pdif** **20 08 18.7 -0.4**
baz=331,SNR=12

E56A **St. Veronique** **99.35 23** P **Pdif** **20 08 18.8 -0.5**
baz=330,SNR=7.0

SFIN **Lafayette** **99.36 34** P **Pdif** **20 08 18.9 -0.5**
baz=320

LATQ **La Tuque** **99.36 21** P **Pdif** **20 08 18.8 -0.4**
baz=332

I51A **Listowel** **99.39 28** P **Pdif** **20 08 18.7 -0.8**
baz=325

F55A **Otter Lake** **99.50 24** P **Pdif** **20 08 18.9 -1.0**
baz=329

WHTX **Lake Whitney,** **99.54 46** P **Pdif** **20 08 19.4 -1.0**
baz=312

W39A **Magazine** **99.57 41** P **Pdif** **20 08 20.0 -0.5**
baz=315

D58A **Chemin du LacG** **99.58 21** P **Pdif** **20 08 19.5 -0.8**
baz=332

H53A **Bobcaygeon** **99.73 26** P **Pdif** **20 08 20.5 -0.5**
baz=327

E57A **Chemin Saint G** **99.77 22** P **Pdif** **20 08 20.7 -0.4**
baz=331,SNR=11

G55A **Calabogie** **99.86 25** P **Pdif** **20 08 21.1 -0.4**
baz=329,SNR=5.6

MAHO **Mahon** **100.01 326** *e*PP **PP** **20 12 36.1 +1.1**
MAHO *e*SS SS 20 26 14.1 -3.7
L50A **Kingsville** **100.05 30** P **Pdif** **20 08 21.7 -0.7**
baz=324

J52A **Paris** **100.08 28** P **Pdif** **20 08 22.1 -0.4**
baz=326

E58A **La Victoria** **100.09 22** P **Pdif** **20 08 22.1 -0.4**
baz=332

F57A **Harrington** **100.10 23** P **Pdif** **20 08 20.8 -1.8**
baz=330

ORIO **Orleans, Innes** **100.13 24** P **Pdif** **20 08 22.3 -0.4**
baz=330

MIAR **Mount Ida** **100.15 42** P **Pdif** **20 08 22.6 -0.4**
baz=315

435B **Jarrell** **100.26 47** P **Pdif** **20 08 23.3 -0.3**
baz=312

H55A **Tweed** **100.29 25** P **Pdif** **20 08 22.9 -0.5**
baz=328

D61A **St Aubert, Com** **100.32 20** P **Pdif** **20 08 23.0 -0.5**
baz=334

D60A **Saint Jean D'O** **100.36 20** P **Pdif** **20 08 23.1 -0.5**
baz=334

K52A **Tillsonburg** **100.36 28** P **Pdif** **20 08 22.8 -1.0**
baz=325

I55A **Frankford** **100.38 26** P **Pdif** **20 08 23.1 -0.7**
baz=328

O48A **Farmland** **100.39 33** P **Pdif** **20 08 23.6 -0.4**
baz=322

KEST **Kesra** **100.44 320** P **Pdif** **20 08 25.0 +0.5**
comp=Z,4.0nm,0.9s,baz=99,slow=3.3,SNR=8.2

W41B **Gary Mavity, V** **100.48 40** P **Pdif** **20 08 24.0 -0.5**
baz=316

H56A **Elgin** **100.60 25** P **Pdif** **20 08 24.2 -0.6**
baz=329

G57A **Newington** **100.62 24** P **Pdif** **20 08 24.6 -0.3**
baz=330,SNR=5.1

X40A **Basin Creek Fa** **100.63 41** P **Pdif** **20 08 25.0 -0.2**
baz=315

E60A **Ste Agathe de** **100.68 21** P **Pdif** **20 08 24.9 -0.3**
baz=333

F59A **Saint Guilaume** **100.71 22** P **Pdif** **20 08 25.1 -0.2**
baz=332

KMBO **Kilima Mbogo** **100.76 275** P **Pdif** **20 08 27.4 +1.0**
comp=Z,1.5nm,0.5s,baz=17,slow=3.0,SNR=4.6

KMBO **Kilima Mbogo** **100.76 275** *i* P **Pdif** **20 08 29.3 +2.9**
KMBO pmax pmax
comp=Z,2.0nm,0.5s

D62A **Allapoint, All** **100.76 19** P **Pdif** **20 08 25.3 -0.2**
baz=335

F60A **Warwick** **100.88 21** P **Pdif** **20 08 25.6 -0.5**
baz=333

G58A **Ormstown** **100.90 23** P **Pdif** **20 08 26.1 -0.1**
baz=331

M51A **Elyria** **100.90 30** P **Pdif** **20 08 26.5 +0.2**
baz=324

H57A **Richville** **101.03 24** P **Pdif** **20 08 26.4 -0.4**
baz=330

E62A **Clayton Lake** **101.04 20** P **Pdif** **20 08 26.6 -0.2**
baz=335

D63A **Stockholm** **101.07 18** P **Pdif** **20 08 26.8 0.0**
baz=336

M52A **Chesterland** **101.10 30** P **Pdif** **20 08 27.1 -0.1**
baz=325

J55A **Hilton** **101.13 26** P **Pdif** **20 08 27.2 0.0**
baz=328

P49A **Miami Univ. Ec** **101.17 33** P **Pdif** **20 08 27.2 -0.2**
baz=322

F61A **St Evariste** **101.18 21** P **Pdif** **20 08 27.2 -0.2**
baz=334

LONY **Lake Ozonia** **101.18 24** P **Pdif** **20 08 27.0 -0.5**
baz=330

ERPA **Erie** **101.21 28** P **Pdif** **20 08 27.6 0.0**
baz=326

K54A **Basiliko Farm,** **101.33 27** P **Pdif** **20 08 27.6 -0.6**
baz=327

I57A **Carthage** **101.38 25** P **Pdif** **20 08 28.0 -0.3**
baz=329

L54A **Sinclairville** **101.39 28** P **Pdif** **20 08 28.0 -0.5**
baz=326

WCI **Wyandotte Cave** **101.41 35** P **Pdif** **20 08 28.2 -0.4**
baz=320

ACSO **Alum Creek Sta** **101.43 31** P **Pdif** **20 08 28.5 -0.2**
baz=323

H59A **Cadyville** **101.47 23** P **Pdif** **20 08 28.7 0.0**
baz=331

M53A **WI Miller and** **101.48 29** P **Pdif** **20 08 29.0 +0.2**
baz=325

K55A **Perry** **101.49 27** P **Pdif** **20 08 28.9 0.0**
baz=327

J56A **Wolcott** **101.50 26** P **Pdif** **20 08 27.7 -1.1**
baz=328

H58A **Gabriels** **101.50 24** P **Pdif** **20 08 28.4 -0.4**
baz=331

Z41A **Richland Creek** **101.52 42** P **Pdif** **20 08 29.7 +0.6**
baz=315

G60A **Masonville** **101.53 22** P **Pdif** **20 08 29.1 +0.1**
baz=332

E63A **Oxbow** **101.54 19** P **Pdif** **20 08 28.9 -0.1**
baz=336

N52A **McGinn's Farm,** **101.54 30** P **Pdif** **20 08 29.2 0.0**
baz=324

F62A **Pittston Farm,** **101.56 20** P **Pdif** **20 08 29.3 +0.2**
baz=334

G61A **St-Isidore-de-** **101.63 21** P **Pdif** **20 08 29.5 +0.1**
baz=333,SNR=6.5

O51A **Pataskala** **101.67 31** P **Pdif** **20 08 29.9 +0.2**
baz=324

J57A **Williamstown** **101.71 25** P **Pdif** **20 08 29.7 -0.1**
baz=329

E64A **Bridgewater** **101.71 19** P **Pdif** **20 08 29.8 +0.1**
baz=336

X43A **Marvell** **101.73 40** P **Pdif** **20 08 29.9 -0.1**
baz=317

K56A **Middlesex** **101.81 26** P **Pdif** **20 08 30.1 -0.2**
baz=328

I58A **Old Forge** **101.84 24** P **Pdif** **20 08 30.4 -0.1**
baz=330

M54A **Oil Creek Stat** **101.85 29** P **Pdif** **20 08 29.7 -0.8**
baz=326

H60A **Morristown** **101.88 22** P **Pdif** **20 08 30.1 -0.5**
baz=332

N53A **Lisbon** **101.92 30** P **Pdif** **20 08 30.6 -0.2**
baz=325

F63A **Nahmakanta, Br** **102.00 20** P **Pdif** **20 08 30.8 -0.3**
baz=335

G62A **West of Eustis** **102.00 21** P **Pdif** **20 08 30.8 -0.3**
baz=334

J58A **Remsen** **102.02 25** P **Pdif** **20 08 30.8 -0.4**
baz=330

O52A **Adamsville** **102.04 31** P **Pdif** **20 08 30.8 -0.6**
baz=324

F64A **Sherman** **102.07 19** P **Pdif** **20 08 31.1 -0.3**
baz=336

K57A **Scipio Center** **102.09 26** P **Pdif** **20 08 31.2 -0.4**
baz=329

I59A **Olmsteadville** **102.15 24** P **Pdif** **20 08 31.6 -0.2**
baz=331

H61A **Lyndonville** **102.16 22** P **Pdif** **20 08 31.3 -0.5**
baz=333

N54A **Moraine State** **102.16 29** P **Pdif** **20 08 31.5 -0.4**
baz=326

L56A **Greenwood** **102.19 27** P **Pdif** **20 08 31.4 -0.6**
baz=328

J59A **Piesco** **102.21 24** P **Pdif** **20 08 30.8 -1.3**
baz=330

WVT **Waverly** **102.21 37** P **Pdif** **20 08 31.5 -0.7**
baz=319

O53A New Philadelph 102.21 30 P Pdif 20 08 31.6 -0.5
baz=325
M55A Ridgway 102.26 28 P Pdif 20 08 31.8 -0.6
baz=327
P52A Corning 102.30 31 P Pdif 20 08 31.8 -0.7
baz=324
I60A Shoreham 102.31 23 P Pdif 20 08 32.1 -0.3
baz=331
PKME Peaks-Kenny Pk 102.34 20 P Pdif 20 08 31.8 -0.7
baz=335
G63A Kingsbury 102.38 20 P Pdif 20 08 32.7 0.0
baz=335
H62A Milan 102.38 21 P Pdif 20 08 31.9 -0.8
baz=333
K58A Earlville 102.39 25 P Pdif 20 08 32.4 -0.5
baz=329
LBNH Lisbon 102.42 22 P Pdif 20 08 32.5 -0.4
baz=333
M56A Emporium 102.48 28 P Pdif 20 08 32.9 -0.5
baz=327
G64A Maxfield 102.51 20 P Pdif 20 08 33.1 -0.2
baz=335
OXF Oxford 102.56 39 P Pdif 20 08 33.2 -0.6
baz=318
L57A Andrews Acres 102.58 26 P Pdif 20 08 33.4 -0.3
baz=328
O54A Avella 102.64 30 P Pdif 20 08 33.4 -0.6
baz=325
H63A New Sharon 102.66 21 P Pdif 20 08 34.2 +0.2
baz=334
K59A Cooperstown 102.68 25 P Pdif 20 08 34.0 -0.2
baz=330
N55A Marion Center 102.74 29 P Pdif 20 08 34.9 +0.5
baz=326
BINY Binghamton 102.75 26 P Pdif 20 08 34.7 +0.2
baz=329
P53A Whipple 102.75 31 P Pdif 20 08 34.8 +0.2
baz=324
Q52A Bidwell 102.77 32 P Pdif 20 08 34.3 -0.4
baz=324
J60A Lant Hill Farm 102.79 24 P Pdif 20 08 35.7 +1.1
baz=331
G65A Princeton 102.90 19 P Pdif 20 08 35.0 -0.1
baz=336
N56A West Decatur 102.91 28 P Pdif 20 08 35.4 +0.2
baz=327
H64A Troy 102.92 20 P Pdif 20 08 35.7 +0.5
baz=335
L58A Harry Jones Me 102.93 26 P Pdif 20 08 35.5 +0.2
baz=329
I62A Tamworth 102.94 22 P Pdif 20 08 35.5 +0.2
baz=333
J61A Chester 103.00 23 P Pdif 20 08 36.0 +0.5
baz=332
I63A Otisfield 103.03 21 P Pdif 20 08 36.4 +0.8
baz=334
M57A Sunshine Farm, 103.03 27 P Pdif 20 08 36.0 +0.2
baz=328
P54A Burton 103.07 30 P Pdif 20 08 36.1 +0.2
baz=325
O55A Ligonier 103.08 29 P Pdif 20 08 36.2 +0.2
baz=326
L59A Walton 103.11 25 P Pdif 20 08 35.7 -0.5
baz=330
UCM Universidad Co 103.12 331 ePP PP 20 12 48.6 -9.4
UCM eSS SS 20 26 44.3 -16
H65A Eastbrook 103.17 20 P Pdif 20 08 36.4 +0.2
baz=336
Q53A Leroy 103.20 31 P Pdif 20 08 36.7 +0.2
baz=324
M58A Price's Panora 103.27 27 P Pdif 20 08 36.7 -0.1
baz=328
MCWV Mont Chateau 103.30 30 P Pdif 20 08 36.9 -0.1
baz=326
SSPA Standing Stone 103.32 28 P Pdif 20 08 35.5 -1.6
baz=327
K61A Williamstown 103.35 24 P Pdif 20 08 35.8 -1.3
baz=331
H66A Whiting 103.35 19 P Pdif 20 08 37.0 -0.1
baz=336
N57A Milroy 103.36 28 P Pdif 20 08 36.5 -0.7
baz=328
Q54A Coxs Mills 103.41 31 P Pdif 20 08 37.4 -0.1
baz=325
P55A Reedsville 103.43 30 P Pdif 20 08 37.7 +0.1
baz=326
I64A Boothbay 103.45 21 P Pdif 20 08 38.3 +0.8
baz=334
M59A Waymart 103.53 26 P Pdif 20 08 38.4 +0.4
baz=329
VBMS Vicksburg 103.60 41 P Pdif 20 08 38.1 -0.3
baz=317
N58A Sunbury 103.62 27 P Pdif 20 08 38.3 -0.1
baz=328
L61A Hillsdale 1, H 103.66 24 P Pdif 20 08 38.4 -0.1
baz=331
PGAV Gavieira, Arco 103.70 335 ePP PP 20 13 03.6 +1.4
K62A Royalston 103.71 23 P Pdif 20 08 38.3 -0.4
baz=332
Q55A Buckhannon 103.74 30 P Pdif 20 08 39.1 +0.1
baz=325
O57A Amberson 103.78 28 P Pdif 20 08 38.4 -0.7
baz=327
P56A Dayton Farm, R 103.86 29 P Pdif 20 08 39.7 +0.2
baz=326
MVO Moncorvo 103.93 334 ePP PP 20 13 04.1 +0.2
N59A State Game Lan 103.93 26 P Pdif 20 08 40.2 +0.4
baz=329
K63A Dunstable 103.93 23 P Pdif 20 08 39.3 -0.4
baz=333
ESDC Sonseca Array 103.95 331 Pdiff Pdif 20 08 39.8 -0.2
comp=Z,0.7nm,0.7s,baz=15,slow=4.5,SNR=4.1
ESDC PP PP 20 13 03.2 -0.9
comp=Z,8.9nm,0.8s,baz=26,slow=6.4,SNR=13
ESDC PKKPbc PKKPbc 20 24 27.8 -0.3
comp=Z,1.1nm,0.8s,baz=246,slow=3.7,SNR=5.8
ESDC SKKPbc SKKPbc 20 27 17.4 +1.2
comp=Z,1.1nm,0.8s,baz=235,slow=1.5,SNR=6.5
R54A Victor 103.99 31 P Pdif 20 08 39.4 -0.8
baz=324
M60A Port Jervis 104.02 25 P Pdif 20 08 40.3 +0.2
baz=330
HRV Adam Dziewonsk 104.08 23 P Pdif 20 08 40.6 +0.2
baz=333
TZTN Tazewell 104.09 34 P Pdif 20 08 39.6 -1.0
baz=322
Q56A Snyder Ridge, 104.09 30 P Pdif 20 08 41.6 +1.0
baz=326
O58A Lewisberry 104.14 28 P Pdif 20 08 40.6 -0.1
baz=328
S54A Dingess, Beckl 104.15 32 P Pdif 20 08 41.9 +1.0
baz=324
T53A Wise 104.23 33 P Pdif 20 08 40.5 -0.8
baz=323
CART Cartagena 104.35 328 ePP PP 20 13 04.6 -2.4
CART eSS SS 20 27 07.3 -10
Q57A Strasburg 104.44 29 P Pdif 20 08 41.0 -1.0
baz=327
R56A Bull Pasture M 104.52 30 P Pdif 20 08 42.3 -0.2
baz=326
P58A Pank, Wackersv 104.53 28 P Pdif 20 08 42.0 -0.4
baz=328
S55A Lewisburg 104.55 31 P Pdif 20 08 42.2 -0.5
baz=325
M62A Hamden 104.56 24 P Pdif 20 08 42.4 -0.1
baz=331
PAL Palisades 104.56 25 P Pdif 20 08 43.0 +0.5
baz=331
T54A Tazewell 104.63 32 P Pdif 20 08 42.8 -0.2
baz=324
L63A North Scituate 104.64 23 P Pdif 20 08 42.7 -0.1
baz=333
MTE Manteigas 104.78 334 ePP PP 20 13 11.3 +1.1
Q58A Fox Den Farm, 104.83 29 P Pdif 20 08 44.2 +0.5
baz=327
L64A Middleborough 104.83 22 P Pdif 20 08 44.2 +0.5
baz=333
M63A Gales Ferry 104.89 24 P Pdif 20 08 43.9 -0.1
baz=332
P60A Greenville 104.93 27 P Pdif 20 08 44.6 +0.5
baz=329
U54A Nelsons Funny 104.94 33 P Pdif 20 08 44.2 -0.2
baz=324
T55A Pulaski 104.95 32 P Pdif 20 08 46.0 +1.6
baz=324
LRAL Lakeview Retre 104.99 39 P Pdif 20 08 43.7 -1.0
baz=319
R57A Stanardsville 105.00 30 P Pdif 20 08 44.7 +0.2
baz=326
BLA Blacksburg 105.04 32 P Pdif 20 08 45.2 +0.4
baz=325
M64A Tiverton 105.05 23 P Pdif 20 08 43.4 -1.3
baz=333
R58A Rapidan 105.23 29 P Pdif 20 08 45.4 -0.1
baz=327
S57A Dark Hollow, R 105.26 30 P Pdif 20 08 46.4 +0.7
baz=326
COI Coimbra 105.28 335 ePP PP 20 13 15.4 +1.7
U55A TA2, Sparta 105.33 32 P PKiKP 20 12 59.2 +2.4
baz=324
T56A Rocky Mt 105.37 31 P PKiKP 20 13 00.1 +3.3
baz=325
PCAS Casmilo, Conde 105.45 335 ePP PP 20 13 13.5 -1.4
V54A Nebo 105.48 33 P PKiKP 20 12 59.5 +2.5
baz=323
R58B Mineral 105.56 29 P PKiKP 20 12 59.0 +2.0
baz=327
PMRV Marv??o 105.56 333 ePP PP 20 13 16.2 +0.4
CBN Corbin Frederi 105.58 29 P PKiKP 20 12 59.8 +2.8
baz=327
R59A King George, V 105.69 29 P PKiKP 20 13 00.7 +3.4
baz=328
T57A Hurt 105.75 31 P PKiKP 20 13 00.1 +2.7
baz=326
U56A King 105.77 32 P PKiKP 20 13 00.2 +2.7
baz=325
V55A Taylorsville 105.77 33 P PKiKP 20 13 00.9 +3.3
baz=324
S58A Poland Farm, P 105.78 30 P PKiKP 20 12 59.5 +2.1
baz=327
R60A Leonardtown, M 105.86 28 P PKiKP 20 13 01.0 +3.4
baz=328
W54A Cherokee Point 105.91 34 P PKiKP 20 13 02.4 +4.7
baz=323
S59A Mechanicsville 105.98 29 P PKiKP 20 13 01.2 +3.4
baz=327
PSBE So Bento 106.03 335 ePP PP 20 13 20.6 +1.4
T58A Grand View Acr 106.12 30 P PKiKP 20 13 00.8 +2.7
baz=326
V56A Mocksville 106.15 32 P PKiKP 20 13 01.5 +3.3
baz=324
U57A Blanch 106.18 31 P PKiKP 20 13 03.6 +5.3
baz=326
PMTG Montargil 106.20 334 ePP PP 20 13 21.9 +1.6
X54A Belton 106.25 35 P PKiKP 20 13 01.7 +3.3
baz=323
KMSC Kings Mountain 106.29 33 P PKiKP 20 13 02.5 +4.0
baz=324
S60A Water View 106.30 29 P PKiKP 20 13 00.5 +2.1
baz=328
V57A Coltrane Farms 106.42 32 P PKiKP 20 13 04.0 +5.3
baz=325
T59A Double "B" Far 106.53 30 P PKiKP 20 13 04.2 +5.4
baz=327
U58A Oxford 106.57 31 P PKiKP 20 13 02.3 +3.4
baz=326
VNDA Vanda 106.57 175 PKiKP PKiKP 20 12 58.3 +0.7
comp=Z,1.2nm,0.7s,baz=21,slow=2.7,SNR=5.3
VNDA PP PP 20 13 21.7 -1.9
comp=Z,2.7nm,0.9s,baz=336,slow=6.6,SNR=5.2
VNDA PKKPbc PKKPbc 20 24 20.5 -0.1
comp=Z,1.0nm,0.6s,baz=239,slow=3.3,SNR=4.5
EVO Evora 106.58 333 ePP PP 20 13 18.6 -4.5
EVO Evora 106.58 333 ePP PP 20 13 26.1 +3.0
EMAL Malaga-Limoner 106.58 330 ePP PP 20 13 17.6 -5.7
EMAL eSS SS 20 27 41.6 -5.3
GOGA Godfrey 106.59 36 P PKiKP 20 13 00.4 +1.3
baz=322
W56A Indian Trail 106.65 33 P PKiKP 20 12 59.2 0.0
baz=324
X55A Gracelyn & Ava 106.68 34 P PKiKP 20 12 57.9 -1.3
baz=323
PMAFR Mafra 106.70 335 ePP PP 20 13 26.6 +2.6
T60A Surry 106.74 29 P PKiKP 20 12 58.7 -0.6
baz=328
V58A Windy Hill, Pi 106.81 32 P PKiKP 20 12 56.8 -2.6
baz=326
LIS Lisbon 106.86 334 ePP PP 20 13 26.1 +1.0
W57A Gilead 106.92 33 P PKiKP 20 12 59.0 -0.6
baz=325
X56A White Oak 106.96 34 P PKiKP 20 13 05.7 +6.0
baz=324
Y55A Saluda 106.99 35 P PKiKP 20 13 04.5 +4.6
baz=323
MELI Melilla 107.12 328 ePP PP 20 13 24.0 -3.1
MELI eSS SS 20 27 50.8 -3.4
U60A Pendleton 107.12 30 P PKiKP 20 13 02.7 +2.7
baz=327
PNCL Nicolau / Gran 107.14 334 ePP PP 20 13 29.6 +2.4
V59A Middlesex 107.23 31 P PKiKP 20 13 04.2 +4.0
baz=326
MESJ Messejana 107.26 333 ePdif Pdif 20 08 54.6 0.0
MESJ ePP PP 20 13 29.0 +1.0
MESJ Messejana 107.26 333 ePP PP 20 13 30.6 +2.6
PCVE Castro Verde 107.37 333 ePP PP 20 13 30.1 +1.3
Y56A Pelion 107.38 34 P PKiKP 20 13 02.5 +2.0
baz=324
W58A Raeford 107.39 32 P PKiKP 20 13 04.5 +4.0
baz=325
PVAQ Vaqueiros 107.43 333 ePP PP 20 13 31.7 +2.4
U61A Possum Corner 107.55 29 P PKiKP 20 13 04.8 +4.0
baz=328
SFS San Fernando 107.61 331 ePP PP 20 13 32.7 +2.2
SFS eSS SS 20 28 03.4 +2.8
Y57A Sumter 107.65 33 P PKiKP 20 13 05.7 +4.7
baz=324
PBDV Barranco-do-Ve 107.66 333 ePP PP 20 13 33.4 +2.4
V60A Jim Taylor Roa 107.67 30 P PKiKP 20 13 04.4 +3.4
baz=327
X58A Rowland 107.72 32 P PKiKP 20 13 03.2 +2.0
baz=325
CEU Ceuta 107.72 330 ePP PP 20 13 27.4 -4.0
CEU eSS SS 20 28 09.6 +7.4
PVLZ Peæn de 107.85 329 ePP PP 20 13 26.5 -5.9
PVLZ eSS SS 20 27 55.3 -8.6
MORF Marmelete 107.89 333 ePP PP 20 13 33.5 +0.9
MORF Marmelete 107.89 333 ePP PP 20 13 35.4 +2.8
PFVI Vila Bisbo 108.11 333 ePP PP 20 13 36.7 +2.5
IFR Ifrane 109.60 329 ePP PP 20 13 41.9 -3.3
IFR eSS SS 20 28 18.7 -9.0
MAW Mawson 110.81 203 Pdiff Pdif 20 09 13.0 +3.6
comp=Z,2.5nm,1.1s,baz=15,slow=5.1,SNR=4.1
MAW PKiKP PKiKP 20 13 06.6 +0.8
comp=Z,3.5nm,0.8s,baz=76,slow=5.1,SNR=9.6
MAW PP PP 20 13 52.8 -1.3
comp=Z,44nm,1.2s,baz=61,slow=10.0,SNR=19
MAW PKKPbc PKKPbc 20 24 06.0 -1.0
comp=Z,3.2nm,0.9s,baz=272,slow=5.1,SNR=5.0
AVE Averroes 110.81 330 ePP PP 20 13 49.8 -3.8
AVE eSS SS 20 28 39.3 -3.9
PGRA Graciosa 111.82 349 ePKiKP PP 20 14 04.4 +4.2
H07S1 FLORES T-PHASB 111.95 352 ePKiKP PP 20 14 03.8 +2.7
ROSA Rosais 112.16 349 ePKiKP PP 20 14 06.7 +4.1
PSET Sete Cidades 112.57 347 ePKiKP PP 20 14 07.8 +2.2
CMLA Cha da Macela 112.59 347 ePKiKP PP 20 14 09.0 +3.3
PSMN Pico do Norte, 113.22 346 ePKiKP PP 20 14 11.3 +1.2
TEIG Tepich 113.59 49 PKKPbc PKKPbc 20 23 58.3 +0.9
comp=Z,4.1nm,0.4s,baz=139,slow=12,SNR=4.6
PMPST Porto Santo, M 114.49 337 ePP PP 20 14 19.8 +0.6
PMOZ Porto Moniz, M 115.02 338 ePP PP 20 14 24.3 +1.4
LSZ Lusaka 115.10 266 SKP SKPdf 20 16 01.4 +0.3
comp=Z,14nm,0.8s,baz=81,slow=1.6,SNR=6.0
MATP Matopo 116.86 260 SKP SKPdf 20 16 04.5 +0.1
comp=Z,8.3nm,0.9s,baz=170,slow=2.6,SNR=3.6
MATP PKKPbc PKKPbc 20 23 50.1 +4.1
comp=Z,6.6nm,0.9s,baz=254,slow=3.7,SNR=8.7
QSPA South Pole Qui 118.16 180 PKP PKPdf 20 13 19.6 -0.4
comp=Z,38nm,0.8s,baz=281,slow=0.9,SNR=75
QSPA PP PP 20 14 45.9 +0.7
comp=Z,19nm,1.1s,baz=297,slow=1.1,SNR=8.2
QSPA SKP SKPdf 20 16 04.6 -0.7
comp=Z,43nm,1.0s,baz=13,slow=1.3,SNR=7.9
QSPA PKKPbc PKKPbc 20 23 41.2 -1.7
comp=Z,6.0nm,0.9s,baz=29,slow=1.5,SNR=13
QSPA South Pole Qui 118.16 180 PKPdf PKPdf 20 13 19.9 -0.2
SYO Syowa Base 119.50 204 ∥ /X PKPdf 20 13 21.0 -1.4
SYO Syowa Base 119.50 204 ∥ ePP PP 20 14 55.0 +0.9
LBTB Lobatse 120.98 256 PKIKP PKiKP 20 13 27.3 +0.4
LBTB Lobatse 120.98 256 PKiKP 20 13 27.3 +0.4
TOA0 Torodi Ar. Sit 121.51 309 PKPdf PKPdf 20 13 27.7 -0.3
TORD Torodi Ar. Bea 121.51 309 PKP PKPdf 20 13 27.4 -0.6
comp=Z,9.1nm,0.4s,baz=23,slow=1.9,SNR=59
TORD PP PP 20 15 07.9 -0.1
comp=Z,9.9nm,1.1s,baz=37,slow=6.9,SNR=3.7
TORD PKKPbc PKKPbc 20 23 31.4 +1.7
comp=Z,9.9nm,0.9s,baz=227,slow=3.7,SNR=12
BOSA Boshof 122.39 253 PKP PKPdf 20 13 29.1 -0.3
comp=Z,9.6nm,0.7s,baz=110,slow=1.9,SNR=9.2
BOSA PP PP 20 15 15.9 +1.0
comp=Z,8.7nm,1.0s,baz=69,slow=8.4,SNR=3.7
BOSA PKKPbc PKKPab 20 23 29.1 +2.2
comp=Z,4.9nm,0.9s,baz=149,slow=1.7,SNR=5.9
JTS Las Juntas de 122.79 54 PKIKP PKPdf 20 13 30.3 -0.2
JTS Las Juntas de 122.79 54 PKPdf 20 13 30.3 -0.2
DR12 Loma Pena Alta 125.72 34 PKPpre 20 13 26.9
TSUM Tsumeb 125.95 266 PKP PKiKP 20 13 36.7 -0.2
comp=Z,9.1nm,0.9s,baz=112,slow=4.7,SNR=7.3
TSUM pPKP pPKPdf 20 15 39.4 +0.3
comp=Z,14nm,1.2s,baz=24,slow=4.6,SNR=5.2
TSUM PKKPbc PKKPab 20 23 15.0 +2.6
comp=Z,2.6nm,0.6s,baz=228,slow=2.7,SNR=11
TSUM Tsumeb 125.95 266 PKPdf 20 13 36.5 +0.1
SUR Sutherland 127.07 249 PP PP 20 15 47.7 +2.0
comp=Z,22nm,1.1s,baz=32,slow=4.1,SNR=4.1
SUR SKPbc SKPbc 20 16 05.7
comp=Z,40nm,1.0s,baz=83,slow=1.5,SNR=8.7
GCPR Guaynabo City 127.67 30 PKPdf 20 13 39.3 -0.4
SJG San Juan 127.82 31 eP PKPdf 20 13 38.0 -2.0
PDPR Patillas Dam, 127.96 31 PKPdf 20 13 40.3 +0.1
MTP Monte Pirata 128.10 30 PKPdf PKPdf 20 13 40.7 +0.2
STVI Saint Thomas 128.13 29 PKPdf PKPdf 20 13 40.5 -0.1
SJCC San Jacinto, C 129.68 46 eP PKPdf 20 13 40.2 -3.5
DBIC Dimbokro 130.62 309 PKP PKPdf 20 13 45.4 0.0
comp=Z,11nm,0.6s,baz=55,slow=4.7,SNR=4.0
DBIC PP PP 20 16 06.1 -1.5
comp=Z,6.9nm,0.8s,baz=19,slow=11,SNR=3.0
DBIC SKPbc SKPbc 20 16 19.8 -0.3
comp=Z,268nm,0.9s,baz=33,slow=4.4,SNR=64
DBIC Dimbokro 130.62 309 PKiKP 20 13 46.0 -0.4
TIC Toumodi 130.75 309 eP PKPdf 20 13 46.0 +0.3
KIC Kosan Boka 130.76 309 eP PKiKP 20 13 46.3 -0.4
comp=Z,14nm,0.8s
LIC Lamto 131.06 309 eP PKiKP 20 13 47.6 +0.3
comp=Z,24nm,0.6s
DBBC Dabeiba 131.17 49 eP PKPdf 20 13 43.6 -3.0
SMLC San Martn de 131.22 46 eP PKPdf 20 13 38.9 -7.6
ZARC Zaragoza, Cauc 131.71 48 eP PKPdf 20 13 46.7 -0.8
SNAA Sanae 131.87 195 PKP PKPdf 20 13 45.6 -0.6
comp=Z,12nm,0.9s,baz=156,slow=1.4,SNR=7.6
SNAA SKPbc SKPbc 20 16 22.5 -0.3
comp=Z,209nm,1.0s,baz=124,slow=2.6,SNR=34
SNAA SKKPbc SKKPbc 20 25 49.2 -5.1
comp=Z,5.4nm,1.1s,baz=333,slow=3.4,SNR=6.0
SNAA Sanae 131.87 195 PKPdf 20 13 45.5 -0.7
SNAA SKPbc 20 16 22.6 -0.2
CBOC Ciudad Bolivar 132.15 50 eP PKPdf 20 13 48.8 +0.3
PTBC PUERTO BERRIO 132.68 48 eP PKPpre 20 13 34.0
BRRC Barranca, Sant 132.74 47 eP PKPdf 20 13 45.6 -3.8
GUY2C Guyana, Caldas 133.05 50 eP PKPpre 20 13 34.1
PAMC Pamplona, Colo 133.20 45 eP PKPdf 20 13 41.1 -10
SDV Santo Domingo 133.25 42 PKPdf 20 13 50.5 -0.1
YOTC Yotoco, Valle 133.27 52 eP PKPpre 20 13 36.7
RREF El Recreo 133.30 50 eP PKPpre 20 13 38.6
BARC Barichara 133.47 47 eP PKPdf 20 13 44.6 -6.5
TOLC Tolima 133.54 51 eP PKPpre 20 13 39.5
ANIL Santa Ana 133.56 51 eP PKPdf 20 13 49.5 -1.8
SPBC San Pablo de B 133.60 48 eP PKPpre 20 13 38.3
BBAC Balboa, Cauca 134.00 55 eP PKPpre 20 13 38.7
ROSC El Rosal 134.03 49 PKP PKPdf 20 13 50.8 -1.6
comp=Z,12nm,0.6s,baz=107,slow=1.9,SNR=6.8
ROSC SKPbc SKPbc 20 16 31.7 -0.6
comp=Z,24nm,0.6s,baz=36,slow=2.6,SNR=8.2
ROSC El Rosal 134.03 49 eP PKPdf 20 13 43.5 -8.9
PAC1 Pacto, Paraso 134.05 58 eP PKPdf 20 13 44.3 -7.8
RUSC La Rusia 134.06 47 eP PKPpre 20 13 38.6
RUSC La Rusia 134.06 47 PKPpre 20 13 39.4
ORTC Ortega, Tolima 134.09 51 eP PKPpre 20 13 34.7
SOTA Rioblanco 134.38 54 eP PKPdf 20 13 43.8 -9.3
PCON Cinco Dias 134.40 54 eP PKPpre 20 13 42.1
PRAC Prado 134.47 51 eP PKPpre 20 13 39.2
GCUF Volcan Galeras 134.48 56 eP PKPdf 20 13 52.8 -0.6
CHIC Chingaza 134.58 49 eP PKPdf 20 13 45.8 -7.6
VILC Villavicencio, 134.99 49 eP PKPpre 20 13 41.2
GARC Garzon, Huila 135.14 53 eP PKPpre 20 13 43.4
PUAC Puerto Asis, P 135.50 56 eP PKPpre 20 13 35.7
ATAH Atahualpa 138.96 66 SKPbc SKPbc 20 16 46.9 +0.1
comp=Z,30nm,0.9s,baz=26,slow=4.6,SNR=6.9
NNA Nana 142.90 71 PKHKP PKPdf 20 14 04.9 -3.1
comp=Z,51nm,0.7s,baz=296,slow=3.1,SNR=15
NNA SKPbc SKPbc 20 16 56.0 -0.4
comp=Z,28nm,0.7s,baz=312,slow=4.7,SNR=6.7
NNA Nana 142.90 71 PKPdf 20 14 04.2 -3.8
NNA SKPbc 20 16 56.2 -0.2
MDP Montagnes des 144.90 20 PKP PKPbc 20 14 12.3 +0.3
comp=Z,218nm,1.0s,baz=335,slow=3.5,SNR=43
MDP SKPbc SKPbc 20 17 01.2 0.0
comp=Z,59nm,0.9s,baz=290,slow=0.2,SNR=8.3
MDP PP PP 20 17 34.1 -0.1
comp=Z,38nm,1.1s,baz=352,slow=10,SNR=6.5
SHEL Horse Pasture 145.11 283 PKP2 PKPab 20 14 13.8 +0.3
SHEL Horse Pasture 145.11 283 PKPab 20 14 13.8 +0.3
GO10 Punta Arenas 146.88 147 PKPab PKiKP 20 14 18.3 -0.1
USHA Ushuaia 147.01 151 PKPbc PKPbc 20 14 15.9 -0.7
comp=Z,72nm,0.7s,baz=263,slow=3.0,SNR=5.4
PTGA Pitinga 147.12 36 PKP PKPdf 20 14 15.4 +0.2
comp=Z,130nm,0.9s,baz=332,slow=2.5,SNR=56
PTGA PKPbc PKPbc 20 14 18.3 0.0
comp=Z,107nm,0.6s,baz=331,slow=3.4,SNR=72
PTGA pPKPbc pPKPdf 20 16 19.1 +0.6
comp=Z,76nm,1.0s,baz=42,slow=4.4,SNR=7.2
PTGA SKKPbc 20 24 50.8
comp=Z,6.4nm,0.8s,baz=141,slow=4.1,SNR=6.3
PTGA Pitinga 147.12 36 PKPdf 20 14 15.8 +0.6
GO09 Cerro Castillo 147.29 143 PKPbc 20 14 18.0 +0.4
COYC Coyhaique 150.16 133 PKiKP 20 14 25.8 +0.4
LL01 San Ignacio de 151.11 127 PKPdf 20 14 19.5 -1.2
PB12 IPOC Station P 151.57 76 PKPdf PKPdf 20 14 21.5 -0.6
SAML Samuel 151.63 51 PKIKP PKPbc 20 14 28.9 -0.2
SAML Samuel 151.63 51 PKPdf PKPdf 20 14 22.2 -0.1
SAML PKPbc PKPbc 20 14 28.9 -0.2
LPAZ La Paz 152.34 70 PKP PKPdf 20 14 24.6 +0.6
comp=Z,9.6nm,1.0s,baz=0.9,slow=3.9,SNR=22
LPAZ PKPbc PKiKP 20 14 31.7 +0.2
comp=Z,40nm,1.0s,baz=348,slow=4.2,SNR=35
LPAZ La Paz 152.34 70 PKPdf 20 14 24.2 +0.2
MNMC Minye Minye 152.42 77 PKPdf 20 14 24.2 +0.6
TA01 Diego Aracena 152.49 80 PKPbc 20 14 28.3 -2.4
PB11 IPOC Station P 152.63 78 PKPdf 20 14 23.0 -0.8
PLCA Paso Flores 152.95 125 PKP PKPdf 20 14 24.1 +0.6
comp=Z,4.6nm,1.1s,baz=265,slow=6.4,SNR=3.4
PLCA PKPbc PKiKP 20 14 32.1 +0.7
comp=Z,20nm,0.6s,baz=238,slow=2.4,SNR=59
PLCA SKKPbc 20 24 23.4
comp=Z,4.6nm,1.1s,baz=122,slow=7.8,SNR=3.0
PB04 IPOC Station P 153.13 84 PKPdf 20 14 24.6 +0.1
PB07 IPOC Station P 153.16 82 PKPdf PKPdf 20 14 25.3 +0.8
PB08 IPOC Station P 153.21 78 PKPdf 20 14 26.1 +1.2
PB01 IPOC Station P 153.26 80 PKPdf 20 14 25.0 +0.5
BI02 San Fabin de 153.36 116 PKPdf 20 14 25.2 +1.0
BI02 PKPbc PKiKP 20 14 32.6 +0.2
EFI East Falkland 153.50 156 PKP2 PKPab 20 14 47.7 +0.6
EFI East Falkland 153.50 156 PKPab 20 14 47.7 +0.6
AC04 Llanos de Chal 153.66 97 PKiKP 20 14 33.7 +0.5
MT01 Popeta 153.70 110 PKPdf 20 14 25.4 +0.7
MT02 Curacav 153.82 108 PKPdf 20 14 24.7 -0.3
ROC1 El Roble 153.94 108 PKPdf 20 14 25.5 +0.1
CO02 Combarbal 153.96 104 PKPdf 20 14 25.6 +0.3
PB15 IPOC Station P 154.00 85 PKPdf 20 14 26.2 +0.5
BO02 Sierra Bellavi 154.01 112 PKPdf 20 14 25.9 +0.7
GO04 Tololo Observa 154.09 101 PKPdf 20 14 25.8 +0.1
PEL Peldehue 154.21 108 PKIKP PKPdf 20 14 26.4 +0.9
PEL Peldehue 154.21 108 PKPdf 20 14 26.4 +0.9
CO03 El Pedregal 154.22 103 PKPdf 20 14 24.6 -1.1
LVC Limon Verde 154.31 83 PKP PKPdf 20 14 26.9 +0.6
comp=Z,32nm,1.3s,baz=255,slow=3.3,SNR=7.6
LVC PKPab PKPab 20 14 53.4 +1.4
comp=Z,41nm,1.0s,baz=242,slow=3.0,SNR=9.3
LVC PP PP 20 18 28.9 -1.1
comp=Z,6.7nm,0.7s,baz=131,slow=5.2,SNR=8.5
LVC Limon Verde 154.31 83 PKPdf 20 14 26.5 +0.2
GO03 Copiap 154.31 95 PKPdf 20 14 26.1 +0.2
VA03 San Esteban 154.34 107 PKPdf 20 14 26.2 +0.4
GO02 Mina Guanaco 154.41 89 PKPdf 20 14 26.4 +0.1
AC05 El Transito 154.44 98 PKPdf 20 14 27.1 +1.1
CO01 Juntas del Tor 154.69 101 PKPdf PKPdf 20 14 26.7 +0.2
ZON Zonda 155.95 104 PKIKP PKPdf 20 14 28.8 +0.9
ZON Zonda 155.95 104 PKPdf PKPdf 20 14 28.8 +0.9

CFA	**Coronel Fontan**	**156.33**	**104**	PKP		**PKPdf**	**20 14 27.9**	**-0.4**
	comp=Z,3.1nm,0.5s,baz=7.4,slow=2.3,SNR=6.3							
CFA				PKPab		**PKPab**	**20 14 59.2**	**-0.9**
	comp=Z,17nm,0.9s,baz=286,slow=5.2,SNR=7.6							
CFA				SKKPbc			20 24 13.1	
	comp=Z,3.6nm,0.6s,baz=42,slow=8.9,SNR=4.3							
RCBR	**Riachuelo**	**157.02**	**347**	PKPab		**PKPab**	**20 15 02.0**	**-1.2**
	comp=Z,38nm,0.8s,baz=346,slow=5.8,SNR=11							
SIV	**San Ignacio**	**157.83**	**60**	PKP		**PKPdf**	**20 14 31.5**	**+0.8**
	comp=Z,13nm,1.1s,baz=346,slow=2.2,SNR=15							
SIV				PKPab		**PKPab**	**20 15 06.4**	**-0.5**
	comp=Z,68nm,1.0s,baz=310,slow=3.6,SNR=31							
SIV				PP		**PP**	**20 18 48.4**	**0.0**
	comp=Z,7.8nm,1.0s,baz=292,slow=6.0,SNR=4.5							
CPUP	**Villa Florida**	**165.46**	**86**	PKP		**PKPdf**	**20 14 38.9**	**+0.8**
	comp=Z,25nm,1.2s,baz=271,slow=2.0,SNR=11							
CPUP	**Villa Florida**	**165.46**	**86**	PKIKP		**PKPdf**	**20 14 38.8**	**+0.7**
CPUP							20 15 40.8	
CPUP	**Villa Florida**	**165.46**	**86**			**PKPdf**	**20 14 38.8**	**+0.7**
CPUP				PKPab		**PKPab**	**20 15 40.8**	**+0.6**
BDFB	**Brasilia**	**165.80**	**28**	PKP		**PKPdf**	**20 14 39.6**	**+0.8**
	comp=Z,5.7nm,0.6s,baz=193,slow=5.6,SNR=8.4							
BDFB				PP		**PP**	**20 19 30.1**	**+0.8**
	comp=Z,11nm,1.0s,baz=346,slow=4.7,SNR=4.6							
BDFB	**Brasilia**	**165.80**	**28**			**PKPab**	**20 15 41.6**	**-0.1**
SPB	**Sao Paulo**	**172.59**	**51**			**PKPab**	**20 16 11.2**	**-0.4**

MAN 30 20:05:38.6, 11°.69N×122°.51E, h270^{km}, mb4.2, ML3.0, MS2.7, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCP	**Roxas**	**0.26**	**120**	*ei*P		Pn	20 06 12.1	-1.2
OTRP	**Odiongan**	**0.82**	**324**	*e*P		Pn	20 06 15.5	+0.5
OTRP				*e*S		S	20 06 44.4	+0.7
GUIM	**Jordan**	**1.06**	**176**	*e*P		Pn	20 06 16.4	+0.3
GUIM				*e*S		S	20 06 41.1	-4.8
CUYO	**Cuyo Island**	**1.69**	**240**	*e*P		Pn	20 06 20.9	+0.6

MOS ***30*** *20:45:30.9±1.2, 30°.12S×177°.31W, h22^{km}, mb5.3/15, MS4.8/5, Error ellipse: s-maj=11.3km s-min=8.9km az=110.3*

BJI ***30*** *20:45:30.3±0.0, 30°.28S×176°.65W, h40^{km}, mB5.6/22, mb5.2/33, Ms5.1/12, Ms7 4.9/10*

NEIC ***30*** *20:45:30.3±1.6, 29°.99S±0°.06×177°.4W±0°.1, h10^{km}±1^{km}, mb5.2/117, Error ellipse: s-maj=16.2km s-min=9.7km az=69.0*

GCMT ***30*** *20:45:34.3±0.3, 30°.06S±0°.03×176°.72W±0°.02, h23^{km}, MW5.3/96, Moment Tensor Solution. s57,c74; s96,c134; Duration: 1§1 Moment tensor: Scale 10^{17}Nm; M_{rr}1.14±.05; $M_{\theta\theta}$-0.42±.04; $M_{\phi\phi}$-0.72±.03; $M_{r\theta}$0.14±.06; $M_{\theta\phi}$-0.27±.02; $M_{r\phi}$0.45±.04; Best double couple: $M_0$1.11100×10^{17} NP1:ϕ$_s$213.00000°, δ33.00000°, λ97.00000°. NP2:ϕ$_s$25.00000°, δ57.00000°, λ86.00000°. Principal axes: T 1.2460, Plg77.0000°, Azm282.0000°; N -0.2730, Plg4.0000°, Azm28.0000°; P -0.9750, Plg12.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***30*** *20:45:36.5±1.6, 29°.97S×177°.42W, h54^{km}±12^{km}, mb4.4/18, mb1 4.6/18, mb1mx4.4/35, mbtmp4.7/18, MS4.7/13, Ms1 4.7/13, ms1mx4.5/30 Error ellipse: s-maj=15.6km s-min=14.9km az=175.0*

ISC 30 20:45:33.4±0.3, 30°.25S±0°.04×177°.28W±0°.07, h35^{km}, n481, σ1§67/467, mb5.1/99, MS4.7/23, 40C-11D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.13**	**330**	P		**Pn**	**20 45 52.4**	**-0.3**
GLKZ				S		**Sn**	**20 46 08.3**	**+1.4**
RAO	**Raoul Island**	**1.14**	**330**	P		**Pn**	**20 45 51.8**	**-1.0**
	2μm,0.3s,baz=93,slow=6.4,SNR=73							
RAO				S		**Sn**	**20 46 07.8**	**+0.6**
	4μm,0.3s,baz=106,slow=21,SNR=12							
RAO				LR		LR	20 46 19.1	
	comp=Z,20μm,21.9s,baz=95,slow=51							
RAO	**Raoul Island**	**1.14**	**330**	P		**Pn**	**20 45 51.1**	**-1.7**
RAO	**Raoul Island**	**1.14**	**330**	Pn		**Pn**	**20 45 51.1**	**-1.7**
RAO						**Sn**	**20 46 00.2**	**-7.0**
RIZ	**Raoul Island**	**1.15**	**330**	P		**Pn**	**20 45 51.9**	**-1.0**
RIZ				S		**Sn**	**20 46 07.8**	**+0.4**
MXZ	**Matakaoa Point**	**8.17**	**206**	S		**Sn**	**20 49 01.9**	**+1.4**
WMGZ	**Waiomatatini S**	**8.36**	**204**	P		**Pn**	**20 47 30.4**	**-1.6**
WMGZ				S		**Sn**	**20 49 06.3**	**+1.2**
HAZ	**Te Kaha**	**8.54**	**207**	P		**Pn**	**20 47 33.4**	**-1.2**
HAZ				S		**Sn**	**20 49 10.6**	**+1.0**
PUZ	**Puketiti**	**8.64**	**204**	P		**Pn**	**20 47 31.9**	**-4.0**
PUZ				S		**Sn**	**20 49 09.7**	**-2.5**
KUZ	**Kuaotunu**	**8.73**	**220**	P		**Pn**	**20 47 37.6**	**+0.5**
RUGZ	**Raukumara Rang**	**8.76**	**207**	P		**Pn**	**20 47 36.2**	**-1.5**
RUGZ				S		**Sn**	**20 49 13.0**	**-2.3**
CNGZ	**Carnagh Statio**	**9.03**	**203**	P		**Pn**	**20 47 38.6**	**-2.6**
CNGZ				S		**Sn**	**20 49 18.6**	**-2.9**
WCZ	**Waipu Caves**	**9.03**	**229**	P		Pn	20 47 46.1	+4.8
WIAZ	**Waiheke Island**	**9.10**	**222**	P		**Pn**	**20 47 42.2**	**0.0**
TKGZ	**Te Karaka**	**9.11**	**205**	P		**Pn**	**20 47 42.4**	**0.0**
TKGZ				S		**Sn**	**20 49 22.0**	**-1.7**
MWZ	**Matawai**	**9.14**	**207**	P		**Pn**	**20 47 40.0**	**-2.8**
MWZ				S		**Sn**	**20 49 21.0**	**-3.5**
OUZ	**Omahuta**	**9.15**	**235**	P		Pn	20 47 49.9	+7.1
OUZ	**Omahuta**	**9.15**	**235**	Pn		**Pn**	**20 47 44.8**	**+2.0**
URZ	**Urewera**	**9.24**	**209**	P		**Pn**	**20 47 43.8**	**-0.4**
URZ				S		**Sn**	**20 49 24.4**	**-2.3**
URZ	**Urewera**	**9.24**	**209**	Pn		**Pn**	**20 47 43.5**	**-0.6**
SNGZ	**Shannon Statio**	**9.60**	**206**	P		**Pn**	**20 47 47.8**	**-1.3**
SNGZ				S		**Sn**	**20 49 34.3**	**-1.5**
MTHZ	**Maungataniwha**	**9.86**	**208**	P		**Pn**	**20 47 52.7**	**0.0**
BKZ	**Black Stump Fm**	**10.27**	**208**	P		Pn	20 47 53.3	-5.0
BKZ	**Black Stump Fm**	**10.27**	**208**	Pn		**Pn**	**20 47 54.8**	**-3.5**
MCHZ	**McNeill Hill**	**10.43**	**207**	P		**Pn**	**20 47 59.0**	**-1.4**
HIZ	**Hauiti**	**10.50**	**216**	Pn		**Pn**	**20 48 05.1**	**+3.7**
KWHZ	**Kaweka Forest**	**10.52**	**208**	P		**Pn**	**20 48 01.7**	**0.0**
KRHZ	**Kereru**	**10.72**	**207**	P		**Pn**	**20 48 01.8**	**-2.7**
VRZ	**Vera Road**	**11.02**	**214**	P		Pn	20 48 15.4	+6.9
BFZ	**Birch Farm**	**11.67**	**205**	Pn		**Pn**	**20 48 13.3**	**-4.1**
MRZ	**Mangatainoka R**	**11.91**	**207**	P		**Pn**	**20 48 17.4**	**-3.2**
MSWZ	**Moikau Station**	**12.68**	**206**	Pn		**Pn**	**20 48 29.2**	**-2.1**
PLWZ	**Palliser**	**12.81**	**206**	Pn		**Pn**	**20 48 30.0**	**-3.0**
BHW	**Baring Head**	**12.82**	**208**	Pn		**Pn**	**20 48 31.4**	**-1.8**
TCW	**Tory Channel**	**12.91**	**210**	P		**Pn**	**20 48 31.6**	**-2.7**
MSVF	**Nonsavu**	**13.16**	**340**	*i* P		**Pn**	**20 48 38.8**	**+0.8**
MSVF				pmax		pmax		
	comp=Z,156nm,1.5s							
TUWZ	**Tuamarina**	**13.23**	**210**			**Pn**	**20 48 34.6**	**-4.1**
NNZ	**Nelson**	**13.31**	**212**	P		**Pn**	**20 48 40.7**	**+0.9**
NNZ	**Nelson**	**13.31**	**212**	Pn		**Pn**	**20 48 37.0**	**-2.8**
CMWZ	**Cape Campbell**	**13.38**	**209**	Pn		**Pn**	**20 48 39.9**	**-0.9**
QRZ	**Quartz Range**	**13.42**	**215**	Pn		**Pn**	**20 48 41.6**	**+0.3**
BSWZ	**Blackbirch Sta**	**13.49**	**210**	Pn		**Pn**	**20 48 41.0**	**-1.3**
THZ	**Tophouse**	**13.96**	**212**	Pn		**Pn**	**20 48 47.7**	**-1.0**
KHZ	**Kahutara**	**14.21**	**209**	Pn		Pn	20 48 46.3	-5.8
GVZ	**Greta Valley S**	**14.88**	**209**	P		**Pn**	**20 48 58.5**	**-2.6**
LTZ	**Lake Taylor**	**15.05**	**211**	P		**Pn**	**20 49 02.4**	**-1.2**
LTZ	**Lake Taylor**	**15.05**	**211**	Pn		**Pn**	**20 48 58.6**	**-4.9**
AMCZ	**Amberley**	**15.21**	**209**	P		**Pn**	**20 49 04.4**	**-1.1**
OXZ	**Oxford**	**15.59**	**210**	P		**Pn**	**20 49 05.8**	**-4.7**
MQZ	**McQueen's Vall**	**15.64**	**208**	Pn		**Pn**	**20 49 04.0**	**-7.1**
RPZ	**Rata Peaks**	**16.34**	**211**	P		**Pn**	**20 49 20.0**	**0.0**
	comp=Z,6.6nm,0.3s,baz=112,slow=0.8,SNR=19							
RPZ	**Rata Peaks**	**16.34**	**211**	Pn		**Pn**	**20 49 15.1**	**-4.9**
DZM	**Mont Dzumac**	**16.72**	**295**	*e*LR		LR	20 53 08.9	
	comp=Z,16μm,23.4s							
DZM	**Mont Dzumac**	**16.72**	**295**	P		**P**	**20 49 29.0**	**+1.9**
	comp=Z,1.9nm,0.3s,baz=144,slow=18,SNR=22							
DZM				LR		LR	20 54 53.6	
	comp=Z,8μm,18.1s,baz=124,slow=34							
FOZ	**Fox Glacier**	**16.78**	**214**	Pn		**Pn**	**20 49 22.8**	**-2.8**
LBZ	**Lake Benmore**	**17.25**	**212**	Pn		**Pn**	**20 49 29.9**	**-1.6**
ODZ	**Otahua Downs**	**17.57**	**209**	Pn		**Pn**	**20 49 32.1**	**-3.4**
WKZ	**Wanaka**	**18.13**	**213**	P		**Pn**	**20 49 38.8**	**-3.5**
RAR	**Rarotonga**	**18.14**	**64**	LR		LR	20 55 39.2	
	comp=Z,1μm,20.8s,baz=268,slow=33							
MLZ	**Mavora Lakes**	**18.95**	**213**	P		**P**	**20 49 48.5**	**-3.0**
WHZ	**Wether Hill Ro**	**19.43**	**212**	P		**P**	**20 49 53.3**	**-3.3**
DCZ	**Deep Cove**	**19.49**	**214**	P		**P**	**20 49 55.0**	**-2.4**
SANVU	**Saraoutou**	**20.49**	**313**	P		**P**	**20 50 06.0**	**-2.5**
SANVU				IAmb		IAmb	20 50 16.6	
	comp=Z,192nm,1.5s							
TBI	**Tubuai**	**25.72**	**81**	*e*LQ		LQ	20 55 50.0	
	comp=Z,2μm,25.5s							
TBI				*e*LR		LR	20 57 07.7	
	comp=Z,2μm,30.8s,baz=252							
TBI	**Tubuai**	**25.72**	**81**	*e*T		T	21 16 58.3	
	comp=Z,8.0nm,0.3s							
ARMA	**Armidale**	**26.80**	**262**	P		**P**	**20 51 13.3**	**+2.8**
	baz=27,SNR=10							
ARMA	**Armidale**	**26.80**	**262**	P		**P**	**20 51 11.1**	**+0.6**
ARMA				IAmb		IAmb	20 51 29.5	
	comp=Z,53nm,1.4s							
PAE	**Paea**	**28.16**	**70**	*e*T		T	21 20 06.9	
	comp=Z,2.2nm,0.3s							
PPT2	**Papeete2**	**28.20**	**70**	*e*LQ		LQ	20 56 43.7	
	comp=Z,2μm,24.0s							
PPT2				*e*LR		LR	20 58 28.6	
	comp=Z,2μm,26.5s,baz=234							
PPT	**Papeete**	**28.21**	**70**	LR		LR	21 02 07.2	
	comp=Z,1μm,18.2s,baz=242,slow=35							
EIDS	**Eidsvold**	**28.35**	**272**	P		**P**	**20 51 25.7**	**+1.4**
EIDS				IAmb		IAmb	20 51 32.9	
	comp=Z,38nm,1.3s							
CAN	**Canberra**	**28.72**	**251**	P		**P**	**20 51 31.0**	**+3.5**
CAN				pmax		pmax		
	comp=Z,38nm,1.1s							
CAN	**Canberra**	**28.72**	**251**	P		**P**	**20 51 31.0**	**+3.5**
CAN				IAmb		IAmb	20 51 39.2	
	comp=Z,38nm,1.1s							
HNR	**Honiara**	**29.68**	**310**	LR		LR	21 02 40.8	
	comp=Z,2μm,18.3s,baz=152,slow=35							
RMQ	**Roma**	**30.06**	**269**	P		**P**	**20 51 42.9**	**+3.6**
	baz=31,SNR=7.0							
TOO	**Toolangi**	**31.60**	**247**	P		**P**	**20 51 55.0**	**+2.1**
	baz=32,SNR=5.6							
TOO	**Toolangi**	**31.60**	**247**	P		**P**	**20 51 55.2**	**+2.3**
TOO				pmax		pmax		
	comp=Z,59nm,1.2s							
TOO	**Toolangi**	**31.60**	**247**	P		**P**	**20 51 55.1**	**+2.3**
CMSA	**Cobar Meteorol**	**31.71**	**258**	P		**P**	**20 51 56.8**	**+2.9**
	baz=32,SNR=18							
QLP	**Quilpie**	**33.94**	**267**	P		**P**	**20 52 15.8**	**+2.3**
	baz=35,SNR=8.7							
CTAO	**Charters Tower**	**34.39**	**278**	P		**P**	**20 52 18.3**	**+0.9**
CTAO				pmax		pmax		
	comp=Z,41nm,0.9s							
CTAO	**Charters Tower**	**34.39**	**278**	P		**P**	**20 52 18.3**	**+0.9**
CTAO				IAmb		IAmb	20 52 34.2	
	comp=Z,41nm,0.8s							
ARPS	**Mount Arapiles**	**34.51**	**248**	P		**P**	**20 52 20.3**	**+2.0**
	baz=35,SNR=5.2							
STKA	**Stephens Creek**	**35.12**	**257**	P		**P**	**20 52 26.6**	**+3.0**
	baz=36,SNR=13							
STKA	**Stephens Creek**	**35.12**	**257**	P		**P**	**20 52 25.4**	**+1.7**
	comp=Z,15nm,0.8s,baz=104,slow=12,SNR=49							
STKA				LR		LR	21 06 07.3	
	comp=Z,2μm,18.2s,baz=91,slow=35							
STKA	**Stephens Creek**	**35.12**	**257**	P		**P**	**20 52 26.0**	**+2.3**
MTSU	**Mount Surprise**	**36.88**	**280**	P		**P**	**20 52 41.7**	**+2.8**
	baz=38,SNR=9.0							
HTT	**Hallett**	**37.15**	**253**	P		**P**	**20 52 42.8**	**+1.8**
	baz=38,SNR=29							
BBOO	**Buckleboo**	**39.61**	**254**	P		**P**	**20 53 02.6**	**+1.0**
	baz=40,SNR=19							
BBOO	**Buckleboo**	**39.61**	**254**	P		**P**	**20 53 02.2**	**+0.5**
BBOO				IAmb		IAmb	20 53 03.8	
	comp=Z,45nm,1.0s							
QIS	**Mount Isa**	**39.93**	**274**	P		**P**	**20 53 06.5**	**+2.1**
	baz=41,SNR=4.8							
TAOE	**Nuku Hiva Isla**	**40.67**	**66**	*e*LR		LR	21 03 57.1	
	comp=Z,1μm,29.3s,baz=222							
AS31	**Alice Springs**	**43.74**	**266**	P		**P**	**20 53 35.0**	**-0.7**
ASAR	**Alice Springs**	**43.74**	**266**	P		**P**	**20 53 35.9**	**+0.2**
	comp=Z,12nm,0.6s,baz=103,slow=7.1,SNR=158							
ASAR				LR		LR	21 11 31.6	
	comp=Z,3μm,18.3s,baz=112,slow=36							
WR0	**Warramunga Arr**	**44.54**	**272**	P		**P**	**20 53 41.7**	**-0.3**
WR0				IAmb		IAmb	20 53 52.8	
	comp=Z,32nm,1.1s							
WB2	**Warramunga Arr**	**44.71**	**272**	P		**P**	**20 53 43.6**	**+0.3**
WRAB	**Tennant Creek**	**44.71**	**272**	*ce*P		**P**	**20 53 41.7**	**-1.7**
WRAB				pmax		pmax		
	comp=Z,53nm,0.9s							
WRA	**Warramunga Arr**	**44.72**	**272**	P		**P**	**20 53 43.9**	**+0.4**
	comp=Z,10nm,0.5s,baz=113,slow=7.4,SNR=81							
WRA				S		**S**	**21 00 15.5**	**-2.5**
	comp=Z,2.6nm,1.0s,baz=108,slow=15,SNR=4.3							
WRA				LR		LR	21 11 31.2	
	comp=Z,2μm,18.1s,baz=115,slow=35							
WB0	**Warramunga Arr**	**44.74**	**272**	P		**P**	**20 53 44.0**	**+0.3**
FORT	**Forrest**	**46.69**	**255**	P		**P**	**20 53 59.3**	**+0.4**
	baz=47,SNR=8.1							
FORT	**Forrest**	**46.69**	**255**	P		**P**	**20 53 59.1**	**+0.2**
WRKA	**Warakurna**	**48.12**	**262**	P		**P**	**20 54 09.6**	**-0.6**
	baz=49,SNR=24							
VNDA	**Vanda**	**48.31**	**186**	P		**P**	**20 54 14.3**	**+3.5**
	comp=Z,0.4nm,0.6s,baz=8.2,slow=6.4,SNR=11							
VNDA				LR		LR	21 10 54.2	
	comp=Z,575nm,20.8s,baz=16,slow=31							
VNDA	**Vanda**	**48.31**	**186**	P		**P**	**20 54 13.7**	**+2.9**
VNDA				pmax		pmax		
	comp=Z,7.0nm,1.2s							
VNDA	**Vanda**	**48.31**	**186**	P		**P**	**20 54 13.7**	**+2.9**
JAY	**Jayapura**	**48.38**	**297**	LR		LR	21 12 38.2	
	comp=Z,430nm,19.0s,baz=131,slow=34							
JAY	**Jayapura**	**48.38**	**297**	P		**P**	**20 54 09.3**	**-3.0**
	comp=Z,5.2nm,1.2s							
GENI	**Genyem**	**48.75**	**296**	P		**P**	**20 54 12.9**	**-2.1**
	comp=Z,28nm,0.5s							
SMPI	**Sarmi**	**50.26**	**295**	P		**P**	**20 54 23.4**	**-3.2**
	comp=Z,11nm,1.8s							
MTN	**Manton Dam**	**50.58**	**278**	P		**P**	**20 54 28.8**	**-0.1**
	baz=51,SNR=3.7							
MTN	**Manton Dam**	**50.58**	**278**	P		**P**	**20 54 28.5**	**-0.5**
MTN				IAmb		IAmb	20 54 31.5	
	comp=Z,50nm,1.2s							
KNRA	**Kununurra**	**51.32**	**274**	P		**P**	**20 54 35.9**	**+1.4**
	baz=52,SNR=4.5							
KNRA	**Kununurra**	**51.32**	**274**	P		**P**	**20 54 34.7**	**+0.2**
KNRA				IAmb		IAmb	20 54 36.6	
	comp=Z,38nm,1.2s							
FITZ	**Fitzroy Crossi**	**52.99**	**269**	P		**P**	**20 54 48.2**	**+1.3**
	baz=54,SNR=5.8							
FITZ	**Fitzroy Crossi**	**52.99**	**269**	P		**P**	**20 54 47.7**	**+0.8**
FITZ				IAmb		IAmb	20 54 53.9	
	comp=Z,29nm,1.1s							
CASY	**Casey**	**55.57**	**208**	P		**P**	**20 55 06.8**	**+1.9**
MEEK	**Meekatharra**	**55.83**	**257**	P		**P**	**20 55 07.1**	**-0.5**
	baz=56,SNR=3.7							
PSA00	**Pilbara Seismi**	**56.60**	**263**	P		**P**	**20 55 12.0**	**-1.1**
GUMO	**Guam**	**56.81**	**315**	P		**P**	**20 55 13.6**	**-0.9**
SIJI	**Sorong**	**56.86**	**291**	LR		LR	21 20 42.5	
	comp=Z,601nm,19.0s,baz=336,slow=37							
MORW	**Morawa**	**57.17**	**253**	P		**P**	**20 55 17.6**	**+0.5**
	baz=58,SNR=5.9							
MORW	**Morawa**	**57.17**	**253**	P		**P**	**20 55 16.6**	**-0.5**
QSPA	**South Pole Qui**	**59.87**	**180**	P		**P**	**20 55 38.3**	**+2.9**
	comp=Z,4.8nm,0.8s,baz=16,slow=0.9,SNR=31							
QSPA	**South Pole Qui**	**59.87**	**180**	P		**P**	**20 55 37.8**	**+2.4**
GIRL	**Giralia**	**60.99**	**259**	P		**P**	**20 55 44.1**	**+0.6**
	baz=62,SNR=4.3							
GIRL	**Giralia**	**60.99**	**259**	P		**P**	**20 55 44.2**	**+0.6**
DAV	**Davao City (W)**	**66.13**	**294**	LR		LR	21 25 30.5	
	comp=Z,220nm,18.2s,baz=107,slow=36							
MAW	**Mawson**	**72.67**	**200**	P		**P**	**20 56 54.7**	**-2.4**
	baz=73,SNR=7.9							
SYO	**Syowa Base**	**77.41**	**193**	*e*P		**P**	**20 57 25.0**	**+0.6**
SYO	**Syowa Base**	**77.41**	**193**	*i* PKiKP		P	20 57 33.0	+8.6
SYO	**Syowa Base**	**77.41**	**193**	*i* PKiKP		P	20 57 39.4	+15
SNAA	**Sanae**	**78.29**	**178**	P		**P**	**20 57 30.9**	**+1.4**
SNAA	**Sanae**	**78.29**	**178**	P		**P**	**20 57 30.0**	**+0.6**
SNAA				pmax		pmax		
	comp=Z,13nm,1.2s							
SNAA	**Sanae**	**78.29**	**178**	P		**P**	**20 57 30.0**	**+0.6**
VNA3	**Neumayer Olymp**	**78.42**	**176**	P		**P**	**20 57 30.8**	**+0.7**
MJA0	**Matsu Arr-Jizo**	**78.45**	**325**	*e*P		**P**	**20 57 30.5**	**-0.2**
MJA0				pmax		pmax		
	comp=Z,8.0nm,0.8s							
MJAR	**Matsushiro Arr**	**78.47**	**325**	P		**P**	**20 57 30.5**	**-0.3**
	comp=Z,7.5nm,0.8s,baz=167,slow=6.0,SNR=21							
MAJO	**Matsushiro**	**78.47**	**325**	P		**P**	**20 57 29.7**	**-1.1**
MAJO				pmax		pmax		
	comp=Z,25nm,1.1s							
MAJO	**Matsushiro**	**78.47**	**325**	P		**P**	**20 57 29.7**	**-1.1**
MAJO				IAmb		IAmb	20 57 31.5	
	comp=Z,25nm,1.1s							
MAT	**Matsushiro**	**78.47**	**325**	P		**P**	**20 57 30.1**	**-0.7**
MJB9	**Matsu-Tunnel**	**78.48**	**325**	P		**P**	**20 57 30.1**	**-0.7**
MJB9				IAmb		IAmb	20 57 31.5	
	comp=Z,24nm,1.1s							
VNA2	**Neumayer--Watz**	**78.86**	**177**	P		**P**	**20 57 34.3**	**+1.8**
	baz=174,slow=3.7							
NVL	**N'lazarevskaya**	**79.06**	**183**	*e*P		P	20 57 46.6	+13
NVL				pmax		pmax		
	comp=Z,5.0nm,0.7s							
VNA1	**Neumayer--Stat**	**79.08**	**176**	P		**P**	**20 57 35.4**	**+1.7**
SSLB	**Suanglung**	**79.98**	**305**	P		**P**	**20 57 36.9**	**-2.4**
H03S2	**Juan Fernandez**	**80.03**	**123**	T		T	22 25 28.9	
	baz=239,slow=74,SNR=4.9							
H03S1	**Juan Fernandez**	**80.04**	**123**	T		T	22 25 34.0	
	baz=239,slow=74,SNR=5.1							
H03S3	**Juan Fernandez**	**80.05**	**123**	T		T	22 25 32.9	
	baz=239,slow=74,SNR=5.2							
ERM	**Erimo**	**80.62**	**331**	*ce*P		**P**	**20 57 45.5**	**+3.2**
ERM				pmax		pmax		
	comp=Z,59nm,1.7s							
PLCA	**Paso Flores**	**82.15**	**133**	P		**P**	**20 57 52.8**	**+2.0**
	comp=Z,2.6nm,0.9s,baz=181,slow=5.6,SNR=3.8							
PLCA				LR		LR	21 28 40.7	
	comp=Z,299nm,18.2s,baz=202,slow=31							
PLCA	**Paso Flores**	**82.15**	**133**	*e*P		**P**	**20 57 54.1**	**+3.3**
PLCA				pmax		pmax		
	comp=Z,3.0nm,0.9s							
JKA	**Kamikawa-asahi**	**82.59**	**332**	P		**P**	**20 57 54.1**	**+1.5**
ASAJ	**Asahikawa**	**82.59**	**332**	P		**P**	**20 57 52.4**	**-0.3**
	comp=Z,22nm,1.0s,baz=208,slow=7.5,SNR=16							
ASAJ	**Asahikawa**	**82.59**	**332**	P		**P**	**20 57 54.1**	**+1.5**
ASAJ				pmax		pmax		
	comp=Z,110nm,1.5s							
NIKH	**Nikolski High**	**83.19**	**5**	P		**P**	**20 57 55.8**	**+0.3**
SNCC	**San Nicolas Is**	**83.49**	**46**	P		**P**	**20 57 57.3**	**-0.2**
TJN	**Taejon**	**84.20**	**318**	*ce*P		**P**	**20 58 02.8**	**+1.7**
KSRS	**Korea Array**	**84.64**	**319**	P		**P**	**20 58 03.0**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=139,slow=5.9,SNR=19							
KSRS	**Korea Array**	**84.64**	**319**	*e*P		**P**	**20 58 04.3**	**+1.0**
KSRS				pmax		pmax		
	comp=Z,4.0nm,0.9s							
YSS	**Yuzh-Sakhalins**	**84.88**	**334**	*i* P		P	**20 58 05.9**	**+1.6**
YSS				*e*			20 58 13.5	
YSS				pmax		pmax		
	comp=Z,60nm,1.4s							
YSS	**Yuzh-Sakhalins**	**84.88**	**334**	P		**P**	**20 58 02.2**	**-2.0**
MT01	**Popeta**	**85.46**	**127**	P		**P**	**20 58 07.0**	**-0.7**
MT01				IAmb		IAmb	20 58 11.4	
	comp=Z,27nm,1.1s							
PFO	**Pinyon Flats O**	**85.64**	**47**	*i* P		**P**	**20 58 09.7**	**+1.1**
XPFO	**Pion Flat**	**85.64**	**47**	P		**P**	**20 58 08.4**	**-0.2**
XPFO				IAmb		IAmb	20 58 15.0	
	comp=Z,16nm,1.4s							
ISA	**Isabella, Lake**	**85.75**	**44**	P		**P**	**20 58 07.7**	**-1.3**
ISA				pmax		pmax		
	comp=Z,24nm,1.5s							
ISA	**Isabella, Lake**	**85.75**	**44**	P		**P**	**20 58 07.7**	**-1.3**
ISA				IAmb		IAmb	20 58 15.0	
	comp=Z,24nm,1.4s							
PEA0B	**Petropavlovsk-**	**85.82**	**345**	P		**P**	**20 58 08.0**	**-0.8**
PEA0B				pmax		pmax		
	comp=Z,23nm,0.9s							
PEA0B	**Petropavlovsk-**	**85.82**	**345**	P		**P**	**20 58 08.0**	**-0.8**
PEA0B				IAmb		IAmb

KVN pmax pmax
comp=Z,7.0nm,1.0s
KVN Kaiserville 88.24 42 P **P** **20 58 20.1 -1.1**
SHPR Sheep Range 88.33 45 P **P** **20 58 21.8 +0.2**
TUC Tucson 88.53 51 P **P** **20 58 24.3 +1.7**
TUC pmax pmax
comp=Z,16nm,1.4s
TUC Tucson 88.53 51 P **P** **20 58 24.2 +1.7**
TUC IAmb IAmb 20 58 38.7
comp=Z,16nm,1.4s
MDJ Mudanjiang 88.85 325 P **P** **20 58 25.3 +1.6**
MDJ pmax pmax
comp=Z,25nm,1.1s
MDJ pmax pmax
comp=Z,140nm,4.4s
MDJ Mudanjiang 88.85 325 P **P** **20 58 23.3 -0.4**
MOD Modoc Plateau 88.93 39 P **P** **20 58 23.7 -0.6**
MOD IAmb IAmb 20 58 38.4
comp=Z,8.8nm,1.0s
K05A Summer Lake 89.19 38 P **P** **20 58 25.8 +0.2**
R11A Troy Canyon, C 89.25 44 P **P** **20 58 26.4 +0.4**
DL2 Dalian 89.26 317 P **P** **20 58 26.8 +1.1**
DL2 pmax pmax
comp=Z,19nm,1.1s
X16A Lo Mia Camp, P 89.38 49 P **P** **20 58 26.6 0.0**
X16A IAmb IAmb 20 58 32.4
comp=Z,13nm,1.1s
LCMT Little Creek M 89.83 46 P **P** **20 58 29.4 +0.7**
H04A Detroit Lake 89.88 36 P **P** **20 58 28.7 +0.2**
PINE Pine Mountain 89.90 37 P **P** **20 58 29.1 +0.3**
U15A North Rim 90.07 47 P **P** **20 58 30.4 +0.5**
U15A IAmb IAmb 20 58 45.0
comp=Z,20nm,1.1s
WUAZ Wupatki 90.09 48 P **P** **20 58 31.2 +1.3**
WUAZ IAmb IAmb 20 58 40.3
comp=Z,15nm,1.2s
CCUT Cedar City 90.10 46 P **P** **20 58 31.1 +1.1**
KNB Kanab 90.10 46 P **P** **20 58 31.1 +1.1**
KNB pmax pmax
comp=Z,28nm,1.4s
KNB Kanab 90.10 46 P **P** **20 58 31.1 +1.1**
WVOR Wild Horse Val 90.20 39 P **P** **20 58 31.3 +1.1**
WVOR pmax pmax
comp=Z,9.0nm,1.2s
WVOR Wild Horse Val 90.20 39 P **P** **20 58 31.3 +1.1**
SZCU Shurtz Canyon 90.30 46 P **P** **20 58 31.6 +0.7**
CN2 Changchun 90.40 322 *e*P **P** **20 58 31.8 +0.9**
CN2 pmax pmax
comp=Z,50nm,1.3s
CN2 LR LR
comp=Z,910nm,9.0s
CN2 LR LR
comp=Z,1μm,10.0s
PSUT Pine Spring 90.42 45 P **P** **20 58 32.1 +0.7**
GRNR Gornyy 90.43 333 ⇓*i*P **P** **20 58 32.4 +1.5**
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR MLR MLR
comp=E,250nm,14.0s
GRNR MLR MLR
comp=N,90nm,11.0s
GRNR MLR MLR
comp=Z,120nm,12.0s
F04A Amboy 90.65 35 P **P** **20 58 32.0 -0.1**
I07A Izee 90.85 38 P **P** **20 58 33.8 +0.6**
I07A IAmb IAmb 20 58 47.5
comp=Z,20nm,1.4s
J08A Circle Bar Ran 90.91 39 P **P** **20 58 34.1 +0.6**
J08A IAmb IAmb 20 58 39.1
comp=Z,20nm,1.4s
MTPU Mount Pierson 91.13 46 P **P** **20 58 36.9 +1.9**
KLR Kul'dur 91.22 329 P **P** **20 58 34.8 +0.2**
comp=Z,4.5nm,0.7s,baz=123,slow=3.7,SNR=19
KLR Kul'dur 91.22 329 *ce*P **P** **20 58 35.1 +0.5**
KLR pmax pmax
comp=Z,29nm,1.3s
MSU Marysvale 91.43 45 P **P** **20 58 38.2 +2.0**
MSU Marysvale 91.43 45 P **P** **20 58 38.2 +2.0**
LON Longmire 91.52 35 P **P** **20 58 35.9 -0.2**
LON pmax pmax
comp=Z,7.0nm,1.0s
LON Longmire 91.52 35 P **P** **20 58 35.9 -0.2**
D05A Enumclaw 91.74 34 P **P** **20 58 37.9 +0.8**
TX31 Lajitas Ar. Si 91.78 57 P **P** **20 58 38.3 +0.5**
TX32 Lajitas Array 91.78 57 P **P** **20 58 38.2 +0.4**
TXAR Lajitas Array 91.78 57 P **P** **20 58 39.2 +1.4**
comp=Z,2.3nm,1.1s,baz=186,slow=4.5,SNR=9.9
G08A Pilot Rock 91.96 37 P **P** **20 58 38.9 +0.6**
G08A IAmb IAmb 20 58 54.2
comp=Z,14nm,1.0s
GYA Guiyang 92.02 299 ⇑P **P** **20 58 40.8 +1.8**
GYA PP **PP** **21 02 22.3 +3.0**
GYA SS SS 21 15 52.3 +3.5
GYA pmax pmax
comp=Z,8.0nm,1.0s
GYA pmax pmax
comp=Z,62nm,3.6s
GYA LR LR
comp=Z,37nm,3.9s
GYA LR LR
comp=Z,71nm,3.8s
ENH Enshi 92.03 304 P **P** **20 58 38.7 -0.2**
E07A Sunnyside 92.36 36 P **P** **20 58 40.1 +0.1**
MFID Camas Ranch 92.40 40 P **P** **20 58 41.5 +1.1**
MFID IAmb IAmb 20 58 54.3
comp=Z,13nm,1.3s
HAWA Hanford 92.41 36 P **P** **20 58 41.6 +1.4**
BGU Big Grassy Mou 92.42 43 P **P** **20 58 41.2 +0.7**
LTY Liberty 92.44 35 P **P** **20 58 40.6 +0.2**
LTY IAmb IAmb 20 58 43.2
comp=Z,13nm,1.4s
TMUT Trail Mountain 92.51 45 P **P** **20 58 41.3 +0.1**
BMO Blue Mountains 92.54 38 P **P** **20 58 41.1 +0.1**
BMO pmax pmax
comp=Z,11nm,1.4s
BMO Blue Mountains 92.54 38 P **P** **20 58 41.1 +0.1**
BMO IAmb IAmb 20 58 59.5
comp=Z,11nm,1.4s
SRU San Rafael Swe 92.82 46 P **P** **20 58 42.6 +0.1**
SRU pmax pmax
comp=Z,7.0nm,1.1s
SRU San Rafael Swe 92.82 46 P **P** **20 58 42.5 +0.1**
ANMO Albuquerque 92.99 51 *i*P **P** **20 58 44.5 +1.1**
ANMO pmax pmax
comp=Z,13nm,1.9s
ANMO Albuquerque 92.99 51 P **P** **20 58 43.5 0.0**
ANMO IAmb IAmb 20 58 49.1
comp=Z,9.4nm,1.4s
HVU Hansel Valley 93.10 43 P **P** **20 58 44.3 +0.6**
HVU pmax pmax
comp=Z,14nm,1.1s
HVU Hansel Valley 93.10 43 P **P** **20 58 44.3 +0.6**
D08A Wollman Farm, 93.17 36 P **P** **20 58 43.6 -0.1**
E09A Wood Farm, Sta 93.20 36 P **P** **20 58 44.3 +0.5**
E09A IAmb IAmb 20 58 49.1
comp=Z,11nm,1.1s
BJT Baijiatuan 93.24 315 P **P** **20 58 44.1 -0.1**
BJT pmax pmax
comp=Z,12nm,1.2s
BJT Baijiatuan 93.24 315 P **P** **20 58 44.1 -0.1**
BJT IAmb IAmb 20 58 54.6
comp=Z,12nm,1.2s
BJI Beijing 93.25 315 P **P** **20 58 44.5 +0.3**
BJI S **S** **21 09 50.3 +1.5**
BJI pmax pmax
comp=Z,7.0nm,1.7s
HLID Hailey 93.28 40 P **P** **20 58 43.9 -0.6**
HLID IAmb IAmb 20 58 53.5
comp=Z,8.2nm,1.2s
MA2 Magadan 93.31 344 *ce*P **P** **20 58 43.1 -0.9**
MA2 pmax pmax
comp=Z,6.0nm,1.1s
F10A Beach Ranch, E 93.32 37 P **P** **20 58 44.3 -0.2**
F10A IAmb IAmb 20 58 49.3
comp=Z,7.2nm,0.9s
TCUT Toone Canyon 93.50 44 P **P** **20 58 45.1 -0.6**
CMAR Chiang Mai Arr 93.94 289 P **P** **20 58 48.5 +0.6**
comp=Z,2.3nm,1.1s,baz=133,slow=4.1,SNR=7.5
CMAR Chiang Mai Arr 93.94 289 *eP* **P** **20 58 50.0 +2.1**
CMAR pmax pmax
comp=Z,2.0nm,1.0s
XAN Xi'an 94.52 307 P **P** **20 58 50.8 +0.5**
XAN pP sP 20 59 04.0 +0.5
XAN pmax pmax
comp=Z,5.0nm,1.8s
XAN pmax pmax
comp=Z,150nm,9.8s
XAN LR LR
comp=Z,220nm,16.3s
XAN LR LR
comp=Z,330nm,18.4s
XAN LR LR
comp=Z,500nm,16.7s
SNOW Snow King Moun 95.31 42 P **P** **20 58 54.4 +0.5**
SNOW IAmb IAmb 20 59 02.8
comp=Z,7.0nm,0.7s
IMW Indian Meadow 95.46 42 P **P** **20 58 54.5 -0.2**
IMW IAmb IAmb 20 59 00.8
comp=Z,6.0nm,1.1s
PDAR Pinedale Array 95.59 43 P **P** **20 58 55.8 +0.6**
comp=Z,0.5nm,0.8s,baz=224,slow=4.1,SNR=3.9
ZEA Zeya 96.42 330 *e*Pg **P** **20 58 58.0 -0.4**
ZEA AMB AMB 20 58 59.6
comp=Z,36nm,1.6s
ZEA Zeya 96.42 330 *e*P **P** **20 58 58.0 -0.4**
ZEA pmax pmax
comp=Z,36nm,1.6s
CD2 Chengdu 96.53 302 P **P** **20 59 01.3 +1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
HHC Hu-ho-hao-te 96.58 314 *e*P **P** **20 58 57.3 -2.3**
HHC S S 21 10 08.0 -10
HHC pmax pmax
comp=Z,5.0nm,0.7s
HHC pmax pmax
comp=Z,86nm,7.1s
HHC LR LR
comp=Z,100nm,18.7s
HHC LR LR
comp=Z,120nm,17.9s
HHC LR LR
comp=Z,130nm,19.6s
ILAR Eielson Array 97.64 13 P **P** **20 59 02.9 -0.8**
comp=Z,0.3nm,0.5s,baz=212,slow=5.0,SNR=2.9
LZH Lanzhou 99.13 306 *e*P **Pdif** **20 59 10.0 -1.3**
LZH pP sP 20 59 23.5 -1.0
LZH sP pwP 20 59 29.0 +2.3
LZH *e*PP **PP** **21 03 15.3 +0.9**
LZH pmax pmax
comp=Z,20nm,1.4s
LZH pmax pmax
comp=Z,100nm,9.5s
LZH LR LR
comp=Z,190nm,17.2s
LZH LR LR
comp=Z,180nm,17.5s
LZH LR LR
comp=Z,280nm,19.8s
WMQ Urumqi 113.62 308 *e*PKP **PKiKP** **21 04 08.0 +0.1**
WMQ LR LR
comp=Z,120nm,16.9s
WMQ LR LR
comp=Z,75nm,22.9s
WMQ LR LR
comp=Z,130nm,24.1s
MK31 Makanchi Array 118.15 310 PKIKP **PKPdf** **21 04 15.3 -1.2**
MK31 Makanchi Array 118.15 310 PKPdf **PKPdf** **21 04 15.3 -1.2**
MKAR Makanchi Array 118.15 310 PKP **PKPdf** **21 04 14.7 -1.8**
comp=Z,0.6nm,0.5s,baz=153,slow=0.9,SNR=11
ZALV Zalesovo Beam 118.33 318 PKP **PKPdf** **21 04 14.9 -1.6**
comp=Z,0.6nm,0.6s,baz=17,slow=1.5,SNR=3.6
ZALV Zalesovo Beam 118.33 318 *e*PKIKP **PKiKP** **21 04 18.2 +1.6**
NRIK Noril'sk 119.75 336 PKP **PKPdf** **21 04 18.5 -0.3**
comp=Z,1.2nm,0.6s,baz=290,slow=2.2
KURK Kurchatov 121.39 314 *c i*PKIKP **PKPdf** **21 04 22.3 -0.2**
KURK pmax pmax
comp=Z,9.0nm,2.5s
KURK Kurchatov 121.39 314 **PKPdf** **21 04 21.4 -1.1**
KURBB Kurchatov Arra 121.43 314 PKP **PKPdf** **21 04 21.7 -0.9**
comp=Z,1.4nm,0.6s,baz=104,slow=1.8,SNR=18
KBL Kabul 124.73 293 PKIKP **PKPdf** **21 04 28.8 -1.0**
KBL Kabul 124.73 293 **PKPdf** **21 04 28.8 -1.0**
KK31 Karatay Array 125.51 304 PKIKP **PKPdf** **21 04 30.2 -0.6**
KK31 Karatay Array 125.51 304 PKPdf **PKPdf** **21 04 30.2 -0.6**
KKAR Karatay Array 125.51 304 PKIKP **PKPdf** **21 04 30.3 -0.5**
KKAR Karatay Array 125.51 304 PKPdf **PKPdf** **21 04 30.3 -0.5**
BRVK Borovoye 126.80 316 *c i*PKIKP **PKPdf** **21 04 32.7 -0.1**
BRVK pmax pmax
comp=Z,8.0nm,1.7s
ARU Arti 133.37 321 *i* PKIKP **PKiKP** **21 04 46.0 -0.4**
ARU 21 07 13.6
ARU SS SS 21 24 57.4 +2.1
ARU Arti 133.37 321 **PKPdf** **21 04 44.3 -0.9**
GEYT Alibeck 134.06 295 PKhKP PKPpre 21 04 43.6
comp=Z,0.9nm,0.5s,baz=252,slow=2.7,SNR=2.4
APA Apatity 138.45 343 ⇓*i*PKIKP **PKiKP** **21 04 56.4 0.0**
APA pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 138.57 348 PKhKP PKPpre 21 04 45.2
comp=Z,1.2nm,0.8s,baz=11,slow=2.5,SNR=4.5
KLMR Klimovskoe 140.92 332 *e*PKIKP **PKPdf** **21 04 58.3 -0.7**
KLMR pmax pmax
comp=Z,15nm,1.1s
KLMR Klimovskoe 140.92 332 *e*PKPdf **PKPdf** **21 04 58.4 -0.6**
KLMR AMP 21 05 13.3
comp=Z,15nm,1.1s
TBLG Delisi 144.45 301 PKIKP PKPbc 21 05 04.5 0.0
TBLG Delisi 144.45 301 PKPbc 21 05 04.5 -0.1
MOS Moscow 144.56 326 *i* PKIKP **PKPab** **21 05 02.5 -1.6**
MOS pmax pmax
comp=Z,48nm,1.2s
TASB TASBURUN-IGDIR 144.95 298 P **PKPdf** **21 05 06.6 -0.3**
ZEI Tsey 144.95 302 *e*PKIKP **PKPab** **21 05 06.1 -0.2**
ZEI *i* 21 05 09.2
ZEI pmax pmax
comp=Z,25nm,1.0s
ZEI pmax pmax
comp=Z,33nm,1.4s
GOF Gofitskoye 145.20 307 ⇓*i*PKIKP **PKPdf** **21 05 07.5 +0.4**
GOF pmax pmax
comp=Z,123nm,1.6s
FIA1 FINESS Array S 145.21 340 **PKPbc** **21 05 04.8 -1.4**
FINES FINESS Array B 145.21 340 PKP **PKPbc** **21 05 05.0 -1.2**
comp=Z,19nm,0.6s,baz=64,slow=3.0,SNR=73
CLDR Caldiran 145.23 296 P **PKPdf** **21 05 07.6 -0.1**
LPSR Galich'ya Gora 145.39 321 *e*PKIKP **PKPbc** **21 05 06.4 -0.7**
LPSR pmax pmax
comp=Z,120nm,1.8s
OBN Obninsk 145.40 326 ⇓P **PKPbc** **21 05 06.9 -0.1**
OBN Obninsk 145.40 326 *c i*PKP2 **PKPbc** **21 05 06.3 -0.7**
OBN *e* 21 08 24.2
OBN *e*PPP PPP 21 11 41.5
OBN *e* 21 12 11.6
OBN *e*SS SS 21 28 02.5 +46
OBN pmax pmax
comp=Z,239nm,2.0s
OBN Obninsk 145.40 326 **PKPbc** **21 05 05.9 -1.1**
AKH Akhalkalaki 145.41 300 ⇓P **PKPab** **21 05 08.8 +0.7**
CUKT Cukurca 145.50 293 P **PKPab** **21 05 09.0 +0.6**
KBZ Khabaz 145.54 304 PKPbc **PKPdf** **21 05 07.3 -0.3**
comp=Z,8.0nm,0.9s,baz=51,slow=5.0,SNR=22
KBZ Khabaz 145.54 304 *c i*PKIKP **PKPbc** **21 05 07.9 0.0**
KIV Kislovodsk 145.66 305 ⇑P **PKPab** **21 05 09.6 +0.9**
KIV Kislovodsk 145.66 305 *i* PKIKP **PKPab** **21 05 09.0 +0.2**
KIV pmax pmax
comp=Z,55nm,1.1s
KIV MLR MLR
comp=Z,567nm,24.0s
KIV Kislovodsk 145.66 305 **PKPbc** **21 05 08.3 -0.1**
VANB Van 145.66 295 P **PKPab** **21 05 08.8 -0.2**
KARS Kars 145.79 299 P **PKPab** **21 05 09.6 +0.2**
VORD Divnogorie 145.87 318 *e*PKP2 **PKPdf** **21 05 08.1 +0.1**
VORD pmax pmax
comp=Z,40nm,1.2s
AGRB Hanur-Agry 145.93 297 P **PKPbc** **21 05 09.2 -0.3**
AKDM Akdamar-Van 145.99 295 P **PKPab** **21 05 10.1 -0.2**
SENK Senkaya-Erzuru 146.35 299 P **PKPab** **21 05 11.9 +0.3**
SIRT Sirnak 146.43 293 P **PKPbc** **21 05 10.9 -0.1**
GURO Guroymak-BITLI 146.72 295 P **PKPbc** **21 05 12.3 +0.5**
KOPR Koprukoy-ERZUR 146.78 298 P **PKPab** **21 05 12.9 -0.4**
BCA Borcka 146.80 300 ⇑P **PKPab** **21 05 13.0 -0.1**
VRTB Varto-Mus 147.14 296 P **PKPab** **21 05 14.6 -0.1**
VSU Vasula 147.34 337 *e*P **PKPbc** **21 05 12.1 -0.6**
SVAN Silvan-Diyarba 147.40 294 P **PKPbc** **21 05 14.6 +1.0**
KARO Karliova-Bingo 147.45 297 P **PKPbc** **21 05 14.9 +1.0**
BNGB Bingl 147.76 296 P **PKPbc** **21 05 14.9 +0.2**
YEDI Yedisu-Bingol 147.83 297 P **PKPbc** **21 05 14.6 -0.3**
SOC Sochi 147.84 305 *i* PKP2 **PKPbc** **21 05 14.8 +0.2**
SOC *e*PPP PPP 21 12 00.1
SOC pmax pmax
comp=Z,25nm,0.8s
SOC MLR MLR
comp=Z,122nm,14.0s
MAZI Mazidag 148.01 293 P **PKPbc** **21 05 15.4 0.0**
KTUT Trabzon 148.25 300 ⇑P **PKiKP** **21 05 17.3 -0.1**
KTUT Trabzon 148.25 300 P **PKPbc** **21 05 16.2 +0.5**
NC303 NORSAR Array S 148.49 352 **PKPdf** **21 05 12.4 +0.3**
NC405 NORSAR Array S 148.56 352 **PKPbc** **21 05 15.7 -0.2**
NB201 NORSAR Array S 148.57 352 **PKPbc** **21 05 16.2 0.0**
NB2 NORSAR Subarra 148.69 352 PKP **PKPbc** **21 05 15.2 -1.1**
comp=Z,80nm,2.0s,baz=12,slow=2.7
NB2 NORSAR Subarra 148.69 352 PKP **PKPbc** **21 05 15.2 -1.1**
baz=12,slow=2.7
NOA NORSAR Array B 148.69 352 PKPbc **PKPbc** **21 05 15.0 -1.3**
comp=Z,5.2nm,1.0s,baz=14,slow=4.2,SNR=10
NOA NORSAR Array B 148.69 352 *e*PKP2 **PKPbc** **21 05 15.7 -0.6**
NOA pmax pmax
comp=Z,5.0nm,1.0s
NBO00 NORSAR Array S 148.75 352 **PKPbc** **21 05 16.6 +0.2**
PTK Pertek 148.76 296 P **PKPdf** **21 05 15.3 +1.8**
SVRC Sivrice-ELAZID 148.87 295 P **PKiKP** **21 05 19.0 0.0**
NAO01 NORSAR Array S 148.92 352 **PKPbc** **21 05 17.1 +0.2**
NC602 NORSAR Array S 148.94 352 **PKPbc** **21 05 15.5 -1.4**
ANN Anapa 149.14 308 *i* PKP2 **PKPbc** **21 05 17.6 -0.2**
ANN pmax pmax
comp=Z,97nm,1.3s
IZAR Zarasai 149.54 334 *e*P **PKPab** **21 05 21.9 -1.6**
MALT Malatya 149.56 295 P **PKiKP** **21 05 20.3 -0.1**
ISAL Salakas 149.72 333 *e*P **PKiKP** **21 05 20.4 +0.4**
MICGM Minsk 149.76 331 ⇑*e*P **PKPbc** **21 05 19.0 -0.1**
MICGM PM 21 05 20.0
comp=Z,0.1nm,2.0s
MNK Minsk 149.76 331 ⇑*e*PKP2 **PKPbc** **21 05 19.0 -0.1**
MNK pmax pmax
comp=Z,120nm,2.0s
IIGN Ignalina 149.84 333 *e*P **PKiKP** **21 05 20.0 -0.2**
NACGM Naroch 149.94 332 *e* **PKPbc** **21 05 19.0 -0.5**
RSDY Resadiye-TOKAT 150.17 299 P **PKiKP** **21 05 21.3 -0.1**
SVSK Karacayir 150.49 298 P **PKiKP** **21 05 22.1 +0.1**
PABE Paberze 150.58 335 *e*P **PKPbc** **21 05 21.3 +0.3**
GAZ Gaziantep 150.60 293 P **PKiKP** **21 05 22.7 +0.2**
GAZ Gaziantep 150.60 293 **PKPbc** **21 05 20.7 -1.1**
KMRS Kahramanmaras 150.83 294 P **PKiKP** **21 05 22.7 -0.2**
PBUR Paburge 150.87 338 *e*P **PKiKP** **21 05 24.4 +2.1**
KVT Kavak 151.01 301 P **PKiKP** **21 05 24.7 +1.5**
SARI SarD1z-Kayseri 151.13 295 P **PKiKP** **21 05 24.2 +0.5**
SIM Simferopol' 151.33 310 *c i*PKIKP **PKiKP** **21 05 23.5 -0.1**
SIM *i* 21 05 31.7
SIM pmax pmax
comp=Z,36nm,2.0s
BNN Bunyan 151.52 297 P **PKiKP** **21 05 24.6 +0.2**
AKASG Malin Array Be 151.55 323 PKPbc **PKPbc** **21 05 21.8 -1.6**
comp=Z,5.6nm,0.6s,baz=47,slow=2.8,SNR=23
AKBB Malin Array Si 151.55 323 PKIKP **PKPbc** **21 05 22.6 -0.9**
AKBB Malin Array Si 151.55 323 **PKPbc** **21 05 22.6 -0.9**
KOZT Kozan 151.68 294 P **PKiKP** **21 05 24.8 +0.2**
CEYT Ceyhan 151.78 293 P **PKiKP** **21 05 25.2 +0.4**
SUW Suwalki 152.02 334 *e*P **PKPbc** **21 05 24.3 -0.1**
CORM Corum 152.24 300 P **PKiKP** **21 05 27.0 +1.2**
KARA Karaisali 152.31 293 P **PKPbc** **21 05 25.4 -0.3**
GOET G??ttrup 152.83 352 *i* P **PKPbc** **21 05 23.2 -2.9**
BR131 Keskin Array S 153.07 299 PKIKP **PKPbc** **21 05 26.8 -0.7**
BR131 Keskin Array S 153.07 299 **PKPbc** **21 05 26.8 -0.7**
BRTR Keskin Array B 153.07 299 PKPbc **PKPbc** **21 05 26.2 -1.2**
comp=Z,0.9nm,0.4s,baz=108,slow=2.7,SNR=5.1
SORM Soroca 153.48 320 ⇑P **PKPbc** **21 05 27.3 -0.5**
SORM Soroca 153.48 320 ⇑PKIKP **PKPbc** **21 05 27.3 -0.5**
BSD Bornholm Skovb 153.66 344 *i* P **PKiKP** **21 05 28.5 +0.4**
BSD Bornholm Skovb 153.66 344 *e*PKIKP **PKiKP** **21 05 28.5 +0.4**
ANTO Ankara 153.68 300 PKIKP **PKiKP** **21 05 29.4 +0.6**
ANTO Ankara 153.68 300 **PKiKP** **21 05 29.4 +0.6**
MILM Milestii Mici 153.85 317 ⇑P **PKPab** **21 05 38.7 -3.1**
TLCR 154.68 313 ⇑P **PKPab** **21 05 40.7 -4.8**
TOPG Topolog 155.10 313 ⇑P **PKPab** **21 05 44.9 -2.4**
CFR Carcaliu 155.11 314 ⇑P **PKPab** **21 05 43.3 -4.0**
CFR Carcaliu 155.11 314 ⇑PKP2 **PKPab** **21 05 43.3 -4.0**
TESR Tescani 155.33 318 ⇑P PKPab 21 05 36.4 -12
BIZ Bicaz 155.41 319 ⇑P PKPdf 21 05 32.5 +10
KWP Kalwaria Pacla 155.44 328 *e*P **PKPab** **21 05 49.0 +0.4**
HARR Harsova 155.47 313 ⇑P PKPdf 21 05 34.2 +11
BURAR Bucovina Array 155.50 321 ⇑P **PKPab** **21 05 42.3 -6.7**
BURAR Bucovina Array 155.50 321 ⇑PKP2 **PKPab** **21 05 42.3 -6.7**
VRI Vrincioaia 155.63 316 ⇑P **PKPab** **21 05 44.8 -4.7**
VRI Vrincioaia 155.63 316 ⇑PKP2 **PKPab** **21 05 44.8 -4.7**
PLOR Plostina 155.68 317 ⇑P **PKPab** **21 05 42.3 -7.5**
KOLS Kolonicke sedl 156.14 327 *e*PKP2 **PKPab** **21 05 51.3 -0.3**
KOLS Kolonicke sedl 156.14 327 *e*PKP **PKPab** **21 05 51.3 -0.3**
KOLS *e* 21 06 02.1
MLR Muntele Rosu 156.29 316 ⇓P PKPab 21 05 40.3 -12
UZH Uzhgorod 156.34 326 *e*PKP2 **PKPab** **21 05 51.6 -0.8**
CRVS Cervenica-Dubn 156.54 328 *e*PKP2 **PKPab** **21 05 54.0 +0.7**
CRVS Cervenica-Dubn 156.54 328 *e*PKP **PKPab** **21 05 54.0 +0.7**
CRVS *e* 21 06 04.2
TRPA Tarpa 156.56 325 ⇑P **PKPab** **21 05 54.4 +1.0**
ARR Arges 157.13 317 ⇑P PKPdf 21 05 38.1 +13
OSTC Ostas 157.33 337 *e*PKPAB **PKPab** **21 05 58.1 +1.5**
OSTC *ex* x 21 06 08.3
CHVC Chvalec 157.35 338 *e*PKPAB **PKPab** **21 05 57.1 +0.4**
CHVC *ex* x 21 06 07.5
DPC Dobruska-Polom 157.47 337 *e*PKPAB **PKPab** **21 05 58.5 +1.2**
DPC *ex* x 21 06 08.4
DPC Dobruska-Polom 157.47 337 *e*PKP2 **PKPab** **21 05 58.5 +1.2**
MORC Moravsky Berou 157.51 334 *e*PKP **PKPab** **21 05 57.8 +0.3**
KRLC Kraliky 157.54 336 *e*PKPAB **PKPab** **21 05 53.9 -3.7**
KRLC *ex* x 21 06 07.8
KRLC Kraliky 157.54 336 *e*PKP2 **PKPab** **21 05 53.9 -3.7**
CLL Collm 157.61 343 *e* PKPab 21 05 49.0 -8.7
CLL *e*PKPab **PKPab** **21 05 57.0 -0.7**
CLL *i* pPKPab sPKPab 21 06 07.9 -2.9
comp=Z,17nm,1.0s
CLL *e*SKKSac SKKSac 21 16 21.0 -2.3
CLL Lm MLR 22 28 00.0
comp=Z,300nm,18.1s
CLL Collm 157.61 343 *e*PKP2 **PKPab** **21 05 57.0 -0.7**
CLL MLR MLR
comp=Z,300nm,18.1s
BRG Berggiesshubel 157.75 341 *e*PKP **PKPab** **21 05 58.3 -0.1**
comp=Z,18nm,1.5s
BRG *e* 21 06 09.1
comp=Z,12nm,1.0s
BRG Berggiesshubel 157.75 341 *e*PKP2 **PKPab** **21 05 58.3 -0.1**
BRG pmax pmax
comp=Z,18nm,1.5s
PVCC Panska Ves 157.87 340 *e*PKPAB **PKPab** **21 06 01.2 +2.3**
PVCC *ex* x 21 06 10.4
PVCC Panska Ves 157.87 340 *e*PKP2 **PKPab** **21 06 01.2 +2.3**
PSZ Piszkesteto 157.97 328 ⇑P **PKPab** **21 05 59.2 -0.4**
PSZ Piszkesteto 157.97 328 ⇑PKP2 **PKPab** **21 05 59.2 -0.4**
PSZ Piszkesteto 157.97 328 PKPab **PKPab** **21 06 00.0 +0.5**
VYHS Vyhne 158.01 330 *e*PKP2 **PKPab** **21 06 00.1 +0.5**
VYHS Vyhne 158.01 330 *e*PKP **PKPab** **21 06 00.1 +0.5**
VYHS *e* 21 06 09.7
PLVB Pleven 158.19 313 ⇓P **PKPab** **21 06 00.8 +0.3**
JAVC Velka Javorina 158.20 333 *e*PKP **PKPab** **21 06 01.9 +1.4**
VRAC Vranov 158.24 335 ⇓P **PKPab** **21 06 00.2 -0.4**
VRAC Vranov 158.24 335 *e*PKP **PKPab** **21 06 01.4 +0.8**
VRAC Vranov 158.24 335 ⇓PKP2 **PKPab** **21 06 00.2 -0.4**
GOPC GO Pecny, Ondr 158.35 339 *e*PKPAB **PKPab** **21 06 03.4 +2.4**
GOPC *ex* x 21 06 11.7
GOPC GO Pecny, Ondr 158.35 339 *e*PKP2 **PKPab** **21 06 03.4 +2.4**
PRU Pruhonice 158.36 339 *e*PKPAB **PKPab** **21 06 03.6 +2.6**
PRU *ex* x 21 06 12.1
PRU Pruhonice 158.36 339 *e*PKP2 **PKPab** **21 06 03.6 +2.6**
KRUC Moravsky 158.52 335 *e*PKP **PKPab** **21 06 02.2 +0.4**
TREC Trest 158.65 337 *e*PKPAB **PKPab** **21 06 04.2 +1.8**
TREC *ex* x 21 06 13.0
TREC Trest 158.65 337 *e*PKP2 **PKPab** **21 06 04.2 +1.8**
NKC Novy Kostel 158.73 343 *e*PKPAB **PKPab** **21 06 04.1 +1.4**
NKC *ex* x 21 06 13.6
NKC Novy Kostel 158.73 343 *e*PKP2 **PKPab** **21 06 04.1 +1.4**
MODS Modra-Piesok 158.75 332 *e*PKP2 **PKPab** **21 06 02.6 -0.2**
MODS Modra-Piesok 158.75 332 *e*PKP **PKPab** **21 06 02.6 -0.2**
MDVR Moldovita 159.16 319 ⇑P PKPab 21 05 52.9 -12
KHC Kasperske Hory 159.41 339 *e*PKPAB **PKPab** **21 06 05.5 -0.2**
KHC *ex* x 21 06 16.5
KHC Kasperske Hory 159.41 339 *e*PKP2 **PKPab** **21 06 05.5 -0.2**
VTS Vitosha 159.45 313 ⇑P **PKPab** **21 06 07.3 +1.0**
GRF Grafenberg Arr 159.54 344 *e*PKPab **PKPab** **21 06 06.8 +0.6**
baz=21,slow=3.9

```
GERES GERESS Array B 159.62 339  PKPab      PKPab  21 06 06.9 +0.2
      comp=Z,2.0nm,1.0s,baz=35,slow=4.9,SNR=9.1
CONA Conrad Observa 159.66 334  ePKPab     PKPab  21 06 07.8 +0.9
      comp=Z,24nm,1.7s
MOA  Molln          160.31 336  ePKPab     PKPab  21 06 09.9 +0.3
      comp=Z,5.0nm,0.4s
ARSA Arzberg        160.35 333  ePKPab     PKPab  21 06 10.2 +0.4
      comp=Z,15nm,2.1s
STIP Stip           160.59 311  i P        PKPab  21 06 10.9 -0.2
KOGS Kog            160.70 331  ePKPab     PKPab  21 06 11.6 +0.2
SOKA Soboth         161.01 333  ePKPab     PKPab  21 06 12.9 +0.1
      comp=Z,20nm,1.7s
PERS Pernice        161.01 333  ePKPab     PKPab  21 06 13.3 +0.6
KBA  Koelnbreinsper 161.29 337  ePKPab     PKPab  21 06 14.9 +0.8
      comp=Z,10nm,1.1s
MYKA Terra Mystica  161.57 336  ePKPab     PKPab  21 06 15.0 -0.3
      comp=Z,8.6nm,0.9s
WATA Walderalm      161.61 341  ePKPab     PKPab  21 06 15.9 +0.4
      comp=Z,14nm,1.1s
WTTA Wattenberg     161.66 340  ePKPab     PKPab  21 06 16.3 +0.6
      comp=Z,15nm,1.1s
RETA Reutte         161.70 342  ePKPab     PKPab  21 06 16.1 +0.3
      comp=Z,8.6nm,1.3s
MOTA Moosalm        161.74 342  ePKPab     PKPab  21 06 16.3 +0.3
      comp=Z,11nm,1.0s
SQTA Sankt Quirin   161.82 341  epPKPab    PKPab  21 06 17.4 +1.1
      comp=Z,12nm,1.1s
ABTA Abfaltersbach  161.85 338  epPKPab    PKPab  21 06 17.8 +1.3
      comp=Z,12nm,1.4s
JAVS Javornik       162.04 334  ePKPab     PKPab  21 06 17.1 -0.2
DAVA Damuels        162.11 344  ePKPab     PKPab  21 06 17.1 -0.5
      comp=Z,7.0nm,1.0s
FETA Feichten       162.14 342  PKPab      PKPab  21 06 18.2 +0.4
      comp=Z,8.2nm,1.5s
STAL STALIGIAL      162.22 337  PKPab      PKPab  21 06 17.2 -0.8
FUORN Ofenpass-Fuorn 162.63 342 PKPab      PKPab  21 06 20.2 +0.1
TORD Torodi Ar. Bea 162.96 177  PKP        PKPdf  21 05 32.7  0.0
      comp=Z,1.1nm,1.0s,baz=189,slow=3.5,SNR=2.8
TORD                            PKPab      PKPab  21 06 23.1 +1.2
      comp=Z,1.4nm,0.6s,baz=183,slow=3.9,SNR=9.7
ESDC Sonseca Array  169.12 28   PKP        PKPdf  21 05 37.2 +0.3
      comp=Z,1.1nm,1.2s,baz=93,slow=5.4,SNR=4.1
ESDC                            PKPab      PKPab  21 06 48.1 -0.5
      comp=Z,2.8nm,1.2s,baz=309,slow=4.9,SNR=4.9
```

IDC ***30*** *20:58:11.5±0.4,51°.58N×143°.04E,h0km,mb4.5/27, mb1 4.6/34,mb1mx4.4/49,mbtmp4.4/34,ML3.3/6,MS3.9/8, Ms1 3.9/8,ms1mx3.5/57,Error ellipse: s-maj=14.2km s-min=9.4km az=142.0*

SKHL ***30*** *20:58:11.7±0.5,51°.65N×142°.67E,h10km,mb5.0/15, Ms4.7/4*

SKHL Felt (III-IV) Nysh, Katangli, Nogliky; (II-III) at Lunskiy Zaliv, Argi-Pagi, Val.

MOS ***30*** *20:58:12.2±0.9,51°.60N×143°.05E,h14km,mb4.7/23, MS3.9/7,Error ellipse: s-maj=6.0km s-min=4.2km az=88.6*

MOS Felt (III-IV) at Nysh, Katangli, Nogliki; (II-III) at Argi-Pagi, Val.

BJI ***30*** *20:58:12.5±0.0,51°.60N×143°.19E,h22km,mB4.9/20, mb4.5/35,Ms4.6/18,Ms7 4.3/17*

NEIC ***30*** *20:58:13.2±1.4,51°.59N±0°.07×143°.1E±0°.1,h10km±1km, mb4.9/231,Error ellipse: s-maj=13.1km s-min=10.1km az=131.0*

ISC 30 20:58:14.1±0.7, 51°.63N±0°.02×142°.94E±0°.03, h13km±4km, n732,σ1§08/757, mb4.9/203, MS4.0/8, 44C-7D, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NGLR	**Nogliki**	**0.20**	**37**	⇓*i*	PN	**Pg**	**20 58 18.3**	**-0.2**
NGLR				*i*	S	**Sg**	**20 58 21.9**	**+0.4**
TYV	**Tymovskoe**	**0.78**	**193**	*i*	Pg	**Pg**	**20 58 27.4**	**-1.9**
TYV					AMB	AMB	20 58 27.7	
	74μm,0.2s							
TYV				*e*	Sg	**Sg**	**20 58 38.8**	**-0.7**
TYV					A	A	20 58 39.1	
	9μm,0.7s							
TYV					A	A	20 58 39.1	
	11μm,0.7s							
TYV					AMS	AMS	20 58 55.3	
	6μm,7.0s							
TYV					AMS	AMS	20 58 55.3	
	4μm,7.0s							
TYV					AMS	AMS	20 58 55.3	
	4μm,7.0s							
TYV	**Tymovskoe**	**0.78**	**193**	*e*	PN	**Pg**	**20 58 27.3**	**-2.0**
TYV				*e*	S	**Sg**	**20 58 38.6**	**-0.9**
TYV					pmax	pmax		
	comp=Z,2μm,0.2s							
TYV					smax	smax		
	comp=E,11μm,0.7s							
OKH	**Okha**	**1.93**	**360**	*i*	P	**Pn**	**20 58 47.2**	**+0.7**
OKH					AMB	AMB	20 58 48.3	
	comp=E,500nm,0.3s							
OKH				*e*	Sg	**Sg**	**20 59 19.6**	**+3.5**
OKH					A	A	20 59 20.5	
	comp=E,8μm,0.5s							
OKH					A	A	20 59 20.5	
	comp=E,10μm,0.5s							
OKH	**Okha**	**1.93**	**360**	⇓*i*	PN	**Pn**	**20 58 47.2**	**+0.7**
OKH				*i*	S	**Sg**	**20 59 18.6**	**+2.5**
OKH					pmax	pmax		
	comp=Z,548nm,0.9s							
OKH					smax	smax		
	comp=N,8μm,0.7s							
OKH					smax	smax		
	comp=E,10μm,0.5s							
NKL	**Nikolayevsk**	**2.06**	**319**	*e*	Pg	**Pn**	**20 58 48.9**	**+0.6**
NKL					AMB	AMB	20 58 51.0	
	comp=E,4μm,0.4s							
NKL				*e*	Sg	**Sb**	**20 59 16.7**	**0.0**
NKL					A	A	20 59 20.4	
	comp=E,17μm,0.5s							
NKL					AMS	AMS	20 59 47.0	
	comp=E,19μm,7.0s							
NKL					AMS	AMS	20 59 47.0	
	comp=E,42μm,7.0s							
NKL	**Nikolayevsk**	**2.06**	**319**	*e*	PN	**Pn**	**20 58 49.1**	**+0.8**
NKL				*e*	S	**Sg**	**20 59 20.2**	**-0.1**
NKL					pmax	pmax		
	comp=E,151nm,0.3s							
NKL					pmax	pmax		
	comp=Z,524nm,0.3s							
NKL					pmax	pmax		
	comp=N,3.0nm,0.2s							
NKL					smax	smax		
	comp=E,2μm,0.4s							
NKL					smax	smax		
	comp=N,3.0nm,0.5s							
UGL	**Uglegorsk**	**2.61**	**193**	*e*	P	**Pn**	**20 58 54.8**	**-1.1**
UGL				*e*	Pg	**Pg**	**20 59 04.3**	**+0.2**
UGL					AMB	AMB	20 59 07.9	
	comp=N,700nm,0.7s							
UGL				*e*	Sg	**Sg**	**20 59 40.4**	**+2.5**
UGL					A	A	20 59 44.0	
	comp=N,2μm,0.7s							
UGL					A	A	20 59 44.0	
	comp=N,3μm,0.7s							
UGL					AMS	AMS	21 00 10.0	
	comp=N,10μm,7.0s							
UGL					AMS	AMS	21 00 10.0	
	comp=N,11μm,7.0s							
UGL					AMS	AMS	21 00 10.0	
	comp=N,10μm,7.0s							
UGL	**Uglegorsk**	**2.61**	**193**	PN		**Pn**	**20 58 52.7**	**-3.2**
UGL					pmax	pmax		
	comp=Z,116nm,0.5s							
GRNR	**Gornyy**	**4.19**	**261**	*e*	P	**Pn**	**20 59 19.3**	**+1.7**
GRNR				*e*			21 00 11.5	
GRNR					smax	smax		
	comp=N,450nm,0.7s							
GRNR					MLR	MLR		
	comp=N,630nm,16.0s							
GRNR					MLR	MLR		
	comp=Z,410nm,12.0s							
KHLM	**Kholmsk**	**4.61**	**188**	*e*	P	**Pn**	**20 59 23.6**	**+0.2**
YSS	**Yuzh-Sakhalins**	**4.68**	**182**	*e*	P	**Pn**	**20 59 25.3**	**+1.0**
YSS					AMB	AMB	20 59 27.0	
	comp=Z,100nm,1.0s							
YSS				*e*	P	**Pb**	**20 59 34.9**	**-1.0**
YSS				*e*	Pg	**Pg**	**20 59 45.8**	**+2.2**
YSS					AMB	AMB	20 59 48.7	
	comp=Z,140nm,0.7s							
YSS				*e*	Sg	**Sg**	**21 00 48.4**	**+4.2**
YSS					A	A	21 00 49.1	
	comp=Z,100nm,0.9s							
YSS					A	A	21 00 49.1	
	comp=Z,230nm,0.9s							
YSS					AMS	AMS	21 01 42.0	
	comp=Z,2μm,11.0s							
YSS					AMS	AMS	21 01 42.0	
	comp=Z,2μm,11.0s							
YSS					AMS	AMS	21 01 42.0	
	comp=Z,900nm,11.0s							
YSS	**Yuzh-Sakhalins**	**4.68**	**182**	*e*	PN	**Pn**	**20 59 23.3**	**-1.0**
YSS					pmax	pmax		
	comp=Z,100nm,1.0s							
YSS					MLR	MLR		
	comp=Z,2μm,11.0s							
YSS					MLR	MLR		
	comp=N,2μm,10.0s							
YSS					MLR	MLR		
	comp=E,900nm,9.0s							
YSS	**Yuzh-Sakhalins**	**4.68**	**182**		Pn	**Pn**	**20 59 22.7**	**-1.6**
EKMR	**Ekimchan**	**6.29**	**287**	*e*	P	**Pn**	**20 59 45.0**	**-1.4**
EKMR					AMB	AMB	21 00 04.0	
	comp=E,13nm,0.6s							
EKMR				*e*	Pg	**Pg**	**21 00 13.5**	**-0.9**
EKMR				*e*	S	**Sn**	**21 00 55.0**	**-3.1**
EKMR				*e*	Sg	**Sg**	**21 01 38.0**	**+2.2**
EKMR					A	A	21 01 46.5	
	comp=E,800nm,1.0s							
EKMR					A	A	21 01 46.5	
	comp=E,530nm,1.0s							
KUR	**Kuril'sk**	**7.19**	**151**	*i*	PN	**Pn**	**21 00 01.5**	**+2.8**
ASAJ	**Asahikawa**	**7.52**	**182**		Pn	**Pn**	**21 00 02.8**	**-0.5**
	comp=E,1.1nm,0.3s,baz=9.2,slow=13,SNR=6.7							
JKA	**Kamikawa-asahi**	**7.52**	**182**			**Pn**	**21 00 02.3**	**-1.0**
KLR	**Kul'dur**	**7.54**	**256**		Pn	**Pn**	**21 00 04.2**	**+0.6**
	comp=E,1.1nm,0.3s,baz=72,slow=12,SNR=6.4							
KLR					Lg	Lg	21 02 12.7	
	comp=E,3.5nm,0.3s,baz=157,slow=16,SNR=4.5							
KLR					LR	LR	21 02 54.2	
	comp=E,674nm,19.8s,baz=75,slow=37							
KLR	**Kul'dur**	**7.54**	**256**	*ce*	PN	**Pn**	**21 00 05.5**	**+2.0**
KLR					pmax	pmax		
	comp=Z,4.0nm,0.3s							
SKR	**Severo-Kuril's**	**8.34**	**91**	*i*	PN	**Pn**	**21 00 17.3**	**+2.7**
BMKR	**Bomnak**	**9.01**	**296**	*e*	P	**Pn**	**21 00 26.0**	**+2.3**
BMKR					AMB	AMB	21 00 28.0	
	comp=Z,11nm,0.4s							
BMKR				*e*	Sg	Sn	21 03 02.8	+58
BMKR					A	A	21 03 11.0	
	comp=Z,2.0nm,0.6s							
BMKR					A	A	21 03 11.0	
	comp=Z,2.0nm,0.6s							
MA2	**Magadan**	**9.11**	**26**		Pn	**Pn**	**21 00 25.8**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=143,slow=20,SNR=2.1							
MA2					LR	LR	21 04 10.1	
	comp=Z,374nm,18.8s,baz=254,slow=39							
MA2	**Magadan**	**9.11**	**26**	*i*	PN	**Pn**	**21 00 25.6**	**+0.5**
MA2					pmax	pmax		
	comp=Z,4.0nm,0.3s							
MA2					MLR	MLR		
	comp=Z,300nm,18.0s							
MA2	**Magadan**	**9.11**	**26**			**Pn**	**21 00 24.1**	**-1.0**
PEA0B	**Petropavlovsk-**	**9.16**	**75**	*i*	PN	**Pn**	**21 00 25.6**	**-0.1**
PEA0B	**Petropavlovsk-**	**9.16**	**75**		Pn	**Pn**	**21 00 23.5**	**-2.2**
PETK	**Petropavlovsk-**	**9.16**	**75**		Pn	**Pn**	**21 00 23.7**	**-2.0**
	comp=Z,0.6nm,0.3s,baz=262,slow=10,SNR=3.5							
PETK					LR	LR	21 03 34.4	
	comp=Z,552nm,21.1s,baz=252,slow=36							
ERM	**Erimo**	**9.62**	**179**	*ce*	PN	**Pn**	**21 00 35.7**	**+3.7**
ERM					pmax	pmax		
	comp=Z,44nm,1.3s							
ERM	**Erimo**	**9.62**	**179**		Pn	**Pn**	**21 00 31.6**	**-0.4**
PET	**Petropavlovsk**	**9.73**	**76**	*i*	PN	**Pn**	**21 00 36.3**	**+2.8**
PET					pmax	pmax		
	comp=Z,30nm,1.2s							
ZEA	**Zeya**	**9.76**	**289**	*e*	PN	Pn	21 00 43.0	+9.0
ZEA					pmax	pmax		
	comp=Z,13nm,0.8s							
ZEA					MLR	MLR		
	comp=Z,2μm,10.0s							
ZEA					MLR	MLR		
	comp=E,2μm,8.0s							
ZEA					MLR	MLR		
	comp=N,1μm,7.0s							
KROS	**Kirovskiy**	**10.02**	**293**	*e*	P	**Pn**	**21 00 40.3**	**+2.7**
KROS					AMB	AMB	21 00 42.6	
	comp=N,17nm,0.5s							
KROS				*e*	Sg		21 03 35.5	
KROS					A	A	21 03 52.1	
	comp=N,49nm,0.5s							
USA0B	**Ussuriysk Arra**	**10.44**	**229**	*i*	PN	**Pn**	**21 00 45.7**	**+2.4**
USA0B	**Ussuriysk Arra**	**10.44**	**229**		Pn	**Pn**	**21 00 43.8**	**+0.5**
USRK	**Ussuriysk Ar.**	**10.44**	**229**		Pn	**Pn**	**21 00 44.1**	**+0.8**
	baz=36,slow=15,SNR=12							
USRK					Lg	Lg	21 03 48.1	
	baz=31,slow=28,SNR=7.1							
VLA	**Vladivostok**	**11.33**	**226**	*i*	PN	**Pn**	**21 00 57.4**	**+2.0**
VLA					pmax	pmax		
	comp=Z,10.0nm,0.7s							
VLA					MLR	MLR		
	comp=Z,919nm,10.0s							
YAK	**Yakutsk**	**12.67**	**330**	*e*	PN	**Pn**	**21 01 15.6**	**+1.9**
YAK					pmax	pmax		
	comp=N,6.0nm,0.9s							
YAK					pmax	pmax		
	comp=Z,7.0nm,1.1s							
YAK					pmax	pmax		
	comp=E,2.0nm,1.1s							
YAK					MLR	MLR		
	comp=Z,519nm,11.0s							
YAK					MLR	MLR		
	comp=N,470nm,11.0s							
YAK					MLR	MLR		
	comp=E,270nm,11.0s							
MJB9	**Matsu-Tunnel**	**15.45**	**194**		Pn	**Pn**	**21 01 51.3**	**-0.3**
MAJO	**Matsushiro**	**15.45**	**194**		P	**Pn**	**21 01 51.8**	**+0.2**
MAJO					pmax	pmax		
	comp=Z,22nm,0.9s							
MAJO	**Matsushiro**	**15.45**	**194**		Pn	**Pn**	**21 01 51.8**	**+0.2**
MJAR	**Matsushiro Arr**	**15.45**	**194**		Pn	**Pn**	**21 01 48.8**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=7.3,slow=12,SNR=6.5							
INU	**Inuyama**	**16.82**	**197**			**Pn**	**21 02 07.0**	**-2.1**
KS19	**Wonju Array Si**	**17.69**	**223**		P	**Pn**	**21 02 20.1**	**+0.1**
KSRS	**Korea Array**	**17.70**	**223**		P	**Pn**	**21 02 19.4**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=35,slow=11,SNR=34							
KSRS					PcP	**PcP**	**21 06 58.0**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=36,slow=2.3,SNR=4.4							
KSRS					LR	LR	21 09 01.7	
	comp=Z,328nm,19.0s,baz=42,slow=37							
BOD	**Bodaibo**	**17.73**	**302**	*e*	P	**P**	**21 02 21.6**	**+0.4**
BOD					pmax	pmax		
	comp=Z,7.0nm,1.3s							
TJN	**Taejon**	**18.85**	**222**	*de*	P	**Pn**	**21 02 35.0**	**+0.8**
DL2	**Dalian**	**19.57**	**238**		P	**Pn**	**21 02 43.5**	**+0.7**
DL2					S	**Sn**	**21 06 26.5**	**+4.3**
DL2					pmax	pmax		
	comp=Z,18nm,1.1s							
DL2					pmax	pmax		
	comp=Z,200nm,8.3s							
DL2					LR	LR		
	comp=Z,1μm,6.6s							
DL2					LR	LR		
	comp=Z,720nm,9.6s							
BILL	**Bilibino**	**19.98**	**26**		P	**P**	**21 02 46.1**	**+0.3**
BILL					pmax	pmax		
	comp=Z,11nm,1.1s							
BILL	**Bilibino**	**19.98**	**26**		P	**P**	**21 02 46.1**	**+0.3**
JNU	**Nakatsue**	**20.48**	**210**		P	**P**	**21 02 50.6**	**-0.8**
	comp=Z,7.4nm,0.8s,baz=22,slow=6.0,SNR=7.0							
JNU					LR	LR	21 09 57.2	
	comp=Z,301nm,19.0s,baz=34,slow=34							
JNU	**Nakatsue**	**20.48**	**210**		P	**P**	**21 02 51.3**	**-0.1**
TIXI	**Tiksi**	**21.06**	**348**		P	**P**	**21 02 57.5**	**+0.1**
TIXI					pmax	pmax		
	comp=Z,25nm,0.8s							
TIXI	**Tiksi**	**21.06**	**348**		P	**P**	**21 02 57.5**	**+0.1**
BJT	**Baijiatuau**	**21.84**	**248**		P	**P**	**21 03 06.7**	**+0.7**
BJT					pmax	pmax		
	comp=Z,32nm,1.2s							
BJT	**Baijiatuau**	**21.84**	**248**		P	**P**	**21 03 06.7**	**+0.7**
AMKA	**Amchitka**	**22.50**	**76**		P	**P**	**21 03 12.6**	**-0.4**
ULN	**Ulaanbaatar**	**23.34**	**275**	*ce*	P	**P**	**21 03 22.9**	**+0.9**
ULN					pmax	pmax		
	comp=Z,29nm,1.0s							
ULN	**Ulaanbaatar**	**23.34**	**275**		P	**P**	**21 03 22.8**	**+0.9**
ULN					IAmb	IAmb	21 03 24.9	
	comp=Z,28nm,1.1s							
IRK	**Irkutsk**	**23.66**	**287**	*e*	P	**P**	**21 03 25.3**	**+0.4**
IRK					pmax	pmax		
	comp=Z,53nm,2.0s							
SONM	**Songino Array**	**23.76**	**275**		P	**P**	**21 03 26.7**	**+0.6**
	comp=Z,6.8nm,0.8s,baz=62,slow=7.3,SNR=37							
SONM					Lg	Lg	21 10 51.6	
	comp=Z,5.0nm,1.2s,baz=64,slow=26,SNR=7.3							
SONM					LR	LR	21 13 32.4	
	comp=Z,277nm,21.6s,baz=248,slow=39							
TIA	**Tai'an**	**23.97**	**240**		P	**P**	**21 03 28.3**	**+0.3**
TIA					pmax	pmax		
	comp=Z,9.0nm,1.1s							
TLY	**Talaya**	**24.18**	**286**		P	**P**	**21 03 31.2**	**+1.3**
	comp=Z,8.5nm,0.7s,baz=70,slow=22,SNR=3.5							
TLY					LR	LR	21 12 35.2	
	comp=Z,255nm,18.4s,baz=68,slow=36							
TLY	**Talaya**	**24.18**	**286**	*i*	P	**P**	**21 03 31.8**	**+1.9**
TLY					pmax	pmax		
	comp=Z,23nm,1.0s							
TLY					MLR	MLR		
	comp=Z,343nm,15.0s							
TLY	**Talaya**	**24.18**	**286**		P	**P**	**21 03 31.0**	**+1.2**
ZAK	**Zakamensk**	**24.78**	**283**	*e*	P	**P**	**21 03 36.4**	**+1.0**
ZAK					pmax	pmax		
	comp=Z,13nm,1.2s							
BTO	**Baotou**	**25.13**	**257**		P	**P**	**21 03 36.8**	**-1.8**
MOY	**Mondy**	**25.77**	**287**	*e*	P	**P**	**21 03 45.8**	**+1.4**
MOY					pmax	pmax		
	comp=Z,26nm,2.2s							
WHN	**Wuhan**	**29.82**	**236**	⇓	P	**P**	**21 04 21.0**	**+0.4**
XAN	**Xi'an**	**30.15**	**248**		P	**P**	**21 04 22.0**	**-1.6**
XAN					pP	sP	21 04 32.3	+3.0
XAN					S	**S**	**21 09 26.5**	**+4.4**
XAN					pmax	pmax		
	comp=Z,5.0nm,0.8s							
XAN					pmax	pmax		
	comp=Z,320nm,7.9s							
XAN					LR	LR		
	comp=Z,360nm,11.8s							
XAN					LR	LR		
	comp=Z,420nm,10.3s							
XAN					LR	LR		
	comp=Z,460nm,16.3s							
NRIK	**Noril'sk**	**31.05**	**326**	*i*	P	**P**	**21 04 30.7**	**-0.4**
NRIK					pmax	pmax		
	comp=Z,11nm,1.3s							
GTA	**Gaotai**	**32.12**	**265**	⇑	P	**P**	**21 04 42.3**	**+1.3**
GTA					pmax	pmax		
	comp=Z,5.0nm,1.0s							
GTA					pmax	pmax		
	comp=Z,110nm,6.5s							
GTA					LR	LR		
	comp=Z,140nm,18.7s							
GTA					LR	LR		
	comp=Z,190nm,19.4s							
GTA					LR	LR		
	comp=Z,310nm,18.4s							
ENH	**Enshi**	**32.63**	**242**		P	**P**	**21 04 45.0**	**-0.4**
TTA	**Tatalina**	**33.56**	**46**		P	**P**	**21 04 53.4**	**+0.1**
TTA	**Tatalina**	**33.56**	**46**		P	**P**	**21 04 53.4**	**+0.1**
SVW2	**Sparrevohn**	**34.10**	**50**		P	**P**	**21 04 57.4**	**-0.6**
ZALV	**Zalesovo Beam**	**34.38**	**297**		PcP	**PcP**	**21 07 35.5**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=120,slow=2.4,SNR=7.4							
DGZ	**Jazzator, Alta**	**34.52**	**289**	*i*	P	**P**	**21 05 03.2**	**+1.3**
DGZ					pmax	pmax		
	comp=Z,5.0nm,0.8s							
PPLA	**Purkeypile**	**35.28**	**46**		P	**P**	**21 05 08.4**	**+0.1**
COLD	**Coldfoot**	**35.35**	**38**		P	**P**	**21 05 07.4**	**-1.3**
	baz=278,SNR=15							
COLD	**Coldfoot**	**35.35**	**38**		P	**P**	**21 05 08.6**	**-0.1**
COLD					IAmb	IAmb	21 05 13.0	
	comp=Z,12nm,0.9s							
TOLK	**Toolik Lake Re**	**35.41**	**36**		P	**P**	**21 05 08.1**	**-1.1**
	baz=276							
TOLK	**Toolik Lake Re**	**35.41**	**36**		P	**P**	**21 05 09.1**	**-0.1**
TOLK					IAmb	IAmb	21 05 13.7	
	comp=Z,23nm,1.1s							
BPAW	**Bear Paw Mtn.**	**35.56**	**44**		P	**P**	**21 05 10.8**	**+0.2**
SKT	**Skwentna**	**35.79**	**47**		P	**P**	**21 05 13.9**	**+1.3**
TRF	**Thorofare Moun**	**36.00**	**45**		P	**P**	**21 05 14.7**	**+0.2**
TRF					IAmb	IAmb	21 05 19.0	
	comp=Z,23nm,1.0s							
NEA2	**Nenana**	**36.27**	**43**		P	**P**	**21 05 15.0**	**-1.7**
	baz=283							
KDAK	**Kodiak Island**	**36.47**	**54**		P	**P**	**21 05 17.7**	**-0.7**
	comp=Z,6.8nm,0.8s,baz=306,slow=6.7,SNR=5.5							
KDAK	**Kodiak Island**	**36.47**	**54**		P	**P**	**21 05 17.5**	**-0.9**
KDAK					pmax	pmax		
	comp=Z,9.0nm,0.9s							
KDAK	**Kodiak Island**	**36.47**	**54**		P	**P**	**21 05 17.4**	**-0.9**
MCK	**McKinley**	**36.53**	**44**		P	**P**	**21 05 19.2**	**+0.4**
MCK					pmax	pmax		
	comp=Z,18nm,0.9s							
MCK	**McKinley**	**36.53**	**44**		P	**P**	**21 05 19.2**	**+0.4**
MCK					IAmb	IAmb	21 05 23.9	
	comp=Z,18nm,0.9s							
RND	**Reindeer**	**36.64**	**44**		P	**P**	**21 05 18.9**	**-0.9**
RND					pmax	pmax		
	comp=Z,7.0nm,1.0s							
RND	**Reindeer**	**36.64**	**44**		P	**P**	**21 05 18.9**	**-0.9**
BRLK	**Bradley Lake**	**36.70**	**51**		P	**P**	**21 05 19.3**	**-1.0**
BRLK					IAmb	IAmb	21 05 23.6	
	comp=Z,12nm,0.9s							
WRH	**Wood River Hil**	**36.72**	**43**		P	**P**	**21 05 20.2**	**-0.2**
WRH					IAmb	IAmb	21 05 24.7	
	comp=Z,27nm,1.0s							
TCOL	**CIGO, UAF Yank**	**36.72**	**42**		P	**P**	**21 05 20.4**	**0.0**
	baz=283							
COLA	**College**	**36.72**	**42**		P	**P**	**21 05 20.3**	**-0.1**
COLA					pmax	pmax		
	comp=Z,17nm,1.0s							
COLA	**College**	**36.72**	**42**		P	**P**	**21 05 20.3**	**-0.1**
COLA					IAmb	IAmb	21 05 24.8	
	comp=Z,18nm,1.0s							
CCB	**Clear Creek Bu**	**36.79**	**42**		P	**P**	**21 05 20.8**	**-0.2**
CCB					IAmb	IAmb	21 05 25.3	
	comp=Z,15nm,1.0s							
POKR	**Poker Plat Res**	**36.84**	**41**		P	**P**	**21 05 19.8**	**-1.7**
	baz=283							
GHO	**Glory Hole Cre**	**37.04**	**47**		P	**P**	**21 05 22.2**	**-1.0**
GHO					IAmb	IAmb	21 05 27.8	
	comp=Z,16nm,0.9s							
ZSN	**Zaisan**	**37.06**	**287**	⇑	*i*P	**P**	**21 05 23.1**	**-0.4**
	comp=Z,8.3nm,1.6s,baz=287							
ZSN					LR	LR	21 20 36.4	
	comp=Z,114nm,8.5s,baz=287							
ZSN	**Zaisan**	**37.06**	**287**	*i*	P	**P**	**21 05 22.6**	**-0.9**
ZSN					pmax	pmax		
	comp=Z,4.0nm,1.5s							
ZSN					MLR	MLR		
	comp=Z,114nm,8.0s							
IL31		**37.15**	**42**		P	**P**	**21 05 23.4**	**-0.5**
IL31					IAmb	IAmb	21 05 28.9	
	comp=Z,17nm,1.1s							
ILAR	**Eielson Array**	**37.15**	**42**		P	**P**	**21 05 23.9**	**-0.1**
	comp=Z,9.9nm,1.0s,baz=284,slow=8.0,SNR=43							
GYA	**Guiyang**	**37.15**	**241**	⇓	P	**P**	**21 05 25.0**	**+0.4**
GYA					PP	**PnPn**	**21 06 52.5**	**+2.9**
GYA					S	**S**	**21 11 06.5**	**-4.2**
GYA					pmax	pmax		
	comp=Z,11nm,0.9s							
GYA					pmax	pmax		
	comp=Z,85nm,3.5s							
GYA					LR	LR		
	comp=Z,220nm,9.7s							
GYA					LR	LR		
	comp=Z,170nm,6.4s							
GYA

KNK IAmb IAmb 21 05 30.0
comp=Z,31nm,0.9s

FYU Fort Yukon 37.40 39 P **P** 21 05 26.5 +0.4
PRP Porcupine Dome 37.53 40 P **P** 21 05 27.9 +0.4
PRP IAmb IAmb 21 05 32.3
comp=Z,30nm,1.0s

SCM Sheep Creek Mo 37.74 47 P **P** 21 05 29.2 0.0
SCM pmax pmax
comp=Z,15nm,0.8s

SCM Sheep Creek Mo 37.74 47 P **P** 21 05 29.2 0.0
SCM IAmb IAmb 21 05 33.3
comp=Z,15nm,0.8s

SEM Semipalatinsk 38.38 294 *e*P **P** 21 05 34.7 -0.2
comp=Z,2.2nm,0.9s,baz=294

SEM Semipalatinsk 38.38 294 *i* P **P** 21 05 34.0 -0.9
SEM pmax pmax
comp=Z,2.0nm,0.9s

FID Port Fidalgo 38.47 48 P **P** 21 05 34.6 -0.7
SCRK Sand Creek 38.58 43 P **P** 21 05 35.2 -1.1
HIN Hinchinbrook I 38.58 49 P **P** 21 05 36.6 +0.4
EYAK Cordova Ski Ar 38.88 48 P **P** 21 05 39.0 +0.3
MK31 Makanchi Array 38.91 288 P **P** 21 05 39.7 +0.5
MK31 pmax pmax
comp=Z,8.0nm,0.9s

MK31 Makanchi Array 38.91 288 P **P** 21 05 39.7 +0.5
MKAR Makanchi Array 38.91 288 P **P** 21 05 39.8 +0.6
comp=Z,8.2nm,0.8s,baz=62,slow=8.1,SNR=38
MKAR PcP **PcP** 21 07 48.7 -0.9
comp=Z,1.7nm,0.9s,baz=100,slow=1.8,SNR=2.8

MENT Mentasta 39.01 44 P **P** 21 05 39.7 0.0
MAKZ Makanchi 39.09 288 P **P** 21 05 40.7 0.0
MAKZ pmax pmax
comp=Z,5.0nm,0.9s

MAKZ Makanchi 39.09 288 P **P** 21 05 40.6 0.0
KURK Kurchatov 39.16 295 *ce*P **P** 21 05 41.4 +0.2
KURK pmax pmax
comp=Z,9.0nm,0.8s

KURK Kurchatov 39.16 295 P **P** 21 05 41.3 +0.2
KURBB Kurchatov Arra 39.26 295 P **P** 21 05 42.2 +0.3
comp=Z,6.6nm,0.7s,baz=68,slow=8.8,SNR=19
KURBB PcP **PcP** 21 07 50.2 -0.4
comp=Z,2.0nm,0.8s,baz=63,slow=3.0,SNR=4.6

GLB Gilahina Butte 39.46 46 P **P** 21 05 43.6 0.0
EGAK Eagle 39.51 41 P **P** 21 05 43.4 -0.4
EGAK IAmb IAmb 21 05 47.6
comp=Z,22nm,0.9s

VRDI Verde Repeater 39.70 47 P **P** 21 05 46.0 +0.3
MCARA McCarthy VSAT 39.84 46 P **P** 21 05 47.6 +0.9
MCARA IAmb IAmb 21 05 53.2
comp=Z,42nm,1.2s

CRQM Cirque 40.01 47 P **P** 21 05 48.7 +0.4
TGL Tana Glacier 40.15 47 P **P** 21 05 49.5 +0.1
TGL IAmb IAmb 21 05 54.2
comp=Z,20nm,0.9s

WAX Waxell Ridge 40.26 48 P **P** 21 05 50.1 -0.2
BALM Baldy 40.27 47 P **P** 21 05 50.4 0.0
KMI Kunming 40.38 245 P **P** 21 05 50.6 -1.2
KMI pmax pmax
comp=Z,11nm,1.1s

KMI Kunming 40.38 245 P **P** 21 05 50.6 -1.2
ISLE Juniper Island 40.43 47 P **P** 21 05 52.1 +0.3
ISLE IAmb IAmb 21 06 05.6
comp=Z,22nm,1.2s

DAWY Dawson 40.47 41 P **P** 21 05 51.8 -0.1
BARN Barnard Glacie 40.57 46 P **P** 21 05 53.3 +0.3
EPYK Eagle Plains 40.73 38 P **P** 21 05 52.2 -1.9
baz=289

EPYK Eagle Plains 40.73 38 P **P** 21 05 54.1 +0.1
EPYK IAmb IAmb 21 05 58.6
comp=Z,20nm,0.9s

CTGM Chitina Glacie 40.75 46 P **P** 21 05 54.4 0.0
CTGM IAmb IAmb 21 05 59.3
comp=Z,24nm,1.0s

INK Inuvik 41.24 34 P **P** 21 05 58.1 0.0
comp=Z,13nm,0.9s,baz=296,slow=7.9,SNR=27

INK Inuvik 41.24 34 P **P** 21 05 58.0 -0.1
INK pmax pmax
comp=Z,11nm,0.9s

INK Inuvik 41.24 34 P **P** 21 05 58.0 -0.1
TDK Taldyqorghan 42.16 287 *e*P **P** 21 06 07.3 +1.2
comp=Z,19nm,0.7s,baz=287

TDK Taldyqorghan 42.16 287 *i* P **P** 21 06 07.0 +1.0
TDK pmax pmax
comp=Z,19nm,0.7s

A36M Sachs Harbour 42.52 27 P **P** 21 06 07.9 -0.7
baz=291

HYT Haines Junctio 42.52 45 P **P** 21 06 09.2 +0.3
SHLS Shalkode 42.55 284 *i* P **P** 21 06 08.5 -0.9
comp=Z,11nm,1.7s,baz=284

SHLS Shalkode 42.55 284 *i* P **P** 21 06 07.6 -1.8
SHLS pmax pmax
comp=Z,4.0nm,0.9s

BRVK Borovoye 42.64 302 *ce*P **P** 21 06 10.3 +0.5
BRVK pmax pmax
comp=Z,3.0nm,0.8s

BRVK Borovoye 42.64 302 P **P** 21 06 10.0 +0.2
SLVN Son La 42.76 240 P **P** 21 06 11.8 +0.7
UZB Uzynbulak 42.82 285 ⇑ *i*P **P** 21 06 12.7 +1.1
comp=Z,12nm,1.5s,baz=285

UZB Uzynbulak 42.82 285 *i* P **P** 21 06 11.9 +0.3
UZB pmax pmax
comp=Z,6.0nm,1.3s

KPKS Kokpek 42.85 285 *e*P **P** 21 06 12.9 +1.2
comp=Z,18nm,1.8s,baz=285

KPKS Kokpek 42.85 285 *i* P **P** 21 06 12.2 +0.5
KPKS pmax pmax
comp=Z,4.0nm,1.2s

SATY Saty 43.24 285 ⇑ *i*P **P** 21 06 16.4 +1.4
comp=Z,7.5nm,1.2s,baz=285

SATY Saty 43.24 285 *i* P **P** 21 06 15.4 +0.4
SATY pmax pmax
comp=Z,4.0nm,1.1s

PRZ Przheval'sk 43.58 284 P **P** 21 06 19.2 +1.4
PRZ pmax pmax
comp=Z,12nm,1.1s

PRZ Przheval'sk 43.58 284 P **P** 21 06 19.2 +1.4
CHKK Chushkaly 43.64 287 *e*P **P** 21 06 18.8 +0.8
baz=287

CHKK Chushkaly 43.64 287 *i* P **P** 21 06 18.5 +0.4
CHKK pmax pmax
comp=Z,69nm,1.1s

WHY Whitehorse 43.76 45 P **P** 21 06 19.2 +0.3
LSA Lhasa 43.87 261 P **P** 21 06 21.9 +1.4
LSA pmax pmax
comp=Z,6.0nm,0.8s

LSA Lhasa 43.87 261 P **P** 21 06 21.9 +1.4
MDOK Medeo 44.00 286 *i* P **P** 21 06 22.3 +1.2
comp=Z,147nm,2.1s,baz=286

MDOK Medeo 44.00 286 *i* P **P** 21 06 21.8 +0.7
KUU Kurty 44.01 287 *e*P **P** 21 06 21.4 +0.4
comp=Z,6.5nm,0.7s,baz=287

KUU Kurty 44.01 287 *i* P **P** 21 06 20.8 -0.2
SKAG Skagway 44.11 47 P **P** 21 06 22.3 +0.8
SKAG IAmb IAmb 21 06 27.4
comp=Z,28nm,1.1s

TARG Taragay, Kyrgy 44.38 284 P **P** 21 06 25.3 +0.8
KDJ Kajisay 44.52 285 P **P** 21 06 26.6 +1.3
KDJ pmax pmax
comp=Z,15nm,1.0s

KDJ Kajisay 44.52 285 P **P** 21 06 26.6 +1.3
KDJ IAmb IAmb 21 06 27.8
comp=Z,15nm,0.9s

TKM2 Tokmak 2 45.01 287 P **P** 21 06 30.5 +1.3
SNR=5.3

ULHL Ulahol 45.02 285 P **P** 21 06 30.8 +1.5
SNR=25

JIS Juneau Island 45.10 48 P **P** 21 06 29.8 +0.3
JIS IAmb IAmb 21 06 34.8
comp=Z,20nm,0.9s

SGDS Sogindy 45.28 288 ⇑ *i*P **P** 21 06 32.2 +1.1
comp=Z,5.8nm,1.3s,baz=288

SGDS Sogindy 45.28 288 *i* P **P** 21 06 31.8 +0.6
USP Ospenovka 45.46 288 P **P** 21 06 34.1 +1.4
SNR=8.4

KBK Karagaybulak 45.55 287 P **P** 21 06 35.2 +1.7
SNR=7.4

SVE Sverdlovsk 45.65 310 ⇑ *i*P **P** 21 06 34.9 +1.1
SVE pmax pmax
comp=Z,20nm,1.5s

FRU1 Bishkek 45.65 287 P **P** 21 06 35.2 +1.1
FRU1 pmax pmax
comp=Z,10.0nm,0.9s

FRU1 Bishkek 45.65 287 P **P** 21 06 35.2 +1.1
FRU1 IAmb IAmb 21 06 36.7
comp=Z,10nm,0.8s

KZA Kyzart 45.71 286 P **P** 21 06 37.2 +2.1
SNR=14

AAK Ala-Archa 45.83 287 *ce*P **P** 21 06 36.9 +1.2
AAK pmax pmax
comp=Z,11nm,1.0s

AAK Ala-Archa 45.83 287 P **P** 21 06 36.7 +1.0
AAK IAmb IAmb 21 06 38.0
comp=Z,8.6nm,0.9s

EKS2 Erkin-Say 46.25 287 P **P** 21 06 40.4 +1.4
SNR=9.1

SHL Shillong 46.41 256 P **P** 21 06 40.5 +0.1
SHL pmax pmax
comp=Z,13nm,0.7s

SHL Shillong 46.41 256 P **P** 21 06 40.5 +0.1
SHL IAmb IAmb 21 06 41.2
comp=Z,13nm,0.7s

KSH Kashi 46.82 283 *e*P P 21 06 49.5 +6.0
KSH pmax pmax
comp=Z,15nm,0.5s

KSH pmax pmax
comp=Z,360nm,7.2s

ARU Arti 46.83 311 *ce*P **P** 21 06 43.2 0.0
ARU pmax pmax
comp=Z,10.0nm,0.8s

ARU Arti 46.83 311 P **P** 21 06 43.4 +0.2
ARU IAmb IAmb 21 06 44.2
comp=Z,9.1nm,0.8s

DLBC Dease Lake 47.00 46 P **P** 21 06 45.9 +1.4
DLBC IAmb IAmb 21 06 50.3
comp=Z,11nm,0.8s

WRAK Wrangell Islan 47.00 49 P **P** 21 06 45.1 +0.6
CHTO Chiang Mai 47.51 243 P **P** 21 06 49.4 +0.5
CHTO pmax pmax
comp=Z,13nm,1.0s

CHTO Chiang Mai 47.51 243 P **P** 21 06 49.4 +0.5
CHTO IAmb IAmb 21 06 50.6
comp=Z,13nm,1.0s

ARSB Arslanbob 47.52 286 P **P** 21 06 50.4 +1.4
ARSB pmax pmax
comp=Z,11nm,1.0s

ARSB Arslanbob 47.52 286 P **P** 21 06 50.4 +1.4
ARSB IAmb IAmb 21 06 51.7
comp=Z,11nm,0.9s

TAPN Taplejung 47.66 261 *e*P **P** 21 06 50.9 +0.6
CM31 Chiang Mai Arr 47.80 243 P **P** 21 06 52.0 +0.9
CM31 IAmb IAmb 21 06 53.1
comp=Z,12nm,1.1s

CMAR Chiang Mai Arr 47.80 243 P **P** 21 06 50.5 -0.6
comp=Z,4.5nm,1.0s,baz=21,slow=7.2,SNR=19

CMAR Chiang Mai Arr 47.80 243 *ce*P **P** 21 06 51.9 +0.8
CMAR pmax pmax
comp=Z,5.0nm,1.0s

KK31 Karatay Array 47.91 290 P **P** 21 06 52.0 +0.2
KK31 pmax pmax
comp=Z,5.0nm,1.1s

KK31 Karatay Array 47.91 290 P **P** 21 06 52.0 +0.2
KKAR Karatay Array 47.91 290 P **P** 21 06 51.9 +0.1
KKAR pmax pmax
comp=Z,5.0nm,1.1s

KKAR Karatay Array 47.91 290 P **P** 21 06 51.9 +0.1
ODAN Odare 48.21 261 *e*P **P** 21 06 55.4 +0.9
RES Resolute Bay 48.27 18 P **P** 21 06 53.9 -0.2
comp=Z,6.0nm,0.9s,baz=315,slow=9.0,SNR=5.6

RES Resolute Bay 48.27 18 P **P** 21 06 54.2 +0.1
RES pmax pmax
comp=Z,10.0nm,1.0s

RES Resolute Bay 48.27 18 P **P** 21 06 54.1 +0.1
RES IAmb IAmb 21 06 54.9
comp=Z,9.8nm,0.9s

JIRN Jiri 48.37 263 *e*P **P** 21 06 56.3 +0.4
comp=Z,49nm,1.0s

GUN Gumba 48.39 263 *e*P **P** 21 06 56.1 +0.1
RAMN Ramite 48.63 262 *e*P **P** 21 06 58.1 +0.3
comp=Z,61nm,0.9s

IUG Iuzhnay 48.77 289 ⇑ *i*P **P** 21 06 59.8 +1.3
comp=Z,2.5nm,1.3s,baz=289

IUG Iuzhnay 48.77 289 *i* P **P** 21 06 59.1 +0.6
KKN Kakani 48.84 264 *e*P **P** 21 06 59.9 +0.5
comp=Z,31nm,0.9s

PKI Pulchoki 48.92 263 *e*P **P** 21 07 00.3 +0.2
comp=Z,23nm,1.1s

PKIN Phulchoki 48.92 263 *e*P **P** 21 07 00.4 +0.4
comp=Z,37nm,1.4s

DMN Daman 49.08 264 *e*P **P** 21 07 01.8 +0.6
comp=Z,18nm,0.8s

GKN Gorkha 49.09 265 *e*P **P** 21 07 01.7 +0.5
DANN Dangsing 49.39 266 *e*P **P** 21 07 04.6 +1.0
comp=Z,50nm,0.8s

BTK Batken 49.60 286 P **P** 21 07 05.6 +0.8
BTK pmax pmax
comp=Z,20nm,0.9s

BTK Batken 49.60 286 P **P** 21 07 05.6 +0.8
KIRV Kirov 49.76 317 *e*P **P** 21 07 06.1 +0.5
KOLN Koldanda 49.90 265 *e*P **P** 21 07 08.2 +0.8
comp=Z,46nm,1.0s

PYUN Piuhan 50.05 266 *e*P **P** 21 07 09.5 +1.0
comp=Z,93nm,0.9s

ABKAR Akbulak array 50.17 302 P **P** 21 07 09.2 +0.3
ARCES ARCESS Array B 50.88 336 P **P** 21 07 14.4 +0.3
comp=Z,3.1nm,1.0s,baz=38,slow=6.1,SNR=3.9

YKA Yellowknife Ar 50.94 36 P **P** 21 07 14.2 -0.3
comp=Z,7.3nm,0.7s,baz=305,slow=6.9,SNR=28

NIL Nilore 52.28 279 P **P** 21 07 25.9 +0.8
NIL pmax pmax
comp=Z,11nm,0.8s

NIL Nilore 52.28 279 P **P** 21 07 25.9 +0.8
NIL IAmb IAmb 21 07 27.0
comp=Z,11nm,0.8s

KLMR Klimovskoe 52.34 323 *e*P **P** 21 07 23.9 -1.0
KLMR pmax pmax
comp=Z,32nm,1.4s

KLMR Klimovskoe 52.34 323 *e*P **P** 21 07 24.0 -1.0
KLMR AMP 21 07 27.1
comp=Z,32nm,1.4s

TNTI Ternate 52.34 200 P **P** 21 07 27.9 +2.3
comp=Z,10.0nm,0.8s

SMPI Sarni 53.53 185 P **P** 21 07 36.6 +2.3
comp=Z,17nm,0.7s

JOF Joensuu 53.84 328 P **P** 21 07 36.5 +0.5
JOF pmax pmax
comp=Z,11nm,1.0s

KBL Kabul 54.26 282 P **P** 21 07 39.5 -0.3
KBL pmax pmax
comp=Z,11nm,1.0s

KBL Kabul 54.26 282 P **P** 21 07 39.5 -0.3
KBL IAmb IAmb 21 07 40.6
comp=Z,11nm,0.9s

SBUM Sibu 55.34 218 P **P** 21 07 48.1 +0.5
SBUM IAmb IAmb 21 07 53.1
comp=Z,12nm,0.8s

SUMG Summit 56.09 1 *i* P **P** 21 07 52.3 -0.4
comp=Z,62nm,1.0s

SUMG Summit 56.09 1 *i* P **P** 21 07 52.3 -0.4
SUMG Summit 56.09 1 P **P** 21 07 53.1 +0.4
FIA1 FINESS Array S 56.60 329 P **P** 21 07 56.0 +0.1
FIA1 IAmb IAmb 21 07 57.1
comp=Z,19nm,0.9s

FINES FINESS Array B 56.60 329 P **P** 21 07 56.4 +0.4
comp=Z,11nm,0.8s,baz=52,slow=7.7,SNR=7.5

FINES PcP **PcP** 21 08 51.5 -0.8
comp=Z,3.6nm,0.7s,baz=48,slow=3.5,SNR=5.3

D03D Eldon 56.92 54 P **P** 21 07 56.8 -1.7
baz=314

B05A Bryant 56.93 53 P **P** 21 07 57.4 -1.1
baz=314

D04E Lakebay 57.32 54 P **P** 21 07 59.5 -1.7
baz=314

OBN Obninsk 57.38 319 *ce*P **P** 21 08 01.3 -0.2
OBN *e* 21 10 07.0
OBN pmax pmax
comp=Z,39nm,1.5s

OBN MLR MLR
comp=Z,104nm,14.0s

B08A Colville Reser 58.22 51 P **P** 21 08 06.6 -1.1
B08A IAmb IAmb 21 08 12.0
comp=Z,8.5nm,1.0s

LTY Liberty 58.32 53 P **P** 21 08 06.9 -1.5
GEYT Ailbeck 58.46 292 P **P** 21 08 10.2 +0.7
comp=Z,4.0nm,0.8s,baz=12,slow=2.1,SNR=9.2

VSU Vasula 58.63 326 *i* P **P** 21 08 10.8 +0.5
VSU pmax pmax
comp=Z,22nm,0.8s

F05D White Salmon 58.87 54 P **P** 21 08 10.8 -1.3
baz=315

H04D Lebanon 59.15 56 P **P** 21 08 13.1 -1.1
baz=315

I03D Drain, OR 59.40 57 P **P** 21 08 14.8 -1.1
baz=316

I04A Tendick Farm, 59.83 57 P **P** 21 08 18.2 -0.7
baz=316

K02D Willamette Mer 59.93 58 P **P** 21 08 18.9 -0.8
baz=316

I05D Terrebonne, OR 60.00 56 P **P** 21 08 18.5 -1.6
baz=316

E09A Wood Farm, Sta 60.08 52 P **P** 21 08 20.0 -0.6
E09A IAmb IAmb 21 08 24.5
comp=Z,13nm,1.0s

WALA Waterton Lakes 60.29 48 P **P** 21 08 21.7 -0.3
WALA IAmb IAmb 21 08 26.0
comp=Z,16nm,1.1s

J04D Umpqua Nationa 60.37 57 P **P** 21 08 22.2 -0.6
baz=316

PINE Pine Mountain 60.59 56 P **P** 21 08 24.9 +0.6
J05D Fort Rock, OR 60.79 56 P **P** 21 08 25.2 -0.4
baz=316

F10A Beach Ranch, E 60.91 52 P **P** 21 08 26.1 -0.2
F10A IAmb IAmb 21 08 30.5
comp=Z,8.2nm,0.8s

PSI Prapat 60.94 233 P **P** 21 08 26.6 -0.3
comp=Z,3.7nm,0.4s,baz=8.9,slow=0.2,SNR=5.6

PSI LR LR 21 39 54.8
comp=Z,762nm,18.1s,baz=91,slow=41

L04D Klamath Falls 60.98 58 P **P** 21 08 26.3 -0.6
baz=316

RPSI Rantau Prapat 61.03 232 P **P** 21 08 26.9 -0.4
RPSI IAmb IAmb 21 08 33.1
comp=Z,5.6nm,0.8s

RPSI Rantau Prapat 61.03 232 P **P** 21 08 26.6 -0.7
NC405 NORSAR Array S 61.05 335 P **P** 21 08 27.0 +0.1
NC405 IAmb IAmb 21 08 39.1
comp=Z,16nm,1.1s

FFC Flin Flon 61.08 37 P **P** 21 08 26.8 -0.4
FFC pmax pmax
comp=Z,44nm,1.2s

FFC Flin Flon 61.08 37 P **P** 21 08 26.8 -0.4
YBH Yreka Blue Hor 61.11 58 P **P** 21 08 28.0 +0.2
comp=Z,10.0nm,0.8s,baz=28,slow=3.8,SNR=7.2

YBH Yreka Blue Hor 61.11 58 P **P** 21 08 28.3 +0.6
YBH pmax pmax
comp=Z,12nm,0.8s

YBH Yreka Blue Hor 61.11 58 P **P** 21 08 28.3 +0.6
YBH IAmb IAmb 21 08 32.9
comp=Z,12nm,0.8s

I07A Izee 61.12 55 P **P** 21 08 27.4 -0.4
I07A IAmb IAmb 21 08 32.4
comp=Z,8.3nm,0.9s

NB2 NORSAR Subarra 61.24 336 P **P** 21 08 28.0 -0.2
comp=Z,1.1nm,0.7s,baz=34,slow=6.5

NOA NORSAR Array B 61.24 336 P **P** 21 08 28.4 +0.1
comp=Z,1.8nm,0.8s,baz=33,slow=6.5,SNR=5.9

NOA PcP **PcP** 21 09 09.9 -0.8
comp=Z,1.2nm,0.8s,baz=32,slow=3.1,SNR=3.4

M02C Callahan 61.27 59 P **P** 21 08 28.0 -0.8
baz=317

K05A Summer Lake 61.37 57 P **P** 21 08 30.1 +0.5
M04C Macdoel 61.54 58 P **P** 21 08 29.2 -1.5
baz=317

N02D Trinity Center 61.65 59 P **P** 21 08 29.6 -1.8
baz=317,SNR=5.2

BMO Blue Mountains 61.67 53 P **P** 21 08 31.4 -0.1
BMO pmax pmax
comp=Z,7.0nm,1.2s

BMO Blue Mountains 61.67 53 P **P** 21 08 31.4 -0.1
BMO IAmb IAmb 21 08 35.9
comp=Z,7.4nm,1.1s

MSO Missoula 61.88 49 P **P** 21 08 30.8 -2.1
baz=318

MSO Missoula 61.88 49 P **P** 21 08 32.3 -0.6
MSO IAmb IAmb 21 08 37.0
comp=Z,11nm,0.9s

J08A Circle Bar Ran 62.16 55 P **P** 21 08 35.3 +0.5
J08A IAmb IAmb 21 08 39.6
comp=Z,12nm,1.1s

O02D Mt. Diablo Mer 62.17 60 P **P** 21 08 34.0 -0.9
baz=317

MOD Modoc Plateau 62.26 57 P **P** 21 08 35.7 +0.1
MOD IAmb IAmb 21 08 40.1
comp=Z,11nm,1.0s

KIV Kislovodsk 62.56 307 ⇑ P **P** 21 08 37.5 0.0
KIV Kislovodsk 62.56 307 *e*P **P** 21 08 38.8 +1.3
KIV pmax pmax
comp=Z,33nm,1.1s

KIV Kislovodsk 62.56 307 P **P** 21 08 38.5 +1.0
KIV IAmb IAmb 21 08 42.9
comp=Z,14nm,1.1s

O03E Paynes Creek 62.61 59 P **P** 21 08 37.0 -0.9
baz=318

KBZ Khabaz 62.62 306 *i* P **P** 21 08 40.2 +2.5
KBZ pmax pmax
comp=Z,3.0nm,0.9s

WVOR Wild Horse Val 62.74 55 P **P** 21 08 38.8 +0.1
WVOR pmax pmax
comp=Z,13nm,1.0s

WVOR Wild Horse Val 62.74 55 P **P** 21 08 38.8 +0.1
WVOR IAmb IAmb 21 08 43.4
comp=Z,12nm,1.0s

GSI Gunungsitoli 62.90 233 P **P** 21 08 40.0 +0.1
EGMT Eagleton 62.93 46 P **P** 21 08 37.6 -2.3
baz=319

ORV Oroville 63.31 59 P **P** 21 08 41.7 -0.7
ORV pmax pmax
comp=Z,10.0nm,0.9s

ORV Oroville 63.31 59 P **P** 21 08 41.7 -0.7
ORV IAmb IAmb 21 08 46.1
comp=Z,9.9nm,0.9s

LRM Limekiln Ridge 63.32 49 P **P** 21 08 42.5 -0.2
MFID Camas Ranch 63.45 53 P **P** 21 08 43.0 -0.4
MFID IAmb IAmb 21 08 47.8
comp=Z,8.7nm,1.1s

DLMT Dillon 63.59 50 P **P** 21 08 44.2 -0.2
AKASG Malin Array Be 63.64 319 P **P** 21 08 44.0 -0.4
comp=Z,7.4nm,0.7s,baz=37,slow=7.2,SNR=15

AKASG Malin Array Be 63.64 319 P **P** 21 08 44.0 -0.4
AKBB Malin Array Si 63.64 319 P **P** 21 08 43.9 -0.5
AKBB pmax pmax
comp=Z,8.0nm,0.7s

AKBB Malin Array Si 63.64 319 P **P** 21 08 43.9 -0.5
AKBB IAmb IAmb 21 08 44.4
comp=Z,8.1nm,0.7s

MCMT McKenzie Canyo 63.87 50 P **P** 21 08 45.9 -0.4
BOZ Bozeman (W) 63.88 49 P **P** 21 08 44.4 -1.8
baz=319

BOZ Bozeman (W) 63.88 49 P **P** 21 08 46.0 -0.3
BOZ pmax pmax
comp=Z,11nm,0.8s

BOZ Bozeman (W) 63.88 49 P **P** 21 08 46.0 -0.3
AFDM Forest Hills D 64.03 60 P **P** 21 08 46.6 -0.5
AFDM IAmb IAmb 21 08 51.2
comp=Z,8.5nm,1.0s

HLID Hailey 64.04 52 P **P** 21 08 46.2 -1.2
baz=319

HLID Hailey 64.04 52 P **P** 21 08 46.8 -0.6
PAHR Pah Rah Range 64.32 58 P **P** 21 08 48.8 -0.5
YHL Hebgen Lake 64.64 49 P **P** 21 08 51.4 -0.1
PNTR Pine Nut 64.66 59 P **P** 21 08 51.6 0.0
YERR Yerington 64.92 58 P **P** 21 08 53.1 -0.2
WAKR Walker 65.17 59 P **P** 21 08 54.9 0.0
RLMT Red Lodge 65.33 48 P **P** 21 08 55.1 -0.7
baz=320

KVN Kaiserville 65.48 58 P **P** 21 08 56.8 -0.1
KVN pmax pmax
comp=Z,15nm,0.8s

KVN Kaiserville 65.48 58 P **P** 21 08 56.8 -0.1
NVAR Mina Array Bea 65.83 58 P **P** 21 08 59.5 +0.3
comp=Z,9.0nm,0.7s,baz=296,slow=5.8,SNR=20

NV11 Mina Array Sit 65.91 58 P **P** 21 08 59.2 -0.4
NV11 IAmb IAmb 21 09 04.0
comp=Z,9.1nm,0.9s

SORM Soroca 65.99 318 ⇑ P **P** 21 08 59.4 -0.3
SORM Soroca 65.99 318 ⇑ P **P** 21 08 59.4 -0.3
HWUT Hardware Ranch 66.90 52 P **P** 21 09 05.8 -0.2
HWUT IAmb IAmb 21 09 10.4
comp=Z,11nm,0.8s

ULM Lac du Bonnet 66.90 37 P **P** 21 09 04.7 -0.9
comp=Z,14nm,0.7s,baz=329,slow=9.3,SNR=5.6

ULM Lac du Bonnet 66.90 37 P **P** 21 09 04.3 -1.2
ULM pmax pmax
comp=Z,25nm,1.0s

ULM Lac du Bonnet 66.90 37 P **P** 21 09 04.3 -1.2
BW06 Boulder Array 66.99 50 P **P** 21 09 04.4 -2.1
baz=321

BW06 Boulder Array 66.99 50 P P 21 09 05.8 -0.7
BW06 IAmb IAmb 21 09 10.4
comp=Z,11nm,1.1s

PD31 Pinedale Array 66.99 50 P P 21 09 05.8 -0.7
PD31 IAmb IAmb 21 09 10.4
comp=Z,11nm,1.1s

PDAR Pinedale Array 66.99 50 P P 21 09 05.9 -0.7
comp=Z,6.6nm,0.8s,baz=321,slow=2.1,SNR=18

DUG Dugway, Tooele 67.35 54 P P 21 09 07.7 -1.1
baz=320

DUG Dugway, Tooele 67.35 54 P P 21 09 08.1 -0.7
DUG pmax pmax
comp=Z,9.0nm,1.0s

DUG Dugway, Tooele 67.35 54 P P 21 09 08.1 -0.7
DUG IAmb IAmb 21 09 13.3
comp=Z,9.4nm,1.0s

CWC Cottonwood Cre 67.42 60 P P 21 09 09.3 0.0
baz=320

PKM Mcpherson Peak 67.63 62 P P 21 09 11.1 +0.4
baz=320

BUR08 Bucovina Ar. S 67.67 320 P P 21 09 10.7 +0.1
BURAR Bucovina Array 67.69 320 ⇑P P 21 09 10.4 -0.3
BURAR Bucovina Array 67.69 320 ⇑P P 21 09 10.4 -0.3
KOLS Kolonicke sedl 67.78 322 *e*P P 21 09 12.0 +0.8
KOLS Kolonicke sedl 67.78 322 *e*P P 21 09 12.0 +0.8
BIZ Bicaz 67.87 319 ⇑P P 21 09 10.4 -1.4
TESR Tescani 67.99 318 ⇑P P 21 09 12.5 0.0
TPNV Topopah Spring 68.02 58 P P 21 09 12.1 -1.0
baz=320,SNR=6.7

TPNV Topopah Spring 68.02 58 P P 21 09 13.0 -0.1
TPNV pmax pmax
comp=Z,10.0nm,0.8s

TPNV Topopah Spring 68.02 58 P P 21 09 13.0 -0.1
TPNV IAmb IAmb 21 09 17.3
comp=Z,10.0nm,0.8s

MPMC Manual Prospec 68.03 59 P P 21 09 12.1 -1.0
baz=320,SNR=5.9

FURC Furnace Creek, 68.05 59 P P 21 09 12.3 -0.7
baz=320,SNR=5.8

TRPA Tarpa 68.33 322 ⇑P P 21 09 15.5 +0.9
LRMC Laurel Mtn Rad 68.35 60 P P 21 09 15.3 +0.2
baz=320

CFR Carcaliu 68.42 316 ⇑P P 21 09 14.4 -0.7
CFR Carcaliu 68.42 316 ⇑P P 21 09 14.4 -0.7
VRI Vrincioaia 68.47 318 ⇑P P 21 09 15.2 -0.3
VRI Vrincioaia 68.47 318 ⇑P P 21 09 15.2 -0.3
RSSD Black Hills 68.48 45 P P 21 09 13.8 -2.1
baz=322

RSSD Black Hills 68.48 45 P P 21 09 15.2 -0.7
RSSD pmax pmax
comp=Z,8.0nm,0.9s

RSSD Black Hills 68.48 45 P P 21 09 15.2 -0.7
RSSD IAmb IAmb 21 09 19.5
comp=Z,7.6nm,0.8s

K22A Casper 68.50 48 P P 21 09 14.2 -1.8
baz=322

AGMN Agassiz Nation 68.50 38 P P 21 09 13.6 -2.1
baz=325

PLOR Plostina 68.51 318 ⇑P P 21 09 15.3 -0.5
PLOR Plostina 68.51 318 ⇑P P 21 09 15.3 -0.5
EDW2 Edwards Air Fo 68.63 61 P P 21 09 16.2 -0.5
baz=321,SNR=5.9

LANS Liptovska Anna 68.65 324 *e*P P 21 09 17.8 +1.1
LANS pmax pmax
comp=Z,5.0nm,1.0s

LANS Liptovska Anna 68.65 324 *e*P P 21 09 17.8 +1.1
OZUR 68.68 318 ⇓P P 21 09 18.2 +1.3
DPC Dobruska-Polom 68.76 327 *e*P P 21 09 18.2 +0.9
DPC Dobruska-Polom 68.76 327 *e*P P 21 09 18.2 +0.9
MORC Moravsky Berou 68.82 325 ⇓P P 21 09 18.6 +0.9
MORC Moravsky Berou 68.82 325 *e*P P 21 09 18.1 +0.3
MORC Moravsky Berou 68.82 325 P P 21 09 18.0 +0.3
MORC pmax pmax
comp=Z,11nm,1.1s

MORC Moravsky Berou 68.82 325 P P 21 09 18.0 +0.3
MORC IAmb IAmb 21 09 19.3
comp=Z,11nm,1.1s

KRLC Kraliky 68.84 326 *e*P P 21 09 17.9 +0.1
KRLC Kraliky 68.84 326 *e*P P 21 09 17.9 +0.1
SHPR Sheep Range 68.93 58 P P 21 09 18.4 -0.4
SHPR IAmb IAmb 21 09 23.3
comp=Z,6.9nm,1.0s

MSU Marysvale 68.95 54 P P 21 09 19.2 +0.3
MSU Marysvale 68.95 54 P P 21 09 19.2 +0.3
GSC Goldstone, Bar 68.96 60 P P 21 09 18.6 -0.2
baz=321

GSC Goldstone, Bar 68.96 60 P P 21 09 18.8 -0.1
GSC pmax pmax
comp=Z,10.0nm,1.0s

GSC Goldstone, Bar 68.96 60 P P 21 09 18.8 -0.1
GSC IAmb IAmb 21 09 23.0
comp=Z,9.8nm,1.0s

CLL Collm 69.05 329 *i* P P 21 09 18.8 -0.2
CLL comp=Z,6.0nm,0.9s *i* pP **pP** 21 09 22.0 -1.4
comp=Z,7.0nm,0.8s

CLL Collm 69.05 329 P P 21 09 18.8 -0.2
CLL pmax pmax
comp=Z,6.0nm,0.8s

CLL Collm 69.05 329 P P 21 09 18.8 -0.2
CLL IAmb IAmb 21 09 22.9
comp=Z,5.8nm,0.8s

MLR Muntele Rosu 69.10 318 ⇑P P 21 09 19.8 +0.2
MLR Muntele Rosu 69.10 318 P P 21 09 19.8 +0.2
MLR pmax pmax
comp=Z,5.0nm,0.8s

MLR Muntele Rosu 69.10 318 P P 21 09 19.8 +0.2
ISR Istrita 69.14 317 ⇑P P 21 09 19.1 -0.7
ISR Istrita 69.14 317 ⇑P P 21 09 19.1 -0.7
BFSC Mount Baldy Ra 69.30 61 P P 21 09 20.3 -0.7
baz=321

MTPU Mount Pierson 69.30 55 P P 21 09 21.1 -0.1
ICOR Ion Corvin 69.41 316 ⇑P P 21 09 20.8 -0.5
VYHS Vyhne 69.43 324 *e*P P 21 09 22.0 +0.5
VYHS pmax pmax
comp=Z,13nm,1.6s

VYHS Vyhne 69.43 324 *e*P P 21 09 22.0 +0.5
VOIR 69.51 318 ⇑P P 21 09 22.6 +0.5
VOIR 69.51 318 ⇑P P 21 09 22.6 +0.5
JAVC Velka Javorina 69.55 325 *e*P P 21 09 23.6 +1.4
VRAC Vranov 69.55 326 ⇑P P 21 09 23.0 +0.8
VRAC Vranov 69.55 326 *e*P P 21 09 22.8 +0.6
VRAC Vranov 69.55 326 ⇑P P 21 09 23.0 +0.8
HEC Hector,Ludlow 69.57 60 P P 21 09 21.5 -1.1
baz=321,SNR=5.6

O20A White River Ci 69.64 51 P P 21 09 22.3 -0.9
baz=322

O20A White River Ci 69.64 51 P P 21 09 22.6 -0.5
PRU Pruhonice 69.68 327 *e*P P 21 09 23.1 +0.2
PRU Pruhonice 69.68 327 *e*P P 21 09 23.1 +0.2
ARR Arges 69.74 319 ⇑P P 21 09 24.4 +0.9
KRUC Moravsky 69.83 326 *e*P P 21 09 24.4 +0.5
GMRC Granite Mounta 69.96 59 P P 21 09 23.1 -2.0
baz=321,SNR=11

MURC Murrieta 70.03 61 P P 21 09 24.9 -0.6
baz=321

BRTR Keskin Array B 70.19 309 P P 21 09 25.3 -1.2
comp=Z,1.5nm,0.7s,baz=56,slow=6.6,SNR=4.5

BRTR Keskin Array B 70.19 309 *e*P P 21 09 26.8 +0.3
BRTR pmax pmax
comp=Z,2.0nm,0.7s

BELC Belle Mtn. Jos 70.38 60 P P 21 09 26.8 -0.9
baz=321

PFO Pinyon Flats O 70.42 61 P P 21 09 26.5 -1.5
baz=321

PFO Pinyon Flats O 70.42 61 P P 21 09 26.9 -1.0
PFO pmax pmax
comp=Z,9.0nm,1.2s

PFO Pinyon Flats O 70.42 61 P P 21 09 26.9 -1.0
PFO IAmb IAmb 21 09 31.9
comp=Z,8.6nm,1.1s

EYMN Ely 70.42 35 P P 21 09 25.0 -2.6
baz=327

PV09 Paradox Valley 70.48 52 P P 21 09 28.7 +0.2
PV23 Carpenter Ridg 70.58 52 P P 21 09 28.6 -0.4
PV22 Blue Mesa, Par 70.62 52 P P 21 09 28.8 -0.4
PV22 IAmb IAmb 21 09 33.1
comp=Z,11nm,0.8s

IRM Iron Mountain 70.72 59 P P 21 09 29.1 -0.5
baz=322,SNR=9.4

KHC Kasperske Hory 70.73 327 *e*P P 21 09 30.0 +0.5
KHC Kasperske Hory 70.73 327 *e*P P 21 09 30.0 +0.5
BZS Buzias 70.76 321 ⇑P P 21 09 28.6 -0.9
BZS Buzias 70.76 321 ⇑P P 21 09 28.7 -0.9

PV12 Saucer Basin, 70.78 52 P P 21 09 30.2 0.0
PV03 Paradox Valley 70.81 52 P P 21 09 29.0 -1.3
PV05 Paradox Valley 70.82 53 P P 21 09 29.9 -0.5
PV05 IAmb IAmb 21 09 34.5
comp=Z,14nm,0.8s

PV13 Radium Mtn., P 70.90 52 P P 21 09 30.2 -0.7
PV13 IAmb IAmb 21 09 35.0
comp=Z,7.0nm,0.8s

BC3 Big Chuckawall 70.93 60 P P 21 09 30.9 -0.1
baz=322

GERES GERESS Array B 70.94 327 P P 21 09 30.9 0.0
comp=Z,1.1nm,0.8s,baz=37,slow=6.9,SNR=4.3

CONA Conrad Observa 70.98 325 *e*pP P 21 09 32.1 +1.1
comp=Z,8.2nm,1.2s

MONP2 Monument Peak 70.99 61 P P 21 09 30.7 -0.8
baz=322

HERR Herculane 71.04 320 ⇑P P 21 09 30.1 -1.3
PDMCI Parker Dam,Lak 71.14 58 P P 21 09 30.9 -1.3
baz=322

ISCO Idaho Springs 71.16 49 P P 21 09 30.8 -1.8
baz=323

ISCO Idaho Springs 71.16 49 P P 21 09 32.0 -0.6
ISCO pmax pmax
comp=Z,3.0nm,0.8s

ISCO Idaho Springs 71.16 49 P P 21 09 32.0 -0.6
IKP In-Ko-Pah, Jac 71.34 61 P P 21 09 34.3 +0.8
baz=322

Y12C Blythe 71.36 59 P P 21 09 33.7 +0.3
baz=322

MOA Molln 71.60 326 pP P 21 09 36.1 +1.3
comp=Z,3.6nm,1.0s

WRA Warramunga Arr 71.66 189 P P 21 09 33.7 -1.5
comp=Z,1.1nm,0.7s,baz=2.1,slow=6.6,SNR=14

WUAZ Wupatki 71.66 56 P P 21 09 35.4 -0.1
baz=322

WUAZ Wupatki 71.66 56 P P 21 09 35.1 -0.4
WUAZ IAmb IAmb 21 09 40.3
comp=Z,9.8nm,1.0s

ARSA Arzberg 71.67 325 *e*pP P 21 09 35.6 +0.4
comp=Z,3.9nm,0.9s

GLA Glamis 71.73 60 P P 21 09 35.4 -0.4
baz=322

MVCO Mesa Verde 71.80 53 P P 21 09 35.8 -0.6
baz=323

MVCO Mesa Verde 71.80 53 P P 21 09 35.8 -0.6
MVCO IAmb IAmb 21 09 40.4
comp=Z,8.2nm,0.9s

ECSD EROS Data Cent 71.96 41 P P 21 09 34.4 -2.5
baz=326

ECSD EROS Data Cent 71.96 41 P P 21 09 35.6 -1.4
ECSD IAmb IAmb 21 09 40.3
comp=Z,11nm,0.9s

Y14A Wickenburg 72.02 58 P P 21 09 36.9 -0.7
Y14A IAmb IAmb 21 09 41.9
comp=Z,6.6nm,0.9s

S22A 4UR Ranch, Cre 72.20 51 P P 21 09 38.0 -0.8
baz=323

SOKA Soboth 72.34 325 *e*pP P 21 09 39.6 +0.3
comp=Z,7.7nm,1.4s

X16A Lo Mia Camp, P 72.47 57 P P 21 09 39.9 -0.5
X16A IAmb IAmb 21 09 45.2
comp=Z,9.9nm,0.8s

VTS Vitosha 72.57 318 ⇑P P 21 09 40.2 -0.6
VTS Vitosha 72.57 318 P P 21 09 41.1 +0.3
VTS pmax pmax
comp=Z,11nm,1.0s

VTS Vitosha 72.57 318 P P 21 09 41.1 +0.3
VTS IAmb IAmb 21 09 42.5
comp=Z,11nm,1.0s

KBA Koelnbreinsper 72.58 326 *e*P P 21 09 40.5 -0.3
comp=Z,11nm,0.9s

OBKA Obir 72.66 325 *e*pP P 21 09 42.5 +1.3
comp=Z,7.9nm,1.6s

W18A Petrified Fore 72.81 55 P P 21 09 41.5 -0.9
baz=323

SDCO Great Sand Dun 72.84 50 P P 21 09 41.8 -0.9
COWI Conover 72.84 35 P P 21 09 41.4 -0.8
COWI IAmb IAmb 21 09 45.2
comp=Z,13nm,0.9s

MYKA Terra Mystica 72.87 326 *e*P P 21 09 42.0 -0.4
comp=Z,4.6nm,1.0s

WATA Walderalm 72.96 328 *e*pP P 21 09 43.4 +0.4
comp=Z,10nm,1.3s

WTTA Wattenberg 73.00 328 *i* pP P 21 09 43.9 +0.6
comp=Z,7.7nm,0.8s

I37A Lemond, Waseca 73.02 39 P P 21 09 42.6 -0.6
I37A IAmb IAmb 21 09 47.6
comp=Z,16nm,0.9s

PRED Cave del Predi 73.06 326 P P 21 09 43.3 -0.2
PRED IAmb IAmb 21 09 44.2
comp=Z,8.3nm,0.9s

MOTA Moosalm 73.11 328 *e*pP P 21 09 44.6 +0.7
comp=Z,7.2nm,1.0s

ABTA Abfaltersbach 73.16 327 *e*P P 21 09 43.8 -0.3
comp=Z,5.9nm,1.3s

G40A Rib Lake 73.17 36 P P 21 09 43.2 -0.9
SQTA Sankt Quirin 73.18 328 *i* P P 21 09 43.6 -0.7
comp=Z,7.1nm,1.2s

E43A Lone Tree Farm 73.36 34 P P 21 09 44.0 -1.1
FETA Feichten 73.52 328 *e*P P 21 09 46.3 0.0
comp=Z,10nm,1.3s

DAVA Damuels 73.56 329 *e*P P 21 09 46.4 -0.2
comp=Z,6.6nm,1.1s

T25A Trinidad 73.85 50 P P 21 09 47.8 -0.7
baz=324

T25A Trinidad 73.85 50 P P 21 09 47.5 -1.0
D46A Sault St. Mari 73.90 31 P P 21 09 46.9 -1.5
baz=331

D47A Chapleau 74.05 31 P P 21 09 47.5 -1.8
baz=332

I40A Norwalk 74.19 37 P P 21 09 49.5 -0.7
I40A IAmb IAmb 21 09 53.5
comp=Z,15nm,0.8s

D48A Paudash Townsh 74.36 30 P P 21 09 50.0 -1.0
baz=332

F45A CMU Biological 74.47 33 P P 21 09 49.8 -1.9
baz=330

E47A Iron Bridge 74.53 31 P P 21 09 50.6 -1.4
baz=332

VLDQ Val d'Or 74.80 27 P P 21 09 51.5 -2.1
VLDQ IAmb IAmb 21 09 56.1
comp=Z,16nm,0.8s

I42A Draeger Farm, 74.82 36 P P 21 09 53.0 -0.8
D50A G1974 Best Tow 74.96 29 P P 21 09 53.0 -1.6
baz=333

G46A Petoskey 75.01 33 P P 21 09 53.7 -1.1
baz=331

D51A Lot 18 Range I 75.17 28 P P 21 09 54.9 -0.8
baz=333

F48A Evansville 75.30 31 P P 21 09 55.1 -1.4
baz=332

E50A Wahnapitae 75.36 30 P P 21 09 57.0 +0.2
baz=333

ASAR Alice Springs 75.38 189 P P 21 09 56.5 -0.7
comp=Z,2.2nm,0.7s,baz=3.7,slow=5.2,SNR=14

L40A Anamosa 75.52 39 P P 21 09 56.3 -1.5
E51A G1948 Merrick 75.64 29 P P 21 09 57.2 -1.2
baz=333

I46A Reed City 76.02 34 P P 21 09 58.8 -1.8
baz=331

F51A Arnstein 76.06 29 P P 21 09 59.6 -1.2
baz=333

K43A Burlington 76.06 36 P P 21 09 59.6 -1.3
L42A Oliver, Polo 76.16 38 P P 21 09 59.9 -1.6
D55A Sainte-Anne-du 76.35 26 P P 21 10 00.9 -1.6
baz=335

NRCA Norcia 76.35 324 P P 21 10 02.9 +0.3
NRCA IAmb IAmb 21 10 04.1
comp=Z,18nm,1.0s

E54A Lac Daplat, Po 76.40 27 P P 21 10 01.4 -1.4
baz=335,SNR=6.4

D56A ZEC Mazanza, M 76.51 25 P P 21 10 02.6 -0.9
baz=336

ALGO Algonquin Park 76.59 28 P P 21 10 01.9 -1.9
baz=334,SNR=5.7

L44A Lake County Fo 76.67 36 P P 21 10 02.9 -1.5
baz=330

D57A Chemin Vers le 76.77 25 P P 21 10 04.1 -0.8
baz=336

N41A Harden Midland 76.82 39 P P 21 10 03.9 -1.3
J47A Sunmer 76.85 34 P P 21 10 04.7 -0.7
G54A Lake Saint Pet 77.08 28 P P 21 10 05.2 -1.5
baz=334

E57A Chemin Saint G 77.26 25 P P 21 10 06.5 -1.2
baz=336

TRQ Mont Tremblant 77.33 26 P P 21 10 07.7 -0.4
P40A Paris 77.35 40 P P 21 10 07.1 -1.1

G55A Calabogie 77.61 27 P P 21 10 08.3 -1.3
baz=335

H53A Bobcaygeon 77.68 29 P P 21 10 08.9 -1.1
baz=334

PLVO Plevna 77.71 28 P P 21 10 09.6 -0.6
PLVO IAmb IAmb 21 10 13.4
comp=Z,9.8nm,0.8s

MNTX Cornudas Mount 77.73 54 P P 21 10 10.8 +0.2
baz=325

MNTX Cornudas Mount 77.73 54 P P 21 10 10.4 -0.1
MNTX IAmb IAmb 21 10 15.0
comp=Z,8.5nm,1.1s

ORIO Orleans, Innes 77.78 27 P P 21 10 10.0 -0.5
baz=336

DELO Deloro Mine 78.02 28 P P 21 10 11.5 -0.4
DELO IAmb IAmb 21 10 15.2
comp=Z,11nm,0.9s

L48A N Adams 78.13 34 P P 21 10 12.1 -0.5
D63A Stockholm 78.16 21 P P 21 10 12.4 -0.2
baz=339

G57A Newington 78.24 26 P P 21 10 12.3 -0.8
baz=336

I55A Frankford 78.28 29 P P 21 10 12.3 -1.0
baz=335

R40A Maddies Statio 78.31 41 P P 21 10 12.4 -1.2
R40A IAmb IAmb 21 10 16.8
comp=Z,16nm,0.9s

H56A Elgin 78.35 27 P P 21 10 12.1 -1.6
baz=335

S39A Bolivar 78.38 42 P P 21 10 12.2 -1.9
S39A IAmb IAmb 21 10 16.8
comp=Z,15nm,0.9s

WMOK Wichita Mounta 78.45 48 P P 21 10 13.8 -0.7
baz=327

F61A St Evariste 78.48 23 P P 21 10 13.6 -0.9
baz=338

N47A Urbana 78.61 35 P P 21 10 14.6 -0.7
E63A Oxbow 78.67 22 P P 21 10 15.2 -0.2
baz=339

H57A Richville 78.72 27 P P 21 10 15.3 -0.5
baz=336

TUL1 Leonard 78.82 45 P P 21 10 15.6 -0.9
baz=328

TUL1 Leonard 78.82 45 P P 21 10 15.7 -0.8
J54A Appleton 78.84 30 P P 21 10 15.1 -1.4
baz=334

CCM Cathedral Cave 78.93 41 P P 21 10 16.1 -0.9
baz=329

CCM Cathedral Cave 78.93 41 P P 21 10 15.8 -1.3
CCM pmax pmax
comp=Z,15nm,0.8s

CCM Cathedral Cave 78.93 41 P P 21 10 15.8 -1.3
CCM IAmb IAmb 21 10 20.2
comp=Z,15nm,0.8s

U38A Gravette 78.99 44 P P 21 10 16.1 -1.3
U38A IAmb IAmb 21 10 20.6
comp=Z,12nm,0.8s

H59A Cadyville 79.02 26 P P 21 10 17.1 -0.4
baz=337

H58A Gabriels 79.10 26 P P 21 10 17.1 -0.8
baz=336

J55A Hilton 79.10 29 P P 21 10 16.6 -1.3
baz=335

N49A Columbus Grove 79.12 34 P P 21 10 17.1 -1.0
I57A Carthage 79.12 27 P P 21 10 17.2 -0.8
baz=336

P46A Rosedale 79.16 37 P P 21 10 17.4 -0.9
MGMO Mountain Grove 79.28 42 P P 21 10 17.3 -1.7
MGMO IAmb IAmb 21 10 22.1
comp=Z,7.7nm,0.8s

HHAR Hobbs 79.31 44 P P 21 10 18.1 -1.1
HHAR IAmb IAmb 21 10 22.4
comp=Z,15nm,0.8s

O48A Farmland 79.36 35 P P 21 10 18.8 -0.5
baz=332

J56A Wolcott 79.38 28 P P 21 10 17.9 -1.4
baz=335

ERPA Erie 79.46 31 P P 21 10 19.5 -0.4
baz=334

J57A Williamstown 79.51 28 P P 21 10 19.6 -0.5
baz=336

K55A Perry 79.51 29 P P 21 10 19.5 -0.7
baz=335

L53A Girard 79.52 31 P P 21 10 19.2 -1.0
baz=334

M52A Chesterland 79.53 32 P P 21 10 19.5 -0.8
baz=333

I58A Old Forge 79.55 27 P P 21 10 19.2 -1.2
baz=336

L54A Sinclairville 79.57 31 P P 21 10 19.1 -1.4
baz=334

H61A Lyndonville 79.59 25 P P 21 10 19.3 -1.3
baz=338

G63A Kingsbury 79.62 23 P P 21 10 20.0 -0.7
baz=339

WVNY West Valley, N 79.64 30 P P 21 10 19.7 -1.1
WVNY IAmb IAmb 21 10 24.2
comp=Z,20nm,0.9s

G64A Maxfield 79.70 22 P P 21 10 20.5 -0.6
baz=339

U40A Yellville 79.71 43 P P 21 10 19.9 -1.5
baz=329,SNR=20

U40A Yellville 79.71 43 P P 21 10 19.9 -1.5
H62A Milan 79.75 24 P P 21 10 20.9 -0.5
baz=338

N51A Ashland 79.75 33 P P 21 10 19.6 -1.9
baz=333

J58A Remsen 79.76 27 P P 21 10 20.0 -1.5
baz=336

K56A Middlesex 79.77 29 P P 21 10 20.3 -1.3
baz=335

ABTX Abilene, Hawle 79.79 50 P P 21 10 21.0 -0.8
baz=327

ALLY Alegheny Colle 79.84 31 P P 21 10 21.2 -0.7
M53A WI Miller and 79.85 32 P P 21 10 20.9 -1.1
baz=334

M53A WI Miller and 79.85 32 P P 21 10 20.5 -1.5
T42A Van Buren 79.87 41 P P 21 10 21.1 -1.1
T42A IAmb IAmb 21 10 25.6
comp=Z,20nm,0.9s

J59A Piesco 79.89 27 P P 21 10 20.7 -1.5
baz=336

P48A Milroy 79.96 36 P P 21 10 21.6 -1.1
K57A Scipio Center 79.98 28 P P 21 10 21.9 -0.8
baz=335

M54A Oil Creek Stat 80.12 31 P P 21 10 22.8 -0.7
baz=334

M54A Oil Creek Stat 80.12 31 P P 21 10 22.5 -1.0
M54A IAmb IAmb 21 10 26.9
comp=Z,15nm,1.0s

ACSO Alum Creek Sta 80.15 34 P P 21 10 22.9 -0.8
baz=333

P49A Miami Univ. Ec 80.15 35 P P 21 10 22.8 -0.8
baz=332

P49A Miami Univ. Ec 80.15 35 P P 21 10 22.5 -1.2
P49A IAmb IAmb 21 10 27.0
comp=Z,17nm,0.8s

K58A Earlville 80.20 28 P P 21 10 23.1 -0.8
baz=336

K58A Earlville 80.20 28 P P 21 10 23.3 -0.6
K58A IAmb IAmb 21 10 27.3
comp=Z,10nm,0.9s

L56A Greenwood 80.21 29 P P 21 10 23.0 -1.0
baz=335

W39A Magazine 80.30 44 P P 21 10 23.8 -0.7
baz=328

W39A Magazine 80.30 44 P P 21 10 23.7 -0.9
W39A IAmb IAmb 21 10 28.1
comp=Z,10nm,0.9s

I62A Tamworth 80.36 24 P P 21 10 24.4 -0.3
baz=338

O51A Pataskala 80.36 34 P P 21 10 24.0 -0.8
baz=333

PBMO Poplar Bluff 80.36 41 P P 21 10 23.8 -1.0
N53A Lisbon 80.37 32 P P 21 10 23.7 -1.1
baz=334

N53A Lisbon 80.37 32 P P 21 10 24.1 -0.8
I63A Otisfield 80.38 24 P P 21 10 25.1 +0.3
baz=338

J60A Lant Hill Farm 80.39 26 P P 21 10 23.5 -1.4
baz=337

FCAR Ozark Folk Cen 80.42 42 P P 21 10 23.9 -1.2
FCAR IAmb IAmb 21 10 28.2
comp=Z,15nm,0.9s

K59A Cooperstown 80.42 27 P P 21 10 24.7 -0.4
baz=336

M55A Ridgway 80.44 30 P P 21 10 24.2 -1.0

baz=334
M55A **Ridgway** **80.44** **30** P **P** **21 10 24.2 -1.0**
M55A IAmb IAmb 21 10 28.6
comp=Z,14nm,0.9s
TX31 **Lajitas Ar. Si** **80.50** **54** P **P** **21 10 25.3 -0.6**
TX31 IAmb IAmb 21 10 30.4
comp=Z,21nm,1.0s
TX32 **Lajitas Array** **80.50** **54** P **P** **21 10 25.2 -0.7**
TXAR **Lajitas Array** **80.50** **54** P **P** **21 10 26.1 +0.2**
comp=Z,3.7nm,0.8s,baz=305,slow=4.4,SNR=24
N54A **Moraine State** **80.51** **32** P **P** **21 10 24.9 -0.7**
baz=334
N54A **Moraine State** **80.51** **32** P **P** **21 10 24.4 -1.1**
N54A IAmb IAmb 21 10 29.2
comp=Z,18nm,0.8s
L57A **Andrews Acres** **80.55** **29** P **P** **21 10 25.6 -0.2**
baz=335
M56A **Emporium** **80.61** **30** P **P** **21 10 25.2 -1.0**
baz=335
M56A **Emporium** **80.61** **30** P **P** **21 10 26.4 +0.3**
M56A IAmb IAmb 21 10 29.2
comp=Z,12nm,1.0s
O52A **Adamsville** **80.65** **33** P **P** **21 10 24.9 -1.5**
baz=333
O52A **Adamsville** **80.65** **33** P **P** **21 10 25.6 -0.8**
WCI **Wyandotte Cave** **80.72** **37** P **P** **21 10 25.2 -1.5**
baz=331
WCI **Wyandotte Cave** **80.72** **37** P **P** **21 10 26.0 -0.7**
WCI pmax pmax
comp=Z,29nm,0.8s
WCI **Wyandotte Cave** **80.72** **37** P **P** **21 10 26.0 -0.7**
O53A **New Philadelph** **80.74** **33** P **P** **21 10 25.0 -1.8**
baz=333
L58A **Harry Jones Me** **80.81** **28** P **P** **21 10 26.0 -1.2**
baz=336
WHAR **Wooly Hollow** **80.86** **43** P **P** **21 10 26.2 -1.4**
L59A **Walton** **80.91** **28** P **P** **21 10 26.9 -0.8**
baz=336
L59A **Walton** **80.91** **28** P **P** **21 10 26.7 -1.1**
L59A IAmb IAmb 21 10 31.1
comp=Z,13nm,0.9s
MIAR **Mount Ida** **80.94** **44** P **P** **21 10 27.3 -0.7**
baz=329
MIAR **Mount Ida** **80.94** **44** P **P** **21 10 26.8 -1.2**
MIAR pmax pmax
comp=Z,7.0nm,0.8s
MIAR **Mount Ida** **80.94** **44** P **P** **21 10 26.8 -1.2**
K61A **Williamstown** **80.96** **26** P **P** **21 10 28.4 +0.5**
baz=337
W41B **Gary Mavity, V** **80.98** **43** P **P** **21 10 26.7 -1.4**
baz=329,SNR=18
W41B **Gary Mavity, V** **80.98** **43** P **P** **21 10 27.2 -0.9**
P52A **Corning** **80.98** **34** P **P** **21 10 26.7 -1.5**
baz=333
P52A **Corning** **80.98** **34** P **P** **21 10 26.6 -1.5**
P52A IAmb IAmb 21 10 31.1
comp=Z,12nm,0.8s
J63A **Strafford** **80.98** **24** P **P** **21 10 27.6 -0.4**
baz=338
N55A **Marion Center** **80.99** **31** P **P** **21 10 27.2 -1.0**
baz=334
M57A **Sunshine Farm,** **81.07** **29** P **P** **21 10 27.3 -1.3**
baz=335
M57A **Sunshine Farm,** **81.07** **29** P **P** **21 10 27.3 -1.3**
M57A IAmb IAmb 21 10 31.9
comp=Z,8.1nm,0.8s
O54A **Avella** **81.08** **32** P **P** **21 10 27.7 -1.0**
baz=334
O54A **Avella** **81.08** **32** P **P** **21 10 27.8 -0.8**
N56A **West Decatur** **81.09** **30** P **P** **21 10 27.8 -1.0**
baz=335
Q51A **Peebles** **81.09** **35** P **P** **21 10 27.9 -0.9**
M58A **Price's Panora** **81.24** **29** P **P** **21 10 28.7 -0.8**
baz=336
K62A **Royalston** **81.25** **25** P **P** **21 10 29.3 -0.2**
baz=338
X40A **Basin Creek Fa** **81.31** **44** P **P** **21 10 29.4 -0.5**
baz=329
X40A **Basin Creek Fa** **81.31** **44** P **P** **21 10 29.1 -0.9**
X40A IAmb IAmb 21 10 33.8
comp=Z,16nm,0.8s
L61A **Hillsdale 1, H** **81.33** **27** P **P** **21 10 29.7 -0.2**
baz=337
L60A **Shokan** **81.33** **27** P **P** **21 10 29.6 -0.3**
baz=337
P53A **Whipple** **81.36** **33** P **P** **21 10 29.9 -0.3**
baz=333
P53A **Whipple** **81.36** **33** P **P** **21 10 29.3 -0.9**
P53A IAmb IAmb 21 10 33.7
comp=Z,15nm,0.8s
M59A **Waymart** **81.39** **28** P **P** **21 10 29.5 -0.8**
baz=336
O55A **Ligonier** **81.41** **31** P **P** **21 10 29.4 -1.0**
baz=334
K63A **Dunstable** **81.41** **25** P **P** **21 10 30.1 -0.2**
baz=338
N57A **Milroy** **81.47** **30** P **P** **21 10 29.1 -1.6**
baz=335
SSPA **Standing Stone** **81.47** **30** P **P** **21 10 29.8 -0.9**
baz=335
T47A **Sharon Grove** **81.50** **38** P **P** **21 10 30.1 -0.8**
Q52A **Bidwell** **81.53** **34** P **P** **21 10 29.9 -1.1**
baz=333
P54A **Burton** **81.57** **32** P **P** **21 10 30.4 -0.9**
baz=334
HRV **Adam Dziewonsk** **81.58** **25** P **P** **21 10 30.8 -0.4**
baz=338
O56A **Blue Knob Stat** **81.59** **31** P **P** **21 10 30.8 -0.6**
baz=335
O56A **Blue Knob Stat** **81.59** **31** P **P** **21 10 30.2 -1.2**
O56A IAmb IAmb 21 10 34.9
comp=Z,15nm,1.1s
N58A **Sunbury** **81.65** **29** P **P** **21 10 30.5 -1.1**
baz=336
N58A **Sunbury** **81.65** **29** P **P** **21 10 31.0 -0.6**
N58A IAmb IAmb 21 10 34.9
comp=Z,11nm,0.9s
N59A **State Game Lan** **81.86** **29** P **P** **21 10 32.0 -0.8**
baz=336
N59A **State Game Lan** **81.86** **29** P **P** **21 10 32.1 -0.7**
N59A IAmb IAmb 21 10 36.8
comp=Z,12nm,1.1s
P55A **Reedsville** **81.87** **32** P **P** **21 10 31.9 -0.9**
baz=334,SNR=9.2
Q53A **Leroy** **81.88** **34** P **P** **21 10 31.9 -1.0**
baz=333,SNR=12
O57A **Amberson** **81.94** **30** P **P** **21 10 32.3 -0.9**
baz=335
WVT **Waverly** **81.96** **39** P **P** **21 10 32.3 -1.0**
baz=331
WVT **Waverly** **81.96** **39** P **P** **21 10 32.4 -1.0**
WVT pmax pmax
comp=Z,18nm,0.9s
WVT **Waverly** **81.96** **39** P **P** **21 10 32.4 -1.0**
Q54A **Coxs Mills** **82.01** **33** P **P** **21 10 32.6 -0.9**
baz=334
Q54A **Coxs Mills** **82.01** **33** P **P** **21 10 32.9 -0.6**
M61A **Granite Spring** **82.08** **27** P **P** **21 10 33.9 0.0**
baz=337
N60A **Cedar Hill Far** **82.11** **28** P **P** **21 10 33.7 -0.3**
baz=336
P56A **Dayton Farm, R** **82.20** **31** P **P** **21 10 33.9 -0.7**
baz=335,SNR=11
R53A **Hurricane** **82.21** **34** P **P** **21 10 34.4 -0.3**
baz=333
O58A **Lewisberry** **82.24** **30** P **P** **21 10 33.3 -1.5**
baz=336
Q55A **Buckhannon** **82.25** **32** P **P** **21 10 33.9 -1.0**
baz=334
PAL **Palisades** **82.33** **27** P **P** **21 10 34.0 -1.1**
baz=337
Q56A **Snyder Ridge,** **82.50** **32** P **P** **21 10 35.3 -0.9**
baz=334
CLTN **Cedars of Leba** **82.58** **38** P **P** **21 10 35.8 -0.8**
R54A **Victor** **82.67** **33** P **P** **21 10 36.5 -0.6**
baz=334
P58A **Pank, Wackersv** **82.70** **30** P **P** **21 10 36.4 -0.7**
baz=335
Q57A **Strasburg** **82.76** **31** P **P** **21 10 36.7 -0.8**
baz=335
PLAL **Pickwick Lake** **82.86** **40** P **P** **21 10 36.9 -1.2**
R55A **Marlinton** **82.88** **33** P **P** **21 10 36.5 -1.7**
baz=334
S54A **Dingess, Beckl** **82.91** **34** P **P** **21 10 36.3 -2.0**
baz=334
P60A **Greenville** **82.92** **29** P **P** **21 10 37.7 -0.5**
baz=336

R56A **Bull Pasture M** **83.01** **32** P **P** **21 10 38.0 -0.9**
baz=334
Q58A **Fox Den Farm,** **83.08** **31** P **P** **21 10 38.4 -0.7**
baz=335
T53A **Wise** **83.20** **35** P **P** **21 10 38.9 -1.0**
baz=333
TZTN **Tazewell** **83.23** **36** P **P** **21 10 39.4 -0.6**
baz=333
R57A **Stanardsville** **83.40** **32** P **P** **21 10 40.4 -0.4**
baz=335
T54A **Tazewell** **83.47** **34** P **P** **21 10 40.7 -0.6**
baz=334
V51A **Loudon** **83.59** **37** P **P** **21 10 40.7 -1.1**
T55A **Pulaski** **83.70** **34** P **P** **21 10 41.9 -0.6**
baz=334
X48A **Hartselle** **83.74** **40** P **P** **21 10 41.8 -0.8**
X48A IAmb IAmb 21 10 45.7
comp=Z,9.3nm,0.8s
BLA **Blacksburg** **83.74** **33** P **P** **21 10 41.5 -1.1**
baz=334
V52A **Sevierville** **83.83** **36** P **P** **21 10 42.4 -0.7**
CPCT **Cooper Cave** **83.84** **37** P **P** **21 10 41.9 -1.2**
U54A **Nelsons Funny** **83.87** **35** P **P** **21 10 42.6 -0.7**
baz=334
R58B **Mineral** **83.91** **31** P **P** **21 10 42.5 -0.9**
R58B IAmb IAmb 21 10 47.2
comp=Z,10nm,0.9s
R59A **King George, V** **83.94** **31** P **P** **21 10 42.9 -0.6**
baz=336
T56A **Rocky Mt** **84.04** **33** P **P** **21 10 43.1 -1.0**
baz=334
U55A **TA2, Sparta** **84.16** **34** P **P** **21 10 43.6 -1.2**
baz=334
S58A **Poland Farm, P** **84.17** **32** P **P** **21 10 43.4 -1.4**
baz=335
T57A **Hurt** **84.33** **33** P **P** **21 10 44.5 -1.1**
baz=335
R61A **Willards** **84.37** **29** P **P** **21 10 45.2 -0.5**
baz=336
V54A **Nebo** **84.49** **35** P **P** **21 10 45.7 -0.8**
baz=334
ESDC **Sonseca Array** **84.59** **335** P **P** **21 10 46.2 -0.7**
comp=Z,2.0nm,0.8s,baz=14,slow=4.4,SNR=11
V55A **Taylorsville** **84.69** **35** P **P** **21 10 46.4 -1.0**
baz=334
U57A **Blanch** **84.82** **33** P **P** **21 10 47.4 -0.7**
baz=335
BG3 **Lake Jocassee** **84.83** **36** P **P** **21 10 47.4 -0.8**
BG3 IAmb IAmb 21 10 51.9
comp=Z,7.6nm,0.8s
S61A **Accomac** **84.87** **30** P **P** **21 10 47.8 -0.5**
baz=336
T59A **Double "B" Far** **84.92** **31** P **P** **21 10 48.0 -0.6**
baz=335
V56A **Mocksville** **84.98** **34** P **P** **21 10 48.2 -0.7**
baz=334
LRAL **Lakeview Retre** **85.00** **40** P **P** **21 10 47.8 -1.2**
baz=332
W54A **Cherokee Point** **85.03** **36** P **P** **21 10 48.2 -1.0**
baz=333
T60A **Surry** **85.03** **31** P **P** **21 10 48.6 -0.5**
baz=336
U58A **Oxford** **85.11** **32** P **P** **21 10 49.3 -0.2**
baz=335
V57A **Coltrane Farms** **85.16** **34** P **P** **21 10 49.1 -0.7**
baz=334
KMSC **Kings Mountain** **85.28** **35** P **P** **21 10 49.7 -0.7**
baz=334
KMSC **Kings Mountain** **85.28** **35** P **P** **21 10 49.4 -1.0**
X54A **Belton** **85.44** **36** P **P** **21 10 50.2 -1.0**
baz=333
V58A **Windy Hill, Pi** **85.47** **33** P **P** **21 10 50.4 -0.9**
baz=335
W56A **Indian Trail** **85.56** **34** P **P** **21 10 50.8 -1.0**
baz=334
W57A **Gilead** **85.75** **34** P **P** **21 10 51.8 -0.9**
baz=334
W57A **Gilead** **85.75** **34** P **P** **21 10 52.2 -0.5**
X55A **Gracelyn & Ava** **85.78** **36** P **P** **21 10 52.3 -0.6**
baz=334
V59A **Middlesex** **85.79** **32** P **P** **21 10 52.4 -0.5**
baz=335
U61A **Possum Corner** **85.86** **31** P **P** **21 10 53.5 +0.3**
baz=336
X56A **White Oak** **85.97** **35** P **P** **21 10 53.3 -0.6**
baz=334
GOGA **Godfrey** **86.04** **37** P **P** **21 10 54.0 -0.2**
baz=333
W58A **Raeford** **86.13** **34** P **P** **21 10 54.1 -0.5**
baz=335
Y55A **Saluda** **86.17** **36** P **P** **21 10 54.6 -0.2**
baz=334
LPAZ **La Paz** **136.95** **47** PKP **PKPdf** **21 17 37.4 0.0**
comp=Z,1.3nm,0.8s,baz=46,slow=4.0,SNR=5.0
AC05 **El Transito** **146.39** **60** **PKPbc** **21 17 53.9 -0.6**
CPUP **Villa Florida** **150.43** **39** PKPbc **PKPbc** **21 18 03.8 -1.2**
comp=Z,4.5nm,0.8s,baz=187,slow=3.6,SNR=5.0
CPUP **Villa Florida** **150.43** **39** **PKPbc** **21 18 03.5 -1.5**
BI02 **San Fabin de** **151.57** **72** **PKPbc** **21 18 06.3 -1.1**
PLCA **Paso Flores** **154.60** **78** PKPbc **PKPbc** **21 18 12.7 -1.3**
comp=Z,3.7nm,1.0s,baz=296,slow=7.8,SNR=3.5
PLCA **Paso Flores** **154.60** **78** PKPbc **PKPbc** **21 18 13.8 -0.2**

IDC 30 21:21:17.6±2.6, 30°13S×177°08W, h0km, mb3.7/2, mb1 3.9/2, mb1mx3.5/45, mbtmp3.7/2, Error ellipse: s-maj=56.2km s-min=30.5km az=66.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.13**	**320**	Pn	Pn	21 21 41.0	+0.3
	104nm,0.3s,baz=85,slow=12,SNR=6.4						
RAO				Sn	Sn	21 21 58.0	+0.9
	527nm,0.3s,baz=101,slow=22,SNR=14						
ASAR	**Alice Springs**	**43.92**	**266**	P	P	21 29 26.1	-0.3
	0.6nm,0.8s,baz=104,slow=7.8,SNR=5.7						
WRA	**Warramunga Arr**	**44.88**	**271**	P	P	21 29 34.0	-0.1
	0.8nm,0.6s,baz=111,slow=7.9,SNR=7.1						
FINES	**FINESS Array B**	**145.16**	**341**	PKPbc	PKPbc	21 40 55.0	-0.9
	1.9nm,0.7s,baz=50,slow=4.3,SNR=6.7						

*IDC **30** 21:25:37.1±1.7, 2°47N×126°44E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.5/45, mbtmp3.9/5, Error ellipse: s-maj=113.1km s-min=22.1km az=67.0*
*NEIC **30** 21:25:46.1±1.4, 2°24N±0°09×126°3E±0°1, h69km±7km, mb4.1/9, Error ellipse: s-maj=17.0km s-min=10.8km az=57.0*

ISC 30 21:25:45.1±1.0, 2°3N±0°1×126°3E±0°1, h55km, n17, σ0§96/17, mb4.0/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.81**	**145**		**Pn**	**21 26 14.8**	**+0.8**
LUWI	**Luwuk**	**4.83**	**227**	Pn	**Pn**	**21 26 56.1**	**+0.8**
MYLDM	**Lahad Datu**	**8.32**	**291**	Pn	**Pn**	**21 27 44.6**	**+1.4**
FITZ	**Fitzroy Crossi**	**20.24**	**182**	P	**P**	**21 30 15.1**	**-0.8**
	2.1nm,0.5s,baz=13,slow=13,SNR=2.3						
FITZ	**Fitzroy Crossi**	**20.24**	**182**	P	**P**	**21 30 14.2**	**-1.8**
FITZ				IAmb	IAmb	21 30 30.5	
	comp=Z,27nm,1.4s						
WB0	**Warramunga Arr**	**23.28**	**160**	P	**P**	**21 30 47.6**	**-0.6**
WB0				IAmb	IAmb	21 31 04.9	
	comp=Z,18nm,1.5s						
WRA	**Warramunga Arr**	**23.43**	**161**	P	**P**	**21 30 49.0**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=342,slow=10.0,SNR=35						
WB2	**Warramunga Arr**	**23.43**	**161**	P	**P**	**21 30 49.3**	**-0.3**
AS31	**Alice Springs**	**26.81**	**164**	P	**P**	**21 31 20.3**	**0.0**
ASAR	**Alice Springs**	**26.81**	**164**	P	**P**	**21 31 20.8**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=346,slow=11,SNR=16						
BBOO	**Buckleboo**	**36.08**	**166**	P	**P**	**21 32 41.5**	**-0.1**
STKA	**Stephens Creek**	**36.92**	**158**	P	**P**	**21 32 49.9**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=320,slow=8.5,SNR=4.6						
STKA	**Stephens Creek**	**36.92**	**158**	P	**P**	**21 32 49.0**	**+0.2**
MK31	**Makanchi Array**	**58.53**	**326**	P	**P**	**21 35 35.0**	**-1.0**
MK31				IAmb	IAmb	21 35 53.7	
	comp=Z,1.5nm,1.2s						
MKAR	**Makanchi Array**	**58.53**	**326**	P	**P**	**21 35 34.7**	**-1.3**
	comp=Z,0.3nm,0.4s,baz=117,slow=8.6,SNR=8.9						
KURK	**Kurchatov**	**62.75**	**328**	P	**P**	**21 36 03.7**	**-0.9**
KURK				IAmb	IAmb	21 36 20.7	
	comp=Z,1.4nm,1.1s						
VNDA	**Vanda**	**82.03**	**173**	P	**P**	**21 37 58.7**	**-0.2**
VNDA				IAmb	IAmb	21 38 10.5	
	comp=Z,3.1nm,1.4s						

IDC 30 21:36:32.2±40.0, 20°68S×178°12W, h602km±400km, mb2.8/4, mb1 2.9/4, mb1mx2.7/38, mbtmp3.9/4, Error ellipse: s-maj=282.6km s-min=60.5km az=85.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.61**	**244**	P	P	21 42 57.4	0.0
	0.9nm,0.5s,baz=102,slow=9.0,SNR=3.8						
JAY	**Jayapura**	**44.00**	**289**	P	P	21 43 48.1	0.0
	3.6nm,0.4s,baz=110,slow=4.4,SNR=6.3						
ASAR	**Alice Springs**	**44.37**	**257**	P	P	21 43 51.0	+0.1
	0.5nm,0.5s,baz=98,slow=8.3,SNR=6.9						
WRA	**Warramunga Arr**	**44.47**	**262**	P	P	21 43 50.9	-0.7
	0.7nm,0.9s,baz=98,slow=7.5,SNR=1.9						
AKASG	**Malin Array Be**	**143.12**	**331**	PKP	PKPdf	21 54 57.8	-0.6
	1.2nm,0.4s,baz=44,slow=4.1,SNR=8.4						

*IDC **30** 21:42:12.6±1.0, 11°47S×161°71E, h0km, mb4.1/11, mb1 4.2/14, mb1mx4.1/30, mbtmp4.1/14, ML3.8/3, MS3.8/2, Ms1 3.8/2, ms1mx3.1/32, Error ellipse: s-maj=28.2km s-min=19.8km az=116.0*
*NEIC **30** 21:42:14.9±1.1, 11°44S±0°04×161°59E±0°09, h10km±1km, mb4.5/19, Error ellipse: s-maj=15.9km s-min=5.8km az=261.0*

ISC 30 21:42:18.2±0.6, 11°44S±0°08×161°59E±0°10, h35km, n37, σ0§78/38, mb4.3/22, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.57**	**321**	Pn	**Pn**	**21 42 56.2**	**-1.1**
	21nm,0.3s,baz=194,slow=15,SNR=1.7						
HNR				Sn	**Sn**	**21 43 26.2**	**-1.2**
	52nm,0.3s,baz=119,slow=18,SNR=3.9						
HNR	**Honiara**	**2.57**	**321**		**Pn**	**21 42 56.5**	**-0.9**
HNR					**Sn**	**21 43 26.0**	**-1.4**
SANVU	**Saraoutou**	**6.76**	**127**	Pn	**Pn**	**21 43 54.4**	**-0.5**
DZM	**Mont Dzumac**	**11.55**	**157**	Pn	**Pn**	**21 44 59.0**	**-1.7**
	0.3nm,0.3s,baz=325,slow=9.2,SNR=8.6						
EIDS	**Eidsvold**	**17.05**	**214**	P	**P**	**21 46 14.9**	**-0.6**
CTA	**Charters Tower**	**17.07**	**238**	P	**P**	**21 46 15.7**	**-0.1**
	0.3nm,0.3s,baz=68,slow=14,SNR=4.0						
CTAO	**Charters Tower**	**17.07**	**238**	P	**P**	**21 46 16.0**	**+0.2**
COEN	**Coen**	**18.14**	**260**	P	**P**	**21 46 28.9**	**+1.3**
PATS	**Pohnpei**	**18.45**	**350**	P	**P**	**21 46 30.5**	**-0.5**
WB0	**Warramunga Arr**	**27.44**	**249**	P	**P**	**21 48 01.0**	**0.0**
WB0				IAmb	IAmb	21 48 06.3	
	comp=Z,8.0nm,1.0s						
STKA	**Stephens Creek**	**27.45**	**219**	P	**P**	**21 48 00.3**	**-0.7**
	comp=Z,2.6nm,0.9s,baz=49,slow=10.0,SNR=4.0						
STKA	**Stephens Creek**	**27.45**	**219**	P	**P**	**21 48 00.6**	**-0.5**
WB2	**Warramunga Arr**	**27.52**	**249**	P	**P**	**21 48 02.6**	**+0.9**
WB2				IAmb	IAmb	21 48 04.5	
	comp=Z,17nm,1.5s						
WRA	**Warramunga Arr**	**27.53**	**249**	P	**P**	**21 48 01.8**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=78,slow=9.8,SNR=6.5						
ASAR	**Alice Springs**	**29.00**	**241**	P	**P**	**21 48 14.9**	**0.0**
	comp=Z,1.2nm,0.8s,baz=74,slow=9.5,SNR=9.3						
BBOO	**Buckleboo**	**31.65**	**224**	P	**P**	**21 48 38.7**	**+0.5**
KNRA	**Kununurra**	**32.17**	**259**	P	**P**	**21 48 43.3**	**+0.3**
NWAO	**Narrogin (SRO)**	**45.88**	**235**	LR	LR	22 09 55.8	
	comp=Z,82nm,18.3s,baz=140,slow=36						
KSRS	**Korea Array**	**57.99**	**329**	P	**P**	**21 52 07.8**	**+0.4**
	comp=Z,1.1nm,0.7s,baz=153,slow=8.1,SNR=7.7						
USRK	**Ussuriysk Ar.**	**61.56**	**336**	P	**P**	**21 52 32.4**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=116,slow=4.4,SNR=4.3						
CMAR	**Chiang Mai Arr**	**68.56**	**295**	P	**P**	**21 53 18.9**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=120,slow=4.9,SNR=5.6						
ULN	**Ulaanbaatar**	**76.27**	**326**	P	**P**	**21 54 04.2**	**+0.7**
ULN				IAmb	IAmb	21 54 05.4	
	comp=Z,2.5nm,0.8s						
SONM	**Songino Array**	**76.62**	**325**	P	**P**	**21 54 06.4**	**+1.0**
	comp=Z,2.0nm,0.6s,baz=146,slow=6.5,SNR=11						
QSPA	**South Pole Qui**	**78.56**	**180**	P	**P**	**21 54 16.4**	**+0.3**
QSPA				IAmb	IAmb	21 54 22.7	
	comp=Z,7.1nm,1.5s						
SVW2	**Sparrevohn**	**79.80**	**20**	P	**P**	**21 54 23.7**	**+1.1**
SVW2				IAmb	IAmb	21 54 24.8	
	comp=Z,6.7nm,0.8s						
TTA	**Tatalina**	**81.03**	**18**	P	**P**	**21 54 29.9**	**+0.7**
TTA				IAmb	IAmb	21 54 32.8	
	comp=Z,3.4nm,1.0s						
WRH	**Wood River Hil**	**84.63**	**20**	P	**P**	**21 54 47.7**	**0.0**
WRH				IAmb	IAmb	21 54 48.6	
	comp=Z,3.6nm,1.0s						
CCB	**Clear Creek Bu**	**84.84**	**20**	P	**P**	**21 54 48.9**	**+0.1**
CCB				IAmb	IAmb	21 54 50.1	
	comp=Z,2.3nm,0.8s						
HDA	**Harding Lake**	**84.97**	**20**	P	**P**	**21 54 50.0**	**+0.5**
IL31		**85.22**	**20**	P	**P**	**21 54 51.9**	**+1.2**
IL31				IAmb	IAmb	21 54 52.3	
	comp=Z,1.7nm,0.8s						
ILAR	**Eielson Array**	**85.22**	**20**	P	**P**	**21 54 49.9**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=242,slow=5.0,SNR=6.9						
EGAK	**Eagle**	**87.18**	**21**	P	**P**	**21 55 01.1**	**+0.7**
DAWY	**Dawson**	**87.43**	**22**	P	**P**	**21 55 02.7**	**+1.0**
DAWY				IAmb	IAmb	21 55 04.1	
	comp=Z,5.3nm,1.2s						
NVAR	**Mina Array Bea**	**89.41**	**51**	P	**P**	**21 55 11.6**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=229,slow=6.8,SNR=3.2						
EPYK	**Eagle Plains**	**89.60**	**21**	P	**P**	**21 55 12.1**	**+0.2**
EPYK				IAmb	IAmb	21 55 14.3	
	comp=Z,4.2nm,0.9s						
MKAR	**Makanchi Array**	**91.04**	**318**	P	**P**	**21 55 19.2**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=98,slow=6.2,SNR=9.7						
MKAR				LR	LR	22 33 38.4	
	comp=Z,65nm,21.7s,baz=158,slow=34						
YKA	**Yellowknife Ar**	**97.21**	**28**	P	**P**	**21 55 46.5**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=246,slow=5.3,SNR=4.0						

*BJI **30** 21:58:48.7±0.0, 2°60S×99°58E, h32km, mB4.9/42, mb4.8/61, Ms4.6/37, Ms7 4.4/35*
*IDC **30** 21:58:51.3±0.6, 1°85S×99°32E, h0km, mb4.6/22, mb1 4.7/24, mb1mx4.5/47, mbtmp4.6/24, ML4.0/2, MS4.0/16, Ms1 4.0/16, ms1mx3.8/39, Error ellipse: s-maj=19.7km s-min=12.4km az=51.0*
*DJA **30** 21:58:53.7±0.4, 2°S±3°×9°9E±°, h46km±3km, M4.7/20, mb4.9/20, mB5.1/12, MLv5.1/19, Mw(mB)4.4/12*
*UNK **30** 21:58:54.5, 2°03S×99°15E, h34km*
*NEIC **30** 21:58:54.5±1.4, 1°89S±0°07×99°25E±0°07, h23km±4km, mb4.9/74, Error ellipse: s-maj=11.9km s-min=7.4km az=49.0*
*KLM **30** 21:58:55.0, 1°96S×99°09E, h39km, mb5.0*

ISC 30 21:58:55.5±0.4, 1°92S±0°05×99°26E±0°05, h30km, n405, σ1§11/396, mb4.9/73, MS4.0/23, 16C-4D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.61**	**344**	P	**Pb**	**21 59 08.2**	**+0.4**
SISI				S	**Sn**	**21 59 17.7**	**+0.7**
PPSI	**Pulau Pagai**	**1.13**	**138**	P	**Pn**	**21 59 14.9**	**-0.3**
KRJI	**Kerinci**	**2.21**	**94**	P	**Pn**	**21 59 30.7**	**+0.4**
SDSI	**Sungai Dareh**	**2.38**	**66**	P	**Pn**	**21 59 33.8**	**+1.3**
MNSI	**Mandailing Nat**	**2.72**	**7**	P	**Pn**	**21 59 36.8**	**-0.3**
BKNI	**Bangkinang**	**2.86**	**39**	P	**Pn**	**21 59 39.5**	**+0.5**
BKNI	**Bangkinang**	**2.86**	**39**		**Pn**	**21 59 39.5**	**+0.5**
MASI	**Maura Aman, Be**	**3.22**	**112**	P	**Pn**	**21 59 44.7**	**+0.6**
MASI				S	**Sn**	**22 00 22.9**	**+1.4**
SBSI	**Sibolga**	**3.46**	**354**	P	**Pn**	**21 59 44.3**	**-3.1**
SBSI				S	**Sn**	**22 00 24.9**	**-2.6**
GSI	**Gunungsitoli**	**3.62**	**332**	P	**Pn**	**21 59 48.9**	**-0.6**
GSI	**Gunungsitoli**	**3.62**	**332**	Pn	**Pn**	**21 59 49.0**	**-0.6**
GSI				Sn	**Sn**	**22 00 27.4**	**-3.9**
MNAI	**Manna**	**4.42**	**123**	P	**Pn**	**21 59 59.7**	**-0.9**
MNAI	**Manna**	**4.42**	**123**	Pn	**Pn**	**22 00 01.2**	**+0.6**
MNAI				Sn	**Sn**	**22 00 48.1**	**-3.0**
RPSI	**Rantau Prapat**	**4.59**	**356**	Pn	**Pn**	**22 00 02.4**	**-0.5**
RPSI	**Rantau Prapat**	**4.59**	**356**		**Pn**	**22 00 02.5**	**-0.5**
LHSI	**Lahat**	**4.67**	**114**	P	**Pn**	**22 00 03.9**	**0.0**
PSI	**Prapat**	**4.70**	**356**	Pn	**Pn**	**22 00 02.5**	**-2.1**
	4.2nm,0.3s,baz=180,slow=9.1,SNR=46						
DSRI	**Dabo**	**5.51**	**75**	P	**Pn**	**22 00 15.8**	**+0.2**
	0.7nm2µm77nm,0.9s						
MDSI	**Maura Dua**	**5.54**	**118**	P	**Pn**	**22 00 16.6**	**+0.7**
	0.6nm2µm90nm,1.0s						
PMBI	**Palembang**	**5.60**	**100**	Pn	**Pn**	**22 00 16.2**	**-0.6**
KCSI	**Kotacane, Aceh**	**5.60**	**345**	P	**Pn**	**22 00 15.7**	**-1.2**

1.3nm2µm135nm,0.9s
LWLI Liwa 5.70 123 P **Pn** **22 00 17.9 -0.3**
3.0nm5µm317nm,0.6s
MYKOM Kota Tinggi 5.89 51 Pn **Pn** **22 00 21.5 +0.7**
MYKOM Kota Tinggi 5.89 51 P **Pn** **22 00 22.0 +1.2**
KASI Kota Agung 6.34 125 P **Pn** **22 00 26.5 -0.4**
1.2nm154nm,0.8s
IPM Ipoh 6.60 16 Pn **Pn** **22 00 30.8 +0.3**
IPM Ipoh 6.60 16 P **Pn** **22 00 32.0 +1.5**
KULM Kulim 7.29 11 Pn **Pn** **22 00 39.4 -0.7**
KULM Kulim 7.29 11 P **Pn** **22 00 40.0 -0.1**
LHMI Lhok Sumawe 7.46 342 Pn **Pn** **22 00 42.8 +0.4**
CNJI Cibinong 9.50 125 P **Pn** **22 01 07.6 -2.7**
118nm,0.8s
LEM Lembang 9.66 121 Pn **Pn** **22 01 12.6 -0.1**
2.1nm,0.3s,baz=315,slow=21,SNR=2.6
LEM LR LR 22 05 33.3
comp=Z,1µm,20.7s,baz=246,slow=42
CISI Cisompet, Garu 10.20 124 P **Pn** **22 01 16.9 -3.1**
119nm,0.6s
CISI Cisompet, Garu 10.20 124 **Pn** **22 01 17.0 -3.1**
KSM Kuching 11.55 73 Pn **Pn** **22 01 38.5 -0.1**
UGM Wanagama 12.70 118 Pn **Pn** **22 01 51.6 -2.7**
SBUM Sibu 13.67 72 Pn **Pn** **22 02 07.5 +0.1**
SBUM Sibu 13.67 72 P **Pn** **22 02 10.0 +2.6**
JAGI Jajag, Banyuwa 16.19 114 P **Pn** **22 02 37.9 -3.1**
33nm,2.0s
JAGI Jajag, Banyuwa 16.19 114 Pn **Pn** **22 02 37.7 -3.4**
DLV T Lat 16.55 33 Pn **Pn** **22 02 45.9 +0.2**
DLV IAmb IAmb 22 02 49.9
comp=Z,94nm,1.4s
BKB Balikpapan 17.65 88 **Pn** **22 02 59.4 +0.1**
BKB IAmb IAmb 22 03 02.6
comp=Z,156nm,1.2s
KKM Kota Kinabalu 18.69 65 P **P** **22 03 10.8 -0.8**
PLAI Plampang 19.66 111 P **P** **22 03 19.9 -2.3**
comp=Z,38nm,1.0s
CM31 Chiang Mai Arr 20.25 359 P **P** **22 03 27.9 -0.7**
CM31 IAmb IAmb 22 03 35.1
comp=Z,50nm,1.1s
CMAR Chiang Mai Arr 20.25 359 P **P** **22 03 27.6 -1.0**
comp=Z,8.2nm,0.6s,baz=187,slow=10.0,SNR=60
CMAR LR LR 22 12 11.6
comp=Z,928nm,18.1s,baz=224,slow=40
MYLDM Lahad Datu 20.48 70 P **P** **22 03 31.6 +0.6**
MYLDM IAmb IAmb 22 03 40.8
comp=Z,93nm,1.0s
CHTO Chiang Mai 20.61 359 P **P** **22 03 32.3 -0.1**
KAPI Kappang 20.69 99 P **P** **22 03 32.6 -0.8**
comp=Z,14nm,0.7s,baz=248,slow=10,SNR=5.9
KAPI LR LR 22 11 47.7
comp=Z,207nm,18.0s,baz=252,slow=38
KAPI Kappang 20.69 99 **P** **22 03 33.7 +0.4**
KAPI IAmb IAmb 22 03 51.3
comp=Z,37nm,0.8s
MPSI Mapaga 20.76 84 P **P** **22 03 34.1 -0.1**
comp=Z,1µmcomp=Z,87nm,1.1s
BNSI Bone 20.96 97 P **P** **22 03 34.5 -1.8**
comp=Z,734nmcomp=Z,52nm,0.9s
QIZ Qiongzhong 23.27 26 P **P** **22 03 57.0 -3.8**
QIZ pmax pmax
comp=Z,34nm,1.0s
QIZ LR LR
comp=Z,520nm,11.6s
QIZ LR LR
comp=Z,370nm,11.4s
QIZ LR LR
comp=Z,480nm,20.6s
QIZ Qiongzhong 23.27 26 P **P** **22 04 00.3 -0.5**
QIZ IAmb IAmb 22 04 02.2
comp=Z,42nm,1.1s
LUWI Luwuk 23.52 88 P **P** **22 04 02.6 -0.7**
BBSI Bau Bau 23.53 99 P **P** **22 04 01.1 -2.3**
comp=Z,6.8nm,1.1s
SLVN Son La 23.55 11 P **P** **22 04 02.5 -1.0**
TGY Tagaytay City 26.74 53 LR LR 22 16 15.3
comp=Z,273nm,18.6s,baz=262,slow=39
KMI Kunming 27.09 7 ⇑*iP* **P** **22 04 37.3 +1.3**
KMI pP pP 22 04 44.8 0.0
KMI sP sP 22 04 48.3 -0.1
KMI pmax pmax
comp=Z,18nm,0.8s
KMI pmax pmax
comp=Z,190nm,6.2s
KMI LR LR
comp=Z,330nm,19.3s
KMI LR LR
comp=Z,270nm,16.1s
KMI LR LR
comp=Z,480nm,22.8s
KMI Kunming 27.09 7 P **P** **22 04 35.9 -0.1**
KMI IAmb IAmb 22 04 37.9
comp=Z,14nm,0.6s
H08S2 Diego Garcia H 27.26 257 T T 22 33 07.9
baz=79,slow=76,SNR=1064
H08S3 Diego Garcia H 27.26 257 T T 22 33 08.3
baz=79,slow=76,SNR=1038
H08S1 Diego Carcia H 27.28 257 T T 22 33 09.2
baz=79,slow=76,SNR=648
DAV Davao City (W) 27.75 71 LR LR 22 16 33.6
comp=Z,152nm,19.8s,baz=250,slow=38
SHL Shillong 28.24 346 P **P** **22 04 45.8 -0.5**
SHL IAmb IAmb 22 05 04.0
comp=Z,21nm,0.8s
GYA Guiyang 29.11 14 ⇑P **P** **22 04 53.8 -0.1**
GYA pmax pmax
comp=Z,10.0nm,0.8s
GYA pmax pmax
comp=Z,80nm,3.5s
GYA LR LR
comp=Z,360nm,20.8s
GYA LR LR
comp=Z,410nm,13.7s
GYA LR LR
comp=Z,700nm,19.3s
FITZ Fitzroy Crossi 30.47 124 P **P** **22 05 05.6 -0.4**
baz=30,SNR=4.2
FITZ Fitzroy Crossi 30.47 124 P **P** **22 05 05.0 -1.0**
ODAN Odare 30.82 339 *eP* **P** **22 05 10.3 +1.1**
comp=Z,62nm,0.9s
TAPN Taplejung 31.15 340 *eP* **P** **22 05 13.7 +1.5**
comp=Z,85nm,0.9s
RAMN Ramite 31.19 338 *eP* **P** **22 05 14.0 +1.6**
comp=Z,37nm,0.7s
JIRN Jiri 31.98 338 *eP* **P** **22 05 20.8 +1.2**
comp=Z,112nm,0.8s
KNRA Kununurra 32.13 117 P **P** **22 05 18.8 -1.9**
PKI Pulchoki 32.21 337 *eP* **P** **22 05 22.3 +0.8**
comp=Z,24nm,1.2s
PKIN Phulchoki 32.22 336 *eP* **P** **22 05 22.2 +0.7**
comp=Z,25nm,1.0s
GUN Gumba 32.33 337 *eP* **P** **22 05 23.7 +1.1**
comp=Z,56nm,0.6s
DMN Daman 32.36 336 *eP* **P** **22 05 23.5 +0.7**
comp=Z,30nm,1.1s
LSA Lhasa 32.38 347 P **P** **22 05 24.0 +0.8**
LSA pmax pmax
comp=Z,34nm,1.7s
LSA Lhasa 32.38 347 P **P** **22 05 23.6 +0.5**
LSA IAmb IAmb 22 05 36.0
comp=Z,35nm,1.5s
KKN Kakani 32.45 337 *eP* **P** **22 05 24.4 +0.9**
comp=Z,43nm,0.8s
GKN Gorkha 32.90 336 *eP* **P** **22 05 28.4 +1.0**
comp=Z,50nm,1.0s
CD2 Chengdu 32.93 7 *eP* **P** **22 05 29.0 +1.6**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
YULB Yu-li 33.07 39 P **P** **22 05 28.4 -0.4**
KOLN Koldanda 33.14 334 *eP* **P** **22 05 30.8 +1.3**
comp=Z,69nm,0.8s
SSLB Suanglung 33.14 38 P **P** **22 05 29.2 -0.2**
SSLB IAmb IAmb 22 05 43.2
comp=Z,16nm,1.2s
ENH Enshi 33.47 16 P **P** **22 05 30.3 -1.9**
DANN Dangsing 33.57 335 *eP* **P** **22 05 34.3 +0.9**
comp=Z,59nm,1.0s
PYUN Piuthan 33.69 334 *eP* **P** **22 05 35.3 +0.9**
comp=Z,37nm,0.7s
NWAO Narrogin (SRO) 35.16 153 P **P** **22 05 46.5 -0.3**
NWAO IAmb IAmb 22 06 02.6
comp=Z,28nm,1.1s
H01W3 Cape Leeuwin H 35.61 159 T T 22 43 34.0
baz=334,slow=76,SNR=96
H01W2 Cape Leeuwin H 35.62 159 T T 22 43 31.3
baz=334,slow=76,SNR=95
H01W1 Cape Leeuwin H 35.62 159 T T 22 43 34.4
baz=334,slow=76,SNR=98
WRKA Warakurna 36.23 132 P **P** **22 05 55.8 -0.3**
baz=36,SNR=7.2
XAN Xi'an 36.91 13 P **P** **22 06 00.0 -1.8**
XAN pP pP 22 06 09.8 -0.8
XAN pmax pmax
comp=Z,28nm,0.8s
XAN pmax pmax
comp=Z,190nm,5.9s
XAN LR LR
comp=Z,730nm,16.2s
XAN LR LR
comp=Z,410nm,15.7s
XAN LR LR
comp=Z,1µm,16.2s
XAN Xi'an 36.91 13 P **P** **22 05 59.9 -1.8**
XAN IAmb IAmb 22 06 00.9
comp=Z,17nm,0.8s
LZH Lanzhou 38.05 6 *eP* **P** **22 06 15.0 +3.5**
LZH pP sP 22 06 25.0 +1.0
LZH sP pP 22 06 28.5 +8.1
LZH *ePP* **PnPn** **22 07 47.3 +6.9**
LZH pmax pmax
comp=Z,25nm,1.3s
LZH pmax pmax
comp=Z,96nm,5.4s
LZH LR LR
comp=Z,380nm,13.4s
LZH LR LR
comp=Z,390nm,13.7s
LZH LR LR
comp=Z,560nm,16.8s
NJ2 Nanjing 38.56 27 *eP* **P** **22 06 18.0 +2.3**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
WB0 Warramunga Arr 38.65 120 P **P** **22 06 16.0 -0.7**
WB0 IAmb IAmb 22 06 32.5
comp=Z,26nm,0.8s
WRA Warramunga Arr 38.68 120 P **P** **22 06 16.0 -0.9**
comp=Z,16nm,1.0s,baz=303,slow=8.9,SNR=53
WB2 Warramunga Arr 38.69 120 P **P** **22 06 15.9 -1.0**
WB2 IAmb IAmb 22 06 17.7
comp=Z,23nm,1.1s
WR0 Warramunga Arr 38.86 120 P **P** **22 06 17.8 -0.6**
WR0 IAmb IAmb 22 06 18.7
comp=Z,34nm,1.1s
ASAR Alice Springs 39.90 126 P **P** **22 06 26.9 -0.2**
comp=Z,5.8nm,0.8s,baz=297,slow=7.6,SNR=45
ASAR PcP **PcP** **22 08 33.4 +0.8**
comp=Z,2.3nm,0.8s,baz=312,slow=4.9,SNR=5.1
ASAR S **S** **22 12 30.2 -0.3**
comp=Z,1.0nm,0.7s,baz=297,slow=14,SNR=7.1
ASAR LR LR 22 24 12.8
comp=Z,222nm,21.7s,baz=292,slow=38
AS31 Alice Springs 39.90 126 P **P** **22 06 27.1 0.0**
GTA Gaotai 41.13 1 ⇑P **P** **22 06 37.5 +0.4**
GTA pP pP 22 06 45.5 -0.5
GTA sP sP 22 06 49.5 -0.2
GTA PcP **PcP** **22 08 37.5 +1.2**
GTA SS SS 22 15 48.5 -3.5
GTA pmax pmax
comp=Z,22nm,1.3s
GTA pmax pmax
comp=Z,87nm,4.9s
GTA LR LR
comp=Z,250nm,19.7s
GTA LR LR
comp=Z,300nm,19.7s
GTA LR LR
comp=Z,420nm,19.7s
NIL Nilore 43.03 328 P **P** **22 06 51.9 -0.8**
NIL IAmb IAmb 22 06 53.4
comp=Z,28nm,0.8s
HHC Hu-ho-hao-te 44.02 13 *eP* **P** **22 07 01.3 +0.7**
HHC pmax pmax
comp=Z,5.0nm,0.7s
HHC pmax pmax
comp=Z,75nm,7.5s
HHC LR LR
comp=Z,400nm,14.6s
HHC LR LR
comp=Z,150nm,14.5s
HHC LR LR
comp=Z,380nm,15.3s
BJT Baijiatuau 44.52 19 P **P** **22 07 04.4 0.0**
BJI Beijing 44.54 19 P **P** **22 07 04.5 -0.1**
BJI pmax pmax
comp=Z,12nm,0.9s
JNU Nakatsue 45.88 38 P **P** **22 07 14.1 -1.3**
BBOO Buckleboo 46.22 136 P **P** **22 07 17.9 -0.2**
BBOO IAmb IAmb 22 07 28.5
comp=Z,25nm,1.4s
KSH Kashi 46.44 335 *eP* **P** **22 07 19.5 -0.3**
KSH pmax pmax
comp=Z,14nm,0.7s
KSH pmax pmax
comp=Z,230nm,6.1s
WMQ Urumqi 46.70 349 *eP* **P** **22 07 23.5 +1.8**
WMQ pP pP 22 07 32.0 +1.3
WMQ pmax pmax
comp=Z,18nm,1.1s
WMQ pmax pmax
comp=Z,59nm,4.3s
WMQ Urumqi 46.70 349 P **P** **22 07 22.1 +0.4**
KSRS Korea Array 47.33 31 P **P** **22 07 25.9 -0.8**
comp=Z,6.8nm,0.7s,baz=223,slow=8.7,SNR=48
KSRS LR LR 22 27 51.2
comp=Z,124nm,18.1s,baz=222,slow=37
KS19 Wonju Array Si 47.34 31 P **P** **22 07 25.7 -1.0**
KS19 IAmb IAmb 22 07 26.9
comp=Z,11nm,0.8s
TARG Taragay, Kyrgy 47.61 338 P **P** **22 07 29.4 +0.2**
TARG IAmb IAmb 22 07 47.1
comp=Z,11nm,0.8s
PRZ Przheval'sk 48.05 339 P **P** **22 07 32.9 +0.5**
PRZ IAmb IAmb 22 07 40.9
comp=Z,16nm,0.9s
KDJ Kajisay 48.19 338 P **P** **22 07 34.0 +0.5**
SHLS Shalkode 48.28 341 ⇑*iP* **P** **22 07 34.5 +0.4**
comp=Z,16nm,1.3s,baz=341
UZB Uzynbulak 48.42 340 ⇑*iP* **P** **22 07 36.5 +1.3**
comp=Z,11nm,1.4s,baz=341
UZB *eS* **S** **22 14 36.2 +2.1**
baz=341
SATY Saty 48.55 340 ⇑*iP* **P** **22 07 37.6 +1.4**
comp=Z,12nm,1.1s,baz=340
HTT Hallett 48.58 135 P **P** **22 07 36.9 +0.4**
baz=49,SNR=4.1
ULHL Ulahol 48.64 337 P **P** **22 07 37.9 +0.9**
SNR=11
KPKS Kokpek 48.82 340 ⇑*iP* **P** **22 07 39.2 +1.0**
comp=Z,31nm,2.4s,baz=340
TNSS Tian-Shan 49.06 338 *eP* **P** **22 07 41.4 +1.0**
baz=339
MDOK Medeo 49.13 339 *iP* **P** **22 07 41.8 +1.2**
baz=339
MDOK *eS* **S** **22 14 46.0 +1.9**
baz=339
BTK Batken 49.22 331 P **P** **22 07 41.7 +0.4**
BTK IAmb IAmb 22 07 43.6
comp=Z,28nm,1.5s
ARSB Arslanbob 49.22 334 P **P** **22 07 42.0 +0.6**
UCH Uchtor 49.31 336 P **P** **22 07 43.4 +0.9**
SNR=10
MTBS Maitube 49.33 338 *iP* **P** **22 07 42.8 +0.7**
baz=338
TKM2 Tokmak 2 49.47 337 P **P** **22 07 44.4 +1.1**
SNR=17
KBK Karagaybulak 49.50 336 P **P** **22 07 45.5 +2.0**
SNR=10
AML Almayashu 49.58 335 P **P** **22 07 45.5 +1.1**
SNR=8.4
AAK Ala-Archa 49.66 336 LR LR 22 31 37.5
comp=Z,254nm,20.1s,baz=147,slow=40
AAK Ala-Archa 49.66 336 **P** **22 07 44.7 -0.1**
CHKK Chushkaly 49.75 339 *iP* **P** **22 07 45.2 0.0**
baz=339
FRU1 Bishkek 49.76 336 P **P** **22 07 45.7 +0.4**
FRU1 IAmb IAmb 22 07 47.8
comp=Z,17nm,1.1s
STKA Stephens Creek 49.76 131 P **P** **22 07 46.4 +0.9**
baz=50,SNR=13
STKA Stephens Creek 49.76 131 P **P** **22 07 46.6 +1.1**
comp=Z,8.7nm,0.8s,baz=307,slow=8.1,SNR=16
STKA LR LR 22 29 51.4
comp=Z,161nm,21.6s,baz=268,slow=37
STKA Stephens Creek 49.76 131 P **P** **22 07 45.5 0.0**
CHMS Chumysh 49.86 337 P **P** **22 07 46.9 +0.8**
SNR=5.9
SONM Songino Array 49.94 6 P **P** **22 07 47.4 +0.7**
comp=Z,38nm,0.7s,baz=189,slow=8.9,SNR=209
SONM PcP **PcP** **22 09 07.2 +0.5**
comp=Z,5.8nm,0.8s,baz=188,slow=4.0,SNR=5.2
EKS2 Erkin-Say 49.98 336 P **P** **22 07 48.4 +1.3**
SNR=18
KUU Kurty 50.02 338 *eP* **P** **22 07 47.6 +0.4**
comp=Z,16nm,0.7s,baz=339
ULN Ulaanbaatar 50.05 7 P **P** **22 07 47.3 -0.2**
HRA Herat 50.11 320 P **P** **22 07 48.5 +0.1**
USP Ospenovka 50.19 337 P **P** **22 07 49.4 +0.8**
SNR=26
TDK Taldyqorghan 50.27 341 *eP* **P** **22 07 49.6 +0.5**
baz=341
SGDS Sogindy 50.29 337 ⇑*iP* **P** **22 07 49.9 +0.5**
comp=Z,17nm,2.3s,baz=337
JCJ Chichijima 50.41 52 P **P** **22 07 50.1 -0.4**
MK31 Makanchi Array 50.76 345 **P** **22 07 53.2 +0.5**
MK31 IAmb IAmb 22 07 54.3
comp=Z,14nm,1.0s
MKAR Makanchi Array 50.76 345 P **P** **22 07 53.3 +0.5**
comp=Z,13nm,0.8s,baz=152,slow=7.9,SNR=93
ZSN Zaisan 50.76 347 ⇑*iP* **P** **22 07 54.1 +1.3**
comp=Z,9.3nm,0.7s,baz=348
MAKZ Makanchi 50.85 345 P **P** **22 07 53.6 +0.1**
MAKZ IAmb IAmb 22 07 59.9
comp=Z,10nm,0.8s
INU Inuyama 51.19 40 P **P** **22 07 55.1 -1.1**
CN2 Changchun 51.21 24 *eP* **P** **22 07 55.3 -0.9**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 LR LR
comp=Z,490nm,16.0s
CN2 LR LR
comp=Z,230nm,16.0s
CN2 LR LR
comp=Z,300nm,15.0s
IUG Iuzhnay 51.21 332 *eP* **P** **22 07 57.0 +0.5**
comp=Z,2.8nm,1.5s,baz=333
KK31 Karatay Array 51.75 333 P **P** **22 07 59.8 -0.5**
KKAR Karatay Array 51.75 333 P **P** **22 07 59.9 -0.3**
MAT Matsushiro 52.68 40 P **P** **22 08 05.5 -1.9**
MJAR Matsushiro Arr 52.68 40 P **P** **22 08 06.0 -1.4**
comp=Z,8.7nm,0.9s,baz=224,slow=7.9,SNR=23
MJB9 Matsu-Tunnel 52.68 40 P **P** **22 08 06.8 -0.6**
MJB9 IAmb IAmb 22 08 07.6
comp=Z,16nm,1.3s
CMSA Cobar Meteorol 52.74 129 P **P** **22 08 08.0 +0.2**
baz=53,SNR=17
TLY Talaya 53.53 3 **P** **22 08 14.3 +1.0**
TLY IAmb IAmb 22 08 15.4
comp=Z,17nm,0.8s
OPO Ambohidratompo 53.61 248 P **P** **22 08 15.8 +1.2**
comp=Z,2.5nm,0.8s,baz=140,slow=9.0,SNR=3.9
MDJ Mudanjiang 53.65 27 P **P** **22 08 14.2 -0.1**
MDJ IAmb IAmb 22 08 23.6
comp=Z,7.1nm,0.6s
USA0B Ussuriysk Arra 54.44 29 P **P** **22 08 20.0 0.0**
USRK Ussuriysk Ar. 54.44 29 P **P** **22 08 20.1 +0.1**
comp=Z,30nm,0.7s,baz=228,slow=5.8,SNR=72
SEM Semipalatinsk 54.61 345 *eP* **P** **22 08 21.5 0.0**
comp=Z,9.0nm,0.7s,baz=345
GEYT Alibeck 54.91 321 P **P** **22 08 23.7 0.0**
comp=Z,4.0nm,0.8s,baz=154,slow=7.6,SNR=9.5
GEYT LR LR 22 34 56.8
comp=Z,120nm,18.5s,baz=65,slow=39
GYA0B ALIBECK ARRAY 54.91 321 P **P** **22 08 23.5 -0.2**
KURK Kurchatov 55.33 344 P **P** **22 08 26.5 +0.2**
ZAA0 Zalesovo Array 56.96 350 P **P** **22 08 38.1 +0.2**
ZALV Zalesovo Beam 56.96 350 P **P** **22 08 38.3 +0.4**
comp=Z,36nm,0.8s,baz=176,slow=5.5,SNR=132
ERM Erimo 59.04 37 P **P** **22 08 52.2 -0.6**
BRVK Borovoye 59.92 340 P **P** **22 08 58.2 -0.4**
BRVK IAmb IAmb 22 08 59.1
comp=Z,9.8nm,1.1s
JKA Kamikawa-asahi 59.97 35 P **P** **22 08 59.3 +0.1**
JKA IAmb IAmb 22 09 07.9
comp=Z,16nm,1.0s
ABKAR Akbulak array 61.22 332 P **P** **22 09 07.2 -0.3**
ABKAR IAmb IAmb 22 09 08.1
comp=Z,12nm,0.8s
YSS Yuzh-Sakhalins 61.81 32 P **P** **22 09 11.3 -0.3**
TBLG Delisi 65.66 318 P **P** **22 09 37.0 -0.1**
TBLG IAmb IAmb 22 09 38.9
comp=Z,11nm,1.1s
ARU Arti 66.84 337 P **P** **22 09 43.8 -0.6**
ARU IAmb IAmb 22 09 45.0
comp=Z,14nm,1.1s
KBZ Khabaz 67.76 319 P **P** **22 09 51.2 +0.8**
comp=Z,3.4nm,0.8s,baz=136,slow=5.5,SNR=8.9
YAK Yakutsk 67.85 15 P **P** **22 09 49.8 -0.9**
KIV Kislovodsk 68.00 319 P **P** **22 09 50.9 -1.2**
KIV IAmb IAmb 22 09 53.5
comp=Z,5.7nm,0.8s
MAW Mawson 70.18 194 LR LR 22 34 55.4
comp=Z,150nm,18.4s,baz=54,slow=31
NRIK Noril'sk 71.56 356 P **P** **22 10 13.1 -0.3**
comp=Z,14nm,0.9s,baz=156,slow=5.8,SNR=16
NRIK LR LR 22 43 50.8
comp=Z,201nm,20.2s,baz=211,slow=38
BR131 Keskin Array S 72.72 313 P **P** **22 10 20.0 -1.1**
BRTR Keskin Array B 72.72 313 P **P** **22 10 20.6 -0.6**
comp=Z,0.9nm,0.7s,baz=140,slow=7.5,SNR=6.9
BRTR LR LR 22 43 25.6
comp=Z,84nm,19.4s,baz=230,slow=37
PEA0B Petropavlovsk- 73.21 32 P **P** **22 10 23.2 -0.3**
PEA0B IAmb IAmb 22 10 39.1
comp=Z,24nm,1.3s
PETK Petropavlovsk- 73.21 32 P **P** **22 10 23.4 -0.2**
comp=Z,5.9nm,0.6s,baz=202,slow=5.6,SNR=11
BOSA Boshof 75.05 241 LR LR 22 39 08.7
comp=Z,111nm,18.4s,baz=54,slow=32
TIXI Tiksi 75.90 9 P **P** **22 10 37.6 -1.2**
TIXI IAmb IAmb 22 10 43.3
comp=Z,9.1nm,0.6s
OBN Obninsk 76.33 328 P **P** **22 10 41.7 +0.2**
KLMR Klimovskoe 77.43 334 *eP* **P** **22 10 46.5 -1.1**
KLMR AMP 22 10 48.8
comp=Z,18nm,1.4s
SYO Syowa Base 77.71 199 ⇓*es*P sP 22 11 01.0 -0.5
SORM Soroca 78.80 320 ⇑P **P** **22 10 55.2 -0.3**
BKZ Black Stump Fm 78.90 129 **P** **22 10 56.7 +0.3**
AKASG Malin Array Be 78.97 322 P **P** **22 10 56.1 -0.3**
comp=Z,0.8nm,0.5s,baz=84,slow=4.9,SNR=4.7
VRI Vrincioaia 79.29 317 ⇑P **P** **22 10 59.4 +1.1**
PLOR Plostina 79.34 317 ⇓P **P** **22 10 59.5 +0.9**
TESR Tescani 79.50 318 ⇑P **P** **22 10 59.9 +0.5**
MLR Muntele Rosu 79.73 317 ⇑P **P** **22 11 02.1 +1.3**
MLR Muntele Rosu 79.73 317 P **P** **22 11 01.5 +0.7**
MLR IAmb IAmb 22 11 02.5
comp=Z,9.5nm,0.9s
ARR Arges 80.61 316 ⇓P **P** **22 11 05.1 -0.4**
BURAR Bucovina Array 80.71 319 ⇑P **P** **22 11 07.2 +1.2**
BUR08 Bucovina Ar. S 80.73 319 P **P** **22 11 07.0 +0.8**
VTS Vitosha 81.04 314 ⇓P **P** **22 11 07.8 -0.2**
IIGN Ignalina 81.99 327 *eP* **P** **22 11 13.0 +0.4**
IZAR Zarasai 82.09 327 *eP* **P** **22 11 12.7 -0.3**
ISAL Salakas 82.11 327 *eP* **P** **22 11 12.7 -0.4**
VNDA Vanda 82.38 169 LR LR 22 42 16.2
comp=Z,70nm,20.5s,baz=283,slow=32
VSU Vasula 82.56 330 *eP* **P** **22 11 15.2 -0.2**
TRPA Tarpa 82.58 319 ⇑P **P** **22 11 15.8 0.0**
BZS Buzias 82.73 316 ⇑P **P** **22 11 16.5 -0.1**
KOLS Kolonicke sedl 82.91 320 *eP* **P** **22 11 19.0 +1.5**
PABE Paberze 83.28 326 *eP* **P** **22 11 19.5 +0.3**
FIA1 FINESS Array S 83.69 332 P **P** **22 11 21.4 +0.2**
FIA1 IAmb IAmb 22 11 21.7
comp=Z,12nm,1.4s
FINES FINESS Array B 83.70 332 P **P** **22 11 21.5 +0.3**
comp=Z,3.9nm,0.6s,baz=103,slow=5.8,SNR=26
ARCES ARCESS Array B 86.14 340 P **P** **22 11 34.2 +0.8**
comp=Z,5.7nm,0.9s,baz=113,slow=3.2,SNR=15
QSPA South Pole Qui 88.04 180 P **P** **22 11 43.9 +1.0**
comp=Z,1.2nm,0.6s,baz=23,slow=3.3,SNR=3.5
QSPA South Pole Qui 88.04 180 P **P** **22 11 43.7 +0.8**
GERES GERESS Array B 88.50 319 P **P** **22 11 46.0 +0.7**
comp=Z,0.7nm,0.6s,baz=90,slow=5.3,SNR=10
BRG Berggiesshubel 88.51 321 *eP* **P** **22 11 46.2 +1.0**
comp=Z,3.6nm,0.9s
comp=N,97nm,16.5s
comp=E,197nm,20.9s
comp=Z,240nm,13.3s

CLL	Collm	89.13	321	eP	P		22 11 48.0	-0.1	
ATKA	Atka Island	89.38	38	P	P		22 11 48.3	-0.9	
NOA	NORSAR Array B	90.71	331	LR	LR		22 58 04.7		
	comp=Z,41nm,18.4s,baz=105,slow=39								
L04D	Klamath Falls	125.30	37	P	PKPdf		22 17 52.5	-1.4	
	baz=306								
M04C	Macdoel	125.83	37	P	PKPdf		22 17 53.8	-1.2	
	baz=306								
O03E	Paynes Creek	126.72	39	P	PKPdf		22 17 55.5	-1.2	
	baz=305								
MSO	Missoula	126.76	28	P	PKPdf		22 17 55.5	-1.1	
	baz=317								
EGMT	Eagleton	127.69	24	P	PKPdf		22 17 56.8	-1.5	
	baz=322								
DGMT	Dagmar	129.42	20	P	PKPdf		22 18 00.5	-1.0	
	baz=329								
NVAR	Mina Array Bea	130.00	39	PKP	PKPdf		22 18 02.7	-0.4	
	comp=Z,0.9nm,0.8s,baz=254,slow=3.9,SNR=4.5								
R11A	Troy Canyon, C	131.72	37		PKPdf		22 18 07.3	+0.9	
PDAR	Pinedale Array	131.87	28	PKP	PKPdf		22 18 06.3	-0.3	
	comp=Z,0.4nm,0.6s,baz=232,slow=2.0,SNR=4.7								
D58A	Chemin du LacG	134.49	352	P	PKPdf		22 18 10.8	-0.2	
	baz=11								
D56A	ZEC Mazanza, M	134.75	354	P	PKPdf		22 18 11.2	-0.3	
	baz=8.6								
E61A	Lac Etchemin	134.77	350	P	PKPdf		22 18 11.9	+0.3	
	baz=15								
F64A	Sherman	134.90	348	P	PKPdf		22 18 11.7	-0.1	
	baz=18								
D48A	Paudash Townsh	134.91	1	P	PKPdf		22 18 11.7	-0.2	
	baz=359								
E60A	Ste Agathe de	134.99	351	P	PKPdf		22 18 11.7	-0.3	
	baz=13								
D47A	Chapleau	135.00	2	P	PKPdf		22 18 12.4	+0.4	
	baz=357								
D52A	ZEK Kipawa Sen	135.08	358	P	PKPdf		22 18 12.3	+0.2	
	baz=3.4								
E58A	La Victoria	135.25	353	P	PKPdf		22 18 11.7	-0.8	
	baz=11								
E56A	St. Veronique	135.28	354	P	PKPdf		22 18 12.2	-0.3	
	baz=8.3								
F61A	St Evariste	135.30	350	P	PKPdf		22 18 12.3	-0.2	
	baz=14								
E57A	Chemin Saint G	135.31	354	P	PKPdf		22 18 12.3	-0.4	
	baz=9.5								
G65A	Princeton	135.36	347	P	PKPdf		22 18 12.3	-0.3	
	baz=19								
F60A	Warwick	135.46	351	P	PKPdf		22 18 12.5	-0.3	
	baz=13								
E50A	Wahnapitae	135.68	360	P	PKPdf		22 18 13.7	+0.5	
	baz=0.1								
ECSD	EROS Data Cent	136.04	17	P	PKPdf		22 18 14.7	+0.7	
	baz=337								
ALGO	Algonquin Park	136.08	357	P	PKPdf		22 18 14.3	+0.2	
	baz=4.0								
WUAZ	Wupatki	136.12	37	P	PKPdf		22 18 14.1	-0.6	
	baz=313								
F51A	Arnstein	136.16	359	P	PKPdf		22 18 14.5	+0.4	
	baz=1.3								
G58A	Ormstown	136.55	353	P	PKPdf		22 18 15.1	+0.2	
	baz=9.9								
G54A	Lake Saint Pet	136.64	357	P	PKPdf		22 18 15.1	-0.1	
	baz=4.0								
H62A	Milan	136.68	350	P	PKPdf		22 18 15.2	0.0	
	baz=14								
I63A	Otisfield	137.09	349	P	PKPdf		22 18 16.1	+0.1	
	baz=15								
LONY	Lake Ozonia	137.13	354	P	PKPdf		22 18 16.3	+0.2	
	baz=9.2								
H55A	Tweed	137.43	356	P	PKPdf		22 18 16.5	-0.1	
	baz=5.4								
J62A	Henniker	138.11	350	P	PKPdf		22 18 18.1	+0.2	
	baz=14								
J58A	Remsen	138.45	354	P	PKPdf		22 18 19.2	+0.6	
	baz=8.4								
J57A	Williamstown	138.47	355	P	PKPdf		22 18 18.9	+0.3	
	baz=7.3								
J56A	Wolcott	138.68	356	P	PKPdf		22 18 19.3	+0.5	
	baz=6.0								
K61A	Williamstown	138.88	352	P	PKPdf		22 18 19.6	+0.3	
	baz=12								
K59A	Cooperstown	138.98	353	P	PKPdf		22 18 20.0	+0.5	
	baz=9.1								
L64A	Middleborough	139.18	349	P	PKPdf		22 18 20.0	+0.2	
	baz=15								
K57A	Scipio Center	139.19	355	P	PKPdf		22 18 20.0	+0.2	
	baz=6.6								
K56A	Middlesex	139.28	356	P	PKPdf		22 18 20.1	0.0	
	baz=5.4								
K50A	Casco	139.29	2	P	PKPdf		22 18 19.8	-0.2	
	baz=357								
K55A	Perry	139.30	357	P	PKPdf		22 18 20.2	+0.1	
	baz=4.2								
ANMO	Albuquerque	139.35	33	P	PKPdf		22 18 21.1	+0.4	
	baz=318								
TVZX	PASSCAL Wareh	139.74	35	P	PKPdf		22 18 21.2	+0.1	
	baz=317								
L58A	Harry Jones Me	139.81	354	P	PKPdf		22 18 21.4	+0.3	
	baz=7.7								
L56A	Greenwood	139.86	356	P	PKPdf		22 18 21.6	+0.4	
	baz=5.1								
M59A	Waymart	140.27	354	P	PKPdf		22 18 22.2	+0.3	
	baz=8.5								
M58A	Price's Panora	140.53	355	P	PKPdf		22 18 23.0	+0.6	
	baz=6.9								
M56A	Emporium	140.55	357	P	PKPdf		22 18 22.6	+0.2	
	baz=4.2								
M52A	Chesterland	140.55	1	P	PKPdf		22 18 22.5	+0.1	
	baz=359								
M54A	Oil Creek Stat	140.58	359	P	PKPdf		22 18 22.9	+0.4	
	baz=1.9								
M57A	Sunshine Farm,	140.62	356	P	PKPdf		22 18 19.3	-3.2	
	baz=5.8								
O57A	Amberson	141.78	356	P	PKPdf		22 18 21.9	-2.8	
	baz=5.2								
O51A	Pataskala	141.91	2	P	PKPdf		22 18 22.1	-2.8	
	baz=357								
P52A	Corning	142.44	2	P	PKPdf		22 18 23.1	-2.7	
	baz=358								
P56A	Dayton Farm, R	142.55	358	P	PKPdf		22 18 23.1	-2.9	
	baz=3.3								
Q57A	Strasburg	143.00	357	P	PKPdf		22 18 24.2	-2.6	
	baz=4.0								
Q55A	Buckhannon	143.09	359	P	PKPab		22 18 23.5	+1.0	
	baz=1.3								
WMOK	Wichita Mounta	143.28	25	P	PKPab		22 18 23.6	+0.3	
	baz=329								
WCI	Wyandotte Cave	143.51	7	P	PKPab		22 18 24.4	+0.3	
	baz=351								
R58A	Rapidan	143.71	356	P	PKPab		22 18 25.2	+0.4	
	baz=4.8								
R53A	Hurricane	143.75	2	P	PKPab		22 18 25.3	+0.4	
	baz=358								
R55A	Marlinton	143.81	359	P	PKPab		22 18 25.2	-0.1	
	baz=1.2								
R54A	Victor	143.91	0	P	PKPab		22 18 25.5	-0.2	
	baz=360								
CPUP	Villa Florida	143.94	217	PKP	PKPdf		22 18 31.0	+2.1	
	comp=Z,2.4nm,0.8s,baz=97,slow=5.0,SNR=2.2								
S61A	Accomac	144.11	353	P	PKPab		22 18 25.6	-0.7	
	baz=8.8								
S59A	Mechanicsville	144.19	355	P	PKPab		22 18 27.0	+0.4	
	baz=6.1								
S54A	Dingess, Beckl	144.29	1	P	PKPab		22 18 27.2	+0.1	
	baz=359								
S57A	Dark Hollow, R	144.29	358	P	PKPab		22 18 27.3	+0.2	
	baz=3.2								
S55A	Lewisburg	144.32	360	P	PKPab		22 18 27.0	-0.2	
	baz=0.6								
S58A	Poland Farm, P	144.39	356	P	PKPab		22 18 27.5	+0.2	
	baz=4.8								
S56A	Natural Bridge	144.40	358	P	PKPab		22 18 27.6	+0.1	
	baz=2.2								
FCAR	Ozark Folk Cen	144.59	16		PKPab		22 18 27.9	-0.3	
T47A	Sharon Grove	144.61	9		PKPab		22 18 27.9	-0.3	
W39A	Magazine	144.74	19	P	PKPab		22 18 28.3	-0.5	
	baz=337,SNR=6.5								
W39A	Magazine	144.74	19		PKPab		22 18 28.5	-0.2	
X37A	Clayton	144.75	21		PKPab		22 18 29.0	+0.2	
T60A	Surry	144.76	354	P	PKPab		22 18 28.6	-0.1	
	baz=7.1								
BLA	Blacksburg	144.88	360	P	PKPab		22 18 28.7	-0.6	
	baz=0.7								
BLA	Blacksburg	144.88	360		PKPab		22 18 28.9	-0.4	
T55A	Pulaski	144.97	0	P	PKPab		22 18 29.1	-0.5	
	baz=0.1,SNR=10								
T59A	Double "B" Far	145.00	356	P	PKPab		22 18 29.5	-0.1	
	baz=5.7,SNR=10								
T59A	Double "B" Far	145.00	356		PKPab		22 18 29.5	-0.1	
T54A	Tazewell	145.02	1	P	PKPab		22 18 29.3	-0.5	
	baz=359,SNR=15								
T56A	Rocky Mt	145.06	359	P	PKPbc		22 18 29.6	-0.3	
	baz=1.4,SNR=9.5								
T57A	Hurt	145.07	358	P	PKPbc		22 18 29.8	-0.1	
	baz=2.8,SNR=11								
T57A	Hurt	145.07	358		PKPbc		22 18 29.8	-0.1	
T53A	Wise	145.07	3	P	PKPbc		22 18 29.8	-0.1	
	baz=357,SNR=10								
TX31	Lajitas Ar. Si	145.08	36		PKPbc		22 18 31.0	+0.7	
TXAR	Lajitas Array	145.08	36	PKP	PKPbc		22 18 31.2	+0.9	
	comp=Z,20nm,0.7s,baz=270,slow=1.1,SNR=210								
T58A	Grand View Acr	145.09	357	P	PKPbc		22 18 30.1	+0.2	
	baz=4.0,SNR=12								
WHAR	Wooly Hollow	145.10	17		PKPbc		22 18 29.7	-0.3	
Z35A	Perchaven, San	145.13	25		PKPbc		22 18 30.0	-0.2	
W41B	Gary Mavity, V	145.22	17	P	PKPbc		22 18 30.0	-0.5	
	baz=340,SNR=8.4								
W41B	Gary Mavity, V	145.22	17		PKPbc		22 18 30.1	-0.3	
U49A	Red Boiling Sp	145.26	7		PKPbc		22 18 29.9	-0.6	
WVT	Waverly	145.33	10	P	PKPbc		22 18 30.7	0.0	
	baz=348								
WVT	Waverly	145.33	10		PKPbc		22 18 30.7	0.0	
MIAR	Mount Ida	145.40	19	P	PKPbc		22 18 31.3	+0.2	
	baz=337,SNR=35								
MIAR	Mount Ida	145.40	19		PKPbc		22 18 31.0	0.0	
TZTN	Tazewell	145.45	4	P	PKPbc		22 18 31.0	-0.2	
	baz=355,SNR=24								
TZTN	Tazewell	145.45	4		PKPbc		22 18 30.6	-0.5	
U60A	Pendleton	145.46	355	P	PKPbc		22 18 31.3	+0.2	
	baz=6.5,SNR=7.0								
U61A	Possum Corner	145.53	354	P	PKPdf		22 18 31.7	+0.4	
	baz=7.8								
U54A	Nelsons Funny	145.56	2	P	PKPdf		22 18 31.1	-0.3	
	baz=358								
U54A	Nelsons Funny	145.56	2		PKPdf		22 18 31.2	-0.3	
UALR	University of	145.57	17		PKPdf		22 18 31.2	-0.2	
U55A	TA2, Sparta	145.59	0	P	PKPdf		22 18 31.4	-0.1	
	baz=360,SNR=10								
CLTN	Cedars of Leba	145.61	8		PKPdf		22 18 31.1	-0.3	
U59A	Littleton	145.63	356	P	PKPdf		22 18 31.3	-0.1	
	baz=5.4								
U59A	Littleton	145.63	356		PKPdf		22 18 31.4	-0.1	
U57A	Blanch	145.63	358	P	PKPdf		22 18 31.6	+0.1	
	baz=2.7,SNR=16								
U58A	Oxford	145.63	357	P	PKPdf		22 18 31.9	+0.4	
	baz=4.1,SNR=14								
X40A	Basin Creek Fa	145.69	18	P	PKPdf		22 18 31.8	+0.1	
	baz=338,SNR=9.4								
X40A	Basin Creek Fa	145.69	18	PKPdf	PKPdf		22 18 31.5	-0.1	
U56A	King	145.74	359	P	PKPdf		22 18 32.1	+0.4	
	baz=0.8								
U56A	King	145.74	359		PKPdf		22 18 31.7	0.0	
V48A	Smith Brothers	145.88	9		PKPdf		22 18 31.7	-0.3	
W45A	Hickory Valley	146.01	12		PKPdf		22 18 32.4	+0.2	
V61A	Roper	146.08	354	P	PKPdf		22 18 33.4	+1.1	
	baz=7.6								
V51A	Loudon	146.12	5		PKPdf		22 18 32.8	+0.5	
V52A	Sevierville	146.14	4		PKPdf		22 18 32.8	+0.4	
V60A	Jim Taylor Roa	146.17	355	P	PKPdf		22 18 33.5	+1.1	
	baz=6.4								
V57A	Coltrane Farms	146.19	359	P	PKPdf		22 18 33.2	+0.8	
	baz=1.9,SNR=6.5								
WHTX	Lake Whitney,	146.19	26	P	PKPdf		22 18 33.6	+1.0	
	baz=329								
X43A	Marvell	146.22	15	P	PKPdf		22 18 33.9	+1.4	
	baz=342								
V55A	Taylorsville	146.23	1	P	PKPdf		22 18 33.4	+0.9	
	baz=359								
V55A	Taylorsville	146.23	1		PKPdf		22 18 33.0	+0.5	
V59A	Middlesex	146.24	356	P	PKPdf		22 18 33.5	+1.0	
	baz=4.7								
V58A	Windy Hill, Pi	146.26	358	P	PKPdf		22 18 33.7	+1.2	
	baz=3.1,SNR=6.5								
V56A	Mocksville	146.28	360	P	PKPdf		22 18 33.5	+0.9	
	baz=0.6								
V54A	Nebo	146.29	2	P	PKPdf		22 18 33.3	+0.6	
	baz=358,SNR=7.8								
TKL	Tuckaleechee C	146.31	4		PKPdf		22 18 33.1	+0.4	
JCT	Junction City	146.34	31	P	PKPbc		22 18 34.6	+0.5	
	baz=324								
JCT	Junction City	146.34	31		PKPdf		22 18 33.6	+0.7	
WLAR	White Oak Lake	146.34	19		PKPdf		22 18 34.2	+1.5	
V53A	Saluda	146.36	3		PKPdf		22 18 33.2	+0.3	
PLAL	Pickwick Lake	146.40	11		PKPdf		22 18 33.0	+0.2	
CPCT	Cooper Cave	146.45	6		PKPdf		22 18 33.4	+0.4	
SWET	Sewanee	146.52	8		PKPdf		22 18 33.1	0.0	
OXF	Oxford	146.58	13	P	PKPdf		22 18 34.0	+0.9	
	baz=344								
W61A	Ground Anchor	146.73	354	P	PKPbc		22 18 35.4	+0.4	
	baz=7.0,SNR=5.3								
CNNC	Cliffs of the	146.74	356	P	PKPbc		22 18 35.6	+0.6	
	baz=5.4								
Z41A	Richland Creek	146.84	19	P	PKPbc		22 18 35.7	+0.3	
	baz=338								
W59A	Clinton	146.85	357	P	PKPbc		22 18 35.9	+0.5	
	baz=4.4								
W57A	Gilead	146.93	359	P	PKPdf		22 18 35.5	+1.8	
	baz=1.6,SNR=5.3								
KMSC	Kings Mountain	146.94	1	P	PKPdf		22 18 35.3	+1.5	
	baz=359,SNR=7.5								
KMSC	Kings Mountain	146.94	1		PKPdf		22 18 35.0	+1.3	
W56A	Indian Trail	146.95	360	P	PKPdf		22 18 35.6	+1.9	
	baz=0.5								
W54A	Cherokee Point	146.97	2	P	PKPdf		22 18 35.3	+1.5	
	baz=358,SNR=5.2								
BG3	Lake Jocassee	147.03	3		PKPdf		22 18 35.7	+1.8	
W58A	Raeford	147.04	358	P	PKPdf		22 18 35.9	+2.0	
	baz=3.0								
X48A	Hartselle	147.10	10		PKPdf		22 18 34.8	+0.8	
435B	Jarrell	147.16	27	P	PKPbc		22 18 36.5	+0.1	
	baz=328								
FPAL	Fort Paine	147.23	7		PKPdf		22 18 35.8	+1.5	
PAULI	Pauline	147.25	2		PKPdf		22 18 36.0	+1.7	
X51A	Calhun	147.29	6		PKPdf		22 18 36.4	+2.0	
X60A	Albert Glenn T	147.41	356	P	PKPbc		22 18 37.2	+0.2	
	baz=5.3,SNR=5.2								
BIRD	Birdtown, Kers	147.44	360		PKPdf		22 18 36.5	+1.9	
X54A	Belton	147.50	3	P	PKPbc		22 18 37.0	-0.3	
	baz=357,SNR=11								
X58A	Rowland	147.50	358	P	PKPdf		22 18 36.9	+2.2	
	baz=2.8								
X56A	White Oak	147.59	0	P	PKPdf		22 18 37.1	+2.3	
	baz=360								
X55A	Gracelyn & Ava	147.60	1	P	PKPbc		22 18 37.3	-0.3	
	baz=356,SNR=6.3								
X57A	Johnson Farm,	147.62	359	P	PKPbc		22 18 37.3	-0.3	
	baz=1.4								
Y49A	Blount Mountai	147.79	9		PKPdf		22 18 37.4	+2.2	
HODGE	Hodges	147.82	2		PKPdf		22 18 37.5	+2.2	
Y60A	Bolivia	147.99	356	P	PKPbc		22 18 38.8	+0.2	
	baz=5.0								
Y59A	Loris	148.05	357	P	PKPbc		22 18 38.9	+0.2	
	baz=3.7								
Y57A	Sumter	148.07	359	P	PKPbc		22 18 38.4	-0.4	
	baz=0.9								
Y55A	Saluda	148.13	2	P	PKPbc		22 18 38.6	-0.4	
	baz=358								
146A	Union	148.46	13		PKPbc		22 18 39.9	+0.1	
LRAL	Lakeview Retre	148.50	10	P	PKPbc		22 18 39.5	-0.4	
	baz=348								
GOGA	Godfrey	148.57	4	P	PKPbc		22 18 40.0	-0.1	
	baz=355								
Z58A	St. Stephen	148.74	358	P	PKPbc		22 18 40.2	-0.3	
	baz=2.0								
Z57A	Bowman	148.79	360	P	PKPbc		22 18 40.7	0.0	
	baz=0.3								
152A	Waverly Hall	149.19	7		PKPbc		22 18 41.4	-0.3	

*IDC **30** 22:00:29.4±5.3,57.°48S×25.°87W,h56^{km}±46^{km},mb4.1/9, mb1 4.2/10,mb1mx3.9/25,mbtmp4.3/10,ML3.9/1,Error ellipse: s-maj=28.6km s-min=15.1km az=58.0*
*NEIC **30** 22:00:32.4±1.3,57.°5S±0.°1×25.°8W±0.°2,h85^{km}±4^{km}, mb4.5/22,Error ellipse: s-maj=21.7km s-min=12.9km az=212.0*

ISC 30 22:00:33.6±0.5,57.°6S±0.°1×25.°9W±0.°1,h10^{km},n71, σ1°03/68,mb4.5/17,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
HOPE	Hope Point	6.79	294	Pn	Pn	22	02	10.2	-0.1
VNA1	Neumayer--Stat	15.13	157	P	Pn	22	03	59.7	-1.8
VNA3	Neumayer Olymp	15.33	160	P	Pn	22	04	01.4	-2.6
VNA2	Neumayer--Watz	15.52	157	P	Pn	22	04	03.5	-3.0
	baz=317,slow=14								
SNAA	Sanae	17.07	155	P	Pn	22	04	24.7	-0.9
SNAA	Sanae	17.07	155	P	Pn	22	04	23.9	-1.7
	0.4nm,0.3s,baz=33,slow=9.2,SNR=31								
SNAA	Sanae	17.07	155	P	Pn	22	04	24.8	-0.9
EFI	East Falkland	19.39	274	P	Pn	22	04	52.6	-0.8
EFI				IAmb	IAmb	22	05	00.9	
	comp=Z,45nm,1.4s								
QSPA	South Pole Qui	32.68	180	P	P	22	06	57.0	+1.1
	comp=Z,5.5nm,0.6s,baz=210,slow=1.8,SNR=110								
QSPA				PcP	PcP	22	09	39.7	+0.6
	comp=Z,1.1nm,0.6s,baz=9.2,slow=1.0,SNR=2.8								
QSPA	South Pole Qui	32.68	180	P	P	22	06	57.1	+1.1
QSPA				IAmb	IAmb	22	06	57.6	
	comp=Z,6.6nm,0.7s								
PLCA	Paso Flores	32.97	281	P	P	22	06	58.7	+0.1
	comp=Z,2.2nm,0.8s,baz=183,slow=5.5,SNR=5.1								
PLCA	Paso Flores	32.97	281	P	P	22	06	58.1	-0.4
CPUP	Villa Florida	38.33	311	P	P	22	07	44.0	-0.4
	comp=Z,1.3nm,0.5s,baz=139,slow=8.6,SNR=3.1								
CPUP	Villa Florida	38.33	311	P	P	22	07	44.8	+0.3
MAW	Mawson	38.52	142	P	P	22	07	45.5	-0.1
	comp=Z,0.8nm,0.6s,baz=230,slow=13,SNR=2.4								
MAW				PcP	PcP	22	09	57.5	+1.4
	comp=Z,0.9nm,0.7s,baz=236,slow=3.6,SNR=2.2								
MT02	Curacav	38.93	289	P	P	22	07	49.5	+0.1
MT02				IAmb	IAmb	22	07	59.0	
	comp=Z,10nm,1.4s								
AC05	El Transito	42.07	294	P	P	22	08	14.6	-0.9
AC05				IAmb	IAmb	22	08	28.8	
	comp=Z,10nm,1.4s								
AC04	Llanos de Chal	42.99	293	P	P	22	08	23.4	+0.6
AC04				IAmb	IAmb	22	08	30.8	
	comp=Z,7.1nm,0.9s								
GO02	Mina Guanaco	44.81	297	P	P	22	08	36.1	-1.6
GO02				IAmb	IAmb	22	08	50.4	
	comp=Z,10nm,1.4s								
BDFB	Brasilia	45.02	329	P	P	22	08	39.1	0.0
	comp=Z,3.4nm,0.5s,baz=133,slow=4.4,SNR=5.5								
BDFB	Brasilia	45.02	329	P	P	22	08	39.0	-0.2
VNDA	Vanda	45.09	182	P	P	22	08	40.7	+1.8
	comp=Z,2.7nm,0.5s,baz=185,slow=7.2,SNR=42								
VNDA	Vanda	45.09	182	P	P	22	08	40.2	+1.3
LVC	Limon Verde	46.66	300	P	P	22	08	53.5	+1.2
LVC				IAmb	IAmb	22	08	55.9	
	comp=Z,5.8nm,1.0s								
H10S2	ASCENSION HYDR	49.27	15	T	T	23	02	57.6	
	baz=32,slow=74,SNR=3.4								
H10S3	ASCENSION HYDR	49.27	15	T	T	23	02	57.2	
	baz=188,slow=74,SNR=16								
GO01	Chusmiza	49.34	302	P	P	22	09	12.4	-0.7
GO01				IAmb	IAmb	22	09	18.0	
	comp=Z,3.4nm,0.7s								
MNMC	Minye Minye	49.99	302	P	P	22	09	17.0	-0.8
MNMC				IAmb	IAmb	22	09	20.3	
	comp=Z,5.3nm,0.7s								
H10N1	ASCENSION HYDR	50.39	15	T	T	23	04	21.9	
	baz=187,slow=75,SNR=3.2								
H10N3	ASCENSION HYDR	50.39	15	T	T	23	04	22.1	
	baz=187,slow=75,SNR=32								
H10N2	ASCENSION HYDR	50.41	15	T	T	23	04	23.0	
	baz=187,slow=75,SNR=14								
LPAZ	La Paz	51.82	305	P	P	22	09	31.6	-0.3
	comp=Z,5.2nm,0.5s,baz=156,slow=6.1,SNR=33								
LPAZ				PcP	PcP	22	10	44.6	+1.0
	comp=Z,1.1nm,0.6s,baz=191,slow=5.2,SNR=1.9								
LPAZ	La Paz	51.82	305	P	P	22	09	31.6	-0.3
SAML	Samuel	56.36	314	P	P	22	10	03.6	-0.6
PTGA	Pitinga	62.79	321	P	P	22	10	47.9	-0.4
PTGA				IAmb	IAmb	22	10	48.7	
	comp=Z,3.3nm,0.8s								
RUSC	La Rusia	73.82	311	P	P	22	11	57.1	-0.6
TOA0	Torodi Ar. Sit	74.05	28	P	P	22	11	58.9	+0.6
TOA0				IAmb	IAmb	22	11	59.9	
	comp=Z,7.5nm,0.7s								
TORD	Torodi Ar. Bea	74.05	28	P	P	22	11	59.1	+0.8
	comp=Z,5.7nm,0.6s,baz=200,slow=6.6,SNR=39								
GRGR	Grenville	75.41	324	P	P	22	12	07.2	+1.1
HUMP	Col San Antoni	82.40	322	P	P	22	12	45.5	+1.3
CBYP	Canovanas	82.52	322	P	P	22	12	45.6	+0.6
ASAR	Alice Springs	97.33	161	P	Pdif	22	13	55.1	-0.4
	comp=Z,0.2nm,0.6s,baz=177,slow=3.8,SNR=4.6								
PDAR	Pinedale Array	121.73	301	PKP	PKiKP	22	19	15.1	-0.1
	comp=Z,0.4nm,0.5s,baz=131,slow=6.3,SNR=3.9								
NVAR	Mina Array Bea	122.61	291	PKP	PKiKP	22	19	18.8	+1.7
	comp=Z,0.4nm,0.5s,baz=82,slow=1.3,SNR=2.5								
FXWY	Fox Creek	123.08	300		PKiKP	22	19	18.6	+0.8
FINES

KZA	baz=11			⇑*iS*		**Sb**	**22 25 59.7**	**-1.5**
KZA	baz=11 **Kyzart** SNR=123	**2.46**	**308**	P		**Pb**	**22 25 31.4**	**+0.7**
SATY	**Saty** 54nm,0.7s	**2.52**	**9**	*eP*		**Pg**	**22 25 32.1**	**-2.2**
SATY	164nm,1.1s			*eS*		**Sg**	**22 26 06.3**	**-0.7**
SATY	**Saty** 18nm,0.5s	**2.52**	**9**	Pg		**Pg**	**22 25 32.1**	**-2.2**
SATY	164nm,1.1s			Lg	Lg		22 26 06.3	
TNSS	**Tian-Shan** 19nm,0.6s	**2.55**	**345**	*eP*		**Pb**	**22 25 32.6**	**+0.5**
TNSS	118nm,0.7s			*eS*		**Sg**	**22 26 07.1**	**-0.9**
TNSS	**Tian-Shan** 19nm,0.6s	**2.55**	**345**	Pg		**Pb**	**22 25 32.6**	**+0.5**
TNSS	118nm,0.7s			Lg	Lg		22 26 07.1	
ZHN	**Zhinishke** 32nm,0.5s	**2.63**	**9**	*eP*		**Pg**	**22 25 34.7**	**-1.7**
ZHN	122nm,0.6s			*eS*		**Sg**	**22 26 10.6**	**+0.1**
ZHN	**Zhinishke** 32nm,0.5s	**2.63**	**9**	Pg		**Pg**	**22 25 34.7**	**-1.7**
ZHN	122nm,0.6s			Lg	Lg		22 26 10.6	
MDOK	**Medeo** 19nm,0.5s	**2.65**	**347**	*eP*		**Pb**	**22 25 34.0**	**+0.3**
MDOK	97nm,0.5s			*eS*		**Sg**	**22 26 09.6**	**-1.7**
MDOK	**Medeo** 27nm,0.5s	**2.65**	**347**	Pn		**Pb**	**22 25 31.8**	**-2.0**
MDOK	58nm,0.5s			Lg	Lg		22 26 11.2	
MDOK	**Medeo** 19nm,0.5s	**2.65**	**347**	Pg		**Pb**	**22 25 34.0**	**+0.3**
MDOK	97nm,0.5s			Lg	Lg		22 26 09.6	
KOTS	**Kotyrbulak** 43nm,0.4s	**2.71**	**349**	⇑*iP*		**Pb**	**22 25 35.4**	**+0.7**
KOTS	234nm,0.6s			*eS*		**Sg**	**22 26 12.4**	**-0.8**
KOTS	**Kotyrbulak** 43nm,0.4s	**2.71**	**349**	Pg		**Pb**	**22 25 35.5**	**+0.7**
KOTS	234nm,0.6s			Lg	Lg		22 26 12.4	
UZB	**Uzynbulak** 23nm,0.8s	**2.72**	**18**	*eP*		**Pb**	**22 25 34.9**	**+0.1**
UZB	55nm,0.4s			*eS*		**Sg**	**22 26 11.0**	**-2.3**
UZB	**Uzynbulak** 23nm,0.8s	**2.72**	**18**	Pg		**Pb**	**22 25 34.9**	**+0.1**
UZB	55nm,0.4s			Lg	Lg		22 26 11.0	
KNDC	**Almaty** 42nm,0.7s	**2.72**	**346**	⇑Pn		**Pb**	**22 25 35.7**	**+0.9**
KNDC	166nm,0.6s			⇓Lg	Lg		22 26 12.3	
MTBS	**Maitube** 12nm,0.3s	**2.76**	**338**	*eP*		**Pb**	**22 25 36.6**	**+1.0**
MTBS	96nm,0.6s			*eS*		**Sg**	**22 26 14.0**	**-0.8**
MTBS	**Maitube** 12nm,0.3s	**2.76**	**338**	Pg		**Pb**	**22 25 36.6**	**+1.0**
MTBS	96nm,0.6s			Lg	Lg		22 26 14.0	
KST	**Kastek** 12nm,0.2s	**2.84**	**331**	*eP*		**Pb**	**22 25 37.8**	**+0.9**
KST	96nm,0.7s			*eS*		**Sg**	**22 26 15.9**	**-1.4**
KST	**Kastek** 12nm,0.2s	**2.84**	**331**	Pg		**Pg**	**22 25 38.6**	**-1.8**
KST	96nm,0.7s			Lg	Lg		22 26 17.5	
SHLS	**Shalkode** 5.2nm,0.3s	**2.85**	**25**	*eP*		**Pg**	**22 25 37.9**	**-2.7**
SHLS	92nm,0.6s			*eS*		**Sg**	**22 26 16.1**	**-1.4**
SHLS	**Shalkode** 5.2nm,0.3s	**2.85**	**25**	Pg		**Pg**	**22 25 37.9**	**-2.7**
SHLS	92nm,0.6s			Lg	Lg		22 26 15.7	
TKM2	**Tokmak 2** baz=27	**2.88**	**325**	⇑*iP*		**Pn**	**22 25 33.6**	**+1.4**
TKM2	baz=27			⇑*iS*		**Sb**	**22 26 10.3**	**-2.8**
TKM2	**Tokmak 2** SNR=26	**2.88**	**325**	P		**Pb**	**22 25 38.4**	**+0.7**
TKM2	**Tokmak 2** 18nm,0.8s	**2.88**	**325**	⇑Pn		**Pb**	**22 25 37.1**	**-0.6**
TKM2	35nm,0.5s			⇑Lg	Lg		22 26 19.3	
KURS	**Kuram** 30nm,0.6s	**2.92**	**5**	⇓*eP*		**Pb**	**22 25 39.2**	**+1.0**
KURS	64nm,0.7s			*eS*		**Sg**	**22 26 18.6**	**-1.2**
KURS	**Kuram** 30nm,0.6s	**2.92**	**5**	Pg		**Pb**	**22 25 39.2**	**+1.0**
KURS	64nm,0.7s			Lg	Lg		22 26 18.6	
ARLS	**Aral** baz=99	**2.95**	**297**	⇓*iP*		**Pn**	**22 25 33.9**	**+0.8**
ARLS	baz=99			⇓*iS*		**Sn**	**22 26 10.7**	**+2.0**
KPKS	**Kokpek** 33nm,0.4s	**2.96**	**12**	*eP*		**Pb**	**22 25 39.0**	**+0.1**
KPKS	180nm,0.5s			*eS*		**Sg**	**22 26 17.9**	**-3.1**
UCH	**Uchtor** baz=6.0	**3.00**	**304**	⇑*iP*		**Pn**	**22 25 34.9**	**+0.8**
UCH	baz=6.0			⇑*iS*		**Sn**	**22 26 12.7**	**+2.4**
UCH	**Uchtor** SNR=28	**3.00**	**304**	P		**Pb**	**22 25 37.5**	**-2.4**
KBK	**Karagaybulak** baz=16	**3.01**	**315**	⇑*iP*		**Pn**	**22 25 35.0**	**+1.1**
KBK	baz=16			⇑*iS*		**Sn**	**22 26 13.0**	**+2.9**
KBK	**Karagaybulak** SNR=36	**3.01**	**315**	P		**Pb**	**22 25 41.3**	**+1.5**
PDGK	**Podgornoye** 12nm,0.5s	**3.01**	**23**	⇑Pn		**Pn**	**22 25 35.3**	**+1.4**
PDGK	110nm,0.8s			⇓Lg	Lg		22 26 21.0	
AAK	**Ala-Archa** 3.7nm,0.3s,baz=125,slow=11,SNR=32	**3.25**	**310**	Pn		**Pb**	**22 25 44.9**	**+1.0**
AAK	9.0nm,0.3s,baz=330,slow=20,SNR=23			Sn		**Sg**	**22 26 29.3**	**-1.1**
AAK	**Ala-Archa** baz=12	**3.25**	**310**	⇑*iP*		**Pn**	**22 25 38.4**	**+1.2**
AAK	baz=12			⇑*iS*		**Sn**	**22 26 18.4**	**+2.4**
AAK	**Ala-Archa** SNR=14	**3.25**	**310**	P		**Pb**	**22 25 45.5**	**+1.6**
AAK	**Ala-Archa** 17nm,0.6s	**3.25**	**310**	⇓Pn		**Pb**	**22 25 45.0**	**+1.1**
AAK	57nm,0.6s			⇓Lg	Lg		22 26 29.2	
KTBS	**Karatobe** 19nm,0.7s	**3.25**	**345**	*eP*		**Pb**	**22 25 44.9**	**+1.0**
KTBS	108nm,0.7s			*eS*		**Sg**	**22 26 28.1**	**-2.4**
KTBS	**Karatobe** 19nm,0.7s	**3.25**	**345**	Pg		**Pg**	**22 25 45.6**	**-2.7**
KTBS	108nm,0.7s			Lg	Lg		22 26 29.3	
FRU1	**Bishkek** baz=15	**3.28**	**314**	⇑*iP*		**Pn**	**22 25 38.9**	**+1.3**
FRU1	baz=15			⇑*iS*		**Sn**	**22 26 19.2**	**+2.5**
CHKK	**Chushkaly** 10.0nm,0.4s	**3.34**	**349**	*eP*		**Pb**	**22 25 46.5**	**+1.1**
CHKK	62nm,0.4s			*eS*		**Sg**	**22 26 30.7**	**-2.5**
CHKK	**Chushkaly** 10.0nm,0.4s	**3.34**	**349**	Pg		**Pb**	**22 25 46.3**	**+1.0**
CHKK	62nm,0.4s			Lg	Lg		22 26 31.6	
CHMS	**Chumysh** baz=19	**3.35**	**317**	⇑*iP*		**Pn**	**22 25 39.6**	**+1.1**
CHMS	baz=19			⇑*iS*		**Sn**	**22 26 20.8**	**+2.5**
CHMS	**Chumysh** SNR=24	**3.35**	**317**	P		**Pb**	**22 25 47.4**	**+1.9**
AML	**Almayashu** baz=99	**3.49**	**298**	⇓*iP*		**Pn**	**22 25 41.5**	**+0.8**
AML	baz=99			⇓*iS*		**Sn**	**22 26 24.0**	**+1.7**
AML	**Almayashu** SNR=6.6	**3.49**	**298**	P		**Pb**	**22 25 44.1**	**-4.0**
KUU	**Kurty** 2.0nm,0.4s	**3.50**	**342**	*eP*		**Pb**	**22 25 48.6**	**+0.6**
KUU	72nm,0.6s			*eS*		**Sg**	**22 26 34.4**	**-4.0**
KUU	**Kurty** 2.0nm,0.4s	**3.50**	**342**	Pg		**Pb**	**22 25 49.2**	**+1.1**
KUU	72nm,0.6s			Lg	Lg		22 26 35.9	
MNBS	**Baschi** 11nm,0.5s	**3.53**	**7**	*eP*		**Pb**	**22 25 50.0**	**+1.4**
MNBS	115nm,0.4s			*eS*		**Sg**	**22 26 36.8**	**-2.4**
MNBS	**Baschi** 2.7nm,0.3s	**3.53**	**7**	Pg		**Pb**	**22 25 50.0**	**+1.4**
MNBS	115nm,0.4s			Lg	Lg		22 26 36.8	
USP	**Ospenovka** baz=20	**3.67**	**318**	⇑*iP*		**Pn**	**22 25 44.3**	**+1.4**
USP	baz=20			⇑*iS*		**Sn**	**22 26 28.9**	**+2.7**
USP	**Ospenovka** SNR=91	**3.67**	**318**	P		**Pb**	**22 25 52.5**	**+1.5**
EKS2	**Erkin-Say** SNR=11	**3.69**	**306**	P		**Pb**	**22 25 47.8**	**-3.6**
ARSB	**Arslanbob** baz=85	**3.76**	**283**	⇑*iP*		**Pn**	**22 25 44.9**	**+0.7**
ARSB	baz=85			⇑*iS*		**Sn**	**22 26 29.4**	**+0.9**
DJR	**Jarkent** 7.5nm,0.3s	**4.02**	**20**	*eP*		**Pb**	**22 25 58.2**	**+1.2**
DJR	23nm,0.6s			*eS*		**Sg**	**22 26 51.7**	**-3.4**
DJR	**Jarkent** 1.5nm,0.3s	**4.02**	**20**	Pg		**Pb**	**22 25 58.2**	**+1.2**
DJR	23nm,0.6s			Lg	Lg		22 26 51.7	
MRKS	**Merke** 9.1nm,0.6s	**4.08**	**304**	⇓*eP*		**Pb**	**22 26 00.3**	**+2.3**
MRKS	26nm,0.7s			*eS*		**Sg**	**22 26 54.8**	**-2.3**
MRKS	**Merke** 9.1nm,0.6s	**4.08**	**304**	Pg		**Pb**	**22 26 00.2**	**+2.2**
MRKS	26nm,0.7s			Lg	Lg		22 26 54.8	
KAPS	**Kapalarasan** 2.4nm,0.6s	**4.84**	**13**	*eP*		**Pg**	**22 26 15.7**	**-2.9**
KAPS	14nm,0.6s			*eS*		**Sg**	**22 27 21.5**	**+0.2**
KAPS	**Kapalarasan** 2.4nm,0.6s	**4.84**	**13**	Pg		**Pg**	**22 26 15.7**	**-2.9**
KAPS	14nm,0.6s			Lg	Lg		22 27 21.5	
KK31	**Karatay Array** 2.4nm,0.7s,baz=110,slow=16,SNR=11	**6.03**	**297**	⇓Pg		**Pg**	**22 26 40.4**	**-1.0**
KK31	1.7nm,0.4s,baz=112,slow=27,SNR=8.3			⇓Lg	Lg		22 28 01.1	
MAKZ	**Makanchi** 2.1nm,1.1s	**6.91**	**24**	⇑Pn		**Pn**	**22 26 32.1**	**+4.7**
MAKZ	3.5nm,1.2s			⇑Lg	Lg		22 28 23.0	
MK31	**Makanchi Array** 0.3nm,0.4s,baz=201,slow=14,SNR=6.4	**7.00**	**26**	⇓Pn		**Pn**	**22 26 30.3**	**+1.7**
MK31	1.4nm,0.7s,baz=205,slow=22,SNR=3.9			⇑Sn		**Sn**	**22 27 48.5**	**+0.2**
MK31	3.5nm,0.9s			⇑Lg	Lg		22 28 25.7	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=206,slow=15,SNR=2.7	**7.00**	**26**	Pn		**Pn**	**22 26 30.0**	**+1.4**
MKAR	0.2nm,0.3s,baz=209,slow=23,SNR=5.5			Sn		**Sn**	**22 27 51.1**	**+2.9**
KURBB	**Kurchatov Arra** 0.0nm,0.3s,baz=186,slow=12,SNR=3.6	**10.06**	**3**	Pn		**Pn**	**22 27 11.2**	**+0.7**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=156,slow=11,SNR=3.6	**13.45**	**340**	Pn		**Pn**	**22 27 58.6**	**+1.8**
ZALV	**Zalesovo Beam** 0.0nm,0.3s,baz=198,slow=13,SNR=1.3	**14.18**	**17**	Pn		**Pn**	**22 28 06.7**	**-0.1**
FINES	**FINESS Array B** 1.7nm,0.7s,baz=104,slow=8.0,SNR=5.4	**37.37**	**322**	P		**P**	**22 32 00.7**	**+2.2**
TORD	**Torodi Ar. Bea** 0.6nm,0.7s,baz=34,slow=5.8,SNR=4.8	**71.09**	**271**	P		**P**	**22 36 02.9**	**-1.8**

*IDC **30** 22:36:29.4±1.9, 11°.29S×161°.72E, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.7/25, mbtmp3.9/6, ML3.4/2, Error ellipse: s-maj=46.2km s-min=26.9km az=73.0*

ISC 30 22:36:30.6±1.4, 11°.4S±0°.2×161°.8E±0°.3, h10km, n7, σ1♀42/8, mb3.8/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara** 11nm,0.3s,baz=173,slow=12,SNR=1.3	**2.62**	**316**	Pn	**Pn**	**22 37 12.1**	**-0.9**
HNR	43nm,0.3s,baz=176,slow=20,SNR=5.8			Sn	**Sn**	**22 37 42.8**	**-2.2**
HNR	**Honiara** 0.2nm,0.3s,baz=128,slow=22,SNR=1.9	**2.62**	**316**	*eP*	**Pg**	**22 37 23.0**	**+2.1**
DZM	**Mont Dzumac** 1.3nm,0.9s,baz=76,slow=9.9,SNR=3.5	**11.56**	**158**	Pn	**Pn**	**22 39 15.7**	**-0.1**
WRA	**Warramunga Arr** 0.7nm,0.8s,baz=67,slow=9.6,SNR=5.3	**27.75**	**249**	P	**P**	**22 42 19.6**	**-0.1**
ASAR	**Alice Springs** 0.7nm,0.8s,baz=67,slow=9.6,SNR=5.3	**29.21**	**241**	P	**P**	**22 42 32.9**	**+0.2**
SONM	**Songino Array** 1.0nm,0.6s,baz=137,slow=5.7,SNR=5.8	**76.65**	**325**	P	**P**	**22 48 22.1**	**+0.3**
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=110,slow=5.8,SNR=5.0	**91.10**	**317**	P	**P**	**22 49 35.4**	**-0.2**

*IDC **30** 22:59:08.6±0.8, 55°.42S×27°.89W, h0km, mb4.1/5, mb1 4.2/6, mb1mx3.9/23, mbtmp4.1/6, ML4.3/1, MS3.8/3, Ms1 3.7/3, ms1mx3.2/23, Error ellipse: s-maj=33.3km s-min=20.2km az=75.0*

*NEIC **30** 22:59:11.0±1.3, 55°.4S±0°.1×27°.9W±0°.1, h16km±4km, mb4.3/17, Error ellipse: s-maj=16.5km s-min=9.6km az=152.0*

ISC 30 22:59:12.4±0.6, 55°.4S±0°.1×27°.92W±0°.10, h26km, n30, σ0♀67/28, mb4.2/11, MS3.8/3, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.08**	**279**		**Pn**	**23 00 26.4**	**-0.3**
EFI	**East Falkland**	**18.22**	**269**		**P**	**23 03 23.2**	**-0.1**
EFI				IAmb	IAmb	23 03 40.2	
SNAA	**Sanae** comp=Z,57nm,1.3s	**19.51**	**156**	P	**P**	**23 03 36.5**	**-0.8**
SNAA	**Sanae** comp=Z,0.9nm,0.3s,baz=299,slow=11,SNR=48	**19.51**	**156**	P	**P**	**23 03 37.1**	**-0.2**
QSPA	**South Pole Qui** comp=Z,1.3nm,0.4s,baz=174,slow=1.3,SNR=18	**34.86**	**180**	P	**P**	**23 06 00.0**	**-1.0**
QSPA	**South Pole Qui**	**34.86**	**180**	P	**P**	**23 06 01.5**	**+0.4**
QSPA				IAmb	IAmb	23 06 07.4	
CFA	**Coronel Fontan** comp=Z,5.6nm,1.3s	**36.92**	**293**	P	**P**	**23 06 18.0**	**-0.9**
CFA	comp=Z,1.6nm,0.5s,baz=209,slow=7.2,SNR=3.7			LR	LR	23 20 24.1	
MT02	**Curacav** comp=Z,108nm,21.2s,baz=178,slow=34	**37.19**	**288**	P	**P**	**23 06 20.5**	**-0.7**
CO03	**El Pedregal**	**38.82**	**291**	P	**P**	**23 06 34.3**	**-0.7**
CO03	comp=Z,13nm,1.4s			IAmb	IAmb	23 06 41.4	
CO01	**Juntas del Tor**	**39.18**	**293**	P	**P**	**23 06 39.0**	**+0.8**
AC05	**El Transito** comp=Z,3.9nm,0.9s	**40.18**	**294**	P	**P**	**23 06 47.5**	**+1.0**
AC05				IAmb	IAmb	23 06 55.9	
MAW	**Mawson**	**40.92**	**144**	P	**P**	**23 06 52.5**	**+0.6**
GO02	**Mina Guanaco** comp=Z,4.1nm,0.8s	**42.82**	**298**	P	**P**	**23 07 08.3**	**0.0**
GO02				IAmb	IAmb	23 07 15.0	
BOSA	**Boshof** comp=Z,100nm,18.0s,baz=203,slow=34	**46.22**	**77**	LR	LR	23 25 16.1	
BOSA	**Boshof**	**46.22**	**77**	P	**P**	**23 07 34.3**	**-0.9**
PB01	**IPOC Station P** comp=Z,3.1nm,0.8s	**46.22**	**301**	P	**P**	**23 07 35.8**	**+0.6**
PB01				IAmb	IAmb	23 07 37.4	
PB08	**IPOC Station P**	**46.82**	**302**	P	**P**	**23 07 39.8**	**-0.4**
PB08	comp=Z,6.1nm,1.1s			IAmb	IAmb	23 07 53.7	
VNDA	**Vanda** comp=Z,1.2nm,0.6s,baz=188,slow=7.6,SNR=9.7	**47.21**	**183**	P	**P**	**23 07 42.8**	**+0.6**
VNDA	**Vanda**	**47.21**	**183**	P	**P**	**23 07 42.9**	**+0.7**
GO01	**Chusmiza**	**47.25**	**302**	P	**P**	**23 07 44.2**	**+0.6**
GO01				IAmb	IAmb	23 07 49.1	
	comp=Z,2.9nm,0.8s						
LPAZ	**La Paz** comp=Z,1.0nm,0.6s,baz=149,slow=7.3,SNR=6.6	**49.66**	**306**	P	**P**	**23 08 03.1**	**+0.7**
LPAZ	**La Paz**	**49.66**	**306**	P	**P**	**23 08 03.3**	**+0.9**
LPAZ				IAmb	IAmb	23 08 23.1	
TSUM	**Tsumeb** comp=Z,2.1nm,0.8s	**49.73**	**62**	P	**P**	**23 08 02.7**	**+0.3**
TOA0	**Torodi Ar. Sit**	**72.69**	**30**	P	**P**	**23 10 38.3**	**+0.6**
TORD	**Torodi Ar. Bea** comp=Z,1.6nm,0.7s,baz=200,slow=6.1,SNR=11	**72.69**	**30**	P	**P**	**23 10 37.5**	**-0.2**
KEST	**Kesra** comp=Z,48nm,18.4s,baz=256,slow=33	**96.20**	**30**	LR	LR	23 52 26.6	
FINES	**FINESS Array B** comp=Z,0.5nm,0.6s,baz=132,slow=2.8,SNR=7.1	**123.99**	**28**	PKP	**PKiKP**	**23 18 07.4**	**+0.5**
ARCES	**ARCESS Array B** comp=Z,0.6nm,0.9s,baz=202,slow=0.7,SNR=4.7	**130.48**	**22**	PKP	**PKiKP**	**23 18 20.3**	**+0.6**
ILAR	**Eielson Array** comp=Z,1.0nm,0.7s,baz=128,slow=1.8,SNR=8.5	**149.37**	**313**	PKPbc	**PKiKP**	**23 18 57.8**	**-0.6**
SONM	**Songino Array** comp=Z,0.5nm,0.5s,baz=203,slow=4.4,SNR=4.1	**151.09**	**86**	PKPbc	**PKiKP**	**23 19 02.2**	**-0.6**

IDC 30 23:22:57.2±1.9, 2°.88N×128°.79E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.4/45, mbtmp3.7/5, MS3.1/1, Ms1 3.1/1, ms1mx2.4/37, Error ellipse: s-maj=118.6km s-min=19.9km az=72.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FITZ	**Fitzroy Crossi** 4.3nm,0.9s,baz=18,slow=9.6,SNR=2.0	**21.07**	**188**	P	P	23 27 43.3	+0.1
WRA	**Warramunga Arr** 0.9nm,0.4s,baz=344,slow=10.0,SNR=7.2	**23.32**	**167**	P	P	23 28 07.4	+0.2
ASAR	**Alice Springs** 0.5nm,0.4s,baz=354,slow=7.9,SNR=10	**26.85**	**170**	P	P	23 28 38.5	-1.3
USRK	**Ussuriysk Ar.** comp=Z,22nm,18.6s,baz=145,slow=37	**41.25**	**3**	LR	LR	23 48 31.4	
MKAR	**Makanchi Array** 0.3nm,0.4s,baz=118,slow=8.0,SNR=6.9	**59.43**	**325**	P	P	23 33 02.5	+0.7
KURBB	**Kurchatov Arra** 0.5nm,0.5s,baz=126,slow=6.2,SNR=5.0	**63.57**	**327**	P	P	23 33 29.8	+0.2

*IDC **30** 23:52:28.0±1.2, 59°.37S×26°.86W, h0km, mb4.0/3, mb1 4.1/3, mb1mx3.7/28, mbtmp4.0/3, Error ellipse: s-maj=45.0km s-min=31.1km az=103.0*

*NEIC **30** 23:52:33.5±1.9, 59°.6S±0°.1×26°.3W±0°.3, h35km±1km, mb4.4/15, Error ellipse: s-maj=33.9km s-min=13.4km az=229.0*

ISC 30 23:52:35.7±0.9, 59°.7S±0°.1×26°.3W±0°.2, h61km, n23, σ1♀70/23, mb4.4/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**13.28**	**153**	P	**Pn**	**23 55 39.3**	**-1.6**
VNA3	**Neumayer Olymp**	**13.43**	**156**	P	**Pn**	**23 55 40.8**	**-2.2**
VNA2	**Neumayer--Watz** baz=311,slow=16	**13.68**	**153**	P	**Pn**	**23 55 44.7**	**-1.7**
SNAA	**Sanae**	**15.26**	**151**	P	**Pn**	**23 56 05.6**	**-1.6**
SNAA	**Sanae**	**15.26**	**151**		**Pn**	**23 56 05.7**	**-1.5**
QSPA	**South Pole Qui** comp=Z,7.0nm,1.4s	**30.55**	**180**	P	**P**	**23 58 44.4**	**+1.4**
QSPA				IAmb	IAmb	23 58 45.7	
PLCA	**Paso Flores** comp=Z,1.6nm,0.8s,baz=144,slow=8.2,SNR=1.9	**33.23**	**285**	P	**P**	**23 59 03.7**	**-3.0**
PLCA	**Paso Flores**	**33.23**	**285**	P	**P**	**23 59 05.4**	**-1.3**
PLCA	comp=Z,4.9nm,1.2s			IAmb	IAmb	23 59 17.9	
LC01	**Cunco**	**35.29**	**285**	P	**P**	**23 59 20.7**	**-3.7**
GO05	**Huala**	**38.41**	**289**	P	**P**	**23 59 50.6**	**-0.3**
GO05	comp=Z,9.3nm,1.1s			IAmb	IAmb	00 00 03.1	
MT01	**Popeta**	**39.02**	**291**	P	**P**	**23 59 55.2**	**-0.8**
MT01	comp=Z,7.8nm,1.3s			IAmb	IAmb	00 00 04.3	
MT02	**Curacav**	**39.47**	**292**	P	**P**	**23 59 59.5**	**-0.3**
MT02	comp=Z,10nm,1.1s			IAmb	IAmb	00 00 07.5	
AC05	**El Transito**	**42.78**	**296**	P	**P**	**00 00 27.7**	**+0.5**
AC05	comp=Z,3.1nm,0.8s			IAmb	IAmb	00 00 31.3	
VNDA	**Vanda** comp=Z,0.9nm,0.5s,baz=187,slow=6.8,SNR=10	**42.95**	**183**	P	**P**	**00 00 30.4**	**+2.6**
VNDA	**Vanda**	**42.95**	**183**	P	**P**	**00 00 29.7**	**+1.9**
GO02	**Mina Guanaco**	**45.64**	**300**	P	**P**	**00 00 51.4**	**+1.2**
GO02	comp=Z,7.9nm,1.4s			IAmb	IAmb	00 00 56.8	
PB07	**IPOC Station P**	**48.77**	**302**	P	**P**	**00 01 14.4**	**-0.1**
PB11	**IPOC Station P**	**50.41**	**303**	P	**P**	**00 01 28.4**	**+1.4**
MNMC	**Minye Minye**	**50.95**	**303**	P	**P**	**00 01 32.1**	**+1.0**
MNMC	comp=Z,5.2nm,0.7s			IAmb	IAmb	00 01 34.0	
LPAZ	**La Paz**	**52.89**	**307**	P	**P**	**00 01 46.7**	**+0.7**
TOA0	**Torodi Ar. Sit**	**76.04**	**28**	P	**P**	**00 04 16.4**	**+0.2**
TOA0	comp=Z,9.1nm,1.4s			IAmb	IAmb	00 04 32.1	
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.4s,baz=198,slow=6.2,SNR=19	**76.04**	**28**	P	**P**	**00 04 16.2**	**0.0**
ILAR	**Eielson Array** comp=Z,0.3nm,0.5s,baz=136,slow=1.7,SNR=2.6	**152.77**	**306**	PKPbc	**PKPbc**	**00 12 23.7**	**-0.2**

*IDC **30** 23:58:05.3±0.7, 32°.22S×178°.19W, h0km, mb4.3/7, mb1 4.5/8, mb1mx4.2/27, mbtmp4.3/8, ML4.8/1, MS4.0/7, Ms1 4.0/7, ms1mx3.6/27, Error ellipse: s-maj=25.5km s-min=19.5km az=88.0*

*NEIC **30** 23:58:06.8±2.0, 32°.33S±0°.05×178°.3W±0°.2, h10km±1km, mb4.8/18, Error ellipse: s-maj=25.0km s-min=4.9km az=108.0*

*WEL **01** 00:00:44.6, 40°.6S±0°.6×17°.6E±°, h27km±1km, M2.5/19, ML2.7/19, MLv2.5/19, Error ellipse: s-maj=0.0km s-min=0.0km az=90.0*

ISC 30 23:58:06.0±0.5, 32°.42S±0°.05×177°.95W±0°.10, h10km, n121, σ2♀24/105, mb4.8/16, MS4.0/7, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.15**	**0**	P	**Pn**	**23 58 53.7**	**-1.9**
GLKZ				S	**Sn**	**23 59 29.9**	**-3.3**
RAO	**Raoul Island** 137nm,0.3s,baz=74,slow=19,SNR=4.2	**3.15**	**0**	Pn	**Pn**	**23 58 55.0**	**-0.8**
RAO	186nm,0.3s,baz=309,slow=23,SNR=2.3			Sn	**Sn**	**23 59 30.5**	**-3.0**
RAO	**Raoul Island**	**3.15**	**0**		**Pn**	**23 58 54.9**	**-0.8**
RAO				Sn	**Sn**	**23 59 31.1**	**-2.4**
RIZ	**Raoul Island**	**3.16**	**0**	P	**Pn**	**23 58 55.0**	**-0.8**
RIZ				S	**Sn**	**23 59 31.2**	**-2.4**
MXZ	**Matakaoa Point**	**5.98**	**210**	P	**Pn**	**23 59 32.6**	**-2.1**
MXZ				S	**Sn**	**00 00 40.9**	**-2.3**
MXZ	**Matakaoa Point**	**5.98**	**210**	Pn	**Pn**	**23 59 33.4**	**-1.2**
MXZ				Sn	**Sn**	**00 00 40.1**	**-3.1**
WMGZ	**Waiomatatini S**	**6.16**	**208**	P	**Pn**	**23 59 36.2**	**-0.8**
WMGZ				S	**Sn**	**00 00 45.9**	**-1.6**
PKGZ	**Pakihiroa**	**6.36**	**210**	P	**Pn**	**23 59 37.6**	**-2.2**
PKGZ				S	**Sn**	**00 00 48.7**	**-3.8**
HAZ	**Te Kaha**	**6.37**	**212**	P	**Pn**	**23 59 39.1**	**-0.8**
HAZ				S	**Sn**	**00 00 52.4**	**-0.4**
PUZ	**Puketiti**	**6.44**	**208**	P	**Pn**	**23 59 37.5**	**-3.4**
PUZ				S	**Sn**	**00 00 50.8**	**-3.7**
RUGZ	**Raukumara Rang**	**6.59**	**212**	P	**Pn**	**23 59 41.9**	**-1.2**
RUGZ				S	**Sn**	**00 00 54.7**	**-3.7**
TWGZ	**Tauwhareparae**	**6.64**	**209**	P	**Pn**	**23 59 43.7**	**0.0**
TWGZ				S	**Sn**	**00 00 57.0**	**-2.5**
KUZ	**Kuaotunu**	**6.78**	**229**	P	**Pn**	**23 59 46.4**	**+0.9**
CNGZ	**Carnagh Statio**	**6.82**	**206**	P	**Pn**	**23 59 43.7**	**-2.4**
CNGZ				S	**Sn**	**00 00 59.2**	**-4.5**
TKGZ	**Te Karaka**	**6.92**	**209**	P	**Pn**	**23 59 46.9**	**-0.6**
TKGZ				S	**Sn**	**00 01 02.8**	**-3.4**
MWZ	**Matawai**	**6.96**	**211**	P	**Pn**	**23 59 47.0**	**-1.2**
MWZ				S	**Sn**	**00 01 03.4**	**-4.1**
URZ	**Urewera**	**7.09**	**213**	P	**Pn**	**23 59 49.5**	**-0.3**
URZ				S	**Sn**	**00 01 07.2**	**-3.2**
RAGZ	**Rawiri**	**7.15**	**211**	P	**Pn**	**23 59 50.0**	**-0.7**
RIGZ	**Rimu

KNZ	**Kokohu**	**7.49 207**	P	**Pn**	**23 59 52.1**	**-3.2**
OUZ	**Omahuta**	**7.57 246**	P	**Pn**	**23 59 59.4**	**+2.9**
RAHZ	**Arahi**	**7.64 211**	P	**Pn**	**23 59 56.5**	**-0.9**
RAHZ	**Arahi**	**7.64 211**	P	**Sn**	**00 01 20.7**	**-3.3**
MTHZ	**Maungataniwha**	**7.70 212**	P	**Pn**	**23 59 57.5**	**-0.7**
MTHZ	**Maungataniwha**	**7.70 212**	P	**Sn**	**00 01 22.9**	**-2.5**
WHHZ	**Waihua**	**7.71 209**	P	**Sn**	**00 01 22.8**	**-3.0**
BKZ	**Black Stump Fm**	**8.11 212**	P	**Pn**	**00 00 00.2**	**-3.6**
BKZ	**Black Stump Fm**	**8.11 212**		**Pn**	**00 00 02.3**	**-1.5**
KAHZ	**Kahuranaki**	**8.47 208**	P	Pn	00 00 04.4	-4.4
KAHZ	**Kahuranaki**	**8.47 208**	P	Pg	00 01 05.1	+17
WTVZ	**West Tongariro**	**8.50 216**	P	Pg	00 01 11.6	+23
KRHZ	**Kereru**	**8.55 211**	P	**Pn**	**00 00 06.9**	**-3.1**
KRHZ	**Kereru**	**8.55 211**	P	Pg	00 01 03.8	+14
BHHZ	**Black Hill Sta**	**8.56 213**	P	**Pn**	**00 00 08.9**	**-1.2**
BHHZ	**Black Hill Sta**	**8.56 213**	P	Pg	00 01 05.3	+15
PNHZ	**Pukenui**	**8.85 211**	P	**Pg**	**00 00 59.7**	**+4.3**
WPHZ	**Waipukurau**	**8.87 209**	P	**Pg**	**00 00 59.5**	**+3.6**
PRHZ	**Porangahau**	**8.97 208**	P	**Pg**	**00 00 59.0**	**+1.3**
TSZ	**Takapari Road**	**9.07 211**	P	Pn	00 00 56.4	+39
DVHZ	**Dannevirke**	**9.19 209**	P	Pn	00 00 54.1	+36
ANWZ	**Angora Road**	**9.20 208**	P	Pn	00 00 56.5	+38
WAZ	**Wanganui**	**9.29 216**	P	Pn	00 01 05.0	+45
LREZ	**Lake Rotokare**	**9.37 219**	P	Pn	00 01 13.2	+52
PKE	**Pukeiti**	**9.41 222**	P	Pn	00 01 19.3	+58
POWZ	**Post Office Ro**	**9.43 211**	P	Pn	00 00 51.0	+29
BFZ	**Birch Farm**	**9.48 208**	P	Pn	00 00 53.5	+31
PRWZ	**Pori Road**	**9.48 209**	P	Pn	00 00 50.8	+28
CPWZ	**Castlepoint**	**9.69 207**	P	Pn	00 00 55.2	+30
TIWZ	**Tintock**	**9.70 209**	P	Pn	00 00 50.9	+25
MRZ	**Mangatainoka R**	**9.73 210**	P	Pn	00 00 50.2	+24
HOWZ	**Holdsworth Sta**	**9.96 210**	P	**Pn**	**00 00 26.7**	**-2.4**
HOWZ	**Holdsworth Sta**	**9.96 210**	P	Pn	00 00 52.7	+24
TMWZ	**Te Maipa**	**9.98 208**	P	Pn	00 00 55.4	+26
OGWZ	**Otaki Gorge**	**10.04 211**	P	Pn	00 00 55.0	+25
MTW	**Mount Morrison**	**10.18 209**	P	Pn	00 00 56.6	+24
KIW	**Kapiti Island**	**10.19 212**	P	Pn	00 00 58.5	+26
TRWZ	**Traveller**	**10.31 208**	P	Pn	00 01 00.2	+26
CAW	**Cannon Point**	**10.32 211**	P	Pn	00 00 58.6	+25
PAWZ	**Paruwai Farm**	**10.40 209**	P	Pn	00 01 00.2	+25
MSWZ	**Moikau Station**	**10.50 209**	P	Pn	00 01 00.9	+24
DUWZ	**D'Urville Isla**	**10.61 216**	P	Pn	00 01 09.1	+31
PLWZ	**Palliser**	**10.63 209**	P	Pn	00 01 02.5	+24
BHW	**Baring Head**	**10.65 211**	P	Pn	00 01 03.5	+25
TCW	**Tory Channel**	**10.76 213**	P	Pn	00 01 06.1	+26
KHZ	**Kahutara**	**12.05 212**	P	**Pn**	**00 00 54.0**	**-3.7**
RPZ	**Rata Peaks**	**14.21 214**	Pn	**Pn**	**00 01 25.4**	**-1.8**
EIDS	**Eidsvold**	**27.95 277**	P	**P**	**00 03 56.0**	**-0.7**
EIDS			IAmb	IAmb	00 03 58.3	
	comp=Z,12nm,0.9s					
PPT	**Papeete**	**29.54 67**	LR	LR	00 14 59.8	
	comp=Z,172nm,18.2s,baz=212,slow=34					
STKA	**Stephens Creek**	**34.12 260**	P	**P**	**00 04 50.8**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=85,slow=11,SNR=4.2					
STKA			LR	LR	00 18 24.8	
	comp=Z,317nm,18.3s,baz=46,slow=36					
STKA	**Stephens Creek**	**34.12 260**	P	**P**	**00 04 50.4**	**-0.7**
CTAO	**Charters Tower**	**34.22 282**	P	**P**	**00 04 52.2**	**+0.2**
CTAO			IAmb	IAmb	00 05 08.2	
	comp=Z,11nm,0.9s					
BBOO	**Buckleboo**	**38.51 257**	P	**P**	**00 05 27.2**	**-1.4**
BBOO			IAmb	IAmb	00 05 28.3	
	comp=Z,28nm,1.4s					
KRVT	**Keravat (AS076**	**39.64 309**	P	**P**	**00 05 37.0**	**-1.2**
	comp=Z,64nm,0.6s,baz=37,slow=5.4,SNR=5.2					
COEN	**Coen**	**39.91 288**	P	**P**	**00 05 40.8**	**+0.4**
COEN			IAmb	IAmb	00 05 44.0	
	comp=Z,24nm,1.2s					
AS31	**Alice Springs**	**43.09 269**	P	**P**	**00 06 05.3**	**-1.2**
ASAR	**Alice Springs**	**43.09 269**	P	**P**	**00 06 05.8**	**-0.7**
	comp=Z,6.9nm,0.7s,baz=108,slow=7.4,SNR=28					
ASAR			LR	LR	00 24 14.0	
	comp=Z,167nm,18.4s,baz=111,slow=37					
WB2	**Warramunga Arr**	**44.24 274**	P	**P**	**00 06 14.9**	**-0.9**
WB2			IAmb	IAmb	00 06 16.6	
	comp=Z,27nm,1.1s					
WRA	**Warramunga Arr**	**44.26 274**	P	**P**	**00 06 15.2**	**-0.8**
	comp=Z,8.9nm,0.4s,baz=113,slow=7.9,SNR=42					
WB0	**Warramunga Arr**	**44.29 274**	P	**P**	**00 06 15.1**	**-1.1**
WB0			IAmb	IAmb	00 06 17.4	
	comp=Z,20nm,1.0s					
FORT	**Forrest**	**45.61 257**	P	**P**	**00 06 25.2**	**-1.4**
VNDA	**Vanda**	**46.10 186**	LR	LR	00 22 06.2	
	comp=Z,95nm,21.9s,baz=24,slow=31					
VNDA	**Vanda**	**46.10 186**	P	**P**	**00 06 31.8**	**+2.0**
MTN	**Manton Dam**	**50.37 281**	P	**P**	**00 07 01.5**	**-2.1**
MTN			IAmb	IAmb	00 07 20.5	
	comp=Z,10nm,0.9s					
KNRA	**Kununurra**	**50.93 276**	P	**P**	**00 07 06.2**	**-1.6**
FITZ	**Fitzroy Crossi**	**52.43 271**	P	**P**	**00 07 17.4**	**-1.6**
CASY	**Casey**	**53.39 209**	P	**P**	**00 07 26.2**	**+0.8**
MORW	**Morawa**	**56.02 255**	P	**P**	**00 07 43.6**	**-1.5**
MORW			IAmb	IAmb	00 07 58.9	
	comp=Z,11nm,1.1s					
QSPA	**South Pole Qui**	**57.70 180**	P	**P**	**00 07 59.9**	**+3.3**
	comp=Z,3.1nm,1.0s,baz=29,slow=1.3,SNR=9.3					
QSPA	**South Pole Qui**	**57.70 180**	P	**P**	**00 07 59.4**	**+2.8**
QSPA			IAmb	IAmb	00 08 13.5	
	comp=Z,12nm,1.0s					
BATI	**Baumata**	**57.98 279**	LR	LR	00 32 26.6	
	comp=Z,304nm,19.6s,baz=150,slow=36					
KAPI	**Kappang**	**64.03 281**	LR	LR	00 35 38.5	
	comp=Z,82nm,18.6s,baz=94,slow=35					
MAW	**Mawson**	**70.44 201**	P	**P**	**00 09 22.2**	**+2.2**
SYO	**Syowa Base**	**75.17 193**	*e*P	**P**	**00 09 47.0**	**-1.1**
SYO	**Syowa Base**	**75.17 193**	*e*pP	**P**	**00 09 49.0**	**+0.9**
SNAA	**Sanae**	**76.14 178**	P	**P**	**00 09 55.6**	**+1.9**
SNAA	**Sanae**	**76.14 178**	P	**P**	**00 09 55.4**	**+1.6**
	comp=Z,1.4nm,0.8s,baz=189,slow=10,SNR=5.4					
SNAA	**Sanae**	**76.14 178**	P	**P**	**00 09 54.8**	**+1.0**
SNAA			IAmb	IAmb	00 10 05.6	
	comp=Z,8.6nm,1.0s					
VNA3	**Neumayer Olymp**	**76.30 176**	P	**P**	**00 09 56.7**	**+2.1**
VNA2	**Neumayer--Watz**	**76.73 177**	P	**P**	**00 09 59.4**	**+2.3**
	baz=173,slow=5.1					
VNA1	**Neumayer--Stat**	**76.96 176**	P	**P**	**00 10 00.8**	**+2.5**
NIKH	**Nikolski High**	**85.40 6**	P	**P**	**00 10 44.8**	**+1.7**
PETK	**Petropavlovsk-**	**87.77 346**	P	**P**	**00 10 54.4**	**-0.3**
	comp=Z,2.1nm,0.7s,baz=130,slow=6.4,SNR=3.5					
NVAR	**Mina Array Bea**	**89.69 43**	P	**P**	**00 11 06.3**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=226,slow=6.0,SNR=2.7					
TXAR	**Lajitas Array**	**93.44 57**	LR	LR	00 48 51.5	
	comp=Z,66nm,18.1s,baz=0.0,slow=33					
MKAR	**Makanchi Array**	**119.09 309**	PKP	**PKPdf**	**00 16 54.2**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=64,slow=2.8,SNR=4.7					
ARCES	**ARCESS Array B**	**140.56 347**	PKhKP	**PKPdf**	**00 17 30.0**	**-4.7**
	comp=Z,2.1nm,1.0s,baz=2.9,slow=4.9,SNR=4.5					
ARCES			PKP	**pPKPdf**	**00 17 36.1**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=332,slow=1.8,SNR=5.6					
KBZ	**Khabaz**	**146.24 301**	PKPbc	**PKPdf**	**00 17 44.7**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=186,slow=4.7,SNR=4.8					
FIA1	**FINESS Array S**	**147.04 339**		**PKPdf**	**00 17 48.2**	**+2.0**
FINES	**FINESS Array B**	**147.04 339**	PKPbc	**PKPdf**	**00 17 48.1**	**+1.9**
	comp=Z,6.7nm,0.4s,baz=46,slow=4.0,SNR=90					
NB2	**NORSAR Subarra**	**150.75 351**	PKP	**PKPbc**	**00 17 57.8**	**-0.1**
	comp=Z,6.4nm,1.2s,baz=15,slow=4.1					
NOA	**NORSAR Array B**	**150.75 351**	PKPbc	**PKPbc**	**00 17 57.7**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=15,slow=4.1,SNR=8.7					
GAZ	**Gaziantep**	**150.85 289**		**PKPdf**	**00 17 54.3**	**+1.0**
AKASG	**Malin Array Be**	**152.91 320**	PKPbc	**PKPbc**	**00 18 02.6**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=58,slow=2.7,SNR=6.5					
BRTR	**Keskin Array B**	**153.55 295**	PKPbc	**PKPbc**	**00 18 05.2**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=121,slow=4.8,SNR=6.2					
TORD	**Torodi Ar. Bea**	**160.82 179**	PKPab	**PKPab**	**00 18 50.6**	**+1.6**
	comp=Z,1.0nm,0.7s,baz=187,slow=3.2,SNR=7.3					
GERES	**GERESS Array B**	**161.40 335**	PKPab	**PKPab**	**00 18 50.3**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=15,slow=5.5,SNR=4.1					

ISC Computed Locations for June 2014

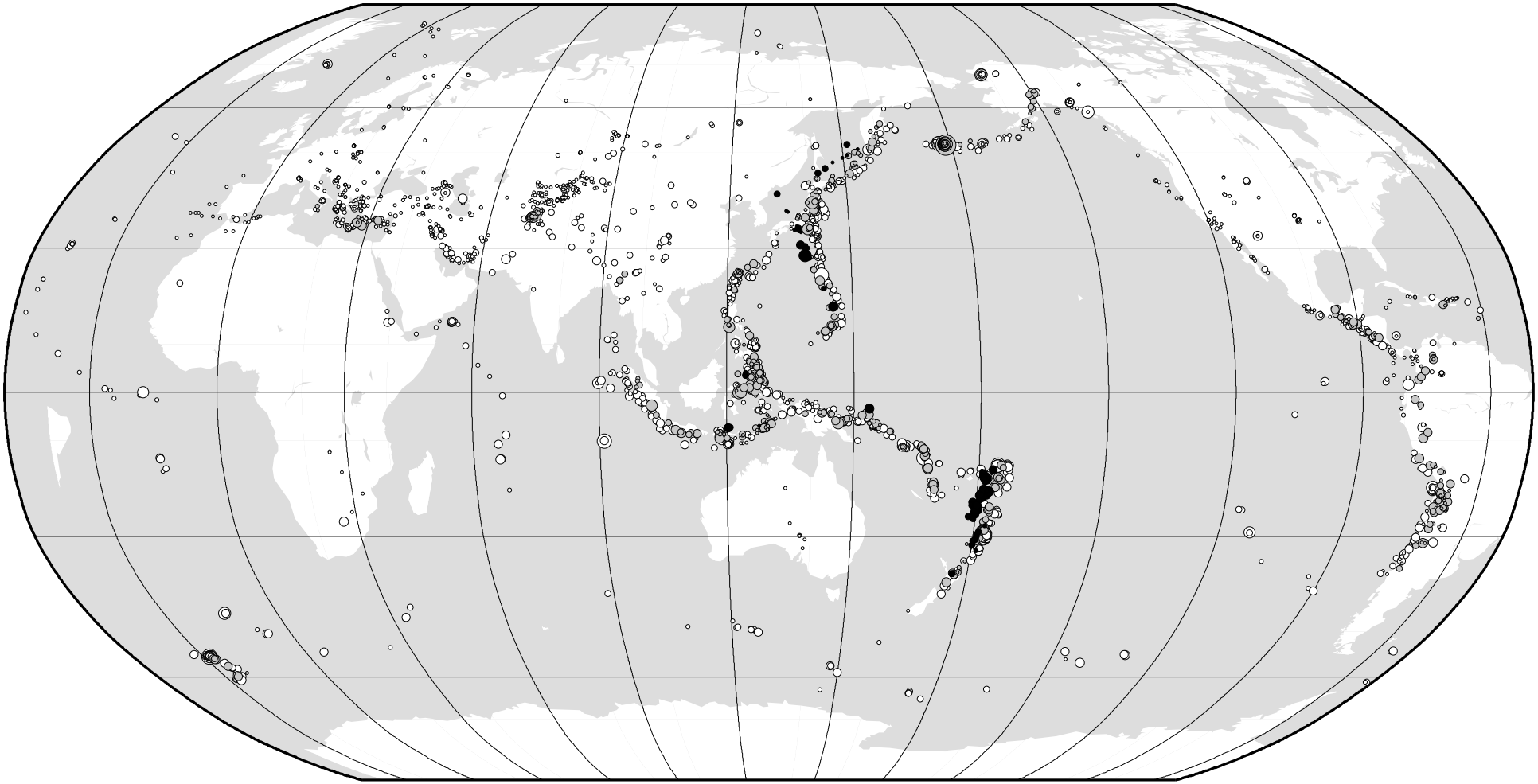

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

3068 Events